Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°70S×179°55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°76S×179°70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,**22°1S**±0°2×**179°3W**±0°2,**h600**km,**n22,**
σ1§55/24,**mb4.4**/9,**1C,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBZ	**Hicks Bay**	**15.60**	**187**	*e*P	**P**	**18 48 53.1**	**-2.1**
URZ	**Urewera**	**16.41**	**190**	P	**P**	**18 49 01.5**	**-1.1**
MRZ	**Mangatainoka R**	**19.02**	**192**	*e*P	**P**	**18 49 26.7**	**+0.3**
DIW	**D'Urville Isla**	**19.52**	**195**	*e*P	**P**	**18 49 27.3**	**-3.6**
CAW	**Cannon Point**	**19.55**	**193**	*e*P	**P**	**18 49 31.7**	**+0.5**
OTW	**Orongorongo Tu**	**19.73**	**193**	*e*P	**P**	**18 49 33.0**	**+0.2**
MOW	**Moikau**	**19.82**	**192**	*e*P	**P**	**18 49 35.5**	**+1.9**
THZ	**Tophouse**	**20.68**	**197**	*e*P	**P**	**18 49 42.0**	**+0.5**
KHZ	**Kahutara**	**21.14**	**195**	P	**P**	**18 49 46.2**	**+0.8**
ARMA	**Armidale**	**27.28**	**246**	*e*P	**P**	**18 50 42.4**	**+2.3**
	4.9nm,0.5s						
CTA	**Charters Tower**	**32.13**	**267**	⇑*i*P	**P**	**18 51 22.3**	**+0.5**
	13nm,0.5s						
STKA	**Stephens Creek**	**36.00**	**246**	*e*P	**P**	**18 51 55.3**	**+1.5**
	3.1nm,0.4s						
ASAR	**Alice Springs**	**42.97**	**259**	P	**P**	**18 52 50.1**	**+0.4**
	9.8nm,0.5s,baz=92,slow=8.2,SNR=47						
ASAR				S	**S**	**18 58 31.3**	**-1.6**
	1.0nm,0.8s,baz=95,slow=15,SNR=5.7						
ASPA	**Alice Springs**	**42.97**	**259**	*e*P	**P**	**18 52 50.1**	**+0.4**
WRA	**Warramunga Arr**	**43.18**	**264**	P	**P**	**18 52 51.0**	**-0.4**
	1.8nm,0.3s,baz=96,slow=7.8,SNR=93						
WRA				S	**S**	**18 58 33.0**	**-2.9**
	0.3nm,0.9s,baz=99,slow=14,SNR=3.0						
KAKA	**Kakadu**	**46.79**	**273**	*e*P	**P**	**18 53 18.2**	**-0.7**
	14nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.61**	**264**	*e*P	**P**	**18 53 54.3**	**+0.1**
	12nm,0.3s						
MBWA	**Marble Bar**	**56.31**	**259**	*e*P	**P**	**18 54 27.1**	**-0.1**
	11nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**18 57 38.1**	**+1.7**
	1.3nm,0.8s,baz=135,slow=3.1,SNR=8.1						
ARCES	**ARCESS Array B**	**130.23**	**349**	PKP	**PKiKP**	**19 03 43.7**	**-1.2**
	0.7nm,0.6s,baz=282,slow=4.2,SNR=3.5						
FINES	**FINESS Array B**	**136.91**	**342**	PKP	**PKiKP**	**19 03 57.3**	**-1.3**
	3.7nm,1.1s,baz=158,slow=3.2,SNR=3.4						
MLR	**Muntele Rosu**	**148.83**	**325**	PKPbc	**PKiKP**	**19 04 22.7**	**-1.0**
	0.2nm,0.7s,baz=1.2,slow=23,SNR=2.3						

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:01:03.9±9.7, 27°.25N×53°.09E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=193.9km s-min=36.6km az=7.0*
*TEH **01** 00:01:07.0, 27°.68N×53°.25E, h6km±266km*
*DSN **01** 00:01:09.8±1.5, 27°.31N×53°.00E, h10km, ML2.8/7, Error ellipse: s-maj=23.2km s-min=14.3km az=53.0*
ISC 01 00:01:08.5±0.8, 27°.64N±0°.04×53°.22E±0°.05, h10km, n32, σ1°.40/33, mb3.4/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.30	189	Pg	Pg	00 01 14.4	-0.2
QIR1	Qir	0.85	350	Pg	Pg	00 01 23.7	-1.3
JHRM	Jahrom	0.92	20	Pg	Pg	00 01 24.4	-1.9
LAR1	LAR	1.03	88	Pg	Pg	00 01 27.5	-0.8
DSBU	Dashti - Bushe	1.88	293	Pn	Pb	00 01 43.5	+0.5
SHI	Shiraz	2.09	343	Pn	Pn	00 01 45.2	+1.4
KAZ2	Kazeron-Fars-I	2.40	326	Pn	Pn	00 01 50.0	+2.0
GENO	Geno	2.63	94	Pn	Pn	00 01 53.4	+2.1
SHME	Shamm	3.05	121	P	Pn	00 01 58.7	+1.8
BANOM	Banah	3.24	121	P	Pn	00 02 01.1	+1.6
NAZ	Nazwa, Dubai	3.43	140	P	Pn	00 02 01.9	-0.1
ASUD	Al Ashush, Dub	3.55	147	P	Pn	00 02 01.8	-1.8
UOSS	Minazif	3.79	134	P	Pn	00 02 06.2	-0.8
HATD	Hatta, Dubai	3.83	136	P	Pn	00 02 08.0	+0.4
TVBK	TV Kerman	3.89	52	Pn	Pn	00 02 10.6	+1.9
ASHO	Ashiyiah	3.89	138	P	Pn	00 02 08.9	+0.4
ASHO				S	Sn	00 02 54.3	0.0
IMEH	Mehriz	3.93	18	Pn	Pn	00 02 11.7	+2.6
KHGB	Koh Gabri	3.95	46	Pn	Pn	00 02 10.6	+1.2
ALNE	Al Ain	4.23	147	P	Pn	00 02 13.6	+0.5
CHMN	Cheshme madani	4.39	59	Pn	Pn	00 02 17.1	+1.5
KRM1	Kerman Provinc	4.55	50	Pn	Pn	00 02 19.1	+1.3
ICHK	Chekchek	4.71	12	Pn	Pn	00 02 21.4	+1.6
KBAM	BAM	4.85	71	Pn	Pn	00 02 23.9	+2.3
IZEF	Zefreh	5.30	352	Pn	Pn	00 02 29.0	+1.1
TPRV	Parvadeh(Tabas	6.15	28	Pn	Pn	00 02 41.3	+1.8
TKDS	Koohdasht(Taba	6.84	28	Pn	Pn	00 02 49.8	+0.7
TNSJ	Nastanj	6.95	24	Pn	Pn	00 02 51.4	+0.9
BRTR	Keskin Array B	20.22	312	P	P	00 05 42.6	-1.2
	0.2nm,0.5s,baz=128,slow=13,SNR=3.6 0.2nm,0.5s						
BVAR	Borovoye Array	28.39	22	P	P	00 07 03.8	+0.9
	0.5nm,0.5s,baz=227,slow=7.5,SNR=3.6 0.5nm,0.5s						
MKAR	Makanchi Array	29.77	42	P	P	00 07 14.6	-0.7
	0.2nm,0.5s,baz=230,slow=9.0,SNR=3.2 0.2nm,0.5s						
FINES	FINESS Array B	38.37	339	P	P	00 08 28.8	-0.8
	1.2nm,0.8s,baz=138,slow=8.2,SNR=4.4						
SONM	Songino Array	45.63	49	P	P	00 09 29.4	+0.1
	0.2nm,0.6s,baz=254,slow=8.9,SNR=2.4 0.2nm,0.6s						

*IDC **01** 00:17:01.7±0.8, 21°.37N×144°.02E, h0km, mb3.9/14, mbtmp3.9/14, MS3.1/3, Error ellipse: s-maj=28.5km s-min=19.0km az=81.0*
ISC 01 00:17:06.7±0.9, 21°.4N±0°.2×144°.0E±0°.2, h33km, n22, σ0°.82/15, mb3.8/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.95	343	LR	LR	00 26 53.9	
	comp=Z,26nm,18.6s,baz=192,slow=37						
KSRS	Korea Array	21.24	323	P	P	00 21 50.9	+1.0
	2.4nm,0.8s,baz=141,slow=8.1,SNR=6.4 2.4nm,0.8s						
H11N1	WAKE ISLAND Hy 21.51	90		T	T	00 43 45.6	
	baz=278,slow=75,SNR=26						
H11N2	WAKE ISLAND Hy 21.51	90		T	T	00 43 45.4	
	baz=278,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy 21.53	90		T	T	00 43 47.9	
	baz=278,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy 21.53	94		T	T	00 43 47.9	
	baz=281,slow=75,SNR=35						
H11S1	WAKE ISLAND Hy 21.54	94		T	T	00 43 49.6	
	baz=281,slow=75,SNR=25						
H11S2	WAKE ISLAND Hy 21.54	94		T	T	00 43 50.5	
	baz=281,slow=75,SNR=27						
SONM	Songino Array	40.08	320	P	P	00 24 39.4	+0.2
	0.9nm,0.9s,baz=130,slow=7.1,SNR=5.8 0.9nm,0.9s						
WRA	Warramunga Arr	42.11	194	P	P	00 24 55.5	-0.4
	2.6nm,0.9s,baz=17,slow=8.9,SNR=6.7 2.6nm,0.9s						
CMAR	Chiang Mai Arr	42.35	274	LR	LR	00 40 22.7	
	comp=Z,18nm,21.7s,baz=300,slow=33						
ASAR	Alice Springs	45.81	193	P	P	00 25 25.9	+0.2
	0.9nm,0.8s,baz=13,slow=9.4,SNR=10						
ASAR				LR	LR	00 44 10.7	
	comp=Z,60nm,18.4s,baz=318,slow=36 0.9nm,0.8s						
ZALV	Zalesovo Beam	54.95	322	P	P	00 26 33.5	-0.8
	0.5nm,0.6s,baz=123,slow=5.3,SNR=2.9 0.5nm,0.6s						
MKAR	Makanchi Array	55.48	313	P	P	00 26 38.2	-0.2
	0.5nm,0.7s,baz=99,slow=7.5,SNR=5.6						
MKAR				PcP	PcP	00 27 38.0	-0.3
	0.8nm,0.8s,baz=83,slow=5.0,SNR=5.6 0.5nm,0.7s						
KURBB	Kurchatov Arra	58.29	317	P	P	00 26 58.2	0.0
	1.6nm,0.7s,baz=94,slow=7.5,SNR=22 1.6nm,0.7s						
NRIK	Noril'sk	58.58	340	P	P	00 27 00.0	+0.1
	1.2nm,0.3s,baz=79,slow=5.2,SNR=4.3 1.2nm,0.3s						
ILAR	Eielson Array	62.01	27	P	P	00 27 21.7	-1.7
	0.8nm,0.9s,baz=271,slow=7.5,SNR=5.9 0.8nm,0.9s						
BVAR	Borovoye Array	63.42	320	P	P	00 27 33.2	+0.2
	1.9nm,0.6s,baz=90,slow=6.8,SNR=6.2 1.9nm,0.6s						
AKTO	Aktyubinsk	71.33	318	P	P	00 28 22.9	-0.2
	0.8nm,0.7s,baz=74,slow=7.4,SNR=1.9 0.8nm,0.7s						
YKA	Yellowknife Ar	76.41	28	P	P	00 28 52.6	0.0
	0.3nm,0.7s,baz=291,slow=5.7,SNR=4.1 0.3nm,0.7s						
NVAR	Mina Array Bea	82.77	52	P	P	00 29 29.8	+1.7
	0.3nm,0.5s,baz=265,slow=4.0,SNR=4.9 0.3nm,0.5s						
KBZ	Khabaz	83.15	314	P	P	00 29 29.4	-0.1
	4.4nm,0.9s,baz=85,slow=5.0,SNR=14 4.4nm,0.9s						

*STR **01** 00:33:05.7±3.4, 42°.N±24°×1°.3E±2°.2, h5km, MLv3.5/12, Error ellipse: s-maj=0.0km s-min=0.0km az=139.5, preliminary*
*ROM **01** 00:33:09.0±0.0, 42°.514N±0°.001×12°.638E±0°.001, h10km, ML3.0/128, Error ellipse: s-maj=0.9km s-min=0.1km az=55.0*
*LDG **01** 00:33:09.6±0.1, 42°.50N×12°.63E, h2km, Ml2.4/5, Error ellipse: s-maj=2.3km s-min=1.8km az=160.0*
ISC 01 00:33:09.1±0.8, 42°.52N±0°.03×12°.61E±0°.03, h16km±5km, n61, σ2°.09/72, 1C-7D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	Cesi	0.09	347	⇓P	Pg	00 33 12.1	-0.4
CESX				S	Sg	00 33 14.2	-0.4
CESX				AML	AML		
	comp=E,11350μm,1.6s						
CESX				AML	AML		
	comp=E,13050μm,0.8s						
CESX				AML	AML		
	comp=N,19800μm,0.4s						
CESX				AML	AML		
	comp=E,12350μm,0.4s						
ARRO	Arrone	0.13	62	⇓P	Pg	00 33 12.3	-0.5
ARRO				S	Sg	00 33 14.4	-0.9
ARRO				AML	AML		
	comp=N,16850μm,1.5s						
ARRO				AML	AML		
	comp=E,18200μm,0.8s						
GAVE	Gavelli	0.27	51	⇓P	Pg	00 33 14.9	-0.2
GAVE				S	Sg	00 33 19.6	+0.5
GAVE				AML	AML		
	comp=E,9705μm,1.6s						
GAVE				AML	AML		
	comp=N,6860μm,0.7s						
GAVE				AML	AML		
	comp=N,2105μm,1.0s						
GAVE				AML	AML		
	comp=E,9710μm,1.6s						
MOMA	Monte Martano	0.29	354	⇓P	Pg	00 33 15.5	+0.2
MOMA				S	Sg	00 33 20.4	+0.9
SRES	S.Oreste - Sor	0.29	194	⇑P	Pb	00 33 15.5	-0.5
SRES				S	Sb	00 33 20.5	-0.1
SRES				AML	AML		
	comp=N,2050μm,0.5s						
LNSS	Leonessa	0.33	75	⇓P	Pg	00 33 15.8	-0.2
LNSS				S	Sg	00 33 20.8	0.0
LNSS				AML	AML		
	comp=E,8590μm,1.6s						
LNSS				AML	AML		
	comp=E,8380μm,1.6s						
LNSS				AML	AML		
	comp=E,8585μm,1.6s						
LNSS				AML	AML		
	comp=E,8585μm,1.6s						
LNSS				AML	AML		
	comp=E,8585μm,0.4s						
LNSS				AML	AML		
	comp=N,8590μm,0.9s						
RM33	Pellescritta (	0.45	91	⇓P	Pg	00 33 17.9	-0.3
RM33				S	Sb	00 33 24.4	-0.9
RM33				AML	AML		
	comp=N,3750μm,0.6s						
RM33				AML	AML		
	comp=E,3965μm,0.2s						
RM33				AML	AML		
	comp=N,3685μm,0.6s						
RM33				AML	AML		
	comp=E,3970μm,0.2s						
RM33				AML	AML		
	comp=N,3750μm,1.4s						
FIAM	Fiamignano	0.45	123	P	Pg	00 33 17.7	-0.5
FIAM				S	Sb	00 33 24.7	-0.6
FIAM				AML	AML		
	comp=N,2145μm,1.6s						
FIAM				AML	AML		
	comp=E,2785μm,0.7s						
FIAM				AML	AML		
	comp=N,2145μm,1.6s						
FIAM				AML	AML		
	comp=N,1145μm,1.6s						
NRCA	Norcia	0.49	50	⇓P	Pg	00 33 18.6	-0.2
NRCA				S	Sb	00 33 26.2	-0.2
NRCA				AML	AML		
	comp=E,2680μm,1.3s						
NRCA				AML	AML		
	comp=N,2200μm,0.1s						
MTCE	Montecelio	0.51	169	P	Pg	00 33 18.9	-0.2
MTCE				S	Sb	00 33 26.5	-0.2
MTCE				AML	AML		
	comp=N,954μm,0.6s						
TRTR	Tortoreto Alta	1.01	73	AML	AML		
	comp=E,1955μm,1.6s						
MORSI	Morsiglia	2.43	281	P	Pn	00 33 48.2	0.0
MORSI				S	Sn	00 34 20.6	+3.0
SMPL	Sampolo	2.50	261	P	Pn	00 33 51.1	+1.9
SMPL				S	Sn	00 34 22.6	+3.3
PGF	Pioggiola	2.67	272	*e*Pn	Pn	00 33 52.7	+1.2
PGF				*e*Sn	Sn	00 34 23.8	+0.2
	comp=E,1.5nm,0.3s						
PGF	Pioggiola	2.67	272	P	Pn	00 33 53.1	+1.6
AJAC	Base Areonaval	2.92	260	P	Pn	00 33 56.7	+1.9
GBOS	Grotte di Boss	3.88	298	P	Pn	00 34 10.9	+2.7
SAOF	Saorge	3.97	293	P	Pn	00 34 11.5	+2.1
SBF	Sospel	4.01	291	*e*Pn	Pn	00 34 08.7	-1.3
SBF	Sospel	4.01	291	*e*P	Pn	00 34 12.3	+2.3
SBF				*e*Sn	Sn	00 34 54.8	-2.0
	comp=E,0.9nm,0.3s						
TURF	col de Turini	4.08	293	P	Pn	00 34 12.1	+1.1
MYKA	Terra Mystica	4.18	10	*i* Pn	Pn	00 34 13.6	+1.4
	comp=E,1.6nm,0.4s						
SPIF	crte de Spivo	4.21	293	P	Pn	00 34 14.7	+1.9
OBKA	Obir	4.22	19	*i* Pn	Pn	00 34 14.4	+1.5
	comp=E,0.9nm,0.3s						
ABTA	Abfaltersbach	4.23	359	*i* Pn	Pn	00 34 15.5	+2.5
	comp=E,0.7nm,0.4s						
CALF	Calern	4.34	288	P	Pn	00 34 15.4	+0.8
SOKA	Soboth	4.50	22	*i* Pn	Pn	00 34 19.6	+2.8
	comp=E,0.3nm,0.2s						
KBA	Koelnbreinsper	4.59	6	*i* Pn	Pn	00 34 19.2	+1.1
	comp=E,0.9nm,0.3s						
SURF	Saint Ours	4.65	297	P	Pn	00 34 23.3	+4.4
JAUF	Jausiers	4.67	296	P	Pn	00 34 23.0	+3.9
FETA	Feichten	4.70	344	*i* Pn	Pn	00 34 20.9	+1.4
	comp=E,0.2nm,0.2s						
TRIGF	Trignance	4.70	287	P	Pn	00 34 21.4	+1.9
MBDF	Montbardon	4.78	300	*e*Pn	Pn	00 34 19.6	-1.0
MBDF	Montbardon	4.78	300	*e*P	Pn	00 34 24.1	+3.5
MBDF				*e*Sg	Sg	00 35 39.8	-2.6
	comp=E,0.3nm,0.3s						
WTTA	Wattenberg	4.79	352	*i* Pn	Pn	00 34 23.2	+2.3
	comp=E,0.9nm,0.2s						
CREF	Crivoux	4.80	297	P	Pn	00 34 25.4	+4.4
SQTA	Sankt Quirin	4.81	349	*i* Pn	Pn	00 34 23.6	+2.6
	comp=E,1.8nm,0.4s						
RRL	Rocca Remolon	4.85	302	P	Pn	00 34 28.3	+6.6
WATA	Walderalm	4.87	352	*e*Pn	Pn	00 34 24.9	+3.0
	comp=E,1.5nm,0.2s						
LESA	Schwarzleotal	4.91	1	*i* Pn	Pn	00 34 25.3	+3.0
	comp=E,0.7nm,0.2s						
MOTA	Moosalm	4.94	348	*i* Pn	Pn	00 34 25.0	+2.1
	comp=E,0.7nm,0.3s						
ARTF	Artigues	5.10	284	P	Pn	00 34 26.5	+1.6
RETA	Reutte	5.14	346	*i* Pn	Pn	00 34 28.2	+2.8
	comp=E,1.2nm,0.3s						
DAVA	Damuels	5.15	339	*i* Pn	Pn	00 34 27.7	+2.0
	comp=E,0.3nm,0.2s						
ARSA	Arzberg	5.17	23	*e*Pn	Pn	00 34 27.8	+2.0
	comp=E,0.9nm,0.3s						
LPG	La Plagne	5.17	307	*e*Pn	Pn	00 34 26.4	+0.3
LPG	La Plagne	5.17	307	*e*P	Pn	00 34 30.8	+4.7
LPL	La Plagne	5.19	307	*e*Pn	Pn	00 34 26.9	+0.6
LPL	La Plagne	5.19	307	*e*P	Pn	00 34 31.8	+5.5
BIOA	Bad Ischl, Aus	5.22	8	*e*Pn	Pn	00 34 29.6	+3.0
	comp=E,1.2nm,0.3s						
SMRF	Simiane la Rot	5.34	288	*e*P	Pn	00 34 31.6	+3.4
ORIF	Oris-en-Rattie	5.43	298	*e*Pn	Pn	00 34 29.0	-0.5
ORIF	Oris-en-Rattie	5.43	298	*e*P	Pn	00 34 34.7	+5.2
MOA	Molln	5.46	12	*i* Pn	Pn	00 34 29.6	-0.2
	comp=E,0.6nm,0.3s						
RONA	Rosalia, Austr	5.80	25	*i* Pn	Pn	00 34 35.4	+0.8
	comp=E,0.9nm,0.3s						
CONA	Conrad Observa	5.88	22	*i* Pn	Pn	00 34 37.6	+2.0
	comp=E,0.4nm,0.3s						
VIVF	Saint-Julien-l	6.21	295	*e*P	Pn	00 34 43.5	+3.4
CDF	Champ du Feu	6.98	329	*e*Pn	Pn	00 34 52.7	+1.9
CDF	Champ du Feu	6.98	329	*e*P	Pn	00 34 56.6	+5.8
CDF				*e*Sn	Sn	00 36 06.8	-3.1
	comp=E,0.6nm,0.2s						
HAU	Haudompre	7.04	323	*e*Pn	Pn	00 34 52.1	+0.6
HAU	Haudompre	7.04	323	*e*P	Pn	00 34 57.2	+5.7
HAU				*e*Sn	Sn	00 36 08.5	-2.8
	comp=E,3.7nm,0.5s						

IDC 01 00:39:39.0±11.0, 21°.79N×143°.55E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=302.3km s-min=47.0km az=175.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy 21.92	91		T	T	01 06 19.3	
	baz=278,slow=75,SNR=27						
H11N2	WAKE ISLAND Hy 21.93	91		T	T	01 06 19.5	
	baz=278,slow=75,SNR=23						
H11N3	WAKE ISLAND Hy 21.94	91		T	T	01 06 20.6	
	baz=278,slow=75,SNR=20						
H11S3	WAKE ISLAND Hy 21.96	94		T	T	01 06 20.5	
	baz=281,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy 21.97	94		T	T	01 06 21.7	
	baz=281,slow=75,SNR=31						
H11S2	WAKE ISLAND Hy 21.98	94		T	T	01 06 22.0	
	baz=281,slow=75,SNR=31						
SONM	Songino Array	39.48	320	P	P	00 47 12.0	+0.7
	0.4nm,0.7s,baz=126,slow=9.1,SNR=3.2 0.4nm,0.7s						
MKAR	Makanchi Array	54.88	313	P	P	00 49 11.5	+0.1
	0.5nm,0.9s,baz=93,slow=8.7,SNR=4.8 0.5nm,0.9s						
KURBB	Kurchatov Arra	57.69	317	P	P	00 49 30.6	-0.7
	0.9nm,0.6s,baz=93,slow=7.4,SNR=13 0.9nm,0.6s						
ILAR	Eielson Array	61.80	27	P	P	00 49 59.4	-0.1
	0.4nm,0.8s,baz=272,slow=7.4,SNR=4.4 0.4nm,0.8s						
BVAR	Borovoye Array	62.82	319	P	P	00 50 06.5	0.0
	2.0nm,0.5s,baz=93,slow=7.9,SNR=10 2.0nm,0.5s						

*IDC **01** 00:41:55.9±1.4, 48°.93N×155°.95E, h0km, mb3.5/3, mbtmp3.5/5, ML3.0/2, Error ellipse: s-maj=50.7km s-min=27.4km az=126.0*
*KRSC **01** 00:42:06.0±1.2, 49°.55N×156°.60E, h24km±18km, Ml4.1*
ISC 01 00:42:01.5±1.2, 49°.18N±0°.09×156°.0E±0°.1, h34km, n28, σ2°.29/28, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.51	4	*e*P	Pn	00 42 27.8	+1.7
SKR				*e*S	Sn	00 42 42.2	-2.5
PAU	Pauzhetka	2.36	13	*e*P	Pn	00 42 38.2	+0.4
PAU				*e*S	Sn	00 43 03.8	-1.7
KDTR	Khodutka, Kamc	2.96	26	*e*S	Sn	00 43 16.5	-3.9
GRL	Gorelyy	3.64	21	*e*P	Pn	00 42 57.6	+2.1
GRL				*e*S	Sn	00 43 36.3	-1.0
RUS	Russkaya	3.64	25	*e*S	Sn	00 43 33.9	-3.2
APC	Apacha	3.83	11	*e*P	Pn	00 43 01.0	+3.0
APC				*e*S	Sn	00 43 40.8	-1.0
KRMR	Karymshinskiy	3.91	20	*e*P	Pn	00 43 01.2	+2.1
KRMR				*e*S	Sn	00 43 41.0	-2.7
PETK	Petropavlovsk-	4.09	15	Pn	Pn	00 43 03.4	+1.8
	1.2nm,0.3s,baz=191,slow=12,SNR=16						
PETK				Sn	Sb	00 44 02.5	+0.8
	0.6nm,0.3s,baz=257,slow=16,SNR=1.0 3.5nm,0.4s						
PET	Petropavlovsk	4.21	23	*e*P	Pn	00 43 05.5	+2.2
PET				*e*S	Sn	00 43 49.2	-2.0
DALK	Dalny	4.25	23	*e*P	Pn	00 43 05.1	+1.4
DALK				*e*S	Sn	00 43 49.8	-2.2
UGLR	Uglovaya	4.42	23	*e*P	Pn	00 43 08.9	+2.6
AVH	Avacha	4.45	22	*e*P	Pn	00 43 09.2	+2.5
AVH				*e*S	Sn	00 43 55.9	-1.4
KOK	Koryaka	4.45	21	*e*P	Pn	00 43 09.9	+3.2
KRX	Arik	4.52	21	*e*P	Pn	00 43 10.2	+2.6
GNL	Ganaly	4.69	15	*e*P	Pn	00 43 13.1	+3.1
KLR	Kul'dur	15.81	279	Pn	Pn	00 45 41.0	-0.3
	0.2nm,0.3s,baz=183,slow=7.3,SNR=8.4 1.6nm,0.6s						
H11N2	WAKE ISLAND Hy 30.66	159		T	T	01 21 09.6	
	baz=346						
H11N1	WAKE ISLAND Hy 30.68	159		T	T	01 21 06.9	
	baz=346						
H11N3	WAKE ISLAND Hy 30.68	159		T	T	01 21 11.0	
	baz=346						
H11S1	WAKE ISLAND Hy 31.80	160		T	T	01 22 36.9	
	baz=347,slow=76,SNR=38						
H11S3	WAKE ISLAND Hy 31.81	160		T	T	01 22 34.9	
	baz=347,slow=76,SNR=38						
H11S2	WAKE ISLAND Hy 31.82	160		T	T	01 22 21.5	
	baz=347,slow=76,SNR=26						
ILAR	Eielson Array	33.46	41	P	P	00 48 37.2	+0.3
	0.3nm,0.7s,baz=258,slow=7.0,SNR=6.9 0.3nm,0.7s						
TXAR	Lajitas Array	74.66	63	P	P	00 53 38.4	+0.8
	0.3nm,0.7s,baz=298,slow=2.7,SNR=4.5 0.3nm,0.7s						
ASAR	Alice Springs	75.14	201	P	P	00 53 38.4	-1.7
	0.5nm,0.6s,baz=14,slow=5.2,SNR=4.6 0.5nm,0.6s						
H03N2	Juan Fernandez	136.84	90	T	T	03 33 30.6	
	baz=313,slow=77,SNR=3.8						
H03N1	Juan Fernandez	136.86	90	T	T	03 33 31.3	
	baz=313,slow=77,SNR=4.5						
H03N3	Juan Fernandez	136.86	90	T	T	03 33 30.6	
	baz=313,slow=77,SNR=4.1						

*IDC **01** 00:52:08.5±6.1, 31°.79S×179°.97E, h376km±60km, mb3.6/3, mbtmp4.5/4, Error ellipse: s-maj=71.8km s-min=27.8km az=14.0*
*WEL **01** 00:52:11.4±0.8, 32°.S±6°×18°.0W±1°.6, h362km±11km, M4.8/18, mB5.2/14, ML5.3/14, MLv5.2/18, Mw(mB)4.6/14, Error ellipse: s-maj=21.5km s-min=4.7km az=108.5, confirmed*
*NOU **01** 00:52:13.7, 32°.76S×179°.08W, h466km, MLv4.9/17, South of Kermadec Islands*
ISC 01 00:52:09.6±0.9, 31°.98S±0°.08×179°.6W±0°.1, h350km, n68, σ3°.24/72, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.08	29	P	Pn	00 53 12.0	+2.2
GLKZ				S	S	00 54 00.8	+2.7
RIZ	Raoul Island	3.10	29	S	S	00 54 03.8	+5.4
MXZ	Matakaoa Point	5.82	196	P	Pn	00 53 40.4	+2.1
MXZ	Matakaoa Point	5.82	196	P	S	00 54 53.2	+3.0
MXZ	Matakaoa Point	5.82	196	P	Pn	00 53 41.4	+3.1
MXZ				S	S	00 54 53.3	+3.0
GRZ	Great Barrier	5.89	222	P	Pn	00 53 43.1	+4.0
WMGZ	Waiomatatini S	6.04	195	P	Pn	00 53 43.4	+2.6
WMGZ				S	S	00 54 58.5	+3.7
KUZ	Kuaotunu	6.11	218	P	Pn	00 53 46.2	+4.6
KUZ	Kuaotunu	6.11	218	P	S	00 55 04.9	+8.7
KUZ	Kuaotunu	6.11	218	P	Pn	00 53 46.3	+4.7
WIZ	White Island	6.12	204	P	Pn	00 53 46.6	+4.9
HAZ	Te Kaha	6.14	199	P	Pn	00 53 44.2	+2.3
HAZ				S	S	00 55 00.2	+3.4
PKGZ	Pakihiroa	6.17	197	S	S	00 55 00.4	+3.0
MYRZ	Mayor Island	6.29	212	P	Pn	00 53 41.2	-2.5
PUZ	Puketiti	6.32	195	P	Pn	00 53 46.3	+2.3
PUZ				S	S	00 55 03.6	+3.0
RUGZ	Raukumara Rang	6.37	199	P	Pn	00 53 46.4	+1.8
RUGZ				S	S	00 55 03.7	+1.9
WCZ	Waipu Caves	6.37	230	P	Pn	00 53 47.8	+3.2
TWGZ	Tauwhareparae	6.49	197	P	Pn	00 53 48.3	+2.3
TWGZ				S	S	00 55 05.6	+1.4
ABAZ	Army Bay	6.50	223	P	Pn	00 53 47.0	+1.0
MBAZ	Motutapu North	6.58	222	P	Pn	00 53 48.5	+1.6
OPRZ	Ohinepanea	6.64	207	P	Pn	00 53 50.8	+3.2
CNGZ	Carnagh Statio	6.73	195	P	Pn	00 53 52.0	+3.4
MWZ	Matawai	6.75	199	P	Pn	00 53 50.6	+1.5
MWZ				S	S	00 55 10.9	+1.1
TKGZ	Te Karaka	6.77	197	P	Pn	00 53 52.0	+2.9
TKGZ				S	S	00 55 12.4	+2.3
URZ	Urewera	6.81	202	P	Pn	00 53 50.4	+0.8
	72nm,0.3s,baz=353,slow=4.3,SNR=78						
URZ				S	S	00 55 11.8	+0.8
	41nm,0.3s,baz=157,slow=23,SNR=11						
URZ	Urewera	6.81	202	P	Pn	00 53 50.6	+1.0
URZ	Urewera	6.81	202	S	S	00 55 11.8	+0.8
URZ	Urewera	6.81	202	P	Pn	00 53 49.9	+0.3
URZ				S	S	00 55 14.1	+3.1
OMRZ	Omania	6.94	207	P	Pn	00 53 55.6	+4.5
RAGZ	Rawiri	6.94	200	P	Pn	00 53 53.0	+1.8
NGRZ	Ngongotaha	7.00	208	P	Pn	00 53 56.6	+4.7
RIGZ	Rimuhau	7.04	197	P	Pn	00 53 53.9	+1.5
HLRZ	Highlands Stat	7.07	207	P	Pn	00 53 57.6	+4.9

ASAR Alice Springs 41.66 269 P P 00 59 19.2 -6.1
2.4nm,0.6s,baz=106,slow=7.3,SNR=31
2.4nm,0.6s
WRA Warramunga Arr 42.79 275 P P 00 59 27.3 -7.0
3.0nm,0.3s,baz=112,slow=8.0,SNR=35
3.0nm,0.3s
MKAR Makanchi Array 117.70 310 PKP **PKPdf 01 10 08.5 -5.8**
0.2nm,0.6s,baz=86,slow=4.5,SNR=2.2
KURBB Kurchatov Arra 121.15 313 PKP **PKPdf 01 10 15.1 -5.6**
0.1nm,0.3s,baz=121,slow=2.0,SNR=6.0
BVAR Borovoye Array 126.54 315 PKP **PKPdf 01 10 25.7 -5.3**
0.9nm,0.8s,baz=100,slow=1.6,SNR=3.0
FINES FINESS Array B 146.11 338 PKPbc **PKPdf 01 11 03.0 -3.6**
1.0nm,0.3s,baz=62,slow=4.2,SNR=26
MMAI Mount Meron Ar 150.50 282 PKPbc **PKPdf 01 11 16.1 +1.4**
1.7nm,0.5s,baz=82,slow=7.9,SNR=12
AKASG Malin Array Be 151.65 320 PKPbc **PKPdf 01 11 17.3 +1.5**
0.4nm,0.3s,baz=54,slow=2.9,SNR=4.5
BRTR Keskin Array B 152.06 295 PKPbc **PKPdf 01 11 18.4 +1.4**
0.5nm,0.6s,baz=153,slow=4.1,SNR=5.8

*NOU **01** 01:57:23.8, 38°.86S×177°.88E, h17km, MLv3.1/6, North Island, New Zealand*
*WEL **01** 01:57:24.6±0.7, 39°.5±3°.7×17°.8E±°, h19km±5km, M3.4/11, ML3.7/11, MLv3.4/11, Error ellipse: s-maj=4.6km s-min=3.5km az=116.8, confirmed*
ISC 01 01:57:23.9±1.1, 38°.89S±0°.03×178°.01E±0°.04, h28km±6km, n87, σ1§04/99, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGZ	**Paritu Road**	**0.10**	**250**	P	**Pb**	**01 57 29.3**	**+0.4**
GKBS	**Kaiti Beach**	**0.20**	**5**	P	**Pb**	**01 57 30.7**	**+0.9**
RIGZ	**Rimuhau**	**0.27**	**313**	P	**Pb**	**01 57 29.8**	**-0.8**
RIGZ				S	**Sb**	**01 57 34.6**	**-0.7**
MHGZ	**Mahia Peninsul**	**0.28**	**197**	P	**Pn**	**01 57 32.9**	**+0.8**
KNZ	**Kokohu**	**0.29**	**243**	P	**Pb**	**01 57 31.5**	**+0.4**
KNZ				S	**Sb**	**01 57 37.5**	**+1.5**
CNGZ	**Carnagh Statio**	**0.43**	**21**	P	**Pn**	**01 57 34.7**	**+0.5**
TKGZ	**Te Karaka**	**0.47**	**344**	P	**Pb**	**01 57 33.5**	**-0.1**
TKGZ				S	**Sb**	**01 57 40.9**	**+0.7**
SNGZ	**Shannon Statio**	**0.53**	**281**	P	**Pb**	**01 57 34.2**	**-0.5**
SNGZ				S	**Sb**	**01 57 42.0**	**-0.2**
RAGZ	**Rawiri**	**0.61**	**310**	P	**Pb**	**01 57 35.0**	**-1.0**
RAGZ				S	**Sb**	**01 57 43.4**	**-0.8**
WHHZ	**Waihua**	**0.63**	**252**	P	**Pb**	**01 57 36.8**	**+0.4**
WHHZ				S	**Sn**	**01 57 47.2**	**+1.0**
MWZ	**Matawai**	**0.67**	**325**	P	**Pb**	**01 57 36.1**	**-0.9**
MWZ				S	**Sb**	**01 57 45.1**	**-0.9**
TWGZ	**Tauwhareparae**	**0.71**	**358**	P	**Pn**	**01 57 38.0**	**-0.1**
TWGZ				S	**Sn**	**01 57 49.0**	**+0.9**
RAHZ	**Arahi**	**0.72**	**267**	P	**Pn**	**01 57 37.6**	**-0.6**
RAHZ				S	**Sb**	**01 57 48.2**	**+0.8**
PUZ	**Puketiti**	**0.84**	**13**	P	**Pn**	**01 57 39.9**	**+0.1**
RTZ	**Ruatahuna**	**0.85**	**288**	P	**Pn**	**01 57 39.1**	**-1.0**
RTZ				S	**Sn**	**01 57 50.3**	**-1.3**
ARHZ	**Aropaoanui**	**0.87**	**244**	P	**Pn**	**01 57 40.5**	**+0.2**
MTHZ	**Maungataniwha**	**0.91**	**272**	P	**Pn**	**01 57 40.2**	**-0.7**
MTHZ				S	**Sn**	**01 57 52.7**	**-0.4**
URZ	**Urewera**	**0.94**	**311**	P	**Pn**	**01 57 40.1**	**-1.1**
URZ	**Urewera**	**0.94**	**311**	P	**Pn**	**01 57 40.3**	**-0.9**
URZ				S	**Sn**	**01 57 52.2**	**-1.5**
RUGZ	**Raukumara Rang**	**0.96**	**344**	P	**Pn**	**01 57 40.5**	**-1.0**
NMHZ	**Naumai**	**0.96**	**257**	P	**Pn**	**01 57 41.4**	**-0.2**
PKGZ	**Pakihiroa**	**1.02**	**3**	P	**Pn**	**01 57 42.1**	**-0.3**
MUGZ	**Murupara**	**1.05**	**292**	P	**Pn**	**01 57 42.2**	**-0.6**
CKHZ	**Cape Kidnapper**	**1.06**	**223**	P	**Pn**	**01 57 43.0**	**+0.2**
WMGZ	**Waiomatatini S**	**1.11**	**17**	P	**Pn**	**01 57 43.7**	**+0.1**
HAZ	**Te Kaha**	**1.14**	**351**	P	**Pn**	**01 57 42.8**	**-1.2**
MCHZ	**McNeill Hill**	**1.16**	**241**	P	**Pn**	**01 57 44.3**	**0.0**
BKZ	**Black Stump Fm**	**1.21**	**256**	P	**Pn**	**01 57 44.8**	**-0.2**
BKZ	**Black Stump Fm**	**1.21**	**256**	P	**Pn**	**01 57 44.7**	**-0.4**
MRHZ	**Matea Rd**	**1.24**	**272**	P	**Pn**	**01 57 45.2**	**-0.3**
KAHZ	**Kahuranaki**	**1.26**	**224**	P	**Pn**	**01 57 45.7**	**0.0**
RRRZ	**Republican Roa**	**1.29**	**295**	P	**Pb**	**01 57 48.4**	**+0.9**
PRRZ	**Plateau Road**	**1.32**	**287**	P	**Pn**	**01 57 47.7**	**+1.2**
ALRZ	**Allen Road**	**1.34**	**283**	P	**Pn**	**01 57 47.3**	**+0.5**
MXZ	**Matakaoa Point**	**1.34**	**10**	P	**Pn**	**01 57 47.1**	**+0.4**
MXZ	**Matakaoa Point**	**1.34**	**10**	S	**Sb**	**01 58 05.7**	**+0.6**
MXZ	**Matakaoa Point**	**1.34**	**10**	P	**Pn**	**01 57 46.9**	**+0.1**
KWHZ	**Kaweka Forest**	**1.34**	**246**	P	**Pn**	**01 57 46.8**	**0.0**
MARZ	**Manawahe**	**1.38**	**310**	P	**Pn**	**01 57 48.7**	**+1.4**
MKRZ	**Makatiti**	**1.42**	**301**	P	**Pb**	**01 57 50.4**	**+0.7**
HRRZ	**Handcock Road**	**1.44**	**290**	P	**Pn**	**01 57 49.7**	**+1.6**
HLRZ	**Highlands Stat**	**1.45**	**296**	P	**Pb**	**01 57 52.4**	**+2.3**
KRHZ	**Kereru**	**1.48**	**239**	P	**Pn**	**01 57 48.0**	**-0.7**
WPRZ	**Whakapapatarin**	**1.49**	**284**	P	**Pb**	**01 57 52.1**	**+1.2**
HSRZ	**Hossack Road**	**1.50**	**292**	P	**Pb**	**01 57 50.9**	**-0.1**
WIZ	**White Island**	**1.50**	**334**	P	**Pn**	**01 57 49.6**	**+0.7**
OPRZ	**Ohinepanea**	**1.55**	**312**	P	**Pn**	**01 57 48.7**	**-0.8**
GRRZ	**Galatos Road**	**1.58**	**289**	P	**Pb**	**01 57 54.8**	**+2.4**
WHTZ	**Whakaora**	**1.62**	**277**	P	**Pb**	**01 57 55.1**	**+2.0**
RITZ	**Rihia Road**	**1.68**	**266**	P	**Pn**	**01 57 51.8**	**+0.4**
WPHZ	**Waipukurau**	**1.69**	**225**	P	**Pn**	**01 57 51.1**	**-0.5**
PNHZ	**Pukenui**	**1.74**	**233**	P	**Pn**	**01 57 51.5**	**-0.7**
PRHZ	**Porangahau**	**1.74**	**217**	P	**Pn**	**01 57 51.3**	**-0.9**
RATZ	**Rangitukua**	**1.75**	**270**	P	**Pb**	**01 57 57.5**	**+2.3**
KUTZ	**Kaahu Road**	**1.76**	**282**	P	**Pb**	**01 57 54.9**	**-0.5**
WATZ	**Wairara**	**1.79**	**275**	P	**Pb**	**01 57 57.1**	**+1.1**
ETVZ	**East Tongariro**	**1.81**	**261**	P	**Pn**	**01 57 53.1**	**-0.1**
TMVZ	**Te Maari**	**1.81**	**262**	P	**Pn**	**01 57 53.1**	**-0.2**
MOVZ	**Moawhango**	**1.83**	**253**	P	**Pn**	**01 57 54.1**	**+0.6**
NTVZ	**North Tongarir**	**1.83**	**263**	P	**Pn**	**01 57 53.6**	**0.0**
OTVZ	**Oturere**	**1.85**	**261**	P	**Pn**	**01 57 54.1**	**+0.3**
SNVZ	**South Ngauruho**	**1.87**	**260**	P	**Pn**	**01 57 54.4**	**+0.2**
NNVZ	**North Ngauruho**	**1.88**	**262**	P	**Pn**	**01 57 54.6**	**+0.2**
NGZ	**Ngauruhoe**	**1.90**	**261**	P	**Pn**	**01 57 54.6**	**0.0**
WTVZ	**West Tongariro**	**1.90**	**262**	P	**Pn**	**01 57 54.6**	**+0.1**
WNVZ	**Wahianoa**	**1.93**	**256**	P	**Pn**	**01 57 55.0**	**0.0**
MAVZ	**Matarangi**	**1.94**	**258**	P	**Pb**	**01 57 59.4**	**+0.6**
COVZ	**Chateau Observ**	**1.95**	**260**	P	**Pn**	**01 57 54.1**	**-1.0**
FWVZ	**Far West T-bar**	**1.95**	**258**	P	**Pn**	**01 57 56.7**	**+1.4**
TRVZ	**Turoa**	**1.96**	**257**	P	**Pn**	**01 57 55.7**	**+0.3**
TSZ	**Takapari Road**	**1.97**	**233**	P	**Pn**	**01 57 54.5**	**-0.9**
DVHZ	**Dannevirke**	**2.00**	**225**	P	**Pn**	**01 57 55.1**	**-0.7**
TWVZ	**Taurewa**	**2.01**	**264**	P	**Pn**	**01 57 57.2**	**+1.1**
MTVZ	**Mangateitei**	**2.04**	**255**	P	**Pn**	**01 57 56.0**	**-0.3**
PKVZ	**Pokaka**	**2.11**	**258**	P	**Pn**	**01 57 58.0**	**+0.6**
BFZ	**Birch Farm**	**2.25**	**217**	P	**Pn**	**01 57 57.6**	**-1.6**
HIZ	**Hauiti**	**2.50**	**278**	S	**Sn**	**01 58 31.7**	**-0.4**
HIZ	**Hauiti**	**2.50**	**278**	P	**Pn**	**01 58 03.6**	**+1.0**
VRZ	**Vera Road**	**2.54**	**264**	P	**Pn**	**01 58 03.7**	**+0.4**
MRZ	**Mangatainoka R**	**2.58**	**226**	P	**Pn**	**01 58 02.0**	**-1.7**
OGWZ	**Otaki Gorge**	**2.91**	**228**	P	**Pn**	**01 58 06.0**	**-2.3**
NEZ	**North Egmont**	**3.07**	**262**	P	**Pn**	**01 58 12.2**	**+1.6**
KIW	**Kapiti Island**	**3.09**	**229**	P	**Pn**	**01 58 08.8**	**-2.0**
KHEZ	**Kahui Hut**	**3.13**	**261**	P	**Pn**	**01 58 12.8**	**+1.3**
PKE	**Pukeiti**	**3.15**	**263**	P	**Pn**	**01 58 13.3**	**+1.7**
TKNZ	**Takaka Hill**	**4.43**	**239**	P	**Pn**	**01 58 26.7**	**-2.5**
MRNZ	**Matariki Terra**	**4.74**	**236**	P	**Pn**	**01 58 30.8**	**-2.6**

*IDC **01** 02:11:16.7±1.1, 12°.99S×45°.30E, h0km, mb3.8/6, mbtmp4.0/8, ML4.6/2, MS3.3/2, Error ellipse: s-maj=36.1km s-min=22.8km az=156.0*
ISC 01 02:11:18.6±1.1, 13°.1S±0°.1×45°.4E±0°.1, h10km, n9, σ1§39/9, mb3.9/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.68**	**162**	Pn	**Pn**	**02 12 45.4**	**+2.1**
OPO	2.7nm,0.3s,baz=332,slow=12,SNR=9.0			Sn	**Sn**	**02 13 46.2**	**-2.5**
	5.0nm,0.3s,baz=244,slow=19,SNR=13 38nm,0.3s						
LSZ	**Lusaka**	**16.77**	**261**	Pn	**Pn**	**02 15 13.9**	**0.0**
	0.2nm,0.3s,baz=84,slow=9.5,SNR=15 8.0nm,0.8s						
LBTB	**Lobatse**	**22.05**	**235**	P	**P**	**02 16 13.6**	**-0.2**
	5.3nm,1.1s,baz=63,slow=4.5,SNR=3.3						
LBTB	comp=Z,62nm,18.3s,baz=41,slow=38 5.3nm,1.1s			LR	LR	02 25 09.7	
BOSA	**Boshof**	**24.22**	**227**	P	**P**	**02 16 36.2**	**+0.4**
	3.0nm,0.9s,baz=59,slow=10,SNR=3.8 3.0nm,0.9s						
TSUM	**Tsumeb**	**27.32**	**254**	P	**P**	**02 17 03.5**	**-0.5**
	1.2nm,0.4s,baz=95,slow=12,SNR=1.9 1.2nm,0.4s						
GNI	**Garni**	**53.02**	**359**	LR	LR	02 41 46.6	
	comp=Z,30nm,20.3s,baz=188,slow=35						
MKAR	**Makanchi Array**	**68.23**	**26**	P	**P**	**02 22 18.7**	**-0.7**
	0.2nm,0.5s,baz=210,slow=6.1,SNR=3.5 0.2nm,0.5s						
ASAR	**Alice Springs**	**83.53**	**113**	P	**P**	**02 23 47.5**	**0.0**
	0.5nm,0.7s,baz=260,slow=4.6,SNR=4.4 0.5nm,0.7s						
WRA	**Warramunga Arr**	**84.68**	**109**	P	**P**	**02 23 53.6**	**+0.3**
	1.4nm,1.0s,baz=260,slow=3.2,SNR=4.9 1.4nm,1.0s						

*NEIC **01** 02:22:01.5±2.0, 17°.4S±0°.2×178°.81W±0°.09, h552km±9km, mb4.5/14, Error ellipse: s-maj=26.0km s-min=7.0km az=155.0*
*IDC **01** 02:22:03.5±1.8, 17°.15S×179°.23W, h563km±18km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=78.8km s-min=15.9km az=150.0*
ISC 01 02:22:00.9±0.6, 17°.3S±0°.1×178°.9W±0°.1, h539km, n32, σ1§22/32, mb4.4/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.90**	**261**	P	**P**	**02 23 17.6**	**+3.1**
MSVF	**Nonsavu**	**2.90**	**261**	P	**P**	**02 23 17.9**	**+3.4**
	159nm,0.6s,baz=103,slow=5.5,SNR=76						
FUTU	**Fugatoga**	**3.07**	**15**	P	**P**	**02 23 16.8**	**+1.2**
AFI	**Afiamalu**	**7.68**	**65**	P	**P**	**02 23 53.8**	**-1.5**
NIUE	**Niue**	**8.75**	**103**	P	**P**	**02 24 06.6**	**+0.7**
EIDS	**Eidsvold**	**29.00**	**249**	P	**P**	**02 27 16.6**	**-0.9**
EIDS				IAmb	IAmb	02 27 30.1	
	comp=Z,24nm,1.5s						
ARMA	**Armidale**	**29.81**	**239**	P	**P**	**02 27 24.5**	**0.0**
MLZ	**Mavora Lakes**	**30.01**	**198**	P	**P**	**02 27 24.4**	**-1.5**
COEN	**Coen**	**36.59**	**270**	P	**P**	**02 28 22.4**	**+0.6**
STKA	**Stephens Creek**	**38.48**	**240**	P	**P**	**02 28 37.2**	**+0.1**
STKA	**Stephens Creek**	**38.48**	**240**	P	**P**	**02 28 36.6**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=85,slow=9.1,SNR=8.9 comp=Z,3.5nm,0.5s						
BBOO	**Buckleboo**	**43.26**	**240**	P	**P**	**02 29 14.2**	**-0.8**
BBOO				IAmb	IAmb	02 29 56.5	
	comp=Z,35nm,1.4s						
WB0	**Warramunga Arr**	**44.21**	**259**	P	**P**	**02 29 21.3**	**-1.3**
WB0				IAmb	IAmb	02 29 24.7	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**44.23**	**259**	P	**P**	**02 29 21.6**	**-1.2**
WB2				IAmb	IAmb	02 29 31.8	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**44.24**	**259**	P	**P**	**02 29 21.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=95,slow=7.7,SNR=8.4 comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**44.47**	**254**	P	**P**	**02 29 24.0**	**-0.6**
AS31				IAmb	IAmb	02 29 24.5	
	comp=Z,5.2nm,0.5s						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**02 29 23.9**	**-0.7**
	comp=Z,10nm,0.4s,baz=88,slow=8.1,SNR=168 comp=Z,10nm,0.4s						
FORT	**Forrest**	**49.81**	**244**	P	**P**	**02 30 03.4**	**-1.2**
FORT				IAmb	IAmb	02 30 04.1	
	comp=Z,17nm,0.8s						
KNRA	**Kununurra**	**50.04**	**264**	P	**P**	**02 30 06.6**	**+0.1**
KNRA				IAmb	IAmb	02 30 40.8	
	comp=Z,28nm,1.5s						
FITZ	**Fitzroy Crossi**	**52.63**	**260**	P	**P**	**02 30 25.3**	**+0.2**
KIWB	**Kanaga Island**	**68.87**	**1**	P	**P**	**02 32 10.2**	**-1.1**
P18K	**Big Mountain,**	**78.83**	**12**	P	**P**	**02 33 07.2**	**-0.6**
O18K	**Koktuh Hills**	**79.26**	**12**	P	**P**	**02 33 10.6**	**+0.6**
O18K				IAmb	IAmb	02 33 40.4	
	comp=Z,26nm,1.5s						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**02 33 12.2**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=225,slow=8.4,SNR=8.7 comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**85.41**	**13**	P	**P**	**02 33 40.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=228,slow=5.5,SNR=7.4 comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**02 33 46.5**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=229,slow=5.6,SNR=10 comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**87.26**	**44**	P	**P**	**02 33 51.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=208,slow=4.4,SNR=7.8 comp=Z,0.5nm,0.5s						
KWP	**Kalwaria Pacla**	**143.31**	**336**	PKPdf	**PKPdf**	**02 40 32.8**	**-1.1**
BUR08	**Bucovina Ar. S**	**143.82**	**332**	PKPdf	**PKPdf**	**02 40 34.9**	**-0.1**
GERES	**GERESS Array B**	**146.89**	**345**	PKPbc	**PKPbc**	**02 40 42.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=44,slow=3.1,SNR=2.6						
FUORN	**Ofenpass-Fuorn**	**149.78**	**347**	PKPbc	**PKiKP**	**02 40 50.9**	**-0.2**
TUE	**Stuetta**	**150.10**	**348**	PKPbc	**PKPbc**	**02 40 50.7**	**-0.5**

NEIC 01 02:46:33.6±2.0, 37°.02N±0°.01×104°.95W±0°.01, h5km±1km, ML1.0/14, Error ellipse: s-maj=3.2km s-min=2.7km az=314.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.45**	**74**	Pg	Pg	02 46 42.9	+0.5
T25A				Sg	Sg	02 46 49.3	+1.0
T25A				IAML		02 46 50.0	
	comp=N,19nm,0.2s						
SDCO	**Great Sand Dun**	**0.85**	**329**	Pg	Pg	02 46 49.6	-0.3
S22A	**4UR Ranch, Cre**	**1.66**	**297**		Pn	02 47 02.1	-1.6
S22A				IAML		02 47 27.7	
	comp=E,2.8nm,0.8s						
S22A				IAML		02 47 27.7	
	comp=N,2.2nm,0.1s						
Q24A	**Divide**	**1.95**	**356**	Pn	Pn	02 47 05.9	-1.8
KSCO	**Kaye Shedlock'**	**2.71**	**42**	Pn	Pn	02 47 16.8	-1.1

*IDC **01** 02:48:28.1±2.4, 17°.57S×178°.77W, h608km±20km, mb2.7/5, mbtmp3.6/6, Error ellipse: s-maj=107.5km s-min=21.9km az=152.0*
ISC 01 02:48:27.3±1.9, 17°.7S±0°.7×178°.7W±0°.4, h600km, n6, σ0§68/7, mb3.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.13**	**268**	P	**P**	**02 49 48.1**	**+0.9**
	21nm,0.8s,baz=139,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**02 55 46.5**	**-0.1**
	0.3nm,0.5s,baz=97,slow=8.0,SNR=1.7						
WRA				PcP	**PcP**	**02 57 16.2**	**-0.8**
	0.3nm,0.4s,baz=93,slow=3.1,SNR=4.8 0.3nm,0.5s						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**02 55 47.6**	**-0.4**
	1.1nm,0.6s,baz=86,slow=8.6,SNR=13 1.1nm,0.6s						
ILAR	**Eielson Array**	**85.70**	**13**	P	**P**	**03 00 03.0**	**-0.3**
	0.2nm,0.4s,baz=228,slow=4.7,SNR=7.3 0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**03 00 06.5**	**+0.5**
	0.4nm,0.7s,baz=202,slow=4.4,SNR=6.6 0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.34**	**44**	P	**P**	**03 00 11.7**	**-0.2**
	0.2nm,0.5s,baz=258,slow=5.1,SNR=2.6 0.2nm,0.5s						

TXNET 01 02:48:30.0, 31°.6N±0°.7×104°.2W±0°.9, h8km±2km, ML1.8/6, Error ellipse: s-maj=1.5km s-min=0.9km az=56.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**28**	P	Pg	02 48 37.3	+0.6
TPB11				S	Sg	02 48 42.5	+1.3
PECS	**Pecos**	**0.40**	**131**	P	Pb	02 48 39.0	-0.5
PECS				S	Sb	02 48 44.7	-1.1
TPB07	**Mentone**	**0.48**	**97**	P	Pb	02 48 40.2	-0.6
TPB07				S	Sb	02 48 47.1	-0.8
TPB10	**Southeast of T**	**0.53**	**131**	P	Pb	02 48 41.6	-0.1
TPB10				S	Sb	02 48 48.8	-0.8
GDL2	**Guadalupe Moun**	**0.57**	**348**	P	Pb	02 48 41.8	-0.6
PCOS	**Crockett Middl**	**0.65**	**110**	S	Sb	02 48 53.1	+0.2
CLNB	**Carlsbad**	**0.69**	**25**	P	Pb	02 48 44.2	-0.2
CLNB				S	Sb	02 48 53.9	-0.2
TPB01	**Permian Basin**	**0.79**	**151**	P	Pg	02 48 45.3	+0.1
TPB01				S	Sg	02 48 55.6	+0.1
TPB03	**Saragosa**	**0.82**	**132**	S	Sb	02 48 58.5	+0.6
CLN7	**Carlsbad 7**	**0.85**	**24**	P	Pg	02 48 46.7	+0.2
TPB06	**Permian Basin**	**0.86**	**89**	S	Sb	02 48 59.2	+0.3
HTMS	**Hat Mesa**	**0.97**	**31**	S	Sn	02 49 03.7	-0.4
MNTX	**Cornudas Mount**	**0.99**	**274**	P	Pg	02 48 49.3	+0.2
MNTX				S	Sg	02 49 02.2	+0.3
NM01	**Eunice**	**1.00**	**44**	S	Sn	02 49 06.7	+1.8
TPB05	**Hovey Rd**	**1.05**	**133**	S	Sb	02 49 04.7	+0.2
VHRN	**Van Horn**	**1.07**	**218**	P	Pg	02 48 50.6	0.0
VHRN				S	Sb	02 49 04.9	-0.2
MNHN	**Monahans**	**1.28**	**103**	P	Pn	02 48 54.4	+0.1
MNHN				S	Sn	02 49 11.8	+0.1
TPB08	**Permian Basin**	**1.35**	**123**	S	Sg	02 49 14.1	+0.6
ALPN	**Alpine**	**1.35**	**158**	P	Pn	02 48 55.2	-0.2
ALPN				S	Sb	02 49 12.9	-0.4
CPRX	**Cap Rock**	**1.42**	**12**	P	Pb	02 48 56.9	0.0
ODSA	**Odessa**	**1.50**	**71**	P	Pb	02 48 58.3	0.0
ODSA				S	Sg	02 49 18.4	0.0
TMB04	**Seminole**	**1.77**	**56**	P	Pb	02 49 02.7	-0.1
TMB04				S	Sg	02 49 26.2	-0.8
TMB02	**Rankin**	**1.92**	**103**	P	Pb	02 49 05.4	+0.1
TMB02				S	Sb	02 49 30.3	+0.9
TX31	**Lajitas Ar. Si**	**2.34**	**168**	P	Pb	02 49 12.1	-0.5
TX31				S	Sg	02 49 44.5	-1.0
SAND	**Sanderson**	**2.46**	**132**	P	Pb	02 49 14.1	-0.5
SAND				S	Sb	02 49 46.3	+1.1

TAP 01 03:05:28.4, 24°.18N×121°.42E, h5km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.06**	**61**	*i* P	Pg	03 05 30.4	+0.5
ETLH				S	Sg	03 05 31.6	+0.5
WHF	**Hehuan Shan**	**0.15**	**258**	P	Pg	03 05 31.9	+0.3
WHF				*e*S	Sg	03 05 33.9	+0.2
LXIB	**Xiulin Townshi**	**0.16**	**184**	P	Pg	03 05 32.3	+0.7
LXIB				S	Sg	03 05 34.6	+1.0
NACB	**Ninganchiao**	**0.16**	**91**	P	Pg	03 05 32.2	+0.7
NACB				*e*S	Sg	03 05 34.4	+0.8
TWD	**Chiawan**	**0.18**	**122**	*e*P	Pg	03 05 32.9	+0.8
TWD				*e*S	Sg	03 05 35.8	+1.3
NNSB	**Datong**	**0.25**	**351**	P	Pg	03 05 33.7	+0.3
NNSB				S	Sg	03 05 36.9	+0.1
OWD	**Renai**	**0.32**	**226**	P	Pg	03 05 34.9	+0.3
OWD				S	Sg	03 05 38.9	0.0
WUSB	**Renai**	**0.34**	**237**	*e*P	Pg	03 05 35.5	+0.6
WUSB				*e*S	Sg	03 05 40.1	+0.6
ESL	**Shilin**	**0.36**	**179**	*e*P	Pg	03 05 36.1	+0.6
ESL				*e*S	Sg	03 05 40.9	+0.8
LATG	**Datong**	**0.37**	**15**	*e*P	Pg	03 05 35.6	0.0
LATG				*e*S	Sg	03 05 40.7	+0.2
WHP	**Taichung City**	**0.45**	**283**	*e*P	Pb	03 05 38.1	-0.8
WHP				*e*S	Sg	03 05 44.4	+1.4
WARBT	**Fenglin Townsh**	**0.46**	**184**	*e*P	Pg	03 05 37.5	+0.2
WARBT				*e*S	Sg	03 05 44.3	+1.0
YHNB	**Yeheng**	**0.49**	**355**	*e*P	Pg	03 05 37.5	-0.5
YHNB				*e*S	Sg	03 05 44.2	-0.1
VWDT	**VWDT**	**0.49**	**212**	*e*P	Pg	03 05 38.2	+0.3
VWDT				*e*S	Sg	03 05 44.7	+0.3
NSK	**Sanguang**	**0.50**	**353**	*e*S	Sg	03 05 44.4	-0.2
SSLB	**Suanglung**	**0.58**	**228**	*e*P	Pg	03 05 39.7	+0.1
SSLB				*e*S	Sg	03 05 47.9	+0.8

JMA 01 03:05:56.2±0.3, 25°.N±3°.×123°.2E±0°.8, h144km±3km, MV2.7/14, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.88**	**143**	P	Pn	03 06 19.4	0.0
IRIF				*e*S	Sn	03 06 37.1	+0.1
JKRS	**Kuro-shima**	**1.11**	**135**	P	Pn	03 06 22.0	+0.5
JKRS				*e*S	Sn	03 06 41.0	+0.3
JIJ	**Ishigaki jima**	**1.12**	**126**	P	Pn	03 06 21.6	0.0
JIJ				*e*S	Sn	03 06 40.1	-0.8
HATJ	**Hateruma jima**	**1.14**	**148**	*e*P	Pn	03 06 22.3	+0.5
HATJ				*e*S	Sn	03 06 42.1	+0.9
JISG	**Ishigakijimahi**	**1.15**	**113**	P	Pn	03 06 21.7	-0.1
JISG				S	Sn	03 06 41.0	-0.2
JTJ	**Tarama**	**1.46**	**105**	*e*P	Pn	03 06 25.2	+0.3
JTJ				S	Sn	03 06 47.0	+0.1
JIRB	**Irabujima**	**1.85**	**96**	*e*S	Sn	03 06 53.8	-0.7
JMJ2	**Miyako jima3**	**2.00**	**98**	*e*P	Pn	03 06 31.8	+0.8
JOGS	**Gusukube**	**2.07**	**97**	*e*S	Sn	03 06 58.9	-0.1

*IDC **01** 03:27:15.8±4.5, 36°.03N×142°.06E, h

TPB07	**Mentone**	**0.50 96**	P		Pg	03 30 48.6	+0.3
TPB07			S		Sg	03 30 55.3	+0.5
TPB10	**Southeast of T**	**0.55 129**	P		Pg	03 30 49.3	+0.2
TPB10			S		Sg	03 30 57.0	+0.7
PCOS	**Crockett Middl**	**0.67 109**	S		Sb	03 31 01.4	-1.1
CLNB	**Carlsbad**	**0.70 27**	P		Pb	03 30 53.0	-0.4
CLNB			S		Sg	03 31 02.1	+0.8
CLNB	**Carlsbad**	**0.70 27**	P		Pb	03 30 53.6	+0.2
TPB01	**Permian Basin**	**0.80 149**	P		Pg	03 30 53.4	-0.4
TPB01			S		Sg	03 31 03.9	-0.3
CLN7	**Carlsbad 7**	**0.86 26**	P		Pb	03 30 56.5	+0.3
TPB06	**Permian Basin**	**0.88 89**	S		Sg	03 31 06.8	-0.2
MNTX	**Cornudas Mount**	**0.97 274**	P		Pb	03 30 57.6	-0.3
MNTX			S		Sb	03 31 10.5	-0.3
HTMS	**Hat Mesa**	**0.99 32**	P		Pg	03 30 57.6	0.0
HTMS			S		Sg	03 31 10.6	+0.2
VHRN	**Van Horn**	**1.05 217**	P		Pg	03 30 58.8	+0.1
VHRN			S		Sb	03 31 13.2	-0.3
TPB05	**Hovey Rd**	**1.06 132**	P		Pg	03 30 58.8	-0.3
TPB05			S		Sg	03 31 13.1	+0.2
MNHN	**Monahans**	**1.31 102**	P		Pn	03 31 02.7	-0.8
MNHN			S		Sg	03 31 20.5	-0.1
ALPN	**Alpine**	**1.36 157**	P		Pn	03 31 03.2	-1.1
ALPN			S		Sg	03 31 20.8	-1.5
CPRX	**Cap Rock**	**1.43 13**	P		Pn	03 31 05.0	-0.4
ODSA	**Odessa**	**1.53 71**	P		Pn	03 31 05.8	-0.8
ODSA			S		Sn	03 31 26.4	-0.5
TMB04	**Seminole**	**1.79 56**	P		Pn	03 31 10.8	+0.5
TMB04			S		Sb	03 31 34.2	-0.6

*IDC **01** 03:39:55.4±2.3, 40°.02N×142°.02E, h0km, mb4.0/10, mbtmp3.9/12, ML3.0/2, MS2.6/1, Error ellipse: s-maj=49.0km s-min=26.0km az=147.0*
*JMA **01** 03:39:59.8±0.1, 39°.6N±0°.2×142°.1E±0°.7, h48km, MV3.7/29, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .

ISC 01 03:39:59.8±1.2, 39°.64N±0°.04×142°.1E±0°.1, h48km±8km, n32, σ0961/34, mb4.0/10, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.26**	**255**	⇓*i*P	**Pn**	**03 40 08.2**	**0.0**
MIYJ				⇓S	**Sn**	**03 40 14.0**	**-0.3**
JTH	**Tanohata**	**0.36**	**325**	⇓*i*P	**Pn**	**03 40 09.4**	**0.0**
JTH				⇓S	**Sn**	**03 40 15.9**	**-0.3**
JKEN	**Kujiedanarisaw**	**0.65**	**330**	⇓*i*P	**Pn**	**03 40 12.6**	**-0.2**
JKEN				⇓S	**Sn**	**03 40 21.9**	**-0.3**
OFUJ	**Ofunato**	**0.67**	**213**	*i* P	**Pn**	**03 40 12.7**	**-0.3**
OFUJ				S	**Sn**	**03 40 21.9**	**-0.6**
JOM	**Ohasama**	**0.68**	**256**	⇓*i*P	**Pn**	**03 40 13.1**	**0.0**
JOM				⇓S	**Sn**	**03 40 22.6**	**-0.1**
JKZ	**Kuzumaki**	**0.71**	**299**	⇓*i*P	**Pn**	**03 40 13.6**	**0.0**
JKZ				⇓S	**Sn**	**03 40 23.3**	**-0.3**
JANG	**Nango**	**0.87**	**327**	⇓*i*P	**Pn**	**03 40 15.5**	**-0.2**
JANG				⇓*e*S	**Sn**	**03 40 26.2**	**-1.2**
JKMT	**Kesennumamotoy**	**0.98**	**212**	*i* P	**Pn**	**03 40 16.9**	**-0.2**
JKMT				S	**Sn**	**03 40 29.1**	**-0.8**
JMK	**Ichinoseki**	**0.99**	**226**	⇓*i*P	**Pn**	**03 40 17.1**	**-0.2**
JRG	**Rokugo**	**1.19**	**259**	⇓P	**Pn**	**03 40 19.9**	**-0.1**
JAH	**Hinai**	**1.28**	**296**	⇓*i*P	**Pn**	**03 40 21.3**	**+0.1**
JIO	**Ouri**	**1.34**	**208**	P	**Pn**	**03 40 22.0**	**0.0**
JTM	**Tenmabayashi**	**1.41**	**325**	P	**Pn**	**03 40 23.2**	**+0.2**
MJAR	**Matsushiro Arr**	**4.38**	**226**	Pn	**Pn**	**03 41 05.4**	**+1.6**
	0.3nm,0.3s,baz=33,slow=13,SNR=28						
MJAR				LR	LR	03 43 27.7	
	comp=Z,58nm,18.5s,baz=87,slow=46						
	10nm,0.6s						
KSRS	**Korea Array**	**11.35**	**263**	Pn	**Pn**	**03 42 40.1**	**+1.0**
	0.2nm,0.3s,baz=71,slow=14,SNR=1.8						
	0.9nm,0.4s						
SONM	**Songino Array**	**26.90**	**300**	P	**P**	**03 45 36.4**	**+0.1**
	0.3nm,0.4s,baz=92,slow=9.7,SNR=3.8						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	04 16 29.2	
	baz=318,slow=76,SNR=174						
H11N1	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	04 16 29.1	
	baz=318,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	04 16 29.8	
	baz=318,slow=76,SNR=111						
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	04 17 34.5	
	baz=320,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	04 17 32.2	
	baz=320,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T	T	04 17 36.3	
	baz=320,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**40.62**	**310**	P	**P**	**03 47 34.5**	**-0.3**
	1.0nm,0.4s,baz=88,slow=9.2,SNR=6.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**03 47 56.1**	**-0.3**
	1.1nm,0.6s,baz=84,slow=9.2,SNR=11						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**44.89**	**306**	P	**P**	**03 48 08.8**	**-0.6**
	1.8nm,0.5s,baz=81,slow=8.5,SNR=17						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**47.00**	**34**	P	**P**	**03 48 26.9**	**+1.1**
	0.3nm,0.7s,baz=265,slow=5.7,SNR=6.3						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**49.27**	**311**	P	**P**	**03 48 43.5**	**0.0**
	0.8nm,0.5s,baz=74,slow=7.7,SNR=2.5						
	0.8nm,0.5s						
ARTI	**Arti**	**54.91**	**317**	P	**P**	**03 49 25.1**	**-0.2**
	4.1nm,0.6s,baz=80,slow=6.4,SNR=6.6						
	4.1nm,0.6s						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**03 50 44.3**	**-1.5**
	3.3nm,1.0s,baz=44,slow=11,SNR=5.3						
	3.3nm,1.0s						
HFS	**Hagfors**	**71.95**	**336**	P	**P**	**03 51 17.2**	**-0.6**
	2.5nm,0.9s,baz=44,slow=8.8,SNR=5.1						
	2.5nm,0.9s						
NB2	**NORSAR Subarra**	**72.00**	**337**	P	**P**	**03 51 18.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**72.00**	**337**	P	**P**	**03 51 18.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.1,SNR=3.8						
	comp=Z,1.2nm,0.8s						

*IDC **01** 03:48:17.8±0.8, 14°.32S×167°.89E, h0km, mb4.3/15, mbtmp4.3/16, ML4.1/1, MS3.6/17, Error ellipse: s-maj=26.8km s-min=17.4km az=127.0*
*NEIC **01** 03:48:20.2±1.8, 14°.45S±0°.09×167°.8E±0°.1, h10km±1km, mb4.9/19, Error ellipse: s-maj=20.5km s-min=14.2km az=61.0*
*NOU **01** 03:48:23.2, 14°.78S×167°.94E, h8km, MLv4.7/10, Vanuatu Islands*

ISC 01 03:48:19.6±0.6, 14°.50S±0°.07×167°.9E±0°.1, h10km, n60, σ1924/49, mb4.5/23, MS3.6/14, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.22**	**175**	P	**Pn**	**03 49 10.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.92**	**209**	P	**Pn**	**03 50 02.8**	**+1.6**
KOUNC	**Koumac, New Ca**	**6.92**	**209**	S	**Sn**	**03 51 20.0**	**0.0**
YATNC	**Mamie plateau,**	**7.57**	**187**	P	**Pn**	**03 50 10.2**	**+0.1**
DZM	**Mont Dzumac**	**7.65**	**190**		**Pn**	**03 50 11.7**	**+0.4**
DZM	**Mont Dzumac**	**7.65**	**190**	Pn	**Pn**	**03 50 11.4**	**+0.2**
	2.7nm,0.3s,baz=68,slow=19,SNR=25						
DZM				Sn	**Sn**	**03 51 36.3**	**-1.8**
	3.4nm,0.3s,baz=298,slow=22,SNR=2.4						
DZM				LR	LR	03 52 58.2	
	comp=Z,311nm,18.6s,baz=295,slow=36						
	7.5nm,0.4s						
DZM	**Mont Dzumac**	**7.65**	**190**	P	**Pn**	**03 50 11.5**	**+0.2**
DZM	**Mont Dzumac**	**7.65**	**190**	S	**Sn**	**03 51 36.1**	**-2.0**
ONTNC	**Ouen Toro**	**7.88**	**190**	Pn	**Pn**	**03 50 15.1**	**+0.8**
HNR	**Honiara**	**9.26**	**302**	LR	LR	03 53 21.8	
	comp=Z,167nm,21.1s,baz=78,slow=33						
MSVF	**Nonsavu**	**10.29**	**110**	LR	LR	03 53 45.2	
	comp=Z,222nm,19.4s,baz=263,slow=32						
PMG	**Port Moresby**	**20.89**	**282**	LR	LR	04 00 25.2	
	comp=Z,251nm,18.2s,baz=37,slow=35						
CTA	**Charters Tower**	**21.38**	**252**	P	**P**	**03 53 08.6**	**+1.1**
	10nm,0.9s,baz=79,slow=12,SNR=8.0						
CTA				LR	LR	04 00 26.5	
	comp=Z,144nm,19.4s,baz=94,slow=34						
	10nm,0.9s						
URZ	**Urewera**	**25.03**	**163**	LR	LR	04 02 59.6	
	comp=Z,135nm,18.8s,baz=78,slow=35						
STKA	**Stephens Creek**	**29.59**	**230**		**P**	**03 54 26.3**	**+1.4**
STKA				IAmb	IAmb	03 54 32.8	
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**29.59**	**230**	P	**P**	**03 54 25.9**	**+0.9**
	comp=Z,5.3nm,0.5s,baz=49,slow=9.3,SNR=19						
STKA				LR	LR	04 05 42.9	
	comp=Z,110nm,19.0s,baz=35,slow=35						
	comp=Z,5.3nm,0.5s						
RAR	**Rarotonga**	**31.46**	**107**	LR	LR	04 04 52.5	
	comp=Z,47nm,20.7s,baz=260,slow=32						
WB0	**Warramunga Arr**	**32.39**	**256**	P	**P**	**03 54 49.0**	**-0.8**
WB0				IAmb	IAmb	03 54 58.6	
	comp=Z,40nm,1.9s						
WB2	**Warramunga Arr**	**32.44**	**256**	P	**P**	**03 54 49.6**	**-0.6**
WRA	**Warramunga Arr**	**32.46**	**256**	P	**P**	**03 54 49.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=83,slow=7.7,SNR=5.4						
WRA				LR	LR	04 06 51.1	
	comp=Z,126nm,19.2s,baz=108,slow=34						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**33.31**	**249**	P	**P**	**03 54 57.1**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=77,slow=9.0,SNR=10						
ASAR				LR	LR	04 06 48.8	
	comp=Z,132nm,21.4s,baz=92,slow=33						
	comp=Z,2.5nm,0.8s						
BBOO	**Buckleboo**	**34.19**	**232**	P	**P**	**03 55 06.4**	**+1.0**
FORT	**Forrest**	**39.92**	**239**	P	**P**	**03 55 53.0**	**-1.1**
FORT				IAmb	IAmb	03 56 30.1	
	comp=Z,25nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.64**	**259**	P	**P**	**03 55 58.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**40.64**	**259**	LR	LR	04 12 12.5	
	comp=Z,135nm,18.4s,baz=87,slow=35						
PPT	**Papeete**	**40.94**	**100**	LR	LR	04 10 33.5	
	comp=Z,92nm,19.8s,baz=208,slow=33						
JCJ	**Chichijima**	**48.30**	**329**	LR	LR	04 15 05.6	
	comp=Z,135nm,21.7s,baz=210,slow=33						
NWAO	**Narrogin (SRO)**	**49.37**	**239**	LR	LR	04 17 22.3	
	comp=Z,94nm,19.1s,baz=328,slow=35						
MORW	**Morawa**	**49.90**	**244**	P	**P**	**03 57 13.2**	**-0.5**
UGM	**Wanagama**	**56.53**	**270**	P	**P**	**03 58 02.2**	**-0.5**
MJAR	**Matsushiro Arr**	**57.98**	**332**	P	**P**	**03 58 11.3**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=165,slow=5.0,SNR=5.8						
	comp=Z,4.0nm,1.0s						
JKA	**Kamikawa-asahi**	**62.73**	**340**	P	**P**	**03 58 45.8**	**+1.0**
KSRS	**Korea Array**	**63.89**	**325**	P	**P**	**03 58 51.1**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=137,slow=5.8,SNR=6.7						
	comp=Z,2.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.40**	**294**	P	**P**	**04 00 04.2**	**0.0**
	comp=Z,1.2nm,0.7s,baz=120,slow=4.9,SNR=9.2						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**75.52**	**180**	P	**P**	**04 00 06.5**	**+2.4**
	comp=Z,3.7nm,1.1s,baz=2.8,slow=4.3,SNR=4.9						
	comp=Z,3.7nm,1.1s						
OHAK	**Old Harbor**	**78.37**	**20**	P	**P**	**04 00 20.4**	**+0.4**
ACHA	**Angle Creek He**	**78.50**	**19**	P	**P**	**04 00 21.2**	**+0.4**
M16K	**Timber Creek**	**79.78**	**16**	P	**P**	**04 00 29.4**	**+1.8**
M16K				IAmb	IAmb	04 00 56.3	
	comp=Z,29nm,1.8s						
SONM	**Songino Array**	**82.67**	**323**	P	**P**	**04 00 42.9**	**-0.6**
SONM				IAmb	IAmb	04 00 45.0	
	comp=Z,12nm,1.7s						
SONM	**Songino Array**	**82.67**	**323**	P	**P**	**04 00 43.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=125,slow=3.4,SNR=10						
	comp=Z,1.6nm,0.8s						
CAST	**Castle Rocks**	**83.61**	**17**	P	**P**	**04 00 47.6**	**-0.2**
CAST				IAmb	IAmb	04 02 59.8	
	comp=Z,15nm,1.8s						
YBH	**Yreka Blue Hor**	**84.84**	**45**	P	**P**	**04 00 53.5**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=225,slow=10.0,SNR=3.6						
	comp=Z,0.9nm,0.6s						
IMAR	**Indian Mountai**	**85.20**	**15**	P	**P**	**04 00 56.3**	**+0.5**
E19K	**Redstone River**	**85.60**	**13**	P	**P**	**04 00 58.8**	**+1.0**
E19K				IAmb	IAmb	04 02 00.3	
	comp=Z,12nm,1.6s						
IL31		**86.13**	**18**	P	**P**	**04 00 59.6**	**-0.8**
IL31				IAmb	IAmb	04 02 15.1	
	comp=Z,18nm,1.9s						
ILAR	**Eielson Array**	**86.13**	**18**	P	**P**	**04 00 59.8**	**-0.7**
ILAR	**Eielson Array**	**86.13**	**18**	P	**P**	**04 00 58.5**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=233,slow=5.1,SNR=16						
	comp=Z,1.3nm,0.8s						
PFO	**Pinyon Flats O**	**86.38**	**54**	LR	LR	04 30 02.7	
	comp=Z,31nm,20.8s,baz=337,slow=29						
DSP	**Deep Springs**	**86.54**	**50**	P	**P**	**04 01 03.5**	**+0.5**
NVAR	**Mina Array Bea**	**86.67**	**49**	P	**P**	**04 01 03.5**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=230,slow=8.4,SNR=6.2						
	comp=Z,1.1nm,0.8s						
SYO	**Syowa Base**	**89.09**	**196**	⇓*e*P	**P**	**04 01 14.2**	**-0.6**
ELK	**Elko**	**89.70**	**48**	LR	LR	04 31 48.2	
	comp=Z,141nm,20.7s,baz=7.5,slow=29						
ANMO	**Albuquerque**	**94.69**	**55**	LR	LR	04 35 49.6	
	comp=Z,25nm,21.8s,baz=102,slow=30						
YKA	**Yellowknife Ar**	**97.08**	**27**	P	**P**	**04 01 50.5**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=254,slow=5.1,SNR=4.8						
	comp=Z,0.4nm,0.9s						
MK31	**Makanchi Array**	**97.45**	**316**	P	**P**	**04 01 53.9**	**+0.2**
MK31				IAmb	IAmb	04 01 54.5	
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**97.45**	**316**	P	**P**	**04 01 53.9**	**+0.2**
MKAR	**Makanchi Array**	**97.45**	**316**	P	**P**	**04 01 53.8**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=95,slow=6.3,SNR=32						
	comp=Z,2.9nm,0.7s						
ZAA0	**Zalesovo Array**	**97.56**	**324**	P	**P**	**04 01 53.1**	**-0.9**
ZAA0				IAmb	IAmb	04 01 53.7	
	comp=Z,3.5nm,1.1s						
ZALV	**Zalesovo Beam**	**97.56**	**324**	P	**P**	**04 01 52.5**	**-1.4**
	comp=Z,1.9nm,0.9s,baz=96,slow=3.0,SNR=7.6						
	comp=Z,1.9nm,0.9s						
KEST	**Kesra**	**151.41**	**322**	PKPbc	**PKPdf**	**04 08 12.8**	**+4.6**
	comp=Z,6.5nm,0.9s,baz=106,slow=2.4,SNR=6.8						

TXNET 01 03:59:59.2, 31°.6N±0°.6×104°.3W±0°.7, h5km±2km, ML1.2/6, Error ellipse: s-maj=1.1km s-min=0.8km az=51.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**34**	P	Pg	04 00 05.9	-0.3
TPB11				S	Sg	04 00 10.6	-0.3
PECS	**Pecos**	**0.44**	**128**	P	Pg	04 00 07.8	0.0
PECS				S	Sg	04 00 13.5	+0.1
TPB12	**Southwest of T**	**0.51**	**148**	P	Pg	04 00 08.9	0.0
TPB12				S	Sg	04 00 16.1	+0.5
TPB07	**Mentone**	**0.52**	**97**	P	Pg	04 00 09.9	+0.7
TPB07				S	Sg	04 00 16.4	+0.4
GDL2	**Guadalupe Moun**	**0.56**	**352**	P	Pg	04 00 10.2	+0.1
TPB10	**Southeast of T**	**0.57**	**129**	S	Sg	04 00 18.2	+0.6
TPB01	**Permian Basin**	**0.81**	**149**	P	Pg	04 00 14.2	-0.7
TPB01				S	Sg	04 00 24.7	-0.7
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	04 00 17.5	0.0
MNTX				S	Sg	04 00 30.3	+0.5
HTMS	**Hat Mesa**	**0.99**	**33**	P	Pg	04 00 18.3	+0.1
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	04 00 19.2	-0.2
VHRN				S	Sb	04 00 34.3	+0.1
TPB05	**Hovey Rd**	**1.08**	**131**	S	Sg	04 00 33.9	-0.2
ALPN	**Alpine**	**1.38**	**157**	P	Pn	04 00 23.9	-1.3
ALPN				S	Sg	04 00 41.7	-1.8
CPRX	**Cap Rock**	**1.43**	**14**	P	Pn	04 00 25.7	-0.2
TMB04	**Seminole**	**1.80**	**57**	P	Pn	04 00 31.5	+0.5
TMB04				S	Sb	04 00 56.0	+0.3
TMB02	**Rankin**	**1.96**	**103**	P	Pn	04 00 34.1	+0.9
TMB02				S	Sb	04 00 59.3	-0.9
TX31	**Lajitas Ar. Si**	**2.36**	**167**	Pg	Pb	04 00 42.2	-0.1

*IDC **01** 04:12:28.9±0.8, 31°.40N×98°.65E, h0km, mb3.8/12, mbtmp3.8/15, ML3.7/3, MS3.2/9, Error ellipse: s-maj=29.6km s-min=16.2km az=56.0*
*NEIC **01** 04:12:31.5±1.2, 31°.4N±0°.1×98°.7E±0°.1, h10km±1km, mb4.4/11, Error ellipse: s-maj=20.0km s-min=18.2km az=30.0*

ISC 01 04:12:30.4±0.5, 31°.36N±0°.04×98°.57E±0°.04, h10km, n56, σ2927/60, mb4.1/18, MS3.3/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**4.47**	**94**	Pn	**Pb**	**04 13 44.4**	**-4.6**
CD2				Pg	**Pg**	**04 13 53.9**	**-2.1**
CD2				Sg	**Sg**	**04 14 55.7**	**+1.8**
CD2				smax	smax		
	comp=N,110nm,1.1s						
CD2				smax	smax		
	comp=E,140nm,1.1s						
LKP	**Lekhapani**	**4.66**	**211**	*e*P	Pn	04 13 46.3	+5.4
LKP				*e*S	**Sn**	**04 14 37.3**	**+2.2**
LKP				IAML		04 14 37.8	
	comp=E,1μm,0.2s						
LKP				IAML		04 14 38.1	
	comp=N,1μm,0.2s						
DIBR	**DIBRUGARH**	**5.02**	**220**	*e*P	**Pn**	**04 13 47.0**	**+1.2**
DIBR				*e*S	Sn	04 14 38.6	-5.3
DIBR				IAML		04 14 46.5	
	comp=N,919nm,0.2s						
DIBR				IAML		04 14 46.6	
	comp=E,846nm,0.2s						
ZIRO	**ZIRO**	**5.62**	**228**	*e*P	**Pn**	**04 13 58.5**	**+4.4**
ZIRO				*e*S	**Sn**	**04 14 59.7**	**+0.9**
ZIRO				IAML		04 15 05.5	
	comp=N,1μm,0.5s						
ZIRO				IAML		04 15 05.8	
	comp=E,2μm,0.7s						
GOMU	**GeErMu**	**5.75**	**328**	P	**Pn**	**04 13 59.4**	**+3.2**
GOMU				S	**Sn**	**04 14 58.5**	**-3.9**
GOMU				pmax	pmax		
	comp=Z,25nm,1.0s						
GOMU				LR	LR		
	comp=N,1μm,6.8s						
GOMU				LR	LR		
	comp=E,800nm,6.2s						
GOMU				LR	LR		
	comp=Z,650nm,6.8s						
ITAN	**ITANAGAR**	**5.96**	**226**	*e*P	**Pn**	**04 14 00.6**	**+1.8**
ITAN				*e*S	**Sn**	**04 15 06.9**	**-0.3**
ITAN				IAML		04 15 12.8	
	comp=N,956nm,0.2s						
ITAN				IAML		04 15 12.9	
	comp=E,874nm,0.3s						
MOKO	**MOKOCHONG**	**6.15**	**216**	*e*P	Pn	04 14 06.9	+5.4
MOKO				*e*S	**Sn**	**04 15 11.5**	**-0.5**
MOKO				IAML		04 15 13.2	
	comp=N,415nm,0.3s						
MOKO				IAML		04 15 13.4	
	comp=E,803nm,0.3s						
TNCH	**TengChong**	**6.31**	**180**	Pn	**Pn**	**04 14 06.4**	**+2.8**
TNCH				Pg	Pb	04 14 27.7	+7.3
TNCH				Sn	**Sn**	**04 15 19.7**	**+3.9**
TNCH				Sg	**Sg**	**04 15 56.9**	**+4.0**
TNCH				smax	smax		
	comp=N,190nm,1.2s						
TNCH				smax	smax		
	comp=E,130nm,1.3s						
TNCH				LR	LR		
	comp=N,280nm,3.7s						
TNCH				LR	LR		
	comp=E,610nm,3.9s						
TNCH				LR	LR		
	comp=Z,190nm,5.2s						
LZH	**Lanzhou**	**6.44**	**42**	Pn	Pn	04 14 09.7	+4.2
LZH				Pg	**Pg**	**04 14 35.9**	**+2.1**
LZH				Sg	**Sg**	**04 16 02.4**	**+5.2**
LZH				smax	smax		
	comp=N,41nm,1.3s						
LZH				smax	smax		
	comp=E,64nm,1.3s						
LSA	**Lhasa**	**6.61**	**257**		**Pn**	**04 14 11.8**	**+3.7**
LSA	**Lhasa**	**6.61**	**257**	P	Pb	04 14 31.9	+6.1
LSA				S	**Sg**	**04 16 02.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,19nm,1.1s						
LSA				LR	LR		
	comp=N,400nm,4.3s						
LSA				LR	LR		
	comp=Z,620nm,7.7s						
KOHI	**KOHIMA**	**6.85**	**216**	*e*P	**Pn**	**04 14 14.8**	**+3.7**
KOHI				*e*S	**Sn**	**04 15 28.3**	**-0.9**
KOHI				IAML		04 16 05.3	
	comp=E,1μm,0.6s						
KOHI				IAML		04 16 06.0	
	comp=N,800nm,0.4s						
TEZP	**TEZPUR**	**6.92**	**228**	*e*P	Pn	04 14 16.9	+5.0
TEZP				*e*S	**Sn**	**04 15 29.2**	**-1.5**
TEZP				IAML		04 15 34.0	
	comp=E,410nm,0.2s						
TEZP				IAML		04 15 34.0	
	comp=N,461nm,0.3s						
TAWA	**Tawang**	**6.95**	**239**	*e*P	**Pn**	**04 14 14.8**	**+2.3**
TAWA				*e*S	**Sn**	**04 15 28.3**	**-3.5**
TAWA				IAML		04 15 28.9	
	comp=E,859nm,0.1s						
TAWA				IAML		04 15 29.0	
	comp=N,977nm,0.3s						
GTA	**Gaotai**	**8.10**	**7**	*e*P	**Pb**	**04 14 47.5**	**-3.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SHL	**Shillong**	**8.24**	**227**	Pn	**Pn**	**04 14 31.9**	**+1.8**
SHL	**Shillong**	**8.24**	**227**	*e*P	**Pn**	**04 14 31.3**	**+1.1**
SHL				*e*S	**Sn**	**04 16 00.3**	**-3.2**
XAN	**Xi'an**	**9.12**	**70**	P	Pn	04 14 47.0	+4.9
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SAIH	**SAIHA**	**10.14**	**211**	*e*P	**Pn**	**04 15 00.2**	**+4.0**
SAIH				*e*S	**Sn**	**04 16 45.9**	**-4.2**
SAIH				IAML		04 16 50.9	
	comp=E,267nm,0.2s						
SAIH				IAML		04 16 51.0	
	comp=N,110nm,0.2s						
CMAR	**Chiang Mai Arr**	**12.85**	**178**	Pn	**Pn**	**04 15 33.8**	**+0.6**
	comp=N,0.1nm,0.3s,baz=350,slow=12,SNR=11						
CMAR				LR	LR	04 21 07.8	
	comp=N,50nm,18.3s,baz=340,slow=40						
	comp=N,1.5nm,0.3s						
BOK	**Bokaro**	**13.53**	**239**	*e*S	Sn	04 17 60.0	-13
SONM	**Songino Array**	**17.51**	**18**	P	**Pn**	**04 16 33.1**	**-1.5**
	comp=N,0.2nm,0.3s,baz=208,slow=14,SNR=4.5						
	comp=N,0.8nm,0.8s						
MK31	**Makanchi Array**	**19.87**	**325**	P	**P**	**04 17 02.6**	**+1.0**
MKAR

NOA	**NORSAR Array B**	**61.87**	**327**	LR	LR	04 50 11.3	
	comp=Z,30nm,18.5s,baz=250,slow=37						
ASAR	**Alice Springs**	**64.33**	**144**	P	**P**	**04 23 05.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=325,slow=6.5,SNR=6.2						
	comp=Z,0.3nm,0.3s						
C18K	**Utukok River**	**64.77**	**23**	P	**P**	**04 23 09.5**	**+0.8**
C18K				IAmb	IAmb	04 23 10.0	
	comp=Z,4.0nm,1.2s						
D19K	**Kuna River**	**65.88**	**23**	P	**P**	**04 23 16.5**	**+0.7**
D19K				IAmb	IAmb	04 23 39.2	
	comp=Z,4.9nm,1.2s						
IMAR	**Indian Mountai**	**68.52**	**25**	P	**P**	**04 23 33.1**	**+0.4**
ILAR	**Eielson Array**	**71.60**	**24**	P	**P**	**04 23 51.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=295,slow=6.3,SNR=4.9						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**82.75**	**15**	P	**P**	**04 24 54.2**	**0.0**
	comp=Z,0.2nm,0.8s,baz=314,slow=5.0,SNR=2.1						
	comp=Z,0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**89.01**	**285**	P	**P**	**04 25 27.8**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=58,slow=3.9,SNR=1.7						
	comp=Z,0.2nm,0.7s						

NDI 01 04:33:02.7±2.0, 20°.02N×72°.81E, h5km, ML3.6, MW3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.11**	**180**	*eP*		Pb	04 33 24.4	-0.1
BOM				*eS*		Sb	04 33 39.7	+0.4
BOM				IAML			04 33 45.5	
	comp=N,926nm,0.2s							
BOM				IAML			04 33 45.8	
	comp=E,1μm,0.2s							
POO	**Poona**	**1.78**	**146**	*eP*		Pb	04 33 35.8	0.0
POO				*eS*		Sb	04 33 57.8	-0.6
POO				IAML			04 34 01.1	
	comp=E,854nm,0.1s							
POO				IAML			04 34 01.9	
	comp=N,717nm,0.3s							
BHV	**Bhavnagar**	**1.83**	**340**	*eP*		Pn	04 33 35.8	+0.9
BHV				*eS*		Sn	04 33 57.6	-0.9
BHV				IAML			04 34 05.3	
	comp=N,479nm,0.3s							
KAD	**Karad**	**2.99**	**154**	*eP*		Pn	04 33 51.4	+0.5
KAD				*eS*		Sn	04 34 26.2	-1.0
KAD				IAML			04 34 39.5	
	comp=N,178nm,0.4s							
KAD				IAML			04 34 40.0	
	comp=E,379nm,0.6s							
LATR	**Latur**	**3.88**	**114**	*eP*		Pn	04 34 02.8	-0.3
LATR				*eS*		Sn	04 34 45.5	-3.6
LATR				IAML			04 35 02.0	
	comp=N,386nm,0.3s							
LATR				IAML			04 35 03.4	
	comp=E,219nm,0.1s							
AKL	**Akola**	**4.00**	**79**	*eP*		Pn	04 34 06.4	+1.7
AKL				*eS*		Sn	04 34 50.5	-1.7
AKL				IAML			04 35 05.2	
	comp=N,520nm,0.7s							
AKL				IAML			04 35 07.0	
	comp=E,171nm,0.2s							
NGP	**Nagpur**	**5.95**	**78**	*eP*		Pn	04 34 32.2	+0.6
NGP				*eS*		Sn	04 35 36.3	-3.9
NGP				IAML			04 36 11.5	
	comp=N,196nm,0.3s							
NGP				IAML			04 36 17.3	
	comp=E,116nm,0.6s							
HYB	**Hyderabad**	**6.03**	**114**	*eP*		Pn	04 34 32.4	-0.2
HYB				*eS*		Sn	04 35 36.2	-5.8
HYB				IAML			04 35 38.8	
	comp=E,32nm,0.2s							
HYB				IAML			04 35 44.2	
	comp=N,26nm,0.3s							
HYB				IAML			04 36 09.9	
	comp=E,242nm,0.6s							

*IDC **01** 04:41:05.9±1.6, 36°.68N×23°.16E, h0km, mb3.6/4, mbtmp3.5/5, ML2.9/1, MS2.9/1, Error ellipse: s-maj=168.0km s-min=24.7km az=141.0*
*ATH **01** 04:41:10.7, 35°.83N×23°.96E, h17km±3km, ML3.2/4, Error ellipse: s-maj=3.8km s-min=1.2km az=202.0*
*THE **01** 04:41:11.4, 35°.78N×23°.98E, h23km±1km, ML3.1/9, Error ellipse: s-maj=2.1km s-min=0.8km az=229.0*
ISC 01 04:41:10.2±2.0, 35°.74N±0°.03×23°.95E±0°.04, h24km±17km, n32, σ1s10/46, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.28**	**175**	P		**Pn**	**04 41 18.4**	**-0.5**
IMMV				S		**Sn**	**04 41 23.2**	**-1.2**
	11μm,0.2s							
IMMV	**Iera Moni Meta**	**0.28**	**175**	P		**Pn**	**04 41 18.6**	**-0.3**
IMMV				S		**Sn**	**04 41 23.0**	**-1.3**
IMMV				AML		AML	04 41 23.7	
	comp=N,26639μm,0.3s							
IMMV				AML		AML	04 41 23.9	
	comp=E,16477μm,0.2s							
IDI	**Anoyia**	**0.89**	**120**	P		**Pb**	**04 41 26.6**	**-0.5**
IDI				S		**Sn**	**04 41 39.3**	**-0.1**
	comp=E,840nm,0.3s							
IDI	**Anoyia**	**0.89**	**120**	P		**Pn**	**04 41 27.6**	**+0.3**
IDI				S		**Sn**	**04 41 39.0**	**-0.5**
IDI				AML		AML	04 41 41.5	
	comp=E,1806μm,0.2s							
IDI				AML		AML	04 41 41.9	
	comp=N,2219μm,0.5s							
GVD	**Gavdhos**	**0.91**	**173**	P		**Pn**	**04 41 29.0**	**+1.5**
GVD				S		**Sn**	**04 41 42.0**	**+2.2**
	comp=N,3μm,0.4s							
GVD	**Gavdhos**	**0.91**	**173**	P		**Pn**	**04 41 29.1**	**+1.6**
GVD				S		**Sn**	**04 41 41.9**	**+2.2**
GVD				AML		AML	04 41 43.2	
	comp=N,4962μm,0.3s							
GVD				AML		AML	04 41 47.1	
	comp=E,3699μm,0.5s							
VLI	**Veliai**	**1.27**	**320**	P		**Pn**	**04 41 32.5**	**0.0**
VLI				S		**Sn**	**04 41 48.1**	**-0.7**
	comp=E,380nm,0.3s							
VLI	**Veliai**	**1.27**	**320**	P		**Pn**	**04 41 32.5**	**0.0**
VLI				S		**Sn**	**04 41 47.4**	**-1.4**
THR5	**Thira Island,**	**1.31**	**59**	P		**Pn**	**04 41 33.6**	**+0.6**
THR6	**Thira Island,**	**1.32**	**62**	P		**Pn**	**04 41 34.1**	**+1.0**
THR3	**Thira Island,**	**1.35**	**60**	P		**Pn**	**04 41 34.0**	**+0.5**
THR3	**Thira Island,**	**1.35**	**60**	P		**Pn**	**04 41 33.8**	**+0.3**
THR8	**Santorini-Mono**	**1.40**	**61**	P		**Pn**	**04 41 34.7**	**+0.5**
THR8	**Santorini-Mono**	**1.40**	**61**	P		**Pn**	**04 41 34.5**	**+0.3**
YDRA	**Hydra**	**1.65**	**346**	P		**Pn**	**04 41 38.0**	**+0.3**
KRND	**KRANIDI**	**1.76**	**339**	P		**Pn**	**04 41 40.2**	**+1.0**
KRND				S		**Sn**	**04 42 01.2**	**+0.4**
	comp=E,302nm,0.3s							
KRND	**KRANIDI**	**1.76**	**339**	P		**Pn**	**04 41 40.2**	**+1.0**
KRND				S		**Sn**	**04 42 01.5**	**+0.7**
KRND				AML		AML	04 42 08.5	
	comp=N,693μm,0.4s							
KRND				AML		AML	04 42 12.6	
	comp=E,538μm,0.3s							
APE	**Apeiranthos**	**1.83**	**43**	P		**Pn**	**04 41 40.4**	**+0.1**
ZKR	**Zakros**	**1.95**	**108**	P		**Pn**	**04 41 42.6**	**+0.8**
VLY	**Voula,Athens**	**2.11**	**357**	P		**Pn**	**04 41 45.1**	**+1.1**
PTL	**Penteli**	**2.30**	**358**	P		**Pn**	**04 41 47.3**	**+0.6**
PTL				S		**Sn**	**04 42 13.5**	**-0.7**
	comp=E,130nm,0.3s							
VILL	**Villia**	**2.47**	**348**	P		**Pn**	**04 41 49.9**	**+0.9**
VILL				S		**Sn**	**04 42 18.1**	**-0.3**
	comp=E,182nm,0.5s							
GUR	**Goura**	**2.54**	**330**	P		**Pn**	**04 41 51.0**	**+1.0**
GUR				S		**Sn**	**04 42 20.0**	**-0.2**
	comp=E,275nm,0.3s							
KLV	**Kalavryta, Ach**	**2.71**	**328**	P		**Pn**	**04 41 53.9**	**+1.6**
KLV				S		**Sn**	**04 42 25.2**	**+0.8**
ANX	**Ano Chora**	**3.27**	**331**	P		**Pn**	**04 42 01.6**	**+1.5**
ANX				S		**Sn**	**04 42 38.4**	**+0.1**
	comp=E,78nm,0.6s							
ARG	**Arkhangelos**	**3.42**	**81**	P		**Pn**	**04 42 02.5**	**+0.5**
BRTR	**Keskin Array B**	**8.64**	**60**	Pn		**Pn**	**04 43 16.9**	**+3.1**
	comp=E,0.1nm,0.3s,baz=243,slow=15,SNR=3.8							
	comp=E,0.5nm,0.5s							
VRAC	**Vranov**	**14.59**	**341**	LR		LR	04 51 04.0	
	comp=E,57nm,20.6s,baz=22,slow=44							
TORD	**Torodi Ar. Bea**	**30.14**	**227**	P		**P**	**04 47 19.2**	**+0.9**
	comp=E,0.3nm,0.6s,baz=31,slow=10,SNR=4.4							
	comp=E,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**41.52**	**52**	P		**P**	**04 48 54.2**	**-1.2**
	comp=E,0.8nm,0.7s,baz=280,slow=8.6,SNR=9.7							
	comp=E,0.8nm,0.7s							
MKAR	**Makanchi Array**	**44.28**	**57**	P		**P**	**04 49 16.9**	**-0.9**
	comp=E,0.5nm,0.5s,baz=272,slow=7.8,SNR=12							
	comp=E,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**45.31**	**47**	P		**P**	**04 49 24.3**	**-1.6**
	comp=E,0.5nm,0.4s,baz=267,slow=8.7,SNR=1.4							
	comp=E,0.5nm,0.4s							

NDI 01 04:47:47.5±0.8, 19°.95N×72°.78E, h8km±8km, ML2.8, MW2.8, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.05**	**178**	*eP*		Pg	04 48 07.5	-0.1
BOM				*eS*		Sn	04 48 22.7	-0.7
BOM				IAML			04 48 27.9	
	comp=E,168nm,0.3s							
BOM				IAML			04 48 28.1	
	comp=N,106nm,0.3s							
BOM				IAML			05 00 20.6	
	comp=N,182nm,0.2s							
POO	**Poona**	**1.73**	**144**	*eP*		Pb	04 48 18.9	-0.8
POO				*eS*		Sn	04 48 41.0	+0.5
POO				IAML			04 48 44.2	
	comp=N,92nm,0.2s							
POO				IAML			04 48 44.9	
	comp=E,117nm,0.1s							
BHV	**Bhavnagar**	**1.89**	**342**	*eS*		Sn	04 48 44.7	+0.5
BHV				IAML			04 48 46.2	
	comp=N,103nm,0.3s							
BHV				IAML			05 00 37.6	
	comp=N,193nm,0.3s							
KAD	**Karad**	**2.94**	**153**	*eP*		Pn	04 48 34.3	-0.5
KAD				*eS*		Sn	04 49 09.4	-1.0
KAD				IAML			04 49 20.8	
	comp=E,48nm,0.5s							
KAD				IAML			04 49 23.1	
	comp=N,35nm,0.5s							

*NEIC **01** 04:58:01.3±2.3, 20°.9S±0°.1×179°.0W±0°.1, h586km±9km, mb4.4/17, Error ellipse: s-maj=21.6km s-min=12.8km az=121.0*
*IDC **01** 04:58:04.6±1.8, 21°.24S×179°.19W, h623km±20km, mb3.4/6, mbtmp4.5/8, Error ellipse: s-maj=24.1km s-min=19.7km az=76.0*
ISC 01 04:58:03.3±0.7, 21°.19S±0°.10×179°.0W±0°.1, h619km, n34, σ1s34/32, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.42**	**321**	P		**P**	**04 59 34.8**	**+1.5**
MSVF	**Nonsavu**	**4.42**	**321**	P		**P**	**04 59 35.0**	**+1.7**
	69nm,0.4s,baz=142,slow=17,SNR=66							
FUTU	**Fugatoga**	**6.90**	**7**	P		P	04 59 39.0	-14
RAO	**Raoul Island**	**8.09**	**173**	P		**P**	**05 00 01.9**	**-2.1**
URZ	**Urewera**	**17.33**	**190**	P		**P**	**05 01 30.7**	**-1.1**
	6.7nm,0.3s,baz=355,slow=3.2,SNR=25							
BKZ	**Black Stump Fm**	**18.32**	**191**	P		**P**	**05 01 38.9**	**-2.0**
BKZ				IAmb		IAmb	05 01 59.2	
	comp=Z,21nm,1.3s							
MRZ	**Mangatainoka R**	**19.94**	**192**	P		**P**	**05 01 53.3**	**-2.2**
MRZ				IAmb		IAmb	05 02 33.7	
	comp=Z,30nm,1.2s							
CTA	**Charters Tower**	**32.48**	**266**	P		**P**	**05 03 45.0**	**-0.2**
	comp=Z,3.0nm,0.4s,baz=118,slow=10,SNR=1.7							
	comp=Z,3.0nm,0.4s							
CTAO	**Charters Tower**	**32.48**	**266**	P		**P**	**05 03 45.5**	**+0.3**
STKA	**Stephens Creek**	**36.63**	**245**	P		**P**	**05 04 19.9**	**+0.4**
COEN	**Coen**	**36.68**	**275**	P		**P**	**05 04 18.0**	**-2.2**
ASAR	**Alice Springs**	**43.44**	**258**	P		**P**	**05 05 12.4**	**-1.3**
ASAR	**Alice Springs**	**43.44**	**258**	P		**P**	**05 05 13.7**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=97,slow=7.8,SNR=26							
	comp=Z,3.7nm,0.8s							
WB0	**Warramunga Arr**	**43.55**	**263**	P		**P**	**05 05 14.2**	**-0.4**
WB0				IAmb		IAmb	05 05 42.5	
	comp=Z,12nm,1.3s							
WB2	**Warramunga Arr**	**43.55**	**263**	P		**P**	**05 05 14.1**	**-0.6**
WB2				IAmb		IAmb	05 05 14.8	
	comp=Z,9.3nm,1.0s							
WRA	**Warramunga Arr**	**43.56**	**263**	P		**P**	**05 05 14.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=97,slow=7.7,SNR=14							
	comp=Z,1.3nm,0.3s							
KHLH	**Kahului Airpor**	**47.30**	**29**	P		**P**	**05 05 40.8**	**-2.1**
FORT	**Forrest**	**48.15**	**247**	P		**P**	**05 05 48.5**	**-0.6**
FORT				IAmb		IAmb	05 06 27.7	
	comp=Z,45nm,1.4s							
MTN	**Manton Dam**	**48.22**	**272**	P		**P**	**05 05 49.4**	**-0.5**
MTN				IAmb		IAmb	05 05 53.0	
	comp=Z,41nm,1.4s							
FITZ	**Fitzroy Crossi**	**51.99**	**263**	P		**P**	**05 06 17.5**	**+0.2**
VNDA	**Vanda**	**57.14**	**185**	P		**P**	**05 06 54.7**	**+2.6**
VNDA				IAmb		IAmb	05 07 34.3	
	comp=Z,32nm,1.4s							
QSPA	**South Pole Qui**	**68.88**	**180**	P		**P**	**05 08 09.4**	**+2.0**
QSPA				IAmb		IAmb	05 08 09.7	
	comp=Z,3.6nm,0.7s							
QSPA	**South Pole Qui**	**68.88**	**180**	P		**P**	**05 08 08.9**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=313,slow=0.6,SNR=21							
	comp=Z,4.4nm,0.8s							
TPUB	**Ta-pu**	**73.56**	**304**	P		**P**	**05 08 34.9**	**-0.3**
BELA	**Belgrano 2**	**79.00**	**173**	P		**P**	**05 09 05.0**	**+1.0**
O18K	**Koktuh Hills**	**83.07**	**12**	P		**P**	**05 09 25.6**	**+0.7**
O18K				IAmb		IAmb	05 09 47.6	
	comp=Z,10nm,1.3s							
CAST	**Castle Rocks**	**86.94**	**12**	P		**P**	**05 09 44.0**	**+0.5**
ILAR	**Eielson Array**	**89.20**	**13**	P		**P**	**05 09 55.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=214,slow=5.3,SNR=16							
	comp=Z,0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P		**P**	**05 09 56.8**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=110,slow=4.7,SNR=3.1							
	comp=Z,1.9nm,0.3s							
AKASG	**Malin Array Be**	**143.14**	**330**	PKP		**PKPdf**	**05 16 26.6**	**-1.3**
	comp=Z,1.6nm,0.4s,baz=45,slow=4.2,SNR=23							
AKBB	**Malin Array Si**	**143.14**	**330**			**PKPdf**	**05 16 26.5**	**-1.4**
KIEV	**Kiev**	**143.16**	**330**			PKPab	05 16 26.3	+0.2
BRTR	**Keskin Array B**	**146.58**	**311**	PKPbc		**PKPbc**	**05 16 37.2**	**+0.1**
BRTR	**Keskin Array B**	**146.58**	**311**	PKPbc		**PKPbc**	**05 16 37.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=175,slow=1.8,SNR=4.2							

*NAO **01** 05:01:45.6, 36°.97N×24°.91E, h10km, mb4.2*
*TIR **01** 05:01:49.0, 37°.40N×20°.79E, h5km±3km, Md3.9/2, Ml4.2/5*
*IDC **01** 05:01:57.5±0.7, 37°.92N×21°.04E, h0km, mb3.9/18, mbtmp3.9/29, ML4.0/9, MS3.2/11, Error ellipse: s-maj=13.7km s-min=12.5km az=172.0*
*PDG **01** 05:01:59.9±0.7, 37°.90N×20°.89E, h2km±1km, ML4.1/12, Error ellipse: s-maj=0.8km s-min=1.3km az=0.0*
*BEO **01** 05:01:59.4±0.6, 37°.93N×20°.70E, h0km, ML4.0/11*
*NEIC **01** 05:01:59.3±1.6, 37°.84N±0°.06×20°.93E±0°.07, h10km±1km, mb4.4/22, Error ellipse: s-maj=10.0km s-min=9.2km az=212.0*
*THE **01** 05:02:00.1, 37°.94N×20°.95E, h0km±2km, ML3.9/10, Error ellipse: s-maj=2.0km s-min=0.5km az=194.0*
*ATH **01** 05:02:00.0, 37°.95N×20°.95E, h13km±1km, ML3.9/33, Error ellipse: s-maj=1.8km s-min=0.7km az=224.0*
*MCSM **01** 05:02:03.2±0.9, 38°.N±6°×2°.1E±°, h5km, mb3.9, MLv4.1*
*HLW **01** 05:02:07.4, 37°.45N×21°.94E, h10km±25km, Md4.5, Ml4.2*
ISC 01 05:02:00.3±0.7, 37°.91N±0°.02×20°.93E±0°.02, h18km±4km, n301, σ1s71/365, mb4.3/30, MS3.0/6, 24C-17D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KYPS	**Kipseli, Zakin**	**0.12**	**221**	P		**Pg**	**05 02 04.2**	**+0.1**
KYPS				S		**Sg**	**05 02 07.3**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.17**	**98**	P		**Pg**	**05 02 03.2**	**-1.5**
CLEM				S		**Sg**	**05 02 06.7**	**-0.9**
ORTH	**Orthonies,Zaky**	**0.19**	**251**	P		**Pg**	**05 02 04.7**	**-0.4**
ORTH				S		**Sg**	**05 02 08.6**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.20**	**323**	P		**Pg**	**05 02 04.3**	**-0.9**
RTZL				S		**Sg**	**05 02 07.9**	**-0.7**
LTHK	**Lithakia**	**0.22**	**199**	P		**Pg**	**05 02 05.1**	**-0.3**
LTHK				S		**Sg**	**05 02 09.4**	**+0.5**
LTHK	**Lithakia**	**0.22**	**199**	P		**Pg**	**05 02 05.1**	**-0.3**
LTHK				S		**Sg**	**05 02 09.6**	**+0.7**
LTHK				AML		AML	05 02 14.9	
LTHK				AML		AML	05 02 15.0	
PSDA	**Pessada-Kefalo**	**0.34**	**307**	P		**Pg**	**05 02 06.5**	**-0.9**
PSDA				S		**Sg**	**05 02 11.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.34**	**307**	P		**Pg**	**05 02 06.5**	**-0.9**
PSDA				S		**Sg**	**05 02 11.5**	**-0.8**
VLS	**Valsamata**	**0.37**	**315**	P		**Pg**	**05 02 06.8**	**-1.2**
VLS				S		**Sg**	**05 02 13.3**	**-0.1**
	29μm,0.2s							
VLS	**Valsamata**	**0.37**	**315**	P		**Pg**	**05 02 06.9**	**-1.2**
VLS				S		**Sg**	**05 02 12.6**	**-0.7**
VLS				AML		AML	05 02 15.1	
	comp=E,64417μm,0.2s							
VLS				AML		AML	05 02 15.3	
	comp=N,54866μm,0.3s							
RLS	**Riolos of Patr**	**0.45**	**71**	P		**Pg**	**05 02 08.1**	**-1.3**
RLS				S		**Sg**	**05 02 14.8**	**-0.8**
	comp=N,15μm,0.5s							
RLS	**Riolos of Patr**	**0.45**	**71**	P		**Pg**	**05 02 08.1**	**-1.3**
RLS				S		**Sg**	**05 02 14.5**	**-1.1**
RLS				AML		AML	05 02 21.9	
	comp=N,26859μm,0.5s							
RLS				AML		AML	05 02 22.0	
	comp=E,33150μm,0.5s							
DMLN	**Damoulianata-K**	**0.54**	**307**	P		**Pg**	**05 02 10.1**	**-1.0**
DMLN				S		**Sb**	**05 02 19.3**	**+0.5**
	comp=E,36μm,0.3s							
DMLN	**Damoulianata-K**	**0.54**	**307**	P		**Pg**	**05 02 10.3**	**-0.9**
DMLN				S		**Sg**	**05 02 18.0**	**-0.5**
FSK	**Fiskardo**	**0.62**	**332**	P		**Pg**	**05 02 10.9**	**-1.6**
FSK				S		**Sg**	**05 02 20.8**	**+0.1**
FSK	**Fiskardo**	**0.62**	**332**	P		**Pg**	**05 02 10.8**	**-1.6**
FSK				S		**Sg**	**05 02 19.5**	**-1.2**
FSK				AML		AML	05 02 24.0	
	comp=E,20070μm,0.2s							
FSK				AML		AML	05 02 27.7	
	comp=N,17911μm,0.5s							
DRO	**Drossia**	**0.62**	**86**	P		**Pg**	**05 02 11.1**	**-1.4**
DRO				S		**Sb**	**05 02 21.3**	**+0.3**
DRO	**Drossia**	**0.62**	**86**	P		**Pg**	**05 02 11.2**	**-1.4**
DRO				S		**Sg**	**05 02 20.5**	**-0.4**
DRO				AML		AML	05 02 22.2	
	comp=E,61054μm,0.5s							
DRO				AML		AML	05 02 25.6	
	comp=N,49001μm,0.5s							
AMT	**Artemida-Makis**	**0.73**	**121**	P		**Pg**	**05 02 13.7**	**-0.8**
AMT				S		**Sb**	**05 02 24.5**	**+0.4**
AMT				AML		AML	05 02 31.1	
	comp=N,46731μm,0.3s							
AMT				AML		AML	05 02 35.3	
	comp=E,34477μm,0.5s							
EVGI	**Lefkada island**	**0.74**	**343**	P		**Pg**	**05 02 13.0**	**-1.7**
EVGI				S		**Sb**	**05 02 24.6**	**+0.2**
	comp=E,14μm,0.2s							
EVGI	**Lefkada island**	**0.74**	**343**	P		**Pg**	**05 02 13.1**	**-1.7**
EVGI				S		**Sg**	**05 02 23.5**	**-1.0**
UPR	**University Cam**	**0.77**	**61**	P		**Pg**	**05 02 14.6**	**-0.8**
UPR				S		**Sb**	**05 02 25.9**	**+0.6**
UPR	**University Cam**	**0.77**	**61**	P		**Pg**	**05 02 14.7**	**-0.6**
DRAG	**Dragano-Lefkad**	**0.82**	**340**	P		**Pg**	**05 02 14.6**	**-1.6**
DRAG				S		**Sb**	**05 02 27.3**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.82**	**340**	P		**Pg**	**05 02 14.3**	**-1.9**
DRAG				S		**Sg**	**05 02 25.3**	**-1.8**
NYDR	**Nydri-Lefkada**	**0.82**	**347**	P		**Pg**	**05 02 14.4**	**-1.9**
NYDR				S		**Sg**	**05 02 26.4**	**-0.7**
	comp=E,8μm,0.5s							
NYDR	**Nydri-Lefkada**	**0.82**	**347**	P		**Pg**	**05 02 14.3**	**-1.9**
NYDR				S		**Sg**	**05 02 26.0**	**-1.1**
LKD2	**Lefkada island**	**0.90**	**346**	⇑*i*Pn		**Pg**	**05 02 15.9**	**-1.8**
LKD2				Sn		**Sn**	**05 02 36.4**	**+5.7**
LKD2				AML		AML	05 02 36.8	
	comp=E,40nm,0.7s							
LKD2				AMd			05 05 03.5	
LKD2	**Lefkada island**	**0.90**	**346**	P		**Pg**	**05 02 15.8**	**-2.0**
LKD2				S		**Sb**	**05 02 29.5**	**+0.5**
	comp=E,11μm,0.5s							
LKD2	**Lefkada island**	**0.90**	**346**	P		**Pg**	**05 02 16.0**	**-1.8**
LKD2				AML		AML	05 02 38.1	
	comp=E,24687μm,0.5s							
LKD2				AML		AML	05 02 41.3	
	comp=N,21968μm,0.5s							
EFP	**Efpalio**	**0.93**	**56**	P		**Pg**	**05 02 16.6**	**-1.7**
EFP				S		**Sb**	**05 02 31.1**	**+1.3**
	comp=N,9μm,0.6s							
EFP	**Efpalio**	**0.93**	**56**	P		**Pg**	**05 02 16.7**	**-1.6**
EFP				AML		AML	05 02 33.0	
	comp=N,15528μm,0.4s							
EFP				AML		AML	05 02 33.1	
	comp=E,18361μm,0.7s							
TSLK	**Tsoukalades, L**	**0.94**	**347**	P		**Pg**	**05 02 16.5**	**-2.0**
TSLK	**Tsoukalades, L**	**0.94**	**347**	P		**Pg**	**05 02 16.5**	**-2.0**
KLV	**Kalavryta, Ach**	**0.98**	**82**	P		**Pg**	**05 02 17.1**	**-2.1**
KLV				S		**Sg**	**05 02 31.7**	**-0.4**
	comp=E,4μm,0.7s							
KLV	**Kalavryta, Ach**	**0.98**	**82**	P		**Pg**	**05 02 17.3**	**-2.0**
KLV				AML		AML	05 02 38.5	
	comp=E,8173μm,0.9s							
KLV				AML		AML	05 02 40.1	
	comp=N,7417μm,0.8s							
ALIK	**Aliki, Aigiali**	**1.00**	**69**	P		**Pg**	**05 02 18.1**	**-1.5**
ANX	**Ano Chora**	**1.04**	**49**	P		**Pg**	**05 02 18.7**	**-1.7**
ANX	**Ano Chora**	**1.04**	**49**	P		**Pg**	**05 02 18.7**	**-1.7**
ANX				AML		AML	05 02 43.4	
	comp=E,13649μm,0.9s							
ANX				AML		AML	05 02 44.3	
	comp=N,17076μm,0.6s							
KALE	**Kalithea**	**1.07**	**63**	P		**Pg**	**05 02 18.8**	**-2.2**
KALE	**Kalithea**	**1.07**	**63**	P		**Pg**	**05 02 18.7**	**-2.3**
KALE				AML		AML	05 02 42.4	
	comp=N,11814μm,0.4s							
KALE				AML		AML	05 02 48.9	
	comp=E,7527μm,0.6s							
ITM	**Ithomi**	**1.08**	**132**			**Pg**	**05 02 19.6**	**-1.6**
ITM	**Ithomi**	**1.08**	**132**	P		**Pg**	**05 02 19.7**	**-1.5**
ITM				S		**Sb**	**05 02 36.2**	**+2.0**
	comp=E,6μm,0.6s							
ITM	**Ithomi**	**1.08**	**132**	P		**Pg**

IGT AML AML 05 03 08.1
comp=E,3722μm,0.5s
JAN Janina 1.74 358 P **Pn 05 02 31.3 +1.6**
JAN Janina 1.74 358 P **Pn 05 02 31.4 +1.7**
JAN AML AML 05 03 04.2
comp=E,4528μm,0.9s
JAN AML AML 05 03 08.6
comp=N,3124μm,0.7s
LKR Lokris 1.79 65 P **Pn 05 02 31.8 +1.5**
LKR AML AML 05 03 07.6
comp=E,2716μm,0.9s
LKR AML AML 05 03 10.5
comp=N,2104μm,0.4s
KRND KRANIDI 1.84 106 P **Pb 05 02 33.3 -0.1**
KRND KRANIDI 1.84 106 P **Pb 05 02 33.4 -0.1**
KRND AML AML 05 03 09.6
comp=N,5222μm,0.7s
KRND AML AML 05 03 13.9
comp=E,3897μm,0.8s
THL Klokotos Trika 1.85 27 P **Pn 05 02 32.7 +1.5**
THL Klokotos Trika 1.85 27 P **Pn 05 02 32.6 +1.5**
THL AML AML 05 03 10.4
comp=E,3749μm,1.0s
THL AML AML 05 03 10.8
comp=N,2008μm,0.6s
VIL2 Platees 1.87 80 P **Pb 05 02 33.8 -0.1**
VIL2 AML AML 05 03 11.8
comp=E,3918μm,0.6s
VIL2 AML AML 05 03 13.8
comp=N,2843μm,1.0s
VILL Villia 1.90 82 P **Pn 05 02 33.5 +1.7**
VLI Veliai 2.00 126 P **Pn 05 02 35.4 +2.3**
VLI Veliai 2.00 126 P **Pb 05 02 36.0 0.0**
VLI AML AML 05 03 19.4
comp=E,3108μm,0.8s
VLI AML AML 05 03 19.8
comp=N,2508μm,0.8s
KEK Kerkira 2.00 334 Pn **Pn 05 02 34.8 +1.6**
KEK Kerkira 2.00 334 P **Pn 05 02 35.3 +2.1**
KEK Kerkira 2.00 334 P **Pn 05 02 35.3 +2.1**
KEK AML AML 05 03 17.3
comp=N,3017μm,0.5s
KEK AML AML 05 03 17.4
comp=E,3713μm,0.6s
TYRN Tyrnavos 2.06 29 P **Pn 05 02 36.3 +2.3**
KPRO Kipourio 2.07 9 P **Pn 05 02 36.4 +2.2**
KPRO Kipourio 2.07 9 P **Pb 05 02 36.7 -0.6**
KPRO AML AML 05 03 17.8
comp=E,3337μm,0.5s
KPRO AML AML 05 03 20.4
comp=N,4148μm,0.7s
SRN Sarande 2.09 340 P **Pn 05 02 35.7 +1.3**
SRN S **Sg 05 03 09.5 +1.9**
SRN AML AML 05 03 15.1
comp=N,1.5nm,0.5s
ATH Athens Observa 2.21 88 P **Pn 05 02 38.2 +2.2**
ATH Athens Observa 2.21 88 P **Pb 05 02 38.9 -0.7**
ATH AML AML 05 03 17.3
comp=E,2545μm,0.7s
ATH AML AML 05 03 20.6
comp=N,2472μm,0.8s
LSK Leskovik 2.25 354 P **Pn 05 02 38.9 +2.2**
LSK S **Sg 05 03 14.7 +2.1**
LSK AML AML 05 03 36.6
comp=N,8.4nm,0.7s
VLY Voula,Athens 2.27 91 P **Pn 05 02 38.2 +1.3**
VLY Voula,Athens 2.27 91 P **Pn 05 02 39.4 +2.5**
VLY AML AML 05 03 17.6
comp=E,2340μm,0.9s
VLY AML AML 05 03 20.7
comp=N,2452μm,0.7s
NEO Neokhori 2.27 52 P **Pn 05 02 39.3 +2.3**
PENT Pentalofos 2.29 4 P **Pn 05 02 39.4 +2.2**
XOR Xorichti 2.29 50 P **Pn 05 02 38.9 +1.7**
PTL Penteli 2.33 86 P **Pn 05 02 39.5 +1.8**
PTL Penteli 2.33 86 P **Pn 05 02 40.2 +2.5**
PTL AML AML 05 03 19.6
comp=E,1898μm,1.0s
PTL AML AML 05 03 21.0
comp=N,2151μm,0.7s
KZN Kozani 2.48 15 P **Pn 05 02 41.7 +1.9**
KZN Kozani 2.48 15 P **Pb 05 02 43.5 -0.9**
KZN AML AML 05 03 32.6
comp=N,1069μm,0.6s
KZN AML AML 05 03 34.5
comp=E,1217μm,0.6s
NEST Nestorio 2.50 2 P **Pn 05 02 41.8 +1.7**
NEST Nestorio 2.50 2 P **Pn 05 02 42.8 +2.7**
LIT Litokhoron 2.50 29 **Pn 05 02 40.8 +0.7**
AOS2 Alonissos-2 2.60 61 P **Pn 05 02 43.8 +2.4**
KYMI Kymi, Euboea I 2.60 73 P **Pn 05 02 43.0 +1.6**
KYMI Kymi, Euboea I 2.60 73 P **Pn 05 02 43.7 +2.3**
KYMI AML AML 05 03 32.4
comp=N,1326μm,1.1s
KYMI AML AML 05 03 39.5
comp=E,1145μm,0.9s
AOS Alonnisos 2.63 61 P **Pn 05 02 42.9 +1.0**
KBN Korca 2.71 358 **Pn 05 02 44.8 +1.8**
KBN Korca 2.71 358 P **Pn 05 02 44.5 +1.5**
KBN Korca 2.71 358 P **Pn 05 02 45.5 +2.5**
KARY Karystos 2.78 86 P **Pn 05 02 45.5 +1.7**
VLO Vlora 2.78 337 P **Pn 05 02 44.5 +0.6**
SCTE Santa Cesarea 2.88 319 Pn **Pn 05 02 45.5 +0.2**
SCTE Santa Cesarea 2.88 319 P **Pn 05 02 44.5 -0.8**
FNA Florina 2.89 7 **Pn 05 02 47.1 +1.6**
FNA Florina 2.89 7 P **Pn 05 02 47.5 +2.1**
FNA Florina 2.89 7 P **Pn 05 02 46.9 +1.5**
FNA Florina 2.89 7 *e*Pn **Pn 05 02 46.9 +1.5**
FNA *e*Sn **Sn 05 03 22.7 +3.0**
THE Thessaloniki 3.14 30 P **Pn 05 02 50.6 +1.8**
THE S **Sg 05 03 39.1 -2.1**
OHR Ohrid 3.19 358 *i* Pn **Pn 05 02 52.3 +2.6**
OHR Ohrid 3.19 358 *e*Pn **Pn 05 02 51.6 +1.9**
IMMV Iera Moni Meta 3.47 134 P **Pn 05 02 55.3 +2.0**
TIP Timpagrande 3.50 292 Pn **Pn 05 02 54.2 +0.3**
TIP Timpagrande 3.50 292 ⇓P **Pn 05 02 54.0 +0.1**
TIP ⇓S **Sn 05 03 33.9 -1.1**
TIP Timpagrande 3.50 292 Pn **Pn 05 02 54.2 +0.3**
TIP Sn **Sn 05 03 34.1 -0.9**
TIR Tirane 3.53 347 **Pn 05 02 55.3 +1.2**
TIR Tirane 3.53 347 P **Pn 05 02 55.6 +1.5**
TIR Tirane 3.53 347 ⇑P **Pn 05 02 55.9 +1.8**
TIR ⇑S **Sn 05 03 38.8 +3.4**
TIR Tirane 3.53 347 *e*Pn **Pn 05 02 55.4 +1.2**
TIR *e*Sn **Sn 05 03 36.8 +1.4**
TIR Tirane 3.53 347 Pn **Pn 05 02 55.7 +1.5**
TIR Sn **Sn 05 03 39.1 +3.7**
VAY Valandovo 3.63 20 *i* Pn **Pn 05 02 58.7 +3.1**
VAY Valandovo 3.63 20 *e*Pn **Pn 05 02 57.8 +2.2**
APE Apeiranthos 3.76 102 ⇑P Pn 05 03 02.5 +5.1
APE ⇑S **Sb 05 03 49.9 -1.4**
PHP Peshkopia 3.79 354 P **Pn 05 02 59.0 +1.3**
PHP Peshkopia 3.79 354 P **Pn 05 02 58.9 +1.1**
SRS Serrai 3.81 32 P **Pn 05 02 58.9 +0.9**
SRS Serrai 3.81 32 *e*Pn **Pn 05 02 59.4 +1.4**
CEL Celeste 3.99 277 **Pn 05 03 00.3 -0.2**
CEL Celeste 3.99 277 Pn **Pn 05 03 00.4 -0.1**
CEL Sn **Sn 05 03 49.6 +2.8**
NVR Nevrokopi 4.11 33 P **Pn 05 03 04.8 +2.6**
IDI Anoyia 4.13 128 **Pn 05 03 01.4 -1.1**
IDI Anoyia 4.13 128 Pn **Pn 05 03 02.9 +0.4**
comp=E,9.9nm,0.4s,baz=348,slow=16,SNR=17
IDI Sn **Sn 05 03 46.5 -3.8**
comp=E,3.1nm,0.3s,baz=339,slow=13,SNR=4.7
PUK Puka 4.20 349 **Pn 05 03 04.2 +0.7**
PUK Puka 4.20 349 P **Pn 05 03 04.5 +1.0**
PUK S **Sb 05 04 04.1 +0.1**
PUK AML AML 05 04 31.9
comp=E,0.6nm,0.6s
ULC Ulcinj 4.25 343 ⇑*i*Pn **Pn 05 03 04.6 +0.5**
ULC *i* Sn **Sn 05 03 52.4 -0.8**
DRME Dracevica, Mon 4.47 343 *e*Pn **Pn 05 03 07.2 0.0**
DRME Dracevica, Mon 4.47 343 ⇓*i*Pn **Pn 05 03 07.7 +0.5**
DRME *i* Sn **Sn 05 03 58.1 -0.6**
CUC Castrocucco 4.49 299 Pn **Pn 05 03 08.4 +0.9**
BCI Bajram Curri 4.50 352 P **Pn 05 03 09.9 +2.3**
BUM Brajici-Budva 4.65 341 ⇓*i*Pn **Pn 05 03 09.7 0.0**
BUM *i* Sn **Sn 05 04 03.7 +0.5**
PDG Podgorica 4.69 345 Pn **Pn 05 03 10.7 +0.6**
PDG Podgorica 4.69 345 *e*Pn **Pn 05 03 09.7 -0.4**
PDG Podgorica 4.69 345 ⇓P **Pn 05 03 11.4 +1.3**
PDG ⇑S **Sn 05 04 07.4 +3.3**
PDG Podgorica 4.69 345 *e*Pn **Pn 05 03 10.4 +0.3**
PDG *e*Sn **Sn 05 04 04.2 +0.2**
PDG Podgorica 4.69 345 ⇑*i*Pn **Pn 05 03 10.7 +0.6**
PDG *i* Sn **Sn 05 04 04.3 +0.2**
PVY Plav 4.73 351 ⇑*i*Pn **Pn 05 03 12.6 +1.7**
PVY *i* Sn **Sn 05 04 05.5 +0.1**
RDO Rodhopi 4.81 46 **Pn 05 03 12.7 +1.0**
CEME Cevo 4.88 342 ⇓*i*Pn **Pn 05 03 12.6 -0.2**
CEME *i* Sn **Sn 05 04 09.1 +0.3**
HCY Herceg Novi 4.90 338 *e*Pn **Pn 05 03 11.8 -1.2**
HCY Herceg Novi 4.90 338 ⇑*i*Pn **Pn 05 03 12.2 -0.8**
HCY *i* Sn **Sn 05 04 08.4 -0.8**
BARS Barje 4.94 8 *e*Pn **Pn 05 03 14.2 +0.6**
ALN Alexandroupoli 4.96 51 Pn **Pn 05 03 14.7 +0.8**
IVA Berane 5.01 351 ⇑*i*Pn **Pn 05 03 16.5 +1.8**
IVA *i* Sn **Sn 05 04 12.2 0.0**
VTS Vitosha 5.02 20 *e*Pn **Pn 05 03 16.0 +1.2**
VTS *e*Sn **Sn 05 04 13.7 +1.3**
KOME Kolasin 5.05 348 ⇑*i*Pn **Pn 05 03 16.3 +1.2**
KOME *i* Sn **Sn 05 04 13.0 0.0**
NKME Niksic 5.08 343 ⇑*i*Pn **Pn 05 03 16.4 +0.9**
NKME *i* Sn **Sn 05 04 12.6 -1.1**
VAE Valguarnera 5.18 267 Pn **Pn 05 03 19.5 +2.5**
comp=E,11nm,0.4s,baz=167,slow=11,SNR=8.6
VAE Sn **Sn 05 04 17.0 +0.6**
comp=E,4.7nm,0.3s,baz=230,slow=4.0,SNR=4.1
RAFF Raffo Rosso 5.26 264 Pn **Pn 05 03 16.9 -1.1**
SELS Selova 5.30 2 *e*Pn **Pn 05 03 18.7 +0.1**
SELS *e*Sn **Sn 05 04 18.6 -0.6**
BRY Bratogost 5.30 341 *e*Pn **Pn 05 03 17.4 -1.3**
BRY Bratogost 5.30 341 ⇓*i*Pn **Pn 05 03 20.2 +1.5**
BRY *i* Sn **Sn 05 04 18.2 -1.3**
SJES Sjenica 5.39 353 *e*Pn **Pn 05 03 20.3 +0.4**
SJES Sjenica 5.39 353 *e*Pn **Pn 05 03 20.4 +0.5**
SJES *e*Sn **Sn 05 04 21.7 +0.2**
ZAPS Zavoj 5.51 13 *e*Pn **Pn 05 03 22.4 +1.0**
STON Ston 5.53 335 *e*Pn **Pn 05 03 19.8 -1.9**
STON Ston 5.53 335 *e*Pn **Pn 05 03 20.5 -1.2**
STON *e*Sn **Sn 05 04 22.6 -2.2**
WDD Wied Dalam 5.54 250 Pn **Pn 05 03 21.1 -0.6**
PLE Pljevlja 5.54 348 ⇓*i*Pn **Pn 05 03 22.6 +0.7**
PLE *i* Sn **Sn 05 04 23.8 -1.3**
IVAS Ivanjica 5.69 354 *e*Sn **Sn 05 04 27.0 -1.8**
BOVS Bovan 5.75 6 ⇑P **Pn 05 03 27.1 +2.5**
BOVS ⇓S **Sn 05 04 35.8 +5.7**
BOVS Bovan 5.75 6 *e*Pn **Pn 05 03 24.3 -0.3**
RUDO Rudo 5.82 349 *e*Pn **Pn 05 03 25.9 +0.2**
GRUS Gruza 5.97 359 *e*Pn **Pn 05 03 27.7 0.0**
GRUS *e*Sn **Sn 05 04 34.0 -1.7**
ZAGS Zajecar 5.98 9 *e*Pn **Pn 05 03 29.5 +1.7**
BBLS Lazi&#263i 6.06 350 *e*Pn **Pn 05 03 28.3 -0.7**
BBLS Lazi&#263i 6.06 350 *e*Pn **Pn 05 03 28.6 -0.4**
BBLS *e*Sn **Sn 05 04 35.2 -2.7**
DIVS Divibare 6.22 354 *e*Pn **Pn 05 03 30.6 -0.6**
DIVS *e*Sn **Sn 05 04 39.1 -2.8**
ELND Elena 6.27 35 ⇓P Pn 05 03 36.7 +4.9
TRUS Trudelj 6.32 357 *e*Pn **Pn 05 03 31.6 -0.9**
HAPS Han Pijesak,Bl 6.34 347 *e*Pn **Pn 05 03 32.3 -0.7**
HAPS Han Pijesak,Bl 6.34 347 *e*Pn **Pn 05 03 32.3 -0.7**
HAPS *e*Sn **Sn 05 04 43.5 -1.5**
TEKS Tekeris 6.71 351 *e*Pn **Pn 05 03 36.4 -1.5**
TEKS Tekeris 6.71 351 *e*Pn **Pn 05 03 36.7 -1.2**
TEKS *e*Sn **Sn 05 04 51.0 -2.9**
INTR Introdacqua 6.77 309 Pn **Pn 05 03 40.1 +1.3**
MDVR Moldovita 6.89 5 ⇓P **Pn 05 03 43.4 +3.0**
MDVR ⇓S **Sn 05 05 04.3 +6.0**
HERR Herculane 7.05 9 ⇑P **Pn 05 03 45.5 +2.9**
FRGS Fruska Gora 7.29 354 *e*Pn **Pn 05 03 44.3 -1.5**
FRGS Fruska Gora 7.29 354 *e*Pn **Pn 05 03 44.7 -1.1**
SLUM Salum 7.31 150 P **Pn 05 03 44.1 -2.0**
SLUM S Sn 05 05 00.5 -8.3
A050A Klekovaca 7.35 335 *e*Pn **Pn 05 03 46.5 -0.2**
CAMP Campotosto 7.37 311 **Pn 05 03 49.3 +2.2**
BLY Banja Luka 7.39 339 *e*Pn **Pn 05 03 45.7 -1.4**
BLY Banja Luka 7.39 339 *e*Pn **Pn 05 03 47.5 +0.4**
GZR Gura Zlata 7.60 10 ⇑P **Pn 05 03 54.0 +3.8**
GZR ⇓S **Sn 05 05 22.4 +6.5**
A051A Mrakovica 7.71 338 *e*Pn **Pn 05 03 49.4 -2.2**
NRCA Norcia 7.73 312 **Pn 05 03 53.9 +2.0**
GUMA Gualdo di Mace 7.74 314 **Pn 05 03 53.7 +1.7**
LOT Lotru 7.82 15 ⇑P **Pn 05 03 56.7 +3.4**
LOT ⇑S **Sn 05 05 28.4 +7.0**
FOMO Fiordimonte 7.87 313 Pn **Pn 05 03 55.8 +2.1**
CESX Cesi 7.92 309 Pn **Pn 05 03 56.7 +2.3**
ARR Arges 7.95 19 ⇑P **Pn 05 03 58.3 +3.4**
VOIR 8.12 21 ⇓P **Pn 05 04 01.8 +4.5**
VOIR 8.12 21 Pn Pn 05 04 02.5 +5.1
comp=E,8.6nm,0.8s
MLR Muntele Rosu 8.45 25 Pn **Pn 05 04 03.6 +1.8**
comp=E,0.5nm,0.3s,baz=154,slow=8.5,SNR=8.6
comp=E,1.3nm,0.8s
MLR Muntele Rosu 8.45 25 ⇓P **Pn 05 04 06.4 +4.5**
MORH Mrgy, Hungar 8.47 349 ⇑P **Pn 05 04 04.4 +2.4**
MORH Mrgy, Hungar 8.47 349 Pn **Pn 05 04 04.4 +2.4**
DOPH Dopca 8.71 21 ⇑P **Pn 05 04 09.7 +4.5**
CRES Cresnjevec Ost 8.89 334 *e*Pn **Pn 05 04 06.8 -1.0**
OZUR 8.94 22 ⇓P Pn 05 04 13.2 +4.7
PLOR Plostina 9.00 26 ⇑P **Pn 05 04 13.5 +4.2**
VRI Vrincioaia 9.04 27 ⇓P **Pn 05 04 14.1 +4.2**
OSSC Osservatorio P 9.24 310 Pn **Pn 05 04 13.3 +0.7**
DB3 El Dabaa 9.30 135 P Pn 05 04 09.4 -4.1
ONER Baraj Valea Uz 9.34 24 ⇑P **Pn 05 04 18.0 +4.0**
SWA2 9.44 155 P **Pn 05 04 13.2 -2.0**
KEST Kesra 9.54 260 Pn **Pn 05 04 17.2 +0.5**
KEST Kesra 9.54 260 Pn **Pn 05 04 16.7 -0.1**
comp=E,0.5nm,0.3s,baz=32,slow=4.1,SNR=8.2
KEST LR LR 05 08 37.2
comp=E,104nm,18.2s,baz=186,slow=42
comp=E,3.0nm,0.5s
SOKA Soboth 9.78 335 *i* Pn **Pn 05 04 19.3 -0.8**
comp=E,6.4nm,0.6s,SNR=7.7
OBKA Obir 9.80 333 *i* Pn **Pn 05 04 21.5 +1.2**
comp=E,2.8nm,0.5s
OBKA Obir 9.80 333 *e*Pn **Pn 05 04 19.4 -1.0**
ZCCA Zocca 9.88 314 Pn **Pn 05 04 22.9 +1.5**
PSZ Piszkesteto 10.03 356 Pn **Pn 05 04 23.4 -0.1**
BRTR Keskin Array B 10.09 76 Pn **Pn 05 04 26.8 +2.4**
comp=E,0.2nm,0.3s,baz=262,slow=13,SNR=11
comp=E,0.4nm,0.5s
ARSA Arzberg 10.14 339 **Pn 05 04 24.8 -0.1**
ARSA Arzberg 10.14 339 *e*Pn **Pn 05 04 26.9 +1.9**
comp=E,3.1nm,0.5s
MYKA Terra Mystica 10.24 331 *i* Pn **Pn 05 04 27.8 +1.4**
comp=E,1.0nm,0.3s
CIMO Cimolais 10.49 326 Pn **Pn 05 04 28.9 -0.8**
CTI Castel Tesino 10.66 323 Pn **Pn 05 04 30.6 -1.5**
CONA Conrad Observa 10.67 341 *i* Pn **Pn 05 04 34.0 +1.7**
comp=E,2.0nm,0.8s
VYHS Vyhne 10.69 352 *e*PN Pn 05 04 38.3 +5.9
KBA Koelnbreinsper 10.73 331 *i* Pn **Pn 05 04 34.3 +1.2**
comp=E,0.9nm,0.3s
MODS Modra-Piesok 10.79 347 *e*PN Pn 05 04 40.2 +6.4
ABTA Abfaltersbach 10.80 328 *e*Pn **Pn 05 04 36.1 +2.1**
KOLS Kolonicke sedl 11.06 5 *e*PN **Pn 05 04 40.3 +2.8**
MOA Molln 11.06 336 *i* Pn **Pn 05 04 37.6 0.0**
comp=E,2.2nm,0.4s
BIOA Bad Ischl, Aus 11.14 334 *i* Pn **Pn 05 04 39.4 +0.9**
comp=E,3.8nm,0.6s
LESA Schwarzleotal 11.27 330 *i* Pn **Pn 05 04 40.7 +0.2**
comp=E,4.4nm,0.3s,SNR=6.1
WTTA Wattenberg 11.57 327 *i* Pn **Pn 05 04 45.9 +1.2**
comp=E,3.2nm,0.4s
WATA Walderalm 11.66 327 *i* Pn **Pn 05 04 46.9 +1.1**
comp=E,1.1nm,0.3s
SQTA Sankt Quirin 11.73 326 *e*Pn **Pn 05 04 47.3 +0.6**
comp=E,1.7nm,0.4s
FUORN Ofenpass-Fuorn 11.74 321 Pn **Pn 05 04 46.6 -0.4**
FETA Feichten 11.80 324 *i* Pn **Pn 05 04 49.2 +1.4**
comp=E,0.4nm,0.3s
VRAC Vranov 11.81 346 LR LR 05 10 44.3
comp=E,174nm,18.3s,baz=187,slow=44
MOTA Moosalm 11.87 326 *e*Pn **Pn 05 04 49.5 +0.8**
comp=E,0.7nm,0.3s
DAVOX Davos/Dischmat 12.04 321 Pn **Pn 05 04 52.9 +1.7**
comp=E,0.8nm,0.3s,baz=151,slow=11,SNR=6.5
DAVOX Sn **Sn 05 07 02.5 -2.5**
comp=E,0.5nm,0.3s,baz=294,slow=21,SNR=4.2
comp=E,1.9nm,0.4s
TUE Stuetta 12.11 319 **Pn 05 04 51.9 -0.2**
GERES GERESS Array B 12.12 337 Pn **Pn 05 04 51.5 -0.6**
comp=E,0.4nm,0.3s,baz=153,slow=15,SNR=5.2
GERES LR LR 05 10 55.9
comp=E,106nm,20.8s,baz=147,slow=44
comp=E,1.7nm,0.5s
RETA Reutte 12.13 325 *i* Pn **Pn 05 04 53.4 +1.2**
comp=E,1.7nm,0.6s
DAVA Damuels 12.40 323 *i* Pn **Pn 05 04 57.0 +1.1**
comp=E,0.6nm,0.4s
KHC Kasperske Hory 12.41 337 *e*P **Pn 05 04 54.5 -1.4**
MMAI Mount Meron Ar 12.77 108 Pn **Pn 05 04 58.0 -3.1**
comp=E,1.0nm,0.3s,baz=307,slow=10,SNR=4.1
MMAI LR LR 05 11 36.8
comp=E,40nm,19.3s,baz=310,slow=46
comp=E,0.7nm,0.3s
SENIN Lac Senin/Sane 13.16 314 Pn **Pn 05 05 07.1 +0.7**
AKASG Malin Array Be 14.08 22 Pn **Pn 05 05 18.5 -0.3**
comp=E,1.9nm,0.3s,baz=211,slow=9.1,SNR=9.6
AKASG LR LR 05 11 43.5
comp=E,67nm,19.9s,baz=204,slow=42
comp=E,0.2nm,0.4s
EIL Elat 14.26 121 Pn **Pn 05 05 19.7 -1.5**
comp=E,1.1nm,0.3s,baz=159,slow=10.0,SNR=6.3
EIL Sn Sn 05 07 46.8 -12
comp=E,0.3nm,0.3s,baz=59,slow=18,SNR=2.4
comp=E,3.2nm,0.7s
ECH Echery 14.38 320 Pn **Pn 05 05 21.2 -1.6**
NACGM Naroch 17.46 11 *e*P **P 05 06 04.9 +1.1**
baz=196
ESDC Sonseca Array 19.47 283 P **P 05 06 26.4 +0.3**
comp=E,0.1nm,0.3s,baz=74,slow=11,SNR=8.0
comp=E,3.2nm,0.8s
PAB San Pablo 19.77 283 P **P 05 06 28.5 -0.9**
PAB IAmb IAmb 05 06 53.3
comp=Z,18nm,1.2s
MDT Midelt 21.41 264 P **P 05 06 47.9 +0.7**
comp=Z,2.4nm,0.7s,baz=81,slow=16,SNR=2.5
comp=Z,2.4nm,0.7s
HFS Hagfors 22.71 351 P **P 05 06 59.9 -1.0**
comp=Z,3.6nm,0.6s,baz=155,slow=11,SNR=15
HFS LR LR 05 16 03.4
comp=Z,44nm,21.3s,baz=250,slow=37
comp=Z,3.6nm,0.6s
BELG Belogornoye 23.57 44 LR LR 05 18 07.0
comp=Z,48nm,19.0s,baz=267,slow=41
NC602 NORSAR Array S 23.60 348 P **P 05 07 10.4 +0.6**
NC602 IAmb IAmb 05 07 48.7
comp=Z,20nm,1.3s
FINES FINESS Array B 23.77 6 P **P 05 07 10.8 -0.7**
FINES FINESS Array B 23.77 6 P **P 05 07 11.2 -0.3**
comp=Z,1.3nm,0.4s,baz=169,slow=11,SNR=11
FINES LR LR 05 16 58.3
comp=Z,64nm,18.2s,baz=234,slow=38
comp=Z,1.3nm,0.4s
EKA Eskdalemuir Ar 23.83 325 P **P 05 07 12.6 +0.5**
comp=Z,6.5nm,0.7s,baz=128,slow=8.1,SNR=9.7
comp=Z,6.5nm,0.7s
NC405 NORSAR Array S 23.93 349 P **P 05 07 13.7 +0.7**
NC405 IAmb IAmb 05 07 25.3
comp=Z,11nm,0.8s
NB201 NORSAR Array S 23.94 348 P **P 05 07 14.6 +1.5**
NB2 NORSAR Subarra 23.94 348 P **P 05 07 14.2 +1.1**
comp=Z,4.9nm,0.9s,baz=154,slow=9.3
NOA NORSAR Array B 23.94 348 P **P 05 07 13.3 +0.2**
comp=Z,2.4nm,0.8s,baz=158,slow=8.7,SNR=7.8
NOA LR LR 05 18 27.5
comp=Z,42nm,18.4s,baz=175,slow=41
comp=Z,2.4nm,0.8s
RAYN Ar Rayn 25.44 117 P **P 05 07 27.3 +0.2**
TORD Torodi Ar. Bea 30.03 220 P **P 05 08 09.4 +1.2**
comp=Z,0.8nm,0.5s,baz=26,slow=9.9,SNR=6.7
comp=Z,0.8nm,0.5s
ABKAR Abkulak array 30.13 55 P **P 05 08 08.4 -0.5**
ABKAR Abkulak array 30.13 55 P **P 05 08 08.3 -0.5**
ARCES ARCESS Array B 31.78 3 P **P 05 08 23.5 +0.3**
comp=Z,2.5nm,0.8s,baz=198,slow=11,SNR=17
comp=Z,2.5nm,0.8s
BVAR Borovoye Array 37.04 50 P **P 05 09 08.4 -0.5**
comp=Z,0.5nm,0.5s,baz=302,slow=3.3,SNR=5.6
comp=Z,0.5nm,0.5s
CHGR Chuyangaron 37.52 74 P **P 05 09 12.9 -0.4**
CHGR IAmb IAmb 05 09 16.6
comp=Z,10nm,1.0s
KKAR Karatay Array 37.61 66 P **P 05 09 14.1 +0.2**
GAR Garm 38.31 73 P **P 05 09 20.3 +0.3**
GAR IAmb IAmb 05 09 29.1
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 42.13 53 P **P 05 09 50.3 -1.0**
comp=Z,1.8nm,0.6s,baz=280,slow=8.6,SNR=13
comp=Z,1.8nm,0.6s
KURK Kurchatov 42.18 53 P **P 05 09 51.9 +0.2**
MKAR Makanchi Array 45.17 58 P **P 05 10 15.2 -0.7**
comp=Z,1.2nm,0.4s,baz=273,slow=7.4,SNR=26
comp=Z,1.2nm,0.4s
ZAA0 Zalesovo Array 45.63 48 P **P 05 10 18.4 -1.0**
ZAA0 IAmb IAmb 05 10 23.6
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 45.63 48 P **P 05 10 18.4 -0.9**
comp=Z,4.0nm,0.7s,baz=267,slow=8.3,SNR=13
comp=Z,4.0nm,0.7s
SCHQ Schefferville 58.87 318 LR LR 05 36 46.2
comp=Z,81nm,18.1s,baz=308,slow=35
SONM Songino Array 60.38 51 P **P 05 12 06.9 -1.5**
comp=Z,0.4nm,0.5s,baz=284,slow=7.5,SNR=5.1
comp=Z,0.4nm,0.5s
PALK Pallekele 61.84 104 LR LR 05 44 00.9
comp=Z,29nm,18.3s,baz=110,slow=41
LZH Lanzhou 64.03 63 *e*P **P 05 12 34.5 +1.4**
LZH pP sP 05 12 37.7 -3.3
LZH sP pP 05 12 41.0 +2.2
LZH pmax pmax
comp=Z,7.0nm,1.3s
BOSA Boshof 66.30 176 P **P 05 12 47.7 +0.1**
comp=Z,2.0nm,0.9s,baz=355,slow=7.8,SNR=4.4
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 66.92 56 *e*P **P 05 12 52.9 +1.2**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.2s
PZH PanZhiHua 67.37 73 P **P 05 12 56.1 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.3s
A36M Sachs Harbour 67.84 349 P **P 05 12 57.3 +0.5**
A36M IAmb IAmb 05 13 04.9
comp=Z,4.1nm,1.0s
CMAR Chiang Mai Arr 69.61 82 P **P 05 13 07.2 -1.4**
comp=Z,1.6nm,0.3s,baz=300,slow=7.8,SNR=5.3
comp=Z,1.6nm,0.3s
E29M Blow River 72.83 352 P **P 05 13 28.1 +0.7**
D23K Nanushuk River 73.25 357 P **P 05 13 30.8 +0.9**
YKA Yellowknife Ar 73.75 340 P **P 05 13 33.2 +0.4**
comp=Z,0.2nm,0.8s,baz=36,slow=5.2,SNR=6.5
comp=Z,0.2nm,0.8s
KLR Kul'dur 73.87 40 P **P 05 13 33.8 -0.1**
comp=Z,0.8nm,0.5s,baz=319,slow=11,SNR=1.9
comp=Z,0.8nm,0.5s
D19K Kuna River 73.91 360 P **P 05 13 34.8 +1.0**
D19K IAmb IAmb 05 13 41.8
comp=Z,5.3nm,1.2s
C16K Lisburne Hills 74.03 2 P **P 05 13 35.2 +0.8**
G29M Pine Creek 74.27 352 P **P 05 13 36.5 +0.6**
G29M IAmb IAmb 05 13 46.0
comp=Z,3.0nm,0.9s
E19K Redstone River 74.94 359 P **P 05 13 40.8 +1.0**
E19K IAmb IAmb 05 13 47.5
comp=Z,2.3nm,0.8s
ULM Lac du Bonnet 76.10 324 P **P 05 13 47.2 +0.5**
comp=Z,1.3nm,0.7s,baz=56,slow=4.4,SNR=3.8
comp=Z,1.3nm,0.7s
ILAR Eielson Array 77.20 355 P **P 05 13 54.5 +1.9**
comp=Z,0.2nm,0.8s,baz=9.2,slow=5.1,SNR=4.5
comp=Z,0.2nm,0.8s

---

*IDC **01** 05:03:38.2±1.0, 13°.64S×167°.58E, h0km, mb4.3/10, mbtmp4.3/10, Error ellipse: s-maj=35.4km s-min=21.7km az=114.0*
*NEIC **01** 05:04:01.8±2.5, 13°.9S±0°.1×167°.4E±0°.2, h190km±9km, mb4.3/12, Error ellipse: s-maj=22.9km s-min=14.7km az=100.0*
ISC 01 05:04:02.5±0.6, **13°.9S**±0°.1×**167°.3E**±0°.1, **h200**km, **n27,** σ1**9**02/29, **mb4.2**/14, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.18**	**186**	Pn	**Pn**	**05 05 56.1**	**-2.0**
MSVF	**Nonsavu**	**10.99**	**112**	Pn	**Pn**	**05 06 35.1**	**+0.5**
EIDS	**Eidsvold**	**19.08**	**231**	P	**P**	**05 08 11.2**	**+1.2**
EIDS				IAmb	IAmb	05 08 33.5	

comp=Z,4.9nm,1.0s
ARMA Armidale 21.91 219 P P 05 08 41.7 +1.7
STKA Stephens Creek 29.59 228 P P 05 09 50.0 +1.1
STKA IAmb IAmb 05 09 51.4
comp=Z,6.0nm,0.7s
STKA Stephens Creek 29.59 228 P P 05 09 50.0 +1.1
comp=Z,5.1nm,0.5s,baz=67,slow=9.1,SNR=11
comp=Z,5.1nm,0.5s
TOO Toolangi 30.56 216 P P 05 09 56.4 -1.1
TOO IAmb IAmb 05 10 15.8
comp=Z,8.2nm,1.4s
WB0 Warramunga Arr 32.04 255 P P 05 10 09.4 -1.1
WB0 IAmb IAmb 05 10 28.4
comp=Z,8.2nm,1.0s
WRA Warramunga Arr 32.10 255 P P 05 10 11.6 +0.4
WRA Warramunga Arr 32.10 255 P P 05 10 09.9 -1.3
comp=Z,1.1nm,0.6s,baz=85,slow=8.7,SNR=6.8
WRA PcP **PcP 05 12 55.9 +0.3**
comp=Z,0.7nm,0.8s,baz=93,slow=5.4,SNR=4.9
comp=Z,1.1nm,0.6s
AS31 Alice Springs 33.04 248 P P 05 10 17.9 -1.4
ASAR Alice Springs 33.04 248 P P 05 10 18.3 -1.0
ASAR Alice Springs 33.04 248 P P 05 10 18.6 -0.7
comp=Z,3.1nm,0.5s,baz=74,slow=9.2,SNR=56
ASAR PcP **PcP 05 12 58.6 +0.4**
comp=Z,0.7nm,0.6s,baz=71,slow=2.2,SNR=5.7
comp=Z,3.1nm,0.5s
SAUI Saumlaki 35.84 276 P P 05 10 44.1 +0.8
FORT Forrest 39.79 238 P P 05 11 16.3 +0.1
PETK Petropavlovsk- 67.24 354 P P 05 14 34.7 -0.5
comp=Z,3.7nm,0.9s,baz=172,slow=5.8,SNR=2.2
comp=Z,3.7nm,0.9s
KLR Kul'dur 70.28 336 P P 05 14 53.9 0.0
comp=Z,1.2nm,0.6s,baz=128,slow=6.1,SNR=4.6
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 74.68 294 P P 05 15 20.8 +0.2
comp=Z,1.9nm,0.8s,baz=124,slow=4.3,SNR=7.8
comp=Z,1.9nm,0.8s
QSPA South Pole Qui 76.13 180 P P 05 15 29.6 +1.4
QSPA South Pole Qui 76.13 180 P P 05 15 29.9 +1.8
comp=Z,3.3nm,0.8s,baz=40,slow=0.7,SNR=13
comp=Z,3.3nm,0.8s
ILAR Eielson Array 85.72 18 P P 05 16 17.7 -0.8
comp=Z,0.3nm,0.7s,baz=244,slow=4.8,SNR=5.7
comp=Z,0.3nm,0.7s
BELA Belgrano 2 87.54 175 P P 05 16 27.6 +0.3
BELA IAmb IAmb 05 16 29.6
comp=Z,3.3nm,1.0s
MK31 Makanchi Array 96.65 316 P P 05 17 09.8 -0.1
MK31 IAmb IAmb 05 17 24.8
comp=Z,3.0nm,1.5s
MKAR Makanchi Array 96.65 316 P P 05 17 09.7 -0.2
comp=Z,0.8nm,0.6s,baz=96,slow=6.5,SNR=10
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 96.76 324 P P 05 17 09.0 -1.1
comp=Z,0.8nm,0.5s,baz=108,slow=14,SNR=3.5
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 119.47 346 PKP PKiKP 05 22 27.5 -0.2
comp=Z,2.8nm,0.7s,baz=45,slow=5.7,SNR=6.2
TORD Torodi Ar. Bea 166.02 269 PKPab PKPab 05 24 46.2 +0.3
comp=Z,0.7nm,0.9s,baz=90,slow=5.0,SNR=3.9

---

*IDC **01** 05:10:36.1±5.9, 9°.77S×119°.02E, h0km, mb3.6/2, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=601.9km s-min=33.2km az=53.0*
*DJA **01** 05:10:40.1±1.6, 10°S±11°×11°9E±°, h15km±13km, M3.3/6, MLv3.3/6*
ISC 01 05:10:41.1±1.3, 9°.9S±0°.1×118°.91E±0°.08, h33km, n8, σ0°74/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.54**	**60**	P	**Pn**	**05 10 53.4**	**+0.9**
WSI	**Waingapu**	**1.39**	**80**	P	**Pb**	**05 11 05.9**	**-0.5**
PLAI	**Plampang**	**1.56**	**314**	P	**Pn**	**05 11 07.0**	**+0.6**
PLAI				S	**Sb**	**05 11 28.6**	**0.0**
BASI	**Baing, Sumba**	**1.67**	**101**	P	**Pn**	**05 11 08.8**	**+0.8**
TWSI	**Taliwang, Sumb**	**2.32**	**300**	P	**Pn**	**05 11 17.8**	**+0.8**
ASAR	**Alice Springs**	**19.80**	**136**	P	**P**	**05 15 08.7**	**-0.2**
	baz=310,slow=10,SNR=5.7						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**65.22**	**333**	P	**P**	**05 21 19.1**	**-0.2**
	0.2nm,0.5s,baz=152,slow=6.2,SNR=5.0						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**69.86**	**339**	P	**P**	**05 21 47.7**	**-0.7**
	0.5nm,0.5s,baz=134,slow=6.2,SNR=1.7						
	0.5nm,0.5s						

---

*VIE **01** 05:39:37.8±0.1, 47°.41N×12°.12E, h15km, mb2.1/17, ml3.0/21, Error ellipse: s-maj=1.3km s-min=0.6km az=173.0, felt 3-4 ems98 at Kelchsau / Tyrol*
*PRU **01** 05:39:38.5, 47°.46N×12°.13E, h1km, Woergl*
*LDG **01** 05:39:38.6±0.3, 47°.47N×12°.04E, h2km, Ml2.9/31, Error ellipse: s-maj=6.0km s-min=3.3km az=60.0*
*BGR **01** 05:39:38.4±0.3, 47°.40N×12°.13E, h10km, ML2.6/10, Error ellipse: s-maj=4.4km s-min=2.2km az=0.0*
*BUG **01** 05:39:38.5, 47°.48N×12°.22E, h6km±5km, MD3.6/12, ML3.5/13*
*STR **01** 05:39:40.0±0.8, 48°N±5°×1°2E±°, h10km, MLv3.5/35, Error ellipse: s-maj=0.0km s-min=0.0km az=69.8, preliminary*
*ROM **01** 05:39:39.3±0.4, 47°.39N±0°.02×12°.10E±0°.02, h10km±4km, ML2.9/64, Error ellipse: s-maj=2.3km s-min=1.6km az=18.0*
ISC 01 05:39:38.2±0.9, 47°.40N±0°.02×12°.08E±0°.01, h17km±6km, n183, σ2°30/261, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTTA	**Wattenberg**	**0.33**	**246**	*e*Pg	**Pg**	**05 39 45.4**	**+0.2**
	31nm,0.1s,SNR=138						
WTTA				*e*Sg	**Sg**	**05 39 50.6**	**+0.6**
	108nm,0.2s						
WTTA	**Wattenberg**	**0.33**	**246**	*e*Pg	**Pg**	**05 39 45.4**	**+0.2**
WTTA				*e*Sg	**Sg**	**05 39 50.5**	**+0.6**
WTTA	**Wattenberg**	**0.33**	**246**	P	**Pg**	**05 39 45.4**	**+0.2**
WTTA				S	**Sg**	**05 39 50.4**	**+0.4**
WTTA				AML	AML		
	comp=E,1330μm,0.4s						
WTTA				AML	AML		
	comp=N,1555μm,0.3s						
WATA	**Walderalm**	**0.34**	**260**	*e*Pg	**Pg**	**05 39 45.4**	**0.0**
	comp=N,6.3nm,0.1s,SNR=87						
WATA				*i* Sg	**Sg**	**05 39 51.1**	**+0.7**
	comp=N,199nm,0.3s						
LESA	**Schwarzleotal**	**0.41**	**86**	*e*Pg	**Pg**	**05 39 45.7**	**-0.9**
	comp=N,4.6nm,0.2s,SNR=78						
LESA				*i* Sg	**Sg**	**05 39 50.9**	**-1.4**
	comp=N,55nm,0.3s						
RJOB	**Jochberg**	**0.59**	**55**	*e*Pg	**Pb**	**05 39 48.6**	**-1.7**
SQTA	**Sankt Quirin**	**0.61**	**254**	*e*Pg	**Pb**	**05 39 50.6**	**0.0**
	comp=N,11nm,0.1s,SNR=54						
SQTA				*e*Sg	**Sb**	**05 39 59.9**	**+0.8**
	comp=N,90nm,0.2s						
ROSI	**Rosskopf**	**0.65**	**224**	P	**Pb**	**05 39 51.4**	**+0.1**
ROSI				S	**Sb**	**05 40 00.6**	**+0.5**
ROSI				AML	AML		
	comp=E,1460μm,0.4s						
ROSI				AML	AML		
	comp=N,1210μm,0.3s						
MOTA	**Moosalm**	**0.66**	**266**	*e*Pg	**Pb**	**05 39 50.8**	**-0.7**
	comp=N,1.5nm,0.1s						
MOTA				*e*Sg	**Sb**	**05 40 01.5**	**+1.0**
	comp=N,30nm,0.2s						
ABTA	**Abfaltersbach**	**0.71**	**155**	*e*Pg	**Pb**	**05 39 52.2**	**-0.1**
	comp=N,17nm,0.2s,SNR=71						
ABTA				*i* Sg	**Sb**	**05 40 02.0**	**+0.1**
	comp=N,105nm,0.2s						
BRES	**Bressanone**	**0.74**	**199**	P	**Pb**	**05 39 53.2**	**+0.4**
BRES				S	**Sb**	**05 40 03.5**	**+0.9**
BRES				AML	AML		
	comp=E,703μm,1.3s						
BRES				AML	AML		
	comp=E,702μm,1.3s						
BRES				AML	AML		
	comp=N,1335μm,0.3s						
BRES				AML	AML		
	comp=N,1335μm,1.7s						
BRES				AML	AML		
	comp=E,702μm,0.7s						
RETA	**Reutte**	**0.90**	**276**	*e*Pg	**Pb**	**05 39 55.8**	**+0.4**
	comp=E,0.3nm,0.1s,SNR=20						
RETA				*e*Sg	**Sb**	**05 40 08.7**	**+1.6**
	comp=E,38nm,0.1s						
KBA	**Koelnbreinsper**	**0.92**	**110**	*e*Pg	**Pb**	**05 39 55.1**	**-0.9**
	comp=E,12nm,0.3s,SNR=18						
KBA				*e*Sg	**Sb**	**05 40 07.7**	**-0.2**
	comp=E,14nm,0.5s						
KBA	**Koelnbreinsper**	**0.92**	**110**	*e*Pg	**Pb**	**05 39 55.0**	**-0.9**
KBA				*e*Sg	**Sb**	**05 40 07.5**	**-0.4**
FUR	**Furstenfeldbru**	**0.94**	**325**	*e*Pg	**Pb**	**05 39 56.6**	**+0.5**
FUR				*e*Sg	**Sb**	**05 40 09.4**	**+1.1**
FETA	**Feichten**	**0.99**	**248**	*e*Pg	**Pb**	**05 39 57.2**	**+0.2**
	comp=E,7.6nm,0.4s,SNR=24						
FETA				*i* Sg	**Sb**	**05 40 11.1**	**+1.2**
	comp=E,12nm,0.2s						
ZOU	**Zoufplan**	**1.04**	**143**	P	**Pb**	**05 39 58.1**	**+0.1**
KOSI	**Kohlern**	**1.05**	**207**	P	**Pb**	**05 39 58.8**	**+0.8**
KOSI				S	**Sb**	**05 40 13.1**	**+1.5**
KOSI				AML	AML		
	comp=E,130μm,0.9s						
KOSI				AML	AML		
	comp=N,135μm,1.5s						
KOSI				AML	AML		
	comp=N,538μm,1.1s						
KOSI				AML	AML		
	comp=N,538μm,0.9s						
KOSI				AML	AML		
	comp=E,378μm,1.2s						
APPI	**Appiano**	**1.09**	**213**	P	**Pb**	**05 39 59.5**	**+0.8**
APPI				S	**Sn**	**05 40 14.4**	**+0.9**
APPI				AML	AML		
	comp=E,124μm,1.0s						
APPI				AML	AML		
	comp=N,140μm,0.2s						
APPI				AML	AML		
	comp=E,416μm,0.2s						
APPI				AML	AML		
	comp=N,682μm,1.2s						
APPI				AML	AML		
	comp=E,416μm,0.2s						
APPI				AML	AML		
	comp=E,416μm,1.8s						
CLUD	**Cludinico**	**1.09**	**149**	P	**Pb**	**05 39 58.8**	**+0.2**
BIOA	**Bad Ischl, Aus**	**1.10**	**74**	*e*Pg	**Pb**	**05 39 58.8**	**-0.1**
	comp=E,4.4nm,0.3s,SNR=8.6						
BIOA				*e*Sg	**Sb**	**05 40 13.7**	**+0.8**
	comp=E,21nm,0.4s						
CIMO	**Cimolais**	**1.12**	**167**	P	**Pb**	**05 39 59.7**	**+0.6**
CIMO				AML	AML		
	comp=E,174μm,0.4s						
CIMO				AML	AML		
	comp=N,108μm,1.1s						
CIMO				AML	AML		
	comp=E,170μm,0.4s						
CIMO				AML	AML		
	comp=N,112μm,1.1s						
PLRO	**Paularo**	**1.12**	**139**	P	**Pb**	**05 39 59.3**	**+0.1**
FUSE	**Fusea**	**1.17**	**147**	P	**Pn**	**05 40 00.3**	**+0.4**
ZIAN	**Ziano**	**1.17**	**198**	P	**Pn**	**05 40 01.2**	**+1.2**
ZIAN				S	**Sn**	**05 40 16.6**	**+1.0**
ZIAN				AML	AML		
	comp=E,306μm,0.5s						
ZIAN				AML	AML		
	comp=E,400μm,1.1s						
ZIAN				AML	AML		
	comp=E,400μm,1.1s						
ZIAN				AML	AML		
	comp=N,306μm,0.5s						
A105A	**Obersdorf, Sch**	**1.21**	**271**	Pg	**Pn**	**05 40 02.0**	**+1.5**
A105A				Sg	**Sg**	**05 40 19.9**	**+2.5**
OBER	**Oberstdorf**	**1.21**	**271**	*e*Pg	**Pn**	**05 40 01.9**	**+1.4**
OZOL	**Ozolo**	**1.22**	**216**	P	**Pn**	**05 40 02.2**	**+1.6**
OZOL				S	**Sn**	**05 40 18.3**	**+1.6**
OZOL				AML	AML		
	comp=E,340μm,0.4s						
OZOL				AML	AML		
	comp=N,260μm,0.3s						
OZOL				AML	AML		
	comp=E,983μm,0.3s						
OZOL				AML	AML		
	comp=N,782μm,1.4s						
OZOL				AML	AML		
	comp=N,782μm,0.6s						
ACOM	**Acomizza, Ital**	**1.30**	**130**	P	**Pn**	**05 40 03.2**	**+1.3**
MOSI	**Grossmontoni**	**1.30**	**234**	P	**Pn**	**05 40 03.8**	**+1.9**
MOSI				AML	AML		
	comp=N,574μm,0.9s						
MYKA	**Terra Mystica**	**1.32**	**125**	*e*Pg	**Pn**	**05 40 02.6**	**+0.6**
	comp=N,5.4nm,0.3s						
MYKA				*i* Sg	**Sn**	**05 40 19.4**	**+0.2**
	comp=N,4.1nm,0.2s						
PTCC	**Patocco-Chiusa**	**1.32**	**138**	P	**Pn**	**05 40 03.1**	**+1.1**
CARE	**Lago del Cares**	**1.36**	**225**	P	**Pn**	**05 40 04.0**	**+1.3**
CARE				S	**Sg**	**05 40 23.0**	**+0.9**
CARE				AML	AML		
	comp=E,458μm,1.4s						
CARE				AML	AML		
	comp=N,222μm,1.5s						
CARE				AML	AML		
	comp=E,459μm,1.4s						
CARE				AML	AML		
	comp=N,222μm,1.5s						
CARE				AML	AML		
	comp=E,459μm,0.6s						
CARE				AML	AML		
	comp=E,142μm,0.4s						
CARE				AML	AML		
	comp=N,222μm,0.5s						
UBR	**Ueberruh**	**1.36**	**283**	*e*Pg	**Pn**	**05 40 04.4**	**+1.8**
UBR				*e*Sg	**Sb**	**05 40 23.3**	**+2.8**
CTI	**Castel Tesino**	**1.38**	**192**	P	**Pb**	**05 40 05.3**	**+1.6**
CTI				AML	AML		
	comp=E,674μm,0.4s						
CTI				AML	AML		
	comp=E,674μm,0.4s						
VARN	**Col Varnada, M**	**1.40**	**179**	P	**Pb**	**05 40 05.3**	**+1.3**
VARN				AML	AML		
	comp=E,768μm,0.4s						
VARN				AML	AML		
	comp=N,416μm,0.3s						
VARN				AML	AML		
	comp=E,778μm,0.4s						
VARN				AML	AML		
	comp=E,769μm,0.4s						
VARN				AML	AML		
	comp=N,408μm,0.3s						
VARN				AML	AML		
	comp=N,416μm,0.3s						
VARN				AML	AML		
	comp=E,769μm,1.6s						
A107C	**Memmingen - Ei**	**1.41**	**297**	Pg	**Pb**	**05 40 05.7**	**+1.6**
A107C				Sg	**Sb**	**05 40 24.6**	**+2.7**
PANI	**Panarotta**	**1.44**	**201**	P	**Pb**	**05 40 06.1**	**+1.4**
PANI				AML	AML		
	comp=E,307μm,0.6s						
FUORN	**Ofenpass-Fuorn**	**1.46**	**239**	P	**Pn**	**05 40 06.3**	**+2.2**
FUORN				AML	AML		
	comp=N,126μm,0.6s						
BRMO	**Bormio**	**1.49**	**232**	P	**Pb**	**05 40 06.6**	**+1.1**
BRMO				AML	AML		
	comp=N,223μm,0.2s						
DAVA	**Damuels**	**1.50**	**267**	*e*Pg	**Pb**	**05 40 07.1**	**+1.4**
	comp=N,9.4nm,0.2s,SNR=25						
DAVA				*e*Sg	**Sg**	**05 40 27.9**	**+1.4**
	comp=N,96nm,0.3s						
DAVA	**Damuels**	**1.50**	**267**	*e*Pg	**Pb**	**05 40 07.1**	**+1.4**
DAVA				*e*Sg	**Sg**	**05 40 27.7**	**+1.2**
GAGG	**Gaggia**	**1.52**	**211**	P	**Pn**	**05 40 06.9**	**+2.1**
GAGG				AML	AML		
	comp=E,298μm,0.4s						
GAGG				AML	AML		
	comp=E,299μm,0.4s						
GAGG				AML	AML		
	comp=N,347μm,0.6s						
CGRP	**Cima Grappa**	**1.53**	**187**	P	**Pb**	**05 40 08.3**	**+2.1**
CGRP				AML	AML		
	comp=N,462μm,0.8s						
CGRP				AML	AML		
	comp=N,454μm,0.8s						
CGRP				AML	AML		
	comp=N,462μm,1.2s						
CGRP				AML	AML		
	comp=E,455μm,0.6s						
CGRP				AML	AML		
	comp=N,454μm,1.2s						
MOA	**Molln**	**1.55**	**72**	*i* Pg	**Pn**	**05 40 06.6**	**+1.5**
	comp=N,4.3nm,0.2s,SNR=24						
MOA				*e*Sg	**Sb**	**05 40 27.7**	**+1.8**
	comp=N,5.1nm,0.2s						
MOA	**Molln**	**1.55**	**72**	*e*Pg	**Pn**	**05 40 06.5**	**+1.4**
DAVOX	**Davos/Dischmat**	**1.62**	**248**	P	**Pn**	**05 40 08.6**	**+2.4**
DAVOX				AML	AML		
	comp=E,136μm,1.5s						
DAVOX				AML	AML		
	comp=E,136μm,1.5s						
DAVOX				AML	AML		
	comp=N,242μm,1.6s						
DOSS	**Dosso del Somm**	**1.64**	**202**	P	**Pb**	**05 40 09.1**	**+1.1**
DOSS				AML	AML		
	comp=E,1400μm,0.3s						
DOSS				AML	AML		
	comp=N,1405μm,0.3s						
DOSS				AML	AML		
	comp=E,1400μm,1.7s						
LUSI	**Trento, Gardas**	**1.64**	**209**	P	**Pb**	**05 40 08.9**	**+0.9**
NORI	**Noerdlinger Ri**	**1.64**	**324**	*e*Pn	**Pn**	**05 40 06.7**	**+0.3**
BERNI	**Berninapass**	**1.72**	**236**	P	**Pb**	**05 40 10.8**	**+1.3**
BERNI				AML	AML		
	comp=N,70μm,0.7s						
MABI	**Malga Bissina**	**1.72**	**219**	P	**Pb**	**05 40 10.2**	**+0.8**
MABI				S	**Sb**	**05 40 33.0**	**+2.2**
MABI				AML	AML		
	comp=N,102μm,0.4s						
MABI				AML	AML		
	comp=E,71μm,0.5s						
MABI				AML	AML		
	comp=N,103μm,0.4s						
RONC	**Roncone**	**1.73**	**216**	P	**Pb**	**05 40 10.4**	**+0.7**
RONC				AML	AML		
	comp=E,234μm,0.6s						
RONC				AML	AML		
	comp=N,451μm,1.2s						
RONC				AML	AML		
	comp=N,452μm,1.2s						
A103D	**Ravensburg, Wa**	**1.76**	**284**	Pg	**Pb**	**05 40 11.7**	**+1.7**
A103D				Sg	**Sb**	**05 40 35.0**	**+3.2**
A108A	**Ulm, Ringingen**	**1.79**	**303**	Pg	**Pb**	**05 40 12.4**	**+1.9**
A108A				Sg	**Sb**	**05 40 35.1**	**+2.5**
A104C	**Biberach, Ahle**	**1.79**	**295**	Pg	**Pn**	**05 40 11.0**	**+2.6**
A104C				Sg	**Sb**	**05 40 35.0**	**+2.3**
GEC2	**GERESS Array S**	**1.81**	**36**	*e*Pn	**Pn**	**05 40 08.8**	**0.0**
GEC2				*e*Sn	**Sn**	**05 40 31.2**	**-0.3**
WET	**Wettzell**	**1.83**	**17**	*e*Pn	**Pn**	**05 40 08.7**	**-0.2**
MBAL	**Monte Baldo -**	**1.90**	**207**	P	**Pb**	**05 40 13.3**	**+0.9**
MBAL				AML	AML		
	comp=E,338μm,0.3s						
MBAL				AML	AML		
	comp=N,328μm,0.3s						
MBAL				AML	AML		
	comp=E,254μm,1.6s						
MAGA	**Magasa**	**1.90**	**212**	P	**Pb**	**05 40 13.4**	**+0.8**
MAGA				AML	AML		
	comp=N,455μm,0.3s						
MAGA				AML	AML		
	comp=E,890μm,0.4s						
OBKA	**Obir**	**1.91**	**117**	*i* Pg	**Pb**	**05 40 13.1**	**+0.4**
	comp=E,4.5nm,0.3s,SNR=8.3						
OBKA				*e*Sg	**Sb**	**05 40 39.2**	**+2.8**
	comp=E,24nm,0.5s						
OBKA	**Obir**	**1.91**	**117**	*e*Pg	**Pb**	**05 40 13.2**	**+0.4**
KHC	**Kasperske Hory**	**2.00**	**30**	*e*PN	**Pn**	**05 40 11.5**	**+0.1**
KHC				*e*PG	**Pb**	**05 40 14.9**	**+0.6**
KHC				*e*SN	**Sn**	**05 40 36.1**	**0.0**
KHC				*e*SG	**Sb**	**05 40 40.8**	**+1.8**
	comp=E,104nm,0.6s						
A109A	**Bad Urach, See**	**2.05**	**302**	Pn	**Pn**	**05 40 14.0**	**+2.0**
A109A				Sg	**Sb**	**05 40 42.9**	**+2.7**
A102A	**Sigmaringen, J**	**2.08**	**292**	Pn	**Pn**	**05 40 14.5**	**+2.2**
A102A				Sg	**Sb**	**05 40 44.2**	**+3.1**
A106B	**Goeppingen, Ma**	**2.08**	**312**	Pn	**Pn**	**05 40 12.8**	**+0.4**
A106B				Sg	**Sb**	**05 40 44.3**	**+3.2**
TUE	**Stuetta**	**2.08**	**245**	P	**Pb**	**05 40 15.9**	**+0.2**
TUE				AML	AML		
	comp=N,54μm,1.0s						
TUE				AML	AML		
	comp=E,68μm,0.3s						
GUT	**Gutenstein**	**2.11**	**290**	P	**Pn**	**05 40 14.6**	**+1.8**
GUT	**Gutenstein**	**2.11**	**290**	S	**Sn**	**05 40 35.6**	**-3.0**
SOKA	**Soboth**	**2.15**	**108**	*i* Pg	**Pn**	**05 40 15.4**	**+2.0**
	comp=E,0.6nm,0.2s						
SOKA				*e*Sg	**Sg**	**05 40 49.4**	**+2.2**
	comp=E,4.3nm,0.3s						
ARSA	**Arzberg**	**2.35**	**92**	*e*Pn	**Pn**	**05 40 18.3**	**+2.2**
	comp=E,2.2nm,0.3s						
ARSA				*e*Sn	**Sn**	**05 40 47.9**	**+3.3**
	comp=E,2.9nm,0.3s						
A100A	**Rottenburg, We**	**2.37**	**298**	Pn	**Pn**	**05 40 18.0**	**+1.7**
A100A				Sg	**Sb**	**05 40 53.4**	**+4.0**
GRF	**Grafenberg Arr**	**2.37**	**346**	*e*Pg	**Pb**	**05 40 22.1**	**+1.7**
ROTZ	**Rotzenmuhle**	**2.37**	**2**	*e*Pn	**Pn**	**05 40 15.6**	**-0.8**
ZUR	**Degenried**	**2.37**	**271**	P	**Pn**	**05 40 18.6**	**+2.1**
ZUR	**Degenried**	**2.37**	**271**	S	**Sn**	**05 40 42.7**	**-2.5**
SLE	**Schleitheim**	**2.45**	**280**	P	**Pn**	**05 40 19.3**	**+1.8**
SLE	**Schleitheim**	**2.45**	**280**	S	**Sn**	**05 40 46.0**	**-1.2**
ZVC	**Zvikov**	**2.48**	**34**	*e*PN	**Pn**	**05 40 18.1**	**+0.2**
A101B	**Rottweil, Deis**	**2.48**	**288**	Pn	**Pn**	**05 40 19.9**	**+1.9**
CONA	**Conrad Observa**	**2.61**	**77**	*e*Pg	**Pb**	**05 40 24.4**	**-0.3**
CONA				*e*Sn	**Sn**	**05 40 53.7**	**+2.4**
	comp=E,1.8nm,0.2s						
BFO	**Black Forest**	**2.69**	**292**	Pn	**Pn**	**05 40 22.6**	**+1.8**
SULZ	**Cheisacher**	**2.69**	**274**	P	**Pn**	**05 40 22.8**	**+1.9**
SULZ	**Cheisacher**	**2.69**	**274**	S	**Sn**	**05 40 53.0**	**0.0**
FELD	**Feldberg im Sc**	**2.79**	**281**	P	**Pn**	**05 40 24.0**	**+1.7**
OPP	**Oppenau**	**2.84**	**294**	P	**Pn**	**05 40 24.3**	**+1.5**
OPP	**Oppenau**	**2.84**	**294**	S	**Sn**	**05 40 55.2**	**-1.4**
NKC	**Novy Kostel**	**2.85**	**5**	*e*SG	**Sb**	**05 41 07.1**	**+3.8**
	comp=E,46nm,0.3s						
KIZ	**Kirchzarten**	**2.86**	**283**	P	**Pn**	**05 40 24.8**	**+1.6**
KIZ	**Kirchzarten**	**2.86**	**283**	S	**Sn**	**05 40 56.8**	**-0.5**
RONA	**Rosalia, Austr**	**2.88**	**82**	*e*Sg	**Sb**	**05 41 08.2**	**+4.1**
	comp=E,5.4nm,0.3s						
BABA	**Baden-Baden-Ne**	**2.92**	**298**	P	**Pn**	**05 40 25.2**	**+1.2**
BABA	**Baden-Baden-Ne**	**2.92**	**298**	S	**Sn**	**05 40 56.5**	**-2.1**
ENDD	**Endenburg**	**2.96**	**278**	S	**Sn**	**05 40 58.8**	**-0.7**
TREC	**Trest**	**2.96**	**49**	*e*PN	**Pn**	**05 40 24.0**	**-0.6**
TREC				*e*PG	**Pb**	**05 40 30.1**	**-0.5**
BALST	**Balsthal**	**2.98**	**270**	P	**Pn**	**05 40 26.6**	**+1.9**
PRU	**Pruhonice**	**3.07**	**31**	*e*SG	**Sb**	**05 41 13.2**	**+3.8**
	comp=E,22nm,0.3s						
NEEW	**Neewiller pres**	**3.08**	**302**	P	**Pn**	**05 40 28.3**	**+2.2**
PRA	**Prague**	**3.10**	**29**	*e*SG	**Sb**	**05 41 15.5**	**+5.1**
	comp=E,20nm,0.4s						
ZELS	**Zelsheim**	**3.13**	**288**	P	**Pn**	**05 40 28.6**	**+1.8**
EMBD	**Embd, Matterta**	**3.14**	**249**	P	**Pn**	**05 40 30.1**	**+3.0**
EMBD	**Embd, Matterta**	**3.14**	**249**	S	**Sn**	**05 41 06.8**	**+2.5**
SZBH	**soultz borehol**	**3.21**	**300**	P	**Pn**	**05 40 29.7**	**+1.8**
ILLF	**Illfurth**	**3.28**	**277**	P	**Pn**	**05 40 30.7**	**+1.9**
BOURR	**Bourrignon**	**3.29**	**272**	P	**Pn**	**05 40 30.8**	**+1.7**
BOURR	**Bourrignon**	**3.29**	**272**	S	**Sn**	**05 41 07.5**	**-0.3**
WALT	**Westhalten**	**3.29**	**282**	P	**Pn**	**05 40 31.0**	**+2.0**
LEMB	**Lembach**	**3.32**	**301**	P	**Pn**	**05 40 30.7**	**+1.4**
KRUC	**Moravsky**	**3.33**	**58**	*e*SG	**Sb**	**05 41 22.0**	**+4.8**
WLS	**Welschbruch**	**3.33**	**289**	P	**Pn**	**05 40 31.2**	**+1.5**
WLS				S	**Sn**	**05 41 08.0**	**-0.9**
CDF	**Champ du Feu**	**3.38**	**289**	*e*Pn	**Pn**	**05 40 31.8**	**+1.4**
CDF				*e*Sn	**Sn**	**05 41 08.3**	**-1.9**
CDF				*e*Sg	**Sg**	**05 41 25.1**	**-1.8**
	comp=E,6.7nm,0.2s						
ECH	**Echery**	**3.41**	**286**	P	**Pn**	**05 40 31.9**	**+1.2**
CIEL	**Dossenheim-sur**	**3.47**	**296**	P	**Pn**	**05 40 33.0**	**+1.5**
DIX	**Grande Dixence**	**3.47**	**249**	P	**Pn**	**05 40 35.0**	**+3.3**
DIX	**Grande Dixence**	**3.47**	**249**	S	**Sn**	**05 41 14.3**	**+1.7**
PVCC	**Panska Ves**	**3.54**	**27**	*e*SG	**Sb**	**05 41 28.6**	**+5.6**
	comp=E,32nm,0.4s						
TORNY	**Torny/Romont**	**3.55**	**262**	P	**Pn**	**05 40 34.6**	**+2.0**
TORNY	**Torny/

BRG			Amp			05 41 38.9
	comp=Z,11nm,0.5s					
CHMF	**Charmoille**	**3.69 270**	P		**Pn**	**05 40 36.1 +1.5**
CHMF			S		**Sn**	**05 41 16.4 -1.4**
TNS	**Taunus Mts**	**3.71 321**	Pn		**Pn**	**05 40 36.1 +1.3**
PCP	**Piancastagn**	**3.77 222**	P		**Pn**	**05 40 39.4 +3.7**
XAFF	**Xaffevillers**	**3.81 287**	P		**Pn**	**05 40 37.9 +1.9**
XAFF			S		**Sn**	**05 41 19.5 -1.0**
BRANT	**Les Verrieres**	**3.85 265**	P		**Pn**	**05 40 38.6 +1.8**
BRANT	**Les Verrieres**	**3.85 265**	S		**Sn**	**05 41 20.8 -0.8**
ABH	**Alteburg**	**3.90 311**	P		**Pn**	**05 40 38.8 +1.4**
HAU	**Haudompre**	**3.92 281**	*e*Pn		**Pn**	**05 40 39.4 +1.8**
HAU	**Haudompre**	**3.92 281**	*e*Pg		**Pb**	**05 40 49.9 +3.1**
HAU			*e*Sn		**Sn**	**05 41 21.8 -1.4**
HAU			*e*Sg		**Sg**	**05 41 41.3 -2.6**
	comp=Z,22nm,0.4s					
CLL	**Collm**	**3.96 8**	*e*Pn		**Pn**	**05 40 38.0 -0.2**
CLL			*i* Sg		**Sg**	**05 41 44.0 -1.3**
	comp=Z,26nm,0.6s					
RSP	**Reno Superiore**	**4.02 238**	P		**Pn**	**05 40 42.0 +2.8**
GIMEL	**St. Georges /**	**4.07 260**	P		**Pn**	**05 40 41.6 +1.8**
DPC	**Dobruska-Polom**	**4.07 42**	*e*SG		**Sb**	**05 41 44.3 +5.8**
	comp=Z,12nm,0.4s					
KRLC	**Kraliky**	**4.11 48**	*e*SG		**Sg**	**05 41 47.5 -2.6**
	comp=Z,19nm,0.5s					
LPG	**La Plagne**	**4.14 245**	*e*P		**Pn**	**05 40 45.0 +4.0**
LPG			*e*Sn		**Sn**	**05 41 25.6 -3.5**
	comp=Z,2.6nm,0.3s					
LPL	**La Plagne**	**4.14 245**	*e*P		Pn	05 40 47.5 +6.6
LPL			*e*Sn		**Sn**	**05 41 26.9 -2.2**
	comp=Z,0.3nm,0.2s					
ETNF	**Estrennes**	**4.16 284**	P		**Pn**	**05 40 42.8 +1.9**
CABF	**La Chapelle**	**4.17 261**	*e*P		**Pn**	**05 40 42.8 +1.6**
CABF			*e*Sn		**Sn**	**05 41 26.4 -3.2**
CABF			*e*Sg		**Sg**	**05 41 48.8 -3.3**
	comp=Z,5.1nm,0.4s					
RIVEL	**MONT RIVEL**	**4.25 264**	P		**Pn**	**05 40 43.8 +1.6**
MORC	**Moravsky Berou**	**4.34 55**	*e*SG		**Sg**	**05 41 53.8 -3.7**
MANO	**Manonville**	**4.36 291**	P		**Pn**	**05 40 46.2 +2.4**
PAGF	**Fort de Pagny**	**4.42 288**	*e*Pn		**Pn**	**05 40 46.2 +1.7**
	baz=107					
PAGF	**Fort de Pagny**	**4.42 288**	*e*Pg		Pb	05 41 00.9 +5.5
	baz=108					
PAGF			*e*Sn		**Sn**	**05 41 33.9 -1.7**
PAGF			*e*Sg		**Sg**	**05 41 57.5 -2.5**
	comp=Z,2.6nm,0.2s					
OGMY	**Moye**	**4.52 253**	P		**Pn**	**05 40 47.3 +1.4**
WLF	**Walferdange**	**4.54 302**	P		**Pn**	**05 40 48.5 +2.3**
MBDF	**Montbardon**	**4.55 236**	*e*Pn		**Pn**	**05 40 49.3 +2.8**
MBDF			*e*Sn		**Sn**	**05 41 36.4 -2.8**
	comp=Z,1.8nm,0.3s					
OG35	**Corcelles**	**4.67 256**	P		**Pn**	**05 40 49.1 +1.1**
TURF	**col de Turini**	**4.74 225**	P		**Pn**	**05 40 52.5 +3.4**
OGSM	**Saint Maurice**	**4.75 250**	P		**Pn**	**05 40 51.1 +1.9**
SFTF	**Sexfontaines**	**4.81 282**	*e*Pn		**Pn**	**05 40 51.6 +1.7**
	baz=102					
SFTF			*e*Sn		**Sn**	**05 41 44.2 -1.0**
SFTF			*e*Sg		**Sg**	**05 42 08.8 -3.8**
	comp=Z,12nm,0.2s					
SAVF	**Savonnieres en**	**4.82 287**	*e*Pn		**Pn**	**05 40 52.6 +2.6**
SAVF	**Savonnieres en**	**4.82 287**	*e*P		**Pn**	**05 40 53.1 +3.1**
SAVF			*e*Sg		**Sg**	**05 42 09.3 -3.6**
	comp=Z,3.6nm,0.2s					
SAVF			*e*Sg		Sb	05 42 09.5 +10
	comp=Z,2.5nm,0.2s					
MEZF	**Maizieres J'vi**	**4.85 286**	*e*Pn		**Pn**	**05 40 51.7 +1.3**
	baz=101					
MEZF	**Maizieres J'vi**	**4.85 286**	*e*P		**Pn**	**05 40 54.3 +3.9**
MEZF			*e*Sg		**Sb**	**05 42 08.8 +8.1**
	comp=Z,5.5nm,0.3s,baz=99					
ORIF	**Oris-en-Rattie**	**4.97 242**	*e*P		**Pn**	**05 40 55.3 +3.2**
ORIF			*e*Sn		**Sn**	**05 41 46.6 -2.6**
	comp=Z,2.6nm,0.2s					
ORIF	**Oris-en-Rattie**	**4.97 242**	P		**Pn**	**05 40 55.3 +3.2**
PGF	**Pioggiola**	**5.32 205**	*e*Pn		**Pn**	**05 40 58.1 +1.2**
LOR	**Lormes**	**5.59 272**	*e*P		Pn	05 41 05.3 +4.7
	baz=84					
LOR			*e*Sn		**Sn**	**05 42 00.6 -3.8**
	comp=Z,1.2nm,0.2s					
LMR	**La Mourre**	**5.64 226**	*e*P		**Pn**	**05 41 05.0 +3.6**
LMR	**La Mourre**	**5.64 226**	*e*Pg		**Pg**	**05 41 23.6 -2.7**
LMR			*e*Sn		**Sn**	**05 42 03.2 -2.6**
	comp=Z,1.8nm,0.3s					
SMF	**Signal de Mont**	**5.68 265**	*e*Pn		**Pn**	**05 41 02.8 +0.9**
SMF	**Signal de Mont**	**5.68 265**	*e*P		**Pn**	**05 41 05.0 +3.1**
SMF			*e*Sn		**Sn**	**05 42 02.9 -3.8**
	comp=Z,3.4nm,0.2s					
SMRF	**Simiane la Rot**	**5.69 235**	*e*Sn		**Sn**	**05 42 04.1 -3.0**
	comp=Z,0.2nm,0.2s					
VIVF	**Saint-Julien-l**	**5.74 246**	*e*Pn		**Pn**	**05 41 03.9 +1.2**
VIVF			*e*Sn		**Sn**	**05 42 03.9 -4.2**
	comp=Z,2.4nm,0.3s					
SSF	**Saint Saulge**	**5.85 270**	*e*Pn		**Pn**	**05 41 05.5 +1.4**
SSF	**Saint Saulge**	**5.85 270**	*e*Pg		**Pg**	**05 41 27.5 -2.6**
SSF			*e*Sn		**Sn**	**05 42 07.4 -3.3**
SSF			*e*Sg		**Sg**	**05 42 40.0 -5.7**
	comp=Z,2.7nm,0.3s					
AVF	**Avril sur Loir**	**5.99 267**	*e*Pn		**Pn**	**05 41 07.5 +1.5**
AVF			*e*Sn		**Sn**	**05 42 12.1 -2.1**
	comp=Z,0.7nm,0.2s					
BGF	**Bois d'Agland**	**6.37 266**	*e*Pn		**Pn**	**05 41 12.5 +1.2**
BGF			*e*Sn		**Sn**	**05 42 20.4 -3.3**
	comp=Z,4.9nm,0.2s					
HYF	**Humbligny**	**6.42 272**	*e*Pn		**Pn**	**05 41 10.7 -1.2**
HYF			*e*Sn		**Sn**	**05 42 21.4 -3.4**
LASF	**Ste Croix**	**6.64 243**	*e*P		**Pn**	**05 41 19.6 +4.6**
LASF			*e*Sn		**Sn**	**05 42 25.4 -4.9**
	comp=Z,2.6nm,0.2s					
TCF	**Toulx Ste Croi**	**6.86 264**	*e*Pn		**Pn**	**05 41 19.0 +1.0**
TCF	**Toulx Ste Croi**	**6.86 264**	*e*P		Pn	05 41 23.5 +5.5
TCF			*e*Sn		**Sn**	**05 42 31.3 -4.4**
	comp=Z,3.4nm,0.2s					
CAF	**Calviac**	**7.38 254**	*e*Pn		**Pn**	**05 41 26.7 +1.5**
CAF	**Calviac**	**7.38 254**	*e*P		Pn	05 41 30.5 +5.3
CAF	**Calviac**	**7.38 254**	*e*Pg		Pg	05 41 55.5 -3.8
CAF			*e*Sn		**Sn**	**05 42 43.9 -4.6**
	comp=Z,1.9nm,0.2s					
MFF	**Saint Martin d**	**8.39 269**	*e*Pn		**Pn**	**05 41 40.2 +1.2**
MFF			*e*Sn		**Sn**	**05 43 07.0 -6.4**
	comp=Z,0.5nm,0.2s					

IDC 01 05:50:20.2±1.9, 6°.02N×121°.55E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=247.7km s-min=26.2km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.70**	**154**	P	P	05 56 18.5	-0.8
	0.6nm,0.5s,baz=331,slow=11,SNR=5.2 0.6nm,0.5s						
ASAR	**Alice Springs**	**31.88**	**158**	P	P	05 56 48.1	+0.8
	0.3nm,0.3s,baz=345,slow=6.7,SNR=6.8 0.3nm,0.3s						
MKAR	**Makanchi Array**	**52.79**	**327**	P	P	05 59 37.1	-0.1
	0.2nm,0.4s,baz=121,slow=7.3,SNR=7.2 0.2nm,0.4s						

IDC 01 05:52:56.4±1.8, 5°.29S×146°.27E, h0km, mb3.4/2, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=69.1km s-min=28.5km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.19**	**168**	Pn	Pn	05 54 01.9	+0.3
	15nm,0.4s,baz=57,slow=9.9,SNR=5.0						
PMG				Sn	Sn	05 54 46.4	-4.9
	6.2nm,0.3s,baz=330,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**18.63**	**218**	P	P	05 57 15.7	-0.1
	0.3nm,0.3s,baz=37,slow=11,SNR=8.0 0.4nm,0.3s						
ASAR	**Alice Springs**	**21.82**	**212**	P	P	05 57 50.1	-0.3
	0.9nm,0.7s,baz=43,slow=8.0,SNR=13 0.9nm,0.7s						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	06 05 34.2	+0.1
	0.2nm,0.5s,baz=255,slow=4.9,SNR=5.3 0.2nm,0.5s						

*IDC **01** 05:55:08.5±1.6, 66°.69N×13°.17E, h0km, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=19.3km s-min=7.6km az=117.0*
*NAO **01** 05:55:09.5±1.0, 66°.78N×13°.09E, h17km±8km, ML2.9*
*BER **01** 05:55:10.1±3.8, 66°.78N×12°.94E, h1km±8km, ML2.4, MW2.7, ML2.9(NAO), Confirmed Earthquake*
*HEL **01** 05:55:10.8±0.2, 66°.75N×13°.11E, h20km±1km, ML3.0, ML2.4(BER), MW2.7(BER), Confirmed Earthquake*
*UPP **01** 05:55:11.2±1.1, 66°.65N×13°.60E, h0km, ML2.3*

ISC 01 05:55:10.7±0.9, 66°.70N±0°.02×13°.05E±0°.04, h29km±6km, n107, σ1§64/153, 2C-4D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.20**	**172**	Pg	**Pb**	**05 55 16.6**	**-0.3**
KONS				Lg	Lg	05 55 20.8	
KONS	**Konsvik**	**0.20**	**172**	↑*i*P	**Pb**	**05 55 16.6**	**-0.3**
KONS				*e*S	**Sb**	**05 55 20.7**	**-0.3**
KONS				IAML		05 55 20.9	
	comp=Z,2μm,0.2s						
KONS	**Konsvik**	**0.20**	**172**	↑*i*P	**Pb**	**05 55 16.6**	**-0.3**
KONS				*i* S	**Sb**	**05 55 20.7**	**-0.3**
KONS				IAML		05 55 20.9	
	comp=Z,2μm,0.2s						
STOK	**Stokkvaagen**	**0.37**	**182**	Pg	**Pb**	**05 55 18.9**	**-0.1**
STOK				Lg	Lg	05 55 24.9	
STOK	**Stokkvaagen**	**0.37**	**182**	↓*i*P	**Pb**	**05 55 18.9**	**-0.1**
STOK				*e*S	**Sb**	**05 55 24.8**	**+0.2**
STOK				IAML		05 55 25.4	
	comp=Z,306nm,0.4s						
STOK	**Stokkvaagen**	**0.37**	**182**	↓*i*P	**Pb**	**05 55 18.9**	**-0.1**
STOK				*i* S	**Sb**	**05 55 24.8**	**+0.2**
STOK				IAML		05 55 25.4	
	comp=Z,306nm,0.4s						
LEIR	**Leirfjorden**	**0.59**	**177**	*e*P	**Pb**	**05 55 22.4**	**-0.2**
LEIR				*e*S	**Sb**	**05 55 30.8**	**+0.1**
LEIR				IAML		05 55 31.4	
	comp=Z,432nm,0.4s						
MOR8	**Moi Rana**	**0.77**	**133**	Pg	**Pb**	**05 55 24.8**	**-0.8**
MOR8				Lg	Lg	05 55 35.1	
MOR8	**Moi Rana**	**0.77**	**133**	↓*i*P	**Pb**	**05 55 24.6**	**-0.9**
MOR8				*e*S	**Sb**	**05 55 35.5**	**-0.2**
MOR8				IAML		05 55 35.9	
	comp=Z,489nm,0.3s						
MOR8	**Moi Rana**	**0.77**	**133**	↓*i*P	**Pb**	**05 55 24.6**	**-0.9**
MOR8				*i* S	**Sb**	**05 55 35.5**	**-0.2**
MOR8				IAML		05 55 35.9	
	comp=Z,489nm,0.3s						
FAUS	**Fauske**	**1.11**	**51**	*e*P	**Pb**	**05 55 30.0**	**-1.3**
FAUS				*e*Sg	**Sn**	**05 55 46.1**	**+1.4**
FAUS				IAML		05 55 48.4	
	comp=Z,154nm,0.6s						
FAUS	**Fauske**	**1.11**	**51**	*e*P	**Pb**	**05 55 30.0**	**-1.3**
FAUS				*e*SN	**Sn**	**05 55 46.1**	**+1.4**
FAUS				IAML		05 55 48.4	
	comp=Z,154nm,0.6s						
LOF	**Lofoten**	**1.45**	**7**	Pg	**Pn**	**05 55 33.8**	**-1.1**
LOF				Lg	Lg	05 55 50.6	
LOF	**Lofoten**	**1.45**	**7**	*e*P	**Pn**	**05 55 33.3**	**-1.6**
LOF				*e*S	**Sn**	**05 55 50.6**	**-2.3**
LOF				IAML		05 55 58.7	
	comp=Z,54nm,0.5s						
LOF	**Lofoten**	**1.45**	**7**	*e*P	**Pn**	**05 55 33.3**	**-1.6**
LOF				*e*S	**Sn**	**05 55 50.6**	**-2.3**
LOF				IAML		05 55 58.7	
	comp=Z,54nm,0.5s						
STEI	**Steigen**	**1.50**	**34**	*e*Pg	**Pb**	**05 55 36.1**	**-1.8**
STEI				*e*Sg	**Sb**	**05 55 58.4**	**+2.0**
STEI				IAML		05 56 07.0	
	comp=Z,33nm,0.1s						
STEI	**Steigen**	**1.50**	**34**	*e*PN	**Pb**	**05 55 36.1**	**-1.8**
STEI				*e*SN	**Sb**	**05 55 58.4**	**+2.0**
STEI				IAML		05 56 07.0	
	comp=Z,33nm,0.1s						
NSS	**Namsos**	**2.23**	**192**	*e*P	**Pn**	**05 55 48.2**	**+2.6**
NSS				*e*S	**Sb**	**05 56 16.9**	**-0.3**
NSS				IAML		05 56 21.3	
	comp=Z,56nm,0.3s						
NSS	**Namsos**	**2.23**	**192**	*e*P	**Pn**	**05 55 48.2**	**+2.6**
NSS				*e*S	**Sb**	**05 56 16.9**	**-0.3**
NSS				IAML		05 56 21.3	
	comp=Z,56nm,0.3s						
RATU	**Laukkuluspa**	**2.78**	**63**	P	**Pn**	**05 55 55.1**	**+1.8**
RATU				S	**Sn**	**05 56 27.2**	**+1.5**
RATU	**Laukkuluspa**	**2.78**	**63**	*e*P	**Pn**	**05 55 55.1**	**+1.8**
RATU				*e*S	**Sn**	**05 56 27.2**	**+1.5**
DUNU	**Dundret**	**3.00**	**78**	P	**Pn**	**05 55 57.0**	**+0.9**
DUNU				S	**Sn**	**05 56 31.7**	**+0.6**
DUNU	**Dundret**	**3.00**	**78**	*e*P	**Pn**	**05 55 57.0**	**+0.9**
DUNU				*e*S	**Sn**	**05 56 31.7**	**+0.6**
KUA	**Kurravaara**	**3.09**	**63**	P	**Pn**	**05 55 58.5**	**+1.1**
KUA				S	**Sn**	**05 56 34.7**	**+1.3**
KUA	**Kurravaara**	**3.09**	**63**	*e*P	**Pn**	**05 55 58.5**	**+1.1**
KUA				*e*S	**Sn**	**05 56 34.7**	**+1.3**
LILU	**Lilltraesk**	**3.12**	**114**	P	**Pn**	**05 55 58.6**	**+0.8**
LILU	**Lilltraesk**	**3.12**	**114**	*e*P	**Pn**	**05 55 58.6**	**+0.8**
HARU	**Harads**	**3.23**	**96**	P	**Pn**	**05 55 59.9**	**+0.5**
HARU	**Harads**	**3.23**	**96**	*e*P	**Pn**	**05 55 59.9**	**+0.5**
NOD	**Norderasen**	**3.36**	**166**	P	**Pn**	**05 56 03.4**	**+2.2**
NOD	**Norderasen**	**3.36**	**166**	*e*P	**Pn**	**05 56 03.4**	**+2.2**
MASU	**Masugnsbyn**	**3.58**	**74**	P	**Pn**	**05 56 05.5**	**+1.3**
MASU	**Masugnsbyn**	**3.58**	**74**	*e*P	**Pn**	**05 56 05.5**	**+1.3**
ERTU	**Ertsjaerv**	**3.65**	**88**	P	**Pn**	**05 56 05.5**	**+0.4**
ERTU	**Ertsjaerv**	**3.65**	**88**	*e*P	**Pn**	**05 56 05.5**	**+0.4**
BREU	**Bredtraesk**	**3.65**	**138**	P	**Pn**	**05 56 06.1**	**+1.0**
BREU	**Bredtraesk**	**3.65**	**138**	*e*P	**Pn**	**05 56 06.1**	**+1.0**
TBLU	**Trondheim**	**3.66**	**200**	*e*S	**Sn**	**05 56 44.6**	**-2.7**
TBLU				IAML		05 57 02.9	
	comp=Z,10nm,0.2s						
TBLU	**Trondheim**	**3.66**	**200**	*e*S	**Sn**	**05 56 44.6**	**-2.7**
TBLU				IAML		05 57 02.9	
	comp=Z,10nm,0.2s						
TRO	**Tromso**	**3.67**	**34**	*e*P	**Pn**	**05 56 05.6**	**+0.2**
TRO				IAML		05 57 11.2	
	comp=Z,8.9nm,0.7s						
TRO	**Tromso**	**3.67**	**34**	*e*P	**Pn**	**05 56 05.6**	**+0.2**
TRO				IAML		05 57 11.2	
	comp=Z,8.9nm,0.7s						
SJUU	**Sjulsmark**	**3.68**	**105**	P	**Pn**	**05 56 06.2**	**+0.7**
SJUU	**Sjulsmark**	**3.68**	**105**	*e*P	**Pn**	**05 56 06.2**	**+0.7**
LANU	**Lannavaara**	**3.71**	**65**	*e*P	**Pn**	**05 56 07.9**	**+1.9**
LANU	**Lannavaara**	**3.71**	**65**	P	**Pn**	**05 56 07.2**	**+1.2**
LANU	**Lannavaara**	**3.71**	**65**	*e*P	**Pn**	**05 56 07.9**	**+1.9**
KIF	**Kilpisjarvi**	**3.74**	**48**	*e*P	**Pn**	**05 56 08.2**	**+1.9**
KIF				*e*S	**Sn**	**05 56 49.2**	**0.0**
KIF	**Kilpisjarvi**	**3.74**	**48**	*e*P	**Pn**	**05 56 08.2**	**+1.9**
SOLU	**Sollefteaa**	**3.90**	**151**	P	**Pn**	**05 56 10.3**	**+1.8**
SOLU	**Sollefteaa**	**3.90**	**151**	*e*P	**Pn**	**05 56 10.3**	**+1.8**
ODEU	**Stanfors**	**3.93**	**122**	P	**Pn**	**05 56 09.6**	**+0.7**
ODEU	**Stanfors**	**3.93**	**122**	*e*P	**Pn**	**05 56 09.6**	**+0.7**
JETT	**Jettan, Norway**	**3.98**	**40**	Pn	**Pn**	**05 56 10.6**	**+0.9**
JETT				Sn	**Sn**	**05 56 55.8**	**+0.6**
JETT	**Jettan, Norway**	**3.98**	**40**	Pn	**Pn**	**05 56 10.6**	**+0.9**
JETT				Sn	**Sn**	**05 56 55.8**	**+0.6**
JETT				IAML		05 57 22.9	
	comp=Z,20nm,0.6s						
JETT	**Jettan, Norway**	**3.98**	**40**	*e*P	**Pn**	**05 56 10.6**	**+0.9**
JETT				*e*S	**Sn**	**05 56 55.8**	**+0.6**
JETT				IAML		05 57 22.9	
	comp=Z,20nm,0.6s						
PAJU	**Pajala**	**3.99**	**81**	P	**Pn**	**05 56 10.6**	**+0.9**
PAJU	**Pajala**	**3.99**	**81**	*e*P	**Pn**	**05 56 10.6**	**+0.9**
BURU	**Burvik**	**4.05**	**118**	P	**Pn**	**05 56 11.3**	**+0.7**
BURU	**Burvik**	**4.05**	**118**	*e*P	**Pn**	**05 56 11.3**	**+0.7**
KALU	**Kalix**	**4.25**	**97**	P	**Pn**	**05 56 13.6**	**+0.3**
KALU	**Kalix**	**4.25**	**97**	*e*P	**Pn**	**05 56 13.6**	**+0.3**
KLF	**Kolari**	**4.32**	**78**	*e*P	**Pn**	**05 56 15.2**	**+0.9**
KLF				*e*S	**Sn**	**05 57 04.8**	**+1.1**
KLF	**Kolari**	**4.32**	**78**	*e*P	**Pn**	**05 56 15.2**	**+0.9**
KLF				*e*S	**Sn**	**05 57 04.8**	**+1.1**
HEF	**Hetta**	**4.42**	**62**	*e*P	**Pn**	**05 56 17.1**	**+1.4**
HEF				*e*S	**Sn**	**05 57 06.4**	**+0.4**
HEF	**Hetta**	**4.42**	**62**	*e*P	**Pn**	**05 56 17.1**	**+1.4**
HEF				*e*S	**Sn**	**05 57 06.4**	**+0.4**
KTK1	**Kautokeino**	**4.50**	**54**	*e*P	**Pn**	**05 56 17.6**	**+0.9**
KTK1				*e*S	**Sn**	**05 57 07.2**	**-0.8**
KTK1				IAML		05 57 12.7	
	comp=Z,5.1nm,0.3s						
KTK1	**Kautokeino**	**4.50**	**54**	*e*P	**Pn**	**05 56 17.6**	**+0.9**
KTK1				*e*S	**Sn**	**05 57 07.2**	**-0.8**
KTK1				IAML		05 57 12.7	
	comp=Z,5.1nm,0.3s						
TOF	**Tornio**	**4.58**	**93**	MSN		05 57 12.3	
	comp=Z,8.2nm,0.2s						
TOF	**Tornio**	**4.58**	**93**	MSN		05 57 12.3	
	comp=Z,8.2nm,0.2s						
MOL	**Molde**	**4.77**	**212**	*e*P	**Pn**	**05 56 20.5**	**0.0**
MOL				*e*S	**Sn**	**05 57 12.5**	**-2.2**
MOL				IAML		05 57 26.9	
	comp=Z,5.2nm,0.6s						
MOL	**Molde**	**4.77**	**212**	*e*P	**Pn**	**05 56 20.5**	**0.0**
MOL				*e*S	**Sn**	**05 57 12.5**	**-2.2**
MOL				IAML		05 57 26.9	
	comp=Z,5.2nm,0.6s						
OBF0	**Syolatti, Pyha**	**5.14**	**110**	MSN		05 57 23.8	
	comp=Z,8.9nm,0.2s						
OBF0	**Syolatti, Pyha**	**5.14**	**110**	MSN		05 57 23.8	
	comp=Z,8.9nm,0.2s						
AKN	**Aaknes**	**5.24**	**213**	Pn	**Pn**	**05 56 27.2**	**+0.3**
AKN	**Aaknes**	**5.24**	**213**	Pn	**Pn**	**05 56 27.2**	**+0.3**
AKN	**Aaknes**	**5.24**	**213**	*e*P	**Pn**	**05 56 27.2**	**+0.3**
OBF4	**Vikkela, Lumij**	**5.32**	**105**	MSN		05 57 29.7	
	comp=Z,4.0nm,0.2s						
OBF4	**Vikkela, Lumij**	**5.32**	**105**	MSN		05 57 29.7	
	comp=Z,4.0nm,0.2s						
ARA0	**ARCESS Array S**	**5.46**	**53**	Pn	**Pn**	**05 56 29.8**	**-0.2**
	baz=240,slow=14						
ARA0				Sn	**Sn**	**05 57 28.6**	**-3.0**
	baz=237,slow=22						
ARA0				Lg	Lg	05 57 56.6	
	baz=242,slow=28						
ARA0	**ARCESS Array S**	**5.46**	**53**	Pn	**Pn**	**05 56 29.8**	**-0.2**
	baz=240,slow=14						
ARA0				Sn	**Sn**	**05 57 28.6**	**-3.0**
	baz=237,slow=22						
ARA0				Sg	**Sb**	**05 57 56.6**	**+6.6**
	baz=242,slow=28						
ARA0	**ARCESS Array S**	**5.46**	**53**	*e*P	**Pn**	**05 56 29.8**	**-0.2**
ARA0				*e*S	**Sn**	**05 57 28.6**	**-3.0**
ARA0				*e*		05 57 56.6	
ARCES	**ARCESS Array B**	**5.46**	**53**	Pn	**Pn**	**05 56 29.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=239,slow=13,SNR=12						
ARCES				Sn	**Sn**	**05 57 28.7**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=235,slow=22,SNR=12						
ARCES				Lg	Lg	05 57 56.2	
	comp=Z,0.8nm,0.3s,baz=236,slow=28,SNR=7.5 comp=Z,3.3nm,0.9s						
VAF	**Ylistaro**	**5.50**	**127**	*e*P	**Pn**	**05 56 32.0**	**+1.5**
VAF				*e*S	**Sn**	**05 57 32.7**	**+0.1**
VAF	**Ylistaro**	**5.50**	**127**	*e*P	**Pn**	**05 56 32.0**	**+1.5**
VAF				*e*S	**Sn**	**05 57 32.7**	**+0.1**
NB2	**NORSAR Subarra**	**5.74**	**189**	Pn	**Pn**	**05 56 35.6**	**+1.8**
NB2	**NORSAR Subarra**	**5.74**	**189**	Pn	**Pn**	**05 56 35.6**	**+1.8**
NB2	**NORSAR Subarra**	**5.74**	**189**	*e*P	**Pn**	**05 56 35.6**	**+1.8**
NOA	**NORSAR Array B**	**5.74**	**189**	Pn	**Pn**	**05 56 34.5**	**+0.7**
	baz=1.8,slow=12,SNR=4.1						
NOA				Sn	**Sn**	**05 57 36.6**	**-2.1**
	baz=286,slow=9.4,SNR=1.7						
NOA				Lg	Lg	05 58 05.7	
	comp=Z,0.2nm,0.3s,baz=316,slow=10,SNR=5.7 comp=Z,0.6nm,0.7s						
NRA0	**NORESS Array S**	**6.03**	**187**	Pn	**Pn**	**05 56 39.3**	**+1.6**
	slow=14						
NRA0				Sn	**Sn**	**05 57 47.6**	**+1.9**
	baz=17,slow=28						
NRA0				Lg	Lg	05 58 16.2	
	baz=356,slow=28						
NRA0	**NORESS Array S**	**6.03**	**187**	Pn	**Pn**	**05 56 39.3**	**+1.6**
	slow=14						
NRA0				Sn	**Sn**	**05 57 47.6**	**+1.9**
	baz=17,slow=28						
NRA0				Sg	Sb	05 58 16.2	+10
	baz=356,slow=28						
NRA0	**NORESS Array S**	**6.03**	**187**	*e*P	**Pn**	**05 56 39.3**	**+1.6**
NRA0				*e*S	**Sn**	**05 57 47.6**	**+1.9**
NRA0				*e*		05 58 16.2	
KEV	**Kevo**	**6.03**	**53**	*e*P	**Pn**	**05 56 38.5**	**+0.8**
KEV	**Kevo**	**6.03**	**53**	*e*P	**Pn**	**05 56 38.5**	**+0.8**
HFS	**Hagfors**	**6.60**	**177**	Pn	**Pn**	**05 56 47.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=3.0,slow=14,SNR=3.6						
HFS				Sn	**Sn**	**05 57 57.6**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=17,slow=22,SNR=6.3						
HFS				Lg	Lg	05 58 33.7	
	comp=Z,1.0nm,0.3s,baz=357,slow=27,SNR=5.1 comp=Z,3.2nm,1.0s						
RAF	**Rauma**	**6.87**	**142**	*e*P	**Pn**	**05 56 50.4**	**+1.1**
RAF	**Rauma**	**6.87**	**142**	*e*P	**Pn**	**05 56 50.4**	**+1.1**
SUF	**Sumiainen**	**6.88**	**119**	*e*P	**Pn**	**05 56 49.9**	**+0.4**
SUF	**Sumiainen**	**6.88**	**119**	*e*P	**Pn**	**05 56 49.9**	**+0.4**
FIA0	**FINESS Array S**	**7.76**	**127**	Pn	**Pn**	**05 57 01.9**	**+0.4**
	baz=326,slow=10						
FIA0				Sn	**Sn**	**05 58 26.2**	**-2.1**
	baz=325,slow=22						
FIA0

MSVF LR LR 06 10 40.7
comp=Z,2μm,18.9s,baz=316,slow=33
MSVF Nonsavu 12.41 114 P **Pn 06 07 00.7 +2.7**
FUTU Fugatoga 15.36 97 Pn **P 06 07 41.7 -1.0**
FUTU IAmb IAmb 06 07 45.9
comp=Z,145nm,1.6s
KRVT Keravat (AS076 16.40 301 LR LR 06 15 21.1
comp=Z,612nm,18.8s,baz=194,slow=41
EIDS Eidsvold 18.75 227 Pn 06 08 19.8 -0.8
PMG Port Moresby 18.95 279 P **Pn 06 08 26.5 +3.5**
comp=Z,5.1nm,0.3s,baz=109,slow=3.4,SNR=3.3
PMG LR LR 06 14 47.9
comp=Z,230nm,19.0s,baz=107,slow=34
CTA Charters Tower 20.29 247 P **P 06 08 37.2 +0.2**
comp=Z,9.4nm,1.1s,baz=54,slow=11,SNR=2.2
CTA LR LR 06 16 31.4
comp=Z,1μm,18.1s,baz=86,slow=37
comp=Z,9.4nm,1.1s
CTAO Charters Tower 20.29 247 P **P 06 08 36.6 -0.4**
CTAO IAmb IAmb 06 08 39.8
comp=Z,98nm,1.8s
CTAO Charters Tower 20.29 247 P **P 06 08 36.6 -0.4**
CTAO pmax pmax
comp=Z,98nm,1.8s
ARMA Armidale 21.88 215 P **P 06 08 55.7 +1.5**
ARMA IAmb IAmb 06 09 09.6
comp=Z,82nm,1.6s
COEN Coen 22.33 265 P **P 06 08 56.6 -2.5**
TUWZ Tuamarina 29.10 168 P **P 06 10 03.7 +2.0**
STKA Stephens Creek 29.30 226 P **P 06 10 03.8 +0.2**
STKA Stephens Creek 29.30 226 P **P 06 10 01.7 -1.9**
comp=Z,3.3nm,0.8s,baz=39,slow=8.9,SNR=5.1
STKA LR LR 06 20 39.2
comp=Z,317nm,21.6s,baz=42,slow=34
comp=Z,3.3nm,0.8s
STKA Stephens Creek 29.30 226 P **P 06 10 03.8 +0.2**
STKA pmax pmax
comp=Z,8.0nm,1.6s
BSWZ Blackbirch Sta 29.36 168 P **P 06 10 06.7 +2.7**
AMCZ Amberley 30.56 171 P **P 06 10 17.1 +2.6**
WB0 Warramunga Arr 31.13 253 P **P 06 10 18.3 -1.6**
WB0 IAmb IAmb 06 10 51.1
comp=Z,39nm,1.7s
WB2 Warramunga Arr 31.19 253 P **P 06 10 19.6 -0.8**
WB2 IAmb IAmb 06 11 12.5
comp=Z,48nm,1.9s
WRAB Tennant Creek 31.19 253 *i* P **P 06 10 19.7 -0.8**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 31.20 253 P **P 06 10 19.3 -1.3**
comp=Z,1.6nm,0.7s,baz=83,slow=8.7,SNR=6.3
WRA PcP **PcP 06 13 16.0 +0.7**
comp=Z,2.0nm,0.9s,baz=85,slow=2.1,SNR=5.6
WRA LR LR 06 23 08.6
comp=Z,477nm,18.1s,baz=72,slow=37
comp=Z,1.6nm,0.7s
AS31 Alice Springs 32.28 246 P **P 06 10 28.7 -1.4**
ASAR Alice Springs 32.28 246 P **P 06 10 29.1 -0.9**
comp=Z,10nm,0.7s,baz=73,slow=9.5,SNR=61
ASAR PcP **PcP 06 13 18.9 +0.7**
comp=Z,1.7nm,1.1s,baz=99,slow=1.2,SNR=4.5
ASAR LR LR 06 23 40.6
comp=Z,526nm,19.7s,baz=78,slow=36
comp=Z,10nm,0.7s
RAR Rarotonga 33.53 109 LR LR 06 21 53.3
comp=Z,219nm,19.5s,baz=272,slow=32
BBOO Buckleboo 33.78 229 P **P 06 10 42.3 -0.7**
GUMO Guam 33.81 321 LR LR 06 26 46.8
comp=Z,419nm,18.1s,baz=114,slow=40
FORT Forrest 39.24 237 P **P 06 11 29.3 -0.3**
FORT IAmb IAmb 06 11 47.4
comp=Z,33nm,0.9s
FITZ Fitzroy Crossi 39.27 257 LR LR 06 27 22.9
comp=Z,271nm,18.2s,baz=76,slow=36
PPT2 Papeete2 42.90 102 *e*LR LR 06 23 56.4
comp=Z,429nm,29.5s
PPT2 *e*LR LR 06 24 00.2
comp=Z,610nm,26.8s
PPT Papeete 42.90 102 LR LR 06 26 15.9
comp=Z,58nm,19.8s,baz=190,slow=31
TBI Tubuai 43.27 110 *e*LR LR 06 24 10.6
comp=Z,1μm,28.8s
TBI *e*LR LR 06 24 15.0
comp=Z,1μm,25.8s
KAPI Kappang 46.42 275 LR LR 06 33 18.8
comp=Z,50nm,18.2s,baz=80,slow=38
NWAO Narrogin (SRO) 48.69 238 P **P 06 12 44.8 -0.7**
NWAO IAmb IAmb 06 12 46.2
comp=Z,32nm,1.2s
NWAO Narrogin (SRO) 48.69 238 LR LR 06 32 20.2
comp=Z,168nm,21.7s,baz=49,slow=35
NWAO Narrogin (SRO) 48.69 238 P **P 06 12 44.8 -0.7**
NWAO pmax pmax
comp=Z,32nm,1.3s
MORW Morawa 49.02 243 P **P 06 12 47.8 -0.3**
MORW IAmb IAmb 06 12 59.6
comp=Z,21nm,1.1s
KIP Kipapa 49.12 46 *i* P **P 06 12 50.3 +1.5**
KIP pmax pmax
comp=Z,24nm,1.0s
TAOE Nuku Hiva Isla 52.84 91 *e*LR LR 06 28 31.1
comp=Z,359nm,26.8s
MJAR Matsushiro Arr 55.90 333 P **P 06 13 38.5 -0.4**
comp=Z,1.9nm,0.9s,baz=131,slow=3.5,SNR=4.1
MJAR LR LR 06 33 42.9
comp=Z,30nm,20.6s,baz=162,slow=32
comp=Z,1.9nm,0.9s
MAJO Matsushiro 55.90 333 P **P 06 13 39.0 +0.1**
MAJO Matsushiro 55.90 333 P **P 06 13 39.0 +0.1**
MAJO pmax pmax
comp=Z,72nm,2.0s
JNU Nakatsue 56.90 325 LR LR 06 34 26.8
comp=Z,43nm,21.0s,baz=140,slow=32
LEM Lembang 57.86 270 LR LR 06 40 31.8
comp=Z,71nm,18.4s,baz=29,slow=38
KSRS Korea Array 61.72 326 P **P 06 14 18.6 -0.7**
comp=Z,1.4nm,0.7s,baz=150,slow=5.3,SNR=4.2
comp=Z,1.4nm,0.7s
INCN Inchon 62.45 325 P **P 06 14 23.9 -0.4**
INCN Inchon 62.45 325 P **P 06 14 23.9 -0.4**
INCN pmax pmax
comp=Z,92nm,1.6s
YSS Yuzhno-Sakhali 63.28 342 *e*P **P 06 14 30.4 +0.9**
YSS pmax pmax
comp=Z,20nm,1.1s
MYKOM Kota Tinggi 63.50 279 P **P 06 14 30.6 -1.0**
NJ2 Nanjing 63.69 316 *e*P **P 06 14 34.6 +2.0**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
PSTR Posyet 64.19 332 *i* P **P 06 14 35.1 -0.5**
CASY Casey 64.67 202 P **P 06 14 40.4 +1.9**
USA0B Ussuriysk Arra 64.88 334 P **P 06 14 40.3 +0.2**
USA0B Ussuriysk Arra 64.88 334 P **P 06 14 40.3 +0.2**
USA0B pmax pmax
comp=Z,28nm,1.4s
USRK Ussuriysk Ar. 64.88 334 P **P 06 14 38.9 -1.2**
comp=Z,3.4nm,0.7s,baz=177,slow=7.1,SNR=4.8
comp=Z,3.4nm,0.7s
PETK Petropavlovsk- 66.27 354 P **P 06 14 47.5 -1.4**
comp=Z,5.6nm,1.0s,baz=224,slow=6.2,SNR=2.5
PETK LR LR 06 41 29.6
comp=Z,100nm,18.5s,baz=125,slow=34
comp=Z,5.6nm,1.0s
MDJ Mudanjiang 66.27 332 P **P 06 14 50.7 +1.6**
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,250nm,5.5s
TYV Tymovskoe 66.85 344 *e*P **P 06 14 53.4 +0.8**
TYV pmax pmax
comp=Z,11nm,1.5s
TYV pmax pmax
comp=Z,600nm,4.3s
CN2 Changchun 67.63 329 *e*P **P 06 14 58.6 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BNX BinXian 68.13 332 ⇑P **P 06 15 01.7 +0.8**
BNX pmax pmax
comp=Z,6.0nm,1.2s
PSI Prapat 68.51 278 LR LR 06 47 28.4
comp=Z,75nm,18.0s,baz=128,slow=38
GRNR Gornyy 68.63 340⇑*i* P **P 06 15 05.3 +1.4**
GRNR pmax pmax
comp=Z,20nm,1.1s
KLR Kul'dur 69.02 337*ce*P **P 06 15 04.8 -1.6**
KLR pmax pmax
comp=Z,17nm,1.2s

LYN LuoYang 69.50 315 *e*P P 06 15 15.7 +6.0
LYN pmax pmax
comp=Z,11nm,0.5s
HNS HongShan 69.60 318 *e*P **P 06 15 14.5 +4.3**
GYA Guiyang 69.84 305 ⇑P **P 06 15 14.9 +2.8**
GYA pmax pmax
comp=Z,9.0nm,1.0s
XAN Xi'an 71.73 313 P **P 06 15 22.0 -1.4**
XAN pmax pmax
comp=Z,5.0nm,1.1s
KMI Kunming 72.47 302 ⇑P **P 06 15 32.2 +4.0**
KMI pmax pmax
comp=Z,10.0nm,1.2s
XLT XiLinHaoTe 72.69 325 *e*P **P 06 15 30.0 +1.1**
XLT sP pwP 06 15 38.6 -3.1
XLT pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 73.25 294 P **P 06 15 33.5 +0.9**
comp=Z,1.0nm,0.3s,baz=111,slow=3.9,SNR=7.6
CMAR LR LR 06 50 34.3
comp=Z,25nm,18.1s,baz=110,slow=38
comp=Z,1.0nm,0.3s
MA2 Magadan 73.42 352 LR LR 06 45 30.6
comp=Z,152nm,19.0s,baz=130,slow=34
HHC Hu-ho-hao-te 73.58 320 *e*P **P 06 15 36.2 +1.9**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,180nm,4.8s
PZH PanZhiHua 73.85 303 P **P 06 15 38.3 +2.1**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
CD2 Chengdu 74.10 308 P **P 06 15 40.5 +3.0**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
ZEA Zeya 74.31 337 *e*P **P 06 15 39.6 +1.5**
LZH Lanzhou 76.36 312 *e*P **P 06 15 54.5 +3.9**
LZH pP sP 06 15 57.9 +1.1
LZH sP PcP 06 16 02.2 -0.2
LZH pmax pmax
comp=Z,11nm,1.3s
SEY Seymchan 76.48 354*ce*P **P 06 15 50.0 -0.4**
SEY pmax pmax
comp=Z,11nm,1.7s
QSPA South Pole Qui 76.98 180 P **P 06 15 51.9 -1.7**
comp=Z,10nm,1.0s,baz=10,slow=2.7,SNR=17
QSPA LR LR 06 48 50.5
comp=Z,65nm,18.1s,baz=8.0,slow=35
comp=Z,10nm,1.0s
KDAK Kodiak Island 78.29 21 LR LR 06 48 02.5
comp=Z,244nm,18.1s,baz=53,slow=34
RPN Rapa Nui 79.38 115 LR LR 06 44 59.6
comp=Z,78nm,18.3s,baz=276,slow=31
YAK Yakutsk 80.10 343 *e*P **P 06 16 10.3 -0.1**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
ULN Ulaanbaatar 80.12 324 *i* P **P 06 16 10.8 -0.3**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 80.48 324 P **P 06 16 14.7 +1.7**
comp=Z,0.9nm,0.8s,baz=134,slow=6.4,SNR=5.9
comp=Z,0.9nm,0.8s
GTA Gaotai 80.70 314 *e*P **P 06 16 15.8 +1.4**
GTA sP PcP 06 16 23.9 +2.8
GTA pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 80.86 0 P **P 06 16 13.8 -0.6**
BILL IAmb IAmb 06 16 40.2
comp=Z,9.2nm,1.0s
BILL Bilibino 80.86 0*ce*P **P 06 16 14.0 -0.4**
BILL pmax pmax
comp=Z,11nm,1.1s
CAST Castle Rocks 82.72 18 P **P 06 16 25.9 +1.6**
CAST IAmb IAmb 06 17 27.3
comp=Z,16nm,1.6s
ZAK Zakamensk 83.53 325 *e*P **P 06 16 30.7 +1.7**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
COLA College 85.05 18 *i* P **P 06 16 37.4 +1.3**
COLA pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 85.27 18 P **P 06 16 34.6 -2.7**
comp=Z,1.8nm,0.9s,baz=232,slow=6.1,SNR=14
ILAR LR LR 06 50 57.6
comp=Z,122nm,18.2s,baz=167,slow=33
comp=Z,1.8nm,0.9s
BBB Bella Bella 86.00 34 LR LR 06 50 32.3
comp=Z,211nm,18.1s,baz=227,slow=32
PFO Pinyon Flats O 86.92 55 LR LR 06 50 11.9
comp=Z,195nm,18.6s,baz=276,slow=32
NVAR Mina Array Bea 87.02 50 P **P 06 16 44.4 -2.5**
comp=Z,0.1nm,0.3s,baz=236,slow=7.4,SNR=5.5
NVAR LR LR 06 50 30.9
comp=Z,227nm,18.9s,baz=263,slow=32
comp=Z,0.1nm,0.3s
PALK Pallekele 87.19 278 LR LR 06 59 21.0
comp=Z,48nm,18.0s,baz=103,slow=38
I07A Izee 88.06 44 P **P 06 16 54.1 +2.6**
I07A IAmb IAmb 06 19 28.4
comp=Z,18nm,2.0s
TIXI Tiksi 88.10 349*ce*P **P 06 16 50.1 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
BELA Belgrano 2 88.49 176 P **P 06 16 51.2 -1.7**
BELA IAmb IAmb 06 16 52.7
comp=Z,15nm,1.1s
LPIG La Paz 89.50 65 LR LR 06 48 45.1
comp=Z,52nm,19.6s,baz=262,slow=30
WMQ Urumqi 90.75 315 *e*P **P 06 17 05.5 +1.3**
U15A North Rim 91.00 53 P **P 06 17 06.8 +1.0**
NEW Newport 91.00 41 LR LR 06 53 16.6
comp=Z,99nm,18.7s,baz=267,slow=32
X16A Lo Mia Camp, P 91.15 55 P **P 06 17 08.7 +2.3**
INK Inuvik 91.65 19 LR LR 06 56 29.9
comp=Z,199nm,18.0s,baz=242,slow=34
TROLL Troll, Antarti 94.45 185 ⇑P **P 06 17 20.3 -0.6**
comp=Z,233nm,0.8s
PDAR Pinedale Array 94.62 47 P **P 06 17 20.4 -1.8**
comp=Z,0.1nm,0.3s,baz=320,slow=3.2,SNR=2.2
PDAR LR LR 06 54 12.3
comp=Z,80nm,19.1s,baz=298,slow=32
comp=Z,0.1nm,0.3s
SNAA Sanae 95.17 183 ⇑P **P 06 17 22.2 -1.9**
comp=Z,59nm,1.0s
SNAA Sanae 95.17 183 P **P 06 17 22.1 -1.9**
comp=Z,3.3nm,1.0s,baz=319,slow=7.0,SNR=4.0
comp=Z,3.3nm,1.0s
SNAA Sanae 95.17 183*ce*P **P 06 17 23.7 -0.4**
SNAA pmax pmax
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 95.22 317*ce*P **P 06 17 23.4 -1.2**
MKAR Makanchi Array 95.22 317 P **P 06 17 26.0 +1.4**
MKAR Makanchi Array 95.22 317 P **P 06 17 24.6 0.0**
comp=Z,2.3nm,0.9s,baz=101,slow=6.3,SNR=10
comp=Z,2.3nm,0.9s
MKAR Makanchi Array 95.22 317 *i* P **P 06 17 27.2 +2.6**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 95.26 56 LR LR 06 54 56.0
comp=Z,174nm,18.8s,baz=86,slow=32
ZAA0 Zalesovo Array 95.38 324 P **P 06 17 24.3 -0.8**
ZAA0 IAmb IAmb 06 17 35.8
comp=Z,8.5nm,1.4s
ZALV Zalesovo Beam 95.38 324 P **P 06 17 24.2 -0.9**
comp=Z,1.1nm,0.8s,baz=107,slow=5.0,SNR=5.1
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 95.38 324 *i* P **P 06 17 24.8 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.8s
VNA3 Neumayer Olymp 95.88 181 ⇑P **P 06 17 25.4 -1.8**
comp=Z,1.8nm,0.7s
VNA1 Neumayer--Stat 96.43 182 ⇑P **P 06 17 28.7 -1.0**
comp=Z,5.4nm,0.9s
TXAR Lajitas Array 96.45 61 PKKPbc PKKPbc 06 34 14.1 -2.0
comp=Z,0.9nm,1.2s,baz=123,slow=4.6,SNR=3.7
TXAR LR LR 06 53 14.0
comp=Z,98nm,20.3s,baz=294,slow=31
YKA Yellowknife Ar 96.56 27 P **P 06 17 28.1 -2.2**
comp=Z,0.3nm,0.8s,baz=257,slow=5.4,SNR=5.2
YKA LR LR 07 03 32.6
comp=Z,52nm,18.0s,baz=299,slow=37

comp=Z,0.3nm,0.8s
NRIK Noril'sk 98.10 339 LR LR 07 03 39.5
comp=Z,77nm,18.8s,baz=105,slow=36
NRIK Noril'sk 98.10 339*ce*P **P 06 17 36.3 -0.8**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 98.40 320 *i* P **P 06 17 38.6 -0.3**
KURK pmax pmax
comp=Z,2.0nm,1.2s
KURBB Kurchatov Arra 98.44 320 LR LR 07 04 45.3
comp=Z,73nm,18.4s,baz=169,slow=37
AAK Ala-Archa 99.89 312 *i* P **Pdif 06 17 44.8 -1.2**
AAK pmax pmax
comp=Z,1.0nm,1.1s
ARCES ARCESS Array B 118.34 345 PKP **PKPdf 06 22 46.3 -1.5**
comp=Z,4.8nm,0.9s,baz=15,slow=3.9,SNR=5.5
CPUP Villa Florida 122.42 133 PKP **PKPdf 06 22 54.4 -2.5**
comp=Z,0.8nm,0.3s,baz=217,slow=2.6,SNR=4.8
OBN Obninsk 122.68 328 *i* PKIKP **PKPdf 06 22 56.2 -0.3**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 122.88 314 *i* PKIKP **PKiKP 06 22 58.2 +0.6**
KIV pmax pmax
comp=Z,5.0nm,1.1s
BOSA Boshof 123.91 222 PKP **PKPdf 06 22 57.9 -2.0**
comp=Z,3.0nm,0.8s,baz=207,slow=2.3,SNR=3.7
AKASG Malin Array Be 128.72 326 PKP **PKPdf 06 23 06.8 -1.4**
comp=Z,0.1nm,0.3s,baz=49,slow=2.9,SNR=4.9
AKASG Malin Array Be 128.72 326 *i* PKIKP **PKPdf 06 23 08.1 -0.1**
KEST Kesra 149.20 321 PKPbc **PKPbc 06 23 50.5 +0.5**
comp=Z,13nm,0.9s,baz=162,slow=3.2,SNR=6.5
ESDC Sonseca Array 152.06 344 PKPbc **PKPbc 06 23 55.8 -0.9**
comp=Z,1.1nm,1.0s,baz=319,slow=1.0,SNR=3.3
ESDC PKPab **PKPab 06 24 05.7 -0.3**
comp=Z,1.8nm,1.0s,baz=4.6,slow=3.7,SNR=7.7
TORD Torodi Ar. Bea 164.83 272 PKP **PKPdf 06 24 04.0 -1.9**
comp=Z,1.0nm,0.9s,baz=24,slow=3.7,SNR=6.6
TORD PKPab **PKPab 06 25 02.4 +0.5**
comp=Z,0.6nm,0.7s,baz=78,slow=5.6,SNR=4.3

---

*CNRM **01** 06:09:21.6, 36˚.52N×7˚.75W, h71km, ML1.0*
*SFS **01** 06:09:22.8, 36˚.58N×7˚.59W, h27km, ML2.9/11, ML2.8/13, MLv2.4/13*
*IGIL **01** 06:09:23.6, 36˚.59N×7˚.61W, h21km, ML1.8*
*INMG **01** 06:09:23.6±1.4, 36˚.60N×7˚.59W, h21km±3km, ML2.2, Error ellipse: s-maj=3.7km s-min=2.5km az=76.0,*
#DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz
*MDD **01** 06:09:23.4±1.0, 36˚.58N×7˚.54W, h26km±8km, mb_Lg2.7/9, Error ellipse: s-maj=3.8km s-min=2.9km az=70.0*
ISC 01 06:09:21.2±1.2, 36˚.55N±0˚.03×7˚.54W±0˚.03, h28km±12km, n61, σ1°23/93, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.76**	**336**	⇓*i*	*i*	P	**Pn**	**06 09 36.7**	**+0.7**
PBDV					*e*	S	**Sb**	**06 09 46.2**	**+0.3**
PBDV					*i*	AML	AML	06 09 46.9	
PBDV					*i*	AML	AML	06 09 47.3	
PBDV					*i*	AML	AML	06 09 50.2	
PVAQ	**Vaqueiros**	**0.86**	**351**	⇓*i*	*i*	P	**Pn**	**06 09 38.1**	**+0.6**
PVAQ					*e*	S	**Sn**	**06 09 49.0**	**-0.1**
PVAQ					*i*	AML	AML	06 09 49.4	
PVAQ	**Vaqueiros**	**0.86**	**351**		Pg		**Pn**	**06 09 38.1**	**+0.6**
PVAQ	**Vaqueiros**	**0.86**	**351**		P		**Pn**	**06 09 38.1**	**+0.6**
PVAQ	**Vaqueiros**	**0.86**	**351**		S		**Sn**	**06 09 51.8**	**+2.7**
EGRO	**El Granado**	**0.98**	**3**		Pg		**Pb**	**06 09 40.0**	**+0.4**
EGRO					Sg		**Sb**	**06 09 51.9**	**-0.4**
EGRO	**El Granado**	**0.98**	**3**		Pn		**Pb**	**06 09 39.9**	**+0.3**
EGRO					Sn		**Sb**	**06 09 51.9**	**-0.4**
EGRO					*i*	Vmb_Lg		06 09 52.7	
PCVE	**Castro Verde**	**1.15**	**340**		*e*	P	**Pb**	**06 09 42.4**	**-0.1**
PCVE					*e*	S	**Sn**	**06 09 56.0**	**-0.2**
PCVE					*i*	AML	AML	06 09 56.5	
PCVE					*i*	AML	AML	06 09 57.2	
PCVE					*i*	AML	AML	06 09 57.4	
PCVE	**Castro Verde**	**1.15**	**340**		Pg		**Pb**	**06 09 42.4**	**-0.1**
PCVE					Sg		**Sn**	**06 09 55.8**	**-0.4**
MORF	**Marmelete**	**1.17**	**311**		*e*	P	**Pn**	**06 09 42.2**	**+0.6**
MORF	**Marmelete**	**1.17**	**311**		*e*	P	**Pn**	**06 09 42.2**	**+0.6**
MORF					*i*	AML	AML	06 10 04.3	
MORF					*i*	AML	AML	06 10 04.4	
MORF					*i*	AML	AML	06 10 04.6	
PFVI	**Vila Bisbo**	**1.18**	**300**		*e*	P	**Pb**	**06 09 42.7**	**-0.4**
PFVI					*i*	AML	AML	06 10 02.9	
PFVI					*i*	AML	AML	06 10 05.2	
PFVI					*i*	AML	AML	06 10 07.7	
PFVI	**Vila Bisbo**	**1.18**	**300**		Pg		**Pb**	**06 09 42.6**	**-0.4**
PFVI	**Vila Bisbo**	**1.18**	**300**		P		**Pn**	**06 09 41.8**	**0.0**
PFVI	**Vila Bisbo**	**1.18**	**300**		S		**Sn**	**06 09 55.5**	**-1.5**
PTEO	**Sao Teotonio**	**1.37**	**317**		*e*	P	**Pb**	**06 09 45.5**	**-0.7**
PTEO					*e*	S	**Sn**	**06 10 01.4**	**-0.3**
PTEO					*i*	AML	AML	06 10 02.1	
PTEO					*i*	AML	AML	06 10 02.6	
ESPR	**Espera**	**1.39**	**76**		Pn		**Pb**	**06 09 45.9**	**-0.6**
ESPR					Sn		**Sn**	**06 10 02.6**	**+0.4**
ESPR	**Espera**	**1.39**	**76**		Pn		**Pb**	**06 09 46.0**	**-0.6**
ESPR					Sn		**Sn**	**06 10 02.5**	**+0.3**
ESPR					*i*	Vmb_Lg		06 10 03.5	
MESJ	**Messejana**	**1.40**	**337**		*e*	P	**Pn**	**06 09 45.7**	**+0.9**
MESJ					*e*	S	**Sn**	**06 10 01.5**	**-0.8**
MESJ						IAML		06 10 03.1	
	comp=N,13nm,0.1s								
MESJ	**Messejana**	**1.40**	**337**		*e*	P	**Pn**	**06 09 45.7**	**+0.9**
MESJ					*e*	S	**Sn**	**06 10 01.7**	**-0.6**
MESJ					*i*	AML	AML	06 10 04.0	
MESJ					*i*	AML	AML	06 10 09.1	
MESJ					*i*	AML	AML	06 10 10.1	
EMIN	**Mina Concepcio**	**1.40**	**29**		Pn		**Pb**	**06 09 46.4**	**-0.3**
EMIN	**Mina Concepcio**	**1.40**	**29**		Pn		**Pb**	**06 09 46.0**	**-0.7**
EMIN					Sn		**Sn**	**06 10 01.2**	**-1.2**
EMIN					*i*	Vmb_Lg		06 10 06.9	
PBEJ	**Beja**	**1.50**	**350**		*e*	P	**Pn**	**06 09 47.0**	**+0.9**
PBEJ					*e*	S	**Sn**	**06 10 05.1**	**+0.3**
PBEJ					*i*	AML	AML	06 10 10.8	
PBEJ					*i*	AML	AML	06 10 13.9	
PBEJ					*i*	AML	AML	06 10 18.7	
PBAR	**Barrancos**	**1.67**	**14**		*e*	P	**Pn**	**06 09 49.5**	**+0.9**
PBAR					*e*	S	**Sn**	**06 10 08.9**	**-0.2**
PBAR					*i*	AML	AML	06 10 15.7	
PBAR					*i*	AML	AML	06 10 16.7	
PBAR					*i*	AML	AML	06 10 19.5	
PBAR	**Barrancos**	**1.67**	**14**		Pn		**Pn**	**06 09 49.4**	**+0.9**
EVO	**Evora**	**2.02**	**349**		*e*	P	**Pn**	**06 09 54.3**	**+1.0**
EVO					*e*	S	**Sn**	**06 10 16.2**	**-1.4**
EVO					*i*	AML	AML	06 10 27.8	
EVO					*i*	AML	AML	06 10 29.4	
EVO					*i*	AML	AML	06 10 37.9	
EBAD	**Badajoz**	**2.24**	**11**		Pn		**Pn**	**06 09 58.6**	**+2.1**
EBAD	**Badajoz**	**2.24**	**11**		Pn		**Pn**	**06 09 57.0**	**+0.6**
EBAD					Sn		**Sn**	**06 10 23.6**	**+0.4**
EBAD					*i*	Vmb_Lg		06 10 31.4	
ECAB	**El Cabril**	**2.28**	**47**		Pn		**Pn**	**06 09 58.2**	**+1.2**
ECAB					Sn		**Sn**	**06 10 22.5**	**-1.6**
ECAB	**El Cabril**	**2.28**	**47**		Pn		**Pn**	**06 09 58.4**	**+1.5**
ECAB					Sn		**Sn**	**06 10 21.8**	**-2.3**
ECAB					*i*	Vmb_Lg		06 10 29.6	
PESTR	**Estremoz**	**2.31**	**359**		*e*	P	**Pn**	**06 09 58.2**	**+0.7**
PESTR					*e*	S	**Sn**	**06 10 24.7**	**-0.3**
PESTR					*i*	AML	AML	06 10 31.7	
PESTR					*i*	AML	AML	06 10 37.6	
PESTR					*i*	AML	AML	06 10 45.3	
PESTR	**Estremoz**	**2.31**	**359**		Pn		**Pn**	**06 09 58.0**	**+0.6**
PESTR	**Estremoz**	**2.31**	**359**		P		**Pn**	**06 09 57.7**	**+0.3**
PESTR	**Estremoz**	**2.31**	**359**		S		**Sn**	**06 10 26.4**	**+1.5**
PACT	**Alcochete**	**2.44**	**336**		*e*	S	**Sn**	**06 10 29.5**	**+1.5**
PMTG	**Montargil**	**2.57**	**348**		*e*	P	**Pn**	**06 10 01.9**	**+0.9**
PMTG					*e*	S	**Sn**	**06 10 31.1**	**-0.2**
PMTG					*i*	AML	AML	06 10 31.6	
PMTG					*i*	AML	AML	06 10 31.6	
PMTG					*i*	AML	AML	06 10 32.2	
PMAFR	**Mafra**	**2.77**	**331**		*e*	P	**Pn**	**06 10 05.9**	**+2.2**
PMAFR					*e*	S	**Sn**	**06 10 36.5**	**+0.3**
EADA	**Adamuz**	**2.86**	**55**		Pn		**Pn**	**06 10 06.2**	**+1.3**
EADA					Sn		**Sn**	**06 10 37.9**	**-0.6**
EADA	**Adamuz**	**2.86**	**55**		Pn		**Pn**	**06 10 06.8**	**+1.8**
EADA					Sn		**Sn**	**06 10 37.2**	**-1.3**
EADA					*i*	Vmb_Lg		06 10 41.5	
PSBE	**So Bento**	**3.12**	**342**		*e*	P	**Pn**	**06 10 10.0**	**+1.5**
PSBE					*e*	S	**Sn**	**06 10 45.3**	**+0.4**
PSBE					*i*	AML	AML	06 10 46.7	

PCBR	**Castelo Branco**	**3.29**	**1**	*eP*	**Pn**	**06 10 11.6 +0.8**
PCBR				*eS*	**Sn**	**06 10 47.2 -1.7**
PCBR				*i* AML	AML	06 10 48.7
PCBR				*i* AML	AML	06 10 49.4
PCBR				*i* AML	AML	06 10 50.0
EQUE	**Quentar**	**3.35**	**78**	Sn	**Sn**	**06 10 50.8 +0.1**
EQUE				*i* Vmb_Lg		06 10 56.2
PCAS	**Casmilo, Conde**	**3.58**	**348**	*eS*	**Sn**	**06 10 55.7 -0.4**
IFR	**Ifrane**	**3.62**	**146**	Pn	**Pn**	**06 10 17.3 +1.8**
IFR				Sn	**Sn**	**06 10 55.9 -1.4**
AKLM	**AKL**	**3.62**	**123**	P	**Pn**	**06 10 16.9 +1.4**
AKLM	**AKL**	**3.62**	**123**	S	**Sn**	**06 10 56.9 -0.5**
EPLA	**Plasencia**	**3.69**	**18**	Pn	**Pn**	**06 10 18.1 +1.7**
EPLA				Sn	**Sn**	**06 10 58.5 -0.5**
EPLA				*i* Vmb_Lg		06 11 00.7
PSIM	**Granatula de C**	**3.76**	**52**	Pn	**Pn**	**06 10 18.5 +1.1**
PSIM				Sn	**Sn**	**06 10 59.7 -1.0**
MTE	**Manteigas**	**3.84**	**360**	*eP*	**Pn**	**06 10 19.2 +0.7**
MTE				*eS*	**Sn**	**06 11 01.8 -1.0**
MTE				*i* AML	AML	06 11 02.2
MTE				*i* AML	AML	06 11 02.6
PAB	**San Pablo**	**3.91**	**39**	Pn	**Pn**	**06 10 20.5 +1.0**
PAB				Sn	**Sn**	**06 11 01.4 -3.1**
PAB				*i* Vmb_Lg		06 11 01.9
MD31	**MD31**	**4.33**	**147**	P	**Pn**	**06 10 25.6 +0.4**
MD31	**MD31**	**4.33**	**147**	S	**Sn**	**06 11 17.6 +2.8**
MDT	**Midelt**	**4.44**	**146**	P	**Pn**	**06 10 27.3 +0.6**
MDT	**Midelt**	**4.44**	**146**	S	**Sn**	**06 11 19.2 +1.6**
MVO	**Moncorvo**	**4.63**	**5**	*eP*	**Pn**	**06 10 30.2 +0.9**
MVO				*eS*	**Sn**	**06 11 19.5 -2.6**
MVO				*i* AML	AML	06 11 19.9
MVO				*i* AML	AML	06 11 22.0
PVRL	**Vila Real**	**4.72**	**358**	*eS*	**Sn**	**06 11 23.1 -1.3**
POLO	**Lamas de Olo**	**4.82**	**358**	*eS*	**Sn**	**06 11 25.8 -1.2**
POLO				*i* AML	AML	06 11 28.1
POLO				*i* AML	AML	06 11 28.3
PBRG	**Braganca**	**5.29**	**7**	*eS*	**Sn**	**06 11 35.8 -2.5**
TIO	**Tiouine**	**5.61**	**178**	Pn	**Pn**	**06 10 43.9 +1.0**
TIO				Sn	**Sn**	**06 11 43.1 -3.4**
TIO	**Tiouine**	**5.61**	**178**	P	**Pn**	**06 10 43.4 +0.5**
TTIG	**Tnine Tigouga,**	**6.03**	**187**	P	**Pn**	**06 10 46.5 -2.2**

TRN 01 06:17:59.2, 15°.64N×61°.41W, h24km, MD3.8, Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSLB	**Salisbury**	**0.20**	**182**	*eP*	Pn	06 18 06.2	-0.6
DSLB	**Salisbury**	**0.20**	**182**	*eP*	Pn	06 18 06.2	-0.6
TBG	**Guadaloupe-3**	**0.30**	**313**	*eP*	Pn	06 18 07.7	-0.5
TBG	**Guadaloupe-3**	**0.30**	**313**	*eP*	Pn	06 18 07.7	-0.5
MDN	**Morne-Daniel**	**0.32**	**176**	*eP*	Pn	06 18 08.0	-0.5
MDN	**Morne-Daniel**	**0.32**	**176**	*eP*	Pn	06 18 08.0	-0.5
ANBD	**Bethesda, Anti**	**1.44**	**346**	*eP*	Pb	06 18 25.5	+0.1
ANBD	**Bethesda, Anti**	**1.44**	**346**	*eP*	Pb	06 18 25.5	+0.1

IDC 01 06:18:01.9±7.2, 3°.52S×146°.86E, h0km, mb3.6/3, mbtmp3.7/3, MS3.3/2, Error ellipse: s-maj=238.0km s-min=33.1km az=99.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.27**	**115**	LR	LR	06 26 19.7	
	comp=Z,58nm,18.1s,baz=306,slow=35						
WRA	**Warramunga Arr**	**20.38**	**216**	P	P	06 22 41.0	+0.6
	3.1nm,0.9s,baz=40,slow=11,SNR=7.6						
	3.1nm,0.9s						
ASAR	**Alice Springs**	**23.62**	**211**	P	P	06 23 14.6	-0.2
	1.0nm,0.6s,baz=41,slow=8.9,SNR=13						
	1.0nm,0.6s						
KSRS	**Korea Array**	**44.41**	**338**	LR	LR	06 42 06.5	
	comp=Z,55nm,20.3s,baz=150,slow=32						
MKAR	**Makanchi Array**	**75.51**	**320**	P	P	06 29 48.2	-0.1
	0.8nm,1.0s,baz=100,slow=6.3,SNR=4.7						
	0.8nm,1.0s						

*NNC **01** 06:19:26.8±0.8, 41°.01N×74°.72E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=6.3km s-min=2.9km az=166.0*
*SOME **01** 06:19:26.0, 41°.00N×74°.75E, h10km*
*KRNET **01** 06:19:26.5±0.1, 40°.98N×74°.72E, h22km, mb2.7*
*KNET **01** 06:19:27.5±0.7, 41°.07N×74°.79E, h30km±6km, ml2.2, Error ellipse: s-maj=5.1km s-min=3.0km az=177.0*

ISC 01 06:19:25.3±1.3, 40°.99N±0°.04×74°.76E±0°.02, h2km±11km, n44, σ1°.13/73, 25C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.72**	**262**	⇑*eP*	**Pg**	**06 19 39.4**	**+0.4**
SALK				⇑*eS*	**Sg**	**06 19 48.8**	**+0.5**
ARLS	**Aral**	**0.93**	**340**	⇑*iP*	**Pg**	**06 19 43.7**	**+0.5**
ARLS				⇑*iS*	**Sb**	**06 19 56.2**	**-1.1**
UCH	**Uchtor**	**1.25**	**352**	⇑P	**Pg**	**06 19 50.1**	**+0.7**
UCH				⇑S	**Sn**	**06 20 08.9**	**+0.8**
UCH	**Uchtor**	**1.25**	**352**	⇑*iP*	**Pg**	**06 19 49.9**	**+0.5**
UCH				⇑*iS*	**Sn**	**06 20 07.0**	**-1.1**
SFK	**Sufi-Kurgan**	**1.36**	**225**	⇓*iP*	**Pn**	**06 19 51.0**	**-0.6**
SFK				⇓*iS*	**Sb**	**06 20 09.2**	**-0.5**
ARSB	**Arslanbob**	**1.38**	**285**	⇑*eP*	**Pn**	**06 19 51.6**	**-0.2**
ARSB				⇑*eS*	**Sb**	**06 20 09.6**	**-0.5**
AML	**Almayashu**	**1.40**	**326**	⇓P	**Pg**	**06 19 52.4**	**+0.3**
	28nm,0.2s,SNR=137						
AML				⇑S	**Sg**	**06 20 11.4**	**+1.2**
	40nm,0.2s						
AML	**Almayashu**	**1.40**	**326**	⇑*iP*	**Pb**	**06 19 52.1**	**-0.3**
AML				⇑*iS*	**Sg**	**06 20 10.5**	**+0.3**
OHH	**Osh**	**1.57**	**254**	⇑*eP*	**Pn**	**06 19 54.3**	**0.0**
OHH				⇑*eS*	**Sb**	**06 20 15.5**	**+0.1**
AAK	**Ala-Archa**	**1.66**	**353**	⇑P	**Pb**	**06 19 56.9**	**0.0**
	10nm,0.2s,SNR=36						
AAK				⇑S	**Sg**	**06 20 18.6**	**-0.1**
	11nm,0.2s						
AAK	**Ala-Archa**	**1.66**	**353**	⇑*iP*	**Pb**	**06 19 56.8**	**0.0**
AAK				⇑*iS*	**Sg**	**06 20 18.7**	**-0.1**
KBK	**Karagaybulak**	**1.68**	**5**	⇓P	**Pb**	**06 19 56.7**	**-0.3**
	46nm,0.1s,SNR=12						
KBK				⇓S	**Sg**	**06 20 19.0**	**-0.2**
	123nm,0.3s						
KBK	**Karagaybulak**	**1.68**	**5**	⇓*iP*	**Pb**	**06 19 57.0**	**0.0**
KBK				⇓*iS*	**Sg**	**06 20 19.2**	**0.0**
ULHL	**Ulahol**	**1.68**	**41**	⇑P	**Pb**	**06 19 57.5**	**+0.4**
	6.1nm,0.1s,SNR=32						
ULHL				⇓S	**Sg**	**06 20 19.4**	**0.0**
	21nm,0.2s						
ULHL	**Ulahol**	**1.68**	**41**	⇓*iP*	**Pb**	**06 19 57.3**	**+0.2**
ULHL				⇓*iS*	**Sg**	**06 20 20.0**	**+0.6**
BOOM	**Boomskoye usch**	**1.75**	**30**	⇓*iP*	**Pb**	**06 19 58.3**	**+0.1**
BOOM				⇓*iS*	**Sg**	**06 20 21.3**	**-0.1**
EKS2	**Erkin-Say**	**1.83**	**337**	⇓P	**Pb**	**06 19 59.1**	**-0.5**
	3.1nm,0.1s,SNR=16						
EKS2	**Erkin-Say**	**1.83**	**337**	*i* P	**Pb**	**06 19 59.1**	**-0.5**
EKS2				*i* S	**Sb**	**06 20 22.6**	**-0.4**
MRKS	**Merke**	**2.10**	**327**	Pg	**Pb**	**06 20 04.7**	**+0.5**
	16nm,0.4s						
MRKS				Lg	Lg	06 20 33.0	
	90nm,0.5s						
MRKS	**Merke**	**2.10**	**327**	*eP*	**Pb**	**06 20 04.8**	**+0.6**
	22nm,0.2s						
MRKS				*eS*	**Sg**	**06 20 33.0**	**+0.3**
	90nm,0.5s						
KDJ	**Kajisay**	**2.15**	**57**	⇓*iP*	**Pb**	**06 20 04.1**	**-1.0**
KDJ				⇓*iS*	**Sb**	**06 20 31.5**	**-0.8**
KST	**Kastek**	**2.25**	**23**	Pg	**Pg**	**06 20 08.1**	**-0.2**
	7.6nm,0.1s						
KST				Lg	Lg	06 20 38.1	
	29nm,0.3s						
KST	**Kastek**	**2.25**	**23**	*eP*	**Pg**	**06 20 08.1**	**-0.2**
	7.6nm,0.1s						
KST				*eS*	**Sg**	**06 20 38.3**	**+0.8**
	29nm,0.3s						
ARK	**Arkit**	**2.25**	**292**	⇑*iP*	**Pn**	**06 20 04.7**	**+1.0**
ARK				⇑*iS*	**Sn**	**06 20 32.6**	**+0.4**
MNAS	**Manas**	**2.26**	**312**	⇓*iP*	**Pn**	**06 20 04.8**	**+1.0**
MNAS				⇓*iS*	**Sn**	**06 20 32.8**	**+0.5**
DGS	**Degeres**	**2.38**	**18**	Pg	**Pg**	**06 20 10.2**	**-0.7**
	12nm,0.3s						
DGS				Lg	Lg	06 20 42.2	
	37nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.41**	**71**	⇓*iP*	**Pn**	**06 20 07.8**	**+1.6**
TARG				⇓*iS*	**Sb**	**06 20 37.7**	**-2.4**
SGDS	**Sogindy**	**2.47**	**358**	Pg	**Pg**	**06 20 11.7**	**-0.9**
	3.8nm,0.3s						
SGDS				Lg	Lg	06 20 45.0	
	42nm,0.5s						
MTBS	**Maitube**	**2.48**	**30**	Pg	**Pg**	**06 20 12.2**	**-0.6**
	10nm,0.2s						
MTBS				Lg	Lg	06 20 45.7	
	16nm,0.3s						
MTBS	**Maitube**	**2.48**	**30**	*eP*	**Pg**	**06 20 12.2**	**-0.6**
	10nm,0.2s						
MTBS				*eS*	**Sg**	**06 20 45.7**	**+0.7**
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.62**	**38**	Pg	**Pb**	**06 20 14.5**	**+1.3**
	7.4nm,0.4s						
TNSS				Lg	Lg	06 20 49.6	
	6.1nm,0.3s						
TNSS	**Tian-Shan**	**2.62**	**38**	*eP*	**Pb**	**06 20 14.5**	**+1.3**
	7.4nm,0.2s						
TNSS				*eS*	**Sg**	**06 20 49.6**	**0.0**
	9.5nm,0.3s						
MDOK	**Medeo**	**2.77**	**37**	⇓Pg	**Pb**	**06 20 16.9**	**+1.3**
	8.7nm,1.0s						
MDOK				⇓Lg	Lg	06 20 53.8	
	9.9nm,0.6s						
TRKS	**Terek-Say**	**2.78**	**282**	⇑*iP*	**Pn**	**06 20 11.4**	**+0.4**
TRKS				⇑*iS*	**Sn**	**06 20 44.2**	**-1.1**
KRBS	**Karabastau**	**2.79**	**14**	Pg	**Pg**	**06 20 17.9**	**-0.9**
	13nm,0.4s						
KRBS				Lg	Lg	06 20 55.0	
	24nm,0.4s						
KTBS	**Karatobe**	**3.08**	**27**	Pg	**Pb**	**06 20 22.4**	**+1.6**
	5.9nm,0.3s						
KTBS				Lg	Lg	06 21 02.9	
	32nm,0.5s						
IUG	**Iuzhnay**	**3.73**	**290**	Pg	**Pb**	**06 20 34.2**	**+2.2**
	17nm,0.8s						
IUG				Lg	Lg	06 21 23.0	
	26nm,0.5s						
KK31	**Karatay Array**	**3.80**	**305**	⇑Pg	**Pb**	**06 20 34.6**	**+1.4**
	0.9nm,0.3s,baz=77,slow=29,SNR=10						
KK31				Lg	Lg	06 21 23.9	
	2.2nm,0.3s,baz=120,slow=28,SNR=7.8						
KPKS	**Kokpek**	**3.83**	**48**	Pg	**Pb**	**06 20 35.9**	**+2.2**
	1.5nm,0.3s						
KPKS				Lg	Lg	06 21 26.2	
	7.2nm,0.5s						
KPKS	**Kokpek**	**3.83**	**48**	*eP*	**Pb**	**06 20 35.9**	**+2.2**
	1.2nm,0.3s						
KPKS				*eS*	**Sg**	**06 21 26.2**	**-2.1**
	3.6nm,0.4s						
BTLS	**Baital**	**4.09**	**353**	Pg	**Pb**	**06 20 40.2**	**+2.2**
	0.8nm,0.3s						
BTLS				Lg	Lg	06 21 33.4	
	1.7nm,0.5s						
BTLS	**Baital**	**4.09**	**353**	*eP*	**Pb**	**06 20 40.2**	**+2.2**
	1.3nm,0.2s						
BTLS				*eS*	**Sg**	**06 21 33.4**	**-3.2**
	2.7nm,0.5s						
BRLS	**Borolday**	**4.20**	**301**	Pg	**Pg**	**06 20 43.4**	**-2.3**
	0.9nm,0.2s						
BRLS				Lg	Lg	06 21 39.0	
	4.0nm,0.6s						
BRLS	**Borolday**	**4.20**	**301**	*eP*	**Pg**	**06 20 43.4**	**-2.3**
	0.9nm,0.2s						
BRLS				*eS*	**Sg**	**06 21 39.0**	**-1.1**
	3.9nm,0.3s						

IDC 01 06:25:21.9±3.5, 54°.54N×86°.38E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=28.1km s-min=15.8km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**238**	I	I	06 32 10.0	
	baz=57,slow=355,SNR=8.6						
ZALV	**Zalesovo Beam**	**1.09**	**238**	Pg	Pg	06 25 41.3	-1.5
	0.8nm,0.3s,baz=55,slow=16,SNR=7.6						
ZALV				Lg	Lg	06 25 58.7	
	0.5nm,0.3s,baz=56,slow=29,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.19**	**234**	Pn	Pn	06 26 55.3	+0.9
	0.1nm,0.3s,baz=51,slow=14,SNR=1.6						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**8.18**	**200**	Pn	Pn	06 27 22.9	+1.0
	0.1nm,0.3s,baz=22,slow=12,SNR=5.3						
	0.1nm,0.3s						

*ASRS **01** 06:36:01.0±1.4, 54°.33N×86°.83E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:36:01.2±3.3, 54°.36N×87°.00E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.4km s-min=16.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**253**	I	I	06 43 35.0	
	0.1nm,1.0s,baz=72,slow=355,SNR=30						
ZALV	**Zalesovo Beam**	**1.34**	**253**	Pg	Pg	06 36 25.1	-1.9
	1.5nm,0.3s,baz=75,slow=17,SNR=17						
ZALV				Lg	Lg	06 36 44.4	
	1.1nm,0.3s,baz=70,slow=26,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.38**	**238**	Pn	Pn	06 37 37.9	+1.5
	0.1nm,0.3s,baz=53,slow=14,SNR=3.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**8.14**	**203**	Pn	Pn	06 38 01.6	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=2.0						
MKAR				Sn	Sn	06 39 33.1	-0.2
	baz=28,slow=28,SNR=2.2						
MKAR				Lg	Lg	06 40 18.8	
	baz=18,slow=30,SNR=3.0						
	0.1nm,0.3s						

TXNET 01 06:37:22.0, 31°N±2°×103°.3W±0°.8, h6km±2km, ML1.5/5, Error ellipse: s-maj=2.4km s-min=1.2km az=10.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.19**	**246**	P	Pg	06 37 26.8	+1.0
TPB03	**Saragosa**	**0.19**	**246**	P	Pg	06 37 26.8	+1.0
TPB03				S	Sg	06 37 29.6	+1.3
TPB05	**Hovey Rd**	**0.24**	**182**	P	Pg	06 37 27.5	+0.8
TPB05	**Hovey Rd**	**0.24**	**182**	P	Pg	06 37 27.4	+0.6
TPB05				S	Sg	06 37 31.1	+1.1
TPB10	**Southeast of T**	**0.40**	**288**	P	Pb	06 37 32.3	+0.8
TPB10	**Southeast of T**	**0.40**	**288**	P	Pb	06 37 31.0	-0.5
TPB08	**Permian Basin**	**0.44**	**128**	P	Pb	06 37 31.7	-0.6
TPB08				S	Sb	06 37 38.3	-0.8
TPB01	**Permian Basin**	**0.46**	**242**	P	Pg	06 37 31.4	+0.6
TPB01				S	Sg	06 37 37.8	+1.0
TPB06	**Permian Basin**	**0.49**	**10**	P	Pb	06 37 33.7	+0.6
MNHN	**Monahans**	**0.51**	**69**	P	Pg	06 37 31.8	0.0
MNHN				S	Sb	06 37 42.4	+1.4
TPB07	**Mentone**	**0.52**	**324**	S	Sb	06 37 42.0	+0.7
PECS	**Pecos**	**0.52**	**294**	P	Pn	06 37 35.0	-1.1
PECS	**Pecos**	**0.52**	**294**	S	Sb	06 37 40.6	-0.7
TPB12	**Southwest of T**	**0.55**	**275**	P	Pn	06 37 36.0	-0.6
TPB12	**Southwest of T**	**0.55**	**275**	S	Sb	06 37 41.2	-1.2
ALPN	**Alpine**	**0.83**	**200**	P	Pg	06 37 37.5	-0.5
ALPN	**Alpine**	**0.83**	**200**	P	Pg	06 37 37.5	-0.5
ALPN				S	Sg	06 37 48.7	-0.1
TMB02	**Rankin**	**1.09**	**88**	P	Pg	06 37 43.2	+0.1
TMB02				S	Sn	06 37 58.8	-0.6
ODSA	**Odessa**	**1.16**	**34**	P	Pg	06 37 43.5	-0.7
ODSA				S	Sn	06 38 00.8	-0.2
CLNB	**Carlsbad**	**1.20**	**336**	S	Sn	06 38 05.5	+3.4
HTMS	**Hat Mesa**	**1.33**	**348**	S	Sn	06 38 09.5	+4.1
VHRN	**Van Horn**	**1.48**	**256**	P	Pn	06 37 49.3	0.0
VHRN				S	Sb	06 38 09.3	+0.1
SAND	**Sanderson**	**1.58**	**139**	P	Pb	06 37 51.5	-0.2
SAND				S	Sg	06 38 13.3	+0.5
TMB04	**Seminole**	**1.62**	**25**	P	Pn	06 37 51.4	+0.3
TMB04				S	Sg	06 38 13.7	-0.4
MNTX	**Cornudas Mount**	**1.85**	**287**	P	Pb	06 37 55.6	-0.6
MNTX				S	Sb	06 38 20.2	+0.6
TX31	**Lajitas Ar. Si**	**1.85**	**190**	P	Pb	06 37 55.3	-0.9
TX31				S	Sb	06 38 20.0	+0.4
OZNA	**Ozona**	**1.89**	**97**	P	Pb	06 37 56.2	-0.8
OZNA				S	Sb	06 38 21.1	+0.2
SGCY	**Sterling City**	**2.01**	**68**	S	Sb	06 38 24.9	+0.6
POST	**Post**	**2.44**	**39**	S	Sb	06 38 37.4	+0.6

*ASRS **01** 06:44:27.0±0.5, 53°.95N×86°.60E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 06:44:28.4±2.5, 53°.94N×86°.71E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.1km s-min=12.1km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**271**	I	I	06 50 30.0	
	baz=90,slow=357,SNR=20						
ZALV	**Zalesovo Beam**	**1.12**	**271**	Pg	Pg	06 44 49.1	-0.7
	0.8nm,0.3s,baz=89,slow=16,SNR=10.0						
ZALV				Lg	Lg	06 45 05.6	
	2.5nm,0.3s,baz=88,slow=28,SNR=22						
KURBB	**Kurchatov Arra**	**6.02**	**240**	Pn	Pn	06 46 00.4	+1.7
	0.1nm,0.3s,baz=56,slow=14,SNR=4.0						
KURBB				Lg	Lg	06 47 37.4	
	0.1nm,0.3s,baz=47,slow=24,SNR=1.9						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.69**	**203**	Pn	Pn	06 46 22.4	+0.8
	0.2nm,0.3s,baz=23,slow=13,SNR=13						
MKAR				Sn	Sn	06 47 48.8	-0.6
	baz=14,slow=23,SNR=1.6						
MKAR				Lg	Lg	06 48 32.1	
	baz=28,slow=31,SNR=1.7						
	0.3nm,0.3s						

*SJA **01** 06:53:47.3±0.6, 20°.58S×67°.36W, h182km±7km, ML2.8, MW3.2*
*SCB **01** 06:53:49.4±1.0, 20°.70S×67°.52W, h175km±25km, ML2.8/1, Error ellipse: s-maj=9.2km s-min=8.1km az=0.0*

ISC 01 06:53:48.0±1.8, 20°.72S±0°.05×67°.50W±0°.05, h196km±16km, n17, σ1°.08/25, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.82**	**107**	Pg	**Pn**	**06 54 25.2**	**+0.4**
PB01	**IPOC Station P**	**1.89**	**260**	*eP*	**Pn**	**06 54 25.4**	**+0.3**
PB01				*eS*	**Sn**	**06 54 53.9**	**0.0**
PB01				IAML		06 54 55.9	
	comp=Z,38nm,0.2s						
PB01	**IPOC Station P**	**1.89**	**260**	Pg	**Pn**	**06 54 25.4**	**+0.3**
PB01				Sg	**Sn**	**06 54 52.5**	**-1.4**
PB01				IAML		06 54 55.2	
	comp=Z,47nm,0.4s						
PB09	**IPOC Station P**	**1.94**	**236**	*eP*	**Pn**	**06 54 27.1**	**+1.3**
PB09				*eS*	**Sn**	**06 54 56.9**	**+1.7**
PB09				IAML		06 54 58.2	
	comp=Z,18nm,1.4s						
PB09	**IPOC Station P**	**1.94**	**236**	Pg	**Pn**	**06 54 26.8**	**+1.0**
HMBC	**Humberstone**	**2.28**	**281**	*eP*	**Pn**	**06 54 29.7**	**+0.3**
HMBC				*eS*	**Sn**	**06 55 01.0**	**-0.5**
HMBC				IAML		06 55 03.0	
	comp=Z,48nm,0.1s						
HMBC	**Humberstone**	**2.28**	**281**	Pg	**Pn**	**06 54 29.6**	**+0.3**
AF01	**San Pedro de A**	**2.31**	**196**	*eP*	**Pn**	**06 54 30.8**	**+1.1**
AF01				IAML		06 55 07.7	
	comp=Z,21nm,0.8s						
YJA	**Yavi**	**2.35**	**128**	*eP*	**Pn**	**06 54 31.0**	**+0.6**
YJA				*eS*	**Sn**	**06 55 01.5**	**-1.9**
TA01	**Diego Aracena**	**2.52**	**273**	*eP*	**Pn**	**06 54 32.1**	**+0.4**
TA01				IAML		06 55 09.3	
	comp=Z,16nm,1.2s						
PB12	**IPOC Station P**	**3.39**	**308**	*eP*	**Pn**	**06 54 42.2**	**-0.1**
PB12				*eS*	**Sn**	**06 55 23.2**	**-1.4**
PB12				IAML		06 55 28.5	
	comp=Z,20nm,1.3s						
PB12	**IPOC Station P**	**3.39**	**308**	Pg	**Pn**	**06 54 42.2**	**-0.1**
BBOE	**La Paz, Chanca**	**3.92**	**353**	Pg	**Pn**	**06 54 50.5**	**+1.3**
AZAP	**Zapla**	**4.15**	**148**	*eP*	**Pn**	**06 54 52.4**	**+0.7**
AZAP				IAML		06 56 16.0	
	comp=Z,12nm,2.8s						
LPAZ	**La Paz**	**4.45**	**352**	Pg	**Pn**	**06 54 57.1**	**+1.1**
PB14	**IPOC Station P**	**4.72**	**214**	*eP*	**Pn**	**06 54 59.8**	**+0.8**
PB14				*eS*	**Sn**	**06 55 52.9**	**-2.1**
PB14				IAML		06 55 56.2	
	comp=Z,8.2nm,1.0s						
GO02	**Mina Guanaco**	**4.82**	**203**	*eP*	**Pn**	**06 55 00.8**	**+0.5**
GO02				*eS*	**Sn**	**06 55 56.6**	**-0.6**

*NNC **01** 06:58:28.1±0.5, 51°.94N×74°.39E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=6.2km s-min=3.5km az=28.0, Suspected Mining explosion.*
*IDC **01** 06:58:30.1±0.8, 51°.68N×74°.19E, h0km, mbtmp2.6/4, ML1.7/4, Error ellipse: s-maj=31.2km s-min=6.7km az=29.0*

ISC 01 06:58:28.4±1.0, 51°.99N±0°.08×74°.46E±0°.05, h0km, n12, σ1°.38/14, 7C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.69**	**294**	⇑Pg	**Pb**	**06 59 17.5**	**+0.1**
	8.7nm,1.2s,baz=112,slow=15,SNR=19						
BVA0				⇑Lg	Lg	06 59 51.2	
	6.8nm,0.5s,baz=114,slow=27,SNR=14						
BVAR	**Borovoye Array**	**2.69**	**294**	Pn	**Pn**	**06 59 13.8**	**+0.8**
	baz=119,slow=15,SNR=5.8						
BVAR				Pg	**Pb**	**06 59 17.8**	**+0.3**
	0.3nm,0.3s,baz=121,slow=17,SNR=18						
BVAR				Sn	**Sb**	**06 59 49.4**	**-1.6**
	0.1nm,0.3s,baz=117,slow=24,SNR=4.8						
	3.0nm,0.5s						
BRVK	**Borovoye**	**2.76**	**294**	⇑Pg	**Pb**	**06 59 18.8**	**+0.1**
	6.8nm,1.0s						
BRVK				⇑Lg	Lg	06 59 54.3	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**2.90**	**117**	Pn	**Pn**	**06 59 16.7**	**+0.9**
	0.2nm,0.3s,baz=297,slow=12,SNR=5.8						
KURBB				Pg	**Pg**	**06 59 23.7**	**-0.3**
	0.2nm,0.3s,baz=292,slow=18,SNR=3.9						
KURBB				Lg	Lg	07 00 01.0	
	0.4nm,0.3s,baz=293,slow=37,SNR=13						
	0.7nm,0.6s						
KURBB	**Kurch

0.7nm,0.3s,baz=80,slow=15,SNR=5.9
ZALV Lg Lg 07 02 48.3
0.7nm,0.3s,baz=79,slow=22,SNR=5.4
KURBB Kurchatov Arra 6.43 239 Pn Pn 07 03 39.2 +0.7
baz=55,slow=14,SNR=4.7
0.5nm,0.6s
MKAR Makanchi Array 8.09 205 Pn Pn 07 04 02.7 +1.4
0.1nm,0.3s,baz=19,slow=12,SNR=1.5
MKAR Lg Lg 07 06 20.2
baz=28,slow=31,SNR=2.6

---

*TAP **01** 07:08:00.6,24°.50N×122°.78E,h90km,ML3.8,C*
*JMA **01** 07:08:00.8±0.2,24°.N±3°.×122°.8E±0°.6,h89km±1km,*
MV3.2/13,NW OFF ISHIGAKIJIMA IS
ISC 01 07:08:00.8±1.3,24°.46N±0°.04×122°.78E±0°.03,h90km±7km,
n108,σ0.92/159,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.15**	**92**	P	**Pn**	**07 08 13.7**	**0.0**
JYNG				S	**Sn**	**07 08 23.2**	**0.0**
YOJ	**Yonaguni jima**	**0.21**	**88**	P	**Pn**	**07 08 13.8**	**0.0**
YOJ				*e*S	**Sn**	**07 08 23.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.21**	**88**	P	**Pn**	**07 08 13.9**	**+0.1**
YOJ				S	**Sn**	**07 08 23.5**	**0.0**
EOS3	**EOS3**	**0.45**	**248**	*e*P	**Pn**	**07 08 15.7**	**+0.7**
EOS3				S	**Sn**	**07 08 27.2**	**+1.6**
EOS2	**EOS2**	**0.50**	**266**	*i* P	**Pn**	**07 08 15.9**	**+0.5**
EOS2				S	**Sn**	**07 08 27.4**	**+1.1**
EOS4	**EOS4**	**0.54**	**232**	*i* P	**Pn**	**07 08 15.7**	**+0.3**
EOS4				*i* S	**Sn**	**07 08 27.1**	**+0.8**
ESAO	**Su ao**	**0.86**	**278**	*e*P	**Pn**	**07 08 19.2**	**+0.3**
ESAO				*e*S	**Sn**	**07 08 31.8**	**-0.7**
TWC	**Suao**	**0.86**	**280**	*i* P	**Pn**	**07 08 18.7**	**-0.2**
TWC				*i* S	**Sn**	**07 08 31.4**	**-1.1**
IRIF	**Iriomote-Funau**	**0.88**	**98**	P	**Pn**	**07 08 19.4**	**+0.3**
IRIF				S	**Sn**	**07 08 32.7**	**-0.1**
TWB1	**Santiao Chiao**	**0.91**	**308**	*e*P	**Pn**	**07 08 19.3**	**-0.2**
EWUT	**Wuta**	**0.91**	**270**	*e*P	**Pn**	**07 08 19.8**	**+0.3**
EWUT				*e*S	**Sn**	**07 08 33.3**	**-0.2**
ENA	**Nanau**	**0.94**	**269**	*e*P	**Pn**	**07 08 20.1**	**+0.3**
NDS	**Dongshan**	**0.98**	**281**	*e*P	**Pn**	**07 08 20.6**	**+0.3**
TIPB	**Shuangxi**	**1.01**	**301**	*e*P	**Pn**	**07 08 20.6**	**0.0**
TIPB				*e*S	**Sn**	**07 08 34.3**	**-1.2**
HATJ	**Hateruma jima**	**1.02**	**113**	P	**Pn**	**07 08 21.3**	**+0.6**
HATJ				S	**Sn**	**07 08 36.2**	**+0.6**
SXI1	**Grass Mountain**	**1.04**	**308**	*e*P	**Pn**	**07 08 21.1**	**0.0**
TWE	**Neicheng**	**1.04**	**285**	P	**Pn**	**07 08 21.1**	**+0.1**
ETL	**Fush Village**	**1.09**	**255**	*e*P	**Pn**	**07 08 21.7**	**0.0**
NWF	**Wu-fen Shan**	**1.09**	**304**	*i* P	**Pn**	**07 08 21.9**	**+0.2**
NWF				*i* S	**Sn**	**07 08 36.4**	**-0.9**
WFSB	**Wu-fen Shan**	**1.09**	**304**	*e*P	**Pn**	**07 08 21.6**	**0.0**
WFSB				*e*S	**Sn**	**07 08 36.4**	**-0.8**
NACB	**Ninganchiao**	**1.11**	**256**	P	**Pn**	**07 08 21.3**	**-0.6**
NACB	**Ninganchiao**	**1.11**	**256**	P	**Pn**	**07 08 21.2**	**-0.6**
ENTT	**Nioudou**	**1.12**	**280**	*e*P	**Pn**	**07 08 22.3**	**+0.4**
FUSB	**Fushanzhiwuyua**	**1.12**	**286**	P	**Pn**	**07 08 22.2**	**+0.2**
TWD	**Chiawan**	**1.14**	**251**	*e*P	**Pn**	**07 08 22.0**	**-0.1**
TWD				*e*S	**Sn**	**07 08 37.0**	**-1.1**
LATG	**Datong**	**1.14**	**274**	*e*P	**Pn**	**07 08 22.4**	**+0.1**
LATG				*e*S	**Sn**	**07 08 38.3**	**-0.1**
JKRS	**Kuro-shima**	**1.14**	**101**	P	**Pn**	**07 08 22.7**	**+0.6**
JKRS				S	**Sn**	**07 08 38.7**	**+0.5**
NWLT	**Wulai**	**1.20**	**286**	*e*P	**Pn**	**07 08 22.9**	**0.0**
NWLT				*e*S	**Sn**	**07 08 38.8**	**-0.8**
ETLH	**Xiulin Townshi**	**1.21**	**258**	*e*P	**Pn**	**07 08 22.9**	**-0.1**
ETLH				*e*S	**Sn**	**07 08 39.0**	**-0.8**
JIJ	**Ishigaki jima**	**1.25**	**94**	*i* P	**Pn**	**07 08 23.5**	**+0.1**
JIJ				S	**Sn**	**07 08 39.8**	**-0.7**
ETM	**Tongmen**	**1.27**	**248**	*e*P	**Pn**	**07 08 23.3**	**-0.5**
NNSB	**Datong**	**1.27**	**269**	*e*P	**Pn**	**07 08 23.8**	**0.0**
NNS	**Nan Shan**	**1.28**	**270**	*e*P	**Pn**	**07 08 24.2**	**+0.3**
SHUL	**Shoufeng**	**1.29**	**239**	*e*P	**Pn**	**07 08 24.1**	**+0.1**
SHUL				*i* S	**Sn**	**07 08 41.1**	**-0.3**
YHNB	**Yeheng**	**1.29**	**280**	P	**Pn**	**07 08 24.5**	**+0.4**
YHNB	**Yeheng**	**1.29**	**280**	S	**Sn**	**07 08 42.0**	**+0.4**
YHNB	**Yeheng**	**1.29**	**280**	*e*P	**Pn**	**07 08 24.2**	**+0.1**
YHNB				*e*S	**Sn**	**07 08 41.2**	**-0.5**
YM01	**YM01**	**1.29**	**302**	*e*P	**Pn**	**07 08 24.1**	**0.0**
YM08	**YM08**	**1.30**	**304**	*e*P	**Pn**	**07 08 24.1**	**-0.1**
NSK	**Sanguang**	**1.31**	**280**	P	**Pn**	**07 08 24.6**	**+0.3**
NSK				*e*S	**Sn**	**07 08 41.7**	**-0.2**
LXIB	**Xiulin Townshi**	**1.32**	**251**	*e*P	**Pn**	**07 08 24.0**	**-0.4**
ANP	**Anpu**	**1.35**	**303**	*e*P	**Pn**	**07 08 24.8**	**0.0**
ESL	**Shilin**	**1.39**	**243**	*e*P	**Pn**	**07 08 24.8**	**-0.4**
ESL				S	**Sn**	**07 08 42.7**	**-0.8**
TWS1	**Kuangyinshan**	**1.39**	**298**	*e*P	**Pn**	**07 08 24.2**	**-1.0**
TWS1				*e*S	**Sn**	**07 08 42.5**	**-1.2**
NTST	**Danshui**	**1.40**	**301**	*e*P	**Pn**	**07 08 25.5**	**+0.2**
NTST				*e*S	**Sn**	**07 08 43.1**	**-0.6**
JISG	**Ishigakijimahi**	**1.40**	**84**	*i* P	**Pn**	**07 08 25.4**	**+0.1**
JISG				S	**Sn**	**07 08 43.3**	**-0.6**
FUSS	**Fushou**	**1.41**	**262**	*e*P	**Pn**	**07 08 26.1**	**+0.4**
FUSS				*e*S	**Sn**	**07 08 44.0**	**-0.5**
WHF	**Hehuan Shan**	**1.42**	**258**	*e*P	**Pn**	**07 08 26.0**	**+0.1**
WHF				*e*S	**Sn**	**07 08 44.4**	**-0.4**
EGFH	**Guangfu**	**1.46**	**238**	*e*S	**Sn**	**07 08 44.0**	**-1.2**
WARBT	**Fenglin Townsh**	**1.47**	**240**	*e*P	**Pn**	**07 08 25.5**	**-0.7**
TWT	**Tachien**	**1.48**	**262**	*e*S	**Sn**	**07 08 45.5**	**-0.2**
TDCB	**Techi**	**1.49**	**263**	*e*P	**Pn**	**07 08 27.1**	**+0.5**
TDCB				S	**Sn**	**07 08 45.4**	**-0.7**
NFF	**Wufeng Townshi**	**1.52**	**277**	*i* P	**Pn**	**07 08 27.3**	**+0.4**
NFF				*i* S	**Sn**	**07 08 46.2**	**-0.4**
NCUH	**Zhongli**	**1.54**	**290**	*e*P	**Pn**	**07 08 27.1**	**+0.1**
NCUH				*i* S	**Sn**	**07 08 47.0**	**+0.1**
OWD	**Renai**	**1.55**	**251**	*e*P	**Pn**	**07 08 27.2**	**0.0**
OWD				*e*S	**Sn**	**07 08 46.3**	**-1.0**
HGSD	**Ruisui**	**1.57**	**233**	*e*P	**Pn**	**07 08 27.1**	**-0.3**
HGSD				*e*S	**Sn**	**07 08 46.7**	**-0.9**
WUSB	**Renai**	**1.58**	**253**	P	**Pn**	**07 08 28.0**	**+0.2**
WUSB				*e*S	**Sn**	**07 08 47.6**	**-0.5**
EHYH	**Wanrong**	**1.62**	**234**	*e*P	**Pn**	**07 08 27.8**	**-0.4**
EHY	**Hungye**	**1.63**	**235**	*e*P	**Pn**	**07 08 27.7**	**-0.5**
EHY				*e*S	**Sn**	**07 08 47.4**	**-1.7**
VWDT	**VWDT**	**1.65**	**245**	*e*P	**Pn**	**07 08 28.6**	**+0.1**
VWDT				*e*S	**Sn**	**07 08 48.9**	**-0.6**
ECBN	**Changbin**	**1.66**	**227**	*e*S	**Sn**	**07 08 48.6**	**-1.1**
WHP	**Taichung City**	**1.68**	**264**	*e*P	**Pn**	**07 08 30.1**	**+1.1**
WHP				S	**Sn**	**07 08 50.6**	**+0.3**
YULB	**Yu-li**	**1.72**	**232**	P	**Pn**	**07 08 28.9**	**-0.5**
YULB	**Yu-li**	**1.72**	**232**	S	**Sn**	**07 08 49.3**	**-1.8**
YULB	**Yu-li**	**1.72**	**232**	P	**Pn**	**07 08 28.8**	**-0.6**
EYUL	**Yuli**	**1.73**	**231**	*e*P	**Pn**	**07 08 29.9**	**+0.3**
EYUL				*e*S	**Sn**	**07 08 50.9**	**-0.4**
TWF1	**Yuli**	**1.75**	**231**	*e*P	**Pn**	**07 08 29.3**	**-0.5**
TWF1				*e*S	**Sn**	**07 08 50.5**	**-1.1**
WCS	**Beigang Elemen**	**1.75**	**257**	*e*P	**Pn**	**07 08 31.0**	**+1.2**
JTJ	**Tarama**	**1.76**	**84**	S	**Sn**	**07 08 52.2**	**+0.2**
CHKH	**Chenggong**	**1.79**	**225**	*e*S	**Sn**	**07 08 50.0**	**-2.6**
SSLB	**Suanglung**	**1.79**	**249**	P	**Pn**	**07 08 29.8**	**-0.6**
SSLB	**Suanglung**	**1.79**	**249**	S	**Sn**	**07 08 51.9**	**-1.0**
SSLB	**Suanglung**	**1.79**	**249**	*e*P	**Pn**	**07 08 31.0**	**+0.6**
SMLT	**Sun Moon Lake**	**1.81**	**252**	*e*P	**Pn**	**07 08 31.0**	**+0.4**
SMLT				*e*S	**Sn**	**07 08 53.5**	**+0.2**
NMLH	**Miaoli**	**1.81**	**273**	*e*S	**Sn**	**07 08 53.2**	**0.0**
TWQ1	**Liyutan**	**1.83**	**267**	*e*P	**Pn**	**07 08 32.0**	**+1.2**
FULB	**Fuli**	**1.85**	**228**	*e*P	**Pn**	**07 08 30.7**	**-0.4**
FULB				*e*S	**Sn**	**07 08 52.7**	**-1.4**
CHKT	**Chengkung**	**1.87**	**224**	*e*S	**Sn**	**07 08 52.3**	**-2.2**
WHYT	**Xinyi Township**	**1.92**	**247**	*i* P	**Pn**	**07 08 32.7**	**+0.8**
WHYT				*i* S	**Sn**	**07 08 56.5**	**+0.9**
TCU	**Taichung**	**1.94**	**261**	*e*P	**Pn**	**07 08 33.2**	**+0.9**
WJS	**Zhushan**	**1.98**	**252**	*e*S	**Sn**	**07 08 59.0**	**+1.9**
WNT	**Mingjian**	**2.00**	**254**	*e*S	**Sn**	**07 08 59.6**	**+2.1**
EDH	**Donghe**	**2.00**	**223**	*e*S	**Sn**	**07 08 55.5**	**-2.2**
ALS	**Alishan**	**2.04**	**243**	*e*P	**Pn**	**07 08 34.8**	**+1.0**
ELDTW	**Lidau**	**2.05**	**232**	*e*P	**Pn**	**07 08 33.2**	**-0.5**
LDUT	**Ludao**	**2.14**	**214**	*e*P	**Pn**	**07 08 34.1**	**-0.8**
LDUT				*e*S	**Sn**	**07 08 58.0**	**-3.0**
LONT	**Longtian**	**2.16**	**225**	*e*S	**Sn**	**07 08 60.0**	**-1.4**
WDLH	**Douliu**	**2.19**	**250**	*e*P	**Pn**	**07 08 36.6**	**+1.2**
WDLH				*e*S	**Sn**	**07 09 04.2**	**+2.2**
WCKO	**Fanlu**	**2.23**	**243**	*e*S	**Sn**	**07 09 05.1**	**+2.0**
STYH	**Taoyuan**	**2.24**	**236**	P	**Pn**	**07 08 37.0**	**+0.8**
STYH				*e*S	**Sn**	**07 09 03.3**	**+0.2**
WRL	**Guolierlin Hig**	**2.26**	**256**	*e*S	**Sn**	**07 09 03.8**	**0.0**
TPUB	**Ta-pu**	**2.28**	**240**	P	**Pn**	**07 08 38.0**	**+1.3**
TPUB	**Ta-pu**	**2.28**	**240**	*e*P	**Pn**	**07 08 38.0**	**+1.3**
TPUB				*e*S	**Sn**	**07 09 05.7**	**+1.5**
WTK	**Tuku**	**2.31**	**251**	*e*S	**Sn**	**07 09 06.1**	**+1.1**
WTP	**Ta-pu**	**2.32**	**239**	*e*P	**Pn**	**07 08 38.7**	**+1.4**
WTP				*e*S	**Sn**	**07 09 07.0**	**+1.8**
CHY	**Chiayi**	**2.35**	**247**	*e*S	**Sn**	**07 09 08.0**	**+2.1**
TWK	**Hsinying**	**2.41**	**241**	*e*P	**Pn**	**07 08 39.6**	**+1.2**
CHN1	**Nanshi**	**2.42**	**239**	*e*P	**Pn**	**07 08 39.8**	**+1.3**
CHN1				*e*S	**Sn**	**07 09 08.8**	**+1.3**
SNST	**Tainan City**	**2.42**	**240**	*e*S	**Sn**	**07 09 09.2**	**+1.6**
SGST	**Jiashian**	**2.43**	**236**	*e*P	**Pn**	**07 08 39.3**	**+0.6**
SGST				*e*S	**Sn**	**07 09 09.4**	**+1.6**
WSL	**Shuilin Townsh**	**2.51**	**249**	*e*P	**Pn**	**07 08 40.6**	**+0.8**
WSL				*e*S	**Sn**	**07 09 10.6**	**+0.9**
TSMG	**Majia**	**2.62**	**229**	*e*P	**Pn**	**07 08 42.6**	**+1.4**
LAY	**Lan-yu**	**2.66**	**205**	*e*P	**Pn**	**07 08 42.8**	**+1.0**
LYUB	**Lan-yu**	**2.68**	**204**	*e*P	**Pn**	**07 08 40.5**	**-1.6**
MASBT	**Mashibuluo**	**2.69**	**227**	*e*P	**Pn**	**07 08 43.5**	**+1.3**
MATB	**Ma-tsu**	**3.07**	**304**	*e*P	**Pn**	**07 08 46.7**	**-0.5**
MHZQ	**Yeshan**	**3.77**	**297**	*e*P	**Pn**	**07 08 56.1**	**-0.6**
AXDP	**Jialang**	**4.40**	**277**	*e*P	**Pn**	**07 09 04.8**	**-0.4**

IDC 01 07:19:13.3±3.4,54°.00N×87°.39E,h0km,mbtmp2.9/2,
ML2.5/2,Error ellipse: s-maj=30.5km s-min=17.4km
az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**269**	I	I	07 29 30.0	
	baz=86,slow=356,SNR=17						
ZALV	**Zalesovo Beam**	**1.52**	**269**	Pg	Pn	07 19 41.1	-0.7
	0.6nm,0.3s,baz=85,slow=18,SNR=5.7						
ZALV				Lg	Lg	07 20 01.2	
	1.1nm,0.3s,baz=96,slow=28,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.40**	**242**	Pn	Pn	07 20 49.8	+1.0
	0.1nm,0.3s,baz=60,slow=13,SNR=7.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.91**	**206**	Pn	Pn	07 21 10.4	+0.9
	0.1nm,0.3s,baz=23,slow=12,SNR=4.6						
MKAR				Sn	Sn	07 22 39.0	-0.8
	baz=18,slow=24,SNR=2.3						
	0.2nm,0.2s						

---

*SJA **01** 07:19:16.7±0.6,30°.15S×71°.51W,h51km±8km,ML3.5,*
MW3.5
*GUC **01** 07:19:19.1±0.7,30°.07S×71°.18W,h60km±3km,ML3.8*
ISC 01 07:19:18.5±1.3,30°.13S±0°.03×71°.48W±0°.05,h55km±9km,
n46,σ1.80/66,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.29**	**45**	*e*P	**Pn**	**07 19 29.1**	**+1.1**
CO05				*e*S	**Sn**	**07 19 36.7**	**+1.8**
CO05				IAML		07 19 37.1	
	comp=E,7μm,0.3s						
GO04	**Tololo Observa**	**0.59**	**94**	*e*P	**Pn**	**07 19 30.7**	**-0.7**
GO04				*e*S	**Sn**	**07 19 39.8**	**-0.9**
GO04	**Tololo Observa**	**0.59**	**94**	*e*P	**Pn**	**07 19 30.7**	**-0.7**
GO04				*e*S	**Sn**	**07 19 39.9**	**-0.8**
CO03	**El Pedregal**	**0.98**	**136**	*e*P	**Pn**	**07 19 34.8**	**-1.4**
CO03				IAML		07 19 47.9	
	comp=Z,941nm,0.1s						
CO03	**El Pedregal**	**0.98**	**136**	*i* P	**Pn**	**07 19 34.9**	**-1.4**
CO03				*i* S	**Sn**	**07 19 47.0**	**-2.3**
CO03				IAML		07 19 47.5	
	comp=E,6μm,0.2s						
CO01	**Juntas del Tor**	**1.21**	**83**	*e*P	**Pn**	**07 19 38.4**	**-1.0**
CO01				*e*S	**Sn**	**07 19 53.2**	**-1.7**
CO01				IAML		07 19 53.7	
	comp=Z,1μm,0.3s						
CO01	**Juntas del Tor**	**1.21**	**83**	*e*P	**Pn**	**07 19 38.6**	**-0.8**
CO01				*e*S	**Sn**	**07 19 52.9**	**-2.0**
CO01				IAML		07 19 53.6	
	comp=N,2μm,0.2s						
LCO	**Las Campanas**	**1.30**	**31**	*e*P	**Pn**	**07 19 40.7**	**0.0**
LCO				*e*S	**Sn**	**07 19 58.3**	**+1.1**
LCO				IAML		07 19 59.5	
	comp=Z,734nm,0.1s						
LCO	**Las Campanas**	**1.30**	**31**	*e*P	**Pn**	**07 19 40.7**	**0.0**
LCO				*e*S	**Sn**	**07 19 57.8**	**+0.6**
LCO				IAML		07 19 58.4	
	comp=Z,3μm,0.4s						
LCO				IAML		07 19 59.0	
	comp=Z,3μm,0.3s						
AROD	**Rodeo**	**1.74**	**92**	*e*P	**Pn**	**07 19 46.8**	**+0.2**
AROD				*e*S	**Sn**	**07 20 10.4**	**+2.6**
AC04	**Llanos de Chal**	**1.95**	**11**	*e*P	**Pn**	**07 19 49.8**	**+0.6**
AC04				*e*S	**Sn**	**07 20 07.2**	**-5.4**
AC04	**Llanos de Chal**	**1.95**	**11**	*e*P	**Pn**	**07 19 50.0**	**+0.7**
AC04				*e*S	**Sn**	**07 20 13.6**	**+1.1**
ACDV	**Cuesta del Vie**	**2.04**	**92**	*e*P	**Pn**	**07 19 51.0**	**+0.4**
ACCO	**Cerro Coronel**	**2.13**	**103**	*e*P	**Pn**	**07 19 52.8**	**+0.7**
ACCO				*e*S	**Sn**	**07 20 09.7**	**-7.9**
DOCA	**Reserva Natura**	**2.22**	**112**	*e*P	**Pn**	**07 19 53.6**	**+0.3**
DOCA				*e*S	**Sn**	**07 20 21.5**	**+1.7**
VA06	**Catapilco**	**2.43**	**176**	*e*P	**Pn**	**07 19 55.3**	**-0.5**
VA06				IAML		07 20 33.5	
	comp=N,883nm,0.3s						
RTLS	**Leoncito**	**2.51**	**132**	*e*P	**Pn**	**07 19 57.7**	**+0.6**
RTLS				*e*S	**Sn**	**07 20 28.9**	**+2.3**
RTLS				IAML		07 20 30.9	
	comp=Z,354nm,0.4s						
AGUA	**GUANDACOL**	**2.67**	**77**	*e*P	**Pn**	**07 20 01.0**	**+1.8**
AGUA				*e*S	**Sn**	**07 20 34.9**	**+4.5**
AGUA				IAML		07 20 35.0	
	comp=Z,196nm,0.2s						
VA03	**San Esteban**	**2.74**	**163**	*e*P	**Pn**	**07 20 00.2**	**+0.1**
VA03				*e*S	Sn	07 20 18.9	-13
VA03				IAML		07 20 45.6	
	comp=Z,235nm,0.8s						
VA03	**San Esteban**	**2.74**	**163**	*e*P	**Pn**	**07 20 00.1**	**-0.1**
VA03				IAML		07 20 35.8	
	comp=E,691nm,0.1s						
ZON	**Zonda**	**2.79**	**121**	*e*P	**Pn**	**07 20 01.0**	**+0.2**
ZON				*e*S	**Sn**	**07 20 34.1**	**+0.8**
ZON				IAML		07 21 00.6	
	comp=Z,61nm,0.5s						
ROCH	**El Roble**	**2.86**	**172**	IAML		07 20 44.5	
	comp=N,352nm,0.3s						
ROC1	**El Roble**	**2.87**	**172**	*e*P	**Pn**	**07 20 01.5**	**-0.5**
ROC1				*e*S	**Sn**	**07 20 36.3**	**+0.9**
SJA	**San Juan**	**2.87**	**120**	*e*P	Pn	07 19 56.9	-5.0
SJA				*e*S	Sn	07 20 23.1	-12
SJA				IAML		07 20 38.3	
	comp=Z,66nm,0.2s						
PEL	**Peldehue**	**3.08**	**168**	*e*P	**Pn**	**07 20 04.8**	**+0.1**
PEL				*e*S	**Sn**	**07 20 42.6**	**+2.3**
PEL	**Peldehue**	**3.08**	**168**	IAML		07 20 51.5	
	comp=E,187nm,0.4s						
MT02	**Curacav**	**3.13**	**175**	*e*P	**Pn**	**07 20 04.7**	**-0.8**
MT02				*e*S	**Sn**	**07 20 41.2**	**-0.4**
MT02				IAML		07 20 55.9	
	comp=Z,115nm,0.5s						
VCA	**Vinchina**	**3.17**	**65**	*e*P	**Pn**	**07 20 08.5**	**+2.4**
VCA				*e*S	**Sn**	**07 20 41.5**	**-1.3**
VCA				IAML		07 20 53.0	
	comp=Z,169nm,0.4s						
MT05	**Renca**	**3.31**	**169**	*e*P	**Pn**	**07 20 08.1**	**+0.1**
MT05				*e*S	**Sn**	**07 20 46.5**	**+0.4**
MT05				IAML		07 20 48.6	
	comp=Z,122nm,0.1s						
MT14	**Cerro Calan**	**3.35**	**166**	IAML		07 20 58.6	
	comp=E,285nm,0.3s						
MT16	**CCHEN**	**3.39**	**166**	IAML		07 21 02.1	
	comp=E,86nm,0.2s						
MT03	**Universidad Ad**	**3.46**	**166**	*e*P	**Pn**	**07 20 09.8**	**-0.1**
MT03				*e*S	**Sn**	**07 20 50.1**	**+0.5**
MT03				IAML		07 20 51.0	
	comp=Z,162nm,0.1s						
MT04	**Ro Olivares**	**3.46**	**161**	*e*P	**Pn**	**07 20 11.7**	**+1.6**
MT04				*e*S	**Sn**	**07 20 51.1**	**+1.2**
MT04				IAML		07 20 55.4	
	comp=Z,73nm,0.2s						
MT04	**Ro Olivares**	**3.46**	**161**	IAML		07 20 52.3	
	comp=E,123nm,0.2s						
VA05	**Santo Domingo**	**3.52**	**182**	*e*P	**Pn**	**07 20 09.3**	**-1.4**
MT08	**Bocatoma Ro**	**3.53**	**160**	*e*P	**Pn**	**07 20 13.9**	**+2.8**
MT08				*e*S	**Sn**	**07 20 50.8**	**-1.0**
MT08				IAML		07 21 06.2	
	comp=Z,59nm,0.6s						
MT08	**Bocatoma Ro**	**3.53**	**160**	IAML		07 21 03.1	
	comp=E,101nm,0.4s						
MT01	**Popeta**	**3.73**	**177**	*e*P	**Pn**	**07 20 13.0**	**-0.5**
MT01				*e*S	**Sn**	**07 20 56.1**	**-0.1**
MT01				IAML		07 21 09.0	
	comp=Z,77nm,0.7s						
MT13	**San Alfonso**	**3.74**	**165**	*e*P	**Pn**	**07 20 14.9**	**+1.0**
MT13				*e*S	**Sn**	**07 20 57.4**	**+0.6**
MT13				IAML		07 20 58.6	
	comp=Z,79nm,0.2s						
LMEL	**Las Melosas**	**3.86**	**164**	*e*P	**Pn**	**07 20 17.0**	**+1.5**
LMEL				*e*S	**Sn**	**07 21 00.4**	**+0.6**
AC02	**Maricunga**	**3.88**	**33**	*e*P	**Pn**	**07 20 16.4**	**+0.3**
AC02				IAML		07 21 27.4	
	comp=Z,34nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.00**	**81**	*e*P	**Pn**	**07 20 17.4**	**0.0**
AC01	**Pan de Azucar**	**4.04**	**11**	*e*P	**Pn**	**07 20 16.7**	**-1.2**
BO01	**Tunca**	**4.26**	**176**	*e*P	**Pn**	**07 20 20.0**	**-0.9**
APLL	**PUNTA DE LOS L**	**4.29**	**95**	*e*S	**Sn**	**07 21 07.8**	**-2.3**
BO02	**Sierra Bellavi**	**4.69**	**173**	*e*S	**Sn**	**07 21 19.6**	**-0.3**

---

*ISK **01** 07:23:07.9,38°.66N×31°.09E,h10km,ML1.8/6*
AFAD 01 07:23:06.7,38°.62N×31°.17E,h7km±1km,ML1.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCKU	**Afyonkarahisar**	**0.20**	**86**	P	Pg	07 23 11.1	+0.3
UCKU				S	Sg	07 23 14.1	+0.6
UCKU				*i* AML	AML	07 23 15.0	
	comp=N,86nm,0.4s						
UCKU				*i* AML	AML	07 23 17.0	
	comp=E,93nm,0.4s						
KURO	**Afyon-Bolvadin**	**0.22**	**301**	P	Pg	07 23 11.4	+0.3
KURO				S	Sg	07 23 14.3	+0.3
KURO				*i* AML	AML	07 23 15.0	
	comp=N,99nm,0.3s						
KURO				*i* AML	AML	07 23 15.0	
	comp=E,90nm,0.3s						
BYAT	**Afyon-Bayat**	**0.35**	**336**	P	Pg	07 23 13.9	+0.3
BYAT				S	Sg	07 23 18.3	-0.1
BYAT				*i* AML	AML	07 23 21.0	
	comp=N,116nm,0.4s						
BYAT				*i* AML	AML	07 23 21.0	
	comp=E,115nm,0.4s						
YVAC	**Isparta, Yalva**	**0.36**	**171**	P	Pg	07 23 14.1	+0.5
YVAC				*i* AML	AML	07 23 19.0	
	comp=N,34nm,0.3s						
YVAC				*i* AML	AML	07 23 19.0	
	comp=E,36nm,0.2s						
YVAC				S	Sg	07 23 19.5	+1.2
SHUT	**Suhut-Afyon**	**0.49**	**262**	Pg	Pg	07 23 16.8	+0.6
SHUT				Sg	Sg	07 23 23.6	+1.0
KIZT	**Kizilcal**	**0.61**	**65**	Pg	Pg	07 23 18.6	+0.1
KIZT				Sg	Sg	07 23 27.0	+0.5
AFYO	**Afyonkarahisar**	**0.70**	**284**	P	Pg	07 23 20.6	+0.5
AFYO				S	Sb	07 23 30.7	-0.5
AFYO				*i* AML	AML	07 23 31.0	
	comp=N,58nm,0.6s						
AFYO				*i* AML	AML	07 23 31.0	
	comp=E,56nm,0.5s						
CIFT	**Cifteler, Eski**	**0.74**	**354**	Pg	Pg	07 23 20.9	-0.1
CIFT				Sg	Sg	07 23 30.0	-0.7
KDHN	**Kadinhani**	**0.75**	**98**	P	Pg	07 23 21.0	-0.1
KDHN				S	Sg	07 23 31.6	+0.8
KDHN				*i* AML	AML	07 23 33.0	
	comp=N,22nm,0.5s						
KDHN				*i* AML	AML	07 23 33.0	
	comp=E,22nm,0.3s						
SVRH	**Sivrihisar-ESK**	**0.87**	**18**	Pg	Pn	07 23 25.1	-0.3
TVSB	**Tavsanli**	**1.57**	**302**	Pn	Pn	07 23 35.4	+0.4
YUVA	**Yuva-Kibriscik**	**1.81**	**13**	Pn	Pb	07 23 40.4	+0.2

---

*ASRS **01** 07:24:50.0±1.1,54°.25N×87°.06E,h0km,M2.4,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
**IDC 01 07:24:54.5±3.3,54°.22N×86°.79E,h0km,mbtm

0.1nm,0.3s,baz=59,slow=10,SNR=2.2
FITZ S Sn 07 46 54.7 -14
3.5nm,0.9s,baz=210,slow=16,SNR=2.0
3.3nm,0.8s
ASAR Alice Springs 19.66 195 P **P 07 43 42.6 +0.4**
0.4nm,0.3s,baz=16,slow=10.0,SNR=23
1.6nm,0.6s
MKAR Makanchi Array 71.79 323 P **P 07 50 35.7 +0.3**
0.4nm,0.7s,baz=99,slow=7.5,SNR=3.3
0.4nm,0.7s
BVAR Borovoye Array 81.34 325 P **P 07 51 29.9 +0.6**
1.2nm,0.5s,baz=104,slow=6.1,SNR=5.3
1.2nm,0.5s
ILAR Eielson Array 87.27 24 P **P 07 51 57.9 -1.2**
0.2nm,0.7s,baz=265,slow=5.0,SNR=1.7
0.2nm,0.7s

---

*SSNC **01** 07:39:33.8±2.4, 18°.22N×76°.65W, h5km±14km, MD2.9, ML1.9*
*JSN **01** 07:39:34.8±0.3, 18°.20N×76°.67W, h6km±12km, MD2.4*
ISC 01 07:39:32.7±1.3, 18°.3N±0°.1×76°.64W±0°.08, h11km±26km, n11, σ0°92/20, 3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.27**	**218**	*i* P	**Pg**	**07 39 38.5**	**+0.2**
STH				*i* S	**Sg**	**07 39 41.1**	**-0.9**
STH	**Stony Hill**	**0.27**	**218**	⇓*i*P	**Pg**	**07 39 38.5**	**+0.2**
HOJ	**Hope**	**0.30**	**201**	⇓*i*P	**Pg**	**07 39 38.9**	**0.0**
MTDJ	**Mount Denham**	**0.86**	**266**	*i* P	**Pg**	**07 39 49.7**	**+0.4**
MTDJ				*i* S	**Sg**	**07 40 01.3**	**+0.8**
CHIV	**Chivirico**	**1.69**	**7**	*i* P	**Pn**	**07 40 02.4**	**+0.2**
CHIV				*i* S	**Sb**	**07 40 24.7**	**-0.4**
CHIV				IAML		07 40 25.8	
	comp=N,5.7nm,0.3s						
CHIV				IAML		07 40 26.3	
	comp=E,2.8nm,0.1s						
LMGC	**Las Mercedes**	**1.80**	**349**	⇓*i*P	**Pn**	**07 40 04.3**	**+0.6**
LMGC				*e*S	**Sn**	**07 40 24.5**	**-1.9**
LMGC				IAML		07 40 27.7	
	comp=N,22nm,0.2s						
LMGC				IAML		07 40 28.0	
	comp=E,11nm,0.1s						
MARVS	**Santiago de Cu**	**1.84**	**22**	*i* P	**Pb**	**07 40 05.6**	**-0.7**
MARVS				*i* S	**Sb**	**07 40 29.6**	**+0.3**
MARVS				IAML		07 40 31.5	
	comp=N,8.5nm,0.6s						
MARVS				IAML		07 40 32.9	
	comp=E,5.9nm,0.6s						
RCC	**Rio Carpintero**	**1.91**	**28**	*i* P	**Pb**	**07 40 07.1**	**-0.5**
RCC				*i* S	**Sb**	**07 40 31.4**	**-0.1**
RCC				IAML		07 40 36.6	
	comp=N,7.3nm,0.9s						
RCC				IAML		07 40 36.9	
	comp=E,4.4nm,0.5s						
GTBY	**Guantanamo Bay**	**2.17**	**41**	*i* P	**Pn**	**07 40 09.4**	**+0.6**
GTBY				*i* S	**Sn**	**07 40 37.0**	**+1.2**
GTBY				IAML		07 40 40.9	
	comp=E,15nm,0.8s						
GTBY				IAML		07 40 41.1	
	comp=E,9.8nm,0.6s						
PINC	**Pinares de May**	**2.33**	**20**	*i* P	**Pn**	**07 40 12.3**	**+1.4**
PINC				*i* S	**Sn**	**07 40 39.6**	**+0.1**
PINC				IAML		07 40 43.7	
	comp=E,4.0nm,0.1s						
PINC				IAML		07 40 44.0	
	comp=N,4.8nm,0.1s						
QMBU	**Quimbuelo**	**2.56**	**42**	*i* P	**Pn**	**07 40 15.1**	**+0.8**
QMBU				*i* S	**Sn**	**07 40 44.0**	**-1.4**
QMBU				IAML		07 40 47.4	
	comp=N,14nm,1.4s						
QMBU				IAML		07 40 49.0	
	comp=E,13nm,1.2s						

IDC 01 07:48:00.8±26.0, 20°.20S×177°.61W, h497km±233km, mb3.2/5, mbtmp4.2/5, Error ellipse: s-maj=220.2km s-min=37.3km az=44.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.88**	**264**	P	P	07 54 01.7	+0.1
	1.6nm,0.3s,baz=112,slow=5.4,SNR=1.5						
	1.6nm,0.3s						
STKA	**Stephens Creek**	**38.24**	**244**	P	P	07 54 37.4	-0.3
	1.8nm,0.5s,baz=83,slow=9.9,SNR=3.6						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**44.94**	**256**	P	P	07 55 31.1	+0.1
	3.1nm,0.6s,baz=98,slow=7.5,SNR=46						
ASAR				PcP	PcP	07 57 01.8	-0.2
	0.1nm,0.4s,baz=110,slow=5.1,SNR=1.1						
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**45.00**	**262**	P	P	07 55 31.1	-0.4
	0.5nm,0.4s,baz=96,slow=6.7,SNR=13						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**69.86**	**180**	P	P	07 58 20.9	+0.1
	1.4nm,0.7s,baz=300,slow=0.3,SNR=10						
	1.4nm,0.7s						

---

*ASRS **01** 07:59:54.0±2.2, 54°.16N×86°.39E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 07:59:53.2±3.0, 54°.12N×86°.55E, h0km, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=14.7km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**261**	I	I	08 05 50.0	
	baz=81,slow=357,SNR=11						
ZALV	**Zalesovo Beam**	**1.03**	**261**	Pg	Pg	08 00 12.1	-0.8
	0.6nm,0.3s,baz=80,slow=17,SNR=6.1						
ZALV				Lg	Lg	08 00 28.1	
	1.3nm,0.3s,baz=80,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	08 01 23.3	-0.2
	0.1nm,0.3s,baz=53,slow=13,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	08 01 49.7	+1.6
	0.1nm,0.3s,baz=24,slow=16,SNR=5.8						
	0.1nm,0.4s						

---

*IDC **01** 08:00:05.0±4.9, 6°.84S×129°.78E, h89km±43km, mb4.1/11, mbtmp4.4/14, Error ellipse: s-maj=63.9km s-min=15.6km az=63.0*
*DJA **01** 08:00:09.3±0.4, 7°.S±3°.×13°.0E±°., h159km±8km, M4.7/16, mB5.1/5, mb4.9/9, MLv4.8/16, Mw(mB)4.5/5*
*NEIC **01** 08:00:09.4±1.7, 6°.79S±0°.06×129°.92E±0°.08, h128km±9km, mb4.4/22, Error ellipse: s-maj=14.2km s-min=3.1km az=122.0*
ISC 01 08:00:10.4±0.4, 6°.90S±0°.05×129°.96E±0°.06, h150km, n81, σ1°66/79, mb4.2/21, 4C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**129**		**Pn**	**08 00 42.0**	**-0.3**
SAUI	**Saumlaki**	**1.71**	**129**	P	**Pn**	**08 00 39.8**	**-2.5**
SAUI	**Saumlaki**	**1.71**	**129**	P	**Pn**	**08 00 41.7**	**-0.6**
SAUI				S	**Sn**	**08 01 06.8**	**+0.1**
BNDI	**Bandanaira**	**2.37**	**359**	P	**Pn**	**08 00 49.3**	**-0.7**
AAI	**Ambon**	**3.65**	**331**	P	**Pn**	**08 01 05.3**	**-0.8**
MSAI	**Masohi**	**3.68**	**344**	P	**Pn**	**08 01 06.6**	**0.0**
FAKI	**Fak Fak**	**4.57**	**30**	Pn	**Pn**	**08 01 14.4**	**-3.8**
FAKI	**Fak Fak**	**4.57**	**30**	P	**Pn**	**08 01 15.0**	**-3.2**
FAKI	**Fak Fak**	**4.57**	**30**	P	**Pn**	**08 01 14.7**	**-3.5**
NLAI	**Namlea**	**4.62**	**322**	P	**Pn**	**08 01 18.7**	**-0.2**
KMPI	**Kaimana, Papua**	**4.93**	**49**	P	**Pn**	**08 01 21.4**	**-1.5**
DRS	**Darwin Rock St**	**5.57**	**170**	P	**Pn**	**08 01 31.2**	**-0.3**
DRS	**Darwin Rock St**	**5.57**	**170**	S	**Sn**	**08 02 33.8**	**-1.0**
MTN	**Manton Dam**	**6.01**	**169**	Pn	**Pn**	**08 01 35.8**	**-1.6**
MTN	**Manton Dam**	**6.01**	**169**	P	**Pn**	**08 01 36.4**	**-1.0**
SWI	**Sorong**	**6.14**	**12**	P	**Pn**	**08 01 35.9**	**-3.2**
SANI	**Sanana**	**6.24**	**320**	P	**Pn**	**08 01 39.7**	**-0.7**
KDU	**Kakadu**	**6.26**	**157**	P	**Pn**	**08 01 39.3**	**-1.3**
SOEI	**Soe**	**6.30**	**243**	Pn	**Pn**	**08 01 40.1**	**-1.3**
SOEI	**Soe**	**6.30**	**243**	P	**Pn**	**08 01 40.9**	**-0.5**
SOEI	**Soe**	**6.30**	**243**	P	**Pn**	**08 01 40.1**	**-1.3**
	1.0nm2μm145nm,0.6s						
RKPI	**Ransiki, Papua**	**6.81**	**38**	P	**Pn**	**08 01 45.5**	**-2.5**
	307nm,0.7s						
MMRI	**Maumere**	**7.84**	**257**	Pn	**Pn**	**08 02 00.6**	**-1.2**
BAKI	**Biak**	**8.35**	**47**	P	**Pn**	**08 02 09.1**	**+0.5**
	478nm,1.3s						
KNRA	**Kununurra**	**8.80**	**188**	Pn	**Pn**	**08 02 11.9**	**-2.6**
TABU	**Tabubil**	**11.32**	**82**	P	**Pn**	**08 02 47.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.90**	**200**	Pn	**Pn**	**08 02 51.3**	**-4.1**
FITZ	**Fitzroy Crossi**	**11.90**	**200**	P	**Pn**	**08 02 51.2**	**-4.3**
	16nm,0.3s,baz=39,slow=12,SNR=55						
FITZ				S	Sn	08 04 54.1	-13
	23nm,0.5s,baz=58,slow=15,SNR=5.4						
WB0	**Warramunga Arr**	**13.49**	**162**	Pn	**Pn**	**08 03 12.1**	**-4.0**
WRA	**Warramunga Arr**	**13.64**	**162**	P	**Pn**	**08 03 14.9**	**-3.0**
	4.6nm,0.4s,baz=327,slow=14,SNR=68						
WRA				S	Sn	08 05 37.4	-12
	55nm,0.9s,baz=321,slow=26,SNR=19						
WB2	**Warramunga Arr**	**13.65**	**162**	Pn	**Pn**	**08 03 14.8**	**-3.1**
COEN	**Coen**	**14.76**	**119**	Pn	**Pn**	**08 03 31.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**15.74**	**263**		**P**	**08 03 43.8**	**-1.2**
JAGI				IAmb	IAmb	08 04 23.4	
	comp=Z,67nm,1.5s						
AS31	**Alice Springs**	**17.09**	**168**		**P**	**08 03 58.1**	**-1.8**
ASAR	**Alice Springs**	**17.09**	**168**	P	**Pn**	**08 04 00.1**	**-0.4**
	comp=Z,4.0nm,0.5s,baz=340,slow=9.2,SNR=83						
ASAR				S	S	08 06 51.7	-19
	comp=Z,4.2nm,0.7s,baz=331,slow=14,SNR=5.5						
AS01	**Alice Springs**	**17.10**	**167**	P	**Pn**	**08 04 01.7**	**+1.0**
MBWA	**Marble Bar**	**17.29**	**214**	P	**Pn**	**08 04 02.1**	**-0.8**
MBWA				IAmb	IAmb	08 04 10.4	
	comp=Z,16nm,1.0s						
PSA00	**Pilbara Seismi**	**17.56**	**213**		**Pn**	**08 04 04.5**	**-1.6**
PSA00				IAmb	IAmb	08 04 11.2	
	comp=Z,16nm,0.7s						
WRKA	**Warakurna**	**18.10**	**185**	P	**Pn**	**08 04 13.0**	**+0.4**
SBUM	**Sibu**	**20.00**	**297**	P	**P**	**08 04 31.8**	**+0.2**
OOD	**Oodnadatta**	**21.48**	**166**	P	**P**	**08 04 49.0**	**+1.8**
INKA	**Innaminka**	**23.11**	**155**	P	**P**	**08 05 06.1**	**+2.8**
FORT	**Forrest**	**23.82**	**184**	P	**P**	**08 05 10.7**	**+1.0**
FORT				IAmb	IAmb	08 05 47.3	
	comp=Z,30nm,0.9s						
BBOO	**Buckleboo**	**26.39**	**168**	P	**P**	**08 05 34.9**	**+1.9**
BBOO				IAmb	IAmb	08 05 56.9	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**27.12**	**158**	P	**P**	**08 05 40.7**	**+1.2**
STKA	**Stephens Creek**	**27.12**	**158**	P	**P**	**08 05 41.5**	**+2.0**
	comp=Z,2.1nm,0.4s,baz=328,slow=9.8,SNR=18						
	comp=Z,2.1nm,0.4s						
JMZ	**Minamidaito 2**	**32.55**	**2**	P	**P**	**08 06 28.3**	**+0.9**
UBPT	**Khong Chiam**	**32.78**	**312**	P	**P**	**08 06 28.9**	**-0.7**
UBPT				IAmb	IAmb	08 06 39.0	
	comp=Z,6.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**39.64**	**310**	P	**P**	**08 07 27.6**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=138,slow=7.1,SNR=8.6						
	comp=Z,1.1nm,0.3s						
PZH	**PanZhiHua**	**43.03**	**322**	P	**P**	**08 07 57.6**	**+2.0**
PZH				pmax	pmax		
	comp=Z,90nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
JMM	**Marumori**	**45.67**	**12**	P	**P**	**08 08 15.3**	**-0.9**
HHC	**Hu-ho-hao-te**	**50.44**	**342**	*e*P	P	08 08 57.5	+4.6
HHC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,210nm,4.6s						
USA0B	**Ussuriysk Arra**	**50.90**	**2**	P	**P**	**08 08 56.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**50.90**	**2**	P	**P**	**08 08 56.4**	**+0.3**
SONM	**Songino Array**	**58.34**	**342**	P	**P**	**08 09 50.4**	**+0.6**
SONM				IAmb	IAmb	08 09 52.0	
	comp=Z,4.5nm,1.5s						
SONM	**Songino Array**	**58.34**	**342**	P	**P**	**08 09 50.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=162,slow=8.2,SNR=3.1						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**68.12**	**327**	P	**P**	**08 10 55.2**	**+1.0**
	comp=Z,10nm,0.4s,baz=116,slow=8.1,SNR=157						
	comp=Z,10nm,0.4s						
AAK	**Ala-Archa**	**70.44**	**320**	P	**P**	**08 11 08.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=113,slow=13,SNR=4.8						
	comp=Z,1.0nm,0.5s						
ARSB	**Arslanbob**	**70.79**	**318**	P	**P**	**08 11 11.8**	**+0.9**
ZALV	**Zalesovo Beam**	**71.48**	**334**	P	**P**	**08 11 14.8**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=121,slow=6.9,SNR=5.4						
	comp=Z,2.1nm,0.6s						
SIMJ	**Simiganj**	**72.35**	**314**	P	**P**	**08 11 19.9**	**-0.4**
SIMJ				IAmb	IAmb	08 11 21.9	
	comp=Z,3.9nm,0.9s						
KURBB	**Kurchatov Arra**	**72.41**	**329**	P	**P**	**08 11 21.0**	**+0.8**
	comp=Z,4.2nm,0.5s,baz=128,slow=5.0,SNR=57						
	comp=Z,4.2nm,0.5s						
KURK	**Kurchatov**	**72.41**	**329**	P	**P**	**08 11 20.8**	**+0.7**
KURK				IAmb	IAmb	08 11 21.7	
	comp=Z,4.5nm,0.7s						
KKAR	**Karatay Array**	**73.24**	**319**	P	**P**	**08 11 25.6**	**+0.3**
KKAR	**Karatay Array**	**73.24**	**319**	P	**P**	**08 11 25.4**	**+0.1**
KKAR				IAmb	IAmb	08 11 26.5	
	comp=Z,1.3nm,0.9s						
BVAR	**Borovoye Array**	**77.96**	**328**	P	**P**	**08 11 52.3**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=141,slow=7.3,SNR=10.0						
	comp=Z,2.7nm,0.7s						
BRVK	**Borovoye**	**78.03**	**328**	P	**P**	**08 11 51.3**	**-1.0**
BRVK				IAmb	IAmb	08 11 53.8	
	comp=Z,2.9nm,0.6s						
UOSS	**Minazif**	**78.34**	**297**	P	**P**	**08 11 56.3**	**+1.7**
UOSS				IAmb	IAmb	08 11 56.6	
	comp=Z,14nm,1.4s						
VOI	**Vohitsoka**	**81.14**	**249**	P	**P**	**08 12 10.3**	**+0.3**
ABKAR	**Abkulak array**	**82.41**	**322**	P	**P**	**08 12 15.2**	**-0.5**
ABKAR	**Abkulak array**	**82.41**	**322**	P	**P**	**08 12 15.4**	**-0.4**
ABKAR				IAmb	IAmb	08 12 17.0	
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**83.07**	**180**	P	**P**	**08 12 20.8**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=113,slow=2.4,SNR=12						
	comp=Z,0.9nm,0.5s						
AKTO	**Aktyubinsk**	**83.97**	**322**	P	**P**	**08 12 23.4**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=122,slow=2.6,SNR=5.1						
	comp=Z,1.3nm,0.6s						
ARTI	**Arti**	**85.68**	**328**	P	**P**	**08 12 32.2**	**0.0**
	comp=Z,2.0nm,0.3s,baz=127,slow=5.8,SNR=4.4						
	comp=Z,2.0nm,0.3s						
TROLL	**Troll, Antarti**	**94.25**	**194**	⇑P	**P**	**08 13 13.3**	**+0.9**
	comp=Z,78nm,0.8s						
SNAA	**Sanae**	**95.75**	**193**	⇑P	**P**	**08 13 20.0**	**+0.9**
	comp=Z,43nm,1.0s						
VNA3	**Neumayer Olymp**	**97.57**	**192**	⇑P	Pdif	08 13 28.8	+1.4
	comp=Z,3.3nm,0.7s						
VNA1	**Neumayer–Stat**	**97.71**	**193**	⇑P	Pdif	08 13 27.4	-0.5
	comp=Z,7.6nm,0.7s						
PDAR	**Pinedale Array**	**116.85**	**45**	PKP	**PKiKP**	**08 18 39.9**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=308,slow=7.6,SNR=1.8						
TORD	**Torodi Ar. Bea**	**128.75**	**281**	PKP	**PKiKP**	**08 19 02.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=14,slow=2.2,SNR=2.7						
CPUP	**Villa Florida**	**146.22**	**168**	PKPbc	**PKiKP**	**08 19 36.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=180,slow=3.2,SNR=3.2						

---

*MDD **01** 08:04:19.4±17.0, 35°.88N×4°.96E, h0km, Mb4.7/9, M_mb4.2/9, Error ellipse: s-maj=183.5km s-min=40.8km az=150.0*
*CRAAG **01** 08:04:25.0, 36°.74N×4°.84E, MI3.3, Algerie 05km SW Toudja*
ISC 01 08:04:24.6±1.3, 36°.50N±0°.08×5°.08E±0°.07, h13km, n9, σ2°00/9, 3C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCHA	**Tamokra**	**0.35**	**259**	P	**Pb**	**08 04 33.2**	**+0.4**
ATKB	**Taksebt**	**0.79**	**283**	P	**Pg**	**08 04 37.5**	**-2.5**
CJSR	**Ain Djasser**	**0.95**	**132**	P	**Pb**	**08 04 42.2**	**-0.8**
AKET	**Djebel Ketaf**	**1.07**	**245**	P	**Pn**	**08 04 47.6**	**+2.2**
AKED	**El Kharrouba**	**1.35**	**277**	P	**Pn**	**08 04 47.3**	**-1.9**
ADJB	**Djebel Djouab**	**1.37**	**256**	P	**Pg**	**08 04 51.4**	**+0.5**
ETOS	**Mallorca**	**3.72**	**332**	Pn	**Pn**	**08 05 23.3**	**+1.5**
ETOS				⇑*i*Vmb_V		08 05 23.7	
	534nm,SNR=1.0						
EMOS	**Mosqueruela**	**5.82**	**313**	Pn	**Pn**	**08 05 50.9**	**+0.1**
EMOS				⇑*i*Vmb_V		08 05 55.7	
	285nm,SNR=1.1						
EMIR	**Miracle**	**6.07**	**334**	Pn	**Pn**	**08 05 56.7**	**+2.6**
EMIR				⇑*i*Vmb_V		08 06 00.0	
	824nm,SNR=1.4						

---

*IDC **01** 08:04:34.8±2.9, 54°.22N×87°.17E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=23.9km s-min=16.8km az=66.0*
ASRS 01 08:04:32.0±1.7, 54°.30N×86°.92E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**255**	I	I	08 12 45.0	
	0.1nm,1.1s,baz=78,slow=356,SNR=15						
ZALV	**Zalesovo Beam**	**1.29**	**255**	Pg	Pn	08 05 00.1	+2.8
	1.1nm,0.3s,baz=78,slow=16,SNR=16						
ZALV				Lg	Lg	08 05 19.9	
	1.0nm,0.3s,baz=78,slow=31,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.31**	**238**	Pn	Pn	08 06 11.0	+4.7
	0.1nm,0.3s,baz=53,slow=14,SNR=8.7						
KURBB				Sn	Sn	08 07 22.4	+3.5
	baz=354,slow=14,SNR=1.2						
KURBB				Lg	Lg	08 07 59.5	
	baz=60,slow=33,SNR=1.4						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**8.07**	**203**	Pn	Pn	08 06 34.3	+3.9
	0.1nm,0.3s,baz=24,slow=13,SNR=2.9						
MKAR				Sn	Sn	08 08 05.0	+2.7
	0.1nm,0.3s,baz=27,slow=26,SNR=3.0						
MKAR				Lg	Lg	08 08 48.2	
	baz=25,slow=29,SNR=1.7						
	0.1nm,0.3s						

---

*ASRS **01** 08:14:30.0±1.6, 53°.97N×86°.60E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 08:14:31.2±2.6, 53°.95N×86°.64E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=21.3km s-min=13.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**270**	I	I	08 20 30.0	
	baz=89,slow=357,SNR=8.6						
ZALV	**Zalesovo Beam**	**1.08**	**270**	Pg	Pg	08 14 51.0	-0.8
	0.7nm,0.3s,baz=87,slow=16,SNR=8.9						
ZALV				Lg	Lg	08 15 06.6	
	1.6nm,0.3s,baz=92,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**5.99**	**239**	Pn	Pn	08 16 02.3	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 17 42.9	
	baz=51,slow=31						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**203**	Pn	Pn	08 16 25.1	+0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=7.0						
MKAR				Lg	Lg	08 18 36.4	
	baz=28,slow=31,SNR=5.5						
	0.2nm,0.3s						

---

*SOME **01** 08:19:28.8, 41°.83N×81°.50E, h20km*
*NNC **01** 08:19:29.4±1.6, 41°.83N×81°.44E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.1km s-min=7.2km az=161.0*
ISC 01 08:19:34.0±3.7, 42°.0N±0°.1×81°.23E±0°.09, h13km±17km, n23, σ1°38/35, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.59**	**336**	*e*P	**Pb**	**08 20 02.5**	**-0.8**
	16nm,0.3s						
KTMS				*e*S	**Sg**	**08 20 27.2**	**+2.0**
	20nm,0.2s						
SHLS	**Shalkode**	**1.75**	**312**	*e*P	**Pn**	**08 20 02.0**	**-2.2**
	28nm,0.2s						
SHLS				*e*S	**Sn**	**08 20 25.7**	**-0.7**
	33nm,0.4s						
PDGK	**Podgornoye**	**1.85**	**317**	⇓Pn	**Pb**	**08 20 06.6**	**-1.1**
	13nm,0.4s						
PDGK				⇓Sn	**Sg**	**08 20 35.2**	**+1.6**
	25nm,0.6s						
UZB	**Uzynbulak**	**2.00**	**306**	Pg	**Pb**	**08 20 09.7**	**-0.6**
	20nm,0.8s						
UZB				Lg	Lg	08 20 38.9	
	38nm,0.5s						
UZB	**Uzynbulak**	**2.00**	**306**	*e*P	**Pb**	**08 20 09.7**	**-0.6**
	14nm,0.2s						
UZB				*e*S	**Sg**	**08 20 38.9**	**+0.7**
	37nm,0.3s						
SATY	**Saty**	**2.34**	**298**	Pg	**Pb**	**08 20 16.0**	**-0.1**
	15nm,0.7s						
SATY				Lg	Lg	08 20 49.8	
	41nm,0.4s						
KPKS	**Kokpek**	**2.38**	**309**	Pg	**Pb**	**08 20 16.2**	**-0.6**
	10nm,0.4s						
KPKS				Lg	Lg	08 20 50.4	
	37nm,0.5s						
KPKS	**Kokpek**	**2.38**	**309**	*e*P	**Pb**	**08 20 16.2**	**-0.6**
	9.9nm,0.3s						
KPKS				*e*S	**Sg**	**08 20 50.4**	**-0.2**
	37nm,0.5s						
DJR	**Jarkent**	**2.56**	**336**	Pg	**Pb**	**08 20 19.3**	**-0.6**
	2.5nm,0.3s						
DJR				Lg	Lg	08 20 55.6	
	25nm,0.6s						
DJR	**Jarkent**	**2.56**	**336**	*e*P	**Pb**	**08 20 19.3**	**-0.6**
	1.9nm,0.2s						
DJR				*e*S	**Sg**	**08 20 55.6**	**-0.7**
	25nm,0.4s						
KURS	**Kuram**	**2.70**	**305**	Pg	**Pb**	**08 20 23.4**	**+1.2**
	7.8nm,0.9s						
KURS				Lg	Lg	08 21 02.4	
	10nm,0.6s						
MDOK	**Medeo**	**3.30**	**292**	Pg	**Pb**	**08 20 34.1**	**+1.6**
	0.9nm,0.2s						
MDOK				Lg	Lg	08 21 20.8	
	11nm,0.5s						
MDOK	**Medeo**	**3.30**	**292**	*e*P	**Pb**	**08 20 34.1**	**+1.6**
	3.3nm,0.4s						
MDOK				*e*S	**Sg**	**08 21 20.8**	**+0.7**
	11nm,0.5s						
TNSS	**Tian-Shan**	**3.33**	**290**	Pg	**Pb**	**08 20 33.6**	**+0.3**
	3.4nm,0.6s						
TNSS				Lg	Lg	08 21 20.2	
	4.7nm,0.7s						
TNSS	**Tian-Shan**	**3.33**	**290**	*e*P	**Pb**	**08 20 33.5**	**+0.3**
	3.2nm,0.3s						
TNSS				*e*S	**Sg**	**08 21 20.2**	**-0.9**
	3.1nm,0.4s						
ARXS	**Arharly**	**3.33**	**313**	Pg	**Pb**	**08 20 34.2**	**+1.2**
	0.4nm,0.1s						
ARXS				Lg	Lg	08 21 21.4	
	14nm,0.6s						
KTBS	**Karatobe**	**3.76**	**299**	Pg	**Pb**	**08 20 41.2**	**+1.0**
	3.6nm,0.6s						
KTBS				Lg

ANBD	**Bethesda, Anti**	**0.49 150**	⇑ *iP*	Pn	08 21 50.1	+0.4
ANBD			*eS*	Sn	08 21 57.6	-0.2
ANBD	**Bethesda, Anti**	**0.49 150**	⇑ *iP*	Pn	08 21 50.1	+0.4
ANBD			*eS*	Sn	08 21 57.6	-0.2
SKI	**Saint Kitts**	**0.70 258**	*eP*	Pn	08 21 54.1	+1.6
SKI			*eS*	Sn	08 22 04.4	+1.4
SKI	**Saint Kitts**	**0.70 258**	*eP*	Pn	08 21 54.1	+1.6
SKI			*eS*	Sn	08 22 04.4	+1.4
SKOC	**St. Kitts, UWI**	**0.70 255**	*eP*	Pn	08 21 53.7	+1.2
SKOC			*eS*	Sn	08 22 04.5	+1.4
SKOC	**St. Kitts, UWI**	**0.70 255**	*eP*	Pn	08 21 53.7	+1.2
SKOC			*eS*	Sn	08 22 04.5	+1.4
MBFL	**Flemmings, Mon**	**0.74 194**	*eP*	Pn	08 21 54.9	+1.7
MBFL			*eS*	Sn	08 22 05.7	+1.6
MBFL	**Flemmings, Mon**	**0.74 194**	*eP*	Pn	08 21 54.9	+1.7
MBFL			*eS*	Sn	08 22 05.7	+1.6
MBWH		**0.74 192**	*eP*	Pn	08 21 54.8	+1.6
MBWH			*eS*	Sn	08 22 05.8	+1.6
MBWH		**0.74 192**	*eP*	Pn	08 21 54.8	+1.6
MBWH			*eS*	Sn	08 22 05.8	+1.6
TBG	**Guadaloupe-3**	**1.65 167**	*eP*	Pb	08 22 08.3	+0.8
TBG			*eS*	Sg	08 22 29.9	-0.7
TBG	**Guadaloupe-3**	**1.65 167**	*eP*	Pb	08 22 08.3	+0.8
TBG			*eS*	Sg	08 22 29.9	-0.7
DSLB	**Salisbury**	**2.11 164**	*eP*	Pb	08 22 14.5	-0.7
DSLB			*eS*	Sb	08 22 42.1	+1.0
DSLB	**Salisbury**	**2.11 164**	*eP*	Pb	08 22 14.5	-0.7
DSLB			*eS*	Sb	08 22 42.1	+1.0

*NEIC **01** 08:28:16.8±2.3, 24°.52S±0°.07×113°.02E±0°.05, h10km±1km, mb4.5/13, Error ellipse: s-maj=11.9km s-min=7.3km az=354.0*

*AUST **01** 08:28:19.8±0.6, 25°.5S±3°×11°.3E±°, h10km, mb4.8/24, ML4.4/14, Error ellipse: s-maj=15.4km s-min=4.9km az=98.4*

*NOU **01** 08:28:19.6, 24°.54S×113°.45E, h0km, mb4.7/23, Western Australia*

*IDC **01** 08:28:20.6±1.1, 23°.75S×113°.50E, h0km, mb4.0/4, mbtmp4.0/6, ML4.5/3, MS3.3/3, Error ellipse: s-maj=31.0km s-min=25.4km az=12.0*

ISC 01 08:28:18.8±0.7, 24°.54S±0°.05×113°.34E±0°.08, h10km, n105, σt180/88, mb4.6/15, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**2.06**	**24**		**Pn**	**08 28 54.0**	**+0.6**
GIRL	**Giralia**	**2.06**	**24**	P	**Pn**	**08 28 54.0**	**+0.6**
GIRL	**Giralia**	**2.06**	**24**	P	**Pn**	**08 28 54.1**	**+0.6**
MORW	**Morawa**	**5.12**	**152**	Pn	**Pn**	**08 29 37.6**	**+2.0**
MORW	**Morawa**	**5.12**	**152**	P	**Pn**	**08 29 38.0**	**+2.4**
	comp=Z,1.4nmcomp=Z,88nm,0.6s						
MORW	**Morawa**	**5.12**	**152**	S	**Sn**	**08 30 35.7**	**+1.0**
MORW	**Morawa**	**5.12**	**152**	P	**Pn**	**08 29 38.4**	**+2.8**
MORW	**Morawa**	**5.12**	**152**	S	**Sn**	**08 30 35.5**	**+0.7**
MEEK	**Meekatharra**	**5.20**	**115**	P	**Pn**	**08 29 40.0**	**+3.2**
	comp=Z,2.5nmcomp=Z,169nm,0.9s						
MEEK	**Meekatharra**	**5.20**	**115**	S	**Sn**	**08 30 38.4**	**+1.5**
PSAD3	**Pilbara Seismi**	**6.59**	**65**	P	**Pn**	**08 29 57.7**	**+1.8**
	comp=Z,1.1nmcomp=Z,33nm,0.6s						
PSAA1	**Pilbara Seismi**	**6.67**	**65**	P	**Pn**	**08 29 58.6**	**+1.7**
	comp=Z,0.9nmcomp=Z,74nm,0.9s						
PSA00	**Pilbara Seismi**	**6.68**	**65**	Pn	**Pn**	**08 29 58.6**	**+1.5**
PSA00	**Pilbara Seismi**	**6.68**	**65**	P	**Pn**	**08 29 58.9**	**+1.8**
	comp=Z,1.0nmcomp=Z,69nm,0.8s						
PSA00	**Pilbara Seismi**	**6.68**	**65**	P	**Pn**	**08 29 58.9**	**+1.8**
PSA00	**Pilbara Seismi**	**6.68**	**65**	S	**Sn**	**08 31 13.8**	**+0.6**
PSAD1	**Pilbara Seismi**	**6.72**	**64**	P	**Pn**	**08 29 58.9**	**+1.3**
	comp=Z,1.2nmcomp=Z,73nm,0.9s						
BLDU	**Ballidu**	**6.75**	**154**	P	**Pn**	**08 30 00.3**	**+2.3**
	comp=Z,0.8nmcomp=Z,25nm,0.5s						
BLDU	**Ballidu**	**6.75**	**154**	P	**Pn**	**08 30 00.2**	**+2.2**
MBWA	**Marble Bar**	**6.79**	**62**	Pn	**Pn**	**08 29 59.5**	**+1.0**
MBWA	**Marble Bar**	**6.79**	**62**	P	**Pn**	**08 29 59.9**	**+1.4**
	comp=Z,1.1nmcomp=Z,61nm,0.6s						
MBWA	**Marble Bar**	**6.79**	**62**	P	**Pn**	**08 30 00.3**	**+1.8**
MUN	**Mundaring**	**7.83**	**162**	P	**Pn**	**08 30 14.8**	**+2.0**
MUN	**Mundaring**	**7.83**	**162**	S	**Sn**	**08 31 39.7**	**-1.9**
MUN	**Mundaring**	**7.83**	**162**	P	**Pn**	**08 30 14.9**	**+2.0**
KLBR	**Kellerberrin**	**8.04**	**152**	P	**Pn**	**08 30 16.6**	**+0.9**
KLBR	**Kellerberrin**	**8.04**	**152**	P	**Pn**	**08 30 16.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**9.03**	**159**	Pn	**Pn**	**08 30 29.3**	**0.0**
NWAO	**Narrogin (SRO)**	**9.03**	**159**	P	**Pn**	**08 30 29.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**9.03**	**159**	P	**Pn**	**08 30 29.4**	**+0.1**
LM05	**Lake Muir 05**	**10.15**	**166**	P	**Pn**	**08 30 46.5**	**+1.9**
	comp=Z,0.2nmcomp=Z,32nm,0.7s						
KMBL	**Kambalda**	**10.16**	**134**	P	**Pn**	**08 30 45.8**	**+1.0**
	comp=Z,0.2nmcomp=Z,28nm,0.5s						
KMBL	**Kambalda**	**10.16**	**134**	S	**Sn**	**08 32 33.6**	**-5.3**
KMBL	**Kambalda**	**10.16**	**134**	P	**Pn**	**08 30 46.0**	**+1.2**
RKGY	**Rocky Gully**	**10.52**	**163**	P	**Pn**	**08 30 51.7**	**+1.9**
	comp=Z,0.4nmcomp=Z,48nm,0.6s						
RKGY	**Rocky Gully**	**10.52**	**163**	P	**Pn**	**08 30 51.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**13.13**	**63**	Pn	**Pn**	**08 31 24.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**13.13**	**63**	P	**Pn**	**08 31 24.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**13.13**	**63**	Pn	**Pn**	**08 31 24.1**	**-1.3**
	comp=Z,10nm,0.3s,baz=245,slow=8.7,SNR=179						
FITZ				Sn	Sn	08 33 39.0	-13
	comp=Z,3.0nm,0.3s,baz=155,slow=21,SNR=2.3						
FITZ				Lg	Lg	08 35 01.8	
	baz=15,slow=13						
FITZ				LR	LR	08 36 58.3	
	comp=Z,78nm,18.2s,baz=258,slow=41						
WRKA	**Warakurna**	**13.60**	**95**	P	**Pn**	**08 31 31.2**	**-0.7**
	comp=Z,45nm,0.7s						
WRKA	**Warakurna**	**13.60**	**95**	P	**Pn**	**08 31 31.5**	**-0.4**
FORT	**Forrest**	**14.44**	**119**	Pn	**Pn**	**08 31 42.1**	**-1.3**
FORT	**Forrest**	**14.44**	**119**	P	**Pn**	**08 31 42.2**	**-1.2**
FORT	**Forrest**	**14.44**	**119**	P	**Pn**	**08 31 42.5**	**-0.9**
JAGI	**Jajag, Banyuwa**	**16.00**	**3**	Pn	**Pn**	**08 31 60.0**	**-4.1**
JAGI				IAmb	IAmb	08 32 14.0	
	comp=Z,41nm,1.2s						
PLAI	**Plampang**	**16.19**	**16**	P	**Pn**	**08 32 05.5**	**-1.0**
	comp=Z,31nm,1.4s						
PLAI	**Plampang**	**16.19**	**16**	P	**Pn**	**08 32 07.7**	**+1.2**
UGM	**Wanagama**	**16.75**	**350**		**Pn**	**08 32 12.9**	**-0.8**
KNRA	**Kununurra**	**16.94**	**62**		**Pn**	**08 32 15.1**	**-1.0**
KNRA				IAmb	IAmb	08 32 21.1	
	comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**16.94**	**62**	P	**Pn**	**08 32 15.5**	**-0.6**
	comp=Z,19nm,1.4s						
ASAR	**Alice Springs**	**18.80**	**92**	P	**P**	**08 32 38.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=274,slow=11,SNR=33						
ASAR				S	Sn	08 35 54.3	-15
	comp=Z,5.6nm,0.8s,baz=263,slow=24,SNR=8.3						
ASAR				Lg	Lg	08 38 13.4	
	baz=14,slow=19						
ASAR				LR	LR	08 39 34.9	
	comp=Z,55nm,20.0s,baz=277,slow=36						
	comp=Z,1.3nm,0.3s						
AS31	**Alice Springs**	**18.80**	**92**		**P**	**08 32 39.0**	**+0.4**
AS31	**Alice Springs**	**18.80**	**92**	P	**P**	**08 32 40.0**	**+1.4**
	comp=Z,6.8nm,0.6s						
AS01	**Alice Springs**	**18.84**	**92**	P	**P**	**08 32 39.2**	**+0.2**
	comp=Z,21nm,0.6s						
WRA	**Warramunga Arr**	**19.96**	**81**	P	**P**	**08 32 52.9**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=255,slow=12,SNR=14						
WRA				S	S	08 36 24.1	-12
	comp=Z,1.8nm,0.4s,baz=254,slow=21,SNR=6.2						
WRA				Lg	Lg	08 38 48.7	
	baz=238,slow=27						
	comp=Z,2.3nm,0.6s						
WB2	**Warramunga Arr**	**19.97**	**81**	P	**P**	**08 32 51.5**	**0.0**
WB2				IAmb	IAmb	08 33 04.4	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**19.97**	**81**	P	**P**	**08 32 53.4**	**+1.9**
WB0	**Warramunga Arr**	**20.06**	**80**	P	**P**	**08 32 54.0**	**+1.5**
WB0				IAmb	IAmb	08 33 08.5	
	comp=Z,14nm,0.7s						
OOD	**Oodnadatta**	**20.32**	**104**	P	**P**	**08 32 57.2**	**+2.0**
	comp=Z,44nm,0.6s						
OOD	**Oodnadatta**	**20.32**	**104**	P	**P**	**08 32 57.1**	**+2.0**
MTN	**Manton Dam**	**20.45**	**59**	P	**P**	**08 32 57.4**	**+0.7**
MTN				IAmb	IAmb	08 33 04.0	
	comp=Z,30nm,0.7s						
MTN	**Manton Dam**	**20.45**	**59**	P	**P**	**08 32 57.6**	**+1.0**
	comp=Z,42nm,1.0s						
BBOO	**Buckleboo**	**21.54**	**118**	P	**P**	**08 33 06.4**	**-1.9**
BBOO				IAmb	IAmb	08 33 32.6	
	comp=Z,32nm,1.4s						
BBOO	**Buckleboo**	**21.54**	**118**	P	**P**	**08 33 11.0**	**+2.7**
	comp=Z,19nm,1.9s						
BBOO	**Buckleboo**	**21.54**	**118**	P	**P**	**08 33 09.7**	**+1.4**
KDU	**Kakadu**	**21.59**	**60**	P	**P**	**08 33 11.2**	**+2.3**
	comp=Z,20nm,1.5s						
KDU	**Kakadu**	**21.59**	**60**	P	**P**	**08 33 10.0**	**+1.0**
LCRK	**Leigh Creek**	**22.82**	**110**	P	**P**	**08 33 24.1**	**+2.1**
	comp=Z,34nm,0.7s						
LCRK	**Leigh Creek**	**22.82**	**110**	P	**P**	**08 33 23.4**	**+1.4**
HTT	**Hallett**	**24.02**	**117**	P	**P**	**08 33 34.9**	**+0.8**
QIS	**Mount Isa**	**24.56**	**86**	P	**P**	**08 33 39.9**	**+0.8**
	comp=Z,12nm,0.5s						
QIS	**Mount Isa**	**24.56**	**86**	P	**P**	**08 33 40.1**	**+1.0**
SDAN	**Sedan**	**24.65**	**120**	P	**P**	**08 33 40.8**	**+1.1**
	comp=Z,4.6nm,1.9s						
INKA	**Innaminka**	**24.79**	**103**	P	**P**	**08 33 43.6**	**+2.5**
	comp=Z,24nm,0.6s						
STKA	**Stephens Creek**	**25.90**	**113**	P	**P**	**08 33 52.1**	**+1.0**
	comp=Z,2.2nm,2.4s						
STKA	**Stephens Creek**	**25.90**	**113**	P	**P**	**08 33 56.4**	**+5.2**
	comp=Z,1.8nm,1.1s,baz=295,slow=10,SNR=4.5						
STKA				S	S	08 38 37.4	+16
	comp=Z,3.7nm,0.4s,baz=231,slow=0.7,SNR=5.3						
	comp=Z,1.8nm,1.1s						
CMSA	**Cobar Meteorol**	**29.32**	**111**	P	**P**	**08 34 23.6**	**+1.9**
PMG	**Port Moresby**	**35.55**	**71**	LR	LR	08 50 37.3	
	comp=Z,94nm,18.0s,baz=160,slow=38						
LHI	**Lord Howe Isla**	**40.73**	**110**	P	**P**	**08 35 57.7**	**-2.2**
H08S2	**Diego Garcia H**	**42.48**	**286**	T	T	09 20 42.8	
	baz=118,slow=76,SNR=520						
H08S1	**Diego Carcia H**	**42.50**	**286**	T	T	09 20 47.8	
	baz=118,slow=76,SNR=195						
H08S3	**Diego Garcia H**	**42.50**	**286**	T	T	09 20 44.0	
	baz=118,slow=76,SNR=3479						
SLVN	**Son La**	**46.51**	**348**	P	P	08 36 44.0	-2.6
SLVN				IAmb	IAmb	08 36 48.0	
	comp=Z,10nm,1.4s						
PZH	**PanZhiHua**	**51.96**	**347**	P	**P**	**08 37 29.2**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
H04S1	**CROZET ISLANDS**	**53.18**	**229**	T	T	09 34 07.6	
	baz=88						
H04S2	**CROZET ISLANDS**	**53.19**	**229**	T	T	09 33 58.3	
	baz=88,slow=74						
H04S3	**CROZET ISLANDS**	**53.20**	**229**	T	T	09 33 56.2	
	baz=88,slow=74						
H04N2	**CROZET ISLANDS**	**53.23**	**230**	T	T	09 34 09.1	
	baz=88,slow=75,SNR=539						
H04N3	**CROZET ISLANDS**	**53.24**	**230**	T	T	09 34 05.2	
	baz=88,slow=75,SNR=283						
H04N1	**CROZET ISLANDS**	**53.25**	**230**	T	T	09 34 09.7	
	baz=88,slow=75,SNR=484						
NJ2	**Nanjing**	**56.52**	**6**	*eP*	**P**	**08 38 01.3**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
VNDA	**Vanda**	**57.70**	**169**	P	**P**	**08 38 07.6**	**-1.6**
HHC	**Hu-ho-hao-te**	**65.07**	**359**	*eP*	**P**	**08 39 00.2**	**+0.7**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.1s						
QSPA	**South Pole Qui**	**65.55**	**180**	P	P	08 39 11.5	+9.1
	comp=Z,0.8nm,0.2s,baz=313,slow=5.0,SNR=3.6						
	comp=Z,0.8nm,0.2s						
WMQ	**Urumqi**	**71.98**	**341**	*eP*	**P**	**08 39 44.1**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**72.31**	**355**	P	P	08 39 41.9	-2.6
SONM	**Songino Array**	**72.31**	**355**	P	**P**	**08 39 44.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=177,slow=8.0,SNR=4.0						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**80.91**	**338**	P	**P**	**08 40 32.2**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=163,slow=5.4,SNR=2.4						
	comp=Z,0.5nm,0.3s						
ABKAR	**Akbulak array**	**87.49**	**328**	P	P	08 41 03.5	-3.0
ABKAR	**Akbulak array**	**87.49**	**328**	P	P	08 41 03.1	-3.4
VHRN	**Van Horn**	**145.61**	**71**		**PKPdf**	**08 47 53.1**	**-4.9**
ULM	**Lac du Bonnet**	**145.78**	**34**	PKPdf	PKPdf	08 47 51.7	-5.8
ULM	**Lac du Bonnet**	**145.78**	**34**	PKPbc	**PKPdf**	**08 47 56.9**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=311,slow=3.0,SNR=5.7						
TXAR	**Lajitas Array**	**146.75**	**73**		PKPdf	08 47 54.7	-5.3
TXAR	**Lajitas Array**	**146.75**	**73**	PKPbc	**PKPdf**	**08 48 02.4**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=210,slow=3.8,SNR=7.7						

*IDC **01** 08:30:17.0±2.2, 54°.22N×86°.09E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=17.4km s-min=9.8km az=61.0*

ASRS 01 08:30:13.0±1.1, 54°.28N×86°.18E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**248**	I	I	08 35 20.0	
	0.1nm,0.7s,baz=67,slow=354,SNR=19						
ZALV	**Zalesovo Beam**	**0.87**	**248**	Pg	Pb	08 30 30.5	-0.4
	1.1nm,0.3s,baz=66,slow=17,SNR=10						
ZALV				Lg	Lg	08 30 44.1	
	4.7nm,0.3s,baz=71,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**5.94**	**235**	Pn	Pn	08 31 45.2	+3.1
	0.1nm,0.3s,baz=52,slow=13,SNR=5.8						
KURBB				Lg	Lg	08 33 22.6	
	0.1nm,0.3s,baz=54,slow=30,SNR=1.5						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.89**	**200**	Pn	Pn	08 32 12.8	+3.8
	0.3nm,0.3s,baz=21,slow=12,SNR=13						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**9.46**	**269**	Pn	Pn	08 32 34.6	+4.2
	baz=62,slow=15,SNR=2.1						
	0.3nm,0.3s						

NDI 01 08:36:22.6±2.5, 19°.98N×72°.85E, h6km±14km, ML3.6, MW3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.08**	**182**	*eP*	Pb	08 36 43.5	-0.1
BOM				*eS*	Sb	08 36 58.4	+0.5
BOM				IAML		08 37 04.0	
	comp=E,506nm,0.4s						
POO	**Poona**	**1.72**	**147**	*eP*	Pb	08 36 54.7	0.0
POO				*eS*	Sb	08 37 16.5	-0.1
POO				IAML		08 37 19.8	
	comp=E,517nm,0.2s						
BHV	**Bhavnagar**	**1.88**	**339**	*eP*	Pn	08 36 56.2	+0.8
BHV				*eS*	Sn	08 37 19.4	0.0
BHV				IAML		08 37 22.7	
	comp=N,574nm,0.4s						
KAD	**Karad**	**2.94**	**154**	*eP*	Pn	08 37 10.4	+0.4
KAD				IAML		08 37 56.4	
	comp=E,405nm,0.4s						
LATR	**Latur**	**3.83**	**113**	*eP*	Pn	08 37 19.3	-2.8
LATR				*eS*	Sn	08 38 04.8	-2.7
AKL	**Akola**	**3.97**	**79**	*eP*	Pn	08 37 24.4	+0.3
AKL				*eS*	Sn	08 38 09.6	-1.4
NGP	**Nagpur**	**5.92**	**78**	*eP*	Pn	08 37 51.6	+0.7
HYB	**Hyderabad**	**5.97**	**114**	IAML		08 39 33.5	
	comp=E,190nm,0.5s						

*IDC **01** 08:40:17.8±2.4, 24°.60N×141°.30E, h81km±20km, mb3.6/13, mbtmp4.0/14, Error ellipse: s-maj=24.9km s-min=16.0km az=96.0*

ISC 01 08:40:19.8±0.8, 24°.7N±0°.1×141°.4E±0°.2, h100km, n14, σ0°81/16, mb3.9/13, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.54**	**17**	P	**Pn**	**08 40 58.5**	**-1.0**
	156nm,0.3s,baz=262,slow=17,SNR=6.0						
JCJ				S	**Sn**	**08 41 29.1**	**-0.8**
	293nm,0.4s,baz=119,slow=24,SNR=3.7						
WRA	**Warramunga Arr**	**44.85**	**189**	P	**P**	**08 48 23.7**	**-0.5**
	0.8nm,0.4s,baz=8.1,slow=8.6,SNR=9.9						
WRA				PcP	**PcP**	**08 50 04.6**	**+0.2**
	0.6nm,0.5s,baz=6.1,slow=3.5,SNR=6.3						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**48.58**	**189**	P	**P**	**08 48 51.9**	**-1.3**
	0.4nm,1.0s,baz=14,slow=12,SNR=4.0						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**51.48**	**311**	P	**P**	**08 49 14.6**	**-0.4**
	0.5nm,0.4s,baz=86,slow=9.9,SNR=12						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**54.23**	**316**	P	**P**	**08 49 35.5**	**+0.4**
	0.4nm,0.3s,baz=92,slow=7.9,SNR=7.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**59.34**	**318**	P	**P**	**08 50 12.0**	**+0.8**
	0.9nm,0.3s,baz=90,slow=7.9,SNR=5.7						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**60.21**	**28**	P	**P**	**08 50 17.1**	**+0.2**
	0.5nm,0.7s,baz=262,slow=5.2,SNR=8.0						
	0.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**72.64**	**350**	P	**P**	**08 51 36.8**	**+0.8**
	13nm,1.0s,baz=348,slow=6.3,SNR=1.6						
	13nm,1.0s						
YKA	**Yellowknife Ar**	**74.64**	**28**	P	**P**	**08 51 49.0**	**+1.1**
	0.2nm,0.4s,baz=295,slow=6.3,SNR=13						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**75.59**	**341**	P	**P**	**08 51 53.7**	**+0.4**
	6.2nm,1.1s,baz=64,slow=8.4,SNR=8.8						
	6.2nm,1.1s						
FINES	**FINESS Array B**	**79.80**	**334**	P	**P**	**08 52 16.4**	**-0.3**
	0.6nm,0.3s,baz=52,slow=3.1,SNR=6.4						
	0.6nm,0.3s						
NVAR	**Mina Array Bea**	**82.62**	**51**	P	**P**	**08 52 33.2**	**+0.8**
	0.3nm,0.6s,baz=307,slow=5.4,SNR=3.1						
	0.3nm,0.6s						
HFS	**Hagfors**	**85.36**	**337**	P	**P**	**08 52 44.6**	**-1.0**
	2.8nm,0.9s,baz=33,slow=3.4,SNR=1.9						
	2.8nm,0.9s						
PDAR	**Pinedale Array**	**86.47**	**44**	P	**P**	**08 52 52.0**	**+0.2**
	0.1nm,0.3s,baz=328,slow=1.9,SNR=2.2						
	0.1nm,0.3s						

*NEIC **01** 09:03:26.4±1.8, 34°.95N±0°.02×97°.32W±0°.02, h4km±5km, Error ellipse: s-maj=3.1km s-min=1.6km az=128.0*

NEIC 01 09:03:25.8±1.5, 34°.93N±0°.02×97°.30W±0°.02, h5km±1km, mb_Lg2.2/11, ML2.2/36, ML2.7/25, Error ellipse: s-maj=4.5km s-min=2.9km az=135.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.34**	**346**	Pg	Pg	09 03 33.0	+0.6
FNO					Sg	09 03 36.8	-0.1
FNO				IAML		09 03 44.1	
	comp=N,173nm,0.7s						
W35A	**Tecumseh**	**0.41**	**57**	Pg	Pb	09 03 35.0	-0.6
W35A				Sg	Sb	09 03 41.7	-0.5
W35A				IAML		09 03 44.6	
	comp=N,99nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.49**	**347**		Pg	09 03 35.8	+0.6
OKCSW				IAML		09 03 51.1	
	comp=N,96nm,0.8s						
OKCSW				IAML		09 03 51.4	
	comp=E,126nm,0.8s						
X34A	**Smith Ranch, M**	**0.55**	**233**		Pg	09 03 36.3	+0.1
X34A					Sb	09 03 45.5	-0.5
X34A				IAML		09 03 46.0	
	comp=E,188nm,0.4s						
X34A				IAML		09 03 48.8	
	comp=N,134nm,0.6s						
OK031	**S. Brethren Rd**	**1.09**	**20**		Pg	09 03 46.3	-0.4
OK031					Sb	09 04 01.4	-0.2
OK031				IAML		09 04 07.2	
	comp=N,54nm,0.5s						
OK031				IAML		09 04 07.2	
	comp=N,84nm,0.7s						
DEOK	**Depew**	**1.12**	**35**		Pg	09 03 47.2	-0.1
DEOK					Sb	09 04 03.0	+0.4
OK052	**Battle Ridge R**	**1.14**	**21**		Pg	09 03 47.2	-0.4
OK052					Sb	09 04 02.8	-0.3
OK052				IAML		09 04 13.3	
	comp=N,64nm,0.4s						
WMOK	**Wichita Mounta**	**1.23**	**262**		Pg	09 03 48.6	-0.8
WMOK					Sg	09 04 04.5	-0.9
WMOK	**Wichita Mounta**	**1.23**	**262**		Pg	09 03 49.1	-0.3
WMOK				IAML		09 04 10.2	
	comp=N,15nm,0.5s						
WMOK				IAML		09 04 13.8	
	comp=N,15nm,0.3s						
WMOK	**Wichita Mounta**	**1.23**	**262**	P	Pg	09 03 48.6	-0.8
QUOK	**Quay**	**1.33**	**21**		Pn	09 03 50.7	-0.4
QUOK					Sn	09 04 09.2	0.0
CSTR	**Hydro, Custer**	**1.34**	**303**		Pn	09 03 50.4	-0.9
CSTR					Sg	09 04 08.6	-0.3
WTFS	**Witchita Falls**	**1.51**	**220**		Pb	09 03 54.1	-0.1
WTFS	**Witchita Falls**	**1.51**	**220**	P	Pn	09 03 53.5	+0.1
Z35A	**Perchaven, San**	**1.59**	**179**	P	Pn	09 03 55.1	+0.5
OK051	**E0350 and S346**	**1.62**	**13**		Pn	09 03 55.0	0.0
OK051					Sg	09 04 17.4	-0.3
CROK	**Carrier**	**1.67**	**341**		Pn	09 03 56.2	+0.5
CROK					Sb	09 04 18.8	+0.5
BLOK	**Blackwell**	**1.83**	**2**		Pn	09 03 58.1	+0.2
OK038	**West end E0370**	**1.94**	**323**	Pn	Pn	09 03 59.8	+0.4
FW06	**Azle**	**1.96**	**186**		Pn	09 04 00.4	+0.7
FW06	**Azle**	**1.96**	**186**	P	Pb	09 04 02.4	+0.4
FW03	**Perrin-Whitt E**	**1.99**	**199**		Pn	09 04 00.3	+0.2
FW03				IAmb_Lg		09 04 29.7	
	comp=Z,8.9nm,0.7s						
ELIS	**Ellis County**	**2.07**

B011			S	Sn	09 05 35.9	-0.2
B009	**North Saanich**	**0.38 298**	P	Pn	09 05 28.8	-0.3
B009			S	Sn	09 05 35.9	-0.2
B010	**North Saanich**	**0.38 298**	P	Pn	09 05 28.8	-0.3
B010			S	Sn	09 05 35.8	-0.4
PGC	**Sidney**	**0.38 298**		Pn	09 05 28.9	-0.3
PGC				Sn	09 05 36.3	+0.2
PGC			IAML		09 05 37.2	
	comp=E,329nm,0.4s					
PGC			IAML		09 05 37.4	
	comp=N,417nm,0.3s					
PGC	**Sidney**	**0.38 298**	P	Pn	09 05 28.9	-0.2
PGC			S	Sn	09 05 36.0	-0.1
SQM	**Sequim**	**0.40 189**		Pn	09 05 29.4	0.0
BLN	**Blyn Mountain**	**0.47 182**		Sn	09 05 38.2	+0.4
B04A	**Port Angeles**	**0.56 222**		Pn	09 05 30.9	-0.3
SYMB	**Survey Mountai**	**0.57 279**		Pn	09 05 31.1	-0.4
SYMB	**Survey Mountai**	**0.57 279**	P	Pn	09 05 31.0	-0.5
SYMB			S	Sn	09 05 40.2	-0.1
STW	**Striped Peak**	**0.58 237**		Pn	09 05 31.4	-0.2
STW	**Striped Peak**	**0.58 237**	P	Pn	09 05 31.3	-0.2
GOBB	**Galiano Island**	**0.61 322**		Pn	09 05 32.0	+0.2
GOBB	**Galiano Island**	**0.61 322**	P	Pn	09 05 31.9	+0.1
GOBB			S	Sn	09 05 41.2	+0.3
B013	**Quilcene**	**0.66 178**		Pn	09 05 32.1	-0.4
B013	**Quilcene**	**0.66 178**		Pn	09 05 32.0	-0.5
B013				Sn	09 05 42.6	+0.7
JCW	**Jim Creek**	**0.73 112**		Pn	09 05 33.4	-0.2
JCW	**Jim Creek**	**0.73 112**	P	Pn	09 05 33.4	-0.2
C04A	**Brinnon**	**0.76 181**		Pn	09 05 33.5	-0.2
OSD	**Olympics--Snow**	**0.82 218**		Pn	09 05 35.4	+0.5
OSD	**Olympics--Snow**	**0.82 218**	P	Pn	09 05 35.3	+0.4
HDW	**Hoodsport**	**0.83 185**		Pn	09 05 34.5	-0.3
HDW	**Hoodsport**	**0.83 185**	P	Pn	09 05 34.5	-0.3
B926	**Mesachie Lake**	**0.86 294**		Pn	09 05 34.9	-0.2
B926	**Mesachie Lake**	**0.86 294**	P	Pn	09 05 34.9	-0.2
B926			S	Sn	09 05 47.0	+0.3
CLRS	**Cowichan Lake**	**0.86 294**		Pn	09 05 35.0	-0.2
CLRS			IAML		09 05 49.5	
	comp=N,136nm,0.3s					
CLRS	**Cowichan Lake**	**0.86 294**	P	Pn	09 05 34.9	-0.2
CLRS			S	Sn	09 05 46.8	+0.1
OBC	**Olympics--Boni**	**0.87 240**		Pn	09 05 35.9	+0.5
OBC	**Olympics--Boni**	**0.87 240**	P	Pn	09 05 35.8	+0.4
BLH	**Bald Hill**	**0.88 136**		Pn	09 05 35.5	+0.1
P403	**Sandy Floe Qua**	**0.90 243**		Pn	09 05 35.7	0.0
GNW	**Green Mountain**	**0.91 175**		Pn	09 05 35.9	0.0
GNW				Sn	09 05 48.6	+0.7
GNW	**Green Mountain**	**0.91 175**	P	Pn	09 05 35.5	-0.4
GNW			S	Sn	09 05 48.0	+0.1
GMW	**Gold Mountain**	**0.93 173**		Pn	09 05 36.0	-0.1
BIB	**Bowen Island**	**0.96 346**		Pn	09 05 36.8	+0.3
BIB	**Bowen Island**	**0.96 346**	P	Pn	09 05 36.8	+0.2
BIB			S	Sn	09 05 49.2	0.0
PTRF	**Port Renfrew**	**0.98 275**		Pn	09 05 33.6	-3.1
PTRF	**Port Renfrew**	**0.98 275**	P	Pn	09 05 36.1	-0.6
PTRF			S	Sn	09 05 49.0	-0.5
NLLB	**Nanaimo Lost L**	**1.02 318**		Pn	09 05 37.9	+0.6
NLLB	**Nanaimo Lost L**	**1.02 318**	P	Pn	09 05 37.6	+0.3
NLLB			S	Sn	09 05 51.1	+0.6
SP2	**Seward Park 2**	**1.03 153**		Pn	09 05 38.8	+1.3
HTW	**Haystack Looko**	**1.03 130**		Pn	09 05 37.7	+0.1
OLQ	**Olympics--Lake**	**1.12 211**		Pn	09 05 38.7	+0.1
WPB	**Watts Point**	**1.20 352**	P	Pn	09 05 39.8	+0.1
WPB			S	Sn	09 05 54.6	-0.3
C03A	**Quillayute Air**	**1.20 245**	Pn	Pn	09 05 39.9	+0.1
C03A			IAML		09 06 00.6	
	comp=E,144nm,0.3s					
NLWA	**Neilton Lookou**	**1.25 210**	Pn	Pn	09 05 40.3	-0.1
NLWA			IAML		09 06 00.2	
	comp=E,106nm,0.3s					
NLWA			IAML		09 06 00.7	
	comp=E,67nm,0.3s					
GPW	**Glacier Peak**	**1.26 106**		Pn	09 05 41.4	+0.6
GPW	**Glacier Peak**	**1.26 106**	P	Pn	09 05 41.2	+0.4
MGRB	**Mount Grey**	**1.27 295**	P	Pn	09 05 40.3	-0.5
MGRB			S	Sn	09 05 56.8	-0.1
RATT	**Rattlesnake La**	**1.30 143**		Pn	09 05 41.4	+0.3
HOPB	**Hope**	**1.36 47**	P	Pn	09 05 42.3	+0.3
HOPB			S	Sn	09 05 58.8	0.0
D05A	**Enumclaw**	**1.44 153**		Pn	09 05 43.8	+0.8
D05A			IAML		09 06 06.9	
	comp=N,116nm,0.5s					
D05A	**Enumclaw**	**1.44 153**	P	Pn	09 05 43.0	+0.1
D05A			S	Sn	09 06 00.7	0.0
B927	**Port Alberni**	**1.44 302**		Pn	09 05 44.1	+1.1
B927	**Port Alberni**	**1.44 302**	P	Pn	09 05 43.4	+0.4
B927			S	Sn	09 06 01.0	+0.3
PABB	**Port Alberni**	**1.44 302**	P	Pn	09 05 43.4	+0.5
PABB			S	Sn	09 06 01.3	+0.6
WISH	**Wishkah**	**1.46 203**	Pn	Pn	09 05 43.3	0.0
WISH			IAML		09 06 14.2	
	comp=E,46nm,1.8s					
WISH			IAML		09 06 19.2	
	comp=N,52nm,2.2s					
WISH	**Wishkah**	**1.46 203**	P	Pn	09 05 43.4	+0.1
WISH			S	Sn	09 06 01.3	0.0
B928	**Bamfield**	**1.49 285**	P	Pn	09 05 43.5	-0.2
B928			S	Sn	09 06 01.5	-0.4
BFSB	**Bamfield**	**1.49 285**	P	Pn	09 05 43.6	-0.1
BFSB			S	Sn	09 06 02.3	+0.2
WRW	**Wenatchee Ridg**	**1.52 113**		Pn	09 05 44.8	+0.7
B941	**Kapowsin**	**1.56 161**		Pn	09 05 44.6	0.0
TXB	**Texada**	**1.57 322**		Pn	09 05 45.9	+1.1
TXB	**Texada**	**1.57 322**	P	Pn	09 05 45.7	+0.9
TXB			S	Sn	09 06 06.2	+2.3
WSLR	**Whistler**	**1.66 1**	P	Pn	09 05 46.7	+0.7
OZB	**Mount Ozzard**	**1.75 287**	Pn	Pn	09 05 47.5	+0.1
OZB			IAML		09 06 09.3	
	comp=N,83nm,1.6s					
OZB			IAML		09 06 51.8	
	comp=E,73nm,2.1s					
FMW	**Mount Fremont**	**1.77 150**		Pn	09 05 48.4	+0.7
FMW	**Mount Fremont**	**1.77 150**	P	Pn	09 05 47.7	+0.1
PANH	**Panhandle Gap,**	**1.84 151**		Pn	09 05 50.4	+1.7
B019	**Raymond**	**1.88 195**		Pn	09 05 46.6	-2.4
LON	**Longmire**	**1.89 155**		Pn	09 05 49.5	+0.3
LON			IAML		09 06 16.7	
	comp=E,33nm,0.5s					
LON	**Longmire**	**1.89 155**	P	Pn	09 05 49.3	+0.1
LON			S	Sn	09 06 11.7	-0.2
LTY	**Liberty**	**1.96 128**		Pn	09 05 51.0	+0.8
LTY			IAML		09 06 19.0	
	comp=N,27nm,0.6s					
LTY	**Liberty**	**1.96 128**	P	Pn	09 05 50.8	+0.6
ETW	**Entiat**	**1.96 115**		Pn	09 05 51.5	+1.2
KOSW	**Kosmos**	**2.08 165**		Pn	09 05 52.6	+0.8
RADR	**Rader Ridge**	**2.13 196**	Pn	Pn	09 05 52.5	0.0
RADR			IAML		09 06 25.9	
	comp=E,53nm,1.9s					
RADR			IAML		09 06 52.0	
	comp=N,42nm,2.9s					
ERK	**Elk Rock**	**2.21 169**		Pn	09 05 54.2	+0.6
B201	**Coldwater, Mou**	**2.22 168**		Pn	09 05 54.2	+0.5
CBB	**Campbell River**	**2.22 316**	Pn	Pn	09 05 54.5	+0.8
CBB			IAML		09 06 26.8	
	comp=E,30nm,2.9s					
CBB			IAML		09 06 57.5	
	comp=N,23nm,3.5s					
CBB	**Campbell River**	**2.22 316**	P	Pn	09 05 54.1	+0.4
EBG	**Ellensburg**	**2.24 133**		Pn	09 05 55.2	+1.2
LLLB	**Lillooet**	**2.25 18**		Pn	09 05 54.8	+0.6
LLLB	**Lillooet**	**2.25 18**	P	Pn	09 05 54.8	+0.6
B202	**Windy Ridge, M**	**2.29 166**		Pn	09 05 55.4	+0.6
SOSW	**Source of Smit**	**2.30 166**		Pn	09 05 53.7	-1.1
FL2	**Flat Top 2**	**2.31 170**		Pn	09 05 55.9	+0.8
SEPW	**September Lobe**	**2.33 167**		Pn	09 05 57.2	+1.8
SHW	**Mount Saint He**	**2.33 168**		Pn	09 05 56.9	+1.5
B203	**Quarry, Mount**	**2.34 169**		Pn	09 05 56.1	+0.7
HSR	**South Ridge**	**2.36 167**		Pn	09 05 57.0	+1.2
B023	**Clatskanie**	**2.36 182**		Pn	09 05 55.8	+0.2
B08A	**Colville Reser**	**2.41 91**	Pn	Pn	09 05 56.9	+0.5
B08A	**Colville Reser**	**2.41 91**	P	Pn	09 05 56.9	+0.5
GDR	**Gold River**	**2.41 304**	P	Pn	09 05 57.6	+1.4
GDR			S	Sn	09 06 25.1	+0.5
CDFW	**Cedar Flats**	**2.44 165**		Pn	09 05 57.8	+1.1
AWST	**Adams West**	**2.46 161**		Pn	09 05 58.3	+1.2
F03A	**Seaside**	**2.58 190**		Pn	09 05 58.5	-0.1
MXC	**Moxie City**	**2.61 135**	Pn	Pn	09 05 58.8	-0.3
NCSB	**Newcastle Ridg**	**2.80 315**	P	Pn	09 06 03.6	+1.8
E07A	**Sunnyside**	**2.84 131**	Pn	Pn	09 06 02.5	+0.3
E07A			IAML		09 06 52.2	
	comp=N,19nm,2.1s					
E07A			IAML		09 07 07.1	
	comp=E,14nm,2.7s					
WOSB	**Woss**	**2.91 307**	P	Pn	09 06 04.2	+1.0
WOSB			S	Sn	09 06 36.2	-0.7
D08A	**Wollman Farm,**	**3.06 116**	Pn	Pn	09 06 05.3	+0.1
EDB	**Eliza Dome**	**3.08 299**	S	Sn	09 06 40.5	-0.4
C09A	**Chrisman Ranch**	**3.20 100**		Pn	09 06 07.2	0.0
C09A			IAML		09 07 01.3	
	comp=E,16nm,0.3s					
C09A			IAML		09 07 08.0	
	comp=N,13nm,0.3s					
G03D	**McMinnville, O**	**3.27 184**	Pn	Pn	09 06 08.5	+0.4
MAYB	**Maynard**	**3.37 307**	P	Pn	09 06 11.1	+1.6
MAYB			S	Sn	09 06 48.1	-0.2
PACB	**Port Alice, BC**	**3.56 305**	P	Pn	09 06 13.8	+1.9
PACB			S	Sn	09 06 52.7	0.0
H04A	**Detroit Lake**	**3.83 172**	Pn	Pn	09 06 16.4	+0.6
H04A			IAML		09 08 09.3	
	comp=E,11nm,4.2s					
H04A			IAML		09 08 32.4	
	comp=N,8.2nm,4.2s					
NEW	**Newport**	**3.89 91**	Pn	Pn	09 06 16.9	+0.2
NEW			IAML		09 07 28.3	
	comp=N,8.9nm,4.1s					
NEW			IAML		09 08 33.2	
	comp=N,6.6nm,3.6s					
HOLB	**Holberg**	**4.01 305**	Pn	Pn	09 06 18.5	+0.3
I02E	**Swisshome, OR**	**4.41 188**	Pn	Pn	09 06 23.8	+0.2
UBRB	**Upper Baezaeko**	**4.48 351**	S	Sn	09 07 16.7	+1.0

*NEIC **01** 09:05:32.2±1.1, 38°.37N±0°.02×115°.81W±0°.03, h2km±4km, Error ellipse: s-maj=3.6km s-min=1.5km az=120.0*
REN 01 09:05:33.0±0.9, 38°.36N±0°.02×115°.79W±0°.02, h7km±4km, ML2.6/4, ML2.0/52(NEIC), Error ellipse: s-maj=3.3km s-min=2.1km az=134.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R11B	**Troy Canyon, C**	**0.16**	**94**		Pg	09 05 36.4	0.0
R11B					Sg	09 05 39.2	+0.5
R11B	**Troy Canyon, C**	**0.16**	**94**	IAML		09 05 39.7	
	comp=E,174nm,0.4s						
R11B				IAML		09 05 39.7	
	comp=N,269nm,0.2s						
S11A	**Rachel**	**0.71**	**177**		Pg	09 05 46.5	-0.3
S11A					Sg	09 05 56.5	+0.5
S11A				IAML		09 05 57.3	
	comp=N,108nm,0.4s						
Q12A	**Willow Creek R**	**1.01**	**48**		Pg	09 05 52.3	-0.2
Q12A					Sg	09 06 06.1	+0.4
PRN	**Pahroc Range**	**1.12**	**148**		Pg	09 05 54.1	-0.4
PRN				Sg	Sg	09 06 09.2	+0.2
Q09A	**Carvers**	**1.19**	**294**	Pg	Pg	09 05 55.0	-0.9
SPR3	**Spring Creek 3**	**1.31**	**60**		Pn	09 05 56.8	-1.3
SPR3					Sg	09 06 13.4	-1.7
SPR3				IAML		09 06 15.2	
	comp=N,37nm,0.8s						
SPR3				IAML		09 06 15.9	
	comp=E,38nm,0.5s						
MZP	**Montezuma Peak**	**1.42**	**243**		Pn	09 05 57.9	-1.6
MZP				IAML		09 06 18.4	
	comp=E,19nm,0.5s						
MZP				IAML		09 06 22.9	
	comp=N,15nm,0.5s						
CPY	**CP-1**	**1.44**	**188**		Pn	09 05 59.1	-0.6
PSUT	**Pine Spring**	**1.53**	**83**		Pn	09 06 00.8	-0.2
PSUT				IAML		09 06 23.2	
	comp=N,27nm,0.3s						
PSUT				IAML		09 06 23.5	
	comp=E,22nm,0.6s						
NSP	**Numbskull Pass**	**1.66**	**192**		Pn	09 06 03.3	+0.5
WCT	**Wildcat Mounta**	**1.70**	**203**		Pn	09 06 03.1	-0.1
WCT				IAML		09 06 31.2	
	comp=E,11nm,0.3s						
SDH	**Striped Hills**	**1.77**	**194**		Pn	09 06 04.7	+0.6
GRAC	**Grapevine Rang**	**1.85**	**223**		Pb	09 06 06.3	-0.9
GRAC	**Grapevine Rang**	**1.85**	**223**	Pn	Pn	09 06 05.7	+0.5
GRAC	**Grapevine Rang**	**1.85**	**223**	IAML		09 06 33.3	
	comp=E,22nm,0.3s						
NV11	**Mina Array Sit**	**1.86**	**273**		Pn	09 06 05.7	+0.2
NV11				IAML		09 06 32.0	
	comp=E,10.0nm,1.0s						
NV11				IAML		09 06 32.7	
	comp=N,13nm,0.3s						
SHPR	**Sheep Range**	**1.92**	**165**	Pn	Pn	09 06 05.6	-0.7
AMDNV	**Amargosa**	**1.94**	**192**		Pb	09 06 08.0	-0.8
NVAR	**Mina Array Bea**	**1.98**	**273**		Pn	09 06 07.0	-0.1
NV08	**Mina Array Sit**	**1.99**	**272**		Pn	09 06 08.0	+0.7
DSP	**Deep Springs**	**1.99**	**241**		Pn	09 06 08.2	+1.1
DSP				IAML		09 06 36.4	
	comp=E,20nm,0.6s						
DSP				IAML		09 06 37.2	
	comp=N,14nm,0.4s						
NV09	**Mina Array Sit**	**2.00**	**273**		Pn	09 06 08.4	+0.9
LHV	**Little Huntoon**	**2.14**	**268**	Pn	Pn	09 06 09.2	+0.1
RYN	**Ryan**	**2.16**	**278**		Pn	09 06 10.7	+1.1
GWY	**Greenwater Val**	**2.28**	**198**	Pn	Pn	09 06 11.2	-0.1
GWY				IAML		09 06 49.7	
	comp=E,10nm,0.6s						
GWY				IAML		09 07 00.2	
	comp=N,8.5nm,2.9s						
ELK	**Elko**	**2.42**	**10**	Pn	Pn	09 06 13.2	-0.1
LCMT	**Little Creek M**	**2.43**	**123**	Pn	Pn	09 06 12.7	-0.6
TCRU	**Three Creeks R**	**2.63**	**84**	Pn	Pn	09 06 15.4	-0.8
TCRU				IAML		09 07 20.2	
	comp=E,9.5nm,4.4s						
V12A	**Nelson**	**2.73**	**164**	Pn	Pn	09 06 17.3	-0.2
V12A				IAML		09 06 58.6	
	comp=E,5.3nm,3.6s						
V12A				IAML		09 07 06.4	
	comp=N,4.2nm,3.2s						
YERR	**Yerington**	**2.77**	**284**	Pn	Pn	09 06 18.4	+0.3
YERR				IAML		09 06 59.2	
	comp=N,7.0nm,2.5s						
YERR				IAML		09 07 19.4	
	comp=E,7.7nm,3.7s						
MVU	**Marysvale**	**2.81**	**86**	Pn	Pn	09 06 18.8	+0.1
MSU	**Marysvale**	**2.84**	**86**	Pn	Pn	09 06 21.2	+2.1
TUQ	**Turquoise Moun**	**2.92**	**182**		Pg	09 06 28.1	-0.8

*IDC **01** 09:09:29.5±2.7, 54°.01N×86°.68E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=22.2km s-min=13.2km az=59.0*
ASRS 01 09:09:27.0±0.6, 53°.93N×86°.63E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**272**	I	I	09 15 55.0	
	baz=89,slow=356,SNR=23						
ZALV	**Zalesovo Beam**	**1.07**	**272**	Pg	Pn	09 09 49.5	+0.3
	0.9nm,0.3s,baz=88,slow=15,SNR=12						
ZALV				Lg	Lg	09 10 05.3	
	1.3nm,0.3s,baz=88,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**5.97**	**240**	Pn	Pn	09 11 00.3	+3.7
	0.1nm,0.3s,baz=56,slow=13,SNR=9.6						
KURBB				Sn	Sn	09 12 11.4	+5.8
	baz=143,slow=7.2,SNR=1.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	09 11 24.5	+4.6
	0.2nm,0.3s,baz=22,slow=13,SNR=8.2						
MKAR				Sn	Sn	09 12 52.6	+5.3
	0.1nm,0.3s,baz=21,slow=25,SNR=2.7						
MKAR				Lg	Lg	09 13 35.0	
	baz=12,slow=28,SNR=2.9						
	0.2nm,0.3s						

*IDC **01** 09:10:20.2±3.2, 54°.58N×86°.21E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=25.1km s-min=13.7km az=48.0*
ASRS 01 09:10:18.0±0.9, 54°.57N×86°.36E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.10**	**236**	I	I	09 16 30.0	
	baz=53,slow=353,SNR=12						
ZALV	**Zalesovo Beam**	**1.10**	**236**	Pg	Pn	09 10 40.3	-0.3
	1.1nm,0.3s,baz=50,slow=16,SNR=6.7						
ZALV				Lg	Lg	09 10 53.7	
	2.0nm,0.3s,baz=54,slow=27,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.19**	**234**	Pn	Pn	09 11 51.9	+1.3
	0.1nm,0.3s,baz=49,slow=13,SNR=8.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.20**	**200**	Pn	Pn	09 12 21.0	+2.8
	0.1nm,0.3s,baz=18,slow=14,SNR=5.9						
MKAR				Sn	Sn	09 13 54.3	+2.7
	0.1nm,0.3s,baz=16,slow=27,SNR=2.4						
	0.2nm,0.3s						

*NEIC **01** 09:20:54.8±0.8, 19°.26N±0°.08×65°.26W±0°.09, h35km±2km, ML2.3/20, Md2.6/5(RSPR), Error ellipse: s-maj=14.4km s-min=12.6km az=73.0*
*RSPR **01** 09:20:56.5, 19°.12N×65°.21W, h59km±13km, MD2.6/5*
ISC 01 09:20:53.2±2.0, 19°.2N±0°.1×65°.25W±0°.05, h25km, n25, σ0°73/29, 7C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.21**	**221**		**Pb**	**09 21 15.2**	**-0.2**
GCPR					**Sn**	**09 21 29.8**	**-0.4**
GCPR	**Guaynabo City**	**1.21**	**221**	⇓eP	**Pb**	**09 21 15.2**	**-0.2**
GCPR	**Guaynabo City**	**1.21**	**221**	eS	**Sb**	**09 21 30.6**	**-0.1**
HUMP	**Col San Antoni**	**1.22**	**208**		**Pb**	**09 21 15.6**	**-0.1**
HUMP					**Sb**	**09 21 30.6**	**-0.4**
HUMP				IAML		09 21 35.1	
	comp=E,30nm,0.2s						
HUMP				IAML		09 21 37.8	
	comp=N,37nm,0.5s						
HUMP	**Col San Antoni**	**1.22**	**208**	⇑eP	**Pb**	**09 21 15.6**	**-0.1**
HUMP	**Col San Antoni**	**1.22**	**208**	eS	**Sb**	**09 21 31.2**	**+0.2**
ECPR	**Experimental S**	**1.39**	**230**	⇑eP	**Pn**	**09 21 17.3**	**+0.3**
PDPR	**Patillas Dam,**	**1.41**	**212**	Pn	**Pb**	**09 21 18.6**	**-0.3**
PDPR				IAML		09 21 39.6	
	comp=E,33nm,0.5s						
PDPR	**Patillas Dam,**	**1.41**	**212**	⇑eP	**Pb**	**09 21 18.4**	**-0.5**
PDPR	**Patillas Dam,**	**1.41**	**212**	eS	**Sn**	**09 21 35.2**	**+0.1**
IGPR	**InterUniversit**	**1.50**	**213**		**Pn**	**09 21 19.1**	**+0.6**
IGPR					**Sb**	**09 21 38.7**	**-0.2**
IGPR				IAML		09 21 42.0	
	comp=N,60nm,0.3s						
IGPR	**InterUniversit**	**1.50**	**213**	⇑eP	**Pb**	**09 21 19.8**	**-0.6**
IGPR	**InterUniversit**	**1.50**	**213**	eS	**Sn**	**09 21 36.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.68**	**239**		**Pn**	**09 21 22.0**	**+1.0**
AOPR					**Sn**	**09 21 42.0**	**+0.3**
AOPR				IAML		09 22 03.0	
	comp=N,48nm,0.5s						
AOPR	**Arecibo Observ**	**1.68**	**239**	⇑eP	**Pb**	**09 21 22.5**	**-1.0**
AOPR	**Arecibo Observ**	**1.68**	**239**	eS	**Sb**	**09 21 43.0**	**-1.1**
UUPR	**Utuado, UPR, P**	**1.70**	**235**		**Pn**	**09 21 22.2**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.70**	**235**	⇑eP	**Pb**	**09 21 23.2**	**-0.7**
CELP	**Cerrillos**	**1.71**	**228**	Pn	**Pn**	**09 21 22.1**	**+0.7**
OBIP	**Obispado Ponce**	**1.75**	**228**	Pn	**Pn**	**09 21 22.7**	**+0.7**
OBIP				IAML		09 21 47.7	
	comp=E,23nm,1.0s						
OBIP				IAML		09 22 10.3	
	comp=N,22nm,2.0s						
MLPR	**Magueyes Islan**	**2.12**	**234**		**Pn**	**09 21 26.7**	**-0.3**
MLPR				IAML		09 21 44.5	
	comp=E,22nm,3.5s						
MLPR				IAML		09 22 49.6	
	comp=N,25nm,2.5s						
MLPR	**Magueyes Islan**	**2.12**	**234**	⇑eP	**Pn**	**09 21 28.3**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.15**	**236**	Pn	**Pn**	**09 21 29.4**	**+1.9**
CRPR				IAML		09 22 42.1	
	comp=N,27nm,2.4s						
ANBD	**Bethesda, Anti**	**3.96**	**123**	eP	**Pn**	**09 21 52.0**	**-0.3**
ANBD	**Bethesda, Anti**	**3.96**	**123**	eS	**Sn**	**09 22 38.8**	**+0.8**

*TAP **01** 09:33:01.3, 22°.59N×120°.49E, h31km, ML3.5, B*
ISC 01 09:33:01.4±1.2, 22°.56N±0°.02×120°.41E±0°.03, h41km±5km, n105, σ0°88/160, 10C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAU	**Kaohsiung**	**0.10**	**278**	P	**Pn**	**09 33 07.9**	**-0.2**
KAU				*i* S	**Sn**	**09 33 13.9**	**+1.2**
TSPT	**Pingtung City**	**0.14**	**33**	*i* P	**Pn**	**09 33 07.6**	**-0.8**
TSPT				S	**Sn**	**09 33 13.1**	**-0.1**
SGLT	**Jiouru**	**0.18**	**24**	*i* P	**Pn**	**09 33 08.3**	**-0.4**
SGLT				S	**Sn**	**09 33 13.4**	**-0.3**
WLCH	**Liuqiu**	**0.20**	**188**	P	**Pn**	**09 33 09.2**	**+0.3**
WLCH				*i* S	**Sn**	**09 33 16.4**	**+2.5**
SNJT	**Kaohsiung City**	**0.21**	**341**	P	**Pn**	**09 33 08.6**	**-0.3**
SNJT				S	**Sn**	**09 33 14.9**	**+0.9**
TWP	**Hsiaoliuchiu**	**0.21**	**192**	P	**Pn**	**09 33 10.0**	**+1.1**
MASBT	**Mashibuluo**	**0.21**	**74**	⇓*i*P	**Pn**	**09 33 07.4**	**-1.5**
MASBT				*i* S	**Sn**	**09 33 12.1**	**-2.0**
TSMG	**Majia**	**0.26**	**55**	⇓P	**Pn**	**09 33 08.1**	**-1.3**
TSMG				eS	**Sn**	**09 33 12.9**	**-2.0**
SCZT	**Fangliau**	**0.27**	**133**	⇓*i*P	**Pn**	**09 33 08.4**	**-1.0**
SCZT				S	**Sn**	**09 33 13.7**	**-1.3**
TWM1	**Shoushan**	**0.27**	**2**	⇓eP	**Pn**	**09 33 09.5**	**0.0**
TWM1				eS	**Sn**	**09 33 15.9**	**+0.8**
SCST	**Cishan**	**0.34**	**13**	eP	**Pn**	**09 33 10.1**	**-0.1**
SCST				eS	**Sn**	**09 33 17.2**	**+0.9**
EAST	**Anshuo**	**0.44**	**113**	⇑*i*P	**Pn**	**09 33 11.1**	**-0.4**
EAST				S	**Sn**	**09 33 18.9**	**+0.4**
SHHT	**Tainan City**	**0.47**	**353**	eP	**Pn**	**09 33 12.8**	**+1.0**
SHHT				eS	**Sn**	**09 33 21.1**	**+2.0**
TAI	**Tainan**	**0.48**	**336**	P	**Pn**	**09 33 12.4**	**+0.5**
TAI				eS	**Sn**	**09 33 20.5**	**+1.1**
TAW	**Tawu**	**0.49**	**113**	⇑*i*P	**P

WCKO				*e*S	**Sn**	**09 33 28.9**	**-0.6**
ECS	**Chishang**	**0.92**	**54**	*e*P	**Pn**	**09 33 18.6**	**+0.7**
EDH	**Donghe**	**0.92**	**63**	*e*P	**Pn**	**09 33 18.3**	**+0.3**
EDH				*e*S	**Sn**	**09 33 29.1**	**-0.9**
CHY	**Chiayi**	**0.94**	**1**	*e*P	**Pn**	**09 33 18.0**	**-0.2**
EHD	**Haiduan**	**0.94**	**51**	*e*P	**Pn**	**09 33 18.4**	**+0.2**
EHD				*i* S	**Sn**	**09 33 30.5**	**-0.1**
WSL	**Shuilin Townsh**	**0.98**	**350**	*e*P	**Pn**	**09 33 18.6**	**-0.1**
LDUT	**Ludao**	**0.99**	**83**	*e*P	**Pn**	**09 33 19.2**	**+0.4**
WDGT	**Dungji**	**0.99**	**316**	*e*P	**Pn**	**09 33 18.1**	**-0.6**
WDGT				*e*S	**Sn**	**09 33 29.8**	**-1.7**
ALS	**Alishan**	**1.02**	**21**	*e*P	**Pn**	**09 33 19.6**	**0.0**
CHKT	**Chengkung**	**1.03**	**58**	*e*P	**Pn**	**09 33 20.7**	**+1.3**
FULB	**Fuli**	**1.04**	**52**	*e*P	**Pn**	**09 33 21.0**	**+1.4**
FULB				*e*S	**Sn**	**09 33 33.8**	**+1.0**
CHN5	**Tsauling**	**1.07**	**13**	*i* P	**Pn**	**09 33 19.8**	**-0.2**
CHN5				*e*S	**Sn**	**09 33 33.0**	**-0.7**
CHKH	**Chenggong**	**1.11**	**55**	*e*P	**Pn**	**09 33 20.8**	**+0.3**
VCHM	**Qimei**	**1.11**	**306**	*e*P	**Pn**	**09 33 20.0**	**-0.6**
VCHM				*e*S	**Sn**	**09 33 33.8**	**-0.9**
WTK	**Tuku**	**1.13**	**359**	*e*P	**Pn**	**09 33 20.1**	**-0.7**
WTK				*e*S	**Sn**	**09 33 34.9**	**-0.2**
WDLH	**Douliu**	**1.14**	**6**	*e*P	**Pn**	**09 33 20.6**	**-0.3**
WDLH				*i* S	**Sn**	**09 33 35.0**	**-0.2**
TWF1	**Yuli**	**1.14**	**46**	*e*P	**Pn**	**09 33 21.6**	**+0.7**
TWF1				S	**Sn**	**09 33 36.0**	**+0.6**
EYUL	**Yuli**	**1.15**	**47**	*e*P	**Pn**	**09 33 21.9**	**+0.8**
YULB	**Yu-li**	**1.17**	**44**	P	**Pn**	**09 33 22.0**	**+0.7**
YULB	**Yu-li**	**1.17**	**44**	*e*P	**Pn**	**09 33 21.6**	**+0.3**
YULB				*e*S	**Sn**	**09 33 36.7**	**+0.6**
LAY	**Lan-yu**	**1.18**	**116**	P	**Pn**	**09 33 21.2**	**-0.2**
LAY				*e*S	**Sn**	**09 33 34.8**	**-1.5**
WHYT	**Xinyi Township**	**1.21**	**20**	*e*P	**Pn**	**09 33 22.0**	**+0.1**
LYUB	**Lan-yu**	**1.22**	**117**	*e*P	**Pn**	**09 33 19.8**	**-2.2**
LYUB				*e*S	**Sn**	**09 33 35.2**	**-2.0**
PHUB	**P'eng-hu**	**1.23**	**321**	*e*P	**Pn**	**09 33 21.4**	**-0.7**
PHUB				S	**Sn**	**09 33 35.6**	**-1.9**
EHY	**Hungye**	**1.27**	**41**	*e*P	**Pn**	**09 33 23.5**	**+0.9**
EHYH	**Wanrong**	**1.27**	**42**	*e*P	**Pn**	**09 33 24.3**	**+1.5**
PNG	**Penghu**	**1.28**	**322**	*e*P	**Pn**	**09 33 21.8**	**-1.0**
PNG				*e*S	**Sn**	**09 33 36.6**	**-2.1**
HGSD	**Ruisui**	**1.32**	**45**	*e*P	**Pn**	**09 33 25.0**	**+1.6**
SSLB	**Suanglung**	**1.32**	**22**	P	**Pn**	**09 33 23.6**	**+0.1**
SSLB	**Suanglung**	**1.32**	**22**	*e*P	**Pn**	**09 33 23.1**	**-0.4**
WRL	**Guolierlin Hig**	**1.34**	**359**	*e*P	**Pn**	**09 33 24.4**	**+0.7**
WRL				*e*S	**Sn**	**09 33 40.4**	**0.0**
VWDT	**VWDT**	**1.37**	**29**	*e*P	**Pn**	**09 33 24.6**	**+0.6**
SMLT	**Sun Moon Lake**	**1.40**	**19**	*e*P	**Pn**	**09 33 23.6**	**-1.0**
SMLT				*e*S	**Sn**	**09 33 42.2**	**+0.4**
TYC	**Yuchr**	**1.41**	**17**	*e*P	**Pn**	**09 33 24.8**	**+0.3**
WARBT	**Fenglin Townsh**	**1.47**	**38**	⇑P	**Pn**	**09 33 26.0**	**+0.6**
WARBT				*e*S	**Sn**	**09 33 42.3**	**-1.1**
WCHH	**Zhanghua**	**1.52**	**5**	*e*P	**Pn**	**09 33 26.4**	**+0.2**
OWD	**Renai**	**1.56**	**27**	*e*P	**Pn**	**09 33 27.3**	**+0.4**
WCS	**Beigang Elemen**	**1.56**	**17**	*e*P	**Pn**	**09 33 27.1**	**+0.3**
ESL	**Shilin**	**1.57**	**37**	*e*P	**Pn**	**09 33 27.8**	**+1.0**
WUSB	**Renai**	**1.57**	**24**	*e*P	**Pn**	**09 33 27.3**	**+0.4**
LXIB	**Xiulin Townshi**	**1.73**	**32**	*e*P	**Pn**	**09 33 29.5**	**+0.4**
WHF	**Hehuan Shan**	**1.77**	**26**	*e*P	**Pn**	**09 33 30.7**	**+0.7**
WHP	**Taichung City**	**1.78**	**16**	*e*P	**Pn**	**09 33 30.5**	**+0.6**
TWQ1	**Liyutan**	**1.82**	**11**	*e*P	**Pn**	**09 33 30.5**	**+0.3**
TWT	**Tachien**	**1.83**	**22**	*e*P	**Pn**	**09 33 31.0**	**+0.4**
FUSS	**Fushou**	**1.85**	**24**	*e*P	**Pn**	**09 33 31.5**	**+0.6**
NSY	**Sanyi**	**1.88**	**10**	*e*P	**Pn**	**09 33 31.9**	**+0.7**
ETLH	**Xiulin Townshi**	**1.92**	**31**	*e*P	**Pn**	**09 33 33.1**	**+1.4**
NACB	**Ninganchiao**	**1.94**	**34**	P	**Pn**	**09 33 32.4**	**+0.5**
NACB	**Ninganchiao**	**1.94**	**34**	*e*P	**Pn**	**09 33 32.5**	**+0.5**
NNSB	**Datong**	**2.07**	**25**	*e*P	**Pn**	**09 33 34.6**	**+0.9**
NNS	**Nan Shan**	**2.08**	**25**	*e*P	**Pn**	**09 33 34.9**	**+1.0**
LIOB	**Emei**	**2.15**	**15**	*e*P	**Pn**	**09 33 35.4**	**+0.5**
NFF	**Wufeng Townshi**	**2.17**	**17**	*e*P	**Pn**	**09 33 34.1**	**-1.0**
LATG	**Datong**	**2.22**	**27**	*e*P	**Pn**	**09 33 37.0**	**+1.1**
NSK	**Sanguang**	**2.28**	**22**	*e*P	**Pn**	**09 33 37.9**	**+1.2**
YHNB	**Yeheng**	**2.28**	**23**	P	**Pn**	**09 33 37.4**	**+0.7**
YHNB	**Yeheng**	**2.28**	**23**	*e*P	**Pn**	**09 33 36.6**	**-0.1**
ENTT	**Nioudou**	**2.33**	**27**	*e*P	**Pn**	**09 33 38.5**	**+1.2**
NWLT	**Wulai**	**2.43**	**24**	*e*P	**Pn**	**09 33 40.0**	**+1.4**
FUSB	**Fushanzhiwuyua**	**2.45**	**26**	*e*P	**Pn**	**09 33 40.0**	**+1.1**

*IDC **01** 09:40:54.5±0.5,21˚.42N×144˚.16E,h0km,mb4.6/26, mbtmp4.6/30,ML4.0/4,MS4.4/77,Error ellipse: s-maj=17.5km s-min=12.7km az=78.0*

*NEIC **01** 09:40:56.9±1.9,21˚.45N±0˚.07×144˚.4E±0˚.1,h10km±1km, mb5.2/301,Mww5.1/26,Error ellipse: s-maj=16.5km s-min=10.9km az=262.0*

*NEIC **01** 09:40:56.9,21˚.25N×144˚.03E,h16km,Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.98; $M_{\theta\theta}$-2.96; $M_{\phi\phi}$6.94; $M_{r\theta}$1.55; $M_{\theta\phi}$-2.42; $M_{\phi r}$1.10; Fault plane solution: $M_0$6.55000×10^{16} NP1: ϕ_s312.98000°,δ54.64000°,λ-143.26000°. NP2: ϕ_s199.61000°,δ60.80000°,λ-41.52000°. Principal axes: T 7.5477, Plg4.0000°, Azm258.0000°; N -1.9984, Plg41.0000°, Azm351.0000°; P -5.5494, Plg49.0000°, Azm163.0000°;*

*NEIC **01** 09:40:56.9,21˚.45N×144˚.35E,h16km*

*MOS **01** 09:40:56.6±1.0,21˚.41N×144˚.20E,h25km,mb5.2/75, MS4.5/5,Error ellipse: s-maj=7.6km s-min=4.2km az=112.4*

*BJI **01** 09:40:56.2,21˚.45N×144˚.60E,h31km,mB5.3/52,mb4.8/78, Ms4.9/75,Ms7 4.6/73*

*GCMT **01** 09:40:58.9±0.1,21˚.29N±0˚.01×144˚.20E±0˚.01,h12km, MW5.1/140,Moment Tensor Solution. s50,c73; s140,c236; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.95±.10; $M_{\theta\theta}$-3.55±.09; $M_{\phi\phi}$6.50±.09; $M_{r\theta}$1.03±.26; $M_{\theta\phi}$-2.87±.08; $M_{\phi r}$1.16±.25; Best double couple: $M_0$6.22100×10^{16} NP1:ϕ_s304.00000°,δ65.00000°, λ-160.00000°. NP2:ϕ_s205.00000°,δ72.00000°, λ-27.00000°. Principal axes: T 7.3340, Plg5.0000°, Azm256.0000°; N -2.2260, Plg58.0000°, Azm353.0000°; P -5.1080, Plg32.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 09:40:56.5±0.3,21˚.46N±0˚.04×144˚.33E±0˚.05,h10km,n854, σ1§**44**/786,**mb5.1**/279,**MS4.5**/103,**19C-16D,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.94**	**341**	Pn	**Pn**	**09 42 23.7**	**-0.9**
JCJ	**Chichijima**	**5.94**	**341**	Pn	Pn	09 42 19.7	-4.9
	36nm,0.3s,baz=222,slow=14,SNR=5.2						
JCJ				Sn	**Sn**	**09 43 25.7**	**-7.0**
	66nm,0.3s,baz=108,slow=22,SNR=5.8						
JCJ				LR	LR	09 44 19.3	
	comp=Z,2μm,21.1s,baz=185,slow=34						
GUMO	**Guam**	**7.84**	**176**	Pn	**Pn**	**09 42 50.3**	**-0.5**
GUMO	**Guam**	**7.84**	**176**	Pn	**Pn**	**09 42 49.8**	**-0.9**
	6.2nm,0.3s,baz=175,slow=22,SNR=2.2						
GUMO				LR	LR	09 45 20.7	
	comp=Z,4μm,18.0s,baz=23,slow=34						
	63nm,0.6s						
GUMO	**Guam**	**7.84**	**176**	P	**Pn**	**09 42 50.3**	**-0.5**
JMZ	**Minamidaito 2**	**12.77**	**292**	Pn	**Pn**	**09 43 58.1**	**-0.1**
JSG	**Sagara**	**14.23**	**339**	Pn	**Pn**	**09 44 17.9**	**-0.2**
INU	**Inuyama**	**15.25**	**337**		**Pn**	**09 44 31.9**	**-0.1**
INU	**Inuyama**	**15.25**	**337**	P	**Pn**	**09 44 35.0**	**+3.0**
JGF	**Kuroka**	**15.36**	**338**	Pn	**Pn**	**09 44 33.9**	**+0.5**
JGF	**Kuroka**	**15.36**	**338**	P	**Pn**	**09 44 35.1**	**+1.7**
JOW	**Kunigami**	**15.59**	**293**	Pn	**Pn**	**09 44 37.4**	**+0.9**
JOW	**Kunigami**	**15.59**	**293**	Pn	**Pn**	**09 44 35.9**	**-0.6**
	1.9nm,0.3s,baz=128,slow=8.4,SNR=1.6						
JOW				LR	LR	09 49 24.2	
	comp=Z,2μm,19.5s,baz=103,slow=33						
	24nm,0.9s						
MJAR	**Matsushiro Arr**	**15.95**	**342**	Pn	**Pn**	**09 44 39.6**	**-1.5**
	0.2nm,0.3s,baz=170,slow=11,SNR=16						
MJAR				LR	LR	09 50 24.3	
	comp=Z,3μm,19.1s,baz=164,slow=36						
	6.2nm,0.8s						
MAJO	**Matsushiro**	**15.95**	**342**		**Pn**	**09 44 41.0**	**0.0**
MAJO	**Matsushiro**	**15.95**	**342**	P	**P**	**09 44 45.7**	**+1.0**
MAJO	**Matsushiro**	**15.95**	**342**	⇑*e*P	**Pn**	**09 44 41.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**15.95**	**342**		**Pn**	**09 44 42.0**	**+0.9**
JMM	**Marumori**	**16.63**	**350**	P	**Pn**	**09 44 50.8**	**+1.0**
JMM	**Marumori**	**16.63**	**350**	P	**P**	**09 44 52.2**	**0.0**
JNU	**Nakatsue**	**16.65**	**317**	P	**P**	**09 44 52.2**	**-0.3**
JNU	**Nakatsue**	**16.65**	**317**	Pn	**Pn**	**09 44 48.2**	**-1.9**
	0.3nm,0.3s,baz=162,slow=8.7,SNR=3.5						
JNU				LR	LR	09 49 58.6	
	comp=Z,1μm,21.4s,baz=129,slow=33						
	14nm,1.1s						
JNU	**Nakatsue**	**16.65**	**317**	P	**P**	**09 44 56.2**	**+3.7**
YOJ	**Yonaguni jima**	**19.85**	**283**	P	**P**	**09 45 28.1**	**+0.3**
YOJ	**Yonaguni jima**	**19.85**	**283**	P	**Pn**	**09 45 32.6**	**+3.2**
YOJ	**Yonaguni jima**	**19.85**	**283**	P	**P**	**09 45 28.1**	**+0.3**
YOJ				pmax	pmax		
	comp=Z,551nm,1.2s						
ERM	**Erimo**	**20.52**	**358**	⇑*e*P	**P**	**09 45 35.6**	**+0.7**
ERM				pmax	pmax		
	comp=Z,70nm,1.1s						
TJN	**Taejon**	**20.96**	**319**	P	**P**	**09 45 40.2**	**+0.5**
TJN	**Taejon**	**20.96**	**319**	P	Pn	09 45 44.2	+1.9
TJN	**Taejon**	**20.96**	**319**	P	**P**	**09 45 40.2**	**+0.5**
TJN				pmax	pmax		
	comp=Z,422nm,1.4s						
NACB	**Ninganchiao**	**21.12**	**282**	P	**P**	**09 45 42.3**	**+0.7**
NACB				IAmb	IAmb	09 45 46.1	
	comp=Z,117nm,1.3s						
NACB	**Ninganchiao**	**21.12**	**282**	P	**P**	**09 45 43.9**	**+2.3**
H11N1	**WAKE ISLAND Hy**	**21.19**	**91**	T	T	10 07 40.5	
	baz=278,slow=75,SNR=527						
H11N2	**WAKE ISLAND Hy**	**21.20**	**91**	T	T	10 07 40.4	
	baz=278,slow=75,SNR=437						
H11N3	**WAKE ISLAND Hy**	**21.21**	**91**	T	T	10 07 41.7	
	baz=278,slow=75,SNR=378						
H11S3	**WAKE ISLAND Hy**	**21.22**	**94**	T	T	10 07 42.7	
	baz=281,slow=75,SNR=705						
H11S1	**WAKE ISLAND Hy**	**21.23**	**94**	T	T	10 07 43.3	
	baz=281,slow=75,SNR=799						
H11S2	**WAKE ISLAND Hy**	**21.23**	**94**	T	T	10 07 43.3	
	baz=281,slow=75,SNR=446						
KSRS	**Korea Array**	**21.35**	**322**	P	**P**	**09 45 42.1**	**-1.8**
	comp=Z,4.8nm,0.9s,baz=136,slow=12,SNR=28						
KSRS				LR	LR	09 54 13.3	
	comp=Z,952nm,18.1s,baz=145,slow=38						
	comp=Z,4.8nm,0.9s						
YHNB	**Yeheng**	**21.35**	**283**	P	**P**	**09 45 44.7**	**+0.5**
YHNB				IAmb	IAmb	09 45 49.4	
	comp=Z,152nm,1.2s						
YHNB	**Yeheng**	**21.35**	**283**	P	**P**	**09 45 45.7**	**+1.5**
KSAR	**Wonju Array Be**	**21.36**	**322**		**P**	**09 45 44.9**	**+0.8**
KSAR	**Wonju Array Be**	**21.36**	**322**	P	**P**	**09 45 44.9**	**+0.8**
YULB	**Yu-li**	**21.37**	**280**	P	**P**	**09 45 44.7**	**+0.4**
YULB				IAmb	IAmb	09 46 02.7	
	comp=Z,146nm,1.2s						
YULB	**Yu-li**	**21.37**	**280**	P	**P**	**09 45 47.0**	**+2.7**
KS19	**Wonju Array Si**	**21.41**	**322**	P	**P**	**09 45 44.7**	**+0.1**
TWGBT	**Beinan**	**21.57**	**278**	P	**P**	**09 45 48.5**	**+2.0**
TWG	**Pinlang**	**21.58**	**278**	P	**P**	**09 45 47.9**	**+1.3**
SSLB	**Suanglung**	**21.70**	**281**	P	**P**	**09 45 48.5**	**+0.7**
SSLB	**Suanglung**	**21.70**	**281**	P	**P**	**09 45 49.4**	**+1.6**
TPUB	**Ta-pu**	**21.99**	**279**	P	**P**	**09 45 52.5**	**+1.6**
JKA	**Kamikawa-asahi**	**22.64**	**357**	P	**P**	**09 45 59.2**	**+1.6**
JKA				IAmb	IAmb	09 46 16.6	
	comp=Z,174nm,2.0s						
ASAJ	**Asahikawa**	**22.64**	**357**	LR	LR	09 54 26.1	
	comp=Z,617nm,21.9s,baz=180,slow=36						
ASAJ	**Asahikawa**	**22.64**	**357**	P	**P**	**09 45 59.2**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,174nm,2.0s						
SSE	**Sheshan**	**22.82**	**300**	P	**P**	**09 45 59.1**	**-0.6**
SSE				S	**S**	**09 50 07.2**	**-1.9**
SSE				pmax	pmax		
	comp=Z,48nm,1.1s						
SSE				pmax	pmax		
	comp=Z,300nm,7.6s						
SSE				LR	LR		
	comp=Z,220nm,12.0s						
SSE				LR	LR		
	comp=Z,570nm,12.5s						
DAV	**Davao City (W)**	**23.08**	**234**	LR	LR	09 53 00.1	
	comp=Z,2μm,21.3s,baz=44,slow=32						
TGY	**Tagaytay City**	**23.43**	**256**	LR	LR	09 53 16.3	
	comp=Z,3μm,21.5s,baz=92,slow=32						
MANU	**Manus Island**	**23.55**	**172**	P	**P**	**09 46 05.5**	**-1.7**
MANU				IAmb	IAmb	09 46 30.8	
	comp=Z,94nm,1.4s						
MSHR	**Mys Shultsa**	**23.78**	**335**	⇑*e*P	**P**	**09 46 08.7**	**-0.5**
MSHR				pmax	pmax		
	comp=Z,36nm,0.9s						
KUR	**Kuril'sk**	**23.89**	**6**	*c i*P	**P**	**09 46 12.7**	**+2.4**
KUR				pmax	pmax		
	comp=Z,147nm,0.9s						
QZH	**Quanzhou**	**23.89**	**283**	*e*P	**P**	**09 46 11.6**	**+1.0**
QZH				S	**S**	**09 50 25.8**	**-1.1**
QZH				pmax	pmax		
	comp=Z,85nm,1.7s						
QZH				pmax	pmax		
	comp=Z,1μm,6.6s						
QZH				LR	LR		
	comp=Z,2μm,19.2s						
QZH				LR	LR		
	comp=Z,2μm,20.9s						
VLA	**Vladivostok**	**23.97**	**337**	⇓*e*P	**P**	**09 46 12.3**	**+1.2**
VLA				pmax	pmax		
	comp=Z,157nm,1.1s						
PSTR	**Posyet**	**23.98**	**335**	*de*P	**P**	**09 46 12.7**	**+1.6**
KNMB	**Chin-men Tao**	**24.06**	**282**	P	**P**	**09 46 12.3**	**+0.2**
JAY	**Jayapura**	**24.09**	**189**	LR	LR	09 54 33.1	
	comp=Z,553nm,20.4s,baz=9.5,slow=34						
JAY	**Jayapura**	**24.09**	**189**	P	**P**	**09 46 12.2**	**-0.3**
	comp=Z,76nm,1.0s						
USA0B	**Ussuriysk Arra**	**24.88**	**339**	P	**P**	**09 46 20.4**	**+1.0**
USA0B	**Ussuriysk Arra**	**24.88**	**339**	*ce*P	**P**	**09 46 20.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**24.88**	**339**	P	**P**	**09 46 19.4**	**+0.1**
	comp=Z,30nm,1.1s,baz=149,slow=9.2,SNR=15						
USRK				LR	LR	09 55 37.2	
	comp=Z,923nm,18.3s,baz=150,slow=36						
	comp=Z,30nm,1.1s						
NJ2	**Nanjing**	**25.02**	**300**	⇑P	**P**	**09 46 21.6**	**+0.9**
NJ2				pP	**pwP**	**09 46 27.1**	**+1.1**
NJ2				sP	sP	09 46 32.8	+8.7
NJ2				S	**S**	**09 50 49.2**	**+4.4**
NJ2				pmax	pmax		
	comp=Z,29nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,450nm,3.5s						
NJ2				LR	LR		
	comp=Z,770nm,7.1s						
NJ2				LR	LR		
	comp=Z,690nm,7.8s						
NJ2				LR	LR		
	comp=Z,730nm,11.6s						
YSS	**Yuzhno-Sakhali**	**25.46**	**357**	*e*P	**P**	**09 46 24.8**	**+0.2**
YSS				*e**PP	**pwP**	**09 46 34.0**	**+4.1**
YSS				*e*S	**S**	**09 50 46.8**	**-4.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
SWI	**Sorong**	**25.60**	**212**	P	**P**	**09 46 25.8**	**-0.3**
	comp=Z,48nm,1.3s						
DL2	**Dalian**	**26.10**	**317**	P	**P**	**09 46 31.2**	**+0.7**
DL2				S	**S**	**09 51 04.5**	**+2.6**
DL2				pmax	pmax		
	comp=Z,130nm,1.3s						
DL2				pmax	pmax		
	comp=Z,680nm,5.9s						
DL2				LR	LR		
	comp=Z,1μm,15.8s						
DL2				LR	LR		
	comp=Z,720nm,14.3s						
DL2				LR	LR		
	comp=Z,1μm,13.2s						
MDJ	**Mudanjiang**	**26.11**	**336**	P	**P**	**09 46 29.7**	**-0.8**
MDJ	**Mudanjiang**	**26.11**	**336**	P	**P**	**09 46 32.2**	**+1.7**
MDJ				pP	sP	09 46 34.8	+0.9
MDJ				sP	pwP	09 46 39.3	+3.5
MDJ				PP	**PnPn**	**09 47 15.2**	**+6.4**
MDJ				ScP	**ScP**	**09 53 28.9**	**-8.9**
MDJ				pmax	pmax		
	comp=Z,19nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,890nm,8.2s						
MDJ				LR	LR		
	comp=Z,2μm,16.6s						
MDJ				LR	LR		
	comp=Z,2μm,15.8s						
MDJ				LR	LR		
	comp=Z,1μm,17.3s						
MDJ	**Mudanjiang**	**26.11**	**336**	P	**P**	**09 46 32.9**	**+2.4**
KRVT	**Keravat (AS076**	**26.70**	**163**	LR	LR	09 56 20.9	
	comp=Z,242nm,19.8s,baz=27,slow=35						
SNY	**Shenyang**	**26.79**	**324**	⇓P	**P**	**09 46 37.1**	**+0.4**
SNY				pmax	pmax		
	comp=Z,23nm,0.8s						
SNY				pmax	pmax		
	comp=Z,160nm,3.5s						
SNY				LR	LR		
	comp=Z,480nm,11.7s						
SNY				LR	LR		
	comp=Z,260nm,8.7s						
SNY				LR	LR		
	comp=Z,470nm,12.6s						
FAKI	**Fak Fak**	**26.96**	**207**	P	**P**	**09 46 36.4**	**-2.1**
FAKI				IAmb	IAmb	09 47 22.2	
	comp=Z,64nm,1.3s						
CN2	**Changchun**	**27.25**	**329**	*e*P	**P**	**09 46 42.6**	**+1.8**
CN2				*e*S	**S**	**09 51 19.1**	**-0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2				pmax	pmax		
	comp=Z,300nm,8.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
CN2				LR	LR		
	comp=Z,1μm,15.6s						
TIA	**Tai'an**	**27.88**	**308**	P	**P**	**09 46 46.7**	**+0.1**
TIA				pmax	pmax		
	comp=Z,34nm,1.3s						
TIA				pmax	pmax		
	comp=Z,320nm,7.3s						
TIA				LR	LR		
	comp=Z,1μm,15.7s						
TIA				LR	LR		
	comp=Z,790nm,9.8s						
TIA				LR	LR		
	comp=Z,350nm,8.6s						
BNX	**BinXian**	**27.90**	**334**	⇑P	**P**	**09 46 47.8**	**+1.1**
BNX				S	**S**	**09 51 29.6**	**-0.6**
BNX				pmax	pmax		
	comp=Z,14nm,1.0s						
BNX				pmax	pmax		
	comp=Z,270nm,8.3s						
BNX				LR	LR		
	comp=Z,810nm,13.1s						
BNX				LR	LR		
	comp=Z,880nm,14.4s						
BNX				LR	LR		
	comp=Z,970nm,13.8s						
WHN	**Wuhan**	**28.35**	**295**	⇑P	**P**	**09 46 51.2**	**+0.4**
WHN				S	**S**	**09 51 44.7**	**+7.1**
WHN				pmax	pmax		
	comp=Z,54nm,0.8s						
WHN				LR	LR		
	comp=Z,2μm,15.3s						
WHN				LR	LR		
	comp=Z,2μm,9.3s						
WHN				LR	LR		
	comp=Z,2μm,18.0s						
TYV	**Tymovskoe**	**29.38**	**358**	*e*P	**P**	**09 47 02.4**	**+2.7**
TYV				*e*S	**S**	**09 51 54.2**	**+1.0**
TYV				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TYV				pmax	pmax		
	comp=Z,500nm,4.7s						
TYV				smax	smax		
	comp=N,700nm,5.6s						
TYV				smax	smax		
	comp=E,900nm,5.6s						
KLR	**Kul'dur**	**29.46**	**343**	LR	LR	09 58 57.9	
	comp=E,680nm,18.7s,baz=159,slow=37						
KLR	**Kul'dur**	**29.46**	**343**	*ce*P	**P**	**09 47 00.7**	**+0.2**
KLR				pmax	pmax		
	comp=Z,27nm,0.7s						
HNS	**HongShan**	**30.13**	**308**	⇑P	**P**	**09 47 07.2**	**+0.6**
HNS				S	**S**	**09 52 06.0**	**+0.6**
HNS				pmax	pmax		
	comp=Z,35nm,1.2s						
HNS				LR	LR		
	comp=Z,1μm,14.3s						
HNS				LR	LR		
	comp=Z,750nm,14.3s						
HNS				LR	LR		
	comp=Z,790nm,13.7s						
MRSI	**Marisa**	**30.20**	**229**	P	**P**	**09 47 08.5**	**+1.1**
	comp=Z,37nm,1.7s						
BJT	**Baijiatuao**	**30.27**	**314**	P	**P**	**09 47 12.3**	**+4.5**
BJI	**Beijing**	**30.28**	**314**	P	**P**	**09 47 08.1**	**+0.3**
BJI				S	**S**	**09 52 05.6**	**-2.0**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BJI				LR	LR		
	comp=Z,380nm,14.7s						
BJI				LR	LR		
	comp=Z,340nm,15.6s						
BJI				LR	LR		
	comp=Z,340nm,15.1s						
TOLI2	**Tolitoli**	**30.59**	**232**	P	**P**	**09 47 10.0**	**-0.9**
TOLI2	**Tolitoli**	**30.59**	**232**	P	**P**	**09 47 13.2**	**+2.3**
PMG	**Port Moresby**	**30.80**	**175**	LR	LR	09 58 56.7	
	comp=Z,283nm,18.9s,baz=328,slow=35						
LYN	**LuoYang**	**30.87**	**302**	P	**P**	**09 47 13.2**	**+0.1**
LYN				pP	pwP	09 47 23.0	+4.6
LYN				S	**S**	**09 52 15.0**	**-2.1**
LYN				sS	sS	09 52 30.4	+9.5
LYN				pmax	pmax		
	comp=Z,31nm,1.2s						
LYN				pmax	pmax		
	comp=Z,280nm,5.1s						
LYN				LR	LR		
	comp=Z,2μm,13.7s						
LYN				LR	LR		
	comp=Z,920nm,14.4s						
LYN				LR	LR		
	comp=Z,2μm,13.1s						
KKM	**Kota Kinabalu**	**31.22**	**245**	P	**P**	**09 47 16.3**	**-0.3**
KKM				IAmb	IAmb	09 47 26.5	
	comp=Z,21nm,0.9s						
HEH	**HeiHe**	**31.68**	**339**	*e*P	**P**	**09 47 22.1**	**+2.0**
HEH				S	**S**	**09 52 30.8**	**+1.4**
HEH				pmax	pmax		
	comp=Z,30nm,1.3s						
HEH				LR	LR		
	comp

PET	**Petropavlovsk**	**33.38 16⇓**	*e*P		**P**	**09 47 35.7 +0.8**
PET			pmax		pmax	
	comp=Z,100nm,1.6s					
PET	**Petropavlovsk**	**33.38 16**	P		**P**	**09 47 38.1 +3.2**
	comp=Z,49nm,2.5s					
XAN	**Xi'an**	**33.58 300**	⇑P		**P**	**09 47 36.8 -0.2**
XAN			pP		pwP	09 47 46.9 +4.6
XAN			PP		**PnPn**	**09 48 49.5 +1.0**
XAN			S		**S**	**09 52 57.9 -1.6**
XAN			pmax		pmax	
	comp=Z,15nm,0.9s					
XAN			pmax		pmax	
	comp=Z,180nm,5.5s					
XAN			LR		LR	
	comp=Z,1μm,16.2s					
XAN			LR		LR	
	comp=Z,650nm,13.9s					
XAN			LR		LR	
	comp=Z,1μm,22.7s					
HHC	**Hu-ho-hao-te**	**33.78 312**	*e*P		**P**	**09 47 42.0 +3.3**
HHC			S		**S**	**09 53 03.6 +1.1**
HHC			pmax		pmax	
	comp=Z,8.0nm,0.7s					
HHC			pmax		pmax	
	comp=Z,220nm,6.3s					
HHC			LR		LR	
	comp=Z,740nm,19.3s					
HHC			LR		LR	
	comp=Z,760nm,18.5s					
HHC			LR		LR	
	comp=Z,860nm,18.5s					
HIA	**Hailar**	**33.93 331**	P		**P**	**09 47 40.0 +0.2**
HIA	**Hailar**	**33.93 331**	P		**P**	**09 47 44.5 +4.6**
HIA	**Hailar**	**33.93 331**	P		**P**	**09 47 40.0 +0.2**
HIA			pmax		pmax	
	comp=Z,12nm,0.8s					
TTSI	**Tana Toraja**	**34.19 227**	P		**P**	**09 47 43.9 +1.5**
HNR	**Honiara**	**34.32 152**	LR		LR	10 02 25.8
	comp=Z,330nm,18.7s,baz=320,slow=38					
GYA	**Guiyang**	**34.69 286**	⇑P		**P**	**09 47 47.5 +0.7**
GYA			S		**S**	**09 53 15.3 -1.7**
GYA			pmax		pmax	
	comp=Z,17nm,0.8s					
GYA			pmax		pmax	
	comp=Z,260nm,5.2s					
GYA			LR		LR	
	comp=Z,410nm,12.7s					
GYA			LR		LR	
	comp=Z,470nm,13.9s					
GYA			LR		LR	
	comp=Z,650nm,16.2s					
BTO	**Baotou**	**34.75 311**	*e*P		**P**	**09 47 48.4 +1.2**
BTO			pP		**pwP**	**09 47 58.4 +5.9**
BTO			sP		sP	09 48 02.2 +12
BTO			S		**S**	**09 53 17.9 +0.3**
BTO			SS		**SnSn**	**09 55 28.0 -2.6**
BTO			pmax		pmax	
	comp=Z,12nm,0.6s					
BTO			pmax		pmax	
	comp=Z,340nm,3.7s					
BTO			LR		LR	
	comp=Z,3μm,16.2s					
BTO			LR		LR	
	comp=Z,1μm,14.2s					
BTO			LR		LR	
	comp=Z,2μm,15.3s					
ZEA	**Zeya**	**34.76 342**	*e*P		**P**	**09 47 46.9 0.0**
ZEA			pmax		pmax	
	comp=N,10.0nm,1.1s					
ZEA			pmax		pmax	
	comp=Z,20nm,0.7s					
ZEA			MLR		MLR	
	comp=E,500nm,15.0s					
ZEA			MLR		MLR	
	comp=Z,400nm,16.0s					
SPSI	**Sidrap Palu**	**34.89 226**	P		**P**	**09 47 47.8 -0.6**
	comp=Z,49nm,1.1s					
COEN	**Coen**	**35.22 182**	P		**P**	**09 47 50.3 -0.9**
COEN			IAmb		IAmb	09 47 52.4
	comp=Z,25nm,0.8s					
COEN	**Coen**	**35.22 182**	P		**P**	**09 47 50.4 -0.8**
	comp=Z,36nm,1.5s					
COEN	**Coen**	**35.22 182**	P		**P**	**09 47 51.0 -0.2**
DLV	**Lat**	**35.53 260**	P		**P**	**09 47 54.6 +0.4**
DLV			IAmb		IAmb	09 48 08.9
	comp=Z,50nm,1.1s					
KAPI	**Kappang**	**35.67 225**	P		**P**	**09 47 54.6 -0.6**
KAPI			IAmb		IAmb	09 47 56.4
	comp=Z,26nm,0.9s					
KAPI	**Kappang**	**35.67 225**	LR		LR	10 01 05.4
	comp=Z,250nm,20.6s,baz=34,slow=34					
KAPI	**Kappang**	**35.67 225**	P		**P**	**09 47 54.9 -0.3**
KAPI	**Kappang**	**35.67 225**	P		**P**	**09 47 54.6 -0.6**
KAPI			pmax		pmax	
	comp=Z,26nm,1.0s					
MTN	**Manton Dam**	**36.47 202**	P		**P**	**09 48 00.0 -1.9**
MTN			IAmb		IAmb	09 48 00.4
	comp=Z,36nm,0.8s					
MTN	**Manton Dam**	**36.47 202**	P		**P**	**09 47 59.2 -2.7**
	comp=Z,54nm,0.8s					
SBUM	**Sibu**	**36.51 243**	P		**P**	**09 48 02.0 -0.4**
SBUM	**Sibu**	**36.51 243**	P		**P**	**09 48 05.1 +2.7**
MMRI	**Maumere**	**36.95 218**	P		**P**	**09 48 05.5 -0.5**
UBPT	**Khong Chiam**	**37.31 267**	P		**P**	**09 48 10.9 +1.7**
CD2	**Chengdu**	**37.43 293**	P		**P**	**09 48 11.2 +1.0**
CD2			PP		**PnPn**	**09 49 41.8 +5.6**
CD2			S		**S**	**09 53 56.2 -2.5**
CD2			pmax		pmax	
	comp=Z,10.0nm,0.7s					
CD2			LR		LR	
	comp=Z,1μm,14.0s					
CD2			LR		LR	
	comp=Z,1μm,17.8s					
CD2			LR		LR	
	comp=Z,990nm,15.2s					
SLVN	**Son La**	**37.56 277**	P		**P**	**09 48 11.2 -0.2**
LZH	**Lanzhou**	**38.08 301**	P		**P**	**09 48 16.1 +0.4**
LZH			pP		pwP	09 48 25.1 +4.1
LZH			S		**S**	**09 54 08.6 -0.1**
LZH			pmax		pmax	
	comp=Z,34nm,1.3s					
LZH			LR		LR	
	comp=Z,820nm,13.7s					
LZH			LR		LR	
	comp=Z,800nm,13.7s					
LZH			LR		LR	
	comp=Z,1μm,13.1s					
MA2	**Magadan**	**38.35 5⇑**	*e*P		**P**	**09 48 18.3 +0.8**
MA2			pmax		pmax	
	comp=Z,15nm,1.1s					
SHEM	**Shemya Is, Ala**	**38.70 29**	LR		LR	10 01 02.1
	comp=Z,422nm,20.2s,baz=300,slow=31					
PZH	**PanZhiHua**	**39.10 286**	P		**P**	**09 48 24.6 +0.2**
PZH			PP		**PnPn**	**09 50 02.6 +6.1**
PZH			S		**S**	**09 54 22.5 -1.8**
PZH			pmax		pmax	
	comp=Z,10.0nm,1.4s					
PZH			pmax		pmax	
	comp=Z,110nm,7.1s					
PZH			LR		LR	
	comp=Z,430nm,22.5s					
PZH			LR		LR	
	comp=Z,560nm,21.0s					
PZH			LR		LR	
	comp=Z,680nm,23.9s					
MTSU	**Mount Surprise**	**39.35 180**	P		**P**	**09 48 26.2 -0.1**
	comp=Z,24nm,1.0s					
MTSU	**Mount Surprise**	**39.35 180**	P		**P**	**09 48 26.8 +0.5**
ULN	**Ulaanbaatar**	**39.82 320**	P		**P**	**09 48 29.5 -0.7**
ULN	**Ulaanbaatar**	**39.82 320**	*de*P		**P**	**09 48 29.5 -0.7**
ULN			pmax		pmax	
	comp=Z,20nm,1.0s					
KNRA	**Kununurra**	**39.94 204**	P		**P**	**09 48 29.8 -1.4**
KNRA			IAmb		IAmb	09 48 30.3
	comp=Z,41nm,0.7s					
KNRA	**Kununurra**	**39.94 204**	P		**P**	**09 48 29.1 -2.1**
	comp=Z,58nm,0.7s					
SONM	**Songino Array**	**40.20 320**	P		**P**	**09 48 33.0 -0.3**
SONM	**Songino Array**	**40.20 320**	P		**P**	**09 48 32.6 -0.7**
	comp=Z,7.7nm,0.8s,baz=135,slow=8.5,SNR=24					
SONM			LR		LR	10 06 30.2
	comp=Z,610nm,18.8s,baz=118,slow=38					
	comp=Z,7.7nm,0.8s					
SONM	**Songino Array**	**40.20 320**	P		**P**	**09 48 33.0 -0.3**
SONM			pmax		pmax	
	comp=Z,8.0nm,1.0s					
TWSI	**Taliwang, Sumb**	**40.33 225**	P		**P**	**09 48 33.2 -1.3**
	comp=Z,53nm,1.6s					
KMMI	**Kalianget**	**41.11 230**	P		**P**	**09 48 41.2 +0.2**
	comp=Z,73nm,1.1s					
CTA	**Charters Tower**	**41.34 177**	LR		LR	10 06 43.8
	comp=Z,210nm,18.1s,baz=354,slow=38					
CTAO	**Charters Tower**	**41.34 177**	P		**P**	**09 48 42.9 +0.2**
CTAO			IAmb		IAmb	09 48 48.8
	comp=Z,34nm,1.1s					
CTAO	**Charters Tower**	**41.34 177**	P		**P**	**09 48 42.9 +0.2**
CTAO			pmax		pmax	
	comp=Z,34nm,1.1s					
ABJI	**Asem Bagus**	**41.45 229**	P		**P**	**09 48 44.9 +1.2**
	comp=Z,2μmcomp=Z,68nm,1.3s					
PHRA	**Phrae**	**41.45 274**	P		**P**	**09 48 44.3 +0.5**
YAK	**Yakutsk**	**41.78 350**	P		**P**	**09 48 44.1 -1.8**
YAK			IAmb		IAmb	09 48 56.2
	comp=Z,28nm,0.8s					
YAK	**Yakutsk**	**41.78 350**	LR		LR	10 09 12.5
	comp=Z,223nm,18.3s,baz=128,slow=41					
YAK	**Yakutsk**	**41.78 350**	*e*P		**P**	**09 48 45.4 -0.5**
YAK			*e*			09 50 39.7
YAK			*e*PPP		PPP	09 50 59.1
YAK			*e*S		**S**	**09 55 05.1 +2.0**
YAK			*e*			09 58 43.7
YAK			pmax		pmax	
	comp=Z,41nm,1.6s					
YAK			pmax		pmax	
	comp=N,20nm,1.5s					
YAK			pmax		pmax	
	comp=E,3.0nm,1.1s					
YAK			smax		smax	
	comp=N,331nm,5.2s					
YAK			smax		smax	
	comp=E,270nm,9.9s					
YAK			MLR		MLR	
	comp=Z,695nm,27.0s					
YAK			MLR		MLR	
	comp=N,315nm,19.0s					
YAK			MLR		MLR	
	comp=E,405nm,14.0s					
SEY	**Seymchan**	**41.81 6⇓**	*e*P		**P**	**09 48 47.7 +1.6**
SEY			pmax		pmax	
	comp=Z,19nm,1.3s					
GTA	**Gaotai**	**41.88 306**	*e*P		**P**	**09 48 46.8 -0.4**
GTA			pP		pwP	09 48 56.3 +3.7
GTA			S		**S**	**09 55 05.4 0.0**
GTA			pmax		pmax	
	comp=Z,13nm,1.3s					
GTA			LR		LR	
	comp=Z,840nm,17.5s					
GTA			LR		LR	
	comp=Z,270nm,17.9s					
GTA			LR		LR	
	comp=Z,690nm,16.3s					
QIS	**Mount Isa**	**42.02 187**	P		**P**	**09 48 47.3 -0.9**
	comp=Z,47nm,1.2s					
QIS	**Mount Isa**	**42.02 187**	P		**P**	**09 48 48.0 -0.3**
TNCH	**TengChong**	**42.09 284**	⇑P		**P**	**09 48 50.0 +0.8**
TNCH			pP		pwP	09 48 57.5 +3.0
TNCH			sP		sP	09 49 06.3 +14
TNCH			S		**S**	**09 55 08.7 -0.3**
TNCH			SS		**SS**	**09 58 16.8 +0.4**
TNCH			pmax		pmax	
	comp=Z,17nm,0.9s					
TNCH			pmax		pmax	
	comp=Z,160nm,4.1s					
TNCH			LR		LR	
	comp=Z,500nm,15.1s					
TNCH			LR		LR	
	comp=Z,470nm,16.3s					
TNCH			LR		LR	
	comp=Z,400nm,20.6s					
WB0	**Warramunga Arr**	**42.11 194**	P		**P**	**09 48 47.7 -1.3**
WB0			IAmb		IAmb	09 48 50.3
	comp=Z,64nm,1.4s					
WR0	**Warramunga Arr**	**42.26 194**	P		**P**	**09 48 49.5 -0.8**
WR0			IAmb		IAmb	09 48 51.5
	comp=Z,85nm,1.5s					
WRAB	**Tennant Creek**	**42.28 194**	P		**P**	**09 48 49.4 -1.1**
WRAB			IAmb		IAmb	09 48 56.0
	comp=Z,43nm,0.8s					
WRAB	**Tennant Creek**	**42.28 194**	P		**P**	**09 48 49.4 -1.1**
WRAB			pmax		pmax	
	comp=Z,43nm,0.8s					
WB2	**Warramunga Arr**	**42.29 194**	P		**P**	**09 48 49.2 -1.3**
WB2			IAmb		IAmb	09 48 56.1
	comp=Z,46nm,0.8s					
WRA	**Warramunga Arr**	**42.29 194**	P		**P**	**09 48 49.6 -0.9**
WRA	**Warramunga Arr**	**42.29 194**	P		**P**	**09 48 49.3 -1.3**
	comp=Z,26nm,0.6s,baz=13,slow=8.8,SNR=71					
WRA			LR		LR	10 05 15.9
	comp=Z,490nm,21.4s,baz=9.0,slow=35					
	comp=Z,26nm,0.6s					
WRA	**Warramunga Arr**	**42.29 194**	P		**P**	**09 48 49.6 -0.9**
WRA			pmax		pmax	
	comp=Z,6.0nm,1.3s					
CHTO	**Chiang Mai**	**42.58 275**	P		**P**	**09 48 51.2 -1.8**
CHTO	**Chiang Mai**	**42.58 275**	P		**P**	**09 48 51.2 -1.8**
CHTO			pmax		pmax	
	comp=Z,11nm,1.1s					
CM31	**Chiang Mai Arr**	**42.65 274**	P		**P**	**09 48 53.5 -0.2**
CMAR	**Chiang Mai Arr**	**42.65 274**	P		**P**	**09 48 53.4 -0.2**
CMAR	**Chiang Mai Arr**	**42.65 274**	P		**P**	**09 48 52.4 -1.2**
	comp=Z,1.9nm,0.5s,baz=91,slow=7.9,SNR=11					
CMAR			LR		LR	10 04 40.3
	comp=Z,591nm,21.6s,baz=85,slow=34					
	comp=Z,1.9nm,0.5s					
CMAR	**Chiang Mai Arr**	**42.65 274**	*i* P		**P**	**09 48 54.4 +0.8**
CMAR			pmax		pmax	
	comp=Z,2.0nm,0.6s					
ZAK	**Zakamensk**	**43.18 322**	*e*P		**P**	**09 48 56.6 -1.0**
ZAK			*e*			09 59 12.4
ZAK			pmax		pmax	
	comp=Z,18nm,1.3s					
GSTR	**Great Sitkin T**	**43.20 35**	P		**P**	**09 48 55.6 -2.0**
PWJI	**Pagerwojo**	**43.33 231**	P		**P**	**09 48 57.9 -1.2**
	comp=Z,62nm,0.9s					
FITZ	**Fitzroy Crossi**	**43.37 206**	P		**P**	**09 48 57.5 -1.8**
FITZ	**Fitzroy Crossi**	**43.37 206**	P		**P**	**09 48 57.7 -1.6**
	comp=Z,6.7nm,0.8s					
FITZ	**Fitzroy Crossi**	**43.37 206**	P		**P**	**09 48 57.9 -1.3**
MYKOM	**Kota Tinggi**	**43.99 249**	P		**P**	**09 49 04.8 +0.4**
MYKOM			IAmb		IAmb	09 49 16.6
	comp=Z,67nm,1.5s					
SRIT	**Nakonsritamara**	**44.89 260**	P		**P**	**09 49 12.1 +0.4**
SRIT	**Nakonsritamara**	**44.89 260**	P		**P**	**09 49 13.1 +1.5**
MOY	**Mondy**	**45.05 323**	*e*P		**P**	**09 49 13.1 +0.5**
MOY			pmax		pmax	
	comp=Z,25nm,1.6s					
KULM	**Kulim**	**45.24 256**	P		**P**	**09 49 15.4 +1.0**
KULM	**Kulim**	**45.24 256**	P		**P**	**09 49 15.9 +1.5**
IPM	**Ipoh**	**45.24 254**	P		**P**	**09 49 14.7 +0.1**
IPM	**Ipoh**	**45.24 254**	P		**P**	**09 49 16.4 +1.9**
GOMU	**GeErMu**	**45.33 300**	P		**P**	**09 49 17.1 +1.8**
GOMU			pP		pwP	09 49 22.3 +1.6
GOMU			sP		sP	09 49 26.6 +7.8
GOMU			PcP		**PcP**	**09 50 56.2 +1.2**
GOMU			S		**S**	**09 55 53.5 -2.9**
GOMU			sS		sS	09 56 12.6 +12
GOMU			pmax		pmax	
	comp=Z,29nm,1.4s					
GOMU			LR		LR	
	comp=Z,590nm,13.6s					
GOMU			LR		LR	
	comp=Z,350nm,13.2s					
GOMU			LR		LR	
	comp=Z,790nm,14.0s					
LEM	**Lembang**	**45.69 236**	LR		LR	10 10 54.2
	comp=Z,259nm,18.6s,baz=33,slow=40					
AS01	**Alice Springs**	**45.98 193**	P		**P**	**09 49 19.0 -1.1**
AS31	**Alice Springs**	**45.99 193**	P		**P**	**09 49 19.2 -1.0**
AS31			IAmb		IAmb	09 49 21.1
	comp=Z,12nm,0.6s					
AS31	**Alice Springs**	**45.99 193**	P		**P**	**09 49 18.6 -1.6**
	comp=Z,17nm,0.6s					
ASAR	**Alice Springs**	**45.99 193**	P		**P**	**09 49 19.2 -1.0**
ASAR	**Alice Springs**	**45.99 193**	P		**P**	**09 49 18.8 -1.4**
	comp=Z,18nm,0.6s,baz=16,slow=9.3,SNR=214					
ASAR			PP		**PP**	**09 51 07.7 -0.5**
	comp=Z,1.0nm,0.9s,baz=20,slow=11,SNR=1.1					
	comp=Z,18nm,0.6s					
ASAR	**Alice Springs**	**45.99 193**	P		**P**	**09 49 19.2 -1.0**
MDSI	**Maura Dua**	**47.03 241**	P		**P**	**09 49 27.3 -1.2**
CGJI	**Cibinong**	**47.06 238**	P		**P**	**09 49 29.6 +0.9**
	comp=Z,1μmcomp=Z,43nm,0.9s					
QLP	**Quilpie**	**47.76 180**	P		**P**	**09 49 32.1 -1.8**
	comp=Z,62nm,0.8s					
QLP	**Quilpie**	**47.76 180**	P		**P**	**09 49 32.5 -1.4**
PSI	**Prapat**	**47.86 254**	LR		LR	10 10 42.1
	comp=Z,374nm,18.7s,baz=86,slow=37					
PSI	**Prapat**	**47.86 254**	P		**P**	**09 49 38.0 +2.8**
PSI	**Prapat**	**47.86 254**	P		**P**	**09 49 34.9 -0.3**
PSI			pmax		pmax	
	comp=Z,74nm,1.6s					
RPSI	**Rantau Prapat**	**47.91 253**	P		**P**	**09 49 34.9 -0.5**
SHL	**Shillong**	**48.02 286**	P		**P**	**09 49 36.0 -0.3**
SHL			IAmb		IAmb	09 49 40.9
	comp=Z,19nm,1.0s					
SHL	**Shillong**	**48.02 286**	P		**P**	**09 49 36.1 -0.3**
SHL			pmax		pmax	
	comp=Z,19nm,1.0s					
PPI	**Padang Panjang**	**48.09 249**	P		**P**	**09 49 40.0 +3.2**
	comp=Z,37nm,1.4s					
MNSI	**Mandailing Nat**	**48.20 251**	P		**P**	**09 49 39.7 +2.1**
LSA	**Lhasa**	**48.31 291**	P		**P**	**09 49 39.2 +0.3**
LSA			IAmb		IAmb	09 49 44.8
	comp=Z,22nm,1.4s					
LSA	**Lhasa**	**48.31 291**	P		**P**	**09 49 39.3 +0.3**
LSA			pmax		pmax	
	comp=Z,22nm,1.4s					
DZM	**Mont Dzumac**	**48.35 152**	*e*P		**P**	**09 49 43.3 +4.6**
	comp=Z,69nm,1.4s					
DZM			*e*S		**S**	**09 56 39.2 +0.1**
	comp=Z,98nm,30.4s					
DZM			*e*LQ		LQ	10 01 21.4
	comp=Z,787nm,28.1s					
DZM			*e*LR		LR	10 03 20.3
	comp=Z,812nm,21.9s					
DZM	**Mont Dzumac**	**48.35 152**	LR		LR	10 07 50.2
	comp=Z,604nm,20.9s,baz=18,slow=33					
BILL	**Bilibino**	**48.55 11**	P		**P**	**09 49 39.9 +0.4**
BILL	**Bilibino**	**48.55 11**	*de*P		**P**	**09 49 41.0 +1.4**
BILL			pmax		pmax	
	comp=Z,20nm,1.3s					
SPIA	**Saint Paul Isl**	**48.62 31**	P		**P**	**09 49 38.0 -2.2**
	baz=242					
P08K	**Saint George I**	**48.69 32**	P		**P**	**09 49 41.0 +0.2**
	baz=243					
MBWA	**Marble Bar**	**48.70 211**	P		**P**	**09 49 40.5 -0.7**
MBWA	**Marble Bar**	**48.70 211**	P		**P**	**09 49 39.9 -1.4**
	comp=Z,17nm,0.5s					
WRKA	**Warakurna**	**48.77 199**	P		**P**	**09 49 40.1 -1.8**
	comp=Z,23nm,0.9s					
WRKA	**Warakurna**	**48.77 199**	P		**P**	**09 49 40.5 -1.4**
PSAC1	**Pilbara Seismi**	**48.98 211**	P		**P**	**09 49 41.0 -2.5**
	comp=Z,30nm,1.1s					
PSA00	**Pilbara Seismi**	**48.99 211**	P		**P**	**09 49 42.7 -0.9**
PSA00			IAmb		IAmb	09 49 48.9
	comp=Z,37nm,1.1s					
PSA00	**Pilbara Seismi**	**48.99 211**	P		**P**	**09 49 42.0 -1.6**
	comp=Z,34nm,1.6s					
PSA00	**Pilbara Seismi**	**48.99 211**	P		**P**	**09 49 43.7 +0.1**
INKA	**Innaminka**	**49.03 184**	P		**P**	**09 49 42.7 -1.0**
UNV	**Unalaska Valle**	**49.16 36**	P		**P**	**09 49 44.7 +0.2**
	baz=249					
OOD	**Oodnadatta**	**49.67 190**	P		**P**	**09 49 47.8 -0.8**
GSI	**Gunungsitoli**	**49.74 253**	P		**P**	**09 49 50.0 +0.5**
GSI	**Gunungsitoli**	**49.74 253**	P		**P**	**09 49 52.2 +2.7**
GSI	**Gunungsitoli**	**49.74 253**	P		**P**	**09 49 51.9 +2.4**
AULRC	**Lightning Ridg**	**50.72 176**	P		**P**	**09 49 56.5 0.0**
TIXI	**Tiksi**	**51.00 354**	P		**P**	**09 49 58.4 +0.3**
TIXI	**Tiksi**	**51.00 354**	LR		LR	10 12 24.1
	comp=Z,143nm,21.6s,baz=188,slow=37					
TIXI	**Tiksi**	**51.00 354⇓**	*e*P		**P**	**09 49 57.9 -0.2**
TIXI			pmax		pmax	
	comp=Z,17nm,1.3s					
MSVF	**Nonsavu**	**51.08 137**	LR		LR	10 07 17.6
	comp=Z,265nm,21.3s,baz=345,slow=31					
GAMB	**Gambell**	**51.41 23**	P		**P**	**09 50 01.9 +0.6**
	baz=236					
WMQ	**Urumqi**	**51.55 309**	*e*P		**P**	**09 50 04.1 +1.2**
WMQ			pP		pwP	09 50 13.1 +4.8
WMQ			pmax		pmax	
	comp=Z,39nm,1.1s					
WMQ			pmax		pmax	
	comp=Z,290nm,4.5s					
WMQ			LR		LR	
	comp=Z,550nm,14.1s					
WMQ			LR		LR	
	comp=Z,390nm,16.7s					
LCRK	**Leigh Creek**	**51.94 187**	P		**P**	**09 50 05.0 -0.7**
M11K	**Mekoryuk**	**51.95 29**	P		**P**	**09 50 07.8 +2.4**
	baz=244					
S12K	**Black Hills**	**52.22 35**	P		**P**	**09 50 08.6 +1.1**
	baz=252					
CMSA	**Cobar Meteorol**	**52.71 179**	P		**P**	**09 50 10.5 -0.9**
	comp=Z,23nm,1.3s					
CMSA	**Cobar Meteorol**	**52.71 179**	P		**P**	**09 50 11.2 -0.2**
STKA	**Stephens Creek**	**53.10 183**	P		**P**	**09 50 13.4 -0.8**
STKA	**Stephens Creek**	**53.10 183**	P		**P**	**09 50 12.8 -1.4**
	comp=Z,4.1nm,1.3s					
STKA	**Stephens Creek**	**53.10 183**	P		**P**	**09 50 13.1 -1.2**
	comp=Z,10nm,0.8s,baz=352,slow=6.7,SNR=15					
STKA			LR		LR	10 14 06.1
	comp=Z,167nm,19.9s,baz=353,slow=38					
	comp=Z,10nm,0.8s					
STKA	**Stephens Creek**	**53.10 183**	P		**P**	**09 50 13.4 -0.8**
STKA	**Stephens Creek**	**53.10 183**	P		**P**	**09 50 13.5 -0.8**
STKA			pmax		pmax	
	comp=Z,6.0nm,1.2s					
M13K	**Dall Lake**	**53.25 29**	P		**P**	**09 50 15.3 +0.2**
	baz=247					
K13K	**Kusilvak Mount**	**53.30 27**	P		**P**	**09 50 16.4 +0.9**
K13K			IAmb		IAmb	09 50 26.4
	comp=Z,20nm,1.0s					
K13K	**Kusilvak Mount**	**53.30 27**	P		**P**	**09 50 16.4 +0.9**
	baz=244					
CHNA	**Chernabura Isl**	**53.32 37**	P		**P**	**09 50 15.7 0.0**
	baz=254					
TNA	**Tin City**	**53.75 22**	P		**P**	**09 50 18.1 -0.6**
TNA	**Tin City**	**53.75 22**	P		**P**	**09 50 20.4 +1.7**
	baz=239					
N14K	**Kuskokwak Cree**	**53.84 30**	P		**P**	**09 50 20.4 +1.0**
	baz=249					
L14K	**Kuka Creek**	**53.91 28**	P		**P**	**09 50 20.6 +0.7**
	baz=247					
ZSN	**Zaisan**	**53.96 314**	*e*P		**P**	**09 50 19.9 -0.7**
ZSN			pmax		pmax	
	comp=Z,24nm,1.6s					
ZSN	**Zaisan**	**53.96 314**	*e*P		**P**	**09 50 19.9 -0.7**
	comp=Z,24nm,1.6s					
M14K	**Bethel**	**54.01 29**	P		**P**	**09 50 20.5 -0.1**
M14K	**Bethel**	**54.01 29**	P		**P**	**09 50 21.6 +0.9**
	baz=248					
J14K	**Nanvaranak Lak**	**54.11 27**	P		**P**	**09 50 23.0 +1.7**
J14K			IAmb		IAmb	09 50 32.1
	comp=Z,18nm,1.1s					
J14K	**Nanvaranak Lak**	**54.11 27**	P		**P**	**09 50 22.5 +1.2**
	baz=245					
ANM	**Nome**	**54.20 24**	P		**P**	**09 50 21.4 -0.5**
ANM	**Nome**	**54.20 24**	P		**P**	**09 50 23.2 +1.2**
	baz=242					
ANM	**Nome**	**54.20 24**	P		**P**	**09 50 21.4 -0.5**
ANM			pmax		pmax	
	comp=Z,16nm,1.0s					
FORT	**Forrest**	**54.24 197**	P		**P**	**09 50 21.1 -1.5**
FORT	**Forrest**	**54.24 197**	P		**P**	**09 50 20.0 -2.6**
	comp=Z,49nm,1.6s					
FORT	**Forrest**	**54.24 197**	P		**P**	**09 50 21.4 -1.2**
F14K	**Arctic Creek**	**54.28 23**	P		**P**	**09 50 22.7 +0.1**
	baz=240					
CHGN	**Chignik**	**54.35 35**	P		**P**	**09 50 23.9 +0.7**
	baz=254					
O15K	**Ungalikthiuk R**	**54.47 32**	P		**P**	**09 50 25.7 +1.6**
	baz=251					
BBOO	**Buckleboo**	**54.54 189**	P		**P**	**09 50 23.9 -0.9**
BBOO			IAmb		IAmb	09 50 29.3
	comp=Z,31nm,0.9s					
BBOO	**Buckleboo**	**54.54 189**	P		**P**	**09 50 22.4 -2.4**
	comp=Z,40nm,2.1s					
BBOO	**Buckleboo**	**54.54 189**	P		**P**	**09 50 23.9 -0.9**
WHYH	**Whyalla**	**54.57 187**	P		**P**	**09 50 24.6 -0.4**
L15K	**Ungalak Mounta**	**54.57 28**	P		**P**	**09 50 25.4 +0.7**
	baz=248					
M15K	**Kasigluk River**	**54.58 30**	P		**P**	**09 50 25.3 +0.5**
	baz=249					
N15K	**Kwethluk River**	**54.67 30**	P		**P**	**09 50 26.3 +0.8**
	baz=250					
K15K	**Wolf Creek Mou**	**54.79 28**	P		**P**	**09 50 27.3 +1.0**
	baz=247					

HTT	Hallett	54.83	186	P	P	09 50 26.1	-0.8	
	comp=Z,47nm,1.3s							
HTT	Hallett	54.83	186	P	P	09 50 26.5	-0.4	
G15K	Niukluk	54.90	24	P	P	09 50 28.0	+1.0	
	baz=243							
F15K	North Star Dit	55.00	23	P	P	09 50 27.3	-0.5	
F15K				IAmb	IAmb	09 50 38.6		
	comp=Z,18nm,1.0s							
F15K	North Star Dit	55.00	23	P	P	09 50 29.5	+1.7	
	baz=242							
ZAA0	Zalesovo Array	55.06	322	P	P	09 50 27.1	-1.3	
ZALV	Zalesovo Beam	55.06	322	P	P	09 50 27.1	-1.3	
ZALV	Zalesovo Beam	55.06	322	P	P	09 50 26.9	-1.5	
	comp=Z,13nm,1.0s,baz=102,slow=6.2,SNR=27							
ZALV				LR	LR	10 14 34.9		
	comp=Z,407nm,19.5s,baz=100,slow=37							
	comp=Z,13nm,1.0s							
P16K	Nushagak River	55.33	32	P	P	09 50 31.3	+1.0	
	baz=253							
N16K	Nishlik Lake	55.40	30	P	P	09 50 30.6	-0.1	
	baz=251							
H16K	Elim	55.44	25	P	P	09 50 31.9	+1.0	
	baz=245							
O16K	Kokwok River B	55.45	31	P	P	09 50 31.8	+0.7	
	baz=253							
L16K	Owhat River	55.48	29	P	P	09 50 30.5	-0.9	
	baz=250							
M16K	Timber Creek	55.48	30	P	P	09 50 31.3	-0.1	
	baz=251							
J16K	Anvik River	55.56	27	P	P	09 50 32.2	+0.3	
	baz=248							
MK31	Makanchi Array	55.64	313	P	P	09 50 32.0	-0.8	
MK31	Makanchi Array	55.64	313	P	P	09 50 32.0	-0.8	
MK31				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MKAR	Makanchi Array	55.64	313	P	P	09 50 31.3	-1.5	
MKAR	Makanchi Array	55.64	313	P	P	09 50 31.8	-1.0	
	comp=Z,7.8nm,0.9s,baz=92,slow=7.8,SNR=27							
MKAR				PcP	PcP	09 51 32.5	+0.2	
	comp=Z,3.4nm,0.5s,baz=81,slow=4.9,SNR=9.2							
MKAR				LR	LR	10 15 08.0		
	comp=Z,415nm,19.4s,baz=88,slow=37							
	comp=Z,7.8nm,0.9s							
MKAR	Makanchi Array	55.64	313	*i* P	P	09 50 31.7	-1.1	
MKAR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
G16K	Koyuk River	55.72	24	P	P	09 50 32.5	-0.4	
	baz=245							
I17K	Unalakleet	55.75	26	P	P	09 50 32.6	-0.7	
	baz=247							
MAKZ	Makanchi	55.86	313	P	P	09 50 33.8	-0.5	
MAKZ	Makanchi	55.86	313	P	P	09 50 33.8	-0.5	
MAKZ				pmax	pmax			
	comp=Z,15nm,1.0s							
Q16K	King Salmon	55.90	33	P	P	09 50 33.9	-0.5	
	baz=255							
O17K	Koliganek Bris	55.98	31	P	P	09 50 34.2	-0.7	
	baz=253							
C16K	Lisburne Hills	56.02	20	IAmb	IAmb	09 50 45.8		
	comp=Z,35nm,0.9s							
C16K	Lisburne Hills	56.02	20	P	P	09 50 35.3	+0.3	
	baz=240							
P17K	Kvichak River	56.15	32	P	P	09 50 35.7	-0.4	
	baz=254							
L17K	Donlin	56.15	28	P	P	09 50 35.7	-0.4	
	baz=251							
N17K	Nushagak Hills	56.16	31	IAmb	IAmb	09 50 47.1		
	comp=Z,18nm,1.1s							
N17K	Nushagak Hills	56.16	31	P	P	09 50 35.6	-0.6	
	baz=253							
Q17K	Contact Creek	56.18	33	P	P	09 50 35.6	-0.9	
	baz=256							
J17K	VABM Dome	56.24	27	P	P	09 50 36.4	-0.4	
	baz=249							
M17K	Holitna River	56.30	29	IAmb	IAmb	09 50 48.2		
	comp=Z,30nm,1.1s							
M17K	Holitna River	56.30	29	P	P	09 50 35.7	-1.5	
	baz=252							
K17K	Iditarod	56.34	28	P	P	09 50 37.7	+0.3	
	baz=250							
G17K	Kiwalik Mounta	56.41	24	P	P	09 50 36.4	-1.5	
	baz=246							
H17K	Granite Mounta	56.47	25	IAmb	IAmb	09 50 49.0		
	comp=Z,20nm,0.9s							
H17K	Granite Mounta	56.47	25	P	P	09 50 37.0	-1.4	
	baz=247							
D17K	Noatak River	56.48	21	P	P	09 50 37.4	-1.0	
	baz=242,SNR=10							
AUMBR	Murray Bridge	56.49	185	P	P	09 50 38.2	-0.5	
F17K	Baldwin Pennin	56.57	23	IAmb	IAmb	09 50 49.7		
	comp=Z,24nm,0.9s							
F17K	Baldwin Pennin	56.57	23	P	P	09 50 38.4	-0.6	
	baz=245							
E17K	Hotham Inlet	56.64	22	P	P	09 50 39.6	+0.1	
	baz=244,SNR=11							
SII	Sitkinak Islan	56.70	36	P	P	09 50 38.6	-1.6	
SII	Sitkinak Islan	56.70	36	P	P	09 50 39.1	-1.0	
	baz=258							
RDOG	Red Dog Mine	56.71	21	P	P	09 50 40.8	+0.8	
RDOG				IAmb	IAmb	09 50 50.7		
	comp=Z,26nm,0.9s							
RDOG	Red Dog Mine	56.71	21	P	P	09 50 39.4	-0.6	
	baz=242,SNR=6.9							
R18K	Karluk	56.77	34	P	P	09 50 40.0	-0.5	
	baz=257							
P18K	Big Mountain,	56.80	32	P	P	09 50 39.2	-1.6	
	baz=256							
N18K	Kilae Creek	56.81	31	P	P	09 50 40.3	-0.6	
	baz=254							
C17K	DeLong Mountai	56.81	20	P	P	09 50 40.3	-0.5	
	baz=242,SNR=22							
L18K	Granite Mounta	56.89	29	P	P	09 50 40.7	-0.7	
	baz=252							
O18K	Koktuh Hills	56.92	32	P	P	09 50 42.4	+0.7	
O18K	Koktuh Hills	56.92	32	P	P	09 50 40.7	-1.0	
	baz=255,SNR=8.3							
M18K	Stony River	57.07	30	P	P	09 50 41.5	-1.1	
	baz=254							
H18K	Honhosa River	57.16	25	IAmb	IAmb	09 50 53.5		
	comp=Z,26nm,1.0s							
H18K	Honhosa River	57.16	25	P	P	09 50 41.5	-1.8	
	baz=249							
E18K	Tukpahlearik C	57.22	22	IAmb	IAmb	09 50 54.4		
	comp=Z,19nm,0.9s							
E18K	Tukpahlearik C	57.22	22	P	P	09 50 42.5	-1.1	
	baz=245							
F18K	Selawik	57.22	23	P	P	09 50 42.5	-1.1	
	baz=247							
J18K	Innoko River	57.27	27	P	P	09 50 43.4	-0.7	
	baz=252							
OHAK	Old Harbor	57.31	35	P	P	09 50 44.2	-0.2	
OHAK				IAmb	IAmb	09 51 58.7		
	comp=Z,54nm,1.6s							
OHAK	Old Harbor	57.31	35	P	P	09 50 43.6	-0.8	
	baz=259							
G18K	Tagagawik	57.32	24	IAmb	IAmb	09 50 55.1		
	comp=Z,23nm,1.0s							
G18K	Tagagawik	57.32	24	P	P	09 50 44.6	+0.2	
	baz=248							
TTA	Tatalina	57.41	28	P	P	09 50 44.8	-0.3	
TTA	Tatalina	57.41	28	P	P	09 50 44.9	-0.2	
	baz=252							
TTA	Tatalina	57.41	28	P	P	09 50 47.0	+1.9	
TTA	Tatalina	57.41	28	P	P	09 50 44.8	-0.3	
TTA				pmax	pmax			
	comp=Z,18nm,1.2s							
O19K	Port Alsworth	57.44	31	P	P	09 50 46.1	+0.8	
O19K	Port Alsworth	57.44	31	P	P	09 50 45.1	-0.1	
	baz=256							
SHLS	Shalkode	57.49	308	*e*P	P	09 50 43.2	-2.9	
SHLS				pmax	pmax			
	comp=Z,16nm,1.2s							
SHLS	Shalkode	57.49	308	*e*P	P	09 50 43.2	-2.9	
	comp=Z,16nm,1.2s							
N19K	Bonanza Creek	57.52	31	IAmb	IAmb	09 50 57.5		
	comp=Z,20nm,0.9s							
N19K	Bonanza Creek	57.52	31	P	P	09 50 45.7	-0.3	
	baz=255							
C18K	Utukok River	57.54	21	P	P	09 50 45.7	-0.2	
	baz=244							
GCSA	Galena City Sc	57.62	26	P	P	09 50 46.5	+0.1	
	baz=251							
B18K	Kokolik River	57.67	20	P	P	09 50 47.3	+0.6	
	baz=243							
L19K	White Mountain	57.70	29	IAmb	IAmb	09 50 57.7		
	comp=Z,18nm,1.1s							
L19K	White Mountain	57.70	29	P	P	09 50 47.7	+0.5	
	baz=254							
KDAK	Kodiak Island	57.79	34	LR	LR	10 12 41.5		
	comp=Z,272nm,21.9s,baz=91,slow=33							
KDAK	Kodiak Island	57.79	34	P	P	09 50 47.2	-0.6	
	baz=259							
UZB	Uzynbulak	57.81	308	*e*P	P	09 50 47.5	-0.9	
UZB				pmax	pmax			
	comp=Z,19nm,1.4s							
UZB	Uzynbulak	57.81	308	*e*P	P	09 50 47.6	-0.9	
	comp=Z,19nm,1.4s							
M19K	Big River Lodg	57.84	29	P	P	09 50 48.2	+0.1	
	baz=255							
P19K	Oil Pt	57.85	32	P	P	09 50 48.1	-0.1	
	baz=257							
J19K	Poorman	57.89	27	IAmb	IAmb	09 50 58.8		
	comp=Z,19nm,1.0s							
J19K	Poorman	57.89	27	P	P	09 50 48.2	-0.2	
	baz=252							
ARPS	Mount Arapiles	57.96	182	P	P	09 50 47.9	-1.3	
	comp=Z,30nm,0.9s							
ARPS	Mount Arapiles	57.96	182	P	P	09 50 48.5	-0.7	
F19K	Shaleruckik Mo	58.00	23	P	P	09 50 48.9	-0.2	
	baz=248							
G19K	Purcell Mounta	58.01	24	P	P	09 50 49.0	-0.3	
	baz=250,SNR=5.5							
H19K	Roundabout Mou	58.05	25	IAmb	IAmb	09 51 00.1		
	comp=Z,33nm,1.0s							
H19K	Roundabout Mou	58.05	25	P	P	09 50 48.9	-0.6	
	baz=250							
Q20K	Shuyak Island	58.05	33	P	P	09 50 48.2	-1.4	
	baz=259							
KPKS	Kokpek	58.06	309	*e*P	P	09 50 49.4	-0.7	
KPKS				pmax	pmax			
	comp=Z,19nm,2.9s							
KPKS	Kokpek	58.06	309	*e*P	P	09 50 49.1	-0.9	
L20K	Farewell, AK	58.22	29	P	P	09 50 49.1	-1.7	
	baz=255							
O20K	Slope Mountain	58.24	32	P	P	09 50 49.7	-1.3	
	baz=258							
SATY	Saty	58.27	308	*e*P	P	09 50 50.8	-0.8	
SATY				pmax	pmax			
	comp=Z,17nm,1.2s							
SATY	Saty	58.27	308	*e*P	P	09 50 50.8	-0.8	
	comp=Z,17nm,1.2s							
TDK	Taldyqorghan	58.27	310	*e*P	P	09 50 50.8	-0.6	
TDK				pmax	pmax			
	comp=Z,19nm,1.3s							
TDK	Taldyqorghan	58.27	310	*e*P	P	09 50 50.8	-0.6	
	comp=Z,20nm,1.3s							
K20K	Telida	58.37	28	P	P	09 50 51.6	-0.3	
	baz=254							
KURK	Kurchatov	58.37	317	P	P	09 50 50.2	-1.8	
KURK				IAmb	IAmb	09 51 00.9		
	comp=Z,24nm,1.1s							
KURK	Kurchatov	58.37	317	*de*P	P	09 50 50.6	-1.4	
KURK				pmax	pmax			
	comp=Z,31nm,1.3s							
M20K	Styx River	58.41	30	IAmb	IAmb	09 51 04.5		
	comp=Z,15nm,1.0s							
M20K	Styx River	58.41	30	P	P	09 50 52.3	+0.1	
	baz=256							
KURBB	Kurchatov Arra	58.42	317	P	P	09 50 51.2	-1.1	
	comp=Z,21nm,0.9s,baz=95,slow=7.7,SNR=55							
KURBB				LR	LR	10 18 20.7		
	comp=Z,520nm,19.1s,baz=148,slow=38							
	comp=Z,21nm,0.9s							
E19K	Redstone River	58.43	23	IAmb	IAmb	09 51 02.7		
	comp=Z,22nm,1.0s							
E19K	Redstone River	58.43	23	P	P	09 50 52.4	+0.2	
	baz=249							
D19K	Kuna River	58.51	21	IAmb	IAmb	09 51 03.0		
	comp=Z,24nm,1.1s							
D19K	Kuna River	58.51	21	P	P	09 50 52.6	-0.1	
	baz=247							
J20K	Nowinta River	58.57	27	P	P	09 50 53.5	+0.4	
	baz=254							
NRIK	Noril'sk	58.59	340	P	P	09 50 51.1	-2.1	
NRIK				IAmb	IAmb	09 50 57.2		
	comp=Z,19nm,1.1s							
NRIK	Noril'sk	58.59	340	P	P	09 50 52.4	-0.8	
	comp=Z,8.2nm,0.8s,baz=112,slow=7.4,SNR=10							
NRIK				LR	LR	10 18 00.3		
	comp=Z,388nm,18.9s,baz=118,slow=38							
	comp=Z,8.2nm,0.8s							
NRIK	Noril'sk	58.59	340⇓	*e*P	P	09 50 52.3	-0.9	
NRIK				pmax	pmax			
	comp=Z,20nm,1.1s							
I20K	Naaghedeneel	58.61	26	P	P	09 50 53.0	-0.4	
	baz=253							
H20K	Anotleneega Mo	58.66	25	P	P	09 50 53.6	-0.2	
	baz=252							
TARG	Taragay, Kyrgy	58.74	307	P	P	09 50 55.1	-0.1	
TARG				IAmb	IAmb	09 50 58.2		
	comp=Z,16nm,1.0s							
TARG	Taragay, Kyrgy	58.74	307	P	P	09 50 55.1	-0.1	
TARG				pmax	pmax			
	comp=Z,15nm,1.0s							
STLK	Strandline Lak	58.93	30	P	P	09 50 55.7	-0.1	
PPLA	Purkeypile	59.08	29	P	P	09 50 56.9	0.0	
	baz=256							
E20K	Nigu River	59.09	22	P	P	09 50 56.8	0.0	
	baz=249							
D20K	Etivluk River	59.10	21	P	P	09 50 57.3	+0.4	
	baz=248							
SKT	Skwentna	59.17	30	P	P	09 50 57.0	-0.4	
SKT				IAmb	IAmb	09 51 06.8		
	comp=Z,24nm,1.0s							
SKT	Skwentna	59.17	30	P	P	09 50 56.7	-0.7	
	baz=257							
CAST	Castle Rocks	59.25	28	P	P	09 50 58.8	+0.8	
CAST				IAmb	IAmb	09 51 08.3		
	comp=Z,24nm,0.9s							
CAST	Castle Rocks	59.25	28	P	P	09 50 57.4	-0.5	
	baz=256,SNR=11							
MDOK	Medeo	59.26	308	*e*P	P	09 50 57.6	-0.9	
MDOK	Medeo	59.26	308	*e*P	P	09 50 57.6	-0.9	
TNSS	Tian-Shan	59.34	308	*e*P	P	09 50 58.1	-1.2	
TNSS	Tian-Shan	59.34	308	*e*P	P	09 50 58.2	-1.2	
AAA	Alma-Ata	59.35	308	*e*P	P	09 50 58.1	-1.0	
AAA	Alma-Ata	59.35	308	*e*P	P	09 50 58.1	-1.0	
SUA	Susitna One	59.43	30	P	P	09 50 59.0	-0.4	
	baz=258							
G21K	Allakaket	59.50	24	IAmb	IAmb	09 51 10.3		
	comp=Z,22nm,1.1s							
G21K	Allakaket	59.50	24	P	P	09 50 58.0	-1.6	
	baz=253,SNR=12							
H21K	Melozitna Rive	59.53	25	IAmb	IAmb	09 51 10.5		
	comp=Z,26nm,1.0s							
H21K	Melozitna Rive	59.53	25	P	P	09 50 59.5	-0.3	
	baz=254							
F21K	Alatna River	59.72	24	P	P	09 51 00.7	-0.5	
	baz=252							
I21K	Tanana	59.73	26	IAmb	IAmb	09 51 12.0		
	comp=Z,18nm,0.8s							
I21K	Tanana	59.73	26	P	P	09 51 00.4	-0.8	
	baz=255							
O22K	Cooper Landing	59.73	32	P	P	09 51 00.0	-1.2	
	baz=260							
M22K	Willow	59.78	30	P	P	09 51 00.7	-0.8	
	baz=259							
KTH	Kantishna Hill	59.79	28	P	P	09 51 01.6	-0.2	
KTH				IAmb	IAmb	09 51 11.6		
	comp=Z,24nm,1.1s							
SEW	Seward	59.80	32	P	P	09 51 01.0	-0.7	
SEW	Seward	59.80	32	P	P	09 51 01.3	-0.4	
	baz=260							
RC01	Rabbit Creek A	59.84	31	P	P	09 51 01.3	-0.7	
RC01				IAmb	IAmb	09 51 11.2		
	comp=Z,14nm,0.8s							
RC01	Rabbit Creek A	59.84	31	P	P	09 51 00.5	-1.5	
	baz=260							
C21K	Knifeblade Rid	59.88	21	P	P	09 51 01.5	-0.7	
	baz=250							
BPAW	Bear Paw Mtn.	59.89	27	P	P	09 51 01.5	-0.9	
	baz=257							
E21K	Killik River	59.92	22	IAmb	IAmb	09 51 12.8		
	comp=Z,15nm,0.9s							
E21K	Killik River	59.92	22	P	P	09 51 03.6	+1.1	
	baz=251							
NWAO	Narrogin (SRO)	59.95	206	LR	LR	10 18 24.3		
	comp=Z,154nm,18.1s,baz=5.0,slow=38							
TRF	Thorofare Moun	60.05	28	P	P	09 51 03.2	-0.4	
	baz=258,SNR=7.5							
A21K	Barrow	60.09	19	P	P	09 51 02.9	-0.6	
	baz=247,SNR=6.3							
B21K	Ikpikpuk River	60.09	21	IAmb	IAmb	09 51 14.6		
	comp=Z,16nm,0.9s							
B21K	Ikpikpuk River	60.09	21	P	P	09 51 03.8	+0.2	
	baz=250							
H22K	Ishtalitna Cre	60.16	25	P	P	09 51 03.7	-0.5	
	baz=255							
PMR	Palmer	60.21	30	P	P	09 51 04.4	-0.1	
PMR				IAmb	IAmb	09 51 13.6		
	comp=Z,25nm,1.0s							
PMR	Palmer	60.21	30	P	P	09 51 03.9	-0.6	
	baz=260							
PMR	Palmer	60.21	30	P	P	09 51 05.1	+0.6	
PMR	Palmer	60.21	30	P	P	09 51 04.4	-0.1	
PMR				pmax	pmax			
	comp=Z,25nm,1.0s							
KSH	Kashi	60.24	304	P	P	09 51 08.4	+3.1	
KSH				pP	pwP	09 51 15.6	+4.8	
KSH				pmax	pmax			
	comp=Z,9.0nm,1.2s							
KSH				LR	LR			
	comp=Z,390nm,18.2s							
KSH				LR	LR			
	comp=Z,530nm,15.5s							
KSH				LR	LR			
	comp=Z,530nm,14.4s							
GHO	Glory Hole Cre	60.34	30	P	P	09 51 05.2	-0.4	
GHO				IAmb	IAmb	09 51 28.4		
	comp=Z,22nm,1.0s							
PWL	Port Wells	60.47	31	P	P	09 51 06.3	-0.1	
PWL				IAmb	IAmb	09 51 15.9		
	comp=Z,29nm,1.0s							
PWL	Port Wells	60.47	31	P	P	09 51 06.1	-0.3	
	baz=261							
KNK	Knik Glacier	60.50	31	P	P	09 51 05.6	-1.0	
KNK				IAmb	IAmb	09 51 16.1		
	comp=Z,26nm,0.9s							
KNK	Knik Glacier	60.50	31	P	P	09 51 06.7	+0.1	
	baz=261							
D22K	Ayikyak River	60.51	22	P	P	09 51 06.9	+0.4	
	baz=252							
BWN	Browne	60.55	27	P	P	09 51 06.2	-0.7	
E22K	Anaktuvuk Pass	60.59	23	IAmb	IAmb	09 51 18.3		
	comp=Z,25nm,0.9s							
E22K	Anaktuvuk Pass	60.59	23	P	P	09 51 06.3	-0.8	
	baz=254							
SML	Sawmill	60.62	30	P	P	09 51 06.7	-0.8	
SML	Sawmill	60.62	30	P	P	09 51 06.4	-1.1	
	baz=260							
SML	Sawmill	60.62	30	P	P	09 51 06.7	-0.8	
SML				pmax	pmax			
	comp=Z,55nm,1.0s							
MCK	McKinley	60.70	28	P	P	09 51 07.9	0.0	
MCK				IAmb	IAmb	09 51 17.1		
	comp=Z,19nm,1.0s							
MCK	McKinley	60.70	28	P	P	09 51 06.7	-1.1	
	baz=259							
MCK	McKinley	60.70	28	P	P	09 51 07.9	0.0	
MCK				pmax	pmax			
	comp=Z,19nm,1.0s							
I23K	Minto, Yukon-K	60.80	26	P	P	09 51 07.6	-0.9	
	baz=258							
NEA2	Nenana	60.81	27	P	P	09 51 08.1	-0.5	
	baz=258							
G23K	Bananza Creek	60.89	24	IAmb	IAmb	09 51 20.0		
	comp=Z,29nm,1.1s							
G23K	Bananza Creek	60.89	24	P	P	09 51 08.7	-0.5	
	baz=256							
M23K	Glacier View	60.91	30	P	P	09 51 08.7	-0.6	
	baz=261							
COLD	Coldfoot	60.95	24	P	P	09 51 10.4	+0.9	
COLD				IAmb	IAmb	09 51 20.3		
	comp=Z,22nm,0.9s							
COLD	Coldfoot	60.95	24	P	P	09 51 09.2	-0.3	
	baz=256,SNR=7.9							
SGDS	Sogindy	61.01	309	*e*P	P	09 51 09.5	-0.9	
SGDS	Sogindy	61.01	309	*e*P	P	09 51 09.6	-0.9	
GLI	Glacier Island	61.08	31	P	P	09 51 09.1	-1.4	
	baz=262							
SCM	Sheep Creek Mo	61.10	30	P	P	09 51 11.2	+0.5	
SCM	Sheep Creek Mo	61.10	30	P	P	09 51 09.6	-1.1	
	baz=261							
SCM	Sheep Creek Mo	61.10	30	P	P	09 51 11.2	+0.5	
SCM				pmax	pmax			
	comp=Z,43nm,1.0s							
AAK	Ala-Archa	61.16	308	P	P	09 51 10.4	-1.1	
AAK	Ala-Archa	61.16	308	LR	LR	10 19 17.1		
	comp=Z,250nm,19.5s,baz=92,slow=38							
AAK	Ala-Archa	61.16	308	*ce*P	P	09 51 12.4	+0.9	
AAK				pmax	pmax			
	comp=Z,11nm,1.3s							
WRH	Wood River Hil	61.20	27	P	P	09 51 11.4	+0.2	
D23K	Nanushuk River	61.23	22	IAmb	IAmb	09 51 22.4		
	comp=Z,29nm,1.1s							
D23K	Nanushuk River	61.23	22	P	P	09 51 11.8	+0.4	
	baz=254							
MID	Middleton Isla	61.27	33	P	P	09 51 15.3	+3.5	
CCB	Clear Creek Bu	61.35	27	P	P	09 51 11.8	-0.4	
BTLS	Baital	61.36	310	*e*P	P	09 51 11.8	-0.8	
BTLS				pmax	pmax			
	comp=Z,11nm,1.5s							
BTLS	Baital	61.36	310	*e*P	P	09 51 11.9	-0.8	
	comp=Z,11nm,1.5s							
E23K	Chandalar	61.37	23	P	P	09 51 11.5	-1.0	
	baz=256,SNR=22							
COLA	College	61.38	27	P	P	09 51 12.1	-0.3	
	baz=259							
COLA	College	61.38	27	P	P	09 51 14.8	+2.4	
COLA	College	61.38	27⇑	*e*P	P	09 51 14.8	+2.4	
COLA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
TOLK	Toolik Lake Re	61.53	22	P	P	09 51 14.3	+0.8	
TOLK				IAmb	IAmb	09 51 24.2		
	comp=Z,21nm,0.8s							
TOLK	Toolik Lake Re	61.53	22	P	P	09 51 12.9	-0.6	
	baz=256,SNR=8.4							
H24K	Noodlor Dome	61.55	26	P	P	09 51 12.0	-1.7	
	baz=259							
POKR	Poker Plat Res	61.60	27	P	P	09 51 13.5	-0.4	
	baz=260							
HDA	Harding Lake	61.68	27	P	P	09 51 13.5	-1.0	
HDA	Harding Lake	61.68	27	P	P	09 51 13.6	-0.9	
	baz=260							
EYAK	Cordova Ski Ar	61.69	32	P	P	09 51 13.7	-0.9	
	baz=264							
KLU	Klutina	61.72	31	P	P	09 51 15.5	+0.6	
KLU	Klutina	61.72	31	P	P	09 51 13.9	-1.0	
	baz=263							
ILAR	Eielson Array	61.77	27	P	P	09 51 14.6	-0.5	
	comp=Z,4.9nm,0.8s,baz=262,slow=5.5,SNR=37							
ILAR				LR	LR	10 18 41.4		
	comp=Z,155nm,19.2s,baz=244,slow=37							
	comp=Z,4.9nm,0.8s							
E24K	Your Creek	61.79	23	IAmb	IAmb	09 51 26.0		
	comp=Z,25nm,0.9s							
E24K	Your Creek	61.79	23	P	P	09 51 14.7	-0.5	
	baz=257,SNR=9.6							
G24K	Hadweenzic Riv	61.88	25	IAmb	IAmb	09 51 27.9		
	comp=Z,18nm,0.9s							
G24K	Hadweenzic Riv	61.88	25	P	P	09 51 15.9	+0.1	
	baz=259							
F24K	Squaw Lake	61.89	24	IAmb	IAmb	09 51 26.8		
	comp=Z,15nm,0.9s							
F24K	Squaw Lake	61.89	24	P	P	09 51 16.8	+0.9	
	baz=258							
D24K	Happy Valley	61.92	22	P	P	09 51 13.9	-2.1	
	baz=256							
K24K	Donnelly Dome	62.09	28	P	P	09 51 16.2	-1.1	
	baz=262							
C24K	Franklin Bluff	62.10	21	IAmb	IAmb	09 51 27.7

J25K	Salcha River,	62.38	27	P	P	09 51 18.4	-0.9
	baz=262						
PRP	Porcupine Dome	62.45	26	P	P	09 51 18.2	-1.7
	baz=261						
RIDG	Independent Ri	62.49	28	IAmb	IAmb	09 51 29.4	
	comp=Z,20nm,1.0s						
RIDG	Independent Ri	62.49	28	P	P	09 51 19.1	-0.9
	baz=263						
GLB	Gilahina Butte	62.72	31	P	P	09 51 21.6	0.0
GLB				IAmb	IAmb	09 51 35.2	
	comp=Z,32nm,1.3s						
F25K	Christian Rive	62.75	24	IAmb	IAmb	09 51 32.7	
	comp=Z,20nm,1.0s						
F25K	Christian Rive	62.75	24	P	P	09 51 22.4	+0.7
	baz=260						
D25K	Kavik River	62.81	22	P	P	09 51 22.1	+0.1
	baz=258						
PALK	Pallekele	62.85	267	LR	LR	10 16 33.1	
	comp=Z,319nm,20.3s,baz=64,slow=34						
E25K	Arctic Village	62.87	23	P	P	09 51 23.8	+1.4
	baz=260,SNR=22						
SCRK	Sand Creek	62.90	28	P	P	09 51 22.7	-0.1
	baz=263,SNR=26						
L26K	Log Cabin Wild	63.08	29	P	P	09 51 24.9	+0.9
	baz=264						
NIL	Nilore	63.09	298	P	P	09 51 24.1	-0.3
NIL				IAmb	IAmb	09 51 29.0	
	comp=Z,26nm,1.2s						
NIL	Nilore	63.09	298	P	P	09 51 24.2	-0.3
NIL				pmax	pmax		
	comp=Z,26nm,1.2s						
BMAR	Burnt Mountain	63.12	24	P	P	09 51 24.0	-0.2
J26L	Joseph Creek	63.14	27	P	P	09 51 24.5	+0.1
J26L	Joseph Creek	63.14	27	P	P	09 51 24.6	+0.2
	baz=264,SNR=13						
M26K	Nabesna, AK	63.19	30	P	P	09 51 24.6	-0.1
	baz=265						
F26K	Sheenjek River	63.33	24	IAmb	IAmb	09 51 36.5	
	comp=Z,23nm,0.9s						
F26K	Sheenjek River	63.33	24	P	P	09 51 26.0	+0.4
	baz=261						
G26K	Porcupine Rive	63.36	25	P	P	09 51 25.7	+0.1
	baz=262						
I26K	Coal Creek Min	63.41	27	IAmb	IAmb	09 52 37.8	
	comp=Z,27nm,1.8s						
I26K	Coal Creek Min	63.41	27	P	P	09 51 25.0	-1.0
	baz=263						
C26K	Camden Bay	63.42	21	P	P	09 51 27.5	+1.5
	baz=260,SNR=13						
DZA	Taraz	63.46	308	eP	P	09 51 26.1	-0.7
DZA	Taraz	63.46	308	eP	P	09 51 26.1	-0.7
BVAR	Borovoye Array	63.54	320	P	P	09 51 26.2	-0.9
	comp=Z,17nm,0.7s,baz=91,slow=7.4,SNR=43						
BVAR				LR	LR	10 21 12.9	
	comp=Z,410nm,18.4s,baz=84,slow=38						
	comp=Z,17nm,0.7s						
MESA	MESA	63.54	32	P	P	09 51 27.6	+0.3
	baz=267						
BRVK	Borovoye	63.60	320	P	P	09 51 26.5	-1.0
BRVK	Borovoye	63.60	320	d iP	P	09 51 26.6	-0.9
BRVK				pmax	pmax		
	comp=Z,35nm,1.1s						
M27K	Edge Creek, AK	63.70	30	P	P	09 51 28.2	-0.1
M27K				IAmb	IAmb	09 51 56.0	
	comp=Z,14nm,1.1s						
M27K	Edge Creek, AK	63.70	30	P	P	09 51 26.7	-1.6
	baz=266						
L27K	Beaver Creek,	63.78	29	P	P	09 51 27.9	-0.7
	baz=266						
C27K	Jago River	63.79	22	IAmb	IAmb	09 51 39.2	
	comp=Z,17nm,0.9s						
C27K	Jago River	63.79	22	P	P	09 51 29.0	+0.5
	baz=261						
KKAR	Karatay Array	64.04	309	P	P	09 51 29.7	-0.9
KKAR	Karatay Array	64.04	309	P	P	09 51 29.7	-0.9
I27K	Kandik River	64.08	26	P	P	09 51 29.1	-1.4
	baz=265						
TAU	Tasmania Unive	64.11	178	P	P	09 51 30.5	-0.2
TAU	Tasmania Unive	64.11	178	P	P	09 51 30.5	-0.2
TAU				pmax	pmax		
	comp=Z,89nm,1.6s						
BTK	Batken	64.14	305	P	P	09 51 31.6	+0.1
H27K	Steamboat Moun	64.17	26	P	P	09 51 30.7	-0.4
	baz=264						
G27K	Doyon Strip	64.18	25	P	P	09 51 31.0	-0.1
G27K	Doyon Strip	64.18	25	P	P	09 51 29.6	-1.6
	baz=264						
BVCY	Beaver Creek	64.18	30	P	P	09 51 30.3	-0.9
	baz=267						
EGAK	Eagle	64.20	27	P	P	09 51 31.1	-0.1
EGAK				IAmb	IAmb	09 51 43.9	
	comp=Z,10nm,0.9s						
EGAK	Eagle	64.20	27	P	P	09 51 30.7	-0.6
	baz=266						
YUK3	Moose Creek	64.34	31	P	P	09 51 32.0	-0.5
	baz=268						
PINM	Pinnacle	64.39	33	P	P	09 51 31.4	-1.3
	baz=269						
O28M	Mount Upton	64.44	32	P	P	09 51 32.6	-0.6
	baz=268						
IUG	Iuzhnay	64.49	308	eP	P	09 51 33.0	-0.7
IUG				pmax	pmax		
	comp=Z,21nm,1.1s						
IUG	Iuzhnay	64.49	308	eP	P	09 51 33.0	-0.7
	comp=Z,21nm,1.1s						
BRLS	Borolday	64.54	308	eP	P	09 51 34.1	+0.2
BRLS	Borolday	64.54	308	eP	P	09 51 34.1	+0.2
YUK8	Steele Glacier	64.66	31	P	P	09 51 33.9	-0.8
	baz=268						
D27M	Malcolm River	64.70	22	P	P	09 51 35.4	+0.8
	baz=264						
I28M	Miner Creek	64.76	27	IAmb	IAmb	09 51 44.9	
	comp=Z,13nm,0.8s						
I28M	Miner Creek	64.76	27	P	P	09 51 35.2	+0.1
	baz=266						
CHM	Chimkent	64.79	308	eP	P	09 51 34.8	-0.7
CHM				pmax	pmax		
	comp=Z,16nm,1.1s						
CHM	Chimkent	64.79	308	eP	P	09 51 34.8	-0.7
	comp=Z,16nm,1.1s						
DAWY	Dawson	64.92	28	P	P	09 51 35.4	-0.7
DAWY				IAmb	IAmb	09 51 46.1	
	comp=Z,12nm,0.9s						
DAWY	Dawson	64.92	28	P	P	09 51 33.9	-2.2
	baz=268						
F28M	Old Crow	64.94	24	P	P	09 51 36.2	+0.1
F28M				IAmb	IAmb	09 51 46.6	
	comp=Z,17nm,0.9s						
F28M	Old Crow	64.94	24	P	P	09 51 34.8	-1.3
	baz=265,SNR=9.3						
E28M	Babbage River	65.15	23	P	P	09 51 37.4	0.0
	baz=265						
YUK4	Talbot Arm	65.20	31	P	P	09 51 36.5	-1.6
	baz=270						
O29M	Mount Kennedy	65.23	32	IAmb	IAmb	09 51 48.5	
	comp=Z,23nm,1.1s						
O29M	Mount Kennedy	65.23	32	P	P	09 51 37.0	-1.2
	baz=270						
M29M	Somme Creek	65.30	30	IAmb	IAmb	09 51 49.1	
	comp=Z,17nm,0.9s						
M29M	Somme Creek	65.30	30	P	P	09 51 38.3	-0.3
	baz=269						
YUK6	Outpost Mounta	65.33	32	P	P	09 51 38.0	-1.0
	baz=270						
I29M	Ogilvie Camp,	65.44	27	IAmb	IAmb	09 51 49.2	
	comp=Z,13nm,1.1s						
I29M	Ogilvie Camp,	65.44	27	P	P	09 51 39.7	+0.3
	baz=268						
H29M	Whitestone	65.45	26	IAmb	IAmb	09 51 57.5	
	comp=Z,20nm,0.9s						
H29M	Whitestone	65.45	26	P	P	09 51 39.0	-0.4
	baz=267						
J29N	Klondike Camp	65.45	28	IAmb	IAmb	09 51 49.8	
	comp=Z,11nm,1.0s						
J29N	Klondike Camp	65.45	28	P	P	09 51 39.7	+0.2
	baz=268						
L29M	L29M	65.46	29	P	P	09 51 38.8	-0.7
	baz=269						
D28M	Stokes Point	65.49	22	P	P	09 51 39.1	-0.5
	baz=266						
G29M	Pine Creek	65.62	25	IAmb	IAmb	09 51 51.1	
	comp=Z,24nm,1.0s						
G29M	Pine Creek	65.62	25	P	P	09 51 41.3	+0.8
	baz=267						
SIMJ	Simiganj	65.73	304	P	P	09 51 41.7	-0.1
E29M	Blow River	65.74	23	IAmb	IAmb	09 51 51.7	
	comp=Z,11nm,1.0s						
E29M	Blow River	65.74	23	P	P	09 51 42.1	+0.9
	baz=267						
K29M	Barlow Dome	65.74	28	IAmb	IAmb	09 51 51.9	
	comp=Z,20nm,0.9s						
K29M	Barlow Dome	65.74	28	P	P	09 51 40.4	-1.1
	baz=269						
HYT	Haines Junctio	65.75	32	P	P	09 51 39.3	-2.3
	baz=271						
N30M	Aishikik Lake	65.95	31	P	P	09 51 41.5	-1.3
	baz=271						
P30M	Million Dollar	66.04	32	P	P	09 51 44.2	+0.8
	baz=272						
M30M	Minto, Yukon	66.07	30	P	P	09 51 43.8	+0.3
M30M	Minto, Yukon	66.07	30	P	P	09 51 43.0	-0.5
	baz=270						
EPYK	Eagle Plains	66.12	26	P	P	09 51 44.2	+0.4
EPYK	Eagle Plains	66.12	26	P	P	09 51 43.1	-0.7
	baz=269						
I30M	Mount Dempster	66.25	27	P	P	09 51 44.7	0.0
I30M				IAmb	IAmb	09 52 05.1	
	comp=Z,15nm,1.3s						
I30M	Mount Dempster	66.25	27	P	P	09 51 45.8	+1.0
	baz=270						
J30M	Hart River	66.27	28	P	P	09 51 45.9	+1.1
J30M				IAmb	IAmb	09 51 55.0	
	comp=Z,12nm,1.0s						
J30M	Hart River	66.27	28	P	P	09 51 44.7	-0.1
	baz=270						
G30M	tAoh Zraii Nji	66.33	25	P	P	09 51 45.5	+0.4
G30M				IAmb	IAmb	09 51 57.0	
	comp=Z,15nm,0.9s						
G30M	tAoh Zraii Nji	66.33	25	P	P	09 51 45.2	+0.1
	baz=269,SNR=10						
PLBC	Pleasant Camp	66.36	33	P	P	09 51 45.5	+0.2
	baz=272						
KBL	Kabul	66.38	299	P	P	09 51 46.1	-0.2
KBL	Kabul	66.38	299	P	P	09 51 46.1	-0.2
KBL				pmax	pmax		
	comp=Z,52nm,1.8s						
O30N	Mendenhall	66.45	32	P	P	09 51 46.6	+0.6
	baz=272						
MAYO	Mayo, Yukon	66.47	29	P	P	09 51 46.2	+0.2
	baz=271						
S31K	Pelican	66.50	35	P	P	09 51 45.9	-0.3
	baz=273						
F30M	Barrier River	66.51	24	P	P	09 51 46.6	+0.4
	baz=269						
N31M	Braeburn, Yuko	66.57	31	P	P	09 51 48.4	+1.7
N31M				IAmb	IAmb	09 52 00.4	
	comp=Z,31nm,1.2s						
N31M	Braeburn, Yuko	66.57	31	P	P	09 51 46.4	-0.3
	baz=272						
SKAG	Skagway	66.89	33	P	P	09 51 48.4	-0.3
	baz=273						
URZ	Urewera	66.91	152	LR	LR	10 19 47.5	
	comp=Z,151nm,18.8s,baz=58,slow=35						
SIT	Sitka	67.05	36	P	P	09 51 49.4	-0.3
	baz=274						
WHY	Whitehorse	67.05	32	P	P	09 51 50.6	+0.8
	baz=273						
H31M	Peel River	67.09	26	IAmb	IAmb	09 52 00.8	
	comp=Z,20nm,0.9s						
H31M	Peel River	67.09	26	P	P	09 51 49.5	-0.4
	baz=271						
G31M	Satah River	67.10	25	P	P	09 51 50.3	+0.4
	baz=271						
M31M	Drury Creek, Y	67.20	30	IAmb	IAmb	09 52 00.8	
	comp=Z,17nm,1.1s						
M31M	Drury Creek, Y	67.20	30	P	P	09 51 50.0	-0.8
	baz=273						
F31M	Tsiigehtchic	67.29	24	IAmb	IAmb	09 52 00.6	
	comp=Z,11nm,0.8s						
F31M	Tsiigehtchic	67.29	24	P	P	09 51 51.4	+0.3
	baz=271						
INK	Inuvik	67.36	24	IAmb	IAmb	09 52 01.5	
	comp=Z,16nm,0.9s						
INK	Inuvik	67.36	24	P	P	09 51 51.7	+0.2
	baz=271						
S32K	Killisnoo	67.42	35	P	P	09 51 52.3	+0.2
	baz=275						
FARO	Faro, Yukon	67.69	30	P	P	09 51 54.1	+0.3
FARO	Faro, Yukon	67.69	30	P	P	09 51 54.9	+1.1
	baz=274						
P32M	Atlin	67.70	33	P	P	09 51 53.1	-0.9
	baz=274						
N32M	Quiet Lake	67.89	31	P	P	09 51 55.3	+0.1
	baz=274						
P33M	Teslin, Yukon	68.10	32	P	P	09 51 56.1	-0.4
	baz=275						
U33K	Whale Pass	68.35	37	P	P	09 51 56.8	-1.2
	baz=276						
CRAG	Craig	68.42	37	P	P	09 51 57.6	-0.8
	baz=277						
WRAK	Wrangell Islan	68.74	36	P	P	09 52 00.3	-0.1
	baz=277						
SVE	Sverdlovsk	68.89	324	eP	P	09 52 00.8	-0.6
SVE				pmax	pmax		
	comp=Z,20nm,1.0s						
H02S1	DAWSON INLET T	69.09	40	T	T	11 07 49.1	
	SNR=7.6						
R33M	Jennings River	69.11	33	P	P	09 52 01.9	-1.0
	baz=277						
RAR	Rarotonga	69.12	124	LR	LR	10 17 26.9	
	comp=Z,290nm,20.1s,baz=284,slow=32						
S34M	Telegraph Cree	69.21	35	P	P	09 52 02.5	-0.8
	baz=277						
V35K	Ketchikan	69.29	37	P	P	09 52 04.0	+0.1
	baz=278						
DLBC	Dease Lake	69.72	34	P	P	09 52 07.3	+0.7
DLBC				IAmb	IAmb	09 52 17.3	
	comp=Z,20nm,0.9s						
DLBC	Dease Lake	69.72	34	LR	LR	10 19 38.9	
	comp=Z,197nm,22.0s,baz=276,slow=33						
DLBC	Dease Lake	69.72	34	P	P	09 52 04.7	-1.9
	baz=278						
T35M	Bob Quinn	69.81	36	P	P	09 52 05.5	-1.6
	baz=278						
A36M	Sachs Harbour	69.91	19	P	P	09 52 06.1	-1.3
A36M				IAmb	IAmb	09 52 23.1	
	comp=Z,14nm,0.9s						
A36M	Sachs Harbour	69.91	19	P	P	09 52 07.3	-0.1
	baz=277						
U35K	Hyder	70.10	37	P	P	09 52 08.4	-0.4
	baz=279						
ARTI	Arti	70.19	324	P	P	09 52 08.3	-1.0
ARTI				IAmb	IAmb	09 52 13.4	
	comp=Z,16nm,1.2s						
ARTI	Arti	70.19	324	LR	LR	10 25 12.7	
	comp=Z,171nm,18.4s,baz=66,slow=38						
ARTI	Arti	70.19	324	c iP	P	09 52 07.4	-2.0
ARTI				S	S	10 01 17.4	-3.4
ARTI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ABKAR	Akbulak array	70.46	316	P	P	09 52 09.6	-1.6
C36M	Paulatuk	70.68	22	P	P	09 52 12.6	+0.5
C36M				IAmb	IAmb	09 52 21.5	
	comp=Z,14nm,0.9s						
C36M	Paulatuk	70.68	22	P	P	09 52 12.4	+0.3
	baz=279						
AKTO	Aktyubinsk	71.46	318	LR	LR	10 25 47.0	
	comp=Z,338nm,18.2s,baz=173,slow=38						
BBB	Bella Bella	71.88	40	LR	LR	10 19 40.6	
	comp=Z,238nm,21.2s,baz=279,slow=32						
HRA	Herat	71.91	300	P	P	09 52 19.3	-1.3
WRGLY	Wrigley	72.06	28	P	P	09 52 20.7	+0.1
WRGLY				IAmb	IAmb	09 52 30.9	
	comp=Z,23nm,0.9s						
WRGLY	Wrigley	72.06	28	P	P	09 52 19.8	-0.8
	baz=282						
TOAD	Toad River Com	72.12	33	P	P	09 52 20.2	-0.9
	baz=282						
KOTAN	Kotaneelee Air	72.44	32	P	P	09 52 22.1	-0.9
	baz=282						
KIRV	Kirov	74.45	327	LR	LR	10 27 16.3	
	comp=Z,371nm,20.5s,baz=66,slow=37						
KIRV	Kirov	74.45	327	|| eP	P	09 52 35.5	+0.7
PPT	Papeete	75.47	116	LR	LR	10 19 52.5	
	comp=Z,498nm,19.2s,baz=310,slow=31						
PPT2	Papeete2	75.48	116	eP	P	09 52 44.9	+3.4
	comp=Z,98nm,26.5s						
PPT2	Papeete2	75.48	116	eLQ	LQ	10 12 30.8	
	comp=Z,3μm,37.2s						
PPT2				eLR	LR	10 15 38.8	
	comp=Z,1μm,32.0s						
PPT2				eLR	LR	10 15 47.0	
	comp=Z,1μm,23.2s						
LLLB	Lillooet	76.05	41	P	P	09 52 44.9	+0.6
LLLB				IAmb	IAmb	09 52 56.0	
	comp=Z,17nm,0.9s						
YKA	Yellowknife Ar	76.17	28	P	P	09 52 44.7	+0.1
	comp=Z,3.6nm,0.8s,baz=290,slow=5.6,SNR=29						
YKA				LR	LR	10 26 58.2	
	comp=Z,140nm,19.7s,baz=286,slow=36						
	comp=Z,3.6nm,0.8s						
SPITS	Spitsbergen Ar	76.25	350	P	P	09 52 46.3	+1.5
	comp=Z,17nm,1.0s,baz=46,slow=5.9,SNR=5.1						
SPITS				LR	LR	10 32 14.7	
	comp=Z,108nm,18.4s,baz=3.0,slow=40						
	comp=Z,17nm,1.0s						
GNW	Green Mountain	76.33	44	P	P	09 52 45.5	-0.3
GNW				IAmb	IAmb	09 52 56.6	
	comp=Z,23nm,0.9s						
NOR	Nord	76.69	357	i P	P	09 52 49.8	+2.5
NOR				IAmb	IAmb	09 53 20.9	
	comp=Z,130nm,2.6s						
RES	Resolute Bay	77.06	14	LR	LR	10 31 13.6	
	comp=Z,87nm,19.4s,baz=318,slow=39						
LON	Longmire	77.23	45	P	P	09 52 51.4	+0.4
LON	Longmire	77.23	45	P	P	09 52 51.4	+0.4
LON				pmax	pmax		
	comp=Z,11nm,0.9s						
BELG	Belogornoye	77.24	321	LR	LR	10 29 18.3	
	comp=Z,358nm,18.9s,baz=66,slow=38						
BELG	Belogornoye	77.24	321	c iP	P	09 52 50.1	-0.8
BELG				pmax	pmax		
	comp=Z,13nm,1.0s						
H04A	Detroit Lake	77.61	47	P	P	09 52 52.6	-0.6
H04A				IAmb	IAmb	09 53 03.3	
	comp=Z,21nm,0.9s						
HOOD	Mount Hood Mea	77.78	46	P	P	09 52 54.2	0.0
HOOD				IAmb	IAmb	09 53 07.7	
	comp=Z,31nm,1.0s						
LTY	Liberty	77.82	44	P	P	09 52 54.5	+0.1
LTY				IAmb	IAmb	09 53 04.2	
	comp=Z,16nm,0.9s						
YBH	Yreka Blue Hor	78.16	50	P	P	09 52 57.3	+0.9
YBH				IAmb	IAmb	09 53 06.8	
	comp=Z,15nm,0.8s						
YBH	Yreka Blue Hor	78.16	50	LR	LR	10 20 29.5	
	comp=Z,528nm,21.9s,baz=308,slow=30						
YBH	Yreka Blue Hor	78.16	50	P	P	09 52 57.3	+0.9
YBH				pmax	pmax		
	comp=Z,15nm,0.9s						
MXC	Moxie City	78.28	45	P	P	09 52 55.8	-1.1
MXC				IAmb	IAmb	09 53 06.6	
	comp=Z,14nm,1.0s						
B08A	Colville Reser	78.32	43	P	P	09 52 56.8	-0.2
B08A				IAmb	IAmb	09 53 06.9	
	comp=Z,16nm,0.9s						
TBI	Tubuai	78.35	121	eLQ	LQ	10 13 50.3	
	comp=Z,3μm,29.2s						
TBI				eLR	LR	10 16 52.5	
	comp=Z,2μm,25.0s						
KLMR	Klimovskoe	78.43	331	eP	P	09 52 54.6	-2.7
KLMR				e		09 55 51.0	
KLMR				pmax	pmax		
	comp=Z,19nm,1.1s						
G06A	Carlson Farm,	78.49	46	P	P	09 52 57.3	-0.7
J05D	Fort Rock, OR	78.70	48	P	P	09 52 58.8	-0.6
HAWA	Hanford	78.84	45	P	P	09 52 59.8	-0.1
ARCES	ARCESS Array B	79.48	342	P	P	09 53 02.4	-0.5
	comp=Z,3.9nm,0.7s,baz=54,slow=6.3,SNR=8.9						
ARCES				LR	LR	10 32 32.5	
	comp=Z,323nm,20.6s,baz=58,slow=39						
	comp=Z,3.9nm,0.7s						
E09A	Wood Farm, Sta	79.70	44	P	P	09 53 05.2	+0.6
E09A				IAmb	IAmb	09 53 14.7	
	comp=Z,17nm,0.9s						
ORV	Oroville	79.73	52	P	P	09 53 04.6	-0.3
ORV	Oroville	79.73	52	P	P	09 53 04.6	-0.3
ORV				pmax	pmax		
	comp=Z,14nm,1.0s						
NEW	Newport	79.74	42	LR	LR	10 22 09.7	
	comp=Z,332nm,21.9s,baz=276,slow=31						
TAOE	Nuku Hiva Isla	79.95	104	eLR	LR	10 17 51.8	
	comp=Z,636nm,22.4s						
AFDM	Forest Hills D	80.32	52	P	P	09 53 08.2	+0.1
MAK	Makhachkala	80.46	312	eP	P	09 53 05.9	-2.8
MAK				e		09 56 10.4	
MAK				ePPP	PPP	09 58 01.2	
MAK				eS	S	10 03 11.0	-4.2
MAK				eSS	SS	10 08 21.8	-4.8
MAK				eSSS	SSS	10 11 49.3	
MAK				pmax	pmax		
	comp=Z,155nm,1.3s						
AKT	Akhty	80.82	311	eP	P	09 53 09.9	-1.0
AKT				e		09 53 16.1	
AKT				e		09 56 14.4	
AKT				pmax	pmax		
	comp=Z,37nm,0.6s						
NEEM	North Greenlan	80.88	3	i P	P	09 53 10.2	-0.6
NEEM				IAmb	IAmb	09 53 20.4	
	comp=Z,20nm,1.0s						
MPK	Martis Peak	80.89	51	P	P	09 53 11.8	+0.3
MPK				IAmb	IAmb	09 53 21.6	
	comp=Z,22nm,0.9s						
LKRN	Lenkeran, Azer	81.02	308	P	P	09 53 11.1	-0.7
VRH	Novokhopyorsk	81.09	322	eP	P	09 53 10.1	-1.9
VRH				pmax	pmax		
	comp=Z,19nm,0.9s						
PAHR	Pah Rah Range	81.21	51	P	P	09 53 12.9	-0.2
SEKA	Sheki	81.29	311	P	P	09 53 13.1	-0.2
MOS	Moscow	81.46	327	eP	P	09 53 11.3	-2.5
MOS				pmax	pmax		
	comp=Z,41nm,1.2s						
WAKR	Walker	81.60	52	P	P	09 53 14.6	-0.6
WAKR				IAmb	IAmb	09 53 25.3	
	comp=Z,14nm,0.8s						
LPSR	Galich'ya Gora	82.11	324	eP	P	09 53 15.0	-2.3
LPSR				pmax	pmax		
	comp=Z,48nm,1.1s						
GANJ	Ganja	82.11	310	P	P	09 53 17.3	-0.3
RYN	Ryan	82.22	52	P	P	09 53 18.9	+0.5
RYN				IAmb	IAmb	09 53 28.4	
	comp=Z,14nm,0.9s						
OBN	Obninsk	82.27	326	LR	LR	10 31 40.6	
	comp=Z,378nm,20.2s,baz=17,slow=37						
OBN	Obninsk	82.27	326	eP	P	09 53 15.5	-2.6
OBN				i		09 53 27.8	
OBN				i S	S	10 03 22.4	-11
OBN				pmax	pmax		
	comp=Z,22nm,1.3s						
OBN				MLR	MLR		
	comp=Z,435nm,16.0s						
VORR	Voronezh	82.34	323	eP	P	09 53 16.6	-1.9
VORR				pmax	pmax		
	comp=Z,50nm,1.1s						
MFID	Camas Ranch	82.36	46	P	P	09 53 19.7	+0.8
LHV	Little Huntoon	82.37	52	P	P	09 53 20.6	+1.7
LHV				IAmb	IAmb	09 53 29.5	
	comp=Z,14nm,0.9s						
NVAR	Mina Array Bea	82.45	52	P	P	09 53 20.4	+0.7
NVAR	Mina Array Bea	82.45	52	P	P	09 53 21.0	+1.2
	comp=Z,4.8nm,0.9s,baz=266,slow=6.1,SNR=23						
NVAR				LR	LR	10 23 02.5	
	comp=Z,624nm,21.5s,baz=279,slow=31						
	comp=Z,4.8nm,0.9s						
VSR	Storozhevoye	82.56	322	eP	P	09 53 15.9	-3.8
VSR				pmax	pmax		
	comp=Z,50nm,1.0s						
NV11	Mina Array Sit	82.56	52	P	P	09 53 20.5	+0.3
NV11				IAmb	IAmb	09 53 30.1	
	comp=Z,15nm,0.9s						
VORD	Divnogorie	82.59	322	eP	P	09 53 18.0	-1.8
VORD				pmax	pmax		
	comp=Z,30nm,1.0s						
GOF	Gofitskoye	82.68	316	ceP	P	09 53 21.4	+0.9
KULLO	Kullorsuaq	83.19	6	i P	P	09 53 14.4	-8.1
KULLO				IAmb	IAmb	09 53 34.4	
	comp=Z,21nm,1.1s						
HLID	Hailey	83.25	46	P	P	09 53 24.0	+0.3
LYMT	Lyon Mountain	83.26	42	P	P	09 53 24.2	+0.5
KBZ	Khabaz	83.30	314	P	P	09 53 23.4	-0.2
	comp=Z,40nm,0.9s,baz=99,slow=3.0,SNR=34						
KBZ				LR	LR	10 34 14.2	
	comp=Z,306nm,18.8s,baz=70,slow=38						
KBZ	Khabaz	83.30

KIV pmax pmax
comp=Z,21nm,2.8s
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,267nm,19.0s
KIV Kislovodsk 83.35 315 P **P 09 53 24.5 +0.4**
comp=Z,39nm,1.6s
GNI Garni 83.41 310 P **P 09 53 25.7 +1.1**
GNI Garni 83.41 310 *d iP* **P 09 53 25.4 +0.8**
GNI pmax pmax
comp=Z,32nm,1.2s
ELK Elko 83.78 49 P **P 09 53 27.0 +0.4**
ELK IAmb IAmb 09 53 36.5
comp=Z,12nm,0.8s
ELK Elko 83.78 49 LR LR 10 23 51.0
comp=Z,376nm,22.0s,baz=304,slow=31
ELK Elko 83.78 49 P **P 09 53 27.0 +0.4**
ELK pmax pmax
comp=Z,12nm,0.8s
FINES FINESS Array B 83.85 335 P **P 09 53 24.1 -2.0**
comp=Z,2.9nm,0.6s,baz=77,slow=5.0,SNR=12
FINES LR LR 10 34 51.2
comp=Z,147nm,18.2s,baz=50,slow=39
comp=Z,2.9nm,0.6s
R11B Troy Canyon, C 84.46 51 IAmb IAmb 09 53 40.0
comp=Z,11nm,1.1s
R11B Troy Canyon, C 84.46 51 P **P 09 53 28.2 -1.8**
baz=293
QLMT Earthquake Lak 84.69 44 P **P 09 53 31.4 +0.3**
GSC Goldstone, Bar 84.73 54 P **P 09 53 30.7 -0.6**
GSC IAmb IAmb 09 53 41.0
comp=Z,13nm,0.9s
GSC Goldstone, Bar 84.73 54 P **P 09 53 30.7 -0.6**
GSC pmax pmax
comp=Z,13nm,0.9s
UPNV Upernavik 84.99 6 *i* P **P 09 53 29.0 -2.7**
UPNV IAmb IAmb 09 53 34.5
comp=Z,8.6nm,0.8s
HVU Hansel Valley 85.07 47 IAmb IAmb 09 53 43.1
comp=Z,17nm,0.9s
PRN Pahroc Range 85.22 52 IAmb IAmb 09 53 44.3
comp=Z,16nm,1.0s
FFC Flin Flon 85.46 32 P **P 09 53 34.5 0.0**
FFC IAmb IAmb 09 53 44.1
comp=Z,14nm,0.9s
FFC Flin Flon 85.46 32 P **P 09 53 34.5 0.0**
FFC pmax pmax
comp=Z,14nm,1.0s
SOC Sochi 85.46 315 *eP* **P 09 53 32.5 -2.2**
SOC *e* 09 56 46.0
SOC *e*PPP PPP 09 58 43.9
SOC *e*S **SKSac 10 03 54.2 -5.9**
SOC *e*SS **SS 10 09 37.0 -3.7**
SPUT South Promonto 85.49 47 IAmb IAmb 09 53 46.3
comp=Z,15nm,0.9s
YMP Mirror Lake Pl 85.55 44 IAmb IAmb 09 53 46.3
comp=Z,23nm,0.9s
PFO Pinyon Flats O 85.64 56 P **P 09 53 35.3 -0.7**
PFO IAmb IAmb 09 53 45.8
comp=Z,16nm,1.0s
PFO Pinyon Flats O 85.64 56 LR LR 10 24 39.7
comp=Z,302nm,21.0s,baz=287,slow=31
PFO Pinyon Flats O 85.64 56 P **P 09 53 35.3 -0.7**
PFO pmax pmax
comp=Z,15nm,1.0s
DUG Dugway, Tooele 85.70 48 P **P 09 53 35.5 -0.6**
DUG IAmb IAmb 09 53 45.9
comp=Z,25nm,1.0s
DUG Dugway, Tooele 85.70 48 P **P 09 53 35.5 -0.6**
DUG pmax pmax
comp=Z,25nm,1.0s
LOHW Long Hollow 85.75 45 P **P 09 53 35.9 -0.5**
HWUT Hardware Ranch 85.97 47 P **P 09 53 38.7 +1.2**
HWUT IAmb IAmb 09 53 47.2
comp=Z,25nm,0.9s
GURO Guroymak-BITLI 85.97 310 P **P 09 53 37.6 0.0**
V12A Nelson 86.03 53 P **P 09 53 38.1 +0.2**
V12A IAmb IAmb 09 53 47.2
comp=Z,17nm,0.9s
SUMG Summit 86.19 1 IAmb IAmb 09 53 48.3
comp=Z,19nm,1.1s
SUMG Summit 86.19 1 *i* P **P 09 53 38.0 -0.2**
SUMG IAmb IAmb 09 53 48.0
comp=Z,23nm,1.2s
CTU Camp Tracy 86.23 48 P **P 09 53 39.0 +0.3**
CTU IAmb IAmb 09 53 49.2
comp=Z,20nm,1.0s
TCUT Toone Canyon 86.28 47 P **P 09 53 39.2 0.0**
TCUT IAmb IAmb 09 53 48.6
comp=Z,21nm,0.8s
JLU Jordanelle 86.47 48 P **P 09 53 40.2 +0.2**
TCRU Three Creeks R 86.61 50 P **P 09 53 40.8 0.0**
LCMT Little Creek M 86.70 52 P **P 09 53 41.4 +0.3**
LCMT IAmb IAmb 09 53 51.1
comp=Z,19nm,0.9s
FCC Fort Churchill 86.78 26 P **P 09 53 40.7 -0.1**
FCC IAmb IAmb 09 54 11.3
comp=Z,21nm,1.4s
FCC Fort Churchill 86.78 26 P **P 09 53 40.7 -0.1**
FCC pmax pmax
comp=Z,21nm,1.5s
PD31 Pinedale Array 86.81 45 P **P 09 53 40.8 -0.9**
PDAR Pinedale Array 86.81 45 P **P 09 53 41.0 -0.7**
PDAR Pinedale Array 86.81 45 P **P 09 53 42.1 +0.4**
comp=Z,1.0nm,0.8s,baz=293,slow=4.6,SNR=10
PDAR LR LR 10 26 03.8
comp=Z,303nm,21.7s,baz=286,slow=31
comp=Z,1.0nm,0.8s
MVU Marysvale 86.83 50 P **P 09 53 42.3 +0.4**
MSU Marysvale 86.85 50 P **P 09 53 41.3 -0.7**
MSU Marysvale 86.85 50 P **P 09 53 41.3 -0.7**
BSUT Blindstream Ca 86.97 48 P **P 09 53 41.4 -1.4**
KNB Kanab 87.01 51 P **P 09 53 43.2 +0.5**
KNB Kanab 87.01 51 P **P 09 53 43.2 +0.5**
KNB pmax pmax
comp=Z,45nm,0.9s
TMUT Trail Mountain 87.20 49 P **P 09 53 43.4 -0.3**
TMUT IAmb IAmb 09 53 53.3
comp=Z,11nm,0.8s
Q16A Castle Valley 87.39 49 P **P 09 53 45.1 +0.6**
Q16A IAmb IAmb 09 53 54.0
comp=Z,17nm,0.8s
P18A Preston Nutter 87.72 48 P **P 09 53 47.1 +0.8**
P18A IAmb IAmb 09 53 58.3
comp=Z,12nm,0.9s
Y14A Wickenburg 88.15 54 P **P 09 53 48.7 +0.6**
AKASG Malin Array Be 88.31 325 P **P 09 53 47.4 -1.0**
AKASG Malin Array Be 88.31 325 P **P 09 53 47.7 -0.7**
comp=Z,2.0nm,0.6s,baz=48,slow=5.2,SNR=15
AKASG LR LR 10 36 18.9
comp=Z,391nm,18.9s,baz=71,slow=38
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 88.31 325 P **P 09 53 47.4 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,1.3s
AKBB Malin Array Si 88.31 325 P **P 09 53 47.2 -1.2**
AKBB IAmb IAmb 09 53 50.6
comp=Z,11nm,1.0s
AKBB Malin Array Si 88.31 325 P **P 09 53 47.2 -1.2**
AKBB pmax pmax
comp=Z,11nm,1.0s
AKBB Malin Array Si 88.31 325 P **P 09 53 47.9 -0.5**
AK01 Malin Array Si 88.33 325 P **P 09 53 47.9 -0.6**
KIEV Kiev 88.33 325 P **P 09 53 47.2 -1.3**
KIEV IAmb IAmb 09 53 50.6
comp=Z,9.9nm,1.0s
KIEV Kiev 88.33 325 P **P 09 53 47.2 -1.3**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 88.33 325 P **P 09 53 48.0 -0.5**
comp=Z,42nm,1.2s
WUAZ Wupatki 88.70 52 P **P 09 53 49.2 -1.6**
PV11 David Mesa, Pa 89.28 49 P **P 09 53 52.4 -1.1**
HFS Hagfors 89.35 338 P **P 09 53 52.9 -0.2**
comp=Z,0.9nm,0.5s,baz=35,slow=6.0,SNR=7.1
HFS LR LR 10 36 53.1
comp=Z,148nm,20.0s,baz=44,slow=38
comp=Z,0.9nm,0.5s
NOA NORSAR Array B 89.55 339 P **P 09 53 53.6 -0.5**
comp=Z,1.9nm,0.9s,baz=51,slow=4.2,SNR=4.1
NOA LR LR 10 38 21.9
comp=Z,170nm,20.0s,baz=60,slow=38
comp=Z,1.9nm,0.9s
RNPP9 Sopachiv 89.67 327 P **P 09 53 55.0 +0.2**
N23A Red Feather La 90.07 46 IAmb IAmb 09 54 08.4
comp=Z,18nm,0.9s
N23A Red Feather La 90.07 46 P **P 09 53 55.5 -1.8**
baz=299
TUC Tucson 90.53 55 P **P 09 53 59.1 -0.2**
TUC Tucson 90.53 55 P **P 09 53 59.1 -0.2**
TUC pmax pmax
comp=Z,9.0nm,1.2s
S22A 4UR Ranch, Cre 90.96 49 P **P 09 53 59.2 -2.3**
baz=298
KMPD K-Podol'skiy 91.00 324 P **P 09 54 00.1 -0.9**
ULM Lac du Bonnet 91.05 34 P **P 09 54 01.0 -0.2**
comp=Z,1.8nm,0.9s,baz=325,slow=5.2,SNR=4.5
ULM LR LR 10 32 04.3
comp=Z,142nm,21.4s,baz=304,slow=34
comp=Z,1.8nm,0.9s
ULM Lac du Bonnet 91.05 34 P **P 09 54 01.0 -0.2**
SFJD Kangerlussuaq 91.10 6 LR LR 10 34 50.5
comp=Z,59nm,21.3s,baz=346,slow=36
FRB Frobisher Bay 91.27 14 LR LR 10 38 44.2
comp=Z,144nm,20.1s,baz=320,slow=38
BRTR Keskin Array B 91.28 314 P **P 09 54 00.8 -2.0**
comp=Z,4.6nm,1.0s,baz=68,slow=4.4,SNR=12
comp=Z,4.6nm,1.0s
Q24A Divide 91.54 47 P **P 09 54 01.3 -2.8**
baz=299
DUN6 Lazy B Ranch 91.70 54 P **P 09 54 04.0 -0.8**
HSIG 91.82 58 P **P 09 54 04.8 -0.5**
HSIG IAmb IAmb 09 54 16.6
comp=Z,9.6nm,0.9s
SDCO Great Sand Dun 91.89 48 P **P 09 54 05.7 -0.1**
ASF Jabal al Asfar 92.52 306 LR LR 10 42 08.7
comp=Z,165nm,18.7s,baz=68,slow=40
ANMO Albuquerque 92.55 51 LR LR 10 29 42.8
comp=Z,276nm,20.7s,baz=104,slow=32
121A Cookes Peak, D 92.69 54 P **P 09 54 07.7 -1.7**
baz=298
T25A Trinidad 92.94 48 P **P 09 54 09.0 -1.5**
baz=300
MLR Muntele Rosu 93.03 322 LR LR 10 36 36.0
comp=Z,325nm,18.2s,baz=60,slow=36
HOLU Holmets 93.20 326 P **P 09 54 12.1 +0.9**
MMAI Mount Meron Ar 93.24 307 LR LR 10 41 51.3
comp=Z,134nm,18.3s,baz=220,slow=39
F33A 5 Mile Ranch, 93.40 38 IAmb IAmb 09 54 22.2
comp=Z,6.9nm,0.8s
EIL Elat 95.15 304 LR LR 10 41 08.4
comp=Z,97nm,21.4s,baz=62,slow=38
VRAC Vranov 95.63 329 LR LR 10 41 56.2
comp=Z,239nm,18.2s,baz=42,slow=38
TXAR Lajitas Array 97.32 55 P **P 09 54 30.9 +0.3**
comp=Z,0.3nm,0.8s,baz=296,slow=4.1,SNR=9.0
TXAR PP **PP 09 58 26.5 -0.4**
comp=Z,0.5nm,1.0s,baz=300,slow=8.5,SNR=3.6
TXAR LR LR 10 31 26.6
comp=Z,173nm,21.5s,baz=292,slow=31
comp=Z,0.3nm,0.8s
GERES GERESS Array B 97.33 330 LR LR 10 42 31.1
comp=Z,286nm,18.0s,baz=46,slow=38
SCHQ Schefferville 99.47 18 LR LR 10 44 52.9
comp=Z,56nm,18.6s,baz=284,slow=39
L44A Lake County Fo 100.41 37 P **Pdif 09 54 42.7 -1.3**
baz=312
O48B Farmland 103.24 37 P **Pdif 09 54 54.8 -1.8**
baz=313
L61B Northampton 107.81 28 P **PKiKP 09 59 23.8 -0.6**
baz=324
SYO Syowa Base 115.13 203 ‖ *e*Pdiff **Pdif 09 55 50.6 +2.0**
SYO Syowa Base 115.13 203 ‖ *es*Pdiff **Pdif 09 55 55.6 +7.0**
TORD Torodi Ar. Bea 129.71 310 PKP **PKPdf 10 00 06.3 -0.7**
comp=Z,1.4nm,1.1s,baz=72,slow=1.9,SNR=5.0
UUPR Utuado, UPR, P 130.18 40 **PKPdf 10 00 05.5 -2.3**
H03S2 Juan Fernandez 140.02 117 T T 12 36 23.5
baz=261,slow=75,SNR=4.2
H03S3 Juan Fernandez 140.04 117 T T 12 36 13.2
baz=261,slow=75,SNR=2.5
H03S1 Juan Fernandez 140.04 117 T T 12 36 22.0
baz=261,slow=75,SNR=2.5
H03N2 Juan Fernandez 140.06 117 T T 12 36 10.8
baz=267,slow=74,SNR=50
H03N3 Juan Fernandez 140.07 117 T T 12 36 12.1
baz=267,slow=74,SNR=69
H03N1 Juan Fernandez 140.08 117 T T 12 36 11.7
baz=267,slow=74,SNR=72
PLCA Paso Flores 144.80 131 PKP **PKPab 10 00 32.8 -0.2**
comp=Z,14nm,0.9s,baz=242,slow=4.2,SNR=26
BI02 San Fabin de 145.61 124 PKPdf **PKPdf 10 00 35.6 0.0**
BOAV Boa Vista 146.04 49 PKPdf **PKPdf 10 00 36.6 -0.2**
BO02 Sierra Bellavi 146.49 121 PKPdf **PKPdf 10 00 36.7 -0.4**
VA03 San Esteban 147.12 117 PKPbc **PKPbc 10 00 40.6 +0.2**
GO04 Tololo Observa 147.31 113 PKPbc **PKPbc 10 00 40.8 -0.4**
LCO Las Campanas 147.52 111 PKPbc **PKPbc 10 00 41.5 -0.3**
LCO Las Campanas 147.52 111 PKP2 **PKPbc 10 00 41.5 -0.3**
LPAZ La Paz 148.90 86 PKPbc **PKPbc 10 00 45.3 -0.9**
LPAZ La Paz 148.90 86 PKPbc **PKPbc 10 00 46.5 +0.3**
comp=Z,5.1nm,0.6s,baz=7.9,slow=6.7,SNR=12
AC02 Maricunga 149.06 107 PKPbc **PKPbc 10 00 46.1 -0.2**
MACA Manacapuru-AM 149.63 57 PKPbc **PKPdf 10 00 45.3 +2.5**

---

*GUC **01** 09:52:35.5±0.9, 30.°06S×71.°18W, h61km±4km, ML3.0*
*SJA **01** 09:52:35.6±0.6, 30.°06S×71.°27W, h61km±6km, ML2.9, MW3.1*
ISC 01 09:52:36.8±1.3, 30.°04S±0.°03×71.°38W±0.°06, h51km±9km, n31, σ1°67/45, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.17**	**44**	‖ *eP*	**Pn**	**09 52 45.6**	**+0.5**
CO05				*eS*	**Sn**	**09 52 52.8**	**+1.9**
CO05				IAML		09 52 54.3	
comp=N,3μm,0.3s							
GO04	**Tololo Observa**	**0.52**	**105**	*eP*	**Pn**	**09 52 47.7**	**-0.9**
GO04	**Tololo Observa**	**0.52**	**105**	‖ *eP*	**Pn**	**09 52 47.7**	**-0.9**
GO04				*eS*	**Sn**	**09 52 56.3**	**-0.7**
CO03	**El Pedregal**	**0.99**	**143**	*eP*	**Pn**	**09 52 52.8**	**-1.7**
CO03				*eS*	**Sn**	**09 53 04.4**	**-3.2**
CO03				IAML		09 53 06.3	
comp=Z,438nm,0.5s							
CO03	**El Pedregal**	**0.99**	**143**	‖ *eP*	**Pn**	**09 52 52.7**	**-1.9**
CO03				*eS*	**Sn**	**09 53 05.5**	**-2.1**
CO03				IAML		09 53 06.6	
comp=E,792nm,0.1s							
CO01	**Juntas del Tor**	**1.11**	**87**	*eP*	**Pn**	**09 52 55.4**	**-0.9**
CO01				*eS*	**Sn**	**09 53 09.8**	**-0.8**
CO01				IAML		09 53 10.1	
comp=Z,1μm,0.2s							
CO01	**Juntas del Tor**	**1.11**	**87**	‖ *eP*	**Pn**	**09 52 55.4**	**-0.9**
CO01				*eS*	**Sn**	**09 53 09.6**	**-1.1**
CO01				IAML		09 53 10.2	
comp=E,875nm,0.3s							
LCO	**Las Campanas**	**1.19**	**30**	*eP*	**Pn**	**09 52 57.1**	**-0.2**
LCO				*eS*	**Sn**	**09 53 13.6**	**+1.1**
LCO				IAML		09 53 14.2	
comp=Z,171nm,0.4s							
LCO	**Las Campanas**	**1.19**	**30**	‖ *eP*	**Pn**	**09 52 57.1**	**-0.2**
LCO				*eS*	**Sn**	**09 53 13.4**	**+0.9**
LCO				IAML		09 53 14.8	
comp=Z,527nm,0.2s							
AC04	**Llanos de Chal**	**1.85**	**8**	*eP*	**Pn**	**09 53 06.6**	**+0.4**
AC04				*eS*	**Sn**	**09 53 22.7**	**-5.6**
ACCO	**Cerro Coronel**	**2.07**	**106**	*eP*	**Pn**	**09 53 10.2**	**+0.8**
DOCA	**Reserva Natura**	**2.18**	**115**	*eP*	**Pn**	**09 53 11.0**	**+0.1**
RTLS	**Leoncito**	**2.50**	**135**	*eP*	**Pn**	**09 53 15.6**	**+0.4**
RTLS				*eS*	**Sn**	**09 53 47.1**	**+2.4**
RTLS				IAML		09 53 51.5	
comp=Z,58nm,0.2s							
AGUA	**GUANDACOL**	**2.57**	**78**	*eP*	Pn	09 53 19.0	+3.0
AGUA				IAML		09 53 53.2	
comp=Z,25nm,0.2s							
ZON	**Zonda**	**2.76**	**124**	*eP*	Pn	09 53 03.6	-15
ZON				*eS*	**Sn**	**09 53 53.6**	**+2.7**
VA03	**San Esteban**	**2.80**	**166**	*eP*	**Pn**	**09 53 18.7**	**-0.6**
VA03				*eS*	**Sn**	**09 53 52.5**	**+0.6**
VA03				IAML		09 54 13.4	
comp=Z,25nm,0.6s							
SJA	**San Juan**	**2.84**	**122**	*eP*	Pn	09 53 28.8	+9.1
SJA				IAML		09 54 44.2	
comp=Z,60nm,0.1s							
ROC1	**El Roble**	**2.94**	**174**	*eP*	**Pn**	**09 53 21.8**	**+0.6**
ROC1				*eS*	Sn	09 53 40.8	-15
VCA	**Vinchina**	**3.06**	**66**	*eP*	Pn	09 53 25.2	+2.4
VCA				*eS*	**Sn**	**09 54 02.2**	**+4.0**
VCA				IAML		09 54 02.8	
comp=Z,30nm,0.3s							
PEL	**Peldehue**	**3.15**	**169**	*eP*	**Pn**	**09 53 24.9**	**+1.0**
MT02	**Curacav**	**3.21**	**176**	*eP*	**Pn**	**09 53 23.9**	**-0.8**
MT02				*eS*	**Sn**	**09 54 01.2**	**-0.6**
MT02				IAML		09 54 15.7	
comp=Z,25nm,1.6s							
MT05	**Renca**	**3.38**	**171**	*eP*	**Pn**	**09 53 28.9**	**+1.8**
MT05				IAML		09 54 19.3	
comp=Z,27nm,3.5s							
MT04	**Ro Olivares**	**3.51**	**163**	*eP*	**Pn**	**09 53 31.0**	**+1.9**
MT04				*eS*	**Sn**	**09 54 11.4**	**+1.8**
MT04				IAML		09 54 35.0	
comp=Z,14nm,3.0s							
MT03	**Universidad Ad**	**3.52**	**168**	*eP*	**Pn**	**09 53 30.3**	**+1.3**
MT03				*eS*	**Sn**	**09 54 09.9**	**+0.5**
MT03				IAML		09 54 13.1	
comp=Z,22nm,0.9s							
MT08	**Bocatoma Ro**	**3.58**	**162**	*eP*	Pn	09 53 34.7	+4.6
MT08				IAML		09 54 27.4	
comp=Z,9.5nm,1.1s							
AC02	**Maricunga**	**3.76**	**32**	*eP*	**Pn**	**09 53 33.0**	**+0.2**
AC02				*eS*	**Sn**	**09 54 16.0**	**0.0**
MT01	**Popeta**	**3.81**	**178**	*eP*	**Pn**	**09 53 32.9**	**-0.1**
MT01				*eS*	**Sn**	**09 54 15.4**	**-1.1**
MT01				IAML		09 54 25.5	
comp=Z,18nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.21**	**96**	*eP*	**Pn**	**09 53 38.1**	**-0.4**
APLL				*eS*	**Sn**	**09 54 24.6**	**-1.9**
BO01	**Tunca**	**4.34**	**177**	*eP*	**Pn**	**09 53 40.5**	**+0.3**
BO01				IAML		09 54 54.6	
comp=Z,17nm,2.8s							
BO02	**Sierra Bellavi**	**4.76**	**174**	*eP*	**Pn**	**09 53 46.0**	**-0.1**
BO02				IAML		09 55 04.0	
comp=Z,15nm,2.0s							
RFA	**San Rafael**	**5.32**	**153**	*eP*	**Pn**	**09 53 53.8**	**+0.1**
RFA				IAML		09 55 27.2	
comp=Z,22nm,0.7s							

---

*IDC **01** 09:55:55.4±3.4, 53.°82N×88.°22E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=26.3km s-min=17.5km az=57.0*
ASRS 01 09:55:53.0±1.3, 53.°79N×88.°24E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**276**	I	I	10 07 30.0	
baz=92,slow=356,SNR=25							
ZALV	**Zalesovo Beam**	**2.03**	**276**	Pg	Pg	09 56 31.4	-0.6
1.5nm,0.3s,baz=90,slow=16,SNR=23							
ZALV				Lg	Lg	09 56 59.9	
2.9nm,0.3s,baz=94,slow=25,SNR=16							
KURBB	**Kurchatov Arra**	**6.76**	**246**	Pn	Pn	09 57 36.1	+2.8
0.1nm,0.3s,baz=62,slow=14,SNR=3.2							
KURBB				Sn	Sn	09 58 52.9	+2.0
baz=55,slow=26,SNR=1.3							
KURBB				Lg	Lg	09 59 29.5	
baz=61,slow=30,SNR=5.5							
0.8nm,0.5s							
MKAR	**Makanchi Array**	**7.97**	**211**	Pn	Pn	09 57 54.0	+4.0
0.1nm,0.3s,baz=32,slow=12,SNR=2.1							
MKAR				Sn	Sn	09 59 23.3	+2.5
0.1nm,0.3s,baz=26,slow=25,SNR=1.7							
MKAR				Lg	Lg	10 00 04.0	
baz=20,slow=26							
0.2nm,0.4s							

---

*AFAD **01** 09:57:34.2, 39.°41N×24.°26E, h6km±4km, MW3.9*
*ATH **01** 09:57:35.9, 39.°54N×24.°25E, h47km±6km, ML2.7/14, Error ellipse: s-maj=6.1km s-min=1.1km az=130.0*
*THE **01** 09:57:36.9, 39.°54N×24.°27E, h7km±1km, ML2.6/14, Error ellipse: s-maj=1.2km s-min=0.5km az=280.0*
ISC 01 09:57:36.2±1.1, 39.°54N±0.°02×24.°27E±0.°02, h9km±10km, n58, σ0°66/82, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.48**	**219**	P	**Pb**	**09 57 46.7**	**-0.2**
AOS				S	**Sb**	**09 57 54.2**	**+0.2**
1μm,0.3s							
AOS2	**Alonissos-2**	**0.52**	**220**	P	**Pb**	**09 57 46.7**	**-0.7**
AOS2				S	**Sb**	**09 57 54.6**	**-0.4**
AOS2				AML	AML	09 57 58.5	
comp=N,2815μm,0.3s							
AOS2				AML	AML	09 57 58.6	
comp=E,2368μm,0.4s							
EFSA	**Agios Efstrati**	**0.56**	**90**	P	**Pb**	**09 57 48.0**	**-0.2**
PAIG	**Paliouri**	**0.60**	**310**	P	**Pb**	**09 57 48.7**	**-0.2**
PAIG				S	**Sb**	**09 57 57.2**	**-0.2**
comp=E,468nm,0.3s							
SKY	**Skiros Island**	**0.70**	**162**	P	**Pb**	**09 57 50.5**	**-0.1**
SKY				S	**Sg**	**09 57 59.3**	**+0.5**
comp=E,1μm,0.2s							
SKY	**Skiros Island**	**0.70**	**162**	P	**Pb**	**09 57 50.5**	**-0.1**
SKY				S	**Sb**	**09 57 59.7**	**-0.6**
SKY				AML	AML	09 58 04.5	
comp=N,2487μm,0.2s							
SKY				AML	AML	09 58 05.9	
comp=E,2407μm,0.2s							
LIA	**Limnos Island**	**0.79**	**63**	P	**Pb**	**09 57 51.9**	**-0.2**
LIA				S	**Sb**	**09 58 03.5**	**+0.6**
comp=E,570nm,0.4s							
LIA	**Limnos Island**	**0.79**	**63**	P	**Pb**	**09 57 51.9**	**-0.2**
LIA				AML	AML	09 58 05.1	
comp=E,1388μm,0.5s							
LIA				AML	AML	09 58 05.3	
comp=N,887μm,0.3s							
OUR	**Ouranopolis**	**0.82**	**344**	P	**Pb**	**09 57 52.5**	**-0.2**
OUR				S	**Sn**	**09 58 05.1**	**-1.2**
comp=N,362nm,0.5s							
OUR	**Ouranopolis**	**0.82**	**344**	P	**Pb**	**09 57 52.5**	**-0.2**
OUR				AML	AML	09 58 05.6	
comp=E,977μm,0.3s							
OUR				AML	AML	09 58 06.9	
comp=N,795μm,0.5s							
NEO	**Neokhori**	**0.84**	**254**	P	**Pb**	**09 57 53.4**	**+0.3**
NEO				S	**Sb**	**09 58 04.7**	**+0.1**
comp=N,415nm,0.3s							
NEO	**Neokhori**	**0.84**	**254**	P	**Pb**	**09 57 53.2**	**+0.1**
NEO				AML	AML	09 58 06.0	
comp=E,763μm,0.2s							
NEO				AML	AML	09 58 06.2	
comp=N,884μm,0.3s							
XOR	**Xorichti**	**0.85**	**258**	P	**Pb**	**09 57 53.1**	**-0.2**
XOR				S	**Sb**	**09 58 05.2**	**+0.4**
comp=N,338nm,0.4s							
KYMI	**Kymi, Euboea I**	**0.92**	**188**	P	**Pb**	**09 57 54.2**	**-0.1**
KYMI				S	**Sn**	**09 58 08.0**	**-0.6**
comp=N,390nm,0.5s							
KYMI	**Kymi, Euboea I**	**0.92**	**188**	P	**Pb**	**09 57 54.2**	**-0.1**
KYMI				AML	AML	09 58 09.2	
comp=E,991μm,0.5s							
KYMI				AML	AML	09 58 09.3	
comp=N,571μm,0.4s							
PLG	**Polygyros**	**1.04**	**323**	P	**Pg**	**09 57 55.8**	**-0.6**
PLG				S	**Sb**	**09 58 10.7**	**+0.3**
comp=N,115nm,0.3s							
PLG	**Polygyros**	**1.04**	**323**	P	**Pg**	**09 57 55.8**	**-0.6**
PLG				AML	AML	09 58 12.3	
comp=N,183μm,0.3s							
PLG				AML	AML	09 58 13.8	
comp=E,252μm,0.3s							
THAS	**Thassos island**	**1.12**	**18**	P	**Pg**	**09 57 56.9**	**-0.8**
THAS				S	**Sn**	**09 58 13.8**	**+0.3**
comp=E,292nm,0.2s							
THAS	**Thassos island**	**1.12**	**18**	P	**Pg**	**09 57 56.8**	**-0.8**
THAS				AML	AML	09 58 14.4	
comp=E,724μm,0.3s							
THAS				AML	AML	09 58 16.3	
comp=N,568μm,0.3s							
SIGR	**SIGRI**	**1.27**	**105**	P	**Pb**	**09 58 00.3**	**0.0**
SIGR				AML	AML	09 58 20.8	
comp=N,586μm,0.6s							
SIGR				AML	AML	09 58 20.9	
comp=E,935μm,0.6s							
KOKK	**Kokkinochori,**	**1.29**	**351**	P	**Pn**	**09 57 59.9**	**-0.6**
KOKK	**Kokkinochori,**	**1.29**	**351**	P	**Pn**	**09 57 59.7**	**-0.8**
LKR	**Lokris**	**1.33**	**228**	P	**Pn**	**09 58 00.6**	**-0.4**
SMTH	**Samothraki Isl**	**1.34**	**46**	P	**Pn**	**09 58 00.2**	**-1.0**
SMTH				S	**Sn**	**09 58 20.6**	**+1.5**
comp=E,78nm,0.5s							
SMTH	**Samothraki Isl**	**1.34**	**46**	P	**Pn**	**09 58 00.1**	**-1.0**
SMTH				AML	AML	09 58 23.2	
comp=E,121μm,0.3s							

SMTH				AML	AML	09 58 23.6
	comp=N,190μm,0.6s					
HORT	**Hortiatis**	**1.39**	**320**	P	**Pn**	**09 58 01.8 0.0**
HORT	**Hortiatis**	**1.39**	**320**	P	**Pn**	**09 58 01.5 -0.3**
GOAD	**anakkale-G¶**	**1.41**	**63**	P	**Pn**	**09 58 01.1 -0.9**
GOAD				S	**Sg**	**09 58 23.4 +2.0**
GOAD				*i* AML	AML	09 58 24.0
	comp=N,66nm,0.6s					
GOAD				*i* AML	AML	09 58 25.0
	comp=N,67nm,0.3s					
BOZC	**Bozcaada**	**1.41**	**77**	P	**Pn**	**09 58 01.8 -0.2**
BOZC				P	**Pb**	**09 58 02.0 -0.7**
BOZC				S	**Sg**	**09 58 21.3 -0.2**
BOZC				S	**Sn**	**09 58 21.6 +0.9**
BOZC				*i* AML	AML	09 58 30.0
	comp=N,34nm,0.7s					
BOZC				*i* AML	AML	09 58 36.0
	comp=N,51nm,1.0s					
BOZC				*i* AML	AML	09 58 44.0
	comp=N,107nm,1.5s					
BOZC				*i* AML	AML	09 58 56.0
	comp=N,84nm,0.8s					
KOCA	**Canakkale, Ayv**	**1.45**	**91**	P	**Pn**	**09 58 01.6 -0.9**
KOCA				S	**Sg**	**09 58 22.9 +0.1**
KOCA				*i* AML	AML	09 58 28.0
	comp=N,77nm,1.6s					
KOCA				*i* AML	AML	09 58 42.0
	comp=N,47nm,1.1s					
SOH	**Sokhos**	**1.46**	**331**	P	**Pn**	**09 58 02.8 0.0**
SOH	**Sokhos**	**1.46**	**331**	P	**Pn**	**09 58 02.6 -0.3**
SOH				AML	AML	09 58 25.7
	comp=E,272μm,0.8s					
SOH				AML	AML	09 58 25.8
	comp=N,241μm,0.5s					
KAVA	**Kavala**	**1.46**	**7**	P	**Pn**	**09 58 01.9 -1.0**
KAVA				S	**Sg**	**09 58 24.0 +0.6**
	comp=N,292nm,0.2s					
KAVA	**Kavala**	**1.46**	**7**	P	**Pn**	**09 58 01.9 -1.0**
KARY	**Karystos**	**1.51**	**175**	P	**Pn**	**09 58 03.6 +0.1**
PTL	**Penteli**	**1.52**	**192**	P	**Pn**	**09 58 03.7 0.0**
PTL				S	**Sg**	**09 58 25.1 -0.2**
	comp=N,100nm,0.6s					
PTL	**Penteli**	**1.52**	**192**	P	**Pn**	**09 58 03.7 0.0**
VIL2	**Platees**	**1.54**	**211**	P	**Pn**	**09 58 04.2 +0.2**
VIL2				AML	AML	09 58 32.5
	comp=N,496μm,0.5s					
VIL2				AML	AML	09 58 33.0
	comp=E,566μm,0.4s					
ECEA	**Canakkale, Ece**	**1.55**	**71**	S	**Sg**	**09 58 27.8 +1.7**
VILL	**Villia**	**1.57**	**209**	P	**Pn**	**09 58 04.2 -0.1**
VILL				S	**Sn**	**09 58 24.7 0.0**
	comp=E,295nm,0.4s					
PRK	**Paraskevi**	**1.58**	**100**	P	**Pb**	**09 58 05.2 -0.4**
PRK				AML	AML	09 58 35.5
	comp=E,303μm,1.0s					
PRK				AML	AML	09 58 35.8
	comp=N,284μm,0.6s					
SRS	**Serrai**	**1.66**	**342**	P	**Pn**	**09 58 05.2 -0.3**
SRS	**Serrai**	**1.66**	**342**	P	**Pn**	**09 58 05.1 -0.4**
CNKL	**anakkale-Mer**	**1.71**	**72**	P	**Pb**	**09 58 07.3 -0.6**
CNKL				P	**Pg**	**09 58 08.5 -0.5**
CNKL				S	**Sg**	**09 58 33.0 +1.7**
CNKL				*i* AML	AML	09 58 34.0
	comp=N,27nm,0.5s					
CNKL				*i* AML	AML	09 58 35.0
	comp=N,45nm,1.1s					
CNKL				*i* AML	AML	09 58 35.0
	comp=N,46nm,0.6s					
CNKL				*i* AML	AML	09 58 37.0
	comp=N,27nm,0.9s					
VLY	**Voula,Athens**	**1.73**	**193**	P	**Pn**	**09 58 06.4 -0.1**
VLY	**Voula,Athens**	**1.73**	**193**	P	**Pn**	**09 58 06.4 -0.1**
VLY				AML	AML	09 58 37.5
	comp=E,323μm,0.3s					
VLY				AML	AML	09 58 37.9
	comp=N,344μm,0.4s					
MAKR	**Makrakomi, Fth**	**1.74**	**253**	P	**Pn**	**09 58 07.0 +0.3**
THL	**Klokotos Trika**	**1.75**	**271**	P	**Pn**	**09 58 06.7 0.0**
BAYC	**CANAKKALE_Bayr**	**1.77**	**83**	S	**Sb**	**09 58 31.0 -0.1**
LTK	**Loutraki**	**1.83**	**214**	P	**Pn**	**09 58 08.0 +0.2**
CAVK	**Edirne/Enez-Ca**	**1.85**	**51**	S	**Sg**	**09 58 37.7 +1.9**
RDO	**Rodhopi**	**1.87**	**31**	P	**Pn**	**09 58 08.4 0.0**
ALN	**Alexandroupoli**	**1.92**	**45**	P	**Pn**	**09 58 09.6 +0.5**
ANX	**Ano Chora**	**2.06**	**243**	P	**Pn**	**09 58 11.6 +0.5**
ANX				S	**Sn**	**09 58 37.1 +0.1**
ANX	**Ano Chora**	**2.06**	**243**	P	**Pn**	**09 58 11.4 +0.3**
BUHA	**Balikesir, Bur**	**2.17**	**90**	P	**Pb**	**09 58 16.1 +0.4**
BUHA				*i* AML	AML	09 58 50.0
	comp=N,17nm,0.5s					
BUHA				*i* AML	AML	09 58 55.0
	comp=N,21nm,0.7s					
GUR	**Goura**	**2.20**	**224**	P	**Pn**	**09 58 13.6 +0.5**
DRO	**Drossia**	**2.56**	**232**	P	**Pn**	**09 58 19.0 +1.1**

ISC 01 10:09:16.4±1.2, 61°.47N±0°.03×140°.86W±0°.04, h9km±10km, n13, σ0.86/20, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.36**	**32**	P	**Pg**	**10 09 23.6**	**-0.1**
	baz=208,SNR=221						
YUK3				S	**Sg**	**10 09 28.0**	**-0.4**
	baz=208						
YUK8	**Steele Glacier**	**0.56**	**109**	P	**Pg**	**10 09 27.6**	**+0.3**
	baz=295,SNR=18						
YUK8				S	**Sg**	**10 09 35.2**	**+0.4**
	baz=295						
O28M	**Mount Upton**	**0.78**	**155**	P	**Pg**	**10 09 31.1**	**-0.3**
	baz=339						
O28M				S	**Sg**	**10 09 41.9**	**+0.4**
	baz=339						
BVCY	**Beaver Creek**	**0.94**	**0**	P	**Pb**	**10 09 34.3**	**-0.7**
	baz=177,SNR=6.0						
BVCY				S	**Sg**	**10 09 46.7**	**-0.1**
	baz=177						
M27K	**Edge Creek, AK**	**1.01**	**332**	P	**Pb**	**10 09 35.4**	**-0.7**
	baz=148						
M27K				S	**Sb**	**10 09 49.2**	**-0.4**
	baz=148						
M27K				S	**Sb**	**10 09 49.2**	**-0.4**
	baz=148						
YUK4	**Talbot Arm**	**1.07**	**96**	P	**Pb**	**10 09 36.7**	**-0.6**
	baz=274,SNR=17						
PINM	**Pinnacle**	**1.41**	**167**	P	**Pn**	**10 09 42.6**	**+0.2**
	baz=350						
M29M	**Somme Creek**	**1.50**	**48**	P	**Pn**	**10 09 43.4**	**-0.1**
	baz=230						
M29M				S	**Sn**	**10 10 02.9**	**-0.4**
	baz=230						
L27K	**Beaver Creek,**	**1.66**	**345**	Sg	**Sg**	**10 10 10.6**	**+0.9**
	baz=162						
N30M	**Aishikik Lake**	**1.81**	**89**	S	**Sb**	**10 10 12.0**	**-0.6**
	baz=273						
L26K	**Log Cabin Wild**	**1.94**	**324**	Sb	**Sb**	**10 10 18.4**	**+2.1**
	baz=141						
L29M	**L29M**	**2.08**	**37**	Sb	**Sb**	**10 10 21.8**	**+1.4**
	baz=218						
M30M	**Minto, Yukon**	**2.22**	**58**	Sb	**Sb**	**10 10 25.5**	**+1.3**
	baz=242						

NDI 01 10:23:54.7±1.1, 19°.92N×72°.76E, h9km±5km, ML3.6, MW3.7, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.02**	**177**	*e*P	Pb	10 24 14.6	+0.1
BOM				*e*S	Sn	10 24 29.1	-0.5
BOM				IAML		10 24 33.8	
	comp=N,667nm,0.2s						
BOM				IAML		10 24 33.9	
	comp=E,826nm,0.2s						
POO	**Poona**	**1.73**	**143**	*e*P	Pn	10 24 25.2	+0.3
POO				*e*S	Sn	10 24 47.7	+0.5
POO				*e*S	Sb	10 24 47.7	-0.8
POO				IAML		10 24 51.5	
	comp=N,505nm,0.2s						
POO				IAML		10 24 52.1	
	comp=E,643nm,0.3s						
BHV	**Bhavnagar**	**1.91**	**343**	*e*P	Pn	10 24 27.1	-0.2
BHV				*e*S	Sn	10 24 52.1	+0.7
BHV				IAML		10 24 54.5	
	comp=N,379nm,0.3s						
KAD	**Karad**	**2.93**	**152**	*e*P	Pn	10 24 41.9	+0.3
KAD				*e*S	Sn	10 25 16.0	-0.9
KAD				IAML		10 25 28.9	
	comp=E,359nm,0.3s						
KAD				IAML		10 25 28.9	
	comp=N,169nm,0.3s						
LATR	**Latur**	**3.90**	**112**	*e*P	Pn	10 24 53.5	-1.2
LATR				*ex*	x	10 25 32.6	
LATR				IAML		10 25 54.2	
	comp=E,138nm,0.4s						
LATR				IAML		10 25 54.8	
	comp=N,310nm,0.5s						
AKL	**Akola**	**4.07**	**78**	*e*P	Pn	10 24 57.6	+0.5
AKL				*e*S	Sn	10 25 42.8	-2.2
AKL				IAML		10 26 00.4	
	comp=N,297nm,0.3s						
AKL				IAML		10 26 01.9	
	comp=E,206nm,0.3s						
GOA	**Goa**	**4.52**	**167**	*ex*	x	10 26 15.1	
GOA				IAML		10 26 23.4	
	comp=N,421nm,0.4s						
GOA				IAML		10 26 24.3	
	comp=E,540nm,0.4s						
NGP	**Nagpur**	**6.02**	**77**	*e*P	Pn	10 25 24.2	+0.2
NGP				IAML		10 26 59.7	
	comp=E,113nm,0.3s						
NGP				IAML		10 26 60.0	
	comp=N,111nm,0.3s						

BJI ***01*** *10:29:44.7, 35°.32N×26°.59E, h40km, mB5.2/9, mb4.6/48, Ms4.7/3, Ms7 4.5/3*
ATH ***01*** *10:29:44.2, 35°.88N×27°.31E, h82km±5km, ML4.5/11, Error ellipse: s-maj=5.7km s-min=1.4km az=110.0*
IDC ***01*** *10:29:44.0±0.5, 35°.84N×27°.22E, h0km±1km, mb4.6/30, mbtmp4.5/37, ML4.3/9, MS3.7/18, Error ellipse: s-maj=12.2km s-min=9.7km az=158.0*
MOS ***01*** *10:29:45.0±1.3, 35°.66N×27°.36E, h13km, mb4.9/34, Error ellipse: s-maj=5.5km s-min=3.0km az=91.6*
AFAD ***01*** *10:29:46.5, 35°.79N×27°.20E, h31km±1km, MW4.5*
THE ***01*** *10:29:46.9, 35°.81N×27°.30E, h0km±1km, ML4.4/6, Error ellipse: s-maj=1.5km s-min=0.8km az=142.0*
ISK ***01*** *10:29:46.3, 35°.87N×27°.25E, h9km, ML4.6/19*
NEIC ***01*** *10:29:46.4±1.5, 35°.77N±0°.06×27°.31E±0°.06, h10km±1km, mb4.9/237, Error ellipse: s-maj=10.8km s-min=6.9km az=152.0*
NIC ***01*** *10:29:49.0, 35°.87N×27°.36E, h52km±10km, Ml4.5/7*
NAO ***01*** *10:29:48.7, 35°.77N×27°.30E, h33km, mb4.4*
GII ***01*** *10:29:48.7±0.0, 35°.77N×27°.30E, h40km, Mws4.6, confirmed*
MCSM ***01*** *10:29:50.4±0.6, 36°N±4°×2°7E±°, h30km±6km, mb4.7, MLv4.6*
HLW ***01*** *10:29:51.8, 35°.59N×27°.49E, h29km±15km, Md4.6, Ml4.8*
MED_RC ***01*** *10:29:51.0±0.6, 35°.71N×27°.27E, h28km±1km, MW4.8/16, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s16,c17; Duration: 1§1 Moment tensor: Scale 10¹⁶Nm; Mrr-1.39±.18; Mθθ-0.05±.12; Mφφ1.44±.14; Mrθ-0.62±.17; Mθφ-0.62±.08; Mφr-0.18±.13; Best double couple: M0 1.68000×10¹⁶ NP1:φs3.00000°, δ49.00000°, λ-57.00000°. NP2:φs137.00000°, δ51.00000°, λ-123.00000°. Principal axes: T 1.6700, Plg1.0000°, Azm250.0000°; N 0.0200, Plg25.0000°, Azm159.0000°; P -1.6900, Plg65.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

ISC 01 10:29:47.3±0.8, 35°.74N±0°.03×27°.28E±0°.02, h15km±5km, n971, σ1§41/952, mb4.9/167, MS3.8/17, 34C-44D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.84**	**55**		**Pb**	**10 30 01.8**	**-1.7**
ARG	**Arkhangelos**	**0.84**	**55**	Pg	**Pb**	**10 30 01.8**	**-1.7**
ARG	**Arkhangelos**	**0.84**	**55**	P	**Pb**	**10 30 01.7**	**-1.7**
ARG				S	**Sb**	**10 30 14.6**	**+0.1**
	125μm,0.5s						
ARG	**Arkhangelos**	**0.84**	**55**	P	**Pb**	**10 30 01.8**	**-1.7**
ARG	**Arkhangelos**	**0.84**	**55**	P	**Pb**	**10 30 01.9**	**-1.7**
ARG				S	**Sg**	**10 30 14.5**	**0.0**
ARG	**Arkhangelos**	**0.84**	**55**	P	**Pb**	**10 30 01.7**	**-1.7**
ARG				S	**Sb**	**10 30 14.9**	**+0.3**
ARG				AML	AML	10 30 18.1	
ARG				AML	AML	10 30 18.8	
NISR	**Nisiros**	**0.88**	**352**	P	**Pb**	**10 30 02.5**	**-1.6**
NISR				S	**Sg**	**10 30 16.3**	**+0.6**
	44μm,0.4s						
YAZI	**Mula-Dat§a-**	**0.95**	**9**	P	**Pb**	**10 30 04.7**	**-0.7**
YAZI				S	**Sb**	**10 30 16.9**	**-0.8**
DATC	**Datca-Mugla**	**1.06**	**17**	Pg	**Pb**	**10 30 05.0**	**-2.3**
ZKR	**Zakros**	**1.07**	**234**	Pn	**Pg**	**10 30 08.8**	**+0.9**
ZKR	**Zakros**	**1.07**	**234**	P	**Pg**	**10 30 08.8**	**+0.9**
ZKR				S	**Sn**	**10 30 24.7**	**+2.5**
	20μm,0.7s						
ZKR	**Zakros**	**1.07**	**234**	P	**Pg**	**10 30 08.8**	**+0.9**
ZKR				S	**Sn**	**10 30 26.3**	**+4.0**
ZKR	**Zakros**	**1.07**	**234**	P	**Pg**	**10 30 08.7**	**+0.9**
ZKR				S	**Sn**	**10 30 24.7**	**+2.5**
MRSB	**Marmaris-Mugla**	**1.22**	**37**	Pn	**Pn**	**10 30 08.2**	**-1.7**
MRSB				Sn	**Sb**	**10 30 24.9**	**-0.8**
KLNA	**Kalymnos**	**1.24**	**349**	P	**Pn**	**10 30 07.7**	**-2.3**
KLNA				S	**Sb**	**10 30 23.7**	**-2.3**
KLNA				AML	AML	10 30 30.6	
	comp=N,22566μm,0.5s						
KLNA				AML	AML	10 30 31.2	
	comp=E,25630μm,0.3s						
TURN	**Turunc**	**1.29**	**37**	Pn	**Pn**	**10 30 09.3**	**-1.5**
TURN				Sn	**Sb**	**10 30 27.5**	**-0.2**
BODT	**Bodrum**	**1.32**	**1**	Pn	**Pn**	**10 30 09.7**	**-1.4**
YKAV	**Yalikavak-Bodr**	**1.38**	**0**	Pn	**Pn**	**10 30 09.8**	**-2.2**
DALY	**Dalyan (Mula)**	**1.55**	**46**	Pn	**Pn**	**10 30 13.7**	**-0.5**
THR8	**Santorini-Mono**	**1.60**	**295**	P	**Pn**	**10 30 14.3**	**-0.6**
THR8	**Santorini-Mono**	**1.60**	**295**	P	**Pn**	**10 30 14.4**	**-0.6**
MLSB	**Milas**	**1.60**	**14**	Pn	**Pn**	**10 30 14.3**	**-0.8**
YER	**Yerkesik**	**1.61**	**30**	Pn	**Pn**	**10 30 14.4**	**-0.8**
YER	**Yerkesik**	**1.61**	**30**	P	**Pn**	**10 30 14.1**	**-1.1**
DIDI	**Didim-Aydin**	**1.63**	**359**	Pn	**Pn**	**10 30 14.5**	**-0.9**
THR6	**Thira Island,**	**1.64**	**292**	P	**Pn**	**10 30 15.4**	**-0.1**
THR6	**Thira Island,**	**1.64**	**292**	P	**Pn**	**10 30 15.1**	**-0.4**
THR2	**Thira island,**	**1.65**	**296**	P	**Pn**	**10 30 15.2**	**-0.5**
THR3	**Thira Island,**	**1.66**	**294**	P	**Pn**	**10 30 15.4**	**-0.4**
THR3	**Thira Island,**	**1.66**	**294**	P	**Pn**	**10 30 15.6**	**-0.2**
CMBO	**Columbo, Santo**	**1.68**	**296**	P	**Pn**	**10 30 15.7**	**-0.4**
CMBO				S	**Sb**	**10 30 38.8**	**0.0**
CMBO	**Columbo, Santo**	**1.68**	**296**	P	**Pn**	**10 30 15.6**	**-0.4**
THR5	**Thira Island,**	**1.70**	**294**	P	**Pn**	**10 30 16.0**	**-0.4**
SAP3	**Santorini-Thir**	**1.71**	**294**	P	**Pn**	**10 30 16.1**	**-0.4**
DDIM	**Aydin, Didim**	**1.71**	**359**	P	**Pn**	**10 30 16.0**	**-0.5**
DDIM				S	**Sb**	**10 30 39.1**	**-0.6**
FETY	**Fethiye**	**1.71**	**58**	Pn	**Pn**	**10 30 16.9**	**+0.3**
FETY	**Fethiye**	**1.71**	**58**	P	**Pn**	**10 30 17.5**	**+0.9**
MULA	**Mugla, Merkez-**	**1.73**	**29**	P	**Pn**	**10 30 16.7**	**-0.2**
MULA				S	**Sb**	**10 30 40.2**	**-0.1**
IACM	**Heraklion**	**1.85**	**257**	P	**Pn**	**10 30 18.6**	**+0.2**
IACM				S	**Sb**	**10 30 43.5**	**-0.2**
IACM	**Heraklion**	**1.85**	**257**	P	**Pn**	**10 30 18.7**	**+0.2**
KSL	**Kastellorizon**	**1.92**	**77**	P	**Pn**	**10 30 19.6**	**+0.3**
KSL	**Kastellorizon**	**1.92**	**77**	P	**Pb**	**10 30 20.6**	**-1.3**
KSL				S	**Sn**	**10 30 41.4**	**-1.8**
KSL	**Kastellorizon**	**1.92**	**77**	P	**Pn**	**10 30 19.5**	**+0.1**
KSL				S	**Sb**	**10 30 44.4**	**-1.2**
KSL				AML	AML	10 31 00.8	
	comp=E,10026μm,1.4s						
KSL				AML	AML	10 31 04.1	
	comp=N,9516μm,0.9s						
APE	**Apeiranthos**	**1.93**	**314**	Pn	**Pn**	**10 30 18.5**	**-1.1**
APE	**Apeiranthos**	**1.93**	**314**	P	**Pn**	**10 30 18.4**	**-1.1**
APE				S	**Sn**	**10 30 44.0**	**+0.3**
	comp=N,6μm,0.5s						
APE	**Apeiranthos**	**1.93**	**314**	*c*iP	**Pn**	**10 30 18.4**	**-1.1**
APE	**Apeiranthos**	**1.93**	**314**	P	**Pn**	**10 30 18.6**	**-1.1**
APE				S	**Sn**	**10 30 43.1**	**-0.6**
APE	**Apeiranthos**	**1.93**	**314**	P	**Pn**	**10 30 18.4**	**-1.2**
APE	**Apeiranthos**	**1.93**	**314**	P	**Pn**	**10 30 18.4**	**-1.2**
APE				AML	AML	10 30 52.2	
	comp=N,8840μm,0.4s						
APE				AML	AML	10 30 57.1	
	comp=E,11027μm,0.5s						
GCAM	**G?zelcaml?**	**1.95**	**359**	Pn	**Pn**	**10 30 19.1**	**-0.7**
SMG	**Samos**	**1.99**	**350**	P	**Pn**	**10 30 18.4**	**-2.0**
SMG	**Samos**	**1.99**	**350**	P	**Pn**	**10 30 18.2**	**-2.2**
SMG				AML	AML	10 30 55.8	
	comp=N,8031μm,0.5s						
SMG				AML	AML	10 30 59.9	
	comp=E,10994μm,0.7s						
IDI	**Anoyia**	**2.00**	**258**	Pn	**Pn**	**10 30 20.5 0.0**	
IDI	**Anoyia**	**2.00**	**258**	Pn	**Pn**	**10 30 20.8 +0.2**	
IDI	**Anoyia**	**2.00**	**258**	P	**Pn**	**10 30 20.6 0.0**	
IDI				S	**Sb**	**10 30 47.4 -0.7**	
	comp=E,4μm,0.5s						
IDI	**Anoyia**	**2.00**	**258**	Pn	**Pn**	**10 30 20.1 -0.4**	
	comp=E,27nm,0.3s,baz=45,slow=7.1,SNR=145						
IDI				Sn	**Sn**	**10 30 46.3 +1.0**	
	comp=E,297nm,0.3s,baz=7.4,slow=8.6,SNR=16						
IDI	**Anoyia**	**2.00**	**258**	P	**Pn**	**10 30 20.8 +0.2**	
IDI				AML	AML	10 30 53.0	
	comp=E,10112μm,0.5s						
IDI				AML	AML	10 30 54.3	
	comp=N,8868μm,0.5s						
KNIK	**Mula-Seydike**	**2.16**	**59**	P	**Pn**	**10 30 21.3 -1.5**	
TAVA	**DENIZLI_Tavas**	**2.17**	**37**	P	**Pn**	**10 30 24.1 +1.2**	
TAVA				S	**Sb**	**10 30 52.7 -0.2**	
ESEN	**Aydn-Nazilli**	**2.22**	**22**	P	**Pn**	**10 30 22.9 -0.7**	
AYDB	**Zeytinkoy-Aydi**	**2.25**	**12**	Pn	**Pn**	**10 30 23.2 -0.9**	
DGB	**zmir**	**2.33**	**352**	P	**Pn**	**10 30 22.4 -2.5**	
GMLD	**Gumuldur**	**2.35**	**353**	Pn	**Pn**	**10 30 24.4 -0.9**	
DNIZ	**Denizli-Tavas-**	**2.35**	**37**	P	**Pn**	**10 30 25.6 +0.1**	
DNIZ				S	**Sn**	**10 30 55.9 +1.8**	
ELL	**Elmali**	**2.35**	**64**	Pn	**Pn**	**10 30 26.9 +1.4**	
ELL	**Elmali**	**2.35**	**64**	P	**Pn**	**10 30 26.9 +1.4**	
ELL	**Elmali**	**2.35**	**64**	P	**Pb**	**10 30 27.6 -1.8**	
ELL				S	**Sb**	**10 30 58.8 +0.5**	
NAZL	**Nazilli-Aydin**	**2.36**	**20**	Pn	**Pn**	**10 30 24.6 -0.9**	
TNSA	**Tinos**	**2.47**	**317**	P	**Pn**	**10 30 28.0 +1.1**	
KIRA	**zmir-Kiraz**	**2.61**	**20**	P	**Pn**	**10 30 28.4 -0.6**	
INCE	**Denizli-Bozkur**	**2.69**	**43**	P	**Pn**	**10 30 31.2 +1.1**	
IMMV	**Iera Moni Meta**	**2.70**	**265**	Pn	**Pn**	**10 30 30.9 +0.8**	
IMMV	**Iera Moni Meta**	**2.70**	**265**	P	**Pn**	**10 30 30.5 +0.4**	
IMMV	**Iera Moni Meta**	**2.70**	**265**	P	**Pn**	**10 30 30.8 +0.8**	
IMMV				AML	AML	10 31 15.4	
	comp=N,10037μm,0.7s						
IMMV				AML	AML	10 31 18.3	
	comp=E,6396μm,0.7s						
GVD	**Gavdhos**	**2.76**	**252**	Pn	**Pn**	**10 30 32.3 +1.4**	
GVD	**Gavdhos**	**2.76**	**252**	P	**Pb**	**10 30 34.1 -2.1**	
MANT	**Manisa**	**2.93**	**20**	Pn	**Pn**	**10 30 32.9 -0.6**	
BRDR	**BURDUR-Merkez**	**2.97**	**48**	P	**Pn**	**10 30 35.4 +1.5**	
KARY	**Karystos**	**3.22**	**316**	P	**Pn**	**10 30 37.0 -0.3**	
ISP	**Isparta**	**3.33**	**51**	Pn	**Pn**	**10 30 38.8 -0.1**	
ISP	**Isparta**	**3.33**	**51**	P	**Pn**	**10 30 38.8 -0.1**	
ISP	**Isparta**	**3.33**	**51**	Pn	**Pn**	**10 30 40.3 +1.4**	
ISP	**Isparta**	**3.33**	**51**	P	**Pn**	**10 30 37.3 -1.7**	
ISP	**Isparta**	**3.33**	**51**	S	**Sn**	**10 31 17.6 -0.7**	
VLY	**Voula,Athens**	**3.50**	**308**	P	**Pn**	**10 30 43.8 +2.7**	
VLY				AML	AML	10 31 42.4	
	comp=N,10060μm,0.5s						
VLY				AML	AML	10 31 44.1	
	comp=E,17531μm,0.5s						
PTL	**Penteli**	**3.57**	**311**	P	**Pn**	**10 30 43.2 +1.0**	
PTL	**Penteli**	**3.57**	**311**	P	**Pn**	**10 30 45.2 +3.0**	
PTL				AML	AML	10 31 42.6	
	comp=E,1181μm,0.7s						
PTL				AML	AML	10 31 47.2	
	comp=N,2626μm,0.6s						
PRK	**Paraskevi**	**3.59**	**347**	P	**Pn**	**10 30 43.6 +1.3**	
ATH	**Athens Observa**	**3.62**	**309**	P	**Pn**	**10 30 45.2 +2.5**	
VLI	**Veliai**	**3.64**	**287**	P	**Pn**	**10 30 43.7 +0.6**	
VLI				S	**Sn**	**10 31 26.8 +1.1**	
	comp=N,2μm,0.7s						
VLI	**Veliai**	**3.64**	**287**	P	**Pn**	**10 30 43.7 +0.6**	
VLI				AML	AML	10 31 31.1	
	comp=E,3310μm,0.5s						
VLI				AML	AML	10 31 34.5	
	comp=N,3726μm,0.6s						
SIGR	**SIGRI**	**3.64**	**342**	P	**Pn**	**10 30 44.3 +1.3**	
KRND	**KRANIDI**	**3.70**	**297**	P	**Pn**	**10 30 44.3 +0.4**	
KRND	**KRANIDI**	**3.70**	**297**	P	**Pn**	**10 30 47.4 +3.5**	
KYMI	**Kymi, Euboea I**	**3.84**	**320**	P	**Pn**	**10 30 45.4 -0.4**	
VILL	**Villia**	**3.99**	**308**	P	**Pn**	**10 30 48.3 +0.4**	
EZN	**Ezine**	**4.14**	**350**	P	**Pn**	**10 30 48.8 -1.2**	
AKMS	**Akamas**	**4.20**	**98**	P	**Pn**	**10 30 50.9 +0.2**	
AKMS				S	**Sn**	**10 31 37.8 -1.7**	
AKMS				AML	AML	10 31 46.5	
	comp=N,3.2nm,0.7s						
AKMS				AML	AML	10 31 50.5	
	comp=N,1.8nm,0.6s						
ALFC	**Alefka**	**4.39**	**96**	P	**Pn**	**10 30 53.8 +0.5**	
ALFC				S	**Sn**	**10 31 41.8 -2.4**	
ALFC				AML	AML	10 31 48.6	
	comp=N,2.5nm,0.6s						
ALFC				AML	AML	10 31 57.2	
	comp=N,2.0nm,0.6s						
NATA	**Nata**	**4.44**	**101**	P	**Pn**	**10 30 54.6 +0.6**	
NATA				S	**Sn**	**10 31 45.3 -0.2**	
NATA				AML	AML	10 31 50.8	
	comp=N,7.0nm,0.7s						
NATA				AML	AML	10 31 56.3	
	comp=N,3.6nm,0.6s						
ITM	**Ithomi**	**4.54**	**290**		**Pn**	**10 30 56.0 +0.5**	
SLUM	**Salum**	**4.58**	**203**	P	**Pn**	**10 30 57.6 +1.7**	
EDC	**Edincik**	**4.62**	**6**	P	**Pn**	**10 30 57.9 +1.4**	
TROD	**Troodos**	**4.64**	**98**	P	**Pn**	**10 30 57.3 +0.3**	
TROD				S	**Sn**	**10 31 50.3 -0.4**	
TROD				AML	AML	10 32 02.4	
	comp=N,1.5nm,0.9s						
TROD				AML	AML	10 32 05.5	
	comp=N,1.1nm,0.6s						
BAND	**Balkesir-Ban**	**4.65**	**8**	⇑P	**Pn**	**10 30 60.0 +3.0**	
APOL	**The Sanctuary**	**4.70**	**102**	P	**Pn**	**10 30 59.8 +2.2**	
APOL				S	**Sn**	**10 31 50.6 -1.2**	
APOL				AML	AML	10 32 00.7	
	comp=N,1.5nm,0.8s						
APOL				AML	AML	10 32 10.5	
	comp=N,0.9nm,0.5s						
DB3	**El Dabaa**	**4.81**	**167**	P	**Pn**	**10 31 00.8 +1.7**	
CSS	**Mathiatis**	**5.01**	**97**	Pn	**Pn**	**10 31 01.3 -0.6**	
CSS	**Mathiatis**	**5.01**	**97**	Pn	**Pn**	**10 31 01.9 0.0**	

comp=N,1.9nm,0.3s,baz=227,slow=24,SNR=4.7
BRTR LR LR 10 34 36.9
comp=N,516nm,19.5s,baz=220,slow=46
DIM Dimitrovgrad 6.43 349 *e*P Pn 10 31 26.5 +5.1
SWA2 6.66 194 P **Pn 10 31 26.8 +2.2**
SWA2 S **Sn 10 32 42.2 +2.0**
VAY Valandovo 6.68 328 *i* P Pb 10 31 36.4 -6.7
HNAT Natroun 6.71 154 P **Pn 10 31 26.0 +0.7**
HNAT S **Sn 10 32 41.3 -0.2**
FNA Florina 6.84 319 Pn **Pn 10 31 28.0 +0.9**
FNA Florina 6.84 319 P **Pn 10 31 28.0 +0.9**
KKB Krupnik 6.90 333 *e*P **Pn 10 31 30.6 +2.8**
KOT Kottamia 6.95 145 P **Pn 10 31 28.7 +0.1**
HHAG Hagoal 7.06 144 P **Pn 10 31 30.5 +0.5**
OFRI `Ofer 7.11 114 P **Pn 10 31 31.5 +0.7**
OFRI `Ofer 7.11 114 S **Sn 10 32 50.5 -0.7**
RYAN Fayoum 7.11 158 P **Pn 10 31 31.5 +0.8**
RYAN S **Sn 10 32 50.7 -0.6**
BLGI Bet Lehem HaGe 7.21 112 P **Pn 10 31 31.7 -0.4**
BLGI Bet Lehem HaGe 7.21 112 S **Sn 10 32 53.4 -0.3**
MMA0B Mount Meron ar 7.25 110 P **Pn 10 31 32.1 -0.7**
MMA0B Mount Meron ar 7.25 110 S **Sn 10 32 54.0 -0.9**
MMAI Mount Meron Ar 7.25 110 Pn **Pn 10 31 31.4 -1.3**
comp=N,5.4nm,0.3s,baz=308,slow=12,SNR=22
MMAI Sn **Sn 10 32 53.9 -0.9**
comp=N,15nm,0.3s,baz=309,slow=24,SNR=1.7
comp=N,3.7nm,0.2s
ELND Elena 7.26 352 ⇓P **Pn 10 31 35.5 +2.8**
HWQ Hawqa 7.26 99 *e*P **Pn 10 31 33.4 +0.4**
QRWL Qaraoun 7.27 105 *e*P **Pn 10 31 31.6 -1.3**
ILGA Ilgaz 7.32 42 Pn **Pn 10 31 34.3 +0.5**
SLTI Sal'it 7.33 116 P **Pn 10 31 34.4 +0.6**
SLTI Sal'it 7.33 116 S **Sn 10 32 56.9 +0.1**
PLNA Plana 7.36 337 *e*P **Pn 10 31 37.5 +3.3**
GEM Giv'at Ha'Em 7.37 108 P **Pn 10 31 34.4 +0.1**
GEM Giv'at Ha'Em 7.37 108 S **Sn 10 32 56.3 -1.4**
SHBL Chebaa 7.38 106 *e*P **Pn 10 31 34.2 -0.5**
OHR Ohrid 7.38 318 *i* P Pn 10 31 42.4 +7.9
BEIL Beino 7.40 97 *e*P **Pn 10 31 34.9 +0.2**
RCY Rachaya 7.40 105 *e*P **Pn 10 31 34.5 -0.5**
NATI Neve Ativ 7.41 107 P **Pn 10 31 34.9 0.0**
NATI Neve Ativ 7.41 107 S **Sn 10 32 57.9 -0.7**
BNN Bunyan 7.50 63 Pn 10 31 35.5 -0.8
NEF NEVSHA 7.51 0 *e*P **Pn 10 31 39.6 +3.4**
MMLI Mount Malkishu 7.52 114 P **Pn 10 31 36.1 -0.3**
MMLI Mount Malkishu 7.52 114 S **Sn 10 33 00.3 -1.1**
SALP Salfit 7.53 117 P **Pn 10 31 36.3 -0.2**
SALP Salfit 7.53 117 S **Sn 10 33 01.2 -0.6**
VTS Vitosha 7.55 337 *e*P **Pn 10 31 39.7 +2.8**
KSHT Keshet 7.58 109 P **Pn 10 31 37.0 -0.2**
KSHT Keshet 7.58 109 S **Sn 10 33 02.2 -0.7**
AMAZ Amatzia 7.63 121 P **Pn 10 31 38.0 +0.1**
AMAZ Amatzia 7.63 121 S **Sn 10 33 03.4 -0.7**
KZIT Kziot 7.67 127 P **Pn 10 31 38.3 -0.1**
KZIT Kziot 7.67 127 S **Sn 10 33 03.9 -1.1**
HMDT Nahal Hemdat 7.68 115 P **Pn 10 31 38.6 -0.1**
HMDT Nahal Hemdat 7.68 115 S **Sn 10 33 04.6 -0.8**
UJAP Al Uja 7.79 117 P **Pn 10 31 39.7 -0.3**
UJAP Al Uja 7.79 117 S **Sn 10 33 07.5 -0.4**
ZAF Zafarana 7.83 144 P **Pn 10 31 40.9 +0.2**
YTIR Yattir 7.87 122 P **Pn 10 31 40.9 -0.3**
YTIR Yattir 7.87 122 S **Sn 10 33 09.3 -0.7**
NBNS Bani Suef 7.87 153 P **Pn 10 31 41.1 -0.2**
DSI Dead Sea 7.94 119 P **Pn 10 31 42.3 +0.3**
DSI Dead Sea 7.94 119 S **Sn 10 33 10.6 -1.0**
TIR Tirane 8.06 316 ⇑P Pn 10 31 49.6 +5.9
TIR Tirane 8.06 316 ⇑P Pn 10 31 49.6 +5.8
MDBI Mazsada 8.06 121 P **Pn 10 31 43.3 -0.5**
MDBI Mazsada 8.06 121 S **Sn 10 33 13.0 -1.7**
MSBI Mazada 8.06 121 P **Pn 10 31 44.3 +0.5**
MSBI Mazada 8.06 121 S **Sn 10 33 13.7 -1.0**
MPEP Malo Peshtene 8.08 341 *e*P Pn 10 31 48.8 +4.8
GAZ Gaziantep 8.13 77 Pn 10 31 43.9 -0.9
GHAJ Ghor Haditha 8.22 120 Pn 10 31 45.8 -0.1
GHAJ Ghor Haditha 8.22 120 P **Pn 10 31 46.1 +0.2**
GHAJ Ghor Haditha 8.22 120 S **Sn 10 33 17.8 -0.6**
ZFRI Zfri 8.41 126 P **Pn 10 31 48.3 -0.2**
ZFRI Zfri 8.41 126 S **Sn 10 33 22.5 -0.6**
PRNI Paran 8.42 127 P **Pn 10 31 48.5 -0.3**
PRNI Paran 8.42 127 S **Sn 10 33 22.5 -1.1**
TAMRE El Minia 8.61 158 P **Pn 10 31 52.1 +0.7**
HRFI Mount Harif 8.66 129 P **Pn 10 31 51.8 -0.2**
HRFI Mount Harif 8.66 129 S **Sn 10 33 28.0 -1.4**
MBRI Mt Berech 8.75 131 P **Pn 10 31 53.3 0.0**
MBRI Mt Berech 8.75 131 S **Sn 10 33 31.0 -0.7**
TIRR Tirgusor 8.75 5 ⇓P **Pn 10 31 56.2 +3.0**
TIRR Tirgusor 8.75 5 ⇓P **Pn 10 31 56.2 +3.0**
ASF Jabal al Asfar 8.75 111 Pn **Pn 10 31 53.1 -0.2**
comp=N,1.1nm,0.3s,baz=60,slow=5.5,SNR=8.6
ASF Sn **Sn 10 33 31.8 +0.1**
comp=N,1.7nm,0.3s,baz=80,slow=5.8,SNR=3.8
comp=N,1.5nm,0.4s
EIL Elat 8.86 131 Pn **Pn 10 31 54.6 -0.1**
comp=N,3.8nm,0.3s,baz=347,slow=20,SNR=34
EIL Sn **Sn 10 33 29.8 -4.5**
comp=N,9.6nm,0.3s,baz=304,slow=2.8,SNR=6.8
comp=N,21nm,0.5s
EIL Elat 8.86 131 P **Pn 10 31 54.7 -0.1**
EIL Elat 8.86 131 S **Sn 10 33 33.2 -1.1**
HARR Harsova 8.95 3 ⇓P **Pn 10 31 57.9 +2.0**
HARR Harsova 8.95 3 ⇓P **Pn 10 31 57.9 +2.0**
BOVS Bovan 8.97 333 ⇑P **Pn 10 31 58.9 +2.7**
TIP Timpagrande 9.04 295 Pn **Pn 10 31 58.1 +0.9**
TIP Timpagrande 9.04 295 ⇓P **Pn 10 31 59.3 +2.1**
TIP Timpagrande 9.04 295 Pn **Pn 10 31 59.7 +2.5**
comp=N,65nm,0.7s
ASUT 9.09 155 S **Sn 10 33 39.8 -0.2**
PDG Podgorica 9.13 319 Pn **Pn 10 32 01.6 +3.1**
PDG Podgorica 9.13 319 ⇑P **Pn 10 32 02.3 +3.8**
HKAT Jabal Katrina 9.18 140 P **Pn 10 31 59.9 +0.6**
CEL Celeste 9.44 289 Pn 10 32 04.0 +1.2
CFR Carcaliu 9.45 4 ⇓P **Pn 10 32 05.8 +3.1**
CFR Carcaliu 9.45 4 ⇓P **Pn 10 32 05.8 +3.1**
TR1 Tor 1 9.57 142 P **Pn 10 32 04.2 -0.4**
MATE Matera 9.65 304 ⇓P **Pn 10 32 07.1 +1.5**
MLR Muntele Rosu 9.79 354 Pn **Pn 10 32 10.4 +2.8**
MLR Muntele Rosu 9.79 354 Pn **Pn 10 32 09.4 +1.8**
baz=214,slow=10
MLR Muntele Rosu 9.79 354 ⇓P **Pn 10 32 11.9 +4.3**
MLR Muntele Rosu 9.79 354 ⇓P **Pn 10 32 11.9 +4.3**
MLR Muntele Rosu 9.79 354 Pn **Pn 10 32 11.4 +3.8**
comp=N,26nm,0.9s
ARR Arges 9.82 349 ⇑P **Pn 10 32 11.7 +3.7**
VOIR 9.83 351 ⇓P **Pn 10 32 11.7 +3.6**
VOIR 9.83 351 ⇓P **Pn 10 32 11.7 +3.6**
VOIR 9.83 351 Pn **Pn 10 32 12.0 +3.9**
comp=N,13nm,1.1s
HERR Herculane 9.85 339 ⇑P **Pn 10 32 10.0 +1.7**
MDVR Moldovita 9.97 337 ⇓P **Pn 10 32 13.0 +3.0**
CUC Castrocucco 10.00 299 Pn 10 32 10.1 -0.3
PLOR Plostina 10.11 358 ⇑P **Pn 10 32 15.3 +3.5**
PLOR Plostina 10.11 358 ⇑P **Pn 10 32 15.3 +3.5**
VRI Vrincioaia 10.12 358 ⇓P **Pn 10 32 15.0 +3.0**
VRI Vrincioaia 10.12 358 ⇓P **Pn 10 32 15.0 +3.0**
COVR Voineasa-Covas 10.12 356 ⇑P **Pn 10 32 16.5 +4.4**
GZR Gura Zlata 10.23 342 ⇓P **Pn 10 32 17.2 +3.7**
GZR Gura Zlata 10.23 342 ⇓P **Pn 10 32 17.2 +3.7**
HDK1 Dakhla 10.33 169 P **Pn 10 32 16.4 +1.4**
OZUR 10.40 354 ⇓P **Pn 10 32 20.2 +4.3**
VAE Valguarnera 10.48 283 Sn **Sn 10 34 13.5 -0.8**
comp=N,2.5nm,0.3s,baz=133,slow=11,SNR=3.9
RAFF Raffo Rosso 10.50 282 Pn 10 32 18.3 +1.1
SIM Simferopol' 10.57 27 *e*P Pn 10 32 24.0 +5.9
SIM S **Sn 10 34 23.4 +7.2**
SIM pmax pmax
comp=Z,22nm,1.0s
ONER Baraj Valea Uz 10.60 357 ⇓P **Pn 10 32 22.8 +4.2**
SURR Surduc 10.73 340 ⇓P **Pn 10 32 23.6 +3.2**
BZS Buzias 10.75 338 ⇑P **Pn 10 32 23.1 +2.4**
BZS Buzias 10.75 338 ⇑P **Pn 10 32 23.1 +2.4**
TESR Tescani 10.77 358 ⇑P **Pn 10 32 24.0 +3.1**
DRGR 11.56 344 ⇓P **Pn 10 32 36.1 +4.4**
DRGR 11.56 344 ⇓P **Pn 10 32 36.1 +4.4**
BURAR Bucovina Array 11.96 353 ⇑P **Pn 10 32 40.8 +3.5**
BURAR Bucovina Array 11.96 353 ⇑P **Pn 10 32 40.8 +3.5**
BURAR Bucovina Array 11.96 353 Pn **Pn 10 32 41.4 +4.2**
comp=Z,6.5nm,1.2s
BUR08 Bucovina Ar. S 11.99 353 Pn 10 32 36.1 -1.6
MORH Mrgy, Hungar 12.32 331 ⇑P **Pn 10 32 44.2 +2.2**
SOC Sochi 12.37 47 *e*P Pn 10 32 36.5 -6.2
SOC *e*SS **Sn 10 35 03.5 +3.3**
SOC MLR MLR
comp=Z,337nm,17.0s
KOVH Kovagotottos 12.44 329 Pn **Pn 10 32 47.1 +3.4**
comp=Z,15nm,1.1s
BERU Beregovo 12.94 346 P **Pn 10 32 54.0 +3.5**
PSZ Piszkesteto 13.34 338 ⇑P **P 10 33 06.6 +0.9**
PSZ Piszkesteto 13.34 338 ⇑P **P 10 33 06.6 +0.9**
MORS Morshin 13.61 351 P **Pn 10 33 03.4 +3.8**
KOLS Kolonicke sedl 13.69 346 *e*P **P 10 33 05.2 -4.2**
KOLS Kolonicke sedl 13.69 346 *e*PN **P 10 33 05.2 -4.2**
KOLS Kolonicke sedl 13.69 346 *e*P **P 10 33 13.9 +4.5**
NEUR Neytrino 14.07 53 *i* P **Pn 10 33 04.3 -1.8**
LUBAR Lubar, Ukraine 14.17 1 P **Pn 10 33 11.0 +3.6**
comp=Z,158μm,0.8s
VYHS Vyhne 14.18 337 *e*P **P 10 33 12.0 -3.0**
VYHS Vyhne 14.18 337 P **P 10 33 11.5 -3.5**
comp=Z,3.2nm,1.4s
VYHS Vyhne 14.18 337 *e*PN **P 10 33 12.0 -3.0**
VYHS Vyhne 14.18 337 *e*P P 10 33 19.8 +4.8
SHA1 Shidzhatmaz 14.26 51⇓*e*P **Pn 10 33 05.8 -3.0**
SOKA Soboth 14.27 324 *e*Pn **Pn 10 33 11.4 +2.6**
comp=Z,32nm,0.8s,SNR=6.7
STHS Stebnicka Huta 14.36 344 *e*P **P 10 33 19.7 +2.8**
STHS Stebnicka Huta 14.36 344 *e*P **P 10 33 19.7 +2.8**
KIV Kislovodsk 14.38 51 *e*P **Pn 10 33 09.0 -1.4**
KIV *e*S **Sn 10 35 48.9 -0.7**
KIV pmax pmax
comp=Z,3.0nm,0.9s
OBKA Obir 14.39 322 *i* Pn **P 10 33 19.7 +2.4**
comp=Z,29nm,1.3s
KVAR Kislovodsk Arr 14.39 51 Pn Pn 10 33 13.4 +2.9
baz=314,slow=18
comp=Z,1.7nm,0.5s
KBZ Khabaz 14.41 52 Pn **P 10 33 19.8 +2.3**
comp=Z,0.2nm,0.3s,baz=237,slow=5.6,SNR=11
KBZ Khabaz 14.41 52⇑*e*P **Pn 10 33 12.1 +1.5**
ARSA Arzberg 14.46 326 Pn **Pn 10 33 10.4 -0.9**
ARSA Arzberg 14.46 326 *e*Pn **P 10 33 17.8 -0.3**
comp=Z,8.6nm,1.3s
GNI Garni 14.46 67 Pn **Pn 10 33 14.6 +3.0**
comp=Z,0.9nm,0.3s,baz=202,slow=22,SNR=1.6
GNI LR LR 10 40 08.6
comp=Z,420nm,20.8s,baz=286,slow=43
comp=Z,3.3nm,0.4s
RONA Rosalia, Austr 14.47 329 *i* Pn **P 10 33 18.2 0.0**
comp=Z,6.4nm,0.9s
KEST Kesra 14.57 275 Pn **Pn 10 33 12.1 -0.8**
KEST Kesra 14.57 275 Pn **P 10 33 16.9 -2.5**
comp=Z,1.1nm,0.3s,baz=37,slow=5.0,SNR=17
LANS Liptovska Anna 14.57 339 *e*P **P 10 33 23.1 +3.7**
LANS Liptovska Anna 14.57 339 *e*P **P 10 33 23.0 +3.7**
NIE Niedzica 14.59 342 *e*P **P 10 33 22.0 +2.5**
MODS Modra-Piesok 14.62 333 *e*P **P 10 33 21.5 +1.6**
MODS Modra-Piesok 14.62 333 *e*P **P 10 33 21.5 +1.6**
CONA Conrad Observa 14.83 329 *e*Pn **P 10 33 19.9 -2.3**
comp=Z,5.6nm,1.3s
AK10 Malin Array Si 14.92 5 P **P 10 33 20.7 -2.4**
MYKA Terra Mystica 14.93 321 *i* Pn **P 10 33 25.0 +1.7**
comp=Z,9.5nm,0.9s
AK08 Malin Array Si 14.95 5 P **P 10 33 21.2 -2.2**
AK02 Malin Array Si 14.97 5 P **P 10 33 21.6 -2.1**
AK01 Malin Array Si 15.01 5 P **P 10 33 22.2 -1.9**
KIEV Kiev 15.01 5 Pn **Pn 10 33 18.4 -0.3**
KIEV Kiev 15.01 5 P **Pn 10 33 18.4 -0.3**
AKASG Malin Array Be 15.02 5 Pn **Pn 10 33 18.5 -0.3**
AKASG Malin Array Be 15.02 5 Pn **Pn 10 33 17.6 -1.2**
comp=Z,2.5nm,0.3s,baz=195,slow=11,SNR=21
AKASG ScP **ScP 10 42 03.6 +3.5**
comp=Z,2.3nm,0.8s,baz=217,slow=0.5,SNR=6.0
AKASG Malin Array Be 15.02 5 P **Pn 10 33 18.5 -0.3**
AKBB Malin Array Si 15.02 5 Pn **Pn 10 33 16.9 -2.0**
AKBB Malin Array Si 15.02 5*c*e*P **Pn 10 33 21.0 +2.2**
AKBB Malin Array Si 15.02 5 P **P 10 33 21.9 -2.3**
comp=Z,59nm,2.8s
AK22 Malin Array Si 15.07 4 P **P 10 33 22.2 -2.5**
AK21 Malin Array Si 15.08 4 P **P 10 33 22.5 -2.4**
MI28 Mi28,Pidlybu 15.18 1 P **P 10 33 24.4 -1.6**
comp=Z,344nm,0.9s
MI28 pP **pP 10 33 30.3 +0.3**
comp=Z,344nm,0.9s
MAUC Maruska 15.27 336 *e*P **P 10 33 29.7 +2.6**
CIMO Cimolais 15.36 318 Pn **Pn 10 33 23.7 +0.3**
KBA Koelnbreinsper 15.38 322 *i* Pn **P 10 33 29.4 +0.9**
comp=Z,19nm,0.6s,SNR=8.1
OJC Ojcow 15.46 342 *e*P **P 10 33 32.0 +2.9**
OJC Ojcow 15.46 342 *e*P **P 10 33 27.4 -1.7**
OJC Ojcow 15.46 342 P **P 10 33 27.4 -1.7**
OJC pmax pmax
comp=Z,24nm,0.8s
MOA Molln 15.48 325 *i* Pn **Pn 10 33 26.3 +1.4**
comp=Z,2.5nm,0.4s
RNPP5 Staryi Chortor 15.51 357 P **Pn 10 33 26.3 +1.0**
comp=Z,25nm,0.7s
KRUC Moravsky 15.52 332 *e*P **P 10 33 31.2 +1.4**
ABTA Abfaltersbach 15.60 319 *i* Pn **P 10 33 29.1 -1.6**
comp=Z,29nm,0.8s,SNR=5.8
CTI Castel Tesino 15.64 316 P **P 10 33 29.5 -1.8**
CTI IAmb IAmb 10 33 39.3
comp=Z,51nm,0.8s
CTI Castel Tesino 15.64 316 P **P 10 33 29.5 -1.8**
CTI pmax pmax
comp=Z,51nm,0.8s
VRAC Vranov 15.65 333 Pn **Pn 10 33 25.7 -1.5**
comp=Z,0.8nm,0.3s,baz=144,slow=11,SNR=7.4
comp=Z,1.6nm,0.5s
VRAC Vranov 15.65 333 *e*P **P 10 33 32.7 +1.4**
BIOA Bad Ischl, Aus 15.66 324 *e*Pn **P 10 33 30.6 -0.8**
comp=Z,21nm,0.7s,SNR=7.3
MORC Moravsky Berou 15.72 336 Pn 10 33 26.5 -1.6
MORC Moravsky Berou 15.72 336 *e*P **P 10 33 34.2 +2.1**
MORC Moravsky Berou 15.72 336 P **Pn 10 33 26.5 -1.6**
MORC pmax pmax
comp=Z,24nm,1.4s
MORC Moravsky Berou 15.72 336 P **P 10 33 32.3 +0.2**
comp=Z,12nm,1.3s
LESA Schwarzleotal 15.95 321 *e*Pn **P 10 33 35.2 +0.5**
comp=Z,6.0nm,0.6s,SNR=8.7
TREC Trest 16.06 331 *e*P **P 10 33 35.2 -0.6**
TREC Trest 16.06 331 *e*P **P 10 33 35.2 -0.6**
KRLC Kraliky 16.23 335 P **P 10 33 39.2 +1.5**
comp=Z,33nm,1.1s
WTTA Wattenberg 16.39 319 *i* Pn **P 10 33 40.2 +0.6**
comp=Z,43nm,1.3s
WATA Walderalm 16.46 320 *e*Pn **P 10 33 41.9 +1.5**
comp=Z,69nm,1.4s,SNR=9.3
GEC2 GERESS Array S 16.46 327 Pn 10 33 35.7 -2.0
GERES GERESS Array B 16.46 327 Pn 10 33 36.5 -1.2
GERES GERESS Array B 16.46 327 Pn **Pn 10 33 36.2 -1.5**
comp=Z,0.7nm,0.3s,baz=144,slow=12,SNR=15
comp=Z,0.7nm,0.6s
GERES GERESS Array B 16.46 327 P **Pn 10 33 36.5 -1.2**
SQTA Sankt Quirin 16.59 319 *e*Pn **P 10 33 42.5 +0.8**
comp=Z,15nm,0.8s
DPC Dobruska-Polom 16.62 335 *e*P **P 10 33 43.9 +1.9**
DPC Dobruska-Polom 16.62 335 *e*P **P 10 33 43.9 +1.9**
DPC Dobruska-Polom 16.62 335 P **P 10 33 44.4 +2.4**
comp=Z,14nm,1.9s
ZVC Zvikov 16.70 329 *e*P **P 10 33 44.4 +1.5**
MOTA Moosalm 16.72 319 *e*Pn **P 10 33 45.3 +2.0**
comp=Z,16nm,1.2s
FETA Feichten 16.73 317 *e*Pn **P 10 33 44.6 +1.3**
comp=Z,22nm,0.9s
KHC Kasperske Hory 16.73 327 *e*P **P 10 33 42.6 -0.7**
KHC Kasperske Hory 16.73 327 *e*P **P 10 33 42.6 -0.7**
KHC Kasperske Hory 16.73 327 P **P 10 33 43.7 +0.4**
comp=Z,33nm,1.0s
FUORN Ofenpass-Fuorn 16.76 316 P **P 10 33 43.8 0.0**
GOPC GO Pecny, Ondr 16.83 331 *e*P **P 10 33 47.3 +3.0**
GOPC GO Pecny, Ondr 16.83 331 *e*P **P 10 33 47.3 +3.0**
OSTC Ostas 16.83 335 P **P 10 33 45.3 +1.0**
comp=Z,218nm,1.1s
UPC Upice 16.86 335 P **P 10 33 47.0 +2.3**
comp=Z,13nm,1.1s
CHVC Chvalec 16.91 335 *e*P **P 10 33 46.8 +1.5**
CHVC Chvalec 16.91 335 *e*P **P 10 33 46.8 +1.5**
CHVC Chvalec 16.91 335 P **P 10 33 46.3 +1.0**
comp=Z,52nm,1.2s
PRU Pruhonice 16.99 331 *e*P **P 10 33 46.8 +0.8**
PRU Pruhonice 16.99 331 *e*P **P 10 33 46.8 +0.8**
PRU Pruhonice 16.99 331 P **P 10 33 47.2 +1.2**
comp=Z,13nm,0.9s
RETA Reutte 16.99 319 *e*Pn **P 10 33 47.4 +1.2**
comp=Z,19nm,1.3s,SNR=5.2
KSP Ksiaz 17.05 336 *e*P **P 10 33 49.0 +2.3**
KSP Ksiaz 17.05 336 P **P 10 33 48.3 +1.6**
KSP Ksiaz 17.05 336 P **P 10 33 47.5 +0.8**
comp=Z,24nm,1.2s
DAVOX Davos/Dischmat 17.07 316 Pn **P 10 33 47.1 0.0**
comp=Z,0.9nm,0.3s,baz=202,slow=16,SNR=8.7
MAK Makhachkala 17.20 59 *e*P **Pn 10 33 46.0 -0.9**
MAK *e*S **Sn 10 36 59.3 +1.3**
MAK pmax pmax
comp=Z,24nm,0.4s
MAK smax smax
comp=Z,336nm,15.0s
TUE Stuetta 17.20 314 P **P 10 33 48.1 -0.6**
TUE Stuetta 17.20 314 P **P 10 33 50.1 +1.4**
comp=Z,69nm,1.4s
DAVA Damuels 17.35 317 *i* Pn **P 10 33 51.2 +0.9**
comp=Z,10nm,0.9s
PVCC Panska Ves 17.41 332 P **P 10 33 51.7 +1.0**
comp=Z,21nm,0.8s
VSR Storozhevoye 17.67 25 *e*P **P 10 33 53.6 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 17.92 332 *e*P **P 10 33 57.8 +1.4**
BRG Amp 10 34 01.0
comp=Z,4.2nm,0.7s
BRG Berggiesshubel 17.92 332 P P 10 34 12.2 +16
BRG Amp 10 34 13.0
comp=Z,8.9nm,0.9s
BRG Berggiesshubel 17.92 332 P P 10 34 31.8 +35
BRG Amp 10 34 33.4
comp=Z,6.9nm,1.0s
GRA1 Grafenberg Arr 18.20 325 P **Pn 10 33 59.1 -0.2**
GRF Grafenberg Arr 18.20 325 P **Pn 10 33 59.1 -0.2**
GRF pmax pmax
comp=Z,25nm,0.8s
GRFO Grafenberg 18.20 325 P **P 10 34 03.7 +4.2**
LPL La Plagne 18.35 308 *e*P **P 10 34 02.4 +1.0**
SENIN Lac Senin/Sane 18.38 311 P **P 10 34 01.1 -0.5**
SUW Suwalki 18.49 352 *e*P **Pn 10 34 03.2 +0.5**
SUW Suwalki 18.49 352 P **P 10 34 01.7 -0.9**
SUW IAmb IAmb 10 34 08.6
comp=Z,78nm,0.9s
SUW Suwalki 18.49 352 P **P 10 34 01.7 -0.9**
SUW pmax pmax
comp=Z,79nm,0.9s
SUW Suwalki 18.49 352 *e*P **Pn 10 34 04.5 +1.8**
VRH Novokhopyorsk 18.62 29 P **P 10 34 03.9 -0.1**
VRH pmax pmax
comp=Z,15nm,0.6s
CLL Collm 18.63 331 P **P 10 34 03.3 -0.8**
CLL Collm 18.63 331 *i* P **Pn 10 34 05.3 +0.8**
CLL pmax pmax
comp=Z,24nm,1.4s
CLL Collm 18.63 331 *i* P **Pn 10 34 05.3 +0.8**
comp=Z,24nm,1.4s
MOX Moxa 18.71 328 P **Pn 10 34 08.6 +3.2**
MOX pmax pmax
comp=Z,12nm,0.8s
MNK Minsk 18.76 1 *i* P **P 10 34 04.9 -0.7**
comp=E,22nm,0.8s
MNK *i* P **P 10 34 04.9 -0.7**
comp=N,8.0nm,0.7s
MNK *i* P **P 10 34 04.9 -0.7**
comp=Z,15nm,0.7s,baz=181
MNK *i* PP **PnPn 10 34 17.2 -1.0**
MNK *i* S **Sn 10 37 35.0 -0.6**
MNK *i* SS SnSn 10 38 06.3 +17
MNK *i* LQ LQ 10 40 24.1
MNK *i* LR LR 10 41 26.1
MNK *i* LRM MLR 10 41 58.7
comp=Z,307nm,14.8s
MNK *i* LRM MLR 10 42 29.3
comp=E,201nm,14.4s
MNK *i* LRM MLR 10 43 23.1
comp=N,148nm,13.3s
MNK Minsk 18.76 1 *i* P **P 10 34 04.8 -0.7**
MNK *i* S **Sn 10 37 34.9 -0.6**
MNK pmax pmax
comp=Z,15nm,0.7s
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK MLR MLR
comp=Z,307nm,15.0s
MNK MLR MLR
comp=E,201nm,14.0s
MNK MLR MLR
comp=N,148nm,13.0s
LPSR Galich'ya Gora 18.77 23 P **Pn 10 34 07.7 +1.6**
LPSR pmax pmax
comp=Z,45nm,0.9s
GKP Gorka Klasztor 18.89 341 *e*P **P 10 34 06.4 -0.6**
NACGM Naroch 19.16 359 *e*P **P 10 34 10.3 +0.3**
baz=178
ECH Echery 19.40 316 P **Pn 10 34 13.9 +0.1**
ECH Echery 19.40 316 P **Pn 10 34 13.9 +0.1**
ECH pmax pmax
comp=Z,18nm,1.2s
IIGN Ignalina 19.62 358 *e*P **Pn 10 34 16.8 +0.4**
PABE Paberze 19.89 354 P **P 10 34 17.6 -0.4**
PABE Paberze 19.89 354 *e*P **Pn 10 34 19.1 -0.5**
RAYN Ar Rayn 19.95 123 P **P 10 34 18.8 0.0**
RAYN Ar Rayn 19.95 123 P **P 10 34 18.8 0.0**
RAYN pmax pmax
comp=Z,23nm,1.4s
VSVD Vaisvydziai 20.37 355 *e*P Pn 10 34 24.2 -1.0
OBN Obninsk 20.41 15 P **P 10 34 22.5 -1.0**
OBN Obninsk 20.41 15 P **P 10 34 22.1 -1.3**
comp=Z,81nm,0.6s,baz=332,slow=1.1,SNR=12
comp=Z,81nm,0.6s
OBN Obninsk 20.41 15*d* *i*P **P 10 34 24.0 +0.5**
OBN *i* 10 34 32.9
OBN pmax pmax
comp=Z,67nm,0.9s
OBN MLR MLR
comp=Z,169nm,14.0s
OBN Obninsk 20.41 15 P **P 10 34 24.2 +0.7**
PBUR Paburge 20.61 351 *e*P Pn 10 34 27.5 -0.5
WLF Walferdange 20.75 319 *d*P Pn 10 34 28.8 -0.9
comp=Z,16nm,0.9s
BSD Bornholm Skovb 21.16 340 *i* P **P 10 34 30.0 -1.7**
MOS Moscow 21.22 16 *e*P **P 10 34 29.5 -2.7**
MOS *e* 10 34 51.2
MOS pmax pmax
comp=Z,101nm,1.3s
BHOU Houvegnez 21.22 320 *d*P **P 10 34 34.2 +1.9**
comp=Z,11nm,1.0s
CAF Calviac 21.23 303 *e*P **P 10 34 33.2 +0.7**
CAF pmax pmax
comp=Z,20nm,1.0s
CEST Esterri de Car 21.25 297 P **P 10 34 32.9 -0.1**
CEST IAmb IAmb 10 34 43.4
comp=Z,30nm,1.0s
BTNL Ternell 21.29 321 *d*P **P 10 34 34.8 +1.6**
comp=Z,22nm,1.0s
MEM Membach 21.37 321 *d*P **P 10 34 35.6 +1.7**
comp=Z,35nm,0.9s
RCHB Rochefort 21.52 319 *d*P **P 10 34 36.4 +0.9**
comp=Z,10nm,0.8s
RCHB *d*PP **PnPn 10 34 57.4 +1.5**
BCLA Clavier 21.63 320 *d*P **P 10 34 38.3 +1.6**
comp=Z,23nm,1.0s
BGES Gesves 21.72 319 *d*P **P 10 34 39.3 +1.5**
comp=Z,16nm,1.0s
DOU Dourbes 21.83 318 *d*P **P 10 34 39.1 +0.3**
comp=Z,17nm,1.0s
BMRD Maredsous 21.85 319 *d*P **P 10 34 40.2 +1.1**
BLEU Blekinge 21.99 343 *i* P **P 10 34 36.6 -3.9**
BELG Belogornoye 22.03 35 P **P 10 34 39.3 -1.7**
comp=Z,22nm,0.8s,baz=317,slow=0.1,SNR=16
comp=Z,22nm,0.8s
BELG Belogornoye 22.03 35*d*e*P **P 10 34 41.2 +0.2**
BELG pmax pmax
comp=Z,12nm,1.1s
LUNU Lund 22.03 339 *i* P **P 10 34 40.5 -0.5**
LFF La Frestale 22.13 303 *e*P **P 10 34 43.6 +1.4**
LFF pmax pmax
comp=Z,145nm,2.1s
UCC Uccle 22.34 319 *d*P **P 10 34 45.6 +1.3**
BJUU Bjuv 22.54 339 *i* P **P 10 34 48.2 +1.9**
DEL Delary 22.64 340 *i* P **P 10 34 44.0 -3.5**
VSU Vasula 22.73 359⇑*e*P **P 10 34 48.5 +0.1**
TAM Tamanrasset 22.89 242 P **P 10 34 50.3 -0.3**
TAM Tamanrasset 22.89 242 P **P 10 34 50.3 -0.3**
TAM pmax pmax
comp=Z,12nm,1.0s

MTSE Matsula 23.09 355 *eP* **P 10 34 53.2 +1.0**
MFF Saint Martin d 23.20 306 *eP* **P 10 34 54.3 +0.8**
MFF pmax pmax
comp=Z,41nm,1.0s
FABU Falkenberg 23.42 340 *i* P **P 10 34 57.0 +1.6**
MEF Metsahovi 24.56 357 *eP* **P 10 35 05.5 -0.7**
ESDC Sonseca Array 24.96 288 P **P 10 35 09.9 -0.2**
ESDC Sonseca Array 24.96 288 P **P 10 35 09.4 -0.7**
comp=Z,5.0nm,0.7s,baz=81,slow=9.5,SNR=24
comp=Z,5.0nm,0.7s
FINES FINESS Array B 25.73 359 P **P 10 35 14.5 -2.3**
comp=Z,14nm,0.7s,baz=169,slow=11,SNR=27
FINES PcP **PcP 10 38 44.6 -1.8**
comp=Z,4.9nm,0.5s,baz=180,slow=1.6,SNR=15
comp=Z,14nm,0.7s
HFS Hagfors 25.94 344 P **P 10 35 17.2 -1.5**
comp=Z,9.1nm,0.5s,baz=160,slow=9.1,SNR=35
comp=Z,9.1nm,0.5s
KLMR Klimovskoe 26.32 14 *eP* **P 10 35 19.1 -3.1**
KLMR pmax pmax
comp=Z,37nm,1.1s
KEF Keuruu 26.49 357 *eP* **P 10 35 23.4 -0.3**
KONO Kongsberg 26.54 340⇑ *eP* **P 10 35 26.0 +1.8**
KONO pmax pmax
comp=Z,20nm,1.2s
AKTO Aktyubinsk 26.59 47 LR LR 10 50 43.8
comp=Z,181nm,18.4s,baz=236,slow=47
NC602 NORSAR Array S 26.97 343 P **P 10 35 27.2 -0.8**
NC602 IAmb IAmb 10 35 44.2
comp=Z,24nm,1.1s
NC602 NORSAR Array S 26.97 343 *eP* **P 10 35 29.9 +1.9**
KIRV Kirov 27.12 26 LR LR 10 47 00.1
comp=Z,143nm,19.4s,baz=223,slow=38
KIRV Kirov 27.12 26 *ceP* **P 10 35 29.6 +0.3**
NAO01 NORSAR Array S 27.22 342 P **P 10 35 29.7 -0.6**
NAO01 IAmb IAmb 10 35 40.6
comp=Z,21nm,0.9s
NB2 NORSAR Subarra 27.31 343 P **P 10 35 30.3 -0.9**
comp=Z,5.3nm,0.8s,baz=151,slow=9.3
NB2 NORSAR Subarra 27.31 343 P **P 10 35 30.3 -0.9**
baz=151,slow=9.3
NOA NORSAR Array B 27.31 343 P **P 10 35 29.6 -1.6**
comp=Z,3.0nm,0.7s,baz=152,slow=9.3,SNR=12
NOA LR LR 10 47 48.0
comp=Z,99nm,20.1s,baz=60,slow=40
comp=Z,3.0nm,0.7s
JOF Joensuu 27.32 4 *eP* **P 10 35 32.0 +0.9**
ABKAR Abkulak array 27.37 50 P **P 10 35 31.6 -0.2**
ABKAR Abkulak array 27.37 50 P **P 10 35 31.1 -0.6**
VAF Ylistaro 27.47 355 *eP* **P 10 35 32.6 +0.1**
ODD1 Odda 27.64 337 *eP* **P 10 35 34.5 +0.5**
SKAR Skarslia 27.76 340 *eP* **P 10 35 36.0 +0.8**
EKA Eskdalemuir Ar 28.59 323 P **P 10 35 42.0 -0.5**
comp=Z,1.1nm,0.5s,baz=119,slow=8.7,SNR=4.7
EKA PcP **PcP 10 38 51.7 -1.6**
comp=Z,1.2nm,0.5s,baz=111,slow=3.1,SNR=3.8
comp=Z,1.1nm,0.5s
DOMB Dombas 28.70 342 *eP* **P 10 35 44.4 +0.9**
HYA Hoyanger 28.76 339 *eP* **P 10 35 43.5 -0.5**
ARTI Arti 29.46 36 P **P 10 35 49.1 -1.1**
ARTI Arti 29.46 36 P **P 10 35 49.7 -0.6**
comp=Z,5.1nm,0.7s,baz=211,slow=5.2,SNR=4.3
comp=Z,5.1nm,0.7s
ARTI Arti 29.46 36 *d iP* **P 10 35 50.7 +0.4**
ARTI 10 36 40.3
ARTI S **S 10 40 46.3 +2.5**
ARTI SS **SnSn 10 42 11.5 +0.5**
ARTI pmax pmax
comp=Z,14nm,1.7s
NSS Namsos 30.27 347 *eP* **P 10 35 57.9 +0.6**
MOR8 Moi Rana 31.39 350 *eP* **P 10 36 07.8 +0.5**
LEIR Leirfjorden 31.53 349 *eP* **P 10 36 08.4 0.0**
STOK Stokkvaagen 31.75 349 *eP* **P 10 36 11.4 +1.1**
TORD Torodi Ar. Bea 32.20 232 P **P 10 36 15.4 +0.6**
comp=Z,5.7nm,0.6s,baz=38,slow=9.2,SNR=41
comp=Z,5.7nm,0.6s
FAUS Fauske 32.42 351 *eP* **P 10 36 16.8 +0.6**
STEI Steigen 32.95 352 *eP* **P 10 36 21.1 +0.2**
LODK Lodwar 33.02 165 P **P 10 36 21.3 -0.8**
SIMJ Simiganj 33.16 72 P **P 10 36 22.3 -1.0**
SIMJ IAmb IAmb 10 36 32.9
comp=Z,10nm,1.0s
CHGR Chuyangaron 33.28 72 P **P 10 36 23.4 -0.9**
CHGR Chuyangaron 33.28 72 P **P 10 36 23.4 -0.9**
CHGR pmax pmax
comp=Z,29nm,0.6s
KTK1 Kautokeino 33.40 357 *eP* **P 10 36 24.9 +0.1**
ARA0 ARCESS Array S 33.86 359 *eP* **P 10 36 28.4 -0.5**
ARCES ARCESS Array B 33.86 359 P **P 10 36 25.9 -2.9**
comp=Z,12nm,0.7s,baz=173,slow=8.9,SNR=26
ARCES PcP **PcP 10 39 05.6 -1.6**
comp=Z,1.5nm,0.4s,baz=185,slow=3.1,SNR=14
comp=Z,12nm,0.7s
JETT Jettan, Norway 34.08 356 *eP* **P 10 36 30.8 0.0**
GAR Garm 34.13 71 P **P 10 36 31.4 -0.3**
GAR IAmb IAmb 10 36 49.2
comp=Z,20nm,1.1s
TRO Tromso 34.25 355 *eP* **P 10 36 32.0 -0.1**
VADS Vadso 34.45 1 *eP* **P 10 36 33.9 -0.1**
BRVK Borovoye 34.64 46 *deP* **P 10 36 37.2 +1.4**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BVAR Borovoye Array 34.70 46 P **P 10 36 36.7 +0.5**
comp=Z,5.4nm,0.8s,baz=256,slow=8.5,SNR=14
BVAR PcP **PcP 10 39 08.3 -1.6**
comp=Z,0.8nm,0.5s,baz=292,slow=2.1,SNR=2.2
BVAR LR LR 10 55 12.6
comp=Z,70nm,18.0s,baz=273,slow=44
comp=Z,5.4nm,0.8s
AAK Ala-Archa 36.85 65 LR LR 10 55 50.1
comp=Z,55nm,18.3s,baz=304,slow=42
AAK Ala-Archa 36.85 65⇑ *eP* **P 10 36 56.9 +1.8**
AAK pmax pmax
comp=Z,7.0nm,1.6s
NIL Nilore 37.60 79 P **P 10 37 00.6 -0.7**
NIL IAmb IAmb 10 37 05.1
comp=Z,16nm,0.6s
NIL Nilore 37.60 79 P **P 10 37 00.6 -0.7**
NIL pmax pmax
comp=Z,16nm,0.6s
KSH Kashi 38.38 69 P **P 10 37 08.9 +0.9**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KURBB Kurchatov Arra 39.41 51 P **P 10 37 15.7 -0.6**
comp=Z,6.6nm,0.5s,baz=275,slow=8.7,SNR=60
KURBB PcP **PcP 10 39 23.3 -0.9**
comp=Z,3.2nm,0.7s,baz=266,slow=4.0,SNR=6.7
KURBB ScP **ScP 10 43 11.9 -0.4**
comp=Z,0.5nm,0.8s,baz=271,slow=5.0,SNR=4.1
comp=Z,6.6nm,0.5s
KURK Kurchatov 39.47 51 P **P 10 37 16.0 -0.8**
KURK Kurchatov 39.47 51 P **P 10 37 15.7 -1.1**
KURK 10 39 23.3
KURK 10 43 11.9
DBIC Dimbokro 41.29 233 P **P 10 37 31.8 -0.4**
comp=Z,5.7nm,0.6s,baz=26,slow=7.7,SNR=7.0
comp=Z,5.7nm,0.6s
MAKZ Makanchi 41.79 57 P **P 10 37 34.9 -1.2**
MAKZ Makanchi 41.79 57 P **P 10 37 34.9 -1.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 42.01 57 *d iP* **P 10 37 36.9 -1.0**
MKAR Makanchi Array 42.01 57 P **P 10 37 37.1 -0.8**
MKAR Makanchi Array 42.01 57 P **P 10 37 37.4 -0.5**
comp=Z,4.4nm,0.6s,baz=277,slow=7.2,SNR=40
MKAR PcP **PcP 10 39 31.7 -1.1**
comp=Z,1.8nm,0.7s,baz=289,slow=3.3,SNR=2.2
MKAR ScP **ScP 10 43 23.8 +1.1**
comp=Z,1.4nm,0.8s,baz=282,slow=3.3,SNR=5.8
comp=Z,4.4nm,0.6s
SPA0 Spitsbergen Ar 42.80 357 *eP* **P 10 37 44.9 +1.1**
SPITS Spitsbergen Ar 42.80 357 P **P 10 37 41.8 -2.1**
comp=Z,8.0nm,0.6s,baz=146,slow=11,SNR=16
SPITS PcP **PcP 10 39 33.0 -1.8**
comp=Z,1.4nm,0.4s,baz=123,slow=5.3,SNR=5.5
comp=Z,8.0nm,0.6s
ZAA0 Zalesovo Array 43.35 47 P **P 10 37 47.2 -1.4**
ZALV Zalesovo Beam 43.35 47 P **P 10 37 47.2 -1.4**
comp=Z,5.9nm,0.6s,baz=268,slow=7.6,SNR=21
ZALV PcP **PcP 10 39 35.6 -1.5**
comp=Z,2.3nm,0.9s,baz=294,slow=3.4,SNR=2.4
ZALV LR LR 11 00 26.2
comp=Z,47nm,18.1s,baz=274,slow=42
comp=Z,5.9nm,0.6s
ZALV Zalesovo Beam 43.35 47 *i* P **P 10 37 49.7 +1.1**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
KBS Kingsbay 43.76 356 *eP* **P 10 37 52.1 +0.6**
BBTS Babate 44.40 253 LR LR 11 00 19.4
comp=Z,126nm,18.1s,baz=263,slow=41
WMQ Urumqi 46.22 61 *eP* **P 10 38 14.5 +2.8**
WMQ pmax pmax
comp=Z,17nm,0.9s
NRIK Noril'sk 46.62 25 P **P 10 38 14.0 -0.4**
NRIK IAmb IAmb 10 38 22.0
comp=Z,9.5nm,1.0s
NRIK Noril'sk 46.62 25 P **P 10 38 13.6 -0.8**
comp=Z,4.2nm,0.7s,baz=246,slow=6.3,SNR=7.1
comp=Z,4.2nm,0.7s
NRIK Noril'sk 46.62 25 *deP* **P 10 38 15.6 +1.2**
NRIK pmax pmax
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 53.00 331 LR LR 11 04 23.9
comp=Z,72nm,18.9s,baz=150,slow=39
MOY Mondy 53.34 48 *eP* **P 10 39 08.3 +2.4**
MOY pmax pmax
comp=Z,14nm,1.9s
ZAK Zakamensk 55.06 49 *eP* **P 10 39 20.4 +2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
GTA Gaotai 56.16 63 *eP* **P 10 39 28.0 +1.5**
GTA pP sP 10 39 34.9 +1.9
GTA pmax pmax
comp=Z,4.0nm,1.1s
PALK Pallekele 56.36 107 LR LR 11 07 37.8
comp=Z,80nm,18.3s,baz=312,slow=40
SONM Songino Array 57.78 51 P **P 10 39 37.0 -0.8**
SONM Songino Array 57.78 51 P **P 10 39 37.2 -0.6**
comp=Z,1.6nm,0.4s,baz=284,slow=8.4,SNR=15
SONM PcP **PcP 10 40 29.2 -1.3**
comp=Z,2.1nm,0.8s,baz=292,slow=4.5,SNR=4.2
SONM LR LR 11 05 25.1
comp=Z,70nm,18.9s,baz=301,slow=37
comp=Z,1.6nm,0.4s
SONM Songino Array 57.78 51 P **P 10 39 37.0 -0.8**
SONM pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 58.19 51 P **P 10 39 40.0 -0.7**
ULN IAmb IAmb 10 39 51.0
comp=Z,8.1nm,0.9s
ULN Ulaanbaatar 58.19 51 *ceP* **P 10 39 42.6 +1.9**
ULN pmax pmax
comp=Z,6.0nm,1.1s
EUNU Eureka 58.94 349 P **P 10 39 45.1 -0.3**
TIXI Tiksi 60.01 21 P **P 10 39 52.6 -0.2**
TIXI IAmb IAmb 10 39 53.8
comp=Z,7.2nm,1.1s
TIXI Tiksi 60.01 21 P **P 10 39 52.8 +0.1**
comp=Z,2.5nm,0.5s,baz=309,slow=3.8,SNR=8.2
TIXI LR LR 11 09 16.7
comp=Z,78nm,18.3s,baz=196,slow=40
comp=Z,2.5nm,0.5s
TIXI Tiksi 60.01 21⇑ *eP* **P 10 39 53.6 +0.8**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 60.39 65 *eP* **P 10 39 57.9 +1.7**
LZH pmax pmax
comp=Z,9.0nm,1.3s
LBTB Lobatse 60.45 182 LR LR 11 07 05.4
comp=Z,118nm,18.5s,baz=21,slow=37
CD2 Chengdu 62.57 70 P **P 10 40 13.0 +2.2**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
PZH PanZhiHua 63.04 76 P **P 10 40 15.7 +1.6**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.4s
RES Resolute Bay 63.54 345 P **P 10 40 17.2 +0.7**
RES Resolute Bay 63.54 345 P **P 10 40 17.2 +0.7**
RES pmax pmax
comp=Z,4.0nm,1.2s
SCHQ Schefferville 63.86 320 P **P 10 40 19.2 +0.2**
SCHQ Schefferville 63.86 320 P **P 10 40 17.9 -1.1**
comp=Z,12nm,0.7s,baz=46,slow=5.5,SNR=19
comp=Z,12nm,0.7s
HHC Hu-ho-hao-te 63.88 57 *eP* **P 10 40 19.5 +0.1**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.9s
BOSA Boshof 64.04 182 P **P 10 40 20.8 +0.3**
comp=Z,1.8nm,0.6s,baz=40,slow=9.4,SNR=3.2
comp=Z,1.8nm,0.6s
YAK Yakutsk 64.50 31⇓ *eP* **P 10 40 22.8 -0.2**
YAK pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 64.79 85 P **P 10 40 25.0 -0.6**
comp=Z,1.7nm,0.8s,baz=298,slow=8.9,SNR=11
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 64.79 85 *i* P **P 10 40 27.5 +1.9**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
XAN Xi'an 65.03 65 P **P 10 40 26.4 -0.6**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XLT XiLinHaoTe 65.54 53 *eP* **P 10 40 32.4 +2.2**
XLT pmax pmax
comp=Z,7.0nm,1.3s
BJI Beijing 67.38 56 P **P 10 40 40.2 -1.7**
BJI pmax pmax
comp=Z,3.0nm,0.9s
HNS HongShan 67.62 59 ⇑P **P 10 40 46.0 +2.5**
HNS pmax pmax
comp=Z,8.0nm,1.3s
HEH HeiHe 69.27 43 *eP* **P 10 40 55.4 +1.9**
HEH pmax pmax
comp=Z,8.0nm,1.1s
WHN Wuhan 70.74 66 P **P 10 41 05.0 +2.1**
A36M Sachs Harbour 70.84 351 P **P 10 41 02.4 -0.4**
A36M IAmb IAmb 10 41 04.0
comp=Z,8.4nm,0.7s
A36M Sachs Harbour 70.84 351 P **P 10 41 03.6 +0.8**
baz=23
CN2 Changchun 71.50 49 *eP* **P 10 41 08.9 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 71.64 47 ⇑P **P 10 41 09.2 +1.1**
BNX pmax pmax
comp=Z,10.0nm,1.1s
BILL Bilibino 72.06 15⇑ *eP* **P 10 41 09.9 -0.4**
BILL pmax pmax
comp=Z,7.0nm,1.1s
KLR Kul'dur 72.19 42 LR LR 11 15 51.8
comp=Z,50nm,19.1s,baz=286,slow=38
KLR Kul'dur 72.19 42 *deP* **P 10 41 12.0 +0.6**
KLR pmax pmax
comp=Z,15nm,2.5s
VLDQ Val d'Or 72.96 317 P **P 10 41 16.4 +0.4**
C36M Paulatuk 73.11 350 P **P 10 41 16.4 -0.1**
C36M IAmb IAmb 10 41 17.0
comp=Z,14nm,1.2s
C36M Paulatuk 73.11 350 P **P 10 41 16.3 -0.1**
baz=24,SNR=9.1
A21K Barrow 73.20 1 P **P 10 41 17.8 +0.8**
baz=357,SNR=10
NJ2 Nanjing 73.25 62 *eP* **P 10 41 18.6 +0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
L61B Northampton 73.32 310 P **P 10 41 19.5 +1.3**
baz=57
B22K Teshekpuk Lake 74.22 0 P **P 10 41 24.3 +1.3**
B22K Teshekpuk Lake 74.22 0 P **P 10 41 23.9 +0.9**
baz=359
C26K Camden Bay 74.49 357 P **P 10 41 25.1 +0.6**
baz=6.5
D28M Stokes Point 74.73 355 P **P 10 41 25.8 -0.1**
baz=12
C27K Jago River 74.73 357 P **P 10 41 26.9 +0.9**
baz=7.5
C24K Franklin Bluff 74.80 359 IAmb IAmb 10 41 28.1
comp=Z,6.6nm,0.7s
C24K Franklin Bluff 74.80 359 P **P 10 41 27.4 +1.0**
baz=3.4
B21K Ikpikpuk River 74.93 1 P **P 10 41 28.2 +1.1**
baz=358
D27M Malcolm River 74.96 356 P **P 10 41 27.8 +0.4**
D27M Malcolm River 74.96 356 P **P 10 41 28.2 +0.8**
baz=9.8
B18K Kokolik River 74.99 3 P **P 10 41 28.4 +1.0**
baz=352
D25K Kavik River 75.14 358 P **P 10 41 28.7 +0.3**
D25K Kavik River 75.14 358 P **P 10 41 28.9 +0.5**
baz=5.3
USRK Ussuriysk Ar. 75.20 46 P **P 10 41 27.9 -1.2**
comp=Z,4.6nm,0.8s,baz=308,slow=4.2,SNR=12
comp=Z,4.6nm,0.8s
INK Inuvik 75.27 353 P **P 10 41 29.4 +0.4**
baz=16
D24K Happy Valley 75.37 359 P **P 10 41 30.7 +1.0**
D24K IAmb IAmb 10 41 31.8
comp=Z,8.6nm,0.8s
D24K Happy Valley 75.37 359 P **P 10 41 30.0 +0.3**
baz=3.2
C21K Knifeblade Rid 75.40 1 P **P 10 41 30.2 +0.4**
baz=358
E28M Babbage River 75.50 355 P **P 10 41 30.8 +0.4**
baz=11
E29M Blow River 75.59 354 IAmb IAmb 10 41 32.4
E29M Blow River 75.59 354 P **P 10 41 31.5 +0.5**
baz=12
D23K Nanushuk River 75.59 359 IAmb IAmb 10 41 33.3
comp=Z,13nm,0.9s
D23K Nanushuk River 75.59 359 P **P 10 41 31.5 +0.5**
baz=1.7
D22K Ayikyak River 75.69 360 IAmb IAmb 10 41 33.3
comp=Z,9.1nm,0.8s
D22K Ayikyak River 75.69 360 P **P 10 41 32.5 +0.9**
baz=360,SNR=8.3
C18K Utukok River 75.73 3 P **P 10 41 32.2 +0.4**
baz=353
C17K DeLong Mountai 75.80 4 P **P 10 41 32.8 +0.6**
baz=351,SNR=30
D20K Etivluk River 75.82 1 P **P 10 41 32.6 +0.3**
baz=357
C16K Lisburne Hills 75.86 5 P **P 10 41 31.6 -0.9**
C16K IAmb IAmb 10 41 33.8
comp=Z,9.9nm,0.8s
C16K Lisburne Hills 75.86 5 P **P 10 41 32.4 0.0**
baz=349
TOLK Toolik Lake Re 75.90 359 P **P 10 41 33.4 +0.6**
baz=2.6
D19K Kuna River 76.00 2 P **P 10 41 32.2 -1.1**
D19K Kuna River 76.00 2 P **P 10 41 33.7 +0.3**
baz=355
E21K Killik River 76.12 0 P **P 10 41 34.4 +0.3**
baz=359
F31M Tsiigehtchic 76.13 353 IAmb IAmb 10 41 34.9
comp=Z,7.7nm,0.8s
F31M Tsiigehtchic 76.13 353 P **P 10 41 34.2 +0.2**
baz=16,SNR=5.3
F30M Barrier River 76.17 353 P **P 10 41 34.4 +0.2**
baz=14
RDOG Red Dog Mine 76.23 4 P **P 10 41 34.1 -0.5**
RDOG IAmb IAmb 10 41 36.0
comp=Z,11nm,0.8s
RDOG Red Dog Mine 76.23 4 P **P 10 41 34.3 -0.3**
baz=352,SNR=6.1
E20K Nigu River 76.28 1 P **P 10 41 35.2 +0.2**
baz=357
E25K Arctic Village 76.31 357 IAmb IAmb 10 41 37.1
comp=Z,5.7nm,0.8s
E25K Arctic Village 76.31 357 P **P 10 41 35.1 0.0**
baz=5.9,SNR=7.3
E22K Anaktuvuk Pass 76.44 360 P **P 10 41 36.6 +0.8**
baz=0.7
E24K Your Creek 76.45 358 IAmb IAmb 10 41 37.6
comp=Z,4.5nm,0.6s
E24K Your Creek 76.45 358 P **P 10 41 36.4 +0.4**
baz=3.5
E23K Chandalar 76.49 359 IAmb IAmb 10 41 39.9
comp=Z,13nm,1.2s
E23K Chandalar 76.49 359 P **P 10 41 36.5 +0.3**
baz=2.6
F28M Old Crow 76.50 355 P **P 10 41 36.2 0.0**
baz=11
KSAR Wonju Array Be 76.53 54 P **P 10 41 36.5 -0.4**
KSAR Wonju Array Be 76.53 54 P **P 10 41 36.5 -0.4**
KSRS Korea Array 76.55 54 P **P 10 41 35.8 -1.1**
comp=Z,7.2nm,0.8s,baz=307,slow=4.3,SNR=16
KSRS LR LR 11 22 06.2
comp=Z,21nm,18.4s,baz=155,slow=41
comp=Z,7.2nm,0.8s
D17K Noatak River 76.58 4 P **P 10 41 36.2 -0.4**
baz=351,SNR=14
F26K Sheenjek River 76.67 357 P **P 10 41 37.9 +0.7**
baz=7.1
G31M Satah River 76.69 353 IAmb IAmb 10 41 37.4
comp=Z,6.2nm,0.8s
G31M Satah River 76.69 353 P **P 10 41 37.2 0.0**
baz=15
G30M tAoh Zraii Nji 76.82 353 P **P 10 41 38.1 +0.1**
G30M IAmb IAmb 10 41 39.2
comp=Z,4.7nm,0.6s
G30M tAoh Zraii Nji 76.82 353 P **P 10 41 37.7 -0.3**
baz=14
F25K Christian Rive 76.84 357 IAmb IAmb 10 41 40.4
comp=Z,6.0nm,0.8s
F25K Christian Rive 76.84 357 P **P 10 41 38.5 +0.3**
baz=5.9
BMAR Burnt Mountain 76.96 357 P **P 10 41 37.9 -1.0**
E18K Tukpahlearik C 76.98 3 P **P 10 41 39.3 +0.5**
baz=353,SNR=14
F24K Squaw Lake 76.99 358 P **P 10 41 38.2 -0.8**
F24K IAmb IAmb 10 41 41.4
comp=Z,12nm,0.8s
F24K Squaw Lake 76.99 358 P **P 10 41 40.2 +1.2**
baz=4.0
G29M Pine Creek 77.05 354 IAmb IAmb 10 41 40.3
comp=Z,8.8nm,0.8s
G29M Pine Creek 77.05 354 P **P 10 41 39.5 +0.2**
baz=12
E19K Redstone River 77.06 2 P **P 10 41 39.8 +0.5**
baz=356
E17K Hotham Inlet 77.26 4 P **P 10 41 40.2 -0.2**
baz=352,SNR=9.5
COLD Coldfoot 77.33 359 P **P 10 41 40.9 0.0**
COLD IAmb IAmb 10 41 42.8
comp=Z,9.0nm,1.0s
COLD Coldfoot 77.33 359 P **P 10 41 41.4 +0.6**
baz=2.1,SNR=9.2
F21K Alatna River 77.35 0 P **P 10 41 40.2 -0.8**
F21K Alatna River 77.35 0 P **P 10 41 42.0 +1.0**
baz=359
G26K Porcupine Rive 77.40 356 P **P 10 41 42.0 +0.8**
baz=7.4,SNR=5.2
YKA Yellowknife Ar 77.41 343 P **P 10 41 38.5 -2.8**
comp=Z,1.9nm,0.8s,baz=35,slow=5.2,SNR=28
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 77.41 343 *i* P **P 10 41 41.0 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
G27K Doyon Strip 77.42 356 P **P 10 41 42.2 +0.8**
baz=9.2
EPYK Eagle Plains 77.47 353 P **P 10 41 42.0 +0.3**
baz=13
F19K Shaleruckik Mo 77.67 2 P **P 10 41 42.3 -0.4**
baz=356
H29M Whitestone 77.76 354 IAmb IAmb 10 41 44.3
comp=Z,8.7nm,0.8s
H29M Whitestone 77.76 354 P **P 10 41 43.4 +0.1**
baz=12
H31M Peel River 77.78 352 P **P 10 41 42.9 -0.5**
baz=15
G24K Hadweenzic Riv 77.80 358 P **P 10 41 44.5 +1.0**
baz=4.3
F18K Selawik 77.84 3 P **P 10 41 43.5 -0.2**
baz=354,SNR=13
G23K Bananza Creek 77.85 359 P **P 10 41 42.9 -0.9**
G23K IAmb IAmb 10 41 45.8
comp=Z,11nm,1.1s
G23K Bananza Creek 77.85 359 P **P 10 41 43.8 0.0**
baz=2.2
F17K Baldwin Pennin 77.93 3 P **P 10 41 43.8 -0.3**
baz=353
H27K Steamboat Moun 77.98 355 P **P 10 41 44.4 -0.1**
baz=9.2,SNR=8.5
G21K Allakaket 78.06 0 P **P 10 41 43.9 -1.1**
G21K Allakaket 78.06 0 P **P 10 41 45.1 +0.1**
baz=359
TNA Tin City 78.33 6 P **P 10 41 44.9 -1.5**
TNA IAmb IAmb 10 41 47.8
comp=Z,8.6nm,0.8s
TNA Tin City 78.33 6 P **P 10 41 46.4 0.0**
baz=347,SNR=5.2
G19K Purcell Mounta 78.38 2 P **P 10 41 45.5 -1.2**
G19K IAmb IAmb 10 41 48.6
comp=Z,14nm,0.8s
G19K Purcell Mounta 78.38 2 P **P 10 41 46.9 +0.2**

	baz=356							
F15K	North Star Dit	78.45	5	P	P	10 41 47.1	0.0	
F15K				IAmb	IAmb	10 41 48.6		
	comp=Z,10.0nm,0.8s							
F15K	North Star Dit	78.45	5	P	P	10 41 47.7	+0.6	
	baz=350							
F14K	Arctic Creek	78.55	6	P	P	10 41 48.2	+0.6	
	baz=349							
I30M	Mount Dempster	78.55	353	IAmb	IAmb	10 41 48.9		
	comp=Z,12nm,0.7s							
I30M	Mount Dempster	78.55	353	P	P	10 41 47.9	+0.1	
	baz=13							
G18K	Tagagawik	78.58	2	P	P	10 41 46.1	-1.7	
G18K	Tagagawik	78.58	2	P	P	10 41 48.3	+0.4	
	baz=355							
IMAR	Indian Mountai	78.60	0	P	P	10 41 47.1	-0.8	
I29M	Ogilvie Camp,	78.60	354	P	P	10 41 48.5	+0.6	
	baz=12							
I27K	Kandik River	78.61	355	P	P	10 41 48.0	-0.1	
	baz=9.2							
WRGLY	Wrigley	78.63	347	P	P	10 41 48.3	+0.2	
	baz=24							
I28M	Miner Creek	78.64	355	P	P	10 41 48.5	+0.2	
I28M				IAmb	IAmb	10 41 49.2		
	comp=Z,5.4nm,0.6s							
I28M	Miner Creek	78.64	355	P	P	10 41 48.1	-0.2	
	baz=10,SNR=6.8							
H24K	Noodor Dome	78.68	358	P	P	10 41 48.6	+0.2	
	baz=4.0							
H22K	Ishtalitna Cre	78.68	359	P	P	10 41 49.3	+0.9	
	baz=1.1							
G17K	Kiwalik Mounta	78.89	3	P	P	10 41 49.3	-0.2	
	baz=353,SNR=8.4							
G16K	Koyuk River	78.91	4	IAmb	IAmb	10 41 51.3		
	comp=Z,14nm,0.8s							
G16K	Koyuk River	78.91	4	P	P	10 41 49.7	+0.1	
	baz=352							
PRP	Porcupine Dome	78.91	357	P	P	10 41 49.6	-0.2	
	baz=5.9							
H21K	Melozitna Rive	78.93	0	IAmb	IAmb	10 41 52.2		
	comp=Z,14nm,0.8s							
H21K	Melozitna Rive	78.93	0	P	P	10 41 50.2	+0.4	
	baz=360							
I26K	Coal Creek Min	79.00	356	IAmb	IAmb	10 41 51.8		
	comp=Z,8.4nm,0.9s							
I26K	Coal Creek Min	79.00	356	P	P	10 41 50.5	+0.4	
	baz=7.9							
H19K	Roundabout Mou	79.02	2	P	P	10 41 48.8	-1.4	
H19K				IAmb	IAmb	10 41 52.1		
	comp=Z,14nm,0.8s							
H19K	Roundabout Mou	79.02	2	P	P	10 41 50.9	+0.7	
	baz=357							
H20K	Anotleneega Mo	79.08	1	P	P	10 41 51.2	+0.7	
	baz=358							
J30M	Hart River	79.18	353	P	P	10 41 51.7	+0.4	
	baz=14							
G15K	Niukluk	79.20	5	P	P	10 41 51.9	+0.7	
	baz=351							
H18K	Honhosa River	79.34	2	IAmb	IAmb	10 41 53.8		
	comp=Z,8.6nm,0.8s							
H18K	Honhosa River	79.34	2	P	P	10 41 52.5	+0.5	
	baz=355							
POKR	Poker Plat Res	79.38	358	P	P	10 41 52.5	+0.2	
	baz=4.3,SNR=7.4							
EGAK	Eagle	79.40	355	P	P	10 41 52.6	+0.3	
EGAK	Eagle	79.40	355	P	P	10 41 53.3	+1.1	
	baz=9.5							
I23K	Minto, Yukon-K	79.40	359	P	P	10 41 53.2	+1.0	
	baz=2.7							
I21K	Tanana	79.40	360	IAmb	IAmb	10 41 54.6		
	comp=Z,12nm,0.8s							
I21K	Tanana	79.40	360	P	P	10 41 53.2	+0.9	
	baz=0.6							
J29N	Klondike Camp	79.48	354	IAmb	IAmb	10 42 02.6		
	comp=Z,7.1nm,0.7s							
J29N	Klondike Camp	79.48	354	P	P	10 41 53.8	+0.9	
	baz=12							
H17K	Granite Mounta	79.49	3	P	P	10 41 53.0	+0.2	
	baz=354							
ANM	Nome	79.53	6	IAmb	IAmb	10 41 54.5		
	comp=Z,15nm,0.8s							
ANM	Nome	79.53	6	P	P	10 41 53.0	0.0	
	baz=350,SNR=9.5							
COLA	College	79.64	358	P	P	10 41 53.9	+0.3	
	baz=4.0							
COLA	College	79.64	358⇑	*e*P	P	10 41 54.4	+0.8	
COLA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
H16K	Elim	79.67	4	P	P	10 41 54.0	+0.2	
	baz=352,SNR=12							
GAMB	Gambell	79.67	8	P	P	10 41 53.7	-0.1	
	baz=344							
ILAR	Eielson Array	79.71	357	P	P	10 41 52.7	-1.3	
ILAR	Eielson Array	79.71	357	P	P	10 41 51.9	-2.1	
	comp=Z,2.9nm,0.8s,baz=347,slow=3.8,SNR=31							
	comp=Z,2.9nm,0.8s							
ILAR	Eielson Array	79.71	357	P	P	10 41 52.7	-1.3	
I20K	Naaghedeneel	79.78	1	P	P	10 41 54.5	+0.2	
	baz=358							
GCSA	Galena City Sc	79.79	2	P	P	10 41 54.0	-0.4	
	baz=356,SNR=6.2							
J25K	Salcha River,	79.81	357	P	P	10 41 53.6	-1.0	
	baz=6.0							
J26L	Joseph Creek	79.83	356	P	P	10 41 54.4	-0.4	
J26L				IAmb	IAmb	10 41 55.9		
	comp=Z,6.7nm,0.6s							
J26L	Joseph Creek	79.83	356	P	P	10 41 54.1	-0.7	
	baz=7.5							
FFC	Flin Flon	79.91	333	P	P	10 41 55.2	-0.1	
FFC				IAmb	IAmb	10 41 56.5		
	comp=Z,8.7nm,0.8s							
FFC	Flin Flon	79.91	333	P	P	10 41 55.2	-0.1	
FFC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NEA2	Nenana	79.95	358	P	P	10 41 55.2	-0.1	
	baz=3.0							
DAWY	Dawson	79.96	354	IAmb	IAmb	10 41 56.9		
	comp=Z,11nm,0.7s							
DAWY	Dawson	79.96	354	P	P	10 41 55.5	+0.1	
	baz=11,SNR=8.7							
K29M	Barlow Dome	80.02	353	P	P	10 41 56.2	+0.4	
	baz=12							
HDA	Harding Lake	80.08	357	P	P	10 41 54.4	-1.6	
HDA	Harding Lake	80.08	357	P	P	10 41 55.9	-0.1	
	baz=4.7,SNR=11							
MAYO	Mayo, Yukon	80.09	352	P	P	10 41 55.1	-1.0	
MAYO	Mayo, Yukon	80.09	352	P	P	10 41 56.7	+0.6	
	baz=14,SNR=5.4							
O52A	Adamsville	80.27	313	IAmb	IAmb	10 41 59.5		
	comp=Z,11nm,0.9s							
EYMN	Ely	80.37	323	IAmb	IAmb	10 41 59.2		
	comp=Z,16nm,1.4s							
SCRK	Sand Creek	80.37	356	P	P	10 41 58.3	+0.5	
	baz=7.2							
J20K	Nowinta River	80.41	1	P	P	10 41 57.0	-0.7	
J20K				IAmb	IAmb	10 41 59.8		
	comp=Z,14nm,0.8s							
J20K	Nowinta River	80.41	1	P	P	10 41 58.1	+0.3	
	baz=359							
BPAW	Bear Paw Mtn.	80.48	359	P	P	10 41 58.4	+0.2	
	baz=1.4							
I17K	Unalakleet	80.50	4	P	P	10 41 58.5	+0.2	
	baz=353							
J19K	Poorman	80.57	1	IAmb	IAmb	10 42 00.8		
	comp=Z,15nm,0.8s							
J19K	Poorman	80.57	1	P	P	10 41 59.2	+0.5	
	baz=358,SNR=12							
K24K	Donnelly Dome	80.63	357	P	P	10 41 59.6	+0.5	
	baz=5.7,SNR=6.5							
RIDG	Independent Ri	80.65	356	P	P	10 41 58.7	-0.5	
RIDG				IAmb	IAmb	10 42 01.2		
	comp=Z,10nm,0.8s							
RIDG	Independent Ri	80.65	356	P	P	10 42 00.2	+1.0	
	baz=6.4							
CHUM	Lake Minchumin	80.71	360	P	P	10 42 00.2	+0.8	
	baz=0.3							
P52A	Corning	80.75	312	IAmb	IAmb	10 42 04.3		
	comp=Z,11nm,1.1s							
ULM	Lac du Bonnet	80.77	327	P	P	10 41 57.0	-3.0	
	comp=Z,14nm,0.5s,baz=48,slow=5.5,SNR=40							
	comp=Z,14nm,0.5s							
ULM	Lac du Bonnet	80.77	327	*d*P	P	10 42 00.0	0.0	
L29M	L29M	80.79	353	P	P	10 42 00.1	+0.2	
	baz=12							
MCK	McKinley	80.81	358	P	P	10 42 00.1	+0.1	
MCK				IAmb	IAmb	10 42 01.5		
	comp=Z,14nm,1.0s							
MCK	McKinley	80.81	358	P	P	10 42 00.5	+0.5	
	baz=3.1,SNR=5.5							
MCK	McKinley	80.81	358	P	P	10 42 00.1	+0.1	
MCK				pmax	pmax			
	comp=Z,14nm,1.0s							
JNU	Nakatsue	81.04	56	LR	LR	11 25 29.8		
	comp=Z,36nm,18.8s,baz=132,slow=41							
J17K	VABM Dome	81.07	3	IAmb	IAmb	10 42 03.5		
	comp=Z,21nm,1.3s							
J17K	VABM Dome	81.07	3	P	P	10 42 01.5	+0.2	
	baz=355							
J18K	Innoko River	81.08	2	IAmb	IAmb	10 42 03.5		
	comp=Z,7.7nm,0.9s							
J18K	Innoko River	81.08	2	P	P	10 42 02.4	+1.0	
	baz=357							
J16K	Anvik River	81.11	4	IAmb	IAmb	10 42 03.4		
	comp=Z,23nm,1.3s							
J16K	Anvik River	81.11	4	P	P	10 42 01.7	+0.2	
	baz=354							
FARO	Faro, Yukon	81.12	351	P	P	10 42 01.5	-0.2	
FARO	Faro, Yukon	81.12	351	P	P	10 42 02.8	+1.1	
	baz=16							
TRF	Thorofare Moun	81.12	359	P	P	10 42 01.9	+0.1	
	baz=2.0							
BCAR	Beaver Creek A	81.14	355	P	P	10 42 00.6	-1.2	
RND	Reindeer	81.14	358	IAmb	IAmb	10 42 02.2		
	comp=Z,6.6nm,0.7s							
L27K	Beaver Creek,	81.15	355	P	P	10 42 02.1	+0.3	
	baz=8.9							
CAST	Castle Rocks	81.17	360	IAmb	IAmb	10 42 04.0		
	comp=Z,15nm,0.9s							
CAST	Castle Rocks	81.17	360	P	P	10 42 01.7	-0.2	
	baz=0.5,SNR=12							
M30M	Minto, Yukon	81.18	353	P	P	10 42 02.9	+0.8	
	baz=13							
K20K	Telida	81.23	1	P	P	10 42 02.6	+0.4	
	baz=359							
Q52A	Bidwell	81.25	312	IAmb	IAmb	10 42 05.0		
	comp=Z,7.6nm,0.8s							
M31M	Drury Creek, Y	81.28	351	P	P	10 42 03.0	+0.5	
	baz=15							
L26K	Log Cabin Wild	81.28	356	P	P	10 42 03.2	+0.7	
	baz=7.7							
E38A	The Farm, Brul	81.33	322	P	P	10 42 02.9	-0.2	
E38A				IAmb	IAmb	10 42 04.0		
	comp=Z,9.4nm,0.7s							
MENT	Mentasta	81.39	356	IAmb	IAmb	10 42 09.6		
	comp=Z,7.4nm,0.8s							
PAX	Paxson	81.45	357	P	P	10 42 04.2	+0.6	
	baz=5.9							
J14K	Nanvaranak Lak	81.46	5	P	P	10 42 04.4	+1.0	
	baz=351							
M29M	Somme Creek	81.48	353	P	P	10 42 02.4	-1.3	
M29M	Somme Creek	81.48	353	P	P	10 42 04.9	+1.2	
	baz=12							
G40A	Rib Lake	81.56	321	IAmb	IAmb	10 42 09.6		
	comp=Z,21nm,1.3s							
KOTAN	Kotaneelee Air	81.59	346	P	P	10 42 05.0	+0.8	
	baz=23							
TTA	Tatalina	81.63	2	P	P	10 42 04.6	+0.2	
	baz=357							
PPLA	Purkeypile	81.70	360	P	P	10 42 04.0	-0.9	
	baz=0.4,SNR=5.8							
BVCY	Beaver Creek	81.72	354	P	P	10 42 04.5	-0.3	
	baz=9.7,SNR=5.9							
K17K	Iditarod	81.78	3	P	P	10 42 04.0	-1.1	
	baz=355							
M27K	Edge Creek, AK	81.85	355	P	P	10 42 06.1	+0.5	
	baz=8.8							
M26K	Nabesna, AK	81.88	355	P	P	10 42 06.6	+0.9	
	baz=7.9							
HARP	HAARP	82.01	356	P	P	10 42 06.7	+0.4	
	baz=6.2							
K15K	Wolf Creek Mou	82.05	4	P	P	10 42 06.6	+0.1	
	baz=353							
L20K	Farewell, AK	82.11	1	P	P	10 42 08.0	+1.0	
	baz=359							
N32M	Quiet Lake	82.12	351	P	P	10 42 06.6	-0.5	
N32M				IAmb	IAmb	10 42 09.2		
	comp=Z,13nm,0.8s							
N32M	Quiet Lake	82.12	351	P	P	10 42 06.9	-0.1	
	baz=16							
N31M	Braeburn, Yuko	82.14	352	P	P	10 42 07.3	+0.3	
	baz=14							
O48B	Farmland	82.14	314	P	P	10 42 07.6	+0.2	
	baz=49							
CUT	Chulitna	82.17	359	P	P	10 42 07.6	+0.4	
	baz=2.0							
AGMN	Agassiz Nation	82.19	326	IAmb	IAmb	10 42 08.6		
	comp=Z,8.0nm,0.9s							
K13K	Kusilvak Mount	82.19	6	P	P	10 42 07.8	+0.5	
	baz=350							
N30M	Aishikik Lake	82.31	352	P	P	10 42 08.7	+0.7	
	baz=13							
YUK3	Moose Creek	82.31	354	P	P	10 42 08.2	0.0	
	baz=10.0,SNR=7.1							
L18K	Granite Mounta	82.33	2	IAmb	IAmb	10 42 10.5		
	comp=Z,17nm,1.2s							
L18K	Granite Mounta	82.33	2	P	P	10 42 08.8	+0.9	
	baz=357							
M24K	Tolsona, Glenn	82.35	357	P	P	10 42 08.4	+0.2	
	baz=5.3							
L17K	Donlin	82.36	3	P	P	10 42 08.4	+0.3	
	baz=355,SNR=7.3							
L19K	White Mountain	82.40	1	IAmb	IAmb	10 42 14.2		
	comp=Z,10.0nm,0.9s							
L19K	White Mountain	82.40	1	P	P	10 42 09.5	+1.0	
	baz=358							
L44A	Lake County Fo	82.43	317	P	P	10 42 09.1	+0.2	
	baz=48							
WTLY	Watson Lake, Y	82.47	348	P	P	10 42 09.6	+0.7	
	baz=19							
YUK4	Talbot Arm	82.58	353	P	P	10 42 09.6	0.0	
	baz=12							
SKT	Skwentna	82.61	359	P	P	10 42 08.6	-0.9	
SKT	Skwentna	82.61	359	P	P	10 42 09.3	-0.2	
	baz=0.9,SNR=8.1							
L15K	Ungalak Mounta	82.66	4	P	P	10 42 10.2	+0.5	
	baz=353							
SCM	Sheep Creek Mo	82.67	357	P	P	10 42 10.2	+0.3	
	baz=4.4							
M19K	Big River Lodg	82.69	1	P	P	10 42 09.5	-0.4	
	baz=359							
M20K	Styx River	82.72	0	IAmb	IAmb	10 42 11.6		
	comp=Z,8.0nm,0.8s							
M20K	Styx River	82.72	0	P	P	10 42 11.0	+0.8	
	baz=360							
M23K	Glacier View	82.72	358	P	P	10 42 10.1	0.0	
	baz=4.0,SNR=7.5							
SML	Sawmill	82.73	358	P	P	10 42 09.5	-0.7	
	baz=3.6							
L16K	Owhat River	82.73	3	P	P	10 42 10.3	+0.2	
	baz=354							
YUK8	Steele Glacier	82.74	354	P	P	10 42 10.1	-0.4	
	baz=10							
N25K	Chitina, Valde	82.77	356	P	P	10 42 10.7	+0.3	
	baz=6.6							
M22K	Willow	82.82	359	P	P	10 42 10.5	0.0	
M22K	Willow	82.82	359	P	P	10 42 11.1	+0.6	
	baz=2.1							
WHY	Whitehorse	82.83	351	P	P	10 42 11.0	+0.2	
	baz=14							
O30N	Mendenhall	82.87	352	P	P	10 42 11.0	+0.1	
	baz=14							
L14K	Kuka Creek	82.92	5	P	P	10 42 11.1	+0.1	
	baz=352							
YUK6	Outpost Mounta	82.94	353	P	P	10 42 11.2	-0.3	
	baz=12							
KLU	Klutina	82.95	357	P	P	10 42 11.7	+0.3	
	baz=5.5							
PMR	Palmer	82.96	358	IAmb	IAmb	10 42 13.3		
	comp=Z,8.8nm,0.8s							
PMR	Palmer	82.96	358	P	P	10 42 12.2	+0.9	
	baz=2.9,SNR=5.2							
HYT	Haines Junctio	82.97	353	P	P	10 42 12.0	+0.5	
	baz=12							
P33M	Teslin, Yukon	82.99	350	P	P	10 42 11.9	+0.3	
	baz=16							
TOAD	Toad River Com	83.01	346	P	P	10 42 12.6	+1.0	
	baz=22,SNR=9.4							
M18K	Stony River	83.08	1	P	P	10 42 12.0	+0.1	
	baz=357							
STLK	Strandline Lak	83.10	360	P	P	10 42 12.0	-0.2	
STLK				IAmb	IAmb	10 42 12.8		
	comp=Z,8.6nm,0.8s							
M17K	Holitna River	83.12	2	P	P	10 42 12.7	+0.5	
	baz=356							
SUA	Susitna One	83.12	359	P	P	10 42 12.5	+0.2	
	baz=1.6,SNR=8.7							
KNK	Knik Glacier	83.12	358	P	P	10 42 13.1	+0.9	
	baz=3.5,SNR=5.1							
O28M	Mount Upton	83.28	354	P	P	10 42 13.5	+0.2	
	baz=10							
SPCR	Spurr Chakacha	83.40	360	P	P	10 42 13.9	+0.2	
	baz=0.4							
BMRM	Bremner River	83.41	356	P	P	10 42 12.9	-0.8	
	baz=6.6							
R49A	Shelbyville	83.43	313	IAmb	IAmb	10 42 16.1		
	comp=Z,8.9nm,0.9s							
M16K	Timber Creek	83.44	3	P	P	10 42 14.1	+0.3	
	baz=355							
RC01	Rabbit Creek A	83.48	359	P	P	10 42 13.7	-0.3	
RC01	Rabbit Creek A	83.48	359	P	P	10 42 13.9	-0.1	
	baz=2.4,SNR=7.8							
R33M	Jennings River	83.51	349	P	P	10 42 14.4	0.0	
R33M	Jennings River	83.51	349	P	P	10 42 14.6	+0.2	
	baz=18							
M14K	Bethel	83.55	5	P	P	10 42 14.7	+0.4	
	baz=352							
M11K	Mekoryuk	83.58	7	P	P	10 42 14.8	+0.3	
	baz=349							
O29M	Mount Kennedy	83.59	353	P	P	10 42 15.3	+0.6	
	baz=12							
P30M	Million Dollar	83.60	352	P	P	10 42 15.2	+0.4	
	baz=13							
GLI	Glacier Island	83.61	357	P	P	10 42 14.6	-0.1	
	baz=4.6							
PWL	Port Wells	83.68	358	P	P	10 42 14.9	-0.1	
	baz=3.5							
M15K	Kasigluk River	83.69	4	P	P	10 42 15.3	+0.3	
	baz=354							
P32M	Atlin	83.72	350	P	P	10 42 15.8	+0.5	
	baz=15							
N19K	Bonanza Creek	83.78	1	P	P	10 42 15.3	-0.3	
N19K	Bonanza Creek	83.78	1	P	P	10 42 15.7	0.0	
	baz=358							
M13K	Dall Lake	83.79	5	P	P	10 42 15.6	+0.1	
	baz=351							
CAPN	Captain Cook N	83.83	359	P	P	10 42 15.2	-0.5	
	baz=1.2							
EYAK	Cordova Ski Ar	83.88	357	P	P	10 42 15.3	-0.7	
	baz=5.7							
N18K	Kilae Creek	83.89	2	P	P	10 42 15.7	-0.4	
	baz=357							
PINM	Pinnacle	83.96	354	P	P	10 42 16.5	0.0	
	baz=10							
N16K	Nishlik Lake	84.00	3	P	P	10 42 17.7	+1.0	
	baz=355							
N17K	Nushagak Hills	84.01	2	P	P	10 42 17.0	+0.3	
	baz=356							
MESA	MESA	84.01	355	P	P	10 42 16.0	-1.0	
	baz=8.7							
SKAG	Skagway	84.05	351	P	P	10 42 17.5	+0.6	
	baz=14							
O22K	Cooper Landing	84.09	359	P	P	10 42 17.5	+0.4	
	baz=2.4							
Q32M	Nakina River	84.12	350	P	P	10 42 17.7	+0.2	
	baz=16							
BGLC	Bering Glacier	84.17	355	P	P	10 42 17.5	0.0	
	baz=7.7							
PLBC	Pleasant Camp	84.18	352	P	P	10 42 18.4	+0.8	
	baz=13							
N15K	Kwethluk River	84.24	4	P	P	10 42 18.3	+0.4	
	baz=354							
DLBC	Dease Lake	84.27	348	P	P	10 42 18.7	+0.5	
	baz=18							
TKL	Tuckaleechee C	84.28	310	P	P	10 42 19.0	+0.4	
TKL				IAmb	IAmb	10 42 21.2		
	comp=Z,11nm,1.1s							
TKL	Tuckaleechee C	84.28	310	P	P	10 42 19.0	+0.4	
TKL				pmax	pmax			
	comp=Z,11nm,1.1s							
N14K	Kuskokwak Cree	84.39	5	P	P	10 42 18.7	+0.1	
	baz=353							
O19K	Port Alsworth	84.40	1	P	P	10 42 18.9	+0.2	
	baz=359							
KAIM	Kayak Island	84.43	356	P	P	10 42 18.8	-0.1	
	baz=6.7							
SEW	Seward	84.46	358	P	P	10 42 19.4	+0.4	
	baz=2.6							
P23K	Montague Islan	84.51	357	P	P	10 42 19.4	+0.2	
	baz=4.3							
O20K	Slope Mountain	84.52	360	P	P	10 42 19.5	+0.1	
	baz=0.1							
O18K	Koktuh Hills	84.73	1	P	P	10 42 20.9	+0.5	
	baz=358							
O17K	Koliganek Bris	84.76	2	P	P	10 42 20.9	+0.4	
	baz=356							
BRSE	Bradley Lake S	84.85	359	P	P	10 42 21.1	+0.1	
	baz=1.6							
CPCT	Cooper Cave	84.88	310	P	P	10 42 20.9	-0.7	
O16K	Kokwok River B	84.91	3	P	P	10 42 20.7	-0.5	
	baz=356							
S34M	Telegraph Cree	84.95	349	P	P	10 42 21.5	0.0	
	baz=17							
P19K	Oil Pt	84.95	0	P	P	10 42 21.2	-0.4	
	baz=360							
Q23K	Middleton Isla	85.03	357	P	P	10 42 21.6	-0.2	
	baz=5.2							
N41A	Harden Midland	85.05	318	IAmb	IAmb	10 42 29.2		
	comp=Z,9.4nm,1.0s							
O14K	Tigyukauivet M	85.09	4	P	P	10 42 22.2	+0.1	
	baz=353							
R32K	Eaglecrest	85.10	350	P	P	10 42 22.6	+0.3	
	baz=15							
P18K	Big Mountain,	85.19	1	P	P	10 42 23.0	+0.2	
	baz=358							
O15K	Ungalikthiuk R	85.25	4	P	P	10 42 23.2	+0.3	
	baz=354							
P17K	Kvichak River	85.36	2	P	P	10 42 24.0	+0.5	
	baz=357							
T47A	Sharon Grove	85.44	313	P	P	10 42 23.4	-1.0	
T47A				IAmb	IAmb	10 42 26.0		
	comp=Z,9.3nm,0.9s							
P16K	Nushagak River	85.47	3	P	P	10 42 24.4	+0.3	
	baz=356							
S31K	Pelican	85.63	351	P	P	10 42 24.7	-0.1	
	baz=13							
Q19K	Cape Douglas,	85.68	0	P	P	10 42 25.3	+0.1	
	baz=359							
T35M	Bob Quinn	85.69	348	P	P	10 42 25.8	+0.5	
	baz=18							
Q16K	King Salmon	85.88	2	P	P	10 42 26.2	+0.2	
	baz=357							
ECSD	EROS Data Cent	85.88	323	P	P	10 42 25.0	-1.5	
S32K	Killisnoo	85.89	350	P	P	10 42 26.6	+0.4	
	baz=15							
Q20K	Shuyak Island	86.00	360	P	P	10 42 27.6	+0.8	
	baz=0.2							
V48A	Smith Brothers	86.10	312	IAmb	IAmb	10 42 29.1		
	comp=Z,9.3nm,0.9s							
SIUC	Southern Illin	86.19	315	IAmb	IAmb	10 42 29.9		
	comp=Z,12nm,0.9s							
S44A	Carbondale	86.22	315	IAmb	IAmb	10 42 29.9		
	comp=Z,13nm,1.0s							
SPIA	Saint Paul Isl	86.26	9	P	P	10 42 28.5	+0.5	
	baz=346							
N38A	Joes South For	86.28	319	P	P	10 42 28.1	-0.3	
Q17K	Contact Creek	86.31	2	P	P	10 42 28.1	-0.4	
	baz=357							
SIT	Sitka	86.39	351	P	P	10 42 29.0	+0.3	
	baz=14							
WRAK	Wrangell Islan	86.57	349	P	P	10 42 29.3	-0.3	
	baz=16							
U35K	Hyder	86.67	347	P	P	10 42 29.9	-0.1	
	baz=18							
FVM	French Village	86.70	316	P	P	10 42 30.3	-0.3	
FVM				IAmb	IAmb	10 42 32.5		
	comp=Z,8.7nm,0.8s							
FVM	French Village	86.70	316	P	P	10 42 30.3	-0.3	
FVM				pmax	pmax	

```
      baz=360
V35K  Ketchikan      87.50 348  P     P     10 42 33.4 -0.7
      baz=17
R40A  Maddies Statio 87.52 317  P     P     10 42 33.5 -1.1
BDFB  Brasilia       87.52 249  P     P     10 42 34.0 -1.0
      comp=Z,5.2nm,0.6s,baz=70,slow=3.8,SNR=8.8
      comp=Z,5.2nm,0.6s
BDFB  Brasilia       87.52 249  P     P     10 42 34.0 -1.0
PBMO  Poplar Bluff   87.53 315  IAmb  IAmb  10 42 35.9
      comp=Z,6.3nm,0.8s
CRAG  Craig          87.61 349  P     P     10 42 35.0 +0.4
      baz=16
LRAL  Lakeview Retre 88.02 310  P     P     10 42 36.2 -0.8
LRAL                            IAmb  IAmb  10 42 38.5
      comp=Z,6.1nm,0.8s
SII   Sitkinak Islan 88.05   1  P     P     10 42 37.5 +0.8
      baz=359
K30B  Basset         88.13 324  P     P     10 42 36.1 -1.4
CHGN  Chignik        88.19   3  P     P     10 42 37.9 +0.6
      baz=355
EGMT  Eagleton       88.20 333  P     P     10 42 36.4 -1.3
MGMO  Mountain Grove 88.32 316  P     P     10 42 37.3 -1.2
MGMO                            IAmb  IAmb  10 42 44.4
      comp=Z,9.6nm,1.1s
S12K  Black Hills    88.57   5  P     P     10 42 38.8 -0.4
      baz=352
CHIR  Chirikof Islan 88.76   2  P     P     10 42 40.6 +0.5
      baz=358
RSSD  Black Hills    89.04 327  P     P     10 42 41.0 -1.0
RSSD                            IAmb  IAmb  10 42 43.8
      comp=Z,9.6nm,0.9s
RSSD  Black Hills    89.04 327  P     P     10 42 41.0 -1.0
RSSD                            pmax  pmax
      comp=Z,10.0nm,0.9s
FALS  False Pass     89.30   6  P     P     10 42 42.4 -0.2
      baz=351
CHNA  Chernabura Isl 89.60   4  P     P     10 42 43.8 -0.2
      baz=354
UNV   Unalaska Valle 89.98   8  P     P     10 42 45.1 -0.7
      baz=349
GCMT  Greycliff      90.02 331  P     P     10 42 44.9 -1.5
U38A  Gravette       90.02 317  P     P     10 42 45.3 -1.2
U38A                            IAmb  IAmb  10 42 47.7
      comp=Z,6.4nm,0.8s
NEW   Newport        90.53 337  P     P     10 42 47.3 -1.3
NEW                             IAmb  IAmb  10 42 50.9
      comp=Z,5.0nm,0.7s
NEW   Newport        90.53 337  P     P     10 42 47.3 -1.3
NEW                             pmax  pmax
      comp=Z,5.0nm,0.7s
YNE   Yellowstone No 90.81 331  P     P     10 42 48.9 -1.4
YNE                             IAmb  IAmb  10 42 52.8
      comp=Z,9.1nm,1.0s
LRM   Limekiln Ridge 91.05 333  P     P     10 42 49.8 -1.5
YHL   Hebgen Lake    91.39 332  P     P     10 42 52.1 -0.9
YMR   Madison River  91.46 332  IAmb  IAmb  10 42 55.9
      comp=Z,11nm,1.2s
YHB   Horse Butte    91.48 332  P     P     10 42 52.2 -1.1
YHB                             IAmb  IAmb  10 42 55.4
      comp=Z,8.2nm,1.0s
DLMT  Dillon         91.49 333  P     P     10 42 52.0 -1.3
QLMT  Earthquake Lak 91.50 332  P     P     10 42 52.4 -1.1
FLWY  Flagg Ranch    91.85 331  IAmb  IAmb  10 43 00.7
      comp=Z,8.2nm,1.0s
MOOW  Moose Ponds    92.15 331  IAmb  IAmb  10 43 08.9
      comp=Z,2.6nm,0.6s
LOHW  Long Hollow    92.21 331  P     P     10 42 56.1 -0.6
FXWY  Fox Creek      92.35 331  P     P     10 42 56.4 -1.0
E09A  Wood Farm, Sta 92.40 337  IAmb  IAmb  10 43 07.5
      comp=Z,4.7nm,1.0s
TPAW  Teton Pass     92.45 331  IAmb  IAmb  10 42 59.8
      comp=Z,4.8nm,0.8s
N23A  Red Feather La 92.47 326  P     P     10 42 57.6 -0.4
      baz=36
PD31  Pinedale Array 92.49 330  P     P     10 42 57.6 -0.5
PDAR  Pinedale Array 92.49 330  P     P     10 42 55.5 -2.6
      comp=Z,1.8nm,0.8s,baz=36,slow=4.6,SNR=16
      comp=Z,1.8nm,0.8s
F10A  Beach Ranch, E 92.58 336  IAmb  IAmb  10 43 01.1
      comp=Z,9.9nm,1.4s
E07A  Sunnyside      92.90 338  IAmb  IAmb  10 43 01.6
      comp=Z,6.9nm,1.1s
HAWA  Hanford        92.95 338  P     P     10 42 58.5 -1.3
AHID  Auburn Hatcher 93.12 331  IAmb  IAmb  10 43 02.5
      comp=Z,4.7nm,0.8s
BMO   Blue Mountains 93.60 336  IAmb  IAmb  10 43 03.4
      comp=Z,4.7nm,0.8s
Q24A  Divide         93.65 325  P     P     10 43 03.9 +0.3
      baz=37
HWUT  Hardware Ranch 94.28 330  P     P     10 43 05.0 -1.2
HWUT                            IAmb  IAmb  10 43 07.3
      comp=Z,7.2nm,0.8s
MFID  Camas Ranch    94.35 334  P     P     10 43 05.2 -1.3
HVU   Hansel Valley  94.61 331  IAmb  IAmb  10 43 09.3
      comp=Z,5.7nm,1.1s
TCUT  Toone Canyon   94.63 330  IAmb  IAmb  10 43 14.0
      comp=Z,5.1nm,1.0s
T25A  Trinidad       94.74 323  P     P     10 43 08.7 +0.2
      baz=37
JLU   Jordanelle     95.08 330  IAmb  IAmb  10 43 11.2
      comp=Z,3.8nm,0.7s
S22A  4UR Ranch, Cre 95.41 325  P     P     10 43 10.6 -1.1
      baz=36
PV10  Paradox Valley 95.90 327  P     P     10 43 12.6 -1.2
SRU   San Rafael Swe 95.94 328  P     P     10 43 12.8 -1.1
SRU                             IAmb  IAmb  10 43 18.1
      comp=Z,3.7nm,0.6s
SRU   San Rafael Swe 95.94 328  P     P     10 43 12.8 -1.1
SRU                             pmax  pmax
      comp=Z,4.0nm,0.6s
DUG   Dugway, Tooele 95.97 330  IAmb  IAmb  10 43 15.2
      comp=Z,3.1nm,0.8s
ANMO  Albuquerque    97.49 323  LR    LR    11 27 13.7
      comp=Z,58nm,18.2s,baz=172,slow=35
R11B  Troy Canyon, C 98.66 331  P     P     10 43 25.2 -1.0
      baz=30
833A  Chaparral WMA, 98.85 314  P     Pdif  10 43 27.1 +0.1
      baz=41
NVAR  Mina Array Bea 99.62 333  P     Pdif  10 43 28.9 -1.6
      comp=Z,1.6nm,0.7s,baz=37,slow=3.9,SNR=15
      comp=Z,1.6nm,0.7s
121A  Cookes Peak, D 100.09 323 P     Pdif  10 43 32.6  0.0
      baz=36
TXAR  Lajitas Array  100.49 318 P     Pdif  10 43 34.2 -0.2
      comp=Z,0.5nm,0.8s,baz=48,slow=4.3,SNR=2.2
WRA   Warramunga Arr 114.95  97 PKP   PKPdf 10 48 27.2 -0.7
      comp=Z,0.8nm,0.8s,baz=297,slow=2.1,SNR=3.2
ASAR  Alice Springs  116.46 101 PKP   PKPdf 10 48 29.6 -1.1
      comp=Z,0.8nm,0.8s,baz=318,slow=2.1,SNR=6.3
QSPA  South Pole Qui 125.59 180 PKP   PKPdf 10 48 45.9 -1.1
      comp=Z,0.5nm,0.2s,baz=206,slow=2.1,SNR=4.8
```

*BER **01** 10:29:49.5±2.1, 82°.24N×6°.20W, h10km, mb(Pn)3.7, ML2.0(DNK), Confirmed Earthquake*
*DNK **01** 10:29:50.2±2.0, 82°.22N×5°.76W, h29km±22km, ML2.0*
ISC 01 10:29:47.4±2.4, 82°.1N±0°.3×5°.86W±0°.08, h10km, n11, σ1§92/17, North of Svalbard

```
Code  Station Name     Δ°   AZ°   Phase ID      Time      Res
                                  Op    ISC     h m s     ISC
NOR   Nord           1.62 258     i P   Pn    10 30 16.0 +0.1
NOR                               i S   Sn    10 30 36.1 -0.6
NOR                               IAML        10 30 38.0
      comp=Z,20nm,0.9s
NOR   Nord           1.62 258     i P   Pn    10 30 16.0 +0.1
NOR                               i S   Sn    10 30 36.1 -0.6
NOR                               IAML        10 30 38.0
      comp=Z,20nm,0.9s
KBS   Kingsbay       4.30 128     eP    Pn    10 30 54.8 +2.0
KBS                               eS    Sn    10 31 40.6 -2.3
KBS                               IAML        10 31 42.0
      comp=Z,3.2nm,0.8s
KBS   Kingsbay       4.30 128     i P   Pn    10 30 54.1 +1.4
KBS                               i S   Sn    10 31 41.0 -1.9
BRBB  Barentsburg B  5.25 129     eP    Pn    10 31 08.8 +3.0
BRBB                              eS    Sn    10 32 03.9 -2.4
BRBA  Barentsburg A  5.28 129     eP    Pn    10 31 09.7 +3.5
SPA0  Spitsbergen Ar 5.42 124     eP    Pn    10 31 10.1 +2.0
SPA0                              eS    Sn    10 32 09.0 -1.5
SPA0                              IAML        10 32 18.9
      comp=Z,3.4nm,0.8s
DBG   Daneborg       8.30 208     i P   Pn    10 31 48.5 +0.9
DBG                               i S   Sn    10 33 15.0 -6.2
DBG                               IAML        10 33 27.5
      comp=Z,5.2nm,1.2s
DBG   Daneborg       8.30 208     i P   Pn    10 31 48.5 +0.9
DBG                               i S   Sn    10 33 15.0 -6.2
DBG                               IAML        10 33 27.5
      comp=Z,5.2nm,1.2s
NEEM  North Greenlan 8.99 264     i P   Pn    10 31 56.5 -0.7
NEEM                              i S   Sn    10 33 29.8 -8.6
NEEM                              IAML        10 33 49.0
      comp=Z,3.0nm,0.9s
NEEM  North Greenlan 8.99 264     i P   Pn    10 31 56.5 -0.7
NEEM                              i S   Sn    10 33 29.8 -8.6
NEEM                              IAML        10 33 49.0
      comp=Z,3.0nm,0.9s
```

*IDC **01** 10:32:48.1±0.8, 35°.84N×27°.17E, h0km, mb4.1/23, mbtmp4.0/26, ML3.7/2, MS3.7/1, Error ellipse: s-maj=19.2km s-min=12.8km az=161.0*
*MOS **01** 10:32:50.5±0.9, 36°.02N×27°.17E, h14km, mb4.3/10, Error ellipse: s-maj=8.7km s-min=5.8km az=61.6*
*ISK **01** 10:32:50.7, 35°.90N×27°.22E, h5km, ML3.9/18*
*NEIC **01** 10:32:51.2±1.1, 35°.95N±0°.07×27°.16E±0°.05, h10km±1km, mb4.5/69, Error ellipse: s-maj=12.4km s-min=5.6km az=159.0*
*ATH **01** 10:32:51.4, 35°.89N×27°.26E, h39km±10km, ML3.9/6, Error ellipse: s-maj=10.7km s-min=1.5km az=89.0*
*AFAD **01** 10:32:52.9, 35°.95N×27°.30E, h20km±2km, MW3.9*
*THE **01** 10:32:54.4, 35°.86N×27°.33E, h26km±6km, ML3.8/8, Error ellipse: s-maj=6.2km s-min=0.8km az=184.0*
ISC 01 10:32:49.7±1.1, 35°.80N±0°.03×27°.21E±0°.02, h8km±7km, n217, σ1§05/250, mb4.4/62, 8C-3D, Dodecanese Islands

```
Code  Station Name     Δ°   AZ°   Phase ID      Time      Res
                                  Op    ISC     h m s     ISC
NISR  Nisiros        0.81 355     P     Pn    10 33 08.1 +0.6
NISR                              S     Sn    10 33 19.6 -0.1
      5μm,0.3s
NISR  Nisiros        0.81 355     P     Pg    10 33 05.9 +0.6
NISR                              S     Sg    10 33 15.9  0.0
NISR                              AML   AML   10 33 23.8
      comp=N,6848μm,0.3s
NISR                              AML   AML   10 33 24.3
      comp=E,14967μm,0.2s
ARG   Arkhangelos    0.85  61     P     Pb    10 33 07.0 +0.2
ARG                               Sg    Sg    10 33 18.0 +0.9
ARG   Arkhangelos    0.85  61     Pg    Pb    10 33 07.2 +0.4
ARG                               Sg    Sb    10 33 19.3 +1.0
ARG   Arkhangelos    0.85  61     P     Pb    10 33 06.8  0.0
ARG                               S     Sb    10 33 18.4 +0.1
      comp=E,26μm,0.5s
ARG   Arkhangelos    0.85  61     P     Pb    10 33 06.8  0.0
ARG                               S     Sb    10 33 18.4 +0.1
ARG   Arkhangelos    0.85  61     P     Pg    10 33 06.2 +0.2
ARG                               S     Sg    10 33 17.1  0.0
ARG                               AML   AML   10 33 20.5
      comp=N,45247μm,0.4s
ARG                               AML   AML   10 33 21.2
      comp=E,57689μm,0.6s
YAZI  Mula-Dat§a-    0.90  13     P     Pb    10 33 08.0 +0.4
YAZI                              S     Sb    10 33 20.8 +1.0
DATC  Datca-Mugla    1.02  21     Pg    Pg    10 33 09.6 +0.3
DATC                              Sg    Sg    10 33 23.7 +1.1
ZKR   Zakros         1.06 230     Pn    Pn    10 33 13.7 +2.8
ZKR   Zakros         1.06 230     P     Pn    10 33 13.8 +2.8
ZKR                               S     Sn    10 33 29.3 +3.3
      comp=E,4μm,0.5s
ZKR   Zakros         1.06 230     P     Pn    10 33 13.3 +2.3
ZKR                               S     Sn    10 33 27.1 +1.1
ZKR                               AML   AML   10 33 32.6
      comp=E,12963μm,0.3s
ZKR                               AML   AML   10 33 39.0
      comp=N,5906μm,0.5s
KLNA  Kalymnos       1.17 351     P     Pb    10 33 12.1 -0.1
MRSB  Marmaris-Mugla 1.21  41     Pn    Pg    10 33 13.5 +0.5
BODT  Bodrum         1.26   4     Pn    Pg    10 33 14.4 +0.5
BDRM  Kayabasi       1.27   8     P     Pn    10 33 13.6 -0.3
BDRM                              S     Sb    10 33 29.6 -1.0
TURN  Turunc         1.28  40     Pn    Pn    10 33 14.3 +0.3
TURN  Turunc         1.28  40     P     Pn    10 33 13.8 -0.1
TURN                              S     Sb    10 33 29.9 -0.9
YKAV  Yalikavak-Bodr 1.32   2     Pn    Pn    10 33 14.7 +0.2
THR8  Santorini-Mono 1.53 294     P     Pg    10 33 19.4 +0.4
THR8  Santorini-Mono 1.53 294     P     Pg    10 33 19.1 +0.1
DALY  Dalyan (Mula)  1.54  49     Pn    Pg    10 33 19.6 +0.3
MLSB  Milas          1.56  17     Pn    Pb    10 33 19.7 +0.8
THR6  Thira Island,  1.57 291     P     Pg    10 33 20.4 +0.6
THR6  Thira Island,  1.57 291     P     Pg    10 33 19.9 +0.1
THR2  Thira island,  1.57 295     P     Pg    10 33 20.4 +0.5
THR2  Thira island,  1.57 295     P     Pg    10 33 19.9  0.0
THR3  Thira Island,  1.58 293     P     Pg    10 33 20.5 +0.3
THR3  Thira Island,  1.58 293     P     Pg    10 33 20.4 +0.3
YER   Yerkesik       1.58  33     Pn    Pb    10 33 19.7 +0.3
THR9  Santorini-Faro 1.60 291     P     Pg    10 33 21.1 +0.7
THR9  Santorini-Faro 1.60 291     P     Pg    10 33 20.3 -0.1
CMBO  Columbo, Santo 1.61 295     P     Pg    10 33 20.7 +0.2
CMBO  Columbo, Santo 1.61 295     P     Pg    10 33 20.5 -0.1
THR5  Thira Island,  1.63 293     P     Pb    10 33 20.3 +0.2
SAP3  Santorini-Thir 1.64 293     P     Pb    10 33 20.2  0.0
MULA  Mugla, Merkez- 1.70  31     P     Pn    10 33 20.5 +0.7
MULA                              S     Sn    10 33 40.5 -1.5
FETY  Fethiye        1.73  61     Pn    Pg    10 33 22.5 -0.4
FETY  Fethiye        1.73  61     P     Pg    10 33 22.6 -0.2
SABU  Mula-Dalaman   1.75  54     P     Pb    10 33 22.4 +0.3
SABU                              S     Sb    10 33 45.0 +0.8
IACM  Heraklion      1.81 255     P     Pg    10 33 24.3 -0.2
IACM                              S     Sg    10 33 47.0 -1.0
      comp=N,7μm,0.4s
IACM  Heraklion      1.81 255     P     Pg    10 33 23.8 -0.7
IACM                              AML   AML   10 34 00.9
      comp=E,16587μm,0.4s
IACM                              AML   AML   10 34 08.3
      comp=N,12174μm,0.5s
APE   Apeiranthos    1.85 313     Pn    Pb    10 33 23.4 -0.5
APE   Apeiranthos    1.85 313     P     Pb    10 33 23.4 -0.5
APE                               S     Sn    10 33 45.6  0.0
      comp=N,835nm,0.2s
APE   Apeiranthos    1.85 313     P     Pb    10 33 23.4 -0.5
APE                               S     Sn    10 33 45.6  0.0
APE   Apeiranthos    1.85 313     P     Pb    10 33 23.4 -0.5
GCAM  G?zelcaml?     1.89   1     Pn    Pb    10 33 24.4 -0.2
SMG   Samos          1.93 351     P     Pn    10 33 23.5 +0.6
SMG   Samos          1.93 351     P     Pn    10 33 23.4 +0.5
SMG                               AML   AML   10 33 59.0
      comp=N,1162μm,0.6s
SMG                               AML   AML   10 33 59.6
      comp=E,1375μm,0.4s
IDI   Anoyia         1.96 255     Pn    Pb    10 33 26.1 +0.3
IDI   Anoyia         1.96 255     Pn    Pg    10 33 26.7 -0.6
IDI   Anoyia         1.96 255     P     Pb    10 33 25.9 +0.1
IDI                               S     Sb    10 33 49.9 -0.5
      comp=E,1μm,0.3s
IDI   Anoyia         1.96 255     Pn    Pb    10 33 24.4 -1.4
      comp=E,18nm,0.3s,baz=71,slow=7.5,SNR=2.7
IDI                               Sn    Sb    10 33 49.5 -1.0
      comp=E,204nm,0.3s,baz=278,slow=15,SNR=12
IDI   Anoyia         1.96 255     P     Pb    10 33 25.9 +0.1
IDI                               AML   AML   10 33 54.0
      comp=N,2291μm,0.3s
IDI                               AML   AML   10 33 54.8
      comp=E,2719μm,0.3s
CAME  Cameli-Denizli 2.04  55     Pn    Pb    10 33 26.6 -0.5
DNZT  Denizli-Tavas- 2.08  44     P     Pb    10 33 27.7  0.0
DNZT                              P     Pg    10 33 27.9 -1.6
CAEL  Denizli, Camel 2.15  52     P     Pb    10 33 29.9 +0.9
TAVA  DENIZLI_Tavas  2.15  39     P     Pb    10 33 28.6 -0.5
TAVA                              S     Sb    10 33 55.8 -0.2
KNIK  Mula-Seydike   2.17  61     P     Pb    10 33 28.6 -0.8
ESEN  Aydn-Nazilli   2.19  24     P     Pn    10 33 27.2 +0.7
AYDB  Zeytinkoy-Aydi 2.21  14     Pn    Pn    10 33 28.4 +1.5
NAZL  Nazilli-Aydin  2.33  22     Pn    Pn    10 33 30.5 +2.1
DNIZ  Denizli-Tavas- 2.34  38     P     Pn    10 33 29.9 +1.2
APMY  Acipayam-Deniz 2.37  45     Pn    Pb    10 33 31.5 -1.2
ELL   Elmali         2.38  66     Pn    Pb    10 33 31.2 -1.7
ELL   Elmali         2.38  66     P     Pb    10 33 31.2 -1.7
ODEM  Odemis-Izmir   2.56  15     Pn    Pn    10 33 33.5 +1.8
KIRA  zmir-Kiraz     2.57  21     P     Pn    10 33 32.6 +0.8
IMMV  Iera Moni Meta 2.65 264     Pn    Pb    10 33 36.1 -1.4
IMMV  Iera Moni Meta 2.65 264     P     Pb    10 33 36.1 -1.4
IMMV                              S     Sn    10 34 06.8 +1.6
      comp=E,822nm,0.5s
GVD   Gavdhos        2.73 250     Pn    Pb    10 33 38.2 -0.6
MANT  Manisa         2.89  21     Pn    Pn    10 33 37.2 +0.9
MANT                              Sn    Sn    10 34 09.3 -2.2
KARY  Karystos       3.14 316     P     Pn    10 33 42.2 +2.6
ISP   Isparta        3.33  52     Pn    Pn    10 33 44.5 +2.1
ISP   Isparta        3.33  52     P     Pn    10 33 44.5 +2.1
VLI   Veliai         3.57 286     P     Pn    10 33 48.8 +3.3
VLI                               S     Sn    10 34 29.7 +1.8
      comp=E,408nm,0.5s
ITM   Ithomi         4.47 289     Pn    Pb    10 34 03.7 -4.9
CSS   Mathiatis      5.07  98     Pn    Pn    10 34 06.8 +0.7
RDO   Rodhopi        5.49 347     Pn    Pn    10 34 14.0 +2.1
LIT   Litokhoron     5.68 320     Pn    Pn    10 34 13.6 -1.0
LIT   Litokhoron     5.68 320     P     Pn    10 34 13.6 -1.0
ANTO  Ankara         6.00  46     Pn    Pn    10 34 17.4 -1.5
ANTO  Ankara         6.00  46     P     Pn    10 34 17.4 -1.5
BRTR  Keskin Array B 6.42  51     Pn    Pn    10 34 25.8 +1.0
BRTR  Keskin Array B 6.42  51     Pn    Pn    10 34 26.8 +2.0
      comp=E,0.4nm,0.3s,baz=242,slow=13,SNR=1.2
BRTR                              Sn    Sn    10 35 40.1 +1.8
      comp=E,0.3nm,0.3s,baz=239,slow=23,SNR=1.6
      comp=E,1.2nm,0.5s
BR131 Keskin Array S 6.42  51     Pn    Pn    10 34 26.3 +1.5
BR131 Keskin Array S 6.42  51     P     Pn    10 34 26.3 +1.5
FNA   Florina        6.76 319     Pn    Pn    10 34 28.2 -1.2
FNA   Florina        6.76 319     P     Pn    10 34 28.2 -1.2
ILGA  Ilgaz          7.32  42     Pn    Pn    10 34 37.0 -0.1
MMAI  Mount Meron Ar 7.32 110     Pn    Pn    10 34 36.7 -0.4
      comp=E,2.2nm,0.4s,baz=307,slow=13,SNR=1.0
MMAI                              Sn    Sn    10 35 55.7 -4.7
      comp=E,4.6nm,0.3s,baz=290,slow=29,SNR=4.3
TIRR  Tirgusor       8.69   6     Pn    Pn    10 34 54.4 -1.4
TIRR  Tirgusor       8.69   6     P     Pn    10 34 54.4 -1.4
TIP   Timpagrande    8.96 295     Pn    Pn    10 34 58.2 -1.4
CEL   Celeste        9.38 289     Pn    Pn    10 35 04.2 -1.1
VSLR  Vesyoloye      12.49 48⇑     eP    Pn    10 35 48.7 +1.0
VSLR                              pmax  pmax
      comp=Z,44nm,1.4s
SHA1  Shidzhatmaz    14.27 52⇑     eP    Pn    10 36 13.8 +1.6
KBZ   Khabaz         14.41 52⇑     eP    Pn    10 36 14.5 +0.5
GNI   Garni          14.49 67⇓     eP    Pn    10 36 15.3  0.0
GNI                               pmax  pmax
      comp=Z,9.0nm,0.8s
AKASG Malin Array Be 14.96   5     Pn    Pn    10 36 20.1 -1.4
      baz=196,slow=11
GERES GERESS Array B 16.39 327     Pn    Pn    10 36 39.5 -0.6
      comp=Z,0.2nm,0.3s,baz=127,slow=12,SNR=1.5
      comp=Z,0.3nm,0.4s
KHC   Kasperske Hory 16.65 327⇑     eP    P     10 36 47.3 +1.4
KHC                               pmax  pmax
      comp=Z,7.0nm,1.1s
FUORN Ofenpass-Fuorn 16.68 316     Pn    Pn    10 36 43.5 -0.6
SENIN Lac Senin/Sane 18.30 311     P     Pn    10 37 04.0 -0.1
PABE  Paberze        19.83 355     P     P     10 37 19.9 -0.8
PABE                              IAmb  IAmb  10 37 26.6
      comp=Z,22nm,0.8s
OBN   Obninsk        20.36  16     P     P     10 37 26.2 -0.3
      comp=Z,13nm,0.3s,baz=56,slow=21,SNR=1.6
      comp=Z,13nm,0.3s
OBN   Obninsk        20.36  16     eP    P     10 37 26.5  0.0
OBN                               i             10 37 29.7
OBN                               pmax  pmax
      comp=Z,13nm,0.8s
BELG  Belogornoye    22.01  35⇑     eP    P     10 37 48.6 +4.3
BELG                              pmax  pmax
      comp=Z,4.0nm,1.4s
ESDC  Sonseca Array  24.89 288     P     P     10 38 12.3 -0.8
      comp=Z,1.0nm,0.5s,baz=90,slow=8.7,SNR=2.8
      comp=Z,1.0nm,0.5s
FINES FINESS Array B 25.67 359     P     P     10 38 19.1 -0.7
      comp=Z,1.5nm,0.5s,baz=163,slow=10,SNR=6.0
FINES                             PcP   PcP   10 41 49.9 -0.1
      comp=Z,1.1nm,0.5s,baz=151,slow=3.2,SNR=7.0
      comp=Z,1.5nm,0.5s
FIA1  FINESS Array S 25.67 359     P     P     10 38 19.6 -0.2
HFS   Hagfors        25.87 344     P     P     10 38 21.0 -0.7
      comp=Z,1.9nm,0.5s,baz=151,slow=11,SNR=8.2
      comp=Z,1.9nm,0.5s
AKTO  Aktyubinsk     26.59  47     P     P     10 38 28.4 +0.1
      comp=Z,2.7nm,0.7s,baz=266,slow=9.9,SNR=3.0
      comp=Z,2.7nm,0.7s
NB201 NORSAR Array S 27.23 343     P     P     10 38 33.9 -0.1
NOA   NORSAR Array B 27.24 343     P     P     10 38 33.4 -0.7
      comp=Z,0.5nm,0.6s,baz=141,slow=7.1,SNR=1.9
      comp=Z,0.5nm,0.6s
ABKAR Akbulak array  27.38  50     P     P     10 38 36.1 +0.7
EKA   Eskdalemuir Ar 28.51 323     P     P     10 38 44.6 -0.8
      comp=Z,0.1nm,0.3s,baz=121,slow=9.5,SNR=1.3
      comp=Z,0.1nm,0.3s
ARTI  Arti           29.44  36     d iP  P     10 38 55.5 +1.7
ARTI                                            10 39 44.0
ARTI                              S     S     10 43 50.1 +2.2
ARTI                              SS    SnSn  10 45 13.7 -0.8
ARTI                              pmax  pmax
      comp=Z,27nm,3.6s
TORD  Torodi Ar. Bea 32.19 232     P     P     10 39 18.4 +0.1
      comp=Z,1.2nm,0.3s,baz=46,slow=6.3,SNR=14
      comp=Z,1.2nm,0.3s
CHGR  Chuyangaron    33.31  72     P     P     10 39 29.4 +1.2
CHGR  Chuyangaron    33.31  72     P     P     10 39 29.4 +1.2
CHGR                              pmax  pmax
      comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 33.80 359     P     P     10 39 31.2 -0.7
      comp=Z,2.1nm,0.6s,baz=174,slow=7.7,SNR=8.3
ARCES                             PcP   PcP   10 42 10.1 -0.7
      comp=Z,5.6nm,1.0s,baz=192,slow=3.4,SNR=9.6
ARCES                             LR    LR    10 52 30.1
      comp=Z,115nm,18.5s,baz=178,slow=35
      comp=Z,2.1nm,0.6s
BRVK  Borovoye       34.64  46⇓     eP    P     10 39 40.2 +0.9
BRVK                              pmax  pmax
      comp=Z,3.0nm,1.1s
BVAR  Borovoye Array 34.69  47     P     P     10 39 39.1 -0.7
      comp=Z,0.8nm,0.5s,baz=238,slow=8.3,SNR=2.6
      comp=Z,0.8nm,0.5s
AAK   Ala-Archa      36.87  65⇑     eP    P     10 39 59.4 +0.5
AAK                               pmax  pmax
      comp=Z,3.0nm,1.2s
KURBB Kurchatov Arra 39.41  52     P     P     10 40 20.5 +0.5
      comp=Z,1.6nm,0.5s,baz=272,slow=8.6,SNR=6.5
KURBB                             PcP   PcP   10 42 26.4 -1.6
      comp=Z,0.6nm,0.6s,baz=277,slow=3.9,SNR=4.5
      comp=Z,1.6nm,0.5s
KURK  Kurchatov      39.47  51     P     P     10 40 21.0 +0.6
KURK  Kurchatov      39.47  51⇑     eP    P     10 40 21.7 +1.2
KURK                              pmax  pmax
      comp=Z,3.0nm,1.0s
MK31  Makanchi Array 42.02  57     P     P     10 40 42.2 +0.6
MK31  Makanchi Array 42.02  57     P     P     10 40 42.2 +0.6
MK31                              pmax  pmax
      comp=Z,2.0nm,0.6s
MKAR  Makanchi Array 42.02  57     P     P     10 40 42.3 +0.6
MKAR  Makanchi Array 42.02  57     P     P     10 40 41.9 +0.3
      comp=Z,1.3nm,0.5s,baz=264,slow=8.1,SNR=5.9
MKAR                              PcP   PcP   10 42 35.0 -1.6
      comp=Z,0.5nm,0.8s,baz=275,slow=3.6,SNR=2.1
      comp=Z,1.3nm,0.5s
MKAR  Makanchi Array 42.02  57     i P   P     10 40 42.2 +0.6
MKAR                              pmax  pmax
      comp=Z,2.0nm,0.6s
SPB3  Spitsbergen Ar 42.73 357     P     P     10 40 46.9 -0.1
SPITS Spitsbergen Ar 42.73 357     P     P     10 40 46.4 -0.6
      comp=Z,1.5nm,0.4s,baz=165,slow=6.5,SNR=9.1
SPITS                             PcP   PcP   10 42 35.9 -2.4
      comp=Z,16nm,1.1s,baz=123,slow=5.3,SNR=1.5
      comp=Z,1.5nm,0.4s
SPITS Spitsbergen Ar 42.73 357     P     P     10 40 46.9 -0.1
SPA1  Spitsbergen Ar 42.73 357     P     P     10 40 46.9 -0.1
ZAA0  Zalesovo Array 43.35  47     P     P     10 40 51.6 -0.6
ZALV  Zalesovo Beam  43.35  47     P     P     10 40 52.2 -0.1
ZALV  Zalesovo Beam  43.35  47     P     P     10 40 51.1 -1.2
      comp=Z,1.0nm,0.4s,baz=269,slow=7.7,SNR=3.8
      comp=Z,1.0nm,0.4s
ZALV  Zalesovo Beam  43.35  47     P     P     10 40 52.2 -0.1
SONM  Songino Array  57.78  51     P     P     10 42 42.0 +0.5
      comp=Z,0.7nm,0.5s,baz=290,slow=7.7,SNR=2.7
      comp=Z,0.7nm,0.5s
SONM  Songino Array  57.78  51     P     P     10 42 42.0 +0.5
TIXI  Tiksi          59.97  21⇑     eP    P     10 42 58.7 +2.5
TIXI                              pmax  pmax
      comp=Z,1.0nm,1.0s
DRLN  Deer Lake      60.72 312     P     P     10 43 01.9 +0.3
SCHQ  Schefferville  63.78 320     P     P     10 43 21.9 -0.2
SCHQ  Schefferville  63.78 320     P     P     10 43 21.4 -0.6
      comp=Z,2.3nm,0.6s,baz=139,slow=2.9,SNR=3.5
      comp=Z,2.3nm,0.6s
A36M  Sachs Harbour  70.78 351     P     P     10 44 06.2 +0.1
A36M                              IAmb  IAmb  10 44 36.1
```

comp=Z,4.0nm,1.1s
C36M Paulatuk 73.05 350 P P 10 44 19.4 -0.4
C36M IAmb IAmb 10 44 21.8
comp=Z,6.6nm,1.4s
C27K Jago River 74.67 357 P P 10 44 29.6 +0.3
D27M Malcolm River 74.90 356 P P 10 44 30.9 +0.1
D25K Kavik River 75.08 358 P P 10 44 31.8 0.0
USRK Ussuriysk Ar. 75.20 46 P P 10 44 32.6 -0.2
comp=Z,2.0nm,0.9s,baz=307,slow=4.3,SNR=2.8
comp=Z,2.0nm,0.9s
D23K Nanushuk River 75.53 359 P P 10 44 35.0 +0.7
D23K IAmb IAmb 10 45 14.6
comp=Z,4.9nm,1.2s
D22K Ayikyak River 75.63 360 P P 10 44 35.6 +0.7
D22K IAmb IAmb 10 44 39.2
comp=Z,8.4nm,1.4s
C18K Utukok River 75.67 3 P P 10 44 35.5 +0.3
C18K IAmb IAmb 10 44 36.0
comp=Z,3.9nm,0.8s
C16K Lisburne Hills 75.81 5 P P 10 44 35.7 -0.2
TOLK Toolik Lake Re 75.84 359 P P 10 44 37.3 +1.2
TOLK IAmb IAmb 10 45 02.8
comp=Z,5.5nm,1.2s
D19K Kuna River 75.94 2 P P 10 44 37.0 +0.3
D19K IAmb IAmb 10 44 50.2
comp=Z,8.0nm,1.5s
E21K Killik River 76.07 0 P P 10 44 37.6 +0.2
E21K IAmb IAmb 10 44 37.8
comp=Z,3.3nm,0.6s
E25K Arctic Village 76.25 357 P P 10 44 39.1 +0.6
E25K IAmb IAmb 10 44 48.8
comp=Z,6.1nm,1.5s
E22K Anaktuvuk Pass 76.38 360 P P 10 44 39.9 +0.7
E22K IAmb IAmb 10 44 40.0
comp=Z,2.6nm,0.6s
E24K Your Creek 76.39 358 P P 10 44 39.6 +0.3
E24K IAmb IAmb 10 44 45.5
comp=Z,5.5nm,1.5s
E23K Chandalar 76.43 359 P P 10 44 40.3 +0.8
E23K IAmb IAmb 10 44 56.0
comp=Z,4.8nm,1.2s
KSRS Korea Array 76.56 54 P P 10 44 40.0 -0.7
comp=Z,1.8nm,0.7s,baz=308,slow=4.9,SNR=4.2
comp=Z,1.8nm,0.7s
KSRS Korea Array 76.56 54 P P 10 44 40.0 -0.7
G31M Satah River 76.62 353 P P 10 44 39.8 -0.7
G31M IAmb IAmb 10 44 40.1
comp=Z,8.0nm,1.5s
G30M tAoh Zraii Nji 76.76 353 P P 10 44 41.1 -0.3
G30M IAmb IAmb 10 44 41.6
comp=Z,5.9nm,1.5s
F25K Christian Rive 76.78 357 P P 10 44 42.3 +0.7
BMAR Burnt Mountain 76.90 357 P P 10 44 42.8 +0.6
E18K Tukpahlearik C 76.92 3 P P 10 44 42.7 +0.5
E18K IAmb IAmb 10 44 42.8
comp=Z,3.0nm,0.7s
G29M Pine Creek 76.98 354 P P 10 44 42.4 -0.2
G29M IAmb IAmb 10 44 43.0
comp=Z,4.9nm,1.1s
YKA Yellowknife Ar 77.34 343 P P 10 44 42.8 -1.8
comp=Z,0.4nm,0.8s,baz=34,slow=5.2,SNR=4.7
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 77.34 343 *i* P **P 10 44 46.0 +1.4**
G27K Doyon Strip 77.35 356 P P 10 44 45.0 +0.3
F19K Shaleruckik Mo 77.61 2 P P 10 44 45.7 -0.4
F19K IAmb IAmb 10 44 53.8
comp=Z,5.2nm,1.3s
H29M Whitestone 77.69 354 P P 10 44 46.4 -0.2
H29M IAmb IAmb 10 45 05.6
comp=Z,5.0nm,1.4s
G23K Bananza Creek 77.79 359 P P 10 44 47.8 +0.6
G23K IAmb IAmb 10 45 26.3
comp=Z,5.6nm,1.4s
F17K Baldwin Pennin 77.87 3 P P 10 44 47.6 +0.1
G21K Allakaket 78.00 0 P P 10 44 48.6 +0.3
G21K IAmb IAmb 10 44 49.5
comp=Z,2.4nm,0.8s
TNA Tin City 78.28 6 P P 10 44 49.5 -0.3
TNA IAmb IAmb 10 44 52.9
comp=Z,7.6nm,1.4s
I30M Mount Dempster 78.49 353 P P 10 44 50.8 -0.4
I30M IAmb IAmb 10 44 51.3
comp=Z,2.4nm,0.6s
I28M Miner Creek 78.58 355 P P 10 44 51.3 -0.3
I28M IAmb IAmb 10 45 29.8
comp=Z,5.9nm,1.5s
G16K Koyuk River 78.86 4 P P 10 44 53.0 0.0
G16K IAmb IAmb 10 44 53.6
comp=Z,2.6nm,0.8s
H19K Roundabout Mou 78.96 2 P P 10 44 54.1 +0.6
H19K IAmb IAmb 10 44 54.5
comp=Z,5.9nm,0.8s
J30M Hart River 79.12 353 P P 10 44 54.9 +0.3
J30M IAmb IAmb 10 44 55.2
comp=Z,3.2nm,0.5s
H18K Honhosa River 79.28 2 P P 10 44 55.6 +0.3
IL03 Eielson Array 79.65 357 P P 10 44 57.1 -0.3
ILAR Eielson Array 79.65 357 P P 10 44 57.3 -0.1
ILAR Eielson Array 79.65 357 P P 10 44 56.5 -0.8
comp=Z,0.6nm,0.9s,baz=8.1,slow=5.0,SNR=6.4
comp=Z,0.6nm,0.9s
ILAR Eielson Array 79.65 357 P P 10 44 57.3 -0.1
J26L Joseph Creek 79.76 356 P P 10 44 57.8 -0.3
DAWY Dawson 79.90 354 P P 10 44 58.9 +0.1
K29M Barlow Dome 79.95 353 P P 10 44 59.2 0.0
K29M IAmb IAmb 10 45 04.4
comp=Z,4.9nm,1.3s
EPLO Experimental L 80.14 326 P P 10 45 00.2 -0.2
EPLO IAmb IAmb 10 45 30.7
comp=Z,6.6nm,1.3s
J20K Nowinta River 80.35 1 P P 10 45 02.3 +1.2
ULM Lac du Bonnet 80.70 327 P P 10 45 02.8 -0.5
ULM Lac du Bonnet 80.70 327 P P 10 45 01.8 -1.5
comp=Z,3.5nm,0.5s,baz=55,slow=4.7,SNR=8.5
comp=Z,3.5nm,0.5s
ULM Lac du Bonnet 80.70 327 P P 10 45 02.8 -0.5
ULM pmax pmax
comp=Z,2.0nm,1.0s
J17K VABM Dome 81.01 3 P P 10 45 04.8 +0.1
J16K Anvik River 81.05 4 P P 10 45 05.1 +0.1
J16K IAmb IAmb 10 45 13.5
comp=Z,9.4nm,1.4s
M29M Somme Creek 81.41 353 P P 10 45 07.6 +0.6
M29M IAmb IAmb 10 45 07.6
comp=Z,7.5nm,1.1s
PPLA Purkeypile 81.64 360 P P 10 45 08.3 +0.1
K17K Iditarod 81.72 3 P P 10 45 08.6 +0.1
L18K Granite Mounta 82.27 2 P P 10 45 12.0 +0.6
L18K IAmb IAmb 10 45 16.0
comp=Z,3.8nm,1.0s
M19K Big River Lodg 82.63 1 P P 10 45 13.5 +0.2
M20K Styx River 82.66 0 P P 10 45 13.5 -0.1
M20K IAmb IAmb 10 45 17.5
comp=Z,5.7nm,1.1s
M17K Holitna River 83.07 2 P P 10 45 15.6 0.0
R33M Jennings River 83.44 349 P P 10 45 18.7 +1.0
N18K Kilae Creek 83.83 2 P P 10 45 20.2 +0.7
N17K Nushagak Hills 83.95 2 P P 10 45 19.9 -0.2
ECSD EROS Data Cent 85.80 323 P P 10 45 30.4 +0.6
ECSD IAmb IAmb 10 45 31.0
comp=Z,4.8nm,1.2s
CCM Cathedral Cave 87.03 316 P P 10 45 36.4 +0.5
CCM IAmb IAmb 10 45 50.0
comp=Z,2.5nm,0.9s
CCM Cathedral Cave 87.03 316 P P 10 45 36.4 +0.5
CCM pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 92.41 330 P P 10 46 00.3 -1.1
comp=Z,0.4nm,0.8s,baz=40,slow=4.4,SNR=2.6
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 99.54 333 P Pdif 10 46 32.5 -1.4
comp=Z,0.2nm,0.5s,baz=353,slow=5.1,SNR=2.5
comp=Z,0.2nm,0.5s
ASAR Alice Springs 116.52 101 PKP PKPdf 10 51 33.6 -1.0
comp=Z,0.4nm,0.9s,baz=330,slow=2.2,SNR=1.8

MOS ***01*** *11:01:23.3±1.2,54°.89N×111°.59E,h13km,mb3.7/1,Error ellipse: s-maj=12.2km s-min=7.3km az=73.9*
BYKL ***01*** *11:01:23.2±0.1,54°.87N×111°.72E,h6km±2km*
IDC ***01*** *11:01:23.5±1.5,54°.89N×111°.56E,h0km,mb3.2/4, mbtmp3.4/7,ML3.3/3,Error ellipse: s-maj=34.6km s-min=22.3km az=153.0*
ISC 01 11:01:23.2±1.1,54°.90N±0°.02×111°.61E±0°.02,h1km±9km,

n59,σ2s57/129,8C-1D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.26**	**266**	⇑*i*Pg	**Pg**	**11 01 29.1**	**+1.0**
YLYR				*e*Sg	**Sg**	**11 01 33.4**	**+1.9**
YLYR				*e*		11 01 35.5	
YLYR				Pmax			
	3μm,0.3s						
YLYR				max			
	6μm,0.5s						
YLYR	**Ulyunkhan**	**0.26**	**266**	⇑*i*PG	**Pg**	**11 01 29.1**	**+1.0**
YLYR				*e*		11 01 32.5	
YLYR				pmax	pmax		
	comp=Z,3μm,0.3s						
YLYR				smax	smax		
	comp=N,7μm,0.4s						
KMO	**Kumora**	**1.02**	**347**	⇑*i*Pg	**Pg**	**11 01 42.0**	**-0.8**
KMO				*e*Sg	**Sg**	**11 01 55.6**	**-0.4**
KMO				*e*		11 02 02.7	
KMO				Pmax			
	comp=N,344nm,0.3s						
KMO				max			
	comp=N,1μm,0.6s						
KMO	**Kumora**	**1.02**	**347**	⇑*i*PG	**Pg**	**11 01 41.9**	**-0.8**
KMO				*e*		11 01 55.2	
KMO				pmax	pmax		
	comp=Z,346nm,0.3s						
KMO				smax	smax		
	comp=E,1μm,0.7s						
YOAB	**Uoyan, Buryati**	**1.25**	**3**	*e*Pg	**Pn**	**11 01 46.7**	**-1.1**
YOAB				*e*Pb	**Pg**	**11 01 48.6**	**+1.5**
YOAB				*e*Sg	**Sb**	**11 02 03.6**	**-0.5**
YOAB				*e*Sb	**Sn**	**11 02 06.9**	**+1.7**
YOAB				max			
	comp=E,567nm,0.4s						
YOAB				max			
	comp=E,2μm,0.6s						
YOAB	**Uoyan, Buryati**	**1.25**	**3**	*e*PG	**Pn**	**11 01 47.2**	**-0.6**
YOAB				*e*		11 02 03.6	
YOAB				pmax	pmax		
	comp=Z,579nm,0.5s						
YOAB				smax	smax		
	comp=N,2μm,0.6s						
UKT	**Uakit**	**1.30**	**62**	⇑*i*Pg	**Pn**	**11 01 45.5**	**-3.1**
UKT				*e*		11 01 50.5	
UKT				*e*Sg	**Sb**	**11 02 02.3**	**-3.4**
UKT				*e*		11 02 06.3	
UKT				max			
	comp=N,359nm,0.5s						
UKT				max			
	comp=N,3μm,0.5s						
UKT	**Uakit**	**1.30**	**62**	⇑*i*PG	**Pn**	**11 01 45.5**	**-3.1**
UKT				*e*		11 02 02.3	
UKT				pmax	pmax		
	comp=Z,35nm,0.1s						
UKT				smax	smax		
	comp=N,2μm,0.2s						
NIZB	**Nizh Angarsk**	**1.47**	**307**	*e*Pg	**Pb**	**11 01 51.0**	**-0.2**
NIZB				*e*		11 01 52.7	
NIZB				*e*Sg	**Sg**	**11 02 11.7**	**+1.4**
NIZB				Pmax			
	comp=N,151nm,0.7s						
NIZB				Smax			
	comp=N,1μm,0.6s						
NIZB	**Nizh Angarsk**	**1.47**	**307**	*e*PG	**Pb**	**11 01 51.1**	**-0.2**
NIZB				*e*		11 02 11.1	
NIZB				pmax	pmax		
	comp=Z,141nm,0.7s						
NIZB				smax	smax		
	comp=E,1μm,0.6s						
SYVR	**Suvo**	**1.56**	**218**	*e*Pg	**Pn**	**11 01 51.9**	**-0.1**
SYVR				*e*		11 01 54.0	
SYVR				*e*Sg	**Sg**	**11 02 13.2**	**0.0**
SYVR				*e*		11 02 15.7	
SYVR				max			
	comp=E,320nm,0.7s						
SYVR				max			
	comp=E,1μm,0.4s						
SYVR	**Suvo**	**1.56**	**218**	*e*PN	**Pn**	**11 01 51.8**	**-0.2**
SYVR				*e*		11 02 13.3	
SYVR				pmax	pmax		
	comp=Z,323nm,0.7s						
SYVR				smax	smax		
	comp=E,1μm,0.4s						
SVKR	**Severomuysk**	**1.65**	**41**	*e*Pg	**Pn**	**11 01 53.4**	**0.0**
SVKR				*e*		11 01 56.2	
SVKR				*e*Sg	**Sb**	**11 02 15.3**	**-0.5**
SVKR				*e*		11 02 18.2	
SVKR				Pmax			
	comp=E,496nm,0.4s						
SVKR				max			
	comp=E,2μm,0.4s						
SVKR	**Severomuysk**	**1.65**	**41**	*e*PN	**Pn**	**11 01 53.6**	**+0.2**
SVKR				*e*		11 02 15.8	
SVKR				pmax	pmax		
	comp=Z,441nm,0.3s						
SVKR				smax	smax		
	comp=E,2μm,0.3s						
MXMB	**Maximikha**	**2.35**	**227**	*e*Pg	**Pb**	**11 02 06.4**	**+0.1**
MXMB				*e*Sn	**Sn**	**11 02 32.8**	**+0.5**
MXMB				*e*Sg	**Sb**	**11 02 37.1**	**+1.4**
OGRR	**Ongureny**	**2.67**	**244**	⇑*i*Pn	**Pn**	**11 02 07.9**	**+0.7**
OGRR				*e*Pg	**Pb**	**11 02 11.0**	**-0.7**
OGRR				*e*		11 02 12.4	
OGRR				*e*Sn	**Sn**	**11 02 40.6**	**+0.5**
OGRR				*e*Sg	**Sg**	**11 02 47.0**	**-1.8**
OGRR				max			
	comp=E,58nm,0.6s						
OGRR				Smax			
	comp=E,327nm,0.5s						
OGRR	**Ongureny**	**2.67**	**244**	⇑*i*PN	**Pn**	**11 02 07.9**	**+0.7**
OGRR				*e*		11 02 12.4	
OGRR				*e*		11 02 46.7	
OGRR				pmax	pmax		
	comp=Z,58nm,0.6s						
OGRR				smax	smax		
	comp=E,376nm,0.9s						
GORB	**Goryachinsk**	**2.74**	**227**	*e*Pn	**Pn**	**11 02 08.4**	**+0.1**
GORB				*e*Pg	**Pb**	**11 02 12.9**	**-0.1**
GORB				*e*PgPg	**Pg**	**11 02 17.3**	**+1.6**
GORB				*e*Sn	**Sn**	**11 02 42.6**	**+0.6**
GORB				*e*Sg	**Sb**	**11 02 48.8**	**+1.8**
NLYR	**Nelyaty**	**2.82**	**54**	⇓*i*Pn	**Pn**	**11 02 08.8**	**-0.5**
NLYR				*e*Pg	**Pb**	**11 02 11.9**	**-2.4**
NLYR				*e*Sg	**Sb**	**11 02 49.1**	**-0.1**
NLYR				*e*SgSg	**Sg**	**11 02 59.7**	**+6.1**
NLYR				Pmax			
	comp=E,148nm,0.8s						
NLYR				Smax			
	comp=E,868nm,1.0s						
KELR	**Kotokel**	**2.99**	**226**	*e*Pn	**Pn**	**11 02 12.1**	**+0.4**
KELR				*e*Pg	**Pb**	**11 02 17.9**	**+0.7**
KELR				*e*Sn	**Sn**	**11 02 47.5**	**-0.6**
KELR				*e*Sg	**Sg**	**11 02 57.2**	**-2.0**
CIT	**Chita**	**3.11**	**157**	*e*Sn	**Sn**	**11 02 47.6**	**-3.5**
CIT				*e*Sg	**Sb**	**11 02 57.8**	**+0.2**
CIT				Smax			
	comp=E,1μm,0.2s						
CIT	**Chita**	**3.11**	**157**	*e*PN	**Pn**	**11 02 15.5**	**+2.2**
CIT				*e*		11 02 18.4	
CIT				*e*S	**Sn**	**11 02 49.7**	**-1.4**
CIT				*e*		11 02 58.1	
CIT				pmax	pmax		
	comp=Z,143nm,0.4s						
CIT				smax	smax		
	comp=E,1μm,0.3s						
BOD	**Bodaibo**	**3.22**	**23**	*e*Pn	**Pn**	**11 02 14.3**	**-0.5**
BOD				*e*Pg	**Pb**	**11 02 20.5**	**-0.6**
BOD				*e*Sn	**Sn**	**11 02 52.4**	**-1.3**
BOD				*e*Sg	**Sb**	**11 03 01.7**	**+0.9**
BOD				Pmax			
	comp=E,69nm,1.4s						
BOD				Smax			
	comp=E,266nm,1.2s						
BOD	**Bodaibo**	**3.22**	**23**	*e*PN	**Pn**	**11 02 14.1**	**-0.7**
BOD				*e*		11 02 21.4	
BOD				*e*S	**Sn**	**11 02 52.3**	**-1.4**
BOD				*e*		11 03 01.4	
BOD				pmax	pmax		
	comp=Z,48nm,0.2s						
BOD				smax	smax		
	comp=N,198nm,0.4s						
ZRHB	**Zarechye**	**3.54**	**230**	*e*Sg	**Sg**	**11 03 13.8**	**-2.9**
ZRHB				Smax			
	comp=N,812nm,0.9s						
TRG	**Tyrgan**	**3.78**	**238**	*e*Pg	**Pb**	**11 02 31.3**	**+0.6**
TRG				*e*Sn	**Sn**	**11 03 06.5**	**-1.1**
TRG				*e*Sg	**Sb**	**11 03 20.5**	**+3.6**
TRG				Pmax			
	comp=N,22nm,0.3s						
TRG				Smax			
	comp=N,157nm,0.9s						
TRG	**Tyrgan**	**3.78**	**238**	*e*PN	**Pn**	**11 02 21.9**	**-0.7**
TRG				*e*		11 02 31.2	
TRG				*e*S	**Sn**	**11 03 05.6**	**-2.0**
TRG				*e*		11 03 20.4	
TRG				pmax	pmax		
	comp=Z,28nm,0.6s						
TRG				smax	smax		
	comp=E,151nm,0.4s						
UUDB	**Ulan-Yde**	**3.84**	**219**	*e*Pn	**Pn**	**11 02 23.7**	**+0.3**
UUDB				*e*Pg	**Pb**	**11 02 33.2**	**+1.4**
UUDB				*e*Sn	**Sn**	**11 03 08.5**	**-0.7**
UUDB				*e*Sg	**Sg**	**11 03 23.7**	**-2.9**
UUDB				Pmax			
	comp=E,33nm,1.0s						
UUDB				Smax			
	comp=E,296nm,1.1s						
FFNB	**Fofonovo**	**4.06**	**227**	*e*Pn	**Pn**	**11 02 27.2**	**+0.8**
FFNB				*e*Pg	**Pb**	**11 02 37.3**	**+1.8**
FFNB				*e*Sn	**Sn**	**11 03 14.0**	**-0.6**
FFNB				*e*Sg	**Sg**	**11 03 30.5**	**-3.1**
KAB	**Kabansk**	**4.11**	**228**	*e*Sg	**Sg**	**11 03 31.8**	**-3.3**
KAB				Smax			
	comp=E,620nm,0.9s						
STDB	**Stepnoy Dvoret**	**4.15**	**231**	*e*Pg	**Pb**	**11 02 37.8**	**+0.8**
STDB				*e*Sg	**Sg**	**11 03 33.1**	**-3.4**
CRS	**Chara**	**4.25**	**59**	*e*Pn	**Pn**	**11 02 28.7**	**-0.4**
CRS				*e*Pg	**Pb**	**11 02 38.7**	**-0.1**
CRS				*e*Sn	**Sn**	**11 03 16.2**	**-3.1**
CRS				*e*Sg	**Sb**	**11 03 33.0**	**+2.4**
CRS				Pmax			
	comp=E,122nm,0.8s						
CRS				Smax			
	comp=E,331nm,1.4s						
CRS	**Chara**	**4.25**	**59**	*e*PN	**Pn**	**11 02 30.7**	**+1.6**
CRS				*e*		11 02 41.2	
CRS				*e*		11 03 34.8	
CRS				pmax	pmax		
	comp=Z,120nm,0.9s						
CRS				smax	smax		
	comp=N,294nm,1.1s						
VTMR	**Vitim**	**4.58**	**6**	*e*Pg	**Pb**	**11 02 45.8**	**+1.5**
VTMR				*e*Sn	**Sn**	**11 03 26.3**	**-1.1**
VTMR				*e*Sg	**Sg**	**11 03 45.6**	**-4.8**
VTMR				*e*		11 03 59.7	
BGT	**Bolshoye Golou**	**4.68**	**235**	*e*Pg	**Pb**	**11 02 47.3**	**+1.4**
BGT				*e*Sn	**Sn**	**11 03 29.8**	**+0.1**
BGT				*e*Sg	**Sg**	**11 03 49.6**	**-3.7**
BGT				*e*		11 04 04.5	
BGT				Pmax			
	comp=N,93nm,1.0s						
BGT				max			
	comp=N,151nm,0.7s						
TUP	**Tupik**	**4.87**	**92**	max		11 02 36.4	
TUP				*e*Sn	**Sn**	**11 03 28.8**	**-5.7**
TUP				*e*Sg	**Sb**	**11 03 51.2**	**+2.9**
TUP				*e*		11 04 04.1	
TUP				Smax			
	comp=N,435nm,0.6s						
LSTR	**Listvyanka**	**5.06**	**236**	*e*Pg	**Pb**	**11 02 55.0**	**+2.5**
LSTR				*e*Sn	**Sn**	**11 03 38.5**	**-0.7**
LSTR				*e*Sg	**Sg**	**11 04 00.6**	**-5.1**
LSTR				Pmax			
	comp=N,140nm,0.8s						
LSTR				Smax			
	comp=N,84nm,1.0s						
KHNR	**Khani**	**5.13**	**63**	*e*	**Pn**	**11 02 43.4**	**+2.3**
KHNR				*e*Pg	**Pb**	**11 02 55.1**	**+1.5**
KHNR				*e*Sn	**Sn**	**11 03 37.0**	**-3.9**
KHNR				*e*Sg	**Sb**	**11 04 00.5**	**+4.8**
KHNR				*e*		11 04 11.9	
KPC	**Khapcheranga**	**5.22**	**174**	*e*Pn	**Pn**	**11 02 41.0**	**-1.4**
KPC				*e*Pg	**Pb**	**11 02 56.4**	**+1.1**
KPC				*e*Sn	**Sn**	**11 03 40.7**	**-2.5**
KPC				*e*Sg	**Sb**	**11 04 03.6**	**+5.2**
KPC				Pmax			
	comp=N,16nm,0.7s						
KPC				Smax			
	comp=N,204nm,0.9s						
KPC	**Khapcheranga**	**5.22**	**174**	*e*PN	**Pn**	**11 02 41.5**	**-0.9**
KPC				*e*		11 02 57.6	
KPC				*e*		11 04 05.2	
KPC				pmax	pmax		
	comp=Z,14nm,0.9s						
KPC				smax	smax		
	comp=E,122nm,0.9s						
IVK	**Ivanovka**	**5.31**	**237**	*e*Pg	**Pb**	**11 02 59.0**	**+2.3**
IVK				*e*Sg	**Sg**	**11 04 08.2**	**-5.3**
IVK				Pmax			
	comp=E,27nm,0.8s						
IVK				Smax			
	comp=E,184nm,1.4s						
TLY	**Talaya**	**5.76**	**239**	*e*Pn	**Pn**	**11 02 49.3**	**-0.4**
TLY				*e*Pg	**Pb**	**11 03 07.3**	**+2.9**
TLY				*e*Sn	**Sn**	**11 03 53.9**	**-2.5**
TLY				*e*Sg	**Sg**	**11 04 21.2**	**-6.8**
TLY				Pmax			
	comp=E,11nm,0.6s						
TLY				Smax			
	comp=E,62nm,1.0s						
YKLR	**Yuktali**	**5.92**	**69**	*e*Pn	**Pn**	**11 02 50.9**	**-1.1**
YKLR				*e*Pg	**Pb**	**11 03 08.8**	**+1.6**
YKLR				*e*Sn	**Sn**	**11 03 54.3**	**-6.1**
YKLR				*e*Sg	**Sb**	**11 04 24.9**	**+6.4**
ZAK	**Zakamensk**	**6.79**	**232**	*e*Pn	**Pn**	**11 03 04.0**	**+0.1**
ZAK				*e*Pg	**Pb**	**11 03 25.8**	**+3.9**
ZAK				*e*Sg	**Sg**	**11 04 54.4**	**-6.7**
ZAK				*e*		11 05 06.9	
ZAK				Pmax			
	comp=E,6.0nm,0.7s						
ZAK				max			
	comp=E,50nm,1.2s						
ZAK	**Zakamensk**	**6.79**	**232**	*e*PG	**Pg**	**11 03 31.9**	**-1.3**
ZAK				*e*		11 04 55.7	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAK				smax	smax		
	comp=N,51nm,1.2s						
MOY	**Mondy**	**7.14**	**247**	*e*Pn	**Pn**	**11 03 10.5**	**+1.7**
MOY				*e*Pg	**Pb**	**11 03 32.3**	**+4.4**
MOY				*e*Sn	**Sn**	**11 04 26.8**	**-3.6**
MOY				*e*Sg	**Sg**	**11 05 04.4**	**-7.8**
MOY				Pmax			
	comp=N,21nm,1.6s						
MOY				Smax			
	comp=N,123nm,1.3s						
MOY	**Mondy**	**7.14**	**247**	*e*PN	**Pn**	**11 03 10.4**	**+1.7**
MOY				*e*		11 03 34.5	
MOY				*e*		11 05 05.8	
MOY				pmax	pmax		
	comp=Z,13nm,0.7s						
MOY				smax	smax		
	comp=E,125nm,1.2s						
ORL	**Orlik**	**7.39**	**256**	*e*Pn	**Pn**	**11 03 13.6**	**+1.4**
ORL				*e*Pg	Pb	11 03 38.3	+6.2
ORL				*e*Sn	**Sn**	**11 04 34.2**	**-2.4**
ORL				*e*		11 05 08.9	
ORL				*e*Sg	**Sg**	**11 05 13.4**	**-6.9**
ORL				Pmax			
	comp=E,19nm,1.7s						
ORL				Smax			
	comp=E,116nm,1.3s						
ORL	**Orlik**	**7.39**	**256**	*e*PN	**Pn**	**11 03 13.9**	**+1.7**
ORL				*e*		11 03 35.4	
ORL				*e*S	**Sn**	**11 04 35.0**	**-1.6**
CLNS	**Chul'man**	**7.72**	**70**	*e*Pn	**Pn**	**11 03 16.9**	**+0.2**
CLNS				*e*		11 04 57.0	
CLNS				*e*Sg	Sb	11 05 20.2	+10
SONM	**Songino Array**	**7.78**	**207**	Pn	**Pn**	**11 03 18.1**	**+0.4**
	comp=E,1.1nm,0.3s,baz=20,slow=13,SNR=22						
SONM				Sn	**Sn**	**11 04 48.2**	**+1.8**
	comp=E,1.1nm,0.3s,baz=29,slow=44,SNR=4.9						
SONM				Lg	Lg	11 05 26.0	
	comp=E,2.0nm,0.3s,baz=25,slow=24,SNR=10						
	comp=E,1.3nm,0.3s						
YAK	**Yakutsk**	**11.83**	**46**	Lg	Lg	11 07 22.9	
	comp=E,1.0nm,0.3s,baz=217,slow=20,SNR=6.1						

KLR	**Kul'dur**	**13.61 106**	Pn	**Pn**	**11 04 38.2**	**+1.1**	
	comp=E,0.2nm,0.3s,baz=306,slow=15,SNR=4.5						
KLR			Lg	Lg	11 08 26.9		
	comp=E,0.4nm,0.3s,baz=30,slow=22,SNR=8.0						
	comp=E,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**15.59 278**	Pn	**Pn**	**11 05 03.9**	**0.0**	
	comp=E,0.2nm,0.3s,baz=82,slow=11,SNR=8.7						
ZALV			Lg	Lg	11 09 27.7		
	comp=E,0.1nm,0.3s,baz=93,slow=25,SNR=1.4						
	comp=E,1.8nm,0.7s						
MKAR	**Makanchi Array**	**20.09 258**	P	**P**	**11 05 58.1**	**+0.1**	
	comp=E,0.2nm,0.4s,baz=56,slow=9.0,SNR=4.3						
	comp=E,0.2nm,0.4s						
KURK	**Kurchatov**	**20.26 272**	P	Pn	11 06 00.7	-0.9	
KURBB	**Kurchatov Arra**	**20.35 272**	P	**P**	**11 06 00.7**	**0.0**	
	comp=E,0.8nm,0.9s,baz=64,slow=11,SNR=5.2						
	comp=E,0.8nm,0.9s						
BVAR	**Borovoye Array**	**24.08 283**	P	**P**	**11 06 40.1**	**+0.3**	
	comp=E,0.5nm,0.5s,baz=74,slow=11,SNR=5.0						
	comp=E,0.5nm,0.5s						
ILAR	**Eielson Array**	**46.52 35**	P	**P**	**11 09 52.0**	**+0.5**	
	comp=E,0.6nm,0.9s,baz=301,slow=5.8,SNR=7.0						
	comp=E,0.6nm,0.9s						

*NEIC **01** 11:03:00.7±1.4, 19°.37N±0°.08×65°.06W±0°.03, h35km±2km, ML2.8/28, Md2.7/11(RSPR), Error ellipse: s-maj=14.8km s-min=3.1km az=14.0*
*RSPR **01** 11:03:02.6, 19°.24N×65°.10W, h67km±6km, MD2.7/11*
ISC 01 11:02:56.8±2.0, 19°.4N±0°.1×65°.14W±0°.04, h8km±12km, n41, σ0s80/49, 5C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.40 220**			**Pg**	**11 03 23.8**	**+0.1**
GCPR					**Sb**	**11 03 41.2**	**-0.1**
GCPR	**Guaynabo City**	**1.40 220**	⇑	*e*P	**Pg**	**11 03 23.8**	**+0.1**
GCPR	**Guaynabo City**	**1.40 220**		*e*S	**Sb**	**11 03 41.2**	**-0.1**
HUMP	**Col San Antoni**	**1.41 209**			**Pg**	**11 03 24.3**	**+0.4**
HUMP					**Sb**	**11 03 41.5**	**-0.1**
HUMP				IAML		11 03 44.2	
	comp=E,146nm,0.2s						
HUMP				IAML		11 03 45.5	
	comp=N,99nm,0.6s						
HUMP	**Col San Antoni**	**1.41 209**	⇑	*e*P	**Pg**	**11 03 24.2**	**+0.4**
HUMP	**Col San Antoni**	**1.41 209**		*e*S	**Sn**	**11 03 40.5**	**-1.2**
ECPR	**Experimental S**	**1.58 228**	⇓	*e*P	**Pg**	**11 03 27.0**	**0.0**
ECPR	**Experimental S**	**1.58 228**		*e*S	**Sn**	**11 03 45.7**	**0.0**
SJG	**San Juan**	**1.59 217**			**Pb**	**11 03 26.8**	**+0.3**
SJG				IAML		11 03 47.8	
	comp=N,92nm,0.5s						
SJG				IAML		11 03 48.2	
	comp=N,77nm,0.4s						
SJG	**San Juan**	**1.59 217**	⇓	*e*P	**Pb**	**11 03 26.7**	**+0.2**
SJG	**San Juan**	**1.59 217**		*e*S	**Sn**	**11 03 45.8**	**-0.3**
EMPR	**Esperanza - Ma**	**1.60 236**			**Pg**	**11 03 27.8**	**+0.3**
EMPR					**Sb**	**11 03 47.8**	**+0.8**
EMPR				IAML		11 03 57.2	
	comp=E,171nm,0.6s						
EMPR				IAML		11 04 03.5	
	comp=N,140nm,0.8s						
EMPR	**Esperanza - Ma**	**1.60 236**	⇓	*e*P	**Pg**	**11 03 27.7**	**+0.2**
EMPR	**Esperanza - Ma**	**1.60 236**		*e*S	**Sb**	**11 03 47.1**	**0.0**
PDPR	**Patillas Dam,**	**1.60 212**			**Pb**	**11 03 26.7**	**0.0**
PDPR	**Patillas Dam,**	**1.60 212**	⇑	*e*P	**Pb**	**11 03 26.8**	**+0.1**
PDPR	**Patillas Dam,**	**1.60 212**		*e*S	**Sn**	**11 03 45.9**	**-0.5**
IGPR	**InterUniversit**	**1.69 213**			**Pb**	**11 03 28.0**	**-0.1**
IGPR					**Sn**	**11 03 48.1**	**-0.4**
IGPR				IAML		11 03 50.5	
	comp=N,157nm,0.4s						
IGPR	**InterUniversit**	**1.69 213**	⇓	*e*P	**Pb**	**11 03 28.1**	**-0.1**
IGPR	**InterUniversit**	**1.69 213**		*e*S	**Sn**	**11 03 48.0**	**-0.4**
AOPR	**Arecibo Observ**	**1.85 236**			**Pb**	**11 03 30.7**	**-0.2**
AOPR					**Sn**	**11 03 52.7**	**+0.2**
AOPR				IAML		11 04 00.3	
	comp=N,159nm,0.4s						
AOPR	**Arecibo Observ**	**1.85 236**	⇑	*e*P	**Pb**	**11 03 30.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.85 236**		*e*S	**Sn**	**11 03 52.9**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.88 233**			**Pb**	**11 03 31.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.93 226**			**Pn**	**11 03 29.9**	**-0.1**
OBIP					**Sn**	**11 03 53.4**	**-1.1**
OBIP				IAML		11 03 58.6	
	comp=N,50nm,0.8s						
OBIP				IAML		11 03 59.2	
	comp=E,56nm,0.8s						
OBIP	**Obispado Ponce**	**1.93 226**	⇓	*e*P	**Pb**	**11 03 31.3**	**-1.0**
OBIP	**Obispado Ponce**	**1.93 226**		*e*S	**Sn**	**11 03 53.9**	**-0.6**
LSP	**Las Mesas**	**2.21 237**			**Pb**	**11 03 35.7**	**-1.3**
LSP	**Las Mesas**	**2.21 237**	⇓	*e*P	**Pb**	**11 03 35.7**	**-1.3**
MLPR	**Magueyes Islan**	**2.29 232**			**Pn**	**11 03 35.4**	**+0.4**
MLPR					**Sn**	**11 04 03.8**	**+0.3**
MLPR				IAML		11 04 14.0	
	comp=E,35nm,1.0s						
MLPR	**Magueyes Islan**	**2.29 232**	⇑	*e*P	**Pn**	**11 03 36.4**	**+1.4**
MLPR	**Magueyes Islan**	**2.29 232**		*e*S	**Sn**	**11 04 03.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.32 234**			**Pn**	**11 03 36.1**	**+0.7**
CRPR					**Sn**	**11 04 03.4**	**-0.7**
CRPR				IAML		11 04 47.5	
	comp=E,36nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.32 234**	⇓	*e*P	**Pb**	**11 03 37.6**	**-1.3**
CRPR	**Cabo Rojo, PR**	**2.32 234**		*e*S	**Sn**	**11 04 04.1**	**0.0**
SMRT	**St. Maarten**	**2.37 124**	Pn	**Pn**	**11 03 35.7**	**-0.3**
SMRT				IAML		11 04 21.6	
	comp=N,104nm,0.6s						
SABA	**Saba**	**2.52 134**	Pn	**Pn**	**11 03 37.4**	**-0.7**
MBFL	**Flemmings, Mon**	**3.83 133**	*e*P	**Pb**	**11 04 02.6**	**-2.0**
ANBD	**Bethesda, Anti**	**3.96 125**	*e*P	**Pn**	**11 04 00.7**	**+2.8**
ANBD	**Bethesda, Anti**	**3.96 125**	*e*S	**Sn**	**11 04 46.0**	**+1.4**
DR12	**Loma Pena Alta**	**4.06 262**	Pn	**Pn**	**11 03 59.3**	**0.0**
DR12				IAML		11 04 55.3	
	comp=E,18nm,2.7s						

TXNET 01 11:12:16.5, 31°.5N±0°.8×103°.2W±0°.7, h6km±1km, ML1.6/6, Error ellipse: s-maj=1.2km s-min=1.0km az=163.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.11**	**5**	P	Pg	11 12 19.4	+0.5
TPB06	**Permian Basin**	**0.11**	**5**	P	Pg	11 12 19.3	+0.5
TPB06				S	Sg	11 12 21.2	+0.7
PCOS	**Crockett Middl**	**0.27 241**		S	Sg	11 12 27.0	+1.6
TPB07	**Mentone**	**0.38 276**		P	Pb	11 12 26.3	+0.7
TPB07	**Mentone**	**0.38 276**		P	Pg	11 12 24.3	+0.5
TPB07				S	Sg	11 12 29.4	+0.7
MNHN	**Monahans**	**0.45 116**		P	Pg	11 12 25.9	+0.8
MNHN				S	Sb	11 12 32.5	-1.3
TPB03	**Saragosa**	**0.52 208**		P	Pg	11 12 27.1	+0.7
TPB03				S	Sg	11 12 29.2	-4.0
TPB03	**Saragosa**	**0.52 208**		S	Sb	11 12 34.7	-1.1
TPB10	**Southeast of T**	**0.52 240**		S	Sb	11 12 34.9	-0.9
PECS	**Pecos**	**0.57 253**		P	Pg	11 12 27.3	-0.1
PECS				S	Sg	11 12 35.8	+0.9
PECS	**Pecos**	**0.57 253**		P	Pg	11 12 28.0	+0.5
PECS				S	Sg	11 12 35.5	+0.6
TPB05	**Hovey Rd**	**0.62 188**		P	Pg	11 12 29.0	+0.6
TPB05				S	Sg	11 12 32.6	-4.0
TPB05	**Hovey Rd**	**0.62 188**		P	Pg	11 12 28.7	+0.2
TPB05				S	Sg	11 12 37.4	+0.8
TPB08	**Permian Basin**	**0.70 157**		S	Sb	11 12 41.1	-0.1
TPB12	**Southwest of T**	**0.70 243**		S	Sg	11 12 40.1	+1.0
TPB01	**Permian Basin**	**0.76 219**		P	Pb	11 12 32.2	+0.1
TPB01				S	Sb	11 12 42.1	-0.7
ODSA	**Odessa**	**0.82 45**		P	Pb	11 12 32.7	-0.4
ODSA				S	Sb	11 12 44.2	-0.3
NM01	**Eunice**	**0.82 350**		S	Sb	11 12 44.6	-0.1
CLNB	**Carlsbad**	**0.91 323**		S	Sb	11 12 47.3	+0.1
HTMS	**Hat Mesa**	**0.99 340**		P	Pn	11 12 37.7	+0.6
HTMS				S	Sn	11 12 51.6	+0.1
TMB02	**Rankin**	**1.07 108**		P	Pb	11 12 37.3	-0.2
TMB02				S	Sb	11 12 52.5	+0.7
GDL2	**Guadalupe Moun**	**1.17 305**		P	Pn	11 12 40.0	+0.5
ALPN	**Alpine**	**1.22 197**		P	Pg	11 12 38.9	-0.9
ALPN				S	Sn	11 12 57.0	0.0
TMB04	**Seminole**	**1.25 30**		P	Pg	11 12 40.5	0.0
TMB04				S	Sn	11 12 58.0	+0.1
CPRX	**Cap Rock**	**1.58 340**		P	Pb	11 12 46.3	0.0
VHRN	**Van Horn**	**1.68 244**		P	Pb	11 12 47.9	-0.1
VHRN				S	Sg	11 13 10.6	+0.1
SGCY	**Sterling City**	**1.83 78**		S	Sg	11 13 15.6	+0.3
MNTX	**Cornudas Mount**	**1.84 275**		P	Pb	11 12 50.5	-0.1
MNTX				S	Sg	11 13 15.1	-0.6
SAND	**Sanderson**	**1.85 149**		P	Pg	11 12 51.3	-0.6
SAND				S	Sg	11 13 15.7	-0.1
OZNA	**Ozona**	**1.90 108**		P	Pb	11 12 51.6	-0.1
OZNA				S	Sg	11 13 18.2	+0.6
POST	**Post**	**2.11 43**		P	Pb	11 12 55.3	+0.1
POST				S	Sg	11 13 23.3	-1.0
TX31	**Lajitas Ar. Si**	**2.23 190**		P	Pb	11 12 55.9	-1.4
TX31				S	Sb	11 13 26.0	+0.7

NDI 01 11:27:25.8±2.3, 19°.99N×72°.78E, h12km±15km, ML3.5, MW3.5, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.09 179**		*e*P	Pn	11 27 47.0	+0.1
BOM				*e*S	Sn	11 28 01.7	-0.2
BOM				IAML		11 28 07.2	
	comp=N,193nm,0.3s						
BOM				IAML		11 28 07.4	
	comp=E,346nm,0.2s						
POO	**Poona**	**1.77 145**		*e*P	Pb	11 27 58.2	0.0
POO				*e*S	Sb	11 28 20.1	-0.3
POO				IAML		11 28 22.8	
	comp=N,365nm,0.7s						
POO				IAML		11 28 22.9	
	comp=E,474nm,0.4s						
BHV	**Bhavnagar**	**1.85 341**		*e*P	Pn	11 27 57.0	-0.4
BHV				*e*S	Sn	11 28 21.6	+0.8
BHV				IAML		11 28 28.3	
	comp=N,506nm,0.2s						
KAD	**Karad**	**2.98 153**		*e*P	Pn	11 28 12.0	-1.0
KAD				*e*S	Sn	11 28 47.3	-1.4
KAD				IAML		11 28 59.6	
	comp=N,84nm,0.5s						
KAD				IAML		11 28 60.0	
	comp=E,200nm,0.4s						
LATR	**Latur**	**3.90 113**		*e*S	Sn	11 29 07.4	-3.8
AKL	**Akola**	**4.03 79**		*e*P	Pn	11 28 26.7	-0.7
AKL				*e*S	Sn	11 29 12.9	-1.8
AKL				IAML		11 29 28.2	
	comp=E,196nm,0.5s						
AKL				IAML		11 29 28.7	
	comp=N,787nm,0.4s						
NGP	**Nagpur**	**5.98 78**		*e*P	Pn	11 28 54.9	+0.7
NGP				*e*S	Sn	11 29 58.8	-3.9
HYB	**Hyderabad**	**6.04 114**		IAML		11 30 32.2	
	comp=E,155nm,0.3s						
HYB				IAML		11 30 32.2	
	comp=N,256nm,0.5s						

*IDC **01** 11:46:20.3±0.9, 21°.22N×143°.27E, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=32.3km s-min=21.0km az=87.0*
ISC 01 11:46:25.6±1.0, 21°.2N±0°.1×143°.2E±0°.2, h35km, n16, σ0s79/10, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.90 324**		P	**P**	**11 51 04.9**	**0.0**
	0.7nm,0.6s,baz=145,slow=8.3,SNR=4.5						
	0.7nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**22.25**	**90**	T	T	12 13 01.9	
	baz=278,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**22.25**	**90**	T	T	12 13 02.6	
	baz=278,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**22.25**	**93**	T	T	12 13 03.7	
	baz=282,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**22.26**	**90**	T	T	12 13 03.4	
	baz=278,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**22.26**	**93**	T	T	12 13 04.4	
	baz=282,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**22.27**	**93**	T	T	12 13 05.0	
	baz=282,slow=75,SNR=23						
KLR	**Kul'dur**	**29.40 345**		P	**P**	**11 52 24.6**	**-0.9**
	1.0nm,0.5s,baz=228,slow=4.3,SNR=5.5						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**41.82 193**		P	**P**	**11 54 12.3**	**+0.1**
	0.4nm,0.6s,baz=12,slow=8.6,SNR=2.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**45.53 192**		P	**P**	**11 54 41.3**	**-0.7**
	0.3nm,0.6s,baz=17,slow=9.6,SNR=6.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.03 313**		P	**P**	**11 55 54.5**	**+0.7**
	0.2nm,0.6s,baz=86,slow=8.0,SNR=2.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.88 317**		P	**P**	**11 56 14.3**	**+0.3**
	0.8nm,0.7s,baz=94,slow=8.0,SNR=7.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**62.45 27**		P	**P**	**11 56 44.0**	**-1.0**
	0.4nm,0.8s,baz=268,slow=7.4,SNR=5.9						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**63.04 320**		P	**P**	**11 56 49.7**	**+0.6**
	0.7nm,0.4s,baz=86,slow=7.4,SNR=2.8						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**76.87 28**		P	**P**	**11 58 14.7**	**+0.9**
	0.2nm,0.7s,baz=288,slow=5.9,SNR=3.9						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**83.43 51**		P	**P**	**11 58 50.5**	**+0.6**
	0.8nm,0.8s,baz=277,slow=3.8,SNR=4.9						
	0.8nm,0.8s						

*IDC **01** 11:58:25.2±7.3, 8°.18S×119°.71E, h192km±64km, mb2.6/2, mbtmp3.3/4, MS3.2/1, Error ellipse: s-maj=208.3km s-min=19.6km az=58.0*
*DJA **01** 11:58:38.5±0.7, 8°.S±10".×11°.7E±°., h10km, M2.6/5, MLv2.6/5*
ISC 01 11:58:26.1±2.0, 8°.0S±0°.3×120°.1E±0°.5, h200km, n5, σ1s18/5, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.45 251**		P	Pn	11 59 00.1	-9.4
KAPI	**Kappang**	**3.01 353**		P	**Pn**	**11 59 16.2**	**+0.3**
	8.5nm,0.2s,baz=168,slow=5.0,SNR=4.7						
WRA	**Warramunga Arr**	**18.17 132**		P	**Pn**	**12 02 25.3**	**-1.0**
	0.3nm,0.3s,baz=306,slow=12,SNR=5.0						
WRA				S	**S**	**12 05 41.5**	**-0.1**
	0.4nm,0.8s,baz=318,slow=21,SNR=1.5						
WRA				LR	LR	12 11 03.7	
	comp=Z,62nm,18.4s,baz=162,slow=41						
ASAR	**Alice Springs**	**20.41 141**		P	**P**	**12 02 49.3**	**+1.2**
	0.2nm,0.4s,baz=316,slow=9.8,SNR=10						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**64.10 332**		P	**P**	**12 08 38.5**	**-0.4**
	0.2nm,0.6s,baz=141,slow=7.1,SNR=4.1						
	0.2nm,0.6s						

*NEIC **01** 12:20:20.1±0.5, 37°.09N±0°.01×98°.39W±0°.01, h8km±5km, Error ellipse: s-maj=2.4km s-min=1.0km az=145.0*
NEIC 01 12:20:20.1±0.3, 37°.08N±0°.01×98°.39W±0°.01, h5km±1km, mb_Lg2.1/6, ML2.5/24, ML2.5/17, Error ellipse: s-maj=2.5km s-min=2.3km az=327.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	**Anthony SW Sta**	**0.24 80**			Pg	12 20 25.5	+0.7
KAN10					Sg	12 20 28.9	+1.1
KAN08	**Anthony NE Sta**	**0.36 67**		Pg	Pg	12 20 27.6	+0.5
KAN08				Sg	Sg	12 20 32.8	+0.9
KAN08				IAML		12 20 33.0	
	comp=E,485nm,0.1s						
KAN14	**Manchester OK**	**0.36 110**			Pg	12 20 27.7	+0.6
KAN14				Sg	Sg	12 20 33.0	+1.2
KAN12	**Harper NE Stat**	**0.38 55**		Pg	Pg	12 20 28.0	+0.6
KAN12				IAML		12 20 33.5	
	comp=E,554nm,0.3s						
KAN12				IAML		12 20 35.0	
	comp=N,431nm,0.3s						
KAN05	**Bluff City Nor**	**0.41 86**			Pg	12 20 28.6	+0.5
KAN05				IAML		12 20 35.9	
	comp=N,572nm,0.1s						
KAN17	**Caldwell West**	**0.50 94**			Pg	12 20 30.2	+0.5
KAN17				IAML		12 20 39.6	
	comp=N,336nm,0.3s						
KAN01	**Argonia South**	**0.51 82**		Pg	Pg	12 20 30.4	+0.5
KAN01				IAML		12 20 37.5	
	comp=E,390nm,0.2s						
KAN09	**Caldwell North**	**0.62 85**		Pg	Pg	12 20 31.9	0.0
KAN09					Sg	12 20 40.4	+0.4
KAN09				IAML		12 20 43.3	
	comp=N,328nm,0.3s						
NOKA	**Waynoka**	**0.63 225**			Pg	12 20 32.0	-0.2
NOKA					Sg	12 20 40.8	+0.5
NOKA				IAML		12 20 45.5	
	comp=E,160nm,0.2s						
KAN13	**South Haven SW**	**0.73 95**			Pg	12 20 34.3	+0.2
KAN13					Sg	12 20 44.3	+0.7
KAN13				IAML		12 20 45.6	
	comp=N,163nm,0.2s						
BLOK	**Blackwell**	**0.99 109**		Pg	Pg	12 20 39.0	-0.2
BLOK				IAML		12 20 53.6	
	comp=N,162nm,0.2s						
ELIS	**Ellis County**	**1.31 220**			Pn	12 20 44.6	-0.6
ELIS				IAML		12 21 03.6	
	comp=E,101nm,0.2s						
ELIS				IAML		12 21 12.1	
	comp=N,100nm,0.2s						
R32A	**Long Quarter,**	**1.36 349**			Pn	12 20 45.4	-0.4
R32A					Sb	12 21 03.4	-0.4
OK051	**E0350 and S346**	**1.37 114**			Pn	12 20 45.5	-0.4
QUOK	**Quay**	**1.63 124**			Pn	12 20 49.4	-0.1
OK052	**Battle Ridge R**	**1.68 130**			Pn	12 20 50.1	0.0
OK031	**S. Brethren Rd**	**1.68 132**			Pn	12 20 50.3	+0.1
CBKS	**Cedar Bluff**	**2.03 329**		Pn	Pn	12 20 55.4	+0.3
TUL3	**Leonard**	**2.40 118**		IAmb_Lg		12 21 38.5	
	comp=Z,9.8nm,0.7s						
KSU1	**Kansas State U**	**2.45 34**		IAmb_Lg		12 21 40.8	
	comp=Z,11nm,1.1s						
U38A	**Gravette**	**3.28 100**		IAmb_Lg		12 22 08.1	
	comp=Z,2.9nm,0.8s						

RHSSO 01 12:23:50.8±0.7, 44°.85N×16°.91E, h5km±4km, ML1.1/3, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A051A	**Mrakovica**	**0.16 359**	⇑	*i*Pg	Pg	12 23 54.0	-0.1
A051A				*e*Sg	Sg	12 23 57.1	+0.8
PRIJ	**Prijedor**	**0.19 312**		*e*Sg	Sg	12 23 58.1	+1.1
BLY	**Banja Luka**	**0.22 117**	⇑	*i*Pg	Pg	12 23 54.6	-0.5
BLY				*e*Sg	Sg	12 23 58.9	+1.0
A050A	**Klekovaca**	**0.46 217**		*e*Pg	Pg	12 23 59.2	-0.4
A050A				*e*Sg	Sg	12 24 06.0	+0.4

VIE 01 12:24:45.5±0.5, 46°.25N×16°.11E, h10km±15km, ml1.6/2, Error ellipse: s-maj=4.4km s-min=1.7km az=77.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.86 301**		*e*Pg	Pg	12 25 02.2	0.0
	0.2nm,0.1s						
SOKA				*e*Sg	Sb	12 25 14.5	+0.2
	0.9nm,0.3s						
OBKA	**Obir**	**1.11 284**		*e*Pg	Pg	12 25 07.1	+0.1
	0.5nm,0.2s						
OBKA				*i* Sg	Sn	12 25 22.4	-0.2
	1.3nm,0.2s						

*HEL **01** 12:30:57.5±0.1, 63°.98N×28°.10E, h0km, ML1.8, Suspected explosion*
*IDC **01** 12:30:58.3±1.4, 63°.95N×28°.10E, h0km, mbtmp3.2/3, ML1.9/3, Error ellipse: s-maj=23.4km s-min=8.6km az=99.0*
*UPP **01** 12:30:59.7±2.2, 63°.87N×27°.71E, h0km, ML1.8*
ISC 01 12:30:57.1±0.7, 63°.94N±0°.03×28°.10E±0°.03, h0km, n44, σ1s30/70, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.57 193**		PG	**Pg**	**12 31 08.6**	**+0.6**
NIF				SG	**Sg**	**12 31 16.0**	**+0.7**
RMF	**Romuvaara**	**0.85 70**		PG	**Pg**	**12 31 13.1**	**-0.4**
	baz=254						
RMF				MSG		12 31 23.4	
	comp=Z,17nm,0.2s						
RMF				SG	**Sg**	**12 31 23.8**	**-0.7**
OUL	**Oulu**	**1.49 321**		PN	**Pn**	**12 31 24.6**	**-0.6**
OUL				SN	**Sn**	**12 31 44.2**	**-1.1**
SUF	**Sumiainen**	**1.51 217**		PG	**Pb**	**12 31 25.8**	**-0.2**
SUF				MSG		12 31 43.6	
	comp=Z,4.1nm,0.2s						
OUF	**Merijarvi**	**1.54 288**		PN	**Pn**	**12 31 25.3**	**-0.5**
OUF				MSG		12 31 43.1	
	comp=Z,11nm,0.2s						
OUF				SN	**Sn**	**12 31 46.3**	**-0.1**
OBF4	**Vikkela, Lumij**	**1.57 305**		PG	**Pn**	**12 31 25.8**	**-0.5**
OBF4				MSG		12 31 43.9	
	comp=Z,7.1nm,0.2s						
OBF4				SN	**Sn**	**12 31 47.1**	**-0.1**
KU1	**Kurvinen**	**1.75 20**		PG	**Pn**	**12 31 28.5**	**-0.2**
	baz=200						
JOF	**Joensuu**	**1.77 124**		*e*P	**Pb**	**12 31 29.5**	**-1.0**
JOF	**Joensuu**	**1.77 124**		PG	**Pb**	**12 31 29.6**	**-0.8**
	baz=304						
JOF				SN	**Sg**	**12 31 53.7**	**-0.3**
KU2	**Taivalkoski**	**1.78 2**		PG	**Pn**	**12 31 28.8**	**-0.3**
OBF0	**Syolatti, Pyha**	**1.78 290**		PG	**Pn**	**12 31 29.6**	**+0.5**
OBF0				MSG		12 31 50.1	
	comp=Z,13nm,0.2s						
OBF0				SN	**Sn**	**12 31 53.5**	**+1.1**
KAF	**Kangasniemi**	**2.01 205**		PG	**Pb**	**12 31 33.9**	**-0.6**
	baz=22						
KAF				MSG		12 31 58.1	
	comp=Z,5.9nm,0.2s						
KAF				SG	**Sg**	**12 32 01.9**	**+0.3**
MSF	**Maaselka**	**2.02 11**		PG	**Pn**	**12 31 32.8**	**+0.4**
	baz=195						
MSF				SG	**Sn**	**12 31 58.6**	**+0.2**
RANF	**Ranua**	**2.16 346**		PG	**Pn**	**12 31 35.4**	**+1.1**
	baz=167						
RANF				SG	**Sn**	**12 32 03.4**	**+1.6**
KU6	**Riekki**	**2.23 19**		PG	**Pn**	**12 31 36.7**	**+1.4**
	baz=198						
KU6				MSG		12 32 02.3	
	comp=Z,2.9nm,0.2s						
KU6				SG	**Sn**	**12 32 04.8**	**+1.3**
KEF	**Keuruu**	**2.31 221**		*e*P	**Pb**	**12 31 40.0**	**+0.4**
KEF	**Keuruu**	**2.31 221**		PG	**Pb**	**12 31 39.4**	**-0.2**
KEF				MSG		12 32 06.7	
	comp=Z,8.0nm,0.2s						
KEF				SG	**Sb**	**12 32 09.4**	**+0.8**
OLKF	**Oulanka, Finla**	**2

VJF	**Virojoki**	**3.42**	**185**	SG	**Sb**	**12 32 41.4**	**+0.7**
ERTU	**Ertsjaerv**	**3.62**	**319**	P	**Pn**	**12 31 56.2**	**+1.8**
ERTU				S	**Sn**	**12 32 38.5**	**+0.8**
KLF	**Kolari**	**3.73**	**334**	PN	**Pn**	**12 31 56.8**	**+0.9**
KLF				SN	**Sn**	**12 32 40.0**	**-0.4**
PAJU	**Pajala**	**3.73**	**328**	P	**Pn**	**12 31 57.7**	**+1.8**
HARU	**Harads**	**3.75**	**310**	P	**Pn**	**12 31 57.4**	**+1.2**
LILU	**Lilltraesk**	**3.80**	**294**	P	**Pn**	**12 31 57.6**	**+0.7**
VRF	**Varrio**	**3.88**	**9**	PB	**Pn**	**12 32 01.6**	**+3.7**
MASU	**Masugnsbyn**	**4.34**	**327**	P	**Pn**	**12 32 06.0**	**+1.7**
ARCES	**ARCESS Array B**	**5.71**	**351**	Pn	**Pn**	**12 32 23.9**	**+0.8**
	baz=163,slow=16,SNR=8.5						
ARCES				Sn	**Sn**	**12 33 26.2**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=171,slow=22,SNR=1.5						
ARCES				Lg	Lg	12 33 56.5	
	comp=Z,0.1nm,0.3s,baz=177,slow=33,SNR=1.9						
	comp=Z,4.6nm,1.1s						
HFS	**Hagfors**	**7.77**	**247**	Pn	**Pn**	**12 32 49.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=78,slow=13,SNR=1.0						
HFS				Sn	**Sn**	**12 34 15.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=56,slow=28,SNR=2.5						
	comp=Z,4.5nm,1.0s						
I43RU	**DUBNA INFRASON**	**8.53**	**144**	I	I	13 25 40.0	
	baz=336,slow=326,SNR=3.0						

*SNET **01** 12:33:22.6±1.2, 12°.96N×90°.51W, h10km±11km, ML2.9*
*CATAC **01** 12:33:22.2±1.0, 13°.N±5°.×9°.0W±°., h7km±7km, M3.4/1, MLv3.4/1, Error ellipse: s-maj=19.5km s-min=10.2km az=109.9, confirmed*

ISC 01 12:33:20.2±2.9, 12°.90N±0°.08×90°.5W±0°.1, h4km±12km, n36, σ0°67/46, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.24**	**37**	*eP*	**Pg**	**12 33 44.1**	**0.0**
NUBE				*eS*	**Sg**	**12 34 00.3**	**+0.1**
NUBE	**Las Nubes**	**1.24**	**37**	P	**Pg**	**12 33 44.0**	**0.0**
NUBE	**Las Nubes**	**1.24**	**37**	P	**Pg**	**12 33 44.1**	**0.0**
CEVE	**Cerro Verde**	**1.28**	**44**	*eP*	**Pb**	**12 33 45.1**	**-0.1**
CEVE				*eS*	**Sn**	**12 34 02.6**	**-0.4**
CEVE	**Cerro Verde**	**1.28**	**44**	P	**Pb**	**12 33 45.1**	**-0.1**
CEVE	**Cerro Verde**	**1.28**	**44**	P	**Pb**	**12 33 45.0**	**-0.1**
SBLS	**San Blas**	**1.29**	**44**	*eP*	**Pb**	**12 33 45.1**	**-0.1**
SBLS				*eP*	**Pb**	**12 33 45.1**	**-0.1**
SBLS				*eS*	**Sg**	**12 34 01.8**	**-0.1**
JAYA	**Jayaque - finc**	**1.30**	**55**	*eP*	**Pb**	**12 33 44.9**	**-0.5**
JAYA				*eS*	**Sn**	**12 34 02.8**	**-0.5**
JAYA				IAML		12 34 04.0	
	comp=Z,648nm,0.2s						
JAYA	**Jayaque - finc**	**1.30**	**55**	P	**Pb**	**12 33 45.1**	**-0.3**
JAYA	**Jayaque - finc**	**1.30**	**55**	P	**Pb**	**12 33 45.9**	**+0.5**
LOAL	**Lomas de Alarc**	**1.32**	**34**	P	**Pn**	**12 33 45.7**	**+0.2**
LOAL	**Lomas de Alarc**	**1.32**	**34**	P	**Pn**	**12 33 45.7**	**+0.2**
RTR	**El Retiro**	**1.32**	**41**	*eP*	**Pn**	**12 33 45.7**	**+0.1**
SNJE	**San Jose**	**1.32**	**43**	*eP*	**Pn**	**12 33 45.7**	**-0.1**
SNJE				*eP*	**Pn**	**12 33 45.7**	**-0.1**
SNJE				*eS*	**Sn**	**12 34 03.5**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.34**	**33**	P	**Pn**	**12 33 45.7**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.34**	**33**	P	**Pn**	**12 33 45.9**	**0.0**
PMON	**Piamonte**	**1.44**	**56**	*eP*	**Pn**	**12 33 47.5**	**+0.2**
PMON				*eS*	**Sg**	**12 34 06.9**	**+0.2**
PMON	**Piamonte**	**1.44**	**56**	P	**Pn**	**12 33 47.2**	**0.0**
PMON	**Piamonte**	**1.44**	**56**	S	**Sb**	**12 34 05.6**	**-0.9**
PMON	**Piamonte**	**1.44**	**56**	P	**Pn**	**12 33 47.3**	**0.0**
LOMA	**Loma Larga**	**1.53**	**61**	P	**Pb**	**12 33 49.8**	**+0.6**
PAVA	**Las Pavas**	**1.76**	**62**	P	**Pn**	**12 33 49.1**	**-2.5**
COEG	**Centro de Oper**	**1.77**	**66**	P	**Pn**	**12 33 51.8**	**+0.1**
MTO3	**Montecristo**	**1.88**	**37**	*eP*	**Pn**	**12 33 53.9**	**+0.5**
MTO3				*eS*	**Sb**	**12 34 19.5**	**+0.2**
MTO3				IAML		12 34 26.6	
	comp=Z,42nm,0.5s						
MTO3	**Montecristo**	**1.88**	**37**	P	**Pn**	**12 33 53.9**	**+0.5**
MTO3	**Montecristo**	**1.88**	**37**	S	**Sn**	**12 34 18.0**	**+0.3**
MTO3	**Montecristo**	**1.88**	**37**	P	**Pn**	**12 33 54.5**	**+1.1**
SCLA	**Alcaldia de Sa**	**1.94**	**65**	P	**Pn**	**12 33 54.9**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.94**	**65**	P	**Pb**	**12 33 55.9**	**-0.2**
PQSS	**Presa 15 de Se**	**2.06**	**69**	P	**Pn**	**12 33 55.7**	**+0.1**
PQSS	**Presa 15 de Se**	**2.06**	**69**	P	**Pn**	**12 33 56.5**	**+0.9**
PACA	**Pacayal**	**2.23**	**75**	*eP*	**Pn**	**12 33 58.9**	**+0.8**
PACA				*eS*	**Sn**	**12 34 27.5**	**+1.2**
PACA	**Pacayal**	**2.23**	**75**	P	**Pn**	**12 33 58.8**	**+0.6**
PACA	**Pacayal**	**2.23**	**75**	P	**Pn**	**12 33 59.6**	**+1.5**
LCND	**La Caada**	**2.62**	**81**	P	**Pn**	**12 34 04.2**	**+0.9**
SABN	**Sabanita**	**4.38**	**102**	P	**Pn**	**12 34 26.6**	**-1.0**

*IDC **01** 12:42:41.5±6.0, 36°.20N×19°.54E, h0km, mb3.7/5, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=109.3km s-min=43.7km az=38.0*
*THE **01** 12:42:57.3, 37°.48N×20°.67E, h0km±3km, ML3.5/11, Error ellipse: s-maj=3.5km s-min=0.8km az=218.0*

ISC 01 12:42:54.8±1.9, 37°.38N±0°.06×20°.61E±0°.07, h9km±9km, n25, σ1°15/40, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.37**	**28**	P	**Pg**	**12 43 02.6**	**+0.4**
LTHK				S	**Sg**	**12 43 06.3**	**-0.8**
RTZL	**Ratzakli, Kefa**	**0.71**	**10**	P	**Pg**	**12 43 08.4**	**0.0**
RTZL				S	**Sb**	**12 43 17.9**	**-1.3**
	5μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.73**	**358**	P	**Pb**	**12 43 09.4**	**-0.4**
PSDA				S	**Sb**	**12 43 19.2**	**-0.7**
	9μm,0.1s						
VLS	**Valsamata**	**0.80**	**359**	P	**Pg**	**12 43 10.2**	**0.0**
VLS				S	**Sg**	**12 43 20.5**	**0.0**
	7μm,0.1s						
DMLN	**Damoulianata-K**	**0.88**	**348**	P	**Pb**	**12 43 12.2**	**-0.1**
DMLN				S	**Sb**	**12 43 24.1**	**0.0**
	7μm,0.4s						
RLS	**Riolos of Patr**	**0.96**	**45**	P	**Pg**	**12 43 12.8**	**-0.4**
RLS				S	**Sg**	**12 43 25.4**	**-0.2**
	2μm,0.3s						
DRO	**Drossia**	**1.04**	**56**	P	**Pg**	**12 43 14.7**	**-0.1**
DRO				S	**Sb**	**12 43 29.2**	**+0.4**
	2μm,0.3s						
ITM	**Ithomi**	**1.07**	**100**	P	**Pn**	**12 43 17.7**	**+1.7**
ITM				S	**Sn**	**12 43 32.3**	**+1.4**
	748nm,0.4s						
FSK	**Fiskardo**	**1.08**	**358**	P	**Pg**	**12 43 15.2**	**-0.3**
FSK				S	**Sb**	**12 43 29.9**	**0.0**
	3μm,0.3s						
EVGI	**Lefkada island**	**1.24**	**2**	P	**Pg**	**12 43 17.7**	**-0.9**
EVGI				S	**Sn**	**12 43 35.6**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.30**	**359**	P	**Pg**	**12 43 19.0**	**-0.8**
DRAG				S	**Sn**	**12 43 37.2**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.33**	**3**	P	**Pn**	**12 43 20.8**	**+1.2**
NYDR				S	**Sb**	**12 43 37.7**	**+0.5**
	835nm,0.4s						
KLV	**Kalavryta, Ach**	**1.39**	**61**	P	**Pg**	**12 43 20.8**	**-0.6**
LKD2	**Lefkada island**	**1.41**	**1**	P	**Pb**	**12 43 22.7**	**+1.4**
LKD2				S	**Sn**	**12 43 40.3**	**+0.9**
	1μm,0.4s						
TSLK	**Tsoukalades, L**	**1.44**	**1**	P	**Pb**	**12 43 23.5**	**+1.6**
TSLK				S	**Sn**	**12 43 42.6**	**+2.3**
	2μm,0.5s						
GUR	**Goura**	**1.48**	**67**	P	**Pn**	**12 43 22.5**	**+0.7**
OHR	**Ohrid**	**3.73**	**2**	*i* Pn	**Pn**	**12 43 56.3**	**+3.6**
IDI	**Anoyia**	**4.03**	**120**	Pn	**Pn**	**12 43 58.5**	**+1.7**
	0.2nm,0.3s,baz=190,slow=20,SNR=1.5						
IDI				Sn	**Sn**	**12 44 44.5**	**+0.2**
	2.5nm,0.3s,baz=275,slow=19,SNR=7.6						
VAY	**Valandovo**	**4.22**	**20**	*i* Pn	**Pn**	**12 43 59.9**	**+0.6**
AKASG	**Malin Array Be**	**14.67**	**22**	Pn	**P**	**12 46 27.7**	**-1.0**
	1.1nm,0.3s,baz=206,slow=13,SNR=8.0						
	0.2nm,0.3s						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**12 48 00.5**	**-1.2**
	2.3nm,0.7s,baz=171,slow=10,SNR=7.3						
	2.3nm,0.7s						
FINES	**FINESS Array B**	**24.33**	**6**	P	**P**	**12 48 11.2**	**-1.5**
	2.0nm,0.7s,baz=167,slow=9.6,SNR=6.3						
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	**P**	**12 50 50.8**	**-0.7**
	0.3nm,0.5s,baz=281,slow=8.5,SNR=4.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**12 51 14.4**	**-1.3**
	0.2nm,0.4s,baz=270,slow=8.3,SNR=7.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.17**	**48**	P	**P**	**12 51 18.9**	**-0.7**
	0.6nm,0.5s,baz=272,slow=7.8,SNR=4.5						
	0.6nm,0.5s						

RSPR 01 12:47:00.4, 18°.13N×66°.91W, h29km±3km, MD2.4/3, 2C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBPR	**Guanica, Bosqu**	**0.16**	**170**	‖*eP*	Pb	12 47 05.1	-1.0
GBPR	**Guanica, Bosqu**	**0.16**	**170**	*eS*	Sb	12 47 10.4	+0.5
MLPR	**Magueyes Islan**	**0.20**	**219**	‖*eP*	Pb	12 47 05.3	-1.3
MLPR	**Magueyes Islan**	**0.20**	**219**	*eS*	Sb	12 47 09.8	-0.9
CRPR	**Cabo Rojo, PR**	**0.23**	**238**	‖*eP*	Pb	12 47 06.7	-0.1
CRPR	**Cabo Rojo, PR**	**0.23**	**238**	*eS*	Sb	12 47 11.3	+0.1
AOPR	**Arecibo Observ**	**0.26**	**34**	‖*eP*	Pb	12 47 07.2	-0.1
AOPR	**Arecibo Observ**	**0.26**	**34**	*eS*	Sb	12 47 11.1	-0.9
OBIP	**Obispado Ponce**	**0.30**	**107**	‖*eP*	Pb	12 47 07.0	-0.8
OBIP	**Obispado Ponce**	**0.30**	**107**	*eS*	Sb	12 47 12.2	-0.6
ECPR	**Experimental S**	**0.55**	**70**	‖*eP*	Pb	12 47 10.7	-0.9
ECPR	**Experimental S**	**0.55**	**70**	*eS*	Sb	12 47 18.0	-1.3

*IDC **01** 12:47:54.3±1.3, 28°.60N×142°.40E, h0km, mb3.7/7, mbtmp3.7/9, ML3.1/2, MS3.4/2, Error ellipse: s-maj=45.0km s-min=21.2km az=75.0*

ISC 01 12:47:58.0±1.3, 28°.7N±0°.1×142°.4E±0°.3, h25km, n11, σ0°79/9, mb3.9/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.62**	**337**	Pn	**Pn**	**12 50 00.3**	**-0.9**
	0.2nm,0.3s,baz=162,slow=12,SNR=10						
	1.0nm,0.3s						
KSRS	**Korea Array**	**14.95**	**310**	Pn	**Pn**	**12 51 28.0**	**+0.3**
	0.1nm,0.3s,baz=113,slow=12,SNR=1.7						
	0.5nm,0.6s						
PMG	**Port Moresby**	**38.11**	**172**	LR	LR	13 08 05.5	
	comp=Z,38nm,21.7s,baz=170,slow=32						
HNR	**Honiara**	**41.49**	**153**	LR	LR	13 09 19.6	
	comp=Z,71nm,20.8s,baz=222,slow=31						
ZALV	**Zalesovo Beam**	**48.44**	**318**	P	**P**	**12 56 39.5**	**+1.3**
	0.5nm,0.4s,baz=100,slow=7.8,SNR=3.9						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**48.92**	**190**	P	**P**	**12 56 41.7**	**-0.5**
	1.2nm,0.7s,baz=6.9,slow=8.6,SNR=7.9						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**49.63**	**309**	P	**P**	**12 56 47.2**	**-0.2**
	0.3nm,0.6s,baz=90,slow=8.2,SNR=3.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**52.09**	**314**	P	**P**	**12 57 06.0**	**+0.1**
	1.5nm,0.6s,baz=91,slow=8.0,SNR=17						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**52.65**	**190**	P	**P**	**12 57 10.1**	**-0.1**
	0.4nm,0.8s,baz=9.8,slow=11,SNR=2.3						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**57.02**	**317**	P	**P**	**12 57 42.4**	**+0.7**
	1.2nm,0.5s,baz=97,slow=8.4,SNR=4.1						
	1.2nm,0.5s						
YKA	**Yellowknife Ar**	**70.70**	**29**	P	**P**	**12 59 11.9**	**+0.4**
	0.3nm,0.8s,baz=299,slow=6.5,SNR=4.1						
	0.3nm,0.8s						

TRN 01 12:48:01.9, 17°.16N×61°.86W, h61km, MD2.3, Near North-west of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.15**	**141**	*eP*	Pn	12 48 12.9	+1.7
ANBD				*eS*	Sn	12 48 20.1	+2.2
ANBD	**Bethesda, Anti**	**0.15**	**141**	*eP*	Pn	12 48 12.9	+1.7
ANBD				*eS*	Sn	12 48 20.1	+2.2
ANWB	**Willy Bob**	**0.51**	**8**	*eP*	Pn	12 48 14.9	+0.8
ANWB				*eS*	Sn	12 48 24.8	+1.9
ANWB	**Willy Bob**	**0.51**	**8**	*eP*	Pn	12 48 14.9	+0.8
ANWB				*eS*	Sn	12 48 24.8	+1.9
MBWH		**0.52**	**217**	*eP*	Pn	12 48 15.9	+1.6
MBWH				*eS*	Sn	12 48 25.4	+2.1
MBWH		**0.52**	**217**	*eP*	Pn	12 48 15.9	+1.6
MBWH				*eS*	Sn	12 48 25.4	+2.1
MBFL	**Flemmings, Mon**	**0.53**	**219**	*eP*	Pn	12 48 15.8	+1.5
MBFL				*eS*	Sn	12 48 25.3	+2.0
MBFL	**Flemmings, Mon**	**0.53**	**219**	*eP*	Pn	12 48 15.8	+1.5
MBFL				*eS*	Sn	12 48 25.3	+2.0

*IDC **01** 13:20:00.4±2.1, 2°.89N×121°.57E, h595km±28km, mb2.7/8, mbtmp3.8/8, Error ellipse: s-maj=73.2km s-min=13.1km az=61.0*

ISC 01 13:20:00.5±0.9, 2°.9N±0°.3×121°.6E±0°.5, h600km, n8, σ0°70/11, mb3.3/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.95**	**152**	P	**P**	**13 24 46.6**	**-0.6**
	1.1nm,1.1s,baz=334,slow=9.7,SNR=6.8						
	1.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.00**	**307**	P	**P**	**13 24 55.7**	**-0.7**
	0.3nm,0.4s,baz=116,slow=10,SNR=1.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**29.03**	**156**	P	**P**	**13 25 14.4**	**+0.4**
	0.3nm,0.7s,baz=342,slow=8.8,SNR=4.6						
ASAR				PcP	**PcP**	**13 28 02.7**	**+0.1**
	0.1nm,0.5s,baz=333,slow=3.3,SNR=1.5						
ASAR				ScP	**ScP**	**13 30 47.5**	**-0.6**
	0.2nm,0.5s,baz=339,slow=3.2,SNR=6.2						
	0.3nm,0.7s						
SONM	**Songino Array**	**46.62**	**346**	P	**P**	**13 27 36.0**	**-0.1**
	0.8nm,0.6s,baz=160,slow=9.5,SNR=4.6						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**55.39**	**328**	P	**P**	**13 28 40.6**	**+1.3**
	1.1nm,0.4s,baz=124,slow=8.1,SNR=35						
MKAR				PcP	**PcP**	**13 29 30.8**	**+0.3**
	0.3nm,0.5s,baz=116,slow=3.4,SNR=2.9						
	1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**59.08**	**336**	P	**P**	**13 29 03.5**	**-0.7**
	0.5nm,0.4s,baz=117,slow=7.4,SNR=3.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**59.73**	**330**	P	**P**	**13 29 09.0**	**+0.5**
	0.6nm,0.4s,baz=130,slow=6.0,SNR=15						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**65.26**	**329**	P	**P**	**13 29 44.2**	**+0.2**
	0.6nm,0.5s,baz=123,slow=10,SNR=2.4						
	0.6nm,0.5s						

*IDC **01** 13:32:16.1±0.6, 21°.38N×144°.20E, h0km, mb4.2/25, mbtmp4.1/26, ML3.4/1, MS3.9/56, Error ellipse: s-maj=19.4km s-min=14.0km az=84.0*
*NEIC **01** 13:32:20.0±2.2, 21°.30N±0°.06×143°.59E±0°.10, h10km±1km, mb4.9/139, Error ellipse: s-maj=18.3km s-min=3.2km az=56.0*
*GCMT **01** 13:32:21.0±0.3, 21°.26N±0°.02×144°.21E±0°.02, h14km±1km, MW4.8/90, Moment Tensor Solution. s16,c17; s90,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.14±.13; $M_{\theta\theta}$-0.39±.07; $M_{\phi\phi}$1.53±.10; $M_{r\theta}$0.01±.18; $M_{\theta\phi}$-1.44±.07; $M_{r\phi}$0.24±.17; Best double couple: $M_0$1.79500×10^{16} NP1:ϕ_s295.00000°, δ58.00000°, λ-148.00000°. NP2: ϕ_s187.00000°, δ63.00000°, λ-37.00000°. Principal axes: T 2.3130, Plg3.0000°, Azm242.0000°; N -1.0350, Plg46.0000°, Azm335.0000°; P -1.2770, Plg44.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 13:32:18.7±0.4, 21°.36N±0°.06×143°.7E±0°.1, h10km, n210, σ1°68/143, mb4.8/92, MS4.1/51, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.88**	**347**	Pn	**Pn**	**13 33 46.1**	**+0.2**
JCJ	**Chichijima**	**5.88**	**347**	Pn	Pn	13 33 39.4	-6.5
	9.4nm,0.3s,baz=108,slow=9.6,SNR=1.3						
JCJ				Sn	**Sn**	**13 34 49.1**	**-4.3**
	55nm,0.3s,baz=128,slow=19,SNR=6.1						
JCJ				LR	LR	13 35 42.8	
	comp=Z,486nm,18.5s,baz=176,slow=34						
GUMO	**Guam**	**7.81**	**172**	Pn	**Pn**	**13 34 11.6**	**-0.9**
GUMO	**Guam**	**7.81**	**172**	LR	LR	13 36 16.8	
	comp=Z,328nm,19.7s,baz=18,slow=31						
JSG	**Sagara**	**14.13**	**341**	Pn	**Pn**	**13 35 39.0**	**+0.1**
JMN	**Monobe**	**15.08**	**327**	Pn	**Pn**	**13 35 50.1**	**-1.8**
JOW	**Kunigami**	**15.11**	**294**	LR	LR	13 41 03.1	
	comp=Z,389nm,19.0s,baz=41,slow=34						
JGF	**Kuroka**	**15.24**	**340**	Pn	**Pn**	**13 35 54.7**	**+0.6**
MJAR	**Matsushiro Arr**	**15.87**	**344**	Pn	**Pn**	**13 36 00.7**	**-1.5**
	0.1nm,0.3s,baz=157,slow=10,SNR=8.9						
MJAR				LR	LR	13 41 47.3	
	comp=Z,598nm,19.4s,baz=154,slow=36						
	0.8nm,0.5s						
MAJO	**Matsushiro**	**15.87**	**344**	Pn	**Pn**	**13 36 02.3**	**+0.1**
MJB9	**Matsu-Tunnel**	**15.87**	**344**	Pn	**Pn**	**13 36 01.8**	**-0.6**
JNU	**Nakatsue**	**16.34**	**318**	LR	LR	13 41 45.0	
	comp=Z,189nm,18.8s,baz=138,slow=34						
JMM	**Marumori**	**16.64**	**352**	Pn	**P**	**13 36 12.7**	**-1.8**
JSD	**Sado**	**17.27**	**345**		**Pn**	**13 36 20.3**	**+0.3**
YOJ	**Yonaguni jima**	**19.32**	**283**	P	**P**	**13 36 43.1**	**-1.0**
JTM	**Tenmabayashi**	**19.50**	**354**	P	**Pn**	**13 36 46.8**	**-0.4**
KSRS	**Korea Array**	**21.08**	**323**	P	**P**	**13 37 06.9**	**+3.7**
	2.6nm,0.6s,baz=146,slow=7.9,SNR=1.7						
KSRS				LR	LR	13 44 21.7	
	comp=Z,221nm,20.9s,baz=145,slow=34						
	2.6nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**21.76**	**90**	T	T	13 59 02.8	
	baz=278,slow=75,SNR=156						
H11N2	**WAKE ISLAND Hy**	**21.77**	**90**	T	T	13 59 03.0	
	baz=278,slow=75,SNR=159						
H11N3	**WAKE ISLAND Hy**	**21.78**	**90**	T	T	13 59 04.0	
	baz=278,slow=75,SNR=141						
H11S3	**WAKE ISLAND Hy**	**21.79**	**93**	T	T	13 59 08.1	
	baz=281,slow=75,SNR=99						
H11S1	**WAKE ISLAND Hy**	**21.79**	**93**	T	T	13 59 04.2	
	baz=281,slow=75,SNR=84						
H11S2	**WAKE ISLAND Hy**	**21.80**	**93**	T	T	13 59 05.0	
	baz=281,slow=75,SNR=92						
DAV	**Davao City (W)**	**22.57**	**234**	LR	LR	13 44 22.1	
	comp=Z,758nm,21.4s,baz=74,slow=32						
ASAJ	**Asahikawa**	**22.71**	**358**	P	**P**	**13 37 21.5**	**+0.9**
	27nm,1.1s,baz=127,slow=8.1,SNR=2.6						
	27nm,1.1s						
JKA	**Kamikawa-asahi**	**22.71**	**358**	P	**P**	**13 37 22.0**	**+1.4**
TGY	**Tagaytay City**	**22.85**	**255**	LR	LR	13 44 39.0	
	comp=Z,634nm,21.8s,baz=118,slow=32						
USRK	**Ussuriysk Ar.**	**24.77**	**340**	LR	LR	13 47 53.5	
	comp=Z,169nm,18.1s,baz=151,slow=38						
KRVT	**Keravat (AS076**	**26.78**	**161**	LR	LR	13 47 07.1	
	comp=Z,133nm,21.6s,baz=11,slow=33						
KLR	**Kul'dur**	**29.40**	**344**	LR	LR	13 50 22.2	
	comp=Z,121nm,18.1s,baz=164,slow=37						
PETK	**Petropavlovsk-**	**33.46**	**15**	P	**P**	**13 38 56.1**	**-1.8**
	3.7nm,1.0s,baz=203,slow=13,SNR=2.0						
PETK				LR	LR	13 49 25.1	
	comp=Z,104nm,21.4s,baz=196,slow=31						
	3.7nm,1.0s						
HNR	**Honiara**	**34.51**	**151**	LR	LR	13 52 14.2	
	comp=Z,172nm,20.9s,baz=348,slow=35						
COEN	**Coen**	**35.10**	**181**	P	**P**	**13 39 12.8**	**+0.3**
KAPI	**Kappang**	**35.20**	**225**	LR	LR	13 53 43.1	
	comp=Z,68nm,19.7s,baz=24,slow=36						
MTN	**Manton Dam**	**36.17**	**201**	P	**P**	**13 39 21.3**	**-0.3**
MTN				IAmb	IAmb	13 39 25.4	
	comp=Z,28nm,1.1s						
SOEI	**Soe**	**36.35**	**214**	P	**P**	**13 39 23.1**	**-0.1**
KNRA	**Kununurra**	**39.62**	**203**	P	**P**	**13 39 51.1**	**+0.3**
SONM	**Songino Array**	**39.91**	**320**	P	**P**	**13 39 53.4**	**+0.3**
SONM	**Songino Array**	**39.91**	**320**	P	**P**	**13 39 55.4**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=134,slow=8.2,SNR=9.2						
SONM				LR	LR	13 57 53.3	
	comp=Z,250nm,18.2s,baz=154,slow=38						
	comp=Z,1.5nm,0.6s						
CTA	**Charters Tower**	**41.27**	**176**	LR	LR	13 58 03.6	
	comp=Z,82nm,18.4s,baz=343,slow=38						
CTAO	**Charters Tower**	**41.27**	**176**	P	**P**	**13 40 04.5**	**+0.1**
YAK	**Yakutsk**	**41.78**	**350**	P	**P**	**13 40 08.7**	**+0.6**
YAK				IAmb	IAmb	13 40 17.8	
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**41.78**	**350**	P	**P**	**13 40 08.5**	**+0.4**
	comp=Z,4.4nm,0.4s,baz=123,slow=1.7,SNR=5.7						
YAK				LR	LR	13 56 59.4	
	comp=Z,70nm,21.7s,baz=120,slow=36						
	comp=Z,4.4nm,0.4s						
WB0	**Warramunga Arr**	**41.88**	**193**	P	**P**	**13 40 09.5**	**+0.1**
WB0				IAmb	IAmb	13 40 23.6	
	comp=Z,22nm,1.3s						
CHTO	**Chiang Mai**	**42.02**	**275**	P	**P**	**13 40 08.8**	**-1.9**
WR0	**Warramunga Arr**	**42.04**	**193**	P	**P**	**13 40 11.2**	**+0.5**
WR0				IAmb	IAmb	13 40 17.3	
	comp=Z,26nm,1.5s						
WRAB	**Tennant Creek**	**42.05**	**193**	P	**P**	**13 40 10.0**	**-0.8**
WRAB				IAmb	IAmb	13 40 17.4	
	comp=Z,23nm,1.1s						
WB2	**Warramunga Arr**	**42.06**	**193**	P	**P**	**13 40 11.0**	**+0.2**
WB2				IAmb	IAmb	13 40 18.3	
	comp=Z,24nm,1.2s						
WRA	**Warramun

F20K	Avaraart Lake	59.15	23	P	P	13 42 21.4	+2.1
SKT	Skwentna	59.54	30	P	P	13 42 22.4	+0.2
IMAR	Indian Mountai	59.58	25	P	P	13 42 23.3	+1.0
CAST	Castle Rocks	59.61	28	P	P	13 42 24.8	+2.2
CAST				IAmb	IAmb	13 42 30.1	
	comp=Z,8.3nm,0.8s						
G21K	Allakaket	59.82	24	P	P	13 42 24.5	+0.5
G21K				IAmb	IAmb	13 42 31.0	
	comp=Z,16nm,1.4s						
F21K	Alatna River	60.04	24	P	P	13 42 27.3	+1.8
O22K	Cooper Landing	60.12	32	P	P	13 42 26.8	+0.7
M22K	Willow	60.15	30	P	P	13 42 28.2	+2.0
RC01	Rabbit Creek A	60.21	31	P	P	13 42 28.0	+1.2
RC01				IAmb	IAmb	13 42 33.1	
	comp=Z,9.9nm,0.9s						
B21K	Ikpikpuk River	60.39	21	P	P	13 42 30.4	+2.6
B21K				IAmb	IAmb	13 42 37.1	
	comp=Z,7.3nm,1.1s						
TRF	Thorofare Moun	60.40	28	P	P	13 42 31.4	+3.1
AAK	Ala-Archa	60.76	308	LR	LR	14 11 59.5	
	comp=Z,154nm,18.0s,baz=82,slow=39						
D22K	Ayikyak River	60.81	22	P	P	13 42 31.5	+0.7
D22K				IAmb	IAmb	13 42 39.1	
	comp=Z,8.9nm,0.7s						
KNK	Knik Glacier	60.88	31	P	P	13 42 32.9	+1.6
KNK				IAmb	IAmb	13 42 38.9	
	comp=Z,12nm,0.9s						
E22K	Anaktuvuk Pass	60.91	23	P	P	13 42 32.2	+0.7
E22K				IAmb	IAmb	13 42 40.9	
	comp=Z,6.8nm,0.9s						
SML	Sawmill	61.00	30	P	P	13 42 35.9	+3.7
B22K	Teshekpuk Lake	61.01	20	P	P	13 42 35.1	+3.1
B22K				IAmb	IAmb	13 42 40.0	
	comp=Z,8.0nm,0.9s						
COLD	Coldfoot	61.27	24	P	P	13 42 35.4	+1.5
COLD				IAmb	IAmb	13 42 43.3	
	comp=Z,5.0nm,0.8s						
SCM	Sheep Creek Mo	61.47	30	P	P	13 42 37.5	+2.0
D23K	Nanushuk River	61.53	22	P	P	13 42 36.2	+0.6
D23K				IAmb	IAmb	13 42 43.8	
	comp=Z,10.0nm,1.1s						
E23K	Chandalar	61.68	23	P	P	13 42 37.0	+0.2
TOLK	Toolik Lake Re	61.84	22	P	P	13 42 38.1	+0.3
TOLK				IAmb	IAmb	13 42 45.5	
	comp=Z,16nm,1.2s						
H24K	Noodor Dome	61.88	26	P	P	13 42 38.8	+0.6
H24K				IAmb	IAmb	13 42 46.5	
	comp=Z,5.8nm,0.9s						
HDA	Harding Lake	62.03	27	P	P	13 42 40.8	+1.7
HDA				IAmb	IAmb	13 42 46.1	
	comp=Z,5.3nm,0.8s						
KLU	Klutina	62.09	31	P	P	13 42 41.1	+1.5
E24K	Your Creek	62.10	23	P	P	13 42 40.3	+0.7
E24K				IAmb	IAmb	13 42 49.0	
	comp=Z,6.2nm,1.0s						
IL31		62.11	27	P	P	13 42 42.2	+2.6
IL31				IAmb	IAmb	13 42 46.5	
	comp=Z,5.3nm,0.8s						
ILAR	Eielson Array	62.11	27	P	P	13 42 42.2	+2.6
ILAR	Eielson Array	62.11	27	P	P	13 42 36.5	-3.1
	comp=Z,0.9nm,0.9s,baz=256,slow=5.7,SNR=8.9						
	comp=Z,0.9nm,0.9s						
G24K	Hadweenzic Riv	62.21	25	P	P	13 42 42.0	+1.8
D24K	Happy Valley	62.22	22	P	P	13 42 41.1	+0.9
C24K	Franklin Bluff	62.40	21	P	P	13 42 45.0	+3.6
C24K				IAmb	IAmb	13 42 48.9	
	comp=Z,18nm,1.4s						
J25K	Salcha River,	62.73	27	P	P	13 42 47.5	+3.7
J25K				IAmb	IAmb	13 42 52.4	
	comp=Z,5.3nm,0.9s						
RIDG	Independent Ri	62.85	28	P	P	13 42 47.9	+3.3
RIDG				IAmb	IAmb	13 42 52.4	
	comp=Z,11nm,0.9s						
F25K	Christian Rive	63.07	24	P	P	13 42 47.1	+1.1
F25K				IAmb	IAmb	13 42 55.7	
	comp=Z,6.5nm,1.0s						
E25K	Arctic Village	63.18	23	P	P	13 42 50.2	+3.5
BVAR	Borovoye Array	63.25	320	P	P	13 42 48.4	+1.0
	comp=Z,6.5nm,0.6s,baz=94,slow=7.7,SNR=18						
BVAR				LR	LR	14 11 28.3	
	comp=Z,119nm,18.5s,baz=83,slow=37						
	comp=Z,6.5nm,0.6s						
SCRK	Sand Creek	63.26	28	P	P	13 42 50.7	+3.3
SCRK				IAmb	IAmb	13 42 55.3	
	comp=Z,8.0nm,0.8s						
BRVK	Borovoye	63.31	320	P	P	13 42 48.7	+0.9
BMAR	Burnt Mountain	63.45	24	P	P	13 42 52.1	+3.6
J26L	Joseph Creek	63.49	28	P	P	13 42 50.5	+1.6
J26L				IAmb	IAmb	13 42 56.7	
	comp=Z,9.2nm,0.8s						
F26K	Sheenjek River	63.65	24	P	P	13 42 50.9	+1.0
F26K				IAmb	IAmb	13 42 57.8	
	comp=Z,9.4nm,1.1s						
KKAR	Karatay Array	63.65	309	P	P	13 42 50.6	+0.4
M27K	Edge Creek, AK	64.07	30	P	P	13 42 53.1	+0.2
C27K	Jago River	64.09	22	P	P	13 42 53.5	+0.8
C27K				IAmb	IAmb	13 43 02.3	
	comp=Z,6.9nm,1.0s						
BCAR	Beaver Creek A	64.16	29	P	P	13 42 52.8	-0.5
D27M	Malcolm River	65.00	22	P	P	13 42 58.7	0.0
D27M				IAmb	IAmb	13 43 08.3	
	comp=Z,5.9nm,0.8s						
CHGR	Chuyangaron	65.19	304	P	P	13 43 01.1	+0.6
F28M	Old Crow	65.27	24	IAmb	IAmb	13 43 09.6	
	comp=Z,6.1nm,1.1s						
SIMJ	Simiganj	65.31	304	P	P	13 43 00.9	-0.4
SIMJ				IAmb	IAmb	13 43 16.3	
	comp=Z,6.0nm,1.1s						
H29M	Whitestone	65.78	26	IAmb	IAmb	13 43 20.4	
	comp=Z,12nm,1.2s						
L29M	L29M	65.82	29	IAmb	IAmb	13 43 11.6	
	comp=Z,9.0nm,0.9s						
G29M	Pine Creek	65.95	25	IAmb	IAmb	13 43 14.1	
	comp=Z,8.9nm,1.1s						
EPYK	Eagle Plains	66.45	26	IAmb	IAmb	13 43 16.8	
	comp=Z,9.0nm,0.9s						
URZ	Urewera	67.09	152	LR	LR	14 08 36.0	
	comp=Z,68nm,20.8s,baz=54,slow=33						
H31M	Peel River	67.43	26	P	P	13 43 17.5	+3.2
H31M				IAmb	IAmb	13 43 23.3	
	comp=Z,7.0nm,0.8s						
INK	Inuvik	67.67	23	P	P	13 43 18.2	+2.5
INK				IAmb	IAmb	13 43 22.8	
	comp=Z,6.8nm,0.8s						
RAR	Rarotonga	69.54	124	LR	LR	14 06 41.1	
	comp=Z,77nm,21.9s,baz=276,slow=30						
ARTI	Arti	69.93	324	LR	LR	14 15 17.9	
	comp=Z,54nm,19.7s,baz=31,slow=37						
ABKAR	Akbulak array	70.13	316	P	P	13 43 31.6	+0.2
A36M	Sachs Harbour	70.19	19	P	P	13 43 33.9	+2.6
C36M	Paulatuk	70.98	22	IAmb	IAmb	13 44 02.8	
	comp=Z,18nm,1.7s						
AKTO	Aktyubinsk	71.15	318	LR	LR	14 16 30.3	
	comp=Z,95nm,18.0s,baz=230,slow=37						
BBB	Bella Bella	72.32	40	LR	LR	14 07 17.2	
	comp=Z,134nm,21.8s,baz=263,slow=29						
KIRV	Kirov	74.22	327	LR	LR	14 19 01.1	
	comp=Z,123nm,18.9s,baz=58,slow=38						
PPT	Papeete	75.94	115	LR	LR	14 13 31.6	
	comp=Z,92nm,18.7s,baz=236,slow=33						
YKA	Yellowknife Ar	76.52	28	P	P	13 44 06.4	-2.4
	comp=Z,0.5nm,0.7s,baz=291,slow=6.0,SNR=10						
	comp=Z,0.5nm,0.7s						
BELG	Belogornoye	76.96	321	LR	LR	14 20 34.5	
	comp=Z,104nm,18.3s,baz=62,slow=38						
YBH	Yreka Blue Hor	78.66	50	LR	LR	14 11 16.9	
	comp=Z,226nm,21.4s,baz=334,slow=30						
J05D	Fort Rock, OR	79.19	48	P	P	13 44 25.9	+1.6
PINE	Pine Mountain	79.23	47	P	P	13 44 26.5	+1.9
PINE				IAmb	IAmb	13 44 33.2	
	comp=Z,12nm,1.0s						
ARCES	ARCESS Array B	79.39	342	P	P	13 44 23.3	-1.4
	comp=Z,4.8nm,0.9s,baz=46,slow=9.3,SNR=3.7						
ARCES				LR	LR	14 25 07.7	
	comp=Z,55nm,18.3s,baz=138,slow=40						
	comp=Z,4.8nm,0.9s						
NEW	Newport	80.20	42	LR	LR	14 13 09.8	
	comp=Z,180nm,21.9s,baz=264,slow=31						
J08A	Circle Bar Ran	81.06	47	IAmb	IAmb	13 44 42.7	
	comp=Z,7.1nm,0.8s						
BMO	Blue Mountains	81.31	45	P	P	13 44 36.8	+1.2
BMO				IAmb	IAmb	13 44 43.8	
	comp=Z,6.7nm,0.9s						
PNTR	Pine Nut	81.78	51	P	P	13 44 39.6	+1.2
YERR	Yerington	82.08	51	P	P	13 44 42.1	+2.2
PLID	Pearl Lake	82.08	45	P	P	13 44 42.0	+2.2
WAKR	Walker	82.11	52	P	P	13 44 41.6	+1.6
MFID	Camas Ranch	82.83	46	P	P	13 44 44.5	+0.8
MFID				IAmb	IAmb	13 44 52.0	
	comp=Z,9.5nm,0.9s						
LHV	Little Huntoon	82.88	52	P	P	13 44 45.2	+1.3
KBZ	Khabaz	82.96	314	P	P	13 44 44.9	+0.8
	comp=Z,6.2nm,0.8s,baz=107,slow=7.9,SNR=11						
	comp=Z,6.2nm,0.8s						
NVAR	Mina Array Bea	82.96	52	P	P	13 44 46.1	+1.5
NVAR	Mina Array Bea	82.96	52	P	P	13 44 42.6	-2.0
	comp=Z,0.9nm,0.7s,baz=276,slow=5.0,SNR=13						
NVAR				LR	LR	14 13 39.6	
	comp=Z,185nm,20.6s,baz=292,slow=30						
	comp=Z,0.9nm,0.7s						
GNI	Garni	83.04	310	LR	LR	14 26 26.0	
	comp=Z,39nm,18.3s,baz=58,slow=39						
NV11	Mina Array Sit	83.07	52	P	P	13 44 46.8	+1.8
NV11				IAmb	IAmb	13 44 49.4	
	comp=Z,18nm,2.0s						
FINES	FINESS Array B	83.69	335	P	P	13 44 46.0	-1.6
	comp=Z,1.4nm,0.6s,baz=64,slow=4.4,SNR=7.7						
FINES				LR	LR	14 26 14.1	
	comp=Z,70nm,18.0s,baz=142,slow=39						
	comp=Z,1.4nm,0.6s						
ELK	Elko	84.27	49	IAmb	IAmb	13 44 59.5	
	comp=Z,5.7nm,0.9s						
YHL	Hebgen Lake	85.31	44	IAmb	IAmb	13 45 03.8	
	comp=Z,7.8nm,1.0s						
HVU	Hansel Valley	85.55	47	IAmb	IAmb	13 45 23.3	
	comp=Z,21nm,1.9s						
FFC	Flin Flon	85.85	32	P	P	13 45 00.7	+2.2
FFC				IAmb	IAmb	13 45 13.5	
	comp=Z,8.0nm,1.2s						
FXWY	Fox Creek	85.93	45	P	P	13 44 59.4	-0.2
FLWY	Flagg Ranch	85.95	44	P	P	13 45 00.7	+1.1
FLWY				IAmb	IAmb	13 45 08.7	
	comp=Z,6.1nm,0.8s						
PSUT	Pine Spring	86.14	50	IAmb	IAmb	13 45 08.6	
	comp=Z,8.5nm,0.9s						
PFO	Pinyon Flats O	86.17	55	LR	LR	14 16 12.7	
	comp=Z,122nm,20.5s,baz=288,slow=31						
DUG	Dugway, Tooele	86.19	48	IAmb	IAmb	13 45 07.3	
	comp=Z,5.6nm,0.9s						
HWUT	Hardware Ranch	86.45	47	IAmb	IAmb	13 45 09.1	
	comp=Z,5.2nm,0.8s						
CTU	Camp Tracy	86.71	47	IAmb	IAmb	13 45 11.4	
	comp=Z,6.5nm,1.0s						
TCUT	Toone Canyon	86.77	47	P	P	13 45 05.3	+1.5
TCUT				IAmb	IAmb	13 45 11.2	
	comp=Z,8.8nm,0.8s						
JLU	Jordanelle	86.96	47	P	P	13 45 06.3	+1.7
JLU				IAmb	IAmb	13 45 12.3	
	comp=Z,6.6nm,0.8s						
MPU	Maple Canyon	87.08	48	IAmb	IAmb	13 45 12.8	
	comp=Z,4.2nm,0.8s						
PD31	Pinedale Array	87.28	45	IAmb	IAmb	13 45 56.5	
	comp=Z,12nm,1.9s						
PDAR	Pinedale Array	87.28	45	P	P	13 45 04.2	-2.0
	comp=Z,0.2nm,0.6s,baz=237,slow=2.2,SNR=11						
PDAR				LR	LR	14 17 37.5	
	comp=Z,103nm,20.4s,baz=283,slow=31						
	comp=Z,0.2nm,0.6s						
AKASG	Malin Array Be	88.06	325	P	P	13 45 07.7	-1.8
	comp=Z,0.2nm,0.3s,baz=47,slow=6.6,SNR=4.4						
AKASG				LR	LR	14 27 51.1	
	comp=Z,121nm,18.5s,baz=46,slow=38						
	comp=Z,0.2nm,0.3s						
U15A	North Rim	88.15	52	IAmb	IAmb	13 45 18.4	
	comp=Z,4.5nm,0.8s						
SRU	San Rafael Swe	88.25	49	P	P	13 45 13.1	+2.3
SRU				IAmb	IAmb	13 45 18.0	
	comp=Z,6.4nm,1.1s						
Y14A	Wickenburg	88.67	54	IAmb	IAmb	13 45 21.0	
	comp=Z,7.9nm,1.0s						
WUAZ	Wupatki	89.21	52	IAmb	IAmb	13 45 23.9	
	comp=Z,6.5nm,0.9s						
HFS	Hagfors	89.23	337	LR	LR	14 27 03.4	
	comp=Z,57nm,18.1s,baz=330,slow=37						
NOA	NORSAR Array B	89.44	339	P	P	13 45 13.7	-2.0
	comp=Z,0.7nm,0.8s,baz=54,slow=8.6,SNR=1.7						
NOA				LR	LR	14 28 46.7	
	comp=Z,36nm,18.2s,baz=55,slow=38						
	comp=Z,0.7nm,0.8s						
PV11	David Mesa, Pa	89.77	49	IAmb	IAmb	13 45 23.8	
	comp=Z,7.0nm,0.7s						
PV13	Radium Mtn., P	89.87	49	P	P	13 45 20.4	+1.9
PV13				IAmb	IAmb	13 46 01.4	
	comp=Z,14nm,1.6s						
BRTR	Keskin Array B	90.93	314	P	P	13 45 22.0	-1.3
	comp=Z,0.4nm,0.5s,baz=70,slow=5.1,SNR=1.8						
	comp=Z,0.4nm,0.5s						
ASF	Jabal al Asfar	92.11	306	LR	LR	14 33 33.7	
	comp=Z,39nm,18.9s,baz=309,slow=40						
MLR	Muntele Rosu	92.76	321	LR	LR	14 29 54.5	
	comp=Z,146nm,19.2s,baz=64,slow=37						
ANMO	Albuquerque	93.05	51	LR	LR	14 21 04.3	
	comp=Z,92nm,20.2s,baz=104,slow=32						
EIL	Elat	94.74	304	LR	LR	14 34 49.5	
	comp=Z,40nm,18.4s,baz=66,slow=40						
LPIG	La Paz	95.01	62	LR	LR	14 19 06.4	
	comp=Z,84nm,22.0s,baz=268,slow=30						
VRAC	Vranov	95.42	328	LR	LR	14 31 15.5	
	comp=Z,83nm,18.8s,baz=19,slow=37						
GERES	GERESS Array B	97.13	329	LR	LR	14 31 37.8	
	comp=Z,136nm,19.6s,baz=24,slow=37						
TXAR	Lajitas Array	97.85	54	P	P	13 45 53.6	-1.6
	comp=Z,0.2nm,0.7s,baz=294,slow=4.7,SNR=1.6						
TXAR				LR	LR	14 23 10.2	
	comp=Z,56nm,21.4s,baz=295,slow=31						
	comp=Z,0.2nm,0.7s						
SCHQ	Scheferville	99.73	17	LR	LR	14 31 05.2	
	comp=Z,46nm,21.9s,baz=32,slow=35						
H03N2	Juan Fernandez	140.53	117	T	T	16 27 33.7	
	baz=267,slow=74,SNR=12						
H03N3	Juan Fernandez	140.53	117	T	T	16 27 33.7	
	baz=267,slow=74,SNR=15						
H03N1	Juan Fernandez	140.54	117	T	T	16 27 33.2	
	baz=267,slow=74,SNR=16						
PLCA	Paso Flores	145.16	131	PKP	PKPbc	13 51 54.5	-1.9
	comp=Z,8.8nm,1.1s,baz=227,slow=5.8,SNR=7.9						
LPAZ	La Paz	149.47	86	PKPbc	PKPbc	13 52 07.5	-2.4
	comp=Z,1.6nm,0.5s,baz=259,slow=3.1,SNR=5.4						

*IDC **01** 13:32:59.7±1.2, 41°.94N×124°.10E, h0km, mb3.3/4, mbtmp3.2/8, ML2.8/4, Error ellipse: s-maj=21.9km s-min=17.6km az=41.0*

ISC 01 13:33:01.6±0.9, 41°.97N±0°.08×123°.95E±0°.09, h10km, n8, σ2§00/10, mb3.3/4, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	5.45	144	Pn	Pn	13 34 21.0	-1.8
	0.2nm,0.3s,baz=328,slow=13,SNR=2.0						
KSRS				Pg	Pb	13 34 38.9	+2.1
	1.2nm,0.3s,baz=330,slow=18,SNR=15						
KSRS				Lg	Lg	13 35 48.9	
	4.2nm,0.3s,baz=316,slow=29,SNR=8.1						
	0.5nm,0.3s						
USRK	Ussuriysk Ar.	6.29	67	Pn	Pn	13 34 33.1	-1.3
	0.6nm,0.3s,baz=260,slow=11,SNR=5.1						
USRK				Pg	Pb	13 34 54.0	+2.8
	1.0nm,0.3s,baz=243,slow=16,SNR=7.8						
USRK				Lg	Lg	13 36 13.7	
	0.4nm,0.3s,baz=253,slow=19,SNR=4.3						
	1.5nm,0.4s						
KLR	Kul'dur	9.09	34	Pn	Pn	13 35 12.2	-0.5
	0.1nm,0.3s,baz=213,slow=17,SNR=1.2						
KLR				Lg	Lg	13 37 49.0	
	0.4nm,0.3s,baz=241,slow=19,SNR=6.6						
	0.6nm,0.6s						
SONM	Songino Array	13.75	301	Pn	Pn	13 36 16.6	+0.1
	baz=104,slow=12,SNR=1.0						
	0.2nm,0.5s						
MKAR	Makanchi Array	29.90	294	P	P	13 39 11.9	+2.5
	0.3nm,0.9s,baz=90,slow=7.2,SNR=1.8						
	0.3nm,0.9s						
KURBB	Kurchatov Arra	32.11	301	P	P	13 39 28.9	+0.1
	0.3nm,0.5s,baz=89,slow=9.6,SNR=6.1						
	0.3nm,0.5s						
ILAR	Eielson Array	52.66	33	P	P	13 42 14.8	-0.7
	0.4nm,0.7s,baz=286,slow=7.6,SNR=8.4						
	0.4nm,0.7s						
YKA	Yellowknife Ar	65.83	26	P	P	13 43 44.8	-1.9
	0.1nm,0.6s,baz=311,slow=6.9,SNR=2.2						
	0.1nm,0.6s						

*IDC **01** 13:49:37.9±1.0, 55°.84S×27°.56W, h0km, mb4.1/4, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=45.1km s-min=23.6km az=84.0*

*NEIC **01** 13:49:41.5±1.2, 56°.1S±0°.2×28°.4W±0°.3, h10km±1km, mb4.3/8, Error ellipse: s-maj=37.0km s-min=3.2km az=41.0*

ISC 01 13:49:40.5±0.7, 56°.0S±0°.1×28°.2W±0°.1, h10km, n40, σ1§29/35, mb4.3/7, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.08	286	Pn	Pn	13 50 56.1	-0.4
VNA3	Neumayer Olymp	17.24	160	⇑P	Pn	13 53 41.4	+0.5
	comp=Z,1.6nm,0.4s						
VNA2	Neumayer--Watz	17.46	157	⇑P	Pn	13 53 43.7	0.0
	comp=Z,56nm,0.5s,baz=313,slow=12						
SNAA	Sanae	19.02	155	P	P	13 54 00.8	-1.4
SNAA	Sanae	19.02	155	⇑P	P	13 53 59.5	-2.7
	comp=Z,37nm,0.5s						
SNAA	Sanae	19.02	155	P	P	13 54 00.9	-1.2
	comp=Z,0.2nm,0.3s,baz=321,slow=12,SNR=7.7						
	comp=Z,1.8nm,0.6s						
TROLL	Troll, Antarti	20.55	153	⇑P	P	13 54 16.4	-2.4
	comp=Z,58nm,0.5s						
BELA	Belgrano 2	22.11	184	P	P	13 54 36.1	+0.7
BELA				IAmb	IAmb	13 54 39.4	
	comp=Z,5.0nm,0.9s						
MG01	Puerto William	22.21	256	P	P	13 54 35.3	-1.4
QSPA	South Pole Qui	34.27	180	P	P	13 56 26.7	+0.3
	comp=Z,1.8nm,0.6s,baz=186,slow=3.8,SNR=5.3						
	comp=Z,1.8nm,0.6s						
AC04	Llanos de Chal	41.23	294	P	P	13 57 25.5	+0.1
AC04				IAmb	IAmb	13 57 52.1	
	comp=Z,14nm,1.2s						
AC02	Maricunga	41.37	298	P	P	13 57 26.5	-0.6
GO02	Mina Guanaco	42.99	298	P	P	13 57 40.0	-0.1
GO02				IAmb	IAmb	13 57 43.7	
	comp=Z,3.8nm,0.7s						
VNDA	Vanda	46.61	183	P	P	13 58 08.4	+0.4
	comp=Z,2.1nm,0.7s,baz=157,slow=13,SNR=1.1						
	comp=Z,2.1nm,0.7s						
H10S2	ASCENSION HYDR	48.10	18	T	T	14 49 51.9	
	baz=31,slow=74,SNR=14						
H10S3	ASCENSION HYDR	48.10	18	T	T	14 49 45.9	
	baz=189,slow=74,SNR=14						
H10N1	ASCENSION HYDR	49.22	18	T	T	14 51 17.2	
	baz=189,slow=75,SNR=3.7						
H10N3	ASCENSION HYDR	49.22	18	T	T	14 51 08.2	
	baz=189,slow=75,SNR=15						
H10N2	ASCENSION HYDR	49.23	18	T	T	14 51 10.1	
	baz=189,slow=75,SNR=7.6						
LPAZ	La Paz	49.90	306	P	P	13 58 34.8	0.0
	comp=Z,0.8nm,0.4s,baz=135,slow=4.3,SNR=2.1						
	comp=Z,0.8nm,0.4s						
CASY	Casey	54.15	161	P	P	13 59 05.3	+0.3
TORD	Torodi Ar. Bea	73.27	30	P	P	14 01 09.5	-2.2
	comp=Z,1.9nm,0.5s,baz=203,slow=5.6,SNR=12						
	comp=Z,1.9nm,0.5s						
L29M	L29M	145.49	311	PKPdf	PKPdf	14 09 17.8	+0.6
K29M	Barlow Dome	145.50	312	PKPdf	PKPdf	14 09 17.6	+0.2
I30M	Mount Dempster	145.51	315	PKPdf	PKPdf	14 09 17.4	+0.1
DAWY	Dawson	146.35	312	PKPdf	PKPdf	14 09 19.8	+1.1
G29M	Pine Creek	146.66	318	PKPdf	PKPdf	14 09 20.5	+1.4
I28M	Miner Creek	147.00	315	PKPdf	PKPdf	14 09 21.8	+1.9
F28M	Old Crow	147.54	318	PKPdf	PKPdf	14 09 22.8	+2.3
I26K	Coal Creek Min	148.26	314	PKPdf	PKPdf	14 09 23.8	+2.0
D27M	Malcolm River	148.26	321	PKPdf	PKPdf	14 09 22.8	+1.0
J25K	Salcha River,	149.00	312	PKPdf	PKPdf	14 09 23.6	+0.5
BMAR	Burnt Mountain	149.27	317	PKPbc	PKPbc	14 09 28.4	+0.6
ILAR	Eielson Array	149.67	312	PKPbc	PKPbc	14 09 29.3	+0.5
ILAR	Eielson Array	149.67	312	PKPbc	PKPbc	14 09 28.1	-0.7
	comp=Z,1.1nm,1.0s,baz=114,slow=1.1,SNR=8.1						
RND	Reindeer	150.20	309	PKPbc	PKPbc	14 09 31.4	+1.3
JCJ	Chichijima	150.30	162	PKPbc	PKPbc	14 09 32.1	+0.7
SONM	Songino Array	151.26	87	PKPbc	PKPdf	14 09 30.0	+2.7
	comp=Z,0.2nm,0.4s,baz=219,slow=3.7,SNR=2.6						
TOLK	Toolik Lake Re	151.28	319	PKPbc	PKPbc	14 09 32.8	+0.2
IMAR	Indian Mountai	152.70	313	PKPbc	PKPbc	14 09 36.4	+0.6

*NEIC **01** 13:51:07.7±1.1, 23°.85S±0°.2×179°.57W±0°.08, h501km±17km, mb4.4/20, Error ellipse: s-maj=27.2km s-min=7.1km az=196.0*

*IDC **01** 13:51:08.6±2.2, 23°.98S×179°.94W, h483km±23km, mb3.4/9, mbtmp4.2/10, Error ellipse: s-maj=23.9km s-min=18.3km az=164.0*

*NOU **01** 13:51:10.2, 23°.97S×179°.53W, h546km, mb4.3/31, South of Fiji Islands*

ISC 01 13:51:09.4±0.6, 23°.97S±0°.08×179°.73W±0°.09, h512km, n68, σ1§45/70, mb4.2/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	5.77	9	P	P	13 52 46.1	+1.9
MSVF	Nonsavu	6.54	341	P	P	13 52 48.4	-3.3
DGTI	Dogotuki	7.65	356	P	P	13 53 04.6	+1.9
FUTU	Fugatoga	9.73	9	P	P	13 53 20.1	-4.1
NIUE	Niue	10.34	64	P	P	13 53 26.5	-4.0
NIUE	Niue	10.34	64	P	P	13 53 30.6	0.0
AFI	Afiamalu	12.52	38	P	P	13 53 49.7	-3.9
OUZ	Omahuta	12.62	206	P	P	13 53 56.6	+2.3
URZ	Urewera	14.50	190	P	P	13 54 13.2	-0.8
	4.1nm,0.3s,baz=356,slow=3.2,SNR=18						
URZ				S	S	13 56 43.2	-3.0
	4.4nm,0.5s,baz=292,slow=19,SNR=14						
URZ	Urewera	14.50	190	P	P	13 54 13.6	-0.4
BKZ	Black Stump Fm	15.48	191	P	P	13 54 24.0	-0.4
BFZ	Birch

WRA ScP **ScP** **14 03 06.5 +3.3**
comp=Z,0.3nm,0.3s,baz=98,slow=3.4,SNR=7.8
comp=Z,11nm,0.6s
FORT Forrest 46.52 250 P **P** **13 58 49.7 -0.7**
FORT Forrest 46.52 250 P **P** **13 58 49.3 -1.2**
KDU Kakadu 46.54 275 P **P** **13 58 50.0 -0.8**
WRKA Warakurna 47.06 257 P **P** **13 58 54.1 -0.6**
MTN Manton Dam 47.70 274 P **P** **13 58 58.8 -0.8**
MTN IAmb IAmb 13 59 08.4
comp=Z,27nm,1.1s
MTN Manton Dam 47.70 274 P **P** **13 58 58.8 -0.8**
KNRA Kununurra 48.93 270 P **P** **13 59 08.6 -0.1**
KNRA IAmb IAmb 13 59 09.1
comp=Z,15nm,0.8s
FITZ Fitzroy Crossi 51.07 266 P **P** **13 59 24.3 -0.1**
FITZ Fitzroy Crossi 51.07 266 P **P** **13 59 24.1 -0.3**
PSA00 Pilbara Seismi 55.39 260 P **P** **13 59 54.5 -0.7**
PSA00 IAmb IAmb 14 00 18.1
comp=Z,9.8nm,1.1s
BLDU Ballidu 56.23 248 P **P** **14 00 00.1 -0.8**
MORW Morawa 57.08 250 P **P** **14 00 06.5 -0.3**
MORW IAmb IAmb 14 00 33.0
comp=Z,14nm,1.4s
MORW Morawa 57.08 250 P **P** **14 00 06.2 -0.6**
PLAI Plampang 61.37 273 P **P** **14 00 35.1 -0.6**
QSPA South Pole Qui 66.11 180 P **P** **14 01 05.7 +0.3**
QSPA South Pole Qui 66.11 180 P **P** **14 01 07.2 +1.8**
comp=Z,1.9nm,0.7s,baz=78,slow=0.8,SNR=5.1
comp=Z,1.9nm,0.7s
NVAR Mina Array Bea 84.63 44 P **P** **14 02 50.8 +1.8**
comp=Z,0.3nm,0.6s,baz=214,slow=8.8,SNR=3.6
comp=Z,0.3nm,0.6s
CMAR Chiang Mai Arr 89.78 290 P **P** **14 03 14.5 +1.0**
comp=Z,0.3nm,0.3s,baz=113,slow=5.0,SNR=2.1
comp=Z,0.3nm,0.3s
TXAR Lajitas Array 90.26 58 P **P** **14 03 18.6 +2.9**
comp=Z,0.7nm,0.7s,baz=213,slow=7.0,SNR=9.0
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 92.57 44 P **P** **14 03 27.7 +1.5**
comp=Z,0.3nm,0.7s,baz=254,slow=6.9,SNR=3.6
comp=Z,0.3nm,0.7s
ARCES ARCESS Array B 132.00 348 PKP **PKPdf** **14 09 23.9 +0.2**
comp=Z,2.2nm,0.7s,baz=39,slow=1.8,SNR=1.5
HFS Hagfors 142.66 349 PKhKP PKPpre 14 09 40.7
comp=Z,1.2nm,0.6s,baz=64,slow=3.4,SNR=10
BRTR Keskin Array B 147.81 307 PKPbc **PKPab** **14 10 00.0 -1.1**
comp=Z,0.7nm,0.7s,baz=152,slow=4.4,SNR=2.9

*IDC **01** 14:03:23.5±1.5, 17°.29N×92°.81W, h0km, mb3.2/4, mbtmp3.4/6, ML3.6/2, MS3.0/1, Error ellipse: s-maj=27.9km s-min=21.5km az=178.0*
*NEIC **01** 14:03:25.8±2.0, 17°.22N±0°.04×92°.81W±0°.05, h10km±2km, mb4.1/17, Md4.4/57(MEX), Error ellipse: s-maj=8.0km s-min=6.6km az=276.0*
*MEX **01** 14:03:27.9±0.7, 17°.03N×92°.69W, h12km±6km, MD4.4*
ISC 01 14:03:25.5±1.1, 17°.21N±0°.03×92.78W±0°.02, h18km±6km, n81, σ1°61/123, mb3.8/8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGBT	**Tuxtla Gutierr**	**0.52**	**215**		**Pg**	**14 03 35.7**	**-0.2**
TGBT					**Sg**	**14 03 42.1**	**-0.9**
TGBT	**Tuxtla Gutierr**	**0.52**	**215**	*eP*	**Pg**	**14 03 35.7**	**-0.2**
TGBT				*eS*	**Sg**	**14 03 42.1**	**-0.9**
TGIG		**0.54**	**218**		**Pg**	**14 03 35.7**	**-0.6**
TGIG					**Sg**	**14 03 43.3**	**-0.3**
TGIG		**0.54**	**218**	*eP*	**Pg**	**14 03 35.7**	**-0.6**
TGIG				*eS*	**Sg**	**14 03 43.3**	**-0.3**
VHSA	**Villahermosa**	**0.79**	**349**	*eP*	**Pn**	**14 03 43.0**	**+1.3**
VHSA				*eS*	**Sn**	**14 03 55.5**	**+2.4**
CCIG	**Comitan**	**1.11**	**146**		**Pb**	**14 03 46.2**	**0.0**
CCIG	**Comitan**	**1.11**	**146**	*eP*	**Pb**	**14 03 46.2**	**0.0**
CCIG				*eS*	**Sg**	**14 03 57.9**	**-3.7**
UXUV	**UXUV**	**1.31**	**275**	*eP*	**Pg**	**14 03 50.7**	**-0.1**
UXUV				*eS*	**Sg**	**14 04 07.1**	**-0.9**
CARR	**Arriaga**	**1.45**	**229**	*eP*	**Pn**	**14 03 52.0**	**+1.2**
CARR				*eS*	**Sn**	**14 04 08.5**	**-0.9**
PCIG		**1.55**	**196**		**Pn**	**14 03 52.9**	**+0.6**
PCIG					**Sn**	**14 04 13.5**	**+1.5**
PCIG		**1.55**	**196**	*eP*	**Pn**	**14 03 52.9**	**+0.6**
PCIG				*eS*	**Sn**	**14 04 13.5**	**+1.5**
TUIG	**Tuzandepetl**	**1.77**	**298**	*eP*	**Pg**	**14 04 01.4**	**+1.8**
TUIG				*eS*	**Sn**	**14 04 14.2**	**-3.1**
NILT	**Santiago Nilte**	**1.87**	**250**	*eP*	**Pb**	**14 03 59.8**	**+0.6**
NILT				*eS*	**Sb**	**14 04 23.8**	**+1.5**
CMIG	**Matias Romero**	**2.02**	**267**		**Pn**	**14 03 59.4**	**+0.7**
CMIG					**Sn**	**14 04 23.7**	**+0.2**
CMIG	**Matias Romero**	**2.02**	**267**	Pn	**Pn**	**14 03 59.8**	**+1.2**
34nm,0.3s,baz=84,slow=16,SNR=104
CMIG Sn **Sb** **14 04 26.0** **-0.4**
16nm,0.3s,baz=64,slow=20,SNR=6.9
CMIG Matias Romero 2.02 267 *eP* **Pn** **14 03 59.4 +0.7**
CMIG *eS* **Sn** **14 04 23.7 +0.2**
CHUJ Union Juarez 2.20 163 *eP* **Pn** **14 04 03.4 +2.0**
CHUJ *i* S **Sn** **14 04 28.7 +0.5**
HUEH Huehuetenango 2.24 147 Pn **Pn** **14 04 03.9 +1.9**
HUEH Huehuetenango 2.24 147 *eP* **Pn** **14 04 02.8 +0.8**
HUEH *i* S **Sn** **14 04 28.9 -0.5**
SCIG Sabancuy 2.32 41 *eP* **Pn** **14 04 04.7 +1.9**
SCIG *eS* **Sn** **14 04 32.2 +1.4**
PETF Flores 2.80 95 **Pn** **14 04 11.2 +1.8**
PETF Flores 2.80 95 *eP* **Pn** **14 04 10.5 +1.0**
PETF *eS* **Sn** **14 04 41.7 -1.1**
RTAL Retalhuleu 2.86 158 Pn **Pn** **14 04 12.3 +1.9**
RTAL Retalhuleu 2.86 158 *eP* Pn 14 04 02.4 -7.9
NEUV Arroyo Zacate 2.93 280 *eP* **Pn** **14 04 11.5 +0.3**
NEUV *eS* **Sn** **14 04 44.9 -1.1**
APG El Apazote 3.12 134 Pn **Pn** **14 04 14.8 +0.8**
baz=228,slow=19
HUIG Huatulco 3.50 246 **Pn** **14 04 18.2 -0.8**
HUIG **Sn** **14 05 02.1 +2.0**
HUIG Huatulco 3.50 246 *eP* **Pn** **14 04 18.2 -0.8**
HUIG *eS* **Sn** **14 05 02.1 +2.0**
OXIG Oaxaca 3.78 269 **Pn** **14 04 22.7 -0.5**
OXIG **Sn** **14 05 09.4 +2.0**
VHO Vista Hermosa 3.78 269 *eP* **Pn** **14 04 22.7 -0.5**
VHO *i* S **Sn** **14 05 09.4 +2.0**
TOIG Toxpalan 4.18 283 **Pn** **14 04 30.5 +1.9**
TOIG **Sn** **14 05 16.2 -0.9**
TOIG Toxpalan 4.18 283 *eP* **Pn** **14 04 30.5 +1.9**
TOIG *eS* **Sn** **14 05 16.2 -0.9**
ESQI Esquipulas 4.23 128 Pn **Pn** **14 04 31.4 +2.2**
MTO3 Montecristo 4.32 130 **Pn** **14 04 30.9 +0.4**
PEIG Puerto Escondi 4.36 255 **Pn** **14 04 30.9 0.0**
PEIG **Sn** **14 05 23.5 +2.2**
PEIG Puerto Escondi 4.36 255 *eP* **Pn** **14 04 30.9 0.0**
PEIG *eS* **Sn** **14 05 23.5 +2.2**
JAUV Jalcomulco 4.38 300 *eP* **Pn** **14 04 31.6 +0.3**
JAUV *eS* **Sn** **14 05 20.1 -1.9**
TPIG Tehuac#an 4.53 286 **Pn** **14 04 34.6 +1.2**
TPIG **Sn** **14 05 22.5 -3.2**
TPIG Tehuac#an 4.53 286 *eP* **Pn** **14 04 34.6 +1.2**
TPIG *eS* **Sn** **14 05 22.5 -3.2**
YOIG Yosondua 4.57 266 **Pn** **14 04 34.7 +0.6**
YOIG **Sn** **14 05 30.3 +3.3**
YOIG Yosondua 4.57 266 *eP* **Pn** **14 04 34.7 +0.6**
YOIG *eS* **Sn** **14 05 30.3 +3.3**
TXIG Tlaxiaco 4.77 271 **Pn** **14 04 39.0 +2.3**
TXIG **Sn** **14 05 34.4 +2.6**
TXIG Tlaxiaco 4.77 271 *eP* **Pn** **14 04 39.0 +2.3**
TXIG *i* S **Sn** **14 05 34.4 +2.6**
HLIG Huajuapan de L 4.83 278 **Pn** **14 04 38.9 +1.2**
HLIG **Sn** **14 05 31.5 -1.9**
HLIG Huajuapan de L 4.83 278 *eP* **Pn** **14 04 38.9 +1.2**
HLIG *eS* **Sn** **14 05 31.5 -1.9**
FTIG Fresnillo de T 5.16 279 **Pn** **14 04 43.4 +1.5**
FTIG **Sn** **14 05 40.0 -1.2**
FTIG Fresnillo de T 5.16 279 *eP* **Pn** **14 04 43.4 +1.5**
FTIG *eS* **Sn** **14 05 40.0 -1.2**
PNIG Pinotepa 5.19 262 **Pn** **14 04 43.4 +1.1**
PNIG **Sn** **14 05 41.5 -0.3**
PNIG Pinotepa 5.19 262 *eP* **Pn** **14 04 43.4 +1.1**
PNIG *eS* **Sn** **14 05 41.5 -0.3**
TEIG Tepich 5.22 54 Pn **Pn** **14 04 43.0 +0.3**
TEIG Tepich 5.22 54 Pn **Pn** **14 04 43.1 +0.5**
baz=232,slow=20,SNR=64
TEIG Sn **Sn** **14 05 39.2 -3.2**
0.1nm,0.3s,baz=180,slow=20,SNR=12
CXUV Coxquihui 5.43 304 *eP* **Pn** **14 04 46.7 +1.0**
CXUV *eS* **Sn** **14 05 47.4 -0.4**
TLIG Tlapa 5.54 275 Pn **Pn** **14 04 45.6 -1.7**

MGIG Malinaltepec 5.60 271 Pn 14 04 41.8 -6.3
MGIG **Sn** **14 05 51.0 -1.1**
MGIG Malinaltepec 5.60 271 *eP* Pn 14 04 41.8 -6.3
MGIG *eS* **Sn** **14 05 51.0 -1.1**
833A Chaparral WMA, 12.63 332 **Pn** **14 06 26.5 +2.2**
BRDY Brady 15.12 339 Pn **Pn** **14 07 00.1 +1.8**
SAND Sanderson 15.30 328 Pn **Pn** **14 07 02.2 +1.5**
WHTX Lake Whitney, 15.32 345 Pn **Pn** **14 07 03.5 +2.6**
WHTX IAmb IAmb 14 07 17.4
comp=Z,8.4nm,0.7s
HPIG 15.36 311 Pn **Pn** **14 07 00.5 -1.3**
HPIG IAmb IAmb 14 07 10.6
comp=Z,8.5nm,1.1s
TX31 Lajitas Ar. Si 15.66 322 **P** **14 07 09.2 -0.3**
TXAR Lajitas Array 15.66 322 **P** **14 07 09.2 -0.3**
TXAR Lajitas Array 15.66 322 Pn **P** **14 07 09.7 +0.1**
baz=144,slow=12,SNR=13
comp=Z,1.3nm,0.8s
ALPN Alpine 16.43 325 **P** **14 07 18.8 +0.6**
FW03 Perrin-Whitt E 16.47 344 **P** **14 07 18.3 -0.1**
FW03 IAmb IAmb 14 07 22.0
comp=Z,19nm,1.2s
SMWD Samnorwood 19.03 341 **P** **14 07 46.5 -0.1**
SMWD IAmb IAmb 14 07 54.0
comp=Z,15nm,1.4s
OK052 Battle Ridge R 19.05 350 P **P** **14 07 47.2 +0.4**
OK052 IAmb IAmb 14 08 10.1
comp=Z,16nm,1.3s
TKL Tuckaleechee C 20.05 22 P **P** **14 07 59.2 +1.5**
comp=Z,0.3nm,0.3s,baz=148,slow=15,SNR=1.4
TKL S **S** **14 11 35.5 -6.9**
comp=Z,2.4nm,0.7s,baz=126,slow=19,SNR=3.6
comp=Z,0.8nm,0.3s
RTBA Rita Blanca 21.09 337 P **P** **14 08 09.6 +0.5**
RTBA IAmb IAmb 14 08 17.0
comp=Z,11nm,1.3s
P40A Paris 22.25 1 P **P** **14 08 22.6 +1.2**
P40A IAmb IAmb 14 08 29.5
comp=Z,6.7nm,0.9s
T25A Trinidad 22.35 335 P **P** **14 08 23.9 +1.0**
T25A IAmb IAmb 14 08 29.3
comp=Z,9.5nm,1.2s
WUAZ Wupatki 24.62 321 P **P** **14 08 44.7 -0.5**
WUAZ IAmb IAmb 14 08 50.6
comp=Z,4.6nm,0.9s
O52A Adamsville 24.72 20 P **P** **14 08 47.0 +1.2**
L40A Anamosa 24.81 3 P **P** **14 08 47.8 +1.2**
L42A Oliver, Polo 24.86 6 P **P** **14 08 47.5 +0.5**
SJG San Juan 25.38 84 LR LR 14 18 15.7
comp=Z,37nm,20.6s,baz=163,slow=35
JFWS Jewell Farm 25.71 4 P **P** **14 08 56.1 +1.3**
PDAR Pinedale Array 29.21 334 P **P** **14 09 25.8 -0.7**
comp=Z,0.1nm,0.4s,baz=146,slow=7.7,SNR=1.7
comp=Z,0.1nm,0.4s
NVAR Mina Array Bea 30.75 319 P **P** **14 09 38.2 -1.9**
comp=Z,0.2nm,0.6s,baz=126,slow=9.3,SNR=3.9
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 47.75 347 P **P** **14 12 01.1 -0.2**
comp=Z,0.4nm,0.9s,baz=149,slow=7.6,SNR=5.9
comp=Z,0.4nm,0.9s
ILAR Eielson Array 59.62 336 P **P** **14 13 28.6 +0.4**
comp=Z,0.5nm,1.0s,baz=100,slow=5.2,SNR=4.3
comp=Z,0.5nm,1.0s

*IDC **01** 14:05:32.0±2.1, 25°.37N×127°.46E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=75.0km s-min=23.4km az=60.0*
*JMA **01** 14:05:42.2±0.3, 24°.N±1°.×125°.2E±0°.8, h29km, MV3.2/14, NEAR MIYAKOJIMA ISLAND*
ISC 01 14:05:41.6±1.7, 24°.23N±0°.08×125°.27E±0°.06, h28km±12km, n28, σ0°87/31, mb3.5/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.51**	**6**	*i* P	**Pb**	**14 05 52.3**	**+0.2**
JMJ2				S	**Sb**	**14 06 00.0**	**+0.7**
JOGS	**Gusukube**	**0.54**	**13**	*i* P	**Pb**	**14 05 53.0**	**+0.3**
JOGS				S	**Sn**	**14 06 01.4**	**-0.2**
JIRB	**Irabujima**	**0.60**	**351**	P	**Pb**	**14 05 53.3**	**-0.4**
JIRB				S	**Sb**	**14 06 01.4**	**-0.5**
JTJ	**Tarama**	**0.66**	**308**	*i* P	**Pb**	**14 05 54.2**	**-0.4**
JTJ				S	**Sb**	**14 06 03.2**	**-0.3**
JIKM	**Ikemajima**	**0.69**	**358**	P	**Pb**	**14 05 55.0**	**-0.1**
JIKM				S	**Sb**	**14 06 04.9**	**+0.6**
JISG	**Ishigakijimahi**	**0.94**	**292**	P	**Pn**	**14 05 58.2**	**-0.8**
JISG				S	**Sb**	**14 06 10.4**	**-1.2**
JIJ	**Ishigaki jima**	**1.04**	**277**	P	**Pb**	**14 06 00.8**	**-0.2**
JKRS	**Kuro-shima**	**1.15**	**271**	P	**Pb**	**14 06 02.8**	**-0.1**
HATJ	**Hateruma jima**	**1.35**	**263**	P	**Pb**	**14 06 05.6**	**-0.7**
HATJ				S	**Sn**	**14 06 21.9**	**+0.3**
IRIF	**Iriomote-Funau**	**1.41**	**274**	P	**Pn**	**14 06 05.8**	**+0.4**
IRIF				*eS*	**Sn**	**14 06 23.3**	**+0.2**
YOJ	**Yonaguni jima**	**2.07**	**277**	P	**Pb**	**14 06 20.5**	**+1.9**
YOJ	**Yonaguni jima**	**2.07**	**277**	P	**Pn**	**14 06 16.1**	**+1.5**
YOJ				*eS*	**Sn**	**14 06 40.8**	**+1.3**
JYNG	**Yonagunijimaku**	**2.13**	**276**	P	**Pn**	**14 06 16.6**	**+1.2**
JYNG				S	**Sn**	**14 06 41.6**	**+0.7**
NACB	**Ninganchiao**	**3.36**	**270**	P	**Pn**	**14 06 32.0**	**-0.2**
YHNB	**Yeheng**	**3.58**	**278**	P	**Pn**	**14 06 36.9**	**+1.6**
YULB	**Yu-li**	**3.73**	**258**	P	**Pn**	**14 06 36.5**	**-0.9**
SSLB	**Suanglung**	**3.97**	**264**	P	**Pn**	**14 06 40.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**25.16**	**262**	P	P	14 11 19.4	+15
0.2nm,0.3s,baz=66,slow=13,SNR=1.1
0.2nm,0.3s
H11N1 WAKE ISLAND Hy 38.76 88 T T 14 50 54.0
baz=278,slow=74
H11N2 WAKE ISLAND Hy 38.76 88 T T 14 50 53.0
baz=278,slow=74
H11N3 WAKE ISLAND Hy 38.77 88 T T 14 50 52.7
baz=278
H11S3 WAKE ISLAND Hy 38.89 90 T T 14 50 52.9
baz=283
H11S1 WAKE ISLAND Hy 38.90 90 T T 14 50 52.7
baz=283
H11S2 WAKE ISLAND Hy 38.90 90 T T 14 50 59.5
baz=283
MKAR Makanchi Array 40.94 314 P **P** **14 13 21.1 -0.6**
0.3nm,0.5s,baz=101,slow=8.5,SNR=11
0.3nm,0.5s
KURBB Kurchatov Arra 44.51 319 P **P** **14 13 49.1 -1.4**
0.2nm,0.2s,baz=110,slow=8.0,SNR=2.4
0.2nm,0.2s
WRA Warramunga Arr 44.79 168 P **P** **14 13 53.1 0.0**
0.5nm,0.5s,baz=348,slow=8.9,SNR=2.7
0.5nm,0.5s
ASAR Alice Springs 48.34 169 P **P** **14 14 21.6 +0.6**
0.2nm,0.4s,baz=350,slow=7.3,SNR=11
0.2nm,0.4s

*IDC **01** 14:14:07.9±1.1, 39°.76N×23°.69E, h0km, mb3.7/8, mbtmp3.7/11, ML3.6/2, Error ellipse: s-maj=22.7km s-min=15.4km az=99.0*
*ISK **01** 14:14:09.5, 39°.75N×23°.65E, h3km, ML3.5/22*
*THE **01** 14:14:09.8, 39°.75N×23°.79E, h12km±1km, ML3.4/24, Error ellipse: s-maj=1.0km s-min=0.6km az=257.0*
*ATH **01** 14:14:09.8, 39°.74N×23°.77E, h17km±1km, ML3.5/17, Error ellipse: s-maj=1.7km s-min=0.5km az=189.0*
*SOF **01** 14:14:10.5, 39°.95N±0°.02×23°.87E±0°.01, h8km±2km, MD3.7/8*
*BEO **01** 14:14:11.8±0.9, 39°.87N×23°.77E, h17km±5km, ML3.3/10*
ISC 01 14:14:09.9±0.8, 39°.75N±0°.01×23°.78E±0°.02, h15km±5km, n147, σ0°78/212, mb3.8/8, 12C-10D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.19**	**337**	Pg	**Pg**	**14 14 14.4**	**0.0**
PAIG				Sg	**Sg**	**14 14 17.9**	**+0.5**
PAIG	**Paliouri**	**0.19**	**337**	P	**Pg**	**14 14 14.4**	**0.0**
PAIG				S	**Sg**	**14 14 17.5**	**+0.1**
46μm,0.4s
AOS Alonnisos 0.59 172 P **Pg** **14 14 21.0 -0.4**
AOS S **Sb** **14 14 30.1 +0.1**
7μm,0.6s
XOR Xorichti 0.59 230 P **Pg** **14 14 21.2 -0.4**
XOR S **Sb** **14 14 30.4 +0.2**
11μm,0.4s
OUR Ouranopolis 0.60 15 Pg **Pb** **14 14 22.0 -0.2**
OUR Ouranopolis 0.60 15 P **Pb** **14 14 21.9 -0.2**
OUR S **Sb** **14 14 30.8 +0.4**
25μm,0.5s
OUR Ouranopolis 0.60 15 P **Pb** **14 14 21.9 -0.2**

OUR S **Sb** **14 14 30.6 +0.2**
OUR AML AML 14 14 34.4
comp=E,40750μm,0.4s
OUR AML AML 14 14 34.5
comp=N,59182μm,0.7s
AOS2 Alonissos-2 0.61 175 P **Pg** **14 14 21.3 -0.5**
AOS2 S **Sg** **14 14 29.6 -0.3**
AOS2 AML AML 14 14 33.2
comp=N,16939μm,0.8s
AOS2 AML AML 14 14 33.5
comp=E,10642μm,0.5s
NEO Neokhori 0.62 224 P **Pg** **14 14 21.6 -0.4**
NEO S **Sb** **14 14 31.1 +0.2**
comp=E,15μm,0.4s
NEO Neokhori 0.62 224 P **Pg** **14 14 21.9 -0.2**
NEO S **Sg** **14 14 30.3 0.0**
NEO AML AML 14 14 32.0
comp=E,27693μm,0.4s
NEO AML AML 14 14 32.3
comp=N,30687μm,0.4s
PLG Polygyros 0.67 338 P **Pg** **14 14 22.2 -0.8**
PLG S **Sg** **14 14 31.2 -0.8**
comp=N,4μm,0.5s
PLG Polygyros 0.67 338 P **Pg** **14 14 22.3 -0.8**
PLG S **Sg** **14 14 31.4 -0.5**
PLG AML AML 14 14 32.8
comp=E,7489μm,0.4s
PLG AML AML 14 14 32.8
comp=N,9425μm,0.6s
EFSA Agios Efstrati 0.96 102 P **Pg** **14 14 27.7 -0.8**
EFSA S **Sg** **14 14 40.9 -0.1**
HORT Hortiatis 0.99 329 Pg **Pg** **14 14 28.1 -1.1**
HORT Sg **Sb** **14 14 42.5 +0.8**
HORT Hortiatis 0.99 329 P **Pg** **14 14 28.0 -1.1**
HORT S **Sb** **14 14 42.1 +0.4**
comp=N,3μm,0.3s
HORT Hortiatis 0.99 329 P **Pg** **14 14 28.1 -1.1**
HORT S **Sb** **14 14 42.0 +0.3**
HORT AML AML 14 14 45.2
comp=E,8095μm,0.3s
HORT AML AML 14 14 45.4
comp=N,5822μm,0.4s
LIT Litokhoron 1.05 290 P **Pb** **14 14 29.0 -0.8**
LIT S **Sn** **14 14 44.2 -0.3**
comp=N,1μm,0.3s
SKY Skiros Island 1.06 145 P **Pb** **14 14 29.1 -0.8**
SKY S **Sb** **14 14 43.6 0.0**
SKY AML AML 14 14 47.6
comp=E,5126μm,0.5s
SKY AML AML 14 14 48.9
comp=N,2718μm,0.5s
THE Thessaloniki 1.08 325 P **Pb** **14 14 29.6 -0.6**
THE S **Sg** **14 14 44.8 0.0**
comp=N,1μm,0.6s
THE Thessaloniki 1.08 325 P **Pb** **14 14 29.6 -0.6**
THE S **Sb** **14 14 44.2 +0.1**
THE AML AML 14 14 47.8
comp=N,2189μm,0.6s
THE AML AML 14 14 48.6
comp=E,1906μm,0.6s
KOKK Kokkinochori, 1.08 9 P **Pb** **14 14 30.2 -0.1**
KOKK S **Sg** **14 14 44.6 -0.2**
comp=E,1μm,0.7s
KOKK Kokkinochori, 1.08 9 P **Pb** **14 14 29.9 -0.3**
KOKK S **Sb** **14 14 44.1 -0.1**
KOKK AML AML 14 14 49.0
comp=E,3926μm,0.5s
KOKK AML AML 14 14 49.9
comp=N,7485μm,0.7s
LIA Limnos Island 1.09 82 P **Pb** **14 14 29.9 -0.6**
LIA S **Sg** **14 14 45.3 0.0**
comp=N,2μm,1.2s
LIA Limnos Island 1.09 82 P **Pb** **14 14 29.7 -0.7**
LIA S **Sb** **14 14 44.1 -0.4**
LIA AML AML 14 14 49.0
comp=E,3763μm,1.0s
LIA AML AML 14 14 50.5
comp=N,4298μm,0.5s
SOH Sokhos 1.12 343 P **Pb** **14 14 30.4 -0.5**
SOH S **Sn** **14 14 46.2 0.0**
comp=N,5μm,0.6s
SOH Sokhos 1.12 343 P **Pb** **14 14 30.6 -0.3**
SOH S **Sb** **14 14 45.0 -0.3**
SOH AML AML 14 14 49.2
comp=E,10221μm,0.7s
SOH AML AML 14 14 52.6
comp=N,12525μm,0.5s
THAS Thassos island 1.12 40 P **Pb** **14 14 30.0 -0.9**
THAS S **Sb** **14 14 44.9 -0.4**
comp=N,1μm,0.5s
THAS Thassos island 1.12 40 P **Pb** **14 14 30.0 -0.9**
THAS S **Sb** **14 14 44.7 -0.5**
THAS AML AML 14 14 50.8
comp=E,2514μm,0.6s
THAS AML AML 14 14 52.9
comp=N,2586μm,0.5s
KYMI Kymi, Euboea I 1.15 167 P **Pb** **14 14 30.3 -1.1**
KYMI S **Sb** **14 14 46.3 +0.2**
comp=N,678nm,0.6s
KYMI Kymi, Euboea I 1.15 167 P **Pb** **14 14 30.4 -1.0**
KYMI S **Sb** **14 14 45.7 -0.4**
TYRN Tyrnavos 1.19 269 P **Pn** **14 14 31.4 -0.6**
TYRN S **Sn** **14 14 48.7 +0.8**
comp=N,845nm,0.6s
TYRN Tyrnavos 1.19 269 P **Pn** **14 14 31.6 -0.4**
TYRN S **Sb** **14 14 47.6 +0.2**
LKR Lokris 1.25 209 P **Pn** **14 14 31.9 -0.9**
KVLA Kavala 1.27 21 P **Pn** **14 14 32.6 -0.6**
KVLA S **Sb** **14 14 49.9 +0.2**
AXAR Agios Charalam 1.31 222 P **Pn** **14 14 33.0 -0.7**
AXAR S **Sb** **14 14 50.6 -0.2**
AXAR AML AML 14 14 58.9
comp=E,4137μm,0.8s
AXAR AML AML 14 15 01.7
comp=N,4956μm,0.8s
KAVA Kavala 1.36 24 P **Pn** **14 14 33.7 -0.7**
KAVA S **Sg** **14 14 53.6 -0.3**
comp=N,2μm,0.6s
KAVA Kavala 1.36 24 P **Pn** **14 14 33.9 -0.5**
KAVA S **Sn** **14 14 51.6 -0.6**
SRS Serrai 1.37 354 P **Pn** **14 14 34.4 -0.1**
SRS S **Sn** **14 14 52.2 -0.2**
comp=N,950nm,0.6s
SRS Serrai 1.37 354 *eP*g **Pn** **14 14 34.3 -0.2**
SRS *eS*g **Sn** **14 14 51.5 -0.9**
SRS Serrai 1.37 354 P **Pn** **14 14 34.4 -0.1**
SRS S **Sn** **14 14 52.1 -0.3**
SRS AML AML 14 14 58.2
SRS AML AML 14 15 01.6
comp=N,1486μm,0.4s
THL Klokotos Trika 1.37 263 P **Pn** **14 14 33.8 -0.7**
THL S **Sn** **14 14 52.2 -0.2**
comp=N,552nm,0.7s
THL Klokotos Trika 1.37 263 P **Pn** **14 14 33.8 -0.7**
THL S **Sn** **14 14 52.0 -0.4**
THL AML AML 14 14 59.6
comp=E,644μm,0.6s
THL AML AML 14 15 08.6
comp=N,1275μm,0.9s
MAKR Makrakomi, Fth 1.47 240 P **Pn** **14 14 36.4 +0.5**
MAKR S **Sg** **14 14 57.1 -0.3**
comp=N,4μm,0.8s
MAKR Makrakomi, Fth 1.47 240 P **Pn** **14 14 36.4 +0.5**
MAKR S **Sn** **14 14 54.9 -0.1**
MAKR AML AML 14 15 03.2
comp=E,6080μm,0.6s
MAKR AML AML 14 15 04.3
comp=N,8032μm,0.7s
SMTH Samothraki Isl 1.52 61 P **Pn** **14 14 35.4 -1.2**
SMTH S **Sn** **14 14 55.6 -0.6**
comp=N,312nm,0.8s
SMTH Samothraki Isl 1.52 61 P **Pn** **14 14 37.2 +0.6**
SMTH S **Sb** **14 14 57.3 +0.3**
SMTH AML AML 14 15 01.0
comp=N,549μm,1.0s
SMTH AML AML 14 15 03.7
comp=E,700μm,0.6s
KNT Kendrikon 1.56 335 P **Pn** **14 14 37.2 +0.1**
KNT S **Sb** **14 14 59.0 +1.0**
comp=E,1μm,0.6s
VIL2 Platees 1.59 195 P **Pn** **14 14 37.4 -0.1**
NVR Nevrokopi 1.60 2 P **Pn** **14 14 37.8 +0.2**
NVR Nevrokopi 1.60 2 P **Pn** **14 14 38.5 +0.8**
NVR S **Sb** **14 14 59.1 0.0**

NVR			AML	AML	14 15 09.9	
	comp=N,1130μm,0.4s					
NVR			AML	AML	14 15 10.5	
	comp=E,1234μm,0.7s					
GRG	**Griva**	**1.60 319**	Pn	**Pn**	**14 14 38.3**	**+0.7**
GRG	**Griva**	**1.60 319**	P	**Pn**	**14 14 38.3**	**+0.7**
GRG			S	**Sn**	**14 14 58.0**	**0.0**
	comp=E,1μm,0.5s					
VILL	**Villia**	**1.63 193**	P	**Pn**	**14 14 37.3**	**-0.7**
KZN	**Kozani**	**1.64 290**	P	**Pn**	**14 14 39.0**	**+0.8**
KZN	**Kozani**	**1.64 290**	P	**Pn**	**14 14 38.8**	**+0.6**
DION	**Dionisos Attik**	**1.68 176**	P	**Pn**	**14 14 38.2**	**-0.5**
GADA	**Gvkgeada**	**1.69 74**	Pn	**Pg**	**14 14 42.2**	**-0.1**
GADA			Sn	**Sg**	**14 15 05.6**	**+1.3**
SIGR	**SIGRI**	**1.70 108**	Pn	**Pg**	**14 14 42.5**	**0.0**
SIGR	**SIGRI**	**1.70 108**	P	**Pn**	**14 14 38.9**	**0.0**
SIGR			S	**Sn**	**14 15 00.2**	**-0.2**
	comp=E,282nm,0.7s					
SIGR	**SIGRI**	**1.70 108**	P	**Pn**	**14 14 38.9**	**0.0**
PTL	**Penteli**	**1.70 178**	P	**Pn**	**14 14 38.8**	**-0.2**
EVR	**Evrytania**	**1.74 242**	P	**Pn**	**14 14 40.6**	**+0.9**
BOZC	**Bozcaada**	**1.76 86**	Pn	**Pg**	**14 14 42.9**	**-0.7**
KARY	**Karystos**	**1.79 163**	P	**Pn**	**14 14 39.8**	**-0.5**
KARY			S	**Sn**	**14 15 02.4**	**-0.4**
	comp=E,270nm,0.6s					
MMB	**Musomishta**	**1.79 359**	*i* P	**Pn**	**14 14 40.7**	**+0.4**
MMB			S	**Sn**	**14 15 02.9**	**0.0**
VAY	**Valandovo**	**1.82 330**	*i* Pn	**Pn**	**14 14 41.6**	**+1.0**
VAY			*i* Sn	**Sg**	**14 15 09.1**	**+0.7**
ANX	**Ano Chora**	**1.85 232**	P	**Pn**	**14 14 41.3**	**+0.1**
KPRO	**Kipourio**	**1.87 277**	P	**Pn**	**14 14 41.6**	**+0.2**
RDO	**Rodhopi**	**1.94 43**	Pn	**Pb**	**14 14 45.1**	**+0.3**
RDO	**Rodhopi**	**1.94 43**	P	**Pn**	**14 14 41.6**	**-0.6**
EZN	**Ezine**	**1.96 87**	Pn	**Pb**	**14 14 45.1**	**-0.2**
EFP	**Efpalio**	**1.97 228**	P	**Pn**	**14 14 43.0**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.98 259**	P	**Pb**	**14 14 44.4**	**-1.2**
ENEZ	**Enez**	**2.07 61**	Pn	**Pb**	**14 14 47.9**	**+0.8**
RZN	**Rozhen**	**2.07 20**	⇓*i* P	**Pn**	**14 14 44.4**	**+0.1**
RZN			S	**Sn**	**14 15 09.2**	**-0.8**
PENT	**Pentalofos**	**2.08 283**	P	**Pn**	**14 14 45.4**	**+1.2**
ALN	**Alexandroupoli**	**2.08 56**	Pn	**Pb**	**14 14 47.5**	**+0.2**
ALN	**Alexandroupoli**	**2.08 56**	P	**Pn**	**14 14 43.2**	**-1.0**
COMU	**Canakkale**	**2.10 80**	Pn	**Pb**	**14 14 48.5**	**+0.8**
FNA	**Florina**	**2.11 300**	Pn	**Pn**	**14 14 45.4**	**+0.8**
FNA	**Florina**	**2.11 300**	P	**Pn**	**14 14 45.3**	**+0.7**
FNA	**Florina**	**2.11 300**	*e*Pn	**Pn**	**14 14 45.1**	**+0.5**
FNA			*e*Sn	**Sn**	**14 15 10.1**	**-0.5**
KKB	**Krupnik**	**2.15 347**	*i* P	**Pn**	**14 14 45.8**	**+0.7**
KKB			*e*S	**Sn**	**14 15 12.2**	**+0.7**
GELI	**Tayfur-Gelibol**	**2.17 72**	Pn	**Pb**	**14 14 48.8**	**0.0**
KDZ	**Kurdzhali**	**2.22 32**	Pn	**Pb**	**14 14 49.3**	**-0.4**
KDZ	**Kurdzhali**	**2.22 32**	*e*S	**Sn**	**14 15 13.2**	**-0.1**
ERIK	**Erikli-Kesan**	**2.29 65**	Pn	**Pb**	**14 14 50.5**	**-0.3**
LPK	**Lapseki**	**2.37 74**	Pn	**Pb**	**14 14 51.9**	**-0.4**
PLD	**Plovdiv**	**2.50 17**	Pn	**Pn**	**14 14 52.4**	**+2.4**
PLD	**Plovdiv**	**2.50 17**	*i* P	**Pn**	**14 14 50.4**	**+0.4**
PLD			*e*S	**Sn**	**14 15 21.3**	**+1.0**
PLD	**Plovdiv**	**2.50 17**	*e*Pn	**Pn**	**14 14 49.3**	**-0.7**
DKL	**Dikili**	**2.52 105**	Pn	**Pb**	**14 14 54.1**	**-0.7**
CANM	**Can-anakkale**	**2.53 83**	Pn	**Pb**	**14 14 54.6**	**-0.5**
UKOP	**Uzunkopru-Edir**	**2.58 57**	Pn	**Pb**	**14 14 54.6**	**-1.2**
OHR	**Ohrid**	**2.65 302**	*i* Pn	**Pn**	**14 14 53.6**	**+1.5**
OHR	**Ohrid**	**2.65 302**	*e*Pn	**Pn**	**14 14 53.3**	**+1.2**
PLNA	**Plana**	**2.73 355**	P	**Pn**	**14 14 54.5**	**+1.2**
PLNA			*e*S	**Sn**	**14 15 25.7**	**-0.5**
PGB	**Panagyurishte**	**2.77 6**	⇓*i* P	**Pg**	**14 15 01.7**	**-1.4**
PGB			*e*S	**Sb**	**14 15 30.7**	**-2.3**
VTS	**Vitosha**	**2.89 352**	*i* P	**Pn**	**14 14 56.3**	**+0.7**
VTS			*e*S	**Sn**	**14 15 30.4**	**+0.3**
VTS	**Vitosha**	**2.89 352**	*e*Pn	**Pn**	**14 14 56.2**	**+0.7**
VTS			*e*Sn	**Sn**	**14 15 28.7**	**-1.4**
APE	**Apeiranthos**	**3.01 152**	⇓P	**Pn**	**14 14 56.8**	**-0.3**
EDRB	**Edirne**	**3.07 46**	Pn	**Pn**	**14 14 59.1**	**+1.2**
BAND	**Balkesir-Ban**	**3.37 78**	⇓P	**Pn**	**14 15 02.2**	**+0.2**
BARS	**Barje**	**3.40 335**	*e*Pn	**Pn**	**14 15 02.9**	**+0.5**
JMB	**Yambol**	**3.44 36**	*e*P	**Pg**	**14 15 13.6**	**-2.1**
JMB			*e*S	**Sb**	**14 15 51.2**	**-0.8**
ELND	**Elena**	**3.54 26**	⇑P	**Pn**	**14 15 04.7**	**+0.3**
MPEP	**Malo Peshtene**	**3.60 360**	*i* P	**Pn**	**14 15 06.4**	**+1.3**
MPEP			*e*S	**Sg**	**14 16 04.9**	**-0.6**
ZAPS	**Zavoj**	**3.62 347**	*e*Pn	**Pn**	**14 15 06.5**	**+1.0**
ZAPS			*e*Sn	**Sn**	**14 15 46.5**	**-1.4**
SZH	**Strazhitsa**	**3.88 24**	*e*S	**Sg**	**14 16 13.2**	**-1.2**
SELS	**Selova**	**4.00 331**	*e*Pn	**Pn**	**14 15 11.1**	**+0.5**
BOVS	**Bovan**	**4.18 339**	⇓P	**Pn**	**14 15 13.9**	**+0.8**
ZAGS	**Zajecar**	**4.22 345**	*e*Pn	**Pn**	**14 15 13.6**	**0.0**
GOCS	**Kraljevo Serbi**	**4.38 331**	*e*Pn	**Pn**	**14 15 16.4**	**+0.4**
BORS2	**Bor- Borsko je**	**4.53 344**	*e*Pn	**Pn**	**14 15 17.0**	**-0.9**
IDI	**Anoyia**	**4.54 168**	Pn	**Pn**	**14 15 20.2**	**+2.0**
	comp=E,13nm,0.6s,baz=356,slow=13,SNR=12					
IVAS	**Ivanjica**	**4.69 326**	*e*Pn	**Pn**	**14 15 20.6**	**+0.5**
GRUS	**Gruza**	**4.72 332**	*e*Pn	**Pn**	**14 15 20.2**	**-0.4**
KUBS	**Kucevo**	**4.91 342**	*e*Pn	**Pn**	**14 15 21.9**	**-1.3**
SRE	**Strehaia**	**4.92 355**	⇓P	**Pn**	**14 15 24.4**	**+1.0**
TRUS	**Trudelj**	**5.12 332**	*e*Pn	**Pn**	**14 15 25.2**	**-0.9**
DIVS	**Divibare**	**5.18 328**	*e*Pn	**Pn**	**14 15 27.1**	**+0.2**
HERR	**Herculane**	**5.22 349**	⇑P	**Pn**	**14 15 26.9**	**-0.5**
MDVR	**Moldovita**	**5.25 344**	⇑P	**Pn**	**14 15 28.2**	**+0.4**
MDVR	**Moldovita**	**5.25 344**	*e*Pn	**Pn**	**14 15 27.9**	**0.0**
MDVR			*e*Sn	**Sn**	**14 16 24.3**	**-3.9**
TIP	**Timpagrande**	**5.46 266**	⇑P	**Pn**	**14 15 31.7**	**+0.9**
MTUR	**Matau**	**5.55 9**	⇓P	**Pn**	**14 15 32.9**	**+0.9**
ARR	**Arges**	**5.65 6**	⇓P	**Pn**	**14 15 33.9**	**+0.6**
GZR	**Gura Zlata**	**5.69 353**	⇑P	**Pn**	**14 15 34.1**	**+0.3**
VOIR		**5.76 9**	⇑P	**Pn**	**14 15 35.7**	**+0.9**
MLR	**Muntele Rosu**	**5.95 15**	Pn	**Pn**	**14 15 37.8**	**+0.2**
	comp=E,1.7nm,0.3s,baz=180,slow=10,SNR=6.9					
MLR			Sn	**Sn**	**14 16 46.7**	**+1.2**
	comp=E,0.8nm,0.3s,baz=212,slow=18,SNR=1.5					
	comp=E,2.6nm,0.4s					
MLR	**Muntele Rosu**	**5.95 15**	⇑P	**Pn**	**14 15 37.8**	**+0.2**
BZS	**Buzias**	**6.07 346**	⇑P	**Pn**	**14 15 39.9**	**+0.8**
CFR	**Carcaliu**	**6.31 29**	⇑P	**Pn**	**14 15 42.9**	**+0.7**
VRI	**Vrincioaia**	**6.48 19**	⇓P	**Pn**	**14 15 45.5**	**+0.8**
SIRR	**Siria**	**6.69 347**	⇑P	**Pn**	**14 15 47.9**	**+0.2**
TESR	**Tescani**	**7.08 16**	⇑P	**Pn**	**14 15 53.8**	**+1.0**
MORH	**Mrgy, Hungar**	**7.47 331**	⇑P	**Pn**	**14 15 59.3**	**+1.0**
BRTR	**Keskin Array B**	**7.60 87**	Pn	**Pn**	**14 16 00.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=266,slow=13,SNR=4.9					
	comp=E,0.4nm,0.5s					
BURAR	**Bucovina Array**	**7.93 7**	⇓P	**Pn**	**14 16 06.0**	**+1.3**
NOA	**NORSAR Array B**	**22.69 344**	P	**P**	**14 19 11.1**	**+0.5**
	comp=E,0.7nm,0.8s,baz=156,slow=9.0,SNR=2.6					
	comp=E,0.7nm,0.8s					
EKA	**Eskdalemuir Ar**	**23.73 320**	P	**P**	**14 19 20.5**	**-0.7**
	comp=E,2.8nm,1.0s,baz=118,slow=11,SNR=2.1					
	comp=E,2.8nm,1.0s					
TORD	**Torodi Ar. Bea**	**32.88 222**	P	**P**	**14 20 42.8**	**-0.6**
	comp=E,1.1nm,0.5s,baz=30,slow=9.3,SNR=4.6					
	comp=E,1.1nm,0.5s					
KURBB	**Kurchatov Arra**	**39.25 55**	P	**P**	**14 21 39.0**	**+1.5**
	comp=E,0.5nm,0.5s,baz=274,slow=9.2,SNR=1.7					
	comp=E,0.5nm,0.5s					
MKAR	**Makanchi Array**	**42.32 60**	P	**P**	**14 22 04.3**	**+1.3**
	comp=E,0.9nm,0.5s,baz=270,slow=7.6,SNR=25					
	comp=E,0.9nm,0.5s					
ZALV	**Zalesovo Beam**	**42.74 50**	P	**P**	**14 22 06.9**	**+0.6**
	comp=E,1.1nm,0.5s,baz=286,slow=7.6,SNR=4.9					
	comp=E,1.1nm,0.5s					
SONM	**Songino Array**	**57.49 52**	P	**P**	**14 24 00.0**	**+1.6**
	comp=E,0.4nm,0.7s,baz=260,slow=8.6,SNR=2.1					
	comp=E,0.4nm,0.7s					
CMAR	**Chiang Mai Arr**	**67.18 85**	P	**P**	**14 25 03.4**	**-0.1**
	comp=E,0.5nm,0.3s,baz=301,slow=8.1,SNR=6.0					
	comp=E,0.5nm,0.3s					

JMA 01 14:47:43.8±0.2, 24°.3N±0°.4×123°.8E±0°.6, h17km±2km, MV0.5/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.09**	**336**	P	Pg	14 47 47.2	0.0
HATJ	**Hateruma jima**	**0.20**	**171**	P	Pg	14 47 48.5	-0.1
HATJ				*e*S	Sg	14 47 51.3	-0.5
JKRS	**Kuro-shima**	**0.22**	**93**	P	Pg	14 47 48.9	0.0
JKRS				*e*S	Sb	14 47 52.7	-0.3
JIJ	**Ishigaki jima**	**0.36**	**72**	P	Pg	14 47 51.0	-0.3
JIJ				*e*S	Sg	14 47 56.3	-0.1
JISG	**Ishigakijimahi**	**0.60**	**56**	*e*P	Pg	14 47 55.5	-0.1

TAP 01 14:48:40.7, 23°.99N×121°.68E, h22km, ML2.0, 4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**260**	*i* P	Pb	14 48 45.0	+0.3
HWA				*e*S	Sb	14 48 48.1	+0.7
TWD	**Chiawan**	**0.12**	**321**	⇓*i* P	Pb	14 48 45.2	-0.1
TWD				*i* S	Sb	14 48 48.6	+0.1
TEYL	**Yanliau Villag**	**0.14**	**211**	*i* P	Pb	14 48 45.4	-0.1
TEYL				*i* S	Sb	14 48 49.1	+0.4
ETM	**Tongmen**	**0.17**	**262**	⇓*i* P	Pb	14 48 45.8	-0.1
ETM				*i* S	Sb	14 48 49.6	+0.3
ETL	**Fush Village**	**0.18**	**344**	*i* P	Pb	14 48 45.9	0.0
ETL				S	Sb	14 48 49.9	+0.4
NACB	**Ninganchiao**	**0.20**	**338**	⇓*i* P	Pb	14 48 46.1	0.0
NACB				S	Sb	14 48 50.1	+0.3
SHUL	**Shoufeng**	**0.23**	**208**	P	Pb	14 48 47.0	+0.6
SHUL				*i* S	Sb	14 48 51.7	+1.3
LXIB	**Xiulin Townshi**	**0.24**	**278**	⇓*i* P	Pb	14 48 46.9	+0.1
LXIB				*i* S	Sb	14 48 51.8	+0.7
ETLH	**Xiulin Townshi**	**0.28**	**321**	*i* P	Pb	14 48 47.5	+0.1
ETLH				*i* S	Sb	14 48 52.3	+0.5
ESL	**Shilin**	**0.28**	**232**	*i* P	Pb	14 48 47.0	-0.3
ESL				S	Sb	14 48 52.6	+0.9
EAHA	**Aohua**	**0.34**	**10**	P	Pb	14 48 48.4	+0.1
EAHA				S	Sb	14 48 54.3	+0.9
WARBT	**Fenglin Townsh**	**0.38**	**225**	*i* P	Pb	14 48 48.5	-0.3
WARBT				S	Sb	14 48 55.5	+1.2
EGFH	**Guangfu**	**0.39**	**216**	P	Pb	14 48 48.3	-0.7
EGFH				*e*S	Sb	14 48 55.6	+1.0
WHF	**Hehuan Shan**	**0.41**	**292**	*i* P	Pb	14 48 49.8	+0.3
WHF				*i* S	Sb	14 48 55.8	+0.3
ENA	**Nanau**	**0.44**	**8**	*i* P	Pb	14 48 50.0	+0.2
ENA				*i* S	Sb	14 48 57.0	+0.9
OWD	**Renai**	**0.46**	**266**	*i* P	Pb	14 48 50.3	0.0
OWD				*e*S	Sb	14 48 56.6	-0.1
EWUT	**Wuta**	**0.46**	**11**	*i* P	Pb	14 48 50.3	+0.1
EWUT				S	Sn	14 48 58.3	-1.3
FUSS	**Fushou**	**0.47**	**303**	P	Pb	14 48 50.9	+0.3
FUSS				S	Sb	14 48 58.0	+0.9
WUSB	**Renai**	**0.51**	**270**	*i* P	Pb	14 48 51.4	+0.2
WUSB				S	Sb	14 48 59.2	+1.0
NNSB	**Datong**	**0.51**	**329**	*i* P	Pb	14 48 51.6	+0.5
NNSB				*i* S	Sb	14 48 59.1	+0.8
NNSH	**Datong**	**0.51**	**329**	P	Pb	14 48 51.4	+0.3
NNSH				S	Sb	14 48 58.9	+0.7
NNS	**Nan Shan**	**0.53**	**328**	*i* P	Pb	14 48 51.8	+0.3
NNS				S	Sb	14 48 59.5	+0.9
TWT	**Tachien**	**0.53**	**300**	*i* P	Pb	14 48 51.9	+0.5
TWT				S	Sn	14 49 00.2	-1.2
TDCB	**Techi**	**0.54**	**299**	P	Pb	14 48 52.1	+0.4
TDCB				*e*S	Sb	14 48 59.7	+0.6
VWDT	**VWDT**	**0.54**	**245**	*i* P	Pb	14 48 51.6	+0.1
VWDT				*i* S	Sb	14 48 59.6	+0.6
HGSD	**Ruisui**	**0.55**	**205**	*i* P	Pb	14 48 51.9	+0.2
HGSD				*e*S	Sn	14 49 00.9	-0.6
LATG	**Datong**	**0.56**	**346**	*i* P	Pb	14 48 52.3	+0.3
LATG				*i* S	Sb	14 49 00.3	+0.7
EHY	**Hungye**	**0.58**	**214**	*i* P	Pb	14 48 52.2	-0.1
EHY				*e*S	Sb	14 49 00.6	+0.5
EOS4	**EOS4**	**0.60**	**77**	*e*P	Pb	14 48 52.9	+0.6
EOS4				*i* S	Sn	14 49 01.4	-1.0
TWC	**Suao**	**0.64**	**14**	*e*P	Pb	14 48 53.3	+0.1
TWC				S	Sn	14 49 03.2	-0.6
NDS	**Dongshan**	**0.64**	**3**	*e*P	Pn	14 48 54.0	-0.5
NDS				*e*S	Sn	14 49 03.3	-0.7
ENTT	**Nioudou**	**0.66**	**351**	P	Pn	14 48 54.2	-0.5
ENTT				*e*S	Sn	14 49 03.4	-1.0
EOS3	**EOS3**	**0.66**	**63**	*e*P	Pb	14 48 53.6	+0.3
YULB	**Yu-li**	**0.69**	**210**	*e*P	Pb	14 48 52.6	-1.4
YULB				*e*S	Sb	14 49 04.1	+1.0
SSLB	**Suanglung**	**0.69**	**253**	*i* P	Pb	14 48 53.9	-0.2
SSLB				*e*S	Sb	14 49 02.9	-0.3
WCS	**Beigang Elemen**	**0.70**	**276**	*i* P	Pb	14 48 54.5	+0.2
EYUL	**Yuli**	**0.72**	**207**	P	Pb	14 48 54.5	-0.1
EYUL				*e*S	Sb	14 49 04.5	+0.5
SMLT	**Sun Moon Lake**	**0.72**	**262**	*i* P	Pb	14 48 53.7	-0.9
SMLT				S	Sb	14 49 04.0	-0.1
TWF1	**Yuli**	**0.72**	**209**	*e*P	Pb	14 48 53.3	-1.4
TWF1				*e*S	Sn	14 49 05.4	-0.6
WHP	**Taichung City**	**0.73**	**293**	*i* P	Pn	14 48 55.4	-0.3
WHP				*i* S	Sn	14 49 05.7	-0.5
TWE	**Neicheng**	**0.73**	**359**	*i* P	Pn	14 48 55.2	-0.4
TWE				*e*S	Sn	14 49 07.0	+0.9
YHNB	**Yeheng**	**0.73**	**338**	*i* P	Pb	14 48 55.2	+0.4
YHNB				*i* S	Sn	14 49 05.4	-0.9
NSK	**Sanguang**	**0.74**	**337**	*i* P	Pb	14 48 55.2	+0.2
NSK				*i* S	Sb	14 49 05.6	+0.8
TYC	**Yuchr**	**0.76**	**264**	P	Pb	14 48 54.9	-0.2
TYC				S	Sb	14 49 04.9	-0.1
FUSB	**Fushanzhiwuyua**	**0.77**	**354**	*i* P	Pn	14 48 56.7	+0.4
FUSB				*e*S	Sn	14 49 08.0	+0.7
NWLT	**Wulai**	**0.80**	**349**	*e*P	Pn	14 48 57.1	+0.4
NWLT				*e*S	Sn	14 49 07.5	-0.4
WHYT	**Xinyi Township**	**0.81**	**249**	*i* P	Pb	14 48 56.4	+0.3
WHYT				S	Sn	14 49 07.8	-0.3
NFF	**Wufeng Townshi**	**0.82**	**322**	P	Pn	14 48 56.7	-0.3
NFF				*e*S	Sn	14 49 08.4	0.0
FULB	**Fuli**	**0.86**	**204**	*i* P	Pb	14 48 57.1	+0.1
FULB				*e*S	Sn	14 49 10.5	+1.0
LIOB	**Emei**	**0.89**	**317**	*e*P	Pn	14 48 58.5	+0.6
LIOB				*e*S	Sn	14 49 10.6	+0.4
KSHI	**Guanxi Townshi**	**0.91**	**330**	*e*P	Pn	14 48 58.2	+0.1
KSHI				*e*S	Sn	14 49 10.8	+0.2
ALS	**Alishan**	**0.93**	**239**	*i* P	Pb	14 48 58.4	+0.1
ALS				*e*S	Sn	14 49 11.4	-0.1
TIPB	**Shuangxi**	**0.99**	**8**	*i* P	Pn	14 49 00.0	+0.8
TIPB				*e*S	Sn	14 49 13.9	+1.3
ELDTW	**Lidau**	**1.00**	**217**	*e*P	Pb	14 48 58.2	-1.3
ELDTW				S	Sb	14 49 12.1	-0.1
WCKO	**Fanlu**	**1.12**	**241**	*e*P	Pb	14 49 02.8	+1.3
WCKO				*e*S	Sn	14 49 18.7	+2.8
STYH	**Taoyuan**	**1.16**	**226**	*e*P	Pb	14 49 01.9	-0.2
STYH				S	Sn	14 49 16.9	+0.2
TPUB	**Ta-pu**	**1.18**	**235**	P	Pb	14 49 02.9	+0.4
TPUB				*e*S	Sb	14 49 19.6	+2.3
WTP	**Ta-pu**	**1.22**	**233**	*i* P	Pb	14 49 03.3	+0.1
WTP				*e*S	Sb	14 49 20.6	+2.1
TWK	**Hsinying**	**1.31**	**237**	*e*P	Pb	14 49 04.6	0.0
TWK				*e*S	Sb	14 49 23.1	+2.2

BJI ***01*** *14:51:14.0, 21°.40N×144°.20E, h10km, mB5.0/12, mb4.3/41, Ms4.5/13, Ms7 4.2/14*
MOS ***01*** *14:51:15.3±1.4, 21°.34N×144°.02E, h15km, mb4.9/37, Error ellipse: s-maj=12.5km s-min=6.1km az=107.9*
NEIC ***01*** *14:51:16.4±1.3, 21°.41N±0°.07×144°.08E±0°.05, h10km±1km, mb5.0/175, Error ellipse: s-maj=13.4km s-min=5.2km az=150.0*
GCMT ***01*** *14:51:17.4±0.4, 21°.33N±0°.03×144°.18E±0°.02, h14km±1km, MW4.8/64, Moment Tensor Solution. s11,c14; s64,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.92±.18; $M_{\theta\theta}$0.15±.10; $M_{\phi\phi}$1.77±.12; $M_{r\theta}$0.58±.26; $M_{\phi\theta}$-0.99±.06; $M_{r\phi}$0.51±.20; Best double couple: $M_0$2.23300×10^{16} NP1:ϕ_s315.00000°, δ46.00000°, λ-120.00000°. NP2: ϕ_s175.00000°, δ52.00000°, λ-63.00000°. Principal axes: T 2.2470, Plg3.0000°, Azm246.0000°; N -0.0280, Plg21.0000°, Azm337.0000°; P -2.2190, Plg69.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***01*** *14:51:24.0±3.2, 21°.42N×144°.00E, h82km±29km, mb4.0/24, mbtmp4.3/26, MS3.8/31 Error ellipse: s-maj=17.3km s-min=11.3km az=75.0*

ISC 01 14:51:16.2±0.4, 21°.38N±0°.05×144°.19E±0°.07, h10km, n325, σ1s56/252, mb4.9/151, MS3.8/32, 12C-11D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.98**	**343**	S	**Sn**	**14 53 48.3**	**-5.0**
	97nm,0.5s,baz=120,slow=23,SNR=1.9						
JCJ				LR	LR	14 54 51.4	
	comp=Z,604nm,21.3s,baz=184,slow=35						
GUMO	**Guam**	**7.77**	**175**	Pn	**Pn**	**14 53 09.5**	**+0.1**
GUMO	**Guam**	**7.77**	**175**	P	Pn	14 53 16.3	+6.9
	142nm,1.0s,baz=10.0,slow=17,SNR=5.4						
GUMO	**Guam**	**7.77**	**175**	P	**Pn**	**14 53 09.5**	**+0.1**
JGF	**Kuroka**	**15.38**	**339**	Pn	**Pn**	**14 54 51.5**	**-1.9**
JOW	**Kunigami**	**15.51**	**294**	LR	LR	14 59 44.5	
	comp=Z,310nm,19.2s,baz=107,slow=33						
MJAR	**Matsushiro Arr**	**15.98**	**342**	P	**Pn**	**14 55 00.7**	**-0.4**
	1.9nm,0.7s,baz=165,slow=10,SNR=9.6						
MJAR				LR	LR	15 00 45.0	
	comp=Z,404nm,18.9s,baz=158,slow=35						
MAJO	**Matsushiro**	**15.98**	**342**		**Pn**	**14 54 58.7**	**-2.4**
MAJO	**Matsushiro**	**15.98**	**342**	P	**Pn**	**14 55 05.6**	**+4.4**
MAJO	**Matsushiro**	**15.98**	**342**	⇑*eP*	**Pn**	**14 55 02.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**15.99**	**342**		**Pn**	**14 54 59.4**	**-1.8**
JNU	**Nakatsue**	**16.62**	**318**	LR	LR	15 00 49.7	
	comp=Z,172nm,18.5s,baz=136,slow=34						
JMM	**Marumori**	**16.69**	**351**		**Pn**	**14 55 08.0**	**-2.1**
JMM	**Marumori**	**16.69**	**351**	P	**Pn**	**14 55 13.1**	**+2.9**
JHS	**Saijyo**	**16.70**	**327**	P	**P**	**14 55 16.7**	**+4.1**
JTM	**Tenmabayashi**	**19.53**	**353**	P	**P**	**14 55 41.8**	**-1.9**
YHNB	**Yeheng**	**21.25**	**283**	P	**P**	**14 56 00.5**	**-2.2**
YHNB				IAmb	IAmb	14 56 11.2	
	comp=Z,99nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**21.32**	**90**	T	T	15 17 59.8	
	baz=278,slow=75,SNR=75						
H11N2	**WAKE ISLAND Hy**	**21.32**	**90**	T	T	15 17 60.0	
	baz=278,slow=75,SNR=71						
KSRS	**Korea Array**	**21.34**	**322**	P	**P**	**14 56 03.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=143,slow=8.5,SNR=11						
KSRS				LR	LR	15 04 59.7	
	comp=Z,211nm,18.1s,baz=150,slow=38						
	comp=Z,1.2nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**21.34**	**90**	T	T	15 18 01.0	
	baz=278,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	15 17 59.4	
	baz=281,slow=75,SNR=152						
KSAR	**Wonju Array Be**	**21.35**	**322**	P	**P**	**14 56 02.5**	**-1.0**
KSAR	**Wonju Array Be**	**21.35**	**322**	P	**P**	**14 56 02.5**	**-1.0**
H11S1	**WAKE ISLAND Hy**	**21.35**	**94**	T	T	15 18 00.5	
	baz=281,slow=75,SNR=68						
H11S2	**WAKE ISLAND Hy**	**21.36**	**94**	T	T	15 18 03.2	
	baz=281,slow=75,SNR=72						
SSLB	**Suanglung**	**21.59**	**281**	P	**P**	**14 56 06.1**	**-0.1**
SSLB				IAmb	IAmb	14 56 26.2	
	comp=Z,107nm,1.3s						
SSLB	**Suanglung**	**21.59**	**281**	P	**P**	**14 56 09.1**	**+2.9**
TPUB	**Ta-pu**	**21.87**	**279**	P	**P**	**14 56 07.0**	**-2.3**
TPUB				IAmb	IAmb	14 56 25.5	
	comp=Z,70nm,1.3s						
DAV	**Davao City (W)**	**22.93**	**234**	LR	LR	15 03 19.5	
	comp=Z,726nm,21.2s,baz=62,slow=31						
TGY	**Tagaytay City**	**23.28**	**256**	LR	LR	15 03 46.4	
	comp=Z,625nm,19.9s,baz=106,slow=32						
JAY	**Jayapura**	**23.99**	**189**	LR	LR	15 04 59.0	
	comp=Z,160nm,19.1s,baz=7.0,slow=34						
VLA	**Vladivostok**	**24.00**	**337**	⇑*eP*	**P**	**14 56 32.2**	**+1.3**
VLA				pmax	pmax		
	comp=Z,26nm,1.4s						
USA0B	**Ussuriysk Arra**	**24.91**	**339**	⇓*eP*	**P**	**14 56 38.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**24.91**	**339**	P	**P**	**14 56 38.5**

comp=Z,300nm,11.4s
CD2 LR LR
comp=Z,240nm,15.9s
SLVN Son La 37.45 278 P **P** **14 58 31.8 +1.8**
LZH Lanzhou 38.01 302 *e*P **P** **14 58 34.8 0.0**
LZH sP sP 14 58 41.0 +2.7
LZH pmax pmax
comp=Z,11nm,1.3s
LZH LR LR
comp=Z,310nm,13.1s
LZH LR LR
comp=Z,300nm,13.1s
STKI Sintang 38.32 241 P **P** **14 58 35.8 -1.5**
comp=Z,36nm,1.3s
WSI Waingapu 38.76 220 P P 14 58 36.9 -4.1
SHEM Shemya Is, Ala 38.83 29 LR LR 15 10 46.2
comp=Z,329nm,20.6s,baz=218,slow=30
PZH PanZhiHua 39.00 286 P **P** **14 58 43.7 +0.5**
PZH pmax pmax
comp=Z,7.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.1s
BASI Baing, Sumba 39.04 219 P P 14 58 40.4 -2.9
comp=Z,155nm,1.4s
PLAI Plampang 39.67 224 P **P** **14 58 47.7 -1.0**
PLAI Plampang 39.67 224 P P 14 58 46.0 -2.7
comp=Z,33nm,1.7s
ULN Ulaanbaatar 39.80 321⇑ *i*P **P** **14 58 48.9 -0.7**
ULN pmax pmax
comp=Z,6.0nm,1.4s
KNRA Kununurra 39.81 204 P **P** **14 58 49.1 -0.7**
SONM Songino Array 40.18 320 P **P** **14 58 52.0 -0.7**
SONM Songino Array 40.18 320 P **P** **14 58 51.8 -1.0**
comp=Z,1.1nm,0.6s,baz=133,slow=6.5,SNR=5.9
SONM LR LR 15 16 49.9
comp=Z,162nm,18.2s,baz=160,slow=38
comp=Z,1.1nm,0.6s
SONM Songino Array 40.18 320 P **P** **14 58 52.1 -0.7**
SONM pmax pmax
comp=Z,2.0nm,1.0s
CTAO Charters Tower 41.26 177 P **P** **14 59 01.6 -0.1**
CTAO IAmb IAmb 14 59 09.9
comp=Z,44nm,1.4s
CTAO Charters Tower 41.26 177 P **P** **14 59 01.6 -0.1**
CTAO pmax pmax
comp=Z,44nm,1.4s
GTA Gaotai 41.82 306 *e*P **P** **14 59 06.1 -0.3**
GTA sP sP 14 59 13.4 +3.5
GTA pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 41.84 350 *e*P **P** **14 59 07.1 +1.1**
YAK *e**PP **pwP** **14 59 15.6 +4.1**
YAK *e* 15 00 39.6
YAK *e* 15 01 02.1
YAK *e*PPP PPP 15 01 13.9
YAK *e*S **S** **15 05 23.2 -0.4**
YAK *e*SS **SS** **15 08 28.7 -0.9**
YAK *e*SSS SSS 15 09 03.0
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.5s
YAK pmax pmax
comp=Z,262nm,7.6s
YAK pmax pmax
comp=N,119nm,3.5s
YAK pmax pmax
comp=E,122nm,6.8s
YAK smax smax
comp=E,415nm,5.9s
YAK smax smax
comp=N,303nm,4.9s
SEY Seymchan 41.90 6⇓ *e*P **P** **14 59 05.3 -1.2**
SEY pmax pmax
comp=Z,17nm,1.4s
QIS Mount Isa 41.92 186 P **P** **14 59 07.0 -0.1**
GRJI Gresik 41.94 231 P **P** **14 59 06.8 -0.6**
WB0 Warramunga Arr 42.00 194 P **P** **14 59 07.1 -0.7**
WB0 IAmb IAmb 14 59 14.7
comp=Z,19nm,0.8s
WRAB Tennant Creek 42.17 194 P **P** **14 59 08.9 -0.3**
WRAB IAmb IAmb 14 59 15.8
comp=Z,26nm,0.7s
WRAB Tennant Creek 42.17 194 P **P** **14 59 08.9 -0.3**
WRAB pmax pmax
comp=Z,27nm,0.7s
WB2 Warramunga Arr 42.18 194 P **P** **14 59 08.6 -0.7**
WB2 IAmb IAmb 14 59 16.3
comp=Z,31nm,0.8s
WRA Warramunga Arr 42.18 194 P **P** **14 59 08.1 -1.2**
WRA Warramunga Arr 42.18 194 P **P** **14 59 08.2 -1.1**
comp=Z,16nm,0.8s,baz=13,slow=9.0,SNR=30
comp=Z,16nm,0.8s
WRA Warramunga Arr 42.18 194 *i*P **P** **14 59 08.6 -0.7**
WRA pmax pmax
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 42.53 274 P **P** **14 59 10.7 -1.6**
CMAR Chiang Mai Arr 42.53 274 P **P** **14 59 11.6 -0.7**
comp=Z,0.6nm,0.6s,baz=76,slow=6.3,SNR=7.0
CMAR LR LR 15 15 00.7
comp=Z,138nm,21.4s,baz=90,slow=33
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 42.53 274 *ce*P **P** **14 59 13.6 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
PWJI Pagerwojo 43.18 231 P **P** **14 59 18.8 +1.3**
FITZ Fitzroy Crossi 43.24 206 P **P** **14 59 17.2 -0.6**
PCJI Pacitan 43.75 231 P **P** **14 59 21.4 -0.7**
comp=Z,71nm,1.2s
SRIT Nakonsritamara 44.75 260 P P 14 59 28.1 -2.0
SRIT IAmb IAmb 14 59 34.1
comp=Z,31nm,1.2s
KULM Kulim 45.09 256 P **P** **14 59 31.9 -0.9**
KULM Kulim 45.09 256 P **P** **14 59 34.8 +1.9**
IPM Ipoh 45.10 254 P **P** **14 59 34.3 +1.3**
LEM Lembang 45.53 236 LR LR 15 19 16.9
comp=Z,106nm,20.7s,baz=43,slow=37
AS01 Alice Springs 45.87 193 P **P** **14 59 38.4 -0.4**
AS31 Alice Springs 45.88 193 P **P** **14 59 38.4 -0.6**
ASAR Alice Springs 45.88 193 P **P** **14 59 38.3 -0.6**
ASAR Alice Springs 45.88 193 P **P** **14 59 38.0 -0.9**
comp=Z,8.3nm,0.6s,baz=17,slow=9.2,SNR=133
ASAR LR LR 15 19 58.9
comp=Z,78nm,19.2s,baz=354,slow=37
comp=Z,8.3nm,0.6s
ASAR Alice Springs 45.88 193 P **P** **14 59 38.3 -0.6**
CGJI Cibinong 46.91 238 P **P** **14 59 51.9 +4.7**
QLP Quilpie 47.68 180 P **P** **14 59 51.9 -1.0**
PSI Prapat 47.72 254 LR LR 15 19 12.1
comp=Z,118nm,21.8s,baz=60,slow=35
PSI Prapat 47.72 254 P **P** **14 59 55.3 +1.6**
PSI Prapat 47.72 254 P **P** **14 59 55.2 +1.6**
PSI pmax pmax
comp=Z,23nm,1.5s
PPI Padang Panjang 47.94 249 P **P** **14 59 54.6 -0.7**
comp=Z,23nm,1.5s
MNSI Mandailing Nat 48.05 251 P **P** **14 59 56.6 +0.5**
comp=Z,10nm,0.5s
DZM Mont Dzumac 48.34 152 *e*LR LR 15 13 26.9
comp=Z,186nm,22.8s
DZM Mont Dzumac 48.34 152 LR LR 15 17 47.3
comp=Z,117nm,20.8s,baz=9.0,slow=33
BRDH Bariadhala 48.52 282 LR LR 15 22 17.6
comp=Z,51nm,18.2s,baz=13,slow=38
BILL Bilibino 48.65 11 P **P** **15 00 00.5 +0.5**
BILL IAmb IAmb 15 00 27.0
comp=Z,19nm,1.3s
BILL Bilibino 48.65 11⇓ *e*P **P** **15 00 01.9 +1.9**
BILL pmax pmax
comp=Z,9.0nm,1.3s
SISI Saibi 49.51 249 P P 15 00 16.5 +9.2
OOD Oodnadatta 49.57 190 P **P** **15 00 07.0 -0.5**
GSI Gunungsitoli 49.59 253 P **P** **15 00 06.9 -1.1**
GSI Gunungsitoli 49.59 253 P **P** **15 00 09.3 +1.3**
GSI Gunungsitoli 49.59 253 P **P** **15 00 08.5 +0.5**
TIXI Tiksi 51.06 354⇓ *e*P **P** **15 00 19.6 +1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
MSVF Nonsavu 51.10 137 LR LR 15 21 00.8
comp=Z,91nm,18.1s,baz=20,slow=35
WMQ Urumqi 51.51 310 *e*P **P** **15 00 23.1 +0.9**
WMQ pmax pmax
comp=Z,18nm,1.3s

GAMB Gambell 51.54 23 P **P** **15 00 21.7 -0.2**
LCRK Leigh Creek 51.85 187 P **P** **15 00 24.3 -0.3**
STKA Stephens Creek 53.01 183 P **P** **15 00 32.6 -0.6**
STKA IAmb IAmb 15 00 50.8
comp=Z,24nm,1.4s
STKA Stephens Creek 53.01 183 P **P** **15 00 31.6 -1.6**
comp=Z,4.1nm,0.8s,baz=14,slow=7.3,SNR=8.5
STKA LR LR 15 24 48.7
comp=Z,70nm,20.0s,baz=18,slow=38
comp=Z,4.1nm,0.8s
STKA Stephens Creek 53.01 183 P **P** **15 00 32.6 -0.6**
STKA Stephens Creek 53.01 183 P **P** **15 00 32.6 -0.6**
STKA pmax pmax
comp=Z,24nm,1.4s
FORT Forrest 54.12 197 P **P** **15 00 41.0 -0.5**
M14K Bethel 54.15 29 P **P** **15 00 42.7 +1.5**
J14K Nanvaranak Lak 54.24 27 P **P** **15 00 43.0 +1.1**
ANM Nome 54.32 24 P **P** **15 00 41.9 -0.6**
ANM IAmb IAmb 15 00 51.4
comp=Z,20nm,1.4s
ANM Nome 54.32 24 P **P** **15 00 41.9 -0.6**
ANM pmax pmax
comp=Z,19nm,1.4s
BBOO Buckleboo 54.44 188 P **P** **15 00 42.4 -1.3**
HTT Hallett 54.73 185 P **P** **15 00 45.8 -0.1**
N15K Kwethluk River 54.81 30 P **P** **15 00 46.7 +0.6**
K15K Wolf Creek Mou 54.92 28 P **P** **15 00 47.0 +0.1**
ZAA0 Zalesovo Array 55.04 322 P **P** **15 00 46.7 -1.2**
ZALV Zalesovo Beam 55.04 322 P **P** **15 00 46.1 -1.8**
ZALV Zalesovo Beam 55.04 322 P P 15 00 45.0 -2.9
comp=Z,1.3nm,0.6s,baz=95,slow=6.4,SNR=9.5
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 55.04 322 *i*P **P** **15 00 47.0 -0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
F15K North Star Dit 55.13 23 P **P** **15 00 48.6 +0.3**
F15K IAmb IAmb 15 00 57.3
comp=Z,18nm,1.4s
MK31 Makanchi Array 55.60 313 P **P** **15 00 51.7 -0.4**
MK31 Makanchi Array 55.60 313 P **P** **15 00 51.7 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,1.3s
MKAR Makanchi Array 55.60 313 P **P** **15 00 51.4 -0.7**
MKAR Makanchi Array 55.60 313 P P 15 00 49.7 -2.4
comp=Z,1.1nm,0.8s,baz=94,slow=7.5,SNR=11
MKAR LR LR 15 25 28.4
comp=Z,99nm,19.6s,baz=76,slow=37
comp=Z,1.1nm,0.8s
MKAR Makanchi Array 55.60 313 *ce*P **P** **15 00 51.2 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MAKZ Makanchi 55.82 313 P **P** **15 00 52.7 -1.0**
MAKZ Makanchi 55.82 313 P **P** **15 00 52.7 -1.0**
MAKZ pmax pmax
comp=Z,12nm,1.4s
C16K Lisburne Hills 56.14 20 P **P** **15 00 56.2 +0.7**
C16K IAmb IAmb 15 01 04.7
comp=Z,26nm,1.2s
J17K VABM Dome 56.37 27 P **P** **15 00 58.3 +1.0**
J17K IAmb IAmb 15 01 09.0
comp=Z,12nm,1.1s
M17K Holitna River 56.44 29 P **P** **15 00 57.5 -0.3**
M17K IAmb IAmb 15 01 06.1
comp=Z,14nm,1.1s
K17K Iditarod 56.47 28 P **P** **15 00 58.0 -0.1**
H17K Granite Mounta 56.60 25 P **P** **15 00 58.7 -0.2**
F17K Baldwin Pennin 56.70 23 P **P** **15 01 00.6 +1.1**
F17K IAmb IAmb 15 01 10.4
comp=Z,10nm,0.9s
P18K Big Mountain, 56.93 32 P **P** **15 01 01.7 +0.3**
P18K IAmb IAmb 15 01 07.8
comp=Z,29nm,1.4s
N18K Kilae Creek 56.95 31 P **P** **15 01 02.1 +0.6**
MORW Morawa 57.03 209 P **P** **15 01 00.9 -1.4**
MORW IAmb IAmb 15 01 13.0
comp=Z,15nm,1.2s
O18K Koktuh Hills 57.06 32 P **P** **15 01 02.7 +0.4**
H18K Honhosa River 57.29 25 P **P** **15 01 03.9 +0.1**
H18K IAmb IAmb 15 01 12.9
comp=Z,19nm,1.4s
E18K Tukpahlearik C 57.34 22 P **P** **15 01 04.6 +0.5**
G18K Tagagawik 57.45 24 P **P** **15 01 05.0 0.0**
G18K IAmb IAmb 15 01 14.0
comp=Z,20nm,1.3s
OHAK Old Harbor 57.45 35 P **P** **15 01 05.9 +0.9**
OHAK IAmb IAmb 15 01 15.5
comp=Z,16nm,1.1s
O19K Port Alsworth 57.58 31 P **P** **15 01 06.7 +0.9**
O19K IAmb IAmb 15 01 11.3
comp=Z,21nm,1.1s
Q19K Cape Douglas, 57.62 33 P **P** **15 01 05.7 -0.5**
N19K Bonanza Creek 57.65 31 P **P** **15 01 05.0 -1.6**
N19K IAmb IAmb 15 01 10.6
comp=Z,20nm,1.2s
C18K Utukok River 57.66 21 P **P** **15 01 06.2 -0.3**
L19K White Mountain 57.84 29 P **P** **15 01 07.4 -0.4**
L19K IAmb IAmb 15 01 13.4
comp=Z,19nm,1.2s
KDAK Kodiak Island 57.93 34 LR LR 15 22 50.5
comp=Z,181nm,22.0s,baz=96,slow=32
J19K Poorman 58.02 27 P **P** **15 01 08.6 -0.4**
J19K IAmb IAmb 15 01 18.3
comp=Z,17nm,1.2s
H19K Roundabout Mou 58.17 25 P **P** **15 01 10.3 +0.4**
H19K IAmb IAmb 15 01 18.9
comp=Z,18nm,1.2s
KURK Kurchatov 58.35 317 P **P** **15 01 10.0 -1.4**
KURK IAmb IAmb 15 01 12.2
comp=Z,14nm,1.2s
KURK Kurchatov 58.35 317 P **P** **15 01 10.0 -1.4**
KURK pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 58.40 317 P P 15 01 08.4 -3.4
comp=Z,4.7nm,0.9s,baz=94,slow=7.6,SNR=33
comp=Z,4.7nm,0.9s
E19K Redstone River 58.55 23 P **P** **15 01 12.6 -0.1**
E19K IAmb IAmb 15 01 21.4
comp=Z,12nm,1.1s
NRIK Noril'sk 58.62 340 P **P** **15 01 11.6 -1.5**
comp=Z,2.8nm,0.8s,baz=100,slow=4.1,SNR=4.8
comp=Z,2.8nm,0.8s
NRIK Noril'sk 58.62 340⇑ *e*P **P** **15 01 13.6 +0.6**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
D19K Kuna River 58.63 21 IAmb IAmb 15 01 25.8
comp=Z,16nm,1.4s
J20K Nowinta River 58.70 27 P **P** **15 01 13.2 -0.5**
SKT Skwentna 59.30 30 P **P** **15 01 17.1 -0.9**
SKT IAmb IAmb 15 01 27.9
comp=Z,13nm,0.9s
CAST Castle Rocks 59.38 28 IAmb IAmb 15 01 27.1
comp=Z,13nm,1.0s
G21K Allakaket 59.63 24 IAmb IAmb 15 01 32.2
comp=Z,19nm,1.2s
H21K Melozitna Rive 59.66 25 IAmb IAmb 15 01 29.3
comp=Z,15nm,1.1s
NWAO Narrogin (SRO) 59.83 206 LR LR 15 27 44.3
comp=Z,30nm,19.3s,baz=295,slow=36
F21K Alatna River 59.84 24 P **P** **15 01 20.2 -1.4**
I21K Tanana 59.86 26 P **P** **15 01 22.1 +0.4**
I21K IAmb IAmb 15 01 33.3
comp=Z,15nm,1.0s
O22K Cooper Landing 59.87 32 P **P** **15 01 22.1 +0.2**
RC01 Rabbit Creek A 59.97 31 IAmb IAmb 15 01 32.0
comp=Z,17nm,1.0s
E21K Killik River 60.05 22 IAmb IAmb 15 01 31.6
comp=Z,10nm,1.1s
KSH Kashi 60.18 304 P **P** **15 01 23.2 -1.4**
KSH pmax pmax
comp=Z,7.0nm,2.0s
B21K Ikpikpuk River 60.22 21 IAmb IAmb 15 01 32.9
comp=Z,14nm,1.1s
PMR Palmer 60.35 30 IAmb IAmb 15 01 34.9
comp=Z,15nm,1.1s
PMR Palmer 60.35 30 P **P** **15 01 27.0 +1.9**
KNK Knik Glacier 60.64 31 IAmb IAmb 15 01 37.9
comp=Z,18nm,1.1s
MCK McKinley 60.83 28 IAmb IAmb 15 01 38.5
comp=Z,11nm,1.0s
G23K Bananza Creek 61.02 24 P **P** **15 01 29.7 0.0**
COLD Coldfoot 61.08 24 IAmb IAmb 15 01 39.7
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 61.23 30 P **P** **15 01 31.5 +0.2**
SCM Sheep Creek Mo 61.23 30 P **P** **15 01 31.5 +0.2**
SCM pmax pmax

comp=Z,34nm,1.1s
H24K Noodor Dome 61.68 26 P **P** **15 01 33.4 -0.8**
H24K IAmb IAmb 15 01 44.7
comp=Z,7.6nm,1.0s
ILAR Eielson Array 61.90 27 P **P** **15 01 33.9 -1.7**
comp=Z,3.0nm,0.9s,baz=262,slow=5.6,SNR=13
ILAR LR LR 15 31 46.1
comp=Z,43nm,18.0s,baz=200,slow=39
comp=Z,3.0nm,0.9s
G24K Hadweenzic Riv 62.01 25 P **P** **15 01 36.1 -0.2**
G24K IAmb IAmb 15 01 49.9
comp=Z,12nm,1.0s
F24K Squaw Lake 62.02 24 P **P** **15 01 36.0 -0.4**
F24K IAmb IAmb 15 01 46.3
comp=Z,11nm,1.1s
D24K Happy Valley 62.04 22 P **P** **15 01 36.9 +0.4**
C24K Franklin Bluff 62.22 21 P **P** **15 01 38.0 +0.4**
PAX Paxson 62.25 29 IAmb IAmb 15 01 48.1
comp=Z,7.8nm,1.0s
PALK Pallekele 62.72 267 LR LR 15 26 53.5
comp=Z,81nm,20.2s,baz=64,slow=34
F25K Christian Rive 62.88 24 P **P** **15 01 42.9 +0.7**
F25K IAmb IAmb 15 01 52.2
comp=Z,16nm,1.1s
SCRK Sand Creek 63.03 28 P **P** **15 01 42.4 -0.9**
BMAR Burnt Mountain 63.25 24 P **P** **15 01 45.8 +1.1**
J26L Joseph Creek 63.27 27 IAmb IAmb 15 01 52.6
comp=Z,9.3nm,0.9s
BVAR Borovoye Array 63.52 320 P **P** **15 01 45.4 -1.2**
comp=Z,5.0nm,0.6s,baz=92,slow=7.3,SNR=20
comp=Z,5.0nm,0.6s
BRVK Borovoye 63.59 320 P **P** **15 01 46.4 -0.6**
BRVK IAmb IAmb 15 01 48.2
comp=Z,12nm,1.1s
BRVK Borovoye 63.59 320 P **P** **15 01 46.4 -0.6**
BRVK pmax pmax
comp=Z,12nm,1.2s
C27K Jago River 63.91 22 IAmb IAmb 15 01 58.6
comp=Z,14nm,1.2s
KKAR Karatay Array 63.99 309 P **P** **15 01 49.6 -0.3**
KKAR Karatay Array 63.99 309 P **P** **15 01 49.6 -0.3**
I28M Miner Creek 64.89 27 IAmb IAmb 15 02 06.0
comp=Z,9.5nm,1.1s
DAWY Dawson 65.06 28 IAmb IAmb 15 02 05.0
comp=Z,8.6nm,1.2s
F28M Old Crow 65.07 24 IAmb IAmb 15 02 06.1
comp=Z,11nm,1.0s
M29M Somme Creek 65.43 30 P **P** **15 01 58.6 -0.5**
M29M IAmb IAmb 15 02 10.4
comp=Z,15nm,1.1s
CHGR Chuyangaron 65.55 304 P P 15 01 58.2 -2.0
CHGR IAmb IAmb 15 02 12.6
comp=Z,10nm,0.8s
CHGR Chuyangaron 65.55 304 P P 15 01 58.2 -2.1
CHGR pmax pmax
comp=Z,10.0nm,0.8s
I29M Ogilvie Camp, 65.57 27 P **P** **15 01 59.7 -0.1**
I29M IAmb IAmb 15 02 12.6
comp=Z,11nm,1.3s
H29M Whitestone 65.58 26 P **P** **15 01 59.9 +0.1**
H29M IAmb IAmb 15 02 20.9
comp=Z,15nm,1.1s
L29M L29M 65.59 29 IAmb IAmb 15 02 09.8
comp=Z,17nm,1.2s
SIMJ Simiganj 65.66 304 P **P** **15 01 59.8 -1.3**
SIMJ IAmb IAmb 15 02 19.4
comp=Z,17nm,1.4s
E29M Blow River 65.86 23 IAmb IAmb 15 02 12.9
comp=Z,13nm,1.2s
K29M Barlow Dome 65.88 28 P **P** **15 02 01.4 -0.6**
K29M IAmb IAmb 15 02 13.1
comp=Z,9.7nm,0.9s
EPYK Eagle Plains 66.25 26 IAmb IAmb 15 02 15.1
comp=Z,12nm,0.8s
J30M Hart River 66.40 28 P **P** **15 02 05.8 +0.5**
G30M tAoh Zraii Nji 66.46 25 P **P** **15 02 04.5 -1.1**
H31M Peel River 67.22 26 P **P** **15 02 10.4 0.0**
H31M IAmb IAmb 15 02 21.3
comp=Z,13nm,1.0s
G31M Satah River 67.22 25 P **P** **15 02 10.4 +0.1**
SVE Sverdlovsk 68.88 324 *e*P **P** **15 02 19.1 -1.9**
ARTI Arti 70.18 324 *c i*P **P** **15 02 28.4 -0.6**
ARTI S **S** **15 11 44.3 +4.0**
ARTI SS **SS** **15 16 09.4 -0.3**
ARTI pmax pmax
comp=Z,9.0nm,1.9s
ABKAR Akbulak array 70.43 316 P **P** **15 02 28.9 -1.7**
ABKAR Akbulak array 70.43 316 IAmb IAmb 15 02 32.5
comp=Z,6.2nm,0.7s
PPT Papeete 75.55 116 LR LR 15 31 51.4
comp=Z,104nm,19.3s,baz=236,slow=32
PPT2 Papeete2 75.56 116 *e*LR LR 15 25 56.4
comp=Z,316nm,33.5s
PPT2 *e*LR LR 15 26 04.2
comp=Z,327nm,23.8s
YKA Yellowknife Ar 76.30 28 P **P** **15 03 02.9 -2.0**
comp=Z,2.1nm,0.8s,baz=289,slow=5.7,SNR=19
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 76.30 28 *i*P **P** **15 03 07.0 +2.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
BELG Belogornoye 77.23 321 *de*P **P** **15 03 10.0 -0.4**
BELG pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 78.31 50 P **P** **15 03 17.9 +1.1**
comp=Z,4.7nm,1.0s,baz=288,slow=2.8,SNR=4.5
comp=Z,4.7nm,1.0s
TBI Tubuai 78.42 121 *e*LR LR 15 27 11.0
comp=Z,1μm,38.5s
KLMR Klimovskoe 78.44 331 *e*P **P** **15 03 19.6 +2.6**
J05D Fort Rock, OR 78.86 48 P P 15 03 17.4 -2.4
J05D IAmb IAmb 15 03 28.7
comp=Z,13nm,1.1s
D08A Wollman Farm, 79.16 44 P **P** **15 03 21.2 -0.1**
ARCES ARCESS Array B 79.52 342 P **P** **15 03 22.2 -0.6**
comp=Z,5.5nm,0.9s,baz=46,slow=6.9,SNR=4.3
comp=Z,5.5nm,0.9s
E09A Wood Farm, Sta 79.85 44 P **P** **15 03 25.0 0.0**
ORV Oroville 79.88 52 P **P** **15 03 25.3 -0.1**
ORV Oroville 79.88 52 P **P** **15 03 25.3 -0.1**
ORV pmax pmax
comp=Z,13nm,1.4s
NEW Newport 79.89 42 P **P** **15 03 25.1 -0.2**
NEW IAmb IAmb 15 03 35.9
comp=Z,15nm,1.2s
NEW Newport 79.89 42 P **P** **15 03 25.9 +0.6**
comp=Z,3.4nm,0.7s,baz=307,slow=8.4,SNR=4.3
comp=Z,3.4nm,0.7s
NEW Newport 79.89 42 P **P** **15 03 25.1 -0.2**
NEW pmax pmax
comp=Z,15nm,1.3s
AFDM Forest Hills D 80.47 52 P **P** **15 03 27.8 -0.8**
J08A Circle Bar Ran 80.73 47 P **P** **15 03 29.3 -0.7**
AKT Akhty 80.77 311 *e*P **P** **15 03 29.3 -1.0**
AKT *e* 15 03 36.7
AKT *e* 15 06 33.6
AKT pmax pmax
comp=Z,14nm,1.0s
VRH Novokhopyorsk 81.08 322 *e*P **P** **15 03 31.4 -0.1**
VRH pmax pmax
comp=Z,4.0nm,0.8s
LPSR Galich'ya Gora 82.09 324 *e*P **P** **15 03 35.1 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 82.33 323 *e*P P 15 03 34.8 -3.3
VORR pmax pmax
comp=Z,8.0nm,0.9s
RYN Ryan 82.37 52 IAmb IAmb 15 04 07.8
comp=Z,12nm,1.5s
MFID Camas Ranch 82.50 46 IAmb IAmb 15 03 50.2
comp=Z,10nm,0.9s
VSR Storozhevoye 82.54 322 *e*P **P** **15 03 37.8 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 82.57 322 *e*P **P** **15 03 37.6 -1.8**
VORD pmax pmax
comp=Z,10.0nm,1.0s
NVAR Mina Array Bea 82.61 52 P **P** **15 03 39.4 -0.7**
NVAR Mina Array Bea 82.61 52 P **P** **15 03 39.6 -0.5**
comp=Z,4.9nm,0.9s,baz=268,slow=5.0,SNR=17
NVAR LR LR 15 32 48.4
comp=Z,220nm,21.9s,baz=276,slow=30
comp=Z,4.9nm,0.9s
KBZ Khabaz 83.26 314 P **P** **15 03 41.4 -1.7**
comp=Z,6.2nm,0.8s,baz=75,slow=6.4,SNR=10
comp=Z,6.2nm,0.8s

KBZ	Khabaz	83.26	314	*ce*P	P		15 03 42.6	-0.5
KBZ				pmax	pmax			
	comp=Z,18nm,1.1s							
KIV	Kislovodsk	83.31	315	*e*P	P		15 03 43.5	0.0
KIV				pmax	pmax			
	comp=Z,13nm,1.1s							
GNI	Garni	83.37	310‖	*e*P	P		15 03 44.5	+0.5
GNI				pmax	pmax			
	comp=Z,29nm,1.3s							
FINES	FINESS Array B	83.87	335	P	P		15 03 43.5	-2.4
	comp=Z,2.0nm,0.7s,baz=77,slow=4.1,SNR=6.9							
	comp=Z,2.0nm,0.7s							
FINES	FINESS Array B	83.87	335	*i* P	P		15 03 45.9	0.0
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
R11B	Troy Canyon, C	84.61	51	IAmb	IAmb		15 03 58.8	
	comp=Z,11nm,1.4s							
GWY	Greenwater Val	84.65	53	IAmb	IAmb		15 03 58.6	
	comp=Z,9.1nm,1.0s							
HVU	Hansel Valley	85.22	47	IAmb	IAmb		15 04 03.9	
	comp=Z,13nm,1.4s							
SPR3	Spring Creek 3	85.26	50	IAmb	IAmb		15 04 00.4	
	comp=Z,13nm,1.5s							
FLWY	Flagg Ranch	85.63	44	IAmb	IAmb		15 04 06.6	
	comp=Z,11nm,1.0s							
DUG	Dugway, Tooele	85.85	48	IAmb	IAmb		15 04 04.7	
	comp=Z,11nm,1.1s							
DUG	Dugway, Tooele	85.85	48	P	P		15 03 57.8	+1.3
DUG				pmax	pmax			
	comp=Z,11nm,1.2s							
RLMT	Red Lodge	86.10	43	IAmb	IAmb		15 04 08.4	
	comp=Z,9.5nm,0.9s							
TCUT	Toone Canyon	86.43	47	IAmb	IAmb		15 04 09.9	
	comp=Z,11nm,1.0s							
JLU	Jordanelle	86.62	48	IAmb	IAmb		15 04 03.6	
	comp=Z,8.9nm,0.9s							
FCC	Fort Churchill	86.91	26	IAmb	IAmb		15 04 11.1	
	comp=Z,16nm,1.3s							
PDAR	Pinedale Array	86.96	45	P	P		15 03 59.7	-2.3
	comp=Z,1.4nm,0.9s,baz=262,slow=4.0,SNR=9.5							
	comp=Z,1.4nm,0.9s							
TMUT	Trail Mountain	87.35	49	IAmb	IAmb		15 04 14.1	
	comp=Z,9.2nm,1.3s							
U15A	North Rim	87.79	52	IAmb	IAmb		15 04 09.7	
	comp=Z,7.4nm,1.0s							
SRU	San Rafael Swe	87.91	49	IAmb	IAmb		15 04 14.4	
	comp=Z,4.9nm,0.9s							
AKASG	Malin Array Be	88.31	325	P	P		15 04 05.6	-2.4
	comp=Z,0.5nm,0.5s,baz=47,slow=4.1,SNR=2.3							
	comp=Z,0.5nm,0.5s							
AKBB	Malin Array Si	88.31	325‖	*e*P	P		15 04 07.4	-0.6
PV23	Carpenter Ridg	89.26	49	P	P		15 04 11.6	-1.5
PV23				IAmb	IAmb		15 04 23.0	
	comp=Z,11nm,1.0s							
RSSD	Black Hills	89.86	42	P	P		15 04 19.5	+3.7
RSSD				pmax	pmax			
	comp=Z,5.0nm,1.4s							
ISCO	Idaho Springs	90.97	46	IAmb	IAmb		15 04 26.0	
	comp=Z,5.7nm,0.8s							
BRTR	Keskin Array B	91.24	314	P	P		15 04 20.8	-1.4
	comp=Z,1.1nm,0.8s,baz=12,slow=7.5,SNR=4.5							
	comp=Z,1.1nm,0.8s							
BRTR	Keskin Array B	91.24	314	*ce*P	P		15 04 24.1	+1.9
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ANMO	Albuquerque	92.70	51	P	P		15 04 32.2	+3.1
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.9s							
SYO	Syowa Base	115.00	203‖	*e*Pdiff	Pdif		15 06 09.2	+1.5
H03N2	Juan Fernandez	140.14	117	T	T		17 46 26.6	
	baz=267,slow=74,SNR=5.9							
H03N3	Juan Fernandez	140.14	117	T	T		17 46 28.1	
	baz=267,slow=74,SNR=8.7							
H03N1	Juan Fernandez	140.16	117	T	T		17 46 27.9	
	baz=267,slow=74,SNR=10							
PLCA	Paso Flores	144.84	131	PKPdf	PKPab		15 10 52.2	-0.5
PLCA	Paso Flores	144.84	131	PKPbc	PKPab		15 10 51.6	-1.1
	comp=Z,13nm,0.8s,baz=225,slow=2.7,SNR=14							
PLCA	Paso Flores	144.84	131	PKIKP	PKPab		15 10 52.2	-0.5
BI02	San Fabin de	145.67	124	PKPdf	PKPdf		15 10 53.5	-1.8
VA05	Santo Domingo	146.14	119	PKPdf	PKPdf		15 10 54.8	-1.3
BO02	Sierra Bellavi	146.56	121	PKPbc	PKPdf		15 10 59.0	+2.1
AC04	Llanos de Chal	147.35	109	PKPbc	PKPdf		15 10 59.8	+1.5
LCO	Las Campanas	147.62	111	PKPbc	PKPdf		15 11 00.5	+1.5
LCO	Las Campanas	147.62	111	PKP2	PKPdf		15 11 00.5	+1.5
HMBC	Humberstone	148.16	94	PKPbc	PKPdf		15 11 02.6	+2.6
LPAZ	La Paz	149.03	86	PKPbc	PKPdf		15 11 04.0	+1.9
LPAZ	La Paz	149.03	86	PKPbc	PKPdf		15 11 04.8	+2.8
	comp=Z,4.5nm,0.7s,baz=244,slow=1.7,SNR=10.0							
LPAZ	La Paz	149.03	86	PKIKP	PKPdf		15 11 04.0	+1.9
AC02	Maricunga	149.16	107	PKPbc	PKPdf		15 11 04.8	+2.8
PTLB	Pontes e Lacer	157.11	79	PKPdf	PKPdf		15 11 09.2	-3.8
PTLB				PKPab	PKPab		15 11 42.5	-1.1
ITAB	Concordia	164.03	115	PKPdf	PKPdf		15 11 17.1	-3.2
ITAB				PKPab	PKPab		15 12 12.3	-1.1

DJA 01 15:01:53.8±0.9, 11°S±5°×12°0E±°, h11km±6km, M3.7/12, mb3.8/4, MLv3.6/12, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	0.56	37	P	Pg	15 02 05.0	+0.3
BASI				S	Sg	15 02 09.8	-2.3
WSI	Waingapu	1.00	3	P	Pb	15 02 13.3	+0.2
WSI				S	Sb	15 02 26.9	+0.7
WBSI	Waikabubak, Su	1.32	321	P	Pn	15 02 18.0	-0.2
WBSI				S	Sb	15 02 34.5	-1.1
MMRI	Maumere	2.82	44	P	Pn	15 02 39.0	+0.1
PLAI	Plampang	3.04	307	P	Pn	15 02 42.8	+0.9
TWSI	Taliwang, Sumb	3.83	300	P	Pn	15 02 53.5	+0.8
TWSI				S	Sn	15 03 36.9	-0.8
BSSI	Bau Bau, Buton	4.50	3	P	Pn	15 03 00.7	-1.3
BKSI	Bulukumba	5.32	359	P	Pn	15 03 13.4	+0.2
	0.1nm8.7nm,1.3s						
SRBI	Singaraja	5.59	297	P	Pn	15 03 17.4	+0.5
	0.1nm21nm,1.1s						

*SNET **01** 15:01:57.5±0.9, 13°26N×90°37W, h29km±4km, ML3.5*
*CATAC **01** 15:01:57.4±1.0, 13°N±5°×9°0W±°, h8km±5km, M3.4/6, MLv3.4/6, Error ellipse: s-maj=12.2km s-min=9.5km az=121.2, confirmed*

ISC 01 15:01:57.2±2.9, 13°23N±0°07×90°4W±0°1, h20km±11km, n31, σ1°18/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.89	41	*e*P	Pb	15 02 13.4	-0.7
NUBE				*e*S	Sb	15 02 25.8	+0.2
NUBE	Las Nubes	0.89	41	P	Pb	15 02 13.6	-0.5
NUBE	Las Nubes	0.89	41	P	Pb	15 02 13.5	-0.5
CEVE	Cerro Verde	0.95	51	*e*P	Pb	15 02 14.8	-0.4
CEVE				*e*S	Sg	15 02 28.4	+1.0
CEVE	Cerro Verde	0.95	51	P	Pb	15 02 14.9	-0.2
CEVE	Cerro Verde	0.95	51	S	Sb	15 02 27.1	-0.3
CEVE	Cerro Verde	0.95	51	P	Pb	15 02 14.8	-0.4
SBLS	San Blas	0.96	51	*e*P	Pb	15 02 14.7	-0.5
SBLS				*e*P	Pb	15 02 14.8	-0.5
LOAL	Lomas de Alarc	0.96	37	P	Pb	15 02 15.0	-0.3
LOAL	Lomas de Alarc	0.96	37	S	Sg	15 02 28.6	+0.9
LOAL	Lomas de Alarc	0.96	37	P	Pb	15 02 14.8	-0.4
SNJE	San Jose	0.99	50	*e*P	Pb	15 02 15.1	-0.7
SNJE				*e*S	Sb	15 02 29.4	+0.9
JAYA	Jayaque - finc	1.00	65	*e*P	Pb	15 02 15.2	-0.8
JAYA				*e*S	Sb	15 02 27.9	-1.0
JAYA	Jayaque - finc	1.00	65	P	Pb	15 02 15.3	-0.7
JAYA	Jayaque - finc	1.00	65	P	Pb	15 02 15.5	-0.5
UNIC	Universidad Ca	1.11	47	P	Pn	15 02 16.3	-1.3
UNIC	Universidad Ca	1.11	47	S	Sb	15 02 31.6	-0.1
UNIC	Universidad Ca	1.11	47	P	Pn	15 02 16.3	-1.3
PMON	Piamonte	1.15	65	P	Pn	15 02 18.2	0.0
PMON	Piamonte	1.15	65	P	Pn	15 02 17.9	-0.4
PANCS	Alcalda de	1.23	72	P	Pg	15 02 22.0	+2.6
COEG	Centro de Oper	1.52	75	*e*P	Pn	15 02 23.5	+0.2
COEG				*e*S	Sn	15 02 43.0	+0.5
COEG	Centro de Oper	1.52	75	P	Pn	15 02 23.4	+0.2
COEG	Centro de Oper	1.52	75	S	Sn	15 02 42.5	+0.1
COEG	Centro de Oper	1.52	75	P	Pn	15 02 23.4	+0.1
MTO3	Montecristo	1.53	40	*e*P	Pn	15 02 23.5	-0.2
MTO3				*e*S	Sb	15 02 44.3	+0.2
MTO3	Montecristo	1.53	40	P	Pn	15 02 23.5	-0.2
MTO3	Montecristo	1.53	40	S	Sn	15 02 43.7	+0.6
MTO3	Montecristo	1.53	40	P	Pn	15 02 23.4	-0.2
MAFN	Magfor	4.20	105	P	Pb	15 03 06.7	-3.7
AERN	Aeropuerto Man	4.25	104	P	Pn	15 03 04.7	+3.8

*AEIC **01** 15:09:38.7±1.8, 57°.04N±0°.03×157°.73W±0°.07, h13km±4km, ML4.4, mb4.6/39(NEIC), ML4.5/68(NEIC), Error ellipse: s-maj=6.3km s-min=2.5km az=118.0*
*NEIC **01** 15:09:38.4±1.8, 57°.03N±0°.03×157°.78W±0°.07, h10km±1km, Error ellipse: s-maj=7.6km s-min=2.9km az=297.0*
*IDC **01** 15:09:43.9±2.0, 57°.20N×157°.79W, h53km±17km, mb4.0/27, mbtmp4.2/31, ML3.8/4, MS3.7/13, Error ellipse: s-maj=17.3km s-min=10.3km az=13.0*

ISC 01 15:09:38.9±0.9, 57°.04N±0°.03×157°.75W±0°.03, h18km±6km, n258, σ1°22/251, mb4.5/52, MS3.6/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANNE	Aniakchak Nort	0.21	233		Pg	15 09 43.1	-0.9
ANNW	Aniakchak Nort	0.26	255		Pb	15 09 45.1	-0.1
AZAC	Aniakchak	0.30	242		Pb	15 09 45.3	-0.5
ANPB	Aniakchak Plen	0.37	231		Pg	15 09 46.2	-0.5
R16K	Pilot Point	0.54	10		Pg	15 09 48.7	-1.0
R16K	Pilot Point	0.54	10		Sb	15 09 57.1	-0.2
R16K	Pilot Point	0.54	10	IAML		15 09 57.9	
	comp=E,24μm,0.9s						
R16K				IAML		15 10 02.5	
	comp=N,21μm,1.0s						
R16K	Pilot Point	0.54	10	P	Pg	15 09 48.9	-0.9
	baz=189						
R16K				S	Sb	15 09 57.2	-0.2
	baz=189						
R16K				S	Sb	15 09 57.2	-0.2
	baz=189						
CHGN	Chignik	0.82	207		Pg	15 09 53.7	-1.3
CHGN				IAML		15 10 08.2	
	comp=N,14μm,0.5s						
CHGN				IAML		15 10 09.1	
	comp=E,15μm,0.6s						
CHGN	Chignik	0.82	207		Sg	15 10 05.0	-0.8
CHGN	Chignik	0.82	207	P	Pg	15 09 53.5	-1.5
CHGN	baz=27						
				S	Sg	15 10 05.0	-0.8
	baz=27						
PLBL	Peulik Blue Cr	0.84	37		Pg	15 09 54.3	-0.9
PLBL					Sg	15 10 06.0	-0.3
PLK1	Peulik 1	0.99	38		Pb	15 09 56.9	-0.6
PLK1					Sn	15 10 11.8	+0.4
VNHG	Veniaminof 1	1.13	224		Pb	15 09 59.3	-0.7
VNSS	Veniaminof 8	1.24	230		Pb	15 10 02.1	+0.1
VNKR	Veniaminof 5	1.35	222		Pn	15 10 03.1	+0.2
KJL	Kejulik	1.56	48		Pn	15 10 05.3	-0.5
Q17K	Contact Creek	1.59	38	P	Pn	15 10 05.8	-0.4
	baz=220						
Q17K				S	Sn	15 10 27.0	+0.6
	baz=220						
CNTC	Contact Creek	1.59	38		Pn	15 10 05.8	-0.5
CNTC					Sn	15 10 27.0	+0.6
ANCK	Angle Creek	1.69	45		Pn	15 10 07.0	-0.6
ANCK					Sb	15 10 31.3	+1.0
CHIR	Chirikof Islan	1.70	135		Pn	15 10 08.6	+0.9
CHIR				IAML		15 10 39.3	
	comp=E,7μm,0.9s						
CHIR				IAML		15 10 39.6	
	comp=N,6μm,0.9s						
CHIR	Chirikof Islan	1.70	135	P	Pn	15 10 08.1	+0.4
	baz=317						
CHIR	Chirikof Islan	1.70	135	P	Pb	15 10 09.4	-0.2
Q16K	King Salmon	1.75	19		Pn	15 10 08.2	-0.2
Q16K					Sn	15 10 30.9	+0.8
Q16K	King Salmon	1.75	19	P	Pn	15 10 08.2	-0.2
	baz=200						
Q16K				S	Sn	15 10 30.9	+0.8
	baz=200						
ACHA	Angle Creek He	1.76	47		Pn	15 10 08.5	-0.1
KCE	Katmai Mt Cerb	1.84	48		Pn	15 10 09.8	+0.2
R18K	Karluk	1.87	72		Pn	15 10 10.2	+0.2
R18K					Sb	15 10 35.1	-0.4
R18K	Karluk	1.87	72	IAML		15 10 37.0	
	comp=E,4μm,0.6s						
R18K				IAML		15 10 42.2	
	comp=N,3μm,0.7s						
R18K	Karluk	1.87	72	P	Pn	15 10 10.2	+0.2
	baz=255						
R18K				S	Sb	15 10 35.1	-0.4
	baz=255						
R18K				S	Sb	15 10 35.1	-0.4
	baz=255						
KVTA	Katmai Vly 10	1.89	43		Pn	15 10 10.5	+0.2
P16K	Nushagak River	2.00	357		Pn	15 10 12.5	+0.6
P16K	Nushagak River	2.00	357	P	Pn	15 10 12.5	+0.6
	baz=176						
SII	Sitkinak Islan	2.02	102		Pn	15 10 13.0	+0.9
SII				IAML		15 10 46.4	
	comp=E,6μm,0.8s						
SII				IAML		15 10 49.5	
	comp=N,6μm,0.7s						
SII	Sitkinak Islan	2.02	102	P	Pn	15 10 12.6	+0.4
	baz=286						
SII	Sitkinak Islan	2.02	102	P	Pb	15 10 14.1	-1.1
KAHG	Katmai Hook Gl	2.26	48		Pn	15 10 15.5	+0.1
P17K	Kvichak River	2.27	17		Pn	15 10 15.8	+0.2
P17K	Kvichak River	2.27	17	P	Pn	15 10 15.8	+0.2
	baz=198						
CHNA	Chernabura Isl	2.44	206	P	Pn	15 10 18.5	+0.6
	baz=24						
CHNA	Chernabura Isl	2.44	206	P	Pn	15 10 20.1	+2.2
OHAK	Old Harbor	2.44	84		Pn	15 10 18.7	+0.8
OHAK	Old Harbor	2.44	84	P	Pn	15 10 18.9	+1.0
	baz=268						
OHAK	Old Harbor	2.44	84	P	Pn	15 10 19.1	+1.2
CNBA	Chernabura Isl	2.45	206		Pn	15 10 18.3	+0.3
CNBA				IAML		15 10 58.1	
	comp=N,4μm,0.5s						
P18K	Big Mountain,	2.71	28		Pn	15 10 21.7	0.0
P18K	Big Mountain,	2.71	28	P	Pn	15 10 21.4	-0.3
	baz=210						
S12K	Black Hills	2.74	243		Pn	15 10 22.9	+0.8
S12K	Black Hills	2.74	243	P	Pn	15 10 22.9	+0.8
	baz=59						
PS1A	Pavlof South-1	2.75	236		Pn	15 10 23.4	+1.2
O17K	Koliganek Bris	2.77	7		Pn	15 10 22.4	0.0
O17K	Koliganek Bris	2.77	7	P	Pn	15 10 22.4	0.0
	baz=187						
KDAK	Kodiak Island	2.90	73		Pn	15 10 25.3	+1.2
KDAK	Kodiak Island	2.90	73	P	Pn	15 10 25.4	+1.2
	comp=N,24nm,0.3s,baz=324,slow=1.1,SNR=902						
KDAK				S	Sn	15 11 01.1	+2.6
	comp=N,72nm,0.3s,baz=355,slow=2.0,SNR=4.7						
KDAK				LR	LR	15 11 49.6	
	comp=N,902nm,19.5s,baz=106,slow=44						
	comp=N,122nm,0.5s						
Q19K	Cape Douglas,	2.90	47		Pn	15 10 25.8	+1.6
Q19K				IAML		15 11 21.4	
	comp=N,2μm,1.6s						
Q19K	Cape Douglas,	2.90	47	P	Pn	15 10 24.5	+0.3
	baz=231						
O14K	Tigyukauivet M	2.90	322		Pn	15 10 25.4	+1.3
O14K				IAML		15 11 28.1	
	comp=E,2μm,1.0s						
O14K				IAML		15 11 32.4	
	comp=N,2μm,0.9s						
O14K	Tigyukauivet M	2.90	322	P	Pn	15 10 25.7	+1.5
	baz=138						
O18K	Koktuh Hills	3.13	24		Pn	15 10 27.7	+0.3
O18K				IAML		15 11 29.0	
	comp=N,916nm,0.6s						
O18K				IAML		15 11 30.8	
	comp=E,920nm,0.8s						
O18K	Koktuh Hills	3.13	24	P	Pn	15 10 27.6	+0.3
	baz=206						
Q20K	Shuyak Island	3.27	59	P	Pn	15 10 30.6	+1.3
	baz=243						
SYI	Shuyak Island	3.27	59		Pn	15 10 32.1	+2.8
N15K	Kwethluk River	3.37	340		Pn	15 10 31.9	+1.2
N15K	Kwethluk River	3.37	340	P	Pn	15 10 31.9	+1.2
	baz=158						
N17K	Nushagak Hills	3.51	5		Pn	15 10 32.9	+0.3
N17K	Nushagak Hills	3.51	5	IAML		15 11 36.5	
	comp=E,974nm,0.7s						
N17K				IAML		15 12 03.3	
	comp=N,728nm,1.1s						
N17K	Nushagak Hills	3.51	5	P	Pn	15 10 32.9	+0.3
	baz=185						
P19K	Oil Pt	3.54	40		Pn	15 10 33.9	+0.8
P19K				IAML		15 11 32.9	
	comp=E,1μm,0.8s						
P19K				IAML		15 11 38.7	
	comp=N,1μm,1.0s						
P19K	Oil Pt	3.54	40	P	Pn	15 10 33.6	+0.5
	baz=224						
O19K	Port Alsworth	3.64	28		Pn	15 10 34.5	+0.2
O19K	Port Alsworth	3.64	28	P	Pn	15 10 34.5	+0.2
	baz=211						
N18K	Kilae Creek	3.78	14		Pn	15 10 36.3	-0.1
N18K				IAML		15 11 58.4	
	comp=E,500nm,0.9s						
N18K				IAML		15 12 02.9	
	comp=N,501nm,1.1s						
N18K	Kilae Creek	3.78	14	P	Pn	15 10 37.1	+0.8
	baz=195						
ILSW	Iliamna Southw	3.82	37		Pn	15 10 37.3	+0.4
ILSW				IAML		15 11 41.1	
	comp=N,443nm,1.2s						
ILSW				IAML		15 11 43.9	
	comp=E,492nm,0.9s						
FALS	False Pass	3.86	238	P	Pn	15 10 39.1	+1.7
M15K	Kasigluk River	3.97	339		Pn	15 10 39.2	+0.3
M15K	Kasigluk River	3.97	339	P	Pn	15 10 39.2	+0.3
	baz=156						
ISNN	Isanotski Nort	4.04	239		Pn	15 10 40.8	+0.9
M16K	Timber Creek	4.05	352	IAML		15 12 04.2	
	comp=E,881nm,1.4s						
M16K				IAML		15 12 06.7	
	comp=N,971nm,1.4s						
O20K	Slope Mountain	4.07	39		Pn	15 10 41.0	+0.7
O20K	Slope Mountain	4.07	39	P	Pn	15 10 41.0	+0.7
	baz=223						
ISLZ	Isanotski Laza	4.08	238		Pn	15 10 40.2	-0.2
N19K	Bonanza Creek	4.15	23		Pn	15 10 41.9	+0.4
N19K	Bonanza Creek	4.15	23	IAML		15 11 56.7	
	comp=N,473nm,0.8s						
N19K				IAML		15 12 02.1	
	comp=E,509nm,1.2s						
N19K	Bonanza Creek	4.15	23	P	Pn	15 10 41.9	+0.4
	baz=205						
CNPM	China Poot	4.25	51		Pn	15 10 45.1	+2.3
M14K	Bethel	4.32	331		Pn	15 10 44.7	+1.1
M14K	Bethel	4.32	331	P	Pn	15 10 45.0	+1.4
	baz=148						
M17K	Holitna River	4.38	2	Pn	Pn	15 10 44.9	+0.3
RDJH	Redoubt Jeurge	4.40	34		Pn	15 10 45.7	+0.8
M13K	Dall Lake	4.47	322	P	Pn	15 10 47.9	+2.2
	baz=137						
BRLK	Bradley Lake	4.53	50		Pn	15 10 48.7	+2.1
M18K	Stony River	4.58	12		Pn	15 10 47.4	+0.2
M18K	Stony River	4.58	12	P	Pn	15 10 47.4	+0.2
	baz=193						
L16K	Owhat River	4.77	350		Pn	15 10 50.9	+1.1
L16K				IAML		15 12 23.5	
	comp=E,521nm,1.4s						
L16K				IAML		15 12 30.9	
	comp=N,593nm,1.7s						
L16K	Owhat River	4.77	350	P	Pn	15 10 50.6	+0.7
	baz=168						
L14K	Kuka Creek	5.01	332		Pn	15 10 54.0	+0.9
L14K	Kuka Creek	5.01	332	P	Pn	15 10 54.0	+0.9
	baz=147						
L15K	Ungalak Mounta	5.03	339		Pn	15 10 53.9	+0.5
L15K	Ungalak Mounta	5.03	339	P	Pn	15 10 53.9	+0.5
	baz=156						
SPU	Mount Spurr	5.09	33		Pn	15 10 55.5	+1.2
SPU	Mount Spurr	5.09	33	IAML		15 12 23.0	
	comp=N,141nm,1.4s						
L17K	Donlin	5.12	357		Pn	15 10 55.0	+0.3
L17K	Donlin	5.12	357	P	Pn	15 10 55.0	+0.3
	baz=176						
M19K	Big River Lodg	5.17	18		Pn	15 10 56.0	+0.6
M19K	Big River Lodg	5.17	18	IAML		15 12 26.7	
	comp=E,359nm,0.8s						
M19K				IAML		15 12 32.2	
	comp=N,276nm,0.9s						
M19K	Big River Lodg	5.17	18	P	Pn	15 10 56.0	+0.6
	baz=201						
L19K	White Mountain	5.37	15		Pn	15 10 58.1	0.0
L19K	White Mountain	5.37	15	IAML		15 12 48.7	
	comp=E,398nm,1.2s						
L19K	White Mountain	5.37	15	P	Pn	15 10 58.1	0.0
	baz=197						
M11K	Mekoryuk	5.54	311		Pn	15 11 01.7	+1.3
M11K	Mekoryuk	5.54	311	P	Pn	15 11 01.8	+1.5
	baz=124						
K15K	Wolf Creek Mou	5.61	342	Pn	Pn	15 11 03.3	+1.9
K17K	Iditarod	5.71	357	P	Pn	15 11 03.3	+0.6
	baz=177						
SUA	Susitna One	5.71	36	P	Pn	15 11 04.7	+1.8
	baz=222						
L20K	Farewell, AK	5.80	18	P	Pn	15 11 05.0	+1.0
	baz=201						
UNV	Unalaska Valle	5.92	241		Pn	15 11 07.6	+1.9
UNV	Unalaska Valle	5.92	241	P	Pn	15 11 08.1	+2.5
	baz=54						
UNV	Unalaska Valle	5.92	241	P	Pn	15 11 07.5	+1.9
TTA	Tatalina	5.98	8	P	Pn	15 11 06.5	0.0
	baz=189						
TTA	Tatalina	5.98	8	P	Pn	15 11 07.0	+0.5
K13K	Kusilvak Mount	6.04	327	Pn	Pn	15 11 06.6	-0.7
MGOD	Makushin Gods	6.12	242		Pn	15 11 11.9	+3.4
PWL	Port Wells	6.20	48		Pn	15 11 11.7	+2.2
PWL	Port Wells	6.20	48	P	Pn	15 11 11.7	+2.2
	baz=236						
PMR	Palmer	6.35	40	P	Pn	15 11 12.2	+0.7
J17K	VABM Dome	6.42	355	Pn	Pn	15 11 12.9	+0.4
J16K	Anvik River	6.43	348		Pn	15 11 12.6	0.0
J16K	Anvik River	6.43	348	P	Pn	15 11 12.6	0.0
	baz=166						
J14K	Nanvaranak Lak	6.43	335	Pn	Pn	15 11 13.7	+1.1
J18K	Innoko River	6.47	4	Pn	Pn	15 11 14.0	+0.7
PPLA	Purkeypile	6.51	23	P	Pn	15 11 16.0	+2.2
	baz=208						
HIN	Hinchinbrook I	6.76	55		Pn	15 11 18.1	+0.9
SPIA	Saint Paul Isl	6.81	276		Pn	15 11 18.8	+1.0
SPIA	Saint Paul Isl	6.81	276	P	Pn	15 11 19.6	+1.8
	baz=86						
FID	Port Fidalgo	6.92	53	Pn	Pn	15 11 19.2	-0.3
CAST	Castle Rocks	7.00	21	P	Pn	15 11 21.4	+1.0
	baz=206						
I17K	Unalakleet	7.

F20K Avaraart Lake 10.09 5 Pn **Pn 15 12 03.4 +0.6**
G23K Bananza Creek 10.36 17 Pn **Pn 15 12 06.4 -0.1**
F21K Alatna River 10.41 9 Pn **Pn 15 12 08.0 +0.7**
G24K Hadweenzic Riv 10.82 22 Pn **Pn 15 12 14.1 +1.2**
I26K Coal Creek Min 10.85 34 Pn **Pn 15 12 13.7 +0.5**
M29M Somme Creek 11.11 53 Pn **Pn 15 12 18.9 +2.0**
F24K Squaw Lake 11.46 19 Pn **Pn 15 12 22.4 +0.9**
D19K Kuna River 11.50 359 Pn **Pn 15 12 23.9 +1.7**
DLBC Dease Lake 14.83 73 P **Pn 15 13 09.3 +1.7**
comp=E,0.2nm,0.3s,baz=290,slow=12,SNR=4.1
DLBC LR 15 18 41.1
comp=E,338nm,18.5s,baz=30,slow=36
comp=E,14nm,1.2s
INK Inuvik 15.71 34 Pn **Pn 15 13 16.2 -2.7**
INK Inuvik 15.71 34 P **Pn 15 13 19.3 +0.4**
comp=E,0.5nm,0.3s,baz=215,slow=25,SNR=18
INK LR LR 15 19 40.3
comp=E,208nm,18.7s,baz=239,slow=38
comp=E,1.1nm,0.3s
C36M Paulatuk 19.22 37 P **P 15 13 58.5 -3.2**
BILL Bilibino 19.57 319 P **P 15 14 05.2 -0.3**
BILL IAmb IAmb 15 14 13.2
comp=Z,18nm,0.8s
A36M Sachs Harbour 20.08 29 P **P 15 14 08.2 -2.7**
YKA Yellowknife Ar 22.06 58 P **P 15 14 32.7 +0.3**
comp=Z,6.8nm,1.0s,baz=274,slow=9.5,SNR=25
YKA PcP **PcP 15 18 29.4 0.0**
comp=Z,0.9nm,0.6s,baz=274,slow=2.2,SNR=7.7
YKA ScP **ScP 15 21 59.3 -6.3**
comp=Z,0.3nm,0.7s,baz=277,slow=2.6,SNR=6.9
comp=Z,6.8nm,1.0s
B08A Colville Reser 24.55 94 P **P 15 14 57.3 -0.2**
SEY Seymchan 25.07 304 LR LR 15 24 23.3
comp=Z,230nm,22.0s,baz=325,slow=35
PETK Petropavlovsk- 25.45 280 P **P 15 15 05.9 +0.4**
comp=Z,8.5nm,0.7s,baz=72,slow=12,SNR=24
comp=Z,8.5nm,0.7s
HAWA Hanford 25.63 98 IAmb IAmb 15 15 13.2
comp=Z,14nm,1.0s
F07A Phinny Hill Vi 25.73 99 IAmb IAmb 15 15 14.9
comp=Z,14nm,0.8s
MA2 Magadan 26.61 297 LR LR 15 26 31.7
comp=Z,114nm,18.4s,baz=44,slow=38
G08A Pilot Rock 26.64 99 P **P 15 15 17.8 +1.3**
J05D Fort Rock, OR 26.76 105 P **P 15 15 18.8 +1.2**
J05D IAmb IAmb 15 15 24.7
comp=Z,23nm,1.3s
LYMT Lyon Mountain 29.22 90 P **P 15 15 41.4 +1.7**
EGMT Eagleton 29.98 87 IAmb IAmb 15 15 50.7
comp=Z,6.3nm,0.8s
MPK Martis Peak 30.27 110 IAmb IAmb 15 16 01.5
comp=Z,16nm,1.2s
YERR Yerington 30.90 109 IAmb IAmb 15 16 01.7
comp=Z,9.2nm,1.1s
YHL Hebgen Lake 31.14 93 IAmb IAmb 15 16 17.5
comp=Z,8.4nm,1.3s
WAKR Walker 31.16 110 IAmb IAmb 15 16 03.7
comp=Z,13nm,1.3s
NVAR Mina Array Bea 31.80 109 P **P 15 16 05.0 +2.5**
comp=Z,3.5nm,0.8s,baz=308,slow=9.1,SNR=16
NVAR PcP **PcP 15 18 54.1 +0.9**
comp=Z,0.9nm,0.6s,baz=286,slow=2.5,SNR=4.2
comp=Z,3.5nm,0.8s
HVU Hansel Valley 32.33 99 IAmb IAmb 15 16 13.2
comp=Z,6.0nm,1.0s
TIXI Tiksi 32.46 326 P **P 15 16 08.7 +1.0**
TIXI IAmb IAmb 15 16 09.6
comp=Z,8.5nm,0.8s
TIXI Tiksi 32.46 326 LR LR 15 30 20.8
comp=Z,91nm,18.4s,baz=14,slow=38
FCC Fort Churchill 32.75 60 P **P 15 16 11.6 +1.3**
FCC IAmb IAmb 15 16 15.0
comp=Z,13nm,1.1s
HWUT Hardware Ranch 33.10 98 IAmb IAmb 15 16 19.8
comp=Z,5.3nm,0.8s
R11B Troy Canyon, C 33.28 106 P **P 15 16 15.2 -0.2**
R11B IAmb IAmb 15 16 21.5
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 33.40 94 P **P 15 16 18.1 +1.6**
PDAR Pinedale Array 33.40 94 P **P 15 16 17.9 +1.4**
comp=Z,1.4nm,0.7s,baz=314,slow=4.9,SNR=13
comp=Z,1.4nm,0.7s
WCT Wildcat Mounta 33.91 109 P **P 15 16 20.6 -0.2**
WCT IAmb IAmb 15 16 28.0
comp=Z,8.1nm,0.9s
MSU Marysvale 34.97 102 P **P 15 16 28.6 -1.5**
YAK Yakutsk 35.35 309 LR LR 15 31 24.5
comp=Z,105nm,20.2s,baz=96,slow=37
RSSD Black Hills 35.52 88 P **P 15 16 36.1 +1.3**
RSSD IAmb IAmb 15 16 39.9
comp=Z,10nm,0.7s
ULM Lac du Bonnet 36.16 74 P **P 15 16 40.1 +0.3**
ULM IAmb IAmb 15 16 45.0
comp=Z,7.3nm,0.8s
ULM Lac du Bonnet 36.16 74 P **P 15 16 40.4 +0.5**
comp=Z,3.9nm,0.5s,baz=304,slow=10,SNR=12
comp=Z,3.9nm,0.5s
PV23 Carpenter Ridg 36.72 99 P **P 15 16 44.4 -0.7**
PV23 IAmb IAmb 15 17 16.9
comp=Z,10nm,1.0s
MWH Mokuaweoweo 37.53 177 P **P 15 16 52.6 +0.2**
ASAJ Asahikawa 38.76 277 LR LR 15 34 55.9
comp=Z,88nm,18.6s,baz=157,slow=39
KLR Kul'dur 41.24 290 LR LR 15 36 17.6
comp=Z,55nm,18.1s,baz=346,slow=39
H43A Windswept, Lux 44.06 75 P **P 15 17 44.9 -0.6**
SPITS Spitsbergen Ar 44.99 2 P **P 15 17 53.3 +0.8**
comp=Z,9.6nm,0.9s,baz=237,slow=5.6,SNR=1.5
comp=Z,9.6nm,0.9s
NRIK Noril'sk 45.43 333 P **P 15 17 56.5 +0.5**
comp=Z,3.2nm,0.6s,baz=57,slow=9.4,SNR=7.2
NRIK LR LR 15 41 31.9
comp=Z,90nm,18.7s,baz=66,slow=42
comp=Z,3.2nm,0.6s
MJAR Matsushiro Arr 46.44 272 P **P 15 18 04.5 0.0**
comp=Z,0.6nm,0.3s,baz=41,slow=6.7,SNR=2.7
comp=Z,0.6nm,0.3s
TXAR Lajitas Array 46.52 103 P **P 15 18 06.8 +1.6**
comp=Z,1.9nm,0.7s,baz=316,slow=6.0,SNR=16
TXAR PcP **PcP 15 19 40.3 +0.9**
comp=Z,0.7nm,0.6s,baz=281,slow=1.7,SNR=4.0
comp=Z,1.9nm,0.7s
BRDY Brady 47.51 97 P **P 15 18 11.2 -1.7**
BRDY IAmb IAmb 15 18 17.2
comp=Z,5.0nm,0.8s
S51A Beattyville 51.12 79 IAmb IAmb 15 18 46.5
comp=Z,9.6nm,0.9s
KSRS Korea Array 51.35 281 P **P 15 18 42.6 +0.6**
comp=Z,5.3nm,0.9s,baz=49,slow=7.4,SNR=12
KSRS LR LR 15 41 00.3
comp=Z,40nm,19.4s,baz=100,slow=37
comp=Z,5.3nm,0.9s
SSPA Standing Stone 51.95 72 P **P 15 18 46.7 +0.2**
P57A Homestead Farm 52.73 73 P **P 15 18 55.9 +3.6**
ARCES ARCESS Array B 53.71 359 P **P 15 18 58.7 -0.4**
comp=Z,2.9nm,0.8s,baz=28,slow=5.5,SNR=4.0
comp=Z,2.9nm,0.8s
SONM Songino Array 54.46 305 P **P 15 19 05.8 +0.7**
comp=Z,4.0nm,0.8s,baz=49,slow=6.7,SNR=16
SONM PcP **PcP 15 20 07.2 -1.2**
comp=Z,1.9nm,0.8s,baz=47,slow=2.6,SNR=3.8
SONM LR LR 15 45 28.0
comp=Z,80nm,18.9s,baz=308,slow=39
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 57.27 296 *eP* **P 15 19 25.6 +0.3**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.0s
ZALV Zalesovo Beam 58.23 322 P **P 15 19 33.0 +1.4**
comp=Z,0.5nm,0.5s,baz=42,slow=6.8,SNR=4.5
comp=Z,0.5nm,0.5s
LYN LuoYang 61.67 290 P **P 15 19 56.2 +0.6**
LYN pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 61.82 358 P **P 15 19 55.2 -1.0**
comp=Z,2.4nm,0.6s,baz=15,slow=7.9,SNR=8.9
comp=Z,2.4nm,0.6s
NB2 NORSAR Subarra 61.94 6 P **P 15 19 56.9 -0.2**
comp=Z,2.7nm,0.7s,baz=352,slow=6.9
NOA NORSAR Array B 61.94 6 P **P 15 19 56.7 -0.4**
comp=Z,0.7nm,0.7s,baz=353,slow=6.8,SNR=5.1
comp=Z,0.7nm,0.7s
HFS Hagfors 62.98 5 P **P 15 20 03.3 -0.7**
comp=Z,3.9nm,0.8s,baz=289,slow=4.5,SNR=5.5
comp=Z,3.9nm,0.8s
KURBB Kurchatov Arra 63.11 324 P **P 15 20 04.6 -0.4**
comp=Z,2.5nm,0.2s,baz=24,slow=6.4,SNR=5.0
comp=Z,2.5nm,0.2s
BVAR Borovoye Array 63.45 330 P **P 15 20 06.8 -0.4**
comp=Z,1.8nm,0.7s,baz=34,slow=7.3,SNR=8.3
comp=Z,1.8nm,0.7s
GTA Gaotai 64.00 303 *eP* **P 15 20 11.1 -0.1**
GTA sP sP 15 20 18.2 -0.9
GTA pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 64.77 298 *eP* **P 15 20 16.6 +0.3**
LZH sP sP 15 20 26.1 +1.9
LZH pmax pmax
comp=Z,8.0nm,1.2s
MKAR Makanchi Array 65.11 319 P **P 15 20 17.6 -0.6**
comp=Z,0.9nm,0.7s,baz=45,slow=6.6,SNR=11
comp=Z,0.9nm,0.7s
EKA Eskdalemuir Ar 66.11 16 P **P 15 20 23.6 -0.9**
comp=Z,0.5nm,0.4s,baz=352,slow=5.4,SNR=3.5
comp=Z,0.5nm,0.4s
CD2 Chengdu 68.98 294 P **P 15 20 43.3 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 69.56 335 P **P 15 20 46.2 -0.1**
AKASG Malin Array Be 72.47 355 P **P 15 21 02.5 -1.4**
comp=Z,1.6nm,0.6s,baz=4.4,slow=5.8,SNR=7.5
comp=Z,1.6nm,0.6s
PZH PanZhiHua 73.60 293 P **P 15 21 12.4 +1.3**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.6s
STHS Stebnicka Huta 73.91 1 *eP* P 15 21 17.5 +5.0
LANS Liptovska Anna 74.15 2 *eP* **P 15 21 15.4 +1.5**
GERES GERESS Array B 74.25 6 P **P 15 21 14.1 -0.5**
comp=Z,0.9nm,0.6s,baz=13,slow=7.3,SNR=4.1
comp=Z,0.9nm,0.6s
PPT Papeete 74.63 172 LR LR 15 46 35.0
comp=Z,181nm,19.6s,baz=213,slow=30
VYHS Vyhne 74.80 2 *eP* **P 15 21 17.9 +0.2**
GAR Garm 76.10 323 P **P 15 21 26.1 +0.7**
GAR IAmb IAmb 15 21 51.9
comp=Z,5.4nm,0.8s
ESDC Sonseca Array 81.15 20 P **P 15 21 52.2 -1.0**
comp=Z,2.9nm,1.2s,baz=344,slow=4.5,SNR=2.6
comp=Z,2.9nm,1.2s
CMAR Chiang Mai Arr 81.71 291 P **P 15 21 55.8 -0.6**
comp=Z,4.3nm,0.9s,baz=15,slow=5.4,SNR=32
comp=Z,4.3nm,0.9s
BRTR Keskin Array B 83.12 351 P **P 15 22 03.2 -0.4**
comp=Z,1.4nm,1.0s,baz=21,slow=3.7,SNR=4.0
comp=Z,1.4nm,1.0s
WRA Warramunga Arr 95.19 241 P **P 15 22 59.7 -1.4**
comp=Z,1.1nm,0.8s,baz=36,slow=5.4,SNR=5.1
comp=Z,1.1nm,0.8s
ASAR Alice Springs 98.58 240 P **P 15 23 15.1 -1.3**
comp=Z,0.3nm,0.7s,baz=27,slow=3.9,SNR=2.3
comp=Z,0.3nm,0.7s
QSPA South Pole Qui 146.82 180 PKPbc **PKPbc 15 29 18.6 +0.1**
comp=Z,18nm,1.0s,baz=62,slow=0.3,SNR=25
BOSA Boshof 151.51 354 PKPbc **PKPbc 15 29 30.2 -1.4**
comp=Z,3.4nm,0.7s,baz=310,slow=0.6,SNR=4.1

DJA 01 15:10:46.1±0.9, 11°S±10°×11°8E±°, h10km, M4.0/12, mB5.6/1, mb4.2/7, MLv3.8/12, Mw(mB)5.1/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.83**	**5**	P	Pn	15 11 17.2	-0.4
WBSI	**Waikabubak, Su**	**2.02**	**60**	P	Pb	15 11 21.9	-1.2
TWSI	**Taliwang, Sumb**	**2.04**	**339**	P	Pn	15 11 21.1	+0.6
SRBI	**Singaraja**	**3.48**	**317**	P	Pn	15 11 41.6	+1.2
JAGI	**Jajag, Banyuwa**	**4.04**	**302**	P	Pn	15 11 46.3	-1.8
ABJI	**Asem Bagus**	**4.38**	**310**	P	Pn	15 11 52.8	0.0
GMJI	**Gumukmas**	**4.75**	**300**	P	Pn	15 11 55.5	-2.2
KMMI	**Kalianget**	**5.08**	**315**	P	Pn	15 12 03.7	+1.3
0.2nm33nm,1.4s							
BSSI	**Bau Bau, Buton**	**5.32**	**33**	P	Pn	15 12 03.0	-2.6
0.3nm81nm,1.1s							
BKSI	**Bulukumba**	**5.86**	**25**	P	Pn	15 12 12.1	-1.0
NGJI	**Ngawi**	**6.90**	**298**	P	Pn	15 12 29.1	+1.7
27nm,1.3s							
UGM	**Wanagama**	**7.51**	**291**	P	Pn	15 12 35.0	-0.8

DJA 01 15:15:53.6±0.7, 2°N±7°×12°2E±°, h10km, M3.9/9, mb4.2/2, MLv3.8/9, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.78**	**197**	P	Pn	15 16 24.0	-0.4
KMSI	**Cibinong**	**2.21**	**137**	P	Pn	15 16 30.0	-0.4
APSI	**Ampana**	**3.19**	**195**	P	Pn	15 16 44.4	+0.6
LUWI	**Luwuk**	**3.23**	**174**	P	Pn	15 16 45.1	+0.8
SANI	**Sanana**	**5.49**	**140**	P	Pn	15 17 14.5	-1.1
0.1nm18nm,0.9s							

IDC ***01*** *15:20:51.7±0.5, 45°.36N×27°.91W, h0km, mb4.3/33, mbtmp4.3/35, ML3.9/2, MS4.2/51, Error ellipse: s-maj=13.2km s-min=11.0km az=178.0*
MOS ***01*** *15:20:52.3±0.9, 45°.38N×27°.85W, h15km, mb4.9/48, MS4.2/6, Error ellipse: s-maj=9.9km s-min=5.4km az=136.4*
NEIC ***01*** *15:20:53.8±1.6, 45°.43N±0°.05×27°.8W±0°.1, h10km±1km, mb4.9/121, Error ellipse: s-maj=16.1km s-min=6.1km az=249.0*
BJI ***01*** *15:20:53.0, 45°.94N×28°.16W, h11km, mB5.3/8, mb4.8/32, Ms5.0/2, Ms7 4.7/5*
GCMT ***01*** *15:20:54.8±0.2, 45°.39N±0°.03×27°.84W±0°.02, h12km, MW5.0/107, Moment Tensor Solution. s33,c39; s107,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.08±.10; Mθθ=0.01±.12; Mφφ=3.09±.08; Mrθ=0.22±.39; Mθφ=0.12±.08; Mφr=2.03±.32; Best double couple: Mo=3.70100×10^16 NP1=φs=360.00000°, δ=28.00000°, λ=94.00000°. NP2=φs=184.00000°, δ=62.00000°, λ=88.00000°. Principal axes: T 3.7060, Plg=17.0000°, Azm=273.0000°; N -0.0070, Plg=2.0000°, Azm=3.0000°; P -3.6960, Plg=73.0000°, Azm=100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***01*** *15:21:15.9, 46°.49N×25°.32W, h33km, mb4.3*
ISC 01 15:20:54.1±0.3, 45°.41N±0°.06×27°.83W±0°.05, h14km, n374, σ1§31/311, mb4.7/168, MS4.2/63, 37C-26D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**7.83**	**166**	Pn	**Pn**	**15 22 47.0**	**-0.6**
CMLA	**Cha da Macela**	**7.83**	**166**	P	**Pn**	**15 22 47.0**	**-0.6**
PGAV	**Gavieira, Arco**	**14.56**	**97**	*eP*	**Pn**	**15 24 17.3**	**-2.4**
PMOZ	**Porto Moniz, M**	**15.02**	**143**	*eP*	**P**	**15 24 30.1**	**-1.2**
PMOZ	**Porto Moniz, M**	**15.02**	**143**	P	**Pn**	**15 24 27.1**	**+1.1**
PMPST	**Porto Santo, M**	**15.18**	**140**	*eP*	**P**	**15 24 33.2**	**+0.2**
PMAR	**Madeira**	**15.23**	**143**	*eP*	**Pn**	**15 24 27.6**	**-1.2**
MTE	**Manteigas**	**15.68**	**101**	Pn	**Pn**	**15 24 34.8**	**+0.3**
MTE	**Manteigas**	**15.68**	**101**	*eP*	**P**	**15 24 40.2**	**+1.7**
PMRV	**Marv??o**	**16.22**	**104**	*eP*	**Pn**	**15 24 40.6**	**-0.9**
PESTR	**Estremoz**	**16.36**	**106**	*eP*	**P**	**15 24 45.5**	**-0.5**
PESTR	**Estremoz**	**16.36**	**106**	P	**P**	**15 24 45.0**	**-1.1**
PCVE	**Castro Verde**	**16.71**	**111**	*eP*	**P**	**15 24 52.6**	**+2.6**
PCVE	**Castro Verde**	**16.71**	**111**	P	**P**	**15 24 50.6**	**+0.6**
EBAD	**Badajoz**	**16.80**	**106**	P	**P**	**15 24 51.2**	**+0.2**
EGRO	**El Granado**	**17.13**	**110**	P	**P**	**15 24 56.2**	**+1.6**
EMIN	**Mina Concepcio**	**17.54**	**108**	P	**P**	**15 25 00.1**	**+0.9**
ESDC	**Sonseca Array**	**18.47**	**100**	P	**P**	**15 25 05.2**	**-4.3**
ESDC	**Sonseca Array**	**18.47**	**100**	P	**Pn**	**15 25 09.6**	**0.0**
0.1nm,0.3s,baz=294,slow=11,SNR=7.3							
ESDC				LR	LR	15 31 17.0	
comp=Z,687nm,21.2s,baz=297,slow=34							
2.5nm,0.8s							
EKA	**Eskdalemuir Ar**	**18.51**	**49**	P	**Pn**	**15 25 11.0**	**+1.1**
baz=273,slow=19							
3.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**18.51**	**49**	P	**Pn**	**15 25 11.0**	**+1.1**
ESPR	**Espera**	**18.58**	**110**	P	**P**	**15 25 06.8**	**-3.8**
BORG	**Borgarnes**	**19.71**	**8**	LR	LR	15 30 47.2	
comp=Z,326nm,22.0s,baz=207,slow=30							
TCF	**Toulx Ste Croi**	**20.89**	**77**	*eP*	**P**	**15 25 36.4**	**+0.6**
TCF				pmax	pmax		
comp=Z,50nm,1.0s							
IFR	**Ifrane**	**21.10**	**116**	P	**P**	**15 25 40.9**	**+2.6**
BGF	**Bois d'Agland**	**21.29**	**76**	*eP*	**P**	**15 25 40.5**	**+0.5**
BGF				pmax	pmax		
comp=Z,68nm,1.0s							
TIO	**Tiouine**	**21.61**	**125**	P	**P**	**15 25 48.3**	**+4.6**
SSF	**Saint Saulge**	**21.67**	**74**	*eP*	**P**	**15 25 44.5**	**+0.4**
SSF				pmax	pmax		
comp=Z,101nm,1.2s							
MDT	**Midelt**	**21.89**	**117**	P	**P**	**15 25 47.5**	**+0.8**
comp=Z,7.6nm,0.8s,baz=313,slow=7.6,SNR=9.1							
MDT				LR	LR	15 33 15.2	
comp=Z,398nm,19.7s,baz=342,slow=34							
comp=Z,7.6nm,0.8s							
SMF	**Signal de Mont**	**21.95**	**75**	*eP*	**P**	**15 25 47.3**	**+0.1**
SMF				pmax	pmax		
comp=Z,41nm,1.0s							
DOU	**Dourbes**	**22.19**	**66**	*dP*	**P**	**15 25 50.5**	**+0.8**
comp=Z,9.4nm,1.1s							
BMRD	**Maredsous**	**22.30**	**66**	*dP*	**P**	**15 25 52.7**	**+1.8**
comp=Z,14nm,0.9s							
RCHB	**Rochefort**	**22.60**	**66**	*dP*	**P**	**15 25 55.7**	**+1.7**
BCLA	**Clavier**	**22.64**	**65**	*dP*	**P**	**15 25 56.1**	**+1.5**
comp=Z,8.5nm,0.9s							
SSB	**Saint Sauveur**	**22.68**	**79**	P	**P**	**15 25 50.7**	**-4.3**
SSB				IAmb	IAmb	15 26 07.6	
comp=Z,50nm,1.3s							
SSB	**Saint Sauveur**	**22.68**	**79**	P	**P**	**15 25 53.5**	**-1.5**
SSB				pmax	pmax		
comp=Z,50nm,1.3s							
WLF	**Walferdange**	**23.21**	**67**	*dP*	**P**	**15 26 01.2**	**+0.8**
ECH	**Echery**	**23.98**	**71**	P	**P**	**15 26 05.3**	**-2.7**
ECH				IAmb	IAmb	15 26 18.3	
comp=Z,60nm,1.7s							
ECH	**Echery**	**23.98**	**71**	P	**P**	**15 26 05.3**	**-2.7**
ECH				pmax	pmax		
comp=Z,60nm,1.7s							
CDF	**Champ du Feu**	**24.04**	**70**	*eP*	**P**	**15 26 09.8**	**+1.2**
CDF				pmax	pmax		
comp=Z,77nm,2.0s							
SENIN	**Lac Senin/Sane**	**24.36**	**75**	P	**P**	**15 26 11.5**	**-0.2**
SFJD	**Kangerlussuaq**	**24.78**	**339**	LR	LR	15 33 45.4	
comp=Z,682nm,21.5s,baz=144,slow=31							
TUE	**Stuetta**	**25.73**	**74**	P	**P**	**15 26 23.1**	**-1.0**
TUE				IAmb	IAmb	15 26 44.1	
comp=Z,72nm,1.9s							
TUE	**Stuetta**	**25.73**	**74**	P	**P**	**15 26 25.5**	**+1.4**
comp=Z,62nm,1.5s							
DAVA	**Damuels**	**25.93**	**72**	*i P*	**P**	**15 26 27.4**	**+1.5**
comp=Z,10nm,0.8s							
DAVOX	**Davos/Dischmat**	**26.03**	**73**	LR	LR	15 35 59.7	
comp=Z,674nm,18.2s,baz=262,slow=35							
SCHQ	**Schefferville**	**26.41**	**305**	P	**P**	**15 26 29.3**	**-0.6**
comp=Z,7.8nm,0.8s,baz=115,slow=6.9,SNR=5.9							
SCHQ				LR	LR	15 35 08.7	
comp=Z,747nm,18.7s,baz=102,slow=32							
comp=Z,7.8nm,0.8s							
KONO	**Kongsberg**	**26.42**	**44⇑**	*eP*	**P**	**15 26 30.8**	**+0.8**
RETA	**Reutte**	**26.49**	**72**	*i P*	**P**	**15 26 33.2**	**+2.3**
comp=Z,14nm,1.4s							
GRF	**Grafenberg Arr**	**26.49**	**67**	*eP*	**P**	**15 26 31.4**	**+0.6**
comp=Z,11nm,1.1s,baz=275,slow=8.8							
FETA	**Feichten**	**26.55**	**73**	*i P*	**P**	**15 26 34.1**	**+2.6**
comp=Z,17nm,1.9s							
MOTA	**Moosalm**	**26.74**	**72**	*i P*	**P**	**15 26 37.0**	**+3.8**
comp=Z,8.9nm,0.9s							
SQTA	**Sankt Quirin**	**26.84**	**72**	*i P*	**P**	**15 26 35.8**	**+1.8**
comp=Z,17nm,1.1s							
WATA	**Walderalm**	**27.06**	**72**	*eP*	**P**	**15 26 37.8**	**+1.7**
comp=Z,20nm,1.1s							
WTTA	**Wattenberg**	**27.12**	**72**	*i P*	**P**	**15 26 37.8**	**+1.2**
comp=Z,18nm,1.4s							
JMIC	**Jan Mayen**	**27.32**	**14**	LR	LR	15 34 46.2	
comp=Z,143nm,18.7s,baz=260,slow=30							
CTI	**Castel Tesino**	**27.38**	**74**	P	**P**	**15 26 38.0**	**-0.9**
CTI				IAmb	IAmb	15 26 45.4	
comp=Z,20nm,1.0s							
CTI	**Castel Tesino**	**27.38**	**74**	P	**P**	**15 26 38.0**	**-0.9**
CTI				pmax	pmax		
comp=Z,20nm,1.0s							
CLL	**Collm**	**27.49**	**63**	*eP*	**P**	**15 26 40.0**	**+0.3**
CLL				AMS	AMS	15 36 00.0	
comp=N,600nm,18.0s							
CLL				AMS	AMS	15 36 00.0	
comp=E,500nm,21.1s							
NB2	**NORSAR Subarra**	**27.59**	**41**	P	**P**	**15 26 41.6**	**+1.1**
comp=Z,28nm,1.4s,baz=253,slow=9.3							
NOA	**NORSAR Array B**	**27.59**	**41**	P	**P**	**15 26 41.4**	**+0.9**
comp=Z,2.6nm,0.9s,baz=253,slow=9.1,SNR=4.2							
NOA				LR	LR	15 36 11.9	
comp=Z,195nm,19.9s,baz=250,slow=33							
comp=Z,2.6nm,0.9s							
LESA	**Schwarzleotal**	**27.78**	**71**	*i P*	**P**	**15 26 43.7**	**+1.2**
comp=Z,8.5nm,1.1s							
ABTA	**Abfaltersbach**	**27.81**	**73**	*eP*	**P**	**15 26 44.1**	**+1.4**
comp=Z,14nm,1.3s							
HSKC	**Hora Svate Kat**	**27.82**	**64**	AMS	AMS	15 37 00.0	
comp=Z,1μm,14.0s							
KHC	**Kasperske Hory**	**28.09**	**67**	*eP*	**P**	**15 26 46.9**	**+1.8**
KHC				AMS	AMS	15 37 00.0	
comp=Z,900nm,17.9s							
KHC	**Kasperske Hory**	**28.09**	**67⇑**	*eP*	**P**	**15 26 45.7**	**+0.6**
KHC				pmax	pmax		
comp=Z,36nm,2.5s							
KHC	**Kasperske Hory**	**28.09**	**67**	P	**P**	**15 26 45.0**	**-0.1**
comp=Z,8.3nm,2.0s							
BRG	**Berggiesshubel**	**28.12**	**64**	*eP*	**P**	**15 26 45.9**	**+0.6**
BRG				Amp		15 26 56.2	
comp=Z,6.0nm,1.0s							
GEC2	**GERESS Array S**	**28.21**	**68**	P	**P**	**15 26 45.8**	**-0.6**
GERES	**GERESS Array B**	**28.21**	**68**	P	**P**	**15 26 45.7**	**-0.6**
GERES	**GERESS Array B**	**28.21**	**68**	P	**P**	**15 26 46.5**	**+0.2**
comp=Z,3.1nm,0.9s,baz=268,slow=9.3,SNR=9.4							
GERES				LR	LR	15 37 10.6	
comp=Z,686nm,19.5s,baz=266,slow=35							
comp=Z,3.1nm,0.9s							
KBA	**Koelnbreinsper**	**28.30**	**72**	*eP*	**P**	**15 26 45.9**	**-1.3**
comp=Z,7.9nm,1.0s							
BIOA	**Bad Ischl, Aus**	**28.37**	**70**	*eP*	**P**	**15 26 48.3**	**+0.7**
comp=Z,7.0nm,0.9s							
ZVC	**Zvikov**	**28.44**	**67**	*eP*	**P**	**15 26 49.6**	**+1.4**
PRA	**Prague**	**28.51**	**65**	AMS	AMS	15 37 30.0	
comp=Z,1μm,14.6s							
HFS	**Hagfors**	**28.54**	**44**	P	**P**	**15 26 48.4**	**-0.7**
comp=Z,5.2nm,0.9s,baz=193,slow=12,SNR=2.9							
HFS				LR	LR	15 37 29.1	
comp=Z,271nm,18.1s,baz=258,slow=35							
comp=Z,5.2nm,0.9s							
PVCC	**Panska Ves**	**28.55**	**64**	AMS	AMS	15 37 50.0	
comp=Z,1μm,19.2s							
MYKA	**Terra Mystica**	**28.59**	**72**	*eP*	**P**	**15 26 50.5**	**+0.8**
comp=Z,19nm,1.6s							
PRU	**Pruhonice**	**28.59**	**65**	AMS	AMS	15 38 10.0	
comp=Z,1μm,15.3s							
FRB	**Frobisher Bay**	**29.17**	**323**	LR	LR	15 35 17.6	
comp=Z,609nm,21.0s,baz=96,slow=30							
OBKA	**Obir**	**29.23**	**72**	*eP*	**P**	**15 26 55.7**	**+0.3**
comp=Z,13nm,1.0s							
UPC	**Upice**	**29.46**	**64**	*eP*	**P**	**15 26 58.7**	**+1.4**
UPC				AMS	AMS	15 38 10.0	
comp=Z,1μm,17.2s							
UPC	**Upice**	**29.46**	**64**	*eP*	**P**	**15 26 58.7**	**+1.4**
UPC				MLR	MLR		
comp=Z,1μm,17.2s							
SOKA	**Soboth**	**29.51**	**72**	*i P*	**P**	**15 26 55.8**	**-2.1**
comp=Z,7.7nm,1.2s							
KSP	**Ksiaz**	**29.60**	**63**	P	**P**	**15 26 59.4**	**+0.9**
comp=Z,13nm,1.1s							
LDAQ	**Lac Daran**	**29.60**	**291**	P	**P**	**15 26 57.7**	**-0.9**
LDAQ				IAmb	IAmb	15 27 04.8	
comp=Z,28nm,1.3s							
KEST	**Kesra**	**29.62**	**96**	P	**P**	**15 26 59.2**	**+0.2**
KEST				IAmb	IAmb	15 27 04.5	
comp=Z,37nm,1.4s							
KEST	**Kesra**	**29.62**	**96**	P	**P**	**15 26 58.5**	**-0.5**
comp=Z,5.9nm,0.8s,baz=6.7,slow=1.7,SNR=5.5							
KEST		

VRAC Vranov 30.01 66 LR LR 15 38 46.4
comp=Z,924nm,18.1s,baz=268,slow=36
VRAC Vranov 30.01 66 *e*P **P 15 27 02.8 +0.6**
RONA Rosalia, Austr 30.13 70 *i* P **P 15 27 02.0 -1.2**
comp=Z,5.1nm,1.0s
MORC Moravsky Berou 30.55 65 P **P 15 27 07.3 +0.4**
MORC Moravsky Berou 30.55 65 *e*P **P 15 27 07.8 +0.9**
MORC Moravsky Berou 30.55 65 ⇓P **P 15 27 07.5 +0.6**
MORC Moravsky Berou 30.55 65 P **P 15 27 07.3 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.1s
STEB Steborice 30.67 65 *e*P **P 15 27 08.0 +0.1**
VYHS Vyhne 31.62 67 *e*P **P 15 27 17.7 +1.3**
VYHS Vyhne 31.62 67 *e*P **P 15 27 17.7 +1.3**
J61A Chester 31.72 283 P **P 15 27 17.7 +0.4**
LANS Liptovska Anna 31.89 66 *e*P **P 15 27 20.6 +1.8**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 31.89 66 *e*P **P 15 27 20.6 +1.8**
OJC Ojcow 31.90 64 *e*P **P 15 27 19.6 +0.8**
OJC Ojcow 31.90 64 P **P 15 27 18.7 -0.2**
OJC Ojcow 31.90 64 P **P 15 27 18.7 -0.2**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 31.90 64 P **P 15 27 18.7 -0.2**
comp=Z,8.3nm,1.2s
MORH Mrgy, Hungar 32.05 72 ⇑P **P 15 27 20.8 +0.7**
MORH Mrgy, Hungar 32.05 72 P **P 15 27 19.6 -0.5**
comp=Z,8.7nm,2.3s
TRQ Mont Tremblant 32.21 288 P **P 15 27 20.4 -1.2**
TRQ IAmb IAmb 15 27 23.9
comp=Z,16nm,0.7s
BEL Belsk 32.27 61 *e*P **P 15 27 23.1 +1.2**
VAE Valguarnera 32.34 89 LR LR 15 39 42.5
comp=Z,394nm,18.4s,baz=325,slow=35
NIE Niedzica 32.37 65 *e*P **P 15 27 25.6 +2.6**
NIE Niedzica 32.37 65 P **P 15 27 24.5 +1.5**
comp=Z,4.9nm,1.1s
STHS Stebnicka Huta 32.98 65 *e*P **P 15 27 29.9 +1.6**
STHS Stebnicka Huta 32.98 65 *e*P **P 15 27 29.9 +1.6**
CEL Celeste 33.02 87 P **P 15 27 29.6 +0.8**
comp=Z,24nm,1.7s
KOLS Kolonicke sedl 33.74 66 *e*P **P 15 27 36.3 +1.3**
KOLS pmax pmax
comp=Z,6.0nm,0.9s
KOLS Kolonicke sedl 33.74 66 *e*P **P 15 27 36.3 +1.3**
SIRR Siria 34.04 70 ⇓P **P 15 27 38.1 +0.5**
BERU Beregovo 34.15 67 P **P 15 27 37.7 -0.8**
BZS Buzias 34.20 72 ⇑P **P 15 27 39.8 +0.8**
BZS Buzias 34.20 72 ⇑P **P 15 27 39.8 +0.8**
SURR Surduc 34.50 71 ⇓P **P 15 27 42.6 +1.0**
MDVR Moldovita 34.53 73 ⇑P **P 15 27 42.6 +0.7**
DRGR 34.58 69 ⇑P **P 15 27 42.9 +0.5**
DRGR 34.58 69 ⇑P **P 15 27 42.9 +0.5**
FINES FINESS Array B 34.73 43 P **P 15 27 43.6 +0.4**
comp=Z,7.9nm,0.8s,baz=256,slow=7.7,SNR=8.9
comp=Z,7.9nm,0.8s
BOVS Bovan 34.92 75 ⇑P **P 15 27 45.5 +0.4**
HERR Herculane 34.97 72 ⇓P **P 15 27 46.0 +0.4**
GZR Gura Zlata 35.05 71 ⇑P **P 15 27 47.1 +0.7**
GZR Gura Zlata 35.05 71 ⇑P **P 15 27 47.1 +0.7**
RAKU Rahkiv 35.19 67 P **P 15 27 46.6 -0.9**
STNU Starunia 35.23 65 P **P 15 27 46.9 -0.9**
TAM Tamanrasset 35.28 119 P **P 15 27 52.1 +3.5**
TAM pmax pmax
comp=Z,5.0nm,1.3s
NACGM Naroch 35.41 54 *e*P **P 15 27 49.2 0.0**
baz=278
RNPP1 Kostyukhnivka 35.41 61 P **P 15 27 48.7 -0.6**
RNPP8 Varash 35.47 61 P **P 15 27 50.0 +0.2**
RNPP9 Sopachiv 35.47 60 P **P 15 27 49.8 0.0**
RNPP5 Staryi Chortor 35.51 61 P **P 15 27 50.2 +0.1**
ARCES ARCESS Array B 35.67 29 P **P 15 27 50.5 -0.9**
comp=Z,2.0nm,0.7s,baz=276,slow=8.1,SNR=4.5
comp=Z,2.0nm,0.7s
SADO Sadowa 35.72 288 LR LR 15 41 54.7
comp=Z,729nm,20.0s,baz=60,slow=35
BUR08 Bucovina Ar. S 35.97 67 P **P 15 27 55.3 +1.0**
BUR08 IAmb IAmb 15 28 06.4
comp=Z,15nm,1.3s
BURAR Bucovina Array 35.98 67 ⇑P **P 15 27 55.4 +1.0**
BURAR Bucovina Array 35.98 67 ⇑P **P 15 27 55.4 +1.0**
MNK Minsk 36.10 55 *i* P **P 15 27 54.5 -0.6**
comp=E,4.0nm,0.8s
MNK *i* P **P 15 27 54.5 -0.6**
comp=N,7.0nm,0.8s
MNK *i* P **P 15 27 54.5 -0.6**
comp=Z,12nm,0.9s,baz=279
MNK *i* PP **PnPn 15 29 08.2 -8.0**
MNK *i* PPP PPP 15 29 25.3
MNK *i* S **S 15 33 34.1 +0.2**
MNK *i* SS **SnSn 15 35 59.6 +0.8**
MNK *i* LQ LQ 15 38 53.8
MNK *i* LR LR 15 40 01.4
MNK *i* LRM MLR 15 44 08.5
comp=Z,236nm,15.5s
MNK *i* LRM MLR 15 44 28.6
comp=E,214nm,16.6s
MNK *i* LRM MLR 15 44 37.7
comp=N,308nm,15.8s
MNK Minsk 36.10 55 *i* P **P 15 27 54.5 -0.6**
MNK *i* PPP PPP 15 29 25.2
MNK *i* S **S 15 33 34.1 +0.2**
MNK *i* SS **SnSn 15 35 59.6 +0.8**
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=Z,236nm,16.0s
MNK MLR MLR
comp=E,214nm,17.0s
MNK MLR MLR
comp=N,308nm,16.0s
ARR Arges 36.30 71 ⇓P **P 15 27 57.6 +0.5**
HORU Horodok 36.32 64 P **P 15 27 57.1 0.0**
HORU pP **pP 15 28 01.2 +0.6**
KMPD K-Podol'skiy 36.52 65 P **P 15 27 58.3 -0.5**
VOIR 36.55 71 ⇑P **P 15 27 59.7 +0.5**
VOIR 36.55 71 ⇑P **P 15 27 59.7 +0.5**
VOIR 36.55 71 P **P 15 27 58.5 -0.7**
comp=N,8.9nm,2.4s
DOPR Dopca 36.60 70 ⇓P **P 15 28 00.8 +1.2**
MI28 Mi28,Pidlybu 36.67 61 P **P 15 27 59.7 -0.4**
comp=N,100nm,0.9s
LUBAR Lubar, Ukraine 36.97 62 P **P 15 28 02.0 -0.7**
MI30 MI30,Zelenitsa 37.03 61 P **P 15 28 03.5 +0.3**
comp=N,25nm,1.0s
MLR Muntele Rosu 37.12 70 LR LR 15 43 07.3
comp=N,404nm,20.1s,baz=284,slow=36
MLR Muntele Rosu 37.12 70 ⇓P **P 15 28 05.2 +1.0**
MLR Muntele Rosu 37.12 70 ⇓P **P 15 28 05.2 +1.0**
MLR Muntele Rosu 37.12 70 P **P 15 28 04.4 +0.2**
comp=N,13nm,1.3s
COVR Voineasa-Covas 37.18 69 ⇓P **P 15 28 05.0 +0.4**
TESR Tescani 37.25 68 ⇓P **P 15 28 05.8 +0.7**
TESR Tescani 37.25 68 P **P 15 28 05.3 +0.2**
comp=N,20nm,1.3s
VRI Vrincioaia 37.52 69 ⇑P **P 15 28 07.5 +0.1**
VRI Vrincioaia 37.52 69 ⇑P **P 15 28 07.5 +0.1**
AK20 Malin Array Si 37.54 61 P **P 15 28 06.8 -0.7**
AK19 Malin Array Si 37.55 61 P **P 15 28 06.8 -0.7**
AK21 Malin Array Si 37.55 61 P **P 15 28 06.9 -0.7**
SPBR Spulber 37.57 69 ⇓P **P 15 28 08.7 +0.8**
AK22 Malin Array Si 37.57 61 P **P 15 28 07.3 -0.5**
KIEV Kiev 37.67 61 ⇑P **P 15 28 08.6 0.0**
KIEV Kiev 37.67 61 ⇑P **P 15 28 08.6 0.0**
KIEV Kiev 37.67 61 P **P 15 28 08.1 -0.5**
comp=N,52nm,0.9s
AKASG Malin Array Be 37.68 61 P **P 15 28 08.2 -0.5**
comp=N,5.7nm,0.8s,baz=283,slow=8.6,SNR=17
comp=N,5.7nm,0.8s
AKASG Malin Array Be 37.68 61 *i* P **P 15 28 08.6 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 37.68 61 P **P 15 28 07.9 -0.8**
AKBB Malin Array Si 37.68 61 P **P 15 28 07.9 -0.8**
AKBB pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si 37.68 61 P **P 15 28 08.1 -0.6**
SORM Soroca 37.85 65 ⇑P **P 15 28 09.7 -0.4**
SORM Soroca 37.85 65 ⇑P **P 15 28 09.7 -0.4**
SORM Soroca 37.85 65 P **P 15 28 09.3 -0.8**
comp=Z,10μmcomp=Z,18nm,1.1s
ELND Elena 38.01 74 ⇑P **P 15 28 12.1 +0.6**
APA Apatity 38.23 33 ⇓*i*P **P 15 28 11.2 -1.9**
APA pmax pmax
comp=Z,12nm,0.9s
RDO Rodhopi 38.49 77 P **P 15 28 15.0 -0.7**
RDO IAmb IAmb 15 28 27.2
comp=Z,30nm,1.3s
CFR Carcaliu 38.68 70 ⇓P **P 15 28 16.2 -1.0**
CFR Carcaliu 38.68 70 ⇓P **P 15 28 16.2 -1.0**
HARR Harsova 38.72 70 ⇓P **P 15 28 16.3 -1.2**
HARR Harsova 38.72 70 ⇓P **P 15 28 16.3 -1.2**
O53A New Philadelph 38.88 282 IAmb IAmb 15 28 26.1
comp=Z,24nm,0.9s
ALN Alexandroupoli 38.95 77 IAmb IAmb 15 28 23.1
comp=Z,26nm,0.9s
TPGR Topolog 38.99 70 ⇑P **P 15 28 18.4 -1.4**
TIRR Tirgusor 39.13 71 ⇑P **P 15 28 20.8 -0.1**
TIRR Tirgusor 39.13 71 P **P 15 28 20.8 -0.1**
TIRR Tirgusor 39.13 71 P **P 15 28 20.2 -0.7**
comp=Z,18nm,1.1s
O52A Adamsville 39.37 282 P **P 15 28 23.8 +0.7**
O52A IAmb IAmb 15 28 30.0
comp=Z,33nm,1.1s
ACSO Alum Creek Sta 40.11 283 IAmb IAmb 15 28 35.8
comp=Z,34nm,1.4s
BAND Balkesir-Ban 40.59 77 ⇑P **P 15 28 33.8 +0.6**
TORD Torodi Ar. Bea 40.76 133 P **P 15 28 33.5 -1.2**
TORD Torodi Ar. Bea 40.76 133 P **P 15 28 34.3 -0.4**
comp=Z,7.4nm,0.9s,baz=331,slow=8.6,SNR=29
TORD LR LR 15 44 29.2
comp=Z,866nm,18.0s,baz=315,slow=35
comp=Z,7.4nm,0.9s
RES Resolute Bay 40.78 338 P **P 15 28 32.7 -1.5**
RES Resolute Bay 40.78 338 LR LR 15 43 02.9
comp=Z,192nm,20.4s,baz=244,slow=33
RES Resolute Bay 40.78 338 P **P 15 28 32.7 -1.5**
RES pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 40.90 52 LR LR 15 44 18.0
comp=Z,343nm,21.1s,baz=350,slow=34
OBN Obninsk 40.90 52 *i* P **P 15 28 35.8 +0.3**
OBN *i* 15 28 40.4
OBN *i* 15 30 36.1
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,334nm,16.0s
KLMR Klimovskoe 41.26 43 *e*P **P 15 28 35.5 -2.9**
KLMR pmax pmax
comp=Z,28nm,1.2s
YLV Yalova 41.37 76 P **P 15 28 39.2 -0.4**
comp=Z,20nm,1.1s
SJG San Juan 41.85 242 LR LR 15 42 16.0
comp=Z,200nm,21.4s,baz=33,slow=31
R50A Paris 41.93 281 IAmb IAmb 15 28 47.3
comp=Z,40nm,1.7s
BORA Eskisehir 42.42 76 P **P 15 28 48.0 -0.2**
I42A Draeger Farm, 42.55 291 IAmb IAmb 15 28 55.7
comp=Z,20nm,1.0s
EYMN Ely 42.65 297 IAmb IAmb 15 28 55.9
comp=Z,19nm,1.1s
TKL Tuckaleechee C 42.84 277 LR LR 15 46 38.7
comp=Z,342nm,18.2s,baz=70,slow=36
T50A Nancy 42.90 280 P **P 15 28 53.1 +1.0**
LPSR Galich'ya Gora 42.94 55 *e*P **P 15 28 52.4 +0.2**
LPSR pmax pmax
comp=Z,26nm,0.9s
E38A The Farm, Brul 43.19 295 IAmb IAmb 15 29 00.1
comp=Z,18nm,1.1s
VORR Voronezh 43.41 57 *e*P **P 15 28 55.1 -0.9**
VORR pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 43.44 146 P **P 15 28 56.5 -0.1**
comp=Z,5.4nm,0.9s,baz=347,slow=7.8,SNR=6.6
DBIC LR LR 15 45 32.7
comp=Z,531nm,19.6s,baz=329,slow=34
comp=Z,5.4nm,0.9s
DBIC Dimbokro 43.44 146 ⇑P **P 15 28 57.1 +0.5**
VSR Storozhevoye 43.53 57 *e*P **P 15 28 55.6 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 43.69 57 *e*P **P 15 28 56.8 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.9s
T47A Sharon Grove 44.49 281 IAmb IAmb 15 29 11.5
comp=Z,13nm,0.9s
SDDR Presa de Saban 44.49 248 P **P 15 29 06.7 +1.6**
SDDR IAmb IAmb 15 29 12.2
comp=Z,21nm,0.9s
ULM Lac du Bonnet 44.49 302 P **P 15 29 04.4 -0.4**
comp=Z,3.3nm,0.8s,baz=68,slow=9.1,SNR=6.1
ULM LR LR 15 45 56.9
comp=Z,708nm,19.0s,baz=89,slow=34
comp=Z,3.3nm,0.8s
SPMN Marine on St. 44.54 294 IAmb IAmb 15 29 11.3
comp=Z,24nm,1.1s
BR105 Keskin Array S 44.65 75 P **P 15 29 07.2 +0.9**
comp=Z,87nmcomp=Z,12nm,1.0s
BR131 Keskin Array S 44.66 75 P **P 15 29 07.0 +0.6**
BR131 IAmb IAmb 15 29 09.8
comp=Z,14nm,1.0s
BR131 Keskin Array S 44.66 75 P **P 15 29 07.0 +0.6**
BR131 pmax pmax
comp=Z,14nm,1.0s
BRTR Keskin Array B 44.66 75 P **P 15 29 06.7 +0.4**
BRTR Keskin Array B 44.66 75 P **P 15 29 07.3 +0.9**
comp=Z,9.8nm,1.0s,baz=293,slow=5.8,SNR=28
comp=Z,9.8nm,1.0s
BRTR Keskin Array B 44.66 75 *i* P **P 15 29 07.5 +1.1**
BRTR pmax pmax
comp=Z,10.0nm,1.0s
BR104 Keskin Array S 44.67 75 P **P 15 29 07.3 +0.9**
comp=Z,72nmcomp=Z,11nm,1.0s
L40A Anamosa 44.87 289 IAmb IAmb 15 29 10.6
comp=Z,19nm,0.9s
ANN Anapa 44.90 66 *e*P **P 15 29 05.0 -3.0**
ANN pmax pmax
comp=Z,68nm,1.0s
ANN MLR MLR
comp=Z,581nm,16.0s
VRH Novokhopyorsk 45.05 56 *e*P **P 15 29 09.8 +0.7**
VRH pmax pmax
comp=Z,13nm,0.8s
KIRS Kirsehir-Merke 45.13 75 ⇑P **P 15 29 10.4 +0.3**
N41A Harden Midland 45.25 287 IAmb IAmb 15 29 13.0
comp=Z,14nm,1.1s
MDP Montagnes des 45.61 216 LR LR 15 43 31.2
comp=Z,129nm,20.1s,baz=300,slow=30
CGM3 Cape Girardeau 46.09 283 IAmb IAmb 15 29 19.5
comp=Z,8.9nm,0.7s
FFC Flin Flon 46.38 310 P **P 15 29 19.5 -0.1**
FFC Flin Flon 46.38 310 P **P 15 29 19.5 -0.1**
FFC pmax pmax
comp=Z,46nm,2.0s
ERBR Yeremizino-Bor 46.46 64 *e*P **P 15 29 20.8 +0.4**
ERBR pmax pmax
comp=Z,13nm,0.7s
P40A Paris 46.61 287 IAmb IAmb 15 29 27.6
comp=Z,11nm,1.0s
KIRV Kirov 46.68 45 ⇑*e*P **P 15 29 22.1 +0.3**
CCM Cathedral Cave 46.80 284 P **P 15 29 23.3 +0.2**
CCM Cathedral Cave 46.80 284 P **P 15 29 23.3 +0.2**
CCM pmax pmax
comp=Z,39nm,1.0s
SOC Sochi 46.91 67 *e*P **P 15 29 23.7 -0.2**
SOC *e* 15 31 12.4
SOC *e*PPP PPP 15 31 55.1
SOC *e*S **S 15 36 15.7 +1.4**
SOC *e*SSS SSS 15 40 38.5
SOC MLR MLR
comp=Z,230nm,19.0s
PCRV Puerto La Cruz 47.17 234 LR LR 15 45 50.0
comp=Z,147nm,21.8s,slow=32
P38A Dawn 47.56 287 IAmb IAmb 15 29 30.7
comp=Z,15nm,1.3s
LCAR Lake Charles 47.76 282 IAmb IAmb 15 29 36.0
comp=Z,14nm,1.0s
BELG Belogornoye 47.98 53 LR LR 15 49 42.7
comp=Z,398nm,19.1s,baz=296,slow=36
BELG Belogornoye 47.98 53 ⇑*e*P **P 15 29 32.5 +0.4**
BELG pmax pmax
comp=Z,3.0nm,1.3s
FCAR Ozark Folk Cen 48.52 282 IAmb IAmb 15 29 41.4
comp=Z,12nm,1.0s
KIV Kislovodsk 48.65 65 *e*P **P 15 29 36.5 -1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,162nm,17.0s
SHA1 Shidzhatmaz 48.73 65 ⇓*e*P **P 15 29 39.1 +0.7**
KBZ Khabaz 48.89 65 P **P 15 29 41.1 +1.9**
comp=Z,9.5nm,1.0s,baz=312,slow=7.9,SNR=14
KBZ LR LR 15 50 26.8
comp=Z,304nm,21.1s,baz=314,slow=36
comp=Z,9.5nm,1.0s
KBZ Khabaz 48.89 65 *ce*P **P 15 29 41.5 +2.3**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
MMAI Mount Meron Ar 49.35 81 P **P 15 29 43.4 +0.4**
comp=Z,4.5nm,1.0s,baz=341,slow=16,SNR=1.5
MMAI LR LR 15 53 19.1
comp=Z,109nm,18.2s,baz=317,slow=39
comp=Z,4.5nm,1.0s
YKA Yellowknife Ar 49.68 323 P **P 15 29 44.4 -0.6**
comp=Z,1.6nm,1.0s,baz=69,slow=7.1,SNR=12
YKA LR LR 15 47 58.8
comp=Z,207nm,19.9s,baz=92,slow=33
comp=Z,1.6nm,1.0s
YKA Yellowknife Ar 49.68 323 *i* P **P 15 29 45.9 +0.9**
YKA pmax pmax
comp=Z,2.0nm,1.0s
U38A Gravette 49.78 284 IAmb IAmb 15 29 51.2
comp=Z,10nm,1.0s
EIL Elat 50.95 85 LR LR 15 53 30.0
comp=Z,70nm,18.2s,baz=248,slow=38
RCBR Riachuelo 51.52 190 LR LR 15 46 44.5
comp=Z,50nm,20.8s,baz=255,slow=30
DEOK Depew 51.54 285 IAmb IAmb 15 30 04.5
comp=Z,20nm,0.9s
KAN13 South Haven SW 51.57 287 IAmb IAmb 15 30 01.2
comp=Z,27nm,1.3s
GEVA Gevas 51.71 71 IAmb IAmb 15 30 03.5
comp=Z,12nm,1.0s
SDV Santo Domingo 51.71 239 LR LR 15 47 58.2
comp=Z,137nm,21.6s,baz=60,slow=32
GNI Garni 51.86 68 LR LR 15 54 05.7
comp=Z,106nm,18.9s,baz=322,slow=38
ARTI Arti 51.99 45 P **P 15 30 02.9 +0.4**
ARTI IAmb IAmb 15 30 13.1
comp=Z,21nm,1.4s
ARTI Arti 51.99 45 P **P 15 30 02.7 +0.2**
comp=Z,5.5nm,0.9s,baz=273,slow=6.2,SNR=6.6
ARTI LR LR 15 52 13.8
comp=Z,234nm,18.4s,baz=323,slow=36
comp=Z,5.5nm,0.9s
ARTI Arti 51.99 45 P **P 15 30 02.9 +0.4**
ARTI pmax pmax
comp=Z,21nm,1.4s
RSSD Black Hills 52.16 298 P **P 15 30 04.4 +0.1**
RSSD Black Hills 52.16 298 P **P 15 30 04.4 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 53.98 334 LR LR 15 52 10.6
comp=Z,132nm,18.4s,baz=234,slow=35
H10N2 ASCENSION HYDR 54.34 164 T T 16 28 41.2
baz=349,slow=75,SNR=6.2
H10N3 ASCENSION HYDR 54.35 164 T T 16 28 39.4
baz=349,slow=75,SNR=6.1
H10N1 ASCENSION HYDR 54.35 164 T T 16 28 36.5
baz=349,slow=75,SNR=8.3
HKT Hockley 54.44 278 ⇑*e*P **P 15 30 21.3 +0.5**
HKT pmax pmax
comp=Z,10.0nm,1.0s
K22A Casper 54.48 297 IAmb IAmb 15 30 27.3
comp=Z,18nm,1.0s
AKTO Aktyubinsk 54.67 51 LR LR 15 53 00.6
comp=Z,237nm,18.6s,baz=182,slow=35
RLMT Red Lodge 54.86 301 IAmb IAmb 15 30 33.8
comp=Z,12nm,1.2s
H10S3 ASCENSION HYDR 55.40 164 T T 16 29 54.2
baz=230
H10S2 ASCENSION HYDR 55.41 164 T T 16 29 53.6
baz=350
APMT Aspermont 55.42 284 IAmb IAmb 15 30 33.3
comp=Z,9.2nm,0.8s
AMTX Amarillo 55.58 287 IAmb IAmb 15 30 35.2
comp=Z,17nm,0.9s
T25A Trinidad 56.13 291 IAmb IAmb 15 30 40.1
comp=Z,10nm,1.2s
NRIK Noril'sk 56.19 23 P **P 15 30 33.8 +0.8**
NRIK IAmb IAmb 15 30 41.4
comp=Z,12nm,1.0s
NRIK Noril'sk 56.19 23 P **P 15 30 34.6 +1.7**
comp=Z,1.9nm,0.3s,baz=312,slow=3.7,SNR=9.3
comp=Z,1.9nm,0.3s
NRIK Noril'sk 56.19 23 *de*P **P 15 30 33.9 +1.0**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
FLWY Flagg Ranch 56.28 301 IAmb IAmb 15 30 41.2
comp=Z,18nm,1.4s
PDAR Pinedale Array 56.30 299 P **P 15 30 34.1 -0.3**
comp=Z,2.6nm,0.9s,baz=56,slow=5.9,SNR=12
PDAR LR LR 15 53 29.0
comp=Z,411nm,18.9s,baz=58,slow=35
comp=Z,2.6nm,0.9s
O20A White River Ci 56.93 296 IAmb IAmb 15 30 45.0
comp=Z,9.4nm,1.2s
ROSC El Rosal 57.13 239 LR LR 15 52 22.7
comp=Z,152nm,21.5s,baz=65,slow=33
I28M Miner Creek 57.71 333 P **P 15 30 43.9 -0.1**
I28M IAmb IAmb 15 30 49.0
comp=Z,11nm,1.2s
NEW Newport 57.73 308 IAmb IAmb 15 30 53.9
comp=Z,9.1nm,1.1s
NEW Newport 57.73 308 LR LR 15 52 48.7
comp=Z,347nm,21.5s,baz=62,slow=33
NEW Newport 57.73 308 P **P 15 30 47.8 +3.6**
HWUT Hardware Ranch 58.18 299 IAmb IAmb 15 30 53.9
comp=Z,10nm,1.2s
DLBC Dease Lake 58.30 323 LR LR 15 52 34.8
comp=Z,246nm,19.0s,baz=136,slow=33
D23K Nanushuk River 58.40 339 P **P 15 30 49.3 +0.7**
D23K IAmb IAmb 15 31 10.2
comp=Z,7.7nm,1.1s
ANMO Albuquerque 58.74 290 LR LR 15 56 00.9
comp=Z,616nm,18.1s,baz=214,slow=36
ANMO Albuquerque 58.74 290 ⇑*e*P **P 15 30 53.1 +1.4**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
SAND Sanderson 58.79 282 IAmb IAmb 15 30 57.5
comp=Z,11nm,0.8s
BRVK Borovoye 59.61 44 ⇑*e*P **P 15 30 58.2 +1.0**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BVAR Borovoye Array 59.68 44 P **P 15 30 58.5 +0.9**
comp=Z,4.5nm,0.7s,baz=306,slow=5.1,SNR=24
BVAR LR LR 15 56 12.0
comp=Z,146nm,19.2s,baz=304,slow=36
comp=Z,4.5nm,0.7s
DUG Dugway, Tooele 59.77 298 P **P 15 30 59.9 +1.2**
DUG pmax pmax
comp=Z,12nm,1.3s
TXAR Lajitas Array 60.23 283 P **P 15 31 02.1 +0.2**
TXAR Lajitas Array 60.23 283 P **P 15 31 02.2 +0.3**
comp=Z,3.5nm,1.0s,baz=65,slow=6.2,SNR=15
TXAR LR LR 15 57 02.2
comp=Z,506nm,18.8s,baz=45,slow=36
comp=Z,3.5nm,1.0s
ILAR Eielson Array 60.35 334 P **P 15 31 01.8 -0.3**
comp=Z,1.1nm,0.9s,baz=44,slow=4.6,SNR=9.0
comp=Z,1.1nm,0.9s
COLA College 60.57 335 ⇑*e*P **P 15 31 03.8 +0.3**
COLA pmax pmax
comp=Z,4.0nm,1.5s
ELK Elko 60.94 300 LR LR 15 56 19.1
comp=Z,414nm,19.0s,baz=77,slow=35
121A Cookes Peak, D 61.07 288 IAmb IAmb 15 31 14.8
comp=Z,14nm,1.1s
E19K Redstone River 61.15 340 P **P 15 31 07.8 +0.3**
E19K IAmb IAmb 15 31 13.1
comp=Z,28nm,2.0s
BBB Bella Bella 61.19 316 LR LR 15 54 38.3
comp=Z,245nm,18.5s,baz=70,slow=33
J08A Circle Bar Ran 61.33 304 P **P 15 31 08.3 -0.9**
J08A IAmb IAmb 15 31 17.7
comp=Z,12nm,1.3s
PSUT Pine Spring 61.40 297 P **P 15 31 10.7 +0.8**
PSUT IAmb IAmb 15 31 19.2
comp=Z,6.0nm,0.9s
WUAZ Wupatki 61.63 293 P **P 15 31 12.3 +0.8**
U15A North Rim 61.67 294 IAmb IAmb 15 31 19.7
comp=Z,8.0nm,1.3s

TIXI	**Tiksi**	**62.07**	**8**	P	**P**	**15 31 13.5**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=46,slow=5.3,SNR=5.7						
	comp=Z,3.0nm,0.4s						
TIXI	**Tiksi**	**62.07**	**8**	‖*e*P	**P**	**15 31 14.4**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,15nm,2.5s						
RAYN	**Ar Rayn**	**62.15**	**84**	P	**P**	**15 31 15.6**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BDFB	**Brasilia**	**63.46**	**202**	P	**P**	**15 31 22.8**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=12,slow=10,SNR=3.4						
BDFB				LR	LR	15 54 21.2	
	comp=Z,269nm,20.6s,baz=338,slow=32						
	comp=Z,1.8nm,0.3s						
NVAR	**Mina Array Bea**	**64.23**	**299**	P	**P**	**15 31 29.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=44,slow=5.4,SNR=2.1						
	comp=Z,0.2nm,0.3s						
KURK	**Kurchatov**	**65.10**	**42**	P	**P**	**15 31 33.2**	**-0.7**
KURK				IAmb	IAmb	15 31 35.1	
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**65.10**	**42**	*ce*P	**P**	**15 31 34.4**	**+0.5**
KURK				pmax	pmax		
	comp=Z,15nm,2.5s						
KURBB	**Kurchatov Arra**	**65.11**	**42**	P	**P**	**15 31 34.1**	**0.0**
	comp=Z,3.7nm,0.7s,baz=315,slow=6.8,SNR=30						
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**65.66**	**37**	P	**P**	**15 31 35.7**	**-1.8**
ZALV	**Zalesovo Beam**	**65.66**	**37**	P	**P**	**15 31 37.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=290,slow=7.5,SNR=5.5						
ZALV				LR	LR	15 59 54.4	
	comp=Z,140nm,20.9s,baz=312,slow=36						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**65.66**	**37**	*i* P	**P**	**15 31 38.5**	**+1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SIMJ	**Simiganj**	**67.92**	**57**	P	**P**	**15 31 52.5**	**+0.1**
SIMJ				IAmb	IAmb	15 31 54.1	
	comp=Z,8.0nm,1.0s						
CHGR	**Chuyangaron**	**68.01**	**57**	IAmb	IAmb	15 31 55.0	
	comp=Z,8.3nm,0.7s						
ATD	**Arta Tunnel**	**68.32**	**96**	LR	LR	16 02 21.9	
	comp=Z,5.4nm,18.9s,baz=326,slow=36						
AAK	**Ala-Archa**	**68.40**	**51**	LR	LR	16 03 10.9	
	comp=Z,168nm,19.9s,baz=328,slow=37						
UOSS	**Minazif**	**68.64**	**76**	P	**P**	**15 31 56.2**	**-0.7**
MBAR	**Mbarara**	**68.91**	**114**	*ce*P	**P**	**15 32 00.5**	**+1.7**
MBAR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LODK	**Lodwar**	**68.95**	**107**	P	**P**	**15 31 58.1**	**-0.9**
MAKZ	**Makanchi**	**69.40**	**44**	P	**P**	**15 32 02.1**	**+0.8**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MK31	**Makanchi Array**	**69.56**	**44**	*de*P	**P**	**15 32 02.3**	**0.0**
MKAR	**Makanchi Array**	**69.56**	**44**	P	**P**	**15 32 02.0**	**-0.4**
MKAR	**Makanchi Array**	**69.56**	**44**	P	**P**	**15 32 02.2**	**-0.1**
	comp=Z,4.2nm,1.1s,baz=330,slow=5.3,SNR=21						
MKAR				PP	**PP**	**15 34 31.1**	**-4.4**
	comp=Z,1.6nm,0.9s,baz=316,slow=6.7,SNR=6.7						
MKAR				LR	LR	16 03 35.5	
	comp=Z,99nm,18.2s,baz=307,slow=37						
	comp=Z,4.2nm,1.1s						
KBL	**Kabul**	**70.67**	**60**	P	**P**	**15 32 09.0**	**-0.6**
KBL	**Kabul**	**70.67**	**60**	P	**P**	**15 32 09.0**	**-0.6**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH	**Kashi**	**71.35**	**52**	P	**P**	**15 32 15.8**	**+2.3**
KSH				pP	pwP	15 32 19.8	-0.8
KSH				pmax	pmax		
	comp=Z,21nm,0.9s						
WSAR	**Wadi Sarin**	**71.43**	**76**	LR	LR	16 08 27.7	
	comp=Z,68nm,18.3s,baz=311,slow=40						
LPAZ	**La Paz**	**71.45**	**221**	P	**P**	**15 32 14.1**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=4.2,slow=4.1,SNR=3.7						
	comp=Z,1.2nm,0.7s						
MOY	**Mondy**	**73.72**	**30**	*e*P	**P**	**15 32 25.3**	**-2.1**
MOY				pmax	pmax		
	comp=Z,20nm,1.6s						
NIL	**Nilore**	**73.83**	**58**	P	**P**	**15 32 28.0**	**-0.2**
NIL				IAmb	IAmb	15 32 29.5	
	comp=Z,12nm,0.8s						
NIL	**Nilore**	**73.83**	**58**	P	**P**	**15 32 28.0**	**-0.2**
NIL				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ	**Urumqi**	**74.33**	**43**	*e*P	**P**	**15 32 32.5**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	**76.29**	**207**	P	**P**	**15 32 41.2**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=18,slow=8.8,SNR=4.4						
	comp=Z,1.5nm,0.6s						
TSUM	**Tsumeb**	**76.40**	**136**	LR	LR	16 05 02.2	
	comp=Z,180nm,19.1s,baz=331,slow=35						
LSZ	**Lusaka**	**78.81**	**125**	P	**P**	**15 32 57.6**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,30nm,1.4s						
SONM	**Songino Array**	**78.84**	**29**	P	**P**	**15 32 56.9**	**+0.3**
SONM				IAmb	IAmb	15 32 58.2	
	comp=Z,8.9nm,1.2s						
SONM	**Songino Array**	**78.84**	**29**	P	**P**	**15 32 57.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=322,slow=5.9,SNR=18						
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**78.84**	**29**	P	**P**	**15 32 56.9**	**+0.3**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**79.04**	**29**	*de*P	**P**	**15 32 58.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,11nm,1.2s						
PETK	**Petropavlovsk-**	**81.74**	**357**	P	**P**	**15 33 12.5**	**+0.6**
	comp=Z,4.3nm,1.0s,baz=302,slow=8.3,SNR=2.2						
	comp=Z,4.3nm,1.0s						
HEH	**HeiHe**	**82.32**	**16**	*e*P	**P**	**15 33 15.7**	**+0.7**
GTA	**Gaotai**	**83.36**	**38**	*e*P	**P**	**15 33 20.5**	**-0.3**
GTA				pP	sP	15 33 25.9	-0.2
GTA				PP	**PP**	**15 36 34.8**	**+2.9**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLR	**Kul'dur**	**84.07**	**13**⇑	*e*P	**P**	**15 33 24.8**	**+0.7**
KLR				pmax	pmax		
	comp=Z,16nm,2.5s						
XLT	**XiLinHaoTe**	**85.47**	**25**	*e*P	**P**	**15 33 26.6**	**-4.7**
XLT				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**86.74**	**30**	*e*P	**P**	**15 33 38.3**	**+0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
LZH	**Lanzhou**	**87.89**	**37**	*e*P	**P**	**15 33 44.2**	**+0.8**
LZH				sP	pwP	15 33 51.8	+1.4
LZH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BOSA	**Boshof**	**88.06**	**135**	P	**P**	**15 33 43.4**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=332,slow=19,SNR=6.3						
	comp=Z,4.2nm,0.9s						
PZH	**PanZhiHua**	**95.00**	**44**	P	**P**	**15 34 16.2**	**-0.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
NJ2	**Nanjing**	**97.18**	**28**	*e*P	**P**	**15 34 25.9**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
QSPA	**South Pole Qui**	**135.29**	**180**	PKP	**PKPdf**	**15 40 11.8**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=102,slow=0.4,SNR=7.5						
VNDA	**Vanda**	**147.55**	**184**	PKPbc	**PKPbc**	**15 40 36.0**	**-0.3**
	comp=Z,7.1nm,1.0s,baz=254,slow=4.1,SNR=3.9						
WRA	**Warramunga Arr**	**150.63**	**36**	PKPbc	**PKPbc**	**15 40 44.1**	**-1.7**
	comp=Z,3.9nm,1.0s,baz=331,slow=2.9,SNR=12						
WRA				PKPab	**PKPab**	**15 40 52.3**	**-0.3**
	comp=Z,6.6nm,1.0s,baz=344,slow=4.8,SNR=12						
ASAR	**Alice Springs**	**153.72**	**40**	PKPbc	**PKPbc**	**15 40 51.8**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=355,slow=1.6,SNR=14						
ASAR				PKPab	**PKPab**	**15 41 04.5**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=331,slow=3.0,SNR=24						

*IDC **01** 15:51:30.6±4.4, 11°.93N×84°.72W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=133.5km s-min=81.0km az=62.0*
*UCR **01** 15:51:42.1±1.0, 11°.53N×86°.38W, h15km±6km, MW3.9*
*CATAC **01** 15:51:44.7±0.7, 11°.N±5°.×8°.6W±°., h44km±7km, M4.1/8, MLv4.1/8, Error ellipse: s-maj=12.3km s-min=7.3km az=43.6, confirmed*
ISC 01 15:51:44.1±1.0,**11°.49N**±0°.05×**86°.28W**±0°.06,**h69**km±7km,
n36,σ1§**07**/42,**mb3.2**/3,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.35**	**43**	P	**Pn**	**15 51 56.0**	**+0.5**
NADN				S	**Sn**	**15 52 04.8**	**+0.9**
NADN	**Granada**	**0.35**	**43**	P	**Pn**	**15 51 56.1**	**+0.5**
ARIN	**Rivas**	**0.43**	**94**	S	**Sn**	**15 52 05.1**	**+0.1**
ARIN	**Rivas**	**0.43**	**94**	P	**Pn**	**15 51 56.0**	**-0.2**
ARIN	**Rivas**	**0.43**	**94**	P	**Pn**	**15 51 52.5**	**-3.7**
SABN	**Sabanita**	**0.48**	**13**	P	**Pn**	**15 51 57.2**	**+0.5**
SABN	**Sabanita**	**0.48**	**13**	P	**Pn**	**15 51 57.1**	**+0.4**
MASN	**Masaya**	**0.51**	**14**	P	**Pn**	**15 51 57.5**	**+0.5**
MASN				S	**Sn**	**15 52 06.8**	**+0.4**
MASN	**Masaya**	**0.51**	**14**	P	Pn	15 52 06.4	+9.4
JAPN	**AI SSO del Vol**	**0.59**	**86**	P	**Pn**	**15 51 58.7**	**+0.9**
JAPN				S	**Sn**	**15 52 09.4**	**+1.7**
JAPN	**AI SSO del Vol**	**0.59**	**86**	P	**Pn**	**15 51 58.6**	**+0.9**
TISN	**Laguna Tiscapa**	**0.65**	**0**	P	**Pn**	**15 51 56.9**	**-1.5**
TISN	**Laguna Tiscapa**	**0.65**	**0**	P	**Pn**	**15 51 57.1**	**-1.4**
APQ2	**Apoyeque**	**0.71**	**356**	P	**Pn**	**15 51 59.6**	**+0.6**
APQ2				S	**Sn**	**15 52 11.0**	**+1.0**
APQ2	**Apoyeque**	**0.71**	**356**	P	**Pn**	**15 51 59.8**	**+0.7**
LCRUZ	**La Cruz**	**0.75**	**123**	*e*P	**Pn**	**15 51 60.0**	**+0.4**
LCRUZ				*e*S	**Sn**	**15 52 11.5**	**+0.5**
COPN	**Copaltepe**	**0.75**	**336**	P	**Pn**	**15 52 00.1**	**+0.5**
COPN	**Copaltepe**	**0.75**	**336**	P	**Pn**	**15 52 00.4**	**+0.8**
BOAB	**BOACO BROADBAN**	**.12**	**32**	P	**Pn**	**15 52 04.6**	**+0.5**
BOAB	**BOACO BROADBAN**	**.12**	**32**	S	**Sn**	**15 52 19.7**	**+0.6**
BOAB	**BOACO BROADBAN**	**.12**	**32**	P	**Pn**	**15 52 04.8**	**+0.6**
VRLE	**La Escondida,**	**1.13**	**128**	*e*P	**Pn**	**15 52 04.5**	**+0.2**
ALIBA	**Liberia Airpor**	**1.14**	**141**	*e*P	**Pn**	**15 52 05.3**	**+0.9**
ACON	**Acoyapa**	**1.18**	**66**	*e*P	**Pn**	**15 52 05.1**	**+0.3**
ACON				*e*S	**Sn**	**15 52 20.8**	**+0.4**
HORNC	**Hornillas**	**1.32**	**126**	*e*P	**Pn**	**15 52 07.0**	**+0.2**
COLC	**Colonia**	**1.33**	**128**	*e*P	**Pn**	**15 52 07.5**	**+0.6**
PKGN	**Cerro Pekin**	**1.36**	**330**	P	**Pn**	**15 52 08.2**	**+1.0**
PKGN				S	**Sn**	**15 52 25.4**	**+0.8**
PKGN	**Cerro Pekin**	**1.36**	**330**	P	**Pn**	**15 52 08.3**	**+1.1**
CUI	**Cuipilapa**	**1.37**	**127**	*e*P	**Pn**	**15 52 07.9**	**+0.5**
PLVR	**Palo Verde**	**1.45**	**141**	*e*P	**Pn**	**15 52 09.1**	**+0.5**
PLVR				*e*S	**Sn**	**15 52 29.0**	**+2.0**
ESPN	**Las Esperanzas**	**2.06**	**70**	*e*P	**Pn**	**15 52 17.4**	**+0.9**
TXAR	**Lajitas Array**	**24.04**	**320**	P	**P**	**15 56 53.4**	**+0.4**
	1.4nm,0.6s,baz=122,slow=8.4,SNR=18						
	1.4nm,0.6s						
PDAR	**Pinedale Array**	**37.16**	**331**	P	**P**	**15 58 47.6**	**-1.1**
	0.2nm,0.6s,baz=143,slow=9.8,SNR=1.9						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**54.84**	**344**	P	P	16 01 01.7	-5.3
	0.1nm,0.5s,baz=142,slow=8.0,SNR=1.5						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**139.97**	**247**	PKP	**PKPdf**	**16 11 04.3**	**-1.2**
	0.4nm,0.6s,baz=108,slow=3.8,SNR=6.5						
WRA	**Warramunga Arr**	**140.10**	**253**	PKP	**PKPdf**	**16 11 04.5**	**-1.3**
	0.4nm,0.6s,baz=92,slow=2.9,SNR=5.0						

*SJA **01** 15:53:18.4±0.6, 21°.20S×68°.78W, h132km±4km, ML3.8, MW3.8*
*GUC **01** 15:53:21.1±0.8, 21°.12S×68°.69W, h108km±4km, ML3.6*
*IDC **01** 15:53:23.9±2.8, 20°.85S×68°.45W, h140km±23km, mb3.7/3, mbtmp3.9/5, Error ellipse: s-maj=36.3km s-min=22.4km az=92.0*
ISC 01 15:53:20.4±0.8,**21°.12S**±0°.04×**68°.74W**±0°.06,**h117**km±7km,
n32,σ1§**32**/44,**mb3.9**/3,**4C**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.70**	**276**	*e*P	**Pn**	**15 53 38.3**	**-1.3**
PB01				*e*S	**Sn**	**15 53 55.0**	**+0.9**
PB01				IAML		15 53 55.6	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**0.70**	**276**	⇑*i*P	**Pn**	**15 53 38.9**	**-0.7**
PB01				*i* S	**Sn**	**15 53 53.4**	**-0.6**
PB01				IAML		15 53 56.8	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**0.82**	**215**	*e*P	**Pn**	**15 53 39.7**	**-1.0**
PB09				*e*S	**Sn**	**15 53 56.3**	**+0.2**
PB09				IAML		15 53 56.7	
	comp=Z,3μm,0.5s						
PB09	**IPOC Station P**	**0.82**	**215**	⇑*i*P	**Pn**	**15 53 40.4**	**-0.4**
PB09				*i* S	**Sn**	**15 53 55.7**	**-0.4**
PB09				IAML		15 53 56.9	
	comp=N,2μm,0.7s						
PX03	**IPOC Station P**	**1.10**	**310**	*i* P	**Pn**	**15 53 42.7**	**-0.6**
HMBC	**Humberstone**	**1.36**	**307**	*e*P	**Pn**	**15 53 46.2**	**0.0**
HMBC				*e*S	**Sn**	**15 54 06.5**	**+0.8**
HMBC				IAML		15 54 13.3	
	comp=Z,1μm,0.7s						
HMBC	**Humberstone**	**1.36**	**307**	⇑*i*P	**Pn**	**15 53 46.1**	**-0.1**
HMBC				*i* S	**Sn**	**15 54 05.7**	**-0.1**
HMBC				IAML		15 54 09.9	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.46**	**292**	*e*P	**Pn**	**15 53 47.1**	**-0.1**
TA01				*e*S	**Sn**	**15 54 08.1**	**+0.6**
TA01				IAML		15 54 09.4	
	comp=Z,738nm,1.4s						
TA01	**Diego Aracena**	**1.46**	**292**	⇑*i*P	**Pn**	**15 53 47.3**	**+0.1**
TA01				*i* S	**Sn**	**15 54 07.5**	**+0.1**
TA01				IAML		15 54 09.2	
	comp=N,2μm,0.4s						
TA02	**Huaiquique**	**1.55**	**303**	*e*P	**Pn**	**15 53 48.2**	**-0.1**
TA02				*e*S	**Sn**	**15 54 11.8**	**+2.4**
TA02				IAML		15 54 12.1	
	comp=Z,447nm,0.3s						
TA02	**Huaiquique**	**1.55**	**303**	*i* P	**Pn**	**15 53 48.1**	**-0.2**
TA02				*i* S	**Sn**	**15 54 09.0**	**-0.5**
AF01	**San Pedro de A**	**1.90**	**164**	*e*P	**Pn**	**15 53 54.5**	**+1.7**
AF01				*e*S	Sn	15 54 05.8	-12
AF01				IAML		15 54 33.5	
	comp=Z,424nm,1.1s						
AF01	**San Pedro de A**	**1.90**	**164**	*i* P	**Pn**	**15 53 53.0**	**+0.2**
PB12	**IPOC Station P**	**2.90**	**329**	*e*P	**Pn**	**15 54 04.5**	**-1.0**
PB12				*e*S	**Sn**	**15 54 41.0**	**+0.8**
PB12				IAML		15 54 49.4	
	comp=Z,255nm,0.4s						
PB12	**IPOC Station P**	**2.90**	**329**	IAML		15 54 50.8	
	comp=N,436nm,0.2s						
AP01	**Chacalluta**	**3.12**	**331**	*e*P	Pn	15 53 52.4	-16
AP01				IAML		15 54 59.9	
	comp=Z,542nm,0.4s						
YJA	**Yavi**	**3.18**	**110**	*e*P	**Pn**	**15 54 09.7**	**+0.3**
PB14	**IPOC Station P**	**3.82**	**203**	*e*P	**Pn**	**15 54 17.1**	**-0.7**
PB14				*e*S	**Sn**	**15 55 05.5**	**+3.4**
PB14				IAML		15 55 12.3	
	comp=Z,146nm,0.9s						
PB14	**IPOC Station P**	**3.82**	**203**	*i* P	**Pn**	**15 54 17.8**	**0.0**
GO02	**Mina Guanaco**	**4.11**	**191**	*e*P	**Pn**	**15 54 19.6**	**-2.0**
GO02				*e*S	**Sn**	**15 55 05.3**	**-3.7**
AZAP	**Zapla**	**4.59**	**133**	*e*P	**Pn**	**15 54 28.2**	**+0.1**
LPAZ	**La Paz**	**4.84**	**7**	P	**Pn**	**15 54 33.2**	**+1.5**
	comp=Z,8.9nm,0.4s,baz=204,slow=5.1,SNR=32						
LPAZ				S	**Sn**	**15 55 23.9**	**-3.2**
	comp=Z,2.5nm,0.5s,baz=200,slow=20,SNR=3.8						
PLCA	**Paso Flores**	**19.62**	**184**	P	**Pn**	**15 57 44.3**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=287,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**75.29**	**322**	P	**P**	**16 04 51.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=118,slow=7.4,SNR=3.2						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P	**P**	**16 05 00.1**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=259,slow=5.4,SNR=16						
	comp=Z,2.2nm,0.5s						
YKA	**Yellowknife Ar**	**90.88**	**341**	P	**P**	**16 06 10.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=138,slow=4.5,SNR=9.6						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**130.33**	**208**	PKP	**PKPdf**	**16 12 17.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=149,slow=1.8,SNR=6.4						
WRA	**Warramunga Arr**	**133.37**	**210**	PKP	**PKiKP**	**16 12 25.1**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=160,slow=2.7,SNR=1.9						
KURBB	**Kurchatov Arra**	**140.93**	**33**	PKP	**PKPdf**	**16 12 34.6**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=319,slow=2.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**141.54**	**25**	PKP	**PKPdf**	**16 12 38.3**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=324,slow=4.4,SNR=3.5						
MKAR	**Makanchi Array**	**145.23**	**36**	PKP	**PKPab**	**16 12 44.8**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=319,slow=3.2,SNR=30						
SONM	**Songino Array**	**153.06**	**7**	PKPbc	**PKiKP**	**16 13 04.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=288,slow=0.3,SNR=2.4						

*IPEC **01** 16:07:21.4±0.2, 50°.20N×18°.71E, h1km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=0.9km az=175.0*
*PRU **01** 16:07:22.0, 50°.24N×18°.65E, h0km*
*IDC **01** 16:07:23.9±2.3, 50°.52N×18°.08E, h0km, mbtmp3.4/3, ML2.7/3, Error ellipse: s-maj=48.4km s-min=12.8km az=132.0*
ISC 01 16:07:20.0±0.7,**50°.28N**±0°.04×**18°.74E**±0°.02,**h0**km,**n29**,
σ0§**94**/49,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.59**	**221**	*e*PG	**Pg**	**16 07 31.9**	**+0.6**
OKC				*e*SG	**Sg**	**16 07 39.5**	**+0.6**
	comp=Z,64nm,0.4s						
OJC	**Ojcow**	**0.68**	**95**	*e*Pg	**Pb**	**16 07 34.5**	**-0.3**
OJC				*e*Sg	**Sb**	**16 07 44.4**	**-0.3**
STEB	**Steborice**	**0.72**	**241**	*e*PG	**Pg**	**16 07 34.5**	**+0.8**
STEB				*e*SG	**Sg**	**16 07 43.9**	**+0.9**
MORC	**Moravsky Berou**	**0.93**	**237**	*e*Pg	**Pg**	**16 07 37.8**	**+0.1**
	baz=60						
MORC				*e*Sg	**Sg**	**16 07 48.5**	**-1.2**
	45nm,0.4s,baz=60						
MORC	**Moravsky Berou**	**0.93**	**237**	*e*PG	**Pg**	**16 07 37.9**	**+0.2**
MORC				*e*SG	**Sg**	**16 07 48.6**	**-1.2**
LANS	**Liptovska Anna**	**1.23**	**157**	*e*PG	**Pb**	**16 07 44.2**	**+0.1**
LANS				*e*SG	**Sb**	**16 08 00.4**	**-0.1**
LANS				*e*LG	Lg	16 08 02.9	
KRLC	**Kraliky**	**1.28**	**261**	*e*PG	**Pg**	**16 07 43.9**	**-0.6**
NIE	**Niedzica**	**1.33**	**130**	*e*Pg	**Pn**	**16 07 47.1**	**+1.3**
NIE				*e*Sg	**Sn**	**16 08 04.6**	**+0.4**
DPC	**Dobruska-Polom**	**1.55**	**273**	*e*PG	**Pn**	**16 07 49.3**	**+0.3**
DPC				*e*SG	**Sn**	**16 08 10.1**	**+0.3**
OSTC	**Ostas**	**1.64**	**281**	*e*PG	**Pb**	**16 07 51.2**	**+0.1**
OSTC				*e*SG	**Sb**	**16 08 12.6**	**+0.3**
KSP	**Ksiaz**	**1.66**	**291**	*e*Pg	**Pg**	**16 07 52.7**	**+0.9**
KSP				*e*Sg	**Sg**	**16 08 13.6**	**+0.3**
VRAC	**Vranov**	**1.70**	**236**	*e*Pn	**Pn**	**16 07 51.1**	**+0.1**
	baz=56						
VRAC				*e*Sg	**Sn**	**16 08 12.9**	**-0.5**
	19nm,0.3s,baz=56						
VRAC	**Vranov**	**1.70**	**236**	*e*PN	**Pn**	**16 07 51.2**	**+0.2**
VRAC				*e*SG	**Sn**	**16 08 12.9**	**-0.5**
VYHS	**Vyhne**	**1.79**	**178**	*e*PN	**Pn**	**16 07 52.4**	**+0.2**
VYHS				*e*SN	**Sn**	**16 08 14.7**	**-1.0**
STHS	**Stebnicka Huta**	**1.84**	**117**	*e*PN	**Pg**	**16 07 56.0**	**+0.8**
STHS				*e*SG	**Sg**	**16 08 21.5**	**+2.5**
KRUC	**Moravsky**	**1.96**	**232**	*e*Pn	**Pn**	**16 07 54.4**	**0.0**
	baz=52						
KRUC				*e*Sg	**Sn**	**16 08 20.4**	**+0.8**
	11nm,0.2s,baz=52						
KRUC	**Moravsky**	**1.96**	**232**	*e*PN	**Pn**	**16 07 54.4**	**0.0**
KRUC				*e*SG	**Sn**	**16 08 20.5**	**+0.8**
KECS	**Kecovo**	**2.13**	**147**	*e*SN	**Sn**	**16 08 22.0**	**-2.0**
KECS				*e*LG	Lg	16 08 31.8	
MODS	**Modra-Piesok**	**2.14**	**207**	*e*PN	**Pn**	**16 07 57.4**	**+0.4**
GOPC	**GO Pecny, Ondr**	**2.58**	**263**	*e*SG	**Sb**	**16 08 40.0**	**+0.8**
	comp=Z,19nm,0.8s						
KOLS	**Kolonicke sedl**	**2.66**	**119**	*e*PG	**Pg**	**16 08 10.4**	**-0.6**
KOLS				*e*SN	**Sn**	**16 08 37.6**	**+0.4**
KOLS				*e*LG	Lg	16 08 55.0	
PVCC	**Panska Ves**	**2.68**	**277**	*e*SG	**Sg**	**16 08 46.1**	**0.0**
PRU	**Pruhonice**	**2.72**	**265**	*e*SG	**Sb**	**16 08 44.3**	**+0.9**
BRG	**Berggiesshubel**	**3.12**	**283**	Pg	**Pg**	**16 08 20.2**	**+0.5**
BRG				Sg	**Sg**	**16 09 00.6**	**+0.5**
BRG				Amp		16 09 02.4	
	comp=Z,7.1nm,0.4s						
KHC	**Kasperske Hory**	**3.55**	**253**	*e*PG	**Pb**	**16 08 25.5**	**+1.9**
KHC				*e*SG	**Sg**	**16 09 11.1**	**-2.8**
	comp=Z,10.0nm,0.5s						
GERES	**GERESS Array B**	**3.58**	**248**	Pn	**Pn**	**16 08 17.0**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=62,slow=15,SNR=11						
GERES				Pg	**Pb**	**16 08 24.7**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=61,slow=18,SNR=8.5						
GERES				Lg	Lg	16 09 07.5	
	comp=Z,1.6nm,0.3s,baz=56,slow=31,SNR=6.3						
	comp=Z,0.4nm,0.3s						
CLL	**Collm**	**3.78**	**288**	*i* Sg	**Sg**	**16 09 21.2**	**-0.3**
FINES	**FINESS Array B**	**11.91**	**17**	Pn	**Pn**	**16 10 08.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=202,slow=10,SNR=1.2						
	comp=Z,2.3nm,0.9s						
ARCES	**ARCESS Array B**	**19.58**	**7**	P	**P**	**16 11 49.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=9.3,SNR=1.8						

HUEH *i* S Sn 16 14 48.6 +4.2
HUEH Huehuetenango 0.93 54 *e*P Pn 16 14 32.8 +2.1
HUEH *e*S Sn 16 14 50.4 +6.1
PCIG 1.30 316 Pn 16 14 33.7 -1.3
PCIG Sn 16 14 50.9 -1.2
PCIG 1.30 316⇓ *e*P Pn 16 14 33.7 -1.3
PCIG *i* S Sn 16 14 50.9 -1.2
CCIG Comitan 1.51 5 Pn Sn 16 14 39.0 +1.0
CCIG Comitan 1.51 5⇓ *e*P Pn 16 14 40.0 +2.0
CCIG *i* S Sn 16 14 59.5 +2.3
CCIG Comitan 1.51 5 ⇓P Pn 16 14 39.3 +1.3
CCIG Comitan 1.51 5 P Pn 16 14 40.1 +2.1
CCIG Comitan 1.51 5 P Pn 16 14 40.4 +2.5
CCIG Comitan 1.51 5 S Sn 16 14 58.7 +1.5
CCIG Comitan 1.51 5 P Pn 16 14 39.5 +1.5
APG El Apazote 1.77 82 P Pn 16 14 43.3 +1.8
baz=208,slow=16
TGBT Tuxtla Gutierr 2.14 339 Pn 16 14 45.2 -0.9
TGBT Sn 16 15 12.1 +0.2
TGBT Tuxtla Gutierr 2.14 339 *i* P Pn 16 14 45.2 -0.9
TGBT *e*S Sn 16 15 12.1 +0.2
CARR Arriaga 2.15 313⇑ *e*P Pn 16 14 45.6 -0.7
CARR *e*S Sn 16 15 11.6 -0.6
TGIG 2.15 338 Pn 16 14 45.5 -0.9
TGIG Sn 16 15 12.8 +0.4
TGIG 2.15 338⇓ *e*P Pn 16 14 45.5 -0.9
TGIG *e*S Sn 16 15 12.8 +0.4
SLOZ Alcaldia de Sa 2.53 107 *e*P Pn 16 14 54.1 +2.7
SLOZ Alcaldia de Sa 2.53 107 P Pn 16 14 54.4 +3.0
SLOZ Alcaldia de Sa 2.53 107 S Sn 16 15 24.3 +3.0
SLOZ Alcaldia de Sa 2.53 107 P Pn 16 14 53.5 +2.1
LOAL Lomas de Alarc 2.54 107 *e*P Pn 16 14 54.6 +3.0
LOAL Lomas de Alarc 2.54 107 P Pn 16 14 54.1 +2.5
LOAL Lomas de Alarc 2.54 107 S Sn 16 15 24.9 +3.2
LOAL Lomas de Alarc 2.54 107 P Pn 16 14 53.7 +2.1
LOAL Lomas de Alarc 2.54 107 P Pn 16 14 53.9 +2.3
NUBE Las Nubes 2.57 109 *e*P Pn 16 14 54.7 +2.5
NUBE Las Nubes 2.57 109 S Sn 16 15 25.6 +3.1
NUBE Las Nubes 2.57 109 P Pn 16 14 54.6 +2.5
NUBE Las Nubes 2.57 109 P Pn 16 14 53.5 +1.4
NUBE Las Nubes 2.57 109 P Pn 16 14 53.6 +1.5
RTR El Retiro 2.70 108 *e*P Pn 16 14 55.9 +2.1
SBLS San Blas 2.74 109 *e*S Sn 16 15 32.3 +5.7
CEVE Cerro Verde 2.74 110 *e*P Pn 16 14 56.8 +2.3
CEVE *e*S Sn 16 15 32.1 +5.4
CEVE Cerro Verde 2.74 110 P Pn 16 14 56.6 +2.1
UNIC Universidad Ca 2.76 106 *e*P Pn 16 14 57.7 +3.1
UNIC Universidad Ca 2.76 106 P Pn 16 14 57.6 +3.1
UNIC Universidad Ca 2.76 106 S Sn 16 15 30.7 +3.8
UNIC Universidad Ca 2.76 106 P Pn 16 14 59.8 +5.2
UNIC Universidad Ca 2.76 106 P Pn 16 14 56.5 +1.9
MTO3 Montecristo 2.85 97 Pn 16 14 57.4 +1.5
MTO3 Montecristo 2.85 97 P Pn 16 14 57.8 +1.9
ESQI Esquipulas 2.85 94 Pn 16 14 57.8 +2.0
ESQI Esquipulas 2.85 94 *e*P Pn 16 14 58.7 +2.9
ESQI *e*S Sn 16 15 35.8 +6.6
ESQI Esquipulas 2.85 94 P Pn 16 14 58.6 +2.8
ESQI Esquipulas 2.85 94 S Sn 16 15 33.2 +3.9
ESQI Esquipulas 2.85 94 P Pn 16 14 58.0 +2.2
NILT Santiago Nilte 2.87 309⇓ *e*P Pn 16 14 54.8 -1.2
NILT *e*S Sn 16 15 27.8 -1.7
CEDA San Andres 2.96 109 *e*P Pn 16 14 59.7 +2.5
CEDA San Andres 2.96 109 P Pn 16 14 59.9 +2.7
JAYA Jayaque - finc 2.96 112 P Pn 16 14 58.9 +1.5
PMON Piamonte 3.06 110 *e*P Pn 16 15 01.1 +2.4
PMON Piamonte 3.06 110 P Pn 16 15 02.0 +3.3
PMON Piamonte 3.06 110 S Sn 16 15 39.0 +4.6
PMON Piamonte 3.06 110 P Pn 16 15 01.2 +2.4
PMON Piamonte 3.06 110 P Pn 16 15 01.3 +2.6
BOQS Boqueron 3.08 109 *e*P Pn 16 15 01.2 +2.1
UXUV UXUV 3.10 325⇓ *e*P Pn 16 14 58.7 -0.4
UXUV *e*S Sn 16 15 34.8 -0.4
LALI Alcalda de L 3.14 114 *e*P Pn 16 15 01.4 +1.8
LALI Alcalda de L 3.14 114 P Pn 16 15 02.0 +2.4
SNET Serv Nac Est T 3.15 110 *i* Sg Sn 16 15 41.8 +5.4
SEMO Seminario San 3.15 109 *e*P Pn 16 15 02.9 +3.1
SEMO Seminario San 3.15 109 P Pn 16 15 03.6 +3.8
PETF Flores 3.15 47 Pn 16 15 02.0 +2.2
PETF Flores 3.15 47⇑ *e*P Pn 16 15 02.0 +2.2
PETF *i* S Sn 16 15 41.0 +4.6
PETF Flores 3.15 47 P Pn 16 15 02.9 +3.1
PETF Flores 3.15 47 P Pn 16 15 02.1 +2.3
IGN Direccin Gen 3.19 109 P Pn 16 15 03.6 +3.1
IGN Direccin Gen 3.19 109 S Sn 16 15 44.1 +6.6
IGN Direccin Gen 3.19 109 P Pn 16 15 04.2 +3.7
IGN Direccin Gen 3.19 109 P Pn 16 15 03.1 +2.6
UDBS Universidad Do 3.21 109 *e*P Pn 16 15 03.4 +2.8
UDBS Universidad Do 3.21 109 P Pn 16 15 03.4 +2.8
UDBS Universidad Do 3.21 109 S Sn 16 15 42.1 +4.3
UDBS Universidad Do 3.21 109 P Pn 16 15 04.3 +3.7
UDBS Universidad Do 3.21 109 P Pn 16 15 03.0 +2.4
LOMA Loma Larga 3.22 110 P Pn 16 15 03.2 +2.4
PANCS Alcalda de 3.22 111 *e*P Pn 16 15 03.0 +2.2
PANCS Alcalda de 3.22 111 P Pn 16 15 03.5 +2.7
PANCS Alcalda de 3.22 111 S Sn 16 15 42.4 +4.3
PANCS Alcalda de 3.22 111 P Pn 16 15 04.9 +4.1
PANCS Alcalda de 3.22 111 P Pn 16 15 03.0 +2.2
AEIL Aeropuerto Ilo 3.25 109 *e*P Pn 16 15 04.5 +3.3
VHSA Villahermosa 3.25 349 *e*P Pn 16 15 01.7 +0.5
VHSA *e*S Sn 16 15 40.4 +1.6
LFRS El Faro 3.32 110 *e*P Pn 16 15 04.4 +2.1
CMIG Matias Romero 3.41 313 Pn 16 15 40.5 -2.1
CMIG Sn 16 15 40.5 -2.1
CMIG Matias Romero 3.41 313 P Pn 16 15 04.0 +0.7
4µm,0.4s,baz=133,slow=10,SNR=570
CMIG S Sn 16 15 42.0 -0.6
109µm,0.6s,baz=92,slow=10,SNR=8.2
CMIG LR LR 16 16 09.7
comp=Z,28µm,20.9s,baz=147,slow=33
CMIG Matias Romero 3.41 313⇓ *e*P Pn 16 15 02.1 -1.1
CMIG *e*S Sn 16 15 40.5 -2.1
PAVA Las Pavas 3.41 108 P Pn 16 15 05.7 +2.3
COEG Centro de Oper 3.49 109 *e*P Pn 16 15 07.8 +3.3
COEG *e*S Sn 16 15 51.0 +6.2
COEG Centro de Oper 3.49 109 P Pn 16 15 07.6 +3.1
COEG Centro de Oper 3.49 109 S Sn 16 15 52.9 +8.2
COEG Centro de Oper 3.49 109 P Pn 16 15 06.6 +2.1
SNVI San Vicente 3.53 109 *e*P Pn 16 15 07.4 +2.3
UESV Universidad de 3.57 108 S Sn 16 15 54.2 +7.6
UESV Universidad de 3.57 108 P Pn 16 15 08.9 +3.4
UESV Universidad de 3.57 108 P Pn 16 15 09.3 +3.8
UESV Universidad de 3.57 108 P Pn 16 15 08.6 +3.1
SCLA Alcaldia de Sa 3.60 107 P Pn 16 15 08.7 +2.7
SCLA Alcaldia de Sa 3.60 107 P Pn 16 15 08.1 +2.1
TECO Alcaldia de Te 3.61 109 *e*P Pn 16 15 09.2 +3.2
TECO Alcaldia de Te 3.61 109 P Pn 16 15 09.5 +3.4
TECO Alcaldia de Te 3.61 109 P Pn 16 15 08.6 +2.6
TECO Alcaldia de Te 3.61 109 P Pn 16 15 07.9 +1.9
IZABA Izabal, Puerto 3.69 75 *e*P Pn 16 15 08.8 +1.7
IZABA *e*S Sn 16 15 52.6 +3.1
IZABA Izabal, Puerto 3.69 75 P Pn 16 15 10.3 +3.2
IZABA Izabal, Puerto 3.69 75 S Sn 16 15 55.9 +6.4
IZABA Izabal, Puerto 3.69 75 P Pn 16 15 09.9 +2.8
PQSS Presa 15 de Se 3.78 107 P Pn 16 15 11.5 +3.1
PQSS Presa 15 de Se 3.78 107 P Pn 16 15 10.8 +2.4
PQSS Presa 15 de Se 3.78 107 P Pn 16 15 11.0 +2.6
HUIG Huatulco 3.83 286 Pn 16 15 05.6 -3.4
HUIG Huatulco 3.83 286 *e*P Pn 16 15 05.6 -3.4
HUIG *e*S Sn 16 15 43.9 -8.9
TUIG Tuzandepetl 3.84 328 *e*P Pn 16 15 07.7 -1.5
TUIG *i* S Sn 16 15 52.7 -0.5
ALJI Alcalda de J 3.88 111 P Pn 16 15 12.5 +2.9
TECA Tecapa 3.88 109 *e*P Pn 16 15 12.4 +2.6
TECA *e*P 16 15 13.0
PACA Pacayal 4.05 108 *e*P Pn 16 15 16.0 +3.8
PACA Pacayal 4.05 108 P Pn 16 15 15.8 +3.6
PACA Pacayal 4.05 108 P Pn 16 15 14.7 +2.6
PACA Pacayal 4.05 108 P Pn 16 15 15.3 +3.1
CAHU Cacaucatique 4.07 104 *e*P Pn 16 15 15.3 +2.8
RANC El Ranchito 4.09 108 P Pn 16 15 17.0 +4.2
RANC El Ranchito 4.09 108 P Pn 16 15 15.6 +2.8
RANC El Ranchito 4.09 108 P Pn 16 15 15.8 +3.0
BLLM Bellamira 4.14 108 *e*P Pn 16 15 15.9 +2.6
SCIG Sabancuy 4.30 14⇑ *e*P Pn 16 15 16.9 +1.5
SCIG *i* S Sn 16 16 07.1 +2.7
NISHN Nisperales Com 4.36 76 P Pn 16 15 18.4 +2.1
NISHN Nisperales Com 4.36 76 P Pn 16 15 17.9 +1.6
NEUV Arroyo Zacate 4.47 311⇓ *e*P Pn 16 15 15.6 -2.2
NEUV *e*S Sn 16 16 06.5 -2.1
LCND La Caada 4.50 108 *e*P Pn 16 15 20.7 +2.5
LCND La Caada 4.50 108 P Pn 16 15 22.0 +3.8
LCND La Caada 4.50 108 P Pn 16 15 21.4 +3.2
CNCH Conchagua 4.56 108 *e*P Pn 16 15 22.4 +3.3
CNCH Conchagua 4.56 108 P Pn 16 15 21.9 +2.7
COMHN El Horno 4.58 93 P Pn 16 15 22.9 +3.4
COMHN El Horno 4.58 93 P Pn 16 15 22.7 +3.2
PMUV Sontecomapan 4.64 324⇓ *e*P Pn 16 15 16.6 -3.5
PMUV *i* S Sn 16 16 08.4 -4.3
AMPH Amapala 4.72 108 P Pn 16 15 24.7 +3.6
AMPH Amapala 4.72 108 P Pn 16 15 24.4 +3.2
OXBJ Oaxaca 4.85 299 *e*P Pn 16 15 27.1 +4.0
OXBJ *e*S Sn 16 16 11.5 -6.6
PEIG Puerto Escondi 4.85 285 Pn 16 15 20.3 -2.7
PEIG Puerto Escondi 4.85 285 *e*P Pn 16 15 20.3 -2.7
PEIG *e*S Sn 16 16 08.6 -8.3
OXIG Oaxaca 4.86 299 Pn 16 15 23.1 -0.1
VHO Vista Hermosa 4.86 299⇓ *e*P Pn 16 15 23.1 -0.1
VHO *e*S Sn 16 16 11.8 -6.5
TGUH Tegucigalpa,Un 4.90 98 Pn Pn 16 15 26.0 +2.2
TGUH Tegucigalpa,Un 4.90 98 ⇑P Pn 16 15 25.9 +2.1
CHOHN Orocuina 5.13 104 P Pn 16 15 30.0 +3.1
CHOHN Orocuina 5.13 104 P Pn 16 15 29.9 +3.0
YOIG Yosondua 5.48 293 Pn 16 15 31.1 -0.7
YOIG Sn 16 16 27.9 -5.7
YOIG Yosondua 5.48 293⇓ *e*P Pn 16 15 31.1 -0.7
YOIG *e*S Sn 16 16 27.9 -5.7
CRIN San Cristobal 5.48 111 Pn 16 15 34.5 +2.9
PKGN Cerro Pekin 5.56 111 P Pn 16 15 35.5 +2.8
PKGN Cerro Pekin 5.56 111 P Pn 16 15 35.2 +2.6
TOIG Toxpalan 5.66 306 Pn 16 15 33.2 -0.9
TOIG Sn 16 16 32.8 -5.0
TOIG Toxpalan 5.66 306⇓ *e*P Pn 16 15 33.2 -0.9
TOIG *e*S Sn 16 16 32.8 -5.0
PLRN Geotermica Pol 5.78 111 P Pn 16 15 38.4 +2.7
PLRN Geotermica Pol 5.78 111 P Pn 16 15 38.0 +2.3
TXIG Tlaxiaco 5.83 296 Pn 16 15 36.2 -0.3
TXIG Tlaxiaco 5.83 296⇓ *e*P Pn 16 15 36.2 -0.3
TXIG *i* S Sn 16 16 34.8 -7.3
ILCN San Idelfonso 5.84 111 P Pn 16 15 38.6 +2.1
ILCN San Idelfonso 5.84 111 P Pn 16 15 38.5 +1.9
PNIG Pinotepa 5.86 287 Pn 16 15 34.7 -2.1
PNIG Sn 16 16 38.9 -3.7
PNIG Pinotepa 5.86 287 *e*P Pn 16 15 34.7 -2.1
PNIG *e*S Sn 16 16 38.9 -3.7
LEVN Ruinas Leon Vi 5.99 112 P Pn 16 15 41.1 +2.7
LEVN Ruinas Leon Vi 5.99 112 P Pn 16 15 41.3 +2.8
RCFN Al S de San Ju 6.01 101 P Pn 16 15 42.1 +3.2
RCFN Al S de San Ju 6.01 101 P Pn 16 15 42.0 +3.1
RCVN Varilla\2 6.02 101 P Pn 16 15 42.0 +3.0
RCVN Varilla\2 6.02 101 P Pn 16 15 41.6 +2.5
TPIG Tehuac#an 6.07 307 Pn 16 15 39.9 +0.1
TPIG Sn 16 16 45.7 -2.4
TPIG Tehuac#an 6.07 307 *e*P Pn 16 15 39.9 +0.1
TPIG *e*S Sn 16 16 45.7 -2.4
MOM2 El Cardon 6.09 112 P Pn 16 15 42.4 +2.4
MOM2 El Cardon 6.09 112 P Pn 16 15 42.5 +2.6
COPN Copaltepe 6.10 114 P Pn 16 15 42.3 +2.2
COPN Copaltepe 6.10 114 P Pn 16 15 42.3 +2.2
HLIG Huajuapan de L 6.11 301 Pn 16 15 40.5 +0.1
HLIG Sn 16 16 43.6 -5.5
HLIG Huajuapan de L 6.11 301⇓ *e*P Pn 16 15 40.5 +0.1
HLIG *e*S Sn 16 16 43.6 -5.5
RCPN Sur Rio San Ju 6.13 101 P Pn 16 15 44.5 +4.0
RCPN Sur Rio San Ju 6.13 101 P Pn 16 15 44.6 +4.0
JAUV Jalcomulco 6.29 317⇓ *e*P Pn 16 15 39.7 -3.0
JAUV *e*S Sn 16 16 46.6 -6.6
APYN Apoyeque 6.29 113 P Pn 16 15 45.9 +3.2
APYN Apoyeque 6.29 113 P Pn 16 15 47.7 +4.9
LVIG Laguna Verde 6.32 322 *e*P Pn 16 15 38.8 -4.1
LVIG *e*S Sn 16 16 46.0 -7.6
APQ2 Apoyeque 6.33 113 P Pn 16 15 46.0 +2.8
APQ2 Apoyeque 6.33 113 P Pn 16 15 45.9 +2.7
TISN Laguna Tiscapa 6.40 113 P Pn 16 15 45.6 +1.4
TISN Laguna Tiscapa 6.40 113 P Pn 16 15 44.8 +0.6
FTIG Fresnillo de T 6.43 300 Pn 16 15 45.1 +0.5
FTIG Fresnillo de T 6.43 300⇓ *e*P Pn 16 15 45.1 +0.5
FTIG *i* S Sn 16 16 49.4 -7.2
MASN Masaya 6.57 114 P Pn 16 15 49.9 +3.4
MASN Masaya 6.57 114 P Pn 16 15 50.1 +3.5
SABN Sabanita 6.58 114 P Pn 16 15 49.7 +3.1
SABN Sabanita 6.58 114 P Pn 16 15 49.9 +3.3
MGIG Malinaltepec 6.58 293 Pn 16 15 46.5 -0.3
MGIG Malinaltepec 6.58 293 *e*P Pn 16 15 46.5 -0.3
MGIG *e*S Sn 16 16 49.5 -11
MYIG Merida 6.61 21⇑ *e*P Pn 16 15 46.9 -0.1
TEIG Tepich 6.63 35 Pn Pn 16 15 47.9 +0.6
TEIG Tepich 6.63 35 P Pn 16 15 46.3 -0.9
5.7nm,0.4s,baz=49,slow=24,SNR=401
TEIG S Sn 16 17 00.3 -1.2
6.0nm,0.4s,baz=175,slow=24,SNR=4.4
TEIG Tepich 6.63 35 *e*P Pn 16 15 48.3 +1.0
TEIG *e*S Sn 16 16 59.3 -2.2
TEIG Tepich 6.63 35 ⇑P Pn 16 15 47.9 +0.6
TLIG Tlapa 6.65 296 Pn Pn 16 15 47.7 +0.1
TLIG Tlapa 6.65 296⇓ *e*P Pn 16 15 47.8 +0.1
TLIG *e*S Sn 16 16 55.8 -6.2
TLIG Tlapa 6.65 296 ⇑P Pn 16 15 47.5 -0.1
TLIG Tlapa 6.65 296 P Pn 16 15 49.0 +1.4
TLIG Tlapa 6.65 296 P Pn 16 15 48.0 +0.4
TLIG Tlapa 6.65 296 P Pn 16 15 47.7 +0.1
HMTT Tlapaneco 6.74 297 Pn 16 15 50.3 +1.5
HMTT Tlapaneco 6.74 297 *e*P Pn 16 15 50.3 +1.5
HMTT *e*S Sn 16 16 56.2 -8.0
NADN Granada 6.78 116 P Pn 16 15 52.0 +2.6
BOAB BOACO BROADBAN 6.83 109 Pn Pn 16 15 51.4 +1.4
BOAB BOACO BROADBAN 6.83 109 P Pn 16 15 51.7 +1.7
BOAB BOACO BROADBAN 6.83 109 ⇑P Pn 16 15 51.4 +1.4
BOAB BOACO BROADBAN 6.83 109 P Pn 16 15 52.4 +2.4
BOAB BOACO BROADBAN 6.83 109 P Pn 16 15 51.7 +1.7
CRIG Cruz Grande 6.88 287 Pn 16 15 49.1 -1.6
CRIG Cruz Grande 6.88 287 *e*P Pn 16 15 49.1 -1.6
CRIG *e*S Sn 16 16 56.4 -11
PHPU Puebla 7.06 308 Sn 16 17 13.3 +1.0
PHPU Puebla 7.06 308 *e*P Pn 16 15 58.8 +5.4
PHPU *e*S Sn 16 17 13.3 +1.0
JAPN Al SSO del Vol 7.19 116 P Pn 16 15 57.7 +2.8
JAPN Al SSO del Vol 7.19 116 P Pn 16 15 57.8 +2.8
PBCV Popocatepetl 7.33 306 *e*P Pn 16 15 58.2 +1.1
PBCV *e*S Sn 16 17 11.1 -7.8
CXUV Coxquihui 7.38 317⇓ *e*P Pn 16 15 55.7 -1.9
CXUV *e*S Sn 16 17 12.6 -7.3
PBPN Popocatepetl 7.41 306 *e*P Pn 16 15 59.3 +0.9
PBPN *e*P 16 15 59.6
PBPN *e*S Sn 16 17 16.1 -5.2
PBPN *e*S 16 17 17.2
PBXN Popocatepetl 7.42 305 *e*P Pn 16 15 59.4 +1.0
PBXN *e*P 16 15 59.6
PBXN *e*S Sn 16 17 16.1 -5.3
PBXN *e*S 16 17 18.0
PPM Popocatepetl 7.42 306⇓ *e*P Pn 16 15 59.7 +1.2
PPM *e*S Sn 16 17 13.8 -7.8
PPIG Popocatepetl 7.43 306 Pn 16 15 59.7 +1.1
ACON Acoyapa 7.46 111 Pn 16 15 59.8 +1.3
VNTA La Mica 7.56 287 *e*P Pn 16 15 59.6 -0.3
VNTA *e*S Sn 16 17 16.1 -8.1
ACP2 Acapulco 7.61 287 Pn 16 15 59.8 -0.9
ACP2 Sn 16 17 21.3 -4.2
ACP2 Acapulco 7.61 287 *e*P Pn 16 15 59.8 -0.9
ACP2 *e*S Sn 16 17 21.3 -4.2
YAIG Yautepec 7.67 303 Pn 16 16 02.6 +1.1
YAIG Sn 16 17 24.3 -2.7
YAIG Yautepec 7.67 303⇓ *e*P Pn 16 16 02.6 +1.1
YAIG *e*S Sn 16 17 24.3 -2.7
MPVM San Francisco 7.80 305⇓ *e*P Pn 16 16 04.9 +1.4
PLIG Platanillo 7.80 298 Pn 16 16 04.0 +0.7
PLIG Sn 16 17 24.0 -6.3
PLIG Platanillo 7.80 298⇓ *e*P Pn 16 16 04.0 +0.7
PLIG *e*S Sn 16 17 24.0 -6.3
THVM De Xico 7.83 306⇓ *e*P Pn 16 16 05.4 +1.5
TLVM San Miguel Top 7.92 305⇓ *e*P Pn 16 16 06.1 +0.9
CNCY Coyoacan 7.99 305 *e*P Pn 16 16 08.4 +2.3
CNCY *e*S Sn 16 17 31.5 -3.6
COVM Coyoacan 8.00 306 *i* P Pn 16 16 06.4 +0.2
COVM *e*P 16 16 09.2
UNM Universidad Na 8.00 305 Pn 16 16 09.2 +2.9
UNM Universidad Na 8.00 305 *e*P Pn 16 16 07.3 +1.0
UNM *e*S Sn 16 17 31.3 -4.1
UNM Universidad Na 8.00 305 P Pn 16 16 09.2 +2.9
UNM Universidad Na 8.00 305 P Pn 16 16 08.3 +2.1
CUP5 Mexico City 8.01 305 *e*P Pn 16 16 09.4 +3.1
CUP5 *e*S Sn 16 17 29.3 -6.2
CAIG El Cayaco 8.01 287 Pn 16 16 05.0 -1.1
CAIG Sn 16 17 32.7 -2.5
CAIG El Cayaco 8.01 287⇓ *e*P Pn 16 16 05.0 -1.1
CAIG *e*S Sn 16 17 32.7 -2.5
BJVM Benito Juarez 8.02 306 *e*P Pn 16 16 07.7 +1.1
MHVM Bosque de Chap 8.07 306⇓ *e*P Pn 16 16 07.4 +0.2
AOVM Tlapan 8.08 305 Pn 16 16 08.8 +1.3
AOVM Tlapan 8.08 305⇓ *e*P Pn 16 16 08.8 +1.3
CJVM Cuajimalpa 8.11 305 *e*P Pn 16 16 08.9 +1.3
APVM Azcapotzalco 8.12 306 Pn 16 16 08.3 +0.5
APVM Azcapotzalco 8.12 306 *e*P Pn 16 16 08.3 +0.5
ATYC Atoyac 8.21 288 *e*P Pn 16 16 08.6 -0.2
ATYC *e*S Sn 16 17 34.0 -6.0
INDI Punta indio, G 8.22 126 P Pn 16 16 12.0 +3.0
NYURE Nandayure 8.34 124 *e*P Pn 16 16 14.5 +3.8
JUNT Juntas 8.43 121 *e*P Pn 16 16 16.2 +4.4
DEIG Demacu 8.47 311 *e*P Pn 16 16 12.1 -0.5
DEIG *e*S Sn 16 17 37.4 -9.3
DHIG Demacu 8.47 311 Pn 16 16 12.1 -0.5
ARIG Puente Sto Nin 8.49 295 Pn 16 16 13.5 +0.8
ARIG Sn 16 17 40.1 -6.8
ARIG Puente Sto Nin 8.49 295⇓ *e*P Pn 16 16 13.5 +0.8
ARIG *e*S Sn 16 17 40.1 -6.8
MTEVE Monteverde 8.52 120 *e*P Pn 16 16 16.2 +3.0
ARE1 Arenal 1 8.53 119 *e*P Pn 16 16 15.9 +2.6
CEDE Laguna Cedeo 8.53 119 *e*P Pn 16 16 17.0 +3.7
VARE2 V. Arenal 8.53 119 *e*P Pn 16 16 15.9 +2.6
VACR Volcan Arenal 8.56 119 *e*P Pn 16 16 15.9 +2.2
TEJU Tejupilco 8.59 300 *e*P Pn 16 16 15.8 +1.7
TEJU *e*S Sn 16 17 42.0 -7.6
SOCE Pocosol 8.66 119 Pn 16 16 17.1 +2.1
SOCE Pocosol 8.66 119 *e*P Pn 16 16 17.6 +2.6
SOCE Pocosol 8.66 119 P Pn 16 16 17.9 +2.9
SOCE Pocosol 8.66 119 P Pn 16 16 19.3 +4.3
COVE Coope Vega, Sa 8.68 117 P Pn 16 16 17.2 +2.0
COVE Coope Vega, Sa 8.68 117 P Pn 16 16 17.0 +1.8
CBL1 Cabuya 8.71 125 *e*P Pn 16 16 18.4 +2.7
CTUV Llano Grande 8.82 320 *e*P Pn 16 16 12.1 -5.0
CTUV *e*S Sn 16 17 47.2 -7.6
ARZA Esparza 8.82 122 *e*P Pn 16 16 20.7 +3.5
ITAL Pital 8.92 118 *e*P Pn 16 16 20.0 +1.5
SRA1 San Ramn 8.93 121 *e*P Pn 16 16 21.4 +2.6
ZARE Zarcero 8.95 120 *e*P Pn 16 16 21.8 +2.6
PET2 Petatlan 9.06 289 *e*P Pn 16 16 20.6 +0.2
PET2 *e*S Sn 16 17 59.4 -1.4
BELE Belen 9.23 120 *e*P Pn 16 16 25.2 +2.4
VBV1 V. Barva 9.23 119 *e*P Pn 16 16 24.8 +1.7
SANTA Santa Ana 9.25 120 *e*P Pn 16 16 25.6 +2.4
ZIIG Zihuatanejo 9.26 289 Pn 16 16 22.9 -0.3
ZIIG *e*S Sn 16 17 58.9 -6.9
ZIIG Zihuatanejo 9.26 289⇓ *e*P Pn 16 16 22.9 -0.3
ZIIG *e*S Sn 16 17 58.9 -6.9
HDC Heredia 9.28 120 Pn Pn 16 16 26.3 +2.7
HDC Heredia 9.28 120 *e*P Pn 16 16 26.3 +2.7
TRT2 Tortugero 9.33 116 P Pn 16 16 25.6 +1.5
TRT2 Tortugero 9.33 116 P Pn 16 16 25.8 +1.7
LUJA Lujan 9.35 120 *e*P Pn 16 16 27.8 +3.2
SJS3 Mercedes San J 9.36 120 *e*P Pn 16 16 27.3 +2.6
CVIMO Finca Echandi 9.41 119 *e*P Pn 16 16 28.0 +2.5
PICV PH. Pirrs 9.41 122 *e*P Pn 16 16 28.3 +3.0
TRIO Tres Rios 9.43 120 *e*P Pn 16 16 28.2 +2.6
PISJ San Jermim 9.47 122⇑ Pn 16 16 29.1 +2.9
ABE2 San Pablo 9.48 121 *e*P Pn 16 16 29.7 +3.2
LCR2 La Lucha 2 9.51 121⇑ *i*P Pn 16 16 29.5 +2.8
VICA Volcano Irazu 9.51 119 *e*P Pn 16 16 29.1 +2.0
VTLA Turrialba Volc 9.56 119 *e*P Pn 16 16 29.8 +2.1
CVTR Volcan Turrial 9.57 119 *e*P Pn 16 16 29.4 +1.6
CVTQ Turrialba Volc 9.57 119 *e*P Pn 16 16 29.5 +1.8
LLNJ Naranjito 9.57 122 *e*P Pn 16 16 30.6 +3.1
REPA Paraso 9.57 120 *e*P Pn 16 16 30.1 +2.5
CVTV Tajo 9.58 119⇑ *i*P Pn 16 16 30.1 +2.2
VTCV VTCV, Calle Va 9.61 119 *e*P Pn 16 16 30.1 +1.9
VERB Verbena 9.66 119 *e*P Pn 16 16 31.6 +2.8
RVLA Villa Bonita 9.67 118 *e*P Pn 16 16 31.1 +2.3
RVSTA Santa Teresita 9.69 118 *e*P Pn 16 16 31.1 +2.0
TURIB Turrialba 9.69 119 *e*P Pn 16 16 31.1 +2.0
UON La Union 9.69 290 *e*P Pn 16 16 30.1 +1.1
UON *e*S Sn 16 18 23.1 +6.9
IRES Siquirres 9.75 117 *e*P Pn 16 16 31.0 +1.2
MOIG Morelia 9.81 301 Pn 16 16 32.7 +1.8
MOIG Morelia 9.81 301 *e*P Pn 16 16 32.0 +1.1
MOIG *e*S Sn 16 18 24.6 +5.1
MOIG Morelia 9.81 301 ⇓P Pn 16 16 32.8 +1.8
ZELE Perez Zeledon 9.95 122 *e*P Pn 16 16 33.8 +3.0
OCHAL Ojochal 10.15 123 P Pn 16 16 38.6 +3.2
OCHAL Ojochal 10.15 123 P Pn 16 16 38.4 +2.9
EDPE Pejibaye, P 10.18 122 *e*P Pn 16 16 38.8 +3.0
DRK0 Durika 10.39 121⇑ *i*P Pn 16 16 41.7 +2.9
URUA Uruapan 10.44 298 Sn 16 18 30.3 -4.6
URUA Uruapan 10.44 298 *e*P Pn 16 16 43.2 +3.7
URUA *e*S Sn 16 18 30.3 -4.6
FIMO Fila Mora 10.45 122 *e*P Pn 16 16 42.2 +2.6
IGIG Irapuato, Guan 10.47 306 Pn 16 16 41.0 +1.1
IGIG Sn 16 18 35.3 -0.3
IGIG Irapuato, Guan 10.47 306 *e*P Pn 16 16 41.0 +1.1
IGIG *e*S Sn 16 18 35.3 -0.3
PRVC Isla de Provid 10.68 96 Pn 16 16 42.8 +0.2
PRVC Isla de Provid 10.68 96⇑ *i*P Pn 16 16 42.9 +0.2
JIME Puerto Jimenez 10.73 124 *e*P Pn 16 16 46.1 +2.8
EDAD Golfito 10.80 123 *e*P Pn 16 16 46.4 +2.2
ALCO Alturas Coton, 10.90 121 *e*P Pn 16 16 47.6 +1.8
CNI2 El Empalme, Bo 10.96 118 *e*P Pn 16 16 46.7 +0.3
CNI2 *e*S Sn 16 18 48.8 +1.4
MLIR3 Monte Lirio, C 11.00 122⇓ *i*P Pn 16 16 50.7 +3.7
MLIR3 *e*S Sn 16 18 51.2 +2.9
CDITO Canoas 11.08 123 P Pn 16 16 51.1 +3.0
CDITO Canoas 11.08 123 P Pn 16 16 50.2 +2.1
BRU2 Volcan 11.11 121 Pn Pn 16 16 50.4 +1.8
BRU2 Volcan 11.11 121 *e*P Pn 16 16 50.1 +1.5
BRU2 Volcan 11.11 121⇑ *i*P Pn 16 16 50.0 +1.5
MMIG Aquila 11.17 290 Pn 16 16 49.0 -0.2
MMIG Sn 16 18 48.6 -3.8
MMIG Aquila 11.17 290⇓ *e*P Pn 16 16 49.0 -0.2
MMIG *e*S Sn 16 18 48.6 -3.8
PTPM Petroterminale 11.29 124⇓ *i*P Pn 16 16 55.3 +4.5
PTPM *e*S Sn 16 18 59.6 +4.3
LNBQ3 Los Naranjos, 11.31 121⇓ *e*P Pn 16 16 54.2 +2.8
PTAR3 Potrerillos Ar 11.32 121⇓ *i*P Pn 16 16 54.4 +2.9
LIMO3 Limones 11.36 125 *e*P Pn 16 16 57.0 -5.2
LIMO3 *i* S Sn 16 19 01.6 +4.6
PSOM3 Paja de Sombre 11.47 121⇓ *i*P Pn 16 16 56.0 +2.6
CHGR2 Aguacate 11.49 119 *e*P Pn 16 16 55.6 +2.0
CHGR2 *e*S Sn 16 19 05.3 +5.1
DVD David 11.50 122 *e*P Pn 16 16 57.2 +3.4
LOMA3 Las Lomas, Chi 11.55 122⇓ *e*P Pn 16 16 57.1 +2.7
PEDE3 Pedregal, Chir 11.55 122⇓ *i*P Pn 16 16 57.6 +3.1
GUAL3 Gualaca, Chiri 11.57 121⇓ *i*P Pn 16 16 57.5 +2.7
EZ5V 11.79 295 Pn 16 16 59.5 +1.6
EZ5V 11.79 295⇓ *e*P Pn 16 16 59.5 +1.6
EZ5V *e*S Sn 16 19 02.7 -5.2
MNGA Volcan de Coli 11.80 295⇓ *e*P Pn 16 16 59.5 +1.4
MNGA *e*S Sn 16 19 00.7 -7.4
INCO Volcan de Coli 11.81 295⇓ *e*P Pn 16 16 59.6 +1.3
INCO *e*S Sn 16 19 01.3 -7.2
SOMAC Volcano de Col 11.83 295⇓ *e*P Pn 16 16 59.7 +1.1
SOMAC *e*S Sn 16 18 59.9 -9.1
SOR Soroa 11.86 46 Pn 16 16 58.1 -0.5
SOR Soroa 11.86 46 *e

CIHU eS **Sn** **16 19 24.0 -6.2**
GMAL Guarumal, Vera 12.88 122 ⇑iP **Pn** **16 17 12.8 +0.4**
GMAL i S **Sn** 16 19 38.2 +4.3
CALO3 Calobre, Verag 12.91 119 eP **Pn** **16 17 14.9 +2.0**
STIA3 Santiago, Vera 12.91 120 ⇓iP **Pn** **16 17 14.2 +1.3**
CJM Chamela 13.07 293 ⇓iP **Pn** **16 17 14.2 -0.8**
CJM eS **Sn** 16 19 37.5 -1.2
MNIG Monterrey 13.14 326 **Pn** **16 17 16.6 +0.7**
MNIG Monterrey 13.14 326 eP **Pn** **16 17 16.6 +0.7**
ANIG Ahuacatlan 13.22 300 **Pn** **16 17 17.6 +0.5**
ANIG **Sn** 16 19 38.4 -4.0
ANIG Ahuacatlan 13.22 300⇓eP **Pn** **16 17 17.6 +0.5**
ANIG eS **Sn** 16 19 38.4 -4.0
PNME Penonome 13.27 117 ⇑iP **Pn** **16 17 18.2 +0.5**
BCIP Isla Barro Col 13.38 113 Pn **Pn** **16 17 20.6 +1.4**
BCIP Isla Barro Col 13.38 113 P **Pn** **16 17 20.6 +1.4**
BCIP Isla Barro Col 13.38 113 ⇑P **Pn** **16 17 18.8 -0.4**
BCIP Isla Barro Col 13.38 113 ⇑iP **Pn** **16 17 18.2 -1.0**
BCIP eS **Sn** **16 19 46.6 +0.4**
ZANG Zanguenga, Cho 13.45 114 i P **Pn** **16 17 20.8 +0.7**
CHIT3 Chitre 13.45 119 eP **Pn** **16 17 21.6 +1.5**
FRIJ El Hiral 13.46 113 eP **Pn** **16 17 21.9 +1.8**
CHOR3 La Chorrera 13.56 114 eP **Pn** **16 17 23.5 +1.9**
HBVL Hebbronville 13.61 335 Pn **Pn** **16 17 24.5 +2.5**
HBVL Hebbronville 13.61 335 P **Pn** **16 17 23.8 +1.8**
ARRA3 Arraijan, Pana 13.63 114 eP **Pn** **16 17 22.8 +0.4**
PUVA Puert Vallarta 13.63 297 P **Pn** **16 17 23.6 +1.2**
PUVA Puert Vallarta 13.63 297 eP **Pn** **16 17 23.6 +1.2**
AZU Azuero 13.66 119 ⇑iP **Pn** **16 17 23.3 +0.5**
UPA Univ. de Panam 13.73 113 ⇑iP **Pn** **16 17 23.0 -0.7**
KVTX Kingsville 13.74 339 eP **Pn** **16 17 21.4 -2.4**
KVTX Kingsville 13.74 339 ⇑P **Pn** **16 17 24.7 +0.9**
PCRI3 Pocri, Los San 13.86 119 ⇓iP **P** **16 17 28.4 -2.7**
PCRI3 i S **Sn** **16 19 58.8 +0.9**
ACHO3 Achotines, Los 13.94 120 eP **Pn** **16 17 29.2 +2.7**
PEDA3 Pedasi 14.01 120 ⇓iP **Pn** **16 17 29.9 +2.5**
CNTA3 Canitas, Panam 14.21 111 eP **Pn** **16 17 31.6 +1.6**
MCJ Malvern 14.35 75 ⇓iP **Pn** **16 17 33.0 +1.1**
MTDJ Mount Denham 14.55 74 Pn **Pn** **16 17 32.9 -1.6**
MTDJ Mount Denham 14.55 74 eP **Pn** **16 17 34.8 +0.2**
MTDJ Mount Denham 14.55 74 ⇑P **Pn** **16 17 34.5 0.0**
MTDJ Mount Denham 14.55 74 ⇑iP **Pn** **16 17 34.4 -0.1**
EF75 Tulsita 14.78 341 P **Pn** **16 17 37.0 -0.3**
EF75 S **P** **16 17 45.6 +4.4**
TOTI Torti 14.85 111 ⇑iP **Pn** **16 17 36.2 -2.1**
EF72 Nordheim 14.86 342 P **Pn** **16 17 38.4 +0.1**
EF72 S **P** **16 17 46.4 +4.3**
EF69 Whitsett 14.87 339 P **Pn** **16 17 40.2 +1.7**
833A Chaparral WMA, 15.02 335 P **Pn** **16 17 40.7 +0.4**
baz=153,SNR=261
833A S **Sn** **16 20 15.3 -10**
baz=153
EF02 Christine 15.09 338 P **Pn** **16 17 41.0 -0.3**
EF02 S **pPn** **16 17 56.6 +3.2**
EF51 Christine 15.09 339 P **Pn** **16 17 41.4 +0.1**
STH Stony Hill 15.20 75 eP **Pn** **16 17 42.7 -0.1**
EF59 Coughran 15.21 339 P **Pn** **16 17 44.0 +1.2**
EF58 Charlotte 15.22 338 P **Pn** **16 17 42.9 0.0**
HOJ Hope 15.24 76 i P **P** **16 17 49.2 +2.7**
EF04 Eagle Ford 04 15.25 341 P **Pn** **16 17 43.3 0.0**
EF04 S **pPn** **16 17 56.7 +1.3**
UPD2 Meteti 15.27 112⇑eP **Pn** **16 17 42.2 -1.5**
EF62 Nixon 15.36 342 P **Pn** **16 17 45.7 +1.1**
EF01 Eagle Ford 01 15.36 339 P **Pn** **16 17 44.1 -0.7**
EF01 S **pPn** **16 17 56.4 -0.5**
HKT Hockley 15.46 348c iP **Pn** **16 17 46.1 +0.2**
HKT pmax pmax
comp=Z,632nm,2.7s
HKT Hockley 15.46 348 ⇑P **Pn** **16 17 45.2 -0.6**
LMGC Las Mercedes 15.49 68 eP **Pn** **16 17 45.4 -1.1**
MLDN Muldoon 15.58 344 P **Pn** **16 17 48.5 +1.0**
MLDN Muldoon 15.58 344 P **Pn** **16 17 48.5 +1.0**
MCIG Muzquiz 15.60 328 P **Pn** **16 17 48.4 +0.6**
MCIG Muzquiz 15.60 328 ⇑iP **Pn** **16 17 48.4 +0.6**
EF64 Waelder 15.60 344 P **Pn** **16 17 47.7 -0.1**
MAIG Mazatlaan 15.77 304 P **Pn** **16 17 49.5 -0.4**
MAIG Mazatlaan 15.77 304 eP **Pn** **16 17 49.5 -0.4**
CHIV Chivirico 16.00 69 Pn **P** **16 17 54.3 -0.6**
CHIV Chivirico 16.00 69 eP **Pn** **16 17 53.4 +0.5**
CHIV eS **S** **16 20 55.0 -3.9**
PDIG Papasquiaro 16.00 312 P **P** **16 17 54.9 -0.2**
PDIG Papasquiaro 16.00 312⇓eP **P** **16 17 54.9 -0.2**
PDIG eS **Sn** **16 20 43.3 -6.7**
HNDO Hondo 16.05 337 P **Pn** **16 17 53.0 -0.4**
PTAC Punta Ardita, 16.09 117 ⇑iP **Pn** **16 17 51.2 -2.8**
MARVS Santiago de Cu 16.47 69 eP **Pn** **16 17 56.7 -2.1**
HLGC Holguin 16.59 66 eP **Pn** **16 18 00.0 -0.3**
LCBC Los crdobas, 16.64 109 ⇑iP **Pn** **16 18 00.1 -0.8**
RCC Rio Carpintero 16.65 69 eP **Pn** **16 18 00.0 -1.0**
DWPF Disney Wildern 16.66 35 **Pn** **16 18 01.3 +0.3**
435B Jarrell 16.66 344 P **P** **16 18 01.9 -0.3**
baz=162
435B S Sn 16 20 53.2 -12
baz=162
PINC Pinares de May 16.71 68 eP **P** **16 18 02.7 -0.1**
BRAL Brewton 17.01 15 P **P** **16 18 08.7 +2.7**
BRAL Brewton 17.01 15 ⇑P **P** **16 18 06.1 +0.1**
NATX Nacogdoches 17.05 353 ⇑P **P** **16 18 06.8 +0.3**
JCT Junction City 17.10 337 P **P** **16 18 09.9 +2.9**
JCT Junction City 17.10 337 ⇑iP **Pn** **16 18 06.1 -0.4**
JCT Junction City 17.10 337 P **P** **16 18 09.9 +2.9**
JCT Junction City 17.10 337 ⇑P **Pn** **16 18 06.4 -0.1**
JCT Junction City 17.10 337 P **Pn** **16 18 06.4 -0.1**
GTBY Guantanamo Bay 17.17 70 eP **P** **16 18 10.6 +2.8**
GTBY Guantanamo Bay 17.17 70 ⇑P **P** **16 18 07.8 0.0**
GTBY Guantanamo Bay 17.17 70 ⇑iP **P** **16 18 08.7 +0.8**
SSIG Sanalona 17.17 308 P **P** **16 18 08.3 +0.5**
SSIG Sanalona 17.17 308⇓eP **P** **16 18 08.3 +0.5**
SSIG eS **Sn** **16 21 12.5 -5.5**
HPIG 17.39 316 ⇑iP **P** **16 18 12.2 +1.7**
HPIG eS **Sn** **16 21 18.1 -5.3**
HPIG 17.39 316 ⇑P **P** **16 18 12.1 +1.7**
HPIG 17.39 316 P **P** **16 18 12.5 +2.1**
HPIG 17.39 316 P **P** **16 18 12.3 +1.9**
VBMS Vicksburg 17.44 5 IAmb IAmb 16 18 17.5
comp=Z,1µm,0.7s
VBMS Vicksburg 17.44 5 ⇑P **P** **16 18 10.9 +0.2**
NMDO Nuevo Mundo 17.45 68 IAmb IAmb 16 18 22.8
comp=Z,2µm,1.9s
NMDO Nuevo Mundo 17.45 68 eP **P** **16 18 12.0 +1.0**
MOAC Moa 17.50 68 eP **P** **16 18 12.0 +0.5**
QMBU Quimbuelo 17.51 70 eP **P** **16 18 13.3 +1.7**
BRDY Brady 17.55 341 P **Pn** **16 18 12.0 0.0**
BCIG La Boquilla 17.63 318 P **Pn** **16 18 15.0 +1.9**
BCIG La Boquilla 17.63 318 ⇑iP **Pn** **16 18 15.0 +1.9**
WHTX Lake Whitney, 17.78 345 P **Pn** **16 18 14.9 +0.1**
UREC San Jos de Ur 17.84 111 ⇑iP **P** **16 18 13.8 -1.5**
TXAR Lajitas Array 17.91 326 P **Pn** **16 18 16.9 +0.5**
TXAR Lajitas Array 17.91 326 P **Pn** **16 18 17.9 +1.5**
comp=Z,186nm,0.8s,baz=148,slow=9.8,SNR=493
TXAR S **S** **16 21 38.7 +1.9**
comp=Z,23nm,0.8s,baz=104,slow=14,SNR=1.6
TXAR ScP **ScP** **16 26 18.2 +1.0**
comp=Z,42nm,1.0s,baz=199,slow=2.2,SNR=3.9
TXAR P3KP 16 53 39.5
comp=Z,0.8nm,0.8s,baz=45,slow=0.2,SNR=4.5
SMRC Santa Marta, M 17.95 99 P **P** **16 18 16.5 0.0**
OZNA Ozona 18.01 335 P **Pn** **16 18 18.3 +0.7**
MASC Masc 18.03 70 eP **P** **16 18 15.3 -2.0**
FW14 Alvarado 18.11 347 IAmb IAmb 16 18 29.1
comp=Z,628nm,0.7s
FW14 Alvarado 18.11 347 P **Pn** **16 18 18.9 +0.2**
FW13 Cleburne 18.12 346 P **Pn** **16 18 18.7 -0.2**
FW16 Waxahatchie 18.13 347 IAmb IAmb 16 18 28.9
comp=Z,3µm,1.6s
FW16 Waxahatchie 18.13 347 P **Pn** **16 18 18.8 -0.1**
TREL Terrell 18.21 350 IAmb IAmb 16 18 26.1
comp=Z,2µm,1.3s
FW01 Dallas Executi 18.32 348 P **Pn** **16 18 21.0 -0.2**
FW11 UT at Arlingto 18.41 347 P **Pn** **16 18 22.3 0.0**
Z41A Richland Creek 18.41 359 IAmb IAmb 16 18 30.4
comp=Z,1µm,0.9s
FW07 Weatherford 18.54 345 IAmb IAmb 16 18 30.3
comp=Z,4µm,1.9s
FW07 Weatherford 18.54 345 P **P** **16 18 23.1 +0.2**
FW05 UT at Dallas 18.59 348 P **Pn** **16 18 25.5 +1.0**
FW02 City of Haslet 18.67 347 P **P** **16 18 24.9 +0.6**
FW06 Azle 18.75 346 P **P** **16 18 25.4 +0.3**
PLPT Palo Pinto 18.78 344 P **P** **16 18 25.7 +0.2**
LRAL Lakeview Retre 18.80 14 P **Pn** **16 18 27.8 +0.8**
LRAL IAmb IAmb 16 18 31.2
comp=Z,2µm,1.4s
LRAL Lakeview Retre 18.80 14 ⇑P **Pn** **16 18 26.9 -0.1**
SLBS Sierra La Lagu 18.87 301 P **Pn** **16 18 29.0 +0.9**
SLBS Sierra La Lagu 18.87 301 eP **Pn** **16 18 28.8 +0.7**
SLBS Sierra La Lagu 18.87 301 ⇓P **Pn** **16 18 29.3 +1.2**
TSIG Topolobambo 19.04 307 P **P** **16 18 27.5 -0.9**
TSIG Topolobambo 19.04 307 eP **P** **16 18 27.5 -0.9**
TSIG eS **S** **16 21 54.2 -6.3**
CCAR Cane Creek 19.07 1 P **Pn** **16 18 30.7 +0.6**
MNHN Monahans 19.08 332 IAmb IAmb 16 18 33.1
comp=Z,2µm,1.7s
CSIG Choix 19.21 311 P **Pn** **16 18 32.5 +0.5**
CSIG Choix 19.21 311 eP **Pn** **16 18 32.5 +0.5**
LPIG La Paz 19.35 301 P **P** **16 18 32.2 +0.4**
LPIG La Paz 19.35 301 P **Pn** **16 18 35.1 +1.5**
comp=Z,482nm,1.0s,baz=286,slow=0.6,SNR=23
LPIG LR LR 16 26 11.8
comp=Z,44µm,20.8s,baz=120,slow=37
LPIG La Paz 19.35 301 eP **P** **16 18 32.2 +0.4**
PAPH Port-au-Prince 19.50 76 IAmb IAmb 16 18 41.1
comp=Z,2µm,1.1s
PAPH Port-au-Prince 19.50 76 eP **Pn** **16 18 35.9 +0.5**
PECS Pecos 19.64 329 IAmb IAmb 16 18 39.4
comp=Z,3µm,1.8s
X40A Basin Creek Fa 19.64 359 IAmb IAmb 16 18 41.7
comp=Z,2µm,1.8s
ODSA Odessa 19.65 333 IAmb IAmb 16 18 38.3
comp=Z,2µm,1.6s
SN05 Snyder 5 19.65 338 IAmb IAmb 16 18 45.0
comp=Z,2µm,1.7s
MIAR Mount Ida 19.72 357 P **P** **16 18 36.0 +0.3**
MIAR IAmb IAmb 16 18 45.0
comp=Z,1µm,0.9s
MIAR Mount Ida 19.72 357 P **P** **16 18 36.0 +0.3**
MIAR pmax pmax
comp=Z,1µm,1.0s
MIAR Mount Ida 19.72 357 ⇑P **P** **16 18 35.6 -0.2**
APMT Aspermont 19.80 340 IAmb IAmb 16 18 49.0
comp=Z,743nm,0.9s
SN07 Snyder 07 19.85 338 IAmb IAmb 16 18 53.8
comp=Z,993nm,1.3s
OTAV Otavalo 19.89 135 P **Pn** **16 18 39.9 -0.6**
OTAV Otavalo 19.89 135 P **Pn** **16 18 39.9 -0.6**
OTAV pmax pmax
comp=Z,345nm,1.0s
OTAV Otavalo 19.89 135 ⇓P **Pn** **16 18 40.4 -0.1**
OTAV Otavalo 19.89 135 eP **Pn** **16 18 39.6 -0.8**
POST Post 20.05 337 IAmb IAmb 16 18 48.3
comp=Z,580nm,0.8s
ROSC El Rosal 20.24 117 P **P** **16 18 42.0 0.0**
comp=Z,128nm,0.6s,baz=151,slow=4.9,SNR=38
ROSC ScS ScS 16 30 08.4 +1.9
comp=Z,8.5nm,0.4s,baz=49,slow=19,SNR=4.2
comp=Z,128nm,0.6s
ROSC El Rosal 20.24 117 P **P** **16 18 42.0 0.0**
X34A Smith Ranch, M 20.37 347 IAmb IAmb 16 18 59.8
comp=Z,4µm,1.8s
WHAR Wooly Hollow 20.43 360 P **P** **16 18 44.6 +1.2**
SDDR Presa de Saban 20.52 75 IAmb IAmb 16 18 49.8
comp=Z,786nm,1.1s
SDDR Presa de Saban 20.52 75 ⇑P Pn 16 18 46.1 -1.3
SDDR Presa de Saban 20.52 75 ⇑iP Pn 16 18 46.0 -1.3
MNTX Cornudas Mount 20.68 327 ⇑iP **P** **16 18 46.7 +0.7**
MNTX Cornudas Mount 20.68 327 ⇑P **P** **16 18 46.5 +0.4**
HBAR Harrisburg 20.75 4 IAmb IAmb 16 18 57.9
comp=Z,780nm,1.0s
FNO Franklin 20.91 348 IAmb IAmb 16 19 02.2
comp=Z,1µm,0.9s
FLOC Florencia 21.01 127 IAmb IAmb 16 19 00.4
comp=Z,2µm,1.0s
FCAR Ozark Folk Cen 21.03 0 P **P** **16 18 51.0 +1.2**
SWET Sewanee 21.14 15 IAmb IAmb 16 18 55.3
comp=Z,583nm,0.9s
GRTK Grand Turk 21.17 68 ⇑P **P** **16 18 52.8 +1.3**
GNAR Gosnell 21.20 5 IAmb IAmb 16 19 11.6
comp=Z,900nm,1.0s
HALT Halls 21.21 7 IAmb IAmb 16 19 15.1
comp=Z,1µm,1.1s
LCAR Lake Charles 21.23 3 IAmb IAmb 16 19 13.6
comp=Z,2µm,1.8s
NHSC New Hope 21.31 29 ⇑P **P** **16 18 54.3 +1.5**
BANI BANI 21.31 77 IAmb IAmb 16 19 02.7
comp=Z,1µm,1.4s
DEOK Depew 21.32 351 IAmb IAmb 16 19 03.7
comp=Z,2µm,1.8s
PEBM Pemiscott Bayo 21.36 5 IAmb IAmb 16 19 05.2
comp=Z,971nm,0.9s
HODGE Hodges 21.39 23 IAmb IAmb 16 19 00.2
comp=Z,811nm,1.2s
HHAR Hobbs 21.47 356 IAmb IAmb 16 19 09.1
comp=Z,981nm,1.3s
SMWD Samnorwood 21.48 342 IAmb IAmb 16 19 05.4
comp=Z,936nm,0.7s
OK031 S. Brethren Rd 21.49 350 IAmb IAmb 16 19 16.0
comp=Z,788nm,1.3s
OK052 Battle Ridge R 21.52 350 IAmb IAmb 16 19 07.0
comp=Z,536nm,0.8s
GLAT Glass 21.58 7 IAmb IAmb 16 19 01.7
comp=Z,1µm,1.0s
WVT Waverly 21.64 10 P **P** **16 18 55.1 -1.2**
WVT Waverly 21.64 10 P **P** **16 18 55.1 -1.2**
WVT pmax pmax
comp=Z,388nm,0.9s
WVT Waverly 21.64 10 ⇑P **P** **16 18 54.8 -1.5**
QUOK Quay 21.68 350 IAmb IAmb 16 19 09.9
comp=Z,1µm,1.1s
UTMT University of 21.70 7 IAmb IAmb 16 19 03.4
comp=Z,768nm,0.9s
CPCT Cooper Cave 21.74 17 IAmb IAmb 16 19 19.5
comp=Z,510nm,0.8s
AMTX Amarillo 21.74 339 IAmb IAmb 16 19 20.2
comp=Z,1µm,0.8s
AMTX Amarillo 21.74 339 ⇑P **P** **16 18 57.3 -0.2**
BG3 Lake Jocassee 21.82 21 IAmb IAmb 16 19 02.2
comp=Z,892nm,1.1s
JSC Jenkinsville 21.83 25 IAmb IAmb 16 19 08.7
comp=Z,1µm,1.1s
HICK Hickman 21.85 7 IAmb IAmb 16 19 05.5
comp=Z,1µm,1.1s
PARMO Parma 21.92 5 IAmb IAmb 16 19 05.0
comp=Z,914nm,0.8s
SDV Santo Domingo 21.97 103 P **P** **16 18 58.0 -2.3**
SDV Santo Domingo 21.97 103 P **P** **16 18 58.2 -2.0**
comp=Z,110nm,0.4s,baz=294,slow=8.3,SNR=59
SDV S **S** **16 22 54.7 -4.0**
comp=Z,38nm,0.7s,baz=315,slow=20,SNR=1.5
SDV LR LR 16 29 36.3
comp=Z,34µm,19.4s,baz=298,slow=43
SDV ScS **ScS** **16 30 12.5 +0.3**
comp=Z,25nm,0.9s,baz=292,slow=19,SNR=7.9
comp=Z,110nm,0.4s
SDV Santo Domingo 21.97 103 eP **P** **16 18 58.3 -2.0**
Y57A Sumter 21.97 27 IAmb IAmb 16 19 10.6
comp=Z,2µm,1.1s
PBMO Poplar Bluff 21.98 4 IAmb IAmb 16 19 20.2
comp=Z,696nm,0.9s
OK051 E0350 and S346 22.02 350 IAmb IAmb 16 19 15.1
comp=Z,2µm,1.1s
PAULI Pauline 22.08 23 IAmb IAmb 16 19 11.9
comp=Z,951nm,1.0s
ELIS Ellis County 22.15 345 IAmb IAmb 16 19 24.3
comp=Z,1µm,1.3s
TKL Tuckaleechee C 22.16 19 IAmb IAmb 16 19 27.3
comp=Z,876nm,0.9s
TKL Tuckaleechee C 22.16 19 P **P** **16 19 02.3 +0.5**
comp=Z,527nm,1.0s,baz=199,slow=8.9,SNR=128
TKL S **S** **16 22 55.7 -5.6**
comp=Z,60nm,0.8s,baz=228,slow=14,SNR=1.5
TKL LR LR 16 29 08.7
comp=Z,93µm,18.2s,baz=206,slow=41
TKL Tuckaleechee C 22.16 19 P **P** **16 19 01.9 0.0**
TKL Tuckaleechee C 22.16 19 ⇑P **P** **16 19 01.9 0.0**
NZIG Nacozari, Sono 22.21 317 P **P** **16 19 04.8 +2.1**
NZIG Nacozari, Sono 22.21 317 i P **P** **16 19 04.8 +2.1**
CROK Carrier 22.24 348 IAmb IAmb 16 19 19.2
comp=Z,566nm,0.8s
DR12 Loma Pena Alta 22.28 76 IAmb IAmb 16 19 28.3
comp=Z,2µm,1.9s
MGMO Mountain Grove 22.29 0 IAmb IAmb 16 19 24.6
comp=Z,2µm,1.9s
BLOK Blackwell 22.34 350 IAmb IAmb 16 19 26.1
comp=Z,846nm,1.0s
HSIG 22.34 312 IAmb IAmb 16 19 26.2
comp=Z,3µm,2.0s
HSIG 22.34 312 ⇑P **P** **16 19 05.5 +1.6**
HSIG 22.34 312 P **P** **16 19 05.8 +1.9**
OK038 West end E0370 22.38 346 IAmb IAmb 16 19 17.9
comp=Z,639nm,0.9s
SRIG Santa Rosalia 22.39 307 P **P** **16 19 04.6 +0.2**
SRIG IAmb IAmb 16 19 28.2
comp=Z,1µm,1.7s
SRIG Santa Rosalia 22.39 307 ⇓P **P** **16 19 05.9 +1.5**
SRIG Santa Rosalia 22.39 307 P **P** **16 19 06.9 +2.5**
U49A Red Boiling Sp 22.42 14 P **P** **16 19 04.3 -0.4**
U49A IAmb IAmb 16 19 19.3
comp=Z,613nm,0.9s
BIRD Birdtown, Kers 22.48 26 IAmb IAmb 16 19 28.3
comp=Z,1µm,1.2s
V53A Saluda 22.48 21 IAmb IAmb 16 19 10.0
comp=Z,2µm,1.4s
KMSC Kings Mountain 22.55 24 IAmb IAmb 16 19 10.6
comp=Z,2µm,1.5s
CGM3 Cape Girardeau 22.56 5 IAmb IAmb 16 19 26.7
comp=Z,2µm,1.7s
NOKA Waynoka 22.57 346 IAmb IAmb 16 19 32.1
comp=Z,852nm,1.1s
121A Cookes Peak, D 22.63 324⇑iP **P** **16 19 08.6 +1.4**
121A Cookes Peak, D 22.63 324 P **P** **16 19 09.0 +1.9**
baz=138,SNR=518
121A S **S** **16 23 14.4 +4.9**
baz=138
KAN13 South Haven SW 22.63 349 IAmb IAmb 16 19 21.9
comp=Z,2µm,1.5s
319A Douglas 22.70 320 IAmb IAmb 16 19 30.7
comp=Z,1µm,1.0s
KAN17 Caldwell West 22.71 349 IAmb IAmb 16 19 21.0
comp=Z,647nm,1.0s
KAN09 Caldwell North 22.78 349 IAmb IAmb 16 19 35.0
comp=Z,782nm,1.1s
KAN01 Argonia South 22.82 349 IAmb IAmb 16 19 35.4
comp=Z,562nm,1.0s
X58A Rowland 22.90 28 IAmb IAmb 16 19 21.6
comp=Z,510nm,0.8s
KAN08 Anthony NE Sta 22.93 348 IAmb IAmb 16 19 36.6
comp=Z,727nm,1.2s
Y60A Bolivia 22.99 31 IAmb IAmb 16 19 22.7
comp=Z,570nm,1.0s
KAN12 Harper NE Stat 23.00 348 IAmb IAmb 16 19 37.5
comp=Z,1µm,1.4s
SIUC Southern Illin 23.01 6 IAmb IAmb 16 19 32.5
comp=Z,902nm,0.8s
TZTN Tazewell 23.04 18 IAmb IAmb 16 19 36.7
comp=Z,2µm,1.1s
TZTN Tazewell 23.04 18 ⇑P **P** **16 19 10.5 -0.6**
PCDR Punta Cana, DR 23.19 77 P **P** **16 19 14.3 +1.6**
PCDR IAmb IAmb 16 19 34.6
comp=Z,453nm,0.8s
CCM Cathedral Cave 23.21 2 P **P** **16 19 10.6 -2.1**
CCM Cathedral Cave 23.21 2 P **P** **16 19 10.6 -2.1**
CCM pmax pmax
comp=Z,552nm,1.1s
V55A Taylorsville 23.22 23 IAmb IAmb 16 19 15.9
comp=Z,779nm,1.0s
Y22D IRIS PASSCAL I 23.34 328 P **P** **16 19 16.1 +1.9**
baz=142,SNR=18
Y22D S **S** **16 23 27.5 +6.6**
baz=142
USIN University of 23.46 9 P **P** **16 19 15.2 +0.2**
USIN IAmb IAmb 16 19 18.9
comp=Z,1µm,1.0s
RTBA Rita Blanca 23.51 338 IAmb IAmb 16 19 37.0
comp=Z,1µm,1.3s
U54A Nelsons Funny 23.59 21 IAmb IAmb 16 19 40.1
comp=Z,1µm,1.1s
ANMO Albuquerque 23.80 330 P **P** **16 19 19.7 +1.4**
ANMO Albuquerque 23.80 330⇑iP **P** **16 19 19.2 +0.9**
ANMO Albuquerque 23.80 330c iP **P** **16 19 19.2 +0.9**
ANMO pmax pmax
comp=Z,464nm,2.6s
ANMO MLR MLR
comp=Z,6µm,16.0s
WCI Wyandotte Cave 23.96 12 P **P** **16 19 18.6 -0.9**
WCI IAmb IAmb 16 19 22.1
comp=Z,1µm,0.9s
WCI Wyandotte Cave 23.96 12 P **P** **16 19 18.6 -0.9**
WCI pmax pmax
comp=Z,1µm,0.9s
WCI Wyandotte Cave 23.96 12 ⇑P **P** **16 19 18.4 -1.1**
U56A King 23.97 24 IAmb IAmb 16 19 21.9
comp=Z,842nm,0.9s
V58A Windy Hill, Pi 24.03 27 IAmb IAmb 16 19 22.1
comp=Z,879nm,0.9s
OLIL Olney 24.15 8 IAmb IAmb 16 19 42.0
comp=Z,2µm,1.3s
LAPR La Primavera 24.17 314 eP **P** **16 19 22.8 +1.3**
BAHB Baha de los 24.21 309⇑eP **P** **16 19 23.7 +1.8**
R32A Long Quarter, 24.23 348 IAmb IAmb 16 19 45.7
comp=Z,647nm,1.0s
TUC Tucson 24.28 319 P **P** **16 19 24.2 +1.7**
TUC IAmb IAmb 16 19 46.1
comp=Z,2µm,1.7s
TUC Tucson 24.28 319⇑iP **P** **16 19 24.6 +2.0**
TUC Tucson 24.28 319 P **P** **16 19 24.2 +1.7**
TUC pmax pmax
comp=Z,2µm,1.7s
TUC Tucson 24.28 319 ⇑P **P** **16 19 24.5 +2.0**
CRPR Cabo Rojo, PR 24.35 79 P **P** **16 19 24.5 +1.2**
AGPR Aguadilla, PR 24.39 78 IAmb IAmb 16 19 53.9
comp=Z,636nm,1.1s
KSU1 Kansas State U 24.53 352 IAmb IAmb 16 19 47.2
comp=Z,2µm,1.6s
KSU1 Kansas State U 24.53 352 ⇑P **P** **16 19 23.1 -1.6**
BLA Blacksburg 24.71 23 IAmb IAmb 16 19 52.1
comp=Z,2µm,1.4s
T25A Trinidad 24.76 336 IAmb IAmb 16 19 51.7
comp=Z,1µm,1.1s
T25A Trinidad 24.76 336 P **P** **16 19 28.6 +1.7**
baz=151,SNR=60
T25A S **S** **16 23 48.5 +4.6**
baz=151
BLO Bloomington 24.83 11 IAmb IAmb 16 19 48.8
comp=Z,542nm,0.8s
OBIP Obispado Ponce 24.83 79 P **P** **16 19 29.0 +1.4**
OBIP PcP **PcP** **16 23 03.4 +1.2**
CBKS Cedar Bluff 24.84 346 IAmb IAmb 16 19 59.1
comp=Z,1µm,1.2s
CBKS Cedar Bluff 24.84 346 ⇑P **P** **16 19 26.6 -0.9**
S54A Dingess, Beckl 24.91 21 IAmb IAmb 16 19 53.6
comp=Z,2µm,1.9s
V61A Roper 25.22 31 IAmb IAmb 16 20 02.1
comp=Z,1µm,1.1s
SJG San Juan 25.27 79 P **P** **16 19 30.6 -1.0**
SJG San Juan 25.27 79 P **P** **16 19 29.8 -1.8**
comp=Z,41nm,0.5s,baz=260,slow=6.4,SNR=13
SJG PcP **PcP** **16 23 03.0 -0.2**
comp=Z,166nm,0.7s,baz=333,slow=2.5,SNR=7.8
SJG ScP **ScP** **16 26 36.0 +0.4**
comp=Z,43nm,0.8s,baz=232,slow=2.5,SNR=5.4
SJG LR LR 16 29 03.3
comp=Z,25µm,21.8s,baz=252,slow=36
comp=Z,41nm,0.5s
SJG San Juan 25.27 79 P **P** **16 19 30.6 -1.0**
SJG pmax pmax
comp=Z,201nm,1.0s
IGPR InterUniversit 25.30 79 **PcP** **16 23 04.2 +1.0**
P49A Miami Univ. Ec 25.55 14 P **P** **16 19 32.4 -1.5**
HUMP Col San Antoni 25.56 79 P **P** **16 19 33.6 -0.6**
HUMP PcP **PcP** **16 23 06.0 +2.3**
PIX Pinacate 25.58 314 P **P** **16 19 36.9 +2.6**
PIX Pinacate 25.58 314 P **P** **16 19 36.1 +1.9**
PIX P **P** **16 19 36.2 +1.9**
T59A Double "B" Far 25.71 28 IAmb IAmb 16 19 37.3
comp=Z,630nm,1.1s
SDCO Great Sand Dun 25.71 335 ⇑P **P** **16 19 36.9 +1.1**
ATAH Atahualpa 25.75 147 P **P** **16 19 39.1 +2.7**
comp=Z,615nm,0.9s,baz=327,slow=8.7,SNR=134
ATAH LR LR 16 27 05.6
comp=Z,14µm,21.2s,baz=327,slow=30
comp=Z,615nm,0.9s
S57A Dark Hollow, R 25.77 25 IAmb IAmb 16 19 37.9
comp=Z,986nm,1.8s
KSCO Kaye Shedlock' 25.81 341 IAmb IAmb 16 20 05.0
comp=Z,913nm,1.3s
HDIL Hopedale 25.82 5 IAmb IAmb 16 20 14.8
comp=Z,507nm,0.8s
HDIL Hopedale 25.82 5 ⇑P **P** **16 19 34.6 -1.7**
SFIN Lafayette 25.91 9 IAmb IAmb 16 20 14.8
comp=Z,412nm,0.9s
P51A Williamsport 25.91 16 IAmb IAmb 16 20 13.3
comp=Z,623nm,0.8s
N38A Joes South For 25.94 358 IAmb IAmb 16 20 15.1
comp=Z,972nm,0.8s

Q54A	Coxs Mills	26.14	21		IAmb	IAmb	16 20 04.3	
	comp=Z,597nm,1.2s							
O48B	Farmland	26.14	12		IAmb	IAmb	16 20 04.0	
	comp=Z,793nm,1.1s							
O48B	Farmland	26.14	12		P	P	16 19 37.7	-1.6
	baz=196,SNR=131							
O48B					S	S	16 24 04.0	-1.4
	baz=196							
N35A	Tabor	26.16	354		IAmb	IAmb	16 20 05.5	
	comp=Z,639nm,0.9s							
SFX	San Felipe	26.27	312	*e*	P	P	16 19 37.3	-3.2
SFX	San Felipe	26.27	312		P	P	16 19 42.5	+2.0
SFX	San Felipe	26.27	312		P	P	16 19 42.8	+2.3
S22A	4UR Ranch, Cre	26.27	333		IAmb	IAmb	16 19 44.6	
	comp=Z,860nm,1.8s							
S22A	4UR Ranch, Cre	26.27	333		P	P	16 19 42.4	+1.6
	baz=147,SNR=187							
S22A					S	S	16 24 11.4	+3.4
	baz=147							
P52A	Corning	26.32	18		IAmb	IAmb	16 19 45.0	
	comp=Z,1μm,1.8s							
R58B	Mineral	26.39	26		IAmb	IAmb	16 19 43.4	
	comp=Z,409nm,0.9s							
P53A	Whipple	26.41	19		IAmb	IAmb	16 20 06.6	
	comp=Z,2μm,1.9s							
113A	Mohawk Valley,	26.51	316		IAmb	IAmb	16 20 07.0	
	comp=Z,586nm,1.3s							
MVCO	Mesa Verde	26.60	330		IAmb	IAmb	16 20 09.3	
	comp=Z,607nm,0.9s							
MVCO	Mesa Verde	26.60	330	⇑	P	P	16 19 45.0	+1.3
Q24A	Divide	26.63	337		IAmb	IAmb	16 20 10.0	
	comp=Z,888nm,1.9s							
Q24A	Divide	26.63	337		P	P	16 19 44.7	+0.6
	baz=151,SNR=21							
Q24A					S	S	16 24 16.7	+3.0
	baz=151							
ACSO	Alum Creek Sta	26.64	16		IAmb	IAmb	16 20 22.8	
	comp=Z,684nm,1.0s							
ACSO	Alum Creek Sta	26.64	16	⇑	P	P	16 19 42.8	-0.9
N47A	Urbana	26.64	11		IAmb	IAmb	16 20 05.8	
	comp=Z,479nm,0.9s							
M44A	Midewin, Midew	26.77	7		IAmb	IAmb	16 20 26.5	
	comp=Z,829nm,1.3s							
CBN	Corbin Frederi	26.81	27		IAmb	IAmb	16 19 47.5	
	comp=Z,693nm,0.9s							
CBN	Corbin Frederi	26.81	27	⇑	P	P	16 19 44.9	-0.4
WUAZ	Wupatki	26.84	324	⇑	P	P	16 19 47.7	+1.9
O52A	Adamsville	26.85	18		IAmb	IAmb	16 20 10.1	
	comp=Z,705nm,1.1s							
N49A	Columbus Grove	26.99	14		IAmb	IAmb	16 20 27.4	
	comp=Z,1μm,1.7s							
BGNE	Belgrade	27.03	350		IAmb	IAmb	16 20 32.8	
	comp=Z,762nm,1.2s							
SCIA	State Center	27.05	358		IAmb	IAmb	16 20 32.4	
	comp=Z,409nm,0.8s							
SCIA	State Center	27.05	358	⇑	P	P	16 19 45.9	-1.6
MCWV	Mont Chateau	27.09	21		IAmb	IAmb	16 20 31.1	
	comp=Z,723nm,1.6s							
MCWV	Mont Chateau	27.09	21	⇑	P	P	16 19 47.4	-0.4
O53A	New Philadelph	27.16	19		IAmb	IAmb	16 20 31.2	
	comp=Z,2μm,1.8s							
L40A	Anamosa	27.21	2		IAmb	IAmb	16 20 17.8	
	comp=Z,422nm,0.8s							
L42A	Oliver, Polo	27.23	4		IAmb	IAmb	16 20 10.3	
	comp=Z,527nm,0.9s							
MBIG	Mexicali	27.27	314	*e*	P	P	16 19 50.1	+0.6
L34A	Svendsen Farm,	27.33	353		IAmb	IAmb	16 20 19.6	
	comp=Z,655nm,1.0s							
CPBX	Cerro Prieto	27.36	314		IAmb	IAmb	16 20 29.8	
	comp=Z,783nm,1.3s							
CPBX	Cerro Prieto	27.36	314		P	P	16 19 54.3	+4.0
CPBX	Cerro Prieto	27.36	314		P	P	16 19 52.7	+2.4
PCRV	Puerto La Cruz	27.36	96		P	P	16 19 49.8	-0.7
	comp=Z,11nm,0.6s,baz=294,slow=1.5,SNR=5.8							
PCRV					LR	LR	16 32 20.1	
	comp=Z,25μm,20.5s,slow=40							
	comp=Z,11nm,0.6s							
O54A	Avella	27.37	20		IAmb	IAmb	16 20 37.1	
	comp=Z,297nm,0.8s							
GLA	Glamis	27.39	316		IAmb	IAmb	16 20 34.7	
	comp=Z,497nm,1.1s							
OGNE	Ogallala	27.43	344	⇑	P	P	16 19 50.8	-0.1
PV15	Paradox Valley	27.50	332		IAmb	IAmb	16 20 39.0	
	comp=Z,585nm,1.1s							
PV13	Radium Mtn., P	27.51	331		IAmb	IAmb	16 19 55.8	
	comp=Z,2μm,1.6s							
L44A	Lake County Fo	27.57	7		IAmb	IAmb	16 20 29.8	
	comp=Z,404nm,0.9s							
L44A	Lake County Fo	27.57	7		P	P	16 19 50.5	-1.5
	baz=189,SNR=14							
L44A					S	S	16 24 29.3	+1.6
	baz=189							
ESJX	Sierra Juarez	27.58	313		IAmb	IAmb	16 20 35.9	
	comp=Z,871nm,1.9s							
ESJX	Sierra Juarez	27.58	313		P	P	16 19 55.1	+2.6
P57A	Homestead Farm	27.62	24		IAmb	IAmb	16 19 54.9	
	comp=Z,613nm,0.9s							
L46A	Eue Claire	27.63	10		IAmb	IAmb	16 20 51.2	
	comp=Z,458nm,0.9s							
PV07	Paradox Valley	27.66	332		IAmb	IAmb	16 20 26.5	
	comp=Z,340nm,0.9s							
BRIGG	Briggsdale	27.78	340		IAmb	IAmb	16 20 57.5	
	comp=Z,604nm,1.1s							
N53A	Lisbon	27.79	19		IAmb	IAmb	16 20 41.4	
	comp=Z,531nm,1.0s							
PV23	Carpenter Ridg	27.84	331		IAmb	IAmb	16 20 20.7	
	comp=Z,859nm,0.9s							
YUH	Yuha Desert	27.91	314		IAmb	IAmb	16 20 23.6	
	comp=Z,769nm,1.7s							
SABA	Saba	28.02	80		P	P	16 19 57.7	+1.4
K43A	Burlington	28.04	6		IAmb	IAmb	16 20 57.9	
	comp=Z,364nm,0.9s							
JFWS	Jewell Farm	28.10	3		IAmb	IAmb	16 20 59.8	
	comp=Z,381nm,0.8s							
JFWS	Jewell Farm	28.10	3	⇑	P	P	16 19 54.5	-2.2
CBX	Cerro Bola	28.26	312	*e*	P	P	16 20 00.9	+2.4
CBX	Cerro Bola	28.26	312		P	P	16 20 01.6	+3.2
CBX	Cerro Bola	28.26	312		P	P	16 20 01.3	+2.8
CBX					P	P	16 20 01.3	+2.8
SEUS	St. Eustatius	28.26	81		IAmb	IAmb	16 20 36.6	
	comp=Z,481nm,0.8s							
M52A	Chesterland	28.31	17		IAmb	IAmb	16 21 02.0	
	comp=Z,398nm,0.9s							
AAM	Ann Arbor	28.43	14		IAmb	IAmb	16 21 00.1	
	comp=Z,273nm,0.8s							
K30B	Basset	28.51	349		IAmb	IAmb	16 20 58.3	
	comp=Z,486nm,1.0s							
N23A	Red Feather La	28.62	338		IAmb	IAmb	16 21 02.9	
	comp=Z,660nm,1.9s							
N23A	Red Feather La	28.62	338		P	P	16 20 02.2	+0.4
	baz=152,SNR=13							
N23A					S	S	16 24 48.3	+3.5
	baz=152							
TJX	Tijuana	28.64	312		P	P	16 20 11.8	+10
SSPA	Standing Stone	28.66	23		P	P	16 20 01.2	-0.6
SSPA					IAmb	IAmb	16 20 03.5	
	comp=Z,404nm,1.1s							
SSPA	Standing Stone	28.66	23	⇑	P	P	16 20 00.1	-1.7
KNB	Kanab	28.73	324		IAmb	IAmb	16 20 08.1	
	comp=Z,481nm,1.3s							
MVL	Millersville	28.74	26		IAmb	IAmb	16 20 04.5	
	comp=Z,382nm,0.8s							
ALLY	Alegheny Colle	28.77	19		IAmb	IAmb	16 21 01.4	
	comp=Z,351nm,1.0s							
PFO	Pinyon Flats O	28.83	315		P	P	16 20 05.2	+1.6
PFO	Pinyon Flats O	28.83	315		LR	LR	16 32 08.8	
	comp=Z,46μm,18.4s,baz=128,slow=37							
PFO	Pinyon Flats O	28.83	315	*c i*	P	P	16 20 05.2	+1.6
PFO					pmax	pmax		
	comp=Z,472nm,1.8s							
PFO					MLR	MLR		
	comp=Z,60μm,18.0s							
O20A	White River Ci	28.87	334		IAmb	IAmb	16 21 08.0	
	comp=Z,595nm,1.4s							
MBFL	Flemmings, Mon	28.99	82	*e*	P	P	16 20 00.5	-4.5
V12A	Nelson	29.06	320		IAmb	IAmb	16 20 12.1	
	comp=Z,424nm,1.0s							
SRU	San Rafael Swe	29.08	330		IAmb	IAmb	16 20 10.8	
	comp=Z,1μm,1.7s							
TBTG	Tabatinga, AM	29.09	129	*e*	P	P	16 20 07.2	+1.3
ECSD	EROS Data Cent	29.10	354	⇑	P	P	16 20 03.8	-1.9
MTPU	Mount Pierson	29.11	326		IAmb	IAmb	16 20 12.1	
	comp=Z,1μm,1.7s							
K50A	Casco	29.12	15		IAmb	IAmb	16 21 05.4	
	comp=Z,554nm,1.1s							
P61A	Hammonton	29.16	28		IAmb	IAmb	16 20 08.2	
	comp=Z,528nm,1.0s							
ERPA	Erie	29.25	19	⇑	P	P	16 20 06.1	-0.8
Q16A	Castle Valley	29.25	329		IAmb	IAmb	16 20 11.5	
	comp=Z,1μm,1.7s							
ANWB	Willy Bob	29.41	80	*e*	P	P	16 20 03.3	-5.3
ANBD	Bethesda, Anti	29.42	81	*e*	P	P	16 20 02.6	-6.2
ELS	Elsinore Mount	29.52	314		IAmb	IAmb	16 20 32.4	
	comp=Z,609nm,1.9s							
TMUT	Trail Mountain	29.56	329		IAmb	IAmb	16 20 15.4	
	comp=Z,466nm,1.3s							
M57A	Sunshine Farm,	29.56	24		IAmb	IAmb	16 20 11.4	
	comp=Z,350nm,1.0s							
CZSB	Cruzeiro do Su	29.61	138		IAmb	IAmb	16 20 14.3	
	comp=Z,445nm,1.1s							
CZSB	Cruzeiro do Su	29.61	138	*e*	P	P	16 20 12.4	+2.0
I45A	Fountain	29.62	9		IAmb	IAmb	16 20 13.3	
	comp=Z,294nm,0.8s							
LUPA	Lehigh Univers	29.66	27		IAmb	IAmb	16 20 12.6	
	comp=Z,554nm,0.8s							
DSLB	Salisbury	29.79	85	*e*	P	P	16 20 06.4	-5.6
MDN	Morne-Daniel	29.82	85	*e*	P	P	16 20 02.4	-10
GRGR	Grenville	29.89	91	*e*	P	P	16 20 07.2	-5.8
GCMP	Grenada, Carri	30.06	91	*e*	P	P	16 20 09.1	-5.4
L56A	Greenwood	30.09	22		IAmb	IAmb	16 21 10.2	
	comp=Z,778nm,1.8s							
SUSD	Miller	30.11	350		IAmb	IAmb	16 20 58.4	
	comp=Z,633nm,1.1s							
SVB	Belmont	30.13	89	*e*	P	P	16 20 07.2	-7.9
I49A	Point Hope	30.17	14		IAmb	IAmb	16 21 11.8	
	comp=Z,474nm,1.2s							
BIM	Bigot	30.18	86		P	P	16 20 17.4	+1.8
BIM	Bigot	30.18	86	*e*	P	P	16 20 06.0	-10
PRN	Pahrump Range	30.28	322	⇑	P	P	16 20 18.9	+2.5
BSUT	Blindstream Ca	30.31	331		IAmb	IAmb	16 20 22.2	
	comp=Z,1μm,1.9s							
MPU	Maple Canyon	30.32	330		IAmb	IAmb	16 20 21.8	
	comp=Z,366nm,1.2s							
SLBI	Saint Lucia, B	30.32	87	*e*	P	P	16 20 07.8	-8.9
ILAM	Ilet Lapin Mar	30.36	86	*e*	P	P	16 20 07.8	-9.2
SPMN	Marine on St.	30.36	359		IAmb	IAmb	16 21 01.1	
	comp=Z,223nm,0.8s							
TRN	Trinidad (W)	30.38	94	*e*	P	P	16 20 17.7	+0.4
ODNJ	Ogdensburg	30.39	27		IAmb	IAmb	16 20 18.7	
	comp=Z,328nm,1.0s							
GWY	Greenwater Val	30.49	319		IAmb	IAmb	16 20 42.0	
	comp=Z,947nm,2.0s							
TRNY	Table Rock, Ra	30.61	27		IAmb	IAmb	16 20 20.5	
	comp=Z,281nm,0.8s							
BBSR	BB Station	30.62	50	⇑	P	P	16 20 18.6	-0.6
BBSR	BB Station	30.62	50		P	P	16 20 18.4	-0.8
PAL	Palisades	30.64	28		IAmb	IAmb	16 20 20.6	
	comp=Z,384nm,0.8s							
GLMI	Grayling	30.65	11		IAmb	IAmb	16 20 39.4	
	comp=Z,648nm,0.9s							
GLMI	Grayling	30.65	11	⇑	P	P	16 20 17.5	-1.8
NNA	Nana	30.67	149		P	P	16 20 21.3	+1.4
NNA	Nana	30.67	149		P	P	16 20 21.3	+1.4
	comp=Z,89nm,0.9s,baz=330,slow=8.0,SNR=19							
NNA					LR	LR	16 31 38.6	
	comp=Z,10μm,20.5s,baz=330,slow=34							
	comp=Z,89nm,0.9s							
NNA	Nana	30.67	149	*d i*	P	P	16 20 20.9	+1.0
NNA					pmax	pmax		
	comp=Z,238nm,1.2s							
NNA	Nana	30.67	149	⇓	P	P	16 20 21.2	+1.4
NNA	Nana	30.67	149		P	P	16 20 20.9	+1.0
JLU	Jordanelle	30.69	331		IAmb	IAmb	16 21 09.5	
	comp=Z,615nm,1.7s							
BINY	Binghamton	30.74	24		P	P	16 20 19.5	-0.7
BINY					IAmb	IAmb	16 20 21.8	
	comp=Z,651nm,1.1s							
BINY	Binghamton	30.74	24	⇑	P	P	16 20 19.4	-0.8
CCAC	Calif City Air	30.76	316		P	P	16 20 21.3	+0.7
S11A	Rachel	30.86	322		IAmb	IAmb	16 20 27.4	
	comp=Z,864nm,1.3s							
CTU	Camp Tracy	30.90	330		IAmb	IAmb	16 20 27.0	
	comp=Z,398nm,1.3s							
SPR3	Spring Creek 3	30.97	325		IAmb	IAmb	16 20 27.7	
	comp=Z,617nm,1.5s							
K57A	Scipio Center	30.99	23		IAmb	IAmb	16 20 23.5	
	comp=Z,380nm,0.9s							
DUG	Dugway, Tooele	31.04	329		IAmb	IAmb	16 20 28.6	
	comp=Z,573nm,1.6s							
DUG	Dugway, Tooele	31.04	329	⇑	P	P	16 20 24.7	+1.6
TCUT	Toone Canyon	31.07	331		IAmb	IAmb	16 21 11.2	
	comp=Z,639nm,1.1s							
TOSP	Speyside	31.10	93	*e*	P	P	16 20 13.1	-11
R11B	Troy Canyon, C	31.23	323		P	P	16 20 27.2	+2.4
	baz=133,SNR=158							
R11B					S	S	16 25 31.6	+5.8
	baz=133							
COWI	Conover	31.34	4	⇑	P	P	16 20 25.2	-0.2
ISA	Isabella, Lake	31.36	316		IAmb	IAmb	16 20 50.0	
	comp=Z,417nm,1.6s							
GRAC	Grapevine Rang	31.43	319		IAmb	IAmb	16 20 51.7	
	comp=Z,490nm,1.1s							
HWUT	Hardware Ranch	31.53	332	⇑	P	P	16 20 28.2	+0.8
BW06	Boulder Array	31.61	335	⇑	P	P	16 20 28.2	+0.1
PDAR	Pinedale Array	31.61	335		P	P	16 20 28.6	+0.5
PDAR					PcP	PcP	16 23 20.6	+1.8
PDAR	Pinedale Array	31.61	335		P	P	16 20 28.9	+0.8
	comp=Z,16nm,0.9s,baz=136,slow=8.4,SNR=36							
PDAR					PcP	PcP	16 23 19.6	+0.9
	comp=Z,22nm,0.9s,baz=171,slow=3.6,SNR=9.5							
PDAR					ScP	ScP	16 26 56.3	+1.1
	comp=Z,36nm,0.9s,baz=229,slow=1.9,SNR=10							
PDAR					LR	LR	16 35 40.0	
	comp=Z,11μm,21.5s,baz=138,slow=41							
PDAR					P3KPbc		16 52 01.1	
	comp=Z,1.4nm,1.0s,baz=325,slow=6.9,SNR=6.7							
	comp=Z,16nm,0.9s							
BGU	Big Grassy Mou	31.70	329		IAmb	IAmb	16 20 34.1	
	comp=Z,390nm,1.3s							
E38A	The Farm, Brul	31.74	1		IAmb	IAmb	16 21 32.0	
	comp=Z,1μm,1.9s							
M63A	Gales Ferry	31.82	30		IAmb	IAmb	16 20 31.6	
	comp=Z,503nm,1.0s							
PECO	Prince Edward	31.86	21		IAmb	IAmb	16 20 30.8	
	comp=Z,215nm,0.8s							
SADO	Sadowa	31.91	18		IAmb	IAmb	16 20 54.2	
	comp=Z,282nm,1.2s							
SADO	Sadowa	31.91	18		LR	LR	16 34 41.7	
	comp=Z,89μm,20.6s,baz=212,slow=39							
SADO	Sadowa	31.91	18	⇑	P	P	16 20 28.5	-1.9
UCCT	U. Connecticut	32.03	29		IAmb	IAmb	16 20 33.2	
	comp=Z,615nm,0.9s							
DSP	Deep Springs	32.04	319		IAmb	IAmb	16 20 56.1	
	comp=Z,472nm,1.6s							
TRY	Troy	32.13	26		IAmb	IAmb	16 20 34.2	
	comp=Z,457nm,0.9s							
DELO	Deloro Mine	32.16	20		IAmb	IAmb	16 20 33.5	
	comp=Z,270nm,0.8s							
AHID	Auburn Hatcher	32.25	334	⇑	P	P	16 20 34.0	+0.3
L61B	Northampton	32.34	28		P	P	16 20 33.1	-1.1
	baz=217,SNR=12							
L61B					S	S	16 25 38.9	-3.6
	baz=217							
Q09A	Carvers	32.49	322		IAmb	IAmb	16 21 11.6	
	comp=Z,643nm,1.3s							
M65A	Busby, Falmout	32.62	31		P	P	16 20 36.1	-0.5
	baz=221							
M65A					S	S	16 25 43.8	-3.0
	baz=221							
ACCN	Adirondack Com	32.67	26		IAmb	IAmb	16 20 39.9	
	comp=Z,426nm,1.4s							
SNOW	Snow King Moun	32.68	335		IAmb	IAmb	16 21 08.4	
	comp=Z,531nm,0.8s							
ELK	Elko	32.70	327		IAmb	IAmb	16 20 43.2	
	comp=Z,326nm,1.1s							
ELK	Elko	32.70	327		LR	LR	16 36 03.1	
	comp=Z,47μm,19.1s,baz=146,slow=40							
ELK	Elko	32.70	327	⇑	P	P	16 20 39.5	+1.8
TPAW	Teton Pass	32.78	335		IAmb	IAmb	16 21 10.0	
	comp=Z,265nm,0.9s							
L64A	Middleborough	32.80	30		IAmb	IAmb	16 20 40.2	
	comp=Z,484nm,1.0s							
NV11	Mina Array Sit	32.82	321		IAmb	IAmb	16 20 45.2	
	comp=Z,608nm,1.1s							
TEFE	Tefe	32.87	121	*e*	P	P	16 20 38.8	-0.3
HRV	Adam Dziewonsk	32.90	29		P	P	16 20 38.3	-0.8
HRV	Adam Dziewonsk	32.90	29		P	P	16 20 38.3	-0.8
HRV	Adam Dziewonsk	32.90	29	⇑	P	P	16 20 38.5	-0.6
HRV	Adam Dziewonsk	32.90	29		P	P	16 20 38.3	-0.8
HRV					pP	pP	16 20 57.1	-1.2
NVAR	Mina Array Bea	32.91	321		P	P	16 20 41.6	+2.1
NVAR	Mina Array Bea	32.91	321		P	P	16 20 42.1	+2.6
	comp=Z,317nm,0.8s,baz=135,slow=8.7,SNR=648							
NVAR					PcP	PcP	16 23 23.8	+1.4
	comp=Z,70nm,0.9s,baz=95,slow=3.6,SNR=3.9							
NVAR					ScP	ScP	16 27 01.6	+1.9
	comp=Z,28nm,0.8s,baz=89,slow=2.9,SNR=10							
NVAR					PKiKP	PKiKP	16 30 50.0	+1.2
	comp=Z,2.6nm,0.9s,baz=78,slow=2.7,SNR=4.0							
NVAR					LR	LR	16 35 40.2	
	comp=Z,18μm,18.2s,baz=137,slow=39							
NVAR					P3KPbc		16 51 57.4	
	comp=Z,1.1nm,0.8s,baz=320,slow=4.4,SNR=4.2							
WES	Weston	32.92	29		IAmb	IAmb	16 20 40.9	
	comp=Z,419nm,1.6s							
LHV	Little Huntoon	32.92	320		IAmb	IAmb	16 21 05.0	
	comp=Z,548nm,1.1s							
NCB	Newcomb	32.93	24		IAmb	IAmb	16 20 40.4	
	comp=Z,520nm,1.3s							
EYMN	Ely	33.08	1	⇑	P	P	16 20 38.0	-2.7
RYN	Ryan	33.16	321		IAmb	IAmb	16 20 47.5	
	comp=Z,522nm,1.5s							
LONY	Lake Ozonia	33.33	23		IAmb	IAmb	16 20 44.0	
	comp=Z,380nm,1.0s							
LONY	Lake Ozonia	33.33	23	⇑	P	P	16 20 41.5	-1.3
H17A	Grant Village	33.38	336		IAmb	IAmb	16 20 49.2	
	comp=Z,372nm,1.7s							
WBO	Williamsburg	33.40	22		IAmb	IAmb	16 20 44.4	
	comp=Z,249nm,0.9s							
RLMT	Red Lodge	33.50	338	⇑	P	P	16 20 44.8	+0.3
YMP	Mirror Lake Pl	33.50	337		IAmb	IAmb	16 21 57.1	
	comp=Z,242nm,1.1s							
AGMN	Agassiz Nation	33.56	356		IAmb	IAmb	16 22 00.3	
	comp=Z,189nm,1.0s							
AGMN	Agassiz Nation	33.56	356	⇑	P	P	16 20 42.7	-2.1
BBGB	Big Mountain B	33.60	316		IAmb	IAmb	16 21 47.6	
	comp=Z,201nm,0.9s							
WAKR	Walker	33.65	320		IAmb	IAmb	16 21 10.7	
	comp=Z,294nm,1.3s							
BOAV	Boa Vista	33.66	108		P	P	16 20 44.5	-1.6
BOAV	Boa Vista	33.66	108	*e*	P	P	16 20 43.0	-3.1
YNE	Yellowstone No	33.67	337		IAmb	IAmb	16 21 33.1	
	comp=Z,238nm,1.0s							
YMR	Madison River	33.76	336		IAmb	IAmb	16 21 37.1	
	comp=Z,489nm,1.3s							
YERR	Yerington	33.82	321		IAmb	IAmb	16 20 53.8	
	comp=Z,352nm,1.1s							
LAO	LASA Array	33.89	343		IAmb	IAmb	16 21 33.6	
	comp=Z,516nm,1.7s							
FRNY	Flat Rock	33.90	24		IAmb	IAmb	16 21 13.2	
	comp=Z,291nm,1.1s							
SAO	San Andreas Ge	33.97	316	⇑	P	P	16 20 50.2	+1.7
CMB	Columbia Colle	33.98	318		IAmb	IAmb	16 21 12.3	
	comp=Z,342nm,1.6s							
I62A	Tamworth	34.07	27		IAmb	IAmb	16 20 50.8	
	comp=Z,238nm,1.1s							
LBNH	Lisbon	34.10	26		IAmb	IAmb	16 20 52.6	
	comp=Z,341nm,1.4s							
LBNH	Lisbon	34.10	26	⇑	P	P	16 20 49.0	-0.6
PNTR	Pine Nut	34.11	320		IAmb	IAmb	16 21 00.8	
	comp=Z,406nm,1.0s							
HLID	Hailey	34.37	331		IAmb	IAmb	16 20 57.6	
	comp=Z,411nm,1.2s							
HLID	Hailey	34.37	331	⇑	P	P	16 20 53.1	+0.9
MNTQ	Montreal, Queb	34.44	23		IAmb	IAmb	16 20 53.6	
	comp=Z,345nm,0.9s							
I63A	Otisfield	34.55	28		IAmb	IAmb	16 20 54.9	
	comp=Z,264nm,1.1s							
TRQ	Mont Tremblant	34.70	22		IAmb	IAmb	16 20 56.2	
	comp=Z,807nm,1.7s							
BOZ	Bozeman (W)	34.79	336	⇑	P	P	16 20 56.5	+0.8
MFID	Camas Ranch	34.94	329		IAmb	IAmb	16 21 03.8	
	comp=Z,222nm,0.9s							
DLMT	Dillon	34.99	335		IAmb	IAmb	16 21 49.2	
	comp=Z,485nm,1.1s							
DGMT	Dagmar	35.01	346	⇑	P	P	16 20 57.0	-0.4
WVL	Waterville	35.37	28		IAmb	IAmb	16 21 02.0	
	comp=Z,200nm,1.1s							
G62A	West of Eustis	35.48	27		IAmb	IAmb	16 21 03.0	
	comp=Z,374nm,1.3s							
ULM	Lac du Bonnet	35.50	356		IAmb	IAmb	16 21 30.4	
	comp=Z,195nm,1.1s							
ULM	Lac du Bonnet	35.50	356		P	P	16 20 58.8	-2.8
	comp=Z,76nm,1.1s,baz=179,slow=9.1,SNR=23							
ULM					PcP	PcP	16 23 29.4	+0.1
	comp=Z,69nm,0.6s,baz=201,slow=4.4,SNR=7.8							
ULM					ScP	ScP	16 27 09.3	+0.9
	comp=Z,49nm,0.8s,baz=160,slow=4.2,SNR=8.3							
ULM					LR	LR	16 39 16.8	
	comp=Z,29μm,19.6s,baz=174,slow=43							
ULM					P3KPbc		16 51 43.4	
	comp=Z,1.7nm,0.8s,baz=10.0,slow=4.8,SNR=4.6							
	comp=Z,76nm,1.1s							
ULM	Lac du Bonnet	35.50	356	⇑	P	P	16 20 58.7	-2.8
ETMB	Extrema	35.56	132		P	P	16 21 02.9	+0.5
ETMB					IAmb	IAmb	16 21 29.2	
	comp=Z,571nm,1.1s							
ETMB	Extrema	35.56	132	*e*	P	P	16 21 02.6	+0.2
ORV	Oroville	35.57	320		IAmb	IAmb	16 21 26.

LPAZ pP **pP** **16 21 51.4 +0.4**
D08A Wollman Farm, 39.10 331 IAmb IAmb 16 21 36.1
comp=Z,530nm,1.4s
NEW Newport 39.19 334 IAmb IAmb 16 21 36.4
comp=Z,454nm,1.9s
NEW Newport 39.19 334 LR LR 16 41 11.3
comp=Z,19µm,18.1s,baz=138,slow=41
NEW Newport 39.19 334 ⇑P **P** **16 21 32.8 0.0**
PB18 Visviri 39.24 144 IAmb IAmb 16 22 03.0
comp=Z,362nm,1.1s
C09A Chrisman Ranch 39.35 332 IAmb IAmb 16 21 37.1
comp=Z,928nm,1.6s
COR Corvallis 39.68 325 P **P** **16 21 38.3 +1.5**
COR Corvallis 39.68 325 P **P** **16 21 38.3 +1.5**
COR pmax pmax
comp=Z,1µm,1.2s
COR Corvallis 39.68 325 ⇑P **P** **16 21 38.6 +1.8**
MDP Montagnes des 40.14 100 P **P** **16 21 40.5 -0.6**
comp=Z,16nm,0.8s,baz=301,slow=5.9,SNR=1.5
MDP PcP **PcP** **16 23 45.3 +1.0**
comp=Z,163nm,0.9s,baz=287,slow=4.1,SNR=15
MDP LR LR 16 41 10.1
comp=Z,10µm,19.1s,baz=292,slow=41
comp=Z,16nm,0.8s
LON Longmire 40.29 328 IAmb IAmb 16 21 47.1
comp=Z,349nm,1.0s
FFC Flin Flon 40.58 351 P **P** **16 21 42.7 -1.4**
FFC Flin Flon 40.58 351 P **P** **16 21 42.7 -1.4**
FFC pmax pmax
comp=Z,99nm,0.9s
FFC Flin Flon 40.58 351 ⇑P **P** **16 21 43.0 -1.2**
F03A Seaside 40.67 326 IAmb IAmb 16 22 14.1
comp=Z,522nm,1.1s
D05A Enumclaw 40.68 329 IAmb IAmb 16 21 50.2
comp=Z,496nm,1.0s
ITTB Itaituba 40.91 115 *e*P **P** **16 21 45.9 -1.5**
MAL2 Monte Alegre, 41.24 111 P **P** **16 21 50.2 0.0**
TA01 Diego Aracena 41.29 148 IAmb IAmb 16 22 17.5
comp=Z,281nm,0.9s
GNW Green Mountain 41.35 329 IAmb IAmb 16 21 54.9
comp=Z,372nm,1.1s
PATCX Punta Patache 41.52 148 IAmb IAmb 16 22 20.0
comp=Z,300nm,1.1s
WISH Wishkah 41.54 327 IAmb IAmb 16 21 57.4
comp=Z,822nm,1.2s
NLWA Neilton Lookou 41.77 328 ⇑P **P** **16 21 55.9 +1.7**
VILB Vilhena 42.04 129 IAmb IAmb 16 22 01.8
comp=Z,609nm,1.0s
VILB Vilhena 42.04 129 *e*P **P** **16 21 56.6 -0.1**
PGC Sidney 42.39 329 IAmb IAmb 16 22 04.0
comp=Z,610nm,1.0s
C03A Quillayute Air 42.49 328 IAmb IAmb 16 22 05.9
comp=Z,578nm,1.1s
PB09 IPOC Station P 42.79 148 P **P** **16 22 03.6 +0.8**
PB09 IAmb IAmb 16 22 31.5
comp=Z,249nm,1.0s
CLRS Cowichan Lake 42.84 329 IAmb IAmb 16 22 07.3
comp=Z,751nm,1.5s
LLLB Lillooet 43.01 333 IAmb IAmb 16 22 08.6
comp=Z,277nm,1.0s
SIV San Ignacio 43.41 134 P **P** **16 22 07.9 +0.1**
comp=Z,135nm,0.7s,baz=301,slow=7.8,SNR=338
SIV LR LR 16 39 52.9
comp=Z,18µm,21.5s,baz=320,slow=36
comp=Z,135nm,0.7s
OZB Mount Ozzard 43.62 328 IAmb IAmb 16 22 13.9
comp=Z,630nm,1.1s
OZB Mount Ozzard 43.62 328 ⇑P **P** **16 22 10.8 +1.7**
FCC Fort Churchill 43.94 359 P **P** **16 22 09.8 -1.5**
FCC Fort Churchill 43.94 359 P **P** **16 22 09.8 -1.5**
FCC pmax pmax
comp=Z,237nm,1.3s
FCC Fort Churchill 43.94 359 ⇑P **P** **16 22 09.4 -1.9**
CLDB Colider 44.23 123 *e*P **P** **16 22 12.8 -1.6**
CBB Campbell River 44.25 330 IAmb IAmb 16 22 19.5
comp=Z,420nm,1.0s
AF01 San Pedro de A 44.30 147 IAmb IAmb 16 22 19.4
comp=Z,515nm,1.0s
PTLB Pontes e Lacer 44.44 131 *e*P **P** **16 22 15.4 -0.5**
SCHQ Schefferville 44.60 21 IAmb IAmb 16 22 17.0
comp=Z,240nm,1.1s
SCHQ Schefferville 44.60 21 P **P** **16 22 14.9 -1.8**
comp=Z,121nm,0.8s,baz=213,slow=6.2,SNR=72
SCHQ ScP **ScP** **16 27 42.8 -1.0**
comp=Z,31nm,0.8s,baz=186,slow=3.3,SNR=4.3
SCHQ LR LR 16 41 44.3
comp=Z,111µm,21.4s,baz=215,slow=37
comp=Z,121nm,0.8s
SCHQ Schefferville 44.60 21 ⇓P **P** **16 22 14.7 -2.0**
DRLN Deer Lake 44.60 32 ⇓P **P** **16 22 14.9 -1.9**
PB14 IPOC Station P 44.60 151 P **P** **16 22 16.1 -1.4**
RPN Rapa Nui 44.82 202 P **P** **16 22 20.0 +1.2**
RPN IAmb IAmb 16 22 22.7
comp=Z,587nm,1.2s
RPN Rapa Nui 44.82 202 P **P** **16 22 20.0 +1.2**
RPN pmax pmax
comp=Z,587nm,1.3s
RPN Rapa Nui 44.82 202 ⇑P **P** **16 22 19.5 +0.8**
VA02 Isla de Pascua 44.89 202 IAmb IAmb 16 22 23.5
comp=Z,373nm,1.2s
GO02 Mina Guanaco 45.44 151 P **P** **16 22 23.1 -1.0**
TMAB Tom-Au,PA,Br 46.94 108 *e*P **P** **16 22 34.5 -1.2**
BBB Bella Bella 46.96 330 IAmb IAmb 16 22 40.6
comp=Z,455nm,1.3s
BBB Bella Bella 46.96 330 ⇑P **P** **16 22 37.3 +2.0**
AC02 Maricunga 47.08 151 IAmb IAmb 16 23 08.0
comp=Z,287nm,1.1s
SALV Santo Antonio 47.28 129 *e*P **P** **16 22 38.5 +0.2**
LCO Las Campanas 48.27 154 P **P** **16 22 46.8 +0.7**
LCO IAmb IAmb 16 22 49.2
comp=Z,212nm,1.1s
LCO Las Campanas 48.27 154 P **P** **16 22 46.8 +0.7**
LCO pmax pmax
comp=Z,212nm,1.1s
LCO Las Campanas 48.27 154 ⇑P **P** **16 22 46.7 +0.7**
LCO Las Campanas 48.27 154 P **P** **16 22 46.6 +0.5**
LCO pP **pP** **16 23 06.4 +1.1**
SNDB Serra Nova Dou 48.52 121 *e*P **P** **16 22 47.1 -0.9**
HG4B Hotspring 48.53 329 IAmb IAmb 16 22 50.3
comp=Z,553nm,1.6s
PANT Pantanal (Braz 48.57 133 *e*P **P** **16 22 47.9 -0.3**
GO04 Tololo Observa 49.24 155 IAmb IAmb 16 23 00.9
comp=Z,152nm,0.9s
BDQN Bodoquena, MS 49.44 134 *e*P **P** **16 22 54.3 -0.6**
DIB Dawson Inlet, 49.69 329 IAmb IAmb 16 23 01.8
comp=Z,428nm,1.2s
VA04 Juan Fernndez 49.82 165 IAmb IAmb 16 23 04.5
comp=Z,252nm,0.9s
CO03 El Pedregal 49.88 156 IAmb IAmb 16 23 01.1
comp=Z,439nm,1.2s
SMTB Santa Maria do 50.15 115 *e*P **P** **16 23 00.7 +0.3**
AQDB Aquidauana 50.19 133 *e*P **P** **16 23 00.3 -0.3**
U35K Hyder 50.20 333 P **P** **16 23 02.4 +2.3**
baz=130
U35K S **S** **16 30 11.2 +4.9**
baz=130
YKA Yellowknife Ar 50.22 347 P **P** **16 22 59.6 -0.5**
YKA Yellowknife Ar 50.22 347 P **P** **16 22 59.3 -0.9**
comp=Z,55nm,0.9s,baz=152,slow=7.8,SNR=172
YKA ScP **ScP** **16 28 07.0 -0.2**
comp=Z,11nm,0.8s,baz=153,slow=3.8,SNR=5.6
YKA LR LR 16 49 40.9
comp=Z,11µm,18.4s,baz=154,slow=43
YKA PKPPKP **P'P'df** **16 53 49.5 -1.6**
comp=Z,2.0nm,1.0s,baz=3.1,slow=2.1,SNR=4.2
YKA P4KPbc 17 00 30.1
comp=Z,2.1nm,1.0s,baz=151,slow=4.1,SNR=16
comp=Z,55nm,0.9s
TOAD Toad River Com 50.33 338 P **P** **16 23 01.3 +0.2**
baz=137,SNR=86
TOAD S **S** **16 30 09.0 +1.0**
baz=137
V35K Ketchikan 50.54 332 IAmb IAmb 16 23 08.3
comp=Z,531nm,1.2s
V35K Ketchikan 50.54 332 P **P** **16 23 04.7 +2.0**
baz=128,SNR=32
V35K S **S** **16 30 15.6 +4.7**
baz=128
V35K S **S** **16 30 15.6 +4.7**
baz=128
KOTAN Kotaneelee Air 50.88 340 P **P** **16 23 05.2 0.0**
baz=139,SNR=73
KOTAN S **S** **16 30 15.7 +0.2**
baz=139
T35M Bob Quinn 50.98 334 P **P** **16 23 08.3 +2.2**
baz=130,SNR=55
T35M S **S** **16 30 21.5 +4.4**
baz=130
VA06 Catapilco 51.17 157 IAmb IAmb 16 23 09.9
comp=Z,151nm,0.8s
C2SB Chapadao do Su 51.19 129 *e*P **P** **16 23 09.1 +1.0**
CRAG Craig 51.32 332 P **P** **16 23 10.7 +2.2**
baz=126,SNR=26
CRAG S **S** **16 30 27.2 +5.5**
baz=126
CRAG Craig 51.32 332 P **P** **16 23 10.7 +2.2**
CRAG Craig 51.32 332 ⇑P **P** **16 23 11.0 +2.5**
ZON Zonda 51.32 154 IAmb IAmb 16 23 12.5
comp=Z,169nm,1.0s
ZON Zonda 51.32 154 P **P** **16 23 10.6 +1.6**
ZON pmax pmax
comp=Z,135nm,1.0s
ZON Zonda 51.32 154 ⇑P **P** **16 23 09.8 +0.8**
WRAK Wrangell Islan 51.53 333 IAmb IAmb 16 23 15.5
comp=Z,198nm,1.2s
WRAK Wrangell Islan 51.53 333 P **P** **16 23 12.0 +1.9**
baz=127
WRAK S **S** **16 30 29.5 +4.8**
baz=127
RPRD Ribas do Rio P 51.62 132 *e*P **P** **16 23 11.0 -0.3**
FRB Frobisher Bay 51.63 13 LR LR 16 46 41.4
comp=Z,27µm,20.2s,baz=208,slow=38
FRB Frobisher Bay 51.63 13 ⇑P **P** **16 23 08.7 -2.0**
VA03 San Esteban 51.63 157 IAmb IAmb 16 23 13.5
comp=Z,306nm,1.1s
U33K Whale Pass 51.70 332 P **P** **16 23 13.1 +1.8**
baz=126,SNR=12
U33K S **S** **16 30 31.9 +5.1**
baz=126
U33K S **S** **16 30 31.9 +5.1**
baz=126
DLBC Dease Lake 51.84 336 LR LR 16 48 30.3
comp=Z,15µm,21.6s,baz=124,slow=40
DLBC Dease Lake 51.84 336 P **P** **16 23 14.7 +2.2**
baz=131,SNR=186
DLBC S **S** **16 30 32.4 +3.4**
baz=131
DLBC Dease Lake 51.84 336 ⇑P **P** **16 23 14.5 +2.0**
MT02 Curacav 51.85 157 IAmb IAmb 16 23 15.1
comp=Z,184nm,1.2s
PEL Peldehue 51.92 157 IAmb IAmb 16 23 37.5
comp=Z,226nm,1.3s
PEL Peldehue 51.92 157 P **P** **16 23 13.7 +0.4**
S34M Telegraph Cree 51.95 335 IAmb IAmb 16 23 18.9
comp=Z,424nm,1.2s
S34M Telegraph Cree 51.95 335 P **P** **16 23 15.8 +2.6**
baz=130,SNR=55
S34M S **S** **16 30 34.5 +4.2**
baz=130
T33K Petersburg 52.04 333 P **P** **16 23 16.3 +2.5**
baz=127
T33K S **S** **16 30 38.3 +6.8**
baz=127
MT05 Renca 52.12 157 IAmb IAmb 16 23 39.2
comp=Z,387nm,1.1s
MT16 CCHEN 52.23 157 IAmb IAmb 16 23 42.7
comp=Z,190nm,1.0s
MT03 Universidad Ad 52.30 157 IAmb IAmb 16 23 20.0
comp=Z,318nm,0.9s
MT01 Popeta 52.35 158 IAmb IAmb 16 23 20.1
comp=Z,162nm,1.1s
MT09 Talagante 52.37 158 IAmb IAmb 16 23 41.0
comp=Z,211nm,1.0s
MT08 Bocatoma Ro 52.44 156 IAmb IAmb 16 23 20.6
comp=Z,261nm,1.1s
WTLY Watson Lake, Y 52.51 338 P **P** **16 23 18.6 +1.3**
baz=134,SNR=95
WTLY S **S** **16 30 39.3 +1.3**
baz=134
MT13 San Alfonso 52.60 157 IAmb IAmb 16 23 28.4
comp=Z,216nm,0.9s
BO04 La Punta 52.70 157 IAmb IAmb 16 23 22.1
comp=Z,191nm,1.1s
LMEL Las Melosas 52.73 157 IAmb IAmb 16 23 48.4
comp=Z,304nm,1.1s
R33M Jennings River 52.84 336 P **P** **16 23 22.0 +2.0**
baz=131
R33M S **S** **16 30 44.3 +1.5**
baz=131
BO01 Tunca 52.89 158 IAmb IAmb 16 23 23.4
comp=Z,293nm,1.1s
TAOE Nuku Hiva Isla 52.95 247 *e*P **P** **16 23 21.3 -0.1**
comp=Z,365nm,1.2s
TAOE *e*S **S** **16 30 41.1 -4.2**
comp=Z,14µm,29.0s
TAOE *e*LQ LQ 16 36 29.1
comp=Z,14µm,25.0s
TAOE *e*LR LR 16 38 40.4
comp=Z,75µm,27.7s
Q32M Nakina River 53.08 335 P **P** **16 23 24.4 +2.6**
baz=129
Q32M S **S** **16 30 50.9 +4.8**
baz=129
WRGLY Wrigley 53.08 343 IAmb IAmb 16 23 26.3
comp=Z,490nm,1.2s
WRGLY Wrigley 53.08 343 P **P** **16 23 21.9 +0.5**
baz=141,SNR=57
WRGLY S **S** **16 30 45.5 -0.1**
baz=141
S32K Killisnoo 53.14 333 P **P** **16 23 23.8 +1.8**
baz=126,SNR=13
S32K S **S** **16 30 53.1 +6.6**
baz=126
S32K S **S** **16 30 53.1 +6.6**
baz=126
CPUP Villa Florida 53.14 140 P **P** **16 23 21.0 -1.5**
CPUP IAmb IAmb 16 23 48.8
comp=Z,279nm,1.6s
CPUP Villa Florida 53.14 140 P **P** **16 23 21.3 -1.1**
comp=Z,48nm,0.9s,baz=329,slow=7.8,SNR=90
CPUP LR LR 16 46 14.3
comp=Z,6µm,19.9s,baz=328,slow=36
comp=Z,48nm,0.9s
CPUP Villa Florida 53.14 140 P **P** **16 23 21.0 -1.5**
CPUP pmax pmax
comp=Z,279nm,1.6s
CPUP Villa Florida 53.14 140 ⇓P **P** **16 23 21.6 -0.8**
CPUP Villa Florida 53.14 140 *e*P **P** **16 23 21.8 -0.7**
CPUP Villa Florida 53.14 140 P **P** **16 23 21.4 -1.0**
CPUP pP **pP** **16 23 41.6 -0.4**
BDFB Brasilia 53.16 123 P **P** **16 23 22.6 -0.3**
BDFB Brasilia 53.16 123 P **P** **16 23 22.9 0.0**
comp=Z,89nm,0.6s,baz=292,slow=8.9,SNR=75
BDFB LR LR 16 47 47.2
comp=Z,11µm,20.2s,baz=308,slow=38
comp=Z,89nm,0.6s
BDFB Brasilia 53.16 123 P **P** **16 23 22.6 -0.3**
BDFB pmax pmax
comp=Z,896nm,1.9s
SIT Sitka 53.24 332 IAmb IAmb 16 23 28.2
comp=Z,651nm,1.7s
SIT Sitka 53.24 332 P **P** **16 23 24.9 +2.2**
baz=125
SIT S **S** **16 30 55.4 +7.6**
baz=125
SIT Sitka 53.24 332 P **P** **16 23 25.4 +2.7**
BO02 Sierra Bellavi 53.35 158 IAmb IAmb 16 23 52.3
comp=Z,136nm,0.9s
BO02 Sierra Bellavi 53.35 158 ⇓P **P** **16 23 24.7 +0.7**
JIS Juneau Island 53.53 334 P **P** **16 23 27.5 +2.6**
R32K Eaglecrest 53.59 334 P **P** **16 23 27.1 +1.7**
baz=126
R32K S **S** **16 30 56.4 +3.7**
baz=126
R32K S **S** **16 30 56.4 +3.7**
baz=126
ITRB Iturama 53.61 129 *e*P **P** **16 23 26.1 0.0**
BESE Bessie Mountai 53.91 334 IAmb IAmb 16 23 33.0
comp=Z,664nm,1.6s
P32M Atlin 54.05 335 P **P** **16 23 30.6 +1.9**
baz=128,SNR=70
P32M S **S** **16 31 02.0 +3.1**
baz=128
P33M Teslin, Yukon 54.08 336 P **P** **16 23 30.3 +1.3**
baz=129,SNR=142
P33M S **S** **16 31 01.6 +2.2**
baz=129
SDBA SAO DESIDERIO 54.13 117 *e*P **P** **16 23 28.6 -1.4**
S31K Pelican 54.16 333 P **P** **16 23 31.2 +1.9**
baz=124,SNR=29
S31K S **S** **16 31 06.0 +5.7**
baz=124
S31K S **S** **16 31 06.0 +5.7**
baz=124
R31K City Hall, Gus 54.20 333 P **P** **16 23 30.5 +0.9**
baz=125
R31K S **S** **16 31 08.6 +7.8**
baz=125
IPMB Ipameri, GO 54.28 125 *e*P **P** **16 23 30.9 -0.2**
BI05 Punta Hualpn 54.31 161 P **P** **16 23 31.5 +0.7**
BI05 IAmb IAmb 16 23 33.6
comp=Z,210nm,1.1s
SKAG Skagway 54.63 335 IAmb IAmb 16 23 37.8
comp=Z,607nm,1.5s
SKAG Skagway 54.63 335 P **P** **16 23 34.3 +1.4**
baz=126,SNR=20
SKAG S **S** **16 31 12.0 +5.4**
baz=126
SKAG Skagway 54.63 335 P **P** **16 23 35.2 +2.4**
SKAG Skagway 54.63 335 ⇑P **P** **16 23 34.4 +1.6**
N32M Quiet Lake 54.78 337 P **P** **16 23 35.5 +1.5**
baz=129
N32M S **S** **16 31 11.8 +3.1**
baz=129
BI02 San Fabin de 54.87 159 IAmb IAmb 16 23 37.1
comp=Z,194nm,1.1s
PLBC Pleasant Camp 55.06 334 P **P** **16 23 38.0 +2.1**
baz=125,SNR=29
PLBC S **S** **16 31 11.9 -0.5**
baz=125
WHY Whitehorse 55.17 336 IAmb IAmb 16 23 41.4
comp=Z,331nm,1.2s
WHY Whitehorse 55.17 336 P **P** **16 23 38.1 +1.2**
baz=127,SNR=48
WHY S **S** **16 31 18.4 +4.4**
baz=127
LDASE Londrina, Braz 55.31 133 *e*P **P** **16 23 37.1 -1.2**
PTGB Pitanga 55.49 135 *e*P **P** **16 23 38.8 -0.9**
FARO Faro, Yukon 55.57 338 IAmb IAmb 16 23 44.0
comp=Z,227nm,1.1s
FARO Faro, Yukon 55.57 338 P **P** **16 23 40.9 +1.3**
baz=130,SNR=69
FARO S **S** **16 31 21.3 +2.1**
baz=130
P30M Million Dollar 55.69 335 P **P** **16 23 42.7 +2.2**
baz=125
P30M S **S** **16 31 26.1 +5.2**
baz=125
O30N Mendenhall 55.71 336 IAmb IAmb 16 23 45.6
comp=Z,456nm,1.1s
O30N Mendenhall 55.71 336 P **P** **16 23 42.5 +1.8**
baz=126,SNR=102
O30N S **S** **16 31 23.6 +2.4**
baz=126
BB19B Bebedouro 55.80 129 *e*P **P** **16 23 41.9 0.0**
JANB Januaria 55.92 120 *e*P **P** **16 23 42.3 -0.6**
M31M Drury Creek, Y 55.93 338 IAmb IAmb 16 23 45.6
comp=Z,501nm,1.5s
M31M Drury Creek, Y 55.93 338 P **P** **16 23 43.6 +1.5**
baz=128,SNR=95
M31M S **S** **16 31 25.1 +1.2**
baz=128
PMNB Patos De Minas 55.99 125 *e*P **P** **16 23 43.1 -0.2**
NBPB Pedra_Branca-C 56.00 107 *e*P **P** **16 23 43.4 0.0**
N31M Braeburn, Yuko 56.01 337 P **P** **16 23 44.4 +1.6**
baz=127,SNR=130
N31M S **S** **16 31 25.1 -0.1**
baz=127
HYT Haines Junctio 56.31 335 P **P** **16 23 47.1 +2.1**
baz=124,SNR=70
HYT S **S** **16 31 33.6 +4.3**
baz=124
FRTB Fartura 56.40 132 *e*P **P** **16 23 45.5 -0.6**
O29M Mount Kennedy 56.46 334 IAmb IAmb 16 23 51.1
comp=Z,367nm,1.2s
O29M Mount Kennedy 56.46 334 P **P** **16 23 47.7 +1.6**
baz=123
O29M S **S** **16 31 34.1 +2.9**
baz=123
N30M Aishikik Lake 56.51 336 P **P** **16 23 48.4 +2.0**
baz=125
N30M S **S** **16 31 33.5 +1.8**
baz=125
NUUK Nuuk 56.66 20 *i*P **P** **16 23 44.5 -2.7**
NUUK IAmb IAmb 16 24 07.7
comp=Z,197nm,1.4s
NBCL Cascavel-CE 56.72 105 *e*P **P** **16 23 48.1 -0.4**
YUK6 Outpost Mounta 56.72 335 P **P** **16 23 50.3 +2.2**
baz=124,SNR=74
YUK6 S **S** **16 31 37.8 +2.8**
baz=124
M30M Minto, Yukon 57.05 337 P **P** **16 23 51.3 +1.2**
baz=126,SNR=211
M30M S **S** **16 31 39.5 +0.7**
baz=126
PINM Pinnacle 57.06 334 P **P** **16 23 52.3 +2.0**
baz=121,SNR=40
PINM S **S** **16 31 44.0 +4.9**
baz=121
YUK4 Talbot Arm 57.06 335 P **P** **16 23 52.5 +2.0**
baz=124,SNR=53
YUK4 S **S** **16 31 41.5 +2.2**
baz=124
ITAB Concordia 57.11 137 *e*P **P** **16 23 50.6 -0.4**
NRS Narsarsuaq 57.16 25 *i*P **P** **16 23 47.0 -3.9**
NRS IAmb IAmb 16 24 13.5
comp=Z,1µm,2.4s
MAYO Mayo, Yukon 57.33 339 P **P** **16 23 53.4 +1.3**
baz=128,SNR=36
MAYO S **S** **16 31 44.3 +1.9**
baz=128
O28M Mount Upton 57.38 334 P **P** **16 23 54.9 +2.0**
baz=122
O28M S **S** **16 31 47.0 +3.2**
baz=122
NBMA Muriti-CE 57.44 109 *e*P **P** **16 23 53.2 -0.5**
YUK8 Steele Glacier 57.48 335 P **P** **16 23 55.4 +1.9**
baz=122,SNR=112
YUK8 S **S** **16 31 50.9 +6.0**
baz=122
M29M Somme Creek 57.60 337 P **P** **16 23 56.0 +1.8**
baz=124,SNR=395
M29M S **S** **16 31 49.5 +3.3**
baz=124
MESA MESA 57.84 333 P **P** **16 23 58.2 +2.3**
baz=120,SNR=29
MESA S **S** **16 31 56.0 +6.5**
baz=120
L29M L29M 57.86 337 P **P** **16 23 57.1 +1.3**
baz=125
L29M S **S** **16 31 48.4 -1.0**
baz=125
TBOT Tacuaremb 57.87 143 *e*P **P** **16 23 56.2 -0.1**
LR05 Currie 57.88 162 P **P** **16 23 56.5 +0.3**
LR05 IAmb IAmb 16 23 57.2
comp=Z,192nm,1.2s
YUK3 Moose Creek 58.02 335 P **P** **16 23 58.7 +1.5**
baz=122,SNR=103
YUK3 S **S** **16 31 53.4 +1.5**
baz=122
K29M Barlow Dome 58.06 338 P **P** **16 23 58.2 +0.8**
baz=126
K29M S **S** **16 31 54.2 +2.0**
baz=126
J30M Hart River 58.08 339 P **P** **16 23 58.2 +0.7**
baz=128
J30M S **S** **16 31 53.1 +0.6**
baz=128
C36M Paulatuk 58.09 347 P **P** **16 23 57.0 -0.3**
C36M IAmb IAmb 16 23 59.1
comp=Z,418nm,1.9s
C36M Paulatuk 58.09 347 P **P** **16 23 56.5 -0.7**
baz=143,SNR=27
C36M S **S** **16 31 52.7 +0.7**
baz=143
VAO Valinhos 58.10 130 IAmb IAmb 16 24 00.6
comp=Z,354nm,1.4s
VAO Valinhos 58.10 130 *e*P **P** **16 23 57.9 -0.3**
SPB Sao Paulo 58.10 130 IAmb IAmb 16 24 01.4
comp=Z,168nm,1.4s
SPB Sao Paulo 58.10 130 *e*P **P** **16 23 58.1 0.0**
SPB Sao Paulo 58.10 130 P **P** **16 23 57.4 -0.6**
H31M Peel River 58.21 341 P **P** **16 23 58.9 +0.7**
baz=130
H31M S **S** **16 31 54.3 +0.4**
baz=130
LL04 Puerto Octay 58.38 162 IAmb IAmb 16 24 01.0
comp=Z,126nm,0.9s
BGLC Bering Glacier 58.39 333 P **P** **16 24 02.2 +2.7**
baz=118

BGLC S **S** **16 32 01.3 +5.0**
baz=118
CPSB Cacapava Do Su 58.44 141 *e*P **P** **16 23 59.4 -0.9**
I30M Mount Dempster 58.50 340 IAmb IAmb 16 24 05.0
comp=Z,290nm,1.1s
I30M Mount Dempster 58.50 340 P **P** **16 24 00.5 +0.1**
baz=128
I30M S **S** **16 31 57.6 -0.2**
baz=128
BVCY Beaver Creek 58.52 336 P **P** **16 24 02.0 +1.5**
baz=122,SNR=100
BVCY S **S** **16 31 59.5 +1.5**
baz=122
LL05 Los Muermos 58.54 163 IAmb IAmb 16 24 45.8
comp=Z,506nm,1.6s
LL03 Petrohue 58.59 162 IAmb IAmb 16 24 04.1
comp=Z,174nm,0.9s
BSCB Bom Sucesso 58.65 126 *e*P **P** **16 24 02.3 +0.3**
J29N Klondike Camp 58.67 339 P **P** **16 24 02.4 +0.9**
baz=126,SNR=54
J29N S **S** **16 32 00.5 +0.6**
baz=126
PLCA Paso Flores 58.79 161 P **P** **16 24 03.1 +0.5**
PLCA IAmb IAmb 16 24 04.7
comp=Z,214nm,1.0s
PLCA Paso Flores 58.79 161 P **P** **16 24 02.8 +0.1**
comp=Z,149nm,0.9s,baz=337,slow=8.6,SNR=152
PLCA LR LR 16 45 22.2
comp=Z,6µm,18.0s,baz=346,slow=32
PLCA PKP2bc 16 53 45.2
comp=Z,4.2nm,1.0s,baz=226,slow=4.7,SNR=5.2
comp=Z,149nm,0.9s
PLCA Paso Flores 58.79 161 P **P** **16 24 03.2 +0.5**
PLCA pmax pmax
comp=Z,214nm,1.0s
PLCA Paso Flores 58.79 161 ⇑P **P** **16 24 02.5 -0.1**
PLCA Paso Flores 58.79 161 *e*P **P** **16 24 03.4 +0.8**
PLCA Paso Flores 58.79 161 P **P** **16 24 03.1 +0.5**
PLCA pP **pP** **16 24 24.6 +2.0**
KAIM Kayak Island 58.81 332 P **P** **16 24 04.4 +1.9**
baz=117,SNR=13
KAIM S **S** **16 32 06.2 +4.5**
baz=117
DAWY Dawson 58.87 338 IAmb IAmb 16 24 06.2
comp=Z,233nm,1.2s
DAWY Dawson 58.87 338 P **P** **16 24 02.7 -0.1**
baz=124,SNR=75
DAWY S **S** **16 32 02.8 +0.3**
baz=124
SFJD Kangerlussuaq 58.87 18 P **P** **16 24 00.2 -2.5**
SFJD Kangerlussuaq 58.87 18 LR LR 16 50 50.4
comp=Z,53µm,18.1s,baz=230,slow=38
SFJD Kangerlussuaq 58.87 18 P **P** **16 24 00.2 -2.5**
SFJD pmax pmax
comp=Z,99nm,1.3s
SFJD Kangerlussuaq 58.87 18 *i*P **P** **16 24 01.5 -1.2**
SFJD IAmb IAmb 16 24 33.3
comp=Z,283nm,2.0s
SFJD Kangerlussuaq 58.87 18 ⇑P **P** **16 24 01.1 -1.6**
SFJD Kangerlussuaq 58.87 18 P **P** **16 24 00.9 -1.8**
SFJD pP **pP** **16 24 20.6 -2.8**
M27K Edge Creek, AK 58.90 335 IAmb IAmb 16 24 08.1
comp=Z,433nm,1.2s
M27K Edge Creek, AK 58.90 335 P **P** **16 24 04.5 +1.3**
baz=121
M27K S **S** **16 32 05.8 +2.7**
baz=121
M27K S **S** **16 32 05.8 +2.7**
baz=121
G31M Satah River 58.92 342 P **P** **16 24 03.1 +0.1**
baz=131
G31M S **S** **16 32 03.2 +0.3**
baz=131
F31M Tsiigehtchic 59.11 343 P **P** **16 24 04.4 0.0**
baz=132,SNR=96
F31M S **S** **16 32 04.9 -0.4**
baz=132
NBLV Livramento - P 59.12 108 *e*P **P** **16 24 05.4 0.0**
BCAR Beaver Creek A 59.23 336 P **P** **16 24 06.2 +0.9**
I29M Ogilvie Camp, 59.23 339 IAmb IAmb 16 24 08.9
comp=Z,348nm,1.1s
I29M Ogilvie Camp, 59.23 339 P **P** **16 24 05.5 +0.2**
baz=126,SNR=196
I29M S **S** **16 32 05.7 -1.4**
baz=126
L27K Beaver Creek, 59.24 336 P **P** **16 24 06.5 +1.0**
baz=121
L27K S **S** **16 32 09.7 +2.3**
baz=121
LL06 Loncomilla 59.25 164 IAmb IAmb 16 24 08.5
comp=Z,336nm,1.2s
PLTB Pedras Altas 59.30 142 P **P** **16 24 05.5 -0.8**
PLTB IAmb IAmb 16 24 07.0
comp=Z,115nm,1.0s
PLTB Pedras Altas 59.30 142 *e*P **P** **16 24 06.0 -0.3**
PARB Paraibuna 59.30 129 *e*P **P** **16 24 07.0 +0.5**
MAJ01 Sao Joao Batis 59.32 135 *e*P **P** **16 24 06.1 -0.4**
EPYK Eagle Plains 59.32 341 P **P** **16 24 06.3 +0.4**
baz=128,SNR=74
EPYK S **S** **16 32 08.5 +0.3**
baz=128
CNLB Canela 59.33 138 *e*P **P** **16 24 06.6 +0.1**
BMRM Bremner River 59.36 333 P **P** **16 24 08.2 +1.8**
baz=117,SNR=101
BMRM S **S** **16 32 13.6 +4.5**
baz=117
M26K Nabesna, AK 59.37 335 P **P** **16 24 07.8 +1.4**
baz=120
M26K S **S** **16 32 13.4 +4.3**
baz=120
M26K S **S** **16 32 13.4 +4.3**
baz=120
Q23K Middleton Isla 59.48 331 P **P** **16 24 08.1 +1.1**
baz=115
Q23K S **S** **16 32 17.7 +7.5**
baz=115
Q23K S **S** **16 32 17.7 +7.5**
baz=115
RCBR Riachuelo 59.51 106 P **P** **16 24 06.8 -1.3**
RCBR IAmb IAmb 16 24 57.9
comp=Z,146nm,0.9s
RCBR Riachuelo 59.51 106 P **P** **16 24 06.8 -1.3**
RCBR pmax pmax
comp=Z,146nm,0.9s
RCBR Riachuelo 59.51 106 ⇑P **P** **16 24 07.4 -0.7**
RCBR Riachuelo 59.51 106 *e*P **P** **16 24 07.6 -0.5**
G30M tAoh Zraii Nji 59.54 342 IAmb IAmb 16 24 15.2
comp=Z,496nm,1.9s
G30M tAoh Zraii Nji 59.54 342 P **P** **16 24 07.8 +0.3**
baz=129
G30M S **S** **16 32 10.8 -0.4**
baz=129
INK Inuvik 59.63 343 IAmb IAmb 16 24 12.4
comp=Z,349nm,1.1s
INK Inuvik 59.63 343 LR LR 16 53 41.5
comp=Z,18µm,18.5s,baz=130,slow=40
INK Inuvik 59.63 343 P **P** **16 24 08.0 +0.1**
baz=132,SNR=166
INK S **S** **16 32 11.5 -0.5**
baz=132
INK Inuvik 59.63 343 ⇑P **P** **16 24 07.8 -0.1**
N25K Chitina, Valde 59.66 334 P **P** **16 24 10.2 +1.8**
baz=118,SNR=171
N25K S **S** **16 32 16.4 +3.6**
baz=118
EYAK Cordova Ski Ar 59.68 333 P **P** **16 24 10.5 +2.1**
baz=116,SNR=72
EYAK S **S** **16 32 17.0 +4.1**
baz=116
EYAK Cordova Ski Ar 59.68 333 P **P** **16 24 10.9 +2.5**
LL01 San Ignacio de 59.74 163 IAmb IAmb 16 24 10.8
comp=Z,193nm,0.9s
LL01 San Ignacio de 59.74 163 ⇓P **P** **16 24 08.9 -0.1**
TRQA Tornquist 59.75 153 P **P** **16 24 08.9 -0.3**
TRQA IAmb IAmb 16 24 35.6
comp=Z,206nm,1.4s
TRQA Tornquist 59.75 153 P **P** **16 24 08.9 -0.3**
TRQA pmax pmax
comp=Z,206nm,1.4s
NBLA Lagarto - SE 59.75 112 *e*P **P** **16 24 08.4 -1.3**
H29M Whitestone 59.76 340 P **P** **16 24 09.7 +0.8**
baz=126
H29M S **S** **16 32 15.4 +1.6**
baz=126
F30M Barrier River 59.81 342 P **P** **16 24 09.9 +0.6**
baz=130
F30M S **S** **16 32 13.1 -1.4**
baz=130
L26K Log Cabin Wild 59.82 336 P **P** **16 24 10.8 +1.3**
L26K IAmb IAmb 16 24 14.0
comp=Z,463nm,1.4s
L26K Log Cabin Wild 59.82 336 P **P** **16 24 10.8 +1.3**
baz=120,SNR=91
L26K S **S** **16 32 18.0 +3.2**
baz=120
L26K S **S** **16 32 18.0 +3.2**
baz=120
I28M Miner Creek 59.84 339 IAmb IAmb 16 24 13.1
comp=Z,416nm,1.6s
I28M Miner Creek 59.84 339 P **P** **16 24 10.1 +0.5**
baz=124
I28M S **S** **16 32 14.2 -0.9**
baz=124
JOKA Jonika Flow 59.86 284 P **P** **16 24 11.4 +1.0**
JOKA IAmb IAmb 16 24 15.5
comp=Z,255nm,0.9s
EGAK Eagle 59.90 338 P **P** **16 24 10.3 +0.4**
baz=123,SNR=156
EGAK S **S** **16 32 17.3 +1.6**
baz=123
EGAK Eagle 59.90 338 ⇑P **P** **16 24 09.3 -0.6**
MENT Mentasta 59.93 336 IAmb IAmb 16 24 14.7
comp=Z,411nm,1.4s
MENT Mentasta 59.93 336 P **P** **16 24 11.8 +1.6**
RES Resolute Bay 59.93 359 LR LR 16 54 03.8
comp=Z,1°µm,18.4s,baz=175,slow=40
RES Resolute Bay 59.93 359 ⇓P **P** **16 24 07.8 -2.1**
HIN Hinchinbrook I 59.95 332 P **P** **16 24 11.7 +1.4**
TER01 Tubaro-SC 59.96 136 *e*P **P** **16 24 10.6 -0.3**
STCH Steam Cracks 59.98 284 P **P** **16 24 12.0 +0.7**
G29M Pine Creek 60.06 341 P **P** **16 24 11.5 +0.5**
baz=127
G29M S **S** **16 32 17.4 -0.4**
baz=127
HATHI Halema'uma'u T 60.10 284 IAmb IAmb 16 24 17.4
comp=Z,331nm,1.0s
RSD Rainshed 60.11 284 P **P** **16 24 13.2 +0.9**
CMC01 Camacan, BA 60.13 118 *e*P **P** **16 24 11.8 -0.4**
KLU Klutina 60.17 334 P **P** **16 24 13.5 +1.6**
baz=116,SNR=209
KLU S **S** **16 32 22.5 +3.1**
baz=116
P23K Montague Islan 60.20 332 P **P** **16 24 13.6 +1.6**
baz=114,SNR=40
P23K S **S** **16 32 24.0 +4.4**
baz=114
P23K S **S** **16 32 24.0 +4.4**
baz=114
ILULI Ilulissat 60.22 16 *i*P P 16 24 04.5 -7.5
ILULI IAmb IAmb 16 24 37.0
comp=Z,49nm,1.0s
HARP HAARP 60.26 335 P **P** **16 24 13.9 +1.5**
baz=117,SNR=82
HARP S **S** **16 32 24.9 +4.5**
baz=117
HARP S **S** **16 32 24.9 +4.5**
baz=117
NBCA Caruaru-PE 60.28 109 *e*P **P** **16 24 11.8 -1.6**
NBPV Pedro Velho 60.29 106 *e*P **P** **16 24 11.9 -1.4**
MAN01 Angra dos Reis 60.30 128 *e*P **P** **16 24 13.6 +0.3**
POHA Pohakuloa 60.32 285 **P** **16 24 13.9 +0.1**
POHA Pohakuloa 60.32 285 P **P** **16 24 16.9 +3.1**
POHA Pohakuloa 60.32 285 P **P** **16 24 13.8 -0.1**
POHA pP **pP** **16 24 34.9 +1.1**
POHA sP **sP** **16 24 44.3 +1.8**
SJMB Sao Joao De Ma 60.32 122 *e*P **P** **16 24 13.2 -0.3**
GLI Glacier Island 60.42 333 P **P** **16 24 14.4 +0.9**
baz=115,SNR=16
GLI S **S** **16 32 24.7 +2.2**
baz=115
A36M Sachs Harbour 60.44 349 P **P** **16 24 12.2 -1.2**
baz=143,SNR=112
A36M S **S** **16 32 22.3 0.0**
baz=143
GUA01 Guaratinga, BA 60.45 119 *e*P **P** **16 24 14.1 -0.3**
I27K Kandik River 60.51 339 P **P** **16 24 14.3 +0.2**
baz=123
I27K S **S** **16 32 25.6 +2.0**
baz=123
I27K S **S** **16 32 25.6 +2.0**
baz=123
SCRK Sand Creek 60.54 337 P **P** **16 24 15.4 +1.0**
SCRK Sand Creek 60.54 337 P **P** **16 24 15.6 +1.2**
baz=119,SNR=148
SCRK S **S** **16 32 29.0 +4.9**
baz=119
M24K Tolsona, Glenn 60.55 334 P **P** **16 24 16.5 +2.1**
baz=116,SNR=63
M24K S **S** **16 32 29.5 +5.3**
baz=116
NBAN Anadia - AL 60.59 110 *e*P **P** **16 24 13.8 -1.6**
J26L Joseph Creek 60.64 337 P **P** **16 24 16.5 +1.4**
baz=120
J26L S **S** **16 32 27.4 +2.1**
baz=120
J26L S **S** **16 32 27.4 +2.1**
baz=120
LL02 Futaleuf 60.65 163 IAmb IAmb 16 24 18.0
comp=Z,167nm,1.1s
LL02 Futaleuf 60.65 163 ⇓P **P** **16 24 15.3 +0.1**
PAX Paxson 60.65 335 P **P** **16 24 15.9 +0.8**
baz=117,SNR=188
PAX S **S** **16 32 28.0 +2.5**
baz=117
BSFB Barra de Sao F 60.66 122 *e*P **P** **16 24 16.0 +0.2**
RIDG Independent Ri 60.76 336 P **P** **16 24 16.9 +1.1**
baz=118,SNR=166
RIDG S **S** **16 32 28.3 +1.5**
baz=118
H27K Steamboat Moun 60.82 339 P **P** **16 24 17.2 +1.0**
baz=123
H27K S **S** **16 32 28.2 +0.7**
baz=123
I26K Coal Creek Min 60.90 338 P **P** **16 24 17.2 +0.5**
baz=121
I26K S **S** **16 32 28.7 +0.3**
baz=121
I26K S **S** **16 32 28.7 +0.3**
baz=121
E29M Blow River 60.92 342 P **P** **16 24 17.5 +0.7**
baz=128
E29M S **S** **16 32 28.9 +0.3**
baz=128
SCM Sheep Creek Mo 60.92 334 P **P** **16 24 17.9 +1.0**
SCM Sheep Creek Mo 60.92 334 P **P** **16 24 18.1 +1.0**
baz=115,SNR=87
SCM S **S** **16 32 32.0 +3.0**
baz=115
SCM Sheep Creek Mo 60.92 334 P **P** **16 24 18.0 +1.0**
SCM pmax pmax
comp=Z,1µm,1.3s
PWL Port Wells 60.97 332 P **P** **16 24 17.9 +0.6**
baz=113,SNR=32
PWL S **S** **16 32 31.8 +2.4**
baz=113
UMMG Uummannaq 60.99 14 *i*P P 16 24 10.4 -6.7
UMMG IAmb IAmb 16 25 05.9
comp=Z,38nm,0.9s
F28M Old Crow 61.06 341 P **P** **16 24 18.4 +0.7**
baz=125,SNR=533
F28M S **S** **16 32 31.2 +0.8**
baz=125
M23K Glacier View 61.08 333 P **P** **16 24 18.7 +0.7**
baz=114,SNR=120
M23K S **S** **16 32 34.0 +3.1**
baz=114
DUB01 Friburgo-RJ 61.11 126 *e*P **P** **16 24 19.7 +0.9**
K24K Donnelly Dome 61.16 336 P **P** **16 24 19.6 +1.1**
baz=118
K24K S **S** **16 32 34.0 +2.2**
baz=118
K24K S **S** **16 32 34.0 +2.2**
baz=118
G27K Doyon Strip 61.18 340 P **P** **16 24 19.0 +0.4**
baz=123
G27K S **S** **16 32 32.9 +0.9**
baz=123
SEW Seward 61.19 331 P **P** **16 24 19.7 +1.1**
baz=112,SNR=63
SEW S **S** **16 32 35.4 +3.2**
baz=112
KNK Knik Glacier 61.24 333 P **P** **16 24 20.4 +1.3**
baz=114,SNR=124
KNK S **S** **16 32 36.2 +3.3**
baz=114
RIB01 Linhares ES 61.27 122 *e*P **P** **16 24 20.0 0.0**
SML Sawmill 61.35 333 P **P** **16 24 21.0 +1.1**
baz=114,SNR=116
SML S **S** **16 32 37.2 +2.8**
baz=114
NUUG Nuugaatsiaq 61.35 13 *i*P P 16 24 11.4 -8.2
NUUG IAmb IAmb 16 25 04.8
comp=Z,576nm,2.1s
J25K Salcha River, 61.38 337 P **P** **16 24 21.3 +1.3**
baz=118
J25K S **S** **16 32 36.5 +1.8**
baz=118
J25K S **S** **16 32 36.5 +1.8**
baz=118
O22K Cooper Landing 61.45 332 P **P** **16 24 21.5 +1.0**
baz=112
O22K S **S** **16 32 39.2 +3.7**
baz=112
E28M Babbage River 61.53 342 P **P** **16 24 21.4 +0.4**
baz=126
E28M S **S** **16 32 36.4 0.0**
baz=126
CAM01 Campos-RJ 61.54 125 *e*P **P** **16 24 22.3 +0.6**
AY01 Puyuhuapi 61.56 164 IAmb IAmb 16 24 23.7
comp=Z,197nm,0.9s
PMR Palmer 61.61 333 P **P** **16 24 22.4 +0.9**
baz=113,SNR=124
PMR S **S** **16 32 41.2 +3.8**
baz=113
PMR Palmer 61.61 333 P **P** **16 24 22.4 +0.9**
ALF01 Guarapari-ES 61.66 124 *e*P **P** **16 24 23.1 +0.6**
BRSE Bradley Lake S 61.66 331 P **P** **16 24 23.2 +1.2**
baz=110,SNR=113
BRSE S **S** **16 32 41.8 +3.5**
baz=110
UPNV Upernavik 61.67 12 *i*P **P** **16 24 19.0 -2.8**
UPNV IAmb IAmb 16 25 33.4
comp=Z,112nm,1.0s
RC01 Rabbit Creek A 61.69 332 P **P** **16 24 23.2 +1.1**
baz=112,SNR=149
RC01 S **S** **16 32 41.5 +3.0**
baz=112
D28M Stokes Point 61.74 343 P **P** **16 24 22.8 +0.6**
baz=127
D28M S **S** **16 32 39.4 +0.5**
baz=127
PRP Porcupine Dome 61.87 338 P **P** **16 24 24.1 +0.7**
baz=118,SNR=162
PRP S **S** **16 32 42.5 +1.6**
baz=118
HDA Harding Lake 61.89 336 P **P** **16 24 23.7 +0.3**
baz=117,SNR=202
HDA S **S** **16 32 43.6 +2.6**
baz=117
KDAK Kodiak Island 61.92 328 P **P** **16 24 24.5 +0.8**
KDAK IAmb IAmb 16 24 28.1
comp=Z,329nm,1.1s
KDAK Kodiak Island 61.92 328 P **P** **16 24 25.0 +1.3**
baz=108
KDAK S **S** **16 32 45.4 +3.8**
baz=108
KDAK Kodiak Island 61.92 328*c* *i*P **P** **16 24 24.7 +1.0**
KDAK pmax pmax
comp=Z,549nm,1.5s
KDAK MLR MLR
comp=Z,12µm,25.0s
KDAK Kodiak Island 61.92 328 ⇓P **P** **16 24 24.3 +0.6**
KDAK Kodiak Island 61.92 328 P **P** **16 24 24.8 +1.0**
KDAK pP **pP** **16 24 45.9 +2.1**
G26K Porcupine Rive 61.97 340 P **P** **16 24 24.6 +0.8**
baz=121
G26K S **S** **16 32 43.6 +1.8**
baz=121
ILAR Eielson Array 62.03 337 P **P** **16 24 24.0 -0.3**
ILAR Eielson Array 62.03 337 P **P** **16 24 24.5 +0.2**
comp=Z,227nm,0.9s,baz=123,slow=4.4,SNR=327
ILAR ScP **ScP** **16 29 00.4 +1.3**
comp=Z,11nm,0.9s,baz=153,slow=3.5,SNR=5.6
ILAR LR LR 16 52 55.8
comp=Z,13µm,19.9s,baz=108,slow=38
ILAR PKPPKP **P'P'df** **16 53 33.0 -0.8**
comp=Z,2.5nm,0.9s,baz=301,slow=2.9,SNR=10
comp=Z,227nm,0.9s
HOM Homer 62.06 330 P **P** **16 24 26.0 +1.4**
baz=110,SNR=6.7
HOM S **S** **16 32 47.0 +3.8**
baz=110
Q20K Shuyak Island 62.08 329 P **P** **16 24 26.4 +1.6**
baz=108,SNR=26
Q20K S **S** **16 32 47.8 +4.3**
baz=108
M22K Willow 62.11 333 P **P** **16 24 25.5 +0.7**
baz=112,SNR=94
M22K S **S** **16 32 46.2 +2.4**
baz=112
OHAK Old Harbor 62.12 327 P **P** **16 24 26.5 +1.6**
baz=107,SNR=47
OHAK S **S** **16 32 48.5 +4.5**
baz=107
OHAK Old Harbor 62.12 327 P **P** **16 24 26.6 +1.6**
CAPN Captain Cook N 62.21 332 P **P** **16 24 27.9 +2.4**
baz=111
CAPN S **S** **16 32 50.8 +5.7**
baz=111
SUA Susitna One 62.28 332 P **P** **16 24 27.4 +1.2**
baz=111,SNR=222
SUA S **S** **16 32 49.6 +3.4**
baz=111
VAH Vaihoa 62.30 244 *e*P **P** **16 24 29.2 +2.3**
comp=Z,437nm,1.3s
VAH *e*S **S** **16 32 50.9 +3.4**
comp=Z,7µm,27.9s
VAH *e*SS **SS** **16 36 52.1 -0.4**
comp=Z,7µm,29.4s
VAH *e*LQ LQ 16 40 23.3
comp=Z,2µm,21.7s
VAH *e*LR LR 16 42 49.0
comp=Z,55µm,26.1s
CCB Clear Creek Bu 62.33 336 IAmb IAmb 16 24 30.6
comp=Z,185nm,1.1s
D27M Malcolm River 62.33 342 P **P** **16 24 26.8 +0.5**
baz=125
D27M S **S** **16 32 47.9 +1.3**
baz=125
WRH Wood River Hil 62.36 336 IAmb IAmb 16 24 29.9
comp=Z,183nm,1.2s
MCK McKinley 62.39 335 P **P** **16 24 27.5 +0.7**
baz=114,SNR=166
MCK S **S** **16 32 49.0 +1.7**
baz=114
POKR Poker Plat Res 62.39 337 P **P** **16 24 27.3 +0.6**
baz=116,SNR=193
POKR S **S** **16 32 48.6 +1.2**
baz=116
POKR S **S** **16 32 48.6 +1.2**
baz=116
SII Sitkinak Islan 62.41 327 P **P** **16 24 28.1 +1.1**
baz=106,SNR=41
SII S **S** **16 32 51.4 +3.6**
baz=106
SII Sitkinak Islan 62.41 327 P **P** **16 24 28.8 +1.8**
CUT Chulitna 62.42 334 P **P** **16 24 27.8 +0.9**
baz=112,SNR=179
CUT S **S** **16 32 50.3 +2.7**
baz=112
ANGG Ammassalik, Gr 62.42 22 *i*P **P** **16 24 24.0 -2.9**
ANGG IAmb IAmb 16 24 53.6
comp=Z,70nm,0.8s
ANGG Ammassalik, Gr 62.42 22 ⇑P **P** **16 24 24.9 -2.0**
PMOR Pomariorio Ree 62.43 244 *e*P **P** **16 24 28.8 +1.0**
comp=Z,344nm,1.3s
PMOR Pomariorio Ree 62.43 244 *e*PP **PP** **16 26 45.5 -0.6**
comp=Z,3µm,25.2s
PMOR *e*S **S** **16 32 52.7 +3.5**
comp=Z,6µm,25.3s
PMOR *e*SS **SS** **16 36 50.6 -3.9**
comp=Z,7µm,29.7s
PMOR *e*LQ LQ 16 40 32.7
comp=Z,4µm,24.6s
PMOR *e*LR LR 16 42 52.1
comp=Z,52µm,26.2s
COLA College 62.44 337 P **P** **16 24 27.2 +0.2**
COLA College 62.44 337 P **P** **16 24 27.3 +0.2**
baz=116
COLA S **S** **16 32 47.6 -0.3**
baz=116
COLA College 62.44 337 P **P** **16 24 27.5 +0.4**

COLA	College	62.44 337	*c* P	P	16 24 26.9	-0.1
COLA			pmax	pmax		
	comp=Z,534nm,1.1s					
COLA			MLR	MLR		
	comp=Z,12µm,17.0s					
COLA	**College**	**62.44 337**	⇑P	**P**	**16 24 27.4**	**+0.4**
COLA	**College**	**62.44 337**	P	**P**	**16 24 27.3**	**+0.3**
COLA			PcP	**PcP**	**16 25 07.1**	**+1.3**
KIP	**Kipapa**	**62.46 287**	⇑*e*P	**P**	**16 24 29.0**	**+1.1**
KIP			pmax	pmax		
	comp=Z,98nm,1.0s					
F26K	**Sheenjek River**	**62.47 340**	IAmb	IAmb	16 24 31.9	
	comp=Z,474nm,1.3s					
F26K	**Sheenjek River**	**62.47 340**	P	**P**	**16 24 28.5**	**+1.2**
	baz=121					
F26K			S	**S**	**16 32 50.1**	**+1.8**
	baz=121					
BMAR	**Burnt Mountain**	**62.48 340**	P	**P**	**16 24 27.9**	**+0.6**
O20K	**Slope Mountain**	**62.67 331**	P	**P**	**16 24 29.8**	**+1.1**
	baz=109,SNR=91					
O20K			S	**S**	**16 32 54.0**	**+3.0**
	baz=109					
O20K			S	**S**	**16 32 54.0**	**+3.0**
	baz=109					
STLK	**Strandline Lak**	**62.78 332**	IAmb	IAmb	16 24 33.6	
	comp=Z,251nm,1.0s					
COYC	**Coyhaique**	**62.78 164**	IAmb	IAmb	16 24 32.4	
	comp=Z,179nm,0.9s					
COYC	**Coyhaique**	**62.78 164**	P	**P**	**16 24 30.2**	**+0.7**
NEA2	**Nenana**	**62.80 336**	IAmb	IAmb	16 24 33.1	
	comp=Z,456nm,1.4s					
NEA2	**Nenana**	**62.80 336**	P	**P**	**16 24 29.8**	**+0.4**
	baz=114,SNR=32					
NEA2			S	**S**	**16 32 53.3**	**+0.9**
	baz=114					
Q19K	**Cape Douglas,**	**62.80 329**	P	**P**	**16 24 30.9**	**+1.3**
	baz=107,SNR=20					
Q19K			S	**S**	**16 32 54.7**	**+2.0**
	baz=107					
Q19K			S	**S**	**16 32 54.7**	**+2.0**
	baz=107					
SKT	**Skwentna**	**62.81 333**	P	**P**	**16 24 30.3**	**+0.7**
	baz=111,SNR=223					
SKT			S	**S**	**16 32 54.1**	**+1.4**
	baz=111					
P19K	**Oil Pt**	**62.82 330**	IAmb	IAmb	16 24 33.9	
	comp=Z,366nm,0.9s					
P19K	**Oil Pt**	**62.82 330**	P	**P**	**16 24 30.6**	**+0.9**
	baz=108,SNR=40					
P19K			S	**S**	**16 32 55.5**	**+2.6**
	baz=108					
R18K	**Karluk**	**62.82 328**	P	**P**	**16 24 30.9**	**+1.2**
	baz=106					
R18K			S	**S**	**16 32 56.6**	**+3.8**
	baz=106					
R18K			S	**S**	**16 32 56.6**	**+3.8**
	baz=106					
TRF	**Thorofare Moun**	**62.83 335**	P	**P**	**16 24 30.5**	**+0.6**
	baz=113,SNR=259					
TRF			S	**S**	**16 32 54.7**	**+1.5**
	baz=113					
SPCR	**Spurr Chakacha**	**62.84 332**	P	**P**	**16 24 30.5**	**+0.6**
	baz=110,SNR=96					
SPCR			S	**S**	**16 32 55.2**	**+2.0**
	baz=110					
KULLO	**Kullorsuaq**	**62.87 10**	*i* P	P	16 24 23.4	-6.3
KULLO			IAmb	IAmb	16 25 33.4	
	comp=Z,97nm,1.1s					
KULLO	**Kullorsuaq**	**62.87 10**	⇑P	**P**	**16 24 28.0**	**-1.7**
H24K	**Noodor Dome**	**62.88 338**	P	**P**	**16 24 30.9**	**+0.8**
	baz=116					
H24K			S	**S**	**16 32 57.1**	**+3.6**
	baz=116					
H24K			S	**S**	**16 32 57.1**	**+3.6**
	baz=116					
F25K	**Christian Rive**	**62.91 340**	P	**P**	**16 24 31.8**	**+1.6**
	baz=119					
F25K			S	**S**	**16 32 56.8**	**+2.8**
	baz=119					
PGRON	**Lagoa das Cont**	**62.92 55**	*e*P	**P**	**16 24 30.3**	**-0.5**
PGRON			*i* Amb		16 24 32.5	
	comp=Z,170nm,0.9s					
CHIR	**Chirikof Islan**	**62.99 326**	P	**P**	**16 24 32.3**	**+1.5**
	baz=104,SNR=11					
CHIR			S	**S**	**16 32 59.2**	**+4.1**
	baz=104					
CHIR	**Chirikof Islan**	**62.99 326**	P	**P**	**16 24 33.0**	**+2.1**
BART	**Pico Bartolome**	**63.08 55**	*e*P	**P**	**16 24 31.4**	**-0.6**
BART			*i* Amb		16 24 32.5	
	comp=Z,274nm,1.1s					
PSMA	**Santa Maria**	**63.09 56**	*e*P	**P**	**16 24 30.7**	**-1.2**
PSMA			*i* Amb		16 24 39.0	
	comp=Z,230nm,1.3s					
G24K	**Hadweenzic Riv**	**63.12 339**	P	**P**	**16 24 32.4**	**+0.9**
	baz=117					
G24K			S	**S**	**16 32 59.1**	**+2.7**
	baz=117					
I23K	**Minto, Yukon-K**	**63.14 337**	P	**P**	**16 24 32.6**	**+0.9**
	baz=114,SNR=272					
I23K			S	**S**	**16 32 58.2**	**+1.5**
	baz=114					
I23K			S	**S**	**16 32 58.2**	**+1.5**
	baz=114					
PSMN	**Pico do Norte,**	**63.14 56**	*e*P	**P**	**16 24 31.1**	**-1.2**
PSMN			*i* Amb		16 24 54.8	
	comp=Z,315nm,1.7s					
E25K	**Arctic Village**	**63.15 340**	P	**P**	**16 24 32.8**	**+1.0**
	baz=120,SNR=236					
E25K			S	**S**	**16 32 58.9**	**+2.2**
	baz=120					
C27K	**Jago River**	**63.35 342**	P	**P**	**16 24 33.9**	**+0.8**
	baz=122					
C27K			S	**S**	**16 33 00.4**	**+1.2**
	baz=122					
BPAW	**Bear Paw Mtn.**	**63.37 335**	P	**P**	**16 24 33.8**	**+0.6**
	baz=112,SNR=34					
BPAW			S	**S**	**16 32 59.6**	**+0.1**
	baz=112					
PPLA	**Purkeypile**	**63.42 334**	P	**P**	**16 24 34.3**	**+0.5**
	baz=111,SNR=113					
PPLA			S	**S**	**16 33 01.6**	**+1.0**
	baz=111					
ICESG	**Greenland Ices**	**63.43 19**	*i* P	**P**	**16 24 30.4**	**-3.6**
ICESG			IAmb	IAmb	16 24 59.9	
	comp=Z,223nm,0.9s					
ACHA	**Angle Creek He**	**63.44 328**	IAmb	IAmb	16 24 39.0	
	comp=Z,352nm,1.3s					
M20K	**Styx River**	**63.49 332**	P	**P**	**16 24 34.9**	**+0.7**
	baz=109					
M20K			S	**S**	**16 33 01.6**	**+0.3**
	baz=109					
M20K			S	**S**	**16 33 01.6**	**+0.3**
	baz=109					
O19K	**Port Alsworth**	**63.51 330**	IAmb	IAmb	16 24 38.4	
	comp=Z,449nm,1.1s					
O19K	**Port Alsworth**	**63.51 330**	P	**P**	**16 24 34.6**	**+0.4**
	baz=107,SNR=113					
O19K			S	**S**	**16 33 02.8**	**+1.5**
	baz=107					
O19K			S	**S**	**16 33 02.8**	**+1.5**
	baz=107					
CAST	**Castle Rocks**	**63.57 334**	IAmb	IAmb	16 24 38.6	
	comp=Z,469nm,1.1s					
CAST	**Castle Rocks**	**63.57 334**	P	**P**	**16 24 34.8**	**+0.2**
	baz=111,SNR=252					
CAST			S	**S**	**16 33 01.6**	**-0.4**
	baz=111					
F24K	**Squaw Lake**	**63.64 339**	IAmb	IAmb	16 24 39.8	
	comp=Z,537nm,1.4s					
F24K	**Squaw Lake**	**63.64 339**	P	**P**	**16 24 36.0**	**+1.0**
	baz=117					
F24K			S	**S**	**16 33 05.6**	**+2.7**
	baz=117					
P18K	**Big Mountain,**	**63.72 329**	IAmb	IAmb	16 24 39.2	
	comp=Z,500nm,1.3s					
P18K	**Big Mountain,**	**63.72 329**	P	**P**	**16 24 36.2**	**+0.6**
	baz=106,SNR=53					
P18K			S	**S**	**16 33 05.4**	**+1.3**
	baz=106					
Q17K	**Contact Creek**	**63.74 328**	P	**P**	**16 24 36.8**	**+0.8**
	baz=105,SNR=115					
Q17K			S	**S**	**16 33 07.1**	**+2.5**
	baz=105					
N19K	**Bonanza Creek**	**63.77 331**	P	**P**	**16 24 36.0**	**-0.1**
	baz=108,SNR=183					
N19K			S	**S**	**16 33 06.2**	**+1.3**
	baz=108					
N19K			S	**S**	**16 33 06.2**	**+1.3**
	baz=108					
CHUM	**Lake Minchumin**	**63.83 335**	P	**P**	**16 24 36.4**	**+0.2**
	baz=111,SNR=52					
CHUM			S	**S**	**16 33 05.2**	**0.0**
	baz=111					
O18K	**Koktuh Hills**	**63.84 330**	IAmb	IAmb	16 24 40.2	
	comp=Z,393nm,0.9s					
O18K	**Koktuh Hills**	**63.84 330**	P	**P**	**16 24 37.2**	**+0.8**
	baz=106,SNR=86					
O18K			S	**S**	**16 33 07.5**	**+2.0**
	baz=106					
O18K			S	**S**	**16 33 07.5**	**+2.0**
	baz=106					
C26K	**Camden Bay**	**63.86 342**	P	**P**	**16 24 37.3**	**+0.9**
	baz=121,SNR=170					
C26K			S	**S**	**16 33 06.6**	**+1.2**
	baz=121					
L20K	**Farewell, AK**	**64.02 333**	P	**P**	**16 24 38.2**	**+0.6**
	baz=109					
L20K			S	**S**	**16 33 09.8**	**+2.1**
	baz=109					
L20K			S	**S**	**16 33 09.8**	**+2.1**
	baz=109					
G23K	**Bananza Creek**	**64.04 338**	IAmb	IAmb	16 24 42.0	
	comp=Z,572nm,1.2s					
G23K	**Bananza Creek**	**64.04 338**	P	**P**	**16 24 38.5**	**+0.8**
	baz=114					
G23K			S	**S**	**16 33 10.0**	**+2.1**
	baz=114					
M19K	**Big River Lodg**	**64.06 332**	P	**P**	**16 24 38.6**	**+0.8**
	baz=108					
M19K			S	**S**	**16 33 10.5**	**+2.3**
	baz=108					
M19K			S	**S**	**16 33 10.5**	**+2.3**
	baz=108					
E24K	**Your Creek**	**64.09 340**	IAmb	IAmb	16 24 41.5	
	comp=Z,439nm,1.4s					
E24K	**Your Creek**	**64.09 340**	P	**P**	**16 24 39.0**	**+1.0**
	baz=117					
E24K			S	**S**	**16 33 11.7**	**+3.2**
	baz=117					
I21K	**Tanana**	**64.17 336**	P	**P**	**16 24 39.1**	**+0.7**
	baz=112					
I21K			S	**S**	**16 33 10.1**	**+0.6**
	baz=112					
I21K			S	**S**	**16 33 10.1**	**+0.6**
	baz=112					
H22K	**Ishtalitna Cre**	**64.21 337**	P	**P**	**16 24 39.3**	**+0.5**
	baz=113					
H22K			S	**S**	**16 33 10.1**	**+0.1**
	baz=113					
H22K			S	**S**	**16 33 10.1**	**+0.1**
	baz=113					
Q16K	**King Salmon**	**64.24 328**	P	**P**	**16 24 39.9**	**+0.9**
	baz=104,SNR=67					
Q16K			S	**S**	**16 33 13.9**	**+3.4**
	baz=104					
P17K	**Kvichak River**	**64.26 329**	P	**P**	**16 24 40.0**	**+0.9**
	baz=105,SNR=52					
P17K			S	**S**	**16 33 13.6**	**+2.8**
	baz=105					
P17K			S	**S**	**16 33 13.6**	**+2.8**
	baz=105					
COLD	**Coldfoot**	**64.32 339**	P	**P**	**16 24 41.2**	**+1.7**
	baz=115,SNR=340					
COLD			S	**S**	**16 33 14.4**	**+3.2**
	baz=115					
L19K	**White Mountain**	**64.36 332**	IAmb	IAmb	16 24 43.5	
	comp=Z,456nm,1.2s					
L19K	**White Mountain**	**64.36 332**	P	**P**	**16 24 40.2**	**+0.4**
	baz=108					
L19K			S	**S**	**16 33 12.3**	**+0.4**
	baz=108					
L19K			S	**S**	**16 33 12.3**	**+0.4**
	baz=108					
K20K	**Telida**	**64.39 334**	P	**P**	**16 24 40.4**	**+0.5**
	baz=109,SNR=143					
K20K			S	**S**	**16 33 12.2**	**0.0**
	baz=109					
K20K			S	**S**	**16 33 12.2**	**0.0**
	baz=109					
N18K	**Kilae Creek**	**64.39 331**	IAmb	IAmb	16 24 43.9	
	comp=Z,634nm,1.2s					
N18K	**Kilae Creek**	**64.39 331**	P	**P**	**16 24 40.9**	**+0.8**
	baz=106					
N18K			S	**S**	**16 33 13.7**	**+1.3**
	baz=106					
N18K			S	**S**	**16 33 13.7**	**+1.3**
	baz=106					
R16K	**Pilot Point**	**64.45 327**	P	**P**	**16 24 41.6**	**+1.2**
	baz=103					
R16K			S	**S**	**16 33 16.4**	**+3.3**
	baz=103					
R16K			S	**S**	**16 33 16.4**	**+3.3**
	baz=103					
E23K	**Chandalar**	**64.47 339**	P	**P**	**16 24 42.0**	**+1.5**
	baz=116					
E23K			S	**S**	**16 33 16.3**	**+3.1**
	baz=116					
M18K	**Stony River**	**64.59 332**	P	**P**	**16 24 41.7**	**+0.4**
	baz=106					
M18K			S	**S**	**16 33 15.0**	**+0.2**
	baz=106					
CHGN	**Chignik**	**64.63 326**	IAmb	IAmb	16 24 46.5	
	comp=Z,410nm,1.0s					
CHGN	**Chignik**	**64.63 326**	P	**P**	**16 24 42.2**	**+0.7**
	baz=102,SNR=36					
CHGN			S	**S**	**16 33 17.3**	**+2.0**
	baz=102					
H21K	**Melozitna Rive**	**64.67 336**	IAmb	IAmb	16 24 45.1	
	comp=Z,236nm,1.0s					
H21K	**Melozitna Rive**	**64.67 336**	P	**P**	**16 24 41.9**	**+0.2**
	baz=111					
H21K			S	**S**	**16 33 16.0**	**+0.4**
	baz=111					
H21K			S	**S**	**16 33 16.0**	**+0.4**
	baz=111					
J20K	**Nowinta River**	**64.69 335**	P	**P**	**16 24 42.4**	**+0.5**
	baz=109					
J20K			S	**S**	**16 33 17.1**	**+1.2**
	baz=109					
J20K			S	**S**	**16 33 17.1**	**+1.2**
	baz=109					
D24K	**Happy Valley**	**64.69 341**	P	**P**	**16 24 43.0**	**+1.2**
	baz=117					
D24K			S	**S**	**16 33 18.1**	**+2.4**
	baz=117					
TOLK	**Toolik Lake Re**	**64.71 340**	IAmb	IAmb	16 24 46.4	
	comp=Z,426nm,1.2s					
TOLK	**Toolik Lake Re**	**64.71 340**	P	**P**	**16 24 42.7**	**+0.7**
	baz=116,SNR=193					
TOLK			S	**S**	**16 33 20.0**	**+3.9**
	baz=116					
TOLK			S	**S**	**16 33 20.0**	**+3.9**
	baz=116					
O17K	**Koliganek Bris**	**64.73 330**	P	**P**	**16 24 43.2**	**+1.0**
	baz=105,SNR=78					
O17K			S	**S**	**16 33 19.4**	**+2.9**
	baz=105					
TVO	**Taravao**	**64.82 242**	*e*P	**P**	**16 24 45.6**	**+2.1**
	comp=Z,73nm,1.0s					
TVO			*e*S	**S**	**16 33 20.3**	**+1.4**
	comp=Z,2µm,25.5s					
TVO	**Taravao**	**64.82 242**	*e*LR	LR	16 44 02.4	
	comp=Z,10µm,25.7s					
C24K	**Franklin Bluff**	**64.91 341**	P	**P**	**16 24 44.1**	**+0.9**
	baz=117					
C24K			S	**S**	**16 33 20.3**	**+1.9**
	baz=117					
N17K	**Nushagak Hills**	**64.97 330**	IAmb	IAmb	16 24 48.5	
	comp=Z,560nm,1.1s					
N17K	**Nushagak Hills**	**64.97 330**	P	**P**	**16 24 44.6**	**+0.8**
	baz=105					
N17K			S	**S**	**16 33 21.2**	**+1.8**
	baz=105					
P16K	**Nushagak River**	**65.00 329**	P	**P**	**16 24 44.6**	**+0.6**
	baz=103,SNR=22					
P16K			S	**S**	**16 33 22.7**	**+3.0**
	baz=103					
P16K			S	**S**	**16 33 22.7**	**+3.0**
	baz=103					
PPT	**Papeete**	**65.00 242**	LR	LR	16 46 09.9	
	comp=Z,6µm,19.4s,baz=55,slow=29					
CHNA	**Chernabura Isl**	**65.00 324**	P	**P**	**16 24 44.6**	**+0.5**
	baz=100					
CHNA			S	**S**	**16 33 22.3**	**+2.3**
	baz=100					
CHNA	**Chernabura Isl**	**65.00 324**	P	**P**	**16 24 45.2**	**+1.1**
PPT2	**Papeete2**	**65.01 242**	*e*P	P	16 24 51.2	+6.4
	comp=Z,172nm,1.3s					
PPT2	**Papeete2**	**65.01 242**	*e*PP	**PP**	**16 27 07.4**	**-1.5**
	comp=Z,3µm,29.5s					
PPT2			*e*S	**S**	**16 33 20.5**	**-0.8**
	comp=Z,6µm,24.5s					
PPT2			*e*SS	**SS**	**16 37 33.8**	**-1.1**
	comp=Z,6µm,26.0s					
PPT2			*e*LQ	LQ	16 41 07.5	
	comp=Z,13µm,24.2s					
PPT2			*e*LR	LR	16 44 05.7	
	comp=Z,54µm,42.8s					
PPT2			*e*LR	LR	16 44 18.3	
	comp=Z,63µm,27.2s					
I20K	**Naaghedeneel**	**65.03 335**	P	**P**	**16 24 44.5**	**+0.5**
	baz=109					
I20K			S	**S**	**16 33 20.5**	**+0.6**
	baz=109					
PAE	**Paea**	**65.05 242**	*e*P	**P**	**16 24 46.2**	**+1.3**
	comp=Z,85nm,1.2s					
PAE			*e*pP	**pP**	**16 25 05.9**	**+0.8**
	comp=Z,82nm,1.0s					
PAE			*e*S	**S**	**16 33 24.7**	**+3.1**
	comp=Z,1µm,23.4s					
PAE			*e*SS	**SS**	**16 37 34.4**	**-0.9**
	comp=Z,1µm,27.6s					
PAE			*e*LR	LR	16 44 08.4	
	comp=Z,11µm,26.0s					
TTA	**Tatalina**	**65.09 333**	IAmb	IAmb	16 24 48.5	
	comp=Z,436nm,1.1s					
TTA	**Tatalina**	**65.09 333**	P	**P**	**16 24 44.7**	**+0.1**
	baz=107,SNR=179					
TTA			S	**S**	**16 33 20.8**	**-0.2**
	baz=107					
TTA	**Tatalina**	**65.09 333**	P	**P**	**16 24 44.7**	**+0.1**
IMAR	**Indian Mountai**	**65.15 337**	P	**P**	**16 24 43.9**	**-0.9**
O16K	**Kokwok River B**	**65.18 329**	IAmb	IAmb	16 24 49.0	
	comp=Z,491nm,1.4s					
O16K	**Kokwok River B**	**65.18 329**	P	**P**	**16 24 45.9**	**+0.7**
	baz=104					
O16K			S	**S**	**16 33 24.6**	**+2.6**
	baz=104					
D23K	**Nanushuk River**	**65.21 340**	P	**P**	**16 24 46.6**	**+1.4**
	baz=115					
D23K			S	**S**	**16 33 21.5**	**-0.7**
	baz=115					
J19K	**Poorman**	**65.24 334**	P	**P**	**16 24 46.0**	**+0.5**
	baz=108					
J19K			S	**S**	**16 33 22.1**	**-0.6**
	baz=108					
J19K			S	**S**	**16 33 22.1**	**-0.6**
	baz=108					
G21K	**Allakaket**	**65.25 337**	IAmb	IAmb	16 24 49.5	
	comp=Z,534nm,1.1s					
G21K	**Allakaket**	**65.25 337**	P	**P**	**16 24 46.0**	**+0.5**
	baz=111					
G21K			S	**S**	**16 33 24.5**	**+1.9**
	baz=111					
E22K	**Anaktuvuk Pass**	**65.25 339**	IAmb	IAmb	16 24 50.0	
	comp=Z,531nm,1.1s					
E22K	**Anaktuvuk Pass**	**65.25 339**	P	**P**	**16 24 46.2**	**+0.7**
	baz=113					
E22K			S	**S**	**16 33 23.9**	**+1.1**
	baz=113					
M17K	**Holitna River**	**65.31 331**	P	**P**	**16 24 46.6**	**+0.6**
	baz=105					
M17K			S	**S**	**16 33 25.1**	**+1.5**
	baz=105					
EUNU	**Eureka**	**65.37 1**	⇑P	**P**	**16 24 45.1**	**-1.0**
H20K	**Anotleneega Mo**	**65.42 336**	P	**P**	**16 24 46.8**	**+0.1**
	baz=109					
H20K			S	**S**	**16 33 25.0**	**+0.2**
	baz=109					
XMAS	**Kiritimati**	**65.48 265**	P	**P**	**16 24 50.2**	**+2.3**
F21K	**Alatna River**	**65.49 338**	P	**P**	**16 24 48.6**	**+1.5**
	baz=111					
F21K			S	**S**	**16 33 29.6**	**+3.9**
	baz=111					
J18K	**Innoko River**	**65.55 334**	IAmb	IAmb	16 24 49.5	
	comp=Z,664nm,1.6s					
J18K	**Innoko River**	**65.55 334**	P	**P**	**16 24 47.8**	**+0.3**
	baz=107					
J18K			S	**S**	**16 33 26.0**	**-0.5**
	baz=107					
SUMG	**Summit**	**65.57 15**	P	**P**	**16 24 45.3**	**-2.6**
SUMG	**Summit**	**65.57 15**	*i* P	**P**	**16 24 44.0**	**-3.9**
SUMG			*i* P	**P**	**16 24 45.0**	**-2.9**
SUMG			IAmb	IAmb	16 24 48.6	
	comp=Z,2µm,2.7s					
SUMG	**Summit**	**65.57 15**	⇓P	**P**	**16 24 46.0**	**-1.9**
N16K	**Nishlik Lake**	**65.72 330**	P	**P**	**16 24 49.7**	**+1.0**
	baz=103					
N16K			S	**S**	**16 33 29.5**	**+0.9**
	baz=103					
D22K	**Ayikyak River**	**65.84 340**	P	**P**	**16 24 50.6**	**+1.3**
	baz=113					
D22K			S	**S**	**16 33 31.3**	**+1.5**
	baz=113					
L17K	**Donlin**	**65.90 332**	P	**P**	**16 24 50.1**	**+0.4**
	baz=104					
L17K			S	**S**	**16 33 30.2**	**-0.5**
	baz=104					
M16K	**Timber Creek**	**65.94 331**	IAmb	IAmb	16 24 54.1	
	comp=Z,261nm,1.1s					
M16K	**Timber Creek**	**65.94 331**	P	**P**	**16 24 51.0**	**+1.0**
	baz=103,SNR=33					
M16K			S	**S**	**16 33 32.9**	**+1.7**
	baz=103					
O15K	**Ungalikthiuk R**	**65.95 329**	P	**P**	**16 24 49.9**	**-0.2**
	baz=102					
O15K			S	**S**	**16 33 31.5**	**0.0**
	baz=102					
GCSA	**Galena City Sc**	**65.99 335**	P	**P**	**16 24 50.5**	**+0.2**
	baz=107,SNR=16					
GCSA			S	**S**	**16 33 32.4**	**+0.7**
	baz=107					
NEEM	**North Greenlan**	**66.02 9**	*i* P	P	16 24 44.3	-6.3
NEEM			IAmb	IAmb	16 25 45.9	
	comp=Z,192nm,1.1s					
K17K	**Iditarod**	**66.05 333**	IAmb	IAmb	16 24 54.6	
	comp=Z,332nm,1.0s					
K17K	**Iditarod**	**66.05 333**	P	**P**	**16 24 50.9**	**+0.2**
	baz=105					
K17K			S	**S**	**16 33 29.8**	**-2.7**
	baz=105					
H19K	**Roundabout Mou**	**66.05 336**	P	**P**	**16 24 50.9**	**+0.3**
	baz=108,SNR=191					
H19K			S	**S**	**16 33 33.2**	**+0.8**
	baz=108					
E21K	**Killik River**	**66.11 339**	P	**P**	**16 24 51.6**	**+0.6**
	baz=111					
E21K			S	**S**	**16 33 34.7**	**+1.5**
	baz=111					
F20K	**Avaraart Lake**	**66.25 337**	P	**P**	**16 24 52.7**	**+0.8**
	baz=109					
F20K			S	**S**	**16 33 34.9**	**0.0**
	baz=109					
N15K	**Kwethluk River**	**66.29 330**	P	**P**	**16 24 53.1**	**+0.8**
	baz=102					
N15K			S	**S**	**16 33 38.5**	**+2.9**
	baz=102					
L16K	**Owhat River**	**66.33 331**	IAmb	IAmb	16 24 57.3	
	comp=Z,432nm,1.1s					
L16K	**Owhat River**	**66.33 331**	P	**P**	**16 24 53.3**	**+0.8**
	baz=103,SNR=89					
L16K			S	**S**	**16 33 38.2**	**+2.3**
	baz=103					
G19K	**Purcell Mounta**	**66.49 336**	P	**P**	**16 24 54.2**	**+0.7**
	baz=107					
G19K			S	**S**	**16 33 39.8**	**+2.0**
	baz=107					
S12K	**Black Hills**	**66.54 325**	P	**P**	**16 24 54.9**	**+0.9**
	baz=98					
S12K			S	**S**	**16 33 40.9**	**+2.2**
	baz=98					
J17K	**VABM Dome**	**66.56 333**	P	**P**	**16 24 54.7**	**+0.8**
	baz=104					
J17K			S	**S**	**16 33 38.3**	**-0.4**
	baz=104					
J17K			S	**S**	**16 33 38.3**	**-0.4**
	baz=104					
B22K	**Teshekpuk Lake**	**66.64 341**	P	**P**	**16 24 54.8**	**+0.5**
	baz=113					
B22K			S	**S**	**16 33 41.2**	**+1.8**
	baz=113					
C21K	**Knifeblade Rid**	**66.64 340**	P	**P**	**16 24 55.6**	**+1.2**
	baz=111					
C21K			S	**S**	**16 33 41.3**	**+1.7**

baz=111
M15K Kasigluk River 66.69 330 P **P 16 24 55.6 +0.8**
baz=102
M15K S **S 16 33 43.5 +3.2**
baz=102
O14K Tigyukauivet M 66.70 329 P **P 16 24 55.0 +0.1**
baz=100
O14K S **S 16 33 39.6 -0.8**
baz=100
H18K Honhosa River 66.71 335 IAmb IAmb 16 24 59.1
comp=Z,358nm,1.1s
H18K Honhosa River 66.71 335 P **P 16 24 55.9 +1.0**
baz=106
H18K S **S 16 33 42.0 +1.5**
baz=106
B21K Ikpikpuk River 66.76 340 P **P 16 24 55.7 +0.6**
baz=111
B21K S **S 16 33 41.6 +0.8**
baz=111
E20K Nigu River 66.82 339 P **P 16 24 55.9 +0.3**
baz=109,SNR=437
E20K S **S 16 33 43.9 +2.1**
baz=109
E19K Redstone River 66.94 338 IAmb IAmb 16 25 00.3
comp=Z,232nm,1.1s
E19K Redstone River 66.94 338 P **P 16 24 56.4 0.0**
baz=108,SNR=145
E19K S **S 16 33 45.1 +1.9**
baz=108
F19K Shaleruckik Mo 66.95 337 P **P 16 24 57.1 +0.7**
baz=107,SNR=347
F19K S **S 16 33 45.9 +2.6**
baz=107
N14K Kuskokwak Cree 67.03 329 P **P 16 24 57.3 +0.4**
baz=100
N14K S **S 16 33 44.9 +0.6**
baz=100
G18K Tagagawik 67.03 336 P **P 16 24 58.2 +1.2**
baz=106
G18K S **S 16 33 48.2 +3.9**
baz=106
D20K Etivluk River 67.12 339 P **P 16 24 58.7 +1.3**
baz=109
D20K S **S 16 33 47.2 +1.9**
baz=109
FALS False Pass 67.20 324 P **P 16 24 58.5 +0.3**
baz=97,SNR=6.6
FALS S **S 16 33 48.5 +1.9**
baz=97
FALS False Pass 67.20 324 P **P 16 24 59.1 +1.0**
J16K Anvik River 67.20 333 P **P 16 24 59.4 +1.4**
baz=103
J16K S **S 16 33 50.1 +3.7**
baz=103
L15K Ungalak Mounta 67.27 331 P **P 16 24 59.7 +1.3**
baz=101
L15K S **S 16 33 50.5 +3.3**
baz=101
H17K Granite Mounta 67.29 335 IAmb IAmb 16 25 03.9
comp=Z,607nm,1.3s
H17K Granite Mounta 67.29 335 P **P 16 24 59.9 +1.4**
baz=104
H17K S **S 16 33 50.2 +2.7**
baz=104
M14K Bethel 67.31 330 P **P 16 25 00.2 +1.5**
baz=100,SNR=111
M14K S **S 16 33 50.2 +2.4**
baz=100
I17K Unalakleet 67.38 334 IAmb IAmb 16 25 04.0
comp=Z,544nm,1.2s
I17K Unalakleet 67.38 334 P **P 16 25 00.5 +1.4**
baz=103,SNR=93
I17K S **S 16 33 52.7 +4.3**
baz=103
K15K Wolf Creek Mou 67.41 332 P **P 16 25 01.0 +1.6**
baz=102
K15K S **S 16 33 52.4 +3.5**
baz=102
TBI Tubuai 67.54 237 *e*P P 16 25 08.1 +7.3
comp=Z,26μm,27.5s
TBI Tubuai 67.54 237 *e*PP **PP 16 27 26.3 -4.5**
comp=Z,10μm,29.5s
TBI *e*S **S 16 33 53.9 +2.3**
comp=Z,42μm,28.0s
TBI *e*SS **SS 16 38 16.5 +2.6**
comp=Z,34μm,33.5s
TBI *e*LQ LQ 16 41 53.5
comp=Z,29μm,37.5s
TBI *e*LR LR 16 45 24.8
comp=Z,76μm,31.0s
TBI *e*LR LR 16 45 28.9
comp=Z,432μm,43.0s
D19K Kuna River 67.57 339 IAmb IAmb 16 25 03.0
comp=Z,644nm,1.4s
D19K Kuna River 67.57 339 P **P 16 25 01.4 +1.0**
baz=107,SNR=238
D19K S **S 16 33 51.7 +0.9**
baz=107
F18K Selawik 67.61 337 P **P 16 25 01.2 +0.7**
baz=105,SNR=145
F18K S **S 16 33 54.0 +2.8**
baz=105
G17K Kiwalik Mounta 67.73 335 P **P 16 25 02.5 +1.2**
baz=104
G17K S **S 16 33 54.6 +1.9**
baz=104
L14K Kuka Creek 67.77 331 IAmb IAmb 16 25 05.6
comp=Z,519nm,1.2s
L14K Kuka Creek 67.77 331 P **P 16 25 02.5 +1.0**
baz=100
L14K S **S 16 33 55.6 +2.4**
baz=100
M13K Dall Lake 67.93 330 P **P 16 25 04.0 +1.4**
baz=99
M13K S **S 16 33 59.5 +4.4**
baz=99
A21K Barrow 67.99 342 P **P 16 25 03.5 +0.7**
baz=110,SNR=50
A21K S **S 16 33 57.7 +2.2**
baz=110
A21K S **S 16 33 57.7 +2.2**
baz=110
E18K Tukpahlearik C 68.18 337 IAmb IAmb 16 25 08.6
comp=Z,428nm,1.4s
E18K Tukpahlearik C 68.18 337 P **P 16 25 04.8 +0.7**
baz=104
E18K S **S 16 33 57.7 -0.3**
baz=104
F17K Baldwin Pennin 68.19 336 IAmb IAmb 16 25 08.2
comp=Z,326nm,1.3s
F17K Baldwin Pennin 68.19 336 P **P 16 25 05.2 +1.1**
baz=104
F17K S **S 16 34 00.4 +2.3**
baz=104
H16K Elim 68.20 334 P **P 16 25 05.9 +1.6**
baz=102,SNR=233
H16K S **S 16 34 02.2 +4.0**
baz=102
G16K Koyuk River 68.40 335 IAmb IAmb 16 25 10.7
comp=Z,430nm,1.2s
G16K Koyuk River 68.40 335 P **P 16 25 06.8 +1.3**
baz=102
G16K S **S 16 34 04.1 +3.4**
baz=102
J14K Nanvaranak Lak 68.42 332 P **P 16 25 07.0 +1.4**
baz=100
J14K S **S 16 34 05.0 +4.2**
baz=100
E17K Hotham Inlet 68.56 337 P **P 16 25 07.2 +0.8**
baz=103,SNR=795
E17K S **S 16 34 03.4 +0.9**
baz=103
BORG Borgarnes 68.64 26 LR LR 16 55 24.7
comp=Z,12μm,18.4s,baz=266,slow=36
C18K Utukok River 68.70 338 IAmb IAmb 16 25 11.9
comp=Z,449nm,1.1s
C18K Utukok River 68.70 338 P **P 16 25 08.2 +0.8**
baz=104
C18K S **S 16 34 03.4 -0.9**
baz=104
K13K Kusilvak Mount 68.79 331 IAmb IAmb 16 25 12.9
comp=Z,285nm,1.2s
K13K Kusilvak Mount 68.79 331 P **P 16 25 09.0 +1.1**
baz=99
K13K S **S 16 34 07.3 +1.9**
baz=99
ALE Alert 68.82 4 P **P 16 25 05.9 -2.0**
ALE PcP **pP 16 25 30.0 +1.4**

UNV Unalaska Valle 68.90 322 IAmb IAmb 16 25 33.7
comp=Z,489nm,1.0s
UNV Unalaska Valle 68.90 322 P **P 16 25 09.3 +0.5**
baz=94,SNR=17
UNV S **S 16 34 08.0 +1.0**
baz=94
UNV Unalaska Valle 68.90 322 P **P 16 25 09.7 +0.9**
G15K Niukluk 69.02 334 P **P 16 25 10.5 +1.1**
baz=100
G15K S **S 16 34 13.1 +5.1**
baz=100
B18K Kokolik River 69.09 339 P **P 16 25 11.4 +1.7**
baz=104
B18K S **S 16 34 11.7 +2.9**
baz=104
D17K Noatak River 69.17 337 P **P 16 25 11.0 +0.8**
baz=102,SNR=230
D17K S **S 16 34 10.1 +0.5**
baz=102
RDOG Red Dog Mine 69.18 338 IAmb IAmb 16 25 14.9
comp=Z,383nm,1.2s
RDOG Red Dog Mine 69.18 338 P **P 16 25 11.1 +0.8**
baz=102,SNR=252
RDOG S **S 16 34 10.9 +1.0**
baz=102
M11K Mekoryuk 69.33 329 IAmb IAmb 16 25 16.2
comp=Z,587nm,1.4s
M11K Mekoryuk 69.33 329 P **P 16 25 13.2 +1.9**
baz=97,SNR=9.1
M11K S **S 16 34 15.9 +4.2**
baz=97
C17K DeLong Mountai 69.37 338 P **P 16 25 12.2 +0.7**
baz=102
C17K S **S 16 34 12.9 +0.8**
baz=102
F15K North Star Dit 69.40 335 IAmb IAmb 16 25 17.1
comp=Z,551nm,1.1s
F15K North Star Dit 69.40 335 P **P 16 25 13.1 +1.4**
baz=100
F15K S **S 16 34 16.4 +4.0**
baz=100
ANM Nome 69.51 334 IAmb IAmb 16 25 16.7
comp=Z,270nm,1.2s
ANM Nome 69.51 334 P **P 16 25 13.5 +1.1**
baz=99,SNR=78
ANM S **S 16 34 17.3 +3.5**
baz=99
SCO Scoresbysund 69.63 20 *i* P **P 16 25 11.0 -2.0**
SCO IAmb IAmb 16 26 01.8
comp=Z,67nm,1.1s
PMOZ Porto Moniz, M 69.73 60 *e*P **P 16 25 14.4 -0.1**
PMOZ *i* Amb 16 25 50.0
comp=Z,304nm,1.4s
PMOZ *e*PP PP 16 28 06.8 +17
PMOZ *e*S **S 16 34 23.4 +5.6**
PMOZ *e*LQ LQ 16 42 25.2
PMOZ *e*LR LR 16 46 08.3
PMOZ *i* AMs_20 16 49 52.5
comp=Z,15μm,22.0s
PMOZ Porto Moniz, M 69.73 60 P **P 16 25 12.7 -1.8**
F14K Arctic Creek 70.05 335 P **P 16 25 17.1 +1.4**
baz=98
F14K S **S 16 34 22.4 +2.3**
baz=98
GO10 Punta Arenas 70.08 167 IAmb IAmb 16 25 41.9
comp=Z,839nm,2.0s
C16K Lisburne Hills 70.12 338 IAmb IAmb 16 25 18.9
comp=Z,804nm,1.5s
C16K Lisburne Hills 70.12 338 P **P 16 25 17.0 +0.9**
baz=100
C16K S **S 16 34 22.0 +1.2**
baz=100
TNA Tin City 70.72 335 IAmb IAmb 16 25 24.9
comp=Z,424nm,1.2s
TNA Tin City 70.72 335 P **P 16 25 21.1 +1.4**
baz=97,SNR=175
TNA S **S 16 34 31.2 +3.3**
baz=97
MACI Morro de la Ar 70.79 65 P **P 16 25 20.5 -0.7**
MACI IAmb IAmb 16 25 22.4
comp=Z,360nm,1.3s
P08K Saint George I 70.79 325 P **P 16 25 20.4 0.0**
baz=92
P08K S **S 16 34 30.2 +1.2**
baz=92
P08K S **S 16 34 30.2 +1.2**
baz=92
MG03 Isla Dawson 70.85 167 P **P 16 25 21.9 +1.3**
DBG Daneborg 71.04 16 *i* P P 16 25 15.2 -6.3
DBG IAmb IAmb 16 26 05.1
comp=Z,68nm,1.1s
SPIA Saint Paul Isl 71.20 326 P **P 16 25 24.3 +1.5**
baz=92
SPIA S **S 16 34 36.8 +3.2**
baz=92
EOSO Osorio 71.65 65 P **P 16 25 24.7 -1.5**
DAG Danmarks Havn 71.98 13 P **P 16 25 23.7 -3.4**
DAG Danmarks Havn 71.98 13 *i* P **P 16 25 23.0 -4.2**
DAG IAmb IAmb 16 25 26.2
comp=Z,63nm,0.8s
DAG Danmarks Havn 71.98 13 ⇑P **P 16 25 24.6 -2.6**
GAMB Gambell 72.19 333 IAmb IAmb 16 25 33.3
comp=Z,233nm,1.2s
GAMB Gambell 72.19 333 P **P 16 25 29.9 +1.3**
baz=93,SNR=30
GAMB S **S 16 34 49.2 +4.4**
baz=93
USHA Ushuaia 72.23 166 LR LR 16 50 49.2
comp=Z,10μm,20.6s,baz=340,slow=30
EFI East Falkland 72.55 158 P **P 16 25 30.9 +0.1**
EFI East Falkland 72.55 158 *d i* P **P 16 25 31.2 +0.4**
EFI pmax pmax
comp=Z,83nm,1.4s
BBTS Babate 72.89 79 LR LR 16 54 43.1
comp=Z,10μm,19.9s,baz=160,slow=34
NOR Nord 73.38 9 *i* P P 16 25 30.2 -5.3
NOR IAmb IAmb 16 27 00.9
comp=Z,358nm,1.9s
VAL Valentia 73.62 40 P **P 16 25 34.9 -2.4**
VAL Valentia 73.62 40 P **P 16 25 35.6 -1.7**
IGLA Glengowla, Co 74.07 38 P **P 16 25 36.9 -3.0**
JMIC Jan Mayen 74.11 20 LR LR 16 57 59.8
comp=Z,61μm,21.8s,baz=264,slow=36
IDGL Inch Island, C 75.05 36 P **P 16 25 44.2 -1.4**
ADK Adak 75.09 320 P **P 16 25 48.8 +2.9**
RAR Rarotonga 75.26 243 LR LR 16 52 07.9
comp=Z,3μm,18.1s,baz=58,slow=30
RAR Rarotonga 75.26 243 P **P 16 25 49.2 +1.8**
LIS Lisbon 75.62 53 *e*P **P 16 25 48.0 -1.2**
LIS *e*S **S 16 35 24.4 +0.1**
LIS IAMs_20 IAMs_20 16 50 31.3
comp=Z,38μm,22.8s
LIS Lisbon 75.62 53 *e*P **P 16 25 48.0 -1.2**
LIS *e*S **S 16 35 24.4 +0.1**
IWEX Carrickbyrne, 75.72 39 P **P 16 25 48.4 -1.1**
ILTH Belurgan, Co L 75.82 37 *e*P **P 16 25 47.5 -2.5**
ILTH Belurgan, Co L 75.82 37 P **P 16 25 49.0 -1.0**
DSB Dublin 75.88 38 P **P 16 25 47.1 -3.3**
DSB Dublin 75.88 38 P **P 16 25 48.8 -1.5**
KPL Plockton 75.89 34 *e*P **P 16 25 48.0 -2.3**
KPL IAmb IAmb 16 25 49.9
comp=Z,166nm,1.1s
KPL IAMs_20 IAMs_20 16 54 13.8
comp=Z,41μm,26.7s
PCAS Casmilo, Conde 75.95 52 *e*P **P 16 25 49.7 -1.3**
PCAS *i* Amb 16 26 17.3
comp=Z,278nm,1.7s
COI Coimbra 75.99 52 *e*P **P 16 25 53.3 +2.0**
PCAB Cabril 76.08 50 *e*P **P 16 25 50.4 -1.5**
PFVI Vila Bisbo 76.09 55 *e*P **P 16 25 51.1 -0.8**
PFVI *i* Amb 16 26 31.6
comp=Z,332nm,1.5s
PFVI Vila Bisbo 76.09 55 P **P 16 25 49.7 -2.2**
LAWE Loch Awe, Argy 76.14 35 *e*P **P 16 25 49.9 -1.8**
LAWE IAMs_20 IAMs_20 16 58 54.1
comp=Z,31μm,19.0s
MORF Marmelete 76.20 55 *e*P **P 16 25 51.4 -1.2**
MORF *e*S **S 16 35 31.0 +0.1**
MORF IAMs_20 IAMs_20 16 50 39.6
comp=E,42μm,31.2s
MORF Marmelete 76.20 55 *e*P **P 16 25 51.6 -1.0**
MORF *i* Amb 16 25 54.5
comp=E,193nm,1.4s
MORF Marmelete 76.20 55 *e*P **P 16 25 51.4 -1.2**
MORF *e*S **S 16 35 31.0 +0.1**
PMTG Montargil 76.29 53 *e*P **P 16 25 51.5 -1.5**

PMTG *i* Amb 16 26 23.2
comp=E,172nm,1.7s
PVIS Viseu 76.31 51 *e*P **P 16 25 51.5 -1.7**
PVRL Vila Real 76.37 51 *e*P **P 16 25 52.0 -1.5**
PVRL *i* Amb 16 26 25.4
comp=E,169nm,1.6s
MESJ Messejana 76.47 54 *e*P **P 16 25 52.7 -1.3**
MESJ *e*S **S 16 35 33.8 +0.1**
MESJ IAMs_20 IAMs_20 16 50 39.3
comp=Z,38μm,34.7s
MESJ Messejana 76.47 54 *e*P **P 16 25 52.9 -1.1**
MESJ Messejana 76.47 54 *e*P **P 16 25 52.7 -1.3**
MESJ *e*S **S 16 35 33.8 +0.1**
EVO Evora 76.53 53 P **P 16 25 53.2 -1.1**
MTE Manteigas 76.62 51 *e*P **P 16 25 53.0 -2.0**
MTE *i* Amb 16 25 54.5
comp=Z,209nm,1.4s
MTE *e*S **S 16 35 38.3 +2.9**
MTE *e*LQ LQ 16 46 47.3
MTE *e*LR LR 16 49 52.5
MTE *i* AMs_20 16 53 59.6
comp=Z,16μm,20.0s
PCVE Castro Verde 76.64 54 *e*P **P 16 25 54.8 -0.2**
PCVE Castro Verde 76.64 54 P **P 16 25 52.1 -2.9**
GAL1 Galloway 76.67 36 *e*P **P 16 25 52.6 -2.2**
GAL1 IAmb IAmb 16 25 53.8
comp=Z,87nm,1.0s
GAL1 IAMs_20 IAMs_20 16 53 05.7
comp=Z,30μm,29.2s
PGBU Glenifferbraes 76.69 35 *e*P **P 16 25 51.9 -3.0**
PGBU IAMs_20 IAMs_20 16 55 35.2
comp=Z,52μm,22.9s
PBEJ Beja 76.71 54 *e*P **P 16 25 54.2 -1.2**
PBEJ *i* Amb 16 25 55.5
comp=Z,120nm,1.5s
PCBR Castelo Branco 76.75 52 *e*P **P 16 25 54.0 -1.6**
PCBR *i* Amb 16 26 24.5
comp=Z,136nm,1.6s
PBDV Barranco-do-Ve 76.78 55 *e*P **P 16 25 55.3 -0.6**
PBDV *i* Amb 16 25 58.0
comp=Z,210nm,1.4s
WIM Isle of Man 76.78 37 *e*P **P 16 25 53.4 -2.0**
PESTR Estremoz 76.81 53 *e*P **P 16 25 54.6 -1.4**
PESTR *i* Amb 16 26 42.2
comp=Z,110nm,1.8s
PESTR Estremoz 76.81 53 P **P 16 25 53.4 -2.6**
IOMK Kirk Michael 76.83 37 *e*P **P 16 25 53.5 -2.2**
IOMK IAmb IAmb 16 25 55.4
comp=Z,42nm,1.0s
IOMK IAMs_20 IAMs_20 16 51 03.8
comp=Z,18μm,38.9s
INVG Invergeldie, C 76.87 35 *e*P **P 16 25 53.6 -2.3**
INVG IAmb IAmb 16 25 55.4
comp=Z,43nm,0.9s
INVG IAMs_20 IAMs_20 16 56 05.4
comp=Z,18μm,24.9s
PMRV Marv??o 76.88 52 *e*P **P 16 25 54.0 -2.3**
PMRV *i* Amb 16 25 56.8
comp=Z,174nm,1.7s
PMRV *e*PP **PP 16 28 56.6 +6.5**
PMRV *e*S **S 16 35 45.4 +7.3**
PMRV *e*LR LR 16 49 50.0
PMRV *i* AMs_20 16 53 24.7
comp=Z,14μm,22.0s
MVO Moncorvo 76.90 51 *e*P **P 16 25 55.1 -1.4**
MVO *i* Amb 16 25 57.8
comp=Z,153nm,1.5s
MVO *e*S **S 16 35 44.4 +5.9**
MVO *e*LQ LQ 16 46 57.0
MVO *e*LR LR 16 50 04.4
MVO *i* AMs_20 16 53 32.4
comp=Z,11μm,24.0s
NEWG New Galloway 76.92 36 *e*P **P 16 25 53.1 -3.1**
NEWG IAmb IAmb 16 25 55.8
comp=Z,108nm,1.0s
NEWG IAMs_20 IAMs_20 16 53 28.5
comp=Z,29μm,28.7s
PVAQ Vaqueiros 76.92 54 *e*P **P 16 25 55.7 -0.9**
PVAQ *i* Amb 16 25 58.1
comp=Z,122nm,1.7s
PVAQ *e*LR LR 16 49 47.3
PVAQ *i* AMs_20 16 54 58.9
comp=Z,13μm,22.0s
PVAQ Vaqueiros 76.92 54 P **P 16 25 53.9 -2.7**
RSBS Rosebush, Pemb 77.01 39 *e*P **P 16 25 54.2 -2.6**
RSBS IAMs_20 IAMs_20 16 52 26.6
comp=Z,26μm,27.7s
PBRG Braganca 77.03 50 *e*P **P 16 25 55.6 -1.6**
PBRG *i* Amb 16 26 26.7
comp=Z,198nm,1.7s
EGRO El Granado 77.09 54 P **P 16 25 54.5 -3.0**
WME Myndd Eilian 77.09 38 *e*P **P 16 25 54.0 -3.1**
MCD Coleburn Disti 77.15 34 *e*P **P 16 25 56.1 -1.4**
EBAD Badajoz 77.27 53 P **P 16 25 55.7 -2.8**
HTL Hartland 77.30 40 *e*P **P 16 25 56.2 -2.2**
HTL IAMs_20 IAMs_20 16 57 43.4
comp=Z,29μm,24.7s
PBAR Barrancos 77.34 54 *e*P **P 16 25 57.7 -1.2**
PBAR Barrancos 77.34 54 P **P 16 25 56.4 -2.5**
EDI Edinburgh 77.41 35 *e*P **P 16 25 56.7 -2.2**
EDI IAmb IAmb 16 25 58.5
comp=Z,88nm,0.9s
EDI IAMs_20 IAMs_20 16 55 55.6
comp=Z,33μm,26.2s
ESK Eskdalemuir 77.48 36 P **P 16 25 57.2 -2.2**
ESK IAmb IAmb 16 25 59.1
comp=Z,166nm,1.0s
ESK Eskdalemuir 77.48 36 *e*P **P 16 25 57.1 -2.2**
ESK IAmb IAmb 16 25 58.8
comp=Z,159nm,1.0s
ESK IAMs_20 IAMs_20 16 55 56.4
comp=Z,27μm,24.5s
ESK Eskdalemuir 77.48 36 P **P 16 25 57.2 -2.2**
ESK pmax pmax
comp=Z,166nm,1.0s
EKA Eskdalemuir Ar 77.50 36 P **P 16 25 57.2 -2.3**
comp=Z,81nm,0.8s,baz=278,slow=5.8,SNR=83
EKA sP **pP 16 26 24.5 +4.1**
comp=Z,43nm,0.7s,baz=280,slow=5.8,SNR=6.0
comp=Z,81nm,0.8s
KESW Keswick, Cumbr 77.64 37 *e*P **P 16 25 57.3 -2.9**
KESW IAMs_20 IAMs_20 16 53 33.4
comp=Z,29μm,28.3s
DRUM Mains of Drumt 77.66 34 *e*P **P 16 25 58.0 -2.2**
DRUM IAmb IAmb 16 25 59.9
comp=Z,98nm,0.9s
DRUM IAMs_20 IAMs_20 16 54 36.7
comp=Z,43μm,28.8s
EMIN Mina Concepcio 77.69 54 P **P 16 25 58.3 -2.6**
DYA Yadsworthy 77.72 41 *e*P **P 16 25 58.1 -2.7**
ESY Stoneypath 77.73 35 *e*P **P 16 25 58.7 -2.0**
AVE Averroes 77.82 59 IAmb IAmb 16 26 01.8
comp=Z,192nm,0.9s
KBS Kingsbay 78.31 11 *e*P **P 16 26 04.0 +0.5**
KBS IVmB_BB 16 26 28.7
comp=Z,4μm,7.2s
KBS *e*PP **PP 16 29 02.7 +1.7**
KBS *e*S **S 16 35 52.0 -0.2**
KBS *e*SS **SS 16 41 02.9 +7.4**
KBS IVMs_BB IVMs_BB 17 03 02.0
comp=Z,10μm,17.0s
KBS Kingsbay 78.31 11‖ *e*P **P 16 26 04.4 +0.9**
KBS pmax pmax
comp=Z,92nm,1.3s
KBS MLR MLR
comp=Z,27μm,19.0s
KBS Kingsbay 78.31 11 *i* P **P 16 26 01.1 -2.5**
HPK Haverah Park 78.59 37 *e*P **P 16 26 03.4 -2.1**
HPK IAMs_20 IAMs_20 16 53 59.7
comp=Z,25μm,27.1s
STRD Stroud 78.62 39 *e*P **P 16 26 03.7 -2.0**
STRD IAmb IAmb 16 26 04.7
comp=Z,84nm,0.8s
STRD IAMs_20 IAMs_20 16 54 33.9
comp=Z,22μm,25.0s
CWF Charnwood Fore 78.98 38 *e*P **P 16 26 05.2 -2.5**
CWF IAMs_20 IAMs_20 16 53 56.0
comp=Z,30μm,34.1s
PAB San Pablo 79.18 52 P **P 16 26 08.6 -0.6**
WOL Wolverton 79.28 40 *e*P **P 16 26 06.9 -2.4**
WOL IAMs_20 IAMs_20 16 56 35.1
comp=Z,27μm,24.6s
SPA0 Spitsbergen Ar 79.39 11 *e*P **P 16 26 09.4 -0.1**
SPA0 IVmB_BB 16 26 33.2
comp=Z,3μm,8.8s

SPA0 eS S 16 36 08.4 +4.6
SPA0 IVMs_BB IVMs_BB 16 56 06.0
comp=Z,8μm,93.7s
SPITS Spitsbergen Ar 79.39 11 P P 16 26 08.0 -1.5
comp=Z,8.6nm,0.4s,baz=202,slow=0.9,SNR=71
SPITS pP pP 16 26 29.3 -1.3
comp=Z,6.1nm,0.5s,baz=173,slow=14,SNR=2.1
SPITS LR LR 17 04 36.2
comp=Z,40μm,19.3s,baz=236,slow=38
comp=Z,8.6nm,0.4s
SPITS Spitsbergen Ar 79.39 11 P P 16 26 08.0 -1.5
ESDC Sonseca Array 79.45 52 P P 16 26 08.6 -2.0
ESDC IAmb IAmb 16 26 10.3
comp=Z,509nm,1.4s
ESDC Sonseca Array 79.45 52 P P 16 26 08.6 -2.0
comp=Z,48nm,0.9s,baz=289,slow=5.5,SNR=84
ESDC pP pP 16 26 29.5 -2.3
comp=Z,27nm,0.9s,baz=288,slow=5.7,SNR=3.2
ESDC LR LR 16 55 00.1
comp=Z,14μm,21.8s,baz=283,slow=31
comp=Z,48nm,0.9s
HSPB Hornsund (broa 79.64 13 eP P 16 26 10.6 -0.2
HSPB eS S 16 36 11.3 +4.9
HSPB eL L 16 59 10.9
comp=Z,49μm,27.1s
WACR West Acre 80.14 38 eP P 16 26 12.1 -1.8
WACR IAmb IAmb 16 26 13.0
comp=Z,151nm,0.9s
WACR IAMs_20 IAMs_20 16 54 14.1
comp=Z,26μm,27.1s
MDT Midelt 80.23 59 LR LR 16 56 00.3
comp=Z,10μm,21.4s,baz=305,slow=31
ELMS Elmsett, Ipswi 80.48 39 eP P 16 26 13.8 -2.0
ELMS IAMs_20 IAMs_20 16 54 24.0
comp=Z,30μm,27.3s
SUE Sulen 80.58 29 eP P 16 26 14.6 -1.6
SUE ePP PP 16 29 22.1 +1.8
SUE eS S 16 36 19.0 +2.4
SUE eSS SS 16 41 36.2 +6.2
SUE IVMs_BB IVMs_BB 16 55 21.5
comp=Z,15μm,30.0s
FOO Floro 80.59 29 eP P 16 26 16.0 -0.1
FOO IVmB_BB 16 26 35.5
comp=Z,4μm,5.1s
FOO ePP PP 16 29 21.3 +1.0
FOO eS SKSac 16 36 20.0 -7.3
FOO eSS SS 16 41 37.8 +7.7
FOO IVMs_BB IVMs_BB 16 55 54.5
comp=Z,14μm,24.8s
BILL Bilibino 80.65 338 P P 16 26 16.5 +0.1
BILL Bilibino 80.65 338c iP P 16 26 17.3 +0.9
BILL pmax pmax
comp=Z,993nm,1.4s
BILL MLR MLR
comp=Z,21μm,25.0s
MFF Saint Martin d 80.87 44 eP P 16 26 15.4 -2.6
MFF pmax pmax
comp=Z,74nm,1.1s
BER Bergen 81.01 30 eP P 16 26 19.2 +0.8
BER IVmB_BB 16 26 29.0
comp=Z,3μm,4.2s
BER ePP PP 16 29 25.5 +1.7
BER eS SKSac 16 36 24.3 -5.9
BER eSS SS 16 41 45.6 +9.1
BER IVMs_BB IVMs_BB 16 54 57.5
comp=Z,12μm,35.7s
KMY Karmoy 81.25 31 eP P 16 26 18.5 -1.2
KMY ePP PP 16 29 25.6 -0.2
KMY eS SKSac 16 36 25.5 -6.4
KMY eSS SS 16 41 45.3 +5.1
KMY IVMs_BB IVMs_BB 16 58 40.0
comp=Z,10μm,26.2s
AKN Aaknes 81.34 28 eP P 16 26 21.7 +1.5
AKN IVmB_BB 16 26 44.0
comp=Z,3μm,11.8s
AKN eS SKSac 16 36 26.4 -6.1
AKN i 16 52 54.0
AKN IVMs_BB IVMs_BB 16 54 03.0
comp=Z,14μm,46.1s
ODD1 Odda 81.76 30 eP P 16 26 22.0 -0.5
ODD1 ePP PP 16 29 32.5 +2.5
ODD1 eS SKSac 16 36 32.7 -2.8
ODD1 eSS SS 16 41 53.2 +5.4
ODD1 i 16 52 40.2
ODD1 IVMs_BB IVMs_BB 16 53 47.2
comp=Z,10μm,36.9s
BLS5 Blasjo 81.80 31 eP P 16 26 22.4 -0.3
BLS5 IVmB_BB 16 26 53.1
comp=Z,3μm,6.1s
BLS5 ePP PP 16 29 32.6 +2.3
BLS5 eS S 16 36 29.7 +0.2
BLS5 i 16 52 40.2
BLS5 IVMs_BB IVMs_BB 16 54 26.6
comp=Z,12μm,34.9s
LFF La Frestale 81.83 46 eP P 16 26 20.6 -2.5
LFF pmax pmax
comp=Z,77nm,0.9s
CLF Chambon-Foret 82.16 42 IAmb IAmb 16 26 25.1
comp=Z,264nm,1.3s
PMSA Palmer Station 82.17 168 P P 16 26 25.0 +0.7
PMSA Palmer Station 82.17 168 LR LR 16 55 46.0
comp=Z,6μm,21.8s,baz=331,slow=30
PMSA Palmer Station 82.17 168 eP P 16 26 24.0 -0.2
LOF Lofoten 82.18 21 eP P 16 26 25.2 +0.7
LOF IVmB_BB 16 27 00.9
comp=Z,3μm,3.0s
LOF ePP PP 16 29 35.1 +1.9
LOF eS SKSac 16 36 36.1 -1.8
LOF eSS SS 16 41 58.9 +5.4
LOF IVMs_BB IVMs_BB 16 57 28.1
comp=Z,14μm,32.6s
DOMB Dombas 82.31 28 eP P 16 26 25.0 -0.4
DOMB IVmB_BB 16 26 25.5
comp=Z,4μm,3.7s
DOMB ePP PP 16 29 35.6 +1.1
DOMB eS SKSac 16 36 38.5 -0.6
DOMB eSS SS 16 42 01.4 +5.5
DOMB i 16 53 09.0
DOMB IVMs_BB IVMs_BB 16 54 30.2
comp=Z,14μm,45.4s
SKAR Skarslia 82.35 29 eP P 16 26 26.9 +1.3
SKAR IVmB_BB 16 26 44.9
comp=Z,3μm,7.2s
SKAR ePP PP 16 29 35.1 +0.2
SKAR eS SKSac 16 36 39.0 -0.5
SKAR eSS SS 16 42 01.8 +5.2
SKAR i 16 53 07.8
SKAR IVMs_BB IVMs_BB 16 56 09.7
comp=Z,13μm,36.4s
SNART Snartemo 82.47 32 eP P 16 26 27.0 +0.9
SNART eS SKSac 16 36 39.5 -0.7
KONS Konsvik 82.58 23 eP P 16 26 27.6 +1.0
STOK Stokkvaagen 82.60 23 eP P 16 26 28.5 +1.8
STOK IVmB_BB 16 27 03.9
comp=Z,3μm,4.6s
STOK ePP PP 16 29 39.5 +2.8
STOK eS SKSac 16 36 40.4 -0.4
STOK IVMs_BB IVMs_BB 16 57 11.2
comp=Z,15μm,35.4s
CEST Esterri de Car 82.71 48 IAmb IAmb 16 26 30.5
comp=Z,95nm,1.1s
LEIR Leirfjorden 82.71 23 eP P 16 26 27.5 +0.2
LEIR IVmBB 16 26 41.1
comp=Z,2μm,4.8s
LEIR eS SKSac 16 36 41.5 0.0
LEIR eSS SS 16 42 05.7 +4.2
LEIR i 16 54 12.8
LEIR IVMs_BB IVMs_BB 16 56 56.8
comp=Z,16μm,39.3s
CAF Calviac 82.75 46 eP P 16 26 25.2 -2.8
CAF pmax pmax
comp=Z,77nm,1.4s
NSS Namsos 82.79 25 eP P 16 26 27.4 -0.3
NSS ePP PP 16 29 42.8 +4.5
NSS eS S 16 36 43.1 +3.7
NSS IVMs_BB IVMs_BB 16 55 27.4
comp=Z,17μm,42.2s
UCC Uccle 82.83 39 dP P 16 26 26.9 -1.3
comp=Z,35nm,1.0s
STEI Steigen 82.85 21 eP P 16 26 28.1 +0.1
STEI IVmB_BB 16 26 30.3
comp=Z,3μm,9.0s
STEI ePP PP 16 29 37.7 -1.0
STEI eS SKSac 16 36 42.6 +0.3

STEI eSS SS 16 42 09.4 +6.0
STEI i 16 53 45.0
STEI IVMs_BB IVMs_BB 16 58 04.6
comp=Z,16μm,27.2s
FAUS Fauske 83.07 22 IVmB_BB 16 26 29.4
comp=Z,4μm,4.1s
FAUS eP P 16 26 30.2 +1.1
FAUS ePP PP 16 29 40.3 -0.2
FAUS eS S 16 36 44.6 +2.5
FAUS eSS SS 16 42 11.6 +4.9
FAUS IVMs_BB IVMs_BB 16 57 39.4
comp=Z,15μm,34.0s
DOU Dourbes 83.15 40 dP P 16 26 27.8 -2.1
comp=Z,23nm,1.0s
MOR8 Moi Rana 83.20 23 eP P 16 26 30.1 +0.2
MOR8 IVmB_BB 16 26 35.1
comp=Z,4μm,5.0s
MOR8 ePP PP 16 29 44.3 +2.6
MOR8 eS S 16 36 47.9 +4.4
MOR8 IVMs_BB IVMs_BB 16 58 03.2
comp=Z,16μm,30.4s
BMRD Maredsous 83.21 40 dP P 16 26 28.8 -1.4
comp=Z,19nm,1.3s
SSF Saint Saulge 83.21 43 eP P 16 26 27.4 -2.9
SSF pmax pmax
comp=Z,59nm,1.0s
KONO Kongsberg 83.27 30⇓eP P 16 26 30.1 -0.2
KONO pmax pmax
comp=Z,140nm,2.4s
KONO MLR MLR
comp=Z,24μm,21.0s
NC204 NORSAR Array S 83.32 28 P P 16 26 30.6 0.0
BGES Gesves 83.38 40 dP P 16 26 29.1 -2.0
comp=Z,46nm,1.0s
TRO Tromso 83.41 19 eP P 16 26 30.9 +0.1
TRO IVmB_BB 16 26 36.0
comp=Z,5μm,4.1s
TRO ePP PP 16 29 48.7 +5.4
TRO eS S 16 36 49.5 +4.1
TRO IVMs_BB IVMs_BB 16 59 22.2
comp=Z,19μm,30.2s
HOPE Hope Point 83.47 151 P P 16 26 31.9 +0.7
HOPE IAmb IAmb 16 27 00.0
comp=Z,788nm,1.9s
HOPE Hope Point 83.47 151 P P 16 26 31.9 +0.7
HOPE pmax pmax
comp=Z,788nm,1.9s
BCLA Clavier 83.51 40 dP P 16 26 29.9 -1.8
comp=Z,33nm,1.0s
BCLA dPP PP 16 29 45.8 +1.2
NAO01 NORSAR Array S 83.51 29 P P 16 26 31.8 +0.3
RCHB Rochefort 83.53 40 dP P 16 26 29.8 -2.0
comp=Z,30nm,1.1s
NB2 NORSAR Subarra 83.60 28 P P 16 26 31.0 -1.0
comp=Z,699nm,3.3s,baz=288,slow=5.3
NB2 pP sP 16 27 16.7 +15
comp=Z,47nm,1.0s,baz=291,slow=5.1
NB2 NORSAR Subarra 83.60 28 P P 16 26 31.0 -1.0
baz=288,slow=5.3
NOA NORSAR Array B 83.60 28 P P 16 26 30.8 -1.2
comp=Z,19nm,1.0s,baz=290,slow=5.1,SNR=29
comp=Z,19nm,1.0s
BSTI Sart Tilman 83.63 39 dP P 16 26 30.9 -1.4
BEBN Eben Emael 83.64 39 dP P 16 26 31.3 -1.0
AFI Afiamalu 83.64 254 P P 16 26 36.3 +3.2
AFI Afiamalu 83.64 254 P P 16 26 36.6 +3.5
AFI pmax pmax
comp=Z,35nm,1.7s
AFI Afiamalu 83.64 254 P P 16 26 35.2 +2.1
OSL Oslo 83.72 30 eP P 16 26 33.5 +0.9
OSL IVmB_BB 16 26 37.3
comp=Z,5μm,5.8s
OSL eS S 16 36 52.0 +3.1
OSL eSS SS 16 42 22.1 +5.4
OSL IVMs_BB IVMs_BB 16 56 32.3
comp=Z,11μm,34.2s
NC602 NORSAR Array S 83.85 29 P P 16 26 33.1 -0.2
NC602 NORSAR Array S 83.85 29 eP P 16 26 33.1 -0.2
NC602 ePP PP 16 29 48.9 +1.8
NC602 eSKSac S 16 36 51.2 +0.9
NC602 eSS SS 16 42 20.3 +1.7
NC602 i 16 53 32.8
NC602 IVMs_BB IVMs_BB 16 57 39.9
comp=Z,12μm,29.3s
MEM Membach 83.89 39 dP P 16 26 31.8 -1.9
comp=Z,24nm,1.0s
JETT Jettan, Norway 83.91 19 eP P 16 26 33.0 -0.5
JETT IVmB_BB 16 26 34.1
comp=Z,4μm,1.8s
JETT ePP PP 16 29 47.3 -0.2
JETT eS S 16 36 54.3 +3.7
JETT eSS SS 16 42 25.3 +6.1
JETT IVMs_BB IVMs_BB 16 59 50.4
comp=Z,21μm,27.0s
BHOU Houvegnez 83.96 40 dP P 16 26 33.4 -0.7
BHOU dPP PP 16 29 49.3 +1.0
BTNL Ternell 83.97 39 dP P 16 26 32.6 -1.5
MUD Monsted U'grnd 84.03 33 iP P 16 26 30.0 -4.2
MUD IAmb IAmb 16 26 34.0
comp=Z,230nm,1.9s
WLF Walferdange 84.24 40 dP P 16 26 34.5 -1.0
comp=Z,27nm,1.0s
WLF Walferdange 84.24 40 eP P 16 26 33.9 -1.5
comp=Z,61nm,1.0s,baz=289,slow=4.9
WLF epP pP 16 29 59.4 +2.7
HAMF Hammerfest 84.40 18 eP P 16 26 36.6 +0.8
HAMF IVmB_BB 16 27 04.1
comp=Z,7μm,4.5s
HAMF ePP PP 16 29 54.2 +2.9
HAMF e 16 36 55.4
HAMF eSS SS 16 42 31.6 +5.4
HAMF IVMs_BB IVMs_BB 17 03 29.6
comp=Z,16μm,24.5s
BUG Bochum--Univer 84.42 38 eP P 16 26 34.8 -1.5
comp=Z,81nm,1.2s,baz=289,slow=4.9
IBBN Ibbenburen 84.46 37 eP P 16 26 35.1 -1.4
comp=Z,97nm,1.3s,baz=289,slow=4.9
IBBN eS S 16 36 54.6 -2.0
SSRD Sdr. Stenderup 84.57 34 iP P 16 26 34.0 -3.0
SSRD IAmb IAmb 16 26 37.5
comp=Z,195nm,1.0s
SMAI San Martin Ant 84.66 171 IAmb IAmb 16 27 23.8
comp=Z,317nm,1.7s
KTK1 Kautokeino 85.05 19 eP P 16 26 38.6 -0.6
KTK1 IVmB_BB 16 27 04.5
comp=Z,3μm,5.7s
KTK1 eSKSac SKSac 16 36 53.4 -3.2
KTK1 IVMs_BB IVMs_BB 17 00 09.5
comp=Z,17μm,27.5s
HFS Hagfors 85.06 29 P P 16 26 37.2 -2.2
comp=Z,22nm,0.9s,baz=215,slow=1.8,SNR=21
HFS LR LR 17 02 57.7
comp=Z,21μm,21.8s,baz=280,slow=35
comp=Z,22nm,0.9s
KASTN Kahler Asten 85.18 38 eP P 16 26 38.7 -1.5
comp=Z,66nm,1.2s,baz=289,slow=4.9
RETH Rethem/Aller, 85.27 37 eP P 16 26 39.7 -0.8
comp=Z,515nm,1.1s,baz=289,slow=4.9
RETH epP pP 16 27 05.2 +3.5
ECH Echery 85.28 41 P P 16 26 39.8 -1.0
ECH pmax pmax
comp=Z,415nm,1.7s
BSEG Bad Segeberg 85.44 35 eP P 16 26 40.2 -1.1
comp=Z,121nm,1.0s,baz=289,slow=4.9
BSEG eS S 16 37 02.6 -3.6
ARA0 ARCESS Array S 85.49 18 eP P 16 26 40.4 -1.0
ARA0 IVmB_BB 16 27 11.1
comp=Z,4μm,5.2s
ARA0 eSKSac SKSac 16 36 57.5 -1.9
ARA0 eSS SS 16 42 43.7 +1.3
ARA0 IVMs_BB IVMs_BB 17 01 09.2
comp=Z,18μm,21.9s
ARCES ARCESS Array B 85.49 18 P P 16 26 39.6 -1.8
comp=Z,5.7nm,0.3s,baz=306,slow=4.2,SNR=58
ARCES PKKPbc PKKPbc 16 44 44.7 -2.3
comp=Z,5.0nm,1.0s,baz=124,slow=2.7,SNR=5.0
ARCES LR LR 17 04 35.8
comp=Z,26μm,21.6s,baz=301,slow=36
comp=Z,5.7nm,0.3s
TNS Taunus Mts 85.50 39 eP P 16 26 40.4 -1.5
comp=Z,106nm,1.1s,baz=289,slow=4.9
TNS eS S 16 37 01.7 -5.5
LPL La Plagne 85.78 44 eP P 16 26 42.0 -1.6
LPL pmax pmax
comp=Z,36nm,1.3s

NRDL Niedersach Rie 85.78 37 eP P 16 26 42.0 -1.0
comp=Z,72nm,1.0s,baz=289,slow=4.9
NRDL eS SKSac 16 36 59.6 -2.0
KEV Kevo 85.83 18 P P 16 26 42.1 -0.9
KEV Kevo 85.83 18 P P 16 26 42.1 -0.9
KEV pmax pmax
comp=Z,104nm,1.1s
DBIC Dimbokro 85.85 84 P P 16 26 42.2 -2.0
DBIC Dimbokro 85.85 84 P P 16 26 42.1 -2.1
comp=Z,31nm,0.8s,baz=281,slow=4.9,SNR=26
DBIC PKKPbc PKKPbc 16 44 42.5 -2.0
comp=Z,3.7nm,0.8s,baz=109,slow=9.5,SNR=3.5
comp=Z,31nm,0.8s
DBIC Dimbokro 85.85 84 P P 16 26 42.2 -2.0
DBIC pmax pmax
comp=Z,46nm,1.0s
BFO Black Forest 86.00 41 P P 16 26 41.9 -2.4
BFO Black Forest 86.00 41 P P 16 26 41.9 -2.4
BFO pmax pmax
comp=Z,45nm,1.1s
BFO Black Forest 86.00 41 eP P 16 26 42.1 -2.2
comp=Z,42nm,1.1s,baz=289,slow=4.9
BFO epP pP 16 27 07.3 +1.7
GTTG Gottingen 86.00 38 eP P 16 26 43.0 -1.2
comp=Z,118nm,1.1s,baz=289,slow=4.9
GTTG eS SKSac 16 37 03.2 0.0
COP Copenhagen 86.00 33 iP P 16 26 39.0 -5.2
COP IAmb IAmb 16 27 35.8
comp=Z,58nm,0.7s
CLZ Clausthal 86.14 37 eP P 16 26 43.9 -1.1
comp=Z,67nm,1.0s,baz=289,slow=4.9
CLZ eS SKSac 16 37 03.5 -0.8
UBBA Unterbreizbach 86.25 38 eP P 16 26 44.2 -1.2
comp=Z,132nm,1.8s,baz=289,slow=4.9
UBBA eS SKSac 16 37 04.9 +0.3
VADS Vadso 86.30 17 eP P 16 26 44.4 -0.9
VADS IVmB_BB 16 27 27.2
comp=Z,4μm,3.7s
VADS eSKSac SKSac 16 37 05.1 +0.7
VADS eSS SS 16 42 54.8 +0.6
VADS IVMs_BB IVMs_BB 17 03 21.8
comp=Z,10μm,22.5s
GORT1 Trebel 86.31 36 eP P 16 26 44.3 -1.3
baz=289,slow=4.9
STU Stuttgart 86.41 41 eP P 16 26 44.7 -1.6
STU Stuttgart 86.41 41 eP P 16 26 44.5 -1.8
baz=289,slow=4.9
FLTG Flechtingen 86.49 37 eP P 16 26 44.9 -1.7
baz=289,slow=4.9
FLTG eS SKSac 16 37 03.1 -3.1
NEUB Neuenburg 87.18 38 eP P 16 26 48.7 -1.3
baz=289,slow=4.9
NEUB eS SKSac 16 37 09.4 -1.1
TUE Stuetta 87.23 43 P P 16 26 49.0 -1.6
comp=Z,352nm,1.3s
MOX Moxa 87.28 38 eP P 16 26 49.0 -1.5
baz=289,slow=4.9
MOX eS SKSac 16 37 11.6 +0.4
DAVA Damuels 87.31 42 eP P 16 26 49.6 -1.4
comp=Z,112nm,1.1s,SNR=18
UBR Ueberruh 87.33 41 eP P 16 26 49.2 -1.7
baz=289,slow=4.9
UBR eS SKSac 16 37 12.5 +0.8
GRFO Grafenberg 87.36 39 P P 16 26 49.7 -1.2
GRFO Grafenberg 87.36 39 P P 16 26 49.7 -1.2
GRFO pmax pmax
comp=Z,118nm,1.3s
GRF Grafenberg Arr 87.36 39 eP P 16 26 49.8 -1.1
baz=289,slow=4.9
GRF eS SKSac 16 37 13.4 +1.6
DAVOX Davos/Dischmat 87.48 42 LR LR 17 04 34.0
comp=Z,7μm,18.7s,baz=299,slow=35
BSD Bornholm Skovb 87.53 33 iP P 16 26 45.9 -5.6
BSD IAmb IAmb 16 26 50.5
comp=Z,234nm,2.0s
PLN Plauen 87.66 38 eP P 16 26 50.9 -1.4
baz=289,slow=4.9
PLN epP pP 16 27 16.8 +3.1
PLN eS SKSac 16 37 14.9 +1.4
VAF Ylistaro 87.73 24 eP P 16 26 50.9 -1.4
MANZ Manzenberg 87.80 39 eP P 16 26 51.7 -1.3
baz=289,slow=4.9
MANZ eS SKSac 16 37 16.2 +1.8
RETA Reutte 87.81 41 eP P 16 26 51.8 -1.4
comp=Z,72nm,1.2s,SNR=10
TANN Tannenbergstha 87.86 38 eP P 16 26 52.0 -1.4
baz=289,slow=4.9
TANN epP pP 16 27 17.3 +2.5
TANN eS SKSac 16 37 16.1 +1.2
CLL Collm 87.87 37⇑iP P 16 26 50.4 -2.9
CLL e*PP pP 16 27 14.0 -0.6
CLL e 16 37 14.0
CLL eS S 16 37 29.0 -0.9
CLL pmax pmax
comp=Z,165nm,2.1s
CLL Collm 87.87 37 P P 16 26 52.2 -1.1
comp=Z,3μmcomp=Z,22nm,1.7s
CLL Collm 87.87 37 eP P 16 26 51.8 -1.5
baz=289,slow=4.9
CLL eS SKSac 16 37 14.3 -0.4
RUE Ruedersdorf 87.89 36 eP P 16 26 51.8 -1.5
baz=289,slow=4.9
FUR Furstenfeldbru 87.91 41 eP P 16 26 52.0 -1.6
baz=289,slow=4.9
FUR eS SKSac 16 37 15.9 +0.7
NKC Novy Kostel 87.92 38 eP P 16 26 51.8 -1.8
NKC eSKS SKSac 16 37 14.4 -0.7
NKC AMS AMS 17 05 10.0
comp=Z,18μm,22.0s
NKC Novy Kostel 87.92 38 eP P 16 26 51.8 -1.8
NKC e 16 37 14.4
NKC MLR MLR
comp=Z,18μm,22.0s
ROTZ Rotzenmuhle 87.94 39 eP P 16 26 52.5 -1.2
baz=289,slow=4.9
ROTZ eS SKSac 16 37 16.2 +1.0
SEY Seymchan 87.94 336 LR LR 17 10 34.2
comp=Z,5μm,21.4s,baz=51,slow=38
SEY Seymchan 87.94 336ceP P 16 26 54.3 +0.9
SEY pmax pmax
comp=Z,531nm,2.5s
SEY MLR MLR
comp=Z,20μm,27.0s
FETA Feichten 87.95 42 eP P 16 26 52.8 -1.2
comp=Z,36nm,1.0s,SNR=6.4
MOTA Moosalm 88.08 41 iP P 16 26 53.5 -1.1
comp=Z,42nm,1.0s
SQTA Sankt Quirin 88.19 42 eP P 16 26 54.7 -0.4
comp=Z,40nm,1.4s,SNR=6.1
RAF Rauma 88.32 26 eP P 16 26 55.1 -0.1
HSKC Hora Svate Kat 88.38 38 eP P 16 26 54.5 -1.3
HSKC eSKS SKSac 16 37 16.4 -1.4
WATA Walderalm 88.39 41 eP P 16 26 55.1 -1.0
comp=Z,29nm,1.9s,SNR=6.5
WTTA Wattenberg 88.45 41 eP P 16 26 55.7 -0.7
comp=Z,15nm,1.1s
WET Wettzell 88.57 39 eP P 16 26 55.6 -1.1
baz=289,slow=4.9
WET eS SKSac 16 37 19.3 +0.3
BRG Berggiesshubel 88.58 37 eP P 16 26 56.3 -0.4
BRG Amp 16 26 57.3
comp=Z,14nm,1.0s
BRG Berggiesshubel 88.58 37 S SKSac 16 37 22.0 +3.0
BRG Berggiesshubel 88.58 37 eP P 16 26 55.1 -1.5
baz=289,slow=4.9
BRG eS SKSac 16 37 18.4 -0.6
RICC Richard 88.79 38 AMS AMS 17 06 20.0
comp=Z,12μm,20.7s
APA Apatity 89.00 18⇓iP P 16 26 56.8 -1.5
APA iS S 16 37 40.0 0.0
APA iPS SP 16 38 40.0 -3.6
APA pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 89.00 39 eP P 16 26 57.0 -1.8
KHC epP pP 16 27 22.3 +2.1
KHC ePP PP 16 30 16.5 -13
KHC eSKS SKSac 16 37 20.2 -1.5
KHC AMS AMS 17 06 00.0
comp=Z,16μm,19.1s
KHC Kasperske Hory 89.00 39 eP P 16 26 57.0 -1.8
KHC e 16 27 22.3
KHC e 16 37 20.2
KHC MLR MLR
comp=Z,16μm,19.1s
KHC Kasperske Hory 89.00 39 P P 16 26 57.3 -1.5

comp=Z,21nm,0.6s
ZCCA Zocca 89.00 44 P **P 16 26 58.4 -0.5**
ZCCA IAmb IAmb 16 28 24.5
comp=Z,172nm,1.2s
KEF Keuruu 89.05 25 *e*P **P 16 26 57.5 -1.2**
LESA Schwarzleotal 89.06 41 *i* P **P 16 26 58.5 -0.6**
comp=Z,6.0nm,0.8s
PVCC Panska Ves 89.08 38 *e*P **P 16 26 58.1 -0.9**
PVCC AMS AMS 17 00 30.0
comp=Z,17μm,24.6s
PVCC Panska Ves 89.08 38 *e*P **P 16 26 58.1 -0.9**
PVCC MLR MLR
comp=Z,17μm,24.6s
TEOL Teolo 89.12 43 IAmb IAmb 16 27 50.4
comp=Z,94nm,1.1s
LVZ Lovozero 89.17 18⇓*e*P **P 16 26 58.1 -1.0**
LVZ pmax pmax
comp=Z,69nm,2.1s
PRA Prague 89.17 38 AMS AMS 17 08 00.0
comp=Z,16μm,17.9s
GEC2 GERESS Array S 89.18 39 *e*P **P 16 26 58.0 -1.7**
baz=289,slow=4.9
GEC2 *e*pP **pP 16 27 24.2 +3.1**
GEC2 *e*S **SKSac 16 37 20.3 -2.6**
GERES GERESS Array B 89.18 39 P **P 16 26 58.2 -1.5**
GERES GERESS Array B 89.18 39 P **P 16 26 57.6 -2.0**
comp=Z,14nm,1.0s,baz=309,slow=4.3,SNR=27
GERES PKKP **PKKPdf 16 44 34.8 +2.7**
comp=Z,1.5nm,0.9s,baz=142,slow=5.0,SNR=4.1
GERES LR LR 17 03 21.8
comp=Z,15μm,21.9s,baz=288,slow=33
comp=Z,14nm,1.0s
GERES GERESS Array B 89.18 39 P **P 16 26 58.2 -1.5**
ABTA Abfaltersbach 89.19 42 *i* P **P 16 26 59.3 -0.4**
comp=Z,31nm,1.1s,SNR=8.5
ZVC Zvikov 89.26 39 *e*SKS **SKSac 16 37 23.0 -0.1**
ZVC AMS AMS 17 04 30.0
comp=Z,15μm,22.3s
PRU Pruhonice 89.27 38 *e*P **P 16 26 58.9 -1.0**
PRU *e*SKS **SKSac 16 37 21.9 -1.2**
PRU AMS AMS 17 07 50.0
comp=Z,16μm,18.5s
PRU Pruhonice 89.27 38 *e*P **P 16 26 58.9 -1.0**
PRU *e* 16 37 21.9
PRU MLR MLR
comp=Z,16μm,18.5s
PET Petropavlovsk 89.37 325 *e*P **P 16 27 03.8 +3.5**
PET *e**SP **sP 16 27 35.8 +5.8**
PET *e* 16 37 26.1
PET *e*S **S 16 37 46.0 +2.1**
PET *e*SP **SP 16 38 56.5 +8.2**
PET pmax pmax
comp=Z,700nm,12.7s
PET pmax pmax
comp=Z,20nm,0.7s
PET MLR MLR
comp=Z,5μm,18.0s
GOPC GO Pecny, Ondr 89.44 38 AMS AMS 17 08 00.0
comp=Z,15μm,17.9s
TIXI Tiksi 89.45 348 P **P 16 26 59.7 -0.6**
TIXI Tiksi 89.45 348 LR LR 17 14 29.4
comp=Z,6μm,18.6s,baz=46,slow=40
TIXI Tiksi 89.45 348*c*e**P P 16 26 59.1 -1.2**
TIXI pmax pmax
comp=Z,759nm,2.5s
GKP Gorka Klasztor 89.52 34 *e*P **P 16 27 02.7 +1.8**
GKP *e*PP **PP 16 30 30.2 -2.7**
GKP *e*S **SKSac 16 37 24.3 -0.1**
GKP *e*L L 17 00 26.9
comp=Z,32μm,29.6s
BIOA Bad Ischl, Aus 89.57 41 *i* P **P 16 27 00.7 -0.8**
comp=Z,20nm,1.2s
KBA Koelnbreinsper 89.61 41 *i* P **P 16 27 00.1 -1.7**
comp=Z,21nm,1.0s
FUTU Fugatoga 89.67 255 P **P 16 27 05.3 +2.9**
PEA0B Petropavlovsk- 89.86 325 IAmb IAmb 16 27 28.3
comp=Z,119nm,1.1s
PEA0B Petropavlovsk- 89.86 325⇓*e*P **P 16 27 04.2 +1.6**
PETK Petropavlovsk- 89.86 325 P **P 16 27 03.8 +1.2**
PETK Petropavlovsk- 89.86 325 P **P 16 27 01.9 -0.7**
comp=Z,29nm,1.0s,baz=115,slow=1.7,SNR=22
PETK SP SP 16 38 57.3 +3.5
comp=Z,8.9nm,1.1s,baz=96,slow=11,SNR=3.8
comp=Z,29nm,1.0s
PETK Petropavlovsk- 89.86 325 P **P 16 27 03.8 +1.2**
MOA Molln 89.90 40 *e*P **P 16 27 01.3 -1.7**
comp=Z,17nm,1.0s
FIA1 FINESS Array S 89.92 25 IAmb IAmb 16 27 03.7
comp=Z,126nm,1.1s
FINES FINESS Array B 89.92 25 P **P 16 27 01.1 -1.6**
FINES FINESS Array B 89.92 25 P **P 16 27 00.6 -2.1**
comp=Z,14nm,0.5s,baz=307,slow=3.3,SNR=72
FINES PKKP **PKKPdf 16 44 32.5 +1.8**
comp=Z,2.4nm,0.7s,baz=132,slow=2.6,SNR=4.9
FINES LR LR 17 08 43.9
comp=Z,16μm,19.1s,baz=298,slow=36
comp=Z,14nm,0.5s
FINES FINESS Array B 89.92 25 P **P 16 27 01.1 -1.6**
UPC Upice 89.94 37 *e*P **P 16 27 02.2 -0.8**
UPC AMS AMS 17 07 00.0
comp=Z,15μm,20.1s
UPC Upice 89.94 37 *e*P **P 16 27 02.2 -0.8**
UPC MLR MLR
comp=Z,15μm,20.1s
MYKA Terra Mystica 89.96 42 *i* P **P 16 27 02.6 -0.8**
comp=Z,21nm,1.1s
KSP Ksiaz 89.97 37 *e*P **P 16 27 01.8 -1.3**
KSP *e*PP **PP 16 30 31.8 -4.8**
KSP *e*S **SKSac 16 37 28.6 +1.5**
KSP *e*SS **SS 16 43 44.8 -3.6**
KSP *e*L L 17 02 02.2
comp=Z,26μm,26.2s
KSP Ksiaz 89.97 37 P **P 16 27 01.3 -1.9**
comp=Z,2μmcomp=Z,20nm,1.2s
OSTC Ostas 90.03 37 *e*P **P 16 27 02.5 -1.0**
OSTC *e*SKS **SKSac 16 37 28.0 +0.4**
OSTC AMS AMS 17 07 10.0
comp=Z,16μm,21.8s
OSTC Ostas 90.03 37 *e*P **P 16 27 02.5 -1.0**
OSTC *e* 16 37 28.0
OSTC MLR MLR
comp=Z,16μm,21.8s
TREC Trest 90.10 39 *e*P **P 16 26 59.8 -4.1**
TREC AMS AMS 17 06 50.0
comp=Z,18μm,20.6s
TREC Trest 90.10 39 *e*P **P 16 26 59.8 -4.1**
TREC MLR MLR
comp=Z,18μm,20.6s
CADS Cadrg 90.17 42 *i* P **P 16 27 02.4 -1.9**
CADS *e* 16 27 50.1
CADS *e*SKSac **SKSac 16 37 25.6 -3.0**
CADS *i* 16 37 47.2
CADS *i* S **S 16 37 50.2 -1.5**
DPC Dobruska-Polom 90.18 37 *e*P **P 16 27 03.5 -0.7**
DPC *e*PP **PP 16 30 33.9 -4.4**
DPC *e*SKS **SKSac 16 37 26.7 -1.8**
DPC AMS AMS 17 07 00.0
comp=Z,14μm,21.3s
DPC Dobruska-Polom 90.18 37 *e*P **P 16 27 03.5 -0.7**
DPC *e* 16 30 33.9
DPC *e* 16 37 26.7
DPC MLR MLR
comp=Z,14μm,21.3s
DPC Dobruska-Polom 90.18 37 P **P 16 27 02.6 -1.6**
comp=Z,28nm,1.0s
MA2 Magadan 90.29 333 P **P 16 27 05.0 +0.5**
MA2 IAmb IAmb 16 27 07.4
comp=Z,238nm,1.0s
MA2 Magadan 90.29 333 P **P 16 27 05.5 +1.0**
MA2 Magadan 90.29 333*c* *i*P **P 16 27 05.3 +0.8**
MA2 pmax pmax
comp=Z,261nm,1.0s
MA2 Magadan 90.29 333 P **P 16 27 05.2 +0.8**
comp=Z,6μmcomp=Z,269nm,2.2s
TORD Torodi Ar. Bea 90.46 76 P **P 16 27 02.8 -3.3**
comp=Z,1.9nm,0.4s,baz=304,slow=3.7,SNR=21
TORD PKKPbc **PKKPbc 16 44 33.8 +0.5**
comp=Z,2.5nm,0.9s,baz=60,slow=3.3,SNR=7.0
TORD PKPPKP **P'P'df 16 52 46.4 +1.4**
comp=Z,1.8nm,0.8s,baz=27,slow=3.2,SNR=5.3
TORD LR LR 17 04 52.6
comp=Z,5μm,21.9s,baz=283,slow=34
comp=Z,1.9nm,0.4s
KRLC Kraliky 90.56 38 *e*P **P 16 27 04.8 -1.2**
KRLC AMS AMS 17 07 10.0
comp=Z,13μm,20.9s
KRLC Kraliky 90.56 38 *e*P **P 16 27 04.8 -1.2**
KRLC MLR MLR
comp=Z,13μm,20.9s
OBKA Obir 90.58 41 *e*P **P 16 27 04.6 -1.6**
comp=Z,6.7nm,1.1s
KEST Kesra 90.65 53 IAmb IAmb 16 27 07.3
comp=Z,75nm,1.1s
KEST Kesra 90.65 53 P **P 16 27 04.2 -2.6**
comp=Z,55nm,1.0s,baz=302,slow=1.9,SNR=27
KEST LR LR 17 03 08.8
comp=Z,5μm,20.8s,baz=286,slow=33
comp=Z,55nm,1.0s
KRUC Moravsky 90.74 39 *e*P **P 16 27 05.0 -1.8**
KRUC *e*PP **PP 16 30 41.5 -1.3**
KRUC *e*SKS **SKSac 16 37 30.8 -0.9**
LJU Ljubljana 90.75 42 *i* P **P 16 27 04.9 -2.1**
LJU *e*PP **PP 16 30 42.6 -0.3**
LJU *e*SKSac **SKSac 16 37 30.7 -1.2**
LJU *e* 16 37 52.1
LJU *e*S **S 16 37 55.9 -1.1**
LJU *e* 16 39 19.6
VRAC Vranov 90.76 38 LR LR 17 08 47.3
comp=Z,12μm,19.4s,baz=292,slow=36
VRAC Vranov 90.76 38 *e*P **P 16 27 05.4 -1.5**
VRAC *e*SKS **SKSac 16 37 29.6 -2.2**
VRAC Vranov 90.76 38⇑P **P 16 27 05.6 -1.3**
VRAC Vranov 90.76 38 P **P 16 27 06.5 -0.4**
SOKA Soboth 90.83 41 *i* P **P 16 27 05.6 -1.8**
comp=Z,20nm,1.1s
CONA Conrad Observa 90.86 40 *e*P **P 16 27 06.8 -0.8**
comp=Z,17nm,1.4s
ARSA Arzberg 90.92 40 *i* P **P 16 27 05.4 -2.3**
comp=Z,14nm,1.2s
JOF Joensuu 91.13 22 *e*P **P 16 27 07.0 -1.3**
MORC Moravsky Berou 91.13 38 *e*P **P 16 27 07.2 -1.5**
MORC *e*PP **PP 16 30 44.4 -1.5**
MORC *e*SKS **SKSac 16 37 36.2 +2.2**
MORC Moravsky Berou 91.13 38⇓P **P 16 27 07.0 -1.7**
MORC Moravsky Berou 91.13 38 P **P 16 27 08.3 -0.4**
STEB Steborice 91.20 37 *e*P **P 16 27 07.9 -1.0**
RONA Rosalia, Austr 91.22 40 *i* P **P 16 27 08.2 -1.0**
comp=Z,24nm,1.3s
LKBA Tubou, Lakemba 91.33 252 P **P 16 27 12.8 +2.7**
TAM Tamanrasset 91.35 66 P **P 16 27 09.9 -0.5**
TAM pmax pmax
comp=Z,20nm,1.6s
CRES Cresnjevec Ost 91.43 42 *e*P **P 16 27 08.1 -2.0**
CRES *i* 16 39 18.3
OKC Ostrava-Krasne 91.46 37 AMS AMS 17 09 10.0
comp=Z,11μm,18.6s
MAUC Maruska 91.47 38 *e*P **P 16 27 10.1 -0.2**
MODS Modra-Piesok 91.55 39 *e*P **P 16 27 09.6 -1.0**
MODS pmax pmax
comp=Z,65nm,1.1s
MODS Modra-Piesok 91.55 39 *e*P **P 16 27 09.6 -1.0**
SMOL Smolenice 91.59 39 *e*P **P 16 27 11.1 +0.3**
SMOL pmax pmax
comp=Z,18nm,1.3s
JAVC Velka Javorina 91.59 38 *e*P **P 16 27 10.5 -0.3**
VSU Vasula 91.78 27⇑*e*P **P 16 27 11.8 +0.4**
VSU pmax pmax
comp=Z,44nm,1.3s
VSU MLR MLR
comp=Z,26μm,22.0s
VSU Vasula 91.78 27 *e*P **P 16 27 09.2 -2.2**
SKR Severo-Kuril's 91.78 324 *e*P **P 16 27 06.9 -4.7**
SKR *e*S **SKSac 16 37 30.3 -7.2**
SKR pmax pmax
comp=Z,1μm,6.1s
SKR MLR MLR
comp=Z,4μm,22.0s
PABE Paberze 92.01 31 *e*P **P 16 27 12.0 -0.5**
BEL Belsk 92.09 35 *e*P **P 16 27 09.4 -3.5**
BEL *e*PP **PP 16 30 49.4 -3.9**
BEL *e*S **SKSac 16 37 39.6 +0.4**
BEL *e*L L 17 05 01.9
comp=Z,149μm,25.2s
DGTI Dogotuki 92.18 254 P **P 16 27 16.3 +2.3**
OJC Ojcow 92.26 37 *e*P **P 16 27 11.2 -2.6**
OJC *e*S **SKSac 16 37 42.9 +2.6**
OJC *e*SS **SS 16 44 19.9 -1.5**
OJC *e*L L 17 03 38.9
comp=Z,27μm,26.0s
SUW Suwalki 92.34 32 *e*P **P 16 27 13.0 -1.1**
SUW *e*S **SKSac 16 37 37.4 -3.1**
SUW *e*L L 16 59 40.4
comp=Z,34μm,36.2s
SUW Suwalki 92.34 32 *e*P **P 16 27 13.2 -0.9**
VYHS Vyhne 92.44 38 *e*P **P 16 27 14.5 -0.2**
VYHS pmax pmax
comp=Z,24nm,1.2s
VYHS Vyhne 92.44 38 *e*P **P 16 27 14.5 -0.2**
VYHS *e*PP **PP 16 30 55.1 -1.1**
LANS Liptovska Anna 92.53 38 *e*P **P 16 27 15.7 +0.5**
LANS pmax pmax
comp=Z,14nm,1.2s
LANS Liptovska Anna 92.53 38 *e*P **P 16 27 15.7 +0.5**
LANS *e*PP **PP 16 30 56.6 -0.3**
NIE Niedzica 92.91 37 *e*P **P 16 27 16.6 -0.3**
NIE *e*PP PP 16 30 47.7 -12
NIE *e*S **SKSac 16 37 42.9 -1.1**
NIE *e*SS **SS 16 44 29.2 -1.6**
NIE *e*L L 17 03 59.6
comp=Z,13μm,27.8s
IIGN Ignalina 93.19 30 *e*P **P 16 27 18.0 0.0**
MORH Mrgy, Hungar 93.30 41⇓P **P 16 27 17.0 -1.7**
PSZ Piszkesteto 93.33 39⇑P **P 16 27 18.0 -0.9**
PSZ Piszkesteto 93.33 39 P **P 16 27 19.4 +0.5**
PSZ Piszkesteto 93.33 39 *e*P **P 16 27 18.8 -0.1**
RAO Raoul Island 93.38 241 LR LR 16 59 03.4
comp=Z,4μm,19.7s,baz=77,slow=29
RAO Raoul Island 93.38 241 PcP **PcP 16 27 21.5 +1.7**
GLKZ Green Lake 93.38 241 PcP **PcP 16 27 20.5 +0.7**
RIZ Raoul Island 93.38 241 PcP **PcP 16 27 21.7 +1.8**
KECS Kecovo 93.43 38 *e*P **P 16 27 19.5 +0.2**
KECS pmax pmax
comp=Z,26nm,1.3s
KECS Kecovo 93.43 38 *e*P **P 16 27 19.5 +0.2**
STHS Stebnicka Huta 93.45 37 *e*P **P 16 27 18.6 -0.8**
STHS Stebnicka Huta 93.45 37 *e*P **P 16 27 18.6 -0.8**
VAE Valguarnera 93.87 50 LR LR 17 03 48.5
comp=Z,25μm,21.9s,baz=312,slow=32
MSVF Nonsavu 94.09 253 P **P 16 27 25.7 +2.7**
MSVF IAmb IAmb 16 27 30.7
comp=Z,60nm,1.0s
MSVF Nonsavu 94.09 253 LR LR 16 59 10.5
comp=Z,12μm,21.2s,baz=66,slow=28
MSVF Nonsavu 94.09 253 P **P 16 27 25.9 +2.9**
MSVF Nonsavu 94.09 253*de*P **P 16 27 24.4 +1.4**
MSVF pmax pmax
comp=Z,220nm,2.5s
KOLS Kolonicke sedl 94.28 37 *e*P **P 16 27 23.2 0.0**
KOLS pmax pmax
comp=Z,15nm,1.1s
KOLS Kolonicke sedl 94.28 37 *e*P **P 16 27 23.2 0.0**
MATE Matera 94.30 46 *e*P **P 16 27 22.2 -1.2**
MNK Minsk 94.46 30 *i* P **P 16 27 23.0 -0.8**
MNK *i**SP **sP 16 27 53.6 -0.1**
MNK *i* 16 31 17.0
MNK *i*PPP PPP 16 33 16.3
MNK *i*S **SKSac 16 37 50.2 -1.9**
MNK *i*PS **PS 16 39 58.3 +3.5**
MNK *i*SS **SS 16 44 50.6 -1.8**
MNK *i*SSS SSS 16 48 32.4
MNK pmax pmax
comp=Z,40nm,0.9s
MNK pmax pmax
comp=N,25nm,0.9s
MNK pmax pmax
comp=E,28nm,0.9s
TIP Timpagrande 94.92 48⇓P **P 16 27 24.3 -2.2**
RNPP9 Sopachiv 95.08 34 P **P 16 27 25.6 -1.1**
RNPP8 Varash 95.10 34 P **P 16 27 25.7 -1.1**
MORS Morshin 95.12 36 P **P 16 27 25.9 -1.1**
SIRR Siria 95.15 40⇑P **P 16 27 26.5 -0.7**
RNPP5 Staryi Chortor 95.17 34 P **P 16 27 26.0 -1.1**
BZS Buzias 95.42 40⇓P **P 16 27 27.3 -1.1**
BZS Buzias 95.42 40 P **P 16 27 28.2 -0.3**
KLMR Klimovskoe 95.43 22 *e*P **P 16 27 25.8 -2.3**
KLMR *e* 16 31 14.9
KLMR S **SKSac 16 37 55.7 -1.3**
KLMR pmax pmax
comp=Z,36nm,1.1s
DRGR 95.55 39⇓P **P 16 27 27.7 -1.4**
DRGR 95.55 39 P **P 16 27 27.7 -1.4**
STNU Starunia 95.67 36 P **P 16 27 28.3 -1.3**
SURR Surduc 95.68 40⇑P **P 16 27 28.0 -1.6**
MARR Marisel-Cluj 95.85 39⇓P **P 16 27 29.3 -1.2**
MDVR Moldovita 95.87 41⇑P **P 16 27 28.8 -1.8**
CTZ Chatham Island 96.05 226 P **P 16 27 32.7 +1.5**
NRIK Noril'sk 96.11 0 P **P 16 27 29.6 -1.5**
comp=Z,5.4nm,0.8s,baz=15,slow=3.0,SNR=16
NRIK LR LR 17 15 02.3
comp=Z,29μm,20.0s,baz=352,slow=38
comp=Z,5.4nm,0.8s
NRIK Noril'sk 96.11 0*c*e**P P 16 27 30.4 -0.7**
NRIK pmax pmax
comp=Z,66nm,2.3s
GZR Gura Zlata 96.25 40⇓P **P 16 27 30.7 -1.6**
GZR Gura Zlata 96.25 40 P **P 16 27 31.9 -0.4**
MI28 Mi28,Pidlybu 96.28 33 P **P 16 27 30.8 -1.4**
comp=Z,247nm,1.1s
BOVS Bovan 96.39 42⇓P **P 16 27 31.6 -1.3**
ARCR ARCALIA 96.39 38⇓P **P 16 27 32.1 -0.8**
HORU Horodok 96.51 35 P **P 16 27 32.1 -1.2**
YAK Yakutsk 96.64 341 P **P 16 27 33.6 0.0**
YAK IAmb IAmb 16 27 37.6
comp=Z,121nm,1.1s
YAK Yakutsk 96.64 341 LR LR 17 16 38.3
comp=Z,8μm,21.5s,baz=24,slow=39
YAK Yakutsk 96.64 341*c* *i*P **P 16 27 30.9 -2.7**
YAK *e**PP **pP 16 27 54.3 -0.6**
YAK *e*S **SKSac 16 37 57.8 -5.5**
YAK *e**SS **S 16 38 42.5 -5.7**
YAK *e*SS **SS 16 45 19.0 -3.8**
YAK *e*SSS SSS 16 49 05.5
YAK pmax pmax
comp=Z,88nm,1.1s
YAK pmax pmax
comp=N,29nm,1.9s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=Z,1μm,5.1s
YAK pmax pmax
comp=N,499nm,4.8s
YAK pmax pmax
comp=E,503nm,5.2s
YAK smax smax
comp=N,6μm,8.6s
YAK smax smax
comp=E,4μm,9.9s
MI30 MI30,Zelenitsa 96.66 33 P **P 16 27 32.7 -1.2**
comp=E,30nm,1.2s
KMPD K-Podol'skiy 96.87 36 P **P 16 27 32.5 -2.4**
LUBAR Lubar, Ukraine 96.87 34 P **P 16 27 33.1 -1.8**
AK21 Malin Array Si 97.09 33 P **P 16 27 33.4 -2.5**
KIEV Kiev 97.23 33⇓P **P 16 27 34.2 -2.4**
KIEV Kiev 97.23 33 P **P 16 27 34.1 -2.4**
KIEV Kiev 97.23 33 P **P 16 27 33.0 -3.5**
AKASG Malin Array Be 97.23 33 P **P 16 27 33.4 -3.1**
comp=E,0.6nm,0.4s,baz=291,slow=3.7,SNR=12
AKASG PP **PP 16 31 31.1 -2.1**
comp=E,1.4nm,0.7s,baz=300,slow=6.8,SNR=4.2
AKASG PKKPbc **PKKPbc 16 44 14.4 -2.4**
comp=E,2.5nm,0.9s,baz=88,slow=2.7,SNR=9.7
AKASG LR LR 17 11 53.5
comp=E,13μm,20.7s,baz=300,slow=36
comp=E,0.6nm,0.4s
AKASG Malin Array Be 97.23 33*c*e**P P 16 27 34.7 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 97.23 33*c*e**P P 16 27 34.2 -2.3**
ARR Arges 97.41 39⇑P **P 16 27 36.8 -0.7**
DOPR Dopca 97.57 39⇓P **P 16 27 36.8 -1.4**
VOIR 97.63 39⇑P **P 16 27 37.6 -1.0**
VOIR 97.63 39 P **P 16 27 37.5 -1.0**
BELA Belgrano 2 97.94 170 P Pdif 16 27 39.1 0.0
BELA IAmb IAmb 16 28 24.6
comp=Z,123nm,1.9s
HUMR Humele 98.04 40⇓P **P 16 27 38.6 -1.7**
TESR Tescani 98.04 38⇓P **P 16 27 38.7 -1.6**
OBN Obninsk 98.12 27 LR LR 17 10 44.7
comp=Z,23μm,21.7s,baz=310,slow=35
OBN Obninsk 98.12 27 *i* P **P 16 27 38.9 -1.5**
OBN *i* 16 28 19.1
OBN *i* 16 31 43.8
OBN *i* S **SKSac 16 38 06.0 -5.1**
OBN *i* PS **SP 16 40 19.7 -4.6**
OBN pmax pmax
comp=Z,41nm,1.1s
OBN MLR MLR
comp=Z,25μm,22.0s
MLR Muntele Rosu 98.15 39 LR LR 17 12 57.6
comp=Z,7μm,19.4s,baz=310,slow=36
MLR Muntele Rosu 98.15 39⇓P **P 16 27 39.5 -1.5**
MLR Muntele Rosu 98.15 39 P **P 16 27 39.4 -1.5**
MOS Moscow 98.17 26 *e*P **P 16 27 37.7 -2.9**
MOS *e* 16 31 38.5
MOS *e*PPP PPP 16 33 47.7
MOS *e* 16 38 07.8
MOS *e*PS **PS 16 40 36.8 +1.8**
MOS MLR MLR
comp=Z,27μm,23.0s
MOS MLR MLR
comp=N,17μm,24.0s
MOS MLR MLR
comp=E,16μm,22.0s
SORM Soroca 98.17 36⇑P **P 16 27 39.3 -1.5**
SORM Soroca 98.17 36 P **P 16 27 39.2 -1.5**
MXZ Matakaoa Point 98.39 233 Pdiff Pdif 16 27 42.0 +0.1
NKL Nikolayevsk 98.55 331 *e*P **P 16 27 41.0 -1.4**
NKL *e* 16 31 41.2
NKL *e*S **SKSac 16 38 16.8 +3.4**
NKL *e*SS SS 16 46 04.2 +14
NKL pmax pmax
comp=E,84nm,1.0s
NKL pmax pmax
comp=N,72nm,1.3s
NKL pmax pmax
comp=Z,193nm,1.5s
NKL smax smax
comp=E,538nm,5.3s
NKL smax smax
comp=N,2μm,7.0s
NKL MLR MLR
comp=E,12μm,18.0s
NKL MLR MLR
comp=N,25μm,27.0s
NKL MLR MLR
comp=Z,29μm,29.0s
HAZ Te Kaha 98.84 233 Pdiff Pdif 16 27 46.2 +2.2
KIS Kishinev 99.05 36 *e*P **Pdif 16 27 41.0 -3.8**
comp=Z,250nm,11.0s
KIS Kishinev 99.05 36 *e*PP **PP 16 31 45.0 -2.2**
KIS *e*SKS **SKSac 16 38 11.0 -5.2**
KIS Kishinev 99.05 36 *e*PS PS 16 40 32.0 -13
KIS *e*L L 17 01 29.0
KIS LRM MLR 17 15 44.0
comp=Z,3μm,19.0s
KIS Kishinev 99.05 36 *e*P **Pdif 16 27 41.0 -3.8**
KIS *e* 16 31 45.0
KIS *e* 16 38 11.0
KIS *e*PS **PS 16 40 32.0 -13**
KIS pmax pmax
comp=Z,250nm,11.0s
MILM Milestii Mici 99.09 36 *e*P **Pdif 16 27 40.0 -4.9**
comp=Z,600nm,4.5s
MILM *e*pP **pP 16 28 05.0 -1.5**
MILM Milestii Mici 99.09 36 *e*PP **PP 16 31 45.0 -2.5**
MILM *e*SKS **SKSac 16 38 08.0 -8.4**
MILM *e*SKKS SKKSac 16 38 34.0 -14
MILM Milestii Mici 99.09 36 *e*PS PS 16 40 36.0 -9.4
MILM *e*L L 16 59 45.0
MILM LRM MLR 17 15 48.0
comp=Z,8μm,19.0s
MILM Milestii Mici 99.09 36 *e*P **Pdif 16 27 40.0 -4.9**
MILM *e**PP **pP 16 28 05.0 -1.5**
MILM *e* 16 31 45.0
MILM *e* 16 38 08.0
MILM *e*PS **PS 16 40 36.0 -9.4**
MILM pmax pmax
comp=Z,600nm,4.5s
ELND Elena 99.40 41⇓P **Pdif 16 27 45.3 -1.1**
URZ Urewera 99.46 233 LR LR 17 02 22.9
comp=Z,6μm,20.5s,baz=172,slow=29

RTZ	Ruatahuna	99.63	233	Pdiff	Pdif	16 27 47.5	-0.1
KIRV	Kirov	100.47	19	⇓eP	Pdif	16 27 49.5	-1.3
LPSR	Galich'ya Gora	100.83	28	eP	Pdif	16 27 50.4	-2.2
LPSR				eSP	SP	16 40 42.9	-11
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS	Yuzhno-Sakhali	101.26	325	eP	Pdif	16 27 55.3	+0.7
YSS				e		16 32 03.7	
YSS				e		16 38 27.7	
YSS				eS	Sdif	16 39 24.8	-2.9
YSS				ePS	PS	16 40 59.0	-10
YSS				eSS	SS	16 46 33.5	+5.3
YSS				pmax	pmax		
	comp=Z,500nm,5.3s						
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
VNA3	Neumayer Olymp	101.51	161	⇑PKKPdf	PKKPbc	16 44 03.0	-2.8
	comp=Z,6.7nm,0.9s						
VNA3				⇑Pdiff	Pdif	16 27 55.6	+0.6
	comp=Z,20nm,0.8s						
VNA3				⇑PKiKP	PP	16 31 44.5	-21
	comp=Z,5.7nm,0.9s						
VNA1	Neumayer--Stat	101.84	160	⇑PKKPdf	PKKPbc	16 44 01.7	-3.0
	comp=Z,17nm,0.9s						
VNA1				⇑Pdiff	Pdif	16 27 57.9	+1.4
	comp=Z,12nm,0.9s						
VNA1				⇓PKiKP	PP	16 31 47.0	-21
	comp=Z,8.2nm,0.7s						
VSR	Storozhevoye	101.87	29	eP	Pdif	16 27 54.2	-3.0
VSR				i		16 32 12.6	
VSR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VSR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GRNR	Gornyy	102.10	331	eP	Pdif	16 27 57.9	-0.4
VNA2	Neumayer--Watz	102.18	160	⇑PKKPdf	PKKPbc	16 44 00.7	-3.1
	comp=Z,255nm,0.9s,baz=93,slow=3.0						
VNA2				⇑Pdiff	Pdif	16 27 57.4	-0.6
	comp=Z,154nm,0.9s,baz=273,slow=6.1						
VNA2				⇑PKiKP	PP	16 31 45.0	-26
	comp=Z,53nm,0.4s,baz=340,slow=16						
VRH	Novokhopyorsk	103.05	28	i P	Pdif	16 28 06.6	+4.1
VRH						16 32 16.2	
VRH				pmax	pmax		
	comp=Z,643μm,18.6s						
VRH				pmax	pmax		
	comp=Z,2124μm,16.8s						
VRH				MLR	MLR		
	comp=Z,30μm,22.0s						
SIM	Simferopol'	103.25	36	eP	Pdif	16 27 52.9	-11
SIM				e		16 38 23.8	
SIM				ePPS	PPS	16 41 27.3	
SIM				pmax	pmax		
	comp=Z,2μm,16.5s						
QRZ	Quartz Range	103.38	231	Pdiff	Pdif	16 28 05.2	+1.1
MQZ	McQueen's Vall	103.67	228	Pdiff	Pdif	16 28 07.6	+2.3
SNAA	Sanae	103.73	161	⇑PKKPdf	PKKPbc	16 43 56.5	-2.8
	comp=Z,119nm,1.0s						
SNAA				⇑PKiKP	PKiKP	16 32 19.1	-3.5
	comp=Z,140nm,1.0s						
SNAA	Sanae	103.73	161	Pdiff	Pdif	16 28 05.3	+0.3
	comp=Z,6.4nm,0.9s,baz=264,slow=5.7,SNR=8.6						
SNAA				PKiKP	PKiKP	16 32 22.8	+0.1
	comp=Z,5.0nm,1.0s,baz=276,slow=12,SNR=3.9						
SNAA				PKKPbc	PKKPbc	16 43 56.8	-2.4
	comp=Z,7.3nm,1.1s,baz=50,slow=3.2,SNR=6.2						
ZEA	Zeya	103.85	337	eP	Pdif	16 28 05.9	-0.1
ZEA				e		16 32 26.7	
ZEA				e		16 38 41.4	
ZEA				pmax	pmax		
	comp=Z,10.0nm,2.2s						
BOD	Bodaibo	104.49	346	eP	Pdif	16 28 07.4	-1.3
BOD				pmax	pmax		
	comp=Z,41nm,2.3s						
QSPA	South Pole Qui	104.72	180	Pdiff	Pdif	16 28 10.1	+0.6
	comp=Z,3.0nm,0.8s,baz=1.2,slow=5.0,SNR=3.8						
QSPA				PKiKP	PKiKP	16 32 25.7	+1.1
	comp=Z,9.5nm,0.9s,baz=134,slow=5.5,SNR=5.0						
ANN	Anapa	105.19	35	i P	Pdif	16 28 10.8	-1.3
ANN				e		16 38 44.2	
ANN				e		16 39 22.3	
ANN				eS	Sdif	16 40 00.3	-0.4
ANN				eSP	SP	16 41 47.6	+7.7
ANN				pmax	pmax		
	comp=Z,56nm,0.9s						
KLR	Kul'dur	105.34	332	PKKPbc	PKKPbc	16 43 51.5	-1.9
	comp=Z,3.4nm,0.9s,baz=274,slow=4.6,SNR=6.6						
TROLL	Troll, Antarti	105.43	161	⇑PKKPdf	PKKPbc	16 43 51.3	-2.9
	comp=Z,222nm,0.9s						
TROLL				⇑Pdiff	Pdif	16 28 12.1	-0.5
	comp=Z,209nm,1.1s						
TROLL				⇑PKiKP	PKiKP	16 32 28.4	+2.5
	comp=Z,210nm,0.8s						
DZM	Mont Dzumac	105.67	251	eP	Pdif	16 28 20.5	+5.7
	comp=Z,989nm,25.4s						
DZM	Mont Dzumac	105.67	251	ePP	PKiKP	16 32 34.2	+6.5
	comp=Z,3μm,29.1s						
DZM				eSKSac	SKSac	16 38 48.2	-0.3
	comp=Z,2μm,27.9s						
DZM				eSS	SS	16 47 31.9	+0.2
	comp=Z,6μm,41.5s						
DZM	Mont Dzumac	105.67	251	eLQ	LQ	16 58 40.1	
	comp=Z,7μm,32.9s						
DZM				eLR	LR	17 03 07.3	
	comp=Z,32μm,24.7s						
BRTR	Keskin Array B	106.04	41	PKiKP	PKiKP	16 32 27.3	-0.8
	comp=Z,4.6nm,0.8s,baz=212,slow=1.7,SNR=12						
BRTR				PKKPbc	PKKPbc	16 43 49.8	-1.4
	comp=Z,2.5nm,0.8s,baz=159,slow=3.3,SNR=9.5						
HEH	HeiHe	106.47	335	Pdif	Pdif	16 28 18.1	+0.4
HEH				SKS	SKSac	16 38 51.7	+0.8
HEH				AMB	AMB		
	comp=Z,2μm,7.2s						
HEH				LR	LR		
	comp=Z,7μm,24.0s						
HEH				LR	LR		
	comp=Z,3μm,23.0s						
HEH				LR	LR		
	comp=Z,18μm,23.0s						
SOC	Sochi	107.23	34	c iP	Pdif	16 28 19.1	-2.2
SOC				e		16 32 44.0	
SOC				e		16 38 54.3	
SOC				ePS	PS	16 42 14.4	+3.4
SOC				eSS	SS	16 47 46.6	-3.5
SOC				eSSS	SSS	16 51 52.6	
SOC				MLR	MLR		
	comp=Z,11μm,18.0s						
KIV	Kislovodsk	108.57	33	eP	Pdif	16 28 25.2	-2.1
KIV				e		16 32 54.4	
KIV				ePPP	PPP	16 35 15.4	
KIV				e		16 38 58.9	
KIV				ePS	PS	16 42 23.9	-1.0
KIV				eSS	SS	16 48 05.7	-2.6
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,10μm,21.0s						
USRK	Ussuriysk Ar.	108.80	328	Pdiff	Pdif	16 28 28.5	+0.3
	comp=Z,1.0nm,0.7s,baz=128,slow=4.4,SNR=2.1						
USRK				PKiKP	PKiKP	16 32 34.1	+1.3
	comp=Z,3.0nm,0.8s,baz=84,slow=4.5,SNR=6.2						
USRK				PKKP	PKKPdf	16 43 58.4	+1.9
	comp=Z,1.3nm,0.6s,baz=184,slow=3.4,SNR=5.3						
KBZ	Khabaz	108.84	33	PKiKP	PKiKP	16 32 33.5	+0.6
	comp=Z,7.0nm,0.8s,baz=145,slow=1.1,SNR=11						
KBZ				PKKPbc	PKKPbc	16 43 40.8	-1.6
	comp=Z,3.4nm,0.9s,baz=148,slow=4.7,SNR=6.5						
MDJ	Mudanjiang	109.70	330	Pdif	Pdif	16 28 33.5	+1.3
MDJ				AMB	AMB		
	comp=Z,1μm,11.9s						
MDJ				LR	LR		
	comp=Z,11μm,21.7s						
MDJ				LR	LR		
	comp=Z,6μm,22.8s						
MDJ				LR	LR		
	comp=Z,8μm,22.7s						
BNX	BinXian	109.91	332	Pdif	Pdif	16 28 31.7	-1.4
BNX				S	Sdif	16 40 39.0	-1.0
BNX				SS	SS	16 48 25.6	-0.2
BNX				AMB	AMB		
	comp=Z,820nm,9.3s						
BNX				LR	LR		
	comp=Z,3μm,23.9s						
BNX				LR	LR		
	comp=Z,4μm,23.5s						
BNX				LR	LR		
	comp=Z,7μm,24.8s						
MJAR	Matsushiro Arr	110.21	319	PKiKP	PKiKP	16 32 37.0	+1.3
	comp=Z,2.9nm,0.7s,baz=49,slow=0.2,SNR=8.1						
MJAR				PKKPbc	PKKPbc	16 43 37.2	-0.6
	comp=Z,4.0nm,0.9s,baz=246,slow=3.9,SNR=7.6						
MJAR				PKKPab	PKKPab	16 43 49.4	-0.6
	comp=Z,2.6nm,1.0s,baz=238,slow=4.9,SNR=4.4						
BRVK	Borovoye	110.80	11	P	PKiKP	16 32 37.6	+1.2
BRVK	Borovoye	110.80	11	d iPKiKP	PKiKP	16 32 37.2	+0.8
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BRVK				MLR	MLR		
	comp=Z,29μm,26.0s						
BVAR	Borovoye Array	110.85	11	Pdiff	Pdif	16 28 36.2	-1.0
	comp=Z,0.4nm,0.5s,baz=343,slow=4.4,SNR=1.4						
BVAR				PKiKP	PKiKP	16 32 36.9	+0.4
	comp=Z,15nm,0.7s,baz=300,slow=1.2,SNR=25						
BVAR				PKKPbc	PKKPbc	16 43 34.5	-1.8
	comp=Z,2.4nm,0.8s,baz=171,slow=2.4,SNR=5.4						
MMAI	Mount Meron Ar	111.07	45	PKiKP	PKiKP	16 32 37.6	+0.1
	comp=Z,0.8nm,0.4s,baz=74,slow=3.7,SNR=5.3						
ZALV	Zalesovo Beam	111.51	2	Pdiff	Pdif	16 28 39.9	-0.2
	comp=Z,0.5nm,0.6s,baz=48,slow=2.1,SNR=3.6						
ZALV				PKiKP	PKiKP	16 32 38.4	+0.7
	comp=Z,5.4nm,0.3s,baz=234,slow=2.4,SNR=32						
ZALV				PKKPbc	PKKPbc	16 43 33.5	-0.7
	comp=Z,4.5nm,0.9s,baz=180,slow=2.6,SNR=6.4						
AB31	Akbulak array	111.68	19	i PKiKP	PKiKP	16 32 39.1	+1.0
MAK	Makhachkala	111.73	31	eP	Pdif	16 28 38.8	-2.5
MAK				i		16 32 36.0	
MAK				e		16 33 17.6	
MAK				ePPP	PPP	16 35 41.4	
MAK				ePS	PS	16 42 56.3	+1.7
MAK				eSS	SS	16 48 50.1	-0.1
MAK				eSSS	SSS	16 53 02.5	
MAK				pmax	pmax		
	comp=Z,175nm,1.4s						
MAK				pmax	pmax		
	comp=Z,12μm,22.0s						
ELIB	Princess Elisa	111.79	162	dPP	PP	16 33 17.1	-4.3
CN2	Changchun	112.29	331	PKP	PKiKP	16 32 36.0	-3.5
CN2				SS	SS	16 49 02.8	+5.3
CN2				AMB	AMB		
	comp=Z,400nm,4.3s						
CN2				LR	LR		
	comp=Z,4μm,26.0s						
CN2				LR	LR		
	comp=Z,2μm,26.0s						
CN2				LR	LR		
	comp=Z,5μm,27.6s						
AKT	Akhty	112.94	32	i PKiKP	PKiKP	16 32 38.0	-2.9
AKT				e		16 33 05.4	
AKT				e		16 33 26.6	
AKT				ePPP	PPP	16 35 50.4	
AKT				e		16 39 15.7	
AKT				e		16 39 43.8	
AKT				ePS	PS	16 42 56.4	-10
AKT				eSS	SS	16 49 06.8	+0.2
AKT				pmax	pmax		
	comp=Z,11nm,0.8s						
AKT				MLR	MLR		
	comp=N,21μm,25.0s						
AKT				MLR	MLR		
	comp=E,13μm,25.0s						
AKT				MLR	MLR		
	comp=Z,31μm,27.0s						
BRZS	Berezniki	114.18	11	i PKiKP	PKiKP	16 32 42.0	-0.9
BRZS				e		16 33 38.1	
BRZS	Berezniki	114.18	11	ePKiKP	PKiKP	16 32 42.1	-0.9
BRZS				ePP	PP	16 33 38.2	+0.5
KURK	Kurchatov	114.31	6	P	PKPdf	16 32 43.5	+0.4
KURK	Kurchatov	114.31	6	PKiKP	PKPdf	16 32 43.6	+0.5
KURK						16 36 13.7	
KURBB	Kurchatov Arra	114.39	6	PKP	PKPdf	16 32 43.5	+0.3
	comp=Z,13nm,0.4s,baz=356,slow=1.6,SNR=119						
KURBB				SKP		16 36 13.7	
	comp=Z,5.1nm,0.6s,baz=352,slow=2.5,SNR=12						
KURBB				PKKPbc	PKKPbc	16 43 21.5	-3.0
	comp=Z,4.0nm,0.8s,baz=193,slow=2.6,SNR=16						
KURBB				PKKP	PKKPdf	16 43 45.1	-0.9
	comp=Z,3.4nm,0.9s,baz=190,slow=3.7,SNR=4.5						
KURBB	Kurchatov Arra	114.39	6	PKiKP	PKiKP	16 32 43.2	-0.1
SNY	Shenyang	114.69	331	⇓PKP	PKiKP	16 32 43.5	-0.6
SNY				SS	SS	16 49 32.2	+3.0
SNY				AMB	AMB		
	comp=Z,580nm,7.3s						
SNY				LR	LR		
	comp=Z,2μm,23.9s						
SNY				LR	LR		
	comp=Z,2μm,24.7s						
SNY				LR	LR		
	comp=Z,4μm,23.9s						
ULN	Ulaanbaatar	115.30	346	P	PKPdf	16 32 46.6	+1.3
ULN	Ulaanbaatar	115.30	346	c iPKiKP	PKPdf	16 32 45.5	+0.2
ULN				MLR	MLR		
	comp=Z,11μm,23.0s						
SONM	Songino Array	115.48	346	Pdiff	Pdif	16 29 00.6	+2.6
	comp=Z,0.3nm,0.4s,baz=20,slow=2.1,SNR=3.6						
SONM				PKP	PKiKP	16 32 45.2	-0.4
	comp=Z,14nm,0.9s,baz=350,slow=0.4,SNR=32						
SONM				PP	PP	16 33 47.1	+0.1
	comp=Z,5.3nm,1.0s,baz=20,slow=4.6,SNR=7.1						
SONM				PKKPbc	PKKPbc	16 43 16.5	-4.3
	comp=Z,2.5nm,0.8s,baz=199,slow=3.7,SNR=7.0						
SONM				PKKP	PKKPdf	16 43 41.4	-2.8
	comp=Z,1.9nm,0.7s,baz=210,slow=2.9,SNR=4.3						
KSRS	Korea Array	115.76	325	PKP	PKPdf	16 32 46.7	+0.4
	comp=Z,22nm,0.7s,baz=6.6,slow=1.5,SNR=57						
KSRS				SKP		16 36 17.9	
	comp=Z,3.0nm,0.7s,baz=22,slow=1.8,SNR=4.3						
KSRS				PKKPbc	PKKPbc	16 43 17.6	-1.7
	comp=Z,3.1nm,1.0s,baz=194,slow=3.2,SNR=5.1						
KOOLE	Kule	116.05	109	i P	PKiKP	16 32 48.4	+1.0
XLT	XiLinHaoTe	116.12	338	ePKP	PKPdf	16 32 47.2	+0.3
XLT				PKS	PKSdf	16 36 19.5	-4.2
XLT				SKKS		16 40 42.7	
XLT				LR	LR		
	comp=Z,3μm,21.1s						
XLT				LR	LR		
	comp=Z,6μm,24.0s						
QNGWA	Qangwa	116.57	105	i P	PKiKP	16 32 49.5	+1.1
SUR	Sutherland	117.13	119	P	PKiKP	16 32 50.1	+0.8
KGCAE	Kacgae	117.88	108	i P	PKiKP	16 32 51.3	+0.4
DL2	Dalian	117.90	330	Pdif	Pdif	16 29 08.6	-0.2
DL2				PKP	PKiKP	16 32 56.7	+6.3
DL2				PP	PP	16 34 06.0	+1.9
DL2				SKKS		16 40 55.6	
DL2				SS	SS	16 50 15.3	+4.1
DL2				AMB	AMB		
	comp=Z,2μm,9.8s						
DL2				LR	LR		
	comp=Z,9μm,20.6s						
DL2				LR	LR		
	comp=Z,4μm,21.6s						
DL2				LR	LR		
	comp=Z,10μm,21.8s						
SYO	Syowa Base	117.97	162	⇑ePdiff	Pdif	16 29 08.2	-0.1
ZSN	Zaisan	118.01	2	i PKiKP	PKPdf	16 32 49.5	-0.9
ZSN				e		16 34 04.5	
ZSN	Zaisan	118.01	2	ePKiKP	PKPdf	16 32 49.5	-0.9
ZSN				ePP	PP	16 34 04.5	+0.1
MAKZ	Makanchi	118.49	4		PKPdf	16 32 50.9	-0.4
MAKZ	Makanchi	118.49	4	PKiKP	PKPdf	16 32 50.9	-0.4
MK31	Makanchi Array	118.53	4	c iPKiKP	PKPdf	16 32 50.8	-0.6
MKAR	Makanchi Array	118.53	4		PKPdf	16 32 51.2	-0.2
MKAR	Makanchi Array	118.53	4	Pdiff	Pdif	16 29 15.4	+3.9
	comp=Z,1.1nm,0.8s,baz=36,slow=5.4,SNR=5.2						
MKAR				PKP	PKPdf	16 32 50.6	-0.8
	comp=Z,18nm,0.8s,baz=320,slow=2.9,SNR=68						
MKAR				SKP		16 36 19.9	
	comp=Z,5.6nm,0.8s,baz=301,slow=3.6,SNR=6.2						
MKAR				PKKPbc	PKKPbc	16 43 07.2	-2.8
	comp=Z,2.7nm,0.8s,baz=193,slow=5.0,SNR=4.3						
BTLS	Baital	119.19	11	ePKiKP	PKiKP	16 32 52.8	0.0
BTLS				pmax	pmax		
	comp=Z,62nm,2.6s						
BTLS	Baital	119.19	11	ePKiKP	PKPdf	16 32 51.9	-0.8
BJI	Beijing	119.38	335	PKP	PKiKP	16 32 53.5	+0.3
BJI				PP	PP	16 34 19.4	+5.2
BJI				PKS	PKSdf	16 36 28.5	-1.3
BJI				SKKS		16 41 02.7	
BJI				SS	SS	16 50 29.2	-0.8
BJI				AMB	AMB		
	comp=Z,1μm,9.8s						
BJI				LR	LR		
	comp=Z,3μm,21.3s						
BJI				LR	LR		
	comp=Z,3μm,21.2s						
BJI				LR	LR		
	comp=Z,7μm,26.7s						
BJT	Baijiatuau	119.40	335	P	PKiKP	16 32 54.0	+0.7
SKOMA	Sekoma	119.59	110	i P	PKPdf	16 32 54.0	-0.1
TDK	Taldyqorghan	119.91	8	i PKiKP	PKPdf	16 32 53.2	-0.9
TDK	Taldyqorghan	119.91	8	ePKiKP	PKPdf	16 32 53.2	-0.9
TDK				LR	LR	17 24 14.1	
	comp=Z,11μm,21.8s						
KSANE	Kasane	120.11	102	i P	PKiKP	16 32 57.1	+1.8
KDWAN	Kaudwane	120.18	109	i P	PKiKP	16 32 55.9	+0.6
BRLS	Borolday	120.19	15	i PKiKP	PKPdf	16 32 54.2	-0.5
BRLS				e		16 34 21.1	
BRLS	Borolday	120.19	15	ePKiKP	PKPdf	16 32 54.3	-0.5
BRLS				ePP	PP	16 34 21.1	+1.6
KK31	Karatay Array	120.28	15	i PKiKP	PKiKP	16 32 55.2	+0.2
KKAR	Karatay Array	120.28	15		PKiKP	16 32 55.0	0.0
KKAR	Karatay Array	120.28	15	PKiKP	PKiKP	16 32 55.0	0.0
HHC	Hu-ho-hao-te	120.41	339	ePKP	PKiKP	16 32 56.4	+1.0
HHC				PP	PP	16 34 22.8	+1.5
HHC				SKKS		16 41 13.2	
HHC				SS	SKKSdf	16 50 39.8	-0.2
HHC				LR	LR		
	comp=Z,6μm,23.6s						
HHC				LR	LR		
	comp=Z,5μm,24.0s						
HHC				LR	LR		
	comp=Z,13μm,23.6s						
MAKGR	Makgori	120.44	111	i P	PKiKP	16 32 56.3	+0.5
DZA	Taraz	120.68	14	i PKiKP	PKPdf	16 32 54.4	-1.2
DZA	Taraz	120.68	14	ePKiKP	PKPdf	16 32 54.5	-1.2
CHM	Chimkent	120.79	16	i PKiKP	PKPdf	16 32 55.1	-0.8
CHM				MLR	MLR		
	comp=Z,6μm,22.0s						
CHM	Chimkent	120.79	16	ePKiKP	PKPdf	16 32 55.1	-0.8
CHM				LR	LR	17 24 37.1	
	comp=Z,6μm,21.7s						
SGDS	Sogindy	120.83	11	i PKiKP	PKPdf	16 32 55.0	-1.0
SGDS	Sogindy	120.83	11	ePKiKP	PKPdf	16 32 55.0	-1.0
BOSA	Boshof	120.92	115		PKiKP	16 32 57.8	+1.1
BOSA	Boshof	120.92	115	PKP	PKPdf	16 32 56.4	-0.2
	comp=Z,79nm,0.9s,baz=267,slow=1.6,SNR=61						
BOSA				PKiKPab	PKKPab	16 43 01.5	+0.7
	comp=Z,4.0nm,0.9s,baz=136,slow=3.4,SNR=3.7						
BOSA	Boshof	120.92	115	PKIKP	PKiKP	16 32 57.8	+1.1
BOSA	Boshof	120.92	115	i P	PKiKP	16 32 57.3	+0.6
USP	Ospenovka	120.99	11	P	PKiKP	16 32 57.0	+0.6
	SNR=46						
IUG	Iuzhnay	121.06	15	i PKIKP	PKPdf	16 32 55.6	-0.9
IUG				e		16 34 26.0	
IUG	Iuzhnay	121.06	15	ePKiKP	PKPdf	16 32 55.7	-0.9
IUG				ePP	PP	16 34 26.0	+0.4
LBTB	Lobatse	121.13	110		PKiKP	16 32 57.8	+0.6
LBTB	Lobatse	121.13	110	PKIKP	PKiKP	16 32 57.8	+0.6
LBTB	Lobatse	121.13	110	i P	PKiKP	16 32 57.6	+0.4
BTO	Baotou	121.14	340	ePKP	PKiKP	16 32 56.8	0.0
BTO				SKKS		16 41 13.7	
BTO				LR	LR		
	comp=Z,26μm,19.4s						
BTO				LR	LR		
	comp=Z,11μm,19.0s						
BTO				LR	LR		
	comp=Z,23μm,20.4s						
LPHEP	Lephephe	121.28	109	i P	PKiKP	16 32 57.7	+0.2
AAA	Alma-Ata	121.46	9	i PKIKP	PKPdf	16 32 56.5	-0.7
AAA	Alma-Ata	121.46	9	ePKiKP	PKPdf	16 32 56.6	-0.7
KPKS	Kokpek	121.46	8	i PKIKP	PKPdf	16 32 56.1	-1.1
KPKS				e		16 34 28.6	
KPKS	Kokpek	121.46	8	ePKiKP	PKPdf	16 32 56.1	-1.1
KPKS				ePP	PP	16 34 28.7	+0.4
TKM2	Tokmak 2	121.52	10	P	PKPdf	16 32 57.0	-0.5
	SNR=12						
TKM2	Tokmak 2	121.52	10	PKIKP	PKiKP	16 32 57.9	+0.2
MDOK	Medeo	121.53	9	i PKIKP	PKPdf	16 32 56.6	-0.8
MDOK				MLR	MLR		
	comp=Z,8μm,25.0s						
MDOK	Medeo	121.53	9	ePKiKP	PKPdf	16 32 56.6	-0.8
MDOK				LR	LR	17 25 09.3	
	comp=Z,8μm,24.7s						
AAK	Ala-Archa	121.59	11		PKiKP	16 32 59.6	+1.8
AAK	Ala-Archa	121.59	11	P	PKiKP	16 32 58.8	+1.0
AAK	Ala-Archa	121.59	11	P	PKiKP	16 32 58.2	+0.5
	SNR=30						
AAK	Ala-Archa	121.59	11	c iPKIKP	PKiKP	16 32 58.3	+0.5
AAK				pmax	pmax		
	comp=Z,86nm,1.3s						
AAK				MLR	MLR		
	comp=Z,20μm,25.0s						
AAK	Ala-Archa	121.59	11	i PKiKP	PKiKP	16 32 58.3	+0.5
	SNR=31						
TNSS	Tian-Shan	121.63	9	i PKIKP	PKPdf	16 32 56.7	-1.3
TNSS	Tian-Shan	121.63	9	ePKiKP	PKPdf	16 32 56.7	-1.3
KBK	Karagaybulak	121.66	11	P	PKiKP	16 32 58.7	+0.8
	SNR=17						
KBD	Kabd	121.66	41	P	PKiKP	16 32 58.6	+0.5
WMQ	Urumqi	121.69	0	PKP	PKiKP	16 32 58.7	+0.9
WMQ				PP	PP	16 34 30.8	+1.0
WMQ				SKKS		16 41 21.1	
WMQ				AMB	AMB		
	comp=Z,2μm,5.9s						
WMQ				LR	LR		
	comp=Z,10μm,24.5s						
WMQ				LR	LR		
	comp=Z,8μm,24.3s						
WMQ				LR	LR		
	comp=Z,31μm,24.1s						
PDGK	Podgornoye	121.69	7	PKIKP	PKPdf	16 32 57.4	-0.4
UZB	Uzynbulak	121.82	7	i PKIKP	PKPdf	16 32 56.9	-1.1
UZB				e		16 34 30.9	
UZB	Uzynbulak	121.82	7	ePKiKP	PKPdf	16 32 57.0	-1.1
UZB				ePP	PP	16 34 30.9	+0.2
SATY	Saty	121.82	8	i PKIKP	PKPdf	16 32 56.9	-1.1
SATY	Saty	121.82	8	ePKiKP	PKPdf	16 32 57.0	-1.1
SHLS	Shalkode	121.86	7	ePKIKP	PKiKP	16 32 58.9	+0.7
SHLS				pmax	pmax		
	comp=Z,141nm,2.7s						
SHLS	Shalkode	121.86	7	ePKiKP	PKPdf	16 32 57.1	-1.0
AML	Almayashu	121.92	12	P	PKiKP	16 32 59.7	+1.0
	SNR=6.6						
MBAR	Mbarara	121.99	81	P	PKiKP	16 33 00.4	+1.1
MBAR	Mbarara	121.99	81	c iPKIKP	PKiKP	16 33 00.6	+1.3
MBAR				pmax	pmax		
	comp=Z,61nm,0.8s						
UCH	Uchtor	121.99	12	P	PKiKP	16 32 60.0	+1.0
	SNR=10						
TIA	Tai'an	122.18	332	PKP	PKPdf	16 32 58.3	-0.4
TIA

TIY				PP	**PP**	**16 34 39.5**	**+1.5**
TIY				SKKS		16 41 30.2	
TIY				SS	**SS**	**16 51 19.4**	**+4.7**
TIY				AMB	AMB		
	comp=Z,2μm,13.1s						
TIY				LR	LR		
	comp=Z,8μm,27.7s						
TIY				LR	LR		
	comp=Z,4μm,24.5s						
TIY				LR	LR		
	comp=Z,11μm,26.9s						
JOW	**Kunigami**	**122.89**	**316**	P	**PKiKP**	**16 33 03.4**	**+2.9**
BLWY	**Bulawayo**	**123.60**	**105**	*i* P	**PKiKP**	**16 33 02.7**	**+0.5**
RAYN	**Ar Rayn**	**123.85**	**48**	P	**PKPdf**	**16 33 02.3**	**0.0**
RAYN	**Ar Rayn**	**123.85**	**48**	*i* PKiKP	**PKPdf**	**16 33 02.1**	**-0.2**
	SNR=30						
SSE	**Sheshan**	**124.20**	**325**	PKP	**PKPdf**	**16 33 00.0**	**-2.7**
SSE				PP	**PP**	**16 34 49.7**	**+2.4**
SSE				AMB	AMB		
	comp=Z,600nm,5.0s						
SSE				LR	LR		
	comp=Z,900nm,19.9s						
SSE				LR	LR		
	comp=Z,1μm,20.3s						
TOO	**Toolangi**	**124.32**	**234**		**PKiKP**	**16 33 03.6**	**+0.6**
TOO	**Toolangi**	**124.32**	**234**	PKIKP	**PKiKP**	**16 33 03.6**	**+0.6**
NJ2	**Nanjing**	**124.70**	**328**	⇓PKP	**PKiKP**	**16 33 04.5**	**+0.5**
NJ2				SS	SS	16 51 45.5	+7.2
NJ2				AMB	AMB		
	comp=Z,510nm,5.7s						
NJ2				LR	LR		
	comp=Z,3μm,24.6s						
NJ2				LR	LR		
	comp=Z,3μm,23.6s						
NJ2				LR	LR		
	comp=Z,5μm,24.5s						
CMSA	**Cobar Meteorol**	**124.75**	**242**	P	**PKiKP**	**16 33 04.5**	**+0.5**
CMSA	**Cobar Meteorol**	**124.75**	**242**	P	**PKiKP**	**16 33 04.4**	**+0.5**
MAW	**Mawson**	**124.78**	**169**	PKP	**PKPdf**	**16 33 02.4**	**-0.2**
	comp=Z,23nm,0.9s,baz=166,slow=4.2,SNR=6.6						
KSH	**Kashi**	**124.89**	**11**	PKP	**PKiKP**	**16 33 05.8**	**+1.5**
KSH				SKS	**SKSdf**	**16 40 06.7**	**-2.6**
KSH				SKKS	**SKKSac**	**16 41 41.2**	**-3.0**
KSH				AMB	AMB		
	comp=Z,1μm,7.4s						
KSH				LR	LR		
	comp=Z,13μm,32.3s						
KSH				LR	LR		
	comp=Z,9μm,26.1s						
KSH				LR	LR		
	comp=Z,26μm,30.9s						
MUSN	**Musina, Limpop**	**124.90**	**107**	*i* P	**PKiKP**	**16 33 04.6**	**0.0**
GTA	**Gaotai**	**124.93**	**349**	PKP	**PKiKP**	**16 33 04.3**	**-0.1**
GTA				PKS	**PKSdf**	**16 36 41.8**	**+1.0**
GTA				SKS	**SKSac**	**16 40 01.3**	**0.0**
GTA				SKKS	**SKKSac**	**16 41 42.4**	**-2.1**
GTA				SS	**SS**	**16 51 37.8**	**-2.7**
GTA				LR	LR		
	comp=Z,4μm,24.5s						
GTA				LR	LR		
	comp=Z,6μm,24.7s						
GTA				LR	LR		
	comp=Z,8μm,24.3s						
LODK	**Lodwar**	**125.08**	**75**	P	**PKiKP**	**16 33 05.3**	**0.0**
LYN	**LuoYang**	**125.60**	**335**	⇑PKP	**PKiKP**	**16 33 05.6**	**-0.1**
LYN				SKS	**SKSac**	**16 40 03.0**	**-0.2**
LYN				SKKS	**SKKSac**	**16 41 47.1**	**-1.5**
LYN				SS	**SS**	**16 51 49.6**	**+0.5**
LYN				AMB	AMB		
	comp=Z,4μm,7.0s						
LYN				LR	LR		
	comp=Z,9μm,24.4s						
LYN				LR	LR		
	comp=Z,7μm,23.4s						
LYN				LR	LR		
	comp=Z,14μm,24.7s						
SAKB	**Bahrain**	**125.69**	**42**	P	**PKPdf**	**16 33 05.8**	**+0.1**
MTSU	**Mount Surprise**	**125.79**	**258**	P	**PKiKP**	**16 33 07.7**	**+1.2**
MTSU	**Mount Surprise**	**125.79**	**258**	P	**PKiKP**	**16 33 07.2**	**+0.7**
SHMA	**Al-Shehemyia**	**126.05**	**42**	P	**PKPdf**	**16 33 06.2**	**-0.1**
QLP	**Quilpie**	**126.21**	**248**	P	**PKiKP**	**16 33 07.5**	**+0.5**
QLP	**Quilpie**	**126.21**	**248**	P	**PKiKP**	**16 33 07.3**	**+0.3**
CASY	**Casey**	**126.33**	**191**		**PKiKP**	**16 33 06.9**	**+0.8**
MOPA	**Mopani**	**126.36**	**108**	*i* P	**PKiKP**	**16 33 07.8**	**+0.3**
TABU	**Tabubil**	**126.59**	**274**	P	**PKiKP**	**16 33 09.9**	**+1.7**
SMRA	**Abu-Samra**	**126.72**	**43**	P	**PKPdf**	**16 33 07.2**	**-0.5**
	SNR=11						
TRNA	**Turayna**	**126.98**	**43**	P	**PKPdf**	**16 33 08.0**	**-0.2**
	SNR=8.8						
LZH	**Lanzhou**	**127.17**	**344**	⇑PKP	**PKiKP**	**16 33 09.7**	**+0.7**
LZH				PP	PP	16 35 15.4	+8.7
LZH				SKS	**SKSac**	**16 40 11.7**	**+3.3**
LZH				SKKS	**SKKSac**	**16 41 57.6**	**-1.3**
LZH				AMB	AMB		
	comp=Z,2μm,11.7s						
LZH				LR	LR		
	comp=Z,7μm,18.6s						
LZH				LR	LR		
	comp=Z,6μm,19.6s						
LZH				LR	LR		
	comp=Z,20μm,18.2s						
ARPS	**Mount Arapiles**	**127.32**	**235**	P	**PKiKP**	**16 33 09.6**	**+0.6**
ARPS	**Mount Arapiles**	**127.32**	**235**	P	**PKiKP**	**16 33 09.4**	**+0.4**
XAN	**Xi'an**	**127.43**	**338**	PKP	**PKPdf**	**16 33 08.8**	**-0.1**
XAN				PP	**PP**	**16 35 08.2**	**-0.2**
XAN				SKKS		16 41 56.0	
XAN				SS	**SS**	**16 52 11.5**	**-0.5**
XAN				AMB	AMB		
	comp=Z,3μm,9.1s						
XAN				LR	LR		
	comp=Z,8μm,23.0s						
XAN				LR	LR		
	comp=Z,18μm,21.6s						
XAN				LR	LR		
	comp=Z,25μm,20.8s						
SLWR	**Sila**	**127.76**	**43**	P	**PKPdf**	**16 33 09.8**	**+0.2**
KBL	**Kabul**	**127.84**	**20**	P	**PKiKP**	**16 33 10.3**	**-0.2**
	SNR=24						
JRN	**Qarnain Island**	**127.90**	**41**	P	**PKPdf**	**16 33 10.0**	**+0.1**
	SNR=6.8						
WHN	**Wuhan**	**128.16**	**331**	⇑PKP	**PKiKP**	**16 33 10.8**	**-0.1**
WHN				PP	**PP**	**16 35 14.3**	**+0.9**
WHN				SS	SS	16 52 27.6	+6.2
WHN				LR	LR		
	comp=Z,21μm,21.1s						
WHN				LR	LR		
	comp=Z,12μm,18.4s						
WHN				LR	LR		
	comp=Z,27μm,22.1s						
STKA	**Stephens Creek**	**128.20**	**241**		**PKPdf**	**16 33 08.2**	**-2.1**
STKA	**Stephens Creek**	**128.20**	**241**	PKP	**PKPdf**	**16 33 09.8**	**-0.5**
	comp=Z,32nm,0.7s,baz=59,slow=1.7,SNR=52						
STKA				pPKP	**pPKPdf**	**16 33 32.5**	**+0.1**
	comp=Z,17nm,0.8s,baz=46,slow=1.4,SNR=2.9						
STKA	**Stephens Creek**	**128.20**	**241**	P	**PKiKP**	**16 33 10.6**	**-0.3**
STKA	**Stephens Creek**	**128.20**	**241**	P	**PKiKP**	**16 33 10.8**	**-0.1**
KMBO	**Kilima Mbogo**	**128.36**	**80**	P	**PKiKP**	**16 33 13.9**	**+1.9**
KMBO	**Kilima Mbogo**	**128.36**	**80**	*i* PKiKP	**PKiKP**	**16 33 13.5**	**+1.5**
	SNR=24						
GHWR	**Ruwais**	**128.61**	**42**	P	**PKPdf**	**16 33 11.4**	**+0.1**
GOMU	**GeErMu**	**128.87**	**353**	Pdif	**PKiKP**	**16 33 12.4**	**-0.3**
GOMU				pPKP	pPKPdf	16 33 25.7	-8.4
GOMU				sPKP		16 33 35.3	
GOMU				PP	**PP**	**16 35 14.8**	**-3.2**
GOMU				SKS		16 41 56.0	
GOMU	**GeErMu**	**128.87**	**353**	PKP	**PKiKP**	**16 33 12.4**	**-0.3**
GOMU				AMB	AMB		
	comp=Z,920nm,5.7s						
GOMU				LR	LR		
	comp=Z,20μm,23.8s						
GOMU				LR	LR		
	comp=Z,10μm,23.3s						
GOMU				LR	LR		
	comp=Z,27μm,22.7s						
NACB	**Ninganchiao**	**129.08**	**319**	P	**PKiKP**	**16 33 15.8**	**+2.9**
NACB	**Ninganchiao**	**129.08**	**319**	P	**PKiKP**	**16 33 15.0**	**+2.1**
SHME	**Shamm**	**129.10**	**37**	P	**PKPdf**	**16 33 12.4**	**+0.2**
	SNR=13						
SHME	**Shamm**	**129.10**	**37**	*i* PKiKP	**PKPdf**	**16 33 12.1**	**-0.1**
	SNR=24						
UMQ	**Umm Al-Quwin**	**129.21**	**38**	P	**PKiKP**	**16 33 13.6**	**+0.5**
	SNR=5.9						
UMQ	**Umm Al-Quwin**	**129.21**	**38**	*i* PKiKP	**PKiKP**	**16 33 13.3**	**+0.2**
	SNR=5.9						
INKA	**Innaminka**	**129.27**	**246**	P	**PKiKP**	**16 33 13.7**	**+0.6**
INKA	**Innaminka**	**129.27**	**246**	P	**PKiKP**	**16 33 13.6**	**+0.5**
BANOM	**Banah**	**129.29**	**37**	P	**PKPdf**	**16 33 12.3**	**-0.4**
BANOM	**Banah**	**129.29**	**37**	*i* PKPdf	**PKPdf**	**16 33 11.3**	**-1.3**
	SNR=27						
MZWR	**Madinat Zayed**	**129.40**	**41**	P	**PKiKP**	**16 33 13.3**	**-0.2**
KIBK	**Kibwezi**	**129.48**	**81**	P	**PKiKP**	**16 33 15.1**	**+1.0**
	SNR=38						
AJN	**Ajban**	**129.51**	**40**	P	**PKiKP**	**16 33 13.6**	**-0.1**
	SNR=10						
AJN	**Ajban**	**129.51**	**40**	*i* PKPdf	**PKPdf**	**16 33 12.3**	**-0.7**
	SNR=11						
NAZ	**Nazwa, Dubai**	**129.61**	**39**	P	**PKPdf**	**16 33 13.2**	**0.0**
	SNR=17						
NAZ	**Nazwa, Dubai**	**129.61**	**39**	*i* PKPdf	**PKPdf**	**16 33 11.4**	**-1.8**
	SNR=30						
MASF	**Masafi**	**129.62**	**38**	P	**PKPdf**	**16 33 13.4**	**+0.1**
	SNR=32						
MSFE	**Esma-Masafi**	**129.63**	**38**	*i* PKPdf	**PKPdf**	**16 33 12.1**	**-1.2**
	SNR=44						
AUMBR	**Murray Bridge**	**129.65**	**236**	P	**PKiKP**	**16 33 15.3**	**+1.7**
AUMBR	**Murray Bridge**	**129.65**	**236**	P	**PKiKP**	**16 33 13.8**	**+0.2**
MZR	**Muzera**	**129.67**	**42**	P	**PKiKP**	**16 33 13.9**	**-0.3**
	SNR=28						
MZR	**Muzera**	**129.67**	**42**	*i* PKPdf	**PKPdf**	**16 33 12.7**	**-0.7**
	SNR=42						
ASUD	**Al Ashush, Dub**	**129.68**	**39**	P	**PKPdf**	**16 33 13.4**	**+0.1**
	SNR=23						
ASUD	**Al Ashush, Dub**	**129.68**	**39**	*i* PKiKP	**PKPdf**	**16 33 12.8**	**-0.5**
	SNR=35						
FAQ	**Al Faqa, Dubai**	**129.75**	**39**	P	**PKiKP**	**16 33 13.9**	**-0.4**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**129.75**	**39**	*i* PKiKP	**PKPdf**	**16 33 12.9**	**-0.5**
	SNR=17						
MDH	**Madha**	**129.76**	**38**	P	**PKPdf**	**16 33 13.7**	**+0.2**
	SNR=12						
MDH	**Madha**	**129.76**	**38**	*i* PKPdf	**PKPdf**	**16 33 11.7**	**-1.8**
	SNR=24						
SSLB	**Suanglung**	**129.76**	**319**	P	**PKiKP**	**16 33 15.9**	**+1.6**
SSLB	**Suanglung**	**129.76**	**319**	P	**PKiKP**	**16 33 15.6**	**+1.3**
SRNI	**Srinagar**	**129.88**	**14**	*e*P	**PKiKP**	**16 33 14.0**	**-0.2**
SRNI				*e*S	**SKSac**	**16 40 16.8**	**+0.9**
NIL	**Nilore**	**129.91**	**16**	P	**PKiKP**	**16 33 14.1**	**-0.3**
UOSS	**Minazif**	**129.97**	**38**	P	**PKPdf**	**16 33 13.3**	**-0.6**
UOSS	**Minazif**	**129.97**	**38**	*i* PKPdf	**PKPdf**	**16 33 13.2**	**-0.7**
	SNR=13						
HATD	**Hatta, Dubai**	**130.01**	**38**	P	**PKPdf**	**16 33 13.8**	**-0.2**
	SNR=27						
HATD	**Hatta, Dubai**	**130.01**	**38**	*i* PKPdf	**PKPdf**	**16 33 13.3**	**-0.7**
	SNR=39						
ASHO	**Ashiyiah**	**130.07**	**39**	P	**PKPdf**	**16 33 14.0**	**-0.1**
	SNR=19						
ASHO	**Ashiyiah**	**130.07**	**39**	*i* PKPdf	**PKPdf**	**16 33 13.4**	**-0.8**
	SNR=21						
HTT	**Hallett**	**130.23**	**239**	P	**PKiKP**	**16 33 15.1**	**+0.1**
JASK	**Jask - Hormozg**	**130.24**	**36**	P	**PKiKP**	**16 33 15.5**	**+0.2**
	SNR=18						
ALNE	**Al Ain**	**130.35**	**39**	P	**PKPdf**	**16 33 14.6**	**0.0**
	SNR=29						
ALNE	**Al Ain**	**130.35**	**39**	*i* PKPdf	**PKPdf**	**16 33 14.1**	**-0.6**
	SNR=42						
QZH	**Quanzhou**	**130.35**	**322**	*e*PKP	**PKiKP**	**16 33 17.6**	**+2.2**
QZH				SKS	**SKSac**	**16 40 14.5**	**-3.1**
QZH				S	**Sdif**	**16 43 37.2**	**+5.8**
QZH				SS	**SS**	**16 52 51.9**	**+3.0**
QZH				AMB	AMB		
	comp=Z,920nm,5.0s						
QZH				LR	LR		
	comp=Z,8μm,20.3s						
QZH				LR	LR		
	comp=Z,1μm,17.2s						
QZH				LR	LR		
	comp=Z,9μm,20.6s						
TWGBT	**Beinan**	**130.38**	**318**	P	**PKiKP**	**16 33 17.7**	**+2.1**
QIS	**Mount Isa**	**130.39**	**255**	P	**PKiKP**	**16 33 15.5**	**-0.1**
QIS	**Mount Isa**	**130.39**	**255**	P	**PKiKP**	**16 33 15.2**	**-0.4**
SOHO	**SOHO**	**130.77**	**39**	P	**PKPdf**	**16 33 14.6**	**-0.8**
SOHO	**SOHO**	**130.77**	**39**	*i* PKPdf	**PKPdf**	**16 33 14.3**	**-1.1**
	SNR=19						
CNSH	**ChangSha**	**130.81**	**330**	PKP	**PKiKP**	**16 33 16.5**	**+0.2**
CNSH				SS	SS	16 52 59.0	+5.0
CNSH				LR	LR		
	comp=Z,2μm,37.8s						
CNSH				LR	LR		
	comp=Z,2μm,28.6s						
CNSH				LR	LR		
	comp=Z,6μm,32.2s						
UMZA	**Um Al Zommool**	**130.96**	**41**	P	**PKPdf**	**16 33 16.1**	**+0.3**
JMU	**Jammu**	**131.21**	**14**	*e*P	**PKiKP**	**16 33 16.9**	**0.0**
JMU				IAmb	IAmb	16 33 19.5	
	comp=Z,402nm,1.1s						
JMU				*ex*	x	16 33 19.5	
JMU				*e*S	**SKSdf**	**16 40 22.9**	**+2.1**
JMU				IAMs_20	IAMs_20	16 41 53.1	
	comp=Z,4μm,18.4s						
LCRK	**Leigh Creek**	**131.24**	**242**	P	**PKiKP**	**16 33 16.9**	**-0.1**
ARQ	**Araqi**	**131.36**	**39**	P	**PKPdf**	**16 33 16.2**	**-0.4**
	SNR=15						
HOQ	**Hoqain**	**131.65**	**38**	P	**PKPdf**	**16 33 16.5**	**-0.7**
	SNR=7.4						
CD2	**Chengdu**	**132.03**	**341**	PKP	**PKiKP**	**16 33 18.7**	**-0.1**
CD2				PP	**PP**	**16 35 40.4**	**+2.1**
CD2				SKS	**SKSac**	**16 40 22.5**	**+0.4**
CD2				SKKS	**SKKSac**	**16 42 26.5**	**-2.5**
CD2				SS	**SS**	**16 53 14.1**	**+5.6**
CD2				AMB	AMB		
	comp=Z,2μm,4.1s						
CD2				LR	LR		
	comp=Z,10μm,20.3s						
CD2				LR	LR		
	comp=Z,4μm,18.4s						
CD2				LR	LR		
	comp=Z,14μm,20.3s						
BIDO	**Bidbid**	**132.19**	**38**	P	**PKPdf**	**16 33 18.5**	**+0.3**
	SNR=7.5						
BSY	**Bisya**	**132.21**	**39**	P	**PKPdf**	**16 33 18.1**	**-0.1**
	SNR=22						
NGCH	**Negor - Chabah**	**132.44**	**33**	P	**PKPdf**	**16 33 17.9**	**-0.6**
SMDO	**Samad**	**132.49**	**38**	P	**PKPdf**	**16 33 19.1**	**+0.3**
	SNR=29						
BBOO	**Buckleboo**	**132.70**	**239**		**PKPdf**	**16 33 18.7**	**-0.1**
BBOO	**Buckleboo**	**132.70**	**239**	P	**PKiKP**	**16 33 20.0**	**+0.1**
BBOO	**Buckleboo**	**132.70**	**239**	P	**PKPdf**	**16 33 19.0**	**+0.2**
BHK	**Bhakra**	**132.81**	**13**	*e*P	**PKiKP**	**16 33 19.9**	**-0.4**
BHK				IAmb	IAmb	16 33 21.7	
	comp=Z,592nm,1.4s						
BHK				*e*S	**SKSdf**	**16 40 25.0**	**+1.1**
BHK				IAMs_20	IAMs_20	16 42 05.3	
	comp=Z,4μm,18.4s						
JMDO	**Jabal Madar**	**133.04**	**39**	P	**PKPdf**	**16 33 18.9**	**-0.9**
	SNR=8.0						
DOK	**Doka**	**133.14**	**46**	P	**PKPdf**	**16 33 19.3**	**-0.7**
	SNR=14						
SMLA	**Simla**	**133.25**	**12**	*e*P	**PKPdf**	**16 33 20.1**	**+0.2**
SMLA				*e*S	**SKSac**	**16 40 29.1**	**+3.9**
SMLA				IAMs_20	IAMs_20	16 41 52.1	
	comp=Z,3μm,22.4s						
WBK	**Wadi Bani Khal**	**133.38**	**38**	P	**PKiKP**	**16 33 21.7**	**+0.1**
ABTO	**Aybut**	**133.39**	**48**	P	**PKPdf**	**16 33 20.9**	**+0.3**
	SNR=21						
SRGN	**SRI GANGA NAGA**	**133.61**	**17**	*e*P	**PKPdf**	**16 33 21.1**	**+0.4**
SRGN				*e*S	**SKSac**	**16 40 27.6**	**+1.4**
OOD	**Oodnadatta**	**133.74**	**246**	P	**PKiKP**	**16 33 22.2**	**+0.1**
OOD	**Oodnadatta**	**133.74**	**246**	P	**PKiKP**	**16 33 22.3**	**+0.1**
RBK	**Rabkut**	**133.94**	**47**	P	**PKPdf**	**16 33 21.5**	**-0.1**
	SNR=14						
JLN	**Jalan Bani Buh**	**133.99**	**38**	P	**PKPdf**	**16 33 21.5**	**0.0**
	SNR=14						
DDI	**Dehra Dun**	**134.21**	**12**	*e*P	**PKPdf**	**16 33 20.1**	**-1.7**
DDI				*e*S	**SKSac**	**16 40 29.1**	**+1.2**
DDI				IAMs_20	IAMs_20	16 42 00.2	
	comp=Z,3μm,22.4s						
DMTO	**DMTO**	**134.32**	**46**	P	**PKPdf**	**16 33 22.1**	**-0.1**
	SNR=12						
GULI	**GuiLin**	**134.47**	**331**	⇓PKP	**PKiKP**	**16 33 23.8**	**0.0**
GULI				PP	**PP**	**16 35 56.9**	**+2.8**
GULI				SS	SS	16 53 39.9	+1.5
GULI				AMB	AMB		
	comp=Z,2μm,5.4s						
GULI				LR	LR		
	comp=Z,5μm,24.7s						
GULI				LR	LR		
	comp=Z,4μm,24.8s						
GULI				LR	LR		
	comp=Z,5μm,24.0s						
DQM	**DQM**	**134.50**	**42**	P	**PKPdf**	**16 33 22.4**	**-0.1**
GZH	**Guangzhou**	**134.78**	**326**	PKP	**PKPdf**	**16 33 21.8**	**-1.2**
GZH				PKS	**PKSdf**	**16 36 55.7**	**-3.8**
GZH				SS	SS	16 53 33.9	-8.6
GZH				LR	LR		
	comp=Z,8μm,21.8s						
GZH				LR	LR		
	comp=Z,5μm,19.6s						
GYA	**Guiyang**	**135.07**	**336**	⇓PKP	**PKiKP**	**16 33 24.6**	**-0.5**
GYA				sPKP		16 33 53.6	
GYA				PP	**PP**	**16 35 58.8**	**+0.9**
GYA				SKKS		16 42 47.0	
GYA				SS	**SS**	**16 53 49.4**	**+3.8**
GYA				AMB	AMB		
	comp=Z,2μm,11.0s						
GYA				LR	LR		
	comp=Z,4μm,31.4s						
GYA				LR	LR		
	comp=Z,4μm,29.3s						
GYA				LR	LR		
	comp=Z,9μm,28.8s						
RTK	**Rohtak**	**135.10**	**14**	*e*P	**PKiKP**	**16 33 24.6**	**-0.3**
RTK				*e*S	**SKSac**	**16 40 31.1**	**+1.2**
RTK				IAMs_20	IAMs_20	16 42 09.2	
	comp=Z,4μm,20.4s						
GNR	**GANAUR**	**135.14**	**13**	*e*P	**PKiKP**	**16 33 24.6**	**-0.5**
GNR				*e*S	**SKSdf**	**16 40 27.1**	**-1.0**
GNR				IAMs_20	IAMs_20	16 42 17.4	
	comp=Z,3μm,21.3s						
BKNR	**BIKANER**	**135.22**	**18**	*e*P	**PKPdf**	**16 33 22.2**	**-1.6**
BKNR				*e*S	**SKSac**	**16 40 31.2**	**+0.8**
WRAB	**Tennant Creek**	**135.31**	**257**	⇑*i*PKIKP	**PKPdf**	**16 33 24.7**	**+0.7**
WRA	**Warramunga Arr**	**135.32**	**256**	PKhKP	PKPpre	16 33 10.4	
	comp=Z,3.0nm,0.9s,baz=86,slow=3.0,SNR=7.0						
WRA				PKP	**PKPdf**	**16 33 23.8**	**-0.3**
	comp=Z,28nm,0.8s,baz=82,slow=1.9,SNR=25						
WRA				SKPbc	**SKPbc**	**16 36 50.2**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=146,slow=14,SNR=6.6						
WRA				SKPab	**SKiKP**	**16 36 55.9**	**+1.0**
	comp=Z,12nm,0.8s,baz=84,slow=3.1,SNR=5.1						
WRA				PKKP	**PKKPdf**	**16 43 06.4**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=272,slow=2.3,SNR=5.1						
WRA				SKKPbc	**SKKPbc**	**16 45 49.6**	**-2.1**
	comp=Z,4.0nm,1.0s,baz=268,slow=4.3,SNR=5.2						
PTH	**Pithoragarh**	**135.35**	**9**	*e*P	**PKPdf**	**16 33 20.9**	**-3.3**
PTH				IAmb	IAmb	16 33 28.2	
	comp=Z,249nm,1.4s						
PTH				*e*S	**SKSac**	**16 40 31.1**	**+0.1**
LGTI	**Lohaghat**	**135.45**	**9**	*e*P	**PKPdf**	**16 33 24.0**	**-0.1**
LGTI				IAmb	IAmb	16 33 26.4	
	comp=Z,54nm,0.8s						
LGTI				*e*S	**SKSac**	**16 40 31.1**	**+0.3**
JASL	**Jaisalmer**	**135.45**	**22**	*e*P	**PKPdf**	**16 33 24.6**	**+0.4**
JASL				IAmb	IAmb	16 33 26.4	
	comp=Z,135nm,0.7s						
JASL				*e*S	**SKSac**	**16 40 31.1**	**+0.2**
MERT	**Meerut**	**135.46**	**13**	*e*S	**SKSac**	**16 40 31.1**	**+0.3**
TKRD	**Thakurdwara**	**135.51**	**11**	*e*P	**PKPdf**	**16 33 24.2**	**0.0**
TKRD				*e*S	**SKSdf**	**16 40 29.1**	**+0.4**
NPLP	**NPLP New Delhi**	**135.66**	**13**	*e*P	**PKPdf**	**16 33 25.2**	**+0.7**
NPLP				IAmb	IAmb	16 33 28.5	
	comp=Z,328nm,0.9s						
NPLP				*e*S	**SKSac**	**16 40 31.2**	**-0.2**
NPLP				IAMs_20	IAMs_20	16 42 01.1	
	comp=Z,3μm,20.4s						
AS31	**Alice Springs**	**135.66**	**251**		PKPpre	16 33 15.6	
ASAR	**Alice Springs**	**135.66**	**251**	PKhKP	PKPpre	16 33 10.5	
	comp=Z,1.7nm,0.7s,baz=107,slow=3.4,SNR=14						
ASAR				PKP	**PKPdf**	**16 33 25.3**	**+0.7**
	comp=Z,14nm,0.8s,baz=100,slow=1.7,SNR=17						
ASAR				SKPab	**SKiKP**	**16 36 56.8**	**+1.2**
	comp=Z,7.6nm,0.7s,baz=89,slow=3.0,SNR=6.0						
ASAR				PKKP	**PKKPdf**	**16 43 05.0**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=280,slow=0.6,SNR=8.7						
ASAR				SKKPbc	**SKKPbc**	**16 45 50.5**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=278,slow=3.5,SNR=7.0						
LSA	**Lhasa**	**135.66**	**356**		PKPpre	16 33 14.6	
LSA	**Lhasa**	**135.66**	**356**	PKP	PKPdf	16 33 14.4	-11
LSA				PP	PP	16 35 52.8	-8.9
LSA				LR	LR		
	comp=Z,6μm,25.0s						
LSA				LR	LR		
	comp=N,6μm,24.1s						
LSA	**Lhasa**	**135.66**	**356**	P	**PKiKP**	**16 33 27.1**	**+0.3**
LSA	**Lhasa**	**135.66**	**356**	PKHKP	PKPpre	16 33 14.6	
LSA	**Lhasa**	**135.66**	**356**	PKiKP	**PKPdf**	**16 33 25.9**	**+0.8**
ASOR	**Ausora**	**135.67**	**13**	*e*P	**PKPdf**	**16 33 25.1**	**+0.6**
ASOR				*e*S	**SKSac**	**16 40 31.1**	**-0.2**
LDR	**Lodi Road**	**135.72**	**13**	*e*P	**PKiKP**	**16 33 25.7**	**-0.5**
LDR				*e*S	**SKSac**	**16 40 31.2**	**-0.3**
JMIU	**JAMIA UNIVERSI**	**135.75**	**13**	*e*P	**PKPdf**	**16 33 25.2**	**+0.5**
JMIU				*e*S	**SKSdf**	**16 40 29.1**	**0.0**
JMIU				IAMs_20	IAMs_20	16 41 48.8	
	comp=Z,3μm,26.8s						
KUDL	**Kundal**	**135.97**	**14**	*e*P	**PKPdf**	**16 33 24.1**	**-0.9**
KUDL				IAmb	IAmb	16 33 29.3	
	comp=Z,385nm,1.1s						
KUDL				*e*S	**SKSdf**	**16 40 31.1**	**+1.7**
SONA	**Sohna**	**136.01**	**14**	*e*P	**PKPdf**	**16 33 25.4**	**+0.3**
SONA				IAmb	IAmb	16 33 28.2	
	comp=Z,126nm,0.7s						
SONA				*e*S	**SKSac**	**16 40 33.2**	**+1.0**
UGON	**Onchagaon**	**136.13**	**13**	*e*P	**PKiKP**	**16 33 26.2**	**-0.8**
UGON				*e*S	**SKSdf**	**16 40 29.1**	**-0.7**
PZH	**PanZhiHua**	**136.77**	**342**	PKP	**PKPdf**	**16 33 26.9**	**+0.1**
PZH				PP	**PP**	**16 36 09.5**	**+1.1**
PZH				SKKS		16 42 53.9	
PZH				SS	**SS**	**16 54 07.6**	**+2.0**
PZH				AMB	AMB		
	comp=Z,3μm,10.4s						
PZH				LR	LR		
	comp=

comp=Z,13μm,24.8s
KOHI KOHIMA 139.28 351 *e*P **PKPdf 16 33 24.4 -7.1**
KOHI IAmb IAmb 16 33 36.6
comp=Z,201nm,1.1s
KOHI *e*S **SKSdf 16 40 37.2 +1.6**
KOHI IAMs_20 IAMs_20 16 41 58.4
comp=Z,3μm,22.5s
BNDA BANDA 139.35 10 *e*P **PKPdf 16 33 30.3 -1.1**
BNDA *e*S **SKSdf 16 40 37.3 +2.0**
GUNA GUNA 139.53 15 *e*P **PKPdf 16 33 30.3 -1.5**
GUNA IAmb IAmb 16 33 36.0
comp=Z,192nm,0.9s
GUNA *e*S **SKSac 16 40 39.4 -1.4**
GUNA IAMs_20 IAMs_20 16 42 23.6
comp=Z,4μm,18.3s
SHL Shillong 139.70 354 *e*P **PKPdf 16 33 32.3 0.0**
SHL *e*S **SKSdf 16 40 37.2 +0.9**
ALBI Allahabad 139.75 8 *e*P **PKPdf 16 33 31.7 -0.5**
ALBI IAmb IAmb 16 33 34.9
comp=Z,227nm,1.0s
ALBI *e*S **SKSdf 16 40 37.3 +1.3**
VAR Varanasi 139.91 7 *e*P **PKiKP 16 33 34.4 -0.4**
VAR *e*S **SKSdf 16 40 39.3 +3.1**
QIZ Qiongzhong 139.97 326 PKP **PKPdf 16 33 29.3 -3.4**
QIZ PP **PP 16 36 30.3 +1.7**
QIZ SS SS 16 54 48.9 +4.9
QIZ AMB AMB
comp=Z,1μm,7.2s
QIZ LR LR
comp=Z,5μm,20.6s
QIZ LR LR
comp=Z,3μm,20.6s
QIZ LR LR
comp=Z,6μm,22.0s
IMP Imphal 140.17 351 *e*P **PKPdf 16 33 29.0 -4.0**
IMP IAmb IAmb 16 33 35.6
comp=Z,134nm,1.1s
IMP *e*S **SKSdf 16 40 39.2 +2.3**
IMP ⇓*e*x x 16 41 25.9
SANI Sanana 140.18 285 P **PKiKP 16 33 36.4 +0.7**
SHBG Sahibganj 140.25 0 *e*P **PKPdf 16 33 32.8 -0.2**
SHBG *e*S **SKSdf 16 40 37.3 +0.6**
VOI Vohitsoka 140.60 107 P **PKPdf 16 33 28.6 -5.2**
BHPL Bhopal 140.90 15 *e*P **PKiKP 16 33 36.3 -0.7**
BHPL *e*S **SKSdf 16 40 41.2 +3.2**
OPO Ambohidratompo 141.04 101 PKhKP PKPpre 16 33 29.9
comp=Z,18nm,0.8s,baz=257,slow=5.8,SNR=13
NRDN NARMADA NAGAR 141.33 16 *e*P **PKPdf 16 33 33.9 -1.2**
NRDN IAmb IAmb 16 33 39.3
comp=Z,98nm,1.1s
NRDN *e*S **SKSdf 16 40 39.3 +0.7**
AZL Aizawl 141.42 353 *e*P **PKPdf 16 33 31.9 -3.4**
AZL IAmb IAmb 16 33 39.3
comp=Z,29nm,0.5s
AZL IAMs_20 IAMs_20 16 40 22.9
comp=Z,4μm,26.3s
AZL *e*S **SKSdf 16 40 39.2 +0.2**
BOK Bokaro 141.63 3 *e*P **PKiKP 16 33 38.3 -0.1**
BOK *e*S **SKSdf 16 40 41.2 +2.1**
KNTI KHUNTI 142.33 4 *e*P **PKPdf 16 33 31.4 -5.5**
KNTI *e*S **SKSdf 16 40 39.4 -1.0**
CAL Calcutta 142.91 359 *e*S **SKSdf 16 40 39.3 -1.8**
CAL IAMs_20 IAMs_20 16 41 28.5
comp=Z,5μm,18.4s
BLSP Bilaspur 142.92 9 *e*P **PKPdf 16 33 34.8 -3.1**
BLSP IAmb IAmb 16 33 43.3
comp=Z,169nm,1.0s
BLSP *e*S **SKSdf 16 40 43.5 +2.2**
AKL Akola 143.21 17 *e*P PKPbc 16 33 35.5 0.0
AKL IAmb IAmb 16 33 44.2
comp=Z,151nm,1.0s
AKL *e*S **SKSdf 16 40 41.4 -0.3**
SBV Sambava 143.35 93 P **PKPdf 16 33 37.6 -1.1**
SNR=7.6
JHSG JHARSUGUGA 143.49 6 *e*P **PKPdf 16 33 39.5 +0.6**
JHSG *e*S **SKSdf 16 40 45.5 +3.4**
FITZ Fitzroy Crossi 143.52 259 **PKPdf 16 33 38.1 -0.9**
TOLI2 Tolitoli 143.68 293 PKPab 16 33 36.4 +0.2
SOEI Soe 143.97 274 P **PKiKP 16 33 42.8 -0.8**
SOEI Soe 143.97 274 P **PKPdf 16 33 39.7 -0.4**
POO Poona 144.20 23 *e*P PKPbc 16 33 38.3 -0.2
POO *e*S **SKSdf 16 40 45.3 +2.0**
KMBL Kambalda 144.68 236 P **PKPab 16 33 39.6 0.0**
PHRA Phrae 144.72 339 **PKPdf 16 33 41.5 +0.4**
CHTO Chiang Mai 144.84 341 **PKiKP 16 33 43.3 -1.8**
CHTO Chiang Mai 144.84 341 PKIKP **PKiKP 16 33 43.3 -1.8**
KKM Kota Kinabalu 144.99 304 P **PKiKP 16 33 44.5 -1.2**
KKM Kota Kinabalu 144.99 304 P **PKPdf 16 33 43.6 +1.8**
CM31 Chiang Mai Arr 145.18 341 **PKPdf 16 33 42.0 +0.1**
CMAR Chiang Mai Arr 145.18 341 **PKPdf 16 33 42.4 +0.5**
CMAR Chiang Mai Arr 145.18 341 PKPbc **PKPbc 16 33 41.4 -0.2**
comp=Z,268nm,0.9s,baz=343,slow=3.6,SNR=314
CMAR Chiang Mai Arr 145.18 341 PKIKP **PKPdf 16 33 42.4 +0.5**
UBPT Khong Chiam 145.37 329 P **PKPab 16 33 43.1 +0.7**
UBPT Khong Chiam 145.37 329 P **PKPab 16 33 43.4 +1.0**
KAD Karad 145.44 23 *e*P **PKPdf 16 33 40.3 -2.1**
KAD IAmb IAmb 16 33 45.9
comp=Z,159nm,1.1s
KAD *e*S **SKSdf 16 40 47.5 +2.3**
MMRI Maumere 145.69 276 P **PKPab 16 33 44.1 +0.3**
MMRI Maumere 145.69 276 P **PKPbc 16 33 43.4 +0.1**
DLV Lat 146.42 321 P **PKiKP 16 33 47.9 -0.8**
DLV Lat 146.42 321 P **PKiKP 16 33 47.7 -1.0**
MSEY Mahe Island 146.72 76 P **PKPbc 16 33 46.4 -0.2**
MSEY Mahe Island 146.72 76 *i* PKPbc **PKPdf 16 33 45.5 +0.7**
SNR=12
HYB Hyderabad 146.76 16 *e*PKPdf **PKPdf 16 33 44.7 0.0**
HYB IVMs_BB IVMs_BB 17 37 20.6
comp=Z,4μm,30.2s
GOA Goa 146.94 25 *e*P **PKPdf 16 33 44.4 -0.5**
GOA *e*S **SKSdf 16 40 47.3 +0.1**
KAPI Kappang 147.03 284 P **PKPbc 16 33 46.4 -0.9**
KAPI Kappang 147.03 284 P **PKPab 16 33 48.2 -0.8**
KAPI Kappang 147.03 284 P **PKPab 16 33 48.5 -0.5**
KAPI Kappang 147.03 284 P **PKPbc 16 33 47.4 +0.1**
RKGY Rocky Gully 147.07 228 P **PKPab 16 33 47.8 -0.8**
RKGY Rocky Gully 147.07 228 P **PKPab 16 33 47.7 -0.8**
NWAO Narrogin (SRO) 147.68 231 **PKPbc 16 33 48.8 +0.2**
NWAO Narrogin (SRO) 147.68 231 P **PKPbc 16 33 47.6 -1.0**
NWAO Narrogin (SRO) 147.68 231 P **PKPbc 16 33 48.8 +0.2**
NWAO Narrogin (SRO) 147.68 231 P **PKPbc 16 33 48.1 -0.5**
NWAO Narrogin (SRO) 147.68 231 P **PKPbc 16 33 48.7 +0.1**
NWAO Narrogin (SRO) 147.68 231 P **PKPbc 16 33 48.1 -0.5**
NWAO Narrogin (SRO) 147.68 231 PKP2 **PKPbc 16 33 48.8 +0.2**
KLBR Kellerberrin 147.86 233 P **PKPbc 16 33 48.3 -0.8**
KLBR Kellerberrin 147.86 233 P **PKPdf 16 33 47.2 +1.1**
NAYO Nakonayok 148.12 334 P **PKPbc 16 33 49.2 -1.0**
NAYO Nakonayok 148.12 334 P **PKPbc 16 33 49.5 -0.7**
BKB Balikpapan 148.21 292 P **PKiKP 16 33 51.4 -0.8**
PSA00 Pilbara Seismi 148.78 253 **PKPbc 16 33 51.6 -0.2**
PSA00 Pilbara Seismi 148.78 253 P **PKPbc 16 33 51.4 -0.4**
PSA00 Pilbara Seismi 148.78 253 P **PKPbc 16 33 51.1 -0.7**
MEEK Meekatharra 148.87 243 P **PKPbc 16 33 51.6 -0.3**
MEEK Meekatharra 148.87 243 P **PKPbc 16 33 52.4 +0.5**
MUN Mundaring 148.88 232 P **PKPbc 16 33 51.9 +0.2**
MUN Mundaring 148.88 232 P **PKPbc 16 33 52.1 +0.4**
MUN Mundaring 148.88 232 P **PKPbc 16 33 50.7 -1.0**
SRDT SRDT 148.94 338 P **PKPdf 16 33 49.6 +1.3**
SRDT SRDT 148.94 338 P **PKPbc 16 33 50.8 -1.5**
BLDU Ballidu 149.08 234 P **PKPbc 16 33 52.2 -0.1**
BLDU Ballidu 149.08 234 P **PKPbc 16 33 52.7 +0.4**
MTKN Mount Kenneth 149.23 231 P **PKPbc 16 33 50.9 -1.7**
MNGI Mangalore 149.65 26 *e*P **PKPdf 16 33 51.1 +1.7**
MNGI IAmb IAmb 16 33 56.2
comp=Z,789nm,1.3s
MNGI *e*S **SKSdf 16 40 51.6 +0.7**
PLAI Plampang 150.01 278 P **PKPbc 16 33 53.6 -1.4**
PLAI Plampang 150.01 278 P **PKPdf 16 33 50.2 +0.2**
MORW Morawa 150.22 237 **PKPbc 16 33 55.1 0.0**
MORW Morawa 150.22 237 P **PKPbc 16 33 54.2 -0.9**
SBUM Sibu 150.31 303 P **PKPbc 16 33 53.5 -2.3**
MDRS Chennai 151.37 15 *e*P **PKPdf 16 33 54.5 +2.5**
MDRS *e*S **SKSdf 16 40 55.4 +2.3**
DGPR DIGLIPUR 151.76 349 *e*P **PKPdf 16 33 54.5 +1.9**
DGPR *e*S **SKSdf 16 40 55.4 +1.8**
SALM Salem 152.11 20 *e*P **PKPdf 16 33 55.2 +2.1**
SALM IAmb IAmb 16 34 01.9
comp=Z,362nm,0.9s
SALM *e*S **SKSdf 16 40 55.7 +1.6**
KSM Kuching 152.43 304 P **PKPbc 16 33 57.3 -3.3**
KSM Kuching 152.43 304 P **PKPdf 16 33 56.5 +2.8**
PBA Port Blair 153.28 349 P **PKPdf 16 33 55.0 +0.1**
SNR=16
PBA Port Blair 153.28 349 *e*P **PKPdf 16 33 56.6 +1.7**
PBA *e*S **SKSdf 16 40 55.4 -0.1**
JAGI Jajag, Banyuwa 153.38 281 P **PKPdf 16 33 58.0 +2.9**
SRIT Nakonsritamara 153.97 332 P **PKPdf 16 33 57.8 +1.9**
HMDM Hanimaadhoo 154.19 35 P **PKPdf 16 33 56.2 -0.1**
TRD Trivandrum 154.53 25 *e*P **PKPdf 16 33 58.6 +1.9**
TRD *e*S **SKSdf 16 40 58.4 +1.4**
KULM Kulim 156.30 326 P **PKPdf 16 34 01.1 +2.0**
KULM Kulim 156.30 326 P **PKPdf 16 34 00.9 +1.8**
SMRI Semarang 156.43 287 P **PKPdf 16 34 03.3 +4.0**
IPM Ipoh 156.77 324 P **PKPdf 16 34 01.6 +1.8**
IPM Ipoh 156.77 324 P **PKPdf 16 34 01.7 +1.9**
PALK Pallekele 157.02 18 **PKPdf 16 34 01.2 +1.1**
PALK Pallekele 157.02 18 PKP **PKPdf 16 33 59.8 -0.3**
comp=Z,34nm,1.1s,baz=331,slow=2.2,SNR=9.9
PALK Pallekele 157.02 18 P **PKPdf 16 33 59.7 -0.4**
PALK Pallekele 157.02 18 PKIKP **PKPdf 16 34 01.2 +1.1**
MYKOM Kota Tinggi 157.07 315 P **PKPdf 16 34 03.5 +3.4**
MYKOM Kota Tinggi 157.07 315 P **PKPdf 16 34 02.6 +2.5**
BBJI Bungbulang 159.15 288 P **PKPdf 16 34 06.1 +3.4**
BBJI Bungbulang 159.15 288 P **PKPdf 16 34 03.6 +0.9**
PSI Prapat 159.31 327 P **PKPdf 16 34 03.5 +0.5**
PSI Prapat 159.31 327 P **PKPdf 16 34 03.3 +0.3**
GSI Gunungsitoli 161.28 328 P **PKPdf 16 34 07.1 +2.1**
GSI Gunungsitoli 161.28 328 P **PKPdf 16 34 06.1 +1.1**
DGAR Diego Garcia 163.34 66 P **PKPdf 16 34 05.1 -1.9**
COCO West Island 170.77 285 P **PKPdf 16 34 13.0 +0.6**

IDC 01 16:19:25.3±727.0, 23°.23S×69°.51W, h0km, Error ellipse: s-maj=342.5km s-min=180.1km az=79.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	**ROBINSON CRUSO**	**13.21**	**216**	I	I	17 42 10.0	
baz=43,slow=311,SNR=1.0							
I20EC	**Galapagos**	**30.27**	**315**	I	I	19 24 20.0	
baz=142,slow=312,SNR=3.0							
I13CL	**EASTER ISLAND**	**36.17**	**255**	I	I	19 58 20.0	
baz=93,slow=318,SNR=1.2							

---

*IDC **01** 16:51:02.1±4.0, 5°.96S×103°.58E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=193.3km s-min=20.9km az=51.0*
*DJA **01** 16:51:09.7±0.2, 6°.S±4°×10°.4E±°, h43km±35km, M4.2/17, mb4.5/5, MLv4.1/17*
ISC 01 16:51:09.3±1.1, 5°.9S±0°.1×104°.0E±0°.1, h42km, n32, σ19°32/27, mb3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.92**	**2**	P	**Pn**	**16 51 26.5**	**+0.7**
BLSI	**Bandar Lampung**	**1.34**	**65**	P	**Pn**	**16 51 32.2**	**+0.7**
MDSI	**Maura Dua**	**1.45**	**6**	P	**Pn**	**16 51 33.8**	**+0.7**
CGJI	**Cibinong**	**1.79**	**112**	P	**Pn**	**16 51 38.4**	**+0.8**
CGJI				S	**Sn**	**16 51 59.7**	**+0.6**
MNAI	**Manna**	**1.90**	**326**	P	**Pn**	**16 51 39.9**	**+0.7**
TNG	**Tangerang**	**2.62**	**95**	P	**Pn**	**16 51 49.8**	**+0.7**
TNG				P	**Pn**	**16 51 49.7**	**+0.7**
KSI	**Kapahiang**	**2.68**	**328**	P	**Pn**	**16 51 51.6**	**+1.5**
KSI				S	**Sn**	**16 52 23.8**	**+2.4**
SKJI	**Sukabumi**	**2.73**	**113**	P	**Pn**	**16 51 51.0**	**+0.4**
CNJI	**Cibinong**	**3.37**	**114**	P	**Pn**	**16 52 00.2**	**+0.8**
CNJI				S	**Sn**	**16 52 38.4**	**+0.2**
CMJI	**Cimerak**	**4.76**	**113**	P	**Pn**	**16 52 18.9**	**+0.4**
TPI	**Tanjungpandan**	**4.80**	**49**	P	**Pn**	**16 52 20.3**	**+1.2**
PPSI	**Pulau Pagai**	**5.10**	**308**	P	**Pn**	**16 52 24.4**	**+1.2**
0.3nm65nm,1.0s							
YOGI	**Yogyakarta**	**6.50**	**107**	P	**Pn**	**16 52 42.8**	**+0.4**
73nm,1.7s							
SISI	**Saibi**	**6.73**	**313**	P	**Pn**	**16 52 46.1**	**+0.5**
PCJI	**Pacitan**	**7.44**	**108**	P	**Pn**	**16 52 55.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**24.76**	**348**	P	**P**	**16 56 24.9**	**-2.2**
0.6nm,0.5s,baz=182,slow=9.1,SNR=8.0							
0.6nm,0.5s							
H08S2	**Diego Garcia H**	**31.35**	**265**	T	T	17 31 06.5	
baz=89,slow=76,SNR=9.9							
H08S3	**Diego Garcia H**	**31.36**	**265**	T	T	17 31 07.2	
baz=89,slow=76,SNR=16							
H08S1	**Diego Carcia H**	**31.37**	**265**	T	T	17 31 03.0	
baz=89,slow=76,SNR=11							
WRA	**Warramunga Arr**	**32.57**	**118**	P	**P**	**16 57 38.8**	**+1.8**
0.3nm,0.5s,baz=300,slow=8.8,SNR=6.2							
0.3nm,0.5s							
ASAR	**Alice Springs**	**33.71**	**125**	P	**P**	**16 57 48.3**	**+1.4**
0.6nm,1.1s,baz=298,slow=8.4,SNR=4.2							
0.6nm,1.1s							
MKAR	**Makanchi Array**	**55.93**	**342**	P	**P**	**17 00 41.1**	**-2.0**
0.3nm,0.5s,baz=154,slow=8.7,SNR=8.4							
0.3nm,0.5s							
H04N2	**CROZET ISLANDS**	**60.17**	**219**	T	T	18 07 11.3	
baz=64,slow=75,SNR=69							
H04N1	**CROZET ISLANDS**	**60.19**	**219**	T	T	18 07 08.9	
baz=64,slow=75,SNR=57							
H04N3	**CROZET ISLANDS**	**60.19**	**219**	T	T	18 07 15.6	
baz=64,slow=75,SNR=40							
H04S1	**CROZET ISLANDS**	**60.39**	**219**	T	T	18 07 25.6	
baz=62,slow=76,SNR=9.1							
H04S3	**CROZET ISLANDS**	**60.41**	**219**	T	T	18 07 22.5	
baz=62,slow=76,SNR=20							
H04S2	**CROZET ISLANDS**	**60.41**	**219**	T	T	18 07 28.2	
baz=62,slow=76,SNR=16							
KURBB	**Kurchatov Arra**	**60.48**	**342**	P	**P**	**17 01 12.6**	**-2.2**
0.3nm,0.3s,baz=157,slow=6.7,SNR=2.2							
0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**61.81**	**347**	P	**P**	**17 01 22.1**	**-1.7**
0.4nm,0.5s,baz=143,slow=5.4,SNR=2.3							
0.4nm,0.5s							
BVAR	**Borovoye Array**	**65.27**	**338**	P	**P**	**17 01 44.8**	**-1.9**
0.6nm,0.5s,baz=148,slow=8.5,SNR=3.2							
0.6nm,0.5s							
TXAR	**Lajitas Array**	**145.00**	**45**	PKPbc	**PKPab**	**17 10 42.4**	**+0.2**
0.1nm,0.5s,baz=300,slow=6.8,SNR=3.5							

---

*TEH **01** 16:53:17.3, 27°.48N×56°.70E, h14km±24km*
*DSN **01** 16:53:18.4±1.3, 27°.49N×56°.71E, h10km, ML3.2/11, Error ellipse: s-maj=28.8km s-min=10.1km az=119.0*
*IDC **01** 16:53:19.0±2.8, 27°.71N×56°.53E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=66.6km s-min=28.5km az=158.0*
ISC 01 16:53:17.6±1.7, 27°.49N±0°.04×56°.73E±0°.04, h2km±13km, n35, σ0°75/36, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.17**	**256**	Pg	**Pg**	**16 53 21.7**	**+0.7**
GENO	**Geno**	**0.51**	**260**	Pg	**Pg**	**16 53 26.9**	**-0.4**
KHNJ	**Kahnooj**	**0.98**	**62**	Pg	**Pg**	**16 53 35.8**	**-0.6**
SHME	**Shamm**	**1.53**	**200**	*e*P	**Pn**	**16 53 45.0**	**-0.9**
SNR=27							
SHME				S	**Sb**	**16 54 06.6**	**+0.2**
BANOM	**Banah**	**1.61**	**194**	*e*P	**Pn**	**16 53 46.8**	**-0.2**
SNR=45							
JASK	**Jask - Hormozg**	**1.91**	**148**	Pn	**Pn**	**16 53 51.1**	**0.0**
LAR1	**LAR**	**2.10**	**275**	Pn	**Pn**	**16 53 54.2**	**+0.4**
NGRK	**Negar Kerman**	**2.15**	**360**	Pn	**Pn**	**16 53 53.8**	**-0.9**
MSFE	**Esma-Masafi**	**2.18**	**194**	*e*P	**Pn**	**16 53 54.6**	**-0.3**
SNR=15							
MDH	**Madha**	**2.22**	**190**	P	**Pn**	**16 53 56.1**	**+0.8**
CHMN	**Cheshme madani**	**2.47**	**17**	Pn	**Pn**	**16 53 59.9**	**+0.8**
TVBK	**TV Kerman**	**2.49**	**1**	Pn	**Pn**	**16 53 59.8**	**+0.4**
UOSS	**Minazif**	**2.58**	**191**	Pn	**Pn**	**16 54 00.0**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.67**	**201**	*e*P	**Pn**	**16 54 01.5**	**-0.1**
SNR=6.9							
HATD	**Hatta, Dubai**	**2.71**	**192**	*e*P	**Pn**	**16 54 03.6**	**+1.5**
SNR=9.7							
ASHO	**Ashiyiah**	**2.86**	**192**	*e*P	**Pn**	**16 54 04.2**	**-0.1**
SNR=13							
KHGB	**Koh Gabri**	**2.88**	**356**	Pn	**Pn**	**16 54 04.9**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.92**	**201**	*e*P	**Pn**	**16 54 05.0**	**0.0**
SNR=14							
KRM1	**Kerman Provinc**	**3.04**	**9**	Pn	**Pn**	**16 54 07.0**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.12**	**204**	*i* P	**Pn**	**16 54 08.2**	**+0.5**
SNR=21							
SOHO	**SOHO**	**3.35**	**183**	P	**Pn**	**16 54 10.5**	**-0.4**
ALNE	**Al Ain**	**3.53**	**195**	*i* P	**Pn**	**16 54 12.8**	**-0.6**
SNR=10							
CHBR	**Chabahar**	**3.85**	**118**	Pn	**Pn**	**16 54 18.3**	**+0.5**
HOQ	**Hoqain**	**3.93**	**172**	Pn	**Pn**	**16 54 18.6**	**-0.3**
IMEH	**Mehriz**	**4.30**	**335**	Pn	**Pn**	**16 54 24.1**	**-0.1**
SRVN	**Saravan**	**5.04**	**90**	Pn	**Pn**	**16 54 35.4**	**+1.1**
ISAD	**Sadrabad**	**5.14**	**330**	Pn	**Pn**	**16 54 36.0**	**+0.2**
ICHK	**Chekchek**	**5.15**	**337**	Pn	**Pn**	**16 54 36.3**	**+0.4**
KLNJ	**Kolanjah**	**5.70**	**309**	Pn	**Pn**	**16 54 43.0**	**-0.6**
IRAM	**Ramesheh**	**5.73**	**320**	Pn	**Pn**	**16 54 43.2**	**-0.7**
BRTR	**Keskin Array B**	**22.70**	**308**	P	**P**	**16 58 19.5**	**-1.2**
0.4nm,0.5s,baz=107,slow=12,SNR=2.5							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**27.84**	**39**	P	**P**	**16 59 10.7**	**+2.4**
0.1nm,0.4s,baz=228,slow=7.9,SNR=1.8							
0.1nm,0.4s							
AKASG	**Malin Array Be**	**31.19**	**325**	P	**P**	**16 59 37.5**	**-0.5**
0.4nm,0.5s,baz=136,slow=8.4,SNR=5.0							
0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**33.53**	**30**	P	**P**	**16 59 58.1**	**-0.3**
0.6nm,0.4s,baz=231,slow=9.1,SNR=4.5							
0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**53.15**	**266**	P	**P**	**17 02 37.7**	**+0.4**
3.4nm,0.9s,baz=82,slow=7.2,SNR=5.6							
3.4nm,0.9s							

---

*SNET **01** 16:59:27.4±1.0, 14°.58N×92°.49W, h22km±122km, ML4.9*
*NEIC **01** 16:59:27.9±2.2, 14°.69N±0°.08×92°.51W±0°.04, h78km±5km, mb4.4/6, Md4.5/71(MEX), Error ellipse: s-maj=11.1km s-min=6.2km az=185.0*
*GCG **01** 16:59:27.7±1.7, 14°.61N×92°.50W, h70km±11km, MD4.5, ML4.3, MW4.0, Hypocentre not reviewed by the ISC*
*MEX **01** 16:59:28.5±0.5, 14°.52N×92°.56W, h71km±8km, MD4.5*
*IDC **01** 16:59:28.8±6.1, 14°.78N×92°.25W, h79km±34km, mb3.5/3, mbtmp3.6/6, Error ellipse: s-maj=66.5km s-min=25.2km az=162.0*
ISC 01 16:59:27.4±0.8, 14°.74N±0°.05×92°.48W±0°.03, h79km±6km, n79, σ2°43/124, mb4.2/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.27**	**51**		**Pn**	**16 59 39.6**	**+0.1**
THIG					**Sn**	**16 59 48.5**	**+0.2**
THIG		**0.27**	**51**	*e*P	**Pn**	**16 59 39.6**	**+0.1**
THIG				*i* S	**Sn**	**16 59 48.5**	**+0.2**
THIG		**0.27**	**51**	*e*P		16 59 39.5	
comp=Z,15μm,0.4s							
THIG				*e*S		16 59 48.5	
THIG				IAML		16 59 50.9	
comp=N,52μm,0.5s							
RTAL Retalhuleu		**0.79**	**105**		**Pn**	**16 59 44.1**	**0.0**
RTAL Retalhuleu		**0.79**	**105**	*e*P	**Pn**	**16 59 43.8**	**-0.3**
RTAL				*e*S	**Sn**	**16 59 54.9**	**-1.5**
QUEO Labor Ovalle		**0.95**	**82**	*e*P		16 59 47.0	
comp=Z,13μm,0.6s							
QUEO				*e*S		17 00 01.6	
QUEO				IAML		17 00 06.6	
comp=Z,13μm,0.6s							
SOKI Kika Raxquin		**1.05**	**85**	*e*P		16 59 48.4	
comp=Z,4μm,1.1s							
SOKI				*e*S		17 00 04.5	
SOKI				IAML		17 00 08.1	
comp=N,13μm,0.5s							
HUEH Huehuetenango		**1.11**	**58**		**Pn**	**16 59 49.7**	**+1.6**
HUEH Huehuetenango		**1.11**	**58**	*e*P	**Pn**	**16 59 49.4**	**+1.3**
HUEH				*e*S	**Sn**	**17 00 06.1**	**+2.7**
HUEH Huehuetenango		**1.11**	**58**	*e*P	**Pn**	**16 59 49.5**	**+1.5**
HUEH				*e*S	**Sn**	**17 00 07.0**	**+3.6**
HUEH Huehuetenango		**1.11**	**58**	*e*P		16 59 49.5	
HUEH				*e*S		17 00 07.1	
HUEH				IAML		17 00 09.4	
comp=Z,9μm,0.6s							
PCIG		**1.20**	**324**		**Pn**	**16 59 50.0**	**+1.2**
PCIG					**Sn**	**17 00 06.2**	**+1.3**
PCIG		**1.20**	**324**	*e*P	**Pn**	**16 59 50.0**	**+1.2**
PCIG				*e*S	**Sn**	**17 00 06.2**	**+1.3**
QUIS Sacapulas		**1.45**	**67**	*e*P		16 59 54.0	
QUIS				*e*S		17 00 14.7	
CCIG Comitan		**1.57**	**12**		**Pn**	**16 59 56.6**	**+2.7**
CCIG Comitan		**1.57**	**12**	*e*P	**Pn**	**16 59 56.1**	**+2.2**
CCIG				*i* S	**Sn**	**17 00 10.1**	**-3.8**
CCIG Comitan		**1.57**	**12**	*e*P		16 59 56.7	
comp=Z,2μm,0.8s							
CCIG				IAML		17 00 34.1	
comp=Z,2μm,0.8s							
GUMI Mixco		**1.81**	**93**	*e*P		16 59 59.0	
CARR Arriaga		**2.04**	**318**	*e*P	**Pn**	**17 00 02.8**	**+2.9**
CARR				*e*S	**Sn**	**17 00 28.2**	**+3.6**
TGIG		**2.12**	**343**		**Pn**	**17 00 01.8**	**+0.7**
TGIG					**Sn**	**17 00 24.6**	**-2.0**
TGIG		**2.12**	**343**	*e*P	**Pn**	**17 00 01.8**	**+0.7**
TGIG				*e*S	**Sn**	**17 00 24.6**	**-2.0**
TGIG		**2.12**	**343**	*e*P		17 00 02.5	
TGIG				IAML		17 00 44.3	
comp=Z,761nm,0.7s							
NILT Santiago Nilte		**2.75**	**312**	*e*P	**Pn**	**17 00 11.4**	**+2.1**
NILT				*e*S	**Sn**	**17 00 43.6**	**+2.0**
NUBE Las Nubes		**2.75**	**107**	*e*P		17 00 10.4	
CEVE Cerro Verde		**2.92**	**108**	*e*P	**Pn**	**17 00 13.1**	**+1.2**
CEVE				*e*S	**Sn**	**17 00 49.0**	**+3.0**
CEVE				IAML		17 01 00.8	
comp=Z,6μm,0.3s							
UXUV UXUV		**3.02**	**328**	*e*P	**Pn**	**17 00 15.6**	**+2.4**
UXUV				*e*S	**Sn**	**17 00 51.2**	**+2.8**
MTO3 Montecristo		**3.04**	**96**		**Pn**	**17 00 14.2**	**+0.6**
ESQI Esquipulas		**3.05**	**93**	*e*P	**Pn**	**17 00 14.5**	**+1.0**
CEDA San Andres		**3.13**	**107**	*e*S	**Sn**	**17 00 52.2**	**+1.1**
CEDA				IAML		17 01 05.7	
comp=Z,2μm,0.3s							
BOQS Boqueron		**3.26**	**107**	*e*P	**Pn**	**17 00 17.4**	**+0.8**
CMIG Matias Romero		**3.29**	**316**		**Pn**	**17 00 18.4**	**+1.6**
CMIG					**Sn**	**17 00 56.5**	**+1.7**
CMIG Matias Romero		**3.29**	**316**	P	**Pn**	**17 00 18.6**	**+1.9**
comp=Z,18nm,0.2s,baz=128,slow=12,SNR=58							
CMIG				S	**Sn**	**17 00 56.9**	**+2.1**
comp=Z,121nm,0.4s,baz=270,slow=22,SNR=9.9							
CMIG Matias Romero		**3.29**	**316**	*e*P	**Pn**	**17 00 18.4**	**+1.6**
CMIG				*e*S	**Sn**	**17 00 56.5**	**+1.7**
LALI Alcalda de L		**3.31**	**112**	*e*S	**Sn**	**17 00 56.0**	**+0.7**
PETF Flores		**3.32**	**49**		**Pn**	**17 00 18.8**	**+1.7**
PETF Flores		**3.32**	**49**	*e*P	**Pn**	**17 00 18.5**	**+1.3**
PETF				*i* S	**Sn**	**17 00 52.8**	**-2.8**
PETF Flores		**3.32**	**49**	*e*P		17 00 18.7	
LOMA Loma Larga		**3.39**	**108**	*e*P	**Pn**	**17 00 19.0**	**+0.7**
LFRS El Faro		**3.50**	**108**	*e*P	**Pn**	**17 00 20.2**	**+0.5

HLIG					Sn	17 02 04.0 +3.6
HLIG	**Huajuapan de L**	**5.96 302**	*e*P		**Pn**	**17 00 57.4 +4.0**
HLIG			*e*S		**Sn**	**17 02 04.0 +3.6**
JAUV	**Jalcomulco**	**6.19 319**	*e*P		**Pn**	**17 00 56.2 -0.1**
JAUV			*e*S		**Sn**	**17 02 03.5 -2.1**
FTIG	**Fresnillo de T**	**6.28 301**			**Pn**	**17 00 58.2 +0.7**
FTIG					**Sn**	**17 02 10.7 +2.8**
FTIG	**Fresnillo de T**	**6.28 301**	*e*P		**Pn**	**17 00 58.2 +0.7**
FTIG			*e*S		**Sn**	**17 02 10.7 +2.8**
TLIG	**Tlapa**	**6.49 296**	*e*P		**Pn**	**17 01 04.0 +3.5**
TLIG			*e*S		**Sn**	**17 02 07.3 -5.8**
CRIG	**Cruz Grande**	**6.70 288**	*e*P		**Pn**	**17 01 03.1 -0.2**
CRIG			*e*S		**Sn**	**17 02 11.8 -6.4**
TEIG	**Tepich**	**6.78 36**			**Pn**	**17 01 04.7 +0.4**
TEIG	**Tepich**	**6.78 36**	P		**Pn**	**17 01 04.4 +0.1**
	comp=Z,0.6nm,0.4s,baz=129,slow=20,SNR=160					
TEIG			S		**Sn**	**17 02 17.8 -2.2**
	comp=Z,0.2nm,0.4s,baz=46,slow=24,SNR=9.5					
BOAB	**BOACO BROADBAN**	**7.01 108**			**Pn**	**17 01 07.1 -0.3**
DAIG	**Los Arroyos**	**7.26 289**	*e*P		**Pn**	**17 01 13.5 +2.6**
PPM	**Popocatepetl**	**7.29 307**	*e*P		Pn	17 01 17.5 +5.7
PPM			*e*S		**Sn**	**17 02 29.3 -4.0**
PPIG	**Popocatepetl**	**7.29 307**			Pn	17 01 17.5 +5.7
PPIG					**Sn**	**17 02 29.3 -4.0**
YAIG	**Yautepec**	**7.52 304**	*e*P		Pn	17 01 19.3 +4.7
PLIG	**Platanillo**	**7.65 299**	*e*P		**Pn**	**17 01 19.3 +3.0**
PLIG			*e*S		**Sn**	**17 02 38.5 -3.1**
CAIG	**El Cayaco**	**7.83 288**	*e*P		**Pn**	**17 01 21.3 +2.6**
ARIG	**Puente Sto Nin**	**8.32 296**	*e*P		Pn	17 01 29.9 +4.4
ARIG			*e*S		**Sn**	**17 02 56.1 -1.8**
ZIIG	**Zihuatanejo**	**9.09 290**	*e*P		**Pn**	**17 01 39.2 +3.4**
SOR	**Soroa**	**12.03 47**	Pn		**Pn**	**17 02 13.1 -2.8**
HNVL	**Huntsville, TX**	**16.18 351**	Pn		**Pn**	**17 03 08.4 -1.6**
TXAR	**Lajitas Array**	**17.83 326**	P		**Pn**	**17 03 33.1 +2.7**
	comp=Z,0.3nm,0.7s,baz=150,slow=9.8,SNR=2.3					
T59A	**Double "B" Far**	**25.83 28**	P		**P**	**17 04 48.8 -2.7**
T59A			IAmb		IAmb	17 04 51.1
	comp=Z,13nm,0.9s					
NVAR	**Mina Array Bea**	**32.81 321**	P		**P**	**17 05 57.9 +4.2**
	comp=Z,1.4nm,0.7s,baz=131,slow=5.4,SNR=8.5					
	comp=Z,1.4nm,0.7s					
YKA	**Yellowknife Ar**	**50.21 347**	P		**P**	**17 08 14.8 -0.2**
	comp=Z,0.4nm,0.7s,baz=158,slow=7.4,SNR=7.7					
YKA			PcP		**PcP**	**17 09 33.7 +0.6**
	baz=160,slow=3.9,SNR=5.9					
	comp=Z,0.4nm,0.7s					
BCAR	**Beaver Creek A**	**59.18 336**	P		**P**	**17 09 21.6 +1.6**
F28M	**Old Crow**	**61.03 341**	P		**P**	**17 09 34.5 +2.0**
F28M			IAmb		IAmb	17 09 35.9
	comp=Z,4.6nm,0.8s					
ILAR	**Eielson Array**	**61.98 337**	P		**P**	**17 09 38.3 -0.7**
ILAR	**Eielson Array**	**61.98 337**	P		**P**	**17 09 40.4 +1.4**
	comp=Z,1.7nm,0.8s,baz=126,slow=5.0,SNR=17					
	comp=Z,1.7nm,0.8s					
BMAR	**Burnt Mountain**	**62.44 340**	P		**P**	**17 09 42.9 +0.8**
G18K	**Tagagawik**	**66.98 336**	P		**P**	**17 10 12.8 +1.3**
G18K			IAmb		IAmb	17 10 14.1
	comp=Z,2.9nm,1.0s					
J16K	**Anvik River**	**67.14 333**	P		**P**	**17 10 14.2 +1.7**
J16K			IAmb		IAmb	17 10 15.6
	comp=Z,4.7nm,1.0s					
CMAR	**Chiang Mai Arr**	**145.15 341**	PKPbc		**PKPbc**	**17 18 57.4 +0.9**
	comp=Z,2.9nm,0.8s,baz=9.8,slow=2.8,SNR=25					

IDC 01 17:21:00.1±4.5, 10°.95N×126°.18E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=248.9km s-min=84.4km az=75.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.73**	**165**	P	P	17 27 24.9	-1.1
	0.4nm,0.6s,baz=348,slow=8.5,SNR=1.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**35.22**	**168**	P	P	17 27 56.2	-0.2
	0.5nm,0.3s,baz=347,slow=6.9,SNR=35						
ASAR				PcP	PcP	17 30 27.3	-0.4
	0.2nm,0.5s,baz=335,slow=3.3,SNR=1.8						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**45.06**	**161**	P	P	17 29 18.9	+0.9
	1.0nm,0.3s,baz=342,slow=9.6,SNR=4.4						
	1.0nm,0.3s						

DJA 01 17:36:10.0±0.8, 9°.5±.5°×11°.8E±°, h30km±8km, M4.0/19, mb4.3/6, MLv3.8/19, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.63**	**360**	P	Pb	17 36 22.4	-0.2
TWSI	**Taliwang, Sumb**	**1.14**	**309**	P	Pn	17 36 28.9	-1.0
WBSI	**Waikabubak, Su**	**1.60**	**97**	P	Pn	17 36 34.8	-1.5
WSI	**Waingapu**	**2.49**	**95**	P	Pn	17 36 48.4	-0.1
DNP	**Denpasar**	**2.66**	**287**	P	Pn	17 36 50.9	+0.1
DNP				S	Sn	17 37 22.6	+0.6
BASI	**Baing, Sumba**	**2.86**	**106**	P	Pn	17 36 54.1	+0.5
SRBI	**Singaraja**	**2.88**	**298**	P	Pn	17 36 54.4	+0.5
JAGI	**Jajag, Banyuwa**	**3.72**	**285**	P	Pn	17 37 05.2	-0.2
ABJI	**Asem Bagus**	**3.88**	**295**	P	Pn	17 37 09.0	+1.4
BSSI	**Bau Bau, Buton**	**4.25**	**39**	P	Pn	17 37 13.8	+1.0
GMJI	**Gumukmas**	**4.44**	**285**	P	Pn	17 37 15.2	-0.2
KMMI	**Kalianget**	**4.47**	**302**	P	Pn	17 37 16.1	+0.3
MMRI	**Maumere**	**4.48**	**80**	P	Pn	17 37 17.2	+1.3
BKSI	**Bulukumba**	**4.72**	**30**	P	Pn	17 37 19.7	+0.5
SPSI	**Sidrap Palu**	**5.81**	**20**	P	Pn	17 37 35.2	+1.1
GRJI	**Gresik**	**5.83**	**295**	P	Pn	17 37 34.2	-0.2
	88nm,1.5s						
SOEI	**Soe**	**6.40**	**93**	P	Pn	17 37 43.3	+0.8
	0.1nm18nm,1.1s						
UGM	**Wanagama**	**7.34**	**282**	P	Pn	17 37 56.2	+1.0
	164nm,2.1s						
MSAI	**Masohi**	**12.63**	**62**	P	Pn	17 39 05.9	-1.9

IDC 01 17:47:42.6±2.8, 28°.48N×141°.65E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=126.2km s-min=22.1km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.66**	**189**	P	P	17 56 28.8	+0.2
	0.6nm,0.3s,baz=5.1,slow=7.4,SNR=16						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**49.23**	**309**	P	P	17 56 33.4	+0.6
	0.1nm,0.5s,baz=91,slow=8.9,SNR=1.3						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**51.74**	**314**	P	P	17 56 51.7	+0.1
	0.4nm,0.5s,baz=93,slow=8.4,SNR=1.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**52.38**	**189**	P	P	17 56 56.2	-0.5
	0.2nm,0.4s,baz=4.3,slow=6.4,SNR=18						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**56.71**	**317**	P	P	17 57 27.9	0.0
	0.3nm,0.5s,baz=79,slow=7.6,SNR=2.3						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**76.50**	**334**	P	P	17 59 33.7	-0.5
	4.0nm,1.0s,baz=67,slow=6.7,SNR=4.6						
	4.0nm,1.0s						

IDC 01 17:49:39.5±6.2, 4°.22S×149°.93E, h91km±62km, mb3.1/3, mbtmp3.5/4, ML1.5/1, Error ellipse: s-maj=169.7km s-min=35.3km az=125.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.84**	**208**	P	Pn	17 51 02.2	-1.4
	0.8nm,0.3s,baz=31,slow=12,SNR=2.3						
PMG				S	Sn	17 52 12.0	+2.7
	5.5nm,0.5s,baz=74,slow=18,SNR=1.2						
	11nm,0.8s						
WRA	**Warramunga Arr**	**21.80**	**223**	P	P	17 54 22.8	-1.5
	0.3nm,0.8s,baz=51,slow=10,SNR=1.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.76**	**217**	P	P	17 54 53.0	+0.1
	1.3nm,0.8s,baz=40,slow=11,SNR=9.9						
	1.3nm,0.8s						
ILAR	**Eielson Array**	**82.71**	**23**	P	P	18 01 53.4	+0.5
	0.5nm,0.8s,baz=248,slow=5.1,SNR=4.6						
	0.5nm,0.8s						

*MEX **01** 17:50:47.7±0.9, 14°.49N×92°.46W, h74km±12km, MD3.9*
*GCG **01** 17:50:47.1±1.1, 14°.58N×92°.39W, h74km±7km, MD4.0,*
Hypocentre not reviewed by the ISC

*SNET **01** 17:50:48.7±1.4, 14°.60N×92°.30W, h77km±11km, ML4.2*
ISC 01 17:50:47.7±1.8, 14°.65N±0°.08×92°.41W±0°.07, h73km±11km, n13, σ1°.20/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.29**	**28**	*e*P	**Pn**	**17 50 58.8**	**-0.4**
THIG				*e*S	**Sn**	**17 51 08.0**	**+0.4**
THIG		**0.29**	**28**	*e*P		17 50 58.7	
THIG				*e*S		17 51 08.6	
RTAL	**Retalhuleu**	**0.70**	**100**	*e*P	**Pn**	**17 51 02.2**	**-0.7**
RTAL				*e*S	**Sn**	**17 51 12.7**	**-1.3**
RTAL	**Retalhuleu**	**0.70**	**100**	*e*P	**Pn**	**17 51 02.3**	**-0.6**
RTAL				*e*S	**Sn**	**17 51 14.8**	**+0.8**
QUEO	**Labor Ovalle**	**0.89**	**75**	*e*P		17 51 05.6	
QUEO				*e*S		17 51 19.5	
SOKI	**Kika Raxquin**	**0.99**	**80**	*e*P		17 51 07.0	
SOKI				*e*S		17 51 22.4	
HUEH	**Huehuetenango**	**1.10**	**52**	*e*P	**Pn**	**17 51 08.6**	**+0.7**
HUEH				*e*S	**Sn**	**17 51 24.1**	**+1.2**
HUEH	**Huehuetenango**	**1.10**	**52**	*e*S	**Sn**	**17 51 25.1**	**+2.2**
HUEH	**Huehuetenango**	**1.10**	**52**	*e*S		17 51 25.5	
PCIG		**1.31**	**323**	*e*P	**Pn**	**17 51 10.5**	**+0.1**
PCIG				*e*S	**Sn**	**17 51 27.4**	**0.0**
QUIS	**Sacapulas**	**1.42**	**63**	*e*P		17 51 12.9	
QUIS				*e*S		17 51 32.7	
CCIG	**Comitan**	**1.65**	**9**	*e*P		17 51 15.4	
APG	**El Apazote**	**1.91**	**79**	*e*P		17 51 18.8	
TGIG		**2.23**	**342**	*e*P		17 51 23.1	
NUBE	**Las Nubes**	**2.65**	**106**	*e*P	**Pn**	**17 51 28.8**	**+0.4**
SBLS	**San Blas**	**2.82**	**106**	*e*P	**Pn**	**17 51 31.5**	**+0.7**
SBLS				*e*S	**Sn**	**17 52 04.7**	**+1.0**
CEVE	**Cerro Verde**	**2.82**	**106**	*e*P	**Pn**	**17 51 31.2**	**+0.5**
CEVE				*e*S	**Sn**	**17 52 04.2**	**+0.4**
CEVE				IAML		17 52 13.8	
	comp=Z,780nm,0.4s						
MTO3	**Montecristo**	**2.96**	**94**	*e*P	**Pn**	**17 51 32.5**	**-0.2**
JAYA	**Jayaque - finc**	**3.03**	**109**	*e*S	**Sn**	**17 52 07.2**	**-1.8**
PETF	**Flores**	**3.33**	**47**	*e*P	**Pn**	**17 51 37.1**	**-0.4**
PETF				*e*S	**Sn**	**17 52 13.0**	**-2.9**
LFRS	**El Faro**	**3.40**	**107**	*e*P	**Pn**	**17 51 39.3**	**+0.8**

*TEH **01** 17:57:16.3, 30°.10N×52°.03E, h5km*
*IDC **01** 17:57:26.4±9.1, 30°.19N×51°.82E, h66km±85km, mb3.4/7, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=50.8km s-min=22.9km az=160.0*
ISC 01 17:57:18.8±0.7, 30°.09N±0°.04×52°.03E±0°.05, h8km, n31, σ1°.18/32, mb3.7/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.57**	**214**	Pg	**Pg**	**17 57 28.4**	**-1.6**
SHI	**Shiraz**	**0.62**	**137**	Pg	**Pg**	**17 57 29.5**	**-1.3**
SHI				Sg	**Sb**	**17 57 40.2**	**-0.7**
KLNJ	**Kolanjah**	**0.99**	**338**	Pg	**Pg**	**17 57 36.1**	**-1.7**
AHBU	**AHRAM**	**1.38**	**208**	Pg	**Pg**	**17 57 45.7**	**+0.4**
ABEH	**Behbahan**	**1.61**	**289**	Pg	**Pb**	**17 57 49.6**	**+0.7**
IRAM	**Ramesheh**	**1.74**	**10**	Pg	**Pn**	**17 57 49.7**	**+0.2**
QIR1	**Qir**	**1.84**	**151**	Pn	**Pn**	**17 57 51.8**	**+1.0**
DSBU	**Dashti - Bushe**	**1.85**	**201**	Pn	**Pb**	**17 57 52.1**	**-0.8**
IBRJ	**Brojen**	**1.93**	**340**	Pn	**Pn**	**17 57 52.6**	**+0.5**
JHRM	**Jahrom**	**2.08**	**139**	Pn	**Pn**	**17 57 55.8**	**+1.6**
ZNGN	**Zangian**	**2.25**	**334**	Pn	**Pn**	**17 57 58.1**	**+1.4**
IPIR	**Pirpir**	**2.76**	**340**	Pn	**Pn**	**17 58 04.8**	**+1.2**
IZEF	**Zefreh**	**2.81**	**5**	Pn	**Pn**	**17 58 05.7**	**+1.4**
IKLH	**Kolahrood**	**3.24**	**353**	Pn	**Pn**	**17 58 11.4**	**+1.2**
ANAR	**Anarak**	**3.41**	**25**	Pn	**Pn**	**17 58 13.0**	**+0.5**
NGRK	**Negar Kerman**	**4.11**	**95**	Pn	**Pn**	**17 58 23.5**	**+1.2**
ISFB	**Sefidab**	**4.25**	**2**	Pn	**Pn**	**17 58 25.3**	**+1.3**
GENO	**Geno**	**4.52**	**125**	Pn	**Pn**	**17 58 28.5**	**+0.8**
BDRS	**Dareh Seyedi**	**4.69**	**326**	Pn	**Pn**	**17 58 31.8**	**+1.7**
IVRN	**Varamin**	**4.89**	**357**	Pn	**Pn**	**17 58 33.8**	**+1.0**
HSAM	**Samen**	**5.03**	**326**	Pn	**Pn**	**17 58 36.0**	**+1.2**
KHNJ	**Kahnooj**	**5.41**	**112**	Pn	**Pn**	**17 58 41.2**	**+1.4**
MMAI	**Mount Meron Ar**	**14.47**	**286**	P	**Pn**	**18 00 44.1**	**0.0**
	0.3nm,0.3s,baz=95,slow=9.0,SNR=2.0						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**17.85**	**307**	P	**P**	**18 01 29.1**	**+0.6**
	0.1nm,0.3s,baz=129,slow=11,SNR=5.9						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**26.56**	**25**	P	**P**	**18 02 57.1**	**0.0**
	0.3nm,0.5s,baz=224,slow=6.9,SNR=2.9						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**26.74**	**327**	P	**P**	**18 02 58.9**	**+0.2**
	0.2nm,0.4s,baz=135,slow=8.9,SNR=2.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**28.74**	**46**	P	**P**	**18 03 18.7**	**+2.0**
	0.2nm,0.5s,baz=242,slow=8.9,SNR=5.9						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**33.59**	**35**	P	**P**	**18 04 00.2**	**+0.9**
	0.3nm,0.3s,baz=270,slow=8.6,SNR=1.6						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**35.71**	**339**	P	**P**	**18 04 16.6**	**-1.0**
	1.3nm,0.8s,baz=153,slow=9.4,SNR=8.2						
	1.3nm,0.8s						
HFS	**Hagfors**	**39.45**	**331**	P	**P**	**18 04 47.7**	**-1.6**
	3.5nm,1.0s,baz=128,slow=12,SNR=1.9						
	3.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**49.33**	**261**	P	**P**	**18 06 07.9**	**-1.0**
	0.5nm,0.5s,baz=66,slow=7.6,SNR=5.1						
	0.5nm,0.5s						

*NEIC **01** 18:40:48.2±0.8, 61°.42N±0°.03×149°.74W±0°.05, h56km±4km, Error ellipse: s-maj=3.7km s-min=3.4km az=185.0*
AEIC 01 18:40:48.6±0.8, 61°.40N±0°.03×149°.74W±0°.05, h59km±4km, ML2.7, ML3.0/178(NEIC), Error ellipse: s-maj=3.9km s-min=2.9km az=149.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.31**	**180**		Pn	18 40 58.0	-0.7
RC01				Sn	Sn	18 41 05.5	-0.5
FIS	**Fire Island**	**0.34**	**222**		Pn	18 40 58.7	-0.3
FIS				IAML		18 41 08.1	
	comp=N,835nm,0.7s						
FIS				IAML		18 41 09.7	
	comp=E,952nm,0.3s						
PMR	**Palmer**	**0.35**	**56**		Pn	18 40 57.9	-1.1
PMR				Sn	Sn	18 41 05.3	-1.1
PMR				IAML		18 41 06.0	
	comp=E,746nm,0.3s						
PMR				IAML		18 41 06.0	
	comp=N,803nm,0.2s						
M22K	**Willow**	**0.40**	**333**		Pn	18 40 58.1	-1.3
M22K				Sn	Sn	18 41 05.8	-1.4
SUA	**Susitna One**	**0.49**	**278**		Pn	18 40 59.6	-0.9
SUA				Sn	Sn	18 41 08.3	-0.8
SUA				IAML		18 41 08.9	
	comp=E,1μm,0.6s						
SUA				IAML		18 41 09.4	
	comp=N,1μm,0.4s						
GHO	**Glory Hole Cre**	**0.54**	**46**		Pn	18 41 00.3	-0.7
GHO				Sn	Sn	18 41 09.5	-0.5
GHO				IAML		18 41 10.7	
	comp=N,591nm,0.3s						
GHO				IAML		18 41 10.8	
	comp=E,1μm,0.7s						
KNK	**Knik Glacier**	**0.62**	**88**		Pn	18 41 01.6	-0.2
KNK				Sn	Sn	18 41 11.5	0.0
SML	**Sawmill**	**0.79**	**58**		Pn	18 41 03.4	-0.5
SML				Sn	Sn	18 41 14.4	-0.7
SML				IAML		18 41 16.2	
	comp=E,354nm,0.6s						
SML				IAML		18 41 16.4	
	comp=N,491nm,0.9s						
PWL	**Port Wells**	**0.87**	**128**		Pn	18 41 04.6	-0.3
PWL				Sn	Sn	18 41 17.1	+0.2
O22K	**Cooper Landing**	**0.92**	**180**		Pn	18 41 05.1	-0.5
O22K				Sn	Sn	18 41 17.4	-0.6
SLKM	**Skilak Lake**	**0.93**	**195**	Pn	Pn	18 41 05.2	-0.5
SLKM				Sn	Sn	18 41 17.5	-0.7
SLKM				IAML		18 41 19.2	
	comp=E,384nm,0.3s						
SLKM				IAML		18 41 19.3	
	comp=N,441nm,0.4s						
CAPN	**Captain Cook N**	**0.94**	**228**		Pn	18 41 06.6	+0.9
CAPN				Sn	Sn	18 41 21.6	+3.3
STLK	**Strandline Lak**	**1.01**	**277**		Pn	18 41 06.3	-0.5
STLK				Sn	Sn	18 41 19.7	-0.6
STLK				IAML		18 41 20.6	
	comp=N,532nm,0.3s						
STLK				IAML		18 41 20.9	
	comp=E,440nm,0.3s						
SKT	**Skwentna**	**1.03**	**305**		Pn	18 41 06.2	-0.9
SKT				Sn	Sn	18 41 19.6	-1.1
SKT				IAML		18 41 20.3	
	comp=E,375nm,0.3s						
SKT				IAML		18 41 20.7	
	comp=N,476nm,0.2s						
CUT	**Chulitna**	**1.04**	**346**		Pn	18 41 06.3	-0.8
CUT	**Chulitna**	**1.04**	**346**		Sn	18 41 20.1	-0.7
CUT	**Chulitna**	**1.04**	**346**	IAML		18 41 20.7	
	comp=E,2μm,0.6s						
CUT				IAML		18 41 21.2	
	comp=N,2μm,0.3s						
M23K	**Glacier View**	**1.04**	**67**		Pn	18 41 07.0	-0.1
SPCG	**Spurr Capps Gl**	**1.10**	**265**		Pn	18 41 07.9	-0.2
SPU	**Mount Spurr**	**1.14**	**260**		Pn	18 41 07.5	-1.0
SPU				IAML		18 41 23.4	
	comp=N,299nm,0.8s						
SPU				IAML		18 41 24.3	
	comp=E,224nm,0.4s						
SPCR	**Spurr Chakacha**	**1.21**	**262**		Pn	18 41 08.9	-0.5
SCM	**Sheep Creek Mo**	**1.23**	**68**		Pn	18 41 09.5	-0.3
SCM				IAML		18 41 28.1	
	comp=E,322nm,0.8s						
SCM				IAML		18 41 28.1	
	comp=N,178nm,0.8s						
SPBG	**Spurr Blockage**	**1.28**	**265**		Pn	18 41 09.9	-0.4
SEW	**Seward**	**1.31**	**174**		Pn	18 41 09.9	-0.7
GLI	**Glacier Island**	**1.38**	**111**		Pn	18 41 11.1	-0.6
GLI				IAML		18 41 34.4	
	comp=E,196nm,0.6s						
GLI				IAML		18 41 35.3	
	comp=N,143nm,0.4s						
RDT	**Redoubt**	**1.54**	**239**		Pn	18 41 13.3	-0.6
DFR	**Drift River**	**1.65**	**242**		Pn	18 41 14.9	-0.5
M20K	**Styx River**	**1.69**	**288**		Pn	18 41 15.5	-0.4
RDJH	**Redoubt Jeurge**	**1.70**	**243**		Pn	18 41 15.8	-0.3
FID	**Port Fidalgo**	**1.71**	**111**		Pn	18 41 15.2	-0.9
FID				IAML		18 41 49.5	
	comp=N,94nm,0.4s						
FID				IAML		18 41 50.9	
	comp=E,113nm,0.5s						
BRLK	**Bradley Lake**	**1.73**	**200**		Pn	18 41 16.0	-0.5
BRSE	**Bradley Lake S**	**1.73**	**197**		Pn	18 41 15.9	-0.6
NCT	**North Crescent**	**1.77**	**243**		Pn	18 41 16.7	-0.3
RDWB	**Redoubt West**	**1.77**	**240**		Pn	18 41 16.6	-0.4
P23K	**Montague Islan**	**1.82**	**140**		Pn	18 41 16.6	-1.0
KLU	**Klutina**	**1.84**	**85**		Pn	18 41 17.4	-0.5
KLU				IAML		18 41 50.8	
	comp=N,119nm,0.4s						
M24K	**Tolsona, Glenn**	**1.84**	**66**		Pn	18 41 18.3	+0.4
M24K				IAML		18 41 48.1	
	comp=E,88nm,1.2s						
HIN	**Hinchinbrook I**	**1.88**	**121**		Pn	18 41 17.8	-0.6
HIN				IAML		18 41 53.9	
	comp=E,98nm,2.0s						
HIN				IAML		18 42 03.5	
	comp=N,76nm,2.1s						
PPLA	**Purkeypile**	**1.89**	**324**		Pn	18 41 17.6	-1.1
DIV	**Divide**	**1.94**	**96**		Pn	18 41 18.7	-0.5
O20K	**Slope Mountain**	**1.94**	**228**		Pn	18 41 19.5	+0.3
HOM	**Homer**	**1.98**	**209**	Pn	Pn	18 41 17.5	-2.3
HOM				IAML		18 42 02.4	
	comp=N,165nm,1.1s						
CNPM	**China Poot**	**2.02**	**202**		Pn	18 41 19.8	-0.5
RND	**Reindeer**	**2.06**	**11**		Pn	18 41 20.6	-0.2
RND				IAML		18 41 59.6	
	comp=E,63nm,0.8s						
TRF	**Thorofare Moun**	**2.08**	**353**		Pn	18 41 20.7	-0.5
TRF	**Thorofare Moun**	**2.08**	**353**	IAML		18 41 58.5	
	comp=N,102nm,0.9s						
TRF				IAML		18 42 02.0	
	comp=E,72nm,0.8s						
EYAK	**Cordova Ski Ar**	**2.12**	**112**		Pn	18 41 19.7	-1.9
ILS	**Iliamna Low So**	**2.19**	**230**		Pn	18 41 22.9	+0.3
ILSW	**Iliamna Southw**	**2.20**	**231**		Pn	18 41 22.5	-0.3
KTH	**Kantishna Hill**	**2.23**	**346**		Pn	18 41 22.8	-0.4
KTH				IAML		18 42 05.7	
	comp=E,57nm,0.7s						
KTH				IAML		18 42 08.1	
	comp=N,56nm,0.8s						
L20K	**Farewell, AK**	**2.24**	**301**		Pn	18 41 22.3	-1.0
M19K	**Big River Lodg**	**2.28**	**285**		Pn	18 41 22.7	-1.1
CAST	**Castle Rocks**	**2.30**	**333**		Pn	18 41 23.1	-1.0
MCK	**McKinley**	**2.37**	**9**		Pn	18 41 25.4	+0.3
N19K	**Bonanza Creek**	**2.38**	**258**		Pn	18 41 24.9	-0.4
P19K	**Oil Pt**	**2.46**	**226**		Pn	18 41 26.3	0.0
P19K				IAML		18 42 15.5	
	comp=N,64nm,0.7s						
P19K				IAML		18 42 16.4	
	comp=E,74nm,0.4s						
N25K	**Chitina, Valde**	**2.47**	**83**		Pn	18 41 25.9	-0.6
N25K				IAML		18 42 06.0	
	comp=N,48nm,0.4s						
BMRM	**Bremner River**	**2.52**	**98**		Pn	18 41 26.2	-1.0
PAX	**Paxson**	**2.55**	**50**		Pn	18 41 27.2	-0.4
O19K	**Port Alsworth**	**2.55**	**244**		Pn	18 41 26.6	-0.8
O19K				IAML		18 41 57.7	
	comp=N,87nm,0.4s						
L19K	**White Mountain**	**2.55**	**290**		Pn	18 41 26.9	-0.7
WACK	**Wrangell Chich**	**2.65**	**75**		Pn	18 41 29.5	+0.5
RAGM	**Ragged Mountai**	**2.67**	**110**	Pn	Pn	18 41 29.8	+0.6
BPAW	**Bear Paw Mtn.**	**2.77**	**349**	Pn	Pn	18 41 29.

J19K				IAML		18 42 56.2	
	comp=E,16nm,2.0s						
I23K	**Minto, Yukon-K**	**3.77**	**2**		Pn	18 41 43.3	-0.8
I23K				IAML		18 42 54.5	
	comp=N,15nm,3.0s						
I23K				IAML		18 42 57.0	
	comp=E,17nm,1.1s						
J25K	**Salcha River,**	**3.79**	**30**		Pn	18 41 45.4	+0.8
J25K				IAML		18 42 32.0	
	comp=E,14nm,4.2s						
M27K	**Edge Creek, AK**	**3.84**	**72**		Pn	18 41 45.4	0.0
M27K				IAML		18 42 34.5	
	comp=N,22nm,3.4s						
M27K				IAML		18 43 22.3	
	comp=E,18nm,4.0s						
J18K	**Innoko River**	**3.85**	**306**		Pn	18 41 44.1	-1.2
POKR	**Poker Plat Res**	**3.88**	**15**	Pn	Pn	18 41 45.3	-0.3
POKR				IAML		18 42 55.3	
	comp=E,15nm,2.0s						
KDAK	**Kodiak Island**	**3.91**	**203**	Pn	Pn	18 41 44.8	-1.2
KDAK				IAML		18 43 30.2	
	comp=E,29nm,2.4s						
KDAK				IAML		18 43 31.9	
	comp=E,31nm,2.6s						
I21K	**Tanana**	**3.93**	**346**	Pn	Pn	18 41 47.6	+1.2
I21K				IAML		18 42 59.3	
	comp=N,22nm,2.8s						
I21K				IAML		18 43 04.7	
	comp=E,25nm,3.0s						
O17K	**Koliganek Bris**	**3.98**	**249**		Pn	18 41 46.5	-0.5
MESA	**MESA**	**4.01**	**104**	Pn	Pn	18 41 46.5	-1.1
L27K	**Beaver Creek,**	**4.06**	**62**	Pn	Pn	18 41 47.8	-0.4
L27K				IAML		18 43 54.9	
	comp=N,12nm,4.6s						
L27K				IAML		18 44 12.0	
	comp=E,14nm,4.1s						
BCAR	**Beaver Creek A**	**4.08**	**62**		Pn	18 41 48.9	+0.4
J26L	**Joseph Creek**	**4.20**	**39**		Pn	18 41 51.2	+1.1
J26L				IAML		18 43 24.2	
	comp=N,16nm,4.8s						
J26L				IAML		18 43 30.2	
	comp=E,13nm,4.4s						
K17K	**Iditarod**	**4.24**	**292**	Pn	Pn	18 41 49.4	-1.2
K17K				IAML		18 42 31.7	
	comp=E,21nm,3.1s						
K17K				IAML		18 43 13.7	
	comp=N,22nm,1.9s						
ACHA	**Angle Creek He**	**4.26**	**224**	Pn	Pn	18 41 51.4	+0.4
ACHA				IAML		18 43 39.3	
	comp=E,10nm,3.4s						
M16K	**Timber Creek**	**4.48**	**269**	Pn	Pn	18 41 52.9	-0.9
H21K	**Melozitna Rive**	**4.49**	**344**		Pn	18 41 53.1	-0.9
H21K				IAML		18 43 18.8	
	comp=E,12nm,4.4s						
H21K				IAML		18 43 27.3	
	comp=N,13nm,3.4s						
O16K	**Kokwok River B**	**4.51**	**250**	Pn	Pn	18 41 53.4	-0.9
O16K				IAML		18 43 59.2	
	comp=N,18nm,3.1s						
H24K	**Noodor Dome**	**4.53**	**10**	Pn	Pn	18 41 55.5	+0.9
H24K				IAML		18 42 53.5	
	comp=N,12nm,4.2s						
H24K				IAML		18 43 17.4	
	comp=E,12nm,4.2s						
OHAK	**Old Harbor**	**4.57**	**205**	Pn	Pn	18 41 53.4	-1.7
OHAK				IAML		18 42 42.0	
	comp=N,21nm,2.7s						
OHAK				IAML		18 43 29.0	
	comp=E,22nm,3.5s						
L16K	**Owhat River**	**4.67**	**278**	Pn	Pn	18 41 55.0	-1.4
L16K				IAML		18 43 07.0	
	comp=N,15nm,3.5s						
J17K	**VABM Dome**	**4.78**	**299**	Pn	Pn	18 41 56.5	-1.5
J17K				IAML		18 42 38.2	
	comp=E,16nm,4.4s						
J17K				IAML		18 45 10.0	
	comp=N,16nm,3.2s						
PCA	**Pinnacle**	**4.83**	**102**	Pn	Pn	18 41 59.0	+0.2
I26K	**Coal Creek Min**	**4.92**	**34**		Pn	18 41 59.8	0.0
I26K				IAML		18 43 51.7	
	comp=E,15nm,3.9s						
IMAR	**Indian Mountai**	**4.94**	**341**	Pn	Pn	18 41 58.8	-1.3
H19K	**Roundabout Mou**	**5.12**	**327**		Pn	18 42 01.7	-0.9
H19K				IAML		18 43 38.3	
	comp=N,14nm,3.0s						
EGAK	**Eagle**	**5.16**	**45**	Pn	Pn	18 42 03.1	-0.1
EGAK				IAML		18 43 40.2	
	comp=N,14nm,2.9s						
N15K	**Kwethluk River**	**5.22**	**261**	Pn	Pn	18 42 03.2	-0.9
J16K	**Anvik River**	**5.40**	**295**	Pn	Pn	18 42 04.8	-1.7
M29M	**Somme Creek**	**5.43**	**74**	Pn	Pn	18 42 07.8	+0.8
FYU	**Fort Yukon**	**5.55**	**19**	Pn	Pn	18 42 08.3	-0.3
O29M	**Mount Kennedy**	**5.57**	**96**	Pn	Pn	18 42 09.1	+0.2
K15K	**Wolf Creek Mou**	**5.66**	**284**	Pn	Pn	18 42 08.7	-1.2
G19K	**Purcell Mounta**	**5.77**	**329**	Pn	Pn	18 42 10.1	-1.4
G18K	**Tagagawik**	**6.01**	**323**	Pn	Pn	18 42 14.0	-0.8
O14K	**Tigyukauivet M**	**6.12**	**254**	Pn	Pn	18 42 16.1	-0.1
F24K	**Squaw Lake**	**6.20**	**7**	Pn	Pn	18 42 16.8	-0.6
L14K	**Kuka Creek**	**6.22**	**275**	Pn	Pn	18 42 17.9	+0.2
BMAR	**Burnt Mountain**	**6.45**	**18**	Pn	Pn	18 42 21.2	+0.3
F25K	**Christian Rive**	**6.46**	**14**	Pn	Pn	18 42 21.2	+0.1
J14K	**Nanvaranak Lak**	**6.63**	**288**	Pn	Pn	18 42 22.0	-1.3
E23K	**Chandalar**	**6.69**	**0**	Pn	Pn	18 42 24.2	+0.1
E24K	**Your Creek**	**6.72**	**4**	Pn	Pn	18 42 24.6	0.0
F26K	**Sheenjek River**	**6.76**	**18**	Pn	Pn	18 42 23.8	-1.3
E19K	**Redstone River**	**6.89**	**335**	Pn	Pn	18 42 26.2	-0.6
E25K	**Arctic Village**	**6.98**	**13**	Pn	Pn	18 42 27.9	-0.2
F17K	**Baldwin Pennin**	**7.16**	**320**	Pn	Pn	18 42 31.0	+0.5

*SNET **01** 18:44:39.8±1.2, 14°.57N×92°.42W, h61km±14km, ML4.3*
*GCG **01** 18:44:39.3±1.6, 14°.57N×92°.39W, h71km±10km, MD4.2, ML3.7, MW3.5, Hypocentre not reviewed by the ISC*
*MEX **01** 18:44:40.4±0.7, 14°.51N×92°.46W, h73km±7km, MD4.3*
ISC 01 18:44:38.7±1.3,**14°.59N**±0°.06×**92°.44W**±0°.04,**h83**km±10km,
n38,σ1§**99**/61,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**28**	*i* P	**Pn**	**18 44 51.2**	**-0.4**
THIG				*i* S	**Sn**	**18 45 00.4**	**-0.8**
THIG		**0.36**	**28**	*e*P		18 44 51.0	
	comp=Z,6μm,0.4s						
THIG				*e*S		18 45 00.6	
THIG				IAML		18 45 00.9	
	comp=Z,6μm,0.4s						
RTAL	**Retalhuleu**	**0.73**	**95**	*e*P	**Pn**	**18 44 54.5**	**-0.4**
RTAL				*i* S	**Sn**	**18 45 05.2**	**-1.6**
RTAL	**Retalhuleu**	**0.73**	**95**	*e*P	**Pn**	**18 44 54.1**	**-0.8**
RTAL				*e*S	**Sn**	**18 45 05.6**	**-1.3**
QUEO	**Labor Ovalle**	**0.94**	**72**	*e*P		18 44 57.8	
	comp=Z,7μm,0.1s						
QUEO				*e*S		18 45 11.7	
QUEO				IAML		18 45 13.6	
	comp=Z,7μm,0.1s						
SOKI	**Kika Raxquin**	**1.03**	**77**	*e*P		18 44 59.1	
	comp=Z,2μm,0.7s						
SOKI				*e*S		18 45 14.5	
SOKI				IAML		18 45 18.6	
	comp=Z,2μm,0.7s						
HUEH	**Huehuetenango**	**1.16**	**51**	*e*P	**Pn**	**18 45 00.9**	**+0.8**
HUEH				*e*S	**Sn**	**18 45 15.9**	**-0.2**
HUEH	**Huehuetenango**	**1.16**	**51**	*e*P	**Pn**	**18 45 01.3**	**+1.2**
HUEH				*e*S	**Sn**	**18 45 17.1**	**+1.0**
HUEH	**Huehuetenango**	**1.16**	**51**	*e*P		18 45 01.0	
	comp=Z,3μm,0.3s						
HUEH				*e*S		18 45 17.2	
HUEH				IAML		18 45 27.9	
	comp=Z,3μm,0.3s						
PCIG		**1.34**	**326**	*e*P	**Pn**	**18 45 02.8**	**+0.8**
PCIG				*i* S	**Sn**	**18 45 19.8**	**+0.1**
QUIS	**Sacapulas**	**1.48**	**62**	*e*P		18 45 04.8	
QUIS				*e*S		18 45 24.6	
CCIG	**Comitan**	**1.71**	**10**	*e*P	**Pn**	**18 45 08.9**	**+1.8**
CCIG				*i* S	**Sn**	**18 45 26.5**	**-2.0**
CCIG	**Comitan**	**1.71**	**10**	*e*P		18 45 08.9	
	comp=Z,506nm,0.5s						
CCIG				IAML		18 45 39.7	
	comp=Z,506nm,0.5s						
APG	**El Apazote**	**1.96**	**78**	*e*P		18 45 11.0	
CARR	**Arriaga**	**2.18**	**320**	*i* P	**Pn**	**18 45 15.3**	**+2.3**
CARR				*e*S	**Sn**	**18 45 40.7**	**+1.5**
TGIG		**2.27**	**343**	*e*P	**Pn**	**18 45 13.7**	**-0.7**
TGIG				*i* S	**Sn**	**18 45 43.3**	**+1.6**
TGIG		**2.27**	**343**	*e*P		18 45 13.9	
	comp=Z,215nm,0.5s						
TGIG				IAML		18 46 04.1	
	comp=Z,215nm,0.5s						
LOAL	**Lomas de Alarc**	**2.65**	**102**	*e*S	**Sn**	**18 45 51.9**	**+1.2**
NUBE	**Las Nubes**	**2.67**	**104**	*e*P	**Pn**	**18 45 20.8**	**+1.1**
SBLS	**San Blas**	**2.83**	**105**	*e*P	**Pn**	**18 45 24.3**	**+2.2**
CEVE	**Cerro Verde**	**2.83**	**105**	*e*P	**Pn**	**18 45 23.5**	**+1.4**
CEVE				*e*S	**Sn**	**18 45 57.4**	**+1.9**
CEVE				IAML		18 46 09.1	
	comp=Z,1μm,0.4s						
NILT	**Santiago Nilte**	**2.87**	**313**	*e*P	**Pn**	**18 45 24.2**	**+1.9**
NILT				*e*S	**Sn**	**18 45 56.9**	**+0.9**
MTO3	**Montecristo**	**2.99**	**93**	*e*P	**Pn**	**18 45 24.9**	**+0.7**
MTO3	**Montecristo**	**2.99**	**93**	*e*P		18 45 24.9	
	comp=Z,38nm,0.4s						
MTO3				IAML		18 46 16.3	
	comp=Z,38nm,0.4s						
PMON	**Piamonte**	**3.16**	**106**	*e*P	**Pn**	**18 45 26.9**	**+0.6**
UXUV	**UXUV**	**3.17**	**329**	*e*P	**Pn**	**18 45 28.0**	**+1.6**
UXUV				*e*S	**Sn**	**18 46 03.4**	**+0.2**
BOQS	**Boqueron**	**3.18**	**105**	*e*P	**Pn**	**18 45 27.5**	**+0.7**
PETF	**Flores**	**3.39**	**47**	*e*P	**Pn**	**18 45 29.8**	**+0.4**
PETF				*e*S	**Sn**	**18 46 06.8**	**-1.8**
PETF	**Flores**	**3.39**	**47**	*e*P		18 45 30.2	
	comp=Z,169nm,0.3s						
PETF				IAML		18 46 12.9	
	comp=Z,169nm,0.3s						
LFRS	**El Faro**	**3.42**	**106**	*e*P	**Pn**	**18 45 31.5**	**+1.6**
CMIG	**Matias Romero**	**3.42**	**317**	*e*P	**Pn**	**18 45 31.0**	**+1.2**
CMIG				*e*S	**Sn**	**18 46 09.9**	**+0.5**
COEG	**Centro de Oper**	**3.59**	**105**	IAML		18 46 26.8	
	comp=Z,464nm,0.4s						
HUIG	**Huatulco**	**3.73**	**289**	*e*P	**Pn**	**18 45 34.5**	**+0.5**
HUIG				*e*S	**Sn**	**18 46 11.9**	**-5.0**
NEUV	**Arroyo Zacate**	**4.48**	**314**	*e*P	**Pn**	**18 45 44.3**	**+0.1**
NEUV				*e*S	**Sn**	**18 46 36.4**	**+1.3**
SCIG	**Sabancuy**	**4.52**	**15**	*e*P	**Pn**	**18 45 43.8**	**-1.0**
SCIG				*e*S	**Sn**	**18 46 32.7**	**-3.3**
PMUV	**Sontecomapan**	**4.70**	**327**	*e*P	Pn	18 45 53.7	+6.4
PMUV				*e*S	**Sn**	**18 46 37.0**	**-3.6**
PEIG	**Puerto Escondi**	**4.75**	**288**	*e*P	**Pn**	**18 45 49.6**	**+1.6**
PEIG				*e*S	**Sn**	**18 46 38.4**	**-3.4**
YOIG	**Yosondua**	**5.41**	**295**	*e*P	**Pn**	**18 45 56.7**	**-0.4**
YOIG				*e*S	**Sn**	**18 46 55.5**	**-2.7**
TOIG	**Toxpalan**	**5.64**	**309**	*e*P	**Pn**	**18 46 02.1**	**+1.9**
TOIG				*e*S	**Sn**	**18 47 02.0**	**-1.7**
PNIG	**Pinotepa**	**5.77**	**289**	*e*P	**Pn**	**18 46 03.6**	**+1.8**
PNIG				*e*S	**Sn**	**18 47 02.4**	**-4.3**
TXIG	**Tlaxiaco**	**5.77**	**298**	*e*P	**Pn**	**18 46 05.1**	**+3.1**
TXIG				*i* S	Sn	18 46 59.6	-7.4
HLIG	**Huajuapan de L**	**6.08**	**303**	*e*P	**Pn**	**18 46 08.2**	**+2.0**
HLIG				*e*S	**Sn**	**18 47 15.7**	**+1.2**
JAUV	**Jalcomulco**	**6.32**	**319**	*e*P	**Pn**	**18 46 07.5**	**-1.9**
JAUV				*e*S	**Sn**	**18 47 18.2**	**-2.0**
FTIG	**Fresnillo de T**	**6.38**	**302**	*e*P	**Pn**	**18 46 14.0**	**+3.7**
FTIG				*e*S	**Sn**	**18 47 19.9**	**-1.9**
DAIG	**Los Arroyos**	**7.35**	**290**	*e*P	**Pn**	**18 46 25.5**	**+2.1**
CXUV	**Coxquihui**	**7.42**	**319**	*e*P	**Pn**	**18 46 23.5**	**-0.8**
CXUV				*e*S	**Sn**	**18 47 44.8**	**-2.1**
PLIG	**Platanillo**	**7.76**	**300**	*e*P	Pn	18 46 34.1	+5.1
ARIG	**Puente Sto Nin**	**8.43**	**297**	*e*P	**Pn**	**18 46 42.5**	**+4.4**

*MOS **01** 18:56:58.3±1.1, 47°.52N×152°.59E, h154km, mb4.2/14, Error ellipse: s-maj=10.7km s-min=6.5km az=75.6*
*IDC **01** 18:56:59.9±2.0, 47°.57N×152°.48E, h152km±17km, mb3.7/23, mbtmp4.1/28, Error ellipse: s-maj=16.4km s-min=10.9km az=143.0*
*SKHL **01** 18:56:59.3±0.5, 47°.50N×152°.60E, h143km±7km, mb4.8/4, msha5.3/5*
*NEIC **01** 18:57:00.1±1.7, 47°.7N±0°.1×152°.4E±0°.1, h141km±6km, mb4.3/66, Error ellipse: s-maj=18.8km s-min=7.6km az=150.0*
*JMA **01** 18:57:00.1±0.7, 46°N±6°×15°3E±°, h131km, MV3.7/11, KURILE ISLANDS REGION*
ISC 01 18:56:58.7±0.5,**47.40N**±0°.06×**152°.63E**±0°.06,**h150**km,
n193,σ1§**93**/199,**mb4.2**/74,**10C-9D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.94**	**238**	PN	**Pn**	**18 57 58.8**	**+0.6**
KUR				*e*S	**Sn**	**18 58 44.6**	**+0.3**
KUR				smax	smax		
	comp=N,214nm,0.5s						
KUR				smax	smax		
	comp=E,76nm,0.2s						
KUR	**Kuril'sk**	**3.94**	**238**	*e*P	**Pn**	**18 57 58.7**	**+0.6**
KUR				AMB	AMB	18 57 58.9	
	comp=E,120nm,0.4s						
KUR				*e*S	**Sn**	**18 58 44.0**	**-0.3**
KUR				A	A	18 58 47.4	
	comp=E,210nm,0.5s						
KUR				A	A	18 58 47.4	
	comp=E,210nm,0.5s						
SKR	**Severo-Kuril's**	**4.01**	**34**	*e*PN	**Pn**	**18 57 57.8**	**-1.1**
SKR				*e*S	**Sn**	**18 58 42.0**	**-3.8**
SKR				pmax	pmax		
	comp=Z,95nm,0.7s						
SKR				smax	smax		
	comp=E,110nm,0.8s						
SKR				smax	smax		
	comp=N,121nm,0.9s						
SKR	**Severo-Kuril's**	**4.01**	**34**	*e*P	**Pn**	**18 57 57.5**	**-1.4**
SKR				AMB	AMB	18 58 00.2	
	comp=N,80nm,0.6s						
SKR				*e*S	**Sn**	**18 58 42.6**	**-3.2**
SKR				A	A	18 58 47.3	
	comp=N,70nm,0.3s						
SKR				A	A	18 58 47.3	
	comp=N,70nm,0.3s						
PAU	**Pauzhetka**	**4.90**	**32**	*e*P	**Pn**	**18 58 10.2**	**-0.4**
PAU				AMB	AMB	18 58 12.2	
	comp=N,40nm,0.6s						
PAU				*e*S	**Sn**	**18 59 03.0**	**-3.8**
PAU				A	A	18 59 04.3	
	comp=N,90nm,0.3s						
PAU				A	A	18 59 04.3	
	comp=N,160nm,0.3s						
SHO	**Shikotan**	**5.38**	**231**	*e*PN	**Pn**	**18 58 15.0**	**-2.1**
SHO	**Shikotan**	**5.38**	**231**	*e*P	**Pn**	**18 58 18.3**	**+1.2**
SHO				AMB	AMB	18 58 18.9	
	comp=N,40nm,0.4s						
SHO				*e*S	**Sn**	**18 59 14.3**	**-4.0**
SHO				A	A	18 59 14.7	
	comp=N,80nm,0.5s						
SHO				A	A	18 59 14.7	
	comp=N,50nm,0.5s						
NEM2	**Nemuro 2**	**6.30**	**233**	*e*P	**Pn**	**18 58 26.3**	**-3.1**
NEM2				*e*S	**Sn**	**18 59 31.9**	**-8.4**
NMR	**Nemuro--Hokkai**	**6.31**	**233**	*e*P	**Pn**	**18 58 26.5**	**-2.9**
PEA0B	**Petropavlovsk-**	**6.58**	**28**	Pn	**Pn**	**18 58 31.4**	**-1.5**
PEA0B	**Petropavlovsk-**	**6.58**	**28**	PN	**Pn**	**18 58 31.4**	**-1.5**
PETK	**Petropavlovsk-**	**6.58**	**28**	Pn	**Pn**	**18 58 31.0**	**-1.9**
PETK	**Petropavlovsk-**	**6.58**	**28**	P	**Pn**	**18 58 31.9**	**-1.0**
	comp=N,4.1nm,0.7s,baz=180,slow=11,SNR=9.3						
PETK				S	**Sn**	**18 59 45.9**	**-0.8**
	comp=N,5.9nm,0.9s,baz=204,slow=17,SNR=2.5						
JNK	**Nakash**	**6.74**	**238**	*e*S	**Sn**	**18 59 47.1**	**-3.7**
YSS	**Yuzhno-Sakhali**	**6.75**	**270**	*e*PN	**Pn**	**18 58 36.9**	**+1.7**
YSS				*e*S	**Sn**	**18 59 51.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS	**Yuzhno-Sakhali**	**6.75**	**270**	*e*P	**Pn**	**18 58 36.8**	**+1.6**
YSS				*e*S	**Sn**	**18 59 48.3**	**-2.5**
PET	**Petropavlovsk**	**6.83**	**32**	Pn	**Pn**	**18 58 34.5**	**-1.7**
PET	**Petropavlovsk**	**6.83**	**32**	*e*S	**Sn**	**18 59 47.2**	**-5.6**
PET				A	A	18 59 51.0	
	comp=Z,20nm,0.6s						
PET				A	A	18 59 51.0	
	comp=Z,20nm,0.6s						
JTKR	**Abashiri--Toko**	**7.00**	**244**	*e*P	**Pn**	**18 58 38.2**	**-0.5**
AKK	**Akkeshi**	**7.03**	**234**	*e*P	**Pn**	**18 58 38.5**	**-0.5**
JAK	**Akkeshi**	**7.12**	**235**	*e*P	**Pn**	**18 58 37.0**	**-3.3**
JAK				*e*S	**Sn**	**18 59 52.2**	**-7.7**
JAR	**Ashorobuto**	**7.46**	**240**	*e*P	**Pn**	**18 58 44.2**	**-0.6**
JAR				*e*S	**Sn**	**19 00 04.5**	**-3.8**
JOB	**Onbets**	**7.67**	**237**	*e*S	**Sn**	**19 00 07.0**	**-6.1**
JKA	**Kamikawa-asahi**	**7.74**	**249**	Pn	**Pn**	**18 58 48.7**	**+0.2**
JKA	**Kamikawa-asahi**	**7.74**	**249**	*e*P	**Pn**	**18 58 49.5**	**+1.0**
ASAJ	**Asahikawa**	**7.74**	**249**	P	**Pn**	**18 58 49.5**	**+1.0**
	comp=Z,4.4nm,0.4s,baz=127,slow=10,SNR=1.7						
JKK2	**Kamakawa 2**	**7.77**	**247**	*e*P	**Pn**	**18 58 49.3**	**+0.4**
JCH	**Churui**	**8.12**	**237**	*e*P	**Pn**	**18 58 51.2**	**-2.4**
JCH				*e*S	**Sn**	**19 00 15.4**	**-8.5**
ERM	**Erimo**	**8.62**	**235**	Pn	**Pn**	**18 59 01.5**	**+1.2**
ERM	**Erimo**	**8.62**	**235**	PN	**Pn**	**18 59 01.5**	**+1.2**
JTM	**Tenmabayashi**	**10.61**	**236**	Pn	**Pn**	**18 59 24.7**	**-1.9**
MA2	**Magadan**	**12.25**	**356**	P	**Pn**	**18 59 48.6**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=138,slow=14,SNR=4.6						
KLR	**Kul'dur**	**14.01**	**285**	P	**P**	**19 00 14.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=84,slow=9.4,SNR=5.1						
MAJO	**Matsushiro**	**15.23**	**230**	P	**P**	**19 00 28.9**	**+1.6**
MAJO				IAmb	IAmb	19 00 52.8	
	comp=Z,20nm,1.4s						
MAJO	**Matsushiro**	**15.23**	**230**	P	**P**	**19 00 28.9**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,20nm,1.4s						
SEY	**Seymchan**	**15.57**	**360**	P	**P**	**19 00 29.6**	**-1.2**
	comp=Z,4.4nm,0.5s,baz=179,slow=11,SNR=16						
JHJ2	**Mitsune**	**17.26**	**219**	P	**Pn**	**19 00 53.1**	**+2.5**
YAK	**Yakutsk**	**19.60**	**327**	P	**P**	**19 01 12.8**	**-2.0**
YAK	**Yakutsk**	**19.60**	**327**	P	**Pn**	**19 01 15.2**	**-2.6**
	comp=Z,4.7nm,0.4s,baz=126,slow=4.3,SNR=6.6						
YAK	**Yakutsk**	**19.60**	**327**	*e*P	**Pn**	**19 01 15.9**	**-1.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YAK	**Yakutsk**	**19.60**	**327**	*e*P	**Pn**	**19 01 15.9**	**-1.8**
KSRS	**Korea Array**	**20.69**	**250**	P	Pn	19 01 28.4	-2.5
	comp=Z,4.8nm,1.1s,baz=53,slow=13,SNR=6.1						
	comp=Z,4.8nm,1.1s						
KSAR	**Wonju Array Be**	**20.72**	**250**	P	Pn	19 01 30.4	-0.9
KSAR	**Wonju Array Be**	**20.72**	**250**	P	Pn	19 01 30.4	-0.9
BILL	**Bilibino**	**21.84**	**14**	P	**P**	**19 01 37.9**	**-0.9**
GAMB	**Gambell**	**25.50**	**37**	P	**P**	**19 02 11.8**	**-0.7**
GAMB				IAmb	IAmb	19 02 45.8	
	comp=Z,8.8nm,1.2s						
TIXI	**Tiksi**	**26.75**	**344**	*e*P	**P**	**19 02 25.0**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**26.75**	**344**	*e*P	**P**	**19 02 25.0**	**+1.2**
TNA	**Tin City**	**27.68**	**35**	P	**P**	**19 02 33.5**	**+1.3**
FALS	**False Pass**	**28.18**	**58**		**S**	**19 07 10.8**	**0.0**
ANM	**Nome**	**28.37**	**37**	P	**P**	**19 02 39.1**	**+0.8**
ANM				IAmb	IAmb	19 02 59.8	
	comp=Z,8.5nm,1.5s						
ANM	**Nome**	**28.37**	**37**	P	**P**	**19 02 39.1**	**+0.8**
ANM				pmax	pmax		
	comp=Z,8.0nm,1.5s						
J14K	**Nanvaranak Lak**	**28.71**	**42**	P	**P**	**19 02 41.9**	**+0.7**
L14K	**Kuka Creek**	**28.87**	**45**	P	**P**	**19 02 44.2**	**+1.5**
M14K	**Bethel**	**29.14**	**46**	P	**P**	**19 02 46.1**	**+1.0**
K15K	**Wolf Creek Mou**	**29.55**	**43**	P	**P**	**19 02 49.5**	**+0.7**
C16K	**Lisburne Hills**	**29.67**	**30**	P	**P**	**19 02 49.6**	**0.0**
G16K	**Koyuk River**	**29.84**	**37**	P	**P**	**19 02 52.0**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**29.95**	**152**	T	T	19 34 36.7	
	baz=340,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.96**	**152**	T	T	19 34 40.2	
	baz=340,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.96**	**152**	T	T	19 34 41.2	
	baz=340						
N15K	**Kwethluk River**	**30.01**	**47**	P	**P**	**19 02 54.4**	**+1.5**
J16K	**Anvik River**	**30.13**	**41**	P	**P**	**19 02 54.8**	**+1.0**
J16K				IAmb	IAmb	19 03 34.4	
	comp=Z,11nm,1.4s						
L16K	**Owhat River**	**30.44**	**44**	P	**P**	**19 02 57.5**	**+1.0**
L16K				IAmb	IAmb	19 03 39.9	
	comp=Z,14nm,1.4s						
F17K	**Baldwin Pennin**	**30.55**	**35**	P	**P**	**19 02 58.4**	**+0.9**
F17K				IAmb	IAmb	19 03 00.3	
	comp=Z,4.8nm,0.7s						
M16K	**Timber Creek**	**30.63**	**46**	P	**P**	**19 02 59.0**	**+0.8**
J17K	**VABM Dome**	**30.83**	**41**	P	**P**	**19 03 01.3**	**+1.3**
H11S1	**WAKE ISLAND Hy**	**31.04**	**153**	T	T	19 36 00.5	
	baz=341,slow=76						
H11S3	**WAKE ISLAND Hy**	**31.04**	**153**	T	T	19 35 59.6	
	baz=341,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.05**	**153**	T	T	19 36 01.2	
	baz=341,slow=76						
K17K	**Iditarod**	**31.09**	**42**	P	**P**	**19 03 03.7**	**+1.4**
K17K				IAmb	IAmb	19 03 17.1	
	comp=Z,9.7nm,1.3s						
C18K	**Utukok River**	**31.23**	**31**	P	**P**	**19 03 04.2**	**+0.6**
C18K				IAmb	IAmb	19 03 05.3	
	comp=Z,3.8nm,0.8s						
H18K	**Honhosa River**	**31.42**	**38**	P	**P**	**19 03 05.9**	**+0.8**
G18K	**Tagagawik**	**31.45**	**36**		**P**	**19 03 06.3**	**+0.9**
G18K				IAmb	IAmb	19 03 07.6	
	comp=Z,3.9nm,0.8s						
J18K	**Innoko River**	**31.89**	**41**	P	**P**	**19 03 10.1**	**+0.8**
J18K				IAmb	IAmb	19 03 47.2	
	comp=Z,8.5nm,1.4s						
D19K	**Kuna River**	**32.27**	**32**	P	**P**	**19 03 13.8**	**+1.2**
D19K				IAmb	IAmb	19 03 14.6	
	comp=Z,4.8nm,0.8s						
E19K	**Redstone River**	**32.33**	**34**	P	**P**	**19 03 14.3**	**+1.2**
E19K				IAmb	IAmb	19 03 15.2	
	comp=Z,4.6nm,1.0s						
J20K	**Nowinta River**	**33.09**	**40**	P	**P**	**19 03 21.2**	**+1.5**
J20K				IAmb	IAmb	19 03 22.8	

MKAR	Makanchi Array	46.35	297	eP		P	19 05 08.6 -0.8
KURK	Kurchatov	46.73	303	P		P	19 05 10.8 -1.4
KURK	Kurchatov	46.73	303	⇓eP		P	19 05 10.6 -1.6
KURK					pmax	pmax	
	comp=Z,4.0nm,1.3s						
KURK	Kurchatov	46.73	303	eP		P	19 05 10.6 -1.6
KURBB	Kurchatov Arra	46.82	303	P		P	19 05 11.6 -1.4
	comp=Z,2.0nm,0.8s,baz=67,slow=8.3,SNR=11						
KURBB					PcP	PcP	19 06 43.3 -0.1
	comp=Z,0.2nm,0.4s,baz=70,slow=3.5,SNR=4.3						
	comp=Z,2.0nm,0.8s						
EUNU	Eureka	48.56	11	IAmb		IAmb	19 05 28.1
	comp=Z,6.7nm,0.7s						
LSA	Lhasa	49.91	272	P		P	19 05 39.0 +1.5
LSA				IAmb		IAmb	19 05 40.2
	comp=Z,2.9nm,0.5s						
LSA	Lhasa	49.91	272	P		P	19 05 39.0 +1.5
LSA				pmax		pmax	
	comp=Z,3.0nm,0.5s						
BVAR	Borovoye Array	50.19	309	P		P	19 05 38.1 -0.6
	comp=Z,1.7nm,0.3s,baz=54,slow=8.2,SNR=8.3						
	comp=Z,1.7nm,0.3s						
BRVK	Borovoye	50.23	309	⇓eP		P	19 05 37.8 -1.2
BRVK				pmax		pmax	
	comp=Z,1.0nm,0.6s						
BRVK	Borovoye	50.23	309	eP		P	19 05 37.8 -1.2
YKA	Yellowknife Ar	50.60	37	P		P	19 05 42.4 +0.7
	comp=Z,1.2nm,0.5s,baz=298,slow=7.3,SNR=13						
YKA					PcP	PcP	19 06 57.7 +0.8
	comp=Z,0.3nm,0.6s,baz=300,slow=3.8,SNR=4.1						
	comp=Z,1.2nm,0.5s						
WUS	Wushi	51.11	292	P		P	19 05 46.2 +0.3
WUS				IAmb		IAmb	19 06 07.0
	comp=Z,7.8nm,1.4s						
PHRA	Phrae	51.33	254	P		P	19 05 50.0 +2.4
SPITS	Spitsbergen Ar	51.91	350	P		P	19 05 50.2 -1.0
	comp=Z,14nm,1.0s,baz=54,slow=7.8,SNR=11						
	comp=Z,14nm,1.0s						
CHTO	Chiang Mai	51.95	256	P		P	19 05 54.5 +2.2
CHTO	Chiang Mai	51.95	256	P		P	19 05 54.5 +2.2
CHTO				pmax		pmax	
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	52.21	255	P		P	19 05 55.8 +1.6
	comp=Z,0.8nm,0.6s,baz=33,slow=6.8,SNR=9.5						
	comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	52.21	255	eP		P	19 05 56.3 +2.2
CMAR				pmax		pmax	
	comp=Z,1.0nm,0.6s						
ARTI	Arti	54.42	317	P		P	19 06 09.0 -0.7
ARTI	Arti	54.42	317	P		P	19 06 09.0 -0.7
ARTI				pmax		pmax	
	comp=Z,14nm,1.4s						
ABKAR	Akbulak array	57.76	309	P		P	19 06 32.8 -0.7
ABKAR	Akbulak array	57.76	309	P		P	19 06 33.0 -0.6
SUMG	Summit	60.08	4	P		P	19 06 50.0 +0.4
SUMG	Summit	60.08	4	P		P	19 06 50.1 +0.4
SUMG				pmax		pmax	
	comp=Z,12nm,0.8s						
BOZ	Bozeman (W)	61.65	53	P		P	19 07 01.8 +1.3
BOZ				IAmb		IAmb	19 07 45.0
	comp=Z,4.0nm,0.8s						
BOZ	Bozeman (W)	61.65	53	P		P	19 07 01.8 +1.3
BOZ				pmax		pmax	
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	63.31	334	P		P	19 07 10.4 -0.6
	comp=Z,1.7nm,0.4s,baz=38,slow=6.7,SNR=29						
	comp=Z,1.7nm,0.4s						
FINES	FINESS Array B	63.31	334	eP		P	19 07 11.0 0.0
FINES				pmax		pmax	
	comp=Z,2.0nm,0.4s						
PDAR	Pinedale Array	64.63	54	P		P	19 07 21.1 +0.8
	comp=Z,0.4nm,0.6s,baz=330,slow=1.1,SNR=7.3						
	comp=Z,0.4nm,0.6s						
NB2	NORSAR Subarra	67.51	341	P		P	19 07 38.0 0.0
	comp=Z,1.8nm,0.5s,baz=29,slow=6.5						
NOA	NORSAR Array B	67.51	341	P		P	19 07 38.1 0.0
	comp=Z,1.5nm,0.6s,baz=28,slow=6.6,SNR=9.8						
	comp=Z,1.5nm,0.6s						
HFS	Hagfors	67.73	339	P		P	19 07 38.8 -0.6
	comp=Z,2.7nm,0.4s,baz=48,slow=6.6,SNR=20						
	comp=Z,2.7nm,0.4s						
PV10	Paradox Valley	67.90	57	P		P	19 07 42.9 +1.8
PV10				IAmb		IAmb	19 08 04.0
	comp=Z,6.9nm,1.3s						
PV13	Radium Mtn., P	68.17	57	P		P	19 07 44.2 +1.4
PV13				IAmb		IAmb	19 08 10.1
	comp=Z,7.4nm,1.5s						
WB0	Warramunga Arr	68.84	198	P		P	19 07 50.3 +3.6
WRA	Warramunga Arr	69.02	198	P		P	19 07 48.7 +0.9
	comp=Z,0.6nm,0.9s,baz=16,slow=6.7,SNR=2.1						
	comp=Z,0.6nm,0.9s						
KBZ	Khabaz	70.17	313	P		P	19 07 55.2 +0.5
	comp=Z,2.5nm,0.9s,baz=184,slow=2.3,SNR=6.7						
	comp=Z,2.5nm,0.9s						
AKASG	Malin Array Be	70.82	326	P		P	19 07 57.8 -0.8
	comp=Z,1.7nm,0.4s,baz=36,slow=6.2,SNR=22						
	comp=Z,1.7nm,0.4s						
AKASG	Malin Array Be	70.82	326	eP		P	19 07 58.1 -0.4
AKASG				pmax		pmax	
	comp=Z,2.0nm,0.4s						
AKBB	Malin Array Si	70.82	326	P		P	19 07 57.8 -0.7
AKBB				IAmb		IAmb	19 07 58.8
	comp=Z,4.7nm,0.6s						
AKBB	Malin Array Si	70.82	326	P		P	19 07 57.8 -0.7
AKBB				pmax		pmax	
	comp=Z,5.0nm,0.6s						
KIEV	Kiev	70.83	326	P		P	19 07 57.9 -0.7
KIEV				IAmb		IAmb	19 07 58.8
	comp=Z,4.2nm,0.6s						
KIEV	Kiev	70.83	326	P		P	19 07 57.9 -0.7
KIEV				pmax		pmax	
	comp=Z,4.0nm,0.6s						
AK05	Malin Array Si	70.90	326	P		P	19 07 58.2 -0.8
AK05				IAmb		IAmb	19 08 15.4
	comp=Z,9.7nm,1.4s						
ASAR	Alice Springs	72.72	198	P		P	19 08 12.2 +2.1
ASAR	Alice Springs	72.72	198	P		P	19 08 12.0 +1.9
	comp=Z,0.5nm,0.8s,baz=18,slow=6.9,SNR=5.5						
	comp=Z,0.5nm,0.8s						
ASAR	Alice Springs	72.72	198	P		P	19 08 12.2 +2.1
SCHQ	Schefferville	72.84	23	P		P	19 08 11.1 +0.6
	comp=Z,2.3nm,0.6s,baz=304,slow=7.3,SNR=1.8						
	comp=Z,2.3nm,0.6s						
BUR08	Bucovina Ar. S	74.85	326	P		P	19 08 22.6 +0.2
BURAR	Bucovina Array	74.86	326	P		P	19 08 22.8 +0.3
BURAR	Bucovina Array	74.86	326	⇓P		P	19 08 22.9 +0.4
VLDR	Vladesti	75.20	323	⇑P		P	19 08 25.5 +1.2
DIKM	Dikmen	75.42	317	⇑P		P	19 08 22.0 -3.6
EKA	Eskdalemuir Ar	75.63	346	P		P	19 08 27.4 +0.7
	comp=Z,0.6nm,0.3s,baz=20,slow=5.4,SNR=12						
	comp=Z,0.6nm,0.3s						
CFR	Carcaliu	75.72	323	⇑P		P	19 08 27.1 -0.3
CLL	Collm	75.74	335	i P		P	19 08 27.5 +0.2
CLL				pmax		pmax	
	comp=Z,9.0nm,0.7s						
CLL	Collm	75.74	335	i P		P	19 08 27.5 +0.2
	comp=Z,9.0nm,0.7s						
MLR	Muntele Rosu	76.34	325	⇑P		P	19 08 32.7 +1.6
VRAC	Vranov	76.42	332	⇓P		P	19 08 32.5 +1.3
DRGR		76.49	327	⇓P		P	19 08 32.3 +0.5
VOIR		76.74	325	⇓P		P	19 08 34.4 +1.2
ARR	Arges	76.96	325	⇑P		P	19 08 36.6 +2.1
TXAR	Lajitas Array	77.46	60	P		P	19 08 38.0 +0.5
	comp=Z,0.7nm,0.6s,baz=305,slow=4.6,SNR=4.0						
	comp=Z,0.7nm,0.6s						
KHC	Kasperske Hory	77.51	334	⇑eP		P	19 08 38.0 +0.6
KHC				pmax		pmax	
	comp=Z,35nm,2.5s						
GZR	Gura Zlata	77.65	326	⇓P		P	19 08 38.8 +0.6
BR131	Keskin Array S	77.69	316	⇓eP		P	19 08 39.4 +0.7
BRTR	Keskin Array B	77.69	316	P		P	19 08 39.7 +1.0
BRTR	Keskin Array B	77.69	316	P		P	19 08 38.8 +0.1
	comp=Z,1.3nm,0.8s,baz=74,slow=4.5,SNR=6.5						
	comp=Z,1.3nm,0.8s						
BRTR	Keskin Array B	77.69	316	eP		P	19 08 40.9 +2.2
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	77.73	334	P		P	19 08 38.7 +0.1
	comp=Z,1.5nm,0.5s,baz=40,slow=5.6,SNR=6.1						
	comp=Z,1.5nm,0.5s						
GERES	GERESS Array B	77.73	334	eP		P	19 08 39.1 +0.4
GERES				pmax		pmax	
	comp=Z,2.0nm,0.5s						
CONA	Conrad Observa	77.87	332	i P		P	19 08 37.0 -2.5
	comp=Z,3.3nm,0.6s						
BZS	Buzias	77.89	327	⇓P		P	19 08 39.8 +0.4
ARSA	Arzberg	78.57	332	i P		P	19 08 41.3 -2.0
	comp=Z,1.2nm,0.4s						
BIOA	Bad Ischl, Aus	78.77	333	eP		P	19 08 42.4 -2.0
	comp=Z,1.5nm,0.5s						
SOKA	Soboth	79.24	332	i P		P	19 08 45.2 -1.8
	comp=Z,1.8nm,0.4s						
LESA	Schwarzleotal	79.31	334	i P		P	19 08 46.2 -1.1
	comp=Z,2.0nm,0.5s						
KBA	Koelnbreinsper	79.41	333	i P		P	19 08 46.0 -2.1
	comp=Z,2.2nm,0.4s						
OBKA	Obir	79.54	332	i P		P	19 08 46.1 -2.5
	comp=Z,3.2nm,0.7s						
WATA	Walderalm	79.71	334	i P		P	19 08 47.4 -2.2
	comp=Z,3.1nm,0.5s						
WTTA	Wattenberg	79.76	334	i P		P	19 08 46.5 -3.4
	comp=Z,3.4nm,0.4s						
MOTA	Moosalm	79.84	335	i P		P	19 08 47.2 -3.1
	comp=Z,3.6nm,0.8s						
ABTA	Abfaltersbach	79.96	333	eP		P	19 08 46.8 -4.1
	comp=Z,0.3nm,0.4s						
RDO	Rodhopi	80.12	322	P		P	19 08 52.6 +0.9
RDO				IAmb		IAmb	19 08 53.4
	comp=Z,5.2nm,0.7s						
MMAI	Mount Meron Ar	82.14	311	P		P	19 09 03.8 +1.2
	comp=Z,3.9nm,0.5s,baz=41,slow=7.7,SNR=18						
	comp=Z,3.9nm,0.5s						
IDI	Anoyia	85.31	320	P		P	19 09 17.6 -1.1

*IDC **01** 19:00:07.8±0.8, 39°.83N×143°.60E, h0km, mb3.9/19, mbtmp3.9/22, ML3.3/3, MS3.6/1, Error ellipse: s-maj=20.1km s-min=15.0km az=100.0*
*NEIC **01** 19:00:09.2±2.2, 39°.82N±0°.06×143°.6E±0°.1, h10km±1km, mb4.4/24, Error ellipse: s-maj=16.0km s-min=9.5km az=110.0*
*JMA **01** 19:00:10.2±0.2, 39°.9N±0°.9×14°.4E±°, h33km, MV3.9/31, FAR E OFF SANRIKU*
*NIED **01** 19:00:10.2, 39°.89N×143°.61E, h33km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}2.31; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$-2.25; $M_{r\theta}$0.72; $M_{\theta\phi}$-0.84; $M_{\phi r}$0.72; Fault plane solution: $M_0$2.63000×10^15 NP1: ϕ_s188.00000°, δ36.00000°, λ72.00000°. NP2: ϕ_p29.00000°, δ56.00000°, λ102.00000°.*

ISC 01 19:00:08.5±0.6, 39°.86N±0°.06×143°.60E±0°.08, h6km, n77, σ1§19/78, mb4.2/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.34	274	eP	Pn	19 00 33.5	-0.2
MIYJ	Miyakonagasawa	1.40	259	P	Pn	19 00 34.6	0.0
JKEN	Kujiedanarisaw	1.49	284	P	Pn	19 00 35.4	-0.4
JANG	Nango	1.68	288	P	Pn	19 00 38.0	-0.4
JOM	Ohasama	1.82	259	P	Pn	19 00 41.0	+0.6
JMK	Ichinoseki	2.06	245	P	Pn	19 00 43.8	+0.2
JTM	Tenmabayashi	2.15	296		Pn	19 00 45.3	+0.5
ERM	Erimo	2.18	351	Pn	Pn	19 00 46.1	+0.8
JOT	Ohata	2.47	309	eP	Pn	19 00 50.1	+0.9
JYK	Kaneyama	2.68	251	P	Pn	19 00 53.5	+1.3
JCH	Churui	2.76	356	eP	Pn	19 00 54.0	+0.8
JCH				S	Sn	19 01 26.2	-0.6
JMM	Marumori	2.96	229		Pn	19 00 55.7	-0.3
JAK	Akkeshi	3.24	14	P	Pn	19 00 59.5	-0.4
JOTO	OTAMA OYAMA	3.44	229	P	Pn	19 01 03.2	+0.6
JAR	Ashorobuto	3.44	2	P	Pn	19 01 01.9	-0.6
JAR				S	Sn	19 01 41.0	-2.6
JKA	Kamikawa-asahi	4.32	350	Pn	Pn	19 01 15.1	+0.4
ASAJ	Asahikawa	4.32	350	Pn	Pn	19 01 16.4	+1.7
	1.4nm,0.3s,baz=166,slow=12,SNR=1.3						
ASAJ				Sn	Sn	19 02 05.8	+0.5
	2.3nm,0.3s,baz=139,slow=20,SNR=2.0						
	8.0nm,0.6s						
JSD	Sado	4.54	248	Pn	Pn	19 01 18.1	+0.4
MJAR	Matsushiro Arr	5.38	234	Pn	Pn	19 01 31.0	+1.6
	0.4nm,0.3s,baz=44,slow=11,SNR=26						
	9.5nm,0.6s						
MAJO	Matsushiro	5.39	234		Pn	19 01 30.2	+0.9
MJB9	Matsu-Tunnel	5.39	234		Pn	19 01 31.2	+1.9
JGF	Kuroka	6.52	231		Pn	19 01 46.7	+1.7
JSG	Sagara	6.74	222	Pn	Pn	19 01 49.0	+1.1
INU	Inuyama	6.90	231	Pn	Pn	19 01 52.3	+2.2
USRK	Ussuriysk Ar.	9.67	300	Pn	Pn	19 02 29.1	+1.0
USRK	Ussuriysk Ar.	9.67	300	Pn	Pn	19 02 29.6	+1.6
	0.3nm,0.3s,baz=96,slow=15,SNR=8.2						
USRK				LR	LR	19 06 22.7	
	comp=Z,337nm,18.2s,baz=40,slow=39						
	7.6nm,0.7s						
KSRS	Korea Array	12.49	264	Pn	Pn	19 03 10.9	+4.2
	0.1nm,0.3s,baz=71,slow=13,SNR=2.1						
MA2	Magadan	20.25	11	P	P	19 04 45.7	+1.5
	8.4nm,0.9s,baz=115,slow=7.4,SNR=3.7						
	8.4nm,0.9s						
SEY	Seymchan	23.70	10	P	P	19 05 21.1	+0.3
	3.9nm,1.0s,baz=186,slow=7.6,SNR=5.0						
	3.9nm,1.0s						
YAK	Yakutsk	23.77	344	P	P	19 05 19.4	-2.0
YAK				IAmb	IAmb	19 05 23.2	
	comp=Z,14nm,0.9s						
YAK	Yakutsk	23.77	344	P	P	19 05 20.4	-0.9
	comp=Z,11nm,0.7s,baz=110,slow=11,SNR=8.4						
	comp=Z,11nm,0.7s						
NACB	Ninganchiao	24.25	236	P	P	19 05 23.9	-2.3
TPUB	Ta-pu	25.49	236	P	P	19 05 35.4	-2.2
SONM	Songino Array	27.78	299	P	P	19 05 59.2	+1.0
	comp=Z,1.5nm,0.6s,baz=102,slow=8.6,SNR=7.7						
	comp=Z,1.5nm,0.6s						
H11N2	WAKE ISLAND Hy	28.33	128	T	T	19 35 40.3	
	baz=320						
H11N1	WAKE ISLAND Hy	28.34	128	T	T	19 35 41.4	
	baz=320,slow=74						
H11N3	WAKE ISLAND Hy	28.35	128	T	T	19 35 44.3	
	baz=320,slow=74						
C18K	Utukok River	40.99	27	P	P	19 07 51.3	-0.5
ZAA0	Zalesovo Array	41.35	310	P	P	19 07 53.4	-1.5
ZALV	Zalesovo Beam	41.35	310	P	P	19 07 53.1	-1.7
ZALV	Zalesovo Beam	41.35	310	P	P	19 07 54.1	-0.7
	comp=Z,0.9nm,0.5s,baz=86,slow=8.3,SNR=6.7						
ZALV				PcP	PcP	19 09 53.9	+0.8
	comp=Z,0.7nm,0.6s,baz=105,slow=4.9,SNR=2.5						
	comp=Z,0.9nm,0.5s						
M17K	Holitna River	41.36	39	P	P	19 07 55.9	+1.0
NRIK	Noril'sk	41.46	334	P	P	19 07 54.5	-1.2
	comp=Z,1.5nm,0.4s,baz=88,slow=9.6,SNR=6.2						
	comp=Z,1.5nm,0.4s						
D19K	Kuna River	42.05	28	P	P	19 08 00.6	+0.1
D19K				IAmb	IAmb	19 08 18.3	
	comp=Z,8.4nm,1.1s						
CMAR	Chiang Mai Arr	43.90	254	P	P	19 08 16.8	+0.8
	comp=Z,0.3nm,0.5s,baz=45,slow=5.8,SNR=4.7						
	comp=Z,0.3nm,0.5s						
D22K	Ayikyak River	44.07	28	P	P	19 08 17.0	+0.2
D22K				IAmb	IAmb	19 08 23.2	
	comp=Z,4.8nm,1.1s						
MK31	Makanchi Array	44.13	300	P	P	19 08 16.4	-1.3
MKAR	Makanchi Array	44.13	300	P	P	19 08 17.1	-0.6
MKAR	Makanchi Array	44.13	300	P	P	19 08 18.1	+0.4
	comp=Z,1.4nm,0.8s,baz=81,slow=11,SNR=11						
	comp=Z,1.4nm,0.8s						
MAKZ	Makanchi	44.34	300	P	P	19 08 18.4	-0.9
E24K	Your Creek	45.55	29	P	P	19 08 29.8	+1.1
E24K				IAmb	IAmb	19 08 39.6	
	comp=Z,5.1nm,1.2s						
KURK	Kurchatov	45.60	306	P	P	19 08 27.2	-2.0
KURK				IAmb	IAmb	19 09 03.0	
	comp=Z,4.7nm,0.8s						
KURBB	Kurchatov Arra	45.67	306	P	P	19 08 29.9	+0.1
	comp=Z,2.9nm,0.8s,baz=80,slow=8.4,SNR=20						
	comp=Z,2.9nm,0.8s						
ILAR	Eielson Array	46.19	34	P	P	19 08 34.8	+1.1
	comp=Z,0.4nm,0.7s,baz=270,slow=7.9,SNR=3.0						
	comp=Z,0.4nm,0.7s						
F26K	Sheenjek River	47.19	30	P	P	19 08 42.5	+1.0
F26K				IAmb	IAmb	19 09 00.9	
	comp=Z,3.4nm,1.4s						
I28M	Miner Creek	49.06	33	P	P	19 08 57.1	+0.9
I28M				IAmb	IAmb	19 09 26.8	
	comp=Z,3.9nm,1.1s						
BVAR	Borovoye Array	49.98	311	P	P	19 09 03.9	+0.7
	comp=Z,1.3nm,0.5s,baz=102,slow=7.9,SNR=4.6						
	comp=Z,1.3nm,0.5s						
I30M	Mount Dempster	50.57	33	P	P	19 09 07.3	-0.3
I30M				IAmb	IAmb	19 09 20.6	
	comp=Z,4.0nm,1.1s						
H31M	Peel River	51.28	32	P	P	19 09 12.9	0.0
H31M				IAmb	IAmb	19 09 56.4	
	comp=Z,13nm,1.4s						
KULM	Kulim	51.72	240	P	P	19 09 15.5	-1.2
KULM				IAmb	IAmb	19 09 18.8	
	comp=Z,12nm,1.2s						
ABKAR	Akbulak array	57.46	309	P	P	19 09 57.0	-1.0
ABKAR				IAmb	IAmb	19 09 59.0	
	comp=Z,1.8nm,0.8s						
ABKAR	Akbulak array	57.46	309	P	P	19 09 57.9	0.0
RES	Resolute Bay	59.43	15	P	P	19 10 11.8	+0.5
RES				IAmb	IAmb	19 10 46.0	
	comp=Z,6.8nm,1.5s						
HOLB	Holberg	59.53	48	P	P	19 10 10.9	-1.6
WB0	Warramunga Arr	59.94	190	P	P	19 10 14.0	-1.4
WB2	Warramunga Arr	60.11	190	P	P	19 10 16.0	-0.7
WRA	Warramunga Arr	60.12	190	P	P	19 10 16.2	-0.4
WRA	Warramunga Arr	60.12	190	P	P	19 10 15.4	-1.3
	comp=Z,0.9nm,0.5s,baz=7.8,slow=7.0,SNR=10						
	comp=Z,0.9nm,0.5s						
YKA	Yellowknife Ar	60.51	31	P	P	19 10 19.8	+0.9
	comp=Z,0.2nm,0.5s,baz=299,slow=7.6,SNR=2.3						
	comp=Z,0.2nm,0.5s						
ASAR	Alice Springs	63.84	190	P	P	19 10 41.4	-0.3
ASAR	Alice Springs	63.84	190	P	P	19 10 41.9	+0.2
	comp=Z,0.6nm,0.7s,baz=6.1,slow=5.6,SNR=6.4						
	comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	67.11	332	P	P	19 11 02.6	+0.2
FINES	FINESS Array B	67.11	332	P	P	19 11 03.0	+0.5
	comp=Z,1.5nm,0.8s,baz=335,slow=6.7,SNR=4.7						
	comp=Z,1.5nm,0.8s						
KBZ	Khabaz	70.36	311	P	P	19 11 23.8	+0.8
	comp=Z,1.7nm,0.8s,baz=66,slow=1.7,SNR=4.0						
	comp=Z,1.7nm,0.8s						
NOA	NORSAR Array B	72.24	338	P	P	19 11 34.5	+0.4
	comp=Z,0.9nm,0.8s,baz=39,slow=6.4,SNR=2.1						
	comp=Z,0.9nm,0.8s						
AKASG	Malin Array Be	73.11	323	P	P	19 11 39.7	+0.3
	comp=Z,0.6nm,0.6s,baz=45,slow=6.4,SNR=6.6						
	comp=Z,0.6nm,0.6s						
PDAR	Pinedale Array	74.47	47	P	P	19 11 49.1	+1.2
	comp=Z,0.4nm,0.8s,baz=191,slow=1.5,SNR=4.3						
	comp=Z,0.4nm,0.8s						

*IDC **01** 19:05:19.0±1.5, 39°.85N×143°.74E, h0km, mb3.9/9, mbtmp3.8/12, ML3.1/3, Error ellipse: s-maj=41.3km s-min=18.7km az=82.0*
*JMA **01** 19:05:20.4±0.2, 39°.9N±0°.8×14°.4E±°, h13km, MV3.7/28, FAR E OFF SANRIKU*
*NEIC **01** 19:05:22.4±1.0, 39°.80N±0°.09×143°.6E±0°.2, h24km±10km, mb4.0/4, Error ellipse: s-maj=20.6km s-min=9.4km az=118.0*

ISC 01 19:05:19.7±0.9, 39°.84N±0°.06×143°.66E±0°.09, h6km, n36, σ1§09/41, mb3.9/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.38	275	P	Pn	19 05 45.2	-0.3
MIYJ	Miyakonagasawa	1.44	260	P	Pn	19 05 46.3	0.0
JKEN	Kujiedanarisaw	1.54	284	eP	Pn	19 05 47.0	-0.7
JANG	Nango	1.73	289	P	Pn	19 05 49.9	-0.4
JOM	Ohasama	1.86	259	P	Pb	19 05 52.9	-1.2
JMK	Ichinoseki	2.08	246	P	Pn	19 05 55.5	+0.4
JTM	Tenmabayashi	2.19	296		Pn	19 05 56.4	-0.3
ERM	Erimo	2.21	350	Pn	Pn	19 05 57.7	+0.8
JOT	Ohata	2.51	309	eP	Pn	19 06 01.6	+0.5
JNBK	Urakawa-nobuka	2.53	345	eP	Pn	19 06 02.7	+1.4
JNBK				eS	Sn	19 06 33.1	+0.5
JYK	Kaneyama	2.71	251	P	Pn	19 06 04.8	+0.9
JCH	Churui	2.78	356	P	Pn	19 06 04.9	+0.1
JCH				eS	Sn	19 06 37.1	-1.5
JMM	Marumori	2.98	230		Pn	19 06 06.9	-0.5
JAK	Akkeshi	3.25	14	eP	Pn	19 06 11.1	-0.1
JAK				eS	Sn	19 06 47.4	-2.8
JAR	Ashorobuto	3.46	1	P	Pn	19 06 13.6	-0.4
JAR				S	Sn	19 06 51.8	-3.5
JKA	Kamikawa-asahi	4.35	350	Pn	Pn	19 06 27.6	+1.3
ASAJ	Asahikawa	4.35	350	Pn	Pn	19 06 28.1	+1.8
	1.4nm,0.3s,baz=159,slow=17,SNR=2.3						
ASAJ				Sn	Sn	19 07 18.2	+1.0
	0.9nm,0.3s,baz=75,slow=19,SNR=2.2						
	4.3nm,0.3s						
JSD	Sado	4.57	249	Pn	Pn	19 06 29.3	-0.1
MJAR	Matsushiro Arr	5.41	234	Pn	Pn	19 06 42.4	+1.5
	0.3nm,0.3s,baz=13,slow=18,SNR=15						
	3.4nm,0.4s						
MAJO	Matsushiro	5.41	234		Pn	19 06 40.3	-0.6
MJB9	Matsu-Tunnel	5.41	234		Pn	19 06 41.3	+0.4
JGF	Kuroka	6.54	232	Pn	Pn	19 06 56.5	0.0
USRK	Ussuriysk Ar.	9.71	300	Pn	Pn	19 07 42.1	+2.1
	0.2nm,0.3s,baz=100,slow=16,SNR=3.0						
	3.1nm,0.8s						
YAK	Yakutsk	23.80	344	P	P	19 10 33.1	+0.1
	5.5nm,0.7s,baz=84,slow=0.6,SNR=4.4						
	5.5nm,0.7s						
SONM	Songino Array	27.82	299	P	P	19 11 10.4	+0.6
	0.5nm,0.5s,baz=94,slow=7.7,SNR=2.4						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	41.39	310	P	P	19 13 06.5	0.0
	0.5nm,0.4s,baz=98,slow=8.9,SNR=2.2						
	0.5nm,0.4s		

OZNA S Sb 19 07 32.8 -1.1

*ISN **01** 19:13:24.4±0.4,34°.92N×45°.88E,h13km±5km,ML3.5*
*TEH **01** 19:13:25.3,34°.89N×45°.90E,h8km±57km*
ISC 01 19:13:25.7±1.2,**34°.86N**±0°.04×**45°.87E**±0°.03,**h8**km±13km,
n33,σ1°**08**/39,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.42**	**213**	Pg	**Pg**	**19 13 34.7**	**+0.8**
IDHR	**Dehrash**	**0.46**	**110**	Pg	**Pg**	**19 13 34.6**	**0.0**
IDHR				Sg	**Sb**	**19 13 42.1**	**-1.0**
GLG1	**Gilan-e-Gharb**	**0.74**	**177**	Pg	**Pg**	**19 13 40.4**	**+0.3**
IGHG	**Ghaleghazi**	**0.79**	**132**	Pg	**Pg**	**19 13 40.5**	**-0.3**
ILIN	**Lien**	**0.90**	**86**	Pg	**Pg**	**19 13 42.5**	**-0.6**
ILIN				Sg	**Sg**	**19 13 55.2**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.13**	**121**	Pg	**Pb**	**19 13 47.2**	**-0.5**
KCHF				Sg	**Sg**	**19 14 02.3**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.26**	**167**	Pg	**Pb**	**19 13 49.8**	**0.0**
SDS1	**Sardasht. Az.**	**1.32**	**347**	Pg	**Pn**	**19 13 49.4**	**-1.2**
IKRK	**Kirkuk**	**1.36**	**294**	*e*Pn	**Pn**	**19 13 51.0**	**0.0**
IKRK				*e*Sn	**Sg**	**19 14 10.0**	**+0.5**
IKRK				AML	AML	19 14 13.3	
	comp=N,2μm,0.4s						
IKRK				AML	AML	19 14 13.7	
	comp=E,971nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.45**	**90**	Pg	**Pn**	**19 13 52.2**	**-0.2**
IBDR	**Badra**	**1.75**	**178**	*e*Pn	**Pb**	**19 13 57.0**	**-1.0**
IBDR				*e*Sn	**Sg**	**19 14 21.0**	**-0.8**
IBDR				AML	AML	19 14 32.2	
	comp=E,305nm,0.5s						
IBDR				AML	AML	19 14 38.1	
	comp=N,257nm,0.5s						
MAHB	**Mahabad**	**1.91**	**356**	Pn	**Pn**	**19 13 59.4**	**+0.8**
BHD	**Baghdad**	**2.01**	**218**	*e*Pn	**Pn**	**19 14 00.5**	**+0.6**
BHD				*e*Sn	**Sb**	**19 14 27.0**	**-0.6**
BHD				AML	AML	19 14 33.1	
	comp=E,722nm,0.3s						
IKFM	**Kafar-mosalman**	**2.11**	**128**	Pn	**Pb**	**19 14 03.1**	**-1.2**
IDOB	**Doab**	**2.19**	**119**	Pn	**Pb**	**19 14 04.3**	**-1.4**
HSAM	**Samen**	**2.35**	**105**	Pn	**Pn**	**19 14 06.3**	**+1.5**
HGHA	**Hamedan- Ghaye**	**2.53**	**75**	Pn	**Pn**	**19 14 08.8**	**+1.6**
BDRS	**Dareh Seyedi**	**2.65**	**109**	Pn	**Pn**	**19 14 10.5**	**+1.5**
IHSH	**Hashtrud**	**2.69**	**24**	Pn	**Pn**	**19 14 10.8**	**+1.2**
HAGD	**Aghdareh**	**2.69**	**90**	Pn	**Pn**	**19 14 10.9**	**+1.3**
IAZR	**Azarshahr**	**2.81**	**2**	Pn	**Pn**	**19 14 12.9**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.16**	**73**	Pn	**Pn**	**19 14 17.2**	**+1.3**
ISRB	**Sarab**	**3.30**	**26**	Pn	**Pn**	**19 14 19.1**	**+1.2**
ITBZ	**Tabriz**	**3.37**	**4**	Pn	**Pn**	**19 14 20.0**	**+1.1**
IHRS	**Heris**	**3.58**	**15**	Pn	**Pn**	**19 14 23.2**	**+1.4**
IMRD	**Marand**	**3.85**	**358**	Pn	**Pn**	**19 14 26.3**	**+0.9**
GRMI	**Germi**	**4.26**	**22**	Pn	**Pn**	**19 14 32.1**	**+1.1**
IQOM	**Qom**	**4.28**	**89**	Pn	**Pn**	**19 14 32.3**	**+0.9**
IPIR	**Pirpir**	**4.71**	**116**	Pn	**Pn**	**19 14 38.3**	**+0.9**
IVRN	**Varamin**	**4.82**	**87**	Pn	**Pn**	**19 14 39.7**	**+1.1**
IKLH	**Kolahrood**	**4.98**	**106**	Pn	**Pn**	**19 14 43.1**	**+2.0**
IFIR	**Firoozkooh**	**5.69**	**80**	Pn	**Pn**	**19 14 52.0**	**+1.2**
IZEF	**Zefreh**	**5.72**	**108**	Pn	**Pn**	**19 14 52.2**	**+1.0**

*NEIC **01** 19:16:13.0±2.4,18°.1S±0°.1×178°.2W±0°.2,h549km±8km,*
mb4.8/30,Error ellipse: s-maj=23.4km s-min=14.7km
az=110.0
*IDC **01** 19:16:14.8±1.0,18°.34S×178°.23W,h574km±9km,mb3.4/11,*
mbtmp4.3/13,Error ellipse: s-maj=19.9km s-min=12.7km
az=140.0
ISC 01 19:16:14.9±0.6,**18°.1S**±0°.1×**178°.3W**±0°.1,**h579**km,**n83**,
σ0°**89**/87,**mb4.7**/23,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.54**	**276**	P	**P**	**19 17 35.4**	**-0.4**
MSVF	**Nonsavu**	**3.54**	**276**	P	**P**	**19 17 35.6**	**-0.2**
	23nm,0.6s,baz=130,slow=5.4,SNR=19						
MSVF				S	**S**	**19 18 42.4**	**+0.7**
	34nm,1.2s,baz=321,slow=23,SNR=9.8						
FUTU	**Fugatoga**	**3.80**	**2**	P	**P**	**19 17 36.1**	**-1.5**
NIUE	**Niue**	**7.95**	**98**	P	P	19 18 08.3	-4.8
DZM	**Mont Dzumac**	**14.90**	**252**	P	**P**	**19 19 22.7**	**-0.2**
	15nm,1.2s,baz=92,slow=11,SNR=3.0						
URZ	**Urewera**	**20.47**	**190**	P	**P**	**19 20 10.7**	**-3.0**
	4.7nm,0.3s,baz=352,slow=2.5,SNR=16						
	4.7nm,0.3s						
QRZ	**Quartz Range**	**23.97**	**197**	P	**P**	**19 20 44.1**	**-0.9**
THZ	**Tophouse**	**24.74**	**196**	P	**P**	**19 20 51.1**	**-0.7**
EIDS	**Eidsvold**	**29.33**	**250**	P	**P**	**19 21 32.4**	**+0.2**
EIDS				IAmb	IAmb	19 22 38.2	
	comp=Z,35nm,1.5s						
MLZ	**Mavora Lakes**	**29.44**	**200**	P	**P**	**19 21 32.8**	**0.0**
ARMA	**Armidale**	**29.96**	**240**	P	**P**	**19 21 38.2**	**+0.6**
RABL	**Rabaul**	**32.08**	**292**	P	**P**	**19 21 55.8**	**0.0**
CTAO	**Charters Tower**	**33.56**	**261**	P	**P**	**19 22 07.0**	**-1.2**
CAN	**Canberra**	**33.69**	**233**	P	**P**	**19 22 08.4**	**-0.7**
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**19 22 50.7**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=114,slow=14,SNR=3.4						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**43.43**	**241**	P	**P**	**19 23 28.2**	**+0.5**
BBOO				IAmb	IAmb	19 24 35.8	
	comp=Z,62nm,1.8s						
WRA	**Warramunga Arr**	**44.74**	**260**	P	**P**	**19 23 37.5**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=96,slow=7.1,SNR=44						
WRA				PcP	**PcP**	**19 25 08.4**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=102,slow=3.3,SNR=1.4						
	comp=Z,2.1nm,0.5s						
AS31	**Alice Springs**	**44.87**	**254**	P	**P**	**19 23 39.4**	**+0.3**
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**19 23 39.3**	**+0.3**
ASAR				PcP	**PcP**	**19 25 08.5**	**+0.5**
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**19 23 38.7**	**-0.3**
	comp=Z,13nm,0.5s,baz=88,slow=9.1,SNR=372						
ASAR				PcP	**PcP**	**19 25 08.8**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=98,slow=3.4,SNR=2.5						
ASAR				S	**S**	**19 29 35.2**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=93,slow=14,SNR=5.0						
	comp=Z,13nm,0.5s						
MIDW	**Midway**	**46.08**	**1**	P	**P**	**19 23 45.4**	**-2.4**
KNRA	**Kununurra**	**50.61**	**264**	P	**P**	**19 24 21.9**	**+0.1**
KNRA				IAmb	IAmb	19 26 19.3	
	comp=Z,36nm,1.4s						
PSA00	**Pilbara Seismi**	**58.00**	**256**	P	**P**	**19 25 13.5**	**0.0**
GIRL	**Giralia**	**62.97**	**253**	P	**P**	**19 25 47.4**	**+1.2**
UGM	**Wanagama**	**69.79**	**268**	P	**P**	**19 26 28.4**	**-0.1**
SSLB	**Suanglung**	**72.48**	**303**	P	**P**	**19 26 43.8**	**-0.2**
TPUB	**Ta-pu**	**72.50**	**302**	P	**P**	**19 26 43.8**	**-0.4**
PEA0B	**Petropavlovsk-**	**73.93**	**345**	P	**P**	**19 26 51.5**	**0.0**
PETK	**Petropavlovsk-**	**73.93**	**345**	P	**P**	**19 26 51.8**	**+0.2**
PETK	**Petropavlovsk-**	**73.93**	**345**	P	**P**	**19 26 52.0**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=118,slow=6.7,SNR=10						
	comp=Z,5.1nm,0.8s						
KSRS	**Korea Array**	**74.96**	**318**	P	**P**	**19 26 57.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=113,slow=14,SNR=4.2						
	comp=Z,0.9nm,0.8s						
OHAK	**Old Harbor**	**77.91**	**14**	P	**P**	**19 27 13.3**	**0.0**
OHAK				IAmb	IAmb	19 29 40.1	
	comp=Z,76nm,1.8s						
Q16K	**Kokwok River B**	**79.17**	**10**	P	**P**	**19 27 19.7**	**-0.4**
Q16K				IAmb	IAmb	19 29 26.5	
	comp=Z,74nm,1.9s						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**19 27 23.6**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=203,slow=5.9,SNR=5.3						
	comp=Z,0.8nm,0.6s						
P18K	**Big Mountain,**	**79.50**	**12**	P	**P**	**19 27 21.9**	**0.0**
P18K				IAmb	IAmb	19 29 14.9	
	comp=Z,44nm,1.7s						
M16K	**Timber Creek**	**80.39**	**9**	P	**P**	**19 27 27.9**	**+1.5**
M16K				IAmb	IAmb	19 27 44.5	
	comp=Z,61nm,1.7s						
M17K	**Holitna River**	**80.99**	**10**	P	**P**	**19 27 31.0**	**+1.5**
M17K				IAmb	IAmb	19 28 47.7	
	comp=Z,102nm,2.0s						
K15K	**Wolf Creek Mou**	**81.24**	**8**	P	**P**	**19 27 32.4**	**+1.7**
K15K				IAmb	IAmb	19 29 46.0	
	comp=Z,103nm,1.9s						
L18K	**Granite Mounta**	**81.88**	**10**	P	**P**	**19 27 35.5**	**+1.5**
L18K				IAmb	IAmb	19 27 42.4	
	comp=Z,60nm,1.9s						
STLK	**Strandline Lak**	**82.11**	**12**	P	**P**	**19 27 35.0**	**-0.4**
J17K	**VABM Dome**	**82.63**	**9**	P	**P**	**19 27 38.2**	**+0.5**
J17K				IAmb	IAmb	19 29 18.4	
	comp=Z,45nm,1.9s						
SCM	**Sheep Creek Mo**	**83.40**	**14**	P	**P**	**19 27 42.0**	**+0.2**
SCM				IAmb	IAmb	19 28 59.3	
	comp=Z,40nm,1.6s						

CAST	**Castle Rocks**	**83.81**	**12**	P	**P**	**19 27 43.0**	**-0.7**
N25K	**Chitina, Valde**	**83.87**	**15**	P	**P**	**19 27 43.9**	**-0.2**
N25K				IAmb	IAmb	19 29 33.3	
	comp=Z,43nm,1.9s						
Q16A	**Castle Valley**	**84.52**	**46**	P	**P**	**19 27 47.8**	**-0.2**
MCK	**McKinley**	**84.72**	**13**	P	**P**	**19 27 48.0**	**-0.1**
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**19 27 57.2**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=219,slow=5.9,SNR=11						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**86.06**	**13**	P	**P**	**19 27 54.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=218,slow=5.3,SNR=8.8						
	comp=Z,0.8nm,0.4s						
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**19 28 02.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=225,slow=1.9,SNR=7.0						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.10**	**290**	P	**P**	**19 28 12.4**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=115,slow=4.5,SNR=5.7						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**109.39**	**314**	PKiKP	**PKiKP**	**19 33 39.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=144,slow=0.6,SNR=4.8						
BVAR	**Borovoye Array**	**117.11**	**321**	PKP	**PKiKP**	**19 33 54.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=89,slow=1.7,SNR=6.4						
ARCES	**ARCESS Array B**	**126.55**	**350**	PKP	**PKiKP**	**19 34 12.7**	**-0.2**
	comp=Z,3.8nm,0.9s,baz=336,slow=2.7,SNR=7.5						
FINES	**FINESS Array B**	**133.44**	**344**	PKP	**PKPdf**	**19 34 24.7**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=105,slow=3.3,SNR=3.6						
BUR08	**Bucovina Ar. S**	**144.86**	**332**		**PKPab**	**19 34 49.3**	**+1.0**
BURAR	**Bucovina Array**	**144.87**	**332**	PKPdf	**PKPab**	**19 34 48.7**	**+0.3**
BRTR	**Keskin Array B**	**145.04**	**315**	PKPdf	**PKPab**	**19 34 48.8**	**-0.5**
BRTR	**Keskin Array B**	**145.04**	**315**	PKPbc	**PKPab**	**19 34 49.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=60,slow=2.6,SNR=5.3						
CLL	**Collm**	**145.71**	**347**		**PKPab**	**19 34 50.3**	**-1.0**
UPC	**Upice**	**145.74**	**344**	*e*PKP	**PKPab**	**19 34 50.9**	**-0.6**
STEB	**Steborice**	**145.75**	**342**	*e*PKP	**PKPab**	**19 34 50.6**	**-1.0**
DPC	**Dobruska-Polom**	**145.80**	**343**	*e*PKP	**PKPab**	**19 34 51.5**	**-0.3**
PVCC	**Panska Ves**	**146.09**	**345**	*e*PKP	**PKPab**	**19 34 52.4**	**-0.5**
MMAI	**Mount Meron Ar**	**146.38**	**303**	PKPbc	**PKiKP**	**19 34 53.3**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=72,slow=6.6,SNR=12						
PRU	**Pruhonice**	**146.59**	**345**	*e*PKP	**PKiKP**	**19 34 53.6**	**-0.6**
BORA	**Eskisehir**	**147.07**	**317**		**PKPbc**	**19 34 53.9**	**+0.1**
KHC	**Kasperske Hory**	**147.62**	**345**	*e*PKP	**PKiKP**	**19 34 56.4**	**0.0**
GEC2	**GERESS Array S**	**147.86**	**345**	PKPbc	**PKiKP**	**19 34 56.5**	**-0.5**
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc	**PKiKP**	**19 34 56.5**	**-0.5**
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc	**PKiKP**	**19 34 56.4**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=31,slow=3.1,SNR=8.2						
CONA	**Conrad Observa**	**148.11**	**342**	*i* PKP	**PKPbc**	**19 34 56.4**	**+0.2**
	comp=Z,6.0nm,1.4s						
RONA	**Rosalia, Austr**	**148.19**	**341**	*e*PKP	**PKiKP**	**19 34 58.3**	**+0.8**
	comp=Z,7.8nm,1.4s						
BIOA	**Bad Ischl, Aus**	**148.94**	**344**	*i* PKP	**PKiKP**	**19 35 00.3**	**+1.1**
	comp=Z,3.4nm,1.0s						
RDO	**Rodhopi**	**149.30**	**323**	PKPbc	**PKPbc**	**19 34 59.3**	**+0.1**
SOKA	**Soboth**	**149.49**	**342**	*e*PKP	**PKPbc**	**19 34 58.9**	**-0.7**
	comp=Z,8.2nm,1.3s						
KBA	**Koelnbreinsper**	**149.59**	**344**	*e*PKP	**PKPdf**	**19 34 57.1**	**+2.5**
	comp=Z,11nm,1.7s						
WTTA	**Wattenberg**	**149.82**	**347**	*i* PKP	**PKiKP**	**19 35 01.1**	**-0.1**
	comp=Z,9.1nm,1.1s						
SQTA	**Sankt Quirin**	**149.96**	**347**	*e*PKP	**PKiKP**	**19 35 01.4**	**0.0**
	comp=Z,5.5nm,0.7s						
ABTA	**Abfaltersbach**	**150.10**	**345**	*e*PKP	**PKPbc**	**19 35 00.4**	**-0.7**
	comp=Z,4.6nm,0.7s						
DAVA	**Damuels**	**150.16**	**349**	*i* PKP	**PKiKP**	**19 35 01.4**	**-0.4**
	comp=Z,16nm,1.5s						
FETA	**Feichten**	**150.25**	**348**	*e*PKP	**PKPbc**	**19 35 01.4**	**0.0**
	comp=Z,11nm,1.6s						
CIMO	**Cimolais**	**150.53**	**345**	PKPbc	**PKiKP**	**19 35 02.2**	**-0.3**
FNA	**Florina**	**151.81**	**327**	PKPbc	**PKiKP**	**19 35 05.0**	**-0.3**

*BJI **01** 19:16:22.7,3°.31S×100°.24E,h20km,mB5.2/15,mb4.6/56,*
Ms4.5/13,MS7 4.4/15
*IDC **01** 19:16:25.2±0.7,2°.77S×100°.04E,h0km,mb4.4/18,*
mbtmp4.4/21,ML4.1/3,MS4.0/8,Error ellipse:
s-maj=22.5km s-min=13.9km az=58.0
*NEIC **01** 19:16:25.6±1.8,2°.89S±0°.06×100°.06E±0°.08,h10km±1km,*
mb4.9/55,Error ellipse: s-maj=13.6km s-min=9.4km
az=240.0
*DJA **01** 19:16:27.4±0.5,3°S±3°×10°0E±°,h23km±4km,M4.6/19,*
mB4.8/6,mb4.7/19,MLv4.9/19,Mw(mB)4.0/6
ISC 01 19:16:26.7±0.7,**2°.94S**±0°.04×**99°.97E**±0°.05,**h18**km±3km,
n170,σ1°**69**/165,**mb4.7**/59,**MS4.2**/16,**2C-1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.18**	**14**	P	**Pb**	**19 16 33.2**	**+2.2**
SISI	**Saibi**	**1.82**	**331**	P	**Pn**	**19 16 57.3**	**+0.1**
SISI				S	**Sn**	**19 17 20.2**	**+0.3**
PPI	**Padang Panjang**	**2.50**	**10**	P	**Pn**	**19 17 06.3**	**-0.3**
PPI				S	**Sn**	**19 17 36.8**	**+0.1**
KSI	**Kapahiang**	**2.72**	**105**	P	**Pn**	**19 17 11.7**	**+2.1**
KSI				S	**Sn**	**19 17 42.6**	**+0.6**
MNAI	**Manna**	**3.30**	**115**	Pn	**Pn**	**19 17 16.9**	**-0.7**
MNAI	**Manna**	**3.30**	**115**	P	**Pn**	**19 17 18.9**	**+1.3**
MNAI	**Manna**	**3.30**	**115**	S	**Sn**	**19 17 56.9**	**+0.5**
MNAI	**Manna**	**3.30**	**115**	P	**Pn**	**19 17 18.7**	**+1.1**
BKNI	**Bangkinang**	**3.42**	**18**		**Pn**	**19 17 18.6**	**-0.5**
BKNI	**Bangkinang**	**3.42**	**18**	P	**Pn**	**19 17 20.1**	**+0.9**
BKNI	**Bangkinang**	**3.42**	**18**	P	**Pn**	**19 17 20.0**	**+0.9**
MNSI	**Mandailing Nat**	**3.73**	**354**	P	**Pn**	**19 17 23.7**	**+0.3**
MDSI	**Mamara Dua**	**4.48**	**110**	P	**Pn**	**19 17 35.7**	**+2.0**
LWLI	**Liwa**	**4.58**	**117**	P	**Pn**	**19 17 36.6**	**+1.4**
PMBI	**Palembang**	**4.80**	**90**	Pn	**Pn**	**19 17 35.0**	**-3.2**
GSI	**Gunungsitoli**	**4.84**	**330**		**Pn**	**19 17 38.5**	**-0.3**
GSI	**Gunungsitoli**	**4.84**	**330**	P	**Pn**	**19 17 38.5**	**-0.3**
GSI	**Gunungsitoli**	**4.84**	**330**	S	**Sn**	**19 18 32.5**	**-2.0**
GSI	**Gunungsitoli**	**4.84**	**330**	P	**Pn**	**19 17 38.2**	**-0.6**
RPSI	**Rantau Prapat**	**5.69**	**349**	Pn	**Pn**	**19 17 49.3**	**-1.1**
BLSI	**Bandar Lampung**	**5.79**	**115**	P	**Pb**	**19 18 08.7**	**+1.4**
PSI	**Prapat**	**5.80**	**350**	Pn	**Pn**	**19 17 50.8**	**-1.2**
	1.1nm,0.3s,baz=178,slow=15,SNR=5.2						
	3.7nm,0.3s						
PSI	**Prapat**	**5.80**	**350**	P	**Pn**	**19 17 51.4**	**-0.6**
MYKOM	**Kota Tinggi**	**6.10**	**40**	Pn	**Pn**	**19 17 54.7**	**-1.3**
MYKOM	**Kota Tinggi**	**6.10**	**40**	P	**Pn**	**19 17 56.7**	**+0.7**
PPBI	**Pangkal Pinang**	**6.21**	**83**	P	**Pn**	**19 17 58.5**	**+0.9**
SNSI	**Sinabang, Aceh**	**6.44**	**326**	P	**Pn**	**19 18 00.3**	**-0.4**
	0.7nm106nm,1.1s						
TSI	**Tuntungan**	**6.55**	**348**	P	Pb	19 18 14.7	-5.5
CGJI	**Cibinong**	**6.78**	**123**	P	**Pn**	**19 18 05.3**	**0.0**
IPM	**Ipoh**	**7.45**	**8**	Pn	**Pn**	**19 18 14.3**	**-0.2**
IPM	**Ipoh**	**7.45**	**8**	P	**Pn**	**19 18 16.0**	**+1.4**
TPI	**Tanjungpandan**	**7.68**	**89**	P	**Pn**	**19 18 18.2**	**+0.4**
	0.2nm35nm,1.0s						
SKJI	**Sukabumi**	**7.71**	**122**	P	**Pn**	**19 18 18.8**	**+0.6**
KULM	**Kulim**	**8.20**	**5**	Pn	**Pn**	**19 18 24.1**	**-0.9**
KULM	**Kulim**	**8.20**	**5**	P	**Pn**	**19 18 24.7**	**-0.3**
CNJI	**Cibinong**	**8.35**	**122**	P	**Pn**	**19 18 27.3**	**+0.3**
	475nm44nm,0.8s						
LEM	**Lembang**	**8.55**	**117**	Pn	**Pn**	**19 18 31.7**	**+1.9**
	5.2nm,0.3s,baz=213,slow=11,SNR=6.9						
LEM				Sn	**Sn**	**19 20 06.9**	**+1.0**
	baz=299,slow=18						
	26nm,0.7s						
BBJI	**Bungbulang**	**8.87**	**121**	P	**Pn**	**19 18 33.6**	**-0.6**
XMIS	**Christmas Isla**	**9.38**	**143**	Pn	**Pn**	**19 18 38.1**	**-3.1**
BSI	**Banda Aceh**	**9.59**	**331**	P	**Pn**	**19 18 42.1**	**-1.9**
	15nm,0.9s						
COCO	**West Island**	**9.70**	**198**	Pn	**Pn**	**19 18 46.6**	**+1.2**
COCO	**West Island**	**9.70**	**198**	P	**Pn**	**19 18 46.8**	**+1.3**
CMJI	**Cimerak**	**9.72**	**120**	P	**Pn**	**19 18 46.2**	**+0.4**
KPJI	**Karang Pucung**	**9.94**	**116**	P	**Pn**	**19 18 50.1**	**+1.3**
	52nm,0.7s						
UGM	**Wanagama**	**11.61**	**116**	Pn	**Pn**	**19 19 10.9**	**-0.8**
UGM	**Wanagama**	**11.61**	**116**	P	**Pn**	**19 19 12.3**	**+0.6**
PCJI	**Pacitan**	**12.32**	**116**	P	**Pn**	**19 19 23.6**	**+2.3**
	49nm,1.6s						
SBUM	**Sibu**	**13.37**	**67**	Pn	**Pn**	**19 19 31.9**	**-3.8**
GMJI	**Gumukmas**	**14.42**	**112**	P	**Pn**	**19 19 50.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**15.14**	**112**	Pn	**Pn**	**19 19 56.4**	**-3.6**
JAGI				IAmb	IAmb	19 19 59.2	
	comp=Z,54nm,1.3s						
JAGI	**Jajag, Banyuwa**	**15.14**	**112**	P	**Pn**	**19 19 57.2**	**-2.7**
	comp=Z,44nm,0.8s						
TWSI	**Taliwang, Sumb**	**17.78**	**110**	P	**Pn**	**19 20 33.4**	**-0.1**
	comp=Z,18nm,0.9s						
KKM	**Kota Kinabalu**	**18.52**	**61**		**P**	**19 20 38.5**	**-4.0**
PLAI	**Plampang**	**18.65**	**109**	P	**P**	**19 20 42.5**	**-1.3**
UBPT	**Khong Chiam**	**18.91**	**17**	P	**P**	**19 20 42.0**	**-4.5**
KAPI	**Kappang**	**19.85**	**97**		**P**	**19 20 54.5**	**-2.4**
KAPI				IAmb	IAmb	19 21 01.4	
	comp=Z,45nm,0.9s						

KAPI	**Kappang**	**19.85**	**97**	P	**Pn**	**19 20 57.8**	**-0.7**
	comp=Z,16nm,0.3s,baz=264,slow=13,SNR=8.9						
	comp=Z,52nm,1.0s						
TOLI2	**Tolitoli**	**21.20**	**79**	P	**P**	**19 21 09.0**	**-2.6**
TOLI2				IAmb	IAmb	19 21 16.8	
	comp=Z,48nm,1.0s						
CM31	**Chiang Mai Arr**	**21.29**	**357**	P	**P**	**19 21 09.1**	**-3.3**
CMAR	**Chiang Mai Arr**	**21.29**	**357**	P	**P**	**19 21 09.7**	**-2.7**
CMAR	**Chiang Mai Arr**	**21.29**	**357**	P	**P**	**19 21 10.0**	**-2.5**
	comp=Z,6.5nm,1.1s,baz=186,slow=9.4,SNR=26						
CMAR				LR	LR	19 29 36.5	
	comp=Z,264nm,20.4s,baz=145,slow=38						
	comp=Z,6.5nm,1.1s						
PHRA	**Phrae**	**21.30**	**1**	P	**P**	**19 21 09.9**	**-2.7**
PHRA				IAmb	IAmb	19 21 30.7	
	comp=Z,59nm,1.0s						
CHTO	**Chiang Mai**	**21.64**	**357**	P	**P**	**19 21 14.8**	**-1.5**
PALK	**Pallekele**	**21.74**	**298**	LR	LR	19 28 56.9	
	comp=Z,352nm,20.9s,baz=102,slow=35						
LUWI	**Luwuk**	**22.87**	**86**		**P**	**19 21 28.3**	**-1.2**
QIZ	**Qiongzhong**	**23.90**	**24**	P	**P**	**19 21 38.2**	**-1.4**
QIZ				S	**S**	**19 25 59.1**	**+3.9**
QIZ				LR	LR		
	comp=Z,380nm,12.7s						
QIZ				LR	LR		
	comp=Z,300nm,11.6s						
QIZ				LR	LR		
	comp=Z,410nm,14.4s						
SLVN	**Son La**	**24.43**	**9**	P	**P**	**19 21 43.5**	**-1.1**
SOEI	**Soe**	**25.07**	**107**	P	**P**	**19 21 50.9**	**+0.3**
SOEI				IAmb	IAmb	19 22 05.0	
	comp=Z,58nm,1.3s						
H08S2	**Diego Garcia H**	**27.74**	**259**	T	T	19 51 14.1	
	baz=81,slow=76						
H08S3	**Diego Garcia H**	**27.75**	**259**	T	T	19 51 13.0	
	baz=81,slow=76						
H08S1	**Diego Carcia H**	**27.76**	**259**	T	T	19 51 14.1	
	baz=81,slow=76						
TNCH	**TengChong**	**27.84**	**357**	P	**P**	**19 22 15.3**	**-0.2**
TNCH				S	**S**	**19 26 57.3**	**-0.8**
TNCH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.5s						
TNCH				LR	LR		
	comp=Z,360nm,10.6s						
TNCH				LR	LR		
	comp=Z,250nm,12.0s						
TNCH				LR	LR		
	comp=Z,450nm,13.1s						
PZH	**PanZhiHua**	**29.32**	**3**	P	**P**	**19 22 30.8**	**+2.2**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
FITZ	**Fitzroy Crossi**	**29.33**	**123**	P	**P**	**19 22 28.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**29.33**	**123**	LR	LR	19 35 15.9	
	comp=Z,278nm,20.3s,baz=328,slow=38						
SHL	**Shillong**	**29.40**	**345**	P	**P

BJI				S	S	19 31 24.6	+1.6
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BJI				LR	LR		
	comp=Z,260nm,15.7s						
BJI				LR	LR		
	comp=Z,140nm,18.3s						
BJI				LR	LR		
	comp=Z,310nm,14.1s						
JNU	**Nakatsue**	**46.26**	**37**	LR	LR	19 44 42.8	
	comp=Z,165nm,20.9s,baz=220,slow=37						
KSAR	**Wonju Array Be**	**47.81**	**30**	P	**P**	**19 24 59.9**	**-3.4**
WUS	**Wushi**	**47.83**	**339**	P	**P**	**19 25 02.3**	**-1.2**
WUS				IAmb	IAmb	19 25 13.8	
	comp=Z,21nm,1.2s						
WMQ	**Urumqi**	**47.84**	**348**	*e*P	**P**	**19 25 05.0**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**47.84**	**30**	P	**P**	**19 25 02.4**	**-1.1**
	comp=Z,4.3nm,0.9s,baz=226,slow=9.0,SNR=8.3						
	comp=Z,4.3nm,0.9s						
KS19	**Wonju Array Si**	**47.85**	**30**	P	**P**	**19 25 03.4**	**-0.2**
STKA	**Stephens Creek**	**48.56**	**131**	P	**P**	**19 25 10.3**	**+1.1**
STKA	**Stephens Creek**	**48.56**	**131**	P	**P**	**19 25 11.4**	**+2.2**
	comp=Z,4.5nm,0.6s,baz=289,slow=7.8,SNR=7.5						
STKA				LR	LR	19 46 57.1	
	comp=Z,203nm,21.3s,baz=249,slow=38						
	comp=Z,4.5nm,0.6s						
XLT	**XiLinHaoTe**	**48.82**	**15**	*e*P	**P**	**19 25 10.2**	**-0.9**
XLT				pmax	pmax		
	comp=Z,11nm,1.0s						
DRK	**Karamyk**	**49.52**	**331**	P	**P**	**19 25 17.6**	**+0.8**
GAR	**Garm**	**49.88**	**330**	P	**P**	**19 25 18.5**	**-0.9**
GAR				IAmb	IAmb	19 25 28.1	
	comp=Z,12nm,0.9s						
CHGR	**Chuyangaron**	**50.22**	**329**	P	**P**	**19 25 20.4**	**-1.5**
CHGR				IAmb	IAmb	19 25 41.5	
	comp=Z,21nm,1.1s						
SIMJ	**Simiganj**	**50.29**	**328**	P	**P**	**19 25 22.0**	**-0.5**
SIMJ				IAmb	IAmb	19 25 42.8	
	comp=Z,8.5nm,0.9s						
ARSB	**Arslanbob**	**50.45**	**334**	P	**P**	**19 25 23.6**	**0.0**
BTK	**Batken**	**50.45**	**331**		**P**	**19 25 23.5**	**-0.1**
BTK				IAmb	IAmb	19 25 40.4	
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**50.88**	**6**	P	**P**	**19 25 26.0**	**-0.7**
SONM				IAmb	IAmb	19 25 29.1	
	comp=Z,17nm,1.0s						
SONM	**Songino Array**	**50.88**	**6**	P	**P**	**19 25 27.2**	**+0.5**
	comp=Z,15nm,1.0s,baz=190,slow=8.5,SNR=36						
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**50.97**	**6**	P	**P**	**19 25 27.1**	**-0.4**
ULN				IAmb	IAmb	19 25 29.7	
	comp=Z,17nm,1.1s						
MKAR	**Makanchi Array**	**51.92**	**345**	P	**P**	**19 25 34.7**	**+0.3**
MKAR	**Makanchi Array**	**51.92**	**345**	P	**P**	**19 25 35.4**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=150,slow=8.2,SNR=57						
	comp=Z,4.2nm,0.6s						
MAKZ	**Makanchi**	**52.02**	**344**	P	**P**	**19 25 34.7**	**-0.4**
MAKZ				IAmb	IAmb	19 25 52.5	
	comp=Z,8.6nm,1.2s						
KKAR	**Karatay Array**	**52.97**	**333**	P	**P**	**19 25 42.3**	**+0.1**
KKAR	**Karatay Array**	**52.97**	**333**	P	**P**	**19 25 42.8**	**+0.6**
KKAR				IAmb	IAmb	19 26 08.1	
	comp=Z,6.1nm,1.4s						
MJAR	**Matsushiro Arr**	**53.02**	**39**	P	**P**	**19 25 41.4**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=215,slow=8.2,SNR=6.9						
	comp=Z,4.9nm,0.9s						
BNX	**BinXian**	**54.24**	**23**	⇓P	**P**	**19 25 51.4**	**-0.1**
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ	**Mudanjiang**	**54.24**	**26**	P	**P**	**19 25 50.1**	**-1.4**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**54.75**	**16**	P	**P**	**19 25 53.9**	**-1.3**
HIA				IAmb	IAmb	19 25 57.4	
	comp=Z,7.6nm,1.0s						
USA0B	**Ussuriysk Arra**	**55.00**	**28**	P	**P**	**19 25 56.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**55.00**	**28**	P	**P**	**19 25 56.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**55.00**	**28**	P	**P**	**19 25 56.5**	**-0.5**
	comp=Z,20nm,0.9s,baz=221,slow=6.3,SNR=24						
USRK				LR	LR	19 52 06.4	
	comp=Z,90nm,18.2s,baz=37,slow=39						
	comp=Z,20nm,0.9s						
KURBB	**Kurchatov Arra**	**56.44**	**344**	P	**P**	**19 26 08.1**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=163,slow=6.9,SNR=30						
	comp=Z,3.3nm,0.8s						
KURK	**Kurchatov**	**56.49**	**344**	P	**P**	**19 26 07.6**	**-0.1**
KURK				IAmb	IAmb	19 26 17.7	
	comp=Z,16nm,0.9s						
HEH	**HeiHe**	**58.00**	**20**	*e*P	**P**	**19 26 18.7**	**+0.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	**Zalesovo Array**	**58.08**	**350**	P	**P**	**19 26 18.0**	**-0.8**
ZAA0				IAmb	IAmb	19 26 35.6	
	comp=Z,22nm,1.1s						
ZALV	**Zalesovo Beam**	**58.08**	**350**	P	**P**	**19 26 18.1**	**-0.7**
ZALV	**Zalesovo Beam**	**58.08**	**350**	P	**P**	**19 26 19.1**	**+0.4**
	comp=Z,7.7nm,0.8s,baz=164,slow=5.9,SNR=22						
	comp=Z,7.7nm,0.8s						
RAYN	**Ar Rayn**	**59.16**	**300**	P	**P**	**19 26 25.5**	**-1.5**
H04N2	**CROZET ISLANDS**	**60.03**	**217**	T	T	20 31 48.2	
	baz=59,slow=75						
H04N1	**CROZET ISLANDS**	**60.04**	**217**	T	T	20 31 51.1	
	baz=59,slow=75						
H04N3	**CROZET ISLANDS**	**60.04**	**217**	T	T	20 31 49.7	
	baz=59,slow=75						
H04S1	**CROZET ISLANDS**	**60.31**	**216**	T	T	20 32 06.3	
	baz=58,slow=75						
H04S3	**CROZET ISLANDS**	**60.32**	**216**	T	T	20 32 05.9	
	baz=58,slow=75						
H04S2	**CROZET ISLANDS**	**60.33**	**216**	T	T	20 32 07.2	
	baz=58,slow=75						
BVAR	**Borovoye Array**	**61.05**	**340**	P	**P**	**19 26 39.7**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=148,slow=8.5,SNR=3.7						
	comp=Z,1.1nm,0.6s						
ABKAR	**Akbulak array**	**62.44**	**332**	P	**P**	**19 26 48.6**	**-0.2**
ABKAR	**Akbulak array**	**62.44**	**332**	P	**P**	**19 26 48.9**	**+0.2**
ABKAR				IAmb	IAmb	19 26 58.0	
	comp=Z,6.2nm,0.7s						
GURO	**Guroymak-BITLI**	**67.41**	**314**	P	**P**	**19 27 21.1**	**-0.4**
KARS	**Kars**	**67.53**	**316**	P	**P**	**19 27 21.6**	**-0.6**
MARD	**Mardin**	**67.84**	**312**	P	**P**	**19 27 24.4**	**+0.1**
MARD				IAmb	IAmb	19 27 34.9	
	comp=Z,6.1nm,0.7s						
ARTI	**Arti**	**68.09**	**337**	P	**P**	**19 27 26.0**	**+0.8**
YAK	**Yakutsk**	**68.65**	**15**	P	**P**	**19 27 27.2**	**-1.4**
KBZ	**Khabaz**	**68.99**	**319**	P	**P**	**19 27 31.6**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=122,slow=5.5,SNR=5.1						
	comp=Z,2.4nm,0.9s						
NRIK	**Noril'sk**	**72.63**	**355**	P	**P**	**19 27 52.1**	**-0.7**
NRIK				IAmb	IAmb	19 28 10.3	
	comp=Z,15nm,1.4s						
NRIK	**Noril'sk**	**72.63**	**355**	P	**P**	**19 27 53.2**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=129,slow=5.6,SNR=4.6						
	comp=Z,1.3nm,0.4s						
PETK	**Petropavlovsk-**	**73.69**	**32**	P	**P**	**19 27 58.6**	**-0.8**
BR131	**Keskin Array S**	**73.93**	**313**	P	**P**	**19 27 59.2**	**-2.0**
BRTR	**Keskin Array B**	**73.93**	**313**	P	**P**	**19 27 59.8**	**-1.4**
BRTR	**Keskin Array B**	**73.93**	**313**	P	**P**	**19 28 01.6**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=131,slow=6.7,SNR=9.1						
	comp=Z,1.8nm,0.8s						
BOSA	**Boshof**	**75.18**	**241**	P	**P**	**19 28 10.5**	**+1.8**
	comp=Z,4.2nm,0.8s,baz=75,slow=5.5,SNR=3.4						
	comp=Z,4.2nm,0.8s						
TIXI	**Tiksi**	**76.78**	**9**	P	**P**	**19 28 15.6**	**-1.2**
TIXI				IAmb	IAmb	19 28 25.3	
	comp=Z,8.3nm,0.8s						
TIXI	**Tiksi**	**76.78**	**9**	LR	LR	20 05 38.4	
	comp=Z,189nm,18.9s,baz=11,slow=39						
MLR	**Muntele Rosu**	**80.96**	**317**	P	**P**	**19 28 38.0**	**-2.5**
MLR				IAmb	IAmb	19 28 52.8	
	comp=Z,12nm,1.2s						
BUR08	**Bucovina Ar. S**	**81.96**	**319**	P	**P**	**19 28 44.5**	**-1.2**
BUR08				IAmb	IAmb	19 29 57.8	
	comp=Z,17nm,1.9s						
FINES	**FINESS Array B**	**84.92**	**332**	P	**P**	**19 29 01.8**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=180,slow=3.2,SNR=4.6						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**87.03**	**180**	P	**P**	**19 29 13.3**	**+2.2**
	comp=Z,1.6nm,0.4s,baz=330,slow=1.6,SNR=5.3						
	comp=Z,1.6nm,0.4s						
ARCES	**ARCESS Array B**	**87.34**	**340**	P	**P**	**19 29 13.8**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=107,slow=6.0,SNR=4.4						
	comp=Z,4.0nm,0.9s						
GERES	**GERESS Array B**	**89.73**	**319**	LR	LR	20 12 09.2	
	comp=Z,90nm,21.8s,baz=300,slow=37						
ILAR	**Eielson Array**	**102.37**	**24**	PKKP		19 46 32.8	
	comp=Z,0.2nm,0.4s,baz=114,slow=2.3,SNR=4.6						
CPUP	**Villa Florida**	**143.54**	**216**	PKP	**PKPdf**	**19 36 00.7**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=158,slow=4.0,SNR=5.2						
TXAR	**Lajitas Array**	**145.46**	**38**	PKPbc	**PKPab**	**19 36 05.8**	**+1.0**
	comp=Z,6.0nm,0.9s,baz=280,slow=1.7,SNR=44						

WEL 01 19:19:50.5±0.6, 33°S±11'×18°0E±2°5, h33km, M4.6/4, ML4.7/10, MLv4.6/4, Error ellipse: s-maj=35.0km s-min=4.3km az=112.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.05**	**27**	P	Pn	19 20 50.8	+0.6
GLKZ				S	Sn	19 21 37.0	+0.6
MXZ	**Matakaoa Point**	**4.85**	**196**	P	Pn	19 21 03.6	+2.5
MXZ				S	Sn	19 21 57.6	+1.5
HAZ	**Te Kaha**	**5.17**	**200**	P	Pn	19 21 07.2	+1.8
HAZ				S	Sn	19 22 07.7	+3.8
KUZ	**Kuaotunu**	**5.19**	**221**	P	Pn	19 21 07.6	+1.8
PUZ	**Puketiti**	**5.35**	**195**	P	Pn	19 21 07.8	-0.2
PUZ				S	Sn	19 22 09.6	+1.1
MWZ	**Matawai**	**5.78**	**199**	P	Pn	19 21 13.8	-0.1
MWZ				S	Sn	19 22 20.1	+1.1
URZ	**Urewera**	**5.83**	**203**	P	Pn	19 21 14.9	+0.3
URZ				S	Sn	19 22 20.6	+0.2
RTZ	**Ruatahuna**	**6.20**	**202**	P	Pn	19 21 18.8	-1.0
MTHZ	**Maungataniwha**	**6.46**	**202**	P	Pn	19 21 22.6	-0.8
MTHZ				S	Sn	19 22 36.0	+0.1
BKZ	**Black Stump Fm**	**6.86**	**203**	P	Pn	19 21 29.0	+0.2
MCHZ	**McNeill Hill**	**7.05**	**201**	P	Pn	19 21 31.1	-0.2
MCHZ				S	Sn	19 22 49.0	-1.3
KAHZ	**Kahuranaki**	**7.32**	**199**	P	Pn	19 21 31.8	-3.2
KRHZ	**Kereru**	**7.33**	**202**	P	Pn	19 21 33.3	-2.0

*SSNC **01** 19:20:51.8±2.8, 19°.69N×70°.34W, h120km±128km, MD3.9, ML3.5*
*SDD **01** 19:20:54.5±2.1, 19°.98N×70°.48W, h10km±88km, MD3.6, ML3.4, MW3.7*
*OSPL **01** 19:20:56.8±2.5, 19°.95N×70°.56W, h0km±14km, ML3.0, Hypocentre not reviewed by the ISC*

ISC 01 19:20:54.1±1.3, 20°.00N±0°.04×70°.50W±0°.04, h16km±10km, n20, σ1°51/32, 7C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.60**	**201**	*e*Pg	**Pb**	**19 21 06.7**	**+0.4**
SC01				IAML		19 21 33.3	
	comp=N,953nm,0.5s						
SC01	**Santiago de lo**	**0.60**	**201**	*i* P		19 21 06.8	
SFDR	**San Fco. de Ma**	**0.75**	**161**	*e*Pg	**Pg**	**19 21 08.3**	**-0.5**
SFDR				IAML		19 21 20.4	
	comp=E,1μm,0.5s						
SFDR				IAML		19 21 20.8	
	comp=N,3μm,0.6s						
MCDR	**Montecristi**	**1.09**	**265**	*e*Pg	**Pb**	**19 21 15.1**	**+0.5**
MCDR				IAML		19 21 33.8	
	comp=N,1μm,0.4s						
MCDR				IAML		19 21 34.3	
	comp=E,1μm,0.1s						
DR08	**Loma La Naviza**	**1.12**	**156**	*e*Pg	**Pb**	**19 21 14.2**	**-1.0**
DR08				⇓*e*Sg	**Sg**	**19 21 29.8**	**-0.8**
DR08				IAML		19 21 30.6	
	comp=E,3μm,0.5s						
DR08				IAML		19 21 31.0	
	comp=N,2μm,0.1s						
REDR	**Restauracion**	**1.18**	**226**	*e*Pg	**Pg**	**19 21 18.2**	**+1.3**
REDR				⇓*e*Sg	**Sn**	**19 21 36.7**	**+5.0**
REDR				IAML		19 21 37.1	
	comp=N,2μm,0.2s						
REDR				IAML		19 21 39.1	
	comp=E,2μm,0.2s						
ABDR	**Alto Bandera**	**1.19**	**186**	*e*Pg	**Pb**	**19 21 14.8**	**-1.6**
ABDR				⇑*e*Sg	**Sg**	**19 21 31.9**	**-0.6**
ABDR				IAML		19 21 32.4	
	comp=N,1μm,0.5s						
ABDR				IAML		19 21 33.7	
	comp=E,886nm,0.4s						
SDDR	**Presa de Saban**	**1.25**	**216**	*e*Pg	**Pn**	**19 21 15.8**	**-1.2**
SDDR				⇓*e*Sg	**Sb**	**19 21 33.8**	**+0.5**
SDDR				IAML		19 21 36.9	
	comp=E,482nm,0.6s						
SDDR				IAML		19 21 38.0	
	comp=N,563nm,0.4s						
SDDR	**Presa de Saban**	**1.25**	**216**	*i* P		19 21 16.3	
SDDR				*e*S		19 21 33.7	
SDDR				IAML		19 21 36.9	
	comp=Z,238nm,0.3s						
SMDR	**Samana, DR**	**1.42**	**119**	⇑*e*Pg	**Pb**	**19 21 20.3**	**+0.1**
SMDR				IAML		19 21 45.4	
	comp=N,253nm,0.5s						
SMDR				IAML		19 21 47.5	
	comp=E,286nm,0.5s						
BANI	**BANI**	**1.60**	**175**	*e*Pg	**Pn**	**19 21 22.3**	**+0.5**
BANI				⇑*e*Sg	**Sb**	**19 21 44.4**	**+1.0**
BANI				IAML		19 21 47.0	
	comp=N,472nm,0.3s						
BANI				IAML		19 21 49.9	
	comp=E,438nm,0.6s						
HATOM	**Hato Mayor del**	**1.60**	**138**	⇑*e*Pg	**Pn**	**19 21 21.6**	**-0.1**
HATOM				⇑*e*Sg	**Sb**	**19 21 43.5**	**+0.1**
HATOM				IAML		19 21 45.6	
	comp=N,159nm,0.3s						
HATOM				IAML		19 21 46.0	
	comp=E,201nm,0.5s						
GRTK	**Grand Turk**	**1.62**	**339**	*e*Pg	**Pn**	**19 21 24.1**	**+2.1**
GRTK				⇑*e*Sg	**Sg**	**19 21 46.6**	**+0.3**
GRTK				IAML		19 21 47.5	
	comp=E,841nm,0.6s						
GRTK				IAML		19 21 50.6	
	comp=N,770nm,0.3s						
GRTK	**Grand Turk**	**1.62**	**339**	*i* P		19 21 23.9	
GRTK				*e*S		19 21 46.6	
GRTK				IAML		19 21 49.1	
	comp=Z,163nm,0.6s						
LONE3	**El Aguacate, B**	**1.65**	**213**	*i* P		19 21 23.5	
LONE3				*e*S		19 21 46.0	
LONE3				*e*S		19 21 46.1	
LONE3				IAML		19 21 49.1	
	comp=Z,233nm,0.6s						
LODU1	**El Espartillar**	**1.88**	**209**	*i* P		19 21 27.7	
PODR	**Polo**	**1.96**	**202**	*e*Pg	**Pn**	**19 21 28.6**	**+1.7**
PODR				⇑*e*Sg	**Sg**	**19 21 57.3**	**-0.1**
PODR				IAML		19 22 03.5	
	comp=E,446nm,0.3s						
PODR				IAML		19 22 03.6	
	comp=N,232nm,0.5s						
LOBA2	**Hotel Casa Bon**	**1.99**	**196**	*e*Pg	**Pb**	**19 21 30.1**	**+0.2**
MASC	**Masc**	**3.51**	**274**	*e*P	**Pn**	**19 21 47.2**	**-0.8**
MASC				*e*S	**Sn**	**19 22 28.3**	**-0.9**
MASC				IAML		19 22 47.4	
	comp=N,37nm,0.3s						
MASC				IAML		19 22 47.9	
	comp=E,59nm,0.4s						
QMBU	**Quimbuelo**	**4.05**	**274**	*e*P	**Pn**	**19 21 54.4**	**-1.2**
QMBU				*e*S	**Sn**	**19 22 42.8**	**0.0**
QMBU				IAML		19 22 45.7	
	comp=N,28nm,0.3s						
QMBU				IAML		19 22 46.2	
	comp=E,31nm,0.5s						
NMDO	**Nuevo Mundo**	**4.24**	**278**	*e*P	**Pn**	**19 21 56.9**	**-1.2**
NMDO				*e*S	**Sn**	**19 22 45.3**	**-2.0**
NMDO				IAML		19 22 50.6	
	comp=E,22nm,0.3s						
NMDO				IAML		19 22 50.8	
	comp=N,24nm,0.2s						
GTBY	**Guantanamo Bay**	**4.34**	**270**	*e*S	**Sn**	**19 22 49.0**	**-0.6**
RCC	**Rio Carpintero**	**4.88**	**271**	*e*P	Pn	19 22 03.3	-3.7
RCC				*e*S	**Sn**	**19 23 03.0**	**-0.2**
PINC	**Pinares de May**	**4.99**	**277**	*e*P	**Pn**	**19 22 06.9**	**-1.5**
PINC				*e*S	**Sn**	**19 23 02.6**	**-3.2**
PINC				IAML		19 23 05.5	
	comp=E,7.3nm,0.2s						
PINC				IAML		19 23 05.6	
	comp=N,6.1nm,0.3s						
MARVS	**Santiago de Cu**	**5.08**	**271**	*e*P	**Pn**	**19 22 09.0**	**-0.6**

RSNC 01 19:26:46.1±0.0, 5°N±1°×7°6W±°, h112km±2km, M2.8, mb3.8, ML2.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.28**	**263**	P	Pn	19 27 01.5	-0.6
PLMC				S	Sn	19 27 13.9	-0.2
NIZA	**Niza - Manizal**	**0.54**	**77**	P	Pn	19 27 03.9	+0.1
NIZA				S	Sn	19 27 16.9	-0.1
RECRC	**Villamaria, Ca**	**0.65**	**88**	P	Pn	19 27 04.7	-0.1
RECRC				S	Sn	19 27 18.8	-0.1
GUY2C	**Guyana, Caldas**	**0.69**	**66**	P	Pn	19 27 05.1	0.0
GUY2C				S	Sn	19 27 20.0	+0.6
ANIL	**Santa Ana**	**0.74**	**127**	P	Pn	19 27 05.3	-0.1
ANIL				S	Sn	19 27 20.0	+0.2
CBOC	**Ciudad Bolivar**	**0.92**	**359**	P	Pn	19 27 05.9	-1.0
CBOC				S	Sn	19 27 21.2	-1.3
YOTC	**Yotoco, Valle**	**1.01**	**200**	P	Pn	19 27 07.1	-0.6
YOTC				S	Sn	19 27 23.7	-0.3
ORTC	**Ortega, Tolima**	**1.27**	**144**	P	Pn	19 27 10.6	+0.2
ORTC				S	Sn	19 27 29.1	+0.2
NORC	**Norcasia**	**1.28**	**61**	P	Pn	19 27 10.2	-0.4
NORC				S	Sn	19 27 28.7	-0.5
PIZC	**Pizarro, Choco**	**1.35**	**271**	P	Pn	19 27 11.3	0.0
PIZC				S	Sn	19 27 31.4	+0.9
MEDEC	**Medelln, Ant**	**1.39**	**17**	P	Pn	19 27 11.9	-0.1
MEDEC				S	Sn	19 27 31.4	-0.1
MALC	**Bahia Malaga**	**1.62**	**235**	P	Pn	19 27 15.1	+0.6
MALC				S	Sn	19 27 36.5	+0.5
PRAC	**Prado**	**1.65**	**138**	P	Pn	19 27 14.8	-0.1
PRAC				S	Sn	19 27 37.0	+0.2
ROSC	**El Rosal**	**1.68**	**93**	P	Pn	19 27 16.1	+0.6
ROSC				S	Sn	19 27 39.0	+1.1
JAMC	**Jamundi, Valle**	**1.84**	**201**	P	Pn	19 27 16.7	-0.7
JAMC				S	Sn	19 27 40.1	-1.2
SOLC	**Bahia Solano**	**1.90**	**312**	P	Pn	19 27 17.6	-0.3
SOLC				S	Sn	19 27 42.5	+0.3
SPBC	**San Pablo de B**	**2.05**	**70**	P	Pn	19 27 18.6	-1.3
SPBC				S	Sn	19 27 45.4	-0.3
DBBC	**Dabeiba**	**2.07**	**354**	P	Pn	19 27 19.5	-0.7
DBBC				S	Sn	19 27 47.0	+0.7
PTBC	**PUERTO BERRIO,**	**2.21**	**44**	P	Pn	19 27 20.8	-1.1
PTBC				S	Sn	19 27 47.7	-1.6
CHIC	**Chingaza**	**2.28**	**98**	P	Pn	19 27 24.5	+1.3
CHIC				S	Sn	19 27 52.8	+1.3
BETC	**Betania**	**2.31**	**166**	P	Pn	19 27 22.9	-0.4
BETC				S	Sn	19 27 51.1	-0.6
URMC	**La Uribe, Meta**	**2.33**	**136**	P	Pn	19 27 23.1	-0.4
URMC				S	Sn	19 27 51.3	-0.9
VILC	**Villavicencio,**	**2.44**	**110**	P	Pn	19 27 26.6	+1.6
VILC				S	Sn	19 27 57.3	+2.5
POPC	**Popayan, Colom**	**2.48**	**196**	P	Pn	19 27 24.7	-0.9
POPC				S	Sn	19 27 52.9	-2.9
ZARC	**Zaragoza, Cauc**	**2.78**	**24**	P	Pn	19 27 28.4	-0.9
ZARC				S	Sn	19 28 00.9	-1.6
GARC	**Garzon, Huila**	**2.78**	**170**	P	Pn	19 27 28.9	-0.7
GARC				S	Sn	19 28 00.3	-2.6
UREC	**San Jos de Ur**	**2.83**	**9**	P	Pn	19 27 28.9	-1.1
UREC				S	Sn	19 28 05.1	+1.3
PTAC	**Punta Ardita,**	**2.84**	**321**	P	Pn	19 27 28.2	-1.8
PTAC				S	Sn	19 28 00.1	-3.7
GR1C	**Gorgona, Isla**	**2.89**	**228**	P	Pn	19 27 29.5	-1.3
GR1C				S	Sn	19 28 03.0	-2.2
APAC	**Apartado, Choc**	**3.00**	**349**	P	Pn	19 27 32.8	+0.6
APAC				S	Sn	19 28 09.9	+2.3
BRJC	**Barrancabermej**	**3.02**	**48**	P	Pn	19 27 32.3	-0.1
BRJC				S	Sn	19 28 06.2	-2.0
RUSC	**La Rusia**	**3.05**	**72**	P	Pn	19 27 33.4	+0.1
RUSC				S	Sn	19 28 10.7	+1.0
BBAC	**Balboa, Cauca**	**3.15**	**203**	P	Pn	19 27 33.9	-0.6
BBAC				S	Sn	19 28 09.8	-1.8
BARC	**Barichara**	**3.25**	**60**	P	Pn	19 27 36.3	+0.6
BARC				S	Sn	19 28 12.5	-1.4
FLOC	**Florencia**	**3.35**	**174**	P	Pn	19 27 36.6	-0.3
FLOC				S	Sn	19 28 16.1	-0.1
CRUC	**La Cruz**	**3.48**	**196**	P	Pn	19 27 39.0	+0.1
CRUC				S	Sn	19 28 17.6	-2.1
MACC	**Macarena, Meta**	**3.51**	**142**	P	Pn	19 27 38.2	-0.8
MACC				S	Sn	19 28 19.3	-0.6
PAMC	**Pamplona, Colo**	**4.06**	**54**	P	Pn	19 27 47.6	+0.9
PAMC				S	Sn	19 28 32.1	-1.5
OCAC	**Ocana**	**4.22**	**39**	P	Pn	19 27 48.2	-0.5
OCAC				S	Sn	19 28 35.0	-2.2
SJCC	**San Jacinto, C**	**4.99**	**9**	P	Pn	19 27 58.8	-0.1
SJCC	11nm,1.4s						
	11nm,1.4s			S	Sn	19 28 56.5	+0.9
AZU	**Azuero**	**5.11**	**304**	P	Pn	19 27 58.8	-1.6
AZU	16nm,0.6s						
	16nm,0.6s			S	Sn	19 28 56.8	-1.4
OTAV	**Otavalo**	**5.27**	**208**	P	Pn	19 28 04.0	+0.9
OTAV	2.6nm,0.5s						
	2.6nm,0.5s			S	Sn	19 29 02.8	-0.2

IDC 01 19:48:13.7±4.1, 1°92N×123°24E, h134km±32km, mb3.1/4, mbtmp3.5/4, Error ellipse: s-maj=128.3km s-min=24.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.03**	**173**	P	P	19 52 35.9	-0.3
	3.4nm,0.9s,baz=5.4,slow=11,SNR=8.1						
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**24.30**	**154**	P	P	19 53 18.0	-0.9
	1.1nm,0.5s,baz=332,slow=9.7,SNR=19						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**27.47**	**158**	P	P	19 53 48.5	+1.1
	0.3nm,0.4s,baz=334,slow=9.6,SNR=10						
ASAR				ScP	ScP	20 00 30.2	-0.7
	0.3nm,

az=133.0
*RSNC **01** 20:02:21.7±0.0, 7°N±1°×7°3W±°, h141km±1km, M3.1, mb3.8, mB5.4, ML2.9, Mw(mB)4.9*
ISC 01 20:02:20.2±1.0, 6°83N±0°03×73°09W±0°03, h147km±6km, n42, σ1°25/82, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**201**	P	**Pn**	**20 02 40.8**	**+0.3**
BARC				S	**Sn**	**20 02 55.3**	**-0.6**
PAMC	**Pamplona, Colo**	**0.64**	**37**	P	**Pn**	**20 02 43.6**	**+1.1**
PAMC				S	**Sn**	**20 03 00.2**	**+0.7**
BRJC	**Barrancabermej**	**0.67**	**282**	P	**Pn**	**20 02 42.6**	**+0.5**
BRJC				S	**Sn**	**20 02 59.0**	**+0.3**
RUSC	**La Rusia**	**0.93**	**180**	P	**Pn**	**20 02 44.7**	**+0.1**
RUSC				S	**Sn**	**20 03 02.6**	**-0.6**
TAMC	**Tame, Arauca**	**1.35**	**107**	P	**Pn**	**20 02 49.1**	**+1.1**
TAMC				S	**Sn**	**20 03 10.4**	**+1.2**
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	P	**Pn**	**20 02 47.3**	**-1.0**
PTBC				S	**Sn**	**20 03 08.1**	**-1.7**
OCAC	**Ocana**	**1.42**	**351**	P	**Pn**	**20 02 49.6**	**+0.8**
OCAC				S	**Sn**	**20 03 10.7**	**0.0**
SPBC	**San Pablo de B**	**1.52**	**220**	P	**Pn**	**20 02 49.7**	**-0.2**
SPBC				S	**Sn**	**20 03 11.5**	**-1.0**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	P	**Pn**	**20 02 54.2**	**+0.6**
ZARC				S	**Sn**	**20 03 19.3**	**0.0**
NORC	**Norcasia**	**2.17**	**235**	P	**Pn**	**20 02 56.7**	**-0.5**
NORC				S	**Sn**	**20 03 24.1**	**-1.5**
CHIC	**Chingaza**	**2.28**	**196**	P	**Pn**	**20 02 59.0**	**+0.1**
CHIC				S	**Sn**	**20 03 27.9**	**-0.6**
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**20 03 00.8**	**+1.4**
	73nm,0.3s,baz=58,slow=15,SNR=26						
ROSC				S	**Sn**	**20 03 30.4**	**+0.9**
	87nm,0.3s,baz=47,slow=22,SNR=9.5						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**20 03 00.6**	**+1.2**
ROSC				S	**Sn**	**20 03 29.6**	**+0.1**
UREC	**San Jos de Ur**	**2.59**	**291**	P	**Pn**	**20 03 02.3**	**0.0**
UREC				S	**Sn**	**20 03 33.0**	**-1.7**
VILC	**Villavicencio,**	**2.77**	**193**	P	**Pn**	**20 03 04.5**	**-0.1**
VILC				S	**Sn**	**20 03 39.2**	**+0.3**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**20 03 05.2**	**+0.2**
GUY2C				S	**Sn**	**20 03 39.0**	**-0.4**
RECRC	**Villamaria, Ca**	**2.92**	**231**	P	**Pn**	**20 03 08.9**	**+2.0**
RECRC				S	**Sn**	**20 03 43.4**	**+0.5**
NIZA	**Niza - Manizal**	**2.95**	**234**	P	**Pn**	**20 03 11.1**	**+4.0**
NIZA				S	**Sn**	**20 03 45.5**	**+2.2**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	P	**Pn**	**20 03 09.0**	**+0.7**
CBOC				S	**Sn**	**20 03 45.0**	**-0.5**
DBBC	**Dabeiba**	**3.10**	**274**	P	**Pn**	**20 03 09.7**	**+0.9**
DBBC				S	**Sn**	**20 03 45.2**	**-1.2**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**20 03 10.7**	**+0.8**
	7.8nm,0.3s,baz=214,slow=8.8,SNR=11						
SDV				S	**Sn**	**20 03 47.7**	**-0.6**
	81nm,0.6s,baz=253,slow=19,SNR=52						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**20 03 10.6**	**+0.7**
SDV				S	**Sn**	**20 03 47.6**	**-0.7**
ARGC	**Ariguani, Magd**	**3.22**	**339**	P	**Pn**	**20 03 12.2**	**+2.0**
ARGC				S	**Sn**	**20 03 50.6**	**+1.6**
ANIL	**Santa Ana**	**3.27**	**225**	P	**Pn**	**20 03 12.2**	**+1.0**
ANIL				S	**Sn**	**20 03 51.8**	**+1.2**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**20 03 14.5**	**-0.4**
PRAC				S	**Sn**	**20 03 56.2**	**-1.1**
ORTC	**Ortega, Tolima**	**3.61**	**217**	P	**Pn**	**20 03 16.0**	**+0.7**
ORTC				S	**Sn**	**20 03 58.6**	**+0.5**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**20 03 17.1**	**+1.7**
APAC				S	**Sn**	**20 03 58.1**	**-0.1**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**20 03 15.4**	**-0.9**
SJCC				S	**Sn**	**20 03 57.2**	**-2.6**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**20 03 16.7**	**+0.1**
PLMC				S	**Sn**	**20 04 01.0**	**+0.6**
URMC	**La Uribe, Meta**	**3.78**	**200**	P	**Pn**	**20 03 17.5**	**-0.1**
URMC				S	**Sn**	**20 04 02.0**	**-0.2**
LCBC	**Los crdobas,**	**3.82**	**302**	P	**Pn**	**20 03 18.1**	**+0.1**
LCBC				S	**Sn**	**20 04 03.2**	**+0.3**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**20 03 21.4**	**-1.3**
CRJC				S	**Sn**	**20 04 08.0**	**-3.3**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**20 03 23.8**	**-0.6**
YOTC				S	**Sn**	**20 04 15.1**	**+0.7**
SMRC	**Santa Marta, M**	**4.45**	**346**	P	**Pn**	**20 03 27.9**	**+1.6**
SMRC				S	**Sn**	**20 04 14.9**	**-2.9**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**20 03 28.3**	**-1.5**
MACC				S	**Sn**	**20 04 20.9**	**-3.2**
URIC	**Uribia, Colomb**	**4.96**	**13**	P	**Pn**	**20 03 31.4**	**-1.6**
	12nm,0.8s						
URIC				S	**Sn**	**20 04 30.6**	**+0.7**
	12nm,0.8s						
JAMC	**Jamundi, Valle**	**5.06**	**225**	P	**Pn**	**20 03 34.5**	**-0.1**
	8.9nm,0.6s						
JAMC				S	**Sn**	**20 04 33.3**	**+0.7**
	8.9nm,0.6s						
MALC	**Bahia Malaga**	**5.07**	**237**	P	**Pn**	**20 03 36.2**	**+1.7**
MALC				S	**Sn**	**20 04 33.3**	**+0.9**
GARC	**Garzon, Huila**	**5.20**	**208**	P	**Pn**	**20 03 35.4**	**-1.0**
GARC				S	**Sn**	**20 04 34.4**	**-1.5**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**20 03 41.4**	**+0.1**
POPC				S	**Sn**	**20 04 44.9**	**+0.4**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**20 12 32.7**	**-0.2**
	0.2nm,0.6s,baz=131,slow=6.3,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPdf**	**20 21 48.1**	**+0.3**
	0.2nm,0.2s,baz=120,slow=3.2,SNR=1.9						

IDC 01 20:17:23.4±2.8, 0°56S×130°54E, h0km, mb3.5/2, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=352.6km s-min=28.5km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.62**	**169**	P	P	20 21 53.4	-0.2
	baz=350,slow=11,SNR=2.2						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**23.20**	**172**	P	P	20 22 32.2	+0.1
	0.6nm,0.6s,baz=349,slow=9.7,SNR=9.2						
	0.6nm,0.6s						
SONM	**Songino Array**	**52.58**	**340**	P	P	20 26 39.0	-0.1
	0.9nm,0.7s,baz=157,slow=9.2,SNR=2.3						
	0.9nm,0.7s						

---

*ATH **01** 20:24:01.6, 37°20N×20°81E, h13km±2km, ML3.6/5, Error ellipse: s-maj=2.7km s-min=1.3km az=36.0*
*IDC **01** 20:24:01.8±1.0, 37°40N×21°08E, h0km, mb3.8/12, mbtmp3.7/19, ML3.6/5, MS3.3/2, Error ellipse: s-maj=19.2km s-min=15.7km az=36.0*
*THE **01** 20:24:02.3, 37°26N×20°86E, h0km±2km, ML3.5/9, Error ellipse: s-maj=2.5km s-min=0.8km az=210.0*
*BEO **01** 20:24:04.4±0.9, 37°43N×20°62E, h0km, ML3.6/5*
*TIR **01** 20:24:08.3, 37°81N×21°79E, h16km±1km, Md3.3/4, Ml3.4/3*
ISC 01 20:24:02.6±1.4, 37°34N±0°04×20°92E±0°03, h7km±9km, n92, σ1°56/122, mb3.8/12, 6C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.38**	**351**	P	**Pg**	**20 24 10.4**	**+0.5**
LTHK				S	**Sb**	**20 24 17.7**	**0.0**
LTHK	**Lithakia**	**0.38**	**351**	P	**Pb**	**20 24 11.4**	**-0.2**
LTHK				S	**Sb**	**20 24 17.8**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.49**	**351**	P	**Pb**	**20 24 13.7**	**+0.2**
KYPS				S	**Sb**	**20 24 22.3**	**+1.5**
ORTH	**Orthonies,Zaky**	**0.54**	**341**	P	**Pb**	**20 24 14.4**	**0.0**
ORTH				S	**Sb**	**20 24 24.2**	**+1.7**
CLEM	**Kyllini,Ilia,G**	**0.58**	**17**	P	**Pb**	**20 24 15.3**	**+0.2**
CLEM				S	**Sb**	**20 24 25.5**	**+2.0**
AMT	**Artemida-Makis**	**0.66**	**73**	P	**Pb**	**20 24 16.8**	**+0.3**
AMT				S	**Sb**	**20 24 27.2**	**+1.3**
RTZL	**Ratzakli, Kefa**	**0.75**	**351**	P	**Pb**	**20 24 17.6**	**-0.3**
RTZL				S	**Sb**	**20 24 29.0**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.82**	**341**	P	**Pb**	**20 24 19.0**	**-0.1**
PSDA				S	**Sn**	**20 24 31.7**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.82**	**341**	P	**Pb**	**20 24 18.9**	**-0.2**
PSDA				S	**Sn**	**20 24 31.7**	**-1.2**
ITM	**Ithomi**	**0.82**	**101**	P	**Pg**	**20 24 18.8**	**+0.4**
ITM				S	**Sb**	**20 24 31.4**	**+0.9**
	5μm,0.5s						
ITM	**Ithomi**	**0.82**	**101**	P	**Pg**	**20 24 19.4**	**+1.0**
ITM				S	**Sb**	**20 24 30.6**	**+0.1**
ITM				AML	AML	20 24 38.3	
	comp=N,11451μm,0.4s						
ITM				AML	AML	20 24 38.7	
	comp=E,9102μm,0.5s						
RLS	**Riolos of Patr**	**0.84**	**31**	P	**Pb**	**20 24 19.5**	**0.0**
RLS				S	**Sn**	**20 24 33.3**	**-0.2**
	comp=E,3μm,0.7s						
RLS	**Riolos of Patr**	**0.84**	**31**	P	**Pb**	**20 24 19.6**	**0.0**
RLS				S	**Sn**	**20 24 34.7**	**+1.2**
RLS				AML	AML	20 24 38.8	
	comp=E,4483μm,0.5s						
RLS				AML	AML	20 24 39.6	
	comp=N,5618μm,0.6s						
VLS	**Valsamata**	**0.88**	**343**	P	**Pg**	**20 24 19.7**	**+0.3**
VLS				S	**Sn**	**20 24 34.7**	**+0.3**
	comp=N,2μm,0.5s						
VLS	**Valsamata**	**0.88**	**343**	P	**Pg**	**20 24 19.7**	**+0.3**
VLS				S	**Sn**	**20 24 33.7**	**-0.7**
VLS				AML	AML	20 24 41.8	
	comp=N,4238μm,0.6s						
VLS				AML	AML	20 24 43.8	
	comp=E,3270μm,0.4s						
DRO	**Drossia**	**0.88**	**46**	P	**Pb**	**20 24 20.2**	**0.0**
DRO				S	**Sn**	**20 24 34.9**	**+0.4**
	comp=E,10μm,0.6s						
DRO	**Drossia**	**0.88**	**46**	P	**Pb**	**20 24 20.4**	**+0.2**
DRO				S	**Sn**	**20 24 34.7**	**+0.3**
DRO				AML	AML	20 24 40.5	
	comp=E,15083μm,0.9s						
DRO				AML	AML	20 24 41.0	
	comp=N,13152μm,0.4s						
SMHA	**Samh**	**0.94**	**347**	P	**Pg**	**20 24 20.1**	**-0.5**
SMHA				S	**Sn**	**20 24 36.3**	**+0.5**
DMLN	**Damoulianata-K**	**1.00**	**335**	P	**Pb**	**20 24 22.3**	**+0.1**
DMLN				S	**Sn**	**20 24 37.8**	**+0.5**
	comp=N,6μm,0.5s						
DMLN	**Damoulianata-K**	**1.00**	**335**	P	**Pb**	**20 24 22.4**	**+0.1**
FSK	**Fiskardo**	**1.15**	**346**	P	**Pg**	**20 24 24.8**	**0.0**
FSK				S	**Sn**	**20 24 42.8**	**+1.6**
	comp=N,2μm,0.9s						
FSK	**Fiskardo**	**1.15**	**346**	P	**Pg**	**20 24 24.8**	**0.0**
FSK				S	**Sn**	**20 24 42.2**	**+1.0**
FSK				AML	AML	20 24 48.0	
	comp=E,2822μm,0.7s						
FSK				AML	AML	20 24 50.8	
	comp=N,3115μm,0.7s						
KLV	**Kalavryta, Ach**	**1.21**	**54**	P	**Pg**	**20 24 25.5**	**-0.3**
KLV	**Kalavryta, Ach**	**1.21**	**54**	P	**Pb**	**20 24 26.0**	**+0.2**
GUR	**Goura**	**1.28**	**62**	P	**Pg**	**20 24 26.6**	**-0.6**
EVGI	**Lefkada island**	**1.30**	**351**	P	**Pn**	**20 24 28.2**	**+1.1**
EVGI				S	**Sn**	**20 24 47.8**	**+3.0**
	comp=N,1μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.38**	**353**	P	**Pb**	**20 24 29.2**	**+0.4**
NYDR				S	**Sn**	**20 24 50.1**	**+3.2**
	comp=N,995nm,0.6s						
KALE	**Kalithea**	**1.43**	**42**	P	**Pb**	**20 24 29.9**	**+0.2**
LKD2	**Lefkada island**	**1.46**	**352**	P	**Pg**	**20 24 31.5**	**+0.9**
LKD2				S	**Sn**	**20 24 52.5**	**+3.6**
LKD2				AML	AML	20 24 57.9	
	comp=N,4.7nm,0.8s						
LKD2				AMd		20 25 36.2	
LKD2	**Lefkada island**	**1.46**	**352**	P	**Pb**	**20 24 30.2**	**0.0**
LKD2				S	**Sn**	**20 24 51.1**	**+2.2**
	comp=N,1μm,0.7s						
IGT	**Igoumenitsa**	**2.24**	**348**	P	**Pg**	**20 24 46.0**	**+0.5**
IGT				S	**Sg**	**20 25 14.0**	**-0.5**
IGT				AMd		20 26 12.0	
SRN	**Sarande**	**2.64**	**345**	P	**Pn**	**20 24 47.8**	**+2.2**
SRN				S	**Sg**	**20 25 26.0**	**-1.3**
SRN				AML	AML	20 25 39.6	
	comp=N,0.4nm,0.9s						
SRN				AMd		20 26 19.2	
NEST	**Nestorio**	**3.08**	**2**	P	**Pb**	**20 24 55.6**	**-2.0**
FNA	**Florina**	**3.46**	**6**	P	**Pn**	**20 24 59.3**	**+2.4**
FNA				S	**Sn**	**20 25 37.8**	**-0.4**
FNA				AML	AML	20 25 43.4	
	comp=N,0.3nm,0.7s						
FNA				AMd		20 26 43.5	
FNA	**Florina**	**3.46**	**6**	*e*Pn	**Pn**	**20 24 59.1**	**+2.2**
FNA				*e*Sn	**Sn**	**20 25 39.3**	**+1.1**
THE	**Thessaloniki**	**3.66**	**25**	P	**Pn**	**20 24 59.1**	**-0.4**
OHR	**Ohrid**	**3.77**	**359**	*i* Pn	**Pn**	**20 25 04.3**	**+3.1**
IDI	**Anoyia**	**3.81**	**121**	Pn	**Pn**	**20 25 00.5**	**-1.2**
	comp=N,5.2nm,0.9s,baz=337,slow=14,SNR=9.2						
IDI				Sn	**Sn**	**20 25 45.0**	**-1.7**
	comp=N,5.0nm,0.3s,baz=302,slow=2.4,SNR=9.0						
TIR	**Tirane**	**4.09**	**349**	*e*Pn	**Pn**	**20 25 05.7**	**+0.2**
VAY	**Valandovo**	**4.18**	**17**	*i* Pn	**Pn**	**20 25 08.9**	**+2.1**
VAY	**Valandovo**	**4.18**	**17**	*e*Pn	**Pn**	**20 25 08.5**	**+1.8**
SRS	**Serrai**	**4.31**	**28**	*e*Pn	**Pn**	**20 25 10.8**	**+2.3**
VAE	**Valguarnera**	**5.18**	**274**	Pn	**Pn**	**20 25 24.4**	**+3.8**
	comp=N,22nm,0.7s,baz=147,slow=7.0,SNR=4.9						
VAE				Sn	**Sn**	**20 26 20.4**	**-0.1**
	comp=N,3.1nm,0.3s,baz=36,slow=19,SNR=3.8						
BARS	**Barje**	**5.52**	**7**	*e*Pn	**Pn**	**20 25 26.0**	**+0.9**
VTS	**Vitosha**	**5.57**	**18**	*e*Pn	**Pn**	**20 25 27.9**	**+1.9**
SELS	**Selova**	**5.88**	**1**	*e*Pn	**Pn**	**20 25 30.8**	**+0.7**
SJES	**Sjenica**	**5.96**	**353**	*e*Pn	**Pn**	**20 25 31.6**	**+0.3**
STON	**Ston**	**6.05**	**337**	*e*Pn	**Pn**	**20 25 31.6**	**-0.8**
STON				*e*Sn	**Sn**	**20 26 38.3**	**-3.6**
ZAPS	**Zavoj**	**6.07**	**12**	*e*Pn	**Pn**	**20 25 34.7**	**+1.9**
GOCS	**Kraljevo Serbi**	**6.22**	**360**	*e*Pn	**Pn**	**20 25 34.9**	**+0.1**
GOCS				*e*Sn	**Sn**	**20 26 43.9**	**-2.3**
BOVS	**Bovan**	**6.32**	**5**	||P	**Pn**	**20 25 36.3**	**+0.1**
GRUS	**Gruza**	**6.55**	**359**	*e*Pn	**Pn**	**20 25 39.1**	**-0.1**
ELND	**Elena**	**6.75**	**33**	||P	**Pn**	**20 25 43.7**	**+1.6**
DIVS	**Divibare**	**6.79**	**354**	*e*Pn	**Pn**	**20 25 42.9**	**+0.2**
DIVS				*e*Sn	**Sn**	**20 26 56.1**	**-4.2**
GZR	**Gura Zlata**	**8.17**	**9**	⇑P	**Pn**	**20 26 02.0**	**+0.4**
BZS	**Buzias**	**8.29**	**3**	||P	**Pn**	**20 26 02.8**	**-0.4**
LOT	**Lotru**	**8.38**	**14**	⇑P	**Pn**	**20 26 06.0**	**+1.4**
ARR	**Arges**	**8.49**	**18**	⇑P	**Pn**	**20 26 08.0**	**+2.0**
VOIR		**8.67**	**20**	⇑P	**Pn**	**20 26 11.1**	**+2.6**
MLR	**Muntele Rosu**	**8.98**	**23**	Pn	**Pn**	**20 26 13.9**	**+1.2**
	comp=N,0.2nm,0.3s,baz=215,slow=7.7,SNR=3.8						
	comp=N,3.1nm,0.8s						
MLR	**Muntele Rosu**	**8.98**	**23**	⇑P	**Pn**	**20 26 17.2**	**+4.5**
PLOR	**Plostina**	**9.53**	**25**	||P	**Pn**	**20 26 24.3**	**+4.1**
CFR	**Carcaliu**	**9.53**	**32**	||P	**Pn**	**20 26 20.9**	**+0.8**
VRI	**Vrincioaia**	**9.56**	**25**	⇑P	**Pn**	**20 26 20.7**	**+0.1**
BRTR	**Keskin Array B**	**10.25**	**73**	Pn	**Pn**	**20 26 30.5**	**+0.3**
	comp=N,0.1nm,0.3s,baz=244,slow=11,SNR=4.1						
	comp=N,0.3nm,0.4s						
SOKA	**Soboth**	**10.30**	**337**	*i* Pn	**Pn**	**20 26 31.6**	**+0.7**
	comp=N,2.6nm,0.5s						
OBKA	**Obir**	**10.31**	**335**	*i* Pn	Pn	20 26 36.9	+5.9
	comp=N,4.4nm,0.7s						
ARSA	**Arzberg**	**10.68**	**340**	*i* Pn	**Pn**	**20 26 36.8**	**+0.9**
	comp=N,2.2nm,0.6s						
CONA	**Conrad Observa**	**11.22**	**342**	*i* Pn	**Pn**	**20 26 44.8**	**+1.5**
	comp=N,0.4nm,0.3s						
KBA	**Koelnbreinsper**	**11.23**	**332**	*i* Pn	**Pn**	**20 26 47.1**	**+3.5**
	comp=N,0.8nm,0.5s						
VYHS	**Vyhne**	**11.25**	**353**	*e*PN	**Pn**	**20 26 47.8**	**+4.0**
ABTA	**Abfaltersbach**	**11.28**	**329**	*e*Pn	Pn	20 26 51.4	+7.2
	comp=N,3.1nm,0.8s						
KOLS	**Kolonicke sedl**	**11.63**	**4**	*e*PN	**Pn**	**20 26 51.0**	**+2.0**
LESA	**Schwarzleotal**	**11.77**	**332**	*e*Pn	**Pn**	**20 26 52.6**	**+1.7**
	comp=N,1.4nm,0.4s						
VRAC	**Vranov**	**12.37**	**347**	LR	LR	20 32 09.8	
	comp=N,55nm,21.6s,baz=353,slow=40						
MMAI	**Mount Meron Ar**	**12.61**	**106**	Pn	**Pn**	**20 27 00.1**	**-2.4**
	comp=N,0.5nm,0.3s,baz=292,slow=12,SNR=5.5						
	comp=N,0.5nm,0.4s						
GERES	**GERESS Array B**	**12.64**	**338**	Pn	**Pn**	**20 27 04.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=153,slow=12,SNR=3.5						
	comp=N,0.8nm,0.6s						
AKASG	**Malin Array Be**	**14.62**	**21**	Pn	**Pn**	**20 27 28.6**	**-1.1**
	comp=N,0.8nm,0.3s,baz=208,slow=9.0,SNR=8.7						
	comp=N,0.3nm,0.5s						
NACGM	**Naroch**	**18.02**	**11**	*e*P	**Pn**	**20 28 13.5**	**+0.1**
	comp=Z,724nm,0.9s,baz=196						
HFS	**Hagfors**	**23.28**	**351**	P	**P**	**20 29 08.8**	**-1.7**
	comp=Z,4.2nm,0.8s,baz=150,slow=12,SNR=5.8						
	comp=Z,4.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.30**	**325**	P	**P**	**20 29 20.2**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=128,slow=8.4,SNR=9.6						
	comp=Z,2.5nm,0.6s						
FINES	**FINESS Array B**	**24.35**	**6**	P	**P**	**20 29 20.2**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=179,slow=8.9,SNR=5.6						
	comp=Z,2.4nm,0.8s						
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	**20 29 22.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=152,slow=11,SNR=4.6						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.58**	**221**	P	**P**	**20 30 09.8**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=35,slow=9.9,SNR=4.1						
	comp=Z,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**32.35**	**3**	P	**P**	**20 30 31.4**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=185,slow=9.2,SNR=4.0						
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**37.42**	**49**	P	**P**	**20 31 15.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=245,slow=6.4,SNR=4.0						
	comp=Z,0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**40.99**	**359**	P	**P**	**20 31 46.0**	**+0.3**
	comp=Z,12nm,0.9s,baz=191,slow=8.2,SNR=2.1						
	comp=Z,12nm,0.9s						
KURBB	**Kurchatov Arra**	**42.48**	**53**	P	**P**	**20 31 57.3**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=280,slow=8.6,SNR=4.3						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.48**	**58**	P	**P**	**20 32 21.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=270,slow=7.9,SNR=9.6						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.02**	**48**	P	**P**	**20 32 25.4**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=271,slow=8.3,SNR=4.8						
	comp=Z,0.7nm,0.5s						
TSUM	**Tsumeb**	**56.32**	**184**	LR	LR	20 58 29.3	
	comp=Z,76nm,18.4s,baz=24,slow=37						
CMAR	**Chiang Mai Arr**	**69.70**	**82**	P	**P**	**20 35 13.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=321,slow=4.5,SNR=1.6						
	comp=Z,0.3nm,0.5s						

---

*IDC **01** 20:28:22.5±5.8, 24°71N×140°59E, h0km, mb3.8/4, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=220.0km s-min=107.4km az=35.0*
*JMA **01** 20:29:39.7±0.5, 30°N±3°×13°9E±°, h435km, MV3.4/21, NEAR TORISHIMA IS*
ISC 01 20:29:43.6±2.4, 30°4N±0°2×139°0E±0°2, h450km, n13, σ0°89/18, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**4.46**	**335**	*e*P	**P**	**20 31 03.4**	**+0.7**
JKN2	**Miekihoku**	**4.50**	**330**	*e*P	**P**	**20 31 03.2**	**+0.1**
BSO1	**Boso 1**	**4.57**	**21**	*e*P	**P**	**20 31 02.6**	**-0.6**
BSO1				*e*S	**S**	**20 32 08.1**	**-0.1**
JOD2	**Odawara 2**	**4.87**	**1**	*e*P	**P**	**20 31 06.4**	**-0.2**
JOD2				*e*S	**S**	**20 32 15.0**	**+0.6**
JRY	**Ryogami san**	**5.62**	**359**	*e*P	**P**	**20 31 14.3**	**+0.3**
JRY				*e*S	**S**	**20 32 28.5**	**+0.6**
JAG	**Ashikaga**	**6.04**	**3**	P	**P**	**20 31 17.3**	**-0.9**
JAG				*e*S	**S**	**20 32 33.7**	**-1.9**
JHO	**Hitachi**	**6.35**	**11**	*e*P	**P**	**20 31 21.3**	**-0.1**
JHO				*e*S	**S**	**20 32 40.8**	**-0.6**
JMK	**Ichinoseki**	**8.74**	**11**	*e*P	**P**	**20 31 49.0**	**+2.1**
KSRS	**Korea Array**	**11.61**	**310**	Pn	**P**	**20 32 18.4**	**+0.3**
	0.3nm,0.3s,baz=126,slow=10,SNR=7.4						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**46.27**	**307**	P	**P**	**20 37 26.6**	**-0.5**
	0.2nm,0.4s,baz=90,slow=9.5,SNR=2.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**48.77**	**313**	P	**P**	**20 37 45.4**	**-0.5**
	0.3nm,0.3s,baz=90,slow=7.8,SNR=4.5						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**53.76**	**316**	P	**P**	**20 38 22.2**	**0.0**
	1.5nm,0.4s,baz=90,slow=7.3,SNR=13						
	1.5nm,0.4s						
FINES	**FINESS Array B**	**73.78**	**333**	P	**P**	**20 40 30.9**	**+0.4**
	2.0nm,0.9s,baz=46,slow=6.9,SNR=3.6						
	2.0nm,0.9s						

---

*NNC **01** 20:46:39.6±0.4, 44°55N×80°50E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=5.0km s-min=2.1km az=120.0*
*SOME **01** 20:46:40.2, 44°57N×80°52E, h20km*
ISC 01 20:46:41.1±1.4, 44°45N±0°04×80°57E±0°05, h12km±11km, n31, σ1°05/47, 9C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.57**	**259**	*e*P	**Pg**	**20 46 51.7**	**-0.6**
	38nm,0.1s						
DJR				*e*S	**Sg**	**20 46 59.8**	**0.0**
	221nm,0.3s						
PDGK	**Podgornoye**	**1.36**	**215**	⇑P	**Pn**	**20 47 06.2**	**+0.1**
	46nm,0.5s						
PDGK				⇑S	**Sg**	**20 47 25.6**	**+0.7**
	216nm,0.5s					

KST	**Kastek**	**3.62 249**	*e*P	**Pb**	**20 47 44.9**	**-0.2**
	5.7nm,0.4s					
KST			*e*S	**Sb**	**20 48 31.2**	**+2.1**
	16nm,0.5s					
TKM2	**Tokmak 2**	**3.92 249**	Pg	**Pb**	**20 47 51.3**	**+1.1**
	3.9nm,0.7s					
TKM2			⇓Lg	Lg	20 48 39.1	
	9.4nm,0.6s					
ZSN	**Zaisan**	**4.24 43**	*e*P	**Pb**	**20 47 55.3**	**-0.3**
	6.7nm,0.5s					
ZSN			*e*S	**Sb**	**20 48 48.8**	**+2.0**
	22nm,0.7s					
CHMS	**Chumysh**	**4.46 253**	Pg	**Pb**	**20 48 00.8**	**+1.5**
	3.3nm,0.8s					
CHMS			⇑Lg	Lg	20 49 00.3	
	3.8nm,0.3s					
KURBB	**Kurchatov Arra**	**6.33 348**	⇓Lg	Lg	20 49 55.2	
	22nm,0.7s					
KURK	**Kurchatov**	**6.41 349**	⇑Pg	**Pb**	**20 48 33.9**	**+1.4**
	4.1nm,1.2s					
KURK			⇑Lg	Lg	20 49 59.4	
	14nm,0.7s					
KK31	**Karatay Array**	**7.41 263**	⇑Lg	Lg	20 50 29.9	
	1.7nm,0.5s,baz=188,slow=84,SNR=7.3					

*NEIC **01** 20:49:01.8±0.6,39°.23N±0°.01×119°.59W±0°.01,h5km±2km, Error ellipse: s-maj=1.8km s-min=1.3km az=48.0*

REN 01 20:49:02.0±0.6,39°.223N±0°.009×119°.57W±0°.01, h7km±3km,ML1.9/11,ML1.7/28(NEIC),Error ellipse: s-maj=1.7km s-min=0.9km az=129.0,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNTR	**Pine Nut**	**0.14**	**189**		Pg	20 49 04.9	0.0
PNTR	**Pine Nut**	**0.14**	**189**		Sg	20 49 07.3	+0.2
PNTR				IAML		20 49 08.5	
	comp=N,358nm,0.7s						
PNTR				IAML		20 49 08.9	
	comp=E,371nm,0.5s						
YERR	**Yerington**	**0.35**	**133**		Pg	20 49 08.9	0.0
YERR					Sg	20 49 14.1	+0.6
YERR				IAML		20 49 14.8	
	comp=N,138nm,0.5s						
MPK	**Martis Peak**	**0.36**	**282**		Pg	20 49 09.3	+0.1
MPK					Sg	20 49 14.7	+0.7
MPK	**Martis Peak**	**0.36**	**282**	IAML		20 49 16.9	
	comp=N,142nm,0.3s						
PEAR	**Peavine Mounta**	**0.49**	**322**		Pg	20 49 11.5	0.0
PEAR					Sg	20 49 18.8	+0.8
PAHR	**Pah Rah Range**	**0.51**	**17**		Pg	20 49 11.7	-0.1
PAHR				IAML		20 49 19.0	
	comp=N,76nm,0.2s						
PAHR				IAML		20 49 19.0	
	comp=E,34nm,0.3s						
PAHR	**Pah Rah Range**	**0.51**	**17**		Sg	20 49 18.9	+0.5
DONR	**Donner Summit**	**0.59**	**283**		Pg	20 49 13.4	-0.1
DONR					Sg	20 49 21.6	+0.2
WAKR	**Walker**	**0.72**	**172**		Pg	20 49 15.9	0.0
WAKR	**Walker**	**0.72**	**172**	Sg	Sg	20 49 26.2	+0.8
BEKR	**Beckworth**	**0.89**	**317**		Pg	20 49 18.4	-0.6
BEKR					Sg	20 49 30.2	-0.3
RYN	**Ryan**	**1.01**	**126**		Pg	20 49 21.2	-0.2
RYN					Sb	20 49 35.1	-0.3
RYN				IAML		20 49 39.1	
	comp=E,26nm,0.5s						
AFDM	**Forest Hills D**	**1.12**	**256**		Pg	20 49 22.8	-0.7
AFDM	**Forest Hills D**	**1.12**	**256**	IAML		20 49 43.5	
	comp=E,13nm,0.6s						
AFDM				IAML		20 49 44.1	
	comp=N,9.2nm,0.5s						
NV09	**Mina Array Sit**	**1.25**	**129**		Pg	20 49 25.6	-0.3
NVAR	**Mina Array Bea**	**1.27**	**128**		Pn	20 49 25.4	-0.9
NV08	**Mina Array Sit**	**1.27**	**129**		Pn	20 49 25.7	-0.7
LHV	**Little Huntoon**	**1.28**	**139**		Pn	20 49 25.7	-0.5
CMB	**Columbia Colle**	**1.35**	**209**		Sb	20 49 43.6	-1.4
CMB				IAML		20 49 45.9	
	comp=E,8.6nm,0.1s						
CMB	**Columbia Colle**	**1.35**	**209**		Pn	20 49 26.8	-0.4
NV11	**Mina Array Sit**	**1.36**	**125**		Pn	20 49 27.1	-0.4
NV11				IAML		20 49 44.6	
	comp=E,8.7nm,4.4s						
NV11					Sn	20 49 46.6	+0.8
NV11				IAML		20 49 56.8	
	comp=N,8.9nm,4.8s						
ORV	**Oroville**	**1.53**	**283**		Pn	20 49 29.1	-0.6
ORV				IAML		20 49 47.4	
	comp=E,8.4nm,3.3s						
ORV				IAML		20 50 25.2	
	comp=N,6.8nm,0.2s						
MDPB	**Devils Pristol**	**1.63**	**166**		Pb	20 49 32.3	-0.2
DSP	**Deep Springs**	**2.24**	**145**	Pn	Pn	20 49 39.0	-0.4

IDC 01 20:53:23.4±4.1,22°.96S×178°.65W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=175.7km s-min=59.6km az=150.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.23**	**247**	P	P	21 00 27.3	-0.9
	0.6nm,0.4s,baz=88,slow=13,SNR=4.3						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**43.42**	**259**	P	P	21 01 27.9	-0.3
	0.5nm,0.4s,baz=93,slow=6.7,SNR=14						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.72**	**265**	P	P	21 01 31.2	+0.5
	1.7nm,0.3s,baz=100,slow=7.0,SNR=55						
	1.7nm,0.3s						
HFS	**Hagfors**	**141.86**	**350**	PKP	PKPdf	21 12 55.9	-0.7
	7.0nm,1.1s,baz=30,slow=2.8,SNR=5.7						
MMAI	**Mount Meron Ar**	**148.43**	**296**	PKPbc	PKPbc	21 13 12.0	-0.4
	0.2nm,0.3s,baz=86,slow=7.5,SNR=4.1						

IDC 01 21:17:16.7±1.7,6°.11S×142°.48E,h0km,mb3.4/1, mbtmp3.5/5,ML3.4/3,Error ellipse: s-maj=41.1km s-min=22.5km az=63.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.98**	**334**	Pn	Pn	21 18 21.1	+2.0
	1.7nm,0.3s,baz=172,slow=9.4,SNR=5.2						
JAY				Sn	Sn	21 19 07.8	+1.3
	2.4nm,0.3s,baz=162,slow=20,SNR=3.0						
	31nm,0.9s						
PMG	**Port Moresby**	**5.68**	**126**	Pn	Pn	21 18 43.2	+0.8
	15nm,0.8s,baz=319,slow=16,SNR=3.9						
PMG				Sn	Sn	21 19 47.6	-0.8
	0.5nm,0.3s,baz=267,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**15.87**	**209**	Pn	Pn	21 20 59.6	-1.9
	0.2nm,0.3s,baz=28,slow=14,SNR=6.8						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**19.31**	**204**	P	Pn	21 21 45.0	+0.5
	0.1nm,0.3s,baz=34,slow=9.9,SNR=11						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**74.76**	**322**	P	P	21 28 57.6	-1.1
	0.3nm,0.8s,baz=100,slow=7.5,SNR=2.4						
	0.3nm,0.8s						

ISC 01 21:19:55.7±1.1,61°.30N±0°.03×140°.87W±0°.04, h10km±11km,n12,σ0°.43/18,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.52**	**22**	P	**Pg**	**21 20 06.1**	**+0.2**
	baz=202,SNR=163						
YUK3				S	**Sg**	**21 20 13.2**	**+0.5**
	baz=202						
YUK8	**Steele Glacier**	**0.54**	**91**	P	**Pg**	**21 20 06.1**	**-0.1**
	baz=270,SNR=95						
YUK8				S	**Sg**	**21 20 13.7**	**+0.4**
	baz=270						
O28M	**Mount Upton**	**0.62**	**147**	P	**Pg**	**21 20 07.6**	**-0.2**
	baz=327						
O28M				S	**Sg**	**21 20 16.3**	**+0.3**
	baz=327						
YUK4	**Talbot Arm**	**1.07**	**86**	P	**Pb**	**21 20 16.6**	**+0.1**
	baz=263,SNR=24						
BVCY	**Beaver Creek**	**1.12**	**0**	P	**Pb**	**21 20 16.9**	**-0.3**
	baz=180						
M27K	**Edge Creek, AK**	**1.17**	**336**	P	**Pb**	**21 20 17.5**	**-0.6**
	baz=156,SNR=20						
M27K				S	**Sg**	**21 20 33.4**	**+0.1**
	baz=156						
M27K				S	**Sg**	**21 20 33.4**	**+0.1**
	baz=156						
MESA	**MESA**	**1.24**	**206**	Pb	**Pg**	**21 20 19.8**	**+0.2**
	baz=25,SNR=9.2						
MESA				S	**Sn**	**21 20 37.1**	**+0.9**
	baz=25						
PINM	**Pinnacle**	**1.24**	**166**	P	**Pn**	**21 20 19.0**	**-0.3**
	baz=346						
YUK6	**Outpost Mounta**	**1.27**	**105**	Pb	**Pn**	**21 20 19.2**	**-0.6**
	baz=287,SNR=20						
M26K	**Nabesna, AK**	**1.50**	**319**	Sb	**Sg**	**21 20 43.8**	**-0.1**
	baz=137						
O29M	**Mount Kennedy**	**1.50**	**131**	Sb	**Sg**	**21 20 43.6**	**-0.5**
	baz=312						
M29M	**Somme Creek**	**1.62**	**44**	Sb	**Sb**	**21 20 46.7**	**+0.4**
	baz=225						

*GCG **01** 21:20:15.8±1.8, 14°.61N×92°.46W,h70km±14km,MD3.7, Hypocentre not reviewed by the ISC*

MEX 01 21:20:15.6±1.3,14°.46N×92°.71W,h50km±39km,MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**44**	*e*P	Pn	21 20 27.1	-1.3
THIG				*e*S	Sn	21 20 34.7	-3.0
THIG		**0.62**	**44**	*e*P		21 20 27.1	
THIG				*e*S		21 20 36.5	
RTAL	**Retalhuleu**	**0.99**	**86**	*e*P	Pn	21 20 31.6	-1.6
RTAL				*e*S	Sn	21 20 43.1	-3.1
QUEO	**Labor Ovalle**	**1.23**	**70**	*e*P		21 20 34.7	
QUEO				*e*S		21 20 49.2	
SOKI	**Kika Raxquin**	**1.32**	**74**	*e*P		21 20 36.4	
SOKI				*e*S		21 20 52.8	
PCIG		**1.33**	**339**	*e*P	Pn	21 20 37.9	+0.1
PCIG				*e*S	Sn	21 20 53.5	-0.9
HUEH	**Huehuetenango**	**1.45**	**54**	*e*P	Pn	21 20 34.5	-5.2
HUEH				*e*S	Sn	21 20 52.8	-4.9
QUIS	**Sacapulas**	**1.77**	**62**	*e*S		21 21 02.4	
CCIG	**Comitan**	**1.90**	**17**	*e*P	Pn	21 20 43.9	-1.9
CCIG				*e*S	Sn	21 20 59.5	-9.1
CCIG	**Comitan**	**1.90**	**17**	*e*P		21 20 43.8	
TGIG		**2.34**	**350**	*e*P	Pn	21 20 52.0	+0.3
TGIG				*e*S	Sn	21 21 16.1	-3.2
NILT	**Santiago Nilte**	**2.78**	**319**	*e*P	Pn	21 20 59.0	+1.3
NILT				*e*S	Sn	21 21 29.2	-0.9
UXUV	**UXUV**	**3.16**	**334**	*e*P	Pn	21 21 03.5	+0.6
UXUV				*e*S	Sn	21 21 37.4	-2.0
CMIG	**Matias Romero**	**3.35**	**322**	*e*P	Pn	21 21 06.7	+1.2
CMIG				*e*S	Sn	21 21 41.9	-2.2
HUIG	**Huatulco**	**3.53**	**292**	*e*P	Pn	21 21 10.2	+2.3
HUIG				*e*S	Sn	21 21 45.1	-3.3
NEUV	**Arroyo Zacate**	**4.39**	**318**	*e*P	Pn	21 21 22.5	+2.8
NEUV				*e*S	Sn	21 22 04.7	-5.0
YOIG	**Yosondua**	**5.23**	**298**	*e*P	Pn	21 21 34.7	+3.2
YOIG				*e*S	Sn	21 22 30.4	-0.3
PNIG	**Pinotepa**	**5.56**	**291**	*e*S	Sn	21 22 38.3	-0.3
FTIG	**Fresnillo de T**	**6.23**	**304**	*e*S	Sn	21 22 55.7	+0.5
JAUV	**Jalcomulco**	**6.26**	**322**	*e*P	Pn	21 21 41.5	-3.9
JAUV				*e*S	Sn	21 22 53.7	-1.9

*BJI **01** 21:26:06.8,27°.09N×100°.90E,h12km,mB4.8/11,mb4.2/37, ML4.2/15,Ms4.1/32,Ms7 3.9/27*
*IDC **01** 21:26:06.7±0.7,27°.19N×101°.14E,h0km,mb4.0/12, mbtmp4.0/13,ML3.6/1,MS3.4/12,Error ellipse: s-maj=22.8km s-min=13.1km az=77.0*
*MOS **01** 21:26:08.1±1.0,27°.24N×100°.95E,h18km,mb4.3/21,Error ellipse: s-maj=10.3km s-min=7.3km az=109.9*
*NEIC **01** 21:26:10.2±2.0,27°.31N±0°.06×100°.89E±0°.09,h10km±1km, mb4.3/29,Error ellipse: s-maj=13.2km s-min=9.6km az=86.0*

ISC 01 21:26:09.2±0.4,27°.16N±0°.03×100°.91E±0°.04,h10km,n112, σ2°.39/120,mb4.2/40,MS3.5/12,9C-4D,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**0.99**	**131**	Pg	**Pg**	**21 26 24.6**	**-3.7**
PZH				Sg	**Sg**	**21 26 37.3**	**-3.9**
PZH				smax	smax		
	comp=N,3μm,1.1s						
PZH				smax	smax		
	comp=E,4μm,1.1s						
KMI	**Kunming**	**2.61**	**140**	⇓Pg	**Pn**	**21 26 52.8**	**+1.1**
KMI				Sg	**Sn**	**21 27 25.8**	**+2.2**
KMI				smax	smax		
	comp=N,1μm,1.0s						
KMI				smax	smax		
	comp=E,1μm,0.9s						
TNCH	**TengChong**	**3.02**	**226**	Pn	**Pn**	**21 26 57.4**	**+0.2**
TNCH				Pg	**Pb**	**21 27 03.2**	**+0.1**
TNCH				Sg	**Sg**	**21 27 44.3**	**-1.9**
TNCH				smax	smax		
	comp=N,2μm,1.6s						
TNCH				smax	smax		
	comp=E,2μm,1.9s						
CD2	**Chengdu**	**4.49**	**33**	Pn	**Pn**	**21 27 20.6**	**+3.2**
CD2				Pg	**Pb**	**21 27 30.4**	**+2.2**
CD2				Sg	**Sg**	**21 28 30.3**	**-3.2**
CD2				smax	smax		
	comp=N,630nm,1.4s						
CD2				smax	smax		
	comp=E,710nm,1.3s						
GYA	**Guiyang**	**5.19**	**96**	⇓Pn	**Pn**	**21 27 29.1**	**+2.0**
GYA				Sn	**Sn**	**21 28 34.5**	**+7.4**
GYA				smax	smax		
	comp=N,140nm,1.4s						
GYA				smax	smax		
	comp=E,150nm,1.5s						
SLVN	**Son La**	**6.41**	**154**	Pn	**Pn**	**21 27 45.4**	**+1.6**
SHL	**Shillong**	**8.25**	**261**	Pn	**Pn**	**21 28 07.8**	**-1.3**
SHL	**Shillong**	**8.25**	**261**	P	**Pn**	**21 28 07.8**	**-1.3**
CHTO	**Chiang Mai**	**8.50**	**193**		**Pn**	**21 28 16.1**	**+3.7**
CHTO	**Chiang Mai**	**8.50**	**193**	P	**Pn**	**21 28 16.1**	**+3.7**
PHRA	**Phrae**	**8.64**	**184**	Pn	**Pn**	**21 28 17.7**	**+3.4**
GULI	**GuiLin**	**8.70**	**100**	P	**Pn**	**21 28 15.8**	**+0.7**
GULI				S	**Sn**	**21 29 49.7**	**-3.5**
CMAR	**Chiang Mai Arr**	**8.85**	**192**	Pn	**Pn**	**21 28 16.9**	**-0.3**
	0.2nm,0.3s,baz=9.0,slow=13,SNR=11						
CMAR				Pg	Pg	21 28 47.6	-11
	0.5nm,0.3s,baz=14,slow=17,SNR=8.5						
CMAR				Lg	Lg	21 30 45.9	
	0.4nm,0.3s,baz=3.3,slow=28,SNR=8.5						
CMAR				LR	LR	21 32 15.5	
	comp=Z,35nm,18.6s,baz=0.0,slow=41						
	0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**8.85**	**192**	*i* P	**Pn**	**21 28 21.7**	**+4.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LSA	**Lhasa**	**8.95**	**289**	Pn	**Pn**	**21 28 18.4**	**-0.6**
LSA	**Lhasa**	**8.95**	**289**	P	**Pn**	**21 28 18.4**	**-0.6**
LZH	**Lanzhou**	**9.24**	**15**	*e*P	**Pn**	**21 28 27.5**	**+4.8**
LZH				pP		21 28 34.9	
LZH				pmax	pmax		
	comp=Z,16nm,1.6s						
LZH				LR	LR		
	comp=Z,750nm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,15.1s						
BRDH	**Bariadhala**	**9.52**	**244**	LR	LR	21 32 53.6	
	comp=Z,331nm,18.2s,baz=52,slow=42						
XAN	**Xi'an**	**9.73**	**43**	P	**Pn**	**21 28 31.1**	**+1.8**
XAN				S	**Sn**	**21 30 19.7**	**+1.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				LR	LR		
	comp=Z,2μm,10.7s						
XAN				LR	LR		
	comp=Z,1μm,11.2s						
XAN				LR	LR		
	comp=Z,530nm,8.8s						
GOMU	**GeErMu**	**10.39**	**332**	P	**Pn**	**21 28 40.1**	**+1.4**
GOMU				pP		21 28 43.7	
GOMU				sP		21 28 47.6	
GOMU				pmax	pmax		
	comp=Z,15nm,0.9s						
GOMU				LR	LR		
	comp=Z,680nm,8.6s						
GOMU				LR	LR		
	comp=Z,640nm,7.0s						
CNSH	**ChangSha**	**10.71**	**82**	P	**Pn**	**21 28 41.2**	**-1.5**
CNSH				S	**Sn**	**21 30 39.0**	**-3.6**
CNSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
QIZ	**Qiongzhong**	**11.53**	**133**	Pn	**Pn**	**21 28 56.0**	**+2.0**
QIZ	**Qiongzhong**	**11.53**	**133**	P	Pn	21 29 01.4	+7.4
QIZ				S	Sn	21 31 15.0	+12
QIZ				LR	LR		
	comp=N,970nm,12.9s						
QIZ				LR	LR		
	comp=E,850nm,12.5s						
QIZ				LR	LR		
	comp=Z,430nm,8.3s						
GTA	**Gaotai**	**12.25**	**356**	*e*P	**Pn**	**21 29 06.6**	**+2.7**
GTA				PP	**PnPn**	**21 29 19.2**	**+7.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				LR	LR		
	comp=Z,340nm,9.2s						
GTA				LR	LR		
	comp=Z,410nm,11.1s						
WHN	**Wuhan**	**12.26**	**71**	P	**Pn**	**21 29 02.7**	**-1.1**
WHN				pP		21 29 06.0	
WHN				sP		21 29 09.1	
WHN				S	**Sn**	**21 31 19.2**	**-1.3**
WHN				LR	LR		
	comp=Z,1μm,7.1s						
WHN				LR	LR		
	comp=Z,1μm,11.1s						
WHN				LR	LR		
	comp=Z,1μm,6.3s						
LYN	**LuoYang**	**12.36**	**51**	P	**Pn**	**21 29 04.0**	**-1.2**
LYN				pP		21 29 07.3	
LYN				S	**Sn**	**21 31 18.5**	**-4.6**
LYN				pmax	pmax		
	comp=Z,36nm,0.6s						
LYN				pmax	pmax		
	comp=Z,170nm,5.0s						
LYN				LR	LR		
	comp=Z,1μm,10.0s						
LYN				LR	LR		
	comp=Z,890nm,10.0s						
LYN				LR	LR		
	comp=Z,1μm,10.7s						
UBPT	**Khong Chiam**	**12.56**	**159**	Pn	**Pn**	**21 29 10.9**	**+2.9**
HKPS	**Hong Kong Po S**	**12.97**	**109**	Pn	**Pn**	**21 29 16.3**	**+2.6**
BTO	**Baotou**	**15.39**	**27**	*e*P	**Pn**	**21 29 49.4**	**+2.9**
BTO				pP	**P**	**21 29 53.4**	**+2.3**
BTO				PP	**sP**	**21 29 57.4**	**+0.9**
BTO				S	**S**	**21 32 46.8**	**-6.5**
BTO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,120nm,3.8s						
BTO				LR	LR		
	comp=Z,430nm,6.8s						
BTO				LR	LR		
	comp=Z,560nm,7.0s						
BTO				LR	LR		
	comp=Z,690nm,9.4s						
HNS	**HongShan**	**15.49**	**45**	⇓P	**Pn**	**21 29 50.1**	**+2.4**
HNS				*e*S	**Sn**	**21 32 43.7**	**+4.3**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HNS				LR	LR		
	comp=Z,880nm,12.7s						
HNS				LR	LR		
	comp=Z,290nm,9.6s						
HHC	**Hu-ho-hao-te**	**16.25**	**30**	*e*P	**P**	**21 30 01.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,96nm,4.4s						
TIA	**Tai'an**	**16.47**	**53**	P	**Pn**	**21 29 57.7**	**-2.7**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ	**Urumqi**	**19.76**	**331**	*e*P	**P**	**21 30 38.6**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT	**XiLinHaoTe**	**20.72**	**32**	*e*P	**P**	**21 30 45.1**	**-4.7**
XLT				sP	Pn	21 30 53.0	+0.9
XLT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**21.08**	**10**	P	**P**	**21 30 52.7**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=194,slow=12,SNR=5.7						
	comp=Z,1.8nm,0.9s						
ULN	**Ulaanbaatar**	**21.22**	**11**	P	**P**	**21 30 54.1**	**-1.2**
ULN	**Ulaanbaatar**	**21.22**	**11**	P	**P**	**21 30 54.1**	**-1.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
IPM	**Ipoh**	**22.55**	**180**	P	**P**	**21 31 11.4**	**+1.8**
IPM				IAmb	IAmb	21 31 12.2	
	comp=Z,11nm,1.1s						
WUS	**Wushi**	**22.68**	**314**	P	**P**	**21 31 09.2**	**-1.7**
WUS				IAmb	IAmb	21 31 27.1	
	comp=Z,13nm,1.0s						
ZAK	**Zakamensk**	**23.26**	**4**	*e*P	**P**	**21 31 18.0**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KSH	**Kashi**	**24.12**	**307**	P	**P**	**21 31 28.1**	**+2.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSH				LR	LR		
	comp=Z,550nm,18.9s						
KSH				LR	LR		
	comp=Z,340nm,11.3s						
KSH				LR	LR		
	comp=Z,240nm,15.1s						
PSI	**Prapat**	**24.30**	**185**	P	**P**	**21 31 27.8**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=16,slow=14,SNR=5.4						
	comp=Z,2.0nm,0.4s						
JOW	**Kunigami**	**24.37**	**84**	LR	LR	21 42 21.8	
	comp=Z,171nm,20.1s,baz=252,slow=40						
MK31	**Makanchi Array**	**24.49**	**328**	P	**P**	**21 31 27.7**	**-0.8**
MK31	**Makanchi Array**	**24.49**	**328**	P	**P**	**21 31 27.7**	**-0.8**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**24.49**	**328**	P	**P**	**21 31 28.6**	**0.0**
	comp=Z,3.5nm,0.6s,baz=132,slow=10,SNR=52						
MKAR				LR	LR	21 41 16.8	
	comp=Z,75nm,21.4s,baz=129,slow=37						
	comp=Z,3.5nm,0.6s						
MKAR	**Makanchi Array**	**24.49**	**328**	*ce*P	**P**	**21 31 29.1**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAKZ	**Makanchi**	**24.65**	**328**	P	**P**	**21 31 28.9**	**-1.1**
MAKZ	**Makanchi**	**24.65**	**328**	P	**P**	**21 31 28.9**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NIL	**Nilore**	**24.67**	**292**	P	**P**	**21 31 30.1**	**-0.2**
NIL	**Nilore**	**24.67**	**292**	P	**P**	**21 31 30.1**	**-0.2**
NIL				pmax	pmax		
	comp=Z,12nm,0.7s						
KSAR	**Wonju Array Be**	**24.93**	**59**	P	**P**	**21 31 31.0**	**-1.5**
KSAR	**Wonju Array Be**	**24.93**	**59**	P	**P**	**21 31 31.0**	**-1.5**
KS19	**Wonju Array Si**	**24.93**	**59**	P	**P**	**21 31 31.4**	**-1.1**
KS19				IAmb	IAmb	21 31 42.3	
	comp=Z,7.5nm,1.1s						
KSRS	**Korea Array**	**24.96**	**59**	P	**P**	**21 31 30.0**	**-2.8**
	comp=Z,2.5nm,0.5s,baz=247,slow=9.2,SNR=12						
KSRS				LR	LR	21 41 21.3	
	comp=Z,73nm,19.9s,baz=260,slow=37						
	comp=Z,2.5nm,0.5s						
GSI	**Gunungsitoli**	**25.91**	**188**	P	**P**	**21 31 44.5**	**+2.9**
HIA	**Hailar**	**26.43**	**28**	⇑*e*P	**P**	**21 31 46.4**	**+0.3**
HIA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
AAK	**Ala-Archa**	**26.46**	**313**	P	**P**	**21 31 46.7**	**+0.1**
AAK	**Ala-Archa**	**26.46**	**313**	LR	LR	21 43 20.9	
	comp=Z,141nm,18.6s,baz=140,slow=39						
AAK	**Ala-Archa**	**26.46**	**313**	P	**P**	**21 31 46.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BTK	**Batken**	**28.02**	**305**	P	**P**	**21 32 01.2**	**+0.6**
BTK				IAmb	IAmb	21 32 12.8	
	comp=Z,3.0nm,0.7s						
BTK	**Batken**	**28.02**	**305**	P	**P**	**21 32 01.2**	**+0.6**
BTK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KBL	**Kabul**	**28.25**	**293**	P	**P**	**21 32 02.2**	**-0.5**
KBL				IAmb	IAmb	21 32 08.9	
	comp=Z,6.7nm,0.9s						
KBL	**Kabul**	**28.25**	**293**	P	**P**	**21

CHGR pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 28.98 300 P **P** **21 32 09.0 +0.2**
comp=Z,2.3nm,0.7s,baz=144,slow=8.9,SNR=24
comp=Z,2.3nm,0.7s
SIMJ Simiganj 28.99 301 P **P** **21 32 09.2 0.0**
SIMJ IAmb IAmb 21 32 16.7
comp=Z,5.4nm,1.1s
KURK Kurchatov 29.00 330 P **P** **21 32 08.6 -0.4**
KURK IAmb IAmb 21 32 16.0
comp=Z,6.2nm,1.1s
KURK Kurchatov 29.00 330 *ce*P **P** **21 32 09.3 +0.3**
KURK pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 29.28 340 P **P** **21 32 10.6 -0.8**
ZAA0 IAmb IAmb 21 32 18.5
comp=Z,6.2nm,1.1s
ZALV Zalesovo Beam 29.28 340 P **P** **21 32 10.1 -1.3**
ZALV Zalesovo Beam 29.28 340 P **P** **21 32 10.5 -0.9**
comp=Z,0.8nm,0.4s,baz=148,slow=9.6,SNR=10
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 29.28 340 *i* P **P** **21 32 10.3 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
USA0B Ussuriysk Arra 30.20 48 P **P** **21 32 18.4 -1.3**
USA0B IAmb IAmb 21 32 18.7
comp=Z,6.2nm,0.9s
USA0B Ussuriysk Arra 30.20 48 P **P** **21 32 18.4 -1.3**
USA0B pmax pmax
comp=Z,6.0nm,1.0s
USRK Ussuriysk Ar. 30.20 48 P **P** **21 32 19.1 -0.6**
USRK Ussuriysk Ar. 30.20 48 P **P** **21 32 16.2 -3.5**
comp=Z,2.5nm,0.8s,baz=250,slow=8.3,SNR=12
comp=Z,2.5nm,0.8s
USRK Ussuriysk Ar. 30.20 48 P **P** **21 32 19.1 -0.6**
MJAR Matsushiro Arr 32.87 64 LR LR 21 47 10.2
comp=Z,75nm,19.9s,baz=211,slow=39
HRA Herat 33.84 292 P **P** **21 32 51.9 -0.1**
BVAR Borovoye Array 34.36 327 P **P** **21 32 56.0 -0.1**
comp=Z,1.8nm,0.7s,baz=116,slow=8.1,SNR=11
comp=Z,1.8nm,0.7s
LEM Lembang 34.40 168 LR LR 21 47 45.5
comp=Z,71nm,18.4s,baz=262,slow=38
BRVK Borovoye 34.43 327 P **P** **21 32 56.0 -0.7**
BRVK IAmb IAmb 21 33 01.9
comp=Z,3.2nm,0.8s
BRVK Borovoye 34.43 327 *ce*P **P** **21 32 57.1 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
ASAJ Asahikawa 37.42 52 LR LR 21 47 48.0
comp=Z,61nm,21.0s,baz=165,slow=35
ABKAR Akbulak array 38.39 316 P **P** **21 33 30.3 -0.2**
YAK Yakutsk 39.77 21 LR LR 21 52 43.8
comp=Z,32nm,19.9s,baz=108,slow=40
ARTI Arti 42.05 326 *c i* P **P** **21 33 59.4 -1.4**
ARTI S **S** **21 40 17.8 -2.0**
ARTI SS **SS** **21 43 17.7 -9.1**
ARTI pmax pmax
comp=Z,11nm,1.8s
NRIK Noril'sk 42.93 353⇑ *e*P **P** **21 34 07.0 -0.8**
NRIK pmax pmax
comp=Z,3.0nm,1.2s
BELG Belogornoye 46.74 318⇑ *e*P **P** **21 34 38.1 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 47.16 12⇑ *e*P **P** **21 34 43.8 +2.4**
TIXI pmax pmax
comp=Z,11nm,2.5s
KBZ Khabaz 49.08 306⇓ *e*P **P** **21 34 56.8 +0.1**
KBZ pmax pmax
comp=Z,11nm,3.1s
KIV Kislovodsk 49.24 306 *e*P **P** **21 34 56.0 -2.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,46nm,17.0s
FITZ Fitzroy Crossi 50.99 149 LR LR 22 01 58.4
comp=Z,75nm,18.2s,baz=262,slow=42
WB0 Warramunga Arr 56.83 142 P **P** **21 35 52.6 -1.4**
WRA Warramunga Arr 56.94 142 P **P** **21 35 53.5 -1.3**
comp=Z,1.8nm,0.7s,baz=330,slow=7.8,SNR=22
comp=Z,1.8nm,0.7s
WB2 Warramunga Arr 56.94 142 P **P** **21 35 53.9 -1.0**
NACGM Naroch 59.24 320 *e*P P 21 36 15.9 +5.3
comp=Z,583nm,0.9s,baz=86
FINES FINESS Array B 59.32 327 P **P** **21 36 10.6 -0.4**
comp=Z,1.1nm,0.6s,baz=18,slow=4.8,SNR=1.2
comp=Z,1.1nm,0.6s
ASAR Alice Springs 59.74 145 P **P** **21 36 13.3 -1.1**
comp=Z,1.5nm,0.6s,baz=325,slow=6.6,SNR=25
comp=Z,1.5nm,0.6s
NWAO Narrogin (SRO) 61.74 164 LR LR 22 04 15.8
comp=Z,72nm,20.7s,baz=220,slow=37
NC602 NORSAR Array S 66.40 328 P **P** **21 36 58.9 +0.7**
C16K Lisburne Hills 66.44 24 P **P** **21 36 58.5 +0.2**
C16K IAmb IAmb 21 37 09.6
comp=Z,3.5nm,1.1s
NC204 NORSAR Array S 66.64 328 P **P** **21 37 01.1 +1.3**
C18K Utukok River 67.81 23 P **P** **21 37 07.0 -0.1**
C18K IAmb IAmb 21 37 17.5
comp=Z,2.8nm,1.0s
D19K Kuna River 68.93 23 P **P** **21 37 13.4 -0.7**
D19K IAmb IAmb 21 37 20.2
comp=Z,4.1nm,1.1s
E19K Redstone River 69.61 24 P **P** **21 37 17.0 -1.3**
E19K IAmb IAmb 21 37 31.7
comp=Z,2.1nm,1.0s
J16K Anvik River 69.78 28 P **P** **21 37 20.4 +1.0**
H18K Honhosa River 70.04 26 P **P** **21 37 22.1 +1.1**
YKA Yellowknife Ar 86.25 16 P **P** **21 38 48.1 -2.7**
comp=Z,0.5nm,0.8s,baz=322,slow=4.4,SNR=7.6
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 86.25 16 *ce*P **P** **21 38 54.5 +3.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s

*IDC **01** 21:33:10.5±11.0, 8°.89N×93°.64E, h0km, mb3.5/5, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=209.8km s-min=68.3km az=163.0*

ISC 01 21:33:16.1±11.0, 9°N±1°×93°.6E±0°.7, h23km, n6, σ9°62/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.61**	**29**	Pn	**Pn**	**21 35 47.0**	**+0.2**
	0.2nm,0.3s,baz=219,slow=14,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**38.74**	**348**	P	**P**	**21 40 38.0**	**-0.7**
	0.2nm,0.4s,baz=168,slow=8.7,SNR=7.2						
	0.2nm,0.4s						
SONM	**Songino Array**	**40.06**	**13**	P	**P**	**21 40 49.7**	**0.0**
	0.4nm,0.3s,baz=198,slow=6.3,SNR=1.9						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**43.20**	**346**	P	**P**	**21 41 14.9**	**-0.3**
	0.1nm,0.3s,baz=151,slow=8.5,SNR=3.3						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**45.24**	**353**	P	**P**	**21 41 31.1**	**-0.4**
	0.5nm,0.4s,baz=158,slow=9.3,SNR=4.5						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**47.63**	**341**	P	**P**	**21 41 51.0**	**+0.6**
	0.3nm,0.4s,baz=148,slow=9.6,SNR=2.3						
	0.3nm,0.4s						

RSNC 01 21:33:23.5±0.0, 7°N±1°×7°3W±°, h146km±1km, M3.0, mb3.6, ML2.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**183**	P	Pn	21 33 43.1	-0.6
BARC				S	Sn	21 33 58.0	-1.1
BRJC	**Barrancabermej**	**0.59**	**284**	P	Pn	21 33 44.7	-0.2
BRJC				S	Sn	21 34 01.3	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**43**	P	Pn	21 33 45.9	-0.2
PAMC				S	Sn	21 34 02.9	-0.3
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	21 33 47.0	-0.9
RUSC				S	Sn	21 34 05.4	-1.1
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	21 33 49.5	-1.3
PTBC				S	Sn	21 34 10.7	-1.0
OCAC	**Ocana**	**1.41**	**354**	P	Pn	21 33 51.2	-0.8
OCAC				S	Sn	21 34 12.4	-1.4
TAMC	**Tame, Arauca**	**1.43**	**106**	P	Pn	21 33 51.5	-0.5
TAMC				S	Sn	21 34 13.2	-0.6
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	21 33 52.0	-0.6
SPBC				S	Sn	21 34 14.0	-0.9
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P	Pn	21 33 55.6	-0.5
ZARC				S	Sn	21 34 20.9	-0.2
NORC	**Norcasia**	**2.11**	**233**	P	Pn	21 33 58.9	-0.8
NORC				S	Sn	21 34 26.6	-0.9
CHIC	**Chingaza**	**2.26**	**194**	P	Pn	21 34 01.2	-0.7
CHIC				S	Sn	21 34 30.6	-0.8
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	21 34 02.7	+0.5
ROSC				S	Sn	21 34 32.1	+0.2
UREC	**San Jos de Ur**	**2.52**	**291**	P	Pn	21 34 03.5	-1.2
UREC				S	Sn	21 34 34.0	-2.4
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	21 34 08.1	+0.7
GUY2C				S	Sn	21 34 42.5	+1.2
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	21 34 06.6	-1.1
VILC				S	Sn	21 34 41.4	-0.4
RECRC	**Villamaria, Ca**	**2.86**	**230**	P	Pn	21 34 11.3	+1.9
RECRC				S	Sn	21 34 46.6	+1.8
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	21 34 09.5	-0.1
NIZA				S	Sn	21 34 46.2	+1.1
CBOC	**Ciudad Bolivar**	**2.98**	**251**	P	Pn	21 34 11.0	+0.3
CBOC				S	Sn	21 34 47.2	+0.1
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	21 34 10.9	-0.2
DBBC				S	Sn	21 34 47.3	-0.6
ARGC	**Ariguani, Magd**	**3.19**	**341**	P	Pn	21 34 14.8	+1.6
ARGC				S	Sn	21 34 51.5	-0.2
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	21 34 14.7	+0.9
ANIL				S	Sn	21 34 52.5	-0.1
SDV	**Santo Domingo**	**3.24**	**51**	P	Pn	21 34 12.7	-1.3
SDV				S	Sn	21 34 50.9	-2.1
PRAC	**Prado**	**3.54**	**209**	P	Pn	21 34 17.1	-0.6
PRAC				S	Sn	21 34 59.8	+0.1
APAC	**Apartado, Choc**	**3.54**	**288**	P	Pn	21 34 16.4	-1.3
APAC				S	Sn	21 34 59.5	-0.3
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	21 34 17.4	-0.6
ORTC				S	Sn	21 35 01.0	+0.7
SJCC	**San Jacinto, C**	**3.64**	**327**	P	Pn	21 34 17.3	-1.7
SJCC				S	Sn	21 34 59.6	-2.5
PLMC	**San Jos del P**	**3.64**	**238**	P	Pn	21 34 16.7	-2.3
PLMC				S	Sn	21 35 02.1	0.0
LCBC	**Los crdobas,**	**3.75**	**303**	P	Pn	21 34 19.8	-0.7
LCBC				S	Sn	21 35 03.7	-0.9
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	21 34 19.8	-0.8
URMC				S	Sn	21 35 04.1	-0.8
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	21 34 23.7	-2.3
CRJC				S	Sn	21 35 12.1	-2.6
YOTC	**Yotoco, Valle**	**4.24**	**228**	P	Pn	21 34 28.1	+1.1
YOTC				S	Sn	21 35 16.2	-0.1
GUVC	**San Jose del G**	**4.29**	**173**	P	Pn	21 34 28.0	+0.5
GUVC				S	Sn	21 35 17.3	-0.1
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	21 34 28.1	-1.2
SMRC				S	Sn	21 35 17.0	-3.6
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	21 34 33.5	-3.1
URIC				S	Sn	21 35 33.6	0.0
FLOC	**Florencia**	**5.77**	**206**	P	Pn	21 34 46.3	-0.9
FLOC				S	Sn	21 35 53.5	+0.9

MEX 01 21:33:46.5, 30°.82N×114°.28W, h10km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.54**	**294**	*e*S	Sb	21 34 05.9	+0.1
SFX	**San Felipe**	**0.54**	**294**	*e*P	Pg	21 33 56.9	-0.1
LAPR	**La Primavera**	**1.72**	**100**	*e*P	Pn	21 34 14.9	-1.7
MBIG	**Mexicali**	**1.77**	**334**	*e*P	Pn	21 34 14.9	-2.3
CBX	**Cerro Bola**	**2.52**	**307**	*e*S	Sn	21 34 54.7	-3.8
CBX	**Cerro Bola**	**2.52**	**307**	*e*P	Pn	21 34 19.8	-7.9
TUC	**Tucson**	**3.34**	**63**	*e*P	Pn	21 34 36.6	-2.2

ECX 01 21:34:15.3±0.2, 31°.47N×114°.36W, h20km±5km, ML3.2, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDOMX	**El Doctor, EDO**	**0.59**	**326**	*e*P	Pb	21 34 26.0	-1.0
EDOMX				*e*S	Sb	21 34 34.2	-0.7
SFX	**San Felipe**	**0.60**	**225**	*e*P	Pb	21 34 26.1	-1.1
SFX				*e*S	Sb	21 34 34.7	-0.6
SFX				⇑*e*		21 34 35.3	
SFX				IAML		21 34 35.3	
	comp=N,1μm,0.5s						
PPXB	**Puerto Peasco**	**0.63**	**102**	*e*P	Pb	21 34 26.6	-1.1
PPXB				*e*S	Sb	21 34 35.5	-0.6
PIX	**Pinacate**	**0.77**	**83**	*e*P	Pb	21 34 28.8	-1.2
PIX				*e*S	Sb	21 34 39.5	-0.6
PIX				⇓*e*		21 34 40.5	
PIX				IAML		21 34 40.5	
	comp=N,705nm,0.4s						
SPIG	**San Pedro Mart**	**1.04**	**246**	*e*P	Pb	21 34 33.4	-1.4
SPIG				*e*S	Sb	21 34 47.6	-0.6

*ECX **01** 21:34:48.9±0.3, 31°.46N×114°.36W, h20km±5km, ML3.2*

ISC 01 21:34:48.3±1.2, 31°.45N±0°.05×114°.39W±0°.03, h15km±13km, n10, σ1°30/16, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.56**	**224**	*e*P	**Pg**	**21 34 59.5**	**+0.1**
SFX				*e*S	**Sb**	**21 35 08.3**	**+0.6**
SFX	**San Felipe**	**0.56**	**224**	*e*P	**Pg**	**21 34 59.5**	**+0.1**
SFX				*e*S	**Sb**	**21 35 08.1**	**+0.4**
SFX				IAML		21 35 08.8	
	comp=N,2μm,0.4s						
SFX				⇑*e*		21 35 08.8	
EDOMX	**El Doctor, EDO**	**0.59**	**330**	*e*P	**Pg**	**21 34 59.6**	**-0.4**
EDOMX				*e*S	**Sg**	**21 35 08.1**	**+0.2**
PPXB	**Puerto Peasco**	**0.66**	**99**	*e*P	**Pb**	**21 35 00.2**	**-1.2**
PPXB				*e*S	**Sb**	**21 35 09.1**	**-1.2**
PIX	**Pinacate**	**0.80**	**82**	*e*P	**Pb**	**21 35 02.4**	**-1.5**
PIX				*e*S	**Sb**	**21 35 13.1**	**-1.5**
PIX				IAML		21 35 14.0	
	comp=E,540nm,0.2s						
PIX				*e*		21 35 14.0	
SPIG	**San Pedro Mart**	**1.00**	**247**	*e*P	**Pb**	**21 35 06.9**	**-0.6**
SPIG				*e*S	**Sb**	**21 35 21.0**	**+0.3**
SPIG				*e*		21 35 21.8	
SPIG				IAML		21 35 21.8	
	comp=N,228nm,0.4s						
MBIG	**Mexicali**	**1.18**	**325**	*e*P	Pg	21 35 18.6	+7.6
LAPR	**La Primavera**	**2.01**	**117**	*e*S	**Sb**	**21 35 50.5**	**+1.1**
CBX	**Cerro Bola**	**2.12**	**295**	*e*P	**Pn**	**21 35 22.9**	**-0.3**
TUC	**Tucson**	**3.19**	**73**	*e*P	**Pb**	**21 35 47.2**	**+2.6**
TUC				*e*S	**Sb**	**21 36 25.2**	**+1.9**

NOU 01 21:36:13.2, 21°.84S×169°.61E, h0km, MLv3.6/13, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.51**	**283**	P	Pn	21 36 40.0	-1.5
MARNC	**Mare, Loyalty**	**1.51**	**283**	S	Sg	21 37 01.1	-0.7
YATNC	**Mamie plateau,**	**2.53**	**265**	P	Pn	21 36 54.8	-0.8
YATNC	**Mamie plateau,**	**2.53**	**265**	S	Sn	21 37 27.3	+0.1
OUENC	**Ouen Island, N**	**2.63**	**257**	P	Pn	21 36 57.0	+0.1
OUENC	**Ouen Island, N**	**2.63**	**257**	S	Sn	21 37 30.4	+0.8
DZM	**Mont Dzumac**	**2.95**	**265**	P	Pn	21 37 01.5	+0.1
DZM	**Mont Dzumac**	**2.95**	**265**	S	Sn	21 37 38.1	+0.5
ONTNC	**Ouen Toro**	**2.96**	**260**	P	Pn	21 37 01.7	+0.2
ONTNC	**Ouen Toro**	**2.96**	**260**	S	Sn	21 37 37.5	-0.3
DVP	**Devils Point**	**4.31**	**342**	P	Pn	21 37 21.0	+1.0
KOUNC	**Koumac, New Ca**	**5.13**	**284**	P	Pn	21 37 31.6	+0.3

*IDC **01** 21:36:33.5±1.3, 7°.99S×158°.45E, h0km, mb3.7/5, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=30.3km s-min=28.5km az=137.0*

*NEIC **01** 21:36:34.6±1.6, 8°.10S±0°.09×158°.6E±0°.1, h10km±1km, mb4.4/20, Error ellipse: s-maj=22.4km s-min=10.6km az=232.0*

ISC 01 21:36:34.2±0.8, 8°.1S±0°.1×158°.56E±0°.10, h10km, n32, σ0°84/28, mb4.3/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.89**	**133**	Pn	**Pb**	**21 37 09.2**	**+0.5**
HNR				Sn	**Sn**	**21 37 30.5**	**+0.2**
HNR	**Honiara**	**1.89**	**133**	Pn	**Pb**	**21 37 09.7**	**+0.9**
	89nm,0.3s,baz=199,slow=9.5,SNR=22						
HNR				Sn	**Sn**	**21 37 30.3**	**0.0**
	344nm,0.3s,baz=308,slow=19,SNR=31						
	159nm,0.3s						
ARMA	**Armidale**	**23.10**	**195**	P	**P**	**21 41 40.0**	**-0.4**
LHI	**Lord Howe Isla**	**23.27**	**179**	P	**P**	**21 41 41.8**	**-0.2**
LHI				IAmb	IAmb	21 41 42.7	
	comp=Z,37nm,1.1s						
FUTU	**Fugatoga**	**23.67**	**107**	P	**P**	**21 41 45.5**	**-0.7**
WR0	**Warramunga Arr**	**26.05**	**241**	P	**P**	**21 42 08.2**	**+0.2**
WR0				IAmb	IAmb	21 42 20.9	
	comp=Z,4.4nm,0.6s						
WB0	**Warramunga Arr**	**26.10**	**241**	P	**P**	**21 42 10.1**	**+1.6**
WB0				IAmb	IAmb	21 42 11.3	
	comp=Z,5.6nm,0.9s						
WRAB	**Tennant Creek**	**26.20**	**241**	P	**P**	**21 42 07.9**	**-1.5**
WRAB				IAmb	IAmb	21 42 08.2	
	comp=Z,7.8nm,1.1s						
WB2	**Warramunga Arr**	**26.21**	**241**	P	**P**	**21 42 09.5**	**+0.1**
WB2				IAmb	IAmb	21 42 29.2	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**26.22**	**241**	P	**P**	**21 42 11.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=65,slow=9.1,SNR=9.5						
	comp=Z,0.4nm,0.3s						
MTN	**Manton Dam**	**27.36**	**258**	P	**P**	**21 42 19.2**	**-0.6**
MTN				IAmb	IAmb	21 42 36.7	
	comp=Z,14nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**27.65**	**17**	T	T	22 11 09.7	
	baz=196,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**27.65**	**17**	T	T	22 11 15.1	
	baz=196,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**27.67**	**17**	T	T	22 11 05.5	
	baz=196,slow=76,SNR=37						
ASAR	**Alice Springs**	**28.22**	**234**	P	**P**	**21 42 28.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=63,slow=9.4,SNR=9.0						
	comp=Z,0.5nm,0.6s						
STKA	**Stephens Creek**	**28.41**	**211**	P	**P**	**21 42 29.1**	**+0.1**
STKA	**Stephens Creek**	**28.41**	**211**	P	**P**	**21 42 28.6**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=42,slow=14,SNR=2.4						
	comp=Z,1.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**28.86**	**16**	T	T	22 12 45.8	
	baz=196,slow=76,SNR=44						
H11N3	**WAKE ISLAND Hy**	**28.87**	**16**	T	T	22 12 37.8	
	baz=196,slow=76,SNR=39						
H11N2	**WAKE ISLAND Hy**	**28.88**	**16**	T	T	22 12 38.7	
	baz=196,slow=76,SNR=32						
KNRA	**Kununurra**	**30.07**	**253**	P	**P**	**21 42 44.5**	**+0.5**
KNRA				IAmb	IAmb	21 42 48.1	
	comp=Z,6.1nm,1.1s						
RAO	**Raoul Island**	**30.50**	**137**	P	**P**	**21 42 46.9**	**-0.8**
TOO	**Toolangi**	**31.61**	**200**	P	**P**	**21 42 56.3**	**-1.1**
BBOO	**Buckleboo**	**32.21**	**217**	P	**P**	**21 43 02.3**	**-0.3**
BBOO				IAmb	IAmb	21 43 14.8	
	comp=Z,7.7nm,1.1s						
FITZ	**Fitzroy Crossi**	**33.49**	**249**	P	**P**	**21 43 14.7**	**+0.7**
PTCN	**Pitcairn Islan**	**69.73**	**114**	P	**P**	**21 47 45.2**	**+0.2**
E19K	**Redstone River**	**81.73**	**16**	P	**P**	**21 48 54.1**	**+1.5**
E19K				IAmb	IAmb	21 49 10.0	
	comp=Z,2.6nm,1.1s						
PAX	**Paxson**	**82.64**	**22**	P	**P**	**21 48 56.5**	**-1.2**
PAX				IAmb	IAmb	21 49 03.2	
	comp=Z,2.9nm,1.1s						
ILAR	**Eielson Array**	**83.16**	**21**	P	**P**	**21 49 00.6**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=237,slow=4.9,SNR=1.7						
	comp=Z,0.2nm,0.4s						
J25K	**Salcha River,**	**83.61**	**21**	P	**P**	**21 49 02.9**	**+0.3**
S32K	**Killisnoo**	**84.73**	**30**	P	**P**	**21 49 07.7**	**-0.6**
MKAR	**Makanchi Array**	**86.60**	**318**	P	**P**	**21 49 18.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=100,slow=5.7,SNR=5.8						
	comp=Z,0.3nm,0.5s						

*ATH **01** 21:43:27.4, 37°.25N×20°.84E, h15km±2km, ML3.4/14, Error ellipse: s-maj=4.4km s-min=1.3km az=22.0*

*TIR **01** 21:43:27.8, 37°.62N×22°.09E, h18km±31km, Md3.5/5, Ml3.1/5*

*THE **01** 21:43:27.7, 37°.30N×20°.92E, h0km±1km, ML3.3/9, Error ellipse: s-maj=2.4km s-min=0.7km az=208.0*

*IDC **01** 21:43:28.7±4.5, 37°.39N×21°.39E, h0km, mb3.8/8, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=88.3km s-min=25.2km az=26.0*

ISC 01 21:43:25.5±1.8, 37°.18N±0°.07×20°.87E±0°.04, h7km±9km, n57, σ1°25/77, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.53**	**358**	P	**Pb**	**21 43 36.4**	**-0.7**
LTHK				S	**Sg**	**21 43 41.9**	**-0.7**
LTHK	**Lithakia**	**0.53**	**358**	P	**Pg**	**21 43 36.1**	**+0.4**
LTHK				S	**Sg**	**21 43 43.0**	**+0.4**
LTHK				AML	AML	21 43 47.7	
	comp=N,11799μm,0.4s						
LTHK				AML	AML	21 43 51.6	
	comp=E,10680μm,0.4s						
KYPS	**Kipseli, Zakin**	**0.64**	**357**	P	**Pb**	**21 43 38.6**	**-0.3**
KYPS				S	**Sg**	**21 43 46.9**	**+0.9**
ORTH	**Orthonies,Zaky**	**0.68**	**349**	P	**Pb**	**21 43 39.2**	**-0.6**
ORTH				S	**Sg**	**21 43 47.7**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.74**	**17**	P	**Pg**	**21 43 40.1**	**+0.3**
CLEM				S	**Sg**	**21 43 49.9**	**+0.6**
CLEM				AML	AML	21 43 56.3	
	comp=E,24800μm,0.4s						
CLEM				AML	AML	21 44 00.4	
	comp=N,21854μm,0.5s						
AMT	**Artemida-Makis**	**0.76**	**62**	P	**Pn**	**21 43 41.6**	**-1.1**
AMT				AML	AML	21 43 57.0	
	comp=E,41556μm,0.5s						
AMT				AML	AML	21 43 58.6	
	comp=N,26439μm,0.4s						
ITM	**Ithomi**	**0.85**	**90**	P	**Pn**	**21 43 43.5**	**-0.4**
ITM				S	**Sn**	**21 43 55.4**	**-1.3**
	comp=N,3μm,0.5s						
ITM	**Ithomi**	**0.85**	**90**	P	**Pn**	**21 43 44.0**	**+0.1**
ITM				AML	AML	21 44 03.7	
	comp=E,6194μm,0.6s						
ITM				AML	AML	21 44 03.8	
	comp=N,5912μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.89**	**355**	P	**Pb**	**21 43 42.8**	**-0.6**
RTZL				S	**Sb**	**21 43 54.7**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.96**	**347**	P	**Pg**	**21 43 44.1**	**+0.2**
PSDA				S	**Sb**	**21 43 57.0**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.96**	**347**	P	**Pg**	**21 43 44.1**	**+0.2**
RLS	**Riolos of Patr**	**0.99**	**28**	P	**Pb**	**21 43 44.5**	**-0.6**
RLS				S	**Sb**	**21 43 57.4**	**-1.0**
	comp=N,1μm,0.4s						
RLS	**Riolos of Patr**	**0.99**	**28**	P	**Pb**	**21 43 44.5**	**-0.6**
RLS				AML	AML	21 44 01.7	
	comp=E,2497μm,0.4s						
RLS				AML	AML	21 44 02.8	
	comp=N,2498μm,0.4s						
VLS	**Valsamata**	**1.02**	**348**	P	**Pb**	**21 43 44.5**	**-1.0**
VLS				S	**Sb**	**21 43 58.1**	**-1.0**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**1.02**	**348**	P	**Pn**	**21 43 44.8**	**-1.5**
VLS				AML	AML	21 44 02.8	
	comp=E,2952μm,0.3s						
VLS				AML	AML	21 44 04.5	
	comp=N,3769μm,0.4s						
DRO	**Drossia**	**1.02**	**41**	P	**Pb**	**21 43 44.9**	**-0.7**
DRO				S	**Sb**	**21 43 57.9**	**-1.3**
	comp=N,4μm,0.5s						
DRO	**Drossia**	**1.02**	**41**	P	**Pg**	**21 43 45.2**	**0.0**
DRO				AML	AML	21 44 06.0	
	comp=E,8986μm,0.5s						
DRO				AML	AML	21 44 08.0	
	comp=N,8248μm,0.5s						
SMHA	**Samh**	**1.08**	**351**	P	**

GUR	**Goura**	**1.39**	**57**	P	**Pg**	**21 43 52.1**	**-0.1**
GUR				AML	AML	21 44 18.8	
	comp=N,3398μm,0.8s						
GUR				AML	AML	21 44 21.6	
	comp=E,2382μm,0.5s						
EVGI	**Lefkada island**	**1.45**	**353**	P	**Pb**	**21 43 52.5**	**-0.3**
EVGI				S	**Sb**	**21 44 12.2**	**+0.8**
	comp=E,572nm,0.2s						
EVGI	**Lefkada island**	**1.45**	**353**	P	**Pb**	**21 43 52.4**	**-0.4**
EFP	**Efpalio**	**1.49**	**33**	P	**Pb**	**21 43 53.1**	**-0.5**
EFP				AML	AML	21 44 23.8	
	comp=N,1163μm,0.9s						
EFP				AML	AML	21 44 25.7	
	comp=E,1144μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.52**	**351**	P	**Pg**	**21 43 54.0**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.53**	**355**	P	**Pb**	**21 43 53.3**	**-1.0**
NYDR				S	**Sb**	**21 44 15.3**	**+1.4**
	comp=E,360nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.53**	**355**	P	**Pb**	**21 43 53.7**	**-0.6**
KALE	**Kalithea**	**1.57**	**40**	P	**Pb**	**21 43 54.8**	**-0.2**
KALE				AML	AML	21 44 25.9	
	comp=E,1636μm,0.4s						
KALE				AML	AML	21 44 26.4	
	comp=N,954μm,0.5s						
LKD2	**Lefkada island**	**1.61**	**354**	P	**Pg**	**21 43 56.2**	**-0.3**
LKD2				S	**Sg**	**21 44 21.4**	**+4.1**
LKD2				AML	AML	21 44 32.5	
	comp=N,2.7nm,0.5s						
LKD2				AMd		21 45 03.2	
LKD2	**Lefkada island**	**1.61**	**354**	P	**Pb**	**21 43 55.6**	**-0.1**
LKD2				S	**Sb**	**21 44 17.0**	**+0.8**
	comp=N,758nm,0.5s						
LKD2	**Lefkada island**	**1.61**	**354**	P	**Pb**	**21 43 55.0**	**-0.7**
LKD2				AML	AML	21 44 22.8	
	comp=E,1631μm,0.5s						
LKD2				AML	AML	21 44 32.5	
	comp=N,1400μm,0.5s						
ANX	**Ano Chora**	**1.64**	**30**	P	**Pb**	**21 43 56.4**	**+0.2**
ANX				AML	AML	21 44 23.9	
	comp=E,2066μm,0.5s						
ANX				AML	AML	21 44 25.2	
	comp=N,2126μm,0.5s						
TSLK	**Tsoukalades, L**	**1.65**	**354**	P	**Pb**	**21 43 56.0**	**-0.3**
TSLK				AML	AML	21 44 29.5	
	comp=N,1594μm,0.9s						
TSLK				AML	AML	21 44 30.7	
	comp=E,1153μm,0.5s						
MAKR	**Makrakomi, Fth**	**2.08**	**28**	P	**Pb**	**21 44 04.0**	**+0.3**
AXAR	**Agios Charalam**	**2.12**	**41**	P	**Pb**	**21 44 04.9**	**+0.5**
IGT	**Igoumenitsa**	**2.38**	**350**	P	**Pg**	**21 44 10.0**	**-1.2**
IGT				S	**Sb**	**21 44 41.0**	**+2.5**
IGT				AML	AML	21 44 47.1	
	comp=E,0.3nm,0.6s						
IGT				AMd		21 45 38.2	
IGT	**Igoumenitsa**	**2.38**	**350**	P	**Pb**	**21 44 07.3**	**-1.5**
SRN	**Sarande**	**2.78**	**346**	P	**Pb**	**21 44 16.2**	**+0.7**
SRN				S	**Sg**	**21 44 53.0**	**-1.7**
SRN				AML	AML	21 45 11.0	
	comp=E,0.3nm,1.2s						
SRN				AMd		21 45 47.8	
LSK	**Leskovik**	**2.97**	**356**	P	**Pb**	**21 44 15.4**	**-3.4**
LSK				S	**Sn**	**21 44 51.8**	**+2.7**
LSK				AMd		21 45 58.4	
NEST	**Nestorio**	**3.23**	**2**	P	**Pb**	**21 44 20.4**	**-2.9**
NEST				S	**Sn**	**21 44 54.6**	**-0.9**
NEST				AML	AML	21 44 59.2	
	comp=E,0.2nm,0.8s						
FNA	**Florina**	**3.62**	**6**	P	**Pn**	**21 44 21.6**	**-0.5**
FNA				S	**Sn**	**21 45 02.4**	**-2.7**
FNA				AML	AML	21 45 06.3	
	comp=E,0.1nm,0.6s						
FNA				AMd		21 46 14.4	
BRTR	**Keskin Array B**	**10.34**	**72**	Pn	**Pn**	**21 45 54.7**	**+0.4**
	comp=E,0.1nm,0.3s,baz=258,slow=14,SNR=2.3						
	comp=E,0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**12.61**	**105**	Pn	**Pn**	**21 46 24.1**	**-1.4**
	comp=E,0.3nm,0.3s,baz=294,slow=11,SNR=4.0						
	comp=E,1.3nm,0.7s						
HFS	**Hagfors**	**23.42**	**351**	P	**P**	**21 48 38.4**	**+3.4**
	comp=E,3.6nm,0.8s,baz=164,slow=17,SNR=3.1						
	comp=E,3.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.40**	**326**	P	P	21 48 49.1	+4.7
	comp=E,1.9nm,0.8s,baz=116,slow=11,SNR=1.7						
	comp=E,1.9nm,0.8s						
FINES	**FINESS Array B**	**24.50**	**6**	P	**P**	**21 48 46.3**	**+1.1**
	comp=E,2.6nm,1.0s,baz=188,slow=8.4,SNR=3.3						
	comp=E,2.6nm,1.0s						
BVAR	**Borovoye Array**	**37.56**	**49**	P	**P**	**21 50 41.6**	**+1.3**
	comp=E,0.6nm,0.6s,baz=273,slow=2.7,SNR=3.8						
	comp=E,0.6nm,0.6s						
SPITS	**Spitsbergen Ar**	**41.15**	**359**	P	P	21 51 12.6	+2.7
	comp=E,7.9nm,0.9s,baz=183,slow=13,SNR=1.5						
	comp=E,7.9nm,0.9s						
KURBB	**Kurchatov Arra**	**42.61**	**53**	P	**P**	**21 51 22.4**	**+0.3**
	comp=E,0.3nm,0.4s,baz=279,slow=8.5,SNR=7.8						
	comp=E,0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**	**21 51 46.4**	**+0.1**
	comp=E,0.2nm,0.5s,baz=270,slow=7.8,SNR=5.7						
	comp=E,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.16**	**47**	P	**P**	**21 51 51.2**	**+0.7**
	comp=E,0.3nm,0.3s,baz=271,slow=8.1,SNR=3.0						
	comp=E,0.3nm,0.3s						

*OSPL **01** 21:48:46.8±2.0, 19°.40N×68°.20W, h0km±83km, ML3.4, Hypocentre not reviewed by the ISC*
*SDD **01** 21:48:47.4±2.6, 19°.38N×68°.12W, h23km±174km, MD3.8, ML3.5, MW3.8*
*RSPR **01** 21:48:49.2, 19°.62N×68°.11W, h38km±41km, MD3.5/16*
*NEIC **01** 21:48:51.7±2.0, 19°.16N±0°.06×68°.15W±0°.02, h35km±2km, ML3.5/40, Md3.5/16(RSPR), Error ellipse: s-maj=10.0km s-min=3.1km az=194.0*
ISC 01 21:48:47.9±1.7, 19°.25N±0°.07×68°.13W±0°.03, h3km±11km, n83, σ0°96/91, 22C-7D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.77**	**198**		**Pg**	**21 49 02.4**	**-0.2**
PCDR	**Punta Cana, DR**	**0.77**	**198**		**Sb**	**21 49 14.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.77**	**198**	IAML		21 49 19.0	
	comp=E,786nm,0.7s						
PCDR				IAML		21 49 24.7	
	comp=N,2μm,0.6s						
PCDR	**Punta Cana, DR**	**0.77**	**198**	⇑*e*Pg	**Pg**	**21 49 02.4**	**-0.2**
PCDR				⇓*e*Sg	**Sb**	**21 49 14.4**	**-0.3**
PCDR				IAML		21 49 18.9	
	comp=E,708nm,0.6s						
PCDR				IAML		21 49 24.6	
	comp=N,2μm,0.5s						
PCDR	**Punta Cana, DR**	**0.77**	**198**	*i* P		21 49 02.7	
PCDR				*e*S		21 49 14.5	
PCDR				IAML		21 49 18.5	
	comp=Z,1μm,0.6s						
HIDR	**Higuey Centro**	**0.85**	**220**	*e*Pg	**Pg**	**21 49 03.6**	**-0.7**
HIDR				*e*Sg	**Sg**	**21 49 16.2**	**+0.8**
HIDR				IAML		21 49 19.7	
	comp=N,2μm,0.2s						
HIDR				IAML		21 49 20.3	
	comp=E,1μm,0.2s						
SMDR	**Samana, DR**	**1.00**	**273**	⇑*e*Pg	**Pb**	**21 49 06.5**	**-1.3**
SMDR				IAML		21 49 22.9	
	comp=E,632nm,1.2s						
SMDR				IAML		21 49 23.8	
	comp=N,821nm,0.7s						
IDE	**Isla Desecheo**	**1.06**	**144**		**Pb**	**21 49 06.6**	**-2.3**
IDE					**Sb**	**21 49 21.6**	**-1.6**
SADR	**Isla Saona**	**1.22**	**210**	⇓*e*Pg	**Pn**	**21 49 10.0**	**-1.8**
SADR				IAML		21 49 33.5	
	comp=N,1μm,0.6s						
SADR				IAML		21 49 33.5	
	comp=N,1μm,0.6s						
SADR				IAML		21 49 34.0	
	comp=E,694nm,0.4s						
AGPR	**Aguadilla, PR**	**1.24**	**129**		**Pn**	**21 49 10.7**	**-1.4**
AGPR					**Sb**	**21 49 28.4**	**+0.1**
AGPR				IAML		21 49 30.4	
	comp=N,1μm,0.5s						
AGPR				IAML		21 49 30.7	
	comp=E,1μm,0.6s						
AGPR	**Aguadilla, PR**	**1.24**	**129**	*e*Pg	**Pn**	**21 49 10.6**	**-1.5**
AGPR				IAML		21 49 30.2	
	comp=N,1μm,0.5s						
AGPR				IAML		21 49 30.4	
	comp=E,1μm,0.6s						
AGPR	**Aguadilla, PR**	**1.24**	**129**	⇑*e*P	**Pn**	**21 49 11.3**	**-0.8**
AGPR	**Aguadilla, PR**	**1.24**	**129**	*e*S	**Sb**	**21 49 28.8**	**+0.5**
AGPR	**Aguadilla, PR**	**1.24**	**129**	*i* P		21 49 10.9	
AGPR				*e*S		21 49 28.5	
AGPR				IAML		21 49 32.0	
	comp=Z,466nm,0.3s						
DR12	**Loma Pena Alta**	**1.27**	**249**		**Pn**	**21 49 11.0**	**-1.5**
DR12				IAML		21 49 30.8	
	comp=N,608nm,0.7s						
HATOM	**Hato Mayor del**	**1.27**	**249**	⇑*e*Pg	**Pn**	**21 49 10.8**	**-1.7**
HATOM				⇑*e*Sg	**Sg**	**21 49 30.2**	**+1.5**
HATOM				IAML		21 49 30.6	
	comp=E,241nm,0.5s						
HATOM				IAML		21 49 30.7	
	comp=N,547nm,0.5s						
PRSN	**Puerto Rico Se**	**1.39**	**137**		**Pn**	**21 49 13.5**	**-0.6**
PRSN				IAML		21 49 36.7	
	comp=E,1μm,0.3s						
LSP	**Las Mesas**	**1.46**	**137**		**Pn**	**21 49 15.3**	**+0.2**
LSP					**Sg**	**21 49 36.6**	**+1.8**
LSP	**Las Mesas**	**1.46**	**137**	⇑*e*P	**Pn**	**21 49 15.3**	**+0.2**
LSP	**Las Mesas**	**1.46**	**137**	*e*S	**Sg**	**21 49 36.6**	**+1.8**
CRPR	**Cabo Rojo, PR**	**1.57**	**142**		**Pn**	**21 49 16.5**	**-0.2**
CRPR					**Sb**	**21 49 38.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.57**	**142**	⇑*e*Pg	**Pn**	**21 49 17.1**	**+0.4**
CRPR				⇑*e*Sg	**Sb**	**21 49 39.0**	**+1.2**
CRPR				IAML		21 49 46.9	
	comp=N,423nm,0.9s						
CRPR				IAML		21 49 48.4	
	comp=E,323nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.57**	**142**	⇑*e*P	**Pn**	**21 49 17.2**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.57**	**142**	*e*S	**Sg**	**21 49 39.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.57**	**142**	*i* P		21 49 17.3	
CRPR				*e*S		21 49 38.9	
CRPR				IAML		21 49 40.1	
	comp=Z,650nm,0.9s						
AOPR	**Arecibo Observ**	**1.58**	**124**		**Pn**	**21 49 15.7**	**-1.2**
AOPR					**Sn**	**21 49 37.4**	**-0.4**
AOPR				IAML		21 49 39.5	
	comp=N,615nm,0.5s						
AOPR	**Arecibo Observ**	**1.58**	**124**	*e*Pg	**Pn**	**21 49 15.9**	**-1.0**
AOPR				*e*Sg	**Sn**	**21 49 38.3**	**+0.4**
AOPR				IAML		21 49 41.4	
	comp=N,556nm,0.4s						
AOPR				IAML		21 49 46.7	
	comp=E,922nm,0.3s						
AOPR	**Arecibo Observ**	**1.58**	**124**	⇑*e*P	**Pn**	**21 49 15.9**	**-1.0**
AOPR	**Arecibo Observ**	**1.58**	**124**	*e*S	**Sn**	**21 49 38.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.64**	**141**		**Pn**	**21 49 16.4**	**-1.1**
MLPR	**Magueyes Islan**	**1.64**	**141**		**Sn**	**21 49 39.7**	**+0.6**
MLPR	**Magueyes Islan**	**1.64**	**141**	⇑*e*Pg	**Pn**	**21 49 16.9**	**-0.7**
MLPR				⇑*e*Sg	**Sn**	**21 49 39.6**	**+0.5**
MLPR				IAML		21 49 42.4	
	comp=E,408nm,0.7s						
MLPR				IAML		21 49 44.1	
	comp=N,290nm,0.5s						
MLPR	**Magueyes Islan**	**1.64**	**141**	⇓*i* P	**Pn**	**21 49 17.1**	**-0.5**
MLPR	**Magueyes Islan**	**1.64**	**141**	*e*S	**Sn**	**21 49 39.7**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.66**	**126**		**Pn**	**21 49 17.8**	**-0.2**
UUPR					**Sb**	**21 49 41.0**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.66**	**126**	⇑*e*P	**Pn**	**21 49 17.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.66**	**126**	*e*S	**Sb**	**21 49 41.0**	**+0.5**
EMPR	**Esperanza - Ma**	**1.70**	**117**		**Pn**	**21 49 17.2**	**-1.3**
EMPR	**Esperanza - Ma**	**1.70**	**117**		**Sb**	**21 49 42.1**	**+0.5**
EMPR	**Esperanza - Ma**	**1.70**	**117**	IAML		21 49 48.4	
	comp=N,622nm,0.7s						
EMPR				IAML		21 49 51.6	
	comp=E,754nm,0.6s						
EMPR	**Esperanza - Ma**	**1.70**	**117**	⇑*e*P	**Pn**	**21 49 18.4**	**0.0**
EMPR	**Esperanza - Ma**	**1.70**	**117**	*e*S	**Sb**	**21 49 42.1**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.73**	**137**		**Pn**	**21 49 20.0**	**+1.0**
GBPR					**Sb**	**21 49 44.1**	**+1.5**
GBPR	**Guanica, Bosqu**	**1.73**	**137**	⇑*e*P	**Pn**	**21 49 20.0**	**+1.0**
GBPR	**Guanica, Bosqu**	**1.73**	**137**	*e*S	**Sb**	**21 49 44.1**	**+1.5**
DR08	**Loma La Naviza**	**1.81**	**261**	*e*Pg	**Pn**	**21 49 19.5**	**-0.5**
DR08				IAML		21 49 48.8	
	comp=N,4μm,0.2s						
SDD	**Santo Domingo**	**1.86**	**245**		**Pn**	**21 49 20.8**	**+0.2**
SDD	**Santo Domingo**	**1.86**	**245**		**Sb**	**21 49 46.5**	**+0.3**
SDD	**Santo Domingo**	**1.86**	**245**	IAML		21 49 50.3	
	comp=E,690nm,1.0s						
SDD				IAML		21 49 50.8	
	comp=N,737nm,0.5s						
SDD	**Santo Domingo**	**1.86**	**245**	⇓*e*Pg	**Pn**	**21 49 21.4**	**+0.7**
SDD				IAML		21 49 50.0	
	comp=E,69nm,0.9s						
SDD				IAML		21 49 50.6	
	comp=N,76nm,0.7s						
SDD	**Santo Domingo**	**1.86**	**245**	⇓*i* P	**Pn**	**21 49 21.4**	**+0.7**
SDD	**Santo Domingo**	**1.86**	**245**	*e*S	**Sb**	**21 49 46.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.88**	**129**		**Pn**	**21 49 20.6**	**-0.3**
OBIP					**Sn**	**21 49 45.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.88**	**129**	IAML		21 49 47.0	
	comp=N,348nm,0.6s						
OBIP	**Obispado Ponce**	**1.88**	**129**	⇑*e*P	**Pn**	**21 49 20.6**	**-0.3**
OBIP	**Obispado Ponce**	**1.88**	**129**	*e*S	**Sn**	**21 49 45.5**	**+0.4**
ECPR	**Experimental S**	**1.91**	**119**	⇓*e*P	**Pn**	**21 49 20.8**	**-0.6**
ECPR	**Experimental S**	**1.91**	**119**	*e*S	**Sn**	**21 49 46.7**	**+0.7**
GCPR	**Guaynabo City**	**2.15**	**115**		**Pn**	**21 49 25.4**	**+0.7**
GCPR	**Guaynabo City**	**2.15**	**115**		**Sn**	**21 49 52.3**	**+0.4**
GCPR	**Guaynabo City**	**2.15**	**115**	⇑*e*P	**Pn**	**21 49 25.2**	**+0.5**
GCPR	**Guaynabo City**	**2.15**	**115**	*e*S	**Sn**	**21 49 52.3**	**+0.4**
SJG	**San Juan**	**2.19**	**121**		**Pn**	**21 49 25.7**	**+0.5**
SJG	**San Juan**	**2.19**	**121**	IAML		21 49 59.6	
	comp=N,307nm,0.3s						
SJG				IAML		21 50 06.3	
	comp=N,233nm,0.7s						
SJG	**San Juan**	**2.19**	**121**	*e*Pg	**Pn**	**21 49 25.0**	**-0.2**
SJG	**San Juan**	**2.19**	**121**	⇑*e*P	**Pn**	**21 49 25.7**	**+0.5**
SJG	**San Juan**	**2.19**	**121**	*e*S	**Sn**	**21 49 52.4**	**-0.5**
SJG	**San Juan**	**2.19**	**121**	*i* P		21 49 24.1	
BANI	**BANI**	**2.27**	**248**		**Pn**	**21 49 26.2**	**-0.3**
BANI				IAML		21 50 15.5	
	comp=E,322nm,0.6s						
BANI	**BANI**	**2.27**	**248**	*e*Pg	**Pn**	**21 49 28.2**	**+1.7**
BANI				IAML		21 50 02.2	
	comp=E,258nm,0.7s						
BANI				IAML		21 50 05.3	
	comp=N,368nm,0.6s						
IGPR	**InterUniversit**	**2.31**	**123**		**Pn**	**21 49 26.6**	**-0.2**
IGPR	**InterUniversit**	**2.31**	**123**		**Sn**	**21 49 56.6**	**+0.9**
IGPR	**InterUniversit**	**2.31**	**123**	IAML		21 50 01.7	
	comp=N,256nm,0.3s						
IGPR				IAML		21 50 02.8	
	comp=E,237nm,0.5s						
IGPR	**InterUniversit**	**2.31**	**123**	⇑*e*P	**Pn**	**21 49 27.0**	**+0.2**
IGPR	**InterUniversit**	**2.31**	**123**	*e*S	**Sn**	**21 49 56.6**	**+0.9**
PDPR	**Patillas Dam,**	**2.34**	**121**		**Pn**	**21 49 25.1**	**-2.2**
PDPR	**Patillas Dam,**	**2.34**	**121**	⇑*e*P	**Pn**	**21 49 27.9**	**+0.6**
PDPR	**Patillas Dam,**	**2.34**	**121**	*e*S	**Sn**	**21 49 57.2**	**+0.6**
ABDR	**Alto Bandera**	**2.40**	**260**	⇑*e*Pg	**Pn**	**21 49 29.3**	**+0.9**
ABDR				IAML		21 50 08.2	
	comp=N,238nm,0.4s						
ABDR				IAML		21 50 18.3	
	comp=E,283nm,0.6s						
HUMP	**Col San Antoni**	**2.43**	**117**		**Pn**	**21 49 28.4**	**0.0**
HUMP					**Sn**	**21 49 58.6**	**-0.1**
HUMP	**Col San Antoni**	**2.43**	**117**	IAML		21 50 05.2	
	comp=E,163nm,0.5s						
HUMP				IAML		21 50 10.6	
	comp=N,154nm,0.5s						
HUMP	**Col San Antoni**	**2.43**	**117**	⇑*e*P	**Pn**	**21 49 28.4**	**0.0**
HUMP	**Col San Antoni**	**2.43**	**117**	*e*S	**Sn**	**21 49 58.6**	**-0.1**
SC01	**Santiago de lo**	**2.46**	**275**		**Pn**	**21 49 28.4**	**-0.4**
SC01				IAML		21 50 22.5	
	comp=E,367nm,1.2s						
SDDR	**Presa de Saban**	**3.00**	**265**		**Pn**	**21 49 36.2**	**-0.1**
SDDR				IAML		21 50 31.2	
	comp=E,226nm,1.1s						
SDDR	**Presa de Saban**	**3.00**	**265**	⇓*e*Pg	**Pn**	**21 49 37.1**	**+0.8**
SDDR				IAML		21 50 30.9	
	comp=N,205nm,1.4s						
SDDR				IAML		21 50 31.6	
	comp=E,284nm,0.7s						
SDDR	**Presa de Saban**	**3.00**	**265**	IAML		21 50 29.5	
	comp=Z,105nm,0.6s						
PODR	**Polo**	**3.17**	**251**	*e*Pg	**Pn**	**21 49 42.1**	**+3.2**
PODR				IAML		21 50 32.7	
	comp=N,145nm,0.7s						

*AEIC **01** 21:49:12.8±1.3, 56°.31N±0°.10×149°.3W±0°.2, h5km±9km, Error ellipse: s-maj=16.6km s-min=12.1km az=133.0*
NEIC 01 21:49:11.3±1.8, 56°.49N±0°.08×149°.5W±0°.1, h10km±2km, ML2.8/36, ML2.6(AEIC), Error ellipse: s-maj=14.8km s-min=11.9km az=135.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.12**	**309**		Pn	21 49 47.0	+0.3
KDAK	**Kodiak Island**	**2.12**	**309**		Sn	21 50 13.1	0.0
OHAK	**Old Harbor**	**2.20**	**291**		Pn	21 49 47.2	-0.6
OHAK	**Old Harbor**	**2.20**	**291**		Sn	21 50 14.2	-0.9
SII	**Sitkinak Islan**	**2.59**	**274**		Pn	21 49 52.4	-0.8
SII					Sn	21 50 23.5	-1.2
SII	**Sitkinak Islan**	**2.59**	**274**	IAML		21 50 33.4	
	comp=N,39nm,1.4s						
SII				IAML		21 50 38.6	
	comp=E,34nm,1.2s						
SYI	**Shuyak Island**	**2.63**	**325**		Pn	21 49 54.3	+0.5
CNPM	**China Poot**	**3.18**	**344**		Pn	21 50 01.5	+0.1
CNPM	**China Poot**	**3.18**	**344**	IAML		21 50 43.5	
	comp=N,12nm,1.4s						
CNPM				IAML		21 51 10.5	
	comp=E,13nm,1.5s						
Q19K	**Cape Douglas,**	**3.30**	**320**	Pn	Pn	21 50 03.7	+0.6
BRSE	**Bradley Lake S**	**3.33**	**349**		Pn	21 50 03.0	-0.4
BRLK	**Bradley Lake**	**3.37**	**348**		Pn	21 50 03.6	-0.4
BRLK	**Bradley Lake**	**3.37**	**348**	IAML		21 50 36.2	
	comp=E,12nm,1.2s						
BRLK				IAML		21 50 49.8	
	comp=N,15nm,1.5s						
KAHG	**Katmai Hook Gl**	**3.38**	**309**		Pn	21 50 06.0	+1.8
CHIR	**Chirikof Islan**	**3.48**	**261**	Pn	Pn	21 50 05.4	-0.1
CHIR				IAML		21 50 33.0	
	comp=E,26nm,1.5s						
CHIR				IAML		21 51 00.8	
	comp=N,37nm,1.4s						
ACHA	**Angle Creek He**	**3.59**	**301**	Pn	Pn	21 50 08.0	+0.9
SEW	**Seward**	**3.63**	**0**	Pn	Pn	21 50 05.9	-1.6
KJL	**Kejulik**	**3.65**	**298**		Pn	21 50 09.0	+1.1
P19K	**Oil Pt**	**3.74**	**330**	Pn	Pn	21 50 09.0	-0.1
P19K				IAML		21 51 19.8	
	comp=E,36nm,0.7s						
P19K				IAML		21 51 19.8	
	comp=N,35nm,0.7s						
CNTC	**Contact Creek**	**3.88**	**300**		Pn	21 50 12.3	+1.2
ILSW	**Iliamna Southw**	**4.00**	**333**	Pn	Pn	21 50 12.6	-0.1
ILSW				IAML		21 51 12.8	
	comp=N,12nm,1.4s						
ILSW				IAML		21 51 25.0	
	comp=E,8.4nm,1.2s						
Q22K	**Cooper Landing**	**4.01**	**359**	Pn	Pn	21 50 12.5	-0.2
Q22K				IAML		21 51 31.2	
	comp=E,36nm,1.4s						
SLKM	**Skilak Lake**	**4.05**	**355**	IAML		21 51 03.8	
	comp=N,12nm,0.8s						
SLKM				IAML		21 51 07.6	
	comp=E,13nm,1.4s						
P18K	**Big Mountain,**	**4.21**	**316**		Pn	21 50 15.7	+0.1
P18K				IAML		21 52 09.1	
	comp=N,5.7nm,1.4s						
HIN	**Hinchinbrook I**	**4.23**	**21**	Pn	Pn	21 50 14.4	-1.4
RDT	**Redoubt**	**4.37**	**341**		Pn	21 50 17.4	-0.4
KAIM	**Kayak Island**	**4.38**	**36**	Pn	Pn	21 50 18.7	+0.9
PWL	**Port Wells**	**4.43**	**8**		Pn	21 50 17.8	-0.7
PWL	**Port Wells**	**4.43**	**8**	IAML		21 51 15.8	
	comp=N,12nm,1.3s						
PWL				IAML		21 52 37.6	
	comp=E,8.9nm,1.4s						

*IDC **01** 21:54:38.2±0.4, 46°.73N×83°.46E, h0km, mb4.9/29, mbtmp4.9/36, ML4.9/6, MS4.3/82, Error ellipse: s-maj=10.4km s-min=6.3km az=8.0*
*MOS **01** 21:54:39.9±1.0, 46°.79N×83°.35E, h19km, mb5.3/105, MS4.6/20, Error ellipse: s-maj=3.7km s-min=3.5km az=64.3*
*NNC **01** 21:54:40.6±0.6, 46°.75N×83°.31E, h0km, mb5.9, mpv5.6, Error ellipse: s-maj=4.5km s-min=3.0km az=10.0*
*NEIC **01** 21:54:40.4±1.2, 46°.84N±0°.06×83°.36E±0°.05, h10km±1km, mb5.3/578, Error ellipse: s-maj=10.6km s-min=6.1km az=175.0*
*BJI **01** 21:54:41.0, 46°.72N×83°.35E, h15km, mB5.1/35, mb4.9/73, ML5.1/10, Ms4.9/80, Ms7 4.8/72*
*GCMT **01** 21:54:42.4±0.2, 46°.78N±0°.01×83°.39E±0°.02, h26km±1km, MW5.0/96, Moment Tensor Solution. s15,c17; s96,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.91±.31; $M_{\theta\theta}$-5.16±.20; $M_{\phi\phi}$2.24±.17; $M_{r\theta}$1.72±.32; $M_{\theta\phi}$-1.36±.11; $M_{\phi r}$-0.05±.34; Best double couple: $M_0$4.55100×10^{16} NP1:ϕ_s236.00000°, δ38.00000°, λ56.00000°. NP2: ϕ_s98.00000°, δ59.00000°, λ114.00000°. Principal axes: T 3.3700, Plg66.0000°, Azm54.0000°; N 2.3510, Plg21.0000°, Azm265.0000°; P -5.7310, Plg11.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SOME **01** 21:54:42.1, 46°.65N×83°.40E, h5km, MS4.8*
*ASRS **01** 21:54:45.9±0.2, 47°N±1°.×8°.3E±°., h9km, MLh6.2/11, Error ellipse: s-maj=3.9km s-min=1.7km az=130.9, confirmed*
*BGR **01** 21:54:48.9, 46°.25N×82°.16E, h33km, mb4.9*
ISC 01 21:54:40.8±0.4, 46°.76N±0°.02×83°.31E±0°.02, h13km±2km, h13km: pP-P, n1607, σ1.9±65/1709, mb5.3/485, MS4.5/122, 96C-63D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.70**	**273**	⇑P	**Pg**	**21 54 54.7**	**+0.3**
	2μm,0.3s,baz=89,slow=19						
MK31				S	**Sg**

DGZ							21 55 58.5
DGZ				S	Sn	21 56 34.3	+4.9
DGZ						21 56 46.5	
SEM	**Semipalatinsk**	**4.17**	**332**	*e*P	**Pg**	**21 56 02.8**	**+2.1**
	856nm,0.3s						
SEM				*e*S	**Sg**	**21 57 02.7**	**+8.0**
	7μm,0.6s						
WMQ	**Urumqi**	**4.27**	**132**	⇓Pn	**Pn**	**21 55 47.3**	**+1.8**
WMQ				Sn	**Sn**	**21 56 37.6**	**+2.4**
WMQ				smax	smax		
	comp=N,7μm,0.9s						
WMQ				smax	smax		
	comp=E,5μm,0.9s						
WMQ				LR	LR		
	comp=N,36μm,9.9s						
WMQ				LR	LR		
	comp=E,15μm,8.9s						
WMQ				LR	LR		
	comp=Z,4μm,17.9s						
UKR	**Ust'-Kan**	**4.29**	**12**	⇑Pn	**Pn**	**21 55 50.0**	**+4.2**
UKR				Pg	**Pg**	**21 56 01.4**	**-1.4**
UKR				S	**Sn**	**21 56 39.7**	**+4.0**
UKR				Sg	**Sg**	**21 56 54.7**	**-3.6**
UKR	**Ust'-Kan**	**4.29**	**12**	PN	**Pn**	**21 55 49.6**	**+3.8**
UKR						21 56 04.7	
UKR				S	**Sn**	**21 56 39.6**	**+4.0**
PDGK	**Podgornoye**	**4.37**	**220**	⇑Pn	**Pn**	**21 55 48.4**	**+1.5**
	1μm,0.5s						
PDGK				⇑Lg	Lg	21 57 00.2	
	9μm,0.6s						
CHBI	**Chibit, Altay**	**4.51**	**37**	⇑Pn	**Pn**	**21 55 53.1**	**+4.2**
CHBI				Pg	**Pg**	**21 56 09.2**	**+2.0**
CHBI				S	**Sn**	**21 56 47.4**	**+6.2**
CHBI				Sg	**Sg**	**21 57 06.5**	**+0.9**
SHLS	**Shalkode**	**4.52**	**219**	Pg	**Pb**	**21 55 59.3**	**-0.7**
	2μm,0.4s						
SHLS				Lg	Lg	21 56 54.5	
	11μm,0.4s						
SHLS	**Shalkode**	**4.52**	**219**	*e*PN	**Pn**	**21 55 48.6**	**-0.4**
SHLS				*e*		21 55 59.3	
SHLS	**Shalkode**	**4.52**	**219**	*e*P	**Pb**	**21 55 59.3**	**-0.7**
	2μm,0.4s						
SHLS				*e*S	**Sb**	**21 56 54.5**	**0.0**
	11μm,0.4s						
SHLS	**Shalkode**	**4.52**	**219**	*e*Pn	**Pn**	**21 55 48.6**	**-0.4**
SHLS				*e*Pg	**Pb**	**21 55 59.4**	**-0.7**
AKAR	**Aktash**	**4.57**	**37**	⇑Pn	**Pn**	**21 55 54.0**	**+4.4**
AKAR				Pg	**Pg**	**21 56 10.0**	**+1.8**
AKAR				S	**Sn**	**21 56 47.8**	**+5.2**
AKAR				Sg	**Sg**	**21 57 09.6**	**+2.2**
AKAR	**Aktash**	**4.57**	**37**	PN	Pn	21 55 54.3	+4.6
AKAR						21 56 10.0	
AKAR				S	**Sn**	**21 56 47.8**	**+5.2**
ARXS	**Arharly**	**4.62**	**238**	*e*PN	**Pn**	**21 55 51.9**	**+1.5**
KPKS	**Kokpek**	**4.64**	**226**	Pg	**Pb**	**21 56 04.5**	**+2.4**
	1μm,0.3s						
KPKS				Lg	Lg	21 57 03.8	
	12μm,0.5s						
KPKS	**Kokpek**	**4.64**	**226**	*e*PN	**Pn**	**21 55 52.4**	**+1.7**
KPKS				*e*		21 56 05.0	
KPKS				*e*S	**Sn**	**21 56 46.8**	**+2.3**
KPKS	**Kokpek**	**4.64**	**226**	*e*P	**Pb**	**21 56 04.5**	**+2.4**
	1μm,0.3s						
KPKS				*e*S	**Sb**	**21 57 03.8**	**+5.8**
	12μm,0.5s						
KPKS	**Kokpek**	**4.64**	**226**	*e*Pn	**Pn**	**21 55 52.5**	**+1.7**
KPKS				*e*Pg	**Pb**	**21 56 05.1**	**+2.9**
KPKS				*e*S	**Sn**	**21 56 46.9**	**+2.3**
UZB	**Uzynbulak**	**4.72**	**222**	Pg	**Pb**	**21 56 05.6**	**+2.1**
	343nm,0.5s						
UZB				Lg	Lg	21 57 06.1	
	4μm,0.5s						
UZB	**Uzynbulak**	**4.72**	**222**	*e*PN	**Pn**	**21 55 53.3**	**+1.5**
UZB				*e*		21 56 06.3	
UZB				*e*S	**Sn**	**21 56 48.2**	**+1.7**
UZB	**Uzynbulak**	**4.72**	**222**	*e*P	**Pb**	**21 56 05.6**	**+2.1**
	343nm,0.5s						
UZB				*e*S	**Sb**	**21 57 06.1**	**+5.8**
	4μm,0.5s						
UZB	**Uzynbulak**	**4.72**	**222**	*e*Pn	**Pn**	**21 55 53.3**	**+1.5**
UZB				*e*Pg	**Pb**	**21 56 06.3**	**+2.8**
UZB				*e*S	**Sn**	**21 56 48.3**	**+1.7**
CUR	**Chagan-Uzun**	**4.73**	**43**	⇑Pn	**Pn**	**21 55 55.7**	**+3.8**
CUR				Pg	**Pg**	**21 56 10.3**	**-1.1**
CUR				S	**Sn**	**21 56 53.2**	**+6.4**
CUR				Sg	**Sg**	**21 57 10.4**	**-2.2**
CUR	**Chagan-Uzun**	**4.73**	**43**	PN	**Pn**	**21 55 56.2**	**+4.3**
CUR				S	**Sn**	**21 56 53.1**	**+6.4**
ELDR	**Elanda**	**4.82**	**21**	Pn	**Pn**	**21 55 56.3**	**+3.3**
ELDR				Pg	**Pg**	**21 56 10.8**	**-2.2**
ELDR				S	**Sn**	**21 56 53.6**	**+5.0**
ELDR				Sg	**Sg**	**21 57 13.2**	**-2.1**
ELDR	**Elanda**	**4.82**	**21**	PN	Pb	21 55 59.3	-5.7
ELDR						21 56 13.6	
ELDR				S	**Sn**	**21 56 55.0**	**+6.4**
KURS	**Kuram**	**4.89**	**230**	Pg	**Pb**	**21 56 09.6**	**+3.3**
	527nm,0.5s						
KURS				Lg	Lg	21 57 12.9	
	4μm,0.9s						
ULGR	**Ulagan, Altay**	**4.94**	**37**	⇑Pn	**Pn**	**21 55 57.6**	**+2.9**
ULGR				Pg	**Pg**	**21 56 11.8**	**-3.6**
ULGR				S	**Sn**	**21 56 56.9**	**+5.1**
ULGR				Sg	**Sg**	**21 57 16.7**	**-2.6**
ULGR	**Ulagan, Altay**	**4.94**	**37**	PN	**Pn**	**21 55 58.1**	**+3.4**
ULGR						21 56 11.7	
ULGR				S	**Sn**	**21 56 56.9**	**+5.1**
KURBB	**Kurchatov Arra**	**4.99**	**322**	Pn	**Pn**	**21 55 57.1**	**+1.8**
	22nm,0.3s,baz=134,slow=13,SNR=853						
KURBB				Lg	Lg	21 57 19.6	
	229nm,0.3s,baz=207,slow=27,SNR=9.6						
KURBB				LR	LR	21 57 58.2	
	comp=Z,6μm,19.1s,baz=158,slow=39						
	102nm,0.4s						
KURBB	**Kurchatov Arra**	**4.99**	**322**	⇑Pn	**Pn**	**21 55 57.4**	**+2.1**
	642nm,0.5s						
KURBB				⇑Lg	Lg	21 57 19.5	
	8μm,0.6s						
KURBB	**Kurchatov Arra**	**4.99**	**322**	PN	**Pn**	**21 55 57.4**	**+2.1**
KURK	**Kurchatov**	**5.03**	**324**		**Pn**	**21 55 55.8**	**0.0**
KURK	**Kurchatov**	**5.03**	**324**	⇑Pn	**Pn**	**21 55 57.1**	**+1.3**
	464nm,0.7s						
KURK				⇑Lg	Lg	21 57 18.2	
	8μm,0.6s						
KURK	**Kurchatov**	**5.03**	**324**	Pn	**Pn**	**21 55 58.4**	**+2.6**
KURK				Pg	**Pb**	**21 56 12.7**	**+4.2**
KURK	**Kurchatov**	**5.03**	**324**	*c i*PN	**Pn**	**21 55 57.3**	**+1.5**
KURK				pmax	pmax		
	comp=Z,168nm,0.8s						
SATY	**Saty**	**5.08**	**225**	Pg	**Pb**	**21 56 13.1**	**+3.5**
	comp=Z,454nm,0.3s						
SATY				Lg	Lg	21 57 17.9	
	comp=Z,12μm,0.4s						
SATY	**Saty**	**5.08**	**225**	*e*PN	**Pn**	**21 55 58.3**	**+1.6**
SATY				*e*		21 56 12.8	
SATY				*e*S	**Sn**	**21 56 57.2**	**+1.9**
SATY	**Saty**	**5.08**	**225**	*e*P	**Pb**	**21 56 05.2**	**-4.4**
	comp=Z,37nm,0.1s						
SATY				*e*S	**Sb**	**21 57 04.3**	**-6.4**
	comp=Z,13μm,0.8s						
SATY	**Saty**	**5.08**	**225**	*e*Pn	**Pn**	**21 55 58.4**	**+1.6**
SATY				*e*Pg	**Pb**	**21 56 12.8**	**+3.2**
SATY				*e*S	**Sn**	**21 56 57.3**	**+1.9**
GALT	**Gorno-Altaysk,**	**5.48**	**17**	Pn	**Pn**	**21 56 05.5**	**+3.5**
GALT				Pg	**Pg**	**21 56 21.3**	**-4.3**
GALT				S	**Sn**	**21 57 08.2**	**+3.4**
GALT				Sg	**Sg**	**21 57 32.8**	**-3.7**
GALT	**Gorno-Altaysk,**	**5.48**	**17**	PN	**Pn**	**21 56 05.9**	**+3.9**
GALT				S	**Sn**	**21 57 08.2**	**+3.4**
PRZ	**Przheval'sk**	**5.53**	**221**		**Pn**	**21 56 04.5**	**+1.6**
PRZ	**Przheval'sk**	**5.53**	**221**	Pn	**Pn**	**21 56 05.3**	**+2.3**
PRZ	**Przheval'sk**	**5.53**	**221**	Pg	**Pg**	**21 56 28.2**	**+1.6**
PRZ	**Przheval'sk**	**5.53**	**221**	PN	**Pn**	**21 56 04.5**	**+1.6**
KTBS	**Karatobe**	**5.59**	**239**	Pg	**Pb**	**21 56 22.5**	**+4.3**
	comp=Z,2μm,0.7s						
KTBS				Lg	Lg	21 57 33.6	
	comp=Z,5μm,0.6s						
ANVS	**Anan'yevo**	**5.65**	**227**	Pg	**Pg**	**21 56 31.0**	**+2.0**
ANVS	**Anan'yevo**	**5.65**	**227**	Pn	**Pn**	**21 56 07.4**	**+2.8**
ARTR	**Artybash**	**5.67**	**26**	⇑Pn	**Pn**	**21 56 08.2**	**+3.6**
ARTR				Pg	**Pg**	**21 56 25.2**	**-4.0**
ARTR				S	**Sn**	**21 57 12.0**	**+2.4**
ARTR				Sg	**Sg**	**21 57 37.5**	**-5.1**
ARTR	**Artybash**	**5.67**	**26**	PN	**Pn**	**21 56 09.1**	**+4.4**
ARTR						21 56 31.8	
ARTR				S	**Sn**	**21 57 11.9**	**+2.4**
KUU	**Kurty**	**5.69**	**242**	*e*P	**Pb**	**21 56 23.7**	**+3.9**
	comp=Z,556nm,0.5s						
KUU				*e*S	**Sg**	**21 57 36.4**	**-7.0**
	comp=Z,5μm,0.5s						
MDOK	**Medeo**	**5.72**	**233**	Pn	**Pn**	**21 56 06.6**	**+1.2**
	comp=Z,107nm,0.7s						
MDOK				Pg	**Pb**	**21 56 24.1**	**+3.6**
	comp=Z,448nm,0.5s						
MDOK				Pg	**Pg**	**21 56 28.1**	**-2.1**
	comp=Z,793nm,0.7s						
MDOK				Lg	Lg	21 57 37.1	
	comp=Z,4μm,1.0s						
MDOK				Lg	Lg	21 57 42.3	
	comp=Z,5μm,0.8s						
MDOK	**Medeo**	**5.72**	**233**	*e*PN	**Pn**	**21 56 06.6**	**+1.2**
MDOK				*e*		21 56 24.3	
MDOK	**Medeo**	**5.72**	**233**	*e*P	**Pb**	**21 56 24.1**	**+3.6**
	comp=Z,448nm,0.5s						
MDOK				*e*S	**Sg**	**21 57 37.1**	**-7.2**
	comp=Z,4μm,1.0s						
MDOK	**Medeo**	**5.72**	**233**	*e*Pn	**Pn**	**21 56 06.7**	**+1.2**
MDOK				*e*Pg	**Pb**	**21 56 24.4**	**+3.9**
KNDC	**Almaty**	**5.73**	**234**	⇑Pn	**Pn**	**21 56 06.9**	**+1.4**
	comp=Z,235nm,0.6s						
KNDC				⇓Pg	**Pg**	**21 56 27.2**	**-3.2**
	comp=Z,2μm,0.9s						
KNDC				⇑Lg	Lg	21 57 45.2	
	comp=Z,5μm,0.7s						
KNDC	**Almaty**	**5.73**	**234**	PN	**Pn**	**21 56 06.9**	**+1.4**
KNDC				PG	**Pg**	**21 56 27.2**	**-3.2**
YALR	**Yailyu, Altay**	**5.75**	**28**	⇑Pn	**Pn**	**21 56 09.2**	**+3.4**
YALR				Pg	**Pg**	**21 56 27.5**	**-3.3**
YALR				S	**Sn**	**21 57 15.4**	**+3.9**
YALR				Sg	**Sg**	**21 57 41.2**	**-3.9**
YALR	**Yailyu, Altay**	**5.75**	**28**	PN	**Pn**	**21 56 09.8**	**+4.1**
YALR				S	**Sn**	**21 57 15.4**	**+3.9**
AAA	**Alma-Ata**	**5.76**	**234**	Pg	**Pb**	**21 56 25.4**	**+4.3**
	comp=Z,285nm,0.5s						
AAA				Lg	Lg	21 57 40.1	
	comp=Z,860nm,0.7s						
AAA	**Alma-Ata**	**5.76**	**234**	*e*PN	**Pn**	**21 56 08.2**	**+2.2**
AAA				*e*		21 56 24.9	
AAA	**Alma-Ata**	**5.76**	**234**	*e*P	**Pg**	**21 56 26.7**	**-4.4**
	comp=Z,285nm,0.5s						
AAA				*e*S	**Sg**	**21 57 41.2**	**-4.4**
	comp=Z,860nm,0.7s						
AAA	**Alma-Ata**	**5.76**	**234**	*e*Pn	**Pn**	**21 56 08.2**	**+2.2**
AAA				*e*Pg	**Pb**	**21 56 25.0**	**+3.9**
TNSS	**Tian-Shan**	**5.86**	**233**	Pg	**Pb**	**21 56 27.5**	**+4.5**
	comp=Z,211nm,0.5s						
TNSS				Lg	Lg	21 57 43.2	
	comp=Z,1μm,0.6s						
TNSS	**Tian-Shan**	**5.86**	**233**	*e*PN	**Pn**	**21 56 08.9**	**+1.3**
TNSS				*e*		21 56 27.0	
TNSS	**Tian-Shan**	**5.86**	**233**	*e*P	**Pb**	**21 56 27.5**	**+4.5**
	comp=Z,211nm,0.5s						
TNSS				*e*S	**Sg**	**21 57 43.2**	**-5.5**
	comp=Z,1μm,0.6s						
TNSS	**Tian-Shan**	**5.86**	**233**	*e*Pn	**Pn**	**21 56 09.0**	**+1.3**
TNSS				*e*Pg	**Pb**	**21 56 27.1**	**+4.1**
KASK	**Kaskelen**	**5.91**	**236**	⇓Pg	**Pg**	**21 56 30.7**	**-3.2**
	comp=Z,493nm,0.6s						
KASK				⇑Lg	Lg	21 57 50.8	
	comp=Z,3μm,0.5s						
MTBS	**Maitube**	**6.08**	**236**	Pg	**Pb**	**21 56 30.6**	**+4.0**
	comp=Z,363nm,0.8s						
MTBS				Lg	Lg	21 57 48.4	
	comp=Z,5μm,0.5s						
MTBS	**Maitube**	**6.08**	**236**	*e*P	**Pb**	**21 56 30.6**	**+4.0**
	comp=Z,363nm,0.8s						
MTBS				*e*S	**Sg**	**21 57 48.4**	**-7.6**
	comp=Z,5μm,0.5s						
TEL	**Teeli**	**6.23**	**44**	Pn	**Pn**	**21 56 16.6**	**+4.3**
TEL				Pg	**Pg**	**21 56 39.8**	**-0.2**
TEL				S	**Sn**	**21 57 28.6**	**+5.2**
TEL				Sg	**Sg**	**21 58 02.5**	**+2.0**
TEL	**Teeli**	**6.23**	**44**	PN	Pn	21 56 17.7	+5.3
TEL						21 56 43.4	
WUS	**Wushi**	**6.30**	**209**	Pn	**Pn**	**21 56 14.8**	**+1.3**
KDJ	**Kajisay**	**6.38**	**226**	Pn	**Pn**	**21 56 16.7**	**+2.1**
KDJ	**Kajisay**	**6.38**	**226**	PN	**Pn**	**21 56 16.7**	**+2.1**
TARG	**Taragay, Kyrgy**	**6.40**	**220**		**Pn**	**21 56 17.0**	**+1.9**
TARG	**Taragay, Kyrgy**	**6.40**	**220**	PN	**Pn**	**21 56 17.0**	**+1.9**
KST	**Kastek**	**6.41**	**237**	Pg	**Pg**	**21 56 39.1**	**-4.3**
	comp=Z,908nm,0.7s						
KST				Lg	Lg	21 58 03.0	
	comp=Z,2μm,0.7s						
KST	**Kastek**	**6.41**	**237**	*e*P	**Pg**	**21 56 40.3**	**-3.1**
	comp=Z,908nm,0.7s						
KST				*e*S	**Sg**	**21 58 05.4**	**-0.9**
	comp=Z,2μm,0.7s						
BTLS	**Baital**	**6.69**	**258**	Pg	Pb	21 56 42.8	+5.9
	comp=Z,190nm,0.4s						
BTLS				Lg	Lg	21 58 08.5	
	comp=Z,147nm,1.0s						
BTLS	**Baital**	**6.69**	**258**	*e*PN	**Pn**	**21 56 19.2**	**+0.6**
BTLS				*e*		21 56 41.9	
BTLS	**Baital**	**6.69**	**258**	*e*P	**Pg**	**21 56 45.2**	**-3.6**
	comp=Z,223nm,0.3s						
BTLS				*e*S	**Sg**	**21 58 13.4**	**-1.9**
	comp=Z,147nm,1.0s						
BTLS	**Baital**	**6.69**	**258**	*e*Pn	**Pn**	**21 56 19.3**	**+0.6**
BTLS				*e*Pg	Pb	21 56 41.9	+5.1
TKM2	**Tokmak 2**	**6.69**	**238**	P	**Pn**	**21 56 21.6**	**+2.7**
	SNR=86						
TKM2	**Tokmak 2**	**6.69**	**238**	⇓Pn	**Pn**	**21 56 20.1**	**+1.2**
	comp=Z,47nm,0.3s						
TKM2				⇑Pg	Pb	21 56 43.1	+6.1
	comp=Z,251nm,0.6s						
TKM2				⇓Lg	Lg	21 58 14.0	
	comp=Z,8μm,1.6s						
TKM2	**Tokmak 2**	**6.69**	**238**	PN	**Pn**	**21 56 20.1**	**+1.2**
TKM2				PG	Pb	21 56 43.1	+6.0
ELT	**Eltsovka**	**6.77**	**15**	⇑Pn	**Pn**	**21 56 22.7**	**+2.9**
ELT				S	**Sn**	**21 57 39.3**	**+2.7**
ELT				Sg	**Sg**	**21 58 16.3**	**-1.6**
ULHL	**Ulahol**	**6.78**	**231**	P	**Pn**	**21 56 23.1**	**+3.1**
	SNR=14						
SGDS	**Sogindy**	**6.97**	**245**	Pg	Pg	21 56 49.3	-4.9
	comp=Z,233nm,0.6s						
SGDS				Lg	Lg	21 58 19.9	
	comp=Z,1μm,0.7s						
SGDS	**Sogindy**	**6.97**	**245**	*e*PN	**Pn**	**21 56 23.8**	**+1.2**
SGDS				*e*		21 56 47.5	
SGDS	**Sogindy**	**6.97**	**245**	*e*Pn	**Pn**	**21 56 23.9**	**+1.2**
SGDS				*e*Pg	Pb	21 56 47.5	+5.7
KALT2	**Kaltan 2**	**7.13**	**20**	⇑Pn	**Pn**	**21 56 27.5**	**+2.9**
KALT2				S	**Sn**	**21 57 47.1**	**+1.7**
KALT2				Sg	**Sg**	**21 58 24.1**	**-5.3**
CHMS	**Chumysh**	**7.15**	**241**	P	**Pn**	**21 56 26.5**	**+1.5**
	SNR=22						
CHMS	**Chumysh**	**7.15**	**241**	⇑Pn	**Pn**	**21 56 26.1**	**+1.1**
	comp=Z,62nm,0.7s						
CHMS				⇓Pg	Pb	21 56 51.2	+6.4
	comp=Z,239nm,0.6s						
CHMS				⇓Lg	Lg	21 58 27.4	
	comp=Z,1μm,0.7s						
CHMS	**Chumysh**	**7.15**	**241**	P*	Pb	21 56 51.2	+6.5
USP	**Ospenovka**	**7.15**	**244**	P	**Pn**	**21 56 27.1**	**+2.0**
	SNR=32						
KBK	**Karagaybulak**	**7.23**	**238**	P	**Pn**	**21 56 28.2**	**+1.9**
	SNR=142						
ZAA0	**Zalesovo Array**	**7.26**	**7**	Pn	**Pn**	**21 56 28.1**	**+1.7**
ZAA0	**Zalesovo Array**	**7.26**	**7**	⇓Pn	**Pn**	**21 56 28.1**	**+1.7**
	comp=Z,47nm,0.7s						
ZAA0				⇑Sn	**Sn**	**21 57 48.8**	**+0.2**
	comp=Z,101nm,0.7s						
ZAA0				⇓Lg	Lg	21 58 27.3	
	comp=Z,718nm,1.2s						
ZALV	**Zalesovo Beam**	**7.26**	**7**	Pn	**Pn**	**21 56 27.5**	**+1.1**
ZALV	**Zalesovo Beam**	**7.26**	**7**	Pn	**Pn**	**21 56 27.8**	**+1.4**
	comp=Z,96nm,0.3s,baz=189,slow=13,SNR=768						
ZALV				Sn	**Sn**	**21 57 45.8**	**-2.9**
	comp=Z,140nm,0.3s,baz=200,slow=27,SNR=10						
ZALV				Lg	Lg	21 58 24.5	
	comp=Z,86nm,0.3s,baz=190,slow=26,SNR=8.5						
ZALV				LR	LR	21 59 29.4	
	comp=Z,3μm,19.0s,baz=192,slow=40						
	comp=Z,285nm,0.5s						
ZALV	**Zalesovo Beam**	**7.26**	**7**	*i* P	**Pn**	**21 56 28.3**	**+1.9**
ZALV				pmax	pmax		
	comp=Z,285nm,0.5s						
FRU1	**Bishkek**	**7.33**	**241**		**Pn**	**21 56 28.9**	**+1.4**
FRU1	**Bishkek**	**7.33**	**241**	P	**Pn**	**21 56 29.0**	**+1.4**
KIYZ	**Kiyzas, Kuzbas**	**7.38**	**21**	Pn	**Pn**	**21 56 30.6**	**+2.6**
KIYZ				S	**Sn**	**21 57 52.9**	**+1.3**
KIYZ				Sg	**Sg**	**21 58 29.6**	**-7.8**
VCHU	**Verkh-Chumysh,**	**7.47**	**14**	⇑Pn	**Pn**	**21 56 32.3**	**+2.9**
VCHU				S	**Sn**	**21 57 56.9**	**+2.9**
VCHU				Sg	**Sg**	**21 58 38.5**	**-1.9**
AAK	**Ala-Archa**	**7.51**	**240**	Pn	**Pn**	**21 56 31.4**	**+1.2**
AAK	**Ala-Archa**	**7.51**	**240**	Pn	**Pn**	**21 56 31.6**	**+1.5**
	comp=Z,25nm,0.3s,baz=98,slow=7.3,SNR=247						
AAK				Lg	Lg	21 58 32.3	
	comp=Z,65nm,0.3s,baz=150,slow=23,SNR=12						
AAK				LR	LR	21 59 49.0	
	comp=Z,460nm,20.0s,baz=30,slow=41						
	comp=Z,58nm,0.4s						
AAK	**Ala-Archa**	**7.51**	**240**	P	**Pn**	**21 56 32.3**	**+2.1**
AAK	**Ala-Archa**	**7.51**	**240**	P	**Pn**	**21 56 31.8**	**+1.7**
	SNR=84						
AAK	**Ala-Archa**	**7.51**	**240**	Pn	**Pn**	**21 56 32.2**	**+2.1**
AAK				Pg	Pg	21 56 59.2	-5.3
AAK				S	**Sn**	**21 58 04.1**	**+8.9**
AAK				Sg	**Sg**	**21 58 35.8**	**-5.9**
AAK	**Ala-Archa**	**7.51**	**240**	*c i*P	**Pn**	**21 56 32.0**	**+1.9**
AAK				pmax	pmax		
	comp=Z,78nm,0.8s						
AAK	**Ala-Archa**	**7.51**	**240**	*i* P	**Pn**	**21 56 32.2**	**+2.1**
	SNR=101						
OTUK	**Ortayu**	**7.58**	**285**	Pg	Pg	21 57 00.7	-5.0
	comp=Z,77nm,0.5s						
OTUK				Lg	Lg	21 58 36.2	
	comp=Z,1μm,1.0s						
BJR3	**Bachatsky-3 (S**	**7.69**	**13**	⇑Pn	**Pn**	**21 56 34.8**	**+2.5**
BJR3				S	**Sn**	**21 58 00.8**	**+1.6**
BJR3				Sg	**Sg**	**21 58 42.1**	**-5.1**
UCH	**Uchtor**	**7.75**	**237**	P	**Pn**	**21 56 36.6**	**+2.9**
	SNR=13						
BRZS	**Berezniki**	**7.78**	**298**	*e*P	**Pn**	**21 56 34.6**	**+1.0**
BRZS	**Berezniki**	**7.78**	**298**	*e*Pn	**Pn**	**21 56 34.6**	**+1.0**
LUZB	**Luzhba, Kemero**	**7.78**	**25**	Pn	**Pn**	**21 56 36.0**	**+2.4**
LUZB				S	**Sn**	**21 58 02.8**	**+1.3**
LUZB				Sg	**Sg**	**21 58 47.1**	**-3.1**
KOTO	**Kotino, Kuzbas**	**7.78**	**16**	Pn	**Pn**	**21 56 36.9**	**+3.3**
KOTO				S	**Sn**	**21 58 05.1**	**+3.6**
KOTO				Sg	**Sg**	**21 58 50.0**	**-0.2**
SALR	**Pechorkino, Sa**	**7.81**	**10**	Pn	**Pn**	**21 56 35.8**	**+1.8**
SALR				S	**Sn**	**21 58 02.8**	**+0.5**
SALR				Sg	**Sg**	**21 58 44.7**	**-6.5**
BSTK	**Bystrovka, Nov**	**7.83**	**357**	Pn	**Pn**	**21 56 36.6**	**+2.4**
BSTK				S	**Sn**	**21 58 03.5**	**+0.9**
BSTK				Sg	**Sg**	**21 58 45.4**	**-6.3**
ERU	**Erunakovo, Kuz**	**7.83**	**18**	⇑Pn	**Pn**	**21 56 37.2**	**+3.0**
KHAR	**Kharino, NSO,**	**7.86**	**1**	Pn	**Pn**	**21 56 36.6**	**+1.9**
KHAR				S	**Sn**	**21 58 05.1**	**+1.7**
KHAR				Sg	**Sg**	**21 58 48.4**	**-4.5**
DJO	**Djoy, Khakassi**	**7.90**	**37**	S	**Sn**	**21 58 09.7**	**+5.2**
DJO				Sg	**Sg**	**21 58 48.1**	**-6.1**
VEH	**Verkhnyaya Baz**	**7.91**	**32**	⇑Pn	**Pn**	**21 56 37.6**	**+2.2**
VEH				S	**Sn**	**21 58 09.1**	**+4.3**
VEH				Sg	**Sg**	**21 58 48.1**	**-6.3**
POMOR	**Pomortsevo, Ku**	**7.92**	**14**	⇑Pn	**Pn**	**21 56 36.1**	**+0.6**
POMOR				S	**Sn**	**21 58 04.8**	**-0.1**
POMOR				Sg	**Sg**	**21 58 51.4**	**-3.4**
EKS2	**Erkin-Say**	**7.93**	**242**	P	**Pn**	**21 56 38.3**	**+2.5**
	SNR=13						
CERR	**Cheremushki**	**8.04**	**38**	S	**Sn**	**21 58 13.0**	**+5.2**
NVS	**Novosibirsk**	**8.09**	**360**	⇑Pn	**Pn**	**21 56 38.8**	**+1.1**
NVS				S	**Sn**	**21 58 08.4**	**-0.6**
NVSII	**Novosibirsk**	**8.09**	**360**	⇑Pn	**Pn**	**21 56 39.0**	**+1.2**
NVSII				S	**Sn**	**21 58 09.7**	**+0.7**
NHES	**Novosibirsk, N**	**8.11**	**359**	⇑Pn	**Pn**	**21 56 39.4**	**+1.3**
NHES				S	**Sn**	**21 58 09.7**	**+0.2**
MRKS	**Merke**	**8.22**	**244**	Pg	Pg	21 57 11.7	-6.3
	comp=Z,166nm,0.7s						
MRKS				Lg	Lg	21 58 58.0	
	comp=Z,969nm,0.9s						
MRKS	**Merke**	**8.22**	**244**	*e*P	Pg	21 57 11.8	-6.3
	comp=Z,166nm,0.7s						
MRKS				*e*S	**Sg**	**21 58 58.0**	**-6.5**
	comp=Z,969nm,0.9s						
AML	**Almayashu**	**8.29**	**240**	P	**Pn**	**21 56 43.8**	**+2.8**
	SNR=31						
KEM	**Kemerovo**	**8.77**	**10**	Pn	**Pn**	**21 56 49.1**	**+2.1**
KEM				S	**Sn**	**21 58 25.9**	**+0.2**
ARDR	**Aradan**	**8.77**	**45**	S	**Sn**	**21 58 31.5**	**+5.6**
KZLR	**Kyzyl**	**8.81**	**52**	Pn	**Pn**	**21 56 49.5**	**+1.8**
KZLR				S	**Sn**	**21 58 34.2**	**+7.4**
KSH	**Kashi**	**9.01**	**219**	P	Pn	21 56 58.8	+8.2
KSH				S	Sn	21 58 48.5	+17
KSH				smax	smax		
	comp=Z,490nm,1.4s						
KSH				smax	smax		
	comp=Z,650nm,1.2s						
BALAH

GTA				S	Sn	22 00 41.4	+4.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				LR	LR		
	comp=Z,2μm,11.2s						
GTA				LR	LR		
	comp=Z,1μm,11.2s						
GTA				LR	LR		
	comp=Z,3μm,15.5s						
IRK	**Irkutsk**	**14.66**	**60**	*e*P	**Pn**	**21 58 09.0**	**+1.3**
IRK				pmax	pmax		
	comp=Z,217nm,2.0s						
NIL	**Nilore**	**15.17**	**214**	Pn	**Pn**	**21 58 14.6**	**-0.1**
NIL				IAmb	IAmb	21 58 20.5	
	comp=Z,155nm,1.0s						
NIL	**Nilore**	**15.17**	**214**	P	**Pn**	**21 58 15.3**	**+0.7**
NIL	**Nilore**	**15.17**	**214**	P	**Pn**	**21 58 14.6**	**-0.1**
NIL				pmax	pmax		
	comp=Z,155nm,1.0s						
SONM	**Songino Array**	**15.69**	**78**	Pn	**Pn**	**21 58 20.4**	**-1.2**
SONM	**Songino Array**	**15.69**	**78**	Pn	**Pn**	**21 58 20.7**	**-0.8**
	comp=Z,9.5nm,0.9s,baz=272,slow=13,SNR=24						
AB31	**Akbulak array**	**15.82**	**288**	⇑Pn	**Pn**	**21 58 22.2**	**-0.9**
	comp=Z,92nm,0.5s,baz=97,slow=9.9,SNR=2784						
AB31				⇑Sn	**Sn**	**22 01 22.5**	**+4.3**
	comp=Z,20nm,0.6s						
AB31				⇑Lg	Lg	22 03 04.8	
	comp=Z,699nm,1.1s						
AB31	**Akbulak array**	**15.82**	**288**	P	**Pn**	**21 58 22.2**	**-0.9**
AB31				S	**Sn**	**22 01 22.5**	**+4.3**
ABKAR	**Akbulak array**	**15.82**	**288**	Pn	**Pn**	**21 58 21.5**	**-1.5**
ABKAR	**Akbulak array**	**15.82**	**288**	Pn	**Pn**	**21 58 21.4**	**-1.7**
ABKAR				IAmb	IAmb	21 58 29.5	
	comp=Z,191nm,0.7s						
ULN	**Ulaanbaatar**	**16.13**	**77**	Pn	**Pn**	**21 58 25.5**	**-1.7**
ULN	**Ulaanbaatar**	**16.13**	**77**	P	**Pn**	**21 58 26.8**	**-0.4**
ULN	**Ulaanbaatar**	**16.13**	**77**	*ce*P	**Pn**	**21 58 26.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBL	**Kabul**	**16.29**	**227**		**Pn**	**21 58 28.1**	**-1.2**
KBL	**Kabul**	**16.29**	**227**	P	**Pn**	**21 58 28.5**	**-0.8**
	SNR=22						
KBL				P	**Pn**	**21 58 28.5**	**-0.8**
	SNR=22						
KBL	**Kabul**	**16.29**	**227**	P	**Pn**	**21 58 28.1**	**-1.2**
KBL				pmax	pmax		
	comp=Z,70nm,1.3s						
AKTO	**Aktyubinsk**	**17.10**	**292**	P	**Pn**	**21 58 38.4**	**-0.9**
	comp=Z,5.4nm,0.3s,baz=85,slow=11,SNR=58						
AKTO				S	**Sn**	**22 01 44.7**	**-4.4**
	comp=Z,17nm,0.7s,baz=101,slow=10,SNR=1.3						
AKTO				Lg	Lg	22 03 34.0	
	comp=Z,1.0nm,0.3s,baz=59,slow=19,SNR=4.0						
AKTO				LR	LR	22 04 34.2	
	comp=Z,512nm,18.6s,baz=200,slow=35						
	comp=Z,24nm,0.5s						
AKTO	**Aktyubinsk**	**17.10**	**292**	⇑Pn	**Pn**	**21 58 38.9**	**-0.4**
	comp=Z,41nm,1.0s						
AKTO				⇑Sn	**Sn**	**22 01 50.6**	**+1.5**
	comp=Z,98nm,1.4s						
AKTO				⇓Lg	Lg	22 03 44.4	
	comp=Z,397nm,1.4s						
AKTO	**Aktyubinsk**	**17.10**	**292**	P	**Pn**	**21 58 38.9**	**-0.4**
AKTO				S	**Sn**	**22 01 50.6**	**+1.5**
SVE	**Sverdlovsk**	**17.18**	**314**	*de*P	**Pn**	**21 58 39.8**	**-0.5**
SVE				pmax	pmax		
	comp=Z,122nm,1.1s						
SVE				MLR	MLR		
	comp=Z,3μm,9.0s						
LSA	**Lhasa**	**18.10**	**158**	P	**Pn**	**21 58 51.9**	**-0.4**
LSA	**Lhasa**	**18.10**	**158**	P	**Pn**	**21 58 51.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,25nm,0.6s						
LSA	**Lhasa**	**18.10**	**158**	P	**P**	**21 58 53.4**	**+0.8**
ARTI	**Arti**	**18.14**	**311**		**Pn**	**21 58 50.4**	**-1.8**
ARTI	**Arti**	**18.14**	**311**	P	**Pn**	**21 58 52.2**	**0.0**
	comp=Z,11nm,0.3s,baz=112,slow=8.1,SNR=48						
ARTI				S	**Sn**	**22 02 12.8**	**-1.5**
	comp=Z,17nm,0.6s,baz=94,slow=20,SNR=1.5						
ARTI				Lg	Lg	22 04 07.4	
	comp=Z,2.5nm,0.3s,baz=127,slow=20,SNR=5.1						
ARTI				LR	LR	22 05 55.3	
	comp=Z,2μm,18.7s,baz=110,slow=37						
	comp=Z,26nm,0.3s						
ARTI	**Arti**	**18.14**	**311**	*d i*P	**Pn**	**21 58 52.4**	**+0.2**
ARTI				S	**Sn**	**22 02 17.3**	**+3.0**
ARTI				pmax	pmax		
	comp=Z,81nm,1.2s						
ARTI				MLR	MLR		
	comp=Z,2μm,17.0s						
LZH	**Lanzhou**	**18.68**	**117**	P	**P**	**21 58 58.7**	**0.0**
LZH				sP	sP	21 59 06.3	+2.0
LZH				S	**Sn**	**22 02 23.4**	**-4.4**
LZH				SS	**SnSn**	**22 02 45.4**	**+4.0**
LZH				pmax	pmax		
	comp=Z,42nm,1.2s						
LZH				pmax	pmax		
	comp=Z,340nm,5.8s						
LZH				LR	LR		
	comp=Z,4μm,12.7s						
LZH				LR	LR		
	comp=Z,4μm,12.4s						
LZH				LR	LR		
	comp=Z,3μm,12.4s						
HRA	**Herat**	**20.15**	**240**	P	**P**	**21 59 14.8**	**0.0**
BTO	**Baotou**	**20.22**	**98**	*e*P	**P**	**21 59 13.4**	**-2.1**
BTO				PP	**PnPn**	**21 59 33.2**	**+1.3**
BTO				S	**S**	**22 02 59.1**	**-2.9**
BTO				SS	**SnSn**	**22 03 25.3**	**+6.2**
BTO				pmax	pmax		
	comp=Z,54nm,0.9s						
BTO				pmax	pmax		
	comp=Z,510nm,4.1s						
BTO				LR	LR		
	comp=Z,1μm,4.5s						
BTO				LR	LR		
	comp=Z,910nm,3.2s						
BTO				LR	LR		
	comp=Z,1μm,6.5s						
CIT	**Chita**	**20.29**	**64**	*e*P	**P**	**21 59 15.4**	**-0.7**
CIT				*e*		21 59 26.8	
CIT				*e*		21 59 36.1	
CIT				*e*		21 59 50.3	
CIT				*e*		22 03 21.6	
CIT				pmax	pmax		
	comp=Z,140nm,1.8s						
HHC	**Hu-ho-hao-te**	**21.16**	**96**	⇑*i*P	**P**	**21 59 25.5**	**-0.2**
HHC				pP	pP	21 59 29.8	+0.1
HHC				PP	**PnPn**	**21 59 51.2**	**+6.3**
HHC				S	**S**	**22 03 17.4**	**-3.4**
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.0s						
HHC				LR	LR		
	comp=Z,820nm,13.1s						
HHC				LR	LR		
	comp=Z,1μm,12.6s						
HHC				LR	LR		
	comp=Z,1μm,12.6s						
BOD	**Bodaibo**	**21.59**	**48**	*e*P	**P**	**21 59 29.9**	**-0.1**
BOD				pmax	pmax		
	comp=Z,576nm,1.1s						
SHL	**Shillong**	**22.23**	**159**	P	**P**	**21 59 35.7**	**-1.6**
SHL				IAmb	IAmb	21 59 39.8	
	comp=Z,102nm,1.3s						
SHL	**Shillong**	**22.23**	**159**	P	**P**	**21 59 35.9**	**-1.3**
	SNR=26						
SHL	**Shillong**	**22.23**	**159**	P	**P**	**21 59 35.7**	**-1.6**
SHL				pmax	pmax		
	comp=Z,102nm,1.3s						
CD2	**Chengdu**	**22.36**	**128**	P	**P**	**21 59 39.0**	**+0.5**
CD2				S	**S**	**22 03 43.8**	**-0.1**
CD2				pmax	pmax		
	comp=Z,50nm,1.0s						
CD2				LR	LR		
	comp=Z,1μm,11.6s						
CD2				LR	LR		
	comp=Z,3μm,14.7s						
CD2				LR	LR		
	comp=Z,3μm,15.6s						
NRIK	**Noril'sk**	**22.74**	**4**	P	**P**	**21 59 40.8**	**-1.4**
NRIK	**Noril'sk**	**22.74**	**4**	P	**P**	**21 59 41.4**	**-0.8**
	comp=Z,96nm,0.9s,baz=177,slow=8.5,SNR=79						
NRIK				S	**S**	**22 03 48.0**	**-2.2**
	comp=Z,5.4nm,0.7s,baz=180,slow=18,SNR=5.9						
NRIK				LR	LR	22 08 27.0	
	comp=Z,283nm,19.8s,baz=193,slow=36						
	comp=Z,96nm,0.9s						
NRIK	**Noril'sk**	**22.74**	**4**	*c i*P	**P**	**21 59 41.2**	**-1.0**
NRIK				pmax	pmax		
	comp=Z,139nm,1.1s						
XLT	**XiLinHaoTe**	**23.12**	**85**	*e*P	**P**	**21 59 47.0**	**+0.5**
XLT				S	**S**	**22 03 54.9**	**-2.6**
XLT				pmax	pmax		
	comp=Z,29nm,1.1s						
XLT				LR	LR		
	comp=Z,210nm,7.5s						
XLT				LR	LR		
	comp=Z,710nm,7.9s						
XLT				LR	LR		
	comp=Z,460nm,7.8s						
XAN	**Xi'an**	**23.16**	**114**	P	**P**	**21 59 45.7**	**-1.2**
XAN				pP	pP	21 59 49.6	-1.3
XAN				S	**S**	**22 03 55.8**	**-2.4**
XAN				sS	pS	22 04 02.9	0.0
XAN				pmax	pmax		
	comp=Z,37nm,1.2s						
XAN				pmax	pmax		
	comp=Z,320nm,5.0s						
XAN				LR	LR		
	comp=Z,3μm,13.1s						
XAN				LR	LR		
	comp=Z,3μm,11.2s						
XAN				LR	LR		
	comp=Z,3μm,13.7s						
TIY	**Taiyuan**	**23.27**	**102**	*e*P	**P**	**21 59 48.5**	**+0.4**
TIY				S	**S**	**22 04 01.4**	**+1.4**
TIY				pmax	pmax		
	comp=Z,52nm,1.1s						
TIY				LR	LR		
	comp=Z,1μm,11.2s						
TIY				LR	LR		
	comp=Z,1μm,10.8s						
TIY				LR	LR		
	comp=Z,1μm,13.0s						
KIRV	**Kirov**	**23.43**	**313**	LR	LR	22 09 30.4	
	comp=Z,1μm,19.8s,baz=106,slow=38						
KIRV	**Kirov**	**23.43**	**313**	*ce*P	**P**	**21 59 49.0**	**-0.3**
BELG	**Belogornoye**	**23.64**	**297**	LR	LR	22 09 31.4	
	comp=Z,390nm,19.6s,baz=87,slow=38						
BELG	**Belogornoye**	**23.64**	**297**	*ce*P	**P**	**21 59 50.9**	**-0.5**
BELG				pmax	pmax		
	comp=Z,15nm,0.9s						
HIA	**Hailar**	**24.35**	**71**	P	**P**	**21 59 58.7**	**+0.5**
HIA	**Hailar**	**24.35**	**71**	P	**P**	**21 59 58.8**	**+0.5**
HIA	**Hailar**	**24.35**	**71**	P	**P**	**21 59 58.7**	**+0.5**
HIA				pmax	pmax		
	comp=Z,45nm,1.1s						
BJI	**Beijing**	**24.68**	**94**	P	**P**	**22 00 01.8**	**+0.6**
BJI				sP	**sP**	**22 00 09.1**	**+1.9**
BJI				S	**S**	**22 04 18.7**	**-3.7**
BJI				pmax	pmax		
	comp=Z,18nm,0.9s						
BJI				pmax	pmax		
	comp=Z,120nm,7.0s						
BJI				LR	LR		
	comp=Z,440nm,8.5s						
BJI				LR	LR		
	comp=Z,450nm,11.1s						
BJI				LR	LR		
	comp=Z,470nm,10.4s						
BJT	**Baijiatuau**	**24.68**	**94**	P	**P**	**22 00 01.6**	**+0.3**
BJT	**Baijiatuau**	**24.68**	**94**	P	**P**	**22 00 01.8**	**+0.5**
BJT	**Baijiatuau**	**24.68**	**94**	P	**P**	**22 00 01.6**	**+0.3**
BJT				pmax	pmax		
	comp=Z,41nm,1.1s						
TNCH	**TengChong**	**24.86**	**146**	P	**P**	**22 00 04.8**	**+1.6**
TNCH				pP	pP	22 00 07.0	-0.3
TNCH				S	**S**	**22 04 24.1**	**-1.7**
TNCH				pmax	pmax		
	comp=Z,30nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,190nm,3.5s						
TNCH				LR	LR		
	comp=Z,380nm,13.6s						
TNCH				LR	LR		
	comp=Z,670nm,11.3s						
TNCH				LR	LR		
	comp=Z,910nm,18.8s						
PZH	**PanZhiHua**	**24.94**	**138**	P	**P**	**22 00 04.9**	**+1.1**
PZH				S	**S**	**22 04 26.0**	**-1.0**
PZH				sS	**sS**	**22 04 36.8**	**+2.9**
PZH				pmax	pmax		
	comp=Z,30nm,0.8s						
PZH				pmax	pmax		
	comp=Z,160nm,6.7s						
PZH				LR	LR		
	comp=Z,1μm,16.1s						
PZH				LR	LR		
	comp=Z,1μm,19.6s						
PZH				LR	LR		
	comp=Z,2μm,18.5s						
BRDH	**Bariadhala**	**24.96**	**162**	LR	LR	22 12 34.3	
	comp=Z,1μm,18.3s,baz=308,slow=43						
HNS	**HongShan**	**24.97**	**101**	⇑P	**P**	**22 00 04.7**	**+0.8**
HNS				S	**S**	**22 04 31.3**	**+4.2**
HNS				pmax	pmax		
	comp=Z,95nm,1.1s						
HNS				LR	LR		
	comp=Z,690nm,11.9s						
HNS				LR	LR		
	comp=Z,1μm,12.0s						
HNS				LR	LR		
	comp=Z,1μm,13.5s						
LYN	**LuoYang**	**25.11**	**109**	P	**P**	**22 00 05.5**	**+0.4**
LYN				pP	sP	22 00 10.7	-0.4
LYN				PP	**PnPn**	**22 00 42.5**	**+3.7**
LYN				S	**S**	**22 04 30.2**	**+0.8**
LYN				sS	sS	22 04 38.5	+2.2
LYN				pmax	pmax		
	comp=Z,56nm,1.2s						
LYN				pmax	pmax		
	comp=Z,360nm,4.1s						
LYN				LR	LR		
	comp=Z,3μm,16.1s						
LYN				LR	LR		
	comp=Z,2μm,15.1s						
LYN				LR	LR		
	comp=Z,4μm,12.7s						
MAK	**Makhachkala**	**25.52**	**275**	*e*P	**P**	**22 00 04.8**	**-4.0**
MAK				*e*		22 00 41.7	
MAK				*e*S	**S**	**22 04 31.0**	**-4.8**
MAK				pmax	pmax		
	comp=Z,121nm,1.3s						
AKT	**Akhty**	**25.93**	**271**	*e*P	**P**	**22 00 13.2**	**+0.5**
AKT				*e*		22 00 49.8	
AKT				*e*PPP	PPP	22 00 58.9	
AKT				*e*		22 03 42.3	
AKT				*e*S	**S**	**22 04 45.4**	**+2.8**
AKT				*e*SS	**SnSn**	**22 05 40.4**	**+1.4**
AKT				pmax	pmax		
	comp=Z,26nm,0.8s						
AKT				MLR	MLR		
	comp=Z,509nm,15.0s						
KMI	**Kunming**	**26.58**	**138**	⇓P	**P**	**22 00 20.4**	**+1.6**
KMI				S	**S**	**22 04 50.0**	**-3.2**
KMI				pmax	pmax		
	comp=Z,31nm,1.2s						
KMI				LR	LR		
	comp=Z,1μm,15.3s						
KMI				LR	LR		
	comp=Z,460nm,20.0s						
KMI				LR	LR		
	comp=Z,2μm,16.0s						
TIA	**Tai'an**	**27.24**	**101**	P	**P**	**22 00 25.4**	**+0.9**
TIA				S	**S**	**22 05 05.0**	**+1.8**
TIA				pmax	pmax		
	comp=Z,14nm,1.6s						
TIA				pmax	pmax		
	comp=Z,230nm,4.0s						
TIA				LR	LR		
	comp=Z,1μm,15.0s						
TIA				LR	LR		
	comp=Z,1μm,12.5s						
TIA				LR	LR		
	comp=Z,2μm,14.4s						
VRH	**Novokhopyorsk**	**27.38**	**295**	*e*P	**P**	**22 00 25.3**	**-0.2**
VRH				pmax	pmax		
	comp=Z,19nm,1.0s						
VRH				MLR	MLR		
	comp=Z,200nm,13.0s						
GYA	**Guiyang**	**27.43**	**130**	⇓P	**P**	**22 00 26.8**	**+0.5**
GYA				S	**S**	**22 05 05.7**	**-0.7**
GYA				pmax	pmax		
	comp=Z,42nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,3.2s						
GYA				LR	LR		
	comp=Z,880nm,19.3s						
GYA				LR	LR		
	comp=Z,1μm,17.2s						
GYA				LR	LR		
	comp=Z,360nm,13.3s						
GOF	**Gofitskoye**	**27.86**	**281**	*ce*P	**P**	**22 00 31.1**	**+1.2**
NCK	**Nalchik**	**28.00**	**278**	⇓*e*P	**P**	**22 00 32.5**	**+1.3**
NCK				pmax	pmax		
	comp=Z,27nm,1.1s						
KBZ	**Khabaz**	**28.39**	**279**	P	**P**	**22 00 34.2**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=97,slow=6.5,SNR=8.2						
KBZ				LR	LR	22 13 57.9	
	comp=Z,572nm,19.3s,baz=90,slow=41						
	comp=Z,4.8nm,0.9s						
KBZ	**Khabaz**	**28.39**	**279**	*c i*P	**P**	**22 00 35.0**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**28.46**	**279**	P	**P**	**22 00 35.8**	**+0.4**
KIV	**Kislovodsk**	**28.46**	**279**	*e*P	**P**	**22 00 36.2**	**+0.8**
KIV				*e*S	**S**	**22 05 24.9**	**+2.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,309nm,15.0s						
KIV	**Kislovodsk**	**28.46**	**279**	P	**P**	**22 00 36.7**	**+1.3**
KIV	**Kislovodsk**	**28.46**	**279**	P	**P**	**22 00 36.4**	**+1.0**
	comp=Z,14nm,1.0s						
GNI	**Garni**	**28.55**	**271**	P	**P**	**22 00 36.7**	**+0.4**
GNI				IAmb	IAmb	22 01 00.3	
	comp=Z,34nm,0.9s						
GNI	**Garni**	**28.55**	**271**	LR	LR	22 14 09.5	
	comp=Z,280nm,18.4s,baz=102,slow=41						
GNI	**Garni**	**28.55**	**271**	P	**P**	**22 00 38.8**	**+2.5**
GNI	**Garni**	**28.55**	**271**	*ce*P	**P**	**22 00 38.2**	**+1.9**
GNI				pmax	pmax		
	comp=Z,17nm,1.0s						
GNI	**Garni**	**28.55**	**271**	P	**P**	**22 00 38.1**	**+1.8**
	comp=Z,38nm,1.0s						
SHA1	**Shidzhatmaz**	**28.55**	**279**	*de*P	**P**	**22 00 37.9**	**+1.5**
ZEA	**Zeya**	**28.57**	**60**	*e*P	**P**	**22 00 37.2**	**+1.1**
ZEA				pmax	pmax		
	comp=Z,20nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,800nm,8.0s						
KLMR	**Klimovskoe**	**28.81**	**315**	*e*P	**P**	**22 00 37.7**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,60nm,1.1s						
KLMR				MLR	MLR		
	comp=Z,1μm,10.0s						
VORR	**Voronezh**	**28.88**	**296**	*e*P	**P**	**22 00 37.4**	**-1.5**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WHN	**Wuhan**	**28.91**	**113**	⇑P	**P**	**22 00 39.3**	**0.0**
WHN				pmax	pmax		
	comp=Z,62nm,0.6s						
WHN				LR	LR		
	comp=Z,3μm,12.9s						
WHN				LR	LR		
	comp=Z,3μm,11.0s						
WHN				LR	LR		
	comp=Z,5μm,12.5s						
VORD	**Divnogorie**	**28.93**	**295**	*e*P	**P**	**22 00 38.5**	**-0.8**
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
LPSR	**Galich'ya Gora**	**28.93**	**298**	*e*P	**P**	**22 00 39.3**	**-0.1**
LPSR				pmax	pmax		
	comp=Z,38nm,0.9s						
LPSR				MLR	MLR		
	comp=Z,800nm,17.0s						
DL2	**Dalian**	**28.95**	**92**	P	**P**	**22 00 42.5**	**+2.9**
DL2				S	**S**	**22 05 34.5**	**+4.6**
DL2				pmax	pmax		
	comp=Z,48nm,1.4s						
DL2				pmax	pmax		
	comp=Z,620nm,5.7s						
DL2				LR	LR		
	comp=Z,910nm,14.8s						
DL2				LR	LR		
	comp=Z,760nm,14.2s						
DL2				LR	LR		
	comp=Z,1μm,15.3s						
VSR	**Storozhevoye**	**28.97**	**295**	*e*P	**P**	**22 00 37.6**	**-2.1**
VSR				pmax	pmax		
	comp=Z,40nm,0.9s						
VSR				MLR	MLR		
	comp=Z,850nm,15.0s						
SNY	**Shenyang**	**29.01**	**85**	⇓P	P	22 00 35.2	-4.9
SNY				S	**S**	**22 05 27.8**	**-3.0**
SNY				pmax	pmax		
	comp=Z,10.0nm,2.1s						
SNY				pmax	pmax		
	comp=Z,150nm,4.8s						
SNY				LR	LR		
	comp=N,290nm,7.5s						
SNY				LR	LR		
	comp=E,400nm,9.6s						
SNY				LR	LR		
	comp=Z,730nm,9.1s						
HEH	**HeiHe**	**29.11**	**67**	*e*P	**P**	**22 00 41.2**	**+0.3**
HEH				pmax	pmax		
	comp=Z,19nm,1.0s						
HEH				LR	LR		
	comp=Z,1μm,9.2s						
HEH				LR	LR		
	comp=Z,2μm,9.1s						
HEH				LR	LR		
	comp=Z,3μm,10.1s						
ERBR	**Yeremizino-Bor**	**29.37**	**284**	*e*P	**P**	**22 00 45.0**	**+1.6**
ERBR				pmax	pmax		
	comp=Z,193nm,1.2s						
MOS	**Moscow**	**29.48**	**305**	*e*P	**P**	**22 00 42.6**	**-1.5**
MOS				pmax	pmax		
	comp=Z,37nm,0.9s						
MOS				MLR	MLR		
	comp=Z,1μm,11.0s						
HYB	**Hyderabad**	**29.53**	**189**	*e*P	**P**	**22 00 44.6**	**-0.3**
HYB				*e*S	**S**	**22 05 39.2**	**-0.1**
HYB				IVMs_BB	IVMs_BB	22 13 54.8	
	comp=Z,426nm,13.4s						
CN2	**Changchun**	**29.54**	**80**	*e*P	**P**	**22 00 44.9**	**0.0**
CN2				*e*S	**S**	**22 05 35.8**	**-3.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,700nm,11.0s						
CN2				LR	LR		
	comp=Z,600nm,11.0s						
CN2				LR	LR		
	comp=Z,900nm,11.6s						
LABN	**Labinsk**	**29.55**	**282**	*e*P	**P**	**22 00 46.6**	**+1.6**
LABN				pmax	pmax		
	comp=Z,99nm,1.2s						
SHME	**Shamm**	**29.84**	**236**	P	**P**	**22 00 48.9**	**+1.2**
	SNR=6.5						
SHME				P	**P**	**22 00 48.9**	**+1.2**
	SNR=6.5						
SHME	**Shamm**	**29.84**	**236**	*i* P	**P**	**22 00 49.1**	**+1.4**
	SNR=15						
BANOM	**Banah**	**29.85**	**235**	P	**P**	**22 00 49.8**	**+2.0**
BANOM				P	**P**	**22 00 49.8**	**+2.0**
BANOM	**Banah**	**29.85**	**235**	*i* P	**P**	**22 00 49.7**	**+2.0**
	SNR=7.4						
OBN	**Obninsk**	**30.11**	**303**	LR	LR	22 13 11.3	
	comp=Z,1μm,18.2s,baz=80,slow=37						
OBN	**Obninsk**	**30.11**	**303**	⇑*i*P	**P**	**22 00 49.2**	**-0.5**
OBN				*i*		22 00 58.8	
OBN				*i*		22 01 42.9	
OBN				pmax	pmax		
	comp=Z,69nm,1.3s						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s						
OBN	**Obninsk**	**30.11**	**303**	P	**P**	**22 00 49.9**	**+0.2**
	comp=Z,55nm,1.1s						
OBN				pP	**pP**	**22 00 54.0**	**+0.1**
	comp=Z,55nm,1.1s						
BNX	**BinXian**	**30.21**	**76**	⇑P	**P**	**22 00 50.0**	**-0.8**
BNX				pmax	pmax		

comp=Z,17nm,0.9s
YAK Yakutsk 30.22 43 P P 22 00 50.0 -0.6
YAK IAmb IAmb 22 00 52.0
comp=Z,107nm,1.3s
YAK Yakutsk 30.22 43 LR LR 22 13 29.5
comp=Z,2μm,19.3s,baz=256,slow=38
YAK Yakutsk 30.22 43 *c iP* **P 22 00 49.4 -1.3**
YAK *e* 22 01 43.2
YAK *e*S **S 22 05 49.6 +0.1**
YAK *e*SS **SnSn 22 07 20.8 -2.2**
YAK pmax pmax
comp=Z,113nm,1.8s
YAK pmax pmax
comp=N,14nm,1.9s
YAK pmax pmax
comp=E,68nm,1.8s
YAK pmax pmax
comp=Z,243nm,4.0s
YAK pmax pmax
comp=N,242nm,4.8s
YAK pmax pmax
comp=E,249nm,5.3s
YAK smax smax
comp=N,370nm,5.3s
YAK smax smax
comp=E,250nm,6.4s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=N,326nm,17.0s
YAK MLR MLR
comp=E,873nm,14.0s
MDH Madha 30.34 234 P **P 22 00 53.9 +1.9**
MDH P **P 22 00 53.9 +1.9**
MDH Madha 30.34 234 P **P 22 00 54.2 +2.2**
MASF Masafi 30.36 235 P **P 22 00 54.0 +1.7**
MASF P **P 22 00 54.0 +1.7**
MSFE Esma-Masafi 30.37 235 P **P 22 00 54.2 +1.8**
GULI GuiLin 30.37 125 P **P 22 00 52.1 -0.2**
GULI S **S 22 05 46.9 -5.6**
GULI pmax pmax
comp=E,10.0nm,1.0s
GULI pmax pmax
comp=E,330nm,3.4s
GULI LR LR
comp=E,1μm,18.1s
GULI LR LR
comp=E,2μm,16.9s
GULI LR LR
comp=E,2μm,15.9s
SLVN Son La 30.39 140 P **P 22 00 53.2 +0.6**
SLVN Son La 30.39 140 P **P 22 00 53.7 +1.1**
VSLR Vesyoloye 30.43 280 *de*P **P 22 00 54.3 +1.5**
VSLR pmax pmax
comp=Z,37nm,1.0s
GEVA Gevas 30.56 269 P **P 22 00 55.3 +1.2**
SOC Sochi 30.60 280 *e*P **P 22 00 54.1 -0.1**
SOC *e* 22 01 52.3
SOC *e*PPP PPP 22 02 02.9
SOC *e*S **S 22 05 57.8 +2.0**
SOC *e*SSS SSS 22 07 52.4
SOC pmax pmax
comp=Z,34nm,1.2s
SOC MLR MLR
comp=Z,589nm,17.0s
UOSS Minazif 30.67 234 P **P 22 00 55.9 +0.9**
UOSS Minazif 30.67 234 P **P 22 00 56.7 +1.7**
UOSS Minazif 30.67 234 P **P 22 00 56.6 +1.6**
CHTO Chiang Mai 30.70 150 P **P 22 00 54.9 -0.4**
CHTO Chiang Mai 30.70 150 P **P 22 00 54.9 -0.4**
CHTO pmax pmax
comp=Z,12nm,0.9s
WSAR Wadi Sarin 30.74 229 LR LR 22 15 58.5
comp=Z,479nm,18.6s,baz=80,slow=42
HATD Hatta, Dubai 30.80 234 P **P 22 01 00.4 +4.2**
HATD Hatta, Dubai 30.80 234 P **P 22 00 58.0 +1.8**
NJ2 Nanjing 30.85 106 *e*P **P 22 00 57.0 +0.5**
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 LR LR
comp=Z,1μm,14.2s
NJ2 LR LR
comp=Z,840nm,12.6s
NJ2 LR LR
comp=Z,1μm,13.7s
ASHO Ashiyiah 30.96 234 P **P 22 00 59.0 +1.4**
SNR=5.2
ASHO Ashiyiah 30.96 234 *i* P **P 22 00 58.8 +1.3**
SNR=6.2
CM31 Chiang Mai Arr 31.03 150 P **P 22 00 58.8 +0.6**
CM31 IAmb IAmb 22 01 03.9
comp=Z,35nm,1.2s
CMAR Chiang Mai Arr 31.03 150 P **P 22 00 58.6 +0.4**
CMAR Chiang Mai Arr 31.03 150 P **P 22 00 58.1 0.0**
comp=Z,15nm,0.9s,baz=330,slow=8.9,SNR=94
CMAR PcP **PcP 22 03 54.1 +0.3**
comp=Z,4.6nm,0.9s,baz=324,slow=5.2,SNR=5.2
CMAR LR LR 22 15 06.8
comp=Z,638nm,18.3s,baz=345,slow=40
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 31.03 150 *ce*P **P 22 00 59.2 +1.0**
CMAR pmax pmax
comp=Z,13nm,0.7s
SOHO SOHO 31.13 233 P **P 22 01 01.6 +2.6**
GURO Guroymak-BITLI 31.15 270 P **P 22 01 00.9 +1.6**
HOQ Hoqain 31.15 231 P **P 22 01 01.2 +1.9**
SMDO Samad 31.19 229 P P 22 01 04.9 +5.2
SIRT Sirnak 31.39 268 P **P 22 01 02.0 +0.7**
SIRT IAmb IAmb 22 01 05.5
comp=Z,34nm,1.2s
ASUD Al Ashush, Dub 31.41 235 P **P 22 01 04.7 +3.2**
PHRA Phrae 31.44 148 P **P 22 01 01.8 0.0**
KOPT Kop Dagi 31.52 273 P **P 22 01 01.3 -1.4**
ALNE Al Ain 31.62 234 P **P 22 01 07.5 +4.1**
ANN Anapa 31.71 284 *e*P **P 22 01 01.3 -2.6**
ANN pmax pmax
comp=Z,128nm,1.1s
ANN MLR MLR
comp=Z,747nm,13.0s
ARQ Araqi 31.77 232 P P 22 01 09.8 +5.0
BSY Bisya 31.89 230 P **P 22 01 07.9 +2.1**
MDJ Mudanjiang 32.05 77 P **P 22 01 05.6 -1.4**
MDJ Mudanjiang 32.05 77 P **P 22 01 08.7 +1.8**
MDJ pmax pmax
comp=Z,13nm,1.6s
MDJ LR LR
comp=Z,1μm,10.0s
MDJ LR LR
comp=Z,1μm,9.0s
MDJ LR LR
comp=Z,1μm,10.2s
KLR Kul'dur 32.07 67 P **P 22 01 06.7 -0.5**
comp=Z,8.2nm,0.8s,baz=288,slow=8.9,SNR=27
KLR LR LR 22 15 01.7
comp=Z,590nm,18.7s,baz=284,slow=38
comp=Z,8.2nm,0.8s
KLR Kul'dur 32.07 67 *ce*P **P 22 01 07.2 +0.1**
KLR pmax pmax
comp=Z,7.0nm,0.9s
LVZ Lovozero 32.43 328 P **P 22 01 09.7 -0.4**
LVZ IAmb IAmb 22 01 10.8
comp=Z,52nm,1.0s
LVZ Lovozero 32.43 328 *ce*P **P 22 01 09.9 -0.2**
LVZ pmax pmax
comp=Z,83nm,1.7s
LVZ Lovozero 32.43 328 P **P 22 01 10.2 +0.1**
comp=Z,65nm,1.0s
JRN Qarnain Island 32.59 239 P **P 22 01 12.2 +0.3**
MARD Mardin 32.62 269 P **P 22 01 13.0 +0.8**
TIXI Tiksi 32.72 25 P **P 22 01 11.1 -1.4**
TIXI IAmb IAmb 22 01 13.2
comp=Z,36nm,1.0s
TIXI Tiksi 32.72 25 LR LR 22 14 08.9
comp=Z,433nm,21.4s,baz=256,slow=36
TIXI Tiksi 32.72 25⇑ *e*P **P 22 01 11.9 -0.7**
TIXI pmax pmax
comp=Z,39nm,1.0s
KBD Kabd 32.76 250 P **P 22 01 14.8 +1.5**
MZWR Madinat Zayed 32.91 236 P **P 22 01 14.9 +0.2**
JOF Joensuu 32.92 318 *e*P **P 22 01 13.0 -1.3**
SSE Sheshan 33.00 105 P **P 22 01 14.6 -0.8**
SSE S **S 22 06 31.9 -1.4**
SSE pmax pmax
comp=Z,12nm,1.2s
SSE pmax pmax
comp=Z,120nm,5.2s
SSE LR LR
comp=Z,410nm,14.3s
SSE LR LR
comp=Z,230nm,14.1s
SHMA Al-Shehemyia 33.04 242 P **P 22 01 17.0 +1.2**
INCN Inchon 33.08 90 P **P 22 01 14.3 -1.8**
INCN Inchon 33.08 90 P **P 22 01 16.7 +0.6**
INCN Inchon 33.08 90 P **P 22 01 14.3 -1.8**
INCN pmax pmax
comp=Z,87nm,1.2s
SAKB Bahrain 33.21 243 P **P 22 01 18.4 +1.1**
GHWR Ruwais 33.33 238 P **P 22 01 18.4 +0.1**
PSTR Posyet 33.60 79 *de*P **P 22 01 21.4 +0.9**
TRNA Turayna 33.72 240 P **P 22 01 22.1 +0.4**
SNR=5.2
MZR Muzera 33.73 236 P **P 22 01 22.3 +0.4**
SNR=11
MZR Muzera 33.73 236 *i* P **P 22 01 22.0 +0.1**
SNR=6.8
USA0B Ussuriysk Arra 33.80 76 P **P 22 01 21.0 -1.2**
USA0B IAmb IAmb 22 01 23.7
comp=Z,41nm,1.0s
USA0B Ussuriysk Arra 33.80 76 P **P 22 01 21.0 -1.2**
USA0B pmax pmax
comp=Z,41nm,1.0s
USRK Ussuriysk Ar. 33.80 76 P **P 22 01 21.9 -0.3**
comp=Z,32nm,0.9s,baz=284,slow=7.4,SNR=32
USRK LR LR 22 16 10.0
comp=Z,438nm,19.8s,baz=288,slow=38
comp=Z,32nm,0.9s
USRK Ussuriysk Ar. 33.80 76 P **P 22 01 22.0 -0.3**
SIM Simferopol' 33.86 285 *e*P **P 22 01 23.4 +0.6**
SIM pmax pmax
comp=Z,119nm,1.1s
KS19 Wonju Array Si 33.92 89 P **P 22 01 21.9 -1.5**
SLWR Sila 33.94 239 P **P 22 01 24.2 +0.5**
SMRA Abu-Samra 33.95 241 P **P 22 01 24.6 +1.0**
SNR=8.4
KSAR Wonju Array Be 33.96 90 P **P 22 01 23.3 -0.4**
KSAR Wonju Array Be 33.96 90 P **P 22 01 23.3 -0.4**
KSRS Korea Array 33.98 90 P **P 22 01 22.4 -1.5**
comp=Z,4.4nm,0.6s,baz=290,slow=8.9,SNR=15
KSRS LR LR 22 16 12.4
comp=Z,399nm,18.8s,baz=290,slow=38
comp=Z,4.4nm,0.6s
DQM DQM 34.05 227 P **P 22 01 25.8 +1.1**
TOKA Tokat 34.14 276 P **P 22 01 24.9 -0.4**
GRNR Gornyy 34.61 63⇑ *i*P **P 22 01 29.8 +0.6**
GRNR pmax pmax
comp=Z,7.0nm,1.0s
GRNR MLR MLR
comp=E,310nm,14.0s
GRNR MLR MLR
comp=N,330nm,11.0s
GRNR MLR MLR
comp=Z,830nm,13.0s
VADS Vadso 34.83 331 *e*P **P 22 01 31.6 +0.7**
VADS IAmb IAmb 22 01 32.5
comp=Z,52nm,0.8s
SRDT SRDT 34.92 153 P **P 22 01 33.3 +1.1**
GAZ Gaziantep 35.15 271 P **P 22 01 33.2 -0.9**
MNK Minsk 35.17 304 *i* P **P 22 01 35.0 +1.0**
comp=E,6.0nm,0.7s
MNK *i* P **P 22 01 35.0 +1.0**
comp=N,27nm,0.8s
MNK *i* P **P 22 01 35.0 +1.0**
comp=Z,41nm,0.8s,baz=79
MNK *i* PP **PP 22 02 52.9 -0.7**
MNK *i* S **S 22 07 09.4 +2.9**
MNK *i* SS **SnSn 22 09 28.1 +4.9**
MNK *i* LQ LQ 22 13 30.3
MNK *i* LR LR 22 15 02.5
MNK *i* LRM MLR 22 16 08.3
comp=E,477nm,16.3s
MNK *i* LRM MLR 22 16 23.0
comp=Z,2μm,16.5s
MNK *i* LRM MLR 22 16 28.3
comp=N,1μm,16.8s
MNK Minsk 35.17 304 *i* P **P 22 01 35.0 +1.0**
MNK *i* 22 02 52.9
MNK *i* S **S 22 07 09.4 +2.9**
MNK *i* SS **SnSn 22 09 28.1 +4.9**
MNK pmax pmax
comp=N,27nm,0.8s
MNK pmax pmax
comp=Z,41nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.7s
MNK MLR MLR
comp=E,477nm,16.0s
MNK MLR MLR
comp=Z,2μm,17.0s
MNK MLR MLR
comp=N,1μm,17.0s
QIZ Qiongzhong 35.19 133 P **P 22 01 35.0 +0.5**
QIZ S **S 22 07 09.5 +2.0**
QIZ LR LR
comp=N,720nm,15.9s
QIZ LR LR
comp=N,1μm,16.7s
QIZ LR LR
comp=N,960nm,13.4s
AK09 Malin Array Si 35.21 297 P **P 22 01 34.3 -0.1**
AK03 Malin Array Si 35.22 297 P **P 22 01 34.4 -0.1**
AK08 Malin Array Si 35.22 297 P **P 22 01 34.4 -0.1**
AKASG Malin Array Be 35.22 297 P **P 22 01 34.2 -0.3**
AKASG IAmb IAmb 22 01 35.4
comp=Z,26nm,0.9s
AKASG Malin Array Be 35.22 297 P **P 22 01 33.8 -0.7**
comp=Z,10nm,0.7s,baz=66,slow=8.5,SNR=43
AKASG LR LR 22 16 16.0
comp=Z,523nm,19.7s,baz=70,slow=37
comp=Z,10nm,0.7s
AKASG Malin Array Be 35.22 297 *i* P **P 22 01 34.2 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKBB Malin Array Si 35.22 297 P **P 22 01 33.7 -0.8**
AKBB Malin Array Si 35.22 297 P **P 22 01 33.7 -0.8**
AKBB pmax pmax
comp=Z,25nm,1.0s
AKBB Malin Array Si 35.22 297 P **P 22 01 34.2 -0.3**
AKBB pP **pP 22 01 38.6 -0.1**
VSU Vasula 35.23 310 *de*P **P 22 01 33.9 -0.5**
VSU pmax pmax
comp=Z,38nm,1.3s
VSU Vasula 35.23 310 *e*P **P 22 01 33.2 -1.2**
AK01 Malin Array Si 35.23 297 P **P 22 01 34.3 -0.3**
AK10 Malin Array Si 35.23 297 P **P 22 01 34.6 0.0**
KIEV Kiev 35.23 297 P **P 22 01 33.8 -0.8**
KIEV Kiev 35.23 297 P **P 22 01 33.8 -0.8**
KIEV pmax pmax
comp=Z,23nm,1.0s
KIEV Kiev 35.23 297 *i* P **P 22 01 34.1 -0.5**
SNR=15
KIEV Kiev 35.23 297 P **P 22 01 34.4 -0.2**
comp=Z,100nm,0.9s
KIEV pP **pP 22 01 38.7 -0.1**
comp=Z,100nm,0.9s
AK04 Malin Array Si 35.25 297 P **P 22 01 34.5 -0.3**
BNN Bunyan 35.25 275 P **P 22 01 35.2 +0.2**
BNN IAmb IAmb 22 01 38.0
comp=Z,95nm,1.3s
AK12 Malin Array Si 35.28 297 P **P 22 01 35.0 0.0**
FINES FINESS Array B 35.34 316 P **P 22 01 34.3 -1.1**
FINES FINESS Array B 35.34 316 P **P 22 01 35.2 -0.2**
comp=Z,1.9nm,0.3s,baz=71,slow=6.3,SNR=35
FINES PcP **PcP 22 04 05.2 0.0**
comp=Z,5.4nm,0.7s,baz=139,slow=4.1,SNR=4.1
FINES LR LR 22 16 31.2
comp=Z,773nm,20.8s,baz=92,slow=37
comp=Z,1.9nm,0.3s
FINES FINESS Array B 35.34 316 *i* P **P 22 01 35.7 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.5s
KEV Kevo 35.55 330 P **P 22 01 36.9 -0.2**
KEV IAmb IAmb 22 01 38.6
comp=Z,39nm,0.9s
KEV Kevo 35.55 330 P **P 22 01 36.9 -0.2**
KEV pmax pmax
comp=Z,39nm,0.9s
ILGA Ilgaz 35.69 279 P **P 22 01 39.4 +0.4**
NACGM Naroch 35.72 304 *e*P **P 22 01 38.8 +0.1**
BAL3X Bal3x, Balta 35.79 292 P **P 22 01 40.2 +0.8**
KEF Keuruu 35.89 317 *e*P **P 22 01 39.4 -0.7**
IIGN Ignalina 35.95 305 *e*P **P 22 01 42.4 +1.6**
ARA0 ARCESS Array S 36.03 330 *e*P **P 22 01 41.8 +0.5**
ARA0 IAmb IAmb 22 01 43.1
comp=Z,88nm,1.1s
ARCES ARCESS Array B 36.03 330 P **P 22 01 41.6 +0.3**
comp=Z,36nm,0.8s,baz=92,slow=7.0,SNR=115
ARCES PcP **PcP 22 04 07.5 +0.3**
comp=Z,8.7nm,0.7s,baz=104,slow=5.1,SNR=4.4
ARCES LR LR 22 17 21.6
comp=Z,655nm,19.9s,baz=102,slow=38
comp=Z,36nm,0.8s
MI28 Mi28,Pidlybu 36.11 298 P **P 22 01 42.5 +0.4**
comp=Z,584nm,1.0s
LUBAR Lubar, Ukraine 36.34 296 P **P 22 01 43.9 -0.2**
BR131 Keskin Array S 36.35 277 P **P 22 01 45.0 +0.5**
BR131 Keskin Array S 36.35 277 P **P 22 01 45.0 +0.5**
BR131 pmax pmax
comp=Z,32nm,1.1s
BRTR Keskin Array B 36.35 277 P **P 22 01 44.9 +0.4**
BRTR Keskin Array B 36.35 277 P **P 22 01 45.2 +0.7**
comp=Z,17nm,0.9s,baz=74,slow=5.4,SNR=56
BRTR PP **PP 22 03 08.1 +1.1**
comp=Z,11nm,1.0s,baz=77,slow=8.1,SNR=4.7
BRTR LR LR 22 19 00.9
comp=Z,227nm,18.0s,baz=52,slow=40
comp=Z,17nm,0.9s
BRTR Keskin Array B 36.35 277 *i* P **P 22 01 46.0 +1.5**
BRTR pmax pmax
comp=Z,18nm,0.9s
BR104 Keskin Array S 36.36 277 P **P 22 01 46.1 +1.6**
comp=Z,197nmcomp=Z,23nm,1.0s
BR105 Keskin Array S 36.37 277 P **P 22 01 46.3 +1.7**
comp=Z,230nmcomp=Z,26nm,1.1s
UBPT Khong Chiam 36.42 142 P **P 22 01 44.9 -0.2**
SORM Soroca 36.52 293⇓ P **P 22 01 45.8 +0.1**
SORM Soroca 36.52 293 P **P 22 01 45.7 +0.1**
SORM Soroca 36.52 293 P **P 22 01 45.2 -0.5**
comp=Z,25nm,0.8s
KIS Kishinev 36.61 291 *e*P **P 22 01 46.0 -0.4**
KIS *e* 22 01 51.0
KIS pmax pmax
comp=Z,10.0nm,1.1s
KIS MLR MLR
comp=Z,400nm,9.4s
KIS Kishinev 36.61 291 P **P 22 01 47.0 +0.6**
comp=Z,57nm,0.8s
MILM Milestii Mici 36.64 291 *e*P **P 22 01 45.0 -1.6**
comp=Z,120nm,1.1s
MILM *e*S S 22 07 18.0 -11
MILM *e*L L 22 13 03.0
MILM LQM 22 14 54.0
comp=Z,1μm,12.5s
MILM LRM MLR 22 17 42.0
comp=Z,700nm,8.5s
MILM Milestii Mici 36.64 291⇓ P **P 22 01 46.9 +0.2**
MILM Milestii Mici 36.64 291 *e*P **P 22 01 45.0 -1.6**
MILM pmax pmax
comp=Z,120nm,1.1s
MILM MLR MLR
comp=Z,700nm,8.5s
KTK1 Kautokeino 36.77 329 *e*P **P 22 01 48.4 +0.8**
KTK1 IAmb IAmb 22 02 06.7
comp=Z,852nm,2.9s
HAMF Hammerfest 36.81 331 *e*P **P 22 01 48.7 +0.9**
ANTO Ankara 36.86 278 P **P 22 01 49.1 +0.4**
ANTO IAmb IAmb 22 01 51.4
comp=Z,42nm,1.1s
ANTO Ankara 36.86 278 P **P 22 01 50.9 +2.2**
ANTO Ankara 36.86 278⇓ P **P 22 01 49.4 +0.7**
ANTO Ankara 36.86 278 P **P 22 01 49.1 +0.4**
ANTO pmax pmax
comp=Z,42nm,1.2s
ANTO Ankara 36.86 278 P **P 22 01 50.5 +1.8**
comp=Z,16nm,1.3s
VAF Ylistaro 36.87 319 *e*P **P 22 01 47.5 -0.9**
DOK Doka 36.90 230 P **P 22 01 50.0 +0.8**
SNR=15
NDNU Novodnistrovsk 36.99 294 P **P 22 01 49.9 +0.2**
RNPP9 Sopachiv 37.06 299 P **P 22 01 51.0 +0.8**
RNPP8 Varash 37.10 299 P **P 22 01 51.3 +0.7**
VSVD Vaisvydziai 37.11 307 *e*P **P 22 01 50.7 +0.1**
RNPP5 Staryi Chortor 37.11 299 P **P 22 01 51.4 +0.7**
PABE Paberze 37.19 306 P **P 22 01 50.7 -0.5**
PABE IAmb IAmb 22 01 56.8
comp=Z,43nm,0.7s
PABE Paberze 37.19 306 *e*P **P 22 01 50.7 -0.5**
DMTO DMTO 37.23 228 P **P 22 01 51.8 -0.1**
TLCR 37.27 288⇑ P **P 22 01 53.1 +1.0**
TLCR 37.27 288 P **P 22 01 53.0 +1.0**
HORU Horodok 37.38 295 P **P 22 01 53.3 +0.3**
HORU Horodok 37.38 295 P **P 22 01 53.6 +0.6**
JURR Jurilovca 37.39 287⇑ P **P 22 01 54.0 +1.0**
VLDR Vladesti 37.50 289⇓ P **P 22 01 55.1 +1.1**
KMPD K-Podol'skiy 37.57 294 P **P 22 01 54.5 -0.1**
TATR Tatarca 37.61 289⇓ P **P 22 01 56.2 +1.3**
SCTR Scanteiesti 37.62 289⇓ P **P 22 01 56.3 +1.4**
VARL Varlezi 37.63 290⇓ P **P 22 01 57.1 +2.0**
TPGR Topolog 37.65 288⇓ P **P 22 01 56.3 +0.9**
MDUB Mudurnu 37.66 280 P **P 22 01 56.1 +0.5**
CFR Carcaliu 37.71 288⇓ P **P 22 01 56.6 +0.8**
CFR Carcaliu 37.71 288 P **P 22 01 56.6 +0.8**
RBK Rabkut 37.79 229 P **P 22 01 57.0 +0.2**
SNR=8.1
TIRR Tirgusor 37.81 287⇑ P **P 22 01 57.1 +0.4**
TIRR Tirgusor 37.81 287 P **P 22 01 57.1 +0.4**
JETT Jettan, Norway 37.82 329 *e*P **P 22 01 57.3 +0.8**
SSLB Suanglung 37.82 114 P **P 22 01 56.1 -0.9**
GHRR 37.85 290⇓ P **P 22 01 58.6 +1.6**
GHRR 37.85 290 P **P 22 01 58.3 +1.3**
MFTR Murfatlar 37.92 287⇓ P **P 22 01 58.6 +1.1**
SUW Suwalki 37.97 304 *e*P **P 22 01 58.3 +0.5**
SUW Suwalki 37.97 304 IAmb IAmb 22 02 03.4
comp=Z,59nm,0.9s
SUW Suwalki 37.97 304 *e*P **P 22 01 57.4 -0.4**
COSR Cosmesti PH 37.99 290⇑ P **P 22 01 59.8 +1.6**
HARR Harsova 38.04 288⇓ P **P 22 01 59.6 +1.0**
HARR Harsova 38.04 288 P **P 22 01 59.6 +1.0**
PANC Panciu 38.09 290⇓ P **P 22 02 00.9 +1.9**
ASF Jabal al Asfar 38.11 264 LR LR 22 19 06.8
comp=Z,121nm,18.9s,baz=25,slow=38
RAYN Ar Rayn 38.12 246 P **P 22 01 59.9 +0.4**
RAYN IAmb IAmb 22 02 05.7
comp=Z,73nm,1.1s
RAYN Ar Rayn 38.12 246 P **P 22 02 00.4 +0.9**
RAYN Ar Rayn 38.12 246 P **P 22 01 59.9 +0.4**
RAYN pmax pmax
comp=Z,73nm,1.1s
RAYN Ar Rayn 38.12 246 *i* P **P 22 02 00.1 +0.6**
SNR=78
PRAR RASCA 38.13 292⇑ P **P 22 02 00.6 +1.2**
TESR Tescani 38.17 291⇑ P **P 22 02 00.3 +0.7**
TESR Tescani 38.17 291 P **P 22 02 00.4 +0.7**
comp=Z,42nm,1.2s
ODBI Odobesti 38.19 290⇓ P **P 22 02 02.1 +2.3**
TRO Tromso 38.34 329 *e*P **P 22 02 01.6 +0.9**
TRO IAmb IAmb 22 02 02.2
comp=Z,113nm,1.4s
ICOR Ion Corvin 38.35 287⇓ P **P 22 02 02.8 +1.5**
JNU Nakatsue 38.35 93 P **P 22 01 58.7 -2.8**
JNU Nakatsue 38.35 93 LR LR 22 19 08.8
comp=Z,442nm,19.6s,baz=310,slow=38
VRI Vrincioaia 38.36 290⇓ P **P 22 02 02.8 +1.4**
VRI Vrincioaia 38.36 290 P **P 22 02 02.7 +1.4**
VRI Vrincioaia 38.36 290 P **P 22 02 02.8 +1.4**
comp=Z,31nm,1.0s
TYV Tymovskoe 38.38 61 *e*P **P 22 02 02.4 +1.0**
TYV pmax pmax
comp=Z,35nm,1.0s
TYV pmax pmax
comp=Z,600nm,4.0s
ABTO Aybut 38.39 230 P **P 22 02 01.7 -0.1**
ONER Baraj Valea Uz 38.40 291⇑ P **P 22 02 02.8 +1.1**
PLOR Plostina 38.42 290⇑ P **P 22 02 02.8 +0.9**
PLOR Plostina 38.42 290 P **P 22 02 02.7 +0.9**
PLOR3 Plostina Array 38.42 290 P **P 22 02 03.1 +1.2**
comp=Z,20nm,1.3s
BORA Eskisehir 38.44 279 P **P 22 02 02.4 +0.2**
KSV Kosov 38.53 294 P **P 22 02 03.2 +0.5**
MMAI Mount Meron Ar 38.65 267 P **P 22 02 04.2 +0.2**
comp=Z,0.9nm,0.4s,baz=54,slow=8.4,SNR=7.7
MMAI LR LR 22 20 27.2
comp=Z,177nm,20.0s,baz=45,slow=40
LVV L'vov 38.67 297 P **P 22 02 04.6 +0.8**
BUR08 Bucovina Ar. S 38.68 293 P **P 22 02 04.1 0.0**

BURAR **Bucovina Array** 38.68 293 ⇓P P 22 02 05.0 +0.8
BURAR **Bucovina Array** 38.68 293 P P 22 02 04.9 +0.8
COVR **Voineasa-Covas** 38.71 290 ⇑P P 22 02 05.4 +1.1
ISR **Istrita** 38.77 289 ⇓P P 22 02 07.3 +2.5
ISR **Istrita** 38.77 289 P P 22 02 07.3 +2.5
ISR **Istrita** 38.77 289 P P 22 02 06.9 +2.1
comp=Z,101nm,1.1s
NEHR **Nehoiu** 38.81 290 ⇑P P 22 02 07.8 +2.7
YLV **Yalova** 38.85 281 P P 22 02 06.9 +1.3
comp=Z,466nmcomp=Z,26nm,1.1s
OZUR 38.88 291 ⇓P P 22 02 07.9 +2.2
MLR **Muntele Rosu** 39.02 290 P P 22 02 07.2 +0.2
MLR **Muntele Rosu** 39.02 290 LR LR 22 18 49.5
comp=Z,532nm,18.4s,baz=52,slow=37
MLR **Muntele Rosu** 39.02 290 ⇓P P 22 02 08.4 +1.4
MLR **Muntele Rosu** 39.02 290 P P 22 02 07.2 +0.2
MLR pmax pmax
comp=Z,13nm,0.8s
MLR **Muntele Rosu** 39.02 290 P P 22 02 08.2 +1.2
comp=Z,32nm,1.6s
CTYL **Yalikoy Yolu** 39.17 283 P P 22 02 09.5 +1.4
comp=Z,27nm,1.3s
DOPR **Dopca** 39.19 291 ⇓P P 22 02 10.1 +1.9
PALK **Pallekele** 39.41 184 P P 22 02 10.8 +0.4
PALK **Pallekele** 39.41 184 LR LR 22 20 16.4
comp=Z,640nm,18.5s,baz=352,slow=39
PALK **Pallekele** 39.41 184 P P 22 02 11.5 +1.1
PALK **Pallekele** 39.41 184 *de*P P 22 02 11.6 +1.2
PALK pmax pmax
comp=Z,23nm,0.9s
ARCR **ARCALIA** 39.42 293 ⇓P P 22 02 12.4 +2.2
GHAJ **Ghor Haditha** 39.54 264 P P 22 02 10.9 -0.4
KWP **Kalwaria Pacla** 39.54 297 P P 22 02 10.8 -0.3
KWP **Kalwaria Pacla** 39.54 297 P P 22 02 10.8 -0.3
KWP **Kalwaria Pacla** 39.54 297 P P 22 02 12.4 +1.3
comp=Z,71nm,1.0s
VOIR 39.62 290 ⇓P P 22 02 13.5 +1.6
VOIR 39.62 290 P P 22 02 13.5 +1.6
VOIR 39.62 290 P P 22 02 12.8 +0.9
comp=Z,9.1nm,1.1s
STEI **Steigen** 39.70 327 *e*P P 22 02 12.6 +0.5
STEI IAmb IAmb 22 02 13.2
comp=Z,121nm,0.9s
FAUS **Fauske** 39.72 326 *e*P P 22 02 12.8 +0.5
FAUS IAmb IAmb 22 02 13.3
comp=Z,86nm,0.9s
BMR **Baia Mare** 39.75 294 ⇓P P 22 02 15.0 +2.1
BMR **Baia Mare** 39.75 294 P P 22 02 14.9 +2.1
YSS **Yuzhno-Sakhali** 39.78 67 *e*P P 22 02 12.4 -0.8
YSS *e*S S 22 08 16.3 -0.4
YSS pmax pmax
comp=Z,30nm,1.6s
BAND **Balkesir-Ban** 39.81 281 ⇑P P 22 02 15.5 +2.0
ARR **Arges** 39.91 290 ⇓P P 22 02 16.0 +1.6
MUKU **Mukachevo** 39.97 295 P P 22 02 16.0 +1.4
BEL **Belsk** 39.97 301 *e*P P 22 02 15.6 +0.9
SPA0 **Spitsbergen Ar** 39.99 343 IAmb IAmb 22 02 13.3
comp=Z,68nm,1.2s
SPA0 *e*P P 22 02 15.4 +0.8
SPITS **Spitsbergen Ar** 39.99 343 P P 22 02 14.3 -0.2
comp=Z,24nm,1.1s,baz=107,slow=11,SNR=20
SPITS LR LR 22 22 13.8
comp=Z,728nm,18.7s,baz=92,slow=41
comp=Z,24nm,1.1s
SPITS **Spitsbergen Ar** 39.99 343 P P 22 02 12.3 -2.3
SPITS pmax pmax
comp=Z,65nm,1.3s
HUMR **Humele** 40.03 289 ⇑P P 22 02 16.4 +1.2
KOLS **Kolonicke sedl** 40.05 296 *e*P P 22 02 15.9 +0.5
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS **Kolonicke sedl** 40.05 296 *e*P P 22 02 15.9 +0.5
KOLS *e*PP PnPn 22 03 50.0 -0.7
BERU **Beregovo** 40.07 295 P P 22 02 16.9 +1.4
ELND **Elena** 40.13 286 ⇑P P 22 02 18.4 +2.3
HOLU **Holmets** 40.13 296 P P 22 02 17.2 +1.2
MOR8 **Moi Rana** 40.16 324 *e*P P 22 02 15.4 -0.6
MOR8 IAmb IAmb 22 02 15.9
comp=Z,78nm,1.0s
LOF **Lofoten** 40.32 327 *e*P P 22 02 17.7 +0.3
ELL **Elmali** 40.37 275 P P 22 02 18.4 +0.1
ELL **Elmali** 40.37 275 P P 22 02 18.4 +0.1
ELL pmax pmax
comp=Z,182nm,0.9s
LOT **Lotru** 40.44 291 ⇓P P 22 02 20.0 +1.2
SRIT **Nakonsritamara** 40.50 155 P P 22 02 19.6 +0.2
STHS **Stebnicka Huta** 40.51 297 *e*P P 22 02 19.6 +0.3
STHS *e* 22 03 55.6
STHS **Stebnicka Huta** 40.51 297 *e*P P 22 02 19.5 +0.3
STHS *e*PP PnPn 22 03 55.6 -0.6
DRGR 40.58 293 ⇓P P 22 02 21.3 +1.5
DRGR 40.58 293 P P 22 02 21.3 +1.5
MA2 **Magadan** 40.60 46 LR LR 22 19 48.3
comp=Z,1μm,18.0s,baz=280,slow=37
MA2 **Magadan** 40.60 46 *de*P P 22 02 20.1 +0.3
MA2 pmax pmax
comp=Z,53nm,1.7s
KONS **Konsvik** 40.65 325 *e*P P 22 02 21.8 +1.7
KONS IAmb IAmb 22 02 22.3
comp=Z,110nm,1.2s
LEIR **Leirfjorden** 40.70 324 *e*P P 22 02 21.4 +0.9
SEY **Seymchan** 40.70 41 LR LR 22 20 04.2
comp=Z,498nm,22.0s,baz=286,slow=38
SEY **Seymchan** 40.70 41 ⇓*e*P P 22 02 21.1 +0.5
SEY pmax pmax
comp=Z,14nm,1.7s
STOK **Stokkvaagen** 40.71 324 *e*P P 22 02 20.6 0.0
STOK IAmb IAmb 22 02 25.7
comp=Z,918nm,2.7s
ASAJ **Asahikawa** 40.83 71 LR LR 22 20 06.0
comp=Z,215nm,18.1s,baz=273,slow=38
ALN **Alexandroupoli** 40.94 283 P P 22 02 23.6 +0.8
ALN **Alexandroupoli** 40.94 283 P P 22 02 23.6 +0.8
ALN **Alexandroupoli** 40.94 283 P P 22 02 23.6 +0.8
ALN pmax pmax
comp=Z,28nm,1.0s
CAVK **Edirne/Enez-Ca** 40.95 283 ⇑P P 22 02 24.6 +1.7
EIL **Elat** 40.95 263 LR LR 22 23 14.5
comp=Z,291nm,19.4s,baz=68,slow=42
NIE **Niedzica** 41.09 298 *e*P P 22 02 26.0 +2.0
NIE **Niedzica** 41.09 298 P P 22 02 25.3 +1.3
comp=Z,21nm,0.9s
GZR **Gura Zlata** 41.10 291 ⇓P P 22 02 25.2 +1.1
GZR **Gura Zlata** 41.10 291 P P 22 02 25.2 +1.1
OJC **Ojcow** 41.10 299 *e*P P 22 02 25.4 +1.4
OJC **Ojcow** 41.10 299 P P 22 02 23.4 -0.6
OJC IAmb IAmb 22 02 26.1
comp=Z,41nm,1.0s
OJC **Ojcow** 41.10 299 P P 22 02 23.4 -0.6
OJC pmax pmax
comp=Z,41nm,1.0s
RDO **Rodhopi** 41.16 284 P P 22 02 24.8 +0.2
EZN **Ezine** 41.26 282 P P 22 02 24.6 -0.8
EZN **Ezine** 41.26 282 P P 22 02 25.0 -0.4
comp=Z,557nmcomp=Z,33nm,1.5s
SURR **Surduc** 41.36 292 ⇓P P 22 02 27.9 +1.7
NSS **Namsos** 41.42 322 *e*P P 22 02 26.5 +0.1
NSS IAmb IAmb 22 02 48.2
comp=Z,399nm,2.6s
MJAR **Matsushiro Arr** 41.51 84 LR LR 22 20 20.2
comp=Z,387nm,19.7s,baz=302,slow=37
HFS **Hagfors** 41.53 315 P P 22 02 27.4 0.0
comp=Z,8.0nm,0.4s,baz=88,slow=11,SNR=53
HFS LR LR 22 20 03.2
comp=Z,626nm,18.9s,baz=74,slow=37
comp=Z,8.0nm,0.4s
HERR **Herculane** 41.54 291 ⇑P P 22 02 28.2 +0.5
GKP **Gorka Klasztor** 41.57 304 *e*P P 22 02 28.9 +1.0
GKP **Gorka Klasztor** 41.57 304 *e*P P 22 02 27.8 0.0
PRK **Paraskevi** 41.58 281 P P 22 02 28.7 +0.6
LANS **Liptovska Anna** 41.69 298 *e*P P 22 02 30.6 +1.7
LANS pmax pmax
comp=Z,7.0nm,1.1s
LANS **Liptovska Anna** 41.69 298 *e*P P 22 02 30.6 +1.7
LANS *e*PP PP 22 04 05.6 +0.5
BZS **Buzias** 41.74 292 ⇓P P 22 02 30.6 +1.2
BZS **Buzias** 41.74 292 P P 22 02 30.6 +1.2
ARG **Arkhangelos** 41.87 276 P P 22 02 30.8 +0.3
ARG IAmb IAmb 22 02 32.7
comp=Z,68nm,1.2s
ARG **Arkhangelos** 41.87 276 P P 22 02 30.8 +0.3
ARG pmax pmax
comp=Z,68nm,1.2s
PSZ **Piszkesteto** 41.90 296 P P 22 02 30.9 +0.2
PSZ **Piszkesteto** 41.90 296 ⇑P P 22 02 34.0 +3.3
PSZ **Piszkesteto** 41.90 296 P P 22 02 30.9 +0.2
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ **Piszkesteto** 41.90 296 *e*P P 22 02 32.1 +1.4
MDVR **Moldovita** 42.04 291 ⇑P P 22 02 33.6 +1.7
NVR **Nevrokopi** 42.18 285 P P 22 02 34.7 +1.7
OKC **Ostrava-Krasne** 42.23 299 AMS AMS 22 20 10.0
comp=Z,2μm,13.2s
NC405 **NORSAR Array S** 42.25 317 P P 22 02 32.8 -0.4
NC405 IAmb IAmb 22 02 42.0
comp=Z,49nm,1.2s
VYHS **Vyhne** 42.33 297 *e*P P 22 02 35.2 +1.1
VYHS pmax pmax
comp=Z,12nm,1.0s
VYHS **Vyhne** 42.33 297 *e*P P 22 02 35.2 +1.1
VYHS *e*PP PP 22 04 14.6 +2.6
KOKK **Kokkinochori,** 42.34 284 P P 22 02 34.9 +0.6
NC303 **NORSAR Array S** 42.38 317 P P 22 02 33.9 -0.4
NC303 IAmb IAmb 22 02 41.8
comp=Z,80nm,1.4s
STEB **Steborice** 42.42 299 *e*P P 22 02 36.0 +1.2
STEB *ex* x 22 02 39.6
NC602 **NORSAR Array S** 42.42 316 P P 22 02 34.3 -0.4
NC602 **NORSAR Array S** 42.42 316 IAmb IAmb 22 02 33.4
comp=Z,1μm,3.8s
NC602 *e*P P 22 02 34.7 0.0
NB201 **NORSAR Array S** 42.46 317 P P 22 02 33.5 -1.6
NB2 **NORSAR Subarra** 42.50 317 P P 22 02 35.0 -0.4
comp=Z,26nm,0.9s,baz=73,slow=7.9
NB2 **NORSAR Subarra** 42.50 317 P P 22 02 35.0 -0.4
baz=73,slow=7.9
NOA **NORSAR Array B** 42.50 317 P P 22 02 34.9 -0.4
comp=Z,3.3nm,0.3s,baz=75,slow=7.9,SNR=40
NOA PP PP 22 04 09.0 -4.7
comp=Z,5.3nm,0.8s,baz=83,slow=8.2,SNR=3.1
NOA LR LR 22 20 42.0
comp=Z,439nm,21.2s,baz=75,slow=37
comp=Z,3.3nm,0.3s
BOVS **Bovan** 42.54 289 ⇓P P 22 02 35.5 -0.4
OUR **Ouranopolis** 42.58 284 P P 22 02 37.1 +0.9
MAUC **Maruska** 42.60 299 *e*P P 22 02 37.9 +1.5
MORC **Moravsky Berou** 42.62 299 P P 22 02 36.1 -0.4
MORC **Moravsky Berou** 42.62 299 *e*P P 22 02 37.2 +0.7
MORC *e*PP PP 22 04 21.9 +6.8
MORC **Moravsky Berou** 42.62 299 ⇑P P 22 02 37.9 +1.4
MORC **Moravsky Berou** 42.62 299 P P 22 02 36.1 -0.4
MORC pmax pmax
comp=Z,17nm,1.1s
NC204 **NORSAR Array S** 42.65 317 P P 22 02 35.0 -1.6
NAO01 **NORSAR Array S** 42.70 317 P P 22 02 36.1 -0.9
NBO00 **NORSAR Array S** 42.71 317 P P 22 02 36.2 -0.9
JAVC **Velka Javorina** 42.90 298 *e*P P 22 02 40.7 +1.9
KNT **Kendrikon** 42.91 285 P P 22 02 38.8 -0.1
SRO **Srobarova** 42.92 296 *e*P P 22 02 40.9 +2.0
SRO pmax pmax
comp=Z,25nm,0.9s
SRO **Srobarova** 42.92 296 *e*P P 22 02 40.9 +2.0
PLG **Polygyros** 42.92 284 P P 22 02 39.8 +0.7
KRLC **Kraliky** 42.96 300 AMS AMS 22 20 40.0
comp=Z,1μm,12.9s
KSP **Ksiaz** 42.96 301 *e*P P 22 02 40.5 +1.3
PAIG **Paliouri** 42.98 283 P P 22 02 39.9 +0.4
LHMI **Lhok Sumawe** 43.02 160 P P 22 02 39.4 -0.6
LHMI IAmb IAmb 22 02 42.4
comp=Z,69nm,0.8s
LHMI **Lhok Sumawe** 43.02 160 P P 22 02 41.9 +1.9
LHMI **Lhok Sumawe** 43.02 160 P P 22 02 37.6 -2.4
comp=Z,101nm,0.9s
VAY **Valandovo** 43.05 286 *i*P P 22 02 41.5 +1.5
OSTC **Ostas** 43.12 301 AMS AMS 22 20 50.0
comp=Z,1μm,13.9s
DPC **Dobruska-Polom** 43.13 300 *e*P P 22 02 41.0 +0.4
DPC AMS AMS 22 20 50.0
comp=Z,2μm,13.2s
DPC **Dobruska-Polom** 43.13 300 *e*P P 22 02 41.0 +0.4
DPC MLR MLR
comp=Z,2μm,13.2s
DPC **Dobruska-Polom** 43.13 300 P P 22 02 42.0 +1.4
comp=Z,17nm,1.2s
SMOL **Smolenice** 43.18 298 *e*P P 22 02 42.6 +1.6
SMOL pmax pmax
comp=Z,6.0nm,0.9s
APE **Apeiranthos** 43.19 279 P P 22 02 41.5 +0.2
APE **Apeiranthos** 43.19 279 ⇑P P 22 02 41.7 +0.4
APE **Apeiranthos** 43.19 279 *ce*P P 22 02 41.5 +0.2
APE pmax pmax
comp=Z,85nm,0.9s
CHVC **Chvalec** 43.20 301 *e*P P 22 02 42.1 +0.9
CHVC **Chvalec** 43.20 301 *e*P P 22 02 42.1 +0.9
DOMB **Dombas** 43.24 319 *e*P P 22 02 41.6 +0.3
DOMB IAmb IAmb 22 03 05.7
comp=Z,96nm,1.7s
UPC **Upice** 43.25 301 *e*P P 22 02 42.7 +1.1
UPC *ex* x 22 02 47.1
UPC AMS AMS 22 20 50.0
comp=Z,2μm,11.8s
UPC **Upice** 43.25 301 *e*P P 22 02 42.7 +1.1
UPC *e* 22 02 47.1
UPC MLR MLR
comp=Z,2μm,11.8s
MODS **Modra-Piesok** 43.33 297 *e*P P 22 02 44.2 +2.0
MODS **Modra-Piesok** 43.33 297 *e*P P 22 02 44.2 +2.0
VRAC **Vranov** 43.37 299 LR LR 22 21 22.0
comp=Z,786nm,19.3s,baz=58,slow=37
VRAC **Vranov** 43.37 299 *e*P P 22 02 43.4 +0.8
VRAC *e*PP PcP 22 04 29.1 -1.8
VRAC **Vranov** 43.37 299 ⇓P P 22 02 43.8 +1.2
VRAC **Vranov** 43.37 299 P P 22 02 43.8 +1.2
MORH **Mrgy, Hungar** 43.38 294 ⇓P P 22 02 43.4 +0.8
KRUC **Moravsky** 43.59 299 *e*P P 22 02 45.2 +0.9
KRUC *e*PP PcP 22 04 30.5 -1.1
XOR **Xorichti** 43.59 283 P P 22 02 43.8 -0.7
KONO **Kongsberg** 43.65 315 *e*P P 22 02 45.0 +0.3
MPLH **Magyarpolny** 43.66 296 P P 22 02 46.2 +1.3
comp=Z,59nm,1.3s
LIT **Litokhoron** 43.69 284 P P 22 02 45.4 +0.1
LIT **Litokhoron** 43.69 284 P P 22 02 45.4 +0.1
LIT pmax pmax
comp=Z,38nm,1.2s
ZKR **Zakros** 43.78 276 P P 22 02 46.3 +0.3
MOL **Molde** 43.78 320 *e*P P 22 02 46.1 +0.5
RUE **Ruedersdorf** 43.81 304 *e*P P 22 02 45.6 -0.4
RUE **Ruedersdorf** 43.81 304 *e*P P 22 02 46.5 +0.5
comp=Z,114nm,1.7s,baz=66,slow=7.9
KULM **Kulim** 43.95 155 P P 22 02 46.5 -1.0
KULM **Kulim** 43.95 155 P P 22 02 48.1 +0.6
VLY **Voula,Athens** 43.96 281 P P 22 02 47.8 +0.4
SKAR **Skarslia** 43.97 317 *e*P P 22 02 48.0 +0.7
SKAR IAmb IAmb 22 03 06.4
comp=Z,310nm,2.3s
TYRN **Tyrnavos** 44.06 284 P P 22 02 48.3 +0.1
PVCC **Panska Ves** 44.10 301 *e*P P 22 02 49.6 +1.2
PVCC *e*pP sP 22 02 54.4 0.0
PVCC **Panska Ves** 44.10 301 *e*P P 22 02 49.6 +1.2
PVCC *e* 22 02 54.4
FNA **Florina** 44.10 286 P P 22 02 48.2 -0.4
FNA **Florina** 44.10 286 P P 22 02 48.2 -0.4
FNA pmax pmax
comp=Z,19nm,0.9s
AKN **Aaknes** 44.14 319 *e*P P 22 02 49.0 +0.5
RONA **Rosalia, Austr** 44.20 297 *i*P P 22 02 50.7 +1.3
comp=Z,16nm,1.0s
GOPC **GO Pecny, Ondr** 44.21 300 AMS AMS 22 21 20.0
comp=Z,2μm,11.8s
OHR **Ohrid** 44.32 286 *i*P P 22 02 38.9 -11
PRU **Pruhonice** 44.33 301 *e*P P 22 02 50.8 +0.6
PRU AMS AMS 22 21 30.0
comp=Z,2μm,10.4s
PRU **Pruhonice** 44.33 301 *e*P P 22 02 50.8 +0.6
PRU MLR MLR
comp=Z,2μm,10.4s
BRG **Berggiesshubel** 44.33 302 *i*P P 22 02 51.0 +0.8
BRG Amp 22 02 53.3
comp=Z,8.3nm,0.9s
BRG PP PcP 22 04 35.5 +1.4
BRG Amp 22 04 40.3
comp=Z,8.6nm,1.1s
BRG r 22 19 53.8
BRG Amp 22 19 54.5
comp=Z,2.5nm,0.4s
BRG r 22 21 09.7
BRG Amp 22 21 11.9
comp=Z,2.6nm,0.4s
BRG **Berggiesshubel** 44.33 302 *e*P P 22 02 50.6 +0.4
comp=Z,8.4nm,0.9s,baz=66,slow=7.9
PRA **Prague** 44.36 301 AMS AMS 22 21 30.0
comp=Z,2μm,15.9s
CONA **Conrad Observa** 44.38 297 *e*P P 22 02 52.3 +1.6
comp=Z,22nm,1.1s,SNR=6.5
IDI **Anoyia** 44.59 277 P P 22 02 52.1 -0.5
IDI IAmb IAmb 22 02 58.9
comp=Z,24nm,0.7s
IDI **Anoyia** 44.59 277 P P 22 02 50.8 -1.8
IDI **Anoyia** 44.59 277 LR LR 22 24 30.8
comp=Z,140nm,19.2s,baz=57,slow=40
PDG **Podgorica** 44.69 289 P P 22 02 53.2 0.0
PDG IAmb IAmb 22 02 59.9
comp=Z,41nm,0.9s
CLL **Collm** 44.70 303 P P 22 02 52.9 -0.3
CLL **Collm** 44.70 303 *i*P P 22 02 53.2 0.0
CLL pmax pmax
comp=Z,21nm,0.9s
CLL MLR MLR
comp=Z,800nm,18.2s
CLL **Collm** 44.70 303 P P 22 02 53.6 +0.4
comp=Z,23nm,1.1s
CLL **Collm** 44.70 303 *i*P P 22 02 53.2 0.0
comp=Z,21nm,0.9s
CLL *i*pP pP 22 02 56.4 -1.1
CLL *i*PP PP 22 04 37.0 -0.3
comp=Z,23nm,1.4s
CLL AMS AMS 22 22 00.0
comp=Z,800nm,18.2s
CLL **Collm** 44.70 303 *e*P P 22 02 53.0 -0.1
comp=Z,20nm,0.9s,baz=66,slow=7.9
HSKC **Hora Svate Kat** 44.73 302 *e*P P 22 02 54.8 +1.3
HSKC AMS AMS 22 21 50.0
comp=Z,2μm,14.2s
EVR **Evrytania** 44.74 283 P P 22 02 52.9 -0.9
ZVC **Zvikov** 44.76 300 *e*P P 22 02 54.7 +1.1
ZVC AMS AMS 22 21 40.0
comp=Z,2μm,12.0s
KALE **Kalithea** 44.79 282 P P 22 02 52.9 -1.3
HYA **Hoyanger** 44.81 318 *e*P P 22 02 54.2 +0.3
TIR **Tirane** 44.82 287 P P 22 02 54.4 +0.2
TIR **Tirane** 44.82 287 P P 22 02 54.4 +0.2
TIR pmax pmax
comp=Z,120nm,1.4s
IPM **Ipoh** 44.83 155 P P 22 02 53.1 -1.4
IPM IAmb IAmb 22 02 55.3
comp=Z,24nm,0.9s
IPM **Ipoh** 44.83 155 P P 22 02 54.3 -0.2
ANX **Ano Chora** 44.84 283 P P 22 02 52.4 -2.1
ARSA **Arzberg** 44.87 297 P P 22 02 54.8 +0.2
ARSA **Arzberg** 44.87 297 *i*P P 22 02 54.6 -0.1
comp=Z,9.2nm,1.1s
GUR **Goura** 44.89 282 P P 22 02 53.9 -1.1
EFP **Efpalio** 44.93 282 P P 22 02 54.0 -1.2
KLV **Kalavryta, Ach** 44.97 282 P P 22 02 53.6 -2.0
ODD1 **Odda** 45.00 316 *e*P P 22 02 57.0 +1.5
GORT1 **Trebel** 45.02 306 *e*P P 22 02 56.9 +1.3
comp=Z,32nm,1.1s,baz=66,slow=7.9
IMMV **Iera Moni Meta** 45.11 278 P P 22 02 55.4 -1.3
FOO **Floro** 45.20 319 *e*P P 22 02 57.2 +0.3
BILL **Bilibino** 45.20 32 P P 22 02 56.5 -0.5
BILL **Bilibino** 45.20 32 *ce*P P 22 02 57.6 +0.6
BILL pmax pmax
comp=Z,35nm,1.3s
BSEG **Bad Segeberg** 45.20 307 *e*P P 22 02 58.0 +0.9
comp=Z,16nm,0.8s,baz=66,slow=7.9
SNART **Snartemo** 45.24 314 *e*P P 22 02 58.0 +0.7
BLS5 **Blasjo** 45.24 315 *e*P P 22 02 59.1 +1.7
BLS5 IAmb IAmb 22 03 30.3
comp=Z,269nm,2.0s
KHC **Kasperske Hory** 45.25 300 *e*P P 22 02 58.5 +0.9
KHC *e*pP sP 22 03 03.4 -0.3
KHC AMS AMS 22 18 50.0
KHC **Kasperske Hory** 45.25 300 *ce*P P 22 02 57.5 -0.1
KHC pmax pmax
comp=Z,32nm,1.3s
KHC **Kasperske Hory** 45.25 300 P P 22 02 58.8 +1.2
comp=Z,14nm,1.0s
GEC2 **GERESS Array S** 45.30 299 P P 22 02 57.5 -0.6
GEC2 **GERESS Array S** 45.30 299 *e*P P 22 02 57.8 -0.3
comp=Z,6.5nm,0.9s,baz=66,slow=7.9
GERES **GERESS Array B** 45.30 299 P P 22 02 57.6 -0.5
GERES **GERESS Array B** 45.30 299 P P 22 02 58.4 +0.3
comp=Z,2.3nm,0.7s,baz=69,slow=7.6,SNR=9.5
GERES LR LR 22 22 42.1
comp=Z,803nm,19.2s,baz=65,slow=37
comp=Z,2.3nm,0.7s
FLTG **Flechtingen** 45.31 305 *e*P P 22 02 57.6 -0.4
comp=Z,11nm,0.8s,baz=66,slow=7.9
TANN **Tannenbergstha** 45.38 302 *e*P P 22 02 59.0 +0.3
comp=Z,12nm,0.9s,baz=66,slow=7.9
MOA **Molln** 45.38 298 *e*P P 22 02 59.6 +0.9
comp=Z,14nm,1.0s
IGT **Igoumenitsa** 45.41 285 P P 22 02 58.5 -0.5
RLS **Riolos of Patr** 45.42 282 P P 22 02 58.4 -0.6
SOKA **Soboth** 45.42 296 *i*P P 22 02 59.8 +0.7
comp=Z,18nm,1.3s
NEUB **Neuenburg** 45.45 303 *e*P P 22 02 59.4 +0.3
comp=Z,30nm,1.1s,baz=66,slow=7.9
BER **Bergen** 45.46 317 *e*P P 22 02 59.8 +0.8
BER IAmb IAmb 22 03 05.9
comp=Z,572nm,2.5s
NKC **Novy Kostel** 45.46 302 AMS AMS 22 22 30.0
comp=Z,2μm,13.7s
ASK **Askoy** 45.49 317 *e*P P 22 02 59.9 +0.6
ASK IAmb IAmb 22 03 06.5
comp=Z,112nm,1.5s
NOR **Nord** 45.51 348 *i*P P 22 02 57.7 -1.5
NOR IAmb IAmb 22 03 00.5
comp=Z,23nm,1.0s
PLN **Plauen** 45.52 302 *e*P P 22 03 00.1 +0.4
comp=Z,4.6nm,0.9s,baz=66,slow=7.9
ITM **Ithomi** 45.57 281 P P 22 02 59.2 -1.1
ITM IAmb IAmb 22 03 19.7
comp=Z,58nm,1.5s
ITM **Ithomi** 45.57 281 P P 22 02 58.5 -1.8
WET **Wettzell** 45.66 300 *e*P P 22 03 00.8 0.0
comp=Z,12nm,0.9s,baz=66,slow=7.9
MANZ **Manzenberg** 45.76 301 *e*P P 22 03 02.0 +0.3
comp=Z,1.5nm,1.1s,baz=66,slow=7.9
MOX **Moxa** 45.77 302 *e*P P 22 03 02.7 +1.0
comp=Z,13nm,0.9s,baz=66,slow=7.9
ROTZ **Rotzenmuhle** 45.79 301 *e*P P 22 03 02.0 +0.1
comp=Z,2.6nm,1.1s,baz=66,slow=7.9
OBKA **Obir** 45.80 296 *e*P P 22 03 02.6 +0.5
comp=Z,14nm,0.9s
BIOA **Bad Ischl, Aus** 45.83 298 *i*P P 22 03 03.7 +1.4
comp=Z,16nm,1.1s,SNR=5.9
PSI **Prapat** 45.85 158 LR LR 22 26 50.0
comp=Z,206nm,18.4s,baz=346,slow=42
PSI **Prapat** 45.85 158 P P 22 03 02.7 -0.1
PSI **Prapat** 45.85 158 P P 22 03 01.5 -1.3
PSI pmax pmax
comp=Z,10.0nm,0.7s
NRDL **Niedersach Rie** 45.88 305 *e*P P 22 03 03.6 +1.2
comp=Z,37nm,1.1s,baz=66,slow=7.9
RPSI **Rantau Prapat** 45.95 158 P P 22 03 01.5 -1.9
CLZ **Clausthal** 45.99 304 *e*P P 22 03 04.0 +0.5
comp=Z,13nm,1.2s,baz=66,slow=7.9
RETH **Rethem/Aller,** 46.20 306 *e*P P 22 03 06.0 +1.0
comp=Z,30nm,0.9s,baz=66,slow=7.9
KBA **Koelnbreinsper** 46.28 297 *e*P P 22 03 08.1 +2.2
comp=Z,6.9nm,0.7s
PEA0B **Petropavlovsk-** 46.30 53 ⇓*e*P P 22 03 06.1 +0.3
PETK **Petropavlovsk-** 46.30 53 P P 22 03 04.5 -1.3
PETK **Petropavlovsk-** 46.30 53 P P 22 03 05.3 -0.5
comp=Z,21nm,0.9s,baz=268,slow=3.3,SNR=12
PETK LR LR 22 23 21.8
comp=Z,508nm,18.2s,baz=292,slow=37
comp=Z,21nm,0.9s
MYKA **Terra Mystica** 46.30 297 *e*P P 22 03 03.5 -2.5
comp=Z,6.5nm,1.0s
RJOB **Jochberg** 46.32 298 *e*P P 22 03 07.1 +1.0
comp=Z,21nm,0.9s,baz=66,slow=7.9
GTTG **Gottingen** 46.35 304 *e*P P 22 03 07.2 +1.0
comp=Z,36nm,0.9s,baz=66,slow=7.9
GRA1 **Grafenberg Arr** 46.41 301 P P 22 03 06.6 -0.1
GRA1 IAmb IAmb 22 03 13.7
comp=Z,24nm,0.9s
GRF **Grafenberg Arr** 46.41 301 P P 22 03 06.6 -0.1
GRF pmax pmax
comp=Z,24nm,0.9s
GRF **Grafenberg Arr** 46.41 301 *e*P P 22 03 07.8 +1.1
comp=Z,22nm,0.9s,baz=66,slow=7.9
GRFO **Grafenberg** 46.41 301 P P 22 03 06.5 -0.2

GRFO IAmb IAmb 22 03 13.7
comp=Z,21nm,0.9s
GRFO Grafenberg 46.41 301 P **P** **22 03 06.5 -0.2**
GRFO pmax pmax
comp=Z,21nm,0.9s
LESA Schwarzleotal 46.53 298 *i* P **P** **22 03 09.0 +1.2**
comp=Z,14nm,1.0s
UBBA Unterbreizbach 46.63 303 *eP* **P** **22 03 08.5 +0.2**
comp=Z,20nm,1.5s,baz=66,slow=7.9
PET Petropavlovsk 46.86 53 P **P** **22 03 08.8 -1.4**
PET IAmb IAmb 22 03 10.8
comp=Z,40nm,1.2s
PET Petropavlovsk 46.86 53 *eP* **P** **22 03 10.2 +0.1**
PET *eS* **S** **22 09 59.3 -0.8**
PET pmax pmax
comp=Z,14nm,0.8s
PET MLR MLR
comp=Z,400nm,15.0s
ABTA Abfaltersbach 46.94 297 *eP* **P** **22 03 10.9 -0.1**
comp=Z,9.0nm,1.2s
GSI Gunungsitoli 46.96 160 P **P** **22 03 11.9 +0.6**
GSI Gunungsitoli 46.96 160 P **P** **22 03 12.5 +1.2**
GSI Gunungsitoli 46.96 160 P **P** **22 03 11.3 0.0**
FUR Furstenfeldbru 47.04 300 *eP* **P** **22 03 12.7 +1.0**
comp=Z,30nm,0.9s,baz=66,slow=7.9
JMIC Jan Mayen 47.24 333 LR LR 22 25 49.1
comp=Z,354nm,20.1s,baz=58,slow=40
WTTA Wattenberg 47.24 298 *eP* **P** **22 03 14.5 +1.1**
comp=Z,21nm,0.8s,SNR=7.6
WATA Walderalm 47.24 298 *i* P **P** **22 03 14.7 +1.3**
comp=Z,21nm,1.1s
IBBN Ibbenburen 47.27 306 *eP* **P** **22 03 13.9 +0.5**
comp=Z,26nm,0.7s,baz=66,slow=7.9
KASTN Kahler Asten 47.37 304 *eP* **P** **22 03 14.8 +0.5**
comp=Z,8.7nm,0.9s,baz=66,slow=7.9
SQTA Sankt Quirin 47.52 298 *i* P **P** **22 03 16.6 +1.0**
comp=Z,18nm,1.0s,SNR=5.9
MOTA Moosalm 47.52 299 *eP* **P** **22 03 16.3 +0.6**
comp=Z,13nm,1.0s
DAG Danmarks Havn 47.63 342 P **P** **22 03 15.6 -0.3**
DAG pmax pmax
comp=Z,20nm,1.3s
DAG Danmarks Havn 47.63 342 *i* P **P** **22 03 15.0 -0.9**
DAG IAmb IAmb 22 03 16.5
comp=Z,13nm,0.7s
RETA Reutte 47.66 299 *i* P **P** **22 03 17.7 +1.0**
comp=Z,11nm,1.0s
TNS Taunus Mts 47.78 303 *eP* **P** **22 03 17.1 -0.4**
baz=66,slow=7.9
CTI Castel Tesino 47.79 297 P **P** **22 03 17.6 -0.1**
CTI Castel Tesino 47.79 297 P **P** **22 03 17.6 -0.1**
CTI pmax pmax
comp=Z,13nm,1.0s
FETA Feichten 47.90 298 *i* P **P** **22 03 19.2 +0.6**
comp=Z,20nm,1.1s
BUG Bochum--Univer 47.92 305 *eP* **P** **22 03 19.3 +0.8**
comp=Z,20nm,1.1s,baz=66,slow=7.9
MNSI Mandailing Nat 47.94 158 P **P** **22 03 17.4 -1.6**
comp=Z,952nmcomp=Z,103nm,0.8s
TIP Timpagrande 47.97 286 P **P** **22 03 19.0 -0.1**
TIP Timpagrande 47.97 286 P **P** **22 03 20.4 +1.3**
comp=Z,46nm,1.2s
STU Stuttgart 48.00 301 *eP* **P** **22 03 19.6 +0.4**
baz=66,slow=7.9
TEOL Teolo 48.11 296 P **P** **22 03 19.0 -1.0**
TEOL IAmb IAmb 22 03 20.9
comp=Z,30nm,0.9s
CUC Castrocucco 48.16 288 P **P** **22 03 20.2 -0.4**
CUC IAmb IAmb 22 03 27.6
comp=Z,30nm,0.9s
DAVA Damuels 48.28 299 *i* P **P** **22 03 22.2 +0.6**
comp=Z,19nm,1.1s
INTR Introdacqua 48.36 291 P **P** **22 03 22.0 -0.1**
INTR IAmb IAmb 22 03 27.1
comp=Z,26nm,1.0s
FUORN Ofenpass-Fuorn 48.37 298 P **P** **22 03 21.4 -0.9**
DAVOX Davos/Dischmat 48.52 298 LR LR 22 25 07.1
comp=Z,540nm,18.9s,baz=48,slow=38
BFO Black Forest 48.72 301 P **P** **22 03 24.1 -0.6**
BFO Black Forest 48.72 301 P **P** **22 03 24.1 -0.6**
BFO pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 48.72 301 *eP* **P** **22 03 24.7 0.0**
comp=Z,10nm,0.9s,baz=66,slow=7.9
ATD Arta Tunnel 48.94 238 P **P** **22 03 27.9 +1.1**
ATD Arta Tunnel 48.94 238 LR LR 22 26 09.7
comp=Z,5.6nm,20.9s,baz=42,slow=39
TUE Stuetta 48.99 298 P **P** **22 03 26.8 -0.3**
TUE Stuetta 48.99 298 P **P** **22 03 27.5 +0.4**
comp=Z,78nm,0.8s
CEL Celeste 49.03 286 P **P** **22 03 27.3 0.0**
CEL Celeste 49.03 286 P **P** **22 03 28.2 +0.9**
comp=Z,84nm,1.0s
DBG Daneborg 49.08 340 *i* P **P** **22 03 25.8 -1.3**
DBG IAmb IAmb 22 03 28.4
comp=Z,20nm,0.9s
WLF Walferdange 49.36 303 *eP* **P** **22 03 30.8 +1.2**
baz=66,slow=7.9
ECH Echery 49.46 301 P **P** **22 03 29.7 -0.7**
ECH Echery 49.46 301 P **P** **22 03 29.7 -0.7**
ECH pmax pmax
comp=Z,10.0nm,0.9s
KKM Kota Kinabalu 49.46 135 P **P** **22 03 30.7 -0.1**
KKM IAmb IAmb 22 03 37.8
comp=Z,42nm,1.2s
RCHB Rochefort 49.66 304 *dP* **P** **22 03 32.3 +0.5**
comp=Z,7.4nm,0.8s
DOU Dourbes 50.04 305 *dP* **P** **22 03 35.2 +0.5**
VAE Valguarnera 50.44 286 LR LR 22 29 54.3
comp=Z,222nm,20.4s,baz=52,slow=42
SBUM Sibu 50.80 141 P **P** **22 03 41.5 +0.6**
SBUM Sibu 50.80 141 P **P** **22 03 42.4 +1.6**
LPL La Plagne 51.05 298 *eP* **P** **22 03 43.0 +0.3**
LPL pmax pmax
comp=Z,15nm,0.6s
SCO Scoresbysund 51.45 336 P **P** **22 03 45.1 0.0**
SCO IAmb IAmb 22 03 47.7
comp=Z,37nm,1.2s
SCO Scoresbysund 51.45 336 P **P** **22 03 45.1 0.0**
SCO pmax pmax
comp=Z,37nm,1.2s
SCO Scoresbysund 51.45 336 *i* P **P** **22 03 45.1 0.0**
SCO IAmb IAmb 22 03 47.4
comp=Z,38nm,1.2s
EKA Eskdalemuir Ar 51.67 313 P **P** **22 03 46.3 -0.6**
comp=Z,2.1nm,0.4s,baz=58,slow=6.6,SNR=23
comp=Z,2.1nm,0.4s
SMF Signal de Mont 52.20 301 *eP* **P** **22 03 50.5 -0.5**
SMF pmax pmax
comp=Z,27nm,1.3s
NEEM North Greenlan 52.88 349 *i* P **P** **22 03 55.5 -0.5**
NEEM IAmb IAmb 22 03 57.3
comp=Z,70nm,1.1s
EUNU Eureka 53.30 358 P **P** **22 03 58.6 -0.2**
EUNU IAmb IAmb 22 04 00.9
comp=Z,25nm,0.8s
LDF La Druitiere 53.47 305 *eP* **P** **22 03 59.5 -0.8**
LDF pmax pmax
comp=Z,42nm,1.3s
DAV Davao City (W) 53.58 124 LR LR 22 29 04.2
comp=Z,406nm,18.0s,baz=332,slow=39
MNAI Manna 53.79 155 P **P** **22 04 02.1 -1.0**
SUMG Summit 54.30 342 P **P** **22 04 07.0 +0.4**
SUMG IAmb IAmb 22 04 08.4
comp=Z,50nm,1.1s
SUMG Summit 54.30 342 P **P** **22 04 07.0 +0.4**
SUMG pmax pmax
comp=Z,50nm,1.1s
SUMG Summit 54.30 342 *i* P **P** **22 04 07.0 +0.4**
SUMG IAmb IAmb 22 04 08.0
comp=Z,48nm,1.1s
BORG Borgarnes 54.44 329 LR LR 22 27 18.3
comp=Z,166nm,20.2s,baz=62,slow=36
C16K Lisburne Hills 54.49 25 P **P** **22 04 06.9 -0.6**
C16K IAmb IAmb 22 04 08.7
comp=Z,45nm,1.1s
C16K Lisburne Hills 54.49 25 P **P** **22 04 07.2 -0.3**
baz=308
KEST Kesra 54.78 287 P **P** **22 04 09.5 -0.7**
KEST IAmb IAmb 22 04 11.7
comp=Z,39nm,1.5s
KEST Kesra 54.78 287 P **P** **22 04 09.6 -0.6**
comp=Z,5.6nm,0.9s,baz=30,slow=6.6,SNR=7.8
KEST LR LR 22 29 43.2
comp=Z,188nm,19.9s,baz=49,slow=38
comp=Z,5.6nm,0.9s

A21K Barrow 54.79 20 P **P** **22 04 09.3 -0.3**
baz=313
B18K Kokolik River 54.80 23 P **P** **22 04 10.5 +0.8**
baz=310
C17K DeLong Mountai 54.99 24 P **P** **22 04 11.1 -0.1**
baz=310,SNR=25
GAMB Gambell 55.14 32 P **P** **22 04 11.0 -1.2**
GAMB IAmb IAmb 22 04 13.7
comp=Z,30nm,1.2s
GAMB Gambell 55.14 32 P **P** **22 04 12.4 +0.2**
baz=306,SNR=6.5
SHEM Shemya Is, Ala 55.20 48 LR LR 22 30 28.5
comp=Z,151nm,18.6s,baz=286,slow=39
RDOG Red Dog Mine 55.34 25 P **P** **22 04 12.9 -0.8**
RDOG Red Dog Mine 55.34 25 P **P** **22 04 13.3 -0.4**
baz=310
TNA Tin City 55.36 29 P **P** **22 04 13.2 -0.7**
TNA IAmb IAmb 22 04 15.8
comp=Z,40nm,1.1s
TNA Tin City 55.36 29 P **P** **22 04 14.3 +0.5**
baz=308,SNR=22
C18K Utukok River 55.43 24 P **P** **22 04 14.1 -0.3**
C18K IAmb IAmb 22 04 15.6
comp=Z,23nm,1.0s
C18K Utukok River 55.43 24 P **P** **22 04 14.4 0.0**
baz=311,SNR=22
D17K Noatak River 55.52 25 P **P** **22 04 14.9 0.0**
baz=310
F14K Arctic Creek 55.94 28 P **P** **22 04 19.0 +1.0**
baz=309,SNR=21
KULLO Kullorsuaq 56.10 348 *i* P **P** **22 04 18.4 -0.6**
KULLO IAmb IAmb 22 04 20.3
comp=Z,39nm,0.8s
B22K Teshekpuk Lake 56.24 20 P **P** **22 04 19.6 -0.4**
B22K IAmb IAmb 22 04 21.3
comp=Z,40nm,1.1s
B22K Teshekpuk Lake 56.24 20 P **P** **22 04 19.9 -0.1**
baz=316
E17K Hotham Inlet 56.29 25 P **P** **22 04 20.4 -0.1**
baz=312,SNR=21
F15K North Star Dit 56.33 27 P **P** **22 04 20.8 0.0**
F15K IAmb IAmb 22 04 22.8
comp=Z,46nm,1.3s
F15K North Star Dit 56.33 27 P **P** **22 04 21.5 +0.7**
baz=310
D19K Kuna River 56.37 23 P **P** **22 04 20.3 -0.8**
D19K IAmb IAmb 22 04 22.3
comp=Z,34nm,1.1s
D19K Kuna River 56.37 23 P **P** **22 04 20.9 -0.2**
baz=314
E18K Tukpahlearik C 56.42 25 P **P** **22 04 20.8 -0.6**
E18K Tukpahlearik C 56.42 25 P **P** **22 04 21.5 +0.1**
baz=312
B21K Ikpikpuk River 56.47 21 P **P** **22 04 21.9 +0.1**
B21K IAmb IAmb 22 04 23.2
comp=Z,33nm,1.1s
B21K Ikpikpuk River 56.47 21 P **P** **22 04 22.1 +0.3**
baz=316,SNR=20
D20K Etivluk River 56.62 22 P **P** **22 04 22.8 0.0**
baz=315
C21K Knifeblade Rid 56.77 21 P **P** **22 04 24.3 +0.4**
baz=316
ANM Nome 56.83 29 P **P** **22 04 24.9 +0.5**
ANM IAmb IAmb 22 04 26.7
comp=Z,25nm,0.9s
ANM Nome 56.83 29 P **P** **22 04 25.4 +1.0**
baz=310,SNR=16
ANM Nome 56.83 29 P **P** **22 04 24.9 +0.5**
ANM pmax pmax
comp=Z,25nm,0.9s
F17K Baldwin Pennin 56.89 26 P **P** **22 04 25.0 +0.2**
F17K Baldwin Pennin 56.89 26 P **P** **22 04 25.6 +0.9**
baz=312
G15K Niukluk 56.99 28 P **P** **22 04 25.9 +0.4**
baz=311
E20K Nigu River 57.05 22 P **P** **22 04 26.1 +0.2**
baz=315
ICESG Greenland Ices 57.07 339 *i* P **P** **22 04 25.5 -1.0**
ICESG IAmb IAmb 22 04 27.8
comp=Z,61nm,1.0s
MRSI Marisa 57.11 132 P **P** **22 04 26.6 -0.4**
comp=Z,28nm,0.9s
F18K Selawik 57.25 25 P **P** **22 04 27.5 +0.2**
baz=313,SNR=32
G16K Koyuk River 57.26 27 P **P** **22 04 27.4 +0.1**
G16K IAmb IAmb 22 04 29.4
comp=Z,32nm,1.0s
G16K Koyuk River 57.26 27 P **P** **22 04 28.1 +0.8**
baz=312
E19K Redstone River 57.34 24 P **P** **22 04 27.6 -0.4**
E19K IAmb IAmb 22 04 29.1
comp=Z,31nm,0.9s
E19K Redstone River 57.34 24 P **P** **22 04 28.0 0.0**
baz=315
UPNV Upernavik 57.47 347 *i* P **P** **22 04 28.0 -0.8**
UPNV IAmb IAmb 22 04 29.7
comp=Z,32nm,0.9s
D22K Ayikyak River 57.49 21 P **P** **22 04 28.6 -0.4**
D22K IAmb IAmb 22 04 30.5
comp=Z,33nm,0.9s
D22K Ayikyak River 57.49 21 P **P** **22 04 29.2 +0.2**
baz=318,SNR=26
E21K Killik River 57.49 22 P **P** **22 04 28.0 -1.1**
E21K IAmb IAmb 22 04 30.1
comp=Z,32nm,1.1s
E21K Killik River 57.49 22 P **P** **22 04 28.9 -0.2**
baz=317
LEM Lembang 57.56 151 LR LR 22 31 57.3
comp=Z,256nm,18.7s,baz=312,slow=39
F19K Shareruckik Mo 57.63 24 P **P** **22 04 28.8 -1.2**
F19K Shaleruckik Mo 57.63 24 P **P** **22 04 29.2 -0.8**
baz=315,SNR=5.8
G17K Kiwalik Mounta 57.71 26 P **P** **22 04 31.0 +0.4**
baz=313
C24K Franklin Bluff 57.78 19 P **P** **22 04 30.5 -0.5**
C24K IAmb IAmb 22 04 32.4
comp=Z,35nm,1.1s
C24K Franklin Bluff 57.78 19 P **P** **22 04 31.3 +0.3**
baz=320
H16K Elim 57.80 28 P **P** **22 04 31.8 +0.6**
baz=312,SNR=25
D23K Nanushuk River 57.91 20 P **P** **22 04 31.3 -0.6**
D23K IAmb IAmb 22 04 33.3
comp=Z,24nm,1.0s
D23K Nanushuk River 57.91 20 P **P** **22 04 32.0 +0.1**
baz=319,SNR=15
G18K Tagagawik 58.03 25 P **P** **22 04 31.6 -1.2**
G18K Tagagawik 58.03 25 P **P** **22 04 32.8 -0.1**
baz=314
F20K Avaraart Lake 58.04 23 P **P** **22 04 31.8 -1.0**
F20K Avaraart Lake 58.04 23 P **P** **22 04 32.4 -0.5**
baz=316
D24K Happy Valley 58.19 19 P **P** **22 04 32.9 -1.0**
D24K Happy Valley 58.19 19 P **P** **22 04 33.6 -0.3**
baz=320
E22K Anaktuvuk Pass 58.26 21 P **P** **22 04 33.2 -1.2**
E22K IAmb IAmb 22 04 35.5
comp=Z,25nm,1.0s
G19K Purcell Mounta 58.31 25 P **P** **22 04 34.3 -0.5**
G19K Purcell Mounta 58.31 25 P **P** **22 04 34.7 -0.1**
baz=315,SNR=7.6
H17K Granite Mounta 58.32 27 P **P** **22 04 35.2 +0.3**
H17K IAmb IAmb 22 04 36.8
comp=Z,41nm,0.9s
H17K Granite Mounta 58.32 27 P **P** **22 04 35.7 +0.8**
baz=314,SNR=7.3
TOLK Toolik Lake Re 58.41 20 P **P** **22 04 35.0 -0.5**
TOLK Toolik Lake Re 58.41 20 P **P** **22 04 35.2 -0.3**
baz=320,SNR=13
F21K Alatna River 58.51 22 P **P** **22 04 35.3 -0.9**
F21K IAmb IAmb 22 04 37.4
comp=Z,42nm,1.1s
F21K Alatna River 58.51 22 P **P** **22 04 36.0 -0.2**
baz=318
UMMG Uummannaq 58.55 344 *i* P **P** **22 04 34.8 -1.6**
UMMG IAmb IAmb 22 04 37.0
comp=Z,20nm,0.8s
D25K Kavik River 58.61 18 P **P** **22 04 35.8 -1.1**
D25K Kavik River 58.61 18 P **P** **22 04 36.7 -0.2**
baz=322
J14K Nanvaranak Lak 58.64 30 P **P** **22 04 36.3 -0.8**
J14K IAmb IAmb 22 04 39.0
comp=Z,24nm,0.9s
J14K Nanvaranak Lak 58.64 30 P **P** **22 04 37.8 +0.7**
baz=312,SNR=7.7
I17K Unalakleet 58.81 28 P **P** **22 04 38.2 -0.1**

I17K IAmb IAmb 22 04 40.5
comp=Z,28nm,0.9s
I17K Unalakleet 58.81 28 P **P** **22 04 39.3 +1.1**
baz=314,SNR=6.8
K13K Kusilvak Mount 58.81 31 P **P** **22 04 38.9 +0.6**
baz=312
RES Resolute Bay 58.84 359 P **P** **22 04 37.4 -0.9**
RES Resolute Bay 58.84 359 LR LR 22 32 15.5
comp=Z,330nm,18.4s,baz=26,slow=38
RES Resolute Bay 58.84 359 P **P** **22 04 37.4 -0.9**
RES pmax pmax
comp=Z,10.0nm,1.1s
E23K Chandalar 58.85 21 P **P** **22 04 38.4 -0.3**
E23K IAmb IAmb 22 04 39.7
comp=Z,23nm,0.9s
E23K Chandalar 58.85 21 P **P** **22 04 38.5 -0.2**
baz=320
C27K Jago River 58.93 17 P **P** **22 04 38.9 -0.1**
C27K IAmb IAmb 22 04 40.8
comp=Z,23nm,1.1s
C27K Jago River 58.93 17 P **P** **22 04 39.3 +0.3**
baz=324,SNR=7.7
H19K Roundabout Mou 58.94 25 P **P** **22 04 38.9 -0.2**
H19K IAmb IAmb 22 04 40.6
comp=Z,24nm,0.8s
H19K Roundabout Mou 58.94 25 P **P** **22 04 39.5 +0.4**
baz=316
G21K Allakaket 59.03 23 P **P** **22 04 39.6 -0.2**
G21K Allakaket 59.03 23 P **P** **22 04 39.9 0.0**
baz=318
ANGG Ammassalik, Gr 59.07 335 P **P** **22 04 40.2 +0.2**
ANGG IAmb IAmb 22 04 40.9
comp=Z,36nm,1.2s
ANGG Ammassalik, Gr 59.07 335 *i* P **P** **22 04 39.1 -0.9**
ANGG IAmb IAmb 22 04 41.3
comp=Z,16nm,0.5s
TTSI Tana Toraja 59.11 136 P **P** **22 04 39.6 -1.3**
comp=Z,23nm,1.1s
E24K Your Creek 59.11 20 P **P** **22 04 39.2 -1.2**
E24K IAmb IAmb 22 04 41.5
comp=Z,16nm,0.9s
E24K Your Creek 59.11 20 P **P** **22 04 40.3 -0.1**
baz=321,SNR=17
J16K Anvik River 59.26 28 IAmb IAmb 22 04 43.6
comp=Z,35nm,1.1s
J16K Anvik River 59.26 28 P **P** **22 04 42.1 +0.7**
baz=314
M11K Mekoryuk 59.28 33 P **P** **22 04 42.7 +1.1**
baz=312
COLD Coldfoot 59.35 21 IAmb IAmb 22 04 43.3
comp=Z,35nm,1.0s
COLD Coldfoot 59.35 21 P **P** **22 04 42.0 0.0**
baz=320,SNR=30
GCSA Galena City Sc 59.38 26 P **P** **22 04 42.6 +0.4**
baz=316
H20K Anotleneega Mo 59.41 24 P **P** **22 04 42.4 -0.1**
baz=317,SNR=31
ILULI Ilulissat 59.56 343 *i* P **P** **22 04 41.6 -1.8**
ILULI IAmb IAmb 22 04 44.1
comp=Z,59nm,0.9s
K15K Wolf Creek Mou 59.64 29 P **P** **22 04 44.4 +0.3**
K15K Wolf Creek Mou 59.64 29 P **P** **22 04 45.2 +1.2**
baz=314
J17K VABM Dome 59.67 28 P **P** **22 04 44.4 +0.2**
J17K VABM Dome 59.67 28 P **P** **22 04 44.8 +0.6**
baz=315
F24K Squaw Lake 59.69 20 P **P** **22 04 44.4 0.0**
F24K Squaw Lake 59.69 20 P **P** **22 04 44.4 0.0**
baz=322
E25K Arctic Village 59.75 19 P **P** **22 04 44.4 -0.3**
E25K Arctic Village 59.75 19 P **P** **22 04 44.1 -0.6**
baz=323,SNR=8.0
G23K Bananza Creek 59.79 22 P **P** **22 04 44.9 -0.2**
G23K Bananza Creek 59.79 22 P **P** **22 04 45.0 -0.1**
baz=320
SPIA Saint Paul Isl 59.80 37 P **P** **22 04 44.8 -0.3**
baz=310
D27M Malcolm River 59.80 17 P **P** **22 04 44.9 -0.2**
D27M Malcolm River 59.80 17 P **P** **22 04 45.3 +0.2**
baz=326
LODK Lodwar 59.82 239 P **P** **22 04 45.7 -0.3**
LODK Lodwar 59.82 239 P **P** **22 04 46.9 +0.9**
A36M Sachs Harbour 59.85 10 P **P** **22 04 44.7 -0.6**
A36M IAmb IAmb 22 04 47.5
comp=Z,17nm,0.8s
A36M Sachs Harbour 59.85 10 P **P** **22 04 44.7 -0.6**
baz=338,SNR=12
H21K Melozitna Rive 59.87 23 P **P** **22 04 44.7 -0.9**
H21K IAmb IAmb 22 04 46.7
comp=Z,32nm,1.0s
H21K Melozitna Rive 59.87 23 P **P** **22 04 45.6 0.0**
baz=319
SPSI Sidrap Palu 59.89 137 P **P** **22 04 45.3 -1.0**
comp=Z,24nm,0.9s
L14K Kuka Creek 59.91 31 P **P** **22 04 45.9 +0.1**
L14K Kuka Creek 59.91 31 P **P** **22 04 46.5 +0.6**
baz=314,SNR=14
I20K Naaghedeneel 60.04 25 P **P** **22 04 47.6 +0.9**
baz=318
H22K Ishtalitna Cre 60.07 23 P **P** **22 04 48.0 +1.0**
baz=320,SNR=12
L15K Ungalak Mounta 60.09 30 P **P** **22 04 47.9 +0.7**
baz=314
F25K Christian Rive 60.15 19 IAmb IAmb 22 04 49.2
comp=Z,20nm,0.9s
F25K Christian Rive 60.15 19 P **P** **22 04 47.9 +0.3**
baz=323
D28M Stokes Point 60.16 16 P **P** **22 04 48.1 +0.7**
baz=328
J19K Poorman 60.30 26 IAmb IAmb 22 04 50.4
comp=Z,22nm,0.8s
J19K Poorman 60.30 26 P **P** **22 04 49.3 +0.7**
baz=317
M13K Dall Lake 60.31 32 P **P** **22 04 49.4 +0.8**
baz=314
J18K Innoko River 60.36 27 IAmb IAmb 22 04 50.5
comp=Z,36nm,0.9s
J18K Innoko River 60.36 27 P **P** **22 04 49.5 +0.5**
baz=317
K17K Iditarod 60.40 28 P **P** **22 04 50.1 +0.8**
baz=316
G24K Hadweenzic Riv 60.44 21 IAmb IAmb 22 04 50.9
comp=Z,30nm,0.9s
G24K Hadweenzic Riv 60.44 21 P **P** **22 04 49.6 +0.2**
baz=322
I21K Tanana 60.45 24 P **P** **22 04 49.2 -0.3**
I21K IAmb IAmb 22 04 51.0
comp=Z,19nm,0.9s
I21K Tanana 60.45 24 P **P** **22 04 49.9 +0.3**
baz=320
P08K Saint George I 60.46 37 P **P** **22 04 50.4 +0.7**
baz=311
M14K Bethel 60.57 31 P **P** **22 04 51.1 +0.8**
M14K Bethel 60.57 31 P **P** **22 04 51.3 +0.9**
baz=314,SNR=9.4
J20K Nowinta River 60.60 25 IAmb IAmb 22 04 52.3
comp=Z,20nm,0.9s
J20K Nowinta River 60.60 25 P **P** **22 04 51.2 +0.6**
baz=318
E28M Babbage River 60.62 17 P **P** **22 04 50.9 +0.2**
baz=328
L16K Owhat River 60.74 29 P **P** **22 04 52.3 +0.7**
L16K Owhat River 60.74 29 P **P** **22 04 52.5 +0.9**
baz=316,SNR=12
KAPI Kappang 60.80 137 LR LR 22 35 12.6
comp=Z,92nm,19.4s,baz=262,slow=40
L17K Donlin 60.83 28 P **P** **22 04 53.5 +1.3**
baz=316
ESDC Sonseca Array 60.85 298 P **P** **22 04 52.9 +0.1**
ESDC Sonseca Array 60.85 298 P **P** **22 04 52.6 -0.1**
comp=Z,6.1nm,0.8s,baz=51,slow=6.8,SNR=20
ESDC LR LR 22 32 48.9
comp=Z,339nm,19.4s,baz=62,slow=38
comp=Z,6.1nm,0.8s
TTA Tatalina 60.97 27 P **P** **22 04 53.0 -0.2**
TTA Tatalina 60.97 27 P **P** **22 04 53.7 +0.5**
baz=318,SNR=5.3
TTA Tatalina 60.97 27 P **P** **22 04 54.1 +0.9**
TTA Tatalina 60.97 27 P **P** **22 04 53.0 -0.2**
TTA pmax pmax
comp=Z,13nm,1.1s
H24K Noodor Dome 61.02 22 P **P** **22 04 53.8 +0.3**
H24K Noodor Dome 61.02 22 P **P** **22 04 53.7 +0.2**
baz=322
M15K Kasigluk River 61.05 30 P **P** **22 04 54.4 +0.6**
baz=315
FYU Fort Yukon 61.08 20 P **P** **22 04 54.1 +0.3**

FYU				IAmb	IAmb	22 04 56.3	
	comp=Z,36nm,1.2s						
G26K	Porcupine Rive	61.10	19	P	P	22 04 54.3	+0.4
	baz=325						
E29M	Blow River	61.12	16	P	P	22 04 54.6	+0.5
	baz=329						
I23K	Minto, Yukon-K	61.18	23	IAmb	IAmb	22 04 56.0	
	comp=Z,38nm,1.1s						
I23K	Minto, Yukon-K	61.18	23	P	P	22 04 54.7	+0.2
	baz=321,SNR=15						
K20K	Telida	61.24	26	P	P	22 04 53.8	-1.2
K20K				IAmb	IAmb	22 04 56.8	
	comp=Z,26nm,0.9s						
K20K	Telida	61.24	26	P	P	22 04 55.3	+0.3
	baz=319						
BKSI	Bulukumba	61.24	137	P	P	22 04 54.6	-0.9
	comp=Z,39nm,1.0s						
N14K	Kuskokwak Cree	61.25	31	P	P	22 04 55.9	+0.9
	baz=315						
L18K	Granite Mounta	61.28	28	P	P	22 04 55.9	+0.6
L18K				IAmb	IAmb	22 04 57.2	
	comp=Z,30nm,0.8s						
L18K	Granite Mounta	61.28	28	P	P	22 04 56.0	+0.7
	baz=317						
SFJD	Kangerlussuaq	61.29	341	P	P	22 04 55.6	+0.4
SFJD				IAmb	IAmb	22 04 56.2	
	comp=Z,26nm,0.8s						
SFJD	Kangerlussuaq	61.29	341	LR	LR	22 35 23.8	
	comp=Z,450nm,18.3s,baz=40,slow=40						
SFJD	Kangerlussuaq	61.29	341	P	P	22 04 55.6	+0.4
SFJD				pmax	pmax		
	comp=Z,27nm,0.8s						
SFJD	Kangerlussuaq	61.29	341	*i* P	P	22 04 55.0	-0.2
SFJD				IAmb	IAmb	22 04 55.9	
	comp=Z,26nm,0.8s						
CHUM	Lake Minchumin	61.35	25	P	P	22 04 56.1	+0.4
	baz=320,SNR=8.9						
F28M	Old Crow	61.39	17	P	P	22 04 56.0	0.0
	baz=328,SNR=9.8						
M16K	Timber Creek	61.41	29	P	P	22 04 56.9	+0.7
M16K	Timber Creek	61.41	29	P	P	22 04 57.4	+1.3
	baz=316						
BPAW	Bear Paw Mtn.	61.56	24	IAmb	IAmb	22 04 58.7	
	comp=Z,23nm,1.0s						
BPAW	Bear Paw Mtn.	61.56	24	P	P	22 04 57.1	0.0
	baz=321						
N15K	Kwethluk River	61.64	31	P	P	22 04 58.4	+0.7
N15K	Kwethluk River	61.64	31	P	P	22 04 59.1	+1.4
	baz=316						
M17K	Holitna River	61.64	28	P	P	22 04 58.6	+0.9
M17K	Holitna River	61.64	28	P	P	22 04 59.0	+1.3
	baz=317						
G27K	Doyon Strip	61.69	19	IAmb	IAmb	22 04 59.5	
	comp=Z,15nm,0.9s						
G27K	Doyon Strip	61.69	19	P	P	22 04 58.5	+0.5
	baz=326						
POKR	Poker Plat Res	61.71	22	IAmb	IAmb	22 04 59.6	
	comp=Z,28nm,1.0s						
POKR	Poker Plat Res	61.71	22	P	P	22 04 58.2	+0.1
	baz=323,SNR=12						
CAST	Castle Rocks	61.77	25	IAmb	IAmb	22 05 00.7	
	comp=Z,35nm,1.0s						
CAST	Castle Rocks	61.77	25	P	P	22 04 58.9	+0.2
	baz=320,SNR=25						
COLA	College	61.80	22	P	P	22 04 58.8	+0.2
COLA	College	61.80	22	*ce* P	P	22 04 58.6	0.0
COLA				pmax	pmax		
	comp=Z,30nm,0.9s						
PRP	Porcupine Dome	61.86	21	P	P	22 04 59.4	0.0
PRP				IAmb	IAmb	22 05 00.8	
	comp=Z,18nm,0.9s						
PRP	Porcupine Dome	61.86	21	P	P	22 04 59.6	+0.3
	baz=324,SNR=6.0						
N16K	Nishlik Lake	61.87	30	P	P	22 05 00.6	+1.3
	baz=316						
O14K	Tigyukauivet M	61.88	32	P	P	22 04 59.5	+0.2
	baz=315						
L19K	White Mountain	61.89	27	P	P	22 04 59.4	0.0
L19K	White Mountain	61.89	27	P	P	22 04 59.9	+0.5
	baz=319,SNR=16						
BWN	Browne	61.92	23	P	P	22 04 59.4	-0.1
L20K	Farewell, AK	61.96	26	P	P	22 05 00.7	+0.8
	baz=319						
CCB	Clear Creek Bu	61.99	22	IAmb	IAmb	22 05 01.2	
	comp=Z,18nm,1.0s						
INK	Inuvik	61.99	15	IAmb	IAmb	22 05 01.1	
	comp=Z,34nm,1.2s						
INK	Inuvik	61.99	15	LR	LR	22 33 04.9	
	comp=Z,220nm,21.8s,baz=256,slow=37						
INK	Inuvik	61.99	15	P	P	22 04 59.7	-0.3
	baz=332,SNR=13						
WRH	Wood River Hil	62.05	23	IAmb	IAmb	22 05 00.9	
	comp=Z,13nm,0.8s						
M18K	Stony River	62.10	28	P	P	22 05 01.6	+0.8
	baz=318,SNR=9.2						
ILAR	Eielson Array	62.12	22	P	P	22 04 59.7	-1.2
	comp=Z,16nm,0.8s,baz=321,slow=4.3,SNR=82						
	comp=Z,16nm,0.8s						
PPLA	Purkeypile	62.15	25	P	P	22 05 00.9	-0.4
PPLA	Purkeypile	62.15	25	P	P	22 05 01.6	+0.4
	baz=320,SNR=17						
F30M	Barrier River	62.20	16	P	P	22 05 01.3	0.0
	baz=331,SNR=6.4						
H27K	Steamboat Moun	62.21	19	P	P	22 05 01.1	-0.4
	baz=327						
M19K	Big River Lodg	62.24	27	P	P	22 05 02.5	+0.7
M19K				IAmb	IAmb	22 05 03.4	
	comp=Z,21nm,1.1s						
M19K	Big River Lodg	62.24	27	P	P	22 05 02.5	+0.7
	baz=319						
TRF	Thorofare Moun	62.26	24	P	P	22 05 01.6	-0.5
	baz=321,SNR=7.3						
G29M	Pine Creek	62.37	17	P	P	22 05 02.5	0.0
G29M				IAmb	IAmb	22 05 03.9	
	comp=Z,19nm,1.0s						
G29M	Pine Creek	62.37	17	P	P	22 05 02.6	0.0
	baz=329						
N17K	Nushagak Hills	62.37	29	P	P	22 05 03.3	+0.7
N17K				IAmb	IAmb	22 05 05.3	
	comp=Z,23nm,0.9s						
N17K	Nushagak Hills	62.37	29	P	P	22 05 04.0	+1.4
	baz=318,SNR=5.8						
HDA	Harding Lake	62.40	22	P	P	22 05 01.6	-1.2
HDA	Harding Lake	62.40	22	P	P	22 05 02.5	-0.3
	baz=323						
MCK	McKinley	62.41	23	P	P	22 05 02.5	-0.4
MCK	McKinley	62.41	23	P	P	22 05 03.7	+0.8
	baz=322						
MCK	McKinley	62.41	23	P	P	22 05 02.5	-0.4
MCK				pmax	pmax		
	comp=Z,15nm,1.2s						
KMBO	Kilima Mbogo	62.43	234	P	P	22 05 03.7	-0.2
KMBO	Kilima Mbogo	62.43	234	P	P	22 05 05.3	+1.4
KMBO	Kilima Mbogo	62.43	234	P	P	22 05 03.7	-0.2
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
O15K	Ungalikthiuk R	62.45	31	P	P	22 05 03.9	+0.8
	baz=316,SNR=6.1						
C36M	Paulatuk	62.46	11	P	P	22 05 01.9	-1.1
C36M				IAmb	IAmb	22 05 04.1	
	comp=Z,20nm,0.8s						
C36M	Paulatuk	62.46	11	P	P	22 05 01.8	-1.2
	baz=339,SNR=30						
I26K	Coal Creek Min	62.60	20	P	P	22 05 03.7	-0.4
I26K				IAmb	IAmb	22 05 05.5	
	comp=Z,24nm,0.9s						
I26K	Coal Creek Min	62.60	20	P	P	22 05 04.3	+0.2
	baz=326						
J25K	Salcha River,	62.64	21	P	P	22 05 03.5	-0.9
	baz=324,SNR=10						
M20K	Styx River	62.64	26	P	P	22 05 04.8	+0.3
M20K				IAmb	IAmb	22 05 06.3	
	comp=Z,31nm,1.1s						
M20K	Styx River	62.64	26	P	P	22 05 04.9	+0.4
	baz=320,SNR=13						
G30M	tAoh Zrail Nji	62.66	16	IAmb	IAmb	22 05 05.4	
	comp=Z,20nm,1.1s						
G30M	tAoh Zrail Nji	62.66	16	P	P	22 05 04.1	-0.4
	baz=330,SNR=13						
N18K	Kilae Creek	62.68	28	P	P	22 05 04.2	-0.5
N18K				IAmb	IAmb	22 05 07.2	
	comp=Z,24nm,0.9s						
N18K	Kilae Creek	62.68	28	P	P	22 05 05.7	+1.0
	baz=318,SNR=7.3						
RND	Reindeer	62.70	24	P	P	22 05 03.9	-1.0
RND	Reindeer	62.70	24	P	P	22 05 03.9	-1.0
RND				pmax	pmax		
	comp=Z,14nm,1.3s						
I27K	Kandik River	62.71	19	P	P	22 05 04.6	-0.3
	baz=327						
F31M	Tsiigehtchic	62.72	15	P	P	22 05 04.3	-0.5
F31M				IAmb	IAmb	22 05 05.6	
	comp=Z,33nm,1.2s						
F31M	Tsiigehtchic	62.72	15	P	P	22 05 04.1	-0.7
	baz=332,SNR=10						
O16K	Kokwok River B	62.75	30	P	P	22 05 04.7	-0.5
O16K	Kokwok River B	62.75	30	P	P	22 05 06.5	+1.4
	baz=317						
H29M	Whitestone	62.90	18	P	P	22 05 05.5	-0.6
H29M				IAmb	IAmb	22 05 07.3	
	comp=Z,18nm,1.1s						
O17K	Koliganek Bris	62.96	30	P	P	22 05 07.4	+0.8
	baz=318						
KIBK	Kibwezi	63.00	233	P	P	22 05 07.8	+0.4
N19K	Bonanza Creek	63.04	28	P	P	22 05 07.3	+0.1
N19K				IAmb	IAmb	22 05 12.5	
	comp=Z,21nm,1.1s						
N19K	Bonanza Creek	63.04	28	P	P	22 05 08.2	+1.0
	baz=319						
SKT	Skwentna	63.05	26	P	P	22 05 06.5	-0.6
SKT	Skwentna	63.05	26	P	P	22 05 06.7	-0.5
	baz=321,SNR=21						
G31M	Satah River	63.09	16	P	P	22 05 06.5	-0.8
G31M				IAmb	IAmb	22 05 08.4	
	comp=Z,20nm,0.9s						
G31M	Satah River	63.09	16	P	P	22 05 06.6	-0.6
	baz=332						
CUT	Chulitna	63.09	25	P	P	22 05 06.0	-1.4
CUT	Chulitna	63.09	25	P	P	22 05 06.9	-0.5
	baz=322						
EPYK	Eagle Plains	63.10	17	P	P	22 05 06.3	-1.1
EPYK	Eagle Plains	63.10	17	P	P	22 05 07.0	-0.5
	baz=330						
J26L	Joseph Creek	63.18	21	IAmb	IAmb	22 05 08.7	
	comp=Z,19nm,0.9s						
J26L	Joseph Creek	63.18	21	P	P	22 05 07.3	-0.8
	baz=326,SNR=16						
K24K	Donnelly Dome	63.20	22	P	P	22 05 07.5	-0.6
	baz=324,SNR=7.9						
P16K	Nushagak River	63.20	31	P	P	22 05 08.2	+0.1
	baz=318						
I28M	Miner Creek	63.22	19	P	P	22 05 08.0	-0.4
	baz=328						
STLK	Strandline Lak	63.34	26	P	P	22 05 08.4	-0.7
STLK				IAmb	IAmb	22 05 10.6	
	comp=Z,30nm,1.0s						
SPCR	Spurr Chakacha	63.45	26	P	P	22 05 09.7	-0.2
	baz=321,SNR=7.4						
RIDG	Independent Ri	63.49	22	P	P	22 05 09.2	-0.9
RIDG	Independent Ri	63.49	22	P	P	22 05 08.8	-1.3
	baz=325,SNR=23						
SCRK	Sand Creek	63.51	21	P	P	22 05 09.6	-0.7
SCRK				IAmb	IAmb	22 05 10.9	
	comp=Z,24nm,1.0s						
SCRK	Sand Creek	63.51	21	P	P	22 05 09.7	-0.6
	baz=326,SNR=16						
EGAK	Eagle	63.52	20	P	P	22 05 08.9	-1.2
EGAK	Eagle	63.52	20	P	P	22 05 09.6	-0.6
	baz=328,SNR=5.5						
O18K	Koktuh Hills	63.53	29	P	P	22 05 11.2	+0.9
O18K	Koktuh Hills	63.53	29	P	P	22 05 11.0	+0.7
	baz=319,SNR=9.8						
PESTR	Estremoz	63.55	299	P	P	22 05 10.4	-0.4
PESTR				IAmb	IAmb	22 05 28.7	
	comp=Z,45nm,1.3s						
O19K	Port Alsworth	63.56	28	P	P	22 05 10.3	-0.2
O19K	Port Alsworth	63.56	28	P	P	22 05 11.2	+0.7
	baz=320,SNR=8.9						
UNV	Unalaska Valle	63.61	38	P	P	22 05 10.7	-0.2
	baz=314						
P17K	Kvichak River	63.61	30	P	P	22 05 11.9	+1.0
	baz=318,SNR=8.8						
M22K	Willow	63.65	25	P	P	22 05 10.2	-0.8
M22K	Willow	63.65	25	P	P	22 05 10.3	-0.7
	baz=322						
SUA	Susitna One	63.69	26	P	P	22 05 10.6	-0.9
SUA	Susitna One	63.69	26	P	P	22 05 11.3	-0.3
	baz=322,SNR=11						
P18K	Big Mountain,	63.87	29	P	P	22 05 12.3	-0.4
P18K				IAmb	IAmb	22 05 14.9	
	comp=Z,38nm,1.1s						
P18K	Big Mountain,	63.87	29	P	P	22 05 13.7	+1.0
	baz=319,SNR=7.7						
Q16K	King Salmon	63.93	30	P	P	22 05 13.6	+0.7
	baz=319,SNR=7.9						
PAX	Paxson	63.96	22	P	P	22 05 12.6	-0.7
PAX				IAmb	IAmb	22 05 14.2	
	comp=Z,32nm,1.1s						
PAX	Paxson	63.96	22	P	P	22 05 12.0	-1.2
	baz=325,SNR=13						
PAX	Paxson	63.96	22	P	P	22 05 12.6	-0.7
PAX				pmax	pmax		
	comp=Z,32nm,1.1s						
GHO	Glory Hole Cre	63.98	25	P	P	22 05 12.7	-0.7
PMR	Palmer	64.06	25	P	P	22 05 12.5	-1.3
PMR				IAmb	IAmb	22 05 14.4	
	comp=Z,24nm,1.0s						
PMR	Palmer	64.06	25	P	P	22 05 13.2	-0.6
	baz=323,SNR=8.1						
PMR	Palmer	64.06	25	P	P	22 05 13.8	0.0
PMR	Palmer	64.06	25	P	P	22 05 12.5	-1.3
PMR				pmax	pmax		
	comp=Z,24nm,1.0s						
H31M	Peel River	64.06	16	P	P	22 05 13.0	-0.8
	baz=332						
ILSW	Iliamna Southw	64.10	28	P	P	22 05 14.2	-0.1
ILSW				IAmb	IAmb	22 05 15.3	
	comp=Z,18nm,1.0s						
S12K	Black Hills	64.12	35	P	P	22 05 13.9	-0.4
	baz=316						
SML	Sawmill	64.12	24	P	P	22 05 13.3	-1.0
SML	Sawmill	64.12	24	P	P	22 05 13.8	-0.5
	baz=323,SNR=17						
I30M	Mount Dempster	64.17	17	IAmb	IAmb	22 05 15.6	
	comp=Z,30nm,0.9s						
I30M	Mount Dempster	64.17	17	P	P	22 05 13.9	-0.8
	baz=331,SNR=24						
O20K	Slope Mountain	64.19	27	P	P	22 05 14.4	-0.4
	baz=321						
RC01	Rabbit Creek A	64.28	26	P	P	22 05 14.5	-0.8
	baz=322,SNR=17						
M23K	Glacier View	64.30	24	P	P	22 05 14.7	-0.7
	baz=324,SNR=10.0						
P19K	Oil Pt	64.33	28	P	P	22 05 15.3	-0.4
P19K	Oil Pt	64.33	28	P	P	22 05 15.3	-0.4
	baz=320						
SCM	Sheep Creek Mo	64.38	24	P	P	22 05 15.5	-0.5
	baz=324,SNR=12						
KNK	Knik Glacier	64.40	25	P	P	22 05 15.7	-0.4
KNK	Knik Glacier	64.40	25	P	P	22 05 15.7	-0.4
	baz=323,SNR=21						
MENT	Mentasta	64.44	22	P	P	22 05 15.8	-0.5
MENT	Mentasta	64.44	22	P	P	22 05 16.2	-0.1
J29N	Klondike Camp	64.45	19	P	P	22 05 16.1	-0.4
J29N				IAmb	IAmb	22 05 17.8	
	comp=Z,17nm,0.9s						
J29N	Klondike Camp	64.45	19	P	P	22 05 15.8	-0.6
	baz=330						
L26K	Log Cabin Wild	64.46	22	P	P	22 05 16.0	-0.5
L26K	Log Cabin Wild	64.46	22	P	P	22 05 15.8	-0.6
	baz=326,SNR=6.7						
M24K	Tolsona, Glenn	64.48	23	P	P	22 05 16.2	-0.4
M24K	Tolsona, Glenn	64.48	23	P	P	22 05 16.5	-0.1
	baz=325,SNR=7.0						
Q17K	Contact Creek	64.51	30	P	P	22 05 16.8	-0.2
	baz=319,SNR=7.2						
HARP	HAARP	64.51	23	P	P	22 05 17.1	+0.3
	baz=325						
DAWY	Dawson	64.53	19	P	P	22 05 16.0	-0.9
	baz=329,SNR=6.2						
ACHA	Angle Creek He	64.74	30	IAmb	IAmb	22 05 19.3	
	comp=Z,14nm,0.8s						
NRS	Narsarsuaq	64.75	335	*i* P	P	22 05 18.0	-0.3
NRS				IAmb	IAmb	22 05 19.7	
	comp=Z,45nm,1.0s						
J30M	Hart River	64.75	18	P	P	22 05 17.6	-0.8
	baz=331						
Q19K	Cape Douglas,	64.76	29	P	P	22 05 16.9	-1.6
	baz=320						
O22K	Cooper Landing	64.77	26	P	P	22 05 17.7	-0.7
	baz=323,SNR=8.6						
L27K	Beaver Creek,	64.81	21	P	P	22 05 18.8	+0.1
L27K				IAmb	IAmb	22 05 20.3	
	comp=Z,24nm,0.9s						
L27K	Beaver Creek,	64.81	21	P	P	22 05 18.8	+0.1
	baz=327,SNR=20						
HOM	Homer	64.83	27	P	P	22 05 18.6	-0.3
	baz=322						
PWL	Port Wells	64.88	25	IAmb	IAmb	22 05 19.9	
	comp=Z,26nm,0.9s						
PWL	Port Wells	64.88	25	P	P	22 05 18.8	-0.4
	baz=324,SNR=6.9						
BRLK	Bradley Lake	64.99	27	P	P	22 05 19.3	-0.6
BRLK				IAmb	IAmb	22 05 20.5	
	comp=Z,17nm,0.8s						
BRSE	Bradley Lake S	65.05	27	P	P	22 05 20.2	-0.1
	baz=322						
KLU	Klutina	65.05	24	P	P	22 05 19.8	-0.6
KLU	Klutina	65.05	24	P	P	22 05 20.4	0.0
	baz=325						
CNPM	China Poot	65.07	27	P	P	22 05 19.9	-0.5
M26K	Nabesna, AK	65.07	22	P	P	22 05 20.5	0.0
M26K	Nabesna, AK	65.07	22	P	P	22 05 20.7	+0.2
	baz=327,SNR=7.8						
CHGN	Chignik	65.08	33	P	P	22 05 20.3	-0.2
	baz=318						
K29M	Barlow Dome	65.14	19	P	P	22 05 20.2	-0.7
K29M	Barlow Dome	65.14	19	P	P	22 05 20.6	-0.3
	baz=330,SNR=8.1						
SEW	Seward	65.16	26	P	P	22 05 20.1	-0.8
SEW	Seward	65.16	26	P	P	22 05 20.1	-0.8
	baz=323						
GLI	Glacier Island	65.22	25	P	P	22 05 21.6	+0.1
	baz=324						
N25K	Chitina, Valde	65.32	23	P	P	22 05 21.9	-0.3
N25K	Chitina, Valde	65.32	23	P	P	22 05 22.2	0.0
	baz=326,SNR=17						
DIV	Divide	65.39	24	P	P	22 05 22.5	-0.1
DIV				IAmb	IAmb	22 05 24.2	
	comp=Z,20nm,1.4s						
M27K	Edge Creek, AK	65.39	21	P	P	22 05 22.4	-0.2
M27K	Edge Creek, AK	65.39	21	P	P	22 05 22.8	+0.2
	baz=328,SNR=20						
Q20K	Shuyak Island	65.42	28	P	P	22 05 22.7	+0.1
	baz=321						
SYI	Shuyak Island	65.42	28	P	P	22 05 22.9	+0.2
FID	Port Fidalgo	65.50	24	P	P	22 05 22.7	-0.6
R18K	Karluk	65.53	30	P	P	22 05 23.6	+0.2
	baz=320						
TAM	Tamanrasset	65.55	278	P	P	22 05 24.6	+0.3
TAM	Tamanrasset	65.55	278	P	P	22 05 24.6	+0.3
TAM				pmax	pmax		
	comp=Z,14nm,1.0s						
BVCY	Beaver Creek	65.59	21	P	P	22 05 24.1	+0.2
	baz=326						
L29M	L29M	65.64	19	P	P	22 05 23.1	-1.1
L29M				IAmb	IAmb	22 05 25.4	
	comp=Z,18nm,1.1s						
L29M	L29M	65.64	19	P	P	22 05 23.9	-0.3
	baz=330						
GLB	Gilahina Butte	65.66	23	P	P	22 05 23.4	-0.9
CHNA	Chernabura Isl	65.72	34	P	P	22 05 25.1	+0.4
	baz=318						
MBAR	Mbarara	65.78	241	P	P	22 05 25.9	+0.1
MBAR	Mbarara	65.78	241	P	P	22 05 26.7	+0.9
MBAR	Mbarara	65.78	241	P	P	22 05 25.9	+0.1
MBAR				pmax	pmax		
	comp=Z,11nm,1.3s						
BMRM	Bremner River	65.84	23	P	P	22 05 25.7	+0.2
BMRM	Bremner River	65.84	23	P	P	22 05 25.5	-0.1
	baz=326,SNR=11						
P23K	Montague Islan	65.85	25	P	P	22 05 25.6	+0.2
	baz=324						
EYAK	Cordova Ski Ar	65.88	24	P	P	22 05 25.0	-0.6
EYAK				IAmb	IAmb	22 05 27.6	
	comp=Z,35nm,1.2s						
EYAK	Cordova Ski Ar	65.88	24	P	P	22 05 25.8	+0.2
	baz=325						
VRDI	Verde Repeater	65.94	23	P	P	22 05 25.7	-0.6
VRDI				IAmb	IAmb	22 05 27.9	
	comp=Z,21nm,1.0s						
KDAK	Kodiak Island	66.00	29	P	P	22 05 26.4	-0.1
KDAK	Kodiak Island	66.00	29	LR	LR	22 36 48.9	
	comp=Z,460nm,18.3s,baz=158,slow=38						
KDAK	Kodiak Island	66.00	29	P	P	22 05 26.3	-0.1
	baz=322						
KDAK	Kodiak Island	66.00	29	*de* P	P	22 05 26.6	+0.2
KDAK				pmax	pmax		
	comp=Z,62nm,0.9s						
M29M	Somme Creek	66.14	20	P	P	22 05 26.9	-0.6
M29M				IAmb	IAmb	22 05 28.9	
	comp=Z,14nm,0.9s						
M29M	Somme Creek	66.14	20	P	P	22 05 27.4	-0.1
	baz=330						
OHAK	Old Harbor	66.20	30	P	P	22 05 28.0	+0.2
OHAK	Old Harbor	66.20	30	P	P	22 05 28.1	+0.4
	baz=321,SNR=13						
OHAK	Old Harbor	66.20	30	P	P	22 05 28.3	+0.6
YUK3	Moose Creek	66.24	21	P	P	22 05 28.3	+0.1
	baz=329,SNR=8.2						
M30M	Minto, Yukon	66.41	19	P	P	22 05 28.6	-0.5
M30M	Minto, Yukon	66.41	19	P	P	22 05 29.8	+0.8
	baz=331						
SII	Sitkinak Islan	66.41	31	P	P	22 05 28.4	-0.7
SII	Sitkinak Islan	66.41	31	P	P	22 05 29.6	+0.4
	baz=321,SNR=5.3						
SII	Sitkinak Islan	66.41	31	P	P	22 05 30.1	+1.0
CHIR	Chirikof Islan	66.47	32	P	P	22 05 30.1	+0.7
	baz=320						
Q23K	Middleton Isla	66.63	25	P	P	22 05 31.6	+1.2
	baz=325						
KAIM	Kayak Island	66.76	24	P	P	22 05 31.8	+0.5
	baz=326						
YUK8	Steele Glacier	66.83	21	P	P	22 05 32.5	+0.4
	baz=329						
BGLC	Bering Glacier	66.91	23	P	P	22 05 32.9	+0.7
	baz=327						
YUK4	Talbot Arm	67.05	20	P	P	22 05 33.6	+0.2
	baz=330						
MESA	MESA	67.22	23	P	P	22 05 34.5	0.0
	baz=328						
M31M	Drury Creek, Y	67.26	18	P	P	22 05 34.2	-0.3
M31M				IAmb	IAmb	22 05 35.7	
	comp=Z,18nm,1.0s						
M31M	Drury Creek, Y	67.26	18	P	P	22 05 34.4	-0.1
	baz=333,SNR=11						
N30M	Aishikik Lake	67.32	20	P	P	22 05 33.4	-1.5
N30M	Aishikik Lake	67.32	20	P	P	22 05 35.0	0.0
	baz=331						
FARO	Faro, Yukon	67.46	18	P	P	22 05 35.4	-0.3
FARO	Faro, Yukon	67.46	18	P	P	22 05 35.9	+0.1
	baz=334						
MMPY	Sheldon Lake,	67.53	16	P	P	22 05 36.7	+0.4
MMPY	Sheldon Lake,	67.53	16	P	P	22 05 36.6	+0.4
	baz=335						
N31M	Braeburn, Yuko	67.60	19	P	P	22 05 36.0	-0.6
N31M				IAmb	IAmb	22 05 37.7	
	comp=Z,23nm,1.0s						
N31M	Braeburn, Yuko	67.60	19	P	P	22 05 37.1	+0.5
	baz=332						
FRB	Frobisher Bay	67.61	347	LR	LR	22 38 46.9	
	comp=Z,334nm,19.8s,baz=8.0,slow=39						
PINM	Pinnacle	67.74	22	P	P	22 05 38.2	+0.6
	baz=329						
HYT	Haines Junctio	67.78	20	P	P	22 05 37.6	-0.3
HYT				IAmb	IAmb	22 05 39.2	
	comp=Z,23nm,1.0s						
HYT	Haines Junctio	67.78	20	P	P	22 05 38.3	+0.3
	baz=331,SNR=8.1						
O30N	Mendenhall	68.16	20	P	P	22 05 40.3	0.0
O30N				IAmb	IAmb	22

baz=334,SNR=6.4
SKAG Skagway 69.50 20 P P 22 05 49.0 +0.5
baz=333
YKA Yellowknife Ar 70.15 9 P P 22 05 51.1 -1.4
comp=Z,14nm,0.8s,baz=344,slow=6.1,SNR=148
YKA LR LR 22 37 06.7
comp=Z,215nm,21.4s,baz=334,slow=36
comp=Z,14nm,0.8s
YKA Yellowknife Ar 70.15 9 *i* P P 22 05 51.7 -0.7
YKA pmax pmax
comp=Z,14nm,0.8s
R33M Jennings River 70.53 18 P P 22 05 54.2 -0.8
R33M Jennings River 70.53 18 P P 22 05 55.0 0.0
baz=336
S31K Pelican 70.62 21 P P 22 05 55.8 +0.5
baz=332
DLBC Dease Lake 71.61 18 LR LR 22 40 58.0
comp=Z,283nm,19.2s,baz=300,slow=39
DLBC Dease Lake 71.61 18 P P 22 06 02.3 +0.9
baz=337
S34M Telegraph Cree 71.85 19 P P 22 06 02.8 0.0
S34M IAmb IAmb 22 06 04.7
comp=Z,24nm,0.9s
S34M Telegraph Cree 71.85 19 P P 22 06 03.4 +0.5
baz=336,SNR=8.8
TOAD Toad River Com 72.15 15 P P 22 06 05.5 +0.8
baz=340
KNRA Kununurra 74.36 135 IAmb IAmb 22 06 19.1
comp=Z,23nm,0.8s
TORD Torodi Ar. Bea 74.82 273 P P 22 06 20.3 -0.6
TORD Torodi Ar. Bea 74.82 273 P P 22 06 20.4 -0.6
comp=Z,6.2nm,0.3s,baz=37,slow=5.5,SNR=178
comp=Z,6.2nm,0.3s
FITZ Fitzroy Crossi 74.98 138 LR LR 22 42 42.0
comp=Z,100nm,19.6s,baz=314,slow=38
SCHQ Schefferville 75.68 343 IAmb IAmb 22 06 25.9
comp=Z,35nm,1.1s
SCHQ Schefferville 75.68 343 P P 22 06 24.6 -0.8
comp=Z,20nm,0.9s,baz=12,slow=7.2,SNR=14
SCHQ LR LR 22 43 56.3
comp=Z,327nm,18.9s,baz=44,slow=39
comp=Z,20nm,0.9s
BBB Bella Bella 77.81 19 LR LR 22 42 41.3
comp=Z,149nm,18.3s,baz=342,slow=37
KRVT Keravat (AS076 78.78 109 LR LR 22 41 22.5
comp=Z,113nm,19.7s,baz=13,slow=36
FFC Flin Flon 78.79 3 P P 22 06 42.1 -0.7
FFC IAmb IAmb 22 06 43.2
comp=Z,17nm,0.8s
FFC Flin Flon 78.79 3 P P 22 06 42.1 -0.7
FFC pmax pmax
comp=Z,17nm,0.9s
LSZ Lusaka 79.09 234 P P 22 06 45.1 +0.1
LSZ Lusaka 79.09 234 LR LR 22 42 23.0
comp=Z,78nm,21.8s,baz=38,slow=36
LSZ Lusaka 79.09 234 P P 22 06 45.2 +0.2
LSZ Lusaka 79.09 234 P P 22 06 45.1 +0.1
LSZ pmax pmax
comp=Z,14nm,1.1s
CBB Campbell River 80.44 18 P P 22 06 52.2 +0.3
LLLB Lillooet 80.60 16 P P 22 06 51.9 -0.9
WB0 Warramunga Arr 80.64 132 IAmb IAmb 22 06 53.8
comp=Z,30nm,0.8s
WRAB Tennant Creek 80.76 132 P P 22 06 53.9 +0.1
WRAB Tennant Creek 80.76 132 P P 22 06 53.9 +0.1
WRAB pmax pmax
comp=Z,40nm,0.7s
WRA Warramunga Arr 80.76 132 P P 22 06 53.2 -0.7
comp=Z,36nm,0.9s,baz=338,slow=5.2,SNR=198
comp=Z,36nm,0.9s
WRA Warramunga Arr 80.76 132 *i* P P 22 06 53.5 -0.4
WRA pmax pmax
comp=Z,41nm,0.9s
WRKA Warakurna 82.22 140 P P 22 07 01.2 -0.3
BATG Bathurst New B 82.58 340 P P 22 07 03.2 0.0
BATG IAmb IAmb 22 07 04.8
comp=Z,28nm,0.9s
LDAQ Lac Daran 83.08 343 P P 22 07 05.5 -0.4
LDAQ IAmb IAmb 22 07 07.3
comp=Z,22nm,0.8s
GBN Guysborough 83.13 336 P P 22 07 05.0 -1.1
B08A Colville Reser 83.23 15 P P 22 07 06.1 -0.5
B08A IAmb IAmb 22 07 08.5
comp=Z,31nm,1.1s
NLWA Neilton Lookou 83.26 18 P P 22 07 07.5 +0.7
NLWA IAmb IAmb 22 07 10.3
comp=Z,30nm,1.1s
LMQ La Malbaie 83.28 342 P P 22 07 06.9 0.0
LMQ IAmb IAmb 22 07 08.3
comp=Z,16nm,0.9s
GNW Green Mountain 83.32 17 P P 22 07 06.3 -0.8
GNW IAmb IAmb 22 07 09.3
comp=Z,36nm,1.4s
ULM Lac du Bonnet 83.37 359 P P 22 07 05.5 -1.8
ULM IAmb IAmb 22 07 07.5
comp=Z,16nm,1.1s
ULM Lac du Bonnet 83.37 359 P P 22 07 05.3 -1.9
comp=Z,15nm,1.1s,baz=352,slow=6.8,SNR=14
ULM LR LR 22 47 04.2
comp=Z,180nm,18.9s,baz=351,slow=38
comp=Z,15nm,1.1s
ULM Lac du Bonnet 83.37 359 P P 22 07 05.5 -1.8
ULM pmax pmax
comp=Z,16nm,1.1s
LMN Caledonia Moun 83.60 338 P P 22 07 08.8 +0.2
AS31 Alice Springs 83.67 135 P P 22 07 08.2 -0.8
ASAR Alice Springs 83.67 135 P P 22 07 08.7 -0.4
comp=Z,16nm,0.8s,baz=332,slow=5.5,SNR=102
ASAR LR LR 22 47 32.4
comp=Z,70nm,18.1s,baz=322,slow=38
comp=Z,16nm,0.8s
AS01 Alice Springs 83.69 134 P P 22 07 09.2 0.0
NEW Newport 83.69 14 P P 22 07 08.6 -0.4
NEW Newport 83.69 14 LR LR 22 47 21.2
comp=Z,150nm,21.0s,baz=320,slow=38
NEW Newport 83.69 14 P P 22 07 08.6 -0.4
NEW pmax pmax
comp=Z,13nm,1.0s
D05A Enumclaw 83.85 17 P P 22 07 09.7 0.0
DBIC Dimbokro 83.94 273 P P 22 07 09.6 -1.1
DBIC IAmb IAmb 22 07 15.6
comp=Z,12nm,0.8s
DBIC Dimbokro 83.94 273 P P 22 07 09.7 -1.0
comp=Z,6.5nm,0.9s,baz=40,slow=6.3,SNR=11
DBIC LR LR 22 50 29.9
comp=Z,184nm,18.3s,baz=6.5,slow=40
comp=Z,6.5nm,0.9s
DBIC Dimbokro 83.94 273 P P 22 07 09.6 -1.1
DBIC pmax pmax
comp=Z,12nm,0.8s
C09A Chrisman Ranch 83.95 14 P P 22 07 09.9 -0.4
VLDQ Val d'Or 84.03 347 P P 22 07 10.5 -0.2
LTY Liberty 84.04 16 P P 22 07 09.9 -1.0
LON Longmire 84.30 17 P P 22 07 11.8 -0.4
LON IAmb IAmb 22 07 14.2
comp=Z,15nm,1.1s
LON Longmire 84.30 17 P P 22 07 11.8 -0.4
LON pmax pmax
comp=Z,15nm,1.1s
AIS Amsterdam Isla 84.34 185 P P 22 07 12.6 +0.6
F64A Sherman 84.45 341 P P 22 07 12.2 -0.6
D08A Wollman Farm, 84.56 15 P P 22 07 12.9 -0.5
D08A IAmb IAmb 22 07 14.7
comp=Z,20nm,1.1s
MTSU Mount Surprise 84.71 123 P P 22 07 14.6 +0.1
MXC Moxie City 84.77 16 P P 22 07 14.6 +0.1
GGN Saint George 84.80 339 P P 22 07 13.6 -1.0
E07A Sunnyside 84.87 16 P P 22 07 14.5 -0.5
E07A IAmb IAmb 22 07 16.3
comp=Z,14nm,1.1s
G65A Princeton 84.89 340 P P 22 07 14.3 -0.7
EGMT Eagleton 84.91 9 IAmb IAmb 22 07 16.1
comp=Z,25nm,0.9s
DGMT Dagmar 84.92 5 P P 22 07 14.8 -0.4
NWAO Narrogin (SRO) 85.02 152 LR LR 22 47 25.1
comp=Z,139nm,20.9s,baz=199,slow=37
E08A Dider Farm, El 85.08 15 P P 22 07 16.6 +0.6
E08A IAmb IAmb 22 07 18.0
comp=Z,18nm,1.1s
E09A Wood Farm, Sta 85.22 15 P P 22 07 16.0 -0.7
E09A IAmb IAmb 22 07 18.4
comp=Z,20nm,1.0s
PKME Peaks-Kenny Pk 85.23 341 P P 22 07 16.9 +0.1
PKME IAmb IAmb 22 07 18.6
comp=Z,23nm,0.8s
AGMN Agassiz Nation 85.32 359 IAmb IAmb 22 07 17.6
comp=Z,18nm,0.9s
TRQ Mont Tremblant 85.38 345 P P 22 07 17.6 0.0
TRQ IAmb IAmb 22 07 19.1
comp=Z,27nm,1.1s
F07A Phinny Hill Vi 85.49 16 P P 22 07 17.5 -0.6
F07A IAmb IAmb 22 07 21.5
comp=Z,9.0nm,0.5s
MSO Missoula 85.57 12 IAmb IAmb 22 07 19.7
comp=Z,16nm,1.1s
HOOD Mount Hood Mea 85.70 17 P P 22 07 19.7 +0.3
HOOD IAmb IAmb 22 07 22.1
comp=Z,26nm,1.2s
BBTS Babate 86.05 287 LR LR 22 50 11.6
comp=Z,156nm,18.6s,baz=258,slow=39
H04A Detroit Lake 86.20 18 P P 22 07 20.9 -0.8
H04A IAmb IAmb 22 07 23.1
comp=Z,25nm,1.2s
H62A Milan 86.30 342 P P 22 07 20.9 -1.2
FRNY Flat Rock 86.54 344 P P 22 07 22.6 -0.6
E46A Sault Ste Mari 86.62 351 P P 22 07 23.1 -0.5
E46A IAmb IAmb 22 07 24.5
comp=Z,34nm,1.0s
I63A Otisfield 86.67 341 P P 22 07 23.1 -0.8
I63A IAmb IAmb 22 07 25.6
comp=Z,34nm,0.9s
WBO Williamsburg 86.69 345 P P 22 07 23.4 -0.6
LRM Limekiln Ridge 86.76 11 P P 22 07 24.2 -0.5
LBNH Lisbon 86.78 342 P P 22 07 24.6 +0.1
LBNH IAmb IAmb 22 07 26.3
comp=Z,21nm,0.8s
LBNH Lisbon 86.78 342 P P 22 07 24.6 +0.1
LBNH pmax pmax
comp=Z,21nm,0.9s
E38A The Farm, Brul 86.91 356 P P 22 07 24.4 -0.7
LONY Lake Ozonia 86.93 344 P P 22 07 25.0 -0.3
PLID Pearl Lake 86.96 14 IAmb IAmb 22 07 26.6
comp=Z,19nm,1.0s
I04A Tendick Farm, 87.00 18 P P 22 07 25.1 -0.5
I04A IAmb IAmb 22 07 27.0
comp=Z,26nm,1.2s
BOZ Bozeman (W) 87.09 10 P P 22 07 25.1 -1.1
BOZ Bozeman (W) 87.09 10 P P 22 07 25.1 -1.1
BOZ pmax pmax
comp=Z,14nm,1.2s
GCMT Greycliff 87.13 9 P P 22 07 26.1 -0.2
DLMT Dillon 87.19 11 P P 22 07 25.6 -1.1
DLMT IAmb IAmb 22 07 28.2
comp=Z,22nm,1.2s
PINE Pine Mountain 87.31 17 P P 22 07 26.6 -0.7
PINE IAmb IAmb 22 07 30.1
comp=Z,18nm,1.0s
I07A Izee 87.32 16 P P 22 07 27.6 +0.4
I07A IAmb IAmb 22 07 29.2
comp=Z,14nm,1.1s
HNH Hanover 87.36 343 P P 22 07 27.9 +0.6
HNH IAmb IAmb 22 07 29.2
comp=Z,32nm,1.2s
CTA Charters Tower 87.37 123 LR LR 22 50 05.0
comp=Z,59nm,18.1s,baz=275,slow=38
DBO Dodson Butte 87.46 19 P P 22 07 26.6 -1.3
DBO IAmb IAmb 22 07 34.5
comp=Z,31nm,1.3s
SADO Sadowa 87.55 348 P P 22 07 27.9 -0.2
SADO IAmb IAmb 22 07 29.3
comp=Z,13nm,0.9s
SADO Sadowa 87.55 348 LR LR 22 50 01.7
comp=Z,248nm,19.0s,baz=50,slow=38
DELO Deloro Mine 87.56 346 P P 22 07 28.4 +0.2
J04A Umpqua Nationa 87.59 18 P P 22 07 28.1 -0.6
J05D Fort Rock, OR 87.74 18 P P 22 07 29.4 0.0
J05D IAmb IAmb 22 07 31.5
comp=Z,23nm,1.0s
J61A Chester 87.76 343 P P 22 07 29.8 +0.6
RLMT Red Lodge 87.83 9 IAmb IAmb 22 07 30.8
comp=Z,23nm,1.1s
ACCN Adirondack Com 87.95 343 P P 22 07 30.2 0.0
YHH Holmes Hill 87.98 10 P P 22 07 30.4 -0.3
OOD Oodnadatta 88.00 135 P P 22 07 29.9 -0.4
PECO Prince Edward 88.02 346 P P 22 07 30.7 +0.2
YMP Mirror Lake Pl 88.11 10 P P 22 07 30.9 -0.4
YMP IAmb IAmb 22 07 33.0
comp=Z,11nm,1.0s
GLMI Grayling 88.18 351 P P 22 07 31.0 -0.3
J08A Circle Bar Ran 88.21 16 P P 22 07 31.6 +0.1
J08A IAmb IAmb 22 07 33.1
comp=Z,15nm,1.0s
K04D Chiloquin, OR 88.26 18 P P 22 07 31.2 -0.6
TSUM Tsumeb 88.30 240 LR LR 22 52 13.4
comp=Z,129nm,18.2s,baz=33,slow=39
YFT Old Faithful 88.31 10 P P 22 07 32.6 +0.4
YFT IAmb IAmb 22 07 35.1
comp=Z,11nm,0.9s
SPMN Marine on St. 88.33 357 IAmb IAmb 22 07 32.5
comp=Z,20nm,0.8s
K62A Royalston 88.35 342 P P 22 07 31.9 -0.1
H17A Grant Village 88.40 10 P P 22 07 33.1 +0.5
H17A IAmb IAmb 22 07 35.7
comp=Z,23nm,1.0s
LBTB Lobatse 88.41 230 LR LR 22 51 37.3
comp=Z,95nm,18.2s,baz=26,slow=39
L04D Klamath Falls 88.53 19 P P 22 07 32.2 -0.9
TRY Troy 88.58 343 P P 22 07 33.5 +0.3
MFID Camas Ranch 88.62 14 P P 22 07 33.5 0.0
L61B Northampton 88.65 342 P P 22 07 33.6 +0.1
baz=16
FLWY Flagg Ranch 88.69 10 P P 22 07 34.4 +0.4
J55A Hilton 88.81 346 P P 22 07 34.7 +0.5
H43A Windswept, Lux 88.81 354 P P 22 07 33.5 -0.7
H43A IAmb IAmb 22 07 35.0
comp=Z,19nm,0.8s
YBH Yreka Blue Hor 88.90 19 P P 22 07 34.3 -0.5
YBH Yreka Blue Hor 88.90 19 LR LR 22 50 07.8
comp=Z,282nm,19.5s,baz=340,slow=38
YBH Yreka Blue Hor 88.90 19 P P 22 07 34.3 -0.5
YBH pmax pmax
comp=Z,10.0nm,1.2s
MEDO Medina 89.01 347 P P 22 07 34.6 -0.5
MEDO IAmb IAmb 22 07 36.5
comp=Z,14nm,0.9s
MOOW Moose Ponds 89.02 10 P P 22 07 34.6 -0.9
WVOR Wild Horse Val 89.07 16 P P 22 07 35.6 -0.1
WVOR IAmb IAmb 22 07 37.2
comp=Z,14nm,1.1s
WVOR Wild Horse Val 89.07 16 P P 22 07 35.6 -0.1
WVOR pmax pmax
comp=Z,14nm,1.1s
FXWY Fox Creek 89.09 10 P P 22 07 35.5 -0.3
FXWY IAmb IAmb 22 07 37.6
comp=Z,20nm,1.1s
K57A Scipio Center 89.11 345 P P 22 07 36.2 +0.6
SUSD Miller 89.16 2 P P 22 07 35.3 -0.6
LOHW Long Hollow 89.17 10 P P 22 07 35.8 -0.5
LOHW IAmb IAmb 22 07 37.7
comp=Z,11nm,0.9s
UCCT U. Connecticut 89.18 342 P P 22 07 35.4 -0.6
TPAW Teton Pass 89.25 10 P P 22 07 36.0 -0.7
TPAW IAmb IAmb 22 07 38.4
comp=Z,16nm,1.2s
RSSD Black Hills 89.27 5 P P 22 07 36.1 -0.6
RSSD Black Hills 89.27 5 P P 22 07 36.1 -0.6
RSSD pmax pmax
comp=Z,59nm,0.9s
SNOW Snow King Moun 89.30 10 P P 22 07 36.5 -0.4
MMNY Mt. Morris Dam 89.34 346 P P 22 07 37.2 +0.4
MMNY IAmb IAmb 22 07 38.0
comp=Z,12nm,0.9s
L59A Walton 89.36 344 P P 22 07 36.3 -0.6
L59A IAmb IAmb 22 07 37.6
comp=Z,38nm,1.3s
I42A Draeger Farm, 89.47 354 P P 22 07 36.8 -0.5
I42A IAmb IAmb 22 07 38.2
comp=Z,25nm,0.8s
KSCT Kent School, K 89.51 343 P P 22 07 37.5 0.0
BINY Binghamton 89.53 345 P P 22 07 37.6 0.0
I37A Lemond, Waseca 89.56 358 P P 22 07 37.3 -0.4
I37A IAmb IAmb 22 07 38.8
comp=Z,27nm,1.1s
I40A Norwalk 89.57 356 P P 22 07 37.6 -0.1
I40A IAmb IAmb 22 07 38.9
comp=Z,18nm,0.9s
L56A Greenwood 89.86 346 P P 22 07 38.9 -0.3
AHID Auburn Hatcher 89.94 11 P P 22 07 39.1 -0.7
AHID IAmb IAmb 22 07 40.8
comp=Z,13nm,1.0s
KSPA Keystone Colle 90.11 344 IAmb IAmb 22 07 41.6
comp=Z,24nm,1.0s
PDAR Pinedale Array 90.13 9 P P 22 07 40.0 -0.8
comp=Z,3.9nm,0.8s,baz=30,slow=2.8,SNR=34
PDAR LR LR 22 53 33.1
comp=Z,118nm,18.1s,baz=336,slow=39
comp=Z,3.9nm,0.8s
TRNY Table Rock, Ra 90.22 343 IAmb IAmb 22 07 42.0
comp=Z,19nm,1.0s
ERPA Erie 90.27 348 P P 22 07 40.7 -0.4
ERPA IAmb IAmb 22 07 42.9
comp=Z,12nm,0.8s
PAL Palisades 90.29 343 P P 22 07 41.1 -0.1
PAL IAmb IAmb 22 07 42.0
comp=Z,15nm,1.1s
PAL Palisades 90.29 343 P P 22 07 41.1 -0.1
PAL pmax pmax
comp=Z,15nm,1.1s
ODNJ Ogdensburg 90.35 343 IAmb IAmb 22 07 42.6
comp=Z,23nm,1.0s
O02D Mt. Diablo Mer 90.36 20 P P 22 07 41.9 +0.3
O02D IAmb IAmb 22 07 43.6
comp=Z,15nm,1.1s
INKA Innaminka 90.48 132 P P 22 07 42.4 +0.4
K22A Casper 90.54 7 IAmb IAmb 22 07 43.1
comp=Z,17nm,0.9s
K43A Burlington 90.61 354 IAmb IAmb 22 07 43.2
comp=Z,26nm,0.9s
HVU Hansel Valley 90.69 12 P P 22 07 43.5 +0.3
HVU IAmb IAmb 22 07 44.7
comp=Z,21nm,1.0s
HVU Hansel Valley 90.69 12 P P 22 07 43.5 +0.3
HVU pmax pmax
comp=Z,21nm,1.0s
BRNJ Basking Ridge 90.73 343 P P 22 07 42.7 -0.5
ALLY Alegheny Colle 90.75 348 P P 22 07 43.6 +0.2
ALLY IAmb IAmb 22 07 44.4
comp=Z,28nm,0.9s
K30B Basset 90.91 2 P P 22 07 44.1 0.0
LUPA Lehigh Univers 90.97 344 P P 22 07 44.3 0.0
LUPA IAmb IAmb 22 07 45.8
comp=Z,36nm,1.3s
N58A Sunbury 90.98 345 P P 22 07 44.1 -0.3
N58A IAmb IAmb 22 07 45.6
comp=Z,23nm,1.0s
L48A N Adams 91.01 351 P P 22 07 43.5 -1.0
L48A IAmb IAmb 22 07 45.9
comp=Z,19nm,1.2s
HWUT Hardware Ranch 91.02 11 P P 22 07 45.0 +0.1
M52A Chesterland 91.03 349 P P 22 07 44.6 0.0
M52A IAmb IAmb 22 07 45.8
comp=Z,19nm,0.9s
SPUT South Promonto 91.19 12 P P 22 07 45.2 -0.4
SPUT IAmb IAmb 22 07 47.2
comp=Z,20nm,1.1s
ORV Oroville 91.25 19 P P 22 07 45.4 -0.3
ORV Oroville 91.25 19 P P 22 07 45.4 -0.3
ORV pmax pmax
comp=Z,6.0nm,0.9s
ELK Elko 91.32 14 P P 22 07 46.2 -0.1
ELK IAmb IAmb 22 07 48.0
comp=Z,15nm,1.1s
ELK Elko 91.32 14 P P 22 07 46.2 -0.1
ELK pmax pmax
comp=Z,15nm,1.1s
M50A Fremont 91.38 350 P P 22 07 45.5 -0.7
QLP Quilpie 91.38 128 P P 22 07 46.6 +0.4
SSPA Standing Stone 91.38 346 P P 22 07 46.0 -0.3
SSPA IAmb IAmb 22 07 47.5
comp=Z,30nm,1.1s
L42A Oliver, Polo 91.40 355 P P 22 07 44.9 -1.4
L42A IAmb IAmb 22 07 46.7
comp=Z,23nm,0.9s
BGU Big Grassy Mou 91.49 12 P P 22 07 47.0 0.0
BGU IAmb IAmb 22 07 49.3
comp=Z,12nm,1.2s
BOSA Boshof 91.50 228 LR LR 22 51 29.9
comp=Z,60nm,19.4s,baz=29,slow=37
TCUT Toone Canyon 91.53 11 P P 22 07 47.1 -0.1
PAHR Pah Rah Range 91.56 17 P P 22 07 47.5 +0.2
PAHR IAmb IAmb 22 07 48.8
comp=Z,14nm,1.3s
N53A Lisbon 91.67 348 P P 22 07 47.2 -0.5
N53A IAmb IAmb 22 07 53.4
comp=Z,22nm,1.3s
N51A Ashland 91.77 349 P P 22 07 47.4 -0.7
N51A IAmb IAmb 22 07 49.2
comp=Z,26nm,1.1s
AFDM Forest Hills D 91.95 19 P P 22 07 48.8 -0.2
AFDM IAmb IAmb 22 07 50.3
comp=Z,11nm,1.0s
N49A Columbus Grove 91.99 351 P P 22 07 48.2 -0.9
N49A IAmb IAmb 22 07 49.8
comp=Z,24nm,1.1s
JLU Jordanelle 92.03 11 P P 22 07 49.5 -0.1
PNTR Pine Nut 92.11 18 P P 22 07 50.1 +0.1
PNTR IAmb IAmb 22 07 51.6
comp=Z,16nm,0.9s
BSUT Blindstream Ca 92.18 11 P P 22 07 50.9 +0.4
BSUT IAmb IAmb 22 07 52.6
comp=Z,20nm,1.0s
N47A Urbana 92.19 352 P P 22 07 49.3 -0.7
N47A IAmb IAmb 22 07 50.4
comp=Z,20nm,1.0s
BGNE Belgrade 92.20 1 P P 22 07 50.3 +0.2
O54A Avella 92.22 348 P P 22 07 49.8 -0.3
O54A IAmb IAmb 22 07 51.2
comp=Z,16nm,1.0s
DUG Dugway, Tooele 92.24 12 P P 22 07 50.0 -0.4
DUG IAmb IAmb 22 07 52.2
comp=Z,18nm,1.0s
DUG Dugway, Tooele 92.24 12 P P 22 07 50.0 -0.4
DUG pmax pmax
comp=Z,18nm,1.0s
O53A New Philadelph 92.28 348 P P 22 07 49.0 -1.4
O53A IAmb IAmb 22 07 51.5
comp=Z,18nm,1.0s
RDMU Red Mountain 92.29 10 P P 22 07 51.0 +0.2
N23A Red Feather La 92.34 7 P P 22 07 51.2 +0.1
N23A IAmb IAmb 22 07 52.8
comp=Z,18nm,1.2s
N23A Red Feather La 92.34 7 P P 22 07 50.9 -0.1
baz=354
SDMD Soldier's Deli 92.39 345 P P 22 07 50.6 -0.3
O52A Adamsville 92.49 349 P P 22 07 50.5 -0.9
O52A IAmb IAmb 22 07 52.9
comp=Z,26nm,1.2s
ACSO Alum Creek Sta 92.53 350 P P 22 07 51.2 -0.3
ACSO IAmb IAmb 22 07 52.3
comp=Z,19nm,1.1s
P57A Homestead Farm 92.53 346 P P 22 07 50.7 -0.9
P57A IAmb IAmb 22 07 52.6
comp=Z,15nm,0.9s
MCWV Mont Chateau 92.65 347 P P 22 07 51.3 -0.9
MCWV IAmb IAmb 22 07 53.5
comp=Z,16nm,0.9s
O49A Covington 92.73 351 P P 22 07 51.8 -0.8
O48B Farmland 92.75 351 P P 22 07 52.2 -0.4
baz=7.8
N35A Tabor 92.75 359 P P 22 07 52.5 -0.1
N41A Harden Midland 92.76 356 P P 22 07 51.7 -0.9
RYN Ryan 92.77 17 P P 22 07 51.6 -1.3
RYN IAmb IAmb 22 07 54.7
comp=Z,14nm,1.0s
BRIGG Briggsdale 92.77 6 P P 22 07 52.1 -0.8
BRIGG IAmb IAmb 22 07 54.8
comp=Z,21nm,0.9s
N38A Joes South For 92.77 357 P P 22 07 51.8 -0.9
N38A IAmb IAmb 22 07 53.4
comp=Z,19nm,1.1s
HDIL Hopedale 92.81 354 P P 22 07 51.3 -1.6
HDIL IAmb IAmb 22 07 53.5
comp=Z,23nm,1.0s
O20A White River Ci 92.87 9 P P 22 07 52.1 -1.3
O20A IAmb IAmb 22 07 54.9
comp=Z,12nm,0.9s
CMB Columbia Colle 92.95 19 P P 22 07 53.0 -0.6
CMB IAmb IAmb 22 08 18.3
comp=Z,13nm,1.5s
CMB Columbia Colle 92.95 19 P P 22 07 53.0 -0.6
CMB pmax pmax
comp=Z,13nm,1.5s
NVAR Mina Array Bea 93.01 17 P P 22 07 53.4 -0.7
NVAR Mina Array Bea 93.01 17 P P 22 07 54.1 0.0
comp=Z,8.6nm,0.9s,baz=329,slow=2.7,SNR=25

NVAR				LR	LR	22 53 14.6	
	comp=Z,190nm,20.8s,baz=311,slow=38						
	comp=Z,8.6nm,0.9s						
NV11	**Mina Array Sit**	**93.03**	**17**	P	**P**	**22 07 53.5**	**-0.6**
NV11				IAmb	IAmb	22 07 55.6	
	comp=Z,11nm,0.9s						
P53A	**Whipple**	**93.05**	**348**	P	**P**	**22 07 53.5**	**-0.5**
LHV	**Little Huntoon**	**93.14**	**17**	P	**P**	**22 07 54.3**	**-0.1**
LHV				IAmb	IAmb	22 07 57.3	
	comp=Z,30nm,1.4s						
P18A	**Preston Nutter**	**93.14**	**10**	IAmb	IAmb	22 08 20.7	
	comp=Z,7.0nm,0.5s						
SPR3	**Spring Creek 3**	**93.17**	**14**	P	**P**	**22 07 55.5**	**+0.5**
SPR3				IAmb	IAmb	22 07 57.2	
	comp=Z,17nm,0.9s						
P17A	**Butcher Ranch,**	**93.23**	**11**	P	**P**	**22 07 54.7**	**-0.3**
P17A				IAmb	IAmb	22 07 56.5	
	comp=Z,11nm,1.0s						
TMUT	**Trail Mountain**	**93.34**	**11**	P	**P**	**22 07 55.5**	**-0.2**
TMUT				IAmb	IAmb	22 07 57.2	
	comp=Z,8.3nm,0.9s						
P49A	**Miami Univ. Ec**	**93.42**	**351**	P	**P**	**22 07 55.1**	**-0.6**
P49A				IAmb	IAmb	22 07 56.1	
	comp=Z,18nm,1.1s						
ISCO	**Idaho Springs**	**93.45**	**7**	P	**P**	**22 07 56.3**	**+0.1**
ISCO	**Idaho Springs**	**93.45**	**7**	P	**P**	**22 07 56.3**	**+0.1**
Q54A	**Coxs Mills**	**93.46**	**348**	P	**P**	**22 07 55.6**	**-0.3**
P48A	**Milroy**	**93.57**	**351**	P	**P**	**22 07 55.2**	**-1.2**
P46A	**Rosedale**	**93.58**	**353**	P	**P**	**22 07 55.7**	**-0.7**
R11B	**Troy Canyon, C**	**93.59**	**15**	P	**P**	**22 07 55.7**	**-1.1**
R11B	**Troy Canyon, C**	**93.59**	**15**	P	**P**	**22 07 56.6**	**-0.1**
baz=347							
Q52A	**Bidwell**	**93.68**	**349**	P	**P**	**22 07 56.0**	**-0.9**
Q52A				IAmb	IAmb	22 07 57.3	
	comp=Z,21nm,1.1s						
PSUT	**Pine Spring**	**93.70**	**13**	P	**P**	**22 07 56.2**	**-1.1**
PSUT				IAmb	IAmb	22 07 59.0	
	comp=Z,8.7nm,1.0s						
Q16A	**Castle Valley**	**93.72**	**11**	P	**P**	**22 07 56.7**	**-0.7**
Q16A				IAmb	IAmb	22 07 59.0	
	comp=Z,12nm,1.1s						
P43A	**Skaggs, Pawnee**	**93.74**	**354**	P	**P**	**22 07 56.1**	**-1.0**
TCRU	**Three Creeks R**	**93.84**	**12**	P	**P**	**22 07 57.4**	**-0.6**
TCRU				IAmb	IAmb	22 08 00.0	
	comp=Z,11nm,0.9s						
P38A	**Dawn**	**93.95**	**358**	P	**P**	**22 07 57.1**	**-1.0**
P38A				IAmb	IAmb	22 07 58.7	
	comp=Z,16nm,1.0s						
MSU	**Marysvale**	**93.98**	**12**	P	**P**	**22 07 58.4**	**-0.2**
MSU	**Marysvale**	**93.98**	**12**	P	**P**	**22 07 58.4**	**-0.2**
MVU	**Marysvale**	**93.98**	**12**	P	**P**	**22 07 58.9**	**+0.3**
R58B	**Mineral**	**93.98**	**345**	P	**P**	**22 07 57.9**	**-0.4**
R58B				IAmb	IAmb	22 07 59.7	
	comp=Z,18nm,1.0s						
P40A	**Paris**	**93.99**	**356**	P	**P**	**22 07 57.9**	**-0.4**
P40A				IAmb	IAmb	22 07 59.0	
	comp=Z,13nm,0.8s						
DSP	**Deep Springs**	**94.10**	**17**	P	**P**	**22 07 59.6**	**+0.8**
DSP				IAmb	IAmb	22 08 01.9	
	comp=Z,14nm,1.3s						
S11A	**Rachel**	**94.25**	**15**	P	**P**	**22 07 59.9**	**+0.1**
S11A				IAmb	IAmb	22 08 01.2	
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**94.26**	**133**	P	**P**	**22 07 57.9**	**-1.5**
STKA	**Stephens Creek**	**94.26**	**133**	P	**P**	**22 07 58.1**	**-1.3**
	comp=Z,6.4nm,0.9s,baz=345,slow=4.9,SNR=8.9						
	comp=Z,6.4nm,0.9s						
STKA	**Stephens Creek**	**94.26**	**133**	P	**P**	**22 07 57.9**	**-1.5**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
Q24A	**Divide**	**94.32**	**7**	P	**P**	**22 07 59.3**	**-0.9**
Q24A				IAmb	IAmb	22 08 01.1	
	comp=Z,13nm,1.1s						
Q24A	**Divide**	**94.32**	**7**	P	**P**	**22 07 59.9**	**-0.3**
baz=354							
S57A	**Dark Hollow, R**	**94.36**	**346**	P	**P**	**22 07 59.6**	**-0.5**
S57A				IAmb	IAmb	22 08 00.8	
	comp=Z,20nm,1.4s						
Q44A	**Meyer Farm, Va**	**94.44**	**354**	P	**P**	**22 08 00.5**	**+0.1**
MTPU	**Mount Pierson**	**94.44**	**12**	P	**P**	**22 07 59.7**	**-1.2**
KSCO	**Kaye Shedlock'**	**94.44**	**5**	P	**P**	**22 08 00.2**	**-0.4**
PV23	**Carpenter Ridg**	**94.45**	**10**	P	**P**	**22 08 00.2**	**-0.6**
PV23				IAmb	IAmb	22 08 02.7	
	comp=Z,15nm,1.1s						
PV07	**Paradox Valley**	**94.50**	**9**	P	**P**	**22 08 00.0**	**-1.0**
PV07				IAmb	IAmb	22 08 02.4	
	comp=Z,15nm,1.1s						
KSU1	**Kansas State U**	**94.52**	**360**	P	**P**	**22 08 00.2**	**-0.5**
KSU1				IAmb	IAmb	22 08 01.8	
	comp=Z,22nm,1.1s						
PV10	**Paradox Valley**	**94.52**	**10**	P	**P**	**22 08 01.1**	**-0.1**
PV10				IAmb	IAmb	22 08 02.9	
	comp=Z,13nm,0.9s						
OLIL	**Olney**	**94.54**	**353**	P	**P**	**22 08 00.1**	**-0.8**
GRAC	**Grapevine Rang**	**94.58**	**16**	P	**P**	**22 08 00.7**	**-0.5**
GRAC				IAmb	IAmb	22 08 03.2	
	comp=Z,13nm,0.6s						
PRN	**Pahroc Range**	**94.60**	**15**	P	**P**	**22 08 00.8**	**-0.6**
PV11	**David Mesa, Pa**	**94.62**	**10**	P	**P**	**22 08 00.8**	**-0.7**
PV11				IAmb	IAmb	22 08 02.9	
	comp=Z,13nm,1.1s						
PV15	**Paradox Valley**	**94.62**	**9**	P	**P**	**22 08 01.3**	**-0.3**
CBKS	**Cedar Bluff**	**94.76**	**2**	P	**P**	**22 08 01.1**	**-0.8**
CBKS	**Cedar Bluff**	**94.76**	**2**	P	**P**	**22 08 01.1**	**-0.8**
CBKS				pmax	pmax		
	comp=Z,28nm,0.9s						
PV13	**Radium Mtn., P**	**94.76**	**10**	P	**P**	**22 08 01.4**	**-0.8**
PV13				IAmb	IAmb	22 08 03.7	
	comp=Z,13nm,1.2s						
WCI	**Wyandotte Cave**	**94.88**	**352**	P	**P**	**22 08 01.6**	**-0.8**
WCI	**Wyandotte Cave**	**94.88**	**352**	P	**P**	**22 08 01.6**	**-0.8**
WCI				pmax	pmax		
	comp=Z,25nm,0.9s						
T59A	**Double "B" Far**	**94.89**	**345**	P	**P**	**22 08 02.4**	**-0.1**
T59A				IAmb	IAmb	22 08 03.8	
	comp=Z,15nm,1.2s						
WCT	**Wildcat Mounta**	**94.92**	**16**	P	**P**	**22 08 02.6**	**-0.1**
PKCU	**Pink Cliffs**	**95.01**	**12**	P	**P**	**22 08 02.6**	**-0.8**
PKCU				IAmb	IAmb	22 08 05.6	
	comp=Z,14nm,1.0s						
S51A	**Beattyville**	**95.16**	**350**	P	**P**	**22 08 02.6**	**-1.1**
S51A				IAmb	IAmb	22 08 04.6	
	comp=Z,16nm,1.1s						
T57A	**Hurt**	**95.16**	**346**	P	**P**	**22 08 02.5**	**-1.2**
T57A				IAmb	IAmb	22 08 04.9	
	comp=Z,13nm,1.0s						
R40A	**Maddies Statio**	**95.23**	**357**	P	**P**	**22 08 02.5**	**-1.5**
R40A				IAmb	IAmb	22 08 04.1	
	comp=Z,6.5nm,0.8s						
USIN	**University of**	**95.26**	**353**	P	**P**	**22 08 04.1**	**-0.1**
LCMT	**Little Creek M**	**95.29**	**13**	P	**P**	**22 08 05.0**	**+0.5**
KNB	**Kanab**	**95.35**	**13**	P	**P**	**22 08 04.0**	**-0.8**
KNB				IAmb	IAmb	22 08 11.6	
	comp=Z,12nm,1.3s						
KNB	**Kanab**	**95.35**	**13**	P	**P**	**22 08 04.0**	**-0.8**
KNB				pmax	pmax		
	comp=Z,12nm,1.3s						
S22A	**4UR Ranch, Cre**	**95.38**	**8**	P	**P**	**22 08 04.7**	**-0.4**
S22A				IAmb	IAmb	22 08 07.2	
	comp=Z,19nm,1.3s						
S22A	**4UR Ranch, Cre**	**95.38**	**8**	P	**P**	**22 08 04.9**	**-0.2**
baz=353							
CCM	**Cathedral Cave**	**95.42**	**356**	P	**P**	**22 08 03.8**	**-1.1**
CCM	**Cathedral Cave**	**95.42**	**356**	P	**P**	**22 08 03.8**	**-1.1**
CCM				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FVM	**French Village**	**95.44**	**355**	P	**P**	**22 08 03.5**	**-1.5**
FVM				IAmb	IAmb	22 08 05.8	
	comp=Z,10nm,0.8s						
FVM	**French Village**	**95.44**	**355**	P	**P**	**22 08 03.5**	**-1.5**
FVM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHPR	**Sheep Range**	**95.46**	**15**	P	**P**	**22 08 04.4**	**-0.9**
GWY	**Greenwater Val**	**95.50**	**16**	P	**P**	**22 08 05.3**	**-0.2**
GWY				IAmb	IAmb	22 08 07.7	
	comp=Z,9.9nm,1.2s						
SDCO	**Great Sand Dun**	**95.50**	**7**	P	**P**	**22 08 04.5**	**-1.2**
SDCO				IAmb	IAmb	22 08 06.7	
	comp=Z,8.6nm,0.9s						
SIUC	**Southern Illin**	**95.63**	**354**	P	**P**	**22 08 04.4**	**-1.5**
S44A	**Carbondale**	**95.66**	**354**	P	**P**	**22 08 05.6**	**-0.4**
S44A				IAmb	IAmb	22 08 07.0	
	comp=Z,15nm,0.7s						
S39A	**Bolivar**	**95.87**	**357**	P	**P**	**22 08 05.9**	**-1.1**
U15A	**North Rim**	**96.01**	**13**	P	**P**	**22 08 07.3**	**-0.7**
T47A	**Sharon Grove**	**96.18**	**352**	P	**P**	**22 08 08.0**	**-0.4**
T25A	**Trinidad**	**96.19**	**6**	P	**P**	**22 08 07.6**	**-1.1**
T25A				IAmb	IAmb	22 08 09.4	
	comp=Z,10nm,1.0s						
T25A	**Trinidad**	**96.19**	**6**	P	**P**	**22 08 08.7**	**0.0**
baz=355							
V12A	**Nelson**	**96.28**	**15**	P	**P**	**22 08 08.4**	**-0.6**
V12A				IAmb	IAmb	22 08 10.7	
	comp=Z,10nm,1.2s						
GSC	**Goldstone, Bar**	**96.33**	**16**	P	**P**	**22 08 08.2**	**-1.0**
GSC	**Goldstone, Bar**	**96.33**	**16**	P	**P**	**22 08 08.2**	**-1.0**
GSC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MGMO	**Mountain Grove**	**96.37**	**356**	P	**P**	**22 08 08.0**	**-1.3**
KAN13	**South Haven SW**	**96.60**	**1**	P	**P**	**22 08 08.9**	**-1.4**
KAN13				IAmb	IAmb	22 08 10.7	
	comp=Z,9.9nm,0.8s						
PBMO	**Poplar Bluff**	**96.64**	**355**	P	**P**	**22 08 09.8**	**-0.6**
PBMO				IAmb	IAmb	22 08 11.0	
	comp=Z,11nm,1.1s						
T35A	**Sooner Cattle**	**96.70**	**360**	P	**P**	**22 08 10.6**	**-0.1**
SUR	**Sutherland**	**96.80**	**229**	LR	LR	22 56 01.7	
	comp=Z,47nm,18.9s,baz=27,slow=38						
RTBA	**Rita Blanca**	**97.00**	**5**	P	**P**	**22 08 11.8**	**-0.4**
RTBA				IAmb	IAmb	22 08 13.1	
	comp=Z,9.5nm,0.9s						
V53A	**Saluda**	**97.00**	**349**	P	**P**	**22 08 10.3**	**-1.9**
V53A				IAmb	IAmb	22 08 13.3	
	comp=Z,7.5nm,0.9s						
WUAZ	**Wupatki**	**97.03**	**12**	P	**P**	**22 08 11.0**	**-1.5**
WUAZ				IAmb	IAmb	22 08 14.3	
	comp=Z,10nm,1.0s						
W13A	**Hualapai Mount**	**97.05**	**14**	P	**P**	**22 08 11.9**	**-0.8**
W13A				IAmb	IAmb	22 08 14.3	
	comp=Z,6.2nm,1.1s						
TKL	**Tuckaleechee C**	**97.13**	**349**	IAmb	IAmb	22 08 13.2	
	comp=Z,8.7nm,0.8s						
TKL	**Tuckaleechee C**	**97.13**	**349**	LR	LR	22 57 41.2	
	comp=Z,159nm,18.2s,baz=7.0,slow=39						
U38A	**Gravette**	**97.15**	**358**	IAmb	IAmb	22 08 12.6	
	comp=Z,9.7nm,1.0s						
HHAR	**Hobbs**	**97.29**	**358**	IAmb	IAmb	22 08 13.5	
	comp=Z,9.4nm,1.0s						
BIRD	**Birdtown, Kers**	**97.66**	**347**	P	**P**	**22 08 14.0**	**-1.1**
BIRD				IAmb	IAmb	22 08 19.1	
	comp=Z,10nm,1.2s						
TUL3	**Leonard**	**97.70**	**359**	P	**P**	**22 08 12.0**	**-3.2**
TUL3				IAmb	IAmb	22 08 16.3	
	comp=Z,10nm,1.0s						
PFO	**Pinyon Flats O**	**98.03**	**17**	P	**P**	**22 08 15.9**	**-1.1**
PFO				IAmb	IAmb	22 08 20.3	
	comp=Z,9.3nm,1.3s						
PFO	**Pinyon Flats O**	**98.03**	**17**	LR	LR	22 55 56.8	
	comp=Z,110nm,19.6s,baz=312,slow=38						
PFO	**Pinyon Flats O**	**98.03**	**17**	P	**P**	**22 08 15.9**	**-1.1**
PFO				pmax	pmax		
	comp=Z,9.0nm,1.3s						
X16A	**Lo Mia Camp, P**	**98.11**	**12**	P	**P**	**22 08 15.7**	**-1.7**
ANMO	**Albuquerque**	**98.19**	**8**	P	**P**	**22 08 17.3**	**-0.5**
ANMO	**Albuquerque**	**98.19**	**8**	LR	LR	22 58 07.6	
	comp=Z,146nm,18.3s,baz=170,slow=39						
ANMO	**Albuquerque**	**98.19**	**8**	P	**P**	**22 08 17.3**	**-0.5**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SMWD	**Samnorwood**	**98.44**	**3**	P	**P**	**22 08 18.1**	**-0.7**
W35A	**Tecumseh**	**98.46**	**0**	P	**P**	**22 08 17.3**	**-1.4**
AMTX	**Amarillo**	**98.60**	**4**	P	**P**	**22 08 18.8**	**-0.7**
AMTX				IAmb	IAmb	22 08 20.9	
	comp=Z,9.8nm,0.8s						
WMOK	**Wichita Mounta**	**98.85**	**2**	P	**P**	**22 08 19.3**	**-1.2**
WMOK				IAmb	IAmb	22 08 21.5	
	comp=Z,7.3nm,0.9s						
WMOK	**Wichita Mounta**	**98.85**	**2**	P	**P**	**22 08 19.3**	**-1.2**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YUH	**Yuha Desert**	**99.07**	**16**	P	**Pdif**	**22 08 19.9**	**-1.6**
YUH				IAmb	IAmb	22 08 23.2	
	comp=Z,6.0nm,1.1s						
MSTX	**Muleshoe**	**99.45**	**5**	P	**Pdif**	**22 08 21.6**	**-1.7**
MSTX				IAmb	IAmb	22 08 24.7	
	comp=Z,8.6nm,0.8s						
435B	**Jarrell**	**102.81**	**1**	Pdif	**Pdif**	**22 08 36.5**	**-1.7**
ALPN	**Alpine**	**102.97**	**6**	Pdif	**Pdif**	**22 08 37.9**	**-1.2**
TXAR	**Lajitas Array**	**104.00**	**6**	Pdiff	**Pdif**	**22 08 42.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=58,slow=3.3,SNR=4.8						
FLOC	**Florencia**	**128.42**	**333**		**PKPdf**	**22 13 47.2**	**-0.3**
TROLL	**Troll, Antarti**	**131.00**	**204**	⇑PKPdf	**PKPdf**	**22 13 51.1**	**+0.3**
	comp=Z,271nm,0.9s						
TROLL				⇑SKPbc	**SKPbc**	**22 17 13.9**	**-0.8**
	comp=Z,340nm,0.9s						
SNAA	**Sanae**	**132.40**	**205**	⇑PKPdf	**PKPdf**	**22 13 53.3**	**-0.1**
	comp=Z,23nm,0.8s						
SNAA				⇑SKPbc	**SKPbc**	**22 17 18.8**	**-0.8**
	comp=Z,54nm,0.9s						
VNA2	**Neumayer--Watz**	**133.52**	**207**	⇑PKPdf	**PKiKP**	**22 13 58.1**	**+1.5**
	comp=Z,65nm,0.6s,baz=31,slow=3.7						
SALV	**Santo Antonio**	**134.19**	**298**	*e*P	**PKiKP**	**22 13 59.8**	**+0.2**
VNA3	**Neumayer Olymp**	**134.32**	**207**	⇑PKPdf	**PKPdf**	**22 13 57.7**	**+0.7**
	comp=Z,5.3nm,0.8s						
VNA3				⇑SKPbc	**SKPbc**	**22 17 25.9**	**-0.1**
	comp=Z,4.2nm,0.9s						
ETMB	**Extrema**	**134.99**	**315**	PKPdf	**PKPdf**	**22 13 59.9**	**0.0**
QSPA	**South Pole Qui**	**136.54**	**180**		**PKPdf**	**22 14 02.2**	**+1.0**
QSPA	**South Pole Qui**	**136.54**	**180**	PKP	**PKPdf**	**22 14 00.5**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=314,slow=2.7,SNR=5.8						
MAJ01	**Sao Joao Batis**	**138.07**	**280**	*e*P	**PKPdf**	**22 14 05.2**	**0.0**
BDQN	**Bodoquena, MS**	**138.29**	**295**	*e*P	**PKiKP**	**22 14 07.5**	**-0.3**
MURT	**Porto Murtinho**	**139.72**	**295**	*e*P	**PKiKP**	**22 14 09.9**	**-0.9**
LPAZ	**La Paz**	**141.47**	**313**	PKP	**PKPdf**	**22 14 12.5**	**0.0**
	comp=Z,2.7nm,0.8s,baz=12,slow=3.3,SNR=6.2						
LPAZ	**La Paz**	**141.47**	**313**	*e*P	**PKPdf**	**22 14 10.8**	**-1.7**
PAPY	**Pozo Azul**	**141.88**	**293**	*e*P	**PKPdf**	**22 14 13.2**	**+1.0**
CPSB	**Cacapava Do Su**	**142.97**	**281**	*e*P	**PKPdf**	**22 14 14.1**	**+0.1**
PLTB	**Pedras Altas**	**143.91**	**279**	*e*P	**PKPdf**	**22 14 14.8**	**-0.9**
PB12	**IPOC Station P**	**144.54**	**313**	PKPdf	**PKPdf**	**22 14 17.3**	**+0.2**
TBOT	**Tacuaremb**	**145.44**	**281**	*e*P	**PKPab**	**22 14 19.5**	**+1.1**
TRQA	**Tornquist**	**153.11**	**276**	PKPdf	**PKPdf**	**22 14 30.4**	**+0.1**
TRQA				PKPbc	**sPKPdf**	**22 14 37.0**	**+0.3**
TRQA	**Tornquist**	**153.11**	**276**	PKIKP	**PKPdf**	**22 14 30.5**	**+0.1**
TRQA				PKP	**sPKPdf**	**22 14 37.0**	**+0.3**
CO01	**Juntas del Tor**	**153.43**	**300**	PKPbc	**PKiKP**	**22 14 39.6**	**+0.5**
PLCA	**Paso Flores**	**160.23**	**278**	PKP	**PKPdf**	**22 14 38.2**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=100,slow=1.6,SNR=6.3						

*ISK **01** 22:00:08.9,37.°12N×28.°60E,h16km,ML1.6/11*

AFAD 01 22:00:09.7,37.°12N×28.°59E,h7km±3km,ML1.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**274**	Pg	Pg	22 00 14.9	+0.4
YER				Sg	Sg	22 00 19.3	+1.5
MULA	**Mugla, Merkez-**	**0.25**	**303**	P	Pg	22 00 15.2	+0.5
MULA				S	Sg	22 00 18.9	+0.8
MULA				*i* AML	AML	22 00 20.0	
	comp=E,82nm,0.3s						
DALY	**Dalyan (Mula)**	**0.31**	**170**	Pg	Pg	22 00 15.8	+0.1
DNZT	**Denizli-Tavas-**	**0.39**	**66**	P	Pb	22 00 18.7	-0.2
DNZT				S	Sg	22 00 22.5	+0.2
SABU	**Mula-Dalaman**	**0.43**	**134**	P	Pg	22 00 18.2	+0.3
SABU				S	Sg	22 00 24.8	+1.2
TAVA	**DENIZLI_Tavas**	**0.43**	**37**	P	Pg	22 00 18.3	+0.1
TAVA				S	Sg	22 00 24.4	+0.6
TAVA				*i* AML	AML	22 00 26.0	
	comp=E,29nm,0.4s						
TURN	**Turunc**	**0.44**	**219**	Pg	Pg	22 00 18.0	-0.2
TURN				Sg	Sg	22 00 25.1	+1.2
CAEL	**Denizli, Camel**	**0.59**	**89**	P	Pn	22 00 24.5	-0.1
CAEL				*i* AML	AML	22 00 52.0	
	comp=N,31nm,1.3s						
CAME	**Cameli-Denizli**	**0.60**	**107**	Pg	Pg	22 00 21.6	+0.3
DNIZ	**Denizli-Tavas-**	**0.62**	**35**	P	Pg	22 00 22.0	+0.3
DNIZ				S	Sg	22 00 30.5	+0.7
FETY	**Fethiye**	**0.63**	**140**	Pg	Pg	22 00 21.3	-0.5
MLSB	**Milas**	**0.67**	**285**	Pg	Pg	22 00 22.9	+0.3
MLSB				Sg	Sb	22 00 32.8	-0.4
APMY	**Acipayam-Deniz**	**0.67**	**58**	Pg	Pg	22 00 22.2	-0.4
ESEN	**Aydn-Nazilli**	**0.70**	**345**	P	Pg	22 00 23.3	0.0
ESEN				S	Sg	22 00 31.8	-0.6
ESEN				*i* AML	AML	22 00 36.0	
	comp=E,17nm,0.3s						
NAZL	**Nazilli-Aydin**	**0.87**	**345**	Pg	Pg	22 00 26.5	0.0
NAZL				Sg	Sb	22 00 39.2	+0.1
INCE	**Denizli-Bozkur**	**0.98**	**53**	P	Pb	22 00 29.4	+0.2
AYDB	**Zeytinkoy-Aydi**	**0.99**	**326**	Pg	Pg	22 00 28.7	-0.1
AYDB				Sg	Sb	22 00 43.2	+0.5
BODT	**Bodrum**	**1.02**	**267**	Pg	Pb	22 00 29.5	-0.2
ODEM	**Odemis-Izmir**	**1.22**	**341**	Pn	Pg	22 00 32.2	-1.0
ODEM				Sn	Sg	22 00 48.9	-0.2

*IDC **01** 22:07:05.0±6.8,56.°41S×27.°16W,h114km±61km,mb4.0/5,*
mbtmp4.4/6,Error ellipse: s-maj=32.5km s-min=19.7km
az=49.0
*NEIC **01** 22:07:05.4±1.4,56.°5S±0.°1×27.°2W±0.°1,h119km±7km,*
mb4.5/36,Error ellipse: s-maj=19.8km s-min=4.8km
az=200.0

ISC 01 22:07:03.6±0.4,56.°39S±0.°08×27.°11W±0.°08,h101km,n60,
σ2.9±01/60,mb4.4/20,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.75**	**288**	Pn	**Pn**	**22 08 28.3**	**+1.9**
ESPZ	**Base Esperanza**	**16.43**	**232**		**P**	**22 10 48.0**	**-0.7**
ESPZ				IAmb	IAmb	22 11 01.3	
	comp=Z,32nm,1.1s						
VNA1	**Neumayer--Stat**	**16.46**	**158**	⇑P	**P**	**22 10 52.6**	**+3.6**
	comp=Z,4.8nm,0.4s						
VNA3	**Neumayer Olymp**	**16.66**	**160**	⇑P	**P**	**22 10 54.3**	**+3.2**
	comp=Z,2.8nm,0.3s						
VNA2	**Neumayer--Watz**	**16.86**	**158**	⇑P	**P**	**22 10 58.6**	**+5.2**
	comp=Z,82nm,0.3s,baz=320,slow=14						
SNAA	**Sanae**	**18.41**	**156**		**P**	**22 11 10.0**	**-0.5**
SNAA	**Sanae**	**18.41**	**156**	⇑P	**Pn**	**22 11 18.4**	**+6.6**
	comp=Z,83nm,0.4s						
SNAA	**Sanae**	**18.41**	**156**	P	**P**	**22 11 10.0**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=289,slow=11,SNR=7.8						
SNAA				S	**S**	**22 14 27.5**	**-7.8**
	comp=Z,1.5nm,0.9s,baz=336,slow=18,SNR=2.2						
EFI	**East Falkland**	**18.68**	**272**	P	**P**	**22 11 13.8**	**+0.2**
EFI				IAmb	IAmb	22 11 21.0	
	comp=Z,22nm,1.1s						
TROLL	**Troll, Antarti**	**19.92**	**153**	⇑P	Pn	22 11 38.4	+8.8
	comp=Z,83nm,0.2s						
BELA	**Belgrano 2**	**21.74**	**184**	P	**P**	**22 11 45.5**	**-0.8**
MG04	**Isla Riesco**	**25.64**	**259**	P	**P**	**22 12 23.8**	**+0.4**
TRQA	**Tornquist**	**29.50**	**294**	P	**P**	**22 12 58.0**	**0.0**
PLTB	**Pedras Altas**	**30.76**	**312**	P	**P**	**22 13 09.7**	**+0.5**
PLTB				IAmb	IAmb	22 13 10.5	
	comp=Z,6.2nm,0.7s						
PLCA	**Paso Flores**	**32.10**	**281**	P	**P**	**22 13 20.1**	**-0.9**
PLCA	**Paso Flores**	**32.10**	**281**	P	**P**	**22 13 20.0**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=174,slow=9.4,SNR=3.1						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**22 13 35.1**	**-1.1**
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**22 13 37.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=215,slow=3.2,SNR=4.1						
	comp=Z,1.3nm,0.6s						
BI02	**San Fabin de**	**35.42**	**285**	P	**P**	**22 13 50.4**	**+0.6**
BI02				IAmb	IAmb	22 14 06.1	
	comp=Z,5.8nm,1.1s						
VAO	**Valinhos**	**36.40**	**328**	*e*P	**P**	**22 13 59.7**	**+1.5**
CPUP	**Villa Florida**	**37.07**	**311**	P	**P**	**22 14 03.5**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=147,slow=7.1,SNR=7.8						
	comp=Z,3.3nm,0.6s						
BO04	**La Punta**	**37.09**	**289**	P	**P**	**22 14 03.1**	**-0.8**
BO04				IAmb	IAmb	22 14 14.3	
	comp=Z,4.3nm,0.9s						
MT09	**Talagante**	**37.46**	**288**	P	**P**	**22 14 06.2**	**-0.9**
MT01	**Popeta**	**37.53**	**288**	P	**P**	**22 14 06.3**	**-1.3**
MT01				IAmb	IAmb	22 14 25.9	
	comp=Z,4.7nm,1.1s						
MT05	**Renca**	**37.62**	**289**	P	**P**	**22 14 06.7**	**-1.8**
PEL	**Peldehue**	**37.79**	**289**	P	**P**	**22 14 09.4**	**-0.5**
PEL				IAmb	IAmb	22 14 09.9	
	comp=Z,9.1nm,0.7s						
MT02	**Curacav**	**37.94**	**289**	P	**P**	**22 14 10.1**	**-0.9**
MT02				IAmb	IAmb	22 14 10.6	
	comp=Z,10nm,0.8s						
VA03	**San Esteban**	**38.01**	**290**	P	**P**	**22 14 11.6**	**-0.2**
VA03				IAmb	IAmb	22 14 17.2	
	comp=Z,5.1nm,0.7s						
CO03	**El Pedregal**	**39.60**	**292**	P	**P**	**22 14 24.3**	**-0.8**
CO03				IAmb	IAmb	22 14 44

```
AGPR                          IAML                22 15 33.8
     comp=N,58nm,0.6s
AGPR  Aguadilla, PR     1.34 134⇑eP          Pg  22 15 12.8 +0.9
AGPR  Aguadilla, PR     1.34 134 eS          Sg  22 15 29.9 +0.6
DR12  Loma Pena Alta    1.35 243  Pn        Pb  22 15 11.1 -0.3
DR12                          IAML                22 15 31.1
     comp=N,60nm,0.5s
HATOM Hato Mayor del    1.35 243⇑ePg         Pg  22 15 11.9  0.0
HATOM                         ⇑eSg         Sg  22 15 30.1 +0.7
HATOM                         IAML                22 15 31.0
     comp=N,54nm,0.5s
SADR  Isla Saona        1.37 207⇑ePg         Pg  22 15 12.3  0.0
SADR                          ⇑eSg         Sb  22 15 30.3 +1.1
SADR                          IAML                22 15 31.6
     comp=N,167nm,2.2s
LSP   Las Mesas         1.58 141             Pg  22 15 16.0 -0.3
LSP                                          Sg  22 15 38.1 +1.3
LSP   Las Mesas         1.58 141⇑eP          Pg  22 15 16.0 -0.3
LSP   Las Mesas         1.58 141 eS          Sg  22 15 38.1 +1.3
AOPR  Arecibo Observ    1.68 129             Pg  22 15 17.5 -0.8
AOPR                                         Sb  22 15 38.6 +0.6
AOPR  Arecibo Observ    1.68 129⇑eSg         Sb  22 15 38.3 +0.2
AOPR                          IAML                22 15 41.7
     comp=N,63nm,0.3s
AOPR  Arecibo Observ    1.68 129⇓eP          Pg  22 15 18.3 +0.1
AOPR  Arecibo Observ    1.68 129 eS          Sb  22 15 38.9 +0.8
CRPR  Cabo Rojo, PR     1.70 146             Sg  22 15 41.8 +1.1
CRPR  Cabo Rojo, PR     1.70 146             Pb  22 15 17.4 +0.1
CRPR  Cabo Rojo, PR     1.70 146⇑ePg         Pg  22 15 18.2 -0.5
CRPR                          ⇑eSg         Sg  22 15 40.5 -0.2
CRPR                          IAML                22 15 42.8
     comp=N,34nm,1.2s
CRPR  Cabo Rojo, PR     1.70 146⇑eP          Pg  22 15 18.7  0.0
CRPR  Cabo Rojo, PR     1.70 146 eS          Sg  22 15 41.8 +1.1
UUPR  Utuado, UPR, P    1.76 131             Pg  22 15 19.1 -0.7
UUPR                                         Sb  22 15 41.4 +0.9
UUPR  Utuado, UPR, P    1.76 131⇓eP          Pg  22 15 19.1 -0.7
UUPR  Utuado, UPR, P    1.76 131 eS          Sb  22 15 41.4 +0.9
MLPR  Magueyes Islan    1.76 145             Pb  22 15 17.9 -0.6
MLPR  Magueyes Islan    1.76 145             Sn  22 15 38.8 -0.2
MLPR                          IAML                22 15 43.0
     comp=E,35nm,1.0s
MLPR                          IAML                22 15 44.7
     comp=N,31nm,0.7s
MLPR  Magueyes Islan    1.76 145⇑ePg         Pn  22 15 16.7 +0.2
MLPR                          ⇑eSg         Sn  22 15 39.0  0.0
MLPR                          IAML                22 15 44.4
     comp=N,28nm,0.8s
MLPR  Magueyes Islan    1.76 145⇓eP          Pb  22 15 17.9 -0.6
MLPR  Magueyes Islan    1.76 145 eS          Sb  22 15 40.3 -0.3
DR08  Loma La Naviza    1.85 256⇑eSg         Sg  22 15 45.8 +0.1
DR08                          IAML                22 15 49.1
     comp=N,1μm,0.2s
GBPR  Guanica, Bosqu    1.85 140             Sg  22 15 45.2 -0.5
GBPR  Guanica, Bosqu    1.85 140 eS          Sg  22 15 45.2 -0.5
OBIP  Obispado Ponce    1.98 133             Sb  22 15 46.0 -0.8
OBIP                          IAML                22 15 48.4
     comp=N,27nm,0.6s
OBIP                          IAML                22 15 50.6
     comp=E,26nm,1.3s
OBIP  Obispado Ponce    1.98 133             Pb  22 15 21.4 -0.8
OBIP  Obispado Ponce    1.98 133⇑eP          Pb  22 15 21.4 -0.8
OBIP  Obispado Ponce    1.98 133 eS          Sb  22 15 47.0 +0.2
ECPR  Experimental S    1.99 123⇓eP          Pg  22 15 23.2 -1.1
ECPR  Experimental S    1.99 123 eS          Sb  22 15 47.2  0.0
ABDR  Alto Bandera      2.44 256⇑eSg         Sg  22 16 04.0 -0.7
ABDR                          IAML                22 16 04.6
     comp=N,27nm,1.4s
HUMP  Col San Antoni    2.50 120             Pb  22 15 29.1 -1.9
HUMP                                         Sn  22 15 58.2 +1.1
HUMP                          IAML                22 16 06.7
     comp=E,16nm,0.2s
HUMP  Col San Antoni    2.50 120⇓eP          Pb  22 15 30.7 -0.2
HUMP  Col San Antoni    2.50 120 eS          Sb  22 16 01.7  0.0
SDDR  Presa de Saban    3.02 262  Pn        Pn  22 15 34.4 +0.5
SDDR                          IAML                22 17 00.2
     comp=E,19nm,3.0s
```

*STR **01** 22:18:05.4±2.3, 44°N±7°×1°2E±1°9, h10km, MLv3.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=98.3, preliminary*
*GEN **01** 22:18:08.9, 43°.99N×11°.64E, h12km, Ml2.8*
*LDG **01** 22:18:09.0±0.2, 44°.00N×11°.60E, h6km, Ml3.1/19, Error ellipse: s-maj=5.2km s-min=4.0km az=30.0*
*ROM **01** 22:18:09.1±0.1, 43°.989N±0°.004×11°.665E±0°.006, h6km, ML3.2/84, Error ellipse: s-maj=0.5km s-min=0.3km az=242.0*
*IDC **01** 22:18:09.1±1.4, 44°.06N×11°.86E, h0km, mb3.4/2, mbtmp3.5/7, ML3.3/5, MS3.9/1, Error ellipse: s-maj=23.7km s-min=13.2km az=100.0*
*PRU **01** 22:18:11.5, 44°.02N×12°.02E, h10km*
ISC 01 22:18:09.4±0.8, 43°.98N±0°.02×11°.67E±0°.02, h8km±5km, n130, σ1°80/180, 6C, Central Italy

```
Code  Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
LMD   Lutirano          0.11  16  P     Pg  22 18 11.0  -0.9
LMD                               S     Sg  22 18 12.2  -1.5
LMD   Lutirano          0.11  16 ⇑P     Pg  22 18 11.0  -0.9
LMD                               S     Sg  22 18 12.5  -1.1
LMD                               AML   AML
     comp=N,78650μm,0.3s
SFI   Santa Sofia       0.15 118 ⇑P     Pg  22 18 13.0 +0.4
SFI                               S     Sg  22 18 15.9 +1.2
SFI                               AML   AML
     comp=N,14950μm,0.3s
SFI                               AML   AML
     comp=E,16800μm,1.2s
SFI                               AML   AML
     comp=N,14900μm,0.3s
SFI                               AML   AML
     comp=E,16900μm,1.2s
ASQU  Asqua             0.20 154  P     Pg  22 18 14.2 +0.7
ASQU  Asqua             0.20 154 ⇑P     Pg  22 18 14.2 +0.7
ASQU                              S     Sg  22 18 18.2 +2.0
ASQU                              AML   AML
     comp=E,9195μm,0.6s
ASQU                              AML   AML
     comp=E,9195μm,1.4s
ASQU                              AML   AML
     comp=N,13350μm,0.3s
BRIS  BRISIGHELLA       0.21 327 ⇑P     Pg  22 18 14.5 +0.9
BRIS                              S     Sg  22 18 18.9 +2.4
BRIS                              AML   AML
     comp=E,31500μm,0.9s
BRIS                              AML   AML
     comp=N,37600μm,0.4s
BRIS                              AML   AML
     comp=N,38050μm,0.4s
BRIS                              AML   AML
     comp=E,31550μm,0.9s
SEI   Scarperia         0.24 290  P     Pg  22 18 14.2  0.0
SEI                               S     Sg  22 18 18.5 +1.1
SEI   Scarperia         0.24 290 ⇑P     Pg  22 18 14.2  0.0
SEI                               S     Sg  22 18 18.4 +1.0
SEI                               AML   AML
     comp=N,77900μm,0.3s
SEI                               AML   AML
     comp=E,31500μm,1.2s
FIR   Firenze           0.36 236  P     Pg  22 18 17.1 +0.7
FIR                               S     Sg  22 18 24.0 +2.9
FIR                               AML   AML
     comp=N,8895μm,0.6s
FIR                               AML   AML
     comp=E,16300μm,0.6s
FIR                               AML   AML
     comp=N,8690μm,0.6s
FIR                               AML   AML
     comp=E,16700μm,0.6s
FIR                               AML   AML
     comp=N,7480μm,0.4s
FIR                               AML   AML
     comp=N,7755μm,1.0s
IMOL  Imola, Italy      0.39   8  P     Pb  22 18 17.6 -0.9
IMOL                              S     Sb  22 18 25.4 +0.7
IMOL  Imola, Italy      0.39   8  P     Pb  22 18 17.6 -0.9
IMOL                              AML   AML
     comp=N,13700μm,0.8s
IMOL                              AML   AML
     comp=E,13850μm,0.3s
MPPT  Montemurlo        0.42 268 ⇑P     Pg  22 18 17.7 +0.2
MPPT                              S     Sg  22 18 24.6 +1.6
MPPT                              AML   AML
     comp=N,4765μm,1.4s
MPPT                              AML   AML
     comp=E,2385μm,0.9s
MPPT                              AML   AML
     comp=E,2385μm,1.1s
BRSN  Barisano          0.43  44  P     Pb  22 18 18.5 -0.7
BRSN                              S     Sb  22 18 25.6 -0.2
BRSN                              AML   AML
     comp=N,8285μm,1.2s
BRSN                              AML   AML
     comp=E,11115μm,0.5s
BRSN                              AML   AML
     comp=N,11155μm,0.8s
BRSN                              AML   AML
     comp=N,8280μm,1.2s
BRSN                              AML   AML
     comp=E,11090μm,0.5s
BRSN                              AML   AML
     comp=N,11120μm,1.2s
BRSN                              AML   AML
     comp=N,8285μm,1.2s
A309A Martorano (FC)    0.46  65  P     Pb  22 18 18.7 -1.1
SSP9  Sansepolcro       0.52 140  P     Pb  22 18 20.0 -0.9
SSP9                              S     Sb  22 18 28.7 +0.1
SSP9                              AML   AML
     comp=N,2550μm,1.6s
SSP9                              AML   AML
     comp=N,2545μm,1.6s
CRMI  Carmignano        0.54 250  P     Pg  22 18 20.1 +0.3
CRMI                              S     Sg  22 18 28.8 +2.0
OSSC  Osservatorio P    0.55 214  P     Pg  22 18 20.6 +0.7
OSSC                              S     Sg  22 18 29.8 +2.7
OSSC  Osservatorio P    0.55 214  P     Pg  22 18 20.6 +0.7
OSSC                              AML   AML
     comp=E,3015μm,0.7s
OSSC                              AML   AML
     comp=E,2750μm,1.4s
OSSC                              AML   AML
     comp=N,2915μm,0.7s
OSSC                              AML   AML
     comp=N,2820μm,1.4s
OSSC                              AML   AML
     comp=E,3015μm,1.3s
OSSC                              AML   AML
     comp=N,2915μm,1.3s
OSSC                              AML   AML
     comp=N,2820μm,0.6s
OSSC                              AML   AML
     comp=E,2750μm,0.6s
CMPO  Campotto Po       0.61   9  P     Pb  22 18 22.9 +0.6
BADI  Badiali           0.63 138  P     Pb  22 18 21.9 -0.7
ATMC  Monte Cedrone     0.65 144  P     Pb  22 18 22.2 -0.8
POPM  Popiglio          0.66 276  P     Pg  22 18 23.0 +0.9
POPM                              S     Sg  22 18 32.3 +1.6
CAFI  Castiglion Fio    0.68 161  P     Pb  22 18 23.2 -0.3
CAFI                              S     Sb  22 18 33.7 +0.5
CAFI                              AML   AML
     comp=E,2550μm,0.5s
CAFI                              AML   AML
     comp=N,1615μm,1.0s
CAFI                              AML   AML
     comp=E,2565μm,0.5s
CAFI                              AML   AML
     comp=N,1565μm,1.0s
NARO  Abbazia di Nar    0.76 119  P     Pb  22 18 23.7 -1.1
NARO                              AML   AML
     comp=N,552μm,0.6s
ATPC  Poggio Castell    0.76 131  P     Pb  22 18 23.9 -0.9
PIEI  Pieia             0.77 125  P     Pb  22 18 23.8 -1.2
PIEI                              AML   AML
     comp=N,610μm,1.4s
PIEI                              AML   AML
     comp=E,900μm,0.5s
PIEI                              AML   AML
     comp=E,900μm,1.5s
PIEI                              AML   AML
     comp=N,610μm,0.6s
ATMI  Monte Miggiano    0.78 146  P     Pb  22 18 24.6 -0.5
ATMI                              AML   AML
     comp=N,3945μm,0.4s
ATMI                              AML   AML
     comp=E,2825μm,0.3s
BDI   Bagni Di Lucca    0.78 277  P     Pg  22 18 24.1 -0.2
BDI                               S     Sg  22 18 35.2 +0.7
BDI   Bagni Di Lucca    0.78 277  P     Pg  22 18 24.1 -0.2
ATVA  AVT- Monte Val    0.83 147  P     Pb  22 18 25.5 -0.6
FROS  Frosini           0.85 206  AML   AML
     comp=E,1305μm,0.4s
FROS                              AML   AML
     comp=N,1295μm,0.5s
FROS                              AML   AML
     comp=E,1305μm,0.4s
FROS                              AML   AML
     comp=N,1295μm,0.5s
MAIM  Mastiano          0.85 266  P     Pg  22 18 26.1 +0.4
MAIM                              S     Sg  22 18 37.7 +0.9
MAIM  Mastiano          0.85 266  P     Pg  22 18 25.9 +0.2
ATLO  AVT- Montelove    0.85 141  P     Pb  22 18 25.9 -0.6
CARD  Cardoso           0.86 274  P     Pg  22 18 25.9  0.0
CARD                              S     Sg  22 18 37.8 +0.8
CARD  Cardoso           0.86 274  P     Pg  22 18 25.9  0.0
GSCL  Gusciola          0.86 296  P     Pg  22 18 26.2 +0.2
MPAG  Monte Paganucc    0.86 113  P     Pb  22 18 25.9 -0.8
PII   Pisa              0.86 253  P     Pg  22 18 25.9 -0.1
PII                               S     Sg  22 18 38.3 +1.1
PII   Pisa              0.86 253  P     Pg  22 18 25.8 -0.1
PII                               AML   AML
     comp=E,2350μm,0.3s
PII                               AML   AML
     comp=E,2350μm,1.7s
PII                               AML   AML
     comp=N,1955μm,0.7s
RAVA  Ravarino          0.87 333  P     Pn  22 18 28.4 +0.4
CAVE  Cavezzo           1.01 332  P     Pb  22 18 29.8 +0.7
CAVE                              AML   AML
     comp=N,1860μm,0.8s
CAVE                              AML   AML
     comp=E,1685μm,0.8s
CAVE                              AML   AML
     comp=N,1860μm,1.2s
TRIF  Trifonti          1.02 213  AML   AML
     comp=N,509μm,1.4s
TRIF                              AML   AML
     comp=E,490μm,0.7s
TRIF                              AML   AML
     comp=N,509μm,0.6s
ARVD  Arcevia           1.04 117  P     Pb  22 18 28.8 -0.8
ARVD                              AML   AML
     comp=N,512μm,1.1s
FOSV  Fossato di Vic    1.05 130  P     Pn  22 18 30.2 -0.1
SERM  Sermide           1.07 346  P     Pn  22 18 31.7 +1.1
SERM                              S     Sn  22 18 49.0 +3.3
SERM  Sermide           1.07 346  P     Pg  22 18 30.2 +0.3
SERM                              AML   AML
     comp=N,1204μm,0.5s
SERM                              AML   AML
     comp=N,1204μm,1.5s
SERM                              AML   AML
     comp=N,2255μm,0.6s
SERM                              AML   AML
     comp=E,949μm,0.4s
A304A Bellombra (RO)    1.07  14  P     Pn  22 18 30.9 +0.2
ARCI  Arcidosso         1.13 187  P     Pg  22 18 31.5 +0.3
ARCI                              AML   AML
     comp=N,348μm,0.4s
ARCI                              AML   AML
     comp=E,302μm,0.7s
ARCI                              AML   AML
     comp=N,347μm,0.4s
ARCI                              AML   AML
     comp=E,302μm,1.3s
TEOL  Teolo             1.38   0  P     Pn  22 18 34.6 -0.4
TEOL                              AML   AML
     comp=N,1550μm,0.5s
GAVE  Gavelli           1.56 145  AML   AML
     comp=N,616μm,0.4s
MSSA  Maissana          1.58 283  P     Pn  22 18 37.6 -0.2
ARRO  Arrone            1.61 150  P     Pn  22 18 38.3 +0.2
ARRO                              AML   AML
     comp=E,317μm,0.8s
ARRO                              AML   AML
     comp=N,350μm,1.0s
ARRO                              AML   AML
     comp=E,316μm,0.8s
ARRO                              AML   AML
     comp=E,316μm,1.2s
GORR  Gorreto           1.82 291  Pn    Pn  22 18 41.3 +0.3
CGRP  Cima Grappa       1.91   3  P     Pn  22 18 41.7 -0.7
CGRP                              AML   AML
     comp=E,498μm,0.7s
CGRP                              AML   AML
     comp=N,538μm,0.7s
CGRP                              AML   AML
     comp=E,453μm,0.7s
CGRP                              AML   AML
     comp=N,505μm,0.7s
CGRP                              AML   AML
     comp=N,538μm,1.3s
CGRP                              AML   AML
     comp=N,505μm,1.3s
CGRP                              AML   AML
     comp=E,453μm,1.3s
CGRP                              AML   AML
     comp=E,498μm,1.3s
MORSI Morsiglia         1.96 239  Pn    Pn  22 18 41.9 -1.1
LUSI  Trento, Gardas    2.05 346  P     Pn  22 18 44.5 +0.2
LUSI                              AML   AML
     comp=N,665μm,1.1s
LUSI                              AML   AML
     comp=N,665μm,0.9s
LUSI                              AML   AML
     comp=E,447μm,0.7s
ZIAN  Ziano             2.30 358  P     Pn  22 18 48.2 +0.5
ZIAN                              AML   AML
     comp=E,262μm,0.4s
ZIAN                              AML   AML
     comp=N,294μm,0.4s
ZIAN                              AML   AML
     comp=N,294μm,1.6s
ZIAN                              AML   AML
     comp=N,288μm,0.5s
CIMO  Cimolais          2.40  13  P     Pn  22 18 47.7 -1.3
CIMO                              AML   AML
     comp=E,136μm,0.4s
CIMO                              AML   AML
     comp=N,86μm,0.3s
PGF   Pioggiola         2.42 235 eP     Pn  22 18 48.3 -1.0
PGF                              eSn    Sn  22 19 13.5 -5.6
     comp=N,0.9nm,0.1s
PGF   Pioggiola         2.42 235  S     Sn  22 19 17.4 -1.6
PGF   Pioggiola         2.42 235  Pn    Pn  22 18 48.1 -1.2
KOSI  Kohlern           2.50 355  P     Pn  22 18 51.0 +0.6
KOSI                              AML   AML
     comp=E,252μm,0.5s
KOSI                              AML   AML
     comp=N,194μm,1.6s
KOSI                              AML   AML
     comp=N,194μm,0.4s
MUGIO Muggio            2.69 317  P     Pn  22 18 53.8 +0.7
MUGIO                             AML   AML
     comp=N,121μm,0.5s
MUGIO                             AML   AML
     comp=N,121μm,1.5s
MUGIO                             AML   AML
     comp=E,78μm,1.4s
ABTA  Abfaltersbach     2.83  12 ePn    Pn  22 18 55.2 +0.1
     comp=E,10nm,0.4s,SNR=12
ABTA                             eSn    Sn  22 19 30.0 +0.6
     comp=E,32nm,0.6s
PIAF  les Granges de    2.92 274  Pn    Pn  22 18 56.5 +0.2
AJAC  Base Areonaval    2.96 227  Pn    Pn  22 18 54.5 -2.1
SAOF  Saorge            2.97 272  Pn    Pn  22 18 57.3 +0.5
BURY  Giardini Botan    2.98 268  Pn    Pn  22 18 57.0 +0.1
TUE   Stuetta           2.99 328  P     Pn  22 18 58.6 +1.4
TUE                               AML   AML
     comp=E,66μm,1.0s
TUE                               AML   AML
     comp=N,97μm,0.6s
TUE                               AML   AML
     comp=E,73μm,1.0s
TUE                               AML   AML
     comp=N,107μm,0.6s
MYKA  Terra Mystica     3.00  27 ePn    Pn  22 18 57.2 -0.1
     comp=N,1.8nm,0.3s
MYKA                             eSn    Sn  22 19 34.5 +1.1
     comp=N,15nm,0.5s
SBF   Sospel            3.06 269 eP     Pn  22 18 57.0 -1.1
SBF                              eSn    Sn  22 19 30.2 -4.7
     comp=N,5.6nm,0.2s
DAVOX Davos/Dischmat    3.08 336  Pn    Pn  22 18 59.9 +1.4
     comp=N,6.4nm,0.3s,baz=162,slow=20,SNR=62
DAVOX                             Sn    Sn  22 19 36.5 +1.1
     comp=N,3.2nm,0.3s,baz=144,slow=19,SNR=3.1
DAVOX                             Lg    Lg  22 19 45.4
     comp=N,2.5nm,0.3s,baz=150,slow=20,SNR=5.0
     comp=N,15nm,0.3s
FETA  Feichten          3.12 348 iPn    Pn  22 19 01.1 +2.2
     comp=N,7.6nm,0.6s,SNR=15
FETA                             iSn    Sn  22 19 37.0 +0.5
     comp=N,5.5nm,0.4s
SPIF  crte de Spivo     3.20 273  Pn    Pn  22 19 00.4 +0.4
OBKA  Obir              3.25  38 iPn    Pn  22 19 03.2 +2.4
OBKA                             eSn    Sn  22 19 38.8 -0.9
     comp=N,18nm,0.5s
SQTA  Sankt Quirin      3.26 355 iPn    Pn  22 19 03.3 +2.4
     comp=N,8.1nm,0.3s,SNR=6.9
SQTA                             iSn    Sn  22 19 40.4 +0.4
     comp=N,24nm,0.4s
WTTA  Wattenberg        3.29 360 iPn    Pn  22 19 03.3 +2.0
     comp=N,4.0nm,0.2s,SNR=11
WTTA                             iSn    Sn  22 19 43.7 +3.0
     comp=N,20nm,0.3s
KBA   Koelnbreinsper    3.32  20 iPn    Pn  22 19 01.9 +0.1
     comp=N,3.5nm,0.2s,SNR=6.4
KBA                              iSn    Sn  22 19 41.6 +0.2
     comp=N,18nm,0.5s
WATA  Walderalm         3.36 359 iPn    Pn  22 19 04.9 +2.6
     comp=N,11nm,0.3s,SNR=18
WATA                             iSn    Sn  22 19 43.5 +1.1
     comp=N,23nm,0.7s
MOTA  Moosalm           3.39 354 iPn    Pn  22 19 04.6 +1.8
     comp=N,3.4nm,0.3s
MOTA                             iSn    Sn  22 19 44.9 +1.7
     comp=N,21nm,0.5s
LESA  Schwarzleotal     3.52  11 iPn    Pn  22 19 06.3 +1.9
     comp=N,12nm,0.3s,SNR=31
LESA                             iSn    Sn  22 19 47.4 +1.1
     comp=N,34nm,0.5s
SURF  Saint Ours        3.52 280  P     Pn  22 19 05.0 +0.4
DAVA  Damuels           3.54 340 iPn    Pn  22 19 07.2 +2.4
     comp=N,26nm,0.5s,SNR=7.5
DAVA                             iSn    Sn  22 19 49.3 +2.3
     comp=N,9.8nm,0.4s
RETA  Reutte            3.57 350 iPn    Pn  22 19 07.2 +2.1
     comp=N,3.7nm,0.2s
RETA                             iSn    Sn  22 19 50.0 +2.5
     comp=N,3.2nm,0.3s
MBDF  Montbardon        3.59 284 ePn    Pn  22 19 05.8 +0.3
SALSA La sagne          3.60 270  Pn    Pn  22 19 05.8 +0.2
SOKA  Soboth            3.60  40 ePn    Pn  22 19 08.1 +2.6
     comp=N,2.4nm,0.6s
SOKA                             iSn    Sn  22 19 47.0 -1.2
     comp=N,3.0nm,0.3s
CREF  Crivoux           3.67 281  P     Pn  22 19 07.3 +0.7
BNALP Bannalp           3.69 323  P     Pn  22 19 09.1 +2.3
BNALP                             AML   AML
     comp=E,67μm,1.6s
BNALP                             AML   AML
     comp=N,103μm,1.5s
BNALP                             AML   AML
     comp=E,67μm,0.4s
BNALP                             AML   AML
     comp=N,103μm,0.5s
LMR   La Mourre         3.80 262 eP     Pn  22 19 07.4 -0.8
LMR                              eSn    Sn  22 19 45.7 -7.3
     comp=N,2.5nm,0.3s
TRIGF Trigance          3.81 268  P     Pn  22 19 08.9 +0.4
LPG   La Plagne         3.82 295 eP     Pn  22 19 09.0 +0.3
LPL   La Plagne         3.84 295 eP     Pn  22 19 09.5 +0.6
LPL                              eSg    Sb  22 20 04.5 +0.3
     comp=N,2.9nm,0.4s
BIOA  Bad Ischl, Aus    3.96  20 iPn    Pn  22 19 11.4 +0.9
     comp=N,3.7nm,0.3s
BIOA                             eSn    Sn  22 19 57.7 +0.5
     comp=N,29nm,0.4s
ARSA  Arzberg           4.25  38 ePn    Pn  22 19 14.2 -0.2
     comp=N,4.6nm,0.5s
ARSA                             iSn    Sn  22 20 02.6 -1.6
     comp=N,3.2nm,0.6s
MOA   Molln             4.28  24 iPn    Pn  22 19 15.4 +0.6
     comp=N,4.2nm,0.3s,SNR=10
```

MOA				*i* Sn		Sn		22 20 05.9	+1.0
	comp=N,11nm,0.4s								
BALST	**Balsthal**	**4.36**	**322**	Pn		**Pn**		**22 19 16.9**	**+0.9**
SMRF	**Simiane la Rot**	**4.40**	**272**	*e*P		**Pn**		**22 19 16.8**	**+0.3**
BOURR	**Bourrignon**	**4.62**	**319**	P		**Pn**		**22 19 20.9**	**+1.4**
BOURR				S		**Sn**		**22 20 13.4**	**+0.1**
CABF	**La Chapelle**	**4.74**	**306**	*e*P		**Pn**		**22 19 22.8**	**+1.6**
CONA	**Conrad Observa**	**4.92**	**35**	*i* Pn		**Pn**		**22 19 23.6**	**0.0**
	comp=N,1.1nm,0.2s								
CONA				*e*Sn		**Sn**		**22 20 19.7**	**-1.1**
	comp=N,10nm,0.4s								
RONA	**Rosalia, Austr**	**4.93**	**39**	*i* Pn		**Pn**		**22 19 22.7**	**-1.1**
	comp=N,3.9nm,0.5s								
RONA				*i* Sn		**Sn**		**22 20 19.0**	**-2.0**
	comp=N,5.7nm,0.4s								
GERES	**GERESS Array B**	**5.07**	**15**	Pn		**Pn**		**22 19 24.9**	**-0.9**
	comp=N,1.2nm,0.3s,baz=192,slow=13,SNR=15								
GERES				Sn		**Sn**		**22 20 23.0**	**-1.5**
	comp=N,2.9nm,0.3s,baz=192,slow=21,SNR=3.5								
	comp=N,1.7nm,0.4s								
VIVF	**Saint-Julien-l**	**5.09**	**282**	*e*P		**Pn**		**22 19 27.4**	**+1.5**
HINF	**Hinteralfeld**	**5.10**	**321**	*e*P		**Pn**		**22 19 26.7**	**+0.6**
HINF				*e*Sn		**Sn**		**22 20 18.1**	**-7.1**
	comp=N,2.4nm,0.1s								
KHC	**Kasperske Hory**	**5.32**	**14**	*e*PN		**Pn**		**22 19 28.3**	**-0.9**
KHC				*e*SN		**Sn**		**22 20 27.9**	**-2.8**
CDF	**Champ du Feu**	**5.38**	**327**	*e*P		**Pn**		**22 19 30.6**	**+0.6**
CDF				*e*Sn		**Sn**		**22 20 24.8**	**-7.4**
	comp=N,1.5nm,0.1s								
HAU	**Haudompre**	**5.47**	**319**	*e*P		**Pn**		**22 19 31.9**	**+0.7**
HAU				*e*Sn		**Sn**		**22 20 26.9**	**-7.5**
	comp=N,2.7nm,0.1s								
LASF	**Ste Croix**	**5.63**	**274**	*e*P		**Pn**		**22 19 33.4**	**0.0**
ZVC	**Zvikov**	**5.73**	**17**	*e*PN		**Pn**		**22 19 34.4**	**-0.4**
ZVC				*e*SN		**Sn**		**22 20 37.1**	**-3.6**
MODS	**Modra-Piesok**	**5.88**	**40**	*e*PN		**Pn**		**22 19 37.1**	**+0.4**
MODS				*e*SN		**Sn**		**22 20 40.3**	**-3.9**
SMF	**Signal de Mont**	**6.13**	**299**	*e*P		**Pn**		**22 19 40.7**	**+0.5**
SMF				*e*Sn		Sn		22 20 42.8	-7.7
	comp=N,0.5nm,0.1s								
PAGF	**Fort de Pagny**	**6.16**	**320**	*e*P		**Pn**		**22 19 41.0**	**+0.4**
PAGF				*e*Sn		**Sn**		**22 20 43.7**	**-7.5**
SFTF	**Sexfontaines**	**6.25**	**315**	*e*P		**Pn**		**22 19 42.7**	**+0.8**
SFTF				*e*Sn		Sn		22 20 45.5	-8.1
	comp=N,11nm,0.2s								
NKC	**Novy Kostel**	**6.28**	**5**	*e*PN		**Pn**		**22 19 43.2**	**+0.9**
NKC				*e*SN		**Sn**		**22 20 50.9**	**-3.4**
VRAC	**Vranov**	**6.32**	**31**	Pn		**Pn**		**22 19 42.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=228,slow=15,SNR=2.3								
VRAC				Sn		**Sn**		**22 20 51.2**	**-3.9**
	comp=N,0.5nm,0.3s,baz=254,slow=20,SNR=2.9								
	comp=N,1.5nm,0.4s								
PRU	**Pruhonice**	**6.33**	**17**	*e*SN		**Sn**		**22 20 51.6**	**-3.7**
LOR	**Lormes**	**6.39**	**304**	*e*P		**Pn**		**22 19 45.0**	**+1.2**
LOR				*e*Sn		Sn		22 20 49.0	-7.9
	comp=N,21nm,0.5s								
MEZF	**Maizieres J'vi**	**6.44**	**317**	*e*P		**Pn**		**22 19 44.6**	**+0.1**
MEZF				*e*Sn		Sn		22 20 50.1	-8.1
	comp=N,7.7nm,0.5s								
AVF	**Avril sur Loir**	**6.50**	**299**	*e*P		**Pn**		**22 19 45.4**	**+0.2**
SSF	**Saint Saulge**	**6.51**	**301**	*e*P		**Pn**		**22 19 46.4**	**+1.0**
SSF				*e*Sn		Sn		22 20 52.0	-7.8
	comp=N,0.9nm,0.2s								
BGF	**Bois d'Agland**	**6.74**	**296**	*e*P		**Pn**		**22 19 49.5**	**+0.9**
BGF				*e*Sn		Sn		22 20 57.3	-8.2
	comp=N,5.1nm,0.4s								
HSKC	**Hora Svate Kat**	**6.74**	**10**	*e*PN		**Pn**		**22 19 48.0**	**-0.6**
MTLF	**Montolieu**	**6.88**	**268**	*e*P		**Pn**		**22 19 51.4**	**+0.8**
KEST	**Kesra**	**8.42**	**193**	Pn		**Pn**		**22 20 14.7**	**+2.9**
	comp=N,0.2nm,0.3s,baz=352,slow=5.5,SNR=4.6								
	comp=N,3.1nm,0.9s								
FINES	**FINESS Array B**	**19.47**	**21**	P		**Pn**		**22 22 37.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=201,slow=7.4,SNR=2.0								
	comp=N,3.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**31.89**	**199**	P		**P**		**22 24 35.8**	**+0.6**
	comp=N,0.3nm,0.7s,baz=8.9,slow=10,SNR=2.7								
	comp=N,0.3nm,0.7s								
NRIK	**Noril'sk**	**44.82**	**29**	LR		LR		22 47 50.0	
	comp=N,120nm,18.6s,baz=57,slow=40								
MKAR	**Makanchi Array**	**48.14**	**60**	P		**P**		**22 26 50.2**	**+0.4**
	comp=N,0.3nm,0.5s,baz=300,slow=8.2,SNR=5.3								
	comp=N,0.3nm,0.5s								

GCG ***01*** *22:42:49.6±1.8, 14°.78N×92°.62W, h68km±11km, MD4.3, ML3.6, MW3.4, Hypocentre not reviewed by the ISC*
SNET ***01*** *22:42:50.6±1.2, 14°.73N×92°.64W, h54km±27km, ML4.2*
MEX ***01*** *22:42:50.7±0.6, 14°.81N×92°.55W, h81km±4km, MD4.3*
ISC 01 22:42:50.2±1.4, 14°.78N±0°.06×92°.65W±0°.05, h64km±12km, n15, σ1§45/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.40**	**72**	*e*P	**Pn**	**22 43 01.2**	**-0.4**
THIG				*e*S	**Sn**	**22 43 10.1**	**+0.3**
THIG		**0.40**	**72**	*e*P		22 43 00.9	
	comp=Z,2μm,0.2s						
THIG				*e*S		22 43 10.3	
THIG				IAML		22 43 15.1	
	comp=Z,2μm,0.2s						
RTAL	**Retalhuleu**	**0.96**	**105**	*e*P	**Pn**	**22 43 07.2**	**-0.7**
RTAL				*e*S	**Sn**	**22 43 19.6**	**-1.5**
RTAL	**Retalhuleu**	**0.96**	**105**	*e*P	**Pn**	**22 43 07.3**	**-0.7**
RTAL				*e*S	**Sn**	**22 43 21.0**	**-0.1**
PCIG		**1.07**	**329**	*i* P	**Pn**	**22 43 09.7**	**+0.4**
PCIG				*i* S	**Sn**	**22 43 24.4**	**+0.9**
QUEO	**Labor Ovalle**	**1.10**	**85**	*e*P		22 43 10.2	
	comp=Z,4μm,0.4s						
QUEO				*e*S		22 43 25.5	
QUEO				IAML		22 43 29.6	
	comp=Z,4μm,0.4s						
SOKI	**Kika Raxquin**	**1.21**	**88**	*e*P		22 43 11.6	
	comp=Z,565nm,0.6s						
SOKI				IAML		22 43 34.7	
	comp=Z,565nm,0.6s						
HUEH	**Huehuetenango**	**1.23**	**64**	*e*P	**Pn**	**22 43 11.8**	**+0.2**
HUEH				*e*S	**Sn**	**22 43 30.1**	**+2.4**
CCIG	**Comitan**	**1.57**	**18**	*e*P	**Pn**	**22 43 17.1**	**+1.0**
CCIG				*e*S	**Sn**	**22 43 36.2**	**+0.5**
CCIG	**Comitan**	**1.57**	**18**	*e*P		22 43 17.2	
	comp=Z,493nm,0.3s						
CCIG				IAML		22 43 40.0	
	comp=Z,493nm,0.3s						
QUIS	**Sacapulas**	**1.59**	**71**	*e*P		22 43 16.7	
	comp=Z,391nm,0.9s						
QUIS				*e*S		22 43 38.2	
QUIS				IAML		22 43 39.6	
	comp=Z,391nm,0.9s						
TGIG		**2.03**	**347**	*e*P	**Pn**	**22 43 21.6**	**-0.7**
TGIG				*e*S	**Sn**	**22 43 45.8**	**-0.9**
TGIG		**2.03**	**347**	*e*P		22 43 21.6	
TGIG				IAML		22 44 00.8	
	comp=Z,266nm,0.4s						
UXUV	**UXUV**	**2.90**	**331**	*e*P	**Pn**	**22 43 34.7**	**+0.7**
UXUV				*e*S	**Sn**	**22 44 08.8**	**+1.1**
NUBE	**Las Nubes**	**2.92**	**107**	*e*P	**Pn**	**22 43 34.4**	**-0.1**
NUBE	**Las Nubes**	**2.92**	**107**	*e*P		22 43 34.8	
NUBE				*e*S		22 44 08.1	
CEVE	**Cerro Verde**	**3.09**	**108**	*e*P	**Pn**	**22 43 38.4**	**+1.6**
CEVE				*e*S	**Sn**	**22 44 13.6**	**+0.9**
CEVE				IAML		22 44 26.5	
	comp=Z,709nm,0.4s						
CMIG	**Matias Romero**	**3.14**	**317**	*e*P	**Pn**	**22 43 37.6**	**+0.3**
CMIG				*e*S	**Sn**	**22 44 15.5**	**+1.9**
JAYA	**Jayaque - finc**	**3.30**	**109**	*e*P	**Pn**	**22 43 39.9**	**+0.2**
JAYA	**Jayaque - finc**	**3.30**	**109**	*e*P		22 43 39.3	
JAYA				*e*S		22 44 18.2	
PETF	**Flores**	**3.42**	**51**	*e*P		22 43 40.8	
PETF				IAML		22 44 21.0	
	comp=Z,150nm,0.2s						
HUIG	**Huatulco**	**3.48**	**287**	*e*P	**Pn**	**22 43 41.7**	**-0.2**
HUIG				*e*S	**Sn**	**22 44 21.2**	**-0.6**
NEUV	**Arroyo Zacate**	**4.20**	**314**	*e*P	**Pn**	**22 43 50.4**	**-1.3**
SCIG	**Sabancuy**	**4.39**	**18**	*e*P	**Pn**	**22 43 55.0**	**+0.6**
SCIG				*e*S	**Sn**	**22 44 39.3**	**-5.0**
SCIG	**Sabancuy**	**4.39**	**18**	*e*P		22 43 53.9	
SCIG				*e*S		22 44 39.9	
NISHN	**Nisperales Com**	**4.71**	**77**	*e*P		22 43 57.4	

ECX ***01*** *22:48:54.5±0.4, 31°.54N×114°.39W, h2km±4km, ML3.6*
MEX ***01*** *22:48:54.3±0.3, 30°.56N×114°.51W, h5km, MD4.1*
ISC 01 22:48:51.7±1.6, 31°.47N±0°.06×114°.28W±0°.03, h10km±13km, n16, σ0§83/26, 5C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPXB	**Puerto Peasco**	**0.57**	**104**	⇑*e*P	**Pn**	**22 49 06.8**	**+0.9**
PPXB				*e*S	**Sn**	**22 49 16.1**	**+0.8**
SFX	**San Felipe**	**0.66**	**229**	*e*P	**Pn**	**22 49 06.1**	**-1.0**
SFX				*e*S	**Sb**	**22 49 15.3**	**+0.8**
SFX	**San Felipe**	**0.66**	**229**	*e*P	**Pn**	**22 49 06.2**	**-1.0**
SFX				*e*S	**Sb**	**22 49 14.8**	**+0.4**
SFX				IAML		22 49 15.9	
	comp=N,4μm,0.5s						
SFX				⇑*e*		22 49 16.4	
SFX				IAML		22 49 16.4	
	comp=E,2μm,0.6s						
PIX	**Pinacate**	**0.70**	**83**	⇑*i*P	**Pn**	**22 49 08.7**	**+1.0**
PIX				*e*S	**Sn**	**22 49 19.4**	**+0.7**
PIX				IAML		22 49 20.7	
	comp=N,3μm,0.4s						
RHX	**Rio Hardy**	**1.08**	**308**	⇑*e*P	**Pb**	**22 49 11.2**	**-1.3**
SPIG	**San Pedro Mart**	**1.10**	**248**	*e*P	**Pb**	**22 49 12.8**	**-0.4**
SPIG				*e*S	**Sb**	**22 49 27.4**	**-0.4**
SPIG	**San Pedro Mart**	**1.10**	**248**	*e*P	**Pb**	**22 49 13.0**	**-0.2**
SPIG				*e*S	**Sg**	**22 49 27.8**	**+0.4**
MBIG	**Mexicali**	**1.22**	**320**	*e*P	Pg	22 49 19.8	+4.7
VTX	**Valle De La Tr**	**1.29**	**267**	*e*P	**Pb**	**22 49 16.3**	**+0.1**
VTX				*e*S	**Sn**	**22 49 33.0**	**-0.4**
SQX	**San Quintin**	**1.64**	**237**	⇑*e*P	**Pb**	**22 49 21.6**	**-0.5**
SQX				*e*S	**Sb**	**22 49 43.8**	**+1.0**
SLGB	**San Luis Gonza**	**1.64**	**184**	*e*P	**Pg**	**22 49 23.9**	**+0.7**
SV2X	**San Vicente**	**1.68**	**266**	*e*P	**Pb**	**22 49 22.4**	**-0.4**
SV2X				*e*S	**Sb**	**22 49 44.0**	**0.0**
LAPR	**La Primavera**	**1.94**	**119**	*e*P	**Pn**	**22 49 25.3**	**+0.5**
LAPR				*e*S	**Sb**	**22 49 49.9**	**-1.6**
LAPR	**La Primavera**	**1.94**	**119**	*e*P	**Pb**	**22 49 25.8**	**-1.4**
LAPR				*e*S	**Sg**	**22 49 53.3**	**-0.8**
LAPR				⇓*e*		22 50 11.4	
LAPR				IAML		22 50 11.4	
	comp=E,330nm,0.6s						
CBX	**Cerro Bola**	**2.20**	**293**	*e*P	**Pn**	**22 49 28.5**	**0.0**
TJIG	**Tijuana**	**2.25**	**296**	*e*P	**Pn**	**22 49 29.2**	**+0.1**

IDC ***01*** *22:52:19.5±0.6, 29°.64S×178°.21W, h145km±6km, mb3.9/5, mbtmp4.4/5, MS3.9/1, Error ellipse: s-maj=22.6km s-min=20.2km az=33.0*
ISC 01 22:52:16.5±0.7, 29°.9S±0°.1×178°.6W±0°.2, h150km, n49, σ2§62/54, mb4.3/8, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.90**	**41**	P	**Pn**	**22 52 40.9**	**+0.4**
GLKZ				S	**Sn**	**22 52 57.2**	**-1.5**
RIZ	**Raoul Island**	**0.91**	**40**	P	**Pn**	**22 52 41.4**	**+0.8**
RIZ				S	**Sn**	**22 52 57.9**	**-0.9**
RAO	**Raoul Island**	**0.91**	**41**	P	**Pn**	**22 52 40.3**	**-0.2**
	4μm,0.2s,baz=113,slow=13,SNR=48						
RAO				S	**Sn**	**22 52 57.3**	**-1.5**
	3μm,0.3s,baz=105,slow=20,SNR=4.6						
MXZ	**Matakaoa Point**	**8.02**	**198**	S	**Sn**	**22 55 38.9**	**-0.6**
HAZ	**Te Kaha**	**8.35**	**200**	P	**Pn**	**22 54 15.2**	**+0.7**
HAZ				S	**Sn**	**22 55 49.2**	**+1.8**
PKGZ	**Pakihiroa**	**8.37**	**198**	P	**Pn**	**22 54 15.4**	**+0.6**
PKGZ				S	**Sn**	**22 55 45.8**	**-2.1**
OUZ	**Omahuta**	**8.43**	**229**	P	Pn	22 54 21.0	+5.5
PUZ	**Puketiti**	**8.52**	**197**	P	**Pn**	**22 54 16.8**	**0.0**
PUZ				S	**Sn**	**22 55 47.2**	**-4.3**
RUGZ	**Raukumara Rang**	**8.58**	**200**	P	**Pn**	**22 54 18.9**	**+1.2**
RUGZ				S	**Sn**	**22 55 50.1**	**-3.0**
TWGZ	**Tauwhareparae**	**8.69**	**198**	P	**Pn**	**22 54 21.7**	**+2.6**
TWGZ				S	**Sn**	**22 55 55.2**	**-0.4**
CNGZ	**Carnagh Statio**	**8.92**	**196**	P	**Pn**	**22 54 22.3**	**+0.2**
CNGZ				S	**Sn**	**22 56 00.8**	**-0.3**
MWZ	**Matawai**	**8.96**	**200**	P	**Pn**	**22 54 24.6**	**+1.9**
MWZ				S	**Sn**	**22 56 02.5**	**+0.3**
URZ	**Urewera**	**9.02**	**202**	P	**Pn**	**22 54 23.8**	**+0.4**
	3.1nm,0.4s,baz=355,slow=5.1,SNR=8.0						
URZ				S	**Sn**	**22 56 04.6**	**+1.1**
	18nm,0.3s,baz=114,slow=21,SNR=19						
URZ	**Urewera**	**9.02**	**202**	P	**Pn**	**22 54 25.0**	**+1.5**
URZ				S	**Sn**	**22 56 03.9**	**+0.4**
RTZ	**Ruatahuna**	**9.39**	**202**	P	**Pn**	**22 54 29.5**	**+1.0**
RTZ				S	**Sn**	**22 56 11.8**	**-0.7**
KNZ	**Kokohu**	**9.56**	**198**	P	**Pn**	**22 54 31.2**	**+0.6**
NMHZ	**Naumai**	**9.88**	**201**	S	**Sn**	**22 56 24.5**	**0.0**
BKZ	**Black Stump Fm**	**10.05**	**202**	P	**Pn**	**22 54 34.5**	**-2.6**
BKZ				S	**Sn**	**22 56 26.6**	**-1.7**
TMVZ	**Te Maari**	**10.28**	**206**	P	**Pn**	**22 54 43.0**	**+2.7**
TMVZ				S	**Sn**	**22 56 32.8**	**-1.3**
OTVZ	**Oturere**	**10.34**	**206**	P	**Pn**	**22 54 40.9**	**-0.2**
OTVZ				S	**Sn**	**22 56 38.1**	**+2.6**
SNVZ	**South Ngauruho**	**10.37**	**206**	P	**Pn**	**22 54 43.6**	**+2.1**
SNVZ				S	**Sn**	**22 56 35.1**	**-1.2**
BFZ	**Birch Farm**	**11.51**	**200**	P	**Pn**	**22 54 54.7**	**-1.6**
BFZ				S	**Sn**	**22 56 54.8**	**-8.7**
MRZ	**Mangatainoka R**	**11.70**	**202**	P	**Pn**	**22 54 56.2**	**-2.6**
MRZ				S	**Sn**	**22 57 02.4**	**-5.6**
RPZ	**Rata Peaks**	**16.03**	**208**	P	**P**	**22 55 56.7**	**+2.7**
	3.6nm,0.4s,baz=24,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**34.08**	**256**	P	P	22 58 54.6	+7.9
	4.1nm,0.6s,baz=94,slow=10,SNR=13						
	4.1nm,0.6s						
ASAR	**Alice Springs**	**42.62**	**267**	P	P	23 00 03.4	+5.2
	1.3nm,0.3s,baz=104,slow=7.1,SNR=25						
ASAR				PcP	**PcP**	**23 01 52.5**	**+4.9**
	0.3nm,0.5s,baz=126,slow=3.9,SNR=2.4						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**43.56**	**272**	P	P	23 00 11.2	+5.5
	3.5nm,0.5s,baz=111,slow=7.9,SNR=31						
	3.5nm,0.5s						
NWAO	**Narrogin (SRO)**	**54.07**	**249**	LR	LR	23 22 23.9	
	comp=Z,119nm,21.2s,baz=258,slow=33						
QSPA	**South Pole Qui**	**60.16**	**180**	P	P	23 02 14.2	+6.1
	2.7nm,0.7s,baz=79,slow=2.6,SNR=15						
	2.7nm,0.7s						
TGY	**Tagaytay City**	**72.85**	**298**	P	P	23 03 34.7	+5.4
	176nm,0.4s,baz=153,slow=4.5,SNR=3.1						
TROLL	**Troll, Antarti**	**78.33**	**180**	⇑P	P	23 04 04.6	+4.8
	comp=Z,98nm,0.5s						
SNAA	**Sanae**	**78.62**	**179**	⇑P	P	23 04 05.5	+4.2
	comp=Z,30nm,0.7s						
SNAA	**Sanae**	**78.62**	**179**	P	P	23 04 05.9	+4.6
	comp=Z,1.9nm,0.8s,baz=204,slow=12,SNR=5.8						
	comp=Z,1.9nm,0.8s						
VNA3	**Neumayer Olymp**	**78.79**	**176**	⇑P	P	23 04 06.5	+4.4
	comp=Z,6.1nm,0.7s						
VNA2	**Neumayer–Watz**	**79.22**	**177**	⇑P	P	23 04 08.8	+4.3
	comp=Z,104nm,0.5s,baz=173,slow=5.2						
H03N3	**Juan Fernandez**	**81.34**	**124**	T	T	00 34 09.6	
	baz=146,slow=74,SNR=5.0						
H03N1	**Juan Fernandez**	**81.36**	**124**	T	T	00 34 09.6	
	baz=242,slow=74,SNR=4.3						
MKAR	**Makanchi Array**	**117.08**	**310**	PKP	**PKiKP**	**23 10 46.2**	**+2.7**
	comp=Z,0.1nm,0.6s,baz=177,slow=0.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**120.40**	**314**	PKP	**PKiKP**	**23 10 52.6**	**+2.9**
	comp=Z,0.5nm,0.5s,baz=99,slow=2.3,SNR=6.3						
BVAR	**Borovoye Array**	**125.72**	**316**	PKP	**PKiKP**	**23 11 03.1**	**+2.9**
	comp=Z,1.1nm,0.5s,baz=168,slow=0.6,SNR=7.4						
H10N1	**ASCENSION HYDR**	**139.44**	**155**	T	T	01 47 48.6	
	SNR=2.9						
FINES	**FINESS Array B**	**144.54**	**340**	PKP	**PKiKP**	**23 11 36.3**	**-1.8**
	comp=Z,3.1nm,0.5s,baz=47,slow=3.8,SNR=38						
NB2	**NORSAR Subarra**	**148.22**	**351**	PKP	**PKPab**	**23 11 47.3**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.8						
NOA	**NORSAR Array B**	**148.22**	**351**	PKPbc	**PKPab**	**23 11 47.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=16,slow=4.3,SNR=4.6						
HFS	**Hagfors**	**148.69**	**348**	PKPbc	**PKPab**	**23 11 47.5**	**-2.0**
	comp=Z,2.9nm,0.8s,baz=82,slow=11,SNR=5.0						
AKASG	**Malin Array Be**	**150.62**	**323**	PKPbc	**PKPab**	**23 11 53.7**	**-4.0**
	comp=Z,1.7nm,0.4s,baz=45,slow=3.2,SNR=9.6						
MMAI	**Mount Meron Ar**	**150.91**	**285**	PKPbc	**PKPab**	**23 11 56.8**	**-2.9**
	comp=Z,1.0nm,0.4s,baz=84,slow=7.6,SNR=17						
BRTR	**Keskin Array B**	**151.93**	**299**	PKPbc	**PKPab**	**23 11 57.4**	**-6.4**
	comp=Z,0.8nm,1.0s,baz=101,slow=6.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**163.28**	**181**	PKPab	**PKPab**	**23 12 56.7**	**+3.8**
	comp=Z,0.8nm,0.6s,baz=179,slow=3.2,SNR=8.0						

JMA ***01*** *23:04:11.0±0.4, 31°.N±4°.×13°.8E±°, h525km, MV3.7/32, SHIKOKU BASIN*
IDC ***01*** *23:04:14.5±1.9, 30°.80N×137°.45E, h486km±22km, mb3.0/4, mbtmp3.8/8, Error ellipse: s-maj=40.6km s-min=20.7km az=90.0*
NEIC ***01*** *23:04:15.8±1.0, 31°.04N±0°.06×137°.5E±0°.1, h497km±11km, mb4.3/8, Error ellipse: s-maj=17.9km s-min=7.1km az=69.0*
ISC 01 23:04:14.4±0.8, 30°.9N±0°.1×137°.6E±0°.1, h489km, n39, σ1§18/42, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.88**	**40**	P	**P**	**23 05 24.7**	**+1.2**
JTNC	**Tanabenakahech**	**3.34**	**330**	P	**P**	**23 05 28.0**	**+1.1**
JMN	**Monobe**	**4.21**	**312**	P	**P**	**23 05 34.6**	**+0.8**
JNY	**Yasuok**	**4.42**	**3**	P	**P**	**23 05 38.0**	**+2.4**
BSO3	**Boso 3**	**4.57**	**32**	P	**P**	**23 05 36.4**	**-0.2**
BSO3				S	**S**	**23 06 44.4**	**+0.7**
BSO4	**Boso 4**	**4.66**	**29**	P	**P**	**23 05 37.6**	**+0.1**
BSO4				S	**S**	**23 06 45.4**	**+0.1**
JGF	**Kuroka**	**4.66**	**358**	P	**P**	**23 05 39.1**	**+1.4**
BSO1	**Boso 1**	**4.68**	**37**	P	**P**	**23 05 37.0**	**-0.1**
BSO1				S	**S**	**23 06 42.0**	**-2.8**
JRY	**Ryogami san**	**5.19**	**12**	P	**P**	**23 05 43.6**	**+1.2**
MAJO	**Matsushiro**	**5.62**	**5**	P	**P**	**23 05 47.2**	**+0.7**
MJAR	**Matsushiro Arr**	**5.62**	**5**	P	**P**	**23 05 47.1**	**+0.6**
	2.9nm,0.5s,baz=178,slow=10,SNR=14						
MJB9	**Matsu-Tunnel**	**5.62**	**5**	P	**P**	**23 05 47.9**	**+1.4**
JAG	**Ashikaga**	**5.69**	**15**	P	**P**	**23 05 47.0**	**-0.2**
JYT	**Yasato**	**5.71**	**22**	P	**P**	**23 05 46.9**	**-0.4**
JNU	**Nakatsue**	**6.11**	**293**	P	**P**	**23 05 52.0**	**+0.6**
JNU	**Nakatsue**	**6.11**	**293**	P	**P**	**23 05 51.5**	**+0.2**
	15nm,0.5s,baz=120,slow=4.2,SNR=11						
JHO	**Hitachi**	**6.18**	**23**	P	**P**	**23 05 51.6**	**-0.3**
JSJ	**Shimokoshiki**	**6.79**	**278**	P	**P**	**23 05 57.4**	**-0.6**
JFK	**Kawauchi**	**6.97**	**22**	S	**S**	**23 07 24.3**	**-1.9**
JMM	**Marumori**	**7.40**	**20**	P	**P**	**23 06 04.9**	**+0.7**
KSRS	**Korea Array**	**10.32**	**312**	P	**P**	**23 06 34.5**	**-0.4**
	1.7nm,0.4s,baz=124,slow=10,SNR=5.6						
KSAR	**Wonju Array Be**	**10.34**	**312**	P	**P**	**23 06 35.1**	**0.0**
ERM	**Erimo**	**11.93**	**20**	P	**P**	**23 06 51.4**	**-0.6**
USA0B	**Ussuriysk Arra**	**13.97**	**343**	P	**P**	**23 07 14.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**13.97**	**343**	P	**P**	**23 07 13.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**13.97**	**343**	P	**P**	**23 07 15.3**	**+1.6**
	1.0nm,0.4s,baz=147,slow=9.8,SNR=2.3						
MDJ	**Mudanjiang**	**15.05**	**337**	P	**P**	**23 07 22.9**	**-2.2**
YULB	**Yu-li**	**16.33**	**247**	P	**P**	**23 07 38.5**	**-0.3**
QIZ	**Qiongzhong**	**27.73**	**251**	P	**P**	**23 09 23.0**	**+0.3**
QIZ				IAmb	IAmb	23 09 39.2	
	comp=Z,15nm,1.2s						
PHRA	**Phrae**	**35.97**	**259**	P	**P**	**23 10 32.4**	**-0.9**
PHRA				IAmb	IAmb	23 10 33.3	
	comp=Z,9.7nm,0.8s						
RDOG	**Red Dog Mine**	**50.36**	**25**	P	**P**	**23 12 25.9**	**+0.7**
RDOG				IAmb	IAmb	23 12 28.5	
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**50.68**	**184**	P	**P**	**23 12 27.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=0.3,slow=7.6,SNR=6.9						
	comp=Z,0.3nm,0.3s						
B22K	**Teshekpuk Lake**	**54.16**	**23**	P	**P**	**23 12 49.2**	**-3.2**
SKT	**Skwentna**	**54.28**	**33**	P	**P**	**23 12 53.8**	**+0.3**
E22K	**Anaktuvuk Pass**	**54.47**	**26**	P	**P**	**23 12 54.8**	**0.0**
YKA	**Yellowknife Ar**	**70.67**	**28**	P	**P**	**23 14 41.6**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=280,slow=7.8,SNR=2.0						
	comp=Z,0.2nm,0.8s						
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**23 14 52.4**	**+0.6**
	comp=Z,2.4nm,

GIRL Giralia 18.10 151 P P 23 11 21.6 +1.2
MRSI Marisa 18.52 67 P Pn 23 11 25.9 +0.6
LUWI Luwuk 18.76 73 P P 23 11 24.9 -2.8
LUWI IAmb IAmb 23 11 31.3
comp=Z,124nm,1.3s
SOEI Soe 19.40 100 P P 23 11 33.7 -1.1
SOEI IAmb IAmb 23 11 46.9
comp=Z,85nm,0.7s
SOEI Soe 19.40 100 P Pn 23 11 35.9 -0.2
PSAD1 Pilbara Seismi 20.48 137 P P 23 11 45.2 -1.3
comp=Z,16nm,1.6s
PSA00 Pilbara Seismi 20.57 137 P P 23 11 46.0 -1.5
PSA00 IAmb IAmb 23 11 47.8
comp=Z,22nm,1.3s
FITZ Fitzroy Crossi 23.12 121 P P 23 12 13.4 -1.3
FITZ Fitzroy Crossi 23.12 121 LR LR 23 20 56.0
comp=Z,75nm,21.9s,baz=321,slow=36
TNTI Ternate 23.69 72 P P 23 12 18.9 -1.4
TNTI IAmb IAmb 23 12 21.4
comp=Z,44nm,0.9s
MORW Morawa 24.48 156 P P 23 12 27.0 -0.6
MORW IAmb IAmb 23 12 37.3
comp=Z,67nm,1.8s
KNRA Kununurra 24.99 113 P P 23 12 31.6 -0.7
KNRA IAmb IAmb 23 12 33.8
comp=Z,35nm,0.8s
KNRA Kununurra 24.99 113 P P 23 12 31.6 -0.7
comp=Z,52nm,0.8s
PHRA Phrae 25.61 350 P P 23 12 38.4 +0.6
CMAR Chiang Mai Arr 25.83 347 P P 23 12 38.1 -1.8
comp=Z,1.8nm,0.3s,baz=179,slow=9.1,SNR=12
CMAR LR LR 23 22 57.6
comp=Z,41nm,21.8s,baz=165,slow=37
comp=Z,1.8nm,0.3s
CHTO Chiang Mai 26.17 347 P P 23 12 43.2 +0.2
QIZ Qiongzhong 26.19 11 P P 23 12 44.1 +1.0
QIZ S S **23 17 16.3 +2.3**
QIZ LR LR
comp=Z,220nm,16.7s
DRS Darwin Rock St 26.23 104 P P 23 12 46.5 +2.9
MTN Manton Dam 26.53 105 P P 23 12 47.1 +0.7
MTN Manton Dam 26.53 105 P P 23 12 47.3 +1.0
comp=Z,33nm,0.5s
MTN Manton Dam 26.53 105 P P 23 12 49.7 +3.4
KDU Kakadu 27.79 104 P P 23 13 00.2 +2.5
PALK Pallekele 27.90 300 LR LR 23 23 10.1
comp=Z,42nm,19.9s,baz=130,slow=34
H01W3 Cape Leeuwin H 29.17 164 T T 23 43 38.9
baz=343,slow=76,SNR=58
H01W1 Cape Leeuwin H 29.18 164 T T 23 43 42.2
baz=343,slow=76,SNR=60
H01W2 Cape Leeuwin H 29.18 164 T T 23 43 41.1
baz=343,slow=76,SNR=78
WB0 Warramunga Arr 31.39 117 P P 23 13 28.4 -1.1
WB0 IAmb IAmb 23 14 15.0
comp=Z,48nm,1.9s
WRA Warramunga Arr 31.40 117 P P 23 13 29.2 -0.4
comp=Z,2.6nm,0.8s,baz=299,slow=10,SNR=5.0
WRA PcP **PcP 23 16 22.9 -0.3**
comp=Z,0.6nm,0.7s,baz=295,slow=2.6,SNR=2.4
WRA LR LR 23 26 35.9
comp=Z,57nm,19.1s,baz=349,slow=37
comp=Z,2.6nm,0.8s
WB2 Warramunga Arr 31.41 117 P P 23 13 29.5 -0.3
WB2 IAmb IAmb 23 14 00.9
comp=Z,20nm,1.4s
H08S2 Diego Garcia H 32.13 267 T T 23 47 55.7
baz=91,slow=76,SNR=260
H08S3 Diego Garcia H 32.14 267 T T 23 47 56.5
baz=91,slow=76,SNR=357
H08S1 Diego Carcia H 32.15 267 T T 23 47 55.7
baz=91,slow=76,SNR=170
ASAR Alice Springs 32.50 124 P P 23 13 39.9 +0.5
comp=Z,1.6nm,0.9s,baz=306,slow=8.9,SNR=7.0
ASAR PcP **PcP 23 16 26.9 +0.8**
comp=Z,0.5nm,0.5s,baz=297,slow=2.4,SNR=4.0
ASAR LR LR 23 27 00.4
comp=Z,56nm,19.5s,baz=274,slow=36
comp=Z,1.6nm,0.9s
PZH PanZhiHua 33.30 355 P P 23 13 49.7 +3.4
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.6s
SHL Shillong 34.62 339 P P 23 13 57.1 -0.7
SHL IAmb IAmb 23 13 57.8
comp=Z,7.7nm,0.5s
COEN Coen 38.28 104 P P 23 14 28.9 -0.3
comp=Z,31nm,2.7s
LSA Lhasa 38.67 341 IAmb IAmb 23 14 35.7
comp=Z,4.7nm,0.6s
LSA Lhasa 38.67 341 P P 23 14 33.4 +0.7
JOW Kunigami 40.45 33 LR LR 23 32 45.1
comp=Z,55nm,18.6s,baz=282,slow=38
XAN Xi'an 40.85 5 P P 23 14 48.6 -1.7
XAN pmax pmax
comp=Z,4.0nm,0.8s
NJ2 Nanjing 40.93 18 *e*P **P 23 14 50.2 -0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 42.20 112 LR LR 23 32 19.6
comp=Z,49nm,20.9s,baz=276,slow=36
QLP Quilpie 42.24 122 P P 23 15 01.6 -0.3
comp=Z,26nm,1.0s
STKA Stephens Creek 42.31 131 P P 23 15 01.9 -0.4
STKA Stephens Creek 42.31 131 P P 23 15 02.8 +0.5
comp=Z,3.0nm,0.9s
STKA Stephens Creek 42.31 131 P P 23 15 03.7 +1.4
comp=Z,8.8nm,0.6s,baz=310,slow=8.6,SNR=20
comp=Z,8.8nm,0.6s
CMSA Cobar Meteorol 45.30 128 P P 23 15 26.7 +0.3
comp=Z,17nm,2.9s
HHC Hu-ho-hao-te 47.87 7 *e*P **P 23 15 50.8 +4.4**
HHC pmax pmax
comp=Z,4.0nm,0.5s
KSRS Korea Array 49.06 24 P P 23 15 53.7 -1.8
comp=Z,0.7nm,0.4s,baz=218,slow=8.0,SNR=4.9
comp=Z,0.7nm,0.4s
NIL Nilore 50.22 325 P P 23 16 04.7 +0.2
NIL pP **sP 23 16 17.0 +3.3**
MJAR Matsushiro Arr 53.29 34 P P 23 16 23.1 -4.2
comp=Z,1.7nm,0.7s,baz=206,slow=7.1,SNR=4.6
comp=Z,1.7nm,0.7s
KBL Kabul 53.30 323 P P 23 16 27.3 -0.4
KSH Kashi 53.33 332 P P 23 16 26.3 -1.4
KSH pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 54.47 1 P P 23 16 35.0 -0.9
SONM Songino Array 54.47 1 P P 23 16 35.1 -0.8
comp=Z,2.2nm,0.6s,baz=176,slow=8.6,SNR=14
SONM PcP **PcP 23 17 38.8 -0.5**
comp=Z,1.9nm,0.6s,baz=178,slow=4.1,SNR=7.8
SONM ScP **ScP 23 21 28.3 -8.0**
comp=Z,0.2nm,0.3s,baz=194,slow=3.7,SNR=2.6
comp=Z,2.2nm,0.6s
ULN Ulaanbaatar 54.52 2 P P 23 16 36.3 0.0
ULN IAmb IAmb 23 18 33.6
comp=Z,6.9nm,1.4s
DRK Karamyk 55.33 329 P P 23 16 42.7 +0.2
GAR Garm 55.75 328 P P 23 16 44.4 -0.9
GAR IAmb IAmb 23 16 46.3
comp=Z,9.0nm,0.6s
BNX BinXian 56.11 19 ||P **P 23 16 46.5 -1.0**
BNX pmax pmax
comp=Z,14nm,0.7s
CHGR Chuyangaron 56.12 327 P P 23 16 46.8 -1.1
CHGR IAmb IAmb 23 16 48.2
comp=Z,13nm,0.6s
ARSB Arslanbob 56.16 331 P P 23 16 47.6 -0.6
SIMJ Simiganj 56.21 326 P P 23 16 48.0 -0.6
SIMJ IAmb IAmb 23 16 48.3
comp=Z,20nm,1.5s
SIMJ Simiganj 56.21 326 P P 23 16 47.4 -1.2
BTK Batken 56.27 329 P P 23 16 49.4 +0.4
USA0B Ussuriysk Arra 56.41 23 P P 23 16 48.0 -1.8
USRK Ussuriysk Ar. 56.41 23 P P 23 16 48.0 -1.8
USRK Ussuriysk Ar. 56.41 23 P P 23 16 47.8 -2.0
comp=Z,13nm,0.5s,baz=201,slow=5.3,SNR=43
comp=Z,13nm,0.5s
AAK Ala-Archa 56.49 333 LR LR 23 46 51.7
comp=Z,26nm,18.2s,baz=23,slow=42
MKAR Makanchi Array 57.06 342 P P 23 16 53.6 -0.8
MKAR Makanchi Array 57.06 342 P P 23 16 53.2 -1.2
comp=Z,1.7nm,0.5s,baz=152,slow=8.2,SNR=47
comp=Z,1.7nm,0.5s
KKAR Karatay Array 58.70 331 P P 23 17 05.9 0.0

H04N2 CROZET ISLANDS 60.01 220 T T 00 22 55.2
baz=65,slow=75,SNR=439
H04N1 CROZET ISLANDS 60.02 220 T T 00 22 55.5
baz=65,slow=75,SNR=521
H04N3 CROZET ISLANDS 60.02 220 T T 00 22 54.2
baz=65,slow=75,SNR=307
HEH HeiHe 60.15 16 *e*P **P 23 17 14.0 -1.7**
HEH pmax pmax
comp=Z,10.0nm,0.7s
H04S1 CROZET ISLANDS 60.21 219 T T 00 23 08.8
baz=64,slow=75,SNR=25
H04S3 CROZET ISLANDS 60.22 219 T T 00 23 08.6
baz=64,slow=75,SNR=28
H04S2 CROZET ISLANDS 60.23 219 T T 00 23 09.7
baz=64,slow=75,SNR=27
KLR Kul'dur 60.59 20 P P 23 17 16.1 -2.7
comp=Z,3.9nm,0.5s,baz=216,slow=6.0,SNR=18
KLR LR LR 23 47 45.3
comp=Z,39nm,18.1s,baz=269,slow=40
comp=Z,3.9nm,0.5s
ASAJ Asahikawa 61.09 30 P P 23 17 19.9 -2.4
comp=Z,3.3nm,0.3s,baz=164,slow=28,SNR=1.9
ASAJ LR LR 23 44 19.7
comp=Z,42nm,18.0s,baz=152,slow=37
comp=Z,3.3nm,0.3s
KURBB Kurchatov Arra 61.62 341 P P 23 17 24.7 -1.0
comp=Z,0.7nm,0.5s,baz=153,slow=6.1,SNR=15
KURBB PcP **PcP 23 18 06.5 -0.7**
comp=Z,0.7nm,0.8s,baz=157,slow=4.5,SNR=4.4
comp=Z,0.7nm,0.5s
KURK Kurchatov 61.67 341 P P 23 17 25.4 -0.7
KURK IAmb IAmb 23 19 41.8
comp=Z,10nm,1.6s
KURK Kurchatov 61.67 341 P P 23 17 25.2 -0.9
ZAA0 Zalesovo Array 62.89 347 P P 23 17 32.9 -1.3
ZAA0 IAmb IAmb 23 18 19.5
comp=Z,18nm,1.9s
ZALV Zalesovo Beam 62.89 347 P P 23 17 32.6 -1.6
comp=Z,1.6nm,0.4s,baz=148,slow=5.0,SNR=13
comp=Z,1.6nm,0.4s
BVAR Borovoye Array 66.43 338 P P 23 17 56.6 -0.8
comp=Z,3.3nm,0.6s,baz=145,slow=8.9,SNR=25
comp=Z,3.3nm,0.6s
BRVK Borovoye 66.50 338 P P 23 17 57.2 -0.6
BRVK Borovoye 66.50 338 P P 23 17 57.7 -0.1
BRVK pP **sP 23 18 11.0 +3.9**
ABKAR Abkulak array 68.23 330 P P 23 18 08.9 +0.1
ABKAR Abkulak array 68.23 330 P P 23 18 09.0 +0.2
CCD Concordia, Ant 69.01 175 P P 23 18 17.1 +3.3
GURO Guroymak-BITLI 73.64 313 P P 23 18 42.5 +0.4
ARTI Arti 73.64 335 P P 23 18 41.3 -0.3
MARD Mardin 74.08 312 P P 23 18 44.6 -0.2
MARD IAmb IAmb 23 18 52.2
comp=Z,4.1nm,0.6s
PEA0B Petropavlovsk- 74.51 30 P P 23 18 44.5 -2.2
PETK Petropavlovsk- 74.51 30 P P 23 18 44.4 -2.3
comp=Z,4.5nm,0.6s,baz=153,slow=2.8,SNR=9.5
comp=Z,4.5nm,0.6s
SYO Syowa Base 74.92 200||*e*P **P 23 18 49.2 +0.4**
PET Petropavlovsk 74.94 30 P P 23 18 47.4 -1.8
KBZ Khabaz 75.14 319 P P 23 18 50.7 +0.2
comp=Z,2.4nm,0.8s,baz=140,slow=5.6,SNR=5.7
comp=Z,2.4nm,0.8s
NRIK Noril'sk 76.97 354 P P 23 18 59.5 -0.9
NRIK IAmb IAmb 23 19 00.9
comp=Z,7.3nm,1.1s
NRIK Noril'sk 76.97 354 P P 23 18 58.8 -1.6
comp=Z,2.4nm,0.3s,baz=158,slow=5.9,SNR=14
comp=Z,2.4nm,0.3s
BOSA Boshof 77.65 242 P P 23 19 08.6 +3.2
comp=Z,2.8nm,0.6s,baz=107,slow=5.6,SNR=5.4
comp=Z,2.8nm,0.6s
TIXI Tiksi 79.93 8 P P 23 19 14.7 -2.0
TIXI IAmb IAmb 23 20 41.3
comp=Z,13nm,1.1s
BR131 Keskin Array S 80.17 312 P P 23 19 17.9 -1.0
BRTR Keskin Array B 80.17 312 P P 23 19 19.3 +0.4
BRTR Keskin Array B 80.17 312 P P 23 19 19.9 +1.0
comp=Z,1.0nm,0.6s,baz=139,slow=6.6,SNR=6.5
comp=Z,1.0nm,0.6s
SUR Sutherland 81.37 238 LR LR 23 48 35.0
comp=Z,46nm,20.6s,baz=106,slow=30
TSUM Tsumeb 85.23 251 LR LR 23 52 20.8
comp=Z,41nm,20.1s,baz=147,slow=32
BUR08 Bucovina Ar. S 88.11 318 P P 23 20 00.6 +1.5
BUR08 IAmb IAmb 23 22 57.2
comp=Z,13nm,1.8s
FIA1 FINESS Array S 90.65 332 P P 23 20 12.2 +1.7
FINES FINESS Array B 90.65 332 P P 23 20 11.6 +1.0
FINES FINESS Array B 90.65 332 P P 23 20 11.2 +0.7
comp=Z,1.3nm,0.6s,baz=95,slow=6.7,SNR=10
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 92.67 340 P P 23 20 19.5 -0.3
comp=Z,3.8nm,0.9s,baz=92,slow=6.1,SNR=6.4
comp=Z,3.8nm,0.9s
SPITS Spitsbergen Ar 96.36 348 P P 23 20 35.9 -0.6
comp=Z,4.0nm,0.7s,baz=116,slow=11,SNR=11
comp=Z,4.0nm,0.7s
SCHQ Schefferville 131.70 354 PKP **PKPdf 23 26 21.3 +0.1**
comp=Z,2.9nm,1.0s,baz=36,slow=16,SNR=1.6
PDAR Pinedale Array 133.10 35 PKP **PKPdf 23 26 23.3 -1.2**
comp=Z,0.1nm,0.3s,baz=67,slow=31,SNR=3.5
ULM Lac du Bonnet 133.40 18 PKP **PKPdf 23 26 23.9 -0.6**
comp=Z,1.4nm,1.0s,baz=354,slow=8.3,SNR=3.2
TXAR Lajitas Array 145.03 47 PKP **PKPab 23 26 46.0 +0.2**
comp=Z,6.9nm,0.7s,baz=278,slow=1.1,SNR=74
BDFB Brasilia 145.06 230 PKPbc **PKPdf 23 26 48.1 +1.3**
comp=Z,1.4nm,0.4s,baz=176,slow=9.4,SNR=5.8

---

*IDC **01** 23:10:48.0±6.2, 6.°62S×105.°09E, h68km±48km, mb3.5/6, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=56.7km s-min=24.6km az=57.0*

ISC 01 23:10:45.4±1.3, 6.°7S±0.°2×104.°9E±0.°1, h49km, n20, σ0§80/9, mb3.8/6, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.67**	**93**	P	**Pn**	**23 11 26.5**	**+0.5**
	17nm,0.3s,baz=146,slow=22,SNR=3.4						
LEM				S	**Sn**	**23 11 57.5**	**+0.2**
	27nm,0.4s,baz=351,slow=23,SNR=1.7						
	33nm,0.4s						
H01W3	**Cape Leeuwin H**	**29.29**	**164**	T	T	23 47 21.2	
	baz=344						
H01W2	**Cape Leeuwin H**	**29.30**	**164**	T	T	23 47 20.6	
	baz=344						
H01W1	**Cape Leeuwin H**	**29.30**	**164**	T	T	23 47 17.9	
	baz=344						
WRA	**Warramunga Arr**	**31.42**	**118**	P	**P**	**23 17 00.9**	**-1.3**
	0.3nm,0.4s,baz=289,slow=12,SNR=2.1						
	0.3nm,0.4s						
H08S2	**Diego Garcia H**	**32.20**	**266**	T	T	23 51 26.1	
	baz=91,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**32.20**	**266**	T	T	23 51 28.8	
	baz=91,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**32.21**	**266**	T	T	23 51 29.3	
	baz=91,slow=76,SNR=27						
STKA	**Stephens Creek**	**42.36**	**131**	P	**P**	**23 18 35.7**	**+0.7**
	2.0nm,0.5s,baz=295,slow=8.9,SNR=3.6						
	2.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**56.26**	**23**	P	**P**	**23 20 20.3**	**-0.4**
	1.6nm,0.6s,baz=204,slow=7.0,SNR=4.1						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**56.95**	**342**	P	**P**	**23 20 25.8**	**+0.1**
	0.2nm,0.4s,baz=164,slow=6.9,SNR=4.7						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.15**	**220**	T	T	00 26 27.9	
	baz=65,slow=75,SNR=75						
H04N1	**CROZET ISLANDS**	**60.16**	**220**	T	T	00 26 28.2	
	baz=65,slow=75,SNR=93						
H04N3	**CROZET ISLANDS**	**60.17**	**220**	T	T	00 26 25.5	
	baz=65,slow=75,SNR=78						
H04S1	**CROZET ISLANDS**	**60.36**	**219**	T	T	00 26 41.4	
	baz=64,slow=76,SNR=9.3						
H04S3	**CROZET ISLANDS**	**60.37**	**219**	T	T	00 26 40.5	
	baz=64,slow=76,SNR=16						
H04S2	**CROZET ISLANDS**	**60.37**	**219**	T	T	00 26 41.9	
	baz=64,slow=76,SNR=18						
KLR	**Kul'dur**	**60.44**	**20**	P	**P**	**23 20 49.0**	**-0.8**
	0.6nm,0.5s,baz=195,slow=12,SNR=1.6						
	0.6nm,0.5s						
BVAR	**Borovoye Array**	**66.32**	**338**	P	**P**	**23 21 29.3**	**+0.6**
	0.4nm,0.6s,baz=152,slow=6.4,SNR=2.4						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**144.89**	**47**	PKP	**PKPdf**	**23 30 18.2**	**+0.3**
	0.4nm,0.5s,baz=324,slow=2.5,SNR=6.7						

---

*TEH **01** 23:13:09.6, 34.°63N×46.°27E, h10km±76km*
*ISN **01** 23:13:09.1±0.4, 34.°63N×46.°27E, h7km±5km, ML2.6*

ISC 01 23:13:09.4±1.1, 34.°64N±0.°05×46.°27E±0.°05, h14km±11km, n9, σ0§61/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.12**	**58**	Pg	**Pg**	**23 13 12.9**	**-0.1**
IDHR				Sg	**Sg**	**23 13 15.4**	**0.0**
IGHG	**Ghaleghazi**	**0.40**	**141**	Pg	**Pb**	**23 13 18.2**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.58**	**257**	Pg	**Pb**	**23 13 21.2**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.60**	**210**	Pg	**Pg**	**23 13 21.2**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pg**	**23 13 23.5**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.01**	**183**	Pg	**Pb**	**23 13 29.0**	**+0.2**
IBDR	**Badra**	**1.55**	**191**	*e*Pn	**Pg**	**23 13 38.6**	**-0.6**
IBDR				*e*Sn	**Sg**	**23 14 00.5**	**+1.2**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pb**	**23 13 42.0**	**+0.6**
IKRK				*e*Sn	**Sg**	**23 14 05.6**	**-0.3**
BHD	**Baghdad**	**2.08**	**230**	*e*Pn	**Pb**	**23 13 46.0**	**-0.9**
BHD				*e*Sn	**Sb**	**23 14 13.0**	**+0.4**

---

*IDC **01** 23:31:57.3±1.5, 5.°32S×131.°15E, h0km, mb3.7/3, mbtmp3.8/5, ML4.2/2, Error ellipse: s-maj=88.5km s-min=22.9km az=69.0*

ISC 01 23:32:09.8±1.3, 5.°7S±0.°1×130.°5E±0.°2, h100km, n13, σ1§68/13, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**7.09**	**175**	P	**Pn**	**23 33 54.0**	**+3.1**
MTN	**Manton Dam**	**7.09**	**175**	S	**Sn**	**23 35 08.6**	**-1.4**
KDU	**Kakadu**	**7.18**	**164**	P	**Pn**	**23 33 55.2**	**+3.0**
WRA	**Warramunga Arr**	**14.61**	**165**	Pn	**Pn**	**23 35 30.9**	**-0.8**
	0.9nm,0.3s,baz=348,slow=11,SNR=32						
WRA				Sn	Sn	23 37 56.6	-16
	0.4nm,0.3s,baz=3.0,slow=22,SNR=6.4						
	0.8nm,0.3s						
COEN	**Coen**	**14.94**	**124**	P	**P**	**23 35 38.4**	**-0.7**
QIS	**Mount Isa**	**17.20**	**150**	P	**P**	**23 36 05.1**	**+1.1**
ASAR	**Alice Springs**	**18.12**	**170**	P	**Pn**	**23 36 14.9**	**-0.2**
	0.9nm,0.3s,baz=351,slow=9.8,SNR=49						
ASAR				S	S	23 39 23.4	-13
	0.2nm,0.3s,baz=357,slow=25,SNR=2.3						
	2.7nm,0.4s						
AS01	**Alice Springs**	**18.13**	**170**	P	**Pn**	**23 36 14.9**	**-0.3**
WRKA	**Warakurna**	**19.30**	**186**	P	**Pn**	**23 36 27.5**	**-1.5**
OOD	**Oodnadatta**	**22.49**	**168**	P	**P**	**23 37 00.3**	**-0.7**
STKA	**Stephens Creek**	**28.01**	**160**	P	**P**	**23 37 50.4**	**-1.1**
	0.7nm,0.4s,baz=324,slow=14,SNR=3.2						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**67.44**	**326**	P	**P**	**23 42 55.7**	**+0.9**
	0.5nm,0.5s,baz=118,slow=6.7,SNR=17						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**71.69**	**328**	P	**P**	**23 43 20.1**	**-0.7**
	0.2nm,0.5s,baz=119,slow=5.4,SNR=1.7						
	0.2nm,0.5s						

---

*MOS **01** 23:48:11.1±0.8, 23.°59S×176.°90W, h80km, mb5.6/33, Error ellipse: s-maj=8.1km s-min=7.8km az=101.9*
*BJI **01** 23:48:12.6, 23.°18S×176.°39W, h98km, mB5.5/27, mb5.4/68*
*IDC **01** 23:48:13.7±0.5, 23.°64S×176.°89W, h92km±4km, mb5.0/28, mbtmp5.3/30, MS4.0/34, Error ellipse: s-maj=11.3km s-min=10.4km az=136.0*
*NEIC **01** 23:48:13.6±1.7, 23.°71S±0.°07×176.°86W±0.°09, h91km±4km, mb5.3/426, Error ellipse: s-maj=11.6km s-min=9.4km az=100.0*
*BGR **01** 23:48:16.8, 23.°60S×178.°56W, h111km±2km*
*NOU **01** 23:48:17.5, 23.°80S×176.°58W, h139km, mb5.6/111, South of Fiji Islands*
*GCMT **01** 23:48:17.6±0.1, 23.°74S±0.°01×176.°55W±0.°01, h113km±1km, MW5.3/135, Moment Tensor Solution. s105,c163; s135,c227; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.02; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$0.39±.02; $M_{r\theta}$-0.45±.01; $M_{\theta\phi}$0.08±.02; $M_{\phi r}$-0.90±.01; Best double couple: $M_0$1.06800×10^{17} NP1:ϕ_s165.00000°, δ12.00000°, λ-130.00000°. NP2:ϕ_s26.00000°, δ81.00000°, λ-82.00000°. Principal axes: T 1.1020, Plg35.0000°, Azm109.0000°; N -0.0660, Plg8.0000°, Azm205.0000°; P -1.0350, Plg54.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 23:48:13.6±0.3, 23.°77S±0.°03×176.°75W±0.°04, h98km±2km, h98km:pP-P, n1448, σ1§37/1427, mb5.3/322, 88C-74D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.55**	**191**	P	**Pn**	**23 49 33.5**	**-0.4**
RIZ				S	**Sn**	**23 50 38.3**	**+2.0**
RAO	**Raoul Island**	**5.56**	**191**	Pn	**Pn**	**23 49 36.4**	**+2.5**
RAO				Sn	**Sn**	**23 50 39.8**	**+3.3**
RAO	**Raoul Island**	**5.56**	**191**	P	**Pn**	**23 49 35.1**	**+1.2**
	639nm,0.2s,baz=60,slow=9.8,SNR=9.5						
RAO				S	**Sn**	**23 50 36.3**	**-0.2**
	2μm,0.4s,baz=272,slow=23,SNR=12						
RAO				LR	LR	23 51 06.6	
	comp=Z,770nm,18.1s,baz=328,slow=30						
RAO	**Raoul Island**	**5.56**	**191**	P	Pn	23 49 38.4	+4.5
RAO	**Raoul Island**	**5.56**	**191**	S	**Sn**	**23 50 40.6**	**+4.2**
RAO	**Raoul Island**	**5.56**	**191**	P	**Pn**	**23 49 36.4**	**+2.5**
RAO						23 50 39.8	
RAO	**Raoul Island**	**5.56**	**191**	P	**Pn**	**23 49 33.6**	**-0.3**
RAO				S	**Sn**	**23 50 37.0**	**+0.6**
GLKZ	**Green Lake**	**5.57**	**191**	P	**Pn**	**23 49 35.5**	**+1.5**
GLKZ				S	**Sn**	**23 50 38.6**	**+2.0**
LKBA	**Tubou, Lakemba**	**5.83**	**340**	P	**Pn**	**23 49 40.8**	**+3.1**
MSVF	**Nonsavu**	**7.73**	**320**	Pn	**Pn**	**23 50 06.1**	**+2.6**
MSVF	**Nonsavu**	**7.73**	**320**	P	Pn	23 50 07.9	+4.4
	488nm,0.7s,baz=149,slow=13,SNR=305						
MSVF				S	**Sn**	**23 51 34.1**	**+4.6**
	537nm,0.9s,baz=13,slow=17,SNR=13						
MSVF				LR	LR	23 51 57.8	
	comp=Z,660nm,19.0s,baz=131,slow=30						
MSVF	**Nonsavu**	**7.73**	**320**	P	Pn	23 50 07.8	+4.3
MSVF	**Nonsavu**	**7.73**	**320**	P	**Pn**	**23 50 06.1**	**+2.6**
NIUE	**Niue**	**7.89**	**55**	Pn	**Pn**	**23 50 01.7**	**-3.9**
NIUE	**Niue**	**7.89**	**55**	P	**Pn**	**23 50 01.5**	**-4.1**
	comp=Z,1μm,0.8s						
NIUE				S	Sn	23 51 18.6	-15
NIUE	**Niue**	**7.89**	**55**	P	Pn	23 50 01.4	-4.3
DGTI	**Dogotuki**	**8.13**	**335**	P	Pn	23 50 12.6	+3.6
FUTU	**Fugatoga**	**9.50**	**352**		**Pn**	**23 50 28.3**	**+0.7**
FUTU	**Fugatoga**	**9.50**	**352**	P	Pn	23 50 32.0	+4.4
AFI	**Afiamalu**	**10.88**	**27**	P	Pn	23 50 40.3	-6.1
OUZ	**Omahuta**	**14.16**	**214**	P	**P**	**23 51 33.1**	**-1.0**
MARNC	**Mare, Loyalty**	**14.23**	**276**	P	**P**	**23 51 36.9**	**+1.8**
MXZ	**Matakaoa Point**	**14.39**	**196**		**Pn**	**23 51 35.0**	**+2.5**
NFK	**Norfolk Island**	**14.68**	**246**	P	**P**	**23 51 41.3**	**+1.3**
	comp=Z,498nm,1.1s						
NFK	**Norfolk Island**	**14.68**	**246**	P	**P**	**23 51 42.4**	**+2.4**
PUZ	**Puketiti**	**14.88**	**196**	P	**Pn**	**23 51 36.1**	**-2.8**
PUZ				S	Sn	23 54 06.8	-16
OUENC	**Ouen Island, N**	**15.16**	**272**	P	**P**	**23 51 47.7**	**+2.4**
YATNC	**Mamie plateau,**	**15.17**	**273**	P	**P**	**23 51 48.6**	**+3.2**
DVP	**Devils Point**	**15.31**	**290**	P	**P**	**23 51 50.6**	**+3.6**
MWZ	**Matawai**	**15.32**	**197**	P	Pn	23 51 31.2	-13
MWZ				S	Sn	23 54 18.5	-15
URZ	**Urewera**	**15.37**	**199**	P	**Pn**	**23 51 44.6**	**-0.4**
	comp=Z,15nm,0.3s,baz=39,slow=3.1,SNR=20						
URZ				S	Sn	23 54 22.2	-12
	comp=Z,24nm,0.4s,baz=256,slow=20,SNR=6.5						
TOZ	**Tahuroa Road**	**15.42**	**204**	P	**P**	**23 51 47.5**	**-0.6**
TOZ	**Tahuroa Road**	**15.42**	**204**	P	**P**	**23 51 47.7**	**-0.3**
ONTNC	**Ouen Toro**	**15.53**	**272**	P	**P**	**23 51 53.1**	**+3.7**
ONTNC	**Ouen Toro**	**15.53**	**272**	P	**P**	**23 51 52.3**	**+2.9**
DZM	**Mont Dzumac**	**15.57**	**273**	P	**P**	**23 51 52.5**	**+2.4**
DZM				IAmb	IAmb	23 51 57.1	
	comp=Z,402nm,0.9s						
DZM	**Mont Dzumac**	**15.57**	**273**	*e*Pn	**P**	**23 51 53.2**	**+3.1**
	comp=Z,1μm,1.1s						
DZM				*e*S	**Sn**	**23 54 42.7**	**+2.6**
	comp=Z,871nm,23.9s						
DZM				*e*LR	LR	23 55 34.6	
	comp=Z,2μm,30.6s						
DZM	**Mont Dzumac**	**15.57**	**273**	P	**P**	**23 51 52.4**	**+2.4**
	comp=Z,316nm,0.8s,baz=93,slow=18,SNR=44						

DZM Mont Dzumac 15.57 273 P P 23 51 52.7 +2.6
RTZ Ruatahuna 15.73 198 Pn **Pn 23 51 50.5 +0.8**
RTZ Ruatahuna 15.73 198 P Pn 23 51 36.0 -14
RAR Rarotonga 15.90 84 Pn 23 51 51.9 +0.1
RAR IAmb IAmb 23 52 00.6
comp=Z,236nm,0.9s
RAR Rarotonga 15.90 84 P **Pn 23 51 48.6 -3.2**
comp=Z,95nm,0.4s,baz=234,slow=8.5,SNR=18
RAR S Sn 23 54 30.5 -17
comp=Z,138nm,0.4s,baz=101,slow=13,SNR=6.6
RAR LR LR 23 57 04.5
comp=Z,947nm,21.9s,baz=280,slow=33
RAR Rarotonga 15.90 84 P **Pn 23 51 50.2 -1.6**
RAR Rarotonga 15.90 84 P **Pn 23 51 51.9 +0.1**
RAR pmax pmax
comp=Z,236nm,1.0s
RAR Rarotonga 15.90 84 P **Pn 23 51 51.8 +0.1**
TLZ Tolley Road 15.94 203 P **P 23 51 55.6 +1.7**
MTHZ Maungataniwha 15.99 198 P **Pn 23 51 47.9 -5.0**
MTHZ S Sn 23 54 33.0 -17
NMHZ Naumai 16.23 198 P **Pn 23 51 53.1 -2.8**
NMHZ S Sn 23 54 40.9 -15
HIZ Hauiti 16.34 204 Pn 23 51 58.2 +1.0
HIZ Hauiti 16.34 204 P **Pn 23 51 57.9 +0.7**
BKZ Black Stump Fm 16.39 199 Pn **Pn 23 51 56.7 -1.1**
BKZ Black Stump Fm 16.39 199 P Pn 23 51 44.8 -13
BKZ S Sn 23 54 44.9 -14
NTVZ North Tongarir 16.58 201 P Pn 23 51 47.7 -13
NTVZ S **Sn 23 54 55.5 -8.7**
MCHZ McNeill Hill 16.58 198 P **Pn 23 51 58.8 -1.4**
MCHZ S Sn 23 54 46.2 -18
TMVZ Te Maari 16.59 201 P Pn 23 51 47.5 -13
TMVZ S Sn 23 54 50.0 -14
ETVZ East Tongariro 16.60 201 P Pn 23 51 48.1 -12
WTVZ West Tongariro 16.62 201 P **Pn 23 52 00.4 -0.3**
TWVZ Taurewa 16.63 202 P **Pn 23 52 01.0 +0.1**
OTVZ Oturere 16.64 201 P Pn 23 51 46.8 -14
OTVZ S **Sn 23 54 57.9 -7.8**
SNVZ South Ngauruho 16.67 201 P Pn 23 51 48.9 -13
NGZ Ngauruhoe 16.67 201 P **Pn 23 51 57.7 -3.7**
WNVZ Wahianoa 16.81 201 P **Pn 23 52 01.0 -2.1**
WNVZ S Sn 23 54 55.8 -14
KAHZ Kahuranaki 16.86 197 P Pn 23 51 49.6 -14
PKVZ Pokaka 16.86 202 P **Pn 23 52 03.5 -0.1**
KRHZ Kereru 16.86 199 P Pn 23 51 50.3 -13
KRHZ S Sn 23 54 54.5 -16
PXZ Pawanui 17.09 197 P **Pn 23 52 05.5 -0.8**
PXZ S Sn 23 54 57.6 -18
KOUNC Koumac, New Ca 17.85 277 P **Pn 23 52 18.6 +2.9**
BFZ Birch Farm 17.86 198 P 23 52 13.6 -1.4
MRZ Mangatainoka R 18.03 199 P 23 52 14.8 -2.1
MRZ Mangatainoka R 18.03 199 P P 23 52 03.7 -13
MRZ S S 23 55 15.5 -23
MSWZ Moikau Station 18.82 199 P **P 23 52 23.2 -2.4**
SNZO South Karori 18.90 200 P **P 23 52 24.0 -2.4**
BHW Baring Head 18.93 200 P **P 23 52 25.1 -1.6**
TCW Tory Channel 18.95 201 P **P 23 52 23.2 -3.7**
PLWZ Palliser 18.96 199 P **P 23 52 24.8 -2.4**
QRZ Quartz Range 19.24 205 P **P 23 52 30.6 +0.4**
QRZ Quartz Range 19.24 205 P **Pn 23 52 31.8 -0.3**
QRZ Quartz Range 19.24 205 P P 23 52 16.5 -14
QRZ S S 23 55 51.0 -12
TUWZ Tuamarina 19.25 202 P **P 23 52 28.3 -2.0**
TKNZ Takaka Hill 19.25 204 P **P 23 52 30.6 +0.3**
NNZ Nelson 19.26 203 P **P 23 52 27.8 -2.6**
BSWZ Blackbirch Sta 19.53 201 P **P 23 52 31.9 -1.4**
MRNZ Matariki Terra 19.65 204 P **P 23 52 34.3 -0.3**
THZ Tophouse 19.91 203 P 23 52 35.2 -2.3
CTZ Chatham Island 19.92 180 P **Pn 23 52 41.4 +1.5**
CTZ Chatham Island 19.92 180 P **Pn 23 52 42.9 +2.9**
CTZ S S 23 56 06.0 -10
KHZ Kahutara 20.27 201 P **P 23 52 39.5 -1.7**
DSZ Denniston Nort 20.31 205 P **P 23 52 42.8 +1.0**
GVZ Greta Valley S 20.93 201 P **P 23 52 46.5 -1.9**
LTZ Lake Taylor 21.03 203 P **P 23 52 49.3 -0.2**
AMCZ Amberley 21.24 202 P **P 23 52 52.2 +0.5**
INZ Inchbonnie 21.29 205 P **P 23 52 51.8 -0.3**
INZ IAmb IAmb 23 52 59.6
comp=Z,121nm,1.2s
OXZ Oxford 21.59 203 P **P 23 52 54.8 -0.6**
MQZ McQueen's Vall 21.71 201 P **P 23 52 56.8 +0.1**
RPZ Rata Peaks 22.28 204 P **P 23 53 01.8 -0.9**
RPZ Rata Peaks 22.28 204 P **P 23 53 04.6 +1.8**
FOZ Fox Glacier 22.61 206 P **P 23 53 05.0 -1.1**
FOZ IAmb IAmb 23 53 08.1
comp=Z,142nm,1.2s
LHI Lord Howe Isla 22.74 245 P **P 23 53 08.0 +0.4**
LBZ Lake Benmore 23.18 204 P **P 23 53 09.0 -2.8**
JCZ Jackson Bay 23.47 207 P **P 23 53 13.8 -0.7**
ODZ Otahua Downs 23.58 203 P **P 23 53 14.6 -0.8**
ODZ Otahua Downs 23.58 203 P **P 23 53 15.6 +0.3**
WKZ Wanaka 24.00 205 P **P 23 53 16.6 -2.6**
WKZ IAmb IAmb 23 53 18.6
comp=Z,76nm,1.2s
MLZ Mavora Lakes 24.80 206 P **P 23 53 25.7 -0.8**
TBI Tubuai 25.01 95 *e*P **P 23 53 26.1 -2.4**
comp=Z,631nm,25.5s
TBI *e*S S 23 57 35.7 -10
comp=Z,2µm,30.0s
TBI *e*LR LR 23 59 15.9
comp=Z,1µm,38.2s
TBI *e*LR LR 23 59 32.4
comp=Z,8µm,35.2s
DCZ Deep Cove 25.28 207 P **P 23 53 29.7 -1.1**
WHZ Wether Hill Ro 25.31 206 P **P 23 53 30.1 -0.9**
WHZ IAmb IAmb 23 53 32.2
comp=Z,52nm,0.8s
PPT2 Papeete2 26.13 82 *e*P P 23 53 32.6 -6.3
comp=Z,85nm,21.8s
PPT2 *e*S **S 23 57 56.1 -7.4**
comp=Z,203nm,26.2s
PPT2 *e*LR LR 23 59 58.1
comp=Z,2µm,32.8s
PPT2 *e*LR LR 23 59 58.9
comp=Z,1µm,35.2s
PPT Papeete 26.14 81 P **P 23 53 39.6 +0.7**
comp=Z,50nm,0.9s,baz=78,slow=16,SNR=2.9
PPT LR LR 00 01 36.2
comp=Z,598nm,21.1s,baz=253,slow=31
comp=Z,50nm,0.9s
PPTF Pamatai, Papee 26.14 82 P **P 23 53 39.6 +0.7**
PPTF IAmb IAmb 23 53 42.0
comp=Z,165nm,1.5s
HNR Honiara 26.43 299 P **P 23 53 40.6 -0.9**
HNR Honiara 26.43 299 LR LR 00 02 27.7
comp=Z,429nm,20.8s,baz=140,slow=32
HNR Honiara 26.43 299 P **P 23 53 42.6 +1.2**
HNR Honiara 26.43 299 P **P 23 53 40.6 -0.9**
HNR pmax pmax
comp=Z,207nm,0.8s
ARMA Armidale 28.85 250 P **P 23 54 04.3 +1.1**
ARMA IAmb IAmb 23 54 06.3
comp=Z,50nm,0.8s
ARMA Armidale 28.85 250 P **P 23 54 04.2 +1.1**
comp=Z,65nm,0.7s
ARMA Armidale 28.85 250 P **P 23 54 05.0 +1.9**
NTLH Newcastle Hard 29.13 245 P **P 23 54 07.6 +2.3**
EIDS Eidsvold 29.26 260 P **P 23 54 07.0 +0.4**
EIDS IAmb IAmb 23 54 08.5
comp=Z,57nm,0.7s
EIDS Eidsvold 29.26 260 P **P 23 54 07.6 +1.0**
comp=Z,97nm,1.0s
EIDS Eidsvold 29.26 260 P **P 23 54 07.8 +1.2**
AUPHS Peel High Scho 29.56 249 P **P 23 54 11.2 +2.0**
MGCD Mangrove Creek 29.67 244 P **P 23 54 12.0 +1.8**
comp=Z,213nm,0.6s
MGCD Mangrove Creek 29.67 244 P **P 23 54 12.6 +2.4**
SYDH Sydney Hard Ro 30.07 243 P **P 23 54 15.7 +2.0**
WOLH Wollongong Har 30.09 242 P **P 23 54 16.0 +2.1**
CNB Canberra Magne 31.50 241 P **P 23 54 27.8 +1.4**
comp=Z,98nm,0.8s
CNB Canberra Magne 31.50 241 P **P 23 54 28.3 +1.9**
CAN Canberra 31.79 241 P **P 23 54 29.8 +0.9**
CAN IAmb IAmb 23 54 31.6
comp=Z,47nm,0.7s
CAN Canberra 31.79 241 P **P 23 54 29.5 +0.6**
comp=Z,68nm,0.6s
CAN Canberra 31.79 241 P **P 23 54 30.9 +2.0**
CAN Canberra 31.79 241 P **P 23 54 29.8 +0.9**
CAN pmax pmax
comp=Z,47nm,0.7s
CAN Canberra 31.79 241 P **P 23 54 30.6 +1.7**
CAN PcP **PcP 23 57 19.4 +1.5**

AULRC Lightning Ridg 31.95 252 P **P 23 54 32.3 +2.0**
MILA Mila 32.06 238 P **P 23 54 32.0 +0.7**
comp=Z,42nm,1.1s
YNG Young 32.09 243 P **P 23 54 32.9 +1.5**
comp=Z,613nm,0.9s
YNG Young 32.09 243 P **P 23 54 33.0 +1.5**
CMSA Cobar Meteorol 34.03 248 P **P 23 54 48.4 0.0**
comp=Z,130nm,0.7s
CMSA Cobar Meteorol 34.03 248 P **P 23 54 48.6 +0.2**
TV1H Townsville Har 34.15 270 P **P 23 54 50.4 +0.9**
CTA Charters Tower 34.45 269 P **P 23 54 53.2 +1.1**
comp=Z,167nm,0.5s,baz=91,slow=9.4,SNR=38
CTA LR LR 00 06 53.0
comp=Z,282nm,20.7s,baz=46,slow=33
comp=Z,167nm,0.5s
CTA Charters Tower 34.45 269 P **P 23 54 53.2 +1.1**
CTAO Charters Tower 34.45 269 P **P 23 54 53.0 +0.8**
CTAO Charters Tower 34.45 269 P **P 23 54 52.9 +0.8**
CTAO Charters Tower 34.45 269 P **P 23 54 53.0 +0.8**
CTAO pmax pmax
comp=Z,205nm,0.6s
CTAO Charters Tower 34.45 269 P **P 23 54 52.9 +0.8**
CORO Coronation Par 34.84 231 P **P 23 54 57.4 +2.2**
TOO Toolangi 35.02 238 P **P 23 54 57.2 +0.2**
TOO IAmb IAmb 23 54 59.4
comp=Z,26nm,1.2s
TOO Toolangi 35.02 238 P **P 23 54 57.2 +0.2**
comp=Z,18nm,0.8s
TOO Toolangi 35.02 238 P **P 23 54 57.2 +0.2**
TOO pmax pmax
comp=Z,26nm,1.2s
TAU Tasmania Unive 35.22 228 P **P 23 54 58.2 -0.3**
TAU IAmb IAmb 23 55 04.6
comp=Z,58nm,1.4s
TAU Tasmania Unive 35.22 228 P **P 23 54 58.2 -0.3**
TAU pmax pmax
comp=Z,58nm,1.4s
TAU Tasmania Unive 35.22 228 P **P 23 54 58.5 +0.1**
TAU pP **pwP 23 55 22.6 -0.2**
TAU PcP **PcP 23 57 28.6 +1.2**
QLP Quilpie 35.33 257 P **P 23 54 59.2 -0.5**
comp=Z,90nm,1.2s
QLP Quilpie 35.33 257 P **P 23 54 59.3 -0.3**
KRVT Keravat (AS076 35.79 298 LR LR 00 09 09.9
comp=Z,103nm,18.7s,baz=192,slow=35
GEXS Deakin Univers 36.09 237 P **P 23 55 06.8 +0.8**
MTSU Mount Surprise 36.70 271 P **P 23 55 11.8 +0.3**
comp=Z,124nm,0.9s
MTSU Mount Surprise 36.70 271 P **P 23 55 12.4 +0.9**
PMG Port Moresby 37.29 286 P **P 23 55 16.5 +0.1**
comp=Z,365nm,0.7s,baz=88,slow=5.6,SNR=68
PMG PcP **PcP 23 57 32.0 -2.0**
comp=Z,47nm,0.9s,baz=56,slow=5.4,SNR=3.7
PMG LR LR 00 08 22.8
comp=Z,360nm,18.4s,baz=106,slow=33
PMG Port Moresby 37.29 286 P **P 23 55 16.5 +0.1**
PMG *PP **PP 23 56 41.6 -1.7**
PMG 23 57 34.6
STKA Stephens Creek 37.53 248 P **P 23 55 18.5 +0.2**
STKA Stephens Creek 37.53 248 P **P 23 55 18.0 -0.3**
comp=Z,16nm,0.7s
STKA Stephens Creek 37.53 248 P **P 23 55 18.4 +0.1**
comp=Z,42nm,0.6s,baz=90,slow=9.8,SNR=71
STKA PcP **PcP 23 57 34.6 +0.1**
comp=Z,19nm,0.6s,baz=90,slow=5.5,SNR=6.0
STKA ScP **ScP 00 01 13.3 +0.3**
comp=Z,10nm,0.9s,baz=343,slow=2.8,SNR=6.4
STKA ScS **ScS 00 05 20.1 -1.7**
comp=Z,0.7nm,0.4s,baz=33,slow=23,SNR=1.6
STKA LR LR 00 09 04.7
comp=Z,220nm,19.7s,baz=69,slow=33
comp=Z,42nm,0.6s
STKA Stephens Creek 37.53 248 P **P 23 55 18.7 +0.4**
STKA Stephens Creek 37.53 248 P **P 23 55 18.5 +0.2**
STKA pmax pmax
comp=Z,11nm,0.7s
ARPS Mount Arapiles 37.76 240 P **P 23 55 19.8 -0.4**
comp=Z,139nm,0.9s
ARPS Mount Arapiles 37.76 240 P **P 23 55 20.4 +0.3**
INKA Innaminka 38.35 255 P **P 23 55 25.9 +0.7**
MGBR Mount Gambier 38.89 239 P **P 23 55 30.7 +1.1**
COEN Coen 39.04 277 P **P 23 55 31.2 0.0**
COEN IAmb IAmb 23 55 34.6
comp=Z,47nm,0.8s
COEN Coen 39.04 277 P **P 23 55 31.6 +0.5**
comp=Z,87nm,1.2s
COEN Coen 39.04 277 P **P 23 55 31.9 +0.8**
AUMBR Murray Bridge 39.63 243 P **P 23 55 35.5 -0.3**
HTT Hallett 39.84 246 P **P 23 55 36.8 -0.8**
comp=Z,173nm,0.7s
HTT Hallett 39.84 246 P **P 23 55 37.5 -0.2**
LCRK Leigh Creek 40.43 250 P **P 23 55 42.5 0.0**
QIS Mount Isa 40.43 266 P **P 23 55 42.2 -0.5**
comp=Z,35nm,0.7s
QIS Mount Isa 40.43 266 P **P 23 55 43.7 +1.0**
MANU Manus Island 40.88 297 P **P 23 55 46.3 -0.1**
MANU IAmb IAmb 23 55 47.9
comp=Z,97nm,1.4s
WHYH Whyalla 40.95 246 P **P 23 55 46.4 -0.4**
BBOO Buckleboo 42.23 247 P **P 23 55 55.6 -1.6**
BBOO IAmb IAmb 23 55 58.9
comp=Z,69nm,0.8s
BBOO Buckleboo 42.23 247 P **P 23 55 55.4 -1.8**
comp=Z,100nm,0.8s
BBOO Buckleboo 42.23 247 P **P 23 55 55.9 -1.3**
OOD Oodnadatta 42.81 254 P **P 23 56 02.3 +0.4**
MMPI Merauke 43.70 283 P **P 23 56 07.4 -1.9**
TABU Tabubil 44.41 288 P **P 23 56 15.9 +0.9**
AS01 Alice Springs 44.94 260 P **P 23 56 18.7 -0.5**
AS31 Alice Springs 44.98 260 P **P 23 56 18.9 -0.6**
AS31 IAmb IAmb 23 56 20.9
comp=Z,14nm,0.5s
AS31 Alice Springs 44.98 260 P **P 23 56 18.7 -0.8**
comp=Z,21nm,1.0s
ASAR Alice Springs 44.98 260 P **P 23 56 18.7 -0.8**
comp=Z,64nm,0.9s,baz=89,slow=7.2,SNR=148
ASAR pP **pP 23 56 41.6 -0.3**
comp=Z,4.0nm,0.4s,baz=102,slow=6.9,SNR=1.6
ASAR PcP **PcP 23 57 58.9 -0.3**
comp=Z,16nm,0.6s,baz=110,slow=4.0,SNR=9.9
ASAR ScP **ScP 00 01 43.2 +0.4**
comp=Z,4.9nm,0.9s,baz=104,slow=4.5,SNR=8.4
ASAR S **S 00 02 46.0 -5.0**
comp=Z,3.2nm,1.1s,baz=103,slow=16,SNR=5.3
ASAR ScS **ScS 00 06 05.2 -2.1**
comp=Z,1.7nm,0.9s,baz=102,slow=6.9,SNR=6.0
ASAR LR LR 00 15 59.8
comp=Z,280nm,18.1s,baz=106,slow=37
comp=Z,64nm,0.9s
WB2 Warramunga Arr 45.37 265 P **P 23 56 21.6 -1.0**
WB2 IAmb IAmb 23 56 23.4
comp=Z,58nm,0.7s
WRAB Tennant Creek 45.37 265 P **P 23 56 22.1 -0.5**
WRAB IAmb IAmb 23 56 23.3
comp=Z,49nm,0.7s
WRAB Tennant Creek 45.37 265 P **P 23 56 22.1 -0.5**
WRAB pmax pmax
comp=Z,49nm,0.7s
WB0 Warramunga Arr 45.37 265 IAmb IAmb 23 56 23.4
comp=Z,69nm,0.8s
WRA Warramunga Arr 45.38 265 P **P 23 56 21.4 -1.3**
comp=Z,46nm,0.6s,baz=103,slow=8.5,SNR=452
WRA PcP **PcP 23 58 00.7 +0.2**
comp=Z,47nm,1.0s,baz=99,slow=3.5,SNR=13
WRA ScP **ScP 00 01 45.2 +0.8**
comp=Z,2.6nm,0.8s,baz=102,slow=4.2,SNR=4.9
WRA S **S 00 02 50.8 -5.9**
comp=Z,5.3nm,1.1s,baz=104,slow=14,SNR=5.2
WRA ScS **ScS 00 06 09.9 0.0**
comp=Z,1.0nm,1.1s,baz=207,slow=17,SNR=2.4
WRA LR LR 00 16 00.3
comp=Z,333nm,19.0s,baz=92,slow=37
comp=Z,46nm,0.6s
WAKE Wake Island 45.75 338 P **P 23 56 24.1 -1.2**
WAKE Wake Island 45.75 338 P **P 23 56 24.1 -1.2**
JAY Jayapura 46.22 291 P **P 23 56 28.4 -1.0**
comp=Z,43nm,0.6s,baz=158,slow=3.2,SNR=16
comp=Z,43nm,0.6s
JAY Jayapura 46.22 291 P **P 23 56 27.4 -1.9**
comp=Z,72nm,0.7s
GENI Genyem 46.65 290 P **P 23 56 30.1 -2.5**
comp=Z,74nm,1.3s
HMH Humu'ula Sheep 47.84 27 P **P 23 56 41.9 -0.1**
KEKH Kekaha 48.41 21 P **P 23 56 45.9 -0.1**
DHH Diamond Head 48.42 24 P **P 23 56 46.4 +0.3**
DHH Diamond Head 48.42 24 P **P 23 56 46.4 +0.3**

KIP Kipapa 48.48 24⇑ *e*P **P 23 56 47.5 +0.9**
KIP pmax pmax
comp=Z,31nm,1.1s
FORT Forrest 49.14 249 P **P 23 56 49.7 -1.9**
comp=Z,242nm,0.6s
FORT Forrest 49.14 249 P **P 23 56 50.7 -0.9**
KDU Kakadu 49.24 274 P **P 23 56 51.1 -1.5**
comp=Z,110nm,0.7s
KDU Kakadu 49.24 274 P **P 23 56 52.0 -0.6**
WRKA Warakurna 49.76 257 P **P 23 56 54.9 -1.6**
comp=Z,91nm,0.6s
WRKA Warakurna 49.76 257 P **P 23 56 55.6 -0.9**
SRPI Serui, Papua 50.40 288 P **P 23 56 59.8 -1.6**
comp=Z,126nm,0.6s
MTN Manton Dam 50.41 273 P **P 23 56 59.9 -1.6**
comp=Z,66nm,0.6s
MTN Manton Dam 50.41 273 P **P 23 57 00.5 -1.0**
DRV Dumont d'Urvil 50.69 201 P **P 23 57 03.9 +1.2**
DRS Darwin Rock St 50.77 273 P **P 23 57 03.3 -0.9**
BAKI Biak 50.85 289 P **P 23 57 03.9 -0.9**
comp=Z,234nm,1.1s
KNRA Kununurra 51.66 268 P **P 23 57 09.7 -1.1**
comp=Z,83nm,1.0s
KMPI Kaimana, Papua 51.78 285 P **P 23 57 10.3 -1.4**
GUMO Guam 52.79 311 LR LR 00 18 05.4
comp=Z,62nm,21.2s,baz=115,slow=34
FAKI Fak Fak 53.41 285 P **P 23 57 22.6 -1.2**
FAKI Fak Fak 53.41 285 P **P 23 57 23.6 -0.1**
FAKI Fak Fak 53.41 285 P **P 23 57 21.8 -1.9**
comp=Z,118nm,1.3s
FITZ Fitzroy Crossi 53.80 264 P **P 23 57 26.0 -0.5**
FITZ IAmb IAmb 23 57 28.4
comp=Z,11nm,0.7s
FITZ Fitzroy Crossi 53.80 264 P **P 23 57 25.8 -0.8**
comp=Z,17nm,0.8s
FITZ Fitzroy Crossi 53.80 264 LR LR 00 21 08.9
comp=Z,234nm,18.8s,baz=100,slow=37
FITZ Fitzroy Crossi 53.80 264 P **P 23 57 26.5 -0.1**
KMBL Kambalda 54.33 248 P **P 23 57 28.0 -2.3**
comp=Z,44nm,1.4s
KMBL Kambalda 54.33 248 P **P 23 57 29.3 -1.0**
VNDA Vanda 54.78 186 P **P 23 57 35.3 +2.5**
VNDA IAmb IAmb 23 57 45.9
comp=Z,52nm,1.5s
VNDA Vanda 54.78 186 P **P 23 57 35.2 +2.4**
comp=Z,2.3nm,0.6s,baz=75,slow=11,SNR=0.9
VNDA LR LR 00 17 10.1
comp=Z,58nm,21.1s,baz=12,slow=32
comp=Z,2.3nm,0.6s
VNDA Vanda 54.78 186 P **P 23 57 35.3 +2.5**
VNDA pmax pmax
comp=Z,52nm,1.5s
BNDI Bandanaira 54.78 282 P **P 23 57 34.3 +0.6**
BNDI Bandanaira 54.78 282 P **P 23 57 32.5 -1.2**
SWI Sorong 55.24 286 P **P 23 57 35.4 -1.6**
MSAI Masohi 56.17 283 P **P 23 57 41.8 -1.9**
AAI Ambon 56.68 282 P **P 23 57 45.7 -1.6**
KLBR Kellerberrin 57.77 247 P **P 23 57 53.2 -1.6**
comp=Z,302nm,0.7s
KLBR Kellerberrin 57.77 247 P **P 23 57 53.7 -1.1**
SOEI Soe 57.80 273 P **P 23 57 55.6 +0.3**
SOEI Soe 57.80 273 P **P 23 57 56.2 +0.9**
SOEI Soe 57.80 273 P **P 23 57 55.4 +0.1**
comp=Z,2µmcomp=Z,251nm,0.8s
SOEI pP **P 23 57 59.5 +4.2**
comp=Z,2µmcomp=Z,251nm,0.8s
NLAI Namlea 57.85 282 P **P 23 57 54.7 -0.9**
comp=Z,2µmcomp=Z,165nm,0.6s
RKGY Rocky Gully 57.95 243 P **P 23 57 53.0 -2.9**
comp=Z,58nm,0.8s
NWAO Narrogin (SRO) 57.99 245 P **P 23 57 54.4 -1.9**
NWAO IAmb IAmb 23 57 56.5
comp=Z,29nm,1.0s
NWAO Narrogin (SRO) 57.99 245 P **P 23 57 53.8 -2.5**
comp=Z,123nm,1.3s
NWAO Narrogin (SRO) 57.99 245 LR LR 00 20 02.5
comp=Z,125nm,20.5s,baz=199,slow=33
NWAO Narrogin (SRO) 57.99 245 P **P 23 57 55.7 -0.6**
NWAO Narrogin (SRO) 57.99 245 P **P 23 57 54.4 -1.9**
NWAO pmax pmax
comp=Z,29nm,1.0s
NWAO Narrogin (SRO) 57.99 245 P **P 23 57 54.9 -1.4**
MEEK Meekatharra 57.99 253 P **P 23 57 54.2 -2.2**
comp=Z,23nm,0.7s
MEEK Meekatharra 57.99 253 P **P 23 57 56.0 -0.4**
PSA00 Pilbara Seismi 58.11 259 P **P 23 57 55.1 -2.1**
PSA00 IAmb IAmb 23 57 59.3
comp=Z,26nm,1.1s
PSA00 Pilbara Seismi 58.11 259 P **P 23 57 55.2 -2.0**
comp=Z,27nm,1.1s
BLDU Ballidu 58.83 248 P **P 23 58 00.5 -1.7**
BLDU Ballidu 58.83 248 P **P 23 58 00.8 -1.4**
MUN Mundaring 59.00 246 P **P 23 58 01.9 -1.5**
comp=Z,53nm,1.0s
MUN Mundaring 59.00 246 P **P 23 58 02.4 -1.0**
SANI Sanana 59.37 282 P **P 23 58 04.9 -1.2**
SANI Sanana 59.37 282 P **P 23 58 03.8 -2.3**
comp=Z,2µmcomp=Z,198nm,0.7s
TNTI Ternate 59.44 286 P **P 23 58 04.0 -2.6**
TNTI Ternate 59.44 286 P **P 23 58 06.8 +0.3**
TNTI Ternate 59.44 286 P **P 23 58 05.2 -1.3**
comp=Z,94nm,1.2s
CCD Concordia, Ant 59.61 195 P **P 23 58 09.1 +1.8**
CCD pP **sP 23 58 35.6 -6.1**
CCD PcP **PcP 23 58 55.0 +1.5**
MORW Morawa 59.70 249 P **P 23 58 06.5 -1.7**
MORW IAmb IAmb 23 58 07.8
comp=Z,30nm,0.6s
MORW Morawa 59.70 249 P **P 23 58 06.5 -1.7**
comp=Z,45nm,0.7s
MORW Morawa 59.70 249 P **P 23 58 07.2 -1.0**
MMRI Maumere 60.08 274 P **P 23 58 09.0 -2.0**
MMRI Maumere 60.08 274 P **P 23 58 10.4 -0.5**
MMRI Maumere 60.08 274 P **P 23 58 09.3 -1.6**
comp=Z,3µmcomp=Z,128nm,0.7s
VA02 Isla de Pascua 60.22 109 P **P 23 58 13.7 +2.0**
RPN Rapa Nui 60.31 109 P **P 23 58 12.8 +0.4**
RPN Rapa Nui 60.31 109 LR LR 00 18 20.5
comp=Z,63nm,21.2s,baz=274,slow=30
RPN Rapa Nui 60.31 109 P **P 23 58 12.8 +0.4**
RPN pmax pmax
comp=Z,96nm,1.2s
RPN Rapa Nui 60.31 109 P **P 23 58 14.2 +1.9**
BBSI Bau Bau 61.01 277 P **P 23 58 16.6 -0.7**
comp=Z,2µmcomp=Z,122nm,1.0s
BASI Baing, Sumba 61.01 271 P **P 23 58 16.7 -0.6**
comp=Z,228nm,0.7s
WSI Waingapu 61.47 272 P **P 23 58 19.2 -1.2**
CASY Casey 61.53 206 P **P 23 58 19.5 -0.5**
CASY Casey 61.53 206 P **P 23 58 20.7 +0.8**
CASY pP **pwP 23 58 46.7 +0.7**
KDI Kendari 61.59 279 P **P 23 58 19.1 -2.1**
comp=Z,2µmcomp=Z,87nm,0.9s
WBSI Waikabubak, Su 62.30 271 P **P 23 58 24.5 -1.6**
comp=Z,173nm,0.8s
KMSI Cibinong 62.34 284 P **P 23 58 24.6 -1.6**
comp=Z,229nm,0.9s
BSSI Bau Bau, Buton 62.64 275 P **P 23 58 25.8 -2.4**
comp=Z,80nm,0.8s
LUWI Luwuk 62.70 282 P **P 23 58 27.3 -1.3**
LUWI Luwuk 62.70 282 P **P 23 58 28.9 +0.3**
LUWI Luwuk 62.70 282 P **P 23 58 27.5 -1.1**
comp=Z,2µmcomp=Z,181nm,0.8s
BKSI Bulukumba 63.30 276 P **P 23 58 30.8 -1.8**
comp=Z,1µmcomp=Z,176nm,0.8s
KAPI Kappang 63.76 276 P **P 23 58 34.9 -0.8**
KAPI IAmb IAmb 23 58 35.8
comp=Z,32nm,0.7s
KAPI Kappang 63.76 276 LR LR 00 28 27.6
comp=Z,58nm,18.6s,baz=102,slow=38
KAPI Kappang 63.76 276 P **P 23 58 34.9 -0.8**
KAPI pmax pmax
comp=Z,32nm,0.7s
KAPI Kappang 63.76 276 P **P 23 58 34.8 -0.9**
APSI Ampana 63.77 281 P **P 23 58 34.8 -0.9**
comp=Z,1µmcomp=Z,152nm,0.8s
PLAI Plampang 64.09 272 P **P 23 58 36.8 -1.0**
PLAI Plampang 64.09 272 P **P 23 58 36.1 -1.7**
comp=Z,1µmcomp=Z,195nm,0.9s
MRSI Marisa 64.12 283 P **P 23 58 36.3 -1.7**
comp=Z,56nm,1.0s
SPSI Sidrap Palu 64.17 277 P **P 23 58 36.1 -2.2**
comp=Z,1µmcomp=Z,82nm,0.7s
TTSI Tana Toraja 64.51 278 P **P 23 58 38.7 -1.8**
comp=Z,62nm,0.9s

TWSI Taliwang, Sumb 64.94 271 P **P** **23 58 41.9 -1.4**
comp=Z,868nmcomp=Z,55nm,0.9s
PCI Palu 65.40 280 P **P** **23 58 46.1 -0.2**
comp=Z,138nm,1.1s
TOLI2 Tolitoli 65.43 283 P **P** **23 58 44.8 -1.8**
TOLI2 Tolitoli 65.43 283 P **P** **23 58 45.5 -1.0**
QSPA South Pole Qui 66.31 180 P **P** **23 58 53.5 +2.0**
comp=Z,30nm,0.6s,baz=13,slow=0.7,SNR=181
QSPA S **S** **00 07 34.2 +0.9**
comp=Z,1.4nm,0.8s,baz=183,slow=23,SNR=5.6
QSPA LR LR 00 23 39.3
comp=Z,62nm,21.5s,baz=27,slow=32
comp=Z,30nm,0.6s
QSPA South Pole Qui 66.31 180 P **P** **23 58 53.5 +2.0**
QSPA pP **PcP** **23 59 20.8 0.0**
SRBI Singaraja 66.71 271 P **P** **23 58 52.9 -1.8**
comp=Z,57nm,1.3s
JAGI Jajag, Banyuwa 67.54 270 P **P** **23 58 57.7 -2.3**
JAGI IAmb IAmb 23 59 00.4
comp=Z,31nm,0.8s
JAGI Jajag, Banyuwa 67.54 270 P **P** **23 58 58.1 -1.9**
JAGI Jajag, Banyuwa 67.54 270 P **P** **23 58 57.3 -2.7**
comp=Z,50nm,1.3s
ABJI Asem Bagus 67.72 271 P **P** **23 58 59.9 -1.2**
comp=Z,62nm,1.1s
KMMI Kalianget 68.25 272 P **P** **23 59 03.8 -0.6**
comp=Z,2μmcomp=Z,73nm,1.6s
GMJI Gumukmas 68.26 270 P **P** **23 59 02.3 -2.2**
comp=Z,43nm,0.8s
GRJI Gresik 69.66 271 P **P** **23 59 12.7 -0.5**
comp=Z,2μmcomp=Z,315nm,1.0s
PCJI Pacitan 70.37 270 P **P** **23 59 16.8 -0.7**
comp=Z,2μmcomp=Z,153nm,0.6s
KKM Kota Kinabalu 71.72 285 P **P** **23 59 24.9 -0.9**
KKM IAmb IAmb 23 59 25.4
comp=Z,29nm,0.7s
KPJI Karang Pucung 72.75 269 P **P** **23 59 30.6 -1.2**
comp=Z,64nm,0.5s
JOW Kunigami 73.15 310 IAmb IAmb 23 59 34.7
comp=Z,39nm,0.9s
JOW Kunigami 73.15 310 P **P** **23 59 33.5 -0.3**
comp=Z,31nm,0.8s,baz=132,slow=7.2,SNR=6.2
comp=Z,31nm,0.8s
JGF Kuroka 73.30 322 P **P** **23 59 33.7 -0.8**
INU Inuyama 73.31 322 P **P** **23 59 34.5 0.0**
STKI Sintang 73.37 278 P **P** **23 59 35.0 -0.5**
comp=Z,78nm,0.8s
MJAR Matsushiro Arr 73.51 324 P **P** **23 59 34.6 -1.2**
comp=Z,21nm,0.8s,baz=156,slow=5.6,SNR=41
comp=Z,21nm,0.8s
MAJO Matsushiro 73.52 324 P **P** **23 59 35.0 -0.8**
MAJO IAmb IAmb 23 59 35.6
comp=Z,26nm,0.8s
MAJO Matsushiro 73.52 324 P **P** **23 59 35.1 -0.8**
MAJO Matsushiro 73.52 324 P **P** **23 59 35.0 -0.8**
MAJO pmax pmax
comp=Z,26nm,0.8s
MJB9 Matsu-Tunnel 73.52 324 P **P** **23 59 34.7 -1.1**
MJB9 IAmb IAmb 23 59 36.6
comp=Z,25nm,0.8s
SBUM Sibu 73.70 280 P **P** **23 59 36.4 -1.0**
SBUM Sibu 73.70 280 P **P** **23 59 37.3 -0.1**
BBJI Bungbulang 73.88 269 P **P** **23 59 37.0 -1.5**
JMN Monobe 74.00 319 P **P** **23 59 38.8 +0.1**
JMN IAmb IAmb 23 59 39.5
comp=Z,49nm,1.0s
XMIS Christmas Isla 74.57 265 P **P** **23 59 41.7 -0.8**
XMIS IAmb IAmb 23 59 42.7
comp=Z,30nm,0.7s
KSM Kuching 75.02 278 P **P** **23 59 44.8 -0.2**
ADK Adak 75.33 0 P **P** **23 59 45.6 -0.2**
ADK Adak 75.33 0 P **P** **23 59 46.1 +0.3**
ADK Adak 75.33 0 P **P** **23 59 45.6 -0.2**
JNU Nakatsue 75.44 317 IAmb IAmb 23 59 47.2
comp=Z,49nm,1.1s
JNU Nakatsue 75.44 317 P **P** **23 59 46.2 -0.8**
comp=Z,29nm,1.0s,baz=117,slow=4.6,SNR=8.4
comp=Z,29nm,1.0s
JNU Nakatsue 75.44 317 P **P** **23 59 46.2 -0.8**
ATKA Atka Island 75.68 2 P **P** **23 59 47.5 -0.3**
CGJI Cibinong 75.99 269 P **P** **23 59 48.6 -2.0**
comp=Z,80nm,0.5s
BELA Belgrano 2 76.18 172 P **P** **23 59 51.4 +0.8**
BELA IAmb IAmb 23 59 54.6
comp=Z,23nm,1.0s
YULB Yu-li 76.25 303 IAmb IAmb 23 59 53.4
comp=Z,63nm,1.4s
NACB Ninganchiao 76.46 304 IAmb IAmb 23 59 52.6
comp=Z,62nm,0.9s
NACB Ninganchiao 76.46 304 P **P** **23 59 53.8 +0.8**
TPUB Ta-pu 76.72 303 P **P** **23 59 53.8 -0.7**
SSLB Suanglung 76.73 304 P **P** **23 59 52.9 -1.7**
SSLB IAmb IAmb 23 59 53.6
comp=Z,45nm,0.8s
SSLB Suanglung 76.73 304 P **P** **23 59 53.1 -1.5**
H06S1 SOCORRO T 76.82 63 T T 01 24 10.4
SNR=21
YHNB Yeheng 76.90 305 IAmb IAmb 23 59 55.9
comp=Z,52nm,0.9s
JKA Kamikawa-asahi 77.14 331 IAmb IAmb 23 59 58.1
comp=Z,52nm,0.9s
UNV Unalaska Valle 77.80 6 P **P** **23 59 59.2 -0.5**
baz=190,SNR=12
UNV Unalaska Valle 77.80 6 P **P** **23 59 57.4 -2.3**
PMSA Palmer Station 77.84 156 LR LR 00 30 56.9
comp=Z,107nm,18.2s,baz=286,slow=33
MDSI Maura Dua 78.21 270 P **P** **00 00 00.7 -2.3**
comp=Z,34nm,0.8s
MAW Mawson 78.89 200 P **P** **00 00 07.5 +1.7**
comp=Z,49nm,1.1s,baz=145,slow=6.7,SNR=6.6
MAW LR LR 00 34 41.8
comp=Z,51nm,18.4s,baz=110,slow=35
comp=Z,49nm,1.1s
FALS False Pass 79.14 8 P **P** **00 00 07.3 +0.2**
baz=192
FALS False Pass 79.14 8 P **P** **00 00 07.2 +0.2**
QZH Quanzhou 79.17 303 P **P** **00 00 08.2 +0.2**
QZH pmax pmax
comp=Z,61nm,0.9s
YSS Yuzhno-Sakhali 79.32 333 P **P** **00 00 08.9 +0.6**
YSS IAmb IAmb 00 00 09.2
comp=Z,47nm,0.9s
YSS Yuzhno-Sakhali 79.32 333 P **P** **00 00 08.9 +0.6**
YSS Yuzhno-Sakhali 79.32 333⇓ *e*P **P** **00 00 08.3 0.0**
YSS *e* 00 03 08.1
YSS *e*S **S** **00 09 59.2 -1.5**
YSS *e*PS **PnS** **00 11 04.4 +7.3**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=Z,700nm,3.6s
PET Petropavlovsk 79.41 345 *de*P **P** **00 00 07.5 -1.1**
PET pmax pmax
comp=Z,96nm,1.9s
PET Petropavlovsk 79.41 345 P **P** **00 00 07.7 -0.9**
comp=Z,62nm,2.4s
SAO San Andreas Ge 79.64 42 P **P** **00 00 11.1 +0.8**
SAO IAmb IAmb 00 00 12.9
comp=Z,27nm,0.8s
SAO San Andreas Ge 79.64 42 P **P** **00 00 11.1 +0.8**
SAO pmax pmax
comp=Z,27nm,0.9s
CNBA Chernabura Isl 79.64 10 IAmb IAmb 00 00 11.0
comp=Z,133nm,1.3s
CHNA Chernabura Isl 79.66 10 P **P** **00 00 09.6 -0.3**
baz=196
CHNA Chernabura Isl 79.66 10 P **P** **00 00 09.7 -0.2**
PEA0B Petropavlovsk- 79.71 345 IAmb IAmb 00 00 23.1
comp=Z,51nm,1.0s
PEA0B Petropavlovsk- 79.71 345 *i*P **P** **00 00 10.4 +0.1**
PETK Petropavlovsk- 79.71 345 P **P** **00 00 09.3 -1.0**
PETK Petropavlovsk- 79.71 345 P **P** **00 00 09.1 -1.2**
comp=Z,58nm,0.7s,baz=135,slow=5.2,SNR=103
comp=Z,58nm,0.7s
PETK Petropavlovsk- 79.71 345 P **P** **00 00 09.3 -1.0**
KSI Kapahiang 79.99 270 P **P** **00 00 10.9 -1.9**
comp=Z,152nm,0.6s
MG05 Puerto Natales 80.03 142 P **P** **00 00 14.3 +2.1**
MG05 IAmb IAmb 00 00 17.0
comp=Z,38nm,1.1s
KSRS Korea Array 80.09 318 P **P** **00 00 12.7 0.0**
comp=Z,8.7nm,1.0s,baz=132,slow=5.8,SNR=16
comp=Z,8.7nm,1.0s
KSAR Wonju Array Be 80.11 318 P **P** **00 00 11.4 -1.4**
KSAR Wonju Array Be 80.11 318 P **P** **00 00 11.4 -1.4**
LPIG La Paz 80.11 58 LR LR 00 29 28.0
comp=Z,114nm,19.3s,baz=228,slow=31
S12K Black Hills 80.14 8 P **P** **00 00 12.3 -0.2**
baz=194,SNR=12
MG03 Isla Dawson 80.18 145 P **P** **00 00 14.5 +1.5**
MG03 IAmb IAmb 00 00 18.3
comp=Z,30nm,1.2s
MG03 **pwP** **00 00 42.3 +4.4**
P08K Saint George I 80.28 4 P **P** **00 00 14.1 +0.8**
baz=187
KMPM Mount Pierce 80.46 38 P **P** **00 00 16.2 +1.5**
KMPM IAmb IAmb 00 00 17.8
comp=Z,75nm,1.1s
KMRM Mail Ridge 80.56 38 P **P** **00 00 15.6 +0.3**
KMRM IAmb IAmb 00 00 18.2
comp=Z,67nm,1.0s
YUH Yuha Desert 80.70 48 P **P** **00 00 16.9 +0.8**
USHA Ushuaia 80.78 146 LR LR 00 30 01.9
comp=Z,94nm,18.1s,baz=281,slow=31
ISA Isabella, Lake 80.81 45 IAmb IAmb 00 00 19.4
comp=Z,30nm,1.0s
SPIA Saint Paul Isl 80.82 4 P **P** **00 00 16.7 +0.7**
baz=186
PFO Pinyon Flats O 80.91 47 P **P** **00 00 18.3 +0.9**
PFO Pinyon Flats O 80.91 47 P **P** **00 00 18.3 +0.9**
PFO pmax pmax
comp=Z,10.0nm,1.0s
MYKOM Kota Tinggi 81.02 276 P **P** **00 00 17.3 -0.9**
MYKOM IAmb IAmb 00 00 20.4
comp=Z,37nm,0.6s
O02D Mt. Diablo Mer 81.06 39 P **P** **00 00 19.4 +1.5**
O02D IAmb IAmb 00 00 20.6
comp=Z,21nm,0.8s
CMB Columbia Colle 81.10 42 P **P** **00 00 18.5 +0.4**
CMB Columbia Colle 81.10 42 P **P** **00 00 18.5 +0.4**
CMB pmax pmax
comp=Z,27nm,1.5s
CHGN Chignik 81.26 10 P **P** **00 00 18.4 0.0**
baz=197,SNR=11
UGL Uglegorsk 81.29 334 *e*P **P** **00 00 19.1 +0.3**
CHIR Chirikof Islan 81.29 12 P **P** **00 00 19.2 +0.6**
baz=200
CHIR Chirikof Islan 81.29 12 P **P** **00 00 18.8 +0.2**
AFDM Forest Hills D 81.33 41 P **P** **00 00 19.6 +0.2**
ORV Oroville 81.40 40 P **P** **00 00 20.2 +0.5**
ORV Oroville 81.40 40 P **P** **00 00 20.2 +0.5**
ORV pmax pmax
comp=Z,11nm,1.0s
MSHR Mys Shultsa 81.63 324 *de*P **P** **00 00 20.9 +0.2**
MSHR pmax pmax
comp=Z,73nm,1.0s
GSC Goldstone, Bar 81.68 46 P **P** **00 00 21.5 +0.1**
GSC Goldstone, Bar 81.68 46 P **P** **00 00 21.5 +0.1**
GSC pmax pmax
comp=Z,17nm,1.1s
GLA Glamis 81.69 48 P **P** **00 00 22.6 +1.2**
GLA IAmb IAmb 00 00 27.4
comp=Z,32nm,1.1s
GLA Glamis 81.69 48 P **P** **00 00 22.6 +1.2**
GLA pmax pmax
comp=Z,32nm,1.1s
PIX Pinacate 81.79 50 P **P** **00 00 23.0 +1.1**
PIX IAmb IAmb 00 00 26.4
comp=Z,30nm,1.2s
PSTR Posyet 81.87 324 *ce*P **P** **00 00 22.4 +0.4**
AY03 Cochrane 81.91 138 P **P** **00 00 23.3 +0.9**
AY03 **pwP** **00 00 52.2 +4.8**
WAKR Walker 81.97 42 P **P** **00 00 22.4 -0.5**
YBH Yreka Blue Hor 82.13 38 P **P** **00 00 23.5 -0.1**
YBH Yreka Blue Hor 82.13 38 P **P** **00 00 25.2 +1.6**
comp=Z,13nm,0.8s,baz=192,slow=3.0,SNR=20
YBH LR LR 00 32 56.8
comp=Z,45nm,18.9s,baz=249,slow=33
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 82.13 38 P **P** **00 00 23.5 -0.1**
YBH pmax pmax
comp=Z,18nm,1.0s
DSP Deep Springs 82.18 43 P **P** **00 00 24.7 +0.9**
PNTR Pine Nut 82.24 41 P **P** **00 00 25.6 +1.3**
PNTR IAmb IAmb 00 00 26.8
comp=Z,33nm,0.8s
HATC Hat Creek Radi 82.24 39 P **P** **00 00 24.7 +0.5**
HATC IAmb IAmb 00 00 26.8
comp=Z,46nm,1.0s
113A Mohawk Valley, 82.26 49 P **P** **00 00 25.4 +1.1**
SII Sitkinak Islan 82.26 12 P **P** **00 00 24.1 +0.3**
SII Sitkinak Islan 82.26 12 P **P** **00 00 24.5 +0.7**
baz=201
SII Sitkinak Islan 82.26 12 P **P** **00 00 24.5 +0.7**
GWY Greenwater Val 82.30 45 P **P** **00 00 24.6 -0.1**
BLYC Blythe 82.30 48 P **P** **00 00 25.2 +0.8**
USA0B Ussuriysk Arra 82.30 326 P **P** **00 00 24.1 -0.1**
USA0B IAmb IAmb 00 00 25.7
comp=Z,63nm,0.8s
USA0B Ussuriysk Arra 82.30 326 P **P** **00 00 24.1 -0.1**
USA0B pmax pmax
comp=Z,63nm,0.9s
USRK Ussuriysk Ar. 82.30 326 P **P** **00 00 23.9 -0.4**
USRK Ussuriysk Ar. 82.30 326 P **P** **00 00 24.8 +0.6**
comp=Z,56nm,0.8s,baz=118,slow=3.3,SNR=91
comp=Z,56nm,0.8s
USRK Ussuriysk Ar. 82.30 326 P **P** **00 00 23.9 -0.4**
GRAC Grapevine Rang 82.34 44 P **P** **00 00 25.8 +1.1**
GRAC IAmb IAmb 00 00 29.7
comp=Z,51nm,1.4s
LHV Little Huntoon 82.39 42 P **P** **00 00 25.6 +0.8**
LHV IAmb IAmb 00 00 29.9
comp=Z,38nm,1.2s
YERR Yerington 82.39 42 P **P** **00 00 25.8 +0.7**
J01E Myrtle Point 82.42 36 P **P** **00 00 25.8 +1.0**
J01E IAmb IAmb 00 00 27.9
comp=Z,47nm,1.2s
TYV Tymovskoe 82.48 335 *e*P **P** **00 00 25.2 +0.2**
TYV pmax pmax
comp=Z,68nm,1.0s
TYV pmax pmax
comp=Z,600nm,4.7s
R16K Pilot Point 82.61 10 P **P** **00 00 24.9 -0.5**
baz=198
RYN Ryan 82.61 42 P **P** **00 00 27.2 +1.0**
NVAR Mina Array Bea 82.62 42 P **P** **00 00 27.3 +0.9**
NVAR Mina Array Bea 82.62 42 P **P** **00 00 27.6 +1.3**
comp=Z,8.4nm,0.7s,baz=222,slow=8.1,SNR=36
NVAR pP **pP** **00 00 51.3 -0.1**
comp=Z,2.9nm,1.0s,baz=309,slow=40,SNR=1.5
NVAR LR LR 00 32 03.0
comp=Z,66nm,19.4s,baz=284,slow=32
comp=Z,8.4nm,0.7s
L04D Klamath Falls 82.68 38 P **P** **00 00 26.9 +0.5**
L04D IAmb IAmb 00 00 28.9
comp=Z,27nm,1.0s
WCT Wildcat Mounta 82.69 45 P **P** **00 00 27.6 +1.1**
PAHR Pah Rah Range 82.76 41 P **P** **00 00 27.4 +0.4**
PAHR IAmb IAmb 00 00 29.2
comp=Z,18nm,0.9s
COYC Coyhaique 82.98 137 P **P** **00 00 29.1 +1.1**
COYC IAmb IAmb 00 00 30.8
comp=Z,25nm,0.9s
COYC **pwP** **00 00 54.9 +1.9**
BKNI Bangkinang 82.99 273 P **P** **00 00 26.7 -1.9**
BKNI Bangkinang 82.99 273 P **P** **00 00 26.0 -2.6**
OHAK Old Harbor 83.06 13 P **P** **00 00 27.9 +0.1**
OHAK IAmb IAmb 00 00 29.7
comp=Z,128nm,1.5s
OHAK Old Harbor 83.06 13 P **P** **00 00 28.4 +0.5**
baz=202
OHAK Old Harbor 83.06 13 P **P** **00 00 28.3 +0.5**
R18K Karluk 83.16 12 P **P** **00 00 28.8 +0.5**
baz=201
H03S2 Juan Fernandez 83.21 124 T T 01 32 30.6
baz=246,slow=74
V12A Nelson 83.22 46 P **P** **00 00 30.4 +1.0**
H03S1 Juan Fernandez 83.22 124 T T 01 32 31.7
baz=246,slow=74
H03S3 Juan Fernandez 83.22 124 T T 01 32 27.0
baz=246,slow=74
K04D Chiloquin, OR 83.26 38 P **P** **00 00 29.5 +0.1**
K04D IAmb IAmb 00 00 31.3
comp=Z,24nm,0.7s
H03N2 Juan Fernandez 83.36 123 T T 01 32 25.6
baz=251,slow=72,SNR=40
H03N3 Juan Fernandez 83.36 124 T T 01 32 06.3
baz=251,slow=72,SNR=23
H03N1 Juan Fernandez 83.38 123 T T 01 32 37.9
baz=251,slow=72,SNR=202
Y14A Wickenburg 83.44 49 IAmb IAmb 00 00 35.5
comp=Z,22nm,0.9s
J04A Umpqua Nationa 83.46 37 IAmb IAmb 00 00 33.1
comp=Z,66nm,1.1s
W13A Hualapai Mount 83.50 47 IAmb IAmb 00 00 36.0
comp=Z,20nm,1.0s
ELIB Princess Elisa 83.54 186 *d*P **P** **00 00 31.4 +0.8**
Q17K Contact Creek 83.55 11 P **P** **00 00 30.5 0.0**
baz=199,SNR=42
ACHA Angle Creek He 83.60 11 IAmb IAmb 00 00 32.0
comp=Z,19nm,0.9s
O14K Tigyukauivet M 83.70 8 P **P** **00 00 31.5 +0.4**
baz=194
KDAK Kodiak Island 83.72 13 P **P** **00 00 32.3 +1.1**
KDAK IAmb IAmb 00 00 33.8
comp=Z,57nm,0.9s
KDAK Kodiak Island 83.72 13 P **P** **00 00 31.9 +0.6**
comp=Z,28nm,0.7s,baz=67,slow=3.0,SNR=36
comp=Z,28nm,0.7s
KDAK Kodiak Island 83.72 13 P **P** **00 00 32.0 +0.8**
baz=202
KDAK Kodiak Island 83.72 13 P **P** **00 00 32.3 +1.1**
KDAK pmax pmax
comp=Z,57nm,1.0s
O15K Ungalikthiuk R 83.81 9 P **P** **00 00 31.9 +0.2**
baz=196
Q16K King Salmon 83.82 10 P **P** **00 00 32.2 +0.6**
baz=199,SNR=16
MDJ Mudanjiang 83.84 325 P **P** **00 00 32.3 +0.1**
MDJ pmax pmax
comp=Z,52nm,1.0s
MDJ pmax pmax
comp=Z,320nm,4.5s
MDJ Mudanjiang 83.84 325 P **P** **00 00 32.7 +0.5**
P16K Nushagak River 83.94 10 P **P** **00 00 32.6 +0.3**
baz=197,SNR=20
J05D Fort Rock, OR 83.98 37 IAmb IAmb 00 00 35.6
comp=Z,38nm,0.8s
PRN Pahroc Range 84.06 45 P **P** **00 00 35.5 +1.8**
TUC Tucson 84.10 51 P **P** **00 00 35.5 +1.6**
TUC IAmb IAmb 00 00 39.4
comp=Z,36nm,1.1s
TUC Tucson 84.10 51 P **P** **00 00 35.5 +1.6**
TUC pmax pmax
comp=Z,36nm,1.2s
SISI Saibi 84.12 271 P **P** **00 00 33.7 -0.7**
comp=Z,30nm,0.8s
G03D McMinnville, O 84.16 35 P **P** **00 00 34.9 +1.1**
LL01 San Ignacio de 84.20 134 P **P** **00 00 34.9 +0.6**
LL02 Futaleuf 84.20 135 P **P** **00 00 35.6 +1.3**
LL02 IAmb IAmb 00 00 37.3
comp=Z,31nm,0.8s
R11B Troy Canyon, C 84.28 44 P **P** **00 00 34.6 -0.2**
R11B Troy Canyon, C 84.28 44 P **P** **00 00 35.6 +0.8**
baz=234,SNR=8.2
M11K Mekoryuk 84.29 5 P **P** **00 00 35.4 +1.3**
M11K Mekoryuk 84.29 5 P **P** **00 00 35.7 +1.7**
baz=190,SNR=5.1
N14K Kuskokwak Cree 84.30 8 P **P** **00 00 35.1 +1.1**
baz=194
P17K Kvichak River 84.34 10 P **P** **00 00 34.7 +0.4**
baz=199,SNR=25
H04A Detroit Lake 84.38 36 P **P** **00 00 35.0 +0.1**
H04A IAmb IAmb 00 00 43.1
comp=Z,19nm,0.7s
O16K Kokwok River B 84.47 9 P **P** **00 00 34.7 -0.3**
baz=197
PINE Pine Mountain 84.47 37 P **P** **00 00 36.8 +1.1**
PINE IAmb IAmb 00 00 38.3
comp=Z,30nm,0.9s
TROLL Troll, Antarti 84.48 180 P **P** **00 00 35.9 +0.6**
TROLL Troll, Antarti 84.48 180 ⇑P **P** **00 00 35.9 +0.6**
comp=Z,1μm,0.6s
TROLL ⇑pP **pP** **00 01 02.9 +2.5**
comp=Z,2μm,0.8s
MNSI Mandailing Nat 84.52 273 P **P** **00 00 34.0 -2.4**
Q20K Shuyak Island 84.53 13 P **P** **00 00 35.8 +0.5**
baz=202,SNR=6.5
SYI Shuyak Island 84.53 13 P **P** **00 00 35.7 +0.4**
Q19K Cape Douglas, 84.58 12 P **P** **00 00 36.0 +0.3**
baz=201
M13K Dall Lake 84.59 7 P **P** **00 00 36.9 +1.4**
baz=192
I05D Terrebonne, OR 84.61 36 P **P** **00 00 36.0 -0.1**
I05D IAmb IAmb 00 00 38.4
comp=Z,19nm,0.7s
319A Douglas 84.69 53 P **P** **00 00 37.4 +0.4**
319A IAmb IAmb 00 00 43.0
comp=Z,34nm,1.2s
SNAA Sanae 84.72 178 P **P** **00 00 36.5 0.0**
SNAA Sanae 84.72 178 P **P** **00 00 37.1 +0.6**
SNAA IAmb IAmb 00 00 37.9
comp=Z,13nm,0.7s
SNAA Sanae 84.72 178 ⇑P **P** **00 00 36.5 0.0**
comp=Z,334nm,0.8s
SNAA ⇑pP **pP** **00 01 04.6 +3.0**
comp=Z,476nm,0.7s
SNAA Sanae 84.72 178 P **P** **00 00 37.1 +0.6**
comp=Z,12nm,0.7s,baz=206,slow=7.4,SNR=49
SNAA pP **pP** **00 01 02.0 +0.3**
comp=Z,25nm,0.9s,baz=172,slow=4.4,SNR=10
SNAA PKKPbc **PKKPbc** **00 18 44.4 -2.5**
comp=Z,1.5nm,0.8s,baz=324,slow=5.2,SNR=5.1
comp=Z,12nm,0.7s
SNAA Sanae 84.72 178 *ce*P **P** **00 00 37.2 +0.7**
SNAA pmax pmax
comp=Z,8.0nm,0.7s
P18K Big Mountain, 84.74 11 P **P** **00 00 36.2 -0.2**
baz=200,SNR=35
N15K Kwethluk River 84.74 8 P **P** **00 00 36.6 +0.3**
N15K **P** **00 00 37.5 +1.1**
N15K Kwethluk River 84.74 8 P **P** **00 00 37.4 +1.1**
baz=195
X16A Lo Mia Camp, P 84.79 49 P **P** **00 00 38.8 +1.3**
X16A IAmb IAmb 00 00 43.4
comp=Z,28nm,1.1s
O17K Koliganek Bris 84.79 10 P **P** **00 00 36.5 0.0**
baz=198,SNR=8.0
VNA3 Neumayer Olymp 84.82 176 P **P** **00 00 37.6 +0.8**
VNA3 Neumayer Olymp 84.82 176 ⇑P **P** **00 00 37.6 +0.8**
comp=Z,32nm,0.8s
VNA3 ⇑pP **pP** **00 01 05.5 +3.5**
comp=Z,73nm,0.8s
F04D Rainier, OR 84.87 34 P **P** **00 00 38.5 +1.1**
F04D IAmb IAmb 00 00 43.1
comp=Z,52nm,0.9s
DL2 Dalian 84.89 316 P **P** **00 00 36.3 -1.3**
DL2 pmax pmax
comp=Z,59nm,1.3s
WVOR Wild Horse Val 84.91 39 P **P** **00 00 37.6 -0.2**
WVOR IAmb IAmb 00 00 40.0
comp=Z,31nm,1.1s
WVOR Wild Horse Val 84.91 39 P **P** **00 00 37.6 -0.2**
WVOR pmax pmax
comp=Z,31nm,1.2s
GRNR Gornyy 84.93 332⇓ *i*P **P** **00 00 38.0 +0.5**
GRNR pmax pmax
comp=Z,30nm,0.9s
M14K Bethel 85.07 7 P **P** **00 00 38.2 +0.2**
M14K Bethel 85.07 7 P **P** **00 00 39.1 +1.1**
baz=194,SNR=23
HOOD Mount Hood Mea 85.08 36 P **P** **00 00 39.1 +0.5**
HPIG 85.15 58 P **P** **00 00 39.7 +0.2**
M15K Kasigluk River 85.17 8 P **P** **00 00 39.7 +1.2**
baz=195
O18K Koktuh Hills 85.18 11 P **P** **00 00 38.5 -0.1**
O18K Koktuh Hills 85.18 11 P **P** **00 00 38.9 +0.3**
baz=200,SNR=52
N16K Nishlik Lake 85.21 9 P **P** **00 00 39.9 +1.2**
baz=197
VNA2 Neumayer--Watz 85.27 177 P **P** **00 00 40.1 +1.0**
baz=184,slow=5.1
VNA2 Neumayer--Watz 85.27 177 ⇑P **P** **00 00 40.1 +1.0**
comp=Z,8.2nm,0.4s,baz=184,slow=5.1
VNA2 ⇑pP **pwP** **00 01 08.5 +4.2**
comp=Z,46nm,0.8s,baz=177,slow=4.2
KNB Kanab 85.30 46 P **P** **00 00 41.5 +1.5**
KNB IAmb IAmb 00 00 45.9
comp=Z,19nm,1.1s
KNB Kanab 85.30 46 P **P** **00 00 41.5 +1.5**
KNB pmax pmax
comp=Z,19nm,1.1s
WHN Wuhan 85.30 306 ⇓P **P** **00 00 39.9 +0.1**
WHN pmax pmax
comp=Z,54nm,1.1s
U15A North Rim 85.32 47 P **P** **00 00 41.0 +0.8**
U15A IAmb IAmb 00 00 43.1

comp=Z,19nm,0.8s
P19K Oil Pt 85.34 12 P P 00 00 39.6 +0.2
P19K Oil Pt 85.34 12 P P 00 00 39.7 +0.2
baz=202,SNR=14
KULM Kulim 85.36 278 P P 00 00 39.1 -1.5
KULM IAmb IAmb 00 00 41.3
comp=Z,32nm,0.7s
WUAZ Wupatki 85.44 48 P P 00 00 40.6 0.0
WUAZ pP **pP** **00 01 09.5 +3.5**
SNY Shenyang 85.44 320 ⇑P P 00 00 40.2 -0.1
SNY pmax pmax
comp=Z,23nm,0.8s
DUN6 Lazy B Ranch 85.44 52 P P 00 00 41.7 +1.0
I07A Izee 85.45 37 P P 00 00 41.5 +1.1
I07A IAmb IAmb 00 00 42.9
comp=Z,19nm,1.1s
SPR3 Spring Creek 3 85.45 44 P P 00 00 40.5 -0.3
SPR3 **pP** **00 01 09.2 +3.2**
LR05 Currie 85.45 132 P P 00 00 41.4 +0.8
LR05 IAmb IAmb 00 00 43.5
comp=Z,57nm,1.4s
LR05 **pwP** **00 01 10.3 +4.4**
PSUT Pine Spring 85.49 44 P P 00 00 40.8 -0.1
VNA1 Neumayer--Stat 85.49 176 P P 00 00 40.6 +0.4
VNA1 Neumayer--Stat 85.49 176 ⇑P P 00 00 40.6 +0.4
comp=Z,19nm,0.7s
VNA1 ⇑pP **pwP** **00 01 09.7 +4.3**
comp=Z,47nm,0.8s
N17K Nushagak Hills 85.50 10 P P 00 00 40.3 +0.2
baz=198
NVL N'lazarevskaya 85.53 183 *e*P **P 00 00 41.1 +0.7**
NVL pmax pmax
comp=Z,9.0nm,1.0s
G06A Carlson Farm, 85.57 36 P P 00 00 41.1 +0.2
L14K Kuka Creek 85.57 7 P P 00 00 41.1 +0.7
L14K Kuka Creek 85.57 7 P P 00 00 41.5 +1.1
baz=193,SNR=32
J08A Circle Bar Ran 85.58 38 P P 00 00 41.7 +0.7
J08A IAmb IAmb 00 00 46.0
comp=Z,36nm,1.4s
CN2 Changchun 85.58 322 *e*P **P 00 00 40.5 -0.4**
CN2 *es*P sP 00 01 21.2 +5.3
CN2 pmax pmax
comp=Z,30nm,0.9s
CNPM China Poot 85.61 13 P P 00 00 41.1 +0.4
ZAIG Zacatecas 85.63 63 P P 00 00 41.1 -0.9
HOM Homer 85.65 12 P P 00 00 42.0 +1.1
HOM Homer 85.65 12 P P 00 00 41.5 +0.6
baz=203
O19K Port Alsworth 85.65 11 P P 00 00 41.0 +0.2
baz=201,SNR=60
M16K Timber Creek 85.71 9 P P 00 00 42.6 +1.4
baz=196
BNX BinXian 85.75 324 ⇓P P 00 00 40.9 -0.8
BNX pmax pmax
comp=Z,52nm,0.9s
GULI GuiLin 85.77 300 P P 00 00 43.0 +0.7
GULI pmax pmax
comp=Z,30nm,0.8s
N18K Kilae Creek 85.84 10 IAmb IAmb 00 00 42.5
comp=Z,24nm,0.8s
N18K Kilae Creek 85.84 10 P P 00 00 41.9 +0.1
baz=199
O20K Slope Mountain 85.85 12 P P 00 00 42.2 +0.2
baz=202,SNR=8.8
PKCU Pink Cliffs 85.88 46 P P 00 00 43.9 +0.9
PKCU IAmb IAmb 00 00 48.7
comp=Z,39nm,1.1s
PKCU **sP** **00 01 12.5 -5.9**
RPSI Rantau Prapat 85.88 275 IAmb IAmb 00 00 42.8
comp=Z,17nm,0.8s
MOBC Moresby Island 85.88 25 P P 00 00 42.4 +0.1
MOBC IAmb IAmb 00 00 58.2
comp=Z,83nm,1.2s
X18A Snowflake 85.88 50 P P 00 00 44.7 +1.8
X18A IAmb IAmb 00 00 47.6
comp=Z,12nm,0.8s
X18A **sP** **00 01 13.2 -5.4**
ELK Elko 85.91 42 P P 00 00 42.7 -0.2
ELK Elko 85.91 42 P P 00 00 42.7 -0.2
ELK pmax pmax
comp=Z,4.0nm,0.7s
BRSE Bradley Lake S 85.91 13 P P 00 00 42.7 +0.5
baz=204,SNR=24
KLR Kul'dur 85.92 329 *i* P **P 00 00 43.1 +0.6**
KLR pmax pmax
comp=Z,23nm,0.9s
PSI Prapat 85.92 275 P P 00 00 42.6 -0.9
K13K Kusilvak Mount 85.95 6 IAmb IAmb 00 00 46.1
comp=Z,55nm,0.9s
K13K Kusilvak Mount 85.95 6 P P 00 00 43.5 +1.2
baz=191,SNR=23
GNW Green Mountain 85.96 33 P P 00 00 43.6 +0.9
GNW IAmb IAmb 00 00 49.1
comp=Z,19nm,1.2s
L15K Ungalak Mounta 86.03 7 P P 00 00 43.4 +0.7
baz=194
D05A Enumclaw 86.14 34 P P 00 00 44.0 +0.5
PLCA Paso Flores 86.20 133 P P 00 00 45.4 +1.0
PLCA IAmb IAmb 00 00 47.6
comp=Z,37nm,1.4s
PLCA **pwP** **00 01 11.0 -0.7**
PLCA Paso Flores 86.20 133 P P 00 00 46.2 +1.8
comp=Z,9.1nm,1.0s,baz=250,slow=5.9,SNR=10
PLCA pP **pP** **00 01 10.2 +0.6**
comp=Z,9.4nm,1.0s,baz=223,slow=5.6,SNR=5.2
PLCA PKKPbc **PKKPbc** **00 18 42.8 +0.2**
comp=Z,0.5nm,0.5s,baz=65,slow=3.8,SNR=2.8
PLCA LR LR 00 30 44.4
comp=Z,68nm,21.1s,baz=240,slow=30
comp=Z,9.1nm,1.0s
PLCA Paso Flores 86.20 133 P P 00 00 45.4 +1.0
PLCA *PP **pwP** **00 01 11.0 -0.7**
PLCA pmax pmax
comp=Z,37nm,1.4s
N19K Bonanza Creek 86.20 11 P P 00 00 43.5 -0.2
baz=200
BI05 Punta Hualpn 86.20 129 P P 00 00 45.5 +1.1
BI05 IAmb IAmb 00 00 46.3
comp=Z,86nm,1.4s
MTPU Mount Pierson 86.29 46 P P 00 00 46.1 +1.0
MTPU IAmb IAmb 00 00 48.3
comp=Z,15nm,0.8s
M17K Holitna River 86.29 9 P P 00 00 45.7 +1.6
baz=198
L16K Owhat River 86.31 8 P P 00 00 43.6 -0.5
L16K IAmb IAmb 00 00 46.4
comp=Z,64nm,1.1s
L16K Owhat River 86.31 8 P P 00 00 45.0 +0.9
baz=196,SNR=14
TIA Tai'an 86.32 312 P P 00 00 45.2 +0.4
TIA pmax pmax
comp=Z,54nm,0.8s
F07A Phinny Hill Vi 86.37 36 P P 00 00 44.5 -0.3
121A Cookes Peak, D 86.38 52 P P 00 00 46.8 +1.4
121A IAmb IAmb 00 00 53.0
comp=Z,21nm,1.1s
121A Cookes Peak, D 86.38 52 P P 00 00 47.3 +1.9
baz=239
CBB Campbell River 86.42 30 P P 00 00 45.4 +0.4
CBB IAmb IAmb 00 00 47.0
comp=Z,19nm,0.8s
SEW Seward 86.51 13 IAmb IAmb 00 00 46.3
comp=Z,50nm,0.8s
SEW Seward 86.51 13 P P 00 00 45.5 +0.5
baz=205,SNR=9.4
G08A Pilot Rock 86.52 37 IAmb IAmb 00 00 50.0
comp=Z,21nm,1.2s
MVU Marysvale 86.53 45 IAmb IAmb 00 00 50.6
comp=Z,35nm,1.0s
GSI Gunungsitoli 86.56 273 P P 00 00 46.5 0.0
MSU Marysvale 86.56 45 P P 00 00 46.1 -0.1
MSU Marysvale 86.56 45 P P 00 00 46.1 -0.1
MXC Moxie City 86.62 35 P P 00 00 45.8 -0.2
M18K Stony River 86.62 10 P P 00 00 46.4 +0.8
baz=199,SNR=14
K15K Wolf Creek Mou 86.63 7 P P 00 00 46.7 +1.1
baz=194
O22K Cooper Landing 86.79 13 P P 00 00 46.9 +0.4
baz=205,SNR=12
E07A Sunnyside 86.84 35 P P 00 00 47.7 +0.6
E07A IAmb IAmb 00 00 49.4
comp=Z,21nm,0.8s
P23K Montague Islan 86.86 14 P P 00 00 47.4 +0.5
baz=207
J14K Nanvaranak Lak 86.86 6 P P 00 00 47.3 +0.6
baz=192
L17K Donlin 86.87 9 P P 00 00 48.3 +1.4
baz=197,SNR=26
HAWA Hanford 86.90 36 IAmb IAmb 00 00 49.7
comp=Z,30nm,1.4s
SPCR Spurr Chakacha 86.97 12 P P 00 00 46.9 -0.5
baz=202,SNR=19
L18K Granite Mounta 87.18 9 P P 00 00 49.5 +1.1
baz=198
MA2 Magadan 87.23 344 P P 00 00 48.2 -0.4
MA2 Magadan 87.23 344 P P 00 00 48.0 -0.6
MA2 Magadan 87.23 344 *i* P **P 00 00 48.5 -0.1**
MA2 pmax pmax
comp=Z,163nm,1.6s
MA2 Magadan 87.23 344 P P 00 00 48.1 -0.6
comp=Z,113nm,1.6s
CRAG Craig 87.24 23 P P 00 00 49.9 +1.1
baz=219
M19K Big River Lodg 87.24 10 P P 00 00 48.8 +0.1
baz=200
GAMB Gambell 87.34 2 IAmb IAmb 00 00 52.5
comp=Z,68nm,1.2s
GAMB Gambell 87.34 2 P P 00 00 50.1 +1.1
baz=185,SNR=13
RC01 Rabbit Creek A 87.34 13 P P 00 00 49.4 +0.2
baz=205,SNR=21
BGU Big Grassy Mou 87.38 43 P P 00 00 50.5 +0.5
PWL Port Wells 87.43 13 P P 00 00 49.6 0.0
baz=206,SNR=26
L19K White Mountain 87.43 10 P P 00 00 49.9 +0.3
baz=200
K17K Iditarod 87.43 8 P P 00 00 50.7 +1.1
baz=197
M20K Styx River 87.44 11 P P 00 00 49.2 -0.5
baz=202
SUA Susitna One 87.49 12 P P 00 00 49.9 -0.1
baz=204,SNR=62
KAIM Kayak Island 87.50 16 P P 00 00 51.2 +1.3
baz=209
VHRN Van Horn 87.56 55 P P 00 00 52.3 +1.2
VHRN IAmb IAmb 00 00 56.1
comp=Z,21nm,1.1s
BI02 San Fabin de 87.61 129 P P 00 00 50.8 -0.5
BI02 IAmb IAmb 00 00 53.1
comp=Z,12nm,0.8s
TMUT Trail Mountain 87.62 45 IAmb IAmb 00 00 54.0
comp=Z,34nm,0.7s
D08A Wollman Farm, 87.65 35 IAmb IAmb 00 00 53.1
comp=Z,24nm,0.8s
SRIT Nakonsritamara 87.66 280 P P 00 00 51.8 +0.1
SRIT IAmb IAmb 00 00 53.8
comp=Z,24nm,0.7s
SRIT Nakonsritamara 87.66 280 P P 00 00 53.1 +1.3
V35K Ketchikan 87.68 24 P P 00 00 52.0 +1.1
baz=221
J16K Anvik River 87.69 7 P P 00 00 51.8 +1.1
baz=195
GLI Glacier Island 87.72 14 P P 00 00 51.3 +0.3
baz=207,SNR=8.9
EFI East Falkland 87.72 147 *i* P **P 00 00 53.1 +1.7**
EFI pmax pmax
comp=Z,14nm,1.0s
E09A Wood Farm, Sta 87.72 36 IAmb IAmb 00 00 53.1
comp=Z,17nm,1.0s
EYAK Cordova Ski Ar 87.73 15 IAmb IAmb 00 00 52.6
comp=Z,62nm,1.0s
EYAK Cordova Ski Ar 87.73 15 P P 00 00 51.5 +0.5
baz=208,SNR=7.3
EYAK Cordova Ski Ar 87.73 15 P P 00 00 48.4 -2.5
SIT Sitka 87.73 21 P P 00 00 52.2 +1.1
baz=217
FID Port Fidalgo 87.74 14 IAmb IAmb 00 00 52.4
comp=Z,69nm,1.1s
U33K Whale Pass 87.74 23 P P 00 00 52.9 +1.8
baz=219
LENM Lemitar 87.79 51 pP 00 01 21.8 +4.2
SKT Skwentna 87.82 12 IAmb IAmb 00 00 51.7
comp=Z,36nm,0.9s
SKT Skwentna 87.82 12 P P 00 00 50.6 -0.8
baz=203,SNR=19
TX31 Lajitas Ar. Si 87.86 57 IAmb IAmb 00 00 57.6
comp=Z,17nm,1.1s
TXAR Lajitas Array 87.86 57 P P 00 00 53.6 +1.1
TXAR Lajitas Array 87.86 57 P P 00 00 53.9 +1.4
comp=Z,8.0nm,0.8s,baz=213,slow=6.9,SNR=39
TXAR pP **pP** **00 01 18.9 +0.8**
comp=Z,4.7nm,0.9s,baz=211,slow=7.9,SNR=4.6
TXAR PKKPbc **PKKPbc** **00 18 39.9 +0.7**
comp=Z,0.7nm,0.7s,baz=82,slow=3.4,SNR=6.1
TXAR LR LR 00 36 21.1
comp=Z,37nm,18.4s,baz=268,slow=33
comp=Z,8.0nm,0.8s
TXAR Lajitas Array 87.86 57 P P 00 00 53.6 +1.1
L20K Farewell, AK 87.87 10 P P 00 00 51.9 +0.2
baz=201
M22K Willow 87.88 12 P P 00 00 51.8 +0.2
baz=204,SNR=12
HMT Hamilton 87.90 16 IAmb IAmb 00 00 53.7
comp=Z,51nm,1.0s
KNK Knik Glacier 87.90 13 P P 00 00 52.3 +0.5
baz=206,SNR=28
PMR Palmer 87.93 13 IAmb IAmb 00 00 53.2
comp=Z,53nm,0.8s
PMR Palmer 87.93 13 P P 00 00 52.2 +0.3
baz=205,SNR=26
PMR Palmer 87.93 13 P P 00 00 52.5 +0.6
TTA Tatalina 87.96 9 IAmb IAmb 00 00 54.1
comp=Z,70nm,1.1s
TTA Tatalina 87.96 9 P P 00 00 52.9 +0.7
baz=199,SNR=30
TTA Tatalina 87.96 9 P P 00 00 53.1 +1.0
SRU San Rafael Swe 87.97 45 IAmb IAmb 00 00 55.0
comp=Z,22nm,0.8s
J17K VABM Dome 87.99 8 P P 00 00 53.0 +0.8
baz=196
S31K Pelican 88.16 20 IAmb IAmb 00 00 55.6
comp=Z,56nm,1.0s
S31K Pelican 88.16 20 P P 00 00 54.7 +1.6
baz=217
B08A Colville Reser 88.26 34 IAmb IAmb 00 00 55.2
comp=Z,18nm,0.7s
I17K Unalakleet 88.27 7 P P 00 00 53.8 +0.3
I17K IAmb IAmb 00 00 55.5
comp=Z,31nm,1.0s
I17K Unalakleet 88.27 7 P P 00 00 54.5 +1.0
baz=195,SNR=7.3
SML Sawmill 88.28 13 IAmb IAmb 00 01 05.0
comp=Z,38nm,1.0s
SML Sawmill 88.28 13 P P 00 00 54.0 +0.3
baz=206,SNR=8.5
MESA MESA 88.35 17 P P 00 00 55.6 +1.4
baz=212,SNR=11
BMRM Bremner River 88.37 15 P P 00 00 54.7 +0.6
baz=209,SNR=20
J18K Innoko River 88.37 9 P P 00 00 54.8 +0.8
baz=198,SNR=50
ALPN Alpine 88.38 56 IAmb IAmb 00 01 00.5
comp=Z,24nm,1.4s
M23K Glacier View 88.40 13 P P 00 00 54.5 +0.3
baz=206,SNR=16
CUT Chulitna 88.44 12 P P 00 00 54.6 +0.3
baz=204,SNR=10
LLLB Lillooet 88.45 31 IAmb IAmb 00 01 00.1
comp=Z,13nm,0.9s
C09A Chrisman Ranch 88.46 35 IAmb IAmb 00 00 56.6
comp=Z,23nm,0.7s
ANM Nome 88.49 5 P P 00 00 54.9 +0.4
baz=190,SNR=9.8
TCUT Toone Canyon 88.50 43 IAmb IAmb 00 00 57.6
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 88.52 13 P P 00 00 55.4 +0.6
baz=207,SNR=30
KLU Klutina 88.52 14 IAmb IAmb 00 00 56.5
comp=Z,36nm,0.9s
KLU Klutina 88.52 14 P P 00 00 55.4 +0.6
baz=208,SNR=13
PPLA Purkeypile 88.55 11 IAmb IAmb 00 00 57.5
comp=Z,27nm,0.8s
PPLA Purkeypile 88.55 11 P P 00 00 55.5 +0.5
baz=202,SNR=10
PV10 Paradox Valley 88.55 47 IAmb IAmb 00 00 59.6
comp=Z,27nm,1.5s
ANMO Albuquerque 88.56 51 P P 00 00 57.5 +1.7
ANMO IAmb IAmb 00 01 00.5
comp=Z,18nm,1.0s
ANMO Albuquerque 88.56 51 LR LR 00 34 19.0
comp=Z,72nm,19.0s,baz=56,slow=31
ANMO Albuquerque 88.56 51 P P 00 00 57.5 +1.7
ANMO pmax pmax
comp=Z,18nm,1.0s
BSUT Blindstream Ca 88.59 44 IAmb IAmb 00 00 58.1
comp=Z,15nm,0.8s
HNS HongShan 88.59 312 ⇓P P 00 00 56.1 +0.5
HNS pmax pmax
comp=Z,33nm,0.9s
K20K Telida 88.66 10 P P 00 00 55.9 +0.5
baz=201
HEH HeiHe 88.68 328 *e*P **P 00 00 55.7 0.0**
HEH pmax pmax
comp=Z,54nm,0.6s
LYN LuoYang 88.70 309 ⇓P P 00 00 56.9 +0.7
LYN pmax pmax
comp=Z,45nm,0.9s
LYN pmax pmax
comp=Z,260nm,6.0s
PINM Pinnacle 88.73 17 P P 00 00 56.6 +0.8
baz=213
MLSI Meulaboh, Aceh 88.81 275 P P 00 00 56.5 -0.8
comp=Z,83nm,0.8s
H16K Elim 88.84 6 P P 00 00 56.6 +0.5
baz=193,SNR=40
N25K Chitina, Valde 88.93 15 P P 00 00 57.5 +0.7
baz=209,SNR=40
BJT Baijiatuau 89.01 315 P P 00 00 57.6 +0.1
M24K Tolsona, Glenn 89.01 14 P P 00 00 58.2 +1.1
baz=208,SNR=14
BJI Beijing 89.02 315 P P 00 00 57.6 +0.1
BJI pP **pwP** **00 01 24.1 -1.8**
BJI pmax pmax
comp=Z,7.0nm,0.9s
G15K Niukluk 89.02 5 P P 00 00 57.4 +0.5
baz=192
J19K Poorman 89.03 9 P P 00 00 58.1 +1.1
baz=199
CAST Castle Rocks 89.05 11 P P 00 00 56.5 -0.7
baz=203,SNR=95
SLVN Son La 89.25 294 P P 00 01 00.6 +1.4
GYA Guiyang 89.26 299 ⇓P P 00 01 00.7 +1.5
GYA pmax pmax
comp=Z,15nm,1.4s
TNA Tin City 89.30 4 IAmb IAmb 00 00 59.8
comp=Z,36nm,0.8s
TNA Tin City 89.30 4 P P 00 00 58.7 +0.5
baz=188,SNR=28
O28M Mount Upton 89.31 17 P P 00 00 59.5 +0.7
baz=213,SNR=13
F14K Arctic Creek 89.32 4 P P 00 00 58.8 +0.4
baz=190
PLBC Pleasant Camp 89.32 19 P P 00 00 59.7 +1.2
baz=216,SNR=5.5
NEW Newport 89.35 35 LR LR 00 32 42.4
comp=Z,60nm,20.6s,baz=254,slow=30
O29M Mount Kennedy 89.37 18 IAmb IAmb 00 01 03.5
comp=Z,46nm,1.1s
O29M Mount Kennedy 89.37 18 P P 00 01 00.3 +1.5
baz=215,SNR=7.9
RDMU Red Mountain 89.37 45 IAmb IAmb 00 01 02.9
comp=Z,8.5nm,0.7s
H17K Granite Mounta 89.38 7 P P 00 00 58.7 +0.1
baz=196
TRF Thorofare Moun 89.40 12 P P 00 00 59.0 0.0
baz=204,SNR=173
J20K Nowinta River 89.42 10 P P 00 00 59.5 +0.6
baz=201
T35M Bob Quinn 89.44 23 IAmb IAmb 00 01 09.1
comp=Z,26nm,1.2s
T35M Bob Quinn 89.44 23 P P 00 01 01.1 +1.9
baz=222
CHUM Lake Minchumin 89.44 11 P P 00 00 58.7 -0.3
baz=202,SNR=29
HARP HAARP 89.50 14 P P 00 01 00.1 +0.8
baz=209,SNR=12
G16K Koyuk River 89.57 6 P P 00 01 00.0 +0.5
baz=193
GCSA Galena City Sc 89.57 8 P P 00 01 00.2 +0.7
baz=198,SNR=5.7
CMIG Matias Romero 89.61 71 LR LR 00 31 01.4
comp=Z,66nm,22.0s,baz=256,slow=29
SKAG Skagway 89.64 20 P P 00 01 01.8 +1.8
baz=217
F15K North Star Dit 89.67 5 P P 00 01 00.4 +0.4
baz=191
P30M Million Dollar 89.69 19 P P 00 01 01.8 +1.5
baz=216
S22A 4UR Ranch, Cre 89.72 48 P P 00 01 02.5 +1.2
baz=239
H18K Honhosa River 89.77 8 P P 00 01 00.6 +0.1
baz=197
SEY Seymchan 89.81 346 *i* P **P 00 01 00.9 +0.2**
SEY pmax pmax
comp=Z,152nm,0.9s
S34M Telegraph Cree 89.82 22 P P 00 01 02.9 +2.0
baz=221,SNR=13
G17K Kiwalik Mounta 89.84 7 P P 00 01 01.3 +0.5
baz=195,SNR=41
YUK8 Steele Glacier 89.86 17 P P 00 01 02.7 +1.3
baz=214,SNR=24
BPAW Bear Paw Mtn. 89.87 11 P P 00 01 00.3 -0.7
baz=204
MCK McKinley 89.91 12 P P 00 01 01.4 +0.2
baz=205,SNR=52
PAX Paxson 89.93 14 IAmb IAmb 00 01 02.7
comp=Z,37nm,1.0s
PAX Paxson 89.93 14 P P 00 01 01.6 +0.2
baz=208,SNR=22
I20K Naaghedeneel 89.95 9 P P 00 01 01.8 +0.5
baz=200
YUK6 Outpost Mounta 89.96 18 P P 00 01 02.3 +0.5
baz=215,SNR=5.9
M26K Nabesna, AK 90.00 15 P P 00 01 02.5 +0.8
baz=211
YUK3 Moose Creek 90.09 16 P P 00 01 03.4 +1.0
baz=213,SNR=47
HYT Haines Junctio 90.10 18 IAmb IAmb 00 01 04.7
comp=Z,32nm,1.0s
HYT Haines Junctio 90.10 18 P P 00 01 03.4 +1.1
baz=216,SNR=8.7
DLMT Dillon 90.16 39 IAmb IAmb 00 01 05.1
comp=Z,17nm,0.8s
SNOW Snow King Moun 90.19 42 IAmb IAmb 00 01 05.6
comp=Z,13nm,0.9s
YUK4 Talbot Arm 90.21 17 P P 00 01 04.4 +1.5
baz=215,SNR=6.2
M27K Edge Creek, AK 90.23 15 P P 00 01 04.3 +1.4
baz=212
MSO Missoula 90.23 38 IAmb IAmb 00 01 07.2
comp=Z,16nm,1.4s
Q32M Nakina River 90.23 21 P P 00 01 04.4 +1.4
baz=220
DRIO Del Rio 90.25 58 IAmb IAmb 00 01 07.9
comp=Z,22nm,1.1s
P32M Atlin 90.25 20 IAmb IAmb 00 01 05.5
comp=Z,25nm,1.0s
P32M Atlin 90.25 20 P P 00 01 04.2 +1.3
baz=219,SNR=5.1
MENT Mentasta 90.29 14 P P 00 01 04.2 +1.2
TIY Taiyuan 90.31 311 *e*P **P 00 01 04.5 +0.7**
TIY pmax pmax
comp=Z,36nm,1.0s
BSI Banda Aceh 90.32 276 P P 00 01 02.8 -1.5
comp=Z,49nm,0.8s
H19K Roundabout Mou 90.37 8 P P 00 01 04.1 +0.9
baz=199
G18K Tagagawik 90.45 7 P P 00 01 03.8 +0.2
baz=197
SRDT SRDT 90.45 285 P P 00 01 06.4 +1.6
L26K Log Cabin Wild 90.45 15 P P 00 01 04.8 +1.0
baz=210,SNR=22
O30N Mendenhall 90.46 19 P P 00 01 04.7 +0.8
baz=217,SNR=13
BVCY Beaver Creek 90.53 16 P P 00 01 05.2 +1.1
baz=213,SNR=28
H20K Anotleneega Mo 90.55 9 P P 00 01 05.0 +0.9
baz=200
PDAR Pinedale Array 90.55 43 P P 00 01 05.0 -0.1
PDAR Pinedale Array 90.55 43 P P 00 01 05.3 +0.3
comp=Z,5.9nm,0.8s,baz=210,slow=3.1,SNR=54
PDAR pP **pwP** **00 01 30.7 -1.7**
comp=Z,5.9nm,1.1s,baz=225,slow=3.8,SNR=2.9
PDAR PKKP **PKKPdf** **00 18 29.7 -0.3**
comp=Z,0.6nm,0.7s,baz=6.3,slow=3.5,SNR=6.4
PDAR LR LR 00 34 45.9
comp=Z,34nm,19.7s,baz=292,slow=31
comp=Z,5.9nm,0.8s
FLWY Flagg Ranch 90.57 41 IAmb IAmb 00 01 07.5
comp=Z,20nm,0.8s

K24K **Donnelly Dome** 90.60 13 P P 00 01 05.2 +0.8
baz=208,SNR=33
DLBC **Dease Lake** 90.60 23 IAmb IAmb 00 01 07.3
comp=Z,31nm,1.1s
DLBC **Dease Lake** 90.60 23 P P 00 01 05.0 +0.3
comp=Z,17nm,0.9s,baz=228,slow=6.6,SNR=15
comp=Z,17nm,0.9s
DLBC **Dease Lake** 90.60 23 P P 00 01 06.0 +1.3
baz=222,SNR=7.7
YHB **Horse Butte** 90.64 40 IAmb IAmb 00 01 10.2
comp=Z,23nm,1.1s
NEA2 **Nenana** 90.66 12 IAmb IAmb 00 01 06.5
comp=Z,22nm,1.0s
YFT **Old Faithful** 90.69 41 P P 00 01 06.5 +0.9
YFT IAmb IAmb 00 01 09.0
comp=Z,8.7nm,0.7s
F17K **Baldwin Pennin** 90.70 6 P P 00 01 05.2 +0.5
baz=194
YHL **Hebgen Lake** 90.70 40 IAmb IAmb 00 01 10.2
comp=Z,22nm,0.8s
I21K **Tanana** 90.70 10 P P 00 01 04.8 0.0
baz=203
833A **Chaparral WMA,** 90.71 59 IAmb IAmb 00 01 09.5
comp=Z,13nm,0.9s
833A **Chaparral WMA,** 90.71 59 P P 00 01 07.9 +2.2
baz=243
YMR **Madison River** 90.73 41 IAmb IAmb 00 01 09.4
comp=Z,14nm,0.8s
MSTX **Muleshoe** 90.73 53 IAmb IAmb 00 01 07.7
comp=Z,18nm,0.7s
WHY **Whitehorse** 90.73 19 IAmb IAmb 00 01 07.0
comp=Z,20nm,0.8s
WHY **Whitehorse** 90.73 19 P P 00 01 06.1 +0.9
baz=218,SNR=9.4
N30M **Aishikik Lake** 90.74 18 P P 00 01 06.1 +0.9
baz=216
RIDG **Independent Ri** 90.74 14 P P 00 01 05.6 +0.4
baz=209,SNR=20
H17A **Grant Village** 90.81 41 IAmb IAmb 00 01 09.4
comp=Z,12nm,0.9s
L27K **Beaver Creek,** 90.84 15 IAmb IAmb 00 01 07.5
comp=Z,32nm,0.8s
L27K **Beaver Creek,** 90.84 15 P P 00 01 06.3 +0.7
baz=212,SNR=25
G19K **Purcell Mounta** 90.87 8 P P 00 01 06.2 +0.5
baz=198,SNR=22
HDA **Harding Lake** 90.90 12 P P 00 01 05.8 0.0
baz=207,SNR=15
YNR **Norris Junctio** 90.92 41 IAmb IAmb 00 01 20.8
comp=Z,14nm,1.2s
SGCY **Sterling City** 91.00 55 IAmb IAmb 00 01 11.7
comp=Z,10nm,0.8s
R33M **Jennings River** 91.00 22 P P 00 01 07.9 +1.4
baz=221
H21K **Melozitna Rive** 91.01 10 P P 00 01 07.0 +0.7
baz=202
F18K **Selawik** 91.02 7 P P 00 01 06.2 0.0
baz=196,SNR=24
XAN **Xi'an** 91.02 307 ⇓P P 00 01 07.3 +0.2
XAN pP pwP 00 01 32.9 -2.7
XAN sP sP 00 01 46.0 +3.8
XAN S S 00 11 57.2 +0.5
XAN pmax pmax
comp=Z,56nm,0.9s
XAN pmax pmax
comp=Z,330nm,6.0s
XAN LR LR
comp=Z,350nm,19.1s
XAN LR LR
comp=Z,310nm,16.0s
XAN LR LR
comp=Z,210nm,21.3s
P33M **Teslin, Yukon** 91.02 20 IAmb IAmb 00 01 09.2
comp=Z,21nm,0.9s
P33M **Teslin, Yukon** 91.02 20 P P 00 01 07.6 +1.1
baz=220,SNR=9.2
ZEA **Zeya** 91.03 330 *e*P P 00 01 06.9 +0.3
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
T25A **Trinidad** 91.08 50 P P 00 01 08.4 +0.8
T25A **Trinidad** 91.08 50 P P 00 01 08.4 +0.8
baz=241
I23K **Minto, Yukon-K** 91.12 11 IAmb IAmb 00 01 07.7
comp=Z,54nm,1.4s
I23K **Minto, Yukon-K** 91.12 11 P P 00 01 06.3 -0.4
baz=205,SNR=14
N31M **Braeburn, Yuko** 91.13 18 P P 00 01 07.7 +0.8
N31M **Braeburn, Yuko** 91.13 18 P P 00 01 08.4 +1.4
baz=217,SNR=9.8
SCRK **Sand Creek** 91.14 14 IAmb IAmb 00 01 08.8
comp=Z,33nm,1.0s
SCRK **Sand Creek** 91.14 14 P P 00 01 07.7 +0.7
baz=210,SNR=20
XLT **XiLinHaoTe** 91.14 318 *e*P P 00 01 05.0 -2.5
XLT pmax pmax
comp=Z,12nm,1.1s
COLA **College** 91.14 12 P P 00 01 06.9 0.0
COLA **College** 91.14 12 P P 00 01 06.9 0.0
baz=206
COLA **College** 91.14 12 P P 00 01 06.8 -0.1
COLA **College** 91.14 12 P P 00 01 06.9 0.0
COLA pmax pmax
comp=Z,68nm,0.7s
M29M **Somme Creek** 91.17 17 P P 00 01 08.3 +1.1
baz=215
ILAR **Eielson Array** 91.24 12 P P 00 01 07.2 -0.2
comp=Z,18nm,0.8s,baz=222,slow=5.6,SNR=133
ILAR PP PP 00 04 46.8 +0.7
comp=Z,8.6nm,0.9s,baz=220,slow=8.3,SNR=6.4
ILAR PKKP PKKPdf 00 18 29.1 -0.2
comp=Z,0.2nm,0.6s,baz=343,slow=1.6,SNR=4.0
comp=Z,18nm,0.8s
POST **Post** 91.25 54 IAmb IAmb 00 01 12.1
comp=Z,20nm,1.0s
E17K **Hotham Inlet** 91.27 6 P P 00 01 08.1 +0.7
baz=194,SNR=60
HNDO **Hondo** 91.34 58 IAmb IAmb 00 01 13.2
comp=Z,17nm,0.9s
JCT **Junction City** 91.36 57 IAmb IAmb 00 01 14.3
comp=Z,8.5nm,0.8s
J25K **Salcha River,** 91.40 13 P P 00 01 08.7 +0.5
baz=209
POKR **Poker Plat Res** 91.44 12 P P 00 01 08.2 -0.1
baz=207,SNR=16
F19K **Shaleruckik Mo** 91.45 7 P P 00 01 08.6 +0.4
baz=197
H22K **Ishtalitna Cre** 91.46 10 P P 00 01 08.8 +0.4
baz=203
Q24A **Divide** 91.47 48 P P 00 01 10.5 +1.0
baz=240
YNE **Yellowstone No** 91.48 41 IAmb IAmb 00 01 14.0
comp=Z,20nm,1.0s
SN05 **Snyder 5** 91.62 55 IAmb IAmb 00 01 11.3
comp=Z,12nm,0.7s
N32M **Quiet Lake** 91.67 20 P P 00 01 10.7 +1.2
baz=219
J26L **Joseph Creek** 91.69 14 P P 00 01 10.8 +1.3
baz=210,SNR=89
G21K **Allakaket** 91.71 9 P P 00 01 10.1 +0.6
baz=201
E18K **Tukpahlearik C** 91.71 6 P P 00 01 10.2 +0.7
baz=195
SN07 **Snyder 07** 91.72 55 IAmb IAmb 00 01 11.6
comp=Z,9.5nm,0.7s
M30M **Minto, Yukon** 91.72 17 P P 00 01 10.6 +0.9
baz=216,SNR=22
D17K **Noatak River** 91.76 5 P P 00 01 10.3 +0.6
baz=193,SNR=33
L29M **L29M** 91.81 16 P P 00 01 11.2 +1.1
baz=215
KMI **Kunming** 91.85 297 ⇓P P 00 01 12.5 +1.1
KMI pmax pmax
comp=Z,12nm,1.1s
N23A **Red Feather La** 91.90 46 P P 00 01 12.5 +1.2
baz=240
F20K **Avaraart Lake** 91.91 8 P P 00 01 11.0 +0.6
baz=199
RTBA **Rita Blanca** 91.92 51 IAmb IAmb 00 01 16.2
comp=Z,17nm,1.4s
DKNS **Dickens** 91.95 54 IAmb IAmb 00 01 13.7
comp=Z,8.9nm,0.6s
AMTX **Amarillo** 91.96 53 IAmb IAmb 00 01 13.5
comp=Z,9.7nm,0.8s
RLMT **Red Lodge** 91.99 41 IAmb IAmb 00 01 13.8
comp=Z,9.8nm,0.9s
H24K **Noodor Dome** 92.01 11 P P 00 01 11.0 +0.1
baz=206
HIA **Hailar** 92.01 324 *ce*P P 00 01 11.1 -0.2
HIA pmax pmax
comp=Z,10.0nm,1.0s
M31M **Drury Creek, Y** 92.10 18 IAmb IAmb 00 01 12.4
comp=Z,11nm,0.9s
M31M **Drury Creek, Y** 92.10 18 P P 00 01 11.9 +0.5
baz=218,SNR=7.7
E19K **Redstone River** 92.11 7 P P 00 01 12.0 +0.7
baz=198
RDOG **Red Dog Mine** 92.12 5 P P 00 01 12.1 +0.7
baz=193,SNR=14
C16K **Lisburne Hills** 92.16 4 P P 00 01 11.8 +0.3
baz=191
PRP **Porcupine Dome** 92.17 12 P P 00 01 11.8 0.0
baz=208,SNR=22
WTLY **Watson Lake, Y** 92.27 22 IAmb IAmb 00 01 14.7
comp=Z,25nm,1.2s
WTLY **Watson Lake, Y** 92.27 22 P P 00 01 13.6 +1.3
baz=223
DAWY **Dawson** 92.28 15 P P 00 01 13.2 +0.9
baz=214,SNR=28
CMAR **Chiang Mai Arr** 92.28 289 P P 00 01 13.9 +0.6
CMAR **Chiang Mai Arr** 92.28 289 P P 00 01 14.6 +1.3
comp=Z,17nm,0.8s,baz=139,slow=3.3,SNR=90
CMAR PP PP 00 04 53.5 -1.7
comp=Z,1.8nm,0.3s,baz=128,slow=6.6,SNR=5.8
comp=Z,17nm,0.8s
CMAR **Chiang Mai Arr** 92.28 289 P P 00 01 13.9 +0.6
BRDY **Brady** 92.34 57 IAmb IAmb 00 01 17.1
comp=Z,10.0nm,0.9s
F21K **Alatna River** 92.38 9 IAmb IAmb 00 01 14.0
comp=Z,15nm,1.0s
F21K **Alatna River** 92.38 9 P P 00 01 12.8 +0.2
baz=201,SNR=16
G22K **Bettles** 92.39 10 P P 00 01 13.2 +0.6
baz=203
BILL **Bilibino** 92.39 354 P P 00 01 12.9 +0.3
BILL **Bilibino** 92.39 354 *i* P P 00 01 13.2 +0.6
BILL pmax pmax
comp=Z,82nm,1.0s
APMT **Aspermont** 92.40 55 IAmb IAmb 00 01 15.4
comp=Z,16nm,0.7s
K22A **Casper** 92.40 44 IAmb IAmb 00 01 17.3
comp=Z,8.9nm,0.9s
CHTO **Chiang Mai** 92.43 289 P P 00 01 14.9 +1.0
CHTO **Chiang Mai** 92.43 289 P P 00 01 14.9 +1.0
CHTO pmax pmax
comp=Z,42nm,0.9s
FARO **Faro, Yukon** 92.43 19 IAmb IAmb 00 01 14.1
comp=Z,8.1nm,0.8s
FARO **Faro, Yukon** 92.43 19 P P 00 01 13.6 +0.6
baz=219,SNR=5.6
G23K **Bananza Creek** 92.43 10 P P 00 01 13.2 +0.4
baz=204
ABTX **Abilene, Hawle** 92.44 55 IAmb IAmb 00 01 19.1
comp=Z,38nm,1.3s
HHC **Hu-ho-hao-te** 92.45 314 *e*P P 00 01 14.1 +0.4
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,170nm,4.5s
EGAK **Eagle** 92.46 14 P P 00 01 13.8 +0.8
baz=212,SNR=24
I26K **Coal Creek Min** 92.47 13 P P 00 01 13.6 +0.5
baz=211
C17K **DeLong Mountai** 92.51 5 P P 00 01 13.5 +0.3
baz=192
K29M **Barlow Dome** 92.56 16 P P 00 01 14.8 +1.1
baz=216
TOAD **Toad River Com** 92.64 24 P P 00 01 15.0 +1.0
baz=226,SNR=12
MAYO **Mayo, Yukon** 92.79 17 P P 00 01 15.1 +0.5
baz=217
C18K **Utukok River** 92.85 6 P P 00 01 15.0 +0.2
baz=194
G24K **Hadweenzic Riv** 92.86 11 P P 00 01 14.9 0.0
baz=207
COLD **Coldfoot** 92.87 10 IAmb IAmb 00 01 17.7
comp=Z,31nm,1.2s
COLD **Coldfoot** 92.87 10 P P 00 01 15.6 +0.8
baz=204,SNR=11
J29N **Klondike Camp** 92.89 16 P P 00 01 16.4 +1.3
baz=215
E20K **Nigu River** 93.00 8 P P 00 01 16.2 +0.7
baz=199
D19K **Kuna River** 93.01 7 P P 00 01 15.6 +0.1
baz=197
I27K **Kandik River** 93.06 14 P P 00 01 16.6 +0.7
baz=212
SMWD **Samnorwood** 93.11 53 IAmb IAmb 00 01 18.3
comp=Z,7.8nm,0.7s
PZH **PanZhiHua** 93.25 297 P P 00 01 17.8 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,6.8s
I28M **Miner Creek** 93.31 15 P P 00 01 17.5 +0.5
baz=213
MMPY **Sheldon Lake,** 93.35 19 P P 00 01 18.3 +1.0
baz=221,SNR=8.5
BTO **Baotou** 93.36 313 *e*P P 00 01 18.9 +1.0
BTO PP PP 00 05 07.1 +3.7
BTO S S 00 12 16.1 -1.3
BTO pmax pmax
comp=Z,40nm,1.1s
BTO pmax pmax
comp=Z,290nm,5.6s
BTO LR LR
comp=Z,400nm,5.5s
BTO LR LR
comp=Z,330nm,6.2s
BTO LR LR
comp=Z,260nm,5.9s
D20K **Etivluk River** 93.38 7 P P 00 01 17.7 +0.5
baz=198
E21K **Killik River** 93.45 8 P P 00 01 18.0 +0.4
baz=201
E22K **Anaktuvuk Pass** 93.47 9 P P 00 01 18.4 +0.7
baz=203
J30M **Hart River** 93.47 16 P P 00 01 18.7 +0.9
baz=217
B18K **Kokolik River** 93.50 5 P P 00 01 18.4 +0.7
baz=194
F24K **Squaw Lake** 93.52 11 P P 00 01 18.5 +0.6
baz=206
PLPT **Palo Pinto** 93.53 56 IAmb IAmb 00 01 22.9
comp=Z,22nm,1.0s
H27K **Steamboat Moun** 93.61 14 P P 00 01 19.1 +0.8
baz=212,SNR=18
I29M **Ogilvie Camp,** 93.62 15 P P 00 01 19.7 +1.3
baz=215
E23K **Chanadalar** 93.73 10 IAmb IAmb 00 01 21.5
comp=Z,13nm,0.9s
G26K **Porcupine Rive** 93.77 12 P P 00 01 20.0 +1.1
baz=210
WTFS **Witchita Falls** 93.83 55 P P 00 01 21.1 +1.1
WTFS IAmb IAmb 00 01 24.7
comp=Z,14nm,0.9s
E24K **Your Creek** 93.92 10 IAmb IAmb 00 01 22.0
comp=Z,6.9nm,0.8s
E24K **Your Creek** 93.92 10 P P 00 01 20.2 +0.4
baz=206,SNR=11
I30M **Mount Dempster** 93.98 16 P P 00 01 20.6 +0.4
baz=217
F25K **Christian Rive** 93.98 11 P P 00 01 21.0 +1.0
baz=208
C21K **Knifeblade Rid** 94.02 8 P P 00 01 20.8 +0.7
baz=200
D22K **Ayikyak River** 94.03 9 IAmb IAmb 00 01 22.2
comp=Z,17nm,0.8s
D22K **Ayikyak River** 94.03 9 P P 00 01 21.0 +0.8
baz=202
G27K **Doyon Strip** 94.08 13 P P 00 01 21.1 +0.7
baz=212
NNA **Nana** 94.11 105 LR LR 00 35 18.5
comp=Z,244nm,19.7s,baz=245,slow=30
TOLK **Toolik Lake Re** 94.27 10 IAmb IAmb 00 01 23.9
comp=Z,16nm,1.0s
TOLK **Toolik Lake Re** 94.27 10 P P 00 01 21.8 +0.5
baz=205,SNR=7.3
H29M **Whitestone** 94.31 15 P P 00 01 22.1 +0.6
baz=215
GO02 **Mina Guanaco** 94.33 120 P P 00 01 23.7 +0.6
GO02 IAmb IAmb 00 01 25.8
comp=Z,18nm,1.2s
GO02 pwP 00 01 51.6 +2.9
F26K **Sheenjek River** 94.35 12 P P 00 01 22.7 +1.0
baz=210
D23K **Nanushuk River** 94.40 9 P P 00 01 22.5 +0.7
baz=204
E25K **Arctic Village** 94.46 11 IAmb IAmb 00 01 24.2
comp=Z,8.6nm,0.9s
E25K **Arctic Village** 94.46 11 P P 00 01 22.9 +0.7
baz=208,SNR=9.8
B21K **Ikpikpuk River** 94.48 8 P P 00 01 22.7 +0.5
baz=200
Z35A **Perchaven, San** 94.56 56 P P 00 01 23.7 +0.3
Z35A IAmb IAmb 00 01 25.3
comp=Z,15nm,0.8s
LAO **LASA Array** 94.62 41 P P 00 01 23.5 +0.1
LAO IAmb IAmb 00 01 25.4
comp=Z,8.3nm,0.8s
X34A **Smith Ranch, M** 94.67 54 P P 00 01 24.1 +0.1
X34A IAmb IAmb 00 01 29.1
comp=Z,22nm,1.1s
RSSD **Black Hills** 94.71 44 P P 00 01 24.7 +0.6
RSSD IAmb IAmb 00 01 27.7
comp=Z,18nm,0.8s
RSSD **Black Hills** 94.71 44 P P 00 01 24.7 +0.6
ATAH **Atahualpa** 94.75 100 LR LR 00 34 41.6
comp=Z,264nm,21.7s,baz=237,slow=29
EPYK **Eagle Plains** 94.82 15 P P 00 01 24.9 +1.0
EPYK IAmb IAmb 00 01 41.1
comp=Z,11nm,0.9s
EPYK **Eagle Plains** 94.82 15 P P 00 01 24.4 +0.5
baz=216
D24K **Happy Valley** 94.85 10 P P 00 01 24.7 +0.8
baz=206
H31M **Peel River** 94.96 16 P P 00 01 24.3 -0.2
baz=218
G29M **Pine Creek** 94.96 14 P P 00 01 25.0 +0.5
baz=215
F28M **Old Crow** 95.14 13 IAmb IAmb 00 01 26.9
comp=Z,14nm,0.8s
F28M **Old Crow** 95.14 13 P P 00 01 25.9 +0.6
baz=214,SNR=10.0
B22K **Teshekpuk Lake** 95.30 8 P P 00 01 26.3 +0.4
baz=202
C24K **Franklin Bluff** 95.38 9 P P 00 01 26.9 +0.7
baz=206
D25K **Kavik River** 95.39 10 P P 00 01 26.5 +0.1
baz=208
G30M **tAoh Zraii Nji** 95.43 15 P P 00 01 26.8 +0.1
baz=217,SNR=14
YAK **Yakutsk** 95.56 338 P P 00 01 26.7 -0.6
YAK **Yakutsk** 95.56 338 *d* *i*P P 00 01 26.4 -0.9
YAK *e* 00 05 14.9
YAK *e*S SKSac 00 11 59.4 +5.5
YAK *e*SS SS 00 19 13.5 +6.9
YAK pmax pmax
comp=Z,71nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,221nm,4.3s
YAK pmax pmax
comp=E,152nm,4.2s
YAK pmax pmax
comp=N,180nm,4.4s
YAK smax smax
comp=N,198nm,5.2s
YAK smax smax
comp=E,109nm,5.4s
LZH **Lanzhou** 95.66 307 *e*P P 00 01 29.6 +1.0
LZH sP sP 00 02 03.2 -0.5
LZH pmax pmax
comp=E,28nm,1.2s
JTS **Las Juntas de** 95.71 81 LR LR 00 35 31.6
comp=E,54nm,20.7s,baz=42,slow=30
KAN01 **Argonia South** 95.81 52 IAmb IAmb 00 01 33.1
comp=Z,8.3nm,0.9s
G31M **Satah River** 95.85 16 P P 00 01 28.8 +0.3
baz=219
A21K **Barrow** 95.87 6 P P 00 01 28.5 +0.1
baz=199
KAN09 **Caldwell North** 95.91 52 IAmb IAmb 00 01 35.3
comp=Z,12nm,1.1s
E28M **Babbage River** 96.03 13 P P 00 01 30.3 +0.9
baz=214
F30M **Barrier River** 96.04 15 P P 00 01 30.0 +0.6
baz=217
C27K **Jago River** 96.11 11 P P 00 01 29.9 +0.3
baz=210
C26K **Camden Bay** 96.16 11 P P 00 01 30.7 +0.9
baz=209
E29M **Blow River** 96.20 14 P P 00 01 30.0 -0.1
baz=215
WRGLY **Wrigley** 96.28 21 P P 00 01 31.1 +0.6
baz=228
D27M **Malcolm River** 96.29 12 P P 00 01 31.3 +0.7
baz=213
F31M **Tsiigehtchic** 96.39 15 P P 00 01 31.1 +0.2
baz=219,SNR=5.2
D28M **Stokes Point** 96.80 13 P P 00 01 32.8 +0.1
baz=215
INK **Inuvik** 97.12 15 IAmb IAmb 00 01 37.9
comp=Z,13nm,1.1s
INK **Inuvik** 97.12 15 P P 00 01 33.9 -0.3
baz=219,SNR=7.0
ULN **Ulaanbaatar** 98.58 319 P P 00 01 41.1 -0.4
ULN IAmb IAmb 00 01 44.5
comp=Z,4.5nm,0.9s
ULN **Ulaanbaatar** 98.58 319 P P 00 01 41.1 -0.4
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM **Songino Array** 98.96 318 P P 00 01 42.2 -0.9
comp=Z,2.1nm,0.8s,baz=128,slow=3.8,SNR=8.5
SONM PP PP 00 05 45.2 -1.4
comp=Z,1.0nm,0.8s,baz=124,slow=6.2,SNR=4.8
comp=Z,2.1nm,0.8s
YKA **Yellowknife Ar** 98.99 25 P P 00 01 42.2 -0.5
comp=Z,1.4nm,0.8s,baz=240,slow=4.8,SNR=21
YKA PP PP 00 05 45.6 -0.6
comp=Z,0.6nm,0.9s,baz=244,slow=7.3,SNR=3.9
YKA PKKPbc PKKPbc 00 18 07.4 -3.8
comp=Z,0.6nm,0.7s,baz=46,slow=2.1,SNR=6.4
comp=Z,1.4nm,0.8s
ECSD **EROS Data Cent** 99.34 46 IAmb IAmb 00 01 50.8
comp=Z,6.5nm,1.2s
LPAZ **La Paz** 99.75 113 P Pdif 00 01 49.4 +1.4
comp=Z,2.3nm,0.8s,baz=296,slow=4.0,SNR=5.0
LPAZ PP PP 00 05 54.5 +1.2
comp=Z,0.8nm,0.5s,baz=233,slow=5.1,SNR=4.3
LPAZ PKKPbc PKKPbc 00 18 07.4 -0.4
comp=Z,1.3nm,0.5s,baz=17,slow=6.6,SNR=4.5
LPAZ LR LR 00 39 11.5
comp=Z,90nm,18.7s,baz=245,slow=31
comp=Z,2.3nm,0.8s
GTA **Gaotai** 99.92 309 *e*P Pdif 00 01 47.6 0.0
GTA pmax pmax
comp=Z,5.0nm,1.0s
C36M **Paulatuk** 100.23 17 P Pdif 00 01 47.9 -0.2
baz=228
A36M **Sachs Harbour** 101.74 14 P Pdif 00 01 55.1 +0.3
baz=227
TIXI **Tiksi** 102.19 345 *i* P Pdif 00 01 56.1 -0.7
CPUP **Villa Florida** 103.13 127 PKKPbc PKKPbc 00 17 56.1 -1.4
comp=Z,1.4nm,0.7s,baz=15,slow=1.5,SNR=2.3
WMQ **Urumqi** 109.92 310 Pdif Pdif 00 02 33.4 +1.5
WMQ LR LR
comp=Z,140nm,24.3s
RES **Resolute Bay** 110.60 16 PKiKP PKiKP 00 06 32.3 -1.5
comp=Z,1.8nm,0.8s,baz=214,slow=3.6,SNR=6.4
ZSN **Zaisan** 112.64 313 *i* PKIKP PKiKP 00 06 37.7 -0.8
ZSN **Zaisan** 112.64 313 *e*PKiKP PKiKP 00 06 37.8 -0.8
ZALV **Zalesovo Beam** 113.74 320 Pdiff Pdif 00 02 45.2 -3.4
comp=Z,0.2nm,0.4s,baz=108,slow=3.6,SNR=2.0
ZALV PKIKP PKiKP 00 06 39.3 -1.1
comp=Z,8.3nm,0.5s,baz=163,slow=1.1,SNR=59
NRIK **Noril'sk** 114.01 337 PKiKP PKiKP 00 06 39.3 -1.2
comp=Z,5.4nm,0.8s,baz=102,slow=3.5,SNR=11
NRIK **Noril'sk** 114.01 337 *i* PKIKP PKiKP 00 06 40.6 +0.1
MK31 **Makanchi Array** 114.26 312 *i* PKIKP PKPdf 00 06 40.8 -0.9
MKAR **Makanchi Array** 114.26 312 Pdiff Pdif 00 02 53.3 +2.2
comp=Z,0.5nm,0.8s,baz=102,slow=5.9,SNR=5.5
MKAR PKP PKPdf 00 06 40.7 -0.9
comp=Z,3.2nm,0.5s,baz=202,slow=1.2,SNR=67
MKAR PKKPbc PKKPbc 00 17 23.1 +0.1
comp=Z,0.4nm,0.6s,baz=268,slow=3.6,SNR=3.6
SHLS **Shalkode** 115.65 308 *e*PKIKP PKPdf 00 06 43.1 -1.5
SHLS **Shalkode** 115.65 308 *e*PKP PKPdf 00 06 43.2 -1.5
UZB **Uzynbulak** 115.97 308 *e*PKIKP PKPdf 00 06 44.5 -0.7

UZB	Uzynbulak	115.97	308	ePKP	PKPdf	00 06 44.5	-0.7
KPKS	Kokpek	116.26	308	ePKIKP	PKPdf	00 06 45.0	-0.7
KPKS				e		00 07 51.3	
KPKS	Kokpek	116.26	308	ePKP	PKPdf	00 06 45.1	-0.7
KPKS				ePP	PP	00 07 51.4	-1.7
SATY	Saty	116.40	308	ePKIKP	PKPdf	00 06 45.1	-0.9
SATY	Saty	116.40	308	ePKP	PKPdf	00 06 45.1	-0.9
BDFB	Brasilia	116.42	123	PKKPbc	PKKPbc	00 17 13.0	-1.9
	comp=Z,4.4nm,0.6s,baz=129,slow=4.2,SNR=10						
TDK	Taldyqorghan	116.67	310	ePKIKP	PKPdf	00 06 45.5	-0.9
TDK	Taldyqorghan	116.67	310	ePKP	PKPdf	00 06 45.5	-0.9
KURK	Kurchatov	117.16	316		PKPdf	00 06 46.0	-1.0
KURK	Kurchatov	117.16	316	P	PKPdf	00 06 46.3	-0.7
KURK	Kurchatov	117.16	316	*i* PKIKP	PKPdf	00 06 46.3	-0.7
KURBB	Kurchatov Arra	117.21	316	PKP	PKPdf	00 06 46.3	-0.9
	comp=Z,9.8nm,0.8s,baz=101,slow=1.8,SNR=40						
KURBB				PP	PP	00 07 57.4	-1.9
	comp=Z,1.4nm,0.7s,baz=103,slow=6.9,SNR=5.2						
MDOK	Medeo	117.40	308	ePKIKP	PKPdf	00 06 47.1	-0.9
MDOK				e		00 07 59.1	
MDOK	Medeo	117.40	308	ePKP	PKPdf	00 06 47.2	-0.9
MDOK				ePP	PP	00 07 59.1	-1.9
TNSS	Tian-Shan	117.46	308	ePKIKP	PKPdf	00 06 47.2	-1.2
TNSS	Tian-Shan	117.46	308	ePKP	PKPdf	00 06 47.2	-1.2
KSH	Kashi	117.67	303	PKP	PKPdf	00 06 49.1	+0.5
TKM2	Tokmak 2	118.42	307	P	PKPdf	00 06 49.5	-0.6
	SNR=10						
NIL	Nilore	118.84	297		PKPdf	00 06 50.4	-0.5
NIL	Nilore	118.84	297	P	PKPdf	00 06 50.2	-0.7
NIL	Nilore	118.84	297	PKIKP	PKPdf	00 06 50.4	-0.5
KBK	Karagaybulak	118.87	307	P	PKPdf	00 06 50.6	-0.3
	SNR=8.5						
CHMS	Chumysh	119.05	307	P	PKPdf	00 06 50.6	-0.5
	SNR=11						
AAK	Ala-Archa	119.20	307		PKPdf	00 06 51.2	-0.3
AAK	Ala-Archa	119.20	307	P	PKPdf	00 06 51.3	-0.3
AAK	Ala-Archa	119.20	307	PKIKP	PKPdf	00 06 51.2	-0.3
AAK	Ala-Archa	119.20	307	*i* PKPdf	PKPdf	00 06 50.7	-0.8
	SNR=6.0						
USP	Ospenovka	119.26	308	P	PKPdf	00 06 50.8	-0.6
	SNR=8.3						
EKS2	Erkin-Say	119.73	307	P	PKPdf	00 06 52.2	-0.2
	SNR=5.2						
AML	Almayashu	119.73	306	P	PKPdf	00 06 52.9	+0.1
	SNR=14						
BTLS	Baital	119.75	310	ePKIKP	PKPdf	00 06 51.6	-0.6
BTLS				e		00 08 15.5	
BTLS	Baital	119.75	310	ePKP	PKPdf	00 06 51.6	-0.6
BTLS				ePP	PP	00 08 15.5	-1.5
KULLO	Kullorsuaq	120.47	16	*i* P	PKPdf	00 06 50.5	-2.3
KULLO				IAmb	IAmb	00 06 52.5	
	comp=Z,21nm,1.3s						
NEEM	North Greenlan	120.53	12	*i* P	PKPdf	00 06 51.5	-1.7
UPNV	Upernavik	121.44	17	*i* P	PKPdf	00 06 53.1	-1.6
DZA	Taraz	121.54	307	ePKIKP	PKPdf	00 06 55.1	-0.7
DZA	Taraz	121.54	307	ePKP	PKPdf	00 06 55.1	-0.7
KKAR	Karatay Array	122.16	307		PKPdf	00 06 56.4	-0.6
KKAR	Karatay Array	122.16	307	PKIKP	PKPdf	00 06 56.4	-0.6
BVAR	Borovoye Array	122.30	319	PKP	PKPdf	00 06 56.4	-0.6
	comp=Z,20nm,0.5s,baz=129,slow=0.9,SNR=108						
BRVK	Borovoye	122.36	319		PKPdf	00 06 56.5	-0.5
BRVK	Borovoye	122.36	319	*i* PKIKP	PKPdf	00 06 56.6	-0.4
KBL	Kabul	122.43	297		PKPdf	00 06 58.2	+0.2
KBL	Kabul	122.43	297	P	PKiKP	00 06 58.8	+0.6
KBL	Kabul	122.43	297	PKIKP	PKPdf	00 06 58.2	+0.2
IUG	Iuzhnay	122.45	306	ePKIKP	PKPdf	00 06 57.0	-0.7
IUG	Iuzhnay	122.45	306	ePKP	PKPdf	00 06 57.0	-0.7
BRLS	Borolday	122.64	307	ePKIKP	PKPdf	00 06 57.5	-0.4
BRLS	Borolday	122.64	307	ePKP	PKPdf	00 06 57.5	-0.4
NUUG	Nuugaatsiaq	122.77	18	*i* P	PKPdf	00 06 55.2	-2.0
CHM	Chimkent	122.78	306	ePKIKP	PKPdf	00 06 57.4	-0.8
CHM	Chimkent	122.78	306	ePKP	PKPdf	00 06 57.4	-0.8
SIMJ	Simiganj	122.94	302		PKPdf	00 06 58.6	-0.2
BOSA	Boshof	123.77	203	PKP	PKPdf	00 07 01.5	+0.8
	comp=Z,6.8nm,1.0s,baz=105,slow=2.4,SNR=5.6						
ILULI	Ilulissat	124.40	21	*i* P	PKPdf	00 06 58.1	-2.3
KBS	Kingsbay	124.63	358	*i* P	PKPdf	00 06 58.9	-1.8
SPA0	Spitsbergen Ar	125.18	357	ePKPdf	PKPdf	00 07 01.8	0.0
SPITS	Spitsbergen Ar	125.18	357	PKP	PKPdf	00 07 01.8	0.0
	comp=Z,38nm,0.8s,baz=96,slow=4.2,SNR=15						
DAG	Danmarks Havn	125.86	6	*i* P	PKPdf	00 07 01.0	-2.1
SUMG	Summit	126.03	14		PKPdf	00 07 03.7	-0.3
SUMG	Summit	126.03	14	PKIKP	PKPdf	00 07 03.7	-0.3
SUMG	Summit	126.03	14	*i* P	PKPdf	00 07 02.4	-1.6
LBTB	Lobatse	126.89	206	PKP	PKPdf	00 07 07.8	+1.0
	comp=Z,2.7nm,0.8s,baz=167,slow=4.5,SNR=5.7						
SVE	Sverdlovsk	127.32	324	ePKIKP	PKPdf	00 07 06.5	+0.1
SVE				pmax	pmax		
	comp=Z,29nm,0.9s						
DBG	Daneborg	127.91	8	*i* P	PKPdf	00 07 06.5	-0.5
ICESG	Greenland Ices	127.95	18	*i* P	PKPdf	00 07 06.9	-0.8
ARTI	Arti	128.63	324		PKPdf	00 07 08.3	-0.6
ARTI	Arti	128.63	324	*i* PKIKP	PKPdf	00 07 09.3	+0.4
ARTI						00 09 16.1	
ARTI						00 14 11.6	
ARTI				SS	SS	00 26 18.0	-7.4
ABKAR	Akbulak array	129.22	315		PKPpre	00 06 59.1	
JMDO	Jabal Madar	129.78	280	P	PKPdf	00 07 11.7	-0.4
SMDO	Samad	129.98	281	P	PKPdf	00 07 11.8	-0.8
BSY	Bisya	130.67	280	P	PKPdf	00 07 13.5	-0.4
SCO	Scoresbysund	131.00	11	*i* P	PKPdf	00 07 12.8	-0.2
ARQ	Araqi	131.41	281	P	PKPdf	00 07 15.5	+0.3
SOHO	SOHO	131.55	282	P	PKPdf	00 07 15.0	-0.5
SOHO	SOHO	131.55	282	*i* PKPdf	PKPdf	00 07 14.8	-0.6
	SNR=19						
UOSS	Minazif	132.00	283		PKPdf	00 07 16.0	-0.3
UOSS	Minazif	132.00	283	P	PKPdf	00 07 15.8	-0.5
UOSS	Minazif	132.00	283	PKPdf	PKPdf	00 07 14.3	-2.0
HATD	Hatta, Dubai	132.04	283	P	PKPdf	00 07 16.2	-0.2
HATD	Hatta, Dubai	132.04	283	*i* PKPdf	PKPdf	00 07 16.3	-0.1
	SNR=8.5						
BANOM	Banah	132.08	284	P	PKPdf	00 07 16.2	-0.2
ASHO	Ashiyiah	132.08	282	P	PKPdf	00 07 16.4	-0.1
ASHO	Ashiyiah	132.08	282	*i* PKPdf	PKPdf	00 07 16.2	-0.3
	SNR=5.6						
RBK	Rabkut	132.11	273	P	PKPdf	00 07 17.0	+0.3
MSFE	Esma-Masafi	132.11	283	PKPdf	PKPdf	00 07 16.7	+0.1
MASF	Masafi	132.11	283	P	PKPdf	00 07 16.6	0.0
SHME	Shamm	132.24	284	P	PKPdf	00 07 16.7	0.0
ALNE	Al Ain	132.24	282	P	PKPdf	00 07 16.5	-0.3
ALNE	Al Ain	132.24	282	*i* PKPdf	PKPdf	00 07 15.9	-0.8
	SNR=8.7						
ARA0	ARCESS Array S	132.33	350	ePKPdf	PKPdf	00 07 15.7	+0.1
ARCES	ARCESS Array B	132.33	350	PKhKP	PKPpre	00 07 04.4	
	comp=Z,5.3nm,1.0s,baz=92,slow=2.4,SNR=9.4						
ARCES				PKP	PKPdf	00 07 15.2	-0.4
	comp=Z,27nm,0.8s,baz=352,slow=1.2,SNR=33						
ARCES				SKPbc	SKPbc	00 10 34.4	+0.9
	comp=Z,6.5nm,0.9s,baz=25,slow=5.0,SNR=3.0						
KIRV	Kirov	132.36	329	*i* PKIKP	PKPdf	00 07 16.0	+0.2
DOK	Doka	132.48	274	P	PKPdf	00 07 17.7	+0.3
NAZ	Nazwa, Dubai	132.49	283	P	PKPdf	00 07 17.1	-0.1
NAZ	Nazwa, Dubai	132.49	283	PKPdf	PKPdf	00 07 16.1	-1.1
ASUD	Al Ashush, Dub	132.72	282	P	PKPdf	00 07 17.7	0.0
ASUD	Al Ashush, Dub	132.72	282	PKPdf	PKPdf	00 07 17.8	+0.2
ABTO	Aybut	132.90	272	P	PKPdf	00 07 18.6	+0.4
AJN	Ajban	133.02	282	P	PKPdf	00 07 18.2	0.0
JETT	Jettan, Norway	133.06	352	ePKPdf	PKiKP	00 07 18.7	+0.5
KTK1	Kautokeino	133.16	350	ePKPdf	PKPdf	00 07 16.7	-0.4
TRO	Tromso	133.18	353	ePKPdf	PKPdf	00 07 18.1	+1.0
MZWR	Madinat Zayed	133.87	281	P	PKPdf	00 07 19.9	+0.1
MZR	Muzera	134.09	280	P	PKPdf	00 07 20.7	+0.4
MZR	Muzera	134.09	280	*i* PKiKP	PKPdf	00 07 20.9	+0.6
	SNR=8.4						
LSZ	Lusaka	134.17	215		PKPdf	00 07 18.9	-1.9
LSZ	Lusaka	134.17	215	PKhKP	PKPpre	00 07 09.8	
	comp=Z,0.4nm,0.3s,baz=130,slow=6.4,SNR=1.6						
LSZ				PKP	PKPdf	00 07 21.1	+0.3
	comp=Z,11nm,1.1s,baz=182,slow=2.9,SNR=11						
LSZ	Lusaka	134.17	215	PKIKP	PKPdf	00 07 18.9	-1.9
GHWR	Ruwais	134.81	281	P	PKPdf	00 07 21.3	-0.3
JRN	Qarnain Island	135.00	282	P	PKPdf	00 07 22.0	+0.2
STEI	Steigen	135.21	354	ePKPdf	PKPdf	00 07 16.2	-4.7
KLMR	Klimovskoe	135.32	336	ePKHKP	PKPpre	00 07 10.7	
KLMR				pmax	pmax		
	comp=Z,24nm,0.9s						
FAUS	Fauske	135.74	353	ePKPdf	PKPdf	00 07 21.4	-0.5
SLWR	Sila	135.89	281	P	PKPdf	00 07 24.1	+0.5
TRNA	Turayna	136.43	281	P	PKPdf	00 07 25.0	+0.5
SMRA	Abu-Samra	136.78	281	P	PKPdf	00 07 25.0	-0.2
KONS	Konsvik	136.81	354	ePKPdf	PKPdf	00 07 18.0	-6.0
SHMA	Al-Shehemyia	136.82	283	P	PKPdf	00 07 24.9	-0.3
STOK	Stokkvaagen	136.98	354	ePKPdf	PKPdf	00 07 17.1	-7.2
MOR8	Moi Rana	137.00	353	ePKPdf	PKPdf	00 07 16.6	-7.8
SAKB	Bahrain	137.22	283	P	PKPdf	00 07 26.4	+0.4
KMBO	Kilima Mbogo	138.72	238		PKPpre	00 07 20.5	
KMBO	Kilima Mbogo	138.72	238	PKHKP	PKPpre	00 07 20.5	
NSS	Namsos	138.85	354	ePKPdf	PKPdf	00 07 20.9	-6.8
FINES	FINESS Array B	139.22	343	PKhKP	PKPpre	00 07 19.3	
	comp=Z,5.1nm,0.6s,baz=54,slow=3.0,SNR=29						
FINES				PKP	PKPdf	00 07 28.4	-0.2
	comp=Z,14nm,0.7s,baz=47,slow=4.1,SNR=9.6						
FINES				SKPbc	SKPbc	00 10 55.7	+0.7
	comp=Z,2.2nm,0.8s,baz=8.6,slow=6.6,SNR=1.7						
MOS	Moscow	139.30	331	ePKHKP	PKPpre	00 07 20.0	
MOS				e		00 07 27.3	
VRH	Novokhopyorsk	139.71	323	ePKHKP	PKPpre	00 07 21.5	
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
OBN	Obninsk	140.16	330		PKPpre	00 07 24.3	
OBN	Obninsk	140.16	330	⇑ ePKIKP	PKPdf	00 07 30.4	0.0
OBN				e		00 10 29.9	
OBN						00 14 23.0	
OBN				pmax	pmax		
	comp=Z,16nm,0.6s						
LPSR	Galich'ya Gora	140.49	326	ePKHKP	PKPpre	00 07 22.7	
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VORR	Voronezh	140.84	325	ePKHKP	PKPpre	00 07 24.1	
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VSR	Storozhevoye	141.10	324	ePKHKP	PKPpre	00 07 24.5	
VSR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VORD	Divnogorie	141.16	324	ePKHKP	PKPpre	00 07 23.5	
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAYN	Ar Rayn	141.40	278		PKPpre	00 07 27.8	
RAYN	Ar Rayn	141.40	278	P	PKPdf	00 07 28.0	-5.8
RAYN	Ar Rayn	141.40	278	⇓ PKHKP	PKPpre	00 07 27.8	
RAYN	Ar Rayn	141.40	278	*i* PKPdf	PKPdf	00 07 27.9	-5.9
	SNR=9.9						
VSU	Vasula	141.50	340	*c i* PKIKP	PKiKP	00 07 34.9	-0.7
VSU				pmax	pmax		
	comp=Z,117nm,2.5s						
AKN	Aaknes	141.52	357	ePKPdf	PKPdf	00 07 27.8	-5.0
DOMB	Dombas	141.54	356	ePKPdf	PKPdf	00 07 27.3	-5.6
KBZ	Khabaz	141.95	311	PKhKP	PKPpre	00 07 28.1	
	comp=Z,8.2nm,0.9s,baz=114,slow=2.6,SNR=16						
KIV	Kislovodsk	142.02	312		PKPpre	00 07 28.9	
KIV	Kislovodsk	142.02	312	P	PKPdf	00 07 29.7	-4.7
KIV	Kislovodsk	142.02	312	⇓ P	PKPdf	00 07 30.2	-4.1
KIV	Kislovodsk	142.02	312	*i* PKIKP	PKPdf	00 07 35.8	+1.5
KIV				e		00 10 38.1	
KIV				eSS	SS	00 29 03.3	-3.3
KIV				pmax	pmax		
	comp=Z,28nm,1.1s						
KIV				MLR	MLR		
	comp=Z,48nm,24.0s						
NB2	NORSAR Subarra	142.35	354	PKP	PKPdf	00 07 29.5	-4.8
	comp=Z,8.0nm,0.8s,baz=25,slow=3.1						
NOA	NORSAR Array B	142.35	354	PKhKP	PKPpre	00 07 28.8	
	comp=Z,2.5nm,0.6s,baz=59,slow=1.5,SNR=42						
NC602	NORSAR Array S	142.61	353	ePKPdf	PKPdf	00 07 30.0	-4.7
SUE	Sulen	142.72	359	ePKPdf	PKPdf	00 07 30.2	-4.7
ERBR	Yeremizino-Bor	142.85	315	ePKIKP	PKPdf	00 07 33.1	-2.5
ERBR				pmax	pmax		
	comp=Z,90nm,1.2s						
HFS	Hagfors	142.93	351	PKhKP	PKPpre	00 07 30.7	
	comp=Z,15nm,0.5s,baz=79,slow=3.2,SNR=103						
SKAR	Skarslia	142.94	356	ePKPdf	PKPdf	00 07 33.5	-1.9
LABN	Labinsk	143.10	314	ePKIKP	PKPdf	00 07 34.1	-2.0
LABN				pmax	pmax		
	comp=Z,33nm,1.2s						
ASK	Askoy	143.28	358	ePKPdf	PKPbc	00 07 33.4	+0.2
BER	Bergen	143.38	358	ePKPdf	PKPbc	00 07 33.5	+0.1
OSL	Oslo	143.48	354	ePKPdf	PKPab	00 07 33.3	+0.6
ODD1	Odda	143.81	357	ePKPdf	PKPab	00 07 31.9	-2.2
KONO	Kongsberg	143.87	355		PKPab	00 07 35.0	+0.7
KONO	Kongsberg	143.87	355	ePKPdf	PKPab	00 07 34.7	+0.5
KONO	Kongsberg	143.87	355	PKIKP	PKPab	00 07 35.0	+0.8
MBAR	Mbarara	143.95	232		PKPbc	00 07 37.8	+1.0
MBAR	Mbarara	143.95	232	*d i* PKIKP	PKPbc	00 07 37.4	+0.6
MNK	Minsk	144.22	335	*i* PKIKP	PKPab	00 07 36.0	+0.3
MNK				*i*		00 10 55.9	
MNK				pmax	pmax		
	comp=N,15nm,1.0s						
MNK				pmax	pmax		
	comp=E,38nm,1.0s						
MNK				pmax	pmax		
	comp=Z,119nm,0.9s						
BLS5	Blasjo	144.30	357	ePKPdf	PKPab	00 07 35.7	-0.2
STRU	Stroemstad	144.31	353	*i* P	PKPab	00 07 35.1	-0.8
PLTM	Poltava	144.46	324	PKP	PKPab	00 07 37.0	+0.2
KMY	Karmoy	144.56	358	ePKPbc	PKPab	00 07 36.8	0.0
LEWI	Lewis, Hebride	144.90	9	eP	PKPab	00 07 34.6	-3.5
KTUT	Trabzon	145.01	308	⇑ P	PKPab	00 07 39.5	+0.3
ANN	Anapa	145.19	316	ePKIKP	PKPbc	00 07 39.3	-0.2
ANN				pmax	pmax		
	comp=Z,637nm,0.9s						
TJOU	Tjoern	145.24	352	*i* P	PKPbc	00 07 37.2	-2.0
HOMB	Homborsund	145.32	355	ePKPbc	PKPbc	00 07 39.7	+0.2
HOMB	Homborsund	145.32	355	*i* P	PKPbc	00 07 39.0	-0.5
SNART	Snartemo	145.34	356	ePKPbc	PKPbc	00 07 39.5	-0.1
SNART	Snartemo	145.34	356	*i* P	PKPbc	00 07 39.0	-0.5
BORU	Boraas	145.47	351	*i* P	PKPdf	00 07 38.5	-1.3
ONAU	Onsala	145.82	352	*i* P	PKPdf	00 07 39.1	-1.3
KPL	Plockton	145.85	9	eP	PKPdf	00 07 40.8	+0.4
MCD	Coleburn Disti	145.89	6	eP	PKPdf	00 07 40.5	-0.1
FABU	Falkenberg	146.09	351	*i* P	PKPdf	00 07 40.6	-0.2
OVD	Ostervraa, Den	146.11	353	*i* P	PKPdf	00 07 41.4	+0.6
BLEU	Blekinge	146.22	347	*i* P	PKPdf	00 07 40.7	-0.3
SUW	Suwalki	146.29	339	ePKP	PKPbc	00 07 43.0	+0.5
AK03	Malin Array Si	146.40	330	PKP	PKPdf	00 07 41.7	+0.1
AKASG	Malin Array Be	146.41	330		PKPdf	00 07 41.1	-0.5
AKASG	Malin Array Be	146.41	330	PKPbc	PKPdf	00 07 42.4	+0.8
	comp=Z,176nm,0.5s,baz=44,slow=4.3,SNR=737						
AKASG				pPKPbc	pPKPdf	00 08 07.2	-0.7
	comp=Z,16nm,0.5s,baz=46,slow=14,SNR=7.2						
AKASG				SKPbc	SKPbc	00 11 12.9	-0.1
	comp=Z,2.0nm,0.8s,baz=40,slow=2.8,SNR=5.2						
AKASG	Malin Array Be	146.41	330	PKIKP	PKPdf	00 07 41.1	-0.5
AKBB	Malin Array Si	146.41	330	*de* PKP2	PKPdf	00 07 42.2	+0.6
AKBB	Malin Array Si	146.41	330	PKP	PKPdf	00 07 41.7	+0.1
DEL	Delary	146.42	349	*i* P	PKPdf	00 07 42.0	+0.6
KIEV	Kiev	146.43	330		PKPdf	00 07 41.1	-0.5
KIEV	Kiev	146.43	330	⇓ P	PKPbc	00 07 43.3	+0.2
KIEV	Kiev	146.43	330	⇓ PKP2	PKPbc	00 07 43.3	+0.2
KIEV	Kiev	146.43	330	PKP	PKPdf	00 07 41.7	+0.1
GOET	G??ttrup	146.49	354	*i* P	PKPdf	00 07 42.4	+0.9
DRUM	Mains of Drumt	146.63	6	eP	PKPdf	00 07 42.1	+0.3
LAWE	Loch Awe, Argy	146.93	9	eP	PKPbc	00 07 44.3	-0.1
BJUU	Bjuv	146.94	350	*i* P	PKPdf	00 07 42.6	+0.3
INVG	Invergeldie, C	146.94	7	eP	PKPdf	00 07 43.9	+1.6
MUD	Monsted U'grnd	147.06	354	*i* P	PKPdf	00 07 43.8	+1.3
SIM	Simferopol'	147.21	318	*i* PKP2	PKPbc	00 07 46.0	+0.5
SIM				pmax	pmax		
	comp=Z,339nm,1.0s						
LUNU	Lund	147.29	349	*i* P	PKPbc	00 07 45.0	-0.4
COP	Copenhagen	147.41	350	*i* P	PKPbc	00 07 45.9	+0.3
PGBU	Glenifferbraes	147.49	8	eP	PKPdf	00 07 44.9	+1.6
BSD	Bornholm Skovb	147.51	348	*i* P	PKPdf	00 07 45.0	+1.7
EDI	Edinburgh	147.53	7	eP	PKPdf	00 07 44.8	+1.5
DIKM	Dikmen	147.95	312	⇓ P	PKPab	00 07 50.6	+0.1
EKA	Eskdalemuir Ar	148.12	7	PKPbc	PKPdf	00 07 46.1	+1.8
	comp=Z,50nm,0.8s,baz=327,slow=2.5,SNR=82						
ESK	Eskdalemuir	148.13	7		PKPbc	00 07 47.7	0.0
ESK	Eskdalemuir	148.13	7	eP	PKPbc	00 07 46.8	-0.8
ESK	Eskdalemuir	148.13	7	PKP2	PKPbc	00 07 47.7	0.0
NEWG	New Galloway	148.20	8	eP	PKPbc	00 07 47.1	-0.7
GAL1	Galloway	148.38	9	eP	PKPbc	00 07 47.3	-1.0
SORM	Soroca	148.57	327	⇓ P	PKPbc	00 07 49.0	0.0
SORM	Soroca	148.57	327	⇓ PKP2	PKPbc	00 07 49.0	0.0
BZK	Bozkurt	148.67	313	⇑ P	PKiKP	00 07 51.4	+0.6
GKP	Gorka Klasztor	148.69	344	ePKP	PKPbc	00 07 50.1	+1.0
EDMD	Edmundbyers	148.74	6	eP	PKPbc	00 07 48.2	-1.0
PURM	Purcari	148.80	323	⇓ P	PKPbc	00 07 49.4	-0.3
KESW	Keswick, Cumbr	148.86	7	eP	PKPdf	00 07 46.3	+0.8
BEL	Belsk	148.91	339	ePKP	PKPbc	00 07 50.5	+0.8
ILTH	Belurgan, Co L	148.94	11	eP	PKPdf	00 07 48.3	+2.7
IOMK	Kirk Michael	148.99	9	eP	PKPdf	00 07 47.2	+1.5
KIS	Kishinev	149.08	325	⇓ P	PKPbc	00 07 50.6	+0.3
KIS	Kishinev	149.08	325	⇓ PKP2	PKPbc	00 07 50.6	+0.3
WIM	Isle of Man	149.09	9	eP	PKPdf	00 07 44.3	-1.6
MILM	Milestii Mici	149.13	325	⇓ P	PKPbc	00 07 51.0	+0.5
MILM	Milestii Mici	149.13	325	⇓ PKP2	PKPbc	00 07 51.0	+0.5
FKH	Fakeheh	149.30	297	eP	PKPbc	00 07 52.2	+0.7
BSEG	Bad Segeberg	149.41	352	ePKPbc	PKPbc	00 07 51.4	+0.5
	baz=15,slow=2.3						
CIDE	Kastamonu/Cide	149.41	313	⇑ P	PKiKP	00 07 52.8	+0.4
BEIL	Beino	149.42	298	eP	PKPbc	00 07 52.2	+0.5
IASR	Iasi	149.60	326	⇓ P	PKPbc	00 07 52.2	+0.6
HPK	Haverah Park	149.63	6	eP	PKPbc	00 07 51.6	+0.1
HWQ	Hawqa	149.67	298	eP	PKPbc	00 07 52.7	+0.3
ZAHL	Zahle	149.80	297	eP	PKPbc	00 07 53.3	+0.6
WPS	Cemaes, Angles	149.84	9	eP	PKPdf	00 07 49.5	+2.4
BRTR	Keskin Array B	149.84	309		PKPdf	00 07 46.6	-1.1
BRTR	Keskin Array B	149.84	309	PKP	PKPdf	00 07 48.1	+0.3
	comp=Z,20nm,0.8s,baz=52,slow=2.8,SNR=14						
BRTR				PKPbc	PKPbc	00 07 52.6	-0.1
	comp=Z,20nm,0.7s,baz=103,slow=1.7,SNR=55						
BRTR				PKKP	PKKPdf	00 16 38.0	+0.8
	comp=Z,0.8nm,0.7s,baz=300,slow=2.8,SNR=3.2						
BRTR	Keskin Array B	149.84	309	PKIKP	PKPdf	00 07 46.7	-1.1
KIRS	Kirsehir-Merke	149.86	308	⇑ P	PKPbc	00 07 51.0	-1.7
WME	Myndd Eilian	149.87	9	eP	PKPdf	00 07 46.6	-0.5
RCY	Rachaya	149.90	296	eP	PKPbc	00 07 53.6	+0.5
WLF1	Llynfaes	149.96	9	eP	PKPdf	00 07 49.1	+1.8
BHL	Bhannes	149.98	297	eP	PKPbc	00 07 53.6	+0.5
SHBL	Chebaa	150.01	296	eP	PKPbc	00 07 54.0	+0.7
QRWL	Qaraoun	150.02	296	eP	PKPbc	00 07 54.1	+0.8
DQRL	Deir Qamar	150.08	297	eP	PKPbc	00 07 54.3	+0.9
PRAR	RASCA	150.15	328	⇓ P	PKPbc	00 07 53.7	+0.7
BIR	Birlad	150.18	325	⇑ PKP2	PKiKP	00 07 54.1	+0.2
GORT1	Trebel	150.19	350	ePKPdf	PKPdf	00 07 48.7	+1.1
	baz=5.7,slow=1.4						
GORT1				ePKPbc	PKPbc	00 07 53.2	+0.5
	baz=15,slow=2.3						
VLDR	Vladesti	150.20	324	⇑ P	PKPbc	00 07 53.8	+0.7
TLCR		150.21	322	⇓ P	PKPbc	00 07 53.5	+0.4
TLCR		150.21	322	⇓ PKP2	PKPbc	00 07 53.5	+0.4
RUE	Ruedersdorf	150.23	347	ePKPdf	PKPdf	00 07 48.8	+1.1
	baz=5.7,slow=1.4						
RUE			

BRG epPKPbc **sPKPdf** **00 08 26.8 +0.3**
MORC Moravsky Berou 151.73 340 *e*PKP **PKPbc** **00 07 57.3 +0.6**
MORC *e* 00 08 06.5
MORC Moravsky Berou 151.73 340 ⇑P **PKiKP** **00 07 57.7 +0.7**
MORC Moravsky Berou 151.73 340 ⇑PKIKP **PKiKP** **00 07 57.7 +0.7**
STRD Stroud 151.73 7 *e*P **PKPbc** **00 07 55.8 -0.7**
LEHL Lehliu 151.76 323 ⇓P **PKPbc** **00 07 56.5 -0.3**
GTTG Gottingen 151.79 351 *e*PKPbc **PKPbc** **00 07 57.3 +0.6**
baz=15,slow=2.3
KECS Kecovo 151.81 335 *e*PKIKP **PKiKP** **00 07 58.0 +0.8**
NEUB Neuenburg 151.82 349 *e*PKPdf **PKPdf** **00 07 50.6 +0.3**
baz=5.7,slow=1.4
NEUB *e*PKPbc **PKPbc** **00 07 57.2 +0.5**
baz=15,slow=2.3
NEUB epPKPbc **sPKPdf** **00 08 27.1 +0.3**
MESR Meseseni 151.84 331 ⇑P **PKiKP** **00 07 58.7 +1.4**
CBBR Cluj-Babes-Bol 151.85 330 ⇑P **PKiKP** **00 07 58.9 +1.6**
CJR Cluj-Napoca 151.87 329 ⇑P **PKPbc** **00 07 57.9 +0.8**
CJR Cluj-Napoca 151.87 329 ⇑PKIKP **PKPbc** **00 07 57.9 +0.8**
PVCC Panska Ves 151.87 345 ⇑*e*PKP **PKPbc** **00 07 57.7 +0.8**
PVCC Panska Ves 151.87 345 *e*PKIKP **PKPbc** **00 07 57.7 +0.8**
PLAR PLOIESTI 151.91 324 ⇑P **PKPbc** **00 07 57.9 +0.8**
MDB Medias 151.91 328 ⇑P **PKiKP** **00 07 58.3 +0.8**
MDB Medias 151.91 328 ⇑PKIKP **PKiKP** **00 07 58.3 +0.8**
SULR 151.94 324 ⇓P **PKPbc** **00 07 57.6 +0.4**
RICC Richard 151.97 345 ⇑*e*PKP **PKiKP** **00 07 58.0 +0.6**
HSKC Hora Svate Kat 152.06 346 ⇑*e*PKP **PKPbc** **00 07 57.9 +0.5**
VOIR 152.07 326 ⇑P **PKPbc** **00 07 57.9 +0.3**
VOIR 152.07 326 ⇑PKIKP **PKPbc** **00 07 57.9 +0.3**
MARR Marisel-Cluj 152.12 330 ⇑P **PKPbc** **00 07 58.1 +0.4**
BUG Bochum--Univer 152.20 355 *e*PKPdf **PKPdf** **00 07 50.4 -0.4**
baz=5.7,slow=1.4
BUG *e*PKPbc **PKPbc** **00 07 57.9 +0.4**
baz=15,slow=2.3
DRGR 152.22 331 ⇑P **PKiKP** **00 07 59.1 +0.9**
PRD Provadia 152.23 320 *e*P **PKPbc** **00 07 58.2 +0.3**
NEF NEVSHA 152.25 320 *e*P **PKPbc** **00 07 58.4 +0.4**
KASTN Kahler Asten 152.32 353 *e*PKPbc **PKPbc** **00 07 58.1 +0.2**
baz=15,slow=2.3
ARR Arges 152.33 326 ⇓P **PKPbc** **00 07 58.3 +0.1**
PRA Prague 152.33 344 ⇑*e*PKP **PKiKP** **00 07 58.9 +0.7**
PRA Prague 152.33 344 *e*PKIKP **PKiKP** **00 07 58.9 +0.7**
PRU Pruhonice 152.38 344 ⇑*e*PKP **PKPbc** **00 07 58.5 +0.5**
PRU Pruhonice 152.38 344 *e*PKIKP **PKPbc** **00 07 58.5 +0.5**
GOPC GO Pecny, Ondr 152.38 344 ⇑*e*PKP **PKPbc** **00 07 58.7 +0.6**
GOPC GO Pecny, Ondr 152.38 344 *e*PKIKP **PKPbc** **00 07 58.7 +0.6**
MOX Moxa 152.39 348 *e*PKPdf **PKPdf** **00 07 50.8 -0.4**
baz=5.7,slow=1.4
MOX *e*PKPbc **PKPbc** **00 07 58.0 0.0**
baz=15,slow=2.3
MOX *e*PKPab **PKPab** **00 08 08.1 -0.3**
baz=12,slow=4.5
MOX epPKPbc **sPKPdf** **00 08 28.4 +0.8**
VYHS Vyhne 152.41 337 *e*PKIKP **PKPdf** **00 07 52.2 +0.9**
VRAC Vranov 152.43 341 *e*PKP **PKPbc** **00 07 58.3 +0.1**
VRAC *e* 00 08 09.7
VRAC Vranov 152.43 341 ⇑P **PKPbc** **00 07 59.0 +0.8**
VRAC Vranov 152.43 341 ⇑PKIKP **PKPbc** **00 07 59.0 +0.8**
PLN Plauen 152.44 348 *e*PKPdf **PKPdf** **00 07 51.1 -0.1**
baz=5.7,slow=1.4
PLN *e*PKPbc **PKPbc** **00 07 58.6 +0.4**
baz=15,slow=2.3
PLN *e*PKPab **PKPab** **00 08 09.0 +0.3**
baz=12,slow=4.5
TANN Tannenbergstha 152.45 347 *e*PKPdf **PKPdf** **00 07 51.4 +0.1**
baz=5.7,slow=1.4
TANN *e*PKPbc **PKPbc** **00 07 58.7 +0.4**
baz=15,slow=2.3
TANN *e*PKPab **PKPab** **00 08 08.8 +0.1**
baz=12,slow=4.5
JAVC Velka Javorina 152.49 339 *e*PKP **PKiKP** **00 08 00.0 +1.3**
JAVC *e* 00 08 10.8
UBBA Unterbreizbach 152.49 351 *e*PKPdf **PKPdf** **00 07 51.3 +0.2**
baz=5.7,slow=1.4
UBBA *e*PKPab **PKPab** **00 08 08.2 -0.5**
baz=12,slow=4.5
PSZ Piszkesteto 152.50 335 ⇑P **PKPbc** **00 07 58.9 +0.4**
PSZ Piszkesteto 152.50 335 ⇑PKIKP **PKPbc** **00 07 58.9 +0.4**
NKC Novy Kostel 152.62 347 ⇑*e*PKP **PKPbc** **00 07 59.3 +0.7**
NKC *e*PKPAB **PKPab** **00 08 09.9 +0.4**
NKC Novy Kostel 152.62 347 *e*PKIKP **PKPbc** **00 07 59.3 +0.7**
LOT Lotru 152.71 327 ⇑P **PKPbc** **00 07 58.1 -1.0**
KRUC Moravsky 152.71 341 *e*PKP **PKPbc** **00 07 59.4 +0.6**
KRUC *e* 00 08 10.5
HUMR Humele 152.72 325 ⇑P **PKPbc** **00 07 58.9 -0.1**
TREC Trest 152.76 342 *e*PKPAB **PKPab** **00 08 08.1 -2.0**
TREC Trest 152.76 342 *e*PKIKP **PKPab** **00 08 08.1 -2.0**
SMOL Smolenice 152.87 339 *e*PKIKP **PKiKP** **00 08 00.3 +0.9**
MANZ Manzenberg 152.93 347 *e*PKPdf **PKPdf** **00 07 51.9 -0.1**
baz=5.7,slow=1.4
MANZ *e*PKPbc **PKPbc** **00 07 59.3 0.0**
baz=15,slow=2.3
MANZ *e*PKPab **PKPab** **00 08 11.3 +0.5**
baz=12,slow=4.5
ZVC Zvikov 152.97 344 ⇑*e*PKP **PKPbc** **00 07 59.5 +0.1**
ZVC *e*PKPAB **PKPab** **00 08 11.8 +0.9**
SZH Strazhitsa 153.00 322 *e*P **PKPbc** **00 07 59.7 +0.1**
UCC Uccle 153.00 358 *d*PKP **PKPbc** **00 07 59.8 +0.5**
MODS Modra-Piesok 153.04 339 *e*PKIKP **PKPdf** **00 07 52.9 +0.7**
MODS *e* 00 08 12.2
SIRR Siria 153.09 331 ⇑P **PKPbc** **00 08 00.3 +0.5**
ROTZ Rotzenmuhle 153.12 347 *e*PKPab **PKPab** **00 08 12.2 +0.6**
baz=12,slow=4.5
MEM Membach 153.12 356 *d*PKP **PKPbc** **00 07 59.8 +0.2**
BTNL Ternell 153.14 356 *d*PKP **PKPbc** **00 07 60.0 +0.2**
JMB Yambol 153.15 320 *e*P **PKPbc** **00 07 59.8 -0.2**
SRO Srobarova 153.17 337 *e*PKP2 **PKPab** **00 08 13.2 +1.4**
BSTI Sart Tilman 153.17 357 *d*PKP **PKPbc** **00 08 00.1 +0.4**
GZR Gura Zlata 153.23 328 ⇑P **PKPbc** **00 08 00.3 +0.1**
GZR Gura Zlata 153.23 328 ⇑PKIKP **PKPbc** **00 08 00.3 +0.1**
ELND Elena 153.26 321 ⇓P **PKPab** **00 08 13.5 +1.0**
SURR Surduc 153.27 330 ⇓P **PKPbc** **00 08 00.2 +0.1**
TNS Taunus Mts 153.28 353 *e*PKPdf **PKPdf** **00 07 51.7 -0.9**
baz=5.7,slow=1.4
TNS *e*PKPbc **PKPbc** **00 08 00.5 +0.4**
baz=15,slow=2.3
TNS *e*PKPab **PKPab** **00 08 11.8 -0.5**
baz=12,slow=4.5
BCLA Clavier 153.35 357 *d*PKP **PKPbc** **00 08 00.2 +0.1**
BCLA *d*PKPab **PKPab** **00 08 12.4 0.0**
BHOU Houvegnez 153.38 356 *d*PKP **PKPbc** **00 08 00.7 +0.4**
BHOU *d*PKPab **PKPab** **00 08 13.4 +0.8**
GRF Grafenberg Arr 153.38 348 *e*PKPdf **PKPdf** **00 07 52.6 0.0**
baz=5.7,slow=1.4
GRF *e*PKPab **PKPab** **00 08 12.9 +0.3**
baz=12,slow=4.5
GRFO Grafenberg 153.38 348 **PKPdf** **00 07 53.6 +1.0**
GRFO Grafenberg 153.38 348 PKIKP **PKPdf** **00 07 53.6 +1.0**
BGES Gesves 153.39 357 *d*PKP **PKPbc** **00 07 59.6 -0.6**
BGES *d*PKPab **PKPab** **00 08 12.5 -0.2**
KHC Kasperske Hory 153.41 345 *e*PKPDF **PKPdf** **00 07 52.0 -0.7**
KHC ⇑*e*PKP **PKPbc** **00 08 00.7 +0.3**
KHC *e*PKPAB **PKPab** **00 08 13.9 +1.1**
KHC Kasperske Hory 153.41 345 *e*PKIKP **PKPdf** **00 07 52.0 -0.7**
KHC *e* 00 08 13.9
BMRD Maredsous 153.49 358 *d*PKP **PKPbc** **00 08 00.7 +0.3**
BMRD *d*PKPab **PKPab** **00 08 13.1 0.0**
WET Wettzell 153.56 346 *e*PKPdf **PKPdf** **00 07 53.4 +0.4**
baz=5.7,slow=1.4
WET *e*PKPab **PKPab** **00 08 13.7 +0.2**
baz=12,slow=4.5
BZS Buzias 153.60 330 ⇓P **PKPbc** **00 08 00.5 -0.4**
BZS Buzias 153.60 330 ⇓PKIKP **PKPbc** **00 08 00.5 -0.4**
RCHB Rochefort 153.62 357 *d*PKP **PKPbc** **00 08 00.9 +0.1**
RCHB *d*PKPbc **PKPab** **00 08 14.1 +0.5**
GEC2 GERESS Array S 153.65 344 *e*PKPdf **PKPdf** **00 07 53.0 -0.1**
baz=5.7,slow=1.4
GEC2 *e*PKPbc **PKPbc** **00 08 01.4 +0.4**
baz=15,slow=2.3
GEC2 *e*PKPab **PKPab** **00 08 14.3 +0.3**
baz=12,slow=4.5
GERES GERESS Array B 153.65 344 **PKPdf** **00 07 53.2 +0.1**
GERES GERESS Array B 153.65 344 PKP **PKPdf** **00 07 52.9 -0.2**
comp=Z,4.6nm,0.8s,baz=48,slow=2.0,SNR=12
GERES PKPbc **PKPbc** **00 08 00.8 -0.2**
comp=Z,9.8nm,0.7s,baz=12,slow=2.0,SNR=18
GERES PKPab **PKPab** **00 08 14.5 +0.6**
comp=Z,22nm,0.9s,baz=45,slow=2.3,SNR=13
GERES GERESS Array B 153.65 344 PKIKP **PKPdf** **00 07 53.2 +0.1**
DOU Dourbes 153.70 358 *d*PKP **PKPbc** **00 08 01.0 +0.1**
DOU *d*PKPab **PKPab** **00 08 13.9 0.0**
HERR Herculane 153.78 328 ⇓P **PKiKP** **00 08 02.3 +1.0**
CONA Conrad Observa 153.88 341 *i* PKP **PKPdf** **00 07 53.2 -0.3**
comp=Z,11nm,0.8s,SNR=4.8
CONA *i* PKP **PKPab** **00 08 15.9 +0.9**
comp=Z,61nm,0.8s
RONA Rosalia, Austr 153.95 340 *i* PKP **PKPdf** **00 07 53.9 +0.3**
comp=Z,21nm,0.7s
RONA *i* PKP **PKPab** **00 08 16.4 +1.2**
comp=Z,85nm,0.8s
DIM Dimitrovgrad 153.98 320 *e*P **PKPbc** **00 08 02.0 +0.2**
BANR Banloc 154.00 330 ⇑P **PKPab** **00 08 10.2 -5.2**
WLF Walferdange 154.05 356 *d*PKP **PKPbc** **00 08 02.3 +0.6**
WLF Walferdange 154.05 356 *e*PKPdf **PKPdf** **00 07 52.4 -1.2**
baz=5.7,slow=1.4
WLF *e*PKPbc **PKiKP** **00 08 02.7 +1.0**
baz=15,slow=2.3
WLF *e*PKPab **PKPab** **00 08 15.3 -0.2**
baz=12,slow=4.5
VALD Valchedram 154.11 325 *e*P **PKPbc** **00 08 02.4 +0.4**
MPEP Malo Peshtene 154.18 324 *e*P **PKPbc** **00 08 02.4 +0.2**
MDVR Moldovita 154.19 329 ⇓P **PKPbc** **00 07 59.1 -3.1**
MORH Mrgy, Hungar 154.39 335 ⇓P **PKPdf** **00 07 55.3 +1.1**
MOA Molln 154.42 343 *i* PKP **PKPdf** **00 07 53.8 -0.4**
comp=Z,56nm,0.8s,SNR=7.8
MOA *e*PKP **PKPab** **00 08 18.2 +1.0**
comp=Z,114nm,1.6s
ARSA Arzberg 154.59 340 *i* PKP **PKPdf** **00 07 54.1 -0.3**
comp=Z,28nm,0.8s,SNR=8.3
ARSA *i* PKP **PKPab** **00 08 18.5 +0.6**
comp=Z,50nm,1.9s
STU Stuttgart 154.61 351 *e*PKPbc **PKPbc** **00 08 03.4 +0.5**
baz=15,slow=2.3
STU *e*PKPab **PKPab** **00 08 18.3 +0.5**
baz=12,slow=4.5
RZN Rozhen 154.69 320 *e*P **PKPab** **00 08 18.7 -0.1**
BIOA Bad Ischl, Aus 154.73 343 *e*PKP **PKPdf** **00 07 53.7 -0.9**
comp=Z,6.9nm,1.0s
BIOA *i* PKP **pPKPdf** **00 08 19.5 -1.6**
comp=Z,173nm,1.2s,SNR=16
FUR Furstenfeldbru 154.83 347 *e*PKPab **PKPab** **00 08 19.8 +0.9**
baz=12,slow=4.5
RJOB Jochberg 154.90 345 *e*PKPab **PKPab** **00 08 20.2 +0.9**
baz=12,slow=4.5
BOVS Bovan 155.03 327 ⇓P **PKPdf** **00 07 55.9 +0.8**
PRK Paraskevi 155.13 314 P **PKPab** **00 08 20.6 +0.1**
BFO Black Forest 155.16 352 PKPdf 00 08 03.1 +7.9
BFO Black Forest 155.16 352 PKIKP PKPdf 00 08 03.1 +7.9
BFO Black Forest 155.16 352 *e*PKPab **PKPab** **00 08 20.2 -0.1**
baz=12,slow=4.5
LESA Schwarzleotal 155.22 345 *e*PKP **PKPdf** **00 07 54.7 -0.7**
comp=Z,26nm,1.2s,SNR=8.7
LESA *i* PKP **PKPab** **00 08 21.1 +0.4**
comp=Z,118nm,1.3s
SOKA Soboth 155.25 340 *i* PKP **PKPdf** **00 07 54.3 -1.1**
comp=Z,15nm,1.3s
SOKA *i* PKP **PKPab** **00 08 21.2 +0.3**
comp=Z,81nm,1.1s,SNR=9.1
KBA Koelnbreinsper 155.37 343 *e*PKP **PKPdf** **00 07 54.4 -1.3**
comp=Z,13nm,1.0s
KBA *i* PKP **PKPab** **00 08 22.2 +0.8**
comp=Z,56nm,0.7s
NVR Nevrokopi 155.42 320 P **PKPab** **00 08 21.9 +0.2**
UBR Ueberruh 155.52 349 *e*PKPdf **PKPdf** **00 07 56.7 +0.9**
baz=5.7,slow=1.4
UBR *e*PKPbc PKPbc 00 08 05.4
baz=15,slow=2.3
OBKA Obir 155.55 341 *e*PKP **PKPdf** **00 07 55.4 -0.5**
comp=Z,14nm,1.4s,SNR=6.1
OBKA *i* PKP **PKPab** **00 08 21.9 -0.2**
comp=Z,50nm,0.9s
WATA Walderalm 155.56 346 *i* PKP **PKPdf** **00 07 55.5 -0.4**
comp=Z,14nm,1.3s
WATA *i* PKP **PKPab** **00 08 22.6 +0.4**
comp=Z,95nm,1.3s,SNR=7.3
RETA Reutte 155.58 348 *i* PKP **PKPdf** **00 07 56.4 +0.6**
comp=Z,11nm,1.7s
RETA *i* PKP **PKPab** **00 08 22.8 +0.6**
comp=Z,52nm,0.8s,SNR=9.7
WTTA Wattenberg 155.61 346 *i* PKP **PKPdf** **00 07 56.0 -0.1**
comp=Z,20nm,1.0s
WTTA *i* PKP **PKPab** **00 08 23.1 +0.6**
comp=Z,84nm,0.6s,SNR=6.6
MOTA Moosalm 155.65 347 *i* PKP **PKPdf** **00 07 55.8 -0.3**
comp=Z,17nm,1.1s
MOTA *i* PKP **PKPab** **00 08 23.4 +0.8**
comp=Z,58nm,0.7s
KOKK Kokkinochori, 155.67 319 P **PKPab** **00 08 22.5 -0.2**
MYKA Terra Mystica 155.70 342 *e*PKP **PKPdf** **00 07 56.3 +0.3**
comp=Z,7.1nm,0.9s
MYKA *e*PKP **pPKPdf** **00 08 22.2 -0.3**
comp=Z,57nm,0.9s,SNR=7.5
SRS Serrai 155.72 320 P **PKPab** **00 08 22.9 -0.1**
SQTA Sankt Quirin 155.75 347 *i* PKP **PKPdf** **00 07 56.0 -0.1**
comp=Z,16nm,1.1s
SQTA *i* PKP **PKPab** **00 08 23.0 0.0**
comp=Z,52nm,1.0s
ABTA Abfaltersbach 155.89 344 *i* PKP **PKPdf** **00 07 55.6 -0.7**
comp=Z,16nm,1.0s,SNR=14
ABTA *e*PKP **PKPab** **00 08 23.6 +0.1**
comp=Z,110nm,1.3s,SNR=5.9
DAVA Damuels 155.94 349 *i* PKP **PKPdf** **00 07 56.7 +0.3**
comp=Z,17nm,1.7s
DAVA *i* PKP **PKPab** **00 08 24.6 +0.8**
comp=Z,30nm,0.7s
FETA Feichten 156.03 347 *i* PKP **PKPdf** **00 07 55.9 -0.7**
comp=Z,20nm,1.1s,SNR=7.0
FETA *i* PKP **PKPab** **00 08 24.8 +0.6**
comp=Z,45nm,1.0s
SOH Sokhos 156.05 320 P **PKPab** **00 08 24.2 -0.2**
KNT Kendrikon 156.10 321 P **PKPab** **00 08 23.4 -1.2**
VAY Valandovo 156.18 322 *i* P **PKPab** **00 08 24.6 -0.3**
PLG Polygyros 156.28 319 P **PKPab** **00 08 25.2 -0.2**
HORT Hortiatis 156.34 320 P **PKPab** **00 08 25.2 -0.5**
LIT Litokhoron 157.02 320 P **PKPab** **00 08 27.7 -0.9**
OHR Ohrid 157.30 324 *i* P PKPab 00 08 22.4 -7.5
KZN Kozani 157.31 321 P **PKPab** **00 08 30.0 +0.1**
KBN Korca 157.65 323 P **PKPab** **00 08 31.2 -0.1**
LSK Leskovik 158.08 322 P **PKPab** **00 08 33.5 +0.3**
JAN Janina 158.26 321 P **PKPab** **00 08 34.2 +0.2**
DBIC Dimbokro 161.30 154 PKPab **PKPab** **00 08 48.9 +1.2**
comp=Z,11nm,0.9s,baz=188,slow=6.6,SNR=6.0
ESDC Sonseca Array 163.01 19 P **PKPab** **00 08 55.3 +0.6**
ESDC Sonseca Array 163.01 19 PKP **PKPdf** **00 08 05.0 +0.4**
comp=Z,2.3nm,1.0s,baz=62,slow=3.5,SNR=5.0
ESDC PKPab **PKPab** **00 08 55.0 +0.4**
comp=Z,14nm,1.0s,baz=333,slow=4.2,SNR=23
ESDC PP **PP** **00 12 39.6 +0.7**
comp=Z,2.8nm,1.0s,baz=350,slow=5.4,SNR=4.2
KEST Kesra 166.96 337 PKPab **PKPab** **00 09 12.3 +0.1**
comp=Z,31nm,0.9s,baz=288,slow=1.9,SNR=24
TORD Torodi Ar. Bea 169.33 172 PKP **PKPdf** **00 08 09.5 -0.8**
comp=Z,4.3nm,1.0s,baz=333,slow=2.8,SNR=18
TORD PKPab **PKPab** **00 09 23.9 +1.0**
comp=Z,5.4nm,0.8s,baz=181,slow=3.7,SNR=16
TORD PP **PP** **00 13 13.1 +1.9**

*IDC **01** 23:50:57.8±20.0, 22°.31S×178°.18W, h299km±142km, mb3.8/3, mbtmp4.5/4, Error ellipse: s-maj=284.2km s-min=32.7km az=144.0*
ISC 01 23:51:04.5±1.4, 21°.7S±0°.3×178°.6W±0°.2, h350km, n11, σ1§22/10, mb3.7/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.03**	**320**	P	**Pn**	**23 52 24.4**	**-0.2**
	67nm,0.9s,baz=195,slow=14,SNR=0.8						
CTA	**Charters Tower**	**32.85**	**266**	P	**P**	**23 57 09.0**	**+2.0**
	10nm,0.6s,baz=102,slow=12,SNR=2.2						
	10nm,0.6s						
ASAR	**Alice Springs**	**43.74**	**258**	P	**P**	**23 58 35.2**	**-1.6**
	3.5nm,0.8s,baz=95,slow=7.9,SNR=1.3						
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**43.92**	**263**	P	**P**	**23 58 36.9**	**-1.3**
	2.9nm,0.6s,baz=93,slow=8.1,SNR=1.3						
	2.9nm,0.6s						
BVAR	**Borovoye Array**	**119.61**	**320**	PKP	**PKPdf**	**00 09 12.9**	**+0.1**
	1.0nm,0.4s,baz=107,slow=1.5,SNR=2.0						
ARCES	**ARCESS Array B**	**129.96**	**349**	PKP	**PKPdf**	**00 09 31.4**	**-0.8**
	4.3nm,1.0s,baz=26,slow=1.8,SNR=1.4						
HFS	**Hagfors**	**140.59**	**350**	PKhKP	PKPpre	00 09 47.0	
	1.9nm,0.6s,baz=5.7,slow=1.4,SNR=1.3						
AKASG	**Malin Array Be**	**143.75**	**330**	PKP	**PKPdf**	**00 09 58.5**	**+0.5**
	6.5nm,0.5s,baz=46,slow=4.4,SNR=4.9						
EKA	**Eskdalemuir Ar**	**146.20**	**5**	PKPbc	**PKPdf**	**00 10 03.0**	**+0.9**
	1.8nm,0.7s,baz=348,slow=3.0,SNR=2.1						
BRTR	**Keskin Array B**	**147.20**	**311**	PKPbc	**PKPbc**	**00 10 07.3**	**0.0**
	0.8nm,0.6s,baz=98,slow=4.8,SNR=1.1						
MMAI	**Mount Meron Ar**	**147.90**	**298**	PKPbc	**PKiKP**	**00 10 10.5**	**-0.4**
	3.7nm,0.8s,baz=80,slow=7.9,SNR=2.2						

*IDC **02** 00:04:42.9±0.7, 55°.25N×164°.58E, h0km, mb3.9/22, mbtmp3.9/23, ML3.6/1, MS3.4/6, Error ellipse: s-maj=20.7km s-min=12.2km az=158.0*
*KRSC **02** 00:04:43.4±0.8, 55°.10N×164°.58E, h50km±22km, Ml4.6*
*MOS **02** 00:04:44.8±0.9, 55°.18N×164°.62E, h28km, mb4.8/7, Error ellipse: s-maj=10.9km s-min=6.5km az=51.8*
*NEIC **02** 00:04:51.2±1.9, 55°.6N±0°.2×163°.2E±0°.2, h10km±1km, mb4.5/90, Error ellipse: s-maj=33.5km s-min=4.5km az=142.0*
ISC 02 00:04:52.0±0.6, 55°.43N±0°.06×163°.41E±0°.06, h22km, n192, σ1§63/166, mb4.4/75, 5C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**337**	PN	**Pn**	**00 05 08.8**	**+0.2**
KBTR				S	Sn	00 05 27.5	+7.2
KBTR	**Krutoberegovo**	**0.85**	**337**	*e*P	**Pn**	**00 05 08.8**	**+0.2**
KBTR				*e*S	Sn	00 05 27.6	+7.2
BKI	**Bering**	**1.48**	**98**	PN	Pn	00 04 59.4	-18
BKI				S	Sn	00 05 10.1	-26
BKI	**Bering**	**1.48**	**98**	*e*P	Pn	00 04 59.5	-18
BKI				*e*S	Sn	00 05 10.2	-26
KMNR	**Kamenistaya**	**1.83**	**282**	PN	**Pb**	**00 05 27.2**	**+2.5**
KMNR	**Kamenistaya**	**1.83**	**282**	*e*P	**Pb**	**00 05 27.2**	**+2.5**
ESO	**Esso**	**2.71**	**283**	PN	**Pb**	**00 05 38.8**	**-0.9**
ESO	**Esso**	**2.71**	**283**	*e*P	**Pb**	**00 05 38.8**	**-0.9**
NLC	**Nalytchevo**	**3.28**	**228**	PN	**Pn**	**00 05 40.9**	**-1.1**
NLC	**Nalytchevo**	**3.28**	**228**	*e*P	**Pn**	**00 05 41.0**	**-1.1**
NLC				*e*S	**Sn**	**00 06 22.0**	**+1.7**
KRX	**Arik**	**3.47**	**235**	PN	**Pn**	**00 05 45.4**	**+0.7**
KRX	**Arik**	**3.47**	**235**	*e*P	**Pn**	**00 05 45.4**	**+0.7**
UGLR	**Uglovaya**	**3.48**	**232**	PN	**Pn**	**00 05 44.9**	**0.0**
UGLR	**Uglovaya**	**3.48**	**232**	*e*P	**Pn**	**00 05 44.9**	**0.0**
AVH	**Avacha**	**3.49**	**233**	PN	**Pn**	**00 05 45.3**	**+0.4**
AVH	**Avacha**	**3.49**	**233**	*e*P	**Pn**	**00 05 45.3**	**+0.4**
KOK	**Koryaka**	**3.52**	**234**	PN	**Pn**	**00 05 45.8**	**+0.5**
KOK	**Koryaka**	**3.52**	**234**	*e*P	**Pn**	**00 05 45.9**	**+0.5**
GNL	**Ganaly**	**3.62**	**244**	PN	**Pn**	**00 05 48.9**	**+2.1**
GNL	**Ganaly**	**3.62**	**244**	*e*P	**Pn**	**00 05 48.9**	**+2.1**
DALK	**Dalny**	**3.64**	**231**	PN	**Pn**	**00 05 46.4**	**-0.5**
DALK	**Dalny**	**3.64**	**231**	*e*P	**Pn**	**00 05 46.4**	**-0.5**
DALK				*e*S	**Sn**	**00 06 31.0**	**+1.9**
INSR	**Institute**	**3.68**	**232**	*e*S	**Sn**	**00 06 32.9**	**+2.8**
PET	**Petropavlovsk**	**3.69**	**231**		**Pn**	**00 05 47.7**	**+0.1**
PET	**Petropavlovsk**	**3.69**	**231**	*e*PN	**Pn**	**00 05 47.6**	**+0.1**
PET				pmax	pmax		
	comp=Z,67nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**3.69**	**231**	*e*P	**Pn**	**00 05 47.5**	**0.0**
PET				*e*S	**Sn**	**00 06 32.9**	**+2.6**
OSSR	**Ossora**	**3.84**	**357**	PN	**Pn**	**00 05 48.5**	**-1.1**
OSSR	**Ossora**	**3.84**	**357**	*e*P	**Pn**	**00 05 48.5**	**-1.1**
KRMR	**Karymshinskiy**	**4.05**	**232**	PN	**Pn**	**00 05 52.8**	**+0.2**
KRMR	**Karymshinskiy**	**4.05**	**232**	*e*P	**Pn**	**00 05 52.8**	**+0.2**
KRMR				*e*S	**Sn**	**00 06 42.7**	**+3.4**
PEA0B	**Petropavlovsk-**	**4.07**	**238**		**Pn**	**00 05 53.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.07**	**238**	PN	**Pn**	**00 05 54.1**	**+1.2**
PETK	**Petropavlovsk-**	**4.07**	**238**		**Pn**	**00 05 53.1**	**+0.2**
PETK	**Petropavlovsk-**	**4.07**	**238**	Pn	**Pn**	**00 05 53.5**	**+0.6**
	comp=Z,15nm,0.3s,baz=69,slow=17,SNR=94						
PETK				Sn	**Sb**	**00 06 46.6**	**-5.1**
	comp=Z,5.4nm,0.3s,baz=122,slow=47,SNR=1.6						
	comp=Z,34nm,0.5s						
RUS	**Russkaya**	**4.17**	**226**	PN	**Pn**	**00 05 52.3**	**-1.8**
RUS	**Russkaya**	**4.17**	**226**	*e*P	**Pn**	**00 05 52.4**	**-1.8**
RUS				*e*S	**Sn**	**00 06 41.3**	**-0.8**
GRL	**Gorelyy**	**4.27**	**230**	PN	**Pn**	**00 05 55.1**	**-0.6**
GRL	**Gorelyy**	**4.27**	**230**	*e*P	**Pn**	**00 05 55.2**	**-0.6**
APC	**Apacha**	**4.45**	**238**	PN	**Pn**	**00 05 59.7**	**+1.7**
APC	**Apacha**	**4.45**	**238**	*e*P	**Pn**	**00 05 59.7**	**+1.7**
KDTR	**Khodutka, Kamc**	**4.82**	**223**	PN	**Pn**	**00 06 00.3**	**-2.8**
KDTR	**Khodutka, Kamc**	**4.82**	**223**	*e*P	**Pn**	**00 06 00.3**	**-2.8**
PAU	**Pauzhetka**	**5.59**	**228**	PN	**Pn**	**00 06 12.9**	**-0.8**
PAU	**Pauzhetka**	**5.59**	**228**	*e*P	**Pn**	**00 06 13.0**	**-0.8**
SHEM	**Shemya Is, Ala**	**6.85**	**109**	LR	LR	00 08 19.8	
	comp=Z,282nm,21.2s,baz=280,slow=35						
MA2	**Magadan**	**7.97**	**307**	LR	LR	00 10 34.8	
	comp=Z,223nm,19.5s,baz=120,slow=41						
ASAJ	**Asahikawa**	**17.49**	**238**	LR	LR	00 16 18.5	
	comp=Z,69nm,18.3s,baz=169,slow=39						
YAK	**Yakutsk**	**18.54**	**305**	LR	LR	00 17 03.0	
	comp=Z,123nm,19.1s,baz=109,slow=39						
YAK	**Yakutsk**	**18.54**	**305**	*e*P	Pn	00 09 19.0	+12
YAK				pmax	pmax		
	comp=Z,21nm,0.6s						
L16K	**Owhat River**	**20.13**	**57**	P	**P**	**00 09 24.6**	**+0.6**
H17K	**Granite Mounta**	**20.27**	**47**	P	**P**	**00 09 27.2**	**+1.6**
J17K	**VABM Dome**	**20.41**	**52**	P	**P**	**00 09 24.2**	**-3.0**
E18K	**Tukpahlearik C**	**20.61**	**40**		Pn	00 09 32.4	+0.8
K17K	**Iditarod**	**20.71**	**54**	P	**P**	**00 09 31.2**	**+0.7**
K17K				IAmb	IAmb	00 09 37.3	
	comp=Z,18nm,0.7s						
C18K	**Utukok River**	**20.82**	**37**	P	**P**	**00 09 32.1**	**+0.5**
H18K	**Honhosa River**	**20.95**	**47**	P	**P**	**00 09 31.2**	**-1.9**
G18K	**Tagagawik**	**20.97**	**45**	P	**P**	**00 09 33.5**	**+0.3**
M17K	**Holitna River**	**21.10**	**58**	P	**P**	**00 09 34.9**	**+0.3**
N17K	**Nushagak Hills**	**21.26**	**60**	P	**P**	**00 09 36.3**	**-0.1**
N17K				IAmb	IAmb	00 09 58.6	
	comp=Z,34nm,1.4s						
CHGN	**Chignik**	**21.27**	**72**	P	**P**	**00 09 36.2**	**-0.2**
CHGN				IAmb	IAmb	00 10 07.3	
	comp=Z,39nm,1.2s						
L18K	**Granite Mounta**	**21.45**	**55**	P	**P**	**00 09 38.7**	**+0.4**
L18K				IAmb	IAmb	00 09 41.9	
	comp=Z,19nm,1.2s						
J18K	**Innoko River**	**21.48**	**52**		**P**	**00 09 38.1**	**-0.6**
J18K				IAmb	IAmb	00 09 41.8	
	comp=Z,16nm,1.0s						
**D19K

RND	**Reindeer**	**25.01**	**52**	P	**P**	**00 10 14.7**	**+0.8**
RND	**Reindeer**	**25.01**	**52**	P	**P**	**00 10 14.7**	**+0.8**
RND				pmax	pmax		
	comp=Z,31nm,1.2s						
GHO	**Glory Hole Cre**	**25.13**	**56**	P	**P**	**00 10 15.8**	**+0.8**
GHO				IAmb	IAmb	00 10 18.2	
	comp=Z,12nm,1.0s						
WRH	**Wood River Hil**	**25.29**	**49**		**P**	**00 10 17.0**	**+0.7**
H24K	**Noodor Dome**	**25.36**	**46**	P	**P**	**00 10 18.4**	**+1.3**
H24K				IAmb	IAmb	00 10 21.8	
	comp=Z,19nm,1.4s						
KNK	**Knik Glacier**	**25.40**	**57**	P	**P**	**00 10 17.3**	**-0.1**
SML	**Sawmill**	**25.41**	**56**	P	**P**	**00 10 18.5**	**+1.0**
SML	**Sawmill**	**25.41**	**56**	P	**P**	**00 10 18.5**	**+1.0**
SML				pmax	pmax		
	comp=Z,37nm,1.0s						
CCB	**Clear Creek Bu**	**25.41**	**49**	P	**P**	**00 10 17.5**	**+0.1**
CCB				IAmb	IAmb	00 10 20.2	
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**25.52**	**233⇑**	*e*P	**P**	**00 10 16.8**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,29nm,1.9s						
MJAR	**Matsushiro Arr**	**25.52**	**233**	P	**P**	**00 10 17.3**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=22,slow=8.4,SNR=4.7						
	comp=Z,1.3nm,0.4s						
G24K	**Hadweenzic Riv**	**25.55**	**44**	P	**P**	**00 10 16.8**	**-1.9**
G24K				IAmb	IAmb	00 10 22.4	
	comp=Z,14nm,1.0s						
PWL	**Port Wells**	**25.55**	**58**	P	**P**	**00 10 19.1**	**+0.3**
POKR	**Poker Plat Res**	**25.55**	**48**	P	**P**	**00 10 20.1**	**+1.3**
POKR				IAmb	IAmb	00 10 21.8	
	comp=Z,9.9nm,1.1s						
ILAR	**Eielson Array**	**25.80**	**49**	P	P	00 10 13.0	-8.0
	comp=Z,1.3nm,0.7s,baz=251,slow=8.1,SNR=14						
	comp=Z,1.3nm,0.7s						
SCM	**Sheep Creek Mo**	**25.88**	**55**	P	**P**	**00 10 22.7**	**+0.9**
SCM	**Sheep Creek Mo**	**25.88**	**55**	P	**P**	**00 10 22.7**	**+0.9**
SCM				pmax	pmax		
	comp=Z,33nm,0.6s						
GLI	**Glacier Island**	**26.14**	**58**	P	**P**	**00 10 25.7**	**+1.6**
F25K	**Christian Rive**	**26.30**	**42**	P	**P**	**00 10 27.8**	**+2.2**
PRP	**Porcupine Dome**	**26.34**	**47**	P	**P**	**00 10 27.0**	**+0.9**
PRP				IAmb	IAmb	00 10 29.7	
	comp=Z,10nm,0.8s						
M24K	**Tolsona, Glenn**	**26.38**	**55**	P	**P**	**00 10 28.4**	**+2.1**
J25K	**Salcha River,**	**26.46**	**49**	P	**P**	**00 10 27.5**	**+0.4**
PAX	**Paxson**	**26.58**	**53**	P	**P**	**00 10 28.8**	**+0.6**
PAX				IAmb	IAmb	00 10 35.7	
	comp=Z,10nm,1.0s						
PAX	**Paxson**	**26.58**	**53**	P	**P**	**00 10 28.8**	**+0.6**
PAX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLU	**Klutina**	**26.59**	**56**	P	**P**	**00 10 28.0**	**-0.2**
KLU				IAmb	IAmb	00 10 37.8	
	comp=Z,20nm,1.2s						
RIDG	**Independent Ri**	**26.77**	**51**	P	**P**	**00 10 30.0**	**+0.2**
RIDG				IAmb	IAmb	00 10 31.3	
	comp=Z,7.2nm,0.8s						
F26K	**Sheenjek River**	**26.87**	**42**	P	**P**	**00 10 31.6**	**+0.9**
SCRK	**Sand Creek**	**27.12**	**50**	P	**P**	**00 10 33.8**	**+0.8**
SCRK				IAmb	IAmb	00 10 34.7	
	comp=Z,10.0nm,1.0s						
N25K	**Chitina, Valde**	**27.20**	**56**	P	**P**	**00 10 34.6**	**+0.9**
J26L	**Joseph Creek**	**27.25**	**49**	P	**P**	**00 10 35.5**	**+1.4**
BMRM	**Bremner River**	**27.32**	**57**	P	**P**	**00 10 36.0**	**+1.2**
BMRM				IAmb	IAmb	00 10 41.5	
	comp=Z,16nm,1.1s						
D27M	**Malcolm River**	**28.07**	**39**	P	**P**	**00 10 44.0**	**+2.5**
D27M				IAmb	IAmb	00 10 45.4	
	comp=Z,7.5nm,0.6s						
L27K	**Beaver Creek,**	**28.21**	**52**	P	**P**	**00 10 43.6**	**+0.9**
EGAK	**Eagle**	**28.24**	**48**	P	**P**	**00 10 43.5**	**+0.6**
EGAK				IAmb	IAmb	00 10 45.3	
	comp=Z,7.2nm,0.8s						
M27K	**Edge Creek, AK**	**28.31**	**53**	P	**P**	**00 10 45.6**	**+1.8**
M27K				IAmb	IAmb	00 10 47.5	
	comp=Z,12nm,1.1s						
F28M	**Old Crow**	**28.51**	**42**	P	**P**	**00 10 47.0**	**+1.7**
E28M	**Babbage River**	**28.59**	**40**	P	**P**	**00 10 46.1**	**+0.1**
I28M	**Miner Creek**	**28.67**	**47**	P	**P**	**00 10 48.6**	**+1.7**
DAWY	**Dawson**	**29.11**	**49**	P	**P**	**00 10 50.1**	**-0.5**
KSRS	**Korea Array**	**29.90**	**248**	P	**P**	**00 10 58.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=46,slow=10,SNR=4.8						
	comp=Z,0.9nm,0.7s						
K29M	**Barlow Dome**	**29.96**	**50**	P	**P**	**00 10 59.3**	**+0.9**
K29M				IAmb	IAmb	00 11 08.2	
	comp=Z,7.6nm,1.2s						
I30M	**Mount Dempster**	**30.18**	**47**	P	**P**	**00 11 01.7**	**+1.4**
M30M	**Minto, Yukon**	**30.57**	**52**	P	**P**	**00 11 05.8**	**+2.2**
M30M				IAmb	IAmb	00 11 46.3	
	comp=Z,9.7nm,1.4s						
HYT	**Haines Junctio**	**30.71**	**55**	P	**P**	**00 11 07.2**	**+2.1**
N30M	**Aishikik Lake**	**30.73**	**54**	P	**P**	**00 11 07.3**	**+2.2**
N30M				IAmb	IAmb	00 11 28.2	
	comp=Z,7.4nm,1.3s						
INK	**Inuvik**	**30.83**	**40**	P	**P**	**00 11 07.9**	**+2.2**
INK				IAmb	IAmb	00 11 27.5	
	comp=Z,4.2nm,0.8s						
INK	**Inuvik**	**30.83**	**40**	P	**P**	**00 11 07.9**	**+2.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
F31M	**Tsiigehtchic**	**30.87**	**42**	P	**P**	**00 11 07.5**	**+1.4**
F31M				IAmb	IAmb	00 11 09.5	
	comp=Z,5.0nm,0.7s						
O30N	**Mendenhall**	**31.39**	**55**	P	**P**	**00 11 13.2**	**+2.2**
O30N				IAmb	IAmb	00 11 13.7	
	comp=Z,8.1nm,0.9s						
M31M	**Drury Creek, Y**	**31.75**	**52**	P	**P**	**00 11 16.5**	**+2.5**
WHY	**Whitehorse**	**31.99**	**55**	P	**P**	**00 11 16.6**	**+0.3**
MMPY	**Sheldon Lake,**	**33.01**	**50**	P	**P**	**00 11 27.2**	**+2.1**
MMPY				IAmb	IAmb	00 11 29.3	
	comp=Z,5.9nm,0.9s						
P33M	**Teslin, Yukon**	**33.11**	**55**	P	**P**	**00 11 26.9**	**+0.9**
P33M				IAmb	IAmb	00 11 28.8	
	comp=Z,14nm,1.4s						
C36M	**Paulatuk**	**34.01**	**37**	P	**P**	**00 11 36.0**	**+2.4**
DLBC	**Dease Lake**	**35.11**	**57**	P	**P**	**00 11 46.8**	**+3.4**
DLBC				IAmb	IAmb	00 11 47.6	
	comp=Z,7.1nm,0.7s						
NRIK	**Noril'sk**	**35.16**	**323**	P	**P**	**00 11 43.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=80,slow=9.1,SNR=4.5						
NRIK				LR	LR	00 26 00.9	
	comp=Z,88nm,19.5s,baz=56,slow=36						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**35.29**	**282**	P	**P**	**00 11 45.9**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=73,slow=7.6,SNR=4.4						
	comp=Z,0.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.74**	**174**	T	T	00 49 38.0	
	baz=359,slow=76,SNR=164						
H11N3	**WAKE ISLAND Hy**	**35.75**	**174**	T	T	00 49 39.2	
	baz=359,slow=76,SNR=102						
H11N1	**WAKE ISLAND Hy**	**35.75**	**174**	T	T	00 49 39.4	
	baz=359,slow=76,SNR=132						
HHC	**Hu-ho-hao-te**	**36.63**	**269**	*e*P	**P**	**00 11 55.6**	**-1.0**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
H11S1	**WAKE ISLAND Hy**	**36.94**	**175**	T	T	00 51 05.9	
	baz=351						
H11S3	**WAKE ISLAND Hy**	**36.95**	**175**	T	T	00 51 12.1	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**36.96**	**175**	T	T	00 51 06.4	
	baz=351						
NJ2	**Nanjing**	**38.84**	**252**	*e*P	**P**	**00 12 15.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,13nm,1.7s						
YKA	**Yellowknife Ar**	**40.13**	**46**	P	P	00 12 18.1	-7.5
	comp=Z,0.4nm,0.6s,baz=298,slow=8.4,SNR=7.3						
	comp=Z,0.4nm,0.6s						
GTA	**Gaotai**	**44.28**	**276**	*e*P	**P**	**00 13 02.9**	**+3.0**
GTA				sP	pwP	00 13 11.1	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**48.15**	**302**	P	**P**	**00 13 29.0**	**-1.0**
J05D	**Fort Rock, OR**	**48.20**	**71**	P	**P**	**00 13 31.8**	**+1.1**
KURBB	**Kurchatov Arra**	**48.26**	**302**	P	**P**	**00 13 29.0**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=55,slow=7.7,SNR=5.9						
	comp=Z,0.9nm,0.5s						
L04D	**Klamath Falls**	**48.34**	**73**	P	**P**	**00 13 32.8**	**+1.1**
YBH	**Yreka Blue Hor**	**48.45**	**74**	P	**P**	**00 13 33.1**	**+0.6**
YBH				IAmb	IAmb	00 14 03.0	
	comp=Z,5.8nm,1.1s						
YBH	**Yreka Blue Hor**	**48.45**	**74**	P	**P**	**00 13 33.1**	**+0.6**
YBH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MK31	**Makanchi Array**	**48.89**	**296**	*i* P	P	00 13 43.2	+7.4
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**00 13 35.5**	**-0.3**
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**00 13 34.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=53,slow=6.9,SNR=10						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**00 13 35.5**	**-0.3**
BVAR	**Borovoye Array**	**50.46**	**309**	P	**P**	**00 13 45.2**	**-2.4**
	comp=Z,1.3nm,0.6s,baz=76,slow=6.7,SNR=2.8						
	comp=Z,1.3nm,0.6s						
ARCES	**ARCESS Array B**	**51.66**	**343**	P	**P**	**00 13 52.0**	**-4.4**
	comp=Z,8.8nm,1.1s,baz=43,slow=12,SNR=2.6						
	comp=Z,8.8nm,1.1s						
ARCES	**ARCESS Array B**	**51.66**	**343**	P	**P**	**00 13 52.0**	**-4.4**
PZH	**PanZhiHua**	**52.62**	**263**	P	**P**	**00 14 06.1**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
KMI	**Kunming**	**53.13**	**261**	⇑P	P	00 14 14.4	+6.3
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVAR	**Mina Array Bea**	**53.17**	**74**	P	P	00 13 57.9	-10
	comp=Z,0.7nm,0.7s,baz=311,slow=6.2,SNR=3.5						
	comp=Z,0.7nm,0.7s						
KIRV	**Kirov**	**54.65**	**324⇑**	*e*P	P	00 14 28.3	+10
R11B	**Troy Canyon, C**	**54.71**	**72**	P	**P**	**00 14 20.4**	**+1.0**
PDAR	**Pinedale Array**	**54.72**	**64**	P	**P**	**00 14 20.6**	**+1.0**
PDAR	**Pinedale Array**	**54.72**	**64**	P	P	00 14 10.1	-9.5
	comp=Z,0.9nm,1.0s,baz=330,slow=4.2,SNR=5.7						
	comp=Z,0.9nm,1.0s						
SPR3	**Spring Creek 3**	**54.92**	**71**	P	**P**	**00 14 23.7**	**+2.6**
SPR3				IAmb	IAmb	00 14 26.1	
	comp=Z,7.5nm,1.0s						
PSUT	**Pine Spring**	**55.51**	**71**	P	**P**	**00 14 27.3**	**+2.0**
GWY	**Greenwater Val**	**55.69**	**75**	P	**P**	**00 14 27.9**	**+1.3**
GWY				IAmb	IAmb	00 14 29.7	
	comp=Z,4.2nm,0.7s						
BSUT	**Blindstream Ca**	**55.70**	**67**	P	**P**	**00 14 29.3**	**+2.4**
BSUT				IAmb	IAmb	00 14 35.0	
	comp=Z,4.7nm,1.1s						
AAK	**Ala-Archa**	**55.77**	**297**	*i* P	P	00 14 34.4	+7.3
ULM	**Lac du Bonnet**	**55.81**	**50**	P	**P**	**00 14 29.4**	**+2.3**
ULM				IAmb	IAmb	00 14 30.5	
	comp=Z,9.3nm,1.2s						
ULM	**Lac du Bonnet**	**55.81**	**50**	P	P	00 14 18.3	-8.8
	comp=Z,1.0nm,0.7s,baz=309,slow=6.2,SNR=3.2						
	comp=Z,1.0nm,0.7s						
KSH	**Kashi**	**57.28**	**293**	P	**P**	**00 14 40.9**	**+3.1**
KSH				sP	pwP	00 14 51.2	+2.1
KSH				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KKAR	**Karatay Array**	**57.43**	**300**	P	**P**	**00 14 38.1**	**-0.6**
KKAR	**Karatay Array**	**57.43**	**300**	P	**P**	**00 14 38.1**	**-0.6**
FINES	**FINESS Array B**	**58.72**	**338**	P	**P**	**00 14 43.9**	**-3.5**
	comp=Z,1.6nm,0.8s,baz=15,slow=5.8,SNR=3.4						
	comp=Z,1.6nm,0.8s						
BELG	**Belogornoye**	**60.18**	**321⇑**	*e*P	P	00 15 08.3	+11
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.54**	**260**	P	**P**	**00 15 01.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=42,slow=6.5,SNR=2.0						
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**61.81**	**345**	P	P	00 15 16.5	+7.9
	comp=Z,3.1nm,0.7s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.81**	**345**	P	**P**	**00 15 05.5**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=18,slow=6.1,SNR=1.8						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**62.29**	**343**	P	**P**	**00 15 08.4**	**-3.4**
	comp=Z,13nm,1.2s,baz=126,slow=2.0,SNR=2.6						
	comp=Z,13nm,1.2s						
AKASG	**Malin Array Be**	**67.58**	**330**	P	**P**	**00 15 43.4**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.5,SNR=3.1						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**67.97**	**70**	P	P	00 15 39.8	-9.4
	comp=Z,0.6nm,0.6s,baz=299,slow=4.6,SNR=7.6						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**79.04**	**208**	P	P	00 16 48.4	-5.7
	comp=Z,0.9nm,0.8s,baz=19,slow=5.8,SNR=3.1						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**82.71**	**207**	P	P	00 17 08.3	-5.3
	comp=Z,0.8nm,0.6s,baz=11,slow=5.2,SNR=10						
	comp=Z,0.8nm,0.6s						

NAO ***02*** *00:14:36.3, 34.°74N×24.°40E, h10km, mb4.6*
IDC ***02*** *00:14:56.4±0.7, 36.°71N×21.°65E, h0km, mb4.4/21, mbtmp4.2/35, ML3.8/13, MS3.4/16, Error ellipse: s-maj=14.2km s-min=11.8km az=172.0*
ATH ***02*** *00:14:57.2, 36.°45N×21.°40E, h7km±3km, ML3.8/7, Error ellipse: s-maj=3.4km s-min=1.5km az=202.0*
MOS ***02*** *00:14:57.3±1.2, 36.°55N×21.°47E, h23km, mb4.8/27, Error ellipse: s-maj=6.0km s-min=3.2km az=76.4*
NEIC ***02*** *00:14:57.5±2.4, 36.°51N±0.°05×21.°42E±0.°07, h10km±1km, mb4.5/45, Error ellipse: s-maj=9.8km s-min=8.1km az=305.0*
THE ***02*** *00:14:58.3, 36.°50N×21.°42E, h0km±2km, ML4.1/11, Error ellipse: s-maj=2.7km s-min=0.9km az=202.0*
MCSM ***02*** *00:14:59.1±0.7, 37.°7N±5.°5×2.°2E±.°, h9km±3km, mb4.5, mB4.5, MLv4.6, Mw(mB)3.6*
BEO ***02*** *00:15:02.8±0.5, 37.°00N×21.°26E, h0km, ML4.3/18*
PDG ***02*** *00:15:04.4±0.5, 37.°13N×21.°36E, h10km±7km, ML4.4/11, Error ellipse: s-maj=8.2km s-min=2.1km az=90.0*
ISC 02 00:15:00.3±0.7, 36.°66N±0.°04×21.°45E±0.°03, h30km±4km, n468, σ2§36/536, mb4.5/68, MS3.4/11, 42C-20D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.65**	**36**		**Pn**	**00 15 13.8**	**+0.3**
ITM				Sg	**Sn**	**00 15 23.5**	**+0.9**
ITM	**Ithomi**	**0.65**	**36**	P	**Pn**	**00 15 13.8**	**+0.3**
ITM				S	**Sn**	**00 15 24.3**	**+1.6**
	21μm,0.4s						
ITM	**Ithomi**	**0.65**	**36**	P	**Pn**	**00 15 13.8**	**+0.3**
ITM				S	**Sn**	**00 15 23.6**	**+0.9**
AMT	**Artemida-Makis**	**0.90**	**14**	P	**Pn**	**00 15 18.2**	**+1.4**
AMT				S	**Sn**	**00 15 32.6**	**+3.8**
LTHK	**Lithakia**	**1.16**	**335**	P	**Pb**	**00 15 21.9**	**+0.2**
LTHK				S	**Sn**	**00 15 41.0**	**+5.8**
	7μm,0.2s						
LTHK	**Lithakia**	**1.16**	**335**	P	**Pb**	**00 15 21.8**	**+0.2**
LTHK				S	**Sn**	**00 15 40.1**	**+5.0**
LTHK				AML	AML	00 15 48.7	
	comp=N,9087μm,0.3s						
LTHK				AML	AML	00 15 51.3	
	comp=E,16120μm,0.4s						
VLI	**Velíai**	**1.20**	**87**	P	**Pb**	**00 15 23.1**	**+0.6**
VLI				S	**Sn**	**00 15 40.5**	**+4.2**
	comp=E,4μm,0.7s						
VLI	**Velíai**	**1.20**	**87**	P	**Pb**	**00 15 21.5**	**-1.0**
VLI				S	**Sn**	**00 15 37.9**	**+1.6**
VLI				AML	AML	00 15 45.2	
	comp=E,4028μm,0.6s						
VLI				AML	AML	00 15 49.2	
	comp=N,5750μm,0.5s						
CLEM	**Kyllini,Ilia,G**	**1.25**	**349**	P	**Pb**	**00 15 24.0**	**+0.6**
KYPS	**Kipseli, Zakin**	**1.26**	**337**	P	**Pb**	**00 15 24.1**	**+0.7**
DRO	**Drossia**	**1.31**	**9**	P	**Pb**	**00 15 25.3**	**+1.0**
DRO				S	**Sb**	**00 15 46.5**	**+5.8**
	comp=N,10μm,0.5s						
DRO	**Drossia**	**1.31**	**9**	P	**Pb**	**00 15 25.4**	**+1.0**
DRO				S	**Sb**	**00 15 46.0**	**+5.3**
ORTH	**Orthonies,Zaky**	**1.33**	**334**	P	**Pb**	**00 15 24.4**	**-0.3**
ORTH				S	**Sb**	**00 15 45.1**	**+3.8**
RLS	**Riolos of Patr**	**1.40**	**1**	P	**Pb**	**00 15 26.4**	**+0.6**
RLS				S	**Sb**	**00 15 48.7**	**+5.5**
	comp=N,4μm,0.6s						
RLS	**Riolos of Patr**	**1.40**	**1**	P	**Pb**	**00 15 26.6**	**+0.8**
RLS				S	**Sb**	**00 15 47.7**	**+4.5**
RLS				AML	AML	00 15 55.4	
	comp=N,7884μm,0.6s						
RLS				AML	AML	00 16 01.9	
	comp=E,6942μm,1.0s						
GUR	**Goura**	**1.46**	**29**	P	**Pb**	**00 15 27.1**	**+0.2**
GUR				S	**Sb**	**00 15 50.3**	**+5.1**
	comp=E,9μm,0.6s						
GUR	**Goura**	**1.46**	**29**	P	**Pb**	**00 15 27.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.49**	**22**	P	**Pb**	**00 15 27.6**	**+0.2**
KLV				S	**Sb**	**00 15 50.4**	**+4.4**
	comp=E,3μm,0.6s						
KLV	**Kalavryta, Ach**	**1.49**	**22**	P	**Pb**	**00 15 27.8**	**+0.4**
KLV				S	**Sb**	**00 15 50.9**	**+4.9**
KLV				AML	AML	00 15 55.9	
	comp=E,5987μm,0.5s						
KLV				AML	AML	00 15 56.0	
	comp=N,3463μm,0.6s						
RTZL	**Ratzakli, Kefa**	**1.51**	**339**	P	**Pb**	**00 15 27.3**	**-0.4**
RTZL				S	**Sb**	**00 15 51.5**	**+5.0**
KRND	**KRANIDI**	**1.54**	**62**	P	**Pb**	**00 15 27.6**	**-0.7**
KRND				S	**Sb**	**00 15 50.2**	**+2.8**
	comp=N,3μm,0.7s						
KRND	**KRANIDI**	**1.54**	**62**	P	**Pb**	**00 15 27.4**	**-0.8**
KRND				S	**Sb**	**00 15 49.5**	**+2.0**
KRND				AML	AML	00 15 50.0	
	comp=E,2832μm,0.6s						
KRND				AML	AML	00 15 56.8	
	comp=N,6838μm,0.7s						
PSDA	**Pessada-Kefalo**	**1.61**	**335**	P	**Pb**	**00 15 28.5**	**-0.8**
UPR	**University Cam**	**1.64**	**9**	P	**Pb**	**00 15 30.4**	**+0.4**
VLS	**Valsamata**	**1.66**	**336**	P	**Pb**	**00 15 29.4**	**-0.9**
VLS				S	**Sb**	**00 15 54.3**	**+3.5**
	comp=N,2μm,0.6s						
VLS	**Valsamata**	**1.66**	**336**	P	**Pb**	**00 15 29.4**	**-0.9**
VLS				S	**Sb**	**00 15 54.3**	**+3.5**
VLS	**Valsamata**	**1.66**	**336**	P	**Pb**	**00 15 29.6**	**-0.7**
VLS				S	**Sb**	**00 15 54.1**	**+3.3**
VLS				AML	AML	00 16 04.9	
	comp=E,2263μm,0.5s						
VLS				AML	AML	00 16 05.6	
	comp=N,3038μm,0.3s						
ALIK	**Aliki, Aigiali**	**1.68**	**18**	P	**Pb**	**00 15 31.2**	**+0.6**
DMLN	**Damoulianata-K**	**1.79**	**332**	P	**Pb**	**00 15 31.2**	**-1.3**
EFP	**Efpalio**	**1.80**	**12**	P	**Pb**	**00 15 32.7**	**+0.1**
EFP				S	**Sb**	**00 15 59.5**	**+4.7**
	comp=N,2μm,0.8s						
EFP	**Efpalio**	**1.80**	**12**	P	**Pb**	**00 15 32.8**	**+0.1**
EFP				S	**Sb**	**00 16 00.4**	**+5.6**
EFP				AML	AML	00 16 10.6	
	comp=E,3726μm,0.8s						
EFP				AML	AML	00 16 15.3	
	comp=N,3714μm,1.1s						
KALE	**Kalithea**	**1.81**	**18**	P	**Pb**	**00 15 33.1**	**+0.2**
KALE	**Kalithea**	**1.81**	**18**	P	**Pb**	**00 15 32.7**	**-0.3**
FSK	**Fiskardo**	**1.93**	**339**	P	**Pb**	**00 15 33.3**	**-1.5**
ANX	**Ano Chora**	**1.97**	**11**	P	**Pb**	**00 15 35.5**	**0.0**
ANX				S	**Sb**	**00 16 02.1**	**+2.4**
	comp=N,3μm,0.7s						
EVGI	**Lefkada island**	**2.06**	**343**	P	**Pb**	**00 15 35.9**	**-1.1**
VILL	**Villia**	**2.11**	**44**	P	**Pn**	**00 15 34.7**	**+1.1**
NYDR	**Nydri-Lefkada**	**2.13**	**344**	P	**Pb**	**00 15 37.0**	**-1.3**
LKD2	**Lefkada island**	**2.21**	**344**	P	**Pb**	**00 15 38.1**	**-1.6**
VLY	**Voula,Athens**	**2.22**	**57**	P	**Pn**	**00 15 36.2**	**+1.1**
ATH	**Athens Observa**	**2.23**	**53**	P	**Pn**	**00 15 36.7**	**+1.5**
ATH	**Athens Observa**	**2.23**	**53**	P	**Pn**	**00 15 36.7**	**+1.5**
TSLK	**Tsoukalades, L**	**2.25**	**344**	P	**Pb**	**00 15 38.8**	**-1.5**
AXAR	**Agios Charalam**	**2.31**	**24**	P	**Pb**	**00 15 38.4**	**-3.0**
PTL	**Penteli**	**2.38**	**54**	P	**Pn**	**00 15 38.3**	**+1.1**
IMMV	**Iera Moni Meta**	**2.38**	**119**	P	**Pn**	**00 15 38.6**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.41**	**13**	P	**Pb**	**00 15 41.6**	**-1.5**
DION	**Dionisos Attik**	**2.44**	**54**	P	**Pn**	**00 15 39.2**	**+1.2**
KARY	**Karystos**	**2.75**	**59**	P	**Pn**	**00 15 43.2**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.88**	**46**	P	**Pn**	**00 15 45.1**	**+0.9**
THL	**Klokotos Trika**	**2.94**	**9**	P	**Pn**	**00 15 47.6**	**+2.7**
LFKM	**Lefkimmi**	**2.99**	**339**	P	**Pn**	**00 15 48.4**	**+2.8**
NEO	**Neokhori**	**2.99**	**27**	P	**Pn**	**00 15 47.1**	**+1.4**
IGT	**Igoumenitsa**	**3.00**	**343**	P	**Pn**	**00 15 47.7**	**+1.9**
JAN	**Janina**	**3.03**	**351**	P	**Pb**	**00 15 49.2**	**-4.4**
JAN	**Janina**	**3.03**	**351**	P	**Pb**	**00 15 49.2**	**-4.4**
XOR	**Xorichti**	**3.03**	**27**	P	**Pn**	**00 15 47.8**	**+1.5**
LRSO	**Larissa Observ**	**3.10**	**14**	P	**Pn**	**00 15 49.6**	**+2.5**
TYRN	**Tyrnavos**	**3.11**	**11**	P	**Pn**	**00 15 49.5**	**+2.2**
IDI	**Anoyia**	**3.11**	**115**	Pn	**Pn**	**00 15 47.2**	**-0.2**
IDI	**Anoyia**	**3.11**	**115**	P	**Pn**	**00 15 48.8**	**+1.4**
IDI	**Anoyia**	**3.11**	**115**	Pn	**Pn**	**00 15 49.7**	**+2.3**
	comp=N,1.1nm,0.3s,baz=319,slow=23,SNR=15						
IDI				Sn	**Sb**	**00 16 37.1**	**+4.6**
	comp=N,12nm,0.3s,baz=324,slow=19,SNR=7.9						
IDI				LR	LR	00 17 15.9	
	comp=N,220nm,22.0s,baz=297,slow=47						
AOS	**Alonnisos**	**3.16**	**37**	P	**Pn**	**00 15 48.8**	**+0.8**
THR6	**Thira Island,**	**3.20**	**94**	P	**Pn**	**00 15 50.3**	**+1.8**
KPRO	**Kipourio**	**3.29**	**359**	P	**Pb**	**00 15 53.5**	**-4.5**
APE	**Apeiranthos**	**3.30**	**82**	P	**Pn**	**00 15 50.4**	**+0.4**
APE	**Apeiranthos**	**3.30**	**82**	⇓P	**Pn**	**00 15 50.8**	**+0.8**
APE	**Apeiranthos**	**3.30**	**82**	*c i* P	**Pn**	**

PDG **Podgorica** 6.01 344⇑ *i*Pn Pn 00 16 26.3 -0.7
PDG *i* Sn Sn 00 17 27.1 -7.6
PLNA Plana 6.01 14 *e*P Pn 00 16 28.9 +1.7
VTS Vitosha 6.11 13 *e*P Pn 00 16 29.9 +1.3
VTS Vitosha 6.11 13 *e*Pn Pn 00 16 29.9 +1.3
BARS Barje 6.16 3 *e*Pn Pn 00 16 30.1 +1.0
BARS *e*Sn Sn 00 17 35.5 -3.0
CEME Cevo 6.20 342⇑ *i*Pn Pn 00 16 30.7 +1.0
CEME *i* Sn Sn 00 17 32.8 -6.7
HCY Herceg Novi 6.21 339 *e*Pn Pn 00 16 28.3 -1.6
HCY Herceg Novi 6.21 339⇑ *i*Pn Pn 00 16 27.4 -2.5
HCY *i* Sn Sn 00 17 32.8 -7.1
TRAN Tran 6.24 8 *e*P Pn 00 16 31.7 +1.4
IVA Berane 6.32 350⇑ *i*Pn Pn 00 16 31.6 +0.2
IVA *i* Sn Sn 00 17 35.0 -7.6
KOME Kolasin 6.36 347⇓ *i*Pn Pn 00 16 32.2 +0.2
KOME *i* Sn Sn 00 17 36.7 -6.9
NKME Niksic 6.39 343⇓ *i*Pn Pn 00 16 33.6 +1.1
NKME *i* Sn Sn 00 17 38.0 -6.4
SELS Selova 6.56 358 *e*Pn Pn 00 16 34.7 0.0
SELS *e*Sn Sn 00 17 43.7 -4.7
BRY Bratogost 6.62 341 *e*Pn Pn 00 16 35.7 0.0
BRY Bratogost 6.62 341⇑ *i*Pn Pn 00 16 36.2 +0.5
BRY *i* Sn Sn 00 17 43.8 -6.4
ZAPS Zavoj 6.67 7 *e*Pn Pn 00 16 37.9 +1.7
SJES Sjenica 6.69 351 *e*Pn Pn 00 16 36.0 -0.6
SJES Sjenica 6.69 351 *e*Pn Pn 00 16 37.3 +0.7
SJES *e*Sn Sn 00 17 46.7 -5.1
ELL Elmali 6.80 87 Pn Pn 00 16 38.7 +0.6
ELL Elmali 6.80 87 P Pn 00 16 38.7 +0.6
STON Ston 6.84 336 *e*Pn Pn 00 16 37.9 -0.6
STON Ston 6.84 336 *e*Pn Pn 00 16 37.9 -0.6
STON *e*Sn Sn 00 17 49.2 -6.1
PLE Pljevlja 6.85 347⇓ *i*Pn Pn 00 16 39.5 +0.8
PLE *i* Sn Sn 00 17 47.9 -7.7
GOCS Kraljevo Serbi 6.91 357 *e*Pn Pn 00 16 39.4 -0.1
GOCS *e*Sn Sn 00 17 52.1 -5.0
MPEP Malo Peshtene 6.92 14 *e*P Pn 00 16 41.6 +2.0
PAOL Paolisi 6.92 311 Pn Pn 00 16 41.2 +1.5
BOVS Bovan 6.97 2 ⇓P Pn 00 16 40.3 0.0
BOVS Bovan 6.97 2 *e*Pn Pn 00 16 39.7 -0.6
IVAS Ivanjica 6.98 352 *e*Pn Pn 00 16 40.1 -0.4
IVAS *e*Sn Sn 00 17 53.0 -5.8
ELND Elena 7.13 27 ⇑P Pn 00 16 44.3 +1.8
RUDO Rudo 7.13 348 *e*Pn Pn 00 16 41.1 -1.4
ZAGS Zajecar 7.17 5 *e*Pn Pn 00 16 43.3 +0.3
GRUS Gruza 7.24 356 *e*Pn Pn 00 16 43.9 -0.1
GRUS *e*Sn Sn 00 18 00.5 -4.7
BBLS Lazi&#263i 7.37 348 *e*Pn Pn 00 16 45.5 -0.3
BBLS Lazi&#263i 7.37 348 *e*Pn Pn 00 16 45.8 0.0
BORS2 Bor- Borsko je 7.44 3 *e*Pn Pn 00 16 45.1 -1.6
DIVS Divibare 7.51 352 *e*Pn Pn 00 16 47.6 -0.2
TRUS Trudelj 7.60 354 *e*Pn Pn 00 16 48.5 -0.4
HAPS Han Pijesak,BI 7.66 346 *e*Pn Pn 00 16 49.5 -0.3
HAPS *e*Sn Sn 00 18 09.4 -6.2
KUBS Kucevo 7.75 1 *e*Pn Pn 00 16 49.4 -1.6
BORA Eskisehir 7.78 63 Pn 00 16 53.0 +1.4
INTR Introdacqua 7.92 315 Pn Pn 00 16 56.3 +3.0
TEKS Tekeris 8.02 350 *e*Pn Pn 00 16 53.0 -1.6
TEKS Tekeris 8.02 350 *e*Pn Pn 00 16 53.4 -1.2
HERR Herculane 8.25 5 ⇑P Pn 00 16 58.3 +0.6
HUMR Humele 8.31 18 ⇑P Pn 00 17 02.7 +4.0
FRGS Fruska Gora 8.58 352 *e*Pn Pn 00 17 01.0 -1.4
FRGS Fruska Gora 8.58 352 *e*Pn Pn 00 17 01.3 -1.1
A050A Klekovaca 8.66 336 *e*Pn Pn 00 17 04.9 +1.3
BLY Banja Luka 8.70 340 *e*Pn Pn 00 17 03.7 -0.4
BLY Banja Luka 8.70 340 *e*Pn Pn 00 17 04.0 -0.1
BLY *e*Sn Sn 00 18 36.1 -5.0
SLATY Slatina 8.74 340 *e*Pn Pn 00 17 02.5 -2.1
GZR Gura Zlata 8.78 6 ⇑P Pn 00 17 06.1 +0.9
GZR Gura Zlata 8.78 6 ⇑P Pn 00 17 06.1 +0.9
NRCA Norcia 8.89 316 Pn 00 17 09.2 +2.4
GUMA Gualdo di Mace 8.93 318 Pn Pn 00 17 09.1 +1.9
BZS Buzias 8.95 1 ⇑P Pn 00 17 06.7 -0.7
BZS Buzias 8.95 1 ⇑P Pn 00 17 06.7 -0.7
BZS Buzias 8.95 1 *e*Pn Pn 00 17 06.4 -1.0
LOT Lotru 8.95 11 ⇓P Pn 00 17 08.6 +1.0
MANR Mangalia 8.99 35 ⇑P Pn 00 17 09.1 +1.1
A051A Mrakovica 9.02 339 *e*Pn Pn 00 17 06.7 -1.8
ARR Arges 9.03 14 ⇑P Pn 00 17 09.9 +1.3
FDMO Fiordimonte 9.04 317 Pn 00 17 11.3 +2.5
VOIR 9.18 16 ⇑P Pn 00 17 13.4 +2.7
VOIR 9.18 16 ⇑P Pn 00 17 13.4 +2.7
MLR Muntele Rosu 9.45 20 Pn 00 17 15.8 +1.3
MLR Muntele Rosu 9.45 20 Pn Pn 00 17 15.2 +0.7
comp=N,0.3nm,0.3s,baz=172,slow=10,SNR=9.7
MLR LR LR 00 21 33.8
comp=N,129nm,20.4s,baz=202,slow=42
comp=N,5.5nm,0.8s
MLR Muntele Rosu 9.45 20 ⇑P Pn 00 17 16.9 +2.4
MLR Muntele Rosu 9.45 20 ⇑P Pn 00 17 16.9 +2.4
MORH Mrgy, Hungar 9.78 348 ⇑P Pn 00 17 17.7 -1.0
MORH Mrgy, Hungar 9.78 348 P Pn 00 17 18.5 -0.2
comp=N,6.2nm,1.8s
KEST Kesra 9.82 268 Pn Pn 00 17 21.6 +2.0
KEST Kesra 9.82 268 Pn Pn 00 17 22.5 +3.0
comp=N,0.4nm,0.3s,baz=98,slow=10,SNR=7.4
KEST Sn Sn 00 19 08.1 -0.8
comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=1.6
comp=N,11nm,1.0s
VSL Villasalto 9.93 290 Pn Pn 00 17 21.6 +0.7
PLOR Plostina 9.98 21 ⇓P Pn 00 17 24.3 +2.7
PLOR Plostina 9.98 21 ⇓P Pn 00 17 24.3 +2.7
VRI Vrincioaia 10.02 22 ⇓P Pn 00 17 25.7 +3.6
VRI Vrincioaia 10.02 22 ⇓P Pn 00 17 25.7 +3.6
BR131 Keskin Array S 10.07 69⇑ *e*P Pn 00 17 24.7 +1.7
BRTR Keskin Array B 10.07 69 Pn Pn 00 17 24.5 +1.5
BRTR Keskin Array B 10.07 69 Pn Pn 00 17 22.2 -0.8
comp=N,0.1nm,0.3s,baz=253,slow=14,SNR=6.7
BRTR LR LR 00 22 06.4
comp=N,246nm,18.2s,baz=290,slow=43
comp=N,1.3nm,0.8s
BRTR Keskin Array B 10.07 69 P Pn 00 17 24.5 +1.5
DRGR 10.17 5 ⇑P Pn 00 17 24.5 +0.3
DRGR 10.17 5 ⇑P Pn 00 17 24.5 +0.3
DRGR 10.17 5 *e*Pn Pn 00 17 23.7 -0.5
GBRS Gornja Briga 10.18 333 *e*Pn Pn 00 17 24.6 +0.4
CRES Cresnjevec Ost 10.20 336 *e*Pn Pn 00 17 24.0 -0.6
CRES Cresnjevec Ost 10.20 336 *e*Pn Pn 00 17 23.2 -1.4
CRNS Crni Vrh 10.84 332 *e*Pn Pn 00 17 33.8 +0.3
MPLH Magyarpolny 10.90 346 P Pn 00 17 34.6 +0.5
comp=N,30nm,2.0s
BZK Bozkurt 11.07 58 Pn Pn 00 17 37.8 +1.3
SOKA Soboth 11.09 336 *i*Pn Pn 00 17 36.1 -0.8
comp=N,2.6nm,0.4s,SNR=15
SOKA *e*Sn Sn 00 19 29.8 -10
comp=N,6.2nm,0.7s
OBKA Obir 11.11 335 *i*Pn Pn 00 17 37.9 +0.8
comp=N,4.0nm,0.4s
OBKA *i* Sn Sn 00 19 34.5 -5.8
comp=N,20nm,0.9s
OBKA Obir 11.11 335 *e*Pn Pn 00 17 37.3 +0.2
BURAR Bucovina Array 11.30 13 ⇑P Pn 00 17 41.3 +1.6
BURAR Bucovina Array 11.30 13 ⇑P Pn 00 17 41.3 +1.6
PSZ Piszkesteto 11.31 355 Pn Pn 00 17 39.6 -0.2
PSZ Piszkesteto 11.31 355 ⇓P Pn 00 17 31.9 -8.0
PSZ Piszkesteto 11.31 355 P Pn 00 17 39.6 -0.2
BUR08 Bucovina Ar. S 11.32 13 Pn 00 17 41.5 +1.5
ARSA Arzberg 11.46 339 Pn 00 17 40.2 -1.6
ARSA Arzberg 11.46 339 *i*Pn Pn 00 17 41.9 0.0
comp=N,2.3nm,0.5s
ARSA *e*Sn Sn 00 19 46.9 -1.8
comp=N,3.1nm,0.7s
MYKA Terra Mystica 11.54 332 *i*Pn Pn 00 17 43.6 +0.7
comp=N,2.4nm,0.4s
MYKA *i* Sn Sn 00 19 47.2 -3.6
comp=N,4.6nm,0.6s
RONA Rosalia, Austr 11.67 343 *i*Pn Pn 00 17 45.4 +0.7
comp=N,2.5nm,0.5s
RONA *i* Sn Sn 00 19 49.6 -4.3
comp=N,5.0nm,0.9s
CIMO Cimolais 11.76 328 Pn 00 17 46.0 +0.1
KECS Kecovo 11.84 357 *e*SN Sn 00 19 55.0 -2.9
HOLU Holmets 11.88 3 P Pn 00 17 47.6 +0.1
CTI Castel Tesino 11.91 325 Pn 00 17 48.4 +0.3
CTI Castel Tesino 11.91 325 P Pn 00 17 48.4 +0.3
VYHS Vyhne 11.98 352 *e*P Pn 00 17 52.9 +4.0
VYHS *e* 00 19 58.2
VYHS Vyhne 11.98 352 *e*PN Pn 00 17 52.9 +4.0
VYHS Vyhne 11.98 352 *e*SN Sn 00 19 58.2 -3.3
CONA Conrad Observa 11.99 342 *i*Pn Pn 00 17 49.8 +0.7
comp=N,1.0nm,0.4s
CONA *e*Sn Sn 00 19 58.7 -3.1
comp=N,1.0nm,0.6s
KBA Koelnbreinsper 12.03 332 *i*Pn Pn 00 17 50.6 +0.9
comp=N,1.2nm,0.3s
KBA *e*Sn Sn 00 19 55.2 -7.6
comp=N,8.3nm,0.9s
MMAI Mount Meron Ar 12.03 104 Pn Pn 00 17 48.0 -1.8
comp=N,0.6nm,0.3s,baz=296,slow=11,SNR=5.8
MMAI Sn Sn 00 19 53.6 -9.3
comp=N,0.5nm,0.3s,baz=297,slow=26,SNR=1.3
comp=N,0.3nm,0.4s
ABTA Abfaltersbach 12.08 329 *i*Pn Pn 00 17 51.5 +1.2
comp=N,1.3nm,0.4s
ABTA *i* Sn Sn 00 19 56.6 -7.4
comp=N,12nm,1.0s
MODS Modra-Piesok 12.10 347 *e*P Pn 00 17 55.6 +5.0
MODS Modra-Piesok 12.10 347 *e*PN Pn 00 17 55.6 +5.0
MODS Modra-Piesok 12.10 347 *e*SN Sn 00 19 58.9 -5.5
KOLS Kolonicke sedl 12.28 3 *e*P Pn 00 17 57.3 +4.3
KOLS Kolonicke sedl 12.28 3 *e*PN Pn 00 17 57.3 +4.3
MOA Molln 12.37 337 *i*Pn Pn 00 17 54.3 0.0
comp=N,2.1nm,0.2s,SNR=6.3
MOA *e*Sn Sn 00 20 03.8 -7.3
comp=N,3.7nm,0.5s
MOA Molln 12.37 337 *e*Pn Pn 00 17 54.1 -0.2
BIOA Bad Ischl, Aus 12.44 335 *i*Pn Pn 00 17 55.4 +0.1
comp=N,2.5nm,0.4s
BIOA *e*Sn Sn 00 20 06.0 -6.8
comp=N,3.8nm,0.6s
LESA Schwarzleotal 12.57 332 *i*Pn Pn 00 17 58.2 +1.2
comp=N,2.2nm,0.4s
LESA *i* Sn Sn 00 20 07.9 -7.9
comp=N,3.5nm,0.4s
WTTA Wattenberg 12.85 329 *i*Pn Pn 00 18 02.6 +1.6
comp=N,2.4nm,0.3s
WTTA *i* Sn Sn 00 20 17.9 -5.2
comp=N,13nm,1.0s
GHAJ Ghor Haditha 12.88 110 Pn Pn 00 18 02.1 +0.9
WATA Walderalm 12.94 329 *i*Pn Pn 00 18 03.9 +1.8
comp=N,1.7nm,0.4s
WATA *e*Sn Sn 00 20 20.3 -4.7
comp=N,14nm,1.1s
FUORN Ofenpass-Fuorn 12.98 323 Pn Pn 00 18 05.7 +2.8
SQTA Sankt Quirin 13.00 327 *i*Pn Pn 00 18 05.0 +2.0
comp=N,1.3nm,0.3s
SQTA *e*Sn Sn 00 20 21.4 -5.2
comp=N,4.1nm,0.4s
FETA Feichten 13.06 326 *i*Pn Pn 00 18 05.8 +1.9
comp=N,0.7nm,0.3s
FETA *i* Sn Sn 00 20 21.3 -6.8
comp=N,8.9nm,1.5s
VRAC Vranov 13.13 346 Pn Pn 00 18 04.2 -0.4
comp=N,0.3nm,0.3s,baz=183,slow=15,SNR=1.3
VRAC LR LR 00 24 24.7
comp=N,250nm,18.6s,baz=176,slow=43
comp=N,0.8nm,0.3s
MOTA Moosalm 13.14 328 *i*Pn Pn 00 18 06.2 +1.2
comp=N,0.8nm,0.3s
MOTA *i* Sn Sn 00 20 23.0 -7.1
comp=N,7.2nm,0.9s
EIL Elat 13.28 118 Pn Pn 00 18 06.2 -0.6
comp=N,0.3nm,0.3s,baz=327,slow=17,SNR=1.3
EIL Sn Sn 00 20 20.4 -13
comp=N,0.4nm,0.3s,baz=12,slow=11,SNR=4.0
comp=N,3.1nm,0.9s
DAVOX Davos/Dischmat 13.28 323 Pn Pn 00 18 08.1 +1.2
comp=N,0.6nm,0.3s,baz=143,slow=20,SNR=6.5
DAVOX Sn Sn 00 20 18.9 -15
comp=N,0.4nm,0.3s,baz=148,slow=21,SNR=1.9
comp=N,0.8nm,0.3s
TUE Stuetta 13.33 321 Pn Pn 00 18 09.4 +1.8
TUE Stuetta 13.33 321 P Pn 00 18 10.6 +3.0
comp=N,35nm,2.5s
RETA Reutte 13.40 327 *i*Pn Pn 00 18 11.1 +2.7
comp=N,1.4nm,0.6s
RETA *i* Sn Sn 00 20 29.2 -7.0
comp=N,1.8nm,0.4s
GEC2 GERESS Array S 13.43 337 Pn Pn 00 18 09.0 +0.2
GERES GERESS Array B 13.43 337 Pn Pn 00 18 09.0 +0.2
GERES GERESS Array B 13.43 337 Pn Pn 00 18 09.0 +0.2
comp=N,0.4nm,0.3s,baz=149,slow=14,SNR=4.4
GERES Sn Sn 00 20 27.4 -10
comp=N,0.8nm,0.3s,baz=149,slow=25,SNR=5.8
GERES LR LR 00 24 42.7
comp=N,183nm,20.3s,baz=126,slow=44
comp=N,0.6nm,0.3s
ASF Jabal al Asfar 13.52 105 Pn Pn 00 18 08.4 -1.6
comp=N,0.1nm,0.3s,baz=167,slow=20,SNR=2.4
ASF Sn Sn 00 20 30.5 -8.8
comp=N,0.1nm,0.3s,baz=163,slow=16,SNR=1.5
comp=N,2.8nm,0.9s
DAVA Damuels 13.65 325 *e*Pn P 00 18 17.1 -3.3
comp=N,3.3nm,0.5s
DAVA *e*Sn Sn 00 20 33.0 -9.4
comp=N,11nm,0.6s
KHC Kasperske Hory 13.72 338 *e*PN Pn 00 18 12.9 +0.2
KHC *e*SN Sn 00 20 33.6 -10
KHC Kasperske Hory 13.72 338 *e*P Pn 00 18 12.9 +0.2
SENIN Lac Senin/Sane 14.34 317 Pn Pn 00 18 22.9 +1.6
AK09 Malin Array Si 15.05 20 P Pn 00 18 28.9 -1.7
AK16 Malin Array Si 15.05 19 P Pn 00 18 28.8 -1.8
AK17 Malin Array Si 15.05 19 P Pn 00 18 28.7 -2.0
AK08 Malin Array Si 15.06 19 P Pn 00 18 29.0 -1.7
AK02 Malin Array Si 15.06 19 P Pn 00 18 29.1 -1.7
AK19 Malin Array Si 15.07 19 P Pn 00 18 29.2 -1.8
AK11 Malin Array Si 15.07 19 P Pn 00 18 29.2 -1.8
AK15 Malin Array Si 15.08 19 P Pn 00 18 29.2 -1.8
AK18 Malin Array Si 15.09 19 P Pn 00 18 29.3 -1.8
KIEV Kiev 15.10 19 Pn Pn 00 18 32.8 +1.5
KIEV Kiev 15.10 19 P Pn 00 18 32.8 +1.5
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 15.10 19 P Pn 00 18 29.6 -1.7
comp=Z,43nm,0.7s
AKASG Malin Array Be 15.11 19 Pn 00 18 33.3 +1.9
AKASG Malin Array Be 15.11 19 Pn Pn 00 18 29.4 -2.0
comp=Z,1.0nm,0.3s,baz=209,slow=12,SNR=13
AKASG LR LR 00 25 41.0
comp=Z,76nm,18.6s,baz=238,slow=43
comp=Z,1.7nm,0.5s
AKASG Malin Array Be 15.11 19 P Pn 00 18 33.3 +1.9
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 15.11 19 Pn 00 18 30.5 -0.9
AKBB IAmb IAmb 00 18 37.3
comp=Z,13nm,1.1s
AKBB Malin Array Si 15.11 19 P Pn 00 18 30.5 -0.9
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 15.11 19 P Pn 00 18 29.7 -1.7
AK04 Malin Array Si 15.11 19 P Pn 00 18 29.7 -1.8
ECH Echery 15.61 322 Pn P 00 18 40.0 -1.9
ECH Echery 15.61 322 P P 00 18 40.1 -1.9
ECH pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 15.84 340 Pn 00 18 40.4 -0.5
CLL Collm 15.84 340 P Pn 00 18 40.4 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.9s
SUW Suwalki 17.40 3 Pn 00 19 00.1 -0.5
SUW Suwalki 17.40 3 P Pn 00 19 00.1 -0.5
SUW pmax pmax
comp=Z,114nm,1.1s
SUW Suwalki 17.40 3 *e*P Pn 00 19 00.1 -0.5
SHA1 Shidzhatmaz 17.65 60*c*e*P* P 00 19 05.9 +1.1
KIV Kislovodsk 17.74 59 P 00 19 07.3 +1.7
KIV Kislovodsk 17.74 59 *e*P P 00 19 06.2 +0.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,14.0s
KVAR Kislovodsk Arr 17.74 59 P Pn 00 19 03.9 -1.2
baz=252,slow=20
comp=Z,2.8nm,0.9s
KBZ Khabaz 17.82 60 P Pn 00 19 04.5 -1.4
comp=Z,0.5nm,0.3s,baz=243,slow=5.7,SNR=14
comp=Z,7.5nm,0.9s
KBZ Khabaz 17.82 60*c*e*P* P 00 19 07.3 +0.9
KBZ pmax pmax
comp=Z,11nm,0.9s
NCK Nalchik 18.25 61⇑ *e*P P 00 19 13.0 +1.8
NCK pmax pmax
comp=Z,8.0nm,0.9s
GOF Gofitskoye 18.33 56*c*e*P* Pn 00 19 12.4 +0.3
MNK Minsk 18.39 12 *i*P P 00 19 09.9 -2.7
comp=E,16nm,0.8s
MNK *i* P P 00 19 09.9 -2.7
comp=N,11nm,1.1s
MNK *i* P P 00 19 09.9 -2.7
comp=Z,24nm,0.8s,baz=196
MNK *i* PP sP 00 19 20.1 -3.4
MNK *i* S Sn 00 22 36.1 -1.1
MNK *i* SS SnSn 00 22 51.2 +0.2
MNK *i* LQ LQ 00 25 15.4
MNK *i* LR LR 00 26 26.9
MNK *i* LRM MLR 00 27 07.0
comp=N,498nm,22.7s
MNK *i* LRM MLR 00 27 23.2
comp=Z,175nm,16.3s
MNK Minsk 18.39 12 *i*P P 00 19 09.8 -2.7
MNK *i* S Sn 00 22 36.0 -1.1
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=N,11nm,1.1s
MNK pmax pmax
comp=E,16nm,0.8s
MNK MLR MLR
comp=N,498nm,23.0s
MNK MLR MLR
comp=Z,175nm,16.0s
GNI Garni 18.58 72 P P 00 19 14.5 -0.5
GNI Garni 18.58 72 P P 00 19 13.8 -1.1
comp=Z,0.6nm,0.3s,baz=301,slow=7.1,SNR=5.2
GNI LR LR 00 27 35.7
comp=Z,80nm,19.4s,baz=282,slow=41
comp=Z,5.1nm,0.8s
GNI Garni 18.58 72 P P 00 19 14.5 -0.5
GNI pmax pmax
comp=Z,17nm,1.3s
NACGM Naroch 18.61 10 *e*P P 00 19 14.1 -1.0
comp=Z,2µm,0.8s,baz=194
PABE Paberze 18.93 4 P P 00 19 18.4 -0.1
PABE IAmb IAmb 00 19 19.2
comp=Z,54nm,0.8s
PABE Paberze 18.93 4 *e*P P 00 19 18.5 0.0
IIGN Ignalina 18.98 8 *e*P P 00 19 18.8 -0.2
BSD Bornholm Skovb 18.99 348 *e*P P 00 19 18.6 -0.6
BSD Bornholm Skovb 18.99 348 *i*P P 00 19 18.2 -0.9
NAX Nakhchivan 19.13 75 P P 00 19 20.9 -0.1
VSR Storozhevoye 19.28 35 *e*P P 00 19 18.9 -3.5
VSR pmax pmax
comp=Z,6.0nm,0.8s
VSVD Vaisvydziai 19.40 4 *e*P P 00 19 23.9 +0.3
VORR Voronezh 19.61 34 P P 00 19 25.6 -0.3
VORR pmax pmax
comp=Z,14nm,1.2s
GANJ Ganja 19.81 71 P P 00 19 28.0 -0.3
BLEU Blekinge 20.02 351 *i*P P 00 19 29.2 -1.2
LPSR Galich'ya Gora 20.13 32 *e*P P 00 19 31.4 -0.3
LPSR pmax pmax
comp=Z,56nm,0.9s
ESDC Sonseca Array 20.18 286 P Pn 00 19 34.7 +0.3
comp=Z,0.8nm,0.8s,baz=94,slow=10,SNR=4.1
BJUU Bjuv 20.24 346 *i*P Pn 00 19 36.8 +1.9
MNGR Mingechevir, A 20.40 71 P P 00 19 35.0 +0.4
DEL Delary 20.46 348 *i*P P 00 19 35.0 -0.2
VRH Novokhopyorsk 20.51 38 *e*P P 00 19 35.9 +0.2
VRH pmax pmax
comp=Z,49nm,0.8s
SEKA Sheki 20.51 69 P Pn 00 19 37.0 -1.3
AKT Akhty 20.93 69 *e*P P 00 19 38.1 -2.5
AKT *e* 00 19 57.4
AKT pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 21.16 25 P P 00 19 41.5 -1.2
OBN Obninsk 21.16 25 P P 00 19 41.7 -1.1
comp=Z,35nm,0.5s,baz=208,slow=19,SNR=16
comp=Z,35nm,0.5s
OBN Obninsk 21.16 25*d*e*P* P 00 19 42.2 -0.6
OBN *e**PP sP 00 19 51.3 -2.3
OBN *i* 00 20 02.9
OBN S S 00 23 38.0 +1.6
OBN 00 23 50.0
OBN SSS SSS 00 24 16.0
OBN pmax pmax
comp=Z,22nm,0.8s
OBN MLR MLR
comp=Z,41nm,12.0s
OBN Obninsk 21.16 25 P P 00 19 42.2 -0.6
comp=Z,51nm,0.6s
LKRN Lenkeran, Azer 21.70 76 P P 00 19 51.6 +2.9
BORU Boraas 21.76 347 *i*P P 00 19 52.5 +3.4
MOS Moscow 22.02 25 *e*P P 00 19 49.8 -2.2
MOS pmax pmax
comp=Z,69nm,0.7s
VSU Vasula 22.09 7*d* *i*P P 00 19 51.9 -0.8
VSU pmax pmax
comp=Z,47nm,0.8s
VSU Vasula 22.09 7 *e*P P 00 19 51.7 -1.0
MTSE Matsula 22.12 3 *e*P P 00 19 52.7 -0.3
ARBE Arbavere 22.98 6 *e*P P 00 20 03.3 +1.2
MEF Metsahovi 23.65 4 *e*P P 00 20 07.8 -1.0
PUL Pulkovo 23.83 11⇑ *e*P P 00 20 11.2 +0.8
PUL pmax pmax
comp=Z,48nm,0.7s
HFS Hagfors 24.02 350 P P 00 20 11.6 -0.6
comp=Z,8.1nm,0.4s,baz=156,slow=11,SNR=50
HFS LR LR 00 30 52.0
comp=Z,89nm,19.8s,baz=162,slow=40
comp=Z,8.1nm,0.4s
BELG Belogornoye 24.22 41 LR LR 00 29 23.0
comp=Z,71nm,18.7s,baz=281,slow=36
BELG Belogornoye 24.22 41*c* *i*P P 00 20 13.3 -0.8
BELG pmax pmax
comp=Z,18nm,0.9s
KONO Kongsberg 24.25 345 *e*P P 00 20 14.3 0.0
OSL Oslo 24.30 347 *e*P P 00 20 14.4 -0.4
OSL IAmb IAmb 00 20 28.8
comp=Z,397nm,3.0s
RAF Rauma 24.39 0 *e*P P 00 20 15.2 -0.3
NC602 NORSAR Array S 24.91 348 P P 00 20 20.2 -0.1
NC602 IAmb IAmb 00 20 22.2
comp=Z,18nm,0.9s
NC602 NORSAR Array S 24.91 348 *e*P P 00 20 20.6 +0.3
NC602 IAmb IAmb 00 20 39.1
comp=Z,256nm,2.5s
FINES FINESS Array B 24.98 5 P P 00 20 20.6 -0.3
comp=Z,7.3nm,0.5s,baz=164,slow=10,SNR=76
FINES LR LR 00 31 19.7
comp=Z,173nm,18.6s,baz=220,slow=40
comp=Z,7.3nm,0.5s
FINES FINESS Array B 24.98 5 *i*P P 00 20 20.8 -0.1
FINES pmax pmax
comp=Z,8.0nm,0.5s
EKA Eskdalemuir Ar 25.09 326 P P 00 20 22.7 +0.7
comp=Z,2.3nm,0.6s,baz=128,slow=8.8,SNR=12
comp=Z,2.3nm,0.6s
NAO01 NORSAR Array S 25.12 348 P P 00 20 22.2 -0.1
NAO01 IAmb IAmb 00 20 23.1
comp=Z,18nm,0.8s
NB201 NORSAR Array S 25.25 348 P P 00 20 23.7 +0.3
NB2 NORSAR Subarra 25.25 348 P P 00 20 23.3 -0.2
comp=Z,4.0nm,0.5s,baz=156,slow=9.3
NB2 NORSAR Subarra 25.25 348 P P 00 20 23.3 -0.2
baz=156,slow=9.3
NOA NORSAR Array B 25.25 348 P P 00 20 23.5 +0.1
comp=Z,4.8nm,0.7s,baz=157,slow=9.0,SNR=27
NOA LR LR 00 31 48.4
comp=Z,21nm,21.1s,baz=145,slow=40
comp=Z,4.8nm,0.7s
NBO00 NORSAR Array S 25.31 348 P P 00 20 24.5 +0.5
NBO00 IAmb IAmb 00 20 25.4
comp=Z,18nm,0.8s
NC303 NORSAR Array S 25.40 349 P P 00 20 24.6 -0.1
NC303 IAmb IAmb 00 20 39.7
comp=Z,21nm,1.4s
SKAR Skarslia 25.46 345 *e*P P 00 20 27.1 +1.7
SKAR IAmb IAmb 00 20 33.8
comp=Z,63nm,1.6s
NC204 NORSAR Array S 25.55 348 P P 00 20 26.7 +0.5
NC204 IAmb IAmb 00 20 58.5
comp=Z,12nm,1.1s
KEF Keuruu 25.62 4 *e*P P 00 20 27.7 +1.0
VAF Ylistaro 26.42 1 *e*P P 00 20 34.6 +0.6
DOMB Dombas 26.56 347 *e*P P 00 20 37.0 +1.7
DOMB IAmb IAmb 00 20 38.1
comp=Z,112nm,1.9s
KLMR Klimovskoe 26.80 20 *e*P P 00 20 36.8 -0.6
KLMR pmax pmax
comp=Z,20nm,0.7s

JOF	**Joensuu**	26.98	10	*e*P		**P**	00 20 38.5	-0.6
TORD	**Torodi Ar. Bea**	29.36	222	P		**P**	00 21 03.1	+2.4
	comp=Z,2.2nm,0.6s,baz=30,slow=9.6,SNR=22							
	comp=Z,2.2nm,0.6s							
ABKAR	**Abkulak array**	30.52	53	P		**P**	00 21 10.2	-0.5
ABKAR	**Abkulak array**	30.52	53	P		**P**	00 21 10.1	-0.5
FAUS	**Fauske**	30.97	355	*e*P		**P**	00 21 14.9	+0.5
STEI	**Steigen**	31.52	356	*e*P		**P**	00 21 19.9	+0.7
STEI				IAmb	IAmb		00 21 27.6	
	comp=Z,316nm,2.2s							
ARTI	**Arti**	31.62	40	P		**P**	00 21 19.4	-0.9
ARTI	**Arti**	31.62	40	*c i*P		**P**	00 21 19.2	-1.1
ARTI				S		**S**	00 26 29.8	+2.5
ARTI				SS		**SnSn**	00 28 15.0	+0.7
ARTI				pmax	pmax			
	comp=Z,17nm,1.1s							
UOSS	**Minazif**	31.89	102	P		**P**	00 21 23.1	0.0
UOSS				IAmb	IAmb		00 21 24.3	
	comp=Z,7.8nm,1.0s							
LVZ	**Lovozero**	32.16	9	P		**P**	00 21 25.1	+0.1
LVZ	**Lovozero**	32.16	9	P		**P**	00 21 25.1	+0.1
LVZ				pmax	pmax			
	comp=Z,33nm,1.2s							
SVE	**Sverdlovsk**	32.95	40	*e*P		**P**	00 21 31.8	-0.1
SVE				pmax	pmax			
	comp=Z,26nm,1.0s							
ARA0	**ARCESS Array S**	33.01	3	*e*P		**P**	00 21 33.4	+1.1
ARCES	**ARCESS Array B**	33.01	3	P		**P**	00 21 32.8	+0.5
	comp=Z,1.6nm,0.4s,baz=188,slow=8.2,SNR=14							
ARCES				LR	LR		00 36 19.3	
	comp=Z,97nm,19.9s,baz=171,slow=39							
	comp=Z,1.6nm,0.4s							
TRO	**Tromso**	33.06	358	*e*P		**P**	00 21 33.5	+0.8
HRA	**Herat**	33.11	82	P		**P**	00 21 33.5	-0.3
HRA				IAmb	IAmb		00 21 34.8	
	comp=Z,5.4nm,0.9s							
VADS	**Vadso**	33.79	5	*e*P		**P**	00 21 40.4	+1.3
SIMJ	**Simiganj**	37.38	72	P		**P**	00 22 09.9	-0.6
SIMJ				IAmb	IAmb		00 22 11.2	
	comp=Z,7.8nm,0.9s							
BRVK	**Borovoye**	37.49	48	P		**P**	00 22 11.7	+0.6
BRVK				IAmb	IAmb		00 22 12.3	
	comp=Z,5.4nm,0.7s							
BRVK	**Borovoye**	37.49	48	P		**P**	00 22 11.7	+0.6
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CHGR	**Chuyangaron**	37.49	72	P		**P**	00 22 11.7	+0.3
CHGR	**Chuyangaron**	37.49	72	P		**P**	00 22 11.7	+0.3
CHGR				pmax	pmax			
	comp=Z,21nm,0.7s							
BVAR	**Borovoye Array**	37.55	48	P		**P**	00 22 11.3	-0.3
	comp=Z,4.2nm,0.6s,baz=256,slow=5.7,SNR=16							
	comp=Z,4.2nm,0.6s							
KKAR	**Karatay Array**	37.76	65	P		**P**	00 22 13.4	-0.1
KKAR				IAmb	IAmb		00 22 14.5	
	comp=Z,4.2nm,0.8s							
KKAR	**Karatay Array**	37.76	65	P		**P**	00 22 13.5	+0.1
KKAR	**Karatay Array**	37.76	65	P		**P**	00 22 13.4	-0.1
KKAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BORG	**Borgarnes**	37.80	332	LR	LR		00 39 46.6	
	comp=Z,54nm,18.0s,baz=153,slow=39							
GAR	**Garm**	38.30	71	P		**P**	00 22 18.9	+0.6
DBIC	**Dimbokro**	38.31	225	P		**P**	00 22 19.9	+1.6
	comp=Z,4.4nm,0.7s,baz=29,slow=6.7,SNR=5.1							
DBIC				LR	LR		00 39 19.8	
	comp=Z,43nm,19.9s,baz=12,slow=38							
	comp=Z,4.4nm,0.7s							
TRKS	**Terek-Say**	38.45	67	P		**P**	00 22 19.3	-0.2
BTK	**Batken**	38.47	69	P		**P**	00 22 20.0	+0.4
BTK	**Batken**	38.47	69	P		**P**	00 22 20.0	+0.4
BTK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DRK	**Karamyk**	39.33	70	P		**P**	00 22 27.2	+0.2
DRK				IAmb	IAmb		00 22 29.5	
	comp=Z,4.9nm,0.6s							
DRK	**Karamyk**	39.33	70	P		**P**	00 22 27.2	+0.2
DRK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ARSB	**Arslanbob**	39.85	67	P		**P**	00 22 31.3	+0.1
ARSB	**Arslanbob**	39.85	67	P		**P**	00 22 31.3	+0.1
ARSB				pmax	pmax			
	comp=Z,3.0nm,1.1s							
AAK	**Ala-Archa**	40.72	65	P		**P**	00 22 38.5	+0.1
AAK				IAmb	IAmb		00 22 41.0	
	comp=Z,5.8nm,0.9s							
AAK	**Ala-Archa**	40.72	65	*d i*P		**P**	00 22 38.8	+0.4
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FRU1	**Bishkek**	40.79	64	P		**P**	00 22 38.5	-0.4
FRU1				IAmb	IAmb		00 22 43.4	
	comp=Z,9.8nm,0.5s							
FRU1	**Bishkek**	40.79	64	P		**P**	00 22 38.5	-0.4
FRU1				pmax	pmax			
	comp=Z,10.0nm,0.5s							
SCO	**Scoresbysund**	40.86	339	P		**P**	00 22 40.4	+1.5
SCO				IAmb	IAmb		00 22 52.2	
	comp=Z,22nm,1.5s							
SCO	**Scoresbysund**	40.86	339	P		**P**	00 22 40.4	+1.5
SCO				pmax	pmax			
	comp=Z,22nm,1.5s							
SPB2	**Spitsbergen Ar**	41.68	358	P		**P**	00 22 45.1	-0.5
SPA0	**Spitsbergen Ar**	41.68	358	*e*P		**P**	00 22 46.8	+1.1
SPA0				IAmb	IAmb		00 23 06.1	
	comp=Z,60nm,1.4s							
SPITS	**Spitsbergen Ar**	41.68	358	P		**P**	00 22 46.4	+0.8
	comp=Z,5.4nm,0.7s,baz=152,slow=11,SNR=7.8							
	comp=Z,5.4nm,0.7s							
SPITS	**Spitsbergen Ar**	41.68	358	P		**P**	00 22 46.2	+0.6
SPITS				pmax	pmax			
	comp=Z,39nm,1.3s							
NIL	**Nilore**	42.05	78	P		**P**	00 22 49.2	0.0
NIL				IAmb	IAmb		00 22 51.3	
	comp=Z,7.3nm,0.8s							
NIL	**Nilore**	42.05	78	P		**P**	00 22 49.2	0.0
NIL				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KSH	**Kashi**	42.46	69	P		**P**	00 22 51.5	-1.2
KSH				sP	pP		00 22 59.2	-2.0
KSH				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KURBB	**Kurchatov Arra**	42.56	52	P		**P**	00 22 52.2	-0.9
	comp=Z,3.9nm,0.6s,baz=281,slow=8.7,SNR=25							
	comp=Z,3.9nm,0.6s							
KURK	**Kurchatov**	42.61	52	P		**P**	00 22 53.1	-0.3
KURK	**Kurchatov**	42.61	52	P		**P**	00 22 53.2	-0.3
KURK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WUS	**Wushi**	44.47	66	P		**P**	00 23 09.1	+0.3
WUS				IAmb	IAmb		00 23 09.8	
	comp=Z,8.3nm,0.9s							
MK31	**Makanchi Array**	45.48	57	*c e*P		**P**	00 23 15.5	-1.2
MKAR	**Makanchi Array**	45.48	57	P		**P**	00 23 16.0	-0.7
MKAR	**Makanchi Array**	45.48	57	P		**P**	00 23 15.6	-1.1
	comp=Z,1.7nm,0.6s,baz=270,slow=7.2,SNR=22							
MKAR				PcP		**PcP**	00 24 54.8	-0.5
	comp=Z,0.7nm,0.7s,baz=298,slow=3.7,SNR=2.1							
	comp=Z,1.7nm,0.6s							
MKAR	**Makanchi Array**	45.48	57	*i*P		**P**	00 23 15.8	-0.9
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	46.17	47	P		**P**	00 23 20.9	-1.0
	comp=Z,7.7nm,0.4s,baz=267,slow=9.1,SNR=45							
	comp=Z,7.7nm,0.4s							
ZALV	**Zalesovo Beam**	46.17	47	*i*P		**P**	00 23 20.8	-1.1
ZALV				pmax	pmax			
	comp=Z,8.0nm,0.4s							
NRIK	**Noril'sk**	47.83	26⇓	*e*P		**P**	00 23 35.6	+0.9
NRIK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
WMQ	**Urumqi**	49.87	60	*e*P		**P**	00 23 53.7	+2.9
WMQ				LR	LR			
	comp=Z,96nm,24.3s							
FRB	**Frobisher Bay**	57.83	328	LR	LR		00 53 23.1	
	comp=Z,63nm,18.1s,baz=64,slow=40							
GTA	**Gaotai**	59.90	61	*e*P		**P**	00 25 02.9	-0.6
GTA				pP	pP		00 25 09.0	-2.8
GTA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	60.82	20⇓	*e*P		**P**	00 25 09.4	+0.4
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	60.86	50	P		**P**	00 25 09.4	-0.6
	comp=Z,1.6nm,0.9s,baz=290,slow=10,SNR=7.3							
	comp=Z,1.6nm,0.9s							
ULN	**Ulaanbaatar**	61.25	50⇑	*e*P		**P**	00 25 12.5	-0.1
ULN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BOSA	**Boshof**	65.03	176	LR	LR		00 58 29.8	
	comp=Z,85nm,18.0s,baz=200,slow=40							
YAK	**Yakutsk**	66.07	29⇑	*e*P		**P**	00 25 44.3	+0.4
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
HHC	**Hu-ho-hao-te**	67.29	55	*e*P		**P**	00 25 52.8	+0.6
HHC				pmax	pmax			
	comp=Z,5.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,97nm,6.1s							
PZH	**PanZhiHua**	67.34	73	P		**P**	00 25 53.7	+0.9
PZH				pmax	pmax			
	comp=Z,8.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,110nm,5.6s							
HIA	**Hailar**	68.09	44⇑	*e*P		**P**	00 25 57.8	+0.8
HIA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
A36M	**Sachs Harbour**	69.15	349	P		**P**	00 26 05.0	+1.8
CMAR	**Chiang Mai Arr**	69.37	82	P		**P**	00 26 04.7	-0.8
	comp=Z,2.7nm,0.3s,baz=308,slow=6.5,SNR=4.2							
	comp=Z,2.7nm,0.3s							
CMAR	**Chiang Mai Arr**	69.37	82	*i*P		**P**	00 26 02.2	-3.3
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
HEH	**HeiHe**	71.71	41	*e*P		**P**	00 26 18.4	-0.8
BILL	**Bilibino**	72.33	13⇑	*e*P		**P**	00 26 23.5	+0.9
BILL				pmax	pmax			
	comp=Z,2.0nm,0.7s							
E29M	**Blow River**	74.13	352	P		**P**	00 26 34.8	+1.6
E29M				IAmb	IAmb		00 26 35.5	
	comp=Z,4.1nm,0.7s							
D23K	**Nanushuk River**	74.53	357	P		**P**	00 26 36.9	+1.4
D23K				IAmb	IAmb		00 26 54.5	
	comp=Z,5.5nm,1.4s							
KLR	**Kul'dur**	74.57	40	*d e*P		**P**	00 26 36.6	+0.5
KLR				pmax	pmax			
	comp=Z,10.0nm,1.5s							
YKA	**Yellowknife Ar**	75.06	341	P		**P**	00 26 39.8	+1.1
	comp=Z,1.0nm,0.6s,baz=31,slow=5.4,SNR=3.6							
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	75.06	341	*i*P		**P**	00 26 37.2	-1.5
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
E19K	**Redstone River**	76.20	359	P		**P**	00 26 46.7	+1.5
E19K				IAmb	IAmb		00 26 47.7	
	comp=Z,3.3nm,0.8s							
NJ2	**Nanjing**	76.94	60	*e*P		**P**	00 26 49.1	-0.9
NJ2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ULM	**Lac du Bonnet**	77.36	324	P		**P**	00 26 52.8	+0.8
	comp=Z,2.2nm,0.7s,baz=46,slow=4.9,SNR=5.1							
	comp=Z,2.2nm,0.7s							
J30M	**Hart River**	77.59	350	P		**P**	00 26 55.2	+2.0
J30M				IAmb	IAmb		00 27 11.9	
	comp=Z,8.3nm,1.5s							
USRK	**Ussuriysk Ar.**	77.88	44	P		**P**	00 26 54.9	-0.1
	comp=Z,3.0nm,0.7s,baz=298,slow=3.1,SNR=5.9							
	comp=Z,3.0nm,0.7s							
ILAR	**Eielson Array**	78.49	355	P		**P**	00 26 58.6	+0.5
	comp=Z,0.5nm,0.9s,baz=7.8,slow=6.1,SNR=4.1							
	comp=Z,0.5nm,0.9s							
KSRS	**Korea Array**	79.72	51	P		**P**	00 27 05.4	+0.2
	comp=Z,1.5nm,0.7s,baz=306,slow=4.8,SNR=5.1							
	comp=Z,1.5nm,0.7s							
MJAR	**Matsushiro Arr**	86.51	46	P		**P**	00 27 40.3	-0.2
	comp=Z,2.2nm,0.8s,baz=292,slow=5.4,SNR=3.2							
	comp=Z,2.2nm,0.8s							
ASAR	**Alice Springs**	121.26	98	PKP		**PKPdf**	00 33 50.6	0.0
	comp=Z,0.2nm,0.4s,baz=298,slow=2.0,SNR=1.9							

IDC 02 00:21:55.8±8.8,5°.07S×147°.15E,h75km±82km,mb3.5/1, mbtmp3.9/3,ML1.6/1,Error ellipse: s-maj=87.4km s-min=57.0km az=110.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.31	180	P	Pn	00 23 00.5	+1.6
	2.6nm,0.3s,baz=30,slow=20,SNR=1.5						
PMG				S	Sn	00 23 48.0	+0.1
	8.8nm,0.3s,baz=330,slow=20,SNR=3.3						
	7.6nm,0.3s						
WRA	**Warramunga Arr**	19.34	219	P	P	00 26 15.9	+0.6
	1.7nm,0.4s,baz=43,slow=10,SNR=31						
ASAR	**Alice Springs**	22.47	213	P	P	00 26 48.4	-0.7
	1.9nm,0.6s,baz=40,slow=9.7,SNR=38						
	1.9nm,0.6s						
TORD	**Torodi Ar. Bea**	145.00	286	PKPbc	PKPbc	00 41 24.2	-0.7
	0.2nm,0.5s,baz=91,slow=2.9,SNR=2.1						

*KRSC **02** 00:53:20.9±2.0, 54°.52N×168°.30E, h32km±27km, Ml4.6*
*IDC **02** 00:53:21.3±0.6, 54°.73N×168°.41E, h0km, mb4.1/23, mbtmp4.1/26, ML2.9/2, MS3.3/9, Error ellipse: s-maj=18.5km s-min=11.7km az=177.0*
*NEIC **02** 00:53:23.0±1.6, 54°.6N±0°.2×168°.2E±0°.1, h10km±1km, mb4.4/152, Error ellipse: s-maj=25.8km s-min=11.5km az=175.0*
*MOS **02** 00:53:23.7±1.1, 54°.62N×168°.26E, h28km, mb4.4/26, Error ellipse: s-maj=6.6km s-min=6.1km az=94.0*

ISC 02 00:53:24.7±0.4,54°.59N±0°.07×168°.37E±0°.04,h24km,n531, σ1§02/524,mb4.3/99,MS3.4/8,6C-9D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	1.51	295	PN	**Pn**	00 53 47.4	-2.8
BKI				S	**Sn**	00 54 06.1	-3.0
BKI	**Bering**	1.51	295	*e*P	**Pn**	00 53 47.5	-2.8
BKI				*e*S	**Sn**	00 54 06.1	-3.0
KBTR	**Krutoberegovo**	3.56	299	PN	**Pn**	00 54 16.6	-1.6
KBTR				S	**Sn**	00 54 56.9	-2.6
KBTR	**Krutoberegovo**	3.56	299	*e*P	**Pn**	00 54 16.7	-1.6
KBTR				*e*S	**Sn**	00 54 56.9	-2.6
SHEM	**Shemya Is, Ala**	3.89	116	Pn	**Pn**	00 54 20.6	-2.2
	126nm,0.3s,baz=300,slow=8.1,SNR=24						
SHEM				Sn	**Sn**	00 55 06.1	-1.5
	24nm,0.3s,baz=292,slow=18,SNR=1.5						
SHEM				LR	LR	00 55 13.6	
	comp=Z,75nm,19.6s,baz=353,slow=29						
KLY	**Klyuchi**	4.72	295	PN	**Pn**	00 54 33.3	-0.9
KLY	**Klyuchi**	4.72	295	*e*P	**Pn**	00 54 33.4	-0.9
KRSR	**Krestovskiy**	4.74	293	PN	**Pn**	00 54 35.1	+0.5
KRSR	**Krestovskiy**	4.74	293	*e*P	**Pn**	00 54 35.2	+0.5
KIRR	**Kirishev**	4.79	290	PN	**Pn**	00 54 35.9	+0.6
KIRR				S	**Sn**	00 55 31.5	+1.4
KIRR	**Kirishev**	4.79	290	*e*P	**Pn**	00 54 36.0	+0.6
KIRR				*e*S	**Sn**	00 55 31.5	+1.4
KMNR	**Kamenistaya**	4.81	287	PN	**Pn**	00 54 36.4	+0.8
KMNR				S	**Sn**	00 55 31.6	+1.1
KMNR	**Kamenistaya**	4.81	287	*e*P	**Pn**	00 54 36.4	+0.8
KMNR				*e*S	**Sn**	00 55 31.6	+1.1
KPT	**Kopyto**	4.86	290	PN	**Pn**	00 54 37.2	+1.0
KPT	**Kopyto**	4.86	290	*e*P	**Pn**	00 54 37.2	+1.0
SRDR	**Sredinnyy**	5.22	293	PN	**Pn**	00 54 42.4	+1.2
SRDR				S	**Sn**	00 55 42.0	+1.5
SRDR	**Sredinnyy**	5.22	293	*e*P	**Pn**	00 54 42.5	+1.2
SRDR				*e*S	**Sn**	00 55 42.1	+1.5
KII	**Karymskiy**	5.25	268	PN	**Pn**	00 54 41.4	-0.2
KII	**Karymskiy**	5.25	268	*e*P	**Pn**	00 54 41.5	-0.2
KII				*e*S	**Sn**	00 55 37.6	-3.8
ESO	**Esso**	5.69	287	PN	**Pn**	00 54 47.9	+0.3
ESO	**Esso**	5.69	287	*e*P	**Pn**	00 54 47.9	+0.3
UGLR	**Uglovaya**	5.81	260	PN	**Pn**	00 54 48.9	-0.5
UGLR	**Uglovaya**	5.81	260	*e*P	**Pn**	00 54 48.9	-0.5
AVH	**Avacha**	5.84	261	PN	**Pn**	00 54 49.5	-0.3
AVH	**Avacha**	5.84	261	*e*P	**Pn**	00 54 49.5	-0.3
KRX	**Arik**	5.87	262	PN	**Pn**	00 54 49.7	-0.5
KRX	**Arik**	5.87	262	*e*P	**Pn**	00 54 49.7	-0.5
KRX				*e*S	**Sn**	00 55 55.0	-1.7
KOK	**Koryaka**	5.89	261	PN	**Pn**	00 54 50.0	-0.5
KOK	**Koryaka**	5.89	261	*e*P	**Pn**	00 54 50.0	-0.5
DALK	**Dalny**	5.91	259	PN	**Pn**	00 54 49.4	-1.1
DALK	**Dalny**	5.91	259	*e*P	**Pn**	00 54 49.5	-1.1
PET	**Petropavlovsk**	5.97	259	Pn	**Pn**	00 54 49.8	-1.6
PET	**Petropavlovsk**	5.97	259	*e*PN	**Pn**	00 54 50.7	-0.7
PET				pmax	pmax		
	comp=Z,39nm,0.4s						
TILK	**Tilichiki**	5.99	349	PN	**Pn**	00 54 53.5	+1.9
TILK	**Tilichiki**	5.99	349	*e*P	**Pn**	00 54 53.6	+1.9
GNL	**Ganaly**	6.20	266	PN	**Pn**	00 54 54.9	+0.3
GNL	**Ganaly**	6.20	266	*e*P	**Pn**	00 54 55.0	+0.3
KRMR	**Karymshinskiy**	6.33	258	PN	**Pn**	00 54 56.1	-0.3
KRMR	**Karymshinskiy**	6.33	258	*e*P	**Pn**	00 54 56.1	-0.3
KRMR				*e*S	**Sn**	00 56 06.3	-1.5
GRL	**Gorelyy**	6.47	256	PN	**Pn**	00 54 58.2	-0.1
GRL	**Gorelyy**	6.47	256	*e*P	**Pn**	00 54 58.2	-0.1
GRL				*e*S	**Sn**	00 56 09.0	-2.4
PEA0B	**Petropavlovsk-**	6.49	261	Pn	**Pn**	00 54 57.7	-0.9
PEA0B	**Petropavlovsk-**	6.49	261	PN	**Pn**	00 54 59.0	+0.4
PETK	**Petropavlovsk-**	6.49	261	Pn	**Pn**	00 54 57.2	-1.3
PETK	**Petropavlovsk-**	6.49	261	Pn	**Pn**	00 54 58.3	-0.3
	comp=Z,2.9nm,0.3s,baz=85,slow=20,SNR=44						
PETK				Sn	**Sn**	00 56 12.1	+0.3
	comp=Z,1.3nm,0.3s,baz=80,slow=39,SNR=2.1						
PETK				LR	LR	00 57 45.5	
	comp=Z,215nm,18.5s,baz=77,slow=40						
	comp=Z,8.9nm,0.5s						
KMSK	**Kamenskaya**	7.98	353	PN	**Pn**	00 55 18.8	-0.1
KMSK	**Kamenskaya**	7.98	353	*e*P	**Pn**	00 55 18.9	-0.1
SKR	**Severo-Kuril's**	8.42	247⇑	*e*PN	**Pn**	00 55 24.0	-1.0
MA2	**Magadan**	10.79	305	LR	LR	00 59 43.6	
	comp=Z,179nm,19.5s,baz=31,slow=36						
SEY	**Seymchan**	11.74	322	Pn	**Pn**	00 56 09.1	-1.4
	baz=126,slow=14,SNR=4.1						
	comp=Z,1.9nm,0.6s						
SEY	**Seymchan**	11.74	322⇓	*e*PN	**Pn**	00 56 10.2	-0.3
SEY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
P08K	**Saint George I**	12.64	72	P	**Pn**	00 56 23.9	+1.3
	baz=270						
BILL	**Bilibino**	13.53	357⇓	*e*P	**Pn**	00 56 35.4	+0.6
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GAMB	**Gambell**	13.68	40	Pn	**Pn**	00 56 36.6	-0.3
GAMB	**Gambell**	13.68	40	P	**Pn**	00 56 37.7	+0.8
	baz=237						
OKTU	**Okmok Mt. Tuli**	13.92	85	P	P	00 56 55.4	+7.2
OKFG	**Magazine Ridge**	13.98	85	P	P	00 56 54.2	+5.4
MAPS	**Pakushin South**	14.45	83	P	**P**	00 56 52.9	-1.1
MAPS					Pn	00 57 02.8	+15
MGOD	**Makushin Gods**	14.49	83	P	**P**	00 56 52.5	-2.0
MGOD					Pn	00 57 02.1	+14
MSW	**Makushin Switc**	14.52	83	P	**P**	00 56 54.1	-0.7
UNV	**Unalaska Valle**	14.70	83	Pn	**Pn**	00 56 52.2	+1.5
UNV	**Unalaska Valle**	14.70	83	P	**Pn**	00 56 51.7	+0.9
	baz=283						
M11K	**Mekoryuk**	14.79	57	Pn	**Pn**	00 56 53.9	+1.9
M11K	**Mekoryuk**	14.79	57	P	**Pn**	00 56 52.5	+0.5
	baz=258						
AKRB	**Akutan Reef Bi**	14.88	81	P	**P**	00 56 58.6	-0.2
LVA	**Lava Point**	14.90	81	P	P	00 57 04.6	+5.6
AKMO	**Akutan Morgan**	14.93	81	P	**P**	00 56 57.8	-1.5
ZRO	**Akutan Zero**	14.95	81	P	**P**	00 56 58.3	-1.3
AKV	**Akutan Volcano**	14.95	81	P	**P**	00 56 59.1	-0.5
AKBBA	**Akutan Broad B**	14.97	81	P	**P**	00 56 57.8	-1.9
WECS	**Westdahl Cape**	15.54	79	P	**P**	00 57 09.4	+3.2
K13K	**Kusilvak Mount**	15.88	52	P	**Pn**	00 57 05.9	-0.4
	baz=255						
TNA	**Tin City**	16.02	37	Pn	**Pn**	00 57 08.9	+0.9
TNA	**Tin City**	16.02	37	P	**Pn**	00 57 08.6	+0.6
	baz=236						
M13K	**Dall Lake**	16.19	57	P	**Pn**	00 57 11.2	+0.9
	baz=262						
ANM	**Nome**	16.49	42		**Pn**	00 57 15.0	+0.9
ANM	**Nome**	16.49	42	P	**Pn**	00 57 14.3	+0.2
	baz=245						
ANM	**Nome**	16.49	42	P	**Pn**	00 57 15.0	+0.9
ANM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
F14K	**Arctic Creek**	16.54	39	P	**Pn**	00 57 15.2	+0.4
	baz=241						
J14K	**Nanvaranak Lak**	16.60	49	P	**Pn**	00 57 16.3	+0.8
	baz=254						
L14K	**Kuka Creek**	16.67	54	P	**P**	00 57 19.4	+0.9
L14K				IAmb	IAmb	00 57 57.3	
	comp=Z,35nm,1.5s						
L14K	**Kuka Creek**	16.67	54	P	**Pn**	00 57 16.7	+0.4
	baz=259						
S12K	**Black Hills**	16.88	74	P	**P**	00 57 21.3	+0.3
S12K	**Black Hills**	16.88	74	P	**Pn**	00 57 19.9	+0.8
	baz=279						
M14K	**Bethel**	16.92	57		**P**	00 57 23.0	+1.7
M14K				IAmb	IAmb	00 57 25.0	
	comp=Z,26nm,0.8s						
M14K	**Bethel**	16.92	57	P	**Pn**	00 57 19.3	-0.1
	baz=262						
N14K	**Kuskokwak Cree**	16.96	60	P	**Pn**	00 57 19.9	-0.1
	baz=265						
O14K	**Tigyukauivet M**	17.13	62	P	**Pn**	00 57 22.7	+0.6
	baz=268						
G15K	**Niukluk**	17.19	42	P	**Pn**	00 57 23.2	+0.3
	baz=246						

N17K	Nushagak Hills	19.24	58	P	P	00 57 47.6	+0.7
	baz=268						
O17K	Koliganek Bris	19.26	60	P	P	00 57 47.8	+0.7
	baz=270						
E18K	Tukpahlearik C	19.49	37	P	P	00 57 50.1	+0.6
	baz=244						
F18K	Selawik	19.49	39	P	P	00 57 49.8	+0.3
	baz=248						
H18K	Honhosa River	19.50	44	P	Pn	00 57 50.8	-0.2
H18K	Honhosa River	19.50	44	P	P	00 57 50.3	+0.7
	baz=253						
P17K	Kvichak River	19.61	62	P	P	00 57 51.3	+0.4
	baz=272						
G18K	Tagagawik	19.61	42	P	Pn	00 57 52.9	+0.5
G18K	Tagagawik	19.61	42	P	P	00 57 51.6	+0.6
	baz=251						
L18K	Granite Mounta	19.62	53	P	Pn	00 57 52.1	-0.4
L18K	Granite Mounta	19.62	53	P	Pn	00 57 52.0	-0.5
	baz=263						
J18K	Innoko River	19.79	49	P	Pn	00 57 54.5	0.0
J18K				IAmb	IAmb	00 57 56.2	
	comp=Z,23nm,0.8s						
J18K	Innoko River	19.79	49	P	P	00 57 53.9	+0.9
	baz=260,SNR=18						
C18K	Utukok River	19.87	33	P	Pn	00 57 55.3	-0.1
C18K	Utukok River	19.87	33	P	P	00 57 54.3	+0.6
	baz=240						
N18K	Kilae Creek	19.88	58	P	Pn	00 57 55.7	+0.1
N18K	Kilae Creek	19.88	58	P	P	00 57 54.3	+0.3
	baz=268						
Q17K	Contact Creek	19.95	65	P	P	00 57 55.5	+0.8
	baz=275,SNR=8.5						
M18K	Stony River	19.96	55	P	P	00 57 55.4	+0.7
	baz=266						
TTA	Tatalina	20.02	51	P	Pn	00 57 57.0	-0.3
TTA				IAmb	IAmb	00 57 58.2	
	comp=Z,11nm,0.8s						
TTA	Tatalina	20.02	51	P	P	00 57 56.2	+0.8
	baz=262,SNR=6.7						
TTA	Tatalina	20.02	51	P	Pn	00 57 57.1	-0.2
TTA				pmax	pmax		
	comp=Z,11nm,0.8s						
B18K	Kokolik River	20.05	31	P	P	00 57 55.9	+0.3
	baz=238						
O18K	Koktuh Hills	20.22	60	P	Pn	00 57 59.3	-0.2
O18K				IAmb	IAmb	00 58 00.0	
	comp=Z,17nm,0.7s						
O18K	Koktuh Hills	20.22	60	P	P	00 57 57.4	-0.1
	baz=271						
P18K	Big Mountain,	20.22	61	P	Pn	00 57 59.0	-0.6
P18K	Big Mountain,	20.22	61	P	P	00 57 58.1	+0.4
	baz=272,SNR=11						
ACHA	Angle Creek He	20.25	65	P	P	00 57 59.1	+1.1
F19K	Shaleruckik Mo	20.27	40	P	P	00 57 58.1	+0.1
	baz=250						
G19K	Purcell Mounta	20.30	42	P	P	00 57 59.0	+0.6
	baz=252						
J19K	Poorman	20.37	48	P	P	00 58 00.1	+0.9
J19K				IAmb	IAmb	00 58 13.8	
	comp=Z,16nm,1.0s						
J19K	Poorman	20.37	48	P	P	00 57 59.2	0.0
	baz=260						
H19K	Roundabout Mou	20.37	44	P	P	00 57 60.0	+0.8
H19K	Roundabout Mou	20.37	44	P	P	00 57 59.0	-0.1
	baz=255						
CHIR	Chirikof Islan	20.44	72	P	P	00 57 59.0	-1.0
CHIR	Chirikof Islan	20.44	72	P	P	00 58 00.1	+0.1
	baz=282						
L19K	White Mountain	20.47	53	P	Pn	00 58 01.8	-0.7
L19K				IAmb	IAmb	00 58 02.9	
	comp=Z,16nm,0.8s						
L19K	White Mountain	20.47	53	P	P	00 58 00.7	+0.4
	baz=265						
N19K	Bonanza Creek	20.58	57	P	Pn	00 58 03.0	-0.9
N19K	Bonanza Creek	20.58	57	P	P	00 58 01.6	+0.1
	baz=269						
O19K	Port Alsworth	20.66	59	P	P	00 58 02.3	0.0
	baz=271						
M19K	Big River Lodg	20.67	54	P	Pn	00 58 03.9	-0.9
M19K	Big River Lodg	20.67	54	P	P	00 58 02.9	+0.5
	baz=266						
E19K	Redstone River	20.69	38	P	Pn	00 58 04.5	-0.5
E19K	Redstone River	20.69	38	P	P	00 58 03.1	+0.4
	baz=249						
R18K	Karluk	20.79	67	P	P	00 58 03.4	-0.2
	baz=278						
D19K	Kuna River	20.80	35	P	Pn	00 58 05.2	-1.1
D19K				IAmb	IAmb	00 58 29.6	
	comp=Z,17nm,1.2s						
D19K	Kuna River	20.80	35	P	P	00 58 04.0	+0.1
	baz=245						
L20K	Farewell, AK	20.95	53	P	P	00 58 06.0	+0.6
	baz=265						
K20K	Telida	20.95	50	P	P	00 58 07.0	+1.5
K20K				IAmb	IAmb	00 58 07.9	
	comp=Z,11nm,0.7s						
K20K	Telida	20.95	50	P	P	00 58 06.0	+0.4
	baz=263						
H20K	Anotleneega Mo	21.00	44	P	P	00 58 06.3	+0.4
	baz=257						
J20K	Nowinta River	21.04	48	P	P	00 58 07.6	+1.2
J20K	Nowinta River	21.04	48	P	P	00 58 06.5	+0.1
	baz=261						
Q19K	Cape Douglas,	21.06	63	P	P	00 58 08.1	+1.3
Q19K	Cape Douglas,	21.06	63	P	P	00 58 06.9	+0.2
	baz=275						
SII	Sitkinak Islan	21.09	69	P	P	00 58 06.4	-0.6
SII	Sitkinak Islan	21.09	69	P	P	00 58 06.2	-0.8
	baz=281						
F20K	Avaraart Lake	21.10	40	P	P	00 58 07.3	+0.3
	baz=252						
P19K	Oil Pt	21.22	61	P	P	00 58 08.3	-0.1
	baz=273						
ILSW	Iliamna Southw	21.25	60	P	P	00 58 10.6	+1.7
ILSW				IAmb	IAmb	00 58 29.5	
	comp=Z,12nm,1.1s						
M20K	Styx River	21.26	54	P	P	00 58 10.2	+1.3
M20K	Styx River	21.26	54	P	P	00 58 08.8	-0.1
	baz=268						
YAK	Yakutsk	21.36	306	⇑eP	P	00 58 07.7	-2.1
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
E20K	Nigu River	21.36	36	P	P	00 58 09.5	-0.3
	baz=248						
D20K	Etivluk River	21.39	35	P	P	00 58 09.9	-0.3
	baz=246						
OHAK	Old Harbor	21.46	67	P	P	00 58 10.3	-0.6
OHAK				IAmb	IAmb	00 58 11.0	
	comp=Z,21nm,1.0s						
OHAK	Old Harbor	21.46	67	P	P	00 58 10.0	-0.9
	baz=280						
O20K	Slope Mountain	21.51	59	P	P	00 58 11.6	0.0
	baz=273						
SPCR	Spurr Chakacha	21.69	56	P	P	00 58 13.2	-0.2
	baz=270						
Q20K	Shuyak Island	21.74	63	P	P	00 58 13.9	-0.1
	baz=277						
SYI	Shuyak Island	21.74	63	P	P	00 58 14.4	+0.4
KDAK	Kodiak Island	21.75	66	P	P	00 58 14.2	+0.2
KDAK	Kodiak Island	21.75	66	P	P	00 58 13.4	-0.7
	comp=Z,6.4nm,0.8s,baz=175,slow=2.8,SNR=8.2						
KDAK				LR	LR	01 05 21.7	
	comp=Z,61nm,21.8s,baz=106,slow=33						
	comp=Z,6.4nm,0.8s						
KDAK	Kodiak Island	21.75	66	P	P	00 58 14.7	+0.6
	baz=279						
KDAK	Kodiak Island	21.75	66	P	P	00 58 14.2	+0.2
KDAK				pmax	pmax		
	comp=Z,29nm,1.4s						
SPU	Mount Spurr	21.76	56	P	P	00 58 15.4	+1.1
G21K	Allakaket	21.79	42	P	P	00 58 14.6	+0.1
G21K	Allakaket	21.79	42	P	P	00 58 14.3	-0.2
	baz=256						
CHUM	Lake Minchumin	21.80	49	P	P	00 58 15.2	+0.7
	baz=263						
CAST	Castle Rocks	21.85	50	P	P	00 58 16.9	+1.8
CAST	Castle Rocks	21.85	50	P	P	00 58 16.9	+1.8
	baz=265						
STLK	Strandline Lak	21.87	56	P	P	00 58 17.5	+2.1
H21K	Melozitna Rive	21.88	44	P	P	00 58 16.7	+1.4
H21K	Melozitna Rive	21.88	44	P	P	00 58 16.1	+0.7
	baz=258						
F21K	Alatna River	21.99	40	P	P	00 58 17.7	+1.1
F21K	Alatna River	21.99	40	P	P	00 58 16.9	+0.3
	baz=254						
SKT	Skwentna	22.02	54	P	P	00 58 18.2	+1.3
SKT	Skwentna	22.02	54	P	P	00 58 18.0	+1.0
	baz=269						
HOM	Homer	22.03	60	P	P	00 58 18.4	+1.4
	baz=275						
I21K	Tanana	22.12	46	P	P	00 58 19.1	+1.1
	baz=261						
C21K	Knifeblade Rid	22.18	35	P	P	00 58 19.1	+0.6
	baz=248						
E21K	Killik River	22.19	37	P	P	00 58 19.5	+0.7
	baz=250						
CAPN	Captain Cook N	22.21	57	P	P	00 58 20.0	+1.0
	baz=272						
CNPM	China Poot	22.25	61	P	P	00 58 19.5	+0.1
KTH	Kantishna Hill	22.38	50	P	P	00 58 22.1	+1.2
KTH				IAmb	IAmb	00 58 37.6	
	comp=Z,16nm,1.4s						
SUA	Susitna One	22.39	56	P	P	00 58 21.6	+0.5
SUA				IAmb	IAmb	00 58 22.8	
	comp=Z,12nm,0.8s						
SUA	Susitna One	22.39	56	P	P	00 58 21.5	+0.5
	baz=271,SNR=9.1						
BPAW	Bear Paw Mtn.	22.40	49	P	P	00 58 21.5	+0.4
	baz=264						
BRLK	Bradley Lake	22.40	60	P	P	00 58 20.9	-0.2
BRLK				IAmb	IAmb	00 58 48.0	
	comp=Z,25nm,1.4s						
B21K	Ikpikpuk River	22.41	34	P	P	00 58 22.5	+1.4
B21K	Ikpikpuk River	22.41	34	P	P	00 58 20.9	-0.1
	baz=247						
BRSE	Bradley Lake S	22.48	60	P	P	00 58 22.2	+0.3
	baz=275						
H22K	Ishtalitna Cre	22.50	44	P	P	00 58 21.9	-0.2
	baz=260						
A21K	Barrow	22.57	29	P	P	00 58 22.8	+0.1
	baz=241						
TRF	Thorofare Moun	22.66	50	P	P	00 58 23.5	-0.4
	baz=266,SNR=13						
G22K	Bettles	22.66	41	P	P	00 58 23.9	+0.2
	baz=257						
SLKM	Skilak Lake	22.68	58	P	P	00 58 24.5	+0.4
SLKM				IAmb	IAmb	00 58 35.3	
	comp=Z,10nm,1.0s						
M22K	Willow	22.69	55	P	P	00 58 24.3	+0.3
	baz=271						
D22K	Ayikyak River	22.79	36	P	P	00 58 26.1	+1.0
D22K				IAmb	IAmb	00 58 37.2	
	comp=Z,12nm,1.1s						
D22K	Ayikyak River	22.79	36	P	P	00 58 25.1	+0.1
	baz=251						
E22K	Anaktuvuk Pass	22.86	38	P	P	00 58 27.0	+1.1
E22K				IAmb	IAmb	00 58 51.2	
	comp=Z,14nm,1.4s						
E22K	Anaktuvuk Pass	22.86	38	P	P	00 58 25.6	-0.3
	baz=254						
RC01	Rabbit Creek A	22.89	57	P	P	00 58 27.3	+1.1
RC01				IAmb	IAmb	00 58 41.2	
	comp=Z,13nm,1.3s						
RC01	Rabbit Creek A	22.89	57	P	P	00 58 25.8	-0.4
	baz=273						
O22K	Cooper Landing	22.93	58	P	P	00 58 26.4	-0.2
O22K	Cooper Landing	22.93	58	P	P	00 58 26.3	-0.3
	baz=274						
KLR	Kul'dur	23.03	272	LR	LR	01 07 52.8	
	comp=Z,97nm,18.0s,baz=62,slow=38						
KLR	Kul'dur	23.03	272	‖eP	P	00 58 28.4	+0.7
KLR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
B22K	Teshekpuk Lake	23.07	32	P	P	00 58 28.6	+0.7
B22K	Teshekpuk Lake	23.07	32	P	P	00 58 27.5	-0.5
	baz=247						
SEW	Seward	23.09	59	P	P	00 58 28.6	+0.3
	baz=275						
PMR	Palmer	23.16	55	P	P	00 58 30.4	+1.5
PMR				IAmb	IAmb	00 58 32.1	
	comp=Z,18nm,1.5s						
PMR	Palmer	23.16	55	P	P	00 58 29.0	+0.1
	baz=272						
PMR	Palmer	23.16	55	P	P	00 58 30.4	+1.5
PMR				pmax	pmax		
	comp=Z,18nm,1.5s						
G23K	Bananza Creek	23.19	42	P	P	00 58 29.6	+0.3
G23K	Bananza Creek	23.19	42	P	P	00 58 29.0	-0.2
	baz=259						
I23K	Minto, Yukon-K	23.22	46	P	P	00 58 28.6	-0.9
	baz=263						
COLD	Coldfoot	23.23	41	P	P	00 58 30.2	+0.6
COLD	Coldfoot	23.23	41	P	P	00 58 29.3	-0.3
	baz=258						
GHO	Glory Hole Cre	23.26	55	P	P	00 58 30.9	+0.8
GHO				IAmb	IAmb	00 58 38.5	
	comp=Z,18nm,1.4s						
MCK	McKinley	23.28	50	P	P	00 58 30.7	+0.6
MCK				IAmb	IAmb	00 58 49.8	
	comp=Z,9.4nm,1.2s						
MCK	McKinley	23.28	50	P	P	00 58 28.8	-1.4
	baz=267						
MCK	McKinley	23.28	50	P	P	00 58 30.7	+0.6
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RND	Reindeer	23.30	51	P	P	00 58 30.5	+0.1
RND				IAmb	IAmb	00 58 31.5	
	comp=Z,9.7nm,0.7s						
RND	Reindeer	23.30	51	P	P	00 58 30.5	+0.1
RND				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KNK	Knik Glacier	23.49	56	P	P	00 58 32.6	+0.3
KNK				IAmb	IAmb	00 58 33.8	
	comp=Z,9.7nm,0.7s						
KNK	Knik Glacier	23.49	56	P	P	00 58 31.5	-0.8
	baz=273						
D23K	Nanushuk River	23.50	36	P	P	00 58 32.8	+0.5
D23K	Nanushuk River	23.50	36	P	P	00 58 31.3	-1.0
	baz=253						
SML	Sawmill	23.54	55	P	P	00 58 33.1	+0.4
SML				IAmb	IAmb	00 58 34.3	
	comp=Z,11nm,0.8s						
SML	Sawmill	23.54	55	P	P	00 58 32.0	-0.7
	baz=272						
SML	Sawmill	23.54	55	P	P	00 58 33.1	+0.4
SML				pmax	pmax		
	comp=Z,11nm,0.8s						
PWL	Port Wells	23.59	57	P	P	00 58 32.4	-0.7
PWL	Port Wells	23.59	57	P	P	00 58 32.2	-1.0
	baz=274						
E23K	Chandalar	23.64	39	P	P	00 58 34.0	+0.3
E23K				IAmb	IAmb	00 59 10.4	
	comp=Z,13nm,1.4s						
E23K	Chandalar	23.64	39	P	P	00 58 32.2	-1.5
	baz=256						
WRH	Wood River Hil	23.69	48	P	P	00 58 35.5	+1.3
WRH				IAmb	IAmb	00 58 46.4	
	comp=Z,9.4nm,1.0s						
TOLK	Toolik Lake Re	23.80	37	P	P	00 58 36.5	+1.3
TOLK	Toolik Lake Re	23.80	37	P	P	00 58 34.0	-1.2
	baz=255,SNR=11						
M23K	Glacier View	23.82	55	P	P	00 58 34.9	-0.5
	baz=273						
COLA	College	23.83	47	P	P	00 58 34.9	-0.5
	baz=266						
COLA	College	23.83	47	diP	P	00 58 35.8	+0.4
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CCB	Clear Creek Bu	23.83	48	P	P	00 58 35.8	+0.3
CCB				IAmb	IAmb	00 58 37.1	
	comp=Z,6.8nm,0.8s						
ZEA	Zeya	23.85	285	eP	P	00 58 34.4	-1.3
H24K	Noodor Dome	23.91	45	P	P	00 58 36.5	+0.2
H24K	Noodor Dome	23.91	45	P	P	00 58 35.5	-0.8
	baz=263						
TIXI	Tiksi	24.00	330	P	P	00 58 36.7	-0.2
TIXI				IAmb	IAmb	00 58 47.2	
	comp=Z,6.0nm,0.7s						
TIXI	Tiksi	24.00	330	LR	LR	01 09 26.0	
	comp=Z,48nm,18.3s,baz=16,slow=40						
TIXI	Tiksi	24.00	330	‖eP	P	00 58 36.6	-0.3
TIXI				pmax	pmax		
	comp=Z,14nm,1.4s						
SCM	Sheep Creek Mo	24.01	55	P	P	00 58 37.1	-0.2
SCM	Sheep Creek Mo	24.01	55	P	P	00 58 36.2	-1.1
	baz=273						
SCM	Sheep Creek Mo	24.01	55	P	P	00 58 37.1	-0.2
SCM				pmax	pmax		
	comp=Z,32nm,1.4s						
POKR	Poker Plat Res	24.02	46	P	P	00 58 37.8	+0.5
POKR				IAmb	IAmb	00 58 40.4	
	comp=Z,6.4nm,0.9s						
POKR	Poker Plat Res	24.02	46	P	P	00 58 36.1	-1.2
	baz=265						
E24K	Your Creek	24.05	39	P	P	00 58 37.8	+0.1
E24K				IAmb	IAmb	00 58 39.8	
	comp=Z,8.4nm,0.7s						
E24K	Your Creek	24.05	39	P	P	00 58 37.2	-0.4
	baz=258,SNR=8.7						
P23K	Montague Islan	24.13	59	P	P	00 58 38.0	-0.3
	baz=277						
F24K	Squaw Lake	24.16	41	P	P	00 58 38.4	-0.3
F24K	Squaw Lake	24.16	41	P	P	00 58 38.8	+0.1
	baz=260						
GLI	Glacier Island	24.19	57	P	P	00 58 38.2	-0.6
GLI	Glacier Island	24.19	57	P	P	00 58 37.8	-1.0
	baz=275						
G24K	Hadweenzic Riv	24.19	43	P	P	00 58 39.9	+1.1
G24K				IAmb	IAmb	00 59 15.6	
	comp=Z,18nm,1.4s						
G24K	Hadweenzic Riv	24.19	43	P	P	00 58 38.4	-0.4
	baz=262						
ILAR	Eielson Array	24.23	47	P	P	00 58 38.7	-0.5
	comp=Z,5.2nm,0.7s,baz=269,slow=9.9,SNR=32						
	comp=Z,5.2nm,0.7s						
C24K	Franklin Bluff	24.39	35	P	P	00 58 36.8	-3.8
C24K				IAmb	IAmb	00 58 43.0	
	comp=Z,13nm,1.0s						
C24K	Franklin Bluff	24.39	35	P	P	00 58 39.2	-1.4
	baz=254						
FID	Port Fidalgo	24.50	57	P	P	00 58 41.1	-0.6
HIN	Hinchinbrook I	24.53	58	P	P	00 58 42.4	+0.4
M24K	Tolsona, Glenn	24.54	54	P	P	00 58 42.9	+0.8
M24K	Tolsona, Glenn	24.54	54	P	P	00 58 42.0	-0.1
	baz=273,SNR=5.1						
K24K	Donnelly Dome	24.68	50	P	P	00 58 43.3	-0.1
	baz=270						
KLU	Klutina	24.70	55	P	P	00 58 44.5	+0.9
KLU	Klutina	24.70	55	P	P	00 58 42.9	-0.7
	baz=275						
Q23K	Middleton Isla	24.73	60	P	P	00 58 44.0	+0.3
	baz=279						
DIV	Divide	24.81	56	P	P	00 58 45.4	+0.9
PAX	Paxson	24.83	52	P	P	00 58 45.3	+0.5
PAX				IAmb	IAmb	00 58 48.3	
	comp=Z,5.4nm,0.9s						
PAX	Paxson	24.83	52	P	P	00 58 45.5	+0.7
	baz=272						
PAX	Paxson	24.83	52	P	P	00 58 45.3	+0.5
PAX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PRP	Porcupine Dome	24.85	46	P	P	00 58 46.7	+1.7
PRP	Porcupine Dome	24.85	46	P	P	00 58 44.9	-0.1
	baz=266,SNR=14						
J25K	Salcha River,	24.88	48	P	P	00 58 44.6	-0.5
J25K	Salcha River,	24.88	48	P	P	00 58 45.0	-0.1
	baz=268						
EYAK	Cordova Ski Ar	24.88	57	P	P	00 58 45.3	+0.2
	baz=277						
HARP	HAARP	25.00	53	P	P	00 58 46.9	+0.7
	baz=273						
F25K	Christian Rive	25.03	41	P	P	00 58 46.6	+0.1
	baz=262						
FYU	Fort Yukon	25.06	43	P	P	00 58 48.2	+1.5
FYU				IAmb	IAmb	00 58 59.2	
	comp=Z,8.9nm,0.8s						
D25K	Kavik River	25.08	37	P	P	00 58 46.5	-0.5
	baz=257						
HEH	HeiHe	25.09	277	eP	P	00 58 46.8	-0.3
RIDG	Independent Ri	25.10	50	P	P	00 58 46.3	-0.9
	baz=271						
E25K	Arctic Village	25.14	39	P	P	00 58 47.4	0.0
	baz=261						
N25K	Chitina, Valde	25.32	55	P	P	00 58 49.2	-0.1
N25K				IAmb	IAmb	00 59 27.9	
	comp=Z,6.3nm,0.8s						
N25K	Chitina, Valde	25.32	55	P	P	00 58 49.1	-0.1
	baz=276						
BMRM	Bremner River	25.39	56	P	P	00 58 51.4	+1.6
BMRM				IAmb	IAmb	00 59 01.6	
	comp=Z,8.5nm,0.9s						
BMRM	Bremner River	25.39	56	P	P	00 58 50.1	+0.3
	baz=277						
SCRK	Sand Creek	25.47	49	P	P	00 58 50.6	-0.1
	baz=271						
USRK	Ussuriysk Ar.	25.58	261	LR	LR	01 08 01.8	
	comp=Z,71nm,20.9s,baz=74,slow=34						
F26K	Sheenjek River	25.61	41	P	P	00 58 53.9	+2.2
F26K				IAmb	IAmb	00 58 58.6	
	comp=Z,7.7nm,1.2s						
F26K	Sheenjek River	25.61	41	P	P	00 58 51.3	-0.4
	baz=263						
KAIM	Kayak Island	25.62	59	P	P	00 58 51.1	-0.7
	baz=279						
J26L	Joseph Creek	25.65	48	P	P	00 58 52.7	+0.5
J26L				IAmb	IAmb	00 58 55.4	
	comp=Z,4.4nm,0.8s						
J26L	Joseph Creek	25.65	48	P	P	00 58 52.0	-0.2
	baz=270						
G26K	Porcupine Rive	25.67	42	P	P	00 58 53.2	+1.0
	baz=265						
C26K	Camden Bay	25.71	35	P	P	00 58 52.9	+0.4
	baz=258						
GLB	Gilahina Butte	25.72	55	P	P	00 58 53.6	+0.8
GLB				IAmb	IAmb	00 58 56.8	
	comp=Z,6.9nm,0.8s						
L26K	Log Cabin Wild	25.80	51	P	P	00 58 53.7	+0.3
	baz=274						
I26K	Coal Creek Min	25.84	46	P	P	00 58 54.7	+1.0
	baz=269						
VRDI	Verde Repeater	25.91	56	P	P	00 58 54.8	+0.1
VRDI				IAmb	IAmb	00 59 34.3	
	comp=Z,6.6nm,0.8s						
M26K	Nabesna, AK	26.00	53	P	P	00 58 55.8	+0.4
	baz=275						
I27K	Kandik River	26.48	46	P	P	00 59 00.7	+1.0
	baz=270						
L27K	Beaver Creek,	26.48	51	P	P	00 59 00.6	+0.9
	baz=275						
G27K	Doyon Strip	26.50	43	P	P	00 59 00.4	+0.7
	baz=267						
M27K	Edge Creek, AK	26.53	53	P	P	00 59 02.6	+2.5
M27K				IAmb	IAmb	00 59 22.6	
	comp=Z,14nm,1.3s						
M27K	Edge Creek, AK	26.53	53	P	P	00 59 00.7	+0.5
	baz=276						
H27K	Steamboat Moun	26.53	44	P	P	00 59 01.1	+1.0
	baz=269						
EGAK	Eagle	26.68	47	P	P	00 59 01.3	-0.1
	baz=272						
MESA	MESA	26.80	58	P	P	00 59 03.8	+1.1
	baz=280						
D27M	Malcolm River	26.96	37	P	P	00 59 04.0	0.0
	baz=263						
BVCY	Beaver Creek	26.99	53	P	P	00 59 04.5	+0.2
	baz=277						
I28M	Miner Creek	27.18	46	P	P	00 59 05.6	-0.4
I28M	Miner Creek	27.18	46	P	P	00 59 05.4	-0.6
	baz=272						
F28M	Old Crow	27.23	41	P	P	00 59 05.7	-0.6
	baz=268						
YUK3	Moose Creek	27.26	54	P	P	00 59 06.2	-0.7
	baz=278						
DAWY	Dawson	27.49	49	P	P	00 59 10.5	+1.8
DAWY				IAmb	IAmb	00 59 13.8	
	comp=Z,7.4nm,0.8s						
DAWY	Dawson	27.49	49	P	P	00 59 08.7	-0.1
	baz=275,SNR=5.9						
O28M	Mount Upton	27.55	56	P	P	00 59 09.9	+0.3
	baz=280						
PINM	Pinnacle	27.65	58	P	P	00 59 10.2	0.0
	baz=282						
YUK8	Steele Glacier	27.67	55	P	P	00 59 10.0	-0.6
	baz=280						
D28M	Stokes Point	27.76	37	P	P	00 59 11.3	+0.3
	baz=265						
H29M	Whitestone	27.81	44	P	P	00 59 11.9	+0.4
H29M				IAmb	IAmb	00 59 34.0	
	comp=Z,8.0nm,1.5s						
I29M	Ogilvie Camp,	27.87	46	P	P	00 59 12.2	+0.1
	baz=273						
G29M	Pine Creek	27.93	43	P	P	00 59 13.9	+1.2
G29M				IAmb	IAmb	00 59 27.6	
	comp=Z,5.4nm,0.8s						
G29M	Pine Creek	27.93	43	P	P	00 59 13.1	+0.5
	baz=271						
J

baz=268
M29M Somme Creek 28.09 52 P P 00 59 15.2 +0.9
M29M Somme Creek 28.09 52 P P 00 59 14.0 -0.2
baz=279
L29M L29M 28.15 51 P P 00 59 15.2 +0.6
L29M IAmb IAmb 00 59 41.5
comp=Z,6.4nm,1.1s
L29M L29M 28.15 51 P P 00 59 14.6 0.0
baz=278
YUK4 Talbot Arm 28.19 55 P P 00 59 15.2 +0.1
baz=280
K29M Barlow Dome 28.34 49 P P 00 59 16.8 +0.5
K29M IAmb IAmb 00 59 21.2
comp=Z,6.7nm,1.2s
K29M Barlow Dome 28.34 49 P P 00 59 16.9 +0.5
baz=277
YUK6 Outpost Mounta 28.40 55 P P 00 59 17.2 +0.1
baz=282
O29M Mount Kennedy 28.43 57 P P 00 59 16.4 -0.8
baz=282
EPYK Eagle Plains 28.47 44 P P 00 59 18.3 +0.9
EPYK IAmb IAmb 00 59 18.8
comp=Z,6.2nm,0.8s
EPYK Eagle Plains 28.47 44 P P 00 59 16.8 -0.7
baz=273
G30M tAoh Zraii Nji 28.64 42 P P 00 59 19.3 +0.4
G30M IAmb IAmb 00 59 40.6
comp=Z,6.4nm,1.4s
G30M tAoh Zraii Nji 28.64 42 P P 00 59 19.2 +0.2
baz=272
I30M Mount Dempster 28.69 46 P P 00 59 19.1 -0.4
baz=275
J30M Hart River 28.77 48 P P 00 59 21.1 +0.9
J30M Hart River 28.77 48 P P 00 59 19.8 -0.4
baz=276
F30M Barrier River 28.80 41 P P 00 59 20.2 -0.1
baz=271
HYT Haines Junctio 28.84 55 P P 00 59 21.2 +0.4
HYT IAmb IAmb 00 59 29.2
comp=Z,8.0nm,1.1s
HYT Haines Junctio 28.84 55 P P 00 59 19.4 -1.4
baz=282
M30M Minto, Yukon 28.84 52 P P 00 59 21.1 +0.4
M30M IAmb IAmb 00 59 33.2
comp=Z,6.4nm,1.4s
M30M Minto, Yukon 28.84 52 P P 00 59 20.7 -0.1
baz=280
N30M Aishikik Lake 28.90 54 P P 00 59 20.8 -0.6
baz=281
G31M Satah River 29.41 43 P P 00 59 26.3 +0.6
G31M Satah River 29.41 43 P P 00 59 25.3 -0.4
baz=274
H31M Peel River 29.48 45 P P 00 59 26.5 +0.1
H31M IAmb IAmb 00 59 47.9
comp=Z,11nm,1.5s
H31M Peel River 29.48 45 P P 00 59 26.5 +0.1
baz=276
N31M Braeburn, Yuko 29.51 54 P P 00 59 26.5 -0.2
baz=282
INK Inuvik 29.63 40 P P 00 59 28.1 +0.5
INK IAmb IAmb 00 59 35.5
comp=Z,5.1nm,1.1s
INK Inuvik 29.63 40 P P 00 59 26.4 -1.2
baz=272
INK Inuvik 29.63 40 P P 00 59 28.1 +0.5
INK pmax pmax
comp=Z,5.0nm,1.1s
PLBC Pleasant Camp 29.71 58 P P 00 59 28.0 -0.5
baz=285
M31M Drury Creek, Y 30.01 52 P P 00 59 31.8 +0.7
M31M IAmb IAmb 00 59 35.2
comp=Z,6.3nm,1.0s
M31M Drury Creek, Y 30.01 52 P P 00 59 30.8 -0.3
baz=282
WHY Whitehorse 30.13 55 P P 00 59 31.7 -0.5
baz=284
S31K Pelican 30.21 61 P P 00 59 32.0 -0.8
baz=288
FARO Faro, Yukon 30.48 52 P P 00 59 34.7 -0.6
baz=283
N32M Quiet Lake 30.86 54 P P 00 59 38.0 -0.6
baz=285
SIT Sitka 30.96 62 P P 00 59 38.5 -1.0
baz=290
R32K Eaglecrest 30.97 60 P P 00 59 39.4 -0.2
baz=288
P32M Atlin 30.98 57 P P 00 59 39.0 -0.6
baz=287
S32K Killisnoo 31.21 61 P P 00 59 41.1 -0.5
baz=290
P33M Teslin, Yukon 31.23 55 P P 00 59 43.4 +1.4
P33M Teslin, Yukon 31.23 55 P P 00 59 41.4 -0.5
baz=286
MMPY Sheldon Lake, 31.34 51 P P 00 59 44.6 +1.8
MMPY IAmb IAmb 00 59 49.5
comp=Z,4.5nm,1.1s
MMPY Sheldon Lake, 31.34 51 P P 00 59 43.2 +0.4
baz=284
Q32M Nakina River 31.87 58 P P 00 59 48.4 +0.6
Q32M Nakina River 31.87 58 P P 00 59 47.3 -0.5
baz=289
A36M Sachs Harbour 32.28 32 P P 00 59 50.3 -0.7
baz=274
KSRS Korea Array 32.34 255 P P 00 59 53.9 +2.2
comp=Z,0.7nm,0.4s,baz=49,slow=9.7,SNR=2.8
comp=Z,0.7nm,0.4s
R33M Jennings River 32.37 56 P P 00 59 54.0 +2.0
R33M IAmb IAmb 01 00 14.6
comp=Z,6.0nm,1.3s
U33K Whale Pass 32.44 63 P P 00 59 52.6 +0.2
baz=292
CRAG Craig 32.69 64 P P 00 59 54.8 +0.2
baz=293
WRAK Wrangell Islan 32.72 62 P P 00 59 54.7 -0.2
baz=292
S34M Telegraph Cree 32.79 59 P P 00 59 54.9 -0.6
baz=291
C36M Paulatuk 32.95 37 P P 00 59 57.5 +0.7
C36M IAmb IAmb 00 59 57.9
comp=Z,6.7nm,1.1s
C36M Paulatuk 32.95 37 P P 00 59 56.0 -0.8
baz=279
DLBC Dease Lake 33.15 58 P P 00 59 58.0 -0.8
baz=291
WTLY Watson Lake, Y 33.18 55 P P 00 59 58.6 -0.4
baz=289
V35K Ketchikan 33.53 64 P P 01 00 00.2 -1.8
baz=294
T35M Bob Quinn 33.58 60 P P 01 00 01.2 -1.2
baz=293
H11N2 WAKE ISLAND Hy 34.82 182 T T 01 36 53.1
baz=1.8,slow=76,SNR=2372
H11N3 WAKE ISLAND Hy 34.83 182 T T 01 36 57.2
baz=1.8,slow=76,SNR=1505
H11N1 WAKE ISLAND Hy 34.84 182 T T 01 36 53.7
baz=1.8,slow=76,SNR=1987
H11S1 WAKE ISLAND Hy 36.04 183 T T 01 38 24.5
baz=1.2,slow=76,SNR=297
H11S3 WAKE ISLAND Hy 36.05 183 T T 01 38 28.7
baz=1.2,slow=76,SNR=82
H11S2 WAKE ISLAND Hy 36.06 183 T T 01 38 26.1
baz=1.2,slow=76,SNR=222
BBB Bella Bella 36.81 67 LR LR 01 14 23.4
comp=Z,83nm,18.8s,baz=323,slow=34
NRIK Noril'sk 37.51 325[illegible] *eP* **P 01 00 36.1 +0.1**
NRIK pmax pmax
comp=Z,7.0nm,2.2s
ULN Ulaanbaatar 37.88 286[illegible] *eP* **P 01 00 39.2 -0.4**
ULN pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 38.26 286 P P 01 00 43.4 +0.6
SONM Songino Array 38.26 286 P P 01 00 43.1 +0.3
comp=Z,1.1nm,0.6s,baz=57,slow=8.5,SNR=11
comp=Z,1.1nm,0.6s
SONM Songino Array 38.26 286 P P 01 00 43.4 +0.6
SONM pmax pmax
comp=Z,3.0nm,1.2s
YKA Yellowknife Ar 38.66 46 P P 01 00 45.7 0.0
comp=Z,0.8nm,0.8s,baz=293,slow=8.0,SNR=9.5
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 38.66 46 *ceP* **P 01 00 46.9 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
HHC Hu-ho-hao-te 39.51 274 *eP* **P 01 00 51.4 -1.9**
HHC pmax pmax
comp=Z,3.0nm,0.6s
HHC pmax pmax
comp=Z,36nm,4.6s
CLRS Cowichan Lake 40.76 69 P P 01 01 05.0 +1.6
NLWA Neilton Lookou 41.73 71 P P 01 01 12.9 +1.5
B08A Colville Reser 43.62 67 P P 01 01 27.6 +0.8
B08A IAmb IAmb 01 01 27.7
comp=Z,3.7nm,0.8s
NEW Newport 44.85 66 LR LR 01 20 04.1
comp=Z,123nm,18.0s,baz=280,slow=36
ZALV Zalesovo Beam 46.01 305 P P 01 01 44.9 -0.8
comp=Z,0.9nm,0.7s,baz=40,slow=9.6,SNR=6.3
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 46.01 305 *i* **P P 01 01 46.9 +1.3**
ZALV pmax pmax
comp=Z,1.0nm,0.8s
SPITS Spitsbergen Ar 46.39 352 P P 01 01 47.2 -1.2
comp=Z,5.4nm,0.7s,baz=14,slow=3.0,SNR=6.3
comp=Z,5.4nm,0.7s
LZH Lanzhou 47.19 275 P P 01 01 56.4 +1.1
LZH pP pP 01 01 59.9 -2.3
LZH pmax pmax
comp=Z,10.0nm,1.3s
GTA Gaotai 47.23 281 *eP* **P 01 01 58.8 +3.2**
GTA pP sP 01 02 05.5 +0.1
GTA pmax pmax
comp=Z,5.0nm,1.1s
LYMT Lyon Mountain 48.22 64 P P 01 02 03.8 +0.5
FCC Fort Churchill 49.14 43 P P 01 02 10.0 +0.2
FCC IAmb IAmb 01 02 11.0
comp=Z,2.9nm,0.6s
FCC Fort Churchill 49.14 43 P P 01 02 10.0 +0.2
FCC pmax pmax
comp=Z,3.0nm,0.6s
MCMT McKenzie Canyo 49.31 67 P P 01 02 11.9 +0.1
PNTR Pine Nut 49.43 77 P P 01 02 14.4 +1.8
WAKR Walker 49.92 77 P P 01 02 17.0 +0.6
NVAR Mina Array Bea 50.62 77 P P 01 02 20.6 -1.1
comp=Z,0.9nm,0.6s,baz=334,slow=6.2,SNR=4.4
comp=Z,0.9nm,0.6s
FLWY Flagg Ranch 50.96 66 P P 01 02 24.8 +0.6
FLWY IAmb IAmb 01 02 26.1
comp=Z,4.6nm,0.8s
Q09A Carvers 50.97 76 P P 01 02 25.8 +1.5
WMQ Urumqi 51.00 293 *eP* **P 01 02 26.4 +2.1**
WMQ LR LR
comp=N,390nm,15.1s
WMQ LR LR
comp=Z,100nm,18.1s
KURK Kurchatov 51.00 305 P P 01 02 23.0 -1.0
KURK Kurchatov 51.00 305 *deP* **P 01 02 23.3 -0.8**
KURK pmax pmax
comp=Z,9.0nm,0.8s
RLMT Red Lodge 51.02 65 P P 01 02 25.5 +0.9
RLMT IAmb IAmb 01 02 26.1
comp=Z,3.5nm,0.6s
KURBB Kurchatov Arra 51.10 305 P P 01 02 24.1 -0.8
comp=Z,5.3nm,0.7s,baz=56,slow=7.4,SNR=18
comp=Z,5.3nm,0.7s
MK31 Makanchi Array 51.81 299 *deP* **P 01 02 28.8 -1.5**
MKAR Makanchi Array 51.81 299 P P 01 02 29.3 -1.0
MKAR Makanchi Array 51.81 299 P P 01 02 28.9 -1.4
comp=Z,2.0nm,0.7s,baz=45,slow=6.2,SNR=14
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 51.81 299 *ceP* **P 01 02 31.5 +1.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 51.96 299 P P 01 02 29.8 -1.6
MAKZ IAmb IAmb 01 02 34.9
comp=Z,3.0nm,0.8s
MAKZ Makanchi 51.96 299 P P 01 02 29.8 -1.6
MAKZ pmax pmax
comp=Z,3.0nm,0.9s
R11B Troy Canyon, C 52.21 75 P P 01 02 32.6 -1.0
baz=315
PD31 Pinedale Array 52.46 67 P P 01 02 34.9 -0.6
PDAR Pinedale Array 52.46 67 P P 01 02 36.1 +0.7
PDAR Pinedale Array 52.46 67 P P 01 02 35.6 +0.2
comp=Z,1.5nm,0.7s,baz=319,slow=1.9,SNR=14
comp=Z,1.5nm,0.7s
BVAR Borovoye Array 53.18 312 P P 01 02 39.9 -0.5
comp=Z,6.9nm,0.6s,baz=59,slow=7.3,SNR=29
comp=Z,6.9nm,0.6s
BRVK Borovoye 53.20 312 P P 01 02 39.8 -0.6
BRVK Borovoye 53.20 312 P P 01 02 39.8 -0.6
BRVK pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 53.27 345 P P 01 02 40.0 -0.7
comp=Z,2.2nm,0.8s,baz=39,slow=7.5,SNR=3.7
comp=Z,2.2nm,0.8s
TMUT Trail Mountain 53.98 71 P P 01 02 47.6 +0.8
TMUT IAmb IAmb 01 02 48.9
comp=Z,2.8nm,0.9s
RDMU Red Mountain 53.98 69 P P 01 02 47.8 +1.2
RDMU IAmb IAmb 01 02 48.7
comp=Z,2.6nm,0.8s
ULM Lac du Bonnet 54.12 52 P P 01 02 45.9 -1.3
comp=Z,1.7nm,0.7s,baz=315,slow=11,SNR=3.5
comp=Z,1.7nm,0.7s
RSSD Black Hills 54.42 62 P P 01 02 49.5 -0.3
RSSD Black Hills 54.42 62 P P 01 02 49.5 -0.3
RSSD pmax pmax
comp=Z,6.0nm,0.5s
LCMT Little Creek M 54.46 74 P P 01 02 51.5 +1.4
SRU San Rafael Swe 54.48 71 P P 01 02 50.6 +0.3
SRU San Rafael Swe 54.48 71 P P 01 02 50.6 +0.3
SRU pmax pmax
comp=Z,4.0nm,0.7s
PKCU Pink Cliffs 54.68 73 P P 01 02 53.2 +1.3
PKCU IAmb IAmb 01 03 18.1
comp=Z,4.8nm,1.4s
KNB Kanab 54.70 74 P P 01 02 52.2 +0.4
KNB IAmb IAmb 01 02 54.0
comp=Z,4.5nm,1.2s
KNB Kanab 54.70 74 P P 01 02 52.2 +0.4
KNB pmax pmax
comp=Z,5.0nm,1.2s
PZH PanZhiHua 55.40 268 P P 01 02 57.3 +0.3
PZH pmax pmax
comp=Z,7.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
ARTI Arti 55.58 321 *d iP* **P 01 02 57.0 -0.7**
ARTI 01 03 56.2
ARTI S **S 01 10 44.1 +2.6**
ARTI SS **SS 01 14 18.2 -7.6**
ARTI pmax pmax
comp=Z,19nm,3.3s
N23A Red Feather La 55.70 66 P P 01 02 58.0 -1.1
baz=316
PV23 Carpenter Ridg 55.78 70 P P 01 03 00.7 +1.0
PV10 Paradox Valley 55.82 70 P P 01 03 01.4 +1.4
PV11 David Mesa, Pa 55.97 70 P P 01 03 02.0 +1.0
PV11 IAmb IAmb 01 03 02.2
comp=Z,4.7nm,0.9s
PV13 Radium Mtn., P 56.10 70 P P 01 03 02.5 +0.5
ESJX Sierra Juarez 56.55 81 P P 01 03 04.8 -0.4
ESJX IAmb IAmb 01 03 17.8
comp=Z,6.4nm,1.4s
S22A 4UR Ranch, Cre 57.48 69 P P 01 03 11.4 -0.5
baz=317
Q24A Divide 57.51 67 P P 01 03 11.6 -0.5
baz=317
AAK Ala-Archa 58.68 300[illegible] *eP* **P 01 03 21.1 +1.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s
T25A Trinidad 59.24 68 P P 01 03 23.5 -0.6
baz=318
KSH Kashi 60.23 297 P P 01 03 34.4 +3.7
KSH pP pP 01 03 37.5 -0.5
KSH pmax pmax
comp=Z,4.0nm,1.1s
ABKAR Akbulak array 60.41 314 P P 01 03 31.4 -0.2
ABKAR IAmb IAmb 01 03 40.0
comp=Z,4.8nm,1.4s
FINES FINESS Array B 60.53 340 P P 01 03 31.6 -0.6
comp=Z,0.8nm,0.7s,baz=25,slow=6.1,SNR=5.1
comp=Z,0.8nm,0.7s
FINES FINESS Array B 60.53 340 *i P* **P 01 03 32.7 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 63.26 264 P P 01 03 52.8 +1.6
comp=Z,1.0nm,0.3s,baz=34,slow=7.4,SNR=9.0
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 63.30 348 P P 01 03 50.5 -0.4
comp=Z,1.1nm,0.6s,baz=14,slow=6.9
NOA NORSAR Array B 63.30 348 P P 01 03 50.4 -0.5
comp=Z,0.9nm,0.8s,baz=15,slow=6.8,SNR=3.9
comp=Z,0.9nm,0.8s
WMOK Wichita Mounta 64.06 66 P P 01 03 57.2 +0.9
WMOK IAmb IAmb 01 04 08.4
comp=Z,3.8nm,1.1s
WMOK Wichita Mounta 64.06 66 P P 01 03 57.2 +0.9
WMOK pmax pmax
comp=Z,4.0nm,1.1s
TX31 Lajitas Ar. Si 65.52 74 P P 01 04 06.1 +0.1
TXAR Lajitas Array 65.52 74 P P 01 04 06.3 +0.3
TXAR Lajitas Array 65.52 74 P P 01 04 06.7 +0.7
comp=Z,2.2nm,0.6s,baz=303,slow=4.5,SNR=41
comp=Z,2.2nm,0.6s
PMG Port Moresby 66.22 203 LR LR 01 28 54.4
comp=Z,338nm,20.5s,baz=308,slow=32
O48B Farmland 66.60 53 P P 01 04 12.1 -0.5
baz=323
435B Jarrell 67.74 68 P P 01 04 20.2 +0.2
baz=321
833A Chaparral WMA, 68.67 71 P P 01 04 26.0 +0.1
baz=322
AKASG Malin Array Be 69.65 334 P P 01 04 31.2 -0.4
comp=Z,0.8nm,0.4s,baz=28,slow=6.6,SNR=8.6
comp=Z,0.8nm,0.4s
EKA Eskdalemuir Ar 70.22 355 P P 01 04 34.5 -0.5
comp=Z,1.6nm,0.8s,baz=21,slow=6.8,SNR=2.4
comp=Z,1.6nm,0.8s
L61B Northampton 70.22 43 P P 01 04 34.9 -0.3
baz=327
KOLS Kolonicke sedl 72.97 337 *eP* **P 01 04 53.2 +1.4**
KOLS Kolonicke sedl 72.97 337 *eP* **P 01 04 53.2 +1.4**
BRTR Keskin Array B 78.36 326 P P 01 05 22.7 -0.2
comp=Z,0.3nm,0.5s,baz=31,slow=39,SNR=2.5
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 79.75 212 P P 01 05 30.8 +0.4
comp=Z,1.6nm,1.0s,baz=18,slow=5.9,SNR=4.8
comp=Z,1.6nm,1.0s
ASAR Alice Springs 83.38 211 P P 01 05 51.5 +1.9
comp=Z,2.1nm,0.9s,baz=16,slow=5.8,SNR=6.5
comp=Z,2.1nm,0.9s

IDC ***02*** *00:59:12.8±2.6, 3°.36S×99°.35E, h0km, mb3.6/8, mbtmp3.6/8, MS4.3/1, Error ellipse: s-maj=108.3km s-min=21.9km az=55.0*

ISC 02 00:59:17.7±2.5, 3°.4S±0°.4×99°.3E±0°.6, h35km, n22, σ0°76/9, mb3.7/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.71**	**359**	P	**P**	**01 04 06.8**	**+0.8**
	1.0nm,0.3s,baz=163,slow=9.2,SNR=1.6						
	1.0nm,0.3s						
H08S2	**Diego Garcia H**	**27.04**	**260**	T	T	01 34 09.7	
	baz=82,slow=76,SNR=280						
H08S3	**Diego Garcia H**	**27.05**	**260**	T	T	01 34 10.3	
	baz=82,slow=76,SNR=668						
H08S1	**Diego Garcia H**	**27.06**	**260**	T	T	01 34 02.0	
	baz=82,slow=76,SNR=106						
H01W3	**Cape Leeuwin H**	**34.22**	**158**	T	T	01 42 22.0	
	baz=336,slow=76,SNR=9.0						
H01W2	**Cape Leeuwin H**	**34.23**	**158**	T	T	01 42 19.6	
	baz=336,slow=76,SNR=7.9						
H01W1	**Cape Leeuwin H**	**34.24**	**158**	T	T	01 42 21.7	
	baz=336,slow=76,SNR=7.4						
WRA	**Warramunga Arr**	**37.90**	**119**	P	**P**	**01 06 31.7**	**-0.2**
	0.3nm,0.7s,baz=299,slow=8.6,SNR=1.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**39.01**	**124**	P	**P**	**01 06 41.4**	**+0.2**
	0.7nm,0.9s,baz=310,slow=10,SNR=2.4						
	0.7nm,0.9s						
SONM	**Songino Array**	**51.38**	**6**	P	**P**	**01 08 17.9**	**-1.2**
	1.7nm,1.0s,baz=186,slow=7.9,SNR=7.4						
	1.7nm,1.0s						
MKAR	**Makanchi Array**	**52.18**	**345**	P	**P**	**01 08 25.7**	**+0.7**
	0.8nm,0.8s,baz=157,slow=9.0,SNR=7.7						
	0.8nm,0.8s						
KRVT	**Keravat (AS076**	**52.58**	**93**	LR	LR	01 33 47.2	
	comp=Z,272nm,19.1s,baz=13,slow=40						
KURBB	**Kurchatov Arra**	**56.69**	**344**	P	**P**	**01 08 57.5**	**0.0**
	0.2nm,0.2s,baz=159,slow=7.0,SNR=5.0						
	0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**58.41**	**350**	P	**P**	**01 09 10.1**	**+0.5**
	0.7nm,0.8s,baz=157,slow=7.8,SNR=4.2						
	0.7nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.29**	**217**	T	T	02 14 35.0	
	baz=58,slow=75,SNR=3287						
H04N1	**CROZET ISLANDS**	**59.30**	**217**	T	T	02 14 35.0	
	baz=58,slow=75,SNR=2842						
H04N3	**CROZET ISLANDS**	**59.31**	**217**	T	T	02 14 29.3	
	baz=58,slow=75,SNR=3270						
H04S1	**CROZET ISLANDS**	**59.58**	**216**	T	T	02 14 56.3	
	baz=58,slow=75						
H04S3	**CROZET ISLANDS**	**59.59**	**216**	T	T	02 14 57.3	
	baz=58,slow=75						
H04S2	**CROZET ISLANDS**	**59.59**	**216**	T	T	02 14 56.9	
	baz=58,slow=75,SNR=292						
BVAR	**Borovoye Array**	**61.25**	**341**	P	**P**	**01 09 28.7**	**-0.5**
	0.2nm,0.4s,baz=142,slow=8.2,SNR=2.6						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**146.20**	**38**	PKPbc	**PKPbc**	**01 18 55.8**	**+0.5**
	0.5nm,0.8s,baz=291,slow=3.4,SNR=5.6						

BJI ***02*** *01:10:55.6, 0°.18S×125°.54E, h59km, mB5.3/40, mb5.1/80, Ms4.6/57, Ms7 4.5/58*

MOS ***02*** *01:10:58.5±1.1, 0°.46N×125°.21E, h48km, mb5.6/74, Error ellipse: s-maj=8.0km s-min=4.2km az=116.0*

NEIC ***02*** *01:10:59.8, 0°.38N×125°.44E, h40km*

NEIC ***02*** *01:10:59.8, 0°.28N×125°.00E, h40km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$-0.03; $M_{r\theta}$0.07; $M_{\theta\phi}$-0.63; $M_{\phi r}$0.65; Fault plane solution: $M_0$1.26000×10^{17} NP1: ϕ_s268.60000°, δ42.42000°, λ134.71000°. NP2: ϕ_s35.31000°, δ61.35000°, λ57.26000°. Principal axes: T 1.2497, Plg59.0000°, Azm257.0000°; N 0.0140, Plg28.0000°, Azm52.0000°; P -1.2637, Plg11.0000°, Azm148.0000°;*

NEIC ***02*** *01:11:01.0±2.3, 0°.38N±0°.08×125°.44E±0°.05, h51km±5km, mb5.5/181, Mww5.3/14 Error ellipse: s-maj=11.2km s-min=6.7km az=174.0*

DJA ***02*** *01:11:01.9±0.1, 0°N±1°×12°5E±°, h77km±2km, M5.2/91, mb5.5/91, mB5.7/65, MLv5.6/27, Mw(mB)5.2/65, MwMwp5.0/24, Mwp5.3/24*

IDC ***02*** *01:11:01.0±1.9, 0°.32N×125°.21E, h59km±16km, mb5.0/38, mbtmp5.2/41, MS4.2/28, Error ellipse: s-maj=15.0km s-min=8.8km az=79.0*

GCMT ***02*** *01:11:02.5±0.1, 0°.20N±0°.01×125°.45E±0°.01, h53km, MW5.3/128, Moment Tensor Solution. s113,c174; s128,c209; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.95±.03; $M_{\theta\theta}$-0.40±.02; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$0.12±.01; $M_{\theta\phi}$-0.65±.02; $M_{\phi r}$0.65±.02; Best double couple: $M_0$1.23900×10^{17} NP1:ϕ_s240.00000°, δ34.00000°, λ121.00000°. NP2:ϕ_s24.00000°, δ62.00000°, λ71.00000°. Principal axes: T 1.2030, Plg67.0000°, Azm257.0000°; N 0.0730, Plg17.0000°, Azm33.0000°; P -1.2740, Plg15.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 01:11:01.0±0.3, 0°.30N±0°.03×125°.43E±0°.03, h62km±2km, h62km:pP-P, n979, σ1$39/953, mb5.4/254, 65C-35D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47**	**281**	P	**Pn**	**01 11 25.3**	**-0.1**
KMSI				S	**Sn**	**01 11 44.1**	**+0.3**
TNTI	**Ternate**	**1.99**	**76**		**Pn**	**01 11 32.1**	**-0.3**
TNTI				Sn	**Sn**	**01 11 54.8**	**-1.6**
TNTI	**Ternate**	**1.99**	**76**	P	**Pn**	**01 11 33.1**	**+0.7**
TNTI	**Ternate**	**1.99**	**76**	P	**Pn**	**01 11 33.1**	**+0.7**
LBMI	**Labuha**	**2.27**	**114**	P	**Pn**	**01 11 36.6**	**+0.4**
SANI	**Sanana**	**2.40**	**167**	P	**Pn**	**01 11 37.1**	**-0.8**
SANI	**Sanana**	**2.40**	**167**	S	**Sn**	**01 12 04.7**	**-1.5**
SANI	**Sanana**	**2.40**	**167**	P	**Pn**	**01 11 37.1**	**-0.8**
LUWI	**Luwuk**	**2.97**	**243**	Pn	**Pn**	**01 11 46.8**	**+1.1**
LUWI	**Luwuk**	**2.97**	**243**	P	**Pn**	**01 11 49.3**	**+3.5**
LUWI	**Luwuk**	**2.97**	**243**	P	**Pn**	**01 11 48.1**	**+2.3**
SGSI	**Sangihe**	**3.37**	**2**	P	**Pn**	**01 11 51.9**	**+0.7**
MRSI	**Marisa**	**3.49**	**273**	P	**Pn**	**01 11 52.8**	**-0.1**
NLAI	**Namlea**	**3.89**	**155**	P	**Pn**	**01 11 58.2**	**-0.1**
APSI	**Ampana**	**3.97**	**252**	P	**Pn**	**01 12 01.2**	**+1.8**

TOLI2	Tolitoli	4.72 280	Pn	Pn	01 12 09.6	-0.1
TOLI2	Tolitoli	4.72 280	P	Pn	01 12 10.7	+1.0
AAI	Ambon	4.83 145	P	Pn	01 12 12.2	+1.0
MSAI	Masohi	5.03 136	P	Pn	01 12 15.5	+1.5
KDI	Kendari	5.07 214	P	Pn	01 12 15.4	+0.8
	2.4nm7μm7μm560nm,0.6s					
PCI	Palu	5.72 258	P	Pn	01 12 25.9	+2.5
SWI	Sorong	5.94 101	P	Pn	01 12 27.4	+0.9
	1.2nm7μm3μm386nm,1.0s					
BBSI	Bau Bau	6.42 206	P	Pn	01 12 35.1	+2.1
	3.7nm4μm5μm524nm,1.0s					
TTSI	Tana Toraja	6.52 239	P	Pn	01 12 35.8	+1.5
BNDI	Bandanaira	6.55 137	P	Pn	01 12 35.2	+0.4
BNDI	Bandanaira	6.55 137	S	Sn	01 13 48.2	+0.1
BNDI	Bandanaira	6.55 137	P	Pn	01 12 35.5	+0.7
DAV	Davao City (W)	6.73 1	P	Pn	01 12 38.7	+1.5
	327nm,0.4s,baz=127,slow=4.0,SNR=4.6					
DAV			S	Sn	01 13 55.1	+2.6
	243nm,0.4s,baz=228,slow=23,SNR=1.1					
SPSI	Sidrap Palu	7.06 233	P	Pn	01 12 43.5	+1.7
	2.2nm5μm7μm614nm,0.7s					
FAKI	Fak Fak	7.53 115	Pn	Pn	01 12 47.4	-0.8
FAKI	Fak Fak	7.53 115	P	Pn	01 12 48.0	-0.2
FAKI	Fak Fak	7.53 115	S	Sn	01 14 10.3	-1.9
FAKI	Fak Fak	7.53 115	P	Pn	01 12 48.5	+0.3
	0.8nm6μm2μm250nm,1.0s					
KAPI	Kappang	7.75 227	Pn	Pn	01 12 53.0	+1.8
KAPI	Kappang	7.75 227	P	Pn	01 12 52.7	+1.5
	181nm,0.7s,baz=37,slow=8.1,SNR=47					
KAPI			S	Sn	01 14 16.6	-0.9
	239nm,0.6s,baz=60,slow=20,SNR=8.3					
KAPI			LR	LR	01 16 35.6	
	comp=Z,3μm,20.6s,baz=46,slow=44					
KAPI	Kappang	7.75 227	P	Pn	01 12 53.9	+2.7
KAPI			P	Pn	01 12 53.9	+2.7
KAPI	Kappang	7.75 227	P	Pn	01 12 53.4	+2.3
KAPI	Kappang	7.75 227	S	Sn	01 14 19.2	+1.7
KAPI	Kappang	7.75 227	P	Pn	01 12 53.0	+1.8
BSSI	Bau Bau, Buton	8.08 218	P	Pn	01 12 57.2	+1.5
	5μm359nm,0.6s					
BKB	Balikpapan	8.67 260	Pn	Pn	01 13 04.1	+0.2
BKB	Balikpapan	8.67 260	P	Pn	01 13 05.7	+1.9
BKB	Balikpapan	8.67 260	P	Pn	01 13 05.0	+1.2
	6μm6μm444nm,0.9s					
KMPI	Kaimana, Papua	9.16 116	P	Pn	01 13 10.9	+0.4
	353nm,1.0s					
MMRI	Maumere	9.43 200		Pn	01 13 14.4	+0.2
MMRI	Maumere	9.43 200	P	Pn	01 13 16.2	+2.0
MMRI	Maumere	9.43 200	P	Pn	01 13 14.0	-0.2
	3μm148nm,1.0s					
SOEI	Soe	10.05 187	Pn	Pn	01 13 27.3	+4.4
SOEI	Soe	10.05 187	P	Pn	01 13 26.8	+4.0
SAUI	Saumlaki	10.10 145	P	Pn	01 13 24.5	+1.2
BATI	Baumata	10.58 190	P	Pn	01 13 36.0	+6.0
	398nm,0.9s					
MTKI	Muara Teweh, K	10.60 263	P	Pn	01 13 32.5	+2.2
	123nm,0.8s					
BAKI	Biak	10.78 98	P	Pn	01 13 35.6	+2.9
	5μm6μm356nm,1.1s					
KKM	Kota Kinabalu	10.82 302		Pn	01 13 34.5	+1.1
KKM	Kota Kinabalu	10.82 302	P	Pn	01 13 36.6	+3.2
WBSI	Waikabubak, Su	11.56 211	P	Pn	01 13 43.4	+0.1
	2μm93nm,1.0s					
PLAI	Plampang	11.84 220	P	Pn	01 13 49.8	+2.6
PLAI	Plampang	11.84 220	P	Pn	01 13 49.5	+2.3
	2μm140nm,1.4s					
TWSI	Taliwang, Sumb	12.37 223	P	Pn	01 13 56.5	+2.1
	2μm223nm,1.1s					
SRBI	Singaraja	13.15 231	P	Pn	01 14 06.7	+1.6
	2μm145nm,1.0s					
SBUM	Sibu	13.38 279	P	Pn	01 14 10.3	+2.2
SMPI	Sarmi	13.47 100	P	Pn	01 14 10.1	+0.7
	131nm,1.5s					
DNP	Denpasar	13.53 229	P	Pn	01 14 10.7	+0.5
KMMI	Kalianget	13.56 237	P	Pn	01 14 14.0	+3.4
	4μm475nm,0.9s					
ABJI	Asem Bagus	13.76 234	P	Pn	01 14 15.0	+1.8
	3μm220nm,1.0s					
DRS	Darwin Rock St	13.76 157	P	Pn	01 14 14.2	+1.0
STKI	Sintang	13.95 269	P	Pn	01 14 16.7	+0.9
	3μm69nm,0.5s					
JAGI	Jajag, Banyuwa	14.22 232		Pn	01 14 20.7	+1.4
JAGI	Jajag, Banyuwa	14.22 232	P	P	01 14 23.4	-1.5
JAGI	Jajag, Banyuwa	14.22 232	P	P	01 14 22.8	-2.1
	2μm212nm,0.9s					
MTN	Manton Dam	14.23 157		Pn	01 14 18.4	-1.0
MTN	Manton Dam	14.23 157	P	Pn	01 14 18.7	-0.7
	comp=Z,559nm,0.8s					
MTN	Manton Dam	14.23 157	P	Pn	01 14 19.3	-0.1
TGY	Tagaytay City	14.42 342	P	P	01 14 26.2	-0.9
	comp=Z,166nm,0.5s,baz=194,slow=8.3,SNR=5.9					
GMJI	Gumukmas	14.67 234	P	P	01 14 29.1	-0.8
	comp=Z,3μmcomp=Z,242nm,1.1s					
KDU	Kakadu	14.67 152	P	Pn	01 14 23.2	-2.0
	comp=Z,0.0nmcomp=Z,324nm,1.0s					
KDU	Kakadu	14.67 152	P	Pn	01 14 24.5	-0.7
GRJI	Gresik	14.77 241	P	Pn	01 14 28.4	+1.9
	comp=Z,6μmcomp=Z,568nm,1.2s					
GENI	Genyem	15.01 101	P	Pn	01 14 30.3	+0.7
GENI	Genyem	15.01 101	P	Pn	01 14 30.1	+0.5
KSM	Kuching	15.16 275	P	Pn	01 14 33.5	+1.9
TBJI	Tambak Boyo	15.28 242	P	P	01 14 35.0	-1.7
	comp=Z,5μmcomp=Z,516nm,1.1s					
NGJI	Ngawi	15.88 241	P	Pn	01 14 40.2	-0.5
	comp=Z,3μmcomp=Z,303nm,0.9s					
KNRA	Kununurra	16.21 168		Pn	01 14 44.3	-0.6
KNRA			IAmb	IAmb	01 14 47.1	
	comp=Z,336nm,0.9s					
KNRA	Kununurra	16.21 168	P	Pn	01 14 45.3	+0.4
	comp=Z,373nm,1.3s					
PCJI	Pacitan	16.52 239	P	P	01 14 50.6	+0.1
	comp=Z,4μmcomp=Z,490nm,0.8s					
SMRI	Semarang	16.64 244	P	P	01 14 51.8	0.0
SMRI			IAmb	IAmb	01 14 54.5	
	comp=Z,359nm,0.8s					
SMRI	Semarang	16.64 244	P	P	01 14 52.4	+0.6
SMRI	Semarang	16.64 244	P	P	01 14 52.4	+0.6
	comp=Z,473nm,0.8s					
TABU	Tabubil	16.71 110	P	P	01 14 53.6	+0.9
UGM	Wanagama	16.95 241	P	P	01 14 55.7	+0.4
UGM			IAmb	IAmb	01 14 59.4	
	comp=Z,331nm,1.2s					
UGM	Wanagama	16.95 241	P	P	01 14 56.5	+1.2
UGM	Wanagama	16.95 241	P	P	01 14 55.7	+0.4
	comp=Z,3μmcomp=Z,4μmcomp=Z,242nm,1.2s					
YOGI	Yogyakarta	17.11 242	P	P	01 14 59.0	+2.0
	comp=Z,5μmcomp=Z,473nm,0.9s					
TPI	Tanjungpandan	18.03 260	P	P	01 15 06.3	-0.8
	comp=Z,121nm,1.0s					
KPJI	Karang Pucung	18.12 245	P	Pn	01 15 09.3	+0.8
	comp=Z,5μmcomp=Z,603nm,0.9s					
FITZ	Fitzroy Crossi	18.28 179	P	P	01 15 09.8	0.0
	comp=Z,50nm,1.0s,baz=13,slow=9.3,SNR=36					
FITZ	Fitzroy Crossi	18.28 179	P	Pn	01 15 10.6	+0.2
JCJI	Jatiwangi	18.40 248	P	Pn	01 15 13.0	+1.1
	comp=Z,769nm,1.1s					
CMJI	Cimerak	18.74 244	P	P	01 15 15.0	+0.1
	comp=Z,4μmcomp=Z,486nm,1.1s					
LEM	Lembang	19.13 248	P	P	01 15 17.6	-1.7
	comp=Z,364nm,0.9s,baz=58,slow=9.0,SNR=29					
LEM			LR	LR	01 23 47.0	
	comp=Z,1μm,20.4s,baz=106,slow=40					
LEM	Lembang	19.13 248	P	P	01 15 20.0	+0.6
	comp=Z,3μmcomp=Z,331nm,0.9s					
BBJI	Bungbulang	19.33 246	P	P	01 15 21.6	+0.1
PPBI	Pangkal Pinang	19.44 263	P	Pn	01 15 24.0	-0.4
CNJI	Cibinong	19.75 247	P	P	01 15 25.8	-0.2
	comp=Z,168nm,1.1s					
SKJI	Sukabumi	20.18 249	P	P	01 15 30.6	0.0
DLV	Lat	20.41 305	P	P	01 15 33.8	+0.4
DLV	Lat	20.41 305	P	P	01 15 34.7	+1.3
CGJI	Cibinong	20.86 250	P	P	01 15 37.7	-0.3
	comp=Z,3μmcomp=Z,161nm,0.8s					
PMBI	Palembang	20.90 261	P	Pn	01 15 41.1	-0.4
MYKOM	Kota Tinggi	21.63 274	P	P	01 15 46.0	-0.3
MYKOM	Kota Tinggi	21.63 274	P	P	01 15 47.9	+1.7
MDSI	Maura Dua	21.75 257	P	P	01 15 45.8	-1.8
	comp=Z,97nm,1.1s					
WRAB	Tennant Creek	21.92 157	*d* iP	P	01 15 48.8	-0.6
WRAB			pmax	pmax		
	comp=Z,274nm,0.9s					
WRA	Warramunga Arr	21.93 157	P	P	01 15 49.2	-0.2
	comp=Z,195nm,0.8s,baz=337,slow=11,SNR=218					
WRA			PcP	PcP	01 19 46.8	+0.1
	comp=Z,2.3nm,0.5s,baz=334,slow=1.6,SNR=2.6					
	comp=Z,195nm,0.8s					
WRA	Warramunga Arr	21.93 157	*i* P	P	01 15 48.0	-1.4
WRA			pmax	pmax		
	comp=Z,195nm,0.8s					
LWLI	Liwa	21.99 256	P	P	01 15 49.4	-0.8
	comp=Z,3μmcomp=Z,260nm,0.8s					
XMI	Christmas Isla	22.35 241	P	P	01 15 53.8	-0.2
PSAC1	Pilbara Seismi	22.38 194	P	P	01 15 54.4	+0.1
	comp=Z,68nm,0.9s					
XMIS	Christmas Isla	22.39 241	P	P	01 15 53.7	-0.8
PSA00	Pilbara Seismi	22.41 194	P	P	01 15 54.0	-0.6
	comp=Z,69nm,0.9s					
PSA00	Pilbara Seismi	22.41 194	P	P	01 15 56.0	+1.4
COEN	Coen	22.57 130	P	P	01 15 56.8	+0.4
COEN			IAmb	IAmb	01 16 04.0	
	comp=Z,318nm,1.1s					
COEN	Coen	22.57 130	P	P	01 15 55.8	-0.6
	comp=Z,278nm,1.1s					
COEN	Coen	22.57 130	P	P	01 15 57.1	+0.7
TWGBT	Beinan	22.78 350	P	P	01 15 59.2	+0.7
MNAI	Manna	22.93 258	P	P	01 16 00.1	0.0
MNAI	Manna	22.93 258	P	P	01 15 59.9	-0.2
	comp=Z,181nm,0.7s					
KSI	Kapahiang	23.16 260	P	P	01 16 01.5	-1.0
	comp=Z,121nm,0.5s					
YULB	Yu-li	23.31 350	P	P	01 16 01.3	-2.4
SSLB	Suanglung	23.75 350	P	P	01 16 06.1	-1.7
QIZ	Qiongzhong	24.09 321	P	P	01 16 10.3	-0.6
QIZ			S	S	01 20 27.3	+2.9
QIZ			pmax	pmax		
	comp=Z,340nm,5.4s					
QIZ			LR	LR		
	comp=Z,540nm,17.3s					
QIZ			LR	LR		
	comp=Z,620nm,16.1s					
QIZ			LR	LR		
	comp=Z,1μm,22.3s					
UBPT	Khong Chiam	24.71 308	P	P	01 16 17.9	+1.4
IPM	Ipoh	24.73 280	P	P	01 16 17.2	+0.4
QIS	Mount Isa	24.94 147	P	P	01 16 19.1	+0.4
	comp=Z,343nm,0.9s					
QIS	Mount Isa	24.94 147	P	P	01 16 19.7	+1.0
PPI	Padang Panjang	25.04 268	P	P	01 16 18.8	-0.9
	comp=Z,2μmcomp=Z,188nm,1.0s					
AS31	Alice Springs	25.20 161	P	P	01 16 22.0	+0.9
AS31	Alice Springs	25.20 161	P	P	01 16 21.6	+0.6
	comp=Z,49nm,1.1s					
ASAR	Alice Springs	25.20 161	P	P	01 16 22.1	+1.1
	comp=Z,137nm,0.9s,baz=338,slow=6.8,SNR=371					
ASAR			PcP	PcP	01 19 54.9	+1.3
	comp=Z,6.0nm,0.5s,baz=352,slow=2.2,SNR=12					
	comp=Z,137nm,0.9s					
AS01	Alice Springs	25.22 161	P	P	01 16 22.2	+1.0
KULM	Kulim	25.23 282	P	P	01 16 22.2	+0.8
GIRL	Giralia	25.27 205	P	P	01 16 23.3	+1.6
GIRL			IAmb	IAmb	01 16 43.6	
	comp=Z,156nm,0.9s					
WRKA	Warakurna	25.34 174	P	P	01 16 22.8	+0.5
	comp=Z,125nm,0.9s					
WRKA	Warakurna	25.34 174	P	P	01 16 23.3	+1.0
PPSI	Pulau Pagai	25.59 263	P	P	01 16 26.8	+2.1
	comp=Z,2μmcomp=Z,167nm,0.9s					
MNSI	Mandailing Nat	25.85 271	P	P	01 16 27.2	+0.2
MTSU	Mount Surprise	26.09 136	P	P	01 16 29.6	+0.5
	comp=Z,28nm,0.8s					
MTSU	Mount Surprise	26.09 136	P	P	01 16 30.5	+1.4
SISI	Saibi	26.39 266	P	P	01 16 29.0	-2.9
	comp=Z,1μmcomp=Z,104nm,1.0s					
JOW	Kunigami	26.52 6	P	P	01 16 34.2	+1.3
	comp=Z,157nm,0.9s,baz=195,slow=8.3,SNR=27					
JOW			LR	LR	01 29 04.9	
	comp=Z,322nm,18.2s,baz=318,slow=41					
	comp=Z,157nm,0.9s					
JOW	Kunigami	26.52 6	P	P	01 16 34.0	+1.1
RPSI	Rantau Prapat	26.60 275	P	P	01 16 32.8	-1.0
PSI	Prapat	26.61 276	LR	LR	01 28 13.0	
	comp=Z,794nm,20.4s,baz=100,slow=39					
PSI	Prapat	26.61 276	P	P	01 16 35.0	+1.0
PSI	Prapat	26.61 276	P	P	01 16 32.8	-1.2
PSI			pmax	pmax		
	comp=Z,62nm,1.0s					
MEEK	Meekatharra	27.57 193	P	P	01 16 42.4	0.0
	comp=Z,41nm,1.1s					
MEEK	Meekatharra	27.57 193	P	P	01 16 42.8	+0.4
NAYO	Nakonayok	27.62 301	P	P	01 16 43.5	+0.6
GSI	Gunungsitoli	27.87 272	P	P	01 16 43.6	-1.6
GULI	GuiLin	28.80 331	P	P	01 16 53.6	+0.3
GULI			pmax	pmax		
	comp=Z,20nm,1.5s					
GULI			LR	LR		
	comp=Z,500nm,18.4s					
GULI			LR	LR		
	comp=Z,400nm,19.5s					
GULI			LR	LR		
	comp=Z,930nm,22.8s					
MLSI	Meulaboh, Aceh	29.26 278	P	P	01 16 55.2	-2.4
	comp=Z,94nm,0.7s					
SRDT	SRDT	29.53 299	P	P	01 17 00.8	+0.9
OOD	Oodnadatta	29.62 161	P	P	01 17 01.4	+0.9
SLVN	Son La	29.64 316	P	P	01 17 01.9	+1.0
BSI	Banda Aceh	30.52 280	P	P	01 17 07.0	-1.7
	comp=Z,74nm,1.0s					
PHRA	Phrae	30.65 308	P	P	01 17 10.5	+0.7
SSE	Sheshan	30.89 353	P	P	01 17 12.9	+1.2
SSE			S	S	01 22 10.2	-1.2
SSE			pmax	pmax		
	comp=Z,6.0nm,0.8s					
SSE			pmax	pmax		
	comp=Z,81nm,3.7s					
SSE			LR	LR		
	comp=Z,270nm,22.5s					
SSE			LR	LR		
	comp=Z,160nm,19.2s					
COCO	West Island	30.97 245	P	P	01 17 11.9	-0.8
COCO	West Island	30.97 245	P	P	01 17 14.4	+1.8
COCO	West Island	30.97 245	P	P	01 17 11.5	-1.1
FORT	Forrest	31.01 176	P	P	01 17 13.0	+0.3
	comp=Z,69nm,0.7s					
FORT	Forrest	31.01 176	P	P	01 17 14.4	+1.7
INKA	Innaminka	31.52 153	P	P	01 17 19.2	+1.9
CMAR	Chiang Mai Arr	31.66 306	P	P	01 17 18.1	-0.6
	comp=Z,22nm,1.1s,baz=132,slow=7.4,SNR=90					
CMAR			PcP	PcP	01 20 10.6	+1.0
	comp=Z,3.2nm,0.4s,baz=137,slow=2.3,SNR=11					
CMAR			LR	LR	01 33 13.3	
	comp=Z,164nm,18.2s,baz=115,slow=42					
	comp=Z,22nm,1.1s					
CMAR	Chiang Mai Arr	31.66 306	*ce*P	P	01 17 18.8	+0.1
CMAR			pmax	pmax		
	comp=Z,25nm,1.1s					
KMBL	Kambalda	31.67 186	P	P	01 17 19.1	+0.5
	comp=Z,53nm,1.0s					
KMBL	Kambalda	31.67 186	P	P	01 17 20.7	+2.1
GYA	Guiyang	31.67 327	⇓P	P	01 17 19.2	+0.4
GYA			S	S	01 22 26.9	+2.9
GYA			pmax	pmax		
	comp=Z,29nm,1.0s					
GYA			pmax	pmax		
	comp=Z,170nm,3.1s					
GYA			LR	LR		
	comp=Z,490nm,17.3s					
GYA			LR	LR		
	comp=Z,360nm,13.9s					
GYA			LR	LR		
	comp=Z,440nm,18.3s					
BLDU	Ballidu	31.84 194	P	P	01 17 17.4	-2.7
	comp=Z,30nm,1.0s					
CHTO	Chiang Mai	31.85 307	P	P	01 17 20.1	-0.2
CHTO			pmax	pmax		
	comp=Z,68nm,1.1s					
WHN	Wuhan	31.87 342	P	P	01 17 20.1	-0.2
NJ2	Nanjing	32.19 349	*e*P	P	01 17 24.6	+1.5
NJ2			pmax	pmax		
	comp=Z,9.0nm,1.3s					
QLP	Quilpie	32.29 147	P	P	01 17 24.0	-0.1
	comp=Z,63nm,0.9s					
QLP	Quilpie	32.29 147	P	P	01 17 25.4	+1.3
KLBR	Kellerberrin	32.54 192	P	P	01 17 26.4	+0.2
	comp=Z,74nm,0.8s					
KLBR	Kellerberrin	32.54 192	P	P	01 17 27.1	+0.9
LCRK	Leigh Creek	32.91 159	P	P	01 17 30.5	+1.1
KMI	Kunming	33.02 320	⇑P	P	01 17 31.2	+0.5
KMI			pP	pP	01 17 44.4	-1.0
KMI			PcP	PcP	01 20 15.1	+1.6
KMI			S	S	01 22 46.3	+1.1
KMI			sS	sS	01 23 07.6	-2.7
KMI			pmax	pmax		
	comp=Z,21nm,1.6s					
KMI			LR	LR		
	comp=Z,430nm,22.8s					
KMI			LR	LR		
	comp=Z,330nm,21.4s					
KMI			LR	LR		
	comp=Z,660nm,20.6s					
JNU	Nakatsue	33.05 8	P	P	01 17 30.0	-0.7
	comp=Z,7.5nm,0.5s,baz=153,slow=2.3,SNR=5.0					
	comp=Z,7.5nm,0.5s					
NWAO	Narrogin (SRO)	33.94 192	LR	LR	01 35 25.2	
	comp=Z,264nm,18.2s,baz=314,slow=43					
NWAO	Narrogin (SRO)	33.94 192	P	P	01 17 39.5	+1.1
NWAO	Narrogin (SRO)	33.94 192	P	P	01 17 39.1	+0.8
JMN	Monobe	34.19 13	P	P	01 17 41.8	+1.2
BBOO	Buckleboo	34.42 164	P	P	01 17 43.3	+0.8
	comp=Z,74nm,1.0s					
BBOO	Buckleboo	34.42 164	P	P	01 17 43.5	+0.9
PZH	PanZhiHua	34.62 321	P	P	01 17 44.3	-0.3
PZH			S	S	01 23 12.0	+2.1
PZH			pmax	pmax		
	comp=Z,40nm,1.1s					
PZH			pmax	pmax		
	comp=Z,100nm,5.3s					
PZH			LR	LR		
	comp=Z,400nm,22.2s					
PZH			LR	LR		
	comp=Z,110nm,21.6s					
PZH			LR	LR		
	comp=Z,220nm,20.2s					
WHYH	Whyalla	35.07 162	P	P	01 17 49.0	+0.8
STKA	Stephens Creek	35.47 156	P	P	01 17 52.8	+1.2
STKA	Stephens Creek	35.47 156	P	P	01 17 52.5	+0.9
	comp=Z,16nm,1.3s					
STKA	Stephens Creek	35.47 156	P	P	01 17 52.5	+0.9
	comp=Z,68nm,0.9s,baz=327,slow=8.9,SNR=69					
	comp=Z,68nm,0.9s					
STKA	Stephens Creek	35.47 156	P	P	01 17 52.9	+1.3
STKA	Stephens Creek	35.47 156	P	P	01 17 52.8	+1.2
STKA			pmax	pmax		
	comp=Z,15nm,1.0s					
EIDS	Eidsvold	35.58 138	P	P	01 17 52.4	-0.3
EIDS	Eidsvold	35.58 138	P	P	01 17 51.7	-1.0
	comp=Z,23nm,0.8s					
EIDS	Eidsvold	35.58 138	P	P	01 17 52.9	+0.2
RKGY	Rocky Gully	35.62 192	P	P	01 17 54.7	+1.8
	comp=Z,94nm,0.8s					
RKGY	Rocky Gully	35.62 192	P	P	01 17 55.1	+2.3
HNR	Honiara	35.70 107	P	P	01 17 53.6	-0.2
TNCH	TengChong	35.80 315	P	P	01 17 54.5	-0.2
TNCH			pP	pP	01 18 05.5	-4.0
TNCH			PP	PnPn	01 19 16.3	-0.2
TNCH			PcP	PcP	01 20 22.3	+0.9
TNCH			S	S	01 23 28.3	+0.3
TNCH			pmax	pmax		
	comp=Z,34nm,0.8s					
TNCH			pmax	pmax		
	comp=Z,170nm,3.8s					
TNCH			LR	LR		
	comp=Z,220nm,17.3s					
TNCH			LR	LR		
	comp=Z,260nm,14.4s					
TNCH			LR	LR		
	comp=Z,1μm,32.6s					
HTT	Hallett	35.87 161	P	P	01 17 56.0	+0.9
	comp=Z,44nm,1.6s					
HTT	Hallett	35.87 161	P	P	01 17 56.4	+1.3
TJN	Taejon	35.94 3	⇑*e*P	P	01 17 56.0	+0.4
LYN	LuoYang	36.17 342	P	P	01 17 56.1	-1.5
LYN			pmax	pmax		
	comp=Z,22nm,1.0s					
INU	Inuyama	36.51 16	P	P	01 18 01.0	+0.6
INU			IAmb	IAmb	01 18 02.1	
	comp=Z,44nm,0.9s					
INU	Inuyama	36.51 16	P	P	01 18 01.4	+1.0
INU	Inuyama	36.51 16	P	P	01 18 01.0	+0.6
TIA	Tai'an	36.56 349	P	P	01 17 59.9	-0.9
TIA			pmax	pmax		
	comp=Z,7.0nm,1.1s					
AULRC	Lightning Ridg	36.57 146	P	P	01 18 01.4	+0.4
CD2	Chengdu	36.74 328	P	P	01 18 01.6	-0.9
CD2			pmax	pmax		
	comp=Z,40nm,1.0s					
CD2			pmax	pmax		
	comp=Z,330nm,2.7s					
CD2			LR	LR		
	comp=Z,440nm,18.4s					
CD2			LR	LR		
	comp=Z,290nm,12.1s					
CD2			LR	LR		
	comp=Z,390nm,13.3s					
JGF	Kuroka	36.84 16	P	P	01 18 03.7	+0.4
JGF	Kuroka	36.84 16	P	P	01 18 05.0	+1.7
XAN	Xi'an	36.96 337	⇑P	P	01 18 02.8	-1.6
XAN			pP	pP	01 18 18.2	-1.1
XAN			sP	sP	01 18 26.0	-0.3
XAN			PcP	PcP	01 20 25.1	+0.5
XAN			S	S	01 23 43.7	-1.6
XAN			sS	sS	01 24 09.1	-1.5
XAN			pmax	pmax		
	comp=Z,32nm,0.8s					
XAN			pmax	pmax		
	comp=Z,260nm,4.5s					
XAN			LR	LR		
	comp=Z,630nm,18.7s					
XAN			LR	LR		
	comp=Z,630nm,17.4s					
XAN			LR	LR		
	comp=Z,940nm,17.9s					
CMSA	Cobar Meteorol	37.03 151	P	P	01 18 05.9	+1.0
	comp=Z,63nm,1.1s					
CMSA	Cobar Meteorol	37.03 151	P	P	01 18 06.6	+1.7
KSAR	Wonju Array Be	37.03 3	P	P	01 18 06.2	+1.4
KSRS	Korea Array	37.05 3	P	P	01 18 05.7	+0.8
	comp=Z,13nm,0.9s,baz=183,slow=10,SNR=29					
KSRS			PcP	PcP	01 20 25.2	+0.6
	comp=Z,3.7nm,0.7s,baz=169,slow=2.9,SNR=4.7					
KSRS			LR	LR	01 35 06.3	
	comp=Z,309nm,19.3s,baz=190,slow=39					
	comp=Z,13nm,0.9s					
TW1H	Toowoomba 1 Ha	37.63 139	P	P	01 18 11.6	+1.4
MAJO	Matsushiro	37.96 17	P	P	01 18 12.7	-0.1
MAJO	Matsushiro	37.96 17	⇑*e*P	P	01 18 12.3	-0.5
MAJO			pmax	pmax		
	comp=Z,98nm,1.7s					
MAJO	Matsushiro	37.96 17	P	P	01 18 12.4	-0.3
MAJO			pP	pP	01 18 26.3	-1.5
MAJO			sP	sP	01 18 33.2	-1.6
MJAR	Matsushiro Arr	37.96 17	P	P	01 18 12.3	-0.4
	comp=Z,24nm,0.9s,baz=188,slow=8.8,SNR=41					
MJAR			ScP	ScP	01 24 10.1	+0.1
	comp=Z,1.5nm,0.2s,baz=182,slow=5.6,SNR=4.2					
	comp=Z,24nm,0.9s					
MJB9	Matsu-Tunnel	37.96 17	P	P	01 18 12.7	-0.1
MJB9			IAmb	IAmb	01 18 14.4	
	comp=Z,144nm,1.6s					
HNS	HongShan	38.23 346	⇑P	P	01 18 13.8	-1.1
HNS			S	S	01 24 08.3	+4.1
HNS			pmax	pmax		
	comp=Z,19nm,1.2s					
HNS			LR	LR		
	comp=Z,300nm,19.1s					
HNS			LR	LR		
	comp=Z,420nm,22.3s					
HNS			LR	LR		
	comp=Z,440nm,20.7s					
AUDCS	Dubbo College	39.08 148	P	P	01 18 23.8	+1.6
TIY	Taiyuan	39.12 344	*e*P	P	01 18 21.6	-0.9
TIY			pP	pP	01 18 36.

BJT	Baijiatuau	40.43 349	P	P	01 18 32.7	-0.5
BJT	Baijiatuau	40.43 349	P	P	01 18 32.4	-0.8
BJT			pmax	pmax		
comp=Z,18nm,1.1s						
BJT	Baijiatuau	40.43 349	P	P	01 18 32.2	-1.1
BJT			pP	pP	01 18 46.2	-2.1
BJT			sP	sP	01 18 53.2	-2.1
BJI	Beijing	40.45 349	P	P	01 18 32.3	-1.1
BJI			PcP	PcP	01 20 36.5	+1.2
BJI			ScP	ScP	01 24 19.7	+0.3
BJI			S	S	01 24 39.1	+1.6
BJI			pmax	pmax		
comp=Z,8.0nm,1.2s						
BJI			pmax	pmax		
comp=Z,69nm,3.5s						
BJI			LR	LR		
comp=Z,210nm,27.5s						
BJI			LR	LR		
comp=Z,150nm,27.3s						
BJI			LR	LR		
comp=Z,410nm,26.4s						
YNG	Young	40.59 150	P	P	01 18 36.2	+1.5
comp=Z,372nm,1.0s						
YNG	Young	40.59 150	P	P	01 18 36.5	+1.7
LZH	Lanzhou	40.87 333	eP	P	01 18 37.3	+0.1
LZH			pP	pP	01 18 52.8	+0.6
LZH			PcP	PcP	01 20 38.2	+1.2
LZH			ScP	ScP	01 24 23.0	+1.5
LZH			S	S	01 24 44.0	-0.3
LZH			pmax	pmax		
comp=Z,64nm,1.3s						
LZH			pmax	pmax		
comp=Z,310nm,5.8s						
LZH			LR	LR		
comp=Z,560nm,13.1s						
LZH			LR	LR		
comp=Z,670nm,13.4s						
LZH			LR	LR		
comp=Z,800nm,14.1s						
SHL	Shillong	40.98 310	P	P	01 18 37.0	-1.2
SNR=24						
SHL	Shillong	40.98 310	P	P	01 18 37.2	-1.0
SHL			pmax	pmax		
comp=Z,73nm,1.0s						
SNY	Shenyang	41.38 358	⇑P	P	01 18 41.3	+0.3
SNY			pmax	pmax		
comp=Z,54nm,0.9s						
CAN	Canberra	41.71 151	P	P	01 18 45.4	+1.5
comp=Z,106nm,1.1s						
CAN	Canberra	41.71 151	P	P	01 18 45.0	+1.1
CAN	Canberra	41.71 151	P	P	01 18 46.3	+2.4
CAN			pmax	pmax		
comp=Z,118nm,1.1s						
CAN	Canberra	41.71 151	P	P	01 18 46.0	+2.0
CNB	Canberra Magne	41.88 150	P	P	01 18 46.5	+1.2
comp=Z,163nm,1.0s						
CNB	Canberra Magne	41.88 150	P	P	01 18 46.6	+1.2
TOO	Toolangi	41.99 156	P	P	01 18 46.9	+0.7
comp=Z,16nm,1.6s						
TOO	Toolangi	41.99 156	P	P	01 18 48.7	+2.5
TOO			pmax	pmax		
comp=Z,38nm,1.0s						
HHC	Hu-ho-hao-te	42.28 344	eP	P	01 18 52.1	+3.5
HHC			pmax	pmax		
comp=Z,4.0nm,1.3s						
HHC			pmax	pmax		
comp=Z,160nm,5.1s						
HHC			LR	LR		
comp=Z,330nm,22.7s						
HHC			LR	LR		
comp=Z,270nm,22.7s						
HHC			LR	LR		
comp=Z,680nm,21.0s						
MSHR	Mys Shultsa	42.41 6⇑	eP	P	01 18 49.8	+0.4
MSHR			pmax	pmax		
comp=Z,54nm,1.2s						
PSTR	Posyet	42.44 6⇑	eP	P	01 18 49.8	+0.1
BTO	Baotou	42.50 343	eP	P	01 18 53.0	+2.7
BTO			pP	pwP	01 19 09.8	+1.4
BTO			pmax	pmax		
comp=Z,11nm,0.6s						
BTO			pmax	pmax		
comp=Z,230nm,5.4s						
VLA	Vladivostok	43.02 7⇑	eP	P	01 18 54.9	+0.5
VLA			pmax	pmax		
comp=Z,29nm,0.7s						
LSA	Lhasa	43.83 315	P	P	01 19 01.7	0.0
LSA			pmax	pmax		
comp=Z,31nm,0.7s						
LSA	Lhasa	43.83 315	P	P	01 19 02.1	+0.4
LSA			pmax	pmax		
comp=Z,22nm,0.6s						
LSA	Lhasa	43.83 315	P	P	01 19 01.8	+0.1
LSA	Lhasa	43.83 315	P	P	01 19 02.1	+0.4
USA0B	Ussuriysk Arra	44.10 7	c iP	P	01 19 03.4	+0.3
USRK	Ussuriysk Ar.	44.10 7	P	P	01 19 03.7	+0.7
comp=Z,12nm,0.7s,baz=186,slow=6.7,SNR=27						
comp=Z,12nm,0.7s						
SANVU	Saraoutou	44.13 113	P	P	01 19 05.2	+1.5
XLT	XiLinHaoTe	44.21 350	eP	P	01 19 03.4	-0.6
XLT			pP	pP	01 19 18.1	-1.2
XLT			ScP	ScP	01 24 26.0	-8.6
XLT			pmax	pmax		
comp=Z,18nm,1.0s						
XLT			pmax	pmax		
comp=Z,160nm,3.9s						
XLT			LR	LR		
comp=Z,360nm,15.3s						
XLT			LR	LR		
comp=Z,340nm,22.5s						
MDJ	Mudanjiang	44.28 4	P	P	01 19 05.1	+0.5
MDJ	Mudanjiang	44.28 4	P	P	01 19 05.4	+0.9
MDJ			sP	pwP	01 19 21.2	-1.1
MDJ			sS	sS	01 26 06.0	+6.3
MDJ			pmax	pmax		
comp=Z,36nm,1.0s						
MDJ			pmax	pmax		
comp=Z,510nm,3.5s						
MDJ			LR	LR		
comp=Z,890nm,24.2s						
MDJ	Mudanjiang	44.28 4	P	P	01 19 05.3	+0.8
PALK	Pallekele	45.13 280	LR	LR	01 39 10.3	
comp=Z,446nm,20.6s,baz=108,slow=38						
PALK	Pallekele	45.13 280	P	P	01 19 11.3	-0.5
PALK	Pallekele	45.13 280	deP	P	01 19 11.0	-0.8
PALK			pmax	pmax		
comp=Z,28nm,1.1s						
BNX	BinXian	45.29 2	⇓P	P	01 19 12.4	-0.1
BNX			pmax	pmax		
comp=Z,29nm,1.0s						
GTA	Gaotai	45.43 332	P	P	01 19 13.9	0.0
GTA			PcP	PcP	01 20 53.6	+1.4
GTA			ScP	ScP	01 24 41.1	+1.3
GTA			PcS	PcS	01 24 46.1	-0.2
GTA			ScS	ScS	01 29 03.3	-1.6
GTA			pmax	pmax		
comp=Z,22nm,1.0s						
GTA			pmax	pmax		
comp=Z,150nm,8.0s						
GTA			LR	LR		
comp=Z,350nm,16.7s						
GTA			LR	LR		
comp=Z,290nm,18.3s						
GTA			LR	LR		
comp=Z,540nm,18.3s						
GOMU	GeErMu	45.64 325	P	P	01 19 16.4	+0.5
GOMU			PP	PP	01 21 09.0	+5.1
GOMU			S	S	01 25 55.1	+0.5
GOMU			sS	sS	01 26 18.1	-2.3
GOMU			pmax	pmax		
comp=Z,48nm,1.1s						
GOMU			LR	LR		
comp=Z,750nm,21.0s						
GOMU			LR	LR		
comp=Z,390nm,20.4s						
GOMU			LR	LR		
comp=Z,800nm,18.6s						
DZM	Mont Dzumac	45.74 122	eLR	LR	01 32 10.1	
comp=Z,1000nm,33.0s						
CORO	Coronation Par	45.98 157	P	P	01 19 20.4	+2.4
ASAJ	Asahikawa	46.23 17	P	P	01 19 20.6	+0.6
comp=Z,26nm,0.5s,baz=227,slow=12,SNR=21						
comp=Z,26nm,0.5s						
MOO	Moorlands	46.84 158	P	P	01 19 24.6	-0.2
comp=Z,58nm,2.0s						
YSS	Yuzhno-Sakhali	48.88 16	eP	P	01 19 40.9	+0.5
YSS			pmax	pmax		
comp=Z,40nm,1.2s						
HIA	Hailar	49.03 355	P	P	01 19 42.3	+0.7
HIA			IAmb	IAmb	01 19 43.2	
comp=Z,65nm,1.3s						
HIA	Hailar	49.03 355	P	P	01 19 42.1	+0.5
HIA	Hailar	49.03 355	P	P	01 19 42.3	+0.7
HIA			pmax	pmax		
comp=Z,65nm,1.3s						
HIA	Hailar	49.03 355	P	P	01 19 41.7	+0.1
KLR	Kul'dur	49.05 5	P	P	01 19 41.6	-0.1
comp=Z,12nm,0.8s,baz=206,slow=5.1,SNR=26						
comp=Z,12nm,0.8s						
KLR	Kul'dur	49.05 5	eP	P	01 19 39.2	-2.5
KLR			pmax	pmax		
comp=Z,25nm,1.3s						
HYB	Hyderabad	49.14 293	eP	P	01 19 42.7	-0.4
HYB			IVmB_BB		01 19 43.0	
comp=Z,689nm,1.1s						
HEH	HeiHe	49.80 2	eP	P	01 19 47.4	0.0
HEH			pmax	pmax		
comp=Z,51nm,1.2s						
ULN	Ulaanbaatar	50.00 344	P	P	01 19 48.8	-0.4
ULN	Ulaanbaatar	50.00 344	c iP	P	01 19 48.4	-0.8
ULN			pmax	pmax		
comp=Z,13nm,1.0s						
ULN	Ulaanbaatar	50.00 344	P	P	01 19 48.6	-0.6
ULN			pP	pP	01 20 02.0	-2.7
ULN			sP	pwP	01 20 08.6	+1.4
SONM	Songino Array	50.16 343	P	P	01 19 49.6	-0.7
comp=Z,9.2nm,0.9s,baz=162,slow=8.8,SNR=34						
SONM			PcP	PcP	01 21 08.4	-0.5
comp=Z,2.1nm,0.7s,baz=161,slow=5.5,SNR=1.1						
SONM			LR	LR	01 42 25.3	
comp=Z,404nm,21.2s,baz=114,slow=38						
comp=Z,9.2nm,0.9s						
UGL	Uglegorsk	50.66 14	eP	P	01 19 53.3	-0.6
GRNR	Gornyy	51.15 9⇑	iP	P	01 19 58.6	+1.0
GRNR			pmax	pmax		
comp=N,8.0nm,1.0s						
GRNR			pmax	pmax		
comp=Z,10.0nm,1.0s						
TYV	Tymovskoe	52.46 14	eP	P	01 20 08.6	+1.3
TYV			pmax	pmax		
comp=Z,18nm,0.9s						
TYV			pmax	pmax		
comp=Z,800nm,4.8s						
CIT	Chita	52.50 351	eP	P	01 20 07.6	-0.1
CIT			e		01 20 18.4	
CIT			e		01 20 28.8	
CIT			e		01 21 18.0	
CIT			pmax	pmax		
comp=Z,107nm,1.5s						
ZEA	Zeya	53.28 1	eP	P	01 20 13.3	0.0
ZEA			pmax	pmax		
comp=Z,20nm,1.0s						
ZAK	Zakamensk	53.35 342	eP	P	01 20 12.5	-1.6
ZAK			pmax	pmax		
comp=Z,7.0nm,1.5s						
MSVF	Nonsavu	54.76 112	P	P	01 20 25.6	+0.7
MSVF			IAmb	IAmb	01 20 48.1	
comp=Z,107nm,1.6s						
MSVF	Nonsavu	54.76 112	P	P	01 20 26.1	+1.2
comp=Z,22nm,1.1s,baz=240,slow=6.2,SNR=4.8						
MSVF			LR	LR	01 46 36.6	
comp=Z,88nm,18.0s,baz=284,slow=39						
comp=Z,22nm,1.1s						
MSVF	Nonsavu	54.76 112	P	P	01 20 25.6	+0.7
MSVF			pmax	pmax		
comp=Z,107nm,1.6s						
MSVF	Nonsavu	54.76 112	P	P	01 20 26.6	+1.8
WMQ	Urumqi	54.83 327	eP	P	01 20 24.4	-0.5
WMQ			pmax	pmax		
comp=Z,95nm,1.3s						
WMQ			pmax	pmax		
comp=Z,310nm,3.9s						
WMQ			LR	LR		
comp=Z,430nm,18.1s						
WMQ			LR	LR		
comp=Z,620nm,24.3s						
WMQ			LR	LR		
comp=Z,580nm,24.1s						
WMQ	Urumqi	54.83 327	P	P	01 20 24.8	-0.1
MOY	Mondy	55.18 342	eP	P	01 20 27.0	-0.3
MOY			pmax	pmax		
comp=Z,54nm,1.8s						
WUS	Wushi	58.29 320	P	P	01 20 49.1	-0.5
ZSN	Zaisan	58.71 329	eP	P	01 20 51.2	-1.1
ZSN			pmax	pmax		
comp=Z,22nm,0.9s						
ZSN	Zaisan	58.71 329	eP	P	01 20 51.2	-1.1
comp=Z,22nm,0.9s						
NIL	Nilore	59.05 310	P	P	01 20 55.2	+0.3
NIL	Nilore	59.05 310	P	P	01 20 55.6	+0.7
NIL			pmax	pmax		
comp=Z,49nm,0.6s						
NIL	Nilore	59.05 310	P	P	01 20 54.7	-0.2
PEA0B	Petropavlovsk-	59.08 22⇑	eP	P	01 20 56.4	+1.7
PETK	Petropavlovsk-	59.08 22	P	P	01 20 56.4	+1.6
comp=Z,20nm,0.8s,baz=170,slow=3.7,SNR=24						
comp=Z,20nm,0.8s						
SHLS	Shalkode	59.19 322	eP	P	01 20 52.9	-2.9
SHLS			pmax	pmax		
comp=Z,20nm,1.2s						
SHLS	Shalkode	59.19 322	eP	P	01 20 53.0	-2.9
comp=Z,20nm,1.2s						
PET	Petropavlovsk	59.38 23	P	P	01 20 57.2	+0.5
PET	Petropavlovsk	59.38 23⇑	eP	P	01 20 57.8	+1.1
PET			pmax	pmax		
comp=Z,80nm,2.5s						
UZB	Uzynbulak	59.46 322	eP	P	01 20 56.4	-1.3
UZB			pmax	pmax		
comp=Z,15nm,0.8s						
UZB	Uzynbulak	59.46 322	eP	P	01 20 56.4	-1.3
comp=Z,15nm,0.8s						
PRZ	Przheval'sk	59.49 321	P	P	01 20 57.9	-0.1
PRZ			pmax	pmax		
comp=Z,92nm,1.5s						
KSH	Kashi	59.60 317	P	P	01 21 00.0	+1.3
KSH			pmax	pmax		
comp=Z,36nm,1.1s						
KSH			LR	LR		
comp=Z,270nm,17.2s						
KSH			LR	LR		
comp=Z,150nm,14.8s						
KSH			LR	LR		
comp=Z,240nm,19.9s						
MK31	Makanchi Array	59.66 327	c iP	P	01 20 57.8	-1.1
MKAR	Makanchi Array	59.66 327	P	P	01 20 58.2	-0.7
comp=Z,11nm,0.3s,baz=122,slow=8.1,SNR=127						
MKAR			PcP	PcP	01 21 45.3	-0.1
comp=Z,10nm,0.7s,baz=129,slow=5.0,SNR=4.4						
MKAR			ScP	ScP	01 25 40.4	-0.7
comp=Z,0.5nm,0.5s,baz=119,slow=4.1,SNR=2.1						
MKAR			LR	LR	01 47 24.9	
comp=Z,495nm,20.7s,baz=149,slow=37						
comp=Z,11nm,0.3s						
MKAR	Makanchi Array	59.66 327	ceP	P	01 20 57.9	-1.0
MKAR			pmax	pmax		
comp=Z,11nm,0.3s						
SATY	Saty	59.79 322	eP	P	01 20 59.0	-1.0
SATY			pmax	pmax		
comp=Z,14nm,0.7s						
SATY	Saty	59.79 322	eP	P	01 20 59.1	-1.0
comp=Z,14nm,0.7s						
KPKS	Kokpek	59.84 322	eP	P	01 20 59.1	-1.2
KPKS			pmax	pmax		
comp=Z,27nm,1.1s						
KPKS	Kokpek	59.84 322	eP	P	01 20 59.1	-1.2
comp=Z,27nm,1.1s						
MAKZ	Makanchi	59.84 327	P	P	01 20 59.0	-1.2
MAKZ	Makanchi	59.84 327	P	P	01 20 59.0	-1.2
MAKZ			pmax	pmax		
comp=Z,76nm,1.3s						
MAKZ	Makanchi	59.84 327	P	P	01 20 58.9	-1.2
KDJ	Kajisay	60.08 320	P	P	01 21 00.2	-1.9
KDJ			pmax	pmax		
comp=Z,58nm,1.2s						
TNSS	Tian-Shan	60.69 321	eP	P	01 21 05.1	-1.4
TNSS	Tian-Shan	60.69 321	eP	P	01 21 05.2	-1.3
MDOK	Medeo	60.69 321	eP	P	01 21 05.0	-1.2
MDOK	Medeo	60.69 321	eP	P	01 21 05.0	-1.2
AAA	Alma-Ata	60.80 321	eP	P	01 21 05.7	-1.1
AAA			pmax	pmax		
comp=Z,34nm,1.3s						
AAA	Alma-Ata	60.80 321	eP	P	01 21 05.7	-1.1
comp=Z,34nm,1.3s						
TDK	Taldyqorghan	60.84 324	eP	P	01 21 06.0	-1.0
TDK			pmax	pmax		
comp=Z,20nm,0.8s						
TDK	Taldyqorghan	60.84 324	eP	P	01 21 06.0	-1.0
comp=Z,20nm,0.8s						
RAO	Raoul Island	61.45 124	LR	LR	01 47 52.1	
comp=Z,87nm,20.8s,baz=66,slow=36						
KRAR	Krasnoyarsk	61.47 340⇑	eP	P	01 21 12.3	+1.3
TKM2	Tokmak 2	61.49 320	P	P	01 21 10.8	-0.9
SNR=27						
YAK	Yakutsk	61.66 2	c iP	P	01 21 12.2	+0.1
YAK			e*PP	pwP	01 21 31.0	+0.2
YAK			e		01 21 53.5	
YAK			e		01 23 29.1	
YAK			eS	S	01 29 29.2	-0.5
YAK			e*SS	sS	01 30 01.8	+5.1
YAK			e		01 30 57.6	
YAK			pmax	pmax		
comp=Z,103nm,0.9s						
YAK			pmax	pmax		
comp=N,29nm,1.1s						
YAK			pmax	pmax		
comp=E,8.0nm,1.1s						
YAK			pmax	pmax		
comp=Z,151nm,3.2s						
YAK			pmax	pmax		
comp=N,78nm,3.0s						
YAK			pmax	pmax		
comp=E,92nm,3.5s						
YAK			smax	smax		
comp=N,182nm,3.3s						
YAK			smax	smax		
comp=E,78nm,3.2s						
YAK	Yakutsk	61.66 2	P	P	01 21 12.3	+0.1
KBK	Karagaybulak	61.78 320	P	P	01 21 15.7	+2.1
SNR=25						
UCH	Uchtor	61.85 319	P	P	01 21 16.1	+1.7
SNR=7.9						
AAK	Ala-Archa	62.06 320	LR	LR	01 49 15.8	
comp=E,448nm,22.0s,baz=111,slow=37						
AAK	Ala-Archa	62.06 320	P	P	01 21 15.5	0.0
AAK	Ala-Archa	62.06 320	P	P	01 21 15.0	-0.5
SNR=22						
AAK	Ala-Archa	62.06 320	ceP	P	01 21 14.9	-0.6
AAK			pmax	pmax		
comp=Z,56nm,1.7s						
AAK	Ala-Archa	62.06 320	i P	P	01 21 15.8	+0.3
SNR=5.9						
CHMS	Chumysh	62.07 320	P	P	01 21 14.3	-1.0
SNR=10						
OHH	Osh	62.23 317	P	P	01 21 16.1	-0.5
OHH			pmax	pmax		
comp=Z,47nm,1.2s						
MA2	Magadan	62.33 14	P	P	01 21 17.6	+0.9
MA2	Magadan	62.33 14	ceP	P	01 21 18.1	+1.4
MA2			pmax	pmax		
comp=Z,75nm,1.3s						
MA2	Magadan	62.33 14	P	P	01 21 18.0	+1.4
comp=Z,84nm,1.1s						
MA2	Magadan	62.33 14	P	P	01 21 18.2	+1.6
AML	Almayashu	62.35 319	P	P	01 21 17.4	-0.3
SNR=33						
ARSB	Arslanbob	62.45 318	P	P	01 21 17.3	-0.8
ARSB	Arslanbob	62.45 318	P	P	01 21 17.3	-0.8
ARSB			pmax	pmax		
comp=Z,25nm,1.4s						
DRK	Karamyk	62.47 315	P	P	01 21 17.8	-0.6
EKS2	Erkin-Say	62.54 319	P	P	01 21 18.2	-0.4
SNR=21						
KBL	Kabul	62.62 309	P	P	01 21 18.1	-1.3
SNR=32						
KBL	Kabul	62.62 309	P	P	01 21 18.1	-1.3
KBL			pmax	pmax		
comp=Z,53nm,0.7s						
ZAA0	Zalesovo Array	63.07 334	P	P	01 21 20.0	-1.7
ZAA0			IAmb	IAmb	01 21 23.0	
comp=Z,37nm,0.9s						
ZALV	Zalesovo Beam	63.07 334	P	P	01 21 20.4	-1.4
comp=Z,18nm,0.5s,baz=127,slow=6.5,SNR=64						
ZALV			LR	LR	01 49 17.1	
comp=Z,256nm,21.5s,baz=112,slow=36						
comp=Z,18nm,0.5s						
ZALV	Zalesovo Beam	63.07 334	i P	P	01 21 20.0	-1.7
ZALV			pmax	pmax		
comp=Z,18nm,0.5s						
ARK	Arkit	63.35 318	P	P	01 21 23.5	-0.5
ARK			pmax	pmax		
comp=Z,52nm,1.2s						
BTK	Batken	63.40 316	IAmb	IAmb	01 21 26.6	
comp=Z,34nm,1.1s						
BTK	Batken	63.40 316	P	P	01 21 23.4	-0.9
BTK			pmax	pmax		
comp=Z,33nm,1.3s						
BTLS	Baital	63.51 322	eP	P	01 21 23.6	-1.2
BTLS			pmax	pmax		
comp=Z,12nm,1.2s						
BTLS	Baital	63.51 322	eP	P	01 21 23.6	-1.2
comp=Z,12nm,1.2s						
TRKS	Terek-Say	63.79 317	P	P	01 21 25.8	-1.2
TRKS			pmax	pmax		
comp=Z,25nm,1.0s						
KURBB	Kurchatov Arra	63.95 329	P	P	01 21 26.4	-1.2
comp=Z,24nm,0.6s,baz=135,slow=6.5,SNR=214						
comp=Z,24nm,0.6s						
KURK	Kurchatov	63.95 329	P	P	01 21 26.6	-1.0
KURK	Kurchatov	63.95 329	c iP	P	01 21 26.5	-1.1
KURK			pmax	pmax		
comp=Z,74nm,0.8s						
KURK	Kurchatov	63.95 329	P	P	01 21 26.4	-1.1
KURK			pP	pP	01 21 41.6	-2.0
CHGR	Chuyangaron	64.03 314	P	P	01 21 27.0	-1.5
CHGR			pmax	pmax		
comp=Z,110nm,1.1s						
SIMJ	Simiganj	64.14 314	P	P	01 21 27.6	-1.7
DZA	Taraz	64.25 319	eP	P	01 21 28.5	-1.2
DZA			pmax	pmax		
comp=Z,14nm,1.0s						
DZA	Taraz	64.25 319	eP	P	01 21 28.6	-1.2
comp=Z,14nm,1.0s						
IUG	Iuzhnay	64.80 317	eP	P	01 21 32.5	-1.0
IUG			pmax	pmax		
comp=Z,16nm,0.7s						
IUG	Iuzhnay	64.80 317	eP	P	01 21 32.5	-1.0
comp=Z,16nm,0.7s						
KKAR	Karatay Array	64.88 319	P	P	01 21 32.8	-1.1
KKAR			pmax	pmax		
comp=Z,28nm,1.2s						
BRLS	Borolday	65.30 318	eP	P	01 21 35.3	-1.3
BRLS			pmax	pmax		
comp=Z,13nm,1.1s						
BRLS	Borolday	65.30 318	eP	P	01 21 35.4	-1.2
comp=Z,13nm,1.1s						
SEY	Seymchan	65.65 13⇑	eP	P	01 21 40.0	+1.6
SEY			pmax	pmax		
comp=Z,40nm,1.7s						
BRZS	Berezniki	66.75 326	eP	P	01 21 43.7	-2.1
BRZS			pmax	pmax		
comp=Z,35nm,3.2s						
BRZS	Berezniki	66.75 326	eP	P	01 21 44.8	-0.9
WSAR	Wadi Sarin	68.63 295	P	P	01 21 55.7	-2.4
comp=Z,19nm,1.0s,baz=120,slow=7.7,SNR=6.3						
comp=Z,19nm,1.0s						
JMDO	Jabal Madar	68.97 294	P	P	01 22 00.1	-0.2
SMDO	Samad	69.13 295	P	P	01 22 01.0	-0.3
BIDO	Bidbid	69.13 295	P	P	01 22 01.1	-0.1
DQM	DQM	69.15 291	P	P	01 22 01.4	0.0
SNR=5.4						
BVAR	Borovoye Array	69.50 328	P	P	01 22 01.9	-1.1
comp=Z,57nm,1.1s,baz=125,slow=11,SNR=68						
BVAR			LR	LR	01 53 28.2	
comp=Z,212nm,21.4s,baz=101,slow=37						
comp=Z,57nm,1.1s						
BRVK	Borovoye	69.57 328	P	P	01 22 02.5	-0.8
BRVK	Borovoye	69.57 328	c iP	P	01 22 02.3	-1.0
BRVK			pmax	pmax		
comp=Z,72nm,1.3s						
BRVK	Borovoye	69.57 328	P	P	01 22 02.4	-1.0
JASK	Jask - Hormozg	69.75 297	P	P	01 22 03.9	-1.2
BSY	Bisya	69.86 294	P	P	01 22 05.2	-0.6
HOQ	Hoqain	69.88 295	P	P	01 22 06.3	+0.4
MSEY	Mahe Island	70.04 265	P	P	01 22 08.1	+1.0
ARQ	Araqi	70.56 295	P	P	01 22 09.5	-0.5
SOHO	SOHO	70.67 295	P	P	01 22 10.3	-0.3
SOHO	SOHO	70.67 295	P	P	01 22 10.3	-0.3

UOSS **Minazif** 71.09 296 P **P** 01 22 12.9 -0.3
UOSS **Minazif** 71.09 296 P **P** 01 22 12.8 -0.3
UOSS **Minazif** 71.09 296 P **P** 01 22 12.5 -0.6
HATD **Hatta, Dubai** 71.13 296 P **P** 01 22 13.3 -0.1
HATD **Hatta, Dubai** 71.13 296 P **P** 01 22 13.6 +0.1
BANOM **Banah** 71.15 297 P **P** 01 22 13.4 -0.2
BANOM **Banah** 71.15 297 P **P** 01 22 12.2 -1.4
ASHO **Ashiyiah** 71.18 296 P **P** 01 22 13.6 -0.2
ASHO **Ashiyiah** 71.18 296 *i* P **P** 01 22 13.4 -0.4
SNR=7.0
MSFE **Esma-Masafi** 71.19 297 P **P** 01 22 13.2 -0.6
MASF **Masafi** 71.19 297 P **P** 01 22 13.4 -0.4
TIXI **Tiksi** 71.27 1⇑*e*P **P** 01 22 12.6 -0.7
TIXI pmax pmax
comp=Z,44nm,1.3s
TIXI **Tiksi** 71.27 1 P **P** 01 22 12.9 -0.4
TIXI PcP **PcP** 01 22 33.9 +1.1
SHME **Shamm** 71.31 297 P **P** 01 22 14.2 -0.3
ALNE **Al Ain** 71.36 295 P **P** 01 22 13.6 -1.2
SNR=12
ALNE **Al Ain** 71.36 295 *i* P **P** 01 22 13.5 -1.4
SNR=15
NAZ **Nazwa, Dubai** 71.58 296 P **P** 01 22 15.9 -0.2
NAZ **Nazwa, Dubai** 71.58 296 P **P** 01 22 16.2 0.0
ASUD **Al Ashush, Dub** 71.83 296 P **P** 01 22 17.3 -0.3
ASUD **Al Ashush, Dub** 71.83 296 *i* P **P** 01 22 16.6 -1.1
SNR=6.9
RBK **Rabkut** 72.02 288 P **P** 01 22 18.8 -0.1
AJN **Ajban** 72.12 296 P **P** 01 22 18.1 -1.3
AJN **Ajban** 72.12 296 P **P** 01 22 17.8 -1.6
DOK **Doka** 72.20 289 P **P** 01 22 17.8 -2.2
SNR=9.2
ABTO **Aybut** 72.87 288 P **P** 01 22 21.8 -2.3
MZWR **Madinat Zayed** 73.02 295 P **P** 01 22 24.5 -0.2
BILL **Bilibino** 73.18 15⇓*e*P **P** 01 22 25.4 +0.6
BILL pmax pmax
comp=Z,9.0nm,1.3s
MZR **Muzera** 73.29 294 P **P** 01 22 25.0 -1.4
SNR=5.0
MZR **Muzera** 73.29 294 *i* P **P** 01 22 25.1 -1.4
SNR=13
NRIK **Noril'sk** 73.44 347 P **P** 01 22 26.6 +0.3
comp=Z,25nm,0.5s,baz=129,slow=5.8,SNR=96
NRIK LR LR 01 57 38.6
comp=Z,232nm,20.6s,baz=130,slow=38
comp=Z,25nm,0.5s
NRIK **Noril'sk** 73.44 347*c i*P **P** 01 22 26.4 +0.1
NRIK pmax pmax
comp=Z,45nm,0.9s
JRN **Qarnain Island** 74.10 296 P **P** 01 22 29.6 -1.4
SNR=5.0
AKTO **Aktyubinsk** 75.55 322 P **P** 01 22 38.1 -0.8
comp=Z,44nm,0.8s,baz=108,slow=5.6,SNR=76
AKTO LR LR 01 58 31.5
comp=Z,333nm,19.5s,baz=76,slow=38
comp=Z,44nm,0.8s
TRNA **Turayna** 75.55 295 P **P** 01 22 38.3 -1.1
SNR=5.4
SHMA **Al-Shehemyia** 75.90 296 P **P** 01 22 41.3 -0.1
SMRA **Abu-Samra** 75.91 295 P **P** 01 22 40.3 -1.1
SNR=5.8
SBV **Sambava** 75.98 256 P **P** 01 22 42.1 0.0
SPIA **Saint Paul Isl** 76.10 30 P **P** 01 22 42.6 +0.8
baz=248
SVE **Sverdlovsk** 76.21 329*de*P **P** 01 22 42.0 -0.5
SVE pmax pmax
comp=Z,110nm,1.3s
P08K **Saint George I** 76.24 31 P **P** 01 22 44.0 +1.3
baz=249
SAKB **Bahrain** 76.30 297 P **P** 01 22 43.5 -0.2
UNV **Unalaska Valle** 76.97 34 P **P** 01 22 48.5 +1.7
baz=252
ARTI **Arti** 77.22 328 P **P** 01 22 47.1 -1.2
comp=Z,33nm,0.8s,baz=117,slow=2.5,SNR=38
comp=Z,33nm,0.8s
ARTI **Arti** 77.22 328*c i*P **P** 01 22 46.9 -1.4
ARTI S **S** 01 32 35.2 +2.3
ARTI pmax pmax
comp=Z,62nm,1.0s
GAMB **Gambell** 78.04 24 P **P** 01 22 54.4 +1.7
baz=246,SNR=7.1
KBD **Kabd** 79.15 300 P **P** 01 22 59.3 -0.2
M11K **Mekoryuk** 79.19 28 P **P** 01 23 00.6 +1.6
baz=251
VOI **Vohitsoka** 79.57 248 P **P** 01 23 02.5 +0.4
S12K **Black Hills** 79.96 33 P **P** 01 23 04.7 +1.4
baz=256
MAW **Mawson** 80.11 200 P **P** 01 23 05.3 +1.5
comp=Z,36nm,1.1s,baz=82,slow=7.1,SNR=2.9
comp=Z,36nm,1.1s
TNA **Tin City** 80.24 23 P **P** 01 23 06.7 +2.1
baz=249,SNR=7.1
K13K **Kusilvak Mount** 80.39 27 P **P** 01 23 06.8 +1.3
baz=252
M13K **Dall Lake** 80.55 28 P **P** 01 23 07.9 +1.5
baz=254
AKT **Akhty** 80.59 312 *e*P **P** 01 23 06.6 -0.6
AKT *e* 01 26 08.6
AKT pmax pmax
comp=Z,89nm,1.3s
RAYN **Ar Rayn** 80.64 294 P **P** 01 23 06.9 -0.8
RAYN **Ar Rayn** 80.64 294 ⇓P **P** 01 23 05.9 -1.9
RAYN **Ar Rayn** 80.64 294 *i* P **P** 01 23 06.8 -1.0
SNR=44
F14K **Arctic Creek** 80.83 23 P **P** 01 23 08.8 +1.0
baz=250
ANM **Nome** 80.91 24 P **P** 01 23 10.1 +1.9
baz=251,SNR=7.5
L14K **Kuka Creek** 81.12 28 IAmb IAmb 01 23 58.6
comp=Z,57nm,1.0s
L14K **Kuka Creek** 81.12 28 P **P** 01 23 10.2 +0.8
baz=254
J14K **Nanvaranak Lak** 81.12 26 P **P** 01 23 10.1 +0.7
baz=253
CHNA **Chernabura Isl** 81.13 34 P **P** 01 23 11.2 +1.6
baz=258
N14K **Kuskokwak Cree** 81.22 29 P **P** 01 23 11.2 +1.2
baz=255
O14K **Tigyukauivet M** 81.26 30 P **P** 01 23 11.3 +1.1
baz=256
M14K **Bethel** 81.30 28 P **P** 01 23 11.9 +1.5
baz=255
F15K **North Star Dit** 81.56 23 P **P** 01 23 12.9 +1.2
baz=252,SNR=11
G15K **Niukluk** 81.59 24 P **P** 01 23 13.0 +1.2
baz=252
L15K **Ungalak Mounta** 81.76 27 P **P** 01 23 14.3 +1.5
baz=255
M15K **Kasigluk River** 81.89 29 P **P** 01 23 15.2 +1.7
baz=256
K15K **Wolf Creek Mou** 81.90 27 P **P** 01 23 14.7 +1.1
baz=255
O15K **Ungalikthiuk R** 81.96 30 P **P** 01 23 15.0 +1.1
baz=257
N15K **Kwethluk River** 82.05 29 P **P** 01 23 14.2 -0.2
N15K **Kwethluk River** 82.05 29 P **P** 01 23 15.8 +1.4
baz=257
CHGN **Chignik** 82.09 33 P **P** 01 23 15.4 +0.8
baz=259
C16K **Lisburne Hills** 82.14 21 IAmb IAmb 01 23 17.8
comp=Z,97nm,1.8s
C16K **Lisburne Hills** 82.14 21 P **P** 01 23 16.2 +1.6
baz=251
H16K **Elim** 82.22 24 P **P** 01 23 16.9 +1.7
baz=254,SNR=27
BELG **Belogornoye** 82.33 323 P **P** 01 23 15.6 -0.3
comp=Z,157nm,0.9s,baz=134,slow=0.5,SNR=43
BELG LR LR 02 03 14.4
comp=Z,85nm,18.2s,baz=76,slow=38
comp=Z,157nm,0.9s
BELG **Belogornoye** 82.33 323*ce*P **P** 01 23 15.1 -0.8
BELG pmax pmax
comp=Z,30nm,1.0s
G16K **Koyuk River** 82.38 24 IAmb IAmb 01 23 19.5
comp=Z,52nm,1.1s
G16K **Koyuk River** 82.38 24 P **P** 01 23 18.2 +2.2
baz=254
KIRV **Kirov** 82.47 329*c i*P **P** 01 23 15.9 -0.7
J16K **Anvik River** 82.56 26 P **P** 01 23 19.6 +2.6
J16K **Anvik River** 82.56 26 P **P** 01 23 19.5 +2.5
baz=256
I17K **Unalakleet** 82.67 25 P **P** 01 23 19.9 +2.4
baz=256,SNR=20
GNI **Garni** 82.68 310 P **P** 01 23 19.0 +0.6
comp=Z,13nm,1.0s,baz=22,slow=5.4,SNR=8.0
comp=Z,13nm,1.0s
GNI **Garni** 82.68 310 P **P** 01 23 18.0 -0.3
GNI **Garni** 82.68 310⇑*e*P **P** 01 23 19.5 +1.2
GNI pmax pmax
comp=Z,22nm,1.2s
L16K **Owhat River** 82.70 28 P **P** 01 23 19.6 +1.9
baz=257,SNR=21
N16K **Nishlik Lake** 82.76 29 P **P** 01 23 20.2 +2.0
baz=258
D17K **Noatak River** 82.77 21 P **P** 01 23 19.5 +1.5
baz=253,SNR=59
R16K **Pilot Point** 82.79 32 P **P** 01 23 20.3 +2.1
baz=259
M16K **Timber Creek** 82.79 28 IAmb IAmb 01 23 59.1
comp=Z,63nm,1.0s
M16K **Timber Creek** 82.79 28 P **P** 01 23 20.1 +1.9
baz=258
P16K **Nushagak River** 82.85 30 P **P** 01 23 20.1 +1.5
baz=259
O16K **Kokwok River B** 82.91 30 IAmb IAmb 01 23 23.5
comp=Z,91nm,1.6s
O16K **Kokwok River B** 82.91 30 P **P** 01 23 20.2 +1.3
baz=258
RDOG **Red Dog Mine** 82.93 21 P **P** 01 23 20.8 +1.9
baz=253,SNR=14
C17K **DeLong Mountai** 82.96 21 P **P** 01 23 20.7 +1.7
baz=253
E17K **Hotham Inlet** 83.06 22 P **P** 01 23 21.5 +2.1
baz=254
G17K **Kiwalik Mounta** 83.10 24 P **P** 01 23 21.5 +1.8
baz=256
F17K **Baldwin Pennin** 83.10 23 IAmb IAmb 01 23 23.3
comp=Z,105nm,1.6s
F17K **Baldwin Pennin** 83.10 23 P **P** 01 23 21.8 +2.1
baz=255
J17K **VABM Dome** 83.26 26 IAmb IAmb 01 23 24.3
comp=Z,77nm,1.1s
J17K **VABM Dome** 83.26 26 P **P** 01 23 22.7 +2.1
baz=257
H17K **Granite Mounta** 83.26 24 P **P** 01 23 22.4 +1.8
baz=256
TRLG **Trialeti** 83.30 312 P **P** 01 23 21.6 +0.1
L17K **Donlin** 83.34 27 P **P** 01 23 23.6 +2.5
baz=258
O17K **Koliganek Bris** 83.44 30 P **P** 01 23 23.4 +1.9
baz=259,SNR=9.8
K17K **Iditarod** 83.46 27 P **P** 01 23 24.3 +2.7
baz=258
Q16K **King Salmon** 83.47 31 P **P** 01 23 23.3 +1.6
baz=260
N17K **Nushagak Hills** 83.54 29 IAmb IAmb 01 23 26.0
comp=Z,76nm,1.4s
N17K **Nushagak Hills** 83.54 29 P **P** 01 23 23.8 +1.7
baz=259,SNR=7.7
CHIR **Chirikof Islan** 83.55 34 P **P** 01 23 24.2 +2.0
baz=261
M17K **Holitna River** 83.59 28 IAmb IAmb 01 24 02.1
comp=Z,46nm,0.9s
M17K **Holitna River** 83.59 28 P **P** 01 23 23.3 +0.9
baz=259
E18K **Tukpahlearik C** 83.61 22 IAmb IAmb 01 23 25.9
comp=Z,66nm,1.1s
E18K **Tukpahlearik C** 83.61 22 P **P** 01 23 24.3 +2.0
baz=255
P17K **Kvichak River** 83.67 30 P **P** 01 23 24.5 +1.7
baz=260
B18K **Kokolik River** 83.69 20 P **P** 01 23 25.2 +2.5
baz=254
C18K **Utukok River** 83.71 21 IAmb IAmb 01 23 26.1
comp=Z,118nm,1.6s
C18K **Utukok River** 83.71 21 P **P** 01 23 25.0 +2.1
baz=255,SNR=32
F18K **Selawik** 83.76 23 P **P** 01 23 24.9 +1.8
baz=256,SNR=11
Q17K **Contact Creek** 83.80 31 P **P** 01 23 24.0 +0.4
baz=261,SNR=9.5
GEVA **Gevas** 83.82 308 IAmb IAmb 01 23 28.1
comp=Z,68nm,1.0s
NCK **Nalchik** 83.86 314⇓*e*P **P** 01 23 24.3 +0.1
NCK pmax pmax
comp=Z,26nm,0.8s
H18K **Honhosa River** 83.95 24 IAmb IAmb 01 23 27.2
comp=Z,49nm,1.2s
H18K **Honhosa River** 83.95 24 P **P** 01 23 26.0 +1.9
baz=258
KARS **Kars** 83.99 311 P **P** 01 23 25.4 +0.4
KARS **Kars** 83.99 311 P **P** 01 23 25.4 +0.4
KARS pmax pmax
comp=Z,205nm,1.1s
G18K **Tagagawik** 83.99 24 IAmb IAmb 01 23 27.3
comp=Z,59nm,1.4s
G18K **Tagagawik** 83.99 24 P **P** 01 23 25.6 +1.3
baz=257
L18K **Granite Mounta** 84.09 27 P **P** 01 23 25.9 +1.1
baz=259
N18K **Kilae Creek** 84.20 29 IAmb IAmb 01 23 29.0
comp=Z,90nm,1.6s
N18K **Kilae Creek** 84.20 29 P **P** 01 23 27.0 +1.6
baz=260
J18K **Innoko River** 84.31 26 IAmb IAmb 01 24 12.1
comp=Z,31nm,0.9s
J18K **Innoko River** 84.31 26 P **P** 01 23 27.5 +1.5
baz=259
P18K **Big Mountain,** 84.31 30 P **P** 01 23 27.2 +1.1
baz=261,SNR=11
M18K **Stony River** 84.37 28 P **P** 01 23 28.3 +2.0
baz=260
KBZ **Khabaz** 84.39 314 P **P** 01 23 26.5 -0.3
comp=Z,20nm,1.0s,baz=95,slow=2.1,SNR=25
comp=Z,20nm,1.0s
KBZ **Khabaz** 84.39 314*ce*P **P** 01 23 26.4 -0.3
KBZ pmax pmax
comp=Z,26nm,1.0s
O18K **Koktuh Hills** 84.40 30 IAmb IAmb 01 23 51.7
comp=Z,86nm,1.4s
O18K **Koktuh Hills** 84.40 30 P **P** 01 23 27.9 +1.4
baz=261,SNR=7.9
GOF **Gofitskoye** 84.40 315*ce*P **P** 01 23 26.2 -0.6
R18K **Karluk** 84.44 32 P **P** 01 23 27.9 +1.2
baz=262
SII **Sitkinak Islan** 84.45 33 P **P** 01 23 28.2 +1.4
baz=262
GCSA **Galena City Sc** 84.49 25 P **P** 01 23 28.7 +1.9
baz=259
TTA **Tatalina** 84.53 27 P **P** 01 23 28.6 +1.4
baz=260
F19K **Shaleruckik Mo** 84.54 23 IAmb IAmb 01 24 29.6
comp=Z,31nm,0.9s
F19K **Shaleruckik Mo** 84.54 23 P **P** 01 23 29.0 +1.9
baz=258
KIV **Kislovodsk** 84.56 314 P **P** 01 23 28.1 +0.4
KIV **Kislovodsk** 84.56 314 *e*P **P** 01 23 27.2 -0.6
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,76nm,19.0s
KIV **Kislovodsk** 84.56 314 *i* P **P** 01 23 28.3 +0.5
SNR=6.2
KIV **Kislovodsk** 84.56 314 P **P** 01 23 28.6 +0.8
comp=Z,404nmcomp=Z,16nm,1.0s
SHA1 **Shidzhatmaz** 84.56 314⇓*e*P **P** 01 23 27.9 -0.1
GURO **Guroymak-BITLI** 84.64 309 IAmb IAmb 01 23 30.9
comp=Z,62nm,1.0s
G19K **Purcell Mounta** 84.67 24 IAmb IAmb 01 23 31.0
comp=Z,45nm,1.0s
G19K **Purcell Mounta** 84.67 24 P **P** 01 23 29.8 +2.1
baz=259
D19K **Kuna River** 84.77 21 IAmb IAmb 01 24 37.0
comp=Z,43nm,1.0s
D19K **Kuna River** 84.77 21 P **P** 01 23 30.3 +2.1
baz=258
H19K **Roundabout Mou** 84.81 24 IAmb IAmb 01 24 08.0
comp=Z,35nm,1.1s
H19K **Roundabout Mou** 84.81 24 P **P** 01 23 30.5 +2.1
baz=259
E19K **Redstone River** 84.88 22 IAmb IAmb 01 24 29.8
comp=Z,42nm,0.9s
E19K **Redstone River** 84.88 22 P **P** 01 23 30.6 +1.9
baz=258
J19K **Poorman** 84.89 26 P **P** 01 23 30.7 +1.8
baz=260
O19K **Port Alsworth** 84.89 30 IAmb IAmb 01 23 43.1
comp=Z,53nm,1.2s
O19K **Port Alsworth** 84.89 30 P **P** 01 23 30.3 +1.4
baz=262
N19K **Bonanza Creek** 84.90 29 IAmb IAmb 01 23 32.4
comp=Z,67nm,1.1s
N19K **Bonanza Creek** 84.90 29 P **P** 01 23 30.8 +1.7
baz=262
L19K **White Mountain** 84.94 28 P **P** 01 23 30.8 +1.6
baz=261
OHAK **Old Harbor** 85.02 33 IAmb IAmb 01 23 41.4
comp=Z,48nm,1.1s
OHAK **Old Harbor** 85.02 33 P **P** 01 23 30.6 +1.0
baz=263
Q19K **Cape Douglas,** 85.06 31 P **P** 01 23 30.7 +0.8
baz=262
PPT **Papeete** 85.31 108 LR LR 01 57 56.3
comp=Z,65nm,21.8s,baz=229,slow=33
PPT2 **Papeete2** 85.31 108 *e*S **S** 01 33 58.7 +0.3
comp=Z,200nm,24.8s
PPT2 *e*SS **SS** 01 39 29.9 -4.5
comp=Z,211nm,38.8s
PPT2 **Papeete2** 85.31 108 *e*LR LR 01 50 28.5
comp=Z,447nm,32.5s
PPT2 *e*LR LR 01 50 35.1
comp=Z,247nm,35.8s
D20K **Etivluk River** 85.36 21 P **P** 01 23 32.5 +1.4
baz=259
P19K **Oil Pt** 85.36 30 P **P** 01 23 32.9 +1.5
baz=263
F20K **Avaraart Lake** 85.38 23 P **P** 01 23 33.1 +1.9
baz=260
E20K **Nigu River** 85.42 21 P **P** 01 23 32.6 +1.1
baz=259
L20K **Farewell, AK** 85.43 27 P **P** 01 23 33.2 +1.5
baz=262
H20K **Anotleneega Mo** 85.45 24 P **P** 01 23 33.4 +1.8
baz=261,SNR=6.0
KDAK **Kodiak Island** 85.47 32 P **P** 01 23 33.4 +1.6
baz=263
KDAK **Kodiak Island** 85.47 32*de*P **P** 01 23 33.6 +1.8
KDAK pmax pmax
comp=Z,52nm,1.0s
K20K **Telida** 85.47 26 P **P** 01 23 33.4 +1.6
baz=262
J20K **Nowinta River** 85.56 26 IAmb IAmb 01 24 18.7
comp=Z,38nm,1.0s
J20K **Nowinta River** 85.56 26 P **P** 01 23 33.7 +1.5
baz=262,SNR=7.2
MARD **Mardin** 85.56 307 IAmb IAmb 01 23 35.6
comp=Z,51nm,1.2s
TBI **Tubuai** 85.62 113 *e*S **S** 01 34 01.1 0.0
comp=Z,955nm,26.8s
TBI *e*SS **SS** 01 39 41.5 +3.0
comp=Z,1μm,39.2s
TBI **Tubuai** 85.62 113 *e*LR LR 01 50 37.4
comp=Z,3μm,40.5s
Q20K **Shuyak Island** 85.66 31 P **P** 01 23 34.0 +1.2
baz=264
M20K **Styx River** 85.70 28 IAmb IAmb 01 24 07.0
comp=Z,34nm,1.1s
M20K **Styx River** 85.70 28 P **P** 01 23 34.3 +1.2
baz=263,SNR=5.4
O20K **Slope Mountain** 85.72 30 P **P** 01 23 34.3 +1.2
baz=263
VRH **Novokhopyorsk** 85.82 321 *e*P **P** 01 23 30.6 -3.1
VRH pmax pmax
comp=Z,140nm,1.0s
KOPT **Kop Dagi** 85.92 310 IAmb IAmb 01 23 42.2
comp=Z,46nm,1.0s
LABN **Labinsk** 86.02 315 *e*P **P** 01 23 34.4 -0.5
LABN pmax pmax
comp=Z,106nm,1.1s
SPCR **Spurr Chakacha** 86.05 29 P **P** 01 23 36.1 +1.3
baz=264
C21K **Knifeblade Rid** 86.09 21 P **P** 01 23 36.3 +1.5
baz=261
G21K **Allakaket** 86.16 23 IAmb IAmb 01 24 27.6
comp=Z,35nm,1.1s
G21K **Allakaket** 86.16 23 P **P** 01 23 36.7 +1.6
baz=262
B21K **Ikpikpuk River** 86.22 20 P **P** 01 23 37.1 +1.8
baz=261
ERBR **Yeremizino-Bor** 86.25 316 *e*P **P** 01 23 35.6 -0.4
ERBR pmax pmax
comp=Z,147nm,1.1s
PPLA **Purkeypile** 86.26 27 P **P** 01 23 37.3 +1.5
baz=263
E21K **Killik River** 86.26 21 P **P** 01 23 37.0 +1.3
baz=261
STLK **Strandline Lak** 86.27 28 IAmb IAmb 01 24 05.8
comp=Z,26nm,1.0s
F21K **Alatna River** 86.27 23 P **P** 01 23 36.7 +1.0
baz=262
CHUM **Lake Minchumin** 86.32 26 P **P** 01 23 37.1 +1.1
baz=263
H21K **Melozitna Rive** 86.33 24 P **P** 01 23 37.2 +1.2
baz=263,SNR=5.3
CNPM **China Poot** 86.35 30 IAmb IAmb 01 23 56.9
comp=Z,35nm,0.9s
CAST **Castle Rocks** 86.36 27 P **P** 01 23 37.1 +0.8
baz=263
SKT **Skwentna** 86.46 28 P **P** 01 23 37.4 +0.7
baz=264
CAPN **Captain Cook N** 86.52 29 P **P** 01 23 37.9 +0.9
baz=264
KTUT **Trabzon** 86.52 311 ⇑P **P** 01 23 36.3 -1.2
BRLK **Bradley Lake** 86.55 30 IAmb IAmb 01 23 58.4
comp=Z,30nm,0.9s
I21K **Tanana** 86.61 25 P **P** 01 23 38.4 +1.0
baz=263
BRSE **Bradley Lake S** 86.62 30 P **P** 01 23 38.5 +0.9
baz=265
SOC **Sochi** 86.68 313 *e*P **P** 01 23 35.3 -2.9
SOC *e* 01 26 56.4
SOC *e*PPP PPP 01 28 52.0
SOC *e*S **SKSac** 01 33 58.2 -1.6
SOC *e*SS **SS** 01 39 50.8 -2.3
SOC *e*SSS SSS 01 43 24.9
SOC pmax pmax
comp=Z,41nm,0.7s
B22K **Teshekpuk Lake** 86.74 20 IAmb IAmb 01 23 40.8
comp=Z,29nm,1.2s
B22K **Teshekpuk Lake** 86.74 20 P **P** 01 23 39.2 +1.3
baz=262
SUA **Susitna One** 86.78 29 IAmb IAmb 01 24 05.8
comp=Z,26nm,0.8s
SUA **Susitna One** 86.78 29 P **P** 01 23 39.1 +0.6
baz=265,SNR=8.9
D22K **Ayikyak River** 86.79 21 IAmb IAmb 01 24 39.9
comp=Z,25nm,0.8s
D22K **Ayikyak River** 86.79 21 P **P** 01 23 39.6 +1.4
baz=263
BPAW **Bear Paw Mtn.** 86.92 26 P **P** 01 23 39.6 +0.6
baz=264
H22K **Ishtalitna Cre** 86.94 24 P **P** 01 23 40.2 +1.2
baz=264
SLKM **Skilak Lake** 86.95 30 IAmb IAmb 01 23 45.1
comp=Z,32nm,1.0s
G22K **Bettles** 87.00 23 P **P** 01 23 40.7 +1.5
baz=264
E22K **Anaktuvuk Pass** 87.02 22 IAmb IAmb 01 24 36.2
comp=Z,30nm,0.9s
E22K **Anaktuvuk Pass** 87.02 22 P **P** 01 23 40.7 +1.3
baz=263
CUT **Chulitna** 87.09 28 P **P** 01 23 40.8 +1.1
baz=265
M22K **Willow** 87.10 28 P **P** 01 23 40.6 +0.9
baz=265
TRF **Thorofare Moun** 87.17 27 P **P** 01 23 40.8 +0.4
baz=265
O22K **Cooper Landing** 87.19 30 P **P** 01 23 41.1 +0.9
baz=266
RC01 **Rabbit Creek A** 87.23 29 IAmb IAmb 01 24 06.1
comp=Z,20nm,0.8s
RC01 **Rabbit Creek A** 87.23 29 P **P** 01 23 41.2 +0.7
baz=266
SEW **Seward** 87.30 30 P **P** 01 23 41.9 +1.2
baz=266
VORD **Divnogorie** 87.33 321 *e*P **P** 01 23 37.8 -3.3
VORD pmax pmax
comp=Z,100nm,1.0s
KIBK **Kibwezi** 87.40 268 P **P** 01 23 43.6 +1.2
KIBK **Kibwezi** 87.40 268 P **P** 01 23 43.8 +1.4
SNR=21
VORR **Voronezh** 87.42 322 *e*P **P** 01 23 38.5 -3.0
VORR pmax pmax
comp=Z,100nm,1.0s
VSR **Storozhevoye** 87.42 321 *e*P **P** 01 23 38.0 -3.6
VSR pmax pmax
comp=Z,60nm,1.0s
D23K **Nanushuk River** 87.52 21 P **P** 01 23 43.5 +1.8
baz=264,SNR=7.4
COLD **Coldfoot** 87.54 23 IAmb IAmb 01 24 36.9
comp=Z,28nm,1.0s
COLD **Coldfoot** 87.54 23 P **P** 01 23 43.4 +1.6

baz=265
PMR Palmer 87.56 28 P P 01 23 43.5 +1.4
baz=266
G23K Bananza Creek 87.56 23 IAmb IAmb 01 24 34.1
comp=Z,31nm,1.1s
G23K Bananza Creek 87.56 23 P P 01 23 43.4 +1.4
baz=265
LPSR Galich'ya Gora 87.63 322 *e*P **P 01 23 39.1 -3.5**
LPSR pmax pmax
comp=Z,80nm,1.1s
I23K Minto, Yukon-K 87.71 25 IAmb IAmb 01 23 45.6
comp=Z,28nm,1.1s
I23K Minto, Yukon-K 87.71 25 P P 01 23 43.4 +0.8
baz=266,SNR=13
NEA2 Nenana 87.80 25 P P 01 23 43.5 +0.4
baz=266
MCK McKinley 87.80 26 P P 01 23 43.5 +0.3
baz=266,SNR=6.5
RND Reindeer 87.81 27 IAmb IAmb 01 24 03.8
comp=Z,38nm,1.0s
E23K Chandalar 87.83 22 P P 01 23 43.4 +0.1
baz=266
KNK Knik Glacier 87.87 29 IAmb IAmb 01 24 09.0
comp=Z,26nm,0.9s
KNK Knik Glacier 87.87 29 P P 01 23 44.6 +1.0
baz=267,SNR=7.9
TOLK Toolik Lake Re 87.89 21 P P 01 23 44.6 +1.1
baz=266,SNR=10
PWL Port Wells 87.90 29 P P 01 23 43.3 -0.4
PWL IAmb IAmb 01 24 08.8
comp=Z,33nm,0.9s
PWL Port Wells 87.90 29 P P 01 23 44.7 +1.0
baz=267
SML Sawmill 87.95 28 IAmb IAmb 01 24 18.7
comp=Z,24nm,0.9s
SML Sawmill 87.95 28 P P 01 23 44.4 +0.4
baz=267,SNR=5.0
KMBO Kilima Mbogo 88.18 269 P P 01 23 47.9 +1.6
KMBO Kilima Mbogo 88.18 269 *i* P **P 01 23 47.5 +1.2**
SNR=58
D24K Happy Valley 88.20 21 P P 01 23 46.1 +1.1
baz=266
M23K Glacier View 88.24 28 P P 01 23 46.0 +0.7
baz=267,SNR=7.5
E24K Your Creek 88.26 22 P P 01 23 46.2 +0.9
baz=266
C24K Franklin Bluff 88.28 20 P P 01 23 46.8 +1.5
baz=266
P23K Montague Islan 88.32 30 P P 01 23 46.4 +0.7
baz=268
ANN Anapa 88.37 315 *e*P **P 01 23 44.0 -2.2**
ANN pmax pmax
comp=Z,180nm,1.0s
H24K Noodor Dome 88.37 24 P P 01 23 46.9 +1.0
baz=267
SCM Sheep Creek Mo 88.43 28 P P 01 23 47.0 +0.7
baz=268
F24K Squaw Lake 88.45 23 P P 01 23 47.0 +0.8
baz=267
GLI Glacier Island 88.51 29 P P 01 23 47.7 +1.1
baz=268
MOS Moscow 88.52 326 *e*P **P 01 23 44.1 -2.6**
MOS *e* 01 34 08.1
MOS *e*S **S 01 34 18.9 -8.8**
MOS pmax pmax
comp=Z,54nm,0.9s
POKR Poker Plat Res 88.52 25 P P 01 23 47.6 +1.0
baz=268
G24K Hadweenzic Riv 88.57 23 P P 01 23 47.6 +0.8
baz=268
ASF Jabal al Asfar 88.60 302 P P 01 23 48.5 +0.7
comp=Z,54nm,0.9s,baz=126,slow=2.8,SNR=71
ASF LR LR 02 09 05.1
comp=Z,89nm,20.2s,baz=128,slow=39
comp=Z,54nm,0.9s
HDA Harding Lake 88.70 26 IAmb IAmb 01 24 24.8
comp=Z,34nm,0.8s
HDA Harding Lake 88.70 26 P P 01 23 47.8 +0.4
baz=268
ILAR Eielson Array 88.74 25 P P 01 23 47.1 -0.5
comp=Z,2.3nm,0.6s,baz=261,slow=5.3,SNR=20
comp=Z,2.3nm,0.6s
SYO Syowa Base 88.78 201⇑ *e*P **P 01 23 48.8 +1.2**
SYO Syowa Base 88.78 201⇑ *e*PcP **PcP 01 23 50.0 +0.9**
Q23K Middleton Isla 88.84 31 P P 01 23 48.6 +0.5
baz=269
M24K Tolsona, Glenn 88.98 28 P P 01 23 50.1 +1.3
baz=269,SNR=6.9
TOKA Tokat 89.01 310 IAmb IAmb 01 23 53.2
comp=Z,27nm,1.0s
D25K Kavik River 89.08 21 P P 01 23 49.9 +0.7
baz=268
KLU Klutina 89.09 29 P P 01 23 49.7 +0.3
baz=269,SNR=7.4
OBN Obninsk 89.10 325 LR LR 02 05 27.9
comp=Z,187nm,21.4s,baz=26,slow=37
OBN Obninsk 89.10 325 ⇑P **P 01 23 48.4 -1.0**
OBN Obninsk 89.10 325 *c i* P **P 01 23 48.6 -0.9**
OBN *e**SP **pP 01 24 01.6 -4.6**
OBN *e* 01 35 42.9
OBN pmax pmax
comp=Z,96nm,1.3s
OBN MLR MLR
comp=Z,281nm,23.0s
OBN Obninsk 89.10 325 P P 01 23 48.5 -0.9
comp=Z,80nm,1.1s
EYAK Cordova Ski Ar 89.16 30 P P 01 23 49.7 +0.1
baz=269
K24K Donnelly Dome 89.20 26 P P 01 23 50.4 +0.6
baz=269
KHAM Kharkiv 89.25 320 P P 01 23 50.1 -0.2
F25K Christian Rive 89.32 23 P P 01 23 50.5 +0.2
baz=269
PAX Paxson 89.33 27 IAmb IAmb 01 24 19.3
comp=Z,16nm,0.9s
PAX Paxson 89.33 27 P P 01 23 51.0 +0.6
baz=269,SNR=11
PRP Porcupine Dome 89.33 25 P P 01 23 51.2 +0.6
baz=269
E25K Arctic Village 89.35 22 P P 01 23 51.2 +0.8
baz=269,SNR=12
J25K Salcha River, 89.39 26 IAmb IAmb 01 24 27.6
comp=Z,14nm,0.8s
J25K Salcha River, 89.39 26 P P 01 23 50.9 +0.2
baz=269
HARP HAARP 89.47 28 P P 01 23 51.3 +0.2
baz=270
C26K Camden Bay 89.61 20 P P 01 23 51.7 +0.2
baz=270
RIDG Independent Ri 89.61 26 IAmb IAmb 01 24 19.9
comp=Z,25nm,1.0s
RIDG Independent Ri 89.61 26 P P 01 23 52.0 +0.3
baz=270,SNR=6.1
BMRM Bremner River 89.73 29 P P 01 23 52.3 -0.1
baz=270
N25K Chitina, Valde 89.73 29 P P 01 23 52.5 +0.1
baz=270,SNR=7.3
KAIM Kayak Island 89.82 30 P P 01 23 53.1 +0.4
baz=270
MMAI Mount Meron Ar 89.86 303 P P 01 23 54.3 +0.6
comp=Z,7.6nm,0.5s,baz=83,slow=7.0,SNR=46
comp=Z,7.6nm,0.5s
F26K Sheenjek River 89.89 22 P P 01 23 53.1 +0.2
baz=271
SCRK Sand Creek 89.99 26 P P 01 23 53.9 +0.3
baz=271
C27K Jago River 90.03 20 P P 01 23 54.9 +1.4
baz=271
G26K Porcupine Rive 90.04 23 P P 01 23 54.6 +1.0
baz=271
LODK Lodwar 90.05 273 P P 01 23 54.4 -0.5
LODK IAmb IAmb 01 23 57.3
comp=Z,20nm,1.2s
LODK Lodwar 90.05 273 P P 01 23 56.0 +1.1
SNR=8.8
J26L Joseph Creek 90.17 26 IAmb IAmb 01 24 30.3
comp=Z,34nm,1.1s
J26L Joseph Creek 90.17 26 P P 01 23 55.1 +0.7
baz=271
EIL Elat 90.27 300 P P 01 23 55.6 +0.1
comp=Z,11nm,0.8s,baz=100,slow=3.4,SNR=8.9
EIL LR LR 02 06 59.2
comp=Z,138nm,21.7s,baz=70,slow=37
comp=Z,11nm,0.8s
L26K Log Cabin Wild 90.30 27 IAmb IAmb 01 24 22.9
comp=Z,15nm,0.8s
L26K Log Cabin Wild 90.30 27 P P 01 23 56.0 +1.1
baz=271,SNR=6.7

I26K Coal Creek Min 90.33 25 P P 01 23 56.0 +1.0
baz=272,SNR=6.1
M26K Nabesna, AK 90.47 28 P P 01 23 56.7 +0.9
baz=272,SNR=9.7
SIM Simferopol' 90.72 315 *c i* P **P 01 23 56.1 -1.2**
SIM *e* 01 27 29.0
SIM pmax pmax
comp=Z,100nm,1.2s
G27K Doyon Strip 90.88 23 IAmb IAmb 01 24 00.5
comp=Z,24nm,1.6s
G27K Doyon Strip 90.88 23 P P 01 23 58.9 +1.3
baz=273,SNR=9.2
I27K Kandik River 90.96 25 P P 01 23 59.2 +1.2
baz=273
L27K Beaver Creek, 90.99 27 IAmb IAmb 01 24 00.8
comp=Z,14nm,0.8s
L27K Beaver Creek, 90.99 27 P P 01 23 59.2 +1.1
baz=273
KIRS Kirsehir-Merke 90.99 309 ⇑P **P 01 23 57.1 -1.7**
M27K Edge Creek, AK 91.00 28 P P 01 23 59.3 +1.0
baz=273,SNR=6.7
D27M Malcolm River 91.01 21 IAmb IAmb 01 24 00.8
comp=Z,28nm,1.6s
D27M Malcolm River 91.01 21 P P 01 23 59.3 +1.1
baz=274
MESA MESA 91.05 30 P P 01 23 59.2 +0.5
baz=272
BR104 Keskin Array S 91.19 310 P P 01 23 58.6 -1.2
comp=Z,62nmcomp=Z,10.0nm,1.0s
BR131 Keskin Array S 91.19 310 *c i* P **P 01 23 58.4 -1.4**
BRTR Keskin Array B 91.19 310 P P 01 23 58.5 -1.2
comp=Z,6.8nm,0.9s,baz=131,slow=4.2,SNR=31
comp=Z,6.8nm,0.9s
EGAK Eagle 91.19 25 IAmb IAmb 01 24 33.5
comp=Z,20nm,1.1s
EGAK Eagle 91.19 25 P P 01 23 59.0 0.0
baz=273
BR106 Keskin Array S 91.21 310 P P 01 23 58.7 -1.1
comp=Z,59nmcomp=Z,8.3nm,1.1s
BR105 Keskin Array S 91.21 310 P P 01 23 58.8 -1.1
comp=Z,63nmcomp=Z,8.2nm,1.1s
BVCY Beaver Creek 91.47 28 P P 01 24 00.8 +0.4
baz=274,SNR=7.7
F28M Old Crow 91.53 22 IAmb IAmb 01 24 02.9
comp=Z,41nm,1.4s
F28M Old Crow 91.53 22 P P 01 24 01.2 +0.6
baz=274,SNR=13
CSS Mathiatis 91.56 305 P P 01 24 01.1 -0.3
comp=Z,69nm,0.9s
E28M Babbage River 91.57 21 IAmb IAmb 01 24 03.2
comp=Z,32nm,1.3s
E28M Babbage River 91.57 21 P P 01 24 00.8 +0.1
baz=275
I28M Miner Creek 91.67 25 P P 01 24 01.5 +0.2
baz=274
YUK3 Moose Creek 91.69 28 P P 01 24 01.4 -0.3
baz=274
D28M Stokes Point 91.79 21 P P 01 24 01.9 +0.3
baz=276
ANTO Ankara 91.84 310 P P 01 24 02.1 -0.6
ANTO Ankara 91.84 310 P P 01 24 02.6 -0.1
comp=Z,4.9nm,1.3s
O28M Mount Upton 91.89 29 P P 01 24 01.3 -1.4
baz=274
PINM Pinnacle 91.91 30 P P 01 24 02.2 -0.3
baz=274
DAWY Dawson 92.01 26 P P 01 24 03.4 +0.5
baz=275,SNR=8.3
YUK8 Steele Glacier 92.06 29 P P 01 24 02.8 -0.6
baz=274
E29M Blow River 92.19 22 P P 01 24 03.9 +0.3
baz=276
H29M Whitestone 92.24 24 IAmb IAmb 01 24 42.7
comp=Z,22nm,0.9s
H29M Whitestone 92.24 24 P P 01 24 04.5 +0.6
baz=276
G29M Pine Creek 92.31 23 P P 01 24 05.1 +0.9
baz=276
I29M Ogilvie Camp, 92.35 25 P P 01 24 05.6 +1.1
baz=276
J29N Klondike Camp 92.48 26 P P 01 24 06.2 +1.1
baz=276
M29M Somme Creek 92.58 28 P P 01 24 06.1 +0.5
baz=276,SNR=6.7
YUK4 Talbot Arm 92.59 29 P P 01 24 06.4 +0.6
baz=276
L29M L29M 92.66 27 P P 01 24 06.4 +0.5
baz=276
O29M Mount Kennedy 92.72 30 P P 01 24 06.8 +0.4
baz=275
YUK6 Outpost Mounta 92.77 29 P P 01 24 07.7 +1.0
baz=276
K29M Barlow Dome 92.85 26 IAmb IAmb 01 24 34.2
comp=Z,26nm,0.9s
K29M Barlow Dome 92.85 26 P P 01 24 07.9 +1.0
baz=276,SNR=10
EPYK Eagle Plains 92.89 24 IAmb IAmb 01 24 08.8
comp=Z,31nm,1.1s
EPYK Eagle Plains 92.89 24 P P 01 24 07.4 +0.5
baz=277,SNR=13
G30M tAoh Zraii Nji 93.00 23 IAmb IAmb 01 24 47.9
comp=Z,35nm,1.2s
G30M tAoh Zraii Nji 93.00 23 P P 01 24 07.5 +0.1
baz=278
F30M Barrier River 93.08 22 P P 01 24 08.4 +0.7
baz=278
I30M Mount Dempster 93.18 25 IAmb IAmb 01 24 23.6
comp=Z,18nm,0.9s
I30M Mount Dempster 93.18 25 P P 01 24 09.3 +1.0
baz=278,SNR=6.1
ARCES ARCESS Array B 93.20 340 P P 01 24 06.9 -1.3
comp=Z,3.2nm,0.6s,baz=83,slow=5.1,SNR=19
comp=Z,3.2nm,0.6s
HYT Haines Junctio 93.20 29 P P 01 24 09.1 +0.6
baz=276
J30M Hart River 93.28 25 IAmb IAmb 01 24 38.5
comp=Z,11nm,0.8s
J30M Hart River 93.28 25 P P 01 24 10.2 +1.4
baz=278
N30M Aishikik Lake 93.33 28 P P 01 24 10.2 +1.1
baz=277
M30M Minto, Yukon 93.33 27 P P 01 24 09.5 +0.5
baz=277
P30M Million Dollar 93.55 30 P P 01 24 11.2 +1.1
baz=277
SPITS Spitsbergen Ar 93.57 349 P P 01 24 09.0 -0.8
comp=Z,10nm,0.7s,baz=102,slow=6.9,SNR=22
SPITS LR LR 02 12 58.3
comp=Z,115nm,18.2s,baz=22,slow=40
comp=Z,10nm,0.7s
MAYO Mayo, Yukon 93.60 26 P P 01 24 11.0 +0.8
baz=278
PURM Purcari 93.62 316 ⇓P **P 01 24 12.2 +1.6**
BORA Eskisehir 93.64 310 IAmb IAmb 01 24 10.7
comp=Z,27nm,1.6s
AK09 Malin Array Si 93.68 321 P P 01 24 09.7 -1.1
AK08 Malin Array Si 93.70 321 P P 01 24 09.8 -1.1
AKASG Malin Array Be 93.71 321 P P 01 24 09.6 -1.4
comp=Z,6.9nm,0.8s,baz=74,slow=4.1,SNR=31
comp=Z,6.9nm,0.8s
AKBB Malin Array Si 93.71 321 P P 01 24 09.7 -1.2
AKBB IAmb IAmb 01 24 10.7
comp=Z,20nm,1.1s
AKBB Malin Array Si 93.71 321 P P 01 24 09.7 -1.2
AKBB pmax pmax
comp=Z,20nm,1.2s
AKBB Malin Array Si 93.71 321 P P 01 24 09.8 -1.2
KIEV Kiev 93.72 321 ⇓P **P 01 24 09.5 -1.5**
KIEV Kiev 93.72 321 ⇓P **P 01 24 09.5 -1.5**
KIEV Kiev 93.72 321 *i* P **P 01 24 09.4 -1.6**
SNR=8.0
KIEV Kiev 93.72 321 P P 01 24 09.7 -1.3
comp=Z,65nm,1.4s
G31M Satah River 93.77 23 P P 01 24 11.4 +0.6
baz=280
INK Inuvik 93.81 21 IAmb IAmb 01 24 12.7
comp=Z,34nm,1.4s
INK Inuvik 93.81 21 P P 01 24 11.5 +0.5
baz=280,SNR=14
INK Inuvik 93.81 21 P P 01 24 11.7 +0.7
INK pmax pmax
comp=Z,17nm,1.3s
AK17 Malin Array Si 93.82 321 P P 01 24 10.3 -1.1
F31M Tsiigehtchic 93.88 22 IAmb IAmb 01 24 49.9
comp=Z,32nm,1.1s
F31M Tsiigehtchic 93.88 22 P P 01 24 11.6 +0.3
baz=280,SNR=15
O30N Mendenhall 93.89 29 P P 01 24 11.8 +0.2

baz=278
PLBC Pleasant Camp 93.93 30 P P 01 24 12.7 +1.0
baz=277
H31M Peel River 93.93 24 P P 01 24 11.8 +0.2
baz=280
N31M Braeburn, Yuko 93.95 28 P P 01 24 12.4 +0.6
baz=278
MNK Minsk 94.15 325 *i* P **P 01 24 12.4 -0.5**
MNK *i* 01 27 57.7
MNK *i* PPP PPP 01 29 58.6
MNK *i* S **SKSac 01 34 44.2 +1.7**
MNK *i* SS **SS 01 41 46.7 +6.3**
MNK *i* SSS SSS 01 45 25.3
MNK pmax pmax
comp=Z,50nm,1.1s
MNK pmax pmax
comp=N,27nm,1.0s
MNK pmax pmax
comp=E,13nm,1.0s
MNK MLR MLR
comp=E,335nm,19.0s
MNK MLR MLR
comp=N,424nm,22.0s
MNK MLR MLR
comp=Z,233nm,21.0s
S31K Pelican 94.18 32 P P 01 24 13.8 +0.9
baz=277
FINES FINESS Array B 94.22 332 P P 01 24 11.6 -1.4
comp=Z,4.6nm,0.8s,baz=87,slow=3.9,SNR=12
comp=Z,4.6nm,0.8s
MILM Milestii Mici 94.31 317 ⇑P **P 01 24 11.3 -2.5**
MILM Milestii Mici 94.31 317 ⇑P **P 01 24 11.3 -2.5**
R31K City Hall, Gus 94.38 31 P P 01 24 14.3 +0.5
baz=278
SKAG Skagway 94.45 30 P P 01 24 14.6 +0.5
baz=278
JURR Jurilovca 94.45 315 ⇓P **P 01 24 13.0 -1.5**
TLCR 94.46 315 ⇑P **P 01 24 13.5 -1.0**
TLCR 94.46 315 ⇑P **P 01 24 13.5 -1.0**
M31M Drury Creek, Y 94.49 28 P P 01 24 14.8 +0.4
baz=279
WHY Whitehorse 94.50 29 IAmb IAmb 01 24 17.3
comp=Z,16nm,0.9s
WHY Whitehorse 94.50 29 P P 01 24 14.6 +0.1
baz=279
SORM Soroca 94.52 318 ⇓P **P 01 24 13.3 -1.4**
SORM Soroca 94.52 318 ⇓P **P 01 24 13.3 -1.4**
SORM Soroca 94.52 318 P P 01 24 13.4 -1.3
comp=Z,29nm,0.9s
MBAR Mbarara 94.69 269 P P 01 24 19.3 +2.9
MBAR Mbarara 94.69 269 ⇑ *e*P **P 01 24 17.2 +0.7**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
LUBAR Lubar, Ukraine 94.72 320 P P 01 24 14.7 -0.9
MANR Mangalia 94.74 314 ⇓P **P 01 24 14.7 -1.1**
TPGR Topolog 94.77 315 ⇓P **P 01 24 14.2 -1.8**
SIT Sitka 94.79 33 P P 01 24 16.3 +0.6
baz=278
TIRR Tirgusor 94.81 314 ⇑P **P 01 24 14.7 -1.4**
TIRR Tirgusor 94.81 314 ⇑P **P 01 24 14.7 -1.4**
CFR Carcaliu 94.94 315 ⇑P **P 01 24 17.5 +0.8**
CFR Carcaliu 94.94 315 ⇑P **P 01 24 17.5 +0.8**
FARO Faro, Yukon 94.97 27 P P 01 24 17.6 +1.1
baz=280
R32K Eaglecrest 95.04 31 P P 01 24 16.6 -0.3
baz=279
NDNU Novodnistrovsk 95.12 319 P P 01 24 16.5 -1.0
S32K Killisnoo 95.13 32 P P 01 24 16.7 -0.6
baz=279
HARR Harsova 95.13 315 ⇑P **P 01 24 16.5 -1.1**
HARR Harsova 95.13 315 ⇑P **P 01 24 16.5 -1.1**
P32M Atlin 95.24 30 P P 01 24 17.3 -0.5
baz=280
N32M Quiet Lake 95.28 29 P P 01 24 17.4 -0.7
baz=280
P33M Teslin, Yukon 95.58 29 P P 01 24 19.4 0.0
baz=280
A36M Sachs Harbour 95.63 17 P P 01 24 19.6 +0.3
baz=289
KMPD K-Podol'skiy 95.72 319 P P 01 24 18.5 -1.7
TESR Tescani 95.84 317 ⇓P **P 01 24 21.3 +0.5**
TESR Tescani 95.84 317 P P 01 24 19.9 -0.9
comp=Z,32nm,1.6s
VRI Vrincioaia 95.86 316 ⇑P **P 01 24 20.3 -0.6**
VRI Vrincioaia 95.86 316 ⇑P **P 01 24 20.3 -0.6**
VRI Vrincioaia 95.86 316 P P 01 24 20.8 -0.1
comp=Z,25nm,1.1s
PLOR Plostina 95.91 316 ⇓P **P 01 24 22.7 +1.5**
PLOR Plostina 95.91 316 ⇓P **P 01 24 22.7 +1.5**
ONER Baraj Valea Uz 96.03 317 ⇓P **P 01 24 21.3 -0.4**
Q32M Nakina River 96.08 31 P P 01 24 21.4 -0.5
baz=281
U33K Whale Pass 96.14 34 P P 01 24 22.1 +0.2
baz=280
COVR Voineasa-Covas 96.22 316 ⇑P **P 01 24 21.4 -1.2**
CRAG Craig 96.25 34 P P 01 24 22.8 +0.4
baz=280
PABE Paberze 96.25 326 P P 01 24 20.9 -1.5
MLR Muntele Rosu 96.44 316 P P 01 24 22.5 -1.2
MLR Muntele Rosu 96.44 316 P P 01 24 22.2 -1.6
comp=Z,13nm,1.0s,baz=45,slow=3.5,SNR=15
MLR PP **PP 01 28 16.2 -2.0**
comp=Z,6.0nm,1.0s,baz=198,slow=6.7,SNR=4.0
MLR LR LR 02 13 17.0
comp=Z,113nm,20.0s,baz=63,slow=39
comp=Z,13nm,1.0s
MLR Muntele Rosu 96.44 316 ⇓P **P 01 24 23.0 -0.8**
MLR Muntele Rosu 96.44 316 P P 01 24 22.5 -1.2
MLR pmax pmax
comp=Z,39nm,1.4s
MLR Muntele Rosu 96.44 316 P P 01 24 23.2 -0.6
WRAK Wrangell Islan 96.51 33 P P 01 24 24.1 +0.5
baz=280
R33M Jennings River 96.66 30 P P 01 24 24.4 0.0
baz=282
BURAR Bucovina Array 96.67 318 ⇓P **P 01 24 24.5 -0.2**
BURAR Bucovina Array 96.67 318 ⇓P **P 01 24 24.5 -0.2**
BUR08 Bucovina Ar. S 96.68 318 IAmb IAmb 01 24 25.7
comp=Z,17nm,0.9s
DOPR Dopca 96.77 316 ⇑P **P 01 24 23.5 -1.6**
ELND Elena 96.80 313 ⇓P **P 01 24 24.2 -1.0**
C36M Paulatuk 96.86 20 IAmb IAmb 01 24 25.8
comp=Z,10nm,0.7s
C36M Paulatuk 96.86 20 P P 01 24 24.9 0.0
baz=289,SNR=10
S34M Telegraph Cree 96.88 32 P P 01 24 25.2 0.0
baz=282
LSZ Lusaka 97.06 255 LR LR 02 04 33.0
comp=Z,244nm,21.5s,baz=116,slow=33
LSZ Lusaka 97.06 255 P P 01 24 27.0 -0.2
VOIR 97.08 316 ⇓P **P 01 24 23.5 -3.1**
VOIR 97.08 316 ⇓P **P 01 24 23.5 -3.1**
V35K Ketchikan 97.12 34 P P 01 24 26.2 -0.1
baz=281
ARCR ARCALIA 97.33 317 ⇓P **P 01 24 27.4 -0.1**
DLBC Dease Lake 97.34 31 P P 01 24 27.2 -0.2
baz=283
ARR Arges 97.38 316 ⇑P **P 01 24 28.0 +0.1**
T35M Bob Quinn 97.53 32 P P 01 24 28.3 0.0
baz=282
WTLY Watson Lake, Y 97.57 29 IAmb IAmb 01 24 31.4
comp=Z,17nm,0.9s
BMR Baia Mare 97.81 318 ⇑P **P 01 24 29.7 0.0**
BMR Baia Mare 97.81 318 ⇑P **P 01 24 29.7 0.0**
CJR Cluj-Napoca 97.89 317 ⇓P Pdif 01 24 31.8 +1.6
LOT Lotru 97.97 316 ⇓P **P 01 24 30.2 -0.4**
MARR Marisel-Cluj 98.22 317 ⇓P Pdif 01 24 31.8 +0.1
BERU Beregovo 98.28 319 P P 01 24 31.8 0.0
KOLS Kolonicke sedl 98.41 320 *i* P **P 01 24 32.4 0.0**
KOLS Kolonicke sedl 98.41 320 *e*PDIFF **P 01 24 32.4 0.0**
IDI Anoyia 98.43 306 P P 01 24 32.4 -0.5
comp=Z,7.6nm,0.7s,baz=80,slow=4.4,SNR=10
comp=Z,7.6nm,0.7s
UZHM Uzhgorod 98.45 319 P Pdif 01 24 32.7 +0.2
DRGR 98.48 317 ⇑P **P 01 24 32.3 -0.5**
DRGR 98.48 317 ⇑P **P 01 24 32.3 -0.5**
DEV Deva 98.50 316 ⇑P **P 01 24 32.2 -0.6**
DEV Deva 98.50 316 ⇑P **P 01 24 32.2 -0.6**
GZR Gura Zlata 98.67 316 ⇓P **P 01 24 32.5 -1.2**
GZR Gura Zlata 98.67 316 ⇓P **P 01 24 32.5 -1.2**
STHS Stebnicka Huta 98.98 320 *i* P Pdif 01 24 35.1 +0.2
STHS Stebnicka Huta 98.98 320 *e*PDIFF Pdif 01 24 35.1 +0.2
HERR Herculane 99.00 315 ⇑P **Pdif 01 24 34.4 -0.7**
LBTB Lobatse 99.04 245 LR LR 02 05 34.0
comp=Z,62nm,19.1s,baz=118,slow=33

BOSA Boshof 99.08 241 P Pdif 01 24 35.1 -0.9
comp=Z,5.6nm,1.1s,baz=101,slow=11,SNR=3.2
BOSA LR LR 02 02 45.3
comp=Z,153nm,22.0s,baz=114,slow=31
comp=Z,5.6nm,1.1s
MDVR Moldovita 99.51 315 ⇑P Pdif 01 24 35.1 -2.4
OJC Ojcow 99.74 321 P Pdif 01 24 38.8 +0.5
KOTAN Kotaneelee Air 99.84 28 P Pdif 01 24 38.5 0.0
baz=288
TROLL Troll, Antarti 100.00 195 P Pdif 01 24 41.1 +2.0
TROLL Troll, Antarti 100.00 195 ⇑P Pdif 01 24 41.1 +2.0
comp=Z,920nm,0.8s
PSZ Piszkesteto 100.16 319 P Pdif 01 24 42.3 +2.0
PSZ pmax pmax
comp=Z,7.0nm,1.1s
HFS Hagfors 100.42 332 P Pdif 01 24 39.5 -1.5
comp=Z,1.4nm,0.4s,baz=116,slow=3.4,SNR=14
DAG Danmarks Havn 100.46 352 P Pdif 01 24 41.0 +0.1
DAG pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 100.73 320 *e*P **Pdif 01 24 42.3 -0.4**
VYHS Vyhne 100.73 320 *e*PDIFF **Pdif 01 24 42.3 -0.4**
NB2 NORSAR Subarra101.25 333 P Pdif 01 24 43.0 -1.8
comp=Z,2.6nm,0.9s,baz=69,slow=4.6
NOA NORSAR Array B 101.25 333 P Pdif 01 24 42.9 -1.8
comp=Z,1.4nm,0.8s,baz=70,slow=4.6,SNR=4.0
MODS Modra-Piesok 101.76 320 *i* P **Pdif 01 24 48.1 +0.8**
MODS Modra-Piesok 101.76 320 *e*PDIFF **Pdif 01 24 48.1 +0.8**
YKA Yellowknife Ar 103.14 24 PKiKP **PKiKP 01 29 12.5 +0.1**
comp=Z,0.7nm,0.8s,baz=289,slow=2.1,SNR=6.4
YKA PKKPbc **PKKPbc 01 40 49.0 -2.4**
comp=Z,0.1nm,0.4s,baz=118,slow=1.9,SNR=5.6
BRG Berggiesshubel 103.18 323⇓ *e*Pif 01 24 53.6
BRG Amp 01 24 55.0
comp=Z,5.8nm,1.1s
GERES GERESS Array B 103.93 321 Pdiff **Pdif 01 24 56.5 -0.6**
comp=Z,0.5nm,0.5s,baz=35,slow=4.9,SNR=5.3
GERES PKiKP **PP 01 29 14.6 0.0**
comp=Z,3.3nm,1.1s,baz=129,slow=2.7,SNR=5.0
NVAR Mina Array Bea 110.14 49 PKKPab PKKPab 01 40 39.4 -0.4
comp=Z,1.9nm,0.8s,baz=97,slow=2.8,SNR=5.5
R11B Troy Canyon, C 112.20 48 P PKiKP 01 29 29.9 -0.5
baz=289
PDAR Pinedale Array 114.77 42 PKP PKPdf 01 29 36.2 +1.1
comp=Z,0.4nm,0.5s,baz=120,slow=2.0,SNR=5.8
PDAR PKKPbc **PKKPbc 01 40 11.4 -2.5**
comp=Z,0.5nm,0.6s,baz=110,slow=3.5,SNR=6.5
PDAR PKKPab **PKKPab 01 40 18.2 -1.0**
comp=Z,2.5nm,0.9s,baz=112,slow=3.3,SNR=13
N23A Red Feather La 118.03 42 P PKPdf 01 29 41.1 -0.4
baz=298
ULM Lac du Bonnet 118.58 29 PKP **PKPdf 01 29 42.0 0.0**
comp=Z,4.0nm,0.6s,baz=316,slow=1.3,SNR=10.0
ULM Lac du Bonnet 118.58 29 PKiKP **PKPdf 01 29 42.0 0.0**
S22A 4UR Ranch, Cre 118.82 46 P PKPdf 01 29 42.8 -0.4
baz=296
Q24A Divide 119.46 44 P PKPdf 01 29 44.0 -0.4
baz=298
121A Cookes Peak, D 120.20 52 P PKPdf 01 29 45.6 -0.2
baz=292
T25A Trinidad 120.81 45 P PKPdf 01 29 46.0 -0.9
baz=297
TORD Torodi Ar. Bea 122.67 286 PKP **PKiKP 01 29 51.0 0.0**
comp=Z,7.4nm,0.7s,baz=63,slow=2.3,SNR=45
TORD PKKPbc **PKKPab 01 39 46.2 +1.6**
comp=Z,0.9nm,1.0s,baz=276,slow=4.6,SNR=4.7
SCHQ Schefferville 124.14 9 PKP **PKiKP 01 29 53.1 +0.3**
comp=Z,5.9nm,0.6s,baz=336,slow=1.6,SNR=21
TXAR Lajitas Array 124.70 53 PKP **PKiKP 01 29 56.1 +1.3**
comp=Z,1.8nm,0.7s,baz=276,slow=0.9,SNR=23
TXAR PKKPbc **PKKPab 01 39 36.1 +0.1**
comp=Z,0.3nm,0.7s,baz=98,slow=4.1,SNR=3.8
L44A Lake County Fo 128.13 31 P PKPdf 01 30 00.3 -0.2
baz=316
833A Chaparral WMA, 128.53 53 P PKPdf 01 30 01.2 -0.4
baz=296
435B Jarrell 128.80 49 P PKPdf 01 30 01.8 -0.3
baz=299
DBIC Dimbokro 129.92 279 PKP **PKPdf 01 30 04.0 -0.6**
comp=Z,7.8nm,0.8s,baz=87,slow=2.4,SNR=5.8
O48B Farmland 130.96 31 P PKPdf 01 30 05.4 -0.6
baz=318
L61B Northampton 134.43 19 P PKPdf 01 30 11.5 -0.9
baz=334
PLCA Paso Flores 137.21 162 PKP **PKiKP 01 30 19.4 -0.3**
comp=Z,1.0nm,0.5s,baz=180,slow=2.2,SNR=7.7
MT13 San Alfonso 143.60 158 PKPdf 01 30 29.6 0.0
MT02 Curacav 143.70 156 PKPdf 01 30 29.1 -0.5
PEL Peldehue 143.98 157 PKPdf 01 30 30.2 0.0
PEL Peldehue 143.98 157 PKIKP **PKPdf 01 30 30.2 0.0**
LCO Las Campanas 147.55 153 PKP2 **PKiKP 01 30 41.0 -0.4**
JTS Las Juntas de 148.00 70 PKP2 **PKiKP 01 30 41.8 -0.6**
PLTB Pedras Altas 148.69 182 *e*P **PKPdf 01 30 34.6 -3.5**
CNLB Canela 150.93 187 *e*P **PKPdf 01 30 38.9 -2.9**
CPUP Villa Florida 153.98 174 PKP **PKPdf 01 30 47.0 +0.7**
comp=Z,3.2nm,0.8s,baz=164,slow=1.4,SNR=4.1
CPUP PKPbc **PKiKP 01 30 55.7 +1.3**
comp=Z,7.2nm,0.9s,baz=204,slow=1.7,SNR=8.2
CPUP PKPab **PKPab 01 31 05.7 -1.9**
comp=Z,5.5nm,0.9s,baz=142,slow=3.1,SNR=4.8
CPUP Villa Florida 153.98 174 *e*P **PKPdf 01 30 43.4 -2.9**
OTAV Otavalo 156.11 89 *e*P **PKPdf 01 30 50.2 0.0**
LPAZ La Paz 159.23 141 PKP **PKPdf 01 30 55.9 +1.8**
comp=Z,4.4nm,0.9s,baz=254,slow=7.4,SNR=8.6
LPAZ La Paz 159.23 141 *e*P **PKPdf 01 30 51.1 -3.0**
ROSC El Rosal 159.62 75 PKP **PKPdf 01 30 55.4 +1.0**
comp=Z,3.5nm,0.3s,baz=124,slow=18,SNR=3.6
GDU01 Guandu, BA 160.04 227 *e*P **PKPdf 01 30 50.5 -3.8**
CZSB Cruzeiro do Su 160.47 113 *e*P **PKPdf 01 30 54.2 -0.6**
RUSC La Rusia 160.52 71 PKPdf **PKPdf 01 30 55.4 -0.1**
SDV Santo Domingo 161.58 60 *e*P **PKPdf 01 30 56.7 +0.5**
BDFB Brasília 163.44 203 PKP **PKPdf 01 30 58.9 +1.0**
comp=Z,0.8nm,0.7s,baz=132,slow=8.8,SNR=3.4
BDFB PKPab **PKPab 01 31 50.1 +1.3**
comp=Z,3.7nm,0.8s,baz=125,slow=4.4,SNR=5.4
TBTG Tabatinga, AM 164.20 104 *e*P **PKPdf 01 30 58.6 +0.1**
SALV Santo Antonio 164.46 176 *e*P **PKPdf 01 30 57.1 -1.6**
SNDB Serra Nova Dou 167.95 196 *e*P **PKPdf 01 30 59.0 -2.4**
SMTB Santa Maria do 169.01 219 *e*P **PKPdf 01 30 59.7 -2.6**
TMAB Tom-Au,PA,Br 173.21 252 *e*P **PKPdf 01 31 00.1 -4.3**
ITTB Itaituba 175.79 164 *e*P **PKPdf 01 31 03.8 -1.5**

IDC ***02*** *01:11:37.6±3.1, 16°.69S×173°.62W, h28km±20km, mb4.8/22, mbtmp5.0/24, ML5.2/3, MS4.3/51, Error ellipse: s-maj=15.3km s-min=13.1km az=145.0*
MOS ***02*** *01:11:37.1±1.2, 16°.73S×173°.65W, h31km, mb5.4/28, Error ellipse: s-maj=9.2km s-min=7.8km az=88.2*
BJI ***02*** *01:11:38.4, 16°.37S×173°.56W, h31km, mB5.4/16, mb5.0/40, Ms5.1/10, Ms7 4.7/14*
NEIC ***02*** *01:11:39.6±2.9, 16°.64S±0°.06×173°.57W±0°.10, h35km±1km, mb5.3/277, Error ellipse: s-maj=15.8km s-min=9.9km az=100.0*
NOU ***02*** *01:11:43.0, 16°.52S×173°.05W, h117km, mb5.7/43, Tonga Islands*
GCMT ***02*** *01:11:45.6±0.1, 16°.68S±0°.01×173°.30W±0°.01, h74km±1km, MW5.3/137, Moment Tensor Solution. s106,c165; s137,c244; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.65±.02; $M_{\theta\theta}$-0.39±.02; $M_{\phi\phi}$-0.26±.02; $M_{r\theta}$-0.92±.01; $M_{\theta\phi}$-0.60±.02; $M_{\phi r}$-0.07±.01; Best double couple: $M_0$1.24000×10^{17} NP1:ϕ_s19.00000°, δ31.00000°, λ37.00000°. NP2:ϕ_s256.00000°, δ72.00000°, λ115.00000°. Principal axes: T 1.2330, Plg56.0000°, Azm199.0000°; N 0.0150, Plg24.0000°, Azm68.0000°; P -1.2480, Plg23.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 01:11:40.2±0.5, 16°.88S±0°.04×173°.59W±0°.04, h51km±4km, h51km:pP-P, n632, σ1§53/515, mb5.3/203, MS4.4/53, 49C-58D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**31**	Pn	Pn	01 12 26.7	-4.6
AFI				Sn	Sn	01 12 58.9	-12
AFI	**Afiamalu**	**3.43**	**31**	P	Pn	01 12 27.6	-3.7
AFI	**Afiamalu**	**3.43**	**31**	P	Pn	01 12 26.7	-4.6
NIUE	**Niue**	**4.11**	**123**	Pn	**Pn**	**01 12 41.1**	**+0.6**
NIUE	**Niue**	**4.11**	**123**	P	**Pn**	**01 12 41.0**	**+0.5**
NIUE	**Niue**	**4.11**	**123**	P	**Pn**	**01 12 41.2**	**+0.6**
NIUE	**Niue**	**4.11**	**123**	P	**Pn**	**01 12 41.1**	**+0.6**
NIUE				S	**Sn**	**01 13 22.4**	**-5.0**
FUTU	**Fugatoga**	**5.06**	**300**	P	Pn	01 13 00.6	+6.9
DGTI	**Dogotuki**	**6.43**	**274**	P	Pn	01 13 21.8	+9.4
MSVF	**Nonsavu**	**8.03**	**263**	Pn	Pn	01 13 44.6	+10
MSVF				LR	LR	01 16 15.0	
MSVF	**Nonsavu**	**8.03**	**263**	P	Pn	01 13 44.8	+10
RAO	**Raoul Island**	**12.94**	**197**	Pn	**Pn**	**01 14 40.9**	**-0.6**
RAO				Sn	**Sn**	**01 16 58.4**	**-5.6**
GLKZ	**Green Lake**	**12.95**	**197**	P	**Pn**	**01 14 41.9**	**+0.3**
GLKZ				S	**Sn**	**01 16 57.0**	**-7.2**
RAR	**Rarotonga**	**13.75**	**110**		**Pn**	**01 14 51.4**	**-1.1**
RAR	**Rarotonga**	**13.75**	**110**	Pn	**Pn**	**01 14 52.0**	**-0.6**
RAR				Sn	Sn	01 17 12.7	-11
RAR	**Rarotonga**	**13.75**	**110**	P	**Pn**	**01 14 52.0**	**-0.6**
RAR	**Rarotonga**	**13.75**	**110**	P	**Pn**	**01 14 51.7**	**-0.9**
DVP	**Devils Point**	**17.43**	**265**	P	**P**	**01 15 45.6**	**+5.1**
MARNC	**Mare, Loyalty**	**17.95**	**252**	P	**Pn**	**01 15 50.1**	**+3.8**
YATNC	**Mamie plateau,**	**19.11**	**251**	P	**Pn**	**01 16 04.0**	**+3.7**
OUENC	**Ouen Island, N**	**19.23**	**250**	P	**Pn**	**01 16 04.5**	**+2.8**
DZM	**Mont Dzumac**	**19.52**	**251**	P	**Pn**	**01 16 05.8**	**+0.5**
DZM				IAmb	IAmb	01 16 11.5	
DZM	**Mont Dzumac**	**19.52**	**251**	*e*P	**P**	**01 16 02.4**	**-1.2**
DZM				*e*S	**S**	**01 19 40.3**	**-1.2**
DZM				*e*LR	LR	01 20 42.4	
DZM	**Mont Dzumac**	**19.52**	**251**	P	**P**	**01 16 03.5**	**-0.1**
DZM				LR	LR	01 21 59.4	
ONTNC	**Ouen Toro**	**19.56**	**251**	P	**Pn**	**01 16 07.0**	**+1.4**
ONTNC	**Ouen Toro**	**19.56**	**251**	P	**Pn**	**01 16 08.5**	**+2.9**
NFK	**Norfolk Island**	**20.84**	**231**	P	Pn	01 16 20.9	+0.1
OUZ	**Omahuta**	**21.55**	**210**	P	**P**	**01 16 27.4**	**+2.1**
OUZ	**Omahuta**	**21.55**	**210**	P	**P**	**01 16 27.0**	**+1.7**
WCZ	**Waipu Caves**	**21.81**	**207**	P	**P**	**01 16 31.1**	**+3.0**
MXZ	**Matakaoa Point**	**21.81**	**198**	P	**P**	**01 16 30.9**	**+2.8**
MXZ	**Matakaoa Point**	**21.81**	**198**	P	**P**	**01 16 31.4**	**+3.3**
MXZ	**Matakaoa Point**	**21.81**	**198**	P	**P**	**01 16 31.3**	**+3.2**
MXZ				S	**S**	**01 20 24.2**	**-2.2**
KUZ	**Kuaotunu**	**21.94**	**204**	P	**P**	**01 16 32.6**	**+3.2**
WMGZ	**Waiomatatini S**	**22.02**	**197**	P	**P**	**01 16 32.9**	**+2.6**
HAZ	**Te Kaha**	**22.14**	**198**	P	**P**	**01 16 33.0**	**+1.3**
PKGZ	**Pakihiroa**	**22.16**	**198**	P	**P**	**01 16 32.9**	**+1.1**
MYRZ	**Mayor Island**	**22.22**	**202**	P	**P**	**01 16 36.5**	**+4.0**
PUZ	**Puketiti**	**22.30**	**197**	P	**P**	**01 16 33.3**	**0.0**
PUZ				S	**S**	**01 20 31.1**	**-4.3**
RUGZ	**Raukumara Rang**	**22.37**	**198**	P	**P**	**01 16 36.5**	**+2.3**
RUGZ				S	**S**	**01 20 35.0**	**-1.9**
MKAZ	**Moumakai**	**22.47**	**204**	P	**P**	**01 16 37.8**	**+2.6**
TWGZ	**Tauwhareparae**	**22.47**	**198**	P	**P**	**01 16 38.7**	**+3.4**
TWGZ				S	**S**	**01 20 34.1**	**-4.5**
TGRZ	**Tauranga**	**22.61**	**201**	P	**P**	**01 16 40.9**	**+4.2**
OPRZ	**Ohinepanea**	**22.62**	**201**	P	**P**	**01 16 38.6**	**+1.8**
CNGZ	**Carnagh Statio**	**22.70**	**197**	S	**S**	**01 20 42.7**	**+0.4**
MWZ	**Matawai**	**22.75**	**198**	P	**P**	**01 16 40.6**	**+2.3**
MWZ				S	**S**	**01 20 43.4**	**+0.1**
TKGZ	**Te Karaka**	**22.75**	**198**	P	**P**	**01 16 41.3**	**+3.1**
TKGZ				S	**S**	**01 20 43.0**	**-0.3**
URZ	**Urewera**	**22.81**	**199**	P	**P**	**01 16 39.4**	**+0.7**
URZ	**Urewera**	**22.81**	**199**	P	**P**	**01 16 39.5**	**+0.7**
URZ				S	**S**	**01 20 42.7**	**-1.6**
KMRZ	**Kaimai**	**22.83**	**202**	P	**P**	**01 16 42.8**	**+3.8**
KARZ	**Kaharoa**	**22.88**	**201**	P	**P**	**01 16 43.9**	**+4.4**
TOZ	**Tahuroa Road**	**22.89**	**203**	P	**P**	**01 16 42.6**	**+3.1**
TOZ	**Tahuroa Road**	**22.89**	**203**	P	**P**	**01 16 42.7**	**+3.1**
OMRZ	**Omania**	**22.91**	**201**	P	**P**	**01 16 43.1**	**+3.2**
RAGZ	**Rawiri**	**22.93**	**198**	P	**P**	**01 16 42.5**	**+2.3**
PPT2	**Papeete2**	**22.94**	**95**	*e*P	**P**	**01 16 46.3**	**+5.9**
PPT2				*e*S	**S**	**01 20 42.1**	**-4.9**
PPT2				*e*LR	LR	01 22 09.1	
PPT2				*e*LR	LR	01 22 16.0	
PPT	**Papeete**	**22.94**	**95**	LR	LR	01 23 13.3	
RIGZ	**Rimuhau**	**23.03**	**198**	P	**P**	**01 16 43.6**	**+2.6**
RIGZ				S	**S**	**01 20 48.2**	**+0.2**
UTU	**Utuhina**	**23.04**	**201**	P	**P**	**01 16 45.1**	**+4.0**
HLRZ	**Highlands Stat**	**23.05**	**201**	P	**P**	**01 16 44.6**	**+3.3**
RRRZ	**Republican Roa**	**23.08**	**200**	P	**P**	**01 16 46.0**	**+4.5**
MUGZ	**Murupara**	**23.12**	**200**	P	**P**	**01 16 44.4**	**+2.5**
RTZ	**Ruatahuna**	**23.18**	**199**	P	**P**	**01 16 44.7**	**+2.2**
PRGZ	**Paritu Road**	**23.19**	**197**	P	**P**	**01 16 46.5**	**+3.9**
PRGZ				S	**S**	**01 20 52.0**	**+1.3**
HRRZ	**Handcock Road**	**23.20**	**201**	P	**P**	**01 16 45.0**	**+2.2**
SNGZ	**Shannon Statio**	**23.22**	**198**	P	**P**	**01 16 45.6**	**+2.7**
SNGZ				S	**S**	**01 20 50.8**	**-0.4**
ALRZ	**Allen Road**	**23.34**	**200**	P	**P**	**01 16 46.8**	**+2.8**
RAHZ	**Arahi**	**23.42**	**199**	P	**P**	**01 16 46.0**	**+1.1**
RAHZ				S	**S**	**01 20 57.4**	**+3.0**
TBI	**Tubuai**	**23.53**	**110**	*e*P	P	01 16 54.5	+8.5
TBI				*e*S	**S**	**01 20 55.0**	**-1.4**
TBI				*e*LR	LR	01 22 20.7	
TBI				*e*LR	LR	01 22 23.7	
HIZ	**Hauiti**	**23.82**	**203**	P	**P**	**01 16 50.4**	**+1.9**
BKZ	**Black Stump Fm**	**23.84**	**199**	P	**P**	**01 16 50.3**	**+1.6**
XMAS	**Kiritimati**	**24.64**	**42**	P	**P**	**01 16 54.2**	**-2.1**
XMAS				IAmb	IAmb	01 17 18.7	
KHEZ	**Kahui Hut**	**24.82**	**203**	P	**P**	**01 16 59.4**	**+1.7**
BFZ	**Birch Farm**	**25.30**	**198**	P	**P**	**01 17 04.1**	**+2.1**
SNZO	**South Karori**	**26.36**	**200**	P	**P**	**01 17 12.5**	**+1.0**
SNZO	**South Karori**	**26.36**	**200**	P	**P**	**01 17 13.0**	**+1.5**
QRZ	**Quartz Range**	**26.71**	**204**	P	**P**	**01 17 16.7**	**+1.9**
CTZ	**Chatham Island**	**26.89**	**185**	P	**P**	**01 17 17.4**	**+1.0**
BSWZ	**Blackbirch Sta**	**27.00**	**201**	P	**P**	**01 17 18.6**	**+1.3**
KHZ	**Kahutara**	**27.73**	**201**	P	**P**	**01 17 25.3**	**+1.4**
DSZ	**Denniston Nort**	**27.78**	**204**	P	**P**	**01 17 24.2**	**-0.2**
LHI	**Lord Howe Isla**	**28.79**	**235**	P	**P**	**01 17 33.9**	**+0.4**
RPZ	**Rata Peaks**	**29.75**	**203**	LR	LR	01 30 14.9	
RPZ	**Rata Peaks**	**29.75**	**203**	P	**P**	**01 17 43.1**	**+1.2**
JCZ	**Jackson Bay**	**30.94**	**205**	P	**P**	**01 17 52.7**	**+0.3**
ODZ	**Otahua Downs**	**31.05**	**202**	P	**P**	**01 17 55.1**	**+1.9**
SYZ	**Scrubby Hill**	**32.87**	**202**	P	**P**	**01 18 10.8**	**+1.6**
TAOE	**Nuku Hiva Isla**	**33.52**	**80**	*e*LR	LR	01 26 51.2	
EIDS	**Eidsvold**	**33.94**	**250**	P	**P**	**01 18 18.0**	**-0.8**
ARMA	**Armidale**	**34.45**	**241**	P	**P**	**01 18 23.9**	**+0.6**
ARMA	**Armidale**	**34.45**	**241**	P	**P**	**01 18 23.2**	**-0.1**
ARMA	**Armidale**	**34.45**	**241**	P	**P**	**01 18 24.3**	**+1.0**
MGCD	**Mangrove Creek**	**35.67**	**236**	P	**P**	**01 18 33.9**	**+0.3**
CAN	**Canberra**	**38.00**	**234**	P	**P**	**01 18 53.4**	**-0.2**
CTAO	**Charters Tower**	**38.16**	**259**	P	**P**	**01 18 54.6**	**-0.4**
CTAO				IAmb	IAmb	01 18 55.2	
CTAO	**Charters Tower**	**38.16**	**259**	P	**P**	**01 18 55.0**	**0.0**
CTAO	**Charters Tower**	**38.16**	**259**	P	**P**	**01 18 54.6**	**-0.4**
CTAO				pmax	pmax		
CTAO	**Charters Tower**	**38.16**	**259**	P	**P**	**01 18 54.0**	**-1.0**
CMSA	**Cobar Meteorol**	**39.66**	**241**	P	**P**	**01 19 07.1**	**-0.3**
CMSA	**Cobar Meteorol**	**39.66**	**241**	P	**P**	**01 19 07.0**	**-0.3**
CMSA	**Cobar Meteorol**	**39.66**	**241**	P	**P**	**01 19 07.4**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**40.14**	**330**	T	T	02 01 51.2	
H11S3	**WAKE ISLAND Hy**	**40.16**	**330**	T	T	02 01 51.2	
H11S1	**WAKE ISLAND Hy**	**40.16**	**330**	T	T	02 01 55.8	
QLP	**Quilpie**	**40.20**	**249**	P	**P**	**01 19 11.6**	**-0.4**
QLP	**Quilpie**	**40.20**	**249**	P	**P**	**01 19 12.4**	**+0.4**
WAKE	**Wake Island**	**40.85**	**331**	P	**P**	**01 19 16.3**	**-1.0**
WAKE	**Wake Island**	**40.85**	**331**	P	**P**	**01 19 16.8**	**-0.5**
H11N3	**WAKE ISLAND Hy**	**41.11**	**331**	T	T	02 02 47.8	
H11N1	**WAKE ISLAND Hy**	**41.12**	**331**	T	T	02 02 54.5	
H11N2	**WAKE ISLAND Hy**	**41.13**	**331**	T	T	02 02 52.2	
TOO	**Toolangi**	**41.41**	**232**	P	**P**	**01 19 21.3**	**-0.5**
TOO	**Toolangi**	**41.41**	**232**	P	**P**	**01 19 21.7**	**-0.1**
TOO	**Toolangi**	**41.41**	**232**	P	**P**	**01 19 21.3**	**-0.5**
TOO				pmax	pmax		
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**01 19 33.9**	**-2.2**
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**01 19 35.9**	**-0.2**
STKA	**Stephens Creek**	**43.16**	**241**	P	**P**	**01 19 36.2**	**+0.1**
STKA				LR	LR	01 36 45.7	
ARPS	**Mount Arapiles**	**43.98**	**234**	P	**P**	**01 19 42.2**	**-0.4**
HTT	**Hallett**	**45.63**	**240**	P	**P**	**01 19 55.8**	**-0.1**
HTT	**Hallett**	**45.63**	**240**	P	**P**	**01 19 56.7**	**+0.8**
LCRK	**Leigh Creek**	**45.84**	**244**	P	**P**	**01 19 58.3**	**+0.8**
JAY	**Jayapura**	**47.12**	**283**	P	**P**	**01 20 07.0**	**-0.8**
JAY	**Jayapura**	**47.12**	**283**	P	**P**	**01 20 06.3**	**-1.5**
JAY	**Jayapura**	**47.12**	**283**	P	**P**	**01 20 07.0**	**-0.8**
GENI	**Genyem**	**47.59**	**282**	P	**P**	**01 20 11.6**	**+0.2**
OOD	**Oodnadatta**	**47.87**	**248**	P	**P**	**01 20 14.0**	**+0.6**
BBOO	**Buckleboo**	**47.93**	**241**	P	**P**	**01 20 13.3**	**-0.5**
WRA	**Warramunga Arr**	**49.35**	**258**	P	**P**	**01 20 23.7**	**-1.2**
WRA				PcP	**PcP**	**01 21 47.2**	**+0.2**
WRA				ScP	**ScP**	**01 25 39.7**	**+1.5**
WRA				LR	LR	01 40 49.4	
AS01	**Alice Springs**	**49.45**	**253**	P	**P**	**01 20 25.3**	**-0.4**
AS31	**Alice Springs**	**49.50**	**253**	P	**P**	**01 20 25.3**	**-0.8**
AS31				IAmb	IAmb	01 20 26.5	
AS31	**Alice Springs**	**49.50**	**253**	P	**P**	**01 20 25.2**	**-0.9**
ASAR	**Alice Springs**	**49.50**	**253**	P	**P**	**01 20 25.2**	**-0.8**
ASAR				PcP	**PcP**	**01 21 47.5**	**0.0**
ASAR				ScP	**ScP**	**01 25 41.3**	**+2.5**
ASAR				S	**S**	**01 27 22.3**	**-8.0**
GUMO	**Guam**	**50.99**	**304**	LR	LR	01 38 54.5	
MTN	**Manton Dam**	**53.45**	**266**	P	**P**	**01 20 55.0**	**-0.6**
MTN				IAmb	IAmb	01 20 57.0	
WRKA	**Warakurna**	**54.54**	**251**	P	**P**	**01 21 02.7**	**-0.8**
WRKA	**Warakurna**	**54.54**	**251**	P	**P**	**01 21 03.2**	**-0.3**
FORT	**Forrest**	**54.60**	**244**	P	**P**	**01 21 02.9**	**-1.0**
FORT	**Forrest**	**54.60**	**244**	P	**P**	**01 21 02.7**	**-1.1**
FORT	**Forrest**	**54.60**	**244**	P	**P**	**01 21 03.9**	**+0.1**
KNRA	**Kununurra**	**55.18**	**262**	IAmb	IAmb	01 21 12.6	
SWI	**Sorong**	**56.54**	**280**	P	**P**	**01 21 18.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**57.74**	**259**	P	**P**	**01 21 26.2**	**-0.2**
FITZ				LR	LR	01 45 10.0	
DRV	**Dumont d'Urvil**	**58.15**	**200**	P	**P**	**01 21 30.2**	**+1.8**
DRV				pP	**pP**	**01 21 40.1**	**-2.1**
DRV				sP	sP	01 21 44.6	-3.3
AAI	**Ambon**	**58.56**	**276**	P	**P**	**01 21 32.2**	**0.0**
KMBL	**Kambalda**	**59.89**	**243**	P	**P**	**01 21 39.8**	**-1.4**
SOEI	**Soe**	**60.69**	**268**	P	**P**	**01 21 48.2**	**+1.1**
SOEI	**Soe**	**60.69**	**268**	P	**P**	**01 21 47.7**	**+0.7**
SANI	**Sanana**	**61.15**	**277**	P	**P**	**01 21 48.9**	**-1.1**
JCJ	**Chichijima**	**61.26**	**315**	LR	LR	01 42 55.8	
VNDA	**Vanda**	**61.89**	**186**	P	**P**	**01 21 56.4**	**+2.4**
VNDA				LR	LR	01 44 51.4	
VNDA	**Vanda**	**61.89**	**186**	P	**P**	**01 21 57.1**	**+3.1**
VNDA				pP	**pP**	**01 22 07.5**	**-0.3**
PSA00	**Pilbara Seismi**	**62.62**	**254**	P	**P**	**01 21 59.2**	**-0.6**
PSA00	**Pilbara Seismi**	**62.62**	**254**	P	**P**	**01 21 58.1**	**-1.8**
PSA00	**Pilbara Seismi**	**62.62**	**254**	P	**P**	**01 21 59.6**	**-0.2**
PSAC1	**Pilbara Seismi**	**62.66**	**254**	P	**P**	**01 21 58.4**	**-1.7**
MEEK	**Meekatharra**	**63.10**	**248**	P	**P**	**01 22 01.3**	**-1.7**
MEEK	**Meekatharra**	**63.10**	**248**	P	**P**	**01 22 02.6**	**-0.4**
KLBR	**Kellerberrin**	**63.40**	**243**	P	**P**	**01 22 03.6**	**-1.2**
KLBR	**Kellerberrin**	**63.40**	**243**	P	**P**	**01 22 04.8**	**0.0**
NWAO	**Narrogin (SRO)**	**63.75**	**241**	LR	LR	01 49 20.6	
BLDU	**Ballidu**	**64.37**	**244**	P	**P**	**01 22 10.3**	**-0.9**
BLDU	**Ballidu**	**64.37**	**244**	P	**P**	**01 22 10.8**	**-0.4**
WSI	**Waingapu**	**64.51**	**267**	P	**P**	**01 22 12.0**	**-0.3**
DAV	**Davao City (W)**	**64.67**	**286**	LR	LR	01 48 50.4	
MUN	**Mundaring**	**64.68**	**242**	P	**P**	**01 22 12.6**	**-0.6**
MUN	**Mundaring**	**64.68**	**242**	P	**P**	**01 22 13.0**	**-0.2**
WBSI	**Waikabubak, Su**	**65.38**	**267**	P	**P**	**01 22 17.6**	**-0.5**
APSI	**Ampana**	**65.63**	**277**	P	**P**	**01 22 19.8**	**+0.2**
KAPI	**Kappang**	**66.24**	**272**	LR	LR	01 51 29.7	
CCD	**Concordia, Ant**	**67.00**	**195**	P	**P**	**01 22 29.9**	**+2.0**
TOLI2	**Tolitoli**	**67.08**	**279**	P	**P**	**01 22 28.9**	**0.0**
TOLI2				IAmb	IAmb	01 22 29.8	
PLAI	**Plampang**	**67.13**	**267**	P	**P**	**01 22 28.8**	**-0.4**
PLAI	**Plampang**	**67.13**	**267**	P	**P**	**01 22 28.6**	**-0.6**
PCI	**Palu**	**67.35**	**276**	P	**P**	**01 22 31.8**	**+1.1**
GIRL	**Giralia**	**67.59**	**252**	P	**P**	**01 22 33.4**	**+1.3**
TWSI	**Taliwang, Sumb**	**68.00**	**267**	P	**P**	**01 22 34.2**	**-0.6**
CASY	**Casey**	**69.00**	**205**	P	**P**	**01 22 41.6**	**+1.5**
CASY	**Casey**	**69.00**	**205**	P	**P**	**01 22 41.4**	**+1.3**
CASY				pP	**pP**	**01 22 51.8**	**-2.4**
DNP	**Denpasar**	**69.62**	**267**	P	**P**	**01 22 43.5**	**-1.3**
SRBI	**Singaraja**	**69.77**	**267**	P	**P**	**01 22 45.6**	**-0.1**
MJAR	**Matsushiro Arr**	**69.95**	**320**	P	**P**	**01 22 44.0**	**-2.4**
MJAR				LR	LR	01 48 09.3	
MAJO	**Matsushiro**	**69.95**	**320⇑**	*e*P	**P**	**01 22 46.6**	**+0.2**
MAJO				pmax	pmax		
JAGI	**Jajag, Banyuwa**	**70.68**	**267**	P	**P**	**01 22 50.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**70.68**	**267

JOW Kunigami 71.21 307 LR LR 01 48 18.7
comp=Z,434nm,22.0s,baz=250,slow=31
JNU Nakatsue 72.68 314 P **P** **01 23 02.6 -0.4**
JNU IAmb IAmb 01 23 06.4
comp=Z,22nm,0.9s
JNU Nakatsue 72.68 314 P **P** **01 23 02.2 -0.7**
comp=Z,19nm,0.8s,baz=130,slow=3.2,SNR=8.7
JNU LR LR 01 48 51.2
comp=Z,246nm,21.8s,baz=133,slow=31
comp=Z,19nm,0.8s
ASAJ Asahikawa 72.70 329 P **P** **01 23 01.4 -1.3**
comp=Z,24nm,0.9s,baz=180,slow=8.1,SNR=5.4
ASAJ LR LR 01 48 56.5
comp=Z,256nm,21.2s,baz=137,slow=31
comp=Z,24nm,0.9s
KKM Kota Kinabalu 73.00 282 P **P** **01 23 04.7 -0.6**
KKM IAmb IAmb 01 23 17.5
comp=Z,27nm,1.0s
QSPA South Pole Qui 73.17 180 P **P** **01 23 07.5 +2.0**
QSPA South Pole Qui 73.17 180 P **P** **01 23 07.5 +2.0**
comp=Z,76nm,0.9s,baz=39,slow=1.5,SNR=161
QSPA LR LR 01 48 59.6
comp=Z,234nm,21.9s,baz=12,slow=31
comp=Z,76nm,0.9s
PET Petropavlovsk 73.63 343⇑ *e*P **P** **01 23 07.7 -0.3**
PET pmax pmax
comp=Z,23nm,1.3s
ISA Isabella, Lake 73.83 44 P **P** **01 23 10.1 +0.3**
ISA IAmb IAmb 01 23 33.2
comp=Z,25nm,1.1s
ISA Isabella, Lake 73.83 44 P **P** **01 23 10.1 +0.3**
ISA pmax pmax
comp=Z,25nm,1.1s
YUH Yuha Desert 73.91 48 P **P** **01 23 10.0 -0.2**
LPIG La Paz 73.96 58 LR LR 01 46 27.1
comp=Z,168nm,21.9s,baz=246,slow=28
PEA0B Petropavlovsk- 73.98 342⇑ *i*P **P** **01 23 09.0 -1.1**
PETK Petropavlovsk- 73.98 342 P **P** **01 23 09.6 -0.5**
comp=Z,26nm,0.8s,baz=167,slow=6.5,SNR=11
PETK LR LR 01 47 56.3
comp=Z,261nm,21.9s,baz=175,slow=30
comp=Z,26nm,0.8s
CMB Columbia Colle 73.99 41 P **P** **01 23 09.7 -0.9**
CMB Columbia Colle 73.99 41 P **P** **01 23 09.7 -0.9**
CMB pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flats O 74.06 47 P **P** **01 23 10.0 -1.2**
PFO Pinyon Flats O 74.06 47 LR LR 01 47 51.4
comp=Z,183nm,21.3s,baz=246,slow=29
PFO Pinyon Flats O 74.06 47 P **P** **01 23 10.0 -1.2**
PFO pmax pmax
comp=Z,10.0nm,1.1s
UGM Wanagama 74.30 266 P **P** **01 23 11.5 -1.4**
YSS Yuzhno-Sakhali 74.68 331 P **P** **01 23 14.5 +0.3**
YSS IAmb IAmb 01 23 15.9
comp=Z,39nm,0.9s
YSS Yuzhno-Sakhali 74.68 331⇑ *e*P **P** **01 23 14.6 +0.3**
YSS *e* 01 23 32.5
YSS pmax pmax
comp=Z,40nm,0.9s
YBH Yreka Blue Hor 74.88 37 **P** **01 23 16.4 +0.7**
YBH IAmb IAmb 01 23 39.5
comp=Z,61nm,1.0s
YBH Yreka Blue Hor 74.88 37 LR LR 01 48 44.4
comp=Z,245nm,20.8s,baz=252,slow=30
YBH Yreka Blue Hor 74.88 37 P **P** **01 23 16.4 +0.7**
YBH pmax pmax
comp=Z,61nm,1.0s
LHV Little Huntoon 75.31 42 IAmb IAmb 01 23 44.9
comp=Z,28nm,1.0s
GRAC Grapevine Rang 75.33 43 IAmb IAmb 01 23 42.2
comp=Z,50nm,1.1s
NVAR Mina Array Bea 75.54 42 P **P** **01 23 19.9 +0.1**
NVAR Mina Array Bea 75.54 42 P **P** **01 23 19.1 -0.7**
comp=Z,3.2nm,0.8s,baz=225,slow=10,SNR=9.3
NVAR LR LR 01 51 08.2
comp=Z,267nm,18.5s,baz=239,slow=31
comp=Z,3.2nm,0.8s
PAHR Pah Rah Range 75.62 40 IAmb IAmb 01 23 45.3
comp=Z,37nm,1.2s
NV11 Mina Array Sit 75.64 42 IAmb IAmb 01 23 43.7
comp=Z,28nm,1.1s
KDAK Kodiak Island 76.40 11 LR LR 01 49 39.1
comp=Z,311nm,21.9s,baz=68,slow=30
KDAK Kodiak Island 76.40 11⇓ *e*P **P** **01 23 23.1 -0.8**
KDAK pmax pmax
comp=Z,25nm,1.3s
J05D Fort Rock, OR 76.71 36 **P** **01 23 27.2 +1.0**
H04A Detroit Lake 77.06 35 IAmb IAmb 01 23 51.0
comp=Z,48nm,1.0s
KSRS Korea Array 77.09 316 P **P** **01 23 28.8 +0.5**
comp=Z,3.0nm,0.9s,baz=135,slow=5.5,SNR=7.6
KSRS LR LR 01 51 28.1
comp=Z,191nm,21.9s,baz=125,slow=31
comp=Z,3.0nm,0.9s
PRN Pahroc Range 77.09 44 IAmb IAmb 01 23 52.5
comp=Z,34nm,1.2s
KSAR Wonju Array Be 77.11 316 P **P** **01 23 28.7 +0.4**
KSAR Wonju Array Be 77.11 316 P **P** **01 23 28.7 +0.4**
LEM Lemband 77.36 267 P **P** **01 23 30.5 -0.1**
comp=Z,47nm,0.7s,baz=100,slow=12,SNR=7.4
LEM LR LR 01 58 38.8
comp=Z,63nm,18.1s,baz=261,slow=36
comp=Z,47nm,0.7s
TUC Tucson 77.46 50 P **P** **01 23 31.0 +0.4**
TUC Tucson 77.46 50 P **P** **01 23 31.0 +0.4**
TUC pmax pmax
comp=Z,12nm,0.9s
TYV Tymovskoe 77.58 333 *e*P **P** **01 23 30.5 -0.2**
TYV pmax pmax
comp=Z,29nm,1.0s
TYV pmax pmax
comp=Z,400nm,4.1s
WVOR Wild Horse Val 77.70 38 IAmb IAmb 01 23 55.2
comp=Z,45nm,1.1s
HOOD Mount Hood Mea 77.76 35 IAmb IAmb 01 23 55.2
comp=Z,50nm,1.1s
319A Douglas 78.14 52 IAmb IAmb 01 23 42.4
comp=Z,29nm,1.1s
I07A Izee 78.19 37 IAmb IAmb 01 23 58.0
comp=Z,34nm,1.0s
PSTR Posyet 78.22 322 *de*P **P** **01 23 33.4 -1.0**
J08A Circle Bar Ran 78.34 38 IAmb IAmb 01 23 58.8
comp=Z,43nm,1.1s
KNB Kanab 78.39 45 IAmb IAmb 01 23 59.8
comp=Z,38nm,1.2s
SPR3 Spring Creek 3 78.43 43 IAmb IAmb 01 24 01.5
comp=Z,25nm,1.1s
U15A North Rim 78.45 46 IAmb IAmb 01 24 00.5
comp=Z,29nm,1.1s
USA0B Ussuriysk Arra 78.45 323⇓ *e*P **P** **01 23 36.0 +0.3**
USRK Ussuriysk Ar. 78.45 323 P **P** **01 23 35.1 -0.6**
comp=Z,4.3nm,0.8s,baz=116,slow=3.4,SNR=4.5
USRK LR LR 01 51 59.2
comp=Z,405nm,21.2s,baz=131,slow=31
comp=Z,4.3nm,0.8s
PSUT Pine Spring 78.50 44 IAmb IAmb 01 23 59.8
comp=Z,24nm,1.0s
ELK Elko 78.81 41 LR LR 01 50 00.9
comp=Z,309nm,21.9s,baz=260,slow=29
ELK Elko 78.81 41 P **P** **01 23 37.9 -0.2**
PKCU Pink Cliffs 78.96 45 IAmb IAmb 01 24 03.9
comp=Z,78nm,1.2s
PGC Sidney 78.99 31 IAmb IAmb 01 24 01.7
comp=Z,38nm,1.2s
SEW Seward 79.17 12 IAmb IAmb 01 23 45.6
comp=Z,25nm,0.9s
BBB Bella Bella 79.28 27 LR LR 01 53 29.9
comp=Z,97nm,19.7s,baz=205,slow=32
MTPU Mount Pierson 79.35 45 IAmb IAmb 01 24 06.0
comp=Z,35nm,1.3s
E07A Sunnyside 79.52 34 IAmb IAmb 01 24 05.0
comp=Z,36nm,1.0s
HAWA Hanford 79.59 35 IAmb IAmb 01 24 05.4
comp=Z,33nm,1.1s
MFID Camas Ranch 79.95 39 IAmb IAmb 01 24 07.3
comp=Z,26nm,1.0s
DUG Dugway, Tooele 80.06 43 P **P** **01 23 44.9 +0.1**
DUG pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 80.08 323 P **P** **01 23 47.1 +2.5**
MDJ pmax pmax
comp=Z,11nm,0.9s
D08A Wollman Farm, 80.33 34 IAmb IAmb 01 24 09.3
comp=Z,41nm,1.1s
E09A Wood Farm, Sta 80.42 35 IAmb IAmb 01 24 09.4
comp=Z,27nm,1.1s

PMR Palmer 80.60 12 IAmb IAmb 01 24 10.3
comp=Z,42nm,1.3s
F10A Beach Ranch, E 80.61 36 IAmb IAmb 01 24 10.3
comp=Z,31nm,0.9s
TMUT Trail Mountain 80.65 44 IAmb IAmb 01 24 12.4
comp=Z,40nm,1.2s
GHO Glory Hole Cre 80.80 12 IAmb IAmb 01 24 10.8
comp=Z,35nm,0.8s
HLID Hailey 80.88 39 IAmb IAmb 01 24 12.9
comp=Z,23nm,0.9s
B08A Colville Reser 80.91 33 IAmb IAmb 01 24 11.6
comp=Z,36nm,1.2s
NJ2 Nanjing 80.91 307 *e*P **P** **01 23 50.5 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
BMRM Bremner River 80.99 14 IAmb IAmb 01 24 12.0
comp=Z,42nm,0.9s
VHRN Van Horn 81.16 54 IAmb IAmb 01 23 58.2
comp=Z,21nm,0.7s
KLU Klutina 81.16 13 IAmb IAmb 01 24 12.9
comp=Z,37nm,1.0s
TLIG Tlapa 81.40 69 IAmb IAmb 01 23 55.4
comp=Z,44nm,1.6s
K20K Telida 81.42 9 IAmb IAmb 01 24 14.5
comp=Z,46nm,1.3s
TCUT Toone Canyon 81.45 43 IAmb IAmb 01 24 16.0
comp=Z,48nm,0.9s
VRDI Verde Repeater 81.48 14 IAmb IAmb 01 24 14.8
comp=Z,27nm,1.0s
MA2 Magadan 81.51 343 LR LR 01 56 15.2
comp=Z,141nm,20.1s,baz=162,slow=33
MA2 Magadan 81.51 343 *ce*P **P** **01 23 51.3 -0.6**
MA2 pmax pmax
comp=Z,28nm,1.3s
N25K Chitina, Valde 81.56 14 IAmb IAmb 01 24 14.6
comp=Z,22nm,0.8s
TX31 Lajitas Ar. Si 81.58 56 P **P** **01 23 52.9 -0.2**
TXAR Lajitas Array 81.58 56 P **P** **01 23 53.9 +0.8**
TXAR Lajitas Array 81.58 56 P **P** **01 23 53.5 +0.4**
comp=Z,8.9nm,1.1s,baz=216,slow=6.2,SNR=29
TXAR LR LR 01 53 39.6
comp=Z,85nm,20.4s,baz=248,slow=31
comp=Z,8.9nm,1.1s
TXAR Lajitas Array 81.58 56 P **P** **01 23 53.9 +0.8**
GLB Gilahina Butte 81.59 14 IAmb IAmb 01 24 14.6
comp=Z,22nm,0.8s
KLR Kul'dur 81.66 327 LR LR 01 54 58.1
comp=Z,178nm,21.9s,baz=170,slow=32
KLR Kul'dur 81.66 327 *ce*P **P** **01 23 53.0 +0.1**
KLR pmax pmax
comp=Z,5.0nm,1.1s
PV10 Paradox Valley 81.66 46 IAmb IAmb 01 24 17.0
comp=Z,29nm,0.9s
PV23 Carpenter Ridg 81.72 46 IAmb IAmb 01 23 59.2
comp=Z,38nm,0.9s
PV11 David Mesa, Pa 81.74 46 IAmb IAmb 01 24 24.2
comp=Z,27nm,1.1s
ANMO Albuquerque 81.89 50 P **P** **01 23 55.1 +0.4**
ANMO Albuquerque 81.89 50 LR LR 01 51 22.0
comp=Z,151nm,21.8s,baz=54,slow=29
ANMO Albuquerque 81.89 50 P **P** **01 23 55.1 +0.4**
ANMO pmax pmax
comp=Z,16nm,1.1s
O29M Mount Kennedy 81.94 17 IAmb IAmb 01 24 22.2
comp=Z,26nm,0.9s
BNX BinXian 82.00 323 ⇑P **P** **01 23 54.7 0.0**
BNX pmax pmax
comp=Z,15nm,0.8s
NEW Newport 82.03 34 LR LR 01 54 05.0
comp=Z,190nm,19.5s,baz=236,slow=31
CN2 Changchun 82.10 320 *e*P **P** **01 23 55.6 +0.2**
CN2 *es*P pP 01 24 14.0 +4.2
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BELA Belgrano 2 82.56 172 P **P** **01 23 57.8 +0.5**
BELA IAmb IAmb 01 23 59.3
comp=Z,55nm,1.0s
M26K Nabesna, AK 82.62 14 IAmb IAmb 01 24 20.9
comp=Z,33nm,1.1s
S22A 4UR Ranch, Cre 82.90 47 IAmb IAmb 01 24 24.4
comp=Z,38nm,1.1s
PMSA Palmer Station 82.90 156 LR LR 01 52 11.4
comp=Z,142nm,21.4s,baz=251,slow=29
DLMT Dillon 82.95 38 IAmb IAmb 01 24 23.7
comp=Z,44nm,1.3s
MSO Missoula 82.97 37 IAmb IAmb 01 24 22.8
comp=Z,44nm,1.5s
TPAW Teton Pass 82.97 41 IAmb IAmb 01 24 24.0
comp=Z,33nm,1.2s
FXWY Fox Creek 83.00 40 IAmb IAmb 01 24 24.2
comp=Z,25nm,1.2s
O20A White River Ci 83.05 45 IAmb IAmb 01 24 24.4
comp=Z,24nm,1.2s
SNOW Snow King Moun 83.08 41 IAmb IAmb 01 24 24.6
comp=Z,55nm,1.2s
DLBC Dease Lake 83.14 21 LR LR 01 55 03.4
comp=Z,150nm,19.1s,baz=268,slow=31
QIZ Qiongzhong 83.29 292 P **P** **01 24 02.3 +0.2**
QIZ S **S** **01 34 21.8 +2.5**
QIZ LR LR
comp=Z,180nm,16.5s
QIZ LR LR
comp=Z,270nm,17.8s
QIZ LR LR
comp=Z,340nm,22.8s
FLWY Flagg Ranch 83.43 40 IAmb IAmb 01 24 26.6
comp=Z,51nm,1.1s
YHB Horse Butte 83.47 39 IAmb IAmb 01 24 26.9
comp=Z,48nm,1.0s
PD31 Pinedale Array 83.48 42 P **P** **01 24 02.1 -0.8**
PD31 IAmb IAmb 01 24 25.9
comp=Z,38nm,1.1s
PDAR Pinedale Array 83.48 42 P **P** **01 24 02.1 -0.8**
PDAR Pinedale Array 83.48 42 P **P** **01 24 02.3 -0.6**
comp=Z,13nm,0.8s,baz=211,slow=3.1,SNR=89
PDAR PKKPbc **PKKPbc** **01 42 22.0 -1.2**
comp=Z,0.7nm,0.8s,baz=85,slow=4.9,SNR=4.8
PDAR LR LR 01 56 00.9
comp=Z,158nm,18.1s,baz=246,slow=32
comp=Z,13nm,0.8s
YFT Old Faithful 83.54 40 IAmb IAmb 01 24 28.1
comp=Z,23nm,1.0s
MG05 Puerto Natales 83.61 142 P **P** **01 24 05.8 +2.6**
BOZ Bozeman (W) 83.65 39 IAmb IAmb 01 24 27.2
comp=Z,40nm,1.2s
H17A Grant Village 83.67 40 IAmb IAmb 01 24 28.5
comp=Z,25nm,1.1s
M29M Somme Creek 83.76 16 IAmb IAmb 01 24 26.9
comp=Z,23nm,1.0s
YNR Norris Junctio 83.77 40 IAmb IAmb 01 24 29.8
comp=Z,24nm,1.2s
H21K Melozitna Rive 83.78 9 IAmb IAmb 01 24 27.2
comp=Z,16nm,0.9s
COLA College 83.84 11 P **P** **01 24 03.9 +0.1**
COLA College 83.84 11 P **P** **01 24 03.9 +0.1**
COLA pmax pmax
comp=Z,99nm,1.0s
SEY Seymchan 83.89 345 ⇑*i*P **P** **01 24 03.9 -0.3**
SEY pmax pmax
comp=Z,41nm,1.1s
ILAR Eielson Array 83.92 11 P **P** **01 24 03.1 -1.2**
comp=Z,3.1nm,0.7s,baz=210,slow=4.8,SNR=8.3
ILAR LR LR 01 53 10.0
comp=Z,185nm,20.5s,baz=218,slow=30
comp=Z,3.1nm,0.7s
TIA Tai'an 84.03 310 P **P** **01 24 05.5 0.0**
TIA pmax pmax
comp=Z,8.0nm,1.0s
DRIO Del Rio 84.05 57 IAmb IAmb 01 24 12.7
comp=Z,14nm,0.8s
MSTX Muleshoe 84.20 52 IAmb IAmb 01 24 30.4
comp=Z,41nm,1.0s
M30M Minto, Yukon 84.31 16 IAmb IAmb 01 24 28.9
comp=Z,17nm,0.9s
YNE Yellowstone No 84.33 40 IAmb IAmb 01 24 33.5
comp=Z,25nm,0.9s
T25A Trinidad 84.35 49 IAmb IAmb 01 24 31.0
comp=Z,18nm,1.1s
HEH HeiHe 84.53 326 *e*P P 01 24 02.4 -5.3
H03S2 Juan Fernandez 84.54 124 T T 02 57 31.2
baz=250,slow=75,SNR=12
CMIG Matias Romero 84.54 70 LR LR 01 54 08.5
comp=Z,70nm,20.3s,baz=244,slow=30
H03S1 Juan Fernandez 84.55 124 T T 02 57 30.7
baz=250,slow=75,SNR=15
H03S3 Juan Fernandez 84.55 124 T T 02 57 30.7
baz=250,slow=75,SNR=11

Q24A Divide 84.63 47 IAmb IAmb 01 24 33.5
comp=Z,36nm,1.2s
M31M Drury Creek, Y 84.67 17 IAmb IAmb 01 24 16.8
comp=Z,40nm,1.6s
POST Post 84.80 53 IAmb IAmb 01 24 16.6
comp=Z,36nm,0.9s
USHA Ushuaia 84.80 146 LR LR 01 52 27.8
comp=Z,201nm,21.8s,baz=232,slow=29
RLMT Red Lodge 84.84 40 IAmb IAmb 01 24 33.4
comp=Z,33nm,1.1s
N23A Red Feather La 84.96 45 IAmb IAmb 01 24 34.2
comp=Z,34nm,1.1s
FARO Faro, Yukon 84.99 18 IAmb IAmb 01 24 19.1
comp=Z,46nm,1.0s
HNDO Hondo 85.17 57 IAmb IAmb 01 24 18.8
comp=Z,15nm,0.9s
SN05 Snyder 5 85.20 54 IAmb IAmb 01 24 18.0
comp=Z,26nm,0.7s
SN07 Snyder 07 85.28 54 IAmb IAmb 01 24 18.2
comp=Z,19nm,0.7s
AMTX Amarillo 85.40 52 IAmb IAmb 01 24 36.7
comp=Z,26nm,0.9s
DKNS Dickens 85.48 53 IAmb IAmb 01 24 20.4
comp=Z,11nm,0.8s
COYC Coyhaique 85.91 136 P **P** **01 24 17.3 +2.4**
BILL Bilibino 85.94 353 P **P** **01 24 14.2 -0.2**
BILL IAmb IAmb 01 24 15.2
comp=Z,20nm,0.9s
BILL Bilibino 85.94 353 *c i*P **P** **01 24 14.3 -0.1**
BILL pmax pmax
comp=Z,21nm,1.0s
APMT Aspermont 85.97 54 IAmb IAmb 01 24 21.9
comp=Z,24nm,0.8s
EGMT Eagleton 86.01 37 IAmb IAmb 01 24 37.9
comp=Z,18nm,1.1s
BRDY Brady 86.06 56 IAmb IAmb 01 24 16.9
comp=Z,19nm,1.1s
HNS HongShan 86.28 311 ⇑P **P** **01 24 18.5 +1.8**
HNS pmax pmax
comp=Z,14nm,1.4s
MAW Mawson 86.34 199 LR LR 01 59 13.2
comp=Z,260nm,21.9s,baz=93,slow=33
BJT Baijiatuau 86.35 314 P **P** **01 24 18.5 +1.5**
BJT pmax pmax
comp=Z,11nm,1.2s
BJI Beijing 86.35 314 P **P** **01 24 18.5 +1.5**
BJI pP **pP** **01 24 28.8 -2.7**
BJI SKS **SKSac** **01 34 40.4 +1.2**
BJI S **S** **01 34 50.2 +1.4**
BJI pmax pmax
comp=Z,5.0nm,1.3s
BJI pmax pmax
comp=Z,53nm,4.8s
ZEA Zeya 86.59 329 *e*P **P** **01 24 18.1 +0.2**
LL01 San Ignacio de 86.77 133 IAmb IAmb 01 24 22.3
comp=Z,28nm,1.2s
LYN LuoYang 86.81 307 ⇑P **P** **01 24 20.1 +0.7**
LYN pmax pmax
comp=Z,46nm,0.8s
IPM Ipoh 86.88 276 IAmb IAmb 01 24 22.3
comp=Z,32nm,1.0s
435B Jarrell 87.00 57 IAmb IAmb 01 24 28.1
comp=Z,29nm,1.0s
PLPT Palo Pinto 87.17 55 IAmb IAmb 01 24 28.3
comp=Z,24nm,0.7s
LL04 Puerto Octay 87.27 132 IAmb IAmb 01 24 24.7
comp=Z,36nm,1.2s
LAO LASA Array 87.46 39 IAmb IAmb 01 24 45.7
comp=Z,30nm,1.1s
WHTX Lake Whitney, 87.54 56 IAmb IAmb 01 24 47.0
comp=Z,51nm,1.6s
RSSD Black Hills 87.67 42 P **P** **01 24 22.6 -1.0**
RSSD Black Hills 87.67 42 P **P** **01 24 22.6 -1.0**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
LR05 Currie 87.79 131 P **P** **01 24 26.2 +2.1**
FW06 Azle 87.82 55 IAmb IAmb 01 24 25.7
comp=Z,16nm,0.9s
TIY Taiyuan 88.06 310 *e*P **P** **01 24 27.5 +2.0**
TIY pmax pmax
comp=Z,18nm,0.8s
XLT XiLinHaoTe 88.08 317 *e*P **P** **01 24 27.9 +2.5**
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.0s
Z35A Perchaven, San 88.19 54 IAmb IAmb 01 24 48.5
comp=Z,26nm,0.9s
HIA Hailar 88.26 323 ⇑*i*P **P** **01 24 26.6 +0.5**
HIA pmax pmax
comp=Z,17nm,1.6s
PSI Prapat 88.40 273 P **P** **01 24 27.5 -0.2**
PSI pmax pmax
comp=Z,43nm,1.2s
GYA Guiyang 88.58 298 ⇓P **P** **01 24 29.7 +1.5**
GYA pmax pmax
comp=Z,19nm,1.1s
PLCA Paso Flores 88.66 132 IAmb IAmb 01 24 31.1
comp=Z,26nm,1.4s
PLCA Paso Flores 88.66 132 P **P** **01 24 27.8 -0.6**
comp=Z,6.6nm,1.0s,baz=243,slow=6.8,SNR=7.1
PLCA LR LR 01 55 08.3
comp=Z,189nm,21.3s,baz=233,slow=29
comp=Z,6.6nm,1.0s
R32A Long Quarter, 88.99 49 IAmb IAmb 01 24 54.0
comp=Z,29nm,1.0s
W35A Tecumseh 89.14 53 IAmb IAmb 01 24 33.2
comp=Z,23nm,1.3s
SLVN Son La 89.31 292 IAmb IAmb 01 24 34.7
comp=Z,20nm,1.3s
XAN Xi'an 89.35 306 P **P** **01 24 32.4 +0.8**
XAN pmax pmax
comp=Z,23nm,1.2s
XAN pmax pmax
comp=Z,150nm,4.5s
INK Inuvik 89.74 14 LR LR 01 58 21.0
comp=Z,149nm,19.2s,baz=230,slow=31
HHC Hu-ho-hao-te 89.90 313 *e*P **P** **01 24 35.3 +1.2**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,210nm,4.5s
YAK Yakutsk 90.39 337 LR LR 02 00 28.8
comp=Z,112nm,20.1s,baz=120,slow=32
YAK Yakutsk 90.39 337 *e*P **P** **01 24 34.5 -1.2**
YAK *e**PP pP 01 24 45.2 -5.0
YAK *e* 01 28 08.0
YAK *e*S **SKSac** **01 35 02.4 0.0**
YAK *e**SS **S** **01 35 20.3 -5.8**
YAK *e*SS **SS** **01 41 27.0 -0.8**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=Z,157nm,3.7s
YAK pmax pmax
comp=E,76nm,3.8s
YAK pmax pmax
comp=N,106nm,4.2s
YAK smax smax
comp=E,156nm,3.7s
ELIB Princess Elisa 90.65 185 *d*P **P** **01 24 38.1 +0.9**
comp=Z,38nm,0.9s
MT02 Curacav 90.88 125 IAmb IAmb 01 24 44.7
comp=Z,35nm,1.3s
SYO Syowa Base 91.12 191 ⇑*i*P **P** **01 24 39.5 +0.4**
VNA3 Neumayer Olymp 91.41 175 P **P** **01 24 41.4 +0.9**
VNA3 Neumayer Olymp 91.41 175 ⇑P **P** **01 24 41.4 +0.9**
comp=Z,24nm,0.8s
SNAA Sanae 91.44 177 P **P** **01 24 41.3 +0.5**
SNAA Sanae 91.44 177 P **P** **01 24 41.6 +0.9**
SNAA IAmb IAmb 01 24 42.7
comp=Z,20nm,0.9s
SNAA Sanae 91.44 177 ⇑P **P** **01 24 41.3 +0.5**
comp=Z,341nm,0.8s
SNAA Sanae 91.44 177 P **P** **01 24 41.2 +0.5**
comp=Z,20nm,0.9s,baz=194,slow=2.7,SNR=28
SNAA Sanae 91.44 177 LR LR 02 00 03.5
comp=Z,100nm,21.1s,baz=152,slow=32
SNAA Sanae 91.44 177 P **P** **01 24 41.6 +0.9**
SNAA Sanae 91.44 177 *c i*P **P** **01 24 41.2 +0.5**
SNAA pmax pmax
comp=Z,22nm,1.0s
SNAA Sanae 91.44 177 pmax pmax

comp=Z,21nm,0.9s
KMI Kunming 91.50 296 ⇑P **P 01 24 43.6 +1.6**
KMI pP pP 01 24 54.3 -2.3
KMI pmax pmax
comp=Z,15nm,1.1s
KMI LR LR
comp=Z,130nm,19.8s
KMI LR LR
comp=Z,190nm,25.7s
KMI LR LR
comp=Z,410nm,29.8s
YKA Yellowknife Ar 91.52 23 P **P 01 24 40.0 -0.9**
comp=Z,1.5nm,0.9s,baz=234,slow=4.7,SNR=15
YKA PP **PP 01 28 15.4 -4.3**
comp=Z,0.3nm,0.6s,baz=243,slow=9.5,SNR=4.9
YKA LR LR 01 59 57.8
comp=Z,150nm,18.5s,baz=250,slow=32
comp=Z,1.5nm,0.9s
JTS Las Juntas de 91.65 80 P **P 01 24 44.4 +1.7**
JTS Las Juntas de 91.65 80 P **P 01 24 44.4 +1.7**
JTS pmax pmax
comp=Z,52nm,1.1s
VNA2 Neumayer--Watz 91.90 175 P **P 01 24 44.1 +1.3**
baz=198,slow=4.0
VNA2 Neumayer--Watz 91.90 175 ⇑P **P 01 24 44.1 +1.3**
comp=Z,19nm,0.7s,baz=198,slow=4.0
CO03 El Pedregal 92.10 123 IAmb IAmb 01 24 47.4
comp=Z,20nm,1.0s
VNA1 Neumayer--Stat 92.10 175 P **P 01 24 43.9 +0.2**
VNA1 Neumayer--Stat 92.10 175 ⇑P **P 01 24 43.9 +0.2**
comp=Z,49nm,1.0s
CD2 Chengdu 92.43 301 P **P 01 24 47.5 +1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
NVL N'lazarevskaya 92.50 182 *e*P **P 01 24 46.0 +0.5**
NVL pmax pmax
comp=Z,12nm,1.0s
WHAR Wooly Hollow 92.72 54 IAmb IAmb 01 24 54.6
comp=Z,11nm,1.2s
LCO Las Campanas 92.74 121 P **P 01 24 49.8 +2.0**
LCO Las Campanas 92.74 121 P **P 01 24 49.8 +2.0**
LCO pmax pmax
comp=Z,42nm,1.0s
PZH PanZhiHua 92.78 297 P **P 01 24 49.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.6s
CO01 Juntas del Tor 92.89 122 IAmb IAmb 01 24 54.0
comp=Z,9.7nm,1.1s
ATAH Atahualpa 92.89 98 LR LR 01 57 54.6
comp=Z,149nm,21.6s,baz=254,slow=30
CMAR Chiang Mai Arr 92.91 288 P **P 01 24 49.9 +1.5**
CMAR Chiang Mai Arr 92.91 288 P **P 01 24 49.4 +1.0**
comp=Z,7.2nm,0.8s,baz=98,slow=2.6,SNR=21
CMAR LR LR 02 01 59.3
comp=Z,118nm,21.9s,baz=100,slow=33
comp=Z,7.2nm,0.8s
CMAR Chiang Mai Arr 92.91 288 *i* P **P 01 24 49.9 +1.5**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 93.01 289 P **P 01 24 50.0 +1.1**
CHTO IAmb IAmb 01 24 51.0
comp=Z,15nm,0.8s
CHTO Chiang Mai 93.01 289 P **P 01 24 50.0 +1.1**
CHTO pmax pmax
comp=Z,15nm,0.9s
MGMO Mountain Grove 93.33 52 IAmb IAmb 01 25 13.5
comp=Z,16nm,1.1s
R40A Maddies Statio 93.69 51 IAmb IAmb 01 25 14.8
comp=Z,17nm,1.1s
A36M Sachs Harbour 94.37 13 IAmb IAmb 01 25 19.8
comp=Z,18nm,0.8s
PB14 IPOC Station P 94.54 117 P **P 01 24 56.1 -0.2**
PB14 IAmb IAmb 01 24 59.4
comp=Z,8.6nm,1.0s
AC02 Maricunga 94.82 120 P **P 01 24 59.6 +1.9**
AC02 IAmb IAmb 01 25 01.3
comp=Z,27nm,1.7s
ULM Lac du Bonnet 95.19 39 IAmb IAmb 01 25 20.2
comp=Z,15nm,1.1s
ULM Lac du Bonnet 95.19 39 P **P 01 24 56.3 -1.8**
comp=Z,2.9nm,0.7s,baz=263,slow=6.1,SNR=7.2
ULM LR LR 02 00 49.0
comp=Z,298nm,22.0s,baz=282,slow=31
comp=Z,2.9nm,0.7s
ULM Lac du Bonnet 95.19 39 *e*P **P 01 24 55.7 -2.4**
ULN Ulaanbaatar 95.41 318 *ce*P **P 01 24 59.5 +0.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
L40A Anamosa 95.62 48 IAmb IAmb 01 25 23.3
comp=Z,21nm,1.0s
SONM Songino Array 95.82 318 P **P 01 24 59.8 -1.5**
comp=Z,0.7nm,0.7s,baz=120,slow=5.2,SNR=2.6
SONM LR LR 02 02 39.2
comp=Z,162nm,21.9s,baz=71,slow=32
comp=Z,0.7nm,0.7s
TIXI Tiksi 96.37 344 LR LR 02 04 15.9
comp=Z,166nm,20.8s,baz=190,slow=33
TIXI Tiksi 96.37 344 ⇑*e*P **P 01 25 01.8 -1.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 107.71 311 Pdif **Pdif 01 25 56.5 +2.2**
WMQ LR LR
comp=Z,160nm,22.5s
ZALV Zalesovo Beam 110.28 322 PKKPab PKKPab 01 41 17.6 +0.3
comp=Z,0.9nm,0.8s,baz=250,slow=2.9,SNR=5.2
MKAR Makanchi Array 111.73 314 PKiKP **PKiKP 01 30 08.3 -1.0**
comp=Z,1.1nm,0.6s,baz=93,slow=0.5,SNR=10
MKAR PKKPab **PKKPab 01 41 11.4 +0.1**
comp=Z,1.0nm,0.9s,baz=268,slow=3.9,SNR=6.9
KURK Kurchatov 114.13 318 PKIKP PKPdf 01 30 12.8 -1.0
KURBB Kurchatov Arra 114.19 318 PKP PKPdf 01 30 12.8 -1.1
comp=Z,1.6nm,0.8s,baz=80,slow=1.6,SNR=11
KURBB PKKPbc **PKKPbc 01 40 53.1 -2.8**
comp=Z,0.8nm,0.9s,baz=263,slow=4.8,SNR=5.1
KSH Kashi 116.20 306 PKP **PKiKP 01 30 19.4 +1.1**
SPITS Spitsbergen Ar 118.48 358 PKP **PKPdf 01 30 20.2 -1.3**
comp=Z,19nm,0.9s,baz=69,slow=16,SNR=3.8
BVAR Borovoye Array 118.93 322 PKP **PKPdf 01 30 22.3 -0.7**
comp=Z,4.3nm,0.8s,baz=89,slow=0.9,SNR=17
BRVK Borovoye 118.99 322 **PKPdf 01 30 22.8 -0.3**
BRVK Borovoye 118.99 322 *c i* PKIKP **PKPdf 01 30 22.4 -0.7**
SIMJ Simiganj 121.64 305 **PKPdf 01 30 28.6 -0.2**
KBL Kabul 121.75 300 **PKiKP 01 30 29.6 +0.3**
KBL Kabul 121.75 300 PKIKP **PKiKP 01 30 29.7 +0.3**
ARTI Arti 124.60 328 PKP **PKPdf 01 30 32.9 -0.8**
comp=Z,4.3nm,0.8s,baz=330,slow=2.0,SNR=5.6
ARTI Arti 124.60 328 *i* PKIKP **PKPdf 01 30 33.3 -0.4**
ARTI 01 32 19.1
ARTI 01 37 41.9
ARTI SS SS 01 49 05.3 -5.3
ARCES ARCESS Array B 126.04 352 PKP **PKPdf 01 30 35.5 -0.7**
comp=Z,6.5nm,0.7s,baz=19,slow=1.9,SNR=9.7
ABKAR Abkulak array 126.22 319 **PKPdf 01 30 36.4 -0.6**
ABKAR Abkulak array 126.22 319 **PKPdf 01 30 36.5 -0.6**
AKTO Aktyubinsk 127.03 321 PKP **PKPdf 01 30 38.1 -0.5**
comp=Z,1.7nm,0.8s,baz=307,slow=2.1,SNR=5.2
KIRV Kirov 127.78 333 ⇑*i* PKIKP **PKPdf 01 30 39.1 -0.6**
NBLA Lagarto - SE 128.26 119 *e*P PKiKP 01 30 50.7 +8.0
KLMR Klimovskoe 130.11 340 *e*PKIKP **PKPdf 01 30 39.7 -4.4**
BOSA Boshof 131.24 202 PKP **PKiKP 01 30 47.9 -0.6**
comp=Z,6.0nm,0.9s,baz=176,slow=6.3,SNR=5.9
BELG Belogornoye 132.03 327 PKP **PKPdf 01 30 47.4 -0.6**
comp=Z,13nm,0.8s,baz=106,slow=3.3,SNR=5.2
BELG Belogornoye 132.03 327 *d i* PKIKP **PKiKP 01 30 49.5 +0.5**
RCBR Riachuelo 132.47 115 *e*P **PKiKP 01 30 51.3 +0.1**
FINES FINESS Array B 133.34 347 PKP **PKPdf 01 30 50.2 0.0**
comp=Z,4.9nm,0.8s,baz=0.0,slow=1.4,SNR=7.9
OBN Obninsk 135.39 336 ⇓*e*PKIKP **PKPdf 01 30 54.0 -0.2**
OBN pmax pmax
comp=Z,46nm,3.2s
NB2 NORSAR Subarra 135.76 357 PKP **PKiKP 01 30 56.1 -0.3**
comp=Z,7.5nm,1.1s,baz=35,slow=2.6
NOA NORSAR Array B 135.76 357 PKP **PKPdf 01 30 54.0 -0.9**
comp=Z,1.4nm,0.8s,baz=14,slow=4.0,SNR=3.7
NOA NORSAR Array B 135.76 357 PKIKP **PKPdf 01 30 54.0 -0.9**
HFS Hagfors 136.48 355 PKP **PKPdf 01 30 56.4 +0.3**
comp=Z,5.0nm,0.8s,baz=114,slow=1.7,SNR=5.5
KBZ Khabaz 139.19 319 ⇓*i* PKIKP **PKiKP 01 31 04.6 +0.7**
KIV Kislovodsk 139.21 319 *i* PKIKP **PKiKP 01 31 03.4 -0.7**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,130nm,24.0s
AK03 Malin Array Si 141.60 337 PKP **PKPdf 01 31 05.3 -0.5**

AKASG Malin Array Be 141.62 337 **PKPdf 01 31 05.7 -0.1**
AKASG Malin Array Be 141.62 337 PKhKP PKPpre 01 30 59.8
comp=Z,4.7nm,0.8s,baz=42,slow=3.1,SNR=7.2
AKASG PKP **PKPdf 01 31 04.4 -1.4**
comp=Z,4.3nm,0.7s,baz=37,slow=3.8,SNR=20
AKASG Malin Array Be 141.62 337 PKIKP **PKPdf 01 31 05.7 -0.1**
AKBB Malin Array Si 141.62 337 ⇑*e*PKIKP **PKPdf 01 31 05.3 -0.5**
AKBB Malin Array Si 141.62 337 PKP **PKPdf 01 31 04.6 -1.2**
AK21 Malin Array Si 141.63 337 PKP **PKPdf 01 31 05.1 -0.7**
AK22 Malin Array Si 141.63 337 PKP **PKPdf 01 31 05.1 -0.7**
RNPP9 Sopachiv 142.21 340 PKP **PKPdf 01 31 07.5 +0.7**
RAYN Ar Rayn 142.81 287 **PKPdf 01 31 06.3 -2.5**
RAYN Ar Rayn 142.81 287 ⇑PKHKP PKPpre 01 31 04.7
KIBK Kibwezi 143.40 242 PKPbc 01 31 08.6 +1.1
SORM Soroca 144.02 335 ⇑P PKPbc 01 31 08.0 -0.1
SORM Soroca 144.02 335 ⇑PKIKP PKPbc 01 31 08.0 -0.1
PURM Purcari 144.60 332 ⇓P PKPbc 01 31 10.0 0.0
KMBO Kilima Mbogo 144.72 243 **PKPdf 01 31 13.0 +0.3**
KMBO Kilima Mbogo 144.72 243 PKIKP **PKPdf 01 31 13.0 +0.3**
CLL Collm 145.25 353 *i* PKIKP **PKPbc 01 31 11.3 -0.6**
CLL pmax pmax
comp=Z,29nm,1.1s
CLL Collm 145.25 353 *i* PKPbc **PKPbc 01 31 11.3 -0.6**
comp=Z,29nm,1.1s
CLL *i* (PKiKP) 01 31 15.8
CLL *i* PKPmax 01 31 34.8
comp=Z,25nm,0.8s
STHS Stebnicka Huta 145.39 343 *e*PKIKP **PKPab 01 31 12.7 0.0**
STHS Stebnicka Huta 145.39 343 *e*PKP **PKPab 01 31 12.7 0.0**
STHS *e* 01 31 35.7
CHVC Chvalec 145.49 349 *e*PKP **PKPab 01 31 12.9 -0.1**
CHVC *ex* x 01 31 37.6
CHVC Chvalec 145.49 349 *e*PKIKP **PKPab 01 31 12.9 -0.1**
OSTC Ostas 145.49 349 *e*PKP **PKPab 01 31 13.1 +0.1**
OSTC Ostas 145.49 349 *e*PKIKP **PKPab 01 31 13.1 +0.1**
KOLS Kolonicke sedl 145.52 341 *e*PKIKP **PKPab 01 31 13.4 +0.3**
KOLS Kolonicke sedl 145.52 341 *e*PKP **PKPab 01 31 13.4 +0.3**
KOLS *e* 01 31 36.0
BRG Berggiesshubel 145.56 352 *i* PKP **PKPbc 01 31 12.8 -0.1**
BRG Amp 01 31 14.1
comp=Z,26nm,1.1s
BRG Berggiesshubel 145.56 352 P **PKiKP 01 31 17.0 +0.3**
BRG Amp 01 31 17.7
comp=Z,8.0nm,0.8s
UPC Upice 145.58 349 *e*PKP **PKPab 01 31 13.3 0.0**
UPC *ex* x 01 31 36.2
UPC Upice 145.58 349 *e*PKIKP **PKPab 01 31 13.3 0.0**
BURAR Bucovina Array 145.66 337 ⇓P **PKPab 01 31 14.7 +0.9**
BURAR Bucovina Array 145.66 337 ⇓PKIKP **PKPab 01 31 14.7 +0.9**
DPC Dobruska-Polom 145.67 349 *e*PKP **PKPab 01 31 13.8 +0.1**
DPC *ex* x 01 31 37.0
DPC Dobruska-Polom 145.67 349 *e*PKIKP **PKPab 01 31 13.8 +0.1**
STEB Steborice 145.77 347 *e*PKP **PKPab 01 31 14.0 0.0**
STEB *ex* x 01 31 36.3
PVCC Panska Ves 145.80 351 *e*PKP **PKPab 01 31 13.8 -0.3**
PVCC *ex* x 01 31 36.7
PVCC Panska Ves 145.80 351 *e*PKP2 **PKPab 01 31 13.8 -0.3**
KRLC Kraliky 145.85 348 *e*PKP **PKPab 01 31 14.2 -0.2**
KRLC Kraliky 145.85 348 *e*PKP2 **PKPab 01 31 14.2 -0.2**
HSKC Hora Svate Kat 145.88 352 *e*PKP **PKPbc 01 31 13.7 -0.3**
HSKC *ex* x 01 31 36.5
VLDR Vladesti 145.93 333 ⇑P **PKPbc 01 31 14.2 0.0**
MORC Moravsky Berou 145.97 347 *e*PKP **PKPab 01 31 15.0 +0.1**
MORC Moravsky Berou 145.97 347 ⇓P **PKPab 01 31 15.0 +0.1**
MORC Moravsky Berou 145.97 347 ⇓PKP2 **PKPab 01 31 15.0 +0.1**
TESR Tescani 146.01 335 ⇓P **PKPdf 01 31 12.8 -0.8**
GHRR 146.05 333 ⇓P **PKPab 01 31 15.7 +0.5**
TLCR 146.10 331 ⇑P **PKPdf 01 31 13.9 +0.1**
TLCR 146.10 331 ⇑PKP2 **PKPdf 01 31 13.9 +0.1**
UCC Uccle 146.12 2 **PKPab 01 31 14.9 -0.4**
UCC Uccle 146.12 2 *d*PKP **PKPab 01 31 14.8 -0.4**
UCC Uccle 146.12 2 PKP2 **PKPab 01 31 14.9 -0.4**
GAZ Gaziantep 146.16 313 **PKPbc 01 31 15.2 -0.2**
BEBN Eben Emael 146.16 1 *d*PKP **PKPab 01 31 15.7 +0.2**
BMR Baia Mare 146.22 339 ⇓P **PKiKP 01 31 17.5 -0.7**
BMR Baia Mare 146.22 339 ⇓PKP2 **PKiKP 01 31 17.5 -0.7**
ONER Baraj Valea Uz 146.26 335 ⇑P **PKPab 01 31 15.7 -0.3**
PRA Prague 146.26 351 *e*PKP **PKPbc 01 31 15.1 0.0**
PRA *ex* x 01 31 37.5
PRA Prague 146.26 351 *e*PKP2 **PKPbc 01 31 15.1 0.0**
MAUC Maruska 146.30 347 *e*PKP **PKPab 01 31 16.0 -0.1**
MAUC *ex* x 01 31 38.6
IZVR Izvoarele 146.30 333 ⇓P **PKPab 01 31 16.4 +0.3**
PANC Panciu 146.31 334 ⇑P **PKPab 01 31 16.1 -0.1**
PRU Pruhonice 146.33 351 *e*PKP **PKPbc 01 31 14.6 -0.7**
PRU *ex* x 01 31 38.0
PRU Pruhonice 146.33 351 *e*PKP2 **PKPbc 01 31 14.6 -0.7**
SCHLR Schela 146.33 332 ⇓P **PKiKP 01 31 17.5 -1.0**
MEM Membach 146.35 0 *d*PKP **PKPbc 01 31 15.3 -0.1**
BSTI Sart Tilman 146.37 1 *d*PKP **PKPbc 01 31 15.6 +0.2**
BTNL Ternell 146.38 0 *d*PKP **PKPbc 01 31 15.4 -0.1**
JURR Jurilovca 146.39 331 ⇑P **PKPbc 01 31 15.2 -0.5**
CFR Carcaliu 146.42 332 ⇓P **PKPdf 01 31 14.7 +0.4**
CFR Carcaliu 146.42 332 ⇓PKP2 **PKPdf 01 31 14.7 +0.4**
VRI Vrincioaia 146.50 334 ⇑P **PKPbc 01 31 15.2 -0.8**
VRI Vrincioaia 146.50 334 ⇑PKP2 **PKPbc 01 31 15.2 -0.8**
BCLA Clavier 146.53 1 *d*PKP **PKPbc 01 31 15.8 -0.1**
TPGR Topolog 146.54 331 ⇓P **PKPbc 01 31 16.0 -0.1**
PLOR Plostina 146.54 334 ⇓P **PKPbc 01 31 15.4 -0.7**
PLOR Plostina 146.54 334 ⇓PKP2 **PKPbc 01 31 15.4 -0.7**
BGES Gesves 146.56 2 *d*PKP **PKPdf 01 31 15.0 +0.6**
BHOU Houvegnez 146.61 0 *d*PKP **PKPab 01 31 16.7 -0.6**
VRAC Vranov 146.61 348 PKPbc **PKPbc 01 31 16.4 +0.2**
comp=Z,5.8nm,0.8s,baz=24,slow=3.6,SNR=8.1
VRAC Vranov 146.61 348 *e*PKP **PKPbc 01 31 15.7 -0.5**
VRAC Vranov 146.61 348 ⇓P **PKPdf 01 31 15.2 +0.6**
BMRD Maredsous 146.63 2 *d*PKP **PKPbc 01 31 16.1 -0.1**
OZUR 146.70 335 ⇑P **PKiKP 01 31 19.2 -0.1**
COVR Voineasa-Covas 146.73 334 ⇑P **PKPbc 01 31 16.9 +0.3**
RCHB Rochefort 146.79 1 *d*PKP **PKPbc 01 31 16.1 -0.6**
JAVC Velka Javorina 146.81 346 *e*PKP **PKPab 01 31 18.4 +0.3**
DOU Dourbes 146.83 2 *d*PKP **PKPbc 01 31 16.6 -0.1**
TIRR Tirgusor 146.84 331 ⇓P **PKPbc 01 31 16.3 -0.6**
TIRR Tirgusor 146.84 331 ⇓PKP2 **PKPbc 01 31 16.3 -0.6**
VYHS Vyhne 146.87 345 *e*PKP2 **PKPbc 01 31 17.2 +0.2**
VYHS Vyhne 146.87 345 *e*PKP **PKPbc 01 31 17.2 +0.2**
VYHS *e* 01 31 40.2
HARR Harsova 146.89 331 ⇓P **PKiKP 01 31 19.6 -0.1**
HARR Harsova 146.89 331 ⇓PKP2 **PKiKP 01 31 19.6 -0.1**
KRUC Moravsky 146.89 348 *e*PKP **PKPbc 01 31 16.1 -0.9**
KRUC *e* 01 31 36.5
ZVC Zvikov 146.92 351 *e*PKP **PKPdf 01 31 15.6 +0.5**
DOPR Dopca 146.96 335 ⇑P **PKiKP 01 31 19.9 +0.1**
CJR Cluj-Napoca 147.01 338 ⇓P **PKiKP 01 31 20.5 +0.5**
CJR Cluj-Napoca 147.01 338 ⇓PKP2 **PKiKP 01 31 20.5 +0.5**
GRF Grafenberg Arr 147.04 354 *e*PKP **PKPbc 01 31 17.8 +0.4**
baz=8.5,slow=2.3
GRF *ep*PKP **pPKPab 01 31 37.4 +3.7**
PSZ Piszkesteto 147.12 343 ⇓P **PKPbc 01 31 17.8 0.0**
PSZ Piszkesteto 147.12 343 ⇓PKP2 **PKPbc 01 31 17.8 0.0**
MLR Muntele Rosu 147.12 334 PKPbc **PKPbc 01 31 18.1 +0.2**
comp=Z,14nm,0.9s,baz=28,slow=4.7,SNR=15
MLR Muntele Rosu 147.12 334 ⇑P **PKPbc 01 31 17.5 -0.5**
MLR Muntele Rosu 147.12 334 ⇑PKP2 **PKPbc 01 31 17.1 -0.8**
BR131 Keskin Array S 147.17 319 **PKPbc 01 31 18.3 +0.1**
BR131 Keskin Array S 147.17 319 *de*PKIKP **PKPdf 01 31 15.8 -0.2**
BRTR Keskin Array B 147.17 319 **PKPdf 01 31 15.3 -0.7**
BRTR Keskin Array B 147.17 319 PKPbc **PKPbc 01 31 17.9 -0.3**
comp=Z,12nm,0.8s,baz=125,slow=2.5,SNR=28
BRTR Keskin Array B 147.17 319 PKIKP **PKPdf 01 31 15.3 -0.7**
SMOL Smolenice 147.19 346 *e*PKP2 **PKPab 01 31 19.3 -0.2**
MARR Marisel-Cluj 147.22 339 ⇓P **PKiKP 01 31 21.3 +0.9**
DRGR 147.26 339 ⇑P **PKPbc 01 31 18.2 0.0**
WLF Walferdange 147.30 0 **PKPbc 01 31 18.6 +0.5**
WLF Walferdange 147.30 0 *d*PKP **PKPbc 01 31 18.5 +0.4**
WLF *dp*PKP **PKiKP 01 31 26.5 +6.1**
WLF Walferdange 147.30 0 PKP2 **PKPbc 01 31 18.6 +0.5**
KHC Kasperske Hory 147.31 351 *e*PKP **PKPdf 01 31 16.3 +0.5**
KHC *ex* x 01 31 40.4
KHC Kasperske Hory 147.31 351 *e*PKIKP **PKPdf 01 31 16.3 +0.5**
KIRS Kirsehir-Merke 147.34 318 ⇑P **PKPab 01 31 19.9 -0.7**
MODS Modra-Piesok 147.35 347 *e*PKP2 **PKPbc 01 31 19.1 +0.8**
MODS Modra-Piesok 147.35 347 *e*PKP **PKPbc 01 31 19.1 +0.8**
MODS *e* 01 31 41.8
VOIR 147.53 335 ⇓P **PKPbc 01 31 19.1 +0.1**
VOIR 147.53 335 ⇓PKP2 **PKPbc 01 31 19.1 +0.1**
GERES GERESS Array B 147.57 351 **PKPbc 01 31 18.9 -0.1**
GERES GERESS Array B 147.57 351 PKPbc **PKPbc 01 31 19.0 0.0**
comp=Z,4.4nm,0.8s,baz=38,slow=2.4,SNR=16
GERES GERESS Array B 147.57 351 PKP2 **PKPbc 01 31 18.9 -0.1**

ANTO Ankara 147.61 320 ⇑P **PKPbc 01 31 19.4 0.0**
ANTO Ankara 147.61 320 ⇑PKP2 **PKPbc 01 31 19.4 0.0**
ARR Arges 147.76 336 ⇓P **PKPab 01 31 22.1 +0.2**
DEV Deva 147.97 338 ⇓P **PKPbc 01 31 20.2 +0.2**
DEV Deva 147.97 338 ⇓PKP2 **PKPbc 01 31 20.2 +0.2**
LOT Lotru 148.03 337 ⇑P **PKPbc 01 31 21.0 +0.6**
SIRR Siria 148.07 340 ⇑P **PKiKP 01 31 21.3 -0.8**
CONA Conrad Observa 148.08 348 *i* PKP **PKPbc 01 31 20.8 +0.4**
comp=Z,38nm,1.5s,SNR=9.4
CONA *es*PKP 01 31 38.1
comp=Z,12nm,0.7s
RONA Rosalia, Austr 148.21 347 *i* PKP **PKPbc 01 31 21.1 +0.5**
comp=Z,32nm,1.3s,SNR=6.5
RONA *es*PKiKP **pPKPbc 01 31 38.5 +2.9**
comp=Z,39nm,1.0s
GZR Gura Zlata 148.44 338 ⇓P **PKPbc 01 31 21.7 +0.3**
GZR Gura Zlata 148.44 338 ⇓PKP2 **PKPbc 01 31 21.7 +0.3**
MOA Molln 148.45 350 *i* PKP **PKPbc 01 31 21.4 +0.2**
comp=Z,15nm,1.1s
MOA *i* sPKiKP **pPKPbc 01 31 39.3 +3.1**
comp=Z,26nm,0.9s
ASF Jabal al Asfar 148.50 305 PKPbc **PKPbc 01 31 22.2 +0.2**
comp=Z,7.8nm,0.9s,baz=68,slow=2.0,SNR=7.6
LODK Lodwar 148.59 248 **PKPdf 01 31 20.4 +1.3**
BFO Black Forest 148.59 358 **PKPbc 01 31 21.6 0.0**
BFO Black Forest 148.59 358 PKP2 **PKPbc 01 31 21.6 0.0**
BZS Buzias 148.65 339 ⇓P **PKiKP 01 31 22.4 -0.9**
BZS Buzias 148.65 339 ⇓PKP2 **PKiKP 01 31 22.4 -0.9**
BIOA Bad Ischl, Aus 148.70 351 *i* PKP **PKPbc 01 31 22.1 +0.1**
comp=Z,17nm,1.1s
BIOA *es*PKiKP **pPKPbc 01 31 39.7 +2.8**
comp=Z,18nm,1.0s
ARSA Arzberg 148.79 348 *i* PKP **PKiKP 01 31 22.8 -0.8**
comp=Z,12nm,1.0s,SNR=5.2
ARSA *i* sPKP 01 31 40.9
comp=Z,18nm,1.0s
HERR Herculane 149.01 338 ⇑P **PKiKP 01 31 24.5 +0.4**
MORH Mrgy, Hungar 149.03 343 ⇓P **PKPdf 01 31 18.9 +0.2**
LESA Schwarzleotal 149.10 352 *i* PKP **PKPbc 01 31 22.9 -0.2**
comp=Z,13nm,1.2s
LESA *es*PKP 01 31 42.9
comp=Z,16nm,1.2s
RETA Reutte 149.27 354 *i* PKP **PKPbc 01 31 23.6 +0.2**
comp=Z,24nm,1.2s,SNR=5.1
RETA *es*PKP 01 31 41.9
comp=Z,34nm,1.2s
WATA Walderalm 149.33 353 *i* PKP **PKPbc 01 31 23.7 0.0**
comp=Z,27nm,1.1s,SNR=7.2
WATA *es*PKP 01 31 43.0
comp=Z,24nm,1.4s
MMAI Mount Meron Ar 149.33 307 PKPbc **PKiKP 01 31 24.8 -0.4**
comp=Z,22nm,0.7s,baz=76,slow=6.1,SNR=21
KBA Koelnbreinsper 149.34 351 *i* PKP **PKPbc 01 31 23.9 +0.1**
comp=Z,22nm,1.6s
KBA *es*PKP 01 31 43.3
comp=Z,20nm,0.9s
MDVR Moldovita 149.35 338 ⇑P **PKPbc 01 31 23.4 -0.3**
MOTA Moosalm 149.37 354 *i* PKP **PKPbc 01 31 23.9 +0.1**
comp=Z,38nm,1.2s
MOTA *i* sPKP 01 31 43.4
comp=Z,19nm,0.9s
WTTA Wattenberg 149.40 353 *i* PKP **PKPbc 01 31 24.2 +0.3**
comp=Z,28nm,0.8s,SNR=5.4
WTTA *es*PKP 01 31 43.7
comp=Z,15nm,0.6s
SOKA Soboth 149.44 348 *i* PKP **PKPbc 01 31 24.0 +0.1**
comp=Z,26nm,1.2s,SNR=6.5
SOKA *es*PKP 01 31 44.1
comp=Z,17nm,1.2s
SQTA Sankt Quirin 149.49 354 *i* PKP **PKPbc 01 31 24.1 +0.1**
comp=Z,29nm,1.3s,SNR=5.2
SQTA *i* sPKP 01 31 44.6
comp=Z,36nm,1.6s
DAVA Damuels 149.54 355 *i* PKP **PKPbc 01 31 24.5 +0.3**
comp=Z,33nm,1.1s,SNR=6.8
DAVA *es*PKP 01 31 44.4
comp=Z,25nm,0.8s
OBKA Obir 149.69 349 *i* PKP **PKPbc 01 31 24.7 +0.1**
comp=Z,9.7nm,1.2s
OBKA *es*PKP 01 31 44.6
comp=Z,10nm,0.8s
FETA Feichten 149.73 354 *i* PKP **PKPbc 01 31 25.0 +0.3**
comp=Z,29nm,1.0s,SNR=7.9
FETA *i* sPKP 01 31 44.6
comp=Z,28nm,1.3s
MYKA Terra Mystica 149.73 350 *i* PKP **PKPbc 01 31 24.0 -0.6**
comp=Z,11nm,1.0s
MYKA *i* sPKP 01 31 45.4
comp=Z,12nm,1.0s
ABTA Abfaltersbach 149.79 352 *e*PKP **PKPbc 01 31 24.3 -0.4**
comp=Z,47nm,1.1s,SNR=8.3
ABTA *i* sPKP 01 31 45.4
comp=Z,31nm,1.0s
DAVOX Davos/Dischmat 150.05 355 PKPbc **PKiKP 01 31 25.9 -0.5**
comp=Z,20nm,0.8s,baz=0.4,slow=2.1,SNR=20
BOVS Bovan 150.34 337 ⇑P **PKPbc 01 31 24.6 -1.5**
TUE Stuetta 150.39 356 **PKPbc 01 31 26.5 +0.2**
EIL Elat 150.95 301 PKPbc **PKiKP 01 31 28.4 -0.1**
comp=Z,16nm,0.9s,baz=63,slow=2.3,SNR=11
ESDC Sonseca Array 155.56 20 PKP **PKPdf 01 31 28.5 -0.2**
comp=Z,1.1nm,0.8s,baz=339,slow=2.7,SNR=2.8
DBIC Dimbokro 165.02 131 PKP **PKPdf 01 31 39.4 -0.4**
comp=Z,9.3nm,1.1s,baz=197,slow=1.7,SNR=3.9
DBIC PKPab **PKPab 01 32 37.1 +0.7**
comp=Z,8.1nm,0.9s,baz=188,slow=4.4,SNR=4.8
TORD Torodi Ar. Bea 174.12 129 PKP **PKPdf 01 31 44.1 -1.0**
comp=Z,10nm,1.0s,baz=351,slow=4.0,SNR=16
TORD PKPab **PKPab 01 33 17.1 +0.3**
comp=Z,14nm,0.9s,baz=278,slow=4.6,SNR=24

ATH 02 01:28:58.7, 37°.41N×20°.62E, h16$^{km}\pm2^{km}$, ML2.4/6, Error ellipse: s-maj=4.8km s-min=1.4km az=34.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.35**	**30**	P	Pg	01 29 05.6	-0.3
LTHK				S	Sg	01 29 10.3	-0.6
LTHK				AML	AML	01 29 11.1	
	comp=N,2440μm,0.3s						
LTHK				AML	AML	01 29 12.0	
	comp=E,1510μm,0.2s						
KYPS	**Kipseli, Zakin**	**0.44**	**22**	P	Pg	01 29 07.5	-0.1
KYPS				S	Sb	01 29 14.3	-0.2
ORTH	**Orthonies,Zaky**	**0.45**	**8**	P	Pg	01 29 07.3	-0.4
ORTH				S	Sg	01 29 14.2	+0.4
CLEM	**Kyllini,Ilia,G**	**0.63**	**40**	P	Pg	01 29 10.7	-0.4
CLEM				S	Sb	01 29 19.9	-0.1
CLEM				AML	AML	01 29 22.3	
	comp=E,1016μm,0.2s						
CLEM				AML	AML	01 29 22.3	
	comp=N,1390μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.71**	**358**	P	Pg	01 29 11.9	-0.6
VLS	**Valsamata**	**0.77**	**358**	P	Pb	01 29 13.0	-0.7
VLS				AML	AML	01 29 25.8	
	comp=N,462μm,0.2s						
VLS				AML	AML	01 29 26.4	
	comp=E,293μm,0.2s						
SMHA	**Samh**	**0.84**	**2**	P	Pb	01 29 13.7	-1.2
SMHA				AML	AML	01 29 27.0	
	comp=N,1556μm,0.5s						
SMHA				AML	AML	01 29 27.9	
	comp=E,1802μm,0.3s						
DMLN	**Damoulianata-K**	**0.85**	**347**	P	Pg	01 29 15.3	0.0
AMT	**Artemida-Makis**	**0.88**	**81**	P	Pb	01 29 15.5	0.0
AMT				AML	AML	01 29 34.0	
	comp=N,346μm,0.2s						
AMT				AML	AML	01 29 35.4	
	comp=E,421μm,0.3s						
RLS	**Riolos of Patr**	**0.94**	**46**	P	Pb	01 29 15.4	-1.0
DRO	**Drossia**	**1.02**	**58**	P	Pb	01 29 17.1	-0.9
DRO				AML	AML	01 29 41.1	
	comp=E,180μm,0.4s						
DRO				AML	AML	01 29 46.1	
	comp=N,107μm,18.4s						
FSK	**Fiskardo**	**1.05**	**358**	P	Pb	01 29 17.9	-0.5
ITM	**Ithomi**	**1.07**	**102**	P	Pb	01 29 18.1	-0.7
EVGI	**Lefkada island**	**1.21**	**1**	P	Pn	01 29 20.5	-0.5
NYDR	**Nydri-Lefkada**	**1.31**	**3**	P	Pn	01 29 22.1	-0.1
KLV	**Kalavryta, Ach**	**1.37**	**62**	P	Pb	01 29 23.7	-0.2
LKD2	**Lefkada island

*UPA **02** 01:41:24.9±1.3, 9°08'N×77°87'W, h78km±6km, MD3.7, ML3.5, MW3.9*
*RSNC **02** 01:41:26.8±0.0, 9°N±2°×7°8'W±°, h30km±8km, M2.2, ML2.2*
ISC 02 01:41:25.4±1.3, 9°08'N±0°06'×77°89'W±0°03, h75km±10km, n20, σ1°46/36, 2D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTI	**Torti**	**0.44**	**251**	‖*iP*	**Pn**	**01 41 38.2**	**+0.1**
TOTI	comp=Z,2μm,0.1s			AMP		01 41 38.4	
TOTI				*i*S	**Sn**	**01 41 47.7**	**+0.2**
UPD2	**Meteti**	**0.54**	**193**	‖*iP*	**Pn**	**01 41 39.1**	**0.0**
UPD2				*i*S	**Sn**	**01 41 49.5**	**+0.4**
CAPC	**Capurgana**	**0.69**	**129**	P	**Pn**	**01 41 41.0**	**+0.4**
CAPC				S	**Sn**	**01 41 51.1**	**-0.7**
CAPC	**Capurgana**	**0.69**	**129**	P		01 41 41.0	
CAPC				S		01 41 51.1	
CHPO	**Chepo, Panama**	**1.21**	**275**	*e*P	**Pn**	**01 41 45.5**	**-1.3**
CHPO				*i*S	**Sn**	**01 42 03.0**	**+0.1**
LCBC	**Los crdobas,**	**1.52**	**98**	P	**Pn**	**01 41 51.9**	**+1.1**
LCBC				S	**Sn**	**01 42 10.2**	**+0.2**
LCBC	**Los crdobas,**	**1.52**	**98**	P		01 41 51.9	
LCBC				S		01 42 10.2	
UPA	**Univ. de Panam**	**1.62**	**267**	*e*P	**Pn**	**01 41 51.8**	**-0.3**
APAC	**Apartado, Choc**	**1.75**	**132**	P	**Pn**	**01 41 55.6**	**+1.8**
APAC				S	**Sn**	**01 42 17.2**	**+1.9**
APAC	**Apartado, Choc**	**1.75**	**132**	P		01 41 55.6	
APAC				S		01 42 17.2	
CHOR3	**La Chorrera**	**1.86**	**265**	*e*P	**Pn**	**01 41 55.8**	**+0.5**
PTAC	**Punta Ardita,**	**1.92**	**178**	P	**Pn**	**01 41 56.4**	**+0.3**
PTAC				S	**Sn**	**01 42 18.3**	**-1.1**
PTAC	**Punta Ardita,**	**1.92**	**178**	*e*P	**Pn**	**01 41 55.1**	**-0.9**
PTAC	**Punta Ardita,**	**1.92**	**178**	P		01 41 56.4	
PTAC				S		01 42 18.3	
BCIP	**Isla Barro Col**	**1.92**	**273**	P	**Pn**	**01 41 56.9**	**+0.8**
BCIP				S	**Sn**	**01 42 20.2**	**+0.7**
BCIP	**Isla Barro Col**	**1.92**	**273**	*e*P	**Pn**	**01 41 56.8**	**+0.6**
BCIP				*i*S	**Sn**	**01 42 18.9**	**-0.6**
BCIP	**Isla Barro Col**	**1.92**	**273**	P		01 41 56.9	
BCIP				S		01 42 20.2	
ZANG	**Zanguenga, Cho**	**1.96**	**267**	*e*P	**Pn**	**01 41 55.8**	**-0.8**
UREC	**San Jos de Ur**	**2.68**	**119**	P	**Pn**	**01 42 08.3**	**+1.9**
UREC				S	**Sn**	**01 42 35.9**	**-2.0**
UREC	**San Jos de Ur**	**2.68**	**119**	*e*P	**Pn**	**01 42 05.5**	**-0.8**
UREC				*e*S	**Sn**	**01 42 35.8**	**-2.0**
UREC	**San Jos de Ur**	**2.68**	**119**	P		01 42 08.3	
UREC				S		01 42 35.9	
AZU	**Azuero**	**2.68**	**242**	P	**Pn**	**01 42 08.7**	**+2.4**
AZU				S	**Sn**	**01 42 34.6**	**-3.2**
AZU	**Azuero**	**2.68**	**242**	*e*P	**Pn**	**01 42 07.3**	**+1.0**
AZU				*e*S	**Sn**	**01 42 37.3**	**-0.5**
AZU	**Azuero**	**2.68**	**242**	P		01 42 08.7	
AZU				S		01 42 34.6	
CHIT3	**Chitre**	**2.73**	**246**	*e*P	**Pn**	**01 42 10.4**	**+3.4**
CHIT3				*e*S	**Sn**	**01 42 38.2**	**-0.9**
SJCC	**San Jacinto, C**	**2.80**	**73**	P	**Pn**	**01 42 08.6**	**+0.6**
SJCC				S	**Sn**	**01 42 39.4**	**-1.3**
SJCC	**San Jacinto, C**	**2.80**	**73**	P		01 42 08.6	
SJCC				S		01 42 39.4	
ZARC	**Zaragoza, Cauc**	**3.39**	**117**	P	**Pn**	**01 42 17.1**	**+1.1**
ZARC				S	**Sn**	**01 42 52.4**	**-2.7**
ZARC	**Zaragoza, Cauc**	**3.39**	**117**	P		01 42 17.1	
ZARC				S		01 42 52.4	

IDC 02 02:20:35.5±2.2, 11°85N×126°58E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=215.0km s-min=20.3km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.51**	**166**	P	P	02 27 08.5	+0.3
	0.7nm,0.9s,baz=344,slow=8.8,SNR=1.9 0.7nm,0.9s						
ASAR	**Alice Springs**	**36.02**	**169**	P	P	02 27 39.3	+0.6
	0.3nm,0.5s,baz=350,slow=7.4,SNR=4.2 0.3nm,0.5s						
STKA	**Stephens Creek**	**45.80**	**162**	P	P	02 28 58.0	-1.2
	1.8nm,0.7s,baz=340,slow=13,SNR=3.7 1.8nm,0.7s						
MKAR	**Makanchi Array**	**50.97**	**322**	P	P	02 29 39.0	0.0
	0.6nm,0.6s,baz=116,slow=8.5,SNR=8.4 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**54.96**	**325**	P	P	02 30 08.4	+0.1
	0.9nm,0.6s,baz=128,slow=6.9,SNR=4.7 0.9nm,0.6s						
FINES	**FINESS Array B**	**84.65**	**332**	P	P	02 33 10.6	-0.3
	4.1nm,1.1s,baz=102,slow=6.2,SNR=4.8 4.1nm,1.1s						

*IDC **02** 02:27:29.6±0.7, 40°57N×116°02W, h0km, mb2.5/1, mbtmp2.7/5, ML3.2/4, Error ellipse: s-maj=14.6km s-min=4.8km az=161.0*
*NEIC **02** 02:27:29.1±2.3, 40°61N±0°02×115°99W±0°04, h5km±2km, Error ellipse: s-maj=6.0km s-min=3.0km az=304.0*
*REN **02** 02:27:29.9±2.5, 40°61N±0°02×115°99W±0°05, h1km±3km, ML3.3/10, ML3.0/92(NEIC), Error ellipse: s-maj=6.6km s-min=1.5km az=114.0*
ISC 02 02:27:30.0±0.8, 40°61N±0°04×116°06W±0°04, h10km, n47, σ1°54/37, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.64**	**78**	Pg	**Pg**	**02 27 41.3**	**-1.1**
ELK				Sg	**Sg**	**02 27 49.2**	**-1.7**
ELK	**Elko**	**0.64**	**78**	Pg	**Pg**	**02 27 41.3**	**-1.1**
ELK	23nm,0.3s,baz=272,slow=17,SNR=214 65nm,0.3s,baz=189,slow=23,SNR=35			Lg	Lg	02 27 48.8	
Q12A	**Willow Creek R**	**1.83**	**149**	Pn	**Pn**	**02 28 01.4**	**-0.3**
Q12A					**Sn**	**02 28 25.5**	**+0.4**
SPR3	**Spring Creek 3**	**2.09**	**140**		**Pn**	**02 28 06.4**	**+1.0**
SPR3	comp=N,117nm,0.8s			IAML		02 28 41.8	
SPR3	comp=E,81nm,0.8s			IAML		02 28 42.4	
R11B	**Troy Canyon, C**	**2.29**	**171**	Pn	**Pn**	**02 28 08.4**	**+0.4**
BGU	**Big Grassy Mou**	**2.32**	**81**		**Pn**	**02 28 09.2**	**+0.8**
BGU	comp=E,136nm,1.0s			IAML		02 28 44.9	
DUG	**Dugway, Tooele**	**2.51**	**98**	Pn	**Pn**	**02 28 12.4**	**+1.3**
DUG	comp=E,81nm,0.6s			IAML		02 28 50.1	
DUG	comp=E,105nm,0.6s			IAML		02 28 51.4	
WVOR	**Wild Horse Val**	**2.66**	**314**		**Pb**	**02 28 16.9**	**-0.9**
WVOR				IAML		02 28 59.0	
WVOR	comp=E,44nm,0.8s			IAML		02 29 01.9	
PAHR	**Pah Rah Range**	**2.71**	**252**	Pn	**Pn**	**02 28 14.1**	**+0.4**
PAHR				IAML		02 28 58.7	
NV11	**Mina Array Sit**	**2.71**	**217**	Pn	**Pn**	**02 28 14.4**	**+0.6**
HVU	**Hansel Valley**	**2.74**	**64**		**Pn**	**02 28 14.4**	**+0.2**
RYN	**Ryan**	**2.75**	**225**		**Pn**	**02 28 15.0**	**+0.7**
RYN	comp=E,50nm,0.8s			IAML		02 29 03.9	
RYN	comp=N,47nm,0.8s			IAML		02 29 04.8	
NVAR	**Mina Array Bea**	**2.79**	**219**		**Pn**	**02 28 15.3**	**+0.4**
NVAR	**Mina Array Bea**	**2.79**	**219**	Pn	**Pn**	**02 28 15.4**	**+0.5**
NVAR	comp=N,2.3nm,0.3s,baz=28,slow=15,SNR=42 comp=N,6.6nm,0.3s,baz=32,slow=27,SNR=8.5 comp=N,8.3nm,0.7s			Sn	**Sn**	**02 28 48.9**	**+0.1**
MFID	**Camas Ranch**	**2.81**	**3**	Pn	**Pb**	**02 28 18.9**	**-1.4**
NV08	**Mina Array Sit**	**2.81**	**219**		**Pn**	**02 28 13.0**	**-2.3**
SPUT	**South Promonto**	**2.82**	**75**		**Pn**	**02 28 16.3**	**+1.0**
SPUT	comp=E,54nm,0.6s			IAML		02 29 02.9	
SPUT	comp=N,79nm,0.6s			IAML		02 29 03.4	
YERR	**Yerington**	**2.94**	**237**		**Pn**	**02 28 17.1**	**+0.1**
YERR	comp=E,74nm,1.2s			IAML		02 29 10.7	
YERR	comp=N,44nm,0.8s			IAML		02 29 11.8	
LHV	**Little Huntoon**	**3.02**	**220**	IAML		02 29 23.7	
	comp=N,58nm,1.1s						
HLID	**Hailey**	**3.19**	**22**	Pn	**Pn**	**02 28 22.2**	**+1.7**
HLID	comp=N,37nm,0.7s			IAML		02 29 10.4	
HLID	comp=N,34nm,0.6s			IAML		02 29 12.7	
J08A	**Circle Bar Ran**	**3.28**	**328**	Pn	**Pb**	**02 28 26.9**	**-1.5**
PRN	**Pahroc Range**	**3.29**	**166**		**Pn**	**02 28 23.5**	**+1.7**
WAKR	**Walker**	**3.35**	**232**		**Pn**	**02 28 22.8**	**+0.1**
WAKR	comp=E,22nm,4.5s			IAML		02 29 40.7	
BEKR	**Beckworth**	**3.38**	**259**		**Pn**	**02 28 24.2**	**+1.2**
TCRU	**Three Creeks R**	**3.43**	**124**	IAML		02 29 23.2	
TCRU	comp=N,48nm,0.9s comp=E,41nm,1.1s			IAML		02 29 24.8	
MPU	**Maple Canyon**	**3.44**	**99**	IAML		02 29 26.6	
JLU	**Jordanelle**	**3.51**	**89**	IAML		02 29 27.7	
JLU	comp=E,20nm,0.5s comp=N,39nm,0.9s			IAML		02 29 27.9	
DSP	**Deep Springs**	**3.56**	**205**		**Pn**	**02 28 26.8**	**+1.5**
WCT	**Wildcat Mounta**	**3.84**	**187**	IAML		02 29 35.5	
WCT	comp=E,22nm,0.6s comp=N,16nm,0.8s			IAML		02 29 39.3	
NSP	**Numbskull Pass**	**3.88**	**182**		**Pn**	**02 28 31.4**	**+1.6**
MTPU	**Mount Pierson**	**3.95**	**129**		**Pn**	**02 28 34.5**	**+3.4**
BSUT	**Blindstream Ca**	**4.04**	**89**	IAML		02 29 39.1	
Q16A	comp=N,16nm,1.1s **Castle Valley** comp=N,17nm,0.9s	**4.13**	**113**	IAML		02 29 41.1	
Q16A	comp=E,26nm,0.9s			IAML		02 29 41.9	
AMDNV	**Amargosa**	**4.16**	**182**		**Pn**	**02 28 35.5**	**+2.0**
LCMT	**Little Creek M**	**4.21**	**148**	IAML		02 29 49.5	
LCMT	comp=E,17nm,1.4s comp=N,11nm,1.3s			IAML		02 29 53.9	
GWY	**Greenwater Val**	**4.45**	**186**	Pn	**Pn**	**02 28 39.6**	**+1.9**
SRU	**San Rafael Swe**	**4.51**	**108**	IAML		02 29 52.2	
SRU	comp=N,15nm,0.5s comp=E,18nm,0.8s			IAML		02 30 03.0	
P18A	**Preston Nutter**	**4.56**	**101**	IAML		02 30 05.0	
P18A	comp=E,9.4nm,4.4s			IAML		02 30 42.9	
TPAW	**Teton Pass**	**4.77**	**51**	IAML		02 30 17.7	
TPAW	comp=E,14nm,2.5s comp=E,15nm,4.5s			IAML		02 30 32.5	
FXWY	**Fox Creek**	**4.81**	**49**		**Pn**	**02 28 46.0**	**+3.3**
FXWY	comp=E,7.5nm,4.7s			IAML		02 29 50.5	
FXWY	comp=E,7.9nm,4.1s			IAML		02 30 07.4	
V12A	**Nelson**	**4.97**	**169**	IAML		02 30 19.2	
V12A	comp=N,9.1nm,1.8s comp=E,10nm,4.1s			IAML		02 30 28.5	
MOOW	**Moose Ponds**	**5.04**	**50**	IAML		02 31 37.7	
YBH	**Yreka Blue Hor**	**5.14**	**285**	Pn	**Pn**	**02 28 49.4**	**+2.2**
YBH	comp=E,0.1nm,0.3s,baz=150,slow=14,SNR=1.5 comp=E,0.1nm,0.3s,baz=104,slow=17,SNR=1.5			Pg	**Pb**	**02 29 01.7**	**+1.6**
YBH	comp=E,0.1nm,0.3s,baz=9.0,slow=19,SNR=1.3 comp=E,0.7nm,0.6s			Lg	Lg	02 30 12.2	
PDAR	**Pinedale Array**	**5.32**	**64**	Pn	**Pn**	**02 28 52.2**	**+2.5**
PDAR	comp=E,0.3nm,0.3s,baz=248,slow=14,SNR=14 comp=E,0.5nm,0.3s,baz=241,slow=30,SNR=4.6 comp=E,0.8nm,0.5s			Lg	Lg	02 30 15.5	
PFO	**Pinyon Flats O**	**7.00**	**183**	Lg	Lg	02 31 09.8	
TXAR	**Lajitas Array**	**15.14**	**134**	Pn	**P**	**02 31 08.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=215,slow=18,SNR=4.2 baz=326,slow=14,SNR=1.9 comp=E,0.1nm,0.7s						
YKA	**Yellowknife Ar**	**21.93**	**2**	P	**P**	**02 32 24.6**	**+1.3**
	comp=E,0.1nm,0.6s,baz=183,slow=10,SNR=3.0 comp=E,0.1nm,0.6s						

*IDC **02** 02:34:36.0±1.1, 21°41N×144°14E, h0km, mb3.3/6, mbtmp3.3/6, MS2.7/1, Error ellipse: s-maj=46.2km s-min=24.6km az=97.0*
ISC 02 02:34:40.9±1.1, 21°4N±0°2×144°1E±0°3, h33km, n13, σ0°53/6, mb3.4/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.95**	**343**	LR	LR	02 37 59.6	
	comp=Z,78nm,21.1s,baz=256,slow=34						
H11N1	**WAKE ISLAND Hy 21.39**	**90**		T	T	03 01 22.1	
	baz=278,slow=75,SNR=6.4						
H11N2	**WAKE ISLAND Hy 21.39**	**90**		T	T	03 01 20.8	
	baz=278,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy 21.41**	**90**		T	T	03 01 22.4	
	baz=278,slow=75,SNR=6.8						
H11S3	**WAKE ISLAND Hy 21.41**	**94**		T	T	03 01 23.2	
	baz=282,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy 21.42**	**94**		T	T	03 01 24.4	
	baz=282,slow=75,SNR=9.6						
H11S2	**WAKE ISLAND Hy 21.43**	**94**		T	T	03 01 24.9	
	baz=282,slow=75,SNR=6.4						
WRA	**Warramunga Arr**	**42.18**	**194**	P	**P**	**02 42 30.4**	**-0.2**
	0.4nm,0.5s,baz=15,slow=8.1,SNR=1.9 0.4nm,0.5s						
ASAR	**Alice Springs**	**45.88**	**193**	P	**P**	**02 43 00.5**	**+0.1**
	0.4nm,0.7s,baz=20,slow=9.6,SNR=5.3 0.4nm,0.7s						
MKAR	**Makanchi Array**	**55.54**	**313**	P	**P**	**02 44 13.3**	**+0.2**
	0.3nm,0.9s,baz=91,slow=8.6,SNR=1.9 0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**58.34**	**317**	P	**P**	**02 44 32.4**	**-0.3**
	0.2nm,0.3s,baz=95,slow=8.1,SNR=4.1 0.2nm,0.3s						
ILAR	**Eielson Array**	**61.92**	**27**	P	**P**	**02 44 56.5**	**-0.5**
	0.3nm,0.8s,baz=261,slow=5.9,SNR=2.7 0.3nm,0.8s						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**02 46 26.9**	**+0.6**
	0.1nm,0.6s,baz=287,slow=5.7,SNR=4.1 0.1nm,0.6s						

IDC 02 02:42:20.1±2.6, 4°62N×128°21E, h0km, mb3.3/5, mbtmp3.3/5, MS3.4/1, Error ellipse: s-maj=249.7km s-min=21.9km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.14**	**166**	P	P	02 47 47.2	+0.1
	1.0nm,1.1s,baz=347,slow=9.2,SNR=3.0 1.0nm,1.1s						
KRVT	**Keravat (AS076**	**25.39**	**110**	LR	LR	02 56 21.3	
	comp=Z,85nm,18.7s,baz=195,slow=33						
ASAR	**Alice Springs**	**28.66**	**169**	P	P	02 48 18.8	+0.1
	0.3nm,0.9s,baz=349,slow=8.6,SNR=1.4 0.3nm,0.9s						
STKA	**Stephens Creek**	**38.47**	**162**	P	P	02 49 43.7	-0.3
	0.5nm,0.5s,baz=326,slow=7.3,SNR=2.9 0.5nm,0.5s						
MKAR	**Makanchi Array**	**57.69**	**324**	P	P	02 52 12.6	+0.1
	0.1nm,0.5s,baz=112,slow=8.5,SNR=5.4 0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	P	02 52 40.5	-0.2
	0.1nm,0.4s,baz=123,slow=6.7,SNR=4.6 0.1nm,0.4s						

*VAO **02** 02:51:11.4±0.4, 2°87S×77°51W, h10km, mb4.1*
*IGQ **02** 02:51:12.7±0.3, 3°S±2°×7°8W±°, h10km, MLv4.2/30*
*RSNC **02** 02:51:14.6±0.3, 3°S±2°×7°8W±°, h10km, M4.0, mb4.3, mB5.2, ML3.4, Mw(mB)4.3*
*IDC **02** 02:51:21.6±4.5, 3°75S×78°84W, h186km±38km, mb2.9/4, mbtmp3.6/6, MS3.2/2, Error ellipse: s-maj=43.8km s-min=18.8km az=58.0*
ISC 02 02:51:09.2±0.5, 2°78S±0°03×77°76W±0°04, h10km, n151, σ2°27/155, mb3.4/4, 7C-39D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**0.82**	**244**	‖P	**Pg**	**02 51 24.4**	**-0.7**
BOSC				S	**Sg**	**02 51 36.8**	**+0.9**
SANGA	**Volcan Sangay**	**0.95**	**320**	S	**Sg**	**02 51 39.2**	**-0.9**
SANGA				‖P	**Pg**	**02 51 26.2**	**-1.4**
AZOG	**Ecuador-Azogue**	**1.09**	**272**	P	**Pg**	**02 51 29.4**	**-0.7**
ACUE	**Ecuador-Cuenca**	**1.21**	**264**	P	**Pn**	**02 51 34.6**	**+2.2**
PUYO	**Puyo, Santa Ro**	**1.31**	**348**	‖P	**Pn**	**02 51 32.2**	**-1.4**
PUYO				S	**Sb**	**02 51 48.9**	**-2.0**
BPAT	**Tungurahua Vol**	**1.44**	**332**	‖P	**Pn**	**02 51 33.9**	**-1.9**
BPAT				S	**Sb**	**02 51 53.1**	**-1.9**
ARIO	**Riobamba**	**1.46**	**320**	P	**Pn**	**02 51 34.6**	**-1.4**
BMAS	**Trigal station**	**1.46**	**330**	‖P	Pn	02 51 33.1	-2.9
BMAS				S	**Sn**	**02 51 53.4**	**-2.0**
BULB	**Ulba Tungurahu**	**1.49**	**334**	‖P	**Pn**	**02 51 34.6**	**-1.7**
BULB				S	**Sn**	**02 51 54.9**	**-1.2**
BBIL	**Ulba Tungurahu**	**1.51**	**331**	‖P	**Pn**	**02 51 35.1**	**-1.6**
POND	**Pondoa**	**1.52**	**333**	‖P	**Pn**	**02 51 35.1**	**-1.7**
JUI6	**Juive**	**1.53**	**332**	‖P	**Pn**	**02 51 35.0**	**-1.8**
COHC	**Cochancay**	**1.53**	**282**	‖P	**Pn**	**02 51 36.5**	**-0.1**
COHC				S	**Sn**	**02 51 56.8**	**+0.3**
IGUA	**Igualata**	**1.56**	**326**	‖P	**Pn**	**02 51 36.8**	**-0.7**
TAMH	**Tambohuasha Ch**	**1.60**	**320**	‖P	**Pn**	**02 51 37.5**	**-0.5**
JSCH	**Cashca Tororas**	**1.62**	**311**	‖P	**Pn**	**02 51 37.4**	**-0.7**
PORT	**Chimborazo Vol**	**1.66**	**322**	‖P	**Pn**	**02 51 38.6**	**-0.3**
AAM2	**Ambato 2 (Merc**	**1.73**	**330**	P	**Pn**	**02 51 39.4**	**-0.2**
AGRD	**Ecuador-Guaran**	**1.73**	**314**	P	**Pn**	**02 51 39.6**	**-0.1**
AZAM	**Ecuador-Zamora**	**1.75**	**223**	P	**Pn**	**02 51 42.1**	**+2.3**
MONB	**Balzapamba Mon**	**1.76**	**305**	‖P	**Pn**	**02 51 39.6**	**-0.1**
MONB				S	**Sn**	**02 52 02.3**	**+0.1**
ATEN	**Tena**	**1.77**	**358**	P	**Pn**	**02 51 40.0**	**+0.2**
ARDO	**Archidona, Ten**	**1.78**	**359**	⇑P	**Pn**	**02 51 39.4**	**-0.6**
PIS1	**Pisayambo**	**1.82**	**340**	‖P	**Pn**	**02 51 40.9**	**-0.2**
PIAT	**Ana Tenorio**	**1.84**	**344**	‖P	**Pn**	**02 51 40.9**	**-0.3**
MILO	**Milagro-Astudi**	**1.87**	**286**	‖P	**Pn**	**02 51 43.3**	**+2.1**
ASLC	**Ecuador-Salced**	**1.92**	**334**	P	**Pn**	**02 51 43.1**	**+0.8**
ABAB	**Ecuador-Univer**	**2.01**	**299**	P	**Pn**	**02 51 44.5**	**+1.4**
ALAT	**Latacunga**	**2.04**	**335**	P	**Pn**	**02 51 45.1**	**+1.3**
VCES	**Cotopaxi**	**2.07**	**342**	‖P	**Pn**	**02 51 44.9**	**+0.4**
BRRN	**Barrancas-Volc**	**2.11**	**340**	‖P	**Pn**	**02 51 45.7**	**+0.7**
BMOR	**Cotopaxi Volca**	**2.16**	**341**	‖P	**Pn**	**02 51 46.6**	**+0.9**
TAMB	**Tambo**	**2.16**	**344**	‖P	**Pn**	**02 51 46.5**	**+0.7**
SLOR	**San Lorenzo -**	**2.17**	**340**	‖P	**Pn**	**02 51 46.9**	**+1.1**
SRAM	**San Ramn-Vol**	**2.18**	**338**	‖P	**Pn**	**02 51 47.3**	**+1.5**
GONZ	**Gonzanam**	**2.18**	**229**	‖P	**Pn**	**02 51 50.6**	**+4.7**
BTAM	**Cotopaxi Volca**	**2.19**	**343**	‖P	**Pn**	**02 51 47.0**	**+0.9**
BREF	**Cotopaxi Volca**	**2.21**	**342**	‖P	**Pn**	**02 51 47.6**	**+1.2**
BVC2	**Cotopaxi Volca**	**2.21**	**343**	‖P	**Pn**	**02 51 47.4**	**+1.0**
BNAS	**Cotopaxi Volca**	**2.22**	**341**	‖P	**Pn**	**02 51 48.8**	**+2.3**
CAMI	**Rancho Maria**	**2.22**	**340**	‖P	**Pn**	**02 51 47.9**	**+1.4**
VC1	**Cotopaxi 1**	**2.22**	**343**	‖P	**Pn**	**02 51 47.9**	**+1.3**
SUCR	**Mariscal Sucre**	**2.25**	**341**	‖P	**Pn**	**02 51 48.5**	**+1.5**
PAST	**Pastocalle**	**2.26**	**337**	P	**Pn**	**02 51 48.9**	**+1.9**
ILLI	**Illinizas Sur**	**2.27**	**335**	‖P	**Pn**	**02 51 48.6**	**+1.4**
ANTM	**Antisanaa Mi**	**2.28**	**348**	‖P	**Pn**	**02 51 48.1**	**+0.7**
ANTS	**Antisana-Sarah**	**2.31**	**350**	‖P	**Pn**	**02 51 48.5**	**+0.7**
AGUAY	**Guayaquil**	**2.31**	**288**	P	**Pn**	**02 51 48.5**	**+1.2**
PITA	**Cotopaxi Volc**	**2.31**	**343**	‖P	**Pn**	**02 51 49.2**	**+1.5**
ANTG	**Antisana-Guama**	**2.32**	**348**	‖P	**Pn**	**02 51 48.8**	**+0.9**
ANTI	**Antisana**	**2.35**	**350**	‖P	**Pn**	**02 51 49.1**	**+0.7**
TOMA	**Boca Toma-Volc**	**2.37**	**343**	P	**Pn**	**02 51 50.4**	**+1.8**
ISPG	**Isla Puna-Puer**	**2.42**	**266**	P	**Pn**	**02 51 51.6**	**+2.8**
AQUE	**Quevedo**	**2.44**	**315**	P	**Pn**	**02 51 52.4**	**+3.2**
ZUMB	**Zumba**	**2.49**	**214**	⇑P	**Pn**	**02 51 53.5**	**+3.6**
LAMO	**ALAMOR**	**2.57**	**242**	P	**Pn**	**02 51 53.2**	**+2.2**
TING	**Casa Alexandra**	**2.58**	**344**	P	**Pn**	**02 51 54.5**	**+3.2**
EPNL	**EPN Laboratori**	**2.66**	**344**	P	**Pn**	**02 51 56.4**	**+3.9**
GGPT	**Toaza - Volcan**	**2.69**	**341**	⇑P	**Pn**	**02 51 55.8**	**+3.0**
JUA2	**San Juan 2**	**2.69**	**342**	⇑P	**Pn**	**02 51 55.9**	**+2.9**
REVN	**San Rafael**	**2.69**	**3**	P	**Pn**	**02 51 54.7**	**+1.9**
PUEM	**Granja Avicola**	**2.70**	**347**	P	**Pn**	**02 51 56.9**	**+3.9**
MCRA	**Macar, Loja**	**2.70**	**234**	P	**Pn**	**02 51 55.9**	**+3.2**
GGPC	**Guagua Pichinc**	**2.72**	**342**	⇑P	**Pn**	**02 51 56.6**	**+3.2**
TERV	**Terraza Guagua**	**2.73**	**342**	⇑P	**Pn**	**02 51 56.1**	**+2.6**
PINO	**Pino**	**2.74**	**342**	⇑P	**Pn**	**02 51 57.0**	**+3.2**
YANA	**Yana**	**2.77**	**343**	P	**Pn**	**02 51 55.0**	**+0.9**
CAYR	**Refugio Cayamb**	**2.79**	**355**	P	**Pn**	**02 51 55.0**	**+0.5**
ANGU	**Angureal**	**2.82**	**355**	P	**Pn**	**02 51 57.0**	**+2.1**
CAYA	**Cayambe**	**2.84**	**355**	P	**Pn**	**02 51 58.3**	**+3.1**
PULU	**Pululahua**	**2.88**	**345**	P	**Pn**	**02 51 58.8**	**+3.2**
CASC	**Dorado de Casc**	**2.93**	**8**	P	**Pn**	**02 51 59.7**	**+3.8**
IMBA	**Imbabura, San**	**3.07**	**352**	P	**Pb**	**02 52 04.0**	**-0.2**
OTAV	**Otavalo**	**3.08**	**347**	‖P	**Pn**	**02 52 02.1**	**+3.8**
OTAV	**Otavalo**	**3.08**	**347**	*e*P	**Pn**	**02 52 02.4**	**+4.1**
CUSW	**Cuicocha Oeste**	**3.11**	**349**	P	Pn	02 52 03.5	+4.9
CUIC	**Cuicocha-Domo**	**3.13**	**349**	P	**Pn**	**02 52 03.4**	**+4.5**
CUSE	**Cuicocha Este**	**3.13**	**348**	P	**Pn**	**02 52 03.1**	**+4.0**
YAHU	**Yahuarcocha**	**3.15**	**354**	P	**Pn**	**02 52 03.2**	**+4.0**
COTA	**Cotacachi**	**3.15**	**349**	P	Pn	02 52 03.3	+4.9
FLF1	**Flavio Alfaro-**	**3.19**	**319**	P	**Pn**	**02 52 03.3**	**+3.9**
PAC1	**Pacto, Paraso**	**3.20**	**341**	P	**Pn**	**02 52 03.9**	**+4.2**
BONI	**La Bonita**	**3.22**	**4**	P	**Pn**	**02 52 02.7**	**+2.6**
BONI				S	**Sb**	**02 52 46.6**	**+0.5**
BONI	**La Bonita**	**3.22**	**4**	P	**Pn**	**02 52 03.4**	**+3.3**
BONI	**La Bonita**	**3.22**	**4**	P		02 52 02.7	
BONI				S		02 52 46.6	
URCU	**Urcuqui**	**3.24**	**351**	P	**Pn**	**02 52 05.1**	**+4.7**
PPLP	**Puerto Lpez**	**3.26**	**292**	P	**Pn**	**02 52 01.0**	**+0.6**
SALI	**Salinas**	**3.29**	**280**	P	**Pn**	**02 52 02.4**	**+1.6**
TULM	**Tulcn-Chalpat**	**3.48**	**359**	P	**Pb**	**02 52 10.1**	**-1.0**
TULM				S	**Sb**	**02 52 55.1**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.48**	**359**	P	**Pb**	**02 52 09.6**	**-1.5**
TULM	**Tulcn-

CZSB	Cruzeiro do Su	7.03	135	eP		Pn	02 52 51.9	-0.4
ORTC	Ortega, Tolima	7.11	21	P		Pn	02 52 52.9	-0.4
	18nm,0.7s							
ORTC	Ortega, Tolima	7.11	21	P			02 52 52.9	
	18nm,0.7s							
GUVC	San Jose del G	7.37	44	P		Pn	02 52 58.5	+1.6
GUVC	San Jose del G	7.37	44	P			02 52 58.5	
ANIL	Santa Ana	7.60	18	P			02 53 10.0	
ANIL	Santa Ana	7.60	18	P		Pn	02 53 10.0	+10
TBTG	Tabatinga, AM	7.96	100	eP		Pn	02 53 04.6	-0.3
VILC	Villavicencio,	7.96	31	P		Pn	02 53 07.4	+2.2
VILC	Villavicencio,	7.96	31	P			02 53 07.4	
GUY2C	Guyana, Caldas	8.30	17	P		Pn	02 53 16.2	+6.0
GUY2C	Guyana, Caldas	8.30	17	P			02 53 16.2	
ROSC	El Rosal	8.31	24	P		Pb	02 53 37.9	+4.3
	6.3nm,0.4s,baz=211,slow=18,SNR=2.2							
ROSC				S		Sb	02 55 25.1	+12
	14nm,0.4s,baz=90,slow=20,SNR=2.2							
ROSC	El Rosal	8.31	24	P		Pn	02 53 13.3	+3.1
	11nm,0.8s							
ROSC	El Rosal	8.31	24	P			02 53 13.3	
	11nm,0.8s							
CHIC	Chingaza	8.39	29	P		Pn	02 53 12.6	+1.3
	11nm,0.5s							
CHIC	Chingaza	8.39	29	P			02 53 12.6	
	11nm,0.5s							
CBOC	Ciudad Bolivar	8.76	11	P		Pn	02 53 18.4	+2.2
	5.2nm,1.5s							
CBOC	Ciudad Bolivar	8.76	11	P			02 53 18.4	
	5.2nm,1.5s							
NORC	Norcasia	8.78	19	P		Pn	02 53 18.1	+1.8
	6.2nm,0.7s							
NORC	Norcasia	8.78	19	P			02 53 18.1	
	6.2nm,0.7s							
SPBC	San Pablo de B	9.15	24	P		Pn	02 53 23.3	+1.8
	5.5nm,1.1s							
SPBC	San Pablo de B	9.15	24	P			02 53 23.3	
	5.5nm,1.1s							
RUSC	La Rusia	9.80	28	P			02 53 31.3	
	13nm,0.7s							
RUSC	La Rusia	9.80	28	P		Pn	02 53 31.3	+0.6
	13nm,0.7s							
PTBC	PUERTO BERRIO,	9.83	20	P		Pn	02 53 32.6	+1.9
	4.8nm,1.6s							
PTBC	PUERTO BERRIO,	9.83	20	P			02 53 32.6	
	4.8nm,1.6s							
PTAC	Punta Ardita,	9.86	360	P			02 53 31.7	
	12nm,1.1s							
PTAC	Punta Ardita,	9.87	360	P		Pn	02 53 31.7	+0.5
	12nm,1.1s							
BARC	Barichara	10.37	26	P		Pn	02 53 39.9	+1.6
BARC	Barichara	10.37	26	P			02 53 39.9	
ZARC	Zaragoza, Cauc	10.61	16	P		Pn	02 53 44.3	+2.9
ZARC	Zaragoza, Cauc	10.61	16	P			02 53 44.3	
TAMC	Tame, Arauca	10.92	33	P			02 53 50.4	
TAMC	Tame, Arauca	10.92	33	P		Pn	02 53 50.4	+4.7
TEFE	Tefe	13.12	93	eP		Pn	02 54 15.6	-0.2
SDV	Santo Domingo	13.59	31	eP		Pn	02 54 23.0	+0.6
LPAZ	La Paz	16.43	145	P		Pn	02 55 01.4	+0.9
	0.6nm,0.4s,baz=299,slow=9.7,SNR=2.3							
LPAZ				LR		LR	03 02 36.7	
	comp=Z,67nm,20.8s,baz=32,slow=41							
LPAZ	La Paz	16.43	145	eP		Pn	02 54 59.2	-1.3
MACA	Manacapuru-AM	17.05	92	eP		Pn	02 55 06.3	-1.6
SIV	San Ignacio	21.02	130	P		P	02 55 53.4	+0.1
	2.2nm,0.6s,baz=307,slow=12,SNR=10							
SIV				LR		LR	03 05 05.9	
	comp=Z,78nm,21.8s,baz=280,slow=39							
	2.2nm,0.6s							
ITTB	Itaituba	22.04	95	eP		P	02 56 02.1	-2.0
PTLB	Pontes e Lacer	22.25	126	eP		P	02 56 05.3	-1.1
PDRB	Porto dos Gac	22.61	114	eP		P	02 56 09.8	-0.6
NPGB	Novo Progresso	22.71	102	eP		P	02 56 11.5	+0.1
CLDB	Colider	23.22	111	eP		P	02 56 16.9	+0.2
SALV	Santo Antonio	25.33	122	eP		P	02 56 36.7	+0.3
PANT	Pantanal (Braz	26.21	129	eP		P	02 56 43.0	-1.5
MURT	Porto Murtinho	27.13	135	eP		P	02 56 52.8	+0.2
SNDB	Serra Nova Dou	27.76	111	eP		P	02 56 57.5	-0.9
AQDB	Aquidauana	27.78	131	eP		P	02 56 59.3	+0.8
IPMB	Ipameri, GO	32.67	120	eP		P	02 57 41.6	-0.3
PLCA	Paso Flores	38.34	171	eP		P	02 58 31.0	+0.7
TXAR	Lajitas Array	40.45	324	P		P	02 58 43.2	-5.0
	0.2nm,0.8s,baz=122,slow=12,SNR=4.1							
	0.2nm,0.8s							
YKA	Yellowknife Ar	70.83	343	P		P	03 02 21.1	-4.7
	0.1nm,0.5s,baz=144,slow=6.0,SNR=1.4							
	0.1nm,0.5s							
TORD	Torodi Ar. Bea	80.37	76	P		P	03 03 19.6	-1.9
	0.4nm,0.5s,baz=288,slow=6.3,SNR=9.7							
	0.4nm,0.5s							
KURBB	Kurchatov Arra	128.29	19	PKP		PKPdf	03 10 08.3	-7.8
	0.3nm,0.6s,baz=320,slow=2.7,SNR=5.0							
MKAR	Makanchi Array	132.85	19	PKP		PKPdf	03 10 18.3	-6.6
	0.1nm,0.4s,baz=303,slow=2.7,SNR=4.1							

HEL ***02*** *02:53:50.8±0.4, 67°.86N×19°.98E, h0km, ML0.8, Explosion*
UPP ***02*** *02:53:51.4±0.0, 67°.83N×20°.21E, h0km, ML2.5, Confirmed Induced event*

ISC 02 02:53:51.3±0.9, 67°.82N±0°.03×20°.21E±0°.03, h0km, n18, σ0°80/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	19	P	Pg	02 53 54.3	+0.2
KUA				S	Sg	02 53 56.3	+0.3
RATU	Laukkuluspa	0.24	272	P	Pg	02 53 56.1	+0.3
RATU				S	Sg	02 53 59.4	+0.6
DUNU	Dundret	0.71	169	P	Pg	02 54 05.0	0.0
LANU	Lannavaara	0.71	70	P	Pg	02 54 04.8	-0.2
LANU				S	Sg	02 54 14.6	+0.4
LANU	Lannavaara	0.71	70	PG	Pg	02 54 05.0	0.0
LANU				SG	Sg	02 54 14.8	+0.7
MASU	Masugnsbyn	0.77	117	P	Pg	02 54 06.1	0.0
MASU				S	Sg	02 54 16.9	+0.8
KIF	Kilpisjarvi	1.21	10	PN	Pg	02 54 14.7	+0.1
KIF				MSG		02 54 27.9	
	comp=Z,0.7nm,0.2s						
KIF				SN	Sb	02 54 31.2	0.0
PAJU	Pajala	1.37	124	P	Pg	02 54 16.7	-0.9
PAJU	Pajala	1.37	124	PG	Pg	02 54 16.7	-0.9
	baz=306						
PAJU				SG	Sg	02 54 35.1	-0.3
HEF	Hetta	1.42	64	PG	Pn	02 54 17.9	-0.5
HEF				MSG		02 54 35.4	
	comp=Z,0.4nm,0.2s						
HEF				SG	Sn	02 54 37.9	+0.1
ERTU	Ertsjaerv	1.48	148	P	Pn	02 54 19.2	0.0
ERTU	Ertsjaerv	1.48	148	PN	Pb	02 54 20.0	+0.3
	baz=328						
ERTU				SN	Sg	02 54 39.2	+0.3
KLF	Kolari	1.56	110	PG	Pn	02 54 20.3	+0.1
KLF				MSG		02 54 40.3	
	comp=Z,0.8nm,0.2s						
KLF				SG	Sb	02 54 41.4	+0.3
KTK1	Kautokeino	1.64	42	PG	Pg	02 54 22.7	-0.1
KTK1				SN	Sg	02 54 45.8	+1.8
HARU	Harads	1.69	169	P	Pn	02 54 22.3	+0.3
TRO	Tromso	1.88	346	SG	Sn	02 54 46.2	-2.9
TOF	Tornio	2.38	135	MSG		02 55 03.9	
	comp=Z,0.3nm,0.2s						
TOF				SB	Sb	02 55 05.3	+0.5
RNF	Rovaniemi	2.56	116	SB	Sb	02 55 10.8	+0.7

SNET ***02*** *02:53:57.1±1.1, 12°.69N×88°.37W, h67km, ML3.7*
CATAC ***02*** *02:53:57.6±0.7, 13°.N±5°.×8°.8W±°., h36km±9km, M3.7/11, MLv3.7/11, Error ellipse: s-maj=10.4km s-min=4.6km az=15.0, confirmed*

ISC 02 02:53:57.9±1.5, 12°.68N±0°.10×88°.40W±0°.04, h67km±17km, n74, σ0°81/88, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.66	345	eP	Pn	02 54 11.5	-0.7
ALJI	Alcalda de J	0.66	345	P	Pn	02 54 16.5	+4.4
ALJI	Alcalda de J	0.66	345	P	Pn	02 54 12.0	-0.2
LCY	Lacayo	0.74	8	eP	Pn	02 54 12.9	-0.3
LCY				eS	Sn	02 54 24.7	+0.2
VSM	San Miguel	0.75	9	eP	Pn	02 54 13.5	+0.1
RANC	El Ranchito	0.75	8	eP	Pn	02 54 12.8	-0.6
RANC				eS	Sn	02 54 24.8	0.0
RANC	El Ranchito	0.75	8	P	Pn	02 54 13.2	-0.2
RANC	El Ranchito	0.75	8	S	Sn	02 54 25.3	+0.5
RANC	El Ranchito	0.75	8	P	Pn	02 54 13.3	-0.1
BLLM	Bellamira	0.77	12	eP	Pn	02 54 13.2	-0.3
BLLM				eS	Sn	02 54 25.1	+0.1
PACA	Pacayal	0.78	5	eP	Pn	02 54 13.5	-0.3
PACA				eS	Sn	02 54 25.7	+0.3
PACA	Pacayal	0.78	5	P	Pn	02 54 13.4	-0.3
PACA	Pacayal	0.78	5	P	Pn	02 54 14.0	+0.3
LCND	La Caada	0.79	38	eP	Pn	02 54 12.9	-0.8
LCND	La Caada	0.79	38	P	Pn	02 54 13.1	-0.6
LCND	La Caada	0.79	38	S	Sn	02 54 25.3	-0.1
LCND	La Caada	0.79	38	P	Pn	02 54 13.4	-0.3
CNCH	Conchagua	0.81	43	eP	Pn	02 54 13.3	-0.6
CNCH	Conchagua	0.81	43	P	Pn	02 54 13.6	-0.4
CNCH	Conchagua	0.81	43	S	Sn	02 54 25.7	-0.1
CNCH	Conchagua	0.81	43	P	Pn	02 54 13.3	-0.6
CNCH	Conchagua	0.81	43	P	Pn	02 54 13.8	-0.2
TECA	Tecapa	0.81	353	eP	Pn	02 54 13.5	-0.6
TECA				eP		02 54 13.5	
TECA				eS	Sn	02 54 26.1	0.0
TECA				eS		02 54 26.1	
CNRM	Centro Naciona	0.82	16	eP	Pn	02 54 13.7	-0.3
CNRM				eS	Sn	02 54 25.7	-0.2
TECO	Alcaldia de Te	0.93	336	eP	Pn	02 54 14.5	-0.8
TECO				eS	Sn	02 54 27.1	-1.2
TECO	Alcaldia de Te	0.93	336	P	Pn	02 54 15.8	+0.4
AMPH	Amapala	0.94	50	P	Pn	02 54 15.4	-0.1
AMPH	Amapala	0.94	50	S	Sn	02 54 29.0	+0.5
AMPH	Amapala	0.94	50	P	Pn	02 54 15.2	-0.2
AMPH	Amapala	0.94	50	P	Sn	02 54 30.0	+1.5
PQSS	Presa 15 de Se	0.95	350	eP	Pn	02 54 15.5	-0.1
SNVI	San Vicente	1.02	335	eP	Pn	02 54 16.6	0.0
UESV	Universidad de	1.02	338	eP	Pn	02 54 16.2	-0.4
UESV				eS	Sn	02 54 29.7	-0.7
COEG	Centro de Oper	1.04	333	eP	Pn	02 54 16.2	-0.7
COEG	Centro de Oper	1.04	333	P	Pn	02 54 16.6	-0.3
COEG	Centro de Oper	1.04	333	P	Pn	02 54 16.6	-0.3
SCLA	Alcaldia de Sa	1.06	342	eP	Pn	02 54 17.2	+0.1
CAHU	Cacacuatique	1.09	10	eP	Pn	02 54 17.7	+0.1
LFRS	El Faro	1.14	325	eP	Pn	02 54 17.4	-0.7
LFRS				eS	Sn	02 54 32.8	-0.4
PAVA	Las Pavas	1.15	333	eP	Pn	02 54 18.2	-0.1
PAVA				eS	Sn	02 54 33.8	+0.3
LOMA	Loma Larga	1.22	322	eP	Pn	02 54 18.6	-0.6
LOMA	Loma Larga	1.22	322	P	Pn	02 54 18.8	-0.3
LOMA	Loma Larga	1.22	322	P	Pn	02 54 19.3	+0.1
LFU	La Fuente	1.27	327	eP	Pn	02 54 19.5	-0.3
LFU				eS	Sn	02 54 36.3	+0.1
UEES	Universidad Ev	1.31	321	eP	Pn	02 54 20.4	0.0
UEES				eS	Sn	02 54 37.1	-0.1
PIC2	El Picacho	1.35	322	eP	Pn	02 54 20.7	-0.3
PIC2				eS	Sn	02 54 38.3	0.0
BOQS	Boqueron	1.35	321	eP	Pn	02 54 20.9	-0.1
PMON	Piamonte	1.36	319	eP	Pn	02 54 20.4	-0.6
PMON				eS	Sn	02 54 38.7	+0.3
PMON	Piamonte	1.36	319	P	Pn	02 54 20.9	-0.1
PMON	Piamonte	1.36	319	S	Sn	02 54 39.4	+1.1
PMON	Piamonte	1.36	319	P	Pn	02 54 21.1	+0.1
PKGN	Cerro Pekin	1.39	90	P	Pn	02 54 21.1	-0.2
PKGN				S	Sn	02 54 37.6	-1.2
PKGN	Cerro Pekin	1.39	90	P	Pn	02 54 20.9	-0.3
PKGN	Cerro Pekin	1.39	90	P	Pn	02 54 17.8	-3.5
JAYA	Jayaque - finc	1.41	313	eP	Pn	02 54 20.7	-1.0
CHOHN	Orocuina	1.44	57	P	Pn	02 54 22.0	-0.2
CHOHN	Orocuina	1.44	57	S	Sn	02 54 41.1	+0.7
CHOHN	Orocuina	1.44	57	P	Pn	02 54 21.8	-0.3
CHOHN	Orocuina	1.44	57	P	Pn	02 54 21.9	-0.2
CEVE	Cerro Verde	1.65	314	eP	Pn	02 54 25.4	+0.4
SNJE	San Jose	1.66	315	eP	Pn	02 54 25.2	+0.1
NUBE	Las Nubes	1.81	312	eP	Pn	02 54 26.8	-0.3
NUBE				eS	Sn	02 54 48.8	-0.4
COPN	Copaltepe	1.83	106	P	Pn	02 54 26.8	-0.5
COPN	Copaltepe	1.83	106	P	Pn	02 54 45.1	+18
MOM2	El Cardon	1.88	97	P	Pn	02 54 28.5	+0.6
COMHN	El Horno	1.93	25	P	Pn	02 54 22.2	-6.5
MTO3	Montecristo	1.94	331	eP	Pn	02 54 29.2	+0.2
ALLN	Telcor Managua	2.14	104	P	Pn	02 54 33.5	+2.1
RCFN	Al S de San Ju	2.29	68	P	Pn	02 54 32.7	-0.9
RCVN	Varillal2	2.33	67	P	Pn	02 54 34.2	+0.2
RCVN	Varillal2	2.33	67	S	Sn	02 55 01.9	+0.3
RCVN	Varillal2	2.33	67	P	Pn	02 54 34.2	+0.2
RCVN	Varillal2	2.33	67	P	Pn	02 54 34.4	+0.3
RCPN	Sur Rio San Ju	2.40	69	P	Pn	02 54 35.3	+0.3

SJA ***02*** *02:55:14.6±0.6, 22°.50S×68°.38W, h140km±4km, ML4.4, MW4.1*
VAO ***02*** *02:55:17.2±0.7, 22°.34S×68°.37W, h108km±5km, mb4.4*
GUC ***02*** *02:55:17.8±0.8, 22°.47S×68°.52W, h133km±4km, ML4.6*
NEIC ***02*** *02:55:17.6±2.2, 22°.47S±0°.01×68°.49W±0°.09, h127km±7km, mb4.5/11, Error ellipse: s-maj=12.3km s-min=1.6km az=85.0*
IDC ***02*** *02:55:19.3±2.6, 22°.46S×68°.13W, h126km±23km, mb3.9/5, mbtmp4.2/9, MS3.2/1, Error ellipse: s-maj=28.7km s-min=18.0km az=101.0*

ISC 02 02:55:17.0±0.6, 22°.50S±0°.03×68°.48W±0°.05, h118km±7km, n140, σ1°57/147, mb4.5/9, 8C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.52	149		Pn	02 55 37.5	+2.1
AF01	San Pedro de A	0.52	149	eP	Pn	02 55 35.6	+0.3
AF01				IAML		02 56 16.1	
	comp=Z,4μm,0.6s						
AF01	San Pedro de A	0.52	149	⇓eP	Pn	02 55 37.5	+2.1
PB09	IPOC Station P	1.00	315		Pn	02 55 40.9	+1.8
PB09	IPOC Station P	1.00	315	eP	Pn	02 55 40.9	+1.8
PB09				eS	Sn	02 55 58.4	+2.6
PB09				IAML		02 55 58.9	
	comp=Z,7μm,0.4s						
PB09	IPOC Station P	1.00	315	eP	Pn	02 55 40.9	+1.8
PB09				eS	Sn	02 55 57.7	+1.9
PB09				IAML		02 55 59.3	
	comp=E,7μm,0.3s						
PB01	IPOC Station P	1.73	327		Pn	02 55 48.0	+0.8
PB01	IPOC Station P	1.73	327	eP	Pn	02 55 48.1	+0.8
PB01				eS	Sn	02 56 11.8	+1.6
PB01				IAML		02 56 13.4	
	comp=Z,2μm,0.4s						
PB01	IPOC Station P	1.73	327	⇓eP	Pn	02 55 47.9	+0.7
PB01				eS	Sn	02 56 10.3	+0.1
PB01				IAML		02 56 12.2	
	comp=E,8μm,0.2s						
PATCX	Punta Patache	2.29	317		Pn	02 55 54.2	+0.1
PATCX	Punta Patache	2.29	317	eP	Pn	02 55 54.3	+0.1
PATCX				eS	Sn	02 56 22.4	-0.2
PATCX				IAML		02 56 26.9	
	comp=Z,2μm,0.3s						
PATCX	Punta Patache	2.29	317	⇓eP	Pn	02 55 54.3	+0.1
PATCX				eS	Sn	02 56 22.4	-0.2
PATCX				IAML		02 56 23.8	
	comp=E,3μm,0.3s						
PX03	IPOC Station P	2.35	333	⇑eP	Pn	02 55 54.9	-0.1
PX03				eS	Sn	02 56 24.3	+0.2
PX03				IAML		02 56 25.1	
	comp=N,5μm,0.2s						
TA01	Diego Aracena	2.50	320	Pn	Pn	02 55 56.4	-0.4
TA01	Diego Aracena	2.50	320	eP	Pn	02 55 57.0	+0.3
TA01				eS	Sn	02 56 20.5	-6.7
TA01				IAML		02 56 30.9	
	comp=Z,1μm,0.3s						
TA01	Diego Aracena	2.50	320	⇓eP	Pn	02 55 56.4	-0.4
TA01				eS	Sn	02 56 26.6	-0.7
TA01				IAML		02 56 28.9	
	comp=N,4μm,0.3s						
HMBC	Humberstone	2.58	329		Pn	02 55 57.6	-0.3
HMBC	Humberstone	2.58	329	eP	Pn	02 55 57.6	-0.3
HMBC				eS	Sn	02 56 28.9	-0.4
HMBC				IAML		02 56 35.6	
	comp=Z,2μm,0.3s						
HMBC	Humberstone	2.58	329	⇓eP	Pn	02 55 57.6	-0.3
HMBC				eS	Sn	02 56 29.2	-0.1
HMBC				IAML		02 56 30.7	
	comp=E,4μm,0.3s						
TA02	Huaiquique	2.70	325		Pn	02 55 59.1	-0.4
TA02	Huaiquique	2.70	325	eP	Pn	02 55 47.0	-12
TA02				eS	Sn	02 56 32.5	+0.4
TA02				IAML		02 56 34.5	
	comp=Z,1μm,0.1s						
TA02	Huaiquique	2.70	325	⇑eP	Pn	02 55 58.7	-0.7
TA02				eS	Sn	02 56 30.8	-1.2
TA02				IAML		02 56 34.2	
	comp=E,4μm,0.1s						
PB14	IPOC Station P	2.76	220		Pn	02 56 01.1	+0.6
PB14	IPOC Station P	2.76	220	eP	Pn	02 56 01.0	+0.6
PB14				eS	Sn	02 56 32.2	-1.5
PB14				IAML		02 56 35.3	
	comp=Z,1μm,0.2s						
PB14	IPOC Station P	2.76	220	IAML		02 56 35.1	
	comp=E,626nm,0.2s						
YJA	Yavi	2.76	84	eP	Pn	02 56 03.6	+3.0
GO02	Mina Guanaco	2.84	201		Pn	02 56 02.9	+1.4
GO02	Mina Guanaco	2.84	201	eP	Pn	02 56 03.0	+1.5
GO02				eS	Sn	02 56 35.8	+0.2
GO02	Mina Guanaco	2.84	201	⇑eP	Pn	02 56 02.8	+1.4
GO02				eS	Sn	02 56 36.8	+1.2
GO02				IAML		02 56 38.6	
	comp=N,2μm,0.4s						
SLA	San Lorenzo	3.51	130	eP	Pn	02 56 14.5	+4.3
AZAP	Zapla	3.57	119	eP	Pn	02 56 13.6	+2.6
AZAP				eS	Sn	02 56 52.7	-0.1
AC01	Pan de Azucar	4.11	208		Pn	02 56 17.8	-0.2
AC01	Pan de Azucar	4.11	208	eP	Pn	02 56 17.6	-0.4
AC01				eS	Sn	02 57 04.2	-1.3
AC01				IAML		02 57 06.8	
	comp=Z,411nm,0.3s						
PB12	IPOC Station P	4.24	336	Pn	Pn	02 56 18.2	-1.6
PB12	IPOC Station P	4.24	336	eP	Pn	02 56 18.3	-1.6
PB12				eS	Sn	02 56 51.9	-17
PB12				IAML		02 57 23.7	
	comp=Z,302nm,0.3s						
FSA	Cafayete	4.25	148	eP	Pn	02 56 05.6	-15
AC02	Maricunga	4.35	188		Pn	02 56 23.2	+1.4
AC02	Maricunga	4.35	188	eP	Pn	02 56 23.1	+1.4
AC02				eS	Sn	02 57 00.5	-11
AC02				IAML		02 57 41.2	
	comp=Z,157nm,0.5s						
PB18	Visviri	4.98	349		Pn	02 56 33.5	+3.2
AC04	Llanos de Chal	6.14	202	Pn	Pn	02 56 42.6	-2.8
LPAZ	La Paz	6.19	3		Pn	02 56 48.5	+1.9
LPAZ	La Paz	6.19	3	P	Pn	02 56 49.1	+2.5
	comp=Z,17nm,0.4s,baz=200,slow=4.9,SNR=53						
LPAZ				S	Sn	02 57 44.5	-12
	comp=Z,16nm,0.7s,baz=157,slow=6.3,SNR=5.3						
LPAZ	La Paz	6.19	3	eP	Pn	02 56 45.5	-1.2
LCO	Las Campanas	6.78	197	Pn	Pn	02 56 51.7	-2.6
CO01	Juntas del Tor	7.58	191		Pn	02 57 04.2	-0.9
CO05	La Serena	7.79	198		Sn	02 58 32.7	-1.6
GO04	Tololo Observa	7.92	195		Pn	02 57 06.6	-3.0
CO03	El Pedregal	8.54	193		Pn	02 57 14.8	-3.1
SIV	San Ignacio	9.53	48	P	Pn	02 57 28.7	-2.6
	comp=Z,13nm,0.4s,baz=234,slow=11,SNR=46						
SIV				S	Sn	02 59 06.7	-10
	comp=Z,6.2nm,0.3s,baz=316,slow=23,SNR=7.7						
MURT	Porto Murtinho	10.11	87	eP	Pn	02 57 37.1	-2.0
VA03	San Esteban	10.38	190		Pn	02 57 40.1	-2.7
CPUP	Villa Florida	10.85	113	P	Pn	02 57 46.5	-2.5
	comp=Z,1.1nm,0.7s,baz=274,slow=9.5,SNR=3.4						
CPUP				S	Sn	02 59 32.1	-16
	comp=Z,1.3nm,0.3s,baz=193,slow=19,SNR=4.1						
CPUP	Villa Florida	10.85	113	eP	Pn	02 57 49.0	+0.1
MT02	Curacav	10.97	192		Pn	02 57 46.9	-3.7
BDQN	Bodoquena, MS	11.11	82	eP	Pn	02 57 49.8	-2.7
PTLB	Pontes e Lacer	11.28	53		Pn	02 57 51.8	-3.0
PTLB	Pontes e Lacer	11.28	53	eP	Pn	02 57 51.8	-3.0
AQDB	Aquidauana	12.06	83		Pn	02 58 05.2	0.0
AQDB	Aquidauana	12.06	83	eP	Pn	02 58 05.0	-0.2
VILB	Vilhena	12.34	41	eP	Pn	02 58 06.8	-2.1
BO02	Sierra Bellavi	12.41	189		Pn	02 58 12.3	+2.6
ML02	Panimavida	13.46	190		Pn	02 58 24.5	+1.3
SALV	Santo Antonio	13.74	64	eP	Pn	02 58 24.7	-2.3
RPRD	Ribas do Rio P	13.90	84	eP	Pn	02 58 28.4	-0.7
BI02	San Fabin de	14.32	189	P	Pn	02 58 34.9	+0.5
TBOT	Tacuaremb	14.42	132	eP	Pn	02 58 36.7	+1.1
C2SB	Chapadao do Su	15.10	79	eP	Pn	02 58 43.5	-0.7
PTGB	Pitanga	15.20	102	eP	Pn	02 58 46.2	+0.6
ITAB	Concordia	15.56	111	eP	P	02 58 51.9	+0.2
CPSB	Cacapava Do Su	15.59	123	eP	P	02 58 52.2	+0.2
PDRB	Porto dos Gac	15.59	48	eP	Pn	02 58 50.4	0.0
LDASE	Londrina, Braz	16.02	97	eP	Pn	02 58 54.6	-1.1
PLTB	Pedras Altas	16.12	128	eP	Pn	02 58 57.4	+0.5
TRQA	Tornquist	16.48	162	P	Pn	02 59 00.1	-1.1
CLDB	Colider	16.75	48	eP	Pn	02 59 03.0	-1.8
ITRB	Iturama	17.13	84	eP	P	02 59 08.6	-0.6
FRTB	Fartura	17.44	96	eP	Pn	02 59 13.4	+0.2
PLCA	Paso Flores	18.26	185	P	Pn	02 59 23.7	+0.9
	comp=Z,3.6nm,0.8s,baz=358,slow=9.6,SNR=9.6						
PLCA	Paso Flores	18.26	185	eP	Pn	02 59 22.4	-0.3
BB19B	Bebedouro	18.58	89	eP	P	02 59 25.7	+0.6
LL04	Puerto Octay	18.65	189	IAmb	IAmb	02 59 29.0	
	comp=Z,56nm,1.5s						
TEFE	Tefe	19.25	12	eP	P	02 59 31.5	-0.8
S

comp=Z,1.0nm,0.3s,baz=257,slow=5.6,SNR=26
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 92.26 340 P **P 03 08 14.3 +1.1**
comp=Z,0.1nm,0.3s,baz=145,slow=4.3,SNR=2.1
comp=Z,0.1nm,0.3s
H11S2 WAKE ISLAND Hyl 28.39 276 T T 05 34 30.4
baz=104,slow=74,SNR=14
H11S1 WAKE ISLAND Hyl 28.40 276 T T 05 34 36.7
baz=104,slow=74,SNR=4.7
H11S3 WAKE ISLAND Hyl 28.41 276 T T 05 34 32.7
baz=104,slow=74,SNR=3.4
H11N3 WAKE ISLAND Hyl 28.50 278 T T 05 34 42.8
baz=103,slow=75,SNR=7.1
H11N2 WAKE ISLAND Hyl 28.51 278 T T 05 34 43.9
baz=103,slow=75,SNR=8.2
H11N1 WAKE ISLAND Hyl 28.52 278 T T 05 34 45.3
baz=103,slow=75,SNR=4.7
ASAR Alice Springs 129.21 207 PKP **PKiKP 03 14 12.9 +0.1**
comp=Z,0.4nm,0.8s,baz=125,slow=1.9,SNR=5.6
WRA Warramunga Arr 132.29 210 PKP **PKiKP 03 14 18.9 -0.2**
comp=Z,0.5nm,0.7s,baz=138,slow=2.0,SNR=2.7
ZALV Zalesovo Beam 142.68 26 PKP **PKPdf 03 14 36.7 +0.8**
comp=Z,0.4nm,0.5s,baz=3.8,slow=2.2,SNR=2.2
MKAR Makanchi Array 146.20 37 PKPbc **PKPab 03 14 43.6 -0.9**
comp=Z,0.5nm,0.6s,baz=319,slow=3.2,SNR=6.9

*IDC **02** 03:10:31.0±0.6, 1°.09N×127°.07E, h0km, mb4.1/16, mbtmp4.1/18, ML4.0/2, MS3.5/5, Error ellipse: s-maj=27.8km s-min=10.9km az=76.0*
*DJA **02** 03:10:34.7±0.5, 1°.1N±2°×12°.7E±°, h13km±4km, M4.5/19, mB5.1/5, mb4.6/9, MLv4.5/19, Mw(mB)4.4/5*
*NEIC **02** 03:10:36.7±1.9, 1°.12N±0°.09×127°.06E±0°.06, h35km±2km, mb4.6/19, Error ellipse: s-maj=18.3km s-min=3.2km az=210.0*
ISC 02 03:10:36.5±0.5, 1°.08N±0°.05×126°.98E±0°.05, h35km, n72, σ1°37/73, mb4.4/33, MS3.5/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.49**	**128**	Pn	**Pn**	**03 10 46.7**	**-0.4**
TNTI	**Ternate**	**0.49**	**128**	P	**Pn**	**03 10 46.7**	**-0.4**
TNTI				S	**Sn**	**03 10 56.5**	**+2.0**
SGSI	**Sangihe**	**2.97**	**331**	P	**Pn**	**03 11 21.1**	**-0.1**
SGSI				S	**Sn**	**03 11 56.2**	**+0.6**
KMSI	**Cibinong**	**3.04**	**261**	P	**Pn**	**03 11 22.7**	**+0.6**
KMSI				S	**Sn**	**03 11 59.0**	**+1.8**
SANI	**Sanana**	**3.26**	**198**	P	**Pn**	**03 11 25.5**	**+0.3**
NLAI	**Namlea**	**4.29**	**178**	P	**Pn**	**03 11 39.7**	**+0.4**
SWI	**Sorong**	**4.70**	**114**	P	**Pn**	**03 11 46.2**	**+1.2**
LUWI	**Luwuk**	**4.70**	**243**	P	**Pn**	**03 11 47.3**	**+2.3**
AAI	**Ambon**	**4.88**	**166**	P	**Pn**	**03 11 48.9**	**+1.3**
MRSI	**Marisa**	**5.07**	**263**	P	**Pn**	**03 11 50.5**	**+0.4**
0.3nm53nm,0.5s							
APSI	**Ampana**	**5.68**	**250**	P	**Pn**	**03 12 00.2**	**+1.7**
1μm77nm,0.5s							
TOLI2	**Tolitoli**	**6.19**	**270**	Pn	**Pn**	**03 12 05.3**	**-0.2**
KDI	**Kendari**	**6.63**	**221**	P	**Pn**	**03 12 11.8**	**+0.3**
0.2nm1μm36nm,0.8s							
BBSI	**Bau Bau**	**7.86**	**214**	P	**Pn**	**03 12 29.7**	**+1.2**
0.3nm93nm,1.1s							
TTSI	**Tana Toraja**	**8.24**	**240**	P	**Pn**	**03 12 32.8**	**-0.9**
36nm,0.8s							
SPSI	**Sidrap Palu**	**8.77**	**235**	P	**Pn**	**03 12 41.6**	**+0.7**
BKSI	**Bulukumba**	**9.34**	**227**	P	**Pn**	**03 12 49.3**	**+0.5**
568nm25nm,0.7s							
KAPI	**Kappang**	**9.41**	**230**	Pn	**Pn**	**03 12 51.6**	**+1.8**
KAPI	**Kappang**	**9.41**	**230**	Pn	**Pn**	**03 12 50.8**	**+1.0**
2.4nm,0.3s,baz=88,slow=5.6,SNR=7.0							
KAPI				Sn	**Sn**	**03 14 31.4**	**-3.1**
0.3nm,0.3s,baz=45,slow=22,SNR=1.5							
5.4nm,0.3s							
SBUM	**Sibu**	**14.81**	**275**	P	**P**	**03 14 08.9**	**-0.1**
KNRA	**Kununurra**	**16.74**	**174**	Pn	**Pn**	**03 14 28.1**	**-0.4**
KNRA				IAmb	IAmb	03 14 28.4	
comp=Z,35nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.10**	**184**	P	**P**	**03 14 54.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.10**	**184**	P	**P**	**03 14 56.0**	**-0.4**
comp=Z,0.2nm,0.3s,baz=358,slow=7.4,SNR=7.5							
FITZ				LR	LR	03 21 33.7	
comp=Z,81nm,20.7s,baz=338,slow=35							
comp=Z,10nm,1.0s							
WB0	**Warramunga Arr**	**21.95**	**161**	P	**P**	**03 15 26.9**	**-0.5**
WRA	**Warramunga Arr**	**22.10**	**161**	P	**P**	**03 15 27.7**	**-1.2**
comp=Z,3.7nm,0.3s,baz=339,slow=11,SNR=71							
WRA				S	**S**	**03 19 30.0**	**-0.8**
comp=Z,2.6nm,1.0s,baz=341,slow=20,SNR=5.4							
comp=Z,3.7nm,0.3s							
WB2	**Warramunga Arr**	**22.11**	**161**	P	**P**	**03 15 28.6**	**-0.4**
WB2				IAmb	IAmb	03 15 29.4	
comp=Z,14nm,0.8s							
NACB	**Ninganchiao**	**23.55**	**348**	P	**P**	**03 15 41.7**	**-2.1**
NACB				IAmb	IAmb	03 16 23.7	
comp=Z,43nm,1.4s							
AS31	**Alice Springs**	**25.50**	**165**	P	**P**	**03 16 03.9**	**+2.1**
AS31				IAmb	IAmb	03 16 05.4	
comp=Z,16nm,1.5s							
ASAR	**Alice Springs**	**25.50**	**165**	P	**P**	**03 16 01.1**	**-0.7**
comp=Z,8.9nm,0.6s,baz=341,slow=8.2,SNR=112							
ASAR				S	**S**	**03 20 31.2**	**+4.2**
comp=Z,1.3nm,0.7s,baz=344,slow=19,SNR=6.9							
comp=Z,8.9nm,0.6s							
KRVT	**Keravat (AS076**	**25.60**	**102**	LR	LR	03 24 35.8	
comp=Z,103nm,19.6s,baz=44,slow=33							
FORT	**Forrest**	**31.70**	**178**	P	**P**	**03 16 56.6**	**-0.3**
NJ2	**Nanjing**	**31.75**	**347**	*e*P	**P**	**03 16 58.1**	**+0.7**
NJ2				pmax	pmax		
comp=Z,7.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**32.48**	**304**	P	**P**	**03 17 02.6**	**-1.4**
comp=Z,2.0nm,0.3s,baz=119,slow=8.6,SNR=5.8							
comp=Z,2.0nm,0.3s							
BBOO	**Buckleboo**	**34.78**	**167**	P	**P**	**03 17 23.3**	**-0.6**
BBOO				IAmb	IAmb	03 17 33.4	
comp=Z,6.4nm,0.8s							
PZH	**PanZhiHua**	**35.04**	**318**	P	**P**	**03 17 28.7**	**+2.3**
PZH				pmax	pmax		
comp=Z,8.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,5.1s							
STKA	**Stephens Creek**	**35.58**	**158**	P	**P**	**03 17 29.5**	**-1.3**
comp=Z,1.8nm,0.7s,baz=351,slow=7.2,SNR=3.9							
comp=Z,1.8nm,0.7s							
KSRS	**Korea Array**	**36.21**	**1**	P	**P**	**03 17 35.1**	**-1.0**
comp=Z,1.0nm,0.7s,baz=177,slow=8.9,SNR=5.6							
comp=Z,1.0nm,0.7s							
MJAR	**Matsushiro Arr**	**36.79**	**15**	P	**P**	**03 17 40.3**	**-0.8**
comp=Z,1.7nm,0.8s,baz=183,slow=9.2,SNR=4.5							
comp=Z,1.7nm,0.8s							
XAN	**Xi'an**	**36.89**	**335**	P	P	03 17 48.2	+6.2
XAN				pmax	pmax		
comp=Z,7.0nm,0.8s							
BJI	**Beijing**	**40.01**	**347**	P	**P**	**03 18 08.4**	**+0.4**
BJI				pmax	pmax		
comp=Z,3.0nm,1.0s							
BRDH	**Bariadhala**	**40.49**	**305**	LR	LR	03 35 15.7	
comp=Z,35nm,21.2s,baz=161,slow=37							
HHC	**Hu-ho-hao-te**	**41.98**	**342**	*e*P	**P**	**03 18 28.4**	**+4.0**
HHC				pmax	pmax		
comp=Z,8.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,140nm,6.4s							
CN2	**Changchun**	**42.56**	**358**	*e*P	**P**	**03 18 29.6**	**+0.6**
CN2				*es*P	sP	03 18 47.0	+4.6
CN2				*e*S	**S**	**03 24 48.9**	**-0.3**
CN2				LR	LR		
comp=N,330nm,16.0s							
CN2				LR	LR		
comp=E,300nm,16.0s							
USRK	**Ussuriysk Ar.**	**43.17**	**5**	P	**P**	**03 18 34.1**	**+0.2**
comp=E,1.4nm,0.7s,baz=197,slow=6.1,SNR=4.2							
comp=E,1.4nm,0.7s							
MDJ	**Mudanjiang**	**43.42**	**3**	P	**P**	**03 18 37.7**	**+1.8**
MDJ				pmax	pmax		
comp=Z,16nm,2.1s							
SONM	**Songino Array**	**49.88**	**342**	P	**P**	**03 19 27.1**	**+0.5**
comp=Z,1.6nm,1.0s,baz=178,slow=9.2,SNR=4.3							
comp=Z,1.6nm,1.0s							
PETK	**Petropavlovsk-**	**57.79**	**21**	P	**P**	**03 20 23.3**	**-0.9**
comp=Z,2.0nm,0.8s,baz=221,slow=7.2,SNR=4.5							
comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**03 20 39.0**	**+0.1**
comp=Z,1.9nm,0.4s,baz=120,slow=8.0,SNR=57							
comp=Z,1.9nm,0.4s							
MAKZ	**Makanchi**	**60.05**	**326**	P	**P**	**03 20 40.0**	**0.0**
MAKZ				IAmb	IAmb	03 20 56.1	
comp=Z,3.6nm,1.1s							
KSH	**Kashi**	**60.10**	**316**	P	**P**	**03 20 44.4**	**+3.7**
KSH				pmax	pmax		
comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**63.05**	**334**	P	**P**	**03 20 59.8**	**-0.3**
ZALV	**Zalesovo Beam**	**63.05**	**334**	P	**P**	**03 21 00.0**	**-0.1**
comp=Z,0.9nm,0.3s,baz=141,slow=7.6,SNR=6.4							
comp=Z,0.9nm,0.3s							
GAR	**Garm**	**63.90**	**314**	P	**P**	**03 21 05.6**	**-0.6**
KURBB	**Kurchatov Arra**	**64.10**	**328**	P	**P**	**03 21 07.3**	**+0.2**
comp=Z,2.7nm,0.6s,baz=129,slow=6.4,SNR=42							
comp=Z,2.7nm,0.6s							
KURK	**Kurchatov**	**64.10**	**328**	P	**P**	**03 21 07.5**	**+0.4**
KKAR	**Karatay Array**	**65.34**	**318**	P	**P**	**03 21 14.7**	**-0.7**
KKAR	**Karatay Array**	**65.34**	**318**	P	**P**	**03 21 14.1**	**-1.3**
BVAR	**Borovoye Array**	**69.67**	**327**	P	**P**	**03 21 43.1**	**+0.5**
comp=Z,3.2nm,0.7s,baz=134,slow=8.6,SNR=11							
comp=Z,3.2nm,0.7s							
BRVK	**Borovoye**	**69.74**	**327**	P	**P**	**03 21 43.5**	**+0.5**
BRVK				IAmb	IAmb	03 21 53.9	
comp=Z,3.8nm,0.7s							
ABKAR	**Akbulak array**	**74.35**	**321**	P	**P**	**03 22 11.2**	**+0.5**
ABKAR	**Akbulak array**	**74.35**	**321**	P	**P**	**03 22 11.0**	**+0.3**
RAYN	**Ar Rayn**	**81.75**	**293**	P	**P**	**03 22 52.4**	**0.0**
RAYN				IAmb	IAmb	03 22 59.7	
comp=Z,3.8nm,0.7s							
G19K	**Purcell Mounta**	**83.35**	**23**	P	**P**	**03 22 58.2**	**-1.5**
G19K				IAmb	IAmb	03 23 07.0	
comp=Z,6.1nm,0.8s							
D19K	**Kuna River**	**83.50**	**21**	IAmb	IAmb	03 23 15.4	
comp=Z,3.5nm,0.6s							
E19K	**Redstone River**	**83.58**	**22**	P	**P**	**03 23 02.6**	**+1.7**
E19K				IAmb	IAmb	03 23 03.6	
comp=Z,6.2nm,1.1s							
KBZ	**Khabaz**	**84.97**	**314**	P	**P**	**03 23 08.4**	**0.0**
comp=Z,0.9nm,0.8s,baz=146,slow=7.3,SNR=1.5							
comp=Z,0.9nm,0.8s							
GHO	**Glory Hole Cre**	**86.26**	**28**	P	**P**	**03 23 12.3**	**-2.3**
ILAR	**Eielson Array**	**87.38**	**25**	P	**P**	**03 23 18.8**	**-1.0**
comp=Z,0.2nm,0.6s,baz=257,slow=5.4,SNR=1.7							
comp=Z,0.2nm,0.6s							
MMAI	**Mount Meron Ar**	**90.74**	**303**	LR	LR	04 10 15.1	
comp=Z,19nm,20.5s,baz=330,slow=40							
BRTR	**Keskin Array B**	**91.89**	**310**	P	**P**	**03 23 41.7**	**0.0**
comp=Z,0.4nm,0.9s,baz=116,slow=5.0,SNR=1.9							
comp=Z,0.4nm,0.9s							
LSZ	**Lusaka**	**98.76**	**255**	LR	LR	04 08 52.9	
comp=Z,69nm,19.5s,baz=301,slow=35							
TORD	**Torodi Ar. Bea**	**123.94**	**287**	PKP	**PKPdf**	**03 29 31.7**	**-0.4**
comp=Z,0.2nm,0.7s,baz=98,slow=2.7,SNR=1.5							

IDC 02 03:21:30.4±1.8, 0°.86N×127°.03E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=178.1km s-min=20.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.88**	**161**	P	P	03 26 25.4	+0.2
1.5nm,0.5s,baz=340,slow=11,SNR=13							
1.5nm,0.5s							
ASAR	**Alice Springs**	**25.28**	**165**	P	P	03 26 58.6	-0.1
1.5nm,0.4s,baz=344,slow=11,SNR=45							
1.5nm,0.4s							
MKAR	**Makanchi Array**	**60.08**	**326**	P	P	03 31 39.5	0.0
0.4nm,0.4s,baz=115,slow=7.9,SNR=12							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	P	03 32 07.7	-0.1
0.4nm,0.4s,baz=128,slow=6.0,SNR=6.9							
0.4nm,0.4s							

*NEIC **02** 03:30:12.5±1.3, 47°.366N±0°.004×121°.77W±0°.02, h19km±2km, Error ellipse: s-maj=2.2km s-min=0.6km az=88.0*
SEA 02 03:30:12.9±1.3, 47°.37N±0°.01×121°.79W±0°.02, h19km±1km, ML2.6/27, ML2.6/40(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=103.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATT	**Rattlesnake La**	**0.05**	**354**		Pg	03 30 16.1	-0.3
RATT					Sg	03 30 18.6	-0.1
CDMR	**Cedar Moraine**	**0.06**	**26**		Pg	03 30 16.2	-0.1
CDMR					Sg	03 30 18.9	+0.2
RAW	**Raver**	**0.10**	**249**		Pg	03 30 16.6	-0.1
RAW					Sg	03 30 19.9	+0.8
ELW	**Echo Lake**	**0.13**	**337**		Pg	03 30 16.8	-0.3
ELW					Sg	03 30 20.0	+0.2
D05A	**Enumclaw**	**0.23**	**216**		Pg	03 30 18.3	0.0
D05A					Sg	03 30 22.9	+0.9
KNEL	**Kent Elementar**	**0.31**	**272**		Sb	03 30 26.1	+1.6
ALCT	**Alcott Element**	**0.32**	**329**		Pb	03 30 20.0	-0.1
C05A	**Tolt Reservoir**	**0.33**	**12**		Pg	03 30 19.5	-0.5
C05A					Sg	03 30 24.6	-0.3
TTW	**Tolt Reservoir**	**0.33**	**12**		Pg	03 30 19.5	-0.5
TTW					Sg	03 30 24.4	-0.5
SP2	**Seward Park 2**	**0.36**	**301**		Pg	03 30 20.4	0.0
SP2					Sb	03 30 27.1	+1.1
PAYL	**Puyallup Schoo**	**0.40**	**243**		Pg	03 30 20.9	-0.3
PAYL					Sb	03 30 28.0	+0.9
EARN	**East Ridge Ele**	**0.40**	**336**		Pg	03 30 21.2	-0.1
HTW	**Haystack Looko**	**0.43**	**2**		Pg	03 30 21.0	-0.8
FMW	**Mount Fremont**	**0.45**	**169**		Pg	03 30 21.3	-0.9
FMW					Sg	03 30 27.5	-0.9
VVHS	**Vashon High Sc**	**0.45**	**277**		Pg	03 30 21.8	-0.3
GHW	**Garrison Hill**	**0.46**	**225**		Pg	03 30 21.4	-0.9
GHW					Sg	03 30 28.2	-0.5
OBSR	**Observation Ro**	**0.47**	**182**		Pg	03 30 22.0	-0.6
OBSR					Sg	03 30 28.9	-0.3
B941	**Kapowsin**	**0.48**	**217**		Pg	03 30 21.6	-1.0
B941					Sg	03 30 28.4	-0.8
BLH	**Bald Hill**	**0.49**	**341**		Pg	03 30 21.9	-1.0
RCS	**Mount Rainier-**	**0.50**	**175**		Pg	03 30 22.5	-0.7
RCS					Sg	03 30 29.6	-0.5
PANH	**Panhandle Gap,**	**0.52**	**169**		Pg	03 30 22.6	-1.0
PANH					Sg	03 30 30.3	-0.4
RCM	**Mount Rainier-**	**0.54**	**175**		Pg	03 30 23.0	-0.8
RCM					Sg	03 30 30.5	-0.7
REMR	**Mount Rainier-**	**0.55**	**183**		Pb	03 30 23.0	-1.0
PCFR	**Pierce County**	**0.58**	**229**		Pb	03 30 23.4	-1.1
LON	**Longmire**	**0.62**	**181**		Pb	03 30 24.0	-1.2
LON					Sb	03 30 32.5	-1.0
LON	**Longmire**	**0.62**	**181**	IAML		03 30 32.6	
comp=N,159nm,0.1s							
LON				IAML		03 30 32.9	
comp=E,191nm,0.2s							
GMW	**Gold Mountain**	**0.69**	**285**		Pb	03 30 25.3	-1.1
GNW	**Green Mountain**	**0.72**	**286**		Pb	03 30 25.7	-1.3
GNW					Sb	03 30 35.9	-0.6
GNW	**Green Mountain**	**0.72**	**286**	IAML		03 30 41.5	
comp=E,190nm,0.2s							
LTY	**Liberty**	**0.77**	**98**		Pb	03 30 26.8	-1.0
LTY					Sb	03 30 37.5	-0.5
LTY	**Liberty**	**0.77**	**98**	IAML		03 30 37.8	
comp=N,446nm,0.3s							
WRW	**Wenatchee Ridg**	**0.79**	**52**		Pb	03 30 27.4	-0.7
JCW	**Jim Creek**	**0.83**	**354**		Pb	03 30 27.6	-1.2
TBM	**Table Mountain**	**0.84**	**104**		Pb	03 30 28.4	-0.6
C04A	**Brinnon**	**0.87**	**294**		Pb	03 30 27.9	-1.4
C04A					Sb	03 30 39.7	-1.0
B013	**Quilcene**	**0.88**	**301**		Pb	03 30 28.1	-1.4
NAC	**Naches**	**0.92**	**134**		Pb	03 30 29.6	-0.7
SLFW	**Sugar Loaf**	**0.94**	**65**		Pb	03 30 30.1	-0.7
KOSW	**Kosmos**	**0.95**	**197**		Pb	03 30 29.7	-1.1
MXC	**Moxie City**	**1.30**	**127**		Pn	03 30 35.8	-0.3
MXC				IAML		03 30 55.3	
comp=N,84nm,0.7s							
MXC				IAML		03 30 56.5	
comp=E,115nm,0.3s							
WISH	**Wishkah**	**1.37**	**260**	Pn	Pn	03 30 37.1	+0.1
WISH				IAML		03 31 07.1	
comp=N,69nm,2.8s							
NLWA	**Neilton Lookou**	**1.41**	**272**		Pn	03 30 36.9	-0.7
NLWA				IAML		03 30 56.7	
comp=N,68nm,0.4s							
NLWA				IAML		03 30 59.7	
comp=N,73nm,0.8s							
F04D	**Rainier, OR**	**1.54**	**213**	Pn	Pn	03 30 39.5	+0.1
E07A	**Sunnyside**	**1.56**	**121**	Pn	Pn	03 30 39.8	+0.2
RADR	**Rader Ridge**	**1.67**	**236**	Pn	Pn	03 30 41.5	+0.3
RADR				IAML		03 30 50.7	
comp=N,59nm,2.1s							
RADR				IAML		03 31 37.6	
comp=E,74nm,2.5s							
PGC	**Sidney**	**1.69**	**320**	Pn	Pn	03 30 40.9	-0.5
PGC				IAML		03 31 03.3	
comp=N,69nm,0.3s							
PGC				IAML		03 31 03.5	
comp=E,82nm,0.3s							
HAWA	**Hanford**	**1.83**	**121**		Pn	03 30 44.6	+1.2
HAWA				IAML		03 31 10.0	
comp=E,60nm,0.5s							
B08A	**Colville Reser**	**1.93**	**58**	Pn	Pb	03 30 47.2	-0.3
B08A				IAML		03 31 13.3	
comp=E,57nm,0.2s							
B08A				IAML		03 31 13.6	
comp=N,51nm,0.3s							
F07A	**Phinny Hill Vi**	**1.96**	**138**	Pn	Pn	03 30 45.8	+0.7
F07A				IAML		03 31 13.2	
comp=N,99nm,0.6s							
D08A	**Wollman Farm,**	**1.98**	**98**	Pn	Pb	03 30 48.1	-0.3
D08A				IAML		03 31 15.0	
comp=E,32nm,0.2s							
CLRS	**Cowichan Lake**	**2.13**	**314**	Pn	Pn	03 30 47.5	0.0
C09A	**Chrisman Ranch**	**2.42**	**79**	Pn	Pn	03 30 50.8	-0.8
NEW	**Newport**	**3.27**	**72**		Pn	03 31 03.1	-0.2
NEW				IAML		03 31 55.1	
comp=E,13nm,1.6s							
NEW				IAML		03 31 59.3	
comp=E,12nm,1.5s							
F10A	**Beach Ranch, E**	**3.44**	**112**		Pn	03 31 05.7	+0.1
F10A				IAML		03 32 04.4	
comp=E,21nm,0.6s							
F10A				IAML		03 32 05.6	
comp=N,18nm,0.3s							

IDC 02 03:49:43.3±2.3, 6°.85S×129°.60E, h0km, mb3.2/1, mbtmp3.5/4, ML3.4/3, MS3.1/1, Error ellipse: s-maj=80.4km s-min=30.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.82**	**199**	Pn	Pn	03 52 33.9	+0.6
0.2nm,0.3s,baz=15,slow=11,SNR=10							
FITZ				Sn	Sn	03 54 30.5	-16
0.2nm,0.3s,baz=60,slow=18,SNR=1.4							
3.2nm,0.8s							
WRA	**Warramunga Arr**	**13.80**	**161**	Pn	Pn	03 53 00.5	+0.1
0.2nm,0.3s,baz=340,slow=13,SNR=6.0							
WRA				Sn	Sn	03 55 22.5	-12
0.5nm,0.3s,baz=337,slow=23,SNR=7.8							
1.0nm,0.9s							
ASAR	**Alice Springs**	**17.22**	**167**	P	Pn	03 53 44.7	-0.7
0.1nm,0.3s,baz=341,slow=11,SNR=7.4							
ASAR				S	Sn	03 56 45.2	-13
0.3nm,0.7s,baz=356,slow=27,SNR=2.1							
0.5nm,0.7s							
JNU	**Nakatsue**	**39.77**	**2**	LR	LR	04 13 06.6	
comp=Z,26nm,21.7s,baz=148,slow=35							
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	04 00 43.7	0.0
0.2nm,0.6s,baz=114,slow=7.5,SNR=1.8							
0.2nm,0.6s							

*IDC **02** 03:59:23.0±6.2, 4°.12S×127°.63E, h246km±65km, mb3.6/8, mbtmp4.2/10, Error ellipse: s-maj=73.3km s-min=15.2km az=58.0*
*NEIC **02** 03:59:25.8±0.5, 4°.23S±0°.08×127°.45E±0°.08, h271km±10km, mb4.2/14, Error ellipse: s-maj=13.8km s-min=8.8km az=137.0*
*DJA **02** 03:59:25.1±0.2, 4°.S±3°×12°.7E±°, h271km±3km, M4.3/16, mb4.2/16, mB4.9/4, MLv4.4/15, Mw(mB)4.2/4*
ISC 02 03:59:25.4±0.5, 4°.23S±0°.07×127°.44E±0°.07, h271km, n64, σ0°.90/69, mb4.0/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.92**	**54**	P	**Pn**	**04 00 02.6**	**+0.3**
NLAI	**Namlea**	**1.04**	**341**	P	**Pn**	**04 00 04.1**	**+1.2**
NLAI				S	**S**	**04 00 32.9**	**+0.3**
MSAI	**Masohi**	**1.72**	**59**	P	**Pn**	**04 00 06.5**	**-0.9**
MSAI				S	**S**	**04 00 38.0**	**-2.6**
BNDI	**Bandanaira**	**2.47**	**97**	P	**Pn**	**04 00 14.7**	**+0.8**
BNDI	**Bandanaira**	**2.47**	**97**	P	**Pn**	**04 00 13.9**	**0.0**
SANI	**Sanana**	**2.61**	**326**	P	**Pn**	**04 00 15.3**	**0.0**
SANI	**Sanana**	**2.61**	**326**	P	**Pn**	**04 00 14.7**	**-0.6**
FAKI	**Fak Fak**	**4.97**	**75**		**Pn**	**04 00 41.7**	**+0.1**
FAKI	**Fak Fak**	**4.97**	**75**	P	**Pn**	**04 00 41.9**	**+0.4**
FAKI	**Fak Fak**	**4.97**	**75**	P	**Pn**	**04 00 41.7**	**+0.1**
SWI	**Sorong**	**5.07**	**49**	P	**Pn**	**04 00 43.1**	**+0.3**
0.5nm2μm88nm,0.8s							
KMPI	**Kaimana, Papua**	**6.27**	**85**	P	**Pn**	**04 00 56.4**	**-1.0**
SOEI	**Soe**	**6.33**	**210**	Pn	**Pn**	**04 00 58.3**	**+0.1**
SOEI	**Soe**	**6.33**	**210**	P	**Pn**	**04 00 59.2**	**+1.0**
KAPI	**Kappang**	**7.71**	**264**	Pn	**Pn**	**04 01 15.3**	**+0.1**
DRS	**Darwin Rock St**	**8.84**	**157**	P	**Pn**	**04 01 30.2**	**+1.0**
MTN	**Manton Dam**	**9.30**	**157**		**Pn**	**04 01 34.8**	**-0.3**
MTN	**Manton Dam**	**9.30**	**157**	P	**Pn**	**04 01 34.9**	**-0.2**
KDU	**Kakadu**	**9.76**	**150**	P	**Pn**	**04 01 40.7**	**-0.1**
PLAI	**Plampang**	**10.63**	**244**	P	**Pn**	**04 01 51.9**	**+0.2**
PLAI	**Plampang**	**10.63**	**244**	P	**Pn**	**04 01 51.1**	**-0.6**
29nm,0.9s							
TWSI	**Taliwang, Sumb**	**11.41**	**246**	P	**Pn**	**04 02 00.9**	**-0.4**
1μm14nm,0.6s							
KNRA	**Kununurra**	**11.45**	**174**		**Pn**	**04 02 01.7**	**0.0**
FITZ	**Fitzroy Crossi**	**13.89**	**187**		**Pn**	**04 02 31.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**13.89**	**187**	P	**Pn**	**04 02 30.9**	**-0.8**
5.7nm,0.5s,baz=20,slow=10,SNR=29							

MAKZ IAmb IAmb 04 09 35.4
comp=Z,3.2nm,1.2s
ZALV Zalesovo Beam 68.00 334 P P 04 09 54.7 -0.7
ZALV Zalesovo Beam 68.00 334 P P 04 09 54.9 -0.5
comp=Z,0.9nm,0.5s,baz=129,slow=3.9,SNR=5.3
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 68.84 329 P P 04 10 00.6 0.0
comp=Z,1.1nm,0.5s,baz=132,slow=5.5,SNR=16
comp=Z,1.1nm,0.5s
KURK Kurchatov 68.85 329 P P 04 10 00.7 -0.1
KURK IAmb IAmb 04 10 01.4
comp=Z,2.4nm,0.6s
KKAR Karatay Array 69.60 319 P P 04 10 05.4 -0.1
BVAR Borovoye Array 74.38 328 P P 04 10 33.7 +0.1
comp=Z,1.1nm,0.7s,baz=85,slow=3.0,SNR=4.0
comp=Z,1.1nm,0.7s
ABKAR Akbulak array 78.77 322 P P 04 10 58.2 -0.1
ABKAR Akbulak array 78.77 322 P P 04 10 58.1 -0.1
QSPA South Pole Qui 85.73 180 P P 04 11 34.1 +0.2
QSPA IAmb IAmb 04 12 02.4
comp=Z,4.3nm,1.5s

---

*SDD **02** 04:11:33.7±1.9, 17°.51N×68°.63W, h50km±202km, MD3.4, ML2.3, MW2.3*
*NEIC **02** 04:11:36.8±0.8, 18°.3N±0°.4×68°.43W±0°.10, h111km±11km, ML2.3/8, Md2.6/3(RSPR), Error ellipse: s-maj=55.3km s-min=6.2km az=192.0*
*RSPR **02** 04:11:36.7, 18°.28N×68°.46W, h112km±3km, MD2.6/3*
ISC 02 04:11:33.8±2.5, 17°.7N±0°.3×68°.58W±0°.08, h87km±33km, n22, σ1§09/29, 13C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.82**	**13**		**Pn**	**04 11 52.1**	**+0.7**
PCDR					**Sn**	**04 11 03.8**	**-0.6**
PCDR	**Punta Cana, DR**	**0.82**	**13**	IAML		04 12 14.5	
PCDR	comp=N,196nm,2.1s			IAML		04 12 18.1	
	comp=E,75nm,1.9s						
PCDR	**Punta Cana, DR**	**0.82**	**13**	↑*e*P	**Pn**	**04 11 52.1**	**+0.7**
PCDR	**Punta Cana, DR**	**0.82**	**13**	*e*S	**Sn**	**04 12 03.8**	**-0.6**
IDE	**Isla Desecheo**	**1.25**	**57**		**Pn**	**04 11 57.2**	**+0.9**
IDE					**Sn**	**04 12 12.7**	**-0.7**
IDE	**Isla Desecheo**	**1.25**	**57**	↑*e*P	**Pn**	**04 11 57.2**	**+0.9**
IDE	**Isla Desecheo**	**1.25**	**57**	*e*S	**Sn**	**04 12 12.7**	**-0.7**
DR12	**Loma Pena Alta**	**1.31**	**325**	Pn	**Pn**	**04 11 58.4**	**+1.2**
DR12				Sn	**Sn**	**04 12 14.4**	**-0.4**
HATOM	**Hato Mayor del**	**1.31**	**325**	↑*e*Pg	**Pn**	**04 11 56.9**	**-0.3**
HATOM				↑*e*Sg	**Sn**	**04 12 13.6**	**-1.2**
HATOM				IAML		04 12 59.2	
	comp=N,17nm,3.0s						
CRPR	**Cabo Rojo, PR**	**1.43**	**78**	Pn	**Pn**	**04 11 59.8**	**+1.2**
CRPR				IAML		04 12 31.5	
	comp=E,31nm,1.8s						
CRPR				IAML		04 12 32.2	
	comp=N,25nm,2.7s						
CRPR	**Cabo Rojo, PR**	**1.43**	**78**	↑*e*Pg	**Pn**	**04 11 57.3**	**-1.3**
CRPR				↑*e*Sg	**Sn**	**04 12 16.4**	**-0.9**
CRPR				IAML		04 12 31.6	
	comp=N,34nm,2.1s						
MLPR	**Magueyes Islan**	**1.49**	**80**	↑*e*Pg	Pn	04 11 57.0	-2.3
MLPR				↑*e*Sg	**Sn**	**04 12 16.9**	**-1.6**
MLPR				IAML		04 12 53.6	
	comp=N,22nm,2.9s						
LSP	**Las Mesas**	**1.50**	**72**		**Sn**	**04 12 20.7**	**+1.8**
LSP	**Las Mesas**	**1.50**	**72**	*e*S	**Sn**	**04 12 20.7**	**+1.8**
AGPR	**Aguadilla, PR**	**1.59**	**61**	Sn	**Sn**	**04 12 20.0**	**-0.9**
AGPR	**Aguadilla, PR**	**1.59**	**61**	↑*e*Pg	**Pn**	**04 12 01.5**	**+0.9**
AGPR				↑*e*Sg	**Sn**	**04 12 19.2**	**-1.7**
AGPR				IAML		04 12 52.0	
	comp=N,75nm,2.6s						
AOPR	**Arecibo Observ**	**1.85**	**70**		**Sn**	**04 12 26.1**	**-1.0**
AOPR	**Arecibo Observ**	**1.85**	**70**	↑*e*Pg	**Pn**	**04 12 04.1**	**+0.1**
AOPR				↑*e*Sg	**Sn**	**04 12 25.7**	**-1.3**
AOPR				IAML		04 12 32.9	
	comp=N,26nm,1.2s						
AOPR	**Arecibo Observ**	**1.85**	**70**	*e*S	**Sn**	**04 12 26.1**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.85**	**73**		**Pn**	**04 12 04.7**	**+0.7**
UUPR					**Sn**	**04 12 26.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.85**	**73**	↑*e*P	**Pn**	**04 12 04.7**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.85**	**73**	*e*S	**Sn**	**04 12 26.8**	**-0.2**

---

*UCR **02** 04:13:40.7±1.2, 11°.03N×85°.60W, h115km±3km, MW4.0*
*IDC **02** 04:13:40.1±0.7, 11°.06N×85°.42W, h116km±7km, mb3.6/8, mbtmp4.0/9, Error ellipse: s-maj=36.5km s-min=14.0km az=59.0*
*NEIC **02** 04:13:42±0.8, 10°.96N±0°.06×85°.53W±0°.06, h113km±4km, mb4.3/12, Error ellipse: s-maj=9.8km s-min=7.2km az=52.0*
ISC 02 04:13:40.7±0.7, 10°.98N±0°.05×85°.55W±0°.06, h122km±5km, n74, σ1§01/82, mb4.1/14, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.13**	**321**	*e*P	**Pn**	**04 13 57.7**	**+0.3**
LCRUZ				*e*S	**Sn**	**04 14 10.1**	**0.0**
GPS2	**Hotel Rincn d**	**0.29**	**139**	*e*P	**Pn**	**04 13 58.2**	**+0.2**
GPS2				*e*S	**Sn**	**04 14 11.3**	**+0.3**
ERIA	**Liberia**	**0.35**	**163**	*e*P	**Pn**	**04 13 58.5**	**+0.3**
ERIA				*e*S	**Sn**	**04 14 11.7**	**+0.4**
ALIBA	**Liberia Airpor**	**0.38**	**180**	*e*P	**Pn**	**04 13 58.6**	**+0.3**
ALIBA				*e*S	**Sn**	**04 14 12.3**	**+0.8**
HORNC	**Hornillas**	**0.45**	**126**	*e*P	**Pn**	**04 13 59.3**	**+0.5**
HORNC				*e*S	**Sn**	**04 14 12.8**	**+0.6**
COLC	**Colonia**	**0.46**	**132**	*e*P	**Pn**	**04 13 58.9**	**+0.2**
COLC				*e*S	**Sn**	**04 14 12.4**	**+0.2**
CUI	**Cuipilapa**	**0.49**	**130**	*e*P	**Pn**	**04 13 59.3**	**+0.4**
CUI				*e*S	**Sn**	**04 14 13.0**	**+0.4**
BAGA	**Bagaces**	**0.53**	**148**	*e*P	**Pn**	**04 13 59.3**	**+0.2**
PLVR	**Palo Verde**	**0.65**	**163**	*e*P	**Pn**	**04 14 00.2**	**+0.1**
VERA	**Finca Concepci**	**0.68**	**100**	*e*P	**Pn**	**04 14 00.6**	**+0.5**
SACU	**Santa Cruz**	**0.71**	**183**	*e*P	**Pn**	**04 14 00.7**	**+0.3**
JUD3	**Juan Diaz 3**	**0.81**	**179**		**Pn**	**04 14 01.5**	**+0.2**
JUD3				Sn	**Sn**	**04 14 16.9**	**+0.1**
LCHIL	**Los Chiles**	**0.82**	**86**	*e*P	**Pn**	**04 14 01.5**	**+0.2**
JTS	**Las Juntas de**	**0.90**	**139**	P	**Pn**	**04 14 02.1**	**+0.1**
	113nm,0.4s,baz=329,slow=12,SNR=378						
JTS				S	**Sn**	**04 14 16.9**	**-1.2**
	394nm,0.3s,baz=233,slow=23,SNR=22						
JTS	**Las Juntas de**	**0.90**	**139**	*e*P	**Pn**	**04 14 01.8**	**-0.2**
JUNT	**Juntas**	**0.90**	**140**	*e*P	**Pn**	**04 14 02.1**	**+0.1**
CEDE	**Laguna Cedeo**	**0.96**	**120**	*e*P	**Pn**	**04 14 03.2**	**+0.6**
MTEVE	**Monteverde**	**0.96**	**133**	*e*P	**Pn**	**04 14 03.0**	**+0.3**
FORC	**Fortuna**	**1.00**	**120**	*e*P	**Pn**	**04 14 03.9**	**+0.9**
NYURE	**Nandayure**	**1.01**	**163**	*e*P	**Pn**	**04 14 04.4**	**+1.3**
ACON	**Acoyapa**	**1.05**	**20**		**Pn**	**04 14 04.0**	**+0.5**
ACON	**Acoyapa**	**1.05**	**20**	*e*P	**Pn**	**04 14 03.7**	**+0.3**
SOCE	**Pocosol**	**1.09**	**123**		**Pn**	**04 14 04.4**	**+0.6**
SOCE	**Pocosol**	**1.09**	**123**	*e*P	**Pn**	**04 14 04.4**	**+0.6**
MGAN	**Managua**	**1.35**	**330**		**Pn**	**04 14 07.4**	**+0.8**
ITAL	**Pital**	**1.36**	**112**	*e*P	**Pn**	**04 14 07.1**	**+0.4**
SRA1	**San Ramn**	**1.37**	**130**	*e*P	**Pn**	**04 14 08.2**	**+1.2**
CBL1	**Cabuya**	**1.45**	**162**	*e*P	**Pn**	**04 14 07.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**1.47**	**355**		**Pn**	**04 14 08.6**	**+0.6**
TCS1	**Tacares**	**1.54**	**127**	*e*P	**Pn**	**04 14 10.4**	**+1.6**
SARA	**Sarapiqu**	**1.59**	**109**	*e*P	**Pn**	**04 14 09.6**	**+0.3**
ESPN	**Las Esperanzas**	**1.72**	**45**		**Pn**	**04 14 11.7**	**+0.8**
ESPN	**Las Esperanzas**	**1.72**	**45**	*e*P	**Pn**	**04 14 11.5**	**+0.6**
ACOS	**Acosta**	**1.79**	**131**	*e*P	**Pn**	**04 14 12.8**	**+0.9**
CVIMO	**Finca Echandi**	**1.84**	**121**	*e*P	**Pn**	**04 14 13.4**	**+0.8**
PICV	**PH. Pirrs**	**1.89**	**135**	*e*P	**Pn**	**04 14 12.9**	**0.0**
ABE2	**San Pablo**	**1.94**	**131**	*e*P	**Pn**	**04 14 14.5**	**+0.7**
VICA	**Volcano Irazu**	**1.94**	**120**	*e*P	**Pn**	**04 14 14.5**	**+0.5**
LCR2	**La Lucha 2**	**1.95**	**129**	*e*P	**Pn**	**04 14 14.5**	**+0.6**
VTLA	**Turrialba Volc**	**1.99**	**119**	*e*P	**Pn**	**04 14 15.1**	**+0.5**
CVTR	**Volcan Turrial**	**2.00**	**118**	*e*P	**Pn**	**04 14 15.7**	**+1.0**
CVTQ	**Turrialba Volc**	**2.00**	**119**	*e*P	**Pn**	**04 14 15.3**	**+0.7**
PCAYA	**Pacayas**	**2.00**	**121**	*e*P	**Pn**	**04 14 15.5**	**+0.9**
CVTV	**Tajo**	**2.01**	**118**	*e*P	**Pn**	**04 14 15.4**	**+0.6**
VTCV	**VTCV, Calle Va**	**2.04**	**119**	*e*P	**Pn**	**04 14 16.1**	**+1.0**
CRIN	**San Cristobal**	**2.26**	**319**		**Pn**	**04 14 18.4**	**+0.8**
BURE	**Buenos Aires**	**2.82**	**129**	*e*P	**Pn**	**04 14 26.0**	**+1.3**
DRK0	**Durika**	**2.83**	**127**	*e*P	**Pn**	**04 14 26.6**	**+1.5**
FIMO	**Fila Mora**	**2.92**	**132**	*e*P	**Pn**	**04 14 28.2**	**+2.0**
EDP2	**Potrero Grande**	**3.04**	**130**	*e*P	**Pn**	**04 14 29.7**	**+2.0**
EDAD	**Golfito**	**3.29**	**134**	*e*P	**Pn**	**04 14 32.3**	**+1.3**
PIRO	**Carate, Puerto**	**3.36**	**139**	*e*P	**Pn**	**04 14 33.5**	**+1.7**
BRU2	**Volcan**	**3.55**	**127**	Pn	**Pn**	**04 14 36.0**	**+1.5**
BRU2	**Volcan**	**3.55**	**127**	*e*P	**Pn**	**04 14 36.0**	**+1.5**
MTO3	**Montecristo**	**5.04**	**313**	Pn	**Pn**	**04 14 56.9**	**+2.4**
CMIG	**Matias Romero**	**10.91**	**305**	P	**Pn**	**04 16 15.0**	**+1.5**
	0.9nm,0.3s,baz=134,slow=12,SNR=4.1						
LRAL	**Lakeview Retre**	**22.00**	**357**	P	**P**	**04 18 27.4**	**+2.3**
Z47A	**Carrollton**	**22.24**	**354**	P	**P**	**04 18 29.4**	**+1.8**
Z47A				IAmb	IAmb	04 18 37.9	
	comp=Z,17nm,1.3s						
DRIO	**Del Rio**	**23.12**	**325**	P	**P**	**04 18 37.3**	**+1.0**
HODGE	**Hodges**	**23.34**	**7**	P	**P**	**04 18 39.7**	**+1.5**
HODGE				IAmb	IAmb	04 18 40.5	
	comp=Z,11nm,0.6s						
JSC	**Jenkinsville**	**23.53**	**9**	P	**P**	**04 18 41.7**	**+1.8**
JSC				IAmb	IAmb	04 18 42.2	
	comp=Z,8.3nm,0.6s						
PAULI	**Pauline**	**23.98**	**8**	P	**P**	**04 18 45.7**	**+1.7**
PAULI				IAmb	IAmb	04 18 46.4	
	comp=Z,11nm,0.9s						
BG3	**Lake Jocassee**	**24.03**	**5**	P	**P**	**04 18 45.8**	**+1.4**
BG3				IAmb	IAmb	04 18 47.4	
	comp=Z,7.4nm,0.7s						
FDF	**Fort de France**	**24.07**	**78**	P	**P**	**04 18 44.7**	**-0.4**
SWET	**Sewanee**	**24.13**	**359**	IAmb	IAmb	04 18 47.1	
	comp=Z,6.1nm,0.7s						
TKL	**Tuckaleechee C**	**24.62**	**3**	P	**P**	**04 18 49.3**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=183,slow=10,SNR=3.9						
	comp=Z,3.4nm,0.8s						
TXAR	**Lajitas Array**	**24.89**	**320**	P	**P**	**04 18 52.9**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=141,slow=11,SNR=19						
	comp=Z,1.5nm,0.4s						
AP01	**Chacalluta**	**32.79**	**153**	P	**P**	**04 20 02.4**	**-0.1**
SIV	**San Ignacio**	**36.12**	**137**	P	**P**	**04 20 31.8**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=295,slow=7.4,SNR=9.0						
	comp=Z,1.5nm,0.5s						
ULM	**Lac du Bonnet**	**40.07**	**350**	P	**P**	**04 21 01.9**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=161,slow=9.0,SNR=3.0						
	comp=Z,0.9nm,0.5s						
BDFB	**Brasilia**	**45.61**	**125**	P	**P**	**04 21 48.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=18,slow=3.2,SNR=3.2						
	comp=Z,1.2nm,0.5s						
SCHQ	**Schefferville**	**46.18**	**15**	P	**P**	**04 21 52.2**	**-0.9**
	comp=Z,4.4nm,0.5s,baz=215,slow=6.3,SNR=22						
	comp=Z,4.4nm,0.5s						
PLCA	**Paso Flores**	**53.28**	**166**	P	**P**	**04 22 46.2**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=343,slow=11,SNR=1.9						
	comp=Z,1.4nm,0.9s						
YKA	**Yellowknife Ar**	**55.52**	**344**	P	**P**	**04 23 01.6**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=149,slow=6.8,SNR=2.8						
	comp=Z,0.2nm,0.5s						

---

*SJA **02** 04:49:05.2±0.7, 21°.07S×67°.78W, h175km±8km, ML3.2, MW3.3*
*GUC **02** 04:49:07.9±0.8, 21°.09S×67°.92W, h171km±10km, ML3.3*
*SCB **02** 04:49:08.3±1.4, 21°.21S×67°.75W, h138km±37km, ML3.2/2, Error ellipse: s-maj=13.2km s-min=12.8km az=2.0*
*IDC **02** 04:49:14.4±6.8, 20°.59S×67°.27W, h203km±50km, mb3.3/1, mbtmp3.7/3, Error ellipse: s-maj=77.2km s-min=26.8km az=12.0*
ISC 02 04:49:06.2±1.0, 21°.16S±0°.04×67°.88W±0°.05, h176km±9km, n33, σ1§41/53, 2C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.42**	**243**	*e*P	**Pn**	**04 49 38.2**	**+0.8**
PB09				*e*S	**Sn**	**04 50 01.8**	**+0.4**
PB09				IAML		04 50 02.8	
	comp=Z,185nm,0.3s						
PB09	**IPOC Station P**	**1.42**	**243**	↓*e*P	**Pn**	**04 49 38.1**	**+0.8**
PB09				*e*S	**Sn**	**04 50 01.4**	**+0.1**
PB09				IAML		04 50 03.4	
	comp=E,224nm,0.3s						
PB09	**IPOC Station P**	**1.42**	**243**	Pg	**Pn**	**04 49 38.2**	**+0.8**
PB09				Sg	**Sn**	**04 50 01.2**	**-0.2**
PB09				IAML		04 50 04.6	
	comp=E,166nm,0.3s						
PB01	**IPOC Station P**	**1.51**	**274**	*e*P	**Pn**	**04 49 38.2**	**+0.1**
PB01				*e*S	**Sn**	**04 50 03.1**	**+0.5**
PB01				IAML		04 50 04.6	
	comp=Z,128nm,0.1s						
PB01	**IPOC Station P**	**1.51**	**274**	↓*e*P	**Pn**	**04 49 38.2**	**+0.1**
PB01				*e*S	**Sn**	**04 50 01.2**	**-1.5**
PB01				IAML		04 50 03.1	
	comp=N,237nm,0.2s						
PB01	**IPOC Station P**	**1.51**	**274**	Pg	**Pn**	**04 49 38.5**	**+0.4**
PB01				Sg	**Sn**	**04 50 02.2**	**-0.4**
PB01				IAML		04 50 02.9	
	comp=N,239nm,0.8s						
PX03	**IPOC Station P**	**1.81**	**294**	*e*P	**Pn**	**04 49 40.5**	**-0.6**
PX03				*e*S	**Sn**	**04 50 06.2**	**-1.8**
PX03				IAML		04 50 11.4	
	comp=N,127nm,0.2s						
AF01	**San Pedro de A**	**1.81**	**189**	*e*P	Pn	04 49 30.8	-10
AF01				*e*S	**Sn**	**04 50 07.7**	**-0.9**
HMBC	**Humberstone**	**2.08**	**295**	*e*P	**Pn**	**04 49 44.3**	**+0.2**
HMBC				*e*S	**Sn**	**04 50 12.7**	**-0.6**
HMBC				IAML		04 50 13.3	
	comp=Z,175nm,0.2s						
HMBC	**Humberstone**	**2.08**	**295**	*i* P	**Pn**	**04 49 44.0**	**0.0**
HMBC				*i* S	**Sn**	**04 50 11.6**	**-1.7**
HMBC				IAML		04 50 15.0	
	comp=N,206nm,0.4s						
PATCX	**Punta Patache**	**2.15**	**279**	*e*P	**Pn**	**04 49 45.2**	**+0.4**
PATCX				*e*S	**Sn**	**04 50 14.7**	**-0.1**
PATCX				IAML		04 50 16.7	
	comp=Z,80nm,0.4s						
PATCX	**Punta Patache**	**2.15**	**279**	*e*P	**Pn**	**04 49 45.2**	**+0.4**
PATCX				*e*S	**Sn**	**04 50 13.7**	**-1.1**
PATCX				IAML		04 50 15.6	
	comp=N,228nm,0.2s						
PATCX				IAML		04 50 15.9	
	comp=E,235nm,0.2s						
TA01	**Diego Aracena**	**2.23**	**285**	*e*P	**Pn**	**04 49 45.7**	**+0.1**
TA01				*e*S	**Sn**	**04 50 16.6**	**+0.4**
TA01				IAML		04 50 20.6	
	comp=Z,42nm,0.3s						
TA01	**Diego Aracena**	**2.23**	**285**	↑*i* P	**Pn**	**04 49 45.7**	**+0.1**
TA01				*i* S	**Sn**	**04 50 14.5**	**-1.7**
TA01				IAML		04 50 15.9	
	comp=N,134nm,0.4s						
TA02	**Huaiquique**	**2.29**	**292**	*e*P	**Pn**	**04 49 46.4**	**+0.2**
TA02				*e*S	**Sn**	**04 50 16.5**	**-0.8**
TA02				IAML		04 50 19.4	
	comp=Z,100nm,0.5s						
TA02	**Huaiquique**	**2.29**	**292**	↑*e*P	**Pn**	**04 49 45.5**	**-0.8**
TA02				*e*S	**Sn**	**04 50 15.1**	**-2.2**
YJA	**Yavi**	**2.42**	**115**	*e*P	**Pn**	**04 49 49.6**	**+1.4**
YJA				*e*S	**Sn**	**04 50 19.6**	**-1.2**
SOEO	**Opoqueri**	**2.58**	**360**	Pg	**Pn**	**04 49 52.2**	**+2.0**
PB12	**IPOC Station P**	**3.42**	**317**	*e*P	**Pn**	**04 49 59.6**	**-0.5**
PB12				*e*S	**Sn**	**04 50 40.0**	**-2.1**
PB12				IAML		04 50 42.0	
	comp=Z,28nm,0.3s						
PB12	**IPOC Station P**	**3.42**	**317**	*e*P	**Pn**	**04 49 59.5**	**-0.5**
PB12				*e*S	**Sn**	**04 50 39.0**	**-3.1**
PB12				IAML		04 50 41.5	
	comp=E,64nm,0.4s						
SOET	**ToroToro**	**3.60**	**33**	Pg	**Pn**	**04 50 03.6**	**+1.1**
AP01	**Chacalluta**	**3.62**	**320**	*e*P	Pn	04 50 18.4	+16
AP01				*e*S	Sn	04 50 30.7	-16
AOEA	**Aiquile**	**3.87**	**41**	Pg	**Pn**	**04 50 06.7**	**+0.8**
PB14	**IPOC Station P**	**4.17**	**214**	*e*P	**Pn**	**04 50 09.7**	**0.0**
PB14				*e*S	**Sn**	**04 50 57.0**	**-2.3**
PB14				IAML		04 50 58.1	
	comp=Z,38nm,0.2s						
GO02	**Mina Guanaco**	**4.29**	**201**	*e*P	**Pn**	**04 50 11.2**	**+0.1**
GO02				*e*S	**Sn**	**04 51 00.3**	**-1.7**
BBOE	**La Paz, Chanca**	**4.32**	**359**	Pg	**Pn**	**04 50 15.0**	**+3.0**
BBOD	**La Paz, Gloria**	**4.55**	**351**	Pg	**Pn**	**04 50 17.6**	**+2.8**
LPAZ	**La Paz**	**4.85**	**357**	P	**Pn**	**04 50 21.1**	**+2.3**
	comp=Z,3.6nm,0.4s,baz=194,slow=8.1,SNR=13						
LPAZ				S	**Sn**	**04 51 14.8**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=281,slow=5.1,SNR=1.8						
LPAZ	**La Paz**	**4.85**	**357**	*e*P	**Pn**	**04 50 21.3**	**+2.5**
LPAZ	**La Paz**	**4.85**	**357**	Pg	**Pn**	**04 50 20.9**	**+2.1**
SIV	**San Ignacio**	**8.25**	**53**	P	**Pn**	**04 51 00.9**	**-2.0**
	comp=Z,3.6nm,0.4s,baz=233,slow=11,SNR=36						
SIV				S	Sn	04 52 24.6	-11
	comp=Z,0.5nm,0.7s,baz=294,slow=16,SNR=1.4						
TORD	**Torodi Ar. Bea**	**76.33**	**70**	P	**P**	**05 00 37.9**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=254,slow=5.6,SNR=9.3						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**144.79**	**36**	PKP	**PKiKP**	**05 08 24.1**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=282,slow=2.8,SNR=4.0						

---

*IDC **02** 05:04:10.7±1.6, 27°.65N×53°.02E, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=34.7km s-min=27.6km az=3.0*
*TEH **02** 05:04:11.9, 27°.67N×53°.21E, h6km±252km*
ISC 02 05:04:12.3±0.8, 27°.64N±0°.05×53°.16E±0°.06, h10km, n25, σ1§54/26, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.30**	**179**	Pg	**Pb**	**05 04 19.2**	**-0.6**
QIR1	**Qir**	**0.83**	**353**	Pg	**Pg**	**05 04 27.8**	**-0.6**
JHRM	**Jahrom**	**0.93**	**23**	Pg	**Pn**	**05 04 30.2**	**-1.4**
LAR1	**LAR**	**1.08**	**88**	Pg	**Pn**	**05 04 33.3**	**-0.2**
DSBU	**Dashti - Bushe**	**1.83**	**294**	Pn	**Pg**	**05 04 47.4**	**+0.1**
AHBU	**AHRAM**	**2.05**	**307**	Pn	**Pb**	**05 04 50.3**	**+0.8**
SHI	**Shiraz**	**2.07**	**344**	Pn	**Pg**	**05 04 50.6**	**-1.4**
KAZ2	**Kazeron-Fars-I**	**2.36**	**326**	Pn	**Pb**	**05 04 54.6**	**-0.4**
KLNJ	**Kolanjah**	**3.62**	**338**	Pn	**Pn**	**05 05 11.6**	**+2.8**
NGRK	**Negar Kerman**	**3.72**	**57**	Pn	**Pn**	**05 05 11.4**	**+1.4**
UOSS	**Minazif**	**3.83**	**134**	Pn	**Pn**	**05 05 13.4**	**+2.0**
TVBK	**TV Kerman**	**3.93**	**53**	Pn	**Pn**	**05 05 15.4**	**+2.4**
IMEH	**Mehriz**	**3.94**	**18**	Pn	**Pn**	**05 05 15.5**	**+2.5**
KHGB	**Koh Gabri**	**3.98**	**46**	Pn	**Pn**	**05 05 15.7**	**+2.1**
CHMN	**Cheshme madani**	**4.43**	**59**	Pn	**Pn**	**05 05 22.1**	**+2.1**
ICHK	**Chekchek**	**4.71**	**13**	Pn	**Pn**	**05 05 25.5**	**+1.9**
TPRV	**Parvadeh(Tabas**	**6.17**	**29**	Pn	**Pn**	**05 05 44.9**	**+1.3**
WSAR	**Wadi Sarin**	**6.61**	**130**	Pn	**Pn**	**05 05 50.6**	**+1.1**
	1.0nm,0.3s,baz=313,slow=4.8,SNR=12						
WSAR				Sn	**Sn**	**05 07 04.3**	**-0.6**
	0.9nm,0.3s,baz=137,slow=16,SNR=5.2						
	2.5nm,0.4s						
TKDS	**Koohdasht(Taba**	**6.86**	**29**	Pn	**Pn**	**05 05 54.2**	**+1.1**
SRVN	**Saravan**	**8.21**	**90**	Pn	**Pn**	**05 06 13.5**	**+1.9**
MKAR	**Makanchi Array**	**29.80**	**42**	P	**P**	**05 10 19.6**	**+0.4**
	0.3nm,0.4s,baz=237,slow=9.2,SNR=5.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**35.05**	**33**	P	**P**	**05 11 05.9**	**+0.8**
	0.5nm,0.6s,baz=236,slow=6.8,SNR=2.6						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**38.34**	**339**	P	**P**	**05 11 32.5**	**-0.6**
	0.8nm,0.4s,baz=144,slow=7.1,SNR=9.9						
	0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**48.71**	**321**	P	**P**	**05 12 56.1**	**-0.6**
	2.0nm,0.9s,baz=102,slow=7.8,SNR=4.3						
	2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**50.01**	**264**	P	**P**	**05 13 06.1**	**-1.1**
	0.5nm,0.7s,baz=57,slow=7.5,SNR=4.6						
	0.5nm,0.7s						

WEL 02 05:10:39.5±1.0, 36°S±12°×17°9E±1°1, h182km±17km, M3.4/10, ML3.6/9, MLv3.4/10, Error ellipse: s-maj=17.8km s-min=11.2km az=142.2, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.84**	**201**	P	Pn	05 11 14.1	-0.9
MXZ				S	Sn	05 11 39.7	-2.9
WMGZ	**Waiomatatini S**	**2.06**	**196**	P	Pn	05 11 17.5	+0.3
WMGZ				S	Sn	05 11 47.6	+0.9
PKGZ	**Pakihiroa**	**2.19**	**202**	P	Pn	05 11 19.0	+0.3
PKGZ				S	Sn	05 11 49.1	-0.2
HAZ	**Te Kaha**	**2.20**	**209**	P	Pn	05 11 18.2	-0.6
HAZ				S	Sn	05 11 50.2	+0.8
PUZ	**Puketiti**	**2.33**	**197**	P	Pn	05 11 20.3	-0.1
PUZ				S	Sn	05 11 51.9	-0.4
RUGZ	**Raukumara Rang**	**2.42**	**208**	P	Pn	05 11 21.5	0.0
RUGZ				S	Sn	05 11 53.9	-0.3
TWGZ	**Tauwhareparae**	**2.51**	**201**	P	Pn	05 11 22.9	+0.5
TWGZ				S	Sn	05 11 56.9	+1.1
CNGZ	**Carnagh Statio**	**2.74**	**195**	P	Pn	05 11 25.8	+0.7
TKGZ	**Te Karaka**	**2.

comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 36.22 309 P **P** **06 25 43.3 -0.8**
comp=Z,0.3nm,0.9s,baz=33,slow=7.9,SNR=6.2
comp=Z,0.3nm,0.9s
KURBB Kurchatov Arra 44.94 64 P **P** **06 26 57.4 +1.2**
comp=Z,0.3nm,0.3s,baz=331,slow=6.7,SNR=1.1
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 49.49 64 P **P** **06 27 32.5 +0.7**
comp=Z,0.4nm,1.0s,baz=357,slow=4.1,SNR=3.9
comp=Z,0.4nm,1.0s
TXAR Lajitas Array 62.09 279 P **P** **06 29 00.4 -2.0**
comp=Z,0.1nm,0.5s,baz=35,slow=4.6,SNR=3.8
comp=Z,0.1nm,0.5s

REY ***02*** *06:29:31.5, 69°.85N×14°.31W, h10km*
IDC ***02*** *06:29:32.5±0.8, 70°.00N×15°.47W, h0km, mb3.7/10, mbtmp3.8/16, ML3.5/5, MS4.0/18, Error ellipse: s-maj=19.9km s-min=15.5km az=30.0*
GCMT ***02*** *06:29:33.0±0.3, 69°.97N±0°.04×15°.56W±0°.06, h12km, MW4.8/90, Moment Tensor Solution. s11,c12; s90,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.98±.06; $M_{\theta\theta}$=0.64±.07; $M_{\phi\phi}$=1.34±.05; $M_{r\theta}$=-0.12±.36; $M_{\phi\phi}$=0.27±.05; $M_{\phi r}$=0.04±.24; Best double couple: M_0=1.70900×10^{16} NP1:ϕ_s=196.00000°, δ45.00000°, λ-94.00000°. NP2: ϕ_s=22.00000°, δ45.00000°, λ-86.00000°. Principal axes: T 1.4320, Plg0.0000°, Azm109.0000°; N 0.5510, Plg3.0000°, Azm199.0000°; P -1.9870, Plg87.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *06:29:34.0±1.7, 70°.11N±0°.09×15°.8W±0°.1, h10km±1km, mb4.4/17 Error ellipse: s-maj=14.7km s-min=7.5km az=185.0*
DNK ***02*** *06:29:43.3±4.2, 70°.55N×16°.56W, h36km±41km, ML2.6*
ISC 02 06:29:33.7±0.5, 69°.99N±0°.04×15°.67W±0°.05, h10km, n96, σ1§80/97, mb4.3/30, MS4.0/15, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.19**	**286**		**Pn**	**06 30 08.2**	**-1.9**
SCO	**Scoresbysund**	**2.19**	**286**	*i* P	**Pn**	**06 30 10.9**	**+0.8**
SCO				*i* S	**Sn**	**06 30 33.2**	**-4.0**
SCO				IAML		06 31 29.1	
	comp=Z,293nm,2.3s						
JMIC	**Jan Mayen**	**2.61**	**64**	*i* S	**Sb**	**06 30 52.7**	**+0.2**
IGRI	**Grimsey**	**3.57**	**195**	P	**Pn**	**06 30 28.0**	**-1.0**
IGRI				S	**Sn**	**06 31 10.8**	**-0.3**
ILEI	**Leirhofn**	**3.61**	**185**	P	**Pn**	**06 30 26.8**	**-2.8**
ILEI				S	**Sn**	**06 31 10.0**	**-2.2**
IGIL	**Gilhagi**	**3.94**	**184**	P	**Pn**	**06 30 31.5**	**-2.5**
IGIL				S	**Sn**	**06 31 17.9**	**-2.4**
IHED	**Heoinshofoi**	**3.97**	**190**	P	**Pn**	**06 30 32.7**	**-1.8**
IHED				S	**Sn**	**06 31 18.5**	**-2.6**
ISIG	**Siglufjorour**	**4.06**	**199**	P	**Pn**	**06 30 35.6**	**-0.1**
IDIM	**Dimmadalss**	**4.07**	**187**	P	**Pn**	**06 30 33.6**	**-2.4**
IDIM				S	**Sn**	**06 31 21.6**	**-2.0**
IGRA	**Granastaoir**	**4.15**	**191**	P	**Pn**	**06 30 35.6**	**-1.4**
IGRA				S	**Sn**	**06 31 24.3**	**-1.1**
ISKI	**Skildingahlsh**	**4.17**	**188**	P	**Pn**	**06 30 35.2**	**-2.1**
ISKI				S	**Sn**	**06 31 24.7**	**-1.3**
IGHA	**Grjothals**	**4.18**	**186**	P	**Pn**	**06 30 35.0**	**-2.5**
IGHA				S	**Sn**	**06 31 24.7**	**-1.6**
IHLA	**Hella**	**4.19**	**195**	P	**Pn**	**06 30 37.2**	**-0.3**
IHLA				S	**Sn**	**06 31 24.9**	**-1.5**
IHRN	**Hraun**	**4.24**	**205**	P	**Pn**	**06 30 38.7**	**+0.5**
IKVO	**Krokottuvotn**	**4.32**	**187**	P	**Pn**	**06 30 37.5**	**-1.9**
IKVO				S	**Sn**	**06 31 30.1**	**+0.5**
IGRS	**Grimsstaoir**	**4.37**	**182**	P	**Pn**	**06 30 37.6**	**-2.5**
IGRS				S	**Sn**	**06 31 29.9**	**-1.1**
IREN	**Reynihlio**	**4.39**	**187**	P	**Pn**	**06 30 38.6**	**-1.6**
IMEL	**Melhnausar**	**4.45**	**185**	P	**Pn**	**06 30 39.0**	**-2.2**
IMEL				S	**Sn**	**06 31 32.2**	**-0.8**
DBG	**Daneborg**	**4.56**	**344**	*i* P	**Pn**	**06 30 38.7**	**-3.9**
ISVA	**Svartarkot**	**4.71**	**188**	P	**Pn**	**06 30 43.5**	**-1.2**
ISVA				S	**Sn**	**06 31 39.5**	**+0.1**
IASK	**Askja**	**4.97**	**185**	P	**Pn**	**06 30 48.9**	**+0.5**
IADA	**Aoalbol**	**4.99**	**180**	P	**Pn**	**06 30 46.2**	**-2.4**
IMKO	**Mokollar**	**5.04**	**183**	P	**Pn**	**06 30 48.6**	**-0.7**
IVSH	**V-Sauoahnukur**	**5.20**	**180**	P	**Pn**	**06 30 49.2**	**-2.4**
BORG	**Borgarnes**	**5.70**	**205**		**Pn**	**06 30 59.9**	**+1.7**
BORG	**Borgarnes**	**5.70**	**205**	Pn	**Pn**	**06 30 59.6**	**+1.4**
	comp=Z,3.8nm,0.3s,baz=6.0,slow=6.9,SNR=19						
	comp=Z,23nm,0.4s						
DAG	**Danmarks Havn**	**6.87**	**354**	*i* P	**Pn**	**06 31 15.0**	**+0.7**
DAG				IAML		06 33 02.2	
	comp=Z,4.5nm,0.5s						
SUMG	**Summit**	**7.75**	**300**		**Pn**	**06 31 25.5**	**-1.2**
SUMG	**Summit**	**7.75**	**300**	*i* P	**Pn**	**06 31 26.0**	**-0.7**
SUMG				*e*S	Sn	06 32 37.5	-17
SUMG				IAML		06 33 25.5	
	comp=Z,20nm,1.0s						
SPITS	**Spitsbergen Ar**	**11.80**	**32**	Pn	**Pn**	**06 32 22.1**	**+0.4**
	baz=227,slow=14						
	comp=Z,3.2nm,0.6s						
SPB2	**Spitsbergen Ar**	**11.80**	**32**	Pn	**Pn**	**06 32 20.7**	**-1.0**
ARCES	**ARCESS Array B**	**14.06**	**72**	LR	LR	06 37 11.5	
	comp=Z,579nm,19.2s,baz=306,slow=33						
NOA	**NORSAR Array B**	**14.16**	**116**	Pn	**Pn**	**06 32 53.2**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=314,slow=11,SNR=1.7						
NOA				LR	LR	06 37 43.4	
	comp=Z,347nm,20.9s,baz=320,slow=35						
HFS	**Hagfors**	**15.64**	**114**	Pn	**Pn**	**06 33 12.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=329,slow=11,SNR=7.7						
HFS				LR	LR	06 38 29.0	
	comp=Z,594nm,21.1s,baz=308,slow=34						
	comp=Z,2.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**15.73**	**153**	Pn	**Pn**	**06 33 15.1**	**0.0**
	baz=344,slow=12						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**18.77**	**96**	P	**P**	**06 33 52.1**	**-0.5**
FINES	**FINESS Array B**	**18.77**	**96**	P	**Pn**	**06 33 52.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=324,slow=9.4,SNR=9.3						
FINES				LR	LR	06 40 14.1	
	comp=Z,900nm,19.8s,baz=268,slow=34						
	comp=Z,7.2nm,0.9s						
FIA1	**FINESS Array S**	**18.77**	**96**	P	**P**	**06 33 52.4**	**-0.2**
EUNU	**Eureka**	**19.21**	**330**	P	**P**	**06 33 55.9**	**-1.5**
FRB	**Frobisher Bay**	**21.04**	**279**	LR	LR	06 42 28.6	
	comp=Z,733nm,19.3s,baz=66,slow=37						
RES	**Resolute Bay**	**22.75**	**318**	LR	LR	06 43 14.0	
	comp=Z,443nm,19.6s,baz=68,slow=36						
CLL	**Collm**	**23.01**	**130**	*i* P	**P**	**06 34 41.2**	**+2.9**
	comp=Z,11nm,1.2s						
CLL				*e*S	**S**	**06 38 48.0**	**-0.5**
CLL				AMS	AMS	06 42 00.0	
	comp=N,300nm,21.9s						
CLL				AMS	AMS	06 42 00.0	
	comp=E,200nm,21.0s						
BRG	**Berggiesshubel**	**23.65**	**129**	*e*P	**P**	**06 34 45.0**	**+0.3**
BRG				Amp		06 34 47.1	
	comp=Z,5.8nm,1.2s						
KLMR	**Klimovskoe**	**23.81**	**85**	*e*P	**P**	**06 34 43.3**	**-2.9**
	comp=Z,33nm,2.0s						
NACGM	**Naroch**	**24.05**	**107**	*e*P	**P**	**06 34 48.0**	**-0.6**
	comp=Z,2μm,1.0s,baz=326						
KHC	**Kasperske Hory**	**25.15**	**131**	*e*P	**P**	**06 35 00.0**	**+1.4**
GEC2	**GERESS Array S**	**25.44**	**131**	P	**P**	**06 35 02.3**	**+0.9**
GEC2				IAmb	IAmb	06 35 05.1	
	comp=Z,15nm,1.4s						
GERES	**GERESS Array B**	**25.44**	**131**	P	**P**	**06 35 02.3**	**+0.9**
GERES	**GERESS Array B**	**25.44**	**131**	P	**P**	**06 35 01.3**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=311,slow=6.9,SNR=11						
GERES				LR	LR	06 45 51.7	
	comp=Z,262nm,19.4s,baz=333,slow=39						
	comp=Z,4.3nm,0.9s						
MORC	**Moravsky Berou**	**25.64**	**125**	P	**P**	**06 35 03.8**	**+0.8**
MORC				IAmb	IAmb	06 35 09.0	
	comp=Z,8.2nm,1.0s						
VRAC	**Vranov**	**25.79**	**127**	LR	LR	06 45 37.5	
	comp=Z,473nm,18.6s,baz=336,slow=38						
OJC	**Ojcow**	**25.89**	**121**	P	**P**	**06 35 06.2**	**+0.9**
OJC				IAmb	IAmb	06 35 07.4	
	comp=Z,12nm,1.2s						
DAVA	**Damuels**	**25.95**	**138**	*e*P	**P**	**06 35 09.6**	**+3.5**
	comp=Z,12nm,1.3s						
RETA	**Reutte**	**25.97**	**136**	*i* pP	pP	06 35 11.0	+2.2
	comp=Z,13nm,1.8s						
MOTA	**Moosalm**	**26.19**	**136**	*e*P	**P**	**06 35 09.4**	**+1.2**
	comp=Z,15nm,1.5s						
WATA	**Walderalm**	**26.31**	**135**	*e*P	**P**	**06 35 10.4**	**+1.1**
	comp=Z,11nm,1.2s						
SQTA	**Sankt Quirin**	**26.33**	**136**	*i* P	**P**	**06 35 10.7**	**+1.3**
	comp=Z,15nm,1.7s						
WTTA	**Wattenberg**	**26.39**	**135**	*i* P	**P**	**06 35 11.5**	**+1.5**
	comp=Z,25nm,1.2s						
FETA	**Feichten**	**26.40**	**137**	*e*pP	pP	06 35 12.8	0.0
	comp=Z,6.9nm,1.4s						
DAVOX	**Davos/Dischmat**	**26.43**	**138**	LR	LR	06 46 06.3	
	comp=Z,362nm,19.7s,baz=320,slow=38						
SCHQ	**Schefferville**	**27.04**	**262**	LR	LR	06 45 35.5	
	comp=Z,431nm,18.2s,baz=75,slow=36						
VYHS	**Vyhne**	**27.16**	**124**	*e*P	**P**	**06 35 23.7**	**+6.9**
OBN	**Obninsk**	**27.18**	**96**	LR	LR	06 45 25.9	
	comp=Z,550nm,18.9s,baz=358,slow=35						
KOLS	**Kolonicke sedl**	**27.77**	**120**	*e*P	**P**	**06 35 27.3**	**+5.1**
PSZ	**Piszkesteto**	**27.98**	**124**	P	**P**	**06 35 25.8**	**+1.6**
PSZ				IAmb	IAmb	06 35 57.1	
	comp=Z,6.3nm,1.1s						
AKASG	**Malin Array Be**	**28.40**	**109**	P	**P**	**06 35 26.6**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=337,slow=9.4,SNR=5.2						
AKASG				LR	LR	06 46 16.9	
	comp=Z,392nm,21.3s,baz=299,slow=35						
	comp=Z,0.7nm,0.6s						
KIRV	**Kirov**	**28.87**	**80**	LR	LR	06 46 07.0	
	comp=Z,478nm,18.9s,baz=314,slow=35						
BUR08	**Bucovina Ar. S**	**29.81**	**117**	P	**P**	**06 35 41.5**	**+1.0**
BURAR	**Bucovina Array**	**29.84**	**117**	P	**P**	**06 35 41.1**	**+0.3**
FNA	**Florina**	**34.96**	**127**	P	**P**	**06 36 26.9**	**+1.4**
YKA	**Yellowknife Ar**	**36.22**	**309**	P	**P**	**06 36 35.6**	**-0.5**
YKA	**Yellowknife Ar**	**36.22**	**309**	P	**P**	**06 36 37.2**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=38,slow=8.5,SNR=9.1						
YKA				LR	LR	06 51 17.0	
	comp=Z,233nm,18.6s,baz=352,slow=36						
	comp=Z,0.8nm,0.9s						
E28M	**Babbage River**	**36.58**	**329**	P	**P**	**06 36 39.5**	**+0.4**
KEST	**Kesra**	**36.90**	**145**	P	**P**	**06 36 43.3**	**+1.1**
KEST				IAmb	IAmb	06 37 27.0	
	comp=Z,14nm,1.4s						
C24K	**Franklin Bluff**	**37.06**	**335**	P	**P**	**06 36 44.2**	**+1.1**
C24K				IAmb	IAmb	06 37 03.3	
	comp=Z,14nm,1.5s						
D24K	**Happy Valley**	**37.59**	**335**	P	**P**	**06 36 46.3**	**-1.4**
MDT	**Midelt**	**37.73**	**165**	LR	LR	06 50 54.2	
	comp=Z,186nm,20.5s,baz=343,slow=34						
MDUB	**Mudurnu**	**38.13**	**116**	P	**P**	**06 36 52.7**	**0.0**
KVAR	**Kislovodsk Arr**	**38.76**	**101**	LR	LR	06 52 38.7	
	comp=Z,238nm,21.1s,baz=222,slow=36						
L64A	**Middleborough**	**39.48**	**254**	P	**P**	**06 37 05.3**	**+1.5**
BRTR	**Keskin Array B**	**39.58**	**113**	P	**P**	**06 37 05.3**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=330,slow=8.3,SNR=2.5						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**40.06**	**80**	P	**P**	**06 37 09.5**	**+0.9**
C16K	**Lisburne Hills**	**40.47**	**343**	P	**P**	**06 37 11.2**	**-0.5**
C16K				IAmb	IAmb	06 37 16.8	
	comp=Z,7.8nm,1.5s						
J25K	**Salcha River,**	**41.20**	**330**	P	**P**	**06 37 17.8**	**-0.2**
J25K				IAmb	IAmb	06 37 22.4	
	comp=Z,4.1nm,1.0s						
ILAR	**Eielson Array**	**41.32**	**331**	P	**P**	**06 37 20.4**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=31,slow=7.2,SNR=4.0						
	comp=Z,0.5nm,0.9s						
ODNJ	**Ogdensburg**	**41.50**	**258**	P	**P**	**06 37 22.1**	**+1.6**
ODNJ				IAmb	IAmb	06 38 00.3	
	comp=Z,13nm,1.3s						
ZALV	**Zalesovo Beam**	**43.93**	**57**	P	**P**	**06 37 39.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=342,slow=9.1,SNR=4.9						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**44.95**	**64**	P	**P**	**06 37 48.4**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=330,slow=7.5,SNR=7.6						
	comp=Z,1.5nm,1.0s						
MKAR	**Makanchi Array**	**49.50**	**63**	P	**P**	**06 38 21.8**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=338,slow=4.6,SNR=7.3						
	comp=Z,0.9nm,0.9s						
MA2	**Magadan**	**50.37**	**9**	LR	LR	06 58 06.3	
	comp=Z,39nm,18.2s,baz=102,slow=34						
KSH	**Kashi**	**54.03**	**73**	P	**P**	**06 39 01.4**	**+3.6**
KSH				pP	sP	06 39 05.3	+3.6
KSH				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**57.84**	**160**	P	**P**	**06 39 24.7**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=326,slow=6.5,SNR=6.4						
	comp=Z,1.1nm,1.0s						
TXAR	**Lajitas Array**	**62.09**	**279**	P	**P**	**06 39 53.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=72,slow=4.1,SNR=5.7						
	comp=Z,0.6nm,0.8s						
GOMU	**GeErMu**	**62.96**	**58**	P	**P**	**06 40 01.9**	**+1.4**
GOMU				pP	sP	06 40 08.1	+3.7
GOMU				sP	pP	06 40 10.9	+7.6
GOMU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
RCBR	**Riachuelo**	**76.90**	**201**	LR	LR	07 10 31.8	
	comp=Z,19nm,18.5s,baz=74,slow=32						
QSPA	**South Pole Qui**	**159.93**	**180**	PKPab	**PKPab**	**06 50 12.5**	**+1.7**
	comp=Z,7.9nm,1.2s,baz=177,slow=3.7,SNR=5.8						

IDC ***02*** *06:30:47.6±1.6, 69°.88N×15°.78W, h0km, mb3.5/2, mbtmp3.8/5, ML2.6/2, MS3.8/1, Error ellipse: s-maj=34.7km s-min=28.7km az=16.0*
ISC 02 06:30:48.5±1.1, 69°.9N±0°.1×15°.8W±0°.1, h10km, n7, σ1§52/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**5.59**	**205**	Pn	**Pn**	**06 32 10.5**	**-1.0**
	8.7nm,0.3s,baz=25,slow=14,SNR=6.6						
SPITS	**Spitsbergen Ar**	**11.91**	**32**	Pn	**Pn**	**06 33 36.8**	**-1.2**
	baz=238,slow=14						
	15nm,1.1s						
HFS	**Hagfors**	**15.62**	**114**	Pn	**P**	**06 34 32.0**	**-0.6**
	0.1nm,0.3s,baz=343,slow=14,SNR=2.6						
FINES	**FINESS Array B**	**18.80**	**96**	P	**P**	**06 35 07.1**	**-0.5**
	0.1nm,0.3s,baz=324,slow=9.3,SNR=0.6						
	0.8nm,0.7s						
AKASG	**Malin Array Be**	**28.39**	**109**	P	**P**	**06 36 44.3**	**+1.8**
	0.5nm,0.3s,baz=330,slow=11,SNR=3.1						
	0.5nm,0.3s						
INK	**Inuvik**	**35.80**	**326**	LR	LR	06 53 22.3	
	comp=Z,151nm,19.0s,baz=20,slow=38						
YKA	**Yellowknife Ar**	**36.27**	**309**	P	**P**	**06 37 52.1**	**+0.9**
	0.3nm,0.9s,baz=37,slow=7.7,SNR=3.8						
	0.3nm,0.9s						

IDC ***02*** *06:31:18.6±0.6, 69°.97N×15°.54W, h0km, mb3.9/14, mbtmp4.0/20, ML3.5/5, Error ellipse: s-maj=18.5km s-min=12.2km az=16.0*
NEIC ***02*** *06:31:21.9±0.7, 70°.12N±0°.08×14°.9W±0°.2, h10km±1km, mb4.4/23, Error ellipse: s-maj=14.0km s-min=12.5km az=22.0*
ISC 02 06:31:20.7±0.4, 70°.09N±0°.07×15°.19W±0°.04, h10km, n71, σ1§67/75, mb4.3/35, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.33**	**283**	Pn	**Pb**	**06 32 01.4**	**-1.3**
JMIC	**Jan Mayen**	**2.41**	**65**	Pn	**Pb**	**06 32 03.1**	**-1.1**
	23nm,0.3s,baz=202,slow=11,SNR=2.6						
JMIC				Sn	**Sn**	**06 32 24.4**	**-5.3**
	12nm,0.3s,baz=216,slow=12,SNR=3.9						
	63nm,0.4s						
BORG	**Borgarnes**	**5.86**	**207**	Pn	**Pn**	**06 32 49.5**	**+2.1**
BORG	**Borgarnes**	**5.86**	**207**	Pn	**Pn**	**06 32 44.5**	**-2.9**
	2.6nm,0.3s,baz=360,slow=8.0,SNR=3.7						
	22nm,0.7s						
KBS	**Kingsbay**	**11.27**	**27**	Pn	**Pn**	**06 34 01.2**	**-0.3**
SPITS	**Spitsbergen Ar**	**11.62**	**32**	Pn	**Pn**	**06 34 07.5**	**+1.1**
	baz=230,slow=13						
	26nm,1.0s						
SPB2	**Spitsbergen Ar**	**11.62**	**32**	Pn	**Pn**	**06 34 06.8**	**+0.5**
ARCES	**ARCESS Array B**	**13.88**	**73**	Pn	**Pn**	**06 34 36.5**	**-0.6**
	baz=303,slow=15,SNR=1.1						
	1.5nm,0.7s						
NOA	**NORSAR Array B**	**14.06**	**117**	Pn	**Pn**	**06 34 40.2**	**+0.6**
	1.9nm,1.1s,baz=314,slow=11,SNR=2.1						
KONO	**Kongsberg**	**14.70**	**123**	Pn	**Pn**	**06 34 48.6**	**+0.2**
HFS	**Hagfors**	**15.53**	**115**	Pn	**P**	**06 35 02.0**	**-1.8**
	0.3nm,0.3s,baz=321,slow=6.6,SNR=7.0						
TULEG	**Thule**	**16.07**	**317**		**P**	**06 35 10.9**	**+1.2**
LVZ	**Lovozero**	**17.59**	**73**	P	**Pn**	**06 35 26.4**	**+0.8**
LVZ				IAmb	IAmb	06 36 02.4	
	comp=Z,40nm,1.2s						
FIA1	**FINESS Array S**	**18.62**	**97**	P	**P**	**06 35 38.1**	**+0.2**
FIA1				IAmb	IAmb	06 35 50.4	
	comp=Z,56nm,1.4s						
FINES	**FINESS Array B**	**18.62**	**97**	P	**P**	**06 35 37.8**	**-0.1**
FINES	**FINESS Array B**	**18.62**	**97**	P	**Pn**	**06 35 38.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=334,slow=13,SNR=8.2						
	comp=Z,5.9nm,0.8s						
RGN	**Rugen**	**20.12**	**126**	P	**P**	**06 35 54.0**	**-0.3**
PABE	**Paberze**	**22.52**	**110**	P	**P**	**06 36 20.1**	**0.0**
RES	**Resolute Bay**	**22.79**	**318**	P	**P**	**06 36 23.6**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=241,slow=1.0,SNR=6.8						
	comp=Z,2.1nm,0.8s						
CLL	**Collm**	**22.95**	**130**	*i* P	**P**	**06 36 26.6**	**+1.9**
	comp=Z,12nm,1.2s						
BRG	**Berggiesshubel**	**23.59**	**130**	*e*P	**P**	**06 36 32.4**	**+1.2**
BRG				Amp		06 36 36.0	
	comp=Z,4.6nm,1.1s						
KLMR	**Klimovskoe**	**23.64**	**85**	*e*P	**P**	**06 36 27.2**	**-4.3**
	comp=Z,32nm,1.3s						
NACGM	**Naroch**	**23.93**	**108**	*e*P	**P**	**06 36 33.2**	**-1.2**
	comp=Z,2μm,1.0s,baz=326						
GRF	**Grafenberg Arr**	**23.98**	**135**	*e*P	**P**	**06 36 34.8**	**-0.2**
	comp=Z,8.0nm,1.0s,baz=338,slow=8.7						
GEC2	**GERESS Array S**	**25.38**	**132**	P	**P**	**06 36 47.8**	**-0.1**
GEC2				IAmb	IAmb	06 36 51.6	
	comp=Z,8.7nm,1.0s						
GERES	**GERESS Array B**	**25.38**	**132**	P	**P**	**06 36 48.2**	**+0.3**
GERES	**GERESS Array B**	**25.38**	**132**	P	**P**	**06 36 47.5**	**-0.3**
	comp=Z,6.7nm,1.0s,baz=328,slow=7.0,SNR=9.3						
	comp=Z,6.7nm,1.0s						
MORC	**Moravsky Berou**	**25.56**	**126**	P	**P**	**06 36 50.1**	**+0.7**
MORC				IAmb	IAmb	06 36 52.5	
	comp=Z,8.8nm,1.0s						
OJC	**Ojcow**	**25.80**	**122**	P	**P**	**06 36 52.0**	**+0.4**
OJC				IAmb	IAmb	06 36 53.9	
	comp=Z,13nm,1.2s						
DAVA	**Damuels**	**25.92**	**139**	*e*pP	pP	06 36 55.8	+0.3
	comp=Z,15nm,1.6s						
RETA	**Reutte**	**25.93**	**137**	*e*pP	pP	06 36 58.2	+2.7
	comp=Z,10nm,1.6s						
MOTA	**Moosalm**	**26.15**	**137**	*e*pP	**P**	**06 36 55.8**	**+1.0**
	comp=Z,9.4nm,1.6s						
WATA	**Walderalm**	**26.27**	**136**	*e*P	**P**	**06 36 56.6**	**+0.7**
	comp=Z,5.7nm,1.2s						
SQTA	**Sankt Quirin**	**26.29**	**137**	*e*P	**P**	**06 36 55.8**	**-0.3**
	comp=Z,5.4nm,1.0s						
WTTA	**Wattenberg**	**26.35**	**136**	*i* pP	**P**	**06 36 57.8**	**+1.1**
	comp=Z,10nm,1.1s						
MODS	**Modra-Piesok**	**26.76**	**127**	*e*P	**P**	**06 37 02.8**	**+2.6**
VYHS	**Vyhne**	**27.08**	**125**	*e*P	**P**	**06 37 05.3**	**+2.2**
SCHQ	**Schefferville**	**27.22**	**263**	P	**P**	**06 37 01.5**	**-2.8**
	comp=Z,3.8nm,0.9s,baz=38,slow=9.3,SNR=2.6						
	comp=Z,3.8nm,0.9s						
AKASG	**Malin Array Be**	**28.28**	**110**	P	**P**	**06 37 12.8**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=330,slow=8.7,SNR=7.0						
	comp=Z,3.5nm,1.0s						
AKBB	**Malin Array Si**	**28.28**	**110**	P	**P**	**06 37 14.9**	**+1.2**
AKBB				IAmb	IAmb	06 37 16.0	
	comp=Z,5.3nm,1.1s						
CEST	**Esterri de Car**	**28.81**	**154**	P	**P**	**06 37 20.4**	**+1.6**
CEST				IAmb	IAmb	06 37 47.9	
	comp=Z,33nm,1.3s						
BURAR	**Bucovina Array**	**29.74**	**118**	P	**P**	**06 37 27.5**	**+0.6**
C36M	**Paulatuk**	**32.96**	**322**	P	**P**	**06 37 56.2**	**+1.4**
C36M				IAmb	IAmb	06 37 58.2	
	comp=Z,4.4nm,0.8s						
FNA	**Florina**	**34.89**	**128**	P	**P**	**06 38 12.5**	**+0.5**
YKA	**Yellowknife Ar**	**36.29**	**309**	P	**P**	**06 38 24.7**	**+1.1**
YKA	**Yellowknife Ar**	**36.29**	**309**	P	**P**	**06 38 22.5**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=35,slow=7.5,SNR=8.9						
YKA				PcP	**PcP**	**06 40 45.5**	**-2.6**
	comp=Z,0.3nm,0.7s,baz=40,slow=2.7,SNR=3.8						
	comp=Z,1.3nm,0.8s						
E28M	**Babbage River**	**36.58**	**329**	P	**P**	**06 38 27.9**	**+1.8**
E28M				IAmb	IAmb	06 38 30.7	
	comp=Z,6.7nm,1.1s						
WVL	**Waterville**	**36.94**	**255**	P	**P**	**06 38 31.7**	**+2.3**
D25K	**Kavik River**	**37.05**	**334**	P	**P**	**06 38 31.8**	**+1.6**
G31M	**Satah River**	**37.08**	**325**	P	**P**	**06 38 32.0**	**+1.7**
G31M				IAmb	IAmb	06 38 49.8	
	comp=Z,13nm,1.4s						
PMOZ	**Porto Moniz, M**	**37.34**	**183**	P	**P**	**06 38 34.2**	**+1.2**
G30M	**tAoh Zraii Nji**	**37.41**	**326**	P	**P**	**06 38 34.8**	**+1.5**
G30M				IAmb	IAmb	06 39 09.5	
	comp=Z,7.7nm,1.4s						
D23K	**Nanushuk River**	**38.01**	**336**	P	**P**	**06 38 40.5**	**+2.3**
D23K				IAmb	IAmb	06 38 42.8	
	comp=Z,7.9nm,1.1s						
E25K	**Arctic Village**	**38.02**	**332**	P	**P**	**06 38 39.6**	**+1.2**
E25K				IAmb	IAmb	06 38 47.9	
	comp=Z,8.1nm

BKZ	**Black Stump Fm**	**5.76 218**	P	Pn	06 49 01.4	+0.5
BKZ			S	Sn	06 50 06.3	+0.3
MCHZ	**McNeill Hill**	**5.88 215**	P	Pn	06 49 02.4	0.0
MCHZ			S	Sn	06 50 09.1	+0.4

*HEL **02** 06:53:04.6±0.3, 62.°47N×32.°60E, h0km, ML1.5, Suspected explosion*
*IDC **02** 06:53:04.6±4.0, 62.°43N×32.°53E, h0km, mbtmp3.3/2, ML2.1/2, Error ellipse: s-maj=43.3km s-min=13.5km az=118.0*
ISC 02 06:53:00.8±2.2, **62.°49N**±0.°05×**32.°9E**±0.°1, **h0km, n14,** σ1♀**68**/24, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**0.84 301**		*e*P	**Pb**	**06 53 18.2**	**-0.1**
JOF				*e*S	**Sg**	**06 53 27.8**	**-0.1**
RUF	**Ruokolahti**	**2.15 242**		*e*P	**Pn**	**06 53 39.5**	**+1.6**
RUF				*e*SB	**Sn**	**06 54 05.8**	**+0.7**
RUF				MSG		06 54 07.8	
	comp=Z,1.1nm,0.1s						
RMF	**Romuvaara**	**2.18 324**		*e*PG	**Pg**	**06 53 43.1**	**+0.5**
RMF				*e*SG	**Sg**	**06 54 11.3**	**+0.4**
RMF				MSG		06 54 12.2	
	comp=Z,1.4nm,0.2s						
NIF	**Nilsia**	**2.49 293**		*e*PB	**Pb**	**06 53 46.0**	**-0.4**
NIF				*e*SB	**Sb**	**06 54 16.6**	**-1.0**
KAF	**Kangasniemi**	**3.10 266**		*e*PB	**Pb**	**06 53 55.7**	**-1.0**
KAF				*e*SB	**Sb**	**06 54 32.6**	**-2.4**
KAF				MSG		06 54 35.1	
	comp=Z,2.1nm,0.2s						
SUF	**Sumiainen**	**3.12 277**		*e*PB	**Pb**	**06 53 56.3**	**-0.9**
SUF				*e*SB	**Sb**	**06 54 34.3**	**-1.4**
SUF				MSG		06 54 35.5	
	comp=Z,1.6nm,0.2s						
VJF	**Virojoki**	**3.22 235**		*e*S	**Sn**	**06 54 31.6**	**+0.1**
FIA0	**FINESS Array S**	**3.38 255**		*e*PB	**Pb**	**06 53 60.0**	**-1.6**
FIA0				*e*SB	**Sb**	**06 54 41.5**	**-1.7**
FINES	**FINESS Array B**	**3.38 255**		Pn	**Pn**	**06 53 57.0**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=70,slow=14,SNR=2.1						
FINES				Pg	**Pb**	**06 54 00.1**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=66,slow=14,SNR=21						
FINES				Sn	**Sn**	**06 54 36.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=70,slow=22,SNR=5.3						
FINES				Lg	Lg	06 54 40.9	
	comp=Z,0.3nm,0.3s,baz=69,slow=27,SNR=5.3						
	comp=Z,0.8nm,0.3s						
KU1	**Kurvinen**	**3.41 336**		*e*S	**Sn**	**06 54 37.7**	**+1.4**
KU1				*e*SG	**Sg**	**06 54 48.0**	**-2.3**
KU6	**Riekki**	**3.78 341**		*e*S	**Sn**	**06 54 46.5**	**+1.2**
VAF	**Ylistaro**	**4.73 281**		*e*SG	**Sb**	**06 55 25.5**	**+3.7**
I43RU	**DUBNA INFRASON**	**6.19 157**		I	I	07 32 50.0	
	baz=344,slow=323,SNR=4.9						
ARCES	**ARCESS Array B**	**7.68 340**		Pn	**Pn**	**06 54 54.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=149,slow=14,SNR=2.9						
ARCES				Sn	**Sn**	**06 56 18.2**	**-3.0**
	baz=160,slow=24,SNR=2.8						
ARCES				Lg	Lg	06 56 57.1	
	comp=Z,0.1nm,0.3s,baz=151,slow=30,SNR=2.1						
	comp=Z,7.8nm,1.1s						

*NNC **02** 06:57:19.0±0.6, 51.°94N×74.°37E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=8.8km s-min=3.5km az=33.0, Suspected Mining explosion.*
*IDC **02** 06:57:23.9±0.9, 52.°03N×74.°56E, h0km, mbtmp2.4/4, ML1.7/4, Error ellipse: s-maj=25.5km s-min=7.7km az=27.0*
ISC 02 06:57:23.2±1.2, **52.°2N**±0.°1×**74.°71E**±0.°07, **h0km, n12,** σ1♀**34**/10, **8C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.77 290**		⇑Pg	**Pn**	**06 58 08.4**	**-0.5**
	3.4nm,0.8s,baz=124,slow=19,SNR=14						
BVA0				⇓Lg	Lg	06 58 42.8	
	6.0nm,0.6s,baz=106,slow=20,SNR=12						
BVAR	**Borovoye Array**	**2.77 290**		Pn	**Pn**	**06 58 08.7**	**-0.2**
	0.2nm,0.3s,baz=108,slow=12,SNR=13						
BVAR				Sn	**Sn**	**06 58 42.7**	**-0.3**
	0.5nm,0.3s,baz=114,slow=28,SNR=20						
	2.7nm,0.5s						
BRVK	**Borovoye**	**2.84 290**		⇑Pg	**Pn**	**06 58 08.9**	**-0.9**
	8.1nm,1.3s						
BRVK				⇑Lg	Lg	06 58 44.9	
	12nm,0.6s						
KURK	**Kurchatov**	**2.85 119**		⇑Lg	Lg	06 58 51.9	
	11nm,0.6s						
KURBB	**Kurchatov Arra**	**2.85 122**		Pn	**Pn**	**06 58 10.6**	**+0.7**
	0.1nm,0.3s,baz=300,slow=14,SNR=7.5						
KURBB				Pg	**Pb**	**06 58 14.6**	**-0.3**
	baz=302,slow=16,SNR=4.5						
KURBB				Lg	Lg	06 58 52.2	
	0.1nm,0.3s,baz=301,slow=33,SNR=6.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**2.85 122**		⇑Lg	Lg	06 58 51.9	
	28nm,0.8s						
OTUK	**Ortayu**	**4.22 202**		⇑Pg	**Pn**	**06 58 30.6**	**+1.8**
	2.2nm,0.8s						
OTUK				⇑Lg	Lg	06 59 23.6	
	5.0nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.35 70**		I	I	07 35 50.0	
	baz=256,slow=351,SNR=9.3						
ZALV	**Zalesovo Beam**	**6.35 70**		Pn	**Pn**	**06 58 59.5**	**+1.6**
	0.1nm,0.3s,baz=263,slow=11,SNR=3.6						
ZALV				Lg	Lg	07 00 50.1	
	0.1nm,0.3s,baz=262,slow=28,SNR=1.3						
	0.4nm,0.4s						
MAKZ	**Makanchi**	**7.16 136**		⇑Lg	Lg	07 01 05.1	
	2.9nm,0.8s						
MK31	**Makanchi Array**	**7.30 135**		⇓Lg	Lg	07 01 09.4	
	1.4nm,0.7s,baz=319,slow=29,SNR=4.7						
MKAR	**Makanchi Array**	**7.30 135**		Pn	**Pn**	**06 59 12.0**	**+0.9**
	baz=318,slow=12,SNR=2.2						
MKAR				Sn	**Sn**	**07 00 32.6**	**-2.0**
	baz=318,slow=25,SNR=2.5						
MKAR				Lg	Lg	07 01 08.3	
	0.1nm,0.3s,baz=318,slow=28,SNR=5.6						
	0.1nm,0.6s						

*MOS **02** 07:01:58.4±0.9, 15.°56S×175.°09W, h247km, mb5.3/27, Error ellipse: s-maj=8.5km s-min=7.6km az=98.8*
*NEIC **02** 07:01:59.9, 15.°66S×174.°91W, h280km*
*NEIC **02** 07:01:59.9, 15.°46S×174.°70W, h280km, Moment Tensor Solution. Duration: 2♀3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.97; $M_{\theta\theta}$0.03; $M_{\phi\phi}$0.94; $M_{r\theta}$-0.56; $M_{\theta\phi}$0.02; $M_{\phi r}$-1.07; Fault plane solution: $M_0$1.54000×10^{17} NP1: ϕ_s167.01000°, δ22.05000°, λ-121.90000°. NP2: ϕ_s20.90000°, δ71.42000°, λ-77.92000°. Principal axes: T 1.4685, Plg25.0000°, Azm101.0000°; N 0.1388, Plg11.0000°, Azm197.0000°; P -1.6072, Plg62.0000°, Azm309.0000°;*
*BJI **02** 07:02:00.5, 15.°26S×174.°57W, h272km, mB5.2/29, mb5.2/73*
*NOU **02** 07:02:02.7, 15.°70S×174.°89W, h280km, mb5.2/96, Tonga Islands*
*NEIC **02** 07:02:02.2±1.6, 15.°65S±0.°09×174.°93W±0.°08, h273km±5km, mb5.2/144, Mww5.4/17, Error ellipse: s-maj=12.9km s-min=10.6km az=173.0*
*IDC **02** 07:02:02.9±1.9, 15.°62S×175.°02W, h281km±18km, mb4.6/28, mbtmp5.2/30, Error ellipse: s-maj=10.6km s-min=10.0km az=142.0*
*GCMT **02** 07:02:05.9±0.1, 15.°59S±0.°01×174.°85W±0.°01, h283km, MW5.4/136, Moment Tensor Solution. s127, c222; s136, c230; Duration: 1♀3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.19±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$1.36±.02; $M_{r\theta}$-0.30±.02; $M_{\theta\phi}$-0.20±.02; $M_{\phi r}$-1.23±.02; Best double couple: $M_0$1.81200×10^{17} NP1: ϕ_s156.00000°, δ26.00000°, λ-120.00000°. NP2: ϕ_s8.00000°, δ68.00000°, λ-77.00000°. Principal axes: T 1.8590, Plg22.0000°, Azm88.0000°; N -0.0920, Plg12.0000°, Azm183.0000°; P -1.7650, Plg65.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 07:02:01.7±0.4, **15.°63S**±0.°04×**174.°95W**±0.°04, **h274**km±3km, **h274**km:**pP-P, n1072,** σ0♀**99**/1090, **mb5.2**/184, **76C-60D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.34 293**			**Pn**	**07 03 00.6**	**+1.2**
FUTU	**Fugatoga**	**3.34 293**		P	**Pn**	**07 03 01.0**	**+1.7**
AFI	**Afiamalu**	**3.51 61**		Pn	**Pn**	**07 02 59.8**	**-1.5**
AFI	**Afiamalu**	**3.51 61**		P	**Pn**	**07 03 00.5**	**-0.8**
AFI	**Afiamalu**	**3.51 61**		P	**Pn**	**07 02 59.8**	**-1.5**
AFI	**Afiamalu**	**3.51 61**		P	**Pn**	**07 03 00.5**	**-0.8**
LKBA	**Tubou, Lakemba**	**4.52 235**		P	**Pn**	**07 03 15.4**	**+2.8**
DGTI	**Dogotuki**	**5.16 262**		P	**Pn**	**07 03 22.5**	**+2.3**
NIUE	**Niue**	**5.89 126**		Pn	**Pn**	**07 03 28.4**	**-0.7**
NIUE	**Niue**	**5.89 126**		P	**Pn**	**07 03 29.8**	**+0.8**
	comp=Z,545nm,0.8s						
NIUE	**Niue**	**5.89 126**		P	**Pn**	**07 03 29.4**	**+0.4**
NIUE	**Niue**	**5.89 126**		P	**Pn**	**07 03 29.0**	**-0.1**
NIUE				S	**S**	**07 04 37.5**	**-1.7**
MSVF	**Nonsavu**	**7.03 252**		P	**Pn**	**07 03 45.5**	**+2.3**
	comp=Z,191nm,0.9s,baz=95,slow=9.5,SNR=54						
MSVF	**Nonsavu**	**7.03 252**		P	**Pn**	**07 03 46.0**	**+2.8**
GLKZ	**Green Lake**	**13.84 191**		P	Pn	07 05 01.1	-6.0
GLKZ				S	S	07 07 29.6	-11
RAR	**Rarotonga**	**15.43 113**		P	**P**	**07 05 23.5**	**-1.4**
RAR	**Rarotonga**	**15.43 113**		P	**Pn**	**07 05 26.6**	**+0.5**
	comp=Z,28nm,0.8s,baz=268,slow=11,SNR=5.5						
RAR	**Rarotonga**	**15.43 113**		P	**Pn**	**07 05 26.2**	**+0.1**
DZM	**Mont Dzumac**	**18.73 247**		P	**P**	**07 06 00.1**	**-0.8**
DZM	**Mont Dzumac**	**18.73 247**		*e*P	**P**	**07 06 02.2**	**+1.2**
	comp=Z,102nm,1.4s						
DZM				*e*S	**S**	**07 09 15.1**	**-4.5**
	comp=Z,2μm,24.9s						
DZM	**Mont Dzumac**	**18.73 247**		P	**P**	**07 06 00.0**	**-1.0**
	comp=Z,18nm,0.9s,baz=145,slow=16,SNR=7.5						
DZM	**Mont Dzumac**	**18.73 247**		P	**Pn**	**07 06 03.2**	**-1.8**
KOUNC	**Koumac, New Ca**	**20.33 253**		P	**P**	**07 06 18.4**	**+0.5**
OUZ	**Omahuta**	**22.05 206**		P	**P**	**07 06 35.8**	**+1.7**
WCZ	**Waipu Caves**	**22.37 203**		P	**P**	**07 06 38.3**	**+1.2**
KUZ	**Kuaotunu**	**22.61 200**		P	**P**	**07 06 40.4**	**+1.2**
KUZ	**Kuaotunu**	**22.61 200**		P	**P**	**07 06 41.1**	**+1.9**
MXZ	**Matakaoa Point**	**22.65 194**		P	**P**	**07 06 40.8**	**+1.2**
WIAZ	**Waiheke Island**	**22.85 201**		P	**P**	**07 06 43.0**	**+1.6**
WMGZ	**Waiomatatini S**	**22.87 194**		P	**P**	**07 06 43.4**	**+1.8**
HAZ	**Te Kaha**	**22.96 195**		P	**P**	**07 06 42.8**	**+0.4**
PKGZ	**Pakihiroa**	**22.99 194**		P	**P**	**07 06 45.6**	**+2.8**
MKAZ	**Moumakai**	**23.12 200**		P	**P**	**07 06 44.9**	**+1.0**
PUZ	**Puketiti**	**23.14 194**		P	**P**	**07 06 45.8**	**+1.6**
MWZ	**Matawai**	**23.57 195**		P	**P**	**07 06 47.8**	**-0.3**
TOZ	**Tahuroa Road**	**23.58 199**		P	**P**	**07 06 48.5**	**+0.4**
TOZ	**Tahuroa Road**	**23.58 199**		P	**P**	**07 06 49.7**	**+1.7**
URZ	**Urewera**	**23.60 196**		P	**P**	**07 06 47.0**	**-1.3**
URZ	**Urewera**	**23.60 196**		P	**P**	**07 06 46.6**	**-1.6**
TLZ	**Tolley Road**	**24.12 199**		P	**P**	**07 06 54.9**	**+1.9**
PAE	**Paea**	**24.38 98**		*e*P	**P**	**07 06 55.9**	**+0.3**
	comp=Z,61nm,1.4s						
PPT	**Papeete**	**24.38 98**		P	**P**	**07 06 57.4**	**+1.8**
	comp=Z,36nm,1.0s,baz=84,slow=17,SNR=2.0						
	comp=Z,36nm,1.0s						
PPT2	**Papeete2**	**24.38 98**		*e*S	**S**	**07 10 52.8**	**-2.1**
	comp=Z,335nm,31.5s						
PPT2				*e*S	S	07 10 53.7	-1.2
	comp=Z,365nm,28.0s						
PPT2				*es*S	sS	07 12 22.3	-3.2
	comp=Z,1μm,28.0s						
PPT2				*es*S	sS	07 12 22.4	-3.1
	comp=Z,2μm,25.2s						
TIAR	**Tiarei**	**24.60 98**		*e*P	**P**	**07 06 58.7**	**+1.1**
BKZ	**Black Stump Fm**	**24.62 196**		P	**P**	**07 06 56.4**	**-1.2**
TVO	**Taravao**	**24.70 99**		*e*P	**P**	**07 07 00.9**	**+2.4**
	comp=Z,39nm,1.0s						
PMOR	**Pomariorio Ree**	**26.09 92**		*e*P	**P**	**07 07 11.6**	**+0.6**
	comp=Z,607nm,1.3s						
BFZ	**Birch Farm**	**26.11 195**		P	**P**	**07 07 10.8**	**0.0**
BFZ				IAmb	IAmb	07 07 35.6	
	comp=Z,202nm,1.6s						
BFZ	**Birch Farm**	**26.11 195**		P	**P**	**07 07 10.2**	**-0.6**
VAH	**Vaihoa**	**26.33 93**		*e*P	**P**	**07 07 12.8**	**-0.3**
	comp=Z,325nm,1.2s						
THZ	**Tophouse**	**28.07 200**		P	**P**	**07 07 27.5**	**-0.8**
THZ				IAmb	IAmb	07 07 30.3	
	comp=Z,148nm,1.9s						
INZ	**Inchbonnie**	**29.42 201**		P	**P**	**07 07 39.4**	**-0.7**
INZ				IAmb	IAmb	07 08 37.3	
	comp=Z,68nm,1.3s						
TW1H	**Toowoomba 1 Ha**	**32.86 243**		P	**P**	**07 08 11.4**	**+0.9**
MLZ	**Mavora Lakes**	**32.89 202**		P	**P**	**07 08 10.7**	**+0.3**
MLZ				IAmb	IAmb	07 08 12.0	
	comp=Z,58nm,1.3s						
EIDS	**Eidsvold**	**33.18 247**		P	**P**	**07 08 12.5**	**-0.7**
EIDS	**Eidsvold**	**33.18 247**		P	**P**	**07 08 12.7**	**-0.5**
ARMA	**Armidale**	**33.95 238**		P	**P**	**07 08 19.2**	**-0.7**
PATS	**Pohnpei**	**34.64 308**		P	**P**	**07 08 26.2**	**+0.4**
PATS	**Pohnpei**	**34.64 308**		P	**P**	**07 08 27.0**	**+1.2**
AUPHS	**Peel High Scho**	**34.77 238**		P	**P**	**07 08 27.8**	**+1.1**
AULRC	**Lightning Ridg**	**36.73 242**		P	**P**	**07 08 43.5**	**+0.2**
CTA	**Charters Tower**	**37.14 257**		P	**P**	**07 08 46.4**	**-0.6**
	comp=Z,13nm,0.5s,baz=82,slow=9.0,SNR=32						
CTA				PcP	**PcP**	**07 11 00.2**	**-0.7**
	comp=Z,14nm,0.8s,baz=14,slow=4.3,SNR=3.8						
	comp=Z,13nm,0.5s						
CTAO	**Charters Tower**	**37.14 257**		P	**P**	**07 08 46.3**	**-0.6**
CTAO				IAmb	IAmb	07 09 44.9	
	comp=Z,127nm,1.6s						
CTAO	**Charters Tower**	**37.14 257**		P	**P**	**07 08 46.3**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,127nm,1.7s						
CTAO	**Charters Tower**	**37.14 257**		P	**P**	**07 08 46.9**	**0.0**
CTAO				PcP	**PcP**	**07 11 01.6**	**+0.7**
CNB	**Canberra Magne**	**37.43 232**		P	**P**	**07 08 48.0**	**-1.2**
	comp=Z,51nm,0.7s						
CNB	**Canberra Magne**	**37.43 232**		P	**P**	**07 08 49.2**	**-0.1**
CAN	**Canberra**	**37.71 232**		P	**P**	**07 08 51.3**	**-0.2**
CAN	**Canberra**	**37.71 232**		P	**P**	**07 08 50.3**	**-1.2**
	comp=Z,39nm,1.8s						
CAN	**Canberra**	**37.71 232**		P	**P**	**07 08 51.4**	**-0.2**
CAN	**Canberra**	**37.71 232**		P	**P**	**07 08 51.3**	**-0.2**
CAN				pmax	pmax		
	comp=Z,24nm,0.8s						
CAN	**Canberra**	**37.71 232**		P	**P**	**07 08 51.8**	**+0.2**
CAN				PcP	**PcP**	**07 11 04.4**	**+1.9**
H11S2	**WAKE ISLAND Hy**	**38.42 331**		T	T	07 51 06.2	
	baz=146,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.44 331**		T	T	07 51 06.4	
	baz=146,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**38.44 331**		T	T	07 51 15.7	
	baz=146,slow=75,SNR=6.6						
MTSU	**Mount Surprise**	**39.01 260**		P	**P**	**07 09 02.2**	**-0.3**
	comp=Z,100nm,0.8s						
MTSU	**Mount Surprise**	**39.01 260**		P	**P**	**07 09 02.7**	**+0.2**
WAKE	**Wake Island**	**39.14 332**		P	**P**	**07 09 03.4**	**+0.1**
WAKE	**Wake Island**	**39.14 332**		P	**P**	**07 09 04.1**	**+0.7**
WAKE	**Wake Island**	**39.14 332**		P	**P**	**07 09 03.9**	**+0.5**
CMSA	**Cobar Meteorol**	**39.16 239**		P	**P**	**07 09 01.8**	**-1.7**
	comp=Z,17nm,0.6s						
CMSA	**Cobar Meteorol**	**39.16 239**		P	**P**	**07 09 02.7**	**-0.8**
H11N3	**WAKE ISLAND Hy**	**39.40 332**		T	T	07 53 03.1	
	baz=151						
H11N1	**WAKE ISLAND Hy**	**39.41 332**		T	T	07 53 10.6	
	baz=151						
H11N2	**WAKE ISLAND Hy**	**39.42 332**		T	T	07 52 45.2	
	baz=151						
QLP	**Quilpie**	**39.46 247**		P	**P**	**07 09 04.7**	**-1.4**
QLP	**Quilpie**	**39.46 247**		P	**P**	**07 09 05.8**	**-0.3**
KIP	**Kipapa**	**40.40 25**		P	**P**	**07 09 14.1**	**+0.4**
KIP	**Kipapa**	**40.40 25**		P	**P**	**07 09 14.1**	**+0.4**
KIP				pmax	pmax		
	comp=Z,422nm,1.9s						
KIP	**Kipapa**	**40.40 25**		P	**P**	**07 09 14.8**	**+1.1**
COEN	**Coen**	**40.48 267**		P	**P**	**07 09 15.2**	**+0.7**
COEN	**Coen**	**40.48 267**		P	**P**	**07 09 14.8**	**+0.2**
	comp=Z,104nm,1.4s						
COEN	**Coen**	**40.48 267**		P	**P**	**07 09 15.6**	**+1.0**
TOO	**Toolangi**	**41.17 230**		P	**P**	**07 09 19.8**	**-0.1**
TOO	**Toolangi**	**41.17 230**		P	**P**	**07 09 19.8**	**-0.1**
	comp=Z,25nm,1.3s						
TOO	**Toolangi**	**41.17 230**		P	**P**	**07 09 19.8**	**-0.1**
TOO				pmax	pmax		
	comp=Z,34nm,1.3s						
CORO	**Coronation Par**	**41.58 224**		P	**P**	**07 09 24.7**	**+1.6**
STKA	**Stephens Creek**	**42.63 240**		P	**P**	**07 09 31.4**	**-0.3**
STKA	**Stephens Creek**	**42.63 240**		P	**P**	**07 09 30.7**	**-1.0**
	comp=Z,8.1nm,1.0s						
STKA	**Stephens Creek**	**42.63 240**		P	**P**	**07 09 31.5**	**-0.3**
	comp=Z,8.2nm,0.4s,baz=94,slow=12,SNR=35						
STKA				PcP	**PcP**	**07 11 18.7**	**+0.3**
	comp=Z,9.4nm,0.8s,baz=44,slow=4.0,SNR=4.5						
	comp=Z,8.2nm,0.4s						
STKA	**Stephens Creek**	**42.63 240**		P	**P**	**07 09 31.7**	**-0.1**
STKA	**Stephens Creek**	**42.63 240**		P	**P**	**07 09 31.4**	**-0.3**
STKA				pmax	pmax		
	comp=Z,35nm,1.0s						
INKA	**Innaminka**	**42.69 246**		P	**P**	**07 09 33.5**	**+1.3**
QIS	**Mount Isa**	**43.38 257**		P	**P**	**07 09 37.1**	**-0.8**
	comp=Z,46nm,1.1s						
QIS	**Mount Isa**	**43.38 257**		P	**P**	**07 09 37.4**	**-0.5**
ARPS	**Mount Arapiles**	**43.66 233**		P	**P**	**07 09 40.1**	**+0.2**
	comp=Z,20nm,1.2s						
ARPS	**Mount Arapiles**	**43.66 233**		P	**P**	**07 09 40.4**	**+0.5**
TABU	**Tabubil**	**44.23 279**		P	**P**	**07 09 46.9**	**+2.2**
HTT	**Hallett**	**45.16 238**		P	**P**	**07 09 51.1**	**-0.6**
	comp=Z,34nm,1.1s						
HTT	**Hallett**	**45.16 238**		P	**P**	**07 09 52.6**	**+0.8**
AUMBR	**Murray Bridge**	**45.23 236**		P	**P**	**07 09 52.9**	**+0.7**
LCRK	**Leigh Creek**	**45.24 243**		P	**P**	**07 09 51.8**	**-0.6**
JAY	**Jayapura**	**45.57 282**		P	**P**	**07 09 55.4**	**+0.1**
	comp=Z,1μmcomp=Z,81nm,1.6s						
GENI	**Genyem**	**46.05 282**		P	**P**	**07 10 00.7**	**+1.7**
GENI	**Genyem**	**46.05 282**		P	**P**	**07 09 59.2**	**+0.2**
	comp=Z,4μmcomp=Z,157nm,1.5s						
WHYH	**Whyalla**	**46.19 239**		P	**P**	**07 10 00.0**	**+0.3**
OOD	**Oodnadatta**	**47.15 246**		P	**P**	**07 10 07.3**	**0.0**
BBOO	**Buckleboo**	**47.41 240**		P	**P**	**07 10 08.2**	**-0.9**
BBOO	**Buckleboo**	**47.41 240**		P	**P**	**07 10 08.3**	**-0.9**
	comp=Z,34nm,1.0s						
BBOO	**Buckleboo**	**47.41 240**		P	**P**	**07 10 08.5**	**-0.7**
WB0	**Warramunga Arr**	**48.30 257**		P	**P**	**07 10 15.5**	**-0.7**
WB0				IAmb	IAmb	07 10 17.5	
	comp=Z,180nm,1.3s						
WB2	**Warramunga Arr**	**48.33 257**		P	**P**	**07 10 15.9**	**-0.5**
WB2				IAmb	IAmb	07 10 17.8	
	comp=Z,77nm,0.8s						
WRAB	**Tennant Creek**	**48.33 257**		*i* P	**P**	**07 10 15.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,145nm,1.3s						
WRA	**Warramunga Arr**	**48.34 257**		P	**P**	**07 10 16.0**	**-0.5**
	comp=Z,32nm,0.4s,baz=92,slow=7.6,SNR=74						
WRA				PcP	**PcP**	**07 11 39.1**	**+0.4**
	comp=Z,14nm,0.9s,baz=84,slow=4.2,SNR=7.3						
WRA				S	**S**	**07 16 53.1**	**-2.5**
	comp=Z,2.1nm,1.0s,baz=89,slow=12,SNR=6.3						
	comp=Z,32nm,0.4s						
AS01	**Alice Springs**	**48.58 252**		P	**P**	**07 10 18.1**	**-0.2**
AS31	**Alice Springs**	**48.62 252**		P	**P**	**07 10 17.9**	**-0.7**
AS31				IAmb	IAmb	07 10 20.0	
	comp=Z,77nm,0.7s						
AS31	**Alice Springs**	**48.62 252**		P	**P**	**07 10 17.7**	**-0.9**
	comp=Z,119nm,0.7s						
ASAR	**Alice Springs**	**48.62 252**		P	**P**	**07 10 18.2**	**-0.4**
	comp=Z,286nm,0.7s,baz=87,slow=8.4,SNR=1607						
ASAR				PcP	**PcP**	**07 11 39.9**	**+0.2**
	comp=Z,6.3nm,0.4s,baz=87,slow=3.4,SNR=4.6						
ASAR				ScP	**ScP**	**07 15 07.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=91,slow=4.3,SNR=1.4						
ASAR				S	**S**	**07 16 54.8**	**-4.7**
	comp=Z,4.1nm,0.9s,baz=86,slow=15,SNR=13						
KDU	**Kakadu**	**50.97 266**		P	**P**	**07 10 35.8**	**-0.4**
	comp=Z,72nm,1.4s						
KDU	**Kakadu**	**50.97 266**		P	**P**	**07 10 36.0**	**-0.2**
MTN	**Manton Dam**	**52.23 266**		P	**P**	**07 10 45.1**	**-0.5**
MTN				IAmb	IAmb	07 11 55.0	
	comp=Z,110nm,1.5s						
MTN	**Manton Dam**	**52.23 266**		P	**P**	**07 10 44.2**	**-1.4**
	comp=Z,43nm,1.0s						
MTN	**Manton Dam**	**52.23 266**		P	**P**	**07 10 44.9**	**-0.6**
FAKI	**Fak Fak**	**53.47 278**		P	**P**	**07 10 54.8**	**+0.2**
	comp=Z,54nm,1.2s						
WRKA	**Warakurna**	**53.72 250**		P	**P**	**07 10 55.5**	**-0.8**
	comp=Z,137nm,1.2s						
WRKA	**Warakurna**	**53.72 250**		P	**P**	**07 10 55.7**	**-0.6**
FORT	**Forrest**	**53.98 243**		P	**P**	**07 10 56.6**	**-1.5**
FORT	**Forrest**	**53.98 243**		P	**P**	**07 10 57.0**	**-1.1**
	comp=Z,227nm,0.8s						
FORT	**Forrest**	**53.98 243**		P	**P**	**07 10 56.9**	**-1.2**
KNRA	**Kununurra**	**54.06 262**		P	**P**	**07 10 57.9**	**-0.9**
KNRA	**Kununurra**	**54.06 262**		P	**P**	**07 10 58.2**	**-0.6**
	comp=Z,27nm,0.9s						
SWI	**Sorong**	**55.04 280**		P	**P**	**07 11 05.8**	**0.0**
FITZ	**Fitzroy Crossi**	**56.70 258**		P	**P**	**07 11 17.2**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=82,slow=4.4,SNR=8.0						
	comp=Z,4.5nm,0.6s						
AAI	**Ambon**	**57.13 276**		P	**P**	**07 11 21.8**	**+1.2**
	comp=Z,51nm,0.7s						
NLAI	**Namlea**	**58.30 276**		P	**P**	**07 11 28.1**	**-0.6**
	comp=Z,2μmcomp=Z,60nm,1.0s						
DRV	**Dumont d'Urvil**	**58.88 199**		P

MJAR Matsushiro Arr 68.16 321 P **P** **07 12 32.0 -0.8**
MAJO Matsushiro 68.17 321 P **P** **07 12 32.1 -0.7**
MAJO IAmb IAmb 07 12 34.1
comp=Z,85nm,1.2s
MAJO Matsushiro 68.17 321 P **P** **07 12 33.1 +0.3**
MAJO Matsushiro 68.17 321 *i* P **P** **07 12 32.3 -0.5**
MAJO pmax pmax
comp=Z,81nm,1.3s
MAJO Matsushiro 68.17 321 P **P** **07 12 32.7 -0.1**
MJB9 Matsu-Tunnel 68.17 321 P **P** **07 12 33.2 +0.4**
MJB9 IAmb IAmb 07 12 35.1
comp=Z,79nm,1.2s
JMN Monobe 69.18 316 P **P** **07 12 39.4 +0.2**
JMN Monobe 69.18 316 P **P** **07 12 40.2 +1.1**
JOW Kunigami 69.42 307 P **P** **07 12 40.9 +0.1**
JOW Kunigami 69.42 307 P **P** **07 12 40.9 +0.1**
comp=Z,55nm,1.0s,baz=150,slow=8.3,SNR=9.1
comp=Z,55nm,1.0s
JOW Kunigami 69.42 307 P **P** **07 12 42.1 +1.4**
JAGI Jajag, Banyuwa 69.45 267 P **P** **07 12 39.7 -1.4**
JAGI Jajag, Banyuwa 69.45 267 P **P** **07 12 40.1 -1.1**
UNV Unalaska Valle 69.57 5 P **P** **07 12 41.0 +0.1**
baz=189
CASY Casey 69.58 205 P **P** **07 12 40.9 -0.1**
CASY IAmb IAmb 07 12 42.4
comp=Z,35nm,1.2s
CASY Casey 69.58 205 P **P** **07 12 41.5 +0.5**
JNU Nakatsue 70.88 314 P **P** **07 12 49.2 -0.2**
JNU Nakatsue 70.88 314 P **P** **07 12 49.7 +0.3**
comp=Z,54nm,0.8s,baz=90,slow=3.2,SNR=34
comp=Z,54nm,0.8s
JNU Nakatsue 70.88 314 P **P** **07 12 49.9 +0.5**
JKA Kamikawa-asahi 70.96 329 P **P** **07 12 50.5 +0.9**
JKA IAmb IAmb 07 12 52.3
comp=Z,70nm,0.9s
ASAJ Asahikawa 70.96 329 P **P** **07 12 50.5 +0.9**
comp=Z,64nm,1.0s,baz=198,slow=7.0,SNR=13
comp=Z,64nm,1.0s
CHNA Chernabura Isl 71.39 9 P **P** **07 12 51.5 -0.4**
baz=196
KKM Kota Kinabalu 71.47 282 P **P** **07 12 54.0 +0.6**
S12K Black Hills 71.89 8 P **P** **07 12 54.0 -0.9**
baz=193
PET Petropavlovsk 72.07 344 P **P** **07 12 56.0 +0.1**
PET Petropavlovsk 72.07 344 P **P** **07 12 56.4 +0.4**
PET Petropavlovsk 72.07 344 *ce*P **P** **07 12 54.8 -1.2**
PET pmax pmax
comp=Z,159nm,1.5s
PET Petropavlovsk 72.07 344 P **P** **07 12 55.6 -0.4**
PEA0B Petropavlovsk- 72.41 343 P **P** **07 12 58.3 +0.3**
PEA0B Petropavlovsk- 72.41 343 P **P** **07 12 58.3 +0.3**
PEA0B pmax pmax
comp=Z,152nm,1.1s
PETK Petropavlovsk- 72.41 343 P **P** **07 12 57.7 -0.3**
comp=Z,87nm,0.9s,baz=107,slow=7.1,SNR=51
comp=Z,87nm,0.9s
SPIA Saint Paul Isl 72.64 3 P **P** **07 12 58.4 -0.9**
baz=185
YSS Yuzhno-Sakhali 72.96 331 P **P** **07 13 02.7 +1.4**
YSS Yuzhno-Sakhali 72.96 331 *e*P **P** **07 13 02.2 +0.9**
YSS pmax pmax
comp=Z,120nm,1.1s
YSS pmax pmax
comp=Z,400nm,2.2s
CHGN Chignik 72.99 10 P **P** **07 13 00.5 -0.8**
CHGN IAmb IAmb 07 13 05.3
comp=Z,74nm,1.0s
CHGN Chignik 72.99 10 P **P** **07 12 59.4 -1.9**
baz=197,SNR=7.0
CHIR Chirikof Islan 73.02 11 P **P** **07 13 00.6 -0.9**
baz=199
UGM Wanagama 73.07 266 P **P** **07 13 02.0 -0.9**
UGM Wanagama 73.07 266 P **P** **07 13 04.0 +1.2**
KMRM Mail Ridge 73.16 39 P **P** **07 13 03.8 +1.0**
YULB Yu-li 73.40 301 P **P** **07 13 04.9 +0.4**
NACB Ninganchiao 73.49 302 P **P** **07 13 04.4 -0.6**
NACB Ninganchiao 73.49 302 P **P** **07 13 05.1 +0.1**
ELS Elsinore Mount 73.50 47 P **P** **07 13 05.6 +0.6**
VTX Valle De La Tr 73.53 50 P **P** **07 13 06.4 +1.2**
O02D Mt. Diablo Mer 73.69 39 P **P** **07 13 07.0 +1.1**
O02D IAmb IAmb 07 13 09.1
comp=Z,50nm,1.1s
ESJX Sierra Juarez 73.72 49 P **P** **07 13 07.7 +1.4**
SSLB Suanglung 73.85 301 P **P** **07 13 06.2 -0.9**
SSLB IAmb IAmb 07 13 07.9
comp=Z,114nm,1.5s
SSLB Suanglung 73.85 301 P **P** **07 13 07.3 +0.2**
YHNB Yeheng 73.89 302 P **P** **07 13 06.7 -0.7**
YHNB Yeheng 73.89 302 P **P** **07 13 07.8 +0.4**
CCAC Calif City Air 73.90 46 P **P** **07 13 08.1 +0.9**
TPUB Ta-pu 73.91 300 P **P** **07 13 06.4 -1.0**
TPUB Ta-pu 73.91 300 P **P** **07 13 07.3 -0.2**
CMB Columbia Colle 73.93 42 P **P** **07 13 07.9 +0.6**
CMB Columbia Colle 73.93 42 P **P** **07 13 07.9 +0.6**
CMB pmax pmax
comp=Z,18nm,0.9s
TATO Taipei 73.93 302 P **P** **07 13 07.8 +0.3**
SII Sitkinak Islan 73.99 12 P **P** **07 13 07.0 -0.2**
baz=201
YUH Yuha Desert 74.06 49 P **P** **07 13 08.5 +0.4**
KSXB Camp Six Broad 74.06 37 P **P** **07 13 09.5 +1.5**
KSXB IAmb IAmb 07 13 13.6
comp=Z,37nm,0.9s
AFDM Forest Hills D 74.08 41 P **P** **07 13 09.0 +0.8**
PFO Pinyon Flats O 74.17 48 *i* P **P** **07 13 10.4 +1.5**
PFO pmax pmax
comp=Z,21nm,1.3s
SBUM Sibu 74.17 277 P **P** **07 13 10.0 +0.8**
R16K Pilot Point 74.34 10 P **P** **07 13 08.9 -0.2**
baz=197
QSPA South Pole Qui 74.41 180 P **P** **07 13 10.4 +0.7**
QSPA IAmb IAmb 07 13 12.2
comp=Z,44nm,1.0s
QSPA South Pole Qui 74.41 180 P **P** **07 13 10.8 +1.0**
comp=Z,23nm,0.8s,baz=25,slow=1.1,SNR=88
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 74.69 38 P **P** **07 13 13.0 +1.4**
YBH IAmb IAmb 07 13 14.5
comp=Z,40nm,0.9s
YBH Yreka Blue Hor 74.69 38 P **P** **07 13 13.0 +1.4**
YBH pmax pmax
comp=Z,40nm,1.0s
K02D Willamette Mer 74.73 37 P **P** **07 13 13.0 +1.1**
K02D IAmb IAmb 07 13 14.7
comp=Z,37nm,1.1s
OHAK Old Harbor 74.79 12 P **P** **07 13 11.3 -0.4**
baz=202
WAKR Walker 74.81 42 P **P** **07 13 13.8 +1.2**
GSC Goldstone, Bar 74.81 46 P **P** **07 13 13.8 +1.3**
GSC Goldstone, Bar 74.81 46 P **P** **07 13 13.8 +1.3**
GSC pmax pmax
comp=Z,18nm,1.1s
MPK Martis Peak 74.88 41 P **P** **07 13 13.5 +0.5**
MPK IAmb IAmb 07 13 16.2
comp=Z,75nm,1.1s
HATC Hat Creek Radi 74.88 39 P **P** **07 13 13.6 +0.8**
HATC IAmb IAmb 07 13 15.5
comp=Z,71nm,1.2s
R18K Karluk 74.88 11 P **P** **07 13 12.1 -0.1**
baz=200
PNTR Pine Nut 75.04 42 P **P** **07 13 14.4 +0.6**
PNTR IAmb IAmb 07 13 16.4
comp=Z,46nm,0.9s
DSP Deep Springs 75.14 44 P **P** **07 13 14.6 +0.4**
YERR Yerington 75.21 42 P **P** **07 13 15.7 +0.9**
YERR IAmb IAmb 07 13 17.2
comp=Z,31nm,1.0s
L04D Klamath Falls 75.22 38 P **P** **07 13 15.5 +0.8**
L04D IAmb IAmb 07 13 17.9
comp=Z,51nm,1.2s
Q17K Contact Creek 75.28 10 P **P** **07 13 14.5 -0.2**
baz=199,SNR=15
KSRS Korea Array 75.29 316 P **P** **07 13 16.1 +1.2**
comp=Z,29nm,1.1s,baz=128,slow=6.8,SNR=48
comp=Z,29nm,1.1s
KSAR Wonju Array Be 75.31 316 P **P** **07 13 15.2 +0.2**
KSAR Wonju Array Be 75.31 316 P **P** **07 13 15.3 +0.2**
ACHA Angle Creek He 75.33 11 P **P** **07 13 14.9 0.0**
ACHA IAmb IAmb 07 13 17.6
comp=Z,30nm,1.1s
GWY Greenwater Val 75.38 45 P **P** **07 13 16.2 +0.4**
O14K Tigyukauivet M 75.45 7 P **P** **07 13 16.1 +0.7**
baz=194
KDAK Kodiak Island 75.45 12 P **P** **07 13 15.6 +0.1**
KDAK IAmb IAmb 07 13 17.3
comp=Z,92nm,1.3s
KDAK Kodiak Island 75.45 12 P **P** **07 13 15.6 +0.1**
baz=202
KDAK Kodiak Island 75.45 12 *i* P **P** **07 13 15.5 +0.1**
KDAK pmax pmax
comp=Z,61nm,1.2s
RYN Ryan 75.47 42 P **P** **07 13 16.2 -0.1**
NVAR Mina Array Bea 75.50 43 P **P** **07 13 17.5 +1.0**
NVAR Mina Array Bea 75.50 43 P **P** **07 13 17.9 +1.4**
comp=Z,12nm,0.7s,baz=341,slow=22,SNR=4.1
comp=Z,12nm,0.7s
PAHR Pah Rah Range 75.53 41 P **P** **07 13 17.5 +1.0**
Q16K King Salmon 75.55 10 P **P** **07 13 16.0 0.0**
baz=198,SNR=12
O15K Ungalikthiuk R 75.56 8 P **P** **07 13 15.8 -0.2**
baz=195
NV11 Mina Array Sit 75.60 43 P **P** **07 13 17.5 +0.5**
NV11 IAmb IAmb 07 13 19.5
comp=Z,34nm,1.1s
BLYC Blythe 75.63 48 P **P** **07 13 17.7 +0.7**
P16K Nushagak River 75.68 9 P **P** **07 13 16.6 -0.1**
baz=197,SNR=15
KSM Kuching 75.73 276 P **P** **07 13 19.1 +1.1**
WCT Wildcat Mounta 75.73 45 P **P** **07 13 18.7 +1.1**
TYV Tymovskoe 75.89 334 *e*P **P** **07 13 18.8 +0.7**
TYV *e*S **S** **07 22 32.5 -4.9**
TYV pmax pmax
comp=Z,90nm,1.0s
TYV pmax pmax
comp=Z,500nm,4.3s
TYV smax smax
comp=N,2μm,8.5s
TYV smax smax
comp=E,2μm,8.5s
BBJI Bungbulang 75.94 266 P **P** **07 13 18.9 -0.4**
J04A Umpqua Nationa 75.96 37 P **P** **07 13 20.4 +1.4**
N14K Kuskokwak Cree 76.05 7 P **P** **07 13 19.0 +0.2**
baz=193
P17K Kvichak River 76.08 10 P **P** **07 13 19.2 +0.3**
baz=198,SNR=16
M11K Mekoryuk 76.08 4 P **P** **07 13 19.4 +0.5**
baz=189,SNR=6.2
I04A Tendick Farm, 76.13 36 P **P** **07 13 20.5 +0.8**
I04A IAmb IAmb 07 13 25.8
comp=Z,27nm,1.0s
INCN Inchon 76.17 316 P **P** **07 13 21.5 +1.5**
INCN Inchon 76.17 316 P **P** **07 13 21.7 +1.7**
MSHR Mys Shultsa 76.19 322 *i* P **P** **07 13 20.7 +0.8**
O16K Kokwok River B 76.20 9 P **P** **07 13 19.1 -0.6**
O16K IAmb IAmb 07 13 20.5
comp=Z,83nm,1.1s
O16K Kokwok River B 76.20 9 P **P** **07 13 19.4 -0.2**
baz=197
Q20K Shuyak Island 76.26 12 P **P** **07 13 20.4 +0.4**
baz=202
KNMB Chin-men Tao 76.26 301 P **P** **07 13 20.8 0.0**
KNMB IAmb IAmb 07 13 22.9
comp=Z,65nm,0.9s
QZH Quanzhou 76.29 301 P **P** **07 13 21.8 +0.9**
QZH pmax pmax
comp=Z,96nm,1.1s
Q19K Cape Douglas, 76.31 11 P **P** **07 13 20.9 +0.6**
Q19K Cape Douglas, 76.31 11 P **P** **07 13 20.6 +0.2**
baz=201
M13K Dall Lake 76.36 6 P **P** **07 13 21.6 +1.1**
M13K Dall Lake 76.36 6 P **P** **07 13 21.4 +1.0**
baz=191
P18K Big Mountain, 76.47 10 P **P** **07 13 21.0 -0.2**
P18K Big Mountain, 76.47 10 P **P** **07 13 20.9 -0.3**
baz=199,SNR=38
N15K Kwethluk River 76.48 8 P **P** **07 13 21.9 +0.6**
N15K IAmb IAmb 07 13 24.1
comp=Z,30nm,0.9s
N15K Kwethluk River 76.48 8 P **P** **07 13 21.7 +0.4**
baz=195
J05D Fort Rock, OR 76.50 37 P **P** **07 13 21.3 -0.6**
J05D IAmb IAmb 07 13 24.7
comp=Z,57nm,1.0s
O17K Koliganek Bris 76.53 9 P **P** **07 13 21.6 +0.1**
baz=198,SNR=18
SHPR Sheep Range 76.58 46 P **P** **07 13 23.0 +0.4**
USA0B Ussuriysk Arra 76.68 324 P **P** **07 13 23.0 +0.3**
USA0B IAmb IAmb 07 13 25.3
comp=Z,83nm,1.3s
USA0B Ussuriysk Arra 76.68 324 P **P** **07 13 23.0 +0.3**
USA0B pmax pmax
comp=Z,83nm,1.3s
USRK Ussuriysk Ar. 76.68 324 P **P** **07 13 22.7 +0.1**
USRK Ussuriysk Ar. 76.68 324 P **P** **07 13 23.7 +1.0**
comp=Z,37nm,1.1s,baz=116,slow=4.4,SNR=27
comp=Z,37nm,1.1s
H04A Detroit Lake 76.81 36 P **P** **07 13 24.1 +0.7**
H04A IAmb IAmb 07 13 25.4
comp=Z,62nm,1.3s
M14K Bethel 76.83 7 P **P** **07 13 23.5 +0.4**
M14K Bethel 76.83 7 P **P** **07 13 24.0 +0.9**
baz=193,SNR=29
O18K Koktuh Hills 76.91 10 P **P** **07 13 23.7 +0.1**
O18K Koktuh Hills 76.91 10 P **P** **07 13 24.1 +0.5**
baz=199,SNR=26
M15K Kasigluk River 76.92 7 P **P** **07 13 24.3 +0.7**
baz=194,SNR=39
N16K Nishlik Lake 76.95 8 P **P** **07 13 24.4 +0.5**
baz=196,SNR=9.8
P19K Oil Pt 77.07 11 P **P** **07 13 23.7 -0.8**
baz=201,SNR=7.3
XMI Christmas Isla 77.11 263 P **P** **07 13 26.1 +0.3**
N17K Nushagak Hills 77.23 9 P **P** **07 13 25.5 +0.1**
N17K IAmb IAmb 07 13 26.9
comp=Z,33nm,1.1s
N17K Nushagak Hills 77.23 9 P **P** **07 13 25.7 +0.3**
baz=197
R11B Troy Canyon, C 77.25 44 P **P** **07 13 26.7 +0.5**
R11B Troy Canyon, C 77.25 44 P **P** **07 13 27.5 +1.2**
baz=238,SNR=13
L14K Kuka Creek 77.33 6 P **P** **07 13 26.5 +0.6**
L14K IAmb IAmb 07 13 28.4
comp=Z,77nm,1.0s
L14K Kuka Creek 77.33 6 P **P** **07 13 27.0 +1.1**
baz=192
HOM Homer 77.38 12 P **P** **07 13 25.5 -0.7**
baz=203
O19K Port Alsworth 77.38 10 P **P** **07 13 26.0 -0.2**
O19K Port Alsworth 77.38 10 P **P** **07 13 26.5 +0.4**
baz=200,SNR=24
M16K Timber Creek 77.46 8 P **P** **07 13 27.4 +0.8**
M16K Timber Creek 77.46 8 P **P** **07 13 27.2 +0.5**
baz=196
WVOR Wild Horse Val 77.55 39 P **P** **07 13 28.6 +0.9**
WVOR IAmb IAmb 07 13 30.1
comp=Z,28nm,0.9s
WVOR Wild Horse Val 77.55 39 P **P** **07 13 28.6 +0.9**
WVOR pmax pmax
comp=Z,28nm,1.0s
N18K Kilae Creek 77.58 9 P **P** **07 13 27.2 -0.1**
N18K IAmb IAmb 07 13 28.7
comp=Z,37nm,1.1s
N18K Kilae Creek 77.58 9 P **P** **07 13 27.4 +0.1**
baz=199,SNR=9.9
O20K Slope Mountain 77.58 11 P **P** **07 13 27.0 -0.4**
baz=202
BRSE Bradley Lake S 77.64 12 P **P** **07 13 28.5 +0.8**
baz=204,SNR=13
K13K Kusilvak Mount 77.74 5 P **P** **07 13 29.4 +1.3**
K13K IAmb IAmb 07 13 30.6
comp=Z,56nm,1.1s
K13K Kusilvak Mount 77.74 5 P **P** **07 13 29.4 +1.3**
baz=190
L15K Ungalak Mounta 77.79 7 P **P** **07 13 29.6 +1.2**
baz=193
N19K Bonanza Creek 77.93 10 P **P** **07 13 29.0 -0.3**
N19K IAmb IAmb 07 13 30.5
comp=Z,67nm,1.1s
N19K Bonanza Creek 77.93 10 P **P** **07 13 29.0 -0.3**
baz=200
M17K Holitna River 78.03 9 P **P** **07 13 30.8 +1.1**
M17K IAmb IAmb 07 13 32.5
comp=Z,84nm,1.1s
M17K Holitna River 78.03 9 P **P** **07 13 31.1 +1.3**
baz=197
L16K Owhat River 78.06 7 P **P** **07 13 31.0 +1.1**
baz=195,SNR=17
SEW Seward 78.23 13 P **P** **07 13 31.1 +0.3**
baz=205,SNR=5.9
MDJ Mudanjiang 78.31 323 P **P** **07 13 32.0 +0.3**
MDJ IAmb IAmb 07 13 34.2
comp=Z,89nm,1.3s
MDJ Mudanjiang 78.31 323 P **P** **07 13 32.9 +1.3**
MDJ pP pP 07 14 32.6 -2.4
MDJ PP **PP** **07 16 30.7 -2.4**
MDJ pmax pmax
comp=Z,60nm,1.3s
MDJ pmax pmax
comp=Z,440nm,9.6s
MDJ Mudanjiang 78.31 323 P **P** **07 13 33.2 +1.6**
Q23K Middleton Isla 78.33 14 P **P** **07 13 31.5 +0.1**
baz=208
M18K Stony River 78.36 9 P **P** **07 13 32.3 +0.8**
baz=199,SNR=12
K15K Wolf Creek Mou 78.39 6 P **P** **07 13 33.4 +1.7**
baz=193
319A Douglas 78.41 53 P **P** **07 13 33.6 +0.9**
SPR3 Spring Creek 3 78.43 44 P **P** **07 13 33.2 +0.3**
SLKM Skilak Lake 78.44 12 P **P** **07 13 32.2 +0.1**
CAPN Captain Cook N 78.50 12 P **P** **07 13 32.5 +0.3**
baz=203
O22K Cooper Landing 78.52 12 P **P** **07 13 32.7 +0.2**
baz=205,SNR=6.0
P23K Montague Islan 78.59 14 P **P** **07 13 33.1 +0.3**
baz=207
GRNR Gornyy 78.61 331 ⇓*i* P **P** **07 13 33.9 +0.7**
GRNR pmax pmax
comp=E,7.0nm,1.1s
GRNR pmax pmax
comp=Z,30nm,1.2s
L17K Donlin 78.62 8 P **P** **07 13 34.4 +1.4**
baz=196,SNR=24
J14K Nanvaranak Lak 78.64 5 P **P** **07 13 33.3 +0.4**
J14K Nanvaranak Lak 78.64 5 P **P** **07 13 33.4 +0.4**
baz=191
SPCR Spurr Chakacha 78.70 11 P **P** **07 13 32.8 -0.7**
baz=202,SNR=10
SPU Mount Spurr 78.71 11 P **P** **07 13 32.7 -0.8**
SPU IAmb IAmb 07 13 36.1
comp=Z,24nm,1.0s
WUAZ Wupatki 78.76 48 P **P** **07 13 35.6 +1.0**
L18K Granite Mounta 78.92 9 P **P** **07 13 35.5 +1.0**
L18K IAmb IAmb 07 13 36.8
comp=Z,55nm,1.1s
L18K Granite Mounta 78.92 9 P **P** **07 13 35.6 +1.0**
baz=198
HKPS Hong Kong Po S 79.00 297 P **P** **07 13 37.9 +2.0**
G08A Pilot Rock 79.00 37 P **P** **07 13 36.3 +0.7**
G08A IAmb IAmb 07 13 37.9
comp=Z,40nm,1.1s
MXC Moxie City 79.01 35 P **P** **07 13 36.3 +0.9**
RC01 Rabbit Creek A 79.07 12 P **P** **07 13 35.1 -0.3**
RC01 IAmb IAmb 07 13 37.0
comp=Z,85nm,1.2s
RC01 Rabbit Creek A 79.07 12 P **P** **07 13 35.7 +0.2**
baz=205,SNR=15
CRAG Craig 79.12 23 P **P** **07 13 35.0 -0.7**
baz=221
NJ2 Nanjing 79.12 308 ⇓P **P** **07 13 37.6 +1.3**
NJ2 PcP **PcP** **07 13 43.1 -0.6**
NJ2 pmax pmax
comp=Z,46nm,1.0s
NJ2 pmax pmax
comp=Z,260nm,4.1s
PWL Port Wells 79.16 13 P **P** **07 13 36.0 0.0**
baz=206,SNR=11
L19K White Mountain 79.16 9 P **P** **07 13 36.3 +0.3**
baz=200
M20K Styx River 79.17 10 P **P** **07 13 36.0 0.0**
baz=201
K17K Iditarod 79.18 8 P **P** **07 13 37.2 +1.3**
K17K Iditarod 79.18 8 P **P** **07 13 37.3 +1.3**
baz=196
GAMB Gambell 79.19 1 P **P** **07 13 36.7 +0.8**
baz=183,SNR=15
SUA Susitna One 79.22 12 P **P** **07 13 36.4 +0.1**
baz=204,SNR=24
KAIM Kayak Island 79.24 15 P **P** **07 13 35.9 -0.4**
baz=210
HAWA Hanford 79.32 35 P **P** **07 13 37.2 +0.1**
HAWA IAmb IAmb 07 13 39.5
comp=Z,32nm,1.0s
GLI Glacier Island 79.45 13 P **P** **07 13 37.5 0.0**
baz=207,SNR=7.5
J16K Anvik River 79.45 7 P **P** **07 13 38.8 +1.4**
J16K Anvik River 79.45 7 P **P** **07 13 38.5 +1.1**
baz=194
EYAK Cordova Ski Ar 79.46 14 P **P** **07 13 38.0 +0.5**
baz=208
SKT Skwentna 79.54 11 P **P** **07 13 37.9 -0.1**
baz=203,SNR=6.2
SIT Sitka 79.56 21 P **P** **07 13 40.7 +2.6**
baz=218
V35K Ketchikan 79.59 23 P **P** **07 13 39.2 +0.9**
baz=222
L20K Farewell, AK 79.60 10 P **P** **07 13 38.0 -0.3**
baz=200,SNR=13
M22K Willow 79.60 12 P **P** **07 13 38.0 -0.2**
baz=204,SNR=11
U33K Whale Pass 79.61 22 P **P** **07 13 39.0 +0.6**
baz=221
KNK Knik Glacier 79.63 13 P **P** **07 13 38.5 0.0**
baz=206,SNR=5.7
PMR Palmer 79.65 12 P **P** **07 13 38.1 -0.4**
PMR IAmb IAmb 07 13 39.9
comp=Z,79nm,1.3s
PMR Palmer 79.65 12 P **P** **07 13 38.0 -0.4**
baz=205,SNR=14
PMR Palmer 79.65 12 P **P** **07 13 38.9 +0.4**
PMR Palmer 79.65 12 P **P** **07 13 38.1 -0.4**
PMR pmax pmax
comp=Z,79nm,1.3s
TTA Tatalina 79.70 9 P **P** **07 13 39.4 +0.5**
TTA IAmb IAmb 07 13 41.3
comp=Z,77nm,1.2s
TTA Tatalina 79.70 9 P **P** **07 13 39.3 +0.5**
baz=198,SNR=25
TTA Tatalina 79.70 9 P **P** **07 13 39.7 +0.8**
TTA Tatalina 79.70 9 P **P** **07 13 39.4 +0.5**
TTA pmax pmax
comp=Z,77nm,1.2s
J17K VABM Dome 79.74 7 P **P** **07 13 39.9 +1.0**
baz=195
KLR Kul'dur 79.91 328 P **P** **07 13 40.4 +0.2**
comp=Z,15nm,1.0s,baz=107,slow=5.6,SNR=24
comp=Z,15nm,1.0s
KLR Kul'dur 79.91 328 *ce*P **P** **07 13 41.3 +1.1**
KLR pmax pmax
comp=Z,37nm,1.3s
MA2 Magadan 79.94 343 P **P** **07 13 39.9 -0.2**
comp=Z,52nm,1.1s,baz=138,slow=6.2,SNR=14
comp=Z,52nm,1.1s
MA2 Magadan 79.94 343 P **P** **07 13 40.7 +0.6**
MA2 Magadan 79.94 343 *ce*P **P** **07 13 40.4 +0.3**
MA2 pmax pmax
comp=Z,150nm,1.7s
MA2 Magadan 79.94 343 P **P** **07 13 39.8 -0.3**
comp=Z,104nm,1.6s
SML Sawmill 80.01 12 P **P** **07 13 40.1 -0.5**
baz=206,SNR=6.0
I17K Unalakleet 80.03 6 P **P** **07 13 41.7 +1.2**
baz=194,SNR=9.4
DUG Dugway, Tooele 80.05 43 P **P** **07 13 42.1 +0.8**
DUG Dugway, Tooele 80.05 43 P **P** **07 13 42.1 +0.8**
DUG pmax pmax
comp=Z,11nm,1.0s
121A Cookes Peak, D 80.06 52 P **P** **07 13 42.2 +0.6**
baz=244
MESA MESA 80.10 16 P **P** **07 13 42.0 +0.8**
baz=212,SNR=5.2
BMRM Bremner River 80.11 14 P **P** **07 13 41.6 +0.6**
baz=210,SNR=13
J18K Innoko River 80.11 8 P **P** **07 13 41.6 +0.7**
J18K IAmb IAmb 07 13 43.3
comp=Z,69nm,1.1s
J18K Innoko River 80.11 8 P **P** **07 13 41.9 +0.9**
baz=198
WRAK Wrangell Islan 80.13 22 P **P** **07 13 41.9 +0.7**
baz=221
M23K Glacier View 80.13 13 P **P** **07 13 41.6 +0.5**
baz=206
S32K Killisnoo 80.14 21 P **P** **07 13 41.0 -0.1**
baz=219
CUT Chulitna 80.17 11 P **P** **07 13 41.5 +0.2**
baz=204,SNR=13
BNX BinXian 80.22 323 ⇓P **P** **07 13 42.0 +0.1**
BNX pmax pmax
comp=Z,72nm,1.1s

SCM	**Sheep Creek Mo**	80.25	13	P	P	07 13 41.7 -0.1
	baz=207,SNR=13					
KLU	**Klutina**	80.26	14	P	P	07 13 42.2 +0.4
	baz=208,SNR=9.2					
PPLA	**Purkeypile**	80.28	10	P	P	07 13 42.4 +0.4
	baz=202					
DL2	**Dalian**	80.28	315	P	P	07 13 44.2 +1.8
DL2				pmax	pmax	
	comp=Z,120nm,1.1s					
ANM	**Nome**	80.28	4	P	P	07 13 42.7 +0.9
ANM				IAmb	IAmb	07 13 44.3
	comp=Z,36nm,1.0s					
ANM	**Nome**	80.28	4	P	P	07 13 42.9 +1.1
	baz=189,SNR=27					
ANM	**Nome**	80.28	4	P	P	07 13 42.7 +0.9
ANM				pmax	pmax	
	comp=Z,36nm,1.0s					
CN2	**Changchun**	80.31	321	*e*P	P	07 13 42.8 +0.3
CN2				*es*P	sP	07 15 20.2 +5.2
CN2				*e*S	S	07 23 23.2 -1.5
CN2				pmax	pmax	
	comp=Z,50nm,1.1s					
K20K	**Telida**	80.40	9	P	P	07 13 43.0 +0.5
	baz=200					
PINM	**Pinnacle**	80.49	17	P	P	07 13 44.8 +1.7
	baz=214					
DLV	**Lat**	80.56	285	P	P	07 13 46.2 +1.5
H16K	**Elim**	80.61	6	P	P	07 13 44.3 +0.8
	baz=192,SNR=60					
N25K	**Chitina, Valde**	80.66	14	P	P	07 13 44.7 +0.7
	baz=209,SNR=16					
TMUT	**Trail Mountain**	80.68	45	P	P	07 13 46.3 +1.3
M24K	**Tolsona, Glenn**	80.74	13	P	P	07 13 44.8 +0.4
M24K	**Tolsona, Glenn**	80.74	13	P	P	07 13 44.9 +0.4
	baz=208,SNR=14					
HLID	**Hailey**	80.75	40	P	P	07 13 46.0 +1.0
HLID				IAmb	IAmb	07 13 47.7
	comp=Z,25nm,1.0s					
J19K	**Poorman**	80.77	8	P	P	07 13 45.7 +1.2
	baz=199					
CAST	**Castle Rocks**	80.78	10	P	P	07 13 43.6 -1.0
	baz=202,SNR=14					
R32K	**Eaglecrest**	80.78	20	P	P	07 13 43.9 -0.7
	baz=219					
G15K	**Niukluk**	80.81	5	P	P	07 13 45.9 +1.3
	baz=191,SNR=18					
HVU	**Hansel Valley**	80.87	42	P	P	07 13 46.2 +0.5
HVU	**Hansel Valley**	80.87	42	P	P	07 13 46.2 +0.5
HVU				pmax	pmax	
	comp=Z,15nm,1.0s					
O28M	**Mount Upton**	81.07	16	P	P	07 13 46.7 +0.2
	baz=214					
PLBC	**Pleasant Camp**	81.11	19	P	P	07 13 47.4 +1.1
	baz=217,SNR=8.0					
TNA	**Tin City**	81.12	3	P	P	07 13 47.4 +1.2
	baz=187,SNR=89					
F14K	**Arctic Creek**	81.12	4	P	P	07 13 47.2 +1.0
	baz=188					
TRF	**Thorofare Moun**	81.12	11	P	P	07 13 46.3 -0.2
	baz=204,SNR=24					
H17K	**Granite Mounta**	81.14	6	P	P	07 13 46.7 +0.3
H17K				IAmb	IAmb	07 13 48.5
	comp=Z,110nm,1.9s					
H17K	**Granite Mounta**	81.14	6	P	P	07 13 47.2 +0.8
	baz=195,SNR=8.1					
O29M	**Mount Kennedy**	81.14	17	P	P	07 13 47.4 +0.7
	baz=215,SNR=6.1					
J20K	**Nowinta River**	81.16	9	P	P	07 13 46.6 +0.2
J20K				IAmb	IAmb	07 13 48.5
	comp=Z,55nm,1.0s					
J20K	**Nowinta River**	81.16	9	P	P	07 13 46.8 +0.3
	baz=200,SNR=26					
CHUM	**Lake Minchumin**	81.17	10	P	P	07 13 45.9 -0.6
	baz=202,SNR=18					
HARP	**HAARP**	81.23	14	P	P	07 13 47.2 +0.3
	baz=209,SNR=9.3					
GCSA	**Galena City Sc**	81.31	8	P	P	07 13 48.1 +0.8
	baz=198,SNR=6.1					
T35M	**Bob Quinn**	81.32	23	P	P	07 13 48.0 +0.5
	baz=223					
G16K	**Koyuk River**	81.34	5	P	P	07 13 48.2 +0.9
	baz=192					
SKAG	**Skagway**	81.44	19	P	P	07 13 49.3 +1.2
	baz=218					
SKAG	**Skagway**	81.44	19	P	P	07 13 49.8 +1.8
P30M	**Million Dollar**	81.47	18	P	P	07 13 49.3 +1.0
	baz=217					
F15K	**North Star Dit**	81.47	4	P	P	07 13 49.0 +0.9
	baz=190					
H18K	**Honhosa River**	81.52	7	P	P	07 13 48.3 0.0
	baz=196					
BPAW	**Bear Paw Mtn.**	81.60	10	P	P	07 13 47.8 -1.0
	baz=203					
G17K	**Kiwalik Mounta**	81.61	6	P	P	07 13 49.4 +0.6
	baz=194					
QIZ	**Qiongzhong**	81.61	292	P	P	07 13 49.0 -0.9
QIZ				sP	sP	07 15 23.8 +1.3
QIZ				SS	SS	07 29 05.1 +1.7
QIZ				pmax	pmax	
	comp=Z,310nm,8.8s					
YUK8	**Steele Glacier**	81.61	16	P	P	07 13 49.9 +0.6
	baz=214,SNR=8.9					
BNM	**Barren Site**	81.63	51	P	P	07 13 50.8 +0.9
MCK	**McKinley**	81.64	11	P	P	07 13 49.0 0.0
	baz=205,SNR=48					
PAX	**Paxson**	81.66	13	P	P	07 13 49.1 -0.1
	baz=208,SNR=9.0					
S34M	**Telegraph Cree**	81.68	22	P	P	07 13 50.5 +1.1
	baz=222					
I20K	**Naaghedeneel**	81.69	9	P	P	07 13 50.5 +1.3
	baz=200					
YUK6	**Outpost Mounta**	81.72	17	P	P	07 13 50.1 +0.3
	baz=215					
M26K	**Nabesna, AK**	81.73	14	P	P	07 13 49.6 0.0
	baz=211					
PV10	**Paradox Valley**	81.75	46	P	P	07 13 51.2 +0.8
PV10				IAmb	IAmb	07 13 52.6
	comp=Z,39nm,1.1s					
YUK3	**Moose Creek**	81.84	16	P	P	07 13 50.4 +0.1
	baz=213,SNR=17					
HYT	**Haines Junctio**	81.87	18	P	P	07 13 51.4 +1.0
	baz=216,SNR=11					
M27K	**Edge Creek, AK**	81.97	15	P	P	07 13 51.7 +0.8
	baz=212					
YUK4	**Talbot Arm**	81.97	17	P	P	07 13 52.0 +0.9
	baz=215					
TXAR	**Lajitas Array**	81.98	57	P	P	07 13 52.9 +1.2
	comp=Z,3.6nm,0.9s,baz=220,slow=7.9,SNR=15					
TXAR				PP	PP	07 17 03.7 -0.2
	comp=Z,1.1nm,1.1s,baz=247,slow=5.8,SNR=3.2					
	comp=Z,3.6nm,0.9s					
WHN	**Wuhan**	82.00	305	⇑P	P	07 13 53.1 +1.5
WHN				pmax	pmax	
	comp=Z,200nm,1.4s					
MYKOM	**Kota Tinggi**	82.01	274	P	P	07 13 53.1 +1.0
MENT	**Mentasta**	82.03	14	P	P	07 13 51.8 +0.7
P32M	**Atlin**	82.06	20	P	P	07 13 51.7 +0.3
	baz=220					
Q32M	**Nakina River**	82.07	21	P	P	07 13 52.5 +0.9
	baz=221					
ANMO	**Albuquerque**	82.09	50	*i*P	P	07 13 53.4 +1.1
ANMO				pmax	pmax	
	comp=Z,10.0nm,1.2s					
H19K	**Roundabout Mou**	82.12	8	P	P	07 13 52.5 +1.2
	baz=198					
L26K	**Log Cabin Wild**	82.19	14	P	P	07 13 52.1 +0.2
L26K				IAmb	IAmb	07 13 53.9
	comp=Z,42nm,1.1s					
L26K	**Log Cabin Wild**	82.19	14	P	P	07 13 52.4 +0.5
	baz=210,SNR=21					
G18K	**Tagagawik**	82.20	7	P	P	07 13 52.5 +0.6
	baz=196					
CNSH	**ChangSha**	82.22	302	P	P	07 13 53.5 +0.7
CNSH				pmax	pmax	
	comp=Z,58nm,1.3s					
TIA	**Tai'an**	82.23	311	P	P	07 13 53.6 +0.9
TIA				pmax	pmax	
	comp=Z,78nm,1.0s					
O30N	**Mendenhall**	82.25	18	P	P	07 13 52.6 +0.3
	baz=218,SNR=14					
BVCY	**Beaver Creek**	82.27	15	P	P	07 13 52.9 +0.5
	baz=213,SNR=17					
H20K	**Anotleneega Mo**	82.29	8	P	P	07 13 53.4 +1.1
	baz=199					
K24K	**Donnelly Dome**	82.33	13	P	P	07 13 53.0 +0.4
	baz=208,SNR=15					
SEY	**Seymchan**	82.36	346	*ce*P	P	07 13 53.0 +0.3
SEY				pmax	pmax	
	comp=Z,159nm,1.0s					
NEA2	**Nenana**	82.39	11	P	P	07 13 52.9 0.0
	baz=205					
I21K	**Tanana**	82.43	10	P	P	07 13 53.1 +0.1
	baz=202					
DLBC	**Dease Lake**	82.47	22	P	P	07 13 52.9 -0.6
	baz=223					
F17K	**Baldwin Pennin**	82.47	6	P	P	07 13 53.9 +0.7
F17K	**Baldwin Pennin**	82.47	6	P	P	07 13 54.0 +0.8
	baz=193					
RIDG	**Independent Ri**	82.47	13	P	P	07 13 53.4 0.0
	baz=209,SNR=9.6					
N30M	**Aishikik Lake**	82.50	17	P	P	07 13 53.9 +0.3
	baz=216					
WHY	**Whitehorse**	82.53	19	P	P	07 13 54.0 +0.2
	baz=219,SNR=6.7					
L27K	**Beaver Creek,**	82.58	15	P	P	07 13 54.4 +0.4
	baz=212					
G19K	**Purcell Mounta**	82.62	7	P	P	07 13 55.3 +1.2
	baz=197					
HDA	**Harding Lake**	82.63	12	P	P	07 13 54.1 0.0
	baz=207,SNR=21					
H21K	**Melozitna Rive**	82.75	9	P	P	07 13 55.2 +0.5
	baz=201					
HEH	**HeiHe**	82.78	327	*e*P	P	07 13 54.4 -0.8
HEH				pmax	pmax	
	comp=Z,42nm,1.5s					
F18K	**Selawik**	82.78	6	P	P	07 13 54.9 +0.1
	baz=195,SNR=49					
P33M	**Teslin, Yukon**	82.83	20	P	P	07 13 56.0 +0.7
	baz=220,SNR=5.6					
R33M	**Jennings River**	82.84	21	P	P	07 13 56.3 +0.8
	baz=222					
I23K	**Minto, Yukon-K**	82.84	11	P	P	07 13 55.1 -0.1
	baz=205,SNR=32					
SCRK	**Sand Creek**	82.87	13	P	P	07 13 55.5 0.0
	baz=210,SNR=21					
COLA	**College**	82.87	11	P	P	07 13 55.3 0.0
	baz=206					
COLA	**College**	82.87	11	P	P	07 13 55.3 0.0
COLA	**College**	82.87	11	*i*P	P	07 13 54.8 -0.5
COLA				pmax	pmax	
	comp=Z,140nm,1.0s					
N31M	**Braeburn, Yuko**	82.91	18	P	P	07 13 56.3 +0.7
	baz=218,SNR=9.0					
IMAR	**Indian Mountai**	82.92	9	P	P	07 13 56.4 +0.9
M29M	**Sommer Creek**	82.92	16	P	P	07 13 56.3 +0.5
	baz=215					
ILAR	**Eielson Array**	82.97	12	P	P	07 13 55.6 -0.2
	comp=Z,29nm,1.0s,baz=212,slow=5.1,SNR=96					
ILAR				PP	PP	07 17 11.3 +0.3
	comp=Z,2.3nm,1.0s,baz=210,slow=5.4,SNR=4.4					
	comp=Z,29nm,1.0s					
SNOW	**Snow King Moun**	83.00	41	P	P	07 13 57.3 +0.4
SNOW				IAmb	IAmb	07 13 59.2
	comp=Z,38nm,0.9s					
E17K	**Hotham Inlet**	83.05	5	P	P	07 13 56.8 +0.7
	baz=193,SNR=64					
LRM	**Limekiln Ridge**	83.12	39	P	P	07 13 57.6 +0.3
J25K	**Salcha River,**	83.13	12	P	P	07 13 56.8 +0.1
	baz=208					
POKR	**Poker Plat Res**	83.17	11	P	P	07 13 57.1 +0.2
	baz=206,SNR=39					
H22K	**Ishtalitna Cre**	83.19	10	P	P	07 13 57.5 +0.6
	baz=203					
F19K	**Shaleruckik Mo**	83.21	7	P	P	07 13 57.4 +0.4
	baz=197					
GULI	**GuiLin**	83.31	298	P	P	07 14 00.7 +2.2
J26L	**Joseph Creek**	83.42	13	P	P	07 13 59.4 +1.2
	baz=210					
PDAR	**Pinedale Array**	83.44	42	P	P	07 13 59.6 +0.6
	comp=Z,16nm,0.9s,baz=213,slow=3.2,SNR=93					
	comp=Z,16nm,0.9s					
G21K	**Allakaket**	83.45	8	P	P	07 13 59.2 +0.9
	baz=201					
N32M	**Quiet Lake**	83.47	19	P	P	07 13 59.5 +1.0
	baz=220					
E18K	**Tukpahlearik C**	83.49	6	P	P	07 13 59.3 +0.9
	baz=194					
M30M	**Minto, Yukon**	83.49	17	P	P	07 13 59.2 +0.6
	baz=217,SNR=14					
D17K	**Noatak River**	83.55	5	P	P	07 13 59.8 +1.1
	baz=191,SNR=58					
L29M	**L29M**	83.56	16	P	P	07 13 59.7 +0.8
	baz=215					
H24K	**Noodor Dome**	83.74	11	P	P	07 13 59.1 -0.7
	baz=206					
E19K	**Redstone River**	83.87	7	P	P	07 14 00.9 +0.6
	baz=197					
M31M	**Drury Creek, Y**	83.88	18	P	P	07 14 00.6 +0.1
	baz=219,SNR=6.3					
PRP	**Porcupine Dome**	83.90	12	P	P	07 14 01.1 +0.4
	baz=208,SNR=34					
RDOG	**Red Dog Mine**	83.91	5	P	P	07 14 01.2 +0.7
RDOG				IAmb	IAmb	07 14 02.8
	comp=Z,43nm,1.0s					
RDOG	**Red Dog Mine**	83.91	5	P	P	07 14 01.5 +1.0
	baz=192,SNR=11					
C16K	**Lisburne Hills**	83.96	4	P	P	07 14 01.2 +0.4
C16K				IAmb	IAmb	07 14 02.8
	comp=Z,67nm,1.2s					
C16K	**Lisburne Hills**	83.96	4	P	P	07 14 01.7 +0.9
	baz=189					
DAWY	**Dawson**	84.02	15	P	P	07 14 02.1 +0.8
	baz=214,SNR=41					
F21K	**Alatna River**	84.12	8	P	P	07 14 02.5 +0.9
	baz=201					
WTLY	**Watson Lake, Y**	84.12	21	P	P	07 14 02.7 +0.9
WTLY				IAmb	IAmb	07 14 03.9
	comp=Z,38nm,1.2s					
WTLY	**Watson Lake, Y**	84.12	21	P	P	07 14 02.8 +1.0
	baz=224,SNR=7.3					
G23K	**Bananza Creek**	84.16	10	P	P	07 14 02.4 +0.5
	baz=204					
EGAK	**Eagle**	84.19	14	P	P	07 14 02.0 0.0
EGAK				IAmb	IAmb	07 14 03.9
	comp=Z,59nm,1.0s					
EGAK	**Eagle**	84.19	14	P	P	07 14 02.6 +0.6
	baz=212,SNR=32					
I26K	**Coal Creek Min**	84.20	13	P	P	07 14 02.9 +0.8
	baz=211,SNR=37					
FARO	**Faro, Yukon**	84.21	18	P	P	07 14 02.2 0.0
	baz=220					
C17K	**DeLong Mountai**	84.31	4	P	P	07 14 03.9 +1.4
	baz=191					
K29M	**Barlow Dome**	84.31	16	P	P	07 14 03.3 +0.5
K29M				IAmb	IAmb	07 14 05.0
	comp=Z,65nm,1.1s					
K29M	**Barlow Dome**	84.31	16	P	P	07 14 03.4 +0.6
	baz=216					
UBPT	**Khong Chiam**	84.38	287	P	P	07 14 05.8 +1.8
DRIO	**Del Rio**	84.48	58	P	P	07 14 04.8 +0.5
HNS	**HongShan**	84.48	311	⇓P	P	07 14 05.4 +1.3
HNS				pmax	pmax	
	comp=Z,110nm,1.4s					
T25A	**Trinidad**	84.52	49	P	P	07 14 04.9 +0.4
	baz=246					
TOAD	**Toad River Com**	84.54	23	P	P	07 14 04.1 +0.1
	baz=228,SNR=24					
BJT	**Baijiatuau**	84.55	314	P	P	07 14 04.8 +0.5
BJT	**Baijiatuau**	84.55	314	P	P	07 14 05.6 +1.2
BJT	**Baijiatuau**	84.55	314	P	P	07 14 04.8 +0.5
BJT				pmax	pmax	
	comp=Z,186nm,1.3s					
MAYO	**Mayo, Yukon**	84.55	16	P	P	07 14 04.5 +0.6
MAYO	**Mayo, Yukon**	84.55	16	P	P	07 14 04.4 +0.6
	baz=218,SNR=7.5					
BILL	**Bilibino**	84.55	353	*ce*P	P	07 14 04.3 +0.6
BILL				pmax	pmax	
	comp=Z,134nm,1.3s					
BJI	**Beijing**	84.55	314	P	P	07 14 05.2 +0.8
BJI				pmax	pmax	
	comp=Z,62nm,1.3s					
BJI				pmax	pmax	
	comp=Z,280nm,4.1s					
G24K	**Hadweenzic Riv**	84.59	11	P	P	07 14 03.2 -0.8
	baz=206					
COLD	**Coldfoot**	84.61	9	P	P	07 14 05.1 +1.1
	baz=204,SNR=41					
C18K	**Utukok River**	84.63	5	P	P	07 14 04.7 +0.5
	baz=193					
J29N	**Klondike Camp**	84.63	15	P	P	07 14 05.3 +1.0
	baz=215,SNR=29					
Q24A	**Divide**	84.74	47	P	P	07 14 04.6 -1.2
	baz=245					
E20K	**Nigu River**	84.75	7	P	P	07 14 05.8 +0.9
	baz=198					
D19K	**Kuna River**	84.77	6	P	P	07 14 05.4 +0.5
	baz=196					
I27K	**Kandik River**	84.79	13	P	P	07 14 05.0 -0.1
	baz=212,SNR=20					
ZEA	**Zeya**	84.86	330	*e*P	P	07 14 06.1 +0.5
ZEA				pmax	pmax	
	comp=N,20nm,1.2s					
ZEA				pmax	pmax	
	comp=Z,30nm,1.2s					
LYN	**LuoYang**	85.02	308	⇓P	P	07 14 08.0 +1.2
LYN				pmax	pmax	
	comp=Z,180nm,1.1s					
I28M	**Miner Creek**	85.04	14	P	P	07 14 06.7 +0.3
	baz=214					
COCO	**West Island**	85.10	259	P	P	07 14 08.9 +1.3
COCO	**West Island**	85.10	259	P	P	07 14 09.0 +1.3
D20K	**Etivluk River**	85.14	7	P	P	07 14 07.4 +0.7
	baz=198					
E21K	**Killik River**	85.20	8	P	P	07 14 07.3 +0.3
	baz=200,SNR=11					
E22K	**Anaktuvuk Pass**	85.20	8	P	P	07 14 07.8 +0.7
	baz=202					
J30M	**Hart River**	85.21	16	P	P	07 14 07.6 +0.3
	baz=217					
F24K	**Squaw Lake**	85.25	10	P	P	07 14 07.7 +0.4
	baz=206					
B18K	**Kokolik River**	85.28	5	P	P	07 14 07.8 +0.5
	baz=193					
H27K	**Steamboat Moun**	85.34	13	P	P	07 14 08.3 +0.5
	baz=212					
I29M	**Ogilvie Camp,**	85.36	15	P	P	07 14 08.2 +0.3
	baz=215,SNR=23					
E23K	**Chandalar**	85.46	9	P	P	07 14 09.0 +0.6
	baz=204					
IPM	**Ipoh**	85.46	276	P	P	07 14 10.9 +1.4
G26K	**Porcupine Rive**	85.50	12	P	P	07 14 09.5 +1.1
	baz=210					
E24K	**Your Creek**	85.66	10	P	P	07 14 10.1 +0.8
	baz=205					
F25K	**Christian Rive**	85.71	11	P	P	07 14 10.5 +1.0
	baz=208					
I30M	**Mount Dempster**	85.72	15	P	P	07 14 10.3 +0.6
	baz=217					
BMAR	**Burnt Mountain**	85.76	11	P	P	07 14 10.6 +0.8
C21K	**Knifeblade Rid**	85.78	7	P	P	07 14 10.3 +0.5
	baz=199,SNR=14					
D22K	**Ayikyak River**	85.78	8	P	P	07 14 10.6 +0.7
	baz=201,SNR=21					
G27K	**Doyon Strip**	85.81	13	P	P	07 14 10.4 +0.4
	baz=212					
KOTAN	**Kotaneelee Air**	85.85	23	P	P	07 14 10.5 +0.2
	baz=228					
TOLK	**Toolik Lake Re**	86.00	9	P	P	07 14 10.8 -0.1
	baz=204,SNR=8.4					
KULM	**Kulim**	86.04	277	P	P	07 14 13.7 +1.4
H29M	**Whitestone**	86.05	14	P	P	07 14 11.7 +0.5
	baz=215					
F26K	**Sheenjek River**	86.08	11	P	P	07 14 12.6 +1.3
	baz=210					
D23K	**Nanushuk River**	86.14	9	P	P	07 14 12.5 +1.0
	baz=203					
E25K	**Arctic Village**	86.19	11	P	P	07 14 12.4 +0.5
	baz=208,SNR=11					
B21K	**Ikpikpuk River**	86.24	7	P	P	07 14 12.2 +0.2
	baz=200					
TIY	**Taiyuan**	86.27	311	⇓P	P	07 14 14.5 +1.5
TIY				pmax	pmax	
	comp=Z,110nm,1.1s					
XLT	**XiLinHaoTe**	86.28	317	*e*P	P	07 14 13.7 +0.8
XLT				pmax	pmax	
	comp=Z,53nm,1.3s					
XLT				pmax	pmax	
	comp=Z,200nm,4.3s					
HIA	**Hailar**	86.49	323	P	P	07 14 14.3 +0.6
HIA				IAmb	IAmb	07 14 15.7
	comp=Z,52nm,1.0s					
HIA	**Hailar**	86.49	323	P	P	07 14 14.7 +1.0
HIA	**Hailar**	86.49	323	P	P	07 14 14.3 +0.6
HIA				pmax	pmax	
	comp=Z,53nm,1.0s					
EPYK	**Eagle Plains**	86.56	14	P	P	07 14 13.9 +0.2
	baz=217,SNR=9.1					
D24K	**Happy Valley**	86.58	9	P	P	07 14 14.3 +0.6
	baz=205					
G29M	**Pine Creek**	86.69	14	P	P	07 14 14.2 -0.1
	baz=215					
H31M	**Peel River**	86.70	16	P	P	07 14 14.0 -0.4
	baz=219					
GYA	**Guiyang**	86.84	298	⇓P	P	07 14 17.5 +1.4
GYA				pmax	pmax	
	comp=Z,49nm,1.0s					
F28M	**Old Crow**	86.87	13	P	P	07 14 15.1 0.0
F28M				IAmb	IAmb	07 14 17.2
	comp=Z,43nm,1.9s					
F28M	**Old Crow**	86.87	13	P	P	07 14 15.4 +0.2
	baz=214,SNR=8.4					
PSI	**Prapat**	87.02	274	P	P	07 14 18.0 +0.8
B22K	**Teshekpuk Lake**	87.06	7	P	P	07 14 17.0 +1.1
	baz=201					
MAW	**Mawson**	87.09	199	P	P	07 14 16.9 +0.6
	comp=Z,19nm,0.7s,baz=132,slow=6.6,SNR=6.1					
	comp=Z,19nm,0.7s					
C24K	**Franklin Bluff**	87.12	9	P	P	07 14 16.6 +0.4
	baz=205					
D25K	**Kavik River**	87.12	10	P	P	07 14 16.0 -0.3
	baz=207					
G30M	**tAoh Zraii Nji**	87.17	14	P	P	07 14 15.9 -0.7
	baz=217					
XAN	**Xi'an**	87.56	306	⇓P	P	07 14 19.8 +0.6
XAN				pP	pP	07 15 24.6 +0.4
XAN				pmax	pmax	
	comp=Z,180nm,1.3s					
XAN				pmax	pmax	
	comp=Z,650nm,3.8s					
G31M	**Satah River**	87.59	15	P	P	07 14 18.4 -0.1
	baz=219,SNR=18					
SLVN	**Son La**	87.63	293	P	P	07 14 21.7 +1.8
A21K	**Barrow**	87.64	6	P	P	07 14 18.4 -0.3
	baz=198					
E28M	**Babbage River**	87.76	12	P	P	07 14 19.7 +0.3
	baz=214					
F30M	**Barrier River**	87.77	14	P	P	07 14 20.4 +1.0
	baz=217					
C27K	**Jago River**	87.84	10	P	P	07 14 20.6 +1.0
	baz=210					
C26K	**Camden Bay**	87.89	10	P	P	07 14 20.7 +0.8
	baz=209,SNR=22					
GSI	**Gunungsitoli**	87.92	272	P	P	07 14 23.1 +1.8
E29M	**Blow River**	87.93	13	P	P	07 14 19.9 -0.2
	baz=215					
SRIT	**Nakonsritamara**	87.95	279	P	P	07 14 24.0 +2.6
D27M	**Malcolm River**	88.02	12	P	P	07 14 21.1 +0.5
	baz=212					
HHC	**Hu-ho-hao-te**	88.10	313	⇓*i*P	P	07 14 23.1 +1.4
HHC				pmax	pmax	
	comp=Z,120nm,1.4s					
HHC				pmax	pmax	
	comp=Z,140nm,5.0s					
WRGLY	**Wrigley**	88.11	21	P	P	07 14 21.5 +0.4
	baz=229					
F31M	**Tsiigehtchic**	88.13	15	P	P	07 14 21.4 +0.4
	baz=219,SNR=25					
D28M	**Stokes Point**	88.53	12	P	P	07 14 22.8 0.0
	baz=215					
YAK	**Yakutsk**	88.74	337	P	P	07 14 23.5 -0.5
	comp=Z,28nm,0.5s,baz=66,slow=1.3,SNR=14					
	comp=Z,28nm,0.5s					
YAK	**Yakutsk**	88.74	337	*e*P	P	07 14 22.4 -1.6
YAK				*e**PP	pP	07 15 25.1 -4.0
YAK				*e*		07 17 54.4
YAK				*e*S	SKSac	07 24 25.7 -0.7
YAK				*e*		07 24 49.9
YAK				*e**SS	pS	07 26 21.6 +13
YAK				*e*SS	SS	07 30 47.9 +1.9
YAK				pmax	pmax	
	comp=Z,57nm,1.1s					
YAK				pmax	pmax	
	comp=N,9.0nm,1.4s					
YAK				pmax	pmax	
	comp=E,16nm,1.7s					
YAK				pmax	pmax	
	comp=Z,182nm,3.7s					
YAK				pmax	pmax	
	comp=N,116nm,3.7s					
YAK				pmax	pmax	
	comp=E,106nm,3.7s					

YAK smax smax
comp=E,188nm,5.6s
YAK smax smax
comp=N,162nm,5.1s
INK Inuvik 88.85 14 P **P 07 14 24.6 +0.2**
baz=220,SNR=6.6
BTO Baotou 89.09 313 *e*P **P 07 14 28.5 +2.2**
BTO sP **sP 07 16 01.1 +1.2**
BTO PP **PP 07 17 58.0 -2.9**
BTO S **S 07 24 49.8 -1.6**
BTO SS **SS 07 30 52.3 -0.1**
BTO pmax pmax
comp=N,220nm,1.2s
BTO pmax pmax
comp=N,350nm,5.6s
BTO LR LR
comp=N,240nm,6.7s
BTO LR LR
comp=N,360nm,4.3s
BTO LR LR
comp=N,240nm,4.8s
DGMT Dagmar 89.34 39 P **P 07 14 28.0 +0.8**
DGMT IAmb IAmb 07 14 29.6
comp=Z,50nm,1.0s
KMI Kunming 89.79 296 ⇓P **P 07 14 32.2 +2.1**
KMI pmax pmax
comp=Z,45nm,1.4s
KMI pmax pmax
comp=Z,370nm,4.1s
SRDT SRDT 89.98 285 P **P 07 14 33.3 +2.4**
PLCA Paso Flores 90.46 133 P **P 07 14 33.4 +0.6**
comp=Z,3.5nm,0.9s,baz=203,slow=7.5,SNR=4.3
comp=Z,3.5nm,0.9s
CD2 Chengdu 90.66 302 P **P 07 14 34.9 +1.1**
CD2 pmax pmax
comp=Z,30nm,1.2s
CD2 pmax pmax
comp=Z,400nm,3.6s
YKA Yellowknife Ar 90.91 24 P **P 07 14 34.4 +0.3**
comp=Z,7.6nm,1.0s,baz=237,slow=4.6,SNR=61
YKA PP **PP 07 18 15.5 +1.0**
comp=Z,0.8nm,1.1s,baz=232,slow=7.9,SNR=3.9
comp=Z,7.6nm,1.0s
PZH PanZhiHua 91.05 297 P **P 07 14 37.1 +1.3**
PZH pmax pmax
comp=Z,100nm,6.3s
CIT Chita 91.24 324 *e*P **P 07 14 37.0 +1.0**
CIT *e* 07 16 03.0
CIT pmax pmax
comp=Z,194nm,2.0s
CMAR Chiang Mai Arr 91.28 289 P **P 07 14 36.7 -0.2**
comp=Z,18nm,1.0s,baz=96,slow=2.9,SNR=62
comp=Z,18nm,1.0s
ELIB Princess Elisa 91.76 186 *d*P **P 07 14 37.8 -0.5**
comp=Z,18nm,1.3s
C36M Paulatuk 91.99 16 P **P 07 14 39.4 +0.5**
baz=228
SYO Syowa Base 92.07 192 ⇑*i*P **P 07 14 39.6 +0.1**
SYO Syowa Base 92.07 192 ⇓*i*PcP **PcP 07 14 41.4 +1.2**
LZH Lanzhou 92.17 307 ⇓P **P 07 14 42.2 +1.4**
LZH pP pP 07 15 42.5 -3.6
LZH pmax pmax
comp=Z,74nm,1.3s
TROLL Troll, Antarti 92.56 179 P **P 07 14 42.5 +0.5**
TROLL Troll, Antarti 92.56 179 ⇑P **P 07 14 42.5 +0.5**
comp=Z,357nm,0.6s
SNAA Sanae 92.75 178 P **P 07 14 42.5 -0.2**
SNAA Sanae 92.75 178 ⇑P **P 07 14 42.5 -0.2**
comp=Z,110μm,0.1s
SNAA Sanae 92.75 178 P **P 07 14 42.4 -0.2**
comp=Z,5.2nm,1.0s,baz=188,slow=9.6,SNR=6.7
comp=Z,5.2nm,1.0s
SNAA Sanae 92.75 178 *i*P **P 07 14 42.3 -0.4**
SNAA pmax pmax
comp=Z,24nm,1.6s
VNA3 Neumayer Olymp 92.75 175 P **P 07 14 42.1 -0.6**
VNA3 Neumayer Olymp 92.75 175 ⇑P **P 07 14 42.1 -0.6**
comp=Z,9.3nm,0.8s
FFC Flin Flon 93.12 34 P **P 07 14 45.0 +0.5**
TNCH TengChong 93.43 295 P **P 07 14 48.1 +1.2**
TNCH pmax pmax
comp=Z,47nm,1.1s
TNCH pmax pmax
comp=Z,210nm,3.4s
VNA1 Neumayer--Stat 93.44 176 P **P 07 14 44.5 -1.2**
VNA1 Neumayer--Stat 93.44 176 ⇑P **P 07 14 44.5 -1.2**
comp=Z,17nm,1.4s
A36M Sachs Harbour 93.47 14 P **P 07 14 46.1 +0.3**
baz=227
ULN Ulaanbaatar 93.62 319 P **P 07 14 47.8 +0.6**
ULN Ulaanbaatar 93.62 319 *i*P **P 07 14 47.2 0.0**
ULN pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 94.03 319 P **P 07 14 49.1 +0.1**
comp=Z,4.4nm,0.8s,baz=114,slow=3.6,SNR=18
SONM PP **PP 07 18 37.5 -2.0**
comp=Z,4.8nm,1.2s,baz=133,slow=6.6,SNR=8.6
comp=Z,4.4nm,0.8s
TIXI Tiksi 94.83 345 *ce*P **P 07 14 51.8 -0.1**
TIXI pmax pmax
comp=Z,26nm,1.1s
ULM Lac du Bonnet 95.05 39 P **P 07 14 52.9 -0.6**
comp=Z,6.1nm,1.1s,baz=222,slow=5.3,SNR=6.5
comp=Z,6.1nm,1.1s
GTA Gaotai 96.17 309 *e*P **P 07 14 59.7 +0.7**
GTA sP sP 07 16 33.0 +0.1
GTA pmax pmax
comp=Z,16nm,1.3s
ZAK Zakamensk 96.75 320 *e*P **P 07 15 01.1 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
L44A Lake County Fo 98.17 49 P **P 07 15 07.1 -0.6**
baz=256
GOMU GeErMu 99.25 305 P **Pdif 07 15 14.5 +1.3**
GOMU pmax pmax
comp=Z,16nm,1.3s
O48B Farmland 99.77 51 P **Pdif 07 15 14.5 -0.4**
baz=258
WMQ Urumqi 105.91 312 Pdif **Pdif 07 15 44.3 +2.1**
WMQ LR LR
comp=Z,110nm,23.9s
NRIK Noril'sk 107.16 338 PP **PP 07 20 16.1 -1.2**
comp=Z,1.0nm,0.4s,baz=101,slow=8.2,SNR=5.9
ZSN Zaisan 108.20 315 *e*PKiKP **PKiKP 07 19 57.0 -0.3**
ZALV Zalesovo Beam 108.49 322 Pdiff **Pdif 07 15 52.6 -0.8**
comp=Z,1.6nm,0.9s,baz=62,slow=3.4,SNR=7.8
ZALV PKiKP **PKiKP 07 19 57.4 -0.1**
comp=Z,1.8nm,0.8s,baz=11,slow=1.5,SNR=7.9
ZALV PP **PP 07 20 26.1 -1.4**
comp=Z,1.9nm,0.8s,baz=76,slow=6.3,SNR=5.9
L61B Northampton 109.36 50 P **PKiKP 07 19 58.3 -1.2**
baz=266
MKAR Makanchi Array 109.93 315 Pdiff **Pdif 07 15 58.6 -1.4**
comp=Z,1.6nm,0.9s,baz=86,slow=5.9,SNR=5.5
MKAR PKiKP **PKiKP 07 19 59.9 -0.7**
comp=Z,2.2nm,0.6s,baz=75,slow=1.9,SNR=15
MKAR PP **PP 07 20 36.6 -1.5**
comp=Z,2.8nm,1.1s,baz=101,slow=7.5,SNR=3.6
MKAR PKKPbc **PKKPbc 07 31 01.9 -3.5**
comp=Z,0.5nm,0.9s,baz=242,slow=3.1,SNR=3.1
MKAR PKKPab **PKKPab 07 31 15.0 -0.2**
comp=Z,0.6nm,0.9s,baz=267,slow=5.2,SNR=4.2
SHLS Shalkode 111.84 311 *i*PKiKP **PKiKP 07 20 03.2 -1.2**
SHLS Shalkode 111.84 311 *e*PKiKP **PKiKP 07 20 03.3 -1.2**
UZB Uzynbulak 112.16 311 *i*PKiKP **PKiKP 07 20 04.5 -0.5**
UZB Uzynbulak 112.16 311 *e*PKiKP **PKiKP 07 20 04.6 -0.5**
KURK Kurchatov 112.33 319 P **PKiKP 07 20 04.2 -0.7**
KURK Kurchatov 112.33 319 *c*PKiKP **PKiKP 07 20 05.2 +0.3**
KURK pmax pmax
comp=Z,15nm,1.3s
KURBB Kurchatov Arra 112.39 319 PKiKP **PKiKP 07 20 04.8 -0.2**
comp=Z,5.5nm,1.0s,baz=101,slow=1.6,SNR=23
KURBB PP **PP 07 20 53.6 -1.8**
comp=Z,2.7nm,1.0s,baz=90,slow=6.7,SNR=7.4
KURBB PKKPbc **PKKPbc 07 30 56.0 -1.4**
comp=Z,0.2nm,0.4s,baz=261,slow=3.9,SNR=6.3
KPKS Kokpek 112.41 311 *i*PKiKP **PKiKP 07 20 04.8 -0.7**
KPKS Kokpek 112.41 311 *e*PKiKP **PKiKP 07 20 04.8 -0.7**
SATY Saty 112.61 310 *i*PKiKP **PKiKP 07 20 05.4 -0.5**
SATY Saty 112.61 310 *e*PKiKP **PKiKP 07 20 05.5 -0.5**
TDK Taldyqorghan 112.62 313 *i*PKiKP **PKiKP 07 20 04.9 -0.8**
TDK Taldyqorghan 112.62 313 *e*PKiKP **PKiKP 07 20 05.0 -0.8**
MDOK Medeo 113.61 311 *i*PKiKP **PKiKP 07 20 07.2 -0.6**
MDOK Medeo 113.61 311 *e*PKiKP **PKiKP 07 20 07.2 -0.6**
TNSS Tian-Shan 113.68 310 *i*PKiKP **PKiKP 07 20 07.3 -1.0**
TNSS Tian-Shan 113.68 310 *e*PKiKP **PKiKP 07 20 07.3 -1.0**

KSH Kashi 114.42 307 PKP **PKiKP 07 20 10.4 +0.9**
AAK Ala-Archa 115.49 310 *c*PKIKP **PKiKP 07 20 12.2 +0.7**
AAK pmax pmax
comp=Z,5.0nm,1.3s
BTLS Baital 115.70 313 *e*PKIKP **PKPdf 07 20 11.0 -0.6**
BTLS *e* 07 21 17.6
BTLS Baital 115.70 313 *e*PKP **PKPdf 07 20 11.1 -0.6**
BTLS *e*PP **PP 07 21 17.7 -1.3**
BVAR Borovoye Array 117.15 322 PKP **PKPdf 07 20 13.9 -0.3**
comp=Z,4.2nm,0.4s,baz=96,slow=3.0,SNR=34
BVAR PP **PP 07 21 27.5 -1.1**
comp=Z,3.3nm,1.0s,baz=91,slow=5.9,SNR=3.7
SPITS Spitsbergen Ar 117.18 357 PKP **PKPdf 07 20 13.2 -0.4**
comp=Z,17nm,0.9s,baz=108,slow=2.7,SNR=5.9
BRVK Borovoye 117.20 322 P **PKPdf 07 20 13.6 -0.6**
BRVK Borovoye 117.20 322 *c*PKIKP **PKiKP 07 20 14.4 +0.2**
BRVK pmax pmax
comp=Z,17nm,1.0s
DZA Taraz 117.81 310 *e*PKIKP **PKPdf 07 20 15.3 -0.5**
DZA Taraz 117.81 310 *e*PKP **PKPdf 07 20 15.3 -0.5**
IUG Iuzhnay 118.82 310 *e*PKIKP **PKPdf 07 20 17.1 -0.7**
IUG *e* 07 21 39.4
IUG Iuzhnay 118.82 310 *e*PKP **PKPdf 07 20 17.1 -0.7**
IUG *e*PP **PP 07 21 39.5 -1.3**
BRLS Borolday 118.89 311 *e*PKIKP **PKPdf 07 20 17.5 -0.3**
BRLS *e* 07 21 40.8
BRLS Borolday 118.89 311 *e*PKP **PKPdf 07 20 17.6 -0.3**
BRLS *e*PP **PP 07 21 40.9 -0.2**
BDFB Brasilia 119.08 118 PKKPbc PKKPbc 07 30 32.9 -0.6
comp=Z,0.7nm,0.4s,baz=2.9,slow=14,SNR=3.5
KBL Kabul 120.00 301 P **PKiKP 07 20 21.2 +0.6**
SVE Sverdlovsk 121.54 328 *e*PKIKP **PKiKP 07 20 22.5 -0.1**
SVE pmax pmax
comp=Z,21nm,1.1s
ARTI Arti 122.86 328 *i*PKIKP **PKiKP 07 20 25.3 +0.1**
ARTI 07 22 05.2
ARTI 07 27 09.5
ARCES ARCESS Array B 124.62 351 PKP **PKPdf 07 20 27.9 -0.1**
comp=Z,23nm,0.9s,baz=14,slow=1.2,SNR=36
KIRV Kirov 126.08 333 *ce*PKIKP **PKiKP 07 20 31.5 0.0**
JLN Jalan Bani Buh 128.38 286 P **PKPdf 07 20 36.0 -0.5**
KLMR Klimovskoe 128.49 339 *e*PKIKP **PKPdf 07 20 33.3 -2.3**
KLMR pmax pmax
comp=Z,63nm,1.4s
JMDO Jabal Madar 129.60 286 P **PKPdf 07 20 39.2 +0.3**
MHTO MHTO 129.66 284 P **PKiKP 07 20 40.3 +0.4**
SMDO Samad 129.67 287 P **PKiKP 07 20 41.0 +1.0**
SNR=5.3
DQM DQM 130.00 283 P **PKiKP 07 20 41.3 +0.8**
BELG Belogornoye 130.27 327 *i*PKIKP **PKPdf 07 20 39.1 -0.1**
HOQ Hoqain 130.36 288 P **PKiKP 07 20 41.5 +0.3**
BSY Bisya 130.45 287 P **PKPdf 07 20 40.7 +0.1**
SOHO SOHO 131.08 289 P **PKPdf 07 20 41.4 -0.3**
UOSS Minazif 131.37 290 P **PKPdf 07 20 42.2 -0.1**
SHME Shamm 131.41 291 P **PKiKP 07 20 43.0 -0.2**
MASF Masafi 131.41 290 P **PKPdf 07 20 42.4 +0.1**
HATD Hatta, Dubai 131.44 289 P **PKiKP 07 20 43.5 +0.1**
ASHO Ashiyiah 131.51 289 P **PKPdf 07 20 42.9 +0.4**
ALNE Al Ain 131.79 288 P **PKiKP 07 20 44.8 +0.7**
SNR=6.6
FINES FINESS Array B 131.84 347 PKhKP PKPpre 07 20 32.4
comp=Z,1.1nm,0.5s,baz=29,slow=4.4,SNR=12
FINES PKP **PKPdf 07 20 42.1 +0.2**
comp=Z,6.5nm,0.8s,baz=34,slow=3.4,SNR=13
NAZ Nazwa, Dubai 131.87 290 P **PKPdf 07 20 42.6 -0.6**
BOSA Boshof 131.87 204 PKP **PKPdf 07 20 43.2 -0.1**
comp=Z,5.1nm,1.0s,baz=248,slow=8.2,SNR=3.6
ASUD Al Ashush, Dub 132.17 289 P **PKiKP 07 20 44.5 -0.3**
DMTO DMTO 132.27 280 P **PKiKP 07 20 44.7 -0.5**
MOS Moscow 132.85 335 *i*PKIKP **PKPdf 07 20 42.1 -1.9**
MOS pmax pmax
comp=Z,36nm,0.7s
RBK Rabkut 132.96 280 P **PKiKP 07 20 46.7 +0.1**
SNR=6.9
DOK Doka 133.12 281 P **PKPdf 07 20 45.4 -0.3**
WHFO Wadi Hawf 133.40 280 P **PKiKP 07 20 47.1 -0.4**
OBN Obninsk 133.72 335 ⇑*e*PKIKP **PKPdf 07 20 46.0 +0.4**
OBN *e* 07 33 37.3
OBN pmax pmax
comp=Z,29nm,1.6s
ABTO Aybut 133.81 279 P **PKiKP 07 20 48.0 -0.4**
SNR=6.1
VRH Novokhopyorsk 133.98 329 *e*PKIKP **PKPdf 07 20 44.4 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
JRN Qarnain Island 134.42 290 P **PKiKP 07 20 48.9 -0.4**
LPSR Galich'ya Gora 134.44 332 *e*PKIKP **PKPdf 07 20 45.6 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 134.44 356 PKP **PKPdf 07 20 46.8 -0.1**
comp=Z,20nm,1.2s,baz=12,slow=4.0
NOA NORSAR Array B 134.44 356 PKhKP PKPpre 07 20 37.9
comp=Z,0.7nm,0.8s,baz=42,slow=1.8,SNR=3.4
NOA PKP **PKPdf 07 20 47.3 +0.3**
comp=Z,5.9nm,1.0s,baz=14,slow=4.1,SNR=9.6
VORR Voronezh 134.91 330 *e*PKIKP **PKPdf 07 20 47.1 -0.9**
VORR pmax pmax
comp=Z,20nm,1.1s
HFS Hagfors 135.12 354 PKhKP PKPpre 07 20 35.8
comp=Z,4.8nm,1.0s,baz=111,slow=3.8,SNR=5.2
HFS PKP **PKPdf 07 20 47.5 -0.6**
comp=Z,8.7nm,0.9s,baz=119,slow=1.8,SNR=7.1
AKT Akhty 135.15 314 *e*PKIKP **PKPdf 07 20 47.6 -1.4**
AKT pmax pmax
comp=Z,40nm,1.2s
VSR Storozhevoye 135.23 330 *e*PKIKP **PKPdf 07 20 47.2 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 135.32 330 *e*PKIKP **PKPdf 07 20 48.6 -0.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
SHMA Al-Shehemyia 136.07 291 P **PKPdf 07 20 50.7 -0.2**
MNK Minsk 137.35 340 *i*PKP **PKPdf 07 20 52.8 +0.3**
comp=E,21nm,0.7s
MNK *i*PKP **PKPdf 07 20 52.8 +0.3**
comp=N,9.0nm,0.8s
MNK *i*PKP **PKPdf 07 20 52.8 +0.3**
comp=Z,18nm,0.9s,baz=33
MNK *i*pPKP **pPKPdf 07 22 03.7 +2.7**
MNK *i*PP **PP 07 23 41.7 +1.3**
MNK *i*PPP PPP 07 26 44.0
MNK *i*SKS **SKSdf 07 27 35.7 -1.0**
MNK *i*SKKS **SKKSdf 07 37 21.0 +5.6**
MNK *i*SS **SS 07 41 26.8 +2.5**
MNK *i*SSS SSS 07 46 37.3
MNK *i*LR LR 08 18 59.2
MNK *i*LRM MLR 08 21 58.1
comp=Z,41nm,17.4s
MNK *i*LRM MLR 08 22 07.0
comp=N,578nm,23.3s
MNK *i*LRM MLR 08 22 15.2
comp=E,684nm,22.8s
MNK Minsk 137.35 340 *i*PKIKP **PKPdf 07 20 52.7 +0.2**
MNK *i* 07 23 41.6
MNK *i*PPP PPP 07 26 43.9
MNK *i* 07 27 35.6
MNK *i*SS SS 07 41 26.9 +2.7
MNK *i*SSS SSS 07 46 37.3
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=E,21nm,0.7s
MNK MLR MLR
comp=Z,41nm,17.0s
MNK MLR MLR
comp=N,578nm,23.0s
MNK MLR MLR
comp=E,684nm,23.0s
NACGM Naroch 137.35 342 *e*PKP **PKPdf 07 20 53.0 +0.6**
KBZ Khabaz 137.39 319 PKP **PKiKP 07 20 54.8 0.0**
comp=E,5.5nm,1.0s,baz=134,slow=1.2,SNR=6.1
KBZ Khabaz 137.39 319 *i*PKIKP **PKiKP 07 20 54.0 -0.8**
KIV Kislovodsk 137.42 319 *e*PKIKP **PKPdf 07 20 52.8 -0.3**
KIV pmax pmax
comp=Z,12nm,1.1s
SHA1 Shidzhatmaz 137.54 319 *i*PKIKP **PKPdf 07 20 53.4 -0.1**
GNI Garni 137.76 313 *i*PKIKP **PKPdf 07 20 53.6 -0.3**
SUW Suwalki 139.16 344 *e*PKP PKPpre 07 20 49.2
SOC Sochi 139.45 321 *e*PKIKP **PKPdf 07 20 55.2 -1.5**
SOC *e* 07 23 52.6
SOC *e*PPP PPP 07 26 56.4
SOC *e*SS SS 07 41 48.0 -2.2

SOC *e*SSS SSS 07 47 00.5
SOC pmax pmax
comp=Z,26nm,0.9s
EKA Eskdalemuir Ar 139.88 7 PKP **PKPdf 07 20 54.8 -2.3**
comp=Z,0.4nm,0.4s,baz=336,slow=1.6,SNR=4.0
AKASG Malin Array Be 139.96 336 PKhKP PKPpre 07 20 49.2
comp=Z,0.9nm,0.4s,baz=43,slow=3.6,SNR=11
AKASG PP **PP 07 23 57.0 +0.5**
comp=Z,0.6nm,0.7s,baz=36,slow=7.0,SNR=5.8
AKBB Malin Array Si 139.96 336 PKP PKPpre 07 20 52.3
LUBAR Lubar, Ukraine 141.16 337 PKP PKPpre 07 20 54.7
RAYN Ar Rayn 141.19 288 P PKPpre 07 20 56.4
RAYN Ar Rayn 141.19 288 ⇑PKIKP PKPpre 07 20 57.2
GKP Gorka Klasztor 141.24 348 *e*PKP PKPpre 07 20 54.5
LSZ Lusaka 141.72 218 P PKPpre 07 20 57.1
BEL Belsk 141.76 344 *e*PKP PKPpre 07 20 56.3
SIM Simferopol' 141.87 326 *e*PKIKP **PKPdf 07 21 00.0 -1.0**
SIM pmax pmax
comp=Z,29nm,1.4s
SORM Soroca 142.34 334 ⇓P PKPpre 07 20 57.7
SORM Soroca 142.34 334 ⇓PKHKP PKPpre 07 20 57.7
SORM Soroca 142.34 334 PKP PKPpre 07 20 57.8
NDNU Novodnistrovsk 142.37 336 PKP PKPpre 07 20 57.7
KMPD K-Podol'skiy 142.75 336 PKP PKPpre 07 20 58.2
KIBK Kibwezi 142.81 244 P **PKPdf 07 21 01.6 -2.1**
SNR=18
KWP Kalwaria Pacla 143.17 341 PKP PKPbc 07 21 00.4 -0.6
MORS Morshin 143.21 339 PKP PKPbc 07 21 01.6 +0.6
STNU Starunia 143.36 338 PKP PKPab 07 21 00.6 +0.3
KSV Kosov 143.49 337 PKP PKPab 07 21 00.4 -0.4
OJC Ojcow 143.49 344 *e*PKP PKPbc 07 21 02.0 +0.3
KSP Ksiaz 143.73 348 *e*PKP **PKPdf 07 21 03.4 -0.7**
KSP Ksiaz 143.73 348 PKP PKPbc 07 21 02.6 +0.2
STHS Stebnicka Huta 143.81 342 *e*PKIKP PKPbc 07 21 02.5 -0.3
STHS Stebnicka Huta 143.81 342 *e*PKP PKPbc 07 21 02.5 -0.3
BZK Bozkurt 143.82 322 PKP **PKPdf 07 21 04.5 0.0**
CLL Collm 143.84 352 *i*PKIKP PKPab 07 21 02.3 +0.2
CLL pmax pmax
comp=Z,39nm,1.0s
CLL Collm 143.84 352 PKP PKPab 07 21 02.0 -0.1
CLL Collm 143.84 352 *i*PKPdf PKPab 07 21 02.3 +0.2
comp=Z,39nm,1.0s
CLL *i* (PKiKP) 07 21 09.4
comp=Z,22nm,0.9s
CLL *i*pPKPdf pPKPdf 07 22 14.8 +1.9
comp=Z,30nm,1.7s
CLL *e*PP **PP 07 24 20.0 +0.4**
comp=Z,23nm,1.5s
KOLS Kolonicke sedl 143.92 341 *e*PKIKP PKPbc 07 21 03.7 +0.6
KOLS Kolonicke sedl 143.92 341 *e*PKP PKPbc 07 21 03.7 +0.6
BURAR Bucovina Array 144.01 337 ⇑P PKPbc 07 21 03.8 +0.3
BURAR Bucovina Array 144.01 337 ⇑PKIKP PKPbc 07 21 03.8 +0.3
OSTC Ostas 144.02 348 *e*PKP PKPbc 07 21 03.9 +0.6
OSTC Ostas 144.02 348 *e*PKIKP PKPbc 07 21 03.9 +0.6
CHVC Chvalec 144.02 348 *e*PKP PKPbc 07 21 03.7 +0.4
CHVC Chvalec 144.02 348 *e*PKIKP PKPbc 07 21 03.7 +0.4
RAKU Rahkiv 144.06 338 PKP PKPbc 07 21 03.5 0.0
NIE Niedzica 144.08 343 *e*PKP **PKPdf 07 21 04.4 -0.4**
KMBO Kilima Mbogo 144.09 245 P **PKPdf 07 21 06.1 -0.1**
UPC Upice 144.10 348 *e*PKP PKPbc 07 21 03.8 +0.2
UPC Upice 144.10 348 *e*PKIKP PKPbc 07 21 03.8 +0.2
BRG Berggiesshubel 144.12 350 *i*PKP PKPbc 07 21 03.5 0.0
BRG Amp 07 21 04.9
comp=Z,30nm,1.2s
BRG Berggiesshubel 144.12 350 P **PKiKP 07 21 09.0 +0.6**
BRG Amp 07 21 09.4
comp=Z,22nm,1.0s
DPC Dobruska-Polom 144.19 348 *e*PKP **PKPdf 07 21 04.5 -0.5**
DPC *ex* x 07 21 11.2
DPC Dobruska-Polom 144.19 348 *e*PKIKP **PKPdf 07 21 04.5 -0.5**
STEB Steborice 144.26 346 *e*PKP **PKPdf 07 21 04.6 -0.5**
OKC Ostrava-Krasne 144.26 345 *e*PKP **PKPdf 07 21 04.5 -0.5**
OKC Ostrava-Krasne 144.26 345 *e*PKIKP **PKPdf 07 21 04.5 -0.5**
TESR Tescani 144.33 334 ⇑P PKPbc 07 21 04.6 +0.3
KRLC Kraliky 144.35 347 *e*PKP PKPbc 07 21 04.7 +0.3
KRLC Kraliky 144.35 347 *e*PKIKP PKPbc 07 21 04.7 +0.3
PVCC Panska Ves 144.35 350 *e*PKP **PKPdf 07 21 04.9 -0.3**
PVCC Panska Ves 144.35 350 *e*PKIKP **PKPdf 07 21 04.9 -0.3**
GAZ Gaziantep 144.35 313 **PKPdf 07 21 05.4 -0.3**
GHRR 144.36 333 ⇑P **PKPdf 07 21 06.4 +1.1**
TLCR 144.38 331 ⇓P **PKPdf 07 21 05.6 +0.2**
TLCR 144.38 331 ⇓PKIKP **PKPdf 07 21 05.6 +0.2**
SCTR Scanteiesti 144.39 332 ⇑P **PKPdf 07 21 06.5 +1.2**
BNN Bunyan 144.44 317 PKPbc 07 21 05.4 +0.3
MORC Moravsky Berou 144.46 346 *e*PKP **PKPdf 07 21 05.1 -0.4**
MORC Moravsky Berou 144.46 346 ⇓P **PKPdf 07 21 05.3 -0.2**
MORC Moravsky Berou 144.46 346 ⇓PKIKP **PKPdf 07 21 05.3 -0.2**
HSKC Hora Svate Kat 144.46 351 *e*PKP PKPbc 07 21 04.7 0.0
CIDE Kastamonu/Cide 144.49 323 ⇑P **PKPdf 07 21 06.2 +0.5**
NEGRR Negrea 144.55 332 ⇑P **PKPdf 07 21 06.3 +0.6**
ONER Baraj Valea Uz 144.58 334 ⇑P **PKPdf 07 21 06.2 +0.4**
BMR Baia Mare 144.59 338 ⇑P **PKPdf 07 21 05.9 +0.2**
BMR Baia Mare 144.59 338 ⇑PKIKP **PKPdf 07 21 05.9 +0.2**
IZVR Izvoarele 144.60 332 ⇑P **PKPdf 07 21 06.4 +0.7**
SCHL Schela 144.60 332 ⇑P **PKPdf 07 21 07.3 +1.5**
TUDR 144.60 332 ⇓P **PKPdf 07 21 06.3 +0.5**
PANC Panciu 144.62 333 ⇑P **PKPdf 07 21 06.5 +0.8**
SCHLR Schela 144.62 332 ⇑P **PKPdf 07 21 07.3 +1.5**
JURR Jurilovca 144.67 330 ⇑P **PKPdf 07 21 06.2 +0.3**
CFR Carcaliu 144.71 331 ⇑P **PKPdf 07 21 06.1 +0.2**
CFR Carcaliu 144.71 331 ⇑PKIKP **PKPdf 07 21 06.1 +0.2**
ODBI Odobesti 144.74 333 ⇑P **PKPdf 07 21 07.3 +1.3**
ARCR ARCALIA 144.78 337 ⇓P **PKPdf 07 21 06.5 +0.5**
MAUC Maruska 144.78 345 *e*PKP **PKPdf 07 21 06.7 +0.7**
VRI Vrincioaia 144.81 333 ⇑P **PKPdf 07 21 06.6 +0.5**
VRI Vrincioaia 144.81 333 ⇑PKIKP **PKPdf 07 21 06.6 +0.5**
TPGR Topolog 144.82 331 ⇑P **PKPdf 07 21 07.1 +0.9**
PRA Prague 144.82 350 *e*PKP **PKPdf 07 21 06.5 +0.5**
PRA Prague 144.82 350 *e*PKIKP **PKPdf 07 21 06.5 +0.5**
PLOR Plostina 144.85 333 ⇑P **PKPdf 07 21 06.8 +0.6**
PLOR Plostina 144.85 333 ⇑PKIKP **PKPdf 07 21 06.8 +0.6**
KECS Kecovo 144.87 342 *e*PKIKP **PKPdf 07 21 07.2 +1.1**
KECS Kecovo 144.87 342 *e*PKP **PKPdf 07 21 07.2 +1.1**
PRU Pruhonice 144.88 349 *e*PKP **PKPdf 07 21 06.3 +0.2**
PRU *ex* x 07 21 11.7
PRU Pruhonice 144.88 349 *e*PKIKP **PKPdf 07 21 06.3 +0.2**
GOPC GO Pecny, Ondr 144.91 349 *e*PKP **PKPab 07 21 06.7 +0.5**
GOPC GO Pecny, Ondr 144.91 349 *e*PKIKP **PKPab 07 21 06.7 +0.5**
UCC Uccle 144.92 1 **PKPab 07 21 06.2 0.0**
UCC Uccle 144.92 1 *d*PKP PKPbc 07 21 05.9 0.0
UCC Uccle 144.92 1 PKIKP **PKPab 07 21 06.2 0.0**
BEBN Eben Emael 144.92 359 *d*PKP **PKPab 07 21 06.2 0.0**
NKC Novy Kostel 144.97 352 *e*PKP **PKPab 07 21 06.7 +0.2**
NKC Novy Kostel 144.97 352 *e*PKIKP **PKPab 07 21 06.7 +0.2**
OZUR 145.02 335 ⇑P **PKPab 07 21 07.9 +1.1**
COVR Voineasa-Covas 145.04 334 ⇓P **PKPab 07 21 07.5 +0.6**
GRER 145.08 333 ⇑P **PKiKP 07 21 09.0 -1.6**
MEM Membach 145.10 359 *d*PKP **PKPab 07 21 06.9 0.0**
VRAC Vranov 145.12 347 *e*PKP **PKPab 07 21 07.2 +0.2**
VRAC Vranov 145.12 347 ⇑P **PKPab 07 21 07.9 +0.9**
VRAC Vranov 145.12 347 ⇑PKP2 **PKPab 07 21 07.9 +0.9**
TIRR Tirgusor 145.12 330 ⇓P **PKPab 07 21 07.6 +0.5**
TIRR Tirgusor 145.12 330 ⇓PKIKP **PKPab 07 21 07.6 +0.5**
BTNL Ternell 145.12 359 *d*PKP **PKPab 07 21 06.9 -0.1**
BSTI Sart Tilman 145.13 359 *d*PKP **PKPab 07 21 07.1 +0.1**
HARR Harsova 145.17 331 ⇓P **PKPab 07 21 08.4 +1.0**
HARR Harsova 145.17 331 ⇓PKP2 **PKPab 07 21 08.4 +1.0**
TGMR Targu Mures 145.18 336 ⇑P **PKiKP 07 21 09.4 -1.3**
TLBR Topalu 145.23 331 ⇓P **PKiKP 07 21 09.2 -1.7**
MESR Meseseni 145.24 338 ⇓P **PKPab 07 21 08.8 +1.3**
JAVC Velka Javorina 145.29 345 *e*PKP **PKPab 07 21 09.3 +1.6**
DOPR Dopca 145.29 335 ⇓P **PKPab 07 21 08.8 +1.0**
EFOR EFORIE 145.29 330 ⇓P **PKPab 07 21 09.2 +1.4**
BCLA Clavier 145.30 360 *d*PKP **PKPab 07 21 07.9 +0.3**
MFTR Murfatlar 145.32 330 ⇑P **PKPab 07 21 08.7 +0.7**
VYHS Vyhne 145.32 344 *e*PKP2 **PKPab 07 21 08.0 +0.2**
VYHS Vyhne 145.32 344 *e*PKP **PKPab 07 21 08.0 +0.2**
VYHS *e* 07 22 17.8
BGES Gesves 145.34 360 *d*PKP **PKPbc 07 21 07.2 -0.1**
BHOU Houvegnez 145.36 359 *d*PKP **PKPab 07 21 07.9 0.0**
TREC Trest 145.36 348 *e*PKP **PKPdf 07 21 05.4 -1.6**
TREC Trest 145.36 348 *e*PKIKP **PKPdf 07 21 05.4 -1.6**
CJR Cluj-Napoca 145.37 337 ⇓P **PKPab 07 21 09.1 +1.0**
CJR Cluj-Napoca 145.37 337 ⇓PKP2 **PKPab 07 21 09.1 +1.0**
BRTR Keskin Array B 145.38 319 **PKPdf 07 21 07.2 -0.3**
BRTR Keskin Array B 145.38 319 PKPbc **PKPab 07 21 08.3 -0.2**
comp=Z,40nm,0.9s,baz=126,slow=2.1,SNR=97
BRTR Keskin Array B 145.38 319 PKIKP **PKPdf 07 21 07.2 -0.3**
KRUC Moravsky 145.39 347 *e*PKP **PKPab 07 21 08.1 0.0**
BMRD Maredsous 145.42 0 *d*PKP **PKPab 07 21 07.9 -0.2**
MLR Muntele Rosu 145.44 334 ⇑P **PKPab 07 21 08.8 +0.3**

MLR	Muntele Rosu	145.44 334	⇑PKP2	PKPab	07 21 08.8	+0.3
ZVC	Zvikov	145.47 349	*e*PKP	PKPab	07 21 08.5	+0.2
ZVC			*ex*	x	07 21 14.6	
ISR	Istrita	145.47 333	⇓P	PKPdf	07 21 06.2	-1.2
MANR	Mangalia	145.51 329	⇓P	PKPab	07 21 09.1	+0.5
AMRR	Amara	145.51 331	⇑P	PKPab	07 21 09.2	+0.6
AMRR	Amara	145.51 331	⇑PKP2	PKPab	07 21 09.2	+0.6
KIRS	Kirsehir-Merke	145.55 318	⇓P	PKPab	07 21 09.0	-0.1
PSZ	Piszkesteto	145.55 342	⇑P	PKPab	07 21 09.0	+0.2
PSZ	Piszkesteto	145.55 342	⇑PKP2	PKPab	07 21 09.0	+0.2
RCHB	Rochefort	145.57 360	*d*PKP	PKPab	07 21 08.3	-0.4
MARR	Marisel-Cluj	145.58 338	⇓P	PKPab	07 21 08.8	-0.1
DOU	Dourbes	145.62 1	*d*PKP	PKPbc	07 21 08.3	+0.2
DRGR		145.63 338	⇓P	PKPbc	07 21 08.6	+0.2
DRGR		145.63 338	⇓PKP2	PKPbc	07 21 08.6	+0.2
GRF	Grafenberg Arr	145.66 353	*e*PKP	PKPbc	07 21 08.4	0.0
	baz=11,slow=1.8					
SMOL	Smolenice	145.67 345	*e*PKP2	PKPab	07 21 09.9	+0.8
KDZE	Karadeniz Ereo	145.72 324	⇑P	PKPab	07 21 09.5	-0.1
ANTO	Ankara	145.82 320		PKPbc	07 21 08.8	-0.4
ANTO	Ankara	145.82 320	P	PKPab	07 21 10.9	+0.8
ANTO	Ankara	145.82 320	⇓P	PKPab	07 21 10.1	0.0
ANTO	Ankara	145.82 320	PKP2	PKPbc	07 21 08.8	-0.4
MODS	Modra-Piesok	145.84 345	*e*PKP2	PKPab	07 21 09.5	-0.3
MODS	Modra-Piesok	145.84 345	*e*PKP	PKPab	07 21 09.5	-0.3
MODS			*e*		07 22 19.8	
LEHL	Lehliu	145.85 332	⇓P	PKPab	07 21 10.1	+0.1
VOIR		145.86 335	⇓P	PKPab	07 21 09.9	-0.2
VOIR		145.86 335	⇓PKP2	PKPab	07 21 09.9	-0.2
PSN	Preselentsi	145.86 330	*e*P	PKPab	07 21 10.5	+0.5
KHC	Kasperske Hory	145.87 350	*e*PKP	PKPbc	07 21 08.9	-0.1
KHC			*ex*	x	07 22 19.5	
KHC	Kasperske Hory	145.87 350	*e*PKP2	PKPbc	07 21 08.9	-0.1
SULR		145.94 333	⇑P	PKPab	07 21 10.9	+0.6
MTUR	Matau	146.02 334	⇑P	PKPab	07 21 10.9	+0.2
MTUR	Matau	146.02 334	⇑PKP2	PKPab	07 21 10.9	+0.2
WLF	Walferdange	146.05 359	*d*PKP	PKPbc	07 21 09.5	+0.1
ARR	Arges	146.08 335	⇑P	PKPab	07 21 11.0	+0.1
SRO	Srobarova	146.09 344	*e*PKP2	PKPab	07 21 11.5	+0.8
SRO	Srobarova	146.09 344	*e*PKP	PKPab	07 21 11.5	+0.8
GEC2	GERESS Array S	146.13 350	PKPdf	PKPdf	07 21 08.8	+0.3
GERES	GERESS Array B	146.13 350	PKPbc	PKPbc	07 21 09.6	-0.2
	comp=Z,18nm,0.8s,baz=26,slow=3.4,SNR=56					
DEV	Deva	146.33 337	⇑P	PKPab	07 21 11.5	-0.3
DEV	Deva	146.33 337	⇑PKP2	PKPab	07 21 11.5	-0.3
LOT	Lotru	146.36 336	⇑P	PKPbc	07 21 11.0	+0.4
SIRR	Siria	146.45 339	⇓P	PKPdf	07 21 07.6	-1.4
NEF	NEVSHA	146.56 330	*e*P	PKPab	07 21 12.3	-0.5
PRD	Provadia	146.57 330	*e*P	PKPab	07 21 12.6	-0.2
CONA	Conrad Observa	146.58 347	*e*PKP	PKPbc	07 21 11.8	+0.6
	comp=Z,112nm,1.4s,SNR=35					
CONA			*e*pPKiKP	pPKiKP	07 22 22.0	-0.1
	comp=Z,40nm,1.8s					
RONA	Rosalia, Austr	146.70 346	*i* PKP	PKPdf	07 21 10.3	+0.9
	comp=Z,88nm,1.1s,SNR=26					
RONA			*e*pPKP	pPKPdf	07 22 17.6	-0.4
	comp=Z,22nm,1.5s					
SURR	Surduc	146.73 338	⇑P	PKPbc	07 21 12.2	+0.7
GZR	Gura Zlata	146.79 337	⇑P	PKPbc	07 21 12.5	+0.7
GZR	Gura Zlata	146.79 337	⇑PKP2	PKPbc	07 21 12.5	+0.7
MOA	Molln	146.98 349	*e*PKP	PKPbc	07 21 12.9	+0.6
	comp=Z,55nm,1.0s,SNR=14					
MOA			*e*pPKiKP	pPKPbc	07 22 19.8	-0.1
	comp=Z,22nm,1.6s					
BZS	Buzias	147.03 338	⇑P	PKPbc	07 21 13.1	+0.8
BZS	Buzias	147.03 338	⇑PKP2	PKPbc	07 21 13.1	+0.8
SZH	Strazhitsa	147.17 331	*e*P	PKPbc	07 21 13.8	+1.0
ISK	Istanbul-Kandi	147.22 325	P	PKPbc	07 21 13.0	0.0
BIOA	Bad Ischl, Aus	147.25 349	*i* PKP	PKPbc	07 21 12.7	-0.3
	comp=Z,50nm,1.1s,SNR=20					
BIOA			*e*pPKP	pPKPdf	07 22 14.8	-4.1
	comp=Z,9.2nm,0.9s					
VLAD	Vladila	147.29 334	⇑P	PKiKP	07 21 14.2	-0.9
ARSA	Arzberg	147.30 347	*e*PKP	PKPbc	07 21 14.0	+0.9
	comp=Z,42nm,1.1s,SNR=9.1					
ARSA			*e*pPKP	pPKPdf	07 22 17.3	-1.7
	comp=Z,16nm,1.4s					
HERR	Herculane	147.36 337	⇓P	PKiKP	07 21 14.4	-0.9
MORH	Mrgy, Hungar	147.46 342	⇑P	PKPdf	07 21 12.0	+1.4
ELND	Elena	147.48 331	⇓P	PKiKP	07 21 15.1	-0.5
JMB	Yambol	147.50 330	*e*P	PKiKP	07 21 14.9	-0.7
MMAI	Mount Meron Ar	147.54 308	PKPbc	PKiKP	07 21 15.2	-0.9
	comp=Z,57nm,0.8s,baz=68,slow=4.9,SNR=62					
LESA	Schwarzleotal	147.68 350	*i* PKP	PKPbc	07 21 14.6	+0.5
	comp=Z,42nm,1.2s,SNR=7.9					
LESA			*i* pPKP	pPKPbc	07 22 21.0	-1.1
	comp=Z,16nm,1.0s					
MDVR	Moldovita	147.71 338	⇑P	PKPbc	07 21 14.7	+0.4
LODK	Lodwar	147.80 251	P	PKPbc	07 21 15.5	0.0
	SNR=13					
EDRB	Edirne	147.87 329	P	PKPbc	07 21 14.9	+0.2
RETA	Reutte	147.89 353	*i* PKP	PKPbc	07 21 15.1	+0.4
	comp=Z,49nm,1.0s,SNR=13					
RETA			*e*pPKP	pPKPdf	07 22 18.0	-2.0
	comp=Z,30nm,1.5s					
KBA	Koelnbreinsper	147.90 349	*i* PKP	PKPbc	07 21 15.3	+0.5
	comp=Z,31nm,1.0s,SNR=6.5					
KBA			*e*pPKiKP	pPKPbc	07 22 22.7	-0.1
	comp=Z,11nm,1.1s					
WATA	Walderalm	147.93 352	*i* PKP	PKPdf	07 21 11.4	-0.1
	comp=Z,66nm,1.2s,SNR=8.2					
WATA			*e*pPKiKP	pPKPbc	07 22 23.0	+0.2
	comp=Z,18nm,1.3s					
SOKA	Soboth	147.95 347	*i* PKP	PKPdf	07 21 11.9	+0.4
	comp=Z,66nm,1.2s,SNR=9.1					
SOKA			*e*pPKP	pPKPdf	07 22 18.6	-1.6
	comp=Z,16nm,1.2s					
VALD	Valchedram	147.95 334	*e*P	PKiKP	07 21 15.9	-0.6
MOTA	Moosalm	147.98 352	*i* PKP	PKPdf	07 21 12.7	+1.1
	comp=Z,75nm,1.1s					
MOTA			*e*pPKP	pPKPdf	07 22 19.4	-0.9
	comp=Z,22nm,1.5s					
WTTA	Wattenberg	147.99 352	*i* PKP	PKPdf	07 21 12.7	+1.0
	comp=Z,75nm,0.8s,SNR=9.3					
WTTA			*e*pPKiKP	pPKPbc	07 22 23.8	+0.7
	comp=Z,31nm,1.4s					
FRGS	Fruska Gora	148.04 340	*e*P	PKPbc	07 21 14.7	-0.4
SQTA	Sankt Quirin	148.09 352	*e*PKP	PKPdf	07 21 12.4	+0.7
	comp=Z,41nm,0.9s,SNR=8.3					
SQTA			*e*pPKiKP	pPKPbc	07 22 23.4	+0.1
	comp=Z,19nm,1.2s					
MPEP	Malo Peshtene	148.09 334	*e*P	PKiKP	07 21 16.2	-0.6
DAVA	Damuels	148.18 354	*i* PKP	PKPbc	07 21 14.2	-1.4
	comp=Z,94nm,1.0s,SNR=13					
DAVA			*e*pPKiKP	pPKiKP	07 22 27.2	+1.6
	comp=Z,22nm,1.2s					
OBKA	Obir	148.21 348	*i* PKP	PKPbc	07 21 15.9	+0.3
	comp=Z,22nm,1.3s					
OBKA			*i* pPKP	pPKPbc	07 22 23.0	-0.6
	comp=Z,21nm,1.6s					
OBKA	Obir	148.21 348	*e*P	PKPbc	07 21 15.5	-0.1
BAND	Balkesir-Ban	148.24 325	⇓P	PKiKP	07 21 16.6	-0.6
MYKA	Terra Mystica	148.27 349	*i* PKP	PKPbc	07 21 14.1	-1.6
	comp=Z,50nm,1.1s,SNR=7.5					
MYKA			*e*pPKP	pPKPdf	07 22 13.2	-7.5
FETA	Feichten	148.35 353	*i* PKP	PKPdf	07 21 13.5	+1.2
	comp=Z,67nm,1.1s,SNR=7.3					
FETA			*e*pPKiKP	pPKPab	07 22 28.1	+1.9
	comp=Z,28nm,1.8s					
ABTA	Abfaltersbach	148.36 350	*i* PKP	PKPdf	07 21 12.4	+0.3
	comp=Z,90nm,1.0s,SNR=9.9					
ABTA			*e*pPKP	pPKPdf	07 22 13.2	-7.7
	comp=Z,22nm,1.5s					
PGB	Panagyurishte	148.58 332	*e*P	PKiKP	07 21 17.9	0.0
CRES	Cresnjevec Ost	148.66 346	*e*P	PKPbc	07 21 16.3	-0.3
TEKS	Tekeris	148.68 340	*e*P	PKPbc	07 21 16.1	-0.7
BOVS	Bovan	148.69 336	⇓P	PKPbc	07 21 16.3	-0.5
VTS	Vitosha	148.91 334	*e*P	PKiKP	07 21 19.0	+0.2
ALN	Alexandroupoli	148.93 328	P	PKPbc	07 21 17.1	-0.3
ENEZ	Enez	149.00 328	P	PKPbc	07 21 17.4	-0.2
RDO	Rodhopi	149.00 329	P	PKPbc	07 21 17.4	-0.2
CAVK	Edirne/Enez-Ca	149.02 328	⇓P	PKPdf	07 21 13.8	+0.5
A051A	Mrakovica	149.05 344	*e*P	PKPbc	07 21 17.4	-0.3
BLY	Banja Luka	149.22 343	⇑*i*P	PKiKP	07 21 18.9	-0.2
BBLS	Lazi&#263i	149.32 339	⇑*i*P	PKPbc	07 21 17.6	-0.8
SMTH	Samothraki Isl	149.51 328	P	PKPbc	07 21 18.5	-0.4
MMB	Musomishta	149.54 332	*e*P	PKiKP	07 21 20.0	+0.1
RUDO	Rudo	149.55 339	⇑*i*P	PKPbc	07 21 18.4	-0.5
EZN	Ezine	149.57 327	P	PKPbc	07 21 17.2	-1.8
KAVA	Kavala	149.61 330	P	PKPbc	07 21 19.4	+0.3
A050A	Klekovaca	149.64 344	*e*P	PKPdf	07 21 14.7	+0.4
NVR	Nevrokopi	149.64 331	P	PKiKP	07 21 20.2	0.0
SJES	Sjenica	149.65 338	⇑*i*P	PKPbc	07 21 19.3	0.0
THAS	Thassos island	149.81 329	P	PKPbc	07 21 19.1	-0.5
MBAR	Mbarara	149.93 240	P	PKPbc	07 21 20.8	-0.1
SRS	Serrai	149.95 331	P	PKPdf	07 21 17.2	+2.4
KOKK	Kokkinochori,	150.00 330	P	PKPbc	07 21 19.8	-0.3
PRK	Paraskevi	150.02 326	P	PKPbc	07 21 20.3	+0.2
KSL	Kastellorizon	150.08 318	P	PKPbc	07 21 20.3	-0.1
LIA	Limnos Island	150.11 328	P	PKPbc	07 21 20.3	-0.1
KNT	Kendrikon	150.23 332	P	PKPbc	07 21 20.7	+0.1
VAY	Valandovo	150.25 333	*i* P	PKPbc	07 21 20.8	+0.2
OUR	Ouranopolis	150.38 330	P	PKPbc	07 21 20.6	-0.4
BRY	Bratogost	150.47 340	*e*P	PKPbc	07 21 21.3	0.0
HORT	Hortiatis	150.59 331	P	PKPbc	07 21 20.8	-0.8
PLG	Polygyros	150.61 331	P	PKPbc	07 21 20.7	-0.9
THE	Thessaloniki	150.63 332	P	PKPbc	07 21 20.4	-1.1
PDG	Podgorica	150.64 338	⇑*i*P	PKPbc	07 21 21.1	-0.4
STON	Ston	150.77 341	*e*P	PKPbc	07 21 19.4	-2.4
SMG	Samos	150.77 323	P	PKPbc	07 21 21.9	-0.1
PHP	Peshkopia	150.84 336	P	PKPbc	07 21 22.0	-0.1
DRME	Dracevica, Mon	150.88 338	*e*P	PKiKP	07 21 22.8	+0.2
ARG	Arkhangelos	150.97 319	P	PKiKP	07 21 22.8	-0.2
OHR	Ohrid	151.18 335	*i* P	PKiKP	07 21 23.8	+0.5
FNA	Florina	151.21 334	P	PKPbc	07 21 22.8	-0.2
LIT	Litokhoron	151.27 331	P	PKPbc	07 21 22.4	-0.7
PGAV	Gavieira, Arco	151.35 21	*e*PKPbc	PKiKP	07 21 24.6	+0.8
XOR	Xorichti	151.51 330	P	PKPbc	07 21 22.8	-0.9
KPRO	Kipourio	151.90 333	P	PKiKP	07 21 25.1	+0.2
APE	Apeiranthos	151.97 323	P	PKPbc	07 21 23.4	-1.4
APE	Apeiranthos	151.97 323	⇑P	PKPbc	07 21 24.2	-0.6
APE	Apeiranthos	151.97 323	⇑PKIKP	PKPbc	07 21 24.2	-0.6
POLO	Lamas de Olo	152.04 21	*e*PKPbc	PKiKP	07 21 26.5	+1.3
PTL	Penteli	152.18 327	P	PKPbc	07 21 24.3	-0.9
MAKR	Makrakomi, Fth	152.30 331	P	PKPbc	07 21 25.3	-0.2
VLY	Voula,Athens	152.36 327	P	PKPbc	07 21 24.6	-1.0
VILL	Villia	152.38 328	P	PKPbc	07 21 24.7	-1.0
MVO	Moncorvo	152.49 20	*e*PKPbc	PKiKP	07 21 26.8	+0.7
ANX	Ano Chora	152.73 330	P	PKiKP	07 21 27.0	+0.3
EFP	Efpalio	152.87 330	P	PKiKP	07 21 27.1	+0.3
GUR	Goura	153.04 329	P	PKPbc	07 21 26.9	-0.3
KLV	Kalavryta, Ach	153.05 329	P	PKPbc	07 21 27.2	0.0
PESTR	Estremoz	154.32 23	*e*PKPab	PKPab	07 21 46.0	+1.0
ESDC	Sonseca Array	154.78 16	PKP	PKPdf	07 21 22.9	+0.8
	comp=Z,2.4nm,0.9s,baz=353,slow=2.7,SNR=5.9					
ESDC			PKPbc	PKiKP	07 21 31.2	+0.4
	comp=Z,3.2nm,1.0s,baz=319,slow=0.7,SNR=5.6					
ESDC			PKPab	PKPab	07 21 46.8	-0.1
	comp=Z,13nm,1.0s,baz=327,slow=3.8,SNR=18					
PCVE	Castro Verde	155.21 25	*e*PKPab	PKPab	07 21 49.8	+1.0
KEST	Kesra	159.62 350	PKPab	PKPab	07 22 05.9	-2.1
	comp=Z,15nm,1.0s,baz=326,slow=7.1,SNR=5.4					
DBIC	Dimbokro	166.82 131	PKP	PKPdf	07 21 34.8	-0.8
	comp=Z,9.7nm,1.1s,baz=35,slow=2.9,SNR=4.9					
DBIC			PKPab	PKPab	07 22 39.9	-0.3
	comp=Z,14nm,1.2s,baz=144,slow=4.9,SNR=4.2					
TORD	Torodi Ar. Bea	175.91 127	PKP	PKPdf	07 21 39.2	-0.8
	comp=Z,11nm,1.1s,baz=338,slow=4.5,SNR=30					
TORD			PKPab	PKPab	07 23 19.6	-1.0
	comp=Z,0.9nm,0.6s,baz=261,slow=2.9,SNR=6.4					

DJA 02 07:02:31.4±0.3, 6°S±5°×10°6E±°, h161km±4km, M4.0/12, mB4.8/1, mb4.2/5, MLv3.8/12, Mw(mB)4.1/1, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	Serang	0.42	90	P	Pn	07 02 52.6	-1.0
CGJI	Cibinong	0.49	182	P	Pn	07 02 54.9	+0.9
CGJI				S	Sn	07 03 12.6	+1.3
SKJI	Sukabumi	1.22	136	P	Pn	07 03 00.8	+1.7
SKJI				S	Sn	07 03 22.1	+1.7
CNJI	Cibinong	1.84	130	P	Pn	07 03 05.8	+0.4
MDSI	Maura Dua	2.23	317	P	Pn	07 03 09.7	-0.1
CMJI	Cimerak	3.18	121	P	Pn	07 03 21.6	+0.1
CMJI				S	Sn	07 03 59.8	-0.6
MNAI	Manna	3.25	302	P	Pn	07 03 23.9	+1.5
MNAI				S	Sn	07 04 01.9	-0.1
UGM	Wanagama	5.10	111	P	Pn	07 03 46.3	-0.1
	0.5nm102nm,1.8s						
PCJI	Pacitan	5.80	111	P	Pn	07 03 55.0	-0.6
	0.2nm31nm,1.3s						
PPSI	Pulau Pagai	6.59	300	P	Pn	07 04 05.5	-0.6
JAGI	Jajag, Banyuwa	8.69	106	P	Pn	07 04 33.7	-0.3

*IDC **02** 07:29:45.4±1.3, 8°.65S×32°.66E, h0km, mb4.0/5, mbtmp4.2/7, ML2.6/1, MS3.6/8, Error ellipse: s-maj=40.9km s-min=20.2km az=109.0*
*NEIC **02** 07:29:47.3±1.9, 8°.63S±0°.07×32°.66E±0°.07, h10km±1km, mb4.3/10, Error ellipse: s-maj=13.2km s-min=11.0km az=52.0*

ISC 02 07:29:46.1±0.6, 8°.75S±0°.05×32°.51E±0°.08, h10km, n42, σ2°.65/46, mb4.2/8, MS3.5/5, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	Zomba	7.16	157	*e*Pn	Pn	07 31 36.4	+5.5
ZOMB				*e*Sn	Sn	07 32 58.1	+5.7
LSZ	Lusaka	7.74	213		Pn	07 31 43.0	+4.0
LSZ	Lusaka	7.74	213	Pn	Pn	07 31 43.2	+4.2
	24nm,0.3s,baz=36,slow=11,SNR=32						
LSZ				Sn	Sn	07 33 07.8	+1.0
	20nm,0.3s,baz=344,slow=22,SNR=8.0						
LSZ				Lg	Lg	07 33 49.6	
	18nm,0.3s,baz=325,slow=14,SNR=4.4						
LSZ				LR	LR	07 34 55.4	
	comp=Z,575nm,18.6s,baz=44,slow=39						
LSZ	Lusaka	7.74	213	*i* P	Pn	07 31 43.3	+4.4
LSZ				*i* S	Sn	07 33 09.8	+3.0
MBAR	Mbarara	8.28	348		Pn	07 31 44.8	-1.7
KIBK	Kibwezi	8.42	41		Pn	07 31 46.0	-2.4
KMBO	Kilima Mbogo	8.93	32		Pn	07 31 53.0	-2.4
KSANE	Kasane	11.48	218	*i* P	Pn	07 32 32.9	+2.5
KSANE				IAML		07 35 59.0	
	comp=N,189nm,1.2s						
BLWY	Bulawayo	11.93	198	*i* P	Pn	07 32 36.7	+0.2
LODK	Lodwar	12.42	13		Pn	07 32 40.5	-2.7
BROLN	Tlhalogang	13.25	202	*i* P	Pn	07 32 56.1	+1.6
BROLN				IAML		07 36 44.5	
	comp=E,77nm,1.3s						
MUSN	Musina, Limpop	13.70	190	*i* P	Pn	07 32 58.9	-1.6
MUSN				*i* S	Sn	07 35 29.2	-3.7
MREMI	Moremi	14.57	199	*i* P	Pn	07 33 12.9	+0.3
MREMI				*i* S	Sn	07 35 48.1	-6.3
MREMI				IAML		07 37 32.1	
	comp=N,109nm,1.1s						
MOPA	Mopani	14.72	184	*i* P	Pn	07 33 13.6	-0.9
MOPA				*i* S	Sn	07 35 57.6	-0.3
CKGRV	CKGRV	15.13	213	*i* P	Pn	07 33 20.2	0.0
CKGRV				*i* S	Sn	07 36 02.9	-5.2
CKGRV				IAML		07 38 04.5	
	comp=N,204nm,0.8s						
QNGWA	Qangwa	15.34	224	*i* P	Pn	07 33 24.6	+1.8
QNGWA				IAML		07 38 12.9	
	comp=E,71nm,1.9s						
KDWAN	Kaudwane	16.37	206	*i* P	Pn	07 33 35.5	-0.8
KDWAN				*i* S	Sn	07 36 28.5	-10
KDWAN				IAML		07 38 43.0	
	comp=E,65nm,0.7s						
GRTLG	Ghanzi	16.60	220	*i* P	Pn	07 33 38.4	-0.7
GRTLG				IAML		07 39 06.8	
	comp=E,57nm,0.2s						
LBTB	Lobatse	17.46	201		Pn	07 33 50.0	0.0
LBTB	Lobatse	17.46	201	LR	LR	07 41 00.9	
	comp=E,142nm,21.9s,baz=22,slow=38						
LBTB	Lobatse	17.46	201	*i* P	Pn	07 33 50.8	+0.8
SKOMA	Sekoma	17.68	207	*i* P	Pn	07 33 49.2	-3.5
SKOMA				IAML		07 39 10.7	
	comp=E,51nm,1.6s						
TSUM	Tsumeb	17.80	233	P	P	07 33 56.9	+1.9
	comp=E,1.2nm,0.3s,baz=34,slow=13,SNR=17						
TSUM				S	Sn	07 37 07.0	-6.0
	comp=E,7.3nm,0.9s,baz=160,slow=16,SNR=3.5						
TSUM				LR	LR	07 41 03.1	
	comp=E,325nm,20.6s,baz=330,slow=38						
	comp=E,8.9nm,0.7s						
VOI	Vohitsoka	18.98	135	P	P	07 34 07.6	-0.3
VOI				IAmb	IAmb	07 34 28.6	
	comp=Z,21nm,1.4s						
BOSA	Boshof	20.90	198	P	P	07 34 31.2	+2.3
BOSA				IAmb	IAmb	07 34 56.4	
	comp=Z,27nm,1.4s						
BOSA	Boshof	20.90	198	P	P	07 34 31.1	+2.2
	comp=Z,3.1nm,0.5s,baz=22,slow=11,SNR=11						
BOSA				S	S	07 38 18.8	-3.4
	comp=Z,7.5nm,0.9s,baz=135,slow=17,SNR=4.4						
BOSA				Lg	Lg	07 40 38.8	
	comp=Z,0.3nm,0.3s,baz=125,slow=19,SNR=1.4						
BOSA				LR	LR	07 43 00.6	
	comp=Z,121nm,19.9s,baz=22,slow=38						
	comp=Z,3.1nm,0.5s						
SOE	Somerset East	24.70	194	P	P	07 35 10.2	+2.7
SUR	Sutherland	25.89	203	P	P	07 35 20.5	+2.0
	comp=Z,5.5nm,0.9s,baz=85,slow=3.5,SNR=1.4						
SUR				LR	LR	07 45 42.1	
	comp=Z,165nm,19.1s,baz=3.5,slow=37						
	comp=Z,5.5nm,0.9s						
TORD	Torodi Ar. Bea	37.55	305	P	P	07 37 01.7	+0.9
TORD	Torodi Ar. Bea	37.55	305	P	P	07 37 02.1	+1.3
	comp=Z,3.1nm,0.8s,baz=108,slow=6.8,SNR=17						
	comp=Z,3.1nm,0.8s						
DBIC	Dimbokro	40.27	291	LR	LR	07 52 38.4	
	comp=Z,72nm,19.9s,baz=72,slow=34						
BRTR	Keskin Array B	48.24	1	P	P	07 38 27.6	+0.3
	comp=Z,0.4nm,0.7s,baz=184,slow=8.7,SNR=2.2						
	comp=Z,0.4nm,0.7s						
TUE	Stuetta	58.74	341	P	P	07 39 44.1	-0.3
TUE				IAmb	IAmb	07 39 49.6	
	comp=Z,7.0nm,1.1s						
KK31	Karatay Array	62.12	31	P	P	07 40 08.3	+0.9
KK31				IAmb	IAmb	07 40 11.3	
	comp=Z,1.5nm,1.0s						
KKAR	Karatay Array	62.12	31	P	P	07 40 07.8	+0.4
ABKAR	Akbulak array	62.57	20	P	P	07 40 10.5	+0.3
ABKAR				IAmb	IAmb	07 40 28.1	
	comp=Z,2.0nm,1.0s						
MAKZ	Makanchi	70.65	34	P	P	07 41 02.3	+0.4
MAKZ				IAmb	IAmb	07 41 04.4	
	comp=Z,3.3nm,1.4s						
MKAR	Makanchi Array	70.81	34	P	P	07 41 02.5	-0.4
MKAR	Makanchi Array	70.81	34	P	P	07 41 02.8	-0.2
	comp=Z,1.6nm,0.9s,baz=223,slow=4.5,SNR=5.4						
	comp=Z,1.6nm,0.9s						
NOA	NORSAR Array B	71.56	349	LR	LR	08 15 22.7	
	comp=Z,19nm,18.9s,baz=205,slow=38						
NBO00	NORSAR Array S	71.64	349	P	P	07 41 07.6	0.0
ASAR	Alice Springs	96.82	115	LR	LR	08 21 36.9	
	comp=Z,57nm,18.3s,baz=101,slow=32						

*IDC **02** 07:31:08.7±2.3, 32°.86N×49°.51E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=49.8km s-min=25.5km az=166.0*
*TEH **02** 07:31:09.2, 32°.61N×49°.78E, h24km±44km*

ISC 02 07:31:08.7±0.7, 32°.60N±0°.04×49°.82E±0°.04, h11km, n37, σ1°.86/37, mb3.7/8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	Brojen	1.40	119	Pg	Pn	07 31 33.2	-1.3
AHWZ	Ahwaz	1.61	219	Pg	Pg	07 31 40.3	+0.7
IDOB	Doab	1.81	311	Pg	Pb	07 31 41.1	-1.0
IKFM	Kafar-mosalman	1.89	300	Pn	Pb	07 31 43.3	0.0
HSAM	Samen	1.90	328	Pn	Pn	07 31 42.4	+1.0
ABEH	Behbahan	2.03	169	Pn	Pb	07 31 45.1	-0.5
KLNJ	Kolanjah	2.19	136	Pn	Pb	07 31 47.6	-1.0
HAGD	Aghdareh	2.29	346	Pn	Pb	07 31 48.5	-1.7
IRAM	Ramesheh	2.31	109	Pn	Pb	07 31 49.2	-1.4
IQOM	Qom	2.47	25	Pn	Pn	07 31 50.9	+1.7
ISFB	Sefidab	2.68	49	Pn	Pn	07 31 54.1	+2.2
KCHF	Cheshme Sefid,	2.86	307	Pn	Pn	07 31 56.0	+1.5
IVRN	Varamin	2.87	33	Pn	Pn	07 31 57.2	+2.7
SNQR	Sonqor, Kerman	2.90	322	Pn	Pn	07 31 57.4	+2.3
HGHA	Hamedan- Ghaye	2.99	345	Pn	Pn	07 31 58.0	+1.7
QABG	Abgarm-Qazvin	3.11	356	Pn	Pn	07 31 59.3	+1.4
IMHD	Mahdasht	3.16	13	Pn	Pn	07 32 00.4	+1.9
ILBA	Ilam Banvizeh	3.20	290	Pn	Pn	07 32 00.7	+1.8
IGHG

IGRA S **Sn** **07 33 42.9 -1.3**
ISKI Skildingahlsh 4.15 189 P **Pn** **07 32 54.0 -2.1**
ISKI S **Sn** **07 33 42.2 -2.4**
IGHA Grjothals 4.16 186 P **Pn** **07 32 53.8 -2.4**
IGHA S **Sn** **07 33 42.8 -2.1**
IHLA Hella 4.17 196 P **Pn** **07 32 55.7 -0.8**
IHLA S **Sn** **07 33 44.8 -0.4**
IHRN Hraun 4.23 206 P **Pn** **07 32 57.5 +0.3**
IKVO Krokottuvotn 4.29 187 P **Pn** **07 32 56.2 -2.0**
IKVO S **Sn** **07 33 47.3 -1.0**
IGRS Grimsstaoir 4.35 183 P **Pn** **07 32 56.2 -2.6**
IGRS S **Sn** **07 33 47.6 -1.9**
IREN Reynihlio 4.36 188 P **Pn** **07 32 57.3 -1.8**
IREN S **Sn** **07 33 48.9 -1.0**
IMEL Melhnausar 4.43 186 P **Pn** **07 32 57.7 -2.3**
IMEL S **Sn** **07 33 50.4 -1.2**
DBG Daneborg 4.60 344 *i* P Pn 07 32 55.2 -7.1
DBG IAML 07 34 20.0
comp=Z,13nm,0.7s
ISVA Svartarkot 4.69 189 P **Pn** **07 33 02.0 -1.6**
IADA Aoalbol 4.96 180 P **Pn** **07 33 04.8 -2.6**
IMKO Mokollar 5.01 184 P **Pn** **07 33 06.4 -1.7**
THOR Thorvaldshraun 5.07 186 P **Pn** **07 33 07.8 -1.0**
IVSH V-Sauoahnukur 5.17 181 P **Pn** **07 33 08.0 -2.3**
IURH Urdarhals 5.20 188 P **Pn** **07 33 09.2 -1.4**
BORG Borgarnes 5.69 206 Pn **Pn** **07 33 18.6 +1.3**
BORG Borgarnes 5.69 206 Pn **Pn** **07 33 19.0 +1.7**
comp=Z,4,4nm,0.3s,baz=13,slow=6.8,SNR=21
comp=Z,45nm,0.6s
BORG Borgarnes 5.69 206 P **Pn** **07 33 18.6 +1.3**
DAG Danmarks Havn 6.91 354 P **Pn** **07 33 32.4 -1.5**
DAG Danmarks Havn 6.91 354 *i* P **Pn** **07 33 32.0 -1.9**
DAG IAML 07 34 39.6
comp=Z,3.5nm,0.9s
SUMG Summit 7.80 300 **Pn** **07 33 45.6 -1.0**
SUMG Summit 7.80 300 P **Pn** **07 33 45.6 -1.0**
SUMG Summit 7.80 300 *i* P **Pn** **07 33 45.6 -1.0**
SUMG IAML 07 34 46.3
comp=Z,7.0nm,0.8s
KBS Kingsbay 11.44 27 Pn **Pn** **07 34 33.8 -2.2**
KBS Kingsbay 11.44 27 P **Pn** **07 34 33.8 -2.2**
SPITS Spitsbergen Ar 11.80 32 Pn **Pn** **07 34 39.6 -1.2**
baz=227,slow=15
comp=Z,3.6nm,0.4s
SPB2 Spitsbergen Ar 11.80 32 Pn **Pn** **07 34 38.5 -2.3**
NEEM North Greenlan 12.22 323 *i* P Pn 07 34 40.7 -6.2
NEEM *i* S Sn 07 36 25.1 -38
NEEM IAML 07 36 29.2
comp=Z,5.6nm,0.9s
ARCES ARCESS Array B 14.03 72 Pn **Pn** **07 35 11.0 -0.3**
baz=290,slow=10,SNR=1.8
ARCES LR LR 07 39 31.2
comp=Z,389nm,18.0s,baz=308,slow=33
comp=Z,7.8nm,1.2s
ARCES ARCESS Array B 14.03 72 P **Pn** **07 35 11.0 -0.3**
NOA NORSAR Array B 14.10 116 Pn **Pn** **07 35 12.5 +0.1**
comp=Z,0.8nm,0.9s,baz=324,slow=12,SNR=4.4
NOA LR LR 07 40 04.8
comp=Z,227nm,21.4s,baz=320,slow=35
NC405 NORSAR Array S 14.20 115 Pn **Pn** **07 35 16.4 +2.7**
HFS Hagfors 15.58 115 Pn **P** **07 35 35.0 -1.5**
comp=Z,0.2nm,0.3s,baz=317,slow=8.3,SNR=7.5
HFS LR LR 07 40 49.6
comp=Z,497nm,21.1s,baz=310,slow=34
HFS Hagfors 15.58 115 P **P** **07 35 35.0 -1.5**
EKA Eskdalemuir Ar 15.68 153 Pn **P** **07 35 37.1 -0.5**
baz=350,slow=12
comp=Z,2.8nm,0.8s
MSF Maaselka 16.90 82 P **Pn** **07 35 49.5 +0.4**
LVZ Lovozero 17.74 73 P **Pn** **07 35 59.0 -0.6**
LVZ IAmb IAmb 07 36 14.3
comp=Z,33nm,1.2s
LVZ Lovozero 17.74 73 P **Pn** **07 35 59.0 -0.6**
LVZ pmax pmax
comp=Z,33nm,1.2s
LVZ Lovozero 17.74 73 P **P** **07 36 01.4 +1.0**
comp=Z,24nm,0.7s
FIA1 FINESS Array S 18.72 96 P **P** **07 36 10.7 -0.5**
FINES FINESS Array B 18.72 96 P **P** **07 36 11.0 -0.1**
comp=Z,0.5nm,0.3s,baz=317,slow=11,SNR=14
FINES LR LR 07 42 34.2
comp=Z,593nm,19.7s,baz=274,slow=34
comp=Z,6.3nm,0.8s
FINES FINESS Array B 18.72 96 P **P** **07 36 11.0 -0.1**
EUNU Eureka 19.26 330 P **P** **07 36 13.9 -3.1**
VSU Vasula 21.14 101 *i* P **P** **07 36 36.6 -0.9**
PUL Pulkovo 21.38 95 *ceP* **P** **07 36 38.4 -1.6**
MEM Membach 21.91 141 *dP* **P** **07 36 47.5 +1.8**
comp=Z,14nm,1.1s
MEM *dPP* **PnPn** **07 37 08.4 +1.5**
BMRD Maredsous 21.93 143 *dP* **P** **07 36 49.1 +3.0**
comp=Z,10nm,0.9s
BTNL Ternell 21.95 141 *dP* **P** **07 36 50.2 +3.9**
comp=Z,8.0nm,1.1s
DOU Dourbes 22.09 144 *dP* **P** **07 36 50.8 +3.0**
PABE Paberze 22.58 110 P **P** **07 36 53.8 +0.8**
WLF Walferdange 22.83 142 P **P** **07 36 55.8 +0.2**
WLF pmax pmax
comp=Z,16nm,1.6s
CLL Collm 22.95 130 P **P** **07 36 58.8 +2.0**
CLL IAmb IAmb 07 37 02.4
comp=Z,11nm,1.1s
CLL Collm 22.95 130 P **P** **07 36 58.8 +2.0**
CLL pmax pmax
comp=Z,11nm,1.1s
CLL Collm 22.95 130 P **P** **07 36 59.7 +2.9**
comp=Z,11nm,1.1s
CLL Collm 22.95 130 *i* P **P** **07 36 59.8 +2.9**
comp=Z,14nm,1.2s
CLL *eS* Sn 07 41 15.0 -7.2
CLL LV 07 44 00.0
comp=Z,200nm,20.6s
MOX Moxa 23.19 132 P **P** **07 37 01.9 +2.5**
MOX pmax pmax
comp=Z,13nm,1.9s
BRG Berggiesshubel 23.59 129 *eP* **P** **07 37 08.2 +4.8**
BRG Amp 07 37 09.7
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 23.76 85 *eP* **P** **07 37 01.3 -3.6**
KLMR pmax pmax
comp=Z,22nm,1.1s
GRF Grafenberg Arr 23.97 134 *eP* **P** **07 37 10.7 +3.6**
comp=Z,7.9nm,1.0s,baz=338,slow=8.7
NACGM Naroch 24.00 107 *eP* **P** **07 37 06.5 -0.7**
comp=Z,2μm,0.9s
KSP Ksiaz 24.27 126 P **P** **07 37 09.6 -0.1**
KSP pmax pmax
comp=Z,14nm,1.2s
KSP Ksiaz 24.27 126 P **P** **07 37 11.8 +2.0**
comp=Z,14nm,1.2s
PRU Pruhonice 24.56 129 P **P** **07 37 14.4 +2.0**
PRU pmax pmax
comp=Z,8.0nm,1.0s
MNK Minsk 24.69 106 *i* P **P** **07 37 12.1 -1.4**
comp=E,22nm,0.8s
MNK *i* P **P** **07 37 12.1 -1.4**
comp=N,13nm,0.8s
MNK *i* P **P** **07 37 12.1 -1.4**
comp=Z,14nm,0.7s,baz=325
MNK *i* PP **PnPn** **07 37 43.7 -1.3**
MNK *i* PPP PPP 07 37 52.1
MNK *i* S **S** **07 41 34.7 -0.2**
MNK *i* SS **SnSn** **07 42 22.1 +1.7**
MNK *i* SSS SSS 07 42 36.5
MNK *i* LR LR 07 45 14.9
MNK *i* LRM MLR 07 46 40.1
comp=E,759nm,18.8s
MNK *i* LRM MLR 07 46 43.4
comp=N,830nm,18.4s
MNK *i* LRM MLR 07 46 58.6
comp=Z,364nm,15.3s
MNK Minsk 24.69 106 *i* P **P** **07 37 12.1 -1.4**
MNK *i* PPP PPP 07 37 52.1
MNK *i* S **S** **07 41 34.7 -0.2**
MNK *i* SSS SSS 07 42 36.5
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.7s
MNK MLR MLR
comp=E,759nm,19.0s
MNK MLR MLR
comp=N,830nm,18.0s

MNK MLR MLR
comp=Z,364nm,15.0s
DPC Dobruska-Polom 24.72 126 *eP* **P** **07 37 14.3 +0.4**
DPC Dobruska-Polom 24.72 126 *eP* **P** **07 37 14.3 +0.4**
DPC Dobruska-Polom 24.72 126 P **P** **07 37 17.2 +3.3**
comp=Z,9.2nm,1.1s
ZVC Zvikov 24.97 130 *eP* **P** **07 37 19.7 +3.6**
KHC Kasperske Hory 25.09 131 *eP* **P** **07 37 18.7 +1.5**
KHC Kasperske Hory 25.09 131 *i* P **P** **07 37 15.7 -1.5**
KHC pmax pmax
comp=Z,63nm,3.5s
KHC Kasperske Hory 25.09 131 P **P** **07 37 21.5 +4.3**
comp=Z,10nm,3.0s
GEC2 GERESS Array S 25.38 131 P **P** **07 37 21.4 +1.4**
GEC2 IAmb IAmb 07 37 25.1
comp=Z,13nm,1.2s
GERES GERESS Array B 25.38 131 P **P** **07 37 21.5 +1.5**
GERES GERESS Array B 25.38 131 P **P** **07 37 20.9 +0.9**
comp=Z,5.1nm,1.1s,baz=334,slow=8.9,SNR=9.6
GERES LR LR 07 48 00.9
comp=Z,91nm,19.3s,baz=346,slow=38
comp=Z,5.1nm,1.1s
GERES GERESS Array B 25.38 131 P **P** **07 37 21.5 +1.5**
MORC Moravsky Berou 25.58 125 P **P** **07 37 23.6 +1.9**
MORC IAmb IAmb 07 37 38.0
comp=Z,14nm,1.2s
MORC Moravsky Berou 25.58 125 P **P** **07 37 23.6 +1.9**
MORC pmax pmax
comp=Z,14nm,1.2s
OJC Ojcow 25.83 122 P **P** **07 37 26.2 +2.3**
OJC IAmb IAmb 07 37 30.5
comp=Z,10nm,1.0s
OJC Ojcow 25.83 122 P **P** **07 37 26.2 +2.3**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 25.83 122 P **P** **07 37 28.5 +4.6**
comp=Z,12nm,1.1s
DAVA Damuels 25.90 138 *epP* pP 07 37 30.5 +3.1
comp=Z,14nm,1.1s
RETA Reutte 25.92 137 *epP* pP 07 37 29.9 +2.5
comp=Z,3.0nm,0.6s
MOTA Moosalm 26.13 136 *epP* pP 07 37 29.7 +0.2
comp=Z,13nm,1.7s
WATA Walderalm 26.25 136 *i* P **P** **07 37 32.3 +4.4**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 26.27 136 *eP* **P** **07 37 33.1 +5.0**
comp=Z,12nm,1.2s
WTTA Wattenberg 26.33 135 *eP* **P** **07 37 33.4 +4.7**
comp=Z,15nm,1.1s
DAVOX Davos/Dischmat 26.38 138 LR LR 07 49 14.2
comp=Z,171nm,18.8s,baz=308,slow=39
LESA Schwarzleotal 26.44 134 *epP* pP 07 37 33.4 +1.2
comp=Z,12nm,1.8s
MOA Molln 26.45 131 *i* P **P** **07 37 29.1 -0.5**
comp=Z,14nm,1.5s
FUORN Ofenpass-Fuorn 26.61 138 P **P** **07 37 32.8 +1.5**
FUORN IAmb IAmb 07 37 40.4
comp=Z,10nm,1.4s
RNPP9 Sopachiv 26.66 113 P **P** **07 37 35.4 +4.1**
RNPP1 Kostyukhnivka 26.67 113 P **P** **07 37 34.6 +3.1**
NIE Niedzica 26.69 122 P **P** **07 37 36.1 +4.3**
comp=Z,5.9nm,1.1s
RNPP8 Varash 26.71 113 P **P** **07 37 33.8 +2.0**
RNPP2 Kostyukhnivka 26.73 113 P **P** **07 37 36.9 +4.9**
CONA Conrad Observa 26.80 129 *eP* **P** **07 37 37.7 +5.0**
comp=Z,6.0nm,1.3s
KBA Koelnbreinsper 26.93 133 *eP* **P** **07 37 40.0 +5.9**
comp=Z,5.4nm,0.8s
SCHQ Schefferville 27.09 263 P **P** **07 37 34.7 -0.5**
comp=Z,3.6nm,0.9s,baz=44,slow=3.5,SNR=4.5
SCHQ LR LR 07 47 26.6
comp=Z,299nm,21.8s,baz=84,slow=34
comp=Z,3.6nm,0.9s
KWP Kalwaria Pacla 27.22 118 P **P** **07 37 41.1 +4.6**
KWP Kalwaria Pacla 27.22 118 P **P** **07 37 41.1 +4.6**
comp=Z,1.3nmcomp=Z,40μm,0.9s
CTI Castel Tesino 27.48 136 P **P** **07 37 42.5 +3.6**
CTI Castel Tesino 27.48 136 P **P** **07 37 42.5 +3.6**
CTI pmax pmax
comp=Z,13nm,1.1s
MI28 Mi28,Pidlybu 27.64 111 P **P** **07 37 45.1 +4.9**
comp=Z,110nm,1.1s
KOLS Kolonicke sedl 27.71 120 *eP* **P** **07 37 42.1 +1.2**
KOLS Kolonicke sedl 27.71 120 *eP* **P** **07 37 42.1 +1.2**
MI30 MI30,Zelenitsa 27.97 111 P **P** **07 37 47.7 +4.6**
MORS Morshin 28.02 117 P **P** **07 37 48.4 +4.8**
HOLU Holmets 28.11 120 P **P** **07 37 48.6 +4.2**
AK20 Malin Array Si 28.24 110 P **P** **07 37 49.2 +3.7**
AKASG Malin Array Be 28.34 109 P **P** **07 37 45.8 -0.7**
comp=Z,1.5nm,0.8s,baz=333,slow=8.8,SNR=4.5
comp=Z,1.5nm,0.8s
AKBB Malin Array Si 28.34 109 *i* P **P** **07 37 46.9 +0.5**
AKBB pmax pmax
comp=Z,37nm,3.5s
LUBAR Lubar, Ukraine 28.54 112 P **P** **07 37 50.0 +1.7**
STNU Starunia 28.59 117 P **P** **07 37 48.9 +0.2**
KIRV Kirov 28.82 80 *i* P **P** **07 37 51.4 +0.8**
KMPD K-Podol'skiy 29.32 115 P **P** **07 37 55.3 +0.1**
comp=Z,3μm,1.0s
BUR08 Bucovina Ar. S 29.75 117 P **P** **07 37 59.8 +0.7**
VSR Storozhevoye 31.23 98 *eP* **P** **07 38 11.5 -0.5**
VSR pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 31.80 41 *i* P **P** **07 38 17.7 +0.9**
NRIK pmax pmax
comp=Z,3.0nm,1.5s
C36M Paulatuk 32.99 322 P **P** **07 38 27.1 -0.1**
BELG Belogornoye 33.16 89 *i* P **P** **07 38 27.6 -1.2**
BELG pmax pmax
comp=Z,2.0nm,0.9s
ARTI Arti 33.56 75 P **P** **07 38 34.6 +2.2**
ARTI IAmb IAmb 07 38 37.0
comp=Z,9.5nm,1.4s
ARTI Arti 33.56 75 *c i* P **P** **07 38 33.5 +1.1**
ARTI S **S** **07 43 57.1 +2.9**
ARTI SS **SnSn** **07 45 55.5 -0.9**
ARTI pmax pmax
comp=Z,7.0nm,1.4s
FNA Florina 34.90 127 P **P** **07 38 46.7 +2.5**
FNA Florina 34.90 127 P **P** **07 38 46.7 +2.5**
FNA pmax pmax
comp=Z,20nm,1.0s
YKA Yellowknife Ar 36.28 309 P **P** **07 38 56.4 +0.7**
comp=Z,1.5nm,0.9s,baz=36,slow=7.6,SNR=14
YKA PcP **PcP** **07 41 20.5 +0.3**
comp=Z,0.5nm,1.0s,baz=38,slow=2.8,SNR=4.3
comp=Z,1.5nm,0.9s
TIXI Tiksi 36.72 18 LR LR 07 54 44.5
comp=Z,60nm,18.8s,baz=190,slow=38
TIXI Tiksi 36.72 18 *i* P **P** **07 38 58.6 -0.8**
TIXI pmax pmax
comp=Z,10.0nm,2.0s
G31M Satah River 37.12 325 P **P** **07 39 01.3 -1.5**
G31M IAmb IAmb 07 39 09.7
comp=Z,9.0nm,1.1s
F28M Old Crow 37.57 329 P **P** **07 39 07.4 +0.7**
MDT Midelt 37.69 165 LR LR 07 54 54.0
comp=Z,118nm,18.1s,baz=340,slow=37
SOC Sochi 38.03 104 *eP* **P** **07 39 09.0 -1.8**
SOC *e* 07 40 35.5
SOC *eS* **S** **07 45 02.1 -0.7**
SOC *eSS* **SnSn** **07 47 44.3 -0.4**
SOC MLR MLR
comp=Z,391nm,15.0s
AKTO Aktyubinsk 38.36 81 P **P** **07 39 14.3 +0.8**
comp=Z,3.1nm,1.0s,baz=311,slow=9.7,SNR=4.1
comp=Z,3.1nm,1.0s
BMAR Burnt Mountain 38.55 331 P **P** **07 39 15.2 +0.3**
KIV Kislovodsk 38.70 101 *eP* **P** **07 39 15.7 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,144nm,16.0s
KBZ Khabaz 38.97 101 P **P** **07 39 20.1 +1.5**
comp=Z,3.8nm,1.0s,baz=316,slow=1.9,SNR=4.1
comp=Z,3.8nm,1.0s
KBZ Khabaz 38.97 101 *ceP* **P** **07 39 18.9 +0.2**
KBZ pmax pmax
comp=Z,7.0nm,1.4s
BRTR Keskin Array B 39.52 114 P **P** **07 39 24.2 +0.7**
comp=Z,0.5nm,0.6s,baz=334,slow=4.8,SNR=4.0
comp=Z,0.5nm,0.6s
ABKAR Akbulak array 40.02 80 P **P** **07 39 26.4 -0.9**
ABKAR Akbulak array 40.02 80 P **P** **07 39 27.4 0.0**
ABKAR IAmb IAmb 07 39 33.0
comp=Z,4.8nm,1.2s

BVAR Borovoye Array 40.28 69 P **P** **07 39 28.4 -1.1**
comp=Z,0.2nm,0.4s,baz=308,slow=7.2,SNR=2.0
comp=Z,0.2nm,0.4s
ULM Lac du Bonnet 40.81 284 P **P** **07 39 34.6 +0.7**
comp=Z,1.9nm,0.8s,baz=18,slow=9.5,SNR=4.9
comp=Z,1.9nm,0.8s
MAK Makhachkala 41.22 97 *eP* P 07 39 31.0 -6.3
MAK *eS* S 07 45 41.0 -10
MAK *eSS* **SS** **07 48 50.0 -3.2**
IMAR Indian Mountai 41.30 336 P **P** **07 39 36.6 -1.1**
ILAR Eielson Array 41.37 331 P **P** **07 39 37.9 -0.5**
comp=Z,0.4nm,0.8s,baz=31,slow=8.1,SNR=4.6
comp=Z,0.4nm,0.8s
ERPA Erie 42.46 264 P **P** **07 39 47.5 0.0**
ERPA IAmb IAmb 07 39 56.3
comp=Z,7.1nm,0.8s
RND Reindeer 42.96 331 P **P** **07 39 52.3 +0.9**
RND Reindeer 42.96 331 P **P** **07 39 52.3 +0.9**
RND pmax pmax
comp=Z,5.0nm,1.2s
ZALV Zalesovo Beam 43.90 57 P **P** **07 39 58.9 -0.1**
comp=Z,0.4nm,0.4s,baz=341,slow=8.0,SNR=3.8
comp=Z,0.4nm,0.4s
MMAI Mount Meron Ar 46.24 115 P **P** **07 40 18.4 +0.5**
comp=Z,1.5nm,0.7s,baz=355,slow=7.2,SNR=2.0
comp=Z,1.5nm,0.7s
MAKZ Makanchi 49.36 64 P **P** **07 40 42.5 +0.6**
MAKZ Makanchi 49.36 64 P **P** **07 40 42.5 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.5s
MK31 Makanchi Array 49.47 64 *ceP* **P** **07 40 42.7 -0.1**
MKAR Makanchi Array 49.47 64 P **P** **07 40 43.1 +0.4**
MKAR Makanchi Array 49.47 64 P **P** **07 40 43.0 +0.2**
comp=Z,5.0nm,1.2s,baz=359,slow=6.4,SNR=9.3
comp=Z,5.0nm,1.2s
MSO Missoula 49.62 297 P **P** **07 40 44.3 +0.3**
MSO IAmb IAmb 07 40 59.0
comp=Z,8.3nm,1.4s
AAK Ala-Archa 50.70 72 P **P** **07 40 51.9 -0.3**
AAK IAmb IAmb 07 40 57.7
comp=Z,3.7nm,1.1s
AAK Ala-Archa 50.70 72 *ceP* **P** **07 40 53.2 +0.9**
AAK pmax pmax
comp=Z,5.0nm,1.3s
H17A Grant Village 50.75 293 P **P** **07 40 53.5 +0.7**
H17A IAmb IAmb 07 41 00.7
comp=Z,7.9nm,1.4s
KSU1 Kansas State U 50.86 278 P **P** **07 40 52.3 -1.1**
S39A Bolivar 51.00 274 P **P** **07 40 55.5 +1.1**
S39A IAmb IAmb 07 40 59.5
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 51.88 291 P **P** **07 41 00.6 -0.7**
comp=Z,0.3nm,0.7s,baz=76,slow=6.3,SNR=3.7
comp=Z,0.3nm,0.7s
ULN Ulaanbaatar 55.32 44 *i* P **P** **07 41 26.0 -0.3**
SHEM Shemya Is, Ala 57.42 353 LR LR 08 06 21.6
comp=Z,60nm,18.7s,baz=256,slow=36
TORD Torodi Ar. Bea 57.80 160 P **P** **07 41 45.9 +1.8**
comp=Z,1.4nm,0.9s,baz=341,slow=8.3,SNR=6.0
comp=Z,1.4nm,0.9s
ANMO Albuquerque 57.95 284 *i* P **P** **07 41 45.3 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,3.5s
TXAR Lajitas Array 62.14 279 P **P** **07 42 14.6 +0.7**
comp=Z,0.6nm,0.7s,baz=46,slow=5.1,SNR=6.6
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 63.01 43 *eP* **P** **07 42 18.0 -1.5**
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,97nm,5.1s
SDV Santo Domingo 70.19 239 LR LR 08 13 04.1
comp=Z,22nm,18.7s,baz=32,slow=35
PZH PanZhiHua 74.03 56 P **P** **07 43 28.3 -0.3**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
JNU Nakatsue 74.36 29 LR LR 08 17 50.9
comp=Z,55nm,19.6s,baz=130,slow=37
PSI Prapat 95.56 66 LR LR 08 32 31.7
comp=Z,36nm,21.0s,baz=356,slow=38
DAV Davao City (W) 98.72 39 LR LR 08 35 15.3
comp=Z,65nm,18.1s,baz=336,slow=39
LBTB Lobatse 99.16 143 LR LR 08 33 39.4
comp=Z,97nm,18.0s,baz=346,slow=37
ASAR Alice Springs 130.30 38 PKP **PKPdf** **07 51 01.5 -1.2**
comp=Z,0.4nm,0.8s,baz=348,slow=2.2,SNR=4.2
QSPA South Pole Qui 159.90 180 PKPab **PKPab** **07 52 31.6 +1.9**
comp=Z,1.8nm,0.9s,baz=213,slow=1.2,SNR=5.6

REY ***02*** *07:32:49.7, 69°.78N×14°.29W, h10km*
IDC ***02*** *07:32:50.9±0.9, 70°.02N×15°.49W, h0km, mb3.6/9, mbtmp3.7/12, ML3.7/3, MS3.8/6, Error ellipse: s-maj=27.6km s-min=17.5km az=14.0*
NEIC ***02*** *07:32:51.8±2.8, 70°.04N±0°.04×15°.7W±0°.2, h10km±1km, mb4.2/24, Error ellipse: s-maj=14.1km s-min=3.4km az=114.0*
ISC 02 07:32:51.5±0.5, 69°.92N±0°.05×15°.53W±0°.07, h10km, n66, σ1§40/69, mb4.1/21, MS3.9/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**3.52**	**196**	P	P	**Pn**	**07 33 45.1**	**-1.0**
IGRI				S	S	**Sn**	**07 34 27.4**	**-0.4**
ILEI	**Leirhofn**	**3.55**	**186**	P	P	**Pn**	**07 33 44.1**	**-2.5**
IGIL	**Gilhagi**	**3.88**	**185**	P	P	**Pn**	**07 33 49.2**	**-1.9**
IGIL				S	S	**Sn**	**07 34 34.4**	**-2.1**
IHED	**Heoinshofoi**	**3.92**	**191**	P	P	**Pn**	**07 33 50.3**	**-1.3**
IHED				S	S	**Sn**	**07 34 36.5**	**-1.0**
IDIM	**Dimmadalss**	**4.01**	**188**	P	P	**Pn**	**07 33 50.8**	**-2.1**
IDIM				S	S	**Sn**	**07 34 38.3**	**-1.6**
ISIG	**Siglufjorour**	**4.01**	**200**	P	P	**Pn**	**07 33 52.5**	**-0.4**
IGRA	**Granastaoir**	**4.10**	**192**	P	P	**Pn**	**07 33 53.0**	**-1.1**
IGRA				S	S	**Sn**	**07 34 40.4**	**-1.5**
ISKI	**Skildingahlsh**	**4.11**	**189**	P	P	**Pn**	**07 33 53.0**	**-1.3**
ISKI				S	S	**Sn**	**07 34 40.0**	**-2.4**
IGHA	**Grjothals**	**4.12**	**187**	P	P	**Pn**	**07 33 52.7**	**-1.7**
IGHA				S	S	**Sn**	**07 34 41.2**	**-1.4**
IHLA	**Hella**	**4.14**	**196**	P	P	**Pn**	**07 33 54.4**	**-0.3**
IHLA				S	S	**Sn**	**07 34 43.1**	**+0.1**
IHRN	**Hraun**	**4.20**	**206**	P	P	**Pn**	**07 33 55.8**	**+0.3**
IKVO	**Krokottuvotn**	**4.26**	**188**	P	P	**Pn**	**07 33 55.0**	**-1.4**
IGRS	**Grimsstaoir**	**4.31**	**183**	P	P	**Pn**	**07 33 55.1**	**-2.0**
IGRS				S	S	**Sn**	**07 34 44.9**	**-2.4**
IREN	**Reynihlio**	**4.33**	**188**	P	P	**Pn**	**07 33 56.0**	**-1.2**
IADA	**Aoalbol**	**4.92**	**180**	P	P	**Pn**	**07 34 03.1**	**-2.4**
IASB	**sbjarnarstai**	**5.66**	**206**	P	P	**Pn**	**07 34 16.6**	**+1.1**
BORG	**Borgarnes**	**5.66**	**206**	Pn	Pn	**Pn**	**07 34 17.9**	**+2.4**
	5.0nm,0.3s,baz=18,slow=4.5,SNR=4.0							
	26nm,0.6s							
SUMG	**Summit**	**7.82**	**300**	Pn		**Pn**	**07 34 43.1**	**-2.5**
ANGG	**Ammassalik, Gr**	**9.39**	**253**	Pn		**Pn**	**07 35 06.0**	**-0.5**
SPITS	**Spitsbergen Ar**	**11.83**	**32**	Pn		**Pn**	**07 35 39.5**	**-0.5**
	baz=225,slow=14							
	2.4nm,0.4s							
SPB2	**Spitsbergen Ar**	**11.83**	**32**	Pn		**Pn**	**07 35 38.6**	**-1.4**
HFS	**Hagfors**	**15.57**	**114**	Pn		**P**	**07 36 34.0**	**-1.0**
	0.2nm,0.3s,baz=327,slow=10,SNR=2.5							
ESK	**Eskdalemuir**	**15.66**	**153**	Pn		**Pn**	**07 36 33.6**	**+1.7**
FIA1	**FINESS Array S**	**18.72**	**96**	P		**P**	**07 37 09.1**	**-0.7**
FINES	**FINESS Array B**	**18.72**	**96**	P		**P**	**07 37 09.7**	**0.0**
FINES	**FINESS Array B**	**18.72**	**96**	P		**P**	**07 37 10.3**	**+0.6**
	0.3nm,0.3s,baz=317,slow=7.5,SNR=5.0							
	5.1nm,0.8s							
EUNU	**Eureka**	**19.29**	**330**	P		**P**	**07 37 14.2**	**-1.9**
UCC	**Uccle**	**21.35**	**144**	P		**P**	**07 37 38.8**	**+0.4**
CLL	**Collm**	**22.93**	**130**	*i* P		**P**	**07 37 58.5**	**+3.2**
GERES	**GERESS Array B**	**25.36**	**131**	P		**P**	**07 38 20.0**	**+1.6**
	1.9nm,0.9s,baz=331,slow=7.9,SNR=1.9							
	1.9nm,0.9s							
MORC	**Moravsky Berou**	**25.56**	**125**	P		**P**	**07 38 21.2**	**+1.0**
MORC				IAmb		IAmb	07 38 34.2	
	comp=Z,3.6nm,0.8s							
VRAC	**Vranov**	**25.71**	**127**	LR		LR	07 47 56.6	
	comp=Z,357nm,18.1s,baz=322,slow=35							
PSZ	**Piszkesteto**	**27.90**	**124**	P		**P**	**07 38 42.4**	**+1.1**
PSZ				IAmb		IAmb	07 38 46.1	
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**28.33**	**109**	P		**P**	**07 38 45.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=333,slow=9.0,SNR=1.5							
	comp=Z,0.4nm,0.5s							
BUR08	**Bucovina Ar. S**	**29.73**	**117**	P		**P**	**07 38 59.7**	**+2.0**
BURAR	**Bucovina Array**	**29.76**	**117**	P		**P**	**07 39 00.6**	**+2.7**

MTE	Manteigas	29.88	168	P	P	07 39 01.3	+2.3
MESJ	Messejana	32.38	169	P	P	07 39 22.1	+1.1
CMLA	Cha da Macela	32.66	195	P	P	07 39 23.8	+0.4
C36M	Paulatuk	33.02	322	P	P	07 39 26.3	+0.1
C36M				IAmb	IAmb	07 39 32.4	
	comp=Z,5.4nm,1.3s						
ARTI	Arti	33.57	75	P	P	07 39 30.6	-0.5
ARTI				IAmb	IAmb	07 39 33.0	
	comp=Z,5.6nm,1.2s						
TIRR	Tirgusor	33.58	116	P	P	07 39 31.9	+0.6
TIRR				IAmb	IAmb	07 39 57.2	
	comp=Z,4.4nm,0.7s						
YKA	Yellowknife Ar	36.30	309	P	P	07 39 54.5	-0.2
YKA	Yellowknife Ar	36.30	309	P	P	07 39 54.9	+0.3
	comp=Z,0.6nm,0.8s,baz=35,slow=7.5,SNR=3.8						
	comp=Z,0.6nm,0.8s						
D25K	Kavik River	37.15	334	P	P	07 40 01.4	-0.4
D25K				IAmb	IAmb	07 40 06.6	
	comp=Z,4.5nm,1.0s						
G31M	Satah River	37.16	325	P	P	07 40 00.8	-0.9
F28M	Old Crow	37.60	329	P	P	07 40 05.0	-0.6
F28M				IAmb	IAmb	07 40 42.5	
	comp=Z,5.5nm,1.4s						
E25K	Arctic Village	38.11	332	P	P	07 40 11.1	+1.1
E25K				IAmb	IAmb	07 40 14.6	
	comp=Z,5.0nm,1.2s						
D23K	Nanushuk River	38.12	336	P	P	07 40 11.3	+1.4
AKTO	Aktyubinsk	38.37	81	P	P	07 40 13.2	+1.0
	comp=Z,1.1nm,0.5s,baz=309,slow=8.1,SNR=2.3						
	comp=Z,1.1nm,0.5s						
F25K	Christian Rive	38.61	332	P	P	07 40 15.4	+1.2
F25K				IAmb	IAmb	07 40 31.4	
	comp=Z,6.9nm,1.4s						
KVAR	Kislovodsk Arr	38.70	101	LR	LR	07 56 21.7	
	comp=Z,210nm,20.6s,baz=252,slow=36						
I30M	Mount Dempster	39.06	325	P	P	07 40 18.2	+0.1
I28M	Miner Creek	39.55	327	P	P	07 40 21.1	-1.0
I28M				IAmb	IAmb	07 41 04.5	
	comp=Z,8.4nm,1.4s						
H24K	Noodor Dome	40.58	332	P	P	07 40 31.4	+0.8
J26L	Joseph Creek	41.07	329	P	P	07 40 35.1	+0.4
J26L				IAmb	IAmb	07 41 07.7	
	comp=Z,6.4nm,1.4s						
J25K	Salcha River,	41.29	330	P	P	07 40 36.9	+0.4
J25K				IAmb	IAmb	07 40 49.4	
	comp=Z,5.6nm,1.4s						
ILAR	Eielson Array	41.40	331	P	P	07 40 38.0	+0.7
	comp=Z,0.5nm,0.8s,baz=28,slow=8.0,SNR=2.8						
	comp=Z,0.5nm,0.8s						
DLBC	Dease Lake	43.71	316	LR	LR	07 58 23.0	
	comp=Z,177nm,19.8s,baz=100,slow=35						
ZALV	Zalesovo Beam	43.92	57	LR	LR	08 02 47.5	
	comp=Z,51nm,18.1s,baz=340,slow=41						
KURBB	Kurchatov Arra	44.94	64	P	P	07 41 06.4	+0.4
	comp=Z,0.4nm,0.2s,baz=326,slow=7.1,SNR=1.5						
	comp=Z,0.4nm,0.2s						
MKAR	Makanchi Array	49.49	64	P	P	07 41 41.5	-0.1
	comp=Z,0.5nm,0.8s,baz=336,slow=6.6,SNR=2.0						
	comp=Z,0.5nm,0.8s						
PDAR	Pinedale Array	51.90	291	P	P	07 42 00.5	+0.4
	comp=Z,0.5nm,0.8s,baz=349,slow=6.1,SNR=2.6						
	comp=Z,0.5nm,0.8s						
TXAR	Lajitas Array	62.15	279	P	P	07 43 13.3	+0.7
	comp=Z,0.4nm,0.7s,baz=38,slow=6.6,SNR=2.7						
	comp=Z,0.4nm,0.7s						
KSRS	Korea Array	69.67	30	LR	LR	08 17 39.4	
	comp=Z,31nm,18.3s,baz=340,slow=39						
BDFB	Brasilia	88.33	211	LR	LR	08 17 59.2	
	comp=Z,64nm,19.5s,baz=173,slow=31						

DJA 02 07:34:01.7±0.3, 9°S±3°×11°6E±°, h10km, M3.8/13, mB5.4/1, mb4.2/2, MLv3.5/13, Mw(mB)4.8/1, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	0.74	280	P	Pg	07 34 16.3	+0.2
DNP				S	Sb	07 34 27.1	+0.1
TWSI	Taliwang, Sumb	0.92	86	P	Pg	07 34 19.0	-0.5
TWSI				S	Sg	07 34 31.8	+0.2
SRBI	Singaraja	1.02	315	P	Pg	07 34 21.3	-0.1
SRBI				S	Sb	07 34 35.7	+0.6
PLAI	Plampang	1.81	91	P	Pb	07 34 33.9	-1.0
PLAI				S	Sb	07 34 56.9	-0.7
JAGI	Jajag, Banyuwa	1.81	281	P	Pn	07 34 32.9	-0.1
ABJI	Asem Bagus	1.98	301	P	Pn	07 34 34.9	-0.3
GMJI	Gumukmas	2.54	282	P	Pn	07 34 42.8	-0.1
KMMI	Kalianget	2.63	312	P	Pn	07 34 44.9	+0.7
PCJI	Pacitan	4.76	277	P	Pn	07 35 13.6	0.0
UGM	Wanagama	5.44	279	P	Pn	07 35 22.4	-0.6
	98nm,1.9s						
SPSI	Sidrap Palu	6.13	38	P	Pn	07 35 32.7	+0.3

*REY **02** 07:44:44.4, 69°.73N×13°.96W, h10km*
*IDC **02** 07:44:45.9±1.2, 69°.94N×15°.27W, h0km, mb3.4/5, mbtmp3.6/8, ML3.1/3, MS3.1/1, Error ellipse: s-maj=29.5km s-min=21.6km az=35.0*

ISC 02 07:44:47.2±0.7, 69°.81N±0°.09×15°.07W±0°.07, h10km, n31, σ1°62/27, mb3.3/5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	Scoresbysund	2.44	289	*i* P	Pn	07 45 21.0	-6.1
SCO				*i* S	Sb	07 46 02.2	+1.0
SCO				IAML		07 46 30.6	
	comp=Z,47nm,0.9s						
ILEI	Leirhofn	3.46	189	P	Pn	07 45 38.7	-2.3
IGRI	Grimsey	3.46	200	P	Pn	07 45 39.8	-1.2
IGIL	Gilhagi	3.78	188	P	Pn	07 45 43.1	-2.3
IHED	Heoinshofoi	3.84	194	P	Pn	07 45 44.4	-1.8
IDIM	Dimmadalss	3.93	191	P	Pn	07 45 45.5	-2.0
ISIG	Siglufjorour	3.97	203	P	Pn	07 45 48.0	+0.1
IGRA	Granastaoir	4.02	195	P	Pn	07 45 47.3	-1.4
ISKI	Skildingahlsh	4.03	192	P	Pn	07 45 47.3	-1.5
IGHA	Grjothals	4.03	189	P	Pn	07 45 47.5	-1.3
IHLA	Hella	4.08	199	P	Pn	07 45 48.9	-0.6
IKVO	Krokottuvotn	4.17	190	P	Pn	07 45 49.2	-1.6
IHRN	Hraun	4.17	210	P	Pn	07 45 50.7	-0.1
IGRS	Grimsstaoir	4.21	186	P	Pn	07 45 49.2	-2.1
IREN	Reynihlio	4.24	190	P	Pn	07 45 50.3	-1.4
IMEL	Melhnausar	4.30	189	P	Pn	07 45 50.6	-2.0
ISVA	Svartarkot	4.57	192	P	Pn	07 45 54.9	-1.3
DBG	Daneborg	4.79	343	*i* P	Pn	07 45 50.5	-8.8
IADA	Aoalbol	4.81	183	P	Pn	07 45 57.6	-2.0
BORG	Borgarnes	5.63	208	Pn	Pn	07 46 11.7	+0.9
	comp=Z,2.4nm,0.3s,baz=346,slow=6.1,SNR=14						
	comp=Z,7.1nm,0.4s						
SUMG	Summit	8.02	301	*i* P	Pn	07 46 39.0	-4.8
SPITS	Spitsbergen Ar	11.84	32	Pn	Pn	07 47 35.1	-0.8
	baz=232,slow=16						
	comp=Z,13nm,1.0s						
NEEM	North Greenlan	12.44	323	*i* P	Pn	07 47 39.7	-4.5
NOA	NORSAR Array B	13.90	116	LR	LR	07 51 53.6	
	comp=Z,66nm,18.6s,baz=310,slow=30						
HFS	Hagfors	15.38	115	Pn	P	07 48 31.4	+2.8
	baz=315,slow=15,SNR=2.3						
FINES	FINESS Array B	18.55	96	P	Pn	07 49 04.5	+0.8
	comp=Z,0.1nm,0.3s,baz=322,slow=8.8,SNR=1.5						
	comp=Z,1.4nm,0.7s						
GERES	GERESS Array B	25.17	132	P	P	07 50 14.6	+2.2
	comp=Z,0.7nm,0.7s,baz=320,slow=10,SNR=1.5						
	comp=Z,0.7nm,0.7s						
AKASG	Malin Array Be	28.14	110	P	P	07 50 39.3	+0.3
	comp=Z,0.2nm,0.4s,baz=330,slow=9.5,SNR=2.1						
	comp=Z,0.2nm,0.4s						
YKA	Yellowknife Ar	36.50	310	P	P	07 51 50.8	-1.2
	comp=Z,0.5nm,0.9s,baz=38,slow=7.9,SNR=6.2						
	comp=Z,0.5nm,0.9s						
ILAR	Eielson Array	41.58	331	P	P	07 52 33.3	-1.1
	comp=Z,0.2nm,0.8s,baz=28,slow=7.9,SNR=2.0						
	comp=Z,0.2nm,0.8s						
MKAR	Makanchi Array	49.40	64	P	P	07 53 36.6	+0.1
	comp=Z,0.5nm,0.8s,baz=359,slow=5.8,SNR=4.4						
	comp=Z,0.5nm,0.8s						

IDC 02 07:44:50.8±3.3, 12°.91S×171°.70E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/1, Error ellipse: s-maj=147.1km s-min=35.1km az=136.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.40	208	LR	LR	07 50 43.5	
	comp=Z,130nm,18.1s,baz=350,slow=34						
H11N1	WAKE ISLAND Hy	32.76	352	T	T	08 26 47.2	
	baz=170						
H11N3	WAKE ISLAND Hy	32.77	352	T	T	08 26 52.1	
	baz=170						
H11N2	WAKE ISLAND Hy	32.78	352	T	T	08 26 35.4	
	baz=170						
STKA	Stephens Creek	33.45	231	P	P	07 51 31.0	-0.7
	1.3nm,0.8s,baz=40,slow=7.9,SNR=3.1						
	1.3nm,0.8s						
WRA	Warramunga Arr	36.45	254	P	P	07 51 57.8	0.0
	0.7nm,0.9s,baz=87,slow=9.0,SNR=2.5						
	0.7nm,0.9s						
ASAR	Alice Springs	37.34	248	P	P	07 52 05.5	+0.2
	3.9nm,0.7s,baz=74,slow=9.3,SNR=60						
	3.9nm,0.7s						
ILAR	Eielson Array	83.52	17	P	P	07 57 20.2	0.0
	0.5nm,1.0s,baz=233,slow=5.5,SNR=2.5						
	0.5nm,1.0s						

*IDC **02** 07:46:57.9±1.0, 69°.99N×15°.85W, h0km, mb3.2/6, mbtmp3.5/9, ML3.3/3, MS3.4/3, Error ellipse: s-maj=30.1km s-min=19.5km az=16.0*

ISC 02 07:46:59.3±0.8, 70°.0N±0°.1×15°.9W±0°.1, h10km, n12, σ0°54/9, mb3.4/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	5.65	205	Pn	Pn	07 48 23.1	-0.1
	2.1nm,0.3s,baz=6.6,slow=7.8,SNR=6.0						
	9.4nm,0.8s						
SPITS	Spitsbergen Ar	11.85	32	Pn	Pn	07 49 48.3	+0.2
	baz=233,slow=12						
	11nm,1.0s						
ARCES	ARCESS Array B	14.13	72	LR	LR	07 54 38.8	
	comp=Z,64nm,19.5s,baz=324,slow=33						
FINES	FINESS Array B	18.83	96	P	P	07 51 18.6	-0.2
	0.1nm,0.3s,baz=331,slow=8.0,SNR=5.5						
	1.5nm,0.8s						
GERES	GERESS Array B	25.47	131	P	P	07 52 28.0	+0.8
	0.4nm,0.6s,baz=356,slow=11,SNR=2.9						
	0.4nm,0.6s						
AKASG	Malin Array Be	28.45	109	P	P	07 52 53.4	-0.5
	0.4nm,0.6s,baz=331,slow=9.5,SNR=2.0						
	0.4nm,0.6s						
ESDC	Sonseca Array	31.00	162	LR	LR	08 06 01.6	
	comp=Z,127nm,18.2s,baz=266,slow=37						
ARTI	Arti	33.67	75	LR	LR	08 06 26.3	
	comp=Z,79nm,18.2s,baz=54,slow=35						
YKA	Yellowknife Ar	36.19	309	P	P	07 54 00.9	-0.6
	0.1nm,0.7s,baz=35,slow=7.2,SNR=5.8						
	0.1nm,0.7s						
MKAR	Makanchi Array	49.57	63	P	P	07 55 50.0	0.0
	0.4nm,0.9s,baz=344,slow=4.8,SNR=2.6						
	0.4nm,0.9s						
PDAR	Pinedale Array	51.78	291	P	P	07 56 06.9	-0.1
	0.4nm,0.9s,baz=30,slow=6.1,SNR=2.1						
	0.4nm,0.9s						
TXAR	Lajitas Array	62.03	279	P	P	07 57 20.3	+0.7
	0.2nm,0.6s,baz=35,slow=10,SNR=1.5						
	0.2nm,0.6s						

IDC 02 07:53:03.6±1.6, 13°.03S×45°.52E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=61.9km s-min=36.6km az=138.0, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	24.41	227	P	P	07 58 24.2	0.0
	1.4nm,0.7s,baz=45,slow=8.6,SNR=1.5						
	1.4nm,0.7s						
MKAR	Makanchi Array	68.06	26	P	P	08 04 05.1	0.0
	0.4nm,0.8s,baz=230,slow=8.6,SNR=2.2						
	0.4nm,0.8s						
ASAR	Alice Springs	83.42	113	P	P	08 05 33.5	-0.1
	0.6nm,0.8s,baz=265,slow=4.5,SNR=5.8						
	0.6nm,0.8s						
WRA	Warramunga Arr	84.56	109	P	P	08 05 39.6	+0.2
	0.6nm,0.9s,baz=269,slow=4.8,SNR=2.2						
	0.6nm,0.9s						

*UPP **02** 08:01:02.1±0.0, 67°.83N×20°.15E, h0km, ML2.5, Confirmed Induced event*
*HEL **02** 08:01:03.3±0.4, 67°.76N×20°.30E, h0km, ML1.4, Explosion*

ISC 02 08:01:02.0±0.8, 67°.76N±0°.02×20°.14E±0°.03, h0km, n26, σ1°17/39, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.21	21	P	Pg	08 01 05.1	-0.8
KUA				S	Sg	08 01 06.9	-1.6
RATU	Laukkuluspa	0.22	287	P	Pg	08 01 06.4	+0.3
RATU				S	Sg	08 01 09.3	+0.4
DUNU	Dundret	0.66	165	P	Pb	08 01 15.9	-0.5
DUNU				S	Sb	08 01 26.0	-0.2
LANU	Lannavaara	0.76	67	P	Pg	08 01 15.7	-0.7
LANU				S	Sg	08 01 26.1	-0.1
LANU	Lannavaara	0.76	67	PG	Pg	08 01 15.8	-0.7
LANU				SG	Sg	08 01 25.0	-1.2
MASU	Masugnsbyn	0.77	112	P	Pg	08 01 17.1	+0.4
MASU				S	Sb	08 01 28.0	-1.3
KIF	Kilpisjarvi	1.27	11	*e*P	Pn	08 01 27.6	+0.7
KIF	Kilpisjarvi	1.27	11	PG	Pn	08 01 27.0	0.0
KIF				SG	Sg	08 01 41.2	-1.5
KIF				MSG		08 01 42.5	
	comp=Z,3.6nm,0.2s						
PAJU	Pajala	1.37	121	P	Pg	08 01 28.0	-0.1
PAJU	Pajala	1.37	121	PN	Pg	08 01 27.4	-0.7
PAJU				SN	Sn	08 01 48.4	+1.3
ERTU	Ertsjaerv	1.45	146	P	Pb	08 01 29.9	+0.1
ERTU	Ertsjaerv	1.45	146	PN	Pg	08 01 29.6	-0.1
HEF	Hetta	1.47	62	*e*P	Pb	08 01 29.9	-0.2
HEF	Hetta	1.47	62	PN	Pb	08 01 29.9	-0.2
HEF				MSG		08 01 45.8	
	comp=Z,2.7nm,0.2s						
HEF				SN	Sg	08 01 48.7	-0.5
KLF	Kolari	1.56	108	PN	Pn	08 01 30.8	-0.1
KLF				MSG		08 01 48.4	
	comp=Z,1.9nm,0.2s						
KLF				SN	Sg	08 01 54.1	+2.0
HARU	Harads	1.64	168	P	Pg	08 01 33.4	0.0
KTK1	Kautokeino	1.70	41	PN	Pg	08 01 35.0	+0.5
KTK1				SN	Sg	08 01 57.3	+0.8
TRO	Tromso	1.93	347	SG	Sb	08 02 03.0	+0.4
KALU	Kalix	2.30	145	PG	Pb	08 01 44.5	+0.4
TOF	Tornio	2.36	134	PG	Pb	08 01 44.2	-1.0
TOF				MSG		08 02 12.0	
	comp=Z,1.4nm,0.2s						
RNF	Rovaniemi	2.56	114	PG	Pb	08 01 47.4	-1.4
RNF				SG	Sb	08 02 21.8	+1.1
KMNF	Kaamanen	2.89	58	PB	Pb	08 01 52.5	-1.8
KMNF				SB	Sn	08 02 26.9	+2.4
RAJF	Raja-Jooseppi	3.14	73	SG	Sb	08 02 38.9	+1.5
RANF	Ranua	3.15	121	SG	Sb	08 02 37.4	-0.3
KEV	Kevo	3.20	48	SN	Sn	08 02 34.0	+1.8
UMAU	Umeaa	3.90	177	SB	Sb	08 02 55.8	-3.5

*IDC **02** 08:12:16.5±1.7, 54°.91N×164°.83E, h0km, mb3.5/2, mbtmp3.4/3, ML2.5/1, Error ellipse: s-maj=97.1km s-min=26.9km az=148.0*
*KRSC **02** 08:12:16.6±1.4, 55°.12N×164°.69E, h51km±25km, Ml3.9*

ISC 02 08:12:20.0±1.0, 55°.16N±0°.05×164°.76E±0°.04, h34km, n28, σ1°71/35, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.70	85	*e*P	Pn	08 12 31.9	-1.4
BKI				*e*S	Sn	08 12 41.9	-1.0
KBTR	Krutoberegovo	1.52	315	*e*P	Pn	08 12 42.5	-2.3
KBTR				*e*S	Sn	08 12 59.7	-3.7
KBG	Krutoberegovo	1.60	314	*e*S	Sn	08 13 03.4	-1.9
KLY	Klyuchi	2.60	298	*e*P	Pn	08 12 58.6	-0.9
KRSR	Krestovskiy	2.60	296	*e*P	Pn	08 12 59.4	-0.3
KRSR				*e*S	Sn	08 13 31.5	+1.4
KIRR	Kirishev	2.63	289	*e*P	Pn	08 13 00.7	+0.5
KMNR	Kamenistaya	2.65	285	*e*P	Pn	08 13 01.0	+0.7
KPT	Kopyto	2.70	289	*e*P	Pn	08 13 01.5	+0.5
KOZ	Kozyrevsk	2.92	290	*e*P	Pn	08 13 05.4	+1.5
KII	Karymskiy	3.29	252	*e*P	Pn	08 13 08.7	-0.4
KII				*e*S	Sn	08 13 46.1	-0.9
ESO	Esso	3.53	285	*e*P	Pn	08 13 12.6	+0.2
NLC	Nalytchevo	3.75	240	*e*S	Sn	08 13 55.0	-3.3
UGLR	Uglovaya	4.00	243	*e*P	Pn	08 13 19.4	+0.6
UGLR				*e*S	Sn	08 14 03.3	-1.2
AVH	Avacha	4.01	244	*e*P	Pn	08 13 19.6	+0.6
AVH				*e*S	Sn	08 14 03.4	-1.4
KRX	Arik	4.01	246	*e*P	Pn	08 13 19.5	+0.4
KOK	Koryaka	4.05	245	*e*P	Pn	08 13 19.8	+0.3
DALK	Dalny	4.13	241	*e*S	Sn	08 14 04.0	-3.6
PET	Petropavlovsk	4.18	242	*e*S	Sn	08 14 06.2	-2.7
OSSR	Ossora	4.21	348	*e*P	Pn	08 13 22.3	+0.7
OSSR				*e*S	Sn	08 14 08.3	-1.2
GNL	Ganaly	4.24	253	*e*P	Pn	08 13 22.9	+0.6
KRMR	Karymshinskiy	4.55	242	*e*P	Pn	08 13 27.6	+1.2
KRMR				*e*S	Sn	08 14 15.0	-3.0
PETK	Petropavlovsk-	4.63	247	Pn	Pn	08 13 27.4	0.0
	1.2nm,0.3s,baz=280,slow=24,SNR=23						
PETK				Sn	Sn	08 14 21.1	+1.1
	1.6nm,0.3s,baz=45,slow=23,SNR=6.9						
	1.7nm,0.4s						
GRL	Gorelyy	4.74	239	*e*P	Pn	08 13 29.0	0.0
GRL				*e*S	Sn	08 14 20.8	-2.0
ILAR	Eielson Array	25.40	48	P	P	08 17 46.4	+2.6
	0.7nm,1.1s,baz=272,slow=9.8,SNR=2.8						
	0.7nm,1.1s						
H11N2	WAKE ISLAND Hy	35.40	177	T	T	08 57 09.5	
	baz=358,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	35.42	177	T	T	08 57 06.2	
	baz=358,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	35.42	177	T	T	08 57 07.3	
	baz=358,slow=76,SNR=23						
ASAR	Alice Springs	82.83	208	P	P	08 24 41.3	+0.8
	0.6nm,0.8s,baz=19,slow=5.9,SNR=4.1						
	0.6nm,0.8s						

*NEIC **02** 08:20:42.3±1.6, 18°.2S±0°.1×178°.0W±0°.2, h559km±9km, mb4.4/24, Error ellipse: s-maj=23.4km s-min=14.0km az=117.0*
*IDC **02** 08:20:44.4±2.1, 18°.26S×178°.21W, h570km±23km, mb3.4/8, mbtmp4.3/9, Error ellipse: s-maj=26.8km s-min=17.5km az=135.0*

ISC 02 08:20:44.8±0.8, 18°.1S±0°.2×178°.3W±0°.1, h579km, n37, σ0°83/37, mb4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.52	276	P	P	08 22 05.0	-0.5
	3.6nm,0.4s,baz=181,slow=22,SNR=2.5						
FUTU	Fugatoga	3.81	2	P	P	08 22 05.2	-2.2
AFI	Afiamalu	7.53	57	P	P	08 22 32.8	-6.3
DZM	Mont Dzumac	14.87	252	P	P	08 23 53.9	+1.4
DZM	Mont Dzumac	14.87	252	P	P	08 23 51.9	-0.6
	12nm,0.9s,baz=128,slow=16,SNR=6.2						
EIDS	Eidsvold	29.31	250	P	P	08 26 01.5	-0.2
EIDS				IAmb	IAmb	08 26 32.2	
	comp=Z,16nm,1.2s						
ARMA	Armidale	29.93	240	P	P	08 26 07.0	-0.2
ARMA				IAmb	IAmb	08 26 09.8	
	comp=Z,23nm,1.4s						
CTAO	Charters Tower	33.53	261	P	P	08 26 37.4	-0.4
CAN	Canberra	33.67	233	P	P	08 26 38.1	-0.6
TOO	Toolangi	37.12	231	P	P	08 27 06.8	-0.5
COEN	Coen	37.23	271	P	P	08 27 08.6	+0.1
STKA	Stephens Creek	38.63	241	P	P	08 27 19.4	-0.2
STKA				IAmb	IAmb	08 27 21.0	
	comp=Z,7.4nm,0.8s						
STKA	Stephens Creek	38.63	241	P	P	08 27 20.1	+0.5
	comp=Z,5.8nm,0.7s,baz=93,slow=9.7,SNR=20						
	comp=Z,5.8nm,0.7s						
BBOO	Buckleboo	43.41	241	P	P	08 27 56.5	-0.8
BBOO				IAmb	IAmb	08 27 57.8	
	comp=Z,5.6nm,0.6s						
WB2	Warramunga Arr	44.70	260	P	P	08 28 07.0	-0.5
WB2				IAmb	IAmb	08 28 08.2	
	comp=Z,7.6nm,0.6s						
WRA	Warramunga Arr	44.71	260	P	P	08 28 07.2	-0.4
WRA	Warramunga Arr	44.71	260	P	P	08 28 07.7	+0.1
	comp=Z,3.6nm,0.4s,baz=98,slow=6.8,SNR=58						
	comp=Z,3.6nm,0.4s						
AS31	Alice Springs	44.85	254	P	P	08 28 08.5	-0.1
AS31				IAmb	IAmb	08 28 09.9	
	comp=Z,8.1nm,0.5s						
ASAR	Alice Springs	44.85	254	P	P	08 28 09.3	+0.7
ASAR	Alice Springs	44.85	254	P	P	08 28 08.9	+0.3
	comp=Z,19nm,0.5s,baz=88,slow=8.9,SNR=323						
ASAR				PcP	PcP	08 29 38.5	+0.7
	comp=Z,0.5nm,0.5s,baz=96,slow=3.4,SNR=2.9						
	comp=Z,19nm,0.5s						
KNRA	Kununurra	50.59	264	P	P	08 28 50.7	-0.8
KNRA				IAmb	IAmb	08 28 56.6	
	comp=Z,30nm,1.4s						
QSPA	South Pole Qui	71.92	180	P	P	08 31 09.1	-0.9
QSPA	South Pole Qui	71.92	180	P	P	08 31 09.5	-0.5
	comp=Z,1.2nm,0.5s,baz=263,slow=0.6,SNR=10						
	comp=Z,1.2nm,0.5s						
PEA0B	Petropavlovsk-	73.93	345	P	P	08 31 21.2	-0.1
PETK	Petropavlovsk-	73.93	345	P	P	08 31 22.3	+0.9
PETK	Petropavlovsk-	73.93	345	P	P	08 31 22.6	+1.2
	comp=Z,3.2nm,0.9s,baz=126,slow=7.1,SNR=6.7						
	comp=Z,3.2nm,0.9s						
P18K	Big Mountain,	79.52	12	P	P	08 31 51.5	-0.2
P18K				IAmb	IAmb	08 32 13.2	
	comp=Z,25nm,1.5s						
O18K	Koktuh Hills	79.95	12	P	P	08 31 53.8	-0.2
O18K				IAmb	IAmb	08 32 18.4	
	comp=Z,15nm,1.4s						
M17K	Holitna River	81.00	10	P	P	08 31 57.8	-1.6
M17K				IAmb	IAmb	08 32 06.5	
	comp=Z,9.5nm,1.2s						
K15K	Wolf Creek Mou	81.25	8	P	P	08 32 01.7	+1.1
K15K				IAmb	IAmb	08 32 03.7	
	comp=Z,7.2nm,0.9s						
L18K	Granite Mounta	81.89	10	P	P	08 32 05.5	+1.6
J16K	Anvik River	82.32	8	P	P	08 32 06.8	+0.7
J16K				IAmb	IAmb	08 32 43.1	
	comp=Z,12nm,1.4s						
J17K	VABM Dome	82.64	9	P	P	08 32 08.0	+0.3
TTA	Tatalina	82.67	10	P	P	08 32 08.5	+0.5
TXAR	Lajitas

mbtmp3.5/2, Error ellipse: s-maj=722.2km s-min=41.7km az=136.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**30.61**	**240**	P	P	08 40 04.3	0.0
	0.1nm,0.3s,baz=68,slow=10,SNR=1.5						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**83.39**	**19**	P	P	08 46 17.0	0.0
	0.5nm,0.7s,baz=226,slow=5.4,SNR=3.7						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**114.35**	**345**	PKP	PKiKP	08 52 29.4	-0.1
	4.5nm,1.0s,baz=66,slow=2.3,SNR=6.1						

TXNET 02 08:39:14.4, 31°.2N±0°.6×103°.5W±0°.7, h7km±1km, ML1.7/6, Error ellipse: s-maj=1.2km s-min=0.7km az=55.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.09**	**175**	P	Pg	08 39 16.7	+0.2
TPB03				S	Sg	08 39 18.8	+0.8
TPB10	**Southeast of T**	**0.23**	**299**	S	Sg	08 39 23.7	+1.6
PCOS	**Crockett Middl**	**0.24**	**3**	P	Pg	08 39 19.6	+0.4
PCOS				S	Sg	08 39 23.6	+1.2
TPB05	**Hovey Rd**	**0.30**	**146**	P	Pg	08 39 21.0	+0.6
TPB05				S	Sb	08 39 26.1	-1.4
TPB01	**Permian Basin**	**0.32**	**224**	P	Pg	08 39 21.3	+0.7
TPB01				S	Sg	08 39 25.3	+0.4
PECS	**Pecos**	**0.35**	**304**	S	Sg	08 39 27.5	+1.4
TPB12	**Southwest of T**	**0.38**	**276**	P	Pg	08 39 22.2	+0.5
TPB12				S	Sb	08 39 28.1	-1.4
TPB07	**Mentone**	**0.42**	**343**	S	Sb	08 39 29.8	-1.3
TPB06	**Permian Basin**	**0.54**	**29**	P	Pb	08 39 26.7	+0.3
TPB06				S	Sb	08 39 34.8	+0.4
TPB08	**Permian Basin**	**0.60**	**118**	S	Sb	08 39 35.0	-1.0
MNHN	**Monahans**	**0.67**	**75**	P	Pg	08 39 25.9	-1.5
MNHN				S	Sg	08 39 35.4	-0.8
ALPN	**Alpine**	**0.80**	**187**	P	Pg	08 39 29.6	-0.3
ALPN				S	Sg	08 39 41.0	+0.7
TPB11	**China Draw**	**0.88**	**330**	S	Sb	08 39 44.3	+0.2
ODSA	**Odessa**	**1.26**	**41**	S	Sg	08 39 54.1	-0.9
VHRN	**Van Horn**	**1.31**	**253**	P	Pn	08 39 39.4	+0.1
VHRN				S	Sn	08 39 57.6	+0.3
MNTX	**Cornudas Mount**	**1.67**	**289**	P	Pb	08 39 45.4	-0.2
MNTX				S	Sg	08 40 08.3	0.0
TMB04	**Seminole**	**1.70**	**31**	P	Pn	08 39 44.7	+0.1
TMB04				S	Sn	08 40 06.9	+0.2
SAND	**Sanderson**	**1.71**	**135**	P	Pb	08 39 45.9	-0.4
SAND				S	Sg	08 40 08.9	-0.6
TX31	**Lajitas Ar. Si**	**1.83**	**184**	P	Pb	08 39 47.9	-0.5
TX31				S	Sg	08 40 13.4	0.0
OZNA	**Ozona**	**2.07**	**96**	P	Pb	08 39 51.1	-1.3
OZNA				S	Sb	08 40 18.5	+0.1

*IDC **02** 08:48:39.6±4.0, 36°.11N×71°.03E, h195km±35km, mb3.4/11, mbtmp4.0/16, Error ellipse: s-maj=26.5km s-min=15.9km az=26.0*
*NEIC **02** 08:48:44.2±1.4, 36°.46N±0°.06×71°.1E±0°.1, h232km±7km, mb4.1/11, Error ellipse: s-maj=12.2km s-min=7.6km az=106.0*
*NNC **02** 08:48:48.2±4.5, 36°.80N×71°.11E, h220km±50km, mb3.1, mpv4.2, Error ellipse: s-maj=44.1km s-min=25.4km az=22.0*
ISC 02 08:48:43.9±0.5, 36°.42N±0°.05×71°.20E±0°.06, h232km, n81, σ1§62/92, mb3.9/17, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.57**	**224**	Pn	**Pn**	**08 49 30.9**	**0.0**
GAR	**Garm**	**2.67**	**345**	Pn	**Pn**	**08 49 31.3**	**-0.5**
CHGR	**Chuyangaron**	**2.76**	**325**	Pn	**Pn**	**08 49 31.9**	**-0.8**
DRK	**Karamyk**	**3.09**	**9**		**Pn**	**08 49 36.9**	**+0.3**
NIL	**Nilore**	**3.24**	**148**	Pn	**Pn**	**08 49 39.3**	**+1.2**
BTK	**Batken**	**3.64**	**355**	Pn	**Pn**	**08 49 43.6**	**+0.9**
SRNI	**Srinagar**	**3.78**	**127**	*e*P	**Pn**	**08 49 47.1**	**+2.8**
SRNI				*e*S	**S**	**08 50 30.2**	**-1.7**
SRNI				IAML		08 50 31.0	
	comp=E,345nm,0.2s						
SRNI				IAML		08 50 31.0	
	comp=N,336nm,0.2s						
JMU	**Jammu**	**4.79**	**139**	*e*P	**Pn**	**08 49 59.4**	**+2.8**
JMU				*e*S	**S**	**08 50 52.5**	**-1.7**
JMU				IAML		08 50 53.1	
	comp=E,462nm,0.2s						
JMU				IAML		08 50 53.2	
	comp=N,382nm,0.4s						
KSH	**Kashi**	**4.88**	**49**	Pn	**Pn**	**08 49 53.4**	**-4.3**
KSH				Sn	S	08 50 44.4	-12
KSH				smax	smax		
	comp=N,230nm,0.5s						
KSH				smax	smax		
	comp=E,200nm,0.6s						
ARSB	**Arslanbob**	**5.09**	**15**		**Pn**	**08 49 59.8**	**-0.6**
THN	**Thein Dam**	**5.46**	**136**	*e*P	**Pn**	**08 50 04.7**	**-0.2**
THN				*e*S	**S**	**08 51 08.1**	**-1.1**
THN				IAML		08 51 09.4	
	comp=N,836nm,0.4s						
THN				IAML		08 51 09.4	
	comp=E,660nm,0.5s						
DHRM	**DHARAMSHALA**	**5.93**	**133**	*e*P	**Pn**	**08 50 11.9**	**+0.8**
DHRM				*e*S	**S**	**08 51 17.2**	**-3.1**
DHRM				IAML		08 51 19.4	
	comp=E,574nm,0.3s						
DHRM				IAML		08 51 19.4	
	comp=N,457nm,0.3s						
AML	**Almayashu**	**6.02**	**18**	P	**Pn**	**08 50 12.3**	**0.0**
	SNR=98						
UCH	**Uchtor**	**6.34**	**23**	P	**Pn**	**08 50 16.9**	**+0.5**
	SNR=16						
MRKS	**Merke**	**6.51**	**13**	Pg	**Pn**	**08 50 18.1**	**0.0**
	comp=N,52nm,0.2s						
MRKS				Lg	Lg	08 51 27.6	
	comp=N,133nm,0.6s						
BHK	**Bhakra**	**6.61**	**138**	*e*P	**Pn**	**08 50 22.1**	**+2.6**
BHK				*e*S	**S**	**08 51 35.1**	**-0.8**
BHK				IAML		08 51 37.4	
	comp=E,74nm,0.3s						
BHK				IAML		08 51 38.1	
	comp=N,91nm,0.3s						
KK31	**Karatay Array**	**6.69**	**356**	⇓P	**Pn**	**08 50 19.7**	**-0.7**
	comp=N,2.9nm,0.2s,baz=188,slow=16,SNR=112						
KK31				⇑S	**S**	**08 51 33.2**	**-4.3**
	comp=N,24nm,0.4s,baz=184,slow=24,SNR=4.6						
KKAR	**Karatay Array**	**6.69**	**356**	Pn	**Pn**	**08 50 19.7**	**-0.7**
KKAR	**Karatay Array**	**6.69**	**356**		**Pn**	**08 50 19.7**	**-0.7**
AAK	**Ala-Archa**	**6.71**	**21**	Pn	**Pn**	**08 50 20.7**	**0.0**
AAK	**Ala-Archa**	**6.71**	**21**	P	**Pn**	**08 50 21.4**	**+0.7**
	comp=N,22nm,0.3s,baz=170,slow=6.3,SNR=88						
AAK				S	**S**	**08 51 35.8**	**-2.3**
	comp=N,15nm,0.6s,baz=22,slow=18,SNR=12						
AAK	**Ala-Archa**	**6.71**	**21**	P	**Pn**	**08 50 21.8**	**+1.0**
	SNR=19						
SRGN	**SRI GANGA NAGA**	**6.86**	**160**	*e*P	**Pn**	**08 50 21.9**	**-0.8**
SRGN				*e*S	S	08 51 32.6	-9.1
KBK	**Karagaybulak**	**6.87**	**24**	P	**Pn**	**08 50 23.9**	**+1.1**
	SNR=12						
FRU1	**Bishkek**	**6.91**	**21**	Pn	**Pn**	**08 50 23.4**	**+0.2**
ULHL	**Ulahol**	**7.01**	**32**	P	**Pn**	**08 50 25.2**	**+0.6**
	SNR=5.7						
BOOM	**Boomskoye usch**	**7.08**	**30**		**Pn**	**08 50 25.8**	**+0.3**
CHMS	**Chumysh**	**7.12**	**22**	P	**Pn**	**08 50 27.2**	**+1.4**
	SNR=8.3						
CHMS	**Chumysh**	**7.12**	**22**	⇑P	**Pn**	**08 50 25.7**	**-0.1**
	comp=N,3.4nm,0.3s						
CHMS				⇑S	**S**	**08 51 43.8**	**-3.5**
	comp=N,16nm,0.8s						
SMLA	**Simla**	**7.25**	**135**	*e*P	**Pn**	**08 50 28.1**	**+0.4**
SMLA				*e*S	**S**	**08 51 45.8**	**-4.8**
SMLA				IAML		08 51 48.3	
	comp=E,393nm,0.3s						
SMLA				IAML		08 51 48.4	
	comp=N,334nm,0.5s						
KDJ	**Kajisay**	**7.35**	**37**	Pn	**Pn**	**08 50 28.7**	**-0.2**
HNLY	**HANLEY**	**7.37**	**117**	*e*P	**Pn**	**08 50 30.0**	**+0.3**
HNLY				*e*S	**S**	**08 51 50.0**	**-4.1**
HNLY				IAML		08 51 51.9	
	comp=E,29nm,0.3s						
HNLY				IAML		08 51 51.9	
	comp=N,50nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.38**	**42**	Pn	**Pn**	**08 50 29.3**	**-0.3**
HRA	**Herat**	**7.59**	**257**	Pn	**Pn**	**08 50 31.7**	**-0.4**
KLP	**Kalpa**	**7.62**	**128**	*e*P	**Pn**	**08 50 35.4**	**+2.7**
KLP				*e*S	**S**	**08 51 55.1**	**-4.7**
KLP				IAML		08 51 57.6	
	comp=N,393nm,0.4s						
KLP				IAML		08 51 58.1	
	comp=E,292nm,0.2s						
MTBS	**Maitube**	**7.81**	**29**	P	**Pn**	**08 50 35.7**	**+0.9**
	comp=E,8.7nm,0.3s						
TNSS	**Tian-Shan**	**7.95**	**32**	P	**Pn**	**08 50 37.0**	**+0.1**
	comp=E,6.5nm,0.5s						
KRBS	**Karabastau**	**8.03**	**24**	P	**Pn**	**08 50 38.2**	**+0.6**
	comp=E,2.9nm,0.6s						
KTBS	**Karatobe**	**8.40**	**28**	P	**Pn**	**08 50 44.9**	**+2.6**
	comp=E,2.9nm,0.3s						
KUDL	**Kundal**	**9.39**	**150**	*e*P	**Pn**	**08 50 53.9**	**-1.1**
KUDL				*e*S	S	08 52 33.1	-7.6
PTH	**Pithoragarh**	**10.21**	**130**	*e*P	**Pn**	**08 51 05.3**	**-0.3**
MAKZ	**Makanchi**	**13.13**	**34**	P	**Pn**	**08 51 41.4**	**-0.4**
MAKZ	**Makanchi**	**13.13**	**34**	⇓P	**Pn**	**08 51 41.5**	**-0.4**
	comp=E,4.1nm,0.5s						
MK31	**Makanchi Array**	**13.26**	**35**	P	**Pn**	**08 51 43.5**	**0.0**
	comp=E,0.8nm,0.3s,baz=215,slow=14,SNR=39						
MKAR	**Makanchi Array**	**13.26**	**35**	Pn	**Pn**	**08 51 43.2**	**-0.3**
MKAR	**Makanchi Array**	**13.26**	**35**	P	**Pn**	**08 51 43.5**	**0.0**
	comp=E,1.4nm,0.5s,baz=217,slow=15,SNR=21						
WMQ	**Urumqi**	**14.61**	**55**	*e*P	**P**	**08 52 01.3**	**+0.8**
KURBB	**Kurchatov Arra**	**15.15**	**18**	P	**Pn**	**08 52 07.9**	**+1.5**
	comp=E,0.8nm,0.3s,baz=208,slow=12,SNR=2.3						
AB31	**Akbulak array**	**15.23**	**331**	P	**P**	**08 52 06.4**	**-0.7**
	comp=E,0.2nm,0.3s,baz=160,slow=11,SNR=16						
ABKAR	**Akbulak array**	**15.23**	**331**	P	**P**	**08 52 05.5**	**-1.6**
ABKAR	**Akbulak array**	**15.23**	**331**	P	**P**	**08 52 06.1**	**-1.1**
BVA0	**Borovoye Array**	**16.61**	**358**	⇑P	**Pn**	**08 52 26.3**	**+2.5**
	comp=E,2.0nm,0.8s,baz=159,slow=10.0,SNR=6.7						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**Pn**	**08 52 25.5**	**+1.7**
	comp=E,1.0nm,0.4s,baz=168,slow=9.7,SNR=6.4						
BRVK	**Borovoye**	**16.65**	**358**		**P**	**08 52 22.3**	**-0.4**
BRVK				IAmb	IAmb	08 52 33.5	
	comp=Z,1.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.93**	**330**	P	**Pn**	**08 52 26.8**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=140,slow=8.1,SNR=13						
AKTO	**Aktyubinsk**	**16.93**	**330**	⇑P	**Pn**	**08 52 26.8**	**-0.7**
	comp=Z,1.7nm,0.5s						
UOSS	**Minazif**	**17.21**	**233**	P	**P**	**08 52 29.4**	**+0.2**
UOSS				IAmb	IAmb	08 53 07.6	
	comp=Z,12nm,1.2s						
ZAA0	**Zalesovo Array**	**19.92**	**24**	P	**P**	**08 52 56.6**	**-1.3**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**08 52 57.6**	**-0.4**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**08 52 57.9**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=212,slow=11,SNR=7.0						
	comp=Z,1.2nm,0.4s						
PZH	**PanZhiHua**	**27.77**	**102**	P	**P**	**08 54 14.1**	**+2.5**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
SONM	**Songino Array**	**28.25**	**55**	P	**P**	**08 54 17.7**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=262,slow=10.0,SNR=3.7						
	comp=Z,0.5nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.64**	**69**	*e*P	**P**	**08 54 47.7**	**+2.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,29nm,3.8s						
FIA1	**FINESS Array S**	**37.63**	**326**	P	**P**	**08 55 36.7**	**+0.5**
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**08 55 36.2**	**-0.1**
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**08 55 36.7**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=124,slow=10,SNR=9.3						
	comp=Z,2.8nm,0.8s						
ARCES	**ARCESS Array B**	**41.28**	**338**	P	**P**	**08 56 07.2**	**+1.0**
	comp=Z,5.2nm,1.0s,baz=114,slow=8.1,SNR=11						
	comp=Z,5.2nm,1.0s						
HFS	**Hagfors**	**43.23**	**322**	P	**P**	**08 56 22.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=98,slow=11,SNR=6.7						
	comp=Z,1.0nm,0.3s						
NC303	**NORSAR Array S**	**44.48**	**323**	P	**P**	**08 56 32.0**	**+0.1**
NC303				IAmb	IAmb	08 56 32.6	
	comp=Z,22nm,1.4s						
NB2	**NORSAR Subarra**	**44.54**	**323**	P	**P**	**08 56 32.2**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.54**	**323**	P	**P**	**08 56 32.3**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=106,slow=7.2,SNR=4.3						
	comp=Z,0.3nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**45.70**	**303**	P	**P**	**08 56 40.7**	**-1.4**
FUORN				IAmb	IAmb	08 56 53.5	
	comp=Z,4.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**47.60**	**347**	P	**P**	**08 56 57.5**	**+1.4**
	comp=Z,15nm,0.9s,baz=131,slow=10,SNR=6.0						
	comp=Z,15nm,0.9s						
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P	**P**	**08 59 03.6**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=45,slow=5.7,SNR=12						
	comp=Z,0.8nm,0.4s						
LBTB	**Lobatse**	**74.73**	**222**	P	**P**	**08 59 59.0**	**+0.5**
LBTB				IAmb	IAmb	09 00 42.8	
	comp=Z,6.0nm,1.2s						
G31M	**Satah River**	**75.15**	**10**	P	**P**	**09 00 02.2**	**+2.0**
G31M				IAmb	IAmb	09 00 17.9	
	comp=Z,6.5nm,1.4s						
GHO	**Glory Hole Cre**	**76.89**	**18**	P	**P**	**09 00 11.2**	**+1.0**
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**09 00 35.0**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=353,slow=5.2,SNR=4.8						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**81.81**	**122**	P	**P**	**09 00 37.1**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=323,slow=5.0,SNR=4.5						
	comp=Z,1.0nm,0.9s						
WB2	**Warramunga Arr**	**81.82**	**122**	P	**P**	**09 00 36.7**	**-0.6**
WB2				IAmb	IAmb	09 00 51.7	
	comp=Z,8.6nm,1.1s						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**09 00 48.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=310,slow=5.1,SNR=9.3						
	comp=Z,0.6nm,0.6s						

*MOS **02** 09:03:08.6±1.0, 2°.71S×100°.19E, h15km, mb5.4/72, MS5.3/17, Error ellipse: s-maj=7.9km s-min=4.1km az=111.1*
*IDC **02** 09:03:08.0±0.4, 2°.73S×100°.17E, h0km, mb5.0/33, mbtmp5.0/36, ML4.7/3, MS5.3/10, Error ellipse: s-maj=15.5km s-min=11.1km az=58.0*
*NEIC **02** 09:03:09.8, 2°.52S×100°.31E, h22km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}6.92; $M_{\theta\theta}$-4.43; $M_{\phi\phi}$-2.49; $M_{r\theta}$2.08; $M_{\theta\phi}$4.74; $M_{\phi r}$3.16; Fault plane solution: $M_0$8.57000×10^{16} NP1: ϕ_s105.03000°, δ49.38000°, λ53.62000°. NP2: ϕ_s333.56000°, δ52.33000°, λ124.66000°. Principal axes: T 8.8341, Plg63.0000°, Azm307.0000°; N -0.5249, Plg27.0000°, Azm131.0000°; P -8.3092, Plg2.0000°, Azm40.0000°;*
*NEIC **02** 09:03:09.8±1.3, 2°.83S±0°.05×100°.01E±0°.07, h10km±1km, mb5.4/135, Ms_20 5.6/173, Mww5.2/17 Error ellipse: s-maj=11.7km s-min=7.2km az=72.0*
*NEIC **02** 09:03:09.8, 2°.82S×100°.01E, h22km*
*DJA **02** 09:03:10.5±0.4, 3°S±2°×10°0E±°, h17km±3km, M5.2/92, mb5.3/92, mB5.6/61, MLv5.5/23, Mw(mB)5.1/61, MwMwp5.1/34, Mwp5.4/34*
*GCMT **02** 09:03:13.8±0.2, 2°.94S±0°.02×99°.90E±0°.02, h22km±1km, MW5.5/94, Moment Tensor Solution. s94,c132; s93,c121; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.10±.04; $M_{\theta\theta}$-0.54±.03; $M_{\phi\phi}$-0.56±.04; $M_{r\theta}$1.22±.09; $M_{\theta\phi}$0.47±.02; $M_{\phi r}$-1.17±.09; Best double couple: $M_0$1.99600×10^{17} NP1:ϕ_s317.00000°, δ16.00000°, λ93.00000°. NP2:ϕ_s134.00000°, δ74.00000°, λ89.00000°. Principal axes: T 2.0350, Plg61.0000°, Azm43.0000°; N -0.0820, Plg1.0000°, Azm134.0000°; P -1.9560, Plg29.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **02** 09:03:18.5, 3°.05S×98°.17E, h33km, mb5.0*
ISC 02 09:03:10.7±0.4, 2°.85S±0°.03×100°.05E±0°.04, h19km±1km, h19km:pP-P, n737, σ1§45/673, mb5.2/198, MS5.6/134, 43C-11D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.10**	**334**	P	**Pg**	**09 03 16.2**	**+1.8**
SISI	**Saibi**	**1.79**	**328**	P	**Pn**	**09 03 40.3**	**-0.3**
SISI				S	**Sb**	**09 04 03.5**	**-1.5**
PPI	**Padang Panjang**	**2.40**	**8**	P	**Pn**	**09 03 49.8**	**+0.8**
KSI	**Kapahiang**	**2.66**	**108**	P	**Pn**	**09 03 53.3**	**+0.7**
MNAI	**Manna**	**3.27**	**117**	Pn	**Pn**	**09 04 01.9**	**+1.0**
MNAI	**Manna**	**3.27**	**117**	P	**Pn**	**09 04 02.2**	**+1.3**
MNAI	**Manna**	**3.27**	**117**	P	**Pn**	**09 04 01.8**	**+0.9**
PBSI	**Pulau Batu**	**3.29**	**327**	P	**Pn**	**09 04 00.9**	**-0.4**
BKNI	**Bangkinang**	**3.31**	**17**		**Pn**	**09 04 02.6**	**+1.2**
BKNI	**Bangkinang**	**3.31**	**17**	P	**Pn**	**09 04 03.0**	**+1.6**
BKNI	**Bangkinang**	**3.31**	**17**	P	**Pn**	**09 04 02.7**	**+1.2**
MNSI	**Mandailing Nat**	**3.65**	**353**	P	**Pn**	**09 04 06.0**	**-0.2**
MDSI	**Maura Dua**	**4.43**	**112**	P	**Pn**	**09 04 18.9**	**+2.0**
PMBI	**Palembang**	**4.72**	**91**	Pn	**Pn**	**09 04 23.7**	**+2.9**
PMBI	**Palembang**	**4.72**	**91**	P	**Pn**	**09 04 20.3**	**-0.6**
GSI	**Gunungsitoli**	**4.81**	**329**	Pn	**Pn**	**09 04 21.2**	**-0.9**
GSI	**Gunungsitoli**	**4.81**	**329**	P	**Pn**	**09 04 21.5**	**-0.7**
GSI	**Gunungsitoli**	**4.81**	**329**	P	**Pn**	**09 04 21.4**	**-0.7**
RPSI	**Rantau Prapat**	**5.62**	**348**	Pn	**Pn**	**09 04 31.9**	**-1.4**
RPSI	**Rantau Prapat**	**5.62**	**348**		**Pn**	**09 04 32.3**	**-1.0**
PSI	**Prapat**	**5.72**	**349**	Pn	**Pn**	**09 04 32.3**	**-2.5**
	6.1nm,0.3s,baz=172,slow=9.1,SNR=22						
PSI				Sn	**Sn**	**09 05 38.4**	**-1.7**
	11nm,0.3s,baz=159,slow=17,SNR=4.5						
	21nm,0.4s						
PSI	**Prapat**	**5.72**	**349**	P	**Pn**	**09 04 33.1**	**-1.7**
BLSI	**Bandar Lampung**	**5.75**	**116**	P	**Pn**	**09 04 36.8**	**+1.7**
	8μm533nm,0.9s						
MYKOM	**Kota Tinggi**	**5.97**	**40**	Pn	**Pn**	**09 04 38.8**	**+0.6**
MYKOM	**Kota Tinggi**	**5.97**	**40**	P	**Pn**	**09 04 40.0**	**+1.9**
PPBI	**Pangkal Pinang**	**6.12**	**84**	P	**Pn**	**09 04 43.8**	**+3.7**
SNSI	**Sinabang, Aceh**	**6.41**	**324**	P	**Pn**	**09 04 43.1**	**-1.1**
	2.1nm4μm284nm,1.1s						
TSI	**Tuntungan**	**6.48**	**347**	P	**Pn**	**09 04 44.9**	**-0.2**
	2.9nm12μm8μm484nm,1.0s						
KCSI	**Kotacane, Aceh**	**6.73**	**340**	P	**Pn**	**09 04 49.3**	**+0.8**
	1.4nm120nm,0.7s						
CGJI	**Cibinong**	**6.75**	**124**	P	**Pn**	**09 04 45.4**	**-3.5**
	2.5nm7μm411nm,1.0s						
SBJI	**Serang**	**6.88**	**118**	P	**Pn**	**09 04 51.6**	**+1.0**
	2.2nm6μm556nm,0.9s						
IPM	**Ipoh**	**7.34**	**8**	Pn	**Pn**	**09 04 58.2**	**+1.2**
IPM	**Ipoh**	**7.34**	**8**	P	**Pn**	**09 04 59.1**	**+2.1**
TPI	**Tanjungpandan**	**7.59**	**89**	P	**Pn**	**09 05 01.3**	**+0.9**
SKJI	**Sukabumi**	**7.68**	**123**	P	**Pn**	**09 05 03.3**	**+1.6**
MLSI	**Meulaboh, Aceh**	**7.95**	**333**	P	**Pn**	**09 05 05.2**	**-0.1**
	1.5nm5μm5μm234nm,0.6s						
KULM	**Kulim**	**8.11**	**4**	Pn	**Pn**	**09 05 07.1**	**-0.4**
KULM	**Kulim**	**8.11**	**4**	P	**Pn**	**09 05 08.0**	**+0.5**
CNJI	**Cibinong**	**8.33**	**122**	P	**Pn**	**09 05 09.5**	**-1.0**
	2μm189nm,0.7s						
LEM	**Lembang**	**8.51**	**118**	Pn	**Pn**	**09 05 12.2**	**-0.9**
	14nm,0.3s,baz=274,slow=14,SNR=27						
LEM				Sn	**Sn**	**09 06 46.3**	**-2.5**
	baz=300,slow=20						
	105nm,0.9s						
LEM	**Lembang**	**8.51**	**118**	P	**Pn**	**09 05 14.6**	**+1.4**
LHMI	**Lhok Sumawe**	**8.60**	**339**	Pn	**Pn**	**09 05 13.4**	**-0.9**
BBJI	**Bungbulang**	**8.85**	**121**	P	**Pn**	**09 05 16.8**	**-0.9**
JCJI	**Jatiwangi**	**8.95**	**114**	P	**Pn**	**09 05 20.5**	**+1.4**
	309nm,0.9s						
XMI	**Christmas Isla**	**9.40**	**144**	P	**Pn**	**09 05 26.0**	**+0.8**
BSI	**Banda Aceh**	**9.55**	**330**	P	**Pn**	**09 05 26.3**	**-1.0**
	2μm85nm,0.6s						
CMJI	**Cimerak**	**9.69**	**121**	P	**Pn**	**09 05 28.9**	**-0.3**
I06AU	**Cocos Islands**	**9.78**	**199**	T	T	09 15 20.0	
	baz=29,slow=34,SNR=4.0						
I06AU				I	I	10 02 20.0	
	baz=18,slow=320,SNR=1.5						
COCO	**West Island**	**9.81**	**199**		**Pn**	**09 05 28.6**	**-2.2**
COCO	**West Island**	**9.81**	**199**	P	**Pn**	**09 05 30.2**	**-0.7**
COCO	**West Island**	**9.81**	**199**	P	**Pn**	**09 05 28.6**	**-2.2**
KPJI	**Karang Pucung**	**9.90**	**117**	P	**Pn**	**09 05 33.4**	**+1.3**
	4μm3μm293nm,0.8s						
KSM	**Kuching**	**11.12**	**67**		**Pn**	**09 05 50.0**	**+1.2**
KSM	**Kuching**	**11.12**	**67**	P	**Pn**	**09 05 50.3**	**+1.5**
SMRI	**Semarang**	**11.16**	**112**		**Pn**	**09 05 50.6**	**+1.3**
SMRI	**Semarang**	**11.16**	**112**	P	**Pn**	**09 05 52.1**	**+2.7**
SMRI	**Semarang**	**11.16**	**112**	P	**Pn**	**09 05 52.0**	**+2.7**
	5μm4μm355nm,1.1s						
YOGI	**Yogyakarta**	**11.33**	**116**	P	**Pn**	**09 05 51.8**	**+0.1**
	122nm,0.8s						
SRIT	**Nakonsritamara**	**11.38**	**358**		**Pn**	**09 05 50.3**	**-2.0**
SRIT	**Nakonsritamara**	**11.38**	**358**	P	**Pn**	**09 05 53.3**	**+1.0**
UGM	**Wanagama**	**11.57**	**116**	Pn	**Pn**	**09 05 55.0**	**-0.1**
UGM	**Wanagama**	**11.57**	**116**	P	**Pn**	**09 05 57.7**	**+2.7**
UGM	**Wanagama**	**11.57**	**116**	P	**Pn**	**09 05 56.5**	**+1.5**
	176nm,1.2s						
STKI	**Sintang**	**11.78**	**76**	P	**Pn**	**09 06 01.0**	**+3.1**
	6μm95nm,1.1s						
NGJI	**Ngawi**	**12.22**	**112**	P	**Pn**	**09 06 06.7**	**+2.9**
	3μm190nm,0.9s	

CMAR	**Chiang Mai Arr**	**21.20 357**	*ce*P	**P**	**09 07 54.5 -0.9**
CMAR			pmax	pmax	
comp=Z,25nm,0.8s					
PHRA	**Phrae**	**21.21 0**	P	**P**	**09 07 53.9 -1.6**
WSI	**Waingapu**	**21.23 110**	P	**P**	**09 07 55.7 0.0**
comp=Z,4μmcomp=Z,307nm,0.9s					
CHTO	**Chiang Mai**	**21.55 357**	P	**P**	**09 07 57.6 -1.6**
CHTO	**Chiang Mai**	**21.55 357**	P	**P**	**09 07 57.6 -1.6**
CHTO			pmax	pmax	
comp=Z,23nm,1.0s					
CHTO			MLR	MLR	
comp=Z,7μm,18.0s					
BASI	**Baing, Sumba**	**21.66 111**	P	**P**	**09 08 00.5 +0.2**
APSI	**Ampana**	**21.67 85**	P	**P**	**09 08 00.7 +0.2**
comp=Z,3μmcomp=Z,190nm,0.9s					
PALK	**Pallekele**	**21.77 298**	P	**P**	**09 08 06.9 +5.4**
comp=Z,30nm,1.0s,baz=120,slow=10,SNR=7.7					
PALK			S	**S**	**09 12 01.9 0.0**
comp=Z,1.7nm,0.3s,baz=196,slow=19,SNR=1.2					
PALK			LR	LR	09 15 49.6
comp=Z,5μm,19.2s,baz=116,slow=35					
PALK	**Pallekele**	**21.77 298**	P	P	09 08 08.9 +7.3
PALK			P	P	09 08 08.9 +7.3
PALK			S	Sn	09 12 13.6 +2.1
PALK			S	Sn	09 12 13.6 +2.1
MRSI	**Marisa**	**22.13 82**	P	**P**	**09 08 04.7 -0.7**
comp=Z,5μmcomp=Z,2μmcomp=Z,143nm,0.9s					
KDI	**Kendari**	**22.55 93**	P	**P**	**09 08 09.5 -0.5**
comp=Z,5μmcomp=Z,2μmcomp=Z,73nm,1.0s					
LUWI	**Luwuk**	**22.78 86**		**P**	**09 08 11.2 -1.2**
LUWI			IAmb	IAmb	09 08 19.7
comp=Z,139nm,0.9s					
LUWI	**Luwuk**	**22.78 86**	P	**P**	**09 08 15.4 +3.1**
LUWI	**Luwuk**	**22.78 86**	P	**P**	**09 08 11.3 -1.0**
comp=Z,3μmcomp=Z,252nm,1.2s					
QIZ	**Qiongzhong**	**23.78 24**	P	**P**	**09 08 21.9 -0.4**
QIZ			IAmb	IAmb	09 08 32.5
comp=Z,240nm,2.0s					
QIZ	**Qiongzhong**	**23.78 24**	P	**P**	**09 08 21.7 -0.6**
QIZ			sP	**pP**	**09 08 28.0 0.0**
QIZ			S	**S**	**09 12 38.4 +1.3**
QIZ			pmax	pmax	
comp=Z,39nm,0.8s					
QIZ			pmax	pmax	
comp=Z,950nm,4.5s					
QIZ			LR	LR	
comp=Z,5μm,15.8s					
QIZ			LR	LR	
comp=Z,4μm,12.6s					
QIZ			LR	LR	
comp=Z,7μm,14.5s					
GIRL	**Giralia**	**24.01 146**	P	**P**	**09 08 24.7 +0.2**
GIRL			IAmb	IAmb	09 08 46.7
comp=Z,147nm,1.1s					
KMSI	**Cibinong**	**24.16 82**	P	**P**	**09 08 27.1 +1.1**
SLVN	**Son La**	**24.33 9**	P	**P**	**09 08 27.0 -0.5**
SLVN	**Son La**	**24.33 9**	P	**P**	**09 08 26.8 -0.7**
SOEI	**Soe**	**25.01 107**	P	**P**	**09 08 31.1 -2.8**
SOEI			IAmb	IAmb	09 08 49.4
comp=Z,49nm,0.7s					
SOEI	**Soe**	**25.01 107**	P	**P**	**09 08 35.5 +1.6**
SOEI	**Soe**	**25.01 107**	P	**P**	**09 08 33.7 -0.2**
comp=Z,1μmcomp=Z,67nm,0.8s					
SANI	**Sanana**	**25.93 89**	P	**P**	**09 08 43.9 +1.9**
BRDH	**Bariadhala**	**26.66 342**	LR	LR	09 23 19.7
comp=Z,8μm,18.2s,baz=157,slow=46					
TGY	**Tagaytay City**	**26.69 50**	LR	LR	09 20 31.9
comp=Z,4μm,18.9s,baz=231,slow=39					
PSA00	**Pilbara Seismi**	**26.78 136**	P	**P**	**09 08 49.1 -0.5**
PSA00	**Pilbara Seismi**	**26.78 136**	P	**P**	**09 08 50.9 +1.3**
DAV	**Davao City (W)**	**27.32 69**	P	**P**	**09 08 53.7 -0.9**
DAV	**Davao City (W)**	**27.32 69**	LR	LR	09 20 51.8
comp=Z,6μm,20.2s,baz=233,slow=39					
TNCH	**TengChong**	**27.75 357**	P	**P**	**09 08 58.7 +0.2**
TNCH			pP	pP	09 09 01.6 -2.7
TNCH			S	**S**	**09 13 40.6 +0.1**
TNCH			pmax	pmax	
comp=Z,40nm,0.9s					
TNCH			pmax	pmax	
comp=Z,530nm,5.4s					
TNCH			LR	LR	
comp=Z,6μm,13.7s					
TNCH			LR	LR	
comp=Z,3μm,14.2s					
TNCH			LR	LR	
comp=Z,9μm,14.5s					
H08S2	**Diego Garcia H**	**27.84 259**	T	T	09 37 55.0
baz=82,slow=76,SNR=7574					
H08S3	**Diego Garcia H**	**27.85 259**	T	T	09 38 02.8
baz=82,slow=76					
H08S1	**Diego Garcia H**	**27.86 259**	T	T	09 37 57.5
baz=82,slow=76,SNR=6127					
KMI	**Kunming**	**27.93 5**	⇑P	**P**	**09 09 00.3 +0.1**
KMI			PP	**PP**	**09 09 54.8 -8.7**
KMI			pmax	pmax	
comp=Z,16nm,1.2s					
KMI			pmax	pmax	
comp=Z,520nm,13.7s					
KMI			LR	LR	
comp=Z,8μm,13.7s					
KMI			LR	LR	
comp=Z,3μm,12.0s					
KMI			LR	LR	
comp=Z,8μm,14.8s					
PZH	**PanZhiHua**	**29.23 3**	P	**P**	**09 09 10.3 -1.3**
PZH			sP	**sP**	**09 09 20.8 +1.3**
PZH			S	**S**	**09 14 06.1 +2.5**
PZH			sS	**sS**	**09 14 14.5 +2.4**
PZH			pmax	pmax	
comp=Z,10.0nm,1.0s					
PZH			pmax	pmax	
comp=Z,50nm,7.3s					
PZH			LR	LR	
comp=Z,4μm,17.7s					
PZH			LR	LR	
comp=Z,4μm,16.9s					
PZH			LR	LR	
comp=Z,5μm,15.3s					
FITZ	**Fitzroy Crossi**	**29.30 123**	P	**P**	**09 09 12.5 +0.2**
FITZ	**Fitzroy Crossi**	**29.30 123**	S	**S**	**09 14 01.0 -3.7**
comp=Z,7.2nm,1.0s,baz=317,slow=19,SNR=2.3					
FITZ			LR	LR	09 22 30.1
comp=Z,7μm,20.6s,baz=304,slow=40					
FITZ	**Fitzroy Crossi**	**29.30 123**	P	**P**	**09 09 13.5 +1.2**
SHL	**Shillong**	**29.34 345**	P	**P**	**09 09 12.1 -0.5**
SHL			IAmb	IAmb	09 09 21.7
comp=Z,55nm,0.9s					
SHL	**Shillong**	**29.34 345**	P	**P**	**09 09 13.1 +0.4**
SNR=23					
SHL	**Shillong**	**29.34 345**	P	**P**	**09 09 12.1 -0.5**
SHL			pmax	pmax	
comp=Z,55nm,0.9s					
MEEK	**Meekatharra**	**29.60 145**	P	**P**	**09 09 17.0 +2.1**
GYA	**Guiyang**	**29.83 12**	⇓P	**P**	**09 09 16.8 -0.1**
GYA			S	**S**	**09 14 11.5 -1.6**
GYA			pmax	pmax	
comp=Z,21nm,1.2s					
GYA			pmax	pmax	
comp=Z,420nm,6.4s					
GYA			LR	LR	
comp=Z,5μm,14.4s					
GYA			LR	LR	
comp=Z,4μm,15.3s					
GYA			LR	LR	
comp=Z,6μm,20.0s					
KNRA	**Kununurra**	**31.01 116**	P	**P**	**09 09 25.9 -1.5**
KNRA			IAmb	IAmb	09 09 27.7
comp=Z,42nm,1.0s					
FAKI	**Fak Fak**	**32.16 91**	P	**P**	**09 09 35.8 -1.8**
FAKI			IAmb	IAmb	09 09 57.6
comp=Z,96nm,1.2s					
MTN	**Manton Dam**	**32.31 110**	P	**P**	**09 09 37.2 -1.6**
MTN			IAmb	IAmb	09 09 54.7
comp=Z,38nm,1.1s					
TPUB	**Ta-pu**	**32.83 37**	P	**P**	**09 09 42.9 -0.4**
TPUB			IAmb	IAmb	09 10 01.9
comp=Z,62nm,1.1s					
TPUB	**Ta-pu**	**32.83 37**	P	**P**	**09 09 45.1 +1.8**
QZH	**Quanzhou**	**32.97 32**	P	**P**	**09 09 44.3 -0.2**
QZH			S	**S**	**09 15 02.3 +0.3**
QZH			pmax	pmax	
comp=Z,30nm,1.2s					
QZH			pmax	pmax	
comp=Z,600nm,3.0s					
QZH			LR	LR	
comp=Z,7μm,15.8s					
QZH			LR	LR	
comp=Z,4μm,16.1s					
QZH			LR	LR	
comp=Z,8μm,17.5s					
CNSH	**ChangSha**	**33.25 21**	P	**P**	**09 09 46.5 -0.3**
CNSH			S	**S**	**09 15 05.5 -0.7**
CNSH			pmax	pmax	
comp=Z,22nm,0.5s					
CNSH			LR	LR	
comp=Z,12μm,16.8s					
CNSH			LR	LR	
comp=Z,5μm,16.7s					
CNSH			LR	LR	
comp=Z,14μm,17.0s					
SSLB	**Suanglung**	**33.39 36**	P	**P**	**09 09 48.1 -0.2**
LSA	**Lhasa**	**33.47 346**	P	**P**	**09 09 48.8 -0.5**
LSA			IAmb	IAmb	09 09 53.6
comp=Z,46nm,0.7s					
LSA	**Lhasa**	**33.47 346**	P	**P**	**09 09 50.4 +1.0**
LSA			S	**S**	**09 15 08.4 -2.1**
LSA			pmax	pmax	
comp=Z,65nm,1.0s					
LSA			LR	LR	
comp=Z,2μm,26.1s					
LSA			LR	LR	
comp=Z,2μm,22.0s					
LSA	**Lhasa**	**33.47 346**	P	**P**	**09 09 50.3 +1.0**
LSA	**Lhasa**	**33.47 346**	P	**P**	**09 09 48.8 -0.5**
LSA			pmax	pmax	
comp=Z,46nm,0.7s					
LSA			MLR	MLR	
comp=Z,2μm,20.0s					
CD2	**Chengdu**	**33.76 6**	P	**P**	**09 09 50.3 -1.0**
CD2			S	**S**	**09 15 18.8 +4.7**
CD2			pmax	pmax	
comp=Z,20nm,1.2s					
CD2			pmax	pmax	
comp=Z,420nm,6.1s					
CD2			LR	LR	
comp=Z,9μm,15.2s					
CD2			LR	LR	
comp=Z,3μm,13.3s					
CD2			LR	LR	
comp=Z,9μm,15.2s					
NWAO	**Narrogin (SRO)**	**33.98 154**	P	**P**	**09 09 54.1 +0.9**
NWAO			IAmb	IAmb	09 09 56.1
comp=Z,104nm,1.4s					
NWAO	**Narrogin (SRO)**	**33.98 154**	LR	LR	09 22 55.7
comp=Z,4μm,20.9s,baz=286,slow=35					
NWAO	**Narrogin (SRO)**	**33.98 154**	P	**P**	**09 09 54.1 +0.9**
NWAO			pmax	pmax	
comp=Z,104nm,1.5s					
NWAO			MLR	MLR	
comp=Z,4μm,21.0s					
H01W3	**Cape Leeuwin H**	**34.46 159**	T	T	09 46 16.1
baz=336,slow=76,SNR=128					
H01W2	**Cape Leeuwin H**	**34.47 159**	T	T	09 46 22.3
baz=336,slow=76,SNR=128					
H01W1	**Cape Leeuwin H**	**34.47 159**	T	T	09 46 18.1
baz=336,slow=76,SNR=122					
WRKA	**Warakurna**	**35.02 132**	P	**P**	**09 10 03.6 +1.2**
KMBL	**Kambalda**	**35.05 146**	P	**P**	**09 10 04.4 +1.9**
WHN	**Wuhan**	**35.90 21**	⇑P	**P**	**09 10 09.5 -0.3**
WHN			sP	**sP**	**09 10 19.2 +1.5**
WHN			PcP	**PcP**	**09 12 38.1 +1.3**
WHN			S	**S**	**09 15 48.8 +1.7**
WHN			pmax	pmax	
comp=Z,110nm,1.1s					
WHN			pmax	pmax	
comp=Z,1μm,4.0s					
WB0	**Warramunga Arr**	**37.51 119**	P	**P**	**09 10 23.5 -0.2**
WB0			IAmb	IAmb	09 10 32.7
comp=Z,62nm,1.2s					
WRA	**Warramunga Arr**	**37.53 120**	P	**P**	**09 10 22.5 -1.4**
comp=Z,12nm,0.8s,baz=292,slow=7.7,SNR=46					
WRA			PcP	**PcP**	**09 12 42.6 +0.5**
comp=Z,5.9nm,0.7s,baz=298,slow=2.4,SNR=4.7					
WRA			S	**S**	**09 16 08.8 -3.5**
comp=Z,4.4nm,0.8s,baz=294,slow=16,SNR=6.8					
WRA			LR	LR	09 27 44.8
comp=Z,3μm,20.5s,baz=298,slow=39					
comp=Z,12nm,0.8s					
WRAB	**Tennant Creek**	**37.53 120**	P	**P**	**09 10 23.6 -0.3**
WRAB	**Tennant Creek**	**37.53 120**	P	**P**	**09 10 23.6 -0.3**
WRAB			pmax	pmax	
comp=Z,44nm,1.2s					
WB2	**Warramunga Arr**	**37.54 120**	P	**P**	**09 10 23.6 -0.4**
XAN	**Xi'an**	**37.63 12**	⇑P	**P**	**09 10 23.3 -1.3**
XAN			pP	pP	09 10 30.3 -0.1
XAN			sP	sP	09 10 33.7 +1.2
XAN			PP	**PnPn**	**09 11 52.1 +0.4**
XAN			sS	sS	09 16 22.7 +0.8
XAN			pmax	pmax	
comp=Z,62nm,0.7s					
XAN			pmax	pmax	
comp=Z,740nm,6.2s					
FORT	**Forrest**	**38.37 139**	P	**P**	**09 10 31.9 +1.1**
FORT			IAmb	IAmb	09 10 56.5
comp=Z,39nm,0.8s					
FORT	**Forrest**	**38.37 139**	P	**P**	**09 10 32.3 +1.5**
ASAR	**Alice Springs**	**38.72 125**	P	**P**	**09 10 33.7 -0.2**
comp=Z,33nm,0.8s,baz=301,slow=8.2,SNR=109					
ASAR			PcP	**PcP**	**09 12 47.0 +1.4**
comp=Z,3.5nm,0.8s,baz=298,slow=3.5,SNR=2.2					
ASAR			S	**S**	**09 16 27.7 -2.6**
comp=Z,2.0nm,0.6s,baz=297,slow=16,SNR=7.8					
ASAR			LR	LR	09 28 23.2
comp=Z,6μm,20.5s,baz=296,slow=39					
comp=Z,33nm,0.8s					
AS31	**Alice Springs**	**38.72 125**	P	**P**	**09 10 34.4 +0.4**
AS01	**Alice Springs**	**38.76 125**	P	**P**	**09 10 34.9 +0.7**
LZH	**Lanzhou**	**38.90 5**	⇑P	**P**	**09 10 35.0 -0.3**
LZH			sP	sP	09 10 42.5 -0.7
LZH			PP	**PnPn**	**09 12 05.9 -1.1**
LZH			PcP	**PcP**	**09 12 47.2 +1.1**
LZH			S	**S**	**09 16 36.5 +3.7**
LZH			pmax	pmax	
comp=Z,40nm,1.3s					
LZH			pmax	pmax	
comp=Z,520nm,6.2s					
LZH			LR	LR	
comp=Z,5μm,14.1s					
LZH			LR	LR	
comp=Z,7μm,15.1s					
LZH			LR	LR	
comp=Z,8μm,14.4s					
LYN	**LuoYang**	**38.99 16**	⇑P	**P**	**09 10 35.9 0.0**
LYN			pP	pP	09 10 39.9 -1.9
LYN			sP	sP	09 10 43.2 -0.7
LYN			PP	**PnPn**	**09 12 08.6 +0.6**
LYN			S	**S**	**09 16 35.6 +1.6**
LYN			pmax	pmax	
comp=Z,790nm,6.8s					
LYN			LR	LR	
comp=Z,8μm,17.2s					
LYN			LR	LR	
comp=Z,5μm,14.4s					
LYN			LR	LR	
comp=Z,7μm,16.5s					
NJ2	**Nanjing**	**39.03 26**	*e*P	**P**	**09 10 35.7 -0.6**
NJ2			PP	**PnPn**	**09 12 08.6 +0.1**
NJ2			S	**S**	**09 16 37.1 +2.5**
NJ2			pmax	pmax	
comp=Z,17nm,1.7s					
NJ2			pmax	pmax	
comp=Z,690nm,6.2s					
NJ2			LR	LR	
comp=Z,5μm,17.1s					
NJ2			LR	LR	
comp=Z,4μm,16.1s					
NJ2			LR	LR	
comp=Z,7μm,16.7s					
GOMU	**GeErMu**	**39.15 353**	P	**P**	**09 10 38.0 +0.3**
GOMU			pP	pP	09 10 41.8 -1.8
GOMU			sP	sP	09 10 45.7 +0.1
GOMU			S	**S**	**09 16 36.8 -0.3**
GOMU			pmax	pmax	
comp=Z,15nm,1.0s					
GOMU			LR	LR	
comp=Z,4μm,19.0s					
GOMU			LR	LR	
comp=Z,4μm,20.0s					
GOMU			LR	LR	
comp=Z,5μm,20.3s					
SSE	**Sheshan**	**39.31 29**	P	**P**	**09 10 38.6 0.0**
SSE			pmax	pmax	
comp=Z,13nm,1.3s					
SSE			pmax	pmax	
comp=Z,160nm,5.0s					
SSE			LR	LR	
comp=Z,2μm,16.5s					
SSE			LR	LR	
comp=Z,2μm,17.5s					
TIY	**Taiyuan**	**41.96 15**	*e*P	**P**	**09 11 00.2 -0.4**
TIY			pmax	pmax	
comp=Z,31nm,0.8s					
TIY			pmax	pmax	
comp=Z,420nm,3.7s					
TIY			LR	LR	
comp=Z,4μm,13.5s					
TIY			LR	LR	
comp=Z,2μm,13.3s					
TIY			LR	LR	
comp=Z,3μm,13.7s					
TIA	**Tai'an**	**42.00 21**	P	**P**	**09 11 00.0 -0.9**
TIA			pmax	pmax	
comp=Z,21nm,0.7s					
TIA			pmax	pmax	
comp=Z,420nm,5.5s					
TIA			LR	LR	
comp=Z,1μm,15.8s					
TIA			LR	LR	
comp=Z,3μm,18.6s					
TIA			LR	LR	
comp=Z,2μm,21.3s					
GTA	**Gaotai**	**42.05 360**	⇑P	**P**	**09 11 01.9 +0.5**
GTA			sP	sP	09 11 09.1 -0.2
GTA			PcP	**PcP**	**09 12 54.2 -1.9**
GTA			S	**S**	**09 17 21.3 +1.5**
GTA			pmax	pmax	
comp=Z,22nm,1.1s					
GTA			pmax	pmax	
comp=Z,380nm,7.6s					
GTA			LR	LR	
comp=Z,4μm,14.3s					
GTA			LR	LR	
comp=Z,2μm,15.5s					
GTA			LR	LR	
comp=Z,4μm,14.7s					
OOD	**Oodnadatta**	**42.10 130**	P	**P**	**09 11 02.6 +0.8**
QIS	**Mount Isa**	**42.37 118**	P	**P**	**09 11 04.1 0.0**
BTO	**Baotou**	**44.20 11**	*e*P	**P**	**09 11 19.7 +1.0**
BTO			sP	**sP**	**09 11 26.5 -0.1**
BTO			PP	**PcP**	**09 13 03.0 -0.3**
BTO			S	**S**	**09 17 54.0 +2.8**
BTO			pmax	pmax	
comp=Z,43nm,1.7s					
BTO			pmax	pmax	
comp=Z,110nm,3.9s					
BTO			LR	LR	
comp=Z,4μm,20.2s					
BTO			LR	LR	
comp=Z,8μm,14.5s					
BTO			LR	LR	
comp=Z,10μm,17.4s					
NIL	**Nilore**	**44.24 327**	P	**P**	**09 11 18.1 -1.0**
NIL			IAmb	IAmb	09 11 20.7
comp=Z,55nm,1.0s					
NIL	**Nilore**	**44.24 327**	P	**P**	**09 11 19.2 +0.1**
NIL	**Nilore**	**44.24 327**	P	**P**	**09 11 18.1 -1.0**
NIL			pmax	pmax	
comp=Z,55nm,1.0s					
HHC	**Hu-ho-hao-te**	**44.74 12**	⇑*i*P	**P**	**09 11 23.4 +0.4**
HHC			sP	sP	09 11 30.7 -0.3
HHC			S	**S**	**09 18 02.8 +3.6**
HHC			sS	sS	09 18 15.9 +7.9
HHC			pmax	pmax	
comp=Z,20nm,1.9s					
HHC			pmax	pmax	
comp=Z,460nm,7.2s					
HHC			LR	LR	
comp=Z,4μm,16.0s					
HHC			LR	LR	
comp=Z,3μm,15.3s					
HHC			LR	LR	
comp=Z,5μm,15.7s					
BBOO	**Buckleboo**	**45.01 136**	P	**P**	**09 11 25.6 +0.5**
BBOO	**Buckleboo**	**45.01 136**	P	**P**	**09 11 26.5 +1.3**
BJT	**Baijiatuau**	**45.15 18**	P	**P**	**09 11 26.3 +0.2**
BJT			IAmb	IAmb	09 11 27.8
comp=Z,32nm,0.8s					
BJT	**Baijiatuau**	**45.15 18**	IAMs_20	IAMs_20	09 33 30.9
comp=Z,7μm,18.0s					
BJT	**Baijiatuau**	**45.15 18**	P	**P**	**09 11 26.3 +0.2**
BJT			pmax	pmax	
comp=Z,32nm,0.8s					
BJT			MLR	MLR	
comp=Z,7μm,18.0s					
BJI	**Beijing**	**45.17 17**	P	**P**	**09 11 26.4 +0.1**
BJI			pP	**pP**	**09 11 30.8 -1.4**
BJI			sP	**sP**	**09 11 33.6 -0.7**
BJI			S	**S**	**09 18 04.5 -0.6**
BJI			pmax	pmax	
comp=Z,20nm,1.0s					
BJI			pmax	pmax	
comp=Z,240nm,6.7s					
BJI			LR	LR	
comp=Z,4μm,15.7s					
BJI			LR	LR	
comp=Z,2μm,15.0s					
BJI			LR	LR	
comp=Z,6μm,14.8s					
LCRK	**Leigh Creek**	**45.33 131**	P	**P**	**09 11 29.0 +1.2**
MTSU	**Mount Surprise**	**45.94 113**	P	**P**	**09 11 33.1 +0.3**
INKA	**Innaminka**	**46.05 127**	P	**P**	**09 11 34.9 +1.4**
DL2	**Dalian**	**46.07 23**	P	**P**	**09 11 33.4 0.0**
DL2			S	**S**	**09 18 22.1 +4.0**
DL2			pmax	pmax	
comp=Z,59nm,0.9s					
DL2			pmax	pmax	
comp=Z,720nm,5.1s					
DL2			LR	LR	
comp=Z,4μm,15.6s					
DL2			LR	LR	
comp=Z,2μm,16.1s					
DL2			LR	LR	
comp=Z,5μm,15.3s					
JNU	**Nakatsue**	**46.14 37**	P	**P**	**09 11 33.9 -0.2**
JNU			IAmb	IAmb	09 11 44.0
comp=Z,71nm,1.1s					
JNU	**Nakatsue**	**46.14 37**	P	**P**	**09 11 34.1 -0.1**
WHYH	**Whyalla**	**46.20 135**	P	**P**	**09 11 36.3 +1.7**
JLN	**Jalan Bani Buh**	**46.83 304**	P	P	09 11 44.6 +4.8
KBL	**Kabul**	**47.25 325**	P	**P**	**09 11 42.7 -0.4**
KBL	**Kabul**	**47.25 325**	P	P	09 11 51.3 +8.2
SNR=6.0					
KBL	**Kabul**	**47.25 325**	P	**P**	**09 11 42.7 -0.4**
KBL			pmax	pmax	
comp=Z,13nm,0.8s					
HTT	**Hallett**	**47.36 134**	P	**P**	**09 11 45.5 +1.7**
WBK	**Wadi Bani Khal**	**47.41 304**	P	P	09 11 50.0 +5.8
WBK			P	P	09 11 50.0 +5.8
DQM	**DQM**	**47.47 300**	P	P	09 11 51.0 +6.3
DQM			P	P	09 11 51.0 +6.3
MHTO	**MHTO**	**47.54 302**	P	P	09 11 52.0 +6.7
MHTO			P	P	09 11 52.0 +6.7
KSH	**Kashi**	**47.62 335**	P	**P**	**09 11 45.0 -0.7**
KSH			pP	sP	09 11 52.2 -1.8
KSH			PP	**PP**	**09 13 34.3 -3.2**
KSH			pmax	pmax	
comp=Z,27nm,1.2s					
KSH			pmax	pmax	
comp=Z,340nm,4.7s					
KSH			LR	LR	
comp=Z,2μm,19.9s					
KSH			LR	LR	
comp=Z,2μm,19.6s					
KSH			LR	LR	
comp=Z,3μm,20.3s					
KSAR	**Wonju Array Be**	**47.69 30**	P	**P**	**09 11 45.6 -0.6**
KSAR	**Wonju Array Be**	**47.69 30**	P	**P**	**09 11 45.6 -0.6**
KSRS	**Korea Array**	**47.72 30**	P	**P**	**09 11 45.8 -0.6**
comp=Z,16nm,0.9s,baz=226,slow=8.5,SNR=47					
comp=Z,16nm,0.9s					
KS19	**Wonju Array Si**	**47.73 30**	P	**P**	**09 11 45.9 -0.6**
KS19			IAmb	IAmb	09 11 56.3
comp=Z,67nm,1.4s					
WMQ	**Urumqi**	**47.77 348**	*e*P	**P**	**09 11 48.2 +1.5**
WMQ			sP	sP	09 11 56.9 +2.3
WMQ			S	**S**	**09 18 43.7 +1.3**
WMQ			pmax	pmax	

comp=Z,81nm,1.1s
WMQ pmax pmax
comp=Z,620nm,5.9s
WMQ LR LR
comp=Z,2μm,18.3s
WMQ LR LR
comp=Z,2μm,21.1s
WMQ LR LR
comp=Z,2μm,19.7s
PYAG Pyongyang 47.95 27 P **P** **09 11 46.7 -1.4**
PYAG S S 09 18 09.4 -36
PYAG AmB
comp=Z,240nm,1.4s
JMDO Jabal Madar 48.02 304 P P 09 11 54.8 +5.9
CTAO Charters Tower 48.20 114 P **P** **09 11 50.4 0.0**
CTAO Charters Tower 48.20 114 P **P** **09 11 51.6 +1.2**
CTAO Charters Tower 48.20 114 P **P** **09 11 50.4 0.0**
CTAO pmax pmax
comp=Z,60nm,1.0s
CTAO MLR MLR
comp=Z,3μm,20.0s
SUJ Sinuiju 48.26 25 P P 09 11 36.7 -14
SUJ S S 09 17 52.7 -57
SUJ AmB
comp=Z,735nm,3.8s
SUJ AMS AMS
comp=Z,7μm,15.0s
SMDO Samad 48.36 304 P P 09 11 57.2 +5.5
SMDO P P 09 11 57.2 +5.5
JMN Monobe 48.38 38 P **P** **09 11 50.9 -0.7**
JMN Monobe 48.38 38 P **P** **09 11 52.2 +0.6**
QLP Quilpie 48.44 123 P **P** **09 11 53.6 +1.4**
BIDO Bidbid 48.51 305 P P 09 11 58.0 +5.2
BIDO P P 09 11 58.0 +5.2
AUMBR Murray Bridge 48.52 136 P **P** **09 11 54.0 +1.4**
STKA Stephens Creek 48.55 131 P **P** **09 11 53.6 +0.6**
STKA IAmb IAmb 09 11 55.8
comp=Z,54nm,0.9s
STKA Stephens Creek 48.55 131 P **P** **09 11 53.9 +0.9**
comp=Z,45nm,0.8s,baz=304,slow=9.6,SNR=82
STKA S **S** **09 18 53.4 -0.4**
comp=Z,1.1nm,0.6s,baz=315,slow=20,SNR=2.9
STKA LR LR 09 33 51.5
comp=Z,4μm,21.0s,baz=296,slow=38
comp=Z,45nm,0.8s
STKA Stephens Creek 48.55 131 P **P** **09 11 54.4 +1.4**
STKA Stephens Creek 48.55 131 P **P** **09 11 53.6 +0.6**
STKA pmax pmax
comp=Z,54nm,0.9s
XLT XiLinHaoTe 48.72 15 *e*P **P** **09 11 53.7 -0.4**
XLT sP sP 09 12 01.3 -0.8
XLT sS sS 09 19 04.7 +0.1
XLT pmax pmax
comp=Z,430nm,5.0s
XLT LR LR
comp=Z,310nm,19.3s
XLT LR LR
comp=Z,2μm,21.7s
XLT LR LR
comp=Z,3μm,17.8s
DMTO DMTO 48.93 296 P P 09 12 02.6 +6.5
DMTO P P 09 12 02.6 +6.5
BSY Bisya 48.93 304 P **P** **09 12 00.4 +4.3**
BSY P **P** **09 12 00.4 +4.3**
HOQ Hoqain 49.20 305 P P 09 12 08.0 +10
HOQ P P 09 12 08.0 +10
SNY Shenyang 49.34 23 ⇓P **P** **09 11 58.2 -0.5**
SNY pmax pmax
comp=Z,22nm,0.9s
SNY pmax pmax
comp=Z,360nm,6.1s
SNY LR LR
comp=Z,1μm,17.7s
SNY LR LR
comp=Z,990nm,15.2s
SNY LR LR
comp=Z,1μm,16.5s
SHLS Shalkode 49.42 340 *e*P **P** **09 12 00.0 +0.5**
SHLS pmax pmax
comp=Z,67nm,1.1s
SHLS Shalkode 49.42 340 *e*P **P** **09 11 58.5 -1.0**
UZB Uzynbulak 49.56 340 *e*P **P** **09 12 00.5 -0.1**
UZB pmax pmax
comp=Z,27nm,1.1s
UZB Uzynbulak 49.56 340 *e*P **P** **09 12 00.5 -0.1**
comp=Z,27nm,1.1s
PDGK Podgornoye 49.56 340 P **P** **09 12 01.0 +0.4**
SATY Saty 49.70 339 *e*P **P** **09 12 01.4 -0.3**
SATY pmax pmax
comp=Z,34nm,1.1s
SATY Saty 49.70 339 *e*P **P** **09 12 01.4 -0.3**
comp=Z,34nm,1.1s
ARQ Araqi 49.75 304 P P 09 12 11.8 +10
ULHL Ulahol 49.80 337 P **P** **09 12 03.4 +0.8**
SNR=13
JASK Jask - Hormozg 49.81 308 P P 09 12 10.4 +7.7
GAR Garm 49.85 330 IAmb IAmb 09 12 05.7
comp=Z,55nm,1.0s
KPKS Kokpek 49.96 340 *e*P **P** **09 12 03.2 -0.4**
KPKS pmax pmax
comp=Z,17nm,1.0s
KPKS Kokpek 49.96 340 *e*P **P** **09 12 03.3 -0.4**
comp=Z,17nm,1.0s
DOK Doka 49.97 297 P **P** **09 12 08.6 +4.6**
DOK P **P** **09 12 08.6 +4.6**
WHFO Wadi Hawf 50.05 296 P P 09 12 10.8 +6.1
WHFO P P 09 12 10.8 +6.1
SOHO SOHO 50.09 305 P P 09 12 13.1 +8.3
SOHO P P 09 12 13.1 +8.3
BOOM Boomskoye usch 50.13 337 IAmb IAmb 09 12 07.3
comp=Z,37nm,0.8s
BOOM Boomskoye usch 50.13 337 P **P** **09 12 06.0 +1.0**
CHGR Chuyangaron 50.18 328 P **P** **09 12 04.6 -0.8**
CHGR IAmb IAmb 09 12 14.4
comp=Z,55nm,1.0s
CHGR Chuyangaron 50.18 328 P **P** **09 12 04.6 -0.8**
CHGR pmax pmax
comp=Z,55nm,1.0s
TNSS Tian-Shan 50.21 338 *e*P **P** **09 12 05.5 -0.4**
TNSS Tian-Shan 50.21 338 *e*P **P** **09 12 05.5 -0.4**
SIMJ Simiganj 50.26 328 P **P** **09 12 05.3 -0.8**
SIMJ IAmb IAmb 09 12 15.8
comp=Z,36nm,0.8s
MDOK Medeo 50.28 338 P **P** **09 12 06.8 +0.7**
MDOK Medeo 50.28 338 *e*P **P** **09 12 05.9 -0.2**
ABTO Aybut 50.29 295 P P 09 12 13.1 +6.6
ABTO P P 09 12 13.1 +6.6
AAA Alma-Ata 50.37 338 *e*P **P** **09 12 06.7 0.0**
AAA pmax pmax
comp=Z,31nm,1.0s
AAA Alma-Ata 50.37 338 *e*P **P** **09 12 06.8 0.0**
comp=Z,31nm,1.0s
BTK Batken 50.41 331 P **P** **09 12 08.5 +1.4**
KBK Karagaybulak 50.66 336 P **P** **09 12 10.6 +1.5**
SNR=17
ALNE Al Ain 50.70 304 P P 09 12 14.2 +4.8
ALNE P P 09 12 14.2 +4.8
ASHO Ashiyiah 50.72 305 P P 09 12 15.3 +5.7
ASHO P P 09 12 15.3 +5.7
HATD Hatta, Dubai 50.72 305 P P 09 12 16.1 +6.5
HATD P P 09 12 16.1 +6.5
AML Almayashu 50.75 335 P **P** **09 12 11.1 +1.1**
SNR=47
SONM Songino Array 50.78 6 P **P** **09 12 10.4 +0.7**
SONM IAmb IAmb 09 12 12.3
comp=Z,65nm,0.9s
SONM Songino Array 50.78 6 P **P** **09 12 10.5 +0.7**
comp=Z,65nm,0.9s,baz=189,slow=8.4,SNR=186
SONM PcP **PcP** **09 13 27.2 +0.6**
comp=Z,10nm,0.8s,baz=190,slow=3.1,SNR=1.8
comp=Z,65nm,0.9s
AAK Ala-Archa 50.83 336 P **P** **09 12 11.3 +1.0**
AAK IAmb IAmb 09 12 26.1
comp=Z,123nm,1.9s
AAK Ala-Archa 50.83 336 P **P** **09 12 11.4 +1.0**
AAK P **P** **09 12 11.4 +1.0**
AAK Ala-Archa 50.83 336 P **P** **09 12 11.2 +1.0**
SNR=11
AAK Ala-Archa 50.83 336 P **P** **09 12 11.3 +1.0**
AAK pmax pmax
comp=Z,123nm,2.0s
ULN Ulaanbaatar 50.88 6 P **P** **09 12 10.9 +0.4**
ULN IAmb IAmb 09 12 13.0
comp=Z,52nm,0.8s
ULN Ulaanbaatar 50.88 6 P **P** **09 12 11.3 +0.7**
ULN P **P** **09 12 11.3 +0.7**
ULN Ulaanbaatar 50.88 6 P **P** **09 12 10.9 +0.4**
ULN pmax pmax
comp=Z,52nm,0.9s
ULN MLR MLR
comp=Z,8μm,19.0s
FRU1 Bishkek 50.92 336 P **P** **09 12 11.3 +0.4**
FRU1 Bishkek 50.92 336 P **P** **09 12 11.3 +0.4**
FRU1 pmax pmax
comp=Z,55nm,0.5s
ARPS Mount Arapiles 51.14 137 P **P** **09 12 14.9 +2.3**
EKS2 Erkin-Say 51.15 335 P **P** **09 12 14.1 +1.4**
SNR=53
ASUD Al Ashush, Dub 51.29 305 P **P** **09 12 15.6 +1.8**
ASUD P **P** **09 12 15.6 +1.8**
HRA Herat 51.33 320 P **P** **09 12 13.6 -0.6**
USP Ospenovka 51.35 336 P **P** **09 12 15.0 +0.9**
SNR=37
TDK Taldyqorghan 51.40 340 *e*P **P** **09 12 14.3 -0.1**
TDK pmax pmax
comp=Z,27nm,1.0s
TDK Taldyqorghan 51.40 340 *e*P **P** **09 12 14.3 -0.1**
comp=Z,27nm,1.0s
CMSA Cobar Meteorol 51.54 129 P **P** **09 12 17.1 +1.4**
CN2 Changchun 51.74 23 *e*P **P** **09 12 15.6 -1.3**
CN2 *e*S **S** **09 19 36.0 -1.8**
CN2 pmax pmax
comp=Z,80nm,1.0s
CN2 LR LR
comp=Z,790nm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
ZSN Zaisan 51.83 347 *e*P **P** **09 12 17.6 +0.1**
ZSN pmax pmax
comp=Z,25nm,0.9s
ZSN Zaisan 51.83 347 *e*P **P** **09 12 17.7 +0.1**
comp=Z,25nm,0.9s
MK31 Makanchi Array 51.85 345 *ce*P **P** **09 12 18.2 +0.5**
MKAR Makanchi Array 51.85 345 P **P** **09 12 18.2 +0.4**
comp=Z,69nm,0.7s,baz=155,slow=8.2,SNR=414
MKAR S **S** **09 19 40.1 +0.8**
comp=Z,0.7nm,1.0s,baz=140,slow=11,SNR=2.1
comp=Z,69nm,0.7s
MKAR Makanchi Array 51.85 345 P **P** **09 12 18.3 +0.6**
MAKZ Makanchi 51.95 344 P **P** **09 12 18.5 0.0**
MAKZ IAmb IAmb 09 12 20.2
comp=Z,34nm,0.9s
MAKZ Makanchi 51.95 344 P **P** **09 12 18.5 0.0**
MAKZ pmax pmax
comp=Z,34nm,0.9s
MAKZ MLR MLR
comp=Z,2μm,20.0s
MZR Muzera 52.16 302 P P 09 12 30.1 +10
SNR=6.4
MZR P P 09 12 30.1 +10
SNR=6.4
DZA Taraz 52.39 334 *e*P **P** **09 12 21.9 +0.1**
DZA pmax pmax
comp=Z,11nm,0.7s
DZA Taraz 52.39 334 *e*P **P** **09 12 21.9 +0.1**
comp=Z,11nm,0.7s
IUG Iuzhnay 52.40 332 *e*P **P** **09 12 21.9 -0.1**
IUG pmax pmax
comp=Z,53nm,1.1s
IUG Iuzhnay 52.40 332 *e*P **P** **09 12 21.9 -0.1**
comp=Z,22nm,1.0s
AULRC Lightning Ridg 52.56 125 P **P** **09 12 24.9 +1.6**
MAJO Matsushiro 52.90 39 P **P** **09 12 24.5 -1.2**
MAJO Matsushiro 52.90 39 IAMs_20 IAMs_20 09 37 03.7
comp=Z,3μm,20.0s
MAJO Matsushiro 52.90 39 P **P** **09 12 24.8 -0.9**
MAJO Matsushiro 52.90 39 *i*P **P** **09 12 22.9 -2.8**
MAJO pmax pmax
comp=Z,18nm,0.9s
MJB9 Matsu-Tunnel 52.90 39 P **P** **09 12 25.1 -0.6**
MJAR Matsushiro Arr 52.90 39 P **P** **09 12 24.1 -1.6**
comp=Z,19nm,0.9s,baz=216,slow=7.4,SNR=44
comp=Z,19nm,0.9s
KK31 Karatay Array 52.93 333 *i*P **P** **09 12 25.3 -0.5**
KKAR Karatay Array 52.93 333 P **P** **09 12 25.6 -0.2**
KKAR Karatay Array 52.93 333 P **P** **09 12 25.6 -0.2**
BTLS Baital 53.02 337 *e*P **P** **09 12 25.8 -0.5**
BTLS pmax pmax
comp=Z,29nm,2.7s
BTLS Baital 53.02 337 *e*P **P** **09 12 26.2 -0.1**
ZAK Zakamensk 53.09 3 *e*P **P** **09 12 26.6 -0.4**
ZAK pmax pmax
comp=Z,11nm,1.3s
BRLS Borolday 53.18 333 *e*P **P** **09 12 26.2 -1.4**
BRLS pmax pmax
comp=Z,43nm,3.5s
BRLS Borolday 53.18 333 *e*P **P** **09 12 26.5 -1.1**
MSHR Mys Shultsa 53.25 28 *i*P **P** **09 12 28.7 +0.6**
JSD Sado 53.89 37 P **P** **09 12 32.0 -0.9**
EIDS Eidsvold 53.89 119 P **P** **09 12 33.6 +0.4**
EIDS IAmb IAmb 09 12 48.4
comp=Z,81nm,1.5s
EIDS Eidsvold 53.89 119 P **P** **09 12 34.8 +1.6**
VLA Vladivostok 54.01 29 *i*P **P** **09 12 33.4 -0.2**
VLA pmax pmax
comp=Z,25nm,0.6s
AUDCS Dubbo College 54.11 128 P **P** **09 12 36.1 +1.4**
BNX BinXian 54.12 23 ⇑P **P** **09 12 33.9 -0.6**
BNX pmax pmax
comp=Z,79nm,0.8s
MDJ Mudanjiang 54.12 26 P **P** **09 12 34.3 -0.2**
MDJ IAmb IAmb 09 12 45.8
comp=Z,32nm,1.0s
MDJ Mudanjiang 54.12 26 P **P** **09 12 35.1 +0.6**
MDJ PP **PP** **09 14 36.6 +0.3**
MDJ ScP **ScP** **09 17 41.0 +4.5**
MDJ S **S** **09 20 14.6 +4.3**
MDJ SS **SS** **09 23 55.0 +2.7**
MDJ pmax pmax
comp=Z,37nm,0.8s
MDJ pmax pmax
comp=Z,650nm,5.5s
MDJ LR LR
comp=Z,4μm,17.2s
MDJ LR LR
comp=Z,3μm,14.8s
MDJ LR LR
comp=Z,3μm,19.2s
MOY Mondy 54.31 1 *e*P **P** **09 12 35.9 0.0**
MOY pmax pmax
comp=Z,41nm,2.9s
HIA Hailar 54.64 16 P **P** **09 12 37.0 -1.2**
HIA IAmb IAmb 09 12 48.0
comp=Z,38nm,1.2s
HIA Hailar 54.64 16 P **P** **09 12 37.0 -1.2**
HIA pmax pmax
comp=Z,38nm,1.2s
HIA MLR MLR
comp=Z,6μm,18.0s
YNG Young 54.74 131 P **P** **09 12 40.5 +1.2**
USA0B Ussuriysk Arra 54.88 28 *c i*P **P** **09 12 39.2 -0.8**
USRK Ussuriysk Ar. 54.88 28 P **P** **09 12 39.7 -0.3**
USRK Ussuriysk Ar. 54.88 28 P **P** **09 12 39.5 -0.5**
comp=Z,73nm,0.8s,baz=223,slow=6.0,SNR=118
comp=Z,73nm,0.8s
USRK Ussuriysk Ar. 54.88 28 P **P** **09 12 39.7 -0.3**
IRK Irkutsk 55.00 3 *e*P **P** **09 12 41.0 +0.3**
IRK pmax pmax
comp=Z,70nm,2.2s
CAN Canberra 55.61 132 P **P** **09 12 45.8 +0.3**
CAN IAmb IAmb 09 12 58.3
comp=Z,40nm,1.0s
CAN IAMs_20 IAMs_20 09 38 55.2
comp=Z,5μm,20.0s
CAN Canberra 55.61 132 P **P** **09 12 47.2 +1.6**
CAN Canberra 55.61 132 P **P** **09 12 45.8 +0.3**
CAN pmax pmax
comp=Z,40nm,1.0s
CAN MLR MLR
comp=Z,5μm,20.0s
CIT Chita 55.85 10 *e*P **P** **09 12 47.7 +0.8**
CIT *e* 09 12 55.5
CIT *e* 09 13 50.7
CIT pmax pmax
comp=Z,154nm,3.1s
ARMA Armidale 55.87 125 P **P** **09 12 47.2 -0.4**
ARMA IAmb IAmb 09 12 55.0
comp=Z,27nm,1.1s
ARMA Armidale 55.87 125 P **P** **09 12 49.8 +2.2**
OTUK Ortayu 56.34 338 P **P** **09 12 49.9 -0.5**
KURBB Kurchatov Arra 56.37 344 P **P** **09 12 50.8 +0.2**
comp=Z,40nm,0.8s,baz=162,slow=6.9,SNR=116
KURBB S **S** **09 20 42.2 +2.0**
comp=Z,0.4nm,0.3s,baz=168,slow=9.5,SNR=1.7
comp=Z,40nm,0.8s
KURK Kurchatov 56.43 344 P **P** **09 12 51.2 +0.3**
KURK Kurchatov 56.43 344 P **P** **09 12 51.3 +0.3**
KURK Kurchatov 56.43 344 *ce*P **P** **09 12 51.4 +0.4**
KURK pmax pmax
comp=Z,78nm,0.8s
JTM Tenmabayashi 57.31 36 P **P** **09 12 56.9 -0.6**
BRZS Berezniki 57.66 339 *e*P **P** **09 12 59.6 -0.1**
BRZS Berezniki 57.66 339 *e*P **P** **09 12 59.7 -0.1**
HEH HeiHe 57.89 20 *e*P **P** **09 13 01.0 -0.3**
HEH pmax pmax
comp=Z,35nm,1.1s
ZAA0 Zalesovo Array 58.01 349 P **P** **09 13 02.0 0.0**
ZALV Zalesovo Beam 58.01 349 P **P** **09 13 01.9 -0.1**
comp=Z,44nm,0.8s,baz=164,slow=5.8,SNR=154
ZALV S **S** **09 21 02.2 +0.7**
comp=Z,0.3nm,0.3s,baz=164,slow=7.5,SNR=2.2
comp=Z,44nm,0.8s
ZALV Zalesovo Beam 58.01 349 *i*P **P** **09 13 02.0 -0.1**
ZALV pmax pmax
comp=Z,45nm,0.8s
KLR Kul'dur 58.68 24 P **P** **09 13 06.7 -0.2**
comp=Z,27nm,0.9s,baz=245,slow=7.4,SNR=71
comp=Z,27nm,0.9s
KLR Kul'dur 58.68 24 *ce*P **P** **09 13 07.0 +0.1**
KLR pmax pmax
comp=Z,35nm,0.8s
RAYN Ar Rayn 59.19 299 P **P** **09 13 11.2 +0.2**
RAYN Ar Rayn 59.19 299 P **P** 09 13 17.6 +6.6
RAYN Ar Rayn 59.19 299 P **P** **09 13 11.2 +0.2**
RAYN pmax pmax
comp=Z,17nm,1.1s
HNR Honiara 59.85 99 P **P** **09 13 14.8 -0.8**
HNR Honiara 59.85 99 P **P** **09 13 16.5 +0.9**
HNR Honiara 59.85 99 P **P** **09 13 14.8 -0.8**
HNR pmax pmax
comp=Z,168nm,1.0s
HNR MLR MLR
comp=Z,1μm,20.0s
H04N2 CROZET ISLANDS 60.15 217 T T 10 18 30.6
baz=59,slow=75
H04N1 CROZET ISLANDS 60.16 217 T T 10 18 26.9
baz=59,slow=75
H04N3 CROZET ISLANDS 60.17 217 T T 10 18 25.6
baz=59,slow=75
ASAJ Asahikawa 60.28 34 P **P** **09 13 15.8 -2.2**
comp=Z,18nm,1.0s,baz=250,slow=12,SNR=12
comp=Z,18nm,1.0s
H04S1 CROZET ISLANDS 60.43 216 T T 10 18 50.8
baz=58,slow=76,SNR=8060
H04S3 CROZET ISLANDS 60.45 216 T T 10 18 51.1
baz=58,slow=76
H04S2 CROZET ISLANDS 60.45 216 T T 10 18 52.9
baz=58,slow=76,SNR=8197
ZEA Zeya 60.79 18 *e*P **P** **09 13 21.7 +0.4**
ZEA *e*S **S** **09 21 42.0 +4.4**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA pmax pmax
comp=Z,200nm,5.0s
ZEA smax smax
comp=N,400nm,9.3s
ZEA MLR MLR
comp=E,1μm,15.0s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEA MLR MLR
comp=N,2μm,17.0s
BVA0 Borovoye Array 60.99 340 *i*P **P** **09 13 21.6 -1.1**
BVAR Borovoye Array 60.99 340 P **P** **09 13 21.8 -0.9**
comp=N,5.9nm,0.6s,baz=142,slow=8.9,SNR=30
comp=N,5.9nm,0.6s
BRVK Borovoye 61.06 340 P **P** **09 13 22.0 -1.2**
BRVK IAmb IAmb 09 13 32.6
comp=Z,74nm,1.8s
BRVK Borovoye 61.06 340 P **P** **09 13 22.3 -0.9**
BRVK Borovoye 61.06 340 *ce*P **P** **09 13 23.0 -0.2**
BRVK pmax pmax
comp=Z,22nm,1.7s
BOD Bodaibo 61.51 8 ⇓*i*P **P** **09 13 26.0 -0.1**
BOD pmax pmax
comp=Z,88nm,1.3s
GRNR Gornyy 61.80 25 ⇑*i*P **P** **09 13 28.2 -0.1**
GRNR pmax pmax
comp=Z,9.0nm,0.7s
KIBK Kibwezi 61.94 269 P **P** **09 13 30.0 0.0**
KIBK IAMs_20 IAMs_20 09 38 15.4
comp=Z,2μm,20.0s
KIBK Kibwezi 61.94 269 P P 09 13 38.0 +8.0
SNR=5.1
YSS Yuzhno-Sakhali 62.17 32 P **P** **09 13 30.8 0.0**
YSS IAMs_20 IAMs_20 09 38 12.0
comp=Z,3μm,20.0s
YSS Yuzhno-Sakhali 62.17 32 P **P** **09 13 31.3 +0.5**
YSS Yuzhno-Sakhali 62.17 32 ⇑*e*P **P** **09 13 30.9 +0.1**
YSS *e**SP **pP** **09 13 35.9 -1.0**
YSS *e*S **S** **09 21 52.2 -3.2**
YSS *e*SS **SS** **09 26 01.8 +3.1**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,13.0s
AB31 Akbulak array 62.41 332 *i*P **P** **09 13 31.4 -0.9**
ABKAR Akbulak array 62.41 332 P **P** **09 13 32.1 -0.2**
KMBO Kilima Mbogo 62.78 270 P **P** **09 13 36.0 +0.2**
KMBO Kilima Mbogo 62.78 270 P **P** **09 13 36.0 +0.2**
KMBO pmax pmax
comp=Z,11nm,1.1s
CASY Casey 63.74 175 P **P** **09 13 41.2 +0.3**
CASY IAmb IAmb 09 13 51.9
comp=Z,20nm,1.0s
CASY Casey 63.74 175 IAMs_20 IAMs_20 09 38 24.8
comp=Z,3μm,20.0s
AKTO Aktyubinsk 64.12 332 P **P** **09 13 41.0 -2.7**
TYV Tymovskoe 64.68 28 *e*P **P** **09 13 48.1 +0.8**
TYV pmax pmax
comp=Z,13nm,1.0s
TYV pmax pmax
comp=Z,700nm,4.9s
AKT Akhty 64.78 319 *e*P **P** **09 13 46.4 -1.9**
AKT *e* 09 14 19.2
AKT *e*S **S** **09 22 27.4 -1.0**
AKT pmax pmax
comp=Z,28nm,0.6s
LODK Lodwar 64.95 275 P P 09 13 56.5 +6.6
SNR=5.7
MAK Makhachkala 65.65 320 *e*P **P** **09 13 50.2 -3.5**
MAK *e*S **S** **09 22 34.1 -4.6**
MAK pmax pmax
comp=Z,166nm,1.8s
GNI Garni 66.17 316 *i*P **P** **09 13 55.5 -1.9**
GNI pmax pmax
comp=Z,34nm,1.3s
TRLG Trialeti 67.22 318 P **P** **09 14 03.7 -0.4**
GURO Guroymak-BITLI 67.41 314 IAmb IAmb 09 14 15.6
comp=Z,18nm,1.1s
SVE Sverdlovsk 67.48 338 *e*P **P** **09 14 05.8 +0.6**
SVE *e*S **S** **09 22 57.6 -2.8**
SVE pmax pmax
comp=Z,47nm,1.1s
MARD Mardin 67.85 312 IAmb IAmb 09 14 18.6
comp=Z,28nm,0.8s
ARTI Arti 68.04 337 P **P** **09 14 08.1 -0.7**
ARTI IAmb IAmb 09 14 26.0
comp=Z,18nm,0.8s
ARTI Arti 68.04 337 *d i*P **P** **09 14 09.2 +0.4**
ARTI 09 14 35.6
ARTI 09 16 34.8
ARTI S **S** **09 23 12.6 +5.4**
ARTI SS **SS** **09 27 29.9 +0.1**
ARTI pmax pmax
comp=Z,93nm,3.7s
ARTI MLR MLR
comp=Z,1μm,17.0s
NCK Nalchik 68.42 319 *i*P **P** **09 14 11.7 +0.3**
NCK pmax pmax

comp=Z,16nm,0.4s
YAK Yakutsk 68.55 15 P **P 09 14 10.8 -1.0**
YAK Yakutsk 68.55 15 IAMs_20 IAMs_20 09 47 51.6
comp=Z,4μm,19.0s
YAK Yakutsk 68.55 15 P **P 09 14 10.4 -1.4**
comp=Z,82nm,0.8s,baz=205,slow=3.4,SNR=16
comp=Z,82nm,0.8s
YAK Yakutsk 68.55 15*c iP* **P 09 14 10.4 -1.4**
YAK *e**PP **sP 09 14 18.5 -1.7**
YAK *e* 09 14 33.8
YAK *e* 09 16 44.4
YAK *e*S **S 09 23 11.8 -1.1**
YAK *e* 09 24 07.4
YAK *e*SS **SS 09 27 35.3 -2.0**
YAK pmax pmax
comp=Z,100nm,1.0s
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,312nm,5.3s
YAK pmax pmax
comp=N,163nm,5.2s
YAK pmax pmax
comp=E,204nm,5.3s
YAK smax smax
comp=E,313nm,4.6s
YAK smax smax
comp=N,156nm,4.2s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=E,2μm,16.0s
YAK MLR MLR
comp=N,2μm,17.0s
KBZ Khabaz 68.98 319 P **P 09 14 15.3 +0.4**
comp=N,17nm,1.0s,baz=112,slow=3.2,SNR=23
comp=N,17nm,1.0s
KBZ Khabaz 68.98 319*ce*P **P 09 14 15.4 +0.6**
KBZ pmax pmax
comp=Z,26nm,1.0s
SHA1 Shidzhatmaz 69.14 319 *i* P **P 09 14 15.6 -0.6**
KIV Kislovodsk 69.22 319 P **P 09 14 16.8 +0.3**
KIV IAmb IAmb 09 14 26.9
comp=Z,43nm,1.1s
KIV Kislovodsk 69.22 319 P **P 09 14 17.3 +0.8**
KIV Kislovodsk 69.22 319 *e*P **P 09 14 16.8 +0.3**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV Kislovodsk 69.22 319 P **P 09 14 16.4 -0.1**
comp=Z,31nm,1.2s
MBAR Mbarara 69.31 270 P **P 09 14 17.7 0.0**
MBAR Mbarara 69.31 270 P P 09 14 27.6 +10
MBAR Mbarara 69.31 270 P **P 09 14 17.7 0.0**
MBAR pmax pmax
comp=Z,14nm,1.1s
GOF Gofitskoye 69.47 321*ce*P **P 09 14 17.5 -0.4**
GHAJ Ghor Haditha 69.96 305 IAms_20 IAms_20 09 45 58.1
comp=Z,2μm,18.0s
GAZ Gaziantep 70.46 311 IAmb IAmb 09 14 35.8
comp=Z,40nm,1.1s
BELG Belogornoye 70.47 329 *i* P **P 09 14 23.0 -0.9**
BELG pmax pmax
comp=Z,5.0nm,0.9s
MMAI Mount Meron Ar 70.58 306 P **P 09 14 26.7 +1.7**
comp=Z,4.5nm,0.9s,baz=108,slow=7.7,SNR=5.3
comp=Z,4.5nm,0.9s
SOC Sochi 71.02 318 *e*P **P 09 14 25.1 -2.3**
SOC *e* 09 17 02.2
SOC *e*S **S 09 23 41.9 -0.8**
SOC *e*SS **SS 09 28 15.0 -1.1**
LSZ Lusaka 71.76 255 IAMs_20 IAMs_20 09 49 32.6
comp=Z,2μm,19.0s
LSZ Lusaka 71.76 255 P P 09 14 42.0 +9.4
LSZ Lusaka 71.76 255 P P 09 14 38.6 +6.0
LSZ pmax pmax
comp=Z,20nm,1.1s
BNN Bunyan 72.03 312 IAmb IAmb 09 14 43.4
comp=Z,57nm,1.2s
NRIK Noril'sk 72.55 355 P **P 09 14 35.4 -0.6**
NRIK IAmb IAmb 09 14 45.5
comp=Z,33nm,1.1s
NRIK Noril'sk 72.55 355 P **P 09 14 35.5 -0.6**
comp=Z,14nm,0.8s,baz=156,slow=6.2,SNR=28
comp=Z,14nm,0.8s
NRIK Noril'sk 72.55 355*ce*P **P 09 14 35.3 -0.8**
NRIK pmax pmax
comp=Z,30nm,1.0s
MLZ Mavora Lakes 72.66 137 P **P 09 14 39.4 +2.1**
JCZ Jackson Bay 72.82 135 P **P 09 14 40.0 +1.6**
APZ The Paps 72.93 138 P **P 09 14 40.9 +2.0**
VRH Novokhopyorsk 73.05 326 *e*P **P 09 14 39.2 -0.2**
VRH pmax pmax
comp=Z,35nm,0.9s
KIRV Kirov 73.16 335*ce*P **P 09 14 40.5 +0.6**
KIRS Kirsehir-Merke 73.55 312 ⇑P **P 09 14 43.7 +1.0**
PETK Petropavlovsk- 73.57 32 P **P 09 14 42.1 -0.4**
comp=Z,7.5nm,0.7s,baz=232,slow=7.1,SNR=7.9
comp=Z,7.5nm,0.7s
MA2 Magadan 73.78 24 P **P 09 14 43.5 0.0**
MA2 IAMs_20 IAMs_20 09 39 24.4
comp=Z,4μm,20.0s
MA2 Magadan 73.78 24 P **P 09 14 43.1 -0.4**
comp=Z,19nm,0.9s,baz=210,slow=8.8,SNR=9.4
comp=Z,19nm,0.9s
MA2 Magadan 73.78 24 P **P 09 14 44.8 +1.2**
comp=Z,30nm,0.9s
MA2 Magadan 73.78 24*ce*P **P 09 14 44.6 +1.0**
MA2 pmax pmax
comp=Z,48nm,1.7s
TUZ Tuapeka 73.83 137 P **P 09 14 46.5 +2.4**
BR104 Keskin Array S 73.92 313 P **P 09 14 44.8 -0.2**
comp=Z,123nmcomp=Z,18nm,1.0s
BR131 Keskin Array S 73.93 313 P **P 09 14 44.4 -0.7**
BR131 Keskin Array S 73.93 313 P **P 09 14 44.4 -0.7**
BR131 pmax pmax
comp=Z,18nm,0.9s
BRTR Keskin Array B 73.93 313 P **P 09 14 44.8 -0.3**
BRTR Keskin Array B 73.93 313 P **P 09 14 44.4 -0.7**
comp=Z,6.7nm,0.9s,baz=132,slow=7.1,SNR=26
comp=Z,6.7nm,0.9s
BRTR Keskin Array B 73.93 313 *i* P **P 09 14 45.0 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BR105 Keskin Array S 73.94 313 P **P 09 14 45.1 -0.1**
comp=Z,111nmcomp=Z,15nm,1.0s
PET Petropavlovsk 74.04 32 P **P 09 14 44.8 -0.4**
PET Petropavlovsk 74.04 32 P **P 09 14 45.6 +0.4**
PET Petropavlovsk 74.04 32 *e*P **P 09 14 44.9 -0.3**
PET *e*S **S 09 24 16.6 -0.2**
PET pmax pmax
comp=Z,42nm,0.8s
PET MLR MLR
comp=Z,3μm,16.0s
RPZ Rata Peaks 74.35 135 P **P 09 14 48.2 +0.9**
BZK Bozkurt 74.36 315 ⇑P **P 09 14 49.3 +2.0**
INZ Inchbonnie 74.44 134 P **P 09 14 49.0 +1.2**
VSR Storozhevoye 74.50 325 *e*P **P 09 14 45.5 -2.4**
VSR pmax pmax
comp=Z,20nm,0.9s
DSZ Denniston Nort 74.53 132 P **P 09 14 49.0 +0.6**
ANTO Ankara 74.59 313 P **P 09 14 48.5 -0.3**
ANTO IAmb IAmb 09 14 58.7
comp=Z,26nm,0.9s
ANTO Ankara 74.59 313 ⇑P **P 09 14 49.6 +0.7**
ANTO Ankara 74.59 313 P **P 09 14 48.5 -0.3**
ANTO pmax pmax
comp=Z,26nm,0.9s
VORR Voronezh 74.67 326 *e*P **P 09 14 48.7 -0.2**
VORR pmax pmax
comp=Z,24nm,0.7s
QRZ Quartz Range 74.91 131 IAMs_20 IAMs_20 09 47 27.2
comp=Z,4μm,22.0s
LTZ Lake Taylor 75.05 133 P **P 09 14 51.5 0.0**
LPSR Galich'ya Gora 75.22 326 *e*P **P 09 14 52.0 -0.1**
LPSR pmax pmax
comp=Z,27nm,1.0s
SIM Simferopol' 75.26 318 *e*P **P 09 14 51.2 -1.3**
SIM *e* 09 15 04.0
SIM *e*S **S 09 24 29.0 -1.9**
SIM pmax pmax
comp=Z,27nm,1.2s
BOSA Boshof 75.30 241 P **P 09 14 53.4 +0.2**
BOSA Boshof 75.30 241 P **P 09 14 54.4 +1.2**
comp=Z,6.7nm,0.9s,baz=90,slow=7.1,SNR=9.0
comp=Z,6.7nm,0.9s
BOSA Boshof 75.30 241 P **P 09 14 53.4 +0.2**
BOSA pmax pmax
comp=Z,16nm,1.0s
THZ Tophouse 75.34 132 IAMs_20 IAMs_20 09 47 42.6
comp=Z,3μm,22.0s
THZ Tophouse 75.34 132 P **P 09 14 54.7 +1.5**
NNZ Nelson 75.61 132 IAMs_20 IAMs_20 09 49 47.6
comp=Z,3μm,19.0s
ISP Isparta 75.73 310 IAMs_20 IAMs_20 09 52 07.3
comp=Z,2μm,19.0s
KHZ Kahutara 75.91 133 P **P 09 14 57.3 +1.0**
SEY Seymchan 76.39 22 P **P 09 14 58.1 -0.4**
comp=Z,10nm,0.8s,baz=246,slow=7.7,SNR=17
comp=Z,10nm,0.8s
SEY Seymchan 76.39 22*ce*P **P 09 14 58.9 +0.4**
SEY pmax pmax
comp=Z,1.0nm,0.2s
TIXI Tiksi 76.68 9 P **P 09 14 58.9 -1.1**
TIXI IAmb IAmb 09 15 08.1
comp=Z,31nm,0.8s
TIXI Tiksi 76.68 9 IAMs_20 IAMs_20 09 51 41.1
comp=Z,3μm,20.0s
TIXI Tiksi 76.68 9*ce*P **P 09 14 58.9 -1.1**
TIXI pmax pmax
comp=Z,29nm,0.8s
BHW Baring Head 76.75 132 IAMs_20 IAMs_20 09 48 45.8
comp=Z,2μm,21.0s
TOZ Tahuroa Road 76.76 128 IAMs_20 IAMs_20 09 48 44.4
comp=Z,2μm,21.0s
KUZ Kuaotunu 76.82 127 P **P 09 15 03.8 +2.2**
NGZ Ngauruhoe 77.01 129 P **P 09 15 04.1 +1.3**
SYO Syowa Base 77.09 199 ⇑*iP* **P 09 15 05.4 +3.0**
SYO Syowa Base 77.09 199 ⇓*e*sP sP 09 15 09.1 -1.8
MRZ Mangatainoka R 77.18 131 IAMs_20 IAMs_20 09 51 00.2
comp=Z,4μm,21.0s
MRZ Mangatainoka R 77.18 131 P **P 09 15 04.0 +0.5**
MOS Moscow 77.25 329 *e*P **P 09 15 02.0 -1.5**
MOS pmax pmax
comp=Z,40nm,0.9s
YLV Yalova 77.30 313 P **P 09 15 04.3 0.0**
comp=Z,418nmcomp=Z,40nm,1.0s
OBN Obninsk 77.54 328 *d iP* **P 09 15 05.7 +0.6**
OBN *i* *PP **pP 09 15 08.1 -3.3**
OBN *i* *SP **sP 09 15 10.6 -2.9**
OBN *i* 09 15 14.4
OBN *i* S **S 09 24 51.6 -3.8**
OBN *i* PS **PnS 09 25 41.8 +5.5**
OBN *e*SS **SS 09 29 48.9 -6.0**
OBN *i* SSS SSS 09 33 16.7
OBN pmax pmax
comp=Z,30nm,1.3s
OBN MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 77.54 328 P **P 09 15 05.6 +0.5**
comp=Z,30nm,1.5s
BFZ Birch Farm 77.68 131 P **P 09 15 07.1 +0.7**
BKZ Black Stump Fm 77.70 129 P **P 09 15 06.9 +0.3**
BKZ IAMs_20 IAMs_20 09 49 36.1
comp=Z,4μm,20.0s
BKZ Black Stump Fm 77.70 129 P **P 09 15 07.7 +1.2**
BKZ Black Stump Fm 77.70 129 P **P 09 15 07.2 +0.7**
RTZ Ruatahuna 78.02 129 P **P 09 15 08.4 +0.1**
CTYL Yalikoy Yolu 78.33 313 P **P 09 15 09.8 0.0**
comp=Z,4μmcomp=Z,24nm,1.1s
MWZ Matawai 78.42 128 P **P 09 15 10.9 +0.4**
HAZ Te Kaha 78.56 128 P **P 09 15 11.4 +0.2**
KLMR Klimovskoe 78.61 334 *e*P **P 09 15 07.6 -3.4**
KLMR pmax pmax
comp=Z,57nm,1.4s
TIRR Tirgusor 79.00 316 P **P 09 15 14.6 +1.1**
TIRR pmax pmax
comp=Z,20nm,1.0s
TPGR Topolog 79.10 317 ⇑P **P 09 15 15.0 +1.0**
CFR Carcaliu 79.37 317 ⇑P **P 09 15 16.0 +0.5**
CFR Carcaliu 79.37 317 P **P 09 15 16.0 +0.5**
SUR Sutherland 79.39 238 P **P 09 15 15.8 -0.4**
SUR IAmb IAmb 09 15 27.9
comp=Z,53nm,1.1s
SORM Soroca 80.01 320 ⇑P **P 09 15 19.8 +0.9**
SORM Soroca 80.01 320 P **P 09 15 19.8 +0.9**
AK10 Malin Array Si 80.14 322 P **P 09 15 18.8 -0.7**
AKASG Malin Array Be 80.18 322 P **P 09 15 19.3 -0.5**
comp=Z,3.2nm,0.8s,baz=95,slow=4.4,SNR=12
AKASG PP **PP 09 18 20.6 -1.8**
comp=Z,0.3nm,0.5s,baz=100,slow=5.6,SNR=4.1
AKASG Malin Array Be 80.18 322 *i* P **P 09 15 19.7 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 80.18 322*ce*P **P 09 15 18.7 -1.1**
AKBB pmax pmax
comp=Z,14nm,1.3s
AKBB Malin Array Si 80.18 322 P **P 09 15 19.3 -0.5**
KIEV Kiev 80.19 322 P **P 09 15 19.7 -0.1**
KIEV Kiev 80.19 322 P **P 09 15 19.7 -0.1**
KIEV pmax pmax
comp=Z,10.0nm,1.1s
VRI Vrincioaia 80.50 317 ⇑P **P 09 15 23.4 +1.7**
VRI Vrincioaia 80.50 317 P **P 09 15 23.4 +1.7**
PLOR Plostina 80.55 317 ⇑P **P 09 15 23.7 +1.6**
PLOR Plostina 80.55 317 P **P 09 15 23.6 +1.6**
TESR Tescani 80.72 318 ⇓P **P 09 15 23.7 +0.9**
TESR Tescani 80.72 318 P **P 09 15 23.6 +0.8**
comp=Z,927nmcomp=Z,39nm,1.2s
MI30 MI30,Zelenitsa 80.83 322 P **P 09 15 23.3 0.0**
comp=Z,16nm,1.2s
ONER Baraj Valea Uz 80.84 318 ⇑P **P 09 15 25.1 +1.6**
LUBAR Lubar, Ukraine 80.87 321 P **P 09 15 22.9 -0.6**
MLR Muntele Rosu 80.95 317 IAmb IAmb 09 15 35.1
comp=Z,55nm,1.3s
MLR Muntele Rosu 80.95 317 ⇑P **P 09 15 25.7 +1.5**
MLR Muntele Rosu 80.95 317 P **P 09 15 25.7 +1.5**
MI28 Mi28,Pidlybu 81.19 322 P **P 09 15 23.0 -2.2**
comp=Z,20μmcomp=Z,108nm,1.1s
KMPD K-Podol'skiy 81.34 320 P **P 09 15 25.1 -0.9**
VOIR 81.55 317 ⇑P **P 09 15 28.9 +1.5**
VOIR 81.55 317 P **P 09 15 28.8 +1.5**
ARR Arges 81.82 316 ⇓P **P 09 15 29.4 +0.6**
BURAR Bucovina Array 81.93 319 ⇑P **P 09 15 31.2 +1.8**
BURAR Bucovina Array 81.93 319 P **P 09 15 31.1 +1.8**
LIT Litokhoron 82.34 311 IAmb IAmb 09 15 40.5
comp=Z,18nm,0.9s
WIN Windhoek 82.41 248 IAMs_20 IAMs_20 09 51 40.7
comp=Z,2μm,18.0s
STNU Starunia 82.64 320 P **P 09 15 32.7 -0.2**
SHEM Shemya Is, Ala 82.66 36 P **P 09 15 31.7 -1.1**
comp=Z,80nm,0.9s,baz=262,slow=15,SNR=1.8
comp=Z,80nm,0.9s
MARR Marisel-Cluj 83.12 318 ⇑P **P 09 15 37.4 +1.8**
ELIB Princess Elisa 83.19 198 *d*P **P 09 15 37.7 +2.2**
comp=Z,13nm,1.0s
DRGR 83.42 318 ⇓P **P 09 15 38.4 +1.3**
DRGR 83.42 318 P **P 09 15 38.3 +1.3**
BERU Beregovo 83.75 319 P **P 09 15 40.0 +1.4**
BILL Bilibino 83.93 20 P **P 09 15 39.0 -0.2**
BILL IAMs_20 IAMs_20 09 58 01.5
comp=Z,3μm,18.0s
BILL Bilibino 83.93 20 P **P 09 15 39.2 +0.1**
BZS Buzias 83.95 316 ⇑P **P 09 15 40.3 +0.5**
BZS Buzias 83.95 316 P **P 09 15 40.2 +0.5**
KOLS Kolonicke sedl 84.13 320 *e*P **P 09 15 42.0 +1.4**
KOLS *e* 09 15 50.6
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 84.13 320 *e*P **P 09 15 42.0 +1.4**
KOLS *e* 09 15 50.6
PABE Paberze 84.49 326 IAmb IAmb 09 16 07.2
comp=Z,35nm,1.0s
SUW Suwalki 84.60 325 *e*P **P 09 15 44.0 +1.2**
STHS Stebnicka Huta 84.88 320 *e*P **P 09 15 46.1 +1.7**
STHS *e* 09 15 52.0
STHS Stebnicka Huta 84.88 320 *e*P **P 09 15 46.1 +1.7**
STHS *e* 09 15 52.0
FINES FINESS Array B 84.88 332 P **P 09 15 44.8 +0.7**
comp=Z,3.1nm,0.6s,baz=106,slow=4.9,SNR=26
comp=Z,3.1nm,0.6s
FINES FINESS Array B 84.88 332 *i* P **P 09 15 45.0 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
NIE Niedzica 85.49 320 *e*P **P 09 15 49.1 +1.7**
PSZ Piszkesteto 85.51 318 ⇑P **P 09 15 49.0 +1.4**
PSZ Piszkesteto 85.51 318 P **P 09 15 49.0 +1.4**
OJC Ojcow 85.94 321 *e*P **P 09 15 51.4 +1.8**
MORH Mrgy, Hungar 86.10 317 ⇓P **P 09 15 51.4 +1.0**
VYHS Vyhne 86.30 319 *e*P **P 09 15 52.8 +1.4**
VYHS *e* 09 16 01.0
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 86.30 319 *e*P **P 09 15 52.8 +1.4**
VYHS *e* 09 16 01.0
NVL N'lazarevskaya 86.74 199 *e*P **P 09 16 01.7 +8.6**
NVL *e*S **S 09 26 26.4 -3.1**
NVL pmax pmax
comp=Z,11nm,0.9s
NVL MLR MLR
comp=Z,738nm,17.0s
JAVC Velka Javorina 87.11 319 *e*P **P 09 15 56.7 +1.2**
QSPA South Pole Qui 87.12 180 P **P 09 15 56.0 +0.8**
QSPA IAmb IAmb 09 16 06.9
comp=Z,24nm,1.3s
QSPA South Pole Qui 87.12 180 P **P 09 15 56.5 +1.3**
comp=Z,2.4nm,0.9s,baz=297,slow=1.5,SNR=11
comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 87.28 340 P **P 09 15 56.3 +0.4**
comp=Z,10nm,0.9s,baz=106,slow=5.3,SNR=23
comp=Z,10nm,0.9s
MODS Modra-Piesok 87.31 319 *e*P **P 09 15 57.1 +0.7**
MODS *e* 09 16 04.5
MODS pmax pmax
comp=Z,22nm,1.1s
MODS Modra-Piesok 87.31 319 *e*P **P 09 15 57.0 +0.7**
MODS *e* 09 16 04.5
MORC Moravsky Berou 87.32 320 P **P 09 15 56.6 +0.2**
MORC IAmb IAmb 09 16 52.0
comp=Z,54nm,2.0s
MORC Moravsky Berou 87.32 320 *e*P **P 09 15 56.9 +0.5**
MORC *e* 09 16 05.3
MORC Moravsky Berou 87.32 320 ⇑P **P 09 15 57.7 +1.2**
MORC Moravsky Berou 87.32 320 P **P 09 15 56.6 +0.2**
MORC pmax pmax
comp=Z,54nm,2.0s
RONA Rosalia, Austr 87.88 318 *e*P **P 09 16 00.6 +1.4**
comp=Z,5.4nm,1.0s
KRUC Moravsky 87.97 319 *e*P **P 09 15 59.8 +0.3**
KRUC *e* 09 16 08.1
CONA Conrad Observa 88.20 318 *e*P **P 09 16 01.9 +1.1**
comp=Z,4.6nm,1.2s
KSP Ksiaz 88.24 321 *e*P **P 09 16 02.8 +2.0**
ARSA Arzberg 88.35 317 *e*P **P 09 16 02.5 +1.0**
comp=Z,13nm,1.3s
SOKA Soboth 88.63 317 *e*P **P 09 16 03.0 +0.2**
comp=Z,16nm,1.7s
OBKA Obir 88.95 316 *e*PcP **PcP 09 16 05.9 +0.1**
comp=Z,12nm,1.0s
MOA Molln 89.26 318 *i* P **P 09 16 06.6 +1.0**
comp=Z,10nm,1.8s
MYKA Terra Mystica 89.58 317 *i* pP pP 09 16 11.0 -2.6
comp=Z,18nm,1.6s
TROLL Troll, Antarti 89.64 198 P **P 09 16 09.2 +2.1**
TROLL Troll, Antarti 89.64 198 ⇑P **P 09 16 09.2 +2.1**
comp=Z,624nm,0.9s
BIOA Bad Ischl, Aus 89.67 318 *i* P **P 09 16 08.3 +0.8**
comp=Z,7.1nm,1.1s
GEC2 GERESS Array S 89.72 319 IAmb IAmb 09 16 18.4
comp=Z,25nm,1.3s
GERES GERESS Array B 89.72 319 P **P 09 16 08.4 +0.5**
GERES GERESS Array B 89.72 319 P **P 09 16 08.9 +1.0**
comp=Z,3.7nm,0.9s,baz=94,slow=5.6,SNR=14
comp=Z,3.7nm,0.9s
BRG Berggiesshubel 89.73 321 *e*P **P 09 16 09.3 +1.5**
BRG Amp 09 16 10.2
comp=Z,8.0nm,1.1s
KBA Koelnbreinsper 89.82 317 *i* P **P 09 16 08.7 +0.2**
comp=Z,9.2nm,1.3s
LESA Schwarzleotal 90.30 317 *i* P **P 09 16 09.7 -0.9**
comp=Z,7.9nm,1.4s
ABTA Abfaltersbach 90.36 317 *e*P **P 09 16 11.9 +0.9**
comp=Z,8.4nm,1.0s
CIMO Cimolais 90.39 316 IAmb IAmb 09 16 21.7
comp=Z,31nm,1.1s
HFS Hagfors 90.63 330 P **P 09 16 12.3 +0.6**
comp=Z,6.3nm,1.0s,baz=100,slow=6.3,SNR=3.6
comp=Z,6.3nm,1.0s
CTI Castel Tesino 90.92 316 IAmb IAmb 09 16 26.6
comp=Z,18nm,1.0s
WTTA Wattenberg 90.99 317 *i* P **P 09 16 14.2 +0.2**
comp=Z,18nm,1.1s
WATA Walderalm 91.04 317 *i* P **P 09 16 14.4 +0.3**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 91.28 317 *e*P **P 09 16 15.8 +0.5**
comp=Z,13nm,1.1s
SNAA Sanae 91.36 198 IAMs_20 IAMs_20 09 53 39.3
comp=Z,1μm,21.0s
SNAA Sanae 91.36 198 P **P 09 16 16.5 +1.5**
comp=Z,1.1nm,0.7s,baz=104,slow=18,SNR=3.1
comp=Z,1.1nm,0.7s
MOTA Moosalm 91.36 317 *i* P **P 09 16 15.9 +0.3**
comp=Z,11nm,1.1s
GRF Grafenberg Arr 91.39 319 *e*P **P 09 16 16.7 +1.2**
comp=Z,12nm,1.2s,baz=113,slow=4.0
SPITS Spitsbergen Ar 91.47 348 P **P 09 16 14.8 -0.6**
comp=Z,7.9nm,0.8s,baz=98,slow=5.1,SNR=9.3
comp=Z,7.9nm,0.8s
RETA Reutte 91.60 317 *i* P **P 09 16 16.8 +0.2**
comp=Z,6.5nm,0.9s
FETA Feichten 91.60 317 *i* P **P 09 16 17.6 +0.8**
comp=Z,10nm,1.2s
FUORN Ofenpass-Fuorn 91.90 316 IAmb IAmb 09 16 34.9
comp=Z,15nm,1.2s
NB2 NORSAR Subarra 91.91 331 P **P 09 16 17.7 0.0**
comp=Z,4.3nm,1.0s,baz=93,slow=4.6
NOA NORSAR Array B 91.91 331 P **P 09 16 17.4 -0.3**
comp=Z,2.0nm,0.8s,baz=92,slow=4.5,SNR=6.2
comp=Z,2.0nm,0.8s
DAVA Damuels 92.19 317 *i* PcP **PcP 09 16 21.1 +0.9**
comp=Z,21nm,1.3s
KEST Kesra 92.22 305 IAmb IAmb 09 16 32.3
comp=Z,20nm,0.9s
KEST Kesra 92.22 305 P **P 09 16 20.3 +0.5**
comp=Z,11nm,1.0s,baz=70,slow=14,SNR=4.8
comp=Z,11nm,1.0s
M11K Mekoryuk 94.32 30 IAMs_20 IAMs_20 10 04 33.8
comp=Z,2μm,20.0s
C16K Lisburne Hills 94.34 22 IAmb IAmb 09 16 38.2
comp=Z,19nm,1.3s
ANM Nome 94.53 26 IAMs_20 IAMs_20 09 53 58.0
comp=Z,2μm,22.0s
F15K North Star Dit 94.77 24 IAmb IAmb 09 16 40.4
comp=Z,13nm,1.2s
F15K IAMs_20 IAMs_20 09 54 00.2
comp=Z,2μm,21.0s
K13K Kusilvak Mount 95.00 28 IAMs_20 IAMs_20 10 04 52.6
comp=Z,2μm,22.0s
TAM Tamanrasset 95.27 293 IAMs_20 IAMs_20 10 07 33.9
comp=Z,1μm,22.0s
G16K Koyuk River 95.75 25 IAmb IAmb 09 16 44.4
comp=Z,16nm,1.1s
D19K Kuna River 96.97 21 IAmb IAmb 09 17 00.6
comp=Z,9.3nm,1.0s
J17K VABM Dome 97.41 26 IAMs_20 IAMs_20 09 54 30.1
comp=Z,2μm,21.0s
H18K Honhosa River 97.44 25 IAmb IAmb 09 17 10.4
comp=Z,26nm,1.6s
H18K IAMs_20 IAMs_20 09 54 29.9
comp=Z,2μm,22.0s
E19K Redstone River 97.49 22 IAmb IAmb 09 16 52.2
comp=Z,12nm,1.1s
E19K IAMs_20 IAMs_20 10 08 34.0
comp=Z,2μm,19.0s
G19K Purcell Mounta 97.79 24 IAmb IAmb 09 16 53.7
comp=Z,8.6nm,1.1s
B21K Ikpikpuk River 97.98 20 IAmb IAmb 09 16 49.7
comp=Z,8.3nm,0.9s
J18K Innoko River 98.44 26 IAMs_20 IAMs_20 09 54 40.5
comp=Z,2μm,22.0s
F21K Alatna River 98.96 22 IAmb IAmb 09 17 22.4
comp=Z,7.9nm,1.4s
I23K Minto, Yukon-K 101.14 24 IAMs_20 IAMs_20 10 09 02.6
comp=Z,2μm,20.0s
G24K Hadweenzic Riv 101.37 22 IAMs_20 IAMs_20 09 56 07.6
comp=Z,2μm,20.0s
BWN Browne 101.39 25 IAMs_20 IAMs_20 09 55 13.1
comp=Z,2μm,20.0s
C27K Jago River 101.59 19 IAMs_20 IAMs_20 10 11 17.1
comp=Z,2μm,21.0s
M22K Willow 101.81 27 IAMs_20 IAMs_20 10 09 41.5
comp=Z,2μm,20.0s
COLA College 101.83 24 IAMs_20 IAMs_20 09 55 18.8
comp=Z,2μm,22.0s
WRH Wood River Hil 101.87 24 IAMs_20 IAMs_20 09 55 16.8
comp=Z,2μm,20.0s
CNPM China Poot 101.88 30 IAMs_20 IAMs_20 10 10 31.6

comp=Z,1μm,22.0s
RND Reindeer 101.88 25 IAMs_20 IAMs_20 09 55 06.3
comp=Z,2μm,20.0s
POKR Poker Plat Res 101.92 24 IAMs_20 IAMs_20 10 09 55.2
comp=Z,2μm,22.0s
CCB Clear Creek Bu 101.93 24 IAMs_20 IAMs_20 10 09 53.4
comp=Z,2μm,22.0s
BRLK Bradley Lake 101.99 29 IAMs_20 IAMs_20 10 00 52.3
comp=Z,2μm,20.0s
SLKM Skilak Lake 102.11 28 IAMs_20 IAMs_20 10 09 52.5
comp=Z,2μm,21.0s
RC01 Rabbit Creek A 102.17 28 IAMs_20 IAMs_20 10 11 09.2
comp=Z,2μm,20.0s
ILAR Eielson Array 102.26 24 PP **PP 09 21 14.3 -2.1**
comp=Z,1.2nm,0.8s,baz=281,slow=6.8,SNR=9.5
ILAR PKKPbc **PKKPbc 09 33 07.7 -1.7**
comp=Z,0.1nm,0.6s,baz=134,slow=2.6,SNR=4.5
ILAR PKKP **PKKPdf 09 33 15.9 -0.4**
comp=Z,1.4nm,1.0s,baz=136,slow=2.2,SNR=9.9
O22K Cooper Landing 102.35 28 IAMs_20 IAMs_20 10 10 09.0
comp=Z,2μm,21.0s
PRP Porcupine Dome 102.53 23 IAMs_20 IAMs_20 09 56 26.3
comp=Z,2μm,21.0s
D27M Malcolm River 102.63 19 IAMs_20 IAMs_20 10 09 45.6
comp=Z,2μm,21.0s
KNK Knik Glacier 102.67 27 IAMs_20 IAMs_20 10 11 23.3
comp=Z,2μm,22.0s
J25K Salcha River, 102.92 24 IAMs_20 IAMs_20 10 12 01.7
comp=Z,1μm,22.0s
SCM Sheep Creek Mo 103.05 27 IAMs_20 IAMs_20 09 56 55.3
comp=Z,2μm,20.0s
E28M Babbage River 103.38 19 IAMs_20 IAMs_20 10 07 24.5
comp=Z,1μm,21.0s
RIDG Independent Ri 103.46 24 IAMs_20 IAMs_20 10 10 07.9
comp=Z,2μm,20.0s
G27K Doyon Strip 103.46 21 IAMs_20 IAMs_20 10 09 50.8
comp=Z,2μm,21.0s
I26K Coal Creek Min 103.53 23 IAMs_20 IAMs_20 10 10 36.7
comp=Z,2μm,21.0s
J26L Joseph Creek 103.69 24 IAMs_20 IAMs_20 09 56 37.9
comp=Z,2μm,21.0s
SCRK Sand Creek 103.72 24 IAMs_20 IAMs_20 10 12 07.8
comp=Z,1μm,21.0s
F28M Old Crow 103.73 20 IAMs_20 IAMs_20 10 12 15.7
comp=Z,2μm,20.0s
E29M Blow River 104.02 19 IAMs_20 IAMs_20 10 07 50.2
comp=Z,2μm,21.0s
N25K Chitina, Valde 104.35 26 IAMs_20 IAMs_20 09 56 49.6
comp=Z,2μm,21.0s
EGAK Eagle 104.52 23 IAMs_20 IAMs_20 10 10 04.9
comp=Z,2μm,22.0s
I28M Miner Creek 104.69 22 IAMs_20 IAMs_20 10 09 57.3
comp=Z,2μm,22.0s
M26K Nabesna, AK 104.75 25 IAMs_20 IAMs_20 09 57 08.0
comp=Z,2μm,20.0s
GLB Gilahina Butte 104.76 26 IAMs_20 IAMs_20 09 55 34.5
comp=Z,2μm,20.0s
L27K Beaver Creek, 104.97 25 IAMs_20 IAMs_20 09 56 56.0
comp=Z,2μm,22.0s
VRDI Verde Repeater 105.00 27 IAMs_20 IAMs_20 09 56 57.8
comp=Z,2μm,22.0s
M27K Edge Creek, AK 105.24 25 IAMs_20 IAMs_20 09 56 37.1
comp=Z,2μm,22.0s
EPYK Eagle Plains 105.42 20 IAMs_20 IAMs_20 09 56 58.3
comp=Z,2μm,20.0s
J29N Klondike Camp 105.80 23 IAMs_20 IAMs_20 09 56 39.7
comp=Z,2μm,22.0s
H09W1 TRISTAN DA CUN105.93 230 T T 11 15 27.3
SNR=11
I30M Mount Dempster 106.11 21 IAMs_20 IAMs_20 10 12 39.8
comp=Z,2μm,19.0s
TULEG Thule 106.12 357 IAMs_20 IAMs_20 10 13 01.8
comp=Z,1μm,22.0s
K29M Barlow Dome 106.36 23 IAMs_20 IAMs_20 09 57 12.5
comp=Z,2μm,22.0s
M30M Minto, Yukon 107.26 24 IAMs_20 IAMs_20 09 57 01.3
comp=Z,2μm,21.0s
TBI Tubuai 107.57 115 *e*LR LR 09 52 55.6
comp=Z,6μm,24.5s
TBI *e*LR LR 09 53 00.5
comp=Z,2μm,25.8s
M31M Drury Creek, Y 108.42 24 IAMs_20 IAMs_20 09 57 14.9
comp=Z,2μm,21.0s
PPT2 Papeete2 108.47 109 *e*LR LR 09 53 25.9
comp=Z,1μm,26.2s
PPT2 *e*LR LR 09 53 30.8
comp=Z,1μm,28.0s
N32M Quiet Lake 109.50 24 IAMs_20 IAMs_20 09 57 27.6
comp=Z,2μm,22.0s
S31K Pelican 109.71 28 IAMs_20 IAMs_20 09 57 18.6
comp=Z,2μm,22.0s
R33M Jennings River 111.34 25 IAMs_20 IAMs_20 09 57 37.4
comp=Z,2μm,19.0s
YKA Yellowknife Ar 115.16 17 PKP **PKiKP 09 21 50.3 -0.2**
comp=Z,1.1nm,0.8s,baz=308,slow=1.8,SNR=15
YKA PP **PP 09 22 48.0 -2.1**
comp=Z,1.3nm,0.9s,baz=325,slow=6.7,SNR=7.5
YKA PKKPbc **PKKPbc 09 32 28.1 0.0**
comp=Z,0.6nm,1.0s,baz=148,slow=3.9,SNR=5.3
FFC Flin Flon 125.26 15 PKPdf **PKiKP 09 22 10.6 +0.1**
FFC Flin Flon 125.26 15 PKIKP **PKiKP 09 22 10.6 +0.1**
L04D Klamath Falls 125.54 38 PKPdf **PKiKP 09 22 12.0 +0.3**
SCHQ Schefferville 127.09 351 PKP **PKiKP 09 22 14.4 +0.2**
comp=Z,3.2nm,0.8s,baz=214,slow=3.6,SNR=4.3
DLMT Dillon 128.90 29 IAMs_20 IAMs_20 10 27 50.1
comp=Z,1μm,20.0s
NVAR Mina Array Bea 130.22 40 PKP **PKiKP 09 22 22.0 +0.8**
comp=Z,1.8nm,0.8s,baz=307,slow=3.4,SNR=4.7
ULM Lac du Bonnet 130.88 13 PKP **PKPdf 09 22 21.5 +0.5**
comp=Z,4.2nm,0.6s,baz=333,slow=6.8,SNR=11
FXWY Fox Creek 130.92 30 IAMs_20 IAMs_20 10 03 29.8
comp=Z,1μm,19.0s
COYC Coyhaique 131.28 187 IAMs_20 IAMs_20 10 31 10.7
comp=Z,1μm,21.0s
PDAR Pinedale Array 132.29 29 PKP **PKPdf 09 22 24.0 -0.3**
comp=Z,0.6nm,0.6s,baz=299,slow=3.7,SNR=6.3
PDAR PP **PP 09 24 49.6 +3.6**
comp=Z,3.3nm,1.3s,baz=313,slow=7.9,SNR=4.8
RSSD Black Hills 133.71 24 PKPdf **PKPdf 09 22 27.5 +0.6**
RSSD Black Hills 133.71 24 PKIKP **PKPdf 09 22 27.5 +0.6**
VAO Valinhos 138.83 230 *e*P **PKiKP 09 22 38.3 -0.6**
BDFB Brasília 143.46 239 PKP **PKPdf 09 22 44.4 -0.9**
comp=Z,1.4nm,0.4s,baz=127,slow=5.1,SNR=2.1
CPUP Villa Florida 143.67 216 **PKPdf 09 22 44.1 -1.1**
CPUP Villa Florida 143.67 216 PKP PKPbc 09 22 43.8 +1.1
comp=Z,2.2nm,0.7s,baz=162,slow=3.2,SNR=8.7
CPUP Villa Florida 143.67 216 PKIKP PKPbc 09 22 44.1 +1.4
MGMO Mountain Grove 144.03 17 PKPbc 09 22 43.8 +0.4
SN05 Snyder 5 144.26 31 **PKPab 09 22 44.1 +0.1**
X34A Smith Ranch, M 144.29 26 PKPdf PKPbc 09 22 44.7 +0.3
WCI Wyandotte Cave 144.31 9 PKPbc 09 22 44.3 0.0
WCI Wyandotte Cave 144.31 9 PKIKP PKPbc 09 22 44.3 0.0
SLBS Sierra La Lagu 144.36 52 PKPdf **PKPdf 09 22 46.3 -0.4**
WTFS Witchita Falls 144.71 27 PKPdf PKPbc 09 22 46.1 +0.4
R58B Mineral 145.00 357 PKPbc 09 22 46.8 +0.3
S57A Dark Hollow, R 145.24 359 **PKPdf 09 22 47.6 0.0**
TXAR Lajitas Array 145.34 38 PKPbc **PKPab 09 22 48.3 +0.2**
comp=Z,32nm,0.8s,baz=319,slow=3.0,SNR=178
TXAR PP **PP 09 26 06.4 -0.5**
comp=Z,1.0nm,0.9s,baz=326,slow=4.2,SNR=1.8
RPRD Ribas do Rio P 145.35 227 *e*P **PKiKP 09 22 52.0 -0.3**
PLPT Palo Pinto 145.57 28 PKPdf **PKPbc 09 22 48.8 +0.2**
RCRC Randolf Colleg 145.58 359 **PKPdf 09 22 48.4 +0.1**
SMTB Santa Maria do 145.71 250 *e*P **PKiKP 09 22 52.0 -1.2**
C2SB Chapadao do Su 145.75 230 *e*P **PKiKP 09 22 52.5 -0.6**
GO04 Tololo Observa 146.02 194 **PKPab 09 22 50.9 +0.1**
WVT Waverly 146.09 11 **PKPbc 09 22 49.7 -0.3**
WVT Waverly 146.09 11 PKP2 **PKPbc 09 22 49.7 -0.3**
JCT Junction City 146.71 32 **PKPab 09 22 52.8 -0.4**
JCT Junction City 146.71 32 PKP2 **PKPab 09 22 52.8 -0.4**
AQDB Aquidauana 146.79 225 *e*P **PKPbc 09 22 52.1 -0.4**
TKL Tuckaleechee C 147.16 6 PKPbc **PKPbc 09 22 52.7 -0.5**
comp=Z,13nm,0.6s,baz=0.0,slow=1.0,SNR=14
MURT Porto Murtinho 147.27 221 *e*P **PKPbc 09 22 53.8 0.0**
BDQN Bodoquena, MS 147.53 223 *e*P **PKPbc 09 22 54.6 0.0**
W59A Clinton 147.81 358 **PKiKP 09 22 56.3 -0.6**
W57A Gilead 147.86 0 **PKPbc 09 22 55.4 +0.3**
W57A IAMs_20 IAMs_20 10 43 15.6
comp=Z,1μm,21.0s
AC02 Maricunga 148.69 199 **PKPbc 09 22 56.6 -1.5**
CLDB Colider 152.37 240 *e*P **PKPdf 09 23 01.2 +1.4**
PTLB Pontes e Lacer 152.53 228 **PKiKP 09 23 07.3 +0.1**
PTLB Pontes e Lacer 152.53 228 *e*P **PKPdf 09 23 03.0 +3.0**
PDRB Porto dos Gac 152.81 238 *e*P **PKPdf 09 23 03.5 +3.1**
NPGB Novo Progresso 153.56 248 *e*P **PKPdf 09 23 02.3 +0.7**
ANWB Willy Bob 156.88 311 IAMs_20 IAMs_20 10 21 11.3
comp=Z,914nm,22.0s
ABD La Joyeuse, An 157.35 308 IAMs_20 IAMs_20 10 45 50.2
comp=Z,1μm,20.0s
SMRT St. Maarten 157.60 314 IAMs_20 IAMs_20 10 25 38.9
comp=Z,929nm,19.0s
LPAZ La Paz 157.68 211 PKP **PKPdf 09 23 09.1 +1.3**
comp=Z,6.3nm,1.1s,baz=137,slow=0.8,SNR=8.9
LPAZ La Paz 157.68 211 *e*P **PKPdf 09 23 10.1 +2.3**
SEUS St. Eustatius 157.88 312 IAMs_20 IAMs_20 10 21 59.7
comp=Z,1μm,21.0s
MPOM Morne Pois Mar 157.92 303 IAMs_20 IAMs_20 10 15 36.8
comp=Z,910nm,20.0s
OTAV Otavalo 177.00 210 *e*P **PKPdf 09 23 22.1 +0.5**

---

*IDC **02** 09:14:26.6±6.7, 14°.76N×91°.93W, h59km±46km, mb4.0/11, mbtmp4.2/13, ML4.1/2, Error ellipse: s-maj=54.7km s-min=32.4km az=168.0*
*MEX **02** 09:14:29.4±1.2, 14°.57N×92°.66W, h76km±13km, MD4.4*
*GCG **02** 09:14:29.0±1.5, 14°.67N×92°.54W, h78km±7km, MD4.7, ML3.8, MW3.7, Hypocentre not reviewed by the ISC*
*NEIC **02** 09:14:31.0±1.7, 14°.78N±0°.08×92°.40W±0°.07, h80km±6km, mb4.2/84, Md4.4/86(MEX), Error ellipse: s-maj=14.3km s-min=6.3km az=216.0*
*SNET **02** 09:14:30.4±0.7, 14°.72N×92°.44W, h74km±6km, ML4.4*
ISC 02 09:14:29.4±0.7, 14°.69N±0°.04×92°.56W±0°.03, h86km±6km, n193, σ2°16/244, mb4.2/38, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**0.36**	**52**			**Pn**		**09 14 41.6**	**-1.1**
THIG						**Sn**		**09 14 50.9**	**-1.7**
THIG		**0.36**	**52**	*e*P		**Pn**		**09 14 41.6**	**-1.1**
THIG				*e*S		**Sn**		**09 14 50.9**	**-1.7**
THIG		**0.36**	**52**	*e*P				09 14 41.3	
THIG				*i* S				09 14 51.0	
THIG				IAML				09 14 58.2	
comp=Z,13μm,0.4s									
CHUJ	**Union Juarez**	**0.59**	**47**	*e*P		**Pn**		**09 14 43.6**	**-1.2**
CHUJ				*e*S		**Sn**		**09 14 54.0**	**-2.3**
RTAL	**Retalhuleu**	**0.85**	**101**			**Pn**		**09 14 46.3**	**-0.9**
RTAL					Sn	**Sn**		**09 14 59.1**	**-1.3**
RTAL	**Retalhuleu**	**0.85**	**101**	*e*P		**Pn**		**09 14 46.1**	**-1.1**
RTAL				*e*S		**Sn**		**09 14 59.1**	**-1.3**
RTAL	**Retalhuleu**	**0.85**	**101**	*e*P		**Pn**		**09 14 45.9**	**-1.3**
RTAL				*e*S		**Sn**		**09 14 58.7**	**-1.8**
RTAL	**Retalhuleu**	**0.85**	**101**	P		**Pn**		**09 14 46.3**	**-0.9**
SOKI	**Kika Raxquin**	**1.12**	**83**	*e*P				09 14 50.7	
SOKI				IAML				09 15 09.6	
comp=Z,3μm,0.4s									
PCIG		**1.20**	**328**			**Pn**		**09 14 51.5**	**+0.3**
PCIG						**Sn**		**09 15 07.7**	**+0.1**
PCIG		**1.20**	**328**	*e*P		**Pn**		**09 14 51.5**	**+0.3**
PCIG				*e*S		**Sn**		**09 15 07.7**	**+0.1**
HUEH	**Huehuetenango**	**1.20**	**58**			**Pn**		**09 14 51.4**	**0.0**
HUEH	**Huehuetenango**	**1.20**	**58**	*e*P		**Pn**		**09 14 51.3**	**-0.1**
HUEH				*e*S		**Sn**		**09 15 08.8**	**+0.9**
HUEH	**Huehuetenango**	**1.20**	**58**	*e*P		**Pn**		**09 14 51.4**	**0.0**
HUEH				*e*S		**Sn**		**09 15 06.9**	**-1.1**
HUEH	**Huehuetenango**	**1.20**	**58**	P		**Pn**		**09 14 51.5**	**0.0**
HUEH	**Huehuetenango**	**1.20**	**58**	*e*P				09 14 51.4	
HUEH				*e*S				09 15 09.5	
QUIS	**Sacapulas**	**1.54**	**67**	*e*P				09 14 55.9	
QUIS				IAML				09 15 24.0	
comp=Z,1μm,0.3s									
CCIG	**Comitan**	**1.64**	**14**			**Pn**		**09 14 57.8**	**+0.9**
CCIG	**Comitan**	**1.64**	**14**	*e*P		**Pn**		**09 14 57.8**	**+0.9**
CCIG				*e*S		**Sn**		**09 15 20.0**	**+2.2**
CCIG	**Comitan**	**1.64**	**14**	P		**Pn**		**09 14 57.7**	**+0.7**
CCIG	**Comitan**	**1.64**	**14**	*e*P				09 14 57.8	
CCIG				IAML				09 15 31.1	
comp=Z,2μm,0.6s									
GUMI	**Mixco**	**1.88**	**91**	*e*P				09 15 00.3	
GUMI				*e*S				09 15 25.9	
GUMI				IAML				09 15 28.5	
comp=Z,2μm,0.2s									
GCG4	**OSOP**	**1.96**	**93**	*e*P				09 15 01.0	
GCG4				*e*S				09 15 27.6	
CARR	**Arriaga**	**2.03**	**320**	*e*P		**Pn**		**09 15 03.7**	**+1.9**
CARR				*e*S		**Sn**		**09 15 29.2**	**+2.6**
APG	**El Apazote**	**2.05**	**81**	*i* P				09 15 02.3	
TGBT	**Tuxtla Gutierr**	**2.14**	**346**			**Pn**		**09 15 03.8**	**+0.4**
TGBT						**Sn**		**09 15 28.6**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.14**	**346**	*e*P		**Pn**		**09 15 03.8**	**+0.4**
TGBT				*e*S		**Sn**		**09 15 28.6**	**-0.6**
TGIG		**2.15**	**345**			**Pn**		**09 15 03.4**	**-0.2**
TGIG						**Sn**		**09 15 29.6**	**0.0**
TGIG		**2.15**	**345**	*e*P		**Pn**		**09 15 03.4**	**-0.2**
TGIG				*e*S		**Sn**		**09 15 29.6**	**0.0**
TGIG		**2.15**	**345**	*e*P				09 15 03.3	
TGIG				IAML				09 15 44.8	
comp=Z,1μm,0.5s									
AVCB	**Coban**	**2.22**	**69**	*e*P				09 15 04.8	
AVCB				IAML				09 15 54.3	
comp=Z,2μm,0.6s									
NILT	**Santiago Nilte**	**2.72**	**314**	*e*P		**Pn**		**09 15 12.9**	**+1.8**
NILT				*e*S		**Sn**		**09 15 43.9**	**+0.6**
SLOZ	**Alcaldia de Sa**	**2.77**	**103**	*e*P		**Pn**		**09 15 11.7**	**-0.1**
SLOZ				*e*S		**Sn**		**09 15 43.7**	**-0.7**
SLOZ	**Alcaldia de Sa**	**2.77**	**103**	P		**Pn**		**09 15 12.1**	**+0.3**
LOAL	**Lomas de Alarc**	**2.78**	**104**	*e*P		**Pn**		**09 15 12.0**	**0.0**
LOAL	**Lomas de Alarc**	**2.78**	**104**	P		**Pn**		**09 15 12.6**	**+0.7**
JUAM	**Asuncion Mita**	**2.78**	**97**	*e*P				09 15 11.8	
JUAM				IAML				09 15 51.4	
comp=Z,430nm,0.8s									
NUBE	**Las Nubes**	**2.80**	**106**	*e*P		**Pn**		**09 15 12.5**	**+0.1**
NUBE				*e*S		**Sn**		**09 15 44.5**	**-0.9**
NUBE				IAML				09 15 49.9	
comp=Z,486nm,0.2s									
NUBE	**Las Nubes**	**2.80**	**106**	P		**Pn**		**09 15 12.7**	**+0.3**
NUBE	**Las Nubes**	**2.80**	**106**	*e*P				09 15 12.4	
NUBE				*e*S				09 15 45.3	
RTR	**El Retiro**	**2.93**	**105**	*e*P		**Pn**		**09 15 14.2**	**+0.1**
CEVE	**Cerro Verde**	**2.97**	**106**	*e*P		**Pn**		**09 15 15.0**	**+0.3**
CEVE				IAML				09 15 57.3	
comp=Z,3μm,0.3s									
UNIC	**Universidad Ca**	**3.00**	**103**	*e*P		**Pn**		**09 15 14.6**	**-0.3**
UNIC	**Universidad Ca**	**3.00**	**103**	P		**Pn**		**09 15 16.0**	**+1.1**
UXUV	**UXUV**	**3.03**	**330**	*e*P		**Pn**		**09 15 16.7**	**+1.5**
UXUV				*e*S		**Sn**		**09 15 50.6**	**+0.1**
MTO3	**Montecristo**	**3.11**	**95**			**Pn**		**09 15 15.6**	**-0.9**
MTO3	**Montecristo**	**3.11**	**95**	*e*P		**Pn**		**09 15 16.4**	**-0.1**
MTO3	**Montecristo**	**3.11**	**95**	*e*P				09 15 16.2	
MTO3				IAML				09 16 03.3	
comp=Z,75nm,0.5s									
ESQI	**Esquipulas**	**3.12**	**92**			**Pn**		**09 15 15.9**	**-0.7**
ESQI	**Esquipulas**	**3.12**	**92**	*e*P		**Pn**		**09 15 16.1**	**-0.4**
ESQI				*e*S		**Sn**		**09 15 52.3**	**-0.6**
JAYA	**Jayaque - finc**	**3.19**	**108**	P		**Pn**		**09 15 18.1**	**+0.5**
JAYA	**Jayaque - finc**	**3.19**	**108**	*e*P				09 15 17.7	
JAYA				*e*S				09 15 53.8	
CMIG	**Matias Romero**	**3.27**	**317**			**Pn**		**09 15 19.5**	**+1.0**
CMIG						**Sn**		**09 15 56.9**	**+0.3**
CMIG	**Matias Romero**	**3.27**	**317**	P		**Pn**		**09 15 19.9**	**+1.3**
comp=Z,10nm,0.3s,baz=142,slow=12,SNR=97									
CMIG				S		**Sn**		**09 15 57.3**	**+0.7**
comp=Z,157nm,0.4s,baz=90,slow=20,SNR=6.5									
comp=Z,25nm,0.3s									
CMIG	**Matias Romero**	**3.27**	**317**	*e*P		**Pn**		**09 15 19.5**	**+1.0**
CMIG				*e*S		**Sn**		**09 15 56.9**	**+0.3**
PMON	**Piamonte**	**3.29**	**107**	P		**Pn**		**09 15 19.3**	**+0.3**
VHSA	**Villahermosa**	**3.30**	**354**	*e*P		**Pn**		**09 15 19.8**	**+0.9**
VHSA				*e*S		**Sn**		**09 15 56.8**	**-0.3**
LALI	**Alcalda de L**	**3.36**	**110**	P		**Pn**		**09 15 20.8**	**+1.1**
LALI	**Alcalda de L**	**3.36**	**110**	*e*P				09 15 20.1	
UEES	**Universidad Ev**	**3.36**	**106**	P		**Pn**		**09 15 20.9**	**+1.1**
PETF	**Flores**	**3.41**	**49**			**Pn**		**09 15 20.3**	**-0.1**
PETF	**Flores**	**3.41**	**49**	*e*P		**Pn**		**09 15 20.2**	**-0.1**
PETF				*e*S		**Sn**		**09 15 57.2**	**-2.6**
PETF	**Flores**	**3.41**	**49**	*e*P		**Pn**		**09 15 20.5**	**+0.1**
PETF	**Flores**	**3.41**	**49**	P		**Pn**		**09 15 20.4**	**-0.1**
PETF	**Flores**	**3.41**	**49**	*e*P				09 15 20.5	
PANCS	**Alcalda de**	**3.45**	**108**	P		**Pn**		**09 15 21.6**	**+0.6**
HUIG	**Huatulco**	**3.59**	**288**			**Pn**		**09 15 22.4**	**-0.5**
HUIG						**Sn**		**09 15 59.8**	**-4.5**
HUIG	**Huatulco**	**3.59**	**288**	*e*P		**Pn**		**09 15 22.4**	**-0.5**
HUIG				*e*S		**Sn**		**09 15 59.8**	**-4.5**
HUIG	**Huatulco**	**3.59**	**288**	*e*P				09 15 22.8	
HUIG				IAML				09 16 33.1	
comp=Z,91nm,1.2s									
COEG	**Centro de Oper**	**3.72**	**106**	P		**Pn**		**09 15 25.7**	**+0.9**
TUIG	**Tuzandepetl**	**3.78**	**332**	*e*P		**Pn**		**09 15 24.5**	**-0.9**
TUIG				*e*S		**Sn**		**09 16 08.3**	**-0.5**
TECO	**Alcaldia de Te**	**3.84**	**107**	P		**Pn**		**09 15 26.6**	**+0.3**
SCLA	**Alcaldia de Sa**	**3.84**	**104**	P		**Pn**		**09 15 28.1**	**+1.8**
IZABA	**Izabal, Puerto**	**3.97**	**74**	*e*P		**Pn**		**09 15 26.6**	**-1.4**
PACA	**Pacayal**	**4.28**	**106**	P		**Pn**		**09 15 36.0**	**+3.6**
NEUV	**Arroyo Zacate**	**4.33**	**314**	*e*P		**Pn**		**09 15 33.6**	**+0.7**
NEUV				*e*S		**Sn**		**09 16 21.8**	**-0.4**
SCIG	**Sabancuy**	**4.45**	**17**	*e*P				09 15 34.4	
SCIG	**Sabancuy**	**4.45**	**17**	*e*P		**Pn**		**09 15 34.4**	**-0.2**
SCIG				*e*S		**Sn**		**09 16 21.4**	**-3.8**
PMUV	**Sontecomapan**	**4.56**	**328**	*e*P		**Pn**		**09 15 37.2**	**+1.1**
PMUV				*e*S		**Sn**		**09 16 25.1**	**-2.7**
PEIG	**Puerto Escondi**	**4.62**	**287**			**Pn**		**09 15 37.0**	**+0.2**
PEIG						**Sn**		**09 16 23.9**	**-5.3**
PEIG	**Puerto Escondi**	**4.62**	**287**	*e*P		**Pn**		**09 15 37.0**	**+0.2**
PEIG				*e*S		**Sn**		**09 16 23.9**	**-5.3**
NISHN	**Nisperales Com**	**4.64**	**76**	P		**Pn**		**09 15 36.4**	**-0.8**
NISHN	**Nisperales Com**	**4.64**	**76**	*e*P				09 15 36.2	
OXIG	**Oaxaca**	**4.67**	**301**			**Pn**		**09 15 40.1**	**+2.4**
OXIG						**Sn**		**09 16 28.0**	**-2.7**
VHO	**Vista Hermosa**	**4.67**	**301**	*e*P		**Pn**		**09 15 40.1**	**+2.4**
VHO				*e*S		**Sn**		**09 16 28.0**	**-2.7**
LCND	**La Caada**	**4.73**	**106**	P		**Pn**		**09 15 42.1**	**+3.7**
TGUH	**Tegucigalpa,Un**	**5.16**	**96**	Pn		**Pn**		**09 15 43.0**	**-1.3**
YOIG	**Yosondua**	**5.26**	**295**			**Pn**		**09 15 47.9**	**+2.0**
YOIG						**Sn**		**09 16 40.8**	**-4.6**
YOIG	**Yosondua**	**5.26**	**295**	*e*P		**Pn**		**09 15 47.9**	**+2.0**
YOIG				*e*S		**Sn**		**09 16 40.8**	**-4.6**
TOIG	**Toxpalan**	**5.50**	**309**			**Pn**		**09 15 50.9**	**+2.1**
TOIG						**Sn**		**09 16 51.5**	**+0.7**
TOIG	**Toxpalan**	**5.50**	**309**	*e*P		**Pn**		**09 15 50.9**	**+2.1**
TOIG				*e*S		**Sn**		**09 16 51.5**	**+0.7**
TXIG	**Tlaxiaco**	**5.62**	**298**			**Pn**		**09 15 53.6**	**+2.8**
TXIG						**Sn**		**09 16 51.4**	**-2.8**
TXIG	**Tlaxiaco**	**5.62**	**298**	*e*P		**Pn**		**09 15 53.6**	**+2.8**
TXIG				*e*S		**Sn**		**09 16 51.4**	**-2.8**
PNIG	**Pinotepa**	**5.63**	**288**			**Pn**		**09 15 52.0**	**+1.4**
PNIG						**Sn**		**09 16 50.7**	**-3.3**
PNIG	**Pinotepa**	**5.63**	**288**	*e*P		**Pn**		**09 15 52.0**	**+1.4**
PNIG				*e*S		**Sn**		**09 16 50.7**	**-3.3**
CRIN	**San Cristobal**	**5.71**	**110**	Pn		**Pn**		**09 15 51.5**	**-0.2**
TPIG	**Tehuac#an**	**5.92**	**310**			**Pn**		**09 15 56.4**	**+1.7**
TPIG						**Sn**		**09 17 00.6**	**-0.6**
TPIG	**Tehuac#an**	**5.92**	**310**	*e*P		**Pn**		**09 15 56.4**	**+1.7**
TPIG				*e*S		**Sn**		**09 17 00.6**	**-0.6**
HLIG	**Huajuapan de L**	**5.93**	**303**			**Pn**		**09 15 58.6**	**+3.7**
HLIG						**Sn**		**09 16 60.0**	**-1.5**
HLIG	**Huajuapan de L**	**5.93**	**303**	*e*P		**Pn**		**09 15 58.6**	**+3.7**
HLIG				*e*S		**Sn**		**09 16 60.0**	**-1.5**
JAUV	**Jalcomulco**	**6.17**	**319**	*e*P		**Pn**		**09 15 57.1**	**-1.0**
JAUV				*e*S		**Sn**		**09 17 02.8**	**-4.5**
LVIG	**Laguna Verde**	**6.22**	**324**	*e*P		**Pn**		**09 15 57.2**	**-1.5**
LVIG				*e*S		**Sn**		**09 17 01.8**	**-6.5**
FTIG	**Fresnillo de T**	**6.24**	**302**			**Pn**		**09 16 01.5**	**+2.5**
FTIG						**Sn**		**09 17 06.5**	**-2.5**
FTIG	**Fresnillo de T**	**6.24**	**302**	*e*P		**Pn**		**09 16 01.5**	**+2.5**
FTIG				*e*S		**Sn**		**09 17 06.5**	**-2.5**
TLIG	**Tlapa**	**6.44**	**297**	Pn		**Pn**		**09 16 05.6**	**+3.8**
TLIG	**Tlapa**	**6.44**	**297**	*e*P		**Pn**		**09 16 05.2**	**+3.4**
TLIG				*e*S		**Sn**		**09 17 11.4**	**-2.6**
CRIG	**Cruz Grande**	**6.65**	**289**			**Pn**		**09 16 06.4**	**+1.9**
CRIG						**Sn**		**09 17 13.3**	**-5.5**
CRIG	**Cruz Grande**	**6.65**	**289**	*e*P		**Pn**		**09 16 06.4**	**+1.9**
CRIG				*e*S		**Sn**		**09 17 13.3**	**-5.5**
TEIG	**Tepich**	**6.86**	**36**	Pn		**Pn**		**09 16 06.2**	**-1.1**
TEIG	**Tepich**	**6.86**	**36**	P		**Pn**		**09 16 06.1**	**-1.2**
comp=Z,1.3nm,0.4s,baz=219,slow=20,SNR=211									
TEIG				S		**Sn**		**09 17 18.4**	**-5.5**
comp=Z,0.3nm,0.4s,baz=142,slow=20,SNR=22									
BOAB	**BOACO BROADBAN**	**7.06**	**108**			**Pn**		**09 16 09.2**	**-1.0**
DAIG	**Los Arroyos**	**7.21**	**290**			**Pn**		**09 16 14.5**	**+2.4**
DAIG						**Sn**		**09 17 30.5**	**-2.1**
DAIG	**Los Arroyos**	**7.21**	**290**	*e*P		**Pn**		**09 16 14.5**	**+2.4**
DAIG				*e*S		**Sn**		**09 17 30.5**	**-2.1**
PPM	**Popocatepetl**	**7.26**	**308**	*e*P		**Pn**		**09 16 16.8**	**+3.5**
PPM				*e*S		**Sn**		**09 17 32.5**	**-2.0**
PPIG	**Popocatepetl**	**7.26**	**308**			**Pn**		**09 16 16.8**	**+3.5**
PPIG						**Sn**		**09 17 32.5**	**-2.0**
CXUV	**Coxquihui**	**7.27**	**319**	*e*P		**Pn**		**09 16 12.6**	**-0.4**
CXUV				*e*S		**Sn**		**09 17 29.4**	**-4.6**
YAIG	**Yautepec**	**7.49**	**305**			**

CPCT				IAmb	IAmb	09 19 16.5	
	comp=Z,11nm,1.0s						
BG3	**Lake Jocassee**	**22.00**	**22**	P	**P**	**09 19 16.9**	**+0.3**
BG3				IAmb	IAmb	09 19 18.6	
	comp=Z,9.0nm,1.0s						
CLTN	**Cedars of Leba**	**22.03**	**14**	IAmb	IAmb	09 19 17.8	
	comp=Z,7.5nm,0.7s						
PBMO	**Poplar Bluff**	**22.08**	**5**	P	**P**	**09 19 17.2**	**-0.2**
PBMO				IAmb	IAmb	09 19 18.8	
	comp=Z,5.7nm,0.6s						
SDV	**Santo Domingo**	**22.21**	**103**	P	**P**	**09 19 18.6**	**-0.6**
TKL	**Tuckaleechee C**	**22.32**	**19**	P	**P**	**09 19 20.2**	**+0.2**
TKL				IAmb	IAmb	09 19 21.4	
	comp=Z,11nm,0.9s						
TKL	**Tuckaleechee C**	**22.32**	**19**	P	**P**	**09 19 18.2**	**-1.8**
	comp=Z,6.7nm,0.8s,baz=206,slow=7.3,SNR=6.0						
	comp=Z,6.7nm,0.8s						
121A	**Cookes Peak, D**	**22.54**	**325**	IAmb	IAmb	09 19 27.7	
	comp=Z,11nm,0.9s						
U49A	**Red Boiling Sp**	**22.56**	**14**	IAmb	IAmb	09 19 23.0	
	comp=Z,12nm,1.0s						
KMSC	**Kings Mountain**	**22.73**	**24**	IAmb	IAmb	09 19 24.8	
	comp=Z,10nm,0.7s						
SIUC	**Southern Illin**	**23.13**	**7**	IAmb	IAmb	09 19 28.4	
	comp=Z,8.9nm,0.8s						
V55A	**Taylorsville**	**23.40**	**24**	IAmb	IAmb	09 19 30.8	
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**23.74**	**331**	P	**P**	**09 19 36.6**	**+2.5**
U54A	**Nelsons Funny**	**23.77**	**22**	IAmb	IAmb	09 19 35.5	
	comp=Z,13nm,0.9s						
WCI	**Wyandotte Cave**	**24.09**	**12**	P	**P**	**09 19 37.0**	**0.0**
V58A	**Windy Hill, Pi**	**24.23**	**27**	IAmb	IAmb	09 19 38.5	
	comp=Z,11nm,0.8s						
OLIL	**Olney**	**24.27**	**9**	P	**P**	**09 19 39.1**	**+0.6**
113A	**Mohawk Valley,**	**26.38**	**317**	P	**P**	**09 20 00.6**	**+2.8**
MVCO	**Mesa Verde**	**26.54**	**331**	P	**P**	**09 20 01.9**	**+2.5**
MVCO				IAmb	IAmb	09 20 03.4	
	comp=Z,9.8nm,0.8s						
PV13	**Radium Mtn., P**	**27.45**	**331**	IAmb	IAmb	09 20 11.7	
	comp=Z,7.7nm,1.0s						
PV23	**Carpenter Ridg**	**27.78**	**332**	IAmb	IAmb	09 20 14.5	
	comp=Z,7.4nm,1.0s						
P57A	**Homestead Farm**	**27.81**	**25**	IAmb	IAmb	09 20 10.7	
	comp=Z,7.8nm,0.7s						
KNB	**Kanab**	**28.64**	**325**	IAmb	IAmb	09 20 22.8	
	comp=Z,4.9nm,1.0s						
V12A	**Nelson**	**28.95**	**320**	P	**P**	**09 20 24.8**	**+4.0**
V12A				IAmb	IAmb	09 20 25.9	
	comp=Z,6.1nm,0.9s						
HWUT	**Hardware Ranch**	**31.48**	**332**	IAmb	IAmb	09 20 48.6	
	comp=Z,3.2nm,1.1s						
PDAR	**Pinedale Array**	**31.57**	**336**	P	**P**	**09 20 45.5**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=144,slow=7.2,SNR=3.7						
PDAR				PcP	**PcP**	**09 23 36.2**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=145,slow=2.3,SNR=1.5						
	comp=Z,0.2nm,0.4s						
BGU	**Big Grassy Mou**	**31.64**	**330**	IAmb	IAmb	09 20 48.6	
	comp=Z,2.7nm,0.8s						
HVU	**Hansel Valley**	**32.17**	**331**	IAmb	IAmb	09 20 54.8	
	comp=Z,3.2nm,1.0s						
ELK	**Elko**	**32.62**	**327**	P	**P**	**09 20 54.9**	**+1.7**
ELK				IAmb	IAmb	09 20 57.6	
	comp=Z,2.9nm,0.8s						
LOHW	**Long Hollow**	**32.70**	**335**	P	**P**	**09 20 55.1**	**+1.2**
NVAR	**Mina Array Bea**	**32.80**	**321**	P	**P**	**09 20 58.7**	**+3.9**
	comp=Z,4.5nm,0.7s,baz=125,slow=6.4,SNR=16						
	comp=Z,4.5nm,0.7s						
NCB	**Newcomb**	**33.11**	**25**	P	**P**	**09 20 55.8**	**-1.4**
HLID	**Hailey**	**34.32**	**331**	P	**P**	**09 21 09.6**	**+1.8**
HLID				IAmb	IAmb	09 21 11.7	
	comp=Z,7.4nm,1.3s						
MFID	**Camas Ranch**	**34.88**	**330**	P	**P**	**09 21 15.1**	**+2.5**
WVOR	**Wild Horse Val**	**35.62**	**326**	IAmb	IAmb	09 21 25.9	
	comp=Z,6.0nm,1.1s						
H04A	**Detroit Lake**	**39.05**	**326**	P	**P**	**09 21 50.2**	**+2.4**
LPAZ	**La Paz**	**39.11**	**141**	P	**P**	**09 21 49.7**	**+0.4**
LON	**Longmire**	**40.23**	**329**	P	**P**	**09 21 59.4**	**+1.8**
LON				IAmb	IAmb	09 22 01.0	
	comp=Z,4.3nm,0.8s						
SCHQ	**Schefferville**	**44.77**	**21**	P	**P**	**09 22 31.8**	**-2.5**
	comp=Z,3.7nm,0.8s,baz=221,slow=11,SNR=3.6						
	comp=Z,3.7nm,0.8s						
SALV	**Santo Antonio**	**47.44**	**128**	*e*P	**P**	**09 22 57.1**	**+1.4**
YKA	**Yellowknife Ar**	**50.24**	**347**	P	**P**	**09 23 15.6**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=155,slow=7.8,SNR=19						
YKA				PcP	**PcP**	**09 24 35.1**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=154,slow=3.8,SNR=7.1						
	comp=Z,1.2nm,0.7s						
FRB	**Frobisher Bay**	**51.77**	**13**	P	**P**	**09 23 25.7**	**-2.2**
	comp=Z,6.0nm,1.1s,baz=216,slow=14,SNR=4.4						
	comp=Z,6.0nm,1.1s						
ILAR	**Eielson Array**	**62.00**	**337**	P	**P**	**09 24 41.2**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=114,slow=7.1,SNR=49						
	comp=Z,4.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**77.73**	**36**	P	**P**	**09 26 15.3**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=267,slow=5.8,SNR=2.4						
	comp=Z,0.5nm,0.4s						
SPITS	**Spitsbergen Ar**	**79.52**	**11**	P	**P**	**09 26 25.8**	**-0.5**
	comp=Z,11nm,0.9s,baz=323,slow=2.2,SNR=2.2						
	comp=Z,11nm,0.9s						
ARCES	**ARCESS Array B**	**85.66**	**18**	P	**P**	**09 26 56.9**	**-1.4**
	comp=Z,3.6nm,0.9s,baz=297,slow=4.0,SNR=3.8						
	comp=Z,3.6nm,0.9s						
FINES	**FINESS Array B**	**90.11**	**25**	P	**P**	**09 27 18.1**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=327,slow=7.3,SNR=4.2						
	comp=Z,1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**114.50**	**6**	PKP	PKPdf	09 32 59.7	+0.2
	comp=Z,0.3nm,0.3s,baz=358,slow=1.5,SNR=6.6						
MKAR	**Makanchi Array**	**118.63**	**4**	PKP	**PKiKP**	**09 33 07.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=340,slow=2.5,SNR=6.2						
HHC	**Hu-ho-hao-te**	**120.39**	**339**	*e*P	**PKPdf**	**09 33 09.1**	**-2.2**

DNK ***02*** *09:18:44.7±3.7, 69°.68N×15°.30W, h22km±83km*
REY ***02*** *09:18:46.0, 69°.65N×14°.07W, h10km*
MOS ***02*** *09:18:46.2±1.0, 70°.01N×15°.82W, h10km, mb5.0/60, MS4.4/10, Error ellipse: s-maj=11.4km s-min=5.4km az=100.1*
NEIC ***02*** *09:18:47.4±1.4, 70°.03N±0°.06×15°.9W±0°.1, h10km±1km, mb4.9/98, Error ellipse: s-maj=13.7km s-min=3.3km az=218.0*
IDC ***02*** *09:18:47.6±0.5, 70°.00N×15°.45W, h0km, mb4.2/21, mbtmp4.2/28, ML3.3/7, MS4.4/20, Error ellipse: s-maj=14.9km s-min=10.4km az=11.0*
BJI ***02*** *09:18:47.0, 70°.00N×15°.40W, h10km, mB5.4/10, mb4.6/44, Ms5.8/1, Ms7 5.4/2*
GCMT ***02*** *09:18:48.4±0.2, 69°.89N±0°.03×15°.46W±0°.04, h12km, MW5.0/88, Moment Tensor Solution. s31,c37; s88,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.94±.12; $M_{\theta\theta}$=0.97±.13; $M_{\phi\phi}$=2.98±.10; $M_{r\theta}$=1.63±.61; $M_{\theta\phi}$=0.86±.11; $M_{\phi r}$=1.48±.36; Best double couple: M_0=4.21400×10^{16} NP1:ϕ_s=192.00000°, δ31.00000°, λ=108.00000°. NP2: ϕ_s=33.00000°, δ60.00000°, λ=79.00000°. Principal axes: T 3.8090, Plg15.0000°, Azm115.0000°; N 0.8160, Plg9.0000°, Azm207.0000°; P -4.6180, Plg73.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:18:48.4±0.3, 69°.98N±0°.04×15°.60W±0°.03, h10km, n564, σ1°.83/522, mb4.8/151, MS4.4/26, 23C-19D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.22**	**286**	Pn	**Pn**	**09 19 22.0**	**-3.1**
SCO	**Scoresbysund**	**2.22**	**286**	P	**Pn**	**09 19 22.0**	**-3.1**
SCO	**Scoresbysund**	**2.22**	**286**	*i* P	**Pn**	**09 19 22.1**	**-3.1**
SCO				IAML		09 20 38.1	
	comp=Z,785nm,1.7s						
JMIC	**Jan Mayen**	**2.59**	**64**	Pn	**Pn**	**09 19 26.6**	**-3.6**
	comp=Z,11nm,0.3s,baz=315,slow=1.4,SNR=7.3						
JMIC				Sn	**Sn**	**09 19 55.0**	**-6.6**
	comp=Z,9.8nm,0.3s,baz=198,slow=19,SNR=5.8						
JMIC	**Jan Mayen**	**2.59**	**64**	*i* P	Pn	09 19 25.3	-4.9
IGRI	**Grimsey**	**3.57**	**196**	P	**Pn**	**09 19 40.0**	**-3.7**
ILEI	**Leirhofn**	**3.61**	**186**	P	Pn	09 19 38.9	-5.3
IGIL	**Gilhagi**	**3.94**	**184**	P	Pn	09 19 43.7	-5.0
IHED	**Heoinshofoi**	**3.97**	**190**	P	**Pn**	**09 19 45.0**	**-4.2**
ISIG	**Siglufjorour**	**4.06**	**199**	P	**Pn**	**09 19 48.3**	**-2.2**
IDIM	**Dimmadalss**	**4.07**	**188**	P	Pn	09 19 45.8	-4.8
IGRA	**Granastaoir**	**4.15**	**191**	P	**Pn**	**09 19 48.2**	**-3.4**
IGHA	**Grjothals**	**4.18**	**186**	P	Pn	09 19 46.9	-5.2
IHLA	**Hella**	**4.19**	**196**	P	**Pn**	**09 19 49.4**	**-2.9**
IHRN	**Hraun**	**4.25**	**206**	P	**Pn**	**09 19 51.0**	**-1.9**
IKVO	**Krokottuvotn**	**4.32**	**187**	P	**Pn**	**09 19 49.5**	**-4.5**
IGRS	**Grimsstaoir**	**4.37**	**183**	P	**Pn**	**09 19 50.1**	**-4.6**
IREN	**Reynihlio**	**4.38**	**187**	P	**Pn**	**09 19 50.9**	**-4.0**
IMEL	**Melhnausar**	**4.45**	**186**	P	Pn	09 19 50.9	-4.9
DBG	**Daneborg**	**4.57**	**344**	*i* P	**Pn**	**09 19 54.0**	**-3.4**
DBG				IAML		09 21 19.1	
	comp=Z,109nm,1.6s						
ISVA	**Svartarkot**	**4.71**	**189**	P	**Pn**	**09 19 56.0**	**-3.4**
IADA	**Aoalbol**	**4.99**	**180**	P	Pn	09 19 57.9	-5.2
BORG	**Borgarnes**	**5.70**	**206**		**Pn**	**09 20 11.8**	**-1.1**
BORG	**Borgarnes**	**5.70**	**206**	Pn	**Pn**	**09 20 12.1**	**-0.8**
	comp=Z,4.3nm,0.3s,baz=19,slow=7.4,SNR=27						
BORG				Sn	**Sn**	**09 21 17.3**	**-1.0**
	baz=92,slow=3.4						
BORG				LR	LR	09 21 53.6	
	comp=Z,2μm,21.6s,baz=4.1,slow=32						
	comp=Z,22nm,0.5s						
DAG	**Danmarks Havn**	**6.88**	**354**	P	**Pn**	**09 20 30.2**	**+1.1**
DAG	**Danmarks Havn**	**6.88**	**354**	*i* P	**Pn**	**09 20 26.4**	**-2.7**
DAG				IAML		09 24 50.1	
	comp=Z,27nm,5.7s						
SUMG	**Summit**	**7.77**	**300**		**Pn**	**09 20 39.3**	**-2.4**
SUMG	**Summit**	**7.77**	**300**	P	**Pn**	**09 20 39.3**	**-2.4**
SUMG	**Summit**	**7.77**	**300**	*i* P	**Pn**	**09 20 38.3**	**-3.3**
SUMG				*i* S	**Sn**	**09 22 04.1**	**-5.6**
SUMG				IAML		09 23 20.6	
	comp=Z,74nm,2.9s						
KBS	**Kingsbay**	**11.43**	**27**	Pn	**Pn**	**09 21 30.8**	**-0.6**
KBS	**Kingsbay**	**11.43**	**27**	*i* P	**Pn**	**09 21 30.4**	**-0.9**
SPITS	**Spitsbergen Ar**	**11.79**	**32**	Pn	**Pn**	**09 21 34.3**	**-1.9**
	baz=233,slow=16						
SPITS				LR	LR	09 24 59.5	
	comp=Z,2μm,20.5s,baz=184,slow=32						
	comp=Z,4.9nm,0.4s						
SPB2	**Spitsbergen Ar**	**11.79**	**32**		**Pn**	**09 21 35.1**	**-1.2**
NEEM	**North Greenlan**	**12.19**	**323**	*i* P	**Pn**	**09 21 39.0**	**-3.0**
ILULI	**Ilulissat**	**12.30**	**283**	*i* P	**Pn**	**09 21 40.9**	**-2.3**
KULLO	**Kullorsuaq**	**13.22**	**309**	*i* P	**Pn**	**09 21 52.3**	**-3.5**
ARCES	**ARCESS Array B**	**14.04**	**72**	Pn	**Pn**	**09 22 07.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=281,slow=16,SNR=2.6						
ARCES				LR	LR	09 26 26.1	
	comp=Z,2μm,19.0s,baz=311,slow=33						
	comp=Z,5.3nm,0.9s						
NC303	**NORSAR Array S**	**14.04**	**115**		**Pn**	**09 22 06.2**	**-0.8**
NOA	**NORSAR Array B**	**14.14**	**116**	Pn	**Pn**	**09 22 07.4**	**-0.9**
	baz=324,slow=13,SNR=3.5						
NOA				LR	LR	09 26 58.2	
	comp=Z,1μm,21.1s,baz=320,slow=35						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**15.61**	**115**	Pn	**Pn**	**09 22 27.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=13						
HFS				LR	LR	09 27 43.4	
	comp=Z,2μm,21.4s,baz=296,slow=34						
	comp=Z,9.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**15.71**	**153**	Pn	**Pn**	**09 22 29.6**	**+0.1**
	baz=348,slow=14						
	comp=Z,4.2nm,0.7s						
TULEG	**Thule**	**16.05**	**317**		**Pn**	**09 22 29.6**	**-4.1**
VAF	**Ylistaro**	**16.49**	**96**	*e*P	**P**	**09 22 42.6**	**+0.6**
MSF	**Maaselka**	**16.92**	**82**	P	**P**	**09 22 46.7**	**-0.2**
KEF	**Keuruu**	**17.83**	**96**	*e*P	**P**	**09 22 57.2**	**+0.3**
FIA1	**FINESS Array S**	**18.75**	**96**	P	**P**	**09 23 05.0**	**-2.0**
FIA1				IAmb	IAmb	09 23 09.9	
	comp=Z,92nm,1.0s						
FINES	**FINESS Array B**	**18.75**	**96**	P	**P**	**09 23 04.7**	**-2.2**
FINES	**FINESS Array B**	**18.75**	**96**	P	**P**	**09 23 05.2**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=325,slow=12,SNR=18						
FINES				LR	LR	09 29 28.7	
	comp=Z,3μm,19.8s,baz=312,slow=34						
	comp=Z,14nm,0.8s						
EUNU	**Eureka**	**19.23**	**330**	P	**P**	**09 23 09.1**	**-3.1**
JOF	**Joensuu**	**19.54**	**88**	*e*P	**P**	**09 23 15.7**	**+0.1**
FRB	**Frobisher Bay**	**21.07**	**279**	LR	LR	09 31 32.8	
	comp=Z,2μm,18.6s,baz=64,slow=36						
VSU	**Vasula**	**21.17**	**101**	*c*eP	**P**	**09 23 32.6**	**-0.7**
VSU				pmax	pmax		
	comp=Z,190nm,2.5s						
VSU	**Vasula**	**21.17**	**101**	*e*P	**P**	**09 23 32.7**	**-0.6**
PUL	**Pulkovo**	**21.41**	**95**	*e*P	**P**	**09 23 35.8**	**0.0**
PUL				pmax	pmax		
	comp=Z,48nm,0.4s						
UCC	**Uccle**	**21.41**	**144**	*d*P	**P**	**09 23 35.4**	**-0.5**
BEBN	**Eben Emael**	**21.69**	**141**	*d*P	**P**	**09 23 39.6**	**+0.7**
CLZ	**Clausthal**	**21.82**	**133**	P	**P**	**09 23 41.2**	**+0.8**
CLZ				pmax	pmax		
	comp=Z,22nm,1.4s						
MEM	**Membach**	**21.94**	**141**	*d*P	**P**	**09 23 42.0**	**+0.4**
	comp=Z,29nm,1.0s						
BGES	**Gesves**	**21.95**	**143**	*d*P	**P**	**09 23 42.0**	**+0.2**
BMRD	**Maredsous**	**21.97**	**143**	*d*P	**P**	**09 23 42.1**	**+0.1**
	comp=Z,14nm,1.1s						
BTNL	**Ternell**	**21.99**	**141**	*d*P	**P**	**09 23 41.5**	**-0.7**
	comp=Z,18nm,1.2s						
DOU	**Dourbes**	**22.13**	**144**	*d*P	**P**	**09 23 43.5**	**-0.1**
	comp=Z,10nm,1.4s						
RUE	**Ruedersdorf**	**22.14**	**127**	*e*P	**P**	**09 23 44.0**	**+0.4**
RCHB	**Rochefort**	**22.20**	**143**	*d*P	**P**	**09 23 44.3**	**-0.1**
	comp=Z,10nm,1.1s						
GKP	**Gorka Klasztor**	**22.42**	**121**	*e*P	**P**	**09 23 48.4**	**+1.7**
GKP	**Gorka Klasztor**	**22.42**	**121**	*e*P	**P**	**09 23 47.5**	**+0.7**
PABE	**Paberze**	**22.61**	**110**	P	**P**	**09 23 47.7**	**-1.1**
PABE	**Paberze**	**22.61**	**110**	*e*P	**P**	**09 23 48.8**	**+0.1**
RES	**Resolute Bay**	**22.77**	**318**	P	**P**	**09 23 48.1**	**-2.2**
RES	**Resolute Bay**	**22.77**	**318**	LR	LR	09 32 37.9	
	comp=Z,2μm,18.9s,baz=50,slow=36						
RES	**Resolute Bay**	**22.77**	**318**	P	**P**	**09 23 48.1**	**-2.2**
RES				pmax	pmax		
	comp=Z,22nm,1.3s						
WLF	**Walferdange**	**22.86**	**142**	*d*P	**P**	**09 23 52.5**	**+1.1**
CLL	**Collm**	**22.98**	**130**	P	**P**	**09 23 50.8**	**-1.9**
CLL	**Collm**	**22.98**	**130**	*i* P	**P**	**09 23 51.9**	**-0.8**
CLL				pmax	pmax		
	comp=Z,25nm,1.4s						
CLL				MLR	MLR		
	comp=Z,700nm,21.8s						
CLL	**Collm**	**22.98**	**130**	*i* P	**P**	**09 23 51.9**	**-0.8**
	comp=Z,25nm,1.4s						
CLL				*i* x	x	09 24 12.9	
	comp=Z,26nm,1.3s						
CLL				*e*S	Sn	09 28 15.0	-3.6
CLL				AMS	AMS	09 31 00.0	
	comp=Z,700nm,21.8s						
MOX	**Moxa**	**23.23**	**132**	P	**P**	**09 23 56.8**	**+1.5**
MOX				pmax	pmax		
	comp=Z,16nm,2.0s						
SUW	**Suwalki**	**23.61**	**113**	P	**P**	**09 23 59.7**	**+0.8**
SUW				pmax	pmax		
	comp=Z,49nm,1.2s						
SUW	**Suwalki**	**23.61**	**113**	*e*P	**P**	**09 23 59.1**	**+0.2**
BRG	**Berggiesshubel**	**23.63**	**129**	*e*P	**P**	**09 23 59.4**	**+0.2**
BRG				Amp		09 24 01.6	
	comp=Z,41nm,1.7s						
HSKC	**Hora Svate Kat**	**23.73**	**130**	AMS	AMS	09 34 10.0	
	comp=Z,1μm,14.6s						
KLMR	**Klimovskoe**	**23.79**	**85**	*e*P	**P**	**09 23 56.7**	**-3.9**
KLMR				pmax	pmax		
	comp=Z,137nm,1.8s						
KLMR				MLR	MLR		
	comp=Z,1μm,16.0s						
GRA1	**Grafenberg Arr**	**24.01**	**134**	P	**P**	**09 24 02.3**	**-0.6**
GRF	**Grafenberg Arr**	**24.01**	**134**	P	**P**	**09 24 02.3**	**-0.6**
GRF				pmax	pmax		
	comp=Z,120nm,1.7s						
GRF	**Grafenberg Arr**	**24.01**	**134**	*e*P	**P**	**09 24 02.8**	**-0.1**
	comp=Z,102nm,1.8s,baz=338,slow=9.5						
GRFO	**Grafenberg**	**24.01**	**134**	P	**P**	**09 24 02.0**	**-0.9**
GRFO	**Grafenberg**	**24.01**	**134**	P	**P**	**09 24 02.0**	**-0.9**
GRFO				pmax	pmax		
	comp=Z,118nm,1.7s						
NACGM	**Naroch**	**24.03**	**107**	*e*P	**P**	**09 24 02.9**	**-0.1**
	comp=Z,4μm,1.0s						
KSP	**Ksiaz**	**24.30**	**126**	*e*P	**P**	**09 24 06.5**	**+0.9**
ECH	**Echery**	**24.45**	**141**	P	**P**	**09 24 06.9**	**-0.1**
ECH	**Echery**	**24.45**	**141**	P	**P**	**09 24 06.9**	**-0.1**
ECH				pmax	pmax		
	comp=Z,100nm,2.0s						
CHVC	**Chvalec**	**24.46**	**126**	*e*P	**P**	**09 24 09.4**	**+2.3**
CHVC				AMS	AMS	09 34 00.0	
	comp=Z,1μm,18.3s						
CHVC	**Chvalec**	**24.46**	**126**	*e*P	**P**	**09 24 09.4**	**+2.3**
CHVC				MLR	MLR		
	comp=Z,1μm,18.3s						
R9F13	**Warsaw-Wawer**	**24.50**	**117**	*e*P	**P**	**09 24 08.6**	**+1.2**
OSTC	**Ostas**	**24.54**	**126**	*e*P	**P**	**09 24 08.4**	**+0.7**
OSTC				AMS	AMS	09 33 40.0	
	comp=Z,1μm,15.6s						
OSTC	**Ostas**	**24.54**	**126**	*e*P	**P**	**09 24 08.4**	**+0.7**
OSTC				MLR	MLR		
	comp=Z,1μm,15.6s						
PRU	**Pruhonice**	**24.59**	**129**	*e*P	**P**	**09 24 08.3**	**+0.1**
PRU				AMS	AMS	09 34 30.0	
	comp=Z,1μm,21.3s						
PRU	**Pruhonice**	**24.59**	**129**	*e*P	**P**	**09 24 08.3**	**+0.1**
PRU				MLR	MLR		
	comp=Z,1μm,21.3s						
BFO	**Black Forest**	**24.60**	**139**	P	**P**	**09 24 07.8**	**-0.5**
BFO				IAmb	IAmb	09 24 13.7	
	comp=Z,55nm,1.7s						
BFO	**Black Forest**	**24.60**	**139**	P	**P**	**09 24 07.8**	**-0.5**
BFO				pmax	pmax		
	comp=Z,55nm,1.7s						
MNK	**Minsk**	**24.72**	**106**	*i* P	**P**	**09 24 09.5**	**+0.2**
	comp=E,8.0nm,0.7s						
MNK				*i* P	**P**	**09 24 09.5**	**+0.2**
	comp=N,18nm,1.0s						
MNK				*i* P	**P**	**09 24 09.5**	**+0.2**
	comp=Z,23nm,0.7s,baz=326						
MNK				*i* PP	**PnPn**	**09 24 40.6**	**-0.3**
MNK				*i* PPP	PPP	09 24 49.6	
MNK				*i* S	**S**	**09 28 32.0**	**+1.1**
MNK				*i* SS	**SnSn**	**09 29 18.6**	**+2.0**
MNK				*i* SSS	SSS	09 29 31.9	
MNK				*i* LR	LR	09 32 10.4	
MNK				*i* LRM	MLR	09 34 02.6	
	comp=Z,1μm,16.1s						
MNK				*i* LRM	MLR	09 34 04.1	
	comp=E,630nm,15.4s						
MNK				*i* LRM	MLR	09 34 12.2	
	comp=N,971nm,16.4s						
MNK	**Minsk**	**24.72**	**106**	*i* P	**P**	**09 24 09.5**	**+0.2**
MNK				*i* PPP	PPP	09 24 49.6	
MNK				*i* S	**S**	**09 28 31.9**	**+1.1**
MNK				*i* SSS	SSS	09 29 31.9	
MNK				pmax	pmax		
	comp=N,18nm,1.0s						
MNK				pmax	pmax		
	comp=Z,23nm,0.7s						
MNK				pmax	pmax		
	comp=E,8.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,1μm,16.0s						
MNK				MLR	MLR		
	comp=E,630nm,15.0s						
MNK				MLR	MLR		
	comp=N,971nm,16.0s						
GOPC	**GO Pecny, Ondr**	**24.73**	**129**	*e*P	**P**	**09 24 10.4**	**+0.9**
GOPC				AMS	AMS	09 34 30.0	
	comp=N,1μm,20.4s						
GOPC	**GO Pecny, Ondr**	**24.73**	**129**	*e*P	**P**	**09 24 10.4**	**+0.9**
GOPC				MLR	MLR		
	comp=Z,1μm,20.4s						
BEL	**Belsk**	**24.73**	**118**	*e*P	**P**	**09 24 09.4**	**-0.1**
DPC	**Dobruska-Polom**	**24.75**	**126**	*e*P	**P**	**09 24 10.5**	**+0.8**
DPC				AMS	AMS	09 33 50.0	
	comp=Z,1μm,15.8s						
DPC	**Dobruska-Polom**	**24.75**	**126**	*e*P	**P**	**09 24 10.5**	**+0.8**
DPC				MLR	MLR		
	comp=Z,1μm,15.8s						
ZVC	**Zvikov**	**25.00**	**130**	AMS	AMS	09 35 20.0	
	comp=Z,900nm,12.9s						
KHC	**Kasperske Hory**	**25.12**	**131**	*e*P	**P**	**09 24 14.4**	**+1.3**
KHC				AMS	AMS	09 36 00.0	
	comp=Z,700nm,14.1s						
KHC	**Kasperske Hory**	**25.12**	**131**	*c*eP	**P**	**09 24 12.4**	**-0.7**
KHC				pmax	pmax		
	comp=Z,64nm,1.7s						
KRLC	**Kraliky**	**25.13**	**126**	*e*P	**P**	**09 24 14.8**	**+1.7**
KRLC	**Kraliky**	**25.13**	**126**	*e*P	**P**	**09 24 14.8**	**+1.7**
GEC2	**GERESS Array S**	**25.42**	**131**	P	**P**	**09 24 15.5**	**-0.3**
GEC2				IAmb	IAmb	09 24 23.2	
	comp=Z,65nm,1.6s						
GERES	**GERESS Array B**	**25.42**	**131**	P	**P**	**09 24 16.1**	**+0.3**
GERES	**GERESS Array B**	**25.42**	**131**	P	**P**	**09 24 17.1**	**+1.3**
	comp=Z,7.0nm,0.9s,baz=334,slow=8.7,SNR=18						
GERES				LR	LR	09 33 43.1	
	comp=Z,527nm,21.2s,baz=316,slow=35						
	comp=Z,7.0nm,0.9s						
TREC	**Trest**	**25.48**	**128**	*e*P	**P**	**09 24 14.9**	**-1.4**
TREC	**Trest**	**25.48**	**128**	*e*P	**P**	**09 24 14.9**	**-1.4**
TREC				MLR	MLR		
	comp=Z,4μm,20.8s						
MORC	**Moravsky Berou**	**25.61**	**125**	P	**P**	**09 24 17.0**	**-0.5**
MORC				IAmb	IAmb	09 24 23.6	
	comp=Z,16nm,0.9s						
MORC	**Moravsky Berou**	**25.61**	**125**	*e*P	**P**	**09 24 18.1**	**+0.6**
MORC	**Moravsky Berou**	**25.61**	**125**	‖P	**P**	**09 24 18.8**	**+1.3**

comp=Z,9.5nm,1.0s
ARSA Arzberg 27.36 130 *i* pP **P 09 24 34.4 +1.1**
comp=Z,8.0nm,1.5s
MYKA Terra Mystica 27.45 133 *e*P **P 09 24 34.6 +0.5**
comp=Z,0.3nm,0.3s
CTI Castel Tesino 27.51 136 P **P 09 24 35.3 +0.6**
CTI IAmb IAmb 09 24 40.5
comp=Z,22nm,1.2s
CTI Castel Tesino 27.51 136 P **P 09 24 35.3 +0.6**
CTI pmax pmax
comp=Z,22nm,1.2s
KOLS Kolonicke sedl 27.74 120 *e*P **P 09 24 38.2 +1.5**
KOLS Kolonicke sedl 27.74 120 *e*P **P 09 24 38.2 +1.5**
OBKA Obir 27.80 132 *e*pP pP 09 24 39.8 -0.1
comp=Z,15nm,1.4s
PSZ Piszkesteto 27.96 124 P **P 09 24 38.9 +0.2**
PSZ IAmb IAmb 09 24 43.6
comp=Z,62nm,1.9s
PSZ Piszkesteto 27.96 124 P **P 09 24 38.9 +0.2**
PSZ pmax pmax
comp=Z,62nm,1.9s
AKASG Malin Array Be 28.37 109 P **P 09 24 40.8 -1.4**
comp=Z,2.9nm,0.8s,baz=331,slow=9.2,SNR=14
AKASG LR LR 09 35 31.3
comp=Z,958nm,20.4s,baz=299,slow=35
comp=Z,2.9nm,0.8s
AKASG Malin Array Be 28.37 109 *i* P **P 09 24 42.0 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 28.37 109 P **P 09 24 41.2 -1.0**
AKBB IAmb IAmb 09 24 42.8
comp=Z,19nm,1.2s
AKBB Malin Array Si 28.37 109 *ce*P **P 09 24 41.5 -0.7**
AKBB pmax pmax
comp=Z,26nm,1.8s
KIEV Kiev 28.37 109 P **P 09 24 41.5 -0.7**
KIEV Kiev 28.37 109 ⇓P **P 09 24 42.6 +0.4**
KIEV Kiev 28.37 109 P **P 09 24 41.5 -0.7**
KIEV pmax pmax
comp=Z,15nm,1.2s
KIRV Kirov 28.84 80 *ce*P **P 09 24 46.5 +0.2**
BUR08 Bucovina Ar. S 29.78 117 P **P 09 24 55.3 +0.4**
DRGR 29.80 121 ⇓P **P 09 24 56.4 +1.3**
DRGR 29.80 121 P **P 09 24 56.3 +1.3**
BURAR Bucovina Array 29.81 117 ⇑P **P 09 24 55.8 +0.6**
BURAR Bucovina Array 29.81 117 P **P 09 24 55.7 +0.6**
LPSR Galich'ya Gora 30.02 97 P **P 09 24 56.5 -0.3**
LPSR pmax pmax
comp=Z,26nm,1.6s
SORM Soroca 30.33 113 ⇓P **P 09 25 00.2 +0.6**
SORM Soroca 30.33 113 P **P 09 25 00.1 +0.6**
BZS Buzias 30.55 123 ⇑P **P 09 25 02.9 +1.4**
BZS Buzias 30.55 123 P **P 09 25 02.9 +1.4**
VORR Voronezh 30.89 98 *e*P **P 09 25 03.5 -1.0**
VORR pmax pmax
comp=Z,33nm,2.0s
ESDC Sonseca Array 30.99 162 LR LR 09 37 10.2
comp=Z,416nm,18.5s,baz=342,slow=36
GZR Gura Zlata 31.09 122 ⇑P **P 09 25 07.8 +1.4**
GZR Gura Zlata 31.09 122 P **P 09 25 07.7 +1.4**
A36M Sachs Harbour 31.10 325 P **P 09 25 08.6 +2.4**
baz=39
TESR Tescani 31.24 116 ⇓P **P 09 25 09.1 +1.5**
ONER Baraj Valea Uz 31.32 117 ⇑P **P 09 25 10.0 +1.7**
DOPR Dopca 31.34 118 ⇓P **P 09 25 10.7 +2.1**
ARR Arges 31.66 120 ⇓P **P 09 25 13.5 +2.1**
NRIK Noril'sk 31.80 41 P **P 09 25 13.3 +1.0**
NRIK Noril'sk 31.80 41 P **P 09 25 11.9 -0.4**
comp=Z,0.7nm,0.3s,baz=316,slow=7.5,SNR=4.8
comp=Z,0.7nm,0.3s
NRIK Noril'sk 31.80 41 *ce*P **P 09 25 10.8 -1.5**
NRIK pmax pmax
comp=Z,9.0nm,1.4s
PLOR Plostina 31.83 117 ⇑P **P 09 25 14.3 +1.3**
PLOR Plostina 31.83 117 P **P 09 25 14.2 +1.3**
VRI Vrincioaia 31.84 117 ⇓P **P 09 25 14.7 +1.8**
VRI Vrincioaia 31.84 117 P **P 09 25 14.7 +1.8**
MLR Muntele Rosu 31.94 118 LR LR 09 38 32.8
comp=Z,692nm,19.9s,baz=320,slow=37
VRH Novokhopyorsk 32.14 96 *e*P **P 09 25 15.2 -0.3**
VRH pmax pmax
comp=Z,47nm,2.1s
CFR Carcaliu 32.89 116 ⇑P **P 09 25 22.7 +0.5**
CFR Carcaliu 32.89 116 P **P 09 25 22.6 +0.5**
C36M Paulatuk 32.96 322 P **P 09 25 20.6 -1.9**
C36M IAmb IAmb 09 25 26.2
comp=Z,15nm,0.9s
C36M Paulatuk 32.96 322 P **P 09 25 24.8 +2.4**
baz=37,SNR=11
BELG Belogornoye 33.18 89 *i* P **P 09 25 23.7 -0.8**
BELG pmax pmax
comp=Z,3.0nm,0.9s
TPGR Topolog 33.27 116 ⇓P **P 09 25 26.5 +1.0**
ARTI Arti 33.58 75 P **P 09 25 27.8 -0.3**
ARTI IAmb IAmb 09 25 32.6
comp=Z,40nm,1.8s
ARTI Arti 33.58 75 *c i* P **P 09 25 29.3 +1.2**
ARTI 09 26 38.7
ARTI S **S 09 30 52.8 +2.9**
ARTI SS **SnSn 09 32 51.9 -0.4**
ARTI pmax pmax
comp=Z,30nm,2.1s
FNA Florina 34.94 127 P **P 09 25 39.6 -0.4**
FNA Florina 34.94 127 P **P 09 25 39.6 -0.4**
FNA pmax pmax
comp=Z,30nm,0.9s
INK Inuvik 35.75 326 P **P 09 25 46.3 -0.3**
INK IAmb IAmb 09 25 49.8
comp=Z,41nm,1.6s
INK Inuvik 35.75 326 P **P 09 25 48.5 +1.8**
baz=32,SNR=7.1
INK Inuvik 35.75 326 P **P 09 25 46.3 -0.3**
INK pmax pmax
comp=Z,41nm,1.7s
RDO Rodhopi 35.78 122 P **P 09 25 46.6 -0.5**
RDO IAmb IAmb 09 25 49.8
comp=Z,50nm,1.7s
YKA Yellowknife Ar 36.25 309 P **P 09 25 50.6 -0.4**
comp=Z,5.1nm,0.9s,baz=39,slow=8.0,SNR=40
YKA PcP **PcP 09 28 16.2 +0.6**
comp=Z,0.7nm,0.8s,baz=34,slow=2.6,SNR=5.3
YKA LR LR 09 40 39.8
comp=Z,813nm,18.1s,baz=92,slow=36
comp=Z,5.1nm,0.9s
YKA Yellowknife Ar 36.25 309 *i* P **P 09 25 51.2 +0.2**
YKA pmax pmax
comp=Z,5.0nm,0.9s
D27M Malcolm River 36.28 331 P **P 09 25 54.0 +2.7**
baz=28
C26K Camden Bay 36.32 333 P **P 09 25 54.5 +2.9**
baz=27
C27K Jago River 36.39 332 P **P 09 25 54.9 +2.8**
baz=27,SNR=11
E29M Blow River 36.50 328 IAmb IAmb 09 25 58.7
comp=Z,33nm,1.6s
E29M Blow River 36.50 328 P **P 09 25 55.3 +2.3**
baz=29
F31M Tsiigehtchic 36.54 325 P **P 09 25 55.4 +2.0**
baz=31
E28M Babbage River 36.60 329 IAmb IAmb 09 25 59.1
comp=Z,23nm,1.2s
E28M Babbage River 36.60 329 P **P 09 25 56.5 +2.6**
baz=29
A21K Barrow 36.63 340 P **P 09 25 56.6 +2.5**
baz=22,SNR=9.1
TIXI Tiksi 36.70 18 *ce*P **P 09 25 53.5 -1.2**
TIXI pmax pmax
comp=Z,40nm,1.7s
F30M Barrier River 36.78 326 P **P 09 25 57.4 +1.9**
baz=30
C24K Franklin Bluff 37.07 335 P **P 09 26 00.8 +2.9**
baz=25
D25K Kavik River 37.09 334 P **P 09 26 00.4 +2.2**
baz=26
G31M Satah River 37.09 325 P **P 09 25 54.8 -3.3**
G31M IAmb IAmb 09 26 01.3
comp=Z,31nm,1.1s
G31M Satah River 37.09 325 P **P 09 25 59.8 +1.7**
baz=30,SNR=9.0
B22K Teshekpuk Lake 37.15 338 P **P 09 26 01.4 +2.9**
baz=23,SNR=6.7
G30M tAoh Zrail Nji 37.42 326 P **P 09 26 02.9 +1.9**
baz=29
F28M Old Crow 37.54 329 P **P 09 26 03.9 +2.0**
baz=28,SNR=6.7

D24K Happy Valley 37.61 335 P **P 09 26 04.8 +2.3**
baz=24
MDT Midelt 37.72 165 LR LR 09 41 49.6
comp=Z,201nm,18.2s,baz=43,slow=37
G29M Pine Creek 37.82 327 IAmb IAmb 09 26 07.8
comp=Z,56nm,1.6s
G29M Pine Creek 37.82 327 P **P 09 26 05.8 +1.5**
baz=28
WRGLY Wrigley 37.89 315 P **P 09 26 07.2 +2.4**
baz=32
B21K Ikpikpuk River 37.97 338 P **P 09 26 08.2 +2.7**
baz=22
D23K Nanushuk River 38.05 336 P **P 09 26 09.1 +2.9**
baz=23
E25K Arctic Village 38.05 332 P **P 09 26 08.7 +2.5**
baz=26,SNR=7.1
EPYK Eagle Plains 38.05 326 P **P 09 26 08.4 +2.1**
baz=29
H31M Peel River 38.08 324 P **P 09 26 03.9 -2.6**
H31M Peel River 38.08 324 P **P 09 26 08.6 +2.0**
baz=29
TOLK Toolik Lake Re 38.19 335 P **P 09 26 06.0 -1.5**
TOLK IAmb IAmb 09 26 11.8
comp=Z,54nm,1.6s
TOLK Toolik Lake Re 38.19 335 P **P 09 26 09.9 +2.5**
baz=24,SNR=10
F26K Sheenjek River 38.20 331 P **P 09 26 10.4 +2.9**
baz=26
D22K Ayikyak River 38.41 337 P **P 09 26 12.3 +3.1**
baz=22
C21K Knifeblade Rid 38.43 338 P **P 09 26 12.3 +2.9**
baz=21
H29M Whitestone 38.50 327 IAmb IAmb 09 26 19.5
comp=Z,52nm,1.9s
H29M Whitestone 38.50 327 P **P 09 26 12.2 +2.2**
baz=28
BMAR Burnt Mountain 38.52 331 P **P 09 26 08.1 -2.1**
F25K Christian Rive 38.54 332 P **P 09 26 12.9 +2.5**
baz=25,SNR=13
E24K Your Creek 38.55 334 P **P 09 26 12.9 +2.4**
baz=24
G27K Doyon Strip 38.57 329 IAmb IAmb 09 26 14.6
comp=Z,67nm,2.0s
G27K Doyon Strip 38.57 329 P **P 09 26 12.7 +2.1**
baz=27
KIV Kislovodsk 38.73 101 *e*P **P 09 26 11.0 -1.3**
KIV pmax pmax
comp=Z,9.0nm,1.0s
E23K Chandalar 38.73 334 IAmb IAmb 09 26 16.3
comp=Z,24nm,1.3s
E23K Chandalar 38.73 334 P **P 09 26 14.7 +2.6**
baz=24
G26K Porcupine Rive 38.81 330 P P 09 26 16.0 +3.4
baz=26
F24K Squaw Lake 38.97 333 P **P 09 26 17.0 +3.0**
baz=24
E22K Anaktuvuk Pass 38.98 336 IAmb IAmb 09 26 18.1
comp=Z,37nm,1.6s
E22K Anaktuvuk Pass 38.98 336 P **P 09 26 16.4 +2.3**
baz=22
E21K Killik River 38.99 337 P **P 09 26 16.8 +2.6**
baz=22
I30M Mount Dempster 39.00 325 P **P 09 26 16.0 +1.7**
baz=28,SNR=6.1
KBZ Khabaz 39.00 101 P **P 09 26 16.1 +1.7**
comp=Z,5.3nm,0.9s,baz=306,slow=12,SNR=7.1
KBZ LR LR 09 41 22.3
comp=Z,1μm,20.7s,baz=92,slow=35
comp=Z,5.3nm,0.9s
KBZ Khabaz 39.00 101 *ce*P **P 09 26 15.0 +0.6**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
B18K Kokolik River 39.06 342 P **P 09 26 17.7 +3.0**
baz=18
H27K Stamboat Moun 39.07 329 P **P 09 26 17.5 +2.6**
baz=26
D20K Etivluk River 39.08 339 P **P 09 26 17.6 +2.8**
baz=20,SNR=6.6
I29M Ogilvie Camp, 39.25 326 P **P 09 26 12.3 -4.0**
I29M Ogilvie Camp, 39.25 326 P **P 09 26 19.4 +3.0**
baz=27
E20K Nigu River 39.45 338 P **P 09 26 20.5 +2.5**
baz=20
D19K Kuna River 39.47 339 P **P 09 26 20.5 +2.3**
baz=19
I28M Miner Creek 39.48 327 P **P 09 26 16.0 -2.4**
I28M IAmb IAmb 09 26 23.1
comp=Z,24nm,1.4s
I28M Miner Creek 39.48 327 P **P 09 26 20.7 +2.3**
baz=27
BR131 Keskin Array S 39.55 113 P **P 09 26 19.4 +0.1**
BR131 Keskin Array S 39.55 113 P **P 09 26 19.4 +0.1**
BR131 pmax pmax
comp=Z,19nm,1.7s
BRTR Keskin Array B 39.55 113 P **P 09 26 19.6 +0.3**
BRTR Keskin Array B 39.55 113 P **P 09 26 20.8 +1.5**
comp=Z,1.1nm,0.7s,baz=333,slow=5.9,SNR=6.5
comp=Z,1.1nm,0.7s
BRTR Keskin Array B 39.55 113 *i* P **P 09 26 21.0 +1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
J30M Hart River 39.56 324 P **P 09 26 21.4 +2.3**
baz=28,SNR=8.8
COLD Coldfoot 39.59 334 P **P 09 26 17.6 -1.5**
COLD IAmb IAmb 09 26 23.1
comp=Z,35nm,1.9s
COLD Coldfoot 39.59 334 P **P 09 26 22.1 +2.9**
baz=23
G24K Hadweenzic Riv 39.65 332 P P 09 26 23.0 +3.4
baz=24
I27K Kandik River 39.65 328 P **P 09 26 22.4 +2.7**
baz=26
L61B Northampton 39.66 257 P **P 09 26 21.9 +1.9**
baz=27
C18K Utkok River 39.68 341 P **P 09 26 22.4 +2.4**
baz=18,SNR=6.2
ABKAR Akbulak array 40.04 80 P **P 09 26 23.3 +0.2**
ABKAR Akbulak array 40.04 80 P **P 09 26 23.0 0.0**
G23K Bananza Creek 40.04 334 P **P 09 26 25.7 +2.8**
baz=23
J29N Klondike Camp 40.05 325 P **P 09 26 22.0 -1.1**
J29N IAmb IAmb 09 26 27.1
comp=Z,38nm,1.6s
J29N Klondike Camp 40.05 325 P **P 09 26 25.6 +2.5**
baz=27
C17K DeLong Mountai 40.07 342 P **P 09 26 25.9 +2.8**
baz=17
F21K Alatna River 40.07 336 P **P 09 26 25.5 +2.4**
baz=21
I26K Coal Creek Min 40.20 329 P **P 09 26 26.6 +2.4**
baz=25
BRVK Borovoye 40.23 69 P **P 09 26 24.2 -0.4**
BRVK Borovoye 40.23 69 *ce*P **P 09 26 24.6 0.0**
BRVK pmax pmax
comp=Z,12nm,1.7s
BVAR Borovoye Array 40.29 69 P **P 09 26 25.6 +0.5**
comp=Z,1.8nm,0.8s,baz=312,slow=7.6,SNR=8.3
BVAR PP **PP 09 27 57.5 0.0**
comp=Z,1.7nm,0.8s,baz=335,slow=9.7,SNR=3.9
comp=Z,1.8nm,0.8s
EGAK Eagle 40.32 327 P **P 09 26 23.7 -1.5**
EGAK IAmb IAmb 09 26 28.5
comp=Z,27nm,1.5s
EGAK Eagle 40.32 327 P **P 09 26 27.2 +2.1**
baz=26
E19K Redstone River 40.35 338 P **P 09 26 27.5 +2.1**
baz=19
PRP Porcupine Dome 40.42 330 P P 09 26 29.3 +3.2
baz=24,SNR=8.7
RDOG Red Dog Mine 40.44 342 P **P 09 26 28.7 +2.5**
baz=17,SNR=6.3
K29M Barlow Dome 40.46 325 P **P 09 26 29.1 +2.5**
baz=27,SNR=7.6
C16K Lisburne Hills 40.48 343 IAmb IAmb 09 26 32.2
comp=Z,29nm,1.4s
C16K Lisburne Hills 40.48 343 P **P 09 26 29.1 +2.6**
baz=16
H24K Noodor Dome 40.51 332 P **P 09 26 29.2 +2.4**
baz=23
DAWY Dawson 40.62 326 P **P 09 26 26.2 -1.6**
DAWY Dawson 40.62 326 P **P 09 26 30.3 +2.5**
baz=26
G21K Allakaket 40.73 336 P **P 09 26 31.2 +2.6**
baz=21,SNR=7.6
ULM Lac du Bonnet 40.78 284 P **P 09 26 26.7 -2.5**
ULM Lac du Bonnet 40.78 284 P **P 09 26 30.9 +1.6**
comp=Z,7.5nm,0.9s,baz=35,slow=8.5,SNR=9.0
comp=Z,7.5nm,0.9s

ULM Lac du Bonnet 40.78 284 P **P 09 26 26.7 -2.5**
ULM pmax pmax
comp=Z,14nm,1.1s
E18K Tukpahlearik C 40.79 340 P **P 09 26 31.7 +2.7**
baz=18
D17K Noatak River 40.80 342 P **P 09 26 31.5 +2.4**
baz=17,SNR=7.3
H22K Ishtalitna Cre 41.01 334 P P 09 26 34.2 +3.3
baz=22
J26L Joseph Creek 41.01 329 IAmb IAmb 09 26 35.2
comp=Z,51nm,1.9s
J26L Joseph Creek 41.01 329 P **P 09 26 33.8 +2.8**
baz=25
F19K Shaleruckik Mo 41.01 338 P **P 09 26 33.0 +2.2**
baz=19
FARO Faro, Yukon 41.03 321 P **P 09 26 29.5 -1.7**
FARO Faro, Yukon 41.03 321 P P 09 26 34.3 +3.2
baz=28
POKR Poker Plat Res 41.11 331 P **P 09 26 30.4 -1.3**
POKR Poker Plat Res 41.11 331 P P 09 26 35.0 +3.3
baz=23
J25K Salcha River, 41.22 330 P **P 09 26 35.7 +3.0**
baz=24,SNR=10
L29M L29M 41.24 324 IAmb IAmb 09 26 39.9
comp=Z,27nm,1.4s
L29M L29M 41.24 324 P **P 09 26 35.7 +2.8**
baz=26
E17K Hotham Inlet 41.26 341 P **P 09 26 35.2 +2.3**
baz=17
M31M Drury Creek, Y 41.28 321 P **P 09 26 35.6 +2.4**
baz=27
ILAR Eielson Array 41.33 331 P **P 09 26 36.0 +2.4**
comp=Z,6.5nm,1.1s,baz=23,slow=7.5,SNR=29
ILAR PcP **PcP 09 28 32.5 +0.9**
comp=Z,0.9nm,0.9s,baz=20,slow=2.9,SNR=4.9
comp=Z,6.5nm,1.1s
I23K Minto, Yukon-K 41.39 333 P **P 09 26 32.6 -1.4**
I23K Minto, Yukon-K 41.39 333 P **P 09 26 37.1 +3.1**
baz=22,SNR=9.4
COLA College 41.40 331 P P 09 26 37.2 +3.2
baz=23
COLA College 41.40 331 *i* P **P 09 26 33.6 -0.5**
COLA pmax pmax
comp=Z,30nm,1.2s
H21K Melozitna Rive 41.44 335 P **P 09 26 37.3 +2.9**
baz=21,SNR=12
M30M Minto, Yukon 41.45 323 P **P 09 26 37.3 +2.7**
baz=26,SNR=7.8
F18K Selawik 41.46 339 P P 09 26 37.9 +3.4
baz=18
SCRK Sand Creek 41.56 329 P **P 09 26 33.7 -1.9**
SCRK IAmb IAmb 09 26 41.0
comp=Z,31nm,1.7s
SCRK Sand Creek 41.56 329 P **P 09 26 38.1 +2.5**
baz=24
G19K Purcell Mounta 41.57 338 IAmb IAmb 09 26 40.0
comp=Z,60nm,1.9s
G19K Purcell Mounta 41.57 338 P **P 09 26 38.2 +2.7**
baz=19
CCB Clear Creek Bu 41.60 331 P **P 09 26 35.1 -0.6**
CCB IAmb IAmb 09 26 42.4
comp=Z,44nm,1.7s
HDA Harding Lake 41.68 331 P P 09 26 39.7 +3.3
baz=23
I21K Tanana 41.77 334 P P 09 26 41.1 +4.1
baz=21
F17K Baldwin Pennin 41.81 340 P P 09 26 41.1 +3.7
baz=17
NEA2 Nenana 41.86 332 P **P 09 26 40.6 +2.7**
baz=22
WTLY Watson Lake, Y 41.87 316 P **P 09 26 41.1 +3.0**
baz=28
H20K Anotleneega Mo 41.89 336 P P 09 26 41.6 +3.5
baz=20,SNR=7.3
M29M Somme Creek 41.91 324 P **P 09 26 41.4 +3.0**
baz=26,SNR=6.4
N32M Quiet Lake 41.93 320 P **P 09 26 40.7 +2.1**
baz=27
RIDG Independent Ri 41.93 329 P **P 09 26 41.3 +2.8**
baz=24
L27K Beaver Creek, 42.00 327 P P 09 26 42.3 +3.2
baz=25
G18K Tagagawik 42.01 338 IAmb IAmb 09 26 44.3
comp=Z,42nm,1.8s
G18K Tagagawik 42.01 338 P **P 09 26 42.1 +2.9**
baz=18
K24K Donnelly Dome 42.04 330 P P 09 26 42.7 +3.4
baz=23
H19K Roundabout Mou 42.08 337 P P 09 26 42.8 +3.2
baz=19
TOAD Toad River Com 42.11 313 P **P 09 26 42.8 +2.8**
baz=29
N31M Braeburn, Yuko 42.22 322 P **P 09 26 43.5 +2.6**
baz=26
L26K Log Cabin Wild 42.32 328 P **P 09 26 44.6 +2.9**
baz=24
BVCY Beaver Creek 42.41 326 P **P 09 26 45.3 +2.9**
baz=25
I20K Naaghedeneel 42.49 335 P P 09 26 46.3 +3.3
baz=20
N30M Aishikik Lake 42.52 323 P P 09 26 46.6 +3.2
baz=26
BPAW Bear Paw Mtn. 42.62 333 P P 09 26 47.3 +3.2
baz=21,SNR=8.9
G17K Kiwalik Mounta 42.64 339 P P 09 26 47.5 +3.3
baz=17
MCK McKinley 42.64 331 P **P 09 26 42.4 -1.9**
MCK McKinley 42.64 331 P **P 09 26 46.8 +2.5**
baz=22,SNR=11
MCK McKinley 42.64 331 P **P 09 26 42.4 -1.9**
MCK pmax pmax
comp=Z,77nm,1.5s
M27K Edge Creek, AK 42.66 326 P P 09 26 47.7 +3.2
baz=24
H18K Honhosa River 42.69 338 P **P 09 26 47.3 +2.7**
baz=18
P33M Teslin, Yukon 42.71 319 P **P 09 26 47.7 +2.7**
baz=27
PAX Paxson 42.75 329 P **P 09 26 48.0 +2.7**
baz=23
PAX Paxson 42.75 329 P **P 09 26 47.0 +1.7**
PAX pmax pmax
comp=Z,39nm,1.8s
WHY Whitehorse 42.77 321 P P 09 26 49.2 +3.7
baz=26
GNI Garni 42.81 101 *i* P **P 09 26 46.9 +0.8**
GNI pmax pmax
comp=Z,23nm,1.4s
M26K Nabesna, AK 42.83 327 P **P 09 26 48.8 +3.0**
baz=24
GCSA Galena City Sc 42.88 337 P **P 09 26 49.2 +3.1**
baz=19
F15K North Star Dit 42.90 342 P P 09 26 49.7 +3.4
baz=15
YUK3 Moose Creek 42.91 325 P **P 09 26 49.8 +3.1**
baz=25
O30N Mendenhall 42.93 322 P **P 09 26 49.7 +3.0**
baz=26
YUK4 Talbot Arm 42.94 324 P **P 09 26 48.6 +1.7**
baz=25
G16K Koyuk River 42.95 340 P **P 09 26 49.7 +3.0**
baz=16
R33M Jennings River 43.02 317 P **P 09 26 50.5 +3.0**
baz=27
J20K Nowinta River 43.03 335 P **P 09 26 50.2 +2.8**
baz=20,SNR=7.1
CHUM Lake Minchumin 43.03 334 P **P 09 26 50.1 +2.7**
baz=20,SNR=6.9
H17K Granite Mounta 43.09 339 P **P 09 26 50.7 +2.8**
baz=17
TRF Thorofare Moun 43.12 332 P **P 09 26 50.9 +2.5**
baz=21
HYT Haines Junctio 43.18 323 P **P 09 26 51.6 +2.8**
baz=25
YUK8 Steele Glacier 43.22 324 P **P 09 26 51.4 +2.1**
baz=25
HARP HAARP 43.23 328 P **P 09 26 51.9 +2.9**
baz=23
YUK6 Outpost Mounta 43.25 323 P **P 09 26 51.9 +2.5**
baz=25
F14K Arctic Creek 43.30 343 P **P 09 26 52.3 +2.8**
baz=14
TNA Tin City 43.38 344 P **P 09 26 52.7 +2.6**
baz=14,SNR=6.1
J19K Poorman 43.42 336 P **P 09 26 53.2 +2.7**
baz=19
CAST Castle Rocks 43.44 333 P **P 09 26 53.2 +2.5**
baz=20

P32M	Atlin	43.47	319	P	P	09 26 54.0 +2.9
	baz=26					
G15K	Niukluk	43.52	341	P	P	09 26 54.8 +3.4
	baz=15					
BRZS	Berezniki	43.64	69	eP	P	09 26 52.6 +0.1
BRZS	Berezniki	43.64	69	eP	P	09 26 52.6 +0.1
DLBC	Dease Lake	43.65	316	P	P	09 26 55.6 +3.1
	baz=27					
H16K	Elim	43.66	340	P	P	09 26 55.4 +3.0
	baz=16					
P30M	Million Dollar	43.70	322	P	P	09 26 55.6 +2.7
	baz=25					
Q32M	Nakina River	43.71	318	P	P	09 26 56.0 +2.8
	baz=26					
O28M	Mount Upton	43.78	324	P	P	09 26 56.3 +2.5
	baz=24					
K20K	Telida	43.80	334	IAmb	IAmb	09 26 59.1
	comp=Z,46nm,1.6s					
K20K	Telida	43.80	334	P	P	09 26 56.5 +2.9
	baz=19					
N25K	Chitina, Valde	43.86	328	P	P	09 26 56.8 +2.6
	baz=23					
O29M	Mount Kennedy	43.88	323	P	P	09 26 57.1 +2.7
	baz=25					
ZAA0	Zalesovo Array	43.91	57	P	P	09 26 53.5 -1.1
ZALV	Zalesovo Beam	43.91	57	P	P	09 26 53.9 -0.7
ZALV	Zalesovo Beam	43.91	57	P	P	09 26 54.7 +0.1
	comp=Z,2.0nm,0.8s,baz=331,slow=8.6,SNR=10					
ZALV				PcP	PcP	09 28 40.7 +0.4
	comp=Z,0.6nm,0.5s,baz=336,slow=3.2,SNR=4.3					
	comp=Z,2.0nm,0.8s					
ZALV	Zalesovo Beam	43.91	57	iP	P	09 26 55.7 +1.2
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.8s					
PPLA	Purkeypile	43.95	333	P	P	09 26 57.3 +2.3
	baz=20					
SKAG	Skagway	43.95	320	P	P	09 26 57.2 +2.4
	baz=26					
J18K	Innoko River	44.08	336	P	P	09 26 58.3 +2.4
	baz=18					
ANM	Nome	44.09	342	P	P	09 26 58.6 +2.8
	baz=15					
CUT	Chulitna	44.10	332	P	P	09 26 58.1 +2.1
	baz=21					
SCM	Sheep Creek Mo	44.14	329	P	P	09 26 58.7 +2.3
	baz=22					
PLBC	Pleasant Camp	44.18	321	P	P	09 26 59.0 +2.3
	baz=25					
I17K	Unalakleet	44.20	339	P	P	09 26 59.0 +2.3
	baz=17					
KLU	Klutina	44.21	328	P	P	09 26 58.9 +1.9
	baz=22					
M23K	Glacier View	44.24	330	P	P	09 26 59.4 +2.2
	baz=22					
SML	Sawmill	44.34	330	P	P	09 26 58.7 +0.7
	baz=21					
BMRM	Bremner River	44.45	327	P	P	09 26 59.0 +0.1
	baz=23					
J17K	VABM Dome	44.46	338	P	P	09 26 59.1 +0.2
	baz=17					
TTA	Tatalina	44.49	335	P	P	09 26 59.6 +0.4
	baz=18					
L20K	Farewell, AK	44.60	334	P	P	09 27 01.0 +0.9
	baz=19					
MESA	MESA	44.67	325	P	P	09 27 02.0 +1.2
	baz=23					
PMR	Palmer	44.67	330	P	P	09 27 02.2 +1.6
	baz=21					
M22K	Willow	44.69	331	P	P	09 27 02.0 +1.3
	baz=20					
SKT	Skwentna	44.71	332	P	P	09 27 01.8 +0.9
	baz=20					
KNK	Knik Glacier	44.73	330	P	P	09 27 03.0 +1.9
	baz=21					
J16K	Anvik River	44.77	338	P	P	09 27 02.9 +1.6
	baz=16					
KURK	Kurchatov	44.88	64	P	P	09 27 02.0 -0.3
KURK				IAmb	IAmb	09 27 05.5
	comp=Z,16nm,1.2s					
KURK	Kurchatov	44.88	64	ceP	P	09 27 03.6 +1.3
KURK				pmax	pmax	
	comp=Z,23nm,1.7s					
KURBB	Kurchatov Arra	44.93	64	P	P	09 27 03.5 +0.7
	comp=Z,2.9nm,0.9s,baz=332,slow=7.3,SNR=19					
KURBB				PcP	PcP	09 28 44.0 +0.1
	comp=Z,0.4nm,0.5s,baz=325,slow=3.9,SNR=5.7					
	comp=Z,2.9nm,0.9s					
M20K	Styx River	45.05	333	P	P	09 27 02.1 -1.6
M20K				IAmb	IAmb	09 27 06.4
	comp=Z,18nm,1.1s					
M20K	Styx River	45.05	333	P	P	09 27 05.3 +1.6
	baz=19					
SUA	Susitna One	45.07	331	P	P	09 27 00.8 -3.1
SUA	Susitna One	45.07	331	P	P	09 27 05.5 +1.7
	baz=20,SNR=7.3					
PWL	Port Wells	45.23	330	P	P	09 27 06.0 +1.0
	baz=21					
RC01	Rabbit Creek A	45.25	331	P	P	09 27 06.4 +1.2
	baz=20					
GAMB	Gambell	45.47	345	P	P	09 27 07.7 +0.8
	baz=11					
SPCR	Spurr Chakacha	45.55	332	P	P	09 27 08.2 +0.5
	baz=20					
L17K	Donlin	45.57	337	P	P	09 27 08.8 +1.1
	baz=17					
J14K	Nanvaranak Lak	45.65	340	P	P	09 27 08.9 +0.6
	baz=15					
CAPN	Captain Cook N	45.79	331	P	P	09 27 10.7 +1.3
	baz=20					
O22K	Cooper Landing	45.82	330	P	P	09 27 10.6 +0.9
	baz=20					
M18K	Stony River	45.83	335	P	P	09 27 10.4 +0.6
	baz=18					
K15K	Wolf Creek Mou	45.84	339	P	P	09 27 10.8 +1.0
	baz=16					
YAK	Yakutsk	46.01	22	P	P	09 27 11.3 +0.2
	comp=Z,7.9nm,0.3s,baz=333,slow=6.8,SNR=6.3					
	comp=Z,7.9nm,0.3s					
YAK	Yakutsk	46.01	22	ceP	P	09 27 11.9 +0.7
YAK				pmax	pmax	
	comp=Z,37nm,1.7s					
SEW	Seward	46.13	330	P	P	09 27 13.5 +1.4
	baz=20					
L16K	Owhat River	46.13	337	P	P	09 27 13.0 +0.9
	baz=16					
N19K	Bonanza Creek	46.28	334	P	P	09 27 14.6 +1.1
	baz=18					
K13K	Kusilvak Mount	46.57	340	P	P	09 27 16.8 +1.3
	baz=14					
N18K	Kilae Creek	46.62	334	P	P	09 27 17.4 +1.4
	baz=18					
O20K	Slope Mountain	46.68	332	P	P	09 27 18.1 +1.5
	baz=19					
BRSE	Bradley Lake S	46.69	331	P	P	09 27 17.7 +1.1
	baz=20					
SEY	Seymchan	47.09	7	eP	P	09 27 20.6 +0.9
SEY				pmax	pmax	
	comp=Z,18nm,1.5s					
M14K	Bethel	47.39	338	P	P	09 27 22.8 +0.9
	baz=15					
O17K	Koliganek Bris	47.66	335	P	P	09 27 25.9 +1.7
	baz=17					
N15K	Kwethluk River	47.71	337	P	P	09 27 25.3 +0.8
	baz=16					
P18K	Big Mountain,	47.75	333	P	P	09 27 26.5 +1.7
	baz=18					
O16K	Kokwok River B	47.98	335	P	P	09 27 28.7 +2.1
	baz=16					
BTLS	Baital	48.42	71	eP	P	09 27 30.8 +0.6
BTLS				pmax	pmax	
	comp=Z,20nm,2.1s					
BTLS	Baital	48.42	71	eP	P	09 27 30.8 +0.6
	comp=Z,20nm,2.1s					
BRLS	Borolday	48.82	76	eP	P	09 27 34.9 +1.6
BRLS	Borolday	48.82	76	eP	P	09 27 34.9 +1.6
KKAR	Karatay Array	48.98	76	P	P	09 27 34.5 -0.1
KKAR				IAmb	IAmb	09 27 37.3
	comp=Z,19nm,1.6s					
KKAR	Karatay Array	48.98	76	P	P	09 27 34.7 +0.2
KKAR	Karatay Array	48.98	76	P	P	09 27 34.5 -0.1
KKAR						09 27 34.7
MAKZ	Makanchi	49.37	64	P	P	09 27 37.3 -0.2
MAKZ				IAmb	IAmb	09 27 41.8
	comp=Z,21nm,1.6s					
MAKZ	Makanchi	49.37	64	P	P	09 27 37.3 -0.2
MAKZ				pmax	pmax	
	comp=Z,21nm,1.6s					
DZA	Taraz	49.44	75	eP	P	09 27 38.8 +0.7
DZA	Taraz	49.44	75	eP	P	09 27 38.8 +0.7
MK31	Makanchi Array	49.48	64	ceP	P	09 27 39.5 +1.2
MKAR	Makanchi Array	49.48	64	P	P	09 27 37.8 -0.6
MKAR	Makanchi Array	49.48	64	P	P	09 27 39.4 +1.1
	comp=Z,3.5nm,0.9s,baz=337,slow=5.2,SNR=25					
MKAR				PcP	PcP	09 29 00.0 -0.2
	comp=Z,1.0nm,1.0s,baz=352,slow=2.9,SNR=1.9					
	comp=Z,3.5nm,0.9s					
OHAK	Old Harbor	49.51	331	P	P	09 27 41.0 +2.6
	baz=18					
MSO	Missoula	49.59	297	P	P	09 27 38.1 -1.2
MSO				IAmb	IAmb	09 27 44.2
	comp=Z,22nm,1.3s					
IUG	Iuzhnay	49.67	77	eP	P	09 27 40.1 +0.2
IUG	Iuzhnay	49.67	77	eP	P	09 27 40.1 +0.2
ZSN	Zaisan	49.68	61	eP	P	09 27 39.8 0.0
ZSN				pmax	pmax	
	comp=Z,32nm,2.1s					
ZSN	Zaisan	49.68	61	eP	P	09 27 39.9 +0.1
	comp=Z,32nm,2.1s					
TDK	Taldyqorghan	49.86	68	eP	P	09 27 41.4 +0.2
TDK				pmax	pmax	
	comp=Z,15nm,1.2s					
TDK	Taldyqorghan	49.86	68	eP	P	09 27 41.5 +0.2
	comp=Z,15nm,1.2s					
JSC	Jenkinsville	49.92	260	P	P	09 27 40.7 -1.0
JSC	Jenkinsville	49.92	260	P	P	09 27 40.7 -1.0
JSC				pmax	pmax	
	comp=Z,46nm,1.6s					
CGM3	Cape Girardeau	50.07	270	P	P	09 27 40.0 -2.9
CGM3				IAmb	IAmb	09 27 46.2
	comp=Z,16nm,1.2s					
R40A	Maddies Statio	50.07	273	P	P	09 27 42.2 -0.6
R40A				IAmb	IAmb	09 27 45.6
	comp=Z,16nm,1.1s					
MOY	Mondy	50.32	46	eP	P	09 27 45.9 +1.2
MOY				pmax	pmax	
	comp=Z,37nm,2.7s					
MA2	Magadan	50.37	9	iP	P	09 27 44.3 -0.6
MA2				pmax	pmax	
	comp=Z,24nm,1.3s					
QLMT	Earthquake Lak	50.60	294	P	P	09 27 45.5 -1.5
AAK	Ala-Archa	50.71	72	P	P	09 27 48.8 +0.9
AAK				IAmb	IAmb	09 27 51.0
	comp=Z,16nm,1.3s					
AAK	Ala-Archa	50.71	72	P	P	09 27 48.8 +0.9
AAK				pmax	pmax	
	comp=Z,16nm,1.3s					
K22A	Casper	50.97	288	P	P	09 27 48.0 -1.8
K22A				IAmb	IAmb	09 27 52.4
	comp=Z,26nm,1.4s					
S39A	Bolivar	50.97	274	P	P	09 27 46.9 -2.9
MDOK	Medeo	51.07	70	eP	P	09 27 50.7 +0.1
MDOK	Medeo	51.07	70	eP	P	09 27 50.7 +0.1
MGMO	Mountain Grove	51.09	273	P	P	09 27 48.9 -1.8
TNSS	Tian-Shan	51.15	70	eP	P	09 27 51.3 -0.2
TNSS	Tian-Shan	51.15	70	eP	P	09 27 51.4 -0.2
BOOM	Boomskoye usch	51.32	71	P	P	09 27 52.8 +0.3
BOOM				IAmb	IAmb	09 27 55.8
	comp=Z,31nm,1.6s					
BOOM	Boomskoye usch	51.32	71	P	P	09 27 52.8 +0.3
BOOM				pmax	pmax	
	comp=Z,31nm,1.6s					
KPKS	Kokpek	51.33	68	eP	P	09 27 53.0 +0.6
KPKS				pmax	pmax	
	comp=Z,14nm,1.4s					
KPKS	Kokpek	51.33	68	eP	P	09 27 53.0 +0.6
	comp=Z,14nm,1.4s					
SATY	Saty	51.60	69	eP	P	09 27 54.8 +0.3
SATY				pmax	pmax	
	comp=Z,27nm,2.2s					
SATY	Saty	51.60	69	eP	P	09 27 54.9 +0.3
	comp=Z,27nm,2.2s					
UZB	Uzynbulak	51.72	68	eP	P	09 27 55.6 +0.2
UZB				pmax	pmax	
	comp=Z,17nm,1.6s					
UZB	Uzynbulak	51.72	68	eP	P	09 27 55.7 +0.2
	comp=Z,16nm,1.6s					
PDAR	Pinedale Array	51.85	291	P	P	09 27 54.1 -2.4
PDAR	Pinedale Array	51.85	291	P	P	09 27 57.7 +1.2
	comp=Z,2.8nm,1.1s,baz=16,slow=6.6,SNR=11					
PDAR				PP	PP	09 29 54.7 +0.7
	comp=Z,1.0nm,1.0s,baz=36,slow=8.5,SNR=4.1					
	comp=Z,2.8nm,1.1s					
SHLS	Shalkode	51.85	68	eP	P	09 27 57.6 +1.2
SHLS				pmax	pmax	
	comp=Z,17nm,1.0s					
SHLS	Shalkode	51.85	68	eP	P	09 27 57.7 +1.2
	comp=Z,17nm,1.0s					
N23A	Red Feather La	52.36	287	P	P	09 28 02.6 +2.3
	baz=26					
CHGR	Chuyangaron	52.51	79	P	P	09 28 01.1 -0.2
CHGR	Chuyangaron	52.51	79	P	P	09 28 01.1 -0.2
CHGR				pmax	pmax	
	comp=Z,41nm,1.5s					
GAR	Garm	52.59	78	P	P	09 28 01.2 -0.7
DRK	Karamyk	52.65	77	P	P	09 28 03.5 +0.9
DRK	Karamyk	52.65	77	P	P	09 28 03.5 +0.9
DRK				pmax	pmax	
	comp=Z,27nm,0.3s					
T35A	Sooner Cattle	52.77	276	P	P	09 28 01.9 -1.2
OK051	E0350 and S346	53.25	276	P	P	09 28 05.6 -1.1
CROK	Carrier	53.64	277	P	P	09 28 08.2 -1.4
ZEA	Zeya	53.69	26	eP	P	09 28 10.4 +0.8
ZEA				pmax	pmax	
	comp=Z,10.0nm,1.5s					
WMQ	Urumqi	53.81	61	eP	P	09 28 13.0 +2.2
WMQ				pmax	pmax	
	comp=Z,17nm,1.1s					
KSH	Kashi	54.01	73	P	P	09 28 14.9 +2.6
KSH				pmax	pmax	
	comp=Z,13nm,1.2s					
SONM	Songino Array	55.19	44	P	P	09 28 20.9 +0.1
SONM				IAmb	IAmb	09 28 22.8
	comp=Z,29nm,2.0s					
SONM	Songino Array	55.19	44	P	P	09 28 20.5 -0.3
	comp=Z,0.7nm,0.5s,baz=343,slow=4.5,SNR=8.4					
	comp=Z,0.7nm,0.5s					
SONM	Songino Array	55.19	44	P	P	09 28 20.9 +0.1
SONM				pmax	pmax	
	comp=Z,29nm,2.0s					
ULN	Ulaanbaatar	55.32	44	P	P	09 28 21.1 -0.6
ULN				IAmb	IAmb	09 28 25.2
	comp=Z,15nm,1.2s					
ULN	Ulaanbaatar	55.32	44	P	P	09 28 21.2 -0.6
ULN				pmax	pmax	
	comp=Z,15nm,1.3s					
S22A	4UR Ranch, Cre	55.50	286	P	P	09 28 25.4 +2.1
	baz=25					
HEH	HeiHe	57.09	27	eP	P	09 28 35.1 +0.9
HEH				pmax	pmax	
	comp=Z,10.0nm,1.5s					
R11B	Troy Canyon, C	57.78	294	P	P	09 28 41.7 +2.2
	baz=24					
TORD	Torodi Ar. Bea	57.83	160	P	P	09 28 39.8 +0.1
	comp=Z,2.3nm,1.1s,baz=348,slow=7.5,SNR=9.8					
	comp=Z,2.3nm,1.1s					
ANMO	Albuquerque	57.92	284	LR	LR	09 53 51.8
	comp=Z,847nm,20.0s,baz=272,slow=36					
RAYN	Ar Rayn	58.31	109	P	P	09 28 43.0 -0.1
RAYN	Ar Rayn	58.31	109	P	P	09 28 43.0 -0.1
RAYN				pmax	pmax	
	comp=Z,8.0nm,1.1s					
U15A	North Rim	58.49	290	P	P	09 28 43.3 -1.2
U15A				IAmb	IAmb	09 28 49.4
	comp=Z,14nm,1.4s					
NVAR	Mina Array Bea	58.56	296	P	P	09 28 46.3 +1.4
	comp=Z,0.3nm,0.3s,baz=12,slow=8.3,SNR=5.0					
	comp=Z,0.3nm,0.3s					
KLR	Kul'dur	58.74	24	eP	P	09 28 47.4 +1.6
KLR				pmax	pmax	
	comp=Z,4.0nm,1.1s					
CRNM	Carthage	58.92	284	P	P	09 28 44.8 -2.6
JCT	Junction City	59.74	276	P	P	09 28 51.5 -1.5
JCT	Junction City	59.74	276	P	P	09 28 51.5 -1.5
JCT				pmax	pmax	
	comp=Z,25nm,1.3s					
121A	Cookes Peak, D	60.57	284	P	P	09 29 01.5 +2.7
	baz=23					
DRIO	Del Rio	60.99	276	P	P	09 28 59.3 -2.2
DRIO				IAmb	IAmb	09 29 05.3
	comp=Z,11nm,1.3s					
XLT	XiLinHaoTe	61.10	38	eP	P	09 29 03.2 +1.0
XLT				pmax	pmax	
	comp=Z,5.0nm,1.8s					
XLT				pmax	pmax	
	comp=Z,320nm,6.1s					
GTA	Gaotai	61.37	53	eP	P	09 29 03.1 -1.0
GTA				sP	sP	09 29 16.0 +8.0
GTA				pmax	pmax	
	comp=Z,6.0nm,1.7s					
BNX	BinXian	61.47	29	⇑P	P	09 29 04.6 +0.1
BNX				pmax	pmax	
	comp=Z,8.0nm,1.2s					
TXAR	Lajitas Array	62.11	279	P	P	09 29 10.6 +1.4
	comp=Z,2.5nm,0.9s,baz=33,slow=5.8,SNR=10					
	comp=Z,2.5nm,0.9s					
GOMU	GeErMu	62.94	58	P	P	09 29 16.5 +1.5
GOMU				pP	sP	09 29 19.9 +1.0
GOMU				sP	pP	09 29 22.9 +5.1
GOMU				pmax	pmax	
	comp=Z,12nm,1.1s					
HHC	Hu-ho-hao-te	63.00	43	eP	P	09 29 12.4 -2.6
CN2	Changchun	63.02	31	eP	P	09 29 15.2 +0.3
CN2				pmax	pmax	
	comp=Z,10.0nm,1.5s					
LZH	Lanzhou	65.58	51	eP	P	09 29 33.5 +1.5
LZH				pP	sP	09 29 38.8 +2.9
LZH				pmax	pmax	
	comp=Z,13nm,1.1s					
HNS	HongShan	67.02	41	⇑P	P	09 29 42.8 +1.8
HNS				pmax	pmax	
	comp=Z,12nm,2.2s					
XAN	Xi'an	68.83	47	P	P	09 29 52.7 +0.2
XAN				pmax	pmax	
	comp=Z,6.0nm,1.2s					
LYN	LuoYang	69.22	44	eP	P	09 29 56.1 +1.2
LYN				pmax	pmax	
	comp=Z,9.0nm,0.5s					
BAUV	El Baul	69.37	237	P	P	09 29 55.3 -0.7
SDV	Santo Domingo	70.18	239	P	P	09 30 00.1 -1.1
SDV				IAmb	IAmb	09 30 04.9
	comp=Z,19nm,1.5s					
MJAR	Matsushiro Arr	72.08	22	P	P	09 30 12.4 +0.2
	comp=Z,3.1nm,0.8s,baz=348,slow=6.3,SNR=8.7					
	comp=Z,3.1nm,0.8s					
NJ2	Nanjing	73.08	39	eP	P	09 30 15.9 -2.3
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
PZH	PanZhiHua	74.04	56	P	P	09 30 23.3 -0.8
PZH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PZH				pmax	pmax	
	comp=Z,100nm,4.7s					
GYA	Guiyang	75.45	52	⇑P	P	09 30 33.1 +0.8
GYA				pmax	pmax	
	comp=Z,11nm,1.7s					
MBAR	Mbarara	76.82	132	ceP	P	09 30 42.1 +1.9
MBAR				pmax	pmax	
	comp=Z,10.0nm,2.5s					
CMAR	Chiang Mai Arr	80.81	61	P	P	09 31 02.5 +0.5
	comp=Z,0.6nm,0.3s,baz=354,slow=4.9,SNR=6.7					
	comp=Z,0.6nm,0.3s					
QSPA	South Pole Qui	159.93	180	PKPab	PKPab	09 39 26.4 +1.0
	comp=Z,9.4nm,1.1s,baz=200,slow=1.1,SNR=9.2					

ATH 02 09:23:00.7, 37°.65N×100°.70E, h15km±1km, ML2.4/7, Error ellipse: s-maj=3.3km s-min=1.2km az=35.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.12	61	P	Pg	09 23 03.9	-0.3
LTHK				S	Sg	09 23 05.9	-0.7
LTHK				AML	AML	09 23 06.3	
	comp=N,7108μm,0.2s						
LTHK				AML	AML	09 23 07.0	
	comp=E,5122μm,0.2s						
KYPS	Kipseli, Zakin	0.20	30	P	Pg	09 23 05.5	+0.2
KYPS				S	Sb	09 23 09.0	-0.6
ORTH	Orthonies,Zaky	0.20	359	P	Pg	09 23 05.5	+0.1
ORTH				S	Sg	09 23 08.5	-0.1
CLEM	Kyllini,Ilia,G	0.42	55	P	Pg	09 23 08.6	-0.5
CLEM				S	Sg	09 23 15.3	+0.4
CLEM				AML	AML	09 23 19.2	
	comp=E,1221μm,0.3s						
CLEM				AML	AML	09 23 20.9	
	comp=N,1484μm,0.5s						
PSDA	Pessada-Kefalo	0.47	349	P	Pg	09 23 10.3	+0.2
PSDA				S	Sg	09 23 16.6	+0.1
VLS	Valsamata	0.54	351	P	Pg	09 23 11.1	-0.1
VLS				AML	AML	09 23 20.5	
	comp=E,1083μm,0.2s						
VLS				AML	AML	09 23 20.6	
	comp=N,640μm,0.2s						
SMHA	Samh	0.60	356	P	Pg	09 23 11.6	-0.9
SMHA				AML	AML	09 23 22.2	
	comp=N,1944μm,0.4s						
SMHA				AML	AML	09 23 22.2	
	comp=E,1648μm,0.4s						
DMLN	Damoulianata-K	0.64	336	P	Pb	09 23 13.6	-0.1
RLS	Riolos of Patr	0.73	56	P	Pg	09 23 14.8	-0.2
AMT	Artemida-Makis	0.81	98	P	Pb	09 23 16.5	0.0
AMT				AML	AML	09 23 32.5	
	comp=E,938μm,0.3s						
AMT				AML	AML	09 23 32.8	
	comp=N,1158μm,0.2s						
FSK	Fiskardo	0.82	352	P	Pg	09 23 16.0	-0.6
DRO	Drossia	0.86	69	P	Pb	09 23 16.7	-0.6
DRO				AML	AML	09 23 40.1	
	comp=N,170μm,0.5s						
DRO				AML	AML	09 23 42.0	
	comp=E,224μm,0.5s						
EVGI	Lefkada island	0.97	358	P	Pb	09 23 18.4	-0.9
DRAG	Dragano-Lefkad	1.04	355	P	Pb	09 23 19.1	-1.3
ITM	Ithomi	1.08	115	P	Pb	09 23 20.6	-0.5
LKD2	Lefkada island	1.14	358	P	Pb	09 23 20.7	-1.4
KLV	Kalavryta, Ach	1.22	71	P	Pn	09 23 22.6	-0.7
EFP	Efpalio	1.23	50	P	Pn	09 23 23.4	0.0
GUR	Goura	1.33	77	P	Pn	09 23 25.2	+0.3
ANX	Ano Chora	1.35	45	P	Pn	09 23 24.7	-0.4
ANX				AML	AML	09 23 52.4	
	comp=N,306μm,0.6s						
ANX				AML	AML	09 23 52.6	
	comp=E,190μm,0.6s						
KALE	Kalithea	1.36	56	P	Pn	09 23 25.3	+0.1

*BJI **02** 09:27:28.5, 2°.85S×100°.11E, h10km, mB6.2/65, mb5.8/100, Ms6.4/89, Ms7 6.4/82*
*IDC **02** 09:27:32.8±0.3, 2°.71S×100°.15E, h0km, mb5.6/45, mbtmp5.6/48, ML5.1/3, MS6.0/65, Error ellipse: s-maj=12.0km s-min=8.6km az=58.0*
*MOS **02** 09:27:33.2±1.0, 2°.72S×100°.21E, h14km, mb6.2/92, MS6.0/48, Error ellipse: s-maj=6.9km s-min=3.7km az=112.1*
*IPGP **02** 09:27:34.0, 2°.86S×100°.02E, h23km, Mw6.2, Fault plane solution: NP1:φs335.00000°, δ15.00000°, λ119.00000°. NP2:φs125.00000°, δ77.00000°, λ82.00000°.*
*NEIC **02** 09:27:34.5, 2°.83S×100°.08E, h10km*
*RSNC **02** 09:27:34.9±2.6, 3°S±10°×10°0E±1°0, h10km, M5.5, mB5.9, mb5.2, Mw(mB)6.1, MwMwp5.6, Mwp5.7, Hypocentre not reviewed by the ISC*
*DJA **02** 09:27:35.4±0.4, 3°S±1°×10°0E±°, h21km±3km, M5.9/132, mb5.9/132, mB6.2/117, MLv6.3/25, Mw(mB)5.9/117, MwMwp5.9/81, Mwp6.0/81*
*NEIC **02** 09:27:36.0±1.5, 2°.85S±0°.06×100°.07E±0°.06, h20km±1km, mb6.0/234, Ms_20 6.3/953, Mwb6.0/69, Mww6.0/18, Error ellipse: s-maj=11.1km s-min=9.3km az=241.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr1.11; Mθθ-0.38; Mφφ-0.73; Mrθ0.77; Mrφ0.54; Mθφ-0.45; Fault plane solution: M0 1.43000×10^18 NP1: φs336.91000°, δ28.18000°, λ114.18000°. NP2: φs129.91000°, δ64.49000°, λ77.62000°. Principal axes: T 1.4556, Plg68.0000°, Azm16.0000°; N -0.0553, Plg11.0000°, Azm135.0000°; P -1.4002, Plg19.0000°, Azm229.0000°;*
*NEIC **02** 09:27:36, 2°.85S×100°.08E, h20km*
*NEIC **02** 09:27:36, 2°.95S×99°.67E, h20km, Moment Tensor Solution. Duration: 39s4 Moment tensor: Scale 10^18Nm; Mrr0.55; Mθθ-0.22; Mφφ-0.33; Mrθ0.76; Mrφ0.31; Mθφ-0.67; Fault plane solution: M0 1.16000×10^18 NP1: φs328.53000°, δ15.12000°, λ105.36000°. NP2: φs132.65000°, δ75.44000°, λ85.91000°. Principal axes: T*

1.1444, Plg59.0000°, Azm37.0000°; N 0.0333, Plg4.0000°, Azm134.0000°; P -1.1777, Plg30.0000°, Azm226.0000°;
*GCMT **02** 09:27:40.0±0.3, 3.11S±0.04, 99.86E±0.04, h28km±1km, MW6.1/121, Moment Tensor Solution. s121,c161;*
Duration: ≥9 Moment tensor: Scale 10^{18}Nm;
M_{rr}0.82±.02; $M_{\theta\theta}$-0.38±.01; $M_{\phi\phi}$-0.44±.01; $M_{r\theta}$1.42±.14;
$M_{\theta\phi}$0.41±.01; $M_{\phi r}$-1.22±.14; Best double couple:
M_o2.04500×10^{18} NP1:ϕ_s324.00000°, δ12.00000°, λ102.00000°. NP2:ϕ_s131.00000°, δ78.00000°, λ87.00000°.
Principal axes: T 2.0490, Plg57.0000°, Azm38.0000°; N -0.0090, Plg2.0000°, Azm132.0000°; P -2.0410, Plg33.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function

ISC 02 09:27:35.6±0.3, 2.76S±0.02×100.19E±0.03, h18km±1km, h18km:pP-P, n1980, σ1965/1868, mb6.0/373, MS6.3/583, 104C-54D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.18**	**270**	P		**Pb**	**09 27 40.8**	**+0.7**
SISI	**Saibi**	**1.80**	**322**	P		**Pn**	**09 28 05.3**	**-0.5**
SISI				S		**Sn**	**09 28 28.1**	**-0.1**
PPI	**Padang Panjang**	**2.30**	**5**	P		**Pb**	**09 28 14.5**	**-2.1**
PPI				S		**Sb**	**09 28 43.2**	**-1.5**
KSI	**Kapahiang**	**2.55**	**110**	P		**Pn**	**09 28 18.1**	**+1.9**
MNAI	**Manna**	**3.18**	**120**	Pn		**Pn**	**09 28 26.1**	**+1.3**
MNAI	**Manna**	**3.18**	**120**	P		**Pn**	**09 28 26.3**	**+1.5**
MNAI	**Manna**	**3.18**	**120**	⇑P		**Pn**	**09 28 26.5**	**+1.7**
BKNI	**Bangkinang**	**3.18**	**15**	P		**Pn**	**09 28 27.1**	**+2.4**
BKNI	**Bangkinang**	**3.18**	**15**	P		**Pn**	**09 28 25.1**	**+0.3**
BKNI	**Bangkinang**	**3.18**	**15**	P		**Pn**	**09 28 27.0**	**+2.2**
BKNI	**Bangkinang**	**3.18**	**15**	⇑P		**Pn**	**09 28 27.2**	**+2.4**
PBSI	**Pulau Batu**	**3.30**	**325**	P		**Pn**	**09 28 25.6**	**-0.8**
MNSI	**Mandailing Nat**	**3.59**	**350**	P		**Pn**	**09 28 30.6**	**+0.3**
MDSI	**Maura Dua**	**4.33**	**113**	P		**Pn**	**09 28 43.2**	**+2.6**
PMBI	**Palembang**	**4.58**	**92**			**Pn**	**09 28 45.8**	**+1.8**
PMBI	**Palembang**	**4.58**	**92**	P		**Pn**	**09 28 45.3**	**+1.3**
GSI	**Gunungsitoli**	**4.81**	**327**	Pn		**Pn**	**09 28 46.0**	**-1.2**
GSI	**Gunungsitoli**	**4.81**	**327**	P		**Pn**	**09 28 45.8**	**-1.4**
GSI	**Gunungsitoli**	**4.81**	**327**	⇑P		**Pn**	**09 28 46.0**	**-1.2**
RPSI	**Rantau Prapat**	**5.57**	**347**	Pn		**Pn**	**09 28 57.1**	**-0.5**
RPSI	**Rantau Prapat**	**5.57**	**347**			**Pn**	**09 28 56.8**	**-0.8**
PSI	**Prapat**	**5.67**	**347**	Pn		**Pn**	**09 28 56.7**	**-2.4**
	28nm,0.3s,baz=168,slow=11,SNR=48							
	92nm,0.4s							
MYKOM	**Kota Tinggi**	**5.81**	**39**	Pn		**Pn**	**09 29 03.7**	**+2.7**
MYKOM	**Kota Tinggi**	**5.81**	**39**	⇑P		**Pn**	**09 29 03.7**	**+2.7**
PPBI	**Pangkal Pinang**	**5.97**	**84**	P		Pn	09 29 08.3	+5.2
SNSI	**Sinabang, Aceh**	**6.43**	**323**	P		**Pn**	**09 29 08.2**	**-1.2**
	16nm20μm1μm,0.9s							
TSI	**Tuntungan**	**6.43**	**345**	P		**Pn**	**09 29 09.1**	**-0.4**
	18nm124μm2μm,0.8s							
CGJI	**Cibinong**	**6.68**	**125**	P		**Pn**	**09 29 12.8**	**-0.1**
KCSI	**Kotacane, Aceh**	**6.70**	**339**	P		**Pn**	**09 29 14.6**	**+1.5**
	11nm87μm17μm848nm,1.3s							
SBJI	**Serang**	**6.79**	**120**	P		**Pn**	**09 29 15.2**	**+0.7**
	9.9nm56μm24μm2μm,1.2s							
IPM	**Ipoh**	**7.24**	**7**	Pn		**Pn**	**09 29 23.1**	**+2.5**
IPM	**Ipoh**	**7.24**	**7**	⇑P		**Pn**	**09 29 23.2**	**+2.5**
TNG	**Tangerang**	**7.27**	**118**	P		**Pn**	**09 29 21.8**	**+0.8**
TNG				P		Pb	09 29 23.0	-18
	8.6nm27μm2μm,1.5s							
TPI	**Tanjungpandan**	**7.45**	**90**	P		**Pn**	**09 29 26.0**	**+2.5**
	4.9nm108μm348nm,0.8s							
CBJI	**Citeko**	**7.56**	**119**	P		Pn	09 29 30.3	+5.3
SKJI	**Sukabumi**	**7.61**	**124**	P		**Pn**	**09 29 27.3**	**+1.6**
MLSI	**Meulaboh, Aceh**	**7.94**	**332**	P		**Pn**	**09 29 29.5**	**-0.7**
	7.3nm50μm19μm1μm,0.6s							
KULM	**Kulim**	**8.01**	**3**	Pn		**Pn**	**09 29 32.0**	**+0.8**
KULM	**Kulim**	**8.01**	**3**	⇑P		**Pn**	**09 29 31.9**	**+0.7**
CNJI	**Cibinong**	**8.25**	**123**	P		**Pn**	**09 29 33.9**	**-0.6**
	7μm843nm,1.0s							
LEM	**Lembang**	**8.43**	**119**	Pn		**Pn**	**09 29 37.8**	**+0.8**
	15nm,0.3s,baz=310,slow=16,SNR=36							
LEM				Sn		**Sn**	**09 31 15.5**	**+3.6**
	21nm,0.3s,baz=294,slow=20,SNR=1.3							
LEM				LR		LR	09 33 41.0	
	comp=Z,77μm,18.5s,baz=262,slow=43							
	208nm,0.7s							
LEM	**Lembang**	**8.43**	**119**	P		**Pn**	**09 29 37.9**	**+0.8**
	50μm19μm2μm,1.2s							
LHMI	**Lhok Sumawe**	**8.57**	**338**	Pn		**Pn**	**09 29 38.5**	**-0.5**
LHMI	**Lhok Sumawe**	**8.57**	**338**	P		**Pn**	**09 29 38.2**	**-0.7**
	63μm9μm499nm,1.0s							
JCJI	**Jatiwangi**	**8.86**	**115**	P		**Pn**	**09 29 44.3**	**+1.5**
XMIS	**Christmas Isla**	**9.39**	**145**	Pn		Pn	09 29 45.0	-5.1
BSI	**Banda Aceh**	**9.55**	**329**	P		**Pn**	**09 29 50.1**	**-2.2**
	34μm7μm411nm,0.6s							
CMJI	**Cimerak**	**9.61**	**122**	P		**Pn**	**09 29 52.3**	**-0.9**
KPJI	**Karang Pucung**	**9.81**	**118**	P		**Pn**	**09 29 56.8**	**+0.9**
	46μm10μm928nm,0.7s							
I06AU	**Cocos Islands**	**9.90**	**200**	T		T	09 39 39.0	
	baz=30,slow=34,SNR=3.2							
I06AU				I		I	10 26 30.0	
	baz=18,slow=318,SNR=4.7							
COCO	**West Island**	**9.94**	**199**			**Pn**	**09 29 54.1**	**-3.5**
COCO	**West Island**	**9.94**	**199**	P		**Pn**	**09 29 54.1**	**-3.5**
KSM	**Kuching**	**10.95**	**68**			**Pn**	**09 30 13.6**	**+2.0**
KSM	**Kuching**	**10.95**	**68**	⇑P		**Pn**	**09 30 14.9**	**+3.4**
SMRI	**Semarang**	**11.06**	**113**			**Pn**	**09 30 13.8**	**+0.8**
SMRI	**Semarang**	**11.06**	**113**	P		**Pn**	**09 30 15.4**	**+2.4**
SMRI	**Semarang**	**11.06**	**113**	⇓P		**Pn**	**09 30 16.5**	**+3.4**
YOGI	**Yogyakarta**	**11.24**	**117**	P		**Pn**	**09 30 17.3**	**+1.8**
	10μm368nm,1.0s							
SRIT	**Nakonsritamara**	**11.30**	**357**			**Pn**	**09 30 14.1**	**-2.1**
UGM	**Wanagama**	**11.48**	**117**	Pn		**Pn**	**09 30 18.9**	**0.0**
UGM	**Wanagama**	**11.48**	**117**	P		**Pn**	**09 30 19.2**	**+0.3**
	28μm9μm979nm,0.9s							
CMBY	**CAMPBELL BAY**	**11.55**	**327**	*e*P		**Pn**	**09 30 20.5**	**+0.8**
CMBY				*e*S		**Sn**	**09 32 29.9**	**+1.6**
STKI	**Sintang**	**11.62**	**76**	P		**Pn**	**09 30 24.4**	**+3.7**
	68μm16μm607nm,1.1s							
NGJI	**Ngawi**	**12.12**	**113**	P		**Pn**	**09 30 29.4**	**+1.9**
	10μm711nm,1.1s							
PCJI	**Pacitan**	**12.19**	**117**	P		**Pn**	**09 30 27.1**	**-1.4**
	6μm348nm,1.4s							
TBJI	**Tambak Boyo**	**12.29**	**110**	P		**Pn**	**09 30 30.5**	**+0.6**
	32μm13μm681nm,1.0s							
GRJI	**Gresik**	**12.92**	**109**	P		**Pn**	**09 30 39.7**	**+1.3**
	28μm12μm920nm,1.2s							
SBUM	**Sibu**	**13.09**	**67**			**Pn**	**09 30 41.2**	**+0.4**
SBUM	**Sibu**	**13.09**	**67**	⇑P		Pn	09 30 45.6	+4.8
GMJI	**Gumukmas**	**14.28**	**113**	P		**Pn**	**09 30 56.4**	**-0.6**
KMMI	**Kalianget**	**14.37**	**108**	P		**Pn**	**09 30 59.5**	**+1.3**
	28μm12μm642nm,1.3s							
MTKI	**Muara Teweh, K**	**14.80**	**83**	P		**Pn**	**09 31 06.3**	**+2.0**
	42μm24μm692nm,1.1s							
ABJI	**Asem Bagus**	**14.85**	**110**	P		**Pn**	**09 31 05.7**	**+0.9**
	25μm8μm666nm,0.7s							
JAGI	**Jajag, Banyuwa**	**15.00**	**113**			**Pn**	**09 31 04.9**	**-2.0**
JAGI	**Jajag, Banyuwa**	**15.00**	**113**	P		**Pn**	**09 31 04.6**	**-2.3**
	7μm631nm,1.0s							
JAGI	**Jajag, Banyuwa**	**15.00**	**113**	⇑P		**Pn**	**09 31 04.6**	**-2.3**
SRBI	**Singaraja**	**15.86**	**110**	P		**Pn**	**09 31 17.1**	**-0.9**
	23μm7μm592nm,1.3s							
DNP	**Denpasar**	**16.05**	**112**	P		**Pn**	**09 31 20.7**	**+0.1**
	655nm,0.8s							
PBA	**Port Blair**	**16.13**	**333**			**Pn**	**09 31 19.4**	**-2.1**
PBA				IAmb		IAmb	09 31 28.9	
	comp=Z,1μm,1.9s							
PBA	**Port Blair**	**16.13**	**333**	P		**P**	**09 31 26.0**	**+1.3**
PBA				S		**S**	**09 34 26.7**	**-6.5**
PBA	**Port Blair**	**16.13**	**333**	*e*P		**Pn**	**09 31 21.1**	**-0.4**
PBA				*e*S		**Sn**	**09 34 23.1**	**+3.0**
PBA	**Port Blair**	**16.13**	**333**	⇓P		**P**	**09 31 25.7**	**+1.0**
BKB	**Balikpapan**	**16.76**	**85**	P		**P**	**09 31 31.5**	**-0.2**
BKB				IAmb		IAmb	09 31 40.2	
	comp=Z,1μm,1.1s							
BKB	**Balikpapan**	**16.76**	**85**	P		**P**	**09 31 33.1**	**+1.4**
	comp=Z,22μmcomp=Z,1μm,0.9s							
BKB	**Balikpapan**	**16.76**	**85**	⇑P		**P**	**09 31 33.1**	**+1.4**
DLV	**Lat**	**16.77**	**29**	P		**Pn**	**09 31 30.8**	**+0.8**
DLV	**Lat**	**16.77**	**29**	⇑P		**P**	**09 31 30.9**	**-1.2**
SMKI	**Samarinda**	**17.16**	**83**	P		**P**	**09 31 37.2**	**+1.0**
	comp=Z,882nm,1.6s							
DGPR	**DIGLIPUR**	**17.40**	**336**	*e*P		**Pn**	**09 31 37.3**	**-0.3**
DGPR				*e*S		**Sn**	**09 34 53.5**	**+2.5**
TWSI	**Taliwang, Sumb**	**17.63**	**110**	P		**Pn**	**09 31 37.5**	**-3.0**
	comp=Z,21μmcomp=Z,302nm,1.0s							
KKM	**Kota Kinabalu**	**18.23**	**61**	P		**P**	**09 31 49.3**	**+1.1**
KKM	**Kota Kinabalu**	**18.23**	**61**	⇑P		**P**	**09 31 49.6**	**+1.4**
PLAI	**Plampang**	**18.49**	**110**	P		**P**	**09 31 48.5**	**-2.5**
	comp=Z,19μmcomp=Z,6μmcomp=Z,474nm,0.9s							
UBPT	**Khong Chiam**	**18.67**	**16**	P		**P**	**09 31 52.2**	**-0.6**
UBPT	**Khong Chiam**	**18.67**	**16**	⇑P		**P**	**09 31 51.7**	**-1.2**
SPSI	**Sidrap Palu**	**19.58**	**94**	P		**Pn**	**09 32 03.8**	**-0.4**
	comp=Z,40μmcomp=Z,8μmcomp=Z,613nm,1.1s							
TTSI	**Tana Toraja**	**19.60**	**91**	P		**Pn**	**09 32 05.2**	**+0.7**
	comp=Z,42μmcomp=Z,9μmcomp=Z,1μm,1.2s							
KAPI	**Kappang**	**19.64**	**97**	P		**P**	**09 32 03.5**	**0.0**
KAPI	**Kappang**	**19.64**	**97**	P		**Pn**	**09 32 04.8**	**-0.1**
	comp=Z,21nm,0.3s,baz=273,slow=11,SNR=30							
KAPI				S		**S**	**09 35 44.8**	**+0.1**
	comp=Z,16nm,1.0s,baz=352,slow=14,SNR=1.1							
	comp=Z,548nm,1.1s							
KAPI	**Kappang**	**19.64**	**97**	P		**Pn**	**09 32 05.1**	**+0.1**
KAPI				P		**Pn**	**09 32 05.1**	**+0.1**
KAPI				P		**Pn**	**09 32 05.1**	**+0.1**
KAPI				S		**S**	**09 35 41.7**	**-3.0**
KAPI				S		**S**	**09 35 41.7**	**-3.0**
KAPI				S		**S**	**09 35 41.7**	**-3.0**
KAPI	**Kappang**	**19.64**	**97**	P		**Pn**	**09 32 04.6**	**-0.4**
KAPI	**Kappang**	**19.64**	**97**	P		**P**	**09 32 03.5**	**0.0**
KAPI				pmax		pmax		
	comp=Z,2μm,1.1s							
PCI	**Palu**	**19.72**	**85**	P		**Pn**	**09 32 06.1**	**+0.2**
	comp=Z,20μmcomp=Z,1μm,1.1s							
BKSI	**Bulukumba**	**20.04**	**98**	P		**P**	**09 32 08.1**	**+0.2**
	comp=Z,37μmcomp=Z,14μmcomp=Z,2μm,1.1s							
WBSI	**Waikabubak, Su**	**20.26**	**111**	P		**P**	**09 32 06.9**	**-3.5**
	comp=Z,10μmcomp=Z,1μm,0.8s							
BSSI	**Bau Bau, Buton**	**20.51**	**100**	P		**P**	**09 32 13.2**	**+0.2**
	comp=Z,29μmcomp=Z,9μmcomp=Z,534nm,1.0s							
TOLI2	**Tolitoli**	**20.94**	**80**	P		**P**	**09 32 18.7**	**+1.1**
TOLI2				IAmb		IAmb	09 32 27.2	
	comp=Z,1μm,1.1s							
WSI	**Waingapu**	**21.12**	**110**	P		**P**	**09 32 19.3**	**-0.3**
CM31	**Chiang Mai Arr**	**21.12**	**357**	P		**P**	**09 32 18.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**21.12**	**357**	P		**P**	**09 32 18.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.12**	**357**	P		**P**	**09 32 17.9**	**-1.6**
	comp=Z,84nm,0.8s,baz=173,slow=10,SNR=117							
CMAR				PcP		**PcP**	**09 36 25.1**	**-0.5**
	comp=Z,11nm,0.8s,baz=175,slow=2.5,SNR=4.3							
CMAR				LR		LR	09 40 45.7	
	comp=Z,55μm,20.6s,baz=200,slow=38							
	comp=Z,84nm,0.8s							
CMAR	**Chiang Mai Arr**	**21.12**	**357**	*i*P		**P**	**09 32 18.2**	**-1.4**
CMAR				pmax		pmax		
	comp=Z,97nm,0.6s							
PHRA	**Phrae**	**21.13**	**0**	P		**P**	**09 32 17.7**	**-1.9**
HALK	**Hakmana**	**21.38**	**294**	⇑P		**P**	**09 32 25.4**	**+3.0**
CHTO	**Chiang Mai**	**21.48**	**357**	P		**P**	**09 32 22.2**	**-1.1**
CHTO	**Chiang Mai**	**21.48**	**357**	P		**P**	**09 32 22.3**	**-1.1**
CHTO				pmax		pmax		
	comp=Z,165nm,1.1s							
CHTO				MLR		MLR		
	comp=Z,72μm,18.0s							
APSI	**Ampana**	**21.52**	**86**	P		**P**	**09 32 26.3**	**+2.4**
	comp=Z,17μmcomp=Z,1μm,1.3s							
BASI	**Baing, Sumba**	**21.55**	**111**	P		**P**	**09 32 23.2**	**-1.1**
PALK	**Pallekele**	**21.86**	**297**	P		**P**	**09 32 24.1**	**-3.5**
PALK	**Pallekele**	**21.86**	**297**	P		**P**	**09 32 26.4**	**-1.1**
	comp=Z,35nm,1.1s,baz=117,slow=11,SNR=6.9							
PALK				S		**S**	**09 36 26.3**	**-2.5**
	comp=Z,13nm,0.8s,baz=121,slow=5.9,SNR=2.4							
PALK				LR		LR	09 40 25.5	
	comp=Z,45μm,19.0s,baz=116,slow=36							
	comp=Z,35nm,1.1s							
PALK	**Pallekele**	**21.86**	**297**	P		**P**	**09 32 30.1**	**+2.5**
PALK				S		**S**	**09 36 29.3**	**+0.5**
PALK	**Pallekele**	**21.86**	**297**	P		**P**	**09 32 24.1**	**-3.5**
PALK				pmax		pmax		
	comp=Z,169nm,1.1s							
PALK				MLR		MLR		
	comp=Z,45μm,20.0s							
PALK	**Pallekele**	**21.86**	**297**	⇑P		**P**	**09 32 31.1**	**+3.5**
MRSI	**Marisa**	**21.98**	**82**	P		**P**	**09 32 30.4**	**+1.6**
	comp=Z,42μmcomp=Z,11μmcomp=Z,1μm,1.1s							
KDI	**Kendari**	**22.42**	**94**	P		**P**	**09 32 34.7**	**+1.1**
	comp=Z,41μmcomp=Z,8μmcomp=Z,396nm,1.0s							
BBSI	**Bau Bau**	**22.48**	**98**	P		**P**	**09 32 34.6**	**+0.3**
	comp=Z,28μmcomp=Z,9μmcomp=Z,656nm,1.0s							
MALK	**Mahakanadarawa**	**22.51**	**300**	P		**P**	**09 32 39.1**	**+4.5**
MALK	**Mahakanadarawa**	**22.51**	**300**	⇓P		**P**	**09 32 38.5**	**+3.9**
LUWI	**Luwuk**	**22.63**	**86**	P		**P**	**09 32 36.2**	**+0.4**
LUWI	**Luwuk**	**22.63**	**86**	P		**P**	**09 32 32.0**	**-3.8**
LUWI	**Luwuk**	**22.63**	**86**	P		**P**	**09 32 36.6**	**+0.8**
	comp=Z,42μmcomp=Z,14μmcomp=Z,2μm,1.1s							
LUWI	**Luwuk**	**22.63**	**86**	⇑P		**P**	**09 32 36.2**	**+0.4**
MMRI	**Maumere**	**22.69**	**106**	P		**P**	**09 32 35.2**	**-1.3**
MMRI	**Maumere**	**22.69**	**106**	P		**P**	**09 32 34.6**	**-1.9**
	comp=Z,17μmcomp=Z,254nm,0.7s							
QIZ	**Qiongzhong**	**23.64**	**23**	P		**P**	**09 32 46.2**	**+0.1**
QIZ				IAmb		IAmb	09 32 51.8	
	comp=Z,321nm,1.1s							
QIZ	**Qiongzhong**	**23.64**	**23**	P		**P**	**09 32 46.1**	**0.0**
QIZ				pmax		pmax		
	comp=Z,76nm,0.8s							
QIZ				pmax		pmax		
	comp=Z,7μm,6.3s							
QIZ				LR		LR		
	comp=Z,42μm,15.9s							
QIZ				LR		LR		
	comp=Z,35μm,12.5s							
QIZ				LR		LR		
	comp=Z,62μm,15.9s							
QIZ	**Qiongzhong**	**23.64**	**23**	P		**P**	**09 32 46.2**	**+0.1**
GIRL	**Giralia**	**24.00**	**147**	P		**P**	**09 32 47.2**	**-2.3**
GIRL				IAmb		IAmb	09 33 11.7	
	comp=Z,619nm,1.3s							
GIRL	**Giralia**	**24.00**	**147**	P		**P**	**09 32 53.8**	**+4.3**
KMSI	**Cibinong**	**24.01**	**82**	P		**P**	**09 32 49.8**	**+0.2**
SLVN	**Son La**	**24.22**	**8**	P		**P**	**09 32 51.7**	**+0.1**
SLVN				IAmb		IAmb	09 32 57.5	
	comp=Z,218nm,0.8s							
SLVN				IAMs_20		IAMs_20	09 43 40.6	
	comp=Z,92μm,18.0s							
SLVN	**Son La**	**24.22**	**8**	P		**P**	**09 32 51.8**	**+0.2**
BATI	**Baumata**	**24.45**	**109**	P		**P**	**09 32 53.1**	**-0.6**
	comp=Z,12μmcomp=Z,269nm,1.0s							
SOEI	**Soe**	**24.90**	**107**	P		**P**	**09 32 54.7**	**-3.3**
SOEI				IAmb		IAmb	09 33 30.1	
	comp=Z,286nm,0.8s							
SOEI	**Soe**	**24.90**	**107**	P		**P**	**09 32 51.5**	**-6.5**
SOEI	**Soe**	**24.90**	**107**	P		**P**	**09 32 57.8**	**-0.2**
SOEI	**Soe**	**24.90**	**107**	S		**S**	**09 37 18.2**	**-2.6**
SOEI	**Soe**	**24.90**	**107**	P		**P**	**09 32 55.2**	**-2.8**
	comp=Z,6μmcomp=Z,386nm,1.0s							
SOEI	**Soe**	**24.90**	**107**	⇓P		**P**	**09 33 02.8**	**+4.8**
TRD	**Trivandrum**	**25.73**	**296**	*e*P		**P**	**09 33 04.3**	**-1.0**
TRD				IAmb		IAmb	09 33 17.2	
	comp=Z,617nm,1.6s							
TRD				*e*S		**S**	**09 37 31.2**	**-2.5**
SANI	**Sanana**	**25.78**	**89**	P		**P**	**09 32 60.0**	**-5.8**
SANI	**Sanana**	**25.78**	**89**	P		**P**	**09 33 05.7**	**-0.1**
SANI	**Sanana**	**25.78**	**89**	P		**P**	**09 33 04.8**	**-1.0**
	comp=Z,19μmcomp=Z,5μmcomp=Z,186nm,1.4s							
SANI	**Sanana**	**25.78**	**89**	⇑P		**P**	**09 33 04.7**	**-1.1**
SGSI	**Sangihe**	**26.12**	**76**	P		**P**	**09 33 09.8**	**+0.9**
	comp=Z,918nm,1.6s							
SALM	**Salem**	**26.14**	**304**	*e*P		**P**	**09 33 09.4**	**+0.4**
SALM				IAmb		IAmb	09 33 26.4	
	comp=Z,829nm,3.0s							
SALM				*e*S		**S**	**09 37 41.5**	**+1.5**
TGY	**Tagaytay City**	**26.53**	**50**	P		**P**	**09 33 12.4**	**-0.1**
	comp=Z,174nm,0.4s,baz=243,slow=4.5,SNR=2.1							
TGY				S		**S**	**09 37 45.1**	**-1.2**
	comp=Z,119nm,0.3s,baz=144,slow=22,SNR=1.8							
TGY				LR		LR	09 44 47.7	
	comp=Z,39μm,19.4s,baz=197,slow=39							
	comp=Z,174nm,0.4s							
BRDH	**Bariadhala**	**26.63**	**342**	LR		LR	09 47 36.8	
	comp=Z,59μm,18.4s,baz=156,slow=45							
PSAC1	**Pilbara Seismi**	**26.69**	**136**	P		**P**	**09 33 15.0**	**+1.1**
	comp=Z,204nm,1.0s							
PSA00	**Pilbara Seismi**	**26.74**	**136**	P		**P**	**09 33 12.8**	**-1.5**
PSA00	**Pilbara Seismi**	**26.74**	**136**	P		**P**	**09 33 15.5**	**+1.1**
	comp=Z,153nm,1.4s							
PSA00	**Pilbara Seismi**	**26.74**	**136**	P		**P**	**09 33 17.2**	**+2.8**
NLAI	**Namlea**	**26.87**	**92**	P		**P**	**09 33 15.0**	**-0.7**
	comp=Z,23μmcomp=Z,4μmcomp=Z,232nm,0.8s							
DAV	**Davao City (W)**	**27.15**	**69**	P		**P**	**09 33 19.6**	**+1.4**
DAV	**Davao City (W)**	**27.15**	**69**	LR		LR	09 45 17.5	
	comp=Z,61μm,20.4s,baz=234,slow=39							
DAV	**Davao City (W)**	**27.15**	**69**	P		**P**	**09 33 19.2**	**+1.0**
DAV				P		**P**	**09 33 19.2**	**+1.0**
DAV				P		**P**	**09 33 19.2**	**+1.0**
DAV	**Davao City (W)**	**27.15**	**69**	P		**P**	**09 33 19.0**	**+0.8**
LBMI	**Labuha**	**27.38**	**86**	P		**P**	**09 33 20.7**	**+0.5**
	comp=Z,725nm,1.1s							
TNTI	**Ternate**	**27.39**	**83**	P		**P**	**09 33 19.9**	**-0.5**
TNTI				IAmb		IAmb	09 33 42.1	
	comp=Z,435nm,1.4s							
TNTI	**Ternate**	**27.39**	**83**	P		**P**	**09 33 20.7**	**+0.4**
	comp=Z,11μmcomp=Z,3μmcomp=Z,213nm,1.2s							
TNCH	**TengChong**	**27.67**	**357**	P		**P**	**09 33 22.9**	**0.0**
TNCH				pP		pP	09 33 25.8	-2.6
TNCH				S		**S**	**09 38 05.1**	**+0.7**
TNCH				ScP		**ScP**	**09 40 18.5**	**-1.6**
TNCH				pmax		pmax		
	comp=Z,230nm,1.4s							
TNCH				pmax		pmax		
	comp=Z,4μm,7.4s							
TNCH				LR		LR		
	comp=Z,51μm,13.2s							
TNCH				LR		LR		
	comp=Z,19μm,13.6s							
TNCH				LR		LR		
	comp=Z,72μm,13.7s							
CAL	**Calcutta**	**27.69**	**336**	*e*P		**P**	**09 33 23.8**	**+0.9**
CAL				IAmb		IAmb	09 33 32.7	
	comp=Z,990nm,2.7s							
CAL				*e*S		**S**	**09 38 04.0**	**-0.3**
KMI	**Kunming**	**27.83**	**5**	⇑P		**P**	**09 33 24.9**	**+0.6**
KMI				pmax		pmax		
	comp=Z,68nm,1.7s							
KMI				pmax		pmax		
	comp=Z,3μm,13.7s							
KMI				LR		LR		
	comp=Z,60μm,13.9s							
KMI				LR		LR		
	comp=Z,20μm,10.9s							
KMI				LR		LR		
	comp=Z,69μm,15.1s							
AAI	**Ambon**	**27.97**	**93**	P		**P**	**09 33 25.3**	**-0.2**
	comp=Z,4μmcomp=Z,180nm,1.1s							
I52GB	**DIEGO GARCIA I**	**27.97**	**260**	I		I	12 26 40.0	
	baz=82,slow=310,SNR=1.1							
H08S2	**Diego Garcia H**	**28.00**	**259**	T		T	10 02 23.6	
	baz=82,slow=76							
H08S3	**Diego Garcia H**	**28.01**	**259**	T		T	10 02 24.1	
	baz=82,slow=76							
H08S1	**Diego Carcia H**	**28.02**	**259**	T		T	10 02 24.0	
	baz=82,slow=76							
SZP	**Santa**	**28.40**	**44**	P		**P**	**09 33 30.9**	**+1.6**
MSAI	**Masohi**	**28.70**	**92**	P		**P**	**09 33 32.3**	**+0.3**
	comp=Z,16μmcomp=Z,139nm,0.8s							
GZH	**Guangzhou**	**28.71**	**26**	P		P	09 33 38.1	+6.1
GZH				pmax		pmax		
	comp=Z,110nm,1.2s							
GZH				LR		LR		
	comp=Z,44μm,14.1s							
PZH	**PanZhiHua**	**29.13**	**3**	PKP		P	09 33 44.1	+8.3
PZH	**PanZhiHua**	**29.13**	**3**	P		**P**	**09 33 35.3**	**-0.5**
PZH				pmax		pmax		
	comp=Z,50nm,1.3s							
PZH				pmax		pmax		
	comp=Z,610nm,7.1s							
PZH				LR		LR		
	comp=Z,38μm,22.1s							
PZH				LR		LR		
	comp=Z,37μm,24.0s							
PZH				LR		LR		
	comp=

FAKI	**Fak Fak**	**32.02**	**91**	P	**P**	**09 34 00.7**	**-0.6**
	comp=Z,171nm,0.8s						
FAKI	**Fak Fak**	**32.02**	**91**	⇓P	**P**	**09 34 00.5**	**-0.9**
MTN	**Manton Dam**	**32.20**	**110**	P	**P**	**09 34 01.3**	**-1.7**
MTN	**Manton Dam**	**32.20**	**110**	P	**P**	**09 34 01.3**	**-1.7**
	comp=Z,113nm,1.1s						
MTN	**Manton Dam**	**32.20**	**110**	P	**P**	**09 34 01.8**	**-1.2**
MTN	**Manton Dam**	**32.20**	**110**	⇓P	**P**	**09 34 01.9**	**-1.1**
KNMB	**Chin-men Tao**	**32.33**	**32**	P	**P**	**09 34 04.4**	**+0.5**
KNMB				IAmb	IAmb	09 34 08.6	
	comp=Z,373nm,1.3s						
KNMB				IAMs_20	IAMs_20	09 47 48.6	
	comp=Z,59μm,18.0s						
VAR	**Varanasi**	**32.49**	**330**	*e*P	**P**	**09 34 05.7**	**+0.4**
VAR				IAmb	IAmb	09 34 10.2	
	comp=Z,867nm,2.0s						
VAR				*e*S	**S**	**09 39 22.2**	**+2.5**
KAD	**Karad**	**32.50**	**309**	*e*P	**P**	**09 34 06.7**	**+1.1**
KAD				IAmb	IAmb	09 34 10.1	
	comp=Z,584nm,2.2s						
KAD				*e*S	**S**	**09 39 19.7**	**-0.4**
AKL	**Akola**	**32.56**	**317**	*e*P	**P**	**09 34 06.7**	**+0.7**
AKL				IAmb	IAmb	09 34 10.4	
	comp=Z,412nm,2.2s						
AKL				*e*S	**S**	**09 39 19.7**	**-1.2**
TWG	**Pinlang**	**32.58**	**38**	P	**P**	**09 34 06.7**	**+0.5**
TWG				IAmb	IAmb	09 34 17.8	
	comp=Z,373nm,1.4s						
TWGBT	**Beinan**	**32.58**	**38**	P	**P**	**09 34 07.9**	**+1.7**
TPUB	**Ta-pu**	**32.68**	**36**	IAmb	IAmb	09 34 25.6	
	comp=Z,268nm,0.9s						
TPUB	**Ta-pu**	**32.68**	**36**	P	**P**	**09 34 07.6**	**+0.6**
MUN	**Mundaring**	**32.74**	**154**	P	**P**	**09 34 09.0**	**+1.6**
	comp=Z,136nm,1.2s						
MUN	**Mundaring**	**32.74**	**154**	P	**P**	**09 34 09.4**	**+1.9**
QZH	**Quanzhou**	**32.82**	**32**	⇑*i*P	**P**	**09 34 08.8**	**+0.6**
QZH				pmax	pmax		
	comp=Z,200nm,1.4s						
QZH				LR	LR		
	comp=Z,28μm,16.5s						
QZH				LR	LR		
	comp=Z,76μm,16.1s						
KLBR	**Kellerberrin**	**33.11**	**152**	P	**P**	**09 34 11.8**	**+1.1**
	comp=Z,152nm,1.0s						
KLBR	**Kellerberrin**	**33.11**	**152**	P	**P**	**09 34 12.4**	**+1.7**
ALBI	**Allahabad**	**33.11**	**328**	*e*P	**P**	**09 34 12.8**	**+2.1**
ALBI				IAmb	IAmb	09 34 15.1	
	comp=Z,780nm,3.0s						
ALBI				*e*S	**S**	**09 39 27.9**	**-1.4**
CNSH	**ChangSha**	**33.12**	**21**	P	**P**	**09 34 10.1**	**-0.7**
CNSH				S	**S**	**09 39 30.5**	**+1.2**
CNSH				pmax	pmax		
	comp=Z,150nm,1.7s						
CNSH				LR	LR		
	comp=Z,99μm,17.8s						
CNSH				LR	LR		
	comp=Z,46μm,16.3s						
CNSH				LR	LR		
	comp=Z,121μm,17.2s						
YULB	**Yu-li**	**33.15**	**37**	IAmb	IAmb	09 34 30.1	
	comp=Z,149nm,1.0s						
YULB	**Yu-li**	**33.15**	**37**	P	**P**	**09 34 12.5**	**+1.4**
SSLB	**Suanglung**	**33.24**	**36**	P	**P**	**09 34 12.6**	**+0.6**
SSLB				IAmb	IAmb	09 34 17.1	
	comp=Z,464nm,1.5s						
SSLB	**Suanglung**	**33.24**	**36**	P	**P**	**09 34 12.9**	**+0.9**
LSA	**Lhasa**	**33.42**	**346**	P	**P**	**09 34 14.9**	**+0.9**
LSA	**Lhasa**	**33.42**	**346**	P	**P**	**09 34 15.2**	**+1.2**
LSA				S	**S**	**09 39 34.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,440nm,1.2s						
LSA				LR	LR		
	comp=Z,28μm,26.1s						
LSA				LR	LR		
	comp=Z,20μm,25.7s						
LSA	**Lhasa**	**33.42**	**346**	P	**P**	**09 34 14.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,439nm,1.0s						
LSA				MLR	MLR		
	comp=Z,21μm,21.0s						
LSA	**Lhasa**	**33.42**	**346**	P	**P**	**09 34 15.5**	**+1.6**
KDU	**Kakadu**	**33.43**	**109**	P	**P**	**09 34 11.5**	**-2.2**
KDU	**Kakadu**	**33.43**	**109**	P	**P**	**09 34 12.3**	**-1.4**
KDU	**Kakadu**	**33.43**	**109**	⇑P	**P**	**09 34 11.0**	**-2.7**
CD2	**Chengdu**	**33.66**	**6**	⇑P	**P**	**09 34 14.5**	**-1.0**
CD2				PcS	**PcS**	**09 40 38.7**	**-2.7**
CD2				pmax	pmax		
	comp=Z,130nm,1.3s						
CD2				pmax	pmax		
	comp=Z,3μm,5.9s						
CD2				LR	LR		
	comp=Z,23μm,15.2s						
CD2				LR	LR		
	comp=Z,74μm,15.9s						
NRDN	**NARMADA NAGAR**	**33.86**	**320**	*e*P	**P**	**09 34 20.0**	**+2.6**
NRDN				IAmb	IAmb	09 34 23.1	
	comp=Z,835nm,2.0s						
NRDN				*e*S	**S**	**09 39 42.6**	**+1.5**
NACB	**Ninganchiao**	**33.91**	**37**	IAmb	IAmb	09 34 34.1	
	comp=Z,118nm,0.8s						
NACB	**Ninganchiao**	**33.91**	**37**	P	**P**	**09 34 19.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**34.00**	**154**	P	**P**	**09 34 18.4**	**0.0**
NWAO				IAmb	IAmb	09 34 30.3	
	comp=Z,268nm,1.4s						
NWAO	**Narrogin (SRO)**	**34.00**	**154**	LR	LR	09 47 23.0	
	comp=Z,35μm,21.1s,baz=298,slow=35						
NWAO	**Narrogin (SRO)**	**34.00**	**154**	P	**P**	**09 34 18.8**	**+0.4**
NWAO				P	**P**	**09 34 18.8**	**+0.4**
NWAO				S	**S**	**09 39 42.4**	**-0.6**
NWAO				S	**S**	**09 39 42.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**34.00**	**154**	P	**P**	**09 34 19.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**34.00**	**154**	P	**P**	**09 34 18.5**	**0.0**
NWAO				pmax	pmax		
	comp=Z,268nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,36μm,20.0s						
BNDA	**BANDA**	**34.04**	**327**	*e*P	**P**	**09 34 20.0**	**+1.1**
BNDA				IAmb	IAmb	09 34 22.6	
	comp=Z,775nm,1.9s						
BNDA				*e*S	**S**	**09 39 46.7**	**+2.9**
BHPL	**Bhopal**	**34.07**	**321**	*e*P	**P**	**09 34 21.1**	**+1.9**
BHPL				IAmb	IAmb	09 34 23.2	
	comp=Z,503nm,2.2s						
BHPL				*e*S	**S**	**09 39 44.6**	**+0.3**
YHNB	**Yeheng**	**34.16**	**36**	P	**P**	**09 34 20.6**	**+0.5**
YHNB				IAmb	IAmb	09 34 38.5	
	comp=Z,114nm,0.9s						
YHNB	**Yeheng**	**34.16**	**36**	P	**P**	**09 34 21.1**	**+1.1**
TATO	**Taipei**	**34.46**	**36**	P	**P**	**09 34 22.6**	**+0.1**
H01W3	**Cape Leeuwin H**	**34.49**	**160**	T	T	10 10 49.3	
	baz=335,slow=76,SNR=677						
H01W2	**Cape Leeuwin H**	**34.50**	**160**	T	T	10 10 43.5	
	baz=335,slow=76,SNR=633						
H01W1	**Cape Leeuwin H**	**34.51**	**160**	T	T	10 10 48.2	
	baz=335,slow=76,SNR=616						
LKN	**LUCKNOW**	**34.78**	**329**	*e*P	**P**	**09 34 26.1**	**+0.9**
LKN				IAmb	IAmb	09 34 30.1	
	comp=Z,1μm,2.1s						
LKN				⇓*e*S	**S**	**09 39 58.6**	**+3.5**
WRKA	**Warakurna**	**34.98**	**132**	P	**P**	**09 34 27.3**	**+0.2**
	comp=Z,113nm,1.3s						
WRKA	**Warakurna**	**34.98**	**132**	P	**P**	**09 34 27.5**	**+0.4**
WRKA	**Warakurna**	**34.98**	**132**	⇑P	**P**	**09 34 27.8**	**+0.7**
KMBL	**Kambalda**	**35.04**	**147**	P	**P**	**09 34 28.5**	**+0.9**
	comp=Z,119nm,0.7s						
KMBL	**Kambalda**	**35.04**	**147**	P	**P**	**09 34 28.8**	**+1.3**
GUNA	**GUNA**	**35.15**	**322**	*e*P	**P**	**09 34 28.1**	**-0.4**
GUNA				IAmb	IAmb	09 34 32.8	
	comp=Z,786nm,2.2s						
GUNA				*e*S	**S**	**09 39 58.9**	**-2.1**
RKGY	**Rocky Gully**	**35.33**	**156**	P	**P**	**09 34 32.1**	**+2.2**
RKGY	**Rocky Gully**	**35.33**	**156**	P	**P**	**09 34 32.5**	**+2.6**
WHN	**Wuhan**	**35.77**	**21**	⇑P	**P**	**09 34 33.9**	**+0.2**
WHN				sP	**pP**	**09 34 37.5**	**-1.8**
WHN				S	**S**	**09 40 12.4**	**+2.2**
WHN				sS	**sS**	**09 40 18.4**	**-0.9**
WHN				pmax	pmax		
	comp=Z,860nm,1.2s						
WHN				pmax	pmax		
	comp=Z,8μm,7.7s						
FRKB	**FARRUKHABAD**	**35.98**	**328**	*e*P	**P**	**09 34 36.3**	**+0.8**
FRKB				IAmb	IAmb	09 34 40.2	
	comp=Z,838nm,2.5s						
FRKB				*e*S	**S**	**09 40 13.2**	**-0.3**
LGTI	**Lohaghat**	**37.30**	**331**	*e*P	**P**	**09 34 47.6**	**+0.9**
LGTI				IAML		09 34 52.1	
	comp=Z,809nm,1.6s						
LGTI				*e*S	**S**	**09 40 37.5**	**+3.9**
PTH	**Pithoragarh**	**37.39**	**331**	*e*P	**P**	**09 34 47.6**	**-0.2**
PTH				IAmb	IAmb	09 34 53.0	
	comp=Z,1μm,2.6s						
PTH				*e*S	**S**	**09 40 35.4**	**0.0**
WB0	**Warramunga Arr**	**37.43**	**119**	P	**P**	**09 34 47.7**	**-0.4**
WB0				IAmb	IAmb	09 35 08.7	
	comp=Z,272nm,0.9s						
WRA	**Warramunga Arr**	**37.45**	**120**	P	**P**	**09 34 48.0**	**-0.3**
	comp=Z,88nm,0.9s,baz=297,slow=8.2,SNR=63						
WRA				PcP	**PcP**	**09 37 07.3**	**+0.5**
	comp=Z,25nm,0.7s,baz=297,slow=3.0,SNR=4.6						
WRA				S	**S**	**09 40 33.7**	**-2.5**
	comp=Z,35nm,1.1s,baz=295,slow=16,SNR=8.5						
WRA				LR	LR	09 52 11.6	
	comp=Z,31μm,20.6s,baz=298,slow=39						
	comp=Z,88nm,0.9s						
WRAB	**Tennant Creek**	**37.45**	**120**	P	**P**	**09 34 47.8**	**-0.5**
WRAB				IAmb	IAmb	09 35 09.2	
	comp=Z,312nm,1.1s						
WRAB	**Tennant Creek**	**37.45**	**120**	P	**P**	**09 34 47.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,312nm,1.1s						
WRAB				MLR	MLR		
	comp=Z,34μm,21.0s						
WB2	**Warramunga Arr**	**37.46**	**120**	P	**P**	**09 34 47.9**	**-0.4**
WB2				IAmb	IAmb	09 35 09.1	
	comp=Z,330nm,1.1s						
XAN	**Xi'an**	**37.52**	**12**	⇑P	**P**	**09 34 47.8**	**-0.9**
XAN				pP	pP	09 34 53.2	-1.0
XAN				sP	sP	09 34 57.3	+0.8
XAN				PP	**PnPn**	**09 36 17.5**	**+2.2**
XAN				S	**S**	**09 40 37.2**	**+0.2**
XAN				sS	sS	09 40 47.3	+1.1
XAN				SS	**SnSn**	**09 43 10.9**	**-4.6**
XAN				pmax	pmax		
	comp=Z,380nm,1.3s						
XAN				pmax	pmax		
	comp=Z,6μm,5.0s						
XAN				LR	LR		
	comp=Z,60μm,15.8s						
UGON	**Onchagaon**	**37.59**	**327**	*e*P	**P**	**09 34 46.5**	**-2.8**
UGON				IAmb	IAmb	09 34 53.1	
	comp=Z,939nm,2.5s						
UGON				*e*S	**S**	**09 40 37.7**	**-0.5**
TKRD	**Thakurdwara**	**37.75**	**329**	*e*P	**P**	**09 34 52.6**	**+2.0**
TKRD				IAmb	IAmb	09 34 54.7	
	comp=Z,987nm,2.6s						
TKRD				*e*S	**S**	**09 40 39.8**	**-0.8**
SONA	**Sohna**	**38.01**	**326**	*e*P	**P**	**09 34 53.8**	**+1.0**
SONA				IAmb	IAmb	09 35 05.1	
	comp=Z,875nm,1.9s						
SONA				*e*S	**S**	**09 40 43.6**	**-0.8**
ASOR	**Ausora**	**38.02**	**327**	*e*P	**P**	**09 34 53.8**	**+0.9**
ASOR				IAmb	IAmb	09 35 06.4	
	comp=Z,836nm,2.3s						
ASOR				*e*S	**S**	**09 40 43.6**	**-0.9**
JMIU	**JAMIA UNIVERSI**	**38.14**	**326**	*e*P	**P**	**09 34 52.6**	**-1.3**
JMIU				IAmb	IAmb	09 34 57.7	
	comp=Z,819nm,2.8s						
JMIU				*e*S	**S**	**09 40 47.9**	**+1.5**
AJM	**Ajmer**	**38.14**	**321**	*e*P	**P**	**09 34 55.8**	**+1.8**
AJM				IAmb	IAmb	09 35 08.8	
	comp=Z,885nm,1.9s						
AJM				*e*S	**S**	**09 40 45.7**	**-1.0**
MERT	**Meerut**	**38.21**	**327**	*e*P	**P**	**09 34 53.8**	**-0.7**
MERT				IAmb	IAmb	09 34 58.6	
	comp=Z,921nm,2.6s						
MERT				*e*S	**S**	**09 40 45.7**	**-1.8**
NPLP	**NPLP New Delhi**	**38.26**	**326**	*e*P	**P**	**09 34 54.7**	**-0.2**
NPLP				IAmb	IAmb	09 34 58.8	
	comp=Z,880nm,2.5s						
NPLP				*e*S	**S**	**09 40 50.0**	**+1.7**
KUDL	**Kundal**	**38.26**	**325**	*e*P	**P**	**09 34 53.8**	**-1.2**
KUDL				IAmb	IAmb	09 35 15.9	
	comp=Z,933nm,2.2s						
KUDL				*e*S	**S**	**09 40 49.8**	**+1.5**
FORT	**Forrest**	**38.34**	**140**	P	**P**	**09 34 55.2**	**-0.4**
FORT				IAmb	IAmb	09 35 18.7	
	comp=Z,155nm,0.8s						
FORT				IAMs_20	IAMs_20	09 50 42.9	
	comp=Z,46μm,21.0s						
FORT	**Forrest**	**38.34**	**140**	P	**P**	**09 34 57.0**	**+1.4**
FORT	**Forrest**	**38.34**	**140**	⇑P	**P**	**09 34 57.4**	**+1.8**
BHGR	**Bahadurgarh**	**38.42**	**326**	*e*P	**P**	**09 34 53.8**	**-2.5**
BHGR				IAmb	IAmb	09 35 00.3	
	comp=Z,616nm,1.6s						
BHGR				*e*S	**S**	**09 40 49.8**	**-1.0**
SMPI	**Sarmi**	**38.49**	**90**	P	**P**	**09 34 56.1**	**-1.0**
	comp=Z,4μmcomp=Z,144nm,1.8s						
JOSI	**Joshimath**	**38.54**	**331**	*e*P	**P**	**09 34 58.8**	**+1.2**
JOSI				IAmb	IAmb	09 35 02.2	
	comp=Z,608nm,2.5s						
JOSI				*e*S	**S**	**09 40 52.0**	**-0.9**
AS31	**Alice Springs**	**38.65**	**125**	P	**P**	**09 34 58.6**	**+0.1**
ASAR	**Alice Springs**	**38.65**	**125**	P	**P**	**09 34 58.8**	**+0.3**
	comp=Z,112nm,0.9s,baz=298,slow=8.4,SNR=248						
ASAR				PcP	**PcP**	**09 37 11.8**	**+1.2**
	comp=Z,24nm,0.7s,baz=298,slow=2.9,SNR=4.2						
ASAR				S	**S**	**09 40 53.9**	**-0.6**
	comp=Z,35nm,0.9s,baz=300,slow=16,SNR=16						
ASAR				LR	LR	09 52 49.9	
	comp=Z,57μm,20.4s,baz=297,slow=39						
	comp=Z,112nm,0.9s						
AS01	**Alice Springs**	**38.69**	**125**	P	**P**	**09 34 59.3**	**+0.5**
GNR	**GANAUR**	**38.72**	**327**	*e*P	**P**	**09 34 58.8**	**-0.1**
GNR				IAmb	IAmb	09 35 02.8	
	comp=Z,886nm,1.9s						
GNR				*e*S	**S**	**09 40 56.1**	**+0.8**
LZH	**Lanzhou**	**38.80**	**5**	⇑P	**P**	**09 34 59.9**	**+0.3**
LZH				sP	sP	09 35 08.5	+1.1
LZH				S	**S**	**09 40 57.1**	**+0.6**
LZH				SS	**SnSn**	**09 43 40.8**	**-5.7**
LZH				pmax	pmax		
	comp=Z,120nm,1.4s						
LZH				pmax	pmax		
	comp=Z,4μm,6.2s						
LZH				LR	LR		
	comp=Z,69μm,15.8s						
LYN	**LuoYang**	**38.87**	**16**	⇑P	**P**	**09 35 00.6**	**+0.6**
LYN				pP	pP	09 35 04.0	-1.6
LYN				sP	sP	09 35 10.3	+2.5
LYN				S	**S**	**09 40 58.0**	**+0.7**
LYN				sS	sS	09 41 07.6	+1.2
LYN				pmax	pmax		
	comp=Z,1μm,1.2s						
LYN				pmax	pmax		
	comp=Z,7μm,5.8s						
LYN				LR	LR		
	comp=Z,70μm,17.5s						
NJ2	**Nanjing**	**38.89**	**26**	⇑P	**P**	**09 35 01.0**	**+0.8**
NJ2				pP	**pP**	**09 35 03.6**	**-2.2**
NJ2				pmax	pmax		
	comp=Z,19nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,4μm,6.2s						
NJ2				LR	LR		
	comp=Z,44μm,16.1s						
NJ2				LR	LR		
	comp=Z,40μm,15.6s						
NJ2				LR	LR		
	comp=Z,64μm,17.5s						
RTK	**Rohtak**	**38.98**	**326**	*e*P	**P**	**09 35 00.8**	**-0.2**
RTK				IAmb	IAmb	09 35 04.8	
	comp=Z,931nm,2.2s						
RTK				*e*S	**S**	**09 41 02.2**	**+3.1**
GOMU	**GeErMu**	**39.08**	**353**	P	**P**	**09 35 02.7**	**+0.5**
GOMU				pP	pP	09 35 08.0	+0.2
GOMU				sP	sP	09 35 10.1	+0.1
GOMU				PP	**PP**	**09 36 31.5**	**-0.5**
GOMU				S	**S**	**09 40 58.3**	**-2.9**
GOMU				pmax	pmax		
	comp=Z,170nm,1.7s						
GOMU				LR	LR		
	comp=Z,40μm,19.2s						
GOMU				LR	LR		
	comp=Z,42μm,21.8s						
GOMU				LR	LR		
	comp=Z,49μm,21.7s						
DDI	**Dehra Dun**	**39.11**	**329**	*e*P	**P**	**09 35 03.6**	**+1.4**
DDI				IAmb	IAmb	09 35 07.9	
	comp=Z,608nm,1.3s						
DDI				*e*S	**S**	**09 41 03.5**	**+2.3**
SSE	**Sheshan**	**39.16**	**29**	P	**P**	**09 35 03.4**	**+0.9**
SSE				pmax	pmax		
	comp=Z,100nm,1.2s						
SSE				pmax	pmax		
	comp=Z,2μm,9.8s						
KKR	**Kurukshetra**	**39.48**	**327**	*e*P	**P**	**09 35 06.0**	**+0.9**
KKR				IAmb	IAmb	09 35 09.4	
	comp=Z,788nm,2.6s						
KKR				*e*S	**S**	**09 41 06.1**	**-0.5**
GENI	**Genyem**	**39.93**	**91**	P	**P**	**09 35 09.9**	**+0.7**
GENI	**Genyem**	**39.93**	**91**	P	**P**	**09 35 10.1**	**+0.9**
	comp=Z,6μmcomp=Z,144nm,1.1s						
KLP	**Kalpa**	**39.98**	**330**	*e*P	**P**	**09 35 11.0**	**+1.3**
KLP				IAmb	IAmb	09 35 14.2	
	comp=Z,905nm,1.9s						
KLP				*e*S	**S**	**09 41 14.5**	**-0.4**
JOW	**Kunigami**	**40.01**	**41**	P	**P**	**09 35 10.2**	**+0.6**
JOW				IAmb	IAmb	09 35 21.1	
	comp=Z,460nm,1.7s						
JOW	**Kunigami**	**40.01**	**41**	P	**P**	**09 35 10.2**	**+0.6**
	comp=Z,26nm,0.4s,baz=219,slow=6.3,SNR=18						
JOW				S	**S**	**09 41 13.4**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=116,slow=25,SNR=1.3						
	comp=Z,26nm,0.4s						
JOW	**Kunigami**	**40.01**	**41**	P	**P**	**09 35 11.1**	**+1.5**
JOW	**Kunigami**	**40.01**	**41**	⇑P	**P**	**09 35 10.7**	**+1.1**
BKNR	**BIKANER**	**40.09**	**322**	*e*P	**P**	**09 35 09.0**	**-1.3**
BKNR				IAmb	IAmb	09 35 14.6	
	comp=Z,517nm,2.1s						
BKNR				*e*S	**S**	**09 41 18.5**	**+2.7**
SMLA	**Simla**	**40.21**	**329**	*e*P	**P**	**09 35 13.7**	**+2.5**
SMLA				IAmb	IAmb	09 35 16.5	
	comp=Z,817nm,1.6s						
SMLA				*e*S	**S**	**09 41 17.6**	**+0.1**
JAY	**Jayapura**	**40.47**	**91**	P	**P**	**09 35 14.0**	**+0.3**
	comp=Z,83nm,1.0s						
AIS	**Amsterdam Isla**	**40.57**	**208**	IAMs_20	IAMs_20	09 48 12.4	
	comp=Z,33μm,20.0s						
HNLY	**HANLEY**	**40.66**	**332**	⇓*e*P	**P**	**09 35 15.1**	**-0.4**
HNLY				IAmb	IAmb	09 35 20.9	
	comp=Z,617nm,2.8s						
HNLY				*e*S	**S**	**09 41 24.7**	**-0.6**
BHK	**Bhakra**	**40.83**	**328**	*e*P	**P**	**09 35 18.3**	**+1.9**
BHK				IAmb	IAmb	09 35 20.8	
	comp=Z,1μm,2.3s						
BHK				*e*S	**S**	**09 41 26.6**	**-0.3**
JASL	**Jaisalmer**	**40.87**	**318**	*e*P	**P**	**09 35 16.3**	**-0.5**
JASL				IAmb	IAmb	09 35 21.8	
	comp=Z,1μm,1.9s						
JASL				*e*S	**S**	**09 41 26.6**	**-0.9**
TABU	**Tabubil**	**41.00**	**95**	P	**P**	**09 35 17.4**	**-0.7**
SRGN	**SRI GANGA NAGA**	**41.10**	**324**	*e*P	**P**	**09 35 21.2**	**+2.6**
SRGN				IAmb	IAmb	09 35 22.0	
	comp=Z,568nm,1.9s						
SRGN				*e*S	**S**	**09 41 38.9**	**+8.0**
JMZ	**Minamidaito 2**	**41.35**	**45**	IAMs_20	IAMs_20	09 50 18.9	
	comp=Z,36μm,22.0s						
DHRM	**DHARAMSHALA**	**41.55**	**329**	*e*P	**P**	**09 35 21.8**	**-0.8**
DHRM				IAmb	IAmb	09 35 24.2	
	comp=Z,577nm,2.2s						
DHRM				*e*S	**S**	**09 41 37.8**	**-0.1**
TIY	**Taiyuan**	**41.84**	**15**	⇓P	**P**	**09 35 25.1**	**+0.4**
TIY				pmax	pmax		
	comp=Z,150nm,1.2s						
TIY				pmax	pmax		
	comp=Z,3μm,7.3s						
TIY				LR	LR		
	comp=Z,32μm,13.3s						
TIY				LR	LR		
	comp=Z,23μm,13.7s						
TIY				LR	LR		
	comp=Z,25μm,20.2s						
TIA	**Tai'an**	**41.87**	**21**	P	**P**	**09 35 24.5**	**-0.4**
TIA				pmax	pmax		
	comp=Z,170nm,0.7s						
TIA				pmax	pmax		
	comp=Z,2μm,6.0s						
TIA				LR	LR		
	comp=Z,11μm,24.7s						
TIA				LR	LR		
	comp=Z,14μm,22.7s						
TIA				LR	LR		
	comp=Z,10μm,25.0s						
GTA	**Gaotai**	**41.97**	**360**	⇑P	**P**	**09 35 26.4**	**+0.7**
GTA				pP	sP	09 35 33.7	+0.1
GTA				PcS	**PcS**	**09 41 13.0**	**+0.4**
GTA				S	**S**	**09 41 45.9**	**+2.2**
GTA				ScS	**ScS**	**09 45 25.1**	**-2.9**
GTA				pmax	pmax		
	comp=Z,60nm,1.6s						
GTA				pmax	pmax		
	comp=Z,3μm,7.6s						
GTA				LR	LR		
	comp=Z,32μm,14.3s						
GTA				LR	LR		
	comp=Z,14μm,15.1s						
GTA				LR	LR		
	comp=Z,38μm,15.9s						
THN	**Thein Dam**	**41.99**	**328**	*e*P	**P**	**09 35 27.4**	**+1.5**
THN				IAmb	IAmb	09 35 30.0	
	comp=Z,1μm,1.9s						
THN				*e*S	**S**	**09 41 43.0**	**-1.0**
OOD	**Oodnadatta**	**42.04**	**130**	P	**P**	**09 35 27.0**	**+0.6**
	comp=Z,648nm,0.7s						
HNS	**HongShan**	**42.17**	**17**	⇑P	**P**	**09 35 27.8**	**+0.6**
HNS				S	**S**	**09 41 48.7**	**+2.2**
HNS				pmax	pmax		
	comp=Z,260nm,1.4s						
HNS				LR	LR		
	comp=Z,29μm,15.7s						
HNS				LR	LR		
	comp=Z,37μm,18.4s						
HNS				LR	LR		
	comp=Z,30μm,16.7s						
QIS	**Mount Isa**	**42.28**	**118**	P	**P**	**09 35 28.6**	**+0.1**
JMU	**Jammu**	**42.65**	**328**	*e*P	**P**	**09 35 34.7**	**+3.5**
JMU				IAmb	IAmb	09 35 36.7	
	comp=Z,851nm,2.9s						
JMU				*e*S	**S**	**09 41 53.2**	**-0.4**
SRNI	**Srinagar**	**43.75**	**329**	*e*P	**P**	**09 35 37.6**	**-2.5**
SRNI				IAmb	IAmb	09 35 44.6	
	comp=Z,851nm,2.9s						
SRNI				*e*S	**S**	**09 42 09.6**	**-0.2**
COEN	**Coen**	**43.87**	**107**	P	**P**	**09 35 40.8**	**-0.6**
COEN	**Coen**	**43.87**	**107**	P	**P**	**09 35 41.3**	**-0.1**
COEN	**Coen**	**43.87**	**107**	⇑P	**P**	**09 35 41.5**	**+0.1**
BTO	**Baotou**	**44.09**	**11**	*e*P	**P**	**09 35 43.8**	**+1.0**
BTO				sP	**sP**	**09 35 54.3**	**+3.6**
BTO				pmax	pmax		
	comp=Z,260nm,1.7s						
BTO				pmax	pmax		
	comp=Z,2μm,5.3s						
BTO				LR	LR		
	comp=Z,36μm,19.8s						
BTO				LR	LR		
	comp=Z,40μm,21.1s						
NIL	**Nilore**	**44.24**	**327**	P	**P**	**09 35 43.7**	**-0.5**
NIL				IAmb	IAmb	09 36 04.3	
	comp=Z,297nm,0.8s						
NIL	**Nilore**	**44.24**	**327**	P	**P**	**09 35 43.9**	**-0.2**
NIL				P	**P**	**09 35 43.9**	**-0.2**
NIL	**Nilore**	**44.24**	**327**	P	**P**	**09 35 43.7**	**-0.5**
NIL				pmax	pmax		
	comp=Z,297nm,0.9s						
NIL		

MSEY S **S** **09 42 25.2 +1.5**
BBOO Buckleboo 44.97 136 P **P** **09 35 50.5 +0.5**
BBOO Buckleboo 44.97 136 P **P** **09 35 51.1 +1.1**
BJT Baijiatuau 45.02 17 P **P** **09 35 50.5 +0.3**
BJT IAmb IAmb 09 35 54.7
comp=Z,243nm,0.9s
BJT Baijiatuau 45.02 17 P **P** **09 35 51.0 +0.8**
BJT Baijiatuau 45.02 17 P **P** **09 35 50.5 +0.3**
BJT pmax pmax
comp=Z,243nm,0.9s
BJT MLR MLR
comp=Z,76μm,18.0s
BJI Beijing 45.05 17 P **P** **09 35 51.1 +0.7**
BJI pP **pP** **09 35 55.7 -0.3**
BJI sP **sP** **09 35 58.1 -0.1**
BJI S **S** **09 42 29.2 +0.7**
BJI pmax pmax
comp=Z,140nm,1.1s
BJI pmax pmax
comp=Z,2μm,13.4s
BJI LR LR
comp=Z,38μm,15.3s
BJI LR LR
comp=Z,16μm,15.3s
BJI LR LR
comp=Z,50μm,15.4s
LCRK Leigh Creek 45.28 132 P **P** **09 35 53.4 +1.0**
MTSU Mount Surprise 45.84 113 P **P** **09 35 57.4 +0.3**
DL2 Dalian 45.93 23 P **P** **09 35 58.4 +1.0**
DL2 S **S** **09 42 43.8 +2.5**
DL2 pmax pmax
comp=Z,310nm,1.1s
DL2 pmax pmax
comp=Z,4μm,5.3s
DL2 LR LR
comp=Z,26μm,17.1s
DL2 LR LR
comp=Z,19μm,18.0s
DL2 LR LR
comp=Z,43μm,15.7s
INKA Innaminka 45.98 127 P **P** **09 35 59.2 +1.1**
JNU Nakatsue 45.99 37 P **P** **09 35 58.5 +0.5**
JNU IAMs_20 IAMs_20 09 55 50.7
comp=Z,23μm,20.0s
JNU Nakatsue 45.99 37 P **P** **09 35 58.2 +0.2**
comp=Z,262nm,0.9s,baz=202,slow=6.2,SNR=42
JNU LR LR 09 57 13.5
comp=Z,21μm,18.0s,baz=235,slow=39
comp=Z,262nm,0.9s
JNU Nakatsue 45.99 37 P **P** **09 35 58.5 +0.5**
JNU Nakatsue 45.99 37 ⇑P **P** **09 35 58.1 +0.1**
JNU Nakatsue 45.99 37 P **P** **09 35 58.2 +0.2**
WHYH Whyalla 46.16 135 P **P** **09 36 00.6 +1.3**
TJN Taejon 46.46 31 P **P** **09 36 01.7 +0.1**
TJN Taejon 46.46 31 P **P** **09 36 02.5 +0.9**
TJN Taejon 46.46 31 P **P** **09 36 01.7 +0.1**
TJN pmax pmax
comp=Z,606nm,1.3s
TJN MLR MLR
comp=Z,82μm,19.0s
PTPS Port Pirie 46.53 135 P **P** **09 36 04.6 +2.4**
JLN Jalan Bani Buh 46.90 304 P **P** **09 36 05.7 +0.3**
SNR=12
JLN P **P** **09 36 05.7 +0.3**
SNR=12
JLN S **S** **09 42 54.6 -1.2**
JLN S **S** **09 42 54.6 -1.2**
INCN Inchon 46.96 29 P **P** **09 36 05.3 -0.2**
INCN IAmb IAmb 09 36 08.5
comp=Z,138nm,1.1s
INCN Inchon 46.96 29 P **P** **09 36 05.4 -0.2**
INCN P **P** **09 36 05.4 -0.2**
INCN S **S** **09 42 56.1 -0.1**
INCN S **S** **09 42 56.1 -0.1**
INCN Inchon 46.96 29 P **P** **09 36 05.5 -0.1**
INCN Inchon 46.96 29 P **P** **09 36 05.3 -0.2**
INCN pmax pmax
comp=Z,138nm,1.2s
INCN MLR MLR
comp=Z,21μm,19.0s
INCN Inchon 46.96 29 ⇑P **P** **09 36 07.0 +1.4**
NGCH Negor - Chabah 47.05 309 P **P** **09 36 08.7 +2.3**
NGCH S **S** **09 42 59.7 +1.9**
PMG Port Moresby 47.13 100 LR LR 10 00 06.6
comp=Z,13μm,20.4s,baz=275,slow=41
KBU Kabul Universi 47.19 324 P **P** **09 36 04.2 -3.4**
GUMO Guam 47.20 69 LR LR 09 55 34.4
comp=Z,8μm,20.8s,baz=228,slow=36
KBL Kabul 47.26 324 P **P** **09 36 07.7 -0.5**
KBL IAmb IAmb 09 37 03.9
comp=Z,135nm,1.1s
KBL Kabul 47.26 324 P **P** **09 36 09.6 +1.4**
SNR=42
KBL P **P** **09 36 09.6 +1.4**
SNR=42
KBL Kabul 47.26 324 P **P** **09 36 07.7 -0.5**
KBL pmax pmax
comp=Z,135nm,1.2s
HTT Hallett 47.32 135 P **P** **09 36 09.5 +0.9**
HTT Hallett 47.32 135 ⇑P **P** **09 36 09.7 +1.1**
WBK Wadi Bani Khal 47.47 304 P **P** **09 36 13.1 +3.3**
WBK P **P** **09 36 13.1 +3.3**
WBK S **S** **09 43 04.8 +0.8**
WBK S **S** **09 43 04.8 +0.8**
KSAR Wonju Array Be 47.55 30 P **P** **09 36 10.8 +0.7**
KSAR Wonju Array Be 47.55 30 P **P** **09 36 10.8 +0.7**
DQM DQM 47.55 300 P **P** **09 36 13.9 +3.5**
SNR=8.6
DQM P **P** **09 36 13.9 +3.5**
SNR=8.6
KSRS Korea Array 47.58 30 P **P** **09 36 10.3 0.0**
comp=Z,122nm,0.9s,baz=225,slow=8.0,SNR=84
KSRS LR LR 09 56 59.8
comp=Z,14μm,18.5s,baz=220,slow=37
comp=Z,122nm,0.9s
KS19 Wonju Array Si 47.58 30 P **P** **09 36 11.2 +0.8**
KS19 IAmb IAmb 09 36 14.2
comp=Z,171nm,1.1s
KSH Kashi 47.60 335 P **P** **09 36 09.8 -0.9**
KSH pP pP 09 36 12.7 -3.7
KSH S **S** **09 43 02.7 -2.8**
KSH SS ScS 09 46 15.8 +12
KSH pmax pmax
comp=Z,160nm,1.0s
KSH pmax pmax
comp=Z,3μm,9.7s
KSH LR LR
comp=Z,14μm,21.3s
KSH LR LR
comp=Z,16μm,18.9s
KSH LR LR
comp=Z,24μm,21.3s
MHTO MHTO 47.61 302 P **P** **09 36 10.5 -0.4**
SNR=11
MHTO P **P** **09 36 10.5 -0.4**
SNR=11
MHTO S **S** **09 43 04.3 -1.6**
MHTO S **S** **09 43 04.3 -1.6**
WMQ Urumqi 47.71 348 ⇑P **P** **09 36 12.8 +1.4**
WMQ ScS ScS 09 46 03.6 -0.8
WMQ pmax pmax
comp=Z,380nm,1.1s
WMQ pmax pmax
comp=Z,4μm,5.3s
WMQ LR LR
comp=Z,14μm,19.5s
WMQ LR LR
comp=Z,16μm,17.7s
WMQ LR LR
comp=Z,18μm,22.3s
PYAG Pyongyang 47.81 27 P **P** **09 36 11.4 -0.7**
PYAG S **S** **09 43 07.3 -0.8**
PYAG AmB
comp=Z,662nm,1.0s
PYAG AMS AMS
comp=Z,42μm,14.6s
WSAR Wadi Sarin 48.04 305 LR LR 09 55 11.2
comp=Z,19μm,19.1s,baz=140,slow=35
JMDO Jabal Madar 48.09 304 P **P** **09 36 15.1 +0.5**
JMDO P **P** **09 36 15.1 +0.5**
CTA Charters Tower 48.10 115 LR LR 09 59 05.9
comp=Z,31μm,20.5s,baz=286,slow=39
CTA Charters Tower 48.10 115 P **P** **09 36 15.9 +1.1**
CTAO Charters Tower 48.10 115 P **P** **09 36 14.3 -0.5**
CTAO Charters Tower 48.10 115 IAMs_20 IAMs_20 09 59 13.1
comp=Z,28μm,20.0s
CTAO Charters Tower 48.10 115 P **P** **09 36 15.8 +1.0**
CTAO Charters Tower 48.10 115 P **P** **09 36 14.3 -0.5**
CTAO pmax pmax
comp=Z,312nm,1.0s
CTAO MLR MLR
comp=Z,28μm,20.0s
CTAO Charters Tower 48.10 115 ⇓P **P** **09 36 15.3 +0.5**
SUJ Sinuiju 48.12 25 P **P** **09 36 13.5 -1.0**
SUJ S **S** **09 43 11.9 -0.6**
SUJ AmB
comp=Z,292nm,1.0s
SUJ AMS AMS
comp=Z,69μm,15.9s
JMN Monobe 48.22 38 P **P** **09 36 16.1 +0.6**
JMN Monobe 48.22 38 P **P** **09 36 16.5 +1.0**
JMN Monobe 48.22 38 ⇑P **P** **09 36 16.1 +0.6**
JMN Monobe 48.22 38 P **P** **09 36 16.1 +0.6**
QLP Quilpie 48.37 124 P **P** **09 36 17.6 +0.9**
QLP Quilpie 48.37 124 ⇑P **P** **09 36 17.9 +1.2**
TV1H Townsville Har 48.39 113 P **P** **09 36 18.8 +1.8**
SMDO Samad 48.43 304 P **P** **09 36 18.4 +1.1**
SNR=21
SMDO P **P** **09 36 18.4 +1.1**
SNR=21
SMDO S **S** **09 43 19.3 +1.6**
SMDO S **S** **09 43 19.3 +1.6**
AUMBR Murray Bridge 48.48 136 P **P** **09 36 18.6 +1.2**
STKA Stephens Creek 48.50 131 P **P** **09 36 18.0 +0.4**
STKA Stephens Creek 48.50 131 P **P** **09 36 18.8 +1.1**
comp=Z,135nm,0.8s,baz=300,slow=9.8,SNR=99
STKA S **S** **09 43 18.3 0.0**
comp=Z,3.8nm,0.9s,baz=252,slow=20,SNR=1.7
STKA LR LR 09 58 18.3
comp=Z,40μm,21.1s,baz=295,slow=38
comp=Z,135nm,0.8s
STKA Stephens Creek 48.50 131 P **P** **09 36 18.4 +0.7**
STKA Stephens Creek 48.50 131 P **P** **09 36 18.0 +0.4**
STKA pmax pmax
comp=Z,311nm,1.0s
BIDO Bidbid 48.58 305 P **P** **09 36 19.6 +1.3**
SNR=22
BIDO P **P** **09 36 19.6 +1.3**
SNR=22
BIDO S **S** **09 43 20.9 +1.4**
BIDO S **S** **09 43 20.9 +1.4**
XLT XiLinHaoTe 48.59 15 *e*P **P** **09 36 18.6 +0.4**
XLT pP pP 09 36 22.1 -1.8
XLT SS SS 09 46 43.1 -6.6
XLT pmax pmax
comp=Z,180nm,0.9s
XLT LR LR
comp=Z,3μm,19.0s
XLT LR LR
comp=Z,21μm,19.4s
XLT LR LR
comp=Z,42μm,17.9s
BSY Bisya 49.00 303 P **P** **09 36 22.8 +1.1**
SNR=23
BSY P **P** **09 36 22.8 +1.1**
SNR=23
BSY S **S** **09 43 26.5 +0.9**
BSY S **S** **09 43 26.5 +0.9**
DMTO DMTO 49.02 296 P **P** **09 36 22.2 +0.4**
SNR=17
DMTO P **P** **09 36 22.2 +0.4**
SNR=17
DMTO S **S** **09 43 26.4 +0.6**
DMTO S **S** **09 43 26.4 +0.6**
AUAYR Ayr State High 49.03 114 P **P** **09 36 23.2 +1.3**
SNY Shenyang 49.20 23 ⇑P **P** **09 36 22.4 -0.4**
SNY S **S** **09 43 30.3 +2.6**
SNY pmax pmax
comp=Z,39nm,1.1s
SNY pmax pmax
comp=Z,3μm,7.5s
SNY LR LR
comp=Z,12μm,18.4s
SNY LR LR
comp=Z,11μm,18.6s
SNY LR LR
comp=Z,10μm,21.1s
HOQ Hoqain 49.27 305 P **P** **09 36 24.9 +1.2**
SNR=18
HOQ P **P** **09 36 24.9 +1.2**
SNR=18
SHLS Shalkode 49.38 340 *e*P **P** **09 36 23.2 -1.1**
SHLS *e*S **S** **09 43 30.7 +0.2**
SHLS pmax pmax
comp=Z,365nm,1.3s
SHLS Shalkode 49.38 340 *e*P **P** **09 36 23.3 -1.1**
comp=Z,365nm,1.3s
SHLS *e*S **S** **09 43 30.8 +0.2**
PDGK Podgornoye 49.53 340 *i* P **P** **09 36 26.5 +1.1**
PDGK pmax pmax
comp=Z,806nm,1.1s
UZB Uzynbulak 49.53 340 *e*P **P** **09 36 25.3 -0.1**
UZB *e*S **S** **09 43 34.7 +2.1**
UZB pmax pmax
comp=Z,196nm,1.2s
UZB Uzynbulak 49.53 340 *e*P **P** **09 36 25.3 -0.1**
comp=Z,196nm,1.2s
UZB *e*S **S** **09 43 34.7 +2.1**
RBK Rabkut 49.61 296 P **P** **09 36 27.5 +1.1**
SNR=36
RBK P **P** **09 36 27.5 +1.1**
SNR=36
RBK S **S** **09 43 35.2 +0.9**
RBK S **S** **09 43 35.2 +0.9**
SATY Saty 49.67 339 *e*P **P** **09 36 26.5 0.0**
SATY *e*S **S** **09 43 36.6 +2.1**
SATY pmax pmax
comp=Z,247nm,1.0s
SATY Saty 49.67 339 *e*P **P** **09 36 26.6 0.0**
comp=Z,247nm,1.0s
SATY *e*S **S** **09 43 36.7 +2.1**
ULHL Ulahol 49.78 337 P **P** **09 36 28.3 +0.8**
SNR=72
ARQ Araqi 49.82 304 P **P** **09 36 29.1 +1.2**
SNR=17
ARQ P **P** **09 36 29.1 +1.2**
SNR=17
GAR Garm 49.84 329 P **P** **09 36 26.8 -1.1**
JASK Jask - Hormozg 49.87 307 P **P** **09 36 29.1 +0.9**
JASK S **S** **09 43 40.2 +2.6**
KPKS Kokpek 49.92 340 *e*P **P** **09 36 28.3 -0.1**
KPKS *e*S **S** **09 43 40.2 +2.2**
KPKS pmax pmax
comp=Z,250nm,1.4s
KPKS Kokpek 49.92 340 *e*P **P** **09 36 28.4 -0.1**
comp=Z,250nm,1.4s
KPKS *e*S **S** **09 43 40.3 +2.2**
DOK Doka 50.06 297 P **P** **09 36 30.0 +0.3**
SNR=29
DOK P **P** **09 36 30.0 +0.3**
SNR=29
DOK S **S** **09 43 39.1 -1.3**
DOK S **S** **09 43 39.1 -1.3**
BOOM Boomskoye usch 50.10 337 P **P** **09 36 30.5 +0.6**
WHFO Wadi Hawf 50.14 296 P **P** **09 36 30.3 -0.1**
SNR=35
WHFO P **P** **09 36 30.3 -0.1**
SNR=35
WHFO S **S** **09 43 40.7 -1.0**
WHFO S **S** **09 43 40.7 -1.0**
SOHO SOHO 50.15 305 P **P** **09 36 30.7 +0.4**
SOHO P **P** **09 36 30.7 +0.4**
SOHO S **S** **09 43 41.9 +0.3**
SOHO S **S** **09 43 41.9 +0.3**
SOHO SOHO 50.15 305 *i* P **P** **09 36 31.0 +0.6**
SNR=13
TNSS Tian-Shan 50.18 338 *e*P **P** **09 36 30.5 -0.2**
TNSS Tian-Shan 50.18 338 *e*P **P** **09 36 30.5 -0.2**
CHGR Chuyangaron 50.18 328 P **P** **09 36 30.1 -0.4**
CHGR IAMs_20 IAMs_20 10 01 53.5
comp=Z,27μm,19.0s
CHGR Chuyangaron 50.18 328 P **P** **09 36 30.1 -0.4**
CHGR pmax pmax
comp=Z,478nm,1.2s
CHGR MLR MLR
comp=Z,27μm,19.0s
JCJ Chichijima 50.20 51 P **P** **09 36 30.8 +0.1**
JCJ Chichijima 50.20 51 P P 09 36 24.5 -6.2
comp=Z,176nm,0.5s,baz=282,slow=18,SNR=7.7
JCJ LR LR 09 58 16.6
comp=Z,8μm,19.6s,baz=238,slow=37
MDOK Medeo 50.25 338 *e*P **P** **09 36 31.0 0.0**
MDOK *e*S **S** **09 43 44.8 +2.1**
MDOK Medeo 50.25 338 *e*P **P** **09 36 31.1 0.0**
MDOK *e*S **S** **09 43 44.9 +2.1**
MDOK LR LR 09 58 06.2
comp=Z,7μm,15.6s
AAA Alma-Ata 50.34 338 *e*P **P** **09 36 31.8 +0.3**
AAA pmax pmax
comp=Z,213nm,1.1s
AAA Alma-Ata 50.34 338 *e*P **P** **09 36 31.8 +0.3**
comp=Z,213nm,1.1s
ABTO Aybut 50.38 295 P **P** **09 36 32.9 +0.6**
SNR=35
ABTO P **P** **09 36 32.9 +0.6**
SNR=35
ABTO S **S** **09 43 44.4 -0.7**
ABTO S **S** **09 43 44.4 -0.7**
ARSB Arslanbob 50.39 333 IAmb IAmb 09 36 37.0
comp=Z,246nm,1.0s
BTK Batken 50.40 331 IAmb IAmb 09 36 49.2
comp=Z,283nm,1.1s
BTK Batken 50.40 331 P **P** **09 36 32.9 +0.8**
JIE Ise 50.43 40 P **P** **09 36 32.6 +0.3**
UCH Uchtor 50.47 335 P **P** **09 36 33.9 +0.9**
SNR=35
KBK Karagaybulak 50.64 336 P **P** **09 36 35.3 +1.3**
SNR=108
SONM Songino Array 50.68 5 P **P** **09 36 34.7 +0.6**
SONM Songino Array 50.68 5 P **P** **09 36 34.8 +0.7**
comp=Z,421nm,1.0s,baz=188,slow=8.7,SNR=376
SONM PcP **PcP** **09 37 52.1 +0.8**
comp=Z,47nm,0.8s,baz=184,slow=4.7,SNR=1.7
SONM S **S** **09 43 49.5 +1.1**
comp=Z,2.4nm,1.1s,baz=198,slow=4.2,SNR=1.7
comp=Z,421nm,1.0s
SONM Songino Array 50.68 5 P **P** **09 36 34.7 +0.6**
SONM pmax pmax
comp=Z,426nm,1.0s
UMZA Um Al Zommool 50.70 302 S **S** **09 43 48.8 -0.4**
AML Almayashu 50.73 335 P **P** **09 36 35.8 +0.9**
SNR=162
ALNE Al Ain 50.76 304 P **P** **09 36 35.7 +0.7**
SNR=32
ALNE P **P** **09 36 35.7 +0.7**
SNR=32
ALNE S **S** **09 43 50.7 +0.6**
ALNE S **S** **09 43 50.7 +0.6**
ALNE S **S** **09 43 50.7 +0.6**
ALNE S **S** **09 43 50.7 +0.6**
ALNE Al Ain 50.76 304 *i* P **P** **09 36 35.6 +0.6**
SNR=16
ULN Ulaanbaatar 50.77 6 P **P** **09 36 35.7 +0.8**
ULN Ulaanbaatar 50.77 6 P **P** **09 36 36.2 +1.3**
ULN P **P** **09 36 36.2 +1.3**
ULN S **S** **09 43 51.6 +1.8**
ULN S **S** **09 43 51.6 +1.8**
ULN Ulaanbaatar 50.77 6 P **P** **09 36 35.7 +0.8**
ULN pmax pmax
comp=Z,420nm,1.0s
ULN MLR MLR
comp=Z,50μm,18.0s
ULN Ulaanbaatar 50.77 6 ⇑P **P** **09 36 35.8 +1.0**
UOSS Minazif 50.78 306 P **P** **09 36 34.4 -0.7**
UOSS Minazif 50.78 306 P **P** **09 36 37.4 +2.3**
UOSS P **P** **09 36 37.4 +2.3**
UOSS S **S** **09 43 49.9 -0.4**
UOSS S **S** **09 43 49.9 -0.4**
UOSS Minazif 50.78 306 P **P** **09 36 34.8 -0.4**
UOSS Minazif 50.78 306 ⇓P **P** **09 36 37.8 +2.7**
ASHO Ashiyiah 50.78 305 P **P** **09 36 36.0 +0.8**
SNR=8.2
ASHO P **P** **09 36 36.0 +0.8**
SNR=8.2
ASHO S **S** **09 43 52.3 +1.9**
ASHO S **S** **09 43 52.3 +1.9**
ASHO Ashiyiah 50.78 305 *i* P **P** **09 36 35.5 +0.3**
SNR=15
HATD Hatta, Dubai 50.79 305 P **P** **09 36 36.0 +0.8**
SNR=10.0
HATD P **P** **09 36 36.0 +0.8**
SNR=10.0
HATD S **S** **09 43 50.5 0.0**
HATD S **S** **09 43 50.5 0.0**
HATD Hatta, Dubai 50.79 305 *i* P **P** **09 36 35.9 +0.7**
SNR=5.8
AAK Ala-Archa 50.81 336 P **P** **09 36 36.2 +0.9**
AAK IAmb IAmb 09 37 23.2
comp=Z,276nm,1.1s
AAK Ala-Archa 50.81 336 LR LR 10 01 08.0
comp=Z,19μm,21.1s,baz=150,slow=40
AAK Ala-Archa 50.81 336 P **P** **09 36 36.3 +1.1**
AAK P **P** **09 36 36.3 +1.1**
AAK P **P** **09 36 36.3 +1.1**
AAK S **S** **09 43 52.6 +2.0**
AAK S **S** **09 43 52.6 +2.0**
AAK S **S** **09 43 52.6 +2.0**
AAK Ala-Archa 50.81 336 P **P** **09 36 36.1 +0.8**
SNR=71
AAK Ala-Archa 50.81 336 P **P** **09 36 36.2 +0.9**
AAK pmax pmax
comp=Z,276nm,1.1s
AAK MLR MLR
comp=Z,19μm,21.0s
AAK Ala-Archa 50.81 336 *i* P **P** **09 36 35.1 -0.1**
SNR=94
AAK Ala-Archa 50.81 336 ⇑P **P** **09 36 36.1 +0.9**
MDH Madha 50.86 306 P **P** **09 36 35.0 -0.7**
MDH P **P** **09 36 35.0 -0.7**
MDH S **S** **09 43 51.5 +0.1**
MDH S **S** **09 43 51.5 +0.1**
MDH Madha 50.86 306 P **P** **09 36 35.5 -0.2**
FRU1 Bishkek 50.90 336 IAMs_20 IAMs_20 10 01 01.7
comp=Z,23μm,22.0s
MSFE Esma-Masafi 51.00 306 *i* P **P** **09 36 37.9 +1.1**
SNR=5.3
MASF Masafi 51.01 306 P **P** **09 36 37.6 +0.8**
MASF P **P** **09 36 37.6 +0.8**
MASF S **S** **09 43 53.1 -0.5**
MASF S **S** **09 43 53.1 -0.5**
CHMS Chumysh 51.01 336 P **P** **09 36 37.1 +0.6**
SNR=72
ARPS Mount Arapiles 51.11 137 P **P** **09 36 39.6 +2.2**
EKS2 Erkin-Say 51.13 335 P **P** **09 36 38.6 +1.0**
SNR=279
BANOM Banah 51.14 307 P **P** **09 36 37.5 -0.4**
FAQ Al Faqa, Dubai 51.19 305 S **S** **09 43 55.9 -0.2**
FAQ Al Faqa, Dubai 51.19 305 *i* P **P** **09 36 38.2 0.0**
SNR=22
INU Inuyama 51.24 39 P **P** **09 36 38.2 -0.2**
NAZ Nazwa, Dubai 51.24 305 P **P** **09 36 40.6 +2.1**
SNR=9.6
NAZ P **P** **09 36 40.6 +2.1**
SNR=9.6
NAZ S **S** **09 43 55.8 -0.9**
NAZ S **S** **09 43 55.8 -0.9**
NAZ Nazwa, Dubai 51.24 305 *i* P **P** **09 36 38.6 0.0**
SNR=5.0
SHME Shamm 51.33 307 P **P** **09 36 41.8 +2.6**
SHME P **P** **09 36 41.8 +2.6**
SHME S **S** **09 43 58.3 +0.5**
SHME S **S** **09 43 58.3 +0.5**
SHME Shamm 51.33 307 P **P** **09 36 40.2 +1.0**
USP Ospenovka 51.33 336 P **P** **09 36 39.6 +0.6**
SNR=202
ASUD Al Ashush, Dub 51.35 305 P **P** **09 36 40.5 +1.1**
SNR=20
ASUD P **P** **09 36 40.5 +1.1**
SNR=20
ASUD S **S** **09 43 59.0 +0.7**
ASUD S **S** **09 43 59.0 +0.7**
ASUD Al Ashush, Dub 51.35 305 *i* P **P** **09 36 40.2 +0.7**
SNR=15
HRA Herat 51.36 319 P **P** **09 36 38.6 -1.0**
TDK Taldyqorghan 51.37 340 *e*P **P** **09 36 39.1 -0.1**
TDK *e*S **S** **09 44 00.5 +2.6**
TDK pmax pmax
comp=Z,222nm,1.0s
TDK MLR MLR
comp=Z,7μm,20.0s
TDK Taldyqorghan 51.37 340 *e*P **P** **09 36 39.2 -0.1**
comp=Z,222nm,1.0s
TDK *e*S **S** **09 44 00.6 +2.6**
TDK LR LR 09 58 49.7
comp=Z,7μm,19.7s

SGDS	**Sogindy**	**51.44**	**336**	*e*P	**P**	**09 36 39.5**	**-0.3**
SGDS				*e*S	**S**	**09 44 00.9**	**+2.0**
SGDS				pmax	pmax		
	comp=Z,48nm,1.6s						
SGDS	**Sogindy**	**51.44**	**336**	*e*P	**P**	**09 36 39.6**	**-0.3**
	comp=Z,48nm,1.6s						
SGDS				*e*S	**S**	**09 44 00.9**	**+2.0**
UMQ	**Umm Al-Quwin**	**51.48**	**306**	S	**S**	**09 43 59.4**	**-0.5**
CMSA	**Cobar Meteorol**	**51.48**	**129**	P	**P**	**09 36 41.4**	**+1.1**
	comp=Z,372nm,0.9s						
JSG	**Sagara**	**51.56**	**40**	P	**P**	**09 36 41.1**	**+0.3**
JSG				IAmb	IAmb	09 36 44.5	
	comp=Z,272nm,1.0s						
JSG	**Sagara**	**51.56**	**40**	P	**P**	**09 36 43.3**	**+2.5**
CN2	**Changchun**	**51.60**	**23**	*e*P	**P**	**09 36 40.5**	**-0.4**
CN2				*e*PP	**PP**	**09 38 38.8**	**+0.2**
CN2				*e*S	**S**	**09 44 00.8**	**-0.3**
CN2				pmax	pmax		
	comp=Z,530nm,1.0s						
CN2				pmax	pmax		
	comp=Z,3μm,6.0s						
CN2				LR	LR		
	comp=Z,5μm,17.0s						
CN2				LR	LR		
	comp=Z,10μm,17.0s						
CN2				LR	LR		
	comp=Z,9μm,18.0s						
AJN	**Ajban**	**51.61**	**304**	P	**P**	**09 36 41.7**	**+0.4**
	SNR=8.7						
AJN				P	**P**	**09 36 41.7**	**+0.4**
	SNR=8.7						
AJN				S	**S**	**09 44 00.3**	**-1.4**
AJN				S	**S**	**09 44 00.3**	**-1.4**
AJN	**Ajban**	**51.61**	**304**	P	**P**	**09 36 40.9**	**-0.4**
JGF	**Kuroka**	**51.61**	**39**	P	**P**	**09 36 40.7**	**-0.6**
JGF	**Kuroka**	**51.61**	**39**	P	**P**	**09 36 41.1**	**-0.1**
JGF	**Kuroka**	**51.61**	**39**	⇑P	**P**	**09 36 40.2**	**-1.0**
ZSN	**Zaisan**	**51.78**	**347**	*e*P	**P**	**09 36 42.4**	**+0.2**
ZSN				*e*S	**S**	**09 44 06.1**	**+2.6**
ZSN				pmax	pmax		
	comp=Z,223nm,1.2s						
ZSN	**Zaisan**	**51.78**	**347**	*e*P	**P**	**09 36 42.4**	**+0.2**
	comp=Z,223nm,1.2s						
ZSN				*e*S	**S**	**09 44 06.1**	**+2.6**
MK31	**Makanchi Array**	**51.81**	**344**	*i* P	**P**	**09 36 42.7**	**+0.2**
MK31				pmax	pmax		
	comp=Z,332nm,0.8s						
MKAR	**Makanchi Array**	**51.81**	**344**	P	**P**	**09 36 43.2**	**+0.8**
MKAR	**Makanchi Array**	**51.81**	**344**	P	**P**	**09 36 42.9**	**+0.4**
	comp=Z,267nm,0.8s,baz=157,slow=8.4,SNR=1286						
MKAR				S	**S**	**09 44 05.8**	**+1.9**
	comp=Z,7.3nm,1.1s,baz=159,slow=16,SNR=4.1						
MKAR				LR	LR	10 03 40.9	
	comp=Z,10μm,18.8s,baz=157,slow=42						
	comp=Z,267nm,0.8s						
MAKZ	**Makanchi**	**51.91**	**344**	P	**P**	**09 36 43.9**	**+0.7**
MAKZ				IAmb	IAmb	09 36 47.7	
	comp=Z,251nm,1.1s						
MAKZ	**Makanchi**	**51.91**	**344**	P	**P**	**09 36 43.9**	**+0.7**
MAKZ	**Makanchi**	**51.91**	**344**	⇑P	**P**	**09 36 43.3**	**+0.1**
MZWR	**Madinat Zayed**	**52.20**	**303**	S	**S**	**09 44 09.5**	**-0.4**
MZR	**Muzera**	**52.23**	**302**	P	**P**	**09 36 46.8**	**+0.8**
	SNR=30						
MZR				P	**P**	**09 36 46.8**	**+0.8**
	SNR=30						
MZR				S	**S**	**09 44 09.2**	**-1.2**
MZR				S	**S**	**09 44 09.2**	**-1.2**
MZR	**Muzera**	**52.23**	**302**	*i* P	**P**	**09 36 46.4**	**+0.3**
	SNR=6.2						
DZA	**Taraz**	**52.38**	**333**	*e*P	**P**	**09 36 46.7**	**-0.1**
DZA				pmax	pmax		
	comp=Z,108nm,0.9s						
DZA	**Taraz**	**52.38**	**333**	*e*P	**P**	**09 36 46.7**	**-0.1**
	comp=Z,108nm,0.9s						
IUG	**Iuzhnay**	**52.39**	**332**	*e*P	**P**	**09 36 46.7**	**-0.3**
IUG				pmax	pmax		
	comp=Z,167nm,0.9s						
IUG	**Iuzhnay**	**52.39**	**332**	*e*P	**P**	**09 36 46.8**	**-0.3**
	comp=Z,167nm,0.9s						
AULRC	**Lightning Ridg**	**52.49**	**125**	P	**P**	**09 36 49.2**	**+1.3**
MAJO	**Matsushiro**	**52.74**	**39**	P	**P**	**09 36 49.4**	**-0.2**
MAJO				IAmb	IAmb	09 36 53.0	
	comp=Z,125nm,0.9s						
MAJO	**Matsushiro**	**52.74**	**39**	P	**P**	**09 36 49.2**	**-0.4**
MAJO	**Matsushiro**	**52.74**	**39**	P	**P**	**09 36 49.4**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,125nm,1.0s						
MAJO				MLR	MLR		
	comp=Z,14μm,20.0s						
MAJO	**Matsushiro**	**52.74**	**39**	⇑P	**P**	**09 36 49.0**	**-0.6**
MJAR	**Matsushiro Arr**	**52.74**	**39**	P	**P**	**09 36 48.7**	**-0.9**
	comp=Z,125nm,0.9s,baz=216,slow=7.2,SNR=70						
MJAR				S	**S**	**09 44 17.3**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=14,slow=14,SNR=6.9						
MJAR				LR	LR	10 00 41.8	
	comp=Z,14μm,19.0s,baz=242,slow=38						
	comp=Z,125nm,0.9s						
MJB9	**Matsu-Tunnel**	**52.74**	**39**	IAmb	IAmb	09 36 54.0	
	comp=Z,127nm,1.0s						
KK31	**Karatay Array**	**52.92**	**333**	*i* P	**P**	**09 36 49.6**	**-1.2**
KKAR	**Karatay Array**	**52.92**	**333**	P	**P**	**09 36 50.6**	**-0.2**
KKAR	**Karatay Array**	**52.92**	**333**	P	**P**	**09 36 50.5**	**-0.2**
KKAR				IAmb	IAmb	09 37 33.1	
	comp=Z,75nm,0.9s						
KKAR	**Karatay Array**	**52.92**	**333**	P	**P**	**09 36 50.5**	**-0.2**
KKAR						09 36 50.6	
KKAR	**Karatay Array**	**52.92**	**333**	⇑P	**P**	**09 36 50.4**	**-0.3**
BTLS	**Baital**	**52.99**	**337**	*e*P	**P**	**09 36 51.1**	**-0.1**
BTLS	**Baital**	**52.99**	**337**	*e*P	**P**	**09 36 51.2**	**-0.1**
ZAK	**Zakamensk**	**53.00**	**2**	*e*P	**P**	**09 36 51.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,63nm,1.3s						
MSHR	**Mys Shultsa**	**53.10**	**28**	*i* P	**P**	**09 36 51.4**	**-0.7**
GHWR	**Ruwais**	**53.12**	**303**	P	**P**	**09 36 53.2**	**+0.7**
GHWR				P	**P**	**09 36 53.2**	**+0.7**
GHWR				S	**S**	**09 44 20.5**	**-2.0**
GHWR				S	**S**	**09 44 20.5**	**-2.0**
BRLS	**Borolday**	**53.17**	**332**	*e*P	**P**	**09 36 50.7**	**-1.9**
BRLS				pmax	pmax		
	comp=Z,174nm,2.1s						
BRLS	**Borolday**	**53.17**	**332**	*e*P	**P**	**09 36 51.4**	**-1.2**
GD1S	**Gladstone Soft**	**53.48**	**118**	P	**P**	**09 36 58.8**	**+3.6**
GEXS	**Deakin Univers**	**53.51**	**137**	P	**P**	**09 36 59.6**	**+4.4**
JRN	**Qarnain Island**	**53.53**	**304**	P	**P**	**09 36 55.9**	**+0.3**
	SNR=8.1						
JRN				P	**P**	**09 36 55.9**	**+0.3**
	SNR=8.1						
JRN				S	**S**	**09 44 26.9**	**-1.2**
JRN				S	**S**	**09 44 26.9**	**-1.2**
JSD	**Sado**	**53.73**	**37**	P	**P**	**09 36 56.5**	**-0.2**
JSD				IAmb	IAmb	09 36 59.8	
	comp=Z,112nm,0.8s						
JSD	**Sado**	**53.73**	**37**	P	**P**	**09 36 56.9**	**+0.1**
JSD	**Sado**	**53.73**	**37**	⇓P	**P**	**09 36 56.6**	**-0.2**
EIDS	**Eidsvold**	**53.81**	**120**	P	**P**	**09 36 57.6**	**-0.1**
EIDS				IAmb	IAmb	09 37 21.3	
	comp=Z,98nm,0.9s						
EIDS	**Eidsvold**	**53.81**	**120**	P	**P**	**09 36 58.7**	**+1.0**
EIDS	**Eidsvold**	**53.81**	**120**	⇑P	**P**	**09 36 58.3**	**+0.7**
MDJ	**Mudanjiang**	**53.98**	**26**	P	**P**	**09 36 58.4**	**-0.1**
MDJ				IAmb	IAmb	09 37 04.1	
	comp=Z,185nm,0.9s						
MDJ				IAMs_20	IAMs_20	10 00 53.1	
	comp=Z,29μm,20.0s						
MDJ	**Mudanjiang**	**53.98**	**26**	P	**P**	**09 36 59.2**	**+0.7**
MDJ				pP	pP	09 37 02.3	-2.0
MDJ				pmax	pmax		
	comp=Z,59nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,3μm,5.2s						
MDJ	**Mudanjiang**	**53.98**	**26**	P	**P**	**09 36 59.2**	**+0.7**
BNX	**BinXian**	**53.99**	**23**	⇑P	**P**	**09 36 58.6**	**+0.1**
BNX				pP	**pP**	**09 37 01.3**	**-3.0**
BNX				sS	**sS**	**09 44 42.2**	**-0.7**
BNX				pmax	pmax		
	comp=Z,360nm,1.0s						
BNX				pmax	pmax		
	comp=Z,5μm,4.9s						
TOO	**Toolangi**	**54.03**	**136**	P	**P**	**09 36 59.0**	**-0.1**
TOO	**Toolangi**	**54.03**	**136**	P	**P**	**09 36 59.0**	**-0.1**
TOO				pmax	pmax		
	comp=Z,53nm,1.5s						
TOO				MLR	MLR		
	comp=Z,16μm,22.0s						
AUDCS	**Dubbo College**	**54.05**	**128**	P	**P**	**09 37 00.8**	**+1.5**

SLWR	**Sila**	**54.16**	**302**	P	**P**	**09 37 00.2**	**0.0**
SLWR				P	**P**	**09 37 00.2**	**0.0**
SLWR				S	**S**	**09 44 34.8**	**-1.8**
SLWR				S	**S**	**09 44 34.8**	**-1.8**
ABPO	**Ambohimpanom**	**54.22**	**249**	IAMs_20	IAMs_20	09 56 29.9	
	comp=Z,23μm,18.0s						
ABPO	**Ambohimpanom**	**54.22**	**249**	⇓P	**P**	**09 37 02.9**	**+1.9**
MOY	**Mondy**	**54.23**	**1**	*e*P	**P**	**09 37 00.8**	**+0.5**
MOY				pmax	pmax		
	comp=Z,216nm,2.5s						
HIA	**Hailar**	**54.52**	**16**	P	**P**	**09 37 02.3**	**-0.1**
HIA				IAmb	IAmb	09 37 07.0	
	comp=Z,139nm,0.9s						
HIA	**Hailar**	**54.52**	**16**	P	**P**	**09 37 02.5**	**+0.1**
HIA	**Hailar**	**54.52**	**16**	P	**P**	**09 37 02.3**	**-0.1**
HIA				pmax	pmax		
	comp=Z,139nm,0.9s						
HIA				MLR	MLR		
	comp=Z,63μm,18.0s						
YNG	**Young**	**54.69**	**131**	P	**P**	**09 37 05.7**	**+1.7**
USA0B	**Ussuriysk Arra**	**54.73**	**28**	P	**P**	**09 37 04.5**	**+0.5**
USA0B	**Ussuriysk Arra**	**54.73**	**28**	P	**P**	**09 37 04.5**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,638nm,1.0s						
USRK	**Ussuriysk Ar.**	**54.73**	**28**	P	**P**	**09 37 04.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**54.73**	**28**	P	**P**	**09 37 04.2**	**+0.2**
	comp=Z,515nm,0.8s,baz=223,slow=5.8,SNR=236						
USRK				LR	LR	10 02 47.4	
	comp=Z,24μm,18.9s,baz=224,slow=39						
	comp=Z,515nm,0.8s						
USRK	**Ussuriysk Ar.**	**54.73**	**28**	P	**P**	**09 37 04.4**	**+0.4**
TRNA	**Turayna**	**54.82**	**303**	P	**P**	**09 37 05.0**	**0.0**
	SNR=10						
TRNA				S	**S**	**09 44 43.3**	**-2.1**
IRK	**Irkutsk**	**54.91**	**3**	*e*P	**P**	**09 37 05.2**	**+0.1**
IRK				*e*S	**S**	**09 44 50.5**	**+4.7**
IRK				pmax	pmax		
	comp=Z,515nm,1.0s						
SMRA	**Abu-Samra**	**55.15**	**303**	P	**P**	**09 37 07.3**	**0.0**
	SNR=20						
SMRA				S	**S**	**09 44 46.7**	**-3.2**
JMM	**Marumori**	**55.18**	**39**	IAmb	IAmb	09 37 12.3	
	comp=Z,168nm,0.7s						
JMM				IAMs_20	IAMs_20	10 02 26.0	
	comp=Z,19μm,19.0s						
JMM	**Marumori**	**55.18**	**39**	P	**P**	**09 37 07.6**	**+0.2**
JMM	**Marumori**	**55.18**	**39**	⇑P	**P**	**09 37 07.2**	**-0.1**
JMM	**Marumori**	**55.18**	**39**	P	**P**	**09 37 07.0**	**-0.3**
VOI	**Vohitsoka**	**55.19**	**245**	P	**P**	**09 37 05.4**	**-2.5**
VOI	**Vohitsoka**	**55.19**	**245**	P	**P**	**09 37 08.6**	**+0.7**
VOI	**Vohitsoka**	**55.19**	**245**	⇑P	**P**	**09 37 08.9**	**+1.0**
TW1H	**Toowoomba 1 Ha**	**55.20**	**122**	P	**P**	**09 37 11.1**	**+3.3**
AUPHS	**Peel High Scho**	**55.44**	**126**	P	**P**	**09 37 11.1**	**+1.7**
SHMA	**Al-Shehemyia**	**55.46**	**304**	P	**P**	**09 37 10.0**	**+0.4**
	SNR=12						
SHMA				S	**S**	**09 44 52.3**	**-1.8**
CAN	**Canberra**	**55.56**	**132**	P	**P**	**09 37 09.4**	**-0.9**
CAN				IAmb	IAmb	09 37 21.4	
	comp=Z,179nm,1.0s						
CAN	**Canberra**	**55.56**	**132**	P	**P**	**09 37 12.4**	**+2.1**
CAN	**Canberra**	**55.56**	**132**	P	**P**	**09 37 09.4**	**-0.9**
CAN				pmax	pmax		
	comp=Z,179nm,1.0s						
CAN				MLR	MLR		
	comp=Z,45μm,20.0s						
CIT	**Chita**	**55.74**	**10**	*e*P	**P**	**09 37 12.7**	**+1.5**
CIT				*e*		09 39 11.9	
CIT				*e*		09 40 38.3	
CIT				*e*S	**S**	**09 44 57.9**	**+0.8**
CIT				pmax	pmax		
	comp=Z,860nm,2.8s						
ARMA	**Armidale**	**55.81**	**125**	P	**P**	**09 37 11.5**	**-0.7**
ARMA				IAmb	IAmb	09 37 30.5	
	comp=Z,218nm,1.4s						
ARMA				IAMs_20	IAMs_20	10 03 13.4	
	comp=Z,29μm,21.0s						
ARMA	**Armidale**	**55.81**	**125**	P	**P**	**09 37 14.9**	**+2.7**
ARMA	**Armidale**	**55.81**	**125**	⇓P	**P**	**09 37 14.4**	**+2.3**
CNB	**Canberra Magne**	**55.83**	**132**	P	**P**	**09 37 14.8**	**+2.6**
SAKB	**Bahrain**	**55.86**	**304**	P	**P**	**09 37 12.7**	**+0.3**
SAKB				S	**S**	**09 44 56.6**	**-2.8**
AUWSH	**Wavell State H**	**56.06**	**121**	P	**P**	**09 37 15.6**	**+1.7**
SYDH	**Sydney Hard Ro**	**56.27**	**129**	P	**P**	**09 37 17.7**	**+2.4**
OTUK	**Ortayu**	**56.31**	**338**	*i* P	**P**	**09 37 14.9**	**-0.4**
OTUK				pmax	pmax		
	comp=Z,291nm,1.2s						
KURBB	**Kurchatov Arra**	**56.33**	**344**	P	**P**	**09 37 15.5**	**+0.2**
	comp=Z,256nm,0.9s,baz=160,slow=6.8,SNR=569						
KURBB				S	**S**	**09 45 05.8**	**+1.1**
	comp=Z,0.8nm,0.2s,baz=161,slow=8.8,SNR=4.7						
KURBB				LR	LR	10 07 06.4	
	comp=Z,10μm,18.0s,baz=161,slow=42						
KURBB				PKPPKP	**P'P'df**	**10 07 12.6**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=342,slow=2.5,SNR=4.1						
KURBB				PKP2bc		10 07 26.8	
	comp=Z,1.2nm,0.9s,baz=320,slow=2.7,SNR=5.8						
	comp=Z,256nm,0.9s						
MGCD	**Mangrove Creek**	**56.36**	**129**	P	**P**	**09 37 18.2**	**+2.3**
KURK	**Kurchatov**	**56.39**	**344**	P	**P**	**09 37 16.0**	**+0.3**
KURK	**Kurchatov**	**56.39**	**344**	P	**P**	**09 37 16.0**	**+0.3**
KURK				P	**P**	**09 37 16.0**	**+0.3**
KURK				P	**P**	**09 37 16.0**	**+0.3**
KURK				S	**S**	**09 45 05.5**	**0.0**
KURK				S	**S**	**09 45 05.5**	**0.0**
KURK				S	**S**	**09 45 05.5**	**0.0**
KURK	**Kurchatov**	**56.39**	**344**	P	**P**	**09 37 16.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,589nm,1.0s						
KURK				MLR	MLR		
	comp=Z,13μm,18.0s						
KURK	**Kurchatov**	**56.39**	**344**	⇑P	**P**	**09 37 16.0**	**+0.3**
JOM	**Ohasama**	**56.48**	**38**	P	**P**	**09 37 16.5**	**-0.1**
NTLH	**Newcastle Hard**	**56.71**	**128**	P	**P**	**09 37 20.2**	**+1.8**
CORO	**Coronation Par**	**57.04**	**139**	P	**P**	**09 37 21.9**	**+1.3**
JTM	**Tenmabayashi**	**57.16**	**36**	P	**P**	**09 37 21.6**	**+0.2**
JTM	**Tenmabayashi**	**57.16**	**36**	P	**P**	**09 37 21.7**	**+0.2**
JTM	**Tenmabayashi**	**57.16**	**36**	⇓P	**P**	**09 37 21.8**	**+0.3**
MOO	**Moorlands**	**57.56**	**140**	P	**P**	**09 37 28.7**	**+4.4**
TEY	**Ternei**	**57.57**	**30**	*e*P	**P**	**09 37 20.9**	**-3.4**
TEY						09 45 26.1	
TEY				MLR	MLR		
	comp=N,500nm,18.0s						
TEY				MLR	MLR		
	comp=Z,400nm,18.0s						
BRZS	**Berezniki**	**57.63**	**339**	*e*P	**P**	**09 37 24.1**	**-0.5**
BRZS				pmax	pmax		
	comp=Z,151nm,2.1s						
BRZS	**Berezniki**	**57.63**	**339**	*e*P	**P**	**09 37 24.5**	**-0.2**
HEH	**HeiHe**	**57.76**	**20**	*e*P	**P**	**09 37 25.8**	**+0.3**
HEH				pP	**pP**	**09 37 29.3**	**-1.9**
HEH				S	**S**	**09 45 25.2**	**+1.6**
HEH				pmax	pmax		
	comp=Z,71nm,1.2s						
HEH				pmax	pmax		
	comp=Z,4μm,6.2s						
HEH				LR	LR		
	comp=Z,11μm,21.2s						
HEH				LR	LR		
	comp=Z,18μm,19.6s						
HEH				LR	LR		
	comp=Z,29μm,20.6s						
TAU	**Tasmania Unive**	**57.88**	**141**	IAMs_20	IAMs_20	10 05 59.8	
	comp=Z,17μm,19.0s						
TAU	**Tasmania Unive**	**57.88**	**141**	P	**P**	**09 37 28.7**	**+2.2**
ZAA0	**Zalesovo Array**	**57.95**	**349**	P	**P**	**09 37 27.2**	**+0.5**
ZALV	**Zalesovo Beam**	**57.95**	**349**	P	**P**	**09 37 26.6**	**-0.2**
ZALV	**Zalesovo Beam**	**57.95**	**349**	P	**P**	**09 37 26.7**	**0.0**
	comp=Z,247nm,0.9s,baz=172,slow=5.2,SNR=338						
ZALV				S	**S**	**09 45 27.7**	**+1.7**
	comp=Z,5.4nm,1.0s,baz=153,slow=16,SNR=4.0						
ZALV				LR	LR	10 05 01.1	
	comp=Z,10μm,20.4s,baz=166,slow=39						
ZALV				PKP2bc		10 07 20.2	
	comp=Z,1.6nm,0.8s,baz=336,slow=3.2,SNR=6.6						
	comp=Z,247nm,0.9s						
KLR	**Kul'dur**	**58.55**	**24**	P	**P**	**09 37 31.3**	**+0.3**
	comp=Z,243nm,0.9s,baz=237,slow=7.3,SNR=156						
KLR				S	**S**	**09 45 35.9**	**+1.9**
	comp=Z,1.4nm,1.0s,baz=253,slow=20,SNR=1.5						
	comp=Z,243nm,0.9s						
KLR	**Kul'dur**	**58.55**	**24**	*c*eP	**P**	**09 37 31.4**	**+0.4**
KLR				pmax	pmax		
	comp=Z,694nm,1.7s						
KLR				MLR	MLR		
	comp=Z,39μm,16.0s						

ERM	**Erimo**	**59.15**	**36**	P	**P**	**09 37 36.4**	**+1.1**
ERM				IAmb	IAmb	09 38 00.8	
	comp=Z,119nm,1.0s						
ERM	**Erimo**	**59.15**	**36**	IAMs_20	IAMs_20	10 06 06.9	
	comp=Z,15μm,18.0s						
ERM	**Erimo**	**59.15**	**36**	P	**P**	**09 37 36.4**	**+1.1**
ERM				pmax	pmax		
	comp=Z,119nm,1.0s						
ERM				MLR	MLR		
	comp=Z,15μm,18.0s						
RAYN	**Ar Rayn**	**59.27**	**299**	P	**P**	**09 37 35.8**	**-0.9**
RAYN	**Ar Rayn**	**59.27**	**299**	IAMs_20	IAMs_20	10 06 39.8	
	comp=Z,15μm,19.0s						
RAYN	**Ar Rayn**	**59.27**	**299**	P	**P**	**09 37 36.5**	**-0.1**
RAYN				S	**S**	**09 45 42.7**	**-1.8**
RAYN	**Ar Rayn**	**59.27**	**299**	P	**P**	**09 37 35.8**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,54nm,0.9s						
RAYN				MLR	MLR		
	comp=Z,15μm,19.0s						
RAYN	**Ar Rayn**	**59.27**	**299**	*i* P	**P**	**09 37 36.5**	**-0.1**
	SNR=32						
KBD	**Kabd**	**59.43**	**306**	P	**P**	**09 37 37.7**	**+0.1**
KBD				S	**S**	**09 45 42.5**	**-3.7**
HNR	**Honiara**	**59.72**	**99**	P	**P**	**09 37 38.7**	**-1.1**
HNR	**Honiara**	**59.72**	**99**	LR	LR	10 08 56.3	
	comp=Z,4μm,18.1s,baz=260,slow=42						
HNR	**Honiara**	**59.72**	**99**	P	**P**	**09 37 39.4**	**-0.4**
HNR	**Honiara**	**59.72**	**99**	P	**P**	**09 37 38.7**	**-1.1**
HNR				pmax	pmax		
	comp=Z,591nm,1.2s						
HNR	**Honiara**	**59.72**	**99**	⇑P	**P**	**09 37 38.3**	**-1.5**
ASAJ	**Asahikawa**	**60.13**	**34**	P	**P**	**09 37 42.1**	**0.0**
	comp=Z,139nm,1.0s,baz=230,slow=6.5,SNR=25						
ASAJ				LR	LR	10 05 51.8	
	comp=Z,4μm,18.3s,baz=247,slow=38						
	comp=Z,139nm,1.0s						
ASAJ	**Asahikawa**	**60.13**	**34**	P	**P**	**09 37 42.3**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,362nm,1.3s						
ASAJ				MLR	MLR		
	comp=Z,8μm,21.0s						
JKA	**Kamikawa-asahi**	**60.13**	**34**	P	**P**	**09 37 42.3**	**+0.2**
H04N2	**CROZET ISLANDS**	**60.30**	**217**	T	T	10 42 56.0	
	baz=59,slow=75						
H04N1	**CROZET ISLANDS**	**60.32**	**217**	T	T	10 42 56.5	
	baz=59,slow=75						
H04N3	**CROZET ISLANDS**	**60.32**	**217**	T	T	10 42 55.1	
	baz=59,slow=75						
CRZF	**Crozet Islands**	**60.41**	**216**	IAMs_20	IAMs_20	09 57 36.0	
	comp=Z,16μm,20.0s						
H04S1	**CROZET ISLANDS**	**60.59**	**216**	T	T	10 43 16.3	
	baz=57,slow=76						
H04S3	**CROZET ISLANDS**	**60.60**	**216**	T	T	10 43 17.0	
	baz=57,slow=76						
H04S2	**CROZET ISLANDS**	**60.60**	**216**	T	T	10 43 18.3	
	baz=57,slow=76,SNR=7206						
ZEA	**Zeya**	**60.66**	**18**	*e*P	**P**	**09 37 46.4**	**+0.9**
ZEA				*e*S	**S**	**09 46 07.2**	**+6.1**
ZEA				*e*PS	**PnS**	**09 46 22.9**	**+7.3**
ZEA				pmax	pmax		
	comp=N,100nm,1.0s						
ZEA				pmax	pmax		
	comp=E,70nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,190nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,1μm,5.2s						
ZEA				smax	smax		
	comp=E,1μm,8.7s						
ZEA				smax	smax		
	comp=N,2μm,9.6s						
ZEA				MLR	MLR		
	comp=E,8μm,16.0s						
ZEA				MLR	MLR		
	comp=N,18μm,15.0s						
ZEA				MLR	MLR		
	comp=Z,19μm,15.0s						
BVA0	**Borovoye Array**	**60.96**	**340**	P	**P**	**09 37 45.8**	**-1.8**
BVAR	**Borovoye Array**	**60.96**	**340**	P	**P**	**09 37 46.9**	**-0.7**
	comp=Z,56nm,0.7s,baz=143,slow=8.8,SNR=120						
BVAR				S	**S**	**09 46 05.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=129,slow=6.1,SNR=1.7						
BVAR				PKP2bc		10 07 15.5	
	comp=Z,3.3nm,1.1s,baz=338,slow=0.8,SNR=4.0						
BVAR				PKP2ab		10 07 22.2	
	comp=Z,3.0nm,1.0s,baz=318,slow=1.9,SNR=5.3						
BVAR				LR	LR	10 09 15.8	
	comp=Z,7μm,18.7s,baz=147,slow=41						
	comp=Z,56nm,0.7s						
BRVK	**Borovoye**	**61.02**	**340**	P	**P**	**09 37 47.2**	**-0.9**
BRVK				IAmb	IAmb	09 38 24.5	
	comp=Z,178nm,1.3s						
BRVK	**Borovoye**	**61.02**	**340**	P	**P**	**09 37 47.1**	**-0.9**
BRVK				P	**P**	**09 37 47.1**	**-0.9**
BRVK				P	**P**	**09 37 47.1**	**-0.9**
BRVK				S	**S**	**09 46 02.8**	**-3.0**
BRVK				S	**S**	**09 46 02.8**	**-3.0**
BRVK				S	**S**	**09 46 02.8**	**-3.0**
BRVK	**Borovoye**	**61.02**	**340**	P	**P**	**09 37 47.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,178nm,1.3s						
BRVK				MLR	MLR		
	comp=Z,12μm,22.0s						
BOD	**Bodaibo**	**61.40**	**8**	*e*P	**P**	**09 37 50.7**	**+0.2**
BOD				pmax	pmax		
	comp=Z,635nm,1.1s						
GRNR	**Gornyy**	**61.66**	**25**	*c i* P	**P**	**09 37 53.0**	**+0.6**
GRNR				pmax	pmax		
	comp=E,30nm,0.8s						
GRNR				pmax	pmax		
	comp=N,40nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,100nm,0.9s						
GRNR				MLR	MLR		
	comp=N,15μm,17.0s						
GRNR				MLR	MLR		
	comp=E,7μm,17.0s						
GRNR				MLR	MLR		
	comp=Z,25μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**61.95**	**36**	P	**P**	**09 37 51.6**	**-2.8**
YUK

KMBO P **P** **09 38 03.5 +1.7**
KMBO S **S** **09 46 33.6 +1.9**
KMBO S **S** **09 46 33.6 +1.9**
KMBO Kilima Mbogo 62.92 270 P **P** **09 38 00.8 -1.0**
KMBO pmax pmax
comp=Z,151nm,1.7s
KMBO Kilima Mbogo 62.92 270 *i* P **P** **09 38 03.6 +1.7**
SNR=11
KMBO Kilima Mbogo 62.92 270 ⇑P **P** **09 38 02.9 +1.0**
UGL Uglegorsk 63.06 29 *e*P **P** **09 38 02.7 +1.0**
UGL *e* 09 46 34.0
CASY Casey 63.81 175 P **P** **09 38 06.3 -0.1**
CASY IAmb IAmb 09 38 19.6
comp=Z,99nm,1.1s
CASY Casey 63.81 175 IAMs_20 IAMs_20 10 03 27.1
comp=Z,16μm,19.0s
CASY Casey 63.81 175 ⇑P **P** **09 38 07.9 +1.4**
AKTO Aktyubinsk 64.11 331 LR LR 10 10 03.5
comp=Z,7μm,21.1s,baz=138,slow=40
AKTO Aktyubinsk 64.11 331 P **P** **09 38 07.4 -1.3**
TYV Tymovskoe 64.53 28 *e*P **P** **09 38 13.1 +1.7**
TYV *e*S **S** **09 46 52.8 +2.9**
TYV pmax pmax
comp=Z,2μm,4.4s
TYV pmax pmax
comp=Z,119nm,1.4s
TYV smax smax
comp=N,9.0nm,1.9s
TYV smax smax
comp=E,8.0nm,1.9s
TYV smax smax
comp=N,2μm,6.3s
TYV smax smax
comp=E,2μm,6.3s
TYV MLR MLR
comp=Z,16μm,18.0s
AKT Akhty 64.81 319 *e*P **P** **09 38 12.1 -1.5**
AKT *e* 09 38 43.2
AKT *e* 09 40 34.0
AKT *e*S **S** **09 46 50.4 -3.5**
AKT *e* 09 48 07.6
AKT *e*SS **SS** **09 50 59.2 -6.3**
AKT pmax pmax
comp=Z,254nm,1.0s
KOUNC Koumac, New Ca 64.81 111 P **P** **09 38 16.1 +2.3**
KOUNC Koumac, New Ca 64.81 111 ⇓P **P** **09 38 15.0 +1.2**
LODK Lodwar 65.09 275 P **P** **09 38 14.9 -1.0**
LODK IAmb IAmb 09 38 29.5
comp=Z,116nm,1.4s
LODK Lodwar 65.09 275 P **P** **09 38 17.9 +2.0**
SNR=49
LODK S **S** **09 47 00.5 +2.3**
NKL Nikolayevsk 65.21 26 *e*P **P** **09 38 14.1 -1.6**
NKL *e*S **S** **09 46 57.9 -0.1**
NKL pmax pmax
comp=E,176nm,0.9s
NKL pmax pmax
comp=N,294nm,1.1s
NKL pmax pmax
comp=Z,746nm,1.1s
NKL smax smax
comp=E,556nm,6.1s
NKL smax smax
comp=N,1μm,7.6s
NKL MLR MLR
comp=N,80μm,15.0s
NKL MLR MLR
comp=E,26μm,16.0s
NKL MLR MLR
comp=Z,100μm,16.0s
MAK Makhachkala 65.67 320 *e*P **P** **09 38 14.9 -4.1**
MAK *e*S **S** **09 46 59.2 -5.0**
MAK pmax pmax
comp=Z,379nm,2.0s
GNI Garni 66.21 316 P **P** **09 38 22.0 -0.8**
GNI IAmb IAmb 09 38 43.5
comp=Z,163nm,0.9s
GNI Garni 66.21 316 LR LR 10 08 18.0
comp=Z,5μm,21.4s,baz=115,slow=37
GNI Garni 66.21 316 P **P** **09 38 23.6 +0.9**
GNI P **P** **09 38 23.6 +0.9**
GNI S **S** **09 47 10.7 -0.5**
GNI S **S** **09 47 10.7 -0.5**
GNI Garni 66.21 316 *i* P **P** **09 38 22.6 -0.1**
GNI pmax pmax
comp=Z,225nm,1.2s
GNI MLR MLR
comp=Z,5μm,20.0s
GNI Garni 66.21 316 P **P** **09 38 22.9 +0.2**
GNI Garni 66.21 316 P **P** **09 38 23.4 +0.7**
comp=Z,2μmcomp=Z,191nm,1.1s
GEVA Gevas 66.62 314 IAmb IAmb 09 38 55.6
comp=Z,85nm,0.9s
SIRT Sirnak 66.74 313 P **P** **09 38 25.2 -0.9**
DZM Mont Dzumac 66.98 113 P **P** **09 38 28.2 +0.2**
DZM IAMs_20 IAMs_20 10 10 38.4
comp=Z,19μm,20.0s
DZM Mont Dzumac 66.98 113 *e*P **P** **09 38 25.2 -2.8**
comp=Z,145nm,1.1s
DZM *e*S **S** **09 47 21.2 +0.1**
comp=Z,11μm,26.8s
DZM *e*SS **SS** **09 51 37.9 -2.1**
comp=Z,4μm,23.4s
DZM *e*LR LR 09 58 38.7
comp=Z,19μm,21.6s
DZM Mont Dzumac 66.98 113 P **P** **09 38 28.5 +0.5**
comp=Z,21nm,0.7s,baz=277,slow=16,SNR=21
DZM LR LR 10 10 11.4
comp=Z,16μm,19.5s,baz=284,slow=38
comp=Z,21nm,0.7s
DZM Mont Dzumac 66.98 113 P **P** **09 38 30.2 +2.2**
ONTNC Ouen Toro 67.02 113 IAMs_20 IAMs_20 10 10 39.4
comp=Z,17μm,21.0s
TRLG Trialeti 67.25 318 P **P** **09 38 29.6 +0.2**
OUENC Ouen Island, N 67.39 113 P **P** **09 38 32.1 +1.7**
YATNC Mamie plateau, 67.39 113 P **P** **09 38 32.6 +2.1**
GURO Guroymak-BITLI 67.45 314 IAmb IAmb 09 38 46.0
comp=Z,130nm,1.3s
SVE Sverdlovsk 67.46 338 *de*P **P** **09 38 30.1 0.0**
SVE *e*PPP PPP 09 42 37.6
SVE *e*S **S** **09 47 23.1 -2.2**
SVE *e* 09 48 31.2
SVE *e*SS **SS** **09 51 45.2 -0.7**
SVE pmax pmax
comp=Z,323nm,1.1s
SVE pmax pmax
comp=Z,2μm,15.6s
SVE MLR MLR
comp=Z,8μm,22.0s
KARS Kars 67.56 316 IAMs_20 IAMs_20 10 10 58.3
comp=Z,18μm,20.0s
KARS Kars 67.56 316 P **P** **09 38 32.2 +0.9**
KARS pmax pmax
comp=Z,182nm,1.2s
MARD Mardin 67.89 312 P **P** **09 38 33.4 0.0**
MARD IAmb IAmb 09 38 47.9
comp=Z,121nm,0.7s
ARTI Arti 68.02 336 P **P** **09 38 33.1 -0.6**
ARTI IAmb IAmb 09 38 48.3
comp=Z,132nm,0.9s
ARTI IAMs_20 IAMs_20 10 11 04.5
comp=Z,14μm,20.0s
ARTI Arti 68.02 336 LR LR 10 11 18.7
comp=Z,13μm,19.6s,baz=130,slow=39
ARTI Arti 68.02 336 *c i* P **P** **09 38 33.1 -0.6**
ARTI 09 38 58.1
ARTI 09 41 01.7
ARTI PPP PPP 09 42 42.7
ARTI S **S** **09 47 35.3 +3.2**
ARTI 09 48 28.3
ARTI SS **SS** **09 51 53.9 -0.7**
ARTI pmax pmax
comp=Z,145nm,1.0s
ARTI MLR MLR
comp=Z,13μm,19.0s
YAK Yakutsk 68.43 14 P **P** **09 38 35.6 -0.5**
YAK Yakutsk 68.43 14 P **P** **09 38 35.4 -0.7**
comp=Z,692nm,0.9s,baz=224,slow=2.6,SNR=42
YAK S **S** **09 47 35.5 -1.2**
comp=Z,10nm,0.4s,baz=240,slow=20,SNR=1.5
YAK LR LR 10 11 43.6
comp=Z,28μm,18.1s,baz=212,slow=39
YAK Yakutsk 68.43 14 *ce*P **P** **09 38 35.4 -0.7**
YAK pmax pmax
comp=Z,677nm,0.8s
YAK MLR MLR
comp=Z,29μm,16.0s
BCA Borca 68.90 317 ⇓P **P** **09 38 39.8 +0.2**
KBZ Khabaz 69.01 319 P **P** **09 38 40.1 0.0**
comp=Z,109nm,0.9s,baz=121,slow=7.4,SNR=72
KBZ S **S** **09 47 42.5 -1.8**
comp=Z,2.2nm,0.4s,baz=140,slow=16,SNR=0.3
comp=Z,109nm,0.9s
KBZ Khabaz 69.01 319 *ce*P **P** **09 38 40.2 +0.1**
KBZ pmax pmax
comp=Z,151nm,0.9s
KOPT Kop Dagi 69.12 315 IAmb IAmb 09 38 57.8
comp=Z,179nm,1.2s
H11N1 WAKE ISLAND Hy 69.13 68 P **P** **09 38 39.8 -1.3**
baz=250,slow=9.2,SNR=4.3
H11N2 WAKE ISLAND Hy 69.14 68 P **P** **09 38 39.8 -1.3**
baz=250,slow=9.2,SNR=3.6
H11N3 WAKE ISLAND Hy 69.15 68 P **P** **09 38 39.9 -1.3**
baz=250,slow=9.2,SNR=5.3
ASF Jabal al Asfar 69.19 306 LR LR 10 09 59.4
comp=Z,16μm,18.1s,baz=136,slow=37
KIV Kislovodsk 69.24 319 P **P** **09 38 41.1 -0.6**
KIV Kislovodsk 69.24 319 P **P** **09 38 42.1 +0.4**
KIV P **P** **09 38 42.1 +0.4**
KIV S **S** **09 47 45.0 -2.3**
KIV S **S** **09 47 45.0 -2.3**
KIV Kislovodsk 69.24 319 ⇓P **P** **09 38 42.2 +0.4**
KIV Kislovodsk 69.24 319 *e*P **P** **09 38 41.8 +0.1**
KIV *e* 09 41 14.3
KIV *e*S **S** **09 47 47.2 -0.1**
KIV *e*SS **SS** **09 52 17.3 +3.1**
KIV pmax pmax
comp=Z,354nm,4.0s
KIV pmax pmax
comp=Z,138nm,1.1s
KIV Kislovodsk 69.24 319 *i* P **P** **09 38 41.7 0.0**
SNR=32
KIV Kislovodsk 69.24 319 P **P** **09 38 42.4 +0.7**
comp=Z,3μmcomp=Z,197nm,1.2s
MBAR Mbarara 69.45 270 P **P** **09 38 44.7 +1.0**
MBAR P **P** **09 38 44.7 +1.0**
MBAR S **S** **09 47 50.0 -1.0**
MBAR S **S** **09 47 50.0 -1.0**
GOF Gofitskoye 69.50 321 *ce*P **P** **09 38 42.8 -0.3**
GOF *e*S **S** **09 47 50.0 -0.1**
MAW Mawson 69.60 194 P **P** **09 38 44.2 +0.9**
comp=Z,11nm,0.8s,baz=45,slow=4.3,SNR=2.2
MAW S **S** **09 47 50.1 -0.4**
comp=Z,9.4nm,1.0s,baz=59,slow=17,SNR=1.2
MAW LR LR 10 05 51.9
comp=Z,12μm,18.5s,baz=34,slow=33
comp=Z,11nm,0.8s
POGA Pongola 69.65 242 IAmb IAmb 09 38 55.5
comp=Z,86nm,1.1s
GHAJ Ghor Haditha 70.02 305 IAMs_20 IAMs_20 10 10 06.7
comp=Z,21μm,18.0s
EIL Elat 70.09 303 LR LR 10 09 22.0
comp=Z,19μm,18.5s,baz=105,slow=36
BELG Belogornoye 70.47 329 *i* P **P** **09 38 47.3 -1.6**
BELG pmax pmax
comp=Z,38nm,1.0s
GAZ Gaziantep 70.51 311 IAmb IAmb 09 38 54.2
comp=Z,140nm,1.0s
MMAI Mount Meron Ar 70.64 306 P **P** **09 38 51.8 +1.3**
comp=Z,28nm,0.9s,baz=111,slow=7.9,SNR=26
MMAI S **S** **09 48 07.9 +3.8**
comp=Z,0.2nm,0.3s,baz=89,slow=16,SNR=1.2
MMAI LR LR 10 10 57.9
comp=Z,17μm,18.2s,baz=101,slow=37
comp=Z,28nm,0.9s
VSLR Vesyoloye 70.79 318 *i* P **P** **09 38 50.3 -0.8**
VSLR pmax pmax
comp=Z,238nm,1.2s
LABN Labinsk 70.81 319 *e*P **P** **09 38 50.7 -0.5**
LABN *e*S **S** **09 48 02.4 -3.1**
LABN pmax pmax
comp=Z,168nm,1.2s
SOC Sochi 71.05 318 *e*P **P** **09 38 49.6 -3.1**
SOC *e* 09 41 27.2
SOC *e*PPP PPP 09 43 09.1
SOC *e*S **S** **09 48 06.3 -1.9**
SOC *e*SS **SS** **09 52 40.9 -0.9**
SOC pmax pmax
comp=Z,100nm,0.7s
SOC MLR MLR
comp=Z,5μm,17.0s
SKR Severo-Kuril's 71.39 34 *e*P **P** **09 38 54.6 0.0**
SKR pmax pmax
comp=Z,3μm,5.9s
ERBR Yeremizino-Bor 71.41 320 *e*P **P** **09 38 54.2 -0.6**
ERBR *e*S **S** **09 48 09.0 -3.4**
ERBR pmax pmax
comp=Z,195nm,1.1s
PYZ Puysegur Point 71.86 138 IAMs_20 IAMs_20 10 08 57.1
comp=Z,13μm,22.0s
LSZ Lusaka 71.92 255 P **P** **09 38 57.0 -1.6**
LSZ Lusaka 71.92 255 IAMs_20 IAMs_20 10 06 16.2
comp=Z,13μm,20.0s
LSZ Lusaka 71.92 255 LR LR 10 06 27.5
comp=Z,11μm,19.6s,baz=84,slow=32
LSZ Lusaka 71.92 255 P **P** **09 38 59.8 +1.2**
LSZ P **P** **09 38 59.8 +1.2**
LSZ S **S** **09 48 19.1 -0.4**
LSZ S **S** **09 48 19.1 -0.4**
LSZ Lusaka 71.92 255 P **P** **09 38 57.0 -1.6**
LSZ pmax pmax
comp=Z,84nm,1.2s
DCZ Deep Cove 71.99 137 IAMs_20 IAMs_20 10 09 34.8
comp=Z,12μm,20.0s
BNN Bunyan 72.08 312 IAmb IAmb 09 39 02.4
comp=Z,175nm,1.0s
BNN IAMs_20 IAMs_20 10 13 29.2
comp=Z,18μm,20.0s
TOKA Tokat 72.10 314 P **P** **09 38 59.2 0.0**
TOKA IAmb IAmb 09 39 14.2
comp=Z,217nm,1.6s
NRIK Noril'sk 72.47 355 P **P** **09 39 00.0 -0.6**
NRIK Noril'sk 72.47 355 P **P** **09 39 00.0 -0.6**
comp=Z,86nm,0.9s,baz=167,slow=7.3,SNR=37
NRIK S **S** **09 48 19.7 -4.0**
comp=Z,1.1nm,0.3s,baz=162,slow=13,SNR=2.1
NRIK LR LR 10 15 06.8
comp=Z,16μm,18.1s,baz=172,slow=39
comp=Z,86nm,0.9s
NRIK Noril'sk 72.47 355 *ce*P **P** **09 39 00.1 -0.6**
NRIK pmax pmax
comp=Z,324nm,1.5s
NRIK MLR MLR
comp=Z,19μm,20.0s
MLZ Mavora Lakes 72.63 137 IAMs_20 IAMs_20 10 10 03.6
comp=Z,13μm,21.0s
WHZ Wether Hill Ro 72.64 137 IAMs_20 IAMs_20 10 13 19.8
comp=Z,13μm,20.0s
JCZ Jackson Bay 72.78 135 P **P** **09 39 05.9 +2.6**
CSS Mathiatis 72.84 308 P **P** **09 39 03.0 -0.6**
CSS IAmb IAmb 09 39 46.9
comp=Z,156nm,1.1s
CSS IAMs_20 IAMs_20 10 13 18.3
comp=Z,13μm,18.0s
CSS Mathiatis 72.84 308 P **P** **09 39 04.3 +0.7**
comp=Z,2μmcomp=Z,136nm,1.1s
ANN Anapa 73.03 319 *e*P **P** **09 39 04.3 -0.2**
ANN *e*S **S** **09 48 27.1 -3.8**
ANN pmax pmax
comp=Z,71nm,1.0s
VRH Novokhopyorsk 73.06 326 *e*P **P** **09 39 04.3 -0.2**
VRH *e*S **S** **09 48 26.3 -4.7**
VRH pmax pmax
comp=Z,282nm,0.8s
KIRV Kirov 73.14 335 LR LR 10 15 40.4
comp=Z,4μm,19.5s,baz=118,slow=40
KIRV Kirov 73.14 335 *ce*P **P** **09 39 05.0 +0.2**
DIKM Dikmen 73.42 315 P **P** **09 39 07.3 +0.4**
comp=Z,1μmcomp=Z,55nm,0.9s
PEA0B Petropavlovsk- 73.42 32 P **P** **09 39 06.8 +0.1**
PEA0B IAmb IAmb 09 39 29.9
comp=Z,89nm,0.9s
PEA0B Petropavlovsk- 73.42 32 P **P** **09 39 06.8 +0.1**
PEA0B pmax pmax
comp=Z,89nm,0.9s
PETK Petropavlovsk- 73.42 32 P **P** **09 39 06.5 -0.2**
PETK Petropavlovsk- 73.42 32 P **P** **09 39 06.1 -0.5**
comp=Z,50nm,0.8s,baz=230,slow=8.2,SNR=23
comp=Z,50nm,0.8s
PETK Petropavlovsk- 73.42 32 P **P** **09 39 06.5 -0.2**
KIRS Kirsehir-Merke 73.59 312 ⇑P **P** **09 39 07.5 -0.6**
MA2 Magadan 73.64 24 P **P** **09 39 08.1 +0.2**
MA2 IAMs_20 IAMs_20 10 13 39.7
comp=Z,12μm,20.0s
MA2 Magadan 73.64 24 P **P** **09 39 07.9 +0.1**
comp=Z,113nm,0.8s,baz=235,slow=5.7,SNR=30
MA2 LR LR 10 14 37.9
comp=Z,10μm,18.3s,baz=227,slow=38
comp=Z,113nm,0.8s
MA2 Magadan 73.64 24 P **P** **09 39 08.4 +0.6**
MA2 Magadan 73.64 24 *ce*P **P** **09 39 08.6 +0.8**
MA2 pmax pmax
comp=Z,186nm,1.0s
LBZ Lake Benmore 73.83 135 IAMs_20 IAMs_20 10 13 03.5
comp=Z,16μm,22.0s
PET Petropavlovsk 73.89 32 P **P** **09 39 09.2 -0.2**
PET Petropavlovsk 73.89 32 P **P** **09 39 09.4 0.0**
PET Petropavlovsk 73.89 32 *e*P **P** **09 39 11.6 +2.2**
PET *e*S **S** **09 48 42.3 +2.0**
PET *e*SS **SS** **09 53 21.2 -3.6**
PET pmax pmax
comp=Z,303nm,0.8s
PET pmax pmax
comp=Z,4μm,15.6s
PET smax smax
comp=N,2μm,12.7s
PET smax smax
comp=E,2μm,14.8s
PET MLR MLR
comp=Z,9μm,14.0s
PET MLR MLR
comp=Z,7μm,16.0s
BR131 Keskin Array S 73.98 313 P **P** **09 39 09.0 -1.4**
BR131 IAmb IAmb 09 39 19.9
comp=Z,81nm,0.8s
BR131 Keskin Array S 73.98 313 P **P** **09 39 09.0 -1.4**
BR131 pmax pmax
comp=Z,81nm,0.9s
BRTR Keskin Array B 73.98 313 P **P** **09 39 09.4 -1.0**
BRTR Keskin Array B 73.98 313 P **P** **09 39 09.2 -1.2**
comp=Z,50nm,0.8s,baz=130,slow=6.1,SNR=120
BRTR S **SKiKP** **09 48 40.4 +1.8**
comp=Z,0.7nm,0.9s,baz=124,slow=7.2,SNR=1.9
BRTR LR LR 10 12 02.0
comp=Z,5μm,21.0s,baz=102,slow=36
comp=Z,50nm,0.8s
BRTR Keskin Array B 73.98 313 P **P** **09 39 09.4 -1.0**
BR105 Keskin Array S 73.99 313 P **P** **09 39 09.7 -0.8**
comp=Z,566nmcomp=Z,77nm,0.9s
BR106 Keskin Array S 74.00 313 P **P** **09 39 09.7 -0.8**
comp=Z,516nmcomp=Z,73nm,0.9s
ODZ Otahua Downs 74.29 136 IAMs_20 IAMs_20 10 13 40.6
comp=Z,18μm,21.0s
RPZ Rata Peaks 74.31 135 P **P** **09 39 12.0 -0.1**
RPZ IAmb IAmb 09 39 22.6
comp=Z,351nm,1.5s
RPZ Rata Peaks 74.31 135 P **P** **09 39 13.5 +1.4**
comp=Z,59nm,1.0s,baz=266,slow=4.6,SNR=9.7
RPZ LR LR 10 12 18.3
comp=Z,7μm,21.8s,baz=279,slow=36
comp=Z,59nm,1.0s
RPZ Rata Peaks 74.31 135 P **P** **09 39 15.4 +3.3**
ILGA Ilgaz 74.33 314 IAMs_20 IAMs_20 10 13 24.7
comp=Z,16μm,20.0s
INZ Inchbonnie 74.40 134 P **P** **09 39 12.4 -0.2**
INZ IAmb IAmb 09 39 17.2
comp=Z,103nm,0.9s
BZK Bozkurt 74.40 315 IAMs_20 IAMs_20 10 13 21.8
comp=Z,13μm,21.0s
BZK Bozkurt 74.40 315 ⇓P **P** **09 39 12.9 +0.3**
BZK Bozkurt 74.40 315 P **P** **09 39 12.6 0.0**
comp=Z,3μmcomp=Z,310nm,1.0s
VSR Storozhevoye 74.51 325 *e*P **P** **09 39 11.2 -1.8**
VSR *e* 09 39 13.9
VSR pmax pmax
comp=Z,250nm,0.9s
ANTO Ankara 74.64 313 P **P** **09 39 13.0 -1.2**
ANTO IAmb IAmb 09 39 17.7
comp=Z,87nm,0.9s
ANTO Ankara 74.64 313 P **P** **09 39 14.2 0.0**
ANTO P **P** **09 39 14.2 0.0**
ANTO S **S** **09 48 45.1 -4.5**
ANTO S **S** **09 48 45.1 -4.5**
ANTO Ankara 74.64 313 ⇓P **P** **09 39 14.2 0.0**
ANTO Ankara 74.64 313 P **P** **09 39 13.0 -1.2**
ANTO pmax pmax
comp=Z,87nm,0.9s
VORR Voronezh 74.68 326 *e*P **P** **09 39 13.9 -0.1**
VORR S **SKiKP** **09 48 41.6 +2.6**
VORR pmax pmax
comp=Z,250nm,0.6s
QRZ Quartz Range 74.86 131 P **P** **09 39 18.0 +2.6**
LBTB Lobatse 74.88 245 P **P** **09 39 14.8 -1.1**
LBTB Lobatse 74.88 245 LR LR 10 08 21.6
comp=Z,14μm,18.6s,baz=80,slow=33
LBTB Lobatse 74.88 245 P **P** **09 39 14.8 -1.1**
LBTB pmax pmax
comp=Z,71nm,1.3s
GRHM Grahamstown, E 74.97 236 IAMs_20 IAMs_20 10 07 54.9
comp=Z,16μm,18.0s
CIDE Kastamonu/Cide 75.13 315 ⇑P **P** **09 39 16.8 0.0**
LPSR Galich'ya Gora 75.23 326 *e*P **P** **09 39 16.9 -0.3**
LPSR *e*S **S** **09 48 51.0 -4.3**
LPSR pmax pmax
comp=Z,224nm,1.0s
SIM Simferopol' 75.29 318 *d i* P **P** **09 39 20.1 +2.4**
SIM *e* 09 39 33.0
SIM *e*S **S** **09 49 00.0 +3.6**
SIM pmax pmax
comp=Z,119nm,1.2s
THZ Tophouse 75.30 132 IAmb IAmb 09 39 29.7
comp=Z,128nm,1.2s
MQZ McQueen's Vall 75.45 134 IAMs_20 IAMs_20 10 11 23.3
comp=Z,21μm,22.0s
BOSA Boshof 75.46 241 P **P** **09 39 17.6 -1.6**
BOSA Boshof 75.46 241 P **P** **09 39 19.3 +0.1**
comp=Z,17nm,0.8s,baz=89,slow=5.7,SNR=19
BOSA S **S** **09 48 57.3 -1.9**
comp=Z,3.1nm,1.1s,baz=95,slow=19,SNR=1.1
BOSA LR LR 10 08 48.3
comp=Z,13μm,18.1s,baz=86,slow=33
comp=Z,17nm,0.8s
BOSA Boshof 75.46 241 P **P** **09 39 17.6 -1.6**
BOSA pmax pmax
comp=Z,54nm,1.0s
NEZ North Egmont 75.81 130 P **P** **09 39 23.5 +2.5**
DUWZ D'Urville Isla 75.90 131 P **P** **09 39 20.4 -1.0**
MDUB Mudurnu 75.98 313 IAMs_20 IAMs_20 10 17 55.5
comp=Z,11μm,20.0s
KDZE Karadeniz Ereo 76.04 314 ⇑P **P** **09 39 23.0 +0.8**
LREZ Lake Rotokare 76.07 130 P **P** **09 39 24.5 +2.2**
SEY Seymchan 76.26 22 P **P** **09 39 23.2 +0.4**
comp=Z,136nm,1.0s,baz=236,slow=7.8,SNR=46
SEY LR LR 10 14 29.9
comp=Z,14μm,21.4s,baz=240,slow=37
comp=Z,136nm,1.0s
SEY Seymchan 76.26 22 *ce*P **P** **09 39 23.5 +0.6**
SEY pmax pmax
comp=Z,159nm,1.0s
SEY MLR MLR
comp=Z,17μm,17.0s
HIZ Hauiti 76.29 129 IAMs_20 IAMs_20 10 13 10.3
comp=Z,13μm,21.0s
HIZ Hauiti 76.29 129 P **P** **09 39 25.5 +1.9**
VRZ Vera Road 76.30 129 P **P** **09 39 25.3 +1.6**
MKAZ Moumakai 76.36 127 P **P** **09 39 26.2 +2.2**
BORA Eskisehir 76.37 312 IAmb IAmb 09 39 39.2
comp=Z,166nm,1.6s
WAZ Wanganui 76.56 130 P **P** **09 39 26.9 +1.8**
TIXI Tiksi 76.57 9 P **P** **09 39 23.7 -0.8**
TIXI Tiksi 76.57 9 P **P** **09 39 23.5 -1.0**
comp=Z,150nm,0.9s,baz=209,slow=2.8,SNR=80
TIXI S **S** **09 49 05.6 -3.9**
comp=Z,1.0nm,0.3s,baz=142,slow=19,SNR=16
TIXI LR LR 10 18 53.3
comp=Z,32μm,18.2s,baz=232,slow=40
comp=Z,150nm,0.9s
TIXI Tiksi 76.57 9 *ce*P **P** **09 39 23.4 -1.1**
TIXI pmax pmax
comp=Z,445nm,1.7s
KIW Kapiti Island 76.65 131 P **P** **09 39 26.4 +0.8**
BHW Baring Head 76.70 132 IAMs_20 IAMs_20 10 13 13.7
comp=Z,18μm,22.0s
KUZ Kuaotunu 76.76 127 P **P** **09 39 28.2 +1.9**
PKVZ Pokaka 76.77 130 P **P** **09 39 27.9 +1.4**
MTVZ Mangateitei 76.88 130 P **P** **09 39 28.4 +1.3**
COVZ Chateau Observ 76.91 129 P **P** **09 39 28.5 +1.3**

FWVZ Far West T-bar 76.93 130 P **P** **09 39 28.9 +1.4**
TRVZ Turoa 76.93 130 P **P** **09 39 28.6 +1.1**
MAVZ Matarangi 76.94 130 P **P** **09 39 29.1 +1.4**
WTVZ West Tongariro 76.94 129 P **P** **09 39 28.9 +1.5**
NGZ Ngauruhoe 76.95 129 P **P** **09 39 29.2 +1.6**
NNVZ North Ngauruho 76.96 129 P **P** **09 39 29.3 +1.7**
WNVZ Wahianoa 76.97 130 P **P** **09 39 29.0 +1.3**
MSWZ Moikau Station 76.98 132 P **P** **09 39 29.5 +2.0**
SNVZ South Ngauruho 76.99 129 P **P** **09 39 29.0 +1.3**
NTVZ North Tongarir 77.00 129 P **P** **09 39 31.2 +3.4**
OTVZ Oturere 77.00 129 P **P** **09 39 29.4 +1.5**
PLWZ Palliser 77.01 132 P **P** **09 39 31.4 +3.8**
TUVZ Tukino 77.01 130 P **P** **09 39 29.8 +1.9**
TMVZ Te Maari 77.03 129 P **P** **09 39 30.6 +2.7**
MOVZ Moawhango 77.10 130 P **P** **09 39 29.0 +0.7**
MRZ Mangatainoka R 77.13 131 IAmb IAmb 09 39 42.1
comp=Z,118nm,1.1s
MRZ Mangatainoka R 77.13 131 P **P** **09 39 29.9 +1.6**
MTW Mount Morrison 77.13 131 P **P** **09 39 29.7 +1.4**
SYO Syowa Base 77.21 199 ⇑*i*P **P** **09 39 30.0 +1.8**
SYO Syowa Base 77.21 199 ⇓*i*pP pP 09 39 35.7 +1.6
SYO Syowa Base 77.21 199 ⇓*i*PcP **PcP** **09 39 39.5 +0.7**
MOS Moscow 77.25 329 *e*P **P** **09 39 26.0 -2.6**
MOS *e*S **S** **09 49 11.1 -6.3**
MOS *e*SS **SS** **09 54 11.7 -3.9**
MOS pmax pmax
comp=Z,800nm,2.0s
MOS pmax pmax
comp=Z,233nm,1.1s
MOS pmax pmax
comp=E,74nm,1.0s
MOS pmax pmax
comp=N,78nm,0.9s
MOS smax smax
comp=N,3μm,5.3s
MOS smax smax
comp=E,1μm,6.2s
ARG Arkhangelos 77.26 308 IAmb IAmb 09 39 42.4
comp=Z,141nm,1.1s
TRWZ Traveller 77.31 132 P **P** **09 39 30.6 +1.3**
YER Yerkesik 77.34 309 P **P** **09 39 29.6 -0.1**
YLV Yalova 77.35 312 P **P** **09 39 29.1 -0.5**
comp=Z,2μmcomp=Z,172nm,1.0s
PRWZ Pori Road 77.41 131 P **P** **09 39 30.8 +0.9**
TMWZ Te Maipa 77.42 131 P **P** **09 39 31.5 +1.5**
PNHZ Pukenui 77.50 130 P **P** **09 39 31.7 +1.2**
DVHZ Dannevirke 77.53 131 P **P** **09 39 31.6 +1.0**
OBN Obninsk 77.54 328 P **P** **09 39 30.0 -0.2**
OBN IAmb IAmb 09 39 34.2
comp=Z,252nm,1.2s
OBN Obninsk 77.54 328 LR LR 10 19 11.2
comp=Z,3μm,18.6s,baz=119,slow=40
OBN Obninsk 77.54 328 ⇑*P **P** **09 39 29.8 -0.4**
OBN Obninsk 77.54 328*c i*P **P** **09 39 30.0 -0.2**
OBN *i* *PP **pP** **09 39 32.5 -3.6**
OBN *i* *SP **sP** **09 39 35.8 -2.5**
OBN *i* 09 39 39.3
OBN *i* 09 42 24.3
OBN *i* S **S** **09 49 16.7 -3.9**
OBN *i* 09 49 33.2
OBN *i* PS **PnS** **09 50 06.0 +4.6**
OBN *e*SS **SS** **09 54 24.9 +4.9**
OBN SSS SSS 09 57 35.0
OBN pmax pmax
comp=Z,326nm,1.7s
OBN MLR MLR
comp=Z,4μm,22.0s
MSVF Nonsavu 77.60 107 P **P** **09 39 31.1 -0.4**
MSVF IAmb IAmb 09 39 48.1
comp=Z,102nm,1.1s
MSVF Nonsavu 77.60 107 P **P** **09 39 32.2 +0.7**
comp=Z,24nm,0.7s,baz=266,slow=19,SNR=10
MSVF LR LR 10 16 37.4
comp=Z,5μm,19.0s,baz=256,slow=38
comp=Z,24nm,0.7s
MSVF Nonsavu 77.60 107 P **P** **09 39 32.7 +1.2**
MSVF Nonsavu 77.60 107 P **P** **09 39 31.1 -0.4**
MSVF pmax pmax
comp=Z,102nm,1.2s
MSVF MLR MLR
comp=Z,9μm,20.0s
KRHZ Kereru 77.60 130 P **P** **09 39 31.8 +0.8**
KWHZ Kaweka Forest 77.62 130 P **P** **09 39 32.3 +1.2**
BFZ Birch Farm 77.63 131 IAmb IAmb 09 39 35.9
comp=Z,159nm,0.9s
BFZ Birch Farm 77.63 131 P **P** **09 39 34.0 +2.9**
BFZ Birch Farm 77.63 131 P **P** **09 39 32.3 +1.1**
BKZ Black Stump Fm 77.64 129 IAMs_20 IAMs_20 10 14 14.0
comp=Z,18μm,20.0s
BKZ Black Stump Fm 77.64 129 P **P** **09 39 32.1 +0.8**
BKZ Black Stump Fm 77.64 129 P **P** **09 39 32.0 +0.8**
WPHZ Waipukurau 77.71 130 P **P** **09 39 32.9 +1.3**
KLYT Kilyos 77.77 313 P **P** **09 39 32.5 +0.7**
comp=Z,2μmcomp=Z,116nm,1.7s
MCHZ McNeill Hill 77.83 130 P **P** **09 39 34.8 +2.5**
MTHZ Maungataniwha 77.88 129 P **P** **09 39 33.4 +0.8**
NMHZ Naumai 77.88 129 P **P** **09 39 34.9 +2.3**
PRHZ Porangahau 77.88 130 P **P** **09 39 34.1 +1.6**
RTZ Ruatahuna 77.96 129 IAMs_20 IAMs_20 10 14 02.5
comp=Z,20μm,21.0s
RTZ Ruatahuna 77.96 129 P **P** **09 39 33.2 +0.1**
KAHZ Kahuranaki 78.01 130 P **P** **09 39 34.9 +1.6**
URZ Urewera 78.02 128 P **P** **09 39 33.6 +0.3**
comp=Z,24nm,0.5s,baz=286,slow=3.0,SNR=20
URZ LR LR 10 15 00.2
comp=Z,16μm,21.0s,baz=19,slow=36
comp=Z,24nm,0.5s
URZ Urewera 78.02 128 P **P** **09 39 34.6 +1.3**
URZ Urewera 78.02 128 P **P** **09 39 33.9 +0.6**
RAHZ Arahi 78.07 129 P **P** **09 39 34.5 +0.8**
BAND Balkesir-Ban 78.24 312 ⇓P **P** **09 39 34.4 -0.1**
SNGZ Shannon Static 78.26 129 P **P** **09 39 35.2 +0.5**
MWZ Matawai 78.36 128 P **P** **09 39 35.2 -0.1**
CTYL Yalikoy Yolu 78.37 313 P **P** **09 39 34.6 -0.6**
comp=Z,2μmcomp=Z,110nm,1.3s
RIGZ Rimuhau 78.58 129 P **P** **09 39 37.5 +1.0**
KLMR Klimovskoe 78.59 334 *e*P **P** **09 39 33.7 -2.3**
KLMR *e* 09 42 33.2
KLMR S **S** **09 49 26.6 -5.2**
KLMR pmax pmax
comp=Z,213nm,1.3s
PURM Purcari 78.60 318 ⇓P **P** **09 39 36.8 +0.5**
TKGZ Te Karaka 78.62 129 P **P** **09 39 34.1 -2.5**
JURR Jurilovca 78.79 317 ⇑P **P** **09 39 37.0 -0.4**
TLCR 78.95 317 ⇑P **P** **09 39 38.4 +0.1**
TLCR 78.95 317 P **P** **09 39 38.3 +0.1**
MFTR Murfatlar 78.95 316 ⇑P **P** **09 39 38.2 -0.1**
PSN Preselentsi 79.02 315 *e*P **P** **09 39 41.3 +2.6**
TIRR Tirgusor 79.03 316 ⇓P **P** **09 39 38.7 0.0**
TIRR Tirgusor 79.03 316 P **P** **09 39 38.7 0.0**
TIRR Tirgusor 79.03 316 P **P** **09 39 38.5 -0.2**
comp=Z,110nm,0.9s
TPGR Topolog 79.13 317 ⇑P **P** **09 39 39.6 +0.2**
DGTI Dogotuki 79.20 106 P **P** **09 39 42.0 +1.8**
ICOR Ion Corvin 79.37 316 ⇓P **P** **09 39 41.1 +0.5**
MILM Milestii Mici 79.41 319 ⇑*i*P **P** **09 39 39.0 -1.8**
comp=Z,500nm,1.8s
MILM Milestii Mici 79.41 319 *e*PP PP 09 42 43.0 +1.9
MILM ⇑*i*S **S** **09 49 35.0 -6.0**
MILM Milestii Mici 79.41 319 ⇓P **P** **09 39 40.6 -0.2**
MILM Milestii Mici 79.41 319*c i*P **P** **09 39 39.0 -1.8**
MILM *i* 09 39 49.0
MILM *e* 09 42 43.0
MILM *i* S **S** **09 49 35.0 -6.0**
MILM *e*PS **PnS** **09 50 40.0 +15**
MILM pmax pmax
comp=Z,500nm,1.8s
PRD Provadia 79.41 315 *e*P **P** **09 39 44.4 +3.5**
HARR Harsova 79.43 316 ⇓P **P** **09 39 41.1 +0.1**
HARR Harsova 79.43 316 P **P** **09 39 41.0 +0.1**
KIS Kishinev 79.43 319*c i*P **P** **09 39 39.5 -1.4**
KIS *i* 09 39 50.0
KIS *i* S **S** **09 49 35.5 -5.7**
KIS *e*PS PnS 09 50 41.0 +15
KIS pmax pmax
comp=Z,600nm,9.5s
NEF NEVSHA 79.53 315 *e*P **P** **09 39 45.1 +3.5**
SUR Sutherland 79.56 238 IAMs_20 IAMs_20 10 08 42.2
comp=Z,15μm,20.0s
SUR Sutherland 79.56 238 LR LR 10 09 19.7
comp=Z,16μm,19.3s,baz=96,slow=32
SUR Sutherland 79.56 238 P **P** **09 39 43.5 +1.3**
SUR P **P** **09 39 43.5 +1.3**

VLDR Vladesti 79.62 317 ⇑P **P** **09 39 42.6 +0.7**
SCTR Scanteiesti 79.63 317 ⇑P **P** **09 39 42.5 +0.5**
IDI Anoyia 79.64 306 P **P** **09 39 42.0 -0.4**
IDI Anoyia 79.64 306 LR LR 10 20 04.7
comp=Z,3μm,18.1s,baz=90,slow=40
JMB Yambol 79.89 314 *e*P **P** **09 39 46.9 +3.4**
SORM Soroca 80.04 320 ⇑P **P** **09 39 43.8 -0.4**
SORM Soroca 80.04 320 P **P** **09 39 43.7 -0.4**
SORM Soroca 80.04 320 P **P** **09 39 43.9 -0.2**
comp=Z,3μmcomp=Z,176nm,0.9s
GHRR 80.13 318 ⇑P **P** **09 39 44.7 0.0**
GHRR 80.13 318 P **P** **09 39 44.5 -0.2**
AK09 Malin Array Si 80.14 322 P **P** **09 39 43.8 -0.8**
AK10 Malin Array Si 80.16 322 P **P** **09 39 43.9 -0.8**
AKASG Malin Array Be 80.20 322 P **P** **09 39 43.8 -1.2**
AKASG Malin Array Be 80.20 322 P **P** **09 39 43.8 -1.2**
comp=Z,6.2nm,0.6s,baz=100,slow=5.7,SNR=35
AKASG PP **PP** **09 42 46.5 -1.0**
comp=Z,4.2nm,0.7s,baz=92,slow=6.9,SNR=5.0
AKASG S **S** **09 49 46.3 -2.9**
comp=Z,0.4nm,0.6s,baz=105,slow=11,SNR=5.2
comp=Z,6.2nm,0.6s
AKBB Malin Array Si 80.20 322 P **P** **09 39 44.1 -0.9**
AKBB Malin Array Si 80.20 322 P **P** **09 39 44.1 -0.9**
AKBB pmax pmax
comp=Z,148nm,1.7s
AKBB Malin Array Si 80.20 322 P **P** **09 39 44.0 -0.9**
KIEV Kiev 80.21 322 P **P** **09 39 44.4 -0.6**
KIEV Kiev 80.21 322 ⇓P **P** **09 39 44.5 -0.4**
KIEV Kiev 80.21 322 P **P** **09 39 44.4 -0.6**
KIEV pmax pmax
comp=Z,144nm,1.7s
KIEV Kiev 80.21 322 *i* P **P** **09 39 43.9 -1.1**
SNR=18
KIEV Kiev 80.21 322 P **P** **09 39 44.6 -0.4**
comp=Z,5μmcomp=Z,178nm,1.2s
AK12 Malin Array Si 80.23 322 P **P** **09 39 44.0 -1.1**
AK15 Malin Array Si 80.26 322 P **P** **09 39 44.2 -1.1**
ELND Elena 80.46 314 ⇓P **P** **09 39 46.0 -0.6**
SZH Strazhitsa 80.46 315 *e*P **P** **09 39 49.5 +2.9**
VRI Vrincioaia 80.54 317 ⇑P **P** **09 39 47.6 +0.6**
VRI Vrincioaia 80.54 317 P **P** **09 39 47.5 +0.6**
VRI Vrincioaia 80.54 317 P **P** **09 39 47.0 +0.1**
comp=Z,3μmcomp=Z,196nm,1.2s
PLOR5 Plostina Array 80.58 317 P **P** **09 39 50.5 +3.3**
comp=Z,3μmcomp=Z,169nm,1.9s
LKBA Tubou, Lakemba 80.59 108 P **P** **09 39 50.2 +2.5**
PLOR Plostina 80.59 317 ⇑P **P** **09 39 47.5 +0.3**
PLOR Plostina 80.59 317 P **P** **09 39 47.5 +0.3**
PLOR3 Plostina Array 80.59 317 P **P** **09 39 48.2 +0.9**
comp=Z,2μmcomp=Z,101nm,1.2s
NEHR Nehoiu 80.73 317 ⇑P **P** **09 39 48.6 +0.6**
TESR Tescani 80.75 318 ⇑P **P** **09 39 47.7 -0.3**
TESR Tescani 80.75 318 P **P** **09 39 47.8 -0.3**
comp=Z,3μmcomp=Z,231nm,1.3s
NDNU Novodnistrovsk 80.79 320 P **P** **09 39 48.0 -0.2**
MI30 MI30,Zelenitsa 80.85 322 P **P** **09 39 47.3 -1.1**
comp=Z,84nm,1.1s
ONER Baraj Valea Uz 80.88 318 ⇓P **P** **09 39 49.6 +0.9**
LUBAR Lubar, Ukraine 80.89 321 P **P** **09 39 47.3 -1.4**
MLR Muntele Rosu 80.98 317 IAmb IAmb 09 40 07.6
comp=Z,238nm,1.1s
MLR Muntele Rosu 80.98 317 ⇓P **P** **09 39 48.8 -0.7**
MLR Muntele Rosu 80.98 317 P **P** **09 39 48.7 -0.7**
MI28 Mi28,Pidlybu 81.21 322 P **P** **09 39 49.3 -1.1**
comp=Z,528nm,1.0s
PRAR RASCA 81.23 319 ⇓P **P** **09 39 51.1 +0.5**
FUTU Fugatoga 81.27 104 P **P** **09 39 53.8 +2.4**
KMPD K-Podol'skiy 81.37 320 P **P** **09 39 50.8 -0.5**
comp=Z,331μmcomp=Z,26μm,1.0s
VNDA Vanda 81.38 169 P **P** **09 39 51.2 +0.4**
comp=Z,14nm,1.0s,baz=297,slow=4.5,SNR=5.6
VNDA LR LR 10 15 02.1
comp=Z,5μm,18.1s,baz=314,slow=35
comp=Z,14nm,1.0s
DOPR Dopca 81.47 317 ⇓P **P** **09 39 51.4 -0.6**
MTUR Matau 81.53 316 ⇑P **P** **09 39 51.9 -0.4**
MTUR Matau 81.53 316 P **P** **09 39 51.9 -0.4**
RAO Raoul Island 81.58 119 IAMs_20 IAMs_20 10 17 04.2
comp=Z,9μm,20.0s
RAO Raoul Island 81.58 119 LR LR 10 17 15.3
comp=Z,9μm,20.2s,baz=246,slow=36
VOIR 81.59 317 ⇓P **P** **09 39 52.2 -0.5**
VOIR 81.59 317 P **P** **09 39 52.1 -0.5**
ARR Arges 81.86 316 ⇑P **P** **09 39 53.5 -0.5**
BURAR Bucovina Array 81.96 319 ⇓P **P** **09 39 55.8 +1.3**
BURAR Bucovina Array 81.96 319 P **P** **09 39 55.8 +1.3**
MNK Minsk 82.06 326 *i* P **P** **09 39 55.2 +0.4**
MNK *i* 09 40 01.7
MNK *i* 09 43 03.5
MNK *i* PPP PPP 09 44 54.5
MNK *i* S **S** **09 50 11.0 +2.6**
MNK *i* SS **SS** **09 55 31.6 +3.8**
MNK *i* SSS SSS 09 58 57.0
MNK pmax pmax
comp=E,25nm,0.8s
MNK pmax pmax
comp=Z,112nm,0.9s
MNK pmax pmax
comp=N,74nm,1.0s
MPEP Malo Peshtene 82.07 314 *e*P **P** **09 39 58.2 +3.1**
TSUM Tsumeb 82.12 251 LR LR 10 12 21.3
comp=N,15μm,20.0s,baz=76,slow=33
ITM Ithomi 82.33 308 IAmb IAmb 09 40 09.9
comp=Z,372nm,1.8s
RNPP5 Staryi Chortor 82.38 322 P **P** **09 39 56.2 -0.3**
LIT Litokhoron 82.39 311 IAmb IAmb 09 40 08.7
comp=Z,112nm,1.1s
ARCR ARCALIA 82.41 318 ⇓P **P** **09 39 58.0 +1.2**
LOT Lotru 82.47 316 ⇑P **P** **09 39 56.7 -0.6**
SHEM Shemya Is, Ala 82.51 36 LR LR 10 19 52.0
comp=Z,2μm,19.2s,baz=288,slow=38
VAY Valandovo 82.54 312 *i* P **P** **09 40 00.1 +2.5**
WIN Windhoek 82.57 248 IAMs_20 IAMs_20 10 13 19.7
comp=Z,12μm,19.0s
STNU Starunia 82.67 320 P **P** **09 39 57.9 -0.2**
RAKU Rahkiv 82.74 319 P **P** **09 40 00.8 +2.3**
CJR Cluj-Napoca 82.84 318 ⇑P **P** **09 39 59.8 +0.6**
CJR Cluj-Napoca 82.84 318 P **P** **09 39 59.7 +0.6**
JOF Joensuu 82.98 335 *e*P **P** **09 39 59.6 +0.2**
BMR Baia Mare 83.11 319 ⇓P **P** **09 40 01.0 +0.5**
BMR Baia Mare 83.11 319 P **P** **09 40 00.9 +0.5**
GZR Gura Zlata 83.14 316 ⇓P **P** **09 40 01.1 +0.4**
GZR Gura Zlata 83.14 316 P **P** **09 40 01.1 +0.4**
MORS Morshin 83.15 320 P **P** **09 40 01.2 +0.6**
DEV Deva 83.15 317 ⇑P **P** **09 40 01.8 +1.1**
DEV Deva 83.15 317 P **P** **09 40 01.7 +1.1**
MARR Marisel-Cluj 83.16 317 ⇓P **P** **09 40 01.3 +0.5**
CTZ Chatham Island 83.17 134 IAMs_20 IAMs_20 10 15 08.9
comp=Z,10μm,22.0s
CTZ Chatham Island 83.17 134 P P 09 40 06.0 +5.1
IIGN Ignalina 83.21 326 *e*P **P** **09 40 01.0 +0.2**
HERR Herculane 83.30 316 ⇓P **P** **09 40 01.8 +0.3**
ELIB Princess Elisa 83.32 198 *d*P **P** **09 40 02.4 +1.1**
comp=Z,40nm,1.2s
MESR Meseseni 83.36 318 ⇑P **P** **09 40 02.3 +0.6**
DRGR 83.46 318 ⇓P **P** **09 40 03.0 +0.7**
DRGR 83.46 318 P **P** **09 40 03.0 +0.7**
BRIU Brid 83.55 319 P **P** **09 40 03.5 +0.8**
LVZ Lovozero 83.56 340 P **P** **09 40 02.4 +0.1**
LVZ IAMs_20 IAMs_20 10 20 58.5
comp=Z,12μm,21.0s
LVZ Lovozero 83.56 340 P **P** **09 40 02.4 +0.1**
LVZ pmax pmax
comp=Z,365nm,1.7s
LVZ MLR MLR
comp=Z,12μm,21.0s
LVZ Lovozero 83.56 340 P **P** **09 40 03.0 +0.6**
comp=Z,123nm,1.4s
BOVS Bovan 83.58 314 ⇓P **P** **09 40 02.2 -0.7**
VSU Vasula 83.76 330*ce*P **P** **09 40 03.1 -0.4**
VSU pmax pmax
comp=Z,193nm,1.7s
VSU Vasula 83.76 330 *e*P **P** **09 40 03.7 +0.2**
BILL Bilibino 83.80 20 P **P** **09 40 03.7 +0.1**
BILL IAmb IAmb 09 40 07.7
comp=Z,90nm,1.5s
BILL IAMs_20 IAMs_20 10 19 04.0
comp=Z,18μm,21.0s
BILL Bilibino 83.80 20*ce*P **P** **09 40 03.7 +0.1**
BILL pmax pmax
comp=Z,76nm,1.7s
OHR Ohrid 83.83 312 *i* P P 09 39 55.6 -8.8
APA Apatity 83.86 339 ⇓*i*P **P** **09 40 04.5 +0.6**

APA *i* 09 43 15.0
APA *i* S **S** **09 50 31.0 +4.7**
APA *i* PS **PnS** **09 51 22.0 +2.0**
APA *i* SS **SS** **09 56 00.0 +6.0**
APA pmax pmax
comp=Z,45nm,1.1s
APA MLR MLR
comp=Z,11μm,18.0s
BZS Buzias 83.99 316 ⇑P **P** **09 40 05.2 +0.2**
BZS Buzias 83.99 316 P **P** **09 40 05.1 +0.2**
SIRR Siria 84.07 317 ⇓P **P** **09 40 04.9 -0.5**
KOLS Kolonicke sedl 84.15 320 *e*P **P** **09 40 06.8 +1.0**
KOLS pmax pmax
comp=Z,190nm,0.9s
KOLS Kolonicke sedl 84.15 320 *e*P **P** **09 40 06.8 +1.0**
ARBE Arbavere 84.39 330 *e*P **P** **09 40 08.3 +1.6**
PABE Paberze 84.50 326 IAMs_20 IAMs_20 10 25 22.9
comp=Z,9μm,20.0s
PABE Paberze 84.50 326 *e*P **P** **09 40 07.3 +0.1**
SUW Suwalki 84.61 325 *e*P **P** **09 40 10.4 +2.5**
SUW *e*L L 10 24 31.5
comp=Z,8μm,20.3s
SUW Suwalki 84.61 325 *e*P **P** **09 40 08.2 +0.3**
VSVD Vaisvydziai 84.62 327 *e*P **P** **09 40 09.0 +1.0**
FIA1 FINESS Array S 84.87 332 P **P** **09 40 09.1 0.0**
FINES FINESS Array B 84.87 332 P **P** **09 40 09.0 -0.1**
FINES FINESS Array B 84.87 332 P **P** **09 40 09.3 +0.2**
comp=Z,24nm,0.8s,baz=102,slow=5.8,SNR=45
FINES S **SKSac** **09 50 33.3 +0.8**
comp=Z,1.5nm,0.9s,baz=139,slow=19,SNR=1.3
FINES LR LR 10 23 12.0
comp=Z,5μm,19.3s,baz=102,slow=39
comp=Z,24nm,0.8s
STHS Stebnicka Huta 84.91 320 *e*P **P** **09 40 09.9 +0.3**
STHS pmax pmax
comp=Z,64nm,0.9s
STHS Stebnicka Huta 84.91 320 *e*P **P** **09 40 09.9 +0.3**
PDG Podgorica 85.16 313 IAmb IAmb 09 40 21.1
comp=Z,100nm,1.0s
KECS Kecovo 85.24 319 *e*P **P** **09 40 11.6 +0.4**
KECS pmax pmax
comp=Z,44nm,0.9s
KECS Kecovo 85.24 319 *e*P **P** **09 40 11.6 +0.4**
MTSE Matsula 85.30 329 *e*P **P** **09 40 11.6 +0.3**
MEF Metsahovi 85.36 331 *e*P **P** **09 40 12.1 +0.6**
NIE Niedzica 85.51 320 *e*P **P** **09 40 14.6 +2.0**
NIE *e*S **S** **09 50 41.3 -2.3**
NIE *e*L L 10 24 38.5
comp=Z,4μm,21.0s
NIE Niedzica 85.51 320 P **P** **09 40 13.1 +0.5**
comp=Z,819nmcomp=Z,27nm,1.2s
PSZ Piszkesteto 85.54 318 IAmb IAmb 09 40 29.4
comp=Z,68nm,1.0s
PSZ Piszkesteto 85.54 318 ⇓P **P** **09 40 13.3 +0.4**
PSZ Piszkesteto 85.54 318 P **P** **09 40 13.2 +0.4**
PSZ Piszkesteto 85.54 318 *e*P **P** **09 40 13.1 +0.2**
KEF Keuruu 85.61 333 *e*P **P** **09 40 13.1 +0.3**
BEL Belsk 85.62 322 *e*P **P** **09 40 13.5 +0.5**
BEL *e*S **S** **09 50 43.5 -0.8**
BEL *e*L L 10 24 56.1
comp=Z,27μm,22.2s
PBUR Paburge 85.73 327 *e*P **P** **09 40 13.6 +0.1**
OJC Ojcow 85.96 321 *e*P **P** **09 40 15.4 +0.6**
OJC *e*S **S** **09 50 43.9 -3.9**
OJC *e*L L 10 24 06.8
comp=Z,4μm,21.5s
OJC Ojcow 85.96 321 P **P** **09 40 15.6 +0.8**
comp=Z,50nm,1.2s
MORH Mrgy, Hungar 86.13 316 ⇑P **P** **09 40 15.7 0.0**
MORH Mrgy, Hungar 86.13 316 P **P** **09 40 15.7 0.0**
comp=Z,1μmcomp=Z,34nm,1.7s
VADS Vadso 86.15 341 *e*P **P** **09 40 15.1 -0.1**
VADS IVmB_BB 09 40 20.6
comp=Z,3μm,4.7s
VADS *e*PP **PP** **09 43 37.0 +1.3**
VADS *e*SKSac **SKSac** **09 50 42.3 +2.1**
VADS IVMs_BB IVMs_BB 10 27 00.4
comp=Z,3μm,4.5s
VYHS Vyhne 86.33 319 *e*P **P** **09 40 16.9 +0.2**
VYHS pmax pmax
comp=Z,49nm,1.4s
VYHS Vyhne 86.33 319 *e*P **P** **09 40 16.9 +0.2**
SRO Srobarova 86.58 318 *e*P **P** **09 40 19.4 +1.5**
SRO pmax pmax
comp=Z,56nm,1.0s
SRO Srobarova 86.58 318 *e*P **P** **09 40 19.4 +1.5**
TIP Timpagrande 86.64 309 ⇑P **P** **09 40 17.7 -0.8**
RAF Rauma 86.80 331 *e*P **P** **09 40 19.1 +0.4**
VAF Ylistaro 86.80 334 *e*P **P** **09 40 18.9 +0.3**
KEV Kevo 86.81 341 P **P** **09 40 18.2 -0.3**
KEV IAmb IAmb 09 40 34.5
comp=Z,124nm,1.1s
KEV IAMs_20 IAMs_20 10 24 28.4
comp=Z,9μm,20.0s
KEV Kevo 86.81 341 P **P** **09 40 18.2 -0.3**
KEV pmax pmax
comp=Z,124nm,1.1s
MATE Matera 86.84 311 *e*P **P** **09 40 18.4 -0.9**
NVL N'lazarevskaya 86.87 199 *e*P **P** **09 40 21.2 +2.4**
NVL *e*S **SKSac** **09 50 45.6 +0.9**
NVL pmax pmax
comp=Z,50nm,1.1s
NVL MLR MLR
comp=Z,2μm,16.0s
OKC Ostrava-Krasne 86.96 320 *e*S **S** **09 50 55.7 -1.8**
OKC AMS AMS 10 28 50.0
comp=Z,3μm,19.8s
MPLH Magyarpolny 87.01 317 P **P** **09 40 20.5 +0.5**
comp=Z,4μmcomp=Z,309nm,1.2s
JAVC Velka Javorina 87.14 319 *e*P **P** **09 40 21.7 +1.0**
QSPA South Pole Qui 87.20 180 P **P** **09 40 20.4 -0.3**
QSPA South Pole Qui 87.20 180 IAMs_20 IAMs_20 10 13 21.4
comp=Z,12μm,22.0s
QSPA South Pole Qui 87.20 180 P **P** **09 40 21.5 +0.7**
comp=Z,12nm,0.9s,baz=322,slow=1.6,SNR=22
QSPA S **SKSac** **09 50 44.3 -2.9**
comp=Z,1.2nm,0.9s,baz=326,slow=3.6,SNR=3.3
QSPA LR LR 10 16 31.8
comp=Z,11μm,18.8s,baz=322,slow=34
comp=Z,12nm,0.9s
STEB Steborice 87.21 320 *e*P **P** **09 40 21.0 0.0**
CEL Celeste 87.22 308 IAmb IAmb 09 40 38.0
comp=Z,159nm,1.2s
CEL Celeste 87.22 308 P **P** **09 40 21.8 +0.5**
comp=Z,2μmcomp=Z,117nm,1.2s
ARA0 ARCESS Array S 87.25 340 *e*P **P** **09 40 22.0 +1.3**
ARA0 IVmB_BB 09 40 22.3
comp=Z,4μm,4.7s
ARA0 *e*PP **PP** **09 43 44.9 +0.1**
ARA0 *e*SKSac **SKSac** **09 50 48.6 +1.5**
ARA0 *e* 09 51 01.1
ARA0 *e*SS **SS** **09 56 45.7 +2.0**
ARA0 IVMs_BB IVMs_BB 10 22 50.3
comp=Z,4μm,4.6s
ARCES ARCESS Array B 87.25 340 P **P** **09 40 21.0 +0.3**
comp=Z,56nm,0.8s,baz=106,slow=4.9,SNR=28
ARCES PP **PP** **09 43 45.8 +1.1**
comp=Z,16nm,1.0s,baz=103,slow=5.4,SNR=4.6
ARCES S **S** **09 50 52.5 -7.1**
comp=Z,2.5nm,0.8s,baz=64,slow=14,SNR=1.6
ARCES LR LR 10 23 56.9
comp=Z,8μm,20.7s,baz=107,slow=39
comp=Z,56nm,0.8s
MODS Modra-Piesok 87.34 319 *e*P **P** **09 40 21.8 +0.2**
MODS pmax pmax
comp=Z,163nm,1.3s
MODS Modra-Piesok 87.34 319 *e*P **P** **09 40 21.8 +0.2**
MORC Moravsky Berou 87.34 320 IAmb IAmb 09 41 06.9
comp=Z,73nm,1.3s
MORC Moravsky Berou 87.34 320 *e*P **P** **09 40 21.9 +0.3**
MORC Moravsky Berou 87.34 320 *e*S **S** **09 51 00.4 -0.9**
MORC Moravsky Berou 87.34 320 ⇑P **P** **09 40 22.2 +0.6**
MORC Moravsky Berou 87.34 320 P **P** **09 40 22.2 +0.6**
AFI Afiamalu 87.43 104 P **P** **09 40 25.4 +2.6**
AFI Afiamalu 87.43 104 P **P** **09 40 25.6 +2.8**
AFI Afiamalu 87.43 104 P **P** **09 40 25.4 +2.6**
AFI pmax pmax
comp=Z,183nm,1.3s
AFI MLR MLR
comp=Z,6μm,22.0s
KRLC Kraliky 87.87 320 *e*P **P** **09 40 24.5 +0.3**
KRLC *e*pP **sP** **09 40 32.5 +0.2**
KRLC AMS AMS 10 32 50.0
comp=Z,4μm,16.8s
KRLC Kraliky 87.87 320 *e*P **P** **09 40 24.5 +0.3**

KRLC *e* 09 40 32.5
KRLC MLR MLR
comp=Z,4μm,16.8s
VRAC Vranov 87.90 319 *e*P **P 09 40 23.9 -0.4**
VRAC Vranov 87.90 319 *e*S **S 09 51 05.3 -1.3**
VRAC Vranov 87.90 319 ⇓P **P 09 40 25.0 +0.7**
VRAC Vranov 87.90 319 P **P 09 40 24.9 +0.7**
KTK1 Kautokeino 87.90 339 *e*P **P 09 40 23.9 0.0**
KTK1 IVmB_BB 09 40 36.6
comp=Z,4μm,5.0s
KTK1 *e*PP **PP 09 43 49.2 -0.7**
KTK1 *e*SKSac **SKSac 09 50 52.6 +1.5**
KTK1 *e* 09 51 07.9
KTK1 *e*SS **SS 09 56 53.6 +0.4**
KTK1 IVMs_BB IVMs_BB 10 26 18.2
comp=Z,3μm,4.3s
RONA Rosalia, Austr 87.91 318 *e*PcP **PcP 09 40 25.4 -0.9**
comp=Z,27nm,1.6s
GKP Gorka Klasztor 87.98 323 *e*P **P 09 40 25.5 +1.0**
GKP *e*S **S 09 51 03.9 -3.2**
GKP *e*L L 10 26 43.1
comp=Z,9μm,20.8s
GKP Gorka Klasztor 87.98 323 *e*P **P 09 40 25.3 +0.8**
KRUC Moravsky 88.00 319 *e*P **P 09 40 24.3 -0.4**
KRUC Moravsky 88.00 319 *e*S **S 09 51 05.9 -1.7**
HAMF Hammerfest 88.13 341 *e*P **P 09 40 25.9 +1.0**
HAMF IVmB_BB 09 41 13.1
comp=Z,5μm,3.6s
HAMF *e*PP **PP 09 43 52.8 +1.0**
HAMF *e*SKSac **SKSac 09 50 54.1 +1.8**
HAMF *e* 09 51 09.0
HAMF *e*SS **SS 09 56 59.2 +2.7**
HAMF IVMs_BB IVMs_BB 10 21 31.0
comp=Z,5μm,4.4s
DPC Dobruska-Polom 88.19 320 *e*P **P 09 40 26.5 +0.8**
DPC *e*S **S 09 51 08.8 -0.6**
DPC AMS AMS 10 27 40.0
comp=Z,5μm,20.8s
DPC Dobruska-Polom 88.19 320 *e*P **P 09 40 26.5 +0.8**
DPC *e* 09 51 08.8
DPC MLR MLR
comp=Z,5μm,20.8s
DPC Dobruska-Polom 88.19 320 P **P 09 40 26.1 +0.4**
comp=Z,47nm,2.0s
CONA Conrad Observa 88.23 318 *e*P **P 09 40 25.8 -0.1**
comp=Z,19nm,1.2s
KSP Ksiaz 88.27 321 *e*P **P 09 40 27.4 +1.5**
KSP *e*S **S 09 51 08.4 -1.6**
KSP *e*L L 10 28 05.0
comp=Z,5μm,22.1s
KSP Ksiaz 88.27 321 P **P 09 40 26.5 +0.5**
comp=Z,1μmcomp=Z,47nm,1.5s
OSTC Ostas 88.28 321 *e*P **P 09 40 27.3 +1.2**
OSTC *e*S **S 09 51 10.5 +0.3**
OSTC AMS AMS 10 27 50.0
comp=Z,5μm,19.2s
OSTC Ostas 88.28 321 *e*P **P 09 40 27.3 +1.2**
OSTC *e* 09 51 10.5
OSTC MLR MLR
comp=Z,5μm,19.2s
GROS Grobnik 88.32 316 *e*P **P 09 40 26.7 +0.2**
GROS *e*S **S 09 51 09.0 -1.9**
ARSA Arzberg 88.39 317 IAmb IAmb 09 40 44.9
comp=Z,56nm,1.2s
ARSA Arzberg 88.39 317 *i* PcP **P 09 40 27.4 +0.8**
comp=Z,53nm,1.7s,SNR=5.4
CHVC Chvalec 88.39 321 AMS AMS 10 27 50.0
comp=Z,5μm,18.5s
UPC Upice 88.41 321 *e*P **P 09 40 27.4 +0.8**
UPC AMS AMS 10 28 00.0
comp=Z,6μm,19.5s
UPC Upice 88.41 321 *e*P **P 09 40 27.4 +0.8**
UPC MLR MLR
comp=Z,6μm,19.5s
PERS Pernice 88.60 317 *e*P **P 09 40 28.1 +0.4**
PERS *e*S **S 09 51 12.7 -0.8**
TREC Trest 88.62 319 *e*S **S 09 51 10.9 -2.6**
TREC AMS AMS 10 26 30.0
comp=Z,4μm,20.8s
SOKA Soboth 88.67 317 *e*PcP **P 09 40 28.7 +0.6**
comp=Z,70nm,1.5s,SNR=12
LJU Ljubljana 88.95 316 *e*P **P 09 40 30.1 +0.7**
LJU *e*S **S 09 51 16.0 -0.8**
OBKA Obir 88.98 316 *e*PcP **PcP 09 40 30.4 -0.7**
comp=Z,54nm,1.2s
JETT Jettan, Norway 89.00 340 *e*P **P 09 40 28.9 -0.2**
JETT IVmB_BB 09 40 33.6
comp=Z,3μm,5.5s
JETT *e*PP **PP 09 43 59.9 +1.1**
JETT *e*SKSac **SKSac 09 50 58.7 +1.0**
JETT *e* 09 51 18.7
JETT *e*SS **SS 09 57 10.8 +1.6**
JETT IVMs_BB IVMs_BB 10 23 53.3
comp=Z,5μm,20.5s
GOPC GO Pecny, Ondr 89.13 320 AMS AMS 10 33 40.0
comp=Z,5μm,14.9s
HOPEN Hopen 89.23 347 *e*P **P 09 40 31.3 +1.3**
HOPEN IVmBBB 09 40 34.2
comp=Z,2μm,4.5s
HOPEN *e*PP **PP 09 44 00.1 -0.3**
HOPEN *e*SKSac **SKSac 09 50 57.2 -1.5**
HOPEN *e* 09 51 19.2
HOPEN *e*SS **SS 09 57 16.6 +4.4**
HOPEN IVMs_BB IVMs_BB 10 23 33.3
comp=Z,6μm,25.3s
MOA Molln 89.29 318 *e*P **P 09 40 31.4 +0.5**
comp=Z,16nm,1.3s
PRU Pruhonice 89.29 320 *e*P **P 09 40 31.6 +0.8**
PRU *e*SKS **S 09 51 17.5 -2.2**
PRU AMS AMS 10 33 40.0
comp=Z,5μm,15.9s
PRU Pruhonice 89.29 320 *e*P **P 09 40 31.6 +0.8**
PRU *e* 09 51 17.5
PRU MLR MLR
comp=Z,5μm,15.9s
PVCC Panska Ves 89.33 320 *e*P **P 09 40 33.6 +2.6**
PVCC *e*SKS **S 09 51 19.0 -1.0**
PVCC AMS AMS 10 28 10.0
comp=Z,4μm,18.8s
PVCC Panska Ves 89.33 320 *e*P **P 09 40 33.6 +2.6**
PVCC *e* 09 51 19.0
PVCC MLR MLR
comp=Z,4μm,18.8s
PRA Prague 89.37 320 *e*P **P 09 40 34.2 +3.0**
PRA *e*S **S 09 51 20.4 0.0**
PRA AMS AMS 10 28 20.0
comp=Z,5μm,19.3s
PRA Prague 89.37 320 *e*P **P 09 40 34.2 +3.0**
PRA *e* 09 51 20.4
PRA MLR MLR
comp=Z,5μm,19.3s
ZVC Zvikov 89.47 319 *e*P **P 09 40 32.2 +0.5**
ZVC AMS AMS 10 28 30.0
comp=Z,3μm,20.5s
CAMP Campotosto 89.47 312 IAmb IAmb 09 41 00.8
comp=Z,109nm,1.2s
CADS Cadrg 89.52 316 *e*P **P 09 40 31.8 -0.2**
TRO Tromso 89.53 340 *e*P **P 09 40 32.0 +0.5**
TRO IVmBBB 09 40 43.6
comp=Z,3μm,3.2s
TRO *e*PP **PP 09 44 06.7 +3.8**
TRO *e*SKSac **SKSac 09 50 57.6 -3.0**
TRO *e* 09 51 21.7
TRO *e*SS **SS 09 57 20.3 +3.6**
TRO IVMs_BB IVMs_BB 10 23 50.7
comp=Z,5μm,23.3s
BSD Bornholm Skovb 89.54 325 *e*P **P 09 40 32.2 +0.4**
MYKA Terra Mystica 89.61 317 *i* PcP **PcP 09 40 33.8 0.0**
comp=Z,43nm,1.5s,SNR=5.4
RICC Richard 89.62 320 *e*P **P 09 40 35.9 +3.5**
RICC *e*pP **sP 09 40 44.5 +4.0**
RICC AMS AMS 10 29 00.0
comp=Z,4μm,18.8s
BIOA Bad Ischl, Aus 89.70 318 *i* P **P 09 40 32.4 -0.4**
comp=Z,32nm,1.4s
NRCA Norcia 89.71 313 IAmb IAmb 09 40 37.3
comp=Z,74nm,1.0s
GEC2 GERESS Array S 89.75 319 IAmb IAmb 09 40 49.3
comp=Z,143nm,1.4s
GERES GERESS Array B 89.75 319 P **P 09 40 32.7 -0.4**
GERES GERESS Array B 89.75 319 P **P 09 40 33.3 +0.2**
comp=Z,33nm,1.1s,baz=86,slow=4.7,SNR=29
GERES S **S 09 51 18.5 -5.7**
comp=Z,0.1nm,0.3s,baz=153,slow=8.8,SNR=1.0
comp=Z,33nm,1.1s
BRG Berggiesshubel 89.75 321 *i* P **P 09 40 33.8 +0.9**
BRG Amp 09 40 37.9
comp=Z,51nm,1.1s
BRG Berggiesshubel 89.75 321 S **S 09 51 23.0 -1.0**
BRG Berggiesshubel 89.75 321 PS PS 09 52 41.0 +9.3
TROLL Troll, Antarti 89.77 198 P **P 09 40 35.1 +2.3**
TROLL Troll, Antarti 89.77 198 ⇑P **P 09 40 35.1 +2.3**
comp=Z,4μm,1.2s
KHC Kasperske Hory 89.85 319 *e*P **P 09 40 34.2 +0.7**
KHC *e*S **S 09 51 24.1 -1.0**
KHC AMS AMS 10 27 20.0
comp=Z,5μm,21.2s
KHC Kasperske Hory 89.85 319 *e*P **P 09 40 34.2 +0.7**
KHC *e* 09 51 24.1
KHC MLR MLR
comp=Z,5μm,21.2s
KHC Kasperske Hory 89.85 319 P **P 09 40 34.0 +0.5**
comp=Z,24nm,1.6s
KBA Koelnbreinsper 89.85 317 *e*pP **P 09 40 35.8 +2.1**
comp=Z,32nm,1.3s
RUE Ruedersdorf 89.98 322 *e*P **P 09 40 35.0 +1.1**
HSKC Hora Svate Kat 90.05 320 *e*P **P 09 40 37.6 +3.2**
HSKC *e*pP **sP 09 40 46.7 +4.1**
HSKC *e*S **S 09 51 25.0 -1.9**
HSKC AMS AMS 10 29 10.0
comp=Z,5μm,18.9s
CESX Cesi 90.09 312 IAmb IAmb 09 40 49.8
comp=Z,137nm,1.6s
BJO1 Bjornoya 90.29 345 *e*P **P 09 40 35.8 +0.9**
BJO1 IVmBBB 09 40 40.8
comp=Z,2μm,1.6s
BJO1 *e*PP **PP 09 44 08.9 +0.1**
BJO1 *e*SKSac **SKSac 09 51 06.7 +1.8**
BJO1 *e* 09 51 28.8
BJO1 *e*SS **SS 09 57 30.7 +3.1**
BJO1 IVMs_BB IVMs_BB 10 26 58.1
comp=Z,6μm,4.2s
LESA Schwarzleotal 90.33 317 *e*P **P 09 40 35.4 -0.4**
comp=Z,17nm,1.1s
CLL Collm 90.37 321 *i* P **P 09 40 35.6 -0.2**
CLL *e*S **S 09 51 28.0 -1.7**
CLL pmax pmax
comp=Z,50nm,1.2s
CLL MLR MLR
comp=Z,6μm,18.9s
CLL Collm 90.37 321 P **P 09 40 36.4 +0.6**
comp=Z,36nm,2.0s
ABTA Abfaltersbach 90.40 317 *i* PcP **PcP 09 40 38.0 +0.6**
comp=Z,33nm,1.1s
CIMO Cimolais 90.42 316 IAmb IAmb 09 40 40.6
comp=Z,119nm,1.1s
FAUS Fauske 90.56 337 *e*P **P 09 40 36.4 +0.1**
FAUS IVmB_BB 09 40 51.2
comp=Z,3μm,3.8s
FAUS *e*PP **PP 09 44 12.0 +0.8**
FAUS *e*SKSac **SKSac 09 51 09.0 +2.2**
FAUS *e* 09 51 32.6
FAUS *e*SS **SS 09 57 35.2 +3.4**
FAUS IVMs_BB IVMs_BB 10 36 18.5
comp=Z,4μm,15.9s
HFS Hagfors 90.62 330 P **P 09 40 36.8 0.0**
comp=Z,32nm,1.0s,baz=92,slow=4.3,SNR=19
HFS PP **PP 09 44 12.7 +0.8**
comp=Z,10nm,0.9s,baz=97,slow=10,SNR=4.3
HFS S **SKSac 09 51 10.8 +3.3**
comp=Z,1.7nm,0.8s,baz=115,slow=9.9,SNR=1.4
HFS LR LR 10 26 35.5
comp=Z,5μm,19.6s,baz=90,slow=39
comp=Z,32nm,1.0s
STEI Steigen 90.64 338 *e*P **P 09 40 36.7 0.0**
STEI IVmB_BB 09 40 37.4
comp=Z,3μm,5.8s
STEI *e*PP **PP 09 44 11.1 -0.6**
STEI *e*SKSac **SKSac 09 51 10.5 +3.3**
STEI *e* 09 51 33.0
STEI *e*SS **SS 09 57 34.7 +1.9**
STEI IVMs_BB IVMs_BB 10 31 45.1
comp=Z,5μm,14.6s
NKC Novy Kostel 90.66 320 AMS AMS 10 29 40.0
comp=Z,5μm,19.9s
MOR8 Moi Rana 90.78 336 *e*P **P 09 40 36.9 -0.5**
MOR8 IVmB_BB 09 40 55.0
comp=Z,2μm,3.6s
MOR8 *e*PP **PP 09 44 13.8 +0.8**
MOR8 *e*SKSac **SKSac 09 51 07.4 -0.7**
MOR8 *e* 09 51 35.1
MOR8 *e*SS **SS 09 57 38.1 +3.0**
MOR8 IVMs_BB IVMs_BB 10 31 55.5
comp=Z,3μm,16.5s
CTI Castel Tesino 90.95 316 IAmb IAmb 09 40 50.0
comp=Z,125nm,1.1s
GRB3 Grafenberg Arr 91.02 319 *e*S **S 09 51 30.1 -5.7**
baz=138,slow=6.3
WTTA Wattenberg 91.03 317 *i* PcP **P 09 40 39.3 +0.1**
comp=Z,50nm,1.0s,SNR=6.2
WATA Walderalm 91.07 317 *i* P **P 09 40 38.8 -0.6**
comp=Z,29nm,1.0s
GRB5 Grafenberg Arr 91.09 319 *e*S **S 09 51 32.8 -3.7**
baz=138,slow=6.3
GRB2 Grafenberg Arr 91.11 319 *e*S **S 09 51 35.4 -1.2**
baz=138,slow=6.3
GRB1 Grafenberg Arr 91.12 319 *e*S **S 09 51 31.4 -5.3**
baz=138,slow=6.3
GRC3 Grafenberg Arr 91.14 319 *e*S **S 09 51 34.1 -2.8**
baz=138,slow=6.3
GRB4 Grafenberg Arr 91.19 319 *e*S **S 09 51 34.1 -3.2**
baz=138,slow=6.3
GRC1 Grafenberg Arr 91.19 319 *e*S **S 09 51 28.8 -8.6**
baz=138,slow=6.3
GRC4 Grafenberg Arr 91.19 319 *e*S **S 09 51 30.1 -7.3**
baz=138,slow=6.3
GRA4 Grafenberg Arr 91.27 319 *e*S **S 09 51 34.1 -4.0**
baz=138,slow=6.3
GRC2 Grafenberg Arr 91.28 319 *e*S **S 09 51 30.1 -8.1**
baz=138,slow=6.3
LOF Lofoten 91.29 338 *e*P **P 09 40 40.2 +0.5**
LOF IVmBBB 09 40 45.3
comp=Z,2μm,2.8s
LOF *e*PP **PP 09 44 14.7 -2.2**
LOF *e*SKSac **SKSac 09 51 12.5 +1.6**
LOF *e* 09 51 39.8
LOF *e*SS **SS 09 57 44.9 +2.6**
LOF IVMs_BB IVMs_BB 10 28 37.1
comp=Z,4μm,4.3s
SQTA Sankt Quirin 91.32 317 *i* P **P 09 40 40.0 -0.5**
comp=Z,30nm,0.8s
LEIR Leirfjorden 91.32 336 *e*P **P 09 40 41.8 +1.9**
LEIR IVmB_BB 09 41 22.3
comp=Z,3μm,2.8s
LEIR *e*PP **PP 09 44 19.5 +2.3**
LEIR *e*SKSac **SKSac 09 51 12.6 +1.4**
LEIR *e* 09 51 39.2
LEIR *e*SS **SS 09 57 44.8 +2.1**
LEIR IVMs_BB IVMs_BB 10 33 25.7
comp=Z,2μm,4.2s
GRA2 Grafenberg Arr 91.33 319 *e*S **S 09 51 32.8 -5.8**
baz=138,slow=6.3
GRA3 Grafenberg Arr 91.36 320 *e*S **S 09 51 36.8 -2.1**
baz=138,slow=6.3
STOK Stokkvaagen 91.37 336 *e*P **P 09 40 41.9 +1.8**
STOK IVmBBB 09 40 43.8
comp=Z,1μm,2.4s
STOK *e*PP **PP 09 44 16.7 -0.9**
STOK *e*SKSac **SKSac 09 51 12.7 +1.3**
STOK *e* 09 51 43.7
STOK *e*SS **SS 09 57 47.8 +4.3**
STOK IVMs_BB IVMs_BB 10 28 35.2
comp=Z,2μm,3.8s
MOTA Moosalm 91.39 317 *e*P **P 09 40 40.1 -0.8**
comp=Z,50nm,1.0s
SPB2 Spitsbergen Ar 91.41 348 IAmb IAmb 09 41 01.9
comp=Z,122nm,1.1s
SPA0 Spitsbergen Ar 91.41 348 *e*P **P 09 40 39.8 -0.4**
SPA0 IVmB_BB 09 40 51.9
comp=Z,2μm,3.3s
SPA0 *e*SKSac **SKSac 09 51 10.5 -0.9**
SPA0 IVMs_BB IVMs_BB 10 25 13.0
comp=Z,4μm,25.3s
SPITS Spitsbergen Ar 91.41 348 P **P 09 40 39.6 -0.6**
comp=Z,41nm,0.9s,baz=120,slow=8.8,SNR=12
SPITS LR LR 10 30 07.6
comp=Z,10μm,18.7s,baz=66,slow=41
comp=Z,41nm,0.9s
SPITS Spitsbergen Ar 91.41 348 P **P 09 40 39.5 -0.6**
SPITS pmax pmax
comp=Z,113nm,1.1s
GRA1 Grafenberg Arr 91.42 319 IAmb IAmb 09 40 60.0
comp=Z,103nm,1.3s
GRF Grafenberg Arr 91.42 319 *e*P **P 09 40 41.3 +0.6**
comp=Z,47nm,1.0s,baz=112,slow=3.9
GRF *e*S **S 09 51 36.8 -2.6**
baz=138,slow=6.3
GRF *e*L L 10 30 32.4
comp=Z,5μm,20.4s
GRFO Grafenberg 91.42 319 P **P 09 40 40.5 -0.2**
GRFO IAmb IAmb 09 40 59.9
comp=Z,88nm,1.2s
GRFO Grafenberg 91.42 319 P **P 09 40 40.5 -0.2**
GRFO pmax pmax
comp=Z,88nm,1.2s
SNAA Sanae 91.48 198 P **P 09 40 42.0 +1.3**
SNAA Sanae 91.48 198 P **P 09 40 40.6 -0.1**
SNAA Sanae 91.48 198 ⇑P **P 09 40 42.0 +1.3**
comp=Z,484nm,1.0s
SNAA Sanae 91.48 198 P **P 09 40 40.9 +0.2**
comp=Z,11nm,1.1s,baz=115,slow=5.4,SNR=6.6
SNAA S **SKSac 09 51 08.4 -3.8**
comp=Z,0.3nm,0.3s,baz=60,slow=18,SNR=0.8
SNAA LR LR 10 14 36.2
comp=Z,8μm,21.8s,baz=92,slow=31
comp=Z,11nm,1.1s
SNAA Sanae 91.48 198 P **P 09 40 40.6 -0.1**
SNAA pmax pmax
comp=Z,49nm,1.2s
GAMB Gambell 91.61 26 P **P 09 40 41.4 +0.1**
GAMB IAmb IAmb 09 40 45.1
comp=Z,52nm,1.2s
GAMB Gambell 91.61 26 P **P 09 40 41.0 -0.3**
baz=267
RETA Reutte 91.63 317 *i* P **P 09 40 41.4 -0.5**
comp=Z,43nm,1.1s,SNR=5.5
FETA Feichten 91.63 317 *i* PcP **P 09 40 42.2 +0.2**
comp=Z,32nm,1.1s
NC405 NORSAR Array S 91.66 331 IAmb IAmb 09 42 05.9
comp=Z,116nm,1.9s
NSS Namsos 91.71 334 *e*P **P 09 40 42.0 +0.3**
NSS IVmB_BB 09 40 48.1
comp=Z,2μm,3.3s
NSS *e*PP **PP 09 44 23.4 +3.1**
NSS *e*SKSac **SKSac 09 51 15.7 +2.3**
NSS *e* 09 51 44.5
NSS IVMs_BB IVMs_BB 10 29 49.7
comp=Z,4μm,16.0s
NC602 NORSAR Array S 91.73 331 *e*P **P 09 40 40.3 -1.6**
NC602 IVmB_BB 09 40 49.7
comp=Z,807nm,4.5s
NC602 *e*PP **PP 09 44 18.3 -2.3**
NC602 *e*SKSac **SKSac 09 51 13.1 -0.6**
NC602 *e* 09 51 42.2
NC602 IVMs_BB IVMs_BB 10 28 50.6
comp=Z,3μm,13.8s
NB2 NORSAR Subarra 91.90 331 P **P 09 40 42.1 -0.7**
comp=Z,160nm,2.5s,baz=96,slow=4.6
NB2 PP **PP 09 44 27.2 +5.2**
comp=Z,62nm,1.7s,baz=87,slow=8.6
NB2 NORSAR Subarra 91.90 331 P **P 09 40 42.1 -0.7**
baz=96,slow=4.6
NOA NORSAR Array B 91.90 331 P **P 09 40 42.2 -0.5**
comp=Z,13nm,0.9s,baz=94,slow=4.8,SNR=22
NOA PP **PP 09 44 22.5 +0.5**
comp=Z,3.1nm,0.8s,baz=93,slow=7.6,SNR=4.1
NOA LR LR 10 26 13.8
comp=Z,3μm,21.6s,baz=80,slow=38
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 91.94 316 IAmb IAmb 09 40 54.7
comp=Z,74nm,1.1s
NAO01 NORSAR Array S 92.05 331 IAmb IAmb 09 41 00.1
comp=Z,51nm,1.2s
SPIA Saint Paul Isl 92.06 33 P **P 09 40 43.6 +0.2**
baz=268
OSL Oslo 92.10 330 *e*SKSac **SKSac 09 51 16.7 +0.9**
OSL *e* 09 51 46.9
NBO00 NORSAR Array S 92.11 331 IAmb IAmb 09 40 59.5
comp=Z,196nm,1.9s
NC204 NORSAR Array S 92.13 331 IAmb IAmb 09 41 06.9
comp=Z,79nm,1.5s
DAVOX Davos/Dischmat 92.21 317 LR LR 10 28 42.7
comp=Z,3μm,18.6s,baz=74,slow=40
DAVA Damuels 92.22 317 *e*PcP **P 09 40 45.1 +0.3**
comp=Z,34nm,0.9s,SNR=6.4
KEST Kesra 92.28 305 P **P 09 40 46.0 +0.8**
comp=Z,62nm,1.0s,baz=48,slow=5.1,SNR=13
KEST S **SKSac 09 51 16.8 -1.3**
comp=Z,2.9nm,0.7s,baz=107,slow=11,SNR=1.5
comp=Z,62nm,1.0s
KBS Kingsbay 92.35 349 *e*P **P 09 40 47.0 +2.5**
KBS IVmB_BB 09 40 58.4
comp=Z,953nm,3.2s
KBS *e*PP **PP 09 44 26.9 +1.8**
KBS *e*SKSac **SKSac 09 51 17.6 +1.0**
KBS *e*SS **SS 09 58 01.9 +4.7**
KBS IVMs_BB IVMs_BB 10 30 24.1
comp=Z,6μm,17.1s
TBLU Trondheim 92.42 333 *e*P **P 09 40 43.9 -1.1**
TBLU IVmB_BB 09 41 03.7
comp=Z,1μm,2.7s
TBLU *e*PP **PP 09 44 25.4 -0.6**
TBLU *e* 09 51 49.3
TBLU IVMs_BB IVMs_BB 10 29 24.6
comp=Z,3μm,16.6s
P08K Saint George I 92.43 34 P **P 09 40 45.3 +0.1**
baz=269
TUE Stuetta 92.57 316 IAmb IAmb 09 41 48.9
comp=Z,62nm,1.5s
TUE Stuetta 92.57 316 P **P 09 40 47.1 +0.7**
comp=Z,102nm,1.2s
KONO Kongsberg 92.67 329 P **P 09 40 45.5 -0.8**
KONO IAmb IAmb 09 41 03.8
comp=Z,70nm,1.3s
KONO Kongsberg 92.67 329 *e*P **P 09 40 46.1 -0.1**
KONO IVmB_BB 09 40 57.9
comp=Z,554nm,2.9s
KONO *e*PP **PP 09 44 27.8 -0.2**
KONO *e*SKSac **SKSac 09 51 20.8 +1.8**
KONO *e* 09 51 52.1
KONO *e*SS **SS 09 58 03.2 +0.8**
KONO IVMs_BB IVMs_BB 10 33 10.5
comp=Z,2μm,12.5s
KONO Kongsberg 92.67 329 P **P 09 40 45.5 -0.8**
KONO pmax pmax
comp=Z,69nm,1.3s
STU Stuttgart 92.72 319 *e*P **P 09 40 47.2 +0.4**
DOMB Dombas 92.95 332 IVmBBB 09 40 41.0
comp=Z,2μm,3.5s
DOMB *e*P **P 09 40 45.4 -2.2**
DOMB IVmB_BB 09 41 26.0
comp=Z,1μm,4.0s
DOMB *e*PP **PP 09 44 29.3 -0.9**
DOMB *e*SKSac **SKSac 09 51 23.4 +2.7**
DOMB *e* 09 51 52.6
DOMB *e*SS **SS 09 58 10.4 +3.9**
DOMB IVMs_BB IVMs_BB 10 26 30.7
comp=Z,4μm,21.8s
VNA2 Neumayer--Watz 93.10 198 P **P 09 40 48.4 +0.3**
baz=92,slow=4.5
VNA2 Neumayer--Watz 93.10 198 ⇑P **P 09 40 48.4 +0.3**
comp=Z,6.2nm,0.3s,baz=92,slow=4.5
HOMB Homborsund 93.22 328 *e*P **P 09 40 48.1 -0.7**
HOMB IVmB_BB 09 40 54.4
comp=Z,677nm,4.5s
HOMB *e*SKSac **SKSac 09 51 27.5 +5.4**
HOMB *e* 09 51 56.7
HOMB IVMs_BB IVMs_BB 10 31 20.4
comp=Z,2μm,19.5s
TNA Tin City 93.28 25 P **P 09 40 49.7 +0.8**
baz=271,SNR=6.8
SKAR Skarslia 93.32 330 *e*P **P 09 40 50.2 +0.9**
SKAR IVmBBB 09 40 58.7
comp=Z,738nm,3.3s
SKAR *e*PP **PP 09 44 36.5 +3.4**
SKAR *e*SKSac **SKSac 09 51 23.4 +0.6**
SKAR *e* 09 51 57.5
SKAR IVMs_BB IVMs_BB 10 27 45.0
comp=Z,3μm,20.2s
MOL Molde 93.66 332 *e*P **P 09 40 49.3 -1.4**
MOL *e*PP **PP 09 44 36.8 +1.2**
MOL *e*SKSac **SKSac 09 51 26.9 +2.6**
VNA3 Neumayer Olymp 93.70 198 P P 09 40 57.3 +6.4
VNA3 Neumayer Olymp 93.70 198 ⇑P P 09 40 57.3 +6.4
comp=Z,8.7nm,1.2s
SNART Snartemo 93.90 328 *e*P **P 09 40 51.6 -0.3**

SNART				*e*		09 52 03.9			
AKN	**Aaknes**	**93.92**	**332**	*e*P	**P**	**09 40 51.9**	**-0.2**		
AKN				IVmB_BB		09 41 33.7			
	comp=Z,2µm,2.7s								
AKN				*e*SKSac	**SKSac**	**09 51 26.4**	**+0.5**		
AKN				*e*		09 52 07.8			
AKN				IVMs_BB	IVMs_BB	10 26 49.7			
	comp=Z,3µm,16.7s								
F14K	**Arctic Creek**	**93.94**	**25**	P	**P**	**09 40 52.8**	**+0.7**		
	baz=272,SNR=6.6								
SENIN	**Lac Senin/Sane**	**93.98**	**316**	IAmb	IAmb	09 41 50.9			
	comp=Z,79nm,1.0s								
ODD1	**Odda**	**94.17**	**330**	*e*P	**P**	**09 40 54.6**	**+1.4**		
ODD1				*e*SKSac	**SKSac**	**09 51 27.6**	**+0.2**		
ODD1				*e*		09 52 04.4			
ODD1				*e*SS	**SS**	**09 58 29.9**	**+5.9**		
ODD1				IVMs_BB	IVMs_BB	10 30 26.6			
	comp=Z,3µm,16.7s								
UNV	**Unalaska Valle**	**94.17**	**36**	P	**P**	**09 40 54.3**	**+1.0**		
	baz=271								
M11K	**Mekoryuk**	**94.17**	**30**	IAms_20	IAms_20	10 29 34.0			
	comp=Z,9µm,18.0s								
M11K	**Mekoryuk**	**94.17**	**30**	P	**P**	**09 40 54.6**	**+1.5**		
	baz=272								
C16K	**Lisburne Hills**	**94.21**	**22**	IAmb	IAmb	09 41 14.1			
	comp=Z,54nm,1.1s								
C16K				IAms_20	IAms_20	10 27 19.3			
	comp=Z,12µm,18.0s								
C16K	**Lisburne Hills**	**94.21**	**22**	P	**P**	**09 40 54.5**	**+1.3**		
	baz=273,SNR=28								
BLS5	**Blasjo**	**94.27**	**329**	*e*P	**P**	**09 40 55.2**	**+1.5**		
BLS5				IVmB_BB		09 41 36.6			
	comp=Z,2µm,3.7s								
BLS5				*e*SKSac	**SKSac**	**09 51 32.6**	**+4.7**		
BLS5				*e*		09 52 02.8			
BLS5				IVMs_BB	IVMs_BB	10 34 57.7			
	comp=Z,2µm,4.0s								
HYA	**Hoyanger**	**94.34**	**331**	*e*P	**P**	**09 40 53.1**	**-0.8**		
HYA				IVmB_BB		09 41 14.3			
	comp=Z,2µm,3.5s								
HYA				*e*SKSac	**SKSac**	**09 51 27.5**	**-0.6**		
HYA				*e*		09 52 08.0			
HYA				*e*SS	**SS**	**09 58 25.8**	**-0.4**		
HYA				IVMs_BB	IVMs_BB	10 29 49.0			
	comp=Z,3µm,16.1s								
ANM	**Nome**	**94.39**	**26**	IAms_20	IAms_20	10 28 04.4			
	comp=Z,8µm,18.0s								
ANM	**Nome**	**94.39**	**26**	P	**P**	**09 40 55.1**	**+1.0**		
	baz=273,SNR=7.0								
F15K	**North Star Dit**	**94.63**	**24**	IAms_20	IAms_20	10 29 17.7			
	comp=Z,9µm,20.0s								
F15K	**North Star Dit**	**94.63**	**24**	P	**P**	**09 40 56.2**	**+1.0**		
	baz=274								
BER	**Bergen**	**94.79**	**330**	*e*P	**P**	**09 40 55.8**	**-0.2**		
BER				*e*SKSac	**SKSac**	**09 51 31.3**	**+0.7**		
BER				*e*		09 52 10.0			
BER				IVMs_BB	IVMs_BB	10 28 59.5			
	comp=Z,3µm,26.1s								
K13K	**Kusilvak Mount**	**94.85**	**28**	IAms_20	IAms_20	10 28 37.8			
	comp=Z,10µm,19.0s								
K13K	**Kusilvak Mount**	**94.85**	**28**	P	**P**	**09 40 56.8**	**+0.5**		
	baz=273								
ASK	**Askoy**	**94.86**	**330**	*e*P	**P**	**09 40 57.3**	**+1.0**		
ASK				*e*SKSac	**SKSac**	**09 51 33.8**	**+2.9**		
ASK				*e*		09 52 08.7			
ASK				IVMs_BB	IVMs_BB	10 30 44.2			
	comp=Z,3µm,18.3s								
FOO	**Floro**	**94.87**	**331**	*e*SKSac	**SKSac**	**09 51 30.5**	**-0.4**		
FOO				*e*		09 52 10.6			
KMY	**Karmoy**	**94.90**	**329**	*e*SKSac	**SKSac**	**09 51 30.0**	**-1.1**		
KMY				*e*		09 52 12.1			
G15K	**Niukluk**	**94.93**	**25**	P	**P**	**09 40 56.3**	**-0.3**		
	baz=274								
C17K	**DeLong Mountai**	**94.99**	**22**	P	**P**	**09 40 56.7**	**-0.2**		
	baz=275								
SUE	**Sulen**	**95.04**	**331**	*e*P	**P**	**09 40 57.1**	**0.0**		
SUE				*e*SKSac	**SKSac**	**09 51 31.9**	**0.0**		
SUE				*e*		09 52 13.5			
D17K	**Noatak River**	**95.10**	**22**	P	**P**	**09 40 57.4**	**+0.1**		
	baz=275,SNR=30								
RDOG	**Red Dog Mine**	**95.13**	**22**	P	**P**	**09 40 57.0**	**-0.5**		
	baz=276,SNR=20								
J14K	**Nanvaranak Lak**	**95.31**	**27**	IAms_20	IAms_20	10 30 20.0			
	comp=Z,9µm,19.0s								
J14K	**Nanvaranak Lak**	**95.31**	**27**	P	**P**	**09 40 58.3**	**0.0**		
	baz=274								
B18K	**Kokolik River**	**95.40**	**21**	P	**P**	**09 40 58.9**	**+0.3**		
	baz=277								
M13K	**Dall Lake**	**95.58**	**30**	IAms_20	IAms_20	10 30 26.4			
	comp=Z,8µm,20.0s								
BMRD	**Maredsous**	**95.58**	**320**	*d*PP	**PP**	**09 44 48.4**	**-2.6**		
BMRD				*d*PKiKP	**PKiKP**	**09 45 39.4**	**-0.5**		
G16K	**Koyuk River**	**95.61**	**25**	IAms_20	IAms_20	10 27 55.5			
	comp=Z,7µm,20.0s								
G16K	**Koyuk River**	**95.61**	**25**	P	**P**	**09 40 59.9**	**+0.3**		
	baz=276								
E17K	**Hotham Inlet**	**95.64**	**23**	P	**P**	**09 40 59.7**	**0.0**		
	baz=276,SNR=14								
C18K	**Utukok River**	**95.70**	**21**	P	**P**	**09 40 59.9**	**-0.3**		
	baz=277								
H16K	**Elim**	**95.73**	**25**	P	**P**	**09 40 59.9**	**-0.3**		
	baz=276,SNR=31								
L14K	**Kuka Creek**	**95.83**	**29**	IAms_20	IAms_20	10 29 30.9			
	comp=Z,7µm,18.0s								
L14K	**Kuka Creek**	**95.83**	**29**	P	**P**	**09 41 01.4**	**+0.7**		
	baz=275								
BELA	**Belgrano 2**	**95.86**	**189**	P	**P**	**09 41 00.2**	**-0.4**		
FALS	**False Pass**	**95.93**	**35**	P	**P**	**09 41 01.5**	**+0.2**		
	baz=274								
F17K	**Baldwin Pennin**	**95.94**	**24**	IAms_20	IAms_20	10 30 28.3			
	comp=Z,9µm,18.0s								
F17K	**Baldwin Pennin**	**95.94**	**24**	P	**P**	**09 41 01.6**	**+0.4**		
	baz=277								
E18K	**Tukpahlearik C**	**96.08**	**23**	IAmb	IAmb	09 41 39.3			
	comp=Z,56nm,1.5s								
E18K	**Tukpahlearik C**	**96.08**	**23**	P	**P**	**09 41 02.1**	**+0.4**		
	baz=278								
M14K	**Bethel**	**96.24**	**29**	P	**P**	**09 41 03.0**	**+0.5**		
	baz=276								
K15K	**Wolf Creek Mou**	**96.29**	**28**	IAms_20	IAms_20	10 31 34.8			
	comp=Z,10µm,18.0s								
K15K	**Wolf Creek Mou**	**96.29**	**28**	P	**P**	**09 41 03.4**	**+0.5**		
	baz=276								
G17K	**Kiwalik Mounta**	**96.30**	**24**	P	**P**	**09 41 03.2**	**+0.3**		
	baz=277								
L15K	**Ungalak Mounta**	**96.37**	**28**	P	**P**	**09 41 03.6**	**+0.4**		
	baz=276								
N14K	**Kuskokwak Cree**	**96.45**	**30**	P	**P**	**09 41 04.0**	**+0.4**		
	baz=276								
I17K	**Unalakleet**	**96.48**	**26**	IAmb	IAmb	09 41 07.9			
	comp=Z,46nm,1.1s								
I17K				IAms_20	IAms_20	10 32 07.8			
	comp=Z,8µm,18.0s								
I17K	**Unalakleet**	**96.48**	**26**	P	**P**	**09 41 04.0**	**+0.4**		
	baz=277,SNR=6.6								
NOR	**Nord**	**96.53**	**352**	*i* P	**P**	**09 40 59.9**	**-3.7**		
NOR				IAmb	IAmb	09 41 06.1			
	comp=Z,34nm,1.2s								
F18K	**Selawik**	**96.56**	**23**	P	**P**	**09 41 04.1**	**+0.2**		
	baz=278,SNR=24								
J16K	**Anvik River**	**96.60**	**27**	P	**P**	**09 41 04.8**	**+0.6**		
J16K				IAms_20	IAms_20	10 32 59.9			
	comp=Z,7µm,19.0s								
J16K	**Anvik River**	**96.60**	**27**	P	**P**	**09 41 04.6**	**+0.4**		
	baz=277								
S12K	**Black Hills**	**96.64**	**34**	P	**P**	**09 41 05.1**	**+0.5**		
	baz=275								
H17K	**Granite Mounta**	**96.69**	**25**	IAmb	IAmb	09 41 25.4			
	comp=Z,52nm,0.9s								
H17K	**Granite Mounta**	**96.69**	**25**	P	**P**	**09 41 05.0**	**+0.4**		
	baz=278								
O14K	**Tigyukauivet M**	**96.74**	**31**	P	**P**	**09 41 04.9**	**+0.1**		
	baz=276								
A21K	**Barrow**	**96.82**	**18**	P	**P**	**09 41 05.3**	**+0.3**		
	baz=282,SNR=20								
D19K	**Kuna River**	**96.84**	**21**	IAmb	IAmb	09 41 40.7			
	comp=Z,55nm,0.9s								
D19K				IAms_20	IAms_20	10 27 07.8			
	comp=Z,11µm,21.0s								
D19K	**Kuna River**	**96.84**	**21**	P	**P**	**09 41 05.5**	**+0.3**		
	baz=280								
M15K	**Kasigluk River**	**96.87**	**29**	P	**P**	**09 41 05.5**	**0.0**		
	baz=277								
G18K	**Tagagawik**	**97.06**	**24**	IAms_20	IAms_20	10 30 31.0			
	comp=Z,9µm,21.0s								
G18K	**Tagagawik**	**97.06**	**24**	P	**P**	**09 41 05.5**	**-0.8**		
	baz=279								
N15K	**Kwethluk River**	**97.22**	**30**	IAms_20	IAms_20	10 31 46.6			
	comp=Z,6µm,18.0s								
N15K	**Kwethluk River**	**97.22**	**30**	P	**P**	**09 41 06.5**	**-0.6**		
	baz=277								
F19K	**Shaleruckik Mo**	**97.26**	**23**	P	Pdif	09 41 07.3	+0.1		
	baz=280,SNR=17								
J17K	**VABM Dome**	**97.27**	**26**	IAmb	IAmb	09 41 26.9			
	comp=Z,36nm,0.9s								
J17K				IAms_20	IAms_20	10 31 11.6			
	comp=Z,8µm,18.0s								
J17K	**VABM Dome**	**97.27**	**26**	P	Pdif	09 41 07.3	0.0		
	baz=278								
H18K	**Honhosa River**	**97.30**	**25**	IAms_20	IAms_20	10 28 58.4			
	comp=Z,7µm,20.0s								
H18K	**Honhosa River**	**97.30**	**25**	P	**P**	**09 41 07.3**	**-0.1**		
	baz=279								
L16K	**Owhat River**	**97.32**	**28**	IAms_20	IAms_20	10 30 05.2			
	comp=Z,8µm,19.0s								
L16K	**Owhat River**	**97.32**	**28**	P	**P**	**09 41 07.4**	**-0.1**		
	baz=278								
D20K	**Etivluk River**	**97.34**	**21**	P	Pdif	09 41 07.5	0.0		
	baz=282								
E19K	**Redstone River**	**97.36**	**22**	IAmb	IAmb	09 41 28.0			
	comp=Z,45nm,0.9s								
E19K				IAms_20	IAms_20	10 30 59.4			
	comp=Z,13µm,20.0s								
E19K	**Redstone River**	**97.36**	**22**	P	**P**	**09 41 07.5**	**-0.1**		
	baz=281								
O15K	**Ungalikthiuk R**	**97.48**	**31**	P	Pdif	09 41 08.6	+0.2		
	baz=277								
E20K	**Nigu River**	**97.59**	**21**	P	Pdif	09 41 08.7	0.0		
	baz=282								
G19K	**Purcell Mounta**	**97.65**	**24**	IAmb	IAmb	09 41 30.0			
	comp=Z,42nm,0.8s								
G19K				IAms_20	IAms_20	10 31 22.5			
	comp=Z,8µm,19.0s								
G19K	**Purcell Mounta**	**97.65**	**24**	P	Pdif	09 41 09.7	+0.8		
	baz=281								
M16K	**Timber Creek**	**97.66**	**29**	IAms_20	IAms_20	10 31 14.3			
	comp=Z,10µm,19.0s								
M16K	**Timber Creek**	**97.66**	**29**	P	Pdif	09 41 09.7	+0.6		
	baz=278								
K17K	**Iditarod**	**97.72**	**27**	IAmb	IAmb	09 41 33.1			
	comp=Z,67nm,0.9s								
K17K	**Iditarod**	**97.72**	**27**	P	Pdif	09 41 10.0	+0.6		
	baz=279								
L17K	**Donlin**	**97.81**	**28**	P	Pdif	09 41 10.4	+0.6		
	baz=279								
N16K	**Nishlik Lake**	**97.83**	**29**	P	Pdif	09 41 10.4	+0.4		
	baz=278								
B21K	**Ikpikpuk River**	**97.85**	**20**	P	Pdif	09 41 10.3	+0.6		
	baz=284								
C21K	**Knifeblade Rid**	**97.89**	**20**	P	Pdif	09 41 10.4	+0.4		
	baz=283								
GCSA	**Galena City Sc**	**98.00**	**25**	P	Pdif	09 41 10.7	+0.2		
	baz=281,SNR=20								
H19K	**Roundabout Mou**	**98.03**	**24**	IAms_20	IAms_20	10 31 01.4			
	comp=Z,6µm,18.0s								
H19K	**Roundabout Mou**	**98.03**	**24**	P	Pdif	09 41 11.0	+0.3		
	baz=281,SNR=38								
B22K	**Teshekpuk Lake**	**98.07**	**19**	IAmb	IAmb	09 41 32.0			
	comp=Z,33nm,0.9s								
B22K	**Teshekpuk Lake**	**98.07**	**19**	P	Pdif	09 41 10.8	0.0		
	baz=285								
CHNA	**Chernabura Isl**	**98.14**	**35**	P	Pdif	09 41 11.4	+0.1		
	baz=277								
O16K	**Kokwok River B**	**98.30**	**30**	IAms_20	IAms_20	10 32 14.3			
	comp=Z,8µm,18.0s								
O16K	**Kokwok River B**	**98.30**	**30**	Pdiff	**P**	**09 41 11.8**	**-0.2**		
	baz=279								
J18K	**Innoko River**	**98.30**	**26**	IAmb	IAmb	09 41 24.1			
	comp=Z,35nm,1.1s								
J18K	**Innoko River**	**98.30**	**26**	Pdiff	**P**	**09 41 11.5**	**-0.4**		
	baz=281								
M17K	**Holitna River**	**98.33**	**28**	IAms_20	IAms_20	10 31 05.9			
	comp=Z,10µm,20.0s								
M17K	**Holitna River**	**98.33**	**28**	Pdiff	**P**	**09 41 11.7**	**-0.4**		
	baz=280								
RAR	**Rarotonga**	**98.35**	**112**	LR	LR	10 25 54.8			
	comp=Z,5µm,20.8s,baz=258,slow=36								
E21K	**Killik River**	**98.35**	**21**	IAms_20	IAms_20	10 34 02.7			
	comp=Z,12µm,18.0s								
E21K	**Killik River**	**98.35**	**21**	Pdiff	Pdif	09 41 12.1	0.0		
	baz=284								
P16K	**Nushagak River**	**98.44**	**31**	Pdiff	Pdif	09 41 12.8	+0.3		
	baz=279								
L18K	**Granite Mounta**	**98.54**	**27**	IAms_20	IAms_20	10 29 51.3			
	comp=Z,9µm,21.0s								
L18K	**Granite Mounta**	**98.54**	**27**	Pdiff	Pdif	09 41 13.5	+0.5		
	baz=280								
N17K	**Nushagak Hills**	**98.60**	**29**	IAms_20	IAms_20	10 32 03.1			
	comp=Z,8µm,19.0s								
N17K	**Nushagak Hills**	**98.60**	**29**	Pdiff	Pdif	09 41 13.5	+0.2		
	baz=280								
CHGN	**Chignik**	**98.61**	**34**	Pdiff	Pdif	09 41 13.4	0.0		
	baz=278								
JMIC	**Jan Mayen**	**98.64**	**342**	LR	LR	10 34 00.6			
	comp=Z,5µm,18.9s,baz=73,slow=40								
H20K	**Anotleneega Mo**	**98.67**	**24**	Pdiff	Pdif	09 41 13.7	+0.1		
	baz=283								
J19K	**Poorman**	**98.68**	**26**	IAmb	IAmb	09 41 34.5			
	comp=Z,31nm,0.9s								
J19K	**Poorman**	**98.68**	**26**	Pdiff	**P**	**09 41 13.3**	**-0.3**		
	baz=282								
D22K	**Ayikyak River**	**98.70**	**21**	Pdiff	Pdif	09 41 13.9	+0.3		
	baz=285								
TTA	**Tatalina**	**98.72**	**27**	IAmb	IAmb	09 41 18.4			
	comp=Z,64nm,1.7s								
TTA	**Tatalina**	**98.72**	**27**	Pdiff	Pdif	09 41 13.9	0.0		
	baz=281								
TTA	**Tatalina**	**98.72**	**27**	P	Pdif	09 41 16.2	+2.3		
JMI	**Jan Mayen**	**98.72**	**342**	*e*SKSac	**SKSac**	**09 51 56.2**	**+5.6**		
JMI				*e*		09 54 10.1			
O17K	**Koliganek Bris**	**98.77**	**30**	Pdiff	**P**	**09 41 14.0**	**-0.1**		
	baz=280								
F21K	**Alatna River**	**98.82**	**22**	IAms_20	IAms_20	10 31 56.3			
	comp=Z,10µm,21.0s								
F21K	**Alatna River**	**98.82**	**22**	Pdiff	Pdif	09 41 14.3	+0.1		
	baz=284								
R16K	**Pilot Point**	**98.88**	**32**	Pdiff	**P**	**09 41 14.3**	**-0.2**		
	baz=279								
TORD	**Torodi Ar. Bea**	**98.89**	**283**		**P**	**09 41 14.0**	**-1.6**		
TORD	**Torodi Ar. Bea**	**98.89**	**283**	P	**P**	**09 41 15.1**	**-0.5**		
	comp=Z,1.2nm,0.9s,baz=96,slow=5.8,SNR=4.4								
TORD				PP	**PP**	**09 45 18.0**	**+0.4**		
	comp=Z,0.9nm,0.8s,baz=94,slow=2.0,SNR=5.6								
TORD				S	**SKSac**	**09 51 50.5**	**-3.2**		
	comp=Z,0.7nm,0.9s,baz=77,slow=7.7,SNR=1.7								
TORD				PKPPKP	**P'P'df**	**10 05 57.1**	**-2.9**		
	comp=Z,1.7nm,1.2s,baz=294,slow=1.4,SNR=3.5								
G21K	**Allakaket**	**98.99**	**23**	IAms_20	IAms_20	10 32 55.7			
	comp=Z,11µm,20.0s								
G21K	**Allakaket**	**98.99**	**23**	Pdiff	**P**	**09 41 14.8**	**-0.1**		
	baz=284								
I20K	**Naaghedeneel**	**98.99**	**25**	Pdiff	Pdif	09 41 15.0	+0.1		
	baz=283								
IMAR	**Indian Mountai**	**99.02**	**23**	P		09 41 14.8			
DAG	**Danmarks Havn**	**99.07**	**348**	P	**Pdif**	**09 41 15.9**	**+0.8**		
DAG				pmax	pmax				
	comp=Z,30nm,1.7s								
DAG	**Danmarks Havn**	**99.07**	**348**	*i* P	**Pdif**	**09 41 13.0**	**-2.1**		
DAG				IAmb	IAmb	09 41 17.2			
	comp=Z,25nm,1.1s								
M18K	**Stony River**	**99.08**	**28**	Pdiff	**Pdif**	**09 41 15.8**	**+0.3**		
	baz=281								
Q16K	**King Salmon**	**99.18**	**31**	Pdiff	**Pdif**	**09 41 15.2**	**-0.7**		
	baz=280								
P17K	**Kvichak River**	**99.20**	**30**	Pdiff	**Pdif**	**09 41 15.7**	**-0.2**		
	baz=280								
N18K	**Kilae Creek**	**99.20**	**29**	IAms_20	IAms_20	10 31 18.9			
	comp=Z,7µm,19.0s								
N18K	**Kilae Creek**	**99.20**	**29**	Pdiff	**Pdif**	**09 41 16.1**	**+0.1**		
	baz=281								
E22K	**Anaktuvuk Pass**	**99.20**	**21**	Pdiff	**Pdif**	**09 41 16.0**	**+0.1**		
	baz=286								
J20K	**Nowinta River**	**99.27**	**25**	Pdiff	**Pdif**	**09 41 16.7**	**+0.5**		
	baz=283								
D23K	**Nanushuk River**	**99.37**	**20**	IAmb	IAmb	09 41 21.6			
	comp=Z,44nm,1.5s								
D23K	**Nanushuk River**	**99.37**	**20**	Pdiff	**Pdif**	**09 41 16.5**	**-0.1**		
	baz=287								
L19K	**White Mountain**	**99.39**	**27**	IAms_20	IAms_20	10 31 20.8			
	comp=Z,6µm,19.0s								
L19K	**White Mountain**	**99.39**	**27**	Pdiff	**Pdif**	**09 41 16.7**	**-0.2**		
	baz=282								
H21K	**Melozitna Rive**	**99.47**	**24**	IAms_20	IAms_20	10 32 47.7			
	comp=Z,7µm,18.0s								
H21K	**Melozitna Rive**	**99.47**	**24**	Pdiff	**Pdif**	**09 41 17.1**	**0.0**		
	baz=285								
K20K	**Telida**	**99.49**	**26**	IAms_20	IAms_20	10 28 05.3			
	comp=Z,7µm,21.0s								
K20K	**Telida**	**99.49**	**26**	Pdiff	**Pdif**	**09 41 17.3**	**+0.1**		
	baz=283								
Q17K	**Contact Creek**	**99.65**	**31**	Pdiff	**Pdif**	**09 41 18.0**	**-0.2**		
	baz=281								
O18K	**Koktuh Hills**	**99.69**	**30**	Pdiff	**Pdif**	**09 41 18.1**	**-0.1**		
	baz=281								
L20K	**Farewell, AK**	**99.77**	**27**	Pdiff	**Pdif**	**09 41 18.2**	**-0.3**		
	baz=283								
P18K	**Big Mountain,**	**99.77**	**30**	IAms_20	IAms_20	10 32 59.2			
	comp=Z,7µm,18.0s								
P18K	**Big Mountain,**	**99.77**	**30**	Pdiff	**Pdif**	**09 41 18.5**	**-0.1**		
	baz=281								
C24K	**Franklin Bluff**	**99.80**	**19**	Pdiff	**Pdif**	**09 41 18.7**	**+0.3**		
	baz=289								
EKA	**Eskdalemuir Ar**	**99.85**	**326**	P	**Pdif**	**09 41 18.2**	**-0.8**		
	comp=Z,3.3nm,0.9s,baz=74,slow=6.4,SNR=4.0								
EKA				PP	**PP**	**09 45 24.2**	**+0.6**		
	comp=Z,8.7nm,1.0s,baz=74,slow=6.6,SNR=3.6								
	comp=Z,3.3nm,0.9s								
TOLK	**Toolik Lake Re**	**99.85**	**20**	Pdiff	**Pdif**	**09 41 18.7**	**-0.1**		
	baz=288								
N19K	**Bonanza Creek**	**99.85**	**29**	IAms_20	IAms_20	10 32 41.1			
	comp=Z,10µm,18.0s								
N19K	**Bonanza Creek**	**99.85**	**29**	Pdiff	**Pdif**	**09 41 18.7**	**-0.3**		
	baz=282								
I21K	**Tanana**	**99.93**	**24**	IAms_20	IAms_20	10 32 09.8			
	comp=Z,7µm,20.0s								
I21K	**Tanana**	**99.93**	**24**	Pdiff	**Pdif**	**09 41 19.0**	**-0.1**		
	baz=285								
D24K	**Happy Valley**	**99.95**	**20**	Pdiff	**Pdif**	**09 41 19.1**	**0.0**		
	baz=289								
ACHA	**Angle Creek He**	**99.95**	**31**	IAms_20	IAms_20	10 34 08.0			
	comp=Z,7µm,19.0s								
H22K	**Ishtalitna Cre**	**99.98**	**23**	Pdiff	**Pdif**	**09 41 19.5**	**+0.1**		
	baz=286								
E23K	**Chandalar**	**100.02**	**21**	Pdiff	**Pdif**	**09 41 19.5**	**-0.1**		
	baz=288								
COLD	**Coldfoot**	**100.05**	**22**	Pdiff	**Pdif**	**09 41 19.8**	**+0.1**		
	baz=287								
O19K	**Port Alsworth**	**100.06**	**29**	IAms_20	IAms_20	10 33 13.7			
	comp=Z,6µm,18.0s								
O19K	**Port Alsworth**	**100.06**	**29**	Pdiff	**Pdif**	**09 41 19.4**	**-0.4**		
	baz=282								
CHUM	**Lake Minchumin**	**100.12**	**25**	Pdiff	**Pdif**	**09 41 20.0**	**0.0**		
	baz=285								
CHIR	**Chirikof Islan**	**100.23**	**34**	IAms_20	IAms_20	10 35 48.7			
	comp=Z,7µm,19.0s								
CHIR	**Chirikof Islan**	**100.23**	**34**	Pdiff	**Pdif**	**09 41 19.8**	**-0.9**		
	baz=280								
M20K	**Styx River**	**100.25**	**27**	Pdiff	**Pdif**	**09 41 19.8**	**-1.0**		
	baz=282								
G23K	**Bananza Creek**	**100.27**	**22**	IAms_20	IAms_20	10 33 14.6			
	comp=Z,9µm,18.0s								
G23K	**Bananza Creek**	**100.27**	**22**	Pdiff	**Pdif**	**09 41 20.2**	**-0.5**		
	baz=287								
CAST	**Castle Rocks**	**100.34**	**26**	Pdiff	**Pdif**	**09 41 21.0**	**-0.1**		
	baz=285								
E24K	**Your Creek**	**100.41**	**21**	IAms_20	IAms_20	10 29 26.2			
	comp=Z,13µm,21.0s								
E24K	**Your Creek**	**100.41**	**21**	Pdiff	**Pdif**	**09 41 21.6**	**+0.2**		
	baz=289								
PPLA	**Purkeypile**	**100.43**	**26**	Pdiff	**Pdif**	**09 41 21.7**	**+0.1**		
	baz=285								
R18K	**Karluk**	**100.53**	**32**	Pdiff	**Pdif**	**09 41 22.0**	**+0.1**		
	baz=282								
BPAW	**Bear Paw Mtn.**	**100.63**	**25**	IAms_20	IAms_20	10 33 10.4			
	comp=Z,7µm,19.0s								
BPAW	**Bear Paw Mtn.**	**100.63**	**25**	Pdiff	**Pdif**	**09 41 22.2**	**-0.1**		
	baz=286								
Q19K	**Cape Douglas,**	**100.67**	**30**	IAms_20	IAms_20	10 33 28.9			
	comp=Z,9µm,19.0s								
Q19K	**Cape Douglas,**	**100.67**	**30**	Pdiff	**Pdif**	**09 41 22.8**	**+0.2**		
	baz=283								
ILSW	**Iliamna Southw**	**100.68**	**29**	IAms_20	IAms_20	10 33 42.2			
	comp=Z,8µm,18.0s								
D25K	**Kavik River**	**100.71**	**19**	IAms_20	IAms_20	10 30 40.9			
	comp=Z,13µm,21.0s								
D25K	**Kavik River**	**100.71**	**19**	Pdiff	**Pdif**	**09 41 22.9**	**+0.3**		
	baz=291								
P19K	**Oil Pt**	**100.71**	**30**	Pdiff	**Pdif**	**09 41 22.7**	**-0.1**		
	baz=283								
F24K

baz=289
WRH Wood River Hil 101.73 24 IAMs_20 IAMs_20 10 35 26.3
comp=Z,7μm,18.0s
CNPM China Poot 101.73 30 IAMs_20 IAMs_20 10 34 24.9
comp=Z,7μm,18.0s
RND Reindeer 101.74 25 IAMs_20 IAMs_20 10 31 16.7
comp=Z,7μm,21.0s
POKR Poker Plat Res 101.78 24 IAMs_20 IAMs_20 10 32 18.7
comp=Z,8μm,21.0s
POKR Poker Plat Res 101.78 24 Pdiff **Pdif 09 41 27.3 -0.1**
baz=290
FIS Fire Island 101.79 28 IAMs_20 IAMs_20 10 35 52.3
comp=Z,7μm,19.0s
BRSE Bradley Lake S 101.92 29 Pdiff **Pdif 09 41 27.7 -0.4**
baz=285
SLKM Skilak Lake 101.96 28 IAMs_20 IAMs_20 10 32 15.8
comp=Z,6μm,20.0s
RC01 Rabbit Creek A 102.03 28 IAMs_20 IAMs_20 10 35 18.5
comp=Z,11μm,18.0s
RC01 Rabbit Creek A 102.03 28 Pdiff **Pdif 09 41 28.7 +0.1**
baz=286
F26K Sheenjek River 102.08 21 Pdiff **Pdif 09 41 28.7 0.0**
baz=293
ILAR Eielson Array 102.12 24 P **Pdif 09 41 27.3 -1.6**
comp=Z,0.6nm,0.7s,baz=282,slow=5.6,SNR=7.8
ILAR PP **PP 09 45 40.0 -0.4**
comp=Z,7.4nm,1.0s,baz=285,slow=7.2,SNR=6.3
ILAR PKKPbc **PKKPbc 09 57 32.7 -2.2**
comp=Z,1.0nm,0.9s,baz=116,slow=2.1,SNR=6.0
ILAR PKKP **PKKPdf 09 57 40.4 -1.3**
comp=Z,4.0nm,0.9s,baz=137,slow=1.9,SNR=16
FYU Fort Yukon 102.12 22 IAMs_20 IAMs_20 10 34 22.4
comp=Z,7μm,19.0s
PMR Palmer 102.16 27 IAMs_20 IAMs_20 10 34 55.1
comp=Z,7μm,19.0s
PMR Palmer 102.16 27 Pdiff **Pdif 09 41 29.3 +0.1**
baz=287
O22K Cooper Landing 102.21 28 IAMs_20 IAMs_20 10 36 02.3
comp=Z,9μm,20.0s
O22K Cooper Landing 102.21 28 Pdiff **Pdif 09 41 29.5 +0.1**
baz=286
HDA Harding Lake 102.22 24 Pdiff **Pdif 09 41 29.5 +0.1**
baz=290
PRP Porcupine Dome 102.40 23 IAMs_20 IAMs_20 10 34 20.8
comp=Z,11μm,19.0s
PRP Porcupine Dome 102.40 23 Pdiff **Pdif 09 41 30.3 0.0**
baz=291
SEW Seward 102.44 29 Pdiff **Pdif 09 41 30.5 +0.1**
baz=287
SML Sawmill 102.46 27 Pdiff **Pdif 09 41 30.6 0.0**
baz=288
D27M Malcolm River 102.50 19 IAMs_20 IAMs_20 10 32 55.2
comp=Z,13μm,22.0s
D27M Malcolm River 102.50 19 Pdiff **Pdif 09 41 30.6 0.0**
baz=296
G26K Porcupine Rive 102.51 21 Pdiff **Pdif 09 41 30.5 -0.1**
baz=293
KNK Knik Glacier 102.52 27 IAMs_20 IAMs_20 10 35 16.6
comp=Z,6μm,18.0s
KNK Knik Glacier 102.52 27 Pdiff **Pdif 09 41 30.5 -0.3**
baz=288
ESDC Sonseca Array 102.65 310 PP **PP 09 45 45.0 -0.3**
comp=Z,3.0nm,1.1s,baz=85,slow=7.9,SNR=3.5
M23K Glacier View 102.74 27 Pdiff **Pdif 09 41 32.0 +0.3**
baz=288
PWL Port Wells 102.75 28 IAMs_20 IAMs_20 10 35 58.7
comp=Z,10μm,18.0s
PWL Port Wells 102.75 28 Pdiff **Pdif 09 41 32.4 +0.6**
baz=288
J25K Salcha River, 102.79 24 IAMs_20 IAMs_20 10 32 48.2
comp=Z,7μm,21.0s
J25K Salcha River, 102.79 24 Pdiff **Pdif 09 41 32.5 +0.6**
baz=291
SCM Sheep Creek Mo 102.91 27 IAMs_20 IAMs_20 10 35 09.6
comp=Z,7μm,20.0s
SCM Sheep Creek Mo 102.91 27 Pdiff **Pdif 09 41 33.0 +0.4**
baz=289
K24K Donnelly Dome 102.91 25 Pdiff **Pdif 09 41 32.5 0.0**
baz=291
SCO Scoresbysund 102.92 343 IAMs_20 IAMs_20 10 37 14.3
comp=Z,9μm,20.0s
D28M Stokes Point 103.17 18 Pdiff **Pdif 09 41 33.9 +0.5**
baz=299
E28M Babbage River 103.25 19 Pdiff **Pdif 09 41 34.1 +0.2**
baz=298
GLI Glacier Island 103.32 28 Pdiff **Pdif 09 41 34.0 -0.3**
baz=289
RIDG Independent Ri 103.32 24 IAMs_20 IAMs_20 10 35 11.3
comp=Z,7μm,19.0s
RIDG Independent Ri 103.32 24 Pdiff **Pdif 09 41 34.4 +0.1**
baz=292
M24K Tolsona, Glenn 103.33 26 Pdiff **Pdif 09 41 33.8 -0.6**
baz=290
G27K Doyon Strip 103.33 21 Pdiff **Pdif 09 41 34.2 -0.1**
baz=295
PAX Paxson 103.33 25 Pdiff **Pdif 09 41 34.3 -0.2**
baz=291
I26K Coal Creek Min 103.39 23 IAMs_20 IAMs_20 10 35 01.2
comp=Z,11μm,20.0s
I26K Coal Creek Min 103.39 23 Pdiff **Pdif 09 41 34.5 0.0**
baz=294
P23K Montague Islan 103.46 29 Pdiff **Pdif 09 41 35.0 +0.1**
baz=288
J26L Joseph Creek 103.55 24 IAMs_20 IAMs_20 10 35 48.3
comp=Z,8μm,20.0s
J26L Joseph Creek 103.55 24 Pdiff **Pdif 09 41 35.0 -0.4**
baz=293
SCRK Sand Creek 103.58 24 IAMs_20 IAMs_20 10 33 32.3
comp=Z,7μm,19.0s
SCRK Sand Creek 103.58 24 Pdiff **Pdif 09 41 35.3 -0.3**
baz=292
F28M Old Crow 103.60 20 Pdiff **Pdif 09 41 34.9 -0.5**
baz=297
H27K Steamboat Moun 103.62 22 Pdiff **Pdif 09 41 35.4 -0.2**
baz=295
FID Port Fidalgo 103.65 28 IAMs_20 IAMs_20 10 36 19.1
comp=Z,8μm,18.0s
KLU Klutina 103.65 27 IAMs_20 IAMs_20 10 35 51.4
comp=Z,6μm,18.0s
KLU Klutina 103.65 27 Pdiff **Pdif 09 41 35.3 -0.6**
baz=290
HARP HAARP 103.67 26 Pdiff **Pdif 09 41 36.0 +0.1**
baz=291
HIN Hinchinbrook I 103.75 28 IAMs_20 IAMs_20 10 34 19.2
comp=Z,8μm,18.0s
NEEM North Greenlan 103.79 354 *i* P **Pdif 09 41 37.1 +0.7**
NEEM IAmb IAmb 09 41 41.6
comp=Z,222nm,2.4s
I27K Kandik River 103.86 22 Pdiff **Pdif 09 41 36.8 +0.1**
baz=295
E29M Blow River 103.89 19 IAMs_20 IAMs_20 10 36 32.9
comp=Z,9μm,20.0s
E29M Blow River 103.89 19 Pdiff **Pdif 09 41 36.9 +0.2**
baz=299
EYAK Cordova Ski Ar 104.05 28 Pdiff **Pdif 09 41 37.4 -0.2**
baz=290
Q23K Middleton Isla 104.14 29 Pdiff **Pdif 09 41 37.6 -0.4**
baz=289
N25K Chitina, Valde 104.20 26 IAMs_20 IAMs_20 10 36 10.0
comp=Z,9μm,19.0s
N25K Chitina, Valde 104.20 26 Pdiff **Pdif 09 41 37.4 -1.0**
baz=291
L26K Log Cabin Wild 104.21 25 IAMs_20 IAMs_20 10 36 25.1
comp=Z,7μm,18.0s
L26K Log Cabin Wild 104.21 25 Pdiff **Pdif 09 41 37.8 -0.5**
baz=293
EGAK Eagle 104.39 23 Pdiff **Pdif 09 41 38.6 -0.4**
baz=295
BMRM Bremner River 104.43 27 Pdiff **Pdif 09 41 39.0 -0.3**
baz=291
SHEL Horse Pasture 104.52 253 IAMs_20 IAMs_20 10 24 05.4
comp=Z,10μm,20.0s
I28M Miner Creek 104.56 22 IAMs_20 IAMs_20 10 36 53.8
comp=Z,11μm,19.0s
I28M Miner Creek 104.56 22 Pdiff **Pdif 09 41 39.9 0.0**
baz=297
G29M Pine Creek 104.56 20 Pdiff **Pdif 09 41 40.1 +0.3**
baz=299
M26K Nabesna, AK 104.61 25 Pdiff **Pdif 09 41 39.8 -0.3**
baz=293
GLB Gilahina Butte 104.62 27 IAMs_20 IAMs_20 10 36 21.8
comp=Z,9μm,19.0s
H29M Whitestone 104.77 21 Pdiff **Pdif 09 41 40.2 -0.4**
baz=298
HMT Hamilton 104.82 28 IAMs_20 IAMs_20 10 37 59.3
comp=Z,9μm,18.0s
L27K Beaver Creek, 104.83 25 IAMs_20 IAMs_20 10 37 15.4
comp=Z,6μm,18.0s
L27K Beaver Creek, 104.83 25 Pdiff **Pdif 09 41 40.8 -0.3**
baz=294
VRDI Verde Repeater 104.86 27 IAMs_20 IAMs_20 10 36 31.2
comp=Z,7μm,18.0s
KAIM Kayak Island 104.89 28 IAMs_20 IAMs_20 10 35 01.4
comp=Z,7μm,19.0s
KAIM Kayak Island 104.89 28 PKiKP **PKiKP 09 45 56.3 0.0**
baz=291
F30M Barrier River 104.97 19 PKiKP **PKiKP 09 45 56.3 0.0**
baz=301
M27K Edge Creek, AK 105.10 25 IAMs_20 IAMs_20 10 34 06.6
comp=Z,6μm,20.0s
M27K Edge Creek, AK 105.10 25 PKiKP **PKiKP 09 45 56.9 +0.1**
baz=294
SUCK Suckling Hills 105.14 28 IAMs_20 IAMs_20 10 35 25.8
comp=Z,10μm,18.0s
G30M tAoh Zraii Nji 105.15 20 PKiKP **PKiKP 09 45 56.3 -0.4**
baz=301
I29M Ogilvie Camp, 105.20 22 IAMs_20 IAMs_20 10 36 20.9
comp=Z,11μm,20.0s
I29M Ogilvie Camp, 105.20 22 PKiKP **PKiKP 09 45 57.1 +0.3**
baz=298
A36M Sachs Harbour 105.28 13 PKiKP **PKiKP 09 45 56.9 +0.2**
baz=313
EPYK Eagle Plains 105.28 20 PKiKP **PKiKP 09 45 57.3 +0.4**
baz=300
INK Inuvik 105.32 18 IAMs_20 IAMs_20 10 39 39.6
comp=Z,8μm,19.0s
INK Inuvik 105.32 18 Pdiff **Pdif 09 41 40.8 -2.2**
comp=Z,1.6nm,0.8s,baz=305,slow=17,SNR=2.4
INK PP **PP 09 46 03.9 -0.2**
comp=Z,19nm,1.1s,baz=315,slow=5.1,SNR=4.5
INK Inuvik 105.32 18 PKiKP **PKiKP 09 45 56.8 0.0**
baz=304
BGLC Bering Glacier 105.35 28 PKiKP **PKiKP 09 45 57.6 +0.5**
baz=292
DAWY Dawson 105.39 23 IAMs_20 IAMs_20 10 36 12.9
comp=Z,11μm,21.0s
DAWY Dawson 105.39 23 PKiKP **PKiKP 09 45 56.8 -0.4**
baz=297
BVCY Beaver Creek 105.51 25 PKiKP **PKiKP 09 45 57.5 +0.1**
baz=295
SNH Sunshine Point 105.54 28 IAMs_20 IAMs_20 10 35 49.3
comp=Z,8μm,19.0s
J29N Klondike Camp 105.67 23 PKiKP **PKiKP 09 45 58.5 +0.8**
baz=298
F31M Tsiigehtchic 105.73 19 PKiKP **PKiKP 09 45 58.0 +0.4**
baz=303
SUMG Summit 105.75 348 IAMs_20 IAMs_20 10 35 46.3
comp=Z,10μm,20.0s
SUMG Summit 105.75 348 *i* P **Pdif 09 41 47.2 +1.8**
G31M Satah River 105.83 19 IAMs_20 IAMs_20 10 36 19.3
comp=Z,11μm,19.0s
G31M Satah River 105.83 19 PKiKP **PKiKP 09 45 58.4 +0.6**
baz=302
MESA MESA 105.95 27 IAMs_20 IAMs_20 10 37 11.1
comp=Z,9μm,20.0s
MESA MESA 105.95 27 PKiKP **PKiKP 09 45 58.6 +0.1**
baz=293
YUK3 Moose Creek 105.95 26 PKiKP **PKiKP 09 45 58.3 -0.2**
baz=295
I30M Mount Dempster 105.98 21 PKiKP **PKiKP 09 45 58.4 0.0**
baz=300
TULEG Thule 106.04 357 IAMs_20 IAMs_20 10 37 17.0
comp=Z,9μm,18.0s
H09N1 TRISTAN DA CUN 106.09 230 T T 11 39 43.6
SNR=20
H09W1 TRISTAN DA CUN 106.10 230 T T 11 39 46.8
SNR=26
AVE Averroes 106.21 304 IAMs_20 IAMs_20 10 31 20.6
comp=Z,10μm,19.0s
K29M Barlow Dome 106.22 23 IAMs_20 IAMs_20 10 36 55.0
comp=Z,9μm,21.0s
K29M Barlow Dome 106.22 23 PKiKP **PKiKP 09 45 58.8 0.0**
baz=299
J30M Hart River 106.32 22 IAMs_20 IAMs_20 10 36 55.4
comp=Z,10μm,21.0s
J30M Hart River 106.32 22 PKiKP **PKiKP 09 45 58.9 -0.1**
baz=300
L29M L29M 106.33 24 IAMs_20 IAMs_20 10 39 29.8
comp=Z,8μm,18.0s
L29M L29M 106.33 24 PKiKP **PKiKP 09 45 59.1 +0.2**
baz=298
H31M Peel River 106.41 20 PKiKP **PKiKP 09 45 59.3 +0.3**
baz=302
YUK8 Steele Glacier 106.46 26 PKiKP **PKiKP 09 45 59.5 0.0**
baz=296
O28M Mount Upton 106.50 26 PKiKP **PKiKP 09 45 59.8 +0.2**
baz=295
M29M Somme Creek 106.50 24 IAMs_20 IAMs_20 10 34 55.4
comp=Z,11μm,22.0s
M29M Somme Creek 106.50 24 PKiKP **PKiKP 09 45 59.7 +0.3**
baz=297
PINM Pinnacle 106.75 27 PKiKP **PKiKP 09 46 00.1 +0.2**
baz=295
YUK4 Talbot Arm 106.92 26 PKiKP **PKiKP 09 46 00.5 +0.2**
baz=297
MAYO Mayo, Yukon 106.98 23 PKiKP **PKiKP 09 46 00.7 +0.6**
baz=300
M30M Minto, Yukon 107.12 24 IAMs_20 IAMs_20 10 37 28.8
comp=Z,8μm,20.0s
M30M Minto, Yukon 107.12 24 PKiKP **PKiKP 09 46 01.1 +0.6**
baz=299
YUK6 Outpost Mounta 107.23 26 PKiKP **PKiKP 09 46 01.2 +0.2**
baz=297
C36M Paulatuk 107.37 15 IAMs_20 IAMs_20 10 39 10.5
comp=Z,7μm,19.0s
C36M Paulatuk 107.37 15 PKiKP **PKiKP 09 46 01.2 +0.6**
baz=313
O29M Mount Kennedy 107.42 27 IAMs_20 IAMs_20 10 35 48.9
comp=Z,8μm,21.0s
O29M Mount Kennedy 107.42 27 PKiKP **PKiKP 09 46 01.2 0.0**
baz=297
TBI Tubuai 107.48 115 *e*P **Pdif 09 41 52.5 -1.1**
comp=Z,903nm,27.5s
TBI Tubuai 107.48 115 *e*PP **PP 09 46 19.4 -2.1**
comp=Z,2μm,24.8s
TBI *e*S 09 53 48.4
comp=Z,15μm,27.2s
TBI *e*SS **SS 10 01 33.0 +2.1**
comp=Z,21μm,26.0s
TBI Tubuai 107.48 115 *e*LQ LQ 10 12 50.4
comp=Z,8μm,26.0s
TBI *e*LR LR 10 17 26.2
comp=Z,12μm,23.0s
TBI *e*LR LR 10 17 28.8
comp=Z,44μm,23.0s
N30M Aishikik Lake 107.53 25 IAMs_20 IAMs_20 10 38 27.8
comp=Z,9μm,20.0s
N30M Aishikik Lake 107.53 25 PKiKP **PKiKP 09 46 01.3 0.0**
baz=298
RES Resolute Bay 107.60 4 IAMs_20 IAMs_20 10 34 37.8
comp=Z,8μm,20.0s
HYT Haines Junctio 107.65 26 IAMs_20 IAMs_20 10 40 09.0
comp=Z,8μm,18.0s
HYT Haines Junctio 107.65 26 PKiKP **PKiKP 09 46 01.5 -0.1**
baz=298
N31M Braeburn, Yuko 108.07 25 IAMs_20 IAMs_20 10 39 54.0
comp=Z,9μm,18.0s
N31M Braeburn, Yuko 108.07 25 PKiKP **PKiKP 09 46 02.5 +0.3**
baz=300
P30M Million Dollar 108.22 26 PKiKP **PKiKP 09 46 02.7 +0.1**
baz=298
M31M Drury Creek, Y 108.28 24 IAMs_20 IAMs_20 10 40 38.4
comp=Z,9μm,18.0s
M31M Drury Creek, Y 108.28 24 PKiKP **PKiKP 09 46 02.8 +0.2**
baz=301
O30N Mendenhall 108.29 25 IAMs_20 IAMs_20 10 35 55.9
comp=Z,8μm,22.0s
O30N Mendenhall 108.29 25 PKiKP **PKiKP 09 46 02.8 +0.1**
baz=299
PAE Paea 108.35 110 *e*LR LR 10 17 50.1
comp=Z,2μm,23.6s
PPT2 Papeete2 108.36 109 *e*P **Pdif 09 41 56.4 -1.4**
comp=Z,371nm,26.8s
PPT2 Papeete2 108.36 109 *e*PP PP 09 46 19.4 -8.8
comp=Z,682nm,26.8s
PPT2 *e*S 09 53 52.1
comp=Z,5μm,25.2s
PPT2 *e*SS **SS 10 01 41.2 -2.2**
comp=Z,4μm,39.5s
PPT2 Papeete2 108.36 109 *e*LR LR 10 17 49.2
comp=Z,10μm,23.8s
PPT2 *e*LR LR 10 17 51.9
comp=Z,7μm,24.0s
TVO Taravao 108.64 110 *e*LR LR 10 17 53.0
comp=Z,2μm,24.4s
FARO Faro, Yukon 108.68 23 IAMs_20 IAMs_20 10 37 32.0
comp=Z,8μm,22.0s
FARO Faro, Yukon 108.68 23 PKiKP **PKiKP 09 46 03.9 +0.5**
baz=302
PLBC Pleasant Camp 108.80 27 PKiKP **PKiKP 09 46 04.1 +0.5**
baz=298
WHY Whitehorse 108.86 25 IAMs_20 IAMs_20 10 40 21.9
comp=Z,7μm,20.0s
WHY Whitehorse 108.86 25 PKiKP **PKiKP 09 46 03.7 -0.1**
baz=300
SKAG Skagway 109.26 26 IAMs_20 IAMs_20 10 37 38.7
comp=Z,7μm,21.0s
SKAG Skagway 109.26 26 PKiKP **PKiKP 09 46 05.4 +1.0**
baz=299
N32M Quiet Lake 109.36 24 IAMs_20 IAMs_20 10 38 57.1
comp=Z,7μm,19.0s
N32M Quiet Lake 109.36 24 PKiKP **PKiKP 09 46 04.7 0.0**
baz=302
S31K Pelican 109.57 28 IAMs_20 IAMs_20 10 39 36.0
comp=Z,6μm,20.0s
S31K Pelican 109.57 28 PKiKP **PKiKP 09 46 04.6 -0.4**
baz=298
R31K City Hall, Gus 109.58 28 PKiKP **PKiKP 09 46 05.3 +0.3**
baz=299
P32M Atlin 109.91 26 PKiKP **PKiKP 09 46 05.7 0.0**
baz=301
P33M Teslin, Yukon 109.97 25 IAMs_20 IAMs_20 10 40 35.3
comp=Z,7μm,19.0s
P33M Teslin, Yukon 109.97 25 PKiKP **PKiKP 09 46 05.7 -0.2**
baz=302
R32K Eaglecrest 110.22 27 IAMs_20 IAMs_20 10 40 12.0
comp=Z,8μm,20.0s
R32K Eaglecrest 110.22 27 PKiKP **PKiKP 09 46 06.2 -0.1**
baz=300
PMOR Pomariorio Ree 110.36 107 *e*LR LR 10 18 42.4
comp=Z,9μm,21.4s
SIT Sitka 110.43 29 IAMs_20 IAMs_20 10 40 30.8
comp=Z,8μm,18.0s
SIT Sitka 110.43 29 PKiKP **PKiKP 09 46 06.5 -0.2**
baz=299
VAH Vaihoa 110.58 107 *e*LR LR 10 18 49.2
comp=Z,8μm,22.0s
S32K Killisnoo 110.59 28 PKiKP **PKiKP 09 46 07.0 0.0**
baz=300
Q32M Nakina River 110.87 26 IAMs_20 IAMs_20 10 39 50.2
comp=Z,8μm,18.0s
Q32M Nakina River 110.87 26 PKiKP **PKiKP 09 46 07.2 -0.6**
baz=302
R33M Jennings River 111.20 25 IAMs_20 IAMs_20 10 40 00.8
comp=Z,6μm,20.0s
R33M Jennings River 111.20 25 PKiKP **PKiKP 09 46 06.5 -1.8**
baz=304
PMSA Palmer Station 111.64 187 IAMs_20 IAMs_20 10 35 38.6
comp=Z,5μm,19.0s
WTLY Watson Lake, Y 111.70 24 IAMs_20 IAMs_20 10 39 14.7
comp=Z,8μm,22.0s
WTLY Watson Lake, Y 111.70 24 PKiKP **PKiKP 09 46 08.0 -1.1**
baz=306
WRGLY Wrigley 111.71 20 IAMs_20 IAMs_20 10 39 56.7
comp=E,7μm,20.0s
WRGLY Wrigley 111.71 20 PKiKP **PKiKP 09 46 08.7 -0.2**
baz=312
S34M Telegraph Cree 111.94 27 IAMs_20 IAMs_20 10 38 38.5
comp=Z,6μm,20.0s
S34M Telegraph Cree 111.94 27 PKiKP **PKiKP 09 46 09.4 -0.1**
baz=303
U33K Whale Pass 111.96 29 IAMs_20 IAMs_20 10 41 31.2
comp=Z,6μm,20.0s
U33K Whale Pass 111.96 29 PKiKP **PKiKP 09 46 09.1 -0.5**
baz=300
DLBC Dease Lake 112.14 26 IAMs_20 IAMs_20 10 42 17.7
comp=Z,8μm,18.0s
DLBC Dease Lake 112.14 26 PP **PP 09 46 54.7 +0.7**
comp=Z,7.2nm,1.0s,baz=290,slow=7.7,SNR=5.2
DLBC Dease Lake 112.14 26 PKiKP **PKiKP 09 46 09.1 -0.9**
baz=304
WRAK Wrangell Islan 112.17 28 IAMs_20 IAMs_20 10 41 13.8
comp=Z,9μm,20.0s
WRAK Wrangell Islan 112.17 28 PKiKP **PKiKP 09 46 09.0 -1.0**
baz=301
CRAG Craig 112.28 30 PKiKP **PKiKP 09 46 09.1 -1.2**
baz=300
SFJD Kangerlussuaq 112.75 348 IAMs_20 IAMs_20 10 38 25.1
comp=Z,10μm,21.0s
HOPE Hope Point 112.79 206 IAMs_20 IAMs_20 10 25 03.3
comp=Z,7μm,20.0s
T35M Bob Quinn 112.85 27 IAMs_20 IAMs_20 10 41 24.6
comp=Z,6μm,19.0s
T35M Bob Quinn 112.85 27 PKiKP **PKiKP 09 46 10.8 -0.5**
baz=304
V35K Ketchikan 113.09 29 IAMs_20 IAMs_20 10 44 57.2
comp=Z,5μm,18.0s
V35K Ketchikan 113.09 29 PKiKP **PKiKP 09 46 10.7 -1.1**
baz=302
U35K Hyder 113.54 28 IAMs_20 IAMs_20 10 40 18.0
comp=Z,6μm,22.0s
KOTAN Kotaneelee Air 113.55 22 PKiKP **PKiKP 09 46 12.2 -0.3**
baz=311
ASCN Ascension 113.86 260 IAMs_20 IAMs_20 10 30 21.5
comp=Z,7μm,20.0s
TOAD Toad River Com 113.91 24 PKiKP **PKiKP 09 46 14.1 +0.7**
baz=309
YKA Yellowknife Ar 115.04 17 PKP **PKiKP 09 46 14.4 -0.9**
comp=Z,3.1nm,0.8s,baz=306,slow=1.8,SNR=20
YKA PP **PP 09 47 14.5 +0.3**
comp=Z,12nm,1.0s,baz=322,slow=7.3,SNR=16
YKA PKKPbc **PKKPbc 09 56 52.3 -1.3**
comp=Z,0.3nm,0.8s,baz=161,slow=3.9,SNR=4.1
YKA PKKPab **PKKPab 09 56 58.3 +0.8**
comp=Z,2.5nm,1.0s,baz=144,slow=3.2,SNR=13
FRB Frobisher Bay 118.59 354 PKP **PKPdf 09 46 21.4 -0.7**
comp=Z,6.3nm,0.8s,baz=18,slow=3.2,SNR=4.7
TAOE Nuku Hiva Isla 118.76 102 *e*PP PP 09 47 34.0 -8.3
comp=Z,802nm,26.8s
TAOE Nuku Hiva Isla 118.76 102 *e*SS SS 10 03 58.0 -3.2
comp=Z,5μm,27.8s
TAOE Nuku Hiva Isla 118.76 102 *e*LR LR 10 22 40.0
comp=Z,6μm,23.0s
CLRS Cowichan Lake 120.54 32 IAMs_20 IAMs_20 10 44 52.7
comp=Z,5μm,20.0s
PGC Sidney 121.01 32 IAMs_20 IAMs_20 10 45 35.0
comp=Z,5μm,21.0s
USHA Ushuaia 121.84 188 PKP **PKiKP 09 46 30.3 +1.5**
comp=Z,13nm,1.0s,baz=157,slow=1.1,SNR=4.3
GNW Green Mountain 121.99 33 IAMs_20 IAMs_20 10 47 13.1
comp=Z,5μm,22.0s
F04D Rainier, OR 122.76 35 IAMs_20 IAMs_20 10 46 22.6
comp=Z,5μm,21.0s
FCC Fort Churchill 123.05 9 IAMs_20 IAMs_20 10 45 32.3
comp=Z,9μm,20.0s
LTY Liberty 123.34 32 IAMs_20 IAMs_20 10 45 35.8
comp=Z,5μm,22.0s
MG02 Cerro Sombrero 123.95 188 IAMs_20 IAMs_20 10 35 41.0
comp=Z,9μm,21.0s
HOOD Mount Hood Mea 123.98 35 IAMs_20 IAMs_20 10 48 48.9
comp=Z,6μm,22.0s
E07A Sunnyside 124.21 32 IAMs_20 IAMs_20 10 50 26.8
comp=Z,5μm,20.0s
C09A Chrisman Ranch 124.24 30 IAMs_20 IAMs_20 10 50 36.2
comp=Z,6μm,20.0s
HAWA Hanford 124.49 32 IAMs_20 IAMs_20 10 50 34.1
comp=Z,4μm,19.0s
NEW Newport 124.50 29 PKP **PKPdf 09 46 34.1 0.0**
comp=Z,9.8nm,1.0s,baz=320,slow=1.1,SNR=11
NEW PP **PP 09 48 20.2 +0.5**
comp=Z,6.1nm,1.1s,baz=334,slow=7.1,SNR=6.8
E08A Dider Farm, El 124.68 32 IAMs_20 IAMs_20 10 47 59.1
comp=Z,5μm,22.0s
J04A Umpqua Nationa 124.93 37 IAMs_20 IAMs_20 10 48 14.3
comp=Z,5μm,22.0s
FFC Flin Flon 125.14 16 PKPdf **PKPdf 09 46 35.2 +0.2**
FFC Flin Flon 125.14 16 IAMs_20 IAMs_20 10 47 31.3
comp=Z,9μm,21.0s
FFC Flin Flon 125.14 16 PKIKP **PKPdf 09 46 35.2 +0.2**
KMPM Mount Pierce 125.21 41 IAMs_20 IAMs_20 10 42 56.3
comp=Z,5μm,19.0s
YBH Yreka Blue Hor 125.41 39 IAMs_20 IAMs_20 10 49 13.2
comp=Z,5μm,22.0s
YBH Yreka Blue Hor 125.41 39 PKP **PKPdf 09 46 35.0 -1.1**
comp=Z,2.4nm,0.8s,baz=225,slow=1.4,SNR=5.2
YBH Yreka Blue Hor 125.41 39 PKIKP **PKPdf 09 46 35.0 -1.1**
MG05 Puerto Natales 125.41 186 IAMs_20 IAMs_20 10 40 45.8
comp=Z,6μm,19.0s
KMRM Mail Ridge 125.58 41 IAMs_20 IAMs_20 10 47 35.4
comp=Z,7μm,19.0s
I07A Izee 125.95 35 IAMs_20 IAMs_20 10 47 38.0
comp=Z,5μm,20.0s
O02D Mt. Diablo Mer 126.20 40 IAMs_20 IAMs_20 10 48 04.5
comp=Z,7μm,21.0s

BMO	**Blue Mountains** comp=Z,5µm,19.0s	126.68	33	IAMs_20	IAMs_20	10 49 02.0			
SCHQ	**Schefferville**	127.03	351	PKPdf	**PKiKP**	**09 46 39.1**	**0.0**		
SCHQ	**Schefferville** comp=Z,8.8nm,0.7s,baz=14,slow=2.3,SNR=13	127.03	351	PKP	**PKPdf**	**09 46 38.8**	**+0.2**		
MSO	**Missoula** comp=Z,8µm,18.0s	127.05	29	IAMs_20	IAMs_20	10 52 00.3			
PLID	**Pearl Lake** comp=Z,5µm,21.0s	127.22	32	IAMs_20	IAMs_20	10 51 48.2			
AFDM	**Forest Hills D**	128.05	41	PKPdf	**PKiKP**	**09 46 42.1**	**+0.4**		
EGMT	**Eagleton** comp=Z,8µm,22.0s	128.06	25	IAMs_20	IAMs_20	10 47 43.6			
MFID	**Camas Ranch** comp=Z,5µm,22.0s	128.42	33	IAMs_20	IAMs_20	10 53 03.3			
DLMT	**Dillon** comp=Z,7µm,20.0s	128.75	29	IAMs_20	IAMs_20	10 54 34.5			
BOZ	**Bozeman (W)** comp=Z,6µm,18.0s	129.05	28	IAMs_20	IAMs_20	10 54 41.2			
HLID	**Hailey** comp=Z,7µm,21.0s	129.09	32	IAMs_20	IAMs_20	10 53 13.7			
WAKR	**Walker** comp=Z,5µm,22.0s	129.29	40	IAMs_20	IAMs_20	10 52 43.2			
PMPB	**Monarch Peak** comp=Z,4µm,19.0s	129.63	44	IAMs_20	IAMs_20	10 49 38.6			
AY03	**Cochrane** comp=Z,8µm,22.0s	129.79	186	IAMs_20	IAMs_20	10 37 47.7			
YHL	**Hebgen Lake** comp=Z,6µm,22.0s	129.81	29	IAMs_20	IAMs_20	10 50 11.4			
YHB	**Horse Butte** comp=Z,6µm,22.0s	129.88	29	IAMs_20	IAMs_20	10 50 14.2			
DRLN	**Deer Lake** comp=Z,6µm,20.0s	129.91	341	IAMs_20	IAMs_20	10 50 52.9			
LHV	**Little Huntoon** comp=Z,5µm,20.0s	130.04	40	IAMs_20	IAMs_20	10 50 42.9			
YMR	**Madison River** comp=Z,5µm,21.0s	130.05	29	IAMs_20	IAMs_20	10 50 18.7			
NVAR	**Mina Array Bea** comp=Z,5.7nm,0.8s,baz=306,slow=3.4,SNR=10	130.06	40	PKP	**PKPdf**	**09 46 45.1**	**-0.1**		
NVAR	comp=Z,6.8nm,0.9s,baz=304,slow=7.8,SNR=5.1			PP	**PP**	**09 48 59.7**	**+2.7**		
NVAR	comp=Z,0.6nm,0.6s,baz=58,slow=3.2,SNR=3.7			SKKPbc	SKKPbc	09 59 46.4	-2.9		
YNM	**Yellowstone No** comp=Z,7µm,19.0s	130.13	29	IAMs_20	IAMs_20	10 55 59.9			
YNR	**Norris Junctio** comp=Z,7µm,18.0s	130.15	29	IAMs_20	IAMs_20	10 56 10.4			
YMP	**Mirror Lake Pl** comp=Z,8µm,19.0s	130.38	28	IAMs_20	IAMs_20	10 53 23.5			
ELK	**Elko** comp=Z,5µm,21.0s	130.50	35	IAMs_20	IAMs_20	10 54 40.6			
RLMT	**Red Lodge** comp=Z,6µm,21.0s	130.51	27	IAMs_20	IAMs_20	10 50 35.6			
Q09A	**Carvers** comp=Z,4µm,19.0s	130.53	39	IAMs_20	IAMs_20	10 50 54.8			
LAO	**LASA Array** comp=Z,5µm,20.0s	130.58	24	IAMs_20	IAMs_20	10 48 00.2			
FLWY	**Flagg Ranch** comp=Z,4µm,18.0s	130.61	29	IAMs_20	IAMs_20	10 56 33.6			
ULM	**Lac du Bonnet** comp=Z,14nm,0.6s,baz=337,slow=2.8,SNR=25	130.76	14	PKP	**PKPdf**	**09 46 45.9**	**0.0**		
ULM	comp=Z,12nm,1.2s,baz=342,slow=6.4,SNR=3.8			PP	**PP**	**09 48 59.8**	**-0.6**		
ULM	comp=Z,4.5nm,1.0s,baz=172,slow=4.7,SNR=4.0			SKKPbc	SKKPbc	09 59 45.4	-1.7		
FXWY	**Fox Creek** comp=Z,6µm,19.0s	130.77	30	IAMs_20	IAMs_20	10 53 31.1			
MOOW	**Moose Ponds** comp=Z,5µm,18.0s	130.83	30	IAMs_20	IAMs_20	10 53 58.6			
DSP	**Deep Springs** comp=Z,5µm,20.0s	130.89	41	IAMs_20	IAMs_20	10 51 24.6			
TPAW	**Teton Pass** comp=Z,7µm,20.0s	130.92	30	IAMs_20	IAMs_20	10 53 36.9			
LOHW	**Long Hollow** comp=Z,5µm,19.0s	131.00	30	IAMs_20	IAMs_20	10 54 21.1			
SNOW	**Snow King Moun** comp=Z,7µm,19.0s	131.04	30	IAMs_20	IAMs_20	10 53 49.1			
HVU	**Hansel Valley** comp=Z,6µm,18.0s	131.19	33	IAMs_20	IAMs_20	10 54 47.4			
AHID	**Auburn Hatcher** comp=Z,7µm,19.0s	131.37	31	IAMs_20	IAMs_20	10 53 57.0			
GRAC	**Grapevine Rang** comp=Z,4µm,21.0s	131.50	41	IAMs_20	IAMs_20	10 51 52.7			
ISA	**Isabella, Lake** comp=Z,5µm,22.0s	131.52	43	IAMs_20	IAMs_20	10 54 39.5			
BGU	**Big Grassy Mou** comp=Z,5µm,20.0s	131.63	34	IAMs_20	IAMs_20	10 55 11.5			
R11B	**Troy Canyon, C** baz=309	131.81	38	PKiKP	**PKPdf**	**09 46 48.6**	**+0.1**		
MDND	**Maddock** comp=Z,6µm,20.0s	131.94	18	IAMs_20	IAMs_20	10 52 28.6			
HWUT	**Hardware Ranch** comp=Z,8µm,20.0s	131.96	32	IAMs_20	IAMs_20	10 55 40.7			
PDAR	**Pinedale Array** comp=Z,0.5nm,0.8s,baz=310,slow=4.2,SNR=4.0	132.14	30	PKhKP	PKPpre	09 46 35.7			
PDAR	comp=Z,2.4nm,0.6s,baz=306,slow=4.0,SNR=13			PKP	**PKiKP**	**09 46 49.9**	**-0.2**		
PDAR	comp=Z,4.9nm,0.9s,baz=314,slow=7.7,SNR=5.0			PP	**PP**	**09 49 08.2**	**-2.0**		
PDAR	comp=Z,2.7nm,1.0s,baz=311,slow=3.7,SNR=1.5			SKPbc	**SKPab**	**09 50 16.0**	**+0.3**		
PDAR	comp=Z,4.3nm,1.0s,baz=312,slow=2.8,SNR=4.1			SKP		09 50 25.0			
SPR3	**Spring Creek 3** comp=Z,7µm,20.0s	132.16	37	IAMs_20	IAMs_20	10 56 01.8			
DUG	**Dugway, Tooele** comp=Z,5µm,20.0s	132.25	34	IAMs_20	IAMs_20	10 55 15.8			
CTU	**Camp Tracy** comp=Z,4µm,19.0s	132.50	33	IAMs_20	IAMs_20	10 57 49.2			
PASC	**Pasadena Art C** comp=Z,5µm,21.0s	132.53	44	IAMs_20	IAMs_20	10 48 00.5			
AGMN	**Agassiz Nation** comp=Z,9µm,21.0s	132.58	15	IAMs_20	IAMs_20	10 49 39.0			
AY01	**Puyuhuapi** comp=Z,8µm,21.0s	132.59	187	IAMs_20	IAMs_20	10 39 40.8			
E28A	**Huff** comp=Z,6µm,20.0s	132.72	20	IAMs_20	IAMs_20	10 52 11.3			
JLU	**Jordanelle** comp=Z,7µm,20.0s	132.73	33	IAMs_20	IAMs_20	10 56 21.1			
PSUT	**Pine Spring** comp=Z,5µm,21.0s	132.75	37	IAMs_20	IAMs_20	10 56 25.3			
MPU	**Maple Canyon** comp=Z,4µm,19.0s	133.03	34	IAMs_20	IAMs_20	10 56 09.4			
BSUT	**Blindstream Ca** comp=Z,7µm,18.0s	133.14	32	IAMs_20	IAMs_20	10 56 19.1			
TCRU	**Three Creeks R** comp=Z,5µm,20.0s	133.53	36	IAMs_20	IAMs_20	10 58 41.8			
RSSD	**Black Hills** comp=Z,5µm,20.0s	133.57	24	IAMs_20	IAMs_20	10 54 46.2			
LL02	**Futaleuf** comp=Z,6µm,20.0s	133.70	188	IAMs_20	IAMs_20	10 44 29.0			
V12A	**Nelson** comp=Z,5µm,20.0s	133.88	40	IAMs_20	IAMs_20	10 51 58.9			
PFO	**Pinyon Flats O**	134.04	44		**PKPdf**	**09 46 49.5**	**-3.2**		
PFO	**Pinyon Flats O**	134.04	44	PKiKP	**PKPdf**	**09 46 49.5**	**-3.2**		
Q16A	**Castle Valley** comp=Z,5µm,20.0s	134.05	34	IAMs_20	IAMs_20	10 57 16.4			
MTPU	**Mount Pierson** comp=Z,5µm,20.0s	134.06	36	IAMs_20	IAMs_20	10 56 14.9			
P18A	**Preston Nutter** comp=Z,6µm,19.0s	134.07	33	IAMs_20	IAMs_20	10 57 01.6			
LL07	**Hotel Espejo d** comp=Z,8µm,20.0s	134.26	187	IAMs_20	IAMs_20	10 40 53.8			
SRU	**San Rafael Swe** comp=Z,6µm,18.0s	134.28	34	IAMs_20	IAMs_20	10 57 14.3			
LDAQ	**Lac Daran**	134.37	352	PKPdf	**PKiKP**	**09 46 54.3**	**+0.1**		
LDAQ	comp=Z,8µm,21.0s			IAMs_20	IAMs_20	10 54 12.8			
LL01	**San Ignacio de** comp=Z,7µm,20.0s	134.57	188	IAMs_20	IAMs_20	10 40 33.2			
GBN	**Guysborough** comp=Z,7µm,19.0s	134.59	342	IAMs_20	IAMs_20	10 59 13.6			
LMQ	**La Malbaie** comp=Z,6µm,20.0s	134.64	351	IAMs_20	IAMs_20	10 55 02.9			
F33A	**5 Mile Ranch,** comp=Z,6µm,20.0s	134.73	16	IAMs_20	IAMs_20	10 53 37.1			
O20A	**White River Ci** comp=Z,5µm,20.0s	134.76	31	IAMs_20	IAMs_20	10 56 06.7			
LL06	**Loncomilla** comp=Z,8µm,20.0s	134.88	186	IAMs_20	IAMs_20	10 41 12.4			
SUSD	**Miller** comp=Z,7µm,21.0s	135.18	19	IAMs_20	IAMs_20	10 50 21.3			
BLYC	**Blythe** comp=Z,4µm,20.0s	135.28	42	IAMs_20	IAMs_20	10 58 49.0			
ESJX	**Sierra Juarez** comp=Z,4µm,20.0s	135.28	45	IAMs_20	IAMs_20	10 53 15.5			
N23A	**Red Feather La** comp=Z,6µm,18.0s	135.32	28	IAMs_20	IAMs_20	10 57 48.1			
N23A	**Red Feather La** baz=322	135.32	28	PKiKP	**PKPdf**	**09 46 54.6**	**-0.5**		
RCBR	**Riachuelo** comp=Z,4µm,20.0s	135.33	259	IAMs_20	IAMs_20	10 38 23.3			
LL05	**Los Muermos** comp=Z,7µm,21.0s	135.66	187	IAMs_20	IAMs_20	10 41 24.1			
VTX	**Valle De La Tr** comp=Z,4µm,20.0s	135.73	46	IAMs_20	IAMs_20	10 54 42.5			
LL03	**Petrohue** comp=Z,7µm,20.0s	135.79	188	IAMs_20	IAMs_20	10 45 46.4			
PLCA	**Paso Flores** comp=Z,1.9nm,0.7s,baz=200,slow=1.6,SNR=6.0	135.89	190	PKP	**PKPdf**	**09 46 53.6**	**-2.3**		
HAL	**Halifax** comp=Z,7µm,20.0s	135.91	343	IAMs_20	IAMs_20	10 53 48.5			
LL04	**Puerto Octay** comp=Z,7µm,20.0s	136.01	188	IAMs_20	IAMs_20	10 45 52.3			
TRQA	**Tornquist** comp=Z,5µm,18.0s	136.16	200	IAMs_20	IAMs_20	10 52 01.3			
SPMN	**Marine on St.** comp=Z,5µm,20.0s	136.19	13	IAMs_20	IAMs_20	10 56 51.5			
WUAZ	**Wupatki** comp=Z,4µm,20.0s	136.22	38	IAMs_20	IAMs_20	11 00 47.3			
BRIGG	**Briggsdale** comp=Z,4µm,20.0s	136.32	27	IAMs_20	IAMs_20	10 56 20.5			
ISCO	**Idaho Springs** comp=Z,5µm,19.0s	136.33	29	IAMs_20	IAMs_20	10 57 42.9			
ECSD	**EROS Data Cent** comp=Z,5µm,19.0s	136.56	18	IAMs_20	IAMs_20	10 55 19.6			
LR05	**Currie** comp=Z,7µm,20.0s	136.62	189	IAMs_20	IAMs_20	10 46 34.4			
PKME	**Peaks-Kenny Pk** comp=Z,5µm,18.0s	136.67	349	IAMs_20	IAMs_20	10 58 50.7			
MVCO	**Mesa Verde** comp=Z,6µm,19.0s	136.75	34	IAMs_20	IAMs_20	10 57 55.1			
X16A	**Lo Mia Camp, P** comp=Z,6µm,22.0s	136.88	39	IAMs_20	IAMs_20	10 54 28.2			
G62A	**Weis of Eustis** comp=Z,7µm,19.0s	136.94	350	IAMs_20	IAMs_20	10 55 17.7			
MNTQ	**Montreal, Queb** comp=Z,6µm,19.0s	137.09	354	IAMs_20	IAMs_20	10 57 51.9			
Q24A	**Divide** comp=Z,4µm,19.0s	137.20	29	IAMs_20	IAMs_20	10 58 21.1			
Q24A	**Divide** baz=321	137.20	29	PKiKP	**PKPdf**	**09 46 58.1**	**-0.7**		
S22A	**4UR Ranch, Cre** baz=318	137.27	32	PKiKP	**PKPdf**	**09 46 58.1**	**-0.8**		
WVL	**Waterville** comp=Z,7µm,21.0s	137.42	349	IAMs_20	IAMs_20	10 54 27.4			
FRNY	**Flat Rock** comp=Z,6µm,19.0s	137.74	353	IAMs_20	IAMs_20	10 56 19.1			
X18A	**Snowflake** comp=Z,5µm,22.0s	137.74	38	IAMs_20	IAMs_20	10 54 31.7			
GLMI	**Grayling** comp=Z,7µm,21.0s	137.90	5	IAMs_20	IAMs_20	10 54 14.8			
SDCO	**Great Sand Dun** comp=Z,5µm,20.0s	137.96	31	IAMs_20	IAMs_20	10 59 02.4			
LONY	**Lake Ozonia** comp=Z,6µm,19.0s	138.06	354	IAMs_20	IAMs_20	10 59 20.6			
I63A	**Otisfield** comp=Z,7µm,20.0s	138.08	350	IAMs_20	IAMs_20	10 55 07.0			
LBNH	**Lisbon** comp=Z,6µm,19.0s	138.11	352	IAMs_20	IAMs_20	10 59 52.8			
BGNE	**Belgrade** comp=Z,6µm,18.0s	138.13	21	IAMs_20	IAMs_20	10 59 03.7			
VT1	**Waterbury** comp=Z,7µm,20.0s	138.14	352	IAMs_20	IAMs_20	10 55 40.8			
L34A	**Svendsen Farm,** comp=Z,7µm,20.0s	138.23	19	IAMs_20	IAMs_20	10 56 23.0			
KSCO	**Kaye Shedlock'** comp=Z,5µm,20.0s	138.36	27	IAMs_20	IAMs_20	10 58 36.4			
DELO	**Deloro Mine** comp=Z,8µm,21.0s	138.37	358	IAMs_20	IAMs_20	10 52 50.0			
TUC	**Tucson** comp=Z,4µm,20.0s	138.65	41	IAMs_20	IAMs_20	11 00 19.0			
NCB	**Newcomb** comp=Z,6µm,20.0s	138.67	354	IAMs_20	IAMs_20	10 56 01.5			
HNH	**Hanover** comp=Z,7µm,19.0s	138.69	352	IAMs_20	IAMs_20	10 59 01.1			
TBOT	**Tacuaremb**	138.91	212	*eP*	**PKiKP**	**09 47 03.2**	**-0.7**		
PECO	**Prince Edward** comp=Z,8µm,22.0s	138.93	357	IAMs_20	IAMs_20	10 53 32.6			
T25A	**Trinidad** comp=Z,4µm,20.0s	138.98	30	IAMs_20	IAMs_20	10 58 00.4			
T25A	**Trinidad** baz=321	138.98	30	PKiKP	**PKPdf**	**09 47 01.5**	**-0.4**		
VAO	**Valinhos** comp=Z,6µm,20.0s	139.00	230	IAMs_20	IAMs_20	10 36 02.3			
SPB	**Sao Paulo** comp=Z,6µm,20.0s	139.01	228	IAMs_20	IAMs_20	10 37 12.4			
ACCN	**Adirondack Com** comp=Z,6µm,19.0s	139.18	353	IAMs_20	IAMs_20	10 57 19.2			
J59A	**Piesco** comp=Z,6µm,21.0s	139.20	354	IAMs_20	IAMs_20	10 56 14.6			
SCIA	**State Center** comp=Z,7µm,22.0s	139.21	15	IAMs_20	IAMs_20	10 54 03.6			
J57A	**Williamstown** comp=Z,7µm,18.0s	139.38	356	IAMs_20	IAMs_20	10 57 14.6			
K43A	**Burlington** comp=Z,7µm,20.0s	139.51	10	IAMs_20	IAMs_20	10 58 35.8			
ANMO	**Albuquerque** comp=Z,6µm,20.0s	139.52	35	IAMs_20	IAMs_20	11 00 12.3			
CBKS	**Cedar Bluff** comp=Z,4µm,19.0s	139.77	24	IAMs_20	IAMs_20	10 58 12.5			
TRY	**Troy** comp=Z,7µm,21.0s	139.83	353	IAMs_20	IAMs_20	10 56 30.3			
Y22D	**IRIS PASSCAL I** comp=Z,5µm,22.0s	139.88	36	IAMs_20	IAMs_20	10 57 19.9			
Y22D	**IRIS PASSCAL I** baz=315	139.88	36	PKiKP	**PKPdf**	**09 47 02.5**	**-1.0**		
L61B	**Northampton** comp=Z,7µm,19.0s	139.97	352	IAMs_20	IAMs_20	10 59 28.1			
L61B	**Northampton** baz=11	139.97	352	PKiKP	**PKPdf**	**09 47 01.6**	**-1.7**		
L44A	**Lake County Fo** baz=348	140.09	9	PKiKP	**PKPdf**	**09 47 03.3**	**-0.2**		
BI05	**Punta Hualpn** comp=Z,6µm,20.0s	140.21	188	IAMs_20	IAMs_20	10 45 34.4			
319A	**Douglas** comp=Z,4µm,20.0s	140.22	41	IAMs_20	IAMs_20	11 03 16.8			
N38A	**Joes South For** comp=Z,5µm,21.0s	140.25	16	IAMs_20	IAMs_20	10 56 24.0			
121A	**Cookes Peak, D** comp=Z,5µm,18.0s	140.42	38	IAMs_20	IAMs_20	11 03 09.7			
121A	**Cookes Peak, D** baz=313	140.42	38	PKiKP	**PKPdf**	**09 47 03.5**	**-1.1**		
M65A	**Busby, Falmout** comp=Z,7µm,20.0s	140.50	349	IAMs_20	IAMs_20	10 57 16.1			
WVNY	**West Valley, N** comp=Z,8µm,22.0s	140.51	359	IAMs_20	IAMs_20	10 53 42.7			
HSIG		140.52	45	PKPdf	**PKPdf**	**09 47 00.8**	**-3.9**		
SRIG	**Santa Rosalia** comp=Z,4µm,20.0s	140.53	49	IAMs_20	IAMs_20	10 47 36.8			
UCCT	**U. Connecticut** comp=Z,7µm,19.0s	140.55	351	IAMs_20	IAMs_20	10 59 57.3			
KSU1	**Kansas State U** comp=Z,6µm,19.0s	140.72	21	IAMs_20	IAMs_20	11 01 07.2			
L56A	**Greenwood**	140.75	357	PKPdf	**PKPdf**	**09 47 04.6**	**-0.2**		
ML02	**Panimavida** comp=Z,7µm,22.0s	140.88	191	IAMs_20	IAMs_20	10 44 22.1			
M63A	**Gales Ferry** comp=Z,6µm,18.0s	140.90	351	IAMs_20	IAMs_20	10 58 09.6			
N41A	**Harden Midland** comp=Z,6µm,20.0s	140.93	13	IAMs_20	IAMs_20	10 57 15.8			
M52A	**Chesterland** comp=Z,5µm,20.0s	141.37	2	IAMs_20	IAMs_20	10 57 24.5			
BO02	**Sierra Bellavi** comp=Z,5µm,21.0s	141.69	192	IAMs_20	IAMs_20	10 45 27.6			
SFIN	**Lafayette** comp=Z,6µm,18.0s	141.98	9	IAMs_20	IAMs_20	11 01 11.1			
N58A	**Sunbury**	141.99	356		**PKPdf**	**09 47 07.3**	**+0.3**		
N58A	comp=Z,6µm,19.0s			IAMs_20	IAMs_20	10 59 41.7			
AMTX	**Amarillo** comp=Z,5µm,20.0s	142.12	30	IAMs_20	IAMs_20	10 55 55.4			
BO01	**Tunca** comp=Z,6µm,22.0s	142.14	192	IAMs_20	IAMs_20	10 44 30.6			
SSPA	**Standing Stone**	142.26	358		**PKPdf**	**09 47 06.7**	**-0.8**		
SSPA	**Standing Stone** comp=Z,6µm,22.0s	142.26	358	IAMs_20	IAMs_20	10 54 36.8			
O48B	**Farmland** baz=352	142.36	7	PKiKP	**PKPdf**	**09 47 05.7**	**-1.9**		
BO04	**La Punta** comp=Z,7µm,20.0s	142.43	193	IAMs_20	IAMs_20	10 47 19.2			
LMEL	**Las Melosas** comp=Z,5µm,18.0s	142.48	193	IAMs_20	IAMs_20	10 50 33.4			
MT13	**San Alfonso** comp=Z,5µm,19.0s	142.59	193	IAMs_20	IAMs_20	10 53 20.5			
MT01	**Popeta** comp=Z,6µm,21.0s	142.69	192	IAMs_20	IAMs_20	10 46 26.0			
MT09	**Talagante** comp=Z,6µm,21.0s	142.72	192	IAMs_20	IAMs_20	10 46 29.8			
WUPA	**West Chester U** comp=Z,6µm,22.0s	142.80	355	IAMs_20	IAMs_20	10 54 56.1			
MT08	**Bocatoma Ro** comp=Z,4µm,21.0s	142.82	194	IAMs_20	IAMs_20	10 43 04.5			
MT03	**Universidad Ad** comp=Z,7µm,21.0s	142.89	193	IAMs_20	IAMs_20	10 46 41.2			
MT16	**CCHEN** comp=Z,7µm,21.0s	142.95	193	IAMs_20	IAMs_20	10 47 05.0			
VA05	**Santo Domingo** comp=Z,4µm,19.0s	142.96	191	IAMs_20	IAMs_20	10 49 31.2			
MT05	**Renca** comp=Z,7µm,21.0s	143.03	193	IAMs_20	IAMs_20	10 47 15.2			
SLM	**Saint Louis** comp=Z,6µm,21.0s	143.04	14	IAMs_20	IAMs_20	10 57 27.8			
BLO	**Bloomington** comp=Z,7µm,19.0s	143.25	9	IAMs_20	IAMs_20	10 57 21.7			
MT02	**Curacav** comp=Z,6µm,22.0s	143.25	192	IAMs_20	IAMs_20	10 44 50.8			
PEL	**Peldehue** comp=Z,7µm,21.0s	143.26	193	IAMs_20	IAMs_20	10 47 02.1			
QUOK	**Quay** comp=Z,7µm,21.0s	143.27	23	IAMs_20	IAMs_20	10 58 58.8			
MCWV	**Mont Chateau** comp=Z,8µm,22.0s	143.27	0	IAMs_20	IAMs_20	10 54 47.8			
SDMD	**Soldier's Deli**	143.42	356		**PKPdf**	**09 47 08.5**	**-1.0**		
VA01	**Torpederas** comp=Z,5µm,20.0s	143.58	192	IAMs_20	IAMs_20	10 47 01.6			
VA03	**San Esteban** comp=Z,7µm,22.0s	143.60	193	IAMs_20	IAMs_20	10 46 40.0			
FVM	**French Village** comp=Z,7µm,19.0s	143.62	14	IAMs_20	IAMs_20	11 00 45.2			
BDFB	**Brasilia** comp=Z,4.4nm,0.6s,baz=71,slow=2.3,SNR=4.8	143.62	239	PKP	PKPbc	09 47 08.7	+0.7		
DEOK	**Depew**	143.64	23	PKPdf	PKPbc	09 47 07.3	-0.1		
CPUP	**Villa Florida**	143.82	216	PKPdf	PKPbc	09 47 08.5	+0.3		
CPUP	**Villa Florida** comp=Z,9.5nm,1.0s,baz=156,slow=3.9,SNR=14	143.82	216	PKP	PKPbc	09 47 08.6	+0.4		
VA06	**Catapilco** comp=Z,5µm,22.0s	143.96	192	IAMs_20	IAMs_20	10 46 31.5			
W35A	**Tecumseh**	144.08	24	PKPdf	PKPbc	09 47 08.9	+0.1		
APMT	**Aspermont**	144.14	30		PKPbc	09 47 09.3	+0.3		
X34A	**Smith Ranch, M** comp=Z,7µm,20.0s	144.15	26	IAMs_20	IAMs_20	10 59 14.6			
SLBS	**Sierra La Lagu**	144.20	52	PKPdf	**PKPdf**	**09 47 10.9**	**-0.5**		
SLBS	**Sierra La Lagu** comp=Z,4µm,21.0s	144.20	52	IAMs_20	IAMs_20	10 59 41.5			
WCI	**Wyandotte Cave**	144.21	9		PKPbc	09 47 09.0	0.0		
WCI	**Wyandotte Cave**	144.21	9	PKiKP	PKPbc	09 47 09.0	0.0		
USIN	**University of** comp=Z,6µm,20.0s	144.23	11	IAMs_20	IAMs_20	10 58 26.0			
ZON	**Zonda** comp=Z,5µm,19.0s	144.28	196	IAMs_20	IAMs_20	10 51 36.2			
R61A	**Willards** comp=Z,5µm,18.0s	144.37	354	IAMs_20	IAMs_20	11 00 05.4			
S54A	**Dingess, Beckl** comp=Z,6µm,19.0s	145.10	2	IAMs_20	IAMs_20	11 00 41.3			
TXAR	**Lajitas Array** comp=Z,178nm,0.8s,baz=323,slow=2.1,SNR=484	145.18	38	PKPbc	**PKPdf**	**09 47 13.3**	**+0.2**		
LCAR	**Lake Charles** comp=Z,8µm,22.0s	145.23	16	IAMs_20	IAMs_20	10 56 00.1			
HICK	**Hickman** comp=Z,6µm,20.0s	145.28	13	IAMs_20	IAMs_20	11 03 48.0			
FW03	**Perrin-Whitt E** comp=Z,6µm,20.0s	145.36	28	IAMs_20	IAMs_20	11 00 17.8			
CO03	**El Pedregal** comp=Z,6µm,21.0s	145.47	194	IAMs_20	IAMs_20	10 48 01.8			
HPIG	comp=Z,4µm,19.0s	145.49	43	IAMs_20	IAMs_20	11 05 27.5			
PEBM	**Pemiscott Bayo** comp=Z,6µm,21.0s	145.53	14	IAMs_20	IAMs_20	10 59 40.8			
WHAR	**Wooly Hollow** comp=Z,5µm,20.0s	145.62	18	IAMs_20	IAMs_20	11 06 13.6			
GNAR	**Gosnell** comp=Z,6µm,22.0s	145.64	15	IAMs_20	IAMs_20	10 59 09.5			
FW06	**Azle** comp=Z,7µm,19.0s	145.65	27	IAMs_20	IAMs_20	11 03 27.4			
HALT	**Halls** comp=Z,6µm,19.0s	145.85	14	IAMs_20	IAMs_20	11 00 09.2			
MIAR	**Mount Ida** comp=Z,6µm,18.0s	145.88	21	IAMs_20	IAMs_20	11 02 37.6			
UALR	**University of** comp=Z,7µm,20.0s	146.08	19	IAMs_20	IAMs_20	11 00 10.7			
GO04	**Tololo Observa** comp=Z,4µm,20.0s	146.14	194	IAMs_20	IAMs_20	10 48 49.4			
X40A	**Basin Creek Fa** comp=Z,6µm,19.0s	146.18	20	IAMs_20	IAMs_20	11 04 46.6			
FW14	**Alvarado** comp=Z,4µm,20.0s	146.29	27	IAMs_20	IAMs_20	11 00 16.5			
U54A	**Nelsons Funny** comp=Z,6µm,19.0s	146.35	3	IAMs_20	IAMs_20	11 02 08.5			
CO05	**La Serena** comp=Z,5µm,21.0s	146.49	194	IAMs_20	IAMs_20	10 48 09.6			
JCT	**Junction City** comp=Z,5µm,21.0s	146.56	32	IAMs_20	IAMs_20	11 02 40.4			
V61A	**Roper** comp=Z,5µm,19.0s	147.00	355	IAMs_20	IAMs_20	11 02 37.2			
SWET	**Sewanee** comp=Z,7µm,21.0s	147.21	9	IAMs_20	IAMs_20	10 58 33.7			
LCO	**Las Campanas** comp=Z,5µm,20.0s	147.22	195	IAMs_20	IAMs_20	10 50 27.1			
237A	**Washetta, Mont** comp=Z,6µm,19.0s	147.25	26	IAMs_20	IAMs_20	11 04 01.6			
BBSR	**BB Station** comp=Z,5µm,20.0s	147.30	336	IAMs_20	IAMs_20	11 02 19.1			
Z41A	**Richland Creek** comp=Z,7µm,20.0s	147.31	20	IAMs_20	IAMs_20	11 01 14.6			
435B	**Jarrell** baz=326	147.45	29	PKiKP	**PKPbc**	**09 47 18.1**	**-1.1**		
FPAL	**Fort Paine** comp=Z,5µm,20.0s	147.92	9	IAMs_20	IAMs_20	11 00 38.6			
NATX	**

SMRT	St. Maarten	157.64	314	IAMs_20	IAMs_20	10 59 24.2
	comp=Z,4μm,21.0s					
CBE	Ff, Capester	157.74	308	IAMs_20	IAMs_20	11 13 06.2
	comp=Z,4μm,19.0s					
GDHS	Morne Mazeau,	157.74	308	IAMs_20	IAMs_20	10 57 29.1
	comp=Z,4μm,20.0s					
LPAZ	La Paz	157.83	211	PKP	PKPdf	09 47 33.1 0.0
	comp=Z,3.7nm,0.8s,baz=172,slow=2.4,SNR=11					
LPAZ				PKPab	PKPab	09 48 05.5 -0.1
	comp=Z,3.8nm,0.6s,baz=153,slow=2.3,SNR=5.0					
TDBA	Terre de Bas,	157.88	307	IAMs_20	IAMs_20	11 13 40.9
	comp=Z,4μm,20.0s					
SEUS	St. Eustatius	157.93	313	IAMs_20	IAMs_20	10 57 27.9
	comp=Z,4μm,21.0s					
MPOM	Morne Pois Mar	157.99	303	IAMs_20	IAMs_20	11 12 14.1
	comp=Z,4μm,21.0s					
SABA	Saba	158.04	313	IAMs_20	IAMs_20	10 57 44.8
	comp=Z,4μm,21.0s					
FDF	Fort de France	158.09	304	IAMs_20	IAMs_20	11 10 44.5
	comp=Z,4μm,22.0s					
BIM	Bigot	158.13	303	IAMs_20	IAMs_20	11 11 01.7
	comp=Z,4μm,22.0s					
HUMP	Col San Antoni	159.49	319	IAMs_20	IAMs_20	11 14 05.7
	comp=Z,3μm,18.0s					
GCPR	Guaynabo City	159.52	320	IAMs_20	IAMs_20	10 59 46.5
	comp=Z,5μm,21.0s					
GRTK	Grand Turk	159.54	336	IAMs_20	IAMs_20	11 09 26.3
	comp=Z,4μm,20.0s					
EMPR	Esperanza - Ma	159.68	321	IAMs_20	IAMs_20	11 15 19.6
	comp=Z,3μm,19.0s					
SJG	San Juan	159.70	320	IAMs_20	IAMs_20	11 04 01.5
	comp=Z,5μm,22.0s					
GRGR	Grenville	159.75	298	IAMs_20	IAMs_20	11 16 42.1
	comp=Z,4μm,20.0s					
IGPR	InterUniversit	159.78	319	IAMs_20	IAMs_20	11 04 48.5
	comp=Z,4μm,21.0s					
UUPR	Utuado, UPR, P	159.96	321	IAMs_20	IAMs_20	11 08 25.2
	comp=Z,3μm,22.0s					
RUSC	La Rusia	172.61	295		PKPdf	09 47 43.4 -2.0
ROSC	El Rosal	174.15	291	PKP	PKPdf	09 47 45.7 -0.2
	comp=Z,6.2nm,0.4s,baz=139,slow=2.9,SNR=6.2					
ROSC				PP	PP	09 53 08.7 -1.0
	comp=Z,5.1nm,0.3s,baz=75,slow=20,SNR=3.9					

*REY **02** 09:31:08.6, 69.84N×14.04W, h10km*
*IDC **02** 09:31:12.3±1.1, 69.91N×15.52W, h0km, mb3.6/5, mbtmp3.8/9, ML3.2/4, MS3.4/2, Error ellipse: s-maj=29.6km s-min=19.4km az=32.0*

ISC 02 09:31:12.5±0.8, 69.77N±0.09×15.02W±0.10, h10km, n26, σ1°35/25, mb3.6/5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILEI	Leirhofn	3.43	190	P	Pn	09 32 04.3	-1.5
IGRI	Grimsey	3.43	200	P	Pn	09 32 05.5	-0.4
IGIL	Gilhagi	3.75	188	P	Pn	09 32 08.9	-1.3
IHED	Heoinshofoi	3.81	194	P	Pn	09 32 10.2	-0.9
IDIM	Dimmadalss	3.90	192	P	Pn	09 32 11.1	-1.2
ISIG	Siglufjorour	3.94	204	P	Pn	09 32 13.2	+0.2
ISKI	Skildingahlsh	4.00	192	P	Pn	09 32 12.9	-0.8
IGHA	Grjothals	4.00	190	P	Pn	09 32 12.5	-1.3
IHLA	Hella	4.05	200	P	Pn	09 32 14.8	+0.3
IKVO	Krokottuvotn	4.14	191	P	Pn	09 32 14.8	-0.9
IHRN	Hraun	4.15	210	P	Pn	09 32 16.0	+0.2
IGRS	Grimsstaoir	4.18	186	P	Pn	09 32 15.4	-0.8
IREN	Reynihlio	4.21	191	P	Pn	09 32 16.0	-0.6
IMEL	Melhnausar	4.27	189	P	Pn	09 32 16.3	-1.2
ISVA	Svartarkot	4.54	192	P	Pn	09 32 20.9	-0.3
IADA	Aoalbol	4.78	183	P	Pn	09 32 23.6	-1.0
BORG	Borgarnes	5.61	209	Pn	Pn	09 32 37.0	+1.2
	2.1nm,0.3s,baz=18,slow=9.2,SNR=9.0						
BORG				LR	LR	09 34 16.8	
	comp=Z,329nm,21.2s,baz=313,slow=33						
SPITS	Spitsbergen Ar	11.86	31	Pn	Pn	09 34 00.9	-0.5
	baz=236,slow=15						
	13nm,0.9s						
NOA	NORSAR Array B	13.86	116	LR	LR	09 39 21.4	
	comp=Z,216nm,19.8s,baz=80,slow=35						
HFS	Hagfors	15.34	115	Pn	P	09 34 51.1	-2.4
	0.2nm,0.3s,baz=331,slow=5.6,SNR=3.6						
	1.5nm,0.8s						
FINES	FINESS Array B	18.52	96	P	Pn	09 35 31.1	+2.3
	0.1nm,0.3s,baz=327,slow=7.3,SNR=6.0						
	4.9nm,0.8s						
GERES	GERESS Array B	25.13	132	P	P	09 36 40.9	+3.6
	1.0nm,0.8s,baz=354,slow=6.1,SNR=4.6						
	1.0nm,0.8s						
YKA	Yellowknife Ar	36.53	310	P	P	09 38 16.9	-0.6
	1.1nm,1.0s,baz=32,slow=7.9,SNR=12						
	1.1nm,1.0s						
ILAR	Eielson Array	41.62	331	P	P	09 39 00.4	+0.3
	1.0nm,1.1s,baz=27,slow=8.1,SNR=6.2						
	1.0nm,1.1s						
PDAR	Pinedale Array	52.12	292	P	P	09 40 21.9	-0.8
	0.7nm,1.0s,baz=30,slow=6.2,SNR=3.7						
	0.7nm,1.0s						
TXAR	Lajitas Array	62.35	280	P	P	09 41 34.8	-0.1
	0.5nm,0.9s,baz=26,slow=3.3,SNR=3.7						
	0.5nm,0.9s						

JMA 02 09:36:36.4±0.1, 36.2N±0.2×138.0E±0.2, h6km, MV-0.1/16, CENTRAL NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.23	31	eP	Pg	09 36 41.0	0.0
JNG				eS	Sg	09 36 44.3	+0.3
JNT	Takato	0.37	156	eS	Sg	09 36 48.5	+0.1

*IDC **02** 09:38:08.3±3.0, 2.83S×100.06E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=105.8km s-min=26.1km az=58.0*
*DJA **02** 09:38:10.9±0.7, 3.5S±5.3×10.0E±.7, h24km±4km, M4.4/7, MLv4.4/7*

ISC 02 09:38:11.3±1.4, 2.86S±0.09×100.0E±0.1, h24km±8km, n21, σ0°47/14, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.10	13	P	Pb	09 38 16.0	+0.2
SISI	Saibi	1.77	330	P	Pn	09 38 40.0	-0.5
SISI				S	Sn	09 39 02.6	+0.4
PPI	Padang Panjang	2.42	10	P	Pn	09 38 49.2	-0.3
PPI				S	Sn	09 39 18.0	-0.4
PBSI	Pulau Batu	3.27	329	P	Pn	09 39 00.2	-0.9
MNAI	Manna	3.32	117	P	Pn	09 39 01.2	-0.6
BKNI	Bangkinang	3.34	18	P	Pn	09 39 01.6	-0.5
H08S2	Diego Garcia H	27.78	259	T	T	10 12 51.6	
	baz=81						
H08S3	Diego Garcia H	27.79	259	T	T	10 12 52.1	
	baz=81						
H08S1	Diego Garcia H	27.80	259	T	T	10 12 55.8	
	baz=81						
WRA	Warramunga Arr	37.58	119	P	P	09 45 24.3	0.0
	1.1nm,0.8s,baz=309,slow=9.0,SNR=1.6						
	1.1nm,0.8s						
ASAR	Alice Springs	38.76	125	P	P	09 45 34.3	0.0
	1.5nm,1.0s,baz=298,slow=8.8,SNR=1.9						
	1.5nm,1.0s						
SONM	Songino Array	50.80	6	P	P	09 47 10.1	+0.2
	1.1nm,0.7s,baz=183,slow=9.3,SNR=2.8						
	1.1nm,0.7s						
MKAR	Makanchi Array	51.85	345	P	P	09 47 17.9	+0.3
	1.6nm,0.8s,baz=152,slow=8.6,SNR=7.0						
	1.6nm,0.8s						
USRK	Ussuriysk Ar.	54.92	28	P	P	09 47 40.3	+0.1
	0.7nm,0.4s,baz=213,slow=6.9,SNR=6.2						
	0.7nm,0.4s						
H04N2	CROZET ISLANDS	60.10	217	T	T	10 53 26.8	
	baz=59						
H04N1	CROZET ISLANDS	60.11	217	T	T	10 53 27.3	
	baz=59						
H04N3	CROZET ISLANDS	60.12	217	T	T	10 53 26.0	
	baz=59						
H04S1	CROZET ISLANDS	60.38	216	T	T	10 53 45.4	
	baz=62						
H04S3	CROZET ISLANDS	60.40	216	T	T	10 53 44.9	
	baz=62						
H04S2	CROZET ISLANDS	60.40	216	T	T	10 53 46.2	
	baz=62						
TXAR	Lajitas Array	145.39	38	PKPbc	PKPab	09 57 48.4	+0.2
	0.4nm,0.5s,baz=312,slow=1.8,SNR=5.3						

*DJA **02** 09:39:17.3±1.0, 3.5S±7.3×10.0E±.7, h23km±5km, M4.8/7, mb4.8/1, MLv4.8/7*
*IDC **02** 09:39:17.2±3.5, 2.66S×100.19E, h0km, mb3.9/6, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=150.7km s-min=20.1km az=56.0*

ISC 02 09:39:20.0±1.0, 2.8S±0.1×100.1E±0.1, h27km, n21, σ1°23/16, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.09	325	P	Pb	09 39 23.9	-0.9
SISI	Saibi	1.79	327	P	Pn	09 39 48.0	-1.1
SISI				S	Sn	09 40 10.9	0.0
PPI	Padang Panjang	2.39	8	P	Pn	09 39 57.1	-0.2
KSI	Kapahiang	2.66	108	P	Pn	09 39 58.7	-2.4
PBSI	Pulau Batu	3.29	327	P	Pn	09 40 08.2	-1.5
PSI	Prapat	5.71	349	Pn	Pn	09 40 42.1	-1.1
	0.4nm,0.3s,baz=162,slow=20,SNR=1.4						
	1.9nm,0.4s						
SNSI	Sinabang, Aceh	6.41	324	P	Pn	09 40 51.8	-0.9
FITZ	Fitzroy Crossi	29.30	123	P	P	09 45 20.9	+0.4
	2.7nm,0.8s,baz=307,slow=5.1,SNR=1.4						
	2.7nm,0.8s						
WRA	Warramunga Arr	37.53	120	P	P	09 46 32.2	+0.1
	0.4nm,0.6s,baz=302,slow=7.9,SNR=1.4						
	0.4nm,0.6s						
ASAR	Alice Springs	38.72	125	P	P	09 46 44.8	+2.7
	0.5nm,0.6s,baz=296,slow=8.7,SNR=1.4						
	0.5nm,0.6s						
SONM	Songino Array	50.76	6	P	P	09 48 17.4	-0.4
	1.0nm,0.6s,baz=189,slow=9.5,SNR=3.9						
	1.0nm,0.6s						
CN2	Changchun	51.72	23	eP	P	09 48 25.2	+0.3
MKAR	Makanchi Array	51.84	345	P	P	09 48 25.7	-0.1
	1.2nm,0.6s,baz=155,slow=8.1,SNR=8.8						
	1.2nm,0.6s						
KURBB	Kurchatov Arra	56.36	344	P	P	09 48 58.8	+0.1
	1.6nm,0.2s,baz=171,slow=7.2,SNR=2.2						
	1.6nm,0.2s						
H04N2	CROZET ISLANDS	60.16	217	T	T	10 54 33.8	
	baz=59						
H04N1	CROZET ISLANDS	60.18	217	T	T	10 54 40.5	
	baz=59						
H04N3	CROZET ISLANDS	60.18	217	T	T	10 54 39.4	
	baz=59						
H04S1	CROZET ISLANDS	60.45	216	T	T	10 54 58.7	
	baz=59						
H04S3	CROZET ISLANDS	60.46	216	T	T	10 54 58.2	
	baz=59						
H04S2	CROZET ISLANDS	60.47	216	T	T	10 54 59.6	
	baz=59						
TXAR	Lajitas Array	145.32	38	PKPbc	PKPdf	09 58 56.5	+0.2
	0.9nm,0.8s,baz=303,slow=2.7,SNR=4.6						

*IDC **02** 09:39:34.0±1.0, 9.67N×125.75E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=76.1km s-min=21.0km az=70.0*

ISC 02 09:39:37.6±1.0, 9.6N±0.2×125.7E±0.5, h23km, n8, σ0°73/8, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.59	164	P	P	09 45 50.1	+0.1
	1.4nm,1.1s,baz=341,slow=9.4,SNR=1.2						
	1.4nm,1.1s						
ASAR	Alice Springs	34.05	167	P	P	09 46 20.5	+0.2
	0.3nm,0.3s,baz=345,slow=7.2,SNR=6.5						
	0.3nm,0.3s						
SONM	Songino Array	41.43	340	P	P	09 47 23.7	+1.2
	0.3nm,0.4s,baz=160,slow=8.2,SNR=1.3						
	0.3nm,0.4s						
MKAR	Makanchi Array	52.21	323	P	P	09 48 46.6	-0.1
	0.7nm,0.6s,baz=128,slow=7.4,SNR=4.6						
	0.7nm,0.6s						
KURBB	Kurchatov Arra	56.29	326	P	P	09 49 15.6	-0.8
	1.1nm,0.3s,baz=121,slow=6.5,SNR=1.7						
	1.1nm,0.3s						
ILAR	Eielson Array	80.24	26	P	P	09 51 45.9	-0.3
	0.2nm,0.7s,baz=267,slow=7.5,SNR=1.3						
	0.2nm,0.7s						
ARCES	ARCESS Array B	84.60	340	P	P	09 52 08.7	-0.2
	1.7nm,0.6s,baz=72,slow=5.1,SNR=1.8						
	1.7nm,0.6s						
FINES	FINESS Array B	86.19	332	P	P	09 52 16.4	-0.5
	3.1nm,1.1s,baz=68,slow=6.1,SNR=8.1						
	3.1nm,1.1s						

*IDC **02** 09:39:54.3±1.0, 2.64S×100.31E, h0km, mb4.4/16, mbtmp4.4/18, ML4.4/2, Error ellipse: s-maj=32.5km s-min=14.0km az=54.0*
*DJA **02** 09:39:56.0±0.5, 3.5S±3.3×10.0E±.7, h26km±4km, M4.8/14, mb4.6/11, MLv5.0/14*
*NEIC **02** 09:39:57.1±1.2, 2.67S±0.05×100.29E±0.08, h10km±1km, mb4.9/27, Error ellipse: s-maj=14.0km s-min=8.1km az=82.0*

ISC 02 09:39:55.8±0.5, 2.72S±0.06×100.25E±0.06, h10km, n101, σ0°90/92, mb4.8/33, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.25	259	P	Pg	09 40 02.8	+2.0
SISI	Saibi	1.80	320	P	Pn	09 40 27.1	+0.2
SISI				S	Sn	09 40 50.1	+0.2
PPI	Padang Panjang	2.25	4	P	Pb	09 40 36.0	-0.5
PPI				S	Sb	09 41 05.9	+1.5
KSI	Kapahiang	2.52	112	P	Pn	09 40 37.1	+0.3
BKNI	Bangkinang	3.12	15	P	Pn	09 40 47.9	+2.8
MNAI	Manna	3.15	121		Pn	09 40 46.7	+1.1
MNAI	Manna	3.15	121	P	Pn	09 40 45.9	+0.4
PBSI	Pulau Batu	3.30	323	P	Pn	09 40 47.3	-0.2
MNSI	Mandailing Nat	3.55	349	P	Pn	09 40 52.4	+1.4
MDSI	Maura Dua	4.29	114	P	Pn	09 41 02.7	+1.5
GSI	Gunungsitoli	4.81	326	Pn	Pn	09 41 08.2	-0.1
GSI	Gunungsitoli	4.81	326	P	Pn	09 41 07.8	-0.5
RPSI	Rantau Prapat	5.54	346		Pn	09 41 19.0	+0.7
RPSI	Rantau Prapat	5.54	346	Pn	Pn	09 41 18.7	+0.4
PSI	Prapat	5.64	346	Pn	Pn	09 41 19.0	-0.8
	2.6nm,0.3s,baz=167,slow=19,SNR=7.3						
	5.0nm,0.3s						
MYKOM	Kota Tinggi	5.74	39	Pn	Pn	09 41 20.6	-0.6
SNSI	Sinabang, Aceh	6.43	322	P	Pn	09 41 30.1	-0.5
	126nm,2.0s						
CGJI	Cibinong	6.66	126	P	Pn	09 41 33.3	-0.5
TPI	Tanjungpandan	7.39	90	P	Pn	09 41 45.8	+2.0
KULM	Kulim	7.96	3	Pn	Pn	09 41 52.8	+1.1
CNJI	Cibinong	8.23	124	P	Pn	09 41 55.4	+0.1
	31nm,0.8s						
BSI	Banda Aceh	9.54	329	P	Pn	09 42 11.9	-1.4
	20nm,0.9s						
CMJI	Cimerak	9.59	122	P	Pn	09 42 12.2	-1.8
UGM	Wanagama	11.45	117	Pn	Pn	09 42 38.7	-0.9
PCJI	Pacitan	12.16	117	P	Pn	09 42 48.7	-0.5
	40nm,1.3s						
SBUM	Sibu	13.02	67	Pn	Pn	09 43 00.5	-0.4
GMJI	Gumukmas	14.24	113	P	Pn	09 43 17.7	0.0
KAPI	Kappang	19.59	97	Pn	P	09 44 25.2	+1.0
	4.1nm,0.3s,baz=228,slow=12,SNR=3.7						
	8.4nm,0.4s						
TOLI2	Tolitoli	20.87	80	P	P	09 44 38.4	+0.1
CMAR	Chiang Mai Arr	21.08	357	P	P	09 44 39.5	-1.0
	1.3nm,0.4s,baz=174,slow=10,SNR=5.5						
	1.3nm,0.4s						
SLVN	Son La	24.17	8	P	P	09 45 13.2	+0.7
H08S2	Diego Garcia H	28.07	259	T	T	10 14 44.2	
	baz=82,slow=76,SNR=127						
H08S3	Diego Garcia H	28.07	259	T	T	10 14 49.4	
	baz=82,slow=76,SNR=110						
H08S1	Diego Garcia H	28.09	259	T	T	10 14 49.2	
	baz=82,slow=76,SNR=113						
FAKI	Fak Fak	31.96	91	P	P	09 46 22.3	0.0
MTN	Manton Dam	32.17	110	P	P	09 46 24.1	0.0
MTN					IAmb	IAmb	09 46 26.4
	comp=Z,20nm,1.1s						
H01W3	Cape Leeuwin H	34.51	160	T	T	10 22 56.9	
	baz=335,slow=76,SNR=7.3						
H01W2	Cape Leeuwin H	34.53	160	T	T	10 23 02.8	
	baz=335,slow=76,SNR=8.4						
H01W1	Cape Leeuwin H	34.53	160	T	T	10 23 01.8	
	baz=335,slow=76,SNR=6.9						
WB0	Warramunga Arr	37.40	120	P	P	09 47 08.6	-0.6
WRA	Warramunga Arr	37.42	120	P	P	09 47 08.8	-0.6
	comp=Z,0.8nm,0.4s,baz=301,slow=8.1,SNR=13						
	comp=Z,0.8nm,0.4s						
WB2	Warramunga Arr	37.43	120	P	P	09 47 09.6	+0.1
WB2				IAmb	IAmb	09 47 26.7	
	comp=Z,13nm,1.1s						
XAN	Xi'an	37.46	12	P	P	09 47 09.0	-0.6
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
AS31	Alice Springs	38.63	126	P	P	09 47 19.5	-0.2
ASAR	Alice Springs	38.63	126		P	09 47 20.1	+0.5
ASAR	Alice Springs	38.63	126	P	P	09 47 18.9	-0.8
	comp=Z,1.7nm,0.5s,baz=301,slow=8.4,SNR=11						
ASAR				PcP	PcP	09 49 31.2	-0.8
	comp=Z,1.3nm,0.9s,baz=319,slow=2.8,SNR=3.7						
	comp=Z,1.7nm,0.5s						
JNU	Nakatsue	45.91	37	P	P	09 48 18.9	+0.1
JNU				IAmb	IAmb	09 48 32.0	
	comp=Z,13nm,1.1s						
KSAR	Wonju Array Be	47.48	30	P	P	09 48 31.8	+0.8
KSRS	Korea Array	47.51	30	P	P	09 48 28.4	-2.8
	comp=Z,2.3nm,0.9s,baz=220,slow=8.7,SNR=6.2						
	comp=Z,2.3nm,0.9s						
WUS	Wushi	47.73	339	P	P	09 48 34.0	+0.9
CTAO	Charters Tower	48.07	115	P	P	09 48 35.3	-0.6
CTAO				IAmb	IAmb	09 48 51.1	
	comp=Z,14nm,1.0s						
STKA	Stephens Creek	48.49	131	P	P	09 48 40.9	+1.9
	comp=Z,2.1nm,0.5s,baz=299,slow=7.8,SNR=14						
	comp=Z,2.1nm,0.5s						
KDJ	Kajisay	49.30	337	P	P	09 48 46.2	+1.0
KDJ				IAmb	IAmb	09 49 02.1	
	comp=Z,22nm,1.2s						
DRK	Karamyk	49.47	331	P	P	09 48 47.1	+0.4
DRK				IAmb	IAmb	09 48 49.0	
	comp=Z,20nm,1.0s						
BOOM	Boomskoye usch	50.09	337	P	P	09 48 51.9	+0.7
BOOM				IAmb	IAmb	09 48 53.1	
	comp=Z,13nm,1.1s						
SIMJ	Simiganj	50.26	328	P	P	09 48 52.0	-0.5
SIMJ				IAmb	IAmb	09 49 01.4	
	comp=Z,10.0nm,0.8s						
ARSB	Arslanbob	50.37	333	P	P	09 48 54.0	+0.6
SONM	Songino Array	50.63	5	P	P	09 48 55.8	+0.6
SONM				IAmb	IAmb	09 48 57.3	
	comp=Z,15nm,1.1s						
SONM	Songino Array	50.63	5	P	P	09 48 55.9	+0.8
	comp=Z,19nm,1.1s,baz=188,slow=8.7,SNR=25						
	comp=Z,19nm,1.1s						
ULN	Ulaanbaatar	50.72	6	P	P	09 48 56.1	+0.2
ULN				IAmb	IAmb	09 49 12.2	
	comp=Z,7.8nm,0.8s						
CN2	Changchun	51.54	23	eP	P	09 49 00.1	-1.8
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
MK31	Makanchi Array	51.78	344	P	P	09 49 04.5	+0.8
MK31				IAmb	IAmb	09 49 05.6	
	comp=Z,8.9nm,0.9s						
MKAR	Makanchi Array	51.78	344		P	09 49 04.2	+0.4
MKAR	Makanchi Array	51.78	344	P	P	09 49 04.0	+0.3
	comp=Z,7.9nm,0.7s,baz=155,slow=8.4,SNR=24						
	comp=Z,7.9nm,0.7s						
MAKZ	Makanchi	51.88	344	P	P	09 49 04.9	+0.4
MJAR	Matsushiro Arr	52.67	39	P	P	09 49 09.1	-1.4
	comp=Z,5.4nm,1.0s,baz=222,slow=6.8,SNR=7.3						
	comp=Z,5.4nm,1.0s						
BNX	BinXian	53.92	23	⇑P	P	09 49 19.5	0.0
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
USA0B	Ussuriysk Arra	54.67	28	P	P	09 49 25.4	+0.4
USA0B				IAmb	IAmb	09 49 26.9	
	comp=Z,16nm,1.1s						
USRK	Ussuriysk Ar.	54.67	28	P	P	09 49 25.4	+0.4
USRK	Ussuriysk Ar.	54.67	28	P	P	09 49 25.1	+0.1
	comp=Z,17nm,1.1s,baz=221,slow=5.7,SNR=11						
	comp=Z,17nm,1.1s						
KURBB	Kurchatov Arra	56.30	344	P	P	09 49 36.4	-0.2
	comp=Z,7.0nm,0.8s,baz=159,slow=6.7,SNR=14						
	comp=Z,7.0nm,0.8s						
KURK	Kurchatov	56.36	344	P	P	09 49 37.5	+0.5
KURK				IAmb	IAmb	09 49 38.2	
	comp=Z,21nm,1.1s						
HEH	HeiHe	57.69	20	eP	P	09 49 46.7	+0.2
ZAA0	Zalesovo Array	57.91	349	P	P	09 49 47.8	-0.2
ZAA0				IAmb	IAmb	09 50 04.8	
	comp=Z,19nm,1.1s						
ZALV	Zalesovo Beam	57.91	349	P	P	09 49 47.8	-0.2
ZALV	Zalesovo Beam	57.91	349	P	P	09 49 47.4	-0.5
	comp=Z,8.0nm,0.8s,baz=164,slow=5.8,SNR=13						
	comp=Z,8.0nm,0.8s						
KLR	Kul'dur	58.48	24	P	P	09 49 51.3	-0.7
	comp=Z,5.9nm,1.0s,baz=236,slow=11,SNR=7.8						
	comp=Z,5.9nm,1.0s						
H04N2	CROZET ISLANDS	60.38	217	T	T	10 55 16.0	
	baz=59,slow=75,SNR=329						
H04N1	CROZET ISLANDS	60.39	217	T	T	10 55 18.0	
	baz=59,slow=75,SNR=445						
H04N3	CROZET ISLANDS	60.40	217	T	T	10 55 16.6	
	baz=59,slow=75,SNR=358						
H04S1	CROZET ISLANDS	60.66	216	T	T	10 55 35.3	
	baz=58,slow=75,SNR=218						
H04S3	CROZET ISLANDS	60.67	216	T	T	10 55 34.8	
	baz=58,slow=75,SNR=234						
H04S2	CROZET ISLANDS	60.68	216	T	T	10 55 36.3	
	baz=58,slow=75,SNR=216						
BVAR	Borovoye Array	60.94	340	P	P	09 50 08.0	-0.9
	comp=Z,1.0nm,0.4s,baz=139,slow=7.5,SNR=6.8						
	comp=Z,1.0nm,0.4s						
BRVK	Borovoye	61.00	340	P	P	09 50 08.9	-0.4
ABKAR	Akbulak array	62.38	331	P	P	09 50 18.5	-0.2
CASY	Casey	63.86	175	P	P	09 50 29.5	+1.4
CASY				IAmb	IAmb	09 50 32.4	
	comp=Z,3.9nm,0.8s						
KBZ	Khabaz	69.01	319	P	P	09 51 02.0	+0.4
	comp=Z,3.2nm,0.9s,baz=117,slow=2.3,SNR=3.7						
	comp=Z,3.2nm,0.9s						
BRTR	Keskin Array B	73.99	313	P	P	09 51 30.8	-1.2
	comp=Z,1.2nm,0.9s,baz=102,slow=4.6,SNR=4.1						
	comp=Z,1.2nm,0.9s						
TIXI	Tiksi	76.52	9	P	P	09 51 45.4	-0.3
	comp=Z,2.7nm,0.3s,baz=222,slow=1.1,SNR=2.5						
	comp=Z,2.7nm,0.3s						
BURAR	Bucovina Array	81.96	319	P	P	09 52 16.6	+0.5
SGCY	Sterling City	144.66	32		PKPab	09 59 32.3	+

baz=82,slow=76,SNR=23
H08S3 Diego Garcia H 27.80 259 T T 10 20 04.0
baz=82,slow=76,SNR=18
H08S1 Diego Carcia H 27.82 259 T T 10 20 01.6
baz=82,slow=76,SNR=24
KNRA Kununurra 31.02 116 P **P** **09 51 26.7 -1.8**
H01W3 Cape Leeuwin H 34.42 159 T T 10 28 11.9
baz=335
H01W2 Cape Leeuwin H 34.43 159 T T 10 28 08.8
baz=335
H01W1 Cape Leeuwin H 34.43 159 T T 10 28 05.7
baz=335
WB0 Warramunga Arr 37.51 119 P **P** **09 52 25.4 +0.7**
WB0 IAmb IAmb 09 52 38.3
comp=Z,16nm,1.4s
WRA Warramunga Arr 37.53 119 P **P** **09 52 25.3 +0.4**
comp=Z,0.7nm,0.8s,baz=299,slow=8.2,SNR=5.1
comp=Z,0.7nm,0.8s
WB2 Warramunga Arr 37.54 119 P **P** **09 52 26.1 +1.1**
ASAR Alice Springs 38.72 125 P **P** **09 52 35.4 +0.4**
comp=Z,0.7nm,0.8s,baz=300,slow=8.2,SNR=5.0
comp=Z,0.7nm,0.8s
COEN Coen 44.00 107 P **P** **09 53 17.4 -1.0**
COEN IAmb IAmb 09 53 20.7
comp=Z,5.4nm,0.9s
SONM Songino Array 50.84 6 P **P** **09 54 11.9 +0.6**
SONM Songino Array 50.84 6 P **P** **09 54 11.8 +0.6**
comp=Z,1.9nm,0.7s,baz=188,slow=8.7,SNR=8.8
comp=Z,1.9nm,0.7s
MK31 Makanchi Array 51.90 345 P **P** **09 54 20.2 +1.1**
MK31 IAmb IAmb 09 54 20.8
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 51.90 345 P **P** **09 54 20.1 +1.1**
comp=Z,2.1nm,0.7s,baz=158,slow=8.2,SNR=15
comp=Z,2.1nm,0.7s
MAKZ Makanchi 52.00 344 P **P** **09 54 19.2 -0.6**
USRK Ussuriysk Ar. 54.95 28 P **P** **09 54 41.7 +0.2**
comp=Z,2.8nm,0.8s,baz=224,slow=7.6,SNR=5.2
comp=Z,2.8nm,0.8s
KURBB Kurchatov Arra 56.42 344 P **P** **09 54 53.1 +1.2**
comp=Z,1.4nm,0.8s,baz=164,slow=6.8,SNR=8.7
comp=Z,1.4nm,0.8s
ZAA0 Zalesovo Array 58.06 349 P **P** **09 55 04.0 +0.6**
ZAA0 IAmb IAmb 09 55 20.5
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 58.06 349 P **P** **09 55 04.0 +0.6**
ZALV Zalesovo Beam 58.06 349 P **P** **09 55 04.3 +0.9**
comp=Z,0.6nm,0.4s,baz=159,slow=10,SNR=4.1
comp=Z,0.6nm,0.4s
H04N2 CROZET ISLANDS 60.08 217 T T 11 00 29.0
baz=59,slow=75,SNR=362
H04N1 CROZET ISLANDS 60.09 217 T T 11 00 29.7
baz=59,slow=75,SNR=346
H04N3 CROZET ISLANDS 60.10 217 T T 11 00 28.3
baz=59,slow=75,SNR=327
H04S1 CROZET ISLANDS 60.36 216 T T 11 00 50.4
baz=58,slow=75,SNR=85
H04S3 CROZET ISLANDS 60.38 216 T T 11 00 52.3
baz=58,slow=75,SNR=116
H04S2 CROZET ISLANDS 60.38 216 T T 11 00 52.7
baz=58,slow=75,SNR=80
ABKAR Akbulak array 62.44 332 P **P** **09 55 33.7 +0.2**
FINES FINESS Array B 84.92 332 P **P** **09 57 43.6 -1.5**
comp=Z,1.1nm,0.7s,baz=101,slow=1.4,SNR=7.2
comp=Z,1.1nm,0.7s
TXAR Lajitas Array 145.41 38 PKPbc **PKPab** **10 04 50.1 +0.9**
comp=Z,1.4nm,0.7s,baz=319,slow=2.2,SNR=12

---

*IDC **02** 09:49:56.6±4.1,2˚.85S×100˚.11E,h0km,mb3.4/5,*
mbtmp3.4/5,Error ellipse: s-maj=176.6km s-min=25.0km
az=54.0
*DJA **02** 09:49:57.7±0.9,3˚S±7˚×10˚0E±˚,h19km±5km,M3.8/7,*
MLv3.8/7
ISC 02 09:49:58.7±2.0,3˚.0S±0˚.1×100˚.1E±0˚.2,h20km±8km,n15,
σ0°.84/13,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.23**	**349**	P	**Pg**	**09 50 04.2**	**0.0**
SISI	**Saibi**	**1.91**	**330**	P	**Pn**	**09 50 29.2**	**-0.9**
SISI				S	**Sn**	**09 50 52.7**	**-0.9**
PPI	**Padang Panjang**	**2.54**	**8**	P	**Pn**	**09 50 38.3**	**-0.5**
MNAI	**Manna**	**3.20**	**115**	P	**Pn**	**09 50 46.6**	**-1.4**
PBSI	**Pulau Batu**	**3.41**	**329**	P	**Pn**	**09 50 50.3**	**-0.5**
MNSI	**Mandailing Nat**	**3.79**	**353**	P	**Pn**	**09 50 55.9**	**-0.1**
WRA	**Warramunga Arr**	**37.46**	**119**	P	**P**	**09 57 12.2**	**+1.0**
	0.4nm,0.8s,baz=288,slow=9.7,SNR=2.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**38.64**	**125**	P	**P**	**09 57 22.2**	**+1.0**
	0.4nm,0.8s,baz=295,slow=7.6,SNR=2.5						
	0.4nm,0.8s						
SONM	**Songino Array**	**50.91**	**6**	P	**P**	**09 58 58.4**	**-0.3**
	0.6nm,0.7s,baz=189,slow=7.3,SNR=3.6						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**51.99**	**345**	P	**P**	**09 59 07.0**	**+0.4**
	0.4nm,0.6s,baz=161,slow=8.6,SNR=4.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.50**	**344**	P	**P**	**09 59 39.4**	**0.0**
	0.3nm,0.6s,baz=167,slow=7.8,SNR=3.0						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.04**	**217**	T	T	11 04 05.2	
	baz=59,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**60.05**	**217**	T	T	11 04 06.7	
	baz=59,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**60.06**	**217**	T	T	11 04 05.4	
	baz=59,slow=75,SNR=13						
TXAR	**Lajitas Array**	**145.44**	**38**	PKPbc	**PKPab**	**10 09 36.4**	**0.0**
	0.2nm,0.5s,baz=308,slow=2.5,SNR=2.3						

---

*IDC **02** 09:51:37.3±3.6,2˚.74S×100˚.29E,h0km,mb3.5/5,*
mbtmp3.5/5,Error ellipse: s-maj=158.6km s-min=23.7km
az=54.0
*DJA **02** 09:51:39.1±0.6,3˚S±5˚×10˚0E±˚,h23km±5km,M3.9/7,*
MLv3.9/7
ISC 02 09:51:39.9±1.6,2˚.9S±0˚.2×100˚.0E±0˚.2,h25km±9km,n22,
σ0°.50/14,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.16**	**349**	P	**Pb**	**09 51 45.3**	**+0.2**
SISI	**Saibi**	**1.84**	**329**	P	**Pn**	**09 52 09.6**	**-0.3**
SISI				S	**Sn**	**09 52 32.3**	**-0.2**
PPI	**Padang Panjang**	**2.47**	**8**	P	**Pn**	**09 52 18.4**	**-0.2**
KSI	**Kapahiang**	**2.65**	**106**	P	**Pn**	**09 52 20.6**	**-0.5**
MNAI	**Manna**	**3.25**	**116**	P	**Pn**	**09 52 28.9**	**-0.3**
PBSI	**Pulau Batu**	**3.34**	**328**	P	**Pn**	**09 52 29.9**	**-0.7**
MDSI	**Maura Dua**	**4.42**	**111**	P	**Pn**	**09 52 44.9**	**-0.4**
H08S2	**Diego Garcia H**	**27.82**	**259**	T	T	10 26 31.3	
	baz=82,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**27.82**	**259**	T	T	10 26 31.1	
	baz=82,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**27.84**	**259**	T	T	10 26 30.8	
	baz=82,slow=76,SNR=16						
WRA	**Warramunga Arr**	**37.50**	**119**	P	**P**	**09 58 51.4**	**-0.6**
	0.8nm,1.0s,baz=296,slow=10.0,SNR=4.9						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**38.69**	**125**	P	**P**	**09 59 02.7**	**+0.7**
	0.4nm,0.8s,baz=302,slow=8.5,SNR=2.5						
	0.4nm,0.8s						
SONM	**Songino Array**	**50.85**	**6**	P	**P**	**10 00 38.6**	**0.0**
	0.7nm,0.7s,baz=184,slow=5.8,SNR=3.9						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**51.92**	**345**	P	**P**	**10 00 46.5**	**0.0**
	0.7nm,0.7s,baz=154,slow=9.0,SNR=7.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**56.44**	**344**	P	**P**	**10 01 19.7**	**+0.4**
	0.4nm,0.8s,baz=149,slow=7.0,SNR=3.1						
	0.4nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.09**	**217**	T	T	11 06 53.1	
	baz=59,slow=75,SNR=33						
H04N1	**CROZET ISLANDS**	**60.10**	**217**	T	T	11 06 51.8	
	baz=59,slow=75,SNR=24						
H04N3	**CROZET ISLANDS**	**60.10**	**217**	T	T	11 06 52.2	
	baz=59,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**60.37**	**216**	T	T	11 07 17.5	
	baz=58,slow=75,SNR=18						
H04S3	**CROZET ISLANDS**	**60.38**	**216**	T	T	11 07 18.6	
	baz=58,slow=75,SNR=30						
H04S2	**CROZET ISLANDS**	**60.39**	**216**	T	T	11 07 17.0	
	baz=58,slow=75,SNR=21						
TXAR	**Lajitas Array**	**145.40**	**38**	PKPbc	**PKPdf**	**10 11 17.1**	**+0.5**
	0.3nm,0.5s,baz=320,slow=5.7,SNR=2.2						

---

*IDC **02** 09:53:11.9±4.7,2˚.70S×100˚.37E,h0km,mb3.5/4,*
mbtmp3.5/4,Error ellipse: s-maj=198.5km s-min=27.1km
az=56.0
*DJA **02** 09:53:13.4±0.7,3˚S±5˚×10˚0E±˚,h23km±5km,M3.7/6,*
mb3.3/1,MLv4.0/6
ISC 02 09:53:14.4±1.6,2˚.9S±0˚.2×100˚.1E±0˚.2,h26km±9km,n18,
σ0°.39/9,mb3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.16**	**342**	P	**Pb**	**09 53 19.6**	**0.0**
PPI	**Padang Panjang**	**2.46**	**8**	P	**Pn**	**09 53 53.0**	**+0.1**
MNAI	**Manna**	**3.23**	**117**	P	**Pn**	**09 54 03.5**	**+0.1**
PBSI	**Pulau Batu**	**3.35**	**328**	P	**Pn**	**09 54 05.1**	**0.0**
H08S2	**Diego Garcia H**	**27.84**	**259**	T	T	10 28 08.6	
	baz=82						
H08S3	**Diego Garcia H**	**27.85**	**259**	T	T	10 28 11.2	
	baz=82						
H08S1	**Diego Carcia H**	**27.86**	**259**	T	T	10 28 12.4	
	baz=82						
WRA	**Warramunga Arr**	**37.49**	**119**	P	**P**	**10 00 26.6**	**+0.2**
	0.3nm,0.7s,baz=291,slow=7.7,SNR=1.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**38.68**	**125**	P	**P**	**10 00 36.0**	**-0.3**
	0.5nm,0.9s,baz=300,slow=8.2,SNR=2.8						
	0.5nm,0.9s						
SONM	**Songino Array**	**50.84**	**6**	P	**P**	**10 02 12.4**	**-0.6**
	0.5nm,0.6s,baz=179,slow=8.2,SNR=1.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**51.92**	**345**	P	**P**	**10 02 21.3**	**+0.4**
	0.6nm,0.7s,baz=156,slow=9.0,SNR=5.1						
	0.6nm,0.7s						
H04N2	**CROZET ISLANDS**	**60.10**	**217**	T	T	11 08 28.1	
	baz=59,slow=75,SNR=32						
H04N1	**CROZET ISLANDS**	**60.12**	**217**	T	T	11 08 29.9	
	baz=59,slow=75,SNR=34						
H04N3	**CROZET ISLANDS**	**60.12**	**217**	T	T	11 08 28.4	
	baz=59,slow=75,SNR=27						
H04S1	**CROZET ISLANDS**	**60.39**	**216**	T	T	11 08 51.5	
	baz=57						
H04S3	**CROZET ISLANDS**	**60.40**	**216**	T	T	11 08 48.7	
	baz=57						
H04S2	**CROZET ISLANDS**	**60.40**	**216**	T	T	11 08 50.5	
	baz=57						
TXAR	**Lajitas Array**	**145.38**	**38**	PKPbc	**PKPdf**	**10 12 51.2**	**+0.3**
	0.2nm,0.5s,baz=318,slow=1.8,SNR=4.6						

---

*IDC **02** 09:56:21.4±5.5,2˚.69S×100˚.40E,h0km,mb3.4/5,*
mbtmp3.4/5,Error ellipse: s-maj=272.8km s-min=23.4km
az=53.0
*DJA **02** 09:56:23.0±0.5,3˚S±4˚×10˚0E±˚,h23km±4km,M4.8/8,*
MLv4.8/8
ISC 02 09:56:23.5±1.3,2˚.8S±0˚.1×100˚.0E±0˚.1,h24km±8km,n22,
σ0°.87/14,mb3.5/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.06**	**345**	P	**Pb**	**09 56 27.9**	**+0.1**
SISI	**Saibi**	**1.75**	**328**	P	**Pn**	**09 56 51.8**	**-0.7**
PPI	**Padang Panjang**	**2.38**	**9**	P	**Pn**	**09 57 00.1**	**-1.0**
PPI				S	**Sn**	**09 57 29.9**	**+0.4**
KSI	**Kapahiang**	**2.69**	**108**	P	**Pn**	**09 57 04.9**	**-0.6**
PBSI	**Pulau Batu**	**3.25**	**328**	P	**Pn**	**09 57 12.8**	**-0.3**
MNAI	**Manna**	**3.30**	**118**	P	**Pn**	**09 57 13.3**	**-0.5**
MDSI	**Maura Dua**	**4.46**	**112**	P	**Pn**	**09 57 30.2**	**+0.4**
H08S2	**Diego Garcia H**	**27.82**	**259**	T	T	10 31 09.3	
	baz=81,slow=76,SNR=42						
H08S3	**Diego Garcia H**	**27.83**	**259**	T	T	10 31 09.8	
	baz=81,slow=76,SNR=31						
H08S1	**Diego Carcia H**	**27.84**	**259**	T	T	10 31 10.7	
	baz=81,slow=76,SNR=33						
WRA	**Warramunga Arr**	**37.56**	**120**	P	**P**	**10 03 36.0**	**-0.3**
	0.6nm,0.8s,baz=300,slow=8.0,SNR=2.1						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**38.76**	**125**	P	**P**	**10 03 45.2**	**-1.2**
	0.2nm,0.4s,baz=300,slow=8.0,SNR=4.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**51.82**	**345**	P	**P**	**10 05 30.4**	**+0.8**
	0.4nm,0.6s,baz=150,slow=7.7,SNR=5.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.34**	**344**	P	**P**	**10 06 03.1**	**+0.6**
	0.1nm,0.3s,baz=162,slow=7.0,SNR=5.8						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**57.97**	**349**	P	**P**	**10 06 15.6**	**+1.6**
	0.3nm,0.5s,baz=156,slow=7.6,SNR=2.0						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.16**	**217**	T	T	11 11 42.7	
	baz=59						
H04N1	**CROZET ISLANDS**	**60.17**	**217**	T	T	11 11 42.7	
	baz=59						
H04N3	**CROZET ISLANDS**	**60.17**	**217**	T	T	11 11 41.7	
	baz=59						
H04S1	**CROZET ISLANDS**	**60.44**	**216**	T	T	11 11 57.8	
	baz=58,slow=74						
H04S3	**CROZET ISLANDS**	**60.45**	**216**	T	T	11 11 56.9	
	baz=58						
H04S2	**CROZET ISLANDS**	**60.46**	**216**	T	T	11 11 58.2	
	baz=58,slow=74						
TXAR	**Lajitas Array**	**145.33**	**38**	PKPbc	**PKPbc**	**10 15 59.9**	**-0.2**
	0.3nm,0.6s,baz=316,slow=1.7,SNR=2.6						

---

*BJI **02** 09:58:09.3,2˚.99S×100˚.27E,h19km,mB5.8/6,mb5.2/79,*
Ms5.4/12,Ms7 5.2/12
*MOS **02** 09:58:10.7±0.9,2˚.61S×100˚.28E,h13km,mb5.4/62,Error*
ellipse: s-maj=8.6km s-min=4.2km az=110.3
*IDC **02** 09:58:10.2±0.5,2˚.71S×100˚.23E,h0km,mb5.0/32,*
mbtmp5.0/35,ML4.6/3,Error ellipse: s-maj=14.7km
s-min=9.1km az=40.0
*NEIC **02** 09:58:11.4±1.4,2˚.88S±0˚.07×100˚.06E±0˚.08,h10km±1km,*
mb5.3/107,Error ellipse: s-maj=15.6km s-min=9.7km
az=233.0
*DJA **02** 09:58:12.6±0.3,3˚S±2˚×10˚0E±˚,h22km±2km,M5.4/73,*
mb5.3/73,mB5.9/8,MLv5.4/25,Mw(mB)5.5/8
ISC 02 09:58:12.2±0.5,2˚.75S±0˚.04×100˚.18E±0˚.04,h13km±2km,
h13km:pP-P,n552,σ1°.20/538,mb5.2/186,MS5.2/7,
15C-17D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.17**	**267**	P	**Pb**	**09 58 18.4**	**+1.2**
SISI	**Saibi**	**1.79**	**322**	P	**Pn**	**09 58 43.0**	**+0.3**
PPI	**Padang Panjang**	**2.29**	**6**	P	**Pb**	**09 58 51.6**	**-1.8**
KSI	**Kapahiang**	**2.57**	**110**	P	**Pn**	**09 58 55.3**	**+1.7**
BKNI	**Bangkinang**	**3.18**	**16**		**Pn**	**09 59 04.8**	**+2.9**
BKNI	**Bangkinang**	**3.18**	**16**	P	**Pn**	**09 59 04.1**	**+2.2**
MNAI	**Manna**	**3.20**	**120**	Pn	**Pn**	**09 59 03.2**	**+1.0**
MNAI	**Manna**	**3.20**	**120**	P	**Pn**	**09 59 03.8**	**+1.6**
MNAI	**Manna**	**3.20**	**120**	P	**Pn**	**09 59 03.3**	**+1.0**
PBSI	**Pulau Batu**	**3.28**	**325**	P	**Pn**	**09 59 03.3**	**-0.1**
MNSI	**Mandailing Nat**	**3.58**	**350**	P	**Pn**	**09 59 08.1**	**+0.7**
MDSI	**Maura Dua**	**4.35**	**113**	P	**Pn**	**09 59 20.8**	**+2.8**
PMBI	**Palembang**	**4.59**	**92**	Pn	**Pn**	**09 59 22.8**	**+1.4**
PMBI	**Palembang**	**4.59**	**92**	P	**Pn**	**09 59 23.2**	**+1.8**
GSI	**Gunungsitoli**	**4.80**	**327**	Pn	**Pn**	**09 59 23.1**	**-1.1**
GSI	**Gunungsitoli**	**4.80**	**327**	P	**Pn**	**09 59 24.2**	**0.0**
GSI	**Gunungsitoli**	**4.80**	**327**	P	**Pn**	**09 59 23.6**	**-0.6**
RPSI	**Rantau Prapat**	**5.55**	**347**	Pn	**Pn**	**09 59 34.7**	**+0.1**
RPSI	**Rantau Prapat**	**5.55**	**347**		**Pn**	**09 59 34.5**	**-0.1**
PSI	**Prapat**	**5.66**	**347**	Pn	**Pn**	**09 59 34.5**	**-1.7**
	4.8nm,0.3s,baz=155,slow=15,SNR=10						
	17nm,0.4s						
PSI	**Prapat**	**5.66**	**347**	P	**Pn**	**09 59 34.9**	**-1.2**
TPRI	**Tanjung Pinang**	**5.67**	**50**	P	**Pn**	**09 59 38.3**	**+2.0**
MYKOM	**Kota Tinggi**	**5.82**	**39**	Pn	**Pn**	**09 59 40.7**	**+2.5**
MYKOM	**Kota Tinggi**	**5.82**	**39**	P	**Pn**	**09 59 41.6**	**+3.4**
PPBI	**Pangkal Pinang**	**5.98**	**84**	P	**Pn**	**09 59 43.7**	**+3.2**
SNSI	**Sinabang, Aceh**	**6.41**	**323**	P	**Pn**	**09 59 45.9**	**-0.5**
	2.3nm187nm,0.6s						
TSI	**Tuntungan**	**6.42**	**345**	P	**Pn**	**09 59 47.0**	**+0.5**
	1.6nm258nm,0.9s						
KCSI	**Kotacane, Aceh**	**6.68**	**339**	P	**Pn**	**09 59 50.8**	**+0.7**
CGJI	**Cibinong**	**6.70**	**125**	P	**Pn**	**09 59 50.1**	**-0.3**
SBJI	**Serang**	**6.81**	**120**	P	**Pn**	**09 59 51.9**	**0.0**
	1.2nm267nm,1.2s						
IPM	**Ipoh**	**7.23**	**7**	Pn	**Pn**	**09 59 59.3**	**+1.6**
IPM	**Ipoh**	**7.23**	**7**	P	**Pn**	**10 00 00.7**	**+3.0**
TNG	**Tangerang**	**7.29**	**118**	P	**Pn**	**09 59 59.3**	**+0.9**
TNG				P	**Pn**	**09 59 59.7**	**+1.3**
TPI	**Tanjungpandan**	**7.47**	**90**	P	**Pn**	**10 00 03.4**	**+2.5**
SKJI	**Sukabumi**	**7.63**	**124**	P	**Pn**	**10 00 04.1**	**+0.9**
MLSI	**Meulaboh, Aceh**	**7.93**	**332**	P	**Pn**	**10 00 07.3**	**+0.1**
	1.1nm209nm,0.6s						
KULM	**Kulim**	**8.00**	**3**	Pn	**Pn**	**10 00 09.0**	**+0.8**
KULM	**Kulim**	**8.00**	**3**	P	**Pn**	**10 00 09.6**	**+1.3**
CNJI	**Cibinong**	**8.27**	**123**	P	**Pn**	**10 00 11.1**	**-0.9**
	103nm,0.7s						
LEM	**Lembang**	**8.45**	**119**	Pn	**Pn**	**10 00 14.7**	**+0.2**
	11nm,0.3s,baz=300,slow=20,SNR=14						
LEM				Sn	**Sn**	**10 01 50.5**	**+0.7**
	4.2nm,0.3s,baz=306,slow=19,SNR=1.3						
	104nm,0.9s						
LEM	**Lembang**	**8.45**	**119**	P	**Pn**	**10 00 16.5**	**+2.0**
	154nm,0.9s						
LHMI	**Lhok Sumawe**	**8.56**	**338**	P	**Pn**	**10 00 15.5**	**-0.4**
	83nm,1.1s						
BBJI	**Bungbulang**	**8.79**	**122**	P	**Pn**	**10 00 18.7**	**-0.4**
JCJI	**Jatiwangi**	**8.88**	**115**	P	**Pn**	**10 00 23.1**	**+2.8**
XMIS	**Christmas Isla**	**9.41**	**145**	Pn	Pn	10 00 22.8	-4.7
BSI	**Banda Aceh**	**9.54**	**329**	P	**Pn**	**10 00 29.7**	**+0.4**
	43nm,0.6s						
CMJI	**Cimerak**	**9.63**	**122**	P	**Pn**	**10 00 29.6**	**-1.0**
	183nm,0.6s						
KPJI	**Karang Pucung**	**9.83**	**118**	P	**Pn**	**10 00 34.4**	**+1.0**
	125nm,0.7s						
I06AU	**Cocos Islands**	**9.91**	**199**	I	I	10 58 20.0	
	baz=17,slow=316,SNR=1.3						
COCO	**West Island**	**9.94**	**199**	P	**Pn**	**10 00 32.9**	**-2.0**
KSM	**Kuching**	**10.96**	**68**	Pn	**Pn**	**10 00 51.3**	**+2.4**
KSM	**Kuching**	**10.96**	**68**	P	**Pn**	**10 00 52.1**	**+3.2**
SMRI	**Semarang**	**11.08**	**113**	P	**Pn**	**10 00 52.6**	**+2.1**
SMRI	**Semarang**	**11.08**	**113**	P	**Pn**	**10 00 53.5**	**+3.0**
SRIT	**Nakonsritamara**	**11.29**	**357**		**Pn**	**10 00 51.8**	**-1.5**
SRIT	**Nakonsritamara**	**11.29**	**357**	P	**Pn**	**10 00 55.3**	**+2.0**
UGM	**Wanagama**	**11.50**	**117**	Pn	**Pn**	**10 00 55.7**	**-0.6**
UGM	**Wanagama**	**11.50**	**117**	P	**Pn**	**10 00 56.9**	**+0.6**
	117nm,0.9s						
STKI	**Sintang**	**11.64**	**76**	P	**Pn**	**10 00 59.7**	**+1.6**
	65nm,0.8s						
NGJI	**Ngawi**	**12.14**	**113**	P	**Pn**	**10 01 05.7**	**+0.8**
	109nm,0.8s						
PCJI	**Pacitan**	**12.21**	**117**	P	**Pn**	**10 01 06.3**	**+0.4**
	80nm,0.8s						
TBJI	**Tambak Boyo**	**12.31**	**110**	P	**Pn**	**10 01 10.0**	**+2.7**
GRJI	**Gresik**	**12.94**	**109**	P	**Pn**	**10 01 17.3**	**+1.4**
	185nm,1.0s						
SBUM	**Sibu**	**13.10**	**67**		**Pn**	**10 01 19.5**	**+1.3**
SBUM	**Sibu**	**13.10**	**67**	P	**Pn**	**10 01 21.9**	**+3.8**
GMJI	**Gumukmas**	**14.29**	**113**	P	**Pn**	**10 01 34.9**	**+0.4**
KMMI	**Kalianget**	**14.38**	**108**	P	**Pn**	**10 01 37.1**	**+1.4**
	115nm,1.0s						
MTKI	**Muara Teweh, K**	**14.82**	**83**	P	**Pn**	**10 01 43.5**	**+1.8**
	182nm,0.8s						
ABJI	**Asem Bagus**	**14.86**	**110**	P	**Pn**	**10 01 42.9**	**+0.7**
	132nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.02**	**113**		**Pn**	**10 01 42.6**	**-1.7**
JAGI				IAmb	IAmb	10 01 56.1	
	comp=Z,103nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.02**	**113**	P	**Pn**	**10 01 42.7**	**-1.6**
	comp=Z,4μmcomp=Z,140nm,0.9s						
SRBI	**Singaraja**	**15.87**	**110**	P	**Pn**	**10 01 55.3**	**-0.2**
	comp=Z,94nm,0.9s						
BKB	**Balikpapan**	**16.77**	**85**	P	**Pn**	**10 02 07.9**	**+0.9**
BKB				IAmb	IAmb	10 02 15.7	
	comp=Z,226nm,1.1s						
BKB	**Balikpapan**	**16.77**	**85**	P	**P**	**10 02 10.0**	**+0.8**
BKB	**Balikpapan**	**16.77**	**85**	P	**P**	**10 02 08.8**	**-0.4**
	comp=Z,160nm,0.9s						
DLV	**Lat**	**16.77**	**29**	P	**Pn**	**10 02 07.8**	**+0.6**
DLV	**Lat**	**16.77**	**29**	P	**P**	**10 02 09.9**	**+0.5**
SRDT	**SRDT**	**17.02**	**357**	P	**P**	**10 02 12.2**	**+0.2**
SMKI	**Samarinda**	**17.18**	**83**	P	**P**	**10 02 14.2**	**+0.5**
	comp=Z,203nm,1.2s						
TWSI	**Taliwang, Sumb**	**17.65**	**110**	P	**Pn**	**10 02 17.6**	**-0.4**
	comp=Z,68nm,0.9s						
KKM	**Kota Kinabalu**	**18.25**	**61**	P	**P**	**10 02 26.9**	**+1.3**
KKM	**Kota Kinabalu**	**18.25**	**61**	P	**P**	**10 02 27.4**	**+1.8**
PLAI	**Plampang**	**18.51**	**110**	P	**P**	**10 02 27.2**	**-1.3**
PLAI	**Plampang**	**18.51**	**110**	P	**P**	**10 02 25.8**	**-2.7**
	comp=Z,112nm,0.8s						
UBPT	**Khong Chiam**	**18.67**	**16**	P	**P**	**10 02 29.0**	**-1.1**
UBPT	**Khong Chiam**	**18.67**	**16**	P	**Pn**	**10 02 30.4**	**0.0**
SPSI	**Sidrap Palu**	**19.59**	**94**	P	**P**	**10 02 40.1**	**-0.2**
	comp=Z,87nm,1.2s						
TTSI	**Tana Toraja**	**19.62**	**91**	P	**Pn**	**10 02 42.4**	**+0.4**
	comp=Z,108nm,1.0s						
KAPI	**Kappang**	**19.66**	**97**	P	**P**	**10 02 41.3**	**+0.2**
KAPI				IAmb	IAmb	10 02 46.2	
	comp=Z,212nm,0.9s						
KAPI	**Kappang**	**19.66**	**97**	P	**P**	**10 02 40.5**	**-0.5**
	comp=Z,5.9nm,0.3s,baz=279,slow=13,SNR=21						
KAPI				S	**S**	**10 06 21.7**	**-1.1**
	comp=Z,4.7nm,0.3s,baz=295,slow=19,SNR=1.9						
	comp=Z,244nm,1.0s						
KAPI	**Kappang**	**19.66**	**97**	P	**Pn**	**10 02 42.3**	**-0.1**
PCI	**Palu**	**19.73**	**85**	P	**Pn**	**10 02 43.3**	**-0.1**
	comp=Z,186nm,1.2s						
WBSI	**Waikabubak, Su**	**20.28**	**111**	P	**P**	**10 02 43.7**	**-4.2**
	comp=Z,170nm,0.7s						
BSSI	**Bau Bau, Buton**	**20.53**	**100**	P	**P**	**10 02 48.6**	**-1.9**
	comp=Z,74nm,0.7s						
TOLI2	**Tolitoli**	**20.95**	**80**	P	**P**	**10 02 56.4**	**+1.3**
TOLI2				IAmb	IAmb	10 03 01.4	
	comp=Z

PZH PanZhiHua 29.12 3 P **P** **10 04 12.2 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
FITZ Fitzroy Crossi 29.25 123 P **P** **10 04 12.8 -1.4**
FITZ Fitzroy Crossi 29.25 123 P **P** **10 04 14.8 +0.6**
SHL Shillong 29.28 345 P **P** **10 04 13.5 -1.0**
SHL IAmb IAmb 10 04 26.6
comp=Z,44nm,0.7s
SHL Shillong 29.28 345 P **P** **10 04 13.5 -1.0**
SHL pmax pmax
comp=Z,44nm,0.7s
MEEK Meekatharra 29.61 145 P **P** **10 04 18.8 +1.5**
GYA Guiyang 29.71 12 ⇓P **P** **10 04 18.4 +0.1**
GYA pmax pmax
comp=Z,21nm,1.5s
KNRA Kununurra 30.94 116 P **P** **10 04 28.0 -1.2**
KNRA IAmb IAmb 10 04 28.7
comp=Z,30nm,0.7s
KNRA Kununurra 30.94 116 P **P** **10 04 27.5 -1.7**
comp=Z,44nm,0.7s
SWI Sorong 31.12 87 P **P** **10 04 29.7 -1.1**
comp=Z,64nm,1.3s
FAKI Fak Fak 32.03 91 P **P** **10 04 37.7 -1.2**
FAKI Fak Fak 32.03 91 P **P** **10 04 37.6 -1.3**
comp=Z,79nm,1.6s
KNMB Chin-men Tao 32.33 32 P **P** **10 04 41.8 +0.5**
KNMB IAmb IAmb 10 04 43.3
comp=Z,38nm,1.2s
CNSH ChangSha 33.11 21 P **P** **10 04 49.0 +0.9**
CNSH pmax pmax
comp=Z,25nm,1.0s
LSA Lhasa 33.41 346 P **P** **10 04 51.3 +0.1**
LSA IAmb IAmb 10 04 55.2
comp=Z,44nm,0.7s
LSA Lhasa 33.41 346 P **P** **10 04 51.3 +0.1**
LSA pmax pmax
comp=Z,44nm,0.7s
KDU Kakadu 33.45 109 P **P** **10 04 48.7 -2.5**
CD2 Chengdu 33.65 6 P **P** **10 04 51.7 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
NACB Ninganchiao 33.92 37 P **P** **10 04 55.5 +0.3**
NACB IAmb IAmb 10 04 57.7
comp=Z,27nm,0.9s
H01W3 Cape Leeuwin H 34.50 160 T T 10 41 08.7
baz=336,slow=76,SNR=36
H01W2 Cape Leeuwin H 34.52 160 T T 10 41 09.6
baz=336,slow=76,SNR=28
H01W1 Cape Leeuwin H 34.52 159 T T 10 41 08.9
baz=336,slow=76,SNR=27
WRKA Warakurna 34.99 132 P **P** **10 05 05.4 +0.8**
WHN Wuhan 35.77 21 ⇓P **P** **10 05 11.9 +0.8**
WHN pmax pmax
comp=Z,68nm,0.8s
WB0 Warramunga Arr 37.45 119 P **P** **10 05 25.0 -0.6**
WB0 IAmb IAmb 10 05 41.3
comp=Z,40nm,0.9s
WRA Warramunga Arr 37.47 120 P **P** **10 05 25.1 -0.6**
comp=Z,13nm,0.6s,baz=295,slow=8.6,SNR=82
WRA PcP **PcP** **10 07 44.5 +0.1**
comp=Z,9.3nm,0.8s,baz=300,slow=2.8,SNR=7.1
WRA S **S** **10 11 08.8 -5.6**
comp=Z,5.4nm,0.9s,baz=294,slow=16,SNR=11
comp=Z,13nm,0.6s
WRA Warramunga Arr 37.47 120 *i* P **P** **10 05 25.2 -0.6**
WRA pmax pmax
comp=Z,16nm,0.7s
WRAB Tennant Creek 37.47 120 P **P** **10 05 24.6 -1.3**
WRAB IAmb IAmb 10 05 38.7
comp=Z,50nm,1.1s
WRAB Tennant Creek 37.47 120 P **P** **10 05 24.6 -1.3**
WRAB pmax pmax
comp=Z,50nm,1.2s
WB2 Warramunga Arr 37.48 120 P **P** **10 05 25.3 -0.5**
WB2 IAmb IAmb 10 05 41.1
comp=Z,38nm,1.0s
XAN Xi'an 37.51 12 ⇑P **P** **10 05 24.9 -1.1**
XAN pP pP 10 05 29.7 -0.2
XAN pmax pmax
comp=Z,56nm,0.7s
FORT Forrest 38.36 140 P **P** **10 05 34.4 +1.3**
FORT IAmb IAmb 10 05 47.3
comp=Z,29nm,0.7s
FORT Forrest 38.36 140 P **P** **10 05 33.3 +0.2**
AS31 Alice Springs 38.67 125 P **P** **10 05 34.8 -1.2**
ASAR Alice Springs 38.67 125 P **P** **10 05 36.0 0.0**
comp=Z,36nm,0.8s,baz=299,slow=8.4,SNR=114
ASAR PcP **PcP** **10 07 48.5 +0.5**
comp=Z,7.9nm,0.8s,baz=313,slow=3.0,SNR=6.4
ASAR S **S** **10 11 30.2 -2.5**
comp=Z,2.9nm,0.8s,baz=300,slow=16,SNR=10
comp=Z,36nm,0.8s
AS01 Alice Springs 38.71 125 P **P** **10 05 36.9 +0.6**
LZH Lanzhou 38.79 5 P **P** **10 05 37.0 +0.1**
LZH pP sP 10 05 41.9 -0.5
LZH PcP **PcP** **10 07 49.7 +1.4**
LZH pmax pmax
comp=Z,39nm,1.2s
LYN LuoYang 38.87 16 ⇑P **P** **10 05 37.7 +0.4**
LYN pP pP 10 05 42.0 +0.7
LYN pmax pmax
comp=Z,210nm,0.8s
LYN LR LR
comp=Z,4μm,17.5s
LYN LR LR
comp=Z,3μm,17.2s
LYN LR LR
comp=Z,5μm,17.5s
NJ2 Nanjing 38.89 26 *e*P **P** **10 05 37.1 -0.5**
NJ2 pmax pmax
comp=Z,17nm,1.3s
GOMU GeErMu 39.07 353 P **P** **10 05 39.7 +0.2**
GOMU pP sP 10 05 44.6 -0.4
GOMU sP pP 10 05 48.2 +4.8
GOMU pmax pmax
comp=Z,19nm,1.2s
JOW Kunigami 40.01 41 P **P** **10 05 47.1 +0.1**
TIY Taiyuan 41.84 15 *e*P **P** **10 06 02.6 +0.6**
TIY pmax pmax
comp=Z,29nm,0.7s
TIA Tai'an 41.87 21 P **P** **10 06 01.3 -0.9**
TIA pmax pmax
comp=Z,18nm,0.6s
GTA Gaotai 41.96 360 ⇑P **P** **10 06 03.7 +0.7**
GTA pP sP 10 06 09.1 +0.5
GTA PcP **PcP** **10 07 59.1 +0.7**
GTA pmax pmax
comp=Z,25nm,1.0s
OOD Oodnadatta 42.06 130 P **P** **10 06 04.5 +0.6**
HNS HongShan 42.17 17 ⇑P **P** **10 06 05.1 +0.5**
HNS pmax pmax
comp=Z,53nm,0.8s
QIS Mount Isa 42.30 118 P **P** **10 06 06.3 +0.3**
BTO Baotou 44.08 11 *e*P **P** **10 06 20.8 +0.6**
BTO pP **sP** **10 06 25.5 -0.2**
BTO sP **pP** **10 06 27.4 +3.2**
BTO PP **PcP** **10 08 06.4 +1.0**
BTO S **S** **10 12 54.6 +2.1**
BTO pmax pmax
comp=Z,26nm,0.9s
BTO LR LR
comp=Z,3μm,16.4s
BTO LR LR
comp=Z,3μm,15.8s
BTO LR LR
comp=Z,4μm,17.7s
NIL Nilore 44.23 327 P **P** **10 06 20.9 -0.5**
NIL IAmb IAmb 10 06 22.2
comp=Z,55nm,0.8s
NIL Nilore 44.23 327 P **P** **10 06 20.9 -0.5**
NIL pmax pmax
comp=Z,55nm,0.9s
HHC Hu-ho-hao-te 44.62 12 *e*P **P** **10 06 25.5 +1.0**
HHC pmax pmax
comp=Z,24nm,1.7s
BBOO Buckleboo 44.99 136 P **P** **10 06 26.8 -0.7**
BBOO Buckleboo 44.99 136 P **P** **10 06 28.0 +0.5**
BJT Baijiatuau 45.02 17 P **P** **10 06 27.6 +0.1**
BJT IAmb IAmb 10 06 29.3
comp=Z,35nm,0.8s
BJT Baijiatuau 45.02 17 P **P** **10 06 28.9 +1.3**
BJT Baijiatuau 45.02 17 P **P** **10 06 27.6 +0.1**
BJT pmax pmax
comp=Z,35nm,0.8s
BJI Beijing 45.04 17 P **P** **10 06 28.4 +0.7**
BJI pP **sP** **10 06 32.8 -0.5**
BJI pmax pmax
comp=Z,22nm,0.8s
LCRK Leigh Creek 45.30 132 P **P** **10 06 31.2 +1.2**
MTSU Mount Surprise 45.86 113 P **P** **10 06 34.8 +0.2**
DL2 Dalian 45.93 23 P **P** **10 06 34.6 -0.2**
DL2 pmax pmax
comp=Z,70nm,1.2s
JNU Nakatsue 45.99 37 P **P** **10 06 35.1 -0.3**
JNU IAmb IAmb 10 06 36.5
comp=Z,50nm,1.0s
JNU Nakatsue 45.99 37 P **P** **10 06 36.2 +0.8**
INKA Innaminka 46.00 127 P **P** **10 06 36.8 +1.2**
WHYH Whyalla 46.17 135 P **P** **10 06 37.1 +0.3**
KBL Kabul 47.24 324 P **P** **10 06 45.0 -0.5**
KBL Kabul 47.24 324 P **P** **10 06 45.0 -0.5**
KBL pmax pmax
comp=Z,11nm,0.7s
HTT Hallett 47.34 135 P **P** **10 06 46.8 +0.7**
KSAR Wonju Array Be 47.55 30 P **P** **10 06 47.1 -0.4**
KSAR Wonju Array Be 47.55 30 P **P** **10 06 47.1 -0.4**
KSRS Korea Array 47.58 30 P **P** **10 06 47.5 -0.2**
comp=Z,12nm,0.8s,baz=224,slow=7.9,SNR=34
comp=Z,12nm,0.8s
KS19 Wonju Array Si 47.59 30 P **P** **10 06 47.8 0.0**
KS19 IAmb IAmb 10 06 48.3
comp=Z,17nm,0.9s
KSH Kashi 47.59 335 P **P** **10 06 47.3 -0.6**
KSH pP sP 10 06 53.0 -0.5
KSH pmax pmax
comp=Z,34nm,0.8s
KSH LR LR
comp=Z,2μm,16.1s
KSH LR LR
comp=Z,2μm,16.5s
KSH LR LR
comp=Z,2μm,19.2s
WMQ Urumqi 47.70 348 *e*P **P** **10 06 49.9 +1.2**
WMQ sP sP 10 06 56.4 +2.2
WMQ pmax pmax
comp=Z,76nm,0.9s
WMQ LR LR
comp=Z,2μm,16.1s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,770nm,15.5s
WUS Wushi 47.73 339 P **P** **10 06 49.9 +0.9**
CTAO Charters Tower 48.12 115 P **P** **10 06 51.6 -0.7**
CTAO Charters Tower 48.12 115 P **P** **10 06 52.7 +0.4**
CTAO Charters Tower 48.12 115 P **P** **10 06 51.6 -0.7**
CTAO pmax pmax
comp=Z,68nm,0.9s
JMN Monobe 48.23 38 P **P** **10 06 53.1 +0.2**
JMN Monobe 48.23 38 P **P** **10 06 53.7 +0.8**
QLP Quilpie 48.39 124 P **P** **10 06 56.1 +1.8**
AUMBR Murray Bridge 48.50 136 P **P** **10 06 56.8 +1.9**
STKA Stephens Creek 48.52 131 P **P** **10 06 55.0 -0.2**
STKA IAmb IAmb 10 07 01.7
comp=Z,44nm,0.8s
STKA Stephens Creek 48.52 131 P **P** **10 06 55.8 +0.6**
comp=Z,38nm,0.8s,baz=305,slow=9.1,SNR=84
comp=Z,38nm,0.8s
STKA Stephens Creek 48.52 131 P **P** **10 06 56.2 +1.0**
XLT XiLinHaoTe 48.59 15 *e*P **P** **10 06 55.8 +0.2**
XLT pmax pmax
comp=Z,54nm,0.9s
TARG Taragay, Kyrgy 48.72 338 IAmb IAmb 10 07 11.5
comp=Z,73nm,1.3s
KDJ Kajisay 49.30 337 P **P** **10 07 02.7 +1.5**
SHLS Shalkode 49.37 340 *e*P **P** **10 06 59.9 -1.7**
SHLS pmax pmax
comp=Z,32nm,0.6s
SHLS Shalkode 49.37 340 *e*P **P** **10 06 60.0 -1.7**
comp=Z,32nm,0.6s
PDGK Podgornoye 49.51 340 *i* P **P** **10 07 03.4 +0.7**
PDGK pmax pmax
comp=Z,123nm,1.0s
UZB Uzynbulak 49.51 340 *e*P **P** **10 07 02.0 -0.7**
UZB pmax pmax
comp=Z,24nm,0.7s
UZB Uzynbulak 49.51 340 *e*P **P** **10 07 02.1 -0.7**
comp=Z,24nm,0.7s
SATY Saty 49.65 339 *e*P **P** **10 07 03.3 -0.5**
SATY pmax pmax
comp=Z,46nm,1.1s
SATY Saty 49.65 339 *e*P **P** **10 07 03.4 -0.5**
comp=Z,46nm,1.1s
ULHL Ulahol 49.76 337 P **P** **10 07 05.8 +1.1**
SNR=17
GAR Garm 49.83 329 IAmb IAmb 10 07 15.1
comp=Z,76nm,1.2s
KPKS Kokpek 49.91 340 *e*P **P** **10 07 05.0 -0.7**
KPKS pmax pmax
comp=Z,26nm,1.0s
KPKS Kokpek 49.91 340 *e*P **P** **10 07 05.1 -0.7**
comp=Z,26nm,1.0s
BOOM Boomskoye usch 50.09 337 P **P** **10 07 07.1 -0.1**
BOOM IAmb IAmb 10 07 09.2
comp=Z,32nm,0.8s
BOOM Boomskoye usch 50.09 337 P **P** **10 07 07.1 -0.1**
BOOM pmax pmax
comp=Z,33nm,0.8s
TNSS Tian-Shan 50.17 338 *e*P **P** **10 07 06.9 -1.1**
TNSS Tian-Shan 50.17 338 *e*P **P** **10 07 07.0 -1.1**
CHGR Chuyangaron 50.17 328 P **P** **10 07 06.1 -1.7**
CHGR IAmb IAmb 10 07 07.8
comp=Z,55nm,1.0s
CHGR Chuyangaron 50.17 328 P **P** **10 07 06.1 -1.7**
CHGR pmax pmax
comp=Z,55nm,1.0s
MDOK Medeo 50.24 338 P **P** **10 07 08.8 +0.5**
MDOK Medeo 50.24 338 *e*P **P** **10 07 07.4 -0.9**
SIMJ Simiganj 50.25 328 P **P** **10 07 07.1 -1.3**
SIMJ IAmb IAmb 10 07 17.4
comp=Z,32nm,1.0s
AAA Alma-Ata 50.33 338 *e*P **P** **10 07 08.2 -0.6**
AAA pmax pmax
comp=Z,39nm,1.1s
AAA Alma-Ata 50.33 338 *e*P **P** **10 07 08.2 -0.6**
comp=Z,39nm,1.1s
ARSB Arslanbob 50.37 333 IAmb IAmb 10 07 11.4
comp=Z,30nm,1.0s
BTK Batken 50.39 331 IAmb IAmb 10 07 31.7
comp=Z,30nm,1.0s
BTK Batken 50.39 331 P **P** **10 07 09.9 +0.5**
KBK Karagaybulak 50.63 336 P **P** **10 07 13.0 +1.7**
SNR=12
SONM Songino Array 50.67 5 P **P** **10 07 12.2 +0.8**
SONM Songino Array 50.67 5 P **P** **10 07 12.4 +1.0**
comp=Z,80nm,0.8s,baz=190,slow=7.4,SNR=258
SONM PcP **PcP** **10 08 28.8 +0.1**
comp=Z,11nm,0.7s,baz=188,slow=4.0,SNR=7.2
comp=Z,80nm,0.8s
SONM Songino Array 50.67 5 P **P** **10 07 12.2 +0.8**
SONM pmax pmax
comp=Z,79nm,0.8s
AML Almayashu 50.72 335 P **P** **10 07 13.5 +1.3**
SNR=6.8
ULN Ulaanbaatar 50.77 6 P **P** **10 07 12.7 +0.5**
ULN Ulaanbaatar 50.77 6 P **P** **10 07 12.7 +0.5**
ULN pmax pmax
comp=Z,65nm,0.9s
AAK Ala-Archa 50.80 336 P **P** **10 07 12.7 +0.2**
AAK Ala-Archa 50.80 336 P **P** **10 07 13.8 +1.2**
SNR=8.2
AAK Ala-Archa 50.80 336 P **P** **10 07 12.7 +0.2**
AAK pmax pmax
comp=Z,18nm,1.0s
EKS2 Erkin-Say 51.12 335 P **P** **10 07 16.3 +1.5**
SNR=51
ARPS Mount Arapiles 51.12 137 P **P** **10 07 15.3 +0.4**
USP Ospenovka 51.32 336 P **P** **10 07 16.9 +0.7**
SNR=38
TDK Taldyqorghan 51.36 340 *e*P **P** **10 07 16.0 -0.5**
TDK pmax pmax
comp=Z,35nm,0.7s
TDK Taldyqorghan 51.36 340 *e*P **P** **10 07 16.1 -0.5**
comp=Z,35nm,0.7s
CMSA Cobar Meteorol 51.50 129 P **P** **10 07 18.5 +0.7**
CN2 Changchun 51.60 23 *e*P **P** **10 07 17.1 -1.2**
CN2 *es*P sP 10 07 23.9 0.0
CN2 PcP **PcP** **10 08 31.7 -0.4**
CN2 pmax pmax
comp=Z,80nm,1.0s
ZSN Zaisan 51.77 347 *e*P **P** **10 07 19.0 -0.5**
ZSN pmax pmax
comp=Z,30nm,1.0s
ZSN Zaisan 51.77 347 *e*P **P** **10 07 19.0 -0.5**
comp=Z,30nm,1.0s
MK31 Makanchi Array 51.80 344 *i* P **P** **10 07 19.9 +0.1**
MK31 pmax pmax
comp=Z,48nm,0.6s
MKAR Makanchi Array 51.80 344 P **P** **10 07 20.2 +0.4**
comp=Z,62nm,0.7s,baz=158,slow=8.8,SNR=278
MKAR S **S** **10 14 42.7 +1.0**
comp=Z,0.5nm,0.9s,baz=156,slow=14,SNR=3.1
comp=Z,62nm,0.7s
MAKZ Makanchi 51.90 344 P **P** **10 07 20.4 -0.1**
MAKZ IAmb IAmb 10 07 22.0
comp=Z,32nm,0.8s
MAKZ Makanchi 51.90 344 P **P** **10 07 20.4 -0.1**
MAKZ pmax pmax
comp=Z,32nm,0.9s
DZA Taraz 52.36 333 *e*P **P** **10 07 23.3 -0.7**
DZA Taraz 52.36 333 *e*P **P** **10 07 23.4 -0.7**
IUG Iuzhnay 52.38 332 *e*P **P** **10 07 23.7 -0.5**
IUG pmax pmax
comp=Z,17nm,0.7s
IUG Iuzhnay 52.38 332 *e*P **P** **10 07 23.8 -0.5**
comp=Z,17nm,0.7s
AULRC Lightning Ridg 52.51 125 P **P** **10 07 26.1 +0.7**
MAJO Matsushiro 52.75 39 P **P** **10 07 26.4 -0.6**
MAJO Matsushiro 52.75 39 P **P** **10 07 26.5 -0.5**
MAJO Matsushiro 52.75 39 P **P** **10 07 26.4 -0.6**
MAJO pmax pmax
comp=Z,15nm,0.9s
MJB9 Matsu-Tunnel 52.75 39 P **P** **10 07 26.7 -0.3**
MJAR Matsushiro Arr 52.75 39 P **P** **10 07 25.9 -1.1**
comp=Z,26nm,1.0s,baz=223,slow=7.5,SNR=37
comp=Z,26nm,1.0s
KK31 Karatay Array 52.90 333 P **P** **10 07 27.7 -0.3**
KK31 Karatay Array 52.90 333 *i* P **P** **10 07 27.7 -0.3**
KKAR Karatay Array 52.90 333 P **P** **10 07 27.2 -0.8**
KKAR Karatay Array 52.90 333 P **P** **10 07 27.2 -0.8**
BTLS Baital 52.98 337 *e*P **P** **10 07 28.1 -0.4**
BTLS Baital 52.98 337 *e*P **P** **10 07 28.1 -0.4**
ZAK Zakamensk 52.99 2 *e*P **P** **10 07 28.4 -0.3**
ZAK pmax pmax
comp=Z,11nm,1.0s
BRLS Boroldoy 53.15 332 *e*P **P** **10 07 28.3 -1.6**
BRLS Boroldoy 53.15 332 *e*P **P** **10 07 28.4 -1.6**
EIDS Eidsvold 53.83 120 P **P** **10 07 35.3 +0.1**
EIDS Eidsvold 53.83 120 P **P** **10 07 36.3 +1.1**
VLA Vladivostok 53.86 28 *i* P **P** **10 07 34.7 -0.3**
VLA pmax pmax
comp=Z,23nm,0.9s
MDJ Mudanjiang 53.98 26 P **P** **10 07 36.2 +0.3**
MDJ IAmb IAmb 10 07 37.2
comp=Z,22nm,0.8s
MDJ Mudanjiang 53.98 26 P **P** **10 07 36.2 +0.3**
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ Mudanjiang 53.98 26 P **P** **10 07 37.6 +1.7**
BNX BinXian 53.99 23 ⇑P **P** **10 07 35.7 -0.2**
BNX pmax pmax
comp=Z,77nm,0.6s
AUDCS Dubbo College 54.07 128 P **P** **10 07 38.6 +1.8**
MOY Mondy 54.22 1 *e*P **P** **10 07 37.4 -0.2**
MOY pmax pmax
comp=Z,28nm,2.5s
HIA Hailar 54.52 16 P **P** **10 07 39.7 -0.1**
HIA IAmb IAmb 10 07 40.6
comp=Z,25nm,1.0s
HIA Hailar 54.52 16 P **P** **10 07 40.7 +0.9**
HIA Hailar 54.52 16 P **P** **10 07 39.7 -0.1**
HIA pmax pmax
comp=Z,25nm,1.0s
YNG Young 54.71 131 P **P** **10 07 41.9 +0.4**
USA0B Ussuriysk Arra 54.73 28 P **P** **10 07 41.7 +0.3**
USA0B Ussuriysk Arra 54.73 28 P **P** **10 07 41.7 +0.3**
USA0B pmax pmax
comp=Z,76nm,0.8s
USRK Ussuriysk Ar. 54.73 28 P **P** **10 07 41.5 +0.2**
USRK Ussuriysk Ar. 54.73 28 P **P** **10 07 41.4 0.0**
comp=Z,92nm,0.8s,baz=223,slow=5.9,SNR=109
comp=Z,92nm,0.8s
USRK Ussuriysk Ar. 54.73 28 P **P** **10 07 41.6 +0.2**
IRK Irkutsk 54.90 3 *e*P **P** **10 07 43.1 +0.6**
JMM Marumori 55.19 39 P **P** **10 07 44.3 -0.5**
JMM Marumori 55.19 39 P **P** **10 07 45.3 +0.5**
CAN Canberra 55.58 132 P **P** **10 07 51.9 +4.1**
ARMA Armidale 55.83 125 P **P** **10 07 50.7 +1.0**
OTUK Ortayu 56.30 338 *i* P **P** **10 07 51.9 -0.7**
OTUK pmax pmax
comp=Z,26nm,0.9s
KURBB Kurchatov Arra 56.32 344 P **P** **10 07 52.8 +0.2**
comp=Z,46nm,0.8s,baz=162,slow=6.9,SNR=218
comp=Z,46nm,0.8s
KURK Kurchatov 56.38 344 P **P** **10 07 53.2 +0.1**
KURK Kurchatov 56.38 344 P **P** **10 07 53.2 +0.1**
KURK pmax pmax
comp=Z,86nm,0.9s
JTM Tenmabayashi 57.16 36 P **P** **10 07 58.7 -0.1**
BRZS Berezniki 57.62 339 *e*P **P** **10 08 01.5 -0.4**
BRZS Berezniki 57.62 339 *e*P **P** **10 08 01.6 -0.4**
HEH HeiHe 57.76 20 *e*P **P** **10 08 03.0 +0.2**
HEH pmax pmax
comp=Z,50nm,1.0s
ZAA0 Zalesovo Array 57.94 349 P **P** **10 08 04.0 0.0**
ZALV Zalesovo Beam 57.94 349 P **P** **10 08 03.9 -0.2**
ZALV Zalesovo Beam 57.94 349 P **P** **10 08 04.1 0.0**
comp=Z,51nm,0.9s,baz=164,slow=5.8,SNR=47
comp=Z,51nm,0.9s
ZALV Zalesovo Beam 57.94 349 *i* P **P** **10 08 04.0 0.0**
ZALV pmax pmax
comp=Z,52nm,0.9s
KLR Kul'dur 58.54 24 P **P** **10 08 08.6 +0.2**
comp=Z,30nm,0.8s,baz=217,slow=9.2,SNR=58
comp=Z,30nm,0.8s
KLR Kul'dur 58.54 24 *i* P **P** **10 08 08.1 -0.3**
KLR pmax pmax
comp=Z,45nm,0.9s
ASAJ Asahikawa 60.13 34 P **P** **10 08 19.6 +0.1**
comp=Z,11nm,0.6s,baz=235,slow=8.3,SNR=21
comp=Z,11nm,0.6s
H04N2 CROZET ISLANDS 60.30 217 T T 11 13 30.5
baz=59,slow=75,SNR=3567
H04N1 CROZET ISLANDS 60.31 217 T T 11 13 35.0
baz=59,slow=75,SNR=3750
H04N3 CROZET ISLANDS 60.32 217 T T 11 13 33.7
baz=59,slow=75,SNR=4109
H04S1 CROZET ISLANDS 60.58 216 T T 11 13 49.5
baz=58,slow=76,SNR=1640
H04S3 CROZET ISLANDS 60.60 216 T T 11 13 49.1
baz=58,slow=76,SNR=2897
H04S2 CROZET ISLANDS 60.60 216 T T 11 13 54.6
baz=58,slow=76,SNR=1621
ZEA Zeya 60.66 18 *e*P **P** **10 08 23.5 +0.6**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
BVA0 Borovoye Array 60.95 340 *i* P **P** **10 08 23.8 -1.1**
BVAR Borovoye Array 60.95 340 P **P** **10 08 24.4 -0.5**
comp=Z,14nm,0.7s,baz=144,slow=8.7,SNR=32
comp=Z,14nm,0.7s
BRVK Borovoye 61.01 340 P **P** **10 08 24.6 -0.7**
BRVK IAmb IAmb 10 08 33.7
comp=Z,12nm,0.8s
BRVK Borovoye 61.01 340 P **P** **10 08 24.6 -0.7**
BRVK pmax pmax
comp=Z,12nm,0.8s
BOD Bodaibo 61.40 8 *e*P **P** **10 08 28.0 +0.2**
BOD pmax pmax
comp=Z,77nm,0.9s
YSS Yuzhno-Sakhali 62.02 32 P **P** **10 08 32.4 +0.2**
YSS Yuzhno-Sakhali 62.02 32 P **P** **10 08 32.8 +0.5**
YSS Yuzhno-Sakhali 62.02 32 *e*P **P** **10 08 32.1 -0.2**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=E,30nm,0.9s
YSS MLR MLR

comp=Z,2μm,15.0s
AB31 Akbulak array 62.38 331 *i* P **P 10 08 34.0 -0.6**
ABKAR Akbulak array 62.38 331 P **P 10 08 34.2 -0.4**
UGL Uglegorsk 63.06 30 *e*P **P 10 08 40.0 +0.9**
UGL *e*S **S 10 17 06.1 -3.5**
UGL pmax pmax
comp=Z,100nm,0.8s
AKTO Aktyubinsk 64.10 331 P **P 10 08 44.8 -1.2**
AKT Akhty 64.79 319 *e*P **P 10 08 49.3 -1.6**
AKT *e* 10 09 20.1
AKT *e* 10 11 12.3
AKT pmax pmax
comp=Z,19nm,1.1s
GNI Garni 66.19 316 *i* P **P 10 09 00.2 +0.2**
GNI pmax pmax
comp=Z,34nm,1.2s
SVE Sverdlovsk 67.44 338 *e*P **P 10 09 07.9 +0.5**
SVE pmax pmax
comp=Z,37nm,1.1s
MARD Mardin 67.88 312 IAmb IAmb 10 09 12.0
comp=Z,23nm,0.8s
ARTI Arti 68.00 336 P **P 10 09 10.5 -0.6**
ARTI IAmb IAmb 10 09 23.1
comp=Z,25nm,1.1s
ARTI Arti 68.00 336*c* *i*P **P 10 09 10.4 -0.6**
ARTI S **S 10 18 11.7 +1.9**
ARTI pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 68.42 14 P **P 10 09 12.8 -0.6**
YAK Yakutsk 68.42 14 *e*P **P 10 09 12.6 -0.9**
YAK *e*S **S 10 18 15.0 +0.5**
YAK pmax pmax
comp=Z,131nm,1.0s
KBZ Khabaz 68.99 319 P **P 10 09 17.8 +0.4**
comp=Z,15nm,0.8s,baz=120,slow=8.9,SNR=25
comp=Z,15nm,0.8s
KBZ Khabaz 68.99 319 *i* P **P 10 09 17.4 0.0**
KBZ pmax pmax
comp=Z,21nm,0.9s
KIV Kislovodsk 69.22 319 P **P 10 09 17.9 -1.2**
KIV IAmb IAmb 10 09 29.3
comp=Z,20nm,0.9s
KIV Kislovodsk 69.22 319 *e*P **P 10 09 18.5 -0.5**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 69.22 319 P **P 10 09 19.3 +0.3**
comp=Z,19nm,1.0s
BELG Belogornoye 70.46 329 *i* P **P 10 09 24.9 -1.4**
BELG pmax pmax
comp=Z,6.0nm,1.1s
MMAI Mount Meron Ar 70.62 306 P **P 10 09 28.9 +1.1**
comp=Z,4.2nm,0.8s,baz=74,slow=11,SNR=5.2
comp=Z,4.2nm,0.8s
BNN Bunyan 72.06 312 IAmb IAmb 10 10 01.1
comp=Z,22nm,0.9s
NRIK Noril'sk 72.46 355 P **P 10 09 37.6 -0.5**
NRIK IAmb IAmb 10 09 38.7
comp=Z,29nm,1.0s
NRIK Noril'sk 72.46 355 P **P 10 09 37.5 -0.5**
comp=Z,26nm,1.0s,baz=161,slow=5.1,SNR=21
comp=Z,26nm,1.0s
NRIK Noril'sk 72.46 355 *i* P **P 10 09 37.0 -1.1**
NRIK pmax pmax
comp=Z,35nm,1.0s
CSS Mathiatis 72.82 308 P **P 10 09 45.1 +4.2**
comp=Z,23nm,1.1s
VRH Novokhopyorsk 73.04 326 *e*P **P 10 09 41.5 -0.3**
VRH pmax pmax
comp=Z,28nm,0.8s
DIKM Dikmen 73.40 315 P **P 10 09 47.8 +3.6**
comp=Z,15nm,1.2s
PETK Petropavlovsk- 73.42 32 P **P 10 09 42.8 -1.3**
comp=Z,8.3nm,0.7s,baz=275,slow=1.6,SNR=9.4
comp=Z,8.3nm,0.7s
KIRS Kirsehir-Merke 73.57 312 ⇓P **P 10 09 45.4 0.0**
MA2 Magadan 73.64 24 P **P 10 09 45.2 0.0**
comp=Z,17nm,0.7s,baz=212,slow=7.4,SNR=13
comp=Z,17nm,0.7s
MA2 Magadan 73.64 24 P **P 10 09 45.8 +0.5**
MA2 Magadan 73.64 24 *i* P **P 10 09 43.6 -1.6**
MA2 pmax pmax
comp=Z,28nm,0.9s
MA2 Magadan 73.64 24 P **P 10 09 45.7 +0.5**
comp=Z,33nm,0.9s
PET Petropavlovsk 73.89 32 *e*P **P 10 09 46.6 -0.2**
PET pmax pmax
comp=Z,60nm,0.8s
PET Petropavlovsk 73.89 32 P **P 10 09 46.1 -0.7**
comp=Z,56nm,2.2s
BR104 Keskin Array S 73.95 313 P **P 10 09 51.3 +3.6**
comp=Z,96nmcomp=Z,14nm,0.9s
BRTR Keskin Array B 73.96 313 P **P 10 09 46.8 -0.9**
comp=Z,7.4nm,0.8s,baz=130,slow=7.3,SNR=42
comp=Z,7.4nm,0.8s
BRTR Keskin Array B 73.96 313 *i* P **P 10 09 46.9 -0.8**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
ILGA Ilgaz 74.31 314 P **P 10 09 50.4 +0.6**
ILGA IAmb IAmb 10 09 59.3
comp=Z,48nm,1.0s
RPZ Rata Peaks 74.33 135 P **P 10 09 49.4 -0.2**
comp=Z,20nm,1.0s,baz=287,slow=14,SNR=3.5
comp=Z,20nm,1.0s
RPZ Rata Peaks 74.33 135 P **P 10 09 49.9 +0.2**
BZK Bozkurt 74.39 315 P **P 10 09 53.6 +3.7**
comp=Z,65nm,1.0s
ANTO Ankara 74.62 313 ⇑P **P 10 09 51.7 +0.2**
ANTO Ankara 74.62 313 P **P 10 09 51.7 +0.2**
VORR Voronezh 74.66 326 *e*P **P 10 09 51.1 -0.2**
VORR pmax pmax
comp=Z,21nm,0.6s
LPSR Galich'ya Gora 75.21 326 *e*P **P 10 09 54.5 0.0**
LPSR pmax pmax
comp=Z,24nm,0.9s
SIM Simferopol' 75.27 318 *e*P **P 10 09 50.6 -4.4**
SIM *e* 10 10 04.0
SIM *e*S **SKiKP 10 19 25.0 +6.8**
SIM pmax pmax
comp=Z,13nm,0.5s
SIM MLR MLR
comp=Z,600nm,16.2s
BOSA Boshof 75.45 241 P **P 10 09 57.3 +0.7**
comp=Z,2.7nm,0.9s,baz=112,slow=12,SNR=2.5
comp=Z,2.7nm,0.9s
KHAM Kharkiv 75.71 323 P **P 10 10 00.4 +2.9**
SEY Seymchan 76.25 22 P **P 10 10 00.3 +0.1**
comp=Z,21nm,0.9s,baz=239,slow=6.0,SNR=29
comp=Z,21nm,0.9s
SEY Seymchan 76.25 22 *i* P **P 10 09 59.0 -1.3**
SEY pmax pmax
comp=Z,30nm,1.1s
TIXI Tiksi 76.57 9 P **P 10 10 00.8 -1.1**
TIXI IAmb IAmb 10 10 09.7
comp=Z,59nm,1.4s
TIXI Tiksi 76.57 9 *i* P **P 10 10 00.3 -1.6**
TIXI pmax pmax
comp=Z,38nm,1.4s
SYO Syowa Base 77.22 199 ⇓*i*PcP **PcP 10 10 15.2 -1.1**
MOS Moscow 77.23 329 *e*P **P 10 10 05.2 -0.7**
MOS *e* 10 10 15.4
MOS pmax pmax
comp=Z,32nm,0.6s
OBN Obninsk 77.52 328⇑ *e*P **P 10 10 07.3 -0.2**
OBN *PP **pP 10 10 10.0 -1.8**
OBN *e*SP **sP 10 10 11.9 -1.3**
OBN *e* 10 10 17.7
OBN S S 10 19 49.0 -9.4
OBN *e* 10 20 37.5
OBN pmax pmax
comp=Z,36nm,1.3s
OBN MLR MLR
comp=Z,853nm,16.0s
MSVF Nonsavu 77.62 107 P **P 10 10 09.9 +0.9**
BKZ Black Stump Fm 77.66 129 P **P 10 10 09.5 +0.8**
BKZ Black Stump Fm 77.66 129 P **P 10 10 09.6 +0.8**
RTZ Ruatahuna 77.98 129 P **P 10 10 10.9 +0.3**
RTZ IAmb IAmb 10 10 11.4
comp=Z,45nm,0.9s
KLMR Klimovskoe 78.58 334 *e*P **P 10 10 10.4 -2.9**
KLMR *e* 10 13 05.2
KLMR pmax pmax
comp=Z,39nm,1.4s
TIRR Tirgusor 79.02 316 ⇓P **P 10 10 16.4 +0.3**
TIRR Tirgusor 79.02 316 P **P 10 10 16.3 +0.3**
CFR Carcaliu 79.39 317 ⇓P **P 10 10 18.4 +0.2**
CFR Carcaliu 79.39 317 P **P 10 10 18.3 +0.2**

SORM Soroca 80.02 320 ⇑P **P 10 10 21.2 -0.2**
SORM Soroca 80.02 320 P **P 10 10 21.2 -0.2**
SORM Soroca 80.02 320 P **P 10 10 21.3 -0.2**
comp=Z,28nm,0.8s
AK09 Malin Array Si 80.12 322 P **P 10 10 21.4 -0.6**
AKASG Malin Array Be 80.19 322 P **P 10 10 21.3 -1.0**
comp=Z,1.9nm,0.7s,baz=94,slow=4.3,SNR=12
comp=Z,1.9nm,0.7s
AK01 Malin Array Si 80.19 322 P **P 10 10 21.6 -0.7**
KIEV Kiev 80.19 322 P **P 10 10 21.2 -1.1**
KIEV Kiev 80.19 322 ⇑P **P 10 10 22.1 -0.2**
KIEV Kiev 80.19 322 P **P 10 10 21.3 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
VRI Vrincioaia 80.52 317 ⇓P **P 10 10 25.4 +1.1**
VRI Vrincioaia 80.52 317 P **P 10 10 25.3 +1.1**
VRI Vrincioaia 80.52 317 P **P 10 10 24.6 +0.3**
comp=Z,21nm,1.0s
PLOR5 Plostina Array 80.56 317 P **P 10 10 28.4 +3.9**
comp=Z,14nm,1.1s
PLOR Plostina 80.57 317 ⇓P **P 10 10 25.5 +0.9**
PLOR Plostina 80.57 317 P **P 10 10 25.5 +0.9**
PLOR3 Plostina Array 80.57 317 P **P 10 10 25.2 +0.6**
comp=Z,16nm,1.2s
TESR Tescani 80.73 318 ⇓P **P 10 10 26.0 +0.7**
TESR Tescani 80.73 318 P **P 10 10 25.5 +0.1**
comp=Z,22nm,1.2s
NDNU Novodnistrovsk 80.78 320 P **P 10 10 24.6 -0.9**
ONER Baraj Valea Uz 80.86 318 ⇑P **P 10 10 27.2 +1.1**
LUBAR Lubar, Ukraine 80.87 321 P **P 10 10 24.9 -1.1**
MLR Muntele Rosu 80.97 317 ⇓P **P 10 10 27.6 +0.7**
MLR Muntele Rosu 80.97 317 P **P 10 10 27.5 +0.7**
MLR Muntele Rosu 80.97 317 P **P 10 10 27.2 +0.4**
comp=Z,19nm,1.1s
DOPR Dopca 81.45 317 ⇑P **P 10 10 29.9 +0.7**
VOIR 81.57 317 ⇑P **P 10 10 29.9 0.0**
VOIR 81.57 317 P **P 10 10 29.9 0.0**
ARR Arges 81.84 316 ⇓P **P 10 10 31.4 0.0**
LIT Litokhoron 82.37 311 IAmb IAmb 10 10 34.7
comp=Z,19nm,1.1s
JOF Joensuu 82.97 335 *e*P **P 10 10 37.7 +0.9**
MARR Marisel-Cluj 83.14 317 ⇓P **P 10 10 39.1 +0.9**
IIGN Ignalina 83.19 326 *e*P **P 10 10 38.6 +0.5**
ELIB Princess Elisa 83.32 198 *d*P **P 10 10 40.5 +1.8**
comp=Z,7.1nm,0.9s
DRGR 83.44 318 ⇓P **P 10 10 40.4 +0.8**
DRGR 83.44 318 P **P 10 10 40.4 +0.8**
BILL Bilibino 83.80 20 P **P 10 10 40.1 -0.8**
BILL Bilibino 83.80 20 *i* P **P 10 10 39.6 -1.3**
BILL pmax pmax
comp=Z,20nm,2.6s
APA Apatity 83.85 339 ⇓*i*P **P 10 10 44.3 +3.1**
APA pmax pmax
comp=Z,8.0nm,0.8s
BZS Buzias 83.97 316 ⇓P **P 10 10 42.7 +0.4**
BZS Buzias 83.97 316 P **P 10 10 42.7 +0.4**
KOLS Kolonicke sedl 84.14 320 *e*P **P 10 10 44.2 +1.1**
KOLS pmax pmax
comp=Z,26nm,0.9s
KOLS Kolonicke sedl 84.14 320 *e*P **P 10 10 44.1 +1.0**
PABE Paberze 84.48 326 IAmb IAmb 10 10 45.9
comp=Z,35nm,1.1s
PABE Paberze 84.48 326 *e*P **P 10 10 45.3 +0.7**
SUW Suwalki 84.60 325 *e*P **P 10 10 45.8 +0.5**
FINES FINESS Array B 84.86 332 P **P 10 10 46.5 +0.1**
comp=Z,4.3nm,0.5s,baz=101,slow=5.9,SNR=34
comp=Z,4.3nm,0.5s
FINES FINESS Array B 84.86 332 *i* P **P 10 10 46.9 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.5s
STHS Stebnicka Huta 84.89 320 *e*P **P 10 10 47.3 +0.4**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 84.89 320 *e*P **P 10 10 47.3 +0.4**
PSZ Piszkesteto 85.52 318 *e*P **P 10 10 50.6 +0.4**
MORH Mrgy, Hungar 86.11 316 ⇓P **P 10 10 53.6 +0.5**
VADS Vadso 86.13 341 *e*P **P 10 10 53.0 +0.4**
VYHS Vyhne 86.31 319 *e*P **P 10 10 54.1 +0.1**
VYHS pmax pmax
comp=Z,15nm,1.6s
VYHS Vyhne 86.31 319 *e*P **P 10 10 54.1 +0.1**
VAF Ylistaro 86.79 334 *e*P **P 10 10 57.6 +1.6**
QSPA South Pole Qui 87.21 180 P **P 10 10 59.0 +0.8**
comp=Z,1.7nm,0.8s,baz=305,slow=1.9,SNR=9.4
comp=Z,1.7nm,0.8s
ARA0 ARCESS Array S 87.24 340 *e*P **P 10 10 58.8 +0.7**
ARCES ARCESS Array B 87.24 340 P **P 10 10 58.2 +0.1**
comp=Z,10nm,0.7s,baz=101,slow=5.4,SNR=22
comp=Z,10nm,0.7s
MODS Modra-Piesok 87.32 319 *e*P **P 10 11 00.3 +1.3**
MODS pmax pmax
comp=Z,24nm,1.2s
MODS Modra-Piesok 87.32 319 *e*P **P 10 11 00.3 +1.3**
KTK1 Kautokeino 87.89 339 *e*P **P 10 11 01.4 +0.2**
RONA Rosalia, Austr 87.89 318 *i* PcP **PcP 10 11 03.0 -0.6**
comp=Z,0.3nm,0.4s
HAMF Hammerfest 88.12 341 *e*P **P 10 11 02.5 +0.3**
CONA Conrad Observa 88.21 318 *i* P **P 10 11 01.4 -1.9**
comp=Z,4.3nm,1.2s
ARSA Arzberg 88.37 317 *e*PcP **P 10 11 04.4 +0.4**
comp=Z,5.2nm,0.8s
SOKA Soboth 88.65 317 *e*PcP **P 10 11 06.1 +0.7**
comp=Z,12nm,1.1s
OBKA Obir 88.96 316 *e*PcP **P 10 11 07.1 +0.2**
comp=Z,9.1nm,1.4s
MOA Molln 89.27 318 *i* PcP **PcP 10 11 09.2 -0.4**
comp=Z,4.3nm,1.1s
MYKA Terra Mystica 89.60 317 *i* PcP **P 10 11 10.5 +0.6**
comp=Z,15nm,1.5s
BIOA Bad Ischl, Aus 89.68 318 *i* PcP **P 10 11 10.0 -0.2**
comp=Z,4.3nm,0.9s
GERES GERESS Array B 89.73 319 P **P 10 11 09.7 -0.8**
GERES GERESS Array B 89.73 319 P **P 10 11 10.4 0.0**
comp=Z,4.1nm,0.9s,baz=102,slow=9.5,SNR=12
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 89.73 321 *e*P **P 10 11 10.9 +0.7**
BRG Amp 10 11 11.7
comp=Z,4.1nm,0.9s
KBA Koelnbreinsper 89.83 317 *e*PcP **P 10 11 10.8 -0.3**
comp=Z,9.2nm,1.4s
RUE Ruedersdorf 89.96 322 *e*P **P 10 11 12.8 +1.6**
LESA Schwarzleotal 90.31 317 *e*P **P 10 11 12.6 -0.6**
comp=Z,7.7nm,1.4s
CLL Collm 90.36 321 *i* P **P 10 11 13.4 +0.2**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 90.36 321 *i* P **P 10 11 13.4 +0.2**
comp=Z,9.0nm,1.4s
ABTA Abfaltersbach 90.38 317 *i* PcP **P 10 11 13.2 -0.3**
comp=Z,10nm,1.3s
CIMO Cimolais 90.40 316 IAmb IAmb 10 11 15.0
comp=Z,20nm,0.9s
FAUS Fauske 90.55 337 *e*P **P 10 11 14.2 +0.5**
HFS Hagfors 90.61 330 P **P 10 11 14.1 -0.1**
comp=Z,4.8nm,0.9s,baz=106,slow=11,SNR=5.7
comp=Z,4.8nm,0.9s
STEI Steigen 90.62 338 *e*P **P 10 11 14.2 +0.2**
MOR8 Moi Rana 90.77 336 *e*P **P 10 11 14.6 -0.2**
CTI Castel Tesino 90.94 316 IAmb IAmb 10 11 28.4
comp=Z,15nm,0.9s
WTTA Wattenberg 91.01 317 *i* PcP **P 10 11 16.1 -0.5**
comp=Z,6.3nm,0.8s
WATA Walderalm 91.05 317 *i* PcP **P 10 11 16.5 -0.2**
comp=Z,13nm,1.7s
SQTA Sankt Quirin 91.30 317 *i* PcP **PcP 10 11 18.6 -0.1**
comp=Z,5.8nm,1.0s
MOTA Moosalm 91.38 317 *i* P **P 10 11 17.6 -0.7**
comp=Z,8.7nm,1.0s
SPA0 Spitsbergen Ar 91.40 348 *e*P **P 10 11 18.7 +1.2**
SPITS Spitsbergen Ar 91.40 348 P **P 10 11 16.1 -1.4**
comp=Z,9.9nm,0.8s,baz=93,slow=12,SNR=11
comp=Z,9.9nm,0.8s
SNAA Sanae 91.48 198 P P 10 11 25.2 +7.0
SNAA Sanae 91.48 198 ⇑P P 10 11 25.2 +7.0
RETA Reutte 91.61 317 *e*PcP **P 10 11 19.4 +0.1**
comp=Z,7.7nm,1.1s
FETA Feichten 91.62 317 *i* PcP **P 10 11 19.4 +0.1**
comp=Z,11nm,1.6s
NSS Namsos 91.69 334 *e*P **P 10 11 18.6 -0.5**
NB2 NORSAR Subarra 91.88 331 P **P 10 11 19.8 -0.3**
comp=Z,1.1nm,0.7s,baz=95,slow=4.6
NB2 NORSAR Subarra 91.88 331 P **P 10 11 19.8 -0.3**
baz=95,slow=4.6
NOA NORSAR Array B 91.88 331 P **P 10 11 19.9 -0.3**
comp=Z,2.1nm,0.8s,baz=93,slow=4.6,SNR=6.4

comp=Z,2.1nm,0.8s
DAVA Damuels 92.20 317 *i* pP **P 10 11 23.7 +1.6**
comp=Z,13nm,1.3s
KEST Kesra 92.27 305 IAmb IAmb 10 11 25.1
comp=Z,20nm,1.1s
KEST Kesra 92.27 305 P **P 10 11 23.7 +1.2**
comp=Z,11nm,0.9s,baz=90,slow=8.1,SNR=6.1
comp=Z,11nm,0.9s
F15K North Star Dit 94.63 24 IAmb IAmb 10 11 35.0
comp=Z,16nm,1.3s
G16K Koyuk River 95.61 25 IAmb IAmb 10 11 38.1
comp=Z,9.3nm,0.9s
C18K Utukok River 95.70 21 IAmb IAmb 10 11 55.1
comp=Z,4.4nm,0.7s
H17K Granite Mounta 96.68 25 IAmb IAmb 10 11 43.2
comp=Z,8.9nm,1.0s
D19K Kuna River 96.84 21 IAmb IAmb 10 12 01.1
comp=Z,7.1nm,0.9s
G19K Purcell Mounta 97.65 24 IAmb IAmb 10 12 03.8
comp=Z,5.0nm,0.7s
B21K Ikpikpuk River 97.84 20 IAmb IAmb 10 11 50.5
comp=Z,12nm,1.3s
G21K Allakaket 98.98 23 IAmb IAmb 10 12 06.8
comp=Z,8.2nm,1.1s
ILAR Eielson Array 102.12 24 PP **PP 10 16 16.7 -1.1**
comp=Z,0.9nm,0.9s,baz=284,slow=7.9,SNR=5.6
ILAR PKKPbc **PKKPbc 10 28 10.0 -2.4**
comp=Z,0.2nm,0.8s,baz=126,slow=5.9,SNR=2.1
ILAR PKKP **PKKPdf 10 28 17.7 -1.4**
comp=Z,0.9nm,1.0s,baz=121,slow=2.6,SNR=5.5
YKA Yellowknife Ar 115.03 17 PKP **PKiKP 10 16 51.5 -1.3**
comp=Z,1.3nm,0.8s,baz=318,slow=2.1,SNR=15
YKA PP **PP 10 17 51.0 -0.6**
comp=Z,1.5nm,0.9s,baz=322,slow=7.3,SNR=9.4
FCC Fort Churchill 123.04 9 PKPdf **PKPdf 10 17 07.7 -0.6**
FCC Fort Churchill 123.04 9 PKIKP **PKPdf 10 17 07.7 -0.6**
D08A Wollman Farm, 124.39 32 **PKiKP 10 17 11.8 +0.3**
J04A Umpqua Nationa 124.93 37 **PKiKP 10 17 13.8 +0.8**
FFC Flin Flon 125.14 16 PKPdf **PKPdf 10 17 12.2 -0.2**
FFC Flin Flon 125.14 16 PKIKP **PKPdf 10 17 12.2 -0.2**
SCHQ Schefferville 127.02 351 PKP **PKPdf 10 17 16.0 0.0**
comp=Z,1.9nm,0.7s,baz=0.0,slow=1.0,SNR=5.5
MSO Missoula 127.05 29 PKPdf **PKPdf 10 17 16.4 -0.1**
PLID Pearl Lake 127.22 32 PKPdf **PKiKP 10 17 18.1 +0.5**
NVAR Mina Array Bea 130.06 40 PKP **PKPdf 10 17 22.2 -0.5**
comp=Z,1.7nm,0.7s,baz=325,slow=2.9,SNR=5.3
ULM Lac du Bonnet 130.75 14 PKPdf **PKPdf 10 17 23.4 +0.1**
ULM Lac du Bonnet 130.75 14 PKP **PKPdf 10 17 22.4 -0.9**
comp=Z,5.4nm,0.6s,baz=334,slow=2.7,SNR=12
ULM Lac du Bonnet 130.75 14 PKIKP **PKPdf 10 17 23.4 +0.1**
PDAR Pinedale Array 132.14 30 PKP **PKPdf 10 17 26.1 -0.4**
comp=Z,0.7nm,0.7s,baz=280,slow=3.3,SNR=6.1
RSSD Black Hills 133.57 24 PKPdf **PKiKP 10 17 29.8 -0.5**
RSSD Black Hills 133.57 24 PKIKP **PKiKP 10 17 29.8 -0.5**
PLCA Paso Flores 135.90 190 PKP **PKiKP 10 17 35.0 0.0**
comp=Z,1.5nm,1.0s,baz=243,slow=2.3,SNR=1.3
ECSD EROS Data Cent 136.56 18 PKPdf **PKPdf 10 17 34.5 +0.1**
CCM Cathedral Cave 143.34 15 PKPab 10 17 43.1 +0.3
CCM Cathedral Cave 143.34 15 PKIKP PKPab 10 17 43.1 +0.3
CPUP Villa Florida 143.82 216 PKPdf PKPbc 10 17 46.2 +0.6
CPUP Villa Florida 143.82 216 PKP PKPbc 10 17 46.4 +0.7
comp=Z,2.3nm,0.8s,baz=151,slow=3.8,SNR=5.0
TUL3 Leonard 143.85 22 PKPdf PKPbc 10 17 45.4 -0.1
U38A Gravette 143.88 20 PKPdf PKPab 10 17 45.2 +0.3
MGMO Mountain Grove 143.90 17 PKPab 10 17 45.1 +0.1
X34A Smith Ranch, M 144.15 26 PKPdf PKPbc 10 17 46.5 +0.1
WCI Wyandotte Cave 144.20 9 **PKPab 10 17 46.2 +0.2**
WCI Wyandotte Cave 144.20 9 PKIKP **PKPab 10 17 46.2 +0.2**
WTFS Witchita Falls 144.57 27 PKPdf **PKPab 10 17 47.6 0.0**
S57A Dark Hollow, R 145.15 359 **PKPbc 10 17 49.4 -0.1**
TXAR Lajitas Array 145.19 38 PKPbc **PKPdf 10 17 50.4 -0.1**
comp=Z,42nm,0.8s,baz=326,slow=2.6,SNR=300
TXAR SKPbc **SKiKP 10 21 31.5 +0.9**
comp=Z,1.4nm,1.0s,baz=347,slow=3.1,SNR=4.4
RCRC Randolf Colleg 145.48 359 **PKPbc 10 17 50.4 -0.2**
WVT Waverly 145.97 12 **PKPdf 10 17 51.7 +0.2**
WVT Waverly 145.97 12 PKP2 **PKPdf 10 17 51.7 +0.2**
LCO Las Campanas 147.23 195 **PKPdf 10 17 55.1 +0.9**
LCO Las Campanas 147.23 195 PKP2 **PKPdf 10 17 55.1 +0.9**
W57A Gilead 147.76 0 **PKPbc 10 17 57.3 0.0**
X58A Rowland 148.36 359 **PKPbc 10 17 59.3 +0.4**
AC02 Maricunga 148.82 199 PKPab **PKiKP 10 18 02.0 -0.4**
Y60A Bolivia 148.87 357 **PKPbc 10 18 00.5 +0.2**
PTLB Pontes e Lacer 152.69 228 **PKPbc 10 18 09.7 -0.1**
PTLB PKPab **sPKPbc 10 18 17.7 +2.0**
LPAZ La Paz 157.83 211 PKP **PKPdf 10 18 08.9 -1.6**
comp=Z,0.9nm,0.7s,baz=72,slow=3.2,SNR=2.2

IDC ***02*** *10:06:01.6±2.0,2°.84S×100°.08E,h0km,mb3.9/8, mbtmp3.9/8,Error ellipse: s-maj=76.9km s-min=19.7km az=57.0*
NEIC ***02*** *10:06:02.1±1.3,2°.89S±0°.10×99°.83E±0°.09,h10km±2km, mb4.1/12,Error ellipse: s-maj=22.3km s-min=3.9km az=224.0*
DJA ***02*** *10:06:03.8±0.6,3°.S±4°×10°.0E±°,h21km±3km,M4.2/10, MLv4.2/10*
ISC 02 10:06:04.5±1.4,**2°.90S**±0°.10×**99°.9E**±0°.1,**h28**km±7km,**n47,**
σ1§**02**/37,**mb4.1**/12,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.17**	**36**	P	**Pb**	**10 06 10.5**	**+0.3**
PPSI				S	**Sb**	**10 06 14.1**	**0.0**
SISI	**Saibi**	**1.77**	**332**	P	**Pn**	**10 06 34.4**	**+1.2**
SISI				S	**Sb**	**10 06 57.4**	**-0.6**
PPI	**Padang Panjang**	**2.48**	**11**	P	**Pn**	**10 06 43.1**	**+0.1**
KSI	**Kapahiang**	**2.78**	**106**	P	**Pn**	**10 06 45.4**	**-1.8**
PBSI	**Pulau Batu**	**3.26**	**330**	P	**Pn**	**10 06 54.7**	**+0.9**
MNAI	**Manna**	**3.37**	**116**	Pn	**Pn**	**10 06 55.6**	**+0.3**
MNAI	**Manna**	**3.37**	**116**	P	**Pn**	**10 06 54.6**	**-0.7**
BKNI	**Bangkinang**	**3.40**	**19**	Pn	**Pn**	**10 06 55.5**	**-0.2**
BKNI	**Bangkinang**	**3.40**	**19**	P	**Pn**	**10 06 57.1**	**+1.4**
MNSI	**Mandailing Nat**	**3.69**	**355**	P	**Pn**	**10 07 00.8**	**+1.2**
MDSI	**Maura Dua**	**4.54**	**110**	P	**Pn**	**10 07 10.5**	**-0.9**
GSI	**Gunungsitoli**	**4.79**	**331**	Pn	**Pn**	**10 07 13.8**	**-1.0**
KULM	**Kulim**	**8.17**	**5**	Pn	**Pn**	**10 08 00.3**	**-1.0**
KKM	**Kota Kinabalu**	**18.55**	**61**	P	**P**	**10 10 18.0**	**-1.4**
KKM				IAmb	IAmb	10 10 36.1	
KAPI	**Kappang**	**19.91**	**97**	P	**P**	**10 10 33.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**21.25**	**357**	P	**P**	**10 10 48.8**	**+0.3**
CHTO	**Chiang Mai**	**21.60**	**358**	P	**P**	**10 10 52.0**	**-0.3**
GIRL	**Giralia**	**24.05**	**146**	P	**P**	**10 11 16.9**	**-0.4**
H08S2	**Diego Garcia H**	**27.69**	**259**	T	T	10 40 49.4	
H08S3	**Diego Garcia H**	**27.70**	**259**	T	T	10 40 49.9	
H08S1	**Diego Carcia H**	**27.71**	**259**	T	T	10 40 50.9	
H01W3	**Cape Leeuwin H**	**34.46**	**159**	T	T	10 48 58.8	
H01W2	**Cape Leeuwin H**	**34.47**	**159**	T	T	10 48 59.8	
H01W1	**Cape Leeuwin H**	**34.48**	**159**	T	T	10 48 59.9	
WRA	**Warramunga Arr**	**37.63**	**119**	P	**P**	**10 13 17.3**	**+0.1**
WB2	**Warramunga Arr**	**37.64**	**119**	P	**P**	**10 13 17.7**	**+0.4**
WB2				IAmb	IAmb	10 13 28.8	
ASAR	**Alice Springs**	**38.81**	**125**	P	**P**	**10 13 27.5**	**+0.4**
SONM	**Songino Array**	**50.85**	**6**	P	**P**	**10 15 02.5**	**-0.3**
SONM				IAmb	IAmb	10 15 05.1	
SONM	**Songino Array**	**50.85**	**6**	P	**P**	**10 15 03.7**	**+1.0**
ULN	**Ulaanbaatar**	**50.94**	**6**	P	**P**	**10 15 03.8**	**+0.2**
ULN				IAmb	IAmb	10 15 05.6	
MK31	**Makanchi Array**	**51.87**	**345**	P	**P**	**10 15 10.5**	**+0.1**
MK31				IAmb	IAmb	10 15 13.3	
MKAR	**Makanchi Array**	**51.87**	**345**	P	**P**	**10 15 09.9**	**-0.4**
MKAR	**Makanchi Array**	**51.87**	**345**	P	**P**	**10 15 12.0**	**+1.6**
MAKZ	**Makanchi**	**51.97**	**344**	P	**P**	**10 15 10.1**	**-0.9**

MAKZ IAmb IAmb 10 15 14.1
comp=Z,2.5nm,1.1s
KK31 Karatay Array 52.91 333 P **P** **10 15 16.0 -2.1**
KKAR Karatay Array 52.91 333 P **P** **10 15 16.0 -2.1**
USRK Ussuriysk Ar. 54.99 28 P **P** **10 15 33.5 +0.2**
comp=Z,1.9nm,0.6s,baz=226,slow=4.7,SNR=5.0
comp=Z,1.9nm,0.6s
KURBB Kurchatov Arra 56.38 344 P **P** **10 15 44.4 +1.2**
comp=Z,1.2nm,0.7s,baz=162,slow=6.7,SNR=10
comp=Z,1.2nm,0.7s
ZALV Zalesovo Beam 58.03 350 P **P** **10 15 55.6 +0.9**
comp=Z,0.5nm,0.3s,baz=162,slow=6.8,SNR=4.4
comp=Z,0.5nm,0.3s
H04N2 CROZET ISLANDS 60.02 217 T T 11 21 20.8
baz=59,slow=75,SNR=772
H04N1 CROZET ISLANDS 60.03 217 T T 11 21 21.2
baz=59,slow=75,SNR=729
H04N3 CROZET ISLANDS 60.04 217 T T 11 21 19.9
baz=59,slow=75,SNR=734
H04S1 CROZET ISLANDS 60.30 216 T T 11 21 39.3
baz=58,slow=76,SNR=100
H04S3 CROZET ISLANDS 60.32 216 T T 11 21 38.9
baz=58,slow=76,SNR=120
H04S2 CROZET ISLANDS 60.32 216 T T 11 21 40.2
baz=58,slow=76,SNR=120
YKA Yellowknife Ar 115.25 17 PKP **PKPdf** **10 24 43.8 +0.8**
comp=Z,0.3nm,1.0s,baz=331,slow=0.2,SNR=4.3
TXAR Lajitas Array 145.47 38 PKPbc **PKPab** **10 25 42.5 +1.5**
comp=Z,1.2nm,0.7s,baz=225,slow=1.1,SNR=9.4

---

*BER **02** 10:07:28.8±2.6, 80°.77N×3°.20W, h10km, mb(Pn)2.8, ML1.3(DNK), Confirmed Earthquake*
*DNK **02** 10:07:30.5±2.2, 80°.82N×3°.04W, h36km±29km, ML1.3*
*FCIAR **02** 10:07:33.0, 80°.95N×0°.11E, h10km, station OMEGA has station magnitude of 3.60*
ISC 02 10:07:25.8±1.2, **80°.68N**±0°.07×**3°.36W**±0°.04, **h10**km, **n15,**
σ0°.39/25, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.26**	**301**	*i* P	**Pn**	**10 08 04.1**	**+1.1**
NOR				*i* S	**Sn**	**10 08 29.0**	**-1.9**
NOR				IAML		10 08 31.4	
comp=Z,1.9nm,0.2s							
NOR	**Nord**	**2.26**	**301**	*i* P	**Pn**	**10 08 04.1**	**+1.1**
NOR				*i* S	**Sn**	**10 08 29.0**	**-1.9**
NOR				IAML		10 08 31.4	
comp=Z,1.9nm,0.2s							
KBS	**Kingsbay**	**3.23**	**115**	*e*P	**Pn**	**10 08 18.7**	**+2.3**
KBS				*e*S	**Sn**	**10 08 52.4**	**-2.4**
KBS				IAML		10 08 59.5	
comp=Z,4.4nm,0.7s							
KBS	**Kingsbay**	**3.23**	**115**	*e*P	**Pn**	**10 08 17.9**	**+1.5**
KBS				*e*S	**Sn**	**10 08 52.1**	**-2.8**
KBS	**Kingsbay**	**3.23**	**115**	*i* P	**Pn**	**10 08 17.4**	**+1.0**
BRBB	**Barentsburg B**	**4.14**	**120**	*e*P	**Pn**	**10 08 31.6**	**+2.7**
BRBB				*e*S	**Sn**	**10 09 15.0**	**-2.2**
BRBA	**Barentsburg A**	**4.17**	**120**	*e*P	**Pn**	**10 08 31.9**	**+2.7**
SPA0	**Spitsbergen Ar**	**4.39**	**115**	*e*P	**Pn**	**10 08 34.5**	**+2.1**
SPA0				*e*S	**Sn**	**10 09 22.1**	**-1.4**
SPA0				IAML		10 09 29.9	
comp=Z,3.4nm,0.9s							
SPA0	**Spitsbergen Ar**	**4.39**	**115**	*e*P	**Pn**	**10 08 34.5**	**+2.1**
SPA0				*e*S	**Sn**	**10 09 20.5**	**-3.0**
DAG	**Danmarks Havn**	**4.92**	**225**	*i* P	**Pn**	**10 08 41.9**	**+2.3**
DAG				*i* S	**Sn**	**10 09 33.9**	**-2.5**
DAG				IAML		10 09 41.8	
comp=Z,1.5nm,0.1s							
DAG	**Danmarks Havn**	**4.92**	**225**	*i* P	**Pn**	**10 08 41.9**	**+2.3**
DAG				*i* S	**Sn**	**10 09 33.9**	**-2.5**
DAG				IAML		10 09 41.8	
comp=Z,1.5nm,0.1s							
DBG	**Daneborg**	**7.32**	**218**	*i* P	**Pn**	**10 09 15.0**	**+2.5**
DBG				IAML		10 10 24.2	
comp=Z,1.0nm,0.2s							
DBG				*i* S	**Sn**	**10 10 32.5**	**-3.0**
DBG	**Daneborg**	**7.32**	**218**	*i* P	**Pn**	**10 09 15.0**	**+2.5**
DBG				IAML		10 10 24.2	
comp=Z,1.0nm,0.2s							
DBG				*i* S	**Sn**	**10 10 32.5**	**-3.0**
ZFI2	**Zemlya Franca-**	**8.00**	**64**	S	Sn	10 10 42.2	-10
OMEGA	**Omega**	**8.02**	**64**	*e*P	**Pn**	**10 09 22.6**	**+0.5**
OMEGA				S	Sn	10 10 42.4	-10
comp=Z,17nm,2.1s							

---

*IDC **02** 10:09:19.0±1.3, 2°.89S×100°.00E, h0km, mb3.8/12, mbtmp3.8/13, ML3.1/1, Error ellipse: s-maj=48.8km s-min=16.9km az=56.0*
*DJA **02** 10:09:22.4±0.7, 3°.5S±5°.1×10°.0E±°, h22km±4km, M4.3/6, MLv4.3/6*
*NEIC **02** 10:09:23.3±0.9, 2°.6S±0°.1×100°.4E±0°.2, h10km±2km, mb4.2/11, Error ellipse: s-maj=35.1km s-min=11.2km az=230.0*
ISC 02 10:09:22.6±1.4, **2°.85S**±0°.10×**100°.0E**±0°.1, **h24**km±8km, **n56,**
σ0°.90/43, **mb4.1**/19, **5C, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.10**	**27**	P	**Pb**	**10 09 27.2**	**+0.1**
SISI	**Saibi**	**1.75**	**330**	P	**Pn**	**10 09 51.7**	**+0.2**
SISI				S	**Sn**	**10 10 13.4**	**+0.4**
PPI	**Padang Panjang**	**2.42**	**10**	P	**Pn**	**10 10 00.8**	**+0.1**
PBSI	**Pulau Batu**	**3.25**	**329**	P	**Pn**	**10 10 12.2**	**+0.1**
MNAI	**Manna**	**3.34**	**117**	Pn	**Pn**	**10 10 12.5**	**-0.8**
MNAI	**Manna**	**3.34**	**117**	P	**Pn**	**10 10 13.4**	**0.0**
MDSI	**Maura Dua**	**4.51**	**111**	P	**Pn**	**10 10 29.8**	**+0.4**
GSI	**Gunungsitoli**	**4.77**	**330**	Pn	**Pn**	**10 10 32.8**	**-0.2**
RPSI	**Rantau Prapat**	**5.61**	**349**		**Pn**	**10 10 44.4**	**-0.2**
RPSI	**Rantau Prapat**	**5.61**	**349**	Pn	**Pn**	**10 10 43.1**	**-1.4**
PSI	**Prapat**	**5.71**	**349**	Pn	**Pn**	**10 10 44.4**	**-1.7**
0.5nm,0.3s,baz=156,slow=20,SNR=1.2							
1.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**21.20**	**357**	P	**P**	**10 14 06.1**	**-0.6**
0.7nm,0.3s,baz=188,slow=11,SNR=5.7							
0.7nm,0.3s							
H08S2	**Diego Garcia H**	**27.76**	**259**	T	T	10 44 00.9	
baz=81,slow=76,SNR=100							
H08S3	**Diego Garcia H**	**27.77**	**259**	T	T	10 44 06.8	
baz=81,slow=76,SNR=118							
H08S1	**Diego Carcia H**	**27.78**	**259**	T	T	10 44 02.3	
baz=81,slow=76,SNR=113							
H01W3	**Cape Leeuwin H**	**34.49**	**159**	T	T	10 52 29.4	
baz=335							
H01W2	**Cape Leeuwin H**	**34.50**	**159**	T	T	10 52 32.4	
baz=335							
H01W1	**Cape Leeuwin H**	**34.50**	**159**	T	T	10 52 29.3	
baz=335							
WB0	**Warramunga Arr**	**37.58**	**119**	P	**P**	**10 16 35.2**	**-0.4**
WB0				IAmb	IAmb	10 16 44.4	
comp=Z,5.2nm,0.9s							
WRA	**Warramunga Arr**	**37.60**	**119**	P	**P**	**10 16 35.9**	**+0.2**
WRA	**Warramunga Arr**	**37.60**	**119**	P	**P**	**10 16 34.5**	**-1.2**
comp=Z,0.3nm,0.5s,baz=301,slow=7.9,SNR=2.0							
comp=Z,0.3nm,0.5s							
WB2	**Warramunga Arr**	**37.61**	**119**	P	**P**	**10 16 35.7**	**-0.1**
WB2				IAmb	IAmb	10 16 52.3	
comp=Z,3.7nm,1.0s							
ASAR	**Alice Springs**	**38.79**	**125**	P	**P**	**10 16 45.9**	**+0.2**
ASAR	**Alice Springs**	**38.79**	**125**	P	**P**	**10 16 44.8**	**-0.9**
comp=Z,0.7nm,0.7s,baz=300,slow=7.9,SNR=6.8							
comp=Z,0.7nm,0.7s							
AS31	**Alice Springs**	**38.79**	**125**	P	**P**	**10 16 44.9**	**-0.9**
STKA	**Stephens Creek**	**48.62**	**131**	P	**P**	**10 18 05.5**	**+0.9**
STKA				IAmb	IAmb	10 18 18.7	
comp=Z,2.5nm,0.8s							
STKA	**Stephens Creek**	**48.62**	**131**	P	**P**	**10 18 05.0**	**+0.3**
comp=Z,2.0nm,0.8s,baz=321,slow=10,SNR=3.9							
comp=Z,2.0nm,0.8s							
BOOM	**Boomskoye usch**	**50.10**	**337**	P	**P**	**10 18 17.8**	**+1.8**
BOOM				IAmb	IAmb	10 18 21.2	
comp=Z,2.0nm,0.9s							
SONM	**Songino Array**	**50.79**	**6**	P	**P**	**10 18 20.8**	**-0.3**
SONM				IAmb	IAmb	10 18 23.9	
comp=Z,2.1nm,1.0s							
SONM	**Songino Array**	**50.79**	**6**	P	**P**	**10 18 21.9**	**+0.8**
comp=Z,1.8nm,0.8s,baz=189,slow=9.2,SNR=7.8							
comp=Z,1.8nm,0.8s							
MKAR	**Makanchi Array**	**51.84**	**345**	P	**P**	**10 18 30.1**	**+1.3**
comp=Z,1.5nm,0.7s,baz=147,slow=7.9,SNR=12							
comp=Z,1.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**54.92**	**28**	P	**P**	**10 18 51.1**	**-0.4**
comp=Z,1.7nm,0.7s,baz=147,slow=3.9,SNR=4.2							
comp=Z,1.7nm,0.7s							
KURBB	**Kurchatov Arra**	**56.35**	**344**	P	**P**	**10 19 01.9**	**+0.2**
comp=Z,0.9nm,0.8s,baz=162,slow=7.0,SNR=8.4							
comp=Z,0.9nm,0.8s							
KURK	**Kurchatov**	**56.41**	**344**	P	**P**	**10 19 03.3**	**+1.3**
KURK				IAmb	IAmb	10 19 12.5	
comp=Z,3.3nm,0.9s							
ZALV	**Zalesovo Beam**	**57.99**	**350**	P	**P**	**10 19 13.8**	**+0.7**
ZALV	**Zalesovo Beam**	**57.99**	**350**	P	**P**	**10 19 13.7**	**+0.6**
comp=Z,2.1nm,0.9s,baz=180,slow=5.5,SNR=5.7							
comp=Z,2.1nm,0.9s							
KLR	**Kul'dur**	**58.72**	**24**	P	**P**	**10 19 17.9**	**-0.5**
comp=Z,1.0nm,0.8s,baz=19,slow=2.6,SNR=3.6							
comp=Z,1.0nm,0.8s							
H04N2 CROZET ISLANDS 60.09 217 T T 11 24 43.8
baz=59
H04N1 CROZET ISLANDS 60.11 217 T T 11 24 44.2
baz=59
H04N3 CROZET ISLANDS 60.11 217 T T 11 24 42.9
baz=59
H04S1 CROZET ISLANDS 60.38 216 T T 11 25 01.4
baz=58
H04S3 CROZET ISLANDS 60.39 216 T T 11 25 00.2
baz=58
H04S2 CROZET ISLANDS 60.40 216 T T 11 25 02.0
baz=58
BVAR Borovoye Array 60.97 340 P **P** **10 19 34.1 +0.3**
comp=Z,0.3nm,0.6s,baz=140,slow=7.7,SNR=3.8
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 73.87 313 P **P** **10 20 55.3 -0.5**
comp=Z,0.5nm,0.6s,baz=100,slow=7.5,SNR=4.0
comp=Z,0.5nm,0.6s
TROLL Troll, Antarti 89.61 198 P P 10 22 26.4 +8.3
TROLL Troll, Antarti 89.61 198 ⇑P P 10 22 26.4 +8.3
comp=Z,79nm,0.9s
SNAA Sanae 91.33 198 P **P** **10 22 25.7 -0.3**
SNAA Sanae 91.33 198 ⇑P **P** **10 22 25.7 -0.3**
comp=Z,30nm,0.9s
VNA2 Neumayer--Watz 92.94 198 P **P** **10 22 34.2 +0.7**
VNA2 Neumayer--Watz 92.94 198 ⇑P **P** **10 22 34.2 +0.7**
comp=Z,14nm,0.3s
VNA1 Neumayer--Stat 93.30 198 P **P** **10 22 34.2 -0.9**
VNA1 Neumayer--Stat 93.30 198 ⇑P **P** **10 22 34.2 -0.9**
comp=Z,7.9nm,0.7s
VNA3 Neumayer Olymp 93.54 198 P **P** **10 22 34.2 -2.0**
VNA3 Neumayer Olymp 93.54 198 ⇑P **P** **10 22 34.2 -2.0**
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 145.39 38 PKPbc **PKPab** **10 29 00.5 +1.0**
comp=Z,0.6nm,0.8s,baz=0.0,slow=0.4,SNR=6.5

---

*BJI **02** 10:11:03.7, 3°.15S×100°.27E, h26km, mb4.7/25*
*IDC **02** 10:11:04.1±0.8, 2°.82S×100°.09E, h0km, mb4.4/21, mbtmp4.4/24, ML4.0/3, Error ellipse: s-maj=26.4km s-min=12.8km az=51.0*
*DJA **02** 10:11:06.6±0.6, 3°.5S±3°.1×10°.0E±°, h24km±4km, M4.6/17, mb4.5/6, MLv4.7/17*
*NEIC **02** 10:11:06.2±1.0, 2°.84S±0°.08×100°.06E±0°.09, h10km±1km, mb4.7/43, Error ellipse: s-maj=18.4km s-min=8.1km az=227.0*
ISC 02 10:11:07.6±0.6, **2°.75S**±0°.06×**100°.13E**±0°.06, **h22**km±3km,
n114, σ0°.88/107, **mb4.7**/44, **1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.12**	**264**	P	**Pb**	**10 11 12.8**	**-0.7**
SISI	**Saibi**	**1.75**	**324**	P	**Pn**	**10 11 37.2**	**+0.4**
SISI				S	**Sn**	**10 11 59.2**	**+0.7**
PPI	**Padang Panjang**	**2.29**	**7**	P	**Pb**	**10 11 46.7**	**-1.7**
PPI				S	**Sb**	**10 12 16.3**	**0.0**
KSI	**Kapahiang**	**2.62**	**110**	P	**Pn**	**10 11 50.6**	**+1.9**
BKNI	**Bangkinang**	**3.19**	**17**	Pn	**Pn**	**10 11 58.5**	**+2.0**
BKNI	**Bangkinang**	**3.19**	**17**	P	**Pn**	**10 11 59.4**	**+2.9**
MNAI	**Manna**	**3.24**	**120**	Pn	**Pn**	**10 11 57.8**	**+0.5**
MNAI	**Manna**	**3.24**	**120**	P	**Pn**	**10 11 57.2**	**-0.1**
PBSI	**Pulau Batu**	**3.25**	**325**	P	**Pn**	**10 11 57.2**	**-0.2**
PBSI				S	**Sn**	**10 12 34.5**	**-1.0**
MNSI	**Mandailing Nat**	**3.56**	**351**	P	**Pn**	**10 12 00.5**	**-1.2**
MDSI	**Maura Dua**	**4.39**	**113**	P	**Pn**	**10 12 14.0**	**+0.9**
PMBI	**Palembang**	**4.64**	**92**	Pn	**Pn**	**10 12 14.7**	**-1.8**
PMBI	**Palembang**	**4.64**	**92**	P	**Pn**	**10 12 17.2**	**+0.7**
GSI	**Gunungsitoli**	**4.77**	**328**	Pn	**Pn**	**10 12 18.1**	**-0.2**
GSI	**Gunungsitoli**	**4.77**	**328**	P	**Pn**	**10 12 17.9**	**-0.4**
RPSI	**Rantau Prapat**	**5.54**	**347**	Pn	**Pn**	**10 12 27.8**	**-1.1**
PSI	**Prapat**	**5.64**	**348**	Pn	**Pn**	**10 12 28.2**	**-2.2**
0.9nm,0.3s,baz=170,slow=19,SNR=1.8							
2.8nm,0.3s							
TPRI	**Tanjung Pinang**	**5.71**	**50**	P	**Pn**	**10 12 30.8**	**-0.4**
MYKOM	**Kota Tinggi**	**5.85**	**40**	Pn	**Pn**	**10 12 33.9**	**+0.8**
SNSI	**Sinabang, Aceh**	**6.38**	**323**	P	**Pn**	**10 12 39.5**	**-0.9**
0.6nm55nm,1.1s							
CGJI	**Cibinong**	**6.74**	**125**	P	**Pn**	**10 12 43.9**	**-1.5**
0.4nm77nm,0.8s							
IPM	**Ipoh**	**7.24**	**7**	Pn	**Pn**	**10 12 52.8**	**+0.5**
KULM	**Kulim**	**8.00**	**4**	Pn	**Pn**	**10 13 03.2**	**+0.4**
LEM	**Lembang**	**8.49**	**119**	Pn	**Pn**	**10 13 09.3**	**-0.2**
4.1nm,0.3s,baz=294,slow=19,SNR=2.1							
18nm,0.5s							
LHMI	**Lhok Sumawe**	**8.54**	**338**	Pn	**Pn**	**10 13 10.0**	**-0.1**
UGM	**Wanagama**	**11.55**	**117**	Pn	**Pn**	**10 13 47.4**	**-3.9**
KKM	**Kota Kinabalu**	**18.29**	**61**	P	**P**	**10 15 21.1**	**+0.7**
UBPT	**Khong Chiam**	**18.68**	**16**	P	**P**	**10 15 24.8**	**+0.3**
KAPI	**Kappang**	**19.70**	**97**		**P**	**10 15 36.0**	**+0.2**
KAPI				IAmb	IAmb	10 15 39.7	
comp=Z,24nm,0.9s							
KAPI	**Kappang**	**19.70**	**97**	P	**P**	**10 15 35.6**	**-0.2**
comp=Z,1.2nm,0.3s,baz=255,slow=9.4,SNR=7.7							
comp=Z,22nm,0.8s							
TOLI2	**Tolitoli**	**21.00**	**80**	P	**P**	**10 15 49.7**	**-0.2**
TOLI2				IAmb	IAmb	10 15 55.4	
comp=Z,27nm,0.9s							
CM31	**Chiang Mai Arr**	**21.11**	**357**	P	**P**	**10 15 51.0**	**0.0**
CMAR	**Chiang Mai Arr**	**21.11**	**357**	P	**P**	**10 15 51.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.11**	**357**	P	**P**	**10 15 50.6**	**-0.4**
comp=Z,4.0nm,0.8s,baz=186,slow=9.7,SNR=17							
comp=Z,4.0nm,0.8s							
PHRA	**Phrae**	**21.12**	**0**	P	**P**	**10 15 50.7**	**-0.3**
PHRA				IAmb	IAmb	10 15 54.0	
comp=Z,40nm,0.8s							
CHTO	**Chiang Mai**	**21.46**	**357**	P	**P**	**10 15 54.1**	**-0.7**
SLVN	**Son La**	**24.22**	**9**	P	**P**	**10 16 23.8**	**+0.7**
SLVN				IAmb	IAmb	10 16 24.9	
comp=Z,7.5nm,0.7s							
H08S2	**Diego Garcia H**	**27.94**	**259**	T	T	10 45 55.2	
baz=82,slow=76,SNR=425							
H08S3	**Diego Garcia H**	**27.95**	**259**	T	T	10 46 02.9	
baz=82,slow=76,SNR=237							
H08S1	**Diego Carcia H**	**27.96**	**259**	T	T	10 45 57.6	
baz=82,slow=76,SNR=287							
FITZ	**Fitzroy Crossi**	**29.29**	**123**	P	**P**	**10 17 09.2**	**+0.5**
KNRA	**Kununurra**	**30.98**	**116**	P	**P**	**10 17 21.7**	**-2.0**
LSA	**Lhasa**	**33.39**	**346**	P	**P**	**10 17 45.5**	**+0.3**
LSA				IAmb	IAmb	10 17 49.4	
comp=Z,23nm,1.4s							
H01W3	**Cape Leeuwin H**	**34.52**	**159**	T	T	10 54 01.5	
baz=335,slow=76,SNR=41							
H01W2	**Cape Leeuwin H**	**34.53**	**159**	T	T	10 54 02.0	
baz=335,slow=76,SNR=42							
H01W1	**Cape Leeuwin H**	**34.54**	**159**	T	T	10 54 02.6	
baz=335,slow=76,SNR=25							
WB0	**Warramunga Arr**	**37.49**	**119**	P	**P**	**10 18 19.9**	**-0.2**
WB0				IAmb	IAmb	10 18 47.5	
comp=Z,15nm,1.2s							
WRA	**Warramunga Arr**	**37.51**	**120**	P	**P**	**10 18 20.2**	**-0.1**
WRA	**Warramunga Arr**	**37.51**	**120**	P	**P**	**10 18 19.4**	**-0.9**
comp=Z,1.5nm,0.4s,baz=277,slow=7.6,SNR=12							
WRA				PcP	**PcP**	**10 20 38.1**	**-0.4**
comp=Z,1.0nm,0.7s,baz=298,slow=3.1,SNR=3.6							
comp=Z,1.5nm,0.4s							
WB2	**Warramunga Arr**	**37.52**	**120**	P	**P**	**10 18 19.2**	**-1.2**
WB2				IAmb	IAmb	10 18 39.7	
comp=Z,11nm,1.1s							
XAN	**Xi'an**	**37.52**	**12**	P	**P**	**10 18 19.9**	**-0.3**
XAN				pP	pP	10 18 27.0	+0.2
XAN				pmax	pmax		
comp=Z,11nm,0.7s							
AS31	**Alice Springs**	**38.71**	**125**	P	**P**	**10 18 29.7**	**-0.8**
ASAR	**Alice Springs**	**38.71**	**125**	P	**P**	**10 18 30.3**	**-0.1**
ASAR	**Alice Springs**	**38.71**	**125**	P	**P**	**10 18 29.9**	**-0.5**
comp=Z,4.3nm,0.7s,baz=301,slow=7.7,SNR=14							
ASAR				PcP	**PcP**	**10 20 41.8**	**-0.4**
comp=Z,0.5nm,0.6s,baz=289,slow=3.4,SNR=2.8							
comp=Z,4.3nm,0.7s							
LYN	**LuoYang**	**38.88**	**16**	P	**P**	**10 18 32.6**	**+1.0**
LYN				pmax	pmax		
comp=Z,63nm,0.8s							
NIL	**Nilore**	**44.20**	**327**	P	**P**	**10 19 15.1**	**-0.2**
NIL				IAmb	IAmb	10 19 16.4	
comp=Z,9.3nm,0.7s							
BJT	**Baijiatuau**	**45.03**	**17**	P	**P**	**10 19 21.8**	**0.0**
BJT				IAmb	IAmb	10 19 23.6	
comp=Z,7.2nm,0.9s							
JNU	**Nakatsue**	**46.02**	**37**	P	**P**	**10 19 30.4**	**+0.6**
comp=Z,12nm,1.0s,baz=89,slow=4.0,SNR=5.0							
comp=Z,12nm,1.0s							
KBL	**Kabul**	**47.22**	**324**	P	**P**	**10 19 39.3**	**-0.1**
KBL				IAmb	IAmb	10 19 54.2	
comp=Z,3.8nm,0.6s							
KSH	**Kashi**	**47.56**	**335**	P	**P**	**10 19 41.9**	**0.0**
KSH				pP	pP	10 19 47.8	-0.9
KSH				pmax	pmax		
comp=Z,7.0nm,0.8s							
KSAR Wonju Array Be 47.57 30 P **P** **10 19 42.0 +0.2**
KSRS Korea Array 47.60 30 P **P** **10 19 42.4 +0.4**
comp=Z,2.9nm,0.8s,baz=231,slow=8.0,SNR=8.0
comp=Z,2.9nm,0.8s
WUS Wushi 47.71 339 P **P** **10 19 43.0 0.0**
JMN Monobe 48.26 38 P **P** **10 19 47.7 +0.5**
STKA Stephens Creek 48.56 131 P **P** **10 19 49.2 -0.4**
STKA IAmb IAmb 10 19 50.9
comp=Z,7.3nm,0.8s
STKA Stephens Creek 48.56 131 P **P** **10 19 49.8 +0.2**
comp=Z,5.9nm,0.8s,baz=313,slow=6.7,SNR=12
comp=Z,5.9nm,0.8s
XLT XiLinHaoTe 48.60 15 *e*P **P** **10 19 50.3 +0.5**
XLT pmax pmax
comp=Z,10.0nm,0.9s
KDJ Kajisay 49.28 338 P **P** **10 19 55.3 +0.1**
GAR Garm 49.80 330 P **P** **10 19 59.0 -0.1**
GAR IAmb IAmb 10 20 01.4
comp=Z,8.1nm,1.0s
BOOM Boomskoye usch 50.07 337 P **P** **10 20 01.6 +0.5**
BOOM IAmb IAmb 10 20 03.4
comp=Z,6.4nm,0.7s
CHGR Chuyangaron 50.14 328 P **P** **10 20 01.1 -0.5**
CHGR IAmb IAmb 10 20 10.0
comp=Z,15nm,1.2s
SIMJ Simiganj 50.22 328 P **P** **10 20 01.5 -0.8**
SIMJ IAmb IAmb 10 20 26.7
comp=Z,5.6nm,0.9s
ARSB Arslanbob 50.35 333 P **P** **10 20 03.3 0.0**
SONM Songino Array 50.67 5 P **P** **10 20 06.3 +0.8**
SONM IAmb IAmb 10 20 08.1
comp=Z,13nm,1.0s
SONM Songino Array 50.67 5 P **P** **10 20 06.6 +1.0**
comp=Z,12nm,0.9s,baz=190,slow=8.9,SNR=36
comp=Z,12nm,0.9s
ULN Ulaanbaatar 50.77 6 P **P** **10 20 07.2 +0.9**
ULN IAmb IAmb 10 20 08.7
comp=Z,10nm,0.8s
AAK Ala-Archa 50.78 336 P **P** **10 20 06.3 -0.2**
MK31 Makanchi Array 51.78 344 P **P** **10 20 14.7 +0.9**
MK31 IAmb IAmb 10 20 15.7
comp=Z,11nm,0.8s
MKAR Makanchi Array 51.78 344 P **P** **10 20 14.7 +0.9**
MKAR Makanchi Array 51.78 344 P **P** **10 20 14.8 +1.1**
comp=Z,13nm,0.6s,baz=148,slow=8.1,SNR=71
comp=Z,13nm,0.6s
MAKZ Makanchi 51.88 344 P **P** **10 20 15.0 +0.5**
MAKZ IAmb IAmb 10 20 16.4
comp=Z,6.7nm,0.8s
MJAR Matsushiro Arr 52.77 39 P **P** **10 20 20.8 -0.5**
comp=Z,3.7nm,0.9s,baz=221,slow=8.0,SNR=8.2
comp=Z,3.7nm,0.9s
KK31 Karatay Array 52.88 333 P **P** **10 20 22.5 +0.5**
KKAR Karatay Array 52.88 333 P **P** **10 20 22.5 +0.5**
KKAR Karatay Array 52.88 333 P **P** **10 20 22.3 +0.4**
KKAR IAmb IAmb 10 20 37.5
comp=Z,3.0nm,1.2s
BNX BinXian 54.00 23 ⇓P **P** **10 20 30.9 +0.8**
BNX pmax pmax
comp=Z,14nm,0.9s
USA0B Ussuriysk Arra 54.76 28 P **P** **10 20 36.3 +0.7**
USRK Ussuriysk Ar. 54.76 28 P **P** **10 20 36.0 +0.4**
USRK Ussuriysk Ar. 54.76 28 P **P** **10 20 36.3 +0.6**
comp=Z,16nm,0.8s,baz=226,slow=6.2,SNR=29
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 56.30 344 P **P** **10 20 47.2 +0.6**
comp=Z,7.1nm,0.8s,baz=161,slow=7.0,SNR=38
comp=Z,7.1nm,0.8s
KURK Kurchatov 56.36 344 P **P** **10 20 47.3 +0.3**
HEH HeiHe 57.77 20 *e*P **P** **10 20 57.8 +0.8**
ZAA0 Zalesovo Array 57.92 349 **P** **10 20 58.7 +0.6**
ZAA0 IAmb IAmb 10 20 59.6
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 57.92 349 P **P** **10 20 58.6 +0.5**
comp=Z,7.1nm,0.8s,baz=164,slow=5.9,SNR=20
comp=Z,7.1nm,0.8s
KLR Kul'dur 58.56 24 P **P** **10 21 02.8 +0.2**
comp=Z,4.4nm,0.8s,baz=237,slow=5.3,SNR=14
comp=Z,4.4nm,0.8s
H04N2 CROZET ISLANDS 60.27 217 T T 11 26 25.4
baz=59,slow=75,SNR=1083
H04N1 CROZET ISLANDS 60.29 217 T T 11 26 25.9
baz=59,slow=75,SNR=969
H04N3 CROZET ISLANDS 60.29 217 T T 11 26 24.5
baz=59,slow=75,SNR=2812
H04S1 CROZET ISLANDS 60.56 216 T T 11 26 46.2
baz=58,slow=75,SNR=174
H04S3 CROZET ISLANDS 60.57 216 T T 11 26 43.3
baz=58,slow=75,SNR=958
H04S2 CROZET ISLANDS 60.58 216 T T 11 26 47.2
baz=58,slow=75,SNR=210
BVAR Borovoye Array 60.93 340 P **P** **10 21 18.3 -0.5**
comp=Z,1.7nm,0.6s,baz=138,slow=8.2,SNR=7.4
comp=Z,1.7nm,0.6s
ABKAR Akbulak array 62.36 331 P **P** **10 21 28.6 +0.1**
ABKAR IAmb IAmb 10 21 29.5
comp=Z,7.2nm,0.8s
KBZ Khabaz 68.96 319 P **P** **10 22 11.2 0.0**
comp=Z,4.1nm,0.9s,baz=108,slow=8.8,SNR=5.2
comp=Z,4.1nm,0.9s
NRIK Noril'sk 72.46 355 P **P** **10 22 31.7 -0.4**
comp=Z,1.8nm,0.4s,baz=154,slow=7.1,SNR=3.8
comp=Z,1.8nm,0.4s
BRTR Keskin Array B 73.92 313 P **P** **10 22 41.5 0.0**
BRTR Keskin Array B 73.92 313 P **P** **10 22 41.1 -0.5**
comp=Z,1.4nm,0.8s,baz=144,slow=5.7,SNR=7.3
comp=Z,1.4nm,0.8s
SEY Seymchan 76.27 22 P **P** **10 22 54.5 0.0**
comp=Z,0.9nm,0.4s,baz=242,slow=7.6,SNR=4.0
comp=Z,0.9nm,0.4s
TIXI Tiksi 76.57 9 P **P** **10 22 55.7 -0.3**
TIXI IAmb IAmb 10 23 04.4
comp=Z,6.8nm,1.1s
FINES FINESS Array B 84.83 332 P **P** **10 23 40.7 +0.4**
comp=Z,2.2nm,0.8s,baz=102,slow=4.6,SNR=5.1
comp=Z,2.2

CO01	Juntas del Tor	1.12	81	eP	Pn	10 11 36.2	-1.8
CO01				eS	Sn	10 11 51.0	-1.5
CO01				IAML		10 11 51.4	
comp=Z,55nm,0.1s							
CO01	Juntas del Tor	1.12	81⇑	iP	Pn	10 11 36.0	-2.0
CO01				eS	Sn	10 11 50.8	-1.7
CO01				IAML		10 11 51.2	
comp=N,57nm,0.2s							
LCO	Las Campanas	1.28	27	eP	Pn	10 11 38.4	-1.9
LCO				eS	Sn	10 11 56.1	-0.6
LCO				IAML		10 11 57.0	
comp=Z,59nm,0.2s							
LCO	Las Campanas	1.28	27	iP	Pn	10 11 38.3	-1.9
LCO				eS	Sn	10 11 55.3	-1.3
LCO				IAML		10 11 57.5	
comp=Z,266nm,0.3s							
AROD	Rodeo	1.64	91	eP	Pn	10 11 44.4	-0.8
AROD				eS	Sn	10 12 05.4	-0.1
ACDV	Cuesta del Vie	1.95	91	eP	Pn	10 11 48.9	-0.4
ACDV				eS	Sn	10 12 13.9	+1.1
AC04	Llanos de Chal	1.97	8	eP	Pn	10 11 48.1	-1.3
AC04				eS	Sn	10 12 12.5	-0.6
ACCO	Cerro Coronel	2.03	103	eP	Pn	10 11 50.5	-0.1
ACCO				eS	Sb	10 12 18.9	-0.6
DOCA	Reserva Natura	2.12	112	eP	Pn	10 11 51.4	-0.5
DOCA				eS	Sn	10 12 18.7	+1.3
RTLS	Leoncito	2.41	133	eP	Pn	10 11 56.4	+0.6
RTLS				eS	Sn	10 12 26.0	+1.5
RTLS				IAML		10 12 50.7	
comp=Z,19nm,1.8s							
AGUA	GUANDACOL	2.59	76	eP	Pn	10 11 46.8	-11
AGUA				IAML		10 12 37.3	
comp=Z,8.5nm,1.6s							
VA03	San Esteban	2.69	165	eP	Pn	10 11 58.0	-1.4
VA03				eS	Sn	10 12 31.0	0.0
VA03				IAML		10 12 39.0	
comp=Z,13nm,2.0s							
ZON	Zonda	2.69	122	eP	Pb	10 12 09.1	+3.5
ZON				eS	Sb	10 12 36.6	-1.6
ZON				IAML		10 13 20.1	
comp=Z,5.7nm,0.8s							
ROC1	El Roble	2.82	174	eP	Pn	10 12 01.4	0.0
ROC1				eS	Sn	10 12 35.3	+0.8
VA01	Torpederas	2.86	185	eS	Sn	10 12 20.0	-15
VA01				IAML		10 12 21.9	
comp=Z,24nm,0.1s							
RTCV	Cerro Valdivia	2.96	126	eP	Pn	10 11 44.0	-19
MT02	Curacav	3.09	176	eP	Pn	10 12 02.0	-2.9
MT02				eS	Sn	10 12 40.1	-0.8
MT02				IAML		10 12 43.3	
comp=Z,13nm,2.1s							
VCA	Vinchina	3.10	64	eP	Pn	10 12 06.5	+1.4
VCA				eS	Sn	10 12 43.8	+2.5
VCA				IAML		10 12 44.2	
comp=Z,16nm,0.3s							
MT05	Renca	3.26	171	eP	Pb	10 12 19.5	+4.2
MT05				eS	Sn	10 12 44.5	-0.7
MT05				IAML		10 12 46.0	
comp=Z,25nm,1.1s							
MT01	Popeta	3.69	179	eP	Pn	10 12 11.8	-1.3
MT01				eS	Sb	10 13 05.5	-1.4
MT01				IAML		10 13 26.0	
comp=Z,14nm,2.4s							

*IDC **02** 10:13:35.7±0.7, 69°.91N×15°.42W, h0km, mb3.9/12, mbtmp3.9/16, ML3.4/3, Error ellipse: s-maj=20.2km s-min=13.9km az=8.0*
*REY **02** 10:13:36.4, 69°.69N×14°.05W, h10km*
*DNK **02** 10:13:37.6±3.4, 70°.12N×15°.86W, h0km±78km, ML2.8*
*NEIC **02** 10:13:38.6±1.2, 70°.01N±0°.08×15°.49W±0°.09, h10km±1km, mb4.5/64, Error ellipse: s-maj=14.6km s-min=4.6km az=164.0*

ISC 02 10:13:37.9±0.4, 69°.94N±0°.06×15°.53W±0°.05, h10km, n133, σ1§68/112, mb4.4/59, 2D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SCO	Scoresbysund	2.25	287		Pn	Pn	10 14 15.3	+0.1
SCO	Scoresbysund	2.25	287	iP	Pn	Pn	10 14 13.0	-2.2
SCO				IAML			10 15 54.3	
comp=Z,176nm,2.2s								
JMIC	Jan Mayen	2.59	63	iP	Pn	Pn	10 14 20.8	+1.0
IGRI	Grimsey	3.54	196		P	Pn	10 14 31.2	-1.6
ILEI	Leirhofn	3.57	186		P	Pn	10 14 30.0	-3.2
IGIL	Gilhagi	3.89	185		P	Pn	10 14 34.4	-3.3
IHED	Heoinshofoi	3.93	191		P	Pn	10 14 35.8	-2.5
ISIG	Siglufjorour	4.03	200		P	Pn	10 14 38.6	-1.0
IDIM	Dimmadalss	4.03	188		P	Pn	10 14 36.8	-2.9
IGRA	Granastaoir	4.11	192		P	Pn	10 14 38.7	-2.0
ISKI	Skildingahlsh	4.13	189		P	Pn	10 14 38.7	-2.3
IGHA	Grjothals	4.14	186		P	Pn	10 14 38.1	-3.0
IHLA	Hella	4.16	196		P	Pn	10 14 40.1	-1.2
IHRN	Hraun	4.21	206		P	Pn	10 14 42.1	0.0
IKVO	Krokottuvotn	4.28	187		P	Pn	10 14 40.4	-2.6
IGRS	Grimsstaoir	4.33	183		P	Pn	10 14 40.5	-3.2
IREN	Reynihlio	4.34	188		P	Pn	10 14 41.7	-2.2
IMEL	Melhnausar	4.41	186		P	Pn	10 14 42.0	-2.8
DBG	Daneborg	4.62	344	iP		Pn	10 14 42.5	-5.2
DBG				IAML			10 17 11.2	
comp=Z,24nm,2.5s								
ISVA	Svartarkot	4.67	189		P	Pn	10 14 46.5	-1.9
IADA	Aoalbol	4.94	180		P	Pn	10 14 49.1	-3.1
IMKO	Mokollar	5.00	184		P	Pn	10 14 50.3	-2.6
BORG	Borgarnes	5.67	206			Pn	10 15 03.1	+0.9
BORG	Borgarnes	5.67	206		Pn	Pn	10 15 02.2	+0.1
comp=Z,5.2nm,0.3s,baz=12,slow=7.4,SNR=17								
comp=Z,44nm,0.6s								
DAG	Danmarks Havn	6.93	354	iP		Pn	10 15 17.0	-2.3
DAG				iP		Pn	10 15 17.0	-2.3
DAG				eS		Sn	10 16 30.1	-7.8
DAG				IAML			10 16 32.8	
comp=Z,18nm,4.8s								
SUMG	Summit	7.81	300		Pn	Pn	10 15 30.7	-1.1
SUMG	Summit	7.81	300	iP		Pn	10 15 30.0	-1.8
SUMG				IAML			10 17 16.2	
comp=Z,44nm,5.0s								
SPITS	Spitsbergen Ar	11.81	32		Pn	Pn	10 16 24.8	-1.3
comp=Z,10.0nm,0.7s,baz=235,slow=12,SNR=1.8								
SPB2	Spitsbergen Ar	11.82	32		Pn	Pn	10 16 26.4	+0.2
ARCES	ARCESS Array B	14.03	72		Pn	Pn	10 16 55.8	-0.7
baz=287,slow=12,SNR=1.3								
comp=Z,2.7nm,0.9s								
HFS	Hagfors	15.57	114		Pn	Pn	10 17 19.8	+2.6
comp=Z,0.3nm,0.3s,baz=312,slow=8.7,SNR=7.0								
LVZ	Lovozero	17.75	72		P	Pn	10 17 45.0	+0.3
FIA1	FINESS Array S	18.72	96		P	P	10 17 56.3	+0.1
FIA1					IAmb	IAmb	10 18 13.2	
comp=Z,36nm,1.3s								
FINES	FINESS Array B	18.72	96		P	P	10 17 56.6	+0.4
FINES	FINESS Array B	18.72	96		P	P	10 17 54.4	-1.8
comp=Z,0.3nm,0.3s,baz=316,slow=8.0,SNR=11								
comp=Z,2.8nm,0.6s								
EUNU	Eureka	19.28	330		P	P	10 17 58.2	-4.0
MEM	Membach	21.89	141	dP		P	10 18 31.0	+0.4
comp=Z,12nm,1.1s								
BMRD	Maredsous	21.92	143	dP		P	10 18 31.2	+0.2
GKP	Gorka Klasztor	22.38	121	eP		P	10 18 35.4	-0.5
PABE	Paberze	22.58	110		P	P	10 18 37.5	-0.5
RES	Resolute Bay	22.82	318		P	P	10 18 41.0	+0.7
CLL	Collm	22.94	130	eP		P	10 18 42.0	+0.2
CLL				ix		x	10 18 47.3	
comp=Z,17nm,1.8s								
SUW	Suwalki	23.57	113	eP		P	10 18 46.7	-1.5
SUW	Suwalki	23.57	113		P	P	10 18 47.0	-1.1
BRG	Berggiesshubel	23.58	129	eP		P	10 18 48.9	+0.5
BRG				Amp			10 18 50.0	
comp=Z,6.6nm,1.2s								
NACGM	Naroch	24.00	107	eP		P	10 18 51.2	-1.0
comp=Z,1μm,1.1s								
KSP	Ksiaz	24.26	126	eP		P	10 18 55.1	+0.3
PRU	Pruhonice	24.55	129	eP		P	10 18 58.1	+0.7
DPC	Dobruska-Polom	24.71	126	eP		P	10 18 57.1	-1.8
ZVC	Zvikov	24.96	130	eP		P	10 19 01.9	+0.8
KHC	Kasperske Hory	25.08	131	eP		P	10 19 05.2	+3.0
GEC2	GERESS Array S	25.37	131		P	P	10 19 06.0	+1.1
GEC2					IAmb	IAmb	10 19 13.5	
comp=Z,18nm,1.5s								
GERES	GERESS Array B	25.37	131		P	P	10 19 05.5	+0.5
GERES	GERESS Array B	25.37	131		P	P	10 19 03.5	-1.5
comp=Z,1.6nm,0.7s,baz=335,slow=9.1,SNR=9.9								
comp=Z,1.6nm,0.7s								
MORC	Moravsky Berou	25.57	125		P	P	10 19 06.5	-0.1
MORC					IAmb	IAmb	10 19 09.1	
comp=Z,20nm,1.4s								
MORC	Moravsky Berou	25.57	125	eP		P	10 19 06.1	-0.6
VRAC	Vranov	25.73	127	eP		P	10 19 07.8	-0.3
OJC	Ojcow	25.82	121	eP		P	10 19 09.6	+0.7
DAVA	Damuels	25.89	138	iP		pP	10 19 13.5	+1.1
comp=Z,13nm,1.2s								
KRUC	Moravsky	25.89	127	eP		P	10 19 09.2	-0.4
RETA	Reutte	25.90	137	iP		P	10 19 11.0	+1.2
comp=Z,15nm,2.0s								
MOTA	Mosalm	26.12	136	iP		P	10 19 12.0	+0.2
comp=Z,18nm,1.3s								
WATA	Walderalm	26.24	135	iP		P	10 19 13.9	+1.0
comp=Z,14nm,1.3s								
SQTA	Sankt Quirin	26.26	136	iP		P	10 19 12.7	-0.3
comp=Z,8.5nm,1.1s								
WTTA	Wattenberg	26.32	135	iP		P	10 19 14.7	+1.0
comp=Z,8.2nm,1.0s								
BIOA	Bad Ischl, Aus	26.42	132	iP		P	10 19 19.0	+4.6
comp=Z,6.6nm,1.3s								
LESA	Schwarzleotal	26.43	134	eP		P	10 19 19.6	+5.1
comp=Z,5.6nm,1.1s								
MOA	Molln	26.44	131	eP		P	10 19 16.6	+2.0
comp=Z,11nm,1.5s								
TUE	Stuetta	26.53	139		P	P	10 19 16.3	+0.7
TUE					IAmb	IAmb	10 19 22.3	
comp=Z,11nm,1.2s								
NIE	Niedzica	26.68	122	eP		P	10 19 20.4	+3.7
CONA	Conrad Observa	26.79	129	epP		pP	10 19 21.5	+1.1
comp=Z,5.5nm,1.1s								
KBA	Koelnbreinsper	26.92	133	epP		pP	10 19 21.9	+0.2
comp=Z,10.0nm,1.6s								
ABTA	Abfaltersbach	27.02	135	epP		pP	10 19 23.6	+1.1
comp=Z,9.8nm,1.4s								
SCHQ	Schefferville	27.08	263		P	P	10 19 21.2	+0.9
SCHQ	Schefferville	27.08	263		P	P	10 19 19.2	-1.1
comp=Z,2.9nm,0.8s,baz=33,slow=7.6,SNR=3.8								
comp=Z,2.9nm,0.8s								
VYHS	Vyhne	27.09	124	eP		P	10 19 23.2	+2.8
RONA	Rosalia, Austr	27.11	129	epP		pP	10 19 23.5	+0.1
ARSA	Arzberg	27.32	130	epP		pP	10 19 25.9	+0.7
comp=Z,6.9nm,1.4s								
OBKA	Obir	27.75	132	eP		P	10 19 27.3	+0.8
comp=Z,21nm,1.8s								
AKASG	Malin Array Be	28.34	109		P	P	10 19 28.9	-2.6
comp=Z,0.2nm,0.3s,baz=331,slow=9.4,SNR=5.9								
comp=Z,0.2nm,0.3s								
C36M	Paulatuk	33.01	322		P	P	10 20 13.3	+0.8
C36M					IAmb	IAmb	10 20 18.1	
comp=Z,9.7nm,1.2s								
LMQ	La Malbaie	34.39	258		P	P	10 20 25.9	+1.1
LMQ					IAmb	IAmb	10 20 26.2	
comp=Z,6.2nm,1.0s								
RDO	Rodhopi	35.74	122		P	P	10 20 37.9	+1.5
RDO					IAmb	IAmb	10 20 53.6	
comp=Z,8.5nm,1.4s								
INK	Inuvik	35.80	326		P	P	10 20 37.1	+0.5
INK					IAmb	IAmb	10 20 41.6	
comp=Z,12nm,1.4s								
YKA	Yellowknife Ar	36.29	309		P	P	10 20 39.8	-1.2
comp=Z,1.6nm,0.9s,baz=38,slow=8.0,SNR=15								
comp=Z,1.6nm,0.9s								
E29M	Blow River	36.55	328		IAmb	IAmb	10 20 49.0	
comp=Z,9.2nm,1.4s								
F31M	Tsiigehtchic	36.59	325		P	P	10 20 43.7	+0.3
E28M	Babbage River	36.65	329		IAmb	IAmb	10 20 45.9	
comp=Z,9.8nm,1.2s								
TIXI	Tiksi	36.74	18		P	P	10 20 45.1	+0.5
TIXI					IAmb	IAmb	10 20 46.9	
comp=Z,14nm,1.5s								
C24K	Franklin Bluff	37.12	335		IAmb	IAmb	10 20 52.0	
comp=Z,15nm,1.1s								
G31M	Satah River	37.14	325		IAmb	IAmb	10 20 48.5	
comp=Z,12nm,1.2s								
BMAR	Burnt Mountain	38.56	331		P	P	10 21 00.8	+0.6
E24K	Your Creek	38.59	334		IAmb	IAmb	10 21 07.7	
comp=Z,12nm,1.4s								
K62A	Royalston	39.33	257		P	P	10 21 07.5	+0.7
K62A					IAmb	IAmb	10 21 20.1	
comp=Z,12nm,1.2s								
BR131	Keskin Array S	39.52	113		P	P	10 21 09.4	+0.9
BRTR	Keskin Array B	39.52	113		P	P	10 21 09.7	+1.1
G24K	Hadweenzic Riv	39.70	332		IAmb	IAmb	10 21 12.6	
comp=Z,21nm,1.4s								
I26K	Coal Creek Min	40.25	329		IAmb	IAmb	10 21 18.4	
comp=Z,18nm,1.4s								
K29M	Barlow Dome	40.51	325		IAmb	IAmb	10 21 18.5	
comp=Z,18nm,1.4s								
ULM	Lac du Bonnet	40.82	284		P	P	10 21 19.1	0.0
comp=Z,2.6nm,0.9s,baz=24,slow=3.0,SNR=3.5								
comp=Z,2.6nm,0.9s								
ILAR	Eielson Array	41.38	331		P	P	10 21 24.4	+0.8
ILAR	Eielson Array	41.38	331		P	P	10 21 23.8	+0.2
comp=Z,1.5nm,0.9s,baz=17,slow=7.7,SNR=14								
comp=Z,1.5nm,0.9s								
I23K	Minto, Yukon-K	41.44	333		P	P	10 21 23.6	-0.3
I23K					IAmb	IAmb	10 21 29.2	
comp=Z,16nm,1.4s								
H21K	Melozitna Rive	41.49	335		IAmb	IAmb	10 21 30.3	
comp=Z,9.8nm,1.2s								
M30M	Minto, Yukon	41.49	323		P	P	10 21 25.4	+0.8
L27K	Beaver Creek,	42.05	327		IAmb	IAmb	10 21 35.4	
comp=Z,12nm,1.3s								
BPAW	Bear Paw Mtn.	42.67	333		P	P	10 21 34.7	+0.6
BPAW					IAmb	IAmb	10 21 36.2	
comp=Z,11nm,1.1s								
MCK	McKinley	42.69	332		P	P	10 21 34.4	+0.2
KURBB	Kurchatov Arra	44.93	64		P	P	10 21 51.7	-0.6
comp=Z,1.4nm,0.9s,baz=328,slow=7.8,SNR=6.4								
comp=Z,1.4nm,0.9s								
SEY	Seymchan	47.14	8		P	P	10 22 09.6	0.0
comp=Z,3.6nm,0.8s,baz=350,slow=9.5,SNR=5.9								
comp=Z,3.6nm,0.8s								
EGMT	Eagleton	47.27	294		P	P	10 22 11.4	+0.6
MKAR	Makanchi Array	49.48	64		P	P	10 22 26.9	-1.1
comp=Z,1.7nm,1.0s,baz=338,slow=5.9,SNR=4.5								
comp=Z,1.7nm,1.0s								
S39A	Bolivar	51.00	274		P	P	10 22 39.9	+0.4
PDAR	Pinedale Array	51.89	291		P	P	10 22 45.0	-1.4
comp=Z,0.5nm,0.8s,baz=347,slow=6.5,SNR=3.3								
comp=Z,0.5nm,0.8s								
U38A	Gravette	52.49	274		P	P	10 22 50.4	-0.2
TARG	Taragay, Kyrgy	52.60	70		P	P	10 22 51.7	-0.2
TARG					IAmb	IAmb	10 23 02.2	
comp=Z,4.9nm,0.9s								
Q20A	White River Ci	53.83	288		P	P	10 23 01.3	+0.5
KSH	Kashi	54.00	73		P	P	10 23 04.1	+2.3
KSH					pmax	pmax		
comp=Z,6.0nm,1.6s								
W35A	Tecumseh	54.51	276		P	P	10 23 05.8	+0.3
SONM	Songino Array	55.21	44		P	P	10 23 09.4	-1.1
comp=Z,0.3nm,0.4s,baz=344,slow=4.8,SNR=2.6								
comp=Z,0.3nm,0.4s								
DUG	Dugway, Tooele	55.26	292		P	P	10 23 12.5	+1.5
SRU	San Rafael Swe	55.51	290		IAmb	IAmb	10 23 16.2	
comp=Z,7.1nm,1.2s								
MVCO	Mesa Verde	56.57	287		IAmb	IAmb	10 23 22.9	
comp=Z,9.0nm,1.2s								
SPR3	Spring Creek 3	56.83	293		IAmb	IAmb	10 23 27.8	
comp=Z,4.9nm,1.0s								
LCMT	Little Creek M	58.30	291		IAmb	IAmb	10 23 36.7	
comp=Z,7.9nm,1.3s								
BRDY	Brady	58.76	276		IAmb	IAmb	10 23 38.8	
comp=Z,5.3nm,1.1s								
XLT	XiLinHaoTe	61.13	38	eP		P	10 23 55.6	+3.7
XLT					pmax	pmax		
comp=Z,3.0nm,1.2s								
ALPN	Alpine	61.18	280		P	P	10 23 53.0	+0.5
BLYC	Blythe	61.70	291		P	P	10 23 56.8	+1.0
BLYC					IAmb	IAmb	10 24 00.7	
comp=Z,5.3nm,1.2s								
TXAR	Lajitas Array	62.14	279		P	P	10 23 58.7	-0.3
comp=Z,0.9nm,0.8s,baz=49,slow=3.5,SNR=6.1								
comp=Z,0.9nm,0.8s								
HHC	Hu-ho-hao-te	63.02	43	eP		P	10 24 03.8	-0.9
HHC					pmax	pmax		
comp=Z,7.0nm,0.7s								
HHC					pmax	pmax		
comp=Z,310nm,5.8s								
NJ2	Nanjing	73.10	39	eP		P	10 25 07.1	-0.8
NJ2					pmax	pmax		
comp=Z,8.0nm,1.3s								
QSPA	South Pole Qui	159.88	180	PKPab		PKPab	10 34 15.4	+0.6
comp=Z,3.2nm,1.1s,baz=191,slow=4.8,SNR=4.4								

KRSC 02 10:14:57.9±1.5, 51°.96N×155°.45E, h333km±21km, MI3.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.98	120	eP		Pn	10 15 42.9	+1.2
SKR	Severo-Kuril's	1.35	162	eP		Pn	10 15 44.0	+0.5
APC	Apacha	1.42	47	eP		Pn	10 15 44.0	+0.2
KDTR	Khodutka, Kamc	1.63	94	eS		S	10 16 21.9	-1.0
GRL	Gorelyy	1.71	69	eP		Pn	10 15 47.8	+2.1
RUS	Russkaya	1.94	75	eP		Pn	10 15 48.5	+1.4
RUS				eS		S	10 16 26.3	-0.2
DALK	Dalny	2.28	61	eP		Pn	10 15 51.8	+2.1
KRX	Arik	2.40	53	eP		Pn	10 15 52.4	+1.7
UGLR	Uglovaya	2.41	57	eP		Pn	10 15 53.1	+2.3
KBTR	Krutoberegovo	6.07	43	eP		Pn	10 16 28.8	+0.1

IDC 02 10:18:57.3±1.5, 7°.83S×146°.91E, h0km, mb3.4/3, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=45.4km s-min=21.2km az=89.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	Port Moresby	1.59	171		Pn	Pn	10 19 25.9	-0.8
35nm,0.3s,baz=7.1,slow=8.1,SNR=48								
PMG					Sn	Sg	10 19 50.9	+2.5
97nm,0.3s,baz=344,slow=19,SNR=12								
WRA	Warramunga Arr	17.13	224		P	P	10 22 59.7	-0.5
0.7nm,0.3s,baz=51,slow=11,SNR=24								
0.6nm,0.3s								
ASAR	Alice Springs	20.09	217		P	P	10 23 31.9	-0.8
0.9nm,0.6s,baz=45,slow=8.6,SNR=15								
0.9nm,0.6s								
MKAR	Makanchi Array	78.84	321		P	P	10 31 02.6	+0.2
0.2nm,0.5s,baz=122,slow=5.4,SNR=2.5								
0.2nm,0.5s								
ILAR	Eielson Array	87.19	23		P	P	10 31 45.3	+0.1
0.3nm,0.7s,baz=256,slow=5.5,SNR=4.8								
0.3nm,0.7s								

*IDC **02** 10:30:33.0±3.5, 2°.84S×100°.16E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=157.3km s-min=22.3km az=54.0*
*DJA **02** 10:30:35.8±0.6, 3°S±5°×10°0E±°, h24km±5km, M3.9/8, MLv3.9/8*

ISC 02 10:30:36.5±1.3, 2°.8S±0°.1×100°.1E±0°.1, h25km±8km, n23, σ0§56/14, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.08	334		P	Pb	10 30 41.2	+0.1
SISI	Saibi	1.78	328		P	Pn	10 31 05.7	0.0
PPI	Padang Panjang	2.39	8		P	Pn	10 31 13.7	-0.4
KSI	Kapahiang	2.67	108		P	Pn	10 31 17.6	-0.3
MNAI	Manna	3.27	118		P	Pn	10 31 26.4	+0.2
PBSI	Pulau Batu	3.28	327		P	Pn	10 31 25.5	-0.8
BKNI	Bangkinang	3.30	18		P	Pn	10 31 26.2	-0.3
MNSI	Mandailing Nat	3.64	353		P	Pn	10 31 31.2	-0.1
H08S2	Diego Garcia H	27.84	259		T	T	11 05 20.1	
baz=82,slow=76,SNR=107								
H08S3	Diego Garcia H	27.85	259		T	T	11 05 21.0	
baz=82,slow=76,SNR=121								
H08S1	Diego Garcia H	27.86	259		T	T	11 05 21.9	
baz=82,slow=76,SNR=122								
WRA	Warramunga Arr	37.53	120		P	P	10 37 48.4	-0.5
0.2nm,0.3s,baz=309,slow=9.1,SNR=1.0								
0.2nm,0.3s								
ASAR	Alice Springs	38.73	125		P	P	10 37 58.0	-1.0
0.5nm,0.9s,baz=300,slow=8.0,SNR=7.7								
0.5nm,0.9s								
SONM	Songino Array	50.77	6		P	P	10 39 35.1	+0.5
0.8nm,0.6s,baz=186,slow=7.9,SNR=5.4								
0.8nm,0.6s								
MKAR	Makanchi Array	51.84	345		P	P	10 39 43.2	+0.6
1.0nm,0.7s,baz=149,slow=8.5,SNR=12								
1.0nm,0.7s								
KURBB	Kurchatov Arra	56.36	344		P	P	10 40 15.5	+0.1
0.7nm,0.8s,baz=169,slow=6.0,SNR=6.2								
0.7nm,0.8s								
H04N2	CROZET ISLANDS	60.15	217		T	T	11 45 51.8	
baz=59,slow=75,SNR=1176								
H04N1	CROZET ISLANDS	60.17	217		T	T	11 45 52.3	
baz=59,slow=75,SNR=808								
H04N3	CROZET ISLANDS	60.17	217		T	T	11 45 50.9	
baz=59,slow=75,SNR=734								
H04S1	CROZET ISLANDS	60.44	216		T	T	11 46 10.5	
baz=58,slow=75,SNR=96								
H04S3	CROZET ISLANDS	60.45	216		T	T	11 46 11.6	
baz=58,slow=75,SNR=119								
H04S2	CROZET ISLANDS	60.46	216		T	T	11 46 11.5	
baz=58,slow=75,SNR=106								
TXAR	Lajitas Array	145.33	38	PKPbc		PKPdf	10 50 13.5	+0.5
0.5nm,0.7s,baz=324,slow=1.3,SNR=4.3								

*ASRS **02** 10:38:58.7±0.4, 51°N±2°×9°0E±°, h10km, MLh3.0/13, Error ellipse: s-maj=5.2km s-min=2.3km az=133.3, confirmed*
*NNC **02** 10:39:03.4±3.6, 50°.54N×89°.87E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=38.7km s-min=26.7km az=169.0*

ISC 02 10:38:57.5±1.5, 50°.57N±0°.05×90°.06E±0°.04, h7km±13km, n19, σ1§12/32, 6C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TEL	Teeli	0.46	11	⇓Pg		Pn	10 39 09.6	-1.0
TEL				Sg		Sb	10 39 15.8	+0.7
CUR	Chagan-Uzun	1.19	247	Pg		Pg	10

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.22**	**21**		**Pg**	**10 52 27.4**	**+0.2**
KCTM					**Sg**	**10 52 31.6**	**+1.3**
KMPM	**Mount Pierce**	**0.28**	**59**		**Pb**	**10 52 29.0**	**-0.4**
KMPM					**Sb**	**10 52 34.4**	**+0.2**
KCRM	**Chalk Rock**	**0.50**	**72**		**Pb**	**10 52 33.6**	**+0.6**
KMRM	**Mail Ridge**	**0.56**	**95**		**Pb**	**10 52 34.8**	**+0.7**
KMRM				IAML		10 52 54.0	
	comp=N,15μm,0.7s						
JCC	**Jacoby Creek,**	**0.63**	**30**		**Pb**	**10 52 34.7**	**-0.5**
JCC				Sg	**Sb**	**10 52 44.6**	**+0.7**
KHMM	**Horse Mountain**	**0.81**	**42**		**Pb**	**10 52 37.9**	**-0.5**
KHMM				Sg	**Sb**	**10 52 50.0**	**+0.7**
KIPM	**Iron Peak**	**0.87**	**122**		**Pb**	**10 52 39.7**	**+0.3**
KCPM	**Cahto Peak**	**0.88**	**131**		**Pb**	**10 52 39.8**	**+0.1**
KRPM	**Rodgers**	**0.94**	**19**		**Pg**	**10 52 39.2**	**-1.4**
KHBM	**Hayfork Bally**	**1.01**	**67**		**Pb**	**10 52 41.5**	**-0.3**
KBNM	**Bluenose Ridge**	**1.03**	**111**		**Pb**	**10 52 42.2**	**+0.1**
DCMP	**DeCamp, Califo**	**1.17**	**133**		**Pg**	**10 52 43.4**	**-1.4**
LBPM	**Beegum Peak**	**1.19**	**87**		**Pg**	**10 52 44.1**	**-1.2**
WEAV	**Weaverville**	**1.20**	**66**		**Pg**	**10 52 44.1**	**-1.5**
KOMM	**Orleans Mounta**	**1.25**	**36**		**Pg**	**10 52 44.3**	**-2.2**
O02D	**Mt. Diablo Mer**	**1.27**	**94**	Pn	**Pn**	**10 52 45.8**	**-0.1**
O02D				IAML		10 53 15.9	
	comp=N,3μm,1.1s						
O02D				IAML		10 53 17.1	
	comp=E,2μm,0.9s						
KRMB	**Red Mountain**	**1.31**	**18**		**Pn**	**10 52 44.4**	**-2.2**
KRMB				IAML		10 53 01.9	
	comp=N,2μm,1.0s						
GWRM	**Wonder Ranch**	**1.38**	**140**		**Pn**	**10 52 46.5**	**-0.9**
GROM	**Round Mountain**	**1.40**	**104**		**Pn**	**10 52 47.6**	**-0.1**
GVV	**Valley View**	**1.44**	**110**		**Pn**	**10 52 48.0**	**-0.4**
N02D	**Trinity Center**	**1.49**	**61**		**Pn**	**10 52 48.1**	**-0.9**
LBKM	**Bonanza King**	**1.57**	**58**		**Pn**	**10 52 49.2**	**-0.9**
KSXB	**Camp Six Broad**	**1.61**	**15**		**Pn**	**10 52 48.6**	**-2.1**
KSXB				IAML		10 53 09.5	
	comp=E,3μm,0.6s						
KSXB				IAML		10 53 10.0	
	comp=N,1μm,0.6s						
SIGP	**Signal Peak, C**	**1.62**	**10**		**Pn**	**10 52 48.6**	**-2.2**
M02C	**Callahan**	**1.64**	**47**		**Pn**	**10 52 50.0**	**-1.1**
M02C	**Callahan**	**1.64**	**47**	IAML		10 53 20.2	
	comp=N,3μm,0.6s						
M02C				IAML		10 53 24.7	
	comp=E,2μm,0.9s						
HOPS	**Hopland Field**	**1.66**	**140**		**Pn**	**10 52 50.3**	**-0.8**
HOPS				IAML		10 53 29.5	
	comp=E,1μm,1.1s						
HOPS				IAML		10 53 37.8	
	comp=N,1μm,1.7s						
LTCM	**Tuscan Springs**	**1.77**	**91**		**Pn**	**10 52 52.6**	**-0.2**
GFC	**Funks Creek**	**1.91**	**119**		**Pn**	**10 52 55.0**	**+0.4**
GRTM	**Round Top Moun**	**1.91**	**134**		**Pn**	**10 52 54.1**	**-0.6**
LAMM	**Antelope Mount**	**1.92**	**45**		**Pn**	**10 52 54.1**	**-0.8**
GHCM	**House Creek**	**1.92**	**150**		**Pn**	**10 52 53.9**	**-1.0**
LCSM	**College of the**	**1.93**	**53**		**Pn**	**10 52 54.8**	**-0.2**
GSGM	**Seigler Mounta**	**1.94**	**136**		**Pn**	**10 52 55.1**	**+0.1**
KBO	**Bosley Butte**	**1.94**	**5**		**Pn**	**10 52 53.2**	**-2.0**
KBO				IAML		10 53 42.5	
	comp=N,792nm,1.3s						
KBO				IAML		10 53 47.5	
	comp=E,847nm,1.4s						
YBH	**Yreka Blue Hor**	**1.96**	**41**	Pn	**Pn**	**10 52 54.7**	**-0.8**
YBH				IAML		10 53 34.7	
	comp=N,775nm,0.9s						
YBH	**Yreka Blue Hor**	**1.96**	**41**	Pn	**Pn**	**10 52 54.5**	**-0.9**
	comp=N,84nm,0.3s,baz=257,slow=11,SNR=760						
YBH				Sn	**Sn**	**10 53 19.6**	**-0.3**
	comp=N,86nm,0.3s,baz=87,slow=22,SNR=11						
LGBM	**Gray Butte**	**2.01**	**57**		**Pn**	**10 52 56.7**	**+0.4**
O03E	**Paynes Creek**	**2.02**	**89**		**Pn**	**10 52 55.9**	**-0.3**
O03E	**Paynes Creek**	**2.02**	**89**	IAML		10 53 43.8	
	comp=E,1μm,0.8s						
O03E				IAML		10 53 45.5	
	comp=N,840nm,1.4s						
M03C	**McCloud**	**2.02**	**60**		**Pn**	**10 52 56.5**	**+0.2**
GAXM	**Alexander Vall**	**2.03**	**140**		**Pn**	**10 52 55.9**	**-0.5**
LDBM	**Digger Butte**	**2.03**	**85**		**Pn**	**10 52 56.1**	**-0.4**
MNRC	**McLaughlin Min**	**2.08**	**131**		**Pn**	**10 52 57.0**	**0.0**
MNRC	**McLaughlin Min**	**2.08**	**131**	IAML		10 53 52.3	
	comp=E,650nm,1.9s						
LMPM	**Military Pass**	**2.11**	**54**		**Pn**	**10 52 58.2**	**+0.6**
NHSM	**Mount Saint He**	**2.14**	**138**		**Pn**	**10 52 56.8**	**-1.2**
LHEM	**Herd Peak**	**2.16**	**50**		**Pn**	**10 52 58.4**	**0.0**
LMEM	**Manzanita Entr**	**2.21**	**82**		**Pn**	**10 52 59.1**	**+0.2**
LBFM	**Black Fox Moun**	**2.21**	**60**		**Pn**	**10 52 59.2**	**+0.2**
OSUM	**Sutter Buttes**	**2.23**	**116**		**Pn**	**10 52 59.1**	**+0.1**
SUTB	**Sutter Butte**	**2.29**	**116**		**Pn**	**10 52 59.5**	**-0.5**
SUTB	**Sutter Butte**	**2.29**	**116**	IAML		10 53 59.9	
	comp=N,587nm,1.2s						
HATC	**Hat Creek Radi**	**2.33**	**76**	Pn	**Pn**	**10 53 00.9**	**+0.3**
OSTM	**Stimpson Lane**	**2.37**	**112**		**Pn**	**10 53 00.1**	**-0.8**
ORV	**Oroville**	**2.37**	**107**	Pn	**Pn**	**10 53 01.1**	**+0.1**
LGMM	**Garner Mountai**	**2.38**	**55**		**Pn**	**10 53 01.4**	**+0.2**
LBCM	**Butte Creek Ri**	**2.42**	**76**		**Pn**	**10 53 01.9**	**+0.1**
MCCM	**Marconi Confer**	**2.44**	**150**		**Pn**	**10 53 01.2**	**-0.8**
MCCM				IAML		10 53 31.3	
	comp=E,449nm,0.9s						
CVS	**Carmenet Viney**	**2.46**	**141**		**Pn**	**10 53 02.4**	**+0.1**
LMHM	**Little Mount H**	**2.48**	**57**		**Pn**	**10 53 03.0**	**+0.2**
M04C	**Macdoel**	**2.48**	**52**		**Pn**	**10 53 02.6**	**0.0**
K02D	**Willamette Mer**	**2.49**	**13**		**Pn**	**10 53 01.5**	**-1.3**
K02D				IAML		10 53 31.6	
	comp=E,644nm,0.6s						
L04D	**Klamath Falls**	**2.52**	**39**		**Pn**	**10 53 03.7**	**+0.4**
L04D				IAML		10 53 56.0	
	comp=N,894nm,0.9s						
L04D				IAML		10 53 58.8	
	comp=E,1μm,1.2s						
NOLM	**Olema**	**2.57**	**150**		**Pn**	**10 53 02.9**	**-0.8**
SNT	**Sears Point**	**2.59**	**143**		**Pn**	**10 53 04.0**	**-0.1**
DBO	**Dodson Butte**	**2.98**	**17**		**Pn**	**10 53 09.2**	**-0.3**
AFDM	**Forest Hills D**	**2.98**	**115**		**Pn**	**10 53 10.4**	**+0.9**
K04D	**Chiloquin, OR**	**3.10**	**40**		**Pn**	**10 53 11.2**	**0.0**
SAC	**San Andreas**	**3.11**	**149**		**Pn**	**10 53 10.4**	**-0.8**
JSFB	**Stanford Teles**	**3.17**	**148**		**Pn**	**10 53 14.3**	**-0.4**
JFP	**Foothills Park**	**3.40**	**148**		**Pn**	**10 53 14.6**	**-0.5**
J04A	**Umpqua Nationa**	**3.44**	**30**		**Pn**	**10 53 16.0**	**+0.1**
JSJM	**St Joseph**	**3.46**	**147**		**Pn**	**10 53 15.4**	**-0.6**
MPK	**Martis Peak**	**3.53**	**105**		**Pn**	**10 53 18.3**	**+1.0**
MPK				IAML		10 54 39.9	
	comp=E,492nm,1.8s						
I04A	**Tendick Farm,**	**3.83**	**23**		**Pn**	**10 53 20.9**	**-0.2**
I04A				IAML		10 54 07.3	
	comp=N,155nm,0.9s						
I04A				IAML		10 54 49.2	
	comp=E,149nm,3.1s						
J05D	**Fort Rock, OR**	**3.84**	**37**		**Pn**	**10 53 21.7**	**+0.2**
J05D				IAML		10 54 38.8	
	comp=N,235nm,1.6s						
J05D				IAML		10 54 41.3	
	comp=E,270nm,1.8s						
I02E	**Swisshome, OR**	**3.86**	**6**	Pn	**Pn**	**10 53 18.6**	**-2.9**
I02E				IAML		10 54 59.1	
	comp=E,233nm,1.4s						
CMB	**Columbia Colle**	**3.86**	**124**		**Pn**	**10 53 22.3**	**+0.8**
PNTR	**Pine Nut**	**3.92**	**106**		**Pn**	**10 53 23.9**	**+1.4**
PNTR				IAML		10 54 53.2	
	comp=E,355nm,1.2s						
PAHR	**Pah Rah Range**	**3.92**	**97**		**Pn**	**10 53 22.9**	**+0.4**
PAHR				IAML		10 54 46.3	
	comp=E,156nm,1.4s						
BUCK	**Buck Mountain**	**4.07**	**15**		**Pn**	**10 53 25.2**	**+0.8**
BUCK				IAML		10 54 54.4	
	comp=N,189nm,2.2s						
BUCK				IAML		10 55 02.9	
	comp=E,195nm,4.9s						
YERR	**Yerington**	**4.21**	**106**		**Pn**	**10 53 27.7**	**+1.2**
YERR				IAML		10 54 53.0	
	comp=N,159nm,3.1s						
YERR				IAML		10 55 00.7	
	comp=E,138nm,1.4s						
SAO	**San Andreas Ge**	**4.21**	**145**		**Pn**	**10 53 24.9**	**-1.5**
WAKR	**Walker**	**4.26**	**113**		**Pn**	**10 53 29.3**	**+2.2**
PINE	**Pine Mountain**	**4.38**	**35**		**Pn**	**10 53 29.8**	**+1.0**
PINE				IAML		10 55 10.1	
	comp=N,129nm,1.4s						
PINE				IAML		10 55 17.5	
	comp=E,121nm,3.1s						
COR	**Corvallis**	**4.39**	**11**		**Pn**	**10 53 30.2**	**+1.5**
COR				IAML		10 55 07.9	
	comp=E,130nm,1.2s						
COR				IAML		10 55 11.3	
	comp=E,119nm,1.9s						
HAST	**Hastings Reser**	**4.49**	**149**		**Pn**	**10 53 29.5**	**-0.7**
I05D	**Terrebonne, OR**	**4.67**	**28**		**Pn**	**10 53 33.5**	**+0.9**
I05D				IAML		10 55 16.7	
	comp=E,130nm,2.2s						
I05D				IAML		10 55 23.2	
	comp=N,114nm,3.9s						
H04A	**Detroit Lake**	**4.71**	**20**		**Pn**	**10 53 33.3**	**+0.1**
H04A				IAML		10 54 28.8	
	comp=N,96nm,0.5s						
H04A				IAML		10 54 32.1	
	comp=E,82nm,0.5s						
RYN	**Ryan**	**4.86**	**108**		**Pn**	**10 53 36.9**	**+1.5**
RYN				IAML		10 55 19.1	
	comp=E,74nm,2.3s						
WVOR	**Wild Horse Val**	**4.87**	**62**		**Pn**	**10 53 34.9**	**-0.6**
WVOR				IAML		10 55 25.0	
	comp=E,72nm,3.1s						
WVOR				IAML		10 55 25.5	
	comp=E,72nm,1.9s						
PMPB	**Monarch Peak**	**4.96**	**144**	Pn	**Pn**	**10 53 37.3**	**+0.7**
PMPB				IAML		10 55 56.7	
	comp=E,162nm,4.5s						
HEBO	**Mount Hebo**	**4.96**	**6**	Pn	**Pn**	**10 53 35.6**	**-1.1**
HEBO				IAML		10 55 39.8	
	comp=N,160nm,1.5s						
LHV	**Little Huntoon**	**5.03**	**112**	IAML		10 55 36.8	
	comp=N,119nm,1.9s						
LHV				IAML		10 55 46.2	
	comp=E,118nm,1.9s						
NVAR	**Mina Array Bea**	**5.10**	**109**		**Pn**	**10 53 40.3**	**+1.6**
NVAR	**Mina Array Bea**	**5.10**	**109**	Pn	**Pn**	**10 53 40.0**	**+1.2**
	comp=E,3.0nm,0.3s,baz=291,slow=14,SNR=43						
	comp=E,15nm,0.7s						
NV11	**Mina Array Sit**	**5.20**	**109**	IAML		10 55 24.2	
	comp=N,88nm,1.9s						
NV11				IAML		10 55 38.6	
	comp=E,61nm,2.6s						
I07A	**Izee**	**5.28**	**42**		**Pn**	**10 53 42.4**	**+1.3**
I07A				IAML		10 55 47.6	
	comp=N,53nm,3.2s						
J08A	**Circle Bar Ran**	**5.42**	**53**		**Pn**	**10 53 42.9**	**-0.1**
HOOD	**Mount Hood Mea**	**5.45**	**21**		**Pn**	**10 53 42.2**	**-1.2**
G06A	**Carlson Farm,**	**5.69**	**28**	Pn	**Pn**	**10 53 48.5**	**+1.7**
Q09A	**Carvers**	**5.79**	**102**	Pn	**Pn**	**10 53 48.6**	**+0.4**
RADR	**Rader Ridge**	**6.16**	**4**	Pn	**Pn**	**10 53 53.8**	**+0.7**
G08A	**Pilot Rock**	**6.43**	**37**		**Pn**	**10 53 56.8**	**-0.1**
F07A	**Phinny Hill Vi**	**6.52**	**29**	Pn	**Pn**	**10 53 59.0**	**+1.0**
ISA	**Isabella, Lake**	**6.58**	**132**	Pn	**Pn**	**10 53 59.7**	**+0.7**
LON	**Longmire**	**6.75**	**16**	Pn	**Pn**	**10 54 00.4**	**-0.8**
WISH	**Wishkah**	**6.86**	**4**	Pn	**Pn**	**10 54 01.9**	**-0.8**
BMO	**Blue Mountains**	**6.97**	**47**	Pn	**Pn**	**10 54 05.3**	**+1.0**
ELK	**Elko**	**7.03**	**83**	Pn	**Pn**	**10 54 05.5**	**+0.3**
ELK	**Elko**	**7.03**	**83**	Pn	**Pn**	**10 54 06.6**	**+1.4**
	comp=N,2.7nm,0.9s,baz=282,slow=9.4,SNR=11						
HAWA	**Hanford**	**7.08**	**29**	Pn	**Pn**	**10 54 05.6**	**-0.2**
E07A	**Sunnyside**	**7.11**	**26**	Pn	**Pn**	**10 54 06.0**	**-0.1**
NLWA	**Neilton Lookou**	**7.13**	**3**	Pn	**Pn**	**10 54 04.2**	**-2.2**
MFID	**Camas Ranch**	**7.15**	**61**	Pn	**Pn**	**10 54 06.7**	**-0.1**
CCAC	**Calif City Air**	**7.21**	**133**		**Pn**	**10 54 07.3**	**-0.2**
E08A	**Dider Farm, El**	**7.34**	**30**		**Pn**	**10 54 08.5**	**-0.9**
LTY	**Liberty**	**7.49**	**20**		**Pn**	**10 54 11.4**	**0.0**
E09A	**Wood Farm, Sta**	**7.74**	**34**	Pn	**Pn**	**10 54 14.4**	**-0.3**
F10A	**Beach Ranch, E**	**7.76**	**40**		**Pn**	**10 54 15.4**	**+0.2**
GSC	**Goldstone, Bar**	**7.82**	**127**		**Pn**	**10 54 16.6**	**+0.7**
PLID	**Pearl Lake**	**7.86**	**49**	Pn	**Pn**	**10 54 17.4**	**+0.8**
PASC	**Pasadena Art C**	**7.87**	**139**	Pn	**Pn**	**10 54 16.6**	**+0.1**
D08A	**Wollman Farm,**	**7.87**	**29**	Pn	**Pn**	**10 54 16.7**	**+0.2**
SPR3	**Spring Creek 3**	**7.90**	**96**	Pn	**Pn**	**10 54 17.7**	**+0.4**
SNCC	**San Nicolas Is**	**8.04**	**149**	Pn	**Pn**	**10 54 19.2**	**+0.3**
HLID	**Hailey**	**8.16**	**63**	Pn	**Pn**	**10 54 21.4**	**+0.7**
ELS	**Elsinore Mount**	**8.67**	**138**		**Pn**	**10 54 27.6**	**0.0**
BGU	**Big Grassy Mou**	**8.70**	**82**		**Pn**	**10 54 28.8**	**+0.6**
B08A	**Colville Reser**	**8.87**	**23**	Pn	**Pn**	**10 54 29.6**	**-0.7**
HVU	**Hansel Valley**	**8.94**	**77**		**Pn**	**10 54 31.6**	**+0.2**
SPUT	**South Promonto**	**9.15**	**80**	Pn	**Pn**	**10 54 34.5**	**+0.2**
PFO	**Pinyon Flats O**	**9.21**	**134**		**Pn**	**10 54 34.1**	**-1.0**
PFO	**Pinyon Flats O**	**9.21**	**134**	Pn	**Pn**	**10 54 36.7**	**+1.6**
	comp=N,1.0nm,0.3s,baz=320,slow=10.0,SNR=20						
	comp=N,10nm,0.7s						
LCMT	**Little Creek M**	**9.34**	**107**		**Pn**	**10 54 37.1**	**+0.2**
NEW	**Newport**	**9.55**	**31**	Pn	**Pn**	**10 54 42.6**	**+2.9**
	comp=N,0.1nm,0.3s,baz=203,slow=16,SNR=3.8						
	comp=N,1.3nm,0.7s						
MCMT	**McKenzie Canyo**	**9.69**	**58**	Pn	**Pn**	**10 54 42.2**	**+0.6**
MPU	**Maple Canyon**	**9.81**	**87**		**Pn**	**10 54 43.9**	**+0.6**
BLYC	**Blythe**	**10.25**	**126**	Pn	**Pn**	**10 54 49.6**	**+0.4**
LYMT	**Lyon Mountain**	**11.05**	**49**		**Pn**	**10 54 59.6**	**-0.7**
PDAR	**Pinedale Array**	**11.43**	**73**	Pn	**Pn**	**10 55 09.3**	**+3.8**
	comp=N,0.1nm,0.3s,baz=264,slow=10,SNR=15						
	comp=N,4.6nm,1.1s						
TUC	**Tucson**	**13.57**	**122**	Pn	**Pn**	**10 55 35.9**	**+1.2**
Q24A	**Divide**	**14.93**	**89**	Pn	**Pn**	**10 55 52.5**	**-0.8**
ANMO	**Albuquerque**	**15.20**	**105**	Pn	**Pn**	**10 55 58.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=241,slow=19,SNR=6.2						
	comp=N,0.5nm,0.3s						
BRIGG	**Briggsdale**	**15.33**	**82**	Pn	**Pn**	**10 55 59.1**	**+0.6**
BRIGG				IAmb	IAmb	10 56 03.5	
	comp=Z,22nm,1.1s						
BNM	**Barren Site**	**15.44**	**108**	Pn	**Pn**	**10 55 59.3**	**-0.8**
T25A	**Trinidad**	**15.94**	**95**		**Pn**	**10 56 06.7**	**+0.1**
DGMT	**Dagmar**	**16.60**	**54**	Pn	**Pn**	**10 56 13.4**	**-1.4**
DGMT				IAmb	IAmb	10 56 14.4	
	comp=Z,35nm,1.1s						
OGNE	**Ogallala**	**17.02**	**80**	P	**Pn**	**10 56 18.6**	**-1.7**
OGNE				IAmb	IAmb	10 56 37.9	
	comp=Z,17nm,1.0s						
CBKS	**Cedar Bluff**	**19.09**	**86**	P	**P**	**10 56 44.5**	**-0.3**
MDND	**Maddock**	**19.33**	**59**	P	**P**	**10 56 47.2**	**-0.1**
MDND				IAmb	IAmb	10 56 51.0	
	comp=Z,24nm,1.1s						
TX31	**Lajitas Ar. Si**	**20.20**	**116**	P	**P**	**10 56 57.6**	**+0.6**
TXAR	**Lajitas Array**	**20.20**	**116**	P	Pn	**10 56 59.0**	**+0.1**
	comp=Z,6.8nm,1.0s,baz=304,slow=8.9,SNR=22						
	comp=Z,6.8nm,1.0s						
FFC	**Flin Flon**	**20.83**	**39**	P	**P**	**10 57 03.2**	**-0.4**
FFC				IAmb	IAmb	10 57 07.9	
	comp=Z,18nm,1.1s						
KAN14	**Manchester OK**	**20.92**	**91**	P	**P**	**10 57 03.7**	**-1.0**
KAN14				IAmb	IAmb	10 57 08.6	
	comp=Z,25nm,1.1s						
KAN05	**Bluff City Nor**	**20.95**	**90**	P	**P**	**10 57 04.2**	**-0.8**
KAN05				IAmb	IAmb	10 57 28.0	
	comp=Z,14nm,0.7s						
OZNA	**Ozona**	**21.08**	**109**	P	**P**	**10 57 06.5**	**0.0**
OZNA				IAmb	IAmb	10 57 13.0	
	comp=Z,20nm,1.1s						
DRIO	**Del Rio**	**22.28**	**112**	P	**P**	**10 57 19.4**	**0.0**
DRIO				IAmb	IAmb	10 57 24.4	
	comp=Z,12nm,0.9s						
ULM	**Lac du Bonnet**	**22.32**	**54**	P	**P**	**10 57 17.4**	**-2.1**
ULM				IAmb	IAmb	10 57 21.7	
	comp=Z,15nm,1.0s						
ULM	**Lac du Bonnet**	**22.32**	**54**	P	**P**	**10 57 17.5**	**-2.0**
	comp=Z,8.9nm,0.8s,baz=257,slow=9.2,SNR=13						
	comp=Z,8.9nm,0.8s						
BRDY	**Brady**	**22.44**	**106**	P	**P**	**10 57 20.3**	**-0.8**
YKAB2	**New Yellowknif**	**22.96**	**12**	P	**P**	**10 57 26.3**	**0.0**
YKA	**Yellowknife Ar**	**23.03**	**12**	P	**P**	**10 57 26.6**	**-0.3**
YKA	**Yellowknife Ar**	**23.03**	**12**	P	**P**	**10 57 27.0**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=202,slow=12,SNR=19						
	comp=Z,2.1nm,0.8s						
435B	**Jarrell**	**23.74**	**105**	P	**P**	**10 57 34.8**	**+0.4**
FCC	**Fort Churchill**	**26.67**	**36**	P	**P**	**10 58 01.4**	**+0.7**
ILAR	**Eielson Array**	**27.77**	**339**	P	**P**	**10 58 11.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=157,slow=8.0,SNR=4.8						
	comp=Z,0.3nm,0.8s						
SCHQ	**Schefferville**	**40.33**	**49**	P	**P**	**10 59 59.6**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=262,slow=9.1,SNR=5.0						
	comp=Z,4.8nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**61.42**	**272**	T	T	12 09 20.4	
	baz=53,slow=75,SNR=164						
H11N2	**WAKE ISLAND Hy**	**61.43**	**272**	T	T	12 09 20.6	
	baz=53,slow=75,SNR=149						
H11N1	**WAKE ISLAND Hy**	**61.44**	**272**	T	T	12 09 21.3	
	baz=53,slow=75,SNR=81						
H11S1	**WAKE ISLAND Hy**	**62.29**	**271**	T	T	12 10 25.3	
	baz=54,slow=75,SNR=122						
H11S2	**WAKE ISLAND Hy**	**62.30**	**271**	T	T	12 10 26.1	
	baz=54,slow=75,SNR=76						
H11S3	**WAKE ISLAND Hy**	**62.31**	**271**	T	T	12 10 27.1	
	baz=54,slow=75,SNR=63						
NB2	**NORSAR Subarra**	**72.77**	**21**	P	**P**	**11 03 51.0**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=323,slow=5.9						
NOA	**NORSAR Array B**	**72.77**	**21**	P	**P**	**11 03 50.8**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=325,slow=6.1,SNR=5.0						
	comp=Z,2.5nm,0.9s						
HFS	**Hagfors**	**74.20**	**20**	P	**P**	**11 03 59.3**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=290,slow=17,SNR=4.6						
	comp=Z,4.8nm,0.9s						
SONM	**Songino Array**	**81.36**	**328**	P	**P**	**11 04 39.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=56,slow=4.9,SNR=3.8						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**82.83**	**343**	P	**P**	**11 04 46.8**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=15,slow=6.2,SNR=5.9						
	comp=Z,1.1nm,0.7s						
ESDC	**Sonseca Array**	**83.69**	**42**	P	**P**	**11 04 50.6**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=335,slow=3.9,SNR=3.7						
	comp=Z,1.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**84.55**	**321**	*e*P	**P**	**11 04 56.4**	**+1.0**
AKASG	**Malin Array Be**	**86.51**	**16**	P	**P**	**11 05 04.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=335,slow=4.1,SNR=6.6						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**87.27**	**346**	P	**P**	**11 05 09.0**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=17,slow=4.8,SNR=16						
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**90.09**	**342**	P	**P**	**11 05 22.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=20,slow=4.6,SNR=4.3						
	comp=Z,0.4nm,0.8s						

TXNET 02 10:58:39.4,31°.6N±0°.6×104°.2W±0°.6, h4km±2km, ML1.9/8, 1C, Error ellipse: s-maj=1.0km s-min=0.8km az=41.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.34**	**125**	P	Pg	10 58 45.9	-0.1
PECS				S	Sg	10 58 50.5	+0.1
TPB11	**China Draw**	**0.40**	**19**	⇑P	Pg	10 58 47.1	0.0
TPB11				S	Sg	10 58 52.4	0.0
TPB12	**Southwest of T**	**0.40**	**150**	P	Pg	10 58 47.1	0.0
TPB12				S	Sg	10 58 52.6	+0.2
TPB07	**Mentone**	**0.45**	**88**	P	Pg	10 58 48.2	+0.2
TPB07				S	Sg	10 58 54.2	+0.4
TPB10	**Southeast of T**	**0.46**	**127**	P	Pg	10 58 48.7	+0.3
TPB10				S	Sg	10 58 54.8	+0.4
TPB01	**Permian Basin**	**0.71**	**150**	P	Pg	10 58 52.4	-0.6
TPB01				S	Sg	10 59 01.9	-0.3
TPB05	**Hovey Rd**	**0.98**	**131**	S	Sg	10 59 10.4	-0.5
HTMS	**Hat Mesa**	**1.02**	**27**	P	Pg	10 58 58.5	-0.6
HTMS				S	Sg	10 59 12.4	0.0
MNTX	**Cornudas Mount**	**1.03**	**278**	P	Pg	10 58 59.2	+0.1
MNTX				S	Sb	10 59 13.4	-0.2
VHRN	**Van Horn**	**1.03**	**222**	P	Pg	10 58 59.0	-0.2
VHRN				S	Sb	10 59 13.7	-0.2
MNHN	**Monahans**	**1.24**	**100**	P	Pg	10 59 01.6	-1.6
MNHN				S	Sg	10 59 17.3	-2.0
ALPN	**Alpine**	**1.27**	**158**	P	Pg	10 59 02.3	-1.6
ALPN				S	Sg	10 59 18.7	-1.7
CPRX	**Cap Rock**	**1.49**	**10**	P	Pn	10 59 07.4	+0.3
ODSA	**Odessa**	**1.50**	**68**	P	Pn	10 59 06.3	-0.9
ODSA				S	Sn	10 59 25.9	-1.4
TMB04	**Seminole**	**1.79**	**53**	P	Pn	10 59 11.3	+0.1
TMB04				S	Sb	10 59 35.1	-0.6
TMB02	**Rankin**	**1.88**	**101**	P	Pn	10 59 12.8	+0.5
TMB02				S	Sn	10 59 37.1	+0.6
TX31	**Lajitas Ar. Si**	**2.27**	**168**	Pg	Pb	10 59 20.1	-0.8

IDC ***02*** *10:59:27.4±0.3, 2°.74S×100°.23E, h0km, mb5.4/36, mbtmp5.4/38, ML5.0/2, MS5.9/26, Error ellipse: s-maj=11.2km s-min=8.5km az=60.

TSI	**Tuntungan**	**6.50**	**345**	P	**Pn**	**11 01 05.2**	**-0.3**
SNSI	**Sinabang, Aceh**	**6.50**	**323**	P	**Pn**	**11 01 03.8**	**-1.7**
	17nm23μm2μm,1.0s						
CGJI	**Cibinong**	**6.61**	**125**	P	**Pn**	**11 01 06.4**	**-0.6**
	8.9nm19μm2μm,1.1s						
SBJI	**Serang**	**6.73**	**119**	P	**Pn**	**11 01 08.9**	**+0.4**
	9.6nm35μm22μm979nm,0.9s						
KCSI	**Kotacane, Aceh**	**6.77**	**339**	P	**Pn**	**11 01 09.9**	**+0.7**
	12nm57μm16μm720nm,1.1s						
TNG	**Tangerang**	**7.20**	**118**	P	**Pn**	**11 01 15.9**	**+0.8**
TNG				P	**Pn**	**11 01 16.9**	**+1.8**
IPM	**Ipoh**	**7.30**	**6**	Pn	**Pn**	**11 01 18.5**	**+2.0**
IPM	**Ipoh**	**7.30**	**6**	P	**Pn**	**11 01 19.0**	**+2.5**
IPM	**Ipoh**	**7.30**	**6**	⇑P	**Pn**	**11 01 18.4**	**+2.0**
TPI	**Tanjungpandan**	**7.41**	**90**	P	**Pn**	**11 01 19.8**	**+1.8**
SKJI	**Sukabumi**	**7.54**	**124**	P	**Pn**	**11 01 20.9**	**+1.1**
MLSI	**Meulaboh, Aceh**	**8.02**	**331**	P	**Pn**	**11 01 25.4**	**-0.9**
	35μm14μm2μm,1.1s						
KULM	**Kulim**	**8.07**	**3**	Pn	**Pn**	**11 01 27.3**	**+0.2**
KULM	**Kulim**	**8.07**	**3**	P	**Pn**	**11 01 27.7**	**+0.6**
KULM	**Kulim**	**8.07**	**3**	⇑P	**Pn**	**11 01 27.2**	**+0.2**
CNJI	**Cibinong**	**8.18**	**123**	P	**Pn**	**11 01 27.2**	**-1.4**
	501nm,0.9s						
LEM	**Lembang**	**8.36**	**119**	Pn	**Pn**	**11 01 33.6**	**+2.5**
	21nm,0.3s,baz=326,slow=7.8,SNR=33						
LEM				Sn	**Sn**	**11 03 08.9**	**+4.0**
	19nm,0.3s,baz=278,slow=23,SNR=1.2						
LEM	**Lembang**	**8.36**	**119**	P	**Pn**	**11 01 32.4**	**+1.2**
	26μm16μm1μm,1.0s						
LHMI	**Lhok Sumawe**	**8.65**	**338**		**Pn**	**11 01 33.5**	**-1.5**
LHMI	**Lhok Sumawe**	**8.65**	**338**	P	**Pn**	**11 01 35.5**	**+0.5**
	42μm14μm402nm,0.8s						
BBJI	**Bungbulang**	**8.70**	**122**	P	**Pn**	**11 01 35.2**	**-0.6**
JCJI	**Jatiwangi**	**8.80**	**115**	P	**Pn**	**11 01 39.4**	**+2.4**
	21μm12μm1μm,0.7s						
XMIS	**Christmas Isla**	**9.31**	**145**	Pn	**Pn**	**11 01 40.7**	**-3.4**
CMJI	**Cimerak**	**9.54**	**121**	P	**Pn**	**11 01 46.1**	**-1.2**
BSI	**Banda Aceh**	**9.63**	**329**	P	**Pn**	**11 01 46.4**	**-2.0**
	21μm6μm437nm,1.0s						
KPJI	**Karang Pucung**	**9.75**	**118**	P	**Pn**	**11 01 51.7**	**+1.6**
	28μm9μm752nm,0.7s						
I06AU	**Cocos Islands**	**9.86**	**200**	T	T	11 11 25.0	
	baz=31,slow=34,SNR=2.6						
I06AU				I	I	11 58 50.0	
	baz=19,slow=316,SNR=4.2						
COCO	**West Island**	**9.89**	**200**		Pn	11 01 46.5	-5.5
COCO	**West Island**	**9.89**	**200**	P	**Pn**	**11 01 48.3**	**-3.7**
COCO				P	**Pn**	**11 01 48.3**	**-3.7**
COCO	**West Island**	**9.89**	**200**	P	**Pn**	**11 01 48.4**	**-3.7**
COCO	**West Island**	**9.89**	**200**	P	**Pn**	**11 01 49.2**	**-2.8**
KSM	**Kuching**	**10.94**	**67**		**Pn**	**11 02 06.8**	**+0.4**
KSM	**Kuching**	**10.94**	**67**	⇑P	**Pn**	**11 02 09.0**	**+2.6**
SMRI	**Semarang**	**11.00**	**113**		**Pn**	**11 02 06.4**	**-0.8**
SMRI	**Semarang**	**11.00**	**113**	P	**Pn**	**11 02 09.3**	**+2.1**
SMRI	**Semarang**	**11.00**	**113**	P	**Pn**	**11 02 08.9**	**+1.7**
	22μm12μm671nm,0.9s						
SMRI	**Semarang**	**11.00**	**113**	⇑P	**Pn**	**11 02 09.4**	**+2.1**
YOGI	**Yogyakarta**	**11.17**	**117**	P	**Pn**	**11 02 12.6**	**+3.0**
	8μm366nm,0.9s						
SRIT	**Nakonsritamara**	**11.36**	**357**		**Pn**	**11 02 09.7**	**-2.5**
UGM	**Wanagama**	**11.42**	**117**	Pn	**Pn**	**11 02 11.9**	**-1.0**
UGM	**Wanagama**	**11.42**	**117**	P	**Pn**	**11 02 13.4**	**+0.4**
UGM	**Wanagama**	**11.42**	**117**	P	**Pn**	**11 02 13.0**	**0.0**
	8μm598nm,0.8s						
STKI	**Sintang**	**11.60**	**76**	P	**Pn**	**11 02 20.0**	**+4.6**
	40μm516nm,1.7s						
CMBY	**CAMPBELL BAY**	**11.62**	**327**	*e*P	**Pn**	**11 02 15.5**	**-0.3**
CMBY				*ex*	x	11 05 13.3	
NGJI	**Ngawi**	**12.06**	**112**	P	**Pn**	**11 02 24.0**	**+2.3**
	7μm470nm,1.3s						
PCJI	**Pacitan**	**12.12**	**117**	P	**Pn**	**11 02 20.9**	**-1.7**
TBJI	**Tambak Boyo**	**12.23**	**109**	P	**Pn**	**11 02 25.9**	**+1.8**
	20μm13μm662nm,1.4s						
GRJI	**Gresik**	**12.86**	**109**	P	**Pn**	**11 02 32.3**	**-0.3**
	16μm12μm592nm,0.8s						
SBUM	**Sibu**	**13.08**	**66**		**Pn**	**11 02 39.7**	**+4.1**
SBUM	**Sibu**	**13.08**	**66**	P	**Pn**	**11 02 38.5**	**+2.9**
SBUM	**Sibu**	**13.08**	**66**	⇑P	**Pn**	**11 02 39.9**	**+4.3**
GMJI	**Gumukmas**	**14.21**	**113**	P	**Pn**	**11 02 50.0**	**-1.2**
KMMI	**Kalianget**	**14.31**	**108**	P	**Pn**	**11 02 52.8**	**+0.3**
	15μm10μm491nm,1.4s						
MTKI	**Muara Teweh, K**	**14.77**	**83**	P	**Pn**	**11 03 00.8**	**+2.0**
	14μm521nm,1.2s						
ABJI	**Asem Bagus**	**14.79**	**110**	P	**Pn**	**11 02 59.6**	**+0.7**
	17μm9μm607nm,0.6s						
JAGI	**Jajag, Banyuwa**	**14.94**	**113**		**Pn**	**11 02 56.3**	**-4.8**
JAGI	**Jajag, Banyuwa**	**14.94**	**113**	P	**Pn**	**11 03 00.0**	**-1.0**
JAGI	**Jajag, Banyuwa**	**14.94**	**113**	P	**Pn**	**11 02 58.1**	**-2.9**
	6μm443nm,0.8s						
JAGI	**Jajag, Banyuwa**	**14.94**	**113**	⇓P	**Pn**	**11 02 57.8**	**-3.2**
SRBI	**Singaraja**	**15.79**	**110**	P	**Pn**	**11 03 10.6**	**-1.6**
	13μm6μm600nm,1.5s						
DNP	**Denpasar**	**15.99**	**112**	P	**Pn**	**11 03 15.2**	**+0.5**
	421nm,0.4s						
PBA	**Port Blair**	**16.20**	**333**		**Pn**	**11 03 15.8**	**-1.7**
PBA	**Port Blair**	**16.20**	**333**	P	**P**	**11 03 19.6**	**-0.8**
	SNR=9.7						
PBA	**Port Blair**	**16.20**	**333**	*e*P	**Pn**	**11 03 16.1**	**-1.4**
PBA				*ex*	x	11 07 04.4	
PBA	**Port Blair**	**16.20**	**333**	⇑P	**Pn**	**11 03 18.7**	**+1.2**
BKB	**Balikpapan**	**16.72**	**85**	P	**P**	**11 03 25.9**	**-0.3**
BKB				IAmb	IAmb	11 03 31.3	
	comp=Z,2μm,1.5s						
BKB	**Balikpapan**	**16.72**	**85**	P	**P**	**11 03 26.0**	**-0.2**
	comp=Z,16μmcomp=Z,883nm,1.0s						
BKB	**Balikpapan**	**16.72**	**85**	⇑P	**P**	**11 03 27.1**	**+0.9**
DLV	**Lat**	**16.81**	**29**	P	**Pn**	**11 03 25.0**	**-0.4**
DLV	**Lat**	**16.81**	**29**	⇑P	**Pn**	**11 03 25.1**	**-0.2**
NAYO	**Nakonayok**	**17.07**	**4**	P	**P**	**11 03 29.4**	**-0.6**
SMKI	**Samarinda**	**17.13**	**82**	P	**P**	**11 03 31.8**	**+1.1**
	comp=Z,19μmcomp=Z,930nm,1.6s						
DGPR	**DIGLIPUR**	**17.48**	**336**	*e*P	**Pn**	**11 03 32.2**	**-1.2**
DGPR				*ex*	x	11 07 12.5	
TWSI	**Taliwang, Sumb**	**17.57**	**110**	P	**Pn**	**11 03 32.7**	**-1.9**
KKM	**Kota Kinabalu**	**18.23**	**61**	P	**Pn**	**11 03 42.7**	**-0.2**
KKM	**Kota Kinabalu**	**18.23**	**61**	P	**P**	**11 03 44.7**	**+1.7**
KKM	**Kota Kinabalu**	**18.23**	**61**	⇑P	**Pn**	**11 03 42.6**	**-0.3**
PLAI	**Plampang**	**18.43**	**110**	P	**Pn**	**11 03 45.5**	**+0.2**
PLAI	**Plampang**	**18.43**	**110**	P	**P**	**11 03 42.1**	**-3.0**
	comp=Z,12μmcomp=Z,5μmcomp=Z,448nm,1.2s						
UBPT	**Khong Chiam**	**18.72**	**16**	P	**P**	**11 03 46.9**	**-1.3**
UBPT	**Khong Chiam**	**18.72**	**16**	P	**P**	**11 03 47.8**	**-0.4**
UBPT	**Khong Chiam**	**18.72**	**16**	⇑P	**P**	**11 03 46.7**	**-1.5**
SPSI	**Sidrap Palu**	**19.53**	**94**	P	**P**	**11 03 57.5**	**+0.3**
	comp=Z,23μmcomp=Z,8μmcomp=Z,415nm,1.2s						
TTSI	**Tana Toraja**	**19.56**	**91**	P	**Pn**	**11 03 58.8**	**-0.1**
	comp=Z,24μmcomp=Z,11μmcomp=Z,708nm,1.4s						
KAPI	**Kappang**	**19.59**	**97**	P	**P**	**11 03 58.0**	**+0.2**
KAPI				IAmb	IAmb	11 04 11.0	
	comp=Z,1μm,1.2s						
KAPI	**Kappang**	**19.59**	**97**	P	**P**	**11 03 57.6**	**-0.2**
	comp=Z,8.7nm,0.3s,baz=286,slow=9.9,SNR=39						
KAPI				LR	LR	11 11 55.7	
	comp=Z,19μm,21.4s,baz=264,slow=38						
	comp=Z,420nm,1.0s						
KAPI	**Kappang**	**19.59**	**97**	P	**Pn**	**11 03 59.0**	**-0.3**
KAPI				P	**Pn**	**11 03 59.0**	**-0.3**
KAPI				P	**Pn**	**11 03 59.0**	**-0.3**
KAPI				S	**S**	**11 07 33.7**	**-4.1**
KAPI				S	**S**	**11 07 33.7**	**-4.1**
KAPI				S	**S**	**11 07 33.7**	**-4.1**
KAPI	**Kappang**	**19.59**	**97**	P	**Pn**	**11 03 58.8**	**-0.5**
KAPI	**Kappang**	**19.59**	**97**	P	**P**	**11 03 58.0**	**+0.2**
KAPI				pmax	pmax		
	comp=Z,1μm,1.2s						
PCI	**Palu**	**19.68**	**85**	P	**Pn**	**11 04 00.3**	**-0.1**
	comp=Z,17μmcomp=Z,1μm,1.6s						
BKSI	**Bulukumba**	**19.99**	**98**	P	**P**	**11 04 02.3**	**+0.1**
	comp=Z,19μmcomp=Z,14μmcomp=Z,1μm,1.1s						
WBSI	**Waikabubak, Su**	**20.20**	**110**	P	**P**	**11 04 01.2**	**-3.3**
	comp=Z,7μmcomp=Z,837nm,1.2s						
BSSI	**Bau Bau, Buton**	**20.46**	**100**	P	**P**	**11 04 07.3**	**0.0**
	comp=Z,17μmcomp=Z,9μmcomp=Z,477nm,0.8s						
TOLI2	**Tolitoli**	**20.91**	**79**	P	**P**	**11 04 12.8**	**+0.7**
TOLI2				IAmb	IAmb	11 04 30.8	
	comp=Z,1μm,1.0s						
TOLI2	**Tolitoli**	**20.91**	**79**	P	Pn	11 04 15.9	+1.1
WSI	**Waingapu**	**21.06**	**110**	P	**P**	**11 04 14.4**	**+0.6**
CM31	**Chiang Mai Arr**	**21.19**	**357**	P	**P**	**11 04 13.6**	**-1.5**
CM31				IAmb	IAmb	11 04 23.5	
	comp=Z,365nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.19**	**357**	P	**P**	**11 04 13.5**	**-1.6**
	comp=Z,98nm,0.7s,baz=185,slow=10,SNR=161						
CMAR				S	**S**	**11 08 09.5**	**-0.1**
	comp=Z,9.5nm,0.9s,baz=186,slow=7.8,SNR=0.9						
CMAR				LR	LR	11 12 41.5	
	comp=Z,40μm,20.6s,baz=165,slow=38						
	comp=Z,98nm,0.7s						
PHRA	**Phrae**	**21.19**	**360**	P	**P**	**11 04 14.1**	**-1.1**
HALK	**Hakmana**	**21.44**	**294**	⇓P	**P**	**11 04 20.4**	**+2.6**
APSI	**Ampana**	**21.49**	**85**	P	**P**	**11 04 19.0**	**+0.6**
	comp=Z,16μmcomp=Z,1μm,1.4s						
BASI	**Baing, Sumba**	**21.49**	**111**	P	**P**	**11 04 15.8**	**-2.6**
	comp=Z,13μmcomp=Z,17μmcomp=Z,1μm,1.5s						
CHTO	**Chiang Mai**	**21.54**	**357**	P	**P**	**11 04 17.5**	**-1.4**
CHTO				IAMs_20	IAMs_20	11 13 39.4	
	comp=Z,64μm,18.0s						
CHTO	**Chiang Mai**	**21.54**	**357**	P	**P**	**11 04 17.5**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,103nm,0.9s						
CHTO				MLR	MLR		
	comp=Z,64μm,18.0s						
PALK	**Pallekele**	**21.92**	**297**	P	**P**	**11 04 23.1**	**0.0**
	comp=Z,17nm,1.0s,baz=103,slow=12,SNR=5.3						
PALK				S	**S**	**11 08 24.4**	**+0.1**
	comp=Z,22nm,0.9s,baz=92,slow=11,SNR=1.8						
PALK				LR	LR	11 12 22.1	
	comp=Z,28μm,19.2s,baz=118,slow=35						
PALK	**Pallekele**	**21.92**	**297**	P	**P**	**11 04 26.0**	**+2.9**
PALK				P	**P**	**11 04 26.0**	**+2.9**
PALK				S	**S**	**11 08 23.6**	**-0.7**
PALK				S	**S**	**11 08 23.6**	**-0.7**
PALK				S	**S**	**11 08 24.3**	**0.0**
PALK				S	**S**	**11 08 24.3**	**0.0**
PALK	**Pallekele**	**21.92**	**297**	⇑P	**P**	**11 04 26.1**	**+3.0**
MRSI	**Marisa**	**21.95**	**82**	P	**P**	**11 04 24.2**	**+0.9**
	comp=Z,27μmcomp=Z,8μmcomp=Z,725nm,1.3s						
KDI	**Kendari**	**22.37**	**94**	P	**P**	**11 04 28.0**	**+0.1**
	comp=Z,22μmcomp=Z,8μmcomp=Z,435nm,1.6s						
BBSI	**Bau Bau**	**22.43**	**97**	P	**P**	**11 04 27.7**	**-0.9**
	comp=Z,18μmcomp=Z,8μmcomp=Z,561nm,0.9s						
MALK	**Mahakanadarawa**	**22.58**	**300**	P	**P**	**11 04 35.0**	**+4.8**
MALK	**Mahakanadarawa**	**22.58**	**300**	⇓P	**P**	**11 04 33.3**	**+3.1**
LUWI	**Luwuk**	**22.59**	**86**	P	**P**	**11 04 31.1**	**+0.8**
LUWI	**Luwuk**	**22.59**	**86**	P	**P**	**11 04 26.0**	**-4.2**
LUWI	**Luwuk**	**22.59**	**86**	P	**P**	**11 04 30.4**	**+0.1**
	comp=Z,26μmcomp=Z,14μmcomp=Z,1μm,1.7s						
LUWI	**Luwuk**	**22.59**	**86**	⇑P	**P**	**11 04 29.5**	**-0.8**
MMRI	**Maumere**	**22.63**	**106**	P	**P**	**11 04 28.9**	**-1.8**
MMRI	**Maumere**	**22.63**	**106**	P	**P**	**11 04 28.1**	**-2.6**
	comp=Z,10μmcomp=Z,174nm,0.6s						
QIZ	**Qiongzhong**	**23.69**	**23**	P	**P**	**11 04 40.7**	**-0.5**
QIZ	**Qiongzhong**	**23.69**	**23**	P	**P**	**11 04 41.1**	**-0.1**
QIZ				pmax	pmax		
	comp=Z,130nm,0.7s						
QIZ				pmax	pmax		
	comp=Z,4μm,4.7s						
QIZ				LR	LR		
	comp=Z,34μm,15.5s						
QIZ				LR	LR		
	comp=Z,18μm,16.4s						
QIZ				LR	LR		
	comp=Z,40μm,15.7s						
QIZ	**Qiongzhong**	**23.69**	**23**	P	**P**	**11 04 40.9**	**-0.3**
GIRL	**Giralia**	**23.93**	**147**	P	**P**	**11 04 47.7**	**+4.2**
KMSI	**Cibinong**	**23.98**	**82**	P	**P**	**11 04 44.5**	**+0.4**
SLVN	**Son La**	**24.28**	**8**	P	**P**	**11 04 46.5**	**-0.3**
SLVN				IAMs_20	IAMs_20	11 15 36.2	
	comp=Z,75μm,18.0s						
SLVN	**Son La**	**24.28**	**8**	P	**P**	**11 04 47.2**	**+0.4**
BATI	**Baumata**	**24.39**	**109**	P	**P**	**11 04 48.0**	**+0.1**
	comp=Z,213nm,1.1s						
SOEI	**Soe**	**24.85**	**107**	P	**P**	**11 04 48.9**	**-3.3**
SOEI				IAmb	IAmb	11 05 12.1	
	comp=Z,386nm,1.1s						
SOEI	**Soe**	**24.85**	**107**	P	**P**	**11 04 46.6**	**-5.6**
SOEI	**Soe**	**24.85**	**107**	P	**P**	**11 04 54.8**	**+2.6**
SOEI	**Soe**	**24.85**	**107**	P	**P**	**11 04 49.5**	**-2.7**
	comp=Z,9μmcomp=Z,3μmcomp=Z,354nm,1.2s						
SOEI	**Soe**	**24.85**	**107**	⇑P	**P**	**11 04 51.4**	**-0.8**
SANI	**Sanana**	**25.74**	**89**	P	**P**	**11 04 55.6**	**-4.6**
SANI	**Sanana**	**25.74**	**89**	P	**P**	**11 05 01.1**	**+0.9**
SANI	**Sanana**	**25.74**	**89**	P	**P**	**11 04 59.1**	**-1.1**
	comp=Z,12μmcomp=Z,3μmcomp=Z,196nm,1.5s						
SANI	**Sanana**	**25.74**	**89**	⇑P	**P**	**11 04 58.9**	**-1.2**
SGSI	**Sangihe**	**26.09**	**76**	P	**P**	**11 05 03.9**	**+0.5**
SALM	**Salem**	**26.21**	**304**	*e*P	**P**	**11 05 06.1**	**+1.8**
TGY	**Tagaytay City**	**26.54**	**50**	LR	LR	11 16 51.3	
	comp=Z,26μm,18.7s,baz=223,slow=39						
PSA00	**Pilbara Seismi**	**26.66**	**136**	P	**P**	**11 05 08.0**	**-0.5**
PSA00	**Pilbara Seismi**	**26.66**	**136**	P	**P**	**11 05 09.5**	**+1.1**
	comp=Z,139nm,1.5s						
PSA00				P	**pP**	**11 05 16.8**	**+0.8**
PSA00	**Pilbara Seismi**	**26.66**	**136**	P	**P**	**11 05 09.5**	**+1.1**
BRDH	**Bariadhala**	**26.70**	**342**	LR	LR	11 18 18.0	
	comp=Z,32μm,19.9s,baz=158,slow=42						
NLAI	**Namlea**	**26.83**	**92**	P	**P**	**11 05 11.2**	**+1.2**
	comp=Z,13μmcomp=Z,3μmcomp=Z,227nm,1.0s						
DAV	**Davao City (W)**	**27.14**	**69**	P	**P**	**11 05 13.6**	**+0.8**
DAV	**Davao City (W)**	**27.14**	**69**	LR	LR	11 17 11.2	
	comp=Z,36μm,20.3s,baz=230,slow=39						
DAV	**Davao City (W)**	**27.14**	**69**	P	**P**	**11 05 13.6**	**+0.8**
DAV				P	**P**	**11 05 13.6**	**+0.8**
DAV	**Davao City (W)**	**27.14**	**69**	P	**P**	**11 05 14.0**	**+1.2**
LBMI	**Labuha**	**27.34**	**86**	P	**P**	**11 05 14.1**	**-0.5**
	comp=Z,654nm,1.7s						
TNTI	**Ternate**	**27.36**	**83**	P	**P**	**11 05 12.4**	**-2.4**
TNTI				IAmb	IAmb	11 05 40.0	
	comp=Z,249nm,1.3s						
TNTI	**Ternate**	**27.36**	**83**	P	**P**	**11 05 12.4**	**-2.4**
	comp=Z,3μmcomp=Z,183nm,1.3s						
TNCH	**TengChong**	**27.74**	**357**	⇑P	**P**	**11 05 18.3**	**+0.1**
TNCH				PP	**PnPn**	**11 06 07.8**	**+3.1**
TNCH				S	**S**	**11 10 00.7**	**+1.2**
TNCH				ScP	**ScP**	**11 12 12.6**	**-1.4**
TNCH				pmax	pmax		
	comp=Z,220nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,2μm,6.7s						
TNCH				LR	LR		
	comp=Z,38μm,13.7s						
TNCH				LR	LR		
	comp=Z,18μm,15.3s						
TNCH				LR	LR		
	comp=Z,67μm,13.7s						
CAL	**Calcutta**	**27.76**	**336**	*e*P	**P**	**11 05 21.4**	**+3.2**
KMI	**Kunming**	**27.89**	**5**	⇑P	**P**	**11 05 20.0**	**+0.4**
KMI				PP	**PnPn**	**11 06 08.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,69nm,1.2s						
KMI				pmax	pmax		
	comp=Z,2μm,14.1s						
KMI				LR	LR		
	comp=Z,49μm,14.7s						
KMI				LR	LR		
	comp=Z,12μm,11.8s						
KMI				LR	LR		
	comp=Z,56μm,14.7s						
I52GB	**DIEGO GARCIA I**	**28.00**	**260**	I	I	13 57 50.0	
	baz=83,slow=311,SNR=1.5						
H08S2	**Diego Garcia H**	**28.03**	**259**	T	T	11 34 23.7	
	baz=82,slow=76						
H08S3	**Diego Garcia H**	**28.03**	**259**	T	T	11 34 24.2	
	baz=82,slow=76						
H08S1	**Diego Carcia H**	**28.05**	**259**	T	T	11 34 25.1	
	baz=82,slow=76						
HKPS	**Hong Kong Po S**	**28.41**	**28**	P	**P**	**11 05 24.8**	**+0.8**
HKPS				IAmb	IAmb	11 06 08.1	
	comp=Z,310nm,1.5s						
GZH	**Guangzhou**	**28.76**	**26**	P	P	11 05 33.9	+6.8
GZH				pmax	pmax		
	comp=Z,110nm,1.1s						
FITZ	**Fitzroy Crossi**	**29.16**	**123**	P	**P**	**11 05 30.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**29.16**	**123**	P	**P**	**11 05 30.5**	**-0.3**
	comp=Z,30nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.16**	**123**	S	**S**	**11 10 16.1**	**-5.6**
	comp=Z,13nm,0.9s,baz=271,slow=5.3,SNR=0.9						
FITZ				LR	LR	11 18 49.1	
	comp=Z,39μm,20.8s,baz=308,slow=40						
FITZ	**Fitzroy Crossi**	**29.16**	**123**	P	**P**	**11 05 32.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**29.16**	**123**	S	**S**	**11 10 24.3**	**+2.5**
FITZ	**Fitzroy Crossi**	**29.16**	**123**	⇑P	**P**	**11 05 30.5**	**-0.3**
PZH	**PanZhiHua**	**29.19**	**3**	⇑P	**P**	**11 05 30.3**	**-0.8**
PZH				sS	**sS**	**11 10 36.1**	**+1.4**
PZH				pmax	pmax		
	comp=Z,50nm,1.4s						
PZH				pmax	pmax		
	comp=Z,470nm,5.8s						
PZH				LR	LR		
	comp=Z,33μm,20.1s						
PZH				LR	LR		
	comp=Z,34μm,21.6s						
PZH				LR	LR		
	comp=Z,38μm,21.1s						
JHSG	**JHARSUGUGA**	**29.27**	**327**	*e*P	**P**	**11 05 33.7**	**+2.1**
HYB	**Hyderabad**	**29.36**	**314**	*e*P	**P**	**11 05 32.2**	**-0.4**
SHL	**Shillong**	**29.36**	**344**	P	**P**	**11 05 32.9**	**+0.2**
SHL				IAmb	IAmb	11 05 46.6	
	comp=Z,380nm,0.8s						
SHL	**Shillong**	**29.36**	**344**	P	**P**	**11 05 32.8**	**+0.2**
	SNR=188						
SHL	**Shillong**	**29.36**	**344**	P	**P**	**11 05 32.9**	**+0.2**
SHL				pmax	pmax		
	comp=Z,380nm,0.8s						
MEEK	**Meekatharra**	**29.52**	**145**	P	**P**	**11 05 34.6**	**+0.7**
	comp=Z,183nm,1.8s						
MEEK	**Meekatharra**	**29.52**	**145**	P	**P**	**11 05 33.0**	**-0.9**
GULI	**GuiLin**	**29.63**	**19**	P	**P**	**11 05 35.3**	**+0.5**
GULI				pmax	pmax		
	comp=Z,100nm,1.3s						
GULI				LR	LR		
	comp=Z,46μm,17.3s						
GULI				LR	LR		
	comp=Z,33μm,17.3s						
GULI				LR	LR		
	comp=Z,76μm,16.7s						
MNGI	**Mangalore**	**29.70**	**302**	*e*P	**P**	**11 05 36.0**	**+0.4**
GYA	**Guiyang**	**29.77**	**12**	⇑P	**P**	**11 05 35.8**	**-0.4**
GYA				S	**S**	**11 10 30.6**	**-0.7**
GYA				pmax	pmax		
	comp=Z,110nm,1.5s						
GYA				pmax	pmax		
	comp=Z,1μm,3.6s						
GYA				LR	LR		
	comp=Z,29μm,14.8s						
GYA				LR	LR		
	comp=Z,26μm,11.7s						
GYA				LR	LR		
	comp=Z,42μm,20.6s						
MORW	**Morawa**	**30.12**	**152**	P	**P**	**11 05 38.8**	**-0.3**
MORW	**Morawa**	**30.12**	**152**	P	P	11 05 44.3	+5.1
KNRA	**Kununurra**	**30.86**	**116**	P	**P**	**11 05 45.0**	**-0.9**
KNRA				IAmb	IAmb	11 05 47.8	
	comp=Z,302nm,1.4s						
KNRA	**Kununurra**	**30.86**	**116**	P	**P**	**11 05 43.9**	**-1.9**
SWI	**Sorong**	**31.07**	**87**	P	**P**	**11 05 46.1**	**-1.6**
	comp=Z,3μmcomp=Z,277nm,0.8s						
DRS	**Darwin Rock St**	**31.82**	**109**	P	**P**	**11 05 55.4**	**+1.1**
FAKI	**Fak Fak**	**31.97**	**91**	P	**P**	**11 05 55.1**	**-0.6**
FAKI	**Fak Fak**	**31.97**	**91**	P	**P**	**11 05 55.7**	**0.0**
FAKI	**Fak Fak**	**31.97**	**91**	P	**P**	**11 05 54.0**	**-1.7**
	comp=Z,7μmcomp=Z,3μmcomp=Z,175nm,0.8s						
FAKI	**Fak Fak**	**31.97**	**91**	⇑P	**P**	**11 05 54.7**	**-1.1**
MTN	**Manton Dam**	**32.15**	**110**	P	**P**	**11 05 55.1**	**-2.1**
MTN				IAmb	IAmb	11 05 59.1	
	comp=Z,190nm,1.5s						
MTN	**Manton Dam**	**32.15**	**110**	P	**P**	**11 05 55.1**	**-2.1**
MTN	**Manton Dam**	**32.15**	**110**	P	**P**	**11 05 56.7**	**-0.5**
MTN	**Manton Dam**	**32.15**	**110**	⇓P	**P**	**11 05 55.6**	**-1.6**
KNMB	**Chin-men Tao**	**32.36**	**32**	P	**P**	**11 05 58.8**	**-0.1**
KNMB				IAmb	IAmb	11 06 02.8	
	comp=Z,381nm,1.3s						
KNMB				IAMs_20	IAMs_20	11 19 26.4	
	comp=Z,42μm,19.0s						
KAD	**Karad**	**32.57**	**309**	*e*P	**P**	**11 06 01.3**	**+0.4**
KAD				IAmb	IAmb	11 06 11.1	
	comp=Z,143nm,1.3s						
TWG	**Pinlang**	**32.61**	**38**	P	**P**	**11 06 01.7**	**+0.5**
TWG				IAmb	IAmb	11 06 09.6	
	comp=Z,248nm,1.1s						
TWGBT	**Beinan**	**32.61**	**38**	P	**P**	**11 06 02.9**	**+1.7**
AKL	**Akola**	**32.63**	**317**	*e*P	**P**	**11 06 02.4**	**+0.9**
AKL				IAmb	IAmb	11 06 11.4	
	comp=Z,82nm,1.3s						
MUN	**Mundaring**	**32.66**	**154**	P	**P**	**11 06 03.0**	**+1.5**
	comp=Z,107nm,1.9s						
MUN	**Mundaring**	**32.66**	**

baz=335,slow=76,SNR=402
TATO Taipei 34.49 36 P **P** **11 06 17.6 +0.2**
TATO Taipei 34.49 36 P **P** **11 06 17.7 +0.2**
TATO Taipei 34.49 36 P **P** **11 06 19.0 +1.5**
WRKA Warakurna 34.90 132 P **P** **11 06 22.3 +1.2**
comp=Z,62nm,0.8s
WRKA Warakurna 34.90 132 P **P** **11 06 23.4 +2.2**
WRKA Warakurna 34.90 132 ⇑P **P** **11 06 21.4 +0.2**
KMBL Kambalda 34.97 147 P **P** **11 06 22.6 +1.0**
comp=Z,210nm,2.1s
KMBL Kambalda 34.97 147 P **P** **11 06 24.0 +2.4**
YOJ Yonaguni jima 35.01 38 IAmb IAmb 11 06 40.3
comp=Z,305nm,1.2s
YOJ Yonaguni jima 35.01 38 P **P** **11 06 23.8 +1.8**
YOJ Yonaguni jima 35.01 38 P **P** **11 06 21.9 -0.1**
YOJ Yonaguni jima 35.01 38 ⇑P **P** **11 06 21.9 -0.1**
JHNI Jhansi 35.12 324 *e*P **P** **11 06 22.1 -0.8**
JHNI IAmb IAmb 11 06 28.2
comp=Z,300nm,1.1s
RKGY Rocky Gully 35.25 156 P **P** **11 06 26.7 +2.7**
WHN Wuhan 35.82 21 ⇑P **P** **11 06 29.2 +0.4**
WHN sS **sS** **11 12 18.2 +1.3**
WHN pmax pmax
comp=Z,950nm,1.2s
WHN pmax pmax
comp=Z,5μm,9.4s
BAKI Biak 35.89 88 P **P** **11 06 29.5 -0.2**
comp=Z,145nm,0.9s
JMJ Miyako jima 2 36.70 40 P **P** **11 06 37.6 +1.1**
WB0 Warramunga Arr 37.36 119 P **P** **11 06 41.6 -0.6**
WB0 IAmb IAmb 11 06 58.9
comp=Z,263nm,1.2s
LGTI Lohaghat 37.37 331 *e*P **P** **11 06 43.3 +1.2**
LGTI IAmb IAmb 11 06 49.1
comp=Z,335nm,0.8s
WRA Warramunga Arr 37.38 120 P **P** **11 06 42.4 0.0**
comp=Z,24nm,0.7s,baz=302,slow=9.4,SNR=113
WRA S **S** **11 12 23.0 -6.3**
comp=Z,22nm,0.9s,baz=292,slow=16,SNR=5.9
WRA LR LR 11 24 04.0
comp=Z,18μm,20.5s,baz=296,slow=39
comp=Z,24nm,0.7s
WRA Warramunga Arr 37.38 120 *i*P **P** **11 06 41.9 -0.5**
WRA pmax pmax
comp=Z,32nm,0.7s
WRAB Tennant Creek 37.38 120 P **P** **11 06 41.8 -0.7**
WRAB Tennant Creek 37.38 120 *i*P **P** **11 06 41.0 -1.5**
WRAB pmax pmax
comp=Z,141nm,0.9s
WRAB MLR MLR
comp=Z,19μm,21.0s
WB2 Warramunga Arr 37.39 120 P **P** **11 06 41.9 -0.6**
WB2 IAmb IAmb 11 07 00.9
comp=Z,299nm,1.4s
PTH Pithoragarh 37.47 331 *e*P **P** **11 06 45.3 +2.1**
XAN Xi'an 37.57 12 ⇑P **P** **11 06 43.0 -0.8**
XAN PP **PnPn** **11 08 11.3 +0.4**
XAN S **S** **11 12 34.0 +2.2**
XAN sS sS 11 12 44.7 +0.8
XAN SS **SnSn** **11 15 10.7 -0.7**
XAN pmax pmax
comp=Z,490nm,0.9s
XAN pmax pmax
comp=Z,3μm,4.3s
XAN LR LR
comp=Z,36μm,15.8s
XAN LR LR
comp=Z,119μm,16.5s
SONA Sohna 38.08 326 *e*P **P** **11 06 47.4 -0.8**
SONA IAmb IAmb 11 07 00.3
comp=Z,181nm,0.9s
ASOR Ausora 38.09 327 *e*P **P** **11 06 51.5 +3.2**
AJM Ajmer 38.22 321 *e*P **P** **11 06 49.4 0.0**
AJM IAmb IAmb 11 07 00.1
comp=Z,291nm,1.2s
FORT Forrest 38.26 140 P **P** **11 06 49.5 -0.2**
FORT IAmb IAmb 11 07 37.4
comp=Z,114nm,0.7s
FORT Forrest 38.26 140 P **P** **11 06 50.0 +0.3**
comp=Z,162nm,0.7s
FORT Forrest 38.26 140 P **P** **11 06 50.9 +1.2**
FORT Forrest 38.26 140 ⇓P **P** **11 06 53.0 +3.3**
MERT Meerut 38.28 327 *e*P **P** **11 06 51.5 +1.7**
KUDL Kundal 38.34 325 *e*P **P** **11 06 49.0 -1.3**
KUDL IAmb IAmb 11 07 03.7
comp=Z,88nm,0.7s
SMPI Sarmi 38.45 90 P **P** **11 06 50.1 -1.4**
comp=Z,98nm,1.4s
BHGR Bahadurgarh 38.50 326 *e*P **P** **11 06 49.4 -2.2**
AS31 Alice Springs 38.58 125 P **P** **11 06 52.7 +0.1**
AS31 Alice Springs 38.58 125 P **P** **11 06 52.6 +0.1**
comp=Z,57nm,1.0s
ASAR Alice Springs 38.58 125 P **P** **11 06 52.5 -0.1**
comp=Z,28nm,0.6s,baz=299,slow=7.4,SNR=142
ASAR S **S** **11 12 50.0 +2.6**
comp=Z,17nm,1.0s,baz=299,slow=16,SNR=6.8
ASAR LR LR 11 24 52.6
comp=Z,32μm,20.6s,baz=296,slow=40
comp=Z,28nm,0.6s
AS01 Alice Springs 38.62 125 P **P** **11 06 53.6 +0.7**
LZH Lanzhou 38.86 5 ⇑P **P** **11 06 55.0 +0.2**
LZH PP **PP** **11 08 25.5 +1.4**
LZH SS SS 11 15 38.1 -5.3
LZH pmax pmax
comp=Z,270nm,1.2s
LZH pmax pmax
comp=Z,2μm,5.8s
LZH LR LR
comp=Z,40μm,15.5s
LZH LR LR
comp=Z,40μm,15.8s
LZH LR LR
comp=Z,56μm,14.8s
LYN LuoYang 38.92 16 ⇑P **P** **11 06 55.7 +0.6**
LYN pP pP 11 07 00.2 -2.4
LYN PP **PP** **11 08 26.0 +1.4**
LYN S **S** **11 12 51.0 -1.1**
LYN SS **SnSn** **11 15 40.2 -3.6**
LYN pmax pmax
comp=Z,3μm,3.5s
LYN LR LR
comp=Z,48μm,17.2s
LYN LR LR
comp=Z,29μm,16.8s
LYN LR LR
comp=Z,50μm,18.2s
NJ2 Nanjing 38.93 26 ⇑*i*P **P** **11 06 55.5 +0.2**
NJ2 pP **pP** **11 06 58.0 -4.8**
NJ2 PP **PP** **11 08 23.6 -1.2**
NJ2 pmax pmax
comp=Z,63nm,1.4s
NJ2 pmax pmax
comp=Z,2μm,8.5s
NJ2 LR LR
comp=Z,24μm,17.0s
NJ2 LR LR
comp=Z,30μm,16.6s
NJ2 LR LR
comp=Z,46μm,17.1s
GOMU GeErMu 39.15 353 P **P** **11 06 57.8 +0.3**
GOMU pP pP 11 07 03.3 -1.9
GOMU sP sP 11 07 06.0 -2.3
GOMU PP **PP** **11 08 29.1 +1.5**
GOMU pmax pmax
comp=Z,87nm,1.0s
GOMU LR LR
comp=Z,24μm,18.4s
GOMU LR LR
comp=Z,20μm,16.5s
GOMU LR LR
comp=Z,44μm,18.2s
SSE Sheshan 39.20 29 P **P** **11 06 57.9 +0.4**
SSE pmax pmax
comp=Z,82nm,1.2s
SSE pmax pmax
comp=Z,810nm,12.9s
SSE LR LR
comp=Z,7μm,16.0s
SSE LR LR
comp=Z,1μm,16.4s
KKR Kurukshetra 39.55 327 *e*P **P** **11 06 59.6 -0.8**
GENI Genyem 39.89 91 P **P** **11 07 01.9 -1.7**
comp=Z,7μmcomp=Z,169nm,1.9s
JOW Kunigami 40.03 41 P **P** **11 07 04.5 -0.1**
JOW IAmb IAmb 11 07 20.4
comp=Z,439nm,1.7s
JOW Kunigami 40.03 41 ⇑P **P** **11 07 05.0 +0.4**
JOW Kunigami 40.03 41 ⇑P **P** **11 07 05.0 +0.4**
JAY Jayapura 40.43 91 P **P** **11 07 07.3 -0.8**
comp=Z,94nm,1.1s
AIS Amsterdam Isla 40.53 208 P **P** **11 07 07.1 -1.4**
AIS IAmb IAmb 11 07 12.4
comp=Z,261nm,1.2s
BHK Bhakra 40.91 328 *e*P **P** **11 07 11.6 -0.1**
BHK IAmb IAmb 11 07 15.5
comp=Z,339nm,0.9s
JASL Jaisalmer 40.94 318 *e*P **P** **11 07 11.9 -0.2**
JASL IAmb IAmb 11 07 23.4
comp=Z,159nm,1.0s
JMZ Minamidaito 2 41.37 45 IAMs_20 IAMs_20 11 22 02.3
comp=Z,24μm,21.0s
TIY Taiyuan 41.89 15 *e*P **P** **11 07 20.5 +0.7**
TIY pmax pmax
comp=Z,310nm,0.8s
TIY pmax pmax
comp=Z,2μm,3.7s
TIY LR LR
comp=Z,26μm,13.7s
TIY LR LR
comp=Z,20μm,12.9s
TIY LR LR
comp=Z,20μm,14.3s
TIA Tai'an 41.92 21 P **P** **11 07 19.4 -0.5**
TIA PP **PP** **11 08 58.9 +1.6**
TIA pmax pmax
comp=Z,170nm,0.8s
TIA pmax pmax
comp=Z,2μm,4.1s
TIA LR LR
comp=Z,20μm,16.5s
TIA LR LR
comp=Z,15μm,13.1s
TIA LR LR
comp=Z,29μm,22.7s
OOD Oodnadatta 41.97 130 P **P** **11 07 21.0 +0.5**
GTA Gaotai 42.03 360 ⇑P **P** **11 07 21.7 +0.7**
GTA sP pP 11 07 28.8 +0.1
GTA PP **PP** **11 09 01.6 +3.0**
GTA S **S** **11 13 40.9 +2.2**
GTA pmax pmax
comp=Z,76nm,0.7s
GTA pmax pmax
comp=Z,2μm,7.6s
GTA LR LR
comp=Z,25μm,14.2s
GTA LR LR
comp=Z,17μm,15.6s
GTA LR LR
comp=Z,29μm,14.2s
QIS Mount Isa 42.21 118 P **P** **11 07 22.3 -0.4**
comp=Z,105nm,0.7s
QIS Mount Isa 42.21 118 P **P** **11 07 23.0 +0.4**
HNS HongShan 42.22 17 ⇑P **P** **11 07 22.8 +0.5**
HNS S **S** **11 13 45.4 +4.2**
HNS pmax pmax
comp=Z,280nm,1.0s
HNS pmax pmax
comp=Z,3μm,5.9s
HNS LR LR
comp=Z,8μm,19.1s
HNS LR LR
comp=Z,13μm,20.7s
HNS LR LR
comp=Z,11μm,19.1s
JMU Jammu 42.72 328 *e*P **P** **11 07 27.2 +0.7**
COEN Coen 43.81 107 P **P** **11 07 33.9 -1.7**
COEN Coen 43.81 107 P **P** **11 07 34.4 -1.2**
comp=Z,56nm,1.4s
COEN Coen 43.81 107 P **P** **11 07 34.3 -1.3**
COEN Coen 43.81 107 ⇓P **P** **11 07 36.3 +0.6**
BTO Baotou 44.14 11 *e*P **P** **11 07 39.3 +1.3**
BTO pP **pP** **11 07 45.9 +0.4**
BTO sP **sP** **11 07 48.9 +0.4**
BTO PP **PcP** **11 09 23.2 +0.4**
BTO SS SS 11 17 18.0 -10
BTO pmax pmax
comp=Z,250nm,1.6s
BTO pmax pmax
comp=Z,2μm,3.5s
BTO LR LR
comp=Z,23μm,20.3s
BTO LR LR
comp=Z,81μm,20.6s
NIL Nilore 44.32 327 P **P** **11 07 38.6 -0.9**
NIL Nilore 44.32 327 P **P** **11 07 39.2 -0.3**
NIL P **P** **11 07 39.2 -0.3**
NIL Nilore 44.32 327 P **P** **11 07 38.6 -0.9**
NIL pmax pmax
comp=Z,436nm,0.8s
HHC Hu-ho-hao-te 44.68 12 ⇑*i*P **P** **11 07 43.6 +1.3**
HHC sP pP 11 07 50.9 +1.0
HHC sS sS 11 14 30.0 +0.4
HHC pmax pmax
comp=Z,210nm,0.9s
HHC pmax pmax
comp=Z,2μm,4.0s
HHC LR LR
comp=Z,30μm,16.1s
HHC LR LR
comp=Z,21μm,17.1s
HHC LR LR
comp=Z,36μm,17.1s
MSEY Mahe Island 44.69 266 P **P** **11 07 44.2 +1.5**
MSEY S **S** **11 14 19.2 +1.0**
BBOO Buckleboo 44.90 136 P **P** **11 07 44.1 0.0**
BBOO Buckleboo 44.90 136 P **P** **11 07 43.9 -0.2**
comp=Z,68nm,0.8s
BBOO Buckleboo 44.90 136 P **P** **11 07 44.0 0.0**
BJT Baijiatuau 45.07 17 P **P** **11 07 45.5 +0.2**
BJT IAmb IAmb 11 07 49.0
comp=Z,253nm,1.1s
BJT Baijiatuau 45.07 17 P **P** **11 07 46.7 +1.4**
BJT Baijiatuau 45.07 17 P **P** **11 07 45.5 +0.2**
BJT pmax pmax
comp=Z,253nm,1.1s
BJT MLR MLR
comp=Z,44μm,18.0s
BJI Beijing 45.10 17 P **P** **11 07 46.1 +0.6**
BJI sP **pP** **11 07 53.4 +0.4**
BJI PP **PP** **11 09 34.0 +2.8**
BJI S **S** **11 14 26.1 +2.9**
BJI pmax pmax
comp=Z,110nm,1.1s
BJI pmax pmax
comp=Z,1μm,10.7s
BJI LR LR
comp=Z,26μm,15.4s
BJI LR LR
comp=Z,10μm,15.1s
BJI LR LR
comp=Z,32μm,16.5s
LCRK Leigh Creek 45.21 132 P **P** **11 07 48.6 +2.0**
MTSU Mount Surprise 45.78 113 P **P** **11 07 51.1 -0.2**
comp=Z,93nm,0.8s
MTSU Mount Surprise 45.78 113 P **P** **11 07 51.6 +0.3**
INKA Innaminka 45.91 127 P **P** **11 07 54.4 +2.2**
DL2 Dalian 45.98 23 P **P** **11 07 52.6 +0.2**
DL2 PP **PP** **11 09 40.6 0.0**
DL2 S **S** **11 14 39.5 +3.6**
DL2 pmax pmax
comp=Z,270nm,1.1s
DL2 pmax pmax
comp=Z,2μm,3.7s
DL2 LR LR
comp=Z,19μm,16.6s
DL2 LR LR
comp=Z,18μm,16.3s
DL2 LR LR
comp=Z,35μm,18.1s
JNU Nakatsue 46.01 36 P **P** **11 07 52.8 -0.2**
JNU Nakatsue 46.01 36 LR LR 11 27 56.5
comp=Z,19μm,20.7s,baz=240,slow=37
JNU Nakatsue 46.01 36 P **P** **11 07 53.4 +0.5**
JNU Nakatsue 46.01 36 ⇑P **P** **11 07 52.8 -0.2**
JTU Tsushima 46.17 34 P **P** **11 07 55.7 +1.6**
JLN Jalan Bani Buh 46.97 304 P **P** **11 08 01.6 +1.0**
SNR=15
JLN P **P** **11 08 01.6 +1.0**
SNR=15
JLN P **P** **11 08 01.6 +1.0**
SNR=15
JLN S **S** **11 14 52.2 +1.4**
JLN S **S** **11 14 52.2 +1.4**
JLN S **S** **11 14 52.2 +1.4**
INCN Inchon 47.00 29 P **P** **11 08 00.2 -0.3**
INCN Inchon 47.00 29 P **P** **11 08 00.4 -0.1**
INCN P **P** **11 08 00.4 -0.1**
INCN S **S** **11 14 55.2 +4.4**
INCN S **S** **11 14 55.2 +4.4**
INCN Inchon 47.00 29 P **P** **11 08 00.2 -0.3**
INCN pmax pmax
comp=Z,58nm,0.9s
INCN MLR MLR
comp=Z,13μm,18.0s
HJU Haeju 47.02 28 P **P** **11 07 59.4 -1.3**
HJU S **S** **11 14 50.3 -0.5**
HJU AmB
comp=Z,540nm,1.5s
HJU AMS AMS
comp=Z,26μm,16.4s
GUMO Guam 47.18 69 LR LR 11 27 28.5
comp=Z,5μm,20.9s,baz=232,slow=36
HTT Hallett 47.25 135 P **P** **11 08 03.8 +1.2**
comp=Z,164nm,1.3s
HTT Hallett 47.25 135 P **P** **11 08 03.9 +1.2**
HTT Hallett 47.25 135 ⇑P **P** **11 08 03.5 +0.8**
KBU Kabul Universi 47.27 325 P **P** **11 07 59.5 -3.4**
KBL Kabul 47.34 324 P **P** **11 08 02.6 -0.8**
KBL IAmb IAmb 11 08 16.1
comp=Z,101nm,0.7s
KBL Kabul 47.34 324 P **P** **11 08 04.7 +1.2**
SNR=45
KBL P **P** **11 08 04.7 +1.2**
SNR=45
KBL S **S** **11 14 51.6 -4.4**
KBL S **S** **11 14 51.6 -4.4**
KBL Kabul 47.34 324 P **P** **11 08 02.7 -0.8**
KBL pmax pmax
comp=Z,101nm,0.7s
WBK Wadi Bani Khal 47.54 304 P **P** **11 08 07.6 +2.6**
SNR=6.2
WBK P **P** **11 08 07.6 +2.6**
SNR=6.2
WBK S **S** **11 15 00.4 +1.4**
WBK S **S** **11 15 00.4 +1.4**
KSAR Wonju Array Be 47.58 30 P **P** **11 08 05.4 +0.4**
KSAR Wonju Array Be 47.58 30 P **P** **11 08 05.4 +0.4**
KSRS Korea Array 47.61 30 P **P** **11 08 05.3 0.0**
comp=Z,93nm,1.0s,baz=226,slow=7.4,SNR=130
KSRS LR LR 11 30 04.5
comp=Z,16μm,18.2s,baz=220,slow=39
comp=Z,93nm,1.0s
DQM DQM 47.62 300 P **P** **11 08 07.9 +2.3**
SNR=10
DQM P **P** **11 08 07.9 +2.3**
SNR=10
DQM S **S** **11 15 00.1 +0.1**
DQM S **S** **11 15 00.1 +0.1**
KS19 Wonju Array Si 47.62 30 P **P** **11 08 05.6 +0.2**
KS19 IAmb IAmb 11 08 08.4
comp=Z,160nm,1.1s
KSH Kashi 47.68 335 P **P** **11 08 05.1 -0.8**
KSH S **S** **11 14 57.9 -2.6**
KSH SS **SS** **11 18 23.3 -5.8**
KSH pmax pmax
comp=Z,140nm,0.8s
KSH pmax pmax
comp=Z,1μm,3.8s
KSH LR LR
comp=Z,10μm,21.6s
KSH LR LR
comp=Z,12μm,19.9s
KSH LR LR
comp=Z,18μm,19.9s
MHTO MHTO 47.68 302 P **P** **11 08 06.1 0.0**
SNR=26
MHTO P **P** **11 08 06.1 0.0**
SNR=26
MHTO S **S** **11 14 59.1 -1.8**
MHTO S **S** **11 14 59.1 -1.8**
WMQ Urumqi 47.78 348 ⇑P **P** **11 08 07.9 +1.3**
WMQ sP sP 11 08 19.0 +1.5
WMQ S **S** **11 15 03.5 +1.7**
WMQ pmax pmax
comp=Z,430nm,0.9s
WMQ pmax pmax
comp=Z,3μm,5.7s
WMQ LR LR
comp=Z,10μm,19.7s
WMQ LR LR
comp=Z,11μm,19.9s
WMQ LR LR
comp=Z,14μm,20.9s
WUS Wushi 47.82 339 P **P** **11 08 07.5 +0.4**
PYAG Pyongyang 47.85 27 P **P** **11 08 06.6 -0.5**
PYAG S **S** **11 15 01.7 -1.0**
PYAG AmB
comp=Z,350nm,1.0s
PYAG AMS AMS
comp=Z,28μm,14.1s
CTA Charters Tower 48.04 115 P **P** **11 08 09.1 +0.1**
comp=Z,3μm,1.2s
CTA Charters Tower 48.04 115 P **P** **11 08 09.9 +0.9**
CTAO Charters Tower 48.04 115 P **P** **11 08 08.8 -0.2**
CTAO Charters Tower 48.04 115 IAMs_20 IAMs_20 11 30 36.3
comp=Z,16μm,20.0s
CTAO Charters Tower 48.04 115 P **P** **11 08 09.8 +0.8**
CTAO Charters Tower 48.04 115 P **P** **11 08 08.8 -0.2**
CTAO pmax pmax
comp=Z,667nm,1.7s
CTAO MLR MLR
comp=Z,16μm,20.0s
WSAR Wadi Sarin 48.11 305 LR LR 11 27 08.5
comp=Z,12μm,19.5s,baz=138,slow=35
JMDO Jabal Madar 48.16 304 P **P** **11 08 12.1 +2.3**
SNR=7.2
JMDO P **P** **11 08 12.1 +2.3**
SNR=7.2
JMDO P **P** **11 08 12.1 +2.3**
SNR=7.2
JMDO S **S** **11 15 08.1 +0.5**
JMDO S **S** **11 15 08.1 +0.5**
JMDO S **S** **11 15 08.1 +0.5**
SUJ Sinuiju 48.16 25 P **P** **11 08 08.7 -0.8**
SUJ S **S** **11 15 06.3 -0.8**
SUJ AmB
comp=Z,628nm,3.9s
SUJ AMS AMS
comp=Z,51μm,16.2s
JMN Monobe 48.25 38 P **P** **11 08 11.2 +0.8**
JMN Monobe 48.25 38 ⇑P **P** **11 08 10.8 +0.4**
QLP Quilpie 48.30 124 P **P** **11 08 11.2 +0.3**
comp=Z,287nm,1.3s
QLP Quilpie 48.30 124 P **P** **11 08 14.0 +3.1**
QLP Quilpie 48.30 124 ⇑P **P** **11 08 11.5 +0.6**
TV1H Townsville Har 48.33 113 P **P** **11 08 12.4 +1.2**
STKA Stephens Creek 48.43 131 P **P** **11 08 11.7 -0.1**
STKA IAmb IAmb 11 08 24.9
comp=Z,179nm,1.0s
STKA Stephens Creek 48.43 131 P **P** **11 08 12.2 +0.4**
comp=Z,33nm,0.7s
STKA Stephens Creek 48.43 131 P **P** **11 08 12.7 +0.9**
comp=Z,69nm,0.8s,baz=306,slow=8.3,SNR=62
STKA S **S** **11 15 04.7 -6.5**
comp=Z,4.2nm,0.8s,baz=327,slow=22,SNR=1.2
comp=Z,69nm,0.8s
STKA Stephens Creek 48.43 131 P **P** **11 08 14.6 +2.8**
STKA Stephens Creek 48.43 131 P **P** **11 08 11.7 -0.1**
STKA pmax pmax
comp=Z,179nm,1.0s
SMDO Samad 48.50 304 P **P** **11 08 13.8 +1.2**
SNR=16
SMDO P **P** **11 08 13.8 +1.2**
SNR=16
SMDO S **S** **11 15 15.3 +2.6**
SMDO S **S** **11 15 15.3 +2.6**
BIDO Bidbid 48.65 305 P **P** **11 08 15.6 +2.0**
SNR=21
BIDO P **P** **11 08 15.6 +2.0**
SNR=21
XLT XiLinHaoTe 48.65 15 *e*P **P** **11 08 13.8 +0.5**
XLT PP **PP** **11 10 06.2 -0.3**
XLT pmax pmax
comp=Z,450nm,1.0s
XLT pmax pmax

comp=Z,1μm,3.9s
XLT LR LR
comp=Z,2μm,17.3s
XLT LR LR
comp=Z,15μm,19.1s
XLT LR LR
comp=Z,26μm,17.8s
TARG Taragay, Kyrgy 48.81 338 IAmb IAmb 11 08 36.2
comp=Z,238nm,0.9s
BSY Bisya 49.07 304 P **P** **11 08 18.1 +1.2**
SNR=30
BSY P **P** **11 08 18.1 +1.2**
SNR=30
BSY S **S** **11 15 22.7 +2.1**
BSY S **S** **11 15 22.7 +2.1**
DMTO DMTO 49.08 296 P **P** **11 08 20.0 +3.0**
SNR=10.0
DMTO P **P** **11 08 20.0 +3.0**
SNR=10.0
DMTO S **S** **11 15 21.8 +1.1**
DMTO S **S** **11 15 21.8 +1.1**
SNY Shenyang 49.24 23 ⇑P **P** **11 08 17.1 -0.7**
SNY S **S** **11 15 24.1 +1.8**
SNY pmax pmax
comp=Z,71nm,1.6s
SNY pmax pmax
comp=Z,940nm,3.5s
SNY LR LR
comp=Z,4μm,21.8s
SNY LR LR
comp=Z,6μm,15.3s
SNY LR LR
comp=Z,8μm,24.5s
HOQ Hoqain 49.34 305 P **P** **11 08 22.0 +3.1**
SNR=27
HOQ P **P** **11 08 22.0 +3.1**
SNR=27
HOQ S **S** **11 15 27.8 +3.4**
HOQ S **S** **11 15 27.8 +3.4**
KDJ Kajisay 49.39 337 P **P** **11 08 20.0 +0.8**
SHLS Shalkode 49.46 340 *e*P **P** **11 08 18.2 -1.4**
SHLS *e*S **S** **11 15 24.9 -0.6**
SHLS pmax pmax
comp=Z,246nm,1.2s
SHLS Shalkode 49.46 340 *e*P **P** **11 08 18.3 -1.4**
comp=Z,246nm,1.2s
SHLS *e*S **S** **11 15 25.0 -0.6**
PDGK Podgornoye 49.60 340 *i* P **P** **11 08 21.6 +0.9**
PDGK pmax pmax
comp=Z,837nm,1.0s
UZB Uzynbulak 49.60 340 *e*P **P** **11 08 20.4 -0.3**
UZB *e*S **S** **11 15 28.9 +1.3**
UZB pmax pmax
comp=Z,107nm,0.8s
UZB Uzynbulak 49.60 340 *e*P **P** **11 08 20.4 -0.3**
comp=Z,107nm,0.8s
UZB *e*S **S** **11 15 28.9 +1.3**
RBK Rabkut 49.68 296 P **P** **11 08 23.5 +1.9**
SNR=32
RBK P **P** **11 08 23.5 +1.9**
SNR=32
RBK S **S** **11 15 30.1 +0.9**
RBK S **S** **11 15 30.1 +0.9**
SATY Saty 49.74 339 *e*P **P** **11 08 21.5 -0.2**
SATY *e*S **S** **11 15 30.8 +1.3**
SATY pmax pmax
comp=Z,238nm,1.3s
SATY Saty 49.74 339 *e*P **P** **11 08 21.5 -0.2**
comp=Z,238nm,1.3s
SATY *e*S **S** **11 15 30.9 +1.4**
ZHN Zhinishke 49.83 339 *e*P **P** **11 08 22.0 -0.3**
ZHN pmax pmax
comp=Z,131nm,1.2s
ZHN Zhinishke 49.83 339 *e*P **P** **11 08 22.1 -0.3**
comp=Z,131nm,1.2s
ULHL Ulahol 49.85 337 P **P** **11 08 23.4 +0.7**
SNR=83
ARQ Araqi 49.89 304 P **P** **11 08 25.2 +2.2**
SNR=16
ARQ P **P** **11 08 25.2 +2.2**
SNR=16
ARQ S **S** **11 15 32.6 +0.7**
ARQ S **S** **11 15 32.6 +0.7**
GAR Garm 49.92 329 IAMs_20 IAMs_20 11 33 26.4
comp=Z,15μm,19.0s
JASK Jask - Hormozg 49.94 308 P **P** **11 08 25.5 +2.1**
JASK S **S** **11 15 35.4 +2.8**
KPKS Kokpek 50.00 340 *e*P **P** **11 08 23.2 -0.4**
KPKS *e*S **S** **11 15 34.1 +1.1**
KPKS pmax pmax
comp=Z,160nm,1.5s
KPKS Kokpek 50.00 340 *e*P **P** **11 08 23.3 -0.4**
comp=Z,160nm,1.5s
KPKS *e*S **S** **11 15 34.1 +1.1**
DOK Doka 50.12 297 P **P** **11 08 25.6 +0.7**
SNR=39
DOK P **P** **11 08 25.6 +0.7**
SNR=39
DOK S **S** **11 15 35.8 +0.5**
DOK S **S** **11 15 35.8 +0.5**
WHFO Wadi Hawf 50.20 296 P **P** **11 08 28.0 +2.4**
SNR=33
WHFO P **P** **11 08 28.0 +2.4**
SNR=33
WHFO S **S** **11 15 35.6 -0.9**
WHFO S **S** **11 15 35.6 -0.9**
JCJ Chichijima 50.21 51 P **P** **11 08 24.0 -1.4**
JCJ Chichijima 50.21 51 LR LR 11 28 43.4
comp=Z,6μm,21.6s,baz=244,slow=35
SOHO SOHO 50.22 305 P **P** **11 08 26.0 +0.4**
SOHO P **P** **11 08 26.0 +0.4**
SOHO S **S** **11 15 36.7 +0.2**
SOHO S **S** **11 15 36.7 +0.2**
SOHO SOHO 50.22 305 *i* P **P** **11 08 25.6 +0.1**
SNR=6.5
TNSS Tian-Shan 50.26 338 *e*P **P** **11 08 25.3 -0.7**
TNSS Tian-Shan 50.26 338 *e*P **P** **11 08 25.4 -0.7**
CHGR Chuyangaron 50.26 328 P **P** **11 08 24.3 -1.4**
CHGR IAMs_20 IAMs_20 11 33 50.4
comp=Z,19μm,19.0s
CHGR Chuyangaron 50.26 328 P **P** **11 08 24.3 -1.4**
CHGR pmax pmax
comp=Z,384nm,0.9s
CHGR MLR MLR
comp=Z,19μm,19.0s
MDOK Medeo 50.33 338 *e*P **P** **11 08 25.9 -0.3**
MDOK *e*S **S** **11 15 39.3 +1.5**
MDOK Medeo 50.33 338 *e*P **P** **11 08 25.9 -0.3**
MDOK *e*S **S** **11 15 39.3 +1.5**
MDOK LR LR 11 32 08.5
comp=Z,5μm,14.9s
SIMJ Simiganj 50.34 328 P **P** **11 08 24.9 -1.5**
KNDC Almaty 50.41 338 P **P** **11 08 28.4 +1.7**
AAA Alma-Ata 50.42 338 *e*P **P** **11 08 26.6 -0.2**
AAA pmax pmax
comp=Z,146nm,1.0s
AAA MLR MLR
comp=Z,9μm,18.0s
AAA Alma-Ata 50.42 338 *e*P **P** **11 08 26.6 -0.2**
comp=Z,146nm,1.0s
AAA LR LR 11 32 06.9
comp=Z,9μm,17.6s
ABTO Aybut 50.45 295 P **P** **11 08 31.0 +3.5**
SNR=39
ABTO P **P** **11 08 31.0 +3.5**
SNR=39
ABTO S **S** **11 15 39.0 -1.0**
ABTO S **S** **11 15 39.0 -1.0**
BTK Batken 50.48 331 P **P** **11 08 26.8 -0.6**
BTK Batken 50.48 331 P **P** **11 08 26.8 -0.6**
BTK pmax pmax
comp=Z,496nm,1.3s
UCH Uchtor 50.54 335 P **P** **11 08 31.5 +3.2**
SNR=25
TKM2 Tokmak 2 50.68 337 P **P** **11 08 29.6 +0.7**
SNR=150
TKM2 Tokmak 2 50.68 337 *i* P **P** **11 08 29.4 +0.4**
TKM2 pmax pmax
comp=Z,338nm,1.0s
KBK Karagaybulak 50.72 336 P **P** **11 08 30.5 +1.3**
SNR=101
SONM Songino Array 50.74 5 P **P** **11 08 30.2 +1.0**
SONM Songino Array 50.74 5 P **P** **11 08 30.2 +1.0**
comp=Z,408nm,0.8s,baz=189,slow=8.6,SNR=1101
SONM S **S** **11 15 38.2 -5.0**
comp=Z,0.9nm,0.8s,baz=48,slow=30,SNR=1.3
UMZA Um Al Zommool 50.77 302 P **P** **11 08 29.2 -0.5**
UMZA P **P** **11 08 29.2 -0.5**
UMZA S **S** **11 15 43.0 -1.1**
UMZA S **S** **11 15 43.0 -1.1**
AML Almayashu 50.81 335 P **P** **11 08 30.9 +0.8**
SNR=88
SBV Sambava 50.81 255 P **P** **11 08 33.0 +2.9**
SBV S **S** **11 15 47.9 +2.9**
ALNE Al Ain 50.83 304 P **P** **11 08 30.8 +0.6**
SNR=41
ALNE P **P** **11 08 30.8 +0.6**
SNR=41
ALNE S **S** **11 15 45.8 +0.7**
ALNE S **S** **11 15 45.8 +0.7**
ALNE Al Ain 50.83 304 *i* P **P** **11 08 30.3 +0.1**
SNR=17
ULN Ulaanbaatar 50.83 6 P **P** **11 08 29.6 -0.4**
ULN Ulaanbaatar 50.83 6 P **P** **11 08 31.4 +1.4**
ULN P **P** **11 08 31.4 +1.4**
ULN P **P** **11 08 31.4 +1.4**
ULN S **S** **11 15 46.5 +1.9**
ULN S **S** **11 15 46.5 +1.9**
ULN S **S** **11 15 46.5 +1.9**
ULN Ulaanbaatar 50.83 6*c i* P **P** **11 08 31.0 +1.0**
ULN pmax pmax
comp=Z,450nm,1.0s
ULN MLR MLR
comp=Z,33μm,17.0s
UOSS Minazif 50.85 306 P **P** **11 08 28.9 -1.4**
UOSS Minazif 50.85 306 P **P** **11 08 33.6 +3.2**
UOSS P **P** **11 08 33.6 +3.2**
UOSS S **S** **11 15 43.7 -1.6**
UOSS S **S** **11 15 43.7 -1.6**
UOSS Minazif 50.85 306 P **P** **11 08 29.7 -0.6**
ASHO Ashiyiah 50.85 305 P **P** **11 08 32.1 +1.7**
ASHO P **P** **11 08 32.1 +1.7**
ASHO S **S** **11 15 46.7 +1.3**
ASHO S **S** **11 15 46.7 +1.3**
ASHO Ashiyiah 50.85 305 P **P** **11 08 30.7 +0.3**
HATD Hatta, Dubai 50.86 305 P **P** **11 08 33.3 +2.9**
SNR=6.6
HATD P **P** **11 08 33.3 +2.9**
SNR=6.6
HATD S **S** **11 15 46.0 +0.6**
HATD S **S** **11 15 46.0 +0.6**
HATD Hatta, Dubai 50.86 305 *i* P **P** **11 08 30.7 +0.3**
SNR=6.0
AAK Ala-Archa 50.89 336 P **P** **11 08 31.0 +0.5**
AAK IAmb IAmb 11 09 24.0
comp=Z,188nm,1.1s
AAK Ala-Archa 50.89 336 S **S** **11 15 43.0 -2.6**
comp=Z,5.5nm,0.9s,baz=320,slow=8.9,SNR=2.1
AAK Ala-Archa 50.89 336 P **P** **11 08 31.7 +1.2**
AAK P **P** **11 08 31.7 +1.2**
AAK P **P** **11 08 31.7 +1.2**
AAK S **S** **11 15 45.9 +0.3**
AAK S **S** **11 15 45.9 +0.3**
AAK S **S** **11 15 45.9 +0.3**
AAK Ala-Archa 50.89 336 P **P** **11 08 31.3 +0.8**
SNR=28
AAK Ala-Archa 50.89 336*ce*P **P** **11 08 31.4 +0.9**
AAK pmax pmax
comp=Z,143nm,1.7s
AAK MLR MLR
comp=Z,14μm,21.0s
AAK Ala-Archa 50.89 336 *i* P **P** **11 08 31.1 +0.5**
SNR=37
AAK Ala-Archa 50.89 336 ⇑P **P** **11 08 31.3 +0.8**
MDH Madha 50.93 306 P **P** **11 08 31.2 +0.3**
MDH P **P** **11 08 31.2 +0.3**
MDH P **P** **11 08 31.2 +0.3**
FRU1 Bishkek 50.98 336 P **P** **11 08 31.9 +0.9**
FRU1 IAmb IAmb 11 09 08.3
comp=Z,367nm,1.1s
FRU1 Bishkek 50.98 336 P **P** **11 08 32.0 +0.9**
FRU1 pmax pmax
comp=Z,367nm,1.1s
ARPS Mount Arapiles 51.03 137 P **P** **11 08 31.3 -0.2**
comp=Z,82nm,0.7s
ARPS Mount Arapiles 51.03 137 P **P** **11 08 33.1 +1.6**
MSFE Esma-Masafi 51.07 306 P **P** **11 08 31.7 -0.3**
MASF Masafi 51.08 306 P **P** **11 08 34.0 +1.9**
SNR=5.4
MASF P **P** **11 08 34.0 +1.9**
SNR=5.4
MASF S **S** **11 15 49.2 +0.7**
MASF S **S** **11 15 49.2 +0.7**
EKS2 Erkin-Say 51.21 335 P **P** **11 08 33.9 +1.1**
SNR=144
BANOM Banah 51.21 307 P **P** **11 08 35.8 +2.7**
FAQ Al Faqa, Dubai 51.26 305 P **P** **11 08 37.3 +3.9**
SNR=30
FAQ P **P** **11 08 37.3 +3.9**
SNR=30
FAQ S **S** **11 15 51.3 +0.3**
FAQ S **S** **11 15 51.3 +0.3**
FAQ Al Faqa, Dubai 51.26 305 *i* P **P** **11 08 33.8 +0.4**
SNR=22
INU Inuyama 51.27 39 P **P** **11 08 33.8 +0.6**
NAZ Nazwa, Dubai 51.31 305 P **P** **11 08 37.0 +3.2**
SNR=19
NAZ P **P** **11 08 37.0 +3.2**
SNR=19
NAZ S **S** **11 15 51.7 0.0**
NAZ S **S** **11 15 51.7 0.0**
NAZ Nazwa, Dubai 51.31 305 *i* P **P** **11 08 33.8 0.0**
SNR=7.5
SHME Shamm 51.40 307 P **P** **11 08 36.6 +2.2**
SHME P **P** **11 08 36.6 +2.2**
SHME S **S** **11 15 53.1 +0.3**
SHME S **S** **11 15 53.1 +0.3**
SHME Shamm 51.40 307 P **P** **11 08 34.8 +0.4**
USP Ospenovka 51.41 336 P **P** **11 08 34.7 +0.5**
SNR=173
CMSA Cobar Meteorol 51.41 129 P **P** **11 08 35.1 +0.6**
comp=Z,363nm,1.1s
CMSA Cobar Meteorol 51.41 129 P **P** **11 08 36.0 +1.5**
ASUD Al Ashush, Dub 51.42 305 P **P** **11 08 36.4 +1.7**
SNR=26
ASUD P **P** **11 08 36.4 +1.7**
SNR=26
ASUD Al Ashush, Dub 51.42 305 *i* P **P** **11 08 35.2 +0.6**
SNR=8.7
HRA Herat 51.43 319 P **P** **11 08 33.8 -1.0**
TDK Taldyqorghan 51.45 340 *e*P **P** **11 08 34.3 -0.1**
TDK *e*S **S** **11 15 54.6 +1.7**
TDK pmax pmax
comp=Z,166nm,0.9s
TDK MLR MLR
comp=Z,5μm,18.0s
TDK Taldyqorghan 51.45 340 *e*P **P** **11 08 34.4 -0.1**
comp=Z,166nm,0.9s
TDK *e*S **S** **11 15 54.6 +1.7**
TDK LR LR 11 32 21.7
comp=Z,5μm,18.1s
JSG Sagara 51.58 40 P **P** **11 08 35.8 +0.1**
JSG IAmb IAmb 11 08 43.0
comp=Z,392nm,1.2s
JGF Kuroka 51.64 39 IAmb IAmb 11 08 43.7
comp=Z,307nm,1.6s
JGF Kuroka 51.64 39 P **P** **11 08 36.5 +0.4**
JGF Kuroka 51.64 39 ⇑P **P** **11 08 35.0 -1.2**
CN2 Changchun 51.65 23 *e*P **P** **11 08 35.3 -0.6**
CN2 *e*PP **PP** **11 10 33.5 -0.2**
CN2 *e*S **S** **11 15 55.5 -0.2**
CN2 *e*SS **SS** **11 19 29.9 -2.5**
CN2 pmax pmax
comp=Z,380nm,1.2s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,6μm,16.0s
CN2 LR LR
comp=Z,5μm,16.0s
CN2 LR LR
comp=Z,6μm,17.0s
AJN Ajban 51.68 304 P **P** **11 08 40.0 +3.4**
SNR=12
AJN P **P** **11 08 40.0 +3.4**
SNR=12
AJN S **S** **11 15 56.6 -0.1**
AJN S **S** **11 15 56.6 -0.1**
AJN Ajban 51.68 304 *i* P **P** **11 08 35.7 -0.9**
SNR=5.9
ZSN Zaisan 51.85 347 *e*P **P** **11 08 37.5 +0.1**
ZSN *e*S **S** **11 16 00.0 +1.6**
ZSN pmax pmax
comp=Z,170nm,0.9s
ZSN Zaisan 51.85 347 *e*P **P** **11 08 37.5 +0.1**
comp=Z,170nm,0.9s
ZSN *e*S **S** **11 16 00.1 +1.6**
MK31 Makanchi Array 51.88 344 P **P** **11 08 37.7 0.0**
MK31 IAmb IAmb 11 08 40.4
comp=Z,278nm,0.8s
MK31 Makanchi Array 51.88 344 P **P** **11 08 37.7 0.0**
MK31 pmax pmax
comp=Z,278nm,0.9s
MKAR Makanchi Array 51.88 344 P **P** **11 08 37.8 +0.1**
MKAR Makanchi Array 51.88 344 P **P** **11 08 38.0 +0.3**
comp=Z,331nm,0.7s,baz=148,slow=7.3,SNR=1287
MKAR S **S** **11 15 55.1 -3.8**
comp=Z,1.4nm,0.8s,baz=332,slow=40,SNR=2.1
comp=Z,331nm,0.7s
MKAR Makanchi Array 51.88 344 *i* P **P** **11 08 38.0 +0.3**
MKAR pmax pmax
comp=Z,332nm,0.7s
MAKZ Makanchi 51.98 344 P **P** **11 08 37.9 -0.5**
MAKZ IAmb IAmb 11 08 41.6
comp=Z,235nm,1.0s
MAKZ Makanchi 51.98 344 P **P** **11 08 37.9 -0.5**
MAKZ pmax pmax
comp=Z,235nm,1.0s
MAKZ MLR MLR
comp=Z,8μm,22.0s
MZWR Madinat Zayed 52.27 303 P **P** **11 08 40.4 -0.5**
MZWR P **P** **11 08 40.4 -0.5**
MZWR P **P** **11 08 40.4 -0.5**
MZWR S **S** **11 16 04.0 -0.8**
MZWR S **S** **11 16 04.0 -0.8**
MZWR S **S** **11 16 04.0 -0.8**
MZR Muzera 52.30 302 P **P** **11 08 42.1 +0.9**
SNR=34
MZR P **P** **11 08 42.1 +0.9**
SNR=34
MZR S **S** **11 16 06.5 +1.1**
MZR S **S** **11 16 06.5 +1.1**
MZR Muzera 52.30 302 *i* P **P** **11 08 41.6 +0.4**
SNR=24
DZA Taraz 52.46 333 *e*P **P** **11 08 41.5 -0.5**
DZA Taraz 52.46 333 *e*P **P** **11 08 41.6 -0.5**
IUG Iuzhnay 52.47 332 *e*P **P** **11 08 41.6 -0.6**
IUG pmax pmax
comp=Z,169nm,1.2s
IUG Iuzhnay 52.47 332 *e*P **P** **11 08 41.7 -0.6**
comp=Z,168nm,1.2s
MAJO Matsushiro 52.77 38 P **P** **11 08 44.0 -0.5**
MAJO IAmb IAmb 11 08 46.4
comp=Z,175nm,1.0s
MAJO Matsushiro 52.77 38 P **P** **11 08 44.0 -0.5**
MAJO Matsushiro 52.77 38 P **P** **11 08 44.0 -0.5**
MAJO pmax pmax
comp=Z,175nm,1.0s
MAJO MLR MLR
comp=Z,11μm,20.0s
MJB9 Matsu-Tunnel 52.77 38 P **P** **11 08 44.7 +0.2**
MJB9 IAmb IAmb 11 08 47.4
comp=Z,178nm,1.0s
MJAR Matsushiro Arr 52.77 38 P **P** **11 08 43.7 -0.7**
comp=Z,156nm,1.0s,baz=203,slow=6.2,SNR=152
comp=Z,156nm,1.0s
KK31 Karatay Array 52.99 333 P **P** **11 08 45.5 -0.4**
KK31 IAmb IAmb 11 09 22.0
comp=Z,261nm,1.4s
KK31 Karatay Array 52.99 333 P **P** **11 08 45.6 -0.4**
KK31 pmax pmax
comp=Z,261nm,1.5s
KKAR Karatay Array 52.99 333 P **P** **11 08 45.4 -0.6**
KKAR Karatay Array 52.99 333 P **P** **11 08 45.5 -0.4**
KKAR IAmb IAmb 11 09 22.0
comp=Z,182nm,1.5s
KKAR Karatay Array 52.99 333 P **P** **11 08 45.6 -0.4**
KKAR pmax pmax
comp=Z,182nm,1.5s
KKAR Karatay Array 52.99 333 ⇑P **P** **11 08 45.6 -0.4**
ZAK Zakamensk 53.07 2 *e*P **P** **11 08 46.5 0.0**
ZAK *e* 11 10 54.8
ZAK pmax pmax
comp=Z,63nm,1.5s
ZAK pmax pmax
comp=Z,58nm,1.1s
BTLS Baital 53.07 337 *e*P **P** **11 08 45.5 -1.0**
BTLS pmax pmax
comp=Z,118nm,2.3s
BTLS Baital 53.07 337 *e*P **P** **11 08 46.2 -0.3**
MSHR Mys Shultsa 53.14 28 *i* P **P** **11 08 46.4 -0.6**
GHWR Ruwais 53.19 303 P **P** **11 08 47.9 +0.2**
GHWR P **P** **11 08 47.9 +0.2**
GHWR S **S** **11 16 15.3 -2.1**
GHWR S **S** **11 16 15.3 -2.1**
BRLS Borolday 53.24 332 *e*P **P** **11 08 46.2 -1.7**
BRLS pmax pmax
comp=Z,124nm,1.8s
BRLS Borolday 53.24 332 *e*P **P** **11 08 46.7 -1.2**
JRN Qarnain Island 53.60 304 P **P** **11 08 51.8 +1.1**
SNR=8.4
JRN P **P** **11 08 51.8 +1.1**
SNR=8.4
EIDS Eidsvold 53.74 120 P **P** **11 08 51.7 -0.2**
EIDS IAmb IAmb 11 09 10.2
comp=Z,259nm,1.6s
EIDS Eidsvold 53.74 120 P **P** **11 08 52.9 +1.1**
comp=Z,105nm,1.1s
EIDS Eidsvold 53.74 120 P **P** **11 08 55.0 +3.2**
EIDS Eidsvold 53.74 120 ⇑P **P** **11 08 52.1 +0.3**
JSD Sado 53.76 37 P **P** **11 08 51.5 -0.2**
JSD IAmb IAmb 11 08 53.1
comp=Z,90nm,0.7s
JSD Sado 53.76 37 P **P** **11 08 52.2 +0.5**
JSD Sado 53.76 37 ⇑P **P** **11 08 51.5 -0.2**
TOO Toolangi 53.96 136 P **P** **11 08 52.8 -0.5**
TOO Toolangi 53.96 136 P **P** **11 08 54.9 +1.7**
comp=Z,19nm,1.3s
TOO Toolangi 53.96 136 P **P** **11 08 52.8 -0.5**
TOO pmax pmax
comp=Z,48nm,1.6s
MDJ Mudanjiang 54.03 26 P **P** **11 08 53.5 0.0**
MDJ IAmb IAmb 11 08 57.3
comp=Z,150nm,0.9s
MDJ Mudanjiang 54.03 26 P **P** **11 08 54.1 +0.6**
MDJ pmax pmax
comp=Z,200nm,1.0s
MDJ pmax pmax
comp=Z,3μm,11.2s
MDJ LR LR
comp=Z,21μm,19.2s
MDJ LR LR
comp=Z,20μm,17.9s
MDJ LR LR
comp=Z,30μm,22.0s
MDJ Mudanjiang 54.03 26 P **P** **11 08 54.4 +0.9**
BNX BinXian 54.03 23 ⇑P **P** **11 08 53.6 +0.1**
BNX S **S** **11 16 30.8 +2.7**
BNX pmax pmax
comp=Z,400nm,1.1s
BNX pmax pmax
comp=Z,2μm,4.4s
BNX LR LR
comp=Z,27μm,16.8s
BNX LR LR
comp=Z,7μm,13.6s
BNX LR LR
comp=Z,31μm,16.3s
SLWR Sila 54.23 302 P **P** **11 08 58.0 +2.6**
SLWR P **P** **11 08 58.0 +2.6**
SLWR S **S** **11 16 30.4 -1.0**
SLWR S **S** **11 16 30.4 -1.0**
ABPO Ambohimpanom 54.23 249 P **P** **11 08 57.3 +1.5**
ABPO Ambohimpanom 54.23 249 P **P** **11 08 57.3 +1.5**
ABPO pmax pmax
comp=Z,51nm,0.9s
ABPO Ambohimpanom 54.23 249 ⇑P **P** **11 08 57.2 +1.5**
MOY Mondy 54.29 1 *e*P **P** **11 08 55.4 -0.1**
MOY pmax pmax
comp=Z,199nm,2.5s
HIA Hailar 54.57 16 P **P** **11 08 57.0 -0.4**
HIA IAmb IAmb 11 09 00.8
comp=Z,174nm,1.1s
HIA Hailar 54.57 16 P **P** **11 08 57.0 -0.4**

HIA pmax pmax
comp=Z,174nm,1.1s
HIA MLR MLR
comp=Z,41μm,18.0s
YNG Young 54.62 131 P **P 11 08 58.7 +0.6**
comp=Z,396nm,0.9s
USA0B Ussuriysk Arra 54.77 28 P **P 11 08 59.2 +0.2**
USA0B Ussuriysk Arra 54.77 28 P **P 11 08 59.2 +0.2**
USA0B pmax pmax
comp=Z,533nm,1.1s
USRK Ussuriysk Ar. 54.77 28 P **P 11 08 59.0 +0.1**
USRK Ussuriysk Ar. 54.77 28 P **P 11 08 59.2 +0.3**
comp=Z,343nm,0.9s,baz=223,slow=6.0,SNR=312
USRK LR LR 11 34 33.5
comp=Z,18μm,19.2s,baz=226,slow=38
comp=Z,343nm,0.9s
TRNA Turayna 54.89 303 P **P 11 09 02.0 +1.8**
SNR=15
TRNA S **S 11 16 37.5 -2.9**
IRK Irkutsk 54.97 3 *e*P **P 11 09 00.4 +0.1**
IRK *e*S **S 11 16 43.3 +2.7**
IRK pmax pmax
comp=Z,390nm,2.6s
VOI Vohitsoka 55.20 245 P **P 11 09 00.6 -2.0**
VOI Vohitsoka 55.20 245 ⇑P **P 11 09 03.6 +1.0**
JMM Marumori 55.21 39 P **P 11 09 01.7 -0.5**
JMM Marumori 55.21 39 P **P 11 09 03.0 +0.8**
JMM Marumori 55.21 39 ⇑P **P 11 09 01.7 -0.5**
SMRA Abu-Samra 55.22 303 P **P 11 09 03.4 +0.9**
SNR=18
SMRA S **S 11 16 42.1 -2.6**
CAN Canberra 55.49 132 P **P 11 09 04.0 -0.4**
CAN IAmb IAmb 11 09 15.4
comp=Z,145nm,1.2s
CAN IAMs_20 IAMs_20 11 35 15.5
comp=Z,26μm,20.0s
CAN Canberra 55.49 132 P **P 11 09 05.0 +0.6**
comp=Z,96nm,1.2s
CAN Canberra 55.49 132 P **P 11 09 06.9 +2.5**
CAN Canberra 55.49 132 P **P 11 09 04.0 -0.4**
CAN pmax pmax
comp=Z,145nm,1.2s
CAN MLR MLR
comp=Z,26μm,20.0s
SHMA Al-Shehemyia 55.53 304 P **P 11 09 07.1 +2.3**
SNR=12
SHMA S **S 11 16 46.6 -2.3**
ARMA Armidale 55.73 125 P **P 11 09 06.2 -0.2**
ARMA Armidale 55.73 125 P **P 11 09 07.7 +1.3**
comp=Z,77nm,1.4s
ARMA Armidale 55.73 125 P **P 11 09 09.3 +3.0**
ARMA Armidale 55.73 125 ⇑P **P 11 09 08.1 +1.8**
FOMA Nahampoana Res 55.74 242 P **P 11 09 04.2 -2.1**
CNB Canberra Magne 55.76 132 P **P 11 09 06.9 +0.6**
comp=Z,49nm,1.1s
CNB Canberra Magne 55.76 132 P **P 11 09 07.9 +1.5**
CIT Chita 55.80 10 *e*P **P 11 09 07.4 +1.1**
CIT *e* 11 09 15.8
CIT *e* 11 10 05.0
CIT pmax pmax
comp=Z,771nm,1.4s
SAKB Bahrain 55.93 304 P **P 11 09 09.4 +1.8**
SAKB S **S 11 16 51.8 -2.5**
MGCD Mangrove Creek 56.28 129 P **P 11 09 11.9 +1.8**
comp=Z,83nm,1.0s
MGCD Mangrove Creek 56.28 129 P **P 11 09 11.9 +1.8**
OTUK Ortayu 56.38 338 *i* P **P 11 09 09.3 -1.2**
OTUK pmax pmax
comp=Z,182nm,0.9s
KURBB Kurchatov Arra 56.40 344 P **P 11 09 10.6 0.0**
comp=Z,228nm,0.9s,baz=162,slow=6.8,SNR=528
KURBB S **S 11 16 58.0 -1.7**
comp=Z,3.3nm,1.1s,baz=291,slow=18,SNR=2.3
comp=Z,228nm,0.9s
KURK Kurchatov 56.46 344 P **P 11 09 10.9 -0.1**
KURK Kurchatov 56.46 344 P **P 11 09 11.0 +0.1**
KURK P **P 11 09 11.0 +0.1**
KURK S **S 11 17 02.4 +1.9**
KURK S **S 11 17 02.4 +1.9**
KURK Kurchatov 56.46 344*ce*P **P 11 09 11.0 +0.1**
KURK pmax pmax
comp=Z,540nm,1.0s
KURK Kurchatov 56.46 344 ⇑P **P 11 09 11.0 +0.1**
JTM Tenmabayashi 57.19 36 P **P 11 09 16.3 0.0**
JTM Tenmabayashi 57.19 36 P **P 11 09 17.5 +1.2**
JTM Tenmabayashi 57.19 36 ⇑P **P 11 09 16.1 -0.2**
MOO Moorlands 57.48 140 P **P 11 09 21.4 +3.0**
TAU Tasmania Unive 57.80 141 P **P 11 09 22.6 +2.0**
HEH HeiHe 57.80 20 *e*P **P 11 09 20.6 +0.1**
HEH S **S 11 17 21.9 +3.7**
HEH pmax pmax
comp=Z,360nm,1.3s
HEH LR LR
comp=Z,10μm,21.2s
HEH LR LR
comp=Z,7μm,22.2s
HEH LR LR
comp=Z,18μm,22.0s
ZAA0 Zalesovo Array 58.02 349 P **P 11 09 21.9 +0.1**
ZALV Zalesovo Beam 58.02 349 P **P 11 09 21.8 -0.2**
comp=Z,270nm,0.9s,baz=182,slow=5.2,SNR=407
ZALV S **S 11 17 18.8 -2.1**
comp=Z,2.5nm,0.8s,baz=11,slow=3.0,SNR=1.9
ZALV PKPPKP **P'P'df 11 39 03.7 +0.8**
comp=Z,1.7nm,1.0s,baz=318,slow=2.0,SNR=5.7
comp=Z,270nm,0.9s
ZALV Zalesovo Beam 58.02 349 *i* P **P 11 09 21.7 -0.2**
ZALV pmax pmax
comp=Z,271nm,0.9s
KLR Kul'dur 58.59 24 S **S 11 17 30.0 +1.5**
comp=Z,1.2nm,0.8s,baz=90,slow=16,SNR=1.4
KLR Kul'dur 58.59 24*ce*P **P 11 09 26.1 +0.1**
KLR pmax pmax
comp=Z,434nm,1.3s
KLR MLR MLR
comp=Z,31μm,16.0s
ATD Arta Tunnel 58.81 285 LR LR 11 31 17.8
comp=Z,290nm,20.0s,baz=96,slow=32
ERM Erimo 59.18 36 P **P 11 09 30.3 +0.1**
ERM Erimo 59.18 36 P **P 11 09 31.6 +1.4**
ERM Erimo 59.18 36 P **P 11 09 30.3 +0.1**
ERM pmax pmax
comp=Z,462nm,1.7s
RAYN Ar Rayn 59.34 299 P **P 11 09 31.1 -0.7**
RAYN IAmb IAmb 11 09 42.6
comp=Z,139nm,1.4s
RAYN Ar Rayn 59.34 299 P **P 11 09 31.9 +0.1**
RAYN S **S 11 17 35.2 -4.1**
RAYN Ar Rayn 59.34 299 P **P 11 09 31.1 -0.7**
RAYN pmax pmax
comp=Z,139nm,1.5s
RAYN Ar Rayn 59.34 299 *i* P **P 11 09 31.3 -0.5**
SNR=17
RAYN Ar Rayn 59.34 299 ⇓P **P 11 09 31.6 -0.2**
KBD Kabd 59.50 306 P **P 11 09 33.1 +0.4**
KBD S **S 11 17 38.7 -2.4**
HNR Honiara 59.67 99 P **P 11 09 33.5 -0.6**
HNR Honiara 59.67 99 P **P 11 09 33.6 -0.6**
HNR pmax pmax
comp=Z,448nm,0.9s
HNR MLR MLR
comp=Z,6μm,22.0s
ASAJ Asahikawa 60.16 34 LR LR 11 35 15.8
comp=Z,4μm,21.9s,baz=260,slow=36
ASAJ Asahikawa 60.16 34 P **P 11 09 37.1 +0.2**
ASAJ pmax pmax
comp=Z,824nm,1.7s
JKA Kamikawa-asahi 60.16 34 P **P 11 09 37.1 +0.1**
H04N2 CROZET ISLANDS 60.28 217 T T 12 14 50.0
baz=59,slow=75
H04N1 CROZET ISLANDS 60.29 217 T T 12 14 50.8
baz=59,slow=75
H04N3 CROZET ISLANDS 60.29 217 T T 12 14 50.8
baz=59,slow=75
H04S1 CROZET ISLANDS 60.56 216 T T 12 15 09.0
baz=58,slow=75
H04S3 CROZET ISLANDS 60.57 216 T T 12 15 08.6
baz=58,slow=75
H04S2 CROZET ISLANDS 60.58 216 T T 12 15 05.8
baz=58,slow=75
ZEA Zeya 60.71 18 *e*P **P 11 09 41.2 +0.7**
ZEA *e*S **S 11 18 00.7 +5.0**
ZEA pmax pmax
comp=N,90nm,0.8s
ZEA pmax pmax
comp=Z,180nm,1.0s
ZEA pmax pmax
comp=Z,500nm,3.7s
ZEA smax smax
comp=E,400nm,8.2s
ZEA smax smax
comp=N,2μm,10.6s
ZEA MLR MLR
comp=N,14μm,16.0s
ZEA MLR MLR
comp=Z,13μm,17.0s
BVA0 Borovoye Array 61.04 340 *i* P **P 11 09 41.3 -1.5**
BVAR Borovoye Array 61.04 340 P **P 11 09 42.0 -0.8**
comp=Z,41nm,0.6s,baz=142,slow=8.5,SNR=71
comp=Z,41nm,0.6s
BRVK Borovoye 61.10 340 P **P 11 09 42.6 -0.6**
BRVK IAmb IAmb 11 09 49.1
comp=Z,237nm,1.4s
BRVK Borovoye 61.10 340 P **P 11 09 42.8 -0.3**
BRVK P **P 11 09 42.8 -0.3**
BRVK S **S 11 17 56.6 -4.1**
BRVK S **S 11 17 56.6 -4.1**
BRVK Borovoye 61.10 340*ce*P **P 11 09 42.5 -0.6**
BRVK pmax pmax
comp=Z,129nm,1.3s
BRVK MLR MLR
comp=Z,7μm,22.0s
BOD Bodaibo 61.46 8 ⇓*i*P **P 11 09 45.9 +0.4**
BOD pmax pmax
comp=Z,496nm,2.0s
GRNR Gornyy 61.70 25 ⇑*i*P **P 11 09 47.9 +0.6**
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR MLR MLR
comp=N,12μm,17.0s
GRNR MLR MLR
comp=E,8μm,17.0s
GRNR MLR MLR
comp=Z,18μm,17.0s
YSS Yuzhno-Sakhali 62.06 32 P **P 11 09 50.1 +0.4**
YSS Yuzhno-Sakhali 62.06 32 P **P 11 09 50.6 +0.9**
YSS Yuzhno-Sakhali 62.06 32*ce*P **P 11 09 49.9 +0.2**
YSS *e**SP **pP 11 09 55.4 -2.3**
YSS *e* 11 10 22.9
YSS *e* 11 12 07.0
YSS *e*S **S 11 18 09.7 -3.3**
YSS *e*PPS PPS 11 18 32.6
YSS *e*SSS SSS 11 24 49.3
YSS pmax pmax
comp=Z,2μm,4.0s
YSS pmax pmax
comp=N,700nm,4.2s
YSS pmax pmax
comp=E,600nm,3.9s
YSS pmax pmax
comp=Z,500nm,1.5s
YSS pmax pmax
comp=N,110nm,1.0s
YSS pmax pmax
comp=E,160nm,0.9s
YSS pmax pmax
comp=Z,2μm,7.5s
YSS pmax pmax
comp=E,900nm,5.9s
YSS MLR MLR
comp=Z,3μm,18.0s
KIBK Kibwezi 62.12 269 P **P 11 09 51.6 +0.7**
KIBK Kibwezi 62.12 269 P **P 11 09 54.9 +4.0**
AB31 Akbulak array 62.47 331 *i* P **P 11 09 51.1 -1.4**
ABKAR Akbulak array 62.47 331 P **P 11 09 51.7 -0.8**
KMBO Kilima Mbogo 62.96 270 P **P 11 09 57.9 +1.1**
KMBO Kilima Mbogo 62.96 270 P **P 11 09 57.8 +1.0**
KMBO P **P 11 09 57.8 +1.0**
KMBO S **S 11 18 27.1 +1.0**
KMBO S **S 11 18 27.1 +1.0**
KMBO Kilima Mbogo 62.96 270 P **P 11 09 57.9 +1.1**
KMBO pmax pmax
comp=Z,47nm,0.9s
KMBO Kilima Mbogo 62.96 270 *i* P **P 11 09 57.9 +1.1**
SNR=6.7
UGL Uglegorsk 63.10 29 *e*P **P 11 09 57.3 +0.7**
UGL *e* 11 12 14.3
UGL *e*S S 11 18 39.3 +13
UGL pmax pmax
comp=Z,300nm,1.3s
UGL smax smax
comp=E,2μm,8.8s
UGL smax smax
comp=N,2μm,6.4s
UGL MLR MLR
comp=E,16μm,16.0s
UGL MLR MLR
comp=N,5μm,11.0s
UGL MLR MLR
comp=Z,12μm,14.0s
CASY Casey 63.75 175 P **P 11 10 00.8 +0.1**
CASY IAmb IAmb 11 10 14.0
comp=Z,186nm,1.4s
AKTO Aktyubinsk 64.19 331 P **P 11 10 02.1 -1.8**
TYV Tymovskoe 64.57 28 *e*P **P 11 10 07.9 +1.6**
TYV *e*S **S 11 18 47.3 +3.0**
TYV pmax pmax
comp=Z,100nm,1.1s
TYV pmax pmax
comp=Z,800nm,4.2s
TYV smax smax
comp=N,2μm,7.6s
TYV smax smax
comp=E,3μm,7.6s
TYV MLR MLR
comp=Z,20μm,16.0s
TYV MLR MLR
comp=N,7μm,16.0s
KOUNC Koumac, New Ca 64.75 111 P **P 11 10 11.0 +2.9**
KOUNC Koumac, New Ca 64.75 111 ⇑P **P 11 10 08.6 +0.5**
AKT Akhty 64.88 319 *e*P **P 11 10 06.0 -2.7**
AKT *e* 11 10 38.8
AKT *e* 11 12 27.8
AKT *e*S **S 11 18 45.9 -2.8**
AKT *e* 11 19 59.5
AKT pmax pmax
comp=Z,308nm,1.2s
MAK Makhachkala 65.75 320 *e*P **P 11 10 10.1 -4.0**
MAK *e* 11 12 35.5
MAK *e*S **S 11 18 54.1 -4.9**
MAK *e*SS **SS 11 23 11.3 -2.6**
MAK pmax pmax
comp=Z,291nm,1.1s
MAK pmax pmax
comp=Z,4μm,19.0s
GNI Garni 66.28 316 P **P 11 10 17.8 -0.1**
GNI IAmb IAmb 11 11 05.0
comp=Z,176nm,1.1s
GNI Garni 66.28 316 LR LR 11 40 14.4
comp=Z,3μm,21.5s,baz=116,slow=37
GNI Garni 66.28 316 P **P 11 10 19.9 +2.0**
GNI P **P 11 10 19.9 +2.0**
GNI S **S 11 19 05.9 -0.1**
GNI S **S 11 19 05.9 -0.1**
GNI Garni 66.28 316 *i* P **P 11 10 16.9 -1.0**
GNI pmax pmax
comp=Z,304nm,1.6s
GNI MLR MLR
comp=Z,3μm,21.0s
GNI Garni 66.28 316 P **P 11 10 18.0 +0.1**
GNI Garni 66.28 316 P **P 11 10 19.5 +1.6**
comp=Z,2μmcomp=Z,119nm,1.0s
GEVA Gevas 66.69 314 IAmb IAmb 11 10 35.5
comp=Z,108nm,1.0s
DZM Mont Dzumac 66.92 113 P **P 11 10 21.9 -0.2**
DZM Mont Dzumac 66.92 113 *e*P **P 11 10 21.5 -0.7**
comp=Z,202nm,1.6s
DZM *e*S **S 11 19 14.9 +0.7**
comp=Z,7μm,26.8s
DZM *e*SS **SS 11 23 35.8 +2.8**
comp=Z,3μm,24.2s
DZM *e*LQ LQ 11 27 26.5
comp=Z,2μm,23.2s
DZM *e*LR LR 11 30 29.7
comp=Z,14μm,22.1s
DZM Mont Dzumac 66.92 113 LR LR 11 41 44.6
comp=Z,9μm,20.4s,baz=286,slow=38
DZM Mont Dzumac 66.92 113 P **P 11 10 22.4 +0.2**
ONTNC Ouen Toro 66.95 113 P **P 11 10 21.6 -0.7**
ONTNC Ouen Toro 66.95 113 ⇑P **P 11 10 24.1 +1.8**
TRLG Trialeti 67.33 318 P **P 11 10 24.8 +0.3**
GURO Guroymak-BITLI 67.53 314 IAmb IAmb 11 10 37.2
comp=Z,136nm,1.3s
SVE Sverdlovsk 67.53 338*d i*P **P 11 10 25.1 -0.1**
SVE *e*PPP PPP 11 14 28.0
SVE *e*S **S 11 19 18.6 -1.5**
SVE *e* 11 20 25.4
SVE *e*SS **SS 11 23 40.3 -0.8**
SVE pmax pmax
comp=Z,310nm,1.3s
SVE pmax pmax
comp=Z,1μm,13.9s
SVE MLR MLR
comp=Z,6μm,21.0s
KARS Kars 67.63 316 P **P 11 10 28.0 +1.6**
KARS pmax pmax
comp=Z,216nm,2.0s
ARTI Arti 68.09 336 P **P 11 10 28.1 -0.7**
ARTI IAMs_20 IAMs_20 11 43 00.7
comp=Z,10μm,19.0s
ARTI Arti 68.09 336*c i*P **P 11 10 28.1 -0.7**
ARTI 11 10 53.7
ARTI 11 12 56.6
ARTI PPP PPP 11 14 34.5
ARTI S **S 11 19 29.5 +2.6**
ARTI 11 20 28.7
ARTI SS **SS 11 23 49.2 -0.6**
ARTI pmax pmax
comp=Z,160nm,1.8s
ARTI MLR MLR
comp=Z,10μm,19.0s
YAK Yakutsk 68.48 14 P **P 11 10 30.4 -0.7**
YAK Yakutsk 68.48 14 S **S 11 19 25.1 -6.0**
comp=Z,5.5nm,0.4s,baz=39,slow=1.0,SNR=1.5
YAK Yakutsk 68.48 14 *e*P **P 11 10 30.2 -0.9**
YAK *e*S **S 11 19 33.0 +1.8**
YAK *e*SS **SS 11 23 59.0 +3.5**
YAK pmax pmax
comp=Z,524nm,1.1s
H11S3 WAKE ISLAND Hy 68.70 69 P **P 11 10 32.8 -0.4**
H11S1 WAKE ISLAND Hy 68.72 69 P **P 11 10 32.7 -0.5**
H11S2 WAKE ISLAND Hy 68.72 69 P **P 11 10 33.0 -0.2**
BCA Borcka 68.97 317 ⇓P **P 11 10 34.9 +0.2**
KBZ Khabaz 69.08 319 P **P 11 10 35.6 +0.4**
comp=Z,37nm,0.8s,baz=123,slow=5.9,SNR=56
KBZ S **S 11 19 34.9 -4.1**
comp=Z,3.5nm,1.1s,baz=344,slow=22,SNR=1.9
comp=Z,37nm,0.8s
KBZ Khabaz 69.08 319*ce*P **P 11 10 35.2 0.0**
KBZ pmax pmax
comp=Z,201nm,1.0s
H11N1 WAKE ISLAND Hy 69.12 68 P **P 11 10 35.0 -0.6**
baz=255,slow=6.6,SNR=3.9
H11N2 WAKE ISLAND Hy 69.13 68 P **P 11 10 35.1 -0.6**
baz=255,slow=6.6,SNR=3.5
H11N3 WAKE ISLAND Hy 69.14 68 P **P 11 10 35.5 -0.3**
baz=255,slow=6.6,SNR=4.7
KOPT Kop Dagi 69.19 315 IAmb IAmb 11 10 48.1
comp=Z,129nm,1.2s
SHA1 Shidzhatmaz 69.24 319 *i* P **P 11 10 36.2 -0.3**
ASF Jabal al Asfar 69.26 306 LR LR 11 41 46.9
comp=Z,8μm,18.0s,baz=127,slow=37
KIV Kislovodsk 69.32 319 P **P 11 10 36.3 -0.5**
KIV Kislovodsk 69.32 319 P **P 11 10 37.1 +0.3**
KIV P **P 11 10 37.1 +0.3**
KIV S **S 11 19 41.5 -0.6**
KIV S **S 11 19 41.5 -0.6**
KIV Kislovodsk 69.32 319 ⇑P **P 11 10 37.6 +0.7**
KIV Kislovodsk 69.32 319 *e*P **P 11 10 36.8 0.0**
KIV *e*S **S 11 19 42.1 0.0**
KIV *e*SS **SS 11 24 13.2 +3.8**
KIV pmax pmax
comp=Z,156nm,4.1s
KIV pmax pmax
comp=Z,79nm,1.0s
KIV Kislovodsk 69.32 319 *i* P **P 11 10 36.6 -0.2**
SNR=26
KIV Kislovodsk 69.32 319 P **P 11 10 39.1 +2.3**
comp=Z,2μmcomp=Z,161nm,1.4s
MBAR Mbarara 69.49 270 P **P 11 10 37.3 -1.3**
MBAR Mbarara 69.49 270 P **P 11 10 40.6 +2.0**
MBAR P **P 11 10 40.6 +2.0**
MBAR S **S 11 19 47.3 +1.9**
MBAR S **S 11 19 47.3 +1.9**
MBAR Mbarara 69.49 270 P **P 11 10 37.3 -1.3**
MBAR pmax pmax
comp=Z,66nm,1.1s
MAW Mawson 69.55 194 P **P 11 10 38.6 +1.0**
comp=Z,12nm,0.8s,baz=45,slow=8.2,SNR=5.3
MAW LR LR 11 37 45.9
comp=Z,8μm,18.5s,baz=36,slow=33
comp=Z,12nm,0.8s
GOF Gofitskoye 69.57 321*ce*P **P 11 10 38.2 -0.1**
GOF *e*S **S 11 19 44.3 -0.6**
KTUT Trabzon 70.08 316 ⇓P **P 11 10 41.5 0.0**
GHAJ Ghor Haditha 70.09 305 IAMs_20 IAMs_20 11 42 56.1
comp=Z,13μm,18.0s
EIL Elat 70.16 303 LR LR 11 41 09.4
comp=Z,12μm,18.9s,baz=102,slow=36
BELG Belogornoye 70.55 329 *i* P **P 11 10 42.8 -1.2**
BELG pmax pmax
comp=Z,30nm,1.0s
GAZ Gaziantep 70.58 311 IAmb IAmb 11 10 56.9
comp=Z,278nm,1.3s
MMAI Mount Meron Ar 70.71 306 P **P 11 10 45.0 -0.6**
comp=Z,6.1nm,0.6s,baz=91,slow=9.1,SNR=5.0
MMAI S **S 11 19 58.4 -0.4**
comp=Z,0.5nm,0.3s,baz=9.2,slow=11,SNR=4.9
MMAI LR LR 11 42 27.3
comp=Z,10μm,18.9s,baz=101,slow=36
comp=Z,6.1nm,0.6s
LABN Labinsk 70.89 319 *e*P **P 11 10 44.3 -2.0**
LABN *e*S **S 11 19 59.0 -1.2**
LABN pmax pmax
comp=Z,38nm,0.3s
SOC Sochi 71.12 318 *e*P **P 11 10 43.2 -4.5**
SOC *e*S **S 11 19 58.7 -4.3**
SOC *e*SSS SSS 11 27 49.4
SOC pmax pmax
comp=Z,147nm,1.0s
SOC MLR MLR
comp=Z,5μm,21.0s
SKR Severo-Kuril's 71.42 34 *e*P P 11 10 41.4 -8.0
SKR pmax pmax
comp=Z,5μm,7.3s
ERBR Yeremizino-Bor 71.48 320 *e*P **P 11 10 48.9 -1.0**
ERBR *e*S **S 11 20 07.6 +0.5**
ERBR pmax pmax
comp=Z,155nm,1.4s
PYZ Puysegur Point 71.78 138 IAMs_20 IAMs_20 11 44 30.3
comp=Z,9μm,20.0s
LSZ Lusaka 71.94 255 P **P 11 10 52.3 -1.1**
LSZ Lusaka 71.94 255 IAMs_20 IAMs_20 11 40 07.0
comp=Z,9μm,19.0s
LSZ Lusaka 71.94 255 P **P 11 10 54.6 +1.2**
comp=Z,11nm,1.0s,baz=86,slow=5.7,SNR=9.1
LSZ S **S 11 20 11.6 -2.1**
comp=Z,1.6nm,0.4s,baz=290,slow=7.0,SNR=1.9
comp=Z,11nm,1.0s
LSZ Lusaka 71.94 255 P **P 11 10 54.2 +0.7**
LSZ P **P 11 10 54.2 +0.7**
LSZ S **S 11 20 12.6 -1.1**
LSZ S **S 11 20 12.6 -1.1**
LSZ Lusaka 71.94 255 P **P 11 10 52.3 -1.1**
LSZ pmax pmax
comp=Z,45nm,1.2s
BNN Bunyan 72.15 312 IAmb IAmb 11 11 05.5
comp=Z,239nm,1.1s
NRIK Noril'sk 72.54 355 P **P 11 10 55.2 -0.6**
NRIK IAmb IAmb 11 11 02.5
comp=Z,302nm,1.3s
NRIK Noril'sk 72.54 355 P **P 11 10 55.1 -0.6**
comp=Z,84nm,0.9s,baz=154,slow=5.4,SNR=74
NRIK S **S 11 20 13.5 -4.9**
comp=Z,1.2nm,0.3s,baz=36,slow=14,SNR=1.4
comp=Z,84nm,0.9s
NRIK Noril'sk 72.54 355*ce*P **P 11 10 55.1 -0.6**
NRIK pmax pmax
comp=Z,279nm,1.3s
NRIK MLR MLR
comp=Z,17μm,20.0s
MLZ Mavora Lakes 72.55 137 IAMs_20 IAMs_20 11 44 01.8
comp=Z,10μm,21.0s

WHZ Wether Hill Ro 72.57 137 P P 11 11 03.9 +7.5
JCZ Jackson Bay 72.71 135 P **P** **11 11 00.7 +3.2**
CSS Mathiatis 72.91 308 IAmb IAmb 11 11 10.6
comp=Z,205nm,1.1s
CSS IAMs_20 IAMs_20 11 45 22.7
comp=Z,9µm,19.0s
BROLN Tlhalogang 73.04 249 *i* P **P** **11 10 59.8 -0.1**
WKZ Wanaka 73.04 136 IAMs_20 IAMs_20 11 44 56.9
comp=Z,14µm,20.0s
ANN Anapa 73.11 319 *eP* **P** **11 11 02.7 +3.1**
ANN *eS* **S** **11 20 20.8 -4.9**
ANN pmax pmax
comp=Z,102nm,1.4s
ANN MLR MLR
comp=Z,3µm,20.0s
VRH Novokhopyorsk 73.14 326 *eP* **P** **11 10 58.9 -0.7**
VRH *eS* **S** **11 20 17.6 -8.2**
VRH pmax pmax
comp=Z,220nm,0.7s
KIRV Kirov 73.22 335 *i* P **P** **11 10 59.8 -0.1**
FOZ Fox Glacier 73.32 135 IAMs_20 IAMs_20 11 42 13.2
comp=Z,14µm,22.0s
PEA0B Petropavlovsk- 73.45 32 P **P** **11 11 01.3 -0.2**
PEA0B Petropavlovsk- 73.45 32 P **P** **11 11 01.3 -0.2**
PEA0B pmax pmax
comp=Z,86nm,1.1s
PETK Petropavlovsk- 73.45 32 P **P** **11 11 01.2 -0.3**
PETK Petropavlovsk- 73.45 32 P **P** **11 11 00.7 -0.9**
comp=Z,24nm,0.8s,baz=234,slow=5.0,SNR=42
comp=Z,24nm,0.8s
PETK Petropavlovsk- 73.45 32 P **P** **11 11 01.2 -0.3**
DIKM Dikmen 73.49 315 ⇓P **P** **11 11 02.8 +0.9**
KIRS Kirsehir-Merke 73.67 312 ⇑P **P** **11 11 02.5 -0.7**
MA2 Magadan 73.68 24 P **P** **11 11 02.9 +0.2**
MA2 IAmb IAmb 11 11 05.7
comp=Z,122nm,0.9s
MA2 IAMs_20 IAMs_20 11 45 33.7
comp=Z,10µm,20.0s
MA2 Magadan 73.68 24 P **P** **11 11 02.7 0.0**
comp=Z,87nm,0.9s,baz=226,slow=4.3,SNR=27
comp=Z,87nm,0.9s
MA2 Magadan 73.68 24 P **P** **11 11 04.5 +1.8**
MA2 Magadan 73.68 24 *ceP* **P** **11 11 03.5 +0.8**
MA2 pmax pmax
comp=Z,190nm,1.3s
MA2 MLR MLR
comp=Z,9µm,17.0s
TUZ Tuapeka 73.72 137 P P 11 11 09.6 +6.4
LBZ Lake Benmore 73.76 135 P **P** **11 11 07.8 +4.3**
WVZ Waitaha Valley 73.88 134 P P 11 11 09.9 +5.7
PET Petropavlovsk 73.92 32 P **P** **11 11 04.2 0.0**
PET IAmb IAmb 11 11 06.3
comp=Z,125nm,0.8s
PET Petropavlovsk 73.92 32 *eP* **P** **11 11 04.5 +0.3**
PET *e* 11 13 53.1
PET *eS* **S** **11 20 36.8 +2.2**
PET pmax pmax
comp=Z,185nm,0.7s
PET pmax pmax
comp=Z,1µm,14.9s
BR131 Keskin Array S 74.05 313 P **P** **11 11 04.2 -1.3**
BR131 IAmb IAmb 11 11 19.0
comp=Z,75nm,0.8s
BR131 Keskin Array S 74.05 313 P **P** **11 11 04.2 -1.3**
BR131 pmax pmax
comp=Z,75nm,0.8s
BRTR Keskin Array B 74.05 313 P **P** **11 11 04.5 -1.0**
BRTR Keskin Array B 74.05 313 P **P** **11 11 04.7 -0.8**
comp=Z,20nm,0.7s,baz=130,slow=6.9,SNR=99
comp=Z,20nm,0.7s
BRTR Keskin Array B 74.05 313 *i* P **P** **11 11 04.3 -1.2**
BRTR pmax pmax
comp=Z,20nm,0.7s
ODZ Otahua Downs 74.22 136 IAMs_20 IAMs_20 11 45 13.0
comp=Z,10µm,21.0s
ODZ Otahua Downs 74.22 136 P P 11 11 15.2 +9.0
RPZ Rata Peaks 74.24 135 P **P** **11 11 07.4 +1.1**
RPZ IAmb IAmb 11 11 28.7
comp=Z,203nm,1.5s
RPZ IAMs_20 IAMs_20 11 42 42.5
comp=Z,16µm,22.0s
RPZ Rata Peaks 74.24 135 P **P** **11 11 08.2 +1.8**
INZ Inchbonnie 74.33 134 P **P** **11 11 08.9 +2.0**
INZ Inchbonnie 74.33 134 P **P** **11 11 09.9 +3.1**
DSZ Denniston Nort 74.41 133 IAMs_20 IAMs_20 11 43 24.3
comp=Z,15µm,21.0s
DSZ Denniston Nort 74.41 133 P **P** **11 11 07.7 +0.2**
BZK Bozkurt 74.48 315 IAMs_20 IAMs_20 11 45 07.8
comp=Z,8µm,20.0s
BZK Bozkurt 74.48 315 ⇓P **P** **11 11 07.6 -0.1**
LPHEP Lephephe 74.54 247 *i* P **P** **11 11 09.3 +0.7**
VSR Storozhevoye 74.58 325 *eP* **P** **11 11 05.2 -2.9**
VSR pmax pmax
comp=Z,210nm,0.7s
ANTO Ankara 74.72 313 P **P** **11 11 08.9 -0.4**
ANTO IAmb IAmb 11 11 20.3
comp=Z,195nm,1.1s
ANTO Ankara 74.72 313 P **P** **11 11 09.2 -0.1**
ANTO P **P** **11 11 09.2 -0.1**
ANTO S **S** **11 20 39.2 -5.0**
ANTO S **S** **11 20 39.2 -5.0**
ANTO Ankara 74.72 313 ⇑P **P** **11 11 09.5 +0.3**
ANTO Ankara 74.72 313 P **P** **11 11 08.9 -0.4**
ANTO pmax pmax
comp=Z,195nm,1.2s
VORR Voronezh 74.75 326 P **P** **11 11 09.2 +0.1**
VORR S **S** **11 20 40.0 -4.0**
VORR pmax pmax
comp=Z,383nm,1.1s
QRZ Quartz Range 74.79 131 P **P** **11 11 10.3 +0.7**
QRZ Quartz Range 74.79 131 P **P** **11 11 10.0 +0.4**
OUZ Omahuta 74.80 126 P **P** **11 11 11.5 +1.7**
OXZ Oxford 74.86 134 IAMs_20 IAMs_20 11 43 36.2
comp=Z,11µm,22.0s
OXZ Oxford 74.86 134 P **P** **11 11 14.5 +4.5**
LBTB Lobatse 74.89 245 P **P** **11 11 09.0 -1.6**
LBTB Lobatse 74.89 245 P **P** **11 11 11.6 +1.0**
comp=Z,9.6nm,0.9s,baz=88,slow=5.1,SNR=9.0
LBTB LR LR 11 39 11.5
comp=Z,7µm,20.2s,baz=80,slow=32
comp=Z,9.6nm,0.9s
LBTB Lobatse 74.89 245 P **P** **11 11 09.0 -1.6**
LBTB pmax pmax
comp=Z,112nm,1.8s
KSANE Kasane 74.93 252 *i* P **P** **11 11 12.0 +1.0**
LTZ Lake Taylor 74.93 134 P **P** **11 11 12.8 +2.3**
CIDE Kastamonu/Cide 75.20 315 ⇑P **P** **11 11 12.5 +0.6**
THZ Tophouse 75.22 132 IAMs_20 IAMs_20 11 45 08.8
comp=Z,12µm,20.0s
THZ Tophouse 75.22 132 P **P** **11 11 13.5 +1.3**
LPSR Galich'ya Gora 75.31 326 *eP* **P** **11 11 11.9 -0.3**
LPSR *eS* **S** **11 20 42.3 -7.8**
LPSR pmax pmax
comp=Z,207nm,0.8s
SIM Simferopol' 75.37 318 *dP* **P** **11 11 12.7 -0.1**
SIM *e* 11 11 26.0
SIM *eS* **S** **11 20 52.0 +0.9**
SIM pmax pmax
comp=Z,42nm,0.8s
MQZ McQueen's Vall 75.37 134 IAMs_20 IAMs_20 11 43 05.7
comp=Z,11µm,22.0s
BOSA Boshof 75.47 241 P **P** **11 11 12.7 -1.2**
BOSA Boshof 75.47 241 P **P** **11 11 14.2 +0.3**
comp=Z,12nm,0.8s,baz=78,slow=6.3,SNR=3.1
comp=Z,12nm,0.8s
BOSA Boshof 75.47 241 P **P** **11 11 12.7 -1.2**
BOSA pmax pmax
comp=Z,49nm,0.8s
NNZ Nelson 75.48 132 IAMs_20 IAMs_20 11 45 38.9
comp=Z,14µm,20.0s
NNZ Nelson 75.48 132 P **P** **11 11 18.1 +4.6**
WCZ Waipu Caves 75.49 126 P **P** **11 11 16.3 +2.6**
GVZ Greta Valley S 75.52 134 IAMs_20 IAMs_20 11 43 43.6
comp=Z,17µm,22.0s
KDWAN Kaudwane 75.64 247 *i* P **P** **11 11 16.1 +1.2**
MAKGR Makgori 75.66 244 *i* P **P** **11 11 15.2 +0.2**
NEZ North Egmont 75.74 130 P **P** **11 11 18.1 +2.9**
KHZ Kahutara 75.79 133 P **P** **11 11 16.9 +1.6**
KHZ IAMs_20 IAMs_20 11 44 05.9
comp=Z,15µm,21.0s
KHZ Kahutara 75.79 133 P **P** **11 11 18.0 +2.7**
KHZ Kahutara 75.79 133 P **P** **11 11 16.1 +0.8**
KHAM Kharkiv 75.80 323 P **P** **11 11 17.2 +2.0**
DUWZ D'Urville Isla 75.83 131 P **P** **11 11 15.5 -0.1**

KDZE Karadeniz Ereo 76.11 314 ⇑P **P** **11 11 16.6 -0.6**
HIZ Hauiti 76.22 129 P **P** **11 11 18.2 +0.3**
HIZ Hauiti 76.22 129 P **P** **11 11 13.4 -4.5**
VRZ Vera Road 76.23 129 P **P** **11 11 21.2 +3.4**
SEY Seymchan 76.30 22 P **P** **11 11 17.4 -0.4**
comp=Z,81nm,1.0s,baz=242,slow=5.1,SNR=49
comp=Z,81nm,1.0s
SEY Seymchan 76.30 22 *ceP* **P** **11 11 18.3 +0.6**
SEY pmax pmax
comp=Z,161nm,1.3s
SEY MLR MLR
comp=Z,13µm,17.0s
SKOMA Sekoma 76.37 246 *i* P **P** **11 11 20.0 +0.9**
CKGRV CKGRV 76.37 249 *i* P **P** **11 11 20.2 +1.0**
BORA Eskisehir 76.45 312 IAmb IAmb 11 11 29.6
comp=Z,129nm,1.3s
WAZ Wanganui 76.48 130 P **P** **11 11 20.9 +1.6**
SNZO South Karori 76.49 132 P **P** **11 11 21.9 +2.6**
BHW Baring Head 76.62 132 IAMs_20 IAMs_20 11 45 17.0
comp=Z,8µm,20.0s
TOZ Tahuroa Road 76.63 128 IAMs_20 IAMs_20 11 45 58.5
comp=Z,13µm,21.0s
TIXI Tiksi 76.63 9 P **P** **11 11 18.4 -1.1**
TIXI IAmb IAmb 11 11 30.1
comp=Z,300nm,1.3s
TIXI Tiksi 76.63 9 S **S** **11 20 59.0 -5.0**
baz=351,slow=23,SNR=6.9
TIXI Tiksi 76.63 9 *ceP* **P** **11 11 18.2 -1.2**
TIXI pmax pmax
comp=Z,283nm,1.7s
KUZ Kuaotunu 76.69 127 P **P** **11 11 21.0 +0.5**
KUZ Kuaotunu 76.69 127 P **P** **11 11 23.8 +3.2**
PKVZ Pokaka 76.70 130 P **P** **11 11 22.5 +1.8**
OGWZ Otaki Gorge 76.77 131 P **P** **11 11 23.5 +2.6**
MTVZ Mangateitei 76.81 130 P **P** **11 11 22.9 +1.7**
COVZ Chateau Observ 76.84 129 P **P** **11 11 23.5 +2.0**
FWVZ Far West T-bar 76.86 130 P **P** **11 11 23.6 +1.9**
TRVZ Turoa 76.86 130 P **P** **11 11 22.9 +1.1**
MAVZ Matarangi 76.86 130 P **P** **11 11 23.6 +1.7**
WTVZ West Tongariro 76.87 129 P **P** **11 11 23.1 +1.4**
NGZ Ngauruhoe 76.88 129 P **P** **11 11 24.2 +2.4**
NNVZ North Ngauruho 76.89 129 P **P** **11 11 23.2 +1.4**
WNVZ Wahianoa 76.90 130 P **P** **11 11 22.9 +1.1**
SNVZ South Ngauruho 76.91 129 P **P** **11 11 23.9 +2.0**
OTVZ Oturere 76.93 129 P **P** **11 11 23.5 +1.5**
PAWZ Paruwai Farm 77.03 132 P **P** **11 11 24.2 +1.7**
MRZ Mangatainoka R 77.05 131 IAMs_20 IAMs_20 11 47 02.5
comp=Z,14µm,19.0s
MRZ Mangatainoka R 77.05 131 P **P** **11 11 24.0 +1.5**
MTW Mount Morrison 77.06 131 P **P** **11 11 24.2 +1.7**
SYO Syowa Base 77.17 199 ⇑*iP* **P** **11 11 24.0 +1.5**
SYO Syowa Base 77.17 199 ⇑*epP* pP 11 11 30.0 -0.7
MOS Moscow 77.32 329 *eP* **P** **11 11 21.4 -2.2**
MOS *e* 11 11 32.2
MOS *eS* **S** **11 21 08.6 -3.5**
MOS *eSS* **SS** **11 26 07.6 -3.2**
MOS pmax pmax
comp=Z,215nm,1.3s
MOS smax smax
comp=N,1µm,4.1s
MOS MLR MLR
comp=Z,6µm,22.0s
ARG Arkhangelos 77.33 308 IAmb IAmb 11 11 35.7
comp=Z,230nm,1.2s
ARG Arkhangelos 77.33 308 P **P** **11 11 24.5 +0.4**
PRWZ Pori Road 77.34 131 P **P** **11 11 24.9 +0.8**
TMWZ Te Maipa 77.35 131 P **P** **11 11 26.2 +2.0**
YLV Yalova 77.42 312 P **P** **11 11 25.6 +0.9**
comp=Z,2µmcomp=Z,220nm,0.9s
DVHZ Dannevirke 77.45 131 P **P** **11 11 26.1 +1.3**
MSVF Nonsavu 77.54 107 P **P** **11 11 25.2 -0.6**
MSVF IAmb IAmb 11 11 46.5
comp=Z,190nm,1.2s
MSVF Nonsavu 77.54 107 P **P** **11 11 25.2 -0.6**
MSVF pmax pmax
comp=Z,190nm,1.3s
BFZ Birch Farm 77.56 131 P **P** **11 11 26.6 +1.2**
BFZ Birch Farm 77.56 131 P **P** **11 11 26.8 +1.4**
BKZ Black Stump Fm 77.57 129 P **P** **11 11 26.3 +0.8**
BKZ IAmb IAmb 11 13 36.3
comp=Z,192nm,1.0s
BKZ IAMs_20 IAMs_20 11 48 36.3
comp=Z,9µm,20.0s
BKZ Black Stump Fm 77.57 129 P **P** **11 11 26.9 +1.4**
BKZ Black Stump Fm 77.57 129 P **P** **11 11 26.1 +0.6**
OBN Obninsk 77.62 328 P **P** **11 11 25.2 -0.1**
OBN Obninsk 77.62 328 ⇓P **P** **11 11 25.9 +0.6**
OBN Obninsk 77.62 328 *cP* **P** **11 11 25.0 -0.3**
OBN *i* *SP **pP** **11 11 29.9 -3.6**
OBN *i* 11 11 33.5
OBN *e* 11 14 18.5
OBN *i* S **S** **11 21 11.6 -3.7**
OBN *i* PPS PPS 11 21 44.8
OBN *eSS* **SS** **11 26 18.7 +3.5**
OBN SSS SSS 11 29 31.0
OBN pmax pmax
comp=Z,286nm,1.7s
OBN Obninsk 77.62 328 P **P** **11 11 25.6 +0.3**
comp=Z,3µmcomp=Z,175nm,1.7s
ISK Istanbul-Kandi 77.78 313 P **P** **11 11 25.9 -0.6**
ISK Istanbul-Kandi 77.78 313 P **P** **11 11 26.1 -0.4**
KGCAE Kacgae 77.88 247 *i* P **P** **11 11 29.0 +1.3**
RTZ Ruatahuna 77.89 129 IAMs_20 IAMs_20 11 49 04.7
comp=Z,8µm,20.0s
RTZ Ruatahuna 77.89 129 P **P** **11 11 29.7 +2.4**
KAHZ Kahuranaki 77.94 130 P **P** **11 11 29.5 +2.0**
URZ Urewera 77.95 128 P **P** **11 11 31.0 +3.4**
URZ Urewera 77.95 128 P **P** **11 11 27.7 +0.1**
MWZ Matawai 78.29 128 P **P** **11 11 30.3 +0.8**
BAND Balkesir-Ban 78.31 312 ⇑P **P** **11 11 28.8 -0.8**
HAZ Te Kaha 78.43 128 P **P** **11 11 30.3 +0.1**
CTYL Yalikoy Yolu 78.45 313 P **P** **11 11 30.9 +0.7**
comp=Z,2µmcomp=Z,124nm,1.0s
ZKR Zakros 78.61 306 P P 11 11 40.3 +9.0
SMG Samos 78.67 309 P **P** **11 11 31.0 -0.6**
KLMR Klimovskoe 78.67 334 *eP* **P** **11 11 28.4 -2.6**
KLMR S **S** **11 21 22.7 -3.7**
KLMR pmax pmax
comp=Z,174nm,1.3s
PURM Purcari 78.68 318 ⇑P **P** **11 11 30.7 -0.7**
PURM Purcari 78.68 318 P **P** **11 11 31.8 +0.4**
comp=Z,3µmcomp=Z,231nm,1.5s
GRTLG Ghanzi 78.75 249 *i* P **P** **11 11 33.4 +0.9**
QNGWA Qangwa 78.75 251 *i* P **P** **11 11 33.7 +1.2**
MANR Mangalia 78.82 316 ⇓P **P** **11 11 33.1 +0.9**
PUZ Puketiti 78.83 128 P **P** **11 11 32.2 -0.3**
JURR Jurilovca 78.87 317 ⇑P **P** **11 11 33.4 +0.9**
TLCR 79.02 317 ⇑P **P** **11 11 34.4 +1.1**
TLCR 79.02 317 P **P** **11 11 34.4 +1.1**
MFTR Murfatlar 79.03 316 ⇓P **P** **11 11 33.6 +0.3**
PSN Preselentsi 79.09 315 *eP* **P** **11 11 33.5 -0.2**
TIRR Tirgusor 79.11 316 ⇓P **P** **11 11 33.9 +0.1**
TIRR Tirgusor 79.11 316 P **P** **11 11 33.9 +0.1**
TIRR Tirgusor 79.11 316 P **P** **11 11 34.4 +0.6**
comp=Z,1µmcomp=Z,100nm,0.9s
DGTI Dogotuki 79.14 106 P **P** **11 11 37.6 +3.0**
TPGR Topolog 79.21 317 ⇓P **P** **11 11 33.9 -0.5**
TLBR Topalu 79.38 316 ⇓P **P** **11 11 35.0 -0.3**
ICOR Ion Corvin 79.45 316 ⇑P **P** **11 11 36.3 +0.7**
CFR Carcaliu 79.48 317 ⇓P **P** **11 11 36.1 +0.2**
CFR Carcaliu 79.48 317 P **P** **11 11 36.0 +0.2**
MILM Milestii Mici 79.49 319 ⇑*iP* **P** **11 11 34.8 -1.0**
comp=Z,280nm,1.1s
MILM *i* S **S** **11 21 31.0 -4.7**
MILM *eL* L 11 45 49.0
MILM LQM 11 54 47.0
comp=Z,3µm,19.0s
MILM LRM MLR 11 56 49.0
comp=Z,2µm,17.0s
MILM Milestii Mici 79.49 319 ⇑P **P** **11 11 35.8 0.0**
MILM Milestii Mici 79.49 319 *cP* **P** **11 11 34.8 -1.0**
MILM *i* S **S** **11 21 31.0 -4.7**
MILM pmax pmax
comp=Z,280nm,1.1s
PRD Provadia 79.49 315 *eP* **P** **11 11 35.9 0.0**
HARR Harsova 79.50 316 ⇑P **P** **11 11 35.5 -0.4**
HARR Harsova 79.50 316 P **P** **11 11 35.5 -0.4**
KIS Kishinev 79.50 319 *dP* **P** **11 11 36.0 +0.1**
KIS *eS* **S** **11 21 32.0 -3.9**
KIS pmax pmax
comp=Z,300nm,7.2s
APE Apeiranthos 79.55 308 P **P** **11 11 35.4 -1.1**
SUR Sutherland 79.56 238 P **P** **11 11 35.1 -1.7**

SUR Sutherland 79.56 238 P **P** **11 11 36.4 -0.4**
comp=Z,18nm,0.8s,baz=95,slow=8.8,SNR=12
comp=Z,18nm,0.8s
SUR Sutherland 79.56 238 P **P** **11 11 38.0 +1.2**
SUR P **P** **11 11 38.0 +1.2**
NEF NEVSHA 79.61 315 *eP* **P** **11 11 38.3 +1.7**
EDRB Edirne 79.66 313 P P 11 11 27.0 -10
IDI Anoyia 79.71 306 IAmb IAmb 11 11 49.3
comp=Z,140nm,1.2s
IDI Anoyia 79.71 306 P **P** **11 11 36.6 -0.8**
IDI Anoyia 79.71 306 P **P** **11 11 38.0 +0.6**
KOOLE Kule 79.73 247 *i* P **P** **11 11 39.4 +1.5**
ALN Alexandroupoli 79.96 312 IAmb IAmb 11 11 49.2
comp=Z,169nm,1.4s
ALN Alexandroupoli 79.96 312 P **P** **11 11 37.8 -0.7**
JMB Yambol 79.96 314 *eP* **P** **11 11 38.6 +0.1**
SORM Soroca 80.11 320 ⇓P **P** **11 11 39.0 -0.1**
SORM Soroca 80.11 320 P **P** **11 11 39.0 -0.1**
SORM Soroca 80.11 320 P **P** **11 11 38.8 -0.4**
comp=Z,2µmcomp=Z,111nm,0.9s
AK09 Malin Array Si 80.22 322 P **P** **11 11 39.2 -0.5**
SMTH Samothraki Isl 80.25 312 P **P** **11 11 39.4 -0.7**
AKASG Malin Array Be 80.28 322 P **P** **11 11 39.3 -0.7**
AKASG Malin Array Be 80.28 322 P **P** **11 11 39.2 -0.7**
comp=Z,9.3nm,0.8s,baz=92,slow=4.6,SNR=41
AKASG PP **PP** **11 14 42.0 -0.8**
comp=Z,6.9nm,0.9s,baz=94,slow=6.6,SNR=4.5
AKASG S **S** **11 21 36.9 -7.0**
comp=Z,0.1nm,0.3s,baz=337,slow=16,SNR=1.1
comp=Z,9.3nm,0.8s
AKASG Malin Array Be 80.28 322 *i* P **P** **11 11 38.9 -1.1**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 80.28 322 IAmb IAmb 11 11 53.9
comp=Z,179nm,1.9s
AKBB Malin Array Si 80.28 322 *ceP* **P** **11 11 39.3 -0.7**
AKBB pmax pmax
comp=Z,70nm,1.6s
KIEV Kiev 80.28 322 P **P** **11 11 38.5 -1.5**
KIEV Kiev 80.28 322 ⇓P **P** **11 11 39.3 -0.8**
KIEV Kiev 80.28 322 P **P** **11 11 38.5 -1.5**
KIEV pmax pmax
comp=Z,160nm,1.9s
KIEV MLR MLR
comp=Z,4µm,21.0s
KIEV Kiev 80.28 322 *i* P **P** **11 11 39.2 -0.8**
SNR=14
PANC Panciu 80.33 317 ⇓P **P** **11 11 41.3 +0.9**
RDO Rodhopi 80.39 312 P **P** **11 11 39.6 -1.2**
AK19 Malin Array Si 80.41 322 P **P** **11 11 40.0 -0.7**
IMMV Iera Moni Meta 80.48 306 P **P** **11 11 42.6 +1.2**
ELND Elena 80.53 314 ⇑P **P** **11 11 41.5 -0.1**
VRI Vrincioaia 80.61 317 ⇑P **P** **11 11 42.2 +0.3**
VRI Vrincioaia 80.61 317 P **P** **11 11 42.2 +0.3**
VRI Vrincioaia 80.61 317 P **P** **11 11 42.8 +0.8**
comp=Z,2µmcomp=Z,182nm,1.3s
PLOR Plostina 80.66 317 ⇓P **P** **11 11 43.1 +0.8**
PLOR Plostina 80.66 317 P **P** **11 11 43.1 +0.8**
PLOR3 Plostina Array 80.67 317 P **P** **11 11 43.2 +0.9**
comp=Z,1µmcomp=Z,85nm,1.2s
NEHR Nehoiu 80.80 317 ⇓P **P** **11 11 42.6 -0.4**
TESR Tescani 80.82 318 ⇓P **P** **11 11 43.4 +0.3**
TESR Tescani 80.82 318 P **P** **11 11 43.2 +0.2**
comp=Z,3µmcomp=Z,212nm,1.4s
NDNU Novodnistrovsk 80.87 320 P **P** **11 11 43.2 0.0**
THAS Thassos island 80.88 312 P **P** **11 11 42.6 -0.9**
MI30 MI30,Zelenitsa 80.92 322 P **P** **11 11 42.8 -0.7**
comp=Z,66nm,1.1s
ONER Baraj Valea Uz 80.95 318 ⇑P **P** **11 11 44.0 +0.2**
COVR Voineasa-Covas 80.96 317 ⇑P **P** **11 11 44.2 +0.3**
LUBAR Lubar, Ukraine 80.97 321 P **P** **11 11 42.7 -1.0**
DION Dionisos Attik 80.99 309 P **P** **11 11 43.1 -1.1**
MLR Muntele Rosu 81.06 317 IAmb IAmb 11 11 56.6
comp=Z,242nm,1.2s
MLR Muntele Rosu 81.06 317 ⇑P **P** **11 11 45.3 +0.7**
MLR Muntele Rosu 81.06 317 P **P** **11 11 45.2 +0.7**
MLR Muntele Rosu 81.06 317 P **P** **11 11 44.6 +0.1**
comp=Z,2µmcomp=Z,200nm,1.4s
PVL Pavlikeni 81.07 314 *eP* **P** **11 11 45.2 +0.7**
RZN Rozhen 81.09 313 *eP* **P** **11 11 44.3 -0.5**
KAVA Kavala 81.11 312 P **P** **11 11 43.9 -0.8**
AOS Alonnisos 81.24 310 P **P** **11 11 44.3 -1.1**
MI28 MI28,Pidlybu 81.29 322 P **P** **11 11 45.1 -0.3**
comp=Z,564nm,1.0s
PRAR RASCA 81.31 319 ⇓P **P** **11 11 46.1 +0.5**
VNDA Vanda 81.31 169 P **P** **11 11 47.0 +1.9**
comp=Z,9.4nm,0.9s,baz=285,slow=5.2,SNR=2.6
comp=Z,9.4nm,0.9s
VNDA Vanda 81.31 169 P **P** **11 11 47.0 +1.9**
KMPD K-Podol'skiy 81.44 320 P **P** **11 11 45.3 -1.0**
comp=Z,260µmcomp=Z,26µm,1.2s
KOKK Kokkinochori, 81.46 312 P **P** **11 11 45.7 -0.9**
KRND KRANIDI 81.48 308 P **P** **11 11 45.1 -1.6**
VILL Villia 81.49 309 P **P** **11 11 44.3 -2.5**
HUMR Humele 81.51 316 ⇑P **P** **11 11 46.1 -0.7**
PAIG Paliouri 81.53 311 P **P** **11 11 46.1 -0.8**
DOPR Dopca 81.55 317 ⇑P **P** **11 11 46.9 0.0**
MTUR Matau 81.61 316 ⇑P **P** **11 11 46.6 -0.7**
MTUR Matau 81.61 316 P **P** **11 11 46.6 -0.7**
HORU Horodok 81.62 320 P **P** **11 11 47.2 0.0**
HORU Horodok 81.62 320 P **P** **11 11 47.2 0.0**
VOIR 81.66 317 ⇑P **P** **11 11 47.4 -0.2**
VOIR 81.66 317 P **P** **11 11 47.4 -0.2**
VOIR 81.66 317 P **P** **11 11 47.6 0.0**
NVR Nevrokopi 81.67 312 P **P** **11 11 47.8 +0.1**
SRS Serrai 81.82 312 P **P** **11 11 47.3 -1.2**
ARR Arges 81.93 316 ⇑P **P** **11 11 48.8 -0.3**
SOH Sokhos 81.94 312 P **P** **11 11 47.8 -1.4**
BURAR Bucovina Array 82.03 319 ⇑P **P** **11 11 50.1 +0.6**
BURAR Bucovina Array 82.03 319 P **P** **11 11 50.1 +0.6**
HORT Hortiatis 82.09 311 P **P** **11 11 48.6 -1.4**
AXAR Agios Charalam 82.10 310 P **P** **11 11 48.0 -2.0**
MNK Minsk 82.14 326 *i* P **P** **11 11 50.7 +0.9**
MNK *i* 11 11 58.1
MNK *i* 11 14 58.5
MNK *i* PPP PPP 11 16 49.7
MNK *i* S **SKSac** **11 22 06.8 -1.8**
MNK *i* SS **SS** **11 27 26.6 +3.7**
MNK pmax pmax
comp=E,21nm,0.9s
MNK pmax pmax
comp=Z,66nm,1.1s
MNK pmax pmax
comp=N,41nm,0.9s
TSUM Tsumeb 82.14 251 P **P** **11 11 52.2 +1.4**
comp=N,11nm,0.9s,baz=99,slow=6.1,SNR=14
comp=N,11nm,0.9s
MPEP Malo Peshtene 82.15 314 *eP* **P** **11 11 50.1 0.0**
GUR Goura 82.20 309 P **P** **11 11 50.0 -0.7**
KKB Krupnik 82.30 313 *eP* **P** **11 11 49.9 -1.1**
VTS Vitosha 82.37 313 *eP* **P** **11 11 51.1 -0.4**
KLV Kalavryta, Ach 82.37 309 P **P** **11 11 51.2 -0.3**
ITM Ithomi 82.40 308 P **P** **11 11 52.1 +0.5**
KALE Kalithea 82.44 309 P **P** **11 11 51.8 0.0**
RNPP5 Staryi Chortor 82.45 322 P **P** **11 11 50.7 -0.8**
LIT Litokhoron 82.46 311 IAmb IAmb 11 12 01.9
comp=Z,132nm,1.1s
LIT Litokhoron 82.46 311 P **P** **11 11 50.5 -1.4**
ARCR ARCALIA 82.49 318 ⇓P **P** **11 11 52.5 +0.7**
RNPP9 Sopachiv 82.50 323 P **P** **11 11 51.6 -0.1**
RNPP8 Varash 82.50 322 P **P** **11 11 51.6 -0.2**
LOT Lotru 82.54 316 ⇓P **P** **11 11 52.0 -0.3**
VAY Valandovo 82.62 312 *i* P **P** **11 11 53.1 +0.5**
ANX Ano Chora 82.64 309 P **P** **11 11 52.8 -0.1**
GRG Griva 82.68 312 P **P** **11 11 52.1 -0.9**
DRO Drossia 82.70 309 P **P** **11 11 54.5 +1.3**
THL Klokotos Trika 82.73 310 P **P** **11 11 54.0 +0.8**
EVR Evrytania 82.78 310 P **P** **11 11 54.9 +1.2**
RAKU Rahkiv 82.81 319 P **P** **11 11 53.5 0.0**
CJR Cluj-Napoca 82.92 318 ⇑P **P** **11 11 54.8 +0.7**
CJR Cluj-Napoca 82.92 318 P **P** **11 11 54.8 +0.7**
JOF Joensuu 83.06 335 *eP* **P** **11 11 55.2 +0.8**
CTZ Chatham Island 83.10 134 IAMs_20 IAMs_20 11 47 35.2
comp=Z,8µm,22.0s
BMR Baia Mare 83.18 319 ⇑P **P** **11 11 56.3 +0.9**
BMR Baia Mare 83.18 319 P **P** **11 11 56.3 +0.9**
GZR Gura Zlata 83.22 316 ⇑P **P** **11 11 55.8 +0.1**
GZR Gura Zlata 83.22 316 P **P** **11 11 55.8 +0.1**
MORS Morshin 83.22 320 P **P** **11 11 56.1 +0.5**
DEV Deva 83.22 317 ⇑P **P** **11 11 56.1 +0.4**
DEV Deva 83.22 317 P **P** **11 11 56.1 +0.4**
MARR Marisel-Cluj 83.23 317 ⇓P **P** **11 11 56.9 +1.1**
ELIB Princess Elisa 83.27 198 *dP* **P** **11 11 56.7 +1.1**

comp=Z,42nm,1.3s
IIGN Ignalina 83.29 326 *e*P **P 11 11 56.6 +0.9**
HERR Herculane 83.37 316 ⇓P **P 11 11 56.4 -0.1**
DRGR 83.53 318 ⇑P **P 11 11 56.9 -0.4**
DRGR 83.53 318 P **P 11 11 56.9 -0.4**
JAN Janina 83.63 310 P **P 11 11 56.6 -1.4**
LVZ Lovozero 83.63 340 P **P 11 11 57.0 -0.3**
LVZ Lovozero 83.63 340 *ce*P **P 11 11 59.0 +1.6**
LVZ pmax pmax
comp=Z,152nm,1.7s
LVZ MLR MLR
comp=Z,9μm,20.0s
BOVS Bovan 83.65 314 ⇓P **P 11 11 57.2 -0.7**
VSU Vasula 83.83 330 *ce*P **P 11 11 58.4 -0.1**
VSU pmax pmax
comp=Z,169nm,1.7s
VSU Vasula 83.83 330 *e*P **P 11 11 58.3 -0.2**
BILL Bilibino 83.85 20 IAMs_20 IAMs_20 11 53 37.9
comp=Z,13μm,21.0s
BILL Bilibino 83.85 20 *ce*P **P 11 11 58.4 0.0**
BILL pmax pmax
comp=Z,59nm,1.7s
MDVR Moldovita 83.85 315 ⇓P **P 11 11 59.6 +0.6**
MUKU Mukachevo 83.87 319 P **P 11 12 00.7 +1.8**
OHR Ohrid 83.90 312 *i* P **P 11 11 60.0 +0.6**
APA Apatity 83.94 339 ⇓*i* P **P 11 11 57.4 -1.5**
APA pmax pmax
comp=Z,48nm,1.2s
BZS Buzias 84.06 316 ⇓P **P 11 12 00.4 +0.4**
BZS Buzias 84.06 316 P **P 11 12 00.4 +0.4**
SIRR Siria 84.15 317 ⇑P **P 11 12 01.0 +0.6**
UZHM Uzhgorod 84.16 319 P **P 11 12 02.7 +2.3**
KOLS Kolonicke sedl 84.23 320 *e*P **P 11 12 01.7 +0.9**
KOLS pmax pmax
comp=Z,144nm,0.9s
KOLS Kolonicke sedl 84.23 320 *e*P **P 11 12 01.7 +0.9**
ARBE Arbavere 84.47 330 *e*P **P 11 12 02.5 +0.9**
PABE Paberze 84.57 326 IAMs_20 IAMs_20 11 57 10.3
comp=Z,7μm,20.0s
PABE Paberze 84.57 326 *e*P **P 11 12 03.2 +0.9**
SUW Suwalki 84.69 325 *e*P **P 11 12 02.9 0.0**
SUW Suwalki 84.69 325 *e*P **P 11 12 03.7 +0.7**
VSVD Vaisvydziai 84.70 327 *e*P **P 11 12 04.0 +1.1**
PUK Puka 84.71 312 IAmb IAmb 11 12 13.8
comp=Z,212nm,1.7s
FIA1 FINESS Array S 84.95 332 P **P 11 12 04.0 -0.1**
FINES FINESS Array B 84.95 332 P **P 11 12 03.8 -0.3**
FINES FINESS Array B 84.95 332 P **P 11 12 03.9 -0.1**
comp=Z,16nm,0.5s,baz=102,slow=5.3,SNR=40
FINES PP **PP 11 15 21.3 +0.4**
comp=Z,10nm,0.8s,baz=112,slow=8.1,SNR=1.6
comp=Z,16nm,0.5s
FINES FINESS Array B 84.95 332 *i* P **P 11 12 04.5 +0.4**
FINES pmax pmax
comp=Z,16nm,0.5s
STHS Stebnicka Huta 84.98 320 *e*P **P 11 12 05.0 +0.4**
STHS pmax pmax
comp=Z,61nm,0.9s
STHS Stebnicka Huta 84.98 320 *e*P **P 11 12 05.0 +0.4**
PDG Podgorica 85.24 313 ⇓P **P 11 12 05.3 -0.7**
KECS Kecovo 85.31 319 *e*P **P 11 12 07.4 +1.2**
KECS pmax pmax
comp=Z,37nm,0.9s
KECS Kecovo 85.31 319 *e*P **P 11 12 07.4 +1.2**
MTSE Matsula 85.38 329 *e*P **P 11 12 07.9 +1.7**
MEF Metsahovi 85.44 331 *e*P **P 11 12 07.8 +1.2**
NIE Niedzica 85.59 320 *e*P **P 11 12 09.1 +1.4**
PSZ Piszkesteto 85.61 318 IAmb IAmb 11 12 22.2
comp=Z,61nm,0.9s
PSZ Piszkesteto 85.61 318 ⇑P **P 11 12 08.0 +0.2**
PSZ Piszkesteto 85.61 318 P **P 11 12 08.3 +0.2**
PSZ Piszkesteto 85.61 318 *e*P **P 11 12 08.3 +0.4**
KEF Keuruu 85.69 333 *e*P **P 11 12 08.4 +0.7**
BEL Belsk 85.69 322 *e*P **P 11 12 08.6 +0.6**
PBUR Paburge 85.81 327 *e*P **P 11 12 09.6 +1.1**
OJC Ojcow 86.04 321 *e*P **P 11 12 10.1 +0.3**
OJC Ojcow 86.04 321 IAmb IAmb 11 12 25.5
comp=Z,64nm,1.0s
MORH Mrgy, Hungar 86.21 316 ⇓P **P 11 12 11.0 +0.3**
VADS Vadso 86.22 341 *e*P **P 11 12 10.7 +0.5**
VADS IVmBBB 11 12 13.4
comp=Z,1μm,2.8s
VADS *e*SKSac **SKSac 11 22 36.4 +2.0**
VADS IVMs_BB IVMs_BB 11 40 59.1
comp=Z,3μm,4.2s
VYHS Vyhne 86.40 319 *e*P **P 11 12 11.7 +0.1**
VYHS pmax pmax
comp=Z,55nm,1.7s
VYHS Vyhne 86.40 319 *e*P **P 11 12 11.6 0.0**
SRO Srobarova 86.65 318 *e*P **P 11 12 14.0 +1.2**
SRO Srobarova 86.65 318 *e*P **P 11 12 14.0 +1.2**
TIP Timpagrande 86.71 309 IAmb IAmb 11 12 29.5
comp=Z,124nm,1.4s
NVL N'lazarevskaya 86.82 199 *e*P **P 11 12 14.9 +1.7**
NVL *e*S **SKSac 11 22 38.6 +0.4**
NVL pmax pmax
comp=Z,103nm,1.4s
NVL MLR MLR
comp=Z,1μm,17.0s
RAF Rauma 86.88 331 *e*P **P 11 12 14.3 +0.7**
VAF Ylistaro 86.88 334 *e*P **P 11 12 15.1 +1.5**
KEV Kevo 86.88 341 P **P 11 12 13.8 +0.3**
KEV IAmb IAmb 11 12 25.7
comp=Z,75nm,1.0s
KEV IAMs_20 IAMs_20 11 56 24.4
comp=Z,7μm,21.0s
KEV Kevo 86.88 341 P **P 11 12 13.8 +0.3**
KEV pmax pmax
comp=Z,75nm,1.0s
OKC Ostrava-Krasne 87.04 320 *e*P **P 11 12 15.6 +0.9**
OKC *e*S **S 11 22 50.6 -1.5**
OKC AMS AMS 12 00 50.0
comp=Z,2μm,15.6s
OKC Ostrava-Krasne 87.04 320 *e*P **P 11 12 15.6 +0.9**
OKC *e* 11 22 50.6
OKC MLR MLR
comp=Z,2μm,15.6s
QSPA South Pole Qui 87.14 180 P **P 11 12 14.9 -0.2**
QSPA IAmb IAmb 11 12 27.3
comp=Z,342nm,2.0s
QSPA South Pole Qui 87.14 180 P **P 11 12 15.7 +0.7**
comp=Z,6.8nm,0.9s,baz=309,slow=1.4,SNR=27
comp=Z,6.8nm,0.9s
JAVC Velka Javorina 87.22 319 *e*P **P 11 12 16.4 +0.7**
STEB Steborice 87.29 320 *e*P **P 11 12 16.5 +0.6**
ARA0 ARCESS Array S 87.33 340 *e*P **P 11 12 16.4 +0.7**
ARA0 IVmBBB 11 12 19.9
comp=Z,2μm,2.5s
ARA0 *e*SKSac **SKSac 11 22 44.3 +2.9**
ARA0 IVMs_BB IVMs_BB 11 40 07.0
comp=Z,3μm,4.0s
ARCES ARCESS Array B 87.33 340 P **P 11 12 16.3 +0.6**
ARCES ARCESS Array B 87.33 340 P **P 11 12 15.7 0.0**
comp=Z,40nm,0.7s,baz=98,slow=5.0,SNR=42
ARCES PP **PP 11 15 39.5 -0.5**
comp=Z,13nm,1.0s,baz=110,slow=11,SNR=1.3
comp=Z,40nm,0.7s
ARCES ARCESS Array B 87.33 340 P **P 11 12 16.3 +0.6**
ARCES pmax pmax
comp=Z,319nm,1.7s
AFI Afiamalu 87.38 104 P **P 11 12 16.4 -0.8**
AFI Afiamalu 87.38 104 P **P 11 12 16.4 -0.8**
AFI pmax pmax
comp=Z,308nm,1.5s
MODS Modra-Piesok 87.41 319 *e*P **P 11 12 17.0 +0.4**
MODS pmax pmax
comp=Z,147nm,1.5s
MODS Modra-Piesok 87.41 319 *e*P **P 11 12 17.0 +0.4**
MORC Moravsky Berou 87.42 320 P **P 11 12 16.1 -0.5**
MORC IAmb IAmb 11 12 28.3
comp=Z,80nm,1.3s
MORC Moravsky Berou 87.42 320 *e*P **P 11 12 16.8 +0.2**
MORC Moravsky Berou 87.42 320 *e*S **S 11 22 52.9 -3.0**
MORC Moravsky Berou 87.42 320 ⇑P **P 11 12 16.9 +0.3**
ADK Adak 87.93 38 P **P 11 12 18.8 -0.1**
ADK Adak 87.93 38 P **P 11 12 21.8 +2.9**
ADK pmax pmax
comp=Z,82nm,1.4s
KRLC Kraliky 87.94 320 *e*P **P 11 12 20.0 +0.9**
KRLC AMS AMS 12 04 50.0
comp=Z,3μm,17.3s
KRLC Kraliky 87.94 320 *e*P **P 11 12 20.0 +0.9**
KRLC MLR MLR
comp=Z,3μm,17.3s

VRAC Vranov 87.97 319 *e*P **P 11 12 18.7 -0.5**
VRAC Vranov 87.97 319 *e*S **S 11 22 56.3 -4.9**
KTK1 Kautokeino 87.98 339 *e*P **P 11 12 19.2 +0.4**
KTK1 IVmBBB 11 12 23.8
comp=Z,1μm,2.3s
KTK1 *e*SKSac **SKSac 11 22 47.6 +2.3**
RONA Rosalia, Austr 87.99 318 *i* PcP **PcP 11 12 21.5 +0.3**
comp=Z,33nm,1.5s
GKP Gorka Klasztor 88.05 323 *e*P **P 11 12 19.9 +0.4**
GKP Gorka Klasztor 88.05 323 *e*P **P 11 12 20.7 +1.2**
KRUC Moravsky 88.07 319 *e*P **P 11 12 19.4 -0.3**
HAMF Hammerfest 88.21 341 *e*P **P 11 12 21.4 +1.6**
HAMF *e*SKSac **SKSac 11 22 50.3 +3.7**
HAMF IVMs_BB IVMs_BB 11 41 14.7
comp=Z,5μm,4.0s
DPC Dobruska-Polom 88.27 320 *e*P **P 11 12 21.5 +0.8**
DPC *e*S **S 11 23 05.4 +1.4**
DPC AMS AMS 11 59 40.0
comp=Z,4μm,20.6s
DPC Dobruska-Polom 88.27 320 *e*P **P 11 12 21.5 +0.8**
DPC *e* 11 23 05.4
DPC MLR MLR
comp=Z,4μm,20.6s
CONA Conrad Observa 88.30 318 *i* PcP **PcP 11 12 22.3 -0.4**
comp=Z,17nm,1.4s
KSP Ksiaz 88.34 321 *e*P **P 11 12 22.5 +1.6**
OSTC Ostas 88.36 321 *e*P **P 11 12 22.5 +1.5**
OSTC *e*SKS **S 11 23 06.0 +1.2**
OSTC AMS AMS 11 59 50.0
comp=Z,4μm,20.6s
OSTC Ostas 88.36 321 *e*P **P 11 12 22.5 +1.5**
OSTC *e* 11 23 06.0
OSTC MLR MLR
comp=Z,4μm,20.6s
GROS Grobnik 88.40 316 *e*P **P 11 12 21.6 +0.2**
GROS *e*S **S 11 23 05.1 -0.3**
ARSA Arzberg 88.46 317 IAmb IAmb 11 12 33.3
comp=Z,102nm,1.4s
ARSA Arzberg 88.46 317 *e*P **P 11 12 22.3 +0.6**
comp=Z,45nm,1.2s,SNR=10
CHVC Chvalec 88.46 321 AMS AMS 12 04 50.0
comp=Z,4μm,17.5s
BOJS Bojanci 88.47 316 *i* P **P 11 12 21.8 +0.1**
UPC Upice 88.48 321 *e*P **P 11 12 22.3 +0.7**
UPC *e*S **S 11 23 06.0 +0.1**
UPC AMS AMS 11 59 50.0
comp=Z,4μm,20.1s
UPC Upice 88.48 321 *e*P **P 11 12 22.3 +0.7**
UPC *e* 11 23 06.0
UPC MLR MLR
comp=Z,4μm,20.1s
PERS Pernice 88.68 317 *e*P **P 11 12 22.9 +0.2**
PERS *e*S **S 11 23 08.1 0.0**
TREC Trest 88.69 319 AMS AMS 11 58 20.0
comp=Z,2μm,19.6s
SOKA Soboth 88.74 317 *i* PcP **P 11 12 23.7 +0.7**
comp=Z,66nm,1.2s,SNR=10.0
OBKA Obir 89.06 316 *e*PcP **PcP 11 12 26.4 +0.4**
comp=Z,44nm,1.4s
JETT Jettan, Norway 89.08 340 *e*P **P 11 12 24.8 +0.7**
JETT IVmBBB 11 12 27.5
comp=Z,2μm,1.0s
JETT *e*SKSac **SKSac 11 22 53.0 +1.1**
JETT IVMs_BB IVMs_BB 11 43 57.5
comp=Z,3μm,4.0s
INTR Introdacqua 89.14 312 IAmb IAmb 11 13 04.7
comp=Z,163nm,1.4s
GOPC GO Pecny, Ondr 89.20 320 AMS AMS 12 00 20.0
comp=Z,4μm,20.8s
HOPEN Hopen 89.30 347 *e*PP **PP 11 15 56.2 +0.5**
HOPEN *e*SKSac **SKSac 11 22 54.0 +1.1**
MOA Molln 89.36 318 *i* P **P 11 12 24.9 -1.0**
comp=Z,26nm,1.6s,SNR=6.4
PRU Pruhonice 89.37 320 *e*P **P 11 12 27.3 +1.5**
PRU *e*S **S 11 23 09.9 -4.4**
PRU AMS AMS 12 00 10.0
comp=Z,4μm,20.1s
PRU Pruhonice 89.37 320 *e*P **P 11 12 27.3 +1.5**
PRU *e* 11 23 09.9
PRU MLR MLR
comp=Z,4μm,20.1s
PVCC Panska Ves 89.40 320 *e*P **P 11 12 27.4 +1.5**
PVCC AMS AMS 12 00 10.0
comp=Z,3μm,20.9s
PVCC Panska Ves 89.40 320 *e*P **P 11 12 27.4 +1.5**
PVCC MLR MLR
comp=Z,3μm,20.9s
PRA Prague 89.45 320 AMS AMS 12 00 20.0
comp=Z,4μm,22.8s
CAMP Campotosto 89.55 312 IAmb IAmb 11 12 38.1
comp=Z,140nm,1.3s
ZVC Zvikov 89.55 319 *e*P **P 11 12 27.6 +1.0**
ZVC *e*S **S 11 23 13.1 -2.9**
ZVC AMS AMS 12 01 30.0
comp=Z,2μm,16.9s
TRO Tromso 89.60 340 *e*P **P 11 12 26.9 +0.6**
TRO IVmBBB 11 12 37.5
comp=Z,3μm,4.1s
TRO *e*PP **PP 11 15 58.2 0.0**
TRO *e*SKSac **SKSac 11 22 57.6 +2.7**
TRO *e*SS **SS 11 29 16.4 +4.6**
TRO IVMs_BB IVMs_BB 11 43 32.0
comp=Z,3μm,4.0s
MYKA Terra Mystica 89.69 317 *i* PcP **PcP 11 12 28.6 -0.2**
comp=Z,74nm,1.3s,SNR=7.4
RICC Richard 89.70 320 AMS AMS 11 58 20.0
comp=Z,3μm,16.5s
TROLL Troll, Antarti 89.72 198 P **P 11 12 29.3 +2.1**
TROLL Troll, Antarti 89.72 198 ⇑P **P 11 12 29.3 +2.1**
comp=Z,2μm,1.0s
BIOA Bad Ischl, Aus 89.77 318 *i* P **P 11 12 27.9 +0.2**
comp=Z,27nm,1.2s,SNR=6.7
NRCA Noria 89.79 313 IAmb IAmb 11 12 39.9
comp=Z,116nm,1.1s
FDMO Fiordimonte 89.82 313 IAmb IAmb 11 12 51.5
comp=Z,87nm,1.3s
GEC2 GERESS Array S 89.82 319 IAmb IAmb 11 12 39.7
comp=Z,144nm,1.3s
GERES GERESS Array B 89.82 319 P **P 11 12 27.1 -0.9**
GERES GERESS Array B 89.82 319 P **P 11 12 27.9 -0.1**
comp=Z,16nm,0.9s,baz=98,slow=4.0,SNR=28
comp=Z,16nm,0.9s
GERES GERESS Array B 89.82 319 P **P 11 12 28.0 -0.1**
BRG Berggiesshubel 89.83 321 *i* P **P 11 12 28.4 +0.5**
BRG Amp 11 12 31.9
comp=Z,33nm,1.1s
BRG Berggiesshubel 89.83 321 S **S 11 23 19.0 +0.5**
BRG Berggiesshubel 89.83 321 PS PS 11 24 36.0 +8.6
KHC Kasperske Hory 89.92 319 *e*P **P 11 12 29.2 +0.7**
KHC *e*S **S 11 23 15.0 -4.6**
KHC AMS AMS 11 59 10.0
comp=Z,4μm,18.2s
KHC Kasperske Hory 89.92 319 *e*P **P 11 12 29.2 +0.7**
KHC *e* 11 23 15.0
KHC MLR MLR
comp=Z,4μm,18.2s
KBA Koelnbreinsper 89.93 317 *i* P **P 11 12 28.6 -0.1**
comp=Z,27nm,1.3s
RUE Ruedersdorf 90.06 322 *e*P **P 11 12 29.9 +1.0**
HSKC Hora Svate Kat 90.13 320 *e*P **P 11 12 30.7 +1.3**
HSKC *e*S **S 11 23 18.3 -3.1**
HSKC AMS AMS 12 01 10.0
comp=Z,4μm,18.9s
CESX Cesi 90.16 312 IAmb IAmb 11 13 04.2
comp=Z,204nm,2.0s
BJO1 Bjornoya 90.36 345 *e*P **P 11 12 30.5 +0.6**
BJO1 *e*SKSac **SKSac 11 23 00.2 +1.1**
LESA Schwarzleotal 90.40 317 *e*P **P 11 12 28.2 -2.6**
comp=Z,20nm,1.0s,SNR=10
CLL Collm 90.45 321 IAmb IAmb 11 12 42.2
comp=Z,72nm,1.3s
CLL Collm 90.45 321 *i* P **P 11 12 32.1 +1.3**
CLL *e*S **S 11 23 20.0 -4.2**
CLL pmax pmax
comp=Z,77nm,1.3s
CLL MLR MLR
comp=Z,4μm,19.5s
ABTA Abfaltersbach 90.47 317 *i* P **P 11 12 30.5 -0.6**
comp=Z,0.1nm,0.3s
CIMO Cimolais 90.50 316 IAmb IAmb 11 12 43.2
comp=Z,147nm,1.1s
FAUS Fauske 90.64 337 *e*P **P 11 12 31.6 +0.3**
FAUS IVmB_BB 11 12 41.5
comp=Z,3μm,4.0s
FAUS *e*SKSac **SKSac 11 23 04.7 +3.8**

FAUS IVMs_BB IVMs_BB 11 42 23.1
comp=Z,3μm,3.9s
HFS Hagfors 90.70 330 P **P 11 12 31.2 -0.6**
comp=Z,13nm,0.9s,baz=114,slow=3.5,SNR=11
HFS PP **PP 11 16 04.5 -2.7**
comp=Z,8.9nm,0.7s,baz=91,slow=8.6,SNR=2.4
comp=Z,13nm,0.9s
STEI Steigen 90.71 338 *e*P **P 11 12 31.6 0.0**
STEI IVmBBB 11 12 38.6
comp=Z,3μm,2.9s
STEI *e*SKSac **SKSac 11 23 04.4 +3.1**
STEI IVMs_BB IVMs_BB 11 44 01.5
comp=Z,3μm,3.8s
NKC Novy Kostel 90.73 320 AMS AMS 12 01 30.0
comp=Z,5μm,19.3s
MOR8 Moi Rana 90.86 336 *e*P **P 11 12 32.0 -0.4**
MOR8 IVmB_BB 11 12 49.9
comp=Z,2μm,3.5s
MOR8 *e*SKSac **SKSac 11 23 04.3 +1.9**
TEOL Teolo 90.98 315 IAmb IAmb 11 12 45.0
comp=Z,122nm,1.2s
CTI Castel Tesino 91.03 316 IAmb IAmb 11 12 45.5
comp=Z,141nm,1.1s
WTTA Wattenberg 91.10 317 *i* P **P 11 12 33.5 -0.6**
comp=Z,42nm,1.2s,SNR=8.4
WATA Walderalm 91.15 317 *i* P **P 11 12 34.0 -0.3**
comp=Z,41nm,1.5s,SNR=7.9
LOF Lofoten 91.36 338 *e*SKSac **SKSac 11 23 06.5 +1.4**
SQTA Sankt Quirin 91.39 317 *e*PcP **P 11 12 35.8 +0.4**
comp=Z,58nm,1.3s
LEIR Leirfjorden 91.39 336 *e*P **P 11 12 35.6 +0.8**
LEIR IVmB_BB 11 12 48.3
comp=Z,3μm,3.4s
LEIR *e*SKSac **SKSac 11 23 04.7 -0.6**
SNAA Sanae 91.43 198 P **P 11 12 37.2 +2.1**
SNAA Sanae 91.43 198 P **P 11 12 34.8 -0.3**
SNAA IAmb IAmb 11 12 48.9
comp=Z,69nm,1.3s
SNAA Sanae 91.43 198 ⇑P **P 11 12 37.2 +2.1**
comp=Z,9.7nm,0.2s
SNAA Sanae 91.43 198 P **P 11 12 36.5 +1.4**
comp=Z,4.3nm,0.9s,baz=117,slow=4.6,SNR=5.4
SNAA LR LR 11 45 58.1
comp=Z,4μm,21.6s,baz=81,slow=30
comp=Z,4.3nm,0.9s
SNAA Sanae 91.43 198 P **P 11 12 34.8 -0.3**
SNAA pmax pmax
comp=Z,69nm,1.3s
STOK Stokkvaagen 91.45 336 *e*P **P 11 12 37.1 +2.0**
STOK *e*SKSac **SKSac 11 23 07.2 +1.6**
MOTA Moosalm 91.47 317 *i* P **P 11 12 35.3 -0.6**
comp=Z,40nm,0.8s
SPB2 Spitsbergen Ar 91.48 348 IAmb IAmb 11 12 44.0
comp=Z,80nm,0.9s
SPA0 Spitsbergen Ar 91.48 348 *e*P **P 11 12 35.7 +0.6**
SPA0 IVmBBB 11 12 43.0
comp=Z,1μm,1.9s
SPA0 *e*SKSac **SKSac 11 23 07.1 +1.5**
SPITS Spitsbergen Ar 91.48 348 P **P 11 12 34.5 -0.6**
comp=Z,24nm,0.8s,baz=114,slow=8.3,SNR=16
comp=Z,24nm,0.8s
SPITS Spitsbergen Ar 91.48 348 P **P 11 12 35.2 +0.1**
SPITS pmax pmax
comp=Z,131nm,1.2s
GRA1 Grafenberg Arr 91.49 319 IAmb IAmb 11 12 47.7
comp=Z,101nm,1.3s
GRF Grafenberg Arr 91.49 319 *e*P **P 11 12 36.0 +0.3**
comp=Z,48nm,1.3s,baz=93,slow=3.8
GRFO Grafenberg 91.50 319 P **P 11 12 37.8 +2.1**
GRFO IAmb IAmb 11 12 47.7
comp=Z,98nm,1.3s
RETA Reutte 91.70 317 *i* P **P 11 12 36.6 -0.2**
comp=Z,54nm,1.7s,SNR=9.9
FETA Feichten 91.71 317 *i* P **P 11 12 37.0 0.0**
comp=Z,64nm,1.2s,SNR=7.0
NC405 NORSAR Array S 91.74 331 IAmb IAmb 11 15 54.5
comp=Z,120nm,1.8s
NSS Namsos 91.78 334 *e*P **P 11 12 37.0 +0.3**
NSS IVmBBB 11 12 42.8
comp=Z,1μm,3.3s
NSS *e*SKSac **SKSac 11 23 10.1 +2.5**
NSS IVMs_BB IVMs_BB 11 46 41.8
comp=Z,3μm,3.6s
NC602 NORSAR Array S 91.80 331 *e*P **P 11 12 35.9 -1.0**
NC602 *e*SKSac **SKSac 11 23 10.4 +2.5**
NC602 IVMs_BB IVMs_BB 11 45 03.8
comp=Z,1μm,3.8s
NC303 NORSAR Array S 91.91 331 IAmb IAmb 11 14 54.0
comp=Z,154nm,1.9s
NB2 NORSAR Subarra 91.98 331 P **P 11 12 37.3 -0.4**
comp=Z,32nm,1.1s,baz=93,slow=4.8
NB2 PP **PP 11 16 20.6 +3.3**
comp=Z,64nm,2.0s,baz=94,slow=7.9
NB2 NORSAR Subarra 91.98 331 P **P 11 12 37.3 -0.4**
baz=93,slow=4.8
NOA NORSAR Array B 91.98 331 P **P 11 12 37.2 -0.6**
comp=Z,7.3nm,0.8s,baz=94,slow=4.6,SNR=24
NOA PP **PP 11 16 16.9 -0.3**
comp=Z,7.6nm,1.0s,baz=99,slow=7.9,SNR=4.4
comp=Z,7.3nm,0.8s
FUORN Ofenpass-Fuorn 92.01 316 IAmb IAmb 11 12 50.2
comp=Z,97nm,1.2s
NAO01 NORSAR Array S 92.13 331 IAmb IAmb 11 13 03.2
comp=Z,123nm,1.8s
OSL Oslo 92.18 330 *e*P **P 11 12 40.3 +1.7**
OSL *e*SKSac **SKSac 11 23 13.1 +3.1**
DAVOX Davos/Dischmat 92.28 317 LR LR 12 00 38.5
comp=Z,2μm,18.3s,baz=74,slow=40
DAVA Damuels 92.30 317 *e*PcP **P 11 12 39.9 +0.2**
comp=Z,50nm,1.1s
KEST Kesra 92.35 305 P **P 11 12 41.0 +0.9**
comp=Z,26nm,0.9s,baz=346,slow=3.4,SNR=14
comp=Z,26nm,0.9s
KBS Kingsbay 92.42 349 IAMs_20 IAMs_20 12 02 12.0
comp=Z,10μm,18.0s
KBS Kingsbay 92.42 349 *e*P **P 11 12 40.4 +0.9**
KBS *e*SKSac **SKSac 11 23 13.6 +2.8**
TBLU Trondheim 92.49 333 *e*P **P 11 12 39.9 -0.1**
TBLU IVmB_BB 11 12 56.1
comp=Z,2μm,3.5s
TBLU *e*PP **PP 11 16 21.2 0.0**
TBLU *e*SKSac **SKSac 11 23 14.0 +2.4**
KONO Kongsberg 92.74 329 P **P 11 12 41.0 -0.2**
KONO IAmb IAmb 11 12 52.9
comp=Z,64nm,1.3s
KONO Kongsberg 92.74 329 *e*P **P 11 12 42.5 +1.3**
KONO *e* 11 23 15.1
KONO *e*ScS **S 11 23 48.6 +4.0**
KONO Kongsberg 92.74 329 P **P 11 12 41.0 -0.2**
KONO pmax pmax
comp=Z,64nm,1.3s
STU Stuttgart 92.79 319 *e*P **P 11 12 42.0 +0.3**
DOMB Dombas 93.03 332 *e*P **P 11 12 43.4 +0.8**
DOMB IVmB_BB 11 12 43.8
comp=Z,850nm,3.8s
DOMB *e* 11 23 51.5
VNA2 Neumayer--Watz 93.05 198 P P 11 12 51.3 +8.9
baz=94,slow=4.7
VNA2 Neumayer--Watz 93.05 198 ⇑P P 11 12 51.3 +8.9
comp=Z,10nm,0.5s,baz=94,slow=4.7
HOMB Homborsund 93.30 328 *e*ScS **S 11 23 52.4 +2.9**
BFO Black Forest 93.36 318 P **P 11 12 45.3 +0.9**
BFO Black Forest 93.36 318 P **P 11 12 45.3 +0.9**
BFO pmax pmax
comp=Z,28nm,1.3s
SKAR Skarslia 93.39 330 *e*P **P 11 12 44.2 -0.1**
SKAR *e*ScS **S 11 23 54.0 +3.5**
SKAR IVMs_BB IVMs_BB 11 45 28.1
comp=Z,1μm,4.0s
VNA1 Neumayer--Stat 93.41 198 P P 11 12 52.1 +8.0
VNA1 Neumayer--Stat 93.41 198 ⇑P P 11 12 52.1 +8.0
comp=Z,22nm,1.0s
VNA3 Neumayer Olymp 93.65 198 P P 11 12 54.2 +8.9
VNA3 Neumayer Olymp 93.65 198 ⇑P P 11 12 54.2 +8.9
comp=Z,4.6nm,0.8s
SENIN Lac Senin/Sane 94.06 316 IAmb IAmb 11 13 12.8
comp=Z,83nm,1.0s
SENIN IAMs_20 IAMs_20 12 02 35.9
comp=Z,12μm,22.0s
M11K Mekoryuk 94.21 30 IAMs_20 IAMs_20 12 01 37.6
comp=Z,7μm,19.0s
C16K Lisburne Hills 94.25 22 IAmb IAmb 11 13 09.2
comp=Z,57nm,1.1s
C16K IAMs_20 IAMs_20 12 01 47.1
comp=Z,7μm,20.0s
BLS5 Blasjo 94.34 329 *e*P **P 11 12 48.9 +0.2**

BLS5 *e*SKSac **SKSac** **11 23 24.9 +2.8**
HYA Hoyanger 94.42 331 *e*ScS **S** **11 24 03.8 +4.6**
ANM Nome 94.43 26 IAms_20 IAms_20 12 00 57.1
comp=Z,6µm,18.0s
F15K North Star Dit 94.67 24 IAms_20 IAms_20 11 59 10.5
comp=Z,6µm,20.0s
BER Bergen 94.87 330 *e*P **P** **11 12 52.9 +2.0**
BER *e*ScS **S** **11 24 06.0 +2.8**
K13K Kusilvak Mount 94.89 28 IAmb IAmb 11 12 53.9
comp=Z,107nm,1.6s
K13K IAms_20 IAms_20 12 00 32.5
comp=Z,7µm,19.0s
ASK Askoy 94.93 330 *e*ScS **S** **11 24 06.3 +2.6**
SUE Sulen 95.11 331 *e* **ScS** **11 24 08.1 +1.8**
SUE *e*ScS **ScS** **11 24 08.1 +1.8**
J14K Nanvaranak Lak 95.35 27 IAmb IAmb 11 13 03.0
comp=Z,144nm,1.9s
J14K IAms_20 IAms_20 12 03 21.6
comp=Z,6µm,18.0s
M13K Dall Lake 95.62 30 IAms_20 IAms_20 12 02 21.0
comp=Z,6µm,20.0s
G16K Koyuk River 95.65 25 IAms_20 IAms_20 11 59 51.3
comp=Z,6µm,20.0s
C18K Utukok River 95.75 21 IAms_20 IAms_20 12 03 33.5
comp=Z,9µm,18.0s
F17K Baldwin Pennin 95.99 24 IAms_20 IAms_20 12 02 06.1
comp=Z,6µm,19.0s
E18K Tukpahlearik C 96.12 23 IAms_20 IAms_20 12 02 37.5
comp=Z,9µm,20.0s
K15K Wolf Creek Mou 96.33 28 IAmb IAmb 11 13 01.3
comp=Z,143nm,1.9s
K15K IAms_20 IAms_20 12 03 29.5
comp=Z,7µm,19.0s
I17K Unalakleet 96.52 26 IAms_20 IAms_20 12 03 54.5
comp=Z,5µm,18.0s
NOR Nord 96.60 352 *i* P **P** **11 12 57.4 -1.1**
NOR IAmb IAmb 11 13 36.9
comp=Z,50nm,1.5s
J16K Anvik River 96.64 27 IAms_20 IAms_20 12 03 13.6
comp=Z,5µm,18.0s
H17K Granite Mounta 96.73 25 IAms_20 IAms_20 12 02 32.8
comp=Z,5µm,18.0s
D19K Kuna River 96.89 21 IAmb IAmb 11 13 21.0
comp=Z,47nm,1.0s
D19K IAms_20 IAms_20 12 03 50.7
comp=Z,5µm,19.0s
G18K Tagagawik 97.11 24 IAms_20 IAms_20 12 02 26.8
comp=Z,6µm,20.0s
N15K Kwethluk River 97.26 30 IAms_20 IAms_20 12 03 50.3
comp=Z,6µm,18.0s
F19K Shaleruckik Mo 97.30 23 IAmb IAmb 11 13 22.4
comp=Z,38nm,1.1s
F19K IAms_20 IAms_20 12 03 13.8
comp=Z,10µm,20.0s
J17K VABM Dome 97.31 26 IAmb IAmb 11 13 14.5
comp=Z,31nm,0.9s
J17K IAms_20 IAms_20 12 02 59.2
comp=Z,5µm,19.0s
H18K Honhosa River 97.34 25 IAmb IAmb 11 13 23.0
comp=Z,35nm,0.9s
H18K IAms_20 IAms_20 12 00 54.1
comp=Z,5µm,21.0s
L16K Owhat River 97.36 28 IAmb IAmb 11 13 38.4
comp=Z,41nm,1.4s
L16K IAms_20 IAms_20 12 05 39.8
comp=Z,5µm,18.0s
E19K Redstone River 97.40 22 IAms_20 IAms_20 12 02 45.3
comp=Z,9µm,20.0s
G19K Purcell Mounta 97.70 24 IAmb IAmb 11 13 08.8
comp=Z,28nm,0.9s
G19K IAms_20 IAms_20 12 03 07.3
comp=Z,6µm,21.0s
M16K Timber Creek 97.70 29 IAms_20 IAms_20 12 03 08.9
comp=Z,6µm,19.0s
K17K Iditarod 97.76 27 IAmb IAmb 11 15 14.8
comp=Z,46nm,1.0s
B21K Ikpikpuk River 97.89 20 IAmb IAmb 11 13 25.6
comp=Z,35nm,0.9s
H19K Roundabout Mou 98.07 24 IAmb IAmb 11 13 26.8
comp=Z,74nm,1.1s
B22K Teshekpuk Lake 98.12 19 IAmb IAmb 11 13 12.0
comp=Z,136nm,1.8s
O16K Kokwok River B 98.33 30 IAms_20 IAms_20 12 04 08.8
comp=Z,7µm,18.0s
J18K Innoko River 98.34 26 IAmb IAmb 11 15 17.0
comp=Z,27nm,1.1s
M17K Holitna River 98.37 28 IAms_20 IAms_20 12 03 11.5
comp=Z,6µm,20.0s
E21K Killik River 98.39 21 IAms_20 IAms_20 12 03 25.5
comp=Z,8µm,18.0s
N17K Nushagak Hills 98.64 29 IAms_20 IAms_20 12 03 48.7
comp=Z,5µm,20.0s
F21K Alatna River 98.87 22 IAmb IAmb 11 13 44.1
comp=Z,43nm,1.2s
F21K IAms_20 IAms_20 12 03 41.2
comp=Z,6µm,21.0s
TORD Torodi Ar. Bea 98.95 283 P **P** **11 13 10.3 -0.2**
comp=Z,1.1nm,0.9s,baz=90,slow=6.6,SNR=3.9
TORD PP **PP** **11 17 14.3 +1.6**
comp=Z,5.2nm,1.2s,baz=79,slow=7.5,SNR=6.6
G21K Allakaket 99.03 23 IAmb IAmb 11 13 31.1
comp=Z,56nm,1.0s
G21K IAms_20 IAms_20 12 04 19.5
comp=Z,7µm,20.0s
I20K Naaghedeneel 99.03 25 IAmb IAmb 11 15 38.8
comp=Z,69nm,1.1s
IMAR Indian Mountai 99.06 23 P **Pdif** **11 13 09.5 -0.4**
DAG Danmarks Havn 99.14 348 P **Pdif** **11 13 10.4 +0.4**
DAG pmax pmax
comp=Z,24nm,1.5s
DAG Danmarks Havn 99.14 348 *i* P **Pdif** **11 13 08.0 -2.0**
DAG IAmb IAmb 11 13 18.4
comp=Z,27nm,1.2s
N18K Kilae Creek 99.24 29 IAms_20 IAms_20 12 04 57.6
comp=Z,5µm,18.0s
J20K Nowinta River 99.31 25 **Pdif** **11 13 10.7 -0.3**
J20K IAmb IAmb 11 13 13.9
comp=Z,90nm,1.9s
J20K IAms_20 IAms_20 12 04 13.2
comp=Z,5µm,18.0s
D23K Nanushuk River 99.42 20 IAmb IAmb 11 13 32.8
comp=Z,35nm,1.3s
H21K Melozitna Rive 99.52 24 IAmb IAmb 11 13 48.3
comp=Z,82nm,1.6s
K20K Telida 99.53 26 IAmb IAmb 11 13 15.0
comp=Z,64nm,1.6s
K20K IAms_20 IAms_20 11 59 60.0
comp=Z,5µm,22.0s
N19K Bonanza Creek 99.89 29 IAms_20 IAms_20 12 04 36.7
comp=Z,6µm,18.0s
EKA Eskdalemuir Ar 99.93 326 P **Pdif** **11 13 13.5 -0.4**
comp=Z,0.9nm,0.6s,baz=94,slow=5.9,SNR=3.5
EKA PP **PP** **11 17 15.6 -3.3**
comp=Z,8.7nm,0.9s,baz=100,slow=8.4,SNR=3.5
comp=Z,0.9nm,0.6s
I21K Tanana 99.97 24 IAms_20 IAms_20 12 04 04.4
comp=Z,5µm,20.0s
E23K Chandalar 100.06 21 IAms_20 IAms_20 12 04 30.5
comp=Z,8µm,18.0s
O19K Port Alsworth 100.10 29 IAms_20 IAms_20 12 05 09.3
comp=Z,5µm,19.0s
G23K Bananza Creek 100.32 22 IAms_20 IAms_20 12 05 11.5
comp=Z,6µm,18.0s
BPAW Bear Paw Mtn. 100.67 25 IAms_20 IAms_20 12 05 05.1
comp=Z,6µm,19.0s
Q19K Cape Douglas, 100.70 30 IAms_20 IAms_20 12 05 24.5
comp=Z,7µm,19.0s
D25K Kavik River 100.76 19 IAms_20 IAms_20 12 02 35.8
comp=Z,10µm,20.0s
KTH Kantishna Hill 100.85 26 IAms_20 IAms_20 12 07 44.9
comp=Z,5µm,18.0s
F24K Squaw Lake 100.86 21 IAms_20 IAms_20 12 02 39.6
comp=Z,9µm,22.0s
SII Sitkinak Islan 100.91 33 IAms_20 IAms_20 12 06 05.3
comp=Z,5µm,19.0s
SKT Skwentna 101.00 27 IAms_20 IAms_20 12 08 12.9
comp=Z,5µm,20.0s
I23K Minto, Yukon-K 101.05 24 IAms_20 IAms_20 12 03 40.8
comp=Z,7µm,21.0s
TRF Thorofare Moun 101.15 26 IAms_20 IAms_20 12 07 54.8
comp=Z,5µm,18.0s
G24K Hadweenzic Riv 101.28 22 IAms_20 IAms_20 12 05 40.9
comp=Z,6µm,20.0s
NEA2 Nenana 101.33 24 IAms_20 IAms_20 12 04 24.4
comp=Z,5µm,19.0s
SYI Shuyak Island 101.41 31 IAms_20 IAms_20 12 05 47.2
comp=Z,6µm,19.0s
H24K Noodor Dome 101.42 23 IAms_20 IAms_20 12 05 43.5
comp=Z,7µm,19.0s
CUT Chulitna 101.45 27 IAms_20 IAms_20 12 07 51.0
comp=Z,5µm,19.0s
CAPN Captain Cook N 101.49 28 IAms_20 IAms_20 12 03 33.0
comp=Z,5µm,19.0s
SUA Susitna One 101.50 28 IAms_20 IAms_20 12 07 26.1
comp=Z,5µm,18.0s
HOM Homer 101.53 30 IAms_20 IAms_20 12 06 11.2
comp=Z,6µm,18.0s
M22K Willow 101.70 27 IAms_20 IAms_20 12 07 06.6
comp=Z,6µm,19.0s
COLA College 101.74 24 IAms_20 IAms_20 12 07 33.1
comp=Z,5µm,19.0s
POKR Poker Plat Res 101.83 24 IAms_20 IAms_20 12 04 15.5
comp=Z,6µm,21.0s
CCB Clear Creek Bu 101.83 24 IAms_20 IAms_20 12 03 53.7
comp=Z,5µm,22.0s
BRLK Bradley Lake 101.88 29 IAms_20 IAms_20 12 06 30.2
comp=Z,6µm,18.0s
SLKM Skilak Lake 102.00 28 IAms_20 IAms_20 12 04 12.5
comp=Z,5µm,19.0s
RC01 Rabbit Creek A 102.07 28 IAms_20 IAms_20 12 07 14.2
comp=Z,7µm,18.0s
BMAR Burnt Mountain 102.08 21 Pdif **Pdif** **11 13 24.9 +1.6**
ILAR Eielson Array 102.16 24 P **Pdif** **11 13 21.8 -1.9**
comp=Z,0.8nm,0.9s,baz=296,slow=3.5,SNR=8.1
ILAR PP **PP** **11 17 30.0 -5.4**
comp=Z,8.5nm,1.2s,baz=282,slow=7.7,SNR=7.6
ILAR PKKPbc **PKKPbc** **11 29 27.6 -1.8**
comp=Z,0.7nm,0.8s,baz=137,slow=2.1,SNR=6.6
ILAR PKKP **PKKPdf** **11 29 35.4 -0.7**
comp=Z,1.6nm,0.7s,baz=139,slow=2.1,SNR=15
FYU Fort Yukon 102.17 22 IAms_20 IAms_20 12 08 26.2
comp=Z,6µm,19.0s
GHO Glory Hole Cre 102.24 27 IAms_20 IAms_20 12 09 00.8
comp=Z,5µm,20.0s
O22K Cooper Landing 102.24 28 IAms_20 IAms_20 12 07 57.0
comp=Z,6µm,19.0s
PRP Porcupine Dome 102.44 23 IAms_20 IAms_20 12 06 16.6
comp=Z,8µm,19.0s
D27M Malcolm River 102.55 19 IAms_20 IAms_20 12 04 50.2
comp=Z,9µm,22.0s
ESDC Sonseca Array 102.72 310 PP **PP** **11 17 43.1 +2.6**
comp=Z,4.0nm,1.0s,baz=91,slow=7.7,SNR=4.4
PWL Port Wells 102.79 28 IAms_20 IAms_20 12 07 54.3
comp=Z,9µm,18.0s
J25K Salcha River, 102.83 24 IAms_20 IAms_20 12 04 43.0
comp=Z,6µm,20.0s
SCM Sheep Creek Mo 102.94 27 IAms_20 IAms_20 12 07 03.3
comp=Z,5µm,21.0s
SCO Scoresbysund 103.00 343 IAms_20 IAms_20 12 09 20.3
comp=Z,7µm,20.0s
E28M Babbage River 103.30 19 IAms_20 IAms_20 12 06 33.1
comp=Z,7µm,21.0s
RIDG Independent Ri 103.36 24 IAms_20 IAms_20 12 06 57.1
comp=Z,5µm,19.0s
I26K Coal Creek Min 103.44 23 IAms_20 IAms_20 12 06 57.0
comp=Z,7µm,20.0s
J26L Joseph Creek 103.59 24 IAms_20 IAms_20 12 07 44.1
comp=Z,5µm,19.0s
SCRK Sand Creek 103.63 24 IAms_20 IAms_20 12 05 18.0
comp=Z,6µm,20.0s
FID Port Fidalgo 103.69 28 IAms_20 IAms_20 12 08 04.7
comp=Z,5µm,18.0s
KLU Klutina 103.69 27 IAms_20 IAms_20 12 06 10.1
comp=Z,4µm,18.0s
HIN Hinchinbrook I 103.79 28 IAms_20 IAms_20 12 06 14.8
comp=Z,5µm,18.0s
NEEM North Greenlan 103.86 354 *i* P **Pdif** **11 13 32.6 +1.3**
NEEM IAmb IAmb 11 13 45.5
comp=Z,12nm,0.9s
E29M Blow River 103.94 19 IAms_20 IAms_20 12 08 18.8
comp=Z,6µm,18.0s
N25K Chitina, Galde 104.25 27 IAms_20 IAms_20 12 08 04.7
comp=Z,5µm,19.0s
L26K Log Cabin Wild 104.26 25 IAms_20 IAms_20 12 07 18.8
comp=Z,5µm,20.0s
EGAK Eagle 104.43 23 IAms_20 IAms_20 12 07 38.2
comp=Z,7µm,22.0s
I28M Miner Creek 104.60 22 IAms_20 IAms_20 12 07 36.7
comp=Z,7µm,20.0s
GLB Gilahina Butte 104.66 27 IAms_20 IAms_20 12 08 17.5
comp=Z,5µm,19.0s
HMT Hamilton 104.86 28 IAms_20 IAms_20 12 08 47.0
comp=Z,7µm,18.0s
L27K Beaver Creek, 104.88 25 IAms_20 IAms_20 12 09 42.1
comp=Z,5µm,18.0s
SUCK Suckling Hills 105.18 28 IAms_20 IAms_20 12 09 17.5
comp=Z,8µm,18.0s
G30M tAoh Zraii Nji 105.19 20 IAms_20 IAms_20 12 05 06.0
comp=Z,8µm,20.0s
I29M Ogilvie Camp, 105.25 22 IAms_20 IAms_20 12 08 16.7
comp=Z,9µm,20.0s
SUMG Summit 105.83 348 IAms_20 IAms_20 12 07 43.2
comp=Z,7µm,20.0s
SUMG Summit 105.83 348 *i* P **Pdif** **11 13 42.0 +1.7**
H09N1 TRISTAN DA CUN 106.08 230 T T 13 11 49.3
SNR=12
H09W1 TRISTAN DA CUN 106.09 230 T T 13 11 44.2
SNR=29
TULEG Thule 106.10 357 IAms_20 IAms_20 12 09 11.6
comp=Z,6µm,20.0s
K29M Barlow Dome 106.27 23 IAms_20 IAms_20 12 09 14.8
comp=Z,5µm,21.0s
AVE Averroes 106.28 304 IAms_20 IAms_20 12 03 17.2
comp=Z,6µm,18.0s
J30M Hart River 106.36 22 IAms_20 IAms_20 12 09 27.3
comp=Z,6µm,19.0s
L29M L29M 106.37 24 IAms_20 IAms_20 12 11 24.6
comp=Z,6µm,18.0s
M29M Somme Creek 106.54 24 IAms_20 IAms_20 12 06 28.2
comp=Z,6µm,22.0s
KULLO Kullorsuaq 107.10 354 *i* P **Pdif** **11 13 51.5 +6.0**
KULLO IAmb IAmb 11 13 56.9
comp=Z,7.9nm,0.8s
M30M Minto, Yukon 107.16 24 IAms_20 IAms_20 12 09 14.6
comp=Z,5µm,20.0s
TBI Tubuai 107.41 115 *e*S **Sdif** **11 25 46.0 -4.5**
TBI comp=Z,10µm,28.8s *e*SS **SS** **11 33 24.8 +0.8**
comp=Z,13µm,26.2s
TBI Tubuai 107.41 115 *e*LQ LQ 11 44 42.2
comp=Z,6µm,26.2s
TBI *e*LR LR 11 49 17.9
TBI comp=Z,7µm,23.0s *e*LR LR 11 49 17.9
comp=Z,28µm,23.0s
C36M Paulatuk 107.42 15 IAms_20 IAms_20 12 11 30.5
comp=Z,5µm,19.0s
O29M Mount Kennedy 107.46 27 IAms_20 IAms_20 12 07 34.6
comp=Z,6µm,20.0s
N30M Aishikik Lake 107.58 25 IAms_20 IAms_20 12 11 53.6
comp=Z,7µm,18.0s
N31M Braeburn, Yuko 108.11 25 IAms_20 IAms_20 12 11 40.8
comp=Z,6µm,19.0s
PPT2 Papeete2 108.31 109 *e*S **Sdif** **11 25 43.5 -15**
comp=Z,4µm,26.8s
PPT2 *e*SS **SS** **11 33 32.1 -4.4**
comp=Z,2µm,27.2s
PPT2 Papeete2 108.31 109 *e*LR LR 11 49 39.2
comp=Z,4µm,24.2s
PPT2 *e*LR LR 11 49 41.9
comp=Z,6µm,23.5s
M31M Drury Creek, Y 108.32 24 IAms_20 IAms_20 12 11 44.2
comp=Z,6µm,18.0s
O30N Mendenhall 108.33 25 IAms_20 IAms_20 12 10 47.6
comp=Z,5µm,18.0s
FARO Faro, Yukon 108.72 23 IAms_20 IAms_20 12 09 27.7
comp=Z,5µm,22.0s
N32M Quiet Lake 109.40 24 IAms_20 IAms_20 12 10 43.8
comp=Z,4µm,18.0s
S31K Pelican 109.61 28 IAms_20 IAms_20 12 13 14.6
comp=Z,4µm,20.0s
P32M Atlin 109.95 26 IAms_20 IAms_20 12 12 55.5
comp=Z,4µm,18.0s
P33M Teslin, Yukon 110.01 25 IAms_20 IAms_20 12 12 31.0
comp=Z,5µm,18.0s
R32K Eaglecrest 110.25 27 IAms_20 IAms_20 12 08 19.6
comp=Z,4µm,20.0s
Q32M Nakina River 110.91 26 IAms_20 IAms_20 12 11 53.9
comp=Z,4µm,20.0s
R33M Jennings River 111.24 25 IAms_20 IAms_20 12 11 56.5
comp=Z,5µm,20.0s
S34M Telegraph Cree 111.98 27 IAms_20 IAms_20 12 10 35.2
comp=Z,4µm,21.0s
U33K Whale Pass 111.99 29 IAms_20 IAms_20 12 12 33.8
comp=Z,5µm,18.0s
WRAK Wrangell Islan 112.21 28 IAms_20 IAms_20 12 13 09.5
comp=Z,5µm,19.0s
T35M Bob Quinn 112.89 27 IAms_20 IAms_20 12 15 08.3
comp=Z,5µm,21.0s
ASCN Ascension 113.89 260 IAms_20 IAms_20 12 01 39.5
comp=Z,4µm,18.0s
YKA Yellowknife Ar 115.09 17 PKP **PKiKP** **11 18 09.4 -0.5**
comp=Z,2.8nm,0.7s,baz=328,slow=1.7,SNR=28
YKA PP **PP** **11 19 10.9 +1.7**
comp=Z,8.1nm,1.0s,baz=312,slow=6.5,SNR=13
YKA PKKPab **PKKPab** **11 28 51.8 -0.1**
comp=Z,1.2nm,0.8s,baz=145,slow=3.8,SNR=8.8
TAOE Nuku Hiva Isla 118.71 102 *e*LR LR 11 54 33.4
comp=Z,3µm,23.4s
USHA Ushuaia 121.78 188 PKP **PKiKP** **11 18 24.3 +1.0**
comp=Z,5.7nm,0.9s,baz=207,slow=2.3,SNR=2.0
D05A Enumclaw 122.70 33 IAms_20 IAms_20 12 18 01.6
comp=Z,3µm,19.0s
GO10 Punta Arenas 123.74 186 IAms_20 IAms_20 12 09 10.4
comp=Z,7µm,20.0s
PTCN Pitcairn Islan 123.89 123 IAms_20 IAms_20 12 09 50.4
comp=Z,6µm,20.0s
HOOD Mount Hood Mea 124.01 35 IAms_20 IAms_20 12 20 44.4
comp=Z,4µm,21.0s
NEW Newport 124.54 29 IAms_20 IAms_20 12 19 05.6
comp=Z,4µm,22.0s
E08A Dider Farm, El 124.71 32 IAms_20 IAms_20 12 19 42.6
comp=Z,4µm,21.0s
KCTM Capetown 125.06 41 **PKiKP** **11 18 31.0 +0.8**
FFC Flin Flon 125.19 16 PKPdf **PKiKP** **11 18 30.2 +0.2**
FFC Flin Flon 125.19 16 PKIKP **PKiKP** **11 18 30.2 +0.2**
MG05 Puerto Natales 125.35 186 IAms_20 IAms_20 12 12 39.9
comp=Z,4µm,19.0s
O02D Mt. Diablo Mer 126.22 40 IAms_20 IAms_20 12 19 58.8
comp=Z,6µm,18.0s
BMO Blue Mountains 126.71 33 IAms_20 IAms_20 12 23 46.5
comp=Z,3µm,20.0s
MSO Missoula 127.08 29 IAms_20 IAms_20 12 25 41.0
comp=Z,5µm,18.0s
SCHQ Schefferville 127.10 351 PKP **PKiKP** **11 18 33.8 -0.1**
comp=Z,13nm,0.8s,baz=10.0,slow=3.2,SNR=15
PLID Pearl Lake 127.25 32 IAms_20 IAms_20 12 23 44.7
comp=Z,3µm,19.0s
EGMT Eagleton 128.10 25 IAms_20 IAms_20 12 19 38.4
comp=Z,5µm,21.0s
BOZ Bozeman (W) 129.08 29 IAms_20 IAms_20 12 21 41.8
comp=Z,4µm,21.0s
HLID Hailey 129.12 32 IAms_20 IAms_20 12 25 10.2
comp=Z,6µm,20.0s
NVAR Mina Array Bea 130.09 40 PKP **PKiKP** **11 18 40.7 +0.1**
comp=Z,5.5nm,0.7s,baz=267,slow=2.8,SNR=16
ELK Elko 130.53 35 IAms_20 IAms_20 12 26 36.1
comp=Z,4µm,21.0s
RLMT Red Lodge 130.54 27 IAms_20 IAms_20 12 22 30.3
comp=Z,4µm,22.0s
LAO LASA Array 130.62 24 IAms_20 IAms_20 12 19 47.0
comp=Z,4µm,20.0s
FXWY Fox Creek 130.81 30 IAms_20 IAms_20 12 25 26.7
comp=Z,4µm,20.0s
ULM Lac du Bonnet 130.81 14 PKP **PKPdf** **11 18 39.5 -1.0**
comp=Z,22nm,0.7s,baz=338,slow=2.1,SNR=44
MOOW Moose Ponds 130.87 30 IAms_20 IAms_20 12 25 27.2
comp=Z,3µm,20.0s
TPAW Teton Pass 130.96 30 IAms_20 IAms_20 12 25 32.5
comp=Z,5µm,20.0s
LOHW Long Hollow 131.04 30 IAms_20 IAms_20 12 26 15.7
comp=Z,4µm,18.0s
SNOW Snow King Moun 131.07 30 IAms_20 IAms_20 12 25 35.7
comp=Z,5µm,20.0s
COYC Coyhaique 131.33 187 IAms_20 IAms_20 12 10 46.4
comp=Z,5µm,21.0s
AHID Auburn Hatcher 131.41 31 IAms_20 IAms_20 12 25 51.5
comp=Z,5µm,19.0s
R11B Troy Canyon, C 131.84 38 IAms_20 IAms_20 12 27 36.1
comp=Z,3µm,20.0s
HWUT Hardware Ranch 131.99 32 IAms_20 IAms_20 12 27 26.2
comp=Z,5µm,19.0s
MDND Maddock 131.99 18 IAms_20 IAms_20 12 24 04.5
comp=Z,5µm,20.0s
PDAR Pinedale Array 132.18 30 PKP **PKPdf** **11 18 42.8 -0.9**
comp=Z,2.4nm,0.6s,baz=280,slow=3.3,SNR=18
DUG Dugway, Tooele 132.28 34 IAms_20 IAms_20 12 29 14.3
comp=Z,3µm,19.0s
AGMN Agassiz Nation 132.63 15 IAms_20 IAms_20 12 21 33.0
comp=Z,5µm,21.0s
E28A Huff 132.77 20 IAms_20 IAms_20 12 25 18.2
comp=Z,5µm,20.0s
MPU Maple Canyon 133.06 34 IAms_20 IAms_20 12 30 15.9
comp=Z,3µm,18.0s
RSSD Black Hills 133.61 24 PKPpre 11 18 38.0
RSSD Black Hills 133.61 24 IAms_20 IAms_20 12 26 41.0
comp=Z,3µm,20.0s
RSSD Black Hills 133.61 24 PKIKP PKPdf 11 18 38.0 -8.3
K22A Casper 133.71 27 IAms_20 IAms_20 12 22 26.1
comp=Z,3µm,22.0s
LDAQ Lac Daran 134.44 352 PKPdf **PKPdf** **11 18 47.7 +0.2**
LL01 San Ignacio de 134.51 188 **PKPdf** **11 18 47.7 0.0**
LMQ La Malbaie 134.71 351 PKPdf **PKiKP** **11 18 49.0 -0.4**
F33A 5 Mile Ranch, 134.78 16 IAms_20 IAms_20 12 27 44.1
comp=Z,5µm,20.0s
NBCA Caruaru-PE 135.00 256 *e*P **PKPdf** **11 18 49.8 +0.2**
SUSD Miller 135.22 20 IAms_20 IAms_20 12 22 17.2
comp=Z,6µm,21.0s
RCBR Riachuelo 135.36 259 IAms_20 IAms_20 12 17 45.7
comp=Z,3µm,18.0s
E62A Clayton Lake 135.48 350 IAms_20 IAms_20 12 27 28.0
comp=Z,5µm,19.0s
PLCA Paso Flores 135.84 190 PKP **PKPdf** **11 18 49.2 -1.2**
comp=Z,1.3nm,0.7s,baz=124,slow=3.6,SNR=3.8
F64A Sherman 135.99 349 IAms_20 IAms_20 12 26 50.5
comp=Z,5µm,20.0s
TRQA Tornquist 136.11 200 IAms_20 IAms_20 12 23 56.2
comp=Z,3µm,19.0s
WUAZ Wupatki 136.24 38 IAms_20 IAms_20 12 32 41.6
comp=Z,3µm,19.0s
SPMN Marine on St. 136.25 13 IAms_20 IAms_20 12 26 34.6
comp=Z,4µm,19.0s
BRIGG Briggsdale 136.36 27 IAms_20 IAms_20 12 28 15.2
comp=Z,3µm,19.0s
ISCO Idaho Springs 136.36 29 IAms_20 IAms_20 12 29 38.5
comp=Z,4µm,19.0s
PKME Peaks-Kenny Pk 136.74 349 IAms_20 IAms_20 12 25 48.5
comp=Z,4µm,20.0s
MVCO Mesa Verde 136.78 34 IAms_20 IAms_20 12 30 26.5
comp=Z,4µm,19.0s
G62A West of Eustis 137.01 350 IAms_20 IAms_20 12 27 21.5
comp=Z,5µm,20.0s
WVL Waterville 137.49 349 IAms_20 IAms_20 12 26 12.2
comp=Z,5µm,21.0s
SDCO Great Sand Dun 138.00 31 IAms_20 IAms_20 12 30 56.0
comp=Z,4µm,20.0s
LONY Lake Ozonia 138.13 354 IAms_20 IAms_20 12 26 18.2
comp=Z,5µm,22.0s
BGNE Belgrade 138.18 21 IAms_20 IAms_20 12 27 27.6
comp=Z,5µm,21.0s
LBNH Lisbon 138.18 352 IAms_20 IAms_20 12 28 29.5
comp=Z,5µm,19.0s
L34A Svendsen Farm, 138.28 19 IAms_20 IAms_20 12 28 09.0
comp=Z,6µm,20.0s
KSCO Kaye Shedlock' 138.40 27 IAms_20 IAms_20 12 30 22.0
comp=Z,4µm,19.0s
TUC Tucson 138.67 41 PKPpre 11 18 48.3
TUC Tucson 138.67 41 IAms_20 IAms_20 12 32 23.4
comp=Z,3µm,20.0s
TUC Tucson 138.67 41 PKHKP PKPpre 11 18 48.3
SPB Sao Paulo 139.00 228 IAms_20 IAms_20 12 09 08.2
comp=Z,3µm,20.0s
SPB Sao Paulo 139.00 228 *e*P **PKPdf** **11 18 56.7 +0.1**
JFWS Jewell Farm 139.00 12 IAms_20 IAms_20 12 27 48.4
comp=Z,6µm,20.0s
J61A Chester 139.15 352 IAms_20 IAms_20 12 30 57.1
comp=Z,5µm,18.0s
SCIA State Center 139.26 15 IAms_20 IAms_20 12 25 58.6
comp=Z,5µm,22.0s
J59A Piesco 139.27 354 IAms_20 IAms_20 12 28 11.3
comp=Z,5µm,20.0s
J57A Williamstown 139.45 356 IAms_20 IAms_20 12 32 01.2
comp=Z,5µm,18.0s
ANMO Albuquerque 139.55 35 PKPpre 11 18 50.9
ANMO Albuquerque 139.55 35 IAms_20 IAms_20 12 31 57.8
comp=Z,4µm,20.0s
ANMO Albuquerque 139.55 35 PKHKP PKPpre 11 18 50.9
K43A Burlington 139.56 10 IAms_20 IAms_20 12 26 52.0
comp=Z,5µm,21.0s
J55A Hilton 139.70 358 IAms_20 IAms_20 12 28 25.8
comp=Z,5µm,19.0s
CBKS Cedar Bluff 139.81 24 IAms_20 IAms_20 12 27 02.2
comp=Z,4µm,21.0s
Y22D IRIS PASSCAL I 139.91 36 IAms_20 IAms_20 12 29 27.3

comp=Z,4μm,22.0s
L61B Northampton 140.04 352 IAMs_20 IAMs_20 12 31 23.8
comp=Z,5μm,19.0s
N38A Joes South For 140.30 16 IAMs_20 IAMs_20 12 26 31.0
comp=Z,4μm,21.0s
M65A Busby, Falmout 140.57 349 IAMs_20 IAMs_20 12 29 10.9
comp=Z,5μm,20.0s
BINY Binghamton 140.65 356 IAMs_20 IAMs_20 12 26 55.1
comp=Z,6μm,22.0s
FRTB Fartura 140.72 227 *eP* **PKiKP 11 19 01.5 -0.9**
KSU1 Kansas State U 140.77 21 IAMs_20 IAMs_20 12 33 02.1
comp=Z,4μm,19.0s
L56A Greenwood 140.81 357 PKPdf **PKPdf 11 18 59.2 -0.2**
ERPA Erie 140.88 0 IAMs_20 IAMs_20 12 26 44.3
comp=Z,5μm,20.0s
M63A Gales Ferry 140.97 351 IAMs_20 IAMs_20 12 32 14.4
comp=Z,5μm,19.0s
M52A Chesterland 141.43 2 IAMs_20 IAMs_20 12 28 20.9
comp=Z,5μm,20.0s
EPT El Paso 141.76 38 IAMs_20 IAMs_20 12 33 06.6
comp=Z,3μm,19.0s
SFIN Lafayette 142.03 9 IAMs_20 IAMs_20 12 28 57.3
comp=Z,4μm,20.0s
N58A Sunbury 142.06 356 IAMs_20 IAMs_20 12 27 44.3
comp=Z,5μm,21.0s
AMTX Amarillo 142.16 30 IAMs_20 IAMs_20 12 34 48.0
comp=Z,4μm,19.0s
SSPA Standing Stone 142.32 358 **PKPdf 11 18 58.6 -3.5**
SSPA Standing Stone 142.32 358 IAMs_20 IAMs_20 12 26 55.3
comp=Z,5μm,22.0s
ACSO Alum Creek Sta 142.65 4 IAMs_20 IAMs_20 12 30 35.3
comp=Z,5μm,20.0s
SMWD Samnorwood 142.68 28 PKPdf **PKPdf 11 19 00.5 -2.5**
OK051 E0350 and S346 142.97 23 IAMs_20 IAMs_20 12 30 43.6
comp=Z,6μm,21.0s
PEL Peldehue 143.21 193 IAMs_20 IAMs_20 12 18 54.8
comp=Z,3μm,20.0s
MCWV Mont Chateau 143.34 0 IAMs_20 IAMs_20 12 30 15.3
comp=Z,4μm,20.0s
CCM Cathedral Cave 143.40 15 PKPpre 11 18 59.8
CCM Cathedral Cave 143.40 15 IAMs_20 IAMs_20 12 29 59.0
comp=Z,5μm,20.0s
CCM Cathedral Cave 143.40 15 PKIKP PKPab 11 18 59.8 -0.3
OK031 S. Brethren Rd 143.45 24 IAMs_20 IAMs_20 12 31 00.3
comp=Z,5μm,20.0s
P57A Homestead Farm 143.48 358 IAMs_20 IAMs_20 12 31 08.9
comp=Z,5μm,20.0s
VA03 San Esteban 143.54 193 IAMs_20 IAMs_20 12 18 21.3
comp=Z,4μm,22.0s
BDFB Brasilia 143.62 239 PKP **PKPdf 11 19 04.5 -0.8**
comp=Z,11nm,0.7s,baz=100,slow=5.0,SNR=8.4
WMOK Wichita Mounta 143.66 27 IAMs_20 IAMs_20 12 30 53.3
comp=Z,6μm,21.0s
CPUP Villa Florida 143.79 215 PKPdf PKPbc 11 19 03.7 +1.0
CPUP Villa Florida 143.79 215 PKP PKPbc 11 19 03.4 +0.7
comp=Z,9.8nm,0.7s,baz=143,slow=3.1,SNR=21
ROSB Rosrio 143.92 261 *eP* **PKiKP 11 19 07.8 -1.4**
APMT Aspermont 144.18 30 PKPbc 11 19 04.3 +0.6
SLBS Sierra La Lagu 144.21 52 PKPdf **PKPdf 11 19 05.8 -0.2**
WCI Wyandotte Cave 144.26 9 PKPbc 11 19 04.0 +0.3
WCI Wyandotte Cave 144.26 9 PKIKP PKPbc 11 19 04.1 +0.3
T42A Van Buren 144.40 16 IAMs_20 IAMs_20 12 31 12.6
comp=Z,5μm,20.0s
R61A Willards 144.43 354 IAMs_20 IAMs_20 12 30 21.1
comp=Z,5μm,22.0s
PBMO Poplar Bluff 144.81 15 **PKPab 11 19 05.4 -0.1**
S54A Dingess, Beckl 145.17 2 IAMs_20 IAMs_20 12 30 53.8
comp=Z,5μm,20.0s
TXAR Lajitas Array 145.21 38 PKPbc **PKPdf 11 19 07.9 +0.3**
comp=Z,101nm,0.7s,baz=291,slow=1.0,SNR=677
S57A Dark Hollow, R 145.23 359 IAMs_20 IAMs_20 12 29 31.2
comp=Z,5μm,20.0s
RPRD Ribas do Rio P 145.50 227 *eP* **PKPab 11 19 10.2 +1.7**
SMTB Santa Maria do 145.89 250 *eP* **PKiKP 11 19 12.2 -1.0**
C2SB Chapadao do Su 145.90 230 *eP* **PKiKP 11 19 11.7 -1.4**
PAPY Pozo Azul 146.02 217 *eP* **PKPab 11 19 11.2 +0.9**
WVT Waverly 146.03 12 **PKPdf 11 19 08.8 +0.1**
WVT Waverly 146.03 12 PKP2 **PKPdf 11 19 08.8 +0.1**
HDBT Hernando Brdge 146.44 15 IAMs_20 IAMs_20 12 35 27.7
comp=Z,5μm,20.0s
JCT Junction City 146.59 32 IAMs_20 IAMs_20 12 35 27.9
comp=Z,3μm,18.0s
V48A Smith Brothers 146.60 10 **PKPbc 11 19 11.6 +0.4**
AQDB Aquidauana 146.93 224 *eP* **PKPdf 11 19 11.4 +0.7**
V61A Roper 147.07 355 IAMs_20 IAMs_20 12 38 08.8
comp=Z,4μm,19.0s
V55A Taylorsville 147.11 2 IAMs_20 IAMs_20 12 31 05.3
comp=Z,5μm,21.0s
BBSR BB Station 147.38 336 IAMs_20 IAMs_20 12 34 25.3
comp=Z,3μm,20.0s
MURT Porto Murtinho 147.41 221 *eP* **PKPbc 11 19 13.0 -0.8**
BDQN Bodoquena, MS 147.68 223 *eP* **PKPbc 11 19 15.0 +0.4**
W57A Gilead 147.84 0 **PKPbc 11 19 14.8 +0.2**
AC04 Llanos de Chal 148.03 195 **PKiKP 11 19 17.2 -0.1**
SNDB Serra Nova Dou 148.11 242 *eP* **PKPbc 11 19 14.7 -1.2**
PANT Pantanal (Braz 148.56 225 *eP* **PKPbc 11 19 15.9 -1.1**
AC02 Maricunga 148.77 199 **PKPbc 11 19 16.6 -1.4**
Y57A Sumter 148.96 1 **PKPbc 11 19 18.3 +0.6**
HKT Hockley 149.02 28 **PKPdf 11 19 15.1 +1.3**
HKT Hockley 149.02 28 PKIKP **PKPdf 11 19 15.1 +1.3**
VBMS Vicksburg 149.06 18 IAMs_20 IAMs_20 12 33 29.3
comp=Z,5μm,21.0s
SALV Santo Antonio 149.78 231 *eP* **PKPdf 11 19 15.6 +0.2**
CLDB Colider 152.54 240 *eP* **PKPdf 11 19 21.9 +2.2**
PTLB Pontes e Lacer 152.68 228 *eP* **PKPdf 11 19 22.2 +2.4**
PDRB Porto dos Gac 152.97 238 *eP* **PKPdf 11 19 22.2 +1.8**
SIV San Ignacio 153.71 224 PKP **PKPdf 11 19 21.7 +0.3**
comp=Z,1.8nm,0.8s,baz=97,slow=5.5,SNR=7.2
SIV PKPbc **PKPbc 11 19 28.3 -0.9**
comp=Z,3.8nm,0.7s,baz=144,slow=5.1,SNR=12
NPGB Novo Progresso 153.74 248 *eP* **PKPdf 11 19 24.5 +3.0**
PB01 IPOC Station P 154.23 203 IAMs_20 IAMs_20 12 19 24.6
comp=Z,2μm,21.0s
VILB Vilhena 155.04 231 **PKPdf 11 19 26.9 +3.6**
VILB Vilhena 155.04 231 *eP* **PKPdf 11 19 24.8 +1.5**
TLIG Tlapa 156.44 50 IAMs_20 IAMs_20 12 44 10.6
comp=Z,3μm,20.0s
ANWB Willy Bob 157.00 311 IAMs_20 IAMs_20 12 36 30.1
comp=Z,3μm,21.0s
061Z Ochoppi 157.07 3 IAMs_20 IAMs_20 12 37 49.9
comp=Z,5μm,21.0s
GDSD La Dsirade Is 157.24 307 IAMs_20 IAMs_20 12 43 04.7
comp=Z,3μm,21.0s
BBGH Gun Hill 157.54 298 IAMs_20 IAMs_20 12 40 02.4
comp=Z,5μm,21.0s
SMRT St. Maarten 157.71 314 IAMs_20 IAMs_20 12 35 38.3
comp=Z,2μm,21.0s
LPAZ La Paz 157.80 211 PKP **PKPdf 11 19 27.8 +0.2**
comp=Z,1.7nm,0.6s,baz=97,slow=2.7,SNR=6.0
CBE Ff, Capester 157.81 308 IAMs_20 IAMs_20 12 45 10.8
comp=Z,2μm,20.0s
GDHS Morne Mazeau, 157.82 308 IAMs_20 IAMs_20 12 38 41.6
comp=Z,3μm,21.0s
SEUS St. Eustatius 158.00 313 IAMs_20 IAMs_20 12 41 55.1
comp=Z,3μm,21.0s
MPOM Morne Pois Mar 158.06 303 IAMs_20 IAMs_20 12 44 08.7
comp=Z,3μm,22.0s
SABA Saba 158.11 313 IAMs_20 IAMs_20 12 42 11.0
comp=Z,3μm,21.0s
FDF Fort de France 158.16 304 IAMs_20 IAMs_20 12 42 40.1
comp=Z,3μm,21.0s
BIM Bigot 158.20 303 IAMs_20 IAMs_20 12 43 18.3
comp=Z,2μm,21.0s
SJG San Juan 159.78 320 IAMs_20 IAMs_20 12 31 28.0
comp=Z,3μm,21.0s
GRGR Grenville 159.82 298 IAMs_20 IAMs_20 12 45 29.8
comp=Z,3μm,20.0s
NNA Nana 165.00 191 PKP **PKPdf 11 19 34.1 -0.3**
comp=Z,2.9nm,0.3s,baz=96,slow=5.1,SNR=1.4
SDV Santo Domingo 169.10 304 PKP **PKPdf 11 19 36.3 -1.4**
comp=Z,5.2nm,0.8s,baz=118,slow=4.4,SNR=5.9
SDV PKPab **PKPab 11 20 49.0 -0.3**
comp=Z,5.6nm,0.6s,baz=30,slow=6.9,SNR=3.6
ATAH Atahualpa 170.01 188 PKP **PKPdf 11 19 37.2 -1.4**
comp=Z,6.4nm,1.0s,baz=149,slow=4.1,SNR=7.8
ATAH PKPab **PKPab 11 20 54.0 +0.7**
comp=Z,3.0nm,0.6s,baz=59,slow=8.2,SNR=1.4
JTS Las Juntas de 170.97 35 PKP **PKPdf 11 19 37.7 -0.8**
comp=Z,6.0nm,0.9s,baz=221,slow=8.8,SNR=4.0
HDC Heredia 171.67 31 *eP* **PKPdf 11 19 41.2 +2.1**
ROSC El Rosal 174.21 290 PKP **PKPdf 11 19 40.5 0.0**
comp=Z,18nm,0.9s,baz=120,slow=4.9,SNR=6.4
OTAV Otavalo 177.11 207 *eP* **PKPdf 11 19 43.0 +1.7**

BJI ***02*** *11:01:35.1,3°.29S×100°.37E,h25km,mB5.9/38,mb5.8/85,*
Ms6.4/54,Ms7 6.3/53
MOS ***02*** *11:01:36.7±0.8,2°.75S×100°.30E,h14km,mb6.1/76,*
MS5.8/5,Error ellipse: s-maj=7.9km s-min=4.3km
az=110.7
IDC ***02*** *11:01:36.4±0.4,2°.82S×100°.18E,h0km,mb5.5/38,*
mbtmp5.5/41,ML4.6/3,MS5.6/10,Error ellipse:
s-maj=13.8km s-min=12.4km az=58.0
NEIC ***02*** *11:01:38.7±1.4,2°.73S±0°.05×100°.30E±0°.09,h10km±1km,*
mb5.8/127,Error ellipse: s-maj=16.9km s-min=2.9km
az=239.0
DJA ***02*** *11:01:38.1±0.6,3°S±3°×10°0E±°,h18km±5km,M6.3/25,*
mB6.6/9,mb6.0/25,MLv6.2/17,Mw5.9/36,Mw(mB)6.4/9,
MwMwp6.5/11,Mwp6.4/11
ISC 02 11:01:38.5±0.5,2°.87S±0°.04×100°.21E±0°.04,h16km±2km,
h17km:pP-P,n572,σ1$25/579,mb5.8/221,MS6.1/34,
14C-8D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.22**	**297**	P	**Pb**	**11 01 45.0**	**+0.8**
SISI	**Saibi**	**1.89**	**324**	P	**Pn**	**11 02 09.8**	**-0.4**
PPI	**Padang Panjang**	**2.40**	**5**	P	**Pn**	**11 02 18.7**	**+1.5**
KSI	**Kapahiang**	**2.51**	**108**	P	**Pn**	**11 02 20.8**	**+2.1**
MNAI	**Manna**	**3.12**	**118**	P	**Pn**	**11 02 29.0**	**+1.9**
BKNI	**Bangkinang**	**3.28**	**15**	P	**Pn**	**11 02 31.6**	**+2.3**
PBSI	**Pulau Batu**	**3.39**	**325**	P	**Pn**	**11 02 29.9**	**-0.9**
MNSI	**Mandailing Nat**	**3.69**	**350**	P	**Pn**	**11 02 36.0**	**+1.1**
MDSI	**Maura Dua**	**4.28**	**112**	P	**Pn**	**11 02 44.8**	**+1.8**
GSI	**Gunungsitoli**	**4.91**	**328**	P	**Pn**	**11 02 51.1**	**-0.6**
BLSI	**Bandar Lampung**	**5.61**	**116**	P	**Pn**	**11 03 02.6**	**+1.3**
2μm,0.8s							
RPSI	**Rantau Prapat**	**5.67**	**347**		**Pn**	**11 03 02.5**	**+0.4**
PSI	**Prapat**	**5.77**	**347**	Pn	**Pn**	**11 03 02.5**	**-1.1**
10nm,0.3s,baz=215,slow=20,SNR=1.5							
603nm,0.9s							
SNSI	**Sinabang, Aceh**	**6.52**	**323**	P	**Pn**	**11 03 13.1**	**-0.7**
8.2nm2μm,1.2s							
TSI	**Tuntungan**	**6.53**	**345**	P	**Pn**	**11 03 13.2**	**-0.8**
540μm3μm,1.5s							
CGJI	**Cibinong**	**6.62**	**124**	P	**Pn**	**11 03 15.7**	**+0.5**
5.7nm2μm,1.0s							
SBJI	**Serang**	**6.73**	**119**	P	**Pn**	**11 03 17.9**	**+1.1**
9.9nm2μm,1.4s							
SKJI	**Sukabumi**	**7.55**	**123**	P	**Pn**	**11 03 29.0**	**+1.0**
LEM	**Lembang**	**8.37**	**118**	Pn	**Pn**	**11 03 40.3**	**+0.9**
3.7nm,0.3s,baz=282,slow=20,SNR=1.6							
541nm,0.9s							
LHMI	**Lhok Sumawe**	**8.67**	**338**	P	**Pn**	**11 03 43.3**	**-0.1**
331μm64μm1μm,0.8s							
JCJI	**Jatiwangi**	**8.81**	**114**	P	**Pn**	**11 03 48.2**	**+2.9**
CMJI	**Cimerak**	**9.55**	**121**	P	**Pn**	**11 03 56.9**	**+1.4**
I06AU	**Cocos Islands**	**9.81**	**200**	T	T	11 13 21.6	
baz=30,slow=34							
SMRI	**Semarang**	**11.01**	**113**	Pn	**Pn**	**11 04 14.9**	**-0.7**
UGM	**Wanagama**	**11.43**	**116**	Pn	**Pn**	**11 04 19.8**	**-1.4**
PCJI	**Pacitan**	**12.13**	**116**	P	**Pn**	**11 04 32.4**	**+1.5**
461nm,0.8s							
GRJI	**Gresik**	**12.87**	**109**	P	**Pn**	**11 04 43.0**	**+2.0**
795nm,1.3s							
SBUM	**Sibu**	**13.12**	**66**	Pn	**Pn**	**11 04 42.7**	**-1.6**
GMJI	**Gumukmas**	**14.23**	**113**	P	**Pn**	**11 05 01.5**	**+2.0**
ABJI	**Asem Bagus**	**14.80**	**110**	P	**Pn**	**11 05 08.9**	**+1.6**
503nm,0.8s							
JAGI	**Jajag, Banyuwa**	**14.95**	**112**	Pn	**Pn**	**11 05 06.2**	**-3.2**
JAGI	**Jajag, Banyuwa**	**14.95**	**112**	P	**Pn**	**11 05 09.3**	**-0.1**
554nm,0.9s							
PBA	**Port Blair**	**16.22**	**333**	Pn	**Pn**	**11 05 23.1**	**-2.9**
BKB	**Balikpapan**	**16.76**	**85**	Pn	**Pn**	**11 05 31.1**	**-1.6**
BKB				IAmb	IAmb	11 05 38.2	
comp=Z,1μm,1.3s							
DLV	**Lat**	**16.86**	**29**	Pn	**Pn**	**11 05 31.8**	**-2.4**
TWSI	**Taliwang, Sumb**	**17.58**	**110**	P	**P**	**11 05 44.5**	**+0.4**
KKM	**Kota Kinabalu**	**18.27**	**61**		**Pn**	**11 05 49.1**	**-2.6**
PLAI	**Plampang**	**18.45**	**109**	P	**Pn**	**11 05 54.2**	**+0.4**
comp=Z,366nm,0.9s							
UBPT	**Khong Chiam**	**18.77**	**16**	P	**P**	**11 05 55.1**	**-2.0**
KAPI	**Kappang**	**19.62**	**97**	P	**P**	**11 06 04.9**	**-1.6**
KAPI				IAmb	IAmb	11 06 11.4	
comp=Z,714nm,1.0s							
KAPI	**Kappang**	**19.62**	**97**	P	**P**	**11 06 07.1**	**+0.6**
comp=Z,5.6nm,0.3s,baz=256,slow=12,SNR=7.5							
comp=Z,797nm,1.1s							
KAPI	**Kappang**	**19.62**	**97**	P	**P**	**11 06 04.9**	**-1.6**
KAPI				pmax	pmax		
comp=Z,714nm,1.0s							
WBSI	**Waikabubak, Su**	**20.21**	**110**	P	**P**	**11 06 13.9**	**+0.8**
BSSI	**Bau Bau, Buton**	**20.48**	**100**	P	Pn	11 06 17.3	-0.8
TOLI2	**Tolitoli**	**20.95**	**79**	P	**P**	**11 06 19.0**	**-1.9**
TOLI2				IAmb	IAmb	11 06 27.2	
comp=Z,527nm,0.9s							
CM31	**Chiang Mai Arr**	**21.23**	**357**	P	**P**	**11 06 23.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.23**	**357**	P	**P**	**11 06 22.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**21.23**	**357**	P	**P**	**11 06 23.6**	**-0.3**
comp=Z,85nm,0.9s,baz=185,slow=10.0,SNR=4.7							
CMAR				PcP	**PcP**	**11 10 30.1**	**+1.0**
comp=Z,17nm,0.9s,baz=219,slow=3.2,SNR=5.9							
CMAR				ScP	**ScP**	**11 14 05.8**	**+0.2**
comp=Z,3.0nm,0.8s,baz=179,slow=4.5,SNR=4.9							
comp=Z,85nm,0.9s							
PHRA	**Phrae**	**21.23**	**0**	P	**P**	**11 06 22.9**	**-1.0**
CHTO	**Chiang Mai**	**21.58**	**357**	P	**P**	**11 06 27.1**	**-0.6**
CHTO	**Chiang Mai**	**21.58**	**357**	P	**P**	**11 06 27.1**	**-0.6**
CHTO				pmax	pmax		
comp=Z,111nm,1.0s							
PALK	**Pallekele**	**21.91**	**297**	P	**P**	**11 06 30.5**	**-0.9**
comp=Z,34nm,1.0s,baz=275,slow=23,SNR=1.4							
comp=Z,34nm,1.0s							
PALK	**Pallekele**	**21.91**	**297**	*i* P	**P**	**11 06 31.8**	**+0.4**
QIZ	**Qiongzhong**	**23.73**	**23**	P	**P**	**11 06 49.7**	**-0.5**
QIZ				IAmb	IAmb	11 06 51.8	
comp=Z,229nm,1.1s							
QIZ	**Qiongzhong**	**23.73**	**23**	P	**P**	**11 06 49.9**	**-0.3**
QIZ				S	**S**	**11 11 06.2**	**+1.3**
QIZ				pmax	pmax		
comp=Z,180nm,1.0s							
QIZ				pmax	pmax		
comp=Z,3μm,11.8s							
QIZ				LR	LR		
comp=Z,31μm,15.4s							
QIZ				LR	LR		
comp=Z,31μm,13.2s							
QIZ				LR	LR		
comp=Z,40μm,14.3s							
TNTI	**Ternate**	**27.39**	**83**	P	**P**	**11 07 22.3**	**-1.2**
KMI	**Kunming**	**27.93**	**5**	⇑P	**P**	**11 07 29.0**	**+0.5**
KMI				pmax	pmax		
comp=Z,68nm,0.9s							
H08S2	**Diego Garcia H**	**27.99**	**259**	T	T	11 36 29.4	
baz=82,slow=76,SNR=101							
H08S3	**Diego Garcia H**	**28.00**	**259**	T	T	11 36 29.1	
baz=82,slow=76,SNR=83							
H08S1	**Diego Carcia H**	**28.01**	**259**	T	T	11 36 25.9	
baz=82,slow=76,SNR=94							
FITZ	**Fitzroy Crossi**	**29.16**	**123**	P	**P**	**11 07 38.9**	**-0.4**
PZH	**PanZhiHua**	**29.23**	**3**	P	**P**	**11 07 43.7**	**+3.8**
SHL	**Shillong**	**29.39**	**345**	P	**P**	**11 07 41.2**	**-0.3**
SHL				IAmb	IAmb	11 07 54.1	
comp=Z,188nm,0.8s							
SHL	**Shillong**	**29.39**	**345**	P	**P**	**11 07 41.2**	**-0.3**
SHL				pmax	pmax		
comp=Z,188nm,0.8s							
GULI	**GuiLin**	**29.67**	**19**	P	**P**	**11 07 45.0**	**+1.3**
GYA	**Guiyang**	**29.81**	**12**	⇓P	**P**	**11 07 45.5**	**+0.4**
GYA				S	**S**	**11 12 41.1**	**-0.3**
GYA				pmax	pmax		
comp=Z,120nm,1.4s							
GYA				pmax	pmax		
comp=Z,560nm,3.1s							
GYA				LR	LR		
comp=Z,25μm,12.9s							
GYA				LR	LR		
comp=Z,12μm,13.1s							
GYA				LR	LR		
comp=Z,34μm,13.5s							
KNRA	**Kununurra**	**30.87**	**116**	P	**P**	**11 07 53.9**	**-0.5**
KNRA				IAmb	IAmb	11 08 03.9	
comp=Z,74nm,0.7s							
KNRA	**Kununurra**	**30.87**	**116**	P	**P**	**11 07 53.0**	**-1.4**
comp=Z,116nm,0.8s							
FAKI	**Fak Fak**	**32.00**	**91**	P	**P**	**11 08 04.1**	**-0.4**
FAKI				IAmb	IAmb	11 08 06.3	
comp=Z,250nm,1.5s							
MTN	**Manton Dam**	**32.16**	**110**	P	**P**	**11 08 05.5**	**-0.3**
KNMB	**Chin-men Tao**	**32.41**	**32**	P	**P**	**11 08 06.9**	**-1.0**
KNMB				IAmb	IAmb	11 08 10.3	
comp=Z,237nm,1.2s							
MUN	**Mundaring**	**32.64**	**154**	P	**P**	**11 08 09.5**	**-0.4**
comp=Z,90nm,1.3s							
TWG	**Pinlang**	**32.66**	**38**	P	**P**	**11 08 08.0**	**-2.1**
TWG				IAmb	IAmb	11 08 19.8	
comp=Z,262nm,1.4s							
TPUB	**Ta-pu**	**32.75**	**36**	P	**P**	**11 08 09.7**	**-1.2**
QZH	**Quanzhou**	**32.91**	**32**	P	**P**	**11 08 12.7**	**+0.5**
QZH				pmax	pmax		
comp=Z,170nm,1.2s							
KLBR	**Kellerberrin**	**33.02**	**152**	P	**P**	**11 08 11.6**	**-1.6**
comp=Z,90nm,1.0s							
CNSH	**ChangSha**	**33.21**	**21**	P	**P**	**11 08 15.4**	**+0.6**
CNSH				S	**S**	**11 13 38.0**	**+3.9**
CNSH				pmax	pmax		
comp=Z,160nm,1.2s							
CNSH				LR	LR		
comp=Z,31μm,16.5s							
CNSH				LR	LR		
comp=Z,14μm,13.1s							
CNSH				LR	LR		
comp=Z,36μm,15.0s							
YULB	**Yu-li**	**33.22**	**37**	P	**P**	**11 08 14.2**	**-0.8**
YULB				IAmb	IAmb	11 08 18.2	
comp=Z,118nm,1.1s							
SSLB	**Suanglung**	**33.32**	**36**	P	**P**	**11 08 14.1**	**-1.8**
SSLB				IAmb	IAmb	11 08 22.1	
comp=Z,175nm,1.2s							
KDU	**Kakadu**	**33.38**	**109**	P	**P**	**11 08 14.5**	**-2.1**
LSA	**Lhasa**	**33.52**	**346**	P	**P**	**11 08 17.2**	**-0.9**
LSA				IAmb	IAmb	11 08 22.6	
comp=Z,167nm,0.7s							
LSA	**Lhasa**	**33.52**	**346**	P	**P**	**11 08 17.2**	**-0.9**
LSA				pmax	pmax		
comp=Z,167nm,0.7s							
CD2	**Chengdu**	**33.76**	**6**	P	**P**	**11 08 19.3**	**-0.3**
CD2				pmax	pmax		
comp=Z,110nm,1.0s							
NWAO	**Narrogin (SRO)**	**33.90**	**154**	P	**P**	**11 08 21.8**	**+1.0**
NWAO				IAmb	IAmb	11 08 32.7	
comp=Z,90nm,1.0s							
NWAO	**Narrogin (SRO)**	**33.90**	**154**	P	**P**	**11 08 22.2**	**+1.4**
comp=Z,295nm,1.1s							
NWAO	**Narrogin (SRO)**	**33.90**	**154**	P	**P**	**11 08 21.8**	**+1.0**
NWAO				pmax	pmax		
comp=Z,90nm,1.0s							
NACB	**Ninganchiao**	**33.99**	**37**	P	**P**	**11 08 19.2**	**-2.5**
NACB				IAmb	IAmb	11 08 27.9	
comp=Z,117nm,1.0s							
YHNB	**Yeheng**	**34.24**	**36**	P	**P**	**11 08 22.7**	**-1.2**
YHNB				IAmb	IAmb	11 08 31.8	
comp=Z,167nm,1.3s							
H01W3	**Cape Leeuwin H**	**34.39**	**159**	T	T	11 44 33.5	
baz=336,slow=76,SNR=32							
H01W2	**Cape Leeuwin H**	**34.40**	**160**	T	T	11 44 34.5	
baz=336,slow=76,SNR=36							
H01W1	**Cape Leeuwin H**	**34.41**	**159**	T	T	11 44 34.6	
baz=336,slow=76,SNR=30							
KMBL	**Kambalda**	**34.95**	**147**	P	**P**	**11 08 29.5**	**-0.5**
comp=Z,138nm,1.3s							
WHN	**Wuhan**	**35.86**	**21**	⇑P	**P**	**11 08 38.4**	**+0.7**
WHN				PcP	**PcP**	**11 11 05.6**	**+0.6**
WHN				pmax	pmax		
comp=Z,540nm,1.2s							
WB0	**Warramunga Arr**	**37.37**	**119**	P	**P**	**11 08 50.7**	**-0.1**
WB0				IAmb	IAmb	11 09 08.5	
comp=Z,138nm,1.0s							
WRA	**Warramunga Arr**	**37.38**	**120**	P	**P**	**11 08 51.1**	**+0.2**
comp=Z,38nm,0.8s,baz=307,slow=8.9,SNR=5.6							
WRA				PcP	**PcP**	**11 11 10.4**	**+0.5**
comp=Z,27nm,0.9s,baz=294,slow=3.0,SNR=4.7							
WRA				S	**S**	**11 14 34.2**	**-4.5**
comp=Z,23nm,0.9s,baz=293,slow=17,SNR=5.6							
comp=Z,38nm,0.8s							
WRAB	**Tennant Creek**	**37.39**	**120**	P	**P**	**11 08 51.1**	**+0.1**
WRAB				IAmb	IAmb	11 09 08.9	
comp=Z,149nm,0.9s							
WRAB	**Tennant Creek**	**37.39**	**120**	P	**P**	**11 08 51.1**	**+0.1**
WRAB				pmax	pmax		
comp=Z,149nm,0.9s							
WB2	**Warramunga Arr**	**37.40**	**120**	P	**P**	**11 08 50.5**	**-0.5**
WB2				IAmb	IAmb	11 09 08.8	
comp=Z,115nm,0.8s							
XAN	**Xi'an**	**37.62**	**12**	P	**P**	**11 08 52.4**	**-0.3**
XAN				sP	sP	11 09 00.1	+0.3
XAN				PP	**PnPn**	**11 10 19.7**	**0.0**
XAN				S	**S**	**11 14 40.9**	**-1.0**
XAN				pmax	pmax		
comp=Z,270nm,1.0s							
XAN				pmax	pmax		
comp=Z,2μm,5.2s							
XAN				LR	LR		
comp=Z,36μm,16.0s							
XAN				LR	LR		
comp=Z,32μm,14.4s							
XAN				LR	LR		
comp=Z,45μm,16.0s							
FORT	**Forrest**	**38.25**	**139**	P	**P**	**11 08 58.6**	**+0.5**
FORT				IAmb	IAmb	11 09 09.4	
comp=Z,122nm,0.8s							
ASAR	**Alice Springs**	**38.58**	**125**	P	**P**	**11 09 01.6**	**+0.5**
comp=Z,84nm,0.9s,baz=301,slow=7.7,SNR=4.6							
ASAR				PcP	**PcP**	**11 11 14.8**	**+1.2**
comp=Z,15nm,0.9s,baz=291,slow=2.9,SNR=3.4							
ASAR				S	**S**	**11 14 56.5**	**-0.4**
comp=Z,13nm,0.9s,baz=299,slow=16,SNR=4.9							
comp=Z,84nm,0.9s							
AS31	**Alice Springs**	**38.59**	**125**	P	**P**	**11 09 00.9**	**-0.2**
AS31	**Alice Springs**	**38.59**	**125**	P	**P**	**11 09 00.8**	**-0.2**
comp=Z,39nm,1.0s							
LZH	**Lanzhou**	**38.90**	**5**	⇑P	**P**	**11 09 03.5**	**-0.1**
LZH				pP	pP	11 09 09.6	+0.9
LZH				PP	**PnPn**	**11 10 36.9**	**+1.6**
LZH				PcP	**PcP**	**11 11 16.2**	**+1.8**
LZH				pmax	pmax		
comp=Z,220nm,1.2s							
LYN	**LuoYang**	**38.96**	**16**	P	**P**	**11 09 04.7**	**+0.7**
LYN				pP	pP	11 09 08.6	-0.4
LYN				sP	sP	11 09 13.4	+2.3
LYN				PcP	**PcP**	**11 11 15.5**	**+1.1**
LYN				pmax	pmax		
comp=Z,2μm,4.9s							
LYN				LR	LR		
comp=Z,47μm,18.9s							
LYN				LR	LR		
comp=Z,29μm,15.5s							
LYN				LR	LR		
comp=Z,50μm,17.9s							
NJ2	**Nanjing**	**38.98**	**26**	⇑P	**P**	**11 09 04.8**	**+0.6**
NJ2				pmax	pmax		
comp=Z,60nm,1.0s							
NJ2				pmax	pmax		
comp=Z,1μm,5.2s							
GOMU	**GeErMu**	**39.19**	**353**	P	**P**	**11 09 07.5**	**+1.2**
GOMU				pP

comp=Z,34μm,19.2s
GTA Gaotai 42.07 360 *e*P P 11 09 30.6 +0.8
GTA pP pP 11 09 35.8 +0.9
GTA PcP **PcP 11 11 26.0 +1.5**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA LR LR
comp=Z,25μm,14.5s
GTA LR LR
comp=Z,17μm,15.3s
GTA LR LR
comp=Z,29μm,14.5s
QIS Mount Isa 42.22 118 P P 11 09 31.2 -0.1
comp=Z,149nm,1.2s
HNS HongShan 42.27 17 ⇓P P 11 09 32.5 +1.3
HNS S **S 11 15 58.3 +7.0**
HNS pmax pmax
comp=Z,250nm,1.2s
HNS LR LR
comp=Z,25μm,15.9s
HNS LR LR
comp=Z,24μm,15.9s
HNS LR LR
comp=Z,24μm,15.9s
BTO Baotou 44.18 11 *e*P P 11 09 47.9 +1.0
BTO pP **pP 11 09 52.8 +0.9**
BTO sP **sP 11 09 57.0 +3.1**
BTO PP **PcP 11 11 33.2 +1.6**
BTO S **S 11 16 21.5 +1.9**
BTO pmax pmax
comp=Z,180nm,1.5s
BTO pmax pmax
comp=Z,2μm,11.6s
BTO LR LR
comp=Z,61μm,21.8s
BTO LR LR
comp=Z,44μm,12.9s
NIL Nilore 44.34 327 P P 11 09 47.6 -0.5
NIL IAmb IAmb 11 09 49.0
comp=Z,176nm,0.9s
NIL Nilore 44.34 327 P P 11 09 47.6 -0.5
NIL pmax pmax
comp=Z,176nm,0.9s
HHC Hu-ho-hao-te 44.73 12⇑*i*P P 11 09 52.7 +1.5
HHC sP sP 11 10 00.3 +2.0
HHC S **S 11 16 28.2 +0.7**
HHC pmax pmax
comp=Z,160nm,1.0s
HHC pmax pmax
comp=Z,1μm,4.9s
HHC LR LR
comp=Z,30μm,17.7s
HHC LR LR
comp=Z,21μm,13.7s
HHC LR LR
comp=Z,36μm,19.3s
BBOO Buckleboo 44.89 136 P P 11 09 52.3 -0.3
BJT Baijiatuau 45.12 17 P P 11 09 53.5 -0.7
BJT IAmb IAmb 11 09 56.5
comp=Z,215nm,1.0s
BJT Baijiatuau 45.12 17 P P 11 09 53.5 -0.7
BJT pmax pmax
comp=Z,215nm,1.0s
BJI Beijing 45.14 17 P P 11 09 55.8 +1.4
BJI sP **sP 11 10 03.3 +1.9**
BJI PcP **PcP 11 11 35.4 +0.7**
BJI S **S 11 16 33.6 +0.4**
BJI pmax pmax
comp=Z,110nm,1.1s
BJI pmax pmax
comp=Z,870nm,7.1s
BJI LR LR
comp=Z,26μm,15.6s
BJI LR LR
comp=Z,10μm,14.9s
BJI LR LR
comp=Z,32μm,15.2s
MTSU Mount Surprise 45.79 113 P P 11 09 59.0 -1.0
comp=Z,124nm,0.9s
DL2 Dalian 46.02 23 P P 11 10 02.1 +0.7
DL2 S **S 11 16 45.2 -0.8**
DL2 pmax pmax
comp=Z,240nm,1.2s
DL2 pmax pmax
comp=Z,880nm,4.5s
DL2 LR LR
comp=Z,19μm,16.6s
DL2 LR LR
comp=Z,18μm,16.7s
DL2 LR LR
comp=Z,34μm,17.7s
JNU Nakatsue 46.06 36 P P 11 10 00.6 -1.3
INCN Inchon 47.05 29 P P 11 10 08.3 -1.2
INCN IAmb IAmb 11 10 10.6
comp=Z,59nm,1.0s
INCN Inchon 47.05 29 P P 11 10 08.3 -1.2
INCN pmax pmax
comp=Z,59nm,1.0s
HJU Haeju 47.06 28 P P 11 10 08.5 -1.0
MANU Manus Island 47.12 90 P P 11 10 09.1 -1.4
MANU IAmb IAmb 11 10 11.7
comp=Z,86nm,1.1s
KSRS Korea Array 47.66 30 P P 11 10 14.3 +0.2
comp=Z,94nm,1.0s,baz=224,slow=8.4,SNR=12
comp=Z,94nm,1.0s
KSH Kashi 47.70 335 P P 11 10 14.5 -0.2
KSH pP pP 11 10 19.2 -0.6
KSH pmax pmax
comp=Z,140nm,1.3s
KSH pmax pmax
comp=Z,2μm,3.8s
KSH LR LR
comp=Z,9μm,21.0s
KSH LR LR
comp=Z,11μm,19.6s
KSH LR LR
comp=Z,18μm,21.0s
WMQ Urumqi 47.82 348 *e*P P 11 10 16.4 +1.0
WMQ sP sP 11 10 26.3 +3.8
WMQ pmax pmax
comp=Z,450nm,1.1s
WMQ pmax pmax
comp=Z,2μm,4.3s
WMQ LR LR
comp=Z,11μm,20.1s
WMQ LR LR
comp=Z,11μm,20.7s
WMQ LR LR
comp=Z,14μm,22.3s
PYAG Pyongyang 47.90 27 P P 11 10 15.6 -0.4
PYAG S **S 11 17 13.2 +0.5**
PYAG AmB
comp=Z,782nm,1.2s
PYAG AMS AMS
comp=Z,28μm,14.1s
CTAO Charters Tower 48.05 115 P P 11 10 18.0 +0.4
CTAO IAmb IAmb 11 10 19.8
comp=Z,157nm,0.9s
CTAO Charters Tower 48.05 115 P P 11 10 18.0 +0.4
CTAO pmax pmax
comp=Z,157nm,1.0s
SUJ Sinuiju 48.21 25 P P 11 10 17.5 -0.9
SUJ S **S 11 17 16.6 -0.5**
SUJ AmB
comp=Z,480nm,3.8s
SUJ AMS AMS
comp=Z,51μm,16.2s
JMN Monobe 48.30 38 P P 11 10 19.2 -0.1
STKA Stephens Creek 48.43 131 P P 11 10 19.9 -0.4
STKA IAmb IAmb 11 10 22.5
comp=Z,164nm,0.9s
STKA Stephens Creek 48.43 131 P P 11 10 21.5 +1.2
comp=Z,130nm,0.9s,baz=310,slow=8.0,SNR=6.3
comp=Z,130nm,0.9s
STKA Stephens Creek 48.43 131 P P 11 10 19.9 -0.4
STKA pmax pmax
comp=Z,164nm,1.0s
XLT XiLinHaoTe 48.69 15 *e*P P 11 10 23.5 +1.3
XLT pP pP 11 10 27.8 +0.5
XLT PcP **PcP 11 11 47.7 +0.4**
XLT pmax pmax
comp=Z,310nm,1.0s
XLT pmax pmax
comp=Z,820nm,4.4s
XLT LR LR
comp=Z,2μm,14.9s
XLT LR LR
comp=Z,10μm,18.0s
XLT LR LR
comp=Z,30μm,15.5s
PRZ Przheval'sk 49.27 339 P P 11 10 27.0 +0.2
PRZ Przheval'sk 49.27 339 P P 11 10 27.0 +0.2
PRZ pmax pmax
comp=Z,458nm,1.2s
SNY Shenyang 49.29 23 ⇓P P 11 10 26.7 0.0
SNY pmax pmax
comp=Z,120nm,1.1s
SNY pmax pmax
comp=Z,990nm,5.9s
SNY LR LR
comp=Z,20μm,16.2s
SNY LR LR
comp=Z,4μm,18.8s
SNY LR LR
comp=Z,16μm,17.1s
KDJ Kajisay 49.41 337 P P 11 10 27.3 -0.6
KDJ Kajisay 49.41 337 P P 11 10 27.3 -0.6
KDJ pmax pmax
comp=Z,348nm,1.0s
SHLS Shalkode 49.48 340 *e*P P 11 10 26.9 -1.4
SHLS pmax pmax
comp=Z,159nm,1.0s
SHLS Shalkode 49.48 340 *e*P P 11 10 27.0 -1.4
comp=Z,159nm,1.0s
DRK Karamyk 49.57 331 P P 11 10 29.7 +0.4
DRK Karamyk 49.57 331 P P 11 10 29.7 +0.4
DRK pmax pmax
comp=Z,368nm,1.0s
UZB Uzynbulak 49.63 340 *e*P P 11 10 29.1 -0.3
UZB *e*S **S 11 17 38.2 +0.8**
UZB pmax pmax
comp=Z,105nm,1.1s
UZB Uzynbulak 49.63 340 *e*P P 11 10 29.1 -0.3
comp=Z,105nm,1.1s
UZB *e*S **S 11 17 38.2 +0.8**
SATY Saty 49.77 339 *e*P P 11 10 30.3 -0.2
SATY *e*S **S 11 17 40.1 +0.8**
SATY pmax pmax
comp=Z,131nm,1.1s
SATY Saty 49.77 339 *e*P P 11 10 30.4 -0.2
comp=Z,131nm,1.1s
SATY *e*S **S 11 17 40.2 +0.8**
ZHN Zhinishke 49.85 339 *e*P P 11 10 30.8 -0.3
ZHN pmax pmax
comp=Z,112nm,1.5s
ZHN Zhinishke 49.85 339 *e*P P 11 10 30.9 -0.3
comp=Z,112nm,1.5s
GAR Garm 49.94 330 P P 11 10 31.7 -0.2
KPKS Kokpek 50.02 340 *e*P P 11 10 32.2 -0.2
KPKS *e*S **S 11 17 43.7 +0.9**
KPKS pmax pmax
comp=Z,156nm,1.7s
KPKS Kokpek 50.02 340 *e*P P 11 10 32.2 -0.2
comp=Z,156nm,1.7s
KPKS *e*S **S 11 17 43.8 +0.9**
MDOK Medeo 50.35 338 *e*P P 11 10 34.8 -0.2
MDOK Medeo 50.35 338 *e*P P 11 10 34.9 -0.2
BTK Batken 50.50 331 P P 11 10 35.7 -0.4
SONM Songino Array 50.78 5 P P 11 10 39.0 +0.9
comp=Z,340nm,0.9s,baz=187,slow=8.1,SNR=18
SONM PcP **PcP 11 11 55.7 +0.7**
comp=Z,39nm,0.8s,baz=186,slow=4.9,SNR=2.2
SONM LR LR 11 33 33.1
comp=Z,31μm,18.9s,baz=192,slow=38
comp=Z,340nm,0.9s
ULN Ulaanbaatar 50.88 6 *i*P P 11 10 38.9 +0.1
ULN pmax pmax
comp=Z,404nm,1.0s
AAK Ala-Archa 50.91 336 *i*P P 11 10 38.0 -1.2
AAK pmax pmax
comp=Z,172nm,1.3s
INU Inuyama 51.31 39 P P 11 10 41.5 -0.6
INU IAmb IAmb 11 10 45.2
comp=Z,121nm,1.2s
TDK Taldyqorghan 51.47 340 *e*P P 11 10 43.1 -0.1
TDK pmax pmax
comp=Z,81nm,0.9s
TDK Taldyqorghan 51.47 340 *e*P P 11 10 43.1 -0.1
comp=Z,81nm,0.9s
SGDS Sogindy 51.53 336 *e*P P 11 10 43.3 -0.4
SGDS Sogindy 51.53 336 *e*P P 11 10 43.4 -0.4
JSG Sagara 51.63 40 P P 11 10 43.7 -0.8
JGF Kuroka 51.69 39 P P 11 10 43.2 -1.8
CN2 Changchun 51.69 23 *e*P P 11 10 43.9 -0.9
CN2 pmax pmax
comp=Z,370nm,1.0s
KRVT Keravat (AS076 51.73 93 LR LR 11 37 39.9
comp=Z,2μm,18.9s,baz=1.1,slow=42
ZSN Zaisan 51.88 347 *e*P P 11 10 46.0 -0.2
ZSN pmax pmax
comp=Z,231nm,1.2s
ZSN Zaisan 51.88 347 *e*P P 11 10 46.0 -0.2
comp=Z,231nm,1.2s
MK31 Makanchi Array 51.91 344 *i*P P 11 10 46.2 -0.3
MKAR Makanchi Array 51.91 344 P P 11 10 46.8 +0.3
comp=Z,264nm,0.8s,baz=149,slow=7.9,SNR=12
comp=Z,264nm,0.8s
MKAR Makanchi Array 51.91 344 *i*P P 11 10 47.2 +0.7
MKAR pmax pmax
comp=Z,266nm,0.8s
MAKZ Makanchi 52.01 344 P P 11 10 48.4 +1.2
MAKZ pmax pmax
comp=Z,197nm,1.0s
IUG Iuzhnay 52.49 332 *e*P P 11 10 50.5 -0.5
IUG pmax pmax
comp=Z,321nm,1.5s
IUG Iuzhnay 52.49 332 *e*P P 11 10 50.5 -0.5
comp=Z,321nm,1.5s
MAJO Matsushiro 52.82 38 P P 11 10 53.3 -0.1
MAJO pmax pmax
comp=Z,129nm,1.1s
MJAR Matsushiro Arr 52.82 38 P P 11 10 52.9 -0.5
comp=Z,146nm,1.0s,baz=218,slow=7.2,SNR=16
comp=Z,146nm,1.0s
BTLS Baital 53.09 337 *e*P P 11 10 55.1 -0.1
BTLS Baital 53.09 337 *e*P P 11 10 55.1 -0.1
BRLS Borolday 53.26 332 *e*P P 11 10 55.4 -1.1
BRLS Borolday 53.26 332 *e*P P 11 10 55.5 -1.1
EIDS Eidsvold 53.75 120 P P 11 11 00.6 +0.1
EIDS IAmb IAmb 11 11 18.5
comp=Z,112nm,0.9s
JSD Sado 53.81 37 P P 11 10 59.5 -1.1
JSD IAmb IAmb 11 11 01.2
comp=Z,92nm,0.8s
VLA Vladivostok 53.95 28 *i*P P 11 11 01.4 -0.1
VLA pmax pmax
comp=Z,182nm,1.1s
VLA MLR MLR
comp=Z,8μm,18.0s
TOO Toolangi 53.95 136 P P 11 11 02.4 +0.7
TOO Toolangi 53.95 136 P P 11 11 02.4 +0.7
TOO pmax pmax
comp=Z,26nm,1.2s
MDJ Mudanjiang 54.07 26 P P 11 11 02.2 -0.2
MDJ IAmb IAmb 11 11 05.2
comp=Z,181nm,1.2s
MDJ Mudanjiang 54.07 26 P P 11 11 03.1 +0.7
MDJ PP **PP 11 13 03.4 -0.7**
MDJ S **S 11 18 43.4 +5.2**
MDJ pmax pmax
comp=Z,140nm,0.9s
MDJ pmax pmax
comp=Z,1μm,11.0s
MDJ LR LR
comp=Z,31μm,16.8s
MDJ LR LR
comp=Z,21μm,16.1s
MDJ LR LR
comp=Z,47μm,14.4s
BNX BinXian 54.08 23 ⇓P P 11 11 03.2 +0.8
BNX pmax pmax
comp=Z,320nm,0.8s
BNX pmax pmax
comp=Z,1μm,3.8s
HIA Hailar 54.62 16 P P 11 11 05.2 -1.1
HIA IAmb IAmb 11 11 07.6
comp=Z,136nm,1.1s
HIA Hailar 54.62 16 P P 11 11 05.2 -1.1
HIA pmax pmax
comp=Z,136nm,1.1s
USA0B Ussuriysk Arra 54.82 28 P P 11 11 08.4 +0.6
USA0B Ussuriysk Arra 54.82 28 P P 11 11 08.5 +0.6
USA0B pmax pmax
comp=Z,399nm,1.0s
USRK Ussuriysk Ar. 54.82 28 P P 11 11 08.2 +0.3
comp=Z,325nm,0.9s,baz=226,slow=6.7,SNR=22
comp=Z,325nm,0.9s
IRK Irkutsk 55.01 3 *e*P P 11 11 08.8 -0.3
IRK *e* 11 18 52.7
IRK pmax pmax
comp=Z,219nm,1.7s
JMM Marumori 55.25 39 P P 11 11 10.8 -0.3
CAN Canberra 55.48 132 P P 11 11 12.9 -0.1
CAN IAmb IAmb 11 11 26.9
comp=Z,133nm,1.2s
CAN Canberra 55.48 132 P P 11 11 12.9 -0.1
CAN pmax pmax
comp=Z,133nm,1.2s
ARMA Armidale 55.74 125 P P 11 11 15.5 +0.6
ARMA IAmb IAmb 11 11 22.4
comp=Z,138nm,1.1s
CIT Chita 55.84 10 *e*P P 11 11 15.9 +0.7
CIT *e* 11 11 22.9
CIT *e* 11 12 11.6
CIT *e* 11 19 10.1
CIT pmax pmax
comp=Z,2μm,1.5s
KURBB Kurchatov Arra 56.43 344 P P 11 11 19.8 +0.4
comp=Z,181nm,0.9s,baz=158,slow=7.0,SNR=10.0
comp=Z,181nm,0.9s
KURK Kurchatov 56.49 344 P P 11 11 19.4 -0.4
KURK Kurchatov 56.49 344 *i*P P 11 11 19.5 -0.2
KURK pmax pmax
comp=Z,441nm,1.0s
JTM Tenmabayashi 57.23 36 P P 11 11 24.8 -0.4
BRZS Berezniki 57.73 339 *e*P P 11 11 28.4 -0.2
BRZS Berezniki 57.73 339 *e*P P 11 11 28.4 -0.2
HEH HeiHe 57.85 20 *e*P P 11 11 29.8 +0.4
HEH pmax pmax
comp=Z,170nm,1.2s
ZAA0 Zalesovo Array 58.05 349 P P 11 11 30.7 0.0
ZALV Zalesovo Beam 58.05 349 P P 11 11 30.9 +0.3
ZALV Zalesovo Beam 58.05 349 P P 11 11 31.0 +0.3
comp=Z,257nm,1.0s,baz=160,slow=4.7,SNR=6.1
ZALV LR LR 11 41 14.2
comp=Z,9μm,18.3s,baz=166,slow=41
comp=Z,257nm,1.0s
ZALV Zalesovo Beam 58.05 349 *i*P P 11 11 31.2 +0.5
ZALV pmax pmax
comp=Z,257nm,1.0s
KLR Kul'dur 58.63 24 P P 11 11 35.5 +0.6
comp=Z,126nm,1.0s,baz=224,slow=7.9,SNR=9.9
comp=Z,126nm,1.0s
KLR Kul'dur 58.63 24 *e*P P 11 11 34.5 -0.4
KLR pmax pmax
comp=Z,247nm,1.5s
ERM Erimo 59.23 36 P P 11 11 38.5 -0.6
ERM IAmb IAmb 11 12 01.7
comp=Z,151nm,1.1s
ERM Erimo 59.23 36 P P 11 11 38.5 -0.6
ERM pmax pmax
comp=Z,151nm,1.1s
RAYN Ar Rayn 59.34 299 P P 11 11 39.8 -0.5
RAYN Ar Rayn 59.34 299 P P 11 11 39.8 -0.5
RAYN pmax pmax
comp=Z,36nm,1.0s
HNR Honiara 59.69 99 P P 11 11 42.4 -0.5
HNR Honiara 59.69 99 P P 11 11 42.4 -0.5
HNR pmax pmax
comp=Z,448nm,0.9s
ASAJ Asahikawa 60.21 34 P P 11 11 46.5 +0.6
comp=Z,126nm,1.1s,baz=218,slow=12,SNR=7.5
comp=Z,126nm,1.1s
ASAJ Asahikawa 60.21 34 P P 11 11 45.2 -0.7
ASAJ pmax pmax
comp=Z,255nm,1.1s
JKA Kamikawa-asahi 60.21 34 P P 11 11 45.1 -0.7
H04N2 CROZET ISLANDS 60.23 217 T T 12 16 48.0
baz=59,slow=75,SNR=241
H04N1 CROZET ISLANDS 60.24 217 T T 12 16 49.4
baz=59,slow=75,SNR=255
H04N3 CROZET ISLANDS 60.25 217 T T 12 16 49.4
baz=59,slow=75,SNR=246
H04S1 CROZET ISLANDS 60.51 216 T T 12 17 07.2
baz=58,slow=76,SNR=646
H04S3 CROZET ISLANDS 60.52 216 T T 12 17 07.1
baz=58,slow=76,SNR=720
H04S2 CROZET ISLANDS 60.53 216 T T 12 17 08.1
baz=58,slow=76,SNR=606
ZEA Zeya 60.76 18 *e*P P 11 11 50.1 +0.7
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=E,40nm,0.8s
ZEA pmax pmax
comp=Z,100nm,0.8s
BVAR Borovoye Array 61.06 340 P P 11 11 51.4 -0.1
comp=Z,25nm,0.6s,baz=149,slow=8.4,SNR=3.2
comp=Z,25nm,0.6s
BRVK Borovoye 61.12 340 P P 11 11 51.0 -0.9
BRVK IAmb IAmb 11 11 52.8
comp=Z,115nm,1.4s
BRVK Borovoye 61.12 340 P P 11 11 51.0 -0.9
BRVK pmax pmax
comp=Z,115nm,1.4s
BOD Bodaibo 61.50 8 *e*P P 11 11 55.0 +0.6
BOD pmax pmax
comp=Z,306nm,0.9s
GRNR Gornyy 61.75 25⇑*i*P P 11 11 56.7 +0.5
GRNR pmax pmax
comp=Z,50nm,0.8s
KIBK Kibwezi 62.09 269 P P 11 12 00.1 +0.7
YSS Yuzhno-Sakhali 62.10 32 P P 11 11 58.2 -0.4
YSS Yuzhno-Sakhali 62.10 32⇑*e*P P 11 11 59.2 +0.6
YSS *e* 11 12 36.9
YSS *e*S **S 11 20 21.5 -1.6**
YSS pmax pmax
comp=Z,1μm,4.4s
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,320nm,1.0s
YSS MLR MLR
comp=E,11μm,16.0s
YSS MLR MLR
comp=Z,10μm,16.0s
YSS MLR MLR
comp=N,11μm,15.0s
ABKAR Akbulak array 62.49 331 P P 11 12 00.7 -0.5
CASY Casey 63.71 175 P P 11 12 10.7 +1.7
TYV Tymovskoe 64.62 28 *e*P P 11 12 16.9 +1.7
TYV *e*S **S 11 20 59.7 +5.3**
TYV pmax pmax
comp=Z,89nm,1.4s
TYV pmax pmax
comp=Z,900nm,4.7s
TYV smax smax
comp=N,1μm,6.2s
TYV smax smax
comp=E,200nm,6.2s
AKT Akhty 64.89 319 *e*P P 11 12 14.4 -3.0
AKT *e* 11 12 47.6
AKT *e* 11 14 35.7
AKT *e*S **S 11 20 56.0 -2.4**
AKT pmax pmax
comp=Z,178nm,1.4s
MAK Makhachkala 65.76 320 *e*P P 11 12 18.9 -3.9
MAK *e* 11 14 43.8
MAK *e*PPP PPP 11 16 21.5
MAK *e*S **S 11 21 05.3 -3.3**
MAK *e*SS **SS 11 25 20.5 -2.9**
MAK pmax pmax
comp=Z,184nm,1.2s
GNI Garni 66.29 316 P P 11 12 27.1 +0.6
GNI Garni 66.29 316 P P 11 12 27.1 +0.6
comp=Z,67nm,1.2s
DZM Mont Dzumac 66.93 113 P P 11 12 31.3 +0.5
DZM IAmb IAmb 11 12 38.4
comp=Z,79nm,1.3s
ONTNC Ouen Toro 66.97 113 P P 11 12 31.0 0.0
ONTNC IAmb IAmb 11 12 32.6
comp=Z,73nm,1.1s
GURO Guroymak-BITLI 67.53 314 P P 11 12 34.9 +0.5
GURO IAmb IAmb 11 12 46.2
comp=Z,64nm,1.1s

SVE Sverdlovsk 67.56 338 *e*P **P** **11 12 34.6 +0.6**
SVE pmax pmax
comp=Z,130nm,1.0s
KARS Kars 67.64 316 P **P** **11 12 36.0 +0.9**
KARS pmax pmax
comp=Z,327nm,1.2s
MARD Mardin 67.97 312 P **P** **11 12 37.5 +0.3**
MARD IAmb IAmb 11 12 46.8
comp=Z,87nm,0.8s
ARTI Arti 68.12 336 P **P** **11 12 37.2 -0.4**
ARTI IAmb IAmb 11 13 01.1
comp=Z,86nm,1.0s
ARTI Arti 68.12 336 P **P** **11 12 37.2 -0.4**
ARTI pmax pmax
comp=Z,86nm,1.0s
YAK Yakutsk 68.52 14 P **P** **11 12 39.4 -0.5**
YAK Yakutsk 68.52 14 P **P** **11 12 39.4 -0.5**
comp=Z,277nm,0.9s,baz=185,slow=2.3,SNR=9.2
comp=Z,277nm,0.9s
YAK Yakutsk 68.52 14⇑ *e*P **P** **11 12 38.9 -1.0**
YAK *e*S **S** **11 21 42.0 +0.8**
YAK pmax pmax
comp=Z,454nm,1.0s
KBZ Khabaz 69.09 319 P **P** **11 12 44.3 +0.4**
comp=Z,76nm,1.0s,baz=84,slow=2.1,SNR=5.0
comp=Z,76nm,1.0s
KBZ Khabaz 69.09 319 *i* P **P** **11 12 43.4 -0.5**
KBZ pmax pmax
comp=Z,85nm,1.0s
SHA1 Shidzhatmaz 69.25 319 *i* P **P** **11 12 45.3 +0.1**
KIV Kislovodsk 69.33 319 P **P** **11 12 46.2 +0.7**
KIV IAmb IAmb 11 12 47.5
comp=Z,142nm,1.2s
KIV Kislovodsk 69.33 319 *e*P **P** **11 12 45.1 -0.4**
KIV *e*S **S** **11 21 50.0 -1.7**
KIV pmax pmax
comp=Z,87nm,1.1s
KIV pmax pmax
comp=Z,117nm,3.9s
KIV Kislovodsk 69.33 319 P **P** **11 12 46.1 +0.6**
comp=Z,1μmcomp=Z,89nm,1.3s
MAW Mawson 69.50 194 P **P** **11 12 45.6 -0.4**
comp=Z,14nm,0.9s,baz=90,slow=3.0,SNR=2.2
comp=Z,14nm,0.9s
BELG Belogornoye 70.57 329 LR LR 11 45 52.5
comp=Z,7μm,21.7s,baz=127,slow=38
BELG Belogornoye 70.57 329 *i* P **P** **11 12 51.9 -0.9**
BELG pmax pmax
comp=Z,17nm,1.0s
MMAI Mount Meron Ar 70.71 306 P **P** **11 12 55.5 +1.3**
comp=Z,22nm,0.9s,baz=95,slow=8.8,SNR=3.6
comp=Z,22nm,0.9s
VSLR Vesyoloye 70.87 318 *i* P **P** **11 12 54.4 -0.5**
VSLR pmax pmax
comp=Z,138nm,1.1s
LABN Labinsk 70.89 319 *e*P **P** **11 12 52.4 -2.6**
LABN pmax pmax
comp=Z,86nm,0.6s
ERBR Yeremizino-Bor 71.49 320 *e*P **P** **11 12 58.5 -0.1**
ERBR pmax pmax
comp=Z,133nm,1.2s
LSZ Lusaka 71.91 255 P **P** **11 13 02.9 +1.1**
comp=Z,6.2nm,1.0s,baz=70,slow=7.1,SNR=3.6
comp=Z,6.2nm,1.0s
NRIK Noril'sk 72.58 355 P **P** **11 13 04.5 -0.1**
comp=Z,93nm,1.0s,baz=151,slow=5.3,SNR=6.5
comp=Z,93nm,1.0s
NRIK Noril'sk 72.58 355 *i* P **P** **11 13 04.0 -0.6**
NRIK pmax pmax
comp=Z,146nm,1.1s
CSS Mathiatis 72.91 308 IAmb IAmb 11 13 08.7
comp=Z,98nm,1.2s
CSS Mathiatis 72.91 308 P **P** **11 13 08.0 +0.7**
comp=Z,73nm,1.2s
ANN Anapa 73.11 319 *e*P **P** **11 13 08.9 +0.7**
ANN pmax pmax
comp=Z,58nm,1.1s
ANN MLR MLR
comp=Z,3μm,20.0s
VRH Novokhopyorsk 73.15 326 *e*P **P** **11 13 08.0 -0.3**
VRH pmax pmax
comp=Z,175nm,0.8s
KIRV Kirov 73.24 335 *i* P **P** **11 13 08.5 -0.1**
DIKM Dikmen 73.50 315 P **P** **11 13 10.8 +0.2**
comp=Z,34nm,1.2s
PEA0B Petropavlovsk- 73.50 32 P **P** **11 13 10.1 -0.3**
PEA0B IAmb IAmb 11 13 11.3
comp=Z,86nm,1.1s
PEA0B Petropavlovsk- 73.50 32 P **P** **11 13 10.1 -0.3**
PEA0B pmax pmax
comp=Z,86nm,1.1s
PETK Petropavlovsk- 73.50 32 P **P** **11 13 09.2 -1.2**
PETK Petropavlovsk- 73.50 32 P **P** **11 13 09.9 -0.5**
comp=Z,37nm,0.9s,baz=223,slow=0.7,SNR=8.1
PETK LR LR 11 46 03.8
comp=Z,5μm,19.4s,baz=251,slow=36
comp=Z,37nm,0.9s
PETK Petropavlovsk- 73.50 32 P **P** **11 13 09.2 -1.2**
TUZ Tuapeka 73.71 137 P **P** **11 13 12.7 +0.9**
MA2 Magadan 73.73 24 P **P** **11 13 12.4 +0.8**
MA2 Magadan 73.73 24 P **P** **11 13 12.3 +0.7**
comp=Z,104nm,1.1s,baz=209,slow=6.0,SNR=5.7
comp=Z,104nm,1.1s
MA2 Magadan 73.73 24 *e*P **P** **11 13 11.7 +0.1**
MA2 pmax pmax
comp=Z,98nm,1.0s
MA2 Magadan 73.73 24 P **P** **11 13 11.9 +0.3**
comp=Z,139nm,1.2s
WVZ Waitaha Valley 73.88 134 P **P** **11 13 13.2 +0.4**
PET Petropavlovsk 73.97 32 P **P** **11 13 12.9 -0.2**
PET IAmb IAmb 11 13 14.3
comp=Z,194nm,1.1s
PET Petropavlovsk 73.97 32 *i* P **P** **11 13 11.9 -1.2**
PET pmax pmax
comp=Z,148nm,1.0s
PET Petropavlovsk 73.97 32 P **P** **11 13 13.6 +0.5**
comp=Z,209nm,1.5s
BR104 Keskin Array S 74.05 313 P **P** **11 13 13.6 -0.5**
comp=Z,291nmcomp=Z,41nm,0.9s
BR131 Keskin Array S 74.05 313 P **P** **11 13 13.9 -0.2**
BR131 Keskin Array S 74.05 313 P **P** **11 13 13.9 -0.2**
BR131 pmax pmax
comp=Z,45nm,1.0s
BRTR Keskin Array B 74.05 313 P **P** **11 13 13.5 -0.6**
comp=Z,28nm,0.9s,baz=126,slow=7.8,SNR=5.3
comp=Z,28nm,0.9s
BR105 Keskin Array S 74.07 313 P **P** **11 13 13.9 -0.3**
comp=Z,305nmcomp=Z,44nm,0.9s
BR106 Keskin Array S 74.07 313 P **P** **11 13 14.0 -0.2**
comp=Z,276nmcomp=Z,38nm,1.0s
RPZ Rata Peaks 74.23 135 P **P** **11 13 16.4 +1.5**
RPZ IAmb IAmb 11 13 16.8
comp=Z,82nm,1.1s
RPZ Rata Peaks 74.23 135 P **P** **11 13 15.5 +0.6**
INZ Inchbonnie 74.32 134 P **P** **11 13 15.7 +0.3**
INZ IAmb IAmb 11 13 16.8
comp=Z,106nm,1.0s
INZ Inchbonnie 74.32 134 P **P** **11 13 14.2 -1.2**
DSZ Denniston Nort 74.40 133 P **P** **11 13 17.0 +0.9**
ILGA Ilgaz 74.40 314 P **P** **11 13 16.4 +0.1**
BZK Bozkurt 74.48 315 P **P** **11 13 16.7 +0.4**
BZK Bozkurt 74.48 315 P **P** **11 13 16.6 +0.3**
comp=Z,2μmcomp=Z,172nm,1.2s
ANTO Ankara 74.72 313 P **P** **11 13 17.9 0.0**
ANTO IAmb IAmb 11 13 18.6
comp=Z,68nm,1.1s
ANTO Ankara 74.72 313 P **P** **11 13 17.9 0.0**
ANTO pmax pmax
comp=Z,69nm,1.1s
VORR Voronezh 74.77 326 *e*P **P** **11 13 17.6 -0.2**
VORR pmax pmax
comp=Z,172nm,0.9s
QRZ Quartz Range 74.78 131 P **P** **11 13 19.3 +1.1**
OUZ Omahuta 74.80 126 P **P** **11 13 20.3 +1.9**
LBTB Lobatse 74.85 245 P **P** **11 13 20.3 +1.3**
comp=Z,7.5nm,0.9s,baz=98,slow=9.5,SNR=3.6
comp=Z,7.5nm,0.9s
OXZ Oxford 74.86 134 P **P** **11 13 19.3 +0.7**
LTZ Lake Taylor 74.93 133 P **P** **11 13 19.2 +0.1**
THZ Tophouse 75.22 132 P **P** **11 13 19.9 -0.8**
LPSR Galich'ya Gora 75.32 326 *e*P **P** **11 13 20.9 -0.1**
LPSR pmax pmax
comp=Z,141nm,0.9s
BOSA Boshof 75.42 241 P **P** **11 13 22.8 +0.5**
comp=Z,4.4nm,0.8s,baz=8.2,slow=6.4,SNR=1.4
WCZ Waipu Caves 75.49 126 P **P** **11 13 24.6 +2.2**

GVZ Greta Valley S 75.51 134 P **P** **11 13 23.4 +1.0**
KHZ Kahutara 75.79 133 IAmb IAmb 11 13 26.4
comp=Z,124nm,1.4s
KHZ Kahutara 75.79 133 P **P** **11 13 23.5 -0.4**
HIZ Hauiti 76.22 129 P **P** **11 13 28.8 +2.3**
VRZ Vera Road 76.22 129 P **P** **11 13 29.2 +2.7**
MKAZ Moumakai 76.29 127 P **P** **11 13 29.2 +2.3**
SEY Seymchan 76.35 22 P **P** **11 13 27.0 +0.4**
comp=Z,55nm,1.0s,baz=223,slow=6.4,SNR=5.8
comp=Z,55nm,1.0s
SEY Seymchan 76.35 22 *i* P **P** **11 13 26.3 -0.3**
SEY pmax pmax
comp=Z,70nm,1.0s
WAZ Wanganui 76.48 130 P **P** **11 13 30.2 +2.2**
TOZ Tahuroa Road 76.63 128 P **P** **11 13 30.5 +1.7**
TIXI Tiksi 76.67 9 P **P** **11 13 27.6 -0.6**
comp=Z,95nm,1.0s,baz=202,slow=3.5,SNR=4.5
comp=Z,95nm,1.0s
TIXI Tiksi 76.67 9 *i* P **P** **11 13 26.6 -1.7**
TIXI pmax pmax
comp=Z,99nm,1.0s
KUZ Kuaotunu 76.69 127 P **P** **11 13 30.6 +1.5**
PKVZ Pokaka 76.70 130 P **P** **11 13 31.0 +1.7**
MTVZ Mangateitei 76.81 130 P **P** **11 13 31.5 +1.6**
COVZ Chateau Observ 76.84 129 P **P** **11 13 31.6 +1.5**
FWVZ Far West T-bar 76.85 130 P **P** **11 13 31.6 +1.2**
TRVZ Turoa 76.86 130 P **P** **11 13 31.8 +1.4**
MAVZ Matarangi 76.86 130 P **P** **11 13 32.0 +1.5**
WTVZ West Tongariro 76.86 129 P **P** **11 13 32.0 +1.7**
NGZ Ngauruhoe 76.88 129 P **P** **11 13 32.0 +1.6**
NNVZ North Ngauruho 76.89 129 P **P** **11 13 32.1 +1.7**
WNVZ Wahianoa 76.90 130 P **P** **11 13 32.1 +1.6**
SNVZ South Ngauruho 76.91 129 P **P** **11 13 32.3 +1.7**
NTVZ North Tongarir 76.93 129 P **P** **11 13 32.5 +1.8**
OTVZ Oturere 76.93 129 P **P** **11 13 32.3 +1.7**
TMVZ Te Maari 76.95 129 P **P** **11 13 32.7 +1.9**
MOVZ Moawhango 77.03 130 P **P** **11 13 32.0 +0.8**
MRZ Mangataitoka R 77.05 131 P **P** **11 13 30.5 -0.6**
SYO Syowa Base 77.12 199‖ *i*P **P** **11 13 34.6 +3.7**
SYO Syowa Base 77.12 199‖ *e*pP pP 11 13 37.6 +1.4
MOS Moscow 77.34 329 *e*P **P** **11 13 29.5 -2.8**
MOS *e* 11 13 39.3
MOS pmax pmax
comp=Z,168nm,1.0s
TMWZ Te Maipa 77.34 131 P **P** **11 13 34.4 +1.6**
YLV Yalova 77.43 313 P **P** **11 13 33.3 0.0**
comp=Z,1μmcomp=Z,106nm,1.5s
PNHZ Pukenui 77.43 130 P **P** **11 13 33.2 -0.1**
BFZ Birch Farm 77.56 131 P **P** **11 13 35.1 +1.1**
MSVF Nonsavu 77.56 107 LR LR 11 48 10.3
comp=Z,4μm,21.1s,baz=252,slow=36
BKZ Black Stump Fm 77.57 129 P **P** **11 13 35.2 +1.0**
BKZ Black Stump Fm 77.57 129 P **P** **11 13 34.6 +0.5**
WPHZ Waipukurau 77.63 130 P **P** **11 13 35.5 +1.1**
OBN Obninsk 77.63 328 P **P** **11 13 34.2 +0.2**
OBN IAmb IAmb 11 13 35.2
comp=Z,179nm,1.1s
OBN Obninsk 77.63 328 LR LR 11 53 07.5
comp=Z,4μm,18.9s,baz=118,slow=40
OBN Obninsk 77.63 328*c* *i* P **P** **11 13 33.4 -0.6**
OBN *i* *PP **pP** **11 13 37.5 -1.8**
OBN *e**SP **sP** **11 13 40.2 -1.1**
OBN *i* 11 13 44.7
OBN *e* 11 16 26.2
OBN *e*S **S** **11 23 30.0 +5.0**
OBN PS **PnS** **11 24 15.0 +9.2**
OBN *i* SS **SS** **11 28 23.2 -1.7**
OBN pmax pmax
comp=Z,144nm,1.1s
OBN MLR MLR
comp=Z,4μm,23.0s
PRHZ Porangahau 77.80 130 P **P** **11 13 37.0 +1.6**
RTZ Ruatahuna 77.89 129 IAmb IAmb 11 13 37.8
comp=Z,274nm,1.1s
RTZ Ruatahuna 77.89 129 P **P** **11 13 36.2 +0.3**
URZ Urewera 77.95 128 P **P** **11 13 36.9 +0.7**
MWZ Matawai 78.28 128 P **P** **11 13 38.5 +0.3**
HAZ Te Kaha 78.43 128 P **P** **11 13 39.0 +0.1**
KLMR Klimovskoe 78.69 334 *e*P **P** **11 13 37.2 -2.6**
KLMR pmax pmax
comp=Z,137nm,1.2s
PUZ Puketiti 78.83 128 P **P** **11 13 41.1 0.0**
SORM Soroca 80.12 320 P **P** **11 13 47.8 0.0**
comp=Z,2μmcomp=Z,142nm,1.2s
AKASG Malin Array Be 80.29 322 P **P** **11 13 48.3 -0.5**
AKASG Malin Array Be 80.29 322 P **P** **11 13 47.3 -1.4**
comp=Z,11nm,0.9s,baz=90,slow=4.2,SNR=4.8
AKASG LR LR 11 55 15.9
comp=Z,4μm,18.4s,baz=96,slow=40
comp=Z,11nm,0.9s
AKASG Malin Array Be 80.29 322 *i* P **P** **11 13 48.2 -0.5**
AKASG pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 80.29 322 P **P** **11 13 48.3 -0.4**
AKBB Malin Array Si 80.29 322 *i* P **P** **11 13 47.4 -1.3**
AKBB pmax pmax
comp=Z,37nm,1.2s
AKBB Malin Array Si 80.29 322 P **P** **11 13 48.1 -0.6**
KIEV Kiev 80.30 322 P **P** **11 13 48.3 -0.4**
KIEV Kiev 80.30 322 P **P** **11 13 48.3 -0.4**
KIEV pmax pmax
comp=Z,46nm,1.2s
VRI Vrincioaia 80.62 317 P **P** **11 13 51.8 +1.2**
comp=Z,2μmcomp=Z,113nm,1.4s
NDNU Novodnistrovsk 80.88 320 P **P** **11 13 51.7 -0.2**
LUBAR Lubar, Ukraine 80.98 321 P **P** **11 13 52.0 -0.4**
MLR Muntele Rosu 81.07 317 P **P** **11 13 53.8 +0.6**
MLR Muntele Rosu 81.07 317 P **P** **11 13 53.8 +0.6**
comp=Z,107nm,1.4s
MI28 Mi28.Pidlybu 81.30 322 P **P** **11 13 53.8 -0.3**
comp=Z,429nm,1.3s
TSUM Tsumeb 82.10 251 P **P** **11 13 59.5 +0.4**
comp=Z,5.2nm,0.8s,baz=191,slow=5.8,SNR=1.4
comp=Z,5.2nm,0.8s
MNK Minsk 82.15 326 *i* P **P** **11 13 58.4 -0.1**
comp=E,54nm,0.9s
MNK *i* P **P** **11 13 58.4 -0.1**
comp=N,75nm,1.0s
MNK *i* P **P** **11 13 58.4 -0.1**
comp=Z,126nm,1.0s,baz=106
MNK *i* S **S** **11 24 14.1 +1.3**
MNK *i* LR LR 11 57 24.2
MNK *i* LRM MLR 11 59 37.2
comp=N,3μm,16.6s
MNK *i* LRM MLR 11 59 42.3
comp=Z,5μm,17.2s
MNK *i* LRM MLR 12 00 05.5
comp=E,2μm,16.6s
MNK Minsk 82.15 326 *i* P **P** **11 13 58.3 -0.1**
MNK *i* S **S** **11 24 14.0 +1.3**
MNK pmax pmax
comp=E,54nm,0.9s
MNK pmax pmax
comp=N,75nm,1.0s
MNK pmax pmax
comp=Z,126nm,1.0s
RNPP5 Staryi Chortor 82.47 322 P **P** **11 14 00.2 0.0**
STNU Starunia 82.75 320 P **P** **11 14 02.0 +0.2**
JOF Joensuu 83.08 335 *e*P **P** **11 14 04.2 +1.0**
ELIB Princess Elisa 83.22 198 *d*P P 11 14 12.9 +8.9
comp=Z,20nm,1.3s
MORS Morshin 83.23 320 P **P** **11 14 05.2 +0.9**
IIGN Ignalina 83.30 326 *e*P **P** **11 14 05.4 +0.9**
VSU Vasula 83.85 330 P **P** **11 14 07.3 +0.1**
VSU Vasula 83.85 330 *e*P **P** **11 14 07.1 -0.1**
BILL Bilibino 83.89 20 *i* P **P** **11 14 06.3 -1.0**
BILL pmax pmax
comp=Z,18nm,1.1s
APA Apatity 83.96 339‖ *i*P **P** **11 14 07.4 -0.2**
APA pmax pmax
comp=Z,31nm,1.0s
KOLS Kolonicke sedl 84.24 320 *e*P **P** **11 14 11.0 +1.5**
KOLS pmax pmax
comp=Z,152nm,1.0s
KOLS Kolonicke sedl 84.24 320 *e*P **P** **11 14 11.0 +1.5**
ARBE Arbavere 84.48 330 *e*P **P** **11 14 11.2 +0.8**
PABE Paberze 84.59 326 P **P** **11 14 11.2 +0.2**
PABE Paberze 84.59 326 *e*P **P** **11 14 11.2 +0.2**
SUW Suwalki 84.70 325 P **P** **11 14 11.9 +0.2**
SUW Suwalki 84.70 325 P **P** **11 14 11.9 +0.2**
SUW pmax pmax
comp=Z,336nm,1.0s
SUW Suwalki 84.70 325 *e*P **P** **11 14 12.4 +0.7**
VSVD Vaisvydziai 84.71 327 *e*P **P** **11 14 12.8 +1.2**

FIA1 FINESS Array S 84.97 332 P **P** **11 14 14.0 +1.2**
FINES FINESS Array B 84.97 332 P **P** **11 14 13.3 +0.5**
FINES FINESS Array B 84.97 332 P **P** **11 14 13.4 +0.6**
comp=Z,23nm,0.8s,baz=106,slow=4.7,SNR=5.8
comp=Z,23nm,0.8s
FINES FINESS Array B 84.97 332 *i* P **P** **11 14 13.3 +0.5**
FINES pmax pmax
comp=Z,23nm,0.8s
STHS Stebnicka Huta 84.99 320 *e*P **P** **11 14 13.9 +0.6**
STHS pmax pmax
comp=Z,47nm,1.0s
STHS Stebnicka Huta 84.99 320 *e*P **P** **11 14 13.9 +0.6**
KECS Kecovo 85.32 319 *e*P **P** **11 14 16.0 +1.1**
KECS pmax pmax
comp=Z,33nm,1.0s
KECS Kecovo 85.32 319 *e*P **P** **11 14 16.0 +1.1**
MTSE Matsula 85.39 329 *e*P **P** **11 14 15.1 +0.1**
MEF Metsahovi 85.46 331 *e*P **P** **11 14 16.1 +0.8**
NIE Niedzica 85.60 320 P **P** **11 14 17.1 +0.8**
comp=Z,19nm,1.1s
PSZ Piszkesteto 85.62 318 P **P** **11 14 17.5 +1.0**
PSZ IAmb IAmb 11 14 18.0
comp=Z,47nm,1.0s
PSZ Piszkesteto 85.62 318 P **P** **11 14 17.5 +1.0**
PSZ pmax pmax
comp=Z,47nm,1.0s
PSZ Piszkesteto 85.62 318 *e*P **P** **11 14 16.5 0.0**
KEF Keuruu 85.71 333 *e*P **P** **11 14 16.9 +0.4**
PBUR Paburge 85.82 327 *e*P **P** **11 14 18.1 +1.0**
OJC Ojcow 86.05 321 P **P** **11 14 19.0 +0.5**
comp=Z,43nm,1.5s
MORH Mrgy, Hungar 86.21 316 P **P** **11 14 19.3 -0.1**
comp=Z,33nm,1.9s
VYHS Vyhne 86.41 319 *e*P **P** **11 14 21.0 +0.7**
VYHS pmax pmax
comp=Z,38nm,1.3s
VYHS Vyhne 86.41 319 *e*P **P** **11 14 21.0 +0.7**
TIP Tímpagrande 86.71 309 P **P** **11 14 23.0 +0.9**
comp=Z,29nm,1.1s
RAF Rauma 86.90 331 *e*P **P** **11 14 23.1 +0.7**
VAF Ylistaro 86.90 334 *e*P **P** **11 14 23.5 +1.2**
MATE Matera 86.92 311 *e*P **P** **11 14 23.9 +1.0**
JAVC Velka Javorina 87.22 319 *e*P **P** **11 14 25.7 +1.3**
ARCES ARCESS Array B 87.35 340 P **P** **11 14 24.9 +0.4**
comp=Z,45nm,0.8s,baz=98,slow=5.1,SNR=8.1
comp=Z,45nm,0.8s
MODS Modra-Piesok 87.42 319 *e*P **P** **11 14 25.9 +0.6**
MODS pmax pmax
comp=Z,97nm,1.2s
MODS Modra-Piesok 87.42 319 *e*P **P** **11 14 25.9 +0.6**
MORC Moravsky Berou 87.43 320 *e*P **P** **11 14 26.1 +0.8**
VRAC Vranov 87.98 319 LR LR 11 55 47.4
comp=Z,2μm,21.7s,baz=76,slow=37
VRAC Vranov 87.98 319 *e*P **P** **11 14 27.6 -0.3**
RONA Rosalia, Austr 88.00 318 *e*P **P** **11 14 28.6 +0.5**
comp=Z,0.7nm,0.4s
GKP Gorka Klasztor 88.07 323 *e*P **P** **11 14 29.2 +1.1**
KRUC Moravsky 88.08 319 *e*P **P** **11 14 28.2 -0.2**
DPC Dobruska-Polom 88.28 320 P **P** **11 14 30.1 +0.7**
CONA Conrad Observa 88.31 318 *i* P **P** **11 14 30.0 +0.4**
comp=Z,22nm,1.8s
GROS Grobnik 88.40 316 *i* P **P** **11 14 29.9 -0.2**
ARSA Arzberg 88.47 317 *i* P **P** **11 14 30.4 +0.1**
comp=Z,34nm,1.3s
PERS Pernice 88.69 317 *i* P **P** **11 14 31.4 0.0**
SOKA Soboth 88.75 317 *i* P **P** **11 14 32.6 +0.9**
comp=Z,65nm,1.2s,SNR=7.0
LJU Ljubljana 89.04 316 *i* P **P** **11 14 33.5 +0.5**
LJU Ljubljana 89.04 316 *i* P **P** **11 14 33.5 +0.5**
OBKA Obir 89.06 316 *i* P **P** **11 14 34.2 +1.0**
comp=Z,37nm,1.2s
MOA Molln 89.37 318 *i* P **P** **11 14 33.6 -1.0**
comp=Z,15nm,1.1s
TROLL Troll, Antarti 89.67 198 P P 11 14 44.4 +8.8
TROLL Troll, Antarti 89.67 198 ⇑P P 11 14 44.4 +8.8
comp=Z,864nm,0.8s
MYKA Terra Mystica 89.70 317 *e*P **P** **11 14 37.0 +0.8**
comp=Z,44nm,1.3s
BIOA Bad Ischl, Aus 89.78 318 *e*P **P** **11 14 36.0 -0.5**
comp=Z,38nm,1.4s
GERES GERESS Array B 89.83 319 P **P** **11 14 37.8 +1.0**
GERES GERESS Array B 89.83 319 P **P** **11 14 37.3 +0.5**
comp=Z,26nm,1.0s,baz=68,slow=3.6,SNR=7.2
comp=Z,26nm,1.0s
GERES GERESS Array B 89.83 319 P **P** **11 14 37.8 +1.0**
BRG Berggiesshubel 89.84 321 *i* P **P** **11 14 37.9 +1.3**
BRG Amp 11 14 39.4
comp=Z,54nm,1.3s
BRG Berggiesshubel 89.84 321 P P 11 14 47.0 +10
BRG Amp 11 14 47.4
comp=Z,14nm,1.0s
KBA Koelnbreinsper 89.94 317 *i* P **P** **11 14 37.8 +0.4**
comp=Z,23nm,1.2s
RUE Ruedersdorf 90.07 322 *e*P **P** **11 14 38.9 +1.3**
LESA Schwarzleotal 90.41 317 *i* P **P** **11 14 39.6 +0.1**
comp=Z,33nm,1.3s,SNR=5.4
CLL Collm 90.46 321 *i* P **P** **11 14 39.4 -0.1**
CLL pmax pmax
comp=Z,41nm,1.2s
CLL Collm 90.46 321 *i* P **P** **11 14 39.4 -0.1**
comp=Z,41nm,1.2s
ABTA Abfaltersbach 90.48 317 *i* P **P** **11 14 39.2 -0.6**
comp=Z,27nm,1.0s
HFS Hagfors 90.72 330 P **P** **11 14 41.0 +0.5**
comp=Z,28nm,1.0s,baz=132,slow=2.2,SNR=5.2
comp=Z,28nm,1.0s
CTI Castel Tesino 91.04 316 P **P** **11 14 43.5 +1.1**
CTI IAmb IAmb 11 14 44.4
comp=Z,82nm,1.0s
CTI Castel Tesino 91.04 316 P **P** **11 14 43.5 +1.1**
CTI pmax pmax
comp=Z,82nm,1.0s
WTTA Wattenberg 91.11 317 *i* P **P** **11 14 42.9 +0.1**
comp=Z,40nm,1.0s
WATA Walderalm 91.15 317 *i* P **P** **11 14 42.7 -0.3**
comp=Z,20nm,0.9s
SNAA Sanae 91.39 198 P P 11 14 51.0 +7.5
SNAA Sanae 91.39 198 ⇑P P 11 14 51.0 +7.5
comp=Z,96nm,0.6s
SNAA Sanae 91.39 198 PKKPbc PKKPbc 11 32 03.3 -4.4
comp=Z,2.7nm,0.9s,baz=218,slow=6.3,SNR=4.5
SQTA Sankt Quirin 91.40 317 *i* P **P** **11 14 44.1 0.0**
comp=Z,32nm,1.1s
MOTA Moosalm 91.47 317 *i* P **P** **11 14 44.7 +0.2**
comp=Z,52nm,1.1s
GRF Grafenberg Arr 91.50 319 *e*P **P** **11 14 45.5 +1.1**
comp=Z,40nm,1.1s,baz=93,slow=3.9
SPITS Spitsbergen Ar 91.52 348 P **P** **11 14 43.2 -0.7**
comp=Z,38nm,0.9s,baz=134,slow=8.3,SNR=3.8
comp=Z,38nm,0.9s
RETA Reutte 91.71 317 *e*P **P** **11 14 46.0 +0.5**
comp=Z,36nm,1.2s
FETA Feichten 91.72 317 *i* P **P** **11 14 46.0 +0.3**
comp=Z,32nm,1.1s
NB2 NORSAR Subarra 92.00 331 P **P** **11 14 46.3 -0.2**
comp=Z,25nm,1.1s,baz=93,slow=4.8
NB2 NORSAR Subarra 92.00 331 P **P** **11 14 46.3 -0.2**
baz=93,slow=4.8
NOA NORSAR Array B 92.00 331 P **P** **11 14 46.1 -0.3**
comp=Z,11nm,0.9s,baz=95,slow=5.0,SNR=4.7
comp=Z,11nm,0.9s
FUORN Ofenpass-Fuorn 92.02 316 IAmb IAmb 11 14 49.1
comp=Z,43nm,1.1s
NC204 NORSAR Array S 92.22 331 IAmb IAmb 11 14 49.3
comp=Z,42nm,1.1s
DAVA Damuels 92.31 317 *e*PcP **PcP** **11 14 49.3 +0.1**
comp=Z,40nm,1.0s,SNR=6.3
KEST Kesra 92.35 305 P **P** **11 14 50.1 +1.3**
comp=Z,53nm,1.0s,baz=33,slow=0.9,SNR=5.7
comp=Z,53nm,1.0s
KONO Kongsberg 92.76 329 P **P** **11 14 50.5 +0.6**
KONO IAmb IAmb 11 14 52.4
comp=Z,29nm,1.1s
KONO Kongsberg 92.76 329 P **P** **11 14 50.5 +0.6**
KONO pmax pmax
comp=Z,29nm,1.1s
VNA2 Neumayer--Watz 93.00 198 P P 11 14 59.9 +9.0
baz=90,slow=4.3
VNA2 Neumayer--Watz 93.00 198 ⇑P P 11 14 59.9 +9.0
comp=Z,6.4nm,0.4s,baz=90,slow=4.3
TNA Tin City 93.37 25 IAmb IAmb 11 14 54.5
comp=Z,18nm,1.1s
VNA3 Neumayer Olymp 93.60 198 P P 11 15 01.3 +7.6
VNA3 Neumayer Olymp 93.60 198 ⇑P P 11 15 01.3 +7.6
comp=Z,6.3nm,0.8s
ANM Nome 94.48 26 IAmb IAmb 11 14 59.4

comp=Z,38nm,1.4s
F15K North Star Dit 94.72 24 IAmb IAmb 11 15 00.2
comp=Z,30nm,1.1s
I17K Unalakleet 96.57 26 IAmb IAmb 11 15 09.3
comp=Z,36nm,0.9s
J16K Anvik River 96.69 27 IAmb IAmb 11 15 09.9
comp=Z,72nm,0.8s
H17K Granite Mounta 96.77 25 IAmb IAmb 11 15 09.9
comp=Z,36nm,1.0s
J17K VABM Dome 97.35 26 IAmb IAmb 11 15 12.7
comp=Z,27nm,0.9s
H18K Honhosa River 97.39 25 IAmb IAmb 11 15 12.4
comp=Z,35nm,1.1s
B21K Ikpikpuk River 97.94 20 IAmb IAmb 11 15 34.4
comp=Z,41nm,1.1s
J19K Poorman 98.77 26 IAmb IAmb 11 15 18.9
comp=Z,31nm,1.1s
TORD Torodi Ar. Bea 98.93 283 P **P 11 15 18.5 -0.5**
comp=Z,2.0nm,1.0s,baz=19,slow=3.4,SNR=2.9
comp=Z,2.0nm,1.0s
IMAR Indian Mountai 99.11 23 P **Pdif 11 15 18.5 -0.2**
J20K Nowinta River 99.36 25 IAmb IAmb 11 15 21.8
comp=Z,25nm,1.1s
H21K Melozitna Rive 99.56 24 IAmb IAmb 11 15 22.6
comp=Z,44nm,1.5s
K20K Telida 99.58 26 IAmb IAmb 11 15 22.8
comp=Z,19nm,1.1s
EKA Eskdalemuir Ar 99.94 326 P **Pdif 11 15 22.4 -0.2**
comp=Z,2.3nm,0.8s,baz=96,slow=5.1,SNR=3.1
comp=Z,2.3nm,0.8s
ILAR Eielson Array 102.21 24 P **Pdif 11 15 32.2 -0.3**
comp=Z,1.2nm,1.0s,baz=310,slow=6.6,SNR=3.0
ILAR PP **PP 11 19 42.2 -2.1**
comp=Z,4.7nm,0.9s,baz=295,slow=7.3,SNR=5.7
ILAR PKKPbc **PKKPbc 11 31 33.3 -4.6**
comp=Z,0.2nm,0.7s,baz=321,slow=32,SNR=3.5
ILAR PKKP **PKKPdf 11 31 42.7 -2.0**
comp=Z,2.3nm,0.9s,baz=121,slow=1.6,SNR=4.8
YKA Yellowknife Ar 115.13 17 PKP **PKiKP 11 20 18.4 -0.3**
comp=Z,5.7nm,0.9s,baz=315,slow=2.4,SNR=7.5
YKA PP **PP 11 21 19.6 +1.5**
comp=Z,4.9nm,1.0s,baz=326,slow=6.9,SNR=4.2
YKA PKKPab **PKKPab 11 30 59.6 -0.7**
comp=Z,0.7nm,1.0s,baz=142,slow=4.0,SNR=3.8
USHA Ushuaia 121.74 188 PP **PP 11 22 07.7 +4.1**
comp=Z,3.4nm,0.6s,baz=158,slow=16,SNR=1.4
D08A Wollman Farm, 124.47 32 **PKiKP 11 20 38.6 +1.1**
SCHQ Schefferville 127.13 351 PKPpre 11 20 32.8
SCHQ Schefferville 127.13 351 PKP **PKPdf 11 20 41.4 -0.7**
comp=Z,22nm,0.9s,baz=20,slow=4.9,SNR=6.8
CMB Columbia Colle 129.00 41 **PKPdf 11 20 45.7 -0.5**
CMB Columbia Colle 129.00 41 PKIKP **PKPdf 11 20 45.7 -0.5**
NVAR Mina Array Bea 130.13 40 **PKiKP 11 20 50.5 +1.1**
NVAR Mina Array Bea 130.13 40 PKP **PKiKP 11 20 50.3 +0.9**
comp=Z,8.4nm,0.8s,baz=266,slow=3.0,SNR=7.2
ULM Lac du Bonnet 130.86 14 **PKiKP 11 20 50.0 -0.2**
ULM Lac du Bonnet 130.86 14 PKP **PKPdf 11 20 49.3 0.0**
comp=Z,28nm,0.8s,baz=345,slow=3.8,SNR=9.3
PDAR Pinedale Array 132.23 30 **PKiKP 11 20 53.5 0.0**
PDAR Pinedale Array 132.23 30 PKP **PKPdf 11 20 52.2 -0.3**
comp=Z,4.2nm,0.8s,baz=333,slow=1.7,SNR=5.9
CTU Camp Tracy 132.58 33 PKPdf **PKiKP 11 20 54.1 -0.1**
GSC Goldstone, Bar 132.91 42 **PKiKP 11 20 55.4 +0.4**
GSC Goldstone, Bar 132.91 42 PKIKP **PKiKP 11 20 55.4 +0.4**
V12A Nelson 133.96 40 PKPdf **PKiKP 11 20 57.7 +0.6**
PFO Pinyon Flats O 134.10 44 PKPdf **PKiKP 11 20 57.7 +0.3**
PFO Pinyon Flats O 134.10 44 PKIKP **PKiKP 11 20 57.7 +0.3**
LDAQ Lac Daran 134.47 352 PKPdf **PKPdf 11 20 56.8 +0.5**
LMQ La Malbaie 134.74 351 PKPdf **PKPdf 11 20 57.2 +0.5**
VLDQ Val d'Or 134.88 358 **PKPdf 11 20 57.1 +0.1**
YUH Yuha Desert 135.01 45 **PKiKP 11 20 59.5 +0.3**
BLYC Blythe 135.35 42 PKPdf **PKiKP 11 21 00.0 +0.3**
PLCA Paso Flores 135.79 190 PKP **PKiKP 11 21 00.6 -0.1**
comp=Z,6.0nm,1.1s,baz=102,slow=3.4,SNR=3.0
Y14A Wickenburg 136.25 41 **PKiKP 11 21 01.6 -0.1**
TRQ Mont Tremblant 136.57 355 PKPdf **PKPdf 11 21 00.8 +0.5**
TUC Tucson 138.72 41 PKPdf **PKiKP 11 21 06.3 -0.5**
TUC Tucson 138.72 41 PKIKP **PKiKP 11 21 06.3 -0.5**
VAO Valinhos 138.94 230 PKPdf **PKiKP 11 21 07.5 0.0**
J59A Piesco 139.30 354 **PKiKP 11 21 06.8 -0.8**
L59A Walton 140.62 354 **PKiKP 11 21 09.2 -1.1**
L56A Greenwood 140.85 357 PKPdf **PKPdf 11 21 09.1 +0.8**
N58A Sunbury 142.09 356 PKPdf **PKPdf 11 21 11.0 +0.6**
SSPA Standing Stone 142.36 358 **PKPdf 11 21 11.9 +1.0**
CROK Carrier 142.55 24 **PKPdf 11 21 08.2 -3.2**
MVL Millersville 142.90 356 PKPdf **PKPdf 11 21 11.3 -0.6**
CSTR Hydro, Custer 142.98 26 PKPdf **PKPdf 11 21 09.2 -3.0**
DKNS Dickens 143.55 30 PKPbc 11 21 11.9 +1.3
FNO Franklin 143.87 25 PKPbc 11 21 11.7 +0.4
X34A Smith Ranch, M 144.24 26 PKPdf PKPbc 11 21 13.2 +0.7
SLBS Sierra La Lagu 144.25 52 **PKPdf 11 21 14.5 -0.3**
WTFS Witchita Falls 144.66 27 PKPdf PKPbc 11 21 14.4 +0.6
TXAR Lajitas Array 145.25 38 PKPbc **PKPdf 11 21 16.9 +0.5**
comp=Z,156nm,0.8s,baz=278,slow=1.3,SNR=14
TXAR Lajitas Array 145.25 38 PKIKP **PKPdf 11 21 17.0 +0.5**
RCRC Randolf Colleg 145.60 359 **PKPab 11 21 16.9 -0.1**
AQDB Aquidauana 146.88 224 PKPab **PKPab 11 21 22.1 -0.3**
BBSR BB Station 147.40 336 **PKPbc 11 21 23.0 +0.8**
PTLB Pontes e Lacer 152.63 228 **PKPbc 11 21 35.4 0.0**
656A Willston 153.51 5 PKPdf **PKPdf 11 21 28.2 -1.2**
656A PKPbc **PKiKP 11 21 37.9 +0.7**
656A **PKPab 11 21 49.8 +0.6**
SIV San Ignacio 153.66 224 PKPbc **PKPbc 11 21 37.6 -0.2**
comp=Z,12nm,1.0s,baz=135,slow=7.7,SNR=3.4
LPAZ La Paz 157.75 211 PKP **PKPdf 11 21 36.7 +0.5**
comp=Z,8.9nm,1.0s,baz=83,slow=3.7,SNR=2.3
SJG San Juan 159.79 320 PKP **PKPdf 11 21 37.6 -0.2**
comp=Z,5.6nm,0.4s,baz=1.1,slow=10,SNR=2.0
CHIV Chivirico 162.68 349 **PKPab 11 22 29.3 +0.4**
SDV Santo Domingo 169.10 304 PKPab **PKPab 11 22 57.1 -0.8**
comp=Z,11nm,0.6s,baz=41,slow=3.0,SNR=4.8

*NEIC **02** 11:07:44.2±1.0, 31°.41N±0°.04×103°.47W±0°.06, h2km±4km, mb_Lg2.2/5, ML2.6/48, Error ellipse: s-maj=7.5km s-min=5.0km az=88.0*
*TXNET **02** 11:07:44.2, 31°.4N±0°.8×103°.5W±0°.5, h4km, ML2.3/8, Error ellipse: s-maj=1.3km s-min=0.8km az=4.6, final*
ISC 02 11:07:44.6±0.9, 31°.41N±0°.02×103°.47W±0°.02, h3km±7km, n52, σ0°83/72, 4C-2D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.03**	**273**	⇓P	**Pg**	**11 07 45.3**	**-0.2**
PCOS				S	**Sg**	**11 07 46.2**	**+0.1**
TPB07	**Mentone**	**0.24**	**316**	⇓P	**Pg**	**11 07 49.6**	**+0.3**
TPB07				S	**Sg**	**11 07 53.4**	**+1.1**
TPB10	**Southeast of T**	**0.27**	**243**	⇑P	**Pg**	**11 07 50.3**	**+0.5**
TPB10				S	**Sg**	**11 07 54.7**	**+1.4**
TPB03	**Saragosa**	**0.32**	**186**	P	**Pb**	**11 07 51.9**	**-1.2**
TPB03				Pn	**Pg**	**11 07 53.2**	**+2.3**
TPB03				S	**Sg**	**11 07 56.2**	**+1.1**
TPB03				S	**Sb**	**11 07 58.8**	**0.0**
TPB06	**Permian Basin**	**0.32**	**42**	P	**Pb**	**11 07 52.2**	**-0.9**
PECS	**Pecos**	**0.34**	**264**		**Pg**	**11 07 50.9**	**-0.2**
PECS				Sg	**Sg**	**11 07 55.4**	**-0.2**
PECS				IAML		11 08 01.1	
	308nm,0.3s						
PECS				IAML		11 08 01.1	
	389nm,0.3s						
PECS	**Pecos**	**0.34**	**264**	⇑P	**Pg**	**11 07 51.1**	**0.0**
PECS				S	**Sg**	**11 07 55.9**	**+0.3**
TPB12	**Southwest of T**	**0.46**	**245**	P	**Pg**	**11 07 53.3**	**-0.1**
TPB12				S	**Sg**	**11 08 00.1**	**+0.7**
TPB05	**Hovey Rd**	**0.50**	**165**	P	**Pb**	**11 07 55.1**	**-1.0**
TPB05				S	**Sb**	**11 08 03.2**	**-0.6**
TPB01	**Permian Basin**	**0.53**	**210**	⇑P	**Pg**	**11 07 55.0**	**+0.2**
TPB01				S	**Sg**	**11 08 02.8**	**+1.1**
MNHN	**Monahans**	**0.61**	**96**		**Pb**	**11 07 56.9**	**-1.1**
MNHN	**Monahans**	**0.61**	**96**	P	**Pb**	**11 07 57.2**	**-0.8**
MNHN				S	**Sb**	**11 08 07.0**	**-0.1**
TPB08	**Permian Basin**	**0.71**	**136**	S	**Sb**	**11 08 10.1**	**+0.3**
TPB11	**China Draw**	**0.71**	**318**	S	**Sg**	**11 08 07.7**	**+0.2**
CLNB	**Carlsbad**	**0.92**	**338**		**Pb**	**11 08 02.6**	**-0.7**
NM01	**Eunice**	**0.95**	**4**	P	**Pb**	**11 08 03.0**	**-0.7**
NM01				S	**Sb**	**11 08 16.5**	**-0.2**
ALPN	**Alpine**	**1.04**	**188**	Pg	**Pg**	**11 08 03.6**	**-0.8**
ALPN	**Alpine**	**1.04**	**188**	P	**Pg**	**11 08 03.7**	**-0.8**
ALPN				S	**Sb**	**11 08 19.6**	**+0.2**
CLN7	**Carlsbad 7**	**1.04**	**344**		**Pg**	**11 08 04.3**	**-0.3**
ODSA	**Odessa**	**1.06**	**48**		**Pg**	**11 08 04.0**	**-0.9**
ODSA				IAML		11 08 39.4	
	104nm,0.8s						
ODSA	**Odessa**	**1.06**	**48**	S	**Sb**	**11 08 20.0**	**0.0**
HTMS	**Hat Mesa**	**1.07**	**353**		**Pb**	**11 08 05.6**	**-0.2**
GDL2	**Guadalupe Moun**	**1.10**	**316**		**Pg**	**11 08 04.7**	**-0.9**
TMB02	**Rankin**	**1.25**	**99**	P	**Pn**	**11 08 09.0**	**+0.1**
TMB02				S	**Sn**	**11 08 26.8**	**+0.4**
VHRN	**Van Horn**	**1.44**	**245**	Pg	**Pn**	**11 08 10.9**	**-0.7**
VHRN	**Van Horn**	**1.44**	**245**	⇑P	**Pn**	**11 08 10.8**	**-0.9**
VHRN				S	**Sg**	**11 08 30.5**	**-0.2**
TMB04	**Seminole**	**1.48**	**34**	P	**Pn**	**11 08 11.9**	**-0.2**
CPRX	**Cap Rock**	**1.65**	**348**		**Pb**	**11 08 15.1**	**-0.7**
CPRX	**Cap Rock**	**1.65**	**348**	P	**Pb**	**11 08 15.0**	**-0.7**
MNTX	**Cornudas Mount**	**1.66**	**281**	P	**Pn**	**11 08 14.7**	**+0.2**
MNTX				S	**Sn**	**11 08 36.4**	**+0.1**
SAND	**Sanderson**	**1.86**	**141**		**Pb**	**11 08 19.0**	**-0.2**
SAND	**Sanderson**	**1.86**	**141**	P	**Pb**	**11 08 19.0**	**-0.2**
SAND				S	**Sg**	**11 08 44.5**	**+0.2**
SGCY	**Sterling City**	**2.06**	**75**		**Pn**	**11 08 20.9**	**+0.6**
SGCY				IAmb_Lg		11 08 54.0	
	comp=Z,12nm,0.9s						
SGCY				IAML		11 08 54.2	
	comp=Z,30nm,0.9s						
SGCY				IAML		11 08 58.2	
	comp=Z,30nm,0.7s						
OZNA	**Ozona**	**2.07**	**103**		**Pb**	**11 08 21.9**	**-0.9**
OZNA				IAML		11 08 54.1	
	comp=Z,32nm,0.6s						
OZNA				IAML		11 08 54.8	
	comp=Z,38nm,0.7s						
OZNA				IAmb_Lg		11 08 55.4	
	comp=Z,8.8nm,0.8s						
OZNA	**Ozona**	**2.07**	**103**	P	**Pb**	**11 08 22.0**	**-0.8**
OZNA				S	**Sg**	**11 08 50.2**	**-0.9**
TX31	**Lajitas Ar. Si**	**2.07**	**185**		**Pb**	**11 08 21.6**	**-1.2**
TX31	**Lajitas Ar. Si**	**2.07**	**185**	P	**Pb**	**11 08 21.7**	**-1.2**
TX31				S	**Sb**	**11 08 49.3**	**+0.1**
TXAR	**Lajitas Array**	**2.07**	**185**		**Pb**	**11 08 21.5**	**-1.4**
POST	**Post**	**2.35**	**45**		**Pn**	**11 08 25.1**	**+0.9**
POST				IAML		11 09 03.1	
	comp=Z,31nm,0.3s						
POST				IAML		11 09 06.1	
	comp=Z,25nm,0.6s						
SN05	**Snyder 5**	**2.64**	**56**	Pn	**Pn**	**11 08 29.2**	**+1.0**
SN05				IAML		11 09 13.9	
	comp=Z,31nm,0.4s						
SN07	**Snyder 07**	**2.76**	**52**	Pn	**Pn**	**11 08 30.8**	**+1.1**
DKNS	**Dickens**	**3.12**	**43**	Pn	**Pn**	**11 08 35.2**	**+0.5**
DKNS				IAML		11 09 26.4	
	comp=Z,18nm,0.4s						
DKNS				IAML		11 09 31.6	
	comp=Z,22nm,0.8s						
DRIO	**Del Rio**	**3.16**	**128**		**Pn**	**11 08 35.4**	**+0.2**
DRIO				IAML		11 09 33.1	
	comp=Z,21nm,0.6s						
DRIO				IAML		11 09 36.8	
	comp=Z,18nm,0.7s						
APMT	**Aspermont**	**3.42**	**55**		**Pn**	**11 08 39.8**	**+0.9**
APMT				IAML		11 09 40.1	
	comp=Z,20nm,0.3s						
APMT				IAML		11 09 43.4	
	comp=Z,22nm,0.9s						
AMTX	**Amarillo**	**3.78**	**23**	Pn	**Pn**	**11 08 45.1**	**+1.3**
BRDY	**Brady**	**3.83**	**91**	Pn	**Pn**	**11 08 45.6**	**+1.2**
BRDY				IAML		11 09 54.3	
	comp=Z,15nm,0.6s						
BRDY				IAML		11 09 55.5	
	comp=Z,7.9nm,0.7s						
SBM	**South Bally**	**4.04**	**310**	Pn	**Pn**	**11 08 49.3**	**+1.6**
HNDO	**Hondo**	**4.08**	**116**	Pn	**Pn**	**11 08 48.5**	**+0.6**
HNDO				IAML		11 10 03.5	
	comp=Z,9.3nm,1.2s						
HNDO				IAML		11 10 20.5	
	comp=Z,8.0nm,2.8s						
SMWD	**Samnorwood**	**4.57**	**35**	Pn	**Pn**	**11 08 56.5**	**+1.8**
PLPT	**Palo Pinto**	**4.59**	**71**	Pn	**Pn**	**11 08 54.4**	**-0.5**
WMOK	**Wichita Mounta**	**5.15**	**49**	Pn	**Pn**	**11 09 03.8**	**+1.2**
WMOK				IAML		11 11 19.0	
	comp=Z,6.0nm,4.4s						
FW06	**Azle**	**5.25**	**71**	Pn	**Pn**	**11 09 04.0**	**0.0**

*IDC **02** 11:07:56.6±2.3, 2°.81S×100°.13E, h0km, mb4.3/8, mbtmp4.3/8, Error ellipse: s-maj=87.2km s-min=22.6km az=54.0*
*NEIC **02** 11:07:59.1±1.9, 2°.72S±0°.09×100°.18E±0°.07, h10km±1km, mb4.5/8, Error ellipse: s-maj=17.4km s-min=9.9km az=212.0*
ISC 02 11:08:01.0±1.1, 2°.7S±0°.1×100°.2E±0°.1, h30km, n38, σ1°.05/29, mb4.5/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**3.18**	**121**	Pn	**Pn**	**11 08 49.6**	**+0.5**
GSI	**Gunungsitoli**	**4.79**	**326**	Pn	**Pn**	**11 09 09.3**	**-1.9**
RPSI	**Rantau Prapat**	**5.53**	**346**	Pn	**Pn**	**11 09 19.9**	**-1.4**
MYKOM	**Kota Tinggi**	**5.76**	**39**	Pn	**Pn**	**11 09 23.4**	**-1.1**
IPM	**Ipoh**	**7.19**	**6**	Pn	**Pn**	**11 09 44.0**	**-0.2**
KULM	**Kulim**	**7.96**	**3**	Pn	**Pn**	**11 09 55.3**	**+0.5**
LHMI	**Lhok Sumawe**	**8.54**	**338**	Pn	**Pn**	**11 10 01.9**	**-0.8**
SBUM	**Sibu**	**13.05**	**67**	Pn	**Pn**	**11 11 01.3**	**-3.2**
KKM	**Kota Kinabalu**	**18.19**	**61**		**Pn**	**11 12 11.3**	**-0.3**
CHTO	**Chiang Mai**	**21.43**	**357**	P	**P**	**11 12 46.8**	**0.0**
SLVN	**Son La**	**24.17**	**8**	P	**P**	**11 13 15.6**	**+0.7**
H08S2	**Diego Garcia H**	**28.03**	**259**	T	T	11 42 43.7	
	baz=82						
H08S3	**Diego Garcia H**	**28.04**	**259**	T	T	11 42 42.5	
	baz=82						
H08S1	**Diego Carcia H**	**28.05**	**259**	T	T	11 42 44.2	
	baz=82						
WRA	**Warramunga Arr**	**37.45**	**120**	P	**P**	**11 15 12.0**	**0.0**
	3.2nm,0.9s,baz=308,slow=9.0,SNR=1.2						
	3.2nm,0.9s						
ASAR	**Alice Springs**	**38.66**	**126**	P	**P**	**11 15 22.1**	**-0.2**
	4.8nm,1.0s,baz=300,slow=8.4,SNR=2.1						
	4.8nm,1.0s						
BOOM	**Boomskoye usch**	**50.07**	**337**	P	**P**	**11 16 54.0**	**+0.6**
SIMJ	**Simiganj**	**50.24**	**328**	P	**P**	**11 16 54.1**	**-0.5**
SONM	**Songino Array**	**50.63**	**5**	P	**P**	**11 16 58.6**	**+1.1**
SONM				IAmb	IAmb	11 17 00.5	
	comp=Z,5.3nm,1.1s						
SONM	**Songino Array**	**50.63**	**5**	P	**P**	**11 16 58.6**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=191,slow=9.5,SNR=6.0						
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**51.77**	**344**	P	**P**	**11 17 06.9**	**+1.0**
MK31				IAmb	IAmb	11 17 08.2	
	comp=Z,5.6nm,1.1s						
MKAR	**Makanchi Array**	**51.77**	**344**	P	**P**	**11 17 07.0**	**+1.1**
MKAR	**Makanchi Array**	**51.77**	**344**	P	**P**	**11 17 06.5**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=160,slow=8.0,SNR=8.1						
	comp=Z,3.5nm,0.7s						
MAKZ	**Makanchi**	**51.87**	**344**	P	**P**	**11 17 06.5**	**-0.1**
MAKZ				IAmb	IAmb	11 17 07.9	
	comp=Z,8.4nm,1.1s						
USA0B	**Ussuriysk Arra**	**54.68**	**28**	P	**P**	**11 17 28.3**	**+1.0**
USA0B				IAmb	IAmb	11 17 28.4	
	comp=Z,4.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.68**	**28**	P	**P**	**11 17 28.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**54.68**	**28**	P	**P**	**11 17 28.1**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=198,slow=4.7,SNR=4.6						
	comp=Z,2.8nm,0.6s						
KURBB	**Kurchatov Arra**	**56.29**	**344**	P	**P**	**11 17 39.3**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=167,slow=7.2,SNR=2.5						
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**57.91**	**349**	P	**P**	**11 17 50.1**	**0.0**
	comp=Z,5.2nm,0.8s,baz=155,slow=11,SNR=3.3						
	comp=Z,5.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.36**	**217**	T	T	12 23 17.1	
	baz=60						
H04N1	**CROZET ISLANDS**	**60.37**	**217**	T	T	12 23 18.8	
	baz=60						
H04N3	**CROZET ISLANDS**	**60.38**	**217**	T	T	12 23 17.3	
	baz=60						
H04S1	**CROZET ISLANDS**	**60.64**	**216**	T	T	12 23 36.5	
	baz=59						
H04S3	**CROZET ISLANDS**	**60.65**	**216**	T	T	12 23 36.1	
	baz=59						
H04S2	**CROZET ISLANDS**	**60.66**	**216**	T	T	12 23 37.7	
	baz=59						
BVAR	**Borovoye Array**	**60.92**	**340**	P	**P**	**11 18 11.5**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=148,slow=8.5,SNR=2.9						
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**62.37**	**331**	P	**P**	**11 18 19.9**	**-0.9**
TXAR	**Lajitas Array**	**145.13**	**38**	PKPbc	**PKPdf**	**11 27 37.0**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=234,slow=1.0,SNR=15						

*IDC **02** 11:09:01.8±1.2, 2°.84S×100°.18E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=44.9km s-min=19.7km az=63.0*
ISC 02 11:09:06.2±1.1, 2°.8S±0°.2×100°.3E±0°.3, h28km, n21, σ0°47/12, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.16**	**357**	P	**P**	**11 13 49.1**	**-0.2**
	1.3nm,0.6s,baz=172,slow=9.9,SNR=2.2						
	1.3nm,0.6s						
H08S2	**Diego Garcia H**	**28.06**	**259**	T	T	11 43 53.4	
	baz=82,slow=75						
H08S3	**Diego Garcia H**	**28.07**	**259**	T	T	11 43 53.1	
	baz=82						
H08S1	**Diego Carcia H**	**28.08**	**259**	T	T	11 43 54.7	
	baz=82,slow=75						
WRA	**Warramunga Arr**	**37.37**	**120**	P	**P**	**11 16 16.9**	**+0.1**
	0.4nm,0.3s,baz=309,slow=8.7,SNR=5.1						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**38.58**	**125**	P	**P**	**11 16 26.4**	**-0.6**
	1.5nm,0.8s,baz=296,slow=8.8,SNR=1.1						
	1.5nm,0.8s						
KSRS	**Korea Array**	**47.58**	**30**	P	**P**	**11 17 39.2**	**-0.2**
	0.9nm,0.8s,baz=224,slow=8.2,SNR=2.4						
	0.9nm,0.8s						
SONM	**Songino Array**	**50.71**	**5**	P	**P**	**11 18 04.2**	**+0.7**
	5.5nm,0.8s,baz=189,slow=8.1,SNR=8.4						
	5.5nm,0.8s						
MKAR	**Makanchi Array**	**51.87**	**344**	P	**P**	**11 18 12.1**	**0.0**
	5.9nm,0.7s,baz=158,slow=9.0,SNR=12						
	5.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.74**	**28**	P	**P**	**11 18 33.6**	**+0.5**
	3.9nm,0.8s,baz=213,slow=9.1,SNR=4.5						
	3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**56.39**	**344**	P	**P**	**11 18 44.6**	**-0.3**
	1.7nm,0.8s,baz=162,slow=7.3,SNR=2.9						
	1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**58.00**	**349**	P	**P**	**11 18 55.7**	**-0.6**
	4.4nm,0.9s,baz=177,slow=5.8,SNR=3.0						
	4.4nm,0.9s						
H04N2	**CROZET ISLANDS**	**60.31**	**217**	T	T	12 24 25.6	
	baz=60						
H04N1	**CROZET ISLANDS**	**60.32**	**217**	T	T	12 24 25.4	
	baz=60						
H04N3	**CROZET ISLANDS**	**60.33**	**217**	T	T	12 24 24.8	
	baz=60						
H04S1	**CROZET ISLANDS**	**60.59**	**216**	T	T	12 24 40.6	
	baz=58						
H04S3	**CROZET ISLANDS**	**60.61**	**216**	T	T	12 24 41.2	
	baz=58						
H04S2	**CROZET ISLANDS**	**60.61**	**216**	T	T	12 24 42.6	
	baz=58						
FINES	**FINESS Array B**	**84.94**	**332**	P	**P**	**11 21 38.1**	**-0.4**
	1.0nm,0.5s,baz=134,slow=4.0,SNR=4.8						
	1.0nm,0.5s						
QSPA	**South Pole Qui**	**87.17**	**180**	P	**P**	**11 21 50.1**	**+0.4**
	1.4nm,1.0s,baz=339,slow=2.1,SNR=3.5						
	1.4nm,1.0s						
TXAR	**Lajitas Array**	**145.17**	**38**	PKPbc	**PKPdf**	**11 28 42.0**	**0.0**
	2.1nm,0.5s,baz=216,slow=1.1,SNR=18						

*DJA **02** 11:09:39.0±0.6, 3°.S±5°.×10°.0E±°, h29km±5km, M4.8/7, MLv4.8/7*
*NEIC **02** 11:09:41.1±1.5, 2°.97S±0°.09×100°.2E±0°.1, h10km±2km, mb4.4/17, Error ellipse: s-maj=22.5km s-min=11.6km az=235.0*
*IDC **02** 11:09:41.2±1.4, 2°.67S×100°.20E, h0km, mb4.3/15, mbtmp4.4/16, ML4.4/1, Error ellipse: s-maj=42.6km s-min=16.5km az=55.0*
ISC 02 11:09:42.5±0.8, 3°.00S±0°.09×100°.1E±0°.1, h27km, n60, σ1°.30/51, mb4.5/26, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.24**	**350**	P	**Pb**	**11 09 49.2**	**+0.4**
PPSI				S	**Sb**	**11 09 52.5**	**-0.7**
PPI	**Padang Panjang**	**2.55**	**8**	P	Pn	11 10 12.7	-9.4
KSI	**Kapahiang**	**2.62**	**104**	P	Pn	11 10 17.3	-5.7
MNAI	**Manna**	**3.20**	**115**	Pn	**Pn**	**11 10 29.5**	**-1.5**
MNAI				Sn	**Sn**	**11 11 10.3**	**+2.1**
MNAI	**Manna**	**3.20**	**115**	P	Pn	11 10 25.8	-5.2
MDSI	**Maura Dua**	**4.37**	**110**	P	**Pn**	**11 10 43.5**	**-3.6**
MYKOM	**Kota Tinggi**	**6.09**	**39**	Pn	**Pn**	**11 11 10.7**	**-0.1**
IPM	**Ipoh**	**7.49**	**7**	Pn	**Pn**	**11 11 30.0**	**-0.1**
KULM	**Kulim**	**8.26**	**4**	Pn	**Pn**	**11 11 39.5**	**-1.0**
KAPI	**Kappang**	**19.75**	**96**	P	**Pn**	**11 14 13.3**	**+1.2**
	1.1nm,0.3s,baz=260,slow=13,SNR=4.0						
	14nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.35**	**357**	P	**P**	**11 14 27.9**	**+0.1**
	2.7nm,0.7s,baz=172,slow=10,SNR=5.2						
	2.7nm,0.7s						
PSA00	**Pilbara Seismi**	**26.67**	**135**	P	**P**	**11 15 19.9**	**+0.5**
H08S2	**Diego Garcia H**	**27.82**	**259**	T	T	11 44 36.7	
	baz=82						
H08S3	**Diego Garcia H**	**27.82**	**259**	T	T	11 44 26.0	
	baz=82						
H08S1	**Diego Carcia H**	**27.84**	**259**	T	T	11 44 26.9	
	baz=82						
FITZ	**Fitzroy Crossi**	**29.22**	**123**	P	**P**	**11 15 41.0**	**-1.2**
SAUI	**Saumlaki**	**31.48**	**100**	P	**P**	**11 16 00.8**	**-1.5**
LSA	**Lhasa**	**33.62**	**346**	P	**P**	**11 16 21.3**	**0.0**
WB0	**Warramunga Arr**	**37.43**	**119**	P	**P**	**11 16 54.6**	**+0.8**
WB0				IAmb	IAmb	11 17 05.2	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**37.45**	**119**	P	**P**	**11 16 55.8**	**+1.9**
	comp=Z,1.2nm

comp=Z,4.3nm,0.8s,baz=156,slow=7.3,SNR=8.6
comp=Z,4.3nm,0.8s
KURK Kurchatov 56.58 344 P P 11 19 23.3 +0.6
KURK IAmb IAmb 11 19 28.1
comp=Z,2.2nm,0.8s
ZAA0 Zalesovo Array 58.16 349 P P 11 19 33.1 -0.6
ZAA0 IAmb IAmb 11 19 45.9
comp=Z,3.5nm,0.7s
ZALV Zalesovo Beam 58.16 349 P P 11 19 33.9 +0.2
ZALV Zalesovo Beam 58.16 349 P P 11 19 34.1 +0.3
comp=Z,6.9nm,0.9s,baz=160,slow=4.6,SNR=3.4
comp=Z,6.9nm,0.9s
KLR Kul'dur 58.82 24 P P 11 19 38.2 -0.3
comp=Z,3.7nm,0.8s,baz=231,slow=7.8,SNR=5.0
comp=Z,3.7nm,0.8s
H04N2 CROZET ISLANDS 60.03 217 T T 12 25 09.4
baz=59,slow=75
H04N1 CROZET ISLANDS 60.04 217 T T 12 25 09.0
baz=59,slow=75
H04N3 CROZET ISLANDS 60.05 217 T T 12 25 08.4
baz=59,slow=75
H04S1 CROZET ISLANDS 60.31 216 T T 12 25 25.0
baz=57,slow=76
H04S3 CROZET ISLANDS 60.32 216 T T 12 25 25.0
baz=57,slow=76
H04S2 CROZET ISLANDS 60.33 216 T T 12 25 24.6
baz=57,slow=76
ASAJ Asahikawa 60.41 34 P P 11 19 50.0 +0.5
comp=Z,7.9nm,1.0s,baz=235,slow=12,SNR=5.8
comp=Z,7.9nm,1.0s
BVAR Borovoye Array 61.14 340 P P 11 19 54.6 +0.3
comp=Z,1.5nm,0.6s,baz=116,slow=9.8,SNR=2.0
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 62.54 332 P P 11 20 04.0 +0.2
ABKAR Akbulak array 62.54 332 P P 11 20 04.5 +0.7
ABKAR IAmb IAmb 11 20 04.9
comp=Z,3.7nm,0.7s
ARCES ARCESS Array B 87.43 340 P P 11 22 28.8 +1.7
comp=Z,2.4nm,0.8s,baz=160,slow=3.9,SNR=3.9
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 145.46 38 PKPbc PKPdf 11 29 20.9 +2.0
comp=Z,3.5nm,0.7s,baz=229,slow=1.0,SNR=11

*IDC **02** 11:12:01.4±2.9, 2°.88S×100°.10E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=124.7km s-min=19.9km az=58.0*
ISC 02 11:12:05.7±2.4, 2°.8S±0°.4×100°.2E±0°.6, h27km, n17, σ0°41/8, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.19**	**357**	P	**P**	**11 16 49.1**	**-0.1**
	0.5nm,0.4s,baz=172,slow=10,SNR=2.7						
	0.5nm,0.4s						
H08S2	**Diego Garcia H**	**27.96**	**259**	T	T	11 46 52.8	
	baz=83						
H08S3	**Diego Garcia H**	**27.97**	**259**	T	T	11 46 45.7	
	baz=83						
H08S1	**Diego Carcia H**	**27.98**	**259**	T	T	11 46 50.9	
	baz=83						
WRA	**Warramunga Arr**	**37.44**	**120**	P	**P**	**11 19 16.5**	**-0.5**
	0.5nm,0.4s,baz=302,slow=8.1,SNR=3.6						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**38.64**	**125**	P	**P**	**11 19 26.8**	**-0.3**
	1.1nm,0.7s,baz=305,slow=8.4,SNR=4.4						
	1.1nm,0.7s						
STKA	**Stephens Creek**	**48.48**	**131**	P	**P**	**11 20 46.8**	**+0.5**
	3.0nm,1.0s,baz=276,slow=9.2,SNR=2.1						
	3.0nm,1.0s						
SONM	**Songino Array**	**50.75**	**5**	P	**P**	**11 21 03.8**	**+0.4**
	2.3nm,0.7s,baz=194,slow=9.4,SNR=5.4						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**51.87**	**344**	P	**P**	**11 21 11.7**	**0.0**
	2.0nm,0.6s,baz=152,slow=8.0,SNR=4.8						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**56.39**	**344**	P	**P**	**11 21 44.1**	**-0.4**
	1.6nm,0.8s,baz=169,slow=7.1,SNR=4.8						
	1.6nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.23**	**217**	T	T	12 27 21.7	
	baz=59,slow=75,SNR=101						
H04N1	**CROZET ISLANDS**	**60.24**	**217**	T	T	12 27 19.6	
	baz=59,slow=75,SNR=3.2						
H04N3	**CROZET ISLANDS**	**60.25**	**217**	T	T	12 27 23.4	
	baz=59,slow=75,SNR=4.1						
H04S1	**CROZET ISLANDS**	**60.51**	**216**	T	T	12 27 38.8	
	baz=58,slow=76,SNR=5.0						
H04S3	**CROZET ISLANDS**	**60.53**	**216**	T	T	12 27 38.5	
	baz=58,slow=76,SNR=5.5						
H04S2	**CROZET ISLANDS**	**60.53**	**216**	T	T	12 27 39.7	
	baz=58,slow=76,SNR=5.6						
TXAR	**Lajitas Array**	**145.25**	**38**	PKPbc	**PKPdf**	**11 31 41.8**	**-0.1**
	1.2nm,0.7s,baz=223,slow=1.2,SNR=4.9						

*NEIC **02** 11:18:23.6±1.4, 40°.26N±0°.02×124°.67W±0°.04, h10km±2km, Error ellipse: s-maj=5.6km s-min=3.4km az=84.0*
NCEDC 02 11:18:26.0±2.6, 40°.31N±0°.02×124°.47W±0°.04, h7km±6km, ML3.1/12, ML3.0/50(NEIC), Error ellipse: s-maj=4.7km s-min=2.8km az=84.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.20**	**31**		Sg	11 18 35.2	+2.5
KMPM	**Mount Pierce**	**0.29**	**67**		Pg	11 18 32.6	+0.8
KMPM	**Mount Pierce**	**0.29**	**67**		Sb	11 18 37.8	-0.9
KMPM				IAML		11 18 38.2	
	comp=E,7μm,0.2s						
KMPM				IAML		11 18 41.1	
	comp=N,5μm,0.8s						
KCRM	**Chalk Rock**	**0.51**	**76**		Pb	11 18 37.2	-0.1
KMRM	**Mail Ridge**	**0.59**	**98**		Pb	11 18 38.5	-0.2
KMRM	**Mail Ridge**	**0.59**	**98**	IAML		11 18 50.6	
	comp=E,1μm,0.5s						
KMRM				IAML		11 18 53.0	
	comp=N,1μm,0.9s						
JCC	**Jacoby Creek,**	**0.61**	**33**		Sg	11 18 38.3	-7.5
JCC	**Jacoby Creek,**	**0.61**	**33**	Pg	Pg	11 18 38.2	+0.4
JCC	**Jacoby Creek,**	**0.61**	**33**	IAML		11 18 49.5	
	comp=E,723nm,0.9s						
JCC				IAML		11 18 58.3	
	comp=N,600nm,0.8s						
KHMM	**Horse Mountain**	**0.80**	**44**		Pg	11 18 41.8	+0.4
KHMM	**Horse Mountain**	**0.80**	**44**	IAML		11 18 58.2	
	comp=N,936nm,0.6s						
KIPM	**Iron Peak**	**0.91**	**123**		Pg	11 18 43.5	0.0
KRPM	**Rodgers**	**0.92**	**22**		Pg	11 18 42.9	-0.7
KRPM	**Rodgers**	**0.92**	**22**	IAML		11 19 01.1	
	comp=N,375nm,0.7s						
KRPM				IAML		11 19 10.2	
	comp=E,484nm,3.0s						
KCPM	**Cahto Peak**	**0.92**	**132**		Pg	11 18 43.5	-0.2
KHBM	**Hayfork Bally**	**1.02**	**69**		Pg	11 18 44.9	-0.7
KHBM				IAML		11 19 04.8	
	comp=E,347nm,0.8s						
KBNM	**Bluenose Ridge**	**1.06**	**112**		Pg	11 18 45.9	-0.5
DCMP	**DeCamp, Califo**	**1.21**	**133**		Pg	11 18 47.0	-2.1
LBPM	**Beegum Peak**	**1.21**	**89**		Pg	11 18 48.2	-1.1
WEAV	**Weaverville**	**1.22**	**68**		Pg	11 18 47.6	-1.7
KRMB	**Red Mountain**	**1.29**	**19**		Pn	11 18 48.2	-2.3
KRMB				IAML		11 19 05.1	
	comp=E,247nm,0.2s						
KRMB				IAML		11 19 05.1	
	comp=N,152nm,0.2s						
O02D	**Mt. Diablo Mer**	**1.29**	**95**	Pn	Pn	11 18 49.4	-1.2
GWRM	**Wonder Ranch**	**1.42**	**140**		Pn	11 18 50.1	-2.2
GROM	**Round Mountain**	**1.43**	**105**		Pn	11 18 51.2	-1.3
QVV	**Valley View**	**1.48**	**110**		Pn	11 18 52.2	-0.9
N02D	**Trinity Center**	**1.50**	**63**		Pn	11 18 51.7	-1.7
N02D	**Trinity Center**	**1.50**	**63**	IAML		11 19 12.9	
	comp=N,204nm,0.3s						
N02D				IAML		11 19 13.2	
	comp=E,190nm,0.3s						
LBKM	**Bonanza King**	**1.58**	**60**		Pn	11 18 53.1	-1.4
KSXB	**Camp Six Broad**	**1.59**	**16**		Pn	11 18 52.3	-2.4
KSXB	**Camp Six Broad**	**1.59**	**16**	IAML		11 19 12.9	
	comp=E,139nm,0.6s						
SIGP	**Signal Peak, C**	**1.59**	**11**		Pn	11 18 52.2	-2.4
M02C	**Callahan**	**1.64**	**48**		Pn	11 18 53.6	-1.7
HOPS	**Hopland Field**	**1.70**	**140**	Pn	Pn	11 18 54.0	-2.0
HOPS				IAML		11 19 09.4	
	comp=E,112nm,4.1s						
HOPS				IAML		11 19 39.2	
	comp=N,137nm,3.1s						
LAMM	**Antelope Mount**	**1.91**	**46**		Pn	11 18 57.7	-1.4
YBH	**Yreka Blue Hor**	**1.95**	**42**	Pn	Pn	11 18 58.2	-1.3
LGBM	**Gray Butte**	**2.02**	**58**		Pn	11 19 00.4	-0.2
M03C	**McCloud**	**2.03**	**61**		Pn	11 19 00.3	-0.4
M03C				IAML		11 19 37.2	
	comp=N,107nm,0.6s						
M03C				IAML		11 20 05.5	
	comp=E,102nm,1.8s						
O03E	**Paynes Creek**	**2.04**	**89**		Pn	11 18 59.5	-1.3
O03E	**Paynes Creek**	**2.04**	**89**	IAML		11 19 27.1	
	comp=E,66nm,4.5s						
LHEM	**Herd Peak**	**2.16**	**51**		Pn	11 19 02.1	-0.4
LBFM	**Black Fox Moun**	**2.22**	**61**		Pn	11 19 03.1	-0.2
HATC	**Hat Creek Radi**	**2.35**	**76**	Pn	Pn	11 19 04.3	-0.8
LGMM	**Garner Mountai**	**2.38**	**56**		Pn	11 19 05.0	-0.6
ORV	**Oroville**	**2.40**	**107**	Pn	Pn	11 19 04.7	-1.0
K02D	**Willamette Mer**	**2.46**	**14**	Pn	Pn	11 19 05.2	-1.5
K02D				IAML		11 19 36.5	
	comp=E,51nm,0.5s						
K02D				IAML		11 19 59.9	
	comp=N,45nm,5.0s						
M04C	**Macdoel**	**2.48**	**53**		Pn	11 19 06.3	-0.5
L04D	**Klamath Falls**	**2.51**	**40**	Pn	Pn	11 19 07.7	+0.4
L04D				IAML		11 19 39.8	
	comp=E,105nm,4.9s						
L04D				IAML		11 19 45.9	
	comp=N,96nm,4.9s						
DBO	**Dodson Butte**	**2.96**	**18**	Pn	Pn	11 19 12.4	-1.1
DBO				IAML		11 20 17.8	
	comp=E,67nm,4.9s						
DBO				IAML		11 20 22.3	
	comp=N,67nm,4.8s						
K04D	**Chiloquin, OR**	**3.09**	**40**	Pn	Pn	11 19 14.6	-0.7
J05D	**Fort Rock, OR**	**3.83**	**38**	Pn	Pn	11 19 25.1	-0.4
PAHR	**Pah Rah Range**	**3.95**	**97**	Pn	Pn	11 19 26.0	-1.1
PAHR				IAML		11 20 27.0	
	comp=N,16nm,4.8s						
PAHR				IAML		11 21 00.8	
	comp=E,22nm,4.8s						
J08A	**Circle Bar Ran**	**5.42**	**54**	Pn	Pn	11 19 46.5	-0.8

*IDC **02** 11:24:52.7±3.4, 2°.87S×100°.32E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=134.3km s-min=27.3km az=55.0*
*DJA **02** 11:24:55.2±0.6, 3°.5S±3°.×10°.0E±°., h24km±3km, M3.8/7, MLv3.8/7*
ISC 02 11:24:55.4±1.1, 2°.95S±0°.09×99°.96E±0°.10, h27km, n24, σ1°15/17, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.19**	**15**	P	**Pb**	**11 25 00.8**	**-0.4**
PPSI				S	**Sb**	**11 25 04.9**	**-0.3**
SISI	**Saibi**	**1.83**	**332**	P	**Pn**	**11 25 25.1**	**-0.1**
SISI				S	**Sn**	**11 25 47.3**	**-0.2**
PPI	**Padang Panjang**	**2.52**	**10**	P	**Pn**	**11 25 34.6**	**0.0**
PPI				S	**Sn**	**11 26 04.0**	**-0.4**
KSI	**Kapahiang**	**2.72**	**105**	P	**Pn**	**11 25 38.2**	**+0.8**
MNAI	**Manna**	**3.30**	**115**	P	**Pn**	**11 25 45.9**	**+0.5**
MNAI				S	**Sn**	**11 26 21.8**	**-2.0**
PBSI	**Pulau Batu**	**3.33**	**330**	P	**Pn**	**11 25 45.7**	**-0.1**
PBSI				S	**Sn**	**11 26 22.2**	**-2.3**
CMAR	**Chiang Mai Arr**	**21.30**	**357**	P	**P**	**11 29 40.1**	**-0.1**
	0.4nm,0.4s,baz=179,slow=9.2,SNR=2.0						
	0.4nm,0.4s						
H08S2	**Diego Garcia H**	**27.73**	**259**	T	T	11 59 41.3	
	baz=82,slow=76,SNR=67						
H08S3	**Diego Garcia H**	**27.74**	**259**	T	T	11 59 46.6	
	baz=82,slow=76,SNR=66						
H08S1	**Diego Carcia H**	**27.75**	**259**	T	T	11 59 43.0	
	baz=82,slow=76,SNR=75						
H01W3	**Cape Leeuwin H**	**34.40**	**159**	T	T	12 07 53.5	
	baz=330,slow=74						
H01W2	**Cape Leeuwin H**	**34.41**	**159**	T	T	12 07 53.7	
	baz=330,slow=74						
H01W1	**Cape Leeuwin H**	**34.41**	**159**	T	T	12 08 01.8	
	baz=330						
WRA	**Warramunga Arr**	**37.56**	**119**	P	**P**	**11 32 06.1**	**-1.7**
	1.4nm,1.0s,baz=293,slow=7.8,SNR=4.7						
	1.4nm,1.0s						
SONM	**Songino Array**	**50.89**	**6**	P	**P**	**11 33 55.4**	**+1.2**
	0.6nm,0.7s,baz=188,slow=8.7,SNR=3.0						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**51.93**	**345**	P	**P**	**11 34 02.9**	**+1.0**
	1.0nm,0.6s,baz=157,slow=9.0,SNR=12						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**56.45**	**344**	P	**P**	**11 34 35.8**	**+1.1**
	0.2nm,0.2s,baz=152,slow=6.8,SNR=5.1						
	0.2nm,0.2s						
H04N2	**CROZET ISLANDS**	**60.01**	**217**	T	T	12 40 16.7	
	baz=59,slow=75,SNR=33						
H04N1	**CROZET ISLANDS**	**60.02**	**217**	T	T	12 40 08.3	
	baz=59,slow=75,SNR=452						
H04N3	**CROZET ISLANDS**	**60.03**	**217**	T	T	12 40 14.5	
	baz=59,slow=75,SNR=18						
H04S1	**CROZET ISLANDS**	**60.30**	**216**	T	T	12 40 31.7	
	baz=58,slow=76,SNR=76						
H04S3	**CROZET ISLANDS**	**60.31**	**216**	T	T	12 40 27.1	
	baz=58,slow=76,SNR=91						
H04S2	**CROZET ISLANDS**	**60.31**	**216**	T	T	12 40 30.7	
	baz=58,slow=76,SNR=75						
TXAR	**Lajitas Array**	**145.47**	**38**	PKPbc	**PKPab**	**11 44 33.3**	**+1.2**
	0.1nm,0.4s,baz=319,slow=3.4,SNR=4.5						

*IDC **02** 11:30:54.0±2.0, 2°.73S×100°.44E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=67.5km s-min=19.2km az=56.0*
*NEIC **02** 11:30:55.8±1.9, 2°.59S±0°.10×100°.37E±0°.08, h10km±2km, mb4.3/6, Error ellipse: s-maj=21.3km s-min=4.0km az=220.0*
*DJA **02** 11:30:56.3±0.5, 3°.5S±3°.×10°.0E±°., h24km±3km, M4.2/10, mb4.0/1, MLv4.2/10*
ISC 02 11:30:56.5±1.1, 2°.81S±0°.08×100°.25E±0°.09, h24km±9km, n47, σ1°78/37, mb4.2/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.24**	**281**	P	**Pb**	**11 31 02.9**	**+0.3**
PPSI				S	**Sn**	**11 31 07.8**	**+1.0**
SISI	**Saibi**	**1.88**	**322**	P	**Pn**	**11 31 27.1**	**+0.1**
SISI				S	**Sn**	**11 31 49.6**	**-0.3**
PPI	**Padang Panjang**	**2.34**	**4**	P	**Pn**	**11 31 35.8**	**+2.3**
PPI				S	**Sn**	**11 32 05.7**	**+4.2**
KSI	**Kapahiang**	**2.48**	**110**	P	**Pn**	**11 31 38.0**	**+2.5**
MNAI	**Manna**	**3.11**	**120**	Pn	**Pn**	**11 31 45.0**	**+1.0**
MNAI	**Manna**	**3.11**	**120**	P	**Pn**	**11 31 45.9**	**+1.8**
BKNI	**Bangkinang**	**3.21**	**14**	Pn	**Pn**	**11 31 42.5**	**-3.0**
PBSI	**Pulau Batu**	**3.37**	**324**	P	**Pn**	**11 31 47.4**	**-0.2**
MNSI	**Mandailing Nat**	**3.64**	**349**	P	**Pn**	**11 31 52.4**	**+1.0**
MDSI	**Maura Dua**	**4.26**	**113**	P	**Pn**	**11 32 01.4**	**+1.5**
GSI	**Gunungsitoli**	**4.88**	**327**	Pn	**Pn**	**11 32 07.9**	**-0.6**
RPSI	**Rantau Prapat**	**5.63**	**346**	Pn	**Pn**	**11 32 15.2**	**-3.5**
MYKOM	**Kota Tinggi**	**5.82**	**38**	Pn	Pn	11 32 17.0	-4.3
IPM	**Ipoh**	**7.28**	**6**	Pn	**Pn**	**11 32 38.4**	**-3.1**
KULM	**Kulim**	**8.06**	**3**	Pn	**Pn**	**11 32 49.7**	**-2.4**
SMRI	**Semarang**	**10.99**	**113**	Pn	**Pn**	**11 33 31.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.17**	**357**	P	**P**	**11 35 39.1**	**-1.1**
	0.5nm,0.5s,baz=172,slow=10,SNR=4.3						
	0.5nm,0.5s						
PSA00	**Pilbara Seismi**	**26.67**	**136**	P	**P**	**11 36 34.8**	**+1.1**
H08S2	**Diego Garcia H**	**28.05**	**259**	T	T	12 05 45.0	
	baz=82,slow=76,SNR=64						
H08S3	**Diego Garcia H**	**28.05**	**259**	T	T	12 05 45.5	
	baz=82,slow=76,SNR=65						
H08S1	**Diego Carcia H**	**28.06**	**259**	T	T	12 05 46.4	
	baz=82,slow=76,SNR=76						
H01W3	**Cape Leeuwin H**	**34.42**	**160**	T	T	12 14 01.4	
	baz=333						
H01W2	**Cape Leeuwin H**	**34.44**	**160**	T	T	12 14 06.2	
	baz=333						
H01W1	**Cape Leeuwin H**	**34.44**	**160**	T	T	12 14 02.5	
	baz=333						
WB0	**Warramunga Arr**	**37.35**	**119**	P	**P**	**11 38 07.9**	**+0.4**
WB0				IAmb	IAmb	11 38 18.7	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**37.37**	**120**	P	**P**	**11 38 07.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=304,slow=7.9,SNR=6.3						
	comp=Z,0.3nm,0.4s						
WB2	**Warramunga Arr**	**37.38**	**120**	P	**P**	**11 38 08.7**	**+0.9**
WB2				IAmb	IAmb	11 38 23.9	
	comp=Z,5.8nm,1.0s						
ASAR	**Alice Springs**	**38.58**	**125**	P	**P**	**11 38 17.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=302,slow=7.7,SNR=8.2						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**50.72**	**5**	P	**P**	**11 39 56.5**	**+2.1**
SONM				IAmb	IAmb	11 39 57.2	
	comp=Z,3.7nm,0.9s						
SONM	**Songino Array**	**50.72**	**5**	P	**P**	**11 39 55.8**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=189,slow=9.2,SNR=17						
	comp=Z,3.3nm,0.8s						
MK31	**Makanchi Array**	**51.87**	**344**	P	**P**	**11 40 04.3**	**+1.4**
MK31				IAmb	IAmb	11 40 04.9	
	comp=Z,2.4nm,0.7s						
MKAR	**Makanchi Array**	**51.87**	**344**	P	**P**	**11 40 04.2**	**+1.3**
MKAR	**Makanchi Array**	**51.87**	**344**	P	**P**	**11 40 04.3**	**+1.4**
	comp=Z,3.2nm,0.7s,baz=150,slow=8.3,SNR=28						
	comp=Z,3.2nm,0.7s						
MJAR	**Matsushiro Arr**	**52.75**	**38**	P	**P**	**11 40 09.3**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=220,slow=7.8,SNR=2.7						
	comp=Z,1.3nm,0.8s						
TOO	**Toolangi**	**53.96**	**136**	P	**P**	**11 40 15.8**	**-2.7**
USRK	**Ussuriysk Ar.**	**54.75**	**28**	P	**P**	**11 40 22.0**	**-2.1**
USRK	**Ussuriysk Ar.**	**54.75**	**28**	P	**P**	**11 40 23.6**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=149,slow=3.0,SNR=4.9						
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**56.39**	**344**	P	**P**	**11 40 36.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=172,slow=6.6,SNR=12						
	comp=Z,1.5nm,0.8s						
ZAA0	**Zalesovo Array**	**58.01**	**349**	P	**P**	**11 40 47.4**	**+0.3**
ZALV	**Zalesovo Beam**	**58.01**	**349**	P	**P**	**11 40 47.6**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=175,slow=5.4,SNR=4.3						
	comp=Z,2.1nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.30**	**217**	T	T	12 46 16.6	
	baz=59,slow=75,SNR=369						
H04N1	**CROZET ISLANDS**	**60.31**	**217**	T	T	12 46 17.1	
	baz=59,slow=75,SNR=280						
H04N3	**CROZET ISLANDS**	**60.32**	**217**	T	T	12 46 14.1	
	baz=59,slow=75,SNR=299						
H04S1	**CROZET ISLANDS**	**60.58**	**216**	T	T	12 46 35.2	
	baz=58,slow=76,SNR=69						
H04S3	**CROZET ISLANDS**	**60.59**	**216**	T	T	12 46 34.9	
	baz=58,slow=76,SNR=107						
H04S2	**CROZET ISLANDS**	**60.60**	**216**	T	T	12 46 35.2	
	baz=58,slow=76,SNR=55						
TXAR	**Lajitas Array**	**145.19**	**38**	PKPbc	**PKPab**	**11 50 33.8**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=217,slow=1.1,SNR=21						

*IDC **02** 11:36:17.1±2.3, 15°.14S×178°.49W, h432km±24km, mb3.2/9, mbtmp4.0/10, Error ellipse: s-maj=25.3km s-min=18.9km az=119.0*
ISC 02 11:36:18.5±0.8, 15°.2S±0°.2×178°.6W±0°.2, h450km, n11, σ0°94/11, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.10**	**231**	P	**P**	**11 37 32.9**	**-1.7**
	23nm,0.3s,baz=60,slow=7.4,SNR=34						
STKA	**Stephens Creek**	**39.85**	**238**	P	**P**	**11 43 12.8**	**+1.1**
	0.6nm,0.4s,baz=37,slow=10,SNR=3.2						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.01**	**257**	P	**P**	**11 43 52.9**	**+0.2**
	0.6nm,0.7s,baz=97,slow=7.3,SNR=5.2						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**45.42**	**252**	P	**P**	**11 43 56.8**	**+1.0**
	3.4nm,0.5s,baz=86,slow=7.8,SNR=60						
	3.4nm,0.5s						
MJAR	**Matsushiro Arr**	**65.63**	**323**	P	**P**	**11 46 16.9**	**-0.1**
	1.5nm,0.9s,baz=136,slow=5.9,SNR=2.9						
	1.5nm,0.9s						
PETK	**Petropavlovsk-**	**71.01**	**345**	P	**P**	**11 46 49.9**	**+0.4**
	4.5nm,1.0s,baz=157,slow=5.6,SNR=4.5						
	4.5nm,1.0s						
QSPA	**South Pole Qui**	**74.86**	**180**	P	**P**	**11 47 12.1**	**+0.4**
	5.3nm,0.6s,baz=312,slow=0.3,SNR=48						
	5.3nm,0.6s						
ILAR	**Eielson Array**	**83.28**	**13**	P	**P**	**11 47 56.0**	**-0.3**
	0.7nm,0.5s,baz=236,slow=5.8,SNR=12						
	0.7nm,0.5s						
TXAR	**Lajitas Array**	**84.70**	**58**	P	**P**	**11 48 04.5**	**+0.2**
	0.3nm,0.8s,baz=233,slow=1.0,SNR=2.7						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**85.51**	**44**	P	**P**	**11 48 08.2**	**+0.1**
	0.3nm,0.5s,baz=167,slow=3.5,SNR=4.2						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**142.71**	**317**	PKP	**PKPdf**	**11 54 58.7**	**-1.3**
	0.3nm,0.5s,baz=57,slow=5.3,SNR=2.2						

*IDC **02** 11:41:52.4±3.6, 55°.30N×152°.93W, h0km, mb4.0/2, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=72.8km s-min=28.2km az=152.0*
*NEIC **02** 11:41:54.9±1.0, 55°.89N±0°.04×153°.17W±0°.07, h10km±2km, ML2.9/46, ML2.9(AEIC), Error ellipse: s-maj=6.6km s-min=6.4km az=63.0*
*AEIC **02** 11:41:58.6±0.9, 55°.95N±0°.06×153°.27W±0°.09, h34km±8km, Error ellipse: s-maj=10.1km s-min=5.8km az=147.0*
ISC 02 11:41:57.6±1.2, 55°.98N±0°.08×153°.19W±0°.06, h22km, n79, σ0°84/77, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.80**	**317**		**Pb**	**11 42 12.1**	**-0.7**
SII					**Sb**	**11 42 23.7**	**+0.5**
OHAK	**Old Harbor**	**1.24**	**358**		**Pn**	**11 42 19.0**	**-0.6**
OHAK					**Sn**	**11 42 34.6**	**-1.1**
OHAK				IAML		11 42 35.0	
	comp=N,164nm,0.7s						
OHAK				IAML		11 42 52.3	
	comp=E,154nm,0.7s						
CHIR	**Chirikof Islan**	**1.38**	**264**		**Pn**	**11 42 19.9**	**-1.6**
CHIR					**Sn**	**11 42 36.5**	**-2.5**
CHIR				IAML		11 42 37.0	
	comp=N,157nm,0.5s						
CHIR				IAML		11 42 56.0	
	comp=E,154nm,0.7s						
R18K	**Karluk**	**1.73**	**337**		**Pn**	**11 42 25.6**	**-0.7**
R18K				IAML		11 42 49.1	
	comp=E,156nm,0.6s						
R18K				IAML		11 43 04.0	
	comp=N,161nm,0.4s						
KDAK	**Kodiak Island**	**1.84**	**10**		**Pn**	**11 42 27.6**	**-0.1**
KDAK				IAML		11 42 49.7	
	comp=N,84nm,0.6s						
KDAK				IAML		11 42 49.8	
	comp=N,113nm,0.4s						
KDAK	**Kodiak Island**	**1.84**	**10**		**Sn**	**11 42

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O17K	Koliganek Bris	4.33	333		Pn	11 43 01.1	-0.9
O16K	Kokwok River B	4.47	326		Pn	11 43 03.1	-0.8
O16K				IAML		11 43 48.2	
	comp=E,7.4nm,1.2s						
SEW	Seward	4.58	24		Pn	11 43 04.5	-1.0
RDT	Redoubt	4.62	5		Pn	11 43 05.8	-0.3
O15K	Ungalikthiuk R	4.79	315		Pn	11 43 07.5	-0.9
SLKM	Skilak Lake	4.80	18		Pn	11 43 07.6	-1.0
SLKM				IAML		11 44 05.1	
	comp=N,15nm,0.3s						
SLKM				IAML		11 44 09.2	
	comp=E,14nm,1.0s						
N19K	Bonanza Creek	4.89	353		Pn	11 43 09.9	+0.1
N19K				IAML		11 44 43.3	
	comp=N,5.6nm,1.1s						
N18K	Kilae Creek	4.92	344		Pn	11 43 09.9	-0.2
N18K				IAML		11 45 02.4	
	comp=E,5.2nm,1.2s						
N17K	Nushagak Hills	5.02	337	Pn	Pn	11 43 11.6	+0.1
P23K	Montague Islan	5.07	35		Pn	11 43 11.1	-1.0
SPU	Mount Spurr	5.25	6	Pn	Pn	11 43 14.4	-0.3
RC01	Rabbit Creek A	5.43	18		Pn	11 43 16.8	-0.3
PWL	Port Wells	5.51	26		Pn	11 43 17.6	-0.7
N15K	Kwethluk River	5.57	322	Pn	Pn	11 43 18.8	-0.2
STLK	Strandline Lak	5.58	7		Pn	11 43 19.4	+0.2
SUA	Susitna One	5.64	12		Pn	11 43 19.6	-0.6
HIN	Hinchinbrook I	5.67	36		Pn	11 43 19.5	-0.9
M18K	Stony River	5.69	347		Pn	11 43 20.6	-0.1
GLI	Glacier Island	5.86	31		Pn	11 43 21.9	-1.1
M17K	Holitna River	5.87	340		Pn	11 43 23.5	+0.4
FID	Port Fidalgo	5.94	34		Pn	11 43 22.7	-1.5
EYAK	Cordova Ski Ar	6.03	38		Pn	11 43 25.2	-0.1
SKT	Skwentna	6.08	7	Pn	Pn	11 43 25.9	-0.1
GHO	Glory Hole Cre	6.21	19	Pn	Pn	11 43 27.2	-0.8
RAGM	Ragged Mountai	6.30	42	Pn	Pn	11 43 28.9	-0.2
HMT	Hamilton	6.43	44	Pn	Pn	11 43 30.9	+0.1
SCM	Sheep Creek Mo	6.61	25		Pn	11 43 33.3	0.0
KLU	Klutina	6.69	31		Pn	11 43 34.1	-0.4
BMRM	Bremner River	6.72	38		Pn	11 43 34.6	-0.4
N25K	Chitina, Valde	7.19	35	Pn	Pn	11 43 41.3	0.0
K17K	Iditarod	7.24	341	Pn	Pn	11 43 41.9	-0.1
VRDI	Verde Repeater	7.31	40	Pn	Pn	11 43 42.6	-0.5
GLB	Gilahina Butte	7.33	38	Pn	Pn	11 43 43.0	-0.2
TRF	Thorofare Moun	7.63	10	Pn	Pn	11 43 48.2	+0.8
J20K	Nowinta River	8.23	357	Pn	Pn	11 43 55.8	+0.3
CCB	Clear Creek Bu	9.09	15	Pn	Pn	11 44 08.0	+0.7
IL31		9.35	17	Pn	Pn	11 44 11.2	+0.5
ILAR	Eielson Array	9.35	17	Pn	Pn	11 44 11.4	+0.6
	comp=E,0.2nm,0.3s,baz=204,slow=13,SNR=18						
ILAR				Sn	Sn	11 45 51.5	-3.6
	comp=E,0.1nm,0.3s,baz=52,slow=3.5,SNR=4.7 comp=E,0.6nm,0.5s						
S31K	Pelican	9.47	71	Pn	Pn	11 44 12.7	+0.3
J26L	Joseph Creek	9.78	25	Pn	Pn	11 44 17.1	+0.3
M29M	Somme Creek	9.93	43	Pn	Pn	11 44 18.9	0.0
L29M	L29M	10.44	41	Pn	Pn	11 44 26.0	+0.2
YKA	Yellowknife Ar	20.52	56	P	P	11 46 34.7	+0.8
	comp=E,0.2nm,0.7s,baz=270,slow=12,SNR=4.2						
PETK	Petropavlovsk-	28.15	285	P	P	11 47 49.6	+1.8
	comp=E,4.0nm,1.0s,baz=68,slow=11,SNR=1.5 comp=E,4.0nm,1.0s						
H11N2	WAKE ISLAND Hy	46.87	236	T	T	12 40 53.0	
	baz=29,slow=76,SNR=6.2						
H11N3	WAKE ISLAND Hy	46.87	236	T	T	12 40 52.7	
	baz=29,slow=76,SNR=8.1						
H11N1	WAKE ISLAND Hy	46.89	236	T	T	12 40 50.6	
	baz=29,slow=76,SNR=6.0						
H11S1	WAKE ISLAND Hy	48.02	235	T	T	12 42 13.5	
	baz=29,slow=76,SNR=12						
H11S2	WAKE ISLAND Hy	48.03	235	T	T	12 42 12.8	
	baz=29,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	48.04	235	T	T	12 42 15.3	
	baz=29,slow=76,SNR=7.4						
SONM	Songino Array	57.13	308	P	P	11 51 43.5	+1.3
	comp=E,0.7nm,0.8s,baz=54,slow=7.3,SNR=4.3 comp=E,0.7nm,0.8s						

NEIC ***02*** *11:51:36.7±0.4, 36°.156N×0°.008×98°.29W±0°.02, h5km±1km, ML2.5/44, Error ellipse: s-maj=2.7km s-min=2.3km az=127.0*

NEIC ***02*** *11:51:37.2±0.7, 36°.168N×0°.010×98°.28W±0°.01, h5km±2km, Error ellipse: s-maj=1.7km s-min=1.5km az=80.0*

ISC 02 11:51:37.0±1.1, 36°.15N±0°.03×98°.26W±0°.03, h7km±12km, n36, σ1§13/44, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.41	32		Pg	11 51 45.4	+0.4
CROK				Sg	Sg	11 51 51.9	+1.3
CROK				IAML		11 51 52.1	
	comp=E,623nm,0.2s						
CROK				IAML		11 51 52.1	
	comp=N,514nm,0.2s						
CSTR	Hydro, Custer	0.61	215		Pg	11 51 49.0	+0.2
CSTR				Sg	Sg	11 51 57.1	+0.3
NOKA	Waynoka	0.73	312		Pg	11 51 50.2	-0.7
NOKA				Sg	Sg	11 52 00.4	0.0
NOKA				IAML		11 52 02.9	
	comp=N,212nm,0.3s						
NOKA				IAML		11 52 04.1	
	comp=E,223nm,0.2s						
KAN14	Manchester OK	0.84	16		Pg	11 51 52.9	-0.1
KAN14				Sg	Sg	11 52 04.4	+0.4
KAN14				IAML		11 52 05.5	
	comp=N,184nm,0.1s						
ADOK	Arcadia Dam	0.88	124	Pg	Pg	11 51 54.0	+0.2
ADOK				Sg	Sg	11 52 06.2	+1.0
KAN17	Caldwell West	0.97	24	Pg	Pg	11 51 55.3	-0.4
KAN17				IAML		11 52 09.4	
	comp=E,159nm,0.3s						
KAN17				IAML		11 52 10.7	
	comp=N,134nm,0.2s						
OKCSW	OKLAHOMA CITY	1.00	138	Pg	Pg	11 51 55.7	-0.5
OKCSW				IAML		11 52 09.9	
	comp=N,119nm,0.3s						
OKCSW				IAML		11 52 11.5	
	comp=E,107nm,0.1s						
KAN05	Bluff City Nor	1.00	18	Pg	Pg	11 51 56.0	-0.3
KAN05				IAML		11 52 10.1	
	comp=E,145nm,0.2s						
KAN05				IAML		11 52 14.4	
	comp=N,125nm,0.3s						
BLOK	Blackwell	1.04	54		Pg	11 51 56.8	-0.1
BLOK				IAML		11 52 12.9	
	comp=E,148nm,0.2s						
BLOK				IAML		11 52 13.9	
	comp=N,124nm,0.2s						
KAN13	South Haven SW	1.06	36		Pg	11 51 57.0	-0.4
KAN01	Argonia South	1.08	22	Pg	Pg	11 51 57.0	-0.6
KAN08	Anthony NE Sta	1.10	12	Pg	Pg	11 51 57.5	-0.6
KAN09	Caldwell North	1.11	27		Pg	11 51 57.8	-0.5
FNO	Franklin	1.13	142		Pg	11 51 58.3	-0.5
FNO				IAML		11 52 14.1	
	comp=E,108nm,0.1s						
FNO				IAML		11 52 14.3	
	comp=N,100nm,0.2s						
KAN12	Harper NE Stat	1.16	10	Pg	Pg	11 51 58.5	-0.7
OK031	S. Brethren Rd	1.17	99		Pg	11 51 59.2	-0.1
OK031				IAML		11 52 16.4	
	comp=N,128nm,0.2s						
OK051	E0350 and S346	1.20	73		Pg	11 51 59.5	-0.5
OK051				IAML		11 52 21.6	
	comp=N,117nm,0.1s						
QUOK	Quay	1.25	89		Pg	11 52 00.5	-0.5
QUOK				IAML		11 52 20.8	
	comp=E,111nm,0.2s						
QUOK				IAML		11 52 22.7	
	comp=N,104nm,0.3s						
DEOK	Depew	1.46	102		Pn	11 52 03.8	0.0
WMOK	Wichita Mounta	1.48	197		Pn	11 52 03.1	-0.9
WMOK	Wichita Mounta	1.48	197	Pn	Pn	11 52 03.3	-0.7
WMOK	Wichita Mounta	1.48	197	P	Pn	11 52 03.4	-0.7
WMOK				S	Sn	11 52 23.4	-0.1
W35A	Tecumseh	1.50	131		Pn	11 52 04.0	-0.4
X34A	Smith Ranch, M	1.59	167		Pn	11 52 06.3	+0.8
SMWD	Samnorwood	1.93	238		Pn	11 52 11.0	+0.8
SMWD	Samnorwood	1.93	238	P	Pn	11 52 11.0	+0.8
WTFS	Witchita Falls	2.39	184	P	Pn	11 52 18.7	+2.2
WTFS				S	Sb	11 52 51.3	+1.4
APMT	Aspermont	3.21	209	P	Pb	11 52 32.3	-2.0
DKNS	Dickens	3.31	222	P	Pn	11 52 31.8	+2.5
PLPT	Palo Pinto	3.33	181	P	Pn	11 52 32.9	+3.4
PLPT				S	Sb	11 53 15.6	-1.6
RTBA	Rita Blanca	3.63	276	P	Pn	11 52 35.6	+1.9
MIAR	Mount Ida	4.15	111	Pn	Pn	11 52 41.8	+1.1
MIAR	Mount Ida	4.15	111	P	Pn	11 52 42.1	+1.4
WHTX	Lake Whitney,	4.20	171	P	Pn	11 52 42.2	+0.7
BRDY	Brady	4.89	187	Pn	Pn	11 52 51.5	+0.5
BRDY	Brady	4.89	187	P	Pn	11 52 52.6	+1.6

IDC ***02*** *12:00:54.7±1.1, 17°.77S×178°.75W, h575km±10km, mb3.2/10, mbtmp4.1/12, Error ellipse: s-maj=25.7km s-min=17.2km az=135.0*

ISC 02 12:00:52.3±0.8, 17°.8S±0°.2×178°.5W±0°.1, h550km, n17, σ1§63/19, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.31	271	P	P	12 02 11.1	+1.6
	12nm,0.8s,baz=116,slow=8.4,SNR=6.9						
MSVF				S	S	12 03 16.1	+3.8
	2.4nm,0.4s,baz=298,slow=23,SNR=6.4						
DZM	Mont Dzumac	14.80	251	P	P	12 04 00.0	+0.1
	18nm,1.1s,baz=144,slow=15,SNR=1.8						
WRA	Warramunga Arr	44.59	259	P	P	12 08 14.2	-2.0
	0.8nm,1.0s,baz=96,slow=7.9,SNR=2.2 0.8nm,1.0s						
ASAR	Alice Springs	44.76	254	P	P	12 08 16.2	-1.3
	2.8nm,0.6s,baz=89,slow=8.2,SNR=47						
ASAR				PcP	PcP	12 09 47.1	-0.7
	0.4nm,0.6s,baz=88,slow=3.6,SNR=4.3 2.8nm,0.6s						
MJAR	Matsushiro Arr	67.78	323	P	P	12 10 54.7	-0.9
	1.2nm,0.6s,baz=156,slow=6.6,SNR=4.8 1.2nm,0.6s						
QSPA	South Pole Qui	72.26	180	P	P	12 11 22.2	+0.2
	0.9nm,0.8s,baz=180,slow=1.0,SNR=6.6 0.9nm,0.8s						
PETK	Petropavlovsk-	73.55	345	P	P	12 11 29.2	-0.1
	3.5nm,0.7s,baz=130,slow=8.5,SNR=6.9 3.5nm,0.7s						
NVAR	Mina Array Bea	79.39	44	P	P	12 12 03.1	+1.2
	0.6nm,0.3s,baz=253,slow=7.4,SNR=2.7 0.6nm,0.3s						
ILAR	Eielson Array	85.79	13	P	P	12 12 32.5	-0.8
	0.7nm,0.5s,baz=223,slow=5.3,SNR=35 0.7nm,0.5s						
TXAR	Lajitas Array	85.99	58	P	P	12 12 37.5	+2.3
	1.0nm,0.8s,baz=218,slow=6.2,SNR=12 1.0nm,0.8s						
PDAR	Pinedale Array	87.31	43	P	P	12 12 42.1	+0.9
	0.6nm,0.5s,baz=225,slow=3.4,SNR=7.4 0.6nm,0.5s						
YKA	Yellowknife Ar	94.25	25	P	P	12 13 12.3	-0.2
	0.3nm,0.8s,baz=237,slow=5.2,SNR=5.3 0.3nm,0.8s						
EKA	Eskdalemuir Ar	142.36	4	PKP	PKPdf	12 19 19.8	-2.5
	0.9nm,0.4s,baz=344,slow=2.8,SNR=2.6						
BRTR	Keskin Array B	144.66	315	PKP	PKPdf	12 19 25.3	-1.7
	1.7nm,0.8s,baz=134,slow=3.9,SNR=2.8						
MMAI	Mount Meron Ar	146.03	303	PKPbc	PKPbc	12 19 31.6	+0.2
	5.5nm,0.8s,baz=46,slow=6.2,SNR=2.2						
GERES	GERESS Array B	147.49	345	PKPbc	PKPbc	12 19 34.3	-0.6
	2.0nm,0.7s,baz=58,slow=3.0,SNR=4.5						
DAVOX	Davos/Dischmat	150.28	348	PKPbc	PKPbc	12 19 41.6	-0.3
	4.2nm,0.5s,baz=242,slow=6.5,SNR=2.9						

MOS ***02*** *12:04:32.5±0.8, 36°.44N×70°.77E, h211km, mb5.8/81, Error ellipse: s-maj=3.8km s-min=2.8km az=97.2*

BGR ***02*** *12:04:33.4, 36°.11N×70°.81E, h223km±4km, mb5.8*

NEIC ***02*** *12:04:34.5±1.5, 36°.46N±0°.06×70°.70E±0°.07, h212km±4km, mb5.8/527, Mww5.6/35, Error ellipse: s-maj=8.4km s-min=8.3km az=105.0*

RSNC ***02*** *12:04:34.5±0.2, 36°.N±4°×7°.1E±°, h211km, MwMwp5.6, Mwp5.7, Hypocentre not reviewed by the ISC*

BJI ***02*** *12:04:34.3, 36°.60N×70°.86E, h219km, mB5.5/39, mb5.6/86*

GCMT ***02*** *12:04:34.5±0.1, 36°.36N±0°.01×70°.60E±0°.01, h215km±1km, MW5.7/162, Moment Tensor Solution. s102,c153; s162,c311; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr2.96±.05; Mθθ-2.73±.05; Mφφ-0.22±.05; Mrθ2.83±.04; Mθφ0.08±.05; Mφr0.71±.04; Best double couple: M0=4.07200×10^17 NP1:φs=280.00000°, δ23.00000°, λ108.00000°. NP2:φs=81.00000°, δ68.00000°, λ83.00000°. Principal axes: T 4.2350, Plg66.0000°, Azm338.0000°; N -0.3210, Plg7.0000°, Azm84.0000°; P -3.9090, Plg23.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***02*** *12:04:34.4, 36°.46N×70°.69E, h230km*

NEIC ***02*** *12:04:34.4, 36°.26N×70°.82E, h230km, Moment Tensor Solution. Duration: 3§2 Moment tensor: Scale 10^17Nm; Mrr3.01; Mθθ-2.82; Mφφ-0.18; Mrθ1.94; Mθφ0.49; Mφr0.30; Fault plane solution: M0=3.55000×10^17 NP1: φs=289.28000°, δ29.61000°, λ106.68000°. NP2: φs=90.26000°, δ61.75000°, λ80.74000°. Principal axes: T 3.6400, Plg72.0000°, Azm339.0000°; N -0.1870, Plg8.0000°, Azm95.0000°; P -3.4530, Plg16.0000°, Azm187.0000°;*

IDC ***02*** *12:04:35.1±0.6, 36°.32N×70°.77E, h229km±5km, mb5.4/45, mbtmp6.0/49 Error ellipse: s-maj=8.0km s-min=5.8km az=12.0*

NNC ***02*** *12:04:38.4±1.3, 36°.87N×70°.87E, h227km±12km, mb5.2, mpv6.2, Error ellipse: s-maj=12.8km s-min=7.5km az=30.0*

ISC 02 12:04:34.0±0.2, 36°.40N±0°.02×70°.74E±0°.02, h219km±1km, h219km:pP-P, n2133, σ1§47/2361, mb5.8/558, 233C-69D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBU	Kabul Universi	2.29	215	S	S	12 05 45.1	-5.5
KBU				P	Pn	12 05 09.4	-7.7
KBL	Kabul	2.32	217	Pn	Pn	12 05 16.2	-1.2
KBL	Kabul	2.32	217	P	Pn	12 05 16.5	-0.9
	SNR=4249						
KBL				S	S	12 05 48.0	-3.0
KBL	Kabul	2.32	217	PN	Pn	12 05 15.2	-2.2
CHGR	Chuyangaron	2.58	331	Pn	Pn	12 05 17.9	-2.0
CHGR	Chuyangaron	2.58	331	PN	Pn	12 05 17.9	-2.0
GAR	Garm	2.61	353	Pn	Pn	12 05 18.9	-1.4
DRK	Karamyk	3.18	15		Pn	12 05 26.0	-1.0
DRK	Karamyk	3.18	15	PN	Pn	12 05 26.0	-1.0
NIL	Nilore	3.44	142	Pn	Pn	12 05 30.1	+0.3
NIL	Nilore	3.44	142	P	Pn	12 05 29.9	+0.1
NIL				S	S	12 06 11.7	-1.5
NIL	Nilore	3.44	142	PN	Pn	12 05 30.1	+0.3
BTK	Batken	3.65	1	Pn	Pn	12 05 31.7	-0.5
BTK	Batken	3.65	1	PN	Pn	12 05 31.7	-0.5
OHH	Osh	4.42	21	PN	Pn	12 05 40.2	-1.3
JMU	Jammu	5.03	136	eP	Pn	12 05 47.7	-1.6
TRKS	Terek-Say	5.13	3	PN	Pn	12 05 48.6	-1.9
KSH	Kashi	5.17	52	P	Pn	12 05 45.6	-5.5
KSH				S	S	12 06 38.5	-13
KSH				smax	smax		
	comp=N,9μm,0.8s						
KSH				smax	smax		
	comp=E,9μm,0.8s						
ARK	Arkit	5.47	10	PN	Pn	12 05 53.3	-1.5
THN	Thein Dam	5.71	132	eP	Pn	12 05 57.2	-0.7
THN				⇓eS	S	12 07 00.8	-3.4
IUG	Iuzhnay	5.76	355	ePN	Pn	12 05 57.5	-0.9
IUG				eS	S	12 07 04.0	-1.4
IUG	Iuzhnay	5.76	355	eP	Pn	12 05 57.6	-0.9
IUG				eS	S	12 07 04.1	-1.4
AML	Almayashu	6.16	21	P	Pn	12 06 02.5	-1.4
DHRM	DHARAMSHALA	6.19	130	eP	Pn	12 06 01.9	-2.3
DHRM				eS	S	12 07 08.8	-6.9
DHRM				IAML		12 07 13.8	
	comp=N,40μm,0.4s						
DHRM				IAML		12 07 14.6	
	comp=E,56μm,0.6s						
DZA	Taraz	6.50	4	ePN	Pn	12 06 06.9	-0.8
DZA	Taraz	6.50	4	eP	Pn	12 06 07.0	-0.8
UCH	Uchtor	6.51	26	P	Pn	12 06 07.3	-1.1
	SNR=322						
BRLS	Borolday	6.65	354	ePN	Pn	12 06 05.5	-4.3
BRLS				pmax	pmax		
	comp=Z,612nm,0.5s						
BRLS	Borolday	6.65	354	eP	Pn	12 06 05.5	-4.3
	comp=Z,612nm,0.5s						
EKS2	Erkin-Say	6.67	20	P	Pn	12 06 09.0	-1.1
	SNR=1028						
KK31	Karatay Array	6.69	359	P	Pn	12 06 08.7	-1.6
	comp=Z,891nm,0.3s,baz=190,slow=17						
KK31				⇑S	S	12 07 21.2	-5.8
	comp=Z,2μm,0.7s,baz=186,slow=22,SNR=5.6						
KK31	Karatay Array	6.69	359	ePN	Pn	12 06 08.7	-1.6
KKAR	Karatay Array	6.69	359	Pn	Pn	12 06 08.6	-1.7
KKAR	Karatay Array	6.69	359	Pn	Pn	12 06 08.8	-1.4
KKAR	Karatay Array	6.69	359	PN	Pn	12 06 08.6	-1.7
BHK	Bhakra	6.86	135	eP	Pn	12 06 15.1	+2.6
BHK				eS	S	12 07 29.0	-2.0
BHK				IAML		12 07 33.6	
	comp=E,14μm,0.6s						
BHK				IAML		12 07 43.2	
	comp=E,29μm,0.8s						
AAK	Ala-Archa	6.87	24	Pn	Pn	12 06 11.4	-1.3
AAK	Ala-Archa	6.87	24	P	Pn	12 06 12.1	-0.5
	comp=E,2μm,0.5s,baz=206,slow=9.5,SNR=342						
AAK				S	S	12 07 28.7	-2.6
	comp=E,2μm,0.6s,baz=332,slow=22,SNR=8.8						
AAK	Ala-Archa	6.87	24	P	Pn	12 06 12.2	-0.5
AAK				P	Pn	12 06 12.2	-0.5
AAK				S	S	12 07 28.0	-3.3
AAK				S	S	12 07 28.0	-3.3
AAK	Ala-Archa	6.87	24	P	Pn	12 06 11.7	-1.0
	SNR=3682						
AAK	Ala-Archa	6.87	24	i PN	Pn	12 06 11.3	-1.3
AAK	Ala-Archa	6.87	24	i P	Pn	12 06 11.7	-1.0
	SNR=5397						
SRGN	SRI GANGA NAGA	6.98	157	ex	x	12 06 13.1	
KBK	Karagaybulak	7.04	26	P	Pn	12 06 14.2	-0.7
	SNR=336						
FRU1	Bishkek	7.07	24		Pn	12 06 14.5	-0.6
FRU1	Bishkek	7.07	24	PN	Pn	12 06 14.5	-0.6
HRA	Herat	7.22	256	Pn	Pn	12 06 17.1	-0.3
ULHL	Ulahol	7.22	34	P	Pn	12 06 15.7	-1.7
	SNR=988						
CHMS	Chumysh	7.28	24	P	Pn	12 06 16.4	-1.4
	SNR=1755						
CHMS	Chumysh	7.28	24	⇑P	Pn	12 06 16.9	-0.9
	comp=E,2μm,0.6s						
CHMS	Chumysh	7.28	24	PN	Pn	12 06 16.9	-0.9
USP	Ospenovka	7.44	22	P	Pn	12 06 18.0	-1.9
	SNR=1621						
SMLA	Simla	7.50	133	eP	Pn	12 06 19.5	-1.3
SMLA				eS	S	12 07 39.0	-7.2
TKM2	Tokmak 2	7.51	28	P	Pn	12 06 19.9	-1.0
	SNR=448						
TKM2	Tokmak 2	7.51	28	⇓P	Pn	12 06 19.9	-1.0
	comp=E,9μm,0.9s						
TKM2	Tokmak 2	7.51	28	i PN	Pn	12 06 19.8	-1.1
TKM2				pmax	pmax		
	comp=Z,9μm,0.9s						
KDJ	Kajisay	7.59	39		Pn	12 06 20.3	-1.7
KDJ	Kajisay	7.59	39	PN	Pn	12 06 20.3	-1.7
TARG	Taragay, Kyrgy	7.65	44		Pn	12 06 21.5	-1.4
TARG	Taragay, Kyrgy	7.65	44	PN	Pn	12 06 21.5	-1.4
SGDS	Sogindy	7.65	22	P	Pn	12 06 20.7	-1.9
	comp=Z,1μm,0.6s						
SGDS	Sogindy	7.65	22	ePN	Pn	12 06 21.0	-1.5
SGDS	Sogindy	7.65	22	eP	Pn	12 06 21.1	-1.5
KLP	Kalpa	7.91	126	eP	Pn	12 06 24.9	-1.4
KLP				eS	S	12 07 48.3	-7.8
KLP				eS	S	12 07 48.8	-7.3
KLP				IAML		12 07 51.7	
	comp=E,16μm,0.6s						
MTBS	Maitube	8.02	31	Lg	Lg	12 07 52.9	
	comp=E,655nm,1.2s						
WUS	Wushi	8.17	52	Pn	Pn	12 06 28.1	-1.3
TNSS	Tian-Shan	8.17	34	P	Pn	12 06 28.3	-1.4
	comp=E,1μm,0.6s						
TNSS	Tian-Shan	8.17	34	ePN	Pn	12 06 28.5	-1.1
TNSS	Tian-Shan	8.17	34	eP	Pn	12 06 28.5	-1.1
KASK	Kaskelen	8.18	32	⇓P	Pn	12 06 28.8	-0.6
	comp=E,2μm,0.7s						
KRBS	Karabastau	8.21	26	P	Pn	12 06 28.0	-1.8
	comp=E,407nm,0.9s						
AAA	Alma-Ata	8.29	33	P	Pn	12 06 30.8	-0.1
	comp=E,4μm,1.2s						
AAA	Alma-Ata	8.29	33	ePN	Pn	12 06 30.1	-0.7
AAA				eS	S	12 08 03.0	-1.6
AAA	Alma-Ata	8.29	33	eP	Pn	12 06 30.2	-0.7
AAA				eS	S	12 08 03.1	-1.6
MDOK	Medeo	8.31	34	⇑P	Pn	12 06 30.5	-0.7
	comp=E,3μm,0.7s						
MDOK	Medeo	8.31	34	ePN	Pn	12 06 30.4	-0.9
MDOK				eS	S	12 08 03.7	-1.5
MDOK	Medeo	8.31	34	eP	Pn	12 06 30.4	-0.9
MDOK				eS	S	12 08 03.7	-1.5
KNDC	Almaty	8.32	33	⇓P	Pn	12 06 31.1	-0.2
	comp=E,7μm,0.7s						
KNDC				⇓S	S	12 08 01.0	-4.3
	comp=E,2μm,0.9s						
KNDC	Almaty	8.32	33	PN	Pn	12 06 31.0	-0.2
PRZ	Przheval'sk	8.48	42		Pn	12 06 33.1	-0.4
PRZ	Przheval'sk	8.48	42	PN	Pn	12 06 33.1	-0.4
KTBS	Karatobe	8.60	30	P	Pn	12 06 32.8	-2.1
	comp=E,398nm,0.9s						
DDI	Dehra Dun	8.61	133	eP	Pn	12 06 34.0	-1.2
DDI				IAmb	IAmb	12 06 35.2	
	comp=Z,975nm,0.6s						
DDI				eS	S	12 08 03.2	-9.2
BKNR	BIKANER	8.63	165	eP	Pn	12 06 33.5	-1.9
RTK	Rohtak	8.77	145	eP	Pn	12 06 35.2	-1.9
SATY	Saty	8.89	39	P	Pn	12 06 36.9	-1.7
	comp=Z,459nm,1.0s						
SATY	Saty	8.89	39	ePN	Pn	12 06 37.4	-1.3
SATY	Saty	8.89	39	eP	Pn	12 06 37.4	-1.3
GNR	GANAUR	8.97	142	⇑eP	Pn	12 06 38.2	-1.6
GNR				eS	S	12 08 11.5	-9.3
ZHN	Zhinishke	8.98	39	P	Pn	12 06 38.7	-1.1
	comp=Z,409nm,1.1s						
ZHN	Zhinishke	8.98	39	ePN	Pn	12 06 38.7	-1.1
ZHN	Zhinishke	8.98	39	eP	Pn	12 06 38.7	-1.1
BTLS	Baital	8.98	15	P	Pn	12 06 38.3	-1.4
	comp=Z,417nm,0.7s						
BTLS	Baital	8.98	15	ePN	Pn	12 06 38.7	-1.0
BTLS	Baital	8.98

SONA IAML 12 08 35.1
comp=N,4μm,0.8s
UGON Onchagaon 10.09 141 *e*P **Pn 12 06 52.8 -1.3**
KTMS Ketmen 10.19 43 P **Pn 12 06 53.7 -1.7**
comp=N,44nm,0.8s
TDK Taldyqorghan 10.37 32 *e*P **Pn 12 06 56.1 -1.4**
TDK pmax pmax
comp=Z,532nm,1.0s
TDK Taldyqorghan 10.37 32 *e*P **Pn 12 06 56.1 -1.4**
comp=Z,532nm,1.0s
PTH Pithoragarh 10.49 128 *e*P **Pn 12 06 56.6 -2.8**
PTH *e*S S 12 08 46.9 -10
PTH IAML 12 09 07.0
comp=Z,2μm,0.8s
DJR Jarkent 10.50 38 P **Pn 12 06 57.6 -1.7**
comp=Z,116nm,1.6s
LGTI Lohaghat 10.57 128 *e*P **Pn 12 06 57.5 -2.7**
LGTI *e*S S 12 08 44.8 -14
LGTI *e*S S 12 08 54.9 -3.9
FRKB FARRUKHABAD 11.70 138 *e*P **Pn 12 07 12.3 -2.2**
OTUK Ortayu 11.89 5 ⇓P **Pn 12 07 15.4 -1.4**
comp=Z,853nm,0.9s
OTUK Ortayu 11.89 5 P **Pn 12 07 15.4 -1.4**
JHNI Jhansi 12.79 146 *e*P **Pn 12 07 26.4 -1.8**
JHNI *e*S S 12 09 38.5 -11
JHNI IAML 12 09 40.6
comp=E,2μm,0.7s
JHNI IAML 12 09 44.6
comp=N,1μm,1.1s
LKN LUCKNOW 12.92 135 *e*P **Pn 12 07 28.2 -1.7**
GUNA GUNA 13.02 152 *e*P **Pn 12 07 30.3 -0.9**
MAKZ Makanchi 13.36 35 Pn **Pn 12 07 34.2 -0.9**
MAKZ Makanchi 13.36 35 ⇓P **Pn 12 07 34.3 -0.9**
comp=N,1μm,0.8s
MAKZ Makanchi 13.36 35 P **Pn 12 07 34.2 -0.9**
MK31 Makanchi Array 13.49 36 P **Pn 12 07 35.3 -1.5**
comp=N,358nm,0.7s,baz=203,slow=11,SNR=3002
MK31 Makanchi Array 13.49 36 *i* P **Pn 12 07 35.3 -1.5**
MK31 pmax pmax
comp=Z,359nm,0.6s
MKAR Makanchi Array 13.49 36 Pn **Pn 12 07 35.4 -1.4**
MKAR Makanchi Array 13.49 36 P **Pn 12 07 36.8 0.0**
comp=Z,280nm,0.8s,baz=221,slow=11,SNR=414
MKAR sP **sPn 12 08 32.1 +1.9**
comp=Z,170nm,0.9s,baz=227,slow=14,SNR=3.1
MKAR S **S 12 10 01.1 -4.9**
comp=Z,16nm,0.7s,baz=286,slow=8.7,SNR=1.0
MKAR PcP **PcP 12 12 44.3 -1.6**
comp=Z,38nm,0.8s,baz=133,slow=0.8,SNR=3.9
MKAR ScP **ScP 12 15 57.6 -0.7**
comp=Z,37nm,0.9s,baz=247,slow=1.8,SNR=6.9
MKAR PKiKP **PKiKP 12 20 40.8 -1.4**
comp=Z,4.1nm,0.6s,baz=218,slow=0.6,SNR=16
MKAR P3KPbc 12 43 09.9
comp=Z,0.4nm,0.7s,baz=42,slow=4.5,SNR=4.0
BNDA BANDA 13.64 140 *e*P **Pn 12 07 39.1 +0.3**
BRZS Berezniki 13.64 5 *e*P **Pn 12 07 37.4 -1.2**
BRZS Berezniki 13.64 5 *e*P **Pn 12 07 37.5 -1.2**
NGCH Negor - Chabah 13.74 219 P **Pn 12 07 40.7 +0.6**
SNR=34
NGCH S **S 12 10 10.4 -1.8**
BHPL Bhopal 14.34 154 *e*P **Pn 12 07 46.6 -0.8**
BHPL IAmb IAmb 12 07 51.5
comp=Z,974nm,0.9s
BHPL *e*S **S 12 10 24.8 -1.4**
ALBI Allahabad 14.57 136 *e*P **Pn 12 07 47.8 -2.4**
NRDN NARMADA NAGAR 14.73 156 *e*P **P 12 07 54.1 +1.4**
WMQ Urumqi 14.93 55 *e*P **Pn 12 07 54.5 +0.1**
WMQ S **S 12 10 35.3 -4.1**
WMQ pmax pmax
comp=Z,410nm,0.9s
WMQ pmax pmax
comp=Z,2μm,3.7s
WMQ LR LR
comp=Z,1μm,18.7s
AB31 Akbulak array 15.07 332 P **Pn 12 07 54.5 -1.5**
comp=Z,738nm,0.7s,baz=143,slow=9.9,SNR=6997
AB31 ⇑S **S 12 10 38.8 -3.6**
comp=Z,884nm,1.2s,baz=144,slow=22,SNR=8.2
AB31 Akbulak array 15.07 332 *i* P **Pn 12 07 54.5 -1.5**
AB31 *i* S **S 12 10 38.8 -3.6**
ABKAR Akbulak array 15.07 332 Pn 12 07 54.8 -1.2
ABKAR Akbulak array 15.07 332 Pn 12 07 54.9 -1.1
JASK Jask - Hormozg 15.21 230 P **Pn 12 07 57.6 -0.3**
SNR=50
JASK S **S 12 10 42.8 -3.4**
ZSN Zaisan 15.22 39 *e*P **Pn 12 07 56.9 -0.9**
ZSN Zaisan 15.22 39 *e*P **Pn 12 07 57.0 -0.9**
VAR Varanasi 15.27 133 *e*P **P 12 07 57.2 -1.5**
KURBB Kurchatov Arra 15.28 19 P **P 12 07 56.9 -1.6**
comp=Z,201nm,0.7s,baz=212,slow=9.9,SNR=322
KURBB S **S 12 10 44.0 -3.3**
comp=Z,79nm,1.0s,baz=2.7,slow=27,SNR=9.0
KURBB ScP **ScP 12 16 00.5 -0.8**
comp=Z,26nm,0.9s,baz=224,slow=2.4,SNR=8.6
KURBB PKiKP **PKiKP 12 20 41.6 -0.9**
comp=Z,8.3nm,0.5s,baz=250,slow=0.5,SNR=58
KURBB P3KPbc 12 43 03.7
comp=Z,0.3nm,0.3s,baz=28,slow=3.4,SNR=4.9
KURK Kurchatov 15.39 19 **P 12 07 58.2 -1.5**
KURK IAmb IAmb 12 08 01.7
comp=Z,358nm,0.9s
KURK Kurchatov 15.39 19 P **P 12 07 58.7 -1.0**
KURK P **P 12 07 58.7 -1.0**
KURK Kurchatov 15.39 19 ⇑P **P 12 07 57.7 -2.0**
comp=Z,366nm,0.9s
KURK Kurchatov 15.39 19 P **P 12 07 57.7 -2.0**
KURK S **S 12 10 44.9 -4.8**
BANOM Banah 16.16 234 P **P 12 08 09.0 +0.5**
BANOM S **S 12 11 05.4 -1.6**
BANOM Banah 16.16 234 *i* P **P 12 08 08.2 -0.4**
SNR=180
SHME Shamm 16.18 234 P **P 12 08 09.0 +0.3**
SNR=15
SHME S **S 12 11 05.0 -2.3**
SHME Shamm 16.18 234 *i* P **P 12 08 08.7 0.0**
SNR=15
AKL Akola 16.58 159 *e*P **Pn 12 08 14.7 +0.3**
MDH Madha 16.60 232 P **P 12 08 12.2 -1.1**
SNR=57
MDH Madha 16.60 232 *i* P **P 12 08 12.8 -0.5**
SNR=16
BVA0 Borovoye Array 16.62 359 P **Pn 12 08 14.0 -0.5**
comp=Z,486nm,0.8s,baz=169,slow=14,SNR=2731
BVA0 ⇓S **S 12 11 11.0 -4.6**
comp=Z,2μm,1.4s,baz=171,slow=16,SNR=17
BVA0 Borovoye Array 16.62 359 *i* P **Pn 12 08 14.0 -0.5**
BVA0 *e*S **S 12 11 13.9 -1.8**
BVAR Borovoye Array 16.62 359 P **Pn 12 08 14.5 -0.1**
comp=Z,576nm,0.7s,baz=167,slow=8.7,SNR=607
BVAR S **S 12 11 10.6 -5.1**
comp=Z,289nm,0.9s,baz=169,slow=16,SNR=10
BVAR PKiKP **PKiKP 12 20 42.3 -0.7**
comp=Z,12nm,0.6s,baz=275,slow=2.1,SNR=17
BVAR P3KPbc 12 43 01.9
comp=Z,0.9nm,0.8s,baz=350,slow=7.7,SNR=3.5
MASF Masafi 16.64 233 P **P 12 08 13.8 0.0**
SNR=77
MASF P **P 12 08 13.8 0.0**
SNR=77
MASF S **S 12 11 18.5 +1.9**
MASF S **S 12 11 18.5 +1.9**
MSFE Esma-Masafi 16.65 233 *i* P **P 12 08 13.5 -0.3**
SNR=170
BRVK Borovoye 16.66 359 P **P 12 08 14.1 +0.4**
BRVK IAmb IAmb 12 08 16.8
comp=Z,695nm,0.9s
BRVK Borovoye 16.66 359 P **Pn 12 08 15.0 +0.1**
BRVK S **S 12 11 17.0 +0.6**
BRVK Borovoye 16.66 359 *ce*P **Pn 12 08 14.6 -0.4**
BRVK pmax pmax
comp=Z,1μm,1.3s
AKTO Aktyubinsk 16.76 331 P **Pn 12 08 15.9 -0.3**
comp=Z,3μm,0.8s,baz=144,slow=7.8,SNR=4514
AKTO S **S 12 11 16.1 -2.3**
comp=Z,373nm,1.0s,baz=247,slow=17,SNR=7.6
AKTO Aktyubinsk 16.76 331 ⇓P **P 12 08 15.2 +0.4**
comp=Z,3μm,1.0s
AKTO ⇓S **S 12 11 15.0 -3.4**
comp=Z,1μm,1.5s
AKTO Aktyubinsk 16.76 331 P **P 12 08 15.2 +0.4**
AKTO S **S 12 11 15.0 -3.4**
WSAR Wadi Sarin 16.79 222 P **Pn 12 08 16.4 -0.5**
comp=Z,942nm,1.0s,baz=69,slow=10.0,SNR=238
WSAR S **S 12 11 16.0 -3.5**
comp=Z,48nm,0.9s,baz=142,slow=10,SNR=1.8
WSAR ScP **ScP 12 16 04.3 -0.5**
comp=Z,37nm,0.8s,baz=14,slow=4.2,SNR=6.0
BIDO Bidbid 16.84 224 P **Pn 12 08 17.2 -0.2**
SNR=63
BIDO S **S 12 11 23.1 +2.6**
NGP Nagpur 16.84 152 ⇑*e*P **Pn 12 08 17.7 +0.2**
UMQ Umm Al-Quwin 16.85 234 P **Pn 12 08 17.7 +0.2**
SNR=57
UMQ Umm Al-Quwin 16.85 234 *i* P **Pn 12 08 17.2 -0.4**
SNR=25
UOSS Minazif 16.91 232 P **P 12 08 15.2 -1.5**
UOSS Minazif 16.91 232 P **P 12 08 15.4 -1.4**
UOSS S **S 12 11 20.9 -1.0**
UOSS Minazif 16.91 232 *i* P **P 12 08 15.9 -0.9**
SNR=16
HATD Hatta, Dubai 17.04 231 P **P 12 08 19.0 +0.8**
SNR=68
HATD Hatta, Dubai 17.04 231 *i* P **P 12 08 18.0 -0.2**
SNR=117
WBK Wadi Bani Khal 17.12 220 P **Pn 12 08 20.7 -0.1**
SNR=60
WBK S **S 12 11 28.5 +2.4**
ASHO Ashiyiah 17.19 231 P **Pn 12 08 21.0 -0.6**
SNR=204
ASHO S **S 12 11 25.8 -1.7**
ASHO Ashiyiah 17.19 231 *i* P **P 12 08 20.5 +0.7**
SNR=479
NAZ Nazwa, Dubai 17.23 233 P **P 12 08 21.0 +0.8**
SNR=218
NAZ Nazwa, Dubai 17.23 233 *i* P **P 12 08 20.4 +0.3**
SNR=130
SMDO Samad 17.25 223 P **Pn 12 08 22.0 -0.4**
SNR=56
SMDO S **S 12 11 30.3 +1.6**
HOQ Hoqain 17.25 226 P **P 12 08 20.9 +0.4**
SNR=51
JLN Jalan Bani Buh 17.28 218 P **Pn 12 08 23.0 +0.3**
SNR=20
JLN P **Pn 12 08 23.0 +0.3**
SNR=20
JLN S **S 12 11 33.5 +4.2**
JLN S **S 12 11 33.5 +4.2**
SOHO SOHO 17.30 229 P **P 12 08 20.0 -0.9**
SOHO SOHO 17.30 229 *i* P **P 12 08 19.5 -1.4**
SNR=44
BLSP Bilaspur 17.33 142 *e*P **P 12 08 21.6 +0.2**
FAQ Al Faqa, Dubai 17.44 232 P **P 12 08 23.0 +0.5**
SNR=150
FAQ Al Faqa, Dubai 17.44 232 *i* P **P 12 08 22.4 -0.1**
SNR=72
ASUD Al Ashush, Dub 17.70 233 P **Pn 12 08 26.4 -1.0**
SNR=108
ASUD S **S 12 11 37.9 +0.4**
ASUD Al Ashush, Dub 17.70 233 *i* P **P 12 08 25.7 +0.4**
SNR=139
JMDO Jabal Madar 17.77 222 P **Pn 12 08 28.0 -0.4**
SNR=98
ALNE Al Ain 17.84 231 P **P 12 08 27.7 +0.8**
SNR=261
ALNE S **S 12 11 39.5 -0.9**
ALNE Al Ain 17.84 231 *i* P **P 12 08 27.1 +0.3**
SNR=177
ARQ Araqi 17.91 227 P **Pn 12 08 29.0 -0.9**
SNR=105
AJN Ajban 17.96 233 P **P 12 08 28.8 +0.6**
SNR=208
AJN S **S 12 11 43.1 +0.3**
AJN Ajban 17.96 233 *i* P **P 12 08 28.6 +0.5**
SNR=145
BSY Bisya 17.97 224 P **Pn 12 08 30.0 -0.7**
SNR=142
POO Poona 18.02 170 *e*P **Pn 12 08 30.6 -0.7**
POO IAmb IAmb 12 08 34.1
comp=Z,369nm,1.3s
BOK Bokaro 18.13 130 *e*P **P 12 08 31.0 +1.0**
BOK IAmb IAmb 12 08 33.5
comp=Z,902nm,0.9s
BOK *e*S **S 12 11 47.4 +1.3**
KNTI KHUNTI 18.31 133 ⇑*e*P **P 12 08 32.2 +0.2**
LSA Lhasa 18.36 105 P **Pn 12 08 36.0 +0.3**
LSA IAmb IAmb 12 08 45.4
comp=Z,236nm,0.9s
LSA Lhasa 18.36 105 P **Pn 12 08 35.8 +0.1**
LSA S **S 12 11 53.3 +1.9**
LSA pmax pmax
comp=Z,280nm,1.0s
LSA LR LR
comp=Z,2μm,12.0s
LSA LR LR
comp=Z,2μm,8.2s
LSA Lhasa 18.36 105 P **Pn 12 08 36.0 +0.3**
LSA pmax pmax
comp=Z,236nm,0.9s
JHSG JHARSUGUGA 18.48 139 *e*P **P 12 08 34.4 +0.6**
AKT Akhty 18.58 293 *e*P **P 12 08 36.2 +1.3**
AKT *e*S **S 12 11 55.8 +0.8**
AKT pmax pmax
comp=Z,662nm,0.8s
AKT MLR MLR
comp=Z,1μm,15.0s
MHTO MHTO 18.98 219 P **Pn 12 08 41.1 -1.5**
SNR=201
MAK Makhachkala 19.01 297 *c i*P **P 12 08 40.3 +1.0**
MAK *e*S **S 12 12 04.6 +1.4**
MAK pmax pmax
comp=Z,802nm,1.5s
JRN Qarnain Island 19.13 238 P **P 12 08 40.0 -0.7**
SNR=51
UMZA Um Al Zommool 19.19 229 P **P 12 08 42.2 +0.8**
UMZA S **S 12 12 05.1 -2.0**
MZWR Madinat Zayed 19.24 234 P **P 12 08 41.5 -0.5**
MZWR S **S 12 12 03.8 -4.3**
KAD Karad 19.27 170 *e*P **P 12 08 43.0 +0.7**
GOMU GeErMu 19.40 83 P **P 12 08 45.3 +1.3**
GOMU S **S 12 12 09.5 -2.2**
GOMU pmax pmax
comp=Z,470nm,1.1s
GHWR Ruwais 19.76 236 P **P 12 08 46.8 -0.8**
SHMA Al-Shehemyia 19.89 244 P **P 12 08 48.8 -0.1**
SNR=57
SHMA S **S 12 12 16.5 -4.2**
MZR Muzera 20.04 233 P **P 12 08 49.5 -1.0**
SNR=137
MZR S **S 12 12 19.2 -4.4**
MZR Muzera 20.04 233 *i* P **P 12 08 49.6 -0.9**
SNR=8.4
DQM DQM 20.08 219 P **P 12 08 52.2 +1.2**
SNR=54
ZAA0 Zalesovo Array 20.09 25 P **P 12 08 51.0 +0.3**
ZALV Zalesovo Beam 20.09 25 P **P 12 08 50.7 0.0**
comp=Z,1μm,0.9s,baz=221,slow=11,SNR=1815
ZALV S **S 12 12 23.3 -0.7**
comp=Z,68nm,0.7s,baz=221,slow=17,SNR=3.4
ZALV ScP **ScP 12 16 10.1 -1.3**
comp=Z,19nm,0.8s,baz=221,slow=4.3,SNR=3.8
ZALV PKiKP **PKiKP 12 20 42.6 -1.8**
comp=Z,6.7nm,0.5s,baz=180,slow=1.6,SNR=19
comp=Z,1μm,0.9s
ZALV Zalesovo Beam 20.09 25 *i* P **P 12 08 50.7 0.0**
ZALV pmax pmax
comp=Z,1μm,0.9s
SAKB Bahrain 20.13 245 P **P 12 08 51.4 0.0**
SAKB S **S 12 12 21.8 -3.5**
HYB Hyderabad 20.14 158 *e*P **P 12 08 52.2 +0.5**
HYB IVmB_BB 12 08 54.9
comp=Z,16μm,0.8s
HYB *e*S **S 12 12 28.3 +2.6**
HYB IVMs_BB IVMs_BB 12 15 13.2
comp=Z,5μm,3.7s
TRNA Turayna 20.40 241 P **P 12 08 53.3 -1.1**
SNR=34
TRNA S **S 12 12 25.8 -4.6**
SLWR Sila 20.50 238 P **P 12 08 54.3 -1.1**
SLWR S **S 12 12 27.3 -4.9**
KBD Kabd 20.64 256 P **P 12 08 57.7 +0.8**
KBD S **S 12 12 34.8 -0.1**
SMRA Abu-Samra 20.67 241 P **P 12 08 56.2 -0.9**
SNR=53
SMRA S **S 12 12 31.6 -3.7**
GNI Garni 20.72 288 P **P 12 08 59.8 +1.9**
GNI Garni 20.72 288 *e*P **P 12 08 59.9 +2.1**
GNI Garni 20.72 288 P **P 12 09 00.1 +2.3**
comp=Z,357nm,0.6s,baz=61,slow=1.2,SNR=115
GNI S **S 12 12 35.4 -1.0**
comp=Z,52nm,1.1s,baz=23,slow=15,SNR=1.3
comp=Z,357nm,0.6s
GNI Garni 20.72 288 P **P 12 09 00.3 +2.5**
GNI Garni 20.72 288 P **P 12 08 59.8 +1.9**
GNI pmax pmax
comp=Z,691nm,0.9s
GNI Garni 20.72 288 P **P 12 09 00.2 +2.5**
GOA Goa 21.01 172 *e*P **P 12 09 02.0 +1.2**
GOA IAmb IAmb 12 09 04.7
comp=Z,685nm,1.0s
SHL Shillong 21.06 115 P **P 12 09 02.0 +0.5**
SHL Shillong 21.06 115 P **P 12 09 02.0 +0.5**
SNR=486
SHL Shillong 21.06 115 *e*P **P 12 09 01.8 +0.3**
SHL IAmb IAmb 12 09 04.6
comp=Z,640nm,0.7s
SHL Shillong 21.06 115 P **P 12 09 02.0 +0.5**
SHL pmax pmax
comp=Z,1μm,0.8s
TASB TASBURUN-IGDIR 21.10 288 *e*P **P 12 09 03.4 +1.7**
TRLG Trialeti 21.30 292 P **P 12 09 04.7 +0.9**
SVE Sverdlovsk 21.53 345 *d i*P **P 12 09 06.6 +0.9**
SVE *e*S **S 12 12 52.5 +3.2**
SVE pmax pmax
comp=Z,2μm,1.3s
ARTI Arti 21.66 341 P **P 12 09 07.2 +0.2**
ARTI Arti 21.66 341 P **P 12 09 07.7 +0.7**
comp=Z,2μm,0.9s,baz=155,slow=6.3,SNR=862
ARTI S **S 12 12 52.1 +0.7**
comp=Z,45nm,0.7s,baz=293,slow=21,SNR=1.6
comp=Z,2μm,0.9s
ARTI Arti 21.66 341 *c i*P **P 12 09 07.5 +0.5**
ARTI *PP **pP 12 09 44.2 -0.2**
ARTI S **S 12 12 54.7 +3.3**
CUKT Cukurca 21.71 280 *e*P **P 12 09 09.3 +1.4**
VANB Van 21.78 284 *e*P **P 12 09 10.3 +1.8**
NCK Nalchik 21.92 297 P **P 12 09 10.1 +0.4**
NCK pmax pmax
comp=Z,497nm,1.0s
KARS Kars 22.01 289 P **P 12 09 12.9 +2.2**
KARS Kars 22.01 289 *e*P **P 12 09 13.1 +2.4**
KARS Kars 22.01 289 P **P 12 09 12.9 +2.2**
KARS pmax pmax
comp=Z,1μm,1.0s
GEVA Gevas 22.05 283 P **P 12 09 12.4 +1.1**
GEVA IAmb IAmb 12 09 15.8
comp=Z,320nm,1.2s
AGRB Hanur-Agry 22.06 287 *e*P **P 12 09 13.6 +2.3**
MLAZ Malazgirt-MUS 22.41 286 *e*P **P 12 09 17.3 +2.8**
KBZ Khabaz 22.46 298 P **P 12 09 14.9 +0.3**
comp=Z,140nm,0.7s,baz=120,slow=9.1,SNR=192
KBZ S **S 12 13 07.4 +3.0**
comp=Z,38nm,1.0s,baz=218,slow=24,SNR=1.6
comp=Z,140nm,0.7s
KBZ Khabaz 22.46 298 *ce*P **P 12 09 14.8 +0.2**
KBZ pmax pmax
comp=Z,158nm,0.8s
SENK Senkaya-Erzuru 22.56 289 *e*P **P 12 09 18.1 +2.2**
SIRT Sirnak 22.61 281 P **P 12 09 17.6 +1.4**
SIRT Sirnak 22.61 281 *e*P **P 12 09 17.8 +1.6**
GOF Gofitskoye 22.61 301 *c i*P **P 12 09 17.3 +1.3**
SHA1 Shidzhatmaz 22.63 298 *i* P **P 12 09 17.0 +0.5**
KIV Kislovodsk 22.65 298 P **P 12 09 17.1 +0.7**
KIV IAmb IAmb 12 09 31.5
comp=Z,233nm,0.7s
KIV Kislovodsk 22.65 298 *e*P **P 12 09 16.9 +0.4**
KIV Kislovodsk 22.65 298 P **P 12 09 17.4 +0.9**
KIV Kislovodsk 22.65 298 ⇑P **P 12 09 17.6 +1.1**
KIV Kislovodsk 22.65 298 *e*P **P 12 09 16.0 -0.5**
KIV *e*S **S 12 13 08.4 +0.7**
KIV pmax pmax
comp=Z,321nm,3.2s
KIV pmax pmax
comp=Z,166nm,1.0s
KIV Kislovodsk 22.65 298 *i* P **P 12 09 16.7 +0.3**
SNR=44
KIV Kislovodsk 22.65 298 P **P 12 09 17.4 +0.9**
comp=Z,4μmcomp=Z,269nm,0.9s
BELG Belogornoye 22.83 322 *i* P **P 12 09 18.6 +0.7**
BELG pmax pmax
comp=Z,508nm,0.9s
GURO Guroymak-BITLI 22.84 284 *e*P **P 12 09 20.8 +2.4**
KOPR Koprukoy-ERZUR 22.94 288 *e*P **P 12 09 21.8 +2.6**
DOK Doka 22.98 224 P **P 12 09 20.4 +0.8**
DOK P pP 12 09 20.5 -39
SNR=94
DOK S **S 12 13 17.3 +4.0**
GTA Gaotai 23.09 74 ⇑P **P 12 09 22.2 +1.6**
GTA sP sP 12 10 28.6 -0.4
GTA PcP **PcP 12 13 02.9 +0.4**
GTA S **S 12 13 19.8 +4.7**
GTA SS SS 12 14 24.8 -35
GTA ScS **ScS 12 20 04.8 -1.0**
GTA pmax pmax
comp=Z,310nm,1.0s
BCA Borcka 23.15 291 *e*P **P 12 09 22.8 +1.8**
BCA Borcka 23.15 291 ⇑P **P 12 09 22.7 +1.8**
VRTB Varto-Mus 23.26 286 *e*P **P 12 09 25.3 +3.2**
DMTO DMTO 23.27 221 P **P 12 09 23.1 +1.0**
SNR=23
SVAN Silvan-Diyarba 23.53 283 *e*P **P 12 09 26.7 +2.3**
KARO Karliova-Bingo 23.57 286 *e*P **P 12 09 27.9 +2.9**
WHFO Wadi Hawf 23.74 224 P **P 12 09 27.0 +0.5**
SNR=82
WHFO S **S 12 13 25.3 -0.3**
RBK Rabkut 23.84 222 P **P 12 09 28.1 +0.6**
SNR=53
RBK S **S 12 13 27.6 +0.4**
BNGB Bingl 23.88 285 *e*P **P 12 09 31.1 +3.4**
MARD Mardin 23.95 281 P **P 12 09 29.8 +1.4**
MARD IAmb IAmb 12 09 31.4
comp=Z,170nm,0.7s
KOPT Kop Dagi 23.98 288 P **P 12 09 30.9 +2.2**
KOPT IAmb IAmb 12 09 32.8
comp=Z,241nm,1.3s
LABN Labinsk 24.15 299 *e*P **P 12 09 30.7 +0.7**
LABN *e*PP **pP 12 10 08.3 -2.8**
LABN pmax pmax
comp=Z,404nm,1.2s
MAZI Mazidag 24.19 282 *e*P **P 12 09 32.4 +1.8**
BAYT Aydıntepe-Bayb 24.25 289 *e*P **P 12 09 33.0 +1.9**
ABTO Aybut 24.46 224 S **S 12 13 39.1 +2.0**
VSLR Vesyoloye 24.48 296 *i* P **P 12 09 33.6 +0.6**
VSLR pmax pmax
comp=Z,139nm,0.9s
ERBR Yeremizino-Bor 24.51 302 *e*P **P 12 09 32.8 -0.4**
ERBR *e*PP **pP 12 10 12.5 -2.5**
ERBR *e*S **S 12 13 38.4 +1.1**
ERBR pmax pmax
comp=Z,338nm,0.9s
KTUT Trabzon 24.53 290 *e*P **P 12 09 34.4 +1.0**
KTUT Trabzon 24.53 290 ⇓P **P 12 09 35.1 +1.6**
SOC Sochi 24.72 296 *c i*P **P 12 09 34.0 -1.2**
SOC *e*PP **pP 12 10 15.2 -2.0**
SOC *e*SP **sP 12 10 41.3 -2.6**
SOC *e*S **S 12 13 40.1 -0.5**
SOC *e*SS **sS 12 14 58.0 -1.2**
MDRS Chennai 24.76 157 *e*P **P 12 09 37.1 +1.4**
PTK Pertek 24.88 285 *e*P **P 12 09 38.8 +1.9**
RAYN Ar Rayn 25.27 246 P **P 12 09 40.6 +0.3**
RAYN IAmb IAmb 12 09 42.0
comp=Z,213nm,0.8s
RAYN Ar Rayn 25.27 246 P **P 12 09 41.0 +0.6**
RAYN S **S 12 13 51.6 +1.9**
RAYN Ar Rayn 25.27 246 P **P 12 09 40.6 +0.3**
RAYN pmax pmax
comp=Z,213nm,0.9s
RAYN Ar Rayn 25.27 246 *i* P **P 12 09 40.8 +0.5**
SNR=26
ESPY Espiye-Giresun 25.32 290 *e*P **P 12 09 42.5 +1.9**
VRH Novokhopyorsk 25.43 315 ⇑*i*P **P 12 09 41.8 +0.4**
VRH pmax pmax
comp=Z,508nm,1.3s
URFA Urfa 25.48 282 *e*P **P 12 09 44.0 +1.9**
SALM Salem 25.55 163 *e*P **P 12 09 43.5 +0.6**
MOY Mondy 26.32 45 *e*P **P 12 09 51.2 +1.6**
MOY *e* 12 10 38.4
MOY pmax pmax
comp=Z,263nm,2.0s
TNCH TengChong 26.35 108 P **P 12 09 52.4 +2.2**
TNCH pP pP 12 10 34.9 -0.2
TNCH sP sP 12 11 00.6 -0.4
TNCH S **S 12 14 08.1 +1.1**
TNCH SS SS 12 15 39.2 -28

TNCH pmax pmax
comp=Z,70nm,1.1s
TNCH pmax pmax
comp=Z,980nm,3.5s
RSDY Resadiye-TOKAT 26.39 289 *eP* **P 12 09 52.1 +1.8**
DARE Darende-Malaty 26.40 285 *eP* **P 12 09 52.7 +2.3**
ANN Anapa 26.50 299*c i P* **P 12 09 51.3 +0.3**
ANN *e**PP **pP 12 10 32.4 -2.3**
ANN *eS* **S 12 14 13.1 +4.6**
ANN pmax pmax
comp=Z,231nm,0.7s
LZH Lanzhou 26.63 81 ⇑P **P 12 09 54.4 +1.8**
LZH pP pP 12 10 33.6 -3.7
LZH PcP **PcP 12 13 11.4 +0.9**
LZH S **S 12 14 13.5 +2.2**
LZH SS SS 12 15 45.1 -27
LZH ScS **ScS 12 20 19.3 -1.3**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,1μm,4.8s
SVSK Karacayir 26.67 288 *eP* **P 12 09 54.9 +2.3**
GAZ Gaziantep 26.79 282 P **P 12 09 55.7 +1.9**
GAZ IAmb IAmb 12 09 57.3
comp=Z,325nm,1.3s
GAZ Gaziantep 26.79 282 *eP* **P 12 09 55.9 +2.1**
VSR Storozhevoye 26.91 313 *eP* **P 12 09 51.9 -2.8**
VSR pmax pmax
comp=Z,270nm,0.9s
TOKT Tokat 26.99 289 *eP* **P 12 09 57.5 +1.9**
TOKA Tokat 27.04 289 IAmb IAmb 12 09 59.5
comp=Z,228nm,1.4s
VORR Voronezh 27.06 314 ⇑*i P* **P 12 09 56.4 +0.5**
VORR pmax pmax
comp=Z,407nm,0.8s
ZAK Zakamensk 27.21 49 *eP* **P 12 09 58.3 +0.8**
ZAK *e* 12 10 44.3
ZAK pmax pmax
comp=Z,106nm,1.4s
SARI SarD1z-Kayseri 27.25 285 *eP* **P 12 10 00.5 +2.5**
KVT Kavak 27.34 290 *eP* **P 12 10 00.5 +1.8**
LPSR Galich'ya Gora 27.57 316 ⇑*i P* **P 12 10 01.2 +0.7**
LPSR pmax pmax
comp=Z,681nm,0.9s
BNN Bunyan 27.64 286 P **P 12 10 02.9 +1.4**
BNN IAmb IAmb 12 10 04.7
comp=Z,225nm,0.9s
BNN Bunyan 27.64 286 *eP* **P 12 10 03.3 +1.8**
TAHT Tahtakopru-Hat 27.73 280 *eP* **P 12 10 04.1 +2.0**
KOZT Kozan 27.83 283 *eP* **P 12 10 04.8 +1.7**
DIKM Dikmen 27.93 292 *eP* **P 12 10 04.9 +1.1**
DIKM Dikmen 27.93 292 ⇑P **P 12 10 05.1 +1.3**
DIKM Dikmen 27.93 292 P **P 12 10 05.1 +1.3**
comp=Z,2μmcomp=Z,57nm,0.9s
CD2 Chengdu 27.94 92 ⇑P **P 12 10 06.0 +1.9**
CD2 S **S 12 14 35.4 +3.7**
CD2 sS sS 12 15 55.0 +3.2
CD2 ScS **ScS 12 20 24.3 -2.1**
CD2 pmax pmax
comp=Z,300nm,1.2s
CEYT Ceyhan 27.97 282 *eP* **P 12 10 06.2 +2.0**
YOZ Yozgat 27.98 287 *eP* **P 12 10 05.9 +1.4**
MNCI Minicoy 28.07 175 P P 12 10 11.1 +5.8
MNCY Minicoy 28.09 175 *eP* P 12 10 10.5 +5.0
MNCY IAmb IAmb 12 10 20.4
comp=Z,306nm,1.0s
PZH PanZhiHua 28.13 102 P **P 12 10 07.1 +1.2**
PZH S **S 12 14 32.3 -2.5**
PZH ScS **ScS 12 20 25.2 -2.3**
PZH pmax pmax
comp=Z,30nm,1.5s
PZH pmax pmax
comp=Z,100nm,5.5s
TRD Trivandrum 28.34 167 *eP* **P 12 10 09.1 +1.4**
TRD IAmb IAmb 12 10 10.9
comp=Z,420nm,1.0s
IRK Irkutsk 28.42 46 *eP* **P 12 10 09.5 +1.4**
IRK *e* 12 10 55.6
IRK pmax pmax
comp=Z,335nm,1.7s
CMRD Camardi-Nigde 28.46 283 *eP* **P 12 10 10.9 +2.1**
CORM Corum 28.46 289 *eP* **P 12 10 10.2 +1.4**
KARA Karaisali 28.47 283 *eP* **P 12 10 10.7 +2.0**
SONM Songino Array 28.56 55 P **P 12 10 11.4 +1.9**
SONM Songino Array 28.56 55 P **P 12 10 11.3 +1.7**
comp=Z,35nm,0.6s,baz=257,slow=9.7,SNR=254
SONM pP **pP 12 10 56.4 +1.8**
comp=Z,12nm,0.8s,baz=258,slow=9.8,SNR=1.2
SONM sP **sP 12 11 23.3 +2.8**
comp=Z,53nm,1.0s,baz=270,slow=10,SNR=4.7
SONM PcP **PcP 12 13 15.3 +0.4**
comp=Z,26nm,0.9s,baz=244,slow=4.7,SNR=6.2
SONM ScP **ScP 12 16 33.7 -1.6**
comp=Z,14nm,0.9s,baz=224,slow=3.4,SNR=8.2
SONM PKiKP **PKiKP 12 20 48.7 -0.6**
comp=Z,1.9nm,0.6s,baz=223,slow=1.1,SNR=3.6
SONM P3KPbc 12 42 21.7
comp=Z,3.2nm,0.7s,baz=101,slow=3.5,SNR=16
comp=Z,35nm,0.6s
SONM Songino Array 28.56 55 P **P 12 10 11.5 +1.9**
SONM pmax pmax
comp=Z,117nm,1.1s
SIM Simferopol' 28.86 299 *eP* **P 12 10 12.3 +0.3**
SIM *e* 12 11 17.0
SIM *eS* **S 12 14 48.0 +2.3**
SIM pmax pmax
comp=Z,119nm,1.1s
BZK Bozkurt 28.86 292 *eP* **P 12 10 13.6 +1.6**
BZK Bozkurt 28.86 292 ⇑P **P 12 10 13.8 +1.8**
BZK Bozkurt 28.86 292 P **P 12 10 13.7 +1.7**
comp=Z,4μmcomp=Z,284nm,1.0s
GULA Gulagac 28.96 285 *eP* **P 12 10 14.8 +1.7**
ULN Ulaanbaatar 29.00 55 P **P 12 10 15.1 +1.6**
ULN Ulaanbaatar 29.00 55 P **P 12 10 14.8 +1.3**
ULN Ulaanbaatar 29.00 55 P **P 12 10 15.1 +1.6**
ULN pmax pmax
comp=Z,146nm,1.3s
ILGA Ilgaz 29.11 291 P **P 12 10 16.6 +2.1**
KIRS Kirsehir-Merke 29.11 287 ⇑P **P 12 10 16.1 +1.7**
MMAI Mount Meron Ar 29.14 274 P **P 12 10 16.9 +2.1**
comp=Z,36nm,0.7s,baz=74,slow=10.0,SNR=68
MMAI PcP **PcP 12 13 17.9 +1.2**
comp=Z,45nm,0.6s,baz=74,slow=7.0,SNR=26
MMAI S **S 12 14 52.5 +1.9**
comp=Z,1.4nm,0.5s,baz=121,slow=30,SNR=0.9
MMAI ScP **ScP 12 16 36.0 -1.3**
comp=Z,27nm,0.8s,baz=65,slow=4.7,SNR=12
comp=Z,36nm,0.7s
CANT Cankiri 29.20 290 *eP* **P 12 10 16.7 +1.5**
KAMT Kaman 29.24 287 *eP* **P 12 10 16.9 +1.3**
BR104 Keskin Array S 29.26 288 P **P 12 10 17.0 +1.2**
comp=Z,1μmcomp=Z,110nm,1.1s
BR131 Keskin Array S 29.26 288 P **P 12 10 17.2 +1.4**
BR131 IAmb IAmb 12 10 17.7
comp=Z,112nm,0.8s
BR131 Keskin Array S 29.26 288 *eP* **P 12 10 16.8 +1.0**
BR131 Keskin Array S 29.26 288 P **P 12 10 17.2 +1.4**
BR131 pmax pmax
comp=Z,113nm,0.8s
BRTR Keskin Array B 29.26 288 P **P 12 10 17.4 +1.5**
BRTR Keskin Array B 29.26 288 P **P 12 10 16.9 +1.0**
comp=Z,64nm,0.7s,baz=106,slow=9.2,SNR=355
BRTR pP **pP 12 11 02.8 +2.9**
comp=Z,25nm,0.9s,baz=94,slow=8.5,SNR=2.4
BRTR PcP **PcP 12 13 16.9 0.0**
comp=Z,22nm,0.8s,baz=132,slow=3.7,SNR=8.6
BRTR S **S 12 14 54.1 +1.7**
comp=Z,1.4nm,0.6s,baz=27,slow=38,SNR=1.4
BRTR ScP **ScP 12 16 36.6 -1.0**
comp=Z,4.9nm,0.8s,baz=107,slow=4.3,SNR=4.0
BRTR PKiKP **PKiKP 12 20 48.8 -1.2**
comp=Z,2.7nm,0.8s,baz=151,slow=2.8,SNR=5.3
BRTR P3KPbc 12 42 20.3
comp=Z,3.0nm,1.1s,baz=282,slow=1.3,SNR=8.1
comp=Z,64nm,0.7s
PLTM Poltava 29.27 308 P **P 12 10 16.4 +0.8**
BR106 Keskin Array S 29.28 288 P **P 12 10 17.0 +1.0**
comp=Z,1μmcomp=Z,116nm,1.2s
BR105 Keskin Array S 29.28 288 P **P 12 10 17.2 +1.2**
comp=Z,1μmcomp=Z,124nm,1.1s
KIZK Mersin 29.33 281 *eP* **P 12 10 17.4 +1.1**
SERE Sereflikochisa 29.40 286 *eP* **P 12 10 18.6 +1.5**
UJAP Al Uja 29.41 272 *eP* **P 12 10 18.8 +1.8**
YESY Yesilyurt 29.42 284 *eP* **P 12 10 18.9 +1.7**
EREN Erenkoy 29.50 279 *eP* **P 12 10 19.2 +1.4**
SILI Silifke-Mersin 29.52 281 *eP* **P 12 10 19.2 +1.2**
GHAJ Ghor Haditha 29.54 270 IAmb IAmb 12 10 21.3
comp=Z,541nm,1.4s
HMDM Hanimaadhoo 29.58 175 P **P 12 10 19.8 +1.2**
HMDM Hanimaadhoo 29.58 175 P **P 12 10 21.0 +2.4**
SNR=10
KMI Kunming 29.58 103 ⇑P **P 12 10 19.7 +0.8**
KMI pP pP 12 11 05.7 +1.3
KMI sP sP 12 11 26.7 -3.2
KMI PcP **PcP 12 13 18.4 +0.3**
KMI S **S 12 14 59.5 +1.7**
KMI sS sS 12 16 13.7 -4.4
KMI ScP **ScP 12 16 38.5 -0.5**
KMI ScS **ScS 12 20 32.2 -2.4**
KMI pmax pmax
comp=Z,380nm,5.2s
KMI LR LR
comp=Z,990nm,15.4s
KMI LR LR
comp=Z,600nm,13.5s
KMI LR LR
comp=Z,830nm,16.2s
MOS Moscow 29.60 321 *eP* **P 12 10 15.2 -3.2**
MOS *e**PP **pP 12 10 56.2 -6.4**
MOS pmax pmax
comp=Z,2μm,1.3s
MOS pmax pmax
comp=Z,1μm,1.3s
MOS pmax pmax
comp=E,800nm,1.3s
MOS pmax pmax
comp=N,300nm,1.0s
MOS pmax pmax
comp=E,748nm,1.2s
MOS pmax pmax
comp=N,256nm,0.9s
CIDE Kastamonu/Cide 29.65 292 ⇑P **P 12 10 20.2 +1.2**
AFSR Afar-Bala (An 29.73 287 *eP* **P 12 10 21.0 +1.1**
KURC Kurucasile-Bar 29.80 292 *eP* **P 12 10 20.9 +0.5**
KULU Kulu 29.83 287 *eP* **P 12 10 22.0 +1.2**
AKKU Akkuyu-Mersin 29.86 281 *eP* **P 12 10 21.5 +0.5**
OBN Obninsk 29.87 320 P **P 12 10 21.4 +0.7**
OBN Obninsk 29.87 320 ⇓P **P 12 10 22.2 +1.4**
OBN Obninsk 29.87 320*c i P* **P 12 10 21.6 +0.8**
OBN *i* *PP **pP 12 11 05.3 +0.3**
OBN *i* *SP **sP 12 11 28.8 -1.6**
OBN *i* 12 13 18.6
OBN *i* S **S 12 15 01.8 +0.6**
OBN *e**SS **sS 12 16 20.0 -1.6**
OBN pmax pmax
comp=Z,2μm,1.7s
OBN MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 29.87 320 P **P 12 10 21.5 +0.7**
comp=Z,17μmcomp=Z,1μm,1.5s
ANTO Ankara 29.90 288 P **P 12 10 22.7 +1.3**
ANTO IAmb IAmb 12 10 23.6
comp=Z,112nm,0.9s
ANTO Ankara 29.90 288 *eP* **P 12 10 22.9 +1.6**
ANTO Ankara 29.90 288 P **P 12 10 23.0 +1.6**
ANTO Ankara 29.90 288 ⇑P **P 12 10 22.9 +1.6**
ANTO Ankara 29.90 288 P **P 12 10 22.7 +1.3**
ANTO pmax pmax
comp=Z,112nm,1.0s
LOD Lodumlu 29.92 288 *eP* **P 12 10 22.9 +1.4**
CHBY Cihanbeyli 29.97 286 *eP* **P 12 10 23.2 +1.1**
BERE Bereket-Mersin 30.08 281 *eP* **P 12 10 24.1 +1.0**
CSS Mathiatis 30.30 279 P **P 12 10 25.3 +0.5**
CSS Mathiatis 30.30 279 *eP* **P 12 10 25.3 +0.5**
CHTO Chiang Mai 30.36 118 P **P 12 10 26.6 +1.0**
CHTO Chiang Mai 30.36 118 P **P 12 10 26.6 +1.0**
CHTO pmax pmax
comp=Z,163nm,1.5s
PALK Pallekele 30.39 160 P **P 12 10 27.2 +1.4**
PALK IAmb IAmb 12 10 28.4
comp=Z,170nm,0.8s
PALK Pallekele 30.39 160 P **P 12 10 27.6 +1.7**
PALK Pallekele 30.39 160 P **P 12 10 27.2 +1.4**
PALK pmax pmax
comp=Z,170nm,0.8s
PALK Pallekele 30.39 160 P **P 12 10 27.3 +1.4**
PALK pP **pP 12 11 11.2 +1.0**
PALK ScP **ScP 12 16 41.1 -0.4**
LADK Ladik-KONYA 30.43 285 *eP* **P 12 10 27.6 +1.5**
KONT Konya--Tatoy 30.48 285 *eP* **P 12 10 28.1 +1.7**
DGPR DIGLIPUR 30.52 134 *eP* **P 12 10 28.4 +1.5**
DGPR IAmb IAmb 12 10 30.4
comp=Z,488nm,0.8s
HDMB Hadim 30.55 283 *eP* **P 12 10 27.8 +0.5**
CM31 Chiang Mai Arr 30.59 118 P **P 12 10 28.8 +1.2**
CM31 IAmb IAmb 12 10 30.9
comp=Z,161nm,1.0s
CMAR Chiang Mai Arr 30.59 118 P **P 12 10 28.7 +1.1**
comp=Z,88nm,0.9s,baz=295,slow=8.1,SNR=340
CMAR PcP **PcP 12 13 21.1 +0.6**
comp=Z,45nm,0.9s,baz=294,slow=3.5,SNR=8.0
CMAR S **S 12 15 11.3 -2.1**
comp=Z,6.3nm,0.9s,baz=299,slow=9.4,SNR=1.2
CMAR ScP **ScP 12 16 41.2 -0.9**
comp=Z,27nm,1.0s,baz=293,slow=4.6,SNR=10
CMAR PKiKP **PKiKP 12 20 50.7 -0.5**
comp=Z,3.8nm,0.7s,baz=278,slow=1.7,SNR=9.5
CMAR P3KPbc 12 42 15.1
comp=Z,2.1nm,0.8s,baz=128,slow=4.0,SNR=19
comp=Z,88nm,0.9s
LEF Lefka 30.61 279 *eP* **P 12 10 28.3 +0.7**
EIL Elat 30.62 268 *eP* **P 12 10 29.4 +1.7**
YUVA Yuva-Kibriscik 30.69 289 *eP* **P 12 10 29.7 +1.3**
KIZT Kizilcal 30.71 287 *eP* **P 12 10 29.5 +0.9**
KDZE Karadeniz Ereo 30.80 291 *eP* **P 12 10 29.7 +0.5**
KDZE Karadeniz Ereo 30.80 291 ⇑P **P 12 10 30.5 +1.3**
GAZI Gazipasa 30.82 281 *eP* **P 12 10 29.7 +0.2**
BTO Baotou 30.85 70 *eP* **P 12 10 30.5 +0.8**
BTO pP **pP 12 11 13.9 -1.2**
BTO sP **sP 12 11 38.9 -2.0**
BTO PP **PnPn 12 11 41.5 +1.0**
BTO S **S 12 15 19.3 +2.2**
BTO pmax pmax
comp=Z,470nm,0.9s
BTO pmax pmax
comp=Z,2μm,8.1s
BTO LR LR
comp=Z,2μm,9.7s
BTO LR LR
comp=Z,1μm,10.2s
BTO LR LR
comp=Z,2μm,13.3s
SVRH Sivrihisar-ESK 30.92 288 *eP* **P 12 10 31.3 +1.0**
SEYD Seydisehir-KON 30.98 284 *eP* **P 12 10 32.6 +1.7**
MDUB Mudurnu 31.06 290 *eP* **P 12 10 32.9 +1.3**
XAN Xi'an 31.15 83 ⇑P **P 12 10 33.3 +0.9**
XAN pP pP 12 11 22.3 +4.3
XAN PcP **PcP 12 13 21.7 -0.1**
XAN S **S 12 15 23.7 +1.9**
XAN ScP **ScP 12 16 41.8 -2.0**
XAN PcS **PcS 12 17 05.3 -1.1**
XAN ScS **ScS 12 20 39.2 -2.4**
XAN pmax pmax
comp=Z,530nm,0.9s
XAN pmax pmax
comp=Z,1μm,3.6s
CIFT Cifteler, Eski 31.28 288 *eP* **P 12 10 34.4 +0.9**
KLMR Klimovskoe 31.46 331*d i P* **P 12 10 34.8 +0.1**
KLMR *e**PP **pP 12 11 21.2 +2.1**
KLMR *e* 12 13 20.1
KLMR pmax pmax
comp=Z,2μm,1.2s
GULT Gulveren 31.58 290 *eP* **P 12 10 37.9 +1.8**
PBA Port Blair 31.64 136 P **P 12 10 38.6 +1.9**
PBA Port Blair 31.64 136 P **P 12 10 39.3 +2.5**
SNR=5.3
PBA Port Blair 31.64 136 *eP* **P 12 10 38.7 +2.0**
BORA Eskisehir 31.69 289 IAmb IAmb 12 10 39.3
comp=Z,381nm,1.3s
SAUV Serdivan-Sakar 31.69 290 *eP* **P 12 10 37.7 +0.7**
SHUT Suhut-Afyon 31.79 286 *eP* **P 12 10 39.4 +1.4**
PURM Purcari 31.93 301 ⇑P **P 12 10 40.4 +1.5**
ISP Isparta 31.93 285 P **P 12 10 39.8 +0.6**
ISP IAmb IAmb 12 10 40.6
comp=Z,97nm,0.7s
ISP Isparta 31.93 285 *eP* **P 12 10 39.8 +0.6**
ISP Isparta 31.93 285 P **P 12 10 39.8 +0.6**
ISP pmax pmax
comp=Z,97nm,0.7s
BCK Bucak 31.94 284 *eP* **P 12 10 39.1 -0.2**
HHC Hu-ho-hao-te 31.99 69 ⇑*i P* **P 12 10 41.5 +1.7**
HHC pmax pmax
comp=Z,81nm,1.3s
HHC pmax pmax
comp=Z,410nm,6.2s
HHC LR LR
comp=Z,810nm,17.0s
HHC LR LR
comp=Z,590nm,15.4s
HHC LR LR
comp=Z,410nm,16.2s
GYA Guiyang 32.06 98 ⇓P **P 12 10 42.2 +1.7**
GYA sP sP 12 11 51.4 -0.5
GYA PcP **PcP 12 13 24.9 +0.4**
GYA S **S 12 15 36.2 -0.1**
GYA pmax pmax
comp=Z,190nm,1.1s
GYA pmax pmax
comp=Z,680nm,3.1s
GYA LR LR
comp=Z,1μm,13.2s
GYA LR LR
comp=Z,670nm,16.3s
GYA LR LR
comp=Z,880nm,17.7s
ADVT Abdulvahap 32.17 290 *eP* **P 12 10 42.1 +1.0**
SILT Sile 32.17 291 *eP* **P 12 10 41.5 +0.4**
HRT Hereke 32.18 291 *eP* **P 12 10 42.0 +0.7**
KORT Korkueli 32.22 283 *eP* **P 12 10 41.4 -0.4**
BAL3X Bal3x, Balta 32.23 304 P **P 12 10 42.4 +0.8**
BASM Basmaki-Afyon 32.28 285 *eP* **P 12 10 42.7 +0.4**
YLV Yalova 32.43 290 *eP* **P 12 10 44.3 +0.8**
TVSB Tavsanli 32.50 288 *eP* **P 12 10 44.9 +0.7**
SLVN Son La 32.51 108 P **P 12 10 46.6 +2.2**
JURR Jurilovca 32.57 298 ⇑P **P 12 10 45.6 +1.0**
GEDZ Gediz 32.60 287 *eP* **P 12 10 46.3 +1.3**
KLYT Kilyos 32.61 291 *eP* **P 12 10 45.9 +1.0**
ELL Elmali 32.62 283 *eP* **P 12 10 46.4 +1.2**
ISK Istanbul-Kandi 32.62 291 *eP* **P 12 10 45.9 +0.9**
ISK Istanbul-Kandi 32.62 291 P **P 12 10 45.6 +0.6**
KAVV Kandilli-Istan 32.62 291 *eP* **P 12 10 46.7 +1.7**
TLCR 32.62 299 ⇓P **P 12 10 46.1 +1.1**
TLCR 32.62 299 P **P 12 10 46.1 +1.1**
MILM Milestii Mici 32.68 302 ⇑*i P* **P 12 10 45.8 +0.3**
comp=Z,1μm,1.1s
MILM *ep*P sP 12 11 46.0 -9.2
MILM *es*P **PP 12 12 06.0 +2.0**
MILM Milestii Mici 32.68 302 ⇓P **P 12 10 46.4 +0.9**
MILM Milestii Mici 32.68 302*c i P* **P 12 10 45.8 +0.3**
MILM *e* 12 12 06.0
MILM pmax pmax
comp=Z,1μm,1.1s
KIS Kishinev 32.68 302 ⇓P **P 12 10 46.5 +0.9**
KIS Kishinev 32.68 302*c i P* **P 12 10 46.0 +0.5**
KIS *e* 12 12 06.0
KIS pmax pmax
comp=Z,420nm,1.0s
KIS Kishinev 32.68 302 P **P 12 10 46.3 +0.8**
comp=Z,3μmcomp=Z,456nm,0.8s
EFOR EFORIE 32.75 297 ⇓P **P 12 10 48.0 +1.9**
AK09 Malin Array Si 32.79 309 P **P 12 10 47.2 +0.8**
AK10 Malin Array Si 32.81 309 P **P 12 10 47.3 +0.8**
AK08 Malin Array Si 32.81 309 P **P 12 10 47.3 +0.7**
BGKT Bogazkoy 32.82 291 *eP* **P 12 10 47.9 +1.1**
MDNY Mudanya-Bursa 32.82 290 *eP* **P 12 10 47.5 +0.7**
AK07 Malin Array Si 32.83 309 P **P 12 10 47.5 +0.8**
AK06 Malin Array Si 32.84 309 P **P 12 10 47.6 +0.8**
AK05 Malin Array Si 32.84 309 P **P 12 10 47.6 +0.8**
AKASG Malin Array Be 32.84 309 P **P 12 10 47.0 +0.2**
AKASG Malin Array Be 32.84 309 P **P 12 10 47.0 +0.2**
comp=Z,195nm,0.7s,baz=84,slow=7.0,SNR=1805
AKASG PP **PP 12 12 06.1 +0.4**
comp=Z,109nm,1.0s,baz=96,slow=12,SNR=12
AKASG PcP **PcP 12 13 25.4 -0.7**
comp=Z,34nm,0.8s,baz=77,slow=2.9,SNR=6.1
AKASG ScP **ScP 12 16 46.9 -2.2**
comp=Z,14nm,0.8s,baz=78,slow=3.7,SNR=7.6
AKASG PKiKP **PKiKP 12 20 51.7 -0.2**
comp=Z,2.7nm,0.8s,baz=95,slow=1.0,SNR=4.3
comp=Z,195nm,0.7s
AKBB Malin Array Si 32.84 309*c e* P **P 12 10 46.9 +0.1**
AKBB pmax pmax
comp=Z,372nm,0.6s
AKBB Malin Array Si 32.84 309 P **P 12 10 47.6 +0.8**
AK02 Malin Array Si 32.84 309 P **P 12 10 47.6 +0.7**
AK01 Malin Array Si 32.85 309 P **P 12 10 47.7 +0.8**
AK03 Malin Array Si 32.85 309 P **P 12 10 47.7 +0.8**
KIEV Kiev 32.85 309 P **P 12 10 46.8 -0.1**
KIEV Kiev 32.85 309 ⇓P **P 12 10 47.7 +0.8**
KIEV Kiev 32.85 309 P **P 12 10 46.8 -0.1**
KIEV pmax pmax
comp=Z,372nm,0.7s
KIEV Kiev 32.85 309 *i* P **P 12 10 46.9 0.0**
SNR=273
KIEV Kiev 32.85 309 P **P 12 10 47.1 +0.2**
KIEV ScP **ScP 12 16 50.0 +0.8**
AK11 Malin Array Si 32.87 309 P **P 12 10 47.9 +0.8**
AK12 Malin Array Si 32.88 309 P **P 12 10 47.9 +0.8**
AK04 Malin Array Si 32.88 309 P **P 12 10 48.0 +0.8**
TPGR Topolog 32.90 298 ⇑P **P 12 10 48.6 +1.2**
AK14 Malin Array Si 32.90 309 P **P 12 10 48.1 +0.7**
AK15 Malin Array Si 32.90 309 P **P 12 10 47.9 +0.5**
MFTR Murfatlar 32.90 297 ⇑P **P 12 10 48.9 +1.5**
TIRR Tirgusor 32.91 297 *eP* **P 12 10 48.2 +0.8**
TIRR Tirgusor 32.91 297 ⇑P **P 12 10 48.4 +0.9**
TIRR Tirgusor 32.91 297 ⇑P **P 12 10 48.4 +0.9**
TIRR Tirgusor 32.91 297 P **P 12 10 48.3 +0.8**
AK16 Malin Array Si 32.91 309 P **P 12 10 48.2 +0.8**
AK23 Malin Array Si 32.91 309 P **P 12 10 48.2 +0.8**
SIMA Simav-Kutahya 32.92 288 *eP* **P 12 10 48.7 +0.9**
AK13 Malin Array Si 32.93 309 P **P 12 10 48.4 +0.8**
AK18 Malin Array Si 32.94 309 P **P 12 10 48.1 +0.4**
AK17 Malin Array Si 32.94 309 P **P 12 10 48.1 +0.4**
AK22 Malin Array Si 32.95 309 P **P 12 10 48.1 +0.4**
APMY Acipayam-Deniz 32.95 285 *eP* **P 12 10 47.8 -0.3**
AK21 Malin Array Si 32.97 309 P **P 12 10 48.2 +0.3**
AK19 Malin Array Si 32.98 309 P **P 12 10 48.3 +0.3**
AK20 Malin Array Si 32.98 309 P **P 12 10 48.3 +0.3**
KSL Kastellorizon 33.00 282 P **P 12 10 47.7 -0.7**
LEOM Leova 33.05 301 *eP* **P 12 10 49.5 +0.8**
GIUM Giurgiulesti 33.05 299 ⇓P **P 12 10 50.6 +1.9**
CAME Cameli-Denizli 33.05 284 *eP* **P 12 10 48.9 -0.1**
CFR Carcaliu 33.10 299 ⇑P **P 12 10 50.1 +1.0**
CFR Carcaliu 33.10 299 P **P 12 10 50.1 +1.0**
TIY Taiyuan 33.11 75 *eP* **P 12 10 51.0 +1.6**
TIY pmax pmax
comp=Z,140nm,1.2s
PSN Preselentsi 33.13 296 *eP* **P 12 10 50.7 +1.3**
VLDR Vladesti 33.15 300 ⇑P **P 12 10 51.1 +1.6**
CTYL Yalikoy Yolu 33.16 292 *eP* **P 12 10 50.6 +0.9**
CTYL Yalikoy Yolu 33.16 292 P **P 12 10 50.3 +0.6**
comp=Z,4μmcomp=Z,339nm,1.2s
GISR Galati 33.16 299 ⇓P **P 12 10 51.5 +1.9**
TATR Tatarca 33.16 300 ⇓P **P 12 10 51.5 +1.8**
TLBR Topalu 33.17 298 ⇓P **P 12 10 51.1 +1.4**
SCTR Scanteiesti 33.20 300 ⇑P **P 12 10 51.7 +1.7**
KCTX Karacabey (Bur 33.24 290 *eP* **P 12 10 51.2 +0.8**
SLVT Silivri 33.24 292 *eP* **P 12 10 51.6 +1.2**
HARR Harsova 33.25 298 ⇑P **P 12 10 51.6 +1.1**
HARR Harsova 33.25 298 P **P 12 10 51.5 +1.1**
KULA Kula-Manisa 33.26 287 *eP* **P 12 10 51.6 +0.9**
NEGRR Negrea 33.28 299 ⇑P **P 12 10 52.0 +1.3**
FETY Fethiye 33.29 283 *eP* **P 12 10 50.4 -0.5**
VARL Varlezi 33.31 300 ⇓P **P 12 10 53.0 +2.0**
SCHLR Schela 33.31 299 ⇑P **P 12 10 52.4 +1.5**
ICOR Ion Corvin 33.35 297 ⇑P **P 12 10 53.5 +2.1**
SLCR Slobozia Conac 33.36 300 ⇓P **P 12 10 53.2 +1.8**
BAND Balkesir-Ban 33.42 290 ⇑P **P 12 10 53.4 +1.4**
TUDR 33.43 300 ⇑P **P 12 10 54.0 +2.0**
SUSR Susurluk-Balik 33.48 289 *eP* **P 12 10 53.4 +0.8**
MI30 MI30,Zelenitsa 33.50 309 P **P 12 10 52.3 -0.2**
comp=Z,12μmcomp=Z,1μm,1.2s
SRDT SRDT 33.55 124 P **P 12 10 54.9 +1.6**
GORD Gordes-Manisa 33.57 287 *eP* **P 12 10 54.5 +1.1**
DALY Dalyan (Mula) 33.59 284 *eP* **P 12 10 53.0 -0.4**
EDC Edincik 33.60 290 *eP* **P 12 10 54.7 +1.2**
CRLT Corlu 33.60 291 *eP* **P 12 10 54.9 +1.3**
GHRR 33.62 300 ⇓P **P 12 10 55.9 +2.3**
GHRR 33.62 300 P **P 12 10 55.3 +1.7**
NAZL Nazilli-Aydin 33.64 286 *eP* **P 12 10 54.7 +0.7**
LUBAR Lubar, Ukraine 33.66 307 P **P 12 10 54.0 +0.1**

AMRR	Amara	33.67	298	⇑P	P	12 10 55.9 +1.8
AMRR	Amara	33.67	298	P	P	12 10 55.9 +1.8
PRD	Provadia	33.68	295	eP	P	12 10 55.5 +1.4
COSR	Cosmesti PH	33.68	300	⇑P	P	12 10 56.3 +2.2
PHSR	Pinarhisar	33.71	292	eP	P	12 10 55.5 +1.0
ODEM	Odemis-Izmir	33.75	286	eP	P	12 10 55.9 +0.9
NEF	NEVSHA	33.77	295	eP	P	12 10 56.4 +1.4
NDNU	Novodnistrovsk	33.78	305	P	P	12 10 55.6 +0.7
PANC	Panciu	33.80	300	⇑P	P	12 10 57.4 +2.3
YER	Yerkesik	33.81	284	eP	P	12 10 55.1 -0.4
YER	Yerkesik	33.81	284	P	P	12 10 55.1 -0.4
LYN	LuoYang	33.85	81	⇑P	P	12 10 57.8 +2.1
LYN				pP	pP	12 11 45.0 +3.3
LYN				sP	sP	12 12 07.1 -0.2
LYN				PP	PP	12 12 17.0 -0.1
LYN				PcP	PcP	12 13 29.7 +0.4
LYN				S	S	12 16 02.5 -0.9
LYN				ScP	ScP	12 16 52.7 -0.3
LYN				sS	sS	12 17 23.5 -0.9
LYN				ScS	ScS	12 20 54.0 -1.3
LYN				pmax	pmax	
	comp=Z,500nm,1.1s					
LYN				pmax	pmax	
	comp=Z,690nm,3.7s					
ODBI	Odobesti	33.86	300	⇑P	P	12 10 58.1 +2.4
ODBI	Odobesti	33.86	300	P	P	12 10 58.4 +2.7
	comp=Z,2μmcomp=Z,306nm,0.8s					
CIT	Chita	33.87	49	eP	P	12 10 56.8 +1.0
CIT				e		12 11 43.9
CIT				e		12 12 01.7
CIT				e		12 12 14.7
CIT				e		12 13 29.7
CIT				e		12 16 06.7
CIT				pmax	pmax	
	comp=Z,740nm,1.4s					
TURN	Turunc	33.92	284	eP	P	12 10 56.2 -0.1
PGOR	Pogoanele	33.92	298	⇑P	P	12 10 58.7 +2.5
GRER		33.92	299	⇑P	P	12 10 58.4 +2.2
AYDB	Zeytinkoy-Aydi	33.96	286	eP	P	12 10 57.0 +0.2
LEHL	Lehliu	34.05	298	⇑P	P	12 10 59.3 +2.0
RKY	Sarkoy-Tekirda	34.08	291	eP	P	12 10 57.9 +0.2
VRI	Vrincioaia	34.09	300	eP	P	12 10 59.2 +1.5
VRI	Vrincioaia	34.09	300	⇓P	P	12 10 59.9 +2.2
VRI	Vrincioaia	34.09	300	P	P	12 10 59.9 +2.2
VRI	Vrincioaia	34.09	300	P	P	12 10 59.4 +1.7
	comp=Z,3μmcomp=Z,224nm,1.0s					
ARG	Arkhangelos	34.13	283	eP	P	12 10 58.7 +0.5
ARG	Arkhangelos	34.13	283	P	P	12 10 58.3 +0.1
PLOR	Plostina	34.15	300	⇑P	P	12 11 00.4 +2.1
PLOR	Plostina	34.15	300	P	P	12 11 00.3 +2.1
TESR	Tescani	34.15	301	⇑P	P	12 10 59.6 +1.3
MLSB	Milas	34.17	285	eP	P	12 10 58.8 +0.2
ISR	Istrita	34.23	299	⇓P	P	12 11 01.1 +2.1
ISR	Istrita	34.23	299	P	P	12 11 01.0 +2.1
NRIK	Noril'sk	34.26	11	P	P	12 11 00.4 +1.5
NRIK	Noril'sk	34.26	11	P	P	12 11 00.6 +1.8
	comp=Z,1μm,0.9s,baz=204,slow=5.8,SNR=1392					
NRIK				S	S	12 16 09.8 +0.8
	comp=Z,9.5nm,0.8s,baz=151,slow=12,SNR=1.4					
	comp=Z,1μm,0.9s					
NRIK	Noril'sk	34.26	11	ceP	P	12 11 00.3 +1.5
NRIK				pmax	pmax	
	comp=Z,2μm,1.0s					
CANM	Can-anakkale	34.26	290	eP	P	12 11 00.0 +0.8
EDRB	Edirne	34.27	293	eP	P	12 10 59.8 +0.5
EDRB	Edirne	34.27	293	P	P	12 10 59.4 +0.1
ONER	Baraj Valea Uz	34.33	301	⇑P	P	12 11 01.5 +1.7
JMB	Yambol	34.37	294	eP	P	12 11 01.4 +1.3
KMPD	K-Podol'skiy	34.37	305	P	P	12 10 59.7 -0.3
	comp=Z,1.1nmcomp=Z,139μm,0.9s					
NEHR	Nehoiu	34.40	299	⇑P	P	12 11 02.9 +2.5
MNK	Minsk	34.42	315	i P	P	12 11 00.8 +0.4
	comp=E,200nm,0.9s					
MNK				i P	P	12 11 00.8 +0.4
	comp=N,406nm,1.0s					
MNK				i P	P	12 11 00.8 +0.4
	comp=Z,591nm,0.8s,baz=104					
MNK				i pP	pP	12 11 44.8 -0.5
MNK				i PP	PP	12 12 23.6 +0.5
MNK				i S	S	12 16 13.3 +1.5
MNK				i sS	sS	12 17 33.3 +0.4
MNK				i SS	SS	12 18 51.3 +2.1
MNK				i LR	LR	12 25 38.0
MNK				i LRM	MLR	12 27 01.9
	comp=E,1μm,22.2s					
MNK				i LRM	MLR	12 27 17.0
	comp=Z,1μm,17.5s					
MNK				i LRM	MLR	12 27 17.7
	comp=N,1μm,17.5s					
MNK	Minsk	34.42	315	i P	P	12 11 00.7 +0.4
MNK				i *PP	pP	12 11 44.8 -0.5
MNK				i		12 12 23.5
MNK				i		12 13 30.1
MNK				i S	S	12 16 13.2 +1.5
MNK				i *SS	sS	12 17 33.2 +0.4
MNK				pmax	pmax	
	comp=Z,591nm,0.8s					
MNK				pmax	pmax	
	comp=N,406nm,1.0s					
MNK				pmax	pmax	
	comp=E,200nm,0.9s					
MNK				MLR	MLR	
	comp=E,1μm,22.0s					
MNK				MLR	MLR	
	comp=Z,1μm,18.0s					
MNK				MLR	MLR	
	comp=N,1μm,18.0s					
LPK	Lapseki	34.43	290	eP	P	12 11 01.8 +1.1
SULR		34.44	298	⇓P	P	12 11 02.0 +1.3
HORU	Horodok	34.45	306	P	P	12 11 01.7 +1.0
COVR	Voineasa-Covas	34.46	300	⇑P	P	12 11 02.9 +2.0
PRAR	RASCA	34.47	303	⇓P	P	12 11 02.1 +1.2
GCAM	G?zelcaml?	34.52	285	eP	P	12 11 02.2 +0.8
DKL	Dikili	34.52	288	eP	P	12 11 02.0 +0.6
BLCB	Balcova	34.53	287	eP	P	12 11 02.2 +0.6
ERIK	Erikli-Kesan	34.58	291	eP	P	12 11 00.4 +1.5
BODT	Bodrum	34.59	284	eP	P	12 11 02.2 +0.1
PLAR	PLOIESTI	34.60	298	⇑P	P	12 11 04.3 +2.3
MLR	Muntele Rosu	34.64	299	eP	P	12 11 04.8 +2.2
MLR	Muntele Rosu	34.64	299	⇑P	P	12 11 04.9 +2.3
MLR	Muntele Rosu	34.64	299	P	P	12 11 04.9 +2.3
MLR	Muntele Rosu	34.64	299	P	P	12 11 04.5 +1.9
	comp=N,8μmcomp=N,1μm,0.9s					
GELI	Tayfur-Gelibol	34.65	290	eP	P	12 11 03.9 +1.4
SGRR	Singureni	34.66	297	⇑P	P	12 11 04.4 +1.8
COMU	Canakkale	34.69	290	eP	P	12 11 04.5 +1.6
SZH	Strazhitsa	34.72	295	eP	P	12 11 04.5 +1.4
OZUR		34.75	300	⇑P	P	12 11 04.7 +1.3
ELND	Elena	34.82	295	⇑P	P	12 11 05.5 +1.5
SMG	Samos	34.82	286	P	P	12 11 05.1 +1.0
CAVK	Edirne/Enez-Ca	34.84	291	⇑P	P	12 11 05.7 +1.6
EZN	Ezine	34.84	289	eP	P	12 11 03.4 -0.7
EZN	Ezine	34.84	289	P	P	12 11 03.1 -1.1
EZN	Ezine	34.84	289	P	P	12 11 03.5 -0.7
EZN	Ezine	34.84	289	P	P	12 11 03.6 -0.6
	comp=N,6μmcomp=N,547nm,1.2s					
ENEZ	Enez	34.84	291	eP	P	12 11 05.1 +0.9
ENEZ	Enez	34.84	291	P	P	12 11 05.1 +0.9
PUL	Pulkovo	34.87	325	ceP	P	12 11 05.4 +1.3
PUL				pmax	pmax	
	comp=Z,1μm,0.6s					
ALN	Alexandroupoli	34.90	291	IAmb	IAmb	12 11 07.1
	comp=Z,315nm,1.2s					
ALN	Alexandroupoli	34.90	291	eP	P	12 11 05.1 +0.4
ALN	Alexandroupoli	34.90	291	P	P	12 11 05.2 +0.5
HNS	HongShan	34.94	75	⇑P	P	12 11 06.8 +1.8
HNS				PcP	PcP	12 13 32.9 +0.6
HNS				S	S	12 16 22.8 +2.7
HNS				ScP	ScP	12 16 57.0 +0.2
HNS				ScS	ScS	12 21 00.5 -0.5
HNS				pmax	pmax	
	comp=Z,130nm,1.0s					
PRK	Paraskevi	34.98	288	P	P	12 11 06.1 +0.8
RNPP5	Staryi Chortor	35.01	309	P	P	12 11 06.2 +0.8
RNPP2	Kostyukhnivka	35.02	310	P	P	12 11 06.3 +0.8
DOPR	Dopca	35.03	300	⇑P	P	12 11 07.5 +1.7
RNPP9	Sopachiv	35.03	310	P	P	12 11 06.4 +0.8
RNPP8	Varash	35.04	310	P	P	12 11 06.5 +0.8
BOZC	Bozcaada	35.05	289	eP	P	12 11 06.9 +1.0
NAYO	Nakonayok	35.07	121	P	P	12 11 08.1 +1.7
XLT	XiLinHaoTe	35.10	63	eP	P	12 11 07.8 +1.4
XLT				PcP	PcP	12 13 33.6 +0.8
XLT				S	S	12 16 24.9 +2.4
XLT				ScP	ScP	12 16 57.5 0.0
XLT				SS	SS	12 18 52.8 -12
XLT				pmax	pmax	
	comp=Z,55nm,1.4s					
RNPP1	Kostyukhnivka	35.10	310	P	P	12 11 07.0 +0.8
GADA	Gvkgeada	35.11	290	eP	P	12 11 07.7 +1.2
NACGM	Naroch	35.13	316	eP	P	12 11 06.8 +0.4
	comp=E,26μm,0.8s					
BURAR	Bucovina Array	35.16	303	⇑P	P	12 11 08.2 +1.2
BURAR	Bucovina Array	35.16	303	P	P	12 11 08.1 +1.2
BUR08	Bucovina Ar. S	35.17	303	P	P	12 11 07.9 +0.8
RDO	Rodhopi	35.25	292	P	P	12 11 08.1 +0.4
RDO				IAmb	IAmb	12 11 10.1
	comp=Z,186nm,1.1s					
RDO	Rodhopi	35.25	292	eP	P	12 11 08.4 +0.7
RDO	Rodhopi	35.25	292	P	P	12 11 08.3 +0.6
MTUR	Matau	35.27	299	⇓P	P	12 11 09.7 +1.7
MTUR	Matau	35.27	299	P	P	12 11 09.6 +1.7
VOIR		35.27	299	⇑P	P	12 11 09.3 +1.4
VOIR		35.27	299	P	P	12 11 09.3 +1.4
KSV	Kosov	35.29	304	P	P	12 11 06.8 -1.1
ATD	Arta Tunnel	35.30	233	P	P	12 11 10.4 +2.0
ATD	Arta Tunnel	35.30	233	P	P	12 11 10.7 +2.3
ATD				PcP	PcP	12 13 35.4 +1.6
ATD				ScP	ScP	12 16 59.6 +1.0
SIGR	SIGRI	35.30	288	eP	P	12 11 08.7 +0.6
SIGR	SIGRI	35.30	288	P	P	12 11 08.4 +0.3
SMTH	Samothraki Isl	35.35	291	P	P	12 11 09.1 +0.6
STFAR	Stefanesti-Arg	35.36	298	⇓P	P	12 11 11.0 +2.4
HUMR	Humele	35.36	298	⇑P	P	12 11 09.9 +1.4
IIGN	Ignalina	35.55	316	eP	P	12 11 13.1 +3.0
BOD	Bodaibo	35.56	39	eP	P	12 11 10.9 +0.9
BOD				pmax	pmax	
	comp=Z,285nm,1.8s					
GULI	GuiLin	35.56	97	P	P	12 11 11.4 +0.9
GULI				S	S	12 16 28.1 -1.7
GULI				pmax	pmax	
	comp=Z,200nm,1.2s					
GULI				LR	LR	
	comp=Z,620nm,20.4s					
GULI				LR	LR	
	comp=Z,700nm,16.7s					
GULI				LR	LR	
	comp=Z,930nm,16.4s					
ARR	Arges	35.57	299	⇑P	P	12 11 11.9 +1.4
BJT	Baijiatuau	35.59	70	P	P	12 11 11.7 +1.2
BJT	Baijiatuau	35.59	70	P	P	12 11 12.3 +1.8
BJT	Baijiatuau	35.59	70	P	P	12 11 11.7 +1.2
BJT				pmax	pmax	
	comp=Z,29nm,0.9s					
BJI	Beijing	35.59	70	P	P	12 11 12.0 +1.5
BJI				pP	pP	12 11 58.3 +1.8
BJI				sP	sP	12 12 23.5 +1.5
BJI				pmax	pmax	
	comp=Z,19nm,0.9s					
TGMR	Targu Mures	35.62	301	⇑P	P	12 11 12.7 +1.9
STNU	Starunia	35.68	305	P	P	12 11 12.3 +1.1
LIA	Limnos Island	35.70	290	eP	P	12 11 12.2 +0.7
LIA	Limnos Island	35.70	290	P	P	12 11 11.9 +0.4
PLD	Plovdiv	35.72	294	eP	P	12 11 12.6 +1.0
PLD	Plovdiv	35.72	294	eP	P	12 11 12.9 +1.3
MDB	Medias	35.73	300	⇑P	P	12 11 13.9 +2.2
MDB	Medias	35.73	300	P	P	12 11 13.8 +2.2
ARCR	ARCALIA	35.74	302	⇑P	P	12 11 14.1 +2.3
RZN	Rozhen	35.78	293	eP	P	12 11 13.7 +1.3
KAAM	Kaadhehdhoo	35.79	176	P	P	12 11 13.5 +1.0
KAAM	Kaadhehdhoo	35.79	176	P	P	12 11 14.8 +2.3
	SNR=5.8					
JOF	Joensuu	35.85	330	eP	P	12 11 13.1 +0.7
RAKU	Rahkiv	35.88	304	P	P	12 11 13.6 +0.7
ZKR	Zakros	35.91	281	eP	P	12 11 14.2 +0.8
ZKR	Zakros	35.91	281	P	P	12 11 14.1 +0.7
THAS	Thassos island	35.94	291	P	P	12 11 14.0 +0.5
APE	Apeiranthos	35.97	285	eP	P	12 11 14.5 +0.6
APE	Apeiranthos	35.97	285	P	P	12 11 14.8 +0.9
APE	Apeiranthos	35.97	285	⇑P	P	12 11 15.0 +1.0
APE	Apeiranthos	35.97	285	P	P	12 11 14.9 +1.0
KAVA	Kavala	36.04	292	P	P	12 11 14.7 +0.3
LVV	L'vov	36.05	307	P	P	12 11 15.0 +0.7
PGB	Panagyurishte	36.10	294	eP	P	12 11 16.5 +1.6
CMBY	CAMPBELL BAY	36.12	138	eP	P	12 11 15.7 +0.4
VSU	Vasula	36.13	322	ceP	P	12 11 14.4 -0.4
VSU				pmax	pmax	
	comp=Z,1μm,1.3s					
VSU	Vasula	36.13	322	eP	P	12 11 14.1 -0.8
THR8	Santorini-Mono	36.17	284	P	P	12 11 15.6 +0.1
LOT	Lotru	36.17	299	eP	P	12 11 16.6 +1.0
LOT	Lotru	36.17	299	⇓P	P	12 11 16.3 +0.7
THR2	Thira island,	36.19	284	P	P	12 11 16.0 +0.3
CMBO	Columbo, Santo	36.21	284	P	P	12 11 15.9 0.0
THR3	Thira Island,	36.23	284	P	P	12 11 16.0 0.0
THR6	Thira Island,	36.24	284	P	P	12 11 15.9 -0.2
CJR	Cluj-Napoca	36.26	301	⇑P	P	12 11 18.4 +2.1
CJR	Cluj-Napoca	36.26	301	P	P	12 11 18.3 +2.1
THR5	Thira Island,	36.27	284	P	P	12 11 14.9 -1.5
THR9	Santorini-Faro	36.27	284	P	P	12 11 16.6 +0.2
CBBR	Cluj-Babes-Bol	36.29	302	⇓P	P	12 11 18.6 +2.2
BMR	Baia Mare	36.32	303	⇑P	P	12 11 18.6 +1.9
BMR	Baia Mare	36.32	303	P	P	12 11 18.5 +1.9
MPEP	Malo Peshtene	36.34	296	eP	P	12 11 18.6 +1.7
CNSH	ChangSha	36.37	91	P	P	12 11 18.0 +0.7
CNSH				pmax	pmax	
	comp=Z,250nm,1.1s					
KOKK	Kokkinochori,	36.45	292	P	P	12 11 18.7 +0.8
NVR	Nevrokopi	36.48	292	P	P	12 11 19.8 +1.7
VALD	Valchedram	36.53	296	eP	P	12 11 20.1 +1.7
MMB	Musomishta	36.53	293	eP	P	12 11 19.6 +1.0
OUR	Ouranopolis	36.54	291	eP	P	12 11 19.5 +0.9
OUR	Ouranopolis	36.54	291	P	P	12 11 19.4 +0.9
KORU	Korolevo	36.57	304	P	P	12 11 19.9 +1.1
MARR	Marisel-Cluj	36.59	301	⇑P	P	12 11 20.9 +1.8
WHN	Wuhan	36.61	86	⇑P	P	12 11 20.8 +1.5
WHN				PcP	PcP	12 13 37.8 +0.3
WHN				S	S	12 16 48.0 +2.4
WHN				ScP	ScP	12 17 01.9 -1.2
WHN				PcS	PcS	12 17 24.0 -1.7
WHN				ScS	ScS	12 21 07.7 -2.8
WHN				pmax	pmax	
	comp=Z,970nm,1.3s					
KARY	Karystos	36.62	287	P	P	12 11 20.5 +1.2
SRE	Strehaia	36.62	298	⇑P	P	12 11 20.7 +1.5
SRE	Strehaia	36.62	298	P	P	12 11 20.7 +1.5
BRIU	Brid	36.65	304	P	P	12 11 20.5 +1.1
PLNA	Plana	36.66	294	eP	P	12 11 21.4 +1.7
MESR	Meseseni	36.70	302	⇓P	P	12 11 22.2 +2.4
SRS	Serrai	36.71	292	eP	P	12 11 19.1 -1.0
SRS	Serrai	36.71	292	P	P	12 11 20.6 +0.5
KYMI	Kymi, Euboea I	36.75	288	P	P	12 11 20.9 +0.5
DEV	Deva	36.76	300	⇑P	P	12 11 22.5 +2.0
DEV	Deva	36.76	300	P	P	12 11 22.4 +2.0
IACM	Heraklion	36.77	282	P	P	12 11 20.5 -0.1
VTS	Vitosha	36.78	295	eP	P	12 11 22.4 +1.6
ARBE	Arbavere	36.80	323	eP	P	12 11 21.1 +0.6
AOS	Alonnisos	36.82	289	P	P	12 11 21.7 +0.7
PAIG	Paliouri	36.83	290	eP	P	12 11 22.1 +1.0
PAIG	Paliouri	36.83	290	P	P	12 11 22.0 +1.0
PUNG	Punghina	36.84	297	⇓P	P	12 11 22.6 +1.5
PABE	Paberze	36.84	316	P	P	12 11 22.0 +1.1
PABE	Paberze	36.84	316	eP	P	12 11 21.3 +0.5
DRGR		36.87	302	eP	P	12 11 22.7 +1.3
DRGR		36.87	302	⇑P	P	12 11 23.2 +1.8
DRGR		36.87	302	P	P	12 11 23.1 +1.8
GZR	Gura Zlata	36.88	299	⇑P	P	12 11 22.3 +0.8
GZR	Gura Zlata	36.88	299	P	P	12 11 22.2 +0.8
MUKU	Mukachevo	36.88	304	P	P	12 11 22.4 +1.1
KWP	Kalwaria Pacla	36.90	306	P	P	12 11 22.6 +1.1
	comp=Z,2.3nmcomp=Z,43μm,0.6s					
BERU	Beregovo	36.90	304	P	P	12 11 23.2 +1.7
IDI	Anoyia	36.91	282	P	P	12 11 21.7 -0.3
IDI				IAmb	IAmb	12 11 23.8
	comp=Z,258nm,0.7s					
IDI	Anoyia	36.91	282	eP	P	12 11 21.8 -0.1
IDI	Anoyia	36.91	282	P	P	12 11 21.6 -0.3
IDI	Anoyia	36.91	282	P	P	12 11 21.6 -0.3
IDI	Anoyia	36.91	282	P3KPbc		12 41 45.2
	comp=Z,8.7nm,0.9s,baz=260,slow=6.1,SNR=4.6					
SOH	Sokhos	36.93	292	P	P	12 11 22.4 +0.4
PLG	Polygyros	36.94	291	P	P	12 11 22.9 +0.9
KKB	Krupnik	36.95	293	eP	P	12 11 23.2 +1.1
VSVD	Vaisvydziai	36.96	317	eP	P	12 11 22.8 +0.9
DION	Dionisos Attik	36.99	287	P	P	12 11 23.0 +0.5
SUW	Suwalki	37.03	314	eP	P	12 11 22.7 +0.2
SUW	Suwalki	37.03	314	P	P	12 11 22.9 +0.4
SUW	Suwalki	37.03	314	P	P	12 11 22.9 +0.4
SUW				pmax	pmax	
	comp=Z,716nm,1.0s					
SUW	Suwalki	37.03	314	eP	P	12 11 22.8 +0.2
PTL	Penteli	37.05	287	P	P	12 11 23.5 +0.5
HOLU	Holmets	37.08	305	P	P	12 11 24.5 +1.5
TIA	Tai'an	37.10	76	P	P	12 11 24.9 +1.5
TIA				PP	PnPn	12 12 59.2 +3.1
TIA				PcP	PcP	12 13 39.4 +0.5
TIA				S	S	12 16 56.5 +3.5
TIA				ScP	ScP	12 17 03.9 -1.0
TIA				pmax	pmax	
	comp=Z,180nm,1.1s					
TIA				pmax	pmax	
	comp=Z,830nm,3.5s					
DJES	Djerdap	37.10	298	⇓P	P	12 11 23.8 +0.5
PEHC	Pehcevo	37.13	293	i P	P	12 11 24.1 +0.4
UZHM	Uzhgorod	37.14	305	P	P	12 11 24.1 +0.6
VLY	Voula,Athens	37.15	287	P	P	12 11 24.2 +0.4
KOLS	Kolonicke sedl	37.16	305	eP	P	12 11 25.0 +1.3
KOLS				pmax	pmax	
	comp=Z,294nm,0.7s					
KOLS	Kolonicke sedl	37.16	305	eP	P	12 11 25.0 +1.3
KOLS				ePP	PnPn	12 12 56.3 -0.3
HORT	Hortiatis	37.16	291	eP	P	12 11 24.6 +0.7
HORT	Hortiatis	37.16	291	P	P	12 11 24.4 +0.5
HERR	Herculane	37.16	298	⇓P	P	12 11 24.4 +0.6
ATH	Athens Observa	37.18	287	P	P	12 11 24.8 +0.8
THE	Thessaloniki	37.26	291	P	P	12 11 24.6 0.0
NEO	Neokhori	37.29	289	P	P	12 11 25.5 +0.5
XOR	Xorichti	37.30	289	eP	P	12 11 25.8 +0.7
XOR	Xorichti	37.30	289	P	P	12 11 25.1 0.0
SURR	Surduc	37.31	300	⇑P	P	12 11 27.0 +1.9
UBPT	Khong Chiam	37.38	115	P	P	12 11 27.8 +1.9
VAY	Valandovo	37.44	293	i P	P	12 11 26.6 +0.4
FIA1	FINESS Array S	37.44	326	P	P	12 11 26.8 +0.9
FINES	FINESS Array B	37.45	326	P	P	12 11 26.6 +0.7
	comp=Z,234nm,0.5s,baz=111,slow=8.9,SNR=1459					
	comp=Z,234nm,0.5s					
VILL	Villia	37.45	287	P	P	12 11 26.5 +0.1
LVZ	Lovozero	37.47	339	P	P	12 11 26.8 +0.7
LVZ	Lovozero	37.47	339	ceP	P	12 11 27.0 +0.9
LVZ				pmax	pmax	
	comp=Z,1μm,1.3s					
LVZ	Lovozero	37.47	339	P	P	12 11 27.1 +0.9
	comp=Z,9μmcomp=Z,1μm,1.2s					
LVZ	Lovozero	37.47	339	P	P	12 11 26.9 +0.7
LVZ				PcP	PcP	12 13 42.3 +2.8
BORR	Bors	37.49	302	⇑P	P	12 11 28.5 +2.0
HIA	Hailar	37.52	54	P	P	12 11 27.7 +0.9
HIA	Hailar	37.52	54	P	P	12 11 28.5 +1.7
HIA	Hailar	37.52	54	P	P	12 11 27.7 +0.9
HIA				pmax	pmax	
	comp=Z,61nm,1.0s					
HIA	Hailar	37.52	54	P	P	12 11 28.1 +1.3
HIA				PcP	PcP	12 13 40.8 +0.8
IMMV	Iera Moni Meta	37.58	283	eP	P	12 11 27.4 0.0
IMMV	Iera Moni Meta	37.58	283	P	P	12 11 27.6 +0.2
SIRR	Siria	37.61	301	⇑P	P	12 11 29.5 +1.9
GRG	Griva	37.63	292	eP	P	12 11 28.2 +0.4
GRG	Griva	37.63	292	P	P	12 11 27.9 +0.1
APA	Apatity	37.64	338	⇓i P	P	12 11 27.1 -0.4
APA				i *PP	pP	12 12 11.2 -2.0
APA				i		12 12 57.4
APA				i S	S	12 17 03.0 +2.6
APA				i SS	SS	12 19 53.0 -2.1
APA				pmax	pmax	
	comp=Z,280nm,1.1s					
APA				MLR	MLR	
	comp=Z,1μm,11.0s					
MTSE	Matsula	37.66	321	eP	P	12 11 27.8 0.0
MDVR	Moldovita	37.67	298	⇑P	P	12 11 29.4 +1.3
GVD	Gavdhos	37.67	282	eP	P	12 11 28.2 0.0
GVD	Gavdhos	37.67	282	P	P	12 11 28.2 0.0
BZS	Buzias	37.68	300	eP	P	12 11 29.4 +1.3
BZS	Buzias	37.68	300	⇑P	P	12 11 29.7 +1.6
BZS	Buzias	37.68	300	P	P	12 11 29.7 +1.6
LIT	Litokhoron	37.70	291	P	P	12 11 28.7 +0.3
LIT				IAmb	IAmb	12 11 30.0
	comp=Z,230nm,1.0s					
LIT	Litokhoron	37.70	291	i P	P	12 11 28.8 +0.4
LIT	Litokhoron	37.70	291	P	P	12 11 27.9 -0.5
LIT	Litokhoron	37.70	291	P	P	12 11 28.7 +0.3
LIT				pmax	pmax	
	comp=Z,230nm,1.0s					
KRND	KRANIDI	37.75	286	P	P	12 11 26.9 -1.9
BOVS	Bovan	37.78	297	⇑P	P	12 11 29.9 +0.9
MEF	Metsahovi	37.81	324	eP	P	12 11 28.2 -0.8
AXAR	Agios Charalam	37.83	288	P	P	12 11 29.8 +0.3
STHS	Stebnicka Huta	37.84	306	eP	P	12 11 29.2 -0.3
STHS				pmax	pmax	
	comp=Z,137nm,0.7s					
STHS	Stebnicka Huta	37.84	306	eP	P	12 11 29.2 -0.3
STHS				ePP	PnPn	12 13 05.8 +1.1
R9F13	Warsaw-Wawer	38.04	311	eP	P	12 11 31.9 +0.9
	comp=Z,18nm,0.4s					
R9F13				ePP	PP	12 13 01.1 -1.6
R9F13				eS	S	12 17 06.8 +0.1
R9F13				e		12 19 35.2
R9F13				eSS	SS	12 19 55.2 -8.3
PBUR	Paburge	38.07	317	eP	P	12 11 31.9 +0.7
VLI	Veliai	38.08	285	P	P	12 11 30.1 -1.5
BSI	Banda Aceh	38.13	138	P	P	12 11 29.6 -2.6
	comp=Z,2μmcomp=Z,186nm,1.2s					
SRIT	Nakonsritamara	38.15	129	IAmb	IAmb	12 11 34.6
	comp=Z,131nm,0.8s					
SRIT	Nakonsritamara	38.15	129	P	P	12 11 33.9 +1.6
THL	Klokotos Trika	38.16	290	P	P	12 11 32.0 -0.2
MAKR	Makrakomi, Fth

GZH	**Guangzhou**	**39.00 98**	P	**P**	**12 11 38.7**	**-0.6**
GZH			sP	**sP**	**12 12 50.4**	**-1.2**
GZH			S	**S**	**12 17 21.3**	**-0.4**
GZH			pmax	pmax		
	comp=Z,210nm,0.9s					
JAN	**Janina**	**39.02 290**	P	**P**	**12 11 40.0**	**+0.6**
SJES	**Sjenica**	**39.08 296⇑**	*iP*	**P**	**12 11 41.1**	**+1.2**
LSK	**Leskovik**	**39.12 291**	P	**P**	**12 11 40.7**	**+0.4**
IVA	**Berane**	**39.19 296⇑**	*iP*	**P**	**12 11 42.1**	**+1.3**
TEKS	**Tekeris**	**39.24 298⇑**	*iP*	**P**	**12 11 42.1**	**+0.9**
LHMI	**Lhok Sumawe**	**39.26 136**	P	**P**	**12 11 42.1**	**+0.6**
LHMI			IAmb	IAmb	12 11 44.2	
	comp=Z,178nm,0.5s					
LHMI	**Lhok Sumawe**	**39.26 136**	P	**P**	**12 11 42.4**	**+0.9**
LHMI	**Lhok Sumawe**	**39.26 136**	P	**P**	**12 11 43.6**	**+2.1**
	comp=Z,3µmcomp=Z,248nm,0.7s					
RAF	**Rauma**	**39.29 325**	*eP*	**P**	**12 11 41.4**	**+0.2**
PUK	**Puka**	**39.31 294**	IAmb	IAmb	12 11 43.0	
	comp=Z,233nm,1.1s					
NYDR	**Nydri-Lefkada**	**39.34 289**	P	**P**	**12 11 41.1**	**-0.9**
TSLK	**Tsoukalades, L**	**39.35 289**	P	**P**	**12 11 39.4**	**-2.7**
LKD2	**Lefkada island**	**39.35 289**	*eP*	**P**	**12 11 41.9**	**-0.3**
LKD2	**Lefkada island**	**39.35 289**	P	**P**	**12 11 41.6**	**-0.6**
EVGI	**Lefkada island**	**39.39 289**	P	**P**	**12 11 41.8**	**-0.6**
BBLS	**Lazią**	**39.41 297⇑**	*iP*	**P**	**12 11 43.6**	**+1.0**
RTZL	**Ratzakli, Kefa**	**39.43 288**	P	**P**	**12 11 41.9**	**-0.8**
VYHS	**Vyhne**	**39.44 305**	*eP*	**P**	**12 11 44.0**	**+1.3**
VYHS			pmax	pmax		
	comp=Z,172nm,1.5s					
VYHS	**Vyhne**	**39.44 305**	*eP*	**P**	**12 11 44.0**	**+1.3**
VYHS			*e*PP	**PP**	**12 13 19.4**	**+1.5**
DRAG	**Dragano-Lefkad**	**39.44 289**	P	**P**	**12 11 42.1**	**-0.8**
IGT	**Igoumenitsa**	**39.44 290**	P	**P**	**12 11 42.1**	**-0.8**
TIR	**Tirane**	**39.45 293**	IAmb	IAmb	12 11 49.0	
	comp=Z,242nm,1.4s					
TIR	**Tirane**	**39.45 293⇑**	P	**P**	**12 11 43.2**	**+0.3**
TIR	**Tirane**	**39.45 293**	P	**P**	**12 11 43.1**	**+0.3**
TIR	**Tirane**	**39.45 293**	P	**P**	**12 11 43.6**	**+0.7**
	comp=Z,148nm,0.9s					
LTHK	**Lithakia**	**39.46 287**	P	**P**	**12 11 41.8**	**-1.2**
RUDO	**Rudo**	**39.47 297⇑**	*iP*	**P**	**12 11 43.4**	**+0.4**
PLE	**Pljevlja**	**39.49 296⇑**	*iP*	**P**	**12 11 43.5**	**+0.1**
VAF	**Ylistaro**	**39.50 328**	*eP*	**P**	**12 11 43.5**	**+0.6**
FSK	**Fiskardo**	**39.50 289**	P	**P**	**12 11 41.4**	**-1.9**
VLS	**Valsamata**	**39.54 288**	P	**P**	**12 11 42.6**	**-1.1**
PSDA	**Pessada-Kefalo**	**39.56 288**	P	**P**	**12 11 42.5**	**-1.3**
SRN	**Sarande**	**39.62 291**	P	**P**	**12 11 43.7**	**-0.6**
DMLN	**Damoulianata-K**	**39.70 288**	P	**P**	**12 11 43.6**	**-1.4**
NJ2	**Nanjing**	**39.70 82⇑**	*iP*	**P**	**12 11 46.3**	**+1.3**
NJ2			sP	**sP**	**12 12 56.9**	**-0.5**
NJ2			PcP	**PcP**	**12 13 47.3**	**+0.2**
NJ2			ScP	**ScP**	**12 17 13.4**	**-1.5**
NJ2			S	**S**	**12 17 35.0**	**+3.1**
NJ2			sS	**sS**	**12 18 58.6**	**+4.1**
NJ2			ScS	**ScS**	**12 21 25.7**	**-2.6**
NJ2			pmax	pmax		
	comp=Z,130nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,310nm,3.6s					
MORH	**Mrgy, Hungar**	**39.70 301⇑**	P	**P**	**12 11 46.0**	**+1.2**
MORH	**Mrgy, Hungar**	**39.70 301**	P	**P**	**12 11 45.9**	**+1.0**
	comp=Z,2µmcomp=Z,126nm,1.6s					
PDG	**Podgorica**	**39.72 295**	P	**P**	**12 11 45.0**	**-0.1**
PDG	**Podgorica**	**39.72 295**	*eP*	**P**	**12 11 44.3**	**-0.8**
PDG	**Podgorica**	**39.72 295⇑**	*iP*	**P**	**12 11 44.7**	**-0.4**
PDG	**Podgorica**	**39.72 295⇓**	P	**P**	**12 11 45.7**	**+0.7**
PDG	**Podgorica**	**39.72 295⇑**	*iP*	**P**	**12 11 44.3**	**-0.8**
MLSI	**Meulaboh, Aceh**	**39.75 138**	P	**P**	**12 11 44.4**	**-1.2**
	comp=Z,5µmcomp=Z,459nm,0.9s					
ULC	**Ulcinj**	**39.80 294⇑**	*iP*	**P**	**12 11 45.2**	**-0.6**
KEK	**Kerkira**	**39.81 291**	IAmb	IAmb	12 11 47.0	
	comp=Z,251nm,1.4s					
KEK	**Kerkira**	**39.81 291**	*eP*	**P**	**12 11 45.7**	**-0.2**
SRO	**Srobarova**	**39.82 303**	*eP*	**P**	**12 11 47.6**	**+1.8**
SRO			pmax	pmax		
	comp=Z,471nm,0.9s					
SRO	**Srobarova**	**39.82 303**	*eP*	**P**	**12 11 47.6**	**+1.8**
SRO			*e*PP	**PP**	**12 13 24.3**	**+2.3**
OKC	**Ostrava-Krasne**	**39.86 307**	*eP*	**P**	**12 11 47.5**	**+1.4**
OKC	**Ostrava-Krasne**	**39.86 307**	*eP*	**P**	**12 11 47.5**	**+1.4**
UPM	**Unac-Piva**	**39.86 296⇑**	*iP*	**P**	**12 11 47.2**	**+0.7**
UPM	**Unac-Piva**	**39.86 296⇑**	*iP*	**P**	**12 11 46.4**	**-0.1**
NKME	**Niksic**	**39.89 296⇑**	*iP*	**P**	**12 11 46.8**	**+0.3**
DL2	**Dalian**	**39.95 71**	P	**P**	**12 11 48.5**	**+1.5**
DL2			pP	**pP**	**12 12 29.8**	**-4.4**
DL2			S	**S**	**12 17 38.0**	**+2.5**
DL2			pmax	pmax		
	comp=Z,120nm,0.6s					
DL2			pmax	pmax		
	comp=Z,930nm,3.8s					
CEME	**Cevo**	**39.95 295⇑**	*iP*	**P**	**12 11 47.2**	**+0.1**
BUM	**Brajici-Budva**	**40.01 295⇑**	*iP*	**P**	**12 11 47.7**	**+0.2**
HKPS	**Hong Kong Po S**	**40.04 98**	P	**P**	**12 11 49.1**	**+1.2**
HKPS			IAmb	IAmb	12 11 51.0	
	comp=Z,312nm,1.1s					
HKPS	**Hong Kong Po S**	**40.04 98**	P	**P**	**12 11 49.7**	**+1.8**
STEB	**Steborice**	**40.10 307**	*eP*	**P**	**12 11 49.4**	**+1.3**
STEB			*e*PP	**PP**	**12 13 26.4**	**+1.4**
BRY	**Bratogost**	**40.17 296⇑**	*iP*	**P**	**12 11 49.4**	**+0.4**
BRY	**Bratogost**	**40.17 296⇑**	*iP*	**P**	**12 11 49.1**	**+0.1**
JAVC	**Velka Javorina**	**40.20 305**	*eP*	**P**	**12 11 50.9**	**+1.9**
MORC	**Moravsky Berou**	**40.25 307**	P	**P**	**12 11 50.6**	**+1.2**
MORC			IAmb	IAmb	12 11 51.8	
	comp=Z,211nm,0.7s					
MORC	**Moravsky Berou**	**40.25 307**	*eP*	**P**	**12 11 50.6**	**+1.2**
MORC			*e*PP	**PP**	**12 13 27.7**	**+1.0**
MORC	**Moravsky Berou**	**40.25 307**	⇑P	**P**	**12 11 50.8**	**+1.4**
MORC	**Moravsky Berou**	**40.25 307**	P	**P**	**12 11 50.6**	**+1.2**
MORC			pmax	pmax		
	comp=Z,211nm,0.7s					
HCY	**Herceg Novi**	**40.27 295⇑**	*iP*	**P**	**12 11 48.9**	**-0.8**
VADS	**Vadso**	**40.33 340⇑**	*iP*	**P**	**12 11 50.6**	**+0.9**
VADS			IAmb	IAmb	12 11 51.9	
	comp=Z,610nm,0.8s					
VADS			*e*S	**S**	**12 17 40.0**	**-0.4**
VADS			*e*SS	**SS**	**12 20 49.6**	**+1.5**
SMOL	**Smolenice**	**40.37 305**	*eP*	**P**	**12 11 51.7**	**+1.3**
SMOL			pmax	pmax		
	comp=Z,63nm,0.7s					
GKP	**Gorka Klasztor**	**40.48 312**	*eP*	**P**	**12 11 51.6**	**+0.5**
GKP	**Gorka Klasztor**	**40.48 312**	*eP*	**P**	**12 11 51.6**	**+0.5**
MODS	**Modra-Piesok**	**40.48 304**	*eP*	**P**	**12 11 52.6**	**+1.3**
MODS			pmax	pmax		
	comp=Z,266nm,1.1s					
MODS	**Modra-Piesok**	**40.48 304**	*eP*	**P**	**12 11 52.6**	**+1.3**
MODS			*e*PP	**PP**	**12 13 30.0**	**+0.8**
KRLC	**Kraliky**	**40.73 307**	*eP*	**P**	**12 11 54.6**	**+1.2**
KRLC	**Kraliky**	**40.73 307**	*eP*	**P**	**12 11 54.6**	**+1.2**
STON	**Ston**	**40.78 296⇑**	*iP*	**P**	**12 11 53.5**	**-0.3**
KEV	**Kevo**	**40.81 338**	P	**P**	**12 11 54.4**	**+0.8**
KEV			IAmb	IAmb	12 11 55.9	
	comp=Z,486nm,0.8s					
KEV	**Kevo**	**40.81 338**	P	**P**	**12 11 54.4**	**+0.8**
KEV			pmax	pmax		
	comp=Z,486nm,0.8s					
KEV	**Kevo**	**40.81 338**	P	**P**	**12 11 54.6**	**+1.0**
KEV			pP	**pP**	**12 12 41.0**	**+0.8**
SNY	**Shenyang**	**40.82 66**	⇑P	**P**	**12 11 54.6**	**+0.5**
SNY			pmax	pmax		
	comp=Z,35nm,0.8s					
BLY	**Banja Luka**	**40.88 299⇑**	*iP*	**P**	**12 11 55.6**	**+1.0**
VRAC	**Vranov**	**40.88 306**	P	**P**	**12 11 56.0**	**+1.4**
	comp=Z,189nm,0.7s,baz=94,slow=8.4,SNR=247					
VRAC			PP	**PP**	**12 13 33.8**	**+0.4**
	comp=Z,32nm,0.9s,baz=84,slow=11,SNR=5.2					
	comp=Z,189nm,0.7s					
VRAC	**Vranov**	**40.88 306**	*eP*	**P**	**12 11 55.9**	**+1.4**
VRAC			*e*PP	**PP**	**12 13 32.2**	**-1.3**
VRAC	**Vranov**	**40.88 306**	⇑P	**P**	**12 11 56.2**	**+1.6**
VRAC	**Vranov**	**40.88 306**	P	**P**	**12 11 56.0**	**+1.4**
DPC	**Dobruska-Polom**	**41.02 307**	*eP*	**P**	**12 11 57.3**	**+1.6**
DPC	**Dobruska-Polom**	**41.02 307**	*eP*	**P**	**12 11 57.3**	**+1.6**
DPC	**Dobruska-Polom**	**41.02 307**	P	**P**	**12 11 57.0**	**+1.3**
	comp=Z,3µmcomp=Z,358nm,0.8s					
KRUC	**Moravsky**	**41.03 305**	*eP*	**P**	**12 11 56.8**	**+1.1**
KRUC			*e*PP	**PP**	**12 13 33.2**	**-1.8**
KSP	**Ksiaz**	**41.03 308**	*eP*	**P**	**12 11 56.4**	**+0.7**
KSP	**Ksiaz**	**41.03 308**	P	**P**	**12 11 56.5**	**+0.8**
	comp=Z,2µmcomp=Z,156nm,0.8s					
A051A	**Mrakovica**	**41.04 299⇑**	*iP*	**P**	**12 11 56.3**	**+0.3**
OSTC	**Ostas**	**41.08 308**	*eP*	**P**	**12 11 57.5**	**+1.3**
OSTC	**Ostas**	**41.08 308**	*eP*	**P**	**12 11 57.5**	**+1.3**
KCSI	**Kotacane, Aceh**	**41.12 136**	P	**P**	**12 11 56.1**	**-0.7**
	comp=Z,4µmcomp=Z,190nm,0.8s					
ARA0	**ARCESS Array S**	**41.15 338⇑**	*iP*	**P**	**12 11 57.7**	**+1.2**
ARA0			*e*SS	SS	12 21 07.7	+3.4
ARCES	**ARCESS Array B**	**41.15 338**	P	**P**	**12 11 57.5**	**+1.1**
	comp=Z,527nm,0.8s,baz=110,slow=6.7,SNR=531					
ARCES			PP	**PP**	**12 13 35.8**	**-0.2**
	comp=Z,154nm,0.9s,baz=122,slow=9.0,SNR=7.0					
	comp=Z,527nm,0.8s					
RONA	**Rosalia, Austr**	**41.18 303**	*iP*	**P**	**12 11 58.0**	**+1.0**
	comp=Z,75nm,0.6s,SNR=37					
RONA			*i*PP	**PP**	**12 13 37.4**	**+0.7**
	comp=Z,44nm,1.3s					
CHVC	**Chvalec**	**41.19 308**	*eP*	**P**	**12 11 58.4**	**+1.4**
CHVC	**Chvalec**	**41.19 308**	*eP*	**P**	**12 11 58.4**	**+1.4**
UPC	**Upice**	**41.22 308**	*eP*	**P**	**12 11 58.7**	**+1.5**
UPC	**Upice**	**41.22 308**	*eP*	**P**	**12 11 58.7**	**+1.5**
SNSI	**Sinabang, Aceh**	**41.27 139**	P	**P**	**12 11 58.7**	**+0.7**
KULM	**Kulim**	**41.37 131**	P	**P**	**12 11 59.9**	**+1.0**
KULM	**Kulim**	**41.37 131**	P	**P**	**12 11 59.8**	**+1.0**
A050A	**Klekovaca**	**41.38 299⇑**	*iP*	**P**	**12 11 59.1**	**+0.4**
CONA	**Conrad Observa**	**41.46 304**	*iP*	**P**	**12 12 00.5**	**+1.2**
	comp=Z,179nm,0.8s,SNR=99					
CONA			*i*PP	**PP**	**12 13 39.0**	**-0.7**
	comp=Z,15nm,0.9s					
CONA			*i*PKiKP	**PKiKP**	**12 20 58.8**	**-0.3**
	comp=Z,10nm,1.5s					
BLEU	**Blekinge**	**41.50 316**	*iP*	**P**	**12 11 58.4**	**-0.9**
TSI	**Tuntungan**	**41.58 135**	P	**P**	**12 11 59.6**	**-1.0**
	comp=Z,204nm,0.8s					
TREC	**Trest**	**41.61 306**	*eP*	**P**	**12 11 59.3**	**-1.1**
TREC	**Trest**	**41.61 306**	*eP*	**P**	**12 11 59.3**	**-1.1**
KTK1	**Kautokeino**	**41.62 336⇑**	*iP*	**P**	**12 12 00.9**	**+0.7**
KTK1			IAmb	IAmb	12 12 01.9	
	comp=Z,506nm,0.9s					
KTK1			*e*S	**S**	**12 18 01.3**	**+1.8**
KTK1			*e*SS	**SS**	**12 21 17.1**	**+3.7**
ARSA	**Arzberg**	**41.74 303**	P	**P**	**12 12 01.9**	**+0.3**
ARSA	**Arzberg**	**41.74 303**	*iP*	**P**	**12 12 02.3**	**+0.8**
	comp=Z,41nm,0.9s,SNR=17					
ARSA			*i*PP	**PP**	**12 13 42.3**	**-0.4**
	comp=Z,31nm,0.8s					
DLV	**Lat**	**41.77 116**	P	**P**	**12 12 05.7**	**+3.3**
CN2	**Changchun**	**41.84 62**	*eP*	**P**	**12 12 02.7**	**+0.4**
CN2			*e*S	**S**	**12 18 01.1**	**-2.2**
SSE	**Sheshan**	**41.90 82**	P	**P**	**12 12 04.3**	**+1.3**
SSE			PcP	**PcP**	**12 13 53.7**	**-0.6**
BSD	**Bornholm Skovb**	**41.93 315**	*eP*	**P**	**12 12 02.3**	**-0.5**
BSD	**Bornholm Skovb**	**41.93 315**	*iP*	**P**	**12 12 02.0**	**-0.9**
BSD			IAmb	IAmb	12 12 03.2	
	comp=Z,276nm,0.9s					
MATE	**Matera**	**41.93 293**	⇑P	**P**	**12 12 03.3**	**+0.2**
CRES	**Cresnjevec Ost**	**41.95 301⇑**	*iP*	**P**	**12 12 04.1**	**+0.8**
GOPC	**GO Pecny, Ondr**	**42.03 307**	*eP*	**P**	**12 12 05.2**	**+1.4**
GOPC	**GO Pecny, Ondr**	**42.03 307**	*eP*	**P**	**12 12 05.2**	**+1.4**
PVCC	**Panska Ves**	**42.13 308**	*eP*	**P**	**12 12 06.0**	**+1.4**
PVCC	**Panska Ves**	**42.13 308**	*eP*	**P**	**12 12 06.0**	**+1.4**
SOKA	**Soboth**	**42.14 302**	*iP*	**P**	**12 12 05.9**	**+1.1**
	comp=Z,162nm,0.5s,SNR=66					
SOKA			*i*PP	**PP**	**12 13 48.1**	**+1.1**
	comp=Z,38nm,0.9s					
SOKA			*e*PKiKP	**PKiKP**	**12 20 59.1**	**-0.6**
	comp=Z,14nm,1.7s					
PRU	**Pruhonice**	**42.18 307**	*eP*	**P**	**12 12 06.4**	**+1.4**
PRU	**Pruhonice**	**42.18 307**	*eP*	**P**	**12 12 06.4**	**+1.4**
TIP	**Timpagrande**	**42.22 291**	P	**P**	**12 12 05.6**	**0.0**
TIP			IAmb	IAmb	12 12 07.1	
	comp=Z,357nm,1.1s					
TIP	**Timpagrande**	**42.22 291**	⇑P	**P**	**12 12 05.9**	**+0.3**
TIP	**Timpagrande**	**42.22 291**	P	**P**	**12 12 06.1**	**+0.5**
	comp=Z,3µmcomp=Z,247nm,1.3s					
IPM	**Ipoh**	**42.24 132**	P	**P**	**12 12 06.5**	**+0.6**
IPM			IAmb	IAmb	12 12 07.6	
	comp=Z,318nm,0.9s					
IPM	**Ipoh**	**42.24 132**	P	**P**	**12 12 06.3**	**+0.4**
HAMF	**Hammerfest**	**42.24 339⇑**	*iP*	**P**	**12 12 06.6**	**+1.4**
HAMF			*e*SS	SS	12 21 28.3	+2.9
PRA	**Prague**	**42.25 307**	*eP*	**P**	**12 12 07.1**	**+1.6**
PRA	**Prague**	**42.25 307**	*eP*	**P**	**12 12 07.1**	**+1.6**
ZEA	**Zeya**	**42.29 47**	*ceP*	**P**	**12 12 07.9**	**+2.1**
ZEA			*e*		12 12 56.0	
ZEA			*e*		12 13 55.9	
ZEA			pmax	pmax		
	comp=N,50nm,0.8s					
ZEA			pmax	pmax		
	comp=E,80nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,160nm,0.9s					
QZH	**Quanzhou**	**42.33 92⇑**	*iP*	**P**	**12 12 07.1**	**+0.6**
QZH			pmax	pmax		
	comp=Z,140nm,1.2s					
PSI	**Prapat**	**42.36 136**	P	**P**	**12 12 06.7**	**-0.3**
PSI	**Prapat**	**42.36 136**	P	**P**	**12 12 06.7**	**-0.3**
PSI			pmax	pmax		
	comp=Z,150nm,0.8s					
KNMB	**Chin-men Tao**	**42.39 93**	P	**P**	**12 12 08.0**	**+1.0**
KNMB			IAmb	IAmb	12 12 09.1	
	comp=Z,164nm,0.8s					
ZVC	**Zvikov**	**42.44 306**	*eP*	**P**	**12 12 08.7**	**+1.5**
RPSI	**Rantau Prapat**	**42.45 136**	P	**P**	**12 12 06.7**	**-0.8**
HEH	**HeiHe**	**42.47 53**	*eP*	**P**	**12 12 08.3**	**+0.9**
HEH			pP	**pP**	**12 12 56.2**	**+1.4**
HEH			sP	**sP**	**12 13 21.2**	**+1.2**
HEH			PcP	**PcP**	**12 13 56.3**	**+0.4**
HEH			ScP	**ScP**	**12 17 24.4**	**-1.1**
HEH			pmax	pmax		
	comp=Z,500nm,0.9s					
OBKA	**Obir**	**42.49 302**	*iP*	**P**	**12 12 08.9**	**+1.2**
	comp=Z,50nm,0.8s,SNR=18					
OBKA			*i*PP	**PP**	**12 13 50.5**	**-0.3**
	comp=Z,25nm,0.8s					
OBKA			*e*PKiKP	**PKiKP**	**12 20 56.7**	**-3.4**
	comp=Z,15nm,1.4s					
OBKA	**Obir**	**42.49 302⇑**	*iP*	**P**	**12 12 08.7**	**+1.0**
BRG	**Berggiesshubel**	**42.52 308⇑**	*iP*	**P**	**12 12 08.7**	**+1.0**
BRG			Amp		12 12 10.0	
	comp=Z,193nm,0.7s					
BRG	**Berggiesshubel**	**42.52 308**	*eP*	**P**	**12 12 08.8**	**+1.1**
	comp=Z,193nm,0.7s,baz=86,slow=7.8					
MOA	**Molln**	**42.53 304**	*iP*	**P**	**12 12 08.7**	**+0.8**
	comp=Z,157nm,0.8s,SNR=48					
MOA			*i*PP	**PP**	**12 13 50.7**	**-0.5**
	comp=Z,24nm,0.7s					
MOA			*i*PKiKP	**PKiKP**	**12 20 54.7**	**-5.3**
	comp=Z,14nm,1.9s					
RUE	**Ruedersdorf**	**42.56 311**	*eP*	**P**	**12 12 08.1**	**+0.1**
RUE	**Ruedersdorf**	**42.56 311**	*eP*	**P**	**12 12 08.6**	**+0.6**
	comp=Z,299nm,0.9s,baz=86,slow=7.8					
RUE			*e*PcP	**PP**	**12 13 51.8**	**+0.6**
	baz=83,slow=3.8					
LJU	**Ljubljana**	**42.57 301**	*iP*	**P**	**12 12 09.4**	**+1.2**
LJU			*e*PcP	**PcP**	**12 13 56.8**	**+0.6**
DEL	**Delary**	**42.59 317**	*iP*	**P**	**12 12 08.0**	**-0.2**
MOZS	**Mozjanca**	**42.59 302**	*iP*	**P**	**12 12 09.7**	**+1.2**
CRNS	**Crni Vrh**	**42.74 301**	*iP*	**P**	**12 12 10.7**	**+1.0**
JETT	**Jettan, Norway**	**42.76 337⇑**	*iP*	**P**	**12 12 10.5**	**+1.0**
LUNU	**Lund**	**42.78 315**	*iP*	**P**	**12 12 10.0**	**+0.2**
GEC2	**GERESS Array S**	**42.81 305**	P	**P**	**12 12 10.5**	**+0.3**
GEC2	**GERESS Array S**	**42.81 305**	*eP*	**P**	**12 12 11.0**	**+0.8**
	comp=Z,62nm,0.9s,baz=86,slow=7.8					
GERES	**GERESS Array B**	**42.81 305**	P	**P**	**12 12 10.7**	**+0.4**
GERES	**GERESS Array B**	**42.81 305**	P	**P**	**12 12 11.0**	**+0.8**
	comp=Z,27nm,0.5s,baz=87,slow=7.3,SNR=134					
GERES			PcP	**PcP**	**12 13 57.8**	**+0.7**
	comp=Z,22nm,0.7s,baz=114,slow=3.9,SNR=6.7					
	comp=Z,27nm,0.5s					
RGN	**Rugen**	**42.83 314**	*eP*	**P**	**12 12 11.4**	**+1.3**
	comp=Z,1µm,1.0s,baz=86,slow=7.8					
HSKC	**Hora Svate Kat**	**42.85 308**	*eP*	**P**	**12 12 11.7**	**+1.2**
GSI	**Gunungsitoli**	**42.86 138**	P	**P**	**12 12 12.3**	**+1.4**
GSI	**Gunungsitoli**	**42.86 138**	P	**P**	**12 12 12.7**	**+1.8**
GSI	**Gunungsitoli**	**42.86 138**	P	**P**	**12 12 12.2**	**+1.4**
KHC	**Kasperske Hory**	**42.87 306**	*eP*	**P**	**12 12 11.6**	**+1.0**
KHC			*e*PP	**PP**	**12 13 53.2**	**-1.5**
KHC	**Kasperske Hory**	**42.87 306**	*ceP*	**P**	**12 12 11.4**	**+0.8**
KHC			pmax	pmax		
	comp=Z,282nm,1.7s					
JAVS	**Javornik**	**42.91 301**	*iP*	**P**	**12 12 11.7**	**+0.7**
JAVS			*i*PcP	**PcP**	**12 13 57.5**	**-0.1**
BNX	**BinXian**	**42.92 59**	⇓P	**P**	**12 12 10.7**	**-0.3**
BNX			pmax	pmax		
	comp=Z,67nm,1.6s					
BIOA	**Bad Ischl, Aus**	**42.97 304**	*iP*	**P**	**12 12 11.9**	**+0.5**
	comp=Z,80nm,0.5s,SNR=39					
BIOA			*i*PP	**PP**	**12 13 54.9**	**-0.9**
	comp=Z,22nm,0.8s					
BIOA			*i*PKiKP	**PKiKP**	**12 21 03.0**	**+2.6**
	comp=Z,12nm,1.3s					
HFS	**Hagfors**	**43.01 322**	P	**P**	**12 12 12.1**	**+0.6**
	comp=Z,516nm,0.7s,baz=98,slow=11,SNR=1341					
HFS			PP	**PP**	**12 13 53.3**	**-2.6**
	comp=Z,88nm,0.8s,baz=97,slow=12,SNR=4.1					
	comp=Z,516nm,0.7s					
BJUU	**Bjuv**	**43.04 316**	*iP*	**P**	**12 12 10.6**	**-1.2**
CLL	**Collm**	**43.09 309**	P	**P**	**12 12 12.6**	**+0.3**
CLL	**Collm**	**43.09 309**	P	**P**	**12 12 12.6**	**+0.3**
CLL			pmax	pmax		
	comp=Z,121nm,0.8s					
CLL	**Collm**	**43.09 309⇑**	*iP*	**P**	**12 12 12.7**	**+0.4**
	comp=Z,853nm,2.2s					
CLL			*i*PP	**PP**	**12 13 56.1**	**-0.8**
CLL			*i*PPmax		12 14 04.2	
	comp=Z,172nm,1.4s					
CLL	**Collm**	**43.09 309**	*eP*	**P**	**12 12 12.9**	**+0.6**
	comp=Z,118nm,0.8s,baz=86,slow=7.8					
MYKA	**Terra Mystica**	**43.10 302**	*iP*	**P**	**12 12 13.3**	**+0.8**
	comp=Z,46nm,0.6s,SNR=16					
MYKA			*e*PcP	**PcP**	**12 13 58.2**	**+0.1**
	comp=Z,13nm,0.6s					
MYKA			*e*PKiKP	**PKiKP**	**12 21 01.4**	**+0.8**
	comp=Z,15nm,1.6s					
CEL	**Celeste**	**43.11 290**	IAmb	IAmb	12 12 14.7	
	comp=Z,611nm,1.3s					
CEL	**Celeste**	**43.11 290**	P	**P**	**12 12 13.6**	**+0.9**
	comp=Z,4µmcomp=Z,396nm,1.2s					
SABO	**M.te Sabotino**	**43.22 301**	IAmb	IAmb	12 12 15.3	
	comp=Z,556nm,1.2s					
ROBS	**Robic**	**43.24 302**	*iP*	**P**	**12 12 14.2**	**+0.6**
KBA	**Koelnbreinsper**	**43.24 303**	*iP*	**P**	**12 12 14.5**	**+0.7**
	comp=Z,64nm,0.5s,SNR=24					
KBA			*i*PP	**PP**	**12 13 57.7**	**-1.2**
	comp=Z,22nm,0.6s					
KBA			*i*PKiKP	**PKiKP**	**12 21 01.5**	**+0.6**
	comp=Z,7.6nm,1.3s					
FABU	**Falkenberg**	**43.25 317**	*iP*	**P**	**12 12 13.1**	**-0.4**
BORU	**Boraas**	**43.26 318**	*iP*	**P**	**12 12 13.6**	**0.0**
TRO	**Tromso**	**43.27 336⇑**	*iP*	**P**	**12 12 14.5**	**+1.0**
TRO			IAmb	IAmb	12 12 16.0	
	comp=Z,663nm,1.2s					
TRO			*e*SS	SS	12 21 48.2	+3.1
WET	**Wettzell**	**43.33 306**	*eP*	**P**	**12 12 14.8**	**+0.6**
	comp=Z,117nm,1.6s,baz=86,slow=7.8					
COP	**Copenhagen**	**43.36 315**	*iP*	**P**	**12 12 14.8**	**+0.4**
COP			IAmb	IAmb	12 12 16.4	
	comp=Z,757nm,0.9s					
PAOL	**Paolisi**	**43.43 294**	IAmb	IAmb	12 12 17.1	
	comp=Z,485nm,1.4s					
TANN	**Tannenbergstha**	**43.49 308**	*eP*	**P**	**12 12 16.6**	**+1.1**
	comp=Z,94nm,0.9s,baz=86,slow=7.8					
TANN			*e*pP	**pP**	**12 13 04.6**	**+2.3**
NKC	**Novy Kostel**	**43.51 307**	*eP*	**P**	**12 12 17.0**	**+1.3**
NKC	**Novy Kostel**	**43.51 307**	*eP*	**P**	**12 12 17.0**	**+1.3**
RJOB	**Jochberg**	**43.53 304**	*eP*	**P**	**12 12 16.6**	**+0.6**
	comp=Z,128nm,0.9s,baz=86,slow=7.8					
RJOB			*e*PcP	**PcP**	**12 13 59.0**	**-0.6**
	baz=83,slow=3.8					
LESA	**Schwarzleotal**	**43.65 303**	*iP*	**P**	**12 12 17.4**	**+0.5**
	comp=Z,181nm,0.4s,SNR=91					
LESA			*e*PcP	**PcP**	**12 13 60.0**	**-0.1**
	comp=Z,61nm,0.9s					
LESA			*i*PKiKP	**PKiKP**	**12 20 60.0**	**-1.1**
	comp=Z,19nm,1.3s					
PLN	**Plauen**	**43.67 308**	*eP*	**P**	**12 12 18.0**	**+1.0**
	comp=Z,33nm,0.8s,baz=86,slow=7.8					
PLN			*e*pP	**pP**	**12 13 05.8**	**+2.0**
PLN			*e*PcP	**PcP**	**12 14 00.1**	**+0.2**
	baz=83,slow=3.8					
ONAU	**Onsala**	**43.70 318**	*iP*	**P**	**12 12 17.0**	**-0.1**
ROTZ	**

MNSI	**Mandailing Nat**	44.38	136	P		**P**	12 12 24.0 +1.1
	comp=Z,4μmcomp=Z,443nm,0.9s						
PBSI	**Pulau Batu**	44.38	139	P		**P**	12 12 25.2 +2.3
	comp=Z,4μmcomp=Z,255nm,0.8s						
KONS	**Konsvik**	44.39	331⇑	*i* P		**P**	12 12 22.9 +0.6
KONS				IAmb	IAmb		12 12 23.9
	comp=Z,207nm,0.6s						
KONS				*e*PP		**PP**	12 14 09.9 -0.5
WATA	**Walderalm**	44.40	303	*i* P		**P**	12 12 22.7 -0.3
	comp=Z,48nm,0.6s,SNR=33						
WATA				*i* PcP		**PcP**	12 14 02.0 -0.7
	comp=Z,33nm,0.9s						
WATA				*e*PKiKP		**PKiKP**	12 21 00.5 -1.4
	comp=Z,11nm,1.2s						
NSS	**Namsos**	44.47	328⇑	*i* P		**P**	12 12 23.0 0.0
NAO01	**NORSAR Array S**	44.47	323	IAmb	IAmb		12 12 24.3
	comp=Z,449nm,1.0s						
OSL	**Oslo**	44.48	322⇑	*i* P		**P**	12 12 23.4 +0.3
OSL				IAmb	IAmb		12 12 24.3
	comp=Z,245nm,0.8s						
FUR	**Furstenfeldbru**	44.49	305	*e*P		**P**	12 12 24.3 +0.8
	comp=Z,165nm,0.7s,baz=86,slow=7.8						
FUR				*e*PcP		**PcP**	12 14 02.7 -0.1
	baz=83,slow=3.8						
CESX	**Cesi**	44.54	297	IAmb	IAmb		12 12 26.6
	comp=Z,472nm,1.5s						
NBO00	**NORSAR Array S**	44.54	323	IAmb	IAmb		12 12 24.9
	comp=Z,750nm,1.1s						
CTI	**Castel Tesino**	44.55	302	P		**P**	12 12 24.4 +0.3
CTI				IAmb	IAmb		12 12 25.4
	comp=Z,178nm,0.6s						
CTI	**Castel Tesino**	44.55	302	P		**P**	12 12 24.4 +0.3
CTI				pmax	pmax		
	comp=Z,178nm,0.6s						
BSEG	**Bad Segeberg**	44.60	313	*e*P		**P**	12 12 25.5 +1.3
	comp=Z,228nm,0.8s,baz=86,slow=7.8						
OVD	**Ostervraa, Den**	44.63	318	*i* P		**P**	12 12 24.0 -0.3
OVD				IAmb	IAmb		12 12 25.9
	comp=Z,2μm,1.2s						
LOF	**Lofoten**	44.63	333⇑	*i* P		**P**	12 12 24.6 +0.3
LOF				IAmb	IAmb		12 12 25.4
	comp=Z,362nm,1.1s						
MDJ	**Mudanjiang**	44.63	60	P		**P**	12 12 24.7 +0.1
MDJ	**Mudanjiang**	44.63	60	P		**P**	12 12 25.4 +0.7
MDJ				pP	pP		12 13 10.9 -1.8
MDJ				PcP	**PcP**		12 14 04.0 +0.7
MDJ				PP	**PP**		12 14 08.8 -4.6
MDJ				ScP	**ScP**		12 17 34.6 +0.1
MDJ				S	**S**		12 18 45.6 +1.7
MDJ				pmax	pmax		
	comp=Z,60nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,670nm,11.4s						
MDJ	**Mudanjiang**	44.63	60	P		**P**	12 12 25.8 +1.1
TEOL	**Teolo**	44.65	301	IAmb	IAmb		12 12 26.4
	comp=Z,231nm,1.0s						
TATO	**Taipei**	44.65	90	P		**P**	12 12 27.4 +2.4
TATO	**Taipei**	44.65	90	P		**P**	12 12 28.0 +2.9
TATO	**Taipei**	44.65	90	P		**P**	12 12 27.1 +2.0
SQTA	**Sankt Quirin**	44.67	303	*i* P		**P**	12 12 24.9 -0.2
	comp=Z,89nm,0.5s,SNR=35						
SQTA				*i* PcP		**PcP**	12 14 03.5 -0.1
	comp=Z,45nm,0.6s,SNR=7.6						
SQTA				*i* PKiKP		**PKiKP**	12 20 58.6 -3.6
	comp=Z,16nm,1.5s						
CLZ	**Clausthal**	44.69	310	*e*P		**P**	12 12 26.1 +1.1
	comp=Z,141nm,0.9s,baz=86,slow=7.8						
CLZ				*e*pP		**pP**	12 13 14.7 +2.8
CLZ				*e*PcP		**PcP**	12 14 03.7 +0.3
	baz=83,slow=3.8						
YHNB	**Yeheng**	44.70	90	P		**P**	12 12 27.2 +1.6
MOTA	**Moosalm**	44.72	303	*e*P		**P**	12 12 25.1 -0.4
	comp=Z,80nm,0.6s						
MOTA				*i* PcP		**PcP**	12 14 03.5 -0.3
	comp=Z,46nm,0.7s						
MOTA				*e*PKiKP		**PKiKP**	12 21 02.6 +0.4
	comp=Z,12nm,1.4s						
TPUB	**Ta-pu**	44.74	93	P		**P**	12 12 27.0 +1.2
TPUB				IAmb	IAmb		12 12 28.9
	comp=Z,377nm,1.5s						
TPUB	**Ta-pu**	44.74	93	P		**P**	12 12 27.6 +1.8
SSLB	**Suanglung**	44.77	92	IAmb	IAmb		12 12 29.4
	comp=Z,354nm,0.9s						
SSLB	**Suanglung**	44.77	92	P		**P**	12 12 28.5 +2.4
NRDL	**Niedersach Rie**	44.81	311	*e*P		**P**	12 12 27.1 +1.3
	comp=Z,176nm,0.9s,baz=86,slow=7.8						
NRDL				*e*pP		**pP**	12 13 15.8 +3.1
NRDL				*e*PcP		**PcP**	12 14 03.8 +0.1
	baz=83,slow=3.8						
RETA	**Reutte**	44.93	304	*i* P		**P**	12 12 27.1 0.0
	comp=Z,25nm,0.5s,SNR=18						
RETA				*i* PcP		**PcP**	12 14 04.0 -0.4
	comp=Z,20nm,0.6s						
SSRD	**Sdr. Stenderup**	44.95	315	*i* P		**P**	12 12 27.5 +0.5
SSRD				IAmb	IAmb		12 12 29.3
	comp=Z,474nm,1.0s						
GTTG	**Gottingen**	44.97	310	*e*P		**P**	12 12 28.3 +1.2
	comp=Z,260nm,0.8s,baz=86,slow=7.8						
GTTG				*e*PcP		**PcP**	12 14 04.0 -0.3
	baz=83,slow=3.8						
TJN	**Taejon**	45.00	72	P		**P**	12 12 27.8 +0.1
TJN				IAmb	IAmb		12 12 28.2
	comp=Z,350nm,1.2s						
TJN	**Taejon**	45.00	72	P		**P**	12 12 28.2 +0.5
TJN	**Taejon**	45.00	72	P		**P**	12 12 27.8 +0.1
TJN				pmax	pmax		
	comp=Z,349nm,1.2s						
UBBA	**Unterbreizbach**	45.01	309	*e*P		**P**	12 12 28.3 +0.9
	comp=Z,65nm,0.7s,baz=86,slow=7.8						
UBBA				*e*pP		**pP**	12 13 16.0 +1.7
UBBA				*e*PcP		**PcP**	12 14 04.0 -0.4
	baz=83,slow=3.8						
FETA	**Feichten**	45.02	303	*i* P		**P**	12 12 27.7 -0.1
	comp=Z,60nm,0.5s,SNR=37						
FETA				*e*PcP		**PcP**	12 14 05.2 +0.3
	comp=Z,106nm,0.8s,SNR=16						
FETA				*e*PKiKP		**PKiKP**	12 20 59.7 -2.9
	comp=Z,27nm,1.6s						
TBLU	**Trondheim**	45.02	326⇑	*i* P		**P**	12 12 27.4 0.0
TBLU				IAmb	IAmb		12 12 28.4
	comp=Z,428nm,1.1s						
KONO	**Kongsberg**	45.03	321	P		**P**	12 12 27.9 +0.5
KONO				IAmb	IAmb		12 12 28.9
	comp=Z,339nm,1.1s						
KONO	**Kongsberg**	45.03	321⇑	*i* P		**P**	12 12 28.0 +0.5
KONO				IAmb	IAmb		12 12 28.5
	comp=Z,354nm,1.1s						
KONO	**Kongsberg**	45.03	321	P		**P**	12 12 28.0 +0.5
KONO				pmax	pmax		
	comp=Z,339nm,1.1s						
KONO	**Kongsberg**	45.03	321	P		**P**	12 12 27.8 +0.3
HOPEN	**Hopen**	45.04	346⇑	*i* P		**P**	12 12 29.6 +2.2
HOPEN				IAmb	IAmb		12 12 30.7
	comp=Z,1μm,1.3s						
HOPEN				*e*S		**S**	12 18 51.6 +2.7
KS19	**Wonju Array Si**	45.05	71	P		**P**	12 12 28.9 +0.8
KSAR	**Wonju Array Be**	45.09	71	P		**P**	12 12 28.7 +0.4
KSAR	**Wonju Array Be**	45.09	71	P		**P**	12 12 28.7 +0.4
NACB	**Ninganchiao**	45.11	91	P		**P**	12 12 30.9 +2.2
KSRS	**Korea Array**	45.11	71	P		**P**	12 12 28.8 +0.3
	comp=Z,19nm,0.6s,baz=278,slow=6.6,SNR=117						
KSRS				PcP		**PcP**	12 14 05.2 +0.2
	comp=Z,59nm,0.8s,baz=285,slow=3.0,SNR=18						
KSRS				PP		**PP**	12 14 20.2 +1.8
	comp=Z,16nm,1.0s,baz=282,slow=7.0,SNR=2.0						
KSRS				ScP		**ScP**	12 17 35.0 -1.5
	comp=Z,14nm,0.9s,baz=288,slow=4.4,SNR=9.7						
	comp=Z,19nm,0.6s						
GOET	**G??ttrup**	45.16	317	*i* P		**P**	12 12 28.7 +0.1
GOET				IAmb	IAmb		12 12 30.7
	comp=Z,604nm,1.1s						
MUD	**Monsted U'grnd**	45.19	317	*i* P		**P**	12 12 29.0 +0.2
MUD				IAmb	IAmb		12 12 30.9
	comp=Z,326nm,1.2s						
YULB	**Yu-li**	45.24	92	IAmb	IAmb		12 12 33.3
	comp=Z,293nm,1.0s						
YULB	**Yu-li**	45.24	92	P		**P**	12 12 32.2 +2.5
RETH	**Rethem/Aller,**	45.24	311	*e*P		**P**	12 12 30.4 +1.1
	comp=Z,448nm,1.0s,baz=86,slow=7.8						
BJO1	**Bjornoya**	45.29	343⇑	*i*P		**P**	12 12 30.6 +1.2
BJO1				*e*SS	SS		12 22 23.4 +5.0
TWG	**Pinlang**	45.33	93	IAmb	IAmb		12 12 34.5
	comp=Z,606nm,1.0s						
UBR	**Ueberruh**	45.34	304	*e*P		**P**	12 12 30.6 +0.4
	comp=Z,205nm,0.7s,baz=86,slow=7.8						
UBR				*e*pP		**pP**	12 13 18.5 +1.3
UBR				*e*PcP		**PcP**	12 14 04.7 -1.1
	baz=83,slow=3.8						
TWGBT	**Beinan**	45.34	93	P		**P**	12 12 33.4 +2.9
KLR	**Kul'dur**	45.37	54	*ce*P		**P**	12 12 31.2 +0.8
KLR				pmax	pmax		
	comp=Z,187nm,1.7s						
FUORN	**Ofenpass-Fuorn**	45.40	303	P		**P**	12 12 31.2 +0.2
DOMB	**Dombas**	45.45	324⇑	*i*P		**P**	12 12 31.4 +0.5
DOMB				IAmb	IAmb		12 12 32.2
	comp=Z,485nm,1.1s						
DOMB				*e*S		**S**	12 18 56.2 +1.0
DAVA	**Damuels**	45.55	304	*i* P		**P**	12 12 32.1 +0.1
	comp=Z,331nm,0.5s,SNR=107						
DAVA				*i* PcP		**PcP**	12 14 07.0 +0.3
	comp=Z,52nm,0.8s						
HOMB	**Homborsund**	45.55	319⇑	*i*P		**P**	12 12 31.9 +0.3
HOMB	**Homborsund**	45.55	319	*i* P		**P**	12 12 31.0 -0.6
BKNI	**Bangkinang**	45.58	135	IAmb	IAmb		12 12 34.5
	comp=Z,611nm,0.9s						
BKNI	**Bangkinang**	45.58	135	P		P	12 12 26.7 -5.7
BKNI	**Bangkinang**	45.58	135	P		**P**	12 12 33.0 +0.5
BKNI	**Bangkinang**	45.58	135	P		**P**	12 12 32.9 +0.5
	comp=Z,8μmcomp=Z,777nm,0.8s						
DAVOX	**Davos/Dischmat**	45.63	303	P		**P**	12 12 32.7 0.0
	comp=Z,131nm,0.7s,baz=103,slow=6.0,SNR=228						
DAVOX				PcP		**PcP**	12 14 06.8 -0.2
	comp=Z,87nm,0.8s,baz=103,slow=4.1,SNR=8.9						
DAVOX				ScP		**ScP**	12 17 38.3 -0.5
	comp=Z,6.2nm,0.7s,baz=95,slow=7.7,SNR=2.5						
	comp=Z,131nm,0.7s						
PRMA	**PARMA**	45.70	300	IAmb	IAmb		12 12 35.8
	comp=Z,473nm,1.5s						
SKAR	**Skarslia**	45.72	322⇑	*i*P		**P**	12 12 33.9 +0.9
SKAR				IAmb	IAmb		12 12 35.1
	comp=Z,283nm,1.1s						
VLC	**Villacollemand**	45.78	299	P		**P**	12 12 34.3 +0.6
STU	**Stuttgart**	45.78	306	P		**P**	12 12 34.3 +0.7
STU	**Stuttgart**	45.78	306	P		**P**	12 12 34.3 +0.7
STU				pmax	pmax		
	comp=Z,114nm,0.7s						
STU	**Stuttgart**	45.78	306	*e*P		**P**	12 12 34.4 +0.8
STU	**Stuttgart**	45.78	306	*e*P		**P**	12 12 34.4 +0.8
	comp=Z,306nm,0.8s,baz=86,slow=7.8						
STU				*e*PcP		**PcP**	12 14 07.1 -0.2
	baz=83,slow=3.8						
PPI	**Padang Panjang**	45.87	136	P		**P**	12 12 35.2 +0.6
	comp=Z,2μmcomp=Z,328nm,0.8s						
SISI	**Saibi**	45.88	139	P		**P**	12 12 36.3 +1.6
	comp=Z,3μmcomp=Z,306nm,0.9s						
TIXI	**Tiksi**	45.94	22	P		**P**	12 12 35.5 +1.0
TIXI				IAmb	IAmb		12 12 36.5
	comp=Z,599nm,0.8s						
TIXI	**Tiksi**	45.94	22	*ce*P		**P**	12 12 34.9 +0.4
TIXI				pmax	pmax		
	comp=Z,839nm,1.0s						
TIXI	**Tiksi**	45.94	22	P		**P**	12 12 35.2 +0.7
TIXI				pP	**pP**		12 13 22.8 +0.1
TIXI				PcP	**PcP**		12 14 07.4 0.0
KASTN	**Kahler Asten**	45.97	309	*e*P		**P**	12 12 35.7 +0.7
	comp=Z,55nm,1.1s,baz=86,slow=7.8						
KASTN				*e*PcP		**PcP**	12 14 08.0 +0.1
	baz=83,slow=3.8						
TUE	**Stuetta**	46.05	303	P		**P**	12 12 35.6 -0.3
TUE	**Stuetta**	46.05	303	P		**P**	12 12 35.7 -0.3
	comp=Z,9μmcomp=Z,576nm,0.7s						
TNS	**Taunus Mts**	46.06	308	*e*P		**P**	12 12 36.8 +1.0
	comp=Z,91nm,1.0s,baz=86,slow=7.8						
TNS				*e*PcP		**PcP**	12 14 08.0 -0.3
	baz=83,slow=3.8						
MYKOM	**Kota Tinggi**	46.07	131	P		**P**	12 12 37.4 +1.1
MYKOM	**Kota Tinggi**	46.07	131	P		**P**	12 12 37.5 +1.2
YOJ	**Yonaguni jima**	46.12	90	P		**P**	12 12 37.5 +1.0
YOJ				IAmb	IAmb		12 12 37.8
	comp=Z,337nm,1.4s						
YOJ	**Yonaguni jima**	46.12	90	P		**P**	12 12 37.5 +1.0
YOJ				pmax	pmax		
	comp=Z,337nm,1.4s						
MSHR	**Mys Shultsa**	46.17	63	*i* P		**P**	12 12 37.3 +0.6
MOL	**Molde**	46.19	325⇑	*i*P		**P**	12 12 37.5 +0.9
SNART	**Snartemo**	46.23	319⇑	*i*P		**P**	12 12 37.8 +0.8
SNART				IAmb	IAmb		12 12 38.7
	comp=Z,651nm,1.1s						
SNART				*e*SS	SS		12 22 38.7 +4.5
SNART	**Snartemo**	46.23	319	*i* P		**P**	12 12 37.0 0.0
LODK	**Lodwar**	46.24	233	P		**P**	12 12 39.7 +2.0
IBBN	**Ibbenburen**	46.26	311	*e*P		**P**	12 12 38.2 +1.0
	comp=Z,269nm,0.8s,baz=86,slow=7.8						
MSSA	**Maissana**	46.35	300	P		**P**	12 12 37.9 -0.4
MSSA				IAmb	IAmb		12 12 39.3
	comp=Z,139nm,0.6s						
USA0B	**Ussuriysk Arra**	46.40	61	P		**P**	12 12 38.6 +0.1
USA0B	**Ussuriysk Arra**	46.40	61	P		**P**	12 12 38.6 +0.1
USRK	**Ussuriysk Ar.**	46.40	61	P		**P**	12 12 38.6 +0.1
USRK	**Ussuriysk Ar.**	46.40	61	P		**P**	12 12 39.0 +0.5
	comp=Z,26nm,0.8s,baz=274,slow=7.3,SNR=33						
USRK				PcP		**PcP**	12 14 09.1 -0.4
	comp=Z,48nm,1.1s,baz=270,slow=1.9,SNR=8.4						
USRK				PP		**PP**	12 14 32.5 +2.3
	comp=Z,5.4nm,0.8s,baz=293,slow=12,SNR=4.7						
USRK				ScP		**ScP**	12 17 40.3 -1.6
	comp=Z,5.1nm,0.7s,baz=262,slow=2.3,SNR=3.7						
	comp=Z,26nm,0.8s						
BFO	**Black Forest**	46.41	305	P		**P**	12 12 38.7 +0.1
BFO	**Black Forest**	46.41	305	P		**P**	12 12 38.7 +0.1
BFO	**Black Forest**	46.41	305	*e*P		**P**	12 12 38.8 +0.1
	comp=Z,55nm,0.9s,baz=86,slow=7.8						
BFO				*e*PcP		**PcP**	12 14 08.9 -0.6
	baz=83,slow=3.8						
BFO	**Black Forest**	46.41	305	P		**P**	12 12 38.6 +0.1
BFO				PcP		**PcP**	12 14 09.2 -0.4
AKN	**Aaknes**	46.43	324⇑	*i*P		**P**	12 12 39.3 +0.8
ODD1	**Odda**	46.54	321⇑	*i*P		**P**	12 12 40.1 +0.8
ODD1				IAmb	IAmb		12 12 41.4
	comp=Z,404nm,1.3s						
VLA	**Vladivostok**	46.57	62	*i* P		**P**	12 12 40.3 +0.5
VLA				pmax	pmax		
	comp=Z,202nm,0.9s						
BLS5	**Blasjo**	46.62	321⇑	*i*P		**P**	12 12 41.1 +1.1
BUG	**Bochum--Univer**	46.65	310	*e*P		**P**	12 12 41.3 +1.0
	comp=Z,172nm,0.9s,baz=86,slow=7.8						
BUG				*e*PcP		**PcP**	12 14 09.8 -0.4
	baz=83,slow=3.8						
HYA	**Hoyanger**	46.77	323⇑	*i*P		**P**	12 12 41.8 +0.7
HSPB	**Hornsund (broa**	47.17	345	*e*P		**P**	12 12 45.2 +1.2
BER	**Bergen**	47.19	322⇑	*i*P		**P**	12 12 44.9 +0.6
BER				IAmb	IAmb		12 12 45.8
	comp=Z,546nm,1.0s						
ECH	**Echery**	47.20	305	P		**P**	12 12 45.0 +0.3
ECH	**Echery**	47.20	305	P		**P**	12 12 45.0 +0.3
ECH				pmax	pmax		
	comp=Z,58nm,0.9s						
ECH	**Echery**	47.20	305	P		**P**	12 12 44.5 -0.2
KMY	**Karmoy**	47.24	320⇑	*i*P		**P**	12 12 45.1 +0.4
ASK	**Askoy**	47.25	322⇑	*i*P		**P**	12 12 45.6 +0.9
FOO	**Floro**	47.33	324⇑	*i*P		**P**	12 12 46.1 +0.8
SENIN	**Lac Senin/Sane**	47.46	303	P		**P**	12 12 46.9 0.0
SUE	**Sulen**	47.47	323⇑	*i*P		**P**	12 12 47.0 +0.6
BTNL	**Ternell**	47.48	309	*d*P		**P**	12 12 47.6 +0.8
	comp=Z,96nm,0.9s						
SPA0	**Spitsbergen Ar**	47.54	347⇑	*i*P		**P**	12 12 48.4 +1.5
SPA0				IAmb	IAmb		12 12 49.5
	comp=Z,1μm,1.4s						
SPITS	**Spitsbergen Ar**	47.54	347	P		**P**	12 12 48.6 +1.8
	comp=Z,234nm,0.6s,baz=110,slow=12,SNR=261						
SPITS				PcP		**PcP**	12 14 13.9 +0.9
	comp=Z,30nm,0.6s,baz=156,slow=4.3,SNR=1.8						
SPITS				PP		**PP**	12 14 42.6 +2.6
	comp=Z,104nm,1.0s,baz=133,slow=21,SNR=3.6						
	comp=Z,234nm,0.6s						
SPITS	**Spitsbergen Ar**	47.54	347	P		**P**	12 12 48.7 +1.9
SPITS				pmax	pmax		
	comp=Z,1μm,1.5s						
MEM	**Membach**	47.56	309	*d*P		**P**	12 12 47.9 +0.5
	comp=Z,111nm,0.9s						
MEM				*d*PcP		**PcP**	12 14 13.1 -0.4
SZP	**Santa**	47.57	100	P		**P**	12 12 50.9 +3.1
BHOU	**Houvegnez**	47.60	308	*d*P		**P**	12 12 48.7 +1.0
WLF	**Walferdange**	47.61	307	IAmb	IAmb		12 12 50.3
	comp=Z,281nm,1.0s						
WLF	**Walferdange**	47.61	307	P		**P**	12 12 48.0 +0.2
WLF	**Walferdange**	47.61	307	*d*P		**P**	12 12 48.6 +0.9
	comp=Z,152nm,1.2s						
WLF	**Walferdange**	47.61	307	P		**P**	12 12 48.7 +0.9
WLF				pmax	pmax		
	comp=Z,332nm,1.1s						
WLF	**Walferdange**	47.61	307	*e*P		**P**	12 12 49.2 +1.4
	comp=Z,282nm,1.0s,baz=86,slow=7.8						
WLF				*e*pP		**pP**	12 13 37.3 +2.1
BEBN	**Eben Emael**	47.74	309	*d*P		**P**	12 12 49.0 +0.3
JMJ	**Miyako jima 2**	47.80	88	P		**P**	12 12 51.8 +2.3
BSTI	**Sart Tilman**	47.84	309	*d*P		**P**	12 12 50.4 +0.9
	comp=Z,14nm,0.9s						
BCLA	**Clavier**	48.03	309	*d*P		**P**	12 12 51.5 +0.6
	comp=Z,30nm,1.0s						
BCLA				*d*PcP		**PcP**	12 14 15.3 +0.1
BCLA				*d*PP		**PP**	12 14 47.9 +3.0
RCHB	**Rochefort**	48.12	308	*d*P		**P**	12 12 52.4 +0.8
	comp=Z,63nm,0.7s						
RCHB				*d*PcP		**PcP**	12 14 14.6 -1.0
GRNR	**Gornyy**	48.13	51⇑	*i*P		**P**	12 12 53.1 +1.4
GRNR				pmax	pmax		
	comp=E,40nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,80nm,0.9s						
GRNR				MLR	MLR		
	comp=N,310nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,550nm,18.0s						
BGES	**Gesves**	48.17	308	*d*P		**P**	12 12 52.6 +0.6
	comp=Z,33nm,1.0s						
BMRD	**Maredsous**	48.39	308	*d*P		**P**	12 12 54.5 +0.8
	comp=Z,112nm,1.1s						
BMRD				*d*PcP		**PcP**	12 14 15.5 -1.0
DOU	**Dourbes**	48.53	308	*d*P		**P**	12 12 55.2 +0.4
	comp=Z,91nm,1.2s						
DOU				*d*PcP		**PcP**	12 14 17.6 +0.5
UCC	**Uccle**	48.56	309	*d*P		**P**	12 12 55.3 +0.3
	comp=Z,38nm,0.9s						
KMBO	**Kilima Mbogo**	48.61	227	P		**P**	12 12 57.8 +1.7
KMBO	**Kilima Mbogo**	48.61	227	P		**P**	12 12 58.2 +2.1
KMBO	**Kilima Mbogo**	48.61	227	P		**P**	12 12 57.8 +1.7
KMBO				pmax	pmax		
	comp=Z,65nm,0.7s						
KMBO	**Kilima Mbogo**	48.61	227	*i* P		**P**	12 12 58.1 +2.0
	SNR=54						
KMBO	**Kilima Mbogo**	48.61	227	P		**P**	12 12 57.8 +1.7
KBS	**Kingsbay**	48.66	347	P		**P**	12 12 56.7 +1.4
KBS				IAmb	IAmb		12 12 58.2
	comp=Z,581nm,0.8s						
KBS	**Kingsbay**	48.66	347⇑	*i*P		**P**	12 12 57.0 +1.6
KBS				IAmb	IAmb		12 12 57.9
	comp=Z,650nm,0.9s						
KBS	**Kingsbay**	48.66	347	P		**P**	12 12 56.7 +1.4
KBS				pmax	pmax		
	comp=Z,581nm,0.9s						
KBS	**Kingsbay**	48.66	347	*i* P		**P**	12 12 56.5 +1.2
KBS	**Kingsbay**	48.66	347	P		**P**	12 12 56.7 +1.4
KBS				pP	**pP**		12 13 44.2 +0.7
JNU	**Nakatsue**	48.82	75	P		**P**	12 12 58.0 +0.7
JNU	**Nakatsue**	48.82	75	P		**P**	12 12 58.5 +1.2
KEST	**Kesra**	48.87	288	P		**P**	12 12 58.9 +1.3
	comp=Z,314nm,0.6s,baz=74,slow=1.5,SNR=443						
KEST				PcP		**PcP**	12 14 19.4 +0.7
	comp=Z,98nm,0.9s,baz=4.6,slow=2.3,SNR=2.7						
	comp=Z,314nm,0.6s						
KIBK	**Kibwezi**	49.12	226	P		**P**	12 13 01.2 +1.4
KIBK	**Kibwezi**	49.12	226	P		**P**	12 13 00.3 +0.5
JOW	**Kunigami**	49.29	84	IAmb	IAmb		12 13 02.1
	comp=Z,146nm,0.7s						
JOW	**Kunigami**	49.29	84	P		**P**	12 13 01.9 +1.0
TEY	**Ternei**	49.41	58	*e*P		**P**	12 12 57.9 -3.6
TEY				*e*			12 14 20.2
KSI	**Kapahiang**	49.72	136	P		**P**	12 13 03.6 -0.7
	comp=Z,632nm,0.8s						
NKL	**Nikolayevsk**	50.33	47	*e*P		**P**	12 13 06.3 -2.0
NKL				*e*S		**S**	12 20 02.0 -1.8
NKL				pmax	pmax		
	comp=N,291nm,0.8s						
NKL				pmax	pmax		
	comp=E,172nm,0.8s						
NKL				pmax	pmax		
	comp=Z,1μm,0.8s						
NKL				smax	smax		
	comp=N,398nm,4.3s						
NKL				smax	smax		
	comp=E,260nm,4.3s						
ELMS	**Elmsett, Ipswi**	50.41	311⇑	*e*P		**P**	12 13 09.2 +0.3
ELMS				IAmb	IAmb		12 13 10.2
	comp=Z,406nm,0.7s						
LRW	**Lerwick**	50.44	322⇑	*e*P		**P**	12 13 09.3 +0.4
LRW				IAmb	IAmb		12 13 10.2
	comp=Z,584nm,0.9s						
KSM	**Kuching**	50.45	124	P		**P**	12 13 11.4 +1.7
CLF	**Chambon-Foret**	50.46	306	IAmb	IAmb		12 13 10.9
	comp=Z,362nm,1.3s						
ELSH	**Elham, Standar**	50.50	310⇑	*e*P		**P**	12 13 10.2 +0.6
ELSH				IAmb	IAmb		12 13 11.1
	comp=Z,579nm,0.8s						
WACR	**West Acre**	50.51	312⇑	*e*P		**P**	12 13 10.0 +0.4
PPBI	**Pangkal Pinang**	50.58	131

ESK IAmb IAmb 12 13 23.4
comp=Z,274nm,1.0s
ESK Eskdalemuir 52.24 316 P **P** **12 13 22.4 0.0**
ESK pmax pmax
comp=Z,261nm,1.0s
ESK Eskdalemuir 52.24 316 P **P** **12 13 22.2 -0.1**
ESK PcP **PcP** **12 14 31.0 +0.3**
STKI Sintang 52.27 124 P **P** **12 13 26.3 +3.1**
comp=Z,75nm,1.1s
MBAR Mbarara 52.28 234 P **P** **12 13 24.4 +1.0**
MBAR IAmb IAmb 12 13 25.5
comp=Z,259nm,0.7s
MBAR Mbarara 52.28 234 P **P** **12 13 24.8 +1.4**
MBAR Mbarara 52.28 234 P **P** **12 13 24.4 +1.0**
MBAR pmax pmax
comp=Z,259nm,0.7s
KESW Keswick, Cumbr 52.33 315⇑ *e*P **P** **12 13 23.3 +0.2**
KESW IAmb IAmb 12 13 24.3
comp=Z,333nm,1.1s
MFF Saint Martin d 52.40 305 P **P** **12 13 24.0 +0.3**
INVG Invergeldie, C 52.49 317⇑ *e*P **P** **12 13 24.1 -0.1**
INVG IAmb IAmb 12 13 25.1
comp=Z,119nm,1.0s
JNW Jan Mayen West 52.55 336 *e*P **P** **12 13 26.2 +1.7**
JMIC Jan Mayen 52.58 336 P **P** **12 13 26.6 +2.0**
comp=Z,221nm,1.0s,baz=115,slow=9.6,SNR=7.0
comp=Z,221nm,1.0s
CEST Esterri de Car 52.61 299 P **P** **12 13 25.6 +0.1**
CEST IAmb IAmb 12 13 27.0
comp=Z,148nm,0.9s
OLDB Oldbury-Upon-S 52.64 311 *e*P **P** **12 13 25.0 -0.4**
OLDB IAmb IAmb 12 13 26.3
comp=Z,214nm,0.9s
JSD Sado 52.69 67 P **P** **12 13 25.9 -0.1**
INU Inuyama 52.73 70 P **P** **12 13 26.6 +0.3**
INU Inuyama 52.73 70 P **P** **12 13 26.5 +0.3**
INU pP **pP** **12 14 15.0 -1.1**
INU PcP **PcP** **12 14 32.7 -0.2**
INU ScP **ScP** **12 18 07.2 -1.8**
FOEL Foel Wylfa 52.75 313⇑ *e*P **P** **12 13 25.9 -0.3**
FOEL IAmb IAmb 12 13 27.5
comp=Z,607nm,1.7s
LINV Loch Inver, As 52.77 320⇑ *e*P **P** **12 13 26.6 +0.4**
LINV IAmb IAmb 12 13 27.7
comp=Z,555nm,1.0s
MCH1 Michaelchurch 52.83 312⇑ *e*P **P** **12 13 26.4 -0.4**
MCH1 IAmb IAmb 12 13 27.7
comp=Z,462nm,0.9s
PGBU Glenifferbraes 52.85 317⇑ *e*P **P** **12 13 27.3 +0.4**
PGBU IAmb IAmb 12 13 28.1
comp=Z,678nm,1.0s
NEWG New Galloway 52.85 316⇑ *e*P **P** **12 13 27.2 +0.3**
NEWG IAmb IAmb 12 13 28.2
comp=Z,374nm,0.9s
JGF Kuroka 52.89 70 P **P** **12 13 28.0 +0.4**
LLW Llanuwychllyn 53.03 313⇑ *e*P **P** **12 13 28.1 -0.2**
LLW IAmb IAmb 12 13 29.3
comp=Z,292nm,1.6s
YSS Yuzhno-Sakhali 53.05 55 P **P** **12 13 28.8 +0.3**
YSS IAmb IAmb 12 13 31.0
comp=Z,233nm,0.8s
YSS Yuzhno-Sakhali 53.05 55 P **P** **12 13 29.5 +1.0**
YSS Yuzhno-Sakhali 53.05 55⇓ *e*P **P** **12 13 29.3 +0.8**
YSS *e* 12 14 34.0
YSS pmax pmax
comp=Z,280nm,0.8s
KPL Plockton 53.17 319⇑ *e*P **P** **12 13 29.3 +0.2**
KPL IAmb IAmb 12 13 30.2
comp=Z,412nm,0.9s
GAL1 Galloway 53.18 316⇑ *e*P **P** **12 13 29.2 -0.1**
GAL1 IAmb IAmb 12 13 30.4
comp=Z,192nm,1.1s
MJB9 Matsu-Tunnel 53.18 68 P **P** **12 13 30.4 +0.7**
MAJO Matsushiro 53.18 68 P **P** **12 13 29.4 -0.2**
MAJO Matsushiro 53.18 68 P **P** **12 13 29.8 +0.1**
MAJO Matsushiro 53.18 68 P **P** **12 13 29.4 -0.2**
MAJO pmax pmax
comp=Z,121nm,1.0s
MAJO Matsushiro 53.18 68 P **P** **12 13 29.2 -0.4**
MAJO pP **pP** **12 14 18.8 -0.3**
MAJO PcP **PcP** **12 14 34.0 -0.6**
MAJO ScP **ScP** **12 18 09.3 -1.8**
MJAR Matsushiro Arr 53.19 68 P **P** **12 13 29.8 +0.1**
comp=Z,98nm,1.1s,baz=292,slow=8.7,SNR=104
MJAR pP **pP** **12 14 19.9 +0.8**
comp=Z,20nm,1.0s,baz=291,slow=10,SNR=2.6
MJAR PcP **PcP** **12 14 34.5 -0.1**
comp=Z,36nm,0.9s,baz=257,slow=4.2,SNR=9.0
MJAR ScP **ScP** **12 18 09.4 -1.6**
comp=Z,30nm,1.2s,baz=294,slow=5.5,SNR=8.5
MJAR P4KPbc 12 50 47.5
comp=Z,2.2nm,0.9s,baz=284,slow=4.9,SNR=4.8
comp=Z,98nm,1.1s
IOMK Kirk Michael 53.23 315⇑ *e*P **P** **12 13 29.9 +0.2**
IOMK IAmb IAmb 12 13 31.0
comp=Z,170nm,1.0s
LAWE Loch Awe, Argy 53.26 317⇑ *e*P **P** **12 13 30.0 +0.2**
LAWE IAmb IAmb 12 13 31.1
comp=Z,387nm,1.0s
WIM Isle of Man 53.32 315⇑ *e*P **P** **12 13 30.4 +0.1**
WLF1 Llynfaes 53.36 314⇑ *e*P **P** **12 13 30.7 +0.1**
WPS Cemaes, Angles 53.39 314⇑ *e*P **P** **12 13 31.0 +0.2**
WPS IAmb IAmb 12 13 31.4
comp=Z,142nm,1.0s
LEWI Lewis, Hebride 53.65 320⇑ *e*P **P** **12 13 32.9 +0.3**
LEWI IAmb IAmb 12 13 34.1
comp=Z,326nm,0.9s
EIBI Ibiza 53.72 295 P **P** **12 13 32.7 -0.8**
JTM Tenmabayashi 53.79 62 IAmb IAmb 12 13 35.3
comp=Z,224nm,1.1s
JTM Tenmabayashi 53.79 62 P **P** **12 13 35.0 +1.0**
DYA Yadsworthy 53.79 310⇑ *e*P **P** **12 13 33.5 -0.3**
DYA IAmb IAmb 12 13 34.5
comp=Z,361nm,1.5s
NOR Nord 53.86 350 *i*P **P** **12 13 34.5 +0.7**
NOR IAmb IAmb 12 13 36.1
comp=Z,349nm,1.3s
RSBS Rosebush, Pemb 53.89 312 *e*P **P** **12 13 34.3 -0.2**
RSBS IAmb IAmb 12 13 35.2
comp=Z,569nm,1.8s
CGJI Cibinong 53.90 135 P **P** **12 13 32.0 -2.9**
comp=Z,104nm,0.7s
CLGH Cloghs, Cushen 53.91 316 *e*P **P** **12 13 34.2 -0.4**
CLGH IAmb IAmb 12 13 35.8
comp=Z,239nm,1.1s
HTL Hartland 53.99 311⇑ *e*P **P** **12 13 34.5 -0.6**
HTL IAmb IAmb 12 13 35.9
comp=Z,102nm,0.7s
SBD Saint Breward 54.22 310⇑ *e*P **P** **12 13 36.5 -0.4**
SBD IAmb IAmb 12 13 37.5
comp=Z,732nm,1.7s
COCO West Island 54.24 148 P **P** **12 13 40.0 +2.7**
COCO IAmb IAmb 12 13 40.6
comp=Z,116nm,0.8s
COCO West Island 54.24 148 P **P** **12 13 39.4 +2.0**
COCO West Island 54.24 148 P **P** **12 13 40.0 +2.7**
COCO pmax pmax
comp=Z,116nm,0.9s
ILTH Belurgan, Co L 54.30 315 P **P** **12 13 36.8 -0.6**
DSB Dublin 54.52 314 P **P** **12 13 39.2 +0.2**
MA2 Magadan 54.57 38 P **P** **12 13 39.7 +0.5**
MA2 IAmb IAmb 12 13 41.5
comp=Z,217nm,1.1s
MA2 Magadan 54.57 38 P **P** **12 13 40.3 +1.0**
MA2 Magadan 54.57 38 *i*P **P** **12 13 38.3 -1.0**
MA2 pmax pmax
comp=Z,239nm,1.2s
MA2 Magadan 54.57 38 P **P** **12 13 39.9 +0.6**
MA2 PcP **PcP** **12 14 39.5 0.0**
MA2 ScP **ScP** **12 18 16.3 -0.4**
SEY Seymchan 54.62 34 *i*P **P** **12 13 40.7 +1.2**
SEY pmax pmax
comp=Z,333nm,1.1s
JMM Marumori 54.62 66 IAmb IAmb 12 13 41.4
comp=Z,419nm,1.3s
JMM Marumori 54.62 66 P **P** **12 13 40.7 +0.7**
CCA1 Carnmenellis 54.66 310 *e*P **P** **12 13 39.0 -1.0**
CCA1 IAmb IAmb 12 13 40.8
comp=Z,203nm,0.8s
IDGL Inch Island, C 54.70 316⇑ *e*P **P** **12 13 40.5 +0.3**
IDGL IAmb IAmb 12 13 41.6
comp=Z,374nm,0.9s
IDGL Inch Island, C 54.70 316 P **P** **12 13 40.8 +0.6**
DAG Danmarks Havn 54.76 344 *i*P **P** **12 13 41.0 +0.6**

DAG IAmb IAmb 12 13 42.4
comp=Z,712nm,1.0s
IWEX Carrickbyrne, 54.99 313 *e*P **P** **12 13 42.6 +0.2**
IWEX IAmb IAmb 12 13 43.4
comp=Z,270nm,1.1s
IWEX Carrickbyrne, 54.99 313 P **P** **12 13 42.8 +0.5**
ECHE Chera 55.20 297 P **P** **12 13 44.4 +0.3**
MTKI Muara Teweh, K 55.32 122 P **P** **12 13 47.8 +2.6**
comp=Z,50nm,0.7s
DBG Daneborg 55.60 341 *i*P **P** **12 13 47.7 +1.3**
DBG IAmb IAmb 12 13 49.0
comp=Z,204nm,1.0s
BBJI Bungbulang 55.71 134 P **P** **12 13 46.6 -1.4**
CART Cartagena 55.96 294 P **P** **12 13 48.0 -1.5**
EMUR La Murta 56.04 295 P **P** **12 13 49.2 -1.0**
IGLA Glengowla, Co 56.20 315⇑ *e*P **P** **12 13 50.9 -0.1**
IGLA IAmb IAmb 12 13 51.8
comp=Z,188nm,1.1s
IGLA Glengowla, Co 56.20 315 P **P** **12 13 51.0 +0.1**
KPJI Karang Pucung 56.36 133 P **P** **12 13 52.9 +0.4**
TLOR Lorca, Murcia 56.44 295 P **P** **12 13 53.4 +0.4**
UCM Universidad Co 56.56 298 P **P** **12 13 53.4 -0.5**
XMI Christmas Isla 57.05 138 P **P** **12 13 57.1 -0.3**
XMIS Christmas Isla 57.05 138 P **P** **12 13 56.7 -0.7**
SCO Scoresbysund 57.06 336 P **P** **12 13 58.4 +1.7**
SCO IAmb IAmb 12 13 59.9
comp=Z,144nm,1.0s
SCO Scoresbysund 57.06 336 P **P** **12 13 58.4 +1.7**
SCO pmax pmax
comp=Z,144nm,1.0s
SCO Scoresbysund 57.06 336 *i*P **P** **12 13 57.5 +0.8**
SCO IAmb IAmb 12 13 59.6
comp=Z,113nm,0.9s
ENIJ Nijar 57.09 294 P **P** **12 13 57.0 -0.5**
VAL Valentia 57.16 313 P **P** **12 13 57.5 -0.2**
ESBB Sonseca Array 57.31 298 P **P** **12 13 59.2 +0.1**
ESBB IAmb IAmb 12 14 00.5
comp=Z,209nm,0.8s
ESDC Sonseca Array 57.31 298 P **P** **12 13 58.9 -0.2**
ESDC Sonseca Array 57.31 298 P **P** **12 13 59.2 +0.1**
comp=Z,176nm,0.8s,baz=60,slow=7.2,SNR=432
ESDC PcP **PcP** **12 14 50.5 -0.1**
comp=Z,14nm,0.7s,baz=52,slow=4.6,SNR=5.2
ESDC ScP **ScP** **12 18 28.4 -0.9**
comp=Z,5.8nm,1.0s,baz=64,slow=6.4,SNR=3.5
ESDC PKPPKP **P'P'df** **12 43 45.9 -0.7**
comp=Z,2.7nm,1.1s,baz=317,slow=2.9,SNR=5.2
comp=Z,176nm,0.8s
TAM Tamanrasset 57.34 276 P **P** **12 13 59.6 0.0**
TAM Tamanrasset 57.34 276 P **P** **12 13 59.6 0.0**
TAM pmax pmax
comp=Z,92nm,0.9s
TAM Tamanrasset 57.34 276 P **P** **12 13 59.6 0.0**
TAM PcP **PcP** **12 14 52.2 +1.1**
PAB San Pablo 57.64 298 P **P** **12 14 01.4 +0.1**
PAB IAmb IAmb 12 14 02.9
comp=Z,404nm,1.4s
PAB San Pablo 57.64 298 P **P** **12 14 01.5 +0.1**
PAB pmax pmax
comp=Z,404nm,1.4s
NGJI Ngawi 57.92 130 P P 12 14 12.9 +9.5
TOLI2 Tolitoli 58.04 115 P **P** **12 14 05.1 +0.7**
TOLI2 Tolitoli 58.04 115 P **P** **12 14 06.6 +2.3**
PBRG Braganca 58.45 301 *e*P **P** **12 14 07.0 0.0**
PBRG *i* Amb 12 14 09.6
comp=Z,180nm,1.6s
BORG Borgarnes 58.58 330 P **P** **12 14 10.2 +2.8**
BORG IAmb IAmb 12 14 11.2
comp=Z,237nm,0.8s
BORG Borgarnes 58.58 330 P **P** **12 14 09.7 +2.3**
comp=Z,208nm,0.7s,baz=87,slow=4.8,SNR=121
BORG PP **PP** **12 16 21.0 +1.9**
comp=Z,49nm,1.1s,baz=82,slow=5.6,SNR=4.1
comp=Z,208nm,0.7s
BORG Borgarnes 58.58 330 P **P** **12 14 10.2 +2.8**
BORG pmax pmax
comp=Z,237nm,0.8s
BORG Borgarnes 58.58 330 P **P** **12 14 09.9 +2.5**
BILL Biiibino 58.78 26 P **P** **12 14 10.1 +1.3**
BILL IAmb IAmb 12 14 11.6
comp=Z,479nm,1.2s
BILL Biiibino 58.78 26 *i*P **P** **12 14 09.0 +0.3**
BILL pmax pmax
comp=Z,455nm,1.2s
BILL Biiibino 58.78 26 P **P** **12 14 09.9 +1.1**
BILL PcP **PcP** **12 14 57.0 +1.1**
MVO Moncorvo 58.90 300⇑ *e*P **P** **12 14 10.4 +0.3**
MVO *i* Amb 12 14 12.0
comp=Z,222nm,1.1s
RER Riviere de l'E 58.98 196 P **P** **12 14 12.1 +1.4**
RER IAmb IAmb 12 14 23.1
comp=Z,110nm,0.9s
MRSI Marisa 59.31 115 P **P** **12 14 14.0 +0.9**
comp=Z,4μmcomp=Z,547nm,1.0s
PVRL Vila Real 59.33 301 *e*P **P** **12 14 13.2 +0.2**
POLO Lamas de Olo 59.35 301⇑ *e*P **P** **12 14 13.3 +0.2**
POLO *i* Amb 12 14 15.0
comp=Z,61nm,1.4s
ABPO Ambohimpanom 59.44 206 P **P** **12 14 15.6 +1.6**
ABPO IAmb IAmb 12 14 21.7
comp=Z,198nm,1.2s
ABPO Ambohimpanom 59.44 206 P **P** **12 14 15.6 +1.6**
ABPO pmax pmax
comp=Z,199nm,1.3s
PGAV Gavieira, Arco 59.44 302 *e*P **P** **12 14 14.4 +0.6**
PGAV *i* Amb 12 14 17.7
comp=Z,186nm,1.1s
MTE Manteigas 59.56 300 P **P** **12 14 15.2 +0.6**
MTE IAmb IAmb 12 14 16.7
comp=Z,386nm,1.0s
MTE Manteigas 59.56 300⇑ *e*P **P** **12 14 15.4 +0.8**
MTE *i* Amb 12 14 16.9
comp=Z,490nm,1.1s
PVIS Viseu 59.68 300 *e*P **P** **12 14 16.1 +0.7**
PCBR Castelo Branco 59.74 299 *e*P **P** **12 14 16.1 +0.4**
PCBR *i* Amb 12 14 17.8
comp=Z,173nm,1.2s
PMRV Marv??o 59.85 299 *e*P **P** **12 14 16.5 0.0**
PMRV *i* Amb 12 14 18.5
comp=Z,271nm,1.2s
ABJI Asem Bagus 59.98 128 P **P** **12 14 19.6 +2.0**
APSI Ampana 60.05 116 P **P** **12 14 19.3 +1.2**
comp=Z,3μmcomp=Z,372nm,1.4s
PBAR Barrancos 60.11 297⇑ *e*P **P** **12 14 18.6 +0.3**
PBAR *i* Amb 12 14 20.2
comp=Z,479nm,1.1s
SKR Severo-Kuril's 60.18 47 *e*P P 12 14 04.7 -14
SKR *e*S **S** **12 22 07.4 -6.9**
SKR pmax pmax
comp=Z,3μm,6.5s
SKR MLR MLR
comp=Z,3μm,17.0s
PEA0B Petropavlovsk- 60.18 44 P **P** **12 14 18.7 +0.2**
PEA0B Petropavlovsk- 60.18 44 P **P** **12 14 18.7 +0.2**
PEA0B pmax pmax
comp=Z,73nm,1.0s
PETK Petropavlovsk- 60.18 44 P **P** **12 14 18.1 -0.4**
PETK Petropavlovsk- 60.18 44 P **P** **12 14 17.9 -0.6**
comp=Z,24nm,0.9s,baz=28,slow=1.7,SNR=31
comp=Z,24nm,0.9s
PETK Petropavlovsk- 60.18 44 P **P** **12 14 18.2 -0.4**
PESTR Estremoz 60.22 298 P **P** **12 14 19.4 +0.4**
PESTR IAmb IAmb 12 14 20.5
comp=Z,219nm,0.9s
PESTR Estremoz 60.22 298⇑ *e*P **P** **12 14 19.2 +0.2**
PESTR *i* Amb 12 14 20.7
comp=Z,284nm,1.1s
TTSI Tana Toraja 60.23 120 P **P** **12 14 19.7 +0.3**
comp=Z,2μmcomp=Z,69nm,0.9s
COI Coimbra 60.25 300 IAmb IAmb 12 14 21.5
comp=Z,428nm,1.0s
COI Coimbra 60.25 300 *e*P **P** **12 14 20.2 +1.0**
COI *i* Amb 12 14 21.7
comp=Z,506nm,0.9s
PCAS Casmilo, Conde 60.37 300 *e*P **P** **12 14 20.1 +0.1**
PCAS *i* Amb 12 14 21.6
comp=Z,178nm,1.2s
JAGI Jajag, Banyuwa 60.45 129 P **P** **12 14 18.5 -2.3**
PMTG Montargil 60.59 299 *e*P **P** **12 14 21.7 +0.2**
PMTG *i* Amb 12 14 23.9
comp=Z,151nm,1.3s
KMSI Cibinong 60.75 113 P **P** **12 14 24.2 +1.3**
comp=Z,6μmcomp=Z,698nm,1.0s
PET Petropavlovsk 60.75 44 P **P** **12 14 21.5 -0.8**
PET IAmb IAmb 12 14 22.5

comp=Z,139nm,1.2s
PET Petropavlovsk 60.75 44 P **P** **12 14 21.7 -0.6**
PET Petropavlovsk 60.75 44 *i*P **P** **12 14 20.5 -1.8**
PET pmax pmax
comp=Z,137nm,1.2s
PET Petropavlovsk 60.75 44 P **P** **12 14 21.3 -1.0**
PBEJ Beja 60.77 297⇑ *e*P **P** **12 14 23.2 +0.5**
PBEJ *i* Amb 12 14 24.6
comp=Z,263nm,1.3s
PSBE So Bento 60.80 299 *e*P **P** **12 14 23.8 +0.8**
PSBE *i* Amb 12 14 25.3
comp=Z,461nm,0.8s
SRBI Singaraja 60.83 127 P **P** **12 14 24.0 +0.7**
comp=Z,82nm,1.0s
SPSI Sidrap Palu 60.85 120 P **P** **12 14 24.8 +1.3**
PVAQ Vaqueiros 60.92 297 IAmb IAmb 12 14 25.3
comp=Z,224nm,0.9s
PVAQ Vaqueiros 60.92 297⇑ *e*P **P** **12 14 24.2 +0.4**
PVAQ *i* Amb 12 14 25.5
comp=Z,391nm,1.4s
PCVE Castro Verde 61.06 297⇑ *e*P **P** **12 14 24.9 +0.3**
PCVE *i* Amb 12 14 27.4
comp=Z,233nm,1.3s
NEEM North Greenlan 61.08 348 *i*P **P** **12 14 25.4 +0.9**
NEEM IAmb IAmb 12 14 26.6
comp=Z,491nm,0.8s
SUMG Summit 61.08 341 *i*P **P** **12 14 25.0 +0.2**
SUMG IAmb IAmb 12 14 27.4
comp=Z,625nm,0.8s
MESJ Messejana 61.10 297 IAmb IAmb 12 14 26.7
comp=Z,247nm,0.9s
MESJ Messejana 61.10 297 *e*P **P** **12 14 25.4 +0.4**
MESJ IAmb IAmb 12 14 27.0
comp=Z,242nm,0.9s
MESJ Messejana 61.10 297⇑ *e*P **P** **12 14 25.4 +0.4**
MESJ *i* Amb 12 14 26.9
comp=Z,317nm,1.0s
MESJ Messejana 61.10 297 *e*P **P** **12 14 25.4 +0.4**
PBDV Barranco-do-Ve 61.15 297⇑ *e*P **P** **12 14 25.9 +0.5**
PBDV *i* Amb 12 14 27.4
comp=Z,596nm,1.1s
LIS Lisbon 61.39 299 *e*P **P** **12 14 27.4 +0.5**
LIS IAmb IAmb 12 14 28.8
comp=Z,291nm,0.9s
LIS Lisbon 61.39 299 *e*P **P** **12 14 27.4 +0.5**
PTEO Sao Teotonio 61.59 297 *e*P **P** **12 14 28.8 +0.6**
PTEO *i* Amb 12 14 29.8
comp=Z,335nm,1.0s
KAPI Kappang 61.59 121 P **P** **12 14 28.6 +0.1**
KAPI Kappang 61.59 121 P **P** **12 14 27.9 -0.6**
comp=Z,24nm,0.8s,baz=257,slow=7.9,SNR=8.9
comp=Z,24nm,0.8s
KAPI Kappang 61.59 121 P **P** **12 14 29.0 +0.5**
KAPI Kappang 61.59 121 P **P** **12 14 28.6 +0.1**
KAPI pmax pmax
comp=Z,62nm,1.4s
MORF Marmelete 61.64 297 *e*P **P** **12 14 29.1 +0.4**
MORF IAmb IAmb 12 14 30.0
comp=Z,508nm,2.1s
MORF Marmelete 61.64 297 *e*P **P** **12 14 28.4 -0.3**
MORF *i* Amb 12 14 30.7
comp=Z,212nm,1.5s
MORF Marmelete 61.64 297 *e*P **P** **12 14 29.1 +0.4**
PFVI Vila Bisbo 61.84 297 IAmb IAmb 12 14 31.8
comp=Z,242nm,0.9s
PFVI Vila Bisbo 61.84 297⇑ *e*P **P** **12 14 30.4 +0.5**
PFVI *i* Amb 12 14 31.9
comp=Z,448nm,1.8s
BKSI Bulukumba 62.06 121 P **P** **12 14 32.1 +0.5**
VOI Vohitsoka 62.26 205 IAmb IAmb 12 14 40.2
comp=Z,296nm,0.9s
VOI Vohitsoka 62.26 205 P **P** **12 14 34.6 +1.8**
SNR=18
KDI Kendari 62.85 118 P **P** **12 14 37.4 +0.5**
comp=Z,1μmcomp=Z,88nm,1.4s
BSSI Bau Bau, Buton 62.91 122 P **P** **12 14 39.4 +2.2**
comp=Z,2μmcomp=Z,172nm,0.8s
PLAI Plampang 63.05 126 P **P** **12 14 39.8 +1.7**
PLAI Plampang 63.05 126 P **P** **12 14 39.9 +1.8**
comp=Z,65nm,0.8s
TNTI Ternate 63.15 111 P **P** **12 14 39.9 +1.0**
TNTI Ternate 63.15 111 P **P** **12 14 39.7 +0.8**
comp=Z,5μmcomp=Z,433nm,1.5s
ICESG Greenland Ices 63.22 338 *i*P **P** **12 14 40.2 +1.3**
ICESG IAmb IAmb 12 14 41.2
comp=Z,425nm,0.8s
BBSI Bau Bau 63.89 119 P **P** **12 14 47.2 +3.6**
comp=Z,3μmcomp=Z,162nm,1.7s
SANI Sanana 63.99 114 P **P** **12 14 40.3 -4.0**
SANI Sanana 63.99 114 P **P** **12 14 44.7 +0.4**
SANI Sanana 63.99 114 P **P** **12 14 44.3 0.0**
comp=Z,3μmcomp=Z,265nm,1.1s
KULLO Kullorsuaq 64.11 346 *i*P **P** **12 14 44.4 +0.2**
KULLO IAmb IAmb 12 14 46.1
comp=Z,358nm,0.8s
ANGG Ammassalik, Gr 64.41 334 *i*P **P** **12 14 46.0 -0.2**
ANGG IAmb IAmb 12 14 48.1
comp=Z,386nm,0.8s
TULEG Thule 64.50 350 *i*P **P** **12 14 47.2 +0.5**
TULEG IAmb IAmb 12 14 48.3
comp=Z,386nm,1.1s
WBSI Waikabubak, Su 64.71 125 P **P** **12 14 47.4 -1.6**
comp=Z,2μmcomp=Z,156nm,0.8s
FOMA Nahampoana Res 65.04 204 P **P** **12 14 52.1 +1.4**
FOMA PcP **PcP** **12 15 25.4 +3.7**
UPNV Upernavik 65.17 345 *i*P **P** **12 14 51.4 +0.3**
UPNV IAmb IAmb 12 14 53.0
comp=Z,376nm,0.8s
LSZ Lusaka 65.24 226 P **P** **12 14 53.3 +0.9**
LSZ IAmb IAmb 12 14 54.4
comp=Z,151nm,0.7s
LSZ Lusaka 65.24 226 P **P** **12 14 53.5 +1.1**
LSZ Lusaka 65.24 226 P **P** **12 14 53.3 +0.9**
LSZ pmax pmax
comp=Z,151nm,0.7s
LSZ Lusaka 65.24 226 *i*P **P** **12 14 53.6 +1.1**
LSZ Lusaka 65.24 226 P **P** **12 14 53.2 +0.8**
NUUG Nuugaatsiaq 65.38 343 *i*P **P** **12 14 52.6 +0.2**
NUUG IAmb IAmb 12 14 54.2
comp=Z,176nm,1.0s
TORD Torodi Ar. Bea 65.50 269 P **P** **12 14 53.0 -1.2**
TORD Torodi Ar. Bea 65.50 269 P **P** **12 14 52.9 -1.2**
comp=Z,438nm,0.6s,baz=35,slow=6.4,SNR=2474
TORD PKPPKP **P'P'df** **12 43 29.7 -2.7**
comp=Z,1.2nm,0.7s,baz=312,slow=2.0,SNR=4.9
comp=Z,438nm,0.6s
NLAI Namlea 65.61 114 P **P** **12 14 55.8 +1.1**
comp=Z,2μmcomp=Z,277nm,0.9s
UMMG Ummannaq 65.70 342 *i*P **P** **12 14 54.9 +0.4**
UMMG IAmb IAmb 12 14 55.9
comp=Z,441nm,1.2s
BASI Baing, Sumba 65.92 125 P **P** **12 14 56.5 -0.2**
comp=Z,5μmcomp=Z,470nm,0.8s
ILULI Ilulissat 66.42 341 *i*P **P** **12 14 59.3 +0.2**
ILULI IAmb IAmb 12 15 00.9
comp=Z,628nm,0.8s
AAI Ambon 66.71 114 P **P** **12 15 04.3 +2.5**
comp=Z,2μmcomp=Z,181nm,1.1s
SWI Sorong 67.16 109 P **P** **12 15 04.5 -0.1**
comp=Z,5μmcomp=Z,511nm,1.1s
A21K Barrow 67.46 15 P **P** **12 15 06.8 +1.2**
baz=320,SNR=226
C16K Lisburne Hills 67.62 20 P **P** **12 15 07.5 +0.9**
C16K Lisburne Hills 67.62 20 P **P** **12 15 07.6 +0.9**
baz=314
B18K Kokolik River 67.75 18 P **P** **12 15 09.3 +1.8**
baz=316
SFJD Kangerlussuaq 67.77 339 P **P** **12 15 08.1 +0.5**
SFJD IAmb IAmb 12 15 09.3
comp=Z,303nm,1.0s
SFJD Kangerlussuaq 67.77 339 P **P** **12 15 08.1 +0.5**
comp=Z,188nm,0.8s,baz=43,slow=7.2,SNR=65
SFJD PP **PP** **12 17 39.3 -0.1**
comp=Z,84nm,1.0s,baz=54,slow=11,SNR=7.2
comp=Z,188nm,0.8s
SFJD Kangerlussuaq 67.77 339 *i*P **P** **12 15 08.4 +0.8**
SFJD IAmb IAmb 12 15 08.9
comp=Z,300nm,1.0s
SFJD Kangerlussuaq 67.77 339 P **P** **12 15 07.8 +0.2**
C17K DeLong Mountai 68.05 19 P **P** **12 15 10.5 +1.1**
baz=315
SOEI Soe 68.09 121 IAmb IAmb 12 15 28.7
comp=Z,239nm,1.1s
SOEI Soe 68.09 121 P **P** **12 15 10.1 -0.4**
SOEI Soe 68.09 121 P **P** **12 15 10.0 -0.4**
comp=Z,3μmcomp=Z,197nm,1.1s

RDOG **Red Dog Mine** 68.42 19 IAmb IAmb 12 15 13.7
comp=Z,339nm,1.2s
RDOG **Red Dog Mine** 68.42 19 P **P** **12 15 12.2 +0.5**
baz=316,SNR=52
C18K **Utukok River** 68.43 18 P **P** **12 15 12.9 +1.1**
baz=317
BNDI **Bandanaira** 68.53 113 P **P** **12 15 12.8 -0.4**
BNDI **Bandanaira** 68.53 113 P **P** **12 15 13.2 0.0**
D17K **Noatak River** 68.63 19 P **P** **12 15 14.0 +1.1**
baz=316,SNR=635
GAMB **Gambell** 68.68 25 IAmb IAmb 12 15 15.6
comp=Z,165nm,1.2s
GAMB **Gambell** 68.68 25 P **P** **12 15 14.4 +1.1**
baz=310,SNR=17
TNA **Tin City** 68.73 22 IAmb IAmb 12 15 16.1
comp=Z,186nm,1.1s
TNA **Tin City** 68.73 22 P **P** **12 15 14.8 +1.2**
baz=312,SNR=69
RES **Resolute Bay** 68.78 356 P **P** **12 15 14.5 +0.8**
comp=Z,59nm,0.8s,baz=25,slow=8.5,SNR=155
comp=Z,59nm,0.8s
B22K **Teshekpuk Lake** 68.89 15 P **P** **12 15 15.9 +1.4**
baz=323
BLWY **Bulawayo** 68.90 222 *i* P **P** **12 15 15.7 +0.3**
KSANE **Kasane** 69.00 227 *i* P **P** **12 15 17.3 +1.3**
B21K **Ikpikpuk River** 69.22 15 P **P** **12 15 18.0 +1.5**
baz=322
FAKI **Fak Fak** 69.24 110 P **P** **12 15 17.7 +0.1**
FAKI IAmb IAmb 12 15 19.1
comp=Z,300nm,0.9s
FAKI **Fak Fak** 69.24 110 P **P** **12 15 18.5 +1.0**
FAKI **Fak Fak** 69.24 110 P **P** **12 15 18.3 +0.8**
comp=Z,4µmcomp=Z,389nm,1.1s
F14K **Arctic Creek** 69.28 22 P **P** **12 15 18.4 +1.5**
baz=314
D19K **Kuna River** 69.30 17 P **P** **12 15 18.2 +1.1**
baz=320
E17K **Hotham Inlet** 69.41 19 P **P** **12 15 18.7 +1.0**
baz=317,SNR=176
D20K **Etivluk River** 69.48 17 P **P** **12 15 19.3 +1.0**
baz=321
E18K **Tukpahlearik C** 69.48 19 P **P** **12 15 19.3 +1.1**
baz=318
C21K **Knifeblade Rid** 69.55 16 P **P** **12 15 19.9 +1.3**
baz=322,SNR=189
F15K **North Star Dit** 69.61 21 P **P** **12 15 20.5 +1.5**
baz=315
PMAR **Madeira** 69.77 296 *eP* **P** **12 15 21.3 +0.5**
PMAR *i* Amb 12 15 22.7
comp=Z,1µm,1.3s
NRS **Narsarsuaq** 69.86 332 *i* P **P** **12 15 20.0 -0.5**
NRS IAmb IAmb 12 15 22.0
comp=Z,327nm,0.9s
PMOZ **Porto Moniz, M** 69.92 296 *eP* **P** **12 15 22.7 +1.1**
PMOZ *i* Amb 12 15 28.2
comp=Z,372nm,1.7s
E20K **Nigu River** 69.94 17 P **P** **12 15 22.1 +1.1**
baz=321
MUSN **Musina, Limpop** 69.99 220 *i* P **P** **12 15 22.6 +0.7**
NUUK **Nuuk** 70.03 337 *i* P **P** **12 15 21.1 -0.4**
NUUK IAmb IAmb 12 15 23.0
comp=Z,225nm,1.0s
F17K **Baldwin Pennin** 70.04 20 P **P** **12 15 23.1 +1.5**
baz=318
ANM **Nome** 70.20 22 IAmb IAmb 12 15 25.5
comp=Z,261nm,1.0s
ANM **Nome** 70.20 22 P **P** **12 15 24.3 +1.6**
baz=315,SNR=99
D22K **Ayikyak River** 70.22 15 P **P** **12 15 24.0 +1.3**
baz=324,SNR=193
MOPA **Mopani** 70.23 218 *i* P **P** **12 15 24.8 +1.5**
E21K **Killik River** 70.30 16 P **P** **12 15 24.1 +0.9**
baz=323
G15K **Niukluk** 70.30 22 P **P** **12 15 24.4 +1.2**
baz=316,SNR=53
E19K **Redstone River** 70.31 18 IAmb IAmb 12 15 25.2
comp=Z,278nm,1.1s
E19K **Redstone River** 70.31 18 P **P** **12 15 24.1 +0.8**
baz=321
C24K **Franklin Bluff** 70.33 14 P **P** **12 15 24.9 +1.6**
baz=327
F18K **Selawik** 70.35 19 P **P** **12 15 24.4 +0.9**
baz=319,SNR=373
BROLN **Tlhalogang** 70.38 223 *i* P **P** **12 15 24.7 +0.3**
G16K **Koyuk River** 70.50 21 P **P** **12 15 25.8 +1.4**
baz=317
D23K **Nanushuk River** 70.57 15 IAmb IAmb 12 15 27.4
comp=Z,393nm,1.1s
D23K **Nanushuk River** 70.57 15 P **P** **12 15 26.1 +1.3**
baz=326
F19K **Shaleruckik Mo** 70.66 18 P **P** **12 15 25.6 +0.3**
baz=320
D24K **Happy Valley** 70.78 14 P **P** **12 15 27.4 +1.3**
baz=327
C26K **Camden Bay** 70.85 12 P **P** **12 15 28.4 +2.0**
baz=330,SNR=110
G17K **Kiwalik Mounta** 70.90 20 P **P** **12 15 27.9 +1.0**
baz=318
E22K **Anaktuvuk Pass** 71.02 16 P **P** **12 15 28.6 +1.0**
baz=325
TOLK **Toolik Lake Re** 71.07 15 P **P** **12 15 29.1 +1.3**
baz=327,SNR=403
H16K **Elim** 71.09 21 P **P** **12 15 29.2 +1.2**
baz=317,SNR=193
BAKI **Biak** 71.10 106 P **P** **12 15 31.2 +2.4**
comp=Z,205nm,1.2s
D25K **Kavik River** 71.10 13 P **P** **12 15 29.5 +1.5**
baz=329
G18K **Tagagawik** 71.15 19 IAmb IAmb 12 15 30.2
comp=Z,290nm,1.4s
G18K **Tagagawik** 71.15 19 P **P** **12 15 28.9 +0.6**
baz=320
C27K **Jago River** 71.31 12 P **P** **12 15 31.2 +2.0**
baz=331
A36M **Sachs Harbour** 71.32 5 P **P** **12 15 30.5 +1.3**
A36M **Sachs Harbour** 71.32 5 P **P** **12 15 30.5 +1.3**
baz=346,SNR=762
G19K **Purcell Mounta** 71.37 19 P **P** **12 15 30.4 +0.8**
baz=321
F21K **Alatna River** 71.39 17 P **P** **12 15 30.8 +1.1**
baz=324
MREMI **Moremi** 71.50 222 *i* P **P** **12 15 31.6 +0.6**
H17K **Granite Mounta** 71.53 20 IAmb IAmb 12 15 33.0
comp=Z,300nm,0.9s
H17K **Granite Mounta** 71.53 20 P **P** **12 15 31.8 +1.2**
baz=319,SNR=90
E23K **Chandalar** 71.55 15 IAmb IAmb 12 15 33.1
comp=Z,387nm,1.1s
E23K **Chandalar** 71.55 15 P **P** **12 15 32.0 +1.3**
baz=327
SRPI **Serui, Papua** 71.63 107 P **P** **12 15 32.6 +0.6**
comp=Z,4µmcomp=Z,182nm,1.0s
E24K **Your Creek** 71.76 14 P **P** **12 15 33.4 +1.4**
baz=328
H18K **Honhosa River** 71.80 20 P **P** **12 15 33.2 +1.0**
baz=320
SAUI **Saumlaki** 71.87 115 P **P** **12 15 35.3 +1.9**
SAUI **Saumlaki** 71.87 115 P **P** **12 15 35.7 +2.3**
G21K **Allakaket** 71.95 17 P **P** **12 15 33.5 +0.4**
baz=324
H19K **Roundabout Mou** 72.01 19 IAmb IAmb 12 15 35.7
comp=Z,313nm,0.9s
H19K **Roundabout Mou** 72.01 19 P **P** **12 15 34.5 +1.1**
baz=322
J14K **Nanvaranak Lak** 72.07 23 IAmb IAmb 12 15 36.5
comp=Z,332nm,0.9s
J14K **Nanvaranak Lak** 72.07 23 P **P** **12 15 35.2 +1.5**
baz=317,SNR=56
D27M **Malcolm River** 72.10 11 P **P** **12 15 35.8 +1.8**
baz=334
I17K **Unalakleet** 72.10 21 IAmb IAmb 12 15 36.8
comp=Z,388nm,1.1s
I17K **Unalakleet** 72.10 21 P **P** **12 15 35.7 +1.7**
baz=319,SNR=46
COLD **Coldfoot** 72.12 16 P **P** **12 15 35.3 +1.3**
baz=326,SNR=535
E25K **Arctic Village** 72.29 13 IAmb IAmb 12 15 37.5
comp=Z,248nm,1.0s
E25K **Arctic Village** 72.29 13 P **P** **12 15 36.3 +1.2**
baz=330,SNR=225
K13K **Kusilvak Mount** 72.31 24 IAmb IAmb 12 15 37.8
comp=Z,295nm,1.1s
K13K **Kusilvak Mount** 72.31 24 P **P** **12 15 36.6 +1.4**
baz=316,SNR=36
IMAR **Indian Mountai** 72.33 18 P **P** **12 15 35.9 +0.6**
F24K **Squaw Lake** 72.36 15 P **P** **12 15 36.8 +1.3**
baz=328

D28M **Stokes Point** 72.36 11 P **P** **12 15 37.5 +2.1**
baz=336,SNR=48
H20K **Anotleneega Mo** 72.44 18 P **P** **12 15 36.9 +0.9**
baz=323
GCSA **Galena City Sc** 72.51 19 P **P** **12 15 37.7 +1.3**
baz=321,SNR=185
J16K **Anvik River** 72.58 22 P **P** **12 15 38.5 +1.6**
baz=319
G23K **Bananza Creek** 72.59 16 IAmb IAmb 12 15 39.3
comp=Z,264nm,0.9s
G23K **Bananza Creek** 72.59 16 P **P** **12 15 38.1 +1.2**
baz=327
CKGRV **CKGRV** 72.62 226 *i* P **P** **12 15 38.7 +0.9**
QNGWA **Qangwa** 72.71 229 *i* P **P** **12 15 39.4 +1.1**
F25K **Christian Rive** 72.74 14 P **P** **12 15 39.5 +1.7**
F25K IAmb IAmb 12 15 40.7
comp=Z,328nm,0.9s
F25K **Christian Rive** 72.74 14 P **P** **12 15 39.5 +1.7**
baz=330
H21K **Melozitna Rive** 72.82 17 IAmb IAmb 12 15 40.5
comp=Z,407nm,1.1s
H21K **Melozitna Rive** 72.82 17 P **P** **12 15 39.3 +1.0**
baz=324
BART **Pico Bartolome** 72.86 304 *eP* **P** **12 15 39.0 -0.1**
BART *i* Amb 12 15 41.1
comp=Z,227nm,0.9s
M11K **Mekoryuk** 72.89 26 IAmb IAmb 12 15 42.0
comp=Z,170nm,1.0s
M11K **Mekoryuk** 72.89 26 P **P** **12 15 40.9 +2.2**
baz=315,SNR=6.3
E28M **Babbage River** 72.90 11 P **P** **12 15 40.3 +1.6**
baz=335
F26K **Sheenjek River** 72.93 13 P **P** **12 15 40.4 +1.5**
baz=331
J17K **VABM Dome** 72.95 21 IAmb IAmb 12 15 41.4
comp=Z,194nm,0.8s
J17K **VABM Dome** 72.95 21 P **P** **12 15 40.2 +1.2**
baz=320
H22K **Ishtalitna Cre** 72.96 17 P **P** **12 15 40.2 +1.2**
baz=326,SNR=61
LPHEP **Lephephe** 73.00 223 *i* P **P** **12 15 40.6 +0.7**
K15K **Wolf Creek Mou** 73.04 23 IAmb IAmb 12 15 42.6
comp=Z,171nm,0.9s
K15K **Wolf Creek Mou** 73.04 23 P **P** **12 15 41.5 +1.9**
baz=318
BMAR **Burnt Mountain** 73.08 13 P **P** **12 15 41.8 +2.0**
I20K **Naaghedeneel** 73.10 19 P **P** **12 15 41.2 +1.4**
I20K **Naaghedeneel** 73.10 19 P **P** **12 15 41.3 +1.4**
baz=323,SNR=30
CMLA **Cha da Macela** 73.11 305 *eP* **P** **12 15 41.2 +0.8**
CMLA *i* Amb 12 15 42.8
comp=Z,212nm,1.4s
G24K **Hadweenzic Riv** 73.14 15 P **P** **12 15 41.8 +1.7**
baz=329
PSET **Sete Cidades** 73.20 305 *eP* **P** **12 15 41.4 +0.4**
PSET *i* Amb 12 15 42.2
comp=Z,229nm,0.7s
PSMA **Santa Maria** 73.26 304 *eP* **P** **12 15 41.9 +0.6**
PSMA *i* Amb 12 15 43.4
comp=Z,315nm,1.0s
E29M **Blow River** 73.35 11 P **P** **12 15 43.0 +1.7**
baz=336
L14K **Kuka Creek** 73.39 24 P **P** **12 15 43.3 +1.8**
baz=318,SNR=66
I21K **Tanana** 73.41 17 IAmb IAmb 12 15 44.0
comp=Z,264nm,0.9s
I21K **Tanana** 73.41 17 P **P** **12 15 42.9 +1.2**
baz=325,SNR=85
J19K **Porman** 73.44 19 P **P** **12 15 43.2 +1.3**
baz=323
L15K **Ungalak Mounta** 73.52 23 P **P** **12 15 43.8 +1.5**
baz=318,SNR=25
J18K **Innoko River** 73.56 20 P **P** **12 15 43.8 +1.2**
baz=322
SMPI **Sarmi** 73.62 105 P **P** **12 15 44.6 +0.9**
comp=Z,4µmcomp=Z,332nm,1.2s
G26K **Porcupine Rive** 73.65 13 P **P** **12 15 44.6 +1.6**
baz=332
KDWAN **Kaudwane** 73.68 224 *i* P **P** **12 15 44.6 +0.7**
J20K **Nowinta River** 73.69 19 P **P** **12 15 44.7 +1.4**
baz=324,SNR=244
K17K **Iditarod** 73.70 21 P **P** **12 15 44.9 +1.5**
baz=321
F28M **Old Crow** 73.75 12 IAmb IAmb 12 15 46.4
comp=Z,321nm,1.1s
F28M **Old Crow** 73.75 12 P **P** **12 15 45.1 +1.5**
baz=335,SNR=216
H24K **Noodor Dome** 73.80 16 IAmb IAmb 12 15 46.6
comp=Z,251nm,0.8s
H24K **Noodor Dome** 73.80 16 P **P** **12 15 45.5 +1.5**
baz=328
M13K **Dall Lake** 73.85 25 P **P** **12 15 46.8 +2.5**
baz=317,SNR=34
C36M **Paulatuk** 73.99 5 P **P** **12 15 45.7 +0.8**
baz=348,SNR=736
PSA00 **Pilbara Seismi** 74.00 133 P **P** **12 15 46.5 +0.8**
INK **Inuvik** 74.03 9 P **P** **12 15 46.4 +1.2**
comp=Z,471nm,0.8s,baz=357,slow=7.5,SNR=971
comp=Z,471nm,0.8s
INK **Inuvik** 74.03 9 P **P** **12 15 46.5 +1.3**
baz=340,SNR=523
I23K **Minto, Yukon-K** 74.05 16 P **P** **12 15 46.7 +1.4**
baz=327,SNR=193
M14K **Bethel** 74.06 24 P **P** **12 15 47.3 +1.8**
baz=318,SNR=108
GRTLG **Ghanzi** 74.09 228 *i* P **P** **12 15 47.9 +1.6**
L16K **Owhat River** 74.12 22 P **P** **12 15 47.7 +1.9**
baz=320,SNR=117
L17K **Donlin** 74.15 22 P **P** **12 15 47.7 +1.7**
baz=321,SNR=110
G27K **Doyon Strip** 74.17 13 P **P** **12 15 47.9 +1.8**
baz=333
TTA **Tatalina** 74.19 20 IAmb IAmb 12 15 48.7
comp=Z,155nm,0.9s
TTA **Tatalina** 74.19 20 P **P** **12 15 47.5 +1.2**
baz=322,SNR=94
TTA **Tatalina** 74.19 20 P **P** **12 15 47.3 +1.0**
PMAN **Manadas** 74.31 306 *eP* **P** **12 15 46.5 -0.9**
PMAN *i* Amb 12 15 51.9
comp=Z,204nm,1.1s
K20K **Telida** 74.37 19 P **P** **12 15 48.6 +1.3**
baz=324
F30M **Barrier River** 74.38 10 P **P** **12 15 48.8 +1.5**
baz=338
CHUM **Lake Minchumin** 74.40 18 P **P** **12 15 48.8 +1.4**
baz=325,SNR=184
LBTB **Lobatse** 74.47 222 P **P** **12 15 49.7 +1.3**
LBTB **Lobatse** 74.47 222 P **P** **12 15 49.7 +1.3**
LBTB pmax pmax
comp=Z,516nm,1.3s
LBTB **Lobatse** 74.47 222 *i* P **P** **12 15 49.8 +1.3**
DBIC **Dimbokro** 74.48 267 P **P** **12 15 47.8 -0.9**
DBIC IAmb IAmb 12 15 49.0
comp=Z,192nm,0.9s
DBIC **Dimbokro** 74.48 267 P **P** **12 15 47.8 -0.9**
comp=Z,161nm,0.9s,baz=45,slow=6.8,SNR=152
DBIC PP **PP** **12 18 38.4 +0.1**
comp=Z,16nm,1.0s,baz=23,slow=8.3,SNR=4.8
comp=Z,161nm,0.9s
POKR **Poker Plat Res** 74.51 16 P **P** **12 15 49.5 +1.4**
baz=329,SNR=434
M15K **Kasigluk River** 74.52 24 P **P** **12 15 49.8 +1.7**
baz=319,SNR=56
BPAW **Bear Paw Mtn.** 74.55 18 IAmb IAmb 12 15 50.1
comp=Z,297nm,1.0s
BPAW **Bear Paw Mtn.** 74.55 18 P **P** **12 15 49.0 +0.7**
baz=326,SNR=140
L18K **Granite Mounta** 74.56 21 P **P** **12 15 49.6 +1.3**
baz=322
PRP **Porcupine Dome** 74.57 15 IAmb IAmb 12 15 52.5
comp=Z,128nm,0.7s
PRP **Porcupine Dome** 74.57 15 P **P** **12 15 50.0 +1.5**
baz=330,SNR=104
DRS **Darwin Rock St** 74.59 118 P **P** **12 15 50.0 +0.8**
NEA2 **Nenana** 74.59 17 P **P** **12 15 49.3 +0.8**
baz=328,SNR=65
COLA **College** 74.63 16 P **P** **12 15 49.4 +0.7**
COLA **College** 74.63 16 P **P** **12 15 49.6 +0.9**
baz=329
COLA **College** 74.63 16 P **P** **12 15 49.3 +0.6**
COLA **College** 74.63 16 P **P** **12 15 49.4 +0.7**
COLA pmax pmax
comp=Z,685nm,0.8s
KGCAE **Kacgae** 74.66 226 *i* P **P** **12 15 51.0 +1.4**
PCAN **Candelaria** 74.66 307 *eP* **P** **12 15 49.5 +0.1**
PCAN *i* Amb 12 15 51.3
comp=Z,212nm,1.1s

G29M **Pine Creek** 74.69 11 P **P** **12 15 50.4 +1.4**
baz=336
H27K **Steamboat Moun** 74.71 13 P **P** **12 15 50.9 +1.6**
baz=334
CALA **Caldeira** 74.73 307 *eP* **P** **12 15 50.4 +0.5**
CALA *i* Amb 12 15 52.8
comp=Z,506nm,1.0s
N14K **Kuskokwak Cree** 74.77 24 P **P** **12 15 51.3 +1.7**
baz=319
M16K **Timber Creek** 74.81 23 IAmb IAmb 12 15 53.0
comp=Z,295nm,0.9s
M16K **Timber Creek** 74.81 23 P **P** **12 15 51.8 +2.0**
baz=320
F31M **Tsiigehtchic** 74.82 10 P **P** **12 15 51.0 +1.3**
baz=340,SNR=408
CCB **Clear Creek Bu** 74.83 16 IAmb IAmb 12 15 52.3
comp=Z,113nm,0.8s
CAST **Castle Rocks** 74.84 18 P **P** **12 15 51.0 +1.1**
baz=326,SNR=465
G30M **tAoh Zraii Nji** 74.90 11 P **P** **12 15 51.2 +0.9**
baz=338
WRH **Wood River Hil** 74.92 16 IAmb IAmb 12 15 51.7
comp=Z,181nm,0.8s
ILAR **Eielson Array** 74.93 16 P **P** **12 15 50.7 +0.3**
ILAR **Eielson Array** 74.93 16 P **P** **12 15 50.4 -0.1**
comp=Z,174nm,0.9s,baz=318,slow=3.4,SNR=1353
ILAR PP **PP** **12 18 40.8 +0.3**
comp=Z,26nm,1.0s,baz=317,slow=6.7,SNR=5.4
ILAR PKKP **PKKPdf** **12 34 58.1 +1.6**
comp=Z,0.5nm,0.7s,baz=203,slow=1.7,SNR=4.4
ILAR PKKPbc **PKKPbc** **12 35 10.3 -2.3**
comp=Z,0.4nm,0.6s,baz=174,slow=2.3,SNR=5.0
ILAR PKPPKP **P'P'df** **12 43 14.5 -3.0**
comp=Z,2.1nm,1.1s,baz=192,slow=2.0,SNR=4.7
comp=Z,174nm,0.9s
ILAR **Eielson Array** 74.93 16 P **P** **12 15 50.7 +0.3**
SKOMA **Sekoma** 74.98 223 *i* P **P** **12 15 52.2 +0.8**
M17K **Holitna River** 74.98 22 P **P** **12 15 52.8 +2.0**
baz=322
FITZ **Fitzroy Crossi** 75.00 126 P **P** **12 15 51.8 +0.3**
KTH **Kantishna Hill** 75.02 18 P **P** **12 15 51.6 +0.5**
MTN **Manton Dam** 75.04 119 P **P** **12 15 51.4 -0.4**
L19K **White Mountain** 75.11 20 P **P** **12 15 52.8 +1.3**
baz=324
N15K **Kwethluk River** 75.11 24 IAmb IAmb 12 15 54.9
comp=Z,349nm,1.0s
N15K **Kwethluk River** 75.11 24 P **P** **12 15 53.6 +2.0**
baz=320,SNR=31
GENI **Genyem** 75.13 105 P **P** **12 15 53.6 +1.2**
GENI **Genyem** 75.13 105 P **P** **12 15 53.1 +0.7**
comp=Z,5µmcomp=Z,548nm,1.2s
L20K **Farewell, AK** 75.14 20 P **P** **12 15 52.8 +1.1**
baz=324,SNR=106
HDA **Harding Lake** 75.23 16 IAmb IAmb 12 15 53.0
comp=Z,265nm,1.2s
HDA **Harding Lake** 75.23 16 P **P** **12 15 51.9 -0.3**
baz=329,SNR=61
I26K **Coal Creek Min** 75.23 14 IAmb IAmb 12 15 54.5
comp=Z,314nm,0.8s
I26K **Coal Creek Min** 75.23 14 P **P** **12 15 53.5 +1.3**
baz=332
G31M **Satah River** 75.24 10 P **P** **12 15 53.1 +1.0**
baz=339
PPLA **Purkeypile** 75.24 19 P **P** **12 15 53.0 +0.5**
baz=326,SNR=46
I27K **Kandik River** 75.26 13 P **P** **12 15 53.8 +1.4**
baz=334,SNR=235
TRF **Thorofare Moun** 75.26 18 P **P** **12 15 52.6 0.0**
baz=327,SNR=45
H29M **Whitestone** 75.27 12 P **P** **12 15 53.8 +1.5**
baz=336
N16K **Nishlik Lake** 75.30 23 P **P** **12 15 54.8 +2.1**
baz=321
MCK **McKinley** 75.35 17 IAmb IAmb 12 15 54.6
comp=Z,206nm,0.7s
MCK **McKinley** 75.35 17 P **P** **12 15 52.7 -0.2**
baz=328,SNR=99
KNRA **Kununurra** 75.35 122 P **P** **12 15 54.0 +0.4**
KNRA IAmb IAmb 12 15 55.0
comp=Z,169nm,0.8s
M18K **Stony River** 75.39 21 P **P** **12 15 54.4 +1.3**
baz=323,SNR=62
EPYK **Eagle Plains** 75.39 11 IAmb IAmb 12 15 55.0
comp=Z,434nm,1.1s
EPYK **Eagle Plains** 75.39 11 P **P** **12 15 53.8 +0.7**
baz=338,SNR=135
J25K **Salcha River,** 75.39 15 IAmb IAmb 12 15 54.6
comp=Z,233nm,0.8s
J25K **Salcha River,** 75.39 15 P **P** **12 15 53.6 +0.4**
baz=331,SNR=345
O14K **Tigyukauivet M** 75.42 25 IAmb IAmb 12 15 56.1
comp=Z,207nm,0.9s
O14K **Tigyukauivet M** 75.42 25 P **P** **12 15 55.1 +1.8**
baz=319,SNR=16
JAY **Jayapura** 75.50 104 P **P** **12 15 58.8 +4.2**
comp=Z,73nm,1.0s
MAKGR **Makgori** 75.53 222 *i* P **P** **12 15 55.2 +0.7**
RND **Reindeer** 75.65 17 IAmb IAmb 12 15 55.8
comp=Z,286nm,0.8s
I28M **Miner Creek** 75.70 13 P **P** **12 15 55.9 +0.9**
baz=335
N17K **Nushagak Hills** 75.75 22 IAmb IAmb 12 15 58.4
comp=Z,220nm,0.9s
N17K **Nushagak Hills** 75.75 22 P **P** **12 15 57.2 +2.1**
baz=322,SNR=58
M20K **Styx River** 75.83 20 P **P** **12 15 56.1 +0.4**
baz=325,SNR=33
J26L **Joseph Creek** 75.86 15 P **P** **12 15 56.8 +0.9**
baz=332
KDU **Kakadu** 75.88 118 P **P** **12 15 56.6 0.0**
KOOLE **Kule** 75.94 227 *i* P **P** **12 15 58.1 +1.2**
O15K **Ungalikthiuk R** 75.96 24 P **P** **12 15 57.8 +1.4**
baz=320
K24K **Donnelly Dome** 76.01 16 P **P** **12 15 57.0 +0.3**
baz=330,SNR=319
N18K **Kilae Creek** 76.01 22 IAmb IAmb 12 15 59.0
comp=Z,110nm,0.9s
N18K **Kilae Creek** 76.01 22 P **P** **12 15 58.4 +1.7**
baz=323,SNR=29
I29M **Ogilvie Camp,** 76.07 12 P **P** **12 15 57.7 +0.8**
baz=336,SNR=305
EGAK **Eagle** 76.09 13 IAmb IAmb 12 15 59.2
comp=Z,271nm,1.0s
EGAK **Eagle** 76.09 13 P **P** **12 15 57.9 +0.9**
baz=334,SNR=138
CUT **Chulitna** 76.15 18 P **P** **12 15 57.4 0.0**
baz=327,SNR=74
SKT **Skwentna** 76.18 19 P **P** **12 15 57.6 0.0**
baz=326,SNR=203
O16K **Kokwok River B** 76.19 23 P **P** **12 15 59.5 +1.8**
baz=321
SCRK **Sand Creek** 76.24 15 P **P** **12 15 59.0 +0.9**
baz=332,SNR=284
RIDG **Independent Ri** 76.27 15 IAmb IAmb 12 15 59.6
comp=Z,509nm,1.3s
RIDG **Independent Ri** 76.27 15 P **P** **12 15 58.3 +0.2**
baz=331,SNR=77
H31M **Peel River** 76.28 10 P **P** **12 15 59.1 +1.0**
baz=340
N19K **Bonanza Creek** 76.32 21 IAmb IAmb 12 16 01.1
comp=Z,198nm,1.1s
N19K **Bonanza Creek** 76.32 21 P **P** **12 15 59.7 +1.2**
baz=324
O17K **Koliganek Bris** 76.37 23 P **P** **12 16 00.1 +1.5**
baz=322,SNR=34
I30M **Mount Dempster** 76.51 11 P **P** **12 16 00.4 +0.8**
baz=338,SNR=492
SPCR **Spurr Chakacha** 76.64 20 P **P** **12 16 00.6 +0.3**
baz=326,SNR=25
P16K **Nushagak River** 76.67 24 P **P** **12 16 02.1 +1.7**
baz=322,SNR=44
M22K **Willow** 76.73 19 P **P** **12 16 00.7 0.0**
baz=327,SNR=34
PAX **Paxson** 76.81 16 P **P** **12 16 01.8 +0.5**
baz=331,SNR=251
SUA **Susitna One** 76.81 19 IAmb IAmb 12 16 02.7
comp=Z,260nm,0.9s
SUA **Susitna One** 76.81 19 P **P** **12 16 01.6 +0.3**
baz=327,SNR=69
O19K **Port Alsworth** 76.87 21 IAmb IAmb 12 16 03.8
comp=Z,232nm,1.0s
O19K **Port Alsworth** 76.87 21 P **P** **12 16 02.4 +1.0**
baz=324,SNR=52
O18K **Koktuh Hills** 76.88 22 P **P** **12 16 03.2 +1.7**
baz=324,SNR=102
J29N **Klondike Camp** 76.92 12 IAmb IAmb 12 16 04.3
comp=Z,337nm,0.9s
J29N **Klondike Camp** 76.92 12 P **P** **12 16 03.0 +1.3**

baz=336,SNR=184
P17K Kvichak River 77.03 23 P **P 12 16 04.2 +1.9**
baz=323,SNR=127
DAWY Dawson 77.06 13 P **P 12 16 03.5 +0.9**
baz=336,SNR=246
J30M Hart River 77.12 12 IAmb IAmb 12 16 05.3
comp=Z,293nm,0.8s
J30M Hart River 77.12 12 P **P 12 16 04.1 +1.1**
baz=338
PMR Palmer 77.12 18 IAmb IAmb 12 16 04.3
comp=Z,246nm,0.8s
PMR Palmer 77.12 18 P **P 12 16 03.2 +0.4**
baz=328,SNR=102
PMR Palmer 77.12 18 P **P 12 16 02.8 0.0**
SML Sawmill 77.14 18 P **P 12 16 03.6 +0.5**
baz=329,SNR=191
MENT Mentasta 77.22 15 IAmb IAmb 12 16 05.7
comp=Z,94nm,0.8s
MENT Mentasta 77.22 15 P **P 12 16 04.0 +0.6**
L26K Log Cabin Wild 77.22 15 IAmb IAmb 12 16 05.8
comp=Z,197nm,0.8s
L26K Log Cabin Wild 77.22 15 P **P 12 16 04.7 +1.2**
baz=332,SNR=130
FIS Fire Island 77.22 19 IAmb IAmb 12 16 14.9
comp=Z,250nm,1.0s
MEEK Meekatharra 77.24 137 P **P 12 16 04.4 +0.4**
P18K Big Mountain, 77.25 22 IAmb IAmb 12 16 05.8
comp=Z,319nm,0.8s
P18K Big Mountain, 77.25 22 P **P 12 16 04.8 +1.1**
baz=324,SNR=81
CAPN Captain Cook N 77.29 20 P **P 12 16 05.1 +1.3**
baz=327
M23K Glacier View 77.30 18 P **P 12 16 04.4 +0.5**
baz=329,SNR=207
SCM Sheep Creek Mo 77.36 17 P **P 12 16 04.9 +0.6**
baz=329,SNR=76
Q16K King Salmon 77.38 23 P **P 12 16 05.8 +1.6**
baz=323,SNR=113
HARP HAARP 77.38 16 P **P 12 16 06.0 +1.7**
baz=331,SNR=246
RC01 Rabbit Creek A 77.39 19 IAmb IAmb 12 16 05.8
comp=Z,271nm,0.8s
RC01 Rabbit Creek A 77.39 19 P **P 12 16 04.8 +0.4**
baz=328,SNR=78
M24K Tolsona, Glenn 77.40 17 P **P 12 16 06.1 +1.6**
baz=330,SNR=190
KNK Knik Glacier 77.45 18 P **P 12 16 05.5 +0.8**
baz=329,SNR=96
UNV Unalaska Valle 77.45 31 P **P 12 16 03.9 -0.9**
baz=316
O20K Slope Mountain 77.45 21 P **P 12 16 04.9 +0.1**
baz=326,SNR=11
WIN Windhoek 77.49 230 IAmb IAmb 12 16 08.1
comp=Z,152nm,0.9s
L27K Beaver Creek, 77.50 15 IAmb IAmb 12 16 07.6
comp=Z,282nm,0.8s
L27K Beaver Creek, 77.50 15 P **P 12 16 06.4 +1.4**
baz=334
BCAR Beaver Creek A 77.51 15 P **P 12 16 06.4 +1.4**
BOSA Boshof 77.54 220 P **P 12 16 06.3 +0.6**
BOSA IAmb IAmb 12 16 07.4
comp=Z,340nm,0.8s
BOSA Boshof 77.54 220 P **P 12 16 06.3 +0.6**
comp=Z,284nm,0.8s,baz=28,slow=4.4,SNR=357
BOSA S **S 12 25 38.2 -0.4**
comp=Z,6.5nm,0.9s,baz=270,slow=20,SNR=10.0
BOSA PKKPbc **PKKPbc 12 35 08.6 +0.3**
comp=Z,2.6nm,0.9s,baz=216,slow=3.5,SNR=2.2
comp=Z,284nm,0.8s
BOSA Boshof 77.54 220 *e*P **P 12 16 04.5 -1.2**
K29M Barlow Dome 77.60 12 P **P 12 16 07.0 +1.3**
baz=337,SNR=257
TABU Tabubil 77.62 106 P **P 12 16 07.2 +0.8**
P19K Oil Pt 77.63 21 IAmb IAmb 12 16 07.0
comp=Z,239nm,0.8s
P19K Oil Pt 77.63 21 P **P 12 16 05.5 -0.2**
baz=325,SNR=23
SLKM Skilak Lake 77.76 19 IAmb IAmb 12 16 07.5
comp=Z,251nm,0.9s
MORW Morawa 77.81 140 P **P 12 16 07.5 +0.5**
S12K Black Hills 77.82 27 P **P 12 16 06.5 -0.3**
baz=319
M26K Nabesna, AK 77.85 15 P **P 12 16 08.2 +1.2**
baz=333
O22K Cooper Landing 77.91 19 IAmb IAmb 12 16 20.8
comp=Z,180nm,0.8s
O22K Cooper Landing 77.91 19 P **P 12 16 07.5 +0.3**
baz=328,SNR=11
Q17K Contact Creek 77.95 23 P **P 12 16 07.7 +0.1**
baz=323,SNR=42
PWL Port Wells 77.95 18 IAmb IAmb 12 16 09.1
comp=Z,280nm,0.8s
PWL Port Wells 77.95 18 P **P 12 16 08.0 +0.5**
baz=329,SNR=56
R16K Pilot Point 77.96 24 P **P 12 16 08.6 +1.1**
baz=322
KLU Klutina 78.00 17 P **P 12 16 09.0 +1.2**
baz=331,SNR=163
HOM Homer 78.08 20 P **P 12 16 09.1 +1.0**
baz=326
Q19K Cape Douglas, 78.10 22 IAmb IAmb 12 16 08.7
comp=Z,157nm,1.1s
Q19K Cape Douglas, 78.10 22 P **P 12 16 07.6 -0.8**
baz=325,SNR=9.2
MAYO Mayo, Yukon 78.11 12 P **P 12 16 09.4 +1.1**
baz=338,SNR=20
M27K Edge Creek, AK 78.13 15 P **P 12 16 10.0 +1.4**
baz=334,SNR=286
L29M L29M 78.17 13 IAmb IAmb 12 16 11.3
comp=Z,465nm,1.1s
L29M L29M 78.17 13 P **P 12 16 10.1 +1.4**
baz=337
N25K Chitina, Valde 78.20 16 IAmb IAmb 12 16 12.2
comp=Z,124nm,0.7s
N25K Chitina, Valde 78.20 16 P **P 12 16 10.1 +1.2**
baz=332,SNR=55
GLI Glacier Island 78.25 18 P **P 12 16 09.6 +0.5**
baz=330,SNR=40
BRSE Bradley Lake S 78.26 20 P **P 12 16 09.0 -0.2**
baz=327,SNR=27
BVCY Beaver Creek 78.28 14 P **P 12 16 11.0 +1.7**
baz=334,SNR=184
SEW Seward 78.31 19 IAmb IAmb 12 16 10.9
comp=Z,295nm,1.2s
SEW Seward 78.31 19 P **P 12 16 09.7 +0.4**
baz=328,SNR=16
CNPM China Poot 78.31 20 IAmb IAmb 12 16 10.3
comp=Z,142nm,0.8s
GLB Gilahina Butte 78.53 16 IAmb IAmb 12 16 12.8
comp=Z,159nm,1.1s
CHGN Chignik 78.67 25 P **P 12 16 10.9 -0.5**
baz=322,SNR=8.4
M29M Somme Creek 78.72 13 IAmb IAmb 12 16 14.5
comp=Z,242nm,0.8s
M29M Somme Creek 78.72 13 P **P 12 16 13.4 +1.6**
baz=336,SNR=186
Q20K Shuyak Island 78.74 21 P **P 12 16 11.7 -0.1**
baz=326,SNR=15
SYI Shuyak Island 78.74 21 IAmb IAmb 12 16 13.5
comp=Z,291nm,0.8s
BMRM Bremner River 78.77 17 P **P 12 16 13.2 +1.2**
baz=332,SNR=102
VRDI Verde Repeater 78.80 16 IAmb IAmb 12 16 14.4
comp=Z,352nm,1.1s
HIN Hinchinbrook I 78.81 18 IAmb IAmb 12 16 14.3
comp=Z,196nm,0.7s
EYAK Cordova Ski Ar 78.86 17 P **P 12 16 13.8 +1.4**
baz=331,SNR=73
EYAK Cordova Ski Ar 78.86 17 P **P 12 16 14.0 +1.6**
M30M Minto, Yukon 78.90 13 IAmb IAmb 12 16 14.8
comp=Z,207nm,1.4s
M30M Minto, Yukon 78.90 13 P **P 12 16 13.7 +1.1**
baz=338,SNR=56
P23K Montague Islan 78.93 18 P **P 12 16 13.9 +1.1**
baz=330,SNR=18
YUK3 Moose Creek 78.94 15 P **P 12 16 14.2 +1.1**
baz=335,SNR=158
R18K Karluk 78.97 23 P **P 12 16 12.5 -0.5**
baz=324
RAGM Ragged Mountai 79.26 17 IAmb IAmb 12 16 17.2
comp=Z,256nm,0.8s
KDAK Kodiak Island 79.36 22 P **P 12 16 15.9 +0.7**
KDAK Kodiak Island 79.36 22 P **P 12 16 15.7 +0.6**
comp=Z,427nm,0.8s,baz=185,slow=3.6,SNR=246
comp=Z,427nm,0.8s
KDAK Kodiak Island 79.36 22 P **P 12 16 15.8 +0.7**
baz=326
KDAK Kodiak Island 79.36 22 P **P 12 16 15.9 +0.7**
KDAK pmax pmax
comp=Z,584nm,0.9s
CHNA Chernabura Isl 79.40 27 P **P 12 16 15.5 +0.1**
baz=321,SNR=15
CHNA Chernabura Isl 79.40 27 P **P 12 16 15.9 +0.5**
BLDU Ballidu 79.40 141 P **P 12 16 15.0 -0.7**
HMT Hamilton 79.40 17 IAmb IAmb 12 16 17.7
comp=Z,189nm,0.8s
CNBA Chernabura Isl 79.41 27 IAmb IAmb 12 16 16.5
comp=Z,290nm,0.9s
YUK8 Steele Glacier 79.53 14 P **P 12 16 17.3 +0.9**
baz=336,SNR=52
OHAK Old Harbor 79.61 23 IAmb IAmb 12 16 18.5
comp=Z,317nm,0.9s
OHAK Old Harbor 79.61 23 P **P 12 16 17.4 +0.9**
baz=325,SNR=59
OHAK Old Harbor 79.61 23 P **P 12 16 17.5 +0.9**
M31M Drury Creek, Y 79.66 12 IAmb IAmb 12 16 18.9
comp=Z,358nm,0.9s
M31M Drury Creek, Y 79.66 12 P **P 12 16 17.7 +1.0**
baz=340,SNR=147
Q23K Middleton Isla 79.69 18 P **P 12 16 18.2 +1.3**
baz=330
YUK4 Talbot Arm 79.69 14 P **P 12 16 18.2 +1.0**
baz=336,SNR=200
KAIM Kayak Island 79.73 17 IAmb IAmb 12 16 20.0
comp=Z,297nm,1.0s
KAIM Kayak Island 79.73 17 P **P 12 16 18.7 +1.6**
baz=332
FARO Faro, Yukon 79.80 11 IAmb IAmb 12 16 19.6
comp=Z,188nm,0.7s
FARO Faro, Yukon 79.80 11 P **P 12 16 18.6 +1.1**
baz=340,SNR=170
BGLC Bering Glacier 79.82 17 P **P 12 16 19.9 +2.4**
baz=333,SNR=6.4
SII Sitkinak Islan 79.87 23 P **P 12 16 19.0 +1.0**
baz=325,SNR=28
SII Sitkinak Islan 79.87 23 P **P 12 16 19.2 +1.2**
N30M Aishikik Lake 79.88 13 P **P 12 16 19.4 +1.4**
baz=338
O28M Mount Upton 79.91 15 P **P 12 16 19.5 +1.1**
baz=335
CHIR Chirikof Islan 80.00 25 IAmb IAmb 12 16 20.9
comp=Z,257nm,1.0s
CHIR Chirikof Islan 80.00 25 P **P 12 16 19.6 +1.0**
baz=324,SNR=7.9
CHIR Chirikof Islan 80.00 25 P **P 12 16 20.2 +1.6**
WRGLY Wrigley 80.06 6 P **P 12 16 20.6 +1.8**
baz=346,SNR=157
MESA MESA 80.07 16 IAmb IAmb 12 16 21.8
comp=Z,270nm,0.8s
MESA MESA 80.07 16 P **P 12 16 20.7 +1.5**
baz=334,SNR=19
N31M Braeburn, Yuko 80.09 13 P **P 12 16 20.2 +1.1**
baz=339,SNR=155
YUK6 Outpost Mounta 80.12 14 P **P 12 16 20.7 +1.2**
baz=337,SNR=77
AUGR Augrabies 80.16 223 *e*P **P 12 16 19.2 -0.6**
ALKP Alkanpan, Nort 80.17 221 *e*P **P 12 16 18.8 -1.1**
HYT Haines Junctio 80.39 14 P **P 12 16 22.3 +1.4**
baz=337,SNR=217
PINM Pinnacle 80.51 15 P **P 12 16 22.8 +1.4**
baz=335,SNR=34
O29M Mount Kennedy 80.67 14 P **P 12 16 23.2 +0.9**
baz=336
SOE Somerset East 80.70 217 IAmb IAmb 12 16 25.0
comp=Z,169nm,1.1s
O30N Mendenhall 80.71 13 IAmb IAmb 12 16 24.6
comp=Z,293nm,0.8s
O30N Mendenhall 80.71 13 P **P 12 16 23.6 +1.2**
baz=338,SNR=110
KLBR Kellerberrin 80.72 141 P **P 12 16 22.3 -0.4**
GRHM Grahamstown, E 80.77 216 IAmb IAmb 12 16 25.1
comp=Z,219nm,1.0s
N32M Quiet Lake 80.86 11 P **P 12 16 23.6 +0.4**
baz=341
WHY Whitehorse 81.03 12 IAmb IAmb 12 16 25.5
comp=Z,189nm,0.7s
WHY Whitehorse 81.03 12 P **P 12 16 24.7 +0.5**
baz=339,SNR=101
P30M Million Dollar 81.15 14 P **P 12 16 26.0 +1.2**
baz=338
YKA Yellowknife Ar 81.35 3 *i*P **P 12 16 26.1 +0.4**
comp=Z,196nm,0.7s,baz=349,slow=5.0,SNR=2646
YKA PP **PP 12 19 34.4 +0.7**
comp=Z,39nm,0.9s,baz=356,slow=7.7,SNR=12
YKA S **S 12 26 14.7 -2.9**
comp=Z,1.1nm,1.0s,baz=359,slow=10,SNR=3.9
YKA PKKPbc **PKKPbc 12 34 56.5 -2.2**
comp=Z,3.5nm,0.7s,baz=178,slow=2.5,SNR=42
YKA PKPPKP P'P'df 12 42 57.6 -8.2
comp=Z,1.3nm,0.8s,baz=167,slow=2.5,SNR=5.9
comp=Z,196nm,0.7s
YKA Yellowknife Ar 81.35 3 *i*P **P 12 16 26.1 +0.4**
YKA pmax pmax
comp=Z,214nm,0.7s
WRKA Warakurna 81.73 129 P **P 12 16 28.4 +0.2**
P33M Teslin, Yukon 81.80 12 P **P 12 16 28.8 +0.6**
baz=341,SNR=250
PLBC Pleasant Camp 81.88 14 P **P 12 16 30.0 +1.5**
baz=338,SNR=119
WB0 Warramunga Arr 82.04 122 IAmb IAmb 12 16 30.3
comp=Z,111nm,1.0s
SKAG Skagway 82.07 13 IAmb IAmb 12 16 32.1
comp=Z,298nm,0.9s
SKAG Skagway 82.07 13 P **P 12 16 31.0 +1.5**
baz=339,SNR=37
SKAG Skagway 82.07 13 P **P 12 16 31.5 +2.0**
SCHQ Schefferville 82.10 337 IAmb IAmb 12 16 31.2
comp=Z,92nm,0.7s
SCHQ Schefferville 82.10 337 P **P 12 16 30.0 +0.2**
comp=Z,80nm,0.7s,baz=31,slow=4.9,SNR=192
SCHQ PP **PP 12 19 33.2 -6.9**
comp=Z,30nm,0.7s,baz=35,slow=8.6,SNR=4.7
SCHQ PKKPbc **PKKPbc 12 34 55.0 -1.8**
comp=Z,4.3nm,0.7s,baz=282,slow=3.6,SNR=4.7
comp=Z,80nm,0.7s
WRA Warramunga Arr 82.12 122 P **P 12 16 29.5 -0.8**
comp=Z,113nm,1.0s,baz=323,slow=5.2,SNR=269
WRA PKiKP **PKiKP 12 21 49.8 -1.1**
comp=Z,1.2nm,0.9s,baz=317,slow=1.4,SNR=1.7
WRA S **S 12 26 21.9 -4.8**
comp=Z,10nm,1.1s,baz=315,slow=10,SNR=9.4
WRA PKKP **PKKPdf 12 34 48.2 +0.1**
comp=Z,1.3nm,0.8s,baz=151,slow=1.2,SNR=4.6
WRA PKKPbc **PKKPbc 12 34 57.8 +0.7**
comp=Z,11nm,0.9s,baz=133,slow=1.9,SNR=25
WRA PKPPKP **P'P'df 12 43 00.6 -1.0**
comp=Z,4.6nm,1.0s,baz=135,slow=1.5,SNR=9.3
comp=Z,113nm,1.0s
WRAB Tennant Creek 82.12 122 P **P 12 16 29.7 -0.6**
WRAB IAmb IAmb 12 16 30.8
comp=Z,163nm,1.1s
WRAB Tennant Creek 82.12 122 P **P 12 16 29.7 -0.6**
WRAB pmax pmax
comp=Z,163nm,1.1s
WB2 Warramunga Arr 82.13 122 IAmb IAmb 12 16 30.9
comp=Z,160nm,1.1s
P32M Atlin 82.23 12 IAmb IAmb 12 16 31.9
comp=Z,137nm,0.9s
P32M Atlin 82.23 12 P **P 12 16 31.4 +0.9**
baz=340,SNR=55
WTLY Watson Lake, Y 82.49 10 P **P 12 16 32.8 +1.1**
baz=344,SNR=140
KMBL Kambalda 82.71 138 P **P 12 16 33.3 +0.2**
SUR Sutherland 82.85 221 P **P 12 16 35.4 +1.3**
SUR IAmb IAmb 12 16 36.5
comp=Z,188nm,0.8s
SUR Sutherland 82.85 221 P **P 12 16 35.6 +1.6**
R33M Jennings River 82.87 11 IAmb IAmb 12 16 36.0
comp=Z,272nm,0.9s
R33M Jennings River 82.87 11 P **P 12 16 34.7 +1.0**
baz=343
R31K City Hall, Gus 82.97 14 P **P 12 16 35.0 +0.9**
baz=339
BESE Bessie Mountai 82.98 13 IAmb IAmb 12 16 36.9
comp=Z,234nm,0.9s
KOTAN Kotaneelee Air 83.04 7 P **P 12 16 35.7 +1.2**
baz=348,SNR=34
Q32M Nakina River 83.07 12 IAmb IAmb 12 16 37.1
comp=Z,232nm,0.7s
Q32M Nakina River 83.07 12 P **P 12 16 36.2 +1.3**
baz=342
DRLN Deer Lake 83.15 329 IAmb IAmb 12 16 37.2
comp=Z,322nm,1.2s
S31K Pelican 83.30 14 IAmb IAmb 12 16 38.4
comp=Z,101nm,0.9s
S31K Pelican 83.30 14 P **P 12 16 37.3 +1.5**
baz=338,SNR=9.8
R32K Eaglecrest 83.33 13 IAmb IAmb 12 16 38.9
comp=Z,316nm,1.1s
R32K Eaglecrest 83.33 13 P **P 12 16 37.5 +1.5**
baz=340,SNR=12
JIS Juneau Island 83.35 13 P **P 12 16 38.1 +2.0**
WAKE Wake Island 83.37 71 P **P 12 16 37.3 +0.4**
WAKE IAmb IAmb 12 16 38.1
comp=Z,248nm,0.9s
WAKE Wake Island 83.37 71 P **P 12 16 37.5 +0.6**
DLBC Dease Lake 83.93 11 IAmb IAmb 12 16 41.6
comp=Z,356nm,1.2s
DLBC Dease Lake 83.93 11 P **P 12 16 40.3 +1.2**
comp=Z,166nm,0.9s,baz=340,slow=4.4,SNR=205
comp=Z,166nm,0.9s
DLBC Dease Lake 83.93 11 P **P 12 16 40.6 +1.4**
baz=343,SNR=94
S32K Killisnoo 84.08 13 IAmb IAmb 12 16 42.2
comp=Z,153nm,0.8s
S32K Killisnoo 84.08 13 P **P 12 16 41.2 +1.4**
baz=340,SNR=16
TOAD Toad River Com 84.17 8 P **P 12 16 41.3 +1.0**
baz=347,SNR=173
S34M Telegraph Cree 84.26 12 P **P 12 16 42.3 +1.6**
baz=342,SNR=133
SIT Sitka 84.32 14 P **P 12 16 42.9 +1.9**
SIT IAmb IAmb 12 16 43.6
comp=Z,202nm,0.9s
SIT Sitka 84.32 14 P **P 12 16 42.6 +1.7**
baz=339,SNR=17
SIT Sitka 84.32 14 P **P 12 16 42.7 +1.7**
SIT Sitka 84.32 14 P **P 12 16 42.9 +1.9**
SIT pmax pmax
comp=Z,202nm,0.9s
FCC Fort Churchill 84.34 352 P **P 12 16 42.1 +1.0**
FCC IAmb IAmb 12 16 43.2
comp=Z,381nm,1.4s
FCC Fort Churchill 84.34 352 P **P 12 16 42.1 +1.0**
FCC pmax pmax
comp=Z,381nm,1.4s
AS31 Alice Springs 84.37 125 P **P 12 16 41.5 -0.3**
ASAR Alice Springs 84.37 125 P **P 12 16 41.4 -0.4**
ASAR Alice Springs 84.37 125 P **P 12 16 41.0 -0.8**
comp=Z,74nm,1.0s,baz=312,slow=4.7,SNR=494
ASAR PKiKP **PKiKP 12 21 53.4 -1.1**
comp=Z,1.6nm,0.6s,baz=328,slow=1.3,SNR=7.1
ASAR S **SKSac 12 26 38.3 -6.3**
comp=Z,4.1nm,0.7s,baz=308,slow=4.5,SNR=12
ASAR PKKP **PKKPdf 12 34 43.4 -1.2**
comp=Z,1.3nm,0.9s,baz=124,slow=1.1,SNR=5.1
ASAR PKKPbc **PKKPbc 12 34 52.6 +0.6**
comp=Z,5.0nm,0.8s,baz=124,slow=2.6,SNR=19
ASAR SKKPbc **SKKPbc 12 38 08.0 -2.8**
comp=Z,0.5nm,0.8s,baz=104,slow=2.0,SNR=4.1
ASAR PKPPKP **P'P'df 12 42 55.2 -2.0**
comp=Z,3.1nm,0.9s,baz=132,slow=2.7,SNR=9.1
comp=Z,74nm,1.0s
AS01 Alice Springs 84.40 125 P **P 12 16 41.7 -0.2**
COEN Coen 84.56 112 P **P 12 16 42.7 -0.2**
COEN IAmb IAmb 12 16 43.4
comp=Z,106nm,0.8s
COEN Coen 84.56 112 P **P 12 16 42.6 -0.3**
T33K Petersburg 84.99 13 P **P 12 16 45.9 +1.6**
baz=341
T35M Bob Quinn 85.29 11 IAmb IAmb 12 16 48.7
comp=Z,179nm,0.8s
T35M Bob Quinn 85.29 11 P **P 12 16 47.7 +1.7**
baz=343,SNR=41
WRAK Wrangell Islan 85.48 13 IAmb IAmb 12 16 49.2
comp=Z,201nm,0.9s
WRAK Wrangell Islan 85.48 13 P **P 12 16 48.2 +1.4**
baz=342,SNR=11
RABL Rabaul 85.58 98 IAmb IAmb 12 16 49.4
comp=Z,105nm,0.9s
U33K Whale Pass 85.63 13 IAmb IAmb 12 16 49.5
comp=Z,82nm,0.8s
U33K Whale Pass 85.63 13 P **P 12 16 48.9 +1.4**
baz=341,SNR=7.4
FORT Forrest 85.76 133 P **P 12 16 48.8 +0.4**
FORT IAmb IAmb 12 16 49.3
comp=Z,84nm,0.8s
FORT Forrest 85.76 133 P **P 12 16 48.6 +0.2**
QIS Mount Isa 86.20 119 P **P 12 16 50.7 -0.2**
CRAG Craig 86.24 13 P **P 12 16 51.7 +1.2**
baz=341,SNR=5.3
CRAG Craig 86.24 13 P **P 12 16 51.5 +1.0**
U35K Hyder 86.35 12 IAmb IAmb 12 16 53.4
comp=Z,409nm,1.4s
U35K Hyder 86.35 12 P **P 12 16 52.1 +1.1**
baz=343
V35K Ketchikan 86.64 13 P **P 12 16 53.1 +0.7**
baz=342
GBN Guysborough 87.86 329 IAmb IAmb 12 17 00.8
comp=Z,108nm,0.8s
MTSU Mount Surprise 88.05 114 P **P 12 16 59.9 +0.1**
OOD Oodnadatta 88.37 127 P **P 12 17 00.2 -0.8**
MOBC Moresby Island 88.66 13 IAmb IAmb 12 17 04.2
comp=Z,115nm,0.9s
LMN Caledonia Moun 88.85 331 P **P 12 17 03.8 +0.7**
FFC Flin Flon 89.02 356 P **P 12 17 04.4 +0.7**
FFC IAmb IAmb 12 17 05.6
comp=Z,311nm,1.3s
FFC Flin Flon 89.02 356 P **P 12 17 04.4 +0.7**
FFC pmax pmax
comp=Z,311nm,1.3s
LMQ La Malbaie 89.45 335 P **P 12 17 06.5 +0.6**
BBB Bella Bella 90.25 11 P **P 12 17 09.9 +0.4**
comp=Z,48nm,0.9s,baz=338,slow=2.5,SNR=7.1
comp=Z,48nm,0.9s
TV1H Townsville Har 90.58 114 P **P 12 17 11.9 +0.4**
CTAO Charters Tower 90.69 114 P **P 12 17 11.8 -0.2**
CTAO IAmb IAmb 12 17 12.7
comp=Z,92nm,0.9s
CTAO Charters Tower 90.69 114 P **P 12 17 12.5 +0.4**
CTAO Charters Tower 90.69 114 P **P 12 17 11.8 -0.2**
CTAO pmax pmax
comp=Z,92nm,0.9s
INKA Innaminka 91.67 124 P **P 12 17 16.8 +0.4**
HOLB Holberg 91.74 12 IAmb IAmb 12 17 18.8
comp=Z,187nm,1.1s
LCRK Leigh Creek 91.78 127 P **P 12 17 16.0 -0.8**
BBOO Buckleboo 92.01 130 P **P 12 17 16.8 -1.0**
CBB Campbell River 92.76 10 IAmb IAmb 12 17 23.9
comp=Z,203nm,1.5s
ULM Lac du Bonnet 92.91 351 IAmb IAmb 12 17 22.8
comp=Z,161nm,1.4s
ULM Lac du Bonnet 92.91 351 P **P 12 17 21.6 -0.3**
comp=Z,58nm,0.9s,baz=7.1,slow=4.7,SNR=94
ULM PP **PP 12 21 07.5 +1.1**
comp=Z,24nm,1.1s,baz=9.1,slow=8.1,SNR=7.0
ULM PKKP **PKKPdf 12 34 26.3 -0.6**
comp=Z,2.5nm,0.7s,baz=177,slow=4.8,SNR=4.4
comp=Z,58nm,0.9s
WHYH Whyalla 93.10 129 P **P 12 17 22.7 -0.1**
QLP Quilpie 93.31 121 P **P 12 17 24.1 +0.1**
LONY Lake Ozonia 93.45 336 IAmb IAmb 12 17 26.0
comp=Z,43nm,0.9s
J61A Chester 93.88 334 IAmb IAmb 12 17 28.4
comp=Z,53nm,0.8s
HTT Hallett 94.20 129 P **P 12 17 27.5 -0.5**
HRV Adam Dziewonsk 94.25 333 P **P 12 17 28.9 +0.7**
HRV Adam Dziewonsk 94.25 333 P **P 12 17 28.9 +0.7**
HRV pmax pmax
comp=Z,25nm,0.9s
PGC Sidney 94.38 9 IAmb IAmb 12 17 30.4
comp=Z,48nm,1.0s
DELO Deloro Mine 94.50 338 IAmb IAmb 12 17 30.7
comp=Z,53nm,0.8s
EYMN Ely 94.54 348 IAmb IAmb 12 17 30.8
comp=Z,115nm,1.3s
E46A Sault Ste Mari 94.60 343 IAmb IAmb 12 17 30.6
comp=Z,60nm,0.7s
L61B Northampton 94.71 334 P **P 12 17 30.7 +0.4**
baz=29
AGMN Agassiz Nation 94.83 351 IAmb IAmb 12 17 32.0
comp=Z,85nm,1.1s
STKA Stephens Creek 94.90 126 P **P 12 17 30.6 -0.6**
STKA Stephens Creek 94.90 126 P **P 12 17 30.1 -1.0**
comp=Z,4.6nm,0.6s,baz=351,slow=3.7,SNR=10
STKA PKiKP **PKiKP 12 22 11.2 -0.7**
comp=Z,4.4nm,1.0s,baz=117,slow=2.3,SNR=2.1
STKA S **SKSac 12 27 40.5 -5.0**
comp=Z,3.6nm,0.9s,baz=122,slow=20,SNR=7.9
STKA PKKPbc **PKKPbc 12 34 25.8 -0.1**
comp=Z,1.7nm,0.7s,baz=92,slow=6.6,SNR=4.8
comp=Z,4.6nm,0.6s
STKA Stephens Creek 94.90 126 P **P 12 17 30.2 -1.0**

STKA	Stephens Creek	94.90	126	P	P	12 17 30.6	-0.6
B08A	Colville Reser	95.14	7	IAmb	IAmb	12 17 34.1	
	comp=Z,152nm,1.5s						
DGMT	Dagmar	95.38	357	IAmb	IAmb	12 17 35.7	
	comp=Z,119nm,1.1s						
NEW	Newport	95.42	5	IAmb	IAmb	12 17 35.4	
	comp=Z,76nm,1.1s						
NEW	Newport	95.42	5	P	P	12 17 34.0	+0.5
	comp=Z,49nm,0.9s,baz=339,slow=4.4,SNR=76						
NEW				PP	PP	12 21 21.7	-4.2
	comp=Z,22nm,1.0s,baz=359,slow=9.1,SNR=9.2						
	comp=Z,49nm,0.9s						
NEW	Newport	95.42	5	P	P	12 17 34.0	+0.5
GNW	Green Mountain	95.53	9	IAmb	IAmb	12 17 36.6	
	comp=Z,72nm,1.0s						
AUMBR	Murray Bridge	95.55	130	P	P	12 17 33.6	-0.4
NLWA	Neilton Lookou	95.56	10	IAmb	IAmb	12 17 36.8	
	comp=Z,88nm,1.1s						
KSCT	Kent School, K	95.63	334	IAmb	IAmb	12 17 35.4	
	comp=Z,75nm,0.9s						
MDND	Maddock	95.68	353	IAmb	IAmb	12 17 35.5	
	comp=Z,82nm,0.9s						
C09A	Chrisman Ranch	95.78	6	IAmb	IAmb	12 17 37.2	
	comp=Z,100nm,1.2s						
E38A	The Farm, Brul	95.84	348	P	P	12 17 35.6	+0.2
E38A				IAmb	IAmb	12 17 37.1	
	comp=Z,42nm,0.8s						
EGMT	Eagleton	95.94	0	IAmb	IAmb	12 17 37.7	
	comp=Z,80nm,0.9s						
D05A	Enumclaw	96.00	9	IAmb	IAmb	12 17 38.6	
	comp=Z,126nm,1.2s						
F42A	Maple Grove Fa	96.02	345	IAmb	IAmb	12 17 37.2	
	comp=Z,32nm,0.8s						
LTY	Liberty	96.09	8	P	P	12 17 36.9	+0.3
GLMI	Grayling	96.12	343	IAmb	IAmb	12 17 38.0	
	comp=Z,74nm,0.8s						
LON	Longmire	96.46	9	IAmb	IAmb	12 17 40.0	
	comp=Z,42nm,0.9s						
L56A	Greenwood	96.64	337	IAmb	IAmb	12 17 40.0	
	comp=Z,28nm,0.8s						
WVNY	West Valley, N	96.72	338	IAmb	IAmb	12 17 40.6	
	comp=Z,40nm,0.9s						
MXC	Moxie City	96.80	8	IAmb	IAmb	12 17 41.7	
	comp=Z,71nm,1.1s						
G40A	Rib Lake	96.90	347	IAmb	IAmb	12 17 40.9	
	comp=Z,27nm,0.8s						
F04D	Rainier, OR	96.96	10	IAmb	IAmb	12 17 42.7	
	comp=Z,62nm,1.1s						
E08A	Dider Farm, El	97.01	7	IAmb	IAmb	12 17 42.8	
	comp=Z,40nm,1.1s						
E09A	Wood Farm, Sta	97.07	6	IAmb	IAmb	12 17 42.9	
	comp=Z,65nm,1.2s						
M57A	Sunshine Farm,	97.22	336	IAmb	IAmb	12 17 42.6	
	comp=Z,24nm,0.7s						
LAO	LASA Array	97.24	358	IAmb	IAmb	12 17 44.4	
	comp=Z,70nm,0.9s						
F33A	5 Mile Ranch,	97.30	351	IAmb	IAmb	12 17 43.5	
	comp=Z,78nm,1.5s						
CMSA	Cobar Meteorol	97.40	124	P	P	12 17 42.2	-0.3
F07A	Phinny Hill Vi	97.51	7	IAmb	IAmb	12 17 45.3	
	comp=Z,43nm,1.0s						
J47A	Sunmer	97.67	342	IAmb	IAmb	12 17 45.2	
	comp=Z,46nm,1.1s						
G03D	McMinnville, O	97.78	10	IAmb	IAmb	12 17 47.0	
	comp=Z,107nm,1.4s						
HOOD	Mount Hood Mea	97.88	9	IAmb	IAmb	12 17 46.8	
	comp=Z,61nm,1.1s						
SSPA	Standing Stone	98.10	336	P	Pdif	12 17 45.7	+0.1
I40A	Norwalk	98.30	346	IAmb	IAmb	12 17 47.5	
	comp=Z,34nm,0.9s						
BOZ	Bozeman (W)	98.35	2	IAmb	IAmb	12 17 49.1	
	comp=Z,38nm,1.3s						
H04A	Detroit Lake	98.44	9	IAmb	IAmb	12 17 49.6	
	comp=Z,31nm,1.3s						
DLMT	Dillon	98.55	2	IAmb	IAmb	12 17 50.2	
	comp=Z,72nm,1.4s						
PLID	Pearl Lake	98.66	5		Pdif	12 17 48.4	+0.1
PLID				IAmb	IAmb	12 17 49.8	
	comp=Z,22nm,0.8s						
I37A	Lemond, Waseca	98.67	348	IAmb	IAmb	12 17 49.9	
	comp=Z,66nm,1.4s						
RLMT	Red Lodge	98.85	0	IAmb	IAmb	12 17 51.7	
	comp=Z,71nm,1.4s						
YNE	Yellowstone No	98.96	1	IAmb	IAmb	12 17 52.8	
	comp=Z,48nm,1.1s						
JFWS	Jewell Farm	99.17	346	IAmb	IAmb	12 17 52.2	
	comp=Z,21nm,0.7s						
L44A	Lake County Fo	99.39	344	Pdiff	Pdif	12 17 51.2	-0.2
	baz=17						
RSSD	Black Hills	99.71	356	Pdif	Pdif	12 17 52.8	-0.2
RSSD				IAmb	IAmb	12 17 56.8	
	comp=Z,21nm,0.8s						
RSSD	Black Hills	99.71	356	*i* P	Pdif	12 17 52.8	-0.2
RSSD				pmax	pmax		
	comp=Z,21nm,0.9s						
J04A	Umpqua Nationa	99.87	9	IAmb	IAmb	12 17 56.9	
	comp=Z,39nm,0.9s						
J05D	Fort Rock, OR	99.94	9	IAmb	IAmb	12 17 56.6	
	comp=Z,64nm,1.5s						
O48B	Farmland	100.56	341	Pdiff	Pdif	12 17 56.8	+0.2
	baz=20						
L04D	Klamath Falls	100.85	10	Pdif	Pdif	12 17 58.7	+0.7
PDAR	Pinedale Array	101.20	0	P	Pdif	12 18 00.2	+0.4
	comp=Z,3.4nm,0.8s,baz=43,slow=3.1,SNR=23						
PDAR				PP	PP	12 22 07.9	-2.3
	comp=Z,14nm,1.2s,baz=325,slow=8.0,SNR=6.4						
PDAR				PKiKP	PKiKP	12 22 23.1	-0.2
	comp=Z,4.1nm,0.8s,baz=87,slow=3.0,SNR=10						
PDAR				PKKPbc	PKKPbc	12 34 06.9	-1.9
	comp=Z,1.9nm,0.8s,baz=192,slow=2.6,SNR=9.8						
PDAR				PKPPKP	P'P'df	12 42 22.7	-6.2
	comp=Z,0.5nm,0.8s,baz=200,slow=4.1,SNR=4.9						
YBH	Yreka Blue Hor	101.27	10	P	Pdif	12 18 00.6	+0.7
	comp=Z,5.5nm,1.0s,baz=347,slow=1.0,SNR=9.4						
N23A	Red Feather La	103.02	357	Pdiff	Pdif	12 18 07.6	-0.3
	baz=2.8						
ELK	Elko	103.03	5	Pdiff	Pdif	12 18 09.3	+1.4
	comp=Z,3.9nm,0.7s,baz=11,slow=4.2,SNR=13						
MAW	Mawson	103.86	183	Pdiff	Pdif	12 18 11.7	+1.4
	comp=Z,10nm,0.8s,baz=247,slow=3.8,SNR=3.5						
MAW				PKKPbc	PKKPbc	12 34 01.8	-0.1
	comp=Z,9.8nm,0.9s,baz=194,slow=8.3,SNR=2.0						
NVAR	Mina Array Bea	105.07	7	Pdiff	Pdif	12 18 18.4	+1.4
	comp=Z,5.0nm,0.8s,baz=356,slow=3.1,SNR=12						
NVAR				PKiKP	PKiKP	12 22 30.6	+0.1
	comp=Z,3.3nm,0.6s,baz=348,slow=4.3,SNR=6.1						
NVAR				PKKPbc	PKKPbc	12 33 57.4	0.0
	comp=Z,2.2nm,0.7s,baz=190,slow=5.5,SNR=6.8						
R11B	Troy Canyon, C	105.39	5	Pdiff	Pdif	12 18 18.2	-0.2
	baz=355						
T25A	Trinidad	106.69	356	PKiKP	PKiKP	12 22 34.3	+0.9
	baz=4.1						
SYO	Syowa Base	107.60	191	↓*e*Pdiff	Pdif	12 18 29.6	+2.7
Y22D	IRIS PASSCAL I	109.85	358	PKiKP	PKiKP	12 22 39.9	+0.6
	baz=2.0						
121A	Cookes Peak, D	111.41	359	PKiKP	PKiKP	12 22 43.0	+0.6
	baz=1.3						
435B	Jarrell	112.27	349	PKiKP	PKiKP	12 22 44.6	+0.8
	baz=10						
ELIB	Princess Elisa	113.03	194	*d*PKiKP	PKiKP	12 22 43.2	-0.8
MSVF	Nonsavu	114.06	95	PKKPbc	PKKPbc	12 33 28.0	+0.2
	comp=Z,3.3nm,0.4s,baz=154,slow=12,SNR=4.4						
MSVF				PKKPab	PKKPab	12 33 36.5	+0.9
	comp=Z,26nm,0.9s,baz=146,slow=7.1,SNR=10						
TXAR	Lajitas Array	114.40	355	Pdiff	Pdif	12 18 58.5	0.0
	comp=Z,1.3nm,0.8s,baz=13,slow=6.1,SNR=12						
TXAR				PKP	PKPdf	12 22 48.1	+0.1
	comp=Z,1.7nm,0.5s,baz=7.3,slow=1.9,SNR=17						
TXAR				PP	PP	12 23 45.4	-0.6
	comp=Z,4.7nm,0.9s,baz=5.7,slow=5.0,SNR=5.6						
TXAR				PKKPbc	PKKPbc	12 33 27.2	-0.1
	comp=Z,2.3nm,0.7s,baz=186,slow=6.3,SNR=13						
TXAR				PKKPab	PKKPab	12 33 35.7	-2.4
	comp=Z,2.0nm,0.7s,baz=183,slow=8.3,SNR=8.3						
TXAR				SKKPbc	SKKPbc	12 36 49.7	+1.8
	comp=Z,0.3nm,0.3s,baz=212,slow=2.5,SNR=11						
TXAR				PKPPKP	P'P'df	12 41 55.6	-7.8
	comp=Z,0.5nm,1.0s,baz=185,slow=4.1,SNR=4.3						
NVL	N'lazarevskaya	114.80	198	*e*PKiKP	PKPdf	12 22 47.0	-0.2
NVL				pmax	pmax		
	comp=Z,36nm,1.0s						
TROLL	Troll, Antarti	117.94	199	PKKPbc	PKKPbc	12 33 14.8	-1.1
TROLL	Troll, Antarti	117.94	199	⇑PKKPbc	PKKPab	12 33 14.8	-0.4
	comp=Z,764nm,0.8s						
TROLL				↓PKiKP	PKiKP	12 22 53.9	+0.4
	comp=Z,3μm,0.5s						
TROLL				⇑SKPdf	SKPdf	12 26 05.3	-2.5
	comp=Z,478nm,0.8s						
SNAA	Sanae	119.23	200	⇑PKKPbc	PKKPab	12 33 09.5	0.0
	comp=Z,188nm,0.7s						
SNAA				↓PKiKP	PKPdf	12 22 55.7	-0.2
	comp=Z,648nm,0.9s						
SNAA				⇑SKPdf	SKPdf	12 26 09.5	-0.7
	comp=Z,97nm,0.8s						
SNAA	Sanae	119.23	200	PKP	PKPdf	12 22 55.2	-0.7
	comp=Z,30nm,0.9s,baz=90,slow=4.1,SNR=39						
SNAA				PKKPbc	PKKPab	12 33 09.4	-0.1
	comp=Z,12nm,0.9s,baz=202,slow=2.7,SNR=13						
VNA2	Neumayer--Watz	120.23	202	PKKPbc	PKKPbc	12 33 06.0	-1.3
	baz=260,slow=5.0						
VNA2	Neumayer--Watz	120.23	202	⇑PKKPbc	PKKPab	12 33 06.0	+0.9
	comp=Z,3.3nm,0.3s,baz=260,slow=5.0						
VNA2				↓PKiKP	PKPdf	12 22 57.8	+0.1
	comp=Z,76nm,0.6s,baz=32,slow=2.5						
VNA2				⇑SKPdf	SKiKP	12 26 12.7	+0.2
	comp=Z,2.4nm,0.2s,baz=33,slow=3.0						
CAM01	Campos-RJ	120.27	264	*e*P	PKPdf	12 22 58.8	-0.4
TEIG	Tepich	120.28	337	PKPdf	PKiKP	12 22 59.5	0.0
VNA1	Neumayer--Stat	120.38	202	PKKPbc	PKKPbc	12 33 05.1	-1.6
VNA1	Neumayer--Stat	120.38	202	⇑PKKPbc	PKKPab	12 33 05.1	+0.7
	comp=Z,12nm,0.9s						
VNA1				↓PKiKP	PKiKP	12 22 58.0	0.0
	comp=Z,74nm,1.0s						
VNA1				⇑SKPdf	SKPdf	12 26 08.3	-4.0
	comp=Z,10nm,0.8s						
BOAV	Boa Vista	120.47	299	PKPdf	PKPdf	12 22 59.7	-0.2
BOAV	Boa Vista	120.47	299	*e*P	PKiKP	12 23 00.1	0.0
BAUV	El Baul	120.55	311	PKPdf	PKPdf	12 22 59.3	-0.7
RPZ	Rata Peaks	120.78	124	PKPdf	PKPdf	12 22 59.2	-0.4
ZAIG	Zacatecas	120.81	353	PKPdf	PKiKP	12 23 01.2	+0.3
VNA3	Neumayer Olymp	121.04	202	PKKPbc	PKKPbc	12 33 02.7	-1.6
VNA3	Neumayer Olymp	121.04	202	⇑PKKPbc	PKKPab	12 33 02.7	+1.1
	comp=Z,15nm,0.6s						
VNA3				↓PKiKP	PKPdf	12 22 58.9	-0.4
	comp=Z,82nm,0.8s						
VNA3				⇑SKPdf	SKPdf	12 26 13.5	-0.1
	comp=Z,16nm,0.7s						
ITTB	Itaituba	121.53	290	*e*P	PKPdf	12 23 02.0	+0.1
SDV	Santo Domingo	122.15	313	PKPdf	PKPdf	12 23 02.5	-0.8
SDV	Santo Domingo	122.15	313	*e*P	PKPdf	12 23 02.6	-0.8
BDFB	Brasília	122.15	274	PKP	PKPdf	12 23 03.1	-0.1
	comp=Z,6.6nm,0.5s,baz=87,slow=1.8,SNR=14						
BDFB				PP	PP	12 24 41.7	+0.3
	comp=Z,31nm,1.0s,baz=52,slow=6.3,SNR=12						
BDFB				PKKPab	PKKPab	12 33 00.9	+0.1
	comp=Z,22nm,1.0s,baz=250,slow=2.4,SNR=18						
BSCB	Bom Sucesso	122.36	267	*e*P	PKPdf	12 23 03.3	0.0
BHW	Baring Head	122.52	120	PKPdf	PKPdf	12 23 02.4	-0.5
SNDB	Serra Nova Dou	122.72	280	*e*P	PKPdf	12 23 04.2	0.0
NPGB	Novo Progresso	122.94	287	*e*P	PKPdf	12 23 04.6	-0.1
IPMB	Ipameri, GO	123.57	272	*e*P	PKPdf	12 23 05.5	-0.3
PARB	Paraibuna	124.19	265	*e*P	PKiKP	12 23 07.3	+0.2
MACA	Manacapuru-AM	124.42	295	*e*P	PKiKP	12 23 08.8	+1.0
VNDA	Vanda	125.46	165	PKP	PKPdf	12 23 06.3	-1.3
	comp=Z,21nm,1.0s,baz=277,slow=4.6,SNR=7.7						
CLDB	Colider	125.63	284	*e*P	PKiKP	12 23 10.6	+0.4
TGUH	Tegucigalpa,Un	125.69	333	PKPdf	PKPdf	12 23 10.3	+0.2
SPB	Sao Paulo	125.77	265	*e*P	PKiKP	12 23 10.7	+0.5
ITRB	Iturama	126.20	271	*e*P	PKiKP	12 23 11.3	+0.1
QSPA	South Pole Qui	126.20	180	PKP	PKPdf	12 23 08.5	-0.8
	comp=Z,84nm,0.9s,baz=280,slow=1.5,SNR=111						
QSPA				PKKP	PKKPdf	12 33 27.6	-1.0
	comp=Z,1.4nm,0.5s,baz=335,slow=2.7,SNR=8.2						
QSPA				SKKPbc	SKKPbc	12 36 16.2	-1.0
	comp=Z,5.5nm,1.1s,baz=120,slow=2.4,SNR=3.1						
PDRB	Porto dos Gac	126.80	284	*e*P	PKPdf	12 23 12.2	+0.2
FRTB	Fartura	127.37	267	*e*P	PKiKP	12 23 13.9	+0.4
TEFE	Tefe	127.52	298	*e*P	PKiKP	12 23 14.3	+0.4
ROSC	El Rosal	127.55	314	PKP	PKPdf	12 23 13.7	-0.3
	comp=Z,216nm,0.8s,baz=104,slow=2.9,SNR=48						
C2SB	Chapadao do Su	127.71	274	*e*P	PKiKP	12 23 15.3	+1.2
HOPE	Hope Point	128.22	225		PKPdf	12 23 13.6	+0.2
HOPE	Hope Point	128.22	225	PKIKP	PKPdf	12 23 13.6	+0.2
SALV	Santo Antonio	128.45	279	*e*P	PKiKP	12 23 15.5	-0.2
BELA	Belgrano 2	128.52	195		PKPpre	12 23 04.4	
LDASE	Londrina, Braz	128.64	268	*e*P	PKiKP	12 23 15.9	-0.1
MAJ01	Sao Joao Batis	128.78	262	*e*P	PKiKP	12 23 16.3	+0.1
RPRD	Ribas do Rio P	129.29	272	*e*P	PKiKP	12 23 17.3	-0.1
TER01	Tubaro-SC	129.37	261	*e*P	PKiKP	12 23 17.4	+0.1
PTGB	Pitanga	130.03	267	*e*P	PKiKP	12 23 18.9	+0.1
VILB	Vilhena	130.31	285	*e*P	PKiKP	12 23 19.5	0.0
PANT	Pantanal (Braz	130.87	276	*e*P	PKiKP	12 23 20.3	-0.2
AQDB	Aquidauana	130.90	274	*e*P	PKPdf	12 23 19.9	+0.3
PTLB	Pontes e Lacer	130.93	282	*e*P	PKPdf	12 23 19.5	-0.2
CNLB	Canela	131.06	261	*e*P	PKPdf	12 23 20.1	+0.3
ITAB	Concordia	131.21	264		PKPdf	12 23 19.8	-0.2
ITAB	Concordia	131.21	264	*e*P	PKiKP	12 23 21.0	0.0
TBTG	Tabatinga, AM	131.68	302	PKPdf	PKPdf	12 23 20.7	-0.6
TBTG	Tabatinga, AM	131.68	302	*e*P	PKiKP	12 23 22.6	+0.2
SIV	San Ignacio	132.77	282	PKP	PKPdf	12 23 23.0	-0.3
	comp=Z,13nm,0.5s,baz=69,slow=6.4,SNR=35						
SIV				PP	PP	12 25 48.2	-2.7
	comp=Z,18nm,1.0s,baz=62,slow=7.8,SNR=7.8						
SIV				SKPbc	SKPbc	12 26 28.0	-1.9
	comp=Z,22nm,1.1s,baz=57,slow=5.5,SNR=4.6						
SIV				SKKPbc	SKKPbc	12 35 38.0	-11
	comp=Z,1.1nm,0.8s,baz=240,slow=6.2,SNR=3.4						
ETMB	Extrema	132.93	293	PKPdf	PKPdf	12 23 23.5	-0.1
CPSB	Cacapava Do Su	133.56	261	*e*P	PKiKP	12 23 26.0	+0.4
OTAV	Otavalo	133.66	315	↓PKIKP	PKiKP	12 23 26.6	-0.4
OTAV	Otavalo	133.66	315	*e*P	PKPdf	12 23 25.8	+0.2
PLTB	Pedras Altas	134.20	259	*e*P	PKiKP	12 23 26.4	-0.5
CPUP	Villa Florida	135.00	268	PKPdf	PKPdf	12 23 26.7	-0.4
CPUP	Villa Florida	135.00	268	PKP	PKPdf	12 23 26.5	-0.6
	comp=Z,46nm,0.7s,baz=62,slow=2.1,SNR=86						
CPUP				PP	PP	12 26 02.2	-2.9
	comp=Z,10nm,0.8s,baz=63,slow=6.9,SNR=4.3						
CPUP				SKPbc	SKPbc	12 26 35.5	-1.4
	comp=Z,13nm,0.8s,baz=86,slow=3.9,SNR=4.2						
LPAZ	La Paz	138.44	288	PKP	PKPdf	12 23 34.6	0.0
	comp=Z,12nm,0.7s,baz=60,slow=3.5,SNR=25						
LPAZ				PP	PP	12 26 24.8	-2.2
	comp=Z,12nm,1.1s,baz=50,slow=5.8,SNR=6.9						
LPAZ				SKKPbc	SKKPbc	12 35 27.8	-0.7
	comp=Z,1.8nm,0.7s,baz=243,slow=6.2,SNR=3.7						
ATAH	Atahualpa	139.47	308	PKhKP	PKPpre	12 23 29.0	
	comp=Z,20nm,0.8s,baz=31,slow=3.7,SNR=16						
ATAH				PKP	PKPdf	12 23 36.2	-0.2
	comp=Z,20nm,0.8s,baz=29,slow=3.4,SNR=10						
ATAH				SKPbc	SKPbc	12 26 49.8	-1.2
	comp=Z,16nm,0.8s,baz=354,slow=3.3,SNR=6.3						
PPT	Papeete	139.83	73	PKP	PKPdf	12 23 36.6	+0.3
	comp=Z,58nm,0.7s,baz=330,slow=2.8,SNR=6.9						
PMSA	Palmer Station	141.03	209		PKPpre	12 23 31.0	
PMSA	Palmer Station	141.03	209	*e*P	PKPdf	12 23 36.1	-0.9
NNA	Nana	142.03	302		PKPpre	12 23 36.4	
NNA	Nana	142.03	302	PKhKP	PKPpre	12 23 36.2	
	comp=Z,34nm,0.8s,baz=314,slow=3.0,SNR=9.7						
NNA				SKP		12 26 52.7	
	comp=Z,13nm,0.7s,baz=182,slow=4.7,SNR=2.2						
NNA	Nana	142.03	302	PKHKP	PKPpre	12 23 36.4	
TRQA	Tornquist	142.63	253		PKPpre	12 23 36.6	
TRQA	Tornquist	142.63	253	PKHKP	PKPpre	12 23 36.6	
USHA	Ushuaia	146.63	223	PKPbc	PKPdf	12 23 47.4	+0.3
	comp=Z,101nm,0.7s,baz=106,slow=3.2,SNR=38						
VA03	San Esteban	148.07	265		PKPdf	12 23 51.3	+1.0
VA03				PKPbc	PKPbc	12 23 54.3	+0.5
ML02	Panimavida	149.53	260	PKPdf	PKPdf	12 23 52.5	0.0
ML02					PKPbc	12 23 57.3	+0.1
ML02				PKPab	PKPab	12 24 03.0	-0.1
PLCA	Paso Flores	149.59	250	PKP	PKPdf	12 23 53.1	+0.5
	comp=Z,81nm,1.0s,baz=110,slow=1.2,SNR=23						
PLCA				PKPbc	PKiKP	12 23 57.9	-0.4
	comp=Z,143nm,0.8s,baz=108,slow=2.0,SNR=74						
PLCA	Paso Flores	149.59	250	*e*P	PKPdf	12 23 53.1	+0.5
LR05	Currie	150.66	251	PKPdf	PKPdf	12 23 54.0	-0.1
LR05				PKPbc	PKPbc	12 24 00.1	+0.2
LR05				PKPab	PKPab	12 24 06.7	-0.9

ATH ***02*** *12:14:40.2, 35°.40N×27°.09E, h59km±9km, ML3.5/4, Error ellipse: s-maj=9.3km s-min=1.6km az=303.0*
ISK ***02*** *12:14:41.2, 35°.60N×26°.99E, h4km, ML3.5/23*
AFAD ***02*** *12:14:42.0, 35°.55N×27°.21E, h7km±4km, ML3.0*
THE ***02*** *12:14:43.6, 35°.43N×27°.09E, h20km±6km, ML3.6/4, Error ellipse: s-maj=7.2km s-min=1.4km az=165.0*
ISC 02 12:14:41.3±1.2, 35°.41N±0°.05×27°.13E±0°.03, h18km±4km, n49, σ0.97/70, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.81	249	Pg	Pg	12 14 56.7	-0.3
ZKR				Sg	Sn	12 15 09.0	-0.2
ZKR	Zakros	0.81	249	P	Pb	12 14 56.5	-0.2
ZKR				S	Sn	12 15 09.2	0.0
	4μm,0.4s						
ZKR	Zakros	0.81	249	P	Pg	12 14 56.9	-0.1
ZKR				S	Sb	12 15 07.3	+0.1
ZKR				AML	AML	12 15 10.0	
	comp=E,10310μm,0.4s						
ZKR				AML	AML	12 15 14.9	
	comp=N,4644μm,0.4s						
ARG	Arkhangelos	1.14	45	Pn	Pg	12 15 02.9	-0.4
ARG				Sn	Sg	12 15 18.8	+0.5
ARG	Arkhangelos	1.14	45	P	Pg	12 15 02.9	-0.4
ARG				S	Sg	12 15 18.5	+0.2
	comp=N,3μm,0.3s						
ARG	Arkhangelos	1.14	45	P	Pg	12 15 03.3	0.0
ARG				S	Sg	12 15 18.2	-0.1
ARG				AML	AML	12 15 24.6	
	comp=E,6628μm,0.3s						
ARG				AML	AML	12 15 25.4	
	comp=N,4685μm,0.4s						
NISR	Nisiros	1.20	360	P	Pn	12 15 02.9	-0.2
NISR				S	Sn	12 15 19.6	+0.8
NISR	Nisiros	1.20	360	P	Pn	12 15 02.6	-0.5
NISR				S	Sg	12 15 20.5	+0.4
NISR				AML	AML	12 15 25.8	
	comp=E,4325μm,0.2s						
NISR				AML	AML	12 15 26.2	
	comp=N,3321μm,0.4s						
YAZI	Mula-Dat§a-	1.29	12	P	Pn	12 15 04.5	+0.1
YAZI				S	Sn	12 15 21.0	-0.2
YAZI				*i* AML	AML	12 15 27.0	
	comp=N,213nm,0.6s						
YAZI				*i* AML	AML	12 15 30.0	
	comp=N,206nm,0.4s						
DATC	Datca-Mugla	1.41	18	Pn	Pb	12 15 06.7	-0.3
MRSB	Marmaris-Mugla	1.56	33	Pn	Pb	12 15 09.1	-0.5
TURN	Turunc	1.63	33	Pn	Pb	12 15 10.5	-0.3
TURN	Turunc	1.63	33	P	Pb	12 15 10.2	-0.6
TURN				S	Sb	12 15 31.0	-0.1
TURN				*i* AML	AML	12 15 38.0	
	comp=N,386nm,0.3s						
TURN				*i* AML	AML	12 15 43.0	
	comp=N,380nm,0.3s						
BODT	Bodrum	1.65	5	Pn	Pn	12 15 09.6	+0.2
THR8	Santorini-Mono	1.67	307	P	Pn	12 15 10.2	+0.7
THR6	Thira Island,	1.69	304	P	Pn	12 15 10.8	+0.9
YKAV	Yalikavak-Bodr	1.71	4	Pn	Pn	12 15 10.3	+0.1
THR3	Thira Island,	1.72	306	P	Pn	12 15 10.9	+0.6
THR9	Santorini-Faro	1.72	304	P	Pn	12 15 11.3	+1.0
CMBO	Columbo, Santo	1.75	308	P	Pn	12 15 11.5	+0.8
CMBO				S	Sn	12 15 31.6	-1.0
	comp=N,3μm,0.6s						
IDI	Anoyia	1.84	267	Pn	Pb	12 15 13.5	-0.8
IDI	Anoyia	1.84	267	P	Pn	12 15 12.9	+1.0
IDI	Anoyia	1.84	267	P	Pn	12 15 12.7	+0.8
IDI				S	Sn	12 15 35.7	+0.9
DALY	Dalyan (Mula)	1.87	41	Pn	Pb	12 15 14.1	-0.7
MLSB	Milas	1.95	15	Pn	Pn	12 15 14.1	+0.6
YER	Yerkesik	1.95	28	Pn	Pn	12 15 14.6	+1.0
IZZE	Mula-Seydike	1.98	58	P	Pb	12 15 16.1	-0.7
IZZE				S	Sb	12 15 40.9	-0.2
IZZE				*i* AML	AML	12 15 52.0	
	comp=N,511nm,0.7s						
IZZE				*i* AML	AML	12 15 53.0	
	comp=N,300nm,0.3s						
FETY	Fethiye	2.00	52	Pn	Pb	12 15 16.6	-0.5
FETY	Fethiye	2.00	52	P	Pb	12 15 17.2	+0.1
FETY				S	Sg	12 15 47.2	+1.6

1.0nm,0.7s
KURBB Kurchatov Arra 56.49 344 P P 12 28 10.4 +1.1
0.5nm,0.7s,baz=153,slow=7.7,SNR=1.6
0.5nm,0.7s
H04N2 CROZET ISLANDS 60.06 217 T T 13 33 48.2
baz=59,slow=75,SNR=382
H04N1 CROZET ISLANDS 60.07 217 T T 13 33 48.7
baz=59,slow=75,SNR=493
H04N3 CROZET ISLANDS 60.07 217 T T 13 33 47.2
baz=59,slow=75,SNR=304
H04S1 CROZET ISLANDS 60.34 216 T T 13 34 06.4
baz=58,slow=75,SNR=47
H04S3 CROZET ISLANDS 60.35 216 T T 13 34 08.7
baz=58,slow=75,SNR=58
H04S2 CROZET ISLANDS 60.36 216 T T 13 34 04.6
baz=58,slow=75,SNR=40
TXAR Lajitas Array 145.43 38 PKPbc **PKPbc 12 38 07.2 +1.1**
0.3nm,0.5s,baz=323,slow=2.5,SNR=2.1

CFUSG ***02*** *12:20:35.8, 37°.20N×35°.90E, h15km, mb3.4/5, Turkey south*
MOS ***02*** *12:20:36.9±1.2, 37°.29N×35°.80E, h15km, mb4.5/15, Error ellipse: s-maj=6.5km s-min=4.5km az=106.6*
NEIC ***02*** *12:20:38.0±1.5, 37°.16N±0°.04×35°.79E±0°.05, h10km±1km, mb4.5/33, Error ellipse: s-maj=7.6km s-min=6.4km az=219.0*
AFAD ***02*** *12:20:37.8, 37°.27N×35°.82E, h33km±2km, MW4.3*
ISK ***02*** *12:20:37.3, 37°.24N×35°.84E, h15km, ML4.6/70*
MED_RC ***02*** *12:20:38.0±0.8, 37°.25N×35°.85E, h27km±4km, MW4.7/8, Moment Tensor Solution. Mantle waves: s8,c9; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.28±.38; Mθθ-1.19±.23; Mφφ0.91±.21; Mrθ0.32±.25; Mθφ-0.15±.29; Mφr0.86±.31; Best double couple: M0 1.41000×10^16 NP1:φs305.00000°, δ53.00000°, λ165.00000°. NP2: φs44.00000°, δ78.00000°, λ38.00000°. Principal axes: T 1.5100, Plg35.0000°, Azm272.0000°; N -0.2000, Plg50.0000°, Azm59.0000°; P -1.3100, Plg16.0000°, Azm170.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
IDC ***02*** *12:20:39.9±2.1, 37°.27N×35°.71E, h26km±15km, mb4.0/24, mbtmp4.1/35, ML4.0/8, MS4.1/3 Error ellipse: s-maj=11.0km s-min=8.8km az=80.0*
GII ***02*** *12:20:39.7±0.0, 37°.13N±0°.05×35°.58E±0°.01, h1km, Mws4.3/2, confirmed*
MCSM ***02*** *12:20:40.2±0.4, 37°.N±.4°×3°.6E±°, h10km, mb4.2, mB5.0, MLv4.7, Mw(mB)4.3*
NIC ***02*** *12:20:45.2, 36°.88N×35°.43E, h15km±31km, Ml4.2/11*
ISC 02 12:20:37.9±0.9, 37°.23N±0°.02×35°.80E±0°.02, h13km±6km, n363, σ1§48/407, mb4.4/53, 10C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.25**	**5**	Pg	**Pg**	**12 20 43.4**	**+0.1**
KOZT				Sg	**Sg**	**12 20 47.2**	**+0.3**
AKO	**Adana**	**0.36**	**310**	P	**Pb**	**12 20 46.2**	**-0.1**
AKO				*i* AML	AML	12 20 52.0	
	comp=N,4μm,0.3s						
AKO				S	**Sb**	**12 20 52.1**	**+0.1**
AKO				*i* AML	AML	12 20 53.0	
	comp=E,4μm,0.4s						
ANDN	**Andirin**	**0.56**	**51**	P	**Pg**	**12 20 48.6**	**-0.3**
ANDN				S	**Sb**	**12 20 57.6**	**0.0**
ANDN				*i* AML	AML	12 21 01.0	
	comp=N,9μm,0.7s						
ANDN				*i* AML	AML	12 21 01.0	
	comp=E,7μm,0.7s						
KARA	**Karaisali**	**0.59**	**273**	Pg	**Pb**	**12 20 50.2**	**0.0**
KARA				Sg	**Sb**	**12 20 59.4**	**+0.8**
KAMA	**Osmaniye**	**0.69**	**93**	P	**Pg**	**12 20 51.2**	**-0.3**
KAMA				S	**Sn**	**12 21 02.9**	**-1.4**
KAMA				*i* AML	AML	12 21 03.0	
	comp=N,2μm,0.8s						
KAMA				*i* AML	AML	12 21 03.0	
	comp=E,2μm,0.4s						
HASA	**Hatay-Hassa-Ha**	**0.73**	**131**	P	**Pb**	**12 20 52.5**	**0.0**
HASA				S	**Sn**	**12 21 04.7**	**-0.3**
HASA				*i* AML	AML	12 21 05.0	
	comp=N,2μm,0.6s						
HASA				*i* AML	AML	12 21 05.0	
	comp=E,2μm,0.6s						
CMRD	**Camardi-Nigde**	**0.78**	**304**	Pg	**Pg**	**12 20 52.8**	**-0.2**
CMRD				Sg	**Sb**	**12 21 04.5**	**+0.6**
SAIM	**ADANA**	**0.78**	**17**	P	**Pg**	**12 20 51.8**	**-1.3**
SAIM				*i* AML	AML	12 21 05.0	
	comp=N,3μm,0.3s						
SAIM				*i* AML	AML	12 21 10.0	
	comp=E,3μm,0.3s						
GULE	**Gulek**	**0.82**	**274**	P	**Pg**	**12 20 54.2**	**+0.4**
GULE				S	**Sn**	**12 21 07.4**	**0.0**
GULE				*i* AML	AML	12 21 13.0	
	comp=N,1μm,0.4s						
GULE				*i* AML	AML	12 21 18.0	
	comp=E,1μm,0.8s						
DED	**Mersin**	**0.84**	**252**	P	**Pb**	**12 20 54.6**	**+0.1**
DED				*i* AML	AML	12 21 07.0	
	comp=N,6μm,0.7s						
DED				*i* AML	AML	12 21 07.0	
	comp=E,9μm,0.4s						
DED				S	**Sn**	**12 21 07.4**	**-0.5**
KHMR	**Kahramanmara**	**0.89**	**82**	P	**Pb**	**12 20 54.0**	**-1.3**
KHMR				P	**Pg**	**12 20 54.6**	**-0.6**
KHMR				S	**Sn**	**12 21 07.7**	**-1.4**
KHMR				S	**Sg**	**12 21 07.9**	**+1.0**
KHMR				*i* AML	AML	12 21 09.0	
	comp=N,8μm,0.7s						
KHMR				*i* AML	AML	12 21 09.0	
	comp=E,6μm,0.4s						
KHMR				*i* AML	AML	12 21 09.0	
	comp=N,8μm,0.7s						
KHMR				*i* AML	AML	12 21 09.0	
	comp=E,6μm,0.4s						
TAHT	**Tahtakopru-Hat**	**0.91**	**160**	Pg	**Pb**	**12 20 54.9**	**-0.6**
TAHT				Sg	**Sn**	**12 21 08.8**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**0.93**	**338**	P	**Pb**	**12 20 55.5**	**-0.6**
YAHY				S	**Sg**	**12 21 08.2**	**+0.1**
YAHY				*i* AML	AML	12 21 10.0	
	comp=N,1μm,0.6s						
YAHY				*i* AML	AML	12 21 12.0	
	comp=E,10μm,0.7s						
ASUZ	**Hatay-Arsuz**	**0.94**	**181**	P	**Pg**	**12 20 56.6**	**+0.6**
ASUZ				S	**Sn**	**12 21 11.3**	**+1.3**
ASUZ				*i* AML	AML	12 21 13.0	
	comp=E,5μm,0.5s						
ASUZ				*i* AML	AML	12 21 14.0	
	comp=N,5μm,0.4s						
KAHM	**Kahramanmaras,**	**0.99**	**73**	P	**Pb**	**12 20 56.3**	**-0.7**
KAHM				S	**Sb**	**12 21 08.9**	**-1.0**
KAHM				*i* AML	AML	12 21 11.0	
	comp=E,2μm,0.5s						
KAHM				*i* AML	AML	12 21 12.0	
	comp=N,7μm,0.5s						
KHMN	**Narli-Kahraman**	**1.09**	**81**	Pg	**Pb**	**12 20 58.1**	**-0.7**
KHMN				Sg	**Sg**	**12 21 12.9**	**-0.4**
KUZU	**Kuzuini**	**1.12**	**114**	P	**Pn**	**12 20 59.2**	**-0.2**
KUZU				S	**Sn**	**12 21 14.7**	**+0.1**
KUZU				*i* AML	AML	12 21 16.0	
	comp=E,3μm,0.6s						
KUZU				*i* AML	AML	12 21 17.0	
	comp=N,2μm,0.8s						
NIDE	**Nigde/Merkez-G**	**1.12**	**314**	P	**Pb**	**12 20 59.1**	**-0.2**
NIDE				*i* AML	AML	12 21 15.0	
	comp=N,1μm,0.7s						
NIDE				*i* AML	AML	12 21 15.0	
	comp=E,2μm,0.6s						
NIDE				S	**Sn**	**12 21 15.0**	**+0.2**
GAZ	**Gaziantep**	**1.13**	**92**		**Pn**	**12 20 59.3**	**-0.2**
GAZ				Sn	**Sn**	**12 21 15.2**	**+0.2**
GAZ	**Gaziantep**	**1.13**	**92**	Pn	**Pb**	**12 20 58.8**	**-0.6**
GAZ				Sn	**Sg**	**12 21 14.2**	**-0.2**
GAZ	**Gaziantep**	**1.13**	**92**	P	**Pb**	**12 20 58.8**	**-0.6**
GAZ				AML	AML	12 21 16.0	
	52nm,1.3s						
GAZ				AML	AML	12 21 16.7	
	57nm,0.8s						
RHAN	**Hatay/Reyhanl**	**1.16**	**146**	P	**Pn**	**12 20 59.4**	**-0.5**
RHAN				S	**Sb**	**12 21 14.4**	**-0.5**
RHAN				*i* AML	AML	12 21 18.0	
	comp=E,10μm,1.0s						
RHAN				*i* AML	AML	12 21 23.0	
	comp=N,9μm,0.7s						
SARI	**SarD1z-Kayseri**	**1.27**	**22**	Pn	**Pn**	**12 20 59.9**	**-1.8**
NIG	**Nigde**	**1.29**	**313**	Pn	**Pn**	**12 21 01.6**	**-0.4**
NIG				Sn	**Sn**	**12 21 19.1**	**-0.2**
KERG	**Konya-Eregli**	**1.35**	**278**	P	**Pn**	**12 21 02.8**	**+0.2**
KERG				S	**Sg**	**12 21 22.4**	**+1.0**
KERG				*i* AML	AML	12 21 24.0	
	comp=N,2μm,0.2s						
KERG				*i* AML	AML	12 21 24.0	
	comp=E,2μm,0.2s						
GZT	**Gaziantep**	**1.41**	**84**	P	**Pn**	**12 21 02.2**	**-1.3**
GZT				*i* AML	AML	12 21 36.0	
	comp=N,1μm,0.5s						
GZT				*i* AML	AML	12 21 42.0	
	comp=E,9μm,0.9s						
NZIP	**Nizip/Gaziante**	**1.51**	**96**	P	**Pn**	**12 21 04.0**	**-0.8**
NZIP				S	**Sg**	**12 21 26.1**	**-0.4**
NZIP				*i* AML	AML	12 21 32.0	
	comp=N,9μm,0.9s						
NZIP				*i* AML	AML	12 21 34.0	
	comp=E,7μm,0.7s						
ELBS	**KAHRAMANMARAS**	**1.52**	**44**	P	**Pn**	**12 21 04.2**	**-0.8**
ELBS				S	**Sg**	**12 21 25.4**	**-1.5**
ELBS				*i* AML	AML	12 21 35.0	
	comp=E,7μm,0.9s						
ELBS				*i* AML	AML	12 21 36.0	
	comp=N,10μm,0.8s						
KIZK	**Mersin**	**1.52**	**241**	Pn	**Pn**	**12 21 04.9**	**0.0**
KIZK	**Mersin**	**1.52**	**241**	P	**Pn**	**12 21 04.3**	**-0.6**
KIZK				*i* AML	AML	12 21 39.0	
	comp=E,3μm,1.2s						
KIZK				*i* AML	AML	12 21 41.0	
	comp=N,4μm,1.5s						
BSIR	**Belisirma, Guz**	**1.58**	**311**	P	**Pb**	**12 21 07.4**	**+0.2**
BSIR				S	**Sg**	**12 21 29.5**	**+0.5**
BSIR				*i* AML	AML	12 21 30.0	
	comp=N,1μm,1.0s						
BSIR				*i* AML	AML	12 21 40.0	
	comp=E,1μm,0.8s						
AKCA	**Adyaman/G¶**	**1.60**	**69**	P	**Pn**	**12 21 05.5**	**-0.6**
AKCA				*i* AML	AML	12 21 45.0	
	comp=N,9μm,0.8s						
AKCA				*i* AML	AML	12 21 45.0	
	comp=E,8μm,1.3s						
BNN	**Bunyan**	**1.62**	**1**	Pn	**Pn**	**12 21 06.5**	**+0.1**
BNN				Sn	**Sg**	**12 21 29.9**	**-0.3**
BNN	**Bunyan**	**1.62**	**1**	Pn	**Pn**	**12 21 05.6**	**-0.8**
GULA	**Gulagac**	**1.67**	**312**	Pn	**Pn**	**12 21 07.4**	**+0.4**
GUNE	**Kayseri**	**1.68**	**355**	P	**Pn**	**12 21 07.1**	**0.0**
GUNE				*i* AML	AML	12 21 41.0	
	comp=N,10μm,0.8s						
GUNE				*i* AML	AML	12 21 41.0	
	comp=E,1μm,0.7s						
YESY	**Yesilyurt**	**1.73**	**289**	Pn	**Pb**	**12 21 08.8**	**-0.8**
SILI	**Silifke-Mersin**	**1.73**	**241**	Pn	**Pn**	**12 21 08.4**	**+0.6**
AVNS	**Nevsehir-Avano**	**1.75**	**335**	P	**Pn**	**12 21 08.5**	**+0.4**
AVNS				S	**Sb**	**12 21 31.5**	**-0.3**
AVNS				*i* AML	AML	12 21 42.0	
	comp=N,10μm,0.7s						
AVNS				*i* AML	AML	12 21 44.0	
	comp=E,1μm,0.6s						
DARE	**Darende-Malaty**	**1.89**	**44**	Pn	**Pn**	**12 21 09.9**	**-0.1**
CUGUR	**Gurin_SVAS**	**1.89**	**37**	P	**Pn**	**12 21 10.2**	**+0.1**
CUGUR				S	**Sg**	**12 21 38.1**	**-0.7**
CUGUR				*i* AML	AML	12 21 52.0	
	comp=N,7μm,0.7s						
CUGUR				*i* AML	AML	12 21 54.0	
	comp=E,1μm,0.6s						
IKL	**Isikli**	**1.96**	**240**	Pn	**Pn**	**12 21 11.4**	**+0.4**
KARG	**Kargicak-Mersi**	**1.97**	**239**	Pn	**Pn**	**12 21 11.7**	**+0.7**
ATAB	**Bozova**	**2.00**	**82**	P	**Pn**	**12 21 09.7**	**-1.8**
ATAB				S	**Sb**	**12 21 39.7**	**+0.6**
ATAB				*i* AML	AML	12 21 49.0	
	comp=E,6μm,0.8s						
ATAB				*i* AML	AML	12 21 52.0	
	comp=N,4μm,0.5s						
TISA	**Tisan-Mersin**	**2.01**	**239**	Pn	**Pn**	**12 21 11.9**	**+0.3**
YESI	**Yesilovacik-Me**	**2.02**	**240**	Pn	**Pn**	**12 21 12.0**	**+0.3**
KRMN	**Karaman**	**2.03**	**269**	Pn	**Pn**	**12 21 12.7**	**+0.8**
TEVE	**Tevekalti-Mers**	**2.05**	**248**	Pn	**Pn**	**12 21 12.9**	**+0.7**
TEPK	**Tepekoy-MERSIN**	**2.07**	**242**	Pn	**Pn**	**12 21 12.9**	**+0.4**
AKKU	**Akkuyu-Mersin**	**2.10**	**240**	Pn	**Pn**	**12 21 13.5**	**+0.7**
KOZK	**Kozakli-Nevseh**	**2.11**	**340**	Pn	**Pn**	**12 21 12.7**	**-0.4**
AKK1	**Akkuyu-Mersin**	**2.11**	**240**	Pn	**Pn**	**12 21 13.7**	**+0.7**
OREN	**Orenkoy-Mersin**	**2.14**	**242**	Pn	**Pn**	**12 21 14.1**	**+0.7**
EREN	**Erenkoy**	**2.15**	**218**	Pn	**Pn**	**12 21 13.9**	**+0.5**
AKSY	**AKSARAY - Alti**	**2.15**	**312**	P	**Pn**	**12 21 12.8**	**-0.8**
AKSY				S	**Sb**	**12 21 44.6**	**+1.3**
AKSY				*i* AML	AML	12 21 50.0	
	comp=E,4μm,0.9s						
AKSY				*i* AML	AML	12 21 54.0	
	comp=N,3μm,0.9s						
YORU	**Yoruktepe-Mers**	**2.20**	**242**	Pn	**Pn**	**12 21 15.3**	**+1.0**
BERE	**Bereket-Mersin**	**2.25**	**248**	Pn	**Pn**	**12 21 15.9**	**+0.9**
HEKM	**Malatya_Hekimh**	**2.37**	**45**	P	**Pn**	**12 21 17.1**	**+0.3**
HEKM				*i* AML	AML	12 22 06.0	
	comp=N,4μm,1.0s						
HEKM				*i* AML	AML	12 22 09.0	
	comp=E,4μm,0.8s						
URFA	**Urfa**	**2.42**	**84**	Pn	**Pn**	**12 21 16.8**	**-0.5**
YOZ	**Yozgat**	**2.44**	**351**	Pn	**Pn**	**12 21 17.2**	**-0.4**
SERE	**Sereflikochisa**	**2.46**	**315**	Pn	**Pn**	**12 21 18.3**	**+0.4**
BOZY	**Bozyazi-Mersin**	**2.53**	**245**	Pn	**Pn**	**12 21 19.5**	**+0.8**
PARAL	**Paralimni**	**2.65**	**213**	P	**Pn**	**12 21 20.6**	**+0.3**
PARAL				S	**Sn**	**12 21 49.6**	**-2.7**
PARAL				AML	AML	12 22 19.0	
	4.8nm,0.9s						
PARAL				AML	AML	12 22 38.1	
	3.4nm,2.2s						
HDMB	**Hadim**	**2.66**	**265**	Pn	**Pn**	**12 21 21.8**	**+1.0**
CHBY	**Cihanbeyli**	**2.67**	**301**	Pn	**Pn**	**12 21 21.3**	**+0.5**
LFK	**Lefkose**	**2.67**	**224**	Pn	**Pn**	**12 21 21.2**	**+0.4**
KAMT	**Kaman**	**2.69**	**323**	Pn	**Pn**	**12 21 21.5**	**+0.4**
BEIL	**Beino**	**2.70**	**173**	*e*P	**Pn**	**12 21 22.8**	**+1.6**
MVOU	**Mavrovouni**	**2.82**	**219**	P	**Pn**	**12 21 23.1**	**+0.4**
MVOU				S	**Sn**	**12 21 53.5**	**-3.1**
MVOU				AML	AML	12 22 49.3	
	1.8nm,1.1s						
MVOU				AML	AML	12 22 50.6	
	1.1nm,1.5s						
KONT	**Konya--Tatoy**	**2.82**	**286**	Pn	**Pn**	**12 21 24.2**	**+1.4**
SVSK	**Karacayir**	**2.84**	**19**	Pn	**Pn**	**12 21 22.8**	**-0.2**
ATHAL	**Athalassa**	**2.85**	**224**	S	**Sn**	**12 21 54.9**	**-2.5**
ATHAL				AML	AML	12 22 49.7	
	12nm,1.8s						
ATHAL				AML	AML	12 22 59.7	
	16nm,1.1s						
KULU	**Kulu**	**2.85**	**310**	Pn	**Pn**	**12 21 23.8**	**+0.5**
LADK	**Ladik-KONYA**	**2.89**	**291**	Pn	**Pn**	**12 21 24.7**	**+0.9**
AKIN	**Akıncılar- Kıb**	**2.91**	**221**	Pn	**Pn**	**12 21 24.9**	**+1.0**
HWQ	**Hawqa**	**2.95**	**178**	*e*P	**Pn**	**12 21 26.2**	**+1.6**
GAZI	**Gazipasa**	**2.97**	**252**	Pn	**Pn**	**12 21 25.9**	**+1.1**
BR104	**Keskin Array S**	**3.00**	**326**	P	**Pn**	**12 21 27.9**	**+2.6**
BRTR	**Keskin Array B**	**3.01**	**326**	Pn	**Pn**	**12 21 26.9**	**+1.3**
BRTR	**Keskin Array B**	**3.01**	**326**	Pn	**Pn**	**12 21 26.1**	**+0.5**
	6.9nm,0.3s,baz=160,slow=14,SNR=72						
BRTR				Lg	Lg	12 22 14.2	
	31nm,0.3s,baz=155,slow=32,SNR=9.4						
BRTR				LR	LR	12 22 50.7	
	comp=Z,1μm,19.2s,baz=138,slow=44 17nm,0.3s						
BR131	**Keskin Array S**	**3.02**	**326**	Pn	**Pn**	**12 21 26.6**	**+1.0**
BR131	**Keskin Array S**	**3.02**	**326**	Pn	**Pn**	**12 21 26.1**	**+0.5**
BR131	**Keskin Array S**	**3.02**	**326**	*e*P	**Pn**	**12 21 25.7**	**+0.1**
BR105	**Keskin Array S**	**3.02**	**326**	P	**Pn**	**12 21 28.1**	**+2.5**
CSS	**Mathiatis**	**3.02**	**222**	Pn	**Pn**	**12 21 24.8**	**-0.7**
CSS	**Mathiatis**	**3.02**	**222**	Pn	**Pn**	**12 21 26.2**	**+0.7**
CSS	**Mathiatis**	**3.02**	**222**	P	**Pn**	**12 21 28.7**	**+3.2**
CSS	**Mathiatis**	**3.02**	**222**	P	**Pn**	**12 21 25.6**	**+0.1**
CSS				S	**Sn**	**12 21 57.4**	**-4.1**
CSS				AML	AML	12 22 11.0	
	1.6nm,1.0s						
CSS				AML	AML	12 22 17.3	
	1.2nm,0.7s						
CSS	**Mathiatis**	**3.02**	**222**	P	**Pn**	**12 21 23.6**	**-1.9**
FKH	**Fakeheh**	**3.02**	**176**	*e*P	**Pn**	**12 21 27.1**	**+1.5**
BR106	**Keskin Array S**	**3.03**	**326**	P	**Pn**	**12 21 28.3**	**+2.5**
AFSR	**Afar-Bala (An**	**3.08**	**317**	Pn	**Pn**	**12 21 27.2**	**+0.7**
CORM	**Corum**	**3.08**	**343**	Pn	**Pn**	**12 21 26.9**	**+0.4**
ALAN	**Alanya-ANTALYA**	**3.09**	**259**	Pn	**Pn**	**12 21 28.4**	**+1.9**
TOKA	**Tokat**	**3.13**	**10**		**Pn**	**12 21 27.2**	**+0.1**
TOKT	**Tokat**	**3.14**	**10**	Pn	**Pn**	**12 21 27.0**	**-0.2**
LEF	**Lefka**	**3.16**	**229**	Pn	**Pn**	**12 21 27.4**	**0.0**
SEYD	**Seydisehir-KON**	**3.16**	**274**	Pn	**Pn**	**12 21 28.5**	**+0.9**
ASGA	**Asgata**	**3.20**	**221**	S	**Sn**	**12 22 03.0**	**-3.0**
ASGA				AML	AML	12 22 42.8	
	1.9nm,1.7s						
ASGA				AML	AML	12 22 53.3	
	1.6nm,1.1s						
PTK	**Pertek**	**3.29**	**59**	Pn	**Pn**	**12 21 28.9**	**-0.4**
TROD	**Troodos**	**3.29**	**227**	P	**Pn**	**12 21 29.8**	**+0.4**
TROD				AML	AML	12 22 33.0	
	2.0nm,0.8s						
TROD				AML	AML	12 22 37.6	
	1.5nm,1.3s						
ALFC	**Alefka**	**3.31**	**232**	S	**Sn**	**12 22 05.8**	**-3.0**
ALFC				AML	AML	12 22 22.3	
	1.6nm,0.8s						
ALFC				AML	AML	12 22 22.5	
	1.7nm,0.5s						
BHL	**Bhannes**	**3.32**	**182**	*e*P	**Pn**	**12 21 30.4**	**+0.7**
ZAHL	**Zahle**	**3.36**	**179**	*e*P	**Pb**	**12 21 35.4**	**-2.1**
RSDY	**Resadiye-TOKAT**	**3.38**	**20**	Pn	**Pn**	**12 21 31.0**	**+0.5**
APOL	**The Sanctuary**	**3.49**	**224**	P	**Pn**	**12 21 34.2**	**+2.3**
APOL				S	**Sn**	**12 22 09.9**	**-3.3**
APOL				AML	AML	12 22 37.5	
	2.9nm,1.1s						
APOL				AML	AML	12 22 38.2	
	2.6nm,1.0s						
KIZT	**Kizilcal**	**3.51**	**299**	Pn	**Pn**	**12 21 34.6**	**+2.3**
DQRL	**Deir Qamar**	**3.52**	**183**	*e*P	**Pn**	**12 21 33.6**	**+1.1**
MNVG	**Manavgat-Antal**	**3.54**	**264**	Pn	**Pn**	**12 21 33.9**	**+1.4**
ANTO	**Ankara**	**3.54**	**319**		**Pn**	**12 21 34.5**	**+1.9**
ANTO	**Ankara**	**3.54**	**319**	Pn	**Pn**	**12 21 34.3**	**+1.6**
ANTO	**Ankara**	**3.54**	**319**	P	**Pn**	**12 21 34.5**	**+1.9**
ANTO	**Ankara**	**3.54**	**319**	P	**Pb**	**12 21 37.7**	**-2.7**
LOD	**Lodumlu**	**3.57**	**319**	Pn	**Pn**	**12 21 34.5**	**+1.4**
AKMS	**Akamas**	**3.57**	**233**	P	**Pn**	**12 21 33.7**	**+0.7**
AKMS				S	**Sn**	**12 22 12.6**	**-2.5**
AKMS				AML	AML	12 22 36.7	
	2.0nm,0.7s						
AKMS				AML	AML	12 22 46.0	
	2.1nm,1.2s						
NATA	**Nata**	**3.58**	**228**	P	**Pn**	**12 21 34.6**	**+1.3**
NATA				S	**Sn**	**12 22 11.7**	**-3.8**
NATA				AML	AML	12 22 58.2	
	6.1nm,0.9s						
NATA				AML	AML	12 22 58.9	
	5.8nm,0.9s						
KIZO	**Buyukkizoglu-L**	**3.67**	**2**	Pn	**Pn**	**12 21 35.4**	**+0.9**
QRWL	**Qaraoun**	**3.67**	**182**	*e*P	**Pn**	**12 21 35.8**	**+1.3**
YARM	**Yarimca-Ladik(**	**3.69**	**0**	Pn	**Pn**	**12 21 35.4**	**+0.6**
MAZI	**Mazidag**	**3.71**	**85**	Pn	**Pn**	**12 21 35.7**	**+0.6**
RCY	**Rachaya**	**3.72**	**180**	*e*P	**Pn**	**12 21 37.0**	**+1.7**
CANT	**Cankiri**	**3.78**	**334**	Pn	**Pn**	**12 21 36.8**	**+0.8**
KVT	**Kavak**	**3.85**	**3**	Pn	**Pn**	**12 21 37.4**	**+0.4**
SHBL	**Chebaa**	**3.87**	**181**	*e*P	**Pn**	**12 21 39.3**	**+1.9**
NATI	**Neve Ativ**	**3.96**	**181**	P	**Pn**	**12 21 40.0**	**+1.6**
NATI	**Neve Ativ**	**3.96**	**181**	S	**Sn**	**12 22 25.4**	**+0.7**
MARD	**Mardin**	**3.97**	**87**		**Pn**	**12 21 37.8**	**-0.9**
GEM	**Giv'at Ha'Em**	**4.01**	**182**	P	**Pn**	**12 21 40.7**	**+1.6**
GEM	**Giv'at Ha'Em**	**4.01**	**182**	S	**Sn**	**12 22 27.4**	**+1.4**
SVRH	**Sivrihisar-ESK**	**4.03**	**305**	Pn	**Pn**	**12 21 40.7**	**+1.3**
BINT	**Bingol**	**4.05**	**65**	P	**Pn**	**12 21 43.6**	**+3.8**
ANTB	**Antalya**	**4.13**	**267**	Pn	**Pn**	**12 21 42.6**	**+1.9**
ILGA	**Ilgaz**	**4.15**	**338**	Pn	**Pn**	**12 21 42.4**	**+1.2**
BCK	**Bucak**	**4.16**	**275**	Pn	**Pn**	**12 21 42.9**	**+1.7**
HNTI	**Hanita**	**4.17**	**187**	P	**Pn**	**12 21 41.8**	**+0.5**
MMA0B	**Mount Meron ar**	**4.22**	**185**	P	**Pn**	**12 21 43.0**	**+1.0**
MMA0B	**Mount Meron ar**	**4.22**	**185**	S	**Sn**	**12 22 33.1**	**+1.9**
MMAI	**Mount Meron Ar**	**4.22**	**185**	Pn	**Pn**	**12 21 43.4**	**+1.4**
	46nm,0.3s,baz=11,slow=14,SNR=133						
MMAI				Pg	**Pg**	**12 21 58.1**	**-0.6**
	46nm,0.3s,baz=352,slow=16,SNR=5.7						
MMAI				Sn	**Sn**	**12 22 32.0**	**+0.8**
	82nm,0.3s,baz=0.7,slow=24,SNR=12						
MMAI				Lg	Lg	12 22 55.9	
	11nm,0.3s,baz=347,slow=28,SNR=0.8						
MMAI				LR	LR	12 23 02.9	
	comp=Z,802nm,20.0s,baz=52,slow=34 49nm,0.4s						
BNGB	**Bingl**	**4.23**	**64**	Pn	**Pn**	**12 21 42.8**	**+0.6**
ISP	**Isparta**	**4.24**	**280**	Pn	**Pn**	**12 21 43.0**	**+0.7**
ISP	**Isparta**	**4.24**	**280**	Pn	**Pn**	**12 21 43.8**	**+1.5**
ISP	**Isparta**	**4.24**	**280**	*e*P	**Pn**	**12 21 42.9**	**+0.6**
ISP	**Isparta**	**4.24**	**280**	P	**Pn**	**12 21 43.7**	**+1.4**
KSHT	**Keshet**	**4.24**	**180**	P	**Pn**	**12 21 43.1**	**+0.8**
KSHT	**Keshet**	**4.24**	**180**	S	**Sn**	**12 22 33.4**	**+1.7**
CIFT	**Cifteler, Eski**	**4.29**	**301**	Pn	**Pn**	**12 21 44.2**	**+1.2**
SHUT	**Suhut-Afyon**	**4.36**	**289**	Pn	**Pn**	**12 21 45.7**	**+1.7**
KORT	**Korkueli**	**4.36**	**269**	Pn	**Pn**	**12 21 45.7**	**+1.6**
SVAN	**Silvan-Diyarba**	**4.38**	**76**	Pn	**Pn**	**12 21 44.8**	**+0.6**
DIKM	**Dikmen**	**4.43**	**355**	P	**Pn**	**12 21 48.3**	**+3.4**
BLGI	**Bet Lehem HaGe**	**4.51**	**187**	P	**Pn**	**12 21 47.0**	**+1.0**
BLGI	**Bet Lehem HaGe**	**4.51**	**187**	S	**Sn**	**12 22 39.9**	**+1.5**
KOPT	**Kop Dagi**	**4.61**	**51**	Pn	**Pn**	**12 21 50.4**	**+2.8**
OFRI	**`Ofer**	**4.65**	**189**	P	**Pn**	**12 21 48.8**	**+1.0**
OFRI	**`Ofer**	**4.65**	**189**	S	**Sn**	**12 22 42.6**	**+0.8**
ELL	**Elmali**	**4.74**	**266**		**Pn**	**12 21 52.4**	**+3.1**
**ELL

EIL Sn **Sn** **12 23 53.1 -0.7**
comp=E,1.7nm,0.3s,baz=203,slow=15,SNR=5.9
comp=E,5.9nm,0.6s
GNI Garni 7.58 65 *i* P **Pn** **12 22 29.0 +0.8**
SUDU Sudak 7.68 356⇓*eP* **Pn** **12 22 30.0 +0.6**
SUDU Sudak 7.68 356⇓*eP* **Pn** **12 22 30.0 +0.6**
SUDU Pm 12 22 31.9
comp=Z,33nm,0.6s
EZN Ezine 7.87 292 P **Pn** **12 22 34.5 +2.5**
EZN Ezine 7.87 292 P **Pn** **12 22 34.5 +2.5**
comp=Z,0.2nmcomp=Z,29nm,1.4s
NEUR Neytrino 8.01 39 *i* P **Pn** **12 22 30.6 -3.6**
DNZ2 Donuzlav2 8.37 347 *eP* **Pn** **12 22 42.3 +3.4**
DNZ2 Pm 12 22 43.6
comp=Z,38nm,0.5s
ALN Alexandroupoli 8.42 299 Pn **Pn** **12 22 38.1 -1.6**
ALN Alexandroupoli 8.42 299 P **Pn** **12 22 38.1 -1.6**
KBZ Khabaz 8.45 38 Pn **Pn** **12 22 42.0 +2.0**
comp=Z,3.4nm,1.1s,baz=293,slow=18,SNR=2.2
KIV Kislovodsk 8.52 36 *eP* **Pn** **12 22 39.5 -1.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
RDO Rodhopi 8.88 299 **Pn** **12 22 45.6 -0.3**
IDI Anoyia 9.02 261 Pn **Pn** **12 22 47.0 -1.0**
IDI Anoyia 9.02 261 Pn **Pn** **12 22 47.3 -0.7**
comp=Z,14nm,0.3s,baz=8.1,slow=7.7,SNR=35
IDI Sn **Sn** **12 24 25.0 -4.5**
comp=Z,1.3nm,0.3s,baz=159,slow=23,SNR=1.1
HARR Harsova 9.53 324 ⇑P Pn 12 22 59.4 +4.6
CFR Carcaliu 9.81 326 ⇑P **Pn** **12 23 02.3 +3.6**
CFR Carcaliu 9.81 326 ⇑P **Pn** **12 23 02.3 +3.6**
ISR Istrita 10.52 321 ⇑P Pn 12 23 14.8 +6.3
ISR Istrita 10.52 321 ⇑P Pn 12 23 14.8 +6.3
LIT Litokhoron 10.79 289 **Pn** **12 23 12.1 -0.1**
LIT Litokhoron 10.79 289 P **Pn** **12 23 12.1 -0.1**
VRI Vrincioaia 10.98 325 ⇓P Pn 12 23 23.7 +9.0
VRI Vrincioaia 10.98 325 ⇓P Pn 12 23 23.7 +9.0
MLR Muntele Rosu 11.08 321 Pn **Pn** **12 23 17.2 +1.0**
comp=Z,7.1nm,1.2s,baz=245,slow=19,SNR=1.8
COVR Voineasa-Covas 11.21 323 ⇑P Pn 12 23 24.2 +6.3
VOIR 11.50 319 ⇓P **Pn** **12 23 26.3 +4.4**
VOIR 11.50 319 ⇓P **Pn** **12 23 26.3 +4.4**
GZR Gura Zlata 12.73 314 ⇑P **Pn** **12 23 41.7 +3.0**
GZR Gura Zlata 12.73 314 ⇑P **Pn** **12 23 41.7 +3.0**
MDVR Moldovita 13.03 310 ⇑P **P** **12 23 51.6 -1.6**
AK07 Malin Array Si 14.13 343 P **P** **12 24 01.4 -3.9**
AK10 Malin Array Si 14.17 343 P **Pn** **12 23 59.3 +1.1**
AK05 Malin Array Si 14.20 343 P **Pn** **12 23 59.8 +1.2**
AK14 Malin Array Si 14.23 342 P **Pn** **12 24 00.6 +1.6**
KIEV Kiev 14.26 343 ⇓P **P** **12 24 09.9 +3.1**
KIEV Kiev 14.26 343 ⇓P **P** **12 24 09.9 +3.1**
AKASG Malin Array Be 14.27 343 Pn **Pn** **12 23 59.0 -0.5**
comp=Z,0.6nm,0.3s,baz=161,slow=12,SNR=4.3
comp=Z,1.4nm,0.7s
AKBB Malin Array Si 14.27 343 *i* P **Pn** **12 23 57.3 -2.3**
AK15 Malin Array Si 14.29 343 P **Pn** **12 24 00.9 +1.1**
AK18 Malin Array Si 14.32 342 P **Pn** **12 24 01.0 +0.7**
MI28 Mi28,Pidlybu 14.88 340 P **P** **12 24 12.9 -0.7**
comp=Z,298nm,0.9s
TIP Timpagrande 15.10 283 P **P** **12 24 16.8 +0.6**
comp=Z,18nm,1.1s
KOLS Kolonicke sedl 15.29 324 *eP* **P** **12 24 20.9 +2.7**
KOLS Kolonicke sedl 15.29 324 *eP* **P** **12 24 20.9 +2.7**
RAYN Ar Rayn 16.01 146 ⇓P **P** **12 24 29.7 +3.3**
VYHS Vyhne 16.73 318 *eP* **P** **12 24 33.9 -0.4**
VYHS Vyhne 16.73 318 *eP* **P** **12 24 33.9 -0.4**
RAFF Raffo Rosso 17.07 276 P **Pn** **12 24 33.7 -2.6**
BELG Belogornoye 17.29 25 P **Pn** **12 24 38.3 -0.6**
comp=Z,1.2nm,0.3s,baz=311,slow=9.3,SNR=4.2
comp=Z,16nm,0.9s
MODS Modra-Piesok 17.52 315 *eP* **P** **12 24 44.1 +1.1**
MODS Modra-Piesok 17.52 315 *eP* **P** **12 24 44.1 +1.1**
RONA Rosalia, Austr 17.74 312 *ePn* **P** **12 24 45.0 -0.5**
comp=Z,7.3nm,1.2s
OBN Obninsk 17.90 1⇓*eP* **Pn** **12 24 45.7 -0.7**
OBN *eS* **Sn** **12 28 01.0 -4.7**
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,378nm,17.0s
ARSA Arzberg 18.00 310 *ePn* **P** **12 24 48.4 +0.1**
comp=Z,6.4nm,1.0s
SOKA Soboth 18.06 308 *i* Pn **P** **12 24 50.2 +1.2**
comp=Z,10nm,1.6s
CONA Conrad Observa 18.11 312 *ePn* **P** **12 24 49.7 +0.1**
comp=Z,7.2nm,1.5s
OBKA Obir 18.30 307 *i* Pn **P** **12 24 52.6 +1.0**
comp=Z,15nm,1.6s
VRAC Vranov 18.41 317 P **P** **12 24 52.4 -0.4**
comp=Z,0.3nm,0.3s,baz=104,slow=4.2,SNR=1.4
comp=Z,1.1nm,0.3s
MOS Moscow 18.56 3 *eP* **Pn** **12 24 57.4 +2.9**
NACGM Naroch 18.72 344 *eP* **Pn** **12 24 56.2 -0.3**
comp=Z,39μm,21.8s
MYKA Terra Mystica 18.92 307 *ePn* **P** **12 24 58.3 -0.2**
comp=Z,14nm,1.2s
MOA Molln 19.03 311 *i* Pn **P** **12 24 59.5 -0.1**
comp=Z,6.2nm,0.9s
KBA Koelnbreinsper 19.28 308 *ePn* **P** **12 25 02.4 -0.1**
comp=Z,9.6nm,1.0s
BIOA Bad Ischl, Aus 19.34 310 *ePn* **P** **12 25 03.2 +0.2**
comp=Z,6.8nm,1.1s
KSP Ksiaz 19.46 321 P **Pn** **12 25 06.0 +0.5**
comp=Z,12nm,1.7s
ABTA Abfaltersbach 19.69 306 *ePn* **P** **12 25 07.1 +0.2**
comp=Z,11nm,1.0s
GERES GERESS Array B 19.81 313 P **P** **12 25 08.2 0.0**
GERES GERESS Array B 19.81 313 P **P** **12 25 08.4 +0.2**
comp=Z,0.3nm,0.3s,baz=113,slow=10,SNR=5.6
comp=Z,1.3nm,0.6s
TEOL Teolo 19.82 302 P **P** **12 25 05.8 -2.4**
ZVC Zvikov 19.82 315 *eP* **P** **12 25 08.4 +0.2**
LESA Schwarzleotal 19.83 308 *i* Pn **P** **12 25 08.3 -0.2**
comp=Z,4.6nm,0.7s
KHC Kasperske Hory 20.02 313 *eP* **P** **12 25 10.7 +0.3**
KHC Kasperske Hory 20.02 313 *eP* **P** **12 25 10.7 +0.3**
KHC Kasperske Hory 20.02 313 P **P** **12 25 10.2 -0.2**
comp=Z,12nm,3.0s
CTI Castel Tesino 20.02 304 P **P** **12 25 10.7 +0.1**
CTI IAmb IAmb 12 25 22.4
comp=Z,19nm,1.0s
CTI Castel Tesino 20.02 304 P **P** **12 25 10.7 +0.1**
CTI pmax pmax
comp=Z,19nm,1.0s
WTTA Wattenberg 20.43 307 *i* Pn **P** **12 25 15.3 +0.3**
comp=Z,10nm,1.0s
WATA Walderalm 20.50 307 *i* Pn **P** **12 25 16.2 +0.5**
comp=Z,23nm,1.7s
AKTO Aktyubinsk 20.66 43 P **P** **12 25 16.7 -0.6**
comp=Z,7.6nm,0.6s,baz=240,slow=8.0,SNR=21
comp=Z,7.6nm,0.6s
SQTA Sankt Quirin 20.69 307 *ePn* **P** **12 25 18.1 +0.2**
comp=Z,7.3nm,0.9s
MOTA Moosalm 20.80 307 *ePn* **P** **12 25 18.7 -0.4**
comp=Z,14nm,1.2s
VSL Villasalto 20.82 284 P **P** **12 25 18.1 -1.0**
VSL IAmb IAmb 12 25 18.5
comp=Z,18nm,0.9s
FETA Feichten 20.93 306 *i* Pn **P** **12 25 19.5 -1.0**
comp=Z,18nm,2.0s
RETA Reutte 21.07 307 *ePn* **P** **12 25 21.7 -0.1**
comp=Z,7.9nm,0.9s
FUORN Ofenpass-Fuorn 21.11 304 P **P** **12 25 22.5 0.0**
ABKAR Akbulak array 21.20 48 P **P** **12 25 23.2 +0.1**
UOSS Minazif 21.29 119 P **P** **12 25 24.9 +0.7**
KEST Kesra 21.30 274 P **P** **12 25 22.8 -1.7**
KEST IAmb IAmb 12 25 50.3
comp=Z,31nm,1.1s
KEST Kesra 21.30 274 P **P** **12 25 22.1 -2.4**
comp=Z,6.0nm,0.8s,baz=69,slow=8.6,SNR=4.0
comp=Z,6.0nm,0.8s
DAVOX Davos/Dischmat 21.41 305 P **P** **12 25 25.7 +0.1**
comp=Z,4.4nm,0.8s,baz=126,slow=6.5,SNR=4.8
comp=Z,4.4nm,0.8s
CLL Collm 21.43 318 *i* P **P** **12 25 29.5 +3.9**
CLL Collm 21.43 318 *eP* **P** **12 25 26.0 +0.4**
CLL *i* x x 12 25 38.9
CLL *ex* x 12 25 58.0
DAVA Damuels 21.57 306 *i* Pn **P** **12 25 26.4 -0.8**
comp=Z,10.0nm,1.0s
BFO Black Forest 22.89 308 P **P** **12 25 40.4 -0.9**
BFO IAmb IAmb 12 25 40.8
comp=Z,14nm,1.0s
BFO Black Forest 22.89 308 P **P** **12 25 40.4 -0.9**
BFO pmax pmax
comp=Z,14nm,1.0s
SENIN Lac Senin/Sane 23.02 302 P **P** **12 25 42.0 -0.8**
BNI Bardonecchia 23.19 299 P **P** **12 25 44.9 +0.3**
BNI IAmb IAmb 12 26 03.1
comp=Z,15nm,1.1s
BNI Bardonecchia 23.19 299 P **P** **12 25 44.9 +0.3**
BNI pmax pmax
comp=Z,15nm,1.2s
ECH Echery 23.60 307 P **P** **12 25 47.8 -0.7**
ECH IAmb IAmb 12 26 13.7
comp=Z,16nm,1.0s
ECH Echery 23.60 307 P **P** **12 25 47.8 -0.7**
ECH pmax pmax
comp=Z,16nm,1.0s
KLMR Klimovskoe 23.76 5 *eP* **P** **12 25 48.1 -1.7**
KLMR pmax pmax
comp=Z,48nm,1.5s
ARTI Arti 24.42 31 P **P** **12 25 56.7 +0.6**
ARTI Arti 24.42 31 *d iP* **P** **12 25 55.3 -0.8**
ARTI 12 26 24.6
ARTI S **S** **12 30 16.2 +0.8**
ARTI pmax pmax
comp=Z,11nm,1.7s
FIA1 FINESS Array S 25.00 349 P **P** **12 26 00.4 -0.7**
FINES FINESS Array B 25.00 349 P **P** **12 26 01.0 -0.2**
FINES FINESS Array B 25.00 349 P **P** **12 26 00.6 -0.5**
comp=Z,6.3nm,0.6s,baz=150,slow=10,SNR=20
comp=Z,6.3nm,0.6s
FINES FINESS Array B 25.00 349 *i* P **P** **12 26 01.2 +0.1**
FINES pmax pmax
comp=Z,6.0nm,0.6s
HFS Hagfors 26.92 335 P **P** **12 26 17.6 -0.9**
comp=Z,4.1nm,0.8s,baz=139,slow=12,SNR=5.2
comp=Z,4.1nm,0.8s
KKAR Karatay Array 27.04 67 P **P** **12 26 20.1 +0.3**
KKAR Karatay Array 27.04 67 P **P** **12 26 20.2 +0.3**
GAR Garm 27.12 76 P **P** **12 26 21.0 +0.2**
GAR IAmb IAmb 12 26 31.6
comp=Z,11nm,0.9s
NC405 NORSAR Array S 28.30 335 P **P** **12 26 31.9 +0.9**
NC405 IAmb IAmb 12 26 32.9
comp=Z,9.5nm,1.1s
NOA NORSAR Array B 28.42 335 P **P** **12 26 30.9 -1.1**
comp=Z,0.9nm,0.8s,baz=128,slow=9.5,SNR=4.0
comp=Z,0.9nm,0.8s
NC303 NORSAR Array S 28.50 335 P **P** **12 26 33.6 +0.9**
NC303 IAmb IAmb 12 27 01.5
comp=Z,11nm,1.1s
NBO00 NORSAR Array S 28.56 334 P **P** **12 26 34.6 +1.3**
NBO00 IAmb IAmb 12 26 44.6
comp=Z,14nm,1.1s
BVAR Borovoye Array 28.71 46 P **P** **12 26 35.4 +0.6**
comp=Z,1.8nm,0.9s,baz=230,slow=11,SNR=4.1
comp=Z,1.8nm,0.9s
AAK Ala-Archa 29.97 67 *i* P **P** **12 26 48.4 +2.2**
AAK pmax pmax
comp=Z,3.0nm,1.1s
KSH Kashi 31.40 73 P **P** **12 26 57.3 -1.5**
KSH pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 31.89 317 P **P** **12 27 01.2 -1.6**
comp=Z,2.5nm,0.8s,baz=123,slow=8.5,SNR=4.0
comp=Z,2.5nm,0.8s
ARCES ARCESS Array B 32.84 353 P **P** **12 27 10.3 -0.7**
comp=Z,2.9nm,0.7s,baz=157,slow=6.6,SNR=13
comp=Z,2.9nm,0.7s
KURBB Kurchatov Arra 33.09 52 P **P** **12 27 13.9 +0.6**
comp=Z,3.6nm,0.6s,baz=264,slow=8.6,SNR=32
comp=Z,3.6nm,0.6s
KURK Kurchatov 33.15 52 P **P** **12 27 14.5 +0.6**
KURK Kurchatov 33.15 52 P **P** **12 27 14.5 +0.6**
KURK pmax pmax
comp=Z,10.0nm,1.1s
MAKZ Makanchi 35.17 59 P **P** **12 27 30.6 -0.9**
MAKZ Makanchi 35.17 59 P **P** **12 27 30.6 -0.9**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 35.38 59 **P** **12 27 33.0 -0.3**
MK31 Makanchi Array 35.38 59 P **P** **12 27 33.0 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 35.38 59 P **P** **12 27 33.0 -0.3**
MKAR Makanchi Array 35.38 59 P **P** **12 27 33.8 +0.5**
comp=Z,0.9nm,0.5s,baz=269,slow=9.1,SNR=18
comp=Z,0.9nm,0.5s
ZAA0 Zalesovo Array 37.31 47 P **P** **12 27 50.2 +0.6**
ZALV Zalesovo Beam 37.31 47 P **P** **12 27 50.1 +0.4**
ZALV Zalesovo Beam 37.31 47 P **P** **12 27 49.7 0.0**
comp=Z,2.7nm,0.6s,baz=263,slow=9.7,SNR=14
comp=Z,2.7nm,0.6s
TORD Torodi Ar. Bea 38.74 241 P **P** **12 28 01.4 -0.7**
comp=Z,3.1nm,0.8s,baz=37,slow=8.1,SNR=9.1
comp=Z,3.1nm,0.8s
WMQ Urumqi 39.45 64 *eP* **P** **12 28 11.0 +3.1**
WMQ pmax pmax
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 41.87 354 P **P** **12 28 27.5 +0.2**
comp=Z,7.0nm,0.8s,baz=134,slow=12,SNR=11
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 41.87 354 P **P** **12 28 27.7 +0.4**
SPITS pmax pmax
comp=Z,29nm,1.2s
NRIK Noril'sk 42.39 24 P **P** **12 28 33.1 +1.4**
NRIK Noril'sk 42.39 24 P **P** **12 28 32.5 +0.8**
comp=Z,2.3nm,0.4s,baz=246,slow=4.6,SNR=6.6
comp=Z,2.3nm,0.4s
NRIK Noril'sk 42.39 24 P **P** **12 28 33.1 +1.4**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 47.86 241 P **P** **12 29 15.1 -0.6**
DBIC IAmb IAmb 12 29 18.1
comp=Z,3.6nm,0.8s
DBIC Dimbokro 47.86 241 P **P** **12 29 14.7 -1.1**
comp=Z,3.3nm,0.6s,baz=23,slow=10,SNR=4.7
comp=Z,3.3nm,0.6s
DBIC Dimbokro 47.86 241 P **P** **12 29 15.1 -0.6**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 51.40 54 P **P** **12 29 42.8 +0.2**
comp=Z,1.1nm,0.8s,baz=290,slow=6.7,SNR=5.9
comp=Z,1.1nm,0.8s
ULN Ulaanbaatar 51.82 54 *i* P **P** **12 29 45.6 -0.1**
ULN pmax pmax
comp=Z,10.0nm,1.7s
LZH Lanzhou 53.49 69 *eP* **P** **12 30 00.9 +2.6**
LZH pP sP 12 30 05.9 +2.1
LZH sP pP 12 30 08.2 +5.9
LZH pmax pmax
comp=Z,9.0nm,1.4s
PZH PanZhiHua 56.02 81 P **P** **12 30 17.7 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.3s
TIXI Tiksi 56.09 22 *i* P **P** **12 30 15.4 -0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
HHC Hu-ho-hao-te 57.22 61 *eP* **P** **12 30 25.2 +0.2**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,5.6s
CMAR Chiang Mai Arr 57.87 90 P **P** **12 30 29.3 -0.4**
comp=Z,1.7nm,0.9s,baz=296,slow=8.5,SNR=12
comp=Z,1.7nm,0.9s
EUNU Eureka 58.72 350 P **P** **12 30 35.5 +0.6**
EUNU IAmb IAmb 12 30 39.7
comp=Z,3.7nm,0.9s
XLT XiLinHaoTe 59.09 56 *eP* P 12 30 32.9 -5.2
XLT pmax pmax
comp=Z,6.0nm,0.7s
BOSA Boshof 66.24 190 P **P** **12 31 26.1 +0.3**
comp=Z,2.8nm,0.9s,baz=174,slow=3.8,SNR=3.6
comp=Z,2.8nm,0.9s
NJ2 Nanjing 66.41 67 *eP* **P** **12 31 25.6 -1.3**
NJ2 pmax pmax
comp=Z,6.0nm,1.3s
SCHQ Schefferville 67.02 322 P **P** **12 31 29.8 -0.7**
SCHQ IAmb IAmb 12 31 53.8
comp=Z,4.4nm,1.0s
SCHQ Schefferville 67.02 322 P **P** **12 31 29.1 -1.4**
comp=Z,1.7nm,0.6s,baz=32,slow=9.8,SNR=3.6
comp=Z,1.7nm,0.6s
BILL Bilibino 68.70 18 *eP* **P** **12 31 41.3 +0.6**
BILL pmax pmax
comp=Z,8.0nm,1.6s
KSRS Korea Array 70.05 58 P **P** **12 31 49.4 -0.2**
comp=Z,1.9nm,0.7s,baz=290,slow=5.0,SNR=8.3
comp=Z,1.9nm,0.7s
A36M Sachs Harbour 70.27 354 P **P** **12 31 51.3 +1.0**
B21K Ikpikpuk River 73.19 4 P **P** **12 32 11.8 +3.9**
B21K IAmb IAmb 12 32 19.6
comp=Z,5.2nm,1.0s
C18K Utukok River 73.68 6 P **P** **12 32 12.1 +1.1**
C18K IAmb IAmb 12 32 26.5
comp=Z,5.4nm,1.0s
F21K Alatna River 75.63 4 P **P** **12 32 23.3 +1.0**
F21K IAmb IAmb 12 32 48.3
comp=Z,4.7nm,1.1s
G27K Doyon Strip 76.27 359 P **P** **12 32 29.4 +3.4**
G27K IAmb IAmb 12 32 45.4
comp=Z,4.8nm,1.1s
YKA Yellowknife Ar 77.80 346 P **P** **12 32 34.3 -0.2**
comp=Z,0.9nm,0.8s,baz=26,slow=5.4,SNR=11
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 77.80 346 *i* P **P** **12 32 34.5 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 78.31 1 P **P** **12 32 37.0 -0.4**
comp=Z,0.6nm,1.0s,baz=333,slow=3.4,SNR=4.7
comp=Z,0.6nm,1.0s
ULM Lac du Bonnet 83.04 331 P **P** **12 33 02.0 -1.0**
comp=Z,1.7nm,0.6s,baz=35,slow=4.7,SNR=4.1
comp=Z,1.7nm,0.6s
DLBC Dease Lake 83.95 353 LR LR 13 13 49.8
comp=Z,829nm,19.2s,baz=106,slow=38
O49A Covington 85.40 318 P **P** **12 33 14.6 -0.6**

TXNET 02 12:27:55.5,31°.6N±0°.7×104°.3W±0°.7, h2km±1km, ML1.6/7,
Error ellipse: s-maj=1.1km s-min=1.0km az=25.5, final,
Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**35**	P	**Pg**		12 28 02.0	-0.3
TPB11				S	Sg		12 28 07.2	+0.2
PECS	**Pecos**	**0.44**	**128**	P	Pg		12 28 04.0	+0.1
PECS				S	Sg		12 28 09.9	+0.3
PECS	**Pecos**	**0.44**	**128**	P	Pg		12 28 04.1	+0.2
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg		12 28 05.8	+0.7
TPB12				S	Sg		12 28 12.2	+0.6
TPB07	**Mentone**	**0.52**	**97**	P	Pb		12 28 06.5	-0.8
TPB07				S	Sg		12 28 12.6	+0.4
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg		12 28 13.8	+0.1
MNTX				S	Sg		12 28 26.6	+0.7
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg		12 28 13.8	+0.2
MNTX				S	Sg		12 28 26.7	+0.8
HTMS	**Hat Mesa**	**0.99**	**33**	Pg	Pb		12 28 15.5	+0.1
HTMS				S	Sn		12 28 30.3	-0.8
VHRN	**Van Horn**	**1.05**	**216**	Pn	Pg		12 28 15.4	-0.2
VHRN				P	Pb		12 28 15.5	-0.9
VHRN				S	Sb		12 28 30.2	-0.5
VHRN	**Van Horn**	**1.05**	**216**	P	Pg		12 28 15.5	-0.1
TPB05	**Hovey Rd**	**1.08**	**131**	P	Pg		12 28 15.8	-0.5
TPB05				S	Sg		12 28 29.8	-0.5
MNHN	**Monahans**	**1.32**	**103**	P	Pg		12 28 19.6	-1.3
ALPN	**Alpine**	**1.38**	**157**	P	Pn		12 28 20.1	-1.7
ALPN				S	Sg		12 28 38.0	-1.6
ALPN	**Alpine**	**1.38**	**157**	P	Pn		12 28 20.1	-1.6
CPRX	**Cap Rock**	**1.43**	**14**	P	Pn		12 28 22.0	-0.5
ODSA	**Odessa**	**1.54**	**72**	S	Sg		12 28 46.3	+1.3
TMB04	**Seminole**	**1.80**	**57**	P	Pn		12 28 27.7	+0.1
TMB04				S	Sg		12 28 52.9	-0.6
TMB02	**Rankin**	**1.96**	**102**	P	Pn		12 28 30.7	+1.0
TMB02				S	Sn		12 28 55.6	+0.6
TX31	**Lajitas Ar. Si**	**2.36**	**167**	P	Pb		12 28 37.5	-1.1
TX31				S	Sb		12 29 07.7	-0.6
SAND	**Sanderson**	**2.50**	**132**	P	Pb		12 28 39.9	-1.2
SAND				S	Sb		12 29 12.5	+0.2
SAND	**Sanderson**	**2.50**	**132**	P	Pb		12 28 39.9	-1.2
SAND				S	Sb		12 29 13.4	+1.1

---

*IDC **02** 12:29:01.5±5.3, 2°.77S×100°.19E, h0km, mb3.4/3,*
mbtmp3.4/3, MS4.2/1, Error ellipse: s-maj=168.2km
s-min=81.6km az=50.0
*DJA **02** 12:29:02.9±0.5, 3°S±4°×10°0E±°, h25km±3km, M3.4/6,*
MLv3.4/6
ISC 02 12:29:03.8±1.8, 3°.0S±0°.2×100°.1E±0°.2, h28km±7km, n19,
σ1°08/13, mb3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.20**	**343**	P	**Pb**		**12 29 09.7**	**-0.1**
PPSI				S	**Sb**		**12 29 14.1**	**+0.3**
SISI	**Saibi**	**1.89**	**329**	P	**Pn**		**12 29 33.9**	**-0.4**
SISI				S	**Sn**		**12 29 57.0**	**-0.2**
PPI	**Padang Panjang**	**2.51**	**8**	P	**Pn**		**12 29 42.7**	**0.0**
MNAI	**Manna**	**3.20**	**116**	P	**Pn**		**12 29 52.6**	**+0.3**
MNAI				S	**Sn**		**12 30 27.3**	**-2.3**
PBSI	**Pulau Batu**	**3.39**	**328**	P	**Pn**		**12 29 54.1**	**-0.8**
PBSI				S	**Sn**		**12 30 32.7**	**-1.6**
H08S2	**Diego Garcia H**	**27.84**	**259**	T	T		13 03 53.0	
baz=82,slow=76,SNR=58								
H08S3	**Diego Garcia H**	**27.85**	**259**	T	T		13 03 55.7	
baz=82,slow=76,SNR=96								
H08S1	**Diego Carcia H**	**27.86**	**259**	T	T		13 03 55.9	
baz=82,slow=76,SNR=69								
STKA	**Stephens Creek**	**48.47**	**131**	LR	LR		12 58 54.1	
comp=Z,295nm,21.1s,baz=302,slow=37								
SONM	**Songino Array**	**50.88**	**5**	P	**P**		**12 38 02.8**	**+0.4**
0.3nm,0.4s,baz=180,slow=5.8,SNR=8.2								
0.3nm,0.4s								
MKAR	**Makanchi Array**	**51.96**	**345**	P	**P**		**12 38 11.1**	**+0.6**
0.4nm,0.7s,baz=147,slow=7.0,SNR=5.2								
0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**56.48**	**344**	P	**P**		**12 38 44.2**	**+0.9**
0.2nm,0.4s,baz=140,slow=6.6,SNR=2.3								
0.2nm,0.4s								
H04N2	**CROZET ISLANDS**	**60.07**	**217**	T	T		13 44 14.1	
baz=59,slow=75,SNR=308								
H04N1	**CROZET ISLANDS**	**60.09**	**217**	T	T		13 44 19.6	
baz=59,slow=75,SNR=268								
H04N3	**CROZET ISLANDS**	**60.09**	**217**	T	T		13 44 13.3	
baz=59,slow=75,SNR=266								
H04S1	**CROZET ISLANDS**	**60.36**	**216**	T	T		13 44 39.9	
baz=58,slow=76,SNR=26								
H04S3	**CROZET ISLANDS**	**60.37**	**216**	T	T		13 44 42.7	
baz=58,slow=76,SNR=37								
H04S2	**CROZET ISLANDS**	**60.37**	**216**	T	T		13 44 38.5	
baz=58,slow=76,SNR=24								
TXAR	**Lajitas Array**	**145.41**	**38**	PKPbc	**PKPab**		**12 48 40.7**	**+0.5**
0.3nm,0.7s,baz=300,slow=1.3,SNR=2.9								

---

*IDC **02** 12:34:23.8±4.6, 2°.82S×100°.42E, h0km, mb3.5/4,*
mbtmp3.5/4, Error ellipse: s-maj=193.9km s-min=24.9km
az=55.0
*DJA **02** 12:34:25.4±0.7, 3°S±4°×10°0E±°, h26km±3km, M3.7/7,*
MLv3.7/7
ISC 02 12:34:24.9±1.2, 3°.08S±0°.09×99°.83E±0°.10, h27km, n20,
σ1°16/14, mb3.6/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.36**	**29**	P	**Pb**		**12 34 33.3**	**+0.3**
PPSI				S	**Sb**		**12 34 37.4**	**-1.0**
SISI	**Saibi**	**1.89**	**337**	P	**Pn**		**12 34 56.6**	**+1.1**
SISI				S	**Sn**		**12 35 19.7**	**+1.3**
PPI	**Padang Panjang**	**2.66**	**12**	P	**Pn**		**12 35 06.0**	**-0.1**
KSI	**Kapahiang**	**2.81**	**102**	P	**Pn**		**12 35 08.3**	**+0.1**
MNAI	**Manna**	**3.37**	**112**	P	**Pn**		**12 35 16.0**	**+0.2**
PBSI	**Pulau Batu**	**3.38**	**333**	P	**Pn**		**12 35 14.2**	**-1.8**
PBSI				S	**Sn**		**12 35 54.4**	**-0.8**
H08S2	**Diego Garcia H**	**27.59**	**259**	T	T		13 09 17.4	
baz=82,slow=76,SNR=170								
H08S3	**Diego Garcia H**	**27.60**	**259**	T	T		13 09 17.2	
baz=82,slow=76,SNR=180								
H08S1	**Diego Carcia H**	**27.61**	**259**	T	T		13 09 18.1	
baz=82,slow=76,SNR=175								
WRA	**Warramunga Arr**	**37.60**	**119**	P	**P**		**12 41 37.0**	**-0.7**
0.3nm,0.4s,baz=292,slow=7.1,SNR=8.5								
0.3nm,0.4s								
ASAR	**Alice Springs**	**38.77**	**125**	P	**P**		**12 41 47.1**	**-0.4**
0.2nm,0.4s,baz=299,slow=8.3,SNR=1.4								
0.2nm,0.4s								
SONM	**Songino Array**	**51.02**	**6**	P	**P**		**12 43 24.6**	**-0.1**
0.6nm,0.6s,baz=189,slow=6.0,SNR=2.0								
0.6nm,0.6s								
MKAR	**Makanchi Array**	**52.02**	**345**	P	**P**		**12 43 34.0**	**+2.0**

0.5nm,0.5s,baz=145,slow=8.6,SNR=9.3
0.5nm,0.5s

H04N2	**CROZET ISLANDS**	**59.84 217**	T	T	13 49 39.0	
	baz=59,slow=75,SNR=841					
H04N1	**CROZET ISLANDS**	**59.85 217**	T	T	13 49 36.0	
	baz=59,slow=75,SNR=563					
H04N3	**CROZET ISLANDS**	**59.86 217**	T	T	13 49 36.8	
	baz=59,slow=75,SNR=673					
H04S1	**CROZET ISLANDS**	**60.12 216**	T	T	13 50 01.9	
	baz=58,slow=76,SNR=41					
H04S3	**CROZET ISLANDS**	**60.13 216**	T	T	13 50 01.5	
	baz=58,slow=76,SNR=85					
H04S2	**CROZET ISLANDS**	**60.14 216**	T	T	13 50 02.8	
	baz=58,slow=76,SNR=45					
TXAR	**Lajitas Array**	**145.65 38**	PKPbc	**PKiKP**	**12 54 04.2**	**-1.5**
	0.4nm,0.7s,baz=336,slow=2.4,SNR=4.8					

IDC 02 12:34:43.8±2.8, 12°.18S×162°.12E, h0km, mb3.7/3, mbtmp3.8/4, ML2.8/1, MS4.2/2, Error ellipse: s-maj=58.2km s-min=34.7km az=55.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.66**	**158**	Pn	Pn	12 37 17.5	-0.5
	0.1nm,0.3s,baz=128,slow=20,SNR=1.7						
DZM				Sn	Sn	12 39 18.5	+0.2
	0.1nm,0.3s,baz=115,slow=15,SNR=2.4						
	8.5nm,1.1s						
WRA	**Warramunga Arr**	**27.76**	**250**	P	P	12 40 34.6	+0.1
	0.7nm,0.9s,baz=78,slow=8.4,SNR=5.4						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**29.11**	**243**	P	P	12 40 46.2	-0.3
	0.4nm,0.6s,baz=64,slow=9.9,SNR=5.0						
	0.4nm,0.6s						
KSRS	**Korea Array**	**58.89**	**329**	LR	LR	13 07 23.8	
	comp=Z,81nm,21.9s,baz=115,slow=33						
MKAR	**Makanchi Array**	**91.93**	**317**	P	P	12 47 54.7	+0.4
	0.5nm,0.9s,baz=100,slow=3.4,SNR=3.1						
	0.5nm,0.9s						
SNAA	**Sanae**	**95.73**	**185**	LR	LR	13 31 26.4	
	comp=Z,247nm,18.3s,baz=345,slow=36						

TAP ***02*** *12:41:37.7, 24°.79N×122°.82E, h134km±1km, ML2.6, D*
JMA ***02*** *12:41:38.1±0.4, 25°.N±3°×122°.9E±0°.8, h129km±3km, MV2.0/14, NW OFF ISHIGAKIJIMA IS*

ISC 02 12:41:37.4±1.9, 24°.79N±0°.08×122°.86E±0°.03, h132km±12km, n44, σ0°.77/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.34**	**167**	P	**Pn**	**12 41 56.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.35**	**157**	*eP*	**Pn**	**12 41 55.9**	**0.0**
YOJ	**Yonaguni jima**	**0.35**	**157**	*eP*	**Pn**	**12 41 56.2**	**+0.3**
EOS2	**EOS2**	**0.68**	**238**	*eP*	**Pn**	**12 41 58.1**	**+0.5**
EOS2				*eS*	**Sn**	**12 42 13.6**	**+0.8**
EOS3	**EOS3**	**0.70**	**225**	*eP*	**Pn**	**12 41 58.5**	**+0.8**
EOS3				*eS*	**Sn**	**12 42 14.0**	**+0.9**
EOS4	**EOS4**	**0.83**	**217**	*eP*	**Pn**	**12 41 58.9**	**+0.4**
EOS4				*eS*	**Sn**	**12 42 15.0**	**+0.5**
IRIF	**Iriomote-Funau**	**0.91**	**119**	*eP*	**Pn**	**12 41 59.9**	**+0.3**
TIPB	**Shuangxi**	**0.96**	**281**	*eP*	**Pn**	**12 42 00.4**	**+0.4**
TIPB				*eS*	**Sn**	**12 42 16.7**	**-0.5**
TWE	**Neicheng**	**1.09**	**267**	*eP*	**Pn**	**12 42 01.3**	**+0.1**
TWE				*eS*	**Sn**	**12 42 18.5**	**-0.7**
HATJ	**Hateruma jima**	**1.13**	**130**	*eS*	**Sn**	**12 42 20.0**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.16**	**269**	*eP*	**Pn**	**12 42 02.0**	**0.0**
FUSB				*eS*	**Sn**	**12 42 19.5**	**-1.2**
JKRS	**Kuro-shima**	**1.18**	**117**	*eP*	**Pn**	**12 42 03.0**	**+0.9**
JKRS				*eS*	**Sn**	**12 42 21.0**	**+0.1**
ENTT	**Nioudou**	**1.19**	**263**	*eP*	**Pn**	**12 42 03.0**	**+0.8**
ENTT				*eS*	**Sn**	**12 42 21.2**	**+0.1**
NWLT	**Wulai**	**1.23**	**270**	*eP*	**Pn**	**12 42 02.9**	**+0.2**
NWLT				*eS*	**Sn**	**12 42 20.9**	**-1.1**
LATG	**Datong**	**1.24**	**259**	*eP*	**Pn**	**12 42 03.4**	**+0.6**
LATG				*eS*	**Sn**	**12 42 22.4**	**+0.2**
JIJ	**Ishigaki jima**	**1.24**	**110**	*eP*	**Pn**	**12 42 03.1**	**+0.4**
JIJ				*eS*	**Sn**	**12 42 21.0**	**-1.1**
NACB	**Ninganchiao**	**1.30**	**242**	*eS*	**Sn**	**12 42 22.1**	**-1.2**
JISG	**Ishigakijimahi**	**1.33**	**98**	*eP*	**Pn**	**12 42 03.9**	**+0.2**
JISG				*eS*	**Sn**	**12 42 22.9**	**-0.9**
TWD	**Chiawan**	**1.35**	**239**	*eS*	**Sn**	**12 42 23.1**	**-1.0**
YHNB	**Yeheng**	**1.35**	**265**	P	**Pn**	**12 42 04.6**	**+0.5**
YHNB				S	**Sn**	**12 42 23.8**	**-0.5**
NSK	**Sanguang**	**1.37**	**266**	*eP*	**Pn**	**12 42 04.6**	**+0.5**
NSK				*eS*	**Sn**	**12 42 24.1**	**-0.5**
ETLH	**Xiulin Townshi**	**1.38**	**246**	*eS*	**Sn**	**12 42 24.1**	**-0.8**
NNSB	**Datong**	**1.39**	**255**	*eP*	**Pn**	**12 42 05.2**	**+0.7**
NNSB				*eS*	**Sn**	**12 42 24.6**	**-0.5**
NNS	**Nan Shan**	**1.40**	**256**	*eS*	**Sn**	**12 42 24.6**	**-0.7**
ETM	**Tongmen**	**1.49**	**237**	*eS*	**Sn**	**12 42 25.7**	**-1.2**
LXIB	**Xiulin Townshi**	**1.52**	**240**	*eP*	**Pn**	**12 42 05.8**	**-0.1**
LXIB				*eS*	**Sn**	**12 42 26.4**	**-1.4**
SHUL	**Shoufeng**	**1.55**	**230**	*eS*	**Sn**	**12 42 27.6**	**-0.3**
FUSS	**Fushou**	**1.57**	**250**	*eP*	**Pn**	**12 42 07.2**	**+0.7**
FUSS				*eS*	**Sn**	**12 42 28.4**	**-0.4**
WHF	**Hehuan Shan**	**1.59**	**247**	*eP*	**Pn**	**12 42 07.3**	**+0.4**
WHF				*eS*	**Sn**	**12 42 28.9**	**-0.6**
NFF	**Wufeng Townshi**	**1.59**	**265**	*eP*	**Pn**	**12 42 07.0**	**+0.4**
NFF				*eS*	**Sn**	**12 42 28.0**	**-1.0**
ESL	**Shilin**	**1.62**	**234**	*eS*	**Sn**	**12 42 27.6**	**-1.9**
JTJ	**Tarama**	**1.68**	**95**	*eS*	**Sn**	**12 42 29.8**	**-0.9**
LIOB	**Emei**	**1.68**	**266**	*eP*	**Pn**	**12 42 07.9**	**+0.2**
LIOB				*eS*	**Sn**	**12 42 30.3**	**-0.5**
WARBT	**Fenglin Townsh**	**1.71**	**232**	*eP*	**Pn**	**12 42 07.7**	**-0.3**
WARBT				*eS*	**Sn**	**12 42 29.9**	**-1.5**
EGFH	**Guangfu**	**1.72**	**230**	*eS*	**Sn**	**12 42 30.3**	**-1.2**
OWD	**Renai**	**1.74**	**242**	*eP*	**Pn**	**12 42 09.1**	**+0.6**
OWD				*eS*	**Sn**	**12 42 31.7**	**-0.6**
WUSB	**Renai**	**1.77**	**244**	*eP*	**Pn**	**12 42 09.2**	**+0.3**
WUSB				*eS*	**Sn**	**12 42 32.5**	**-0.4**
WHP	**Taichung City**	**1.81**	**254**	*eP*	**Pn**	**12 42 10.5**	**+1.3**
WHP				*eS*	**Sn**	**12 42 33.7**	**+0.1**
HGSD	**Ruisui**	**1.84**	**226**	*eS*	**Sn**	**12 42 33.5**	**-0.6**
VWDT	**VWDT**	**1.88**	**237**	S	**Sn**	**12 42 34.5**	**-0.2**
YULB	**Yu-li**	**1.99**	**226**	*eP*	**Pn**	**12 42 11.3**	**0.0**
YULB				*eS*	**Sn**	**12 42 35.9**	**-1.4**
SSLB	**Suanglung**	**2.00**	**241**	*eP*	**Pn**	**12 42 12.1**	**+0.6**
SSLB				*eS*	**Sn**	**12 42 38.2**	**+0.6**
JIRB	**Irabujima**	**2.10**	**88**	*eP*	**Pn**	**12 42 13.2**	**+0.6**
WHYT	**Xinyi Township**	**2.13**	**240**	*eP*	**Pn**	**12 42 14.6**	**+1.5**
WHYT				*eS*	**Sn**	**12 42 41.6**	**+1.2**

IDC ***02*** *12:46:06.2±1.2, 35°.53N×27°.19E, h0km, mb3.4/6, mbtmp3.3/9, ML3.3/3, Error ellipse: s-maj=31.8km s-min=15.3km az=158.0*
ISK ***02*** *12:46:07.3, 35°.49N×27°.08E, h5km, ML3.2/24*
ATH ***02*** *12:46:07.6, 35°.35N×27°.19E, h13km±4km, ML3.4/4, Manual Solution by A.Moschou This location: 2020/10/07 07:24:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
THE ***02*** *12:46:09.3, 35°.47N×27°.07E, h3km±4km, ML3.2/5, Error ellipse: s-maj=5.6km s-min=1.3km az=150.0*
AFAD ***02*** *12:46:12.1, 35°.78N×27°.01E, h19km±3km, ML2.9*

ISC 02 12:46:07.5±1.4, 35°.44N±0°.04×27°.13E±0°.03, h10km±10km, n55, σ1ᵽ19/76, mb3.4/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.81**	**247**	Pg	**Pb**	**12 46 23.8**	**0.0**
ZKR				Sg	**Sb**	**12 46 35.9**	**+1.1**
ZKR	**Zakros**	**0.81**	**247**	P	**Pb**	**12 46 23.6**	**-0.2**
ZKR				S	**Sb**	**12 46 36.0**	**+1.1**
	3μm,0.3s						
ZKR	**Zakros**	**0.81**	**247**	P	**Pb**	**12 46 23.6**	**-0.2**
ZKR				S	**Sb**	**12 46 35.3**	**+0.4**
SIT2	**Siteia**	**0.87**	**255**	P	**Pb**	**12 46 24.8**	**+0.1**
SIT2				S	**Sb**	**12 46 36.8**	**+0.5**
RGE1	**Gennadi, Rhode**	**0.87**	**48**	P	**Pb**	**12 46 25.2**	**+0.4**
RGE1				S	**Sb**	**12 46 37.0**	**+0.5**
ARG	**Arkhangelos**	**1.12**	**46**	Pn	**Pb**	**12 46 29.6**	**+0.6**
ARG				Sn	**Sn**	**12 46 46.1**	**+1.4**
ARG	**Arkhangelos**	**1.12**	**46**	P	**Pn**	**12 46 29.7**	**+0.5**
ARG				S	**Sn**	**12 46 46.4**	**+1.7**
	2μm,0.4s						
ARG	**Arkhangelos**	**1.12**	**46**	P	**Pb**	**12 46 29.3**	**+0.3**
ARG				S	**Sb**	**12 46 44.2**	**+0.6**
NISR	**Nisiros**	**1.17**	**360**	P	**Pn**	**12 46 31.0**	**+1.1**
NISR				S	**Sn**	**12 46 47.5**	**+1.7**
DATC	**Datca-Mugla**	**1.38**	**18**	Pn	**Pg**	**12 46 34.2**	**+0.1**
MRSB	**Marmaris-Mugla**	**1.54**	**34**	Pn	**Pg**	**12 46 36.7**	**-0.3**
TURN	**Turunc**	**1.61**	**34**	Pn	**Pg**	**12 46 37.9**	**-0.5**
TURN	**Turunc**	**1.61**	**34**	P	**Pg**	**12 46 38.4**	**0.0**
TURN				S	**Sb**	**12 46 57.8**	**+0.2**
TURN				*i* AML	AML	12 47 04.0	
	comp=E,211nm,0.4s						
TURN				*i* AML	AML	12 47 06.0	
	comp=N,208nm,0.4s						
BODT	**Bodrum**	**1.62**	**5**	Pn	**Pg**	**12 46 38.1**	**-0.6**
THR8	**Santorini-Mono**	**1.65**	**306**	P	**Pb**	**12 46 37.4**	**-0.6**
THR6	**Thira Island,**	**1.68**	**303**	P	**Pb**	**12 46 37.7**	**-0.8**
YKAV	**Yalikavak-Bodr**	**1.68**	**4**	Pn	**Pb**	**12 46 38.4**	**-0.2**
THR3	**Thira Island,**	**1.70**	**305**	P	**Pb**	**12 46 38.4**	**-0.5**
CMBO	**Columbo, Santo**	**1.73**	**307**	P	**Pb**	**12 46 38.4**	**-1.1**
CMBO				S	**Sn**	**12 46 59.6**	**-0.3**
	1μm,0.6s						
IDI	**Anoyia**	**1.84**	**266**	Pn	**Pb**	**12 46 40.8**	**-0.5**
IDI	**Anoyia**	**1.84**	**266**	P	**Pb**	**12 46 40.4**	**-0.9**
IDI				S	**Sb**	**12 47 03.8**	**-0.5**
	228nm,0.6s						
IDI	**Anoyia**	**1.84**	**266**	Pn	**Pb**	**12 46 41.2**	**-0.1**
	12nm,0.3s,baz=21,slow=6.0,SNR=50						
IDI				Sn	**Sg**	**12 47 05.9**	**-0.8**
	40nm,0.3s,baz=297,slow=17,SNR=8.2						
DALY	**Dalyan (Mula)**	**1.84**	**42**	Pn	**Pb**	**12 46 41.3**	**0.0**
MLSB	**Milas**	**1.92**	**16**	Pn	**Pb**	**12 46 42.4**	**-0.3**
YER	**Yerkesik**	**1.93**	**29**	Pn	**Pb**	**12 46 42.2**	**-0.6**
FETY	**Fethiye**	**1.98**	**52**	Pn	**Pb**	**12 46 43.1**	**-0.6**
FETY	**Fethiye**	**1.98**	**52**	P	**Pg**	**12 46 47.1**	**+1.5**
SABU	**Mula-Dalaman**	**2.03**	**47**	P	**Pb**	**12 46 45.4**	**+0.9**
SABU				S	**Sb**	**12 47 10.8**	**+1.0**
SABU				*i* AML	AML	12 47 17.0	
	comp=E,127nm,0.5s						
SABU				*i* AML	AML	12 47 18.0	
	comp=N,143nm,0.5s						
APE	**Apeiranthos**	**2.08**	**322**	Pn	**Pn**	**12 46 43.3**	**+0.8**
APE	**Apeiranthos**	**2.08**	**322**	P	**Pn**	**12 46 43.0**	**+0.6**
APE				S	**Sn**	**12 47 08.5**	**+0.1**
	198nm,0.4s						
KSL	**Kastellorizon**	**2.12**	**70**	P	**Pn**	**12 46 43.0**	**0.0**
KSL				S	**Sn**	**12 47 08.7**	**-0.6**
GCAM	**G?zelcaml?**	**2.25**	**2**	Pn	**Pb**	**12 46 46.9**	**-1.4**
CAME	**Cameli-Denizli**	**2.31**	**49**	Pn	**Pn**	**12 46 48.0**	**+2.2**
DNZT	**Denizli-Tavas-**	**2.39**	**39**	P	**Pb**	**12 46 50.0**	**-0.7**
DNZT				S	**Sb**	**12 47 20.6**	**+0.4**
DNZT				*i* AML	AML	12 47 23.0	
	comp=N,58nm,0.7s						
DNZT				*i* AML	AML	12 47 30.0	
	comp=E,71nm,0.5s						
KNIK	**Mula-Seydike**	**2.42**	**54**	P	**Pb**	**12 46 50.0**	**-1.3**
KNIK				S	**Sb**	**12 47 21.2**	**0.0**
KNIK				*i* AML	AML	12 47 31.0	
	comp=E,32nm,0.7s						
KNIK				*i* AML	AML	12 47 32.0	
	comp=N,44nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.48**	**35**	P	**Pb**	**12 46 51.3**	**-1.0**
TAVA				S	**Sb**	**12 47 22.2**	**-0.6**
TAVA				*i* AML	AML	12 47 24.0	
	comp=N,81nm,0.6s						
TAVA				*i* AML	AML	12 47 30.0	
	comp=E,130nm,0.6s						
GVD	**Gavdhos**	**2.56**	**257**	Pn	**Pn**	**12 46 51.4**	**+2.3**
IMMV	**Iera Moni Meta**	**2.57**	**271**	Pn	**Pn**	**12 46 51.4**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.57**	**14**	Pn	**Pn**	**12 46 51.4**	**+2.0**
DNIZ	**Denizli-Tavas-**	**2.67**	**35**	P	**Pb**	**12 46 55.2**	**-0.2**
DNIZ				*i* AML	AML	12 47 36.0	
	comp=N,240nm,0.5s						
DNIZ				*i* AML	AML	12 47 38.0	
	comp=E,287nm,0.4s						
APMY	**Acipayam-Deniz**	**2.68**	**40**	Pn	**Pn**	**12 46 53.2**	**+2.4**
NAZL	**Nazilli-Aydin**	**2.69**	**20**	Pn	**Pn**	**12 46 52.9**	**+2.1**
ODEM	**Odemis-Izmir**	**2.93**	**15**	Pn	**Pn**	**12 46 56.5**	**+2.3**
KORT	**Korkueli**	**3.03**	**58**	Pn	**Pn**	**12 46 58.1**	**+2.4**
KULA	**Kula-Manisa**	**3.30**	**21**	Pn	**Pn**	**12 47 01.5**	**+2.1**
GORD	**Gordes-Manisa**	**3.56**	**13**	Pn	**Pn**	**12 47 05.2**	**+2.3**
BRTR	**Keskin Array B**	**6.71**	**48**	Pn	**Pn**	**12 47 47.4**	**+1.2**
	0.1nm,0.3s,baz=223,slow=15,SNR=2.6						
BRTR				Sn	**Sn**	**12 49 01.9**	**-0.7**
	0.1nm,0.3s,baz=298,slow=29,SNR=1.2						
	0.3nm,0.4s						
MMAI	**Mount Meron Ar**	**7.27**	**107**	Pn	**Pn**	**12 47 52.4**	**-1.4**
	1.2nm,0.3s,baz=308,slow=12,SNR=4.9						
MMAI				Sn	**Sn**	**12 49 13.2**	**-3.2**
	2.2nm,0.3s,baz=298,slow=28,SNR=5.3						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**15.33**	**5**	Pn	**Pn**	**12 49 43.0**	**-0.8**
	0.4nm,0.3s,baz=195,slow=11,SNR=3.1						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**24.94**	**289**	P	**P**	**12 51 30.4**	**-0.5**
	0.3nm,0.5s,baz=88,slow=9.9,SNR=1.4						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**26.03**	**359**	P	**P**	**12 51 38.7**	**-1.8**
	1.4nm,0.7s,baz=188,slow=9.5,SNR=4.0						
	1.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**31.92**	**232**	P	**P**	**12 52 34.1**	**+0.7**
	0.2nm,0.5s,baz=33,slow=8.5,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**42.27**	**57**	P	**P**	**12 54 00.7**	**-0.4**
	0.2nm,0.5s,baz=273,slow=8.1,SNR=5.3						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.65**	**46**	P	**P**	**12 54 10.7**	**-1.3**
	0.2nm,0.3s,baz=303,slow=7.9,SNR=1.8						
	0.2nm,0.3s						
SONM	**Songino Array**	**58.06**	**51**	P	**P**	**12 56 01.7**	**+0.9**
	0.3nm,0.6s,baz=276,slow=5.7,SNR=2.6						
	0.3nm,0.6s						

IDC 02 13:06:28.1±2.4, 5°.29S×139°.86E, h0km, mb3.3/1, mbtmp3.5/4, ML3.5/3, MS4.1/1, Error ellipse: s-maj=94.9km s-min=26.2km az=101.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.88**	**17**	Pn	Pn	13 07 15.0	-0.4
	2.8nm,0.3s,baz=204,slow=15,SNR=9.7						
JAY				Sn	Sn	13 07 45.9	-5.0
	4.8nm,0.3s,baz=168,slow=14,SNR=4.4						
	6.8nm,0.3s						
WRA	**Warramunga Arr**	**15.52**	**200**	Pn	Pn	13 10 10.2	+1.8
	0.2nm,0.3s,baz=14,slow=12,SNR=10						
WRA				Sn	Sn	13 12 59.1	-2.2
	0.1nm,0.3s,baz=13,slow=34,SNR=1.6						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**19.15**	**197**	P	P	13 10 52.1	-1.0
	0.4nm,0.3s,baz=13,slow=10.0,SNR=33						
ASAR				S	Sn	13 14 22.1	-7.1
	0.4nm,1.0s,baz=25,slow=29,SNR=1.3						
	2.0nm,0.6s						
RAO	**Raoul Island**	**46.45**	**126**	LR	LR	13 33 32.4	
	comp=Z,192nm,18.3s,baz=150,slow=35						
MKAR	**Makanchi Array**	**72.52**	**323**	P	P	13 17 57.2	+0.2
	0.1nm,0.4s,baz=103,slow=4.6,SNR=8.1						
	0.1nm,0.4s						

BJI ***02*** *13:10:18.8, 3°.29S×100°.25E, h29km, mB5.3/34, mb4.9/75, Ms4.9/58, Ms7 4.7/57*
IDC ***02*** *13:10:19.8±0.6, 2°.76S×100°.25E, h0km, mb4.8/30, mbtmp4.8/32, ML4.3/2, MS4.5/37, Error ellipse: s-maj=19.4km s-min=10.7km az=52.0*
MOS ***02*** *13:10:20.7±1.1, 2°.69S×100°.29E, h15km, mb5.2/44, Error ellipse: s-maj=9.6km s-min=4.7km az=107.3*
NEIC ***02*** *13:10:20.6±1.6, 2°.97S±0°.07×100°.10E±0°.09, h10km±1km, mb5.1/72, Error ellipse: s-maj=16.0km s-min=10.0km az=236.0*
DJA ***02*** *13:10:22.8±0.2, 3°S±2°×10°0E±°, h17km±2km, M4.9/56, mb5.1/56, mB5.4/25, MLv5.3/21, Mw(mB)4.8/25*
GCMT ***02*** *13:10:24.6±0.5, 3°.01S±0°.04×100°.14E±0°.04, h26km±1km, MW5.3/52, Moment Tensor Solution. s42,c51; s52,c66; Duration: 1ᵽ1 Moment tensor: Scale 10¹⁷Nm; Mrr0.64±.05; Mθθ-0.37±.03; Mφφ-0.26±.03; Mrθ0.66±.07; Mθφ0.12±.02; Mφr-0.74±.08; Best double couple: M₀1.13000×10¹⁷ NP1:φₛ303.00000°, δ15.00000°, λ77.00000°. NP2:φₛ136.00000°, δ76.00000°, λ93.00000°. Principal axes: T 1.2330, Plg59.0000°, Azm51.0000°; N -0.2060, Plg3.0000°, Azm316.0000°; P -1.0270, Plg31.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function

ISC 02 13:10:22.0±0.6, 2°.86S±0°.05×100°.18E±0°.04, h15km±3km, h16km:pP-P, n401, σ1ᵽ45/383, mb5.0/128, MS4.5/61, 29C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.20**	**300**	P	**Pb**	**13 10 29.5**	**+2.3**
PPSI				S	**Sb**	**13 10 32.9**	**+2.1**
SISI	**Saibi**	**1.88**	**324**	P	**Pn**	**13 10 53.6**	**+0.1**
PPI	**Padang Panjang**	**2.40**	**5**	P	**Pn**	**13 11 01.9**	**+1.2**
KSI	**Kapahiang**	**2.53**	**108**	P	**Pn**	**13 11 04.2**	**+1.6**
MNAI	**Manna**	**3.15**	**118**	Pn	**Pn**	**13 11 11.4**	**+0.5**
MNAI	**Manna**	**3.15**	**118**	P	**Pn**	**13 11 12.1**	**+1.1**
MNAI	**Manna**	**3.15**	**118**	P	**Pn**	**13 11 11.8**	**+0.8**
BKNI	**Bangkinang**	**3.28**	**15**		**Pn**	**13 11 12.7**	**-0.2**
BKNI	**Bangkinang**	**3.28**	**15**	P	**Pn**	**13 11 12.6**	**-0.2**
PBSI	**Pulau Batu**	**3.37**	**326**	P	**Pn**	**13 11 14.3**	**+0.2**
MNSI	**Mandailing Nat**	**3.68**	**351**	P	**Pn**	**13 11 18.7**	**+0.3**
MDSI	**Maura Dua**	**4.30**	**112**	P	**Pn**	**13 11 29.0**	**+2.1**
PMBI	**Palembang**	**4.59**	**91**	P	**Pn**	**13 11 32.5**	**+1.7**
GSI	**Gunungsitoli**	**4.89**	**328**	Pn	**Pn**	**13 11 34.2**	**-0.7**
GSI	**Gunungsitoli**	**4.89**	**328**	P	**Pn**	**13 11 34.8**	**-0.2**
GSI	**Gunungsitoli**	**4.89**	**328**	P	**Pn**	**13 11 34.4**	**-0.6**
BLSI	**Bandar Lampung**	**5.63**	**116**	P	**Pn**	**13 11 48.1**	**+2.9**
	6μm179nm,0.5s						
RPSI	**Rantau Prapat**	**5.66**	**347**	Pn	**Pn**	**13 11 45.7**	**+0.1**
PSI	**Prapat**	**5.76**	**347**	Pn	**Pn**	**13 11 44.9**	**-2.3**
	2.7nm,0.3s,baz=130,slow=12,SNR=10						
PSI				Sn	Sn	13 12 35.7	-17
	7.5nm,0.3s,baz=180,slow=12,SNR=5.7						
	14nm,0.5s						
PSI	**Prapat**	**5.76**	**347**	P	**Pn**	**13 11 46.1**	**-1.0**
PSI	**Prapat**	**5.76**	**347**	P	**Pn**	**13 11 45.7**	**-1.4**
MYKOM	**Kota Tinggi**	**5.90**	**38**	Pn	**Pn**	**13 11 51.0**	**+2.1**
MYKOM	**Kota Tinggi**	**5.90**	**38**	P	**Pn**	**13 11 50.8**	**+1.9**
SNSI	**Sinabang, Aceh**	**6.50**	**324**	P	**Pn**	**13 11 56.3**	**-0.8**
	1.2nm2μm149nm,1.1s						
TSI	**Tuntungan**	**6.52**	**346**	P	**Pn**	**13 11 58.5**	**+1.1**
	1.2nm4μm187nm,1.1s						
CGJI	**Cibinong**	**6.64**	**124**	P	**Pn**	**13 11 58.6**	**-0.4**
	1.0nm3μm173nm,0.8s						
SBJI	**Serang**	**6.76**	**119**	P	**Pn**	**13 12 02.1**	**+1.5**
	0.9nm170nm,0.5s						
TNG	**Tangerang**	**7.24**	**117**	P	**Pn**	**13 12 09.2**	**+2.0**
TNG				P	**Pn**	**13 12 09.4**	**+2.2**
IPM	**Ipoh**	**7.34**	**7**	Pn	**Pn**	**13 12 09.9**	**+1.2**
IPM	**Ipoh**	**7.34**	**7**	P	**Pn**	**13 12 11.6**	**+2.9**
TPI	**Tanjungpandan**	**7.47**	**89**	P	**Pn**	**13 12 13.1**	**+2.7**
	0.3nm28nm,0.6s						
SKJI	**Sukabumi**	**7.57**	**123**	P	**Pn**	**13 12 13.3**	**+1.5**
MLSI	**Meulaboh, Aceh**	**8.02**	**332**	P	**Pn**	**13 12 18.7**	**+0.6**
	0.8nm125nm,0.7s						
KULM	**Kulim**	**8.11**	**3**	Pn	**Pn**	**13 12 19.7**	**+0.4**
KULM	**Kulim**	**8.11**	**3**	P	**Pn**	**13 12 20.0**	**+0.7**
LEM	**Lembang**	**8.39**	**118**	Pn	**Pn**	**13 12 25.4**	**+2.1**
	12nm,0.3s,baz=343,slow=20,SNR=5.7						
LEM				Sn	**Sn**	**13 14 02.9**	**+5.0**
	4.8nm,0.3s,baz=315,slow=20,SNR=2.3						
LEM				LR	LR	13 16 23.5	
	comp=Z,2μm,18.2s,baz=264,slow=43						
BBJI	**Bungbulang**	**8.73**	**122**	P	**Pn**	**13 12 27.0**	**-0.8**
XMI	**Christmas Isla**	**9.31**	**144**	P	**Pn**	**13 12 34.7**	**-1.1**
	50nm,0.6s						
XMIS	**Christmas Isla**	**9.32**	**145**	Pn	**Pn**	**13 12 31.9**	**-4.0**
CMJI	**Cimerak**	**9.57**	**121**	P	**Pn**	**13 12 38.4**	**-0.9**
BSI	**Banda Aceh**	**9.63**	**330**	P	**Pn**	**13 12 39.9**	**-0.2**
	757nm33nm,0.7s						
KPJI	**Karang Pucung**	**9.78**	**117**	P	**Pn**	**13 12 45.0**	**+2.8**
	974nm70nm,0.6s						
COCO	**West Island**	**9.84**	**199**	P	**Pn**	**13 12 41.9**	**-1.1**
KSM	**Kuching**	**11.01**	**67**	Pn	**Pn**	**13 12 58.6**	**-0.4**
SMRI	**Semarang**	**11.04**	**113**	Pn	**Pn**	**13 12 57.8**	**-1.6**
SRIT	**Nakonsritamara**	**11.40**	**357**		**Pn**	**13 13 03.9**	**-0.4**
SRIT	**Nakonsritamara**	**11.40**	**357**	P	**Pn**	**13 13 05.1**	**+0.8**
UGM	**Wanagama**	**11.45**	**116**	Pn	**Pn**	**13 13 04.2

QIZ LR LR
comp=Z,930nm,13.6s
QIZ LR LR
comp=Z,870nm,13.0s
QIZ LR LR
comp=Z,1μm,14.5s
QIZ Qiongzhong 23.74 23 P P 13 15 33.1 -0.7
KMSI Cibinong 24.04 82 P P 13 15 39.9 +3.2
comp=Z,162nm,1.0s
SLVN Son La 24.32 8 P P 13 15 38.5 -0.8
SLVN Son La 24.32 8 P P 13 15 39.5 +0.2
SOEI Soe 24.89 107 P P 13 15 43.0 -1.6
SOEI IAmb IAmb 13 16 12.0
comp=Z,51nm,1.2s
TGY Tagaytay City 26.60 50 LR LR 13 27 40.6
comp=Z,869nm,18.8s,baz=130,slow=39
BRDH Bariadhala 26.72 342 LR LR 13 29 18.6
comp=Z,1μm,19.6s,baz=158,slow=43
DAV Davao City (W) 27.20 69 P P 13 16 04.7 -0.7
comp=Z,103nm,0.3s,baz=232,slow=14,SNR=1.4
DAV LR LR 13 27 50.3
comp=Z,1μm,21.1s,baz=266,slow=39
TNCH TengChong 27.77 357 P P 13 16 11.5 +0.9
TNCH S S **13 20 54.2 +1.2**
TNCH pmax pmax
comp=Z,12nm,0.9s
TNCH pmax pmax
comp=Z,140nm,5.0s
TNCH LR LR
comp=Z,920nm,12.2s
TNCH LR LR
comp=Z,720nm,12.1s
TNCH LR LR
comp=Z,2μm,14.4s
KMI Kunming 27.93 5 ⇓P P 13 16 13.4 +1.4
KMI pmax pmax
comp=Z,6.0nm,1.0s
KMI LR LR
comp=Z,1μm,14.4s
KMI LR LR
comp=Z,580nm,14.8s
KMI LR LR
comp=Z,1μm,18.4s
H08S2 Diego Garcia H 27.97 259 T T 13 45 14.0
baz=82,slow=76,SNR=3674
H08S3 Diego Garcia H 27.97 259 T T 13 45 15.3
baz=82,slow=76,SNR=2417
H08S1 Diego Carcia H 27.98 259 T T 13 45 16.4
baz=82,slow=76,SNR=3703
FITZ Fitzroy Crossi 29.19 123 P P 13 16 22.8 -0.2
comp=Z,4.0nm,0.7s,baz=266,slow=7.1,SNR=8.5
comp=Z,4.0nm,0.7s
PZH PanZhiHua 29.23 3 P P 13 16 23.6 +0.1
PZH pmax pmax
comp=Z,10.0nm,1.7s
PZH pmax pmax
comp=Z,110nm,4.3s
PZH LR LR
comp=Z,710nm,17.3s
PZH LR LR
comp=Z,990nm,18.2s
PZH LR LR
comp=Z,970nm,17.8s
SHL Shillong 29.38 345 P P 13 16 23.8 -1.1
SHL IAmb IAmb 13 16 33.3
comp=Z,19nm,0.7s
SHL Shillong 29.38 345 P P 13 16 23.8 -1.1
SHL pmax pmax
comp=Z,19nm,0.7s
GYA Guiyang 29.82 12 ⇑P P 13 16 29.2 +0.5
GYA pmax pmax
comp=Z,21nm,2.0s
KNRA Kununurra 30.89 116 P P 13 16 36.8 -1.4
FAKI Fak Fak 32.03 91 P P 13 16 46.7 -1.6
FAKI Fak Fak 32.03 91 P P 13 16 46.7 -1.6
MTN Manton Dam 32.19 110 P P 13 16 47.7 -1.9
MTN Manton Dam 32.19 110 P P 13 16 48.1 -1.5
comp=Z,30nm,1.7s
KNMB Chin-men Tao 32.42 32 P P 13 16 51.5 -0.1
KNMB IAmb IAmb 13 16 59.4
comp=Z,22nm,1.1s
TPUB Ta-pu 32.77 36 P P 13 16 54.6 0.0
TPUB Ta-pu 32.77 36 P P 13 16 54.8 +0.2
YULB Yu-li 33.24 37 P P 13 16 59.5 +0.8
YULB IAmb IAmb 13 17 23.5
comp=Z,46nm,1.3s
YULB Yu-li 33.24 37 P P 13 16 59.4 +0.7
SSLB Suanglung 33.33 36 P P 13 16 59.5 0.0
SSLB IAmb IAmb 13 17 01.3
comp=Z,19nm,0.7s
SSLB Suanglung 33.33 36 P P 13 17 00.0 +0.5
KDU Kakadu 33.41 109 P P 13 16 58.2 -2.1
LSA Lhasa 33.51 346 IAmb IAmb 13 17 11.9
comp=Z,26nm,0.9s
CD2 Chengdu 33.76 6 P P 13 17 02.5 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,1μm,14.6s
CD2 LR LR
comp=Z,710nm,10.8s
CD2 LR LR
comp=Z,2μm,15.9s
NWAO Narrogin (SRO) 33.91 154 LR LR 13 30 16.5
comp=Z,567nm,20.3s,baz=256,slow=35
NACB Ninganchiao 34.00 37 IAmb IAmb 13 17 07.8
comp=Z,19nm,0.7s
YHNB Yeheng 34.25 36 P P 13 17 08.2 +0.6
YHNB IAmb IAmb 13 17 16.3
comp=Z,42nm,1.4s
YHNB Yeheng 34.25 36 P P 13 17 09.4 +1.8
H01W3 Cape Leeuwin H 34.40 159 T T 13 53 21.2
baz=336,slow=76,SNR=68
H01W2 Cape Leeuwin H 34.41 159 T T 13 53 06.3
baz=336,slow=76,SNR=75
H01W1 Cape Leeuwin H 34.42 159 T T 13 53 22.4
baz=336,slow=76,SNR=62
WRKA Warakurna 34.92 132 P P 13 17 14.3 +0.9
WHN Wuhan 35.87 21 ⇓P P 13 17 22.3 +1.0
WHN pmax pmax
comp=Z,44nm,0.9s
WHN LR LR
comp=Z,4μm,14.6s
WHN LR LR
comp=Z,2μm,15.3s
WHN LR LR
comp=Z,6μm,16.8s
WB0 Warramunga Arr 37.39 119 P P 13 17 34.1 -0.4
WB0 IAmb IAmb 13 17 50.6
comp=Z,21nm,0.8s
WRA Warramunga Arr 37.41 120 P P 13 17 34.2 -0.5
comp=Z,2.8nm,0.5s,baz=308,slow=8.7,SNR=45
WRA PcP **PcP** **13 19 53.7 +0.2**
comp=Z,2.2nm,0.6s,baz=316,slow=1.8,SNR=5.2
WRA S **S** **13 23 18.1 -4.7**
comp=Z,1.9nm,0.7s,baz=294,slow=16,SNR=4.8
WRA LR LR 13 35 14.6
comp=Z,483nm,19.9s,baz=290,slow=40
comp=Z,2.8nm,0.5s
WRAB Tennant Creek 37.41 120 *i* P **P 13 17 36.6 +1.8**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WB2 Warramunga Arr 37.42 120 P P 13 17 34.1 -0.7
XAN Xi'an 37.62 12 ⇑P P 13 17 35.7 -0.6
XAN S **S** **13 23 26.3 +0.8**
XAN pmax pmax
comp=Z,58nm,0.6s
XAN pmax pmax
comp=Z,380nm,4.6s
XAN LR LR
comp=Z,2μm,16.1s
XAN LR LR
comp=Z,740nm,16.7s
XAN LR LR
comp=Z,3μm,16.3s
FORT Forrest 38.27 139 P P 13 17 41.6 -0.2
AS31 Alice Springs 38.61 125 P P 13 17 44.6 -0.2
ASAR Alice Springs 38.61 125 P P 13 17 44.9 0.0
comp=Z,6.8nm,0.6s,baz=300,slow=8.0,SNR=74
ASAR PcP **PcP** **13 19 57.8 +0.6**
comp=Z,1.1nm,0.6s,baz=310,slow=2.3,SNR=2.7
ASAR S **S** **13 23 39.4 -1.5**
comp=Z,1.4nm,0.6s,baz=301,slow=14,SNR=6.7
ASAR LR LR 13 35 33.1
comp=Z,933nm,20.4s,baz=295,slow=39
comp=Z,6.8nm,0.6s
AS01 Alice Springs 38.64 125 P P 13 17 45.4 +0.3

LZH Lanzhou 38.90 5 P P 13 17 47.9 +0.7
LZH sP sP 13 18 01.6 +7.7
LZH pmax pmax
comp=Z,23nm,1.3s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,970nm,15.8s
LZH LR LR
comp=Z,1μm,15.5s
LYN LuoYang 38.97 16 P P 13 17 48.0 +0.4
LYN pP sP 13 17 53.1 -1.2
LYN sP pP 13 17 56.3 +3.9
LYN pmax pmax
comp=Z,220nm,3.7s
LYN LR LR
comp=Z,1μm,15.5s
LYN LR LR
comp=Z,560nm,19.9s
LYN LR LR
comp=Z,1μm,16.1s
NJ2 Nanjing 38.99 26 *e*P **P 13 17 46.9 -0.9**
NJ2 pmax pmax
comp=Z,12nm,1.3s
GOMU GeErMu 39.18 353 P P 13 17 50.7 +0.9
GOMU pP sP 13 17 55.4 -1.1
GOMU S **S** **13 23 42.4 -7.3**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=Z,770nm,17.7s
GOMU LR LR
comp=Z,500nm,13.6s
GOMU LR LR
comp=Z,1μm,19.0s
SSE Sheshan 39.26 29 P P 13 17 51.2 +1.2
SSE S **S** **13 23 57.4 +7.2**
SSE pmax pmax
comp=Z,8.0nm,1.2s
SSE pmax pmax
comp=Z,68nm,4.5s
SSE LR LR
comp=Z,390nm,13.2s
SSE LR LR
comp=Z,350nm,15.7s
JOW Kunigami 40.09 41 P P 13 17 57.8 +0.7
JOW IAmb IAmb 13 18 00.3
comp=Z,47nm,1.5s
JOW Kunigami 40.09 41 P P 13 17 57.9 +0.8
TIY Taiyuan 41.94 15 *e*P **P 13 18 13.1 +0.8**
TIY pmax pmax
comp=Z,23nm,0.6s
TIY LR LR
comp=Z,590nm,18.6s
TIY LR LR
comp=Z,550nm,12.9s
TIY LR LR
comp=Z,500nm,18.8s
TIA Tai'an 41.97 21 P P 13 18 11.9 -0.5
TIA S **S** **13 24 25.7 -5.0**
TIA pmax pmax
comp=Z,12nm,0.6s
TIA pmax pmax
comp=Z,190nm,3.5s
TIA LR LR
comp=Z,280nm,21.3s
TIA LR LR
comp=Z,370nm,18.5s
TIA LR LR
comp=Z,510nm,20.6s
OOD Oodnadatta 41.99 130 P P 13 18 13.5 +0.8
GTA Gaotai 42.07 360 *e*P **P 13 18 14.1 +0.8**
GTA sP sP 13 18 22.8 +2.8
GTA pmax pmax
comp=Z,14nm,1.4s
GTA LR LR
comp=Z,680nm,14.9s
GTA LR LR
comp=Z,510nm,14.9s
GTA LR LR
comp=Z,740nm,15.6s
QIS Mount Isa 42.24 118 P P 13 18 14.6 -0.4
HNS HongShan 42.27 17 ⇑P P 13 18 14.9 +0.1
HNS S **S** **13 24 37.3 +2.3**
HNS pmax pmax
comp=Z,29nm,0.8s
HNS LR LR
comp=Z,570nm,15.1s
HNS LR LR
comp=Z,750nm,16.7s
HNS LR LR
comp=Z,810nm,15.9s
BTO Baotou 44.19 11 *e*P **P 13 18 31.4 +1.0**
BTO pP **pP** **13 18 35.6 +0.3**
BTO sP **sP** **13 18 38.2 +1.0**
BTO S **S** **13 25 06.7 +3.4**
BTO pmax pmax
comp=Z,25nm,1.0s
BTO pmax pmax
comp=Z,390nm,4.4s
BTO LR LR
comp=Z,840nm,17.8s
BTO LR LR
comp=Z,810nm,13.6s
BTO LR LR
comp=Z,2μm,19.4s
NIL Nilore 44.32 327 P P 13 18 30.7 -0.9
NIL IAmb IAmb 13 18 32.8
comp=Z,22nm,0.7s
NIL Nilore 44.32 327 P P 13 18 30.7 -0.9
NIL pmax pmax
comp=Z,22nm,0.7s
MSEY Mahe Island 44.63 266 *i* P **P 13 18 36.6 +2.2**
HHC Hu-ho-hao-te 44.73 12 *e*P **P 13 18 36.3 +1.5**
HHC pP sP 13 18 41.0 -0.5
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.1s
HHC LR LR
comp=Z,700nm,17.3s
HHC LR LR
comp=Z,630nm,16.1s
HHC LR LR
comp=Z,890nm,17.6s
BBOO Buckleboo 44.91 136 P P 13 18 36.8 +0.5
BJT Baijiatuau 45.12 17 IAmb IAmb 13 18 39.2
comp=Z,17nm,0.7s
BJT Baijiatuau 45.12 17 P P 13 18 38.7 +0.9
BJT Baijiatuau 45.12 17 P P 13 18 38.6 +0.8
BJT pmax pmax
comp=Z,34nm,0.8s
BJI Beijing 45.15 17 P P 13 18 38.5 +0.6
BJI pP **pP** **13 18 43.0 +0.2**
BJI S **S** **13 25 18.6 +1.6**
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=Z,740nm,16.0s
BJI LR LR
comp=Z,280nm,16.9s
BJI LR LR
comp=Z,890nm,16.6s
LCRK Leigh Creek 45.22 131 P P 13 18 40.2 +1.4
MTSU Mount Surprise 45.82 113 P P 13 18 43.4 -0.3
INKA Innaminka 45.94 127 P P 13 18 45.4 +0.9
JNU Nakatsue 46.08 37 P P 13 18 44.8 -0.7
JNU IAmb IAmb 13 18 46.6
comp=Z,31nm,1.0s
JNU Nakatsue 46.08 37 P P 13 18 46.1 +0.6
TJN Taejon 46.55 31 P P 13 18 48.9 -0.2
TJN Taejon 46.55 31 P P 13 18 48.9 -0.2
TJN pmax pmax
comp=Z,66nm,1.2s
HTT Hallett 47.26 135 P P 13 18 56.1 +1.2
KSAR Wonju Array Be 47.64 30 P P 13 18 56.4 -1.2
KSAR Wonju Array Be 47.64 30 P P 13 18 56.4 -1.2
KSRS Korea Array 47.67 30 P P 13 18 55.8 -2.0
comp=Z,4.7nm,0.6s,baz=226,slow=7.8,SNR=22
KSRS LR LR 13 39 44.4
comp=Z,277nm,18.3s,baz=220,slow=37
comp=Z,4.7nm,0.6s
KS19 Wonju Array Si 47.68 30 P P 13 18 57.9 0.0
KS19 IAmb IAmb 13 19 10.9
comp=Z,20nm,1.3s
KSH Kashi 47.69 335 P P 13 18 57.6 -0.5

KSH S **S** **13 25 52.8 -0.9**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH LR LR
comp=Z,380nm,17.5s
KSH LR LR
comp=Z,310nm,19.6s
KSH LR LR
comp=Z,580nm,21.0s
WMQ Urumqi 47.81 348 *e*P **P 13 19 00.3 +1.4**
WMQ sP sP 13 19 10.3 +4.7
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,180nm,5.9s
WMQ LR LR
comp=Z,300nm,23.1s
CTA Charters Tower 48.08 115 P P 13 19 01.6 +0.3
comp=Z,11nm,0.6s,baz=274,slow=9.4,SNR=14
CTA LR LR 13 41 49.1
comp=Z,501nm,19.7s,baz=268,slow=39
comp=Z,11nm,0.6s
CTAO Charters Tower 48.08 115 P P 13 19 00.8 -0.5
CTAO IAmb IAmb 13 19 14.3
comp=Z,22nm,1.1s
CTAO Charters Tower 48.08 115 P P 13 19 01.6 +0.3
CTAO Charters Tower 48.08 115 P P 13 19 00.8 -0.5
CTAO pmax pmax
comp=Z,22nm,1.1s
JMN Monobe 48.31 38 P P 13 19 02.9 -0.1
QLP Quilpie 48.33 124 P P 13 19 03.9 +0.7
STKA Stephens Creek 48.45 131 P P 13 19 04.7 +0.7
STKA Stephens Creek 48.45 131 P P 13 19 04.8 +0.7
comp=Z,11nm,0.7s,baz=299,slow=7.9,SNR=32
STKA LR LR 13 41 01.1
comp=Z,605nm,21.2s,baz=306,slow=38
comp=Z,11nm,0.7s
STKA Stephens Creek 48.45 131 P P 13 19 05.1 +1.1
STKA Stephens Creek 48.45 131 P P 13 19 04.7 +0.7
STKA pmax pmax
comp=Z,4.0nm,0.7s
XLT XiLinHaoTe 48.69 15 *e*P **P 13 19 06.4 +0.6**
XLT pmax pmax
comp=Z,30nm,0.9s
XLT pmax pmax
comp=Z,190nm,4.2s
XLT LR LR
comp=Z,480nm,16.2s
XLT LR LR
comp=Z,410nm,19.8s
TARG Taragay, Kyrgy 48.82 338 P P 13 19 05.0 -2.2
TARG IAmb IAmb 13 19 27.6
comp=Z,24nm,0.9s
TARG Taragay, Kyrgy 48.82 338 P P 13 19 05.0 -2.2
TARG pmax pmax
comp=Z,24nm,0.9s
KDJ Kajisay 49.40 337 P P 13 19 12.8 +1.4
KDJ pmax pmax
comp=Z,41nm,1.2s
SHLS Shalkode 49.47 340 *e*P **P 13 19 10.9 -0.9**
SHLS pmax pmax
comp=Z,12nm,0.5s
SHLS Shalkode 49.47 340 *e*P **P 13 19 10.1 -1.7**
comp=Z,12nm,0.5s
DRK Karamyk 49.56 331 P P 13 19 14.5 +1.8
UZB Uzynbulak 49.62 340 *e*P **P 13 19 13.0 +0.1**
UZB pmax pmax
comp=Z,11nm,0.7s
UZB Uzynbulak 49.62 340 *e*P **P 13 19 13.0 +0.1**
comp=Z,11nm,0.7s
PDGK Podgornoye 49.62 340 P P 13 19 13.6 +0.7
SATY Saty 49.76 339 *e*P **P 13 19 14.2 +0.2**
SATY pmax pmax
comp=Z,9.0nm,0.7s
SATY Saty 49.76 339 *e*P **P 13 19 14.2 +0.2**
comp=Z,9.0nm,0.7s
ZHN Zhinishke 49.84 339 *e*P **P 13 19 14.8 +0.2**
ZHN Zhinishke 49.84 339 *e*P **P 13 19 14.9 +0.2**
OHH Osh 49.92 333 P P 13 19 16.2 +1.0
OHH pmax pmax
comp=Z,22nm,0.7s
GAR Garm 49.92 330 P P 13 19 14.4 -0.9
KPKS Kokpek 50.01 340 *e*P **P 13 19 16.0 +0.1**
KPKS pmax pmax
comp=Z,12nm,1.2s
KPKS Kokpek 50.01 340 *e*P **P 13 19 16.0 +0.1**
comp=Z,12nm,1.2s
CHGR Chuyangaron 50.26 328 IAmb IAmb 13 19 27.3
comp=Z,36nm,1.0s
CHGR Chuyangaron 50.26 328 P P 13 19 17.6 -0.3
CHGR pmax pmax
comp=Z,38nm,0.9s
TNSS Tian-Shan 50.27 338 *e*P **P 13 19 18.1 -0.1**
TNSS Tian-Shan 50.27 338 *e*P **P 13 19 18.2 -0.1**
MDOK Medeo 50.34 338 *e*P **P 13 19 18.7 +0.3**
MDOK Medeo 50.34 338 *e*P **P 13 19 18.8 +0.3**
SIMJ Simiganj 50.34 328 P P 13 19 18.2 -0.3
SIMJ IAmb IAmb 13 19 28.0
comp=Z,18nm,0.6s
BTK Batken 50.48 331 P P 13 19 21.6 +2.1
SONM Songino Array 50.78 5 P P 13 19 22.1 +0.5
SONM IAmb IAmb 13 19 23.9
comp=Z,28nm,0.7s
SONM Songino Array 50.78 5 P P 13 19 22.3 +0.7
comp=Z,26nm,0.6s,baz=189,slow=9.5,SNR=182
SONM PcP **PcP** **13 20 39.2 +0.7**
comp=Z,4.1nm,0.7s,baz=190,slow=3.4,SNR=2.0
comp=Z,26nm,0.6s
SONM Songino Array 50.78 5 P P 13 19 22.1 +0.5
SONM pmax pmax
comp=Z,28nm,0.7s
ULN Ulaanbaatar 50.88 6 P P 13 19 22.3 -0.1
ULN IAmb IAmb 13 19 24.1
comp=Z,20nm,0.7s
ULN Ulaanbaatar 50.88 6 *i* P **P 13 19 22.3 -0.1**
ULN pmax pmax
comp=Z,23nm,0.8s
AAK Ala-Archa 50.90 336 P P 13 19 22.4 -0.3
AAK Ala-Archa 50.90 336 *ce*P **P 13 19 24.6 +1.9**
AAK pmax pmax
comp=Z,17nm,2.5s
ARPS Mount Arapiles 51.04 137 P P 13 19 24.3 +0.6
INU Inuyama 51.33 39 P P 13 19 26.4 +0.6
CMSA Cobar Meteorol 51.43 129 P P 13 19 27.8 +1.1
TDK Taldyqorghan 51.46 340 *e*P **P 13 19 26.9 +0.3**
TDK pmax pmax
comp=Z,13nm,0.6s
TDK Taldyqorghan 51.46 340 *e*P **P 13 19 27.0 +0.3**
comp=Z,13nm,0.6s
TRKS Terek-Say 51.48 332 P P 13 19 27.7 +0.7
TRKS pmax pmax
comp=Z,31nm,0.6s
CN2 Changchun 51.70 23 *e*P **P 13 19 26.7 -1.8**
CN2 *e*PP **PP** **13 21 24.7 -1.5**
CN2 *e*S **S** **13 26 48.3 -1.2**
CN2 pmax pmax
comp=Z,40nm,0.8s
JGF Kuroka 51.70 39 P P 13 19 28.3 -0.4
JGF Kuroka 51.70 39 P P 13 19 28.3 -0.4
KRVT Keravat (AS076 51.76 93 LR LR 13 45 40.0
comp=Z,316nm,19.6s,baz=149,slow=41
ZSN Zaisan 51.88 347 *e*P **P 13 19 29.9 +0.2**
ZSN pmax pmax
comp=Z,9.0nm,0.7s
ZSN Zaisan 51.88 347 *e*P **P 13 19 30.0 +0.2**
comp=Z,9.4nm,0.7s
MK31 Makanchi Array 51.90 344 P P 13 19 30.4 +0.4
MK31 IAmb IAmb 13 19 31.8
comp=Z,18nm,0.7s
MK31 Makanchi Array 51.90 344 *ce*P **P 13 19 30.4 +0.4**
MKAR Makanchi Array 51.90 344 P P 13 19 30.1 +0.1
MKAR Makanchi Array 51.90 344 P P 13 19 30.3 +0.3
comp=Z,28nm,0.7s,baz=147,slow=7.8,SNR=267
comp=Z,28nm,0.7s
MAKZ Makanchi 52.00 344 P P 13 19 30.6 -0.1
MAKZ Makanchi 52.00 344 P P 13 19 30.6 -0.1
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
IUG Iuzhnay 52.48 332 *e*P **P 13 19 34.6 +0.2**
IUG pmax pmax
comp=Z,19nm,0.9s
IUG Iuzhnay 52.48 332 *e*P **P 13 19 34.7 +0.2**
comp=Z,19nm,0.9s
MAJO Matsushiro 52.83 39 P P 13 19 35.7 -1.3
MAJO IAmb IAmb 13 20 03.4

comp=Z,33nm,1.4s
MAJO Matsushiro 52.83 39 P **P 13 19 36.9 -0.1**
MAJO Matsushiro 52.83 39 P **P 13 19 35.7 -1.3**
MAJO pmax pmax
comp=Z,33nm,1.4s
MJAR Matsushiro Arr 52.83 39 P **P 13 19 35.8 -1.2**
comp=Z,6.7nm,0.7s,baz=207,slow=7.0,SNR=34
MJAR LR LR 13 44 30.0
comp=Z,239nm,18.2s,baz=80,slow=39
comp=Z,6.7nm,0.7s
MJB9 Matsu-Tunnel 52.83 39 IAmb IAmb 13 20 04.4
comp=Z,34nm,1.4s
KK31 Karatay Array 53.00 333 P P 13 19 44.1 +5.9
KKAR Karatay Array 53.00 333 P **P 13 19 37.2 -0.9**
KKAR Karatay Array 53.00 333 P **P 13 19 36.9 -1.2**
KKAR Karatay Array 53.00 333 P **P 13 19 36.9 -1.2**
KKAR 13 19 37.2
BTLS Baital 53.08 337 *e*P **P 13 19 38.8 +0.2**
BTLS Baital 53.08 337 *e*P **P 13 19 38.9 +0.2**
ZAK Zakamensk 53.10 2 *e*P **P 13 19 38.4 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
EIDS Eidsvold 53.77 120 P **P 13 19 45.8 +1.6**
JSD Sado 53.82 37 P **P 13 19 43.9 -0.3**
JSD IAmb IAmb 13 19 44.3
comp=Z,17nm,0.6s
MDJ Mudanjiang 54.08 26 P **P 13 19 46.9 +0.9**
MDJ PP **PP 13 21 46.0 -1.7**
MDJ S **S 13 27 22.9 +1.0**
MDJ SS **SS 13 31 03.6 -0.2**
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ pmax pmax
comp=Z,360nm,4.8s
MDJ LR LR
comp=Z,710nm,7.6s
MDJ LR LR
comp=Z,670nm,13.7s
MDJ LR LR
comp=Z,1μm,16.1s
BNX BinXian 54.09 23 ⇑P **P 13 19 45.5 -0.5**
BNX pmax pmax
comp=Z,48nm,0.6s
MOY Mondy 54.33 1 *e*P **P 13 19 48.7 +0.9**
MOY pmax pmax
comp=Z,22nm,2.3s
USA0B Ussuriysk Arra 54.83 28 P **P 13 19 51.1 -0.4**
USA0B Ussuriysk Arra 54.83 28 P **P 13 19 51.1 -0.4**
USA0B pmax pmax
comp=Z,33nm,0.8s
USRK Ussuriysk Ar. 54.83 28 P **P 13 19 50.8 -0.7**
USRK Ussuriysk Ar. 54.83 28 P **P 13 19 51.5 +0.1**
comp=Z,27nm,0.6s,baz=215,slow=4.9,SNR=54
USRK LR LR 13 45 32.6
comp=Z,533nm,19.0s,baz=257,slow=39
comp=Z,27nm,0.6s
IRK Irkutsk 55.01 3 *e*P **P 13 19 50.3 -2.4**
IRK pmax pmax
comp=Z,50nm,1.4s
JMM Marumori 55.27 39 P **P 13 19 54.3 -0.5**
CAN Canberra 55.51 132 P **P 13 19 58.0 +1.3**
CIT Chita 55.84 10 *e*P **P 13 19 59.9 +1.2**
CIT *e* 13 20 06.7
CIT *e* 13 20 56.5
CIT pmax pmax
comp=Z,94nm,2.8s
OTUK Ortayu 56.40 338 P **P 13 20 01.3 -1.4**
KURBB Kurchatov Arra 56.42 344 P **P 13 20 03.2 +0.4**
comp=Z,14nm,0.7s,baz=163,slow=7.0,SNR=167
KURBB LR LR 13 47 11.8
comp=Z,372nm,21.2s,baz=204,slow=39
comp=Z,14nm,0.7s
KURK Kurchatov 56.48 344 P **P 13 20 03.3 +0.1**
KURK Kurchatov 56.48 344*ce*P **P 13 20 04.0 +0.8**
KURK pmax pmax
comp=Z,65nm,1.7s
JTM Tenmabayashi 57.25 36 P **P 13 20 08.7 -0.1**
BRZS Berezniki 57.72 339 *e*P **P 13 20 12.3 +0.2**
BRZS Berezniki 57.72 339 *e*P **P 13 20 12.3 +0.2**
HEH HeiHe 57.86 20 *e*P **P 13 20 13.4 +0.4**
HEH pmax pmax
comp=Z,23nm,1.2s
ZAA0 Zalesovo Array 58.04 349 IAmb IAmb 13 20 19.1
comp=Z,29nm,0.9s
ZALV Zalesovo Beam 58.04 349 P **P 13 20 13.9 -0.2**
ZALV Zalesovo Beam 58.04 349 P **P 13 20 14.0 -0.2**
comp=Z,24nm,0.9s,baz=179,slow=5.8,SNR=62
ZALV LR LR 13 48 14.5
comp=Z,328nm,20.2s,baz=12,slow=39
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 58.04 349 *i* P **P 13 20 14.0 -0.2**
ZALV pmax pmax
comp=Z,23nm,0.9s
KLR Kul'dur 58.64 24 P **P 13 20 18.0 -0.5**
comp=Z,11nm,0.7s,baz=238,slow=5.7,SNR=34
comp=Z,11nm,0.7s
KLR Kul'dur 58.64 24*ce*P **P 13 20 19.1 +0.6**
KLR pmax pmax
comp=Z,41nm,1.7s
ATD Arta Tunnel 58.77 285 LR LR 13 40 50.8
comp=Z,13nm,20.1s,baz=352,slow=31
H04N2 CROZET ISLANDS 60.21 217 T T 14 25 40.0
baz=59,slow=75
ASAJ Asahikawa 60.22 34 P **P 13 20 29.4 -0.1**
comp=Z,13nm,0.6s,baz=245,slow=9.8,SNR=14
comp=Z,13nm,0.6s
H04N1 CROZET ISLANDS 60.23 217 T T 14 25 40.3
baz=59,slow=75
H04N3 CROZET ISLANDS 60.23 217 T T 14 25 39.0
baz=59,slow=75
H04S1 CROZET ISLANDS 60.50 216 T T 14 25 57.9
baz=58,slow=76,SNR=3302
H04S3 CROZET ISLANDS 60.51 216 T T 14 25 57.5
baz=58,slow=76,SNR=3182
H04S2 CROZET ISLANDS 60.51 216 T T 14 26 03.9
baz=58,slow=76,SNR=2989
ZEA Zeya 60.76 18 *e*P **P 13 20 33.5 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=Z,400nm,17.0s
BVA0 Borovoye Array 61.05 340 *i* P **P 13 20 33.3 -1.7**
BVAR Borovoye Array 61.05 340 P **P 13 20 34.7 -0.3**
comp=Z,3.9nm,0.7s,baz=141,slow=8.7,SNR=11
comp=Z,3.9nm,0.7s
BRVK Borovoye 61.11 340 P **P 13 20 34.4 -1.0**
BRVK Borovoye 61.11 340*ce*P **P 13 20 36.1 +0.7**
BRVK pmax pmax
comp=Z,20nm,2.5s
YSS Yuzhno-Sakhali 62.12 32 P **P 13 20 42.0 -0.2**
YSS Yuzhno-Sakhali 62.12 32⇓*e*P **P 13 20 42.8 +0.5**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,800nm,18.0s
AB31 Akbulak array 62.48 331 *i* P **P 13 20 43.9 -0.8**
ABKAR Akbulak array 62.48 331 P **P 13 20 43.7 -1.0**
ABKAR Akbulak array 62.48 331 IAmb IAmb 13 20 55.5
comp=Z,12nm,0.8s
AKTO Aktyubinsk 64.20 332 P **P 13 20 53.0 -3.0**
AKT Akhty 64.87 319 *e*P **P 13 20 57.1 -3.7**
AKT *e* 13 21 31.3
AKT *e*S **S 13 29 40.4 -1.4**
AKT pmax pmax
comp=Z,41nm,1.9s
GNI Garni 66.27 316 P **P 13 21 13.0 +3.1**
comp=Z,10nm,0.8s
SVE Sverdlovsk 67.54 338 *e*P **P 13 21 18.4 +0.9**
SVE pmax pmax
comp=Z,26nm,1.5s
MARD Mardin 67.95 312 IAmb IAmb 13 21 31.1
comp=Z,15nm,0.8s
ARTI Arti 68.11 336 P **P 13 21 20.4 -0.6**
ARTI IAmb IAmb 13 21 28.6
comp=Z,11nm,0.6s
ARTI Arti 68.11 336 P **P 13 21 20.7 -0.3**
comp=Z,5.0nm,0.6s,baz=145,slow=5.7,SNR=7.9
comp=Z,5.0nm,0.6s
ARTI Arti 68.11 336*c i*P **P 13 21 20.0 -1.0**
ARTI 13 21 43.5
ARTI S **S 13 30 20.6 +0.4**
ARTI SS **SS 13 34 40.0 -3.0**
ARTI pmax pmax
comp=Z,20nm,2.0s

YAK Yakutsk 68.53 14 P **P 13 21 21.1 -2.4**
YAK Yakutsk 68.53 14 P **P 13 21 22.9 -0.6**
comp=Z,38nm,0.7s,baz=194,slow=3.6,SNR=18
YAK LR LR 13 55 36.4
comp=Z,615nm,18.1s,baz=155,slow=40
comp=Z,38nm,0.7s
YAK Yakutsk 68.53 14*ce*P **P 13 21 23.3 -0.2**
YAK pmax pmax
comp=Z,34nm,0.7s
KBZ Khabaz 69.07 319 P **P 13 21 27.6 +0.3**
comp=Z,4.2nm,0.7s,baz=117,slow=7.5,SNR=11
comp=Z,4.2nm,0.7s
KBZ Khabaz 69.07 319*ce*P **P 13 21 26.7 -0.6**
KBZ pmax pmax
comp=Z,7.0nm,0.8s
SHA1 Shidzhatmaz 69.23 319 *i* P **P 13 21 28.0 -0.6**
KIV Kislovodsk 69.31 319 *e*P **P 13 21 27.1 -1.8**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 69.31 319 P **P 13 21 32.0 +3.1**
comp=Z,8.9nm,0.8s
MAW Mawson 69.50 194 LR LR 13 48 36.8
comp=Z,355nm,18.1s,baz=274,slow=33
LSZ Lusaka 71.88 255 LR LR 13 48 08.7
comp=Z,195nm,21.9s,baz=294,slow=32
NRIK Noril'sk 72.57 355 P **P 13 21 47.1 -1.0**
comp=Z,2.9nm,0.4s,baz=160,slow=8.3,SNR=6.6
NRIK LR LR 13 57 34.3
comp=Z,362nm,19.3s,baz=292,slow=39
comp=Z,2.9nm,0.4s
NRIK Noril'sk 72.57 355*ce*P **P 13 21 48.4 +0.3**
NRIK pmax pmax
comp=Z,20nm,1.6s
CSS Mathiatis 72.89 308 P **P 13 21 54.5 +3.8**
comp=Z,15nm,0.9s
KIRV Kirov 73.22 335*ce*P **P 13 21 52.8 +0.7**
DIKM Dikmen 73.48 315 P **P 13 21 57.5 +3.5**
comp=Z,12nm,1.0s
PETK Petropavlovsk- 73.52 32 P **P 13 21 52.9 -1.1**
comp=Z,7.1nm,0.6s,baz=282,slow=1.2,SNR=20
comp=Z,7.1nm,0.6s
MA2 Magadan 73.74 24 P **P 13 21 55.1 -0.1**
comp=Z,6.2nm,0.6s,baz=208,slow=5.4,SNR=9.1
MA2 LR LR 13 56 45.5
comp=Z,376nm,18.3s,baz=29,slow=38
comp=Z,6.2nm,0.6s
MA2 Magadan 73.74 24*ce*P **P 13 21 56.6 +1.4**
MA2 pmax pmax
comp=Z,24nm,1.7s
MA2 Magadan 73.74 24 P **P 13 21 57.3 +2.1**
comp=Z,22nm,0.8s
PET Petropavlovsk 73.98 32 P **P 13 21 55.6 -1.1**
PET IAmb IAmb 13 21 59.1
comp=Z,26nm,0.9s
PET Petropavlovsk 73.98 32 P **P 13 21 58.9 +2.2**
PET Petropavlovsk 73.98 32 P **P 13 21 58.9 +2.2**
BR104 Keskin Array S 74.03 313 P **P 13 22 00.9 +3.4**
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 74.03 313 P **P 13 21 56.7 -0.9**
BR131 Keskin Array S 74.03 313 P **P 13 21 56.7 -0.9**
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 74.03 313 P **P 13 21 55.9 -1.7**
BRTR Keskin Array B 74.03 313 P **P 13 21 57.0 -0.5**
comp=Z,3.0nm,0.7s,baz=139,slow=7.5,SNR=21
comp=Z,3.0nm,0.7s
BR105 Keskin Array S 74.05 313 P **P 13 22 01.0 +3.4**
comp=Z,7.4nm,0.8s
BR106 Keskin Array S 74.05 313 P **P 13 22 01.1 +3.5**
LBTB Lobatse 74.82 245 LR LR 13 50 32.6
comp=Z,346nm,19.5s,baz=303,slow=32
BOSA Boshof 75.40 241 LR LR 13 51 26.7
comp=Z,306nm,18.8s,baz=212,slow=33
SEY Seymchan 76.36 22 P **P 13 22 09.2 -1.0**
comp=Z,4.1nm,0.6s,baz=249,slow=5.3,SNR=10.0
SEY LR LR 13 59 37.1
comp=Z,381nm,18.6s,baz=258,slow=39
comp=Z,4.1nm,0.6s
SEY Seymchan 76.36 22*ce*P **P 13 22 11.5 +1.3**
SEY pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 76.68 9 P **P 13 22 11.1 -0.7**
TIXI IAmb IAmb 13 22 29.0
comp=Z,10.0nm,0.7s
TIXI Tiksi 76.68 9 P **P 13 22 10.5 -1.4**
comp=Z,6.6nm,0.4s,baz=252,slow=0.6,SNR=6.5
TIXI LR LR 13 59 13.3
comp=Z,690nm,19.4s,baz=196,slow=38
comp=Z,6.6nm,0.4s
TIXI Tiksi 76.68 9*ce*P **P 13 22 11.3 -0.6**
TIXI pmax pmax
comp=Z,20nm,1.7s
SYO Syowa Base 77.11 199⇑*e*P **P 13 22 14.0 -0.4**
MOS Moscow 77.32 329 *e*P **P 13 22 14.9 -0.9**
MOS *e* 13 22 26.4
OBN Obninsk 77.62 328⇓*e*P **P 13 22 18.4 +1.0**
OBN *e**PP **pP 13 22 20.7 -1.9**
OBN *SP **sP 13 22 23.0 -1.3**
OBN *e* 13 22 28.3
OBN *e* 13 32 24.1
OBN pmax pmax
comp=Z,57nm,3.0s
OBN MLR MLR
comp=Z,152nm,20.0s
URZ Urewera 77.97 128 LR LR 13 57 42.7
comp=Z,351nm,20.8s,baz=8.5,slow=36
KLMR Klimovskoe 78.68 334 *e*P **P 13 22 20.8 -2.4**
KLMR pmax pmax
comp=Z,18nm,1.9s
SUR Sutherland 79.49 238 LR LR 13 52 05.3
comp=Z,368nm,18.2s,baz=188,slow=32
AK10 Malin Array Si 80.23 322 P **P 13 22 32.1 +0.2**
AK07 Malin Array Si 80.24 322 P **P 13 22 32.0 0.0**
AKASG Malin Array Be 80.27 322 P **P 13 22 31.6 -0.5**
comp=Z,0.8nm,0.5s,baz=94,slow=4.4,SNR=4.6
VRI Vrincioaia 80.60 317⇑P **P 13 22 33.4 -0.7**
VRI Vrincioaia 80.60 317⇑P **P 13 22 33.4 -0.7**
TESR Tescani 80.81 318⇑P **P 13 22 34.1 -1.1**
LUBAR Lubar, Ukraine 80.96 321 P **P 13 22 35.8 -0.1**
MLR Muntele Rosu 81.05 317⇑P **P 13 22 37.8 +1.2**
MLR Muntele Rosu 81.05 317⇑P **P 13 22 37.8 +1.2**
VOIR 81.65 317⇑P **P 13 22 39.3 -0.5**
VOIR 81.65 317⇑P **P 13 22 39.3 -0.5**
ARR Arges 81.92 316⇓P P 13 22 50.5 +9.3
BURAR Bucovina Array 82.02 319⇑P **P 13 22 43.3 +1.6**
BURAR Bucovina Array 82.02 319⇑P **P 13 22 43.3 +1.6**
TSUM Tsumeb 82.08 251 LR LR 13 54 47.0
comp=Z,316nm,20.1s,baz=143,slow=32
MORS Morshin 83.22 320 P **P 13 22 48.6 +0.8**
MORS Morshin 83.22 320 P **P 13 22 48.5 +0.8**
ELIB Princess Elisa 83.22 198 *d*P **P 13 22 50.2 +2.7**
DRGR 83.52 318⇑P P 13 22 58.3 +8.8
DRGR 83.52 318⇑P P 13 22 58.3 +8.8
KOLS Kolonicke sedl 84.22 320 *e*P **P 13 22 55.0 +2.1**
KOLS Kolonicke sedl 84.22 320 *e*P **P 13 22 55.0 +2.1**
FINES FINESS Array B 84.95 332 P **P 13 22 56.7 +0.4**
comp=Z,3.1nm,0.7s,baz=99,slow=6.2,SNR=14
comp=Z,3.1nm,0.7s
STHS Stebnicka Huta 84.97 320 *e*P **P 13 22 57.6 +0.9**
STHS Stebnicka Huta 84.97 320 *e*P **P 13 22 57.6 +0.9**
PSZ Piszkesteto 85.60 318⇓P P 13 23 10.3 +10
QSPA South Pole Qui 87.11 180 P **P 13 23 07.7 +0.6**
comp=Z,0.8nm,0.6s,baz=290,slow=3.1,SNR=8.7
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 87.34 340 P **P 13 23 08.3 +0.4**
comp=Z,6.2nm,0.7s,baz=106,slow=2.6,SNR=8.2
ARCES LR LR 14 06 55.2
comp=Z,172nm,19.8s,baz=118,slow=39
comp=Z,6.2nm,0.7s
GERES GERESS Array B 89.81 319 P **P 13 23 20.9 +0.7**
comp=Z,1.0nm,0.7s,baz=71,slow=5.8,SNR=5.3
comp=Z,1.0nm,0.7s
CIMO Cimolais 90.48 316 P **P 13 23 23.0 -0.3**
CIMO IAmb IAmb 13 23 42.5
comp=Z,9.0nm,1.0s
HFS Hagfors 90.70 330 LR LR 14 09 21.8
comp=Z,147nm,19.1s,baz=82,slow=39
SNAA Sanae 91.38 198 LR LR 13 57 42.8
comp=Z,196nm,21.0s,baz=17,slow=31
SPITS Spitsbergen Ar 91.51 348 P **P 13 23 26.0 -1.4**
comp=Z,4.0nm,0.7s,baz=99,slow=9.4,SNR=6.0
SPITS LR LR 14 12 05.0
comp=Z,173nm,18.1s,baz=54,slow=40
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 91.98 331 LR LR 14 08 26.0
comp=Z,117nm,21.1s,baz=80,slow=38

RAR Rarotonga 98.32 112 LR LR 14 08 17.3
comp=Z,96nm,20.7s,baz=268,slow=35
JMIC Jan Mayen 98.73 342 LR LR 14 15 24.6
comp=Z,91nm,20.0s,baz=64,slow=40
ESK Eskdalemuir 99.95 326 *i* P **Pdif 13 24 05.9 -0.4**
TBI Tubuai 107.45 115 *e*LR LR 14 00 04.0
comp=Z,941nm,23.5s
PPT2 Papeete2 108.35 109 *e*LR LR 14 00 29.5
comp=Z,191nm,24.5s
PPT2 *e*LR LR 14 00 32.3
comp=Z,162nm,22.5s
YKA Yellowknife Ar 115.14 17 PKP **PKiKP 13 29 01.0 -1.3**
comp=Z,0.3nm,0.7s,baz=285,slow=5.2,SNR=6.8
TAOE Nuku Hiva Isla 118.75 102 *e*LR LR 14 05 10.9
comp=Z,121nm,26.2s
ULM Lac du Bonnet 130.86 14 PKP **PKPdf 13 29 32.4 -0.5**
comp=Z,1.8nm,0.5s,baz=20,slow=3.2,SNR=7.0
PDAR Pinedale Array 132.24 30 PKP **PKPdf 13 29 36.5 +0.5**
comp=Z,0.3nm,0.6s,baz=227,slow=4.6,SNR=3.8
WMOK Wichita Mounta 143.71 27 PKPbc 13 29 54.4 -0.1
WMOK Wichita Mounta 143.71 27 PKIKP PKPbc 13 29 54.4 -0.1
CPUP Villa Florida 143.73 215 PKP **PKPdf 13 29 58.3 +1.0**
comp=Z,2.9nm,0.7s,baz=140,slow=2.9,SNR=6.8
APMT Aspermont 144.23 30 PKPdf PKPbc 13 29 56.2 +0.1
TXAR Lajitas Array 145.27 38 PKPbc **PKPdf 13 30 00.2 +0.2**
comp=Z,15nm,0.7s,baz=299,slow=1.1,SNR=182
MIAR Mount Ida 145.97 21 **PKPbc 13 30 01.4 -0.2**
MIAR Mount Ida 145.97 21 PKP2 **PKPbc 13 30 01.4 -0.2**
X48A Hartselle 147.86 11 PKPbc **PKPbc 13 30 07.0 0.0**

JMA 02 13:17:56.7±0.1, 33°.0N±0°.1×130°.6E±0°.2, h8km, MV-0.2/8, NORTHERN ARIAKEKAI REG, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.06**	**209**	*i* P	Pg	13 17 58.6	0.0
JTA				*e*S	Sg	13 17 59.9	0.0

---

*IDC **02** 13:33:45.6±0.9, 2°.78S×100°.07E, h0km, mb4.3/17, mbtmp4.3/20, MLJ3.9/3, Error ellipse: s-maj=30.9km s-min=12.3km az=51.0*
*NEIC **02** 13:33:46.5±1.8, 2°.94S±0°.06×99°.9E±0°.1, h10km±1km, mb4.6/33, Error ellipse: s-maj=18.5km s-min=6.0km az=244.0*
*DJA **02** 13:33:49.1±0.7, 3°.5S±5°×10°0E±°, h25km±4km, M4.4/13, mb4.3/6, MLv4.4/13*
ISC 02 13:33:48.8±0.6, 2°.89S±0°.07×100°.01E±0°.07, h27km, n104, σ1§13/92, mb4.5/43, 3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.13**	**360**	P	**Pb**	**13 33 54.2**	**+0.2**
PPSI				S	**Sb**	**13 33 57.7**	**+0.2**
SISI	**Saibi**	**1.81**	**329**	P	**Pn**	**13 34 17.9**	**-0.3**
PPI	**Padang Panjang**	**2.45**	**9**	P	**Pn**	**13 34 26.8**	**-0.3**
KSI	**Kapahiang**	**2.69**	**106**	P	**Pb**	**13 34 34.7**	**-1.6**
MNAI	**Manna**	**3.28**	**116**	Pn	**Pn**	**13 34 39.5**	**+0.9**
MNAI	**Manna**	**3.28**	**116**	P	**Pn**	**13 34 39.6**	**+1.1**
MNAI	**Manna**	**3.28**	**116**	P	**Pn**	**13 34 38.7**	**+0.2**
PBSI	**Pulau Batu**	**3.31**	**328**	P	**Pn**	**13 34 38.3**	**-0.6**
MNSI	**Mandailing Nat**	**3.69**	**353**	P	**Pn**	**13 34 42.8**	**-1.3**
MDSI	**Maura Dua**	**4.45**	**111**	P	**Pn**	**13 34 56.3**	**+1.7**
LWLI	**Liwa**	**4.56**	**118**	P	**Pn**	**13 34 57.4**	**+1.2**
GSI	**Gunungsitoli**	**4.83**	**330**	Pn	**Pn**	**13 34 59.2**	**-0.6**
GSI	**Gunungsitoli**	**4.83**	**330**	P	**Pn**	**13 34 59.5**	**-0.3**
GSI	**Gunungsitoli**	**4.83**	**330**	P	**Pn**	**13 34 58.8**	**-1.0**
RPSI	**Rantau Prapat**	**5.66**	**349**	Pn	**Pn**	**13 35 09.9**	**-1.3**
PSI	**Prapat**	**5.76**	**349**	Pn	**Pn**	**13 35 09.7**	**-3.0**
	1.7nm,0.3s,baz=229,slow=8.8,SNR=4.5						
	4.2nm,0.4s						
MYKOM	**Kota Tinggi**	**6.03**	**40**	Pn	**Pn**	**13 35 16.7**	**+0.4**
MYKOM	**Kota Tinggi**	**6.03**	**40**	P	**Pn**	**13 35 16.9**	**+0.6**
CGJI	**Cibinong**	**6.76**	**123**	P	**Pn**	**13 35 26.2**	**-0.2**
IPM	**Ipoh**	**7.39**	**8**	Pn	**Pn**	**13 35 35.8**	**+0.7**
IPM	**Ipoh**	**7.39**	**8**	P	**Pn**	**13 35 36.0**	**+0.9**
KULM	**Kulim**	**8.15**	**4**	Pn	**Pn**	**13 35 44.8**	**-0.7**
KULM	**Kulim**	**8.15**	**4**	P	**Pn**	**13 35 45.0**	**-0.5**
LEM	**Lembang**	**8.53**	**118**	Pn	**Pn**	**13 35 51.1**	**+0.4**
	3.2nm,0.3s,baz=341,slow=18,SNR=4.1						
	14nm,0.5s						
BBJI	**Bungbulang**	**8.86**	**121**	P	**Pn**	**13 35 54.6**	**-0.6**
XMIS	**Christmas Isla**	**9.39**	**144**	Pn	**Pn**	**13 36 01.5**	**-1.0**
KPJI	**Karang Pucung**	**9.92**	**117**	P	**Pn**	**13 36 11.4**	**+1.7**
KSM	**Kuching**	**11.17**	**67**	P	**Pn**	**13 36 25.0**	**-1.9**
	8.5nm,0.9s						
UGM	**Wanagama**	**11.59**	**116**	Pn	**Pn**	**13 36 32.6**	**-0.1**
KKM	**Kota Kinabalu**	**18.46**	**61**	P	**P**	**13 38 02.9**	**+0.2**
UBPT	**Khong Chiam**	**18.85**	**17**	P	**P**	**13 38 05.6**	**-1.3**
KAPI	**Kappang**	**19.81**	**97**		**P**	**13 38 17.3**	**-0.2**
KAPI				IAmb	IAmb	13 38 21.3	
	comp=Z,48nm,1.4s						
KAPI	**Kappang**	**19.81**	**97**	P	**Pn**	**13 38 19.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=268,slow=9.7,SNR=6.5						
	comp=Z,8.8nm,0.4s						
TOLI2	**Tolitoli**	**21.14**	**79**		**P**	**13 38 33.2**	**+1.3**
TOLI2				IAmb	IAmb	13 38 49.5	
	comp=Z,16nm,1.0s						
CM31	**Chiang Mai Arr**	**21.24**	**357**	P	**P**	**13 38 31.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**21.24**	**357**	P	**P**	**13 38 30.9**	**-2.0**
	comp=Z,1.7nm,0.6s,baz=190,slow=9.7,SNR=14						
	comp=Z,1.7nm,0.6s						
PHRA	**Phrae**	**21.26**	**1**	P	**P**	**13 38 31.4**	**-1.8**
PHRA				IAmb	IAmb	13 38 42.2	
	comp=Z,23nm,0.6s						
PALK	**Pallekele**	**21.75**	**298**	P	**P**	**13 38 34.5**	**-4.1**
SLVN	**Son La**	**24.38**	**9**	P	**P**	**13 39 04.3**	**-0.7**
H08S2	**Diego Garcia H**	**27.80**	**259**	T	T	14 08 32.5	
	baz=82,slow=76,SNR=480						
H08S3	**Diego Garcia H**	**27.80**	**259**	T	T	14 08 33.1	
	baz=82,slow=76,SNR=709						
H08S1	**Diego Carcia H**	**27.81**	**259**	T	T	14 08 31.3	
	baz=82,slow=76,SNR=304						
PZH	**PanZhiHua**	**29.27**	**3**	P	**P**	**13 39 52.7**	**+3.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
FITZ	**Fitzroy Crossi**	**29.31**	**123**	P	**P**	**13 39 49.2**	**-0.2**
	comp=Z,5.8nm,1.0s,baz=328,slow=18,SNR=6.7						
	comp=Z,5.8nm,1.0s						
MTN	**Manton Dam**	**32.33**	**110**	P	**P**	**13 40 14.3**	**-1.8**
H01W3	**Cape Leeuwin H**	**34.43**	**159**	T	T	14 16 53.4	
	baz=335,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**34.45**	**159**	T	T	14 16 56.1	
	baz=335,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**34.45**	**159**	T	T	14 17 05.3	
	baz=335,slow=76,SNR=9.1						
WB0	**Warramunga Arr**	**37.52**	**119**	P	**P**	**13 41 01.2**	**+0.3**
WB0				IAmb	IAmb	13 41 15.3	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**37.54**	**119**	P	**P**	**13 41 01.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=301,slow=9.3,SNR=11						
	comp=Z,1.1nm,0.6s						
WRAB	**Tennant Creek**	**37.55**	**119**	P	**P**	**13 41 01.0**	**-0.1**
WRAB				IAmb	IAmb	13 41 07.2	
	comp=Z,27nm,1.4s						
WB2	**Warramunga Arr**	**37.55**	**119**	P	**P**	**13 41 00.6**	**-0.6**
WB2				IAmb	IAmb	13 41 26.1	
	comp=Z,8.5nm,1.1s						
XAN	**Xi'an**	**37.68**	**12**	P	**P**	**13 41 00.5**	**-1.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FORT	**Forrest**	**38.36**	**139**	P	**P**	**13 41 06.8**	**-0.9**
ASAR	**Alice Springs**	**38.73**	**125**	P	**P**	**13 41 11.8**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=302,slow=7.9,SNR=19						
ASAR				PcP	**PcP**	**13 43 24.0**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=294,slow=2.3,SNR=4.9						
	comp=Z,3.1nm,0.8s						
AS31	**Alice Springs**	**38.73**	**125**	P	**P**	**13 41 11.5**	**+0.5**
LYN	**LuoYang**	**39.05**	**16**	P	**P**	**13 41 13.4**	**0.0**
LYN				pmax	pmax		
	comp=Z,17nm,0.8s						
NJ2	**Nanjing**	**39.09**	**26**	*e*P	**P**	**13 41 15.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HNS	**HongShan**	**42.35**	**17**	⇓P	**P**	**13 41 40.9**	**+0.2**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NIL	**Nilore**	**44.26**	**327**	P	**P**	**13 41 56.1**	**-0.1**
NIL				IAmb	IAmb	13 41 58.0	
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**44.80**	**12**	*e*P	**P**	**13 42 02.2**	**+1.7**

HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,65nm,4.6s						
BJI	**Beijing**	**45.23**	**18**	P	**P**	**13 42 03.9**	**+0.1**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSH	**Kashi**	**47.64**	**335**	P	**P**	**13 42 22.8**	**-0.1**
KSH				sP	pP	13 42 29.0	-2.1
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**47.78**	**30**	P	**P**	**13 42 23.4**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=224,slow=8.7,SNR=6.0						
	comp=Z,1.6nm,0.8s						
WMQ	**Urumqi**	**47.80**	**348**	*e*P	**P**	**13 42 26.2**	**+2.2**
WMQ				sP	sP	13 42 36.8	+1.4
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=Z,220nm,16.3s						
STKA	**Stephens Creek**	**48.55**	**131**	P	**P**	**13 42 31.5**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=279,slow=9.3,SNR=6.6						
	comp=Z,3.0nm,0.7s						
XLT	**XiLinHaoTe**	**48.77**	**15**	*e*P	**P**	**13 42 31.6**	**+0.1**
XLT				sP	sP	13 42 43.4	+0.4
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KDJ	**Kajisay**	**49.37**	**338**	IAmb	IAmb	13 42 39.1	
	comp=Z,13nm,1.0s						
CHGR	**Chuyangaron**	**50.20**	**328**	P	**P**	**13 42 41.5**	**-1.0**
CHGR				IAmb	IAmb	13 42 43.1	
	comp=Z,7.5nm,0.9s						
BTK	**Batken**	**50.43**	**331**	IAmb	IAmb	13 43 03.8	
	comp=Z,4.1nm,0.9s						
SONM	**Songino Array**	**50.83**	**6**	P	**P**	**13 42 46.0**	**-1.2**
SONM				IAmb	IAmb	13 42 48.9	
	comp=Z,8.3nm,0.8s						
SONM	**Songino Array**	**50.83**	**6**	P	**P**	**13 42 47.8**	**+0.7**
	comp=Z,7.7nm,0.8s,baz=190,slow=9.3,SNR=45						
SONM				PcP	**PcP**	**13 44 04.7**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=182,slow=3.5,SNR=2.5						
	comp=Z,7.7nm,0.8s						
ULN	**Ulaanbaatar**	**50.92**	**6**	P	**P**	**13 42 47.8**	**-0.2**
ULN				IAmb	IAmb	13 42 49.5	
	comp=Z,7.0nm,0.9s						
CN2	**Changchun**	**51.80**	**23**	*e*P	**P**	**13 42 52.8**	**-1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MKAR	**Makanchi Array**	**51.89**	**345**	P	**P**	**13 42 55.7**	**+0.7**
MKAR	**Makanchi Array**	**51.89**	**345**	P	**P**	**13 42 55.4**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=148,slow=8.0,SNR=93						
	comp=Z,7.3nm,0.7s						
MAKZ	**Makanchi**	**51.98**	**344**	P	**P**	**13 42 56.5**	**+0.7**
MAKZ				IAmb	IAmb	13 42 57.4	
	comp=Z,4.4nm,0.9s						
KKAR	**Karatay Array**	**52.95**	**333**	P	**P**	**13 43 02.6**	**-0.3**
MJAR	**Matsushiro Arr**	**52.96**	**39**	P	**P**	**13 43 01.6**	**-1.6**
	comp=Z,4.4nm,1.2s,baz=221,slow=6.8,SNR=4.4						
	comp=Z,4.4nm,1.2s						
BNX	**BinXian**	**54.18**	**23**	||P	**P**	**13 43 11.8**	**-0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.94**	**28**	P	**P**	**13 43 17.3**	**-0.1**
	comp=Z,11nm,0.8s,baz=223,slow=5.6,SNR=14						
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**56.40**	**344**	P	**P**	**13 43 28.5**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=163,slow=6.8,SNR=18						
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**56.46**	**344**	P	**P**	**13 43 28.8**	**+0.6**
KURK				IAmb	IAmb	13 43 29.9	
	comp=Z,10nm,0.8s						
JTM	**Tenmabayashi**	**57.37**	**36**	P	**P**	**13 43 33.8**	**-1.1**
ZAA0	**Zalesovo Array**	**58.04**	**349**	P	**P**	**13 43 39.4**	**+0.1**
ZAA0				IAmb	IAmb	13 43 56.6	
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**58.04**	**349**	P	**P**	**13 43 39.3**	**-0.1**
ZALV	**Zalesovo Beam**	**58.04**	**349**	P	**P**	**13 43 39.6**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=175,slow=6.0,SNR=17						
	comp=Z,4.0nm,0.7s						
H04N2	**CROZET ISLANDS**	**60.09**	**217**	T	T	14 49 05.9	
	baz=59,slow=75,SNR=3288						
H04N1	**CROZET ISLANDS**	**60.10**	**217**	T	T	14 49 06.4	
	baz=59,slow=75,SNR=3041						
H04N3	**CROZET ISLANDS**	**60.11**	**217**	T	T	14 49 05.1	
	baz=59,slow=75,SNR=3437						
H04S1	**CROZET ISLANDS**	**60.37**	**216**	T	T	14 49 25.8	
	baz=58,slow=76,SNR=511						
H04S3	**CROZET ISLANDS**	**60.39**	**216**	T	T	14 49 23.1	
	baz=58,slow=76,SNR=648						
H04S2	**CROZET ISLANDS**	**60.39**	**216**	T	T	14 49 24.4	
	baz=58,slow=76,SNR=373						
BVAR	**Borovoye Array**	**61.02**	**340**	P	**P**	**13 44 00.1**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=138,slow=8.9,SNR=7.1						
	comp=Z,1.7nm,0.6s						
BRVK	**Borovoye**	**61.09**	**340**	P	**P**	**13 44 00.1**	**-0.2**
ABKAR	**Akbulak array**	**62.42**	**332**	P	**P**	**13 44 09.7**	**+0.2**
ABKAR	**Akbulak array**	**62.42**	**332**	P	**P**	**13 44 09.5**	**+0.1**
ABKAR				IAmb	IAmb	13 44 10.6	
	comp=Z,5.4nm,0.8s						
KBZ	**Khabaz**	**68.98**	**319**	P	**P**	**13 44 53.0**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=132,slow=6.6,SNR=5.0						
	comp=Z,2.4nm,0.8s						
BR131	**Keskin Array S**	**73.93**	**313**	P	**P**	**13 45 21.5**	**-0.5**
BRTR	**Keskin Array B**	**73.93**	**313**	P	**P**	**13 45 21.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=139,slow=8.0,SNR=8.6						
	comp=Z,1.3nm,0.7s						
SYO	**Syowa Base**	**77.03**	**199**	||*es*P	sP	13 45 44.2	-6.1
FINES	**FINESS Array B**	**84.90**	**332**	P	**P**	**13 46 22.1**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=72,slow=6.2,SNR=4.7						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	**87.31**	**340**	P	**P**	**13 46 33.8**	**+0.9**
	comp=Z,6.5nm,1.1s,baz=52,slow=2.0,SNR=4.2						
	comp=Z,6.5nm,1.1s						
TXAR	**Lajitas Array**	**145.40**	**38**	PKPbc	**PKPab**	**13 53 25.5**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=281,slow=1.0,SNR=43						

RSNC 02 14:03:21.8±0.0, 7°N±1°×7°3W±°, h139km±1km, M2.9, mB4.8, mb3.7, ML2.7, Mw(mB)4.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**178**	P	Pn	14 03 41.7	+0.5
BARC				S	Sn	14 03 56.3	+0.4
BRJC	**Barrancabermej**	**0.57**	**284**	P	Pn	14 03 42.4	+0.1
BRJC				S	Sn	14 03 58.3	+0.6
PAMC	**Pamplona, Colo**	**0.69**	**44**	P	Pn	14 03 44.6	+0.9
PAMC				S	Sn	14 04 00.9	+0.7
RUSC	**La Rusia**	**0.95**	**174**	P	Pn	14 03 45.7	0.0
RUSC				S	Sn	14 04 04.4	+0.7
PTBC	**PUERTO BERRIO,**	**1.29**	**257**	P	Pn	14 03 48.0	-0.4
PTBC				S	Sn	14 04 09.1	+0.5
OCAC	**Ocana**	**1.40**	**355**	P	Pn	14 03 49.9	+0.3
OCAC				S	Sn	14 04 10.1	-0.7
TAMC	**Tame, Arauca**	**1.45**	**106**	P	Pn	14 03 50.1	+0.1
TAMC				S	Sn	14 04 11.7	+0.2
SPBC	**San Pablo de B**	**1.47**	**217**	P	Pn	14 03 50.5	+0.2
SPBC				S	Sn	14 04 12.2	+0.1
ZARC	**Zaragoza, Cauc**	**1.78**	**291**	P	Pn	14 03 53.9	+0.2
ZARC				S	Sn	14 04 19.0	+0.9
NORC	**Norcasia**	**2.10**	**233**	P	Pn	14 03 57.4	-0.1
NORC				S	Sn	14 04 24.7	-0.2
CHIC	**Chingaza**	**2.26**	**194**	P	Pn	14 03 59.6	-0.3
CHIC				S	Sn	14 04 29.1	0.0
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	14 04 01.4	+1.3
ROSC				S	Sn	14 04 30.6	+1.1
UREC	**San Jos de Ur**	**2.49**	**291**	P	Pn	14 04 01.8	-0.5
UREC				S	Sn	14 04 32.3	-1.2
GUY2C	**Guyana, Caldas**	**2.69**	**234**	P	Pn	14 04 05.8	+0.5
GUY2C				S	Sn	14 04 39.2	+0.4
VILC	**Villavicencio,**	**2.76**	**191**	P	Pn	14 04 05.4	-0.4
VILC				S	Sn	14 04 38.8	-0.9
RECRC	**Villamaria, Ca**	**2.85**	**229**	P	Pn	14 04 09.0	+1.7
RECRC				S	Sn	14 04 45.7	+3.3
CBOC	**Ciudad Bolivar**	**2.97**	**251**	P	Pn	14 04 09.6	+1.1
CBOC				S	Sn	14 04 44.0	-0.5
DBBC	**Dabeiba**	**3.00**	**274**	P	Pn	14 04 08.8	-0.1
DBBC				S	Sn	14 04 44.6	-0.6
ARGC	**Ariguani, Magd**	**3.17**	**341**	P	Pn	14 04 12.1	+1.1
ARGC				S	Sn	14 04 50.5	+1.4
ANIL	**Santa Ana**	**3.21**	**223**	P	Pn	14 04 13.3	+1.6
ANIL				S	Sn	14 04 52.6	+2.3
SDV	**Santo Domingo**	**3.25**	**51**	P	Pn	14 04 11.2	-0.9
SDV				S	Sn	14 04 48.8	-2.2
APAC	**Apartado, Choc**	**3.52**	**288**	P	Pn	14 04 15.2	-0.3
APAC				S	Sn	14 04 56.9	-0.2
PRAC	**Prado**	**3.54**	**209**	P	Pn	14 04 15.0	-0.8
PRAC				S	Sn	14 04 57.2	-0.3
ORTC	**Ortega, Tolima**	**3.56**	**215**	P	Pn	14 04 16.0	-0.1
ORTC				S	Sn	14 04 58.6	+0.5
SJCC	**San Jacinto, C**	**3.62**	**327**	P	Pn	14 04 15.4	-1.5
SJCC				S	Sn	14 04 56.6	-2.9
PLMC	**San Jos del P**	**3.63**	**238**	P	Pn	14 04 17.1	+0.1
PLMC				S	Sn	14 05 00.0	+0.3
LCBC	**Los crdobas,**	**3.73**	**303**	P	Pn	14 04 18.9	+0.6
LCBC				S	Sn	14 05 02.9	+0.9
URMC	**La Uribe, Meta**	**3.76**	**198**	P	Pn	14 04 18.8	0.0
URMC				S	Sn	14 05 02.1	-0.8
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	14 04 22.0	-2.1
CRJC				S	Sn	14 05 09.3	-3.1
YOTC	**Yotoco, Valle**	**4.23**	**228**	P	Pn	14 04 24.2	-0.8
YOTC				S	Sn	14 05 14.7	+0.6
GUVC	**San Jose del G**	**4.30**	**172**	P	Pn	14 04 25.2	-0.7
GUVC				S	Sn	14 05 13.4	-2.2
SMRC	**Santa Marta, M**	**4.42**	**347**	P	Pn	14 04 26.9	-0.4
SMRC				S	Sn	14 05 14.4	-3.9
MACC	**Macarena, Meta**	**4.71**	**188**	P	Pn	14 04 28.7	-2.5
MACC				S	Sn	14 05 20.7	-4.6
URIC	**Uribia, Colomb**	**4.97**	**14**	P	Pn	14 04 32.2	-2.5
URIC				S	Sn	14 05 30.3	-1.2
MALC	**Bahia Malaga**	**4.99**	**236**	P	Pn	14 04 35.8	+0.8
MALC				S	Sn	14 05 33.6	+1.7
GARC	**Garzon, Huila**	**5.16**	**207**	P	Pn	14 04 36.2	-1.3
GARC				S	Sn	14 05 36.3	-0.1
FLOC	**Florencia**	**5.77**	**205**	P	Pn	14 04 44.6	-0.8
	9.9nm,1.1s						
BBAC	**Balboa, Cauca**	**6.27**	**220**	P	Pn	14 04 52.0	-0.2
BBAC				S	Sn	14 06 02.9	0.0

IDC ***02*** *14:03:27.9±1.2, 40°.45S×176°.92E, h0km, mb4.0/3, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=35.8km s-min=27.7km az=107.0*
NOU ***02*** *14:03:30.9, 40°.57S×177°.05E, h34km, MLv4.1/12, Off E. Coast of N. Island, N.Z.*
WEL ***02*** *14:03:33.7±0.8, 40°.S±4°×17°7E±°, h13km±5km, M4.3/10, ML4.6/9, MLv4.3/10, Error ellipse: s-maj=6.2km s-min=3.4km az=127.0, confirmed*
WEL ***02*** *14:03:33.7, 40°.37S×176°.73E, h14km, ML4.3, Mw4.0, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁵ Nm; Mrr1.07; Mθθ-0.34; Mφφ-0.73; Mrθ0.55; Mθφ0.14; Mφr0.82; Fault plane solution: M0 1.30000×10¹⁵ NP1: φs18.00000°, δ69.00000°, λ104.00000°. NP2: φs164.00000°, δ25.00000°, λ59.00000°. Principal axes: T 1.5527, Plg64.0000°, Azm311.0000°; N -0.4978, Plg13.0000°, Azm193.0000°; P -1.0549, Plg23.0000°, Azm98.0000°; Stations used: BFZ TSZ MRZ BKZ WHVZ OTVZ VRZ REVERSE FAULTING*

ISC 02 14:03:30.5±1.6, 40°.45S±0°.04×176°.92E±0°.06, h18km±8km, n38, σ1§10/50, mb4.0/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGFS	**Porangahau Fir**	**0.27**	**301**	P	**Pb**	**14 03 37.1**	**+0.3**
PGFS				S	**Sg**	**14 03 40.1**	**-0.6**
PRHZ	**Porangahau**	**0.28**	**310**	P	**Pb**	**14 03 37.4**	**+0.5**
PRHZ				S	**Sg**	**14 03 40.8**	**-0.2**
ANWZ	**Angora Road**	**0.34**	**267**	P	**Pb**	**14 03 39.4**	**+1.5**
ANWZ				S	**Sb**	**14 03 44.1**	**+1.1**
PXZ	**Pawanui**	**0.42**	**354**	P	**Pn**	**14 03 41.6**	**+0.1**
PXZ				S	**Sn**	**14 03 48.6**	**-0.2**
PWZ	**Pawanui**	**0.42**	**354**	P	**Pn**	**14 03 41.7**	**+0.2**
PWZ				S	**Sn**	**14 03 48.3**	**-0.5**
WPHZ	**Waipukurau**	**0.53**	**316**	P	**Pb**	**14 03 42.0**	**+0.8**
WPHZ				S	**Sb**	**14 03 48.9**	**+0.5**
WPWS	**Waipawa Distri**	**0.56**	**333**	P	**Pn**	**14 03 42.8**	**-0.7**
WPWS				S	**Sb**	**14 03 50.4**	**+1.0**
BFZ	**Birch Farm**	**0.56**	**245**	P	**Pn**	**14 03 44.3**	**+0.7**
BFZ	**Birch Farm**	**0.56**	**245**	S	**Sn**	**14 03 53.5**	**+1.1**
BFZ	**Birch Farm**	**0.56**	**245**	P	**Pn**	**14 03 44.3**	**+0.7**
DVHZ	**Dannevirke**	**0.59**	**284**	P	**Pb**	**14 03 43.1**	**+0.9**
DVHZ				S	**Sg**	**14 03 50.7**	**+0.5**
KAHZ	**Kahuranaki**	**0.65**	**357**	P	**Pn**	**14 03 45.9**	**+1.0**
CPWZ	**Castlepoint**	**0.71**	**229**	P	**Pn**	**14 03 47.4**	**+1.7**
PRWZ	**Pori Road**	**0.73**	**261**	P	**Pn**	**14 03 46.5**	**+0.7**
TRMS	**Tiraumea**	**0.74**	**252**	P	**Pn**	**14 03 46.7**	**+0.6**
PNHZ	**Pukenui**	**0.76**	**314**	P	**Pn**	**14 03 46.1**	**-0.3**
PNHZ				S	**Sb**	**14 03 55.8**	**+0.5**
TSZ	**Takapari Road**	**0.83**	**298**	P	**Pg**	**14 03 47.0**	**+0.4**
TSZ				S	**Sb**	**14 03 57.5**	**+0.4**
MRZ	**Mangatainoka R**	**1.04**	**258**	P	**Pb**	**14 03 50.6**	**+0.7**
BKZ	**Black Stump Fm**	**1.32**	**346**	P	**Pg**	**14 03 54.9**	**-1.0**
BKZ	**Black Stump Fm**	**1.32**	**346**	S	**Sg**	**14 04 13.7**	**+0.5**
URZ	**Urewera**	**2.19**	**4**	Pn	**Pn**	**14 04 06.1**	**+0.2**
	10nm,0.3s,baz=312,slow=7.4,SNR=78						
URZ				Sn	**Sn**	**14 04 32.1**	**-0.4**
	22nm,0.3s,baz=272,slow=15,SNR=6.1						
	48nm,0.5s						
URZ	**Urewera**	**2.19**	**4**	P	**Pn**	**14 04 06.6**	**+0.7**
URZ	**Urewera**	**2.19**	**4**	S	**Sn**	**14 04 33.3**	**+0.8**
HIZ	**Hauiti**	**2.50**	**320**	P	**Pb**	**14 04 13.2**	**-1.7**
MXZ	**Matakaoa Point**	**3.08**	**21**	P	**Pn**	**14 04 18.2**	**+0.1**
MXZ	**Matakaoa Point**	**3.08**	**21**	S	**Sn**	**14 04 56.1**	**+1.7**
KHZ	**Kahutara**	**3.21**	**231**	P	**Pn**	**14 04 18.8**	**-1.2**
KHZ	**Kahutara**	**3.21**	**231**	S	**Sn**	**14 04 56.8**	**-1.0**
QRZ	**Quartz Range**	**3.36**	**262**	P	**Pn**	**14 04 22.3**	**+0.3**
RPZ	**Rata Peaks**	**5.45**	**231**	Pn	**Pn**	**14 04 50.2**	**-0.6**
	4.1nm,0.7s,baz=34,slow=18,SNR=0.8						
RPZ				Sn	**Sn**	**14 05 48.3**	**-4.6**
	6.1nm,0.3s,baz=36,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**39.68**	**282**	P	**P**	**14 11 01.9**	**+0.3**
	1.2nm,0.8s,baz=134,slow=10,SNR=12						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**41.60**	**287**	P	**P**	**14 11 17.8**	**+0.3**
	2.2nm,0.7s,baz=128,slow=8.3,SNR=9.1						
	2.2nm,0.7s						
SNAA	**Sanae**	**68.19**	**180**	P	**P**	**14 14 30.4**	**+1.2**
	1.0nm,0.5s,baz=153,slow=4.5,SNR=1.5						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**120.78**	**307**	PKP	**PKPdf**	**14 22 20.1**	**-0.8**
	0.5nm,1.0s,baz=102,slow=3.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**124.68**	**310**	PKP	**PKiKP**	**14 22 29.7**	**+1.2**
	0.4nm,0.8s,baz=105,slow=2.0,SNR=3.3						
ARCES	**ARCESS Array B**	**147.20**	**342**	PKPbc	**PKPab**	**14 23 12.2**	**-1.0**
	3.2nm,0.7s,baz=54,slow=4.8,SNR=9.4						
BRTR	**Keskin Array B**	**152.02**	**281**	PKPbc	**PKPbc**	**14 23 23.2**	**-1.2**
	0.6nm,0.8s,baz=90,slow=6.2,SNR=3.8						
FINES	**FINESS Array B**	**152.49**	**330**	PKPbc	**PKPbc**	**14 23 23.3**	**-1.2**
	7.2nm,1.1s,baz=46,slow=6.4,SNR=4.0						

GII ***02*** *14:09:22.3±0.0, 34°.686N×0°.002×23°.947E±0°.001, h20km, Mws4.1/3, confirmed*
MOS ***02*** *14:09:22.7±1.1, 34°.44N×23°.88E, h16km, mb4.4/13, Error ellipse: s-maj=9.8km s-min=5.3km az=62.0*
IDC ***02*** *14:09:23.9±0.9, 34°.74N×24°.03E, h0km, mb4.1/16, mbtmp4.0/23, ML3.9/7, MS3.3/4, Error ellipse: s-maj=18.4km s-min=13.2km az=175.0*
NEIC ***02*** *14:09:25.0±2.5, 34°.53N±0°.08×24°.01E±0°.08, h10km±2km, mb4.2/12, Error ellipse: s-maj=14.1km s-min=9.6km az=149.0*
ISK ***02*** *14:09:27.9, 34°.74N×24°.00E, h26km, ML3.8/16*
THE ***02*** *14:09:28.8, 34°.73N×23°.90E, h21km±1km, ML4.0/4, Error ellipse: s-maj=3.3km s-min=1.5km az=221.0*
HLW ***02*** *14:09:29.6, 34°.50N×24°.20E, h10km±10km, Md4.0, Ml4.3*
AFAD ***02*** *14:09:29.9, 35°.11N×24°.25E, h7km±6km, MW3.9*
ATH ***02*** *14:09:30.5, 34°.87N×24°.15E, h16km±3km, ML3.8/4, Error ellipse: s-maj=4.7km s-min=1.4km az=217.0*
NAO ***02*** *14:09:56.4, 37°.57N×22°.29E, h33km, mb3.5*

ISC 02 14:09:26.1±0.8, 34°.63N±0°.04×24°.05E±0°.04, h16km±4km, n205, σ1§71/211, mb4.2/27, 9C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.21**	**9**	Pg	**Pb**	**14 09 33.2**	**+1.5**
GVD				Sg	**Sb**	**14 09 37.3**	**+1.8**
GVD	**Gavdhos**	**0.21**	**9**	P	**Pb**	**14 09 33.4**	**+1.7**
GVD				S	**Sb**	**14 09 37.2**	**+1.8**
GVD	**Gavdhos**	**0.21**	**9**	P	**Pb**	**14 09 33.4**	**+1.7**
GVD				S	**Sb**	**14 09 36.0**	**+0.6**
GVD				AML	AML	14 09 37.7	
GVD				AML	AML	14 09 37.7	
IMMV	**Iera Moni Meta**	**0.83**	**356**	Pg	**Pg**	**14 09 42.0**	**-0.3**
IMMV				Sg	**Sn**	**14 09 53.7**	**-1.5**
IMMV	**Iera Moni Meta**	**0.83**	**356**	P	**Pg**	**14 09 42.1**	**-0.3**
IMMV				S	**Sb**	**14 09 53.0**	**-0.2**
	17μm,0.8s						
IMMV	**Iera Moni Meta**	**0.83**	**356**	P	**Pg**	**14 09 42.0**	**-0.3**
IMMV				S	**Sg**	**14 09 51.7**	**-1.6**
IMMV				AML	AML	14 09 58.1	
	comp=E,39548μm,0.8s						
IMMV				AML	AML	14 10 02.5	
	comp=N,24853μm,0.8s						
IDI	**Anoyia**	**0.95**	**46**	Pg	**Pb**	**14 09 45.2**	**+0.8**
IDI	**Anoyia**	**0.95**	**46**	Pg	**Pb**	**14 09 45.4**	**+1.0**
IDI				Sg	**Sn**	**14 09 58.4**	**+0.1**
IDI	**Anoyia**	**0.95**	**46**	P	**Pb**	**14 09 45.0**	**+0.6**
IDI				S	**Sn**	**14 09 59.1**	**+0.8**
	comp=N,5μm,0.5s						
IDI	**Anoyia**	**0.95**	**46**	Pn	**Pb**	**14 09 44.2**	**-0.2**
	comp=N,162nm,0.3s,baz=235,slow=10.0,SNR=252						
IDI				Sn	**Sn**	**14 09 59.5**	**+1.2**
	comp=N,440nm,0.3s,baz=326,slow=20,SNR=14						
IDI	**Anoyia**	**0.95**	**46**	P	**Pb**	**14 09 45.1**	**+0.8**
IDI				S	**Sb**	**14 09 56.1**	**-0.7**
IDI				AML	AML	14 10 02.2	
	comp=N,11015μm,0.6s						
IDI				AML	AML	14 10 03.7	
	comp=E,11152μm,0.4s						
IACM	**Heraklion**	**1.08**	**51**	P	**Pg**	**14 09 48.5**	**+1.5**
IACM				S	**Sn**	**14 10 03.6**	**+2.4**
	comp=E,22μm,0.8s						
IACM	**Heraklion**	**1.08**	**51**	P	**Pb**	**14 09 46.9**	**+0.5**
IACM				S	**Sb**	**14 09 57.8**	**-2.5**
ZKR	**Zakros**	**1.85**	**74**	Pn	**Pn**	**14 09 59.0**	**+1.8**
ZKR	**Zakros**	**1.85**	**74**	P	**Pb**	**14 10 01.0**	**+1.5**
ZKR	**Zakros**	**1.85**	**74**	P	**Pb**	**14 10 01.1**	**+1.5**
ZKR				AML	AML	14 10 40.3	
	comp=N,1064μm,0.9s						
ZKR				AML	AML	14 10 42.4	
	comp=E,1993μm,0.5s						
THR9	**Santorini-Faro**	**2.03**	**31**	P	**Pb**	**14 10 02.3**	**-0.3**
THR6	**Thira Island,**	**2.04**	**32**	P	**Pb**	**14 10 02.4**	**-0.5**
THR5	**Thira Island,**	**2.08**	**30**	P	**Pn**	**14 10 02.4**	**+2.0**
THR3	**Thira Island,**	**2.09**	**31**	P	**Pn**	**14 10 02.2**	**+1.7**
THR3	**Thira Island,**	**2.09**	**31**	P	**Pn**	**14 10 02.4**	**+1.8**
THR8	**Santorini-Mono**	**2.12**	**33**	P	**Pn**	**14 10 03.0**	**+2.0**
THR8	**Santorini-Mono**	**2.12**	**33**	P	**Pn**	**14 10 03.0**	**+2.0**
THR2	**Thira island,**	**2.14**	**32**	P	**Pb**	**14 10 03.9**	**-0.7**
MNVA	**Monemvasia**	**2.21**	**338**	P	**Pb**	**14 10 07.0**	**+1.2**
VLI	**Veliai**	**2.27**	**337**	P	**Pb**	**14 10 06.7**	**-0.1**
APE	**Apeiranthos**	**2.72**	**26**	Pn	**Pn**	**14 10 10.1**	**+0.9**
APE	**Apeiranthos**	**2.72**	**26**	P	**Pn**	**14 10 10.1**	**+0.9**
APE	**Apeiranthos**	**2.72**	**26**	*i* P	**Pn**	**14 10 09.4**	**+0.2**
APE	**Apeiranthos**	**2.72**	**26**	P	Pn	14 10 04.8	-4.4
APE				S	**Sn**	**14 10 37.1**	**-4.7**
ITM	**Ithomi**	**3.07**	**327**	Pn	**Pn**	**14 10 14.9**	**+0.8**
VLY	**Voula,Athens**	**3.22**	**356**	P	**Pn**	**14 10 17.1**	**+1.0**
SLUM	**Salum**	**3.28**	**162**	P	**Pn**	**14 10 18.5**	**+1.6**
SLUM				S	**Sn**	**14 10 57.3**	**+1.8**
DION	**Dionisos Attik**	**3.44**	**358**	P	**Pn**	**14 10 20.2**	**+1.0**
VILL	**Villia**	**3.58**	**351**	P	**Pn**	**14 10 21.8**	**+0.7**
BODT	**Bodrum**	**3.59**	**47**	Pn	**Pn**	**14 10 23.1**	**+1.9**
ARG	**Arkhangelos**	**3.69**	**63**	Pn	**Pn**	**14 10 25.4**	**+2.9**
ARG	**Arkhangelos**	**3.69**	**63**	Pn	**Pn**	**14 10 24.9**	**+2.4**
ARG	**Arkhangelos**	**3.69**	**63**	P	**Pn**	**14 10 25.4**	**+2.9**
ARG				S	**Sn**	**14 11 07.4**	**+1.7**
	comp=E,295nm,0.4s						
ARG	**Arkhangelos**	**3.69**	**63**	P	**Pn**	**14 10 25.4**	**+2.9**
ARG				S	**Sn**	**14 11 07.4**	**+1.7**
MRSB	**Marmaris-Mugla**	**3.97**	**57**	Pn	**Pn**	**14 10 28.6**	**+2.2**
GCAM	**G?zelcaml?**	**4.00**	**39**	Pn	**Pn**	**14 10 28.8**	**+2.0**
MLSB	**Milas**	**4.03**	**48**	Pn	**Pn**	**14 10 29.3**	**+2.1**
TURN	**Turunc**	**4.03**	**57**	Pn	**Pn**	**14 10 29.4**	**+2.2**
TURN	**Turunc**	**4.03**	**57**	P	**Pn**	**14 10 29.9**	**+2.7**
TURN				S	**Sn**	**14 11 14.6**	**+0.5**
TURN				*i* AML	AML	14 11 15.0	
	comp=E,85nm,0.4s						
TURN				*i* AML	AML	14 11 16.0	
	comp=E,73nm,0.4s						
YER	**Yerkesik**	**4.25**	**53**	Pn	**Pn**	**14 10 32.9**	**+2.6**
YER

BRTR LR LR 14 15 54.4
comp=E,218nm,18.9s,baz=290,slow=43
comp=E,3.5nm,0.9s

KZIT Kziot 9.47 110 P Pn 14 11 39.6 -2.3
KZIT Kziot 9.47 110 S **Sn** **14 13 26.0 -2.1**
SLTI Sal'it 9.49 101 P Pn 14 11 39.6 -2.6
SLTI Sal'it 9.49 101 S **Sn** **14 13 27.5 -1.1**
MMA0B Mount Meron ar 9.58 96 P Pn 14 11 40.6 -2.9
MMA0B Mount Meron ar 9.58 96 S **Sn** **14 13 29.5 -1.5**
MMAI Mount Meron Ar 9.58 96 Pn **Pn** **14 11 41.5 -2.0**
comp=E,3.4nm,0.3s,baz=289,slow=13,SNR=28
MMAI Sn **Sn** **14 13 25.6 -5.4**
comp=E,3.3nm,0.3s,baz=269,slow=22,SNR=6.7
MMAI LR LR 14 16 53.8
comp=E,88nm,19.9s,baz=257,slow=47
comp=E,3.8nm,0.4s

AMAZ Amatzia 9.63 106 P Pn 14 11 41.1 -2.9
AMAZ Amatzia 9.63 106 S **Sn** **14 13 31.0 -0.9**
SALP Salfit 9.66 102 P Pn 14 11 41.4 -3.2
SALP Salfit 9.66 102 S **Sn** **14 13 30.7 -2.1**
MMLI Mount Malkishu 9.74 100 P Pn 14 11 42.9 -2.8
MMLI Mount Malkishu 9.74 100 S **Sn** **14 13 32.7 -2.1**
GEM Giv'at Ha'Em 9.76 95 P Pn 14 11 42.9 -2.9
GEM Giv'at Ha'Em 9.76 95 S **Sn** **14 13 34.0 -1.1**
NATI Neve Ativ 9.81 95 P Pn 14 11 43.9 -2.6
NATI Neve Ativ 9.81 95 S **Sn** **14 13 35.2 -1.0**
YTIR Yattir 9.85 106 P Pn 14 11 44.4 -2.8
YTIR Yattir 9.85 106 S **Sn** **14 13 35.5 -2.0**
HMDT Nahal Hemdat 9.88 101 P Pn 14 11 45.1 -2.4
HMDT Nahal Hemdat 9.88 101 S **Sn** **14 13 36.2 -1.9**
KSHT Keshet 9.93 96 P **Pn** **14 11 46.1 -2.1**
KSHT Keshet 9.93 96 S **Sn** **14 13 37.5 -1.8**
ILGA Ilgaz 9.97 47 **Pn** **Pn** **14 11 50.8 +1.8**
DSI Dead Sea 9.98 105 P Pn 14 11 46.1 -2.8
DSI Dead Sea 9.98 105 S **Sn** **14 13 39.0 -1.6**
MDBI Mazsada 10.06 106 P Pn 14 11 47.1 -2.8
MDBI Mazsada 10.06 106 S **Sn** **14 13 40.5 -1.9**
MSBI Mazada 10.06 106 P Pn 14 11 47.6 -2.3
MSBI Mazada 10.06 106 S **Sn** **14 13 40.2 -2.2**
HDK1 Dakhla 10.17 151 P **Pn** **14 11 54.2 +2.7**
PRNI Paran 10.19 112 P Pn 14 11 49.1 -2.6
PRNI Paran 10.19 112 S **Sn** **14 13 43.8 -1.9**
ZFRI Zfri 10.23 110 P Pn 14 11 49.6 -2.7
ZFRI Zfri 10.23 110 S **Sn** **14 13 44.8 -1.9**
HRFI Mount Harif 10.36 113 P Pn 14 11 51.1 -3.0
HRFI Mount Harif 10.36 113 S **Sn** **14 13 48.0 -2.0**
BNN Bunyan 10.36 63 Pn **Pn** **14 11 54.7 +0.5**
MBRI Mt Berech 10.39 115 P Pn 14 11 52.4 -2.2
MBRI Mt Berech 10.39 115 S **Sn** **14 13 49.5 -1.2**
EIL Elat 10.48 115 Pn **Pn** **14 11 56.1 +0.3**
comp=E,1.7nm,0.3s,baz=343,slow=3.2,SNR=9.4
EIL Sn Sn 14 13 46.0 -6.9
comp=E,1.0nm,0.3s,baz=16,slow=17,SNR=3.2
comp=E,4.0nm,0.5s

EIL Elat 10.48 115 P Pn 14 11 53.1 -2.6
EIL Elat 10.48 115 S **Sn** **14 13 51.0 -1.8**
MLR Muntele Rosu 10.95 7 Pn **Pn** **14 12 05.6 +3.4**
comp=E,0.3nm,0.3s,baz=173,slow=16,SNR=3.5
MLR Muntele Rosu 10.95 7 ⇑P Pn 14 12 10.4 +8.2
ASF Jabal al Asfar 11.02 99 Pn **Pn** **14 12 02.8 -0.4**
comp=E,0.7nm,0.3s,baz=332,slow=21,SNR=3.6
ASF Sn Sn 14 13 58.3 -7.8
comp=E,0.1nm,0.3s,baz=341,slow=23,SNR=1.2
comp=E,1.8nm,0.4s

VRI Vrincioaia 11.41 10 ⇑P Pn 14 12 16.3 +7.9
BURAR Bucovina Array 13.00 4 ⇓P **Pn** **14 12 30.9 +0.6**
SOKA Soboth 13.83 333 *e*Pn **Pn** **14 12 43.1 +1.6**
comp=E,0.5nm,0.3s
OBKA Obir 13.88 332 *i* Pn **Pn** **14 12 46.0 +3.8**
comp=E,4.7nm,0.6s
ARSA Arzberg 14.15 336 *i* Pn **Pn** **14 12 48.3 +2.4**
comp=E,5.8nm,1.2s
RONA Rosalia, Austr 14.29 338 *i* Pn **P** **14 12 52.3 -2.7**
comp=E,2.2nm,0.5s
KBA Koelnbreinsper 14.82 330 *e*Pn **Pn** **14 12 57.1 +1.9**
comp=E,2.5nm,0.7s
ABTA Abfaltersbach 14.92 328 *i* Pn **Pn** **14 12 58.9 +2.5**
comp=E,3.4nm,0.5s
LESA Schwarzleotal 15.37 330 *i* Pn **Pn** **14 13 05.0 +2.6**
comp=E,6.8nm,0.7s
WTTA Wattenberg 15.70 327 *i* Pn **P** **14 13 10.3 -0.4**
comp=E,1.7nm,0.5s
WATA Walderalm 15.78 327 *i* Pn **Pn** **14 13 09.5 +1.8**
comp=E,2.5nm,0.6s
SQTA Sankt Quirin 15.86 326 *i* Pn **P** **14 13 12.7 +0.2**
comp=E,1.1nm,0.4s
FUORN Ofenpass-Fuorn 15.88 323 **Pn** **14 13 08.4 -0.8**
FETA Feichten 15.94 325 *i* Pn **P** **14 13 14.6 +1.2**
comp=E,2.9nm,0.7s
MOTA Moosalm 16.00 326 *i* Pn **P** **14 13 13.5 -0.6**
comp=E,2.6nm,0.6s
GERES GERESS Array B 16.14 335 Pn **Pn** **14 13 13.2 +0.8**
GERES GERESS Array B 16.14 335 Pn **Pn** **14 13 11.8 -0.6**
comp=E,0.1nm,0.3s,baz=147,slow=12,SNR=6.6
comp=E,0.7nm,0.7s
GERES GERESS Array B 16.14 335 P **Pn** **14 13 13.2 +0.8**
KHC Kasperske Hory 16.43 335 *e*P **Pn** **14 13 17.5 +1.5**
KHC Kasperske Hory 16.43 335 *e*P **Pn** **14 13 17.5 +1.5**
AKASG Malin Array Be 16.50 12 Pn **Pn** **14 13 13.1 -3.7**
comp=E,1.3nm,0.3s,baz=209,slow=10.0,SNR=8.4
comp=E,0.2nm,0.4s
AKASG Malin Array Be 16.50 12 *i* P **Pn** **14 13 17.7 +0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.5s

AKBB Malin Array Si 16.50 12 *ce*P **Pn** **14 13 18.6 +1.8**
SHA1 Shidzhatmaz 17.03 52 *i* P **Pn** **14 13 25.2 +1.4**
KIV Kislovodsk 17.14 52 Pn **Pn** **14 13 21.6 -3.5**
KIV IAmb IAmb 14 13 28.9
comp=Z,12nm,0.7s

KIV Kislovodsk 17.14 52 ⇓P **P** **14 13 27.8 +1.1**
KIV Kislovodsk 17.14 52 *e*P **Pn** **14 13 26.4 +1.3**
KIV pmax pmax
comp=Z,14nm,1.1s

KVAR Kislovodsk Arr 17.15 52 P **Pn** **14 13 26.2 +1.0**
baz=255,slow=19
comp=Z,5.2nm,0.9s

KBZ Khabaz 17.18 52 P **Pn** **14 13 26.9 +1.5**
comp=Z,8.1nm,0.9s,baz=255,slow=9.0,SNR=12
KBZ Khabaz 17.18 52 *ce*P **Pn** **14 13 26.4 +1.0**
GNI Garni 17.33 65 LR LR 14 21 20.0
comp=Z,118nm,19.4s,baz=292,slow=41
NACGM Naroch 20.36 5 *e*P **P** **14 14 00.3 -1.5**
comp=Z,1μm,0.8s

PABE Paberze 20.88 360 P **P** **14 14 06.8 -0.6**
OBN Obninsk 22.26 19 ⇓*e*P **P** **14 14 23.4 +1.2**
OBN *PP **pP** **14 14 25.0 -1.1**
OBN *SP **sP** **14 14 28.0 0.0**
OBN 14 14 46.0
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,45nm,16.0s

ESDC Sonseca Array 22.84 291 P **P** **14 14 29.5 +0.8**
comp=Z,1.9nm,0.9s,baz=90,slow=11,SNR=5.1
comp=Z,1.9nm,0.9s

BELG Belogornoye 24.47 36 *i* P **P** **14 14 43.9 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s

HFS Hagfors 26.40 348 P **P** **14 15 00.8 -0.9**
comp=Z,2.9nm,0.6s,baz=145,slow=10,SNR=7.9
comp=Z,2.9nm,0.6s

FINES FINESS Array B 26.86 2 P **P** **14 15 04.4 -1.4**
comp=Z,1.5nm,0.7s,baz=165,slow=9.8,SNR=4.8
comp=Z,1.5nm,0.7s

FINES FINESS Array B 26.86 2 *i* P **P** **14 15 04.5 -1.3**
FINES pmax pmax
comp=Z,1.0nm,0.6s

NB2 NORSAR Subarra 27.69 347 P **P** **14 15 11.8 -1.5**
comp=Z,0.8nm,0.5s,baz=158,slow=10

NOA NORSAR Array B 27.69 347 P **P** **14 15 11.4 -1.9**
comp=Z,0.6nm,0.6s,baz=147,slow=9.1,SNR=10
comp=Z,0.6nm,0.6s

EKA Eskdalemuir Ar 27.96 326 P **P** **14 15 15.7 -0.1**
comp=Z,1.3nm,0.8s,baz=128,slow=8.8,SNR=1.8
comp=Z,1.3nm,0.8s

KIRV Kirov 29.29 27 *ce*P **P** **14 15 27.3 -0.2**
TORD Torodi Ar. Bea 29.45 229 P **P** **14 15 30.1 +0.7**
comp=Z,2.8nm,0.5s,baz=35,slow=9.7,SNR=20
comp=Z,2.8nm,0.5s

ABKAR Abkulak array 30.11 50 P **P** **14 15 34.0 -1.0**
ARTI Arti 31.92 36 P **P** **14 15 49.6 -1.1**
ARTI Arti 31.92 36 *c i* P **P** **14 15 49.4 -1.3**
ARTI S **S** **14 21 01.1 +0.1**
ARTI pmax pmax
comp=Z,7.0nm,1.4s

ARCES ARCESS Array B 34.97 1 P **P** **14 16 15.9 -1.3**
comp=Z,8.4nm,1.1s,baz=170,slow=8.6,SNR=6.7
ARCES LR LR 14 30 37.5
comp=Z,67nm,20.3s,baz=102,slow=36
comp=Z,8.4nm,1.1s

KK31 Karatay Array 36.76 63 P **P** **14 16 32.5 -0.3**
KK31 IAmb IAmb 14 16 34.5
comp=Z,4.9nm,0.9s

KK31 Karatay Array 36.76 63 P **P** **14 16 32.6 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s

KKAR Karatay Array 36.76 63 P **P** **14 16 33.2 +0.4**
KKAR IAmb IAmb 14 16 34.4
comp=Z,3.1nm,0.9s

KKAR Karatay Array 36.76 63 P **P** **14 16 33.5 +0.6**
KKAR Karatay Array 36.76 63 P **P** **14 16 33.5 +0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.9s

GAR Garm 36.99 69 P **P** **14 16 35.6 +0.6**
GAR IAmb IAmb 14 16 39.2
comp=Z,4.1nm,0.9s

BRVK Borovoye 37.32 46 P **P** **14 16 37.0 -0.5**
BRVK IAmb IAmb 14 16 38.2
comp=Z,2.9nm,0.8s

BRVK Borovoye 37.32 46 *ce*P **P** **14 16 38.0 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,2.5s

BVAR Borovoye Array 37.37 46 P **P** **14 16 35.9 -2.1**
comp=Z,1.6nm,0.7s,baz=264,slow=6.0,SNR=11
comp=Z,1.6nm,0.7s

AAK Ala-Archa 39.71 63 P **P** **14 16 58.8 +0.9**
AAK Ala-Archa 39.71 63 P **P** **14 16 58.8 +0.9**
AAK pmax pmax
comp=Z,4.0nm,1.0s

KURBB Kurchatov Arra 42.16 51 P **P** **14 17 17.6 -0.2**
comp=Z,5.6nm,0.7s,baz=278,slow=8.6,SNR=45
comp=Z,5.6nm,0.7s

KURK Kurchatov 42.22 50 P **P** **14 17 17.8 -0.4**
KURK IAmb IAmb 14 17 18.9
comp=Z,5.7nm,0.8s

KURK Kurchatov 42.22 50 *ce*P **P** **14 17 18.6 +0.3**
KURK pmax pmax
comp=Z,13nm,2.5s

SPITS Spitsbergen Ar 43.78 358 P **P** **14 17 30.3 -0.3**
comp=Z,15nm,1.0s,baz=159,slow=9.6,SNR=7.7
comp=Z,15nm,1.0s

MAKZ Makanchi 44.61 56 P **P** **14 17 37.9 +0.2**
MAKZ Makanchi 44.61 56 P **P** **14 17 37.9 +0.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s

MK31 Makanchi Array 44.83 56 *ce*P **P** **14 17 40.1 +0.7**
MKAR Makanchi Array 44.83 56 P **P** **14 17 39.5 +0.1**
MKAR Makanchi Array 44.83 56 P **P** **14 17 39.7 +0.3**
comp=Z,1.7nm,0.3s,baz=268,slow=7.9,SNR=53
comp=Z,1.7nm,0.3s

ZAA0 Zalesovo Array 46.03 46 P **P** **14 17 47.7 -1.0**
ZALV Zalesovo Beam 46.03 46 P **P** **14 17 47.5 -1.3**
ZALV Zalesovo Beam 46.03 46 P **P** **14 17 48.2 -0.5**
comp=Z,5.2nm,0.5s,baz=267,slow=9.3,SNR=25
comp=Z,5.2nm,0.5s

SONM Songino Array 60.53 50 P **P** **14 19 36.1 +0.4**
comp=Z,1.8nm,0.6s,baz=288,slow=7.4,SNR=18
comp=Z,1.8nm,0.6s

ULN Ulaanbaatar 60.93 50 *i* P **P** **14 19 37.9 -0.6**
ULN pmax pmax
comp=Z,2.0nm,0.5s

CMAR Chiang Mai Arr 67.54 83 P **P** **14 20 22.4 +0.4**
comp=Z,0.5nm,0.4s,baz=295,slow=7.6,SNR=6.6
comp=Z,0.5nm,0.4s

YKA Yellowknife Ar 77.67 342 P **P** **14 21 21.7 +0.1**
comp=Z,0.1nm,0.5s,baz=106,slow=4.6,SNR=2.1
comp=Z,0.1nm,0.5s

KSRS Korea Array 79.33 52 P **P** **14 21 30.9 -0.3**
comp=Z,1.3nm,0.9s,baz=303,slow=4.5,SNR=3.7
comp=Z,1.3nm,0.9s

---

*NOU **02** 14:09:41.2, 40.°61S×177.°11E, h30km, MLv4.0/13, Off E. Coast of N. Island, N.Z.*
*IDC **02** 14:09:41.3±1.1, 40.°29S×176.°57E, h0km, mb4.1/4, mbtmp3.9/6, ML3.4/2, Error ellipse: s-maj=32.3km s-min=25.3km az=116.0*
*WEL **02** 14:09:44.5±0.7, 40.°S±4.°×17.°7E±.°, h15km±6km, M4.1/10, ML4.4/10, MLv4.1/10, Error ellipse: s-maj=7.6km s-min=3.2km az=123.5, confirmed*
ISC 02 14:09:42.8±0.9, 40.°47S±0.°03×176.°88E±0.°03, h19km±2km, n143, σ1.9±10/163, mb4.0/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGFS	**Porangahau Fir**	**0.27**	**310**	P	**Pb**	**14 09 48.1**	**-0.7**
PGFS				S	**Sb**	**14 09 50.4**	**-2.5**
PRHZ	**Porangahau**	**0.28**	**318**	P	**Pg**	**14 09 48.2**	**-0.8**
PRHZ				S	**Sb**	**14 09 51.3**	**-2.0**
ANWZ	**Angora Road**	**0.31**	**273**	P	**Pb**	**14 09 50.3**	**+0.6**
ANWZ				S	**Sb**	**14 09 55.1**	**+0.8**
WBFS	**Weber Fire Sta**	**0.44**	**279**	P	**Pg**	**14 09 50.8**	**-1.0**
WBFS				S	**Sg**	**14 09 56.8**	**-1.1**
PWZ	**Pawanui**	**0.44**	**358**	P	**Pb**	**14 09 52.5**	**+0.5**
PWZ				S	**Sb**	**14 09 59.2**	**+0.9**
PXZ	**Pawanui**	**0.44**	**358**	P	**Pb**	**14 09 52.4**	**+0.4**
PXZ				S	**Sb**	**14 09 59.1**	**+0.9**
BFZ	**Birch Farm**	**0.53**	**247**	P	**Pn**	**14 09 55.2**	**0.0**
BFZ	**Birch Farm**	**0.53**	**247**	S	**Sn**	**14 10 04.2**	**+0.6**
BFZ	**Birch Farm**	**0.53**	**247**	P	**Pn**	**14 09 55.2**	**0.0**
WPHZ	**Waipukurau**	**0.53**	**320**	P	**Pb**	**14 09 52.8**	**-0.6**
WPHZ				S	**Sg**	**14 09 59.7**	**-0.9**
DVHZ	**Dannevirke**	**0.57**	**288**	P	**Pb**	**14 09 54.0**	**-0.1**
DVHZ				S	**Sb**	**14 10 01.5**	**-0.3**
WPWS	**Waipawa Distri**	**0.58**	**337**	P	**Pb**	**14 09 53.8**	**-0.4**
WPWS				S	**Sb**	**14 10 01.4**	**-0.4**
DVHS	**Dannevirke Hig**	**0.66**	**294**	P	**Pb**	**14 09 54.1**	**-1.4**
DVHS				S	**Sb**	**14 10 03.4**	**-0.8**
CPWZ	**Castlepoint**	**0.68**	**230**	P	**Pn**	**14 09 58.3**	**+1.0**
KAHZ	**Kahuranaki**	**0.68**	**360**	P	**Pg**	**14 09 56.7**	**+0.5**
KAHZ				S	**Sn**	**14 10 06.9**	**-0.5**
PRWZ	**Pori Road**	**0.70**	**263**	P	**Pn**	**14 09 57.4**	**-0.2**
PRWZ				S	**Sn**	**14 10 07.8**	**-0.1**
TRMS	**Tiraumea**	**0.71**	**254**	P	**Pn**	**14 09 57.7**	**0.0**
PNHZ	**Pukenui**	**0.77**	**317**	P	**Pb**	**14 09 56.9**	**-0.6**
PNHZ				S	**Sb**	**14 10 06.5**	**-1.0**
TIWZ	**Tintock**	**0.81**	**248**	P	**Pn**	**14 09 59.4**	**+0.1**
TIWZ				S	**Sn**	**14 10 11.5**	**+0.7**
TSZ	**Takapari Road**	**0.82**	**300**	P	**Pb**	**14 09 57.7**	**-0.6**
TSZ				S	**Sb**	**14 10 07.9**	**-1.1**
CKHZ	**Cape Kidnapper**	**0.83**	**11**	P	**Pb**	**14 09 58.7**	**+0.1**
CKHZ				S	**Sn**	**14 10 12.1**	**+1.1**
POWZ	**Post Office Ro**	**0.85**	**275**	P	**Pb**	**14 09 59.3**	**+0.4**
POWZ				S	**Sg**	**14 10 10.9**	**+0.2**
KRHZ	**Kereru**	**0.92**	**335**	P	**Pb**	**14 09 59.4**	**-0.7**
KRHZ				S	**Sb**	**14 10 11.6**	**-0.3**
TMWZ	**Te Maipa**	**0.98**	**230**	P	**Pn**	**14 10 01.7**	**+0.2**
MRZ	**Mangatainoka R**	**1.01**	**259**	P	**Pb**	**14 10 01.5**	**-0.1**
MRZ				S	**Sb**	**14 10 15.2**	**+0.7**
MCHZ	**McNeill Hill**	**1.04**	**352**	P	**Pb**	**14 10 01.9**	**-0.2**
KWHZ	**Kaweka Forest**	**1.11**	**341**	P	**Pn**	**14 10 02.3**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.12**	**247**	P	**Pn**	**14 10 03.1**	**-0.3**
ARHZ	**Aropaoanui**	**1.21**	**4**	P	**Pn**	**14 10 04.1**	**-0.5**
OHWZ	**Ohakea**	**1.23**	**282**	P	**Pb**	**14 10 05.5**	**+0.2**
MTW	**Mount Morrison**	**1.25**	**236**	P	**Pn**	**14 10 04.8**	**-0.4**
TRWZ	**Traveller**	**1.29**	**224**	P	**Pn**	**14 10 05.5**	**-0.3**
BKZ	**Black Stump Fm**	**1.34**	**347**	P	**Pn**	**14 10 05.8**	**-0.7**
BKZ	**Black Stump Fm**	**1.34**	**347**	S	**Sg**	**14 10 26.5**	**+0.3**
BKZ	**Black Stump Fm**	**1.34**	**347**	P	**Pn**	**14 10 05.4**	**-1.1**
OGWZ	**Otaki Gorge**	**1.35**	**255**	P	**Pn**	**14 10 06.1**	**-0.4**
MOVZ	**Moawhango**	**1.37**	**321**	P	**Pn**	**14 10 06.8**	**-0.2**
NMHZ	**Naumai**	**1.38**	**358**	P	**Pn**	**14 10 06.7**	**-0.3**
WHHZ	**Waihua**	**1.42**	**11**	P	**Pn**	**14 10 07.1**	**-0.5**
PAWZ	**Paruwai Farm**	**1.43**	**230**	P	**Pn**	**14 10 07.2**	**-0.5**
WNVZ	**Wahianoa**	**1.51**	**319**	P	**Pn**	**14 10 09.3**	**+0.3**
CAW	**Cannon Point**	**1.52**	**245**	P	**Pn**	**14 10 08.3**	**-0.6**
TUVZ	**Tukino**	**1.53**	**322**	P	**Pn**	**14 10 09.8**	**+0.6**
MTVZ	**Mangateitei**	**1.54**	**315**	P	**Pn**	**14 10 10.1**	**+0.9**
MHGZ	**Mahia Peninsul**	**1.54**	**31**	P	**Pn**	**14 10 08.7**	**-0.5**
KIW	**Kapiti Island**	**1.55**	**255**	P	**Pn**	**14 10 09.0**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.55**	**320**	P	**Pn**	**14 10 10.4**	**+0.8**
MSWZ	**Moikau Station**	**1.55**	**232**	P	**Pn**	**14 10 08.5**	**-0.8**
TRVZ	**Turoa**	**1.56**	**318**	P	**Pn**	**14 10 10.2**	**+0.5**
RAHZ	**Arahi**	**1.56**	**6**	P	**Pn**	**14 10 08.9**	**-0.7**
KNZ	**Kokohu**	**1.57**	**23**	P	**Pn**	**14 10 08.7**	**-0.9**
MAVZ	**Matarangi**	**1.58**	**319**	P	**Pn**	**14 10 10.7**	**+0.7**
SNVZ	**South Ngauruho**	**1.60**	**323**	P	**Pn**	**14 10 10.6**	**+0.4**
OTVZ	**Oturere**	**1.61**	**324**	P	**Pn**	**14 10 10.5**	**+0.2**
ETVZ	**East Tongariro**	**1.61**	**326**	P	**Pn**	**14 10 10.7**	**+0.4**
MTHZ	**Maungataniwha**	**1.62**	**359**	P	**Pn**	**14 10 09.6**	**-0.8**
WAZ	**Wanganui**	**1.62**	**296**	P	**Pn**	**14 10 11.0**	**+0.7**
NGZ	**Ngauruhoe**	**1.63**	**322**	P	**Pn**	**14 10 11.5**	**+0.9**
TMVZ	**Te Maari**	**1.63**	**326**	P	**Pn**	**14 10 10.7**	**+0.1**
COVZ	**Chateau Observ**	**1.64**	**321**	P	**Pn**	**14 10 11.6**	**+1.0**
PLWZ	**Palliser**	**1.65**	**228**	P	**Pn**	**14 10 10.1**	**-0.6**
NNVZ	**North Ngauruho**	**1.66**	**324**	P	**Pn**	**14 10 11.4**	**+0.5**
NTVZ	**North Tongarir**	**1.66**	**326**	P	**Pn**	**14 10 11.8**	**+0.8**
PKVZ	**Pokaka**	**1.67**	**315**	P	**Pn**	**14 10 12.0**	**+0.9**
KRVZ	**Karewarewa**	**1.68**	**325**	P	**Pb**	**14 10 12.4**	**-0.7**
MRHZ	**Matea Rd**	**1.68**	**348**	P	**Pn**	**14 10 11.0**	**-0.1**
WTVZ	**West Tongariro**	**1.68**	**323**	P	**Pn**	**14 10 12.2**	**+0.9**
RITZ	**Rihia Road**	**1.69**	**332**	P	**Pb**	**14 10 12.5**	**-0.7**
HATZ	**Hinemaiaia**	**1.69**	**339**	P	**Pn**	**14 10 12.3**	**+1.0**
SNGZ	**Shannon Statio**	**1.73**	**12**	P	**Pn**	**14 10 10.9**	**-0.9**
PRGZ	**Paritu Road**	**1.73**	**27**	P	**Pn**	**14 10 10.9**	**-0.9**
KATZ	**Kakaramea**	**1.75**	**328**	P	**Pb**	**14 10 13.7**	**-0.7**
BHW	**Baring Head**	**1.79**	**238**	P	**Pn**	**14 10 11.9**	**-0.7**
TWVZ	**Taurewa**	**1.79**	**321**	P	**Pn**	**14 10 13.9**	**+1.2**
WEL	**Wellington**	**1.79**	**243**	P	**Pn**	**14 10 12.0**	**-0.7**
RATZ	**Rangitukua**	**1.82**	**332**	P	**Pb**	**14 10 15.3**	**-0.2**
SNZO	**South Karori**	**1.85**	**242**	P	**Pn**	**14 10 12.5**	**-0.9**
SNZO	**South Karori**	**1.85**	**242**	S	**Sn**	**14 10 35.7**	**-0.5**
RTZ	**Ruatahuna**	**1.86**	**2**	P	**Pn**	**14 10 12.9**	**-0.7**
RIGZ	**Rimuhau**	**1.89**	**21**	P	**Pn**	**14 10 13.0**	**-1.1**
WHTZ	**Whakaora**	**1.94**	**338**	P	**Pn**	**14 10 15.8**	**+1.0**
ALRZ	**Allen Road**	**1.96**	**348**	P	**Pn**	**14 10 14.5**	**-0.4**
WATZ	**Wairara**	**1.97**	**333**	P	**Pb**	**14 10 17.4**	**-0.7**
MUGZ	**Murupara**	**2.00**	**358**	P	**Pn**	**14 10 14.8**	**-0.7**
PRRZ	**Plateau Road**	**2.01**	**349**	P	**Pn**	**14 10 15.1**	**-0.5**
WPRZ	**Whakapapatarin**	**2.03**	**344**	P	**Pn**	**14 10 15.0**	**-0.9**
TCW	**Tory Channel**	**2.11**	**249**	P	**Pn**	**14 10 16.2**	**-0.8**
VRZ	**Vera Road**	**2.12**	**309**	P	**Pn**	**14 10 18.4**	**+1.3**
HRRZ	**Handcock Road**	**2.13**	**347**	P	**Pn**	**14 10 17.3**	**-0.1**
KUTZ	**Kaahu Road**	**2.15**	**337**	P	**Pn**	**14 10 18.2**	**+0.7**
RRRZ	**Republican Roa**	**2.15**	**352**	P	**Pn**	**14 10 16.9**	**-0.7**
LREZ	**Lake Rotokare**	**2.16**	**297**	P	**Pn**	**14 10 18.8**	**+1.1**
TKGZ	**Te Karaka**	**2.17**	**21**	P	**Pn**	**14 10 16.5**	**-1.3**
MWZ	**Matawai**	**2.20**	**13**	P	**Pn**	**14 10 16.7**	**-1.6**
GRRZ	**Galatos Road**	**2.20**	**344**	P	**Pn**	**14 10 18.2**	**-0.2**
HSRZ	**Hossack Road**	**2.22**	**347**	P	**Pn**	**14 10 18.0**	**-0.5**
URZ	**Urewera**	**2.22**	**5**	Pn	**Pn**	**14 10 17.0**	**-1.5**
	25nm,0.3s,baz=132,slow=17,SNR=112						
URZ				Sn	**Sn**	**14 10 43.2**	**-2.2**
	15nm,0.3s,baz=171,slow=7.6,SNR=6.4						
	46nm,0.3s						
URZ	**Urewera**	**2.22**	**5**	P	**Pn**	**14 10 17.3**	**-1.2**
URZ	**Urewera**	**2.22**	**5**	S	**Sn**	**14 10 44.4**	**-1.0**
URZ	**Urewera**	**2.22**	**5**	P	**Pn**	**14 10 17.3**	**-1.2**
CNGZ	**Carnagh Statio**	**2.24**	**28**	P	**Pn**	**14 10 17.7**	**-1.0**
HLRZ	**Highlands Stat**	**2.26**	**349**	P	**Pn**	**14 10 20.0**	**+1.0**
DUWZ	**D'Urville Isla**	**2.27**	**261**	P	**Pn**	**14 10 19.2**	**-0.1**
PREZ	**Palmer Road**	**2.38**	**298**	P	**Pb**	**14 10 23.1**	**-1.9**
TLZ	**Tolley Road**	**2.38**	**334**	P	**Pn**	**14 10 22.2**	**+1.4**
CMWZ	**Cape Campbell**	**2.38**	**237**	P	**Pn**	**14 10 20.2**	**-0.6**
OMRZ	**Omania**	**2.40**	**350**	P	**Pn**	**14 10 20.4**	**-0.6**
TUWZ	**Tuamarina**	**2.42**	**246**	P	**Pn**	**14 10 20.0**	**-1.3**
DREZ	**Durham Road**	**2.43**	**301**	P	**Pn**	**14 10 22.3**	**+0.9**
TWGZ	**Tauwhareparae**	**2.45**	**21**	P	**Pn**	**14 10 20.5**	**-1.2**
NEZ	**North Egmont**	**2.46**	**298**	P	**Pn**	**14 10 23.3**	**+1.5**
KHEZ	**Kahui Hut**	**2.50**	**297**	P	**Pn**	**14 10 24.7**	**+2.2**
KHEZ	**Kahui Hut**	**2.50**	**297**	P	**Pn**	**14 10 24.5**	**+2.0**
HIZ	**Hauiti**	**2.51**	**321**	P	**Pn**	**14 10 23.5**	**+1.0**
HIZ	**Hauiti**	**2.51**	**321**	P	**Pn**	**14 10 23.3**	**+0.8**
NMEZ	**Namu Road**	**2.54**	**294**	P	**Pn**	**14 10 25.1**	**+2.2**
PKE	**Pukeiti**	**2.57**	**299**	P	**Pb**	**14 10 26.1**	**-2.1**
RUGZ	**Raukumara Rang**	**2.58**	**14**	P	**Pn**	**14 10 22.3**	**-1.3**
BSWZ	**Blackbirch Sta**	**2.59**	**240**	P	**Pn**	**14 10 22.4**	**-1.2**
NBEZ	**Newall Road No**	**2.61**	**296**	P	**Pb**	**14 10 28.3**	**-0.7**
PUZ	**Puketiti**	**2.63**	**24**	P	**Pn**	**14 10 22.3**	**-1.9**
OPRZ	**Ohinepanea**	**2.64**	**354**	P	**Pn**	**14 10 23.2**	**-1.1**
NNZ	**Nelson**	**2.76**	**253**	P	**Pn**	**14 10 25.3**	**-0.6**
PKGZ	**Pakihiroa**	**2.77**	**20**	P	**Pn**	**14 10 24.3**	**-1.8**
HAZ	**Te Kaha**	**2.80**	**15**	P	**Pn**	**14 10 25.1**	**-1.4**
WMGZ	**Waiomatatini S**	**2.91**	**25**	P	**Pn**	**14 10 26.4**	**-1.6**
TOZ	**Tahuroa Road**	**2.94**	**338**	P	**Pn**	**14 10 28.3**	**-0.2**
TKNZ	**Takaka Hill**	**3.03**	**258**	P	**Pn**	**14 10 29.6**	**-0.1**
MXZ	**Matakaoa Point**	**3.11**	**21**	P	**Pn**	**14 10 29.6**	**-1.2**
MXZ	**Matakaoa Point**	**3.11**	**21**	P	**Pn**	**14 10 29.5**	**-1.2**
KHZ	**Kahutara**	**3.17**	**231**	P	**Pn**	**14 10 29.8**	**-1.8**
KHZ	**Kahutara**	**3.17**	**231**	P	**Pn**	**14 10 30.0**	**-1.6**
QRZ	**Quartz Range**	**3.33**	**263**	P	**Pn**	**14 10 33.1**	**-0.6**
QRZ	**Quartz Range**	**3.33**	**263**	P	**Pn**	**14 10 33.2**	**-0.6**
RPZ	**Rata Peaks**	**5.41**	**231**	Pn	**Pn**	**14 11 00.5**	**-1.9**
	0.7nm,0.3s,baz=7.7,slow=17,SNR=2.1						
RPZ				Sn	**Sn**	**14 11 58.4**	**-5.7**
	3.3nm,0.3s,baz=334,slow=23,SNR=16						
	6.6nm,0.6s						
ASAR	**Alice Springs**	**39.66**	**282**	P	**P**	**14 17 13.1**	**-0.5**
	0.5nm,0.7s,baz=118,slow=6.4,SNR=9.4						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**41.58**	**287**	P	**P**	**14 17 29.1**	**-0.4**

LOMA	Loma Larga	1.72	314	P	Pn	14 21 35.9	+0.4
JAYA	Jayaque - finc	1.93	309	P	Pn	14 21 39.6	+1.2
RCFN	Al S de San Ju	1.97	57	P	Pn	14 21 39.7	+0.7
RCFN				S	Sn	14 22 03.5	-0.2
RCFN	Al S de San Ju	1.97	57	P	Pn	14 21 39.8	+0.7
RCVN	Varillal2	2.02	56	P	Pn	14 21 40.5	+0.9
RCVN	Varillal2	2.02	56	S	Sn	14 22 04.7	-0.2
RCVN	Varillal2	2.02	56	P	Pn	14 21 40.7	+1.0
RCPN	Sur Rio San Ju	2.07	58	P	Pn	14 21 41.1	+0.9
RCPN	Sur Rio San Ju	2.07	58	P	Pn	14 21 41.2	+0.9
NUBE	Las Nubes	2.33	309	P	Pn	14 21 44.5	+0.5
NUBE	Las Nubes	2.33	309	P	Pn	14 21 44.5	+0.5

*NEIC **02** 14:40:53.1±1.5, 61°.78N±0°.02×150°.02W±0°.05, h37km±20km, Error ellipse: s-maj=3.8km s-min=2.7km az=73.0*

AEIC 02 14:40:53.4±1.1, 61°.82N±0°.03×149°.97W±0°.06, h48km±7km, ML2.5, ML2.6/142(NEIC), Error ellipse: s-maj=4.3km s-min=3.2km az=45.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.10	225		Pn	14 40 59.7	-1.2
PMR	Palmer	0.46	119		Pn	14 41 02.6	-1.4
PMR	Palmer	0.46	119		Sn	14 41 11.0	-0.7
PMR	Palmer	0.46	119	IAML		14 41 11.4	
	comp=E,205nm,0.2s						
PMR				IAML		14 41 12.0	
	comp=N,290nm,0.3s						
GHO	Glory Hole Cre	0.50	95		Pn	14 41 03.6	-1.1
GHO				Sn	Sn	14 41 12.6	0.0
GHO				IAML		14 41 13.6	
	comp=E,402nm,0.4s						
GHO				IAML		14 41 13.8	
	comp=N,443nm,0.5s						
SUA	Susitna One	0.52	226		Pn	14 41 04.0	-0.9
SUA				IAML		14 41 14.5	
	comp=E,219nm,0.7s						
CUT	Chulitna	0.60	347		Pn	14 41 04.6	-1.2
CUT				Sn	Sn	14 41 14.2	-0.5
RC01	Rabbit Creek A	0.74	171		Pn	14 41 06.6	-1.0
RC01	Rabbit Creek A	0.74	171		Sn	14 41 17.6	-0.3
RC01	Rabbit Creek A	0.74	171	IAML		14 41 20.3	
	comp=N,635nm,0.2s						
RC01				IAML		14 41 20.4	
	comp=E,514nm,0.2s						
SKT	Skwentna	0.75	283		Pn	14 41 06.3	-1.5
SKT	Skwentna	0.75	283		Sn	14 41 17.1	-1.2
SKT	Skwentna	0.75	283	IAML		14 41 18.0	
	comp=E,479nm,0.3s						
SKT				IAML		14 41 19.2	
	comp=N,298nm,0.4s						
SML	Sawmill	0.78	90		Pn	14 41 06.9	-1.3
SML				IAML		14 41 22.2	
	comp=N,168nm,0.4s						
KNK	Knik Glacier	0.83	119	Pn	Pn	14 41 08.0	-0.8
KNK				IAML		14 41 23.5	
	comp=N,223nm,0.2s						
STLK	Strandline Lak	0.94	251		Pn	14 41 09.6	-0.8
STLK				IAML		14 41 23.8	
	comp=N,175nm,0.2s						
STLK				IAML		14 41 23.9	
	comp=E,140nm,0.2s						
SPCG	Spurr Capps Gl	1.11	242		Sn	14 41 27.3	+0.3
SPU	Mount Spurr	1.19	238		Pn	14 41 13.2	-0.4
SPU				IAML		14 41 31.0	
	comp=E,85nm,0.3s						
CAPN	Captain Cook N	1.20	209	Pn	Pn	14 41 14.0	+0.2
PWL	Port Wells	1.25	140	Pn	Pn	14 41 13.8	-0.7
PWL				IAML		14 41 31.9	
	comp=E,174nm,0.3s						
PWL				IAML		14 41 36.4	
	comp=N,155nm,0.4s						
SCM	Sheep Creek Mo	1.26	88		Pn	14 41 14.2	-0.4
SCM	Sheep Creek Mo	1.26	88		Sn	14 41 31.3	+0.9
SPBG	Spurr Blockage	1.28	245		Pn	14 41 15.0	+0.1
CKL	Chakachamna La	1.29	242		Pn	14 41 15.0	-0.2
SLKM	Skilak Lake	1.32	185		Pn	14 41 14.9	-0.6
SLKM				IAML		14 41 36.9	
	comp=N,99nm,0.2s						
SLKM				IAML		14 41 37.6	
	comp=E,122nm,0.5s						
O22K	Cooper Landing	1.35	175		Pn	14 41 15.2	-0.6
PPLA	Purkeypile	1.49	317		Pn	14 41 17.2	-0.7
M20K	Styx River	1.50	274		Pn	14 41 17.3	-0.6
M20K					Sn	14 41 36.2	-0.2
M20K	Styx River	1.50	274	IAML		14 41 37.7	
	comp=N,57nm,0.6s						
M20K				IAML		14 41 39.2	
	comp=E,100nm,0.6s						
TRF	Thorofare Moun	1.64	355		Pn	14 41 19.4	-0.5
TRF	Thorofare Moun	1.64	355	IAML		14 41 42.6	
	comp=N,76nm,0.4s						
TRF				IAML		14 41 43.0	
	comp=E,50nm,0.3s						
RND	Reindeer	1.67	18		Pn	14 41 20.1	-0.2
GLI	Glacier Island	1.68	123	Pn	Pn	14 41 19.7	-0.6
RDT	Redoubt	1.72	224		Pn	14 41 20.8	-0.1
SEW	Seward	1.74	171	Pn	Pn	14 41 21.6	+0.5
KTH	Kantishna Hill	1.79	346		Pn	14 41 21.7	-0.2
KTH				IAML		14 41 45.9	
	comp=N,91nm,0.5s						
M24K	Tolsona, Glenn	1.82	79		Pn	14 41 23.0	+0.8
CAST	Castle Rocks	1.88	330		Pn	14 41 22.4	-0.6
CAST				IAML		14 41 47.9	
	comp=E,49nm,0.2s						
CAST				IAML		14 41 48.6	
	comp=N,37nm,0.4s						
NCT	North Crescent	1.91	230		Pn	14 41 24.0	+0.4
RDWB	Redoubt West	1.93	227		Pn	14 41 24.1	+0.3
L20K	Farewell, AK	1.95	291		Pn	14 41 23.3	-0.7
KLU	Klutina	1.96	98		Pn	14 41 24.1	-0.1
KLU				IAML		14 41 51.5	
	comp=E,65nm,0.3s						
KLU				IAML		14 41 51.5	
	comp=N,76nm,0.3s						
MCK	McKinley	1.98	14		Pn	14 41 24.6	+0.2
FID	Port Fidalgo	2.00	121		Pn	14 41 23.7	-1.0
FID				IAML		14 41 50.0	
	comp=E,80nm,0.5s						
BRLK	Bradley Lake	2.11	193	Pn	Pn	14 41 25.9	-0.4
BRLK				IAML		14 41 56.8	
	comp=N,35nm,0.5s						
BRLK				IAML		14 41 59.2	
	comp=E,29nm,0.6s						
DIV	Divide	2.13	107		Pn	14 41 26.1	-0.5
HIN	Hinchinbrook I	2.21	129	Pn	Pn	14 41 26.9	-0.7
P23K	Montague Islan	2.22	144		Pn	14 41 26.2	-1.4
CHUM	Lake Minchumin	2.33	334		Pn	14 41 28.7	-0.5
L19K	White Mountain	2.33	281		Pn	14 41 28.9	-0.4
L19K	White Mountain	2.33	281	IAML		14 41 58.1	
	comp=N,23nm,0.5s						
L19K				IAML		14 41 58.6	
	comp=E,30nm,0.4s						
BPAW	Bear Paw Mtn.	2.33	349	Pn	Pn	14 41 28.7	-0.6
HARP	HAARP	2.34	74		Pn	14 41 30.1	+0.7
CNPM	China Poot	2.39	196	Pn	Pn	14 41 29.7	-0.3
CNPM				IAML		14 42 05.0	
	comp=N,23nm,0.5s						
CNPM				IAML		14 42 09.5	
	comp=E,28nm,1.4s						
PAX	Paxson	2.39	59		Pn	14 41 30.9	+0.7
N19K	Bonanza Creek	2.40	247	Pn	Pn	14 41 30.3	0.0
ILS	Iliamna Low So	2.41	220		Pn	14 41 31.1	+0.7
ILSW	Iliamna Southw	2.41	221	Pn	Pn	14 41 31.6	+1.2
EYAK	Cordova Ski Ar	2.41	120		Pn	14 41 29.4	-0.9
N25K	Chitina, Valde	2.57	92		Pn	14 41 32.5	0.0
N25K				IAML		14 42 10.3	
	comp=N,29nm,0.4s						
N25K				IAML		14 42 10.5	
	comp=E,26nm,0.5s						
P19K	Oil Pt	2.70	218	Pn	Pn	14 41 34.9	+0.6
P19K				IAML		14 42 18.2	
	comp=N,26nm,1.5s						
P19K				IAML		14 42 29.9	
	comp=E,33nm,0.7s						
BMRM	Bremner River	2.72	106	Pn	Pn	14 41 33.6	-1.0
WASW	Wrangell South	2.75	85		Pn	14 41 35.3	+0.1
K24K	Donnelly Dome	2.77	42		Pn	14 41 36.9	+1.6
WRH	Wood River Hil	2.79	17	Pn	Pn	14 41 35.5	-0.1
M18K	Stony River	2.81	266		Pn	14 41 35.5	-0.3
NEA2	Nenana	2.81	8	Pn	Pn	14 41 35.3	-0.5
GLB	Gilahina Butte	2.97	95		Pn	14 41 37.9	-0.1
GLB				IAML		14 42 23.1	
	comp=E,22nm,0.5s						
GLB				IAML		14 42 24.1	
	comp=N,27nm,0.4s						
CCB	Clear Creek Bu	3.00	18	Pn	Pn	14 41 38.0	-0.4
TTA	Tatalina	3.02	294	Pn	Pn	14 41 37.9	-0.9
J20K	Nowinta River	3.04	323		Pn	14 41 38.2	-0.6
J20K				IAML		14 42 14.2	
	comp=N,15nm,0.5s						
J20K				IAML		14 42 14.7	
	comp=E,17nm,1.1s						
N18K	Kilae Creek	3.08	251	Pn	Pn	14 41 39.0	-0.5
HMT	Hamilton	3.15	116	Pn	Pn	14 41 39.2	-1.3
VRDI	Verde Repeater	3.18	98	Pn	Pn	14 41 41.4	+0.3
VRDI				IAML		14 42 28.2	
	comp=N,16nm,1.5s						
VRDI				IAML		14 42 32.0	
	comp=E,12nm,1.1s						
L18K	Granite Mounta	3.19	280		Pn	14 41 40.3	-0.7
COLA	College	3.21	16		Pn	14 41 40.6	-0.6
O18K	Koktuh Hills	3.23	235	Pn	Pn	14 41 41.6	0.0
ILAR	Eielson Array	3.27	24	Pn	Pn	14 41 41.7	-0.4
I23K	Minto, Yukon-K	3.35	4		Pn	14 41 42.8	-0.3
I23K				IAML		14 42 21.8	
	comp=N,10nm,1.4s						
J19K	Poorman	3.38	313	Pn	Pn	14 41 42.9	-0.7
J19K				IAML		14 42 21.4	
	comp=E,12nm,0.6s						
J19K				IAML		14 42 25.6	
	comp=N,11nm,1.3s						
SYI	Shuyak Island	3.44	202	Pn	Pn	14 41 44.7	+0.2
I21K	Tanana	3.49	346	Pn	Pn	14 41 44.7	-0.4
I21K				IAML		14 43 01.7	
	comp=E,15nm,0.6s						
I21K				IAML		14 43 41.5	
	comp=N,17nm,0.8s						
SCRK	Sand Creek	3.49	49	Pn	Pn	14 41 45.3	0.0
SCRK				IAML		14 42 29.1	
	comp=E,8.6nm,1.0s						
SCRK				IAML		14 42 30.8	
	comp=N,10nm,0.4s						
J25K	Salcha River,	3.49	35		Pn	14 41 45.9	+0.7
J25K				IAML		14 42 32.2	
	comp=E,15nm,0.6s						
J25K				IAML		14 42 33.5	
	comp=N,11nm,0.2s						
POKR	Poker Plat Res	3.50	18	Pn	Pn	14 41 45.1	-0.1
POKR				IAML		14 42 25.5	
	comp=N,8.5nm,0.7s						
POKR				IAML		14 42 41.7	
	comp=E,8.1nm,1.4s						
J18K	Innoko River	3.52	301	Pn	Pn	14 41 45.0	-0.6
J18K				IAML		14 42 25.4	
	comp=N,12nm,0.7s						
J18K				IAML		14 42 26.5	
	comp=E,10nm,0.7s						
M17K	Holitna River	3.59	267	Pn	Pn	14 41 46.2	-0.2
M17K				IAML		14 42 48.2	
	comp=E,17nm,1.2s						
M17K				IAML		14 42 54.9	
	comp=N,17nm,1.4s						
KIAG	Kiagna River	3.77	100		Pn	14 41 48.2	-1.0
L17K	Donlin	3.94	278		Pn	14 41 50.6	-0.6
J26L	Joseph Creek	3.96	44		Pn	14 41 52.5	+0.9
K17K	Iditarod	3.99	287	Pn	Pn	14 41 51.5	-0.5
K17K				IAML		14 42 27.9	
	comp=E,7.3nm,1.2s						
K17K				IAML		14 42 55.2	
	comp=N,9.1nm,1.2s						
H21K	Melozitna River	4.05	343		Pn	14 41 52.3	-0.5
H24K	Noodor Dome	4.14	12	Pn	Pn	14 41 54.1	+0.1
PRP	Porcupine Dome	4.21	26	Pn	Pn	14 41 55.0	0.0
PRP				IAML		14 42 50.0	
	comp=N,8.2nm,1.2s						
PRP				IAML		14 42 52.1	
	comp=E,5.9nm,1.0s						
H20K	Anotleneega Mo	4.28	331		Pn	14 41 55.7	-0.3
YUK2	White River	4.33	86		Pn	14 41 56.6	-0.2
M16K	Timber Creek	4.39	263	Pn	Pn	14 41 57.4	-0.1
M16K				IAML		14 43 46.1	
	comp=E,9.0nm,1.5s						
J17K	VABM Dome	4.49	295		Pn	14 41 57.8	-1.0
IMAR	Indian Mountai	4.50	340	Pn	Pn	14 41 58.5	-0.4
L16K	Owhat River	4.51	273		Pn	14 41 58.7	-0.5
L16K	Owhat River	4.51	273	IAML		14 43 24.6	
	comp=N,8.6nm,1.4s						
L16K				IAML		14 43 25.6	
	comp=E,4.5nm,1.4s						
YUK3	Moose Creek	4.52	86		Pn	14 41 59.2	-0.2
O16K	Kokwok River B	4.57	244	Pn	Pn	14 41 59.4	-0.5
O16K				IAML		14 43 06.7	
	comp=E,4.8nm,1.3s						
O16K				IAML		14 43 12.1	
	comp=N,7.3nm,1.5s						
I26K	Coal Creek Min	4.64	38	IAML		14 42 59.7	
	comp=E,8.0nm,0.8s						
H19K	Roundabout Mou	4.71	325	Pn	Pn	14 42 01.5	-0.3
G21K	Allakaket	4.96	343	Pn	Pn	14 42 05.3	+0.1
G21K				IAML		14 43 02.2	
	comp=E,5.7nm,0.4s						
H18K	Honhosa River	5.03	315	Pn	Pn	14 42 05.9	-0.3
H18K				IAML		14 43 03.7	
	comp=N,4.5nm,1.4s						
H18K				IAML		14 43 03.9	
	comp=E,3.7nm,1.4s						
J16K	Anvik River	5.13	291		Pn	14 42 06.9	-0.7
J16K	Anvik River	5.13	291	IAML		14 43 59.5	
	comp=N,3.1nm,1.2s						
J16K				IAML		14 44 22.9	
	comp=E,2.5nm,1.4s						
H17K	Granite Mounta	5.45	309		Pn	14 42 12.1	+0.1
K15K	Wolf Creek Mou	5.46	280	Pn	Pn	14 42 11.5	-0.5
L15K	Ungalak Mounta	5.47	274		Pn	14 42 11.9	-0.3
G18K	Tagagawik	5.60	321		Pn	14 42 13.8	-0.3
L29M	L29M	5.65	72		Pn	14 42 15.7	+1.0
F20K	Avaraart Lake	5.81	337		Pn	14 42 16.8	0.0
G17K	Kiwalik Mounta	6.01	312		Pn	14 42 19.3	-0.3
H16K	Elim	6.22	302		Pn	14 42 22.2	-0.3
E19K	Redstone River	6.46	334		Pn	14 42 25.9	+0.1
G16K	Koyuk River	6.58	308		Pn	14 42 27.0	-0.4

*THE **02** 14:49:02.9, 34°.64N×23°.88E, h17km±2km, ML3.6/3, Error ellipse: s-maj=4.2km s-min=2.0km az=33.0*
*ATH **02** 14:49:04.4, 34°.74N×23°.99E, h24km±3km, ML3.2/3, Error ellipse: s-maj=5.2km s-min=2.5km az=209.0*

ISC 02 14:49:02.6±3.0, 34°.7N±0°.1×23°.9E±0°.1, h29km, n9, σ0°.90/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.25	40	P	Pb	14 49 09.1	-0.2
GVD				S	Sb	14 49 12.9	-0.9
	44μm,0.2s						
GVD	Gavdhos	0.25	40	P	Pb	14 49 09.0	-0.2
GVD				S	Sb	14 49 12.2	-1.6
GVD				AML	AML	14 49 12.9	
GVD				AML	AML	14 49 13.2	
	comp=E,65061μm,0.3s						
IMMV	Iera Moni Meta	0.81	5	P	Pb	14 49 17.7	-0.4
IMMV				S	Sn	14 49 30.2	+1.0
	comp=E,2μm,0.4s						
IMMV	Iera Moni Meta	0.81	5	P	Pb	14 49 17.8	-0.4
IMMV				S	Sb	14 49 28.6	-0.1
IMMV				AML	AML	14 49 33.7	
	comp=E,3718μm,0.4s						
IMMV				AML	AML	14 49 34.2	
	comp=N,3832μm,0.5s						
IDI	Anoyia	1.04	52	P	Pn	14 49 20.9	-0.3
IDI				S	Sn	14 49 35.5	+0.7
IDI	Anoyia	1.04	52	P	Pn	14 49 20.8	-0.5
IDI				S	Sn	14 49 33.8	-1.1
IDI				AML	AML	14 49 37.7	
	comp=N,1006μm,0.6s						
IDI				AML	AML	14 49 43.5	
	comp=E,1083μm,0.6s						
IACM	Heraklion	1.17	56	P	Pn	14 49 24.2	+1.2
IACM				S	Sb	14 49 40.3	+1.4
	comp=E,2μm,0.6s						
ZKR	Zakros	1.96	76	P	Pb	14 49 37.7	0.0
VLI	Veliai	2.20	340	P	Pb	14 49 42.1	+0.3

*WEL **02** 14:55:08.7±0.5, 40°.S±2°.×17°.5E±°, h18km±4km, M2.3/8, ML2.6/12, MLv2.3/8, Error ellipse: s-maj=5.3km s-min=3.1km az=81.4, confirmed*
*NOU **02** 14:55:09.2, 40°.24S×174°.99E, h10km, MLv3.2/9, Cook Strait, New Zealand*

ISC 02 14:55:09.7±1.0, 40°.20S±0°.02×174°.95E±0°.03, h27km±8km, n26, σ0°.84/35, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCDS	Wanganui Civil	0.28	16	P	Pb	14 55 16.1	-0.5
WCDS				S	Sb	14 55 21.8	+0.5
OHWZ	Ohakea	0.28	91	P	Pb	14 55 16.5	-0.2
OHWZ				S	Sb	14 55 22.1	+0.7
WAZ	Wanganui	0.45	4	P	Pb	14 55 18.6	-0.6
WAZ				S	Sb	14 55 25.6	0.0
OGWZ	Otaki Gorge	0.64	165	P	Pb	14 55 21.9	-0.4
OGWZ				S	Sb	14 55 30.7	-0.2
POWZ	Post Office Ro	0.66	107	P	Pb	14 55 22.7	+0.1
POWZ				S	Sb	14 55 32.2	+0.8
KIW	Kapiti Island	0.66	183	P	Pb	14 55 21.7	-1.0
MRZ	Mangatainoka R	0.66	134	P	Pb	14 55 22.8	0.0
MRZ				S	Sn	14 55 32.4	-0.4
TSZ	Takapari Road	0.79	80	P	Pb	14 55 24.7	-0.1
LREZ	Lake Rotokare	0.85	330	P	Pb	14 55 25.6	-0.3
PKVZ	Pokaka	0.96	19	P	Pb	14 55 26.7	-1.1
PKVZ				S	Sb	14 55 40.2	0.0
DUWZ	D'Urville Isla	0.98	232	P	Pb	14 55 26.6	-1.6
MOVZ	Moawhango	1.01	38	P	Pb	14 55 27.2	-1.3
MOVZ				S	Sb	14 55 40.4	-1.1
TRVZ	Turoa	1.01	27	P	Pb	14 55 27.7	-1.1
TRVZ				S	Sb	14 55 41.1	-0.7
VRZ	Vera Road	1.09	352	P	Pn	14 55 29.0	-0.1
BFZ	Birch Farm	1.10	116	P	Pb	14 55 30.3	+0.2
SNZO	South Karori	1.12	189	P	Pb	14 55 30.4	0.0
SNZO	South Karori	1.12	189	S	Sb	14 55 43.8	-0.8
NEZ	North Egmont	1.14	325	P	Pb	14 55 30.3	-0.5
NGZ	Ngauruhoe	1.14	26	P	Pn	14 55 29.5	-0.6
KHEZ	Kahui Hut	1.16	321	P	Pb	14 55 31.9	+0.8
KHEZ	Kahui Hut	1.16	321	S	Sn	14 55 47.7	+2.6
BKZ	Black Stump Fm	1.58	49	P	Pb	14 55 37.5	-0.8
BKZ	Black Stump Fm	1.58	49	S	Sb	14 55 58.5	+0.7
HIZ	Hauiti	1.69	358	P	Pn	14 55 37.6	+0.2
QRZ	Quartz Range	1.95	251	P	Pb	14 55 44.2	-0.3
KHZ	Kahutara	2.45	205	P	Pn	14 55 48.1	+0.2

*IDC **02** 14:59:55.0±2.0, 2°.70S×100°.37E, h0km, mb3.8/9, mbtmp3.8/9, MS2.8/1, Error ellipse: s-maj=79.8km s-min=17.4km az=58.0*
*DJA **02** 14:59:57.3±0.5, 3°.S±5°.×10°.0E±°, h28km±4km, M4.0/7, MLv4.0/7*

ISC 02 14:59:58.2±1.1, 2°.9S±0°.1×100°.1E±0°.1, h31km±6km, n25, σ1°.03/17, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.14	323	P	Pb	15 00 03.7	-0.2
PPSI				S	Sb	15 00 08.4	+0.6
SISI	Saibi	1.83	327	P	Pn	15 00 27.9	+0.3
PPI	Padang Panjang	2.42	7	P	Pn	15 00 36.2	+0.6
MNAI	Manna	3.22	117	P	Pn	15 00 46.3	-0.3
PBSI	Pulau Batu	3.33	327	P	Pn	15 00 47.1	-1.1
MDSI	Maura Dua	4.38	112	P	Pn	15 01 02.4	-0.2
CMAR	Chiang Mai Arr	21.23	357	P	P	15 04 39.0	-2.6
	0.4nm,0.3s,baz=190,slow=8.9,SNR=5.7						
CMAR				LR	LR	15 13 54.1	
	comp=Z,28nm,19.7s,baz=270,slow=40						
	0.4nm,0.3s						
H08S2	Diego Garcia H	27.88	259	T	T	15 34 49.9	
	baz=82,slow=76,SNR=223						
H08S3	Diego Garcia H	27.89	259	T	T	15 34 50.5	
	baz=82,slow=76,SNR=243						
H08S1	Diego Carcia H	27.90	259	T	T	15 34 48.9	
	baz=82,slow=76,SNR=196						
WRA	Warramunga Arr	37.48	120	P	P	15 07 08.8	-0.6
	0.4nm,0.4s,baz=304,slow=9.1,SNR=5.6						
	0.4nm,0.4s						
ASAR	Alice Springs	38.67	125	P	P	15 07 19.6	+0.1
	0.6nm,0.8s,baz=300,slow=8.0,SNR=8.0						
	0.6nm,0.8s						
STKA	Stephens Creek	48.51	131	P	P	15 08 39.1	+0.7
	0.6nm,0.5s,baz=302,slow=7.9,SNR=3.3						
	0.6nm,0.5s						
SONM	Songino Array	50.80	5	P	P	15 08 56.7	+1.0
	1.6nm,0.6s,baz=188,slow=9.8,SNR=13						
	1.6nm,0.6s						
MKAR	Makanchi Array	51.89	345	P	P	15 09 04.8	+0.9
	1.8nm,0.7s,baz=151,slow=8.2,SNR=22						
	1.8nm,0.7s						
USRK	Ussuriysk Ar.	54.88	28	P	P	15 09 25.0	-0.8
	1.6nm,0.5s,baz=200,slow=3.9,SNR=5.0						
	1.6nm,0.5s						
KURBB	Kurchatov Arra	56.41	344	P	P	15 09 37.3	+0.7
	0.9nm,0.6s,baz=165,slow=6.7,SNR=12						
	0.9nm,0.6s						
ZALV	Zalesovo Beam	58.04	349	P	P	15 09 48.3	+0.2
	1.0nm,0.6s,baz=177,slow=5.9,SNR=4.2						
	1.0nm,0.6s						
H04N2	CROZET ISLANDS	60.15	217	T	T	16 15 12.9	
	baz=59,slow=75,SNR=400						
H04N1	CROZET ISLANDS	60.17	217	T	T	16 15 15.2	
	baz=59,slow=75,SNR=375						
H04N3	CROZET ISLANDS	60.17	217	T	T	16 15 12.0	
	baz=59,slow=75,SNR=387						
H04S1	CROZET ISLANDS	60.44	216	T	T	16 15 34.7	
	baz=58,slow=76,SNR=134						
H04S3	CROZET ISLANDS	60.45	216	T	T	16 15 35.7	
	baz=58,slow=76,SNR=150						
H04S2	CROZET ISLANDS	60.45	216	T	T	16 15 36.9	
	baz=58,slow=76,SNR=145						
TXAR	Lajitas Array	145.33	38	PKPbc	PKPdf	15 19 34.8	+0.9
	0.8nm,0.5s,baz=300,slow=1.2,SNR=8.3						

IDC 02 15:06:02.9±5.6, 18°.79S×178°.10W, h551km±31km, mb3.2/2, mbtmp4.1/3, Error ellipse: s-maj=154.7km s-min=46.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.81	285	P	P	15 07 23.6	0.0
	37nm,0.7s,baz=127,slow=8.3,SNR=32						
WRA	Warramunga Arr	44.77	260	P	P	15 13 27.4	-0.6
	0.8nm,0.6s,baz=97,slow=6.7,SNR=15						
WRA				PcP	PcP	15 14 58.3	-0.1
	0.6nm,0.9s,baz=99,slow=3.1,SNR=2.1						
	0.8nm,0.6s						
ASAR	Alice Springs	44.84	255	P	P	15 13 28.9	+0.3
	4.3nm,0.6s,baz=88,slow=8.5,SNR=82						
ASAR				PcP	PcP	15 14 58.8	+0.2
	0.3nm,0.3s,baz=98,slow=3.0,SNR=1.8						
	4.3nm,0.6s						
BRTR	Keskin Array B	145.61	314	PKPbc	PKPdf	15 24 39.3	+0.2
	0.2nm,0.5s,baz=44,slow=4.5,SNR=2.0						

*IDC **02** 15:12:48.2±1.7, 8°.60S×158°.87E, h149km±25km, mb3.5/9, mbtmp3.9/9, MS3.6/1, Error ellipse: s-maj=43.5km s-min=16.8km az=128.0*

ISC 02 15:12:48.3±0.7, 8°.6S±0°.1×158°.9E±0°.1, h150km, n17, σ0°.52/11, mb3.6/9, Bougainville-Solomon Islands region

| Code | Station Name

baz=196,slow=76,SNR=48
H11N3 WAKE ISLAND Hy 29.21 16 T T 15 49 04.9
baz=196,slow=76,SNR=60
H11N2 WAKE ISLAND Hy 29.22 16 T T 15 49 02.0
baz=196,slow=76,SNR=66
JOW Kunigami 46.05 321 LR LR 15 39 35.0
comp=Z,76nm,21.0s,baz=31,slow=35
MJAR Matsushiro Arr 48.91 338 P **P 15 21 18.2 -0.9**
1.1nm,0.9s,baz=168,slow=6.2,SNR=2.3
1.1nm,0.9s
PETK Petropavlovsk- 61.46 359 P **P 15 22 49.3 +0.5**
5.8nm,1.0s,baz=160,slow=4.7,SNR=4.1
5.8nm,1.0s
SONM Songino Array 72.77 326 P **P 15 24 01.1 +0.8**
0.8nm,0.6s,baz=133,slow=7.1,SNR=4.7
0.8nm,0.6s
ILAR Eielson Array 83.47 20 P **P 15 24 58.6 -0.2**
0.6nm,0.5s,baz=243,slow=5.0,SNR=20
0.6nm,0.5s
MKAR Makanchi Array 87.14 318 P **P 15 25 17.2 -0.3**
0.4nm,0.7s,baz=98,slow=5.9,SNR=5.2
0.4nm,0.7s
YKA Yellowknife Ar 95.94 28 P **P 15 25 57.9 +0.1**
0.2nm,0.7s,baz=260,slow=4.8,SNR=4.0
0.2nm,0.7s

---

*IDC **02** 15:19:08.6±2.6, 40°.62S×176°.92E, h0km, mb3.5/2, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=73.0km s-min=49.7km az=159.0*
*WEL **02** 15:19:14.3±0.8, 40°S±3°×17°7E±°, h13km±6km, M3.8/54, ML4.4/9, MLv3.8/54, Error ellipse: s-maj=6.5km s-min=3.1km az=125.0, confirmed*
ISC 02 15:19:11.1±1.2, 40.48S±0.03×176.86E±0.04, h16km±7km, n80, σ1°26/93, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGFS	**Porangahau Fir**	**0.26**	**313**	P	**Pg**	**15 19 17.4**	**+0.7**
PGFS				S	**Sg**	**15 19 20.5**	**0.0**
PRHZ	**Porangahau**	**0.27**	**321**	P	**Pb**	**15 19 17.6**	**+0.1**
PRHZ				S	**Sb**	**15 19 20.7**	**-1.1**
ANWZ	**Angora Road**	**0.29**	**273**	P	**Pn**	**15 19 19.8**	**-0.8**
ANWZ				S	**Sb**	**15 19 24.6**	**+2.2**
WBFS	**Weber Fire Sta**	**0.42**	**280**	P	**Pb**	**15 19 20.2**	**+0.1**
WBFS				S	**Sb**	**15 19 26.5**	**+0.3**
PXZ	**Pawanui**	**0.45**	**1**	P	**Pn**	**15 19 21.9**	**-0.9**
PXZ				S	**Sb**	**15 19 28.4**	**+1.5**
PWZ	**Pawanui**	**0.45**	**1**	P	**Pn**	**15 19 22.0**	**-0.8**
PWZ				S	**Sb**	**15 19 28.5**	**+1.6**
BFZ	**Birch Farm**	**0.51**	**246**	P	**Pn**	**15 19 24.7**	**+1.1**
BFZ				S	**Sb**	**15 19 33.9**	**+5.2**
WPHZ	**Waipukurau**	**0.52**	**322**	P	**Pb**	**15 19 22.2**	**+0.4**
WPHZ				S	**Sb**	**15 19 29.0**	**-0.1**
DVHZ	**Dannevirke**	**0.56**	**289**	P	**Pn**	**15 19 23.4**	**-0.9**
DVHZ				S	**Sb**	**15 19 30.9**	**+0.8**
CPWZ	**Castlepoint**	**0.66**	**229**	P	**Pn**	**15 19 28.0**	**+2.3**
PRWZ	**Pori Road**	**0.68**	**263**	P	**Pn**	**15 19 27.0**	**-1.0**
PRWZ				S	**Sn**	**15 19 37.6**	**+1.4**
KAHZ	**Kahuranaki**	**0.68**	**1**	P	**Pn**	**15 19 26.2**	**+0.1**
KAHZ				S	**Sn**	**15 19 36.7**	**+0.3**
PNHZ	**Pukenui**	**0.76**	**318**	P	**Pb**	**15 19 26.3**	**+0.5**
PNHZ				S	**Sb**	**15 19 35.8**	**0.0**
TIWZ	**Tintock**	**0.80**	**248**	P	**Pn**	**15 19 29.1**	**+1.5**
TSZ	**Takapari Road**	**0.80**	**301**	P	**Pn**	**15 19 27.2**	**-0.5**
POWZ	**Post Office Ro**	**0.83**	**276**	P	**Pn**	**15 19 28.8**	**+0.7**
CKHZ	**Cape Kidnapper**	**0.84**	**12**	P	**Pn**	**15 19 28.4**	**+0.3**
KRHZ	**Kereru**	**0.91**	**336**	P	**Pn**	**15 19 29.1**	**-0.1**
TMWZ	**Te Maipa**	**0.96**	**229**	P	**Pn**	**15 19 31.5**	**+1.6**
MRZ	**Mangatainoka R**	**0.99**	**259**	P	**Pn**	**15 19 31.0**	**+0.8**
MCHZ	**McNeill Hill**	**1.04**	**353**	P	**Pn**	**15 19 31.4**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.10**	**247**	P	**Pn**	**15 19 32.7**	**+0.8**
KWHZ	**Kaweka Forest**	**1.10**	**342**	P	**Pn**	**15 19 32.1**	**+0.2**
OHWZ	**Ohakea**	**1.21**	**282**	P	**Pn**	**15 19 35.2**	**+2.0**
ARHZ	**Aropaoanui**	**1.22**	**5**	P	**Pb**	**15 19 33.7**	**0.0**
MTW	**Mount Morrison**	**1.23**	**236**	P	**Pn**	**15 19 34.5**	**+0.9**
TRWZ	**Traveller**	**1.28**	**223**	P	**Pn**	**15 19 35.5**	**+1.3**
OGWZ	**Otaki Gorge**	**1.33**	**255**	P	**Pb**	**15 19 35.7**	**+0.1**
BKZ	**Black Stump Fm**	**1.34**	**348**	P	**Pn**	**15 19 35.2**	**+0.1**
MOVZ	**Moawhango**	**1.36**	**321**	P	**Pb**	**15 19 36.3**	**+0.1**
NMHZ	**Naumai**	**1.38**	**358**	P	**Pn**	**15 19 36.2**	**+0.6**
PAWZ	**Paruwai Farm**	**1.41**	**230**	P	**Pg**	**15 19 36.9**	**-1.3**
WHHZ	**Waihua**	**1.43**	**12**	P	**Pg**	**15 19 37.5**	**-1.1**
CAW	**Cannon Point**	**1.50**	**245**	P	**Pg**	**15 19 38.0**	**-1.8**
WNVZ	**Wahianoa**	**1.50**	**320**	P	**Pg**	**15 19 39.0**	**-1.0**
TUVZ	**Tukino**	**1.52**	**322**	P	**Pg**	**15 19 39.5**	**-0.8**
MTVZ	**Mangateitei**	**1.52**	**315**	P	**Pg**	**15 19 39.5**	**-0.8**
KIW	**Kapiti Island**	**1.53**	**255**	P	**Pg**	**15 19 38.6**	**-1.8**
MSWZ	**Moikau Station**	**1.54**	**232**	P	**Pb**	**15 19 38.3**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.54**	**320**	P	**Pg**	**15 19 39.8**	**-0.9**
TRVZ	**Turoa**	**1.55**	**319**	P	**Pg**	**15 19 39.8**	**-1.1**
MHGZ	**Mahia Peninsul**	**1.55**	**32**	P	**Pn**	**15 19 38.3**	**+0.4**
MAVZ	**Matarangi**	**1.56**	**320**	P	**Pg**	**15 19 40.3**	**-0.9**
RAHZ	**Arahi**	**1.57**	**7**	P	**Pn**	**15 19 38.4**	**+0.1**
FWVZ	**Far West T-bar**	**1.58**	**320**	P	**Pg**	**15 19 40.3**	**-1.1**
SNVZ	**South Ngauruho**	**1.59**	**324**	P	**Pg**	**15 19 40.6**	**-1.1**
OTVZ	**Oturere**	**1.60**	**325**	P	**Pg**	**15 19 40.3**	**-1.5**
ETVZ	**East Tongariro**	**1.60**	**326**	P	**Pg**	**15 19 40.9**	**-1.0**
WAZ	**Wanganui**	**1.60**	**296**	P	**Pg**	**15 19 40.8**	**-1.1**
NGZ	**Ngauruhoe**	**1.62**	**323**	P	**Pg**	**15 19 41.1**	**-1.1**
MTHZ	**Maungataniwha**	**1.62**	**360**	P	**Pn**	**15 19 39.2**	**+0.2**
TMVZ	**Te Maari**	**1.62**	**327**	P	**Pg**	**15 19 41.1**	**-1.2**
COVZ	**Chateau Observ**	**1.63**	**321**	P	**Pg**	**15 19 41.1**	**-1.2**
PLWZ	**Palliser**	**1.63**	**227**	P	**Pg**	**15 19 40.6**	**-1.8**
NNVZ	**North Ngauruho**	**1.65**	**324**	P	**Pg**	**15 19 41.6**	**-1.2**
NTVZ	**North Tongarir**	**1.65**	**326**	P	**Pg**	**15 19 41.5**	**-1.3**
PKVZ	**Pokaka**	**1.66**	**315**	P	**Pg**	**15 19 41.5**	**-1.4**
KRVZ	**Karewarewa**	**1.67**	**326**	P	**Pg**	**15 19 41.9**	**-1.3**
WTVZ	**West Tongariro**	**1.67**	**324**	P	**Pg**	**15 19 41.9**	**-1.3**
MRHZ	**Matea Rd**	**1.68**	**348**	P	**Pb**	**15 19 40.8**	**-0.7**
RITZ	**Rihia Road**	**1.68**	**333**	P	**Pg**	**15 19 42.5**	**-1.0**
HATZ	**Hinemaiaia**	**1.69**	**339**	P	**Pg**	**15 19 44.4**	**+0.8**
SNGZ	**Shannon Statio**	**1.73**	**13**	P	**Pn**	**15 19 40.8**	**+0.3**
PRGZ	**Paritu Road**	**1.74**	**27**	P	**Pn**	**15 19 40.9**	**+0.2**
KATZ	**Kakaramea**	**1.75**	**329**	P	**Pg**	**15 19 43.4**	**-1.2**
BHW	**Baring Head**	**1.77**	**238**	P	**Pn**	**15 19 41.6**	**+0.7**
WEL	**Wellington**	**1.78**	**242**	P	**Pb**	**15 19 41.8**	**-1.4**
TWVZ	**Taurewa**	**1.78**	**322**	P	**Pb**	**15 19 43.4**	**+0.1**
RATZ	**Rangitukua**	**1.81**	**332**	P	**Pg**	**15 19 45.3**	**-0.6**
RTZ	**Ruatahuna**	**1.86**	**3**	P	**Pn**	**15 19 42.5**	**+0.2**
MUGZ	**Murupara**	**2.00**	**358**	P	**Pn**	**15 19 44.7**	**+0.6**
PRRZ	**Plateau Road**	**2.01**	**350**	P	**Pn**	**15 19 44.8**	**+0.5**
TCW	**Tory Channel**	**2.09**	**249**	P	**Pn**	**15 19 45.8**	**+0.4**
VRZ	**Vera Road**	**2.11**	**309**	P	**Pb**	**15 19 48.3**	**-0.5**
RRRZ	**Republican Roa**	**2.15**	**353**	P	**Pn**	**15 19 46.7**	**+0.5**
RPZ	**Rata Peaks**	**5.39**	**231**	Pn	**Pn**	**15 20 29.7**	**-1.1**
RPZ				Sn	**Sn**	**15 21 27.4**	**-5.1**
	0.3nm,0.3s,baz=48,slow=14,SNR=2.2						
	2.4nm,0.3s,baz=12,slow=18,SNR=15						
	7.9nm,0.8s						
ASAR	**Alice Springs**	**39.64**	**282**	P	**P**	**15 26 42.7**	**+0.6**
	0.4nm,0.8s,baz=127,slow=7.3,SNR=7.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**41.57**	**287**	P	**P**	**15 26 58.8**	**+0.8**
	0.6nm,0.5s,baz=126,slow=8.2,SNR=13						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**120.77**	**307**	PKP	**PKPdf**	**15 38 01.6**	**-0.2**
	0.2nm,0.7s,baz=134,slow=2.8,SNR=2.2						
KURBB	**Kurchatov Arra**	**124.67**	**310**	PKP	**PKPdf**	**15 38 09.9**	**+0.9**
	0.2nm,0.7s,baz=132,slow=1.4,SNR=2.6						

---

*NEIC **02** 15:26:22.8±0.8, 36°.145N±0°.010×96°.80W±0°.02, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=96.0*
NEIC 02 15:26:22.8±0.8, 36°.145N±0°.004×96°.77W±0°.02, h8km±6km, ML2.1/36, ML2.6/18, Error ellipse: s-maj=1.9km s-min=0.3km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.06**	**63**	Pg	Pg	15 26 24.9	+0.3
QUOK					Sg	15 26 26.5	+0.6
OK052	**Battle Ridge R**	**0.15**	**189**		Pg	15 26 26.2	+0.2
OK052					Sg	15 26 28.2	0.0
OK031	**S. Brethren Rd**	**0.20**	**196**		Pg	15 26 27.1	+0.2
OK031					Sg	15 26 29.9	+0.3
OK031				IAML		15 26 30.0	
	309nm,0.1s						
OK051	**E0350 and S346**	**0.36**	**352**		Sg	15 26 34.7	-0.1
DEOK	**Depew**	**0.38**	**144**		Pg	15 26 30.7	+0.6
DEOK					Sg	15 26 35.9	+0.8
OK029	**Liberty Lake**	**0.65**	**238**		Pg	15 26 35.2	-0.2
OK029					Sg	15 26 43.8	-0.1
OK029				IAML		15 26 45.8	
	119nm,0.2s						
OK029				IAML		15 26 45.8	
	113nm,0.2s						
ADOK	**Arcadia Dam**	**0.69**	**225**	Pg	Pg	15 26 35.9	-0.2
BLOK	**Blackwell**	**0.71**	**330**		Pg	15 26 36.8	+0.3
BLOK					Sg	15 26 46.1	+0.4
BLOK				IAML		15 26 55.1	
	comp=E,133nm,0.2s						
BLOK				IAML		15 26 55.2	
	comp=N,86nm,0.2s						
TUL3	**Leonard**	**0.83**	**106**		Pg	15 26 38.8	+0.1
TUL3					Sg	15 26 49.9	+0.4
TUL3				IAML		15 26 50.1	
	comp=E,60nm,0.4s						
BCOK	**Bluff Creek, N**	**0.84**	**235**		Pg	15 26 38.4	-0.4
BCOK					Sg	15 26 49.8	+0.1
W35A	**Tecumseh**	**0.99**	**185**		Pg	15 26 41.2	-0.6
W35A					Sg	15 26 54.9	+0.2
W35A				IAML		15 26 55.1	
	comp=N,51nm,0.3s						
W35A				IAML		15 27 01.0	
	comp=E,59nm,0.4s						
FNO	**Franklin**	**1.02**	**210**		Pg	15 26 41.6	-0.8
FNO					Sg	15 26 55.6	-0.1
FNO				IAML		15 26 59.0	
	comp=N,58nm,0.2s						
FNO				IAML		15 26 59.1	
	comp=E,46nm,0.2s						
CROK	**Carrier**	**1.04**	**291**		Pg	15 26 42.2	-0.6
CROK					Sg	15 26 55.7	-0.6
KAN14	**Manchester OK**	**1.25**	**311**		Pn	15 26 46.2	-0.5
OK038	**West end E0370**	**1.62**	**282**		Pn	15 26 52.2	+0.5
X34A	**Smith Ranch, M**	**1.77**	**210**		Pn	15 26 54.4	+0.8
U38A	**Gravette**	**1.95**	**81**		Pb	15 26 57.9	-0.7
WMOK	**Wichita Mounta**	**2.16**	**230**		Pn	15 26 59.6	+0.6
WMOK	**Wichita Mounta**	**2.16**	**230**	Pn	Pn	15 26 59.2	+0.2
MIAR	**Mount Ida**	**3.06**	**120**		Pn	15 27 11.3	-0.2

---

*NOU **02** 15:28:40.5, 23°.86S×179°.17W, h549km, mb4.2/17, South of Fiji Islands*
*NEIC **02** 15:28:41.1±0.9, 23°.8S±0°.1×179°.7W±0°.2, h519km±17km, mb4.3/20, Error ellipse: s-maj=25.1km s-min=20.0km az=119.0*
*IDC **02** 15:28:42.0±2.1, 23°.79S×179°.83W, h512km±21km, mb3.4/7, mbtmp4.3/9, Error ellipse: s-maj=22.0km s-min=20.3km az=147.0*
ISC 02 15:28:41.5±0.6, 23°.90S±0°.06×179°.89W±0°.08, h500km, n80, σ1°71/89, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.63**	**162**	P	**P**	**15 30 15.3**	**+1.1**
GLKZ				S	**S**	**15 31 29.3**	**-0.7**
MSVF	**Nonsavu**	**6.43**	**342**	P	**P**	**15 30 21.9**	**-0.4**
MSVF	**Nonsavu**	**6.43**	**342**	P	**P**	**15 30 22.6**	**+0.4**
	12nm,0.4s,baz=234,slow=6.0,SNR=15						
MSVF	**Nonsavu**	**6.43**	**342**	P	**P**	**15 30 22.9**	**+0.7**
DGTI	**Dogotuki**	**7.56**	**357**	P	**P**	**15 30 34.0**	**+0.4**
NIUE	**Niue**	**10.44**	**65**	S	**S**	**15 33 04.1**	**+3.6**
AFI	**Afiamalu**	**12.55**	**39**	P	**P**	**15 31 22.4**	**-3.6**
OUZ	**Omahuta**	**12.62**	**205**	P	**P**	**15 31 30.1**	**+3.6**
OUZ	**Omahuta**	**12.62**	**205**	P	**P**	**15 31 29.6**	**+3.1**
HAZ	**Te Kaha**	**13.96**	**188**	P	**P**	**15 31 41.8**	**+1.2**
HAZ				S	**S**	**15 34 06.0**	**-2.3**
PKGZ	**Pakihiroa**	**14.04**	**187**	P	**P**	**15 31 41.5**	**+0.1**
PKGZ				S	**S**	**15 34 10.1**	**+0.3**
RUGZ	**Raukumara Rang**	**14.18**	**188**	P	**P**	**15 31 42.8**	**-0.2**
PUZ	**Puketiti**	**14.22**	**186**	P	**P**	**15 31 45.8**	**+2.4**
PUZ				S	**S**	**15 34 14.5**	**+1.2**
TOZ	**Tahuroa Road**	**14.35**	**195**	P	**P**	**15 31 45.5**	**+0.8**
TWGZ	**Tauwhareparae**	**14.35**	**187**	P	**P**	**15 31 47.5**	**+2.7**
TWGZ				S	**S**	**15 34 17.0**	**+1.0**
URZ	**Urewera**	**14.55**	**189**	P	**P**	**15 31 46.8**	**0.0**
	6.5nm,0.4s,baz=19,slow=2.4,SNR=16						
URZ				S	**S**	**15 34 19.3**	**-0.2**
	7.2nm,0.6s,baz=33,slow=18,SNR=7.5						
URZ	**Urewera**	**14.55**	**189**	P	**P**	**15 31 47.2**	**+0.5**
	36nm,2.4s						
URZ	**Urewera**	**14.55**	**189**	S	**S**	**15 34 18.6**	**-0.9**
	36nm,2.4s						
URZ	**Urewera**	**14.55**	**189**	P	**P**	**15 31 46.8**	**0.0**
URZ				S	**S**	**15 34 17.9**	**-1.6**
MWZ	**Matawai**	**14.56**	**188**	P	**P**	**15 31 48.9**	**+1.9**
TKGZ	**Te Karaka**	**14.63**	**187**	P	**P**	**15 31 47.7**	**+0.1**
RIGZ	**Rimuhau**	**14.90**	**187**	P	**P**	**15 31 52.0**	**+1.5**
RIGZ				S	**S**	**15 34 26.2**	**-0.2**
HIZ	**Hauiti**	**15.24**	**196**	P	**P**	**15 31 55.0**	**+0.9**
HIZ	**Hauiti**	**15.24**	**196**	P	**P**	**15 31 59.5**	**+5.4**
BKZ	**Black Stump Fm**	**15.53**	**191**	P	**P**	**15 31 56.6**	**-0.5**
BKZ				IAmb	IAmb	15 31 59.0	
	comp=Z,8.4nm,1.0s						
BKZ	**Black Stump Fm**	**15.53**	**191**	P	**P**	**15 31 56.8**	**-0.3**
BKZ	**Black Stump Fm**	**15.53**	**191**	S	**S**	**15 34 35.2**	**-3.3**
BKZ	**Black Stump Fm**	**15.53**	**191**	P	**P**	**15 31 56.8**	**-0.3**
BKZ				S	**S**	**15 34 34.7**	**-3.9**
NEZ	**North Egmont**	**16.16**	**197**	P	**P**	**15 32 08.6**	**+4.9**
PXZ	**Pawanui**	**16.32**	**189**	P	**P**	**15 32 03.0**	**-2.3**
BFZ	**Birch Farm**	**17.05**	**190**	P	**P**	**15 32 10.7**	**-2.1**
MRZ	**Mangatainoka R**	**17.15**	**192**	P	**P**	**15 32 10.6**	**-3.1**
TCW	**Tory Channel**	**17.94**	**194**	P	**P**	**15 32 20.7**	**-0.5**
QRZ	**Quartz Range**	**18.04**	**199**	P	**P**	**15 32 22.4**	**+0.3**
QRZ	**Quartz Range**	**18.04**	**199**	P	**P**	**15 32 22.5**	**+0.4**
QRZ	**Quartz Range**	**18.04**	**199**	P	**P**	**15 32 22.2**	**+0.1**
TKNZ	**Takaka Hill**	**18.11**	**198**	P	**P**	**15 32 22.3**	**-0.4**
NNZ	**Nelson**	**18.17**	**196**	P	**P**	**15 32 23.1**	**-0.1**
THZ	**Tophouse**	**18.80**	**197**	P	**P**	**15 32 29.0**	**-0.1**
THZ	**Tophouse**	**18.80**	**197**	P	**P**	**15 32 29.6**	**+0.5**
THZ				S	**S**	**15 35 32.8**	**-1.8**
KHZ	**Kahutara**	**19.26**	**195**	P	**P**	**15 32 33.1**	**-0.1**
KHZ	**Kahutara**	**19.26**	**195**	S	**S**	**15 35 38.8**	**-3.0**
LTZ	**Lake Taylor**	**19.92**	**197**	P	**P**	**15 32 38.4**	**-0.9**
LTZ				IAmb	IAmb	15 32 40.8	
	comp=Z,7.4nm,0.7s						
INZ	**Inchbonnie**	**20.11**	**199**	P	**P**	**15 32 40.9**	**0.0**
ARMA	**Armidale**	**26.12**	**249**	P	**P**	**15 33 35.8**	**+0.7**
ARMA				IAmb	IAmb	15 33 44.0	
	comp=Z,6.7nm,1.1s						
EIDS	**Eidsvold**	**26.41**	**261**	P	**P**	**15 33 38.7**	**+1.2**
EIDS				IAmb	IAmb	15 33 49.3	
	comp=Z,4.8nm,1.0s						
EIDS	**Eidsvold**	**26.41**	**261**	P	**P**	**15 33 38.9**	**+1.3**
MGCD	**Mangrove Creek**	**27.04**	**243**	P	**P**	**15 33 45.2**	**+2.2**
CNB	**Canberra Magne**	**28.94**	**240**	P	**P**	**15 34 01.9**	**+2.2**
CAN	**Canberra**	**29.23**	**240**	P	**P**	**15 34 03.3**	**+1.0**
CAN	**Canberra**	**29.23**	**240**	P	**P**	**15 34 03.8**	**+1.6**
CMSA	**Cobar Meteorol**	**31.31**	**248**	P	**P**	**15 34 21.1**	**+0.9**
CTA	**Charters Tower**	**31.58**	**270**	P	**P**	**15 34 23.3**	**+0.7**
	comp=Z,11nm,0.5s,baz=94,slow=9.9,SNR=23						
	comp=Z,11nm,0.5s						
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**	**15 34 23.4**	**+0.7**
CTAO				IAmb	IAmb	15 34 28.7	
	comp=Z,9.0nm,0.9s						
TOO	**Toolangi**	**32.54**	**237**	P	**P**	**15 34 31.3**	**+0.7**
STKA	**Stephens Creek**	**34.82**	**248**	P	**P**	**15 34 50.6**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=68,slow=18,SNR=4.7						
	comp=Z,2.5nm,0.3s						
BBOO	**Buckleboo**	**39.54**	**247**	P	**P**	**15 35 28.4**	**-0.4**
BBOO				IAmb	IAmb	15 35 28.7	
	comp=Z,5.6nm,0.6s						
AS31	**Alice Springs**	**42.14**	**261**	P	**P**	**15 35 49.2**	**-0.4**
ASAR	**Alice Springs**	**42.14**	**261**	P	**P**	**15 35 49.0**	**-0.6**
ASAR	**Alice Springs**	**42.14**	**261**	P	**P**	**15 35 49.5**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=96,slow=7.6,SNR=134						
	comp=Z,3.9nm,0.5s						
WR0	**Warramunga Arr**	**42.32**	**266**	P	**P**	**15 35 49.7**	**-1.4**
WB2	**Warramunga Arr**	**42.50**	**266**	P	**P**	**15 35 51.8**	**-0.7**
WB2				IAmb	IAmb	15 35 52.2	
	comp=Z,6.4nm,0.5s						
WRAB	**Tennant Creek**	**42.50**	**266**	P	**P**	**15 35 51.5**	**-1.0**
WRAB				IAmb	IAmb	15 35 59.9	
	comp=Z,7.4nm,0.9s						
WB0	**Warramunga Arr**	**42.50**	**266**	P	**P**	**15 35 51.8**	**-0.8**
WB0				IAmb	IAmb	15 35 52.5	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**15 35 50.1**	**-2.5**
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**15 35 51.9**	**-0.7**
	comp=Z,5.2nm,0.5s,baz=96,slow=8.3,SNR=84						
	comp=Z,5.2nm,0.5s						
FORT	**Forrest**	**46.41**	**250**	P	**P**	**15 36 21.6**	**-1.0**
KNRA	**Kununurra**	**48.79**	**270**	P	**P**	**15 36 40.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.93**	**266**	P	**P**	**15 36 55.5**	**-1.0**
MORW	**Morawa**	**56.97**	**250**	P	**P**	**15 37 38.1**	**-0.9**
MORW				IAmb	IAmb	15 37 39.2	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**15 38 38.5**	**-0.4**
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**15 38 39.4**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=36,slow=8.7,SNR=10						
	comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**15 40 46.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=119,slow=5.2,SNR=2.8						
	comp=Z,0.4nm,0.8s						
TXAR	**Lajitas Array**	**90.34**	**58**	P	**P**	**15 40 48.4**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=205,slow=5.5,SNR=3.0						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**120.50**	**319**	PKP	**PKPdf**	**15 46 33.1**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=83,slow=1.5,SNR=2.9						
HFS	**Hagfors**	**142.56**	**349**	PKhKP	PKPpre	15 47 11.0	
	comp=Z,0.8nm,0.3s,baz=47,slow=2.8,SNR=11						
AKASG	**Malin Array Be**	**145.02**	**327**	PKP	**PKPdf**	**15 47 18.9**	**-2.3**
	comp=Z,0.4nm,0.4s,baz=43,slow=3.8,SNR=7.0						
BRTR	**Keskin Array B**	**147.66**	**307**	PKPbc	**PKPdf**	**15 47 27.8**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=143,slow=6.3,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.79**	**294**	PKPbc	**PKPbc**	**15 47 29.9**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=72,slow=8.1,SNR=8.4						
EKA	**Eskdalemuir Ar**	**148.51**	**4**	PKPbc	**PKPdf**	**15 47 28.8**	**+1.9**

---

*KRNET **02** 15:51:47.2±0.1, 42°.01N×72°.82E, h30km, mb2.4*
*SOME **02** 15:51:48.0, 42°.05N×72°.82E, h15km*
*NNC **02** 15:51:48.6±0.6, 42°.07N×72°.84E, h4km±17km, mb3.5, mpv3.0, Error ellipse: s-maj=8.6km s-min=2.5km az=168.0*
*KNET **02** 15:51:49.9±0.7, 42°.03N×72°.98E, h15km±2km, ml2.0, Error ellipse: s-maj=5.1km s-min=3.8km az=177.0*
ISC 02 15:51:46.7±1.1, 42°.01N±0°.02×72°.84E±0°.02, h10km±10km, n43, σ0°91/74, 37C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.54**	**332**	⇓*eP*	**Pb**	**15 51 58.3**	**-0.1**
MNAS				⇑*eS*	**Sb**	**15 52 06.0**	**-0.4**
AML	**Almayashu**	**0.65**	**79**	⇑P	**Pb**	**15 52 00.6**	**+0.2**
	17nm,0.1s						
AML				⇑S	**Sb**	**15 52 09.9**	**+0.4**
	18nm,0.1s						
AML	**Almayashu**	**0.65**	**79**	⇑*eP*	**Pb**	**15 52 00.4**	**+0.1**
AML				⇑*eS*	**Sb**	**15 52 09.8**	**+0.3**
ARSB	**Arslanbob**	**0.69**	**171**	⇓*eP*	**Pb**	**15 52 00.5**	**-0.4**
ARSB				⇓*eS*	**Sb**	**15 52 10.6**	**+0.1**
ARK	**Arkit**	**0.69**	**253**	⇑*eP*	**Pg**	**15 52 00.4**	**+0.4**
ARK				⇑*eS*	**Sg**	**15 52 09.8**	**+0.7**
MRKS	**Merke**	**0.79**	**21**	P	**Pb**	**15 52 03.1**	**+0.4**
	2.0nm,0.1s						
MRKS				S	**Sb**	**15 52 14.0**	**+0.6**
	25nm,0.2s						
MRKS	**Merke**	**0.79**	**21**	*eP*	**Pb**	**15 52 03.1**	**+0.4**
	2.0nm,0.1s						
MRKS				*eS*	**Sb**	**15 52 14.0**	**+0.6**
	22nm,0.1s						
ARLS	**Aral**	**1.11**	**97**	⇓*eP*	**Pn**	**15 52 08.4**	**-0.1**
ARLS				⇓*eS*	**Sn**	**15 52 23.4**	**-0.6**
UCH	**Uchtor**	**1.26**	**79**	⇓P	**Pn**	**15 52 11.8**	**+1.0**
	1.5nm,0.1s						
UCH				⇑S	**Sn**	**15 52 28.7**	**+0.6**
	4.3nm,0.1s						
UCH	**Uchtor**	**1.26**	**79**	⇑*eP*	**Pb**	**15 52 10.7**	**-0.1**
UCH				⇑*eS*	**Sn**	**15 52 27.8**	**-0.3**
SALK	**Salom-Alik**	**1.34**	**146**	⇑*eP*	**Pg**	**15 52 12.1**	**-0.3**
SALK				⇑*eS*	**Sn**	**15 52 29.8**	**+0.2**

KTBS					Lg	Lg	15 53 30.0	
	4.0nm,0.5s							
SATY	**Saty**	**4.24**	**74**	*e*P		**Pg**	**15 53 05.2**	**-2.7**
	0.2nm,0.1s							
SATY				*e*S		**Sg**	**15 54 00.1**	**-2.7**
	3.3nm,0.3s							
ARXS	**Arharly**	**4.26**	**57**	Pg		**Pg**	**15 53 05.2**	**-3.1**
	0.3nm,0.1s							
ARXS					Lg	Lg	15 54 00.1	
	4.9nm,0.4s							

IDC ***02*** *15:59:26.0±2.2, 34°.56N×27°.92E, h0km, mb3.6/2, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=43.8km s-min=27.7km az=16.0*

ISC 02 15:59:29.4±1.0, 34°.47N±0°.09×27°.88E±0°.06, h48km, n6, σ2°44/10, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**2.59**	**289**	Pn	**Pn**	**16 00 09.1**	**+0.1**
	4.3nm,0.3s,baz=102,slow=19,SNR=3.5						
IDI				Sn	**Sn**	**16 00 36.6**	**-2.6**
	3.3nm,0.3s,baz=180,slow=20,SNR=4.2						
MMAI	**Mount Meron Ar**	**6.43**	**101**	Pn	**Pn**	**16 01 01.7**	**+0.1**
	1.4nm,0.3s,baz=286,slow=10,SNR=9.5						
MMAI				Sn	**Sn**	**16 02 12.3**	**-1.4**
	3.2nm,0.3s,baz=282,slow=20,SNR=9.1						
BRTR	**Keskin Array B**	**6.97**	**40**	Pn	**Pn**	**16 01 09.5**	**+0.4**
	0.6nm,0.2s						
BRTR				Sn	**Sn**	**16 02 23.5**	**-3.6**
	0.1nm,0.3s,baz=224,slow=6.0,SNR=2.8						
EIL	**Elat**	**7.67**	**127**	Pn	**Pn**	**16 01 18.9**	**+0.3**
	0.4nm,0.8s						
EIL				Sn	**Sn**	**16 02 41.7**	**-2.5**
	0.8nm,0.3s,baz=311,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**42.29**	**56**	P	**P**	**16 07 21.2**	**+3.0**
	1.2nm,0.3s,baz=7.1,slow=8.1,SNR=5.8						
	0.5nm,0.6s,baz=277,slow=7.0,SNR=7.8						
	3.4nm,0.5s						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**43.87**	**46**	P	**P**	**16 07 33.0**	**+2.1**
	0.4nm,0.3s,baz=280,slow=7.5,SNR=2.3						
	0.4nm,0.3s						

NEIC ***02*** *16:00:18.3±1.4, 40°.25N±0°.02×124°.71W±0°.03, h10km±2km, Error ellipse: s-maj=4.3km s-min=3.1km az=86.0*

NCEDC 02 16:00:20.9±2.3, 40°.30N±0°.01×124°.47W±0°.02, h8km±6km, ML2.9/11, ML2.9/40(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=107.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.21**	**31**		Pg	16 00 25.9	+0.9
KCTM					Sg	16 00 30.4	+2.5
KMPM	**Mount Pierce**	**0.30**	**66**		Pg	16 00 27.5	+0.8
KMPM				Sg	Sb	16 00 33.0	-0.6
KCRM	**Chalk Rock**	**0.52**	**75**		Pb	16 00 32.1	-0.1
KMRM	**Mail Ridge**	**0.59**	**97**	Pg	Pb	16 00 33.6	+0.1
KMRM				IAML		16 00 46.7	
	comp=E,981nm,0.5s						
JCC	**Jacoby Creek,**	**0.62**	**33**		Pg	16 00 33.2	+0.4
JCC				IAML		16 00 45.1	
	comp=N,553nm,0.7s						
JCC				IAML		16 00 49.8	
	comp=E,509nm,1.2s						
KHMM	**Horse Mountain**	**0.81**	**44**		Pg	16 00 36.6	+0.2
KHMM				IAML		16 00 49.6	
	comp=N,575nm,0.7s						
KHMM				IAML		16 00 52.0	
	comp=E,642nm,0.5s						
KIPM	**Iron Peak**	**0.91**	**122**		Pg	16 00 38.5	+0.3
KCPM	**Cahto Peak**	**0.92**	**131**		Pg	16 00 38.2	-0.2
KCPM				Sg	Sb	16 00 51.6	0.0
KRPM	**Rodgers**	**0.93**	**22**		Pg	16 00 37.8	-0.9
KRPM				IAML		16 01 03.0	
	comp=E,354nm,0.9s						
KRPM				IAML		16 01 04.5	
	comp=N,296nm,1.8s						
KHBM	**Hayfork Bally**	**1.02**	**69**		Pg	16 00 39.9	-0.6
KHBM	**Hayfork Bally**	**1.02**	**69**	IAML		16 00 58.8	
	comp=E,222nm,1.0s						
KHBM				IAML		16 00 59.2	
	comp=N,441nm,0.8s						
DCMP	**DeCamp, Califo**	**1.20**	**133**		Pb	16 00 42.0	-2.0
O02D	**Mt. Diablo Mer**	**1.30**	**95**		Pn	16 00 44.3	-1.1
KRMB	**Red Mountain**	**1.30**	**19**		Pn	16 00 43.0	-2.5
KRMB				IAML		16 01 00.0	
	comp=E,131nm,1.3s						
GROM	**Round Mountain**	**1.43**	**105**		Pn	16 00 46.8	-0.5
N02D	**Trinity Center**	**1.51**	**63**		Pn	16 00 46.6	-1.6
N02D	**Trinity Center**	**1.51**	**63**	IAML		16 01 17.1	
	comp=E,106nm,0.7s						
LBKM	**Bonanza King**	**1.58**	**60**		Pn	16 00 48.0	-1.4
KSXB	**Camp Six Broad**	**1.60**	**16**		Pn	16 00 47.2	-2.3
KSXB				IAML		16 01 07.5	
	comp=N,99nm,4.6s						
KSXB				IAML		16 01 07.5	
	comp=E,112nm,2.4s						
SIGP	**Signal Peak, C**	**1.60**	**11**		Pn	16 00 47.3	-2.3
M02C	**Callahan**	**1.65**	**48**		Pn	16 00 48.5	-1.7
HOPS	**Hopland Field**	**1.69**	**140**	Pn	Pn	16 00 48.8	-2.0
HOPS				IAML		16 01 05.3	
	comp=N,155nm,4.5s						
HOPS				IAML		16 01 48.3	
	comp=E,101nm,5.0s						
LAMM	**Antelope Mount**	**1.92**	**46**		Pn	16 00 52.8	-1.3
YBH	**Yreka Blue Hor**	**1.96**	**42**		Pn	16 00 53.0	-1.5
YBH				IAML		16 01 23.4	
	comp=E,60nm,4.8s						
LBFM	**Black Fox Moun**	**2.22**	**61**		Pn	16 00 58.0	-0.2
HATC	**Hat Creek Radi**	**2.35**	**76**	Pn	Pn	16 01 00.1	+0.1
ORV	**Oroville**	**2.40**	**107**		Pn	16 00 59.6	-0.9
ORV				IAML		16 02 19.8	
	comp=E,38nm,4.8s						
K02D	**Willamette Mer**	**2.47**	**14**		Pn	16 00 60.0	-1.6
K02D				IAML		16 01 37.4	
	comp=E,60nm,4.9s						
K02D				IAML		16 02 35.9	
	comp=N,53nm,4.9s						
L04D	**Klamath Falls**	**2.52**	**40**		Pn	16 01 02.6	+0.3
L04D				IAML		16 02 17.2	
	comp=E,74nm,4.9s						
J05D	**Fort Rock, OR**	**3.84**	**38**		Pn	16 01 20.6	+0.1

IDC 02 16:02:19.4±1.4, 25°.78N×141°.39E, h0km, mb4.1/2, mbtmp3.9/3, ML2.2/1, MS3.5/2, Error ellipse: s-maj=51.2km s-min=20.6km az=109.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.50**	**28**	Pn	Pn	16 02 47.1	-0.4
	63nm,0.3s,baz=272,slow=20,SNR=15						
JCJ				Sn	Sn	16 03 09.5	+1.7
	42nm,0.3s,baz=283,slow=22,SNR=10.0						
KSRS	**Korea Array**	**16.32**	**319**	Pn	Pn	16 06 10.4	+0.4
	baz=127,slow=14,SNR=2.1						
	0.9nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**24.26**	**99**	T	T	16 32 53.4	
	baz=288,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**24.26**	**99**	T	T	16 32 54.6	
	baz=288,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**24.27**	**99**	T	T	16 32 54.6	
	baz=288,slow=75,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**24.50**	**102**	T	T	16 33 12.6	
	baz=292,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**24.51**	**102**	T	T	16 33 13.3	
	baz=292,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**24.52**	**102**	T	T	16 33 14.1	
	baz=292,slow=75,SNR=25						
WRA	**Warramunga Arr**	**45.96**	**189**	P	P	16 10 44.2	-0.1
	1.9nm,0.8s,baz=8.2,slow=8.6,SNR=11						
	1.9nm,0.8s						
DZM	**Mont Dzumac**	**53.41**	**151**	LR	LR	16 32 44.1	
	comp=Z,40nm,18.1s,baz=10,slow=34						
STKA	**Stephens Creek**	**57.33**	**180**	LR	LR	16 37 42.9	
	comp=Z,31nm,18.0s,baz=22,slow=37						
FINES	**FINESS Array B**	**78.81**	**334**	P	P	16 14 24.0	+0.2
	2.3nm,0.9s,baz=71,slow=6.4,SNR=4.6						
	2.3nm,0.9s						

ATH ***02*** *16:02:20.7, 37°.64N×20°.64E, h14km±1km, ML3.8/6, Error ellipse: s-maj=2.7km s-min=1.0km az=41.0*
THE ***02*** *16:02:20.5, 37°.62N×20°.63E, h8km±1km, ML3.5/13, Error ellipse: s-maj=1.5km s-min=0.7km az=43.0*
IDC ***02*** *16:02:26.0±1.9, 37°.48N×20°.55E, h67km±20km, mb3.3/10, mbtmp3.5/17, MS3.2/2, Error ellipse: s-maj=31.3km s-min=12.7km az=36.0*

ISC 02 16:02:21.9±0.8, 37°.72N±0°.03×20°.72E±0°.03, h14km±4km, n59, σ1°08/86, mb3.7/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.09**	**94**	P	**Pg**	**16 02 24.4**	**-0.5**
LTHK				S	**Sg**	**16 02 26.3**	**-0.6**
LTHK	**Lithakia**	**0.09**	**94**	P	**Pg**	**16 02 24.4**	**-0.5**
LTHK				S	**Sg**	**16 02 26.3**	**-0.6**
LTHK				AML	AML	16 02 26.5	
LTHK				AML	AML	16 02 26.9	
KYPS	**Kipseli, Zakin**	**0.13**	**37**	P	**Pg**	**16 02 26.0**	**+0.6**
KYPS				S	**Sg**	**16 02 28.6**	**+0.8**
ORTH	**Orthonies,Zaky**	**0.14**	**351**	P	**Pb**	**16 02 25.8**	**-0.6**
ORTH				S	**Sg**	**16 02 28.4**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.36**	**6**	P	**Pb**	**16 02 29.5**	**-0.7**
RTZL				S	**Sb**	**16 02 35.9**	**+0.2**
CLEM	**Kyllini,Ilia,G**	**0.37**	**62**	P	**Pb**	**16 02 29.8**	**-0.5**
CLEM				S	**Sb**	**16 02 36.3**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.41**	**344**	P	**Pb**	**16 02 30.3**	**-0.8**
PSDA				S	**Sb**	**16 02 37.6**	**+0.4**
	11μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.41**	**344**	P	**Pb**	**16 02 30.3**	**-0.8**
PSDA				S	**Sb**	**16 02 37.3**	**+0.1**
VLS	**Valsamata**	**0.47**	**347**	P	**Pb**	**16 02 31.2**	**-0.9**
VLS				S	**Sb**	**16 02 39.3**	**+0.3**
	6μm,0.2s						
VLS	**Valsamata**	**0.47**	**347**	P	**Pg**	**16 02 31.1**	**-0.3**
VLS				S	**Sb**	**16 02 37.8**	**-1.1**
VLS				AML	AML	16 02 40.8	
	comp=N,14349μm,0.3s						
VLS				AML	AML	16 02 42.0	
	comp=E,8409μm,0.2s						
SMHA	**Samh**	**0.54**	**354**	P	**Pg**	**16 02 31.8**	**-0.8**
SMHA				S	**Sb**	**16 02 39.8**	**-1.0**
SMHA				AML	AML	16 02 42.6	
	comp=N,62559μm,0.4s						
SMHA				AML	AML	16 02 44.1	
	comp=E,31388μm,0.4s						
DMLN	**Damoulianata-K**	**0.59**	**332**	P	**Pg**	**16 02 33.3**	**-0.3**
DMLN				S	**Sb**	**16 02 42.9**	**+0.5**
	comp=E,9μm,0.4s						
DMLN	**Damoulianata-K**	**0.59**	**332**	P	**Pg**	**16 02 33.3**	**-0.3**
RLS	**Riolos of Patr**	**0.68**	**60**	P	**Pb**	**16 02 35.1**	**-0.5**
RLS				S	**Sn**	**16 02 46.4**	**-1.2**
	comp=E,4μm,0.4s						
RLS	**Riolos of Patr**	**0.68**	**60**	P	**Pb**	**16 02 35.1**	**-0.5**
RLS				S	**Sn**	**16 02 46.2**	**-1.4**
RLS				AML	AML	16 02 47.6	
	comp=E,9609μm,0.5s						
RLS				AML	AML	16 02 47.7	
	comp=N,6869μm,0.3s						
FSK	**Fiskardo**	**0.75**	**350**	P	**Pg**	**16 02 35.8**	**-0.8**
FSK				S	**Sn**	**16 02 48.6**	**-0.8**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.75**	**350**	P	**Pg**	**16 02 35.9**	**-0.8**
FSK				S	**Sn**	**16 02 47.9**	**-1.6**
FSK				AML	AML	16 02 53.8	
	comp=E,5609μm,0.3s						
FSK				AML	AML	16 02 54.4	
	comp=N,4095μm,1.2s						
AMT	**Artemida-Makis**	**0.80**	**103**	P	**Pg**	**16 02 36.8**	**-0.7**
AMT				S	**Sb**	**16 02 49.2**	**+0.7**
AMT				AML	AML	16 02 52.0	
	comp=N,25385μm,0.5s						
AMT				AML	AML	16 02 52.2	
	comp=E,22321μm,0.3s						
DRO	**Drossia**	**0.82**	**73**	P	**Pb**	**16 02 37.6**	**-0.3**
DRO				S	**Sn**	**16 02 51.8**	**+0.8**
	comp=E,4μm,0.6s						
DRO	**Drossia**	**0.82**	**73**	P	**Pb**	**16 02 37.6**	**-0.3**
DRO				S	**Sn**	**16 02 51.0**	**0.0**
EVGI	**Lefkada island**	**0.91**	**357**	P	**Pg**	**16 02 38.6**	**-0.9**
EVGI				S	**Sn**	**16 02 53.6**	**+0.4**
	comp=E,2μm,0.4s						
EVGI	**Lefkada island**	**0.91**	**357**	P	**Pg**	**16 02 38.5**	**-0.9**
EVGI				S	**Sn**	**16 02 52.0**	**-1.2**
DRAG	**Dragano-Lefkad**	**0.97**	**353**	P	**Pg**	**16 02 40.0**	**-0.8**
DRAG				S	**Sn**	**16 02 56.2**	**+1.3**
DRAG	**Dragano-Lefkad**	**0.97**	**353**	P	**Pg**	**16 02 39.7**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.00**	**359**	P	**Pg**	**16 02 40.0**	**-1.2**
NYDR				S	**Sn**	**16 02 56.4**	**+1.0**
	comp=E,1μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.00**	**359**	P	**Pg**	**16 02 40.0**	**-1.2**
NYDR				S	**Sn**	**16 02 55.5**	**+0.1**
UPR	**University Cam**	**1.01**	**56**	P	**Pn**	**16 02 42.1**	**+0.3**
UPR				S	**Sn**	**16 02 58.8**	**+3.0**
LKD2	**Lefkada island**	**1.07**	**357**	P	**Pb**	**16 02 41.8**	**-0.5**
LKD2				S	**Sn**	**16 02 59.3**	**+1.9**
	comp=E,2μm,0.8s						
LKD2	**Lefkada island**	**1.07**	**357**	P	**Pb**	**16 02 41.8**	**-0.5**
ITM	**Ithomi**	**1.10**	**119**	P	**Pb**	**16 02 41.5**	**-1.2**
ITM				S	**Sn**	**16 02 58.9**	**+1.0**
	comp=E,2μm,0.5s						
ITM	**Ithomi**	**1.10**	**119**	P	**Pb**	**16 02 41.4**	**-1.4**
TSLK	**Tsoukalades, L**	**1.11**	**357**	P	**Pb**	**16 02 42.4**	**-0.5**
TSLK				S	**Sn**	**16 03 01.0**	**+2.8**
	comp=E,2μm,0.6s						
EFP	**Efpalio**	**1.17**	**52**	P	**Pg**	**16 02 43.5**	**-1.0**
EFP				S	**Sn**	**16 03 01.6**	**+1.8**
	comp=E,1μm,0.5s						
KLV	**Kalavryta, Ach**	**1.18**	**73**	P	**Pb**	**16 02 43.4**	**-0.7**
KLV	**Kalavryta, Ach**	**1.18**	**73**	P	**Pb**	**16 02 43.4**	**-0.7**
ANX	**Ano Chora**	**1.29**	**47**	P	**Pg**	**16 02 45.7**	**-1.0**
ANX				S	**Sn**	**16 03 05.8**	**+3.0**
	comp=E,3μm,0.5s						
GUR	**Goura**	**1.30**	**80**	P	**Pn**	**16 02 45.5**	**-0.3**
KALE	**Kalitiea**	**1.30**	**58**	P	**Pg**	**16 02 45.8**	**-1.3**
OHR	**Ohrid**	**3.39**	**1**	*i* Pn	**Pg**	**16 03 27.9**	**+1.0**
VAY	**Valandovo**	**3.87**	**21**	*i* Pn	**Pb**	**16 03 32.1**	**+2.1**
IDI	**Anoyia**	**4.14**	**125**	P	**Pn**	**16 03 26.6**	**+1.7**
	comp=E,2.1nm,0.3s,baz=274,slow=8.6,SNR=1.7						
IDI				S	**Sn**	**16 04 13.8**	**+0.7**
	comp=E,20nm,0.3s,baz=332,slow=8.6,SNR=17						
PEHC	**Pehcevo**	**4.39**	**22**	*i* Pn	**Pn**	**16 03 28.6**	**+0.3**
VAE	**Valguarnera**	**5.02**	**269**	P	**Pn**	**16 03 38.0**	**+1.2**
	comp=E,8.8nm,0.5s,baz=109,slow=16,SNR=1.8						
MLR	**Muntele Rosu**	**8.70**	**25**	P	Pn	16 04 34.1	+6.7
	comp=E,0.9nm,0.4s,baz=184,slow=16,SNR=2.3						
BRTR	**Keskin Array B**	**10.29**	**75**	P	Pn	16 04 54.9	+5.6
	comp=E,0.3nm,0.5s,baz=258,slow=12,SNR=2.1						
GERES	**GERESS Array B**	**12.24**	**338**	P	Pn	16 05 20.8	+5.0
	comp=E,0.3nm,0.4s,baz=146,slow=14,SNR=2.2						
MMAI	**Mount Meron Ar**	**12.86**	**107**	P	**Pn**	**16 05 26.2**	**+1.8**
	comp=E,1.1nm,0.6s,baz=294,slow=14,SNR=1.4						
AKASG	**Malin Array Be**	**14.33**	**22**	P	**P**	**16 05 49.1**	**-2.3**
	comp=E,0.2nm,0.5s,baz=209,slow=8.5,SNR=8.5						
HFS	**Hagfors**	**22.88**	**351**	P	**P**	**16 07 25.1**	**+0.2**
	comp=E,1.5nm,0.6s,baz=173,slow=13,SNR=6.2						
	comp=E,1.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.90**	**325**	P	**P**	**16 07 33.8**	**-1.2**
	comp=E,1.9nm,0.8s,baz=140,slow=8.9,SNR=1.6						
	comp=E,1.9nm,0.8s						
FINES	**FINESS Array B**	**23.99**	**6**	P	**P**	**16 07 35.1**	**-0.7**
	comp=E,2.1nm,0.9s,baz=184,slow=7.5,SNR=4.5						
FINES				LR	LR	16 18 58.0	
	comp=E,46nm,18.2s,baz=14,slow=41						
	comp=E,2.1nm,0.9s						
NOA	**NORSAR Array B**	**24.10**	**349**	P	**P**	**16 07 37.2**	**+0.3**
	comp=E,0.8nm,0.8s,baz=152,slow=8.9,SNR=2.2						
	comp=E,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**31.98**	**3**	P	**P**	**16 08 47.6**	**+0.3**
	comp=E,3.1nm,1.0s,baz=182,slow=9.0,SNR=1.7						
	comp=E,3.1nm,1.0s						
BVAR	**Borovoye Array**	**37.29**	**49**	P	**P**	**16 09 33.4**	**+0.1**
	comp=E,0.3nm,0.6s,baz=271,slow=4.3,SNR=1.8						
	comp=E,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**42.38**	**53**	P	**P**	**16 10 15.3**	**-0.3**
	comp=E,0.4nm,0.5s,baz=274,slow=8.8,SNR=1.7						
	comp=E,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.41**	**58**	P	**P**	**16 10 39.1**	**-1.0**
	comp=E,0.2nm,0.6s,baz=270,slow=7.9,SNR=7.1						
	comp=E,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**45.88**	**48**	P	**P**	**16 10 43.7**	**0.0**
	comp=E,0.6nm,0.5s,baz=270,slow=7.0,SNR=3.9						
	comp=E,0.6nm,0.5s						
FRB	**Frobisher Bay**	**56.63**	**328**	LR	LR	16 38 44.3	
	comp=E,22nm,19.8s,baz=310,slow=38						
CMAR	**Chiang Mai Arr**	**69.79**	**82**	P	**P**	**16 13 32.5**	**+0.3**
	comp=E,0.4nm,0.7s,baz=322,slow=8.9,SNR=2.2						
	comp=E,0.4nm,0.7s						

OSPL ***02*** *16:08:52.8±1.4, 19°.35N×68°.12W, h0km±14km, ML2.9, Hypocentre not reviewed by the ISC*
NEIC ***02*** *16:08:53.8±1.1, 19°.28N±0°.04×68°.11W±0°.03, h10km±1km, ML3.2/32, Md3.0/15(RSPR), Error ellipse: s-maj=7.2km s-min=4.6km az=8.0*
SDD ***02*** *16:08:54.0±2.2, 19°.25N×68°.08W, h17km±125km, MD3.5, ML2.7, MW3.3*
RSPR ***02*** *16:08:54.5, 19°.35N×68°.16W, h89km±6km, MD3.0/15*

ISC 02 16:08:54.1±2.1, 19°.26N±0°.08×68°.11W±0°.03, h16km±12km, n73, σ0°92/79, 15C-13D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.79**	**199**		**Sg**	**16 09 20.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.79**	**199**		**Pb**	**16 09 07.8**	**-1.6**
PCDR	**Punta Cana, DR**	**0.79**	**199**	IAML		16 09 25.3	
	comp=E,174nm,0.4s						
PCDR				IAML		16 09 27.0	
	comp=N,421nm,0.6s						
PCDR	**Punta Cana, DR**	**0.79**	**199**	↑*e*Pg	**Pb**	**16 09 08.1**	**-1.3**
PCDR				IAML		16 11 01.1	
	comp=N,165nm,1.9s						
PCDR	**Punta Cana, DR**	**0.79**	**199**	↑*e*P	**Pb**	**16 09 08.8**	**-0.5**
PCDR	**Punta Cana, DR**	**0.79**	**199**	*e*S	**Sg**	**16 09 20.9**	**+1.1**
PCDR	**Punta Cana, DR**	**0.79**	**199**	*i* P		16 09 08.1	
PCDR				*e*S		16 09 20.0	
PCDR				IAML		16 09 28.9	
	comp=Z,255nm,0.7s						
HIDR	**Higuey Centro**	**0.88**	**221**	↑*e*Pg	**Pb**	**16 09 08.9**	**-2.1**
HIDR				⇓*e*Sg	**Sb**	**16 09 21.9**	**-0.6**
HIDR				IAML		16 09 23.4	
	comp=N,516nm,0.2s						
IDE	**Isla Desecheo**	**1.06**	**145**		**Pb**	**16 09 11.6**	**-2.5**
IDE					**Sg**	**16 09 30.0**	**+1.5**
IDE	**Isla Desecheo**	**1.06**	**145**	⇓*e*P	**Pb**	**16 09 11.6**	**-2.5**
IDE	**Isla Desecheo**	**1.06**	**145**	*e*S	**Sg**	**16 09 30.0**	**+1.5**
AGPR	**Aguadilla, PR**	**1.23**	**130**		**Sg**	**16 09 34.8**	**+0.8**
AGPR	**Aguadilla, PR**	**1.23**	**130**		**Pn**	**16 09 14.9**	**-1.8**
AGPR	**Aguadilla, PR**	**1.23**	**130**	IAML		16 09 35.0	
	comp=N,416nm,0.4s						
AGPR				IAML		16 09 35.6	
	comp=E,580nm,0.6s						
AGPR	**Aguadilla, PR**	**1.23**	**130**	↑*e*Pg	**Pn**	**16 09 15.1**	**-1.6**
AGPR				⇓*e*Sg	**Sb**	**16 09 31.8**	**-0.9**
AGPR				IAML		16 09 35.3	
	comp=N,356nm,0.2s						
AGPR	**Aguadilla, PR**	**1.23**	**130**	↑*e*P	**Pn**	**16 09 16.5**	**-0.2**
AGPR	**Aguadilla, PR**	**1.23**	**130**	*e*S	**Sg**	**16 09 34.8**	**+0.8**
AGPR	**Aguadilla, PR**	**1.23**	**130**	*i* P		16 09 15.3	
AGPR				*e*S		16 09 33.5	
AGPR				IAML		16 09 39.5	
	comp=Z,222nm,0.2s						
DR12	**Loma Pena Alta**	**1.29**	**249**		**Pn**	**16 09 16.1**	**-1.4**
DR12				IAML		16 09 36.1	
	comp=N,332nm,0.6s						
HATOM	**Hato Mayor del**	**1.29**	**249**	⇓*e*Pg	**Pn**	**16 09 16.5**	**-1.0**
HATOM				⇓*e*Sg	**Sb**	**16 09 34.9**	**+0.5**
HATOM				IAML		16 09 35.9	
	comp=N,300nm,0.6s						
PRSN	**Puerto Rico Se**	**1.39**	**138**		**Pn**	**16 09 19.0**	**+0.2**
PRSN					**Sg**	**16 09 39.2**	**+0.4**
PRSN	**Puerto Rico Se**	**1.39**	**138**	IAML		16 09 43.4	
	comp=E,510nm,0.3s						
PRSN	**Puerto Rico Se**	**1.39**	**138**	⇓*e*Pg	**Pn**	**16 09 18.6**	**-0.1**
PRSN				IAML		16 11 32.7	
	comp=N,44nm,0.3s						
PRSN	**Puerto Rico Se**	**1.39**	**138**	⇓*e*P	**Pn**	**16 09 19.0**	**+0.2**
PRSN	**Puerto Rico Se**	**1.39**	**138**	*e*S	**Sg**	**16 09 39.2**	**+0.4**
LSP	**Las Mesas**	**1.45**	**138**		**Pn**	**16 09 20.1**	**+0.4**
LSP					**Sg**	**16 09 41.3**	**+0.3**
LSP	**Las Mesas**	**1.45**	**138**	⇓*e*P	**Pn**	**16 09 20.1**	**+0.4**
LSP	**Las Mesas**	**1.45**	**138**	*e*S	**Sg**	**16 09 41.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**		**Pn**	**16 09 22.0**	**+0.7**
CRPR					**Sb**	**16 09 43.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	↑*e*P	**Pn**	**16 09 22.0**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	*e*S	**Sb**	**16 09 43.0**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	*i* P		16 09 22.0	
CRPR				*e*S		16 09 41.5	
CRPR				IAML		16 09 45.5	
	comp=Z,367nm,0.9s						
AOPR	**Arecibo Observ**	**1.58**	**125**		**Pn**	**16 09 21.1**	**-0.4**
AOPR					**Sb**	**16 09 43.1**	**+0.5**
AOPR	**Arecibo Observ**	**1.58**	**125**	IAML		16 09 50.1	
	comp=N,365nm,0.5s						
AOPR	**Arecibo Observ**	**1.58**	**125**	⇓*e*Pg	**Pn**	**16 09 20.1**	**-1.3**
AOPR				IAML		16 11 13.8	
	comp=N,25nm,1.9s						
AOPR	**Arecibo Observ**	**1.58**	**125**	↑*e*P	**Pn**	**16 09 21.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.58**	**125**	*e*S	**Sb**	**16 09 43.1**	**+0.5**
MLPR	**Magueyes Islan**	**1.64**	**142**		**Pn**	**16 09 21.9**	**-0.4**
MLPR					**Sb**	**16 09 44.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.64**	**142**	IAML		16 09 49.1	
	comp=E,148nm,0.5s						
MLPR	**Magueyes Islan**	**1.64

SDDR IAML 16 10 41.1
comp=E,45nm,0.8s

---

*IDC **02** 16:25:14.4±3.8,3°.03S×100°.05E,h0km,mb3.3/6, mbtmp3.3/6,Error ellipse: s-maj=149.6km s-min=22.8km az=57.0*
*DJA **02** 16:25:18.1±0.4,3°S±5°×10°0E±°,h25km±3km,M3.6/7, MLv3.6/7*
ISC 02 16:25:18.9±1.0,2°.8S±0°.1×100°.1E±0°.1,h27km,n22, σ1§16/15,mb3.3/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.10**	**312**	P	**Pb**	**16 25 23.5**	**-0.3**
PPSI				S	**Sb**	**16 25 27.3**	**+0.2**
SISI	**Saibi**	**1.79**	**326**	P	**Pn**	**16 25 47.2**	**-0.9**
SISI				S	**Sn**	**16 26 09.6**	**-0.4**
PPI	**Padang Panjang**	**2.38**	**8**	P	**Pn**	**16 25 56.0**	**-0.1**
MNAI	**Manna**	**3.25**	**118**	P	**Pn**	**16 26 07.9**	**-0.2**
BKNI	**Bangkinang**	**3.28**	**17**	P	**Pn**	**16 26 06.8**	**-1.7**
PBSI	**Pulau Batu**	**3.29**	**327**	P	**Pn**	**16 26 08.0**	**-0.7**
MDSI	**Maura Dua**	**4.41**	**112**	P	**Pn**	**16 26 23.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.18**	**357**	P	**P**	**16 30 04.6**	**+2.2**
	0.2nm,0.4s,baz=191,slow=10,SNR=4.3 0.2nm,0.4s						
H08S2	**Diego Garcia H**	**27.88**	**259**	T	T	17 00 04.5	
	baz=83,slow=76						
H08S3	**Diego Garcia H**	**27.89**	**259**	T	T	17 00 07.4	
	baz=83,slow=76						
H08S1	**Diego Carcia H**	**27.90**	**259**	T	T	17 00 05.5	
	baz=83,slow=76						
WRA	**Warramunga Arr**	**37.51**	**120**	P	**P**	**16 32 30.1**	**-0.8**
	0.2nm,0.4s,baz=300,slow=8.0,SNR=1.2 0.2nm,0.4s						
ASAR	**Alice Springs**	**38.70**	**125**	P	**P**	**16 32 39.5**	**-1.5**
	0.3nm,0.9s,baz=298,slow=7.5,SNR=4.1 0.3nm,0.9s						
SONM	**Songino Array**	**50.76**	**5**	P	**P**	**16 34 16.7**	**0.0**
	0.6nm,0.7s,baz=167,slow=7.1,SNR=3.7 0.6nm,0.7s						
MKAR	**Makanchi Array**	**51.84**	**345**	P	**P**	**16 34 25.2**	**+0.4**
	0.2nm,0.4s,baz=158,slow=8.8,SNR=5.6 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**57.99**	**349**	P	**P**	**16 35 10.9**	**+1.9**
	0.2nm,0.3s,baz=151,slow=6.3,SNR=1.9 0.2nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.18**	**217**	T	T	17 40 33.5	
	baz=58,slow=75,SNR=519						
H04N1	**CROZET ISLANDS**	**60.20**	**217**	T	T	17 40 34.0	
	baz=58,slow=75,SNR=532						
H04N3	**CROZET ISLANDS**	**60.20**	**217**	T	T	17 40 32.4	
	baz=58,slow=75,SNR=494						
H04S1	**CROZET ISLANDS**	**60.47**	**216**	T	T	17 40 57.9	
	baz=58,slow=75,SNR=93						
H04S3	**CROZET ISLANDS**	**60.48**	**216**	T	T	17 40 58.0	
	baz=58,slow=75,SNR=122						
H04S2	**CROZET ISLANDS**	**60.48**	**216**	T	T	17 40 58.9	
	baz=58,slow=75,SNR=89						

---

*IDC **02** 16:38:34.1±1.8,2°.20N×128°.04E,h0km,mb3.6/4, mbtmp3.8/5,ML4.3/1,Error ellipse: s-maj=58.1km s-min=26.9km az=65.0*
*DJA **02** 16:38:49.6±0.5,2°N±4°×12°7E±°,h109km±8km,M4.0/13, mB5.0/2,mb4.2/4,MLv4.0/13,Mw(mB)4.3/2*
ISC 02 16:38:47.5±1.3,2°.0N±0°.1×127°.4E±0°.1,h112km,n12, σ1§52/12,mb3.5/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**182**	P	**Pn**	**16 39 13.6**	**+2.7**
SGSI	**Sangihe**	**2.54**	**312**	P	**Pn**	**16 39 28.2**	**+0.7**
KMSI	**Cibinong**	**3.70**	**248**	P	**Pn**	**16 39 42.8**	**-0.1**
SANI	**Sanana**	**4.24**	**200**	P	**Pn**	**16 39 48.7**	**-1.4**
NLAI	**Namlea**	**5.18**	**183**	P	**Pn**	**16 40 04.2**	**+1.3**
	2μm48nm,0.7s						
LUWI	**Luwuk**	**5.52**	**237**	P	**Pn**	**16 40 08.2**	**+0.8**
	0.3nm1μm44nm,0.7s						
MRSI	**Marisa**	**5.67**	**255**	P	**Pn**	**16 40 10.0**	**+0.6**
	0.1nm22nm,0.6s						
KAPI	**Kappang**	**10.33**	**228**	Pn	**Pn**	**16 41 13.0**	**+0.4**
	2.3nm,0.3s,baz=37,slow=10,SNR=3.5 5.7nm,0.4s						
WRA	**Warramunga Arr**	**22.81**	**163**	P	**P**	**16 43 40.5**	**-0.6**
	0.8nm,0.3s,baz=343,slow=11,SNR=29 0.8nm,0.3s						
ASAR	**Alice Springs**	**26.25**	**166**	P	**P**	**16 44 11.5**	**-0.9**
	0.2nm,0.3s,baz=344,slow=10,SNR=8.8 0.2nm,0.3s						
STKA	**Stephens Creek**	**36.25**	**159**	P	**P**	**16 45 38.0**	**-2.0**
	1.4nm,0.5s,baz=349,slow=10,SNR=3.1 1.4nm,0.5s						
MKAR	**Makanchi Array**	**59.38**	**326**	P	**P**	**16 48 39.8**	**+1.7**
	0.2nm,0.6s,baz=119,slow=7.3,SNR=2.2 0.2nm,0.6s						

---

*AEIC **02** 16:54:51.6±1.4,59°.32N±0°.02×136°.49W±0°.03,h3km±6km, ML3.4,ML3.6/87(NEIC),Error ellipse: s-maj=2.8km s-min=2.1km az=48.0*
*ANF **02** 16:54:51.7±0.3,59°.33N×136°.52W,h4km±2km,ML3.8/32, ML3.8/37,Error ellipse: s-maj=2.0km s-min=1.2km az=58.0*
*NEIC **02** 16:54:51.8±1.9,59°.35N±0°.01×136°.52W±0°.05,h5km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=64.0*
*PGC **02** 16:54:52.4±0.1,59°.33N×136°.52W,h1km,ML3.6/30,ML3.4, 77km west of Haines, Ak Southeastern Alaska*
ISC 02 16:54:51.8±0.9,59°.35N±0°.01×136°.52W±0°.02,h9km±7km, n215,σ1§53/297,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.14**	**36**	P	**Pg**	**16 54 55.1**	**+0.3**
	baz=206,SNR=1000						
PLBC				S	**Sg**	**16 54 57.1**	**+0.2**
	baz=206						
SKAG	**Skagway**	**0.62**	**79**	Pg	**Pg**	**16 55 03.3**	**-0.4**
SKAG				Sg	**Sg**	**16 55 11.7**	**-0.1**
SKAG	**Skagway**	**0.62**	**79**	P	**Pg**	**16 55 03.7**	**-0.1**
	baz=258,SNR=654						
SKAG				S	**Sg**	**16 55 11.9**	**+0.1**
	baz=258						
P30M	**Million Dollar**	**0.81**	**344**		**Pg**	**16 55 07.0**	**-0.3**
P30M					**Sg**	**16 55 17.5**	**-0.3**
P30M	**Million Dollar**	**0.81**	**344**	P	**Pg**	**16 55 06.9**	**-0.4**
P30M				S	**Sg**	**16 55 17.4**	**-0.3**
P30M	**Million Dollar**	**0.81**	**344**	P	**Pg**	**16 55 06.9**	**-0.4**
	baz=163						
P30M				S	**Sg**	**16 55 17.6**	**-0.3**
	baz=163						
R31K	**City Hall, Gus**	**1.02**	**156**		**Pg**	**16 55 10.7**	**-0.6**
R31K					**Sg**	**16 55 24.7**	**+0.2**
R31K	**City Hall, Gus**	**1.02**	**156**	P	**Pg**	**16 55 10.5**	**-0.9**
R31K				S	**Sg**	**16 55 24.6**	**0.0**
R31K	**City Hall, Gus**	**1.02**	**156**	P	**Pg**	**16 55 10.7**	**-0.6**
	baz=338,SNR=51						
R31K				S	**Sg**	**16 55 24.7**	**+0.2**
	baz=338						
BESE	**Bessie Mountai**	**1.16**	**131**		**Pb**	**16 55 12.9**	**-1.0**
BESE	**Bessie Mountai**	**1.16**	**131**		**Sb**	**16 55 28.5**	**-0.6**
BESE	**Bessie Mountai**	**1.16**	**131**	P	**Pb**	**16 55 12.9**	**-1.0**
BESE				S	**Sb**	**16 55 28.5**	**-0.6**
S31K	**Pelican**	**1.40**	**174**		**Pn**	**16 55 16.8**	**-0.5**
S31K				Sn	**Sg**	**16 55 37.4**	**+0.7**
S31K				IAML		16 55 37.6	
	comp=N,1μm,0.3s						
S31K				IAML		16 55 37.6	
	comp=E,1μm,0.5s						
S31K	**Pelican**	**1.40**	**174**	Pn	**Pn**	**16 55 16.9**	**-0.5**
S31K				Sg	**Sg**	**16 55 36.5**	**-0.1**
S31K	**Pelican**	**1.40**	**174**	P	**Pn**	**16 55 16.9**	**-0.5**
	baz=355,SNR=1000						
S31K				S	**Sg**	**16 55 37.1**	**+0.5**
	baz=355						
S31K				S	**Sg**	**16 55 37.1**	**+0.5**
	baz=355						
O29M	**Mount Kennedy**	**1.41**	**314**		**Pn**	**16 55 17.1**	**-0.6**
O29M				IAML		16 55 41.9	
	comp=N,1μm,0.4s						
O29M	**Mount Kennedy**	**1.41**	**314**	Pn	**Pn**	**16 55 17.2**	**-0.6**
O29M				Sn	**Sn**	**16 55 35.9**	**-0.7**
O29M	**Mount Kennedy**	**1.41**	**314**	P	**Pn**	**16 55 17.2**	**-0.5**
	baz=132						
O29M				S	**Sg**	**16 55 37.0**	**-0.1**
	baz=132						
YUK7	**Dusty Glacier**	**1.44**	**326**		**Pn**	**16 55 18.1**	**-0.1**
YUK7	**Dusty Glacier**	**1.44**	**326**	Pn	**Pn**	**16 55 17.9**	**-0.3**
YUK7				Sn	**Sn**	**16 55 36.7**	**-0.7**
O30N	**Mendenhall**	**1.44**	**8**		**Pn**	**16 55 18.3**	**+0.2**
O30N				IAML		16 55 38.0	
	comp=E,972nm,0.2s						
O30N				IAML		16 55 44.1	
	comp=N,554nm,0.3s						
O30N	**Mendenhall**	**1.44**	**8**		**Sb**	**16 55 37.2**	**-0.2**
O30N	**Mendenhall**	**1.44**	**8**	Pn	**Pn**	**16 55 18.4**	**+0.2**
O30N				Sg	**Sn**	**16 55 36.7**	**-0.5**
O30N	**Mendenhall**	**1.44**	**8**	P	**Pn**	**16 55 18.3**	**+0.2**
	baz=188,SNR=1000						
O30N				S	**Sb**	**16 55 37.3**	**-0.1**
	baz=188						
P32M	**Atlin**	**1.45**	**79**	Pn	**Pb**	**16 55 18.6**	**-0.4**
P32M				IAML		16 55 40.5	
	comp=E,961nm,0.4s						
P32M				IAML		16 55 41.0	
	comp=N,1μm,0.2s						
P32M	**Atlin**	**1.45**	**79**		**Sg**	**16 55 38.1**	**-0.3**
P32M	**Atlin**	**1.45**	**79**	Pn	**Pb**	**16 55 18.6**	**-0.4**
P32M				Sn	**Sg**	**16 55 38.3**	**-0.1**
P32M	**Atlin**	**1.45**	**79**	P	**Pb**	**16 55 18.5**	**-0.4**
	baz=261,SNR=647						
P32M				S	**Sb**	**16 55 38.0**	**+0.4**
	baz=261						
R32K	**Eaglecrest**	**1.50**	**135**		**Pn**	**16 55 18.7**	**-0.2**
R32K				Sn	**Sg**	**16 55 39.9**	**+0.1**
R32K	**Eaglecrest**	**1.50**	**135**	Pn	**Pn**	**16 55 18.5**	**-0.3**
R32K	**Eaglecrest**	**1.50**	**135**	P	**Pn**	**16 55 18.5**	**-0.3**
	baz=317,SNR=52						
R32K				S	**Sb**	**16 55 39.2**	**+0.4**
	baz=317						
R32K				S	**Sb**	**16 55 39.2**	**+0.4**
	baz=317						
JIS	**Juneau Island**	**1.55**	**133**		**Pn**	**16 55 19.1**	**-0.3**
JIS					**Sb**	**16 55 39.9**	**-0.3**
WHY	**Whitehorse**	**1.55**	**31**		**Pb**	**16 55 20.5**	**-0.2**
WHY				IAML		16 55 43.6	
	comp=E,1μm,0.4s						
WHY				IAML		16 55 44.2	
	comp=N,1μm,0.3s						
WHY	**Whitehorse**	**1.55**	**31**	Pn	**Pb**	**16 55 20.6**	**-0.2**
WHY				Sg	**Sg**	**16 55 41.3**	**-0.4**
WHY	**Whitehorse**	**1.55**	**31**	P	**Pb**	**16 55 20.5**	**-0.2**
	baz=212,SNR=1000						
WHY				S	**Sg**	**16 55 41.1**	**-0.6**
	baz=212						
HYT	**Haines Junctio**	**1.56**	**342**	Pn	**Pn**	**16 55 19.7**	**-0.1**
HYT	**Haines Junctio**	**1.56**	**342**	Pn	**Pn**	**16 55 19.6**	**-0.3**
HYT	**Haines Junctio**	**1.56**	**342**	P	**Pn**	**16 55 19.6**	**-0.3**
	baz=161,SNR=981						
HYT				S	**Sg**	**16 55 41.7**	**-0.3**
	baz=161						
YUK6	**Outpost Mounta**	**1.85**	**331**		**Pn**	**16 55 24.7**	**+0.9**
YUK6	**Outpost Mounta**	**1.85**	**331**	Pn	**Pn**	**16 55 24.4**	**+0.5**
YUK6				Sg	**Sb**	**16 55 49.9**	**+0.8**
YUK6	**Outpost Mounta**	**1.85**	**331**	P	**Pn**	**16 55 24.2**	**+0.4**
	baz=149,SNR=1000						
YUK6				S	**Sb**	**16 55 49.5**	**+0.4**
	baz=149						
YUK5	**Granite Creek**	**1.91**	**340**		**Pb**	**16 55 25.7**	**-1.2**
YUK5	**Granite Creek**	**1.91**	**340**	Pn	**Pb**	**16 55 25.8**	**-1.0**
PINM	**Pinnacle**	**2.03**	**293**	P	**Pb**	**16 55 27.7**	**-1.2**
	baz=110,SNR=251						
PINM				Sb	**Sg**	**16 55 56.2**	**-0.9**
	baz=110						
PCA	**Pinnacle**	**2.04**	**293**	Pn	**Pn**	**16 55 27.5**	**+1.3**
PCA	**Pinnacle**	**2.04**	**293**	Pn	**Pn**	**16 55 27.5**	**+1.3**
PCA				Sg	**Sb**	**16 55 55.5**	**+1.1**
P33M	**Teslin, Yukon**	**2.06**	**64**		**Pn**	**16 55 27.7**	**+1.0**
P33M				IAML		16 55 57.9	
	comp=N,565nm,0.7s						
P33M				IAML		16 55 58.7	
	comp=E,372nm,0.5s						
P33M	**Teslin, Yukon**	**2.06**	**64**	Pn	**Pn**	**16 55 27.7**	**+1.0**
P33M				Sg	**Sg**	**16 55 56.7**	**-1.3**
P33M	**Teslin, Yukon**	**2.06**	**64**	P	**Pn**	**16 55 27.5**	**+0.8**
	baz=246,SNR=219						
P33M				Sb	**Sg**	**16 55 56.9**	**-1.2**
	baz=246						
N30M	**Aishikik Lake**	**2.14**	**353**		**Pn**	**16 55 28.7**	**+1.0**
N30M	**Aishikik Lake**	**2.14**	**353**	IAML		16 56 00.8	
	comp=E,397nm,0.4s						
N30M				IAML		16 56 07.4	
	comp=N,347nm,0.3s						
N30M	**Aishikik Lake**	**2.14**	**353**	Pn	**Pn**	**16 55 28.9**	**+1.2**
N30M				Pg	**Pb**	**16 55 31.1**	**+0.4**
N30M				Sg	**Sg**	**16 55 59.3**	**-1.1**
N30M	**Aishikik Lake**	**2.14**	**353**	Pb	**Pb**	**16 55 31.0**	**+0.4**
	baz=172						
N30M				Sb	**Sg**	**16 55 59.4**	**-0.9**
	baz=172						
S32K	**Killisnoo**	**2.15**	**151**	Pn	**Pb**	**16 55 29.2**	**-1.5**
S32K				IAML		16 56 03.8	
	comp=E,300nm,0.6s						
S32K	**Killisnoo**	**2.15**	**151**	Pn	**Pn**	**16 55 27.3**	**-0.4**
S32K				Pg	**Pb**	**16 55 29.9**	**-0.8**
S32K	**Killisnoo**	**2.15**	**151**	P	**Pn**	**16 55 27.5**	**-0.2**
	baz=333						
S32K				Sb	**Sb**	**16 55 58.4**	**+1.0**
	baz=333						
S32K				Sb	**Sb**	**16 55 58.4**	**+1.0**
	baz=333						
N31M	**Braeburn, Yuko**	**2.18**	**9**	Pn	**Pn**	**16 55 29.6**	**+1.5**
N31M				IAML		16 56 02.9	
	comp=E,588nm,0.3s						
N31M	**Braeburn, Yuko**	**2.18**	**9**	Pn	**Pn**	**16 55 29.7**	**+1.5**
N31M				Sg	**Sg**	**16 56 00.5**	**-1.1**
N31M	**Braeburn, Yuko**	**2.18**	**9**	P	**Pn**	**16 55 29.2**	**+1.0**
	baz=189,SNR=90						
N31M				Sb	**Sg**	**16 56 00.6**	**-1.1**
	baz=189						
Q32M	**Nakina River**	**2.23**	**98**	Pn	**Pn**	**16 55 30.4**	**+1.4**
Q32M	**Nakina River**	**2.23**	**98**	Pn	**Pn**	**16 55 30.0**	**+1.0**
Q32M	**Nakina River**	**2.23**	**98**	P	**Pn**	**16 55 29.8**	**+0.8**
	baz=282						
Q32M				S	**Sb**	**16 55 58.2**	**-1.7**
	baz=282						
YUK4	**Talbot Arm**	**2.27**	**333**	Pn	**Pb**	**16 55 31.5**	**-1.4**
YUK4				Pg	**Pg**	**16 55 34.2**	**-0.9**
YUK4	**Talbot Arm**	**2.27**	**333**	Pb	**Pg**	**16 55 34.0**	**-1.1**
	baz=153,SNR=192						
YUK4				Sb	**Sg**	**16 56 05.1**	**+0.6**
	baz=153						
SAMH	**Samovar Hills**	**2.29**	**292**		**Pb**	**16 55 31.6**	**-1.8**
SAMH	**Samovar Hills**	**2.29**	**292**	Pn	**Pb**	**16 55 32.0**	**-1.4**
SAMH				Sg	**Sb**	**16 56 02.8**	**+1.0**
O28M	**Mount Upton**	**2.33**	**309**		**Pn**	**16 55 31.7**	**+1.2**
O28M	**Mount Upton**	**2.33**	**309**	Pn	**Pn**	**16 55 31.9**	**+1.4**
O28M	**Mount Upton**	**2.33**	**309**	Pb	**Pb**	**16 55 34.2**	**+0.2**
	baz=126						
O28M				Sb	**Sg**	**16 56 05.4**	**-1.1**
	baz=126						
BRWY	**Burwash Landin**	**2.38**	**329**	Pn	**Pn**	**16 55 32.8**	**+1.8**
BRWY				Pg	**Pb**	**16 55 35.1**	**+0.3**
BRWY				Sg	**Sg**	**16 56 08.2**	**0.0**
SIT	**Sitka**	**2.38**	**164**		**Pn**	**16 55 31.3**	**+0.3**
SIT				IAML		16 56 16.8	
	comp=E,202nm,0.7s						
SIT	**Sitka**	**2.38**	**164**	P	**Pn**	**16 55 31.3**	**+0.3**
	baz=346						
SIT				S	**Sn**	**16 56 01.6**	**+1.4**
	baz=346						
N32M	**Quiet Lake**	**2.49**	**42**		**Pn**	**16 55 34.0**	**+1.4**
N32M	**Quiet Lake**	**2.49**	**42**	Pn	**Pn**	**16 55 34.0**	**+1.4**
N32M				Sg	**Sb**	**16 56 09.4**	**+1.9**
N32M	**Quiet Lake**	**2.49**	**42**	P	**Pn**	**16 55 33.8**	**+1.3**
	baz=224						
N32M				Sb	**Sg**	**16 56 09.9**	**-1.9**
	baz=224						
YUK8	**Steele Glacier**	**2.52**	**322**		**Pn**	**16 55 34.6**	**+1.4**
YUK8	**Steele Glacier**	**2.52**	**322**	Pn	**Pn**	**16 55 34.4**	**+1.2**
YUK8				Pg	**Pb**	**16 55 37.7**	**+0.3**
YUK8				Sg	**Sg**	**16 56 11.4**	**-1.4**
YUK8	**Steele Glacier**	**2.52**	**322**	P	**Pn**	**16 55 34.0**	**+0.8**
	baz=139,SNR=292						
YUK8				Sb	**Sg**	**16 56 11.4**	**-1.4**
	baz=139						
RKAV	**Rock Avalanche**	**2.62**	**293**		**Pn**	**16 55 36.2**	**+1.9**
RKAV	**Rock Avalanche**	**2.62**	**293**	Pn	**Pn**	**16 55 36.2**	**+1.9**
RKAV				Sg	**Sb**	**16 56 10.2**	**-1.0**
R33M	**Jennings River**	**2.84**	**87**	Pn	**Pn**	**16 55 38.4**	**+1.0**
R33M				IAML		16 56 23.0	
	comp=N,184nm,0.6s						
R33M				IAML		16 56 24.3	
	comp=E,209nm,0.4s						
R33M	**Jennings River**	**2.84**	**87**	Pn	**Pn**	**16 55 38.4**	**+1.0**
R33M	**Jennings River**	**2.84**	**87**	P	**Pn**	**16 55 38.3**	**+0.8**
	baz=271						
R33M				S	**Sn**	**16 56 12.9**	**+1.1**
	baz=271						
MESA	**MESA**	**2.87**	**289**		**Pn**	**16 55 39.1**	**+1.3**
MESA				IAML		16 56 20.9	
	comp=E,295nm,0.5s						
MESA				IAML		16 56 21.2	
	comp=N,295nm,0.6s						
MESA	**MESA**	**2.87**	**289**	Pn	**Pn**	**16 55 38.9**	**+1.1**
MESA	**MESA**	**2.87**	**289**	P	**Pn**	**16 55 39.0**	**+1.1**
	baz=105,SNR=76						
M31M	**Drury Creek, Y**	**3.05**	**19**	Pn	**Pn**	**16 55 42.0**	**+1.9**
M31M				IAML		16 56 30.4	
	comp=E,251nm,0.5s						
M31M				IAML		16 56 30.7	
	comp=N,250nm,0.4s						
M31M	**Drury Creek, Y**	**3.05**	**19**	Pn	**Pn**	**16 55 42.1**	**+2.0**
M31M				Pg	**Pb**	**16 55 46.7**	**+0.5**
M31M				Sg	**Sb**	**16 56 26.1**	**+2.6**
M31M	**Drury Creek, Y**	**3.05**	**19**	P	**Pn**	**16 55 41.8**	**+1.7**
	baz=200,SNR=46						
M31M				Sb	**Sb**	**16 56 26.3**	**+2.8**
	baz=200						
YUK3	**Moose Creek**	**3.12**	**323**	Pn	**Pn**	**16 55 42.6**	**+1.3**
YUK3				Pg	**Pb**	**16 55 47.6**	**+0.2**
YUK3	**Moose Creek**	**3.12**	**323**	P	**Pn**	**16 55 42.2**	**+1.0**
	baz=140,SNR=51						
YUK3				Sb	**Sg**	**16 56 29.4**	**-2.4**
	baz=140						
S34M	**Telegraph Cree**	**3.17**	**115**	Pn	**Pn**	**16 55 42.4**	**+0.7**
S34M	**Telegraph Cree**	**3.17**	**115**	Pn	**Pn**	**16 55 42.5**	**+0.8**
S34M				Sg	**Sg**	**16 56 30.8**	**-2.5**
S34M	**Telegraph Cree**	**3.17**	**115**	P	**Pn**	**16 55 42.5**	**+0.8**
	baz=299,SNR=13						
S34M				Sb	**Sg**	**16 56 30.0**	**-3.3**
	baz=299						
T33K	**Petersburg**	**3.17**	**142**	Sb	**Sb**	**16 56 30.0**	**+3.1**
	baz=325						
M30M	**Minto, Yukon**	**3.24**	**358**	IAML		16 56 34.8	
	comp=E,140nm,0.6s						
M30M				IAML		16 56 40.2	
	comp=N,95nm,0.7s						
M30M	**Minto, Yukon**	**3.24**	**358**	Pn	**Pn**	**16 55 43.7**	**+0.9**
M30M				Pg	**Pb**	**16 55 49.8**	**+0.3**
M30M				Sg	**Sb**	**16 56 31.9**	**+2.9**
M30M	**Minto, Yukon**	**3.24**	**358**	P	**Pn**	**16 55 43.7**	**+0.9**
	baz=177,SNR=40						
M30M				Sb	**Sb**	**16 56 32.3**	**+3.3**
	baz=177						
YUK2	**White River**	**3.25**	**321**		**Pn**	**16 55 44.6**	**+1.7**
YUK2	**White River**	**3.25**	**321**	Pn	**Pn**	**16 55 45.2**	**+2.3**
M29M	**Somme Creek**	**3.25**	**344**	Pn	**Pn**	**16 55 44.5**	**+1.5**
M29M				IAML		16 56 42.7	
	comp=E,104nm,0.9s						
M29M				IAML		16 56 46.8	
	comp=N,98nm,0.8s						
M29M	**Somme Creek**	**3.25**	**344**	Pn	**Pn**	**16 55 44.2**	**+1.3**
M29M				Pg	**Pg**	**16 55 52.0**	**-1.9**
M29M	**Somme Creek**	**3.25**	**344**	P	**Pn**	**16 55 44.1**	**+1.2**
	baz=162						
M29M				Sb	**Sg**	**16 56 33.6**	**-2.4**
	baz=162						
FARO	**Faro, Yukon**	**3.28**	**27**		**Pn**	**16 55 45.7**	**+2.3**
FARO	**Faro, Yukon**	**3.28**	**27**	Pn	**Pn**	**16 55 45.4**	**+2.0**
FARO				Pg	**Pb**	**16 55 52.3**	**+2.1**
FARO				Sg	**Sg**	**16 56 33.8**	**-3.3**
FARO	**Faro, Yukon**	**3.28**	**27**	P	**Pn**	**16 55 44.8**	**+1.4**
	baz=209,SNR=24						
FARO				Sb	**Sb**	**16 56 33.5**	**+3.3**
	baz=209						
SNH	**Sunshine Point**	**3.30**	**287**		**Pn**	**16 55 46.5**	**+2.8**
SNH				IAML		16 56 45.1	
	comp=N,102nm,1.0s						
KIAG	**Kiagna River**	**3.32**	**301**		**Pn**	**16 55 45.2**	**+1.2**
KIAG	**Kiagna River**	**3.32**	**301**	Pn	**Pn**	**16 55 45.4**	**+1.4**
BALM	**Baldy**	**3.37**	**303**		**Pn**	**16 55 45.9**	**+1.4**
BALM	**Baldy**	**3.37**	**303**	Pn	**Pn**	**16 55 46.0**	**+1.4**
DLBC	**Dease Lake**	**3.49**	**102**	Pn	**Pn**	**16 55 47.6**	**+1.3**
DLBC				IAML		16 56 42.7	
	comp=E,87nm,0.4s						
DLBC				IAML		16 56 47.2	
	comp=N,165nm,0.5s						
DLBC	**Dease Lake**	**3.49**	**102**	Pn	**Pn**	**16 55 47.3**	**+0.9**
DLBC	**Dease Lake**	**3.49**	**102**	P	**Pn**	**16 55 47.2**	**+0.9**
	baz=288,SNR=36						
DLBC				Sb	**Sb**	**16 56 39.8**	**+3.5**
	baz=288						
WRAK	**Wrangell Islan**	**3.69**	**141**		**Pn**	**16 55 48.5**	**-0.3**
WRAK	**Wrangell Islan**	**3.69**	**141**	Pn	**Pn**	**16 55 48.9**	**+0.1**
WRAK	**Wrangell Islan**	**3.69**	**141**	P	**Pn**	**16 55 48.6**	**-0.2**
	baz=325						
WRAK				Sb	**Sb**	**16 56 44.8**	**+3.1**
	baz=325						
U33K	**Whale Pass**	**3.72**	**149**		**Pn**	**16 55 49.4**	**+0.1**
U33K				IAML		16 56 56.0	
	comp=E,72nm,0.7s						
U33K	**Whale Pass**	**3.72**	**149**	Pn	**Pn**	**16 55 49.2**	**-0.1**
U33K	**Whale Pass**	**3.72**	**149**	P	**Pn**	**16 55 49.2**	**-0.1**
	baz=332						
U33K				S	**Sn**	**16 56 33.1**	**0.0**
	baz=332						
U33K				S	**Sn**	**16 56 33.1**	**0.0**
	baz=332						
BVCY	**Beaver Creek**	**3.74**	**327**	Pg	**Pb**	**16 55 58.9**	**+1.0**
BVCY	**Beaver Creek**	**3.74**	**327**	Pb	**Pb**	**16 55 58.5**	**+0.6**
	baz=143						
L29M	**L29M**	**3.85**	**349**		**Pn**	**16 55 52.4**	**+1.2**
L29M	**L29M**	**3.85**	**349**	Pn	**Pn**	**16 55 52.4**	**+1.2**
L29M				Sg	**Sg**	**16 56 53.0**	**-2.4**
L29M	**L29M**	**3.85**	**349**	P	**Pn**	**16 55 52.5**	**+1.2**
	baz=167						
L29M				Sb	**Sg**	**16 56 52.5**	**-2.9**
	baz=167						
VRDI	**Verde Repeater**	**3.93**	**302**	Pn	**Pn**	**16 55 51.6**	**-0.8**
WTLY	**Watson Lake, Y**	**3.99**	**76**	Sg	**Sg**	**16 56 55.4**	**-4.3**
WTLY	**

K29M	**Barlow Dome**	4.54 354	P	Pn	16 56 02.5	+1.8
	baz=173					
N25K	**Chitina, Valde**	4.59 303		Pn	16 56 02.9	+1.5
N25K	**Chitina, Valde**	4.59 303	Pn	Pn	16 56 02.3	+0.9
N25K	**Chitina, Valde**	4.59 303	P	Pn	16 56 03.1	+1.7
	baz=116					
V35K	**Ketchikan**	4.83 144		Pn	16 56 05.0	+0.5
V35K	**Ketchikan**	4.83 144	IAML		16 57 28.2	
	comp=N,46nm,0.6s					
V35K			IAML		16 57 29.7	
	comp=E,61nm,1.5s					
V35K	**Ketchikan**	4.83 144	Pn	Pn	16 56 05.1	+0.6
V35K	**Ketchikan**	4.83 144	P	Pn	16 56 05.5	+1.0
	baz=329					
DAWY	**Dawson**	4.93 345	Pn	Pn	16 56 07.3	+1.4
DAWY			IAML		16 57 30.9	
	comp=N,52nm,0.5s					
DAWY			IAML		16 57 31.5	
	comp=E,62nm,0.7s					
DAWY	**Dawson**	4.93 345	Pn	Pn	16 56 07.0	+1.1
DAWY			Pg	Pg	16 56 22.6	-3.4
DAWY			Sg	Sg	16 57 27.1	-2.6
DAWY	**Dawson**	4.93 345	P	Pn	16 56 07.1	+1.1
	baz=162,SNR=16					
KLU	**Klutina**	5.13 299		Pn	16 56 11.3	+2.5
KLU			IAML		16 57 12.1	
	comp=E,23nm,0.9s					
KLU			IAML		16 57 25.5	
	comp=N,27nm,0.9s					
KLU	**Klutina**	5.13 299	P	Pn	16 56 10.7	+1.9
	baz=111					
HIN	**Hinchinbrook I**	5.14 286	Pn	Pn	16 56 09.3	+0.5
HIN			IAML		16 58 23.1	
	comp=E,46nm,1.4s					
HIN			IAML		16 59 11.5	
	comp=N,44nm,1.5s					
J30M	**Hart River**	5.25 1	Pn	Pn	16 56 12.5	+2.1
J30M			IAML		16 57 38.6	
	comp=E,31nm,0.5s					
J30M			IAML		16 57 44.3	
	comp=N,37nm,0.7s					
J30M	**Hart River**	5.25 1	Pn	Pn	16 56 12.3	+1.9
J30M	**Hart River**	5.25 1	P	Pn	16 56 12.0	+1.5
	baz=181					
SCRK	**Sand Creek**	5.85 326	Pn	Pn	16 56 20.1	+1.4
SCRK	**Sand Creek**	5.85 326	P	Pn	16 56 19.7	+1.1
	baz=139					
EGAK	**Eagle**	5.87 340	Pn	Pn	16 56 20.6	+1.9
EGAK	**Eagle**	5.87 340	Pn	Pn	16 56 20.3	+1.5
EGAK			Pg	Pg	16 56 39.9	-4.1
EGAK	**Eagle**	5.87 340	P	Pn	16 56 20.0	+1.2
	baz=156					
SCM	**Sheep Creek Mo**	5.88 300	Pn	Pn	16 56 21.3	+2.3
SCM	**Sheep Creek Mo**	5.88 300	P	Pn	16 56 20.9	+1.9
	baz=110					
I30M	**Mount Dempster**	5.90 1	Pn	Pn	16 56 21.8	+2.5
I30M	**Mount Dempster**	5.90 1	P	Pn	16 56 21.4	+2.1
	baz=180					
I29M	**Ogilvie Camp,**	6.09 353	Pn	Pn	16 56 23.7	+1.8
J26L	**Joseph Creek**	6.14 330	P	Pn	16 56 24.0	+1.3
	baz=144					
KNK	**Knik Glacier**	6.27 294	P	Pn	16 56 26.2	+1.8
	baz=104					
I28M	**Miner Creek**	6.33 347	Pn	Pn	16 56 26.8	+1.7
I28M	**Miner Creek**	6.33 347	P	Pn	16 56 26.2	+1.1
	baz=164,SNR=6.4					
H31M	**Peel River**	6.56 8	Pn	Pn	16 56 29.6	+1.3
H31M	**Peel River**	6.56 8	P	Pn	16 56 29.6	+1.3
	baz=190					
GHO	**Glory Hole Cre**	6.58 297	Pn	Pn	16 56 30.6	+2.0
I27K	**Kandik River**	6.71 342	Pn	Pn	16 56 32.1	+1.8
I27K	**Kandik River**	6.71 342	P	Pn	16 56 31.8	+1.4
	baz=157					
J25K	**Salcha River,**	6.72 326	Pn	Pn	16 56 31.2	+0.6
J25K	**Salcha River,**	6.72 326	P	Pn	16 56 31.4	+0.8
	baz=138					
I26K	**Coal Creek Min**	6.73 336	Pn	Pn	16 56 32.6	+2.0
I26K	**Coal Creek Min**	6.73 336	P	Pn	16 56 32.3	+1.7
	baz=150					
H29M	**Whitestone**	6.95 354	Pn	Pn	16 56 34.8	+1.1
SLKM	**Skilak Lake**	6.98 285	Pn	Pn	16 56 34.7	+0.6
H27K	**Steamboat Moun**	7.28 344	Pn	Pn	16 56 40.2	+2.0
H27K			Pg	Pg	16 57 05.3	-5.6
BRLK	**Bradley Lake**	7.31 279	Pn	Pn	16 56 40.1	+1.5
PRP	**Porcupine Dome**	7.46 330	P	Pn	16 56 42.9	+2.1
	baz=142					
CNPM	**China Poot**	7.51 278	Pn	Pn	16 56 43.3	+2.0
G29M	**Pine Creek**	7.62 356	P	Pn	16 56 45.7	+2.8
	baz=174					
G30M	**tAoh Zraii Nji**	7.67 1		Pn	16 56 44.1	+0.7
G30M	**tAoh Zraii Nji**	7.67 1	Pn	Pn	16 56 44.2	+0.8
G30M	**tAoh Zraii Nji**	7.67 1	P	Pn	16 56 44.4	+1.0
	baz=181					
G31M	**Satah River**	7.67 7	Pn	Pn	16 56 45.4	+1.9
G31M	**Satah River**	7.67 7	P	Pn	16 56 45.7	+2.2
	baz=188					
G27K	**Doyon Strip**	7.84 345	Pn	Pn	16 56 47.9	+2.0
F31M	**Tsiigehtchic**	8.22 8	Pn	Pn	16 56 52.4	+1.4
F31M	**Tsiigehtchic**	8.22 8	Pn	Pn	16 56 52.5	+1.6
F31M	**Tsiigehtchic**	8.22 8	P	Pn	16 56 51.7	+0.7
	baz=190					
SYI	**Shuyak Island**	8.23 272	Pn	Pn	16 56 52.4	+1.2
F30M	**Barrier River**	8.30 2	Pn	Pn	16 56 53.3	+1.2
F28M	**Old Crow**	8.43 351	Pn	Pn	16 56 55.1	+1.2
ILSW	**Iliamna Southw**	8.44 281	Pn	Pn	16 56 56.8	+2.6
KDAK	**Kodiak Island**	8.54 266	Pn	Pn	16 56 56.2	+0.8
BMAR	**Burnt Mountain**	8.87 339	Pn	Pn	16 57 01.7	+1.7
F26K	**Sheenjek River**	9.04 341	Pn	Pn	16 57 04.0	+1.8
OHAK	**Old Harbor**	9.08 264	Pn	Pn	16 57 02.7	-0.1
INK	**Inuvik**	9.09 7	Pn	Pn	16 57 04.9	+2.0
F25K	**Christian Rive**	9.21 338	Pn	Pn	16 57 07.6	+2.8
E28M	**Babbage River**	9.39 353	Pn	Pn	16 57 07.6	+0.6
J20K	**Nowinta River**	9.64 308	Pn	Pn	16 57 11.9	+1.4
YKAW3	**Yellowknife Wh**	11.11 64	Pn	Pn	16 57 31.4	+0.8

*IDC **02** 17:01:27.9±2.4, 26°.12N×141°.96E, h0km, mb3.8/5, mbtmp3.7/6, ML2.5/1, Error ellipse: s-maj=110.6km s-min=21.9km az=79.0*

ISC 02 17:01:33.2±2.5, 26°.2N±0°.2×141°.9E±0°.8, h35km, n9, σ0°78/6, mb4.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	10.83	344	Pn	Pn	17 04 05.3	-0.4
	baz=158,slow=12,SNR=5.6						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	23.86	100	T	T	17 30 22.7	
	baz=290,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	23.86	100	T	T	17 30 21.6	
	baz=290,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	23.88	100	T	T	17 30 24.0	
	baz=290,slow=75,SNR=9.1						
WRA	**Warramunga Arr**	46.40	190	P	P	17 09 55.5	-1.0
	0.8nm,0.4s,baz=11,slow=8.7,SNR=11						
	0.8nm,0.4s						
ASAR	**Alice Springs**	50.12	190	P	P	17 10 25.8	+0.6
	0.2nm,0.7s,baz=14,slow=5.9,SNR=4.1						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	50.89	310	P	P	17 10 30.7	0.0
	0.1nm,0.7s,baz=94,slow=8.7,SNR=1.9						
	0.1nm,0.7s						
KURBB	**Kurchatov Arra**	53.52	315	P	P	17 10 50.6	+0.4
	1.8nm,0.2s,baz=93,slow=7.9,SNR=5.8						
	1.8nm,0.2s						
FINES	**FINESS Array B**	78.68	334	P	P	17 13 31.9	+0.5
	2.3nm,0.7s,baz=61,slow=3.8,SNR=13						
	2.3nm,0.7s						

*NEIC **02** 17:10:15.2±2.0, 13°.58N±0°.05×92°.63W±0°.05, h10km±1km, mb4.4/53, Md4.5/14(MEX), Error ellipse: s-maj=10.9km s-min=2.9km az=134.0*

*IDC **02** 17:10:16.0±3.0, 14°.06N×91°.87W, h0km, mb4.0/4, mbtmp3.9/5, ML3.9/1, MS3.5/7, Error ellipse: s-maj=91.5km s-min=41.1km az=31.0*

*MEX **02** 17:10:22.3±0.8, 14°.01N×92°.66W, h48km±120km, MD4.6*

ISC 02 17:10:14.4±1.8, 13°.80N±0°.06×92°.63W±0°.04, h4km±11km, n102, σ2°.02/111, mb4.4/13, MS3.5/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.15	18	eP	Pn	17 10 37.6	+0.2
THIG				eS	Sb	17 10 49.7	-2.5
RTAL	**Retalhuleu**	1.16	52		Pn	17 10 38.9	+1.4
RTAL	**Retalhuleu**	1.16	52	i P	Pn	17 10 38.6	+1.2
RTAL				eS	Sn	17 10 52.9	-0.8
CHUJ	**Union Juarez**	1.38	22	i P	Pg	17 10 41.4	+0.6
CHUJ				i S	Sb	17 10 56.2	-2.8
HUEH	**Huehuetenango**	1.86	36		Pg	17 10 50.0	0.0
HUEH	**Huehuetenango**	1.86	36	i P	Pg	17 10 50.1	0.0
HUEH				eS	Sn	17 11 08.8	-2.6
PCIG		1.97	343		Pb	17 10 49.4	-1.5
PCIG					Sn	17 11 08.7	-5.1
PCIG		1.97	343	i P	Pb	17 10 49.4	-1.5
PCIG				i S	Sn	17 11 08.7	-5.1
CCIG	**Comitan**	2.51	11	Pn	Pb	17 10 59.7	-0.5
CCIG	**Comitan**	2.51	11	eP	Pb	17 10 59.9	-0.2
CCIG				eS	Sn	17 11 28.1	+0.7
CARR	**Arriaga**	2.73	333	eP	Pb	17 11 02.4	-1.3
CARR				eS	Sn	17 11 32.9	+0.4
TGIG		2.99	351	eP	Pn	17 11 04.3	+1.5
TGIG				eS	Sn	17 11 37.2	-2.0
MTO3	**Montecristo**	3.23	79		Pn	17 11 06.7	+0.5
ESQI	**Esquipulas**	3.28	76	Pn	Pn	17 11 07.6	+0.9
UXUV	**UXUV**	3.79	338	eP	Pn	17 11 16.6	+3.0
UXUV				eS	Sn	17 11 55.8	-2.8
HUIG	**Huatulco**	3.89	301		Pn	17 11 14.8	-0.2
HUIG	**Huatulco**	3.89	301	eP	Pn	17 11 14.8	-0.2
HUIG				eS	Sn	17 11 57.0	-4.1
CMIG	**Matias Romero**	3.92	327		Pn	17 11 16.4	+1.0
CMIG	**Matias Romero**	3.92	327	Pn	Pn	17 11 17.1	+1.6
	2.0nm,0.3s,baz=145,slow=11,SNR=18						
CMIG				Sn	Sb	17 12 09.0	-3.0
	12nm,0.3s,baz=27,slow=19,SNR=4.0						
CMIG	**Matias Romero**	3.92	327	eP	Pn	17 11 16.4	+1.0
CMIG				eS	Sn	17 12 02.2	+0.2
PETF	**Flores**	4.09	40		Pn	17 11 18.3	+0.6
PETF	**Flores**	4.09	40	eP	Pn	17 11 18.0	+0.3
PEIG	**Puerto Escondi**	4.88	297		Pn	17 11 28.1	-0.5
PEIG	**Puerto Escondi**	4.88	297	eP	Pn	17 11 28.1	-0.5
PEIG				eS	Sn	17 12 19.6	-6.1
NEUV	**Arroyo Zacate**	4.94	322	eP	Pn	17 11 30.4	+1.0
TGUH	**Tegucigalpa,Un**	5.21	87	Pn	Pn	17 11 31.4	-1.9
CRIN	**San Cristobal**	5.55	101	Pn	Pn	17 11 36.0	-1.8
YOIG	**Yosondua**	5.63	303	eP	Pn	17 11 41.7	+2.6
YOIG				eS	Sn	17 12 43.5	-1.0
PNIG	**Pinotepa**	5.90	297	eP	Pn	17 11 44.5	+1.9
PNIG				eS	Sn	17 12 44.2	-6.5
TXIG	**Tlaxiaco**	6.02	305	eP	Pn	17 11 46.2	+1.6
TXIG				eS	Sn	17 12 54.2	+0.1
TOIG	**Toxpalan**	6.03	316	eP	Pn	17 11 48.0	+3.5
TOIG				eS	Sn	17 12 52.2	-1.9
HLIG	**Huajuapan de L**	6.39	309	eP	Pn	17 11 51.2	+1.7
HLIG				eS	Sn	17 13 01.6	-1.5
FTIG	**Fresnillo de T**	6.68	308	eP	Pn	17 11 55.8	+2.2
FTIG				eS	Sn	17 13 09.9	-0.3
JAUV	**Jalcomulco**	6.82	325	eP	Pn	17 11 54.6	-0.8
JAUV				eS	Sn	17 13 09.9	-3.7
TLIG	**Tlapa**	6.83	304	Pn	Pn	17 11 58.5	+2.9
BOAB	**BOACO BROADBAN**	6.92	100	Pn	Pn	17 11 55.9	-0.8
DAIG	**Los Arroyos**	7.49	296	eP	Pn	17 12 05.9	+1.4
DAIG				eS	Sn	17 13 29.8	0.0
TEIG	**Tepich**	7.62	33	Pn	Pn	17 12 08.2	+1.9
PPM	**Popocatepetl**	7.77	313	eP	Pn	17 12 11.1	+2.2
PPM				eS	Sn	17 13 38.8	+1.1
PLIG	**Platanillo**	8.02	306	eP	Pn	17 12 14.7	+2.7
PLIG				eS	Sn	17 13 43.1	-0.2
ARIG	**Puente Sto Nin**	8.65	302	eP	Pn	17 12 24.9	+4.5
BRU2	**Volcan**	10.95	116	Pn	Pn	17 12 50.0	-2.0
DRIO	**Del Rio**	17.21	336		P	17 14 18.4	+0.9
JCT	**Junction City**	17.86	339		P	17 14 25.7	+1.0
SAND	**Sanderson**	18.31	333	P	P	17 14 31.0	+1.3
TXAR	**Lajitas Array**	18.53	328	P	Pn	17 14 33.0	+0.8
TXAR	**Lajitas Array**	18.53	328	P	Pn	17 14 36.3	+4.1
	0.1nm,0.3s,baz=150,slow=12,SNR=8.3						
	1.2nm,0.8s						
TX31	**Lajitas Ar. Si**	18.53	328	P	Pn	17 14 33.3	+1.0
OZNA	**Ozona**	18.75	337		Pn	17 14 36.0	+1.2
ALPN	**Alpine**	19.37	330	P	Pn	17 14 42.3	-0.1
FW07	**Weatherford**	19.39	347	P	Pn	17 14 43.2	+0.7
FW07				IAmb	IAmb	17 14 49.7	
	comp=Z,14nm,0.7s						
PLPT	**Palo Pinto**	19.62	346	P	Pn	17 14 44.5	-0.8
PLPT				IAmb	IAmb	17 14 52.3	
	comp=Z,7.4nm,0.7s						
SGCY	**Sterling City**	19.64	338	P	Pn	17 14 45.5	-0.1
SGCY				IAmb	IAmb	17 14 47.7	
	comp=Z,10.0nm,0.7s						
MNHN	**Monahans**	19.78	334	P	Pn	17 14 46.9	-0.3
MNHN				IAmb	IAmb	17 14 50.9	
	comp=Z,9.0nm,0.8s						
ODSA	**Odessa**	20.37	335	P	Pn	17 14 53.6	-0.6
ODSA				IAmb	IAmb	17 14 56.5	
	comp=Z,15nm,0.9s						
VHRN	**Van Horn**	20.37	328		Pn	17 14 53.6	-0.7
WTFS	**Witchita Falls**	20.57	346	P	Pn	17 14 57.1	+0.7
APMT	**Aspermont**	20.59	342	P	Pn	17 14 56.6	-0.2
APMT				IAmb	IAmb	17 14 58.2	
	comp=Z,15nm,0.7s						
SN07	**Snyder 07**	20.62	340	P	Pn	17 14 56.4	-0.7
SN07				IAmb	IAmb	17 14 58.4	
	comp=Z,12nm,0.8s						
154A	**Montrose**	20.65	23	P	Pn	17 14 55.9	-1.5
MIAR	**Mount Ida**	20.67	358	P	Pn	17 14 56.6	-1.0
FLOC	**Florencia**	20.73	124	P	P	17 14 53.9	-2.2
FLOC				IAmb	IAmb	17 15 09.0	
	comp=Z,9.2nm,1.0s						
RUSC	**La Rusia**	20.79	110	P	P	17 14 55.8	-1.6
CLNB	**Carlsbad**	21.06	333	P	P	17 15 02.8	+3.1
CLN7	**Carlsbad 7**	21.16	333	P	P	17 15 03.1	+2.3
DKNS	**Dickens**	21.16	341	P	P	17 15 02.6	+1.8
DKNS				IAmb	IAmb	17 15 07.6	
	comp=Z,12nm,0.8s						
WMOK	**Wichita Mounta**	21.57	346	P	P	17 15 07.1	+2.0
W35A	**Tecumseh**	21.60	351	P	P	17 15 06.3	+0.9
W35A				IAmb	IAmb	17 15 09.3	
	comp=Z,11nm,0.7s						
CPRX	**Cap Rock**	21.71	334	P	P	17 15 09.2	+2.5
FNO	**Franklin**	21.79	349	P	P	17 15 08.2	+0.8
SMWD	**Samnorwood**	22.29	343	P	P	17 15 14.4	+1.5
OK031	**S. Brethren Rd**	22.38	351	P	P	17 15 14.1	+0.4
AMTX	**Amarillo**	22.52	340	P	P	17 15 16.1	+0.7
TKL	**Tuckaleechee C**	23.18	19	LR	LR	17 25 34.1	
	comp=Z,86nm,19.2s,baz=198,slow=40						
121A	**Cookes Peak, D**	23.22	326	P	P	17 15 24.4	+1.6
S44A	**Carbondale**	23.98	7	P	P	17 15 29.9	-0.2
S44A				IAmb	IAmb	17 15 31.2	
	comp=Z,9.5nm,0.7s						
SIUC	**Southern Illin**	24.01	7	P	P	17 15 30.1	-0.2
SIUC				IAmb	IAmb	17 15 31.4	
	comp=Z,11nm,0.7s						
RTBA	**Rita Blanca**	24.29	340	P	P	17 15 35.1	+2.0
T25A	**Trinidad**	25.51	338	P	P	17 15 46.0	+1.7
T25A				IAmb	IAmb	17 15 48.8	
	comp=Z,8.9nm,1.1s						
MVCO	**Mesa Verde**	27.27	332	P	P	17 16 01.9	+1.7
MVCO				IAmb	IAmb	17 16 08.3	
	comp=Z,3.8nm,0.9s						
PV23	**Carpenter Ridg**	28.52	332	P	P	17 16 12.6	+1.2
PV23				IAmb	IAmb	17 16 22.2	
	comp=Z,6.4nm,0.7s						
PSUT	**Pine Spring**	30.98	327	P	P	17 16 34.3	+1.1
PSUT				IAmb	IAmb	17 16 43.6	
	comp=Z,8.5nm,0.9s						
PDAR	**Pinedale Array**	32.35	336	P	P	17 16 47.5	+2.3
	comp=Z,0.6nm,0.7s,baz=125,slow=9.8,SNR=4.3						
	comp=Z,0.6nm,0.7s						
SADO	**Sadowa**	32.93	18	LR	LR	17 31 24.9	
	comp=Z,92nm,18.2s,baz=220,slow=39						
ELK	**Elko**	33.33	328	LR	LR	17 32 17.7	
	comp=Z,96nm,19.1s,baz=335,slow=39						
SNOW	**Snow King Moun**	33.41	336	P	P	17 16 56.2	+1.8
NVAR	**Mina Array Bea**	33.44	322	P	P	17 16 59.2	+4.4
	comp=Z,0.6nm,0.5s,baz=129,slow=9.1,SNR=4.0						
	comp=Z,0.6nm,0.5s						
TPAW	**Teton Pass**	33.51	336	P	P	17 16 56.4	+1.1
TPAW				IAmb	IAmb	17 17 03.9	
	comp=Z,5.6nm,1.1s						
LPAZ	**La Paz**	38.48	140	LR	LR	17 33 04.5	
	comp=Z,25nm,18.7s,baz=258,slow=36						
SCHQ	**Schefferville**	45.62	21	LR	LR	17 38 20.8	
	comp=Z,80nm,20.0s,baz=303,slow=37						
YKA	**Yellowknife Ar**	51.08	347	P	P	17 19 19.6	+1.9
	comp=Z,4.0nm,0.7s,baz=156,slow=7.6,SNR=64						
YKA				PcP	PcP	17 20 35.1	+1.6
	comp=Z,0.5nm,0.8s,baz=155,slow=3.5,SNR=5.3						
	comp=Z,4.0nm,0.7s						
M29M	**Somme Creek**	58.35	337	P	P	17 20 13.3	+2.6
SFJD	**Kangerlussuaq**	59.89	18	LR	LR	17 50 02.0	
	comp=Z,36nm,18.4s,baz=208,slow=40						
F28M	**Old Crow**	61.86	341	P	P	17 20 36.5	+1.9
GHO	**Glory Hole Cre**	62.30	333	P	P	17 20 39.9	+2.2
HOM	**Homer**	62.73	331	P	P	17 20 41.2	+0.7
SKT	**Skwentna**	63.51	333	P	P	17 20 47.6	+1.9
F21K	**Alatna River**	66.26	338	P	P	17 21 04.6	+1.1
EUNU	**Eureka**	66.33	1	P	P	17 21 03.8	0.0
EKA	**Eskdalemuir Ar**	78.48	36	P	P	17 22 15.4	-1.2
	comp=Z,0.6nm,0.4s,baz=280,slow=5.6,SNR=6.6						
	comp=Z,0.6nm,0.4s						
NRIK	**Noril'sk**	97.07	360	LR	LR	18 11 55.7	
	comp=Z,42nm,18.6s,baz=16,slow=38						
CMAR	**Chiang Mai Arr**	145.97	340	PKPbc	PKiKP	17 29 57.9	-1.9
	comp=Z,2.6nm,0.8s,baz=337,slow=3.2,SNR=18						

*NDI **02** 17:32:31.3±2.5, 25°.44N×95°.48E, h100km, mb4.2, ML4.1, mb4.1(NEIC)*

*NEIC **02** 17:32:35.3±1.5, 25°.23N±0°.06×95°.21E±0°.08, h101km±8km, mb4.1/29, Error ellipse: s-maj=10.7km s-min=7.6km az=66.0*

*IDC **02** 17:32:37.2±3.3, 25°.09N×95°.20E, h127km±33km, mb3.4/16, mbtmp3.8/17, Error ellipse: s-maj=29.6km s-min=13.2km az=57.0*

ISC 02 17:32:35.1±0.5, 25°.20N±0°.06×95°.12E±0°.06, h104km, n77, σ1°.21/80, mb4.0/28, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	2.95	278		Pn	17 33 20.5	0.0
SHL				Sn	Sn	17 33 54.0	-1.4
SHL	**Shillong**	2.95	278	eP	Pn	17 33 20.8	+0.3
SHL				eS	Sn	17 33 54.3	-1.1
SHL				IAML		17 33 55.7	
	comp=N,841nm,0.1s						
SHL				IAML		17 33 56.9	
	comp=E,833nm,0.2s						
TNCH	**TengChong**	3.08	92	P	Pn	17 33 22.4	+0.2
TNCH				pmax	pmax		
	comp=Z,110nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,160nm,4.6s						
LSA	**Lhasa**	5.71	323		Pn	17 33 59.6	+1.8
LSA				Sn	Sn	17 35 01.6	-0.6
LSA	**Lhasa**	5.71	323	P	Pn	17 34 00.3	+2.5
LSA				pmax	pmax		
	comp=Z,36nm,0.6s						
PZH	**PanZhiHua**	6.10	76	P	Pn	17 34 03.2	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
SHBG	**Sahibganj**	6.75	272	eP	Pn	17 34 12.6	+1.0
SHBG				eS	Sn	17 35 24.5	-2.6
CRAI	**Chiangrai**	6.92	135	Pn	Pn	17 34 12.2	-1.8
CHTO	**Chiang Mai**	7.28	150	Pn	Pn	17 34 18.4	-0.4
CM31	**Chiang Mai Arr**	7.59	151		Pn	17 34 22.8	-0.3
CMAR	**Chiang Mai Arr**	7.59	151	Pn	Pn	17 34 23.1	0.0
CMAR	**Chiang Mai Arr**	7.59	151	P	Pn	17 34 23.2	+0.2
	comp=Z,2.9nm,0.7s,baz=330,slow=13,SNR=27						
BOK	**Bokaro**	8.53	262	eP	Pn	17 34 36.0	+0.1
BOK				eS	Sn	17 36 05.7	-4.7
SLVN	**Son La**	8.94	114	Pn	Pn	17 34 40.5	-1.0
KNTI	**KHUNTI**	9.24	259	eP	Pn	17 34 45.4	-0.1
KNTI				eS	Sn	17 36 20.9	-6.7
KNTI				IAML		17 36 28.6	
	comp=E,88nm,0.3s						
KNTI				IAML		17 36 30.2	
	comp=N,89nm,0.3s						
GOMU	**GeErMu**	10.97	359	P	Pn	17 35 06.7	-2.5
GOMU				pP		17 35 12.4	
GOMU				sP		17 35 16.3	
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.6s						
ALBI	**Allahabad**	12.05	273	eP	Pn	17 35 21.9	-1.5
ALBI				eS	Sn	17 37 26.9	-9.0
ALBI				IAML		17 37 31.1	
	comp=N,28nm,1.0s						
ALBI				IAML		17 37 31.3	
	comp=E,40nm,0.6s						
PBA	**Port Blair**	13.66	190	Pn	Pn	17 35 45.8	+1.3
UBPT	**Khong Chiam**	13.84	134		Pn	17 35 49.2	+2.4
LGTI	**Lohaghat**	13.88	291	eP	Pn	17 35 46.5	-0.8
LGTI				IAmb	IAmb	17 35 49.1	
	comp=Z,11nm,0.6s						
LGTI				eS	Sn	17 38 12.4	-7.9
PTH	**Pithoragarh**	13.93	291	eP	Pn	17 35 46.2	-2.0
PTH				IAmb	IAmb	17 35 48.6	
	comp=Z,11nm,0.9s						
PTH				ex	x	17 38 16.8	
BHPL	**Bhopal**	16.26	267	eP	Pn	17 36 16.7	-0.8
NRDN	**NARMADA NAGAR**	16.60	265	ex	x	17 36 31.9	
SMLA	**Simla**	16.89	295	eP	Pn	17 36 25.1	0.0
SMLA				IAmb	IAmb	17 36 29.1	
	comp=Z,11nm,0.5s						
DHRM	**DHARAMSHALA**	17.93	297	eP	P	17 36 37.8	+0.7
DHRM				IAmb	IAmb	17 36 41.6	
	comp=Z,11nm,1.0s						
WMQ	**Urumqi**	19.54	344	eP	Pn	17 36 56.4	-0.4
WUS	**Wushi**	20.72	324		P	17 37 07.2	-0.2
WUS				IAmb	IAmb	17 37 09.7	
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	20.77	37	eP	Pn	17 37 09.8	-1.3
HHC				pmax	pmax		
	comp=

comp=Z,2.2nm,0.5s
KBZ Khabaz 46.06 307 P **P 17 40 49.3 +0.9**
comp=Z,0.5nm,0.6s,baz=66,slow=22,SNR=1.5
comp=Z,0.5nm,0.6s
TIXI Tiksi 50.19 13 P **P 17 41 19.0 -0.8**
MMAI Mount Meron Ar 52.16 293 P **P 17 41 36.0 +0.7**
comp=Z,0.8nm,0.6s,baz=93,slow=7.3,SNR=1.6
comp=Z,0.8nm,0.6s
BR131 Keskin Array S 52.91 302 P **P 17 41 40.8 +0.1**
BR131 IAmb IAmb 17 41 50.7
comp=Z,2.9nm,1.4s
BRTR Keskin Array B 52.91 302 P **P 17 41 41.2 +0.5**
BRTR Keskin Array B 52.91 302 P **P 17 41 41.0 +0.3**
comp=Z,0.4nm,0.5s,baz=111,slow=6.1,SNR=5.2
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 55.80 315 P **P 17 42 01.1 -0.2**
comp=Z,0.3nm,0.4s,baz=81,slow=6.8,SNR=5.6
comp=Z,0.3nm,0.4s
ELL Elmali 56.13 299 P **P 17 42 04.2 +0.1**
MLR Muntele Rosu 58.16 309 P **P 17 42 19.1 +0.8**
MLR IAmb IAmb 17 42 51.9
comp=Z,4.1nm,1.2s
FINES FINESS Array B 58.20 328 P **P 17 42 18.9 +0.9**
FINES FINESS Array B 58.20 328 P **P 17 42 18.0 0.0**
comp=Z,0.8nm,0.7s,baz=99,slow=7.4,SNR=0.8
comp=Z,0.8nm,0.7s
WB0 Warramunga Arr 58.79 136 P **P 17 42 20.7 -2.0**
WRA Warramunga Arr 58.89 136 P **P 17 42 22.0 -1.4**
comp=Z,0.4nm,0.7s,baz=323,slow=7.3,SNR=5.9
comp=Z,0.4nm,0.7s
WB2 Warramunga Arr 58.89 136 P **P 17 42 22.4 -1.0**
IDI Anoyia 60.39 298 P **P 17 42 32.5 -1.2**
ASAR Alice Springs 61.41 139 P **P 17 42 39.8 -0.8**
comp=Z,0.4nm,0.8s,baz=326,slow=6.7,SNR=8.8
comp=Z,0.4nm,0.8s
HFS Hagfors 64.27 327 P **P 17 42 59.5 +0.5**
comp=Z,1.6nm,0.7s,baz=90,slow=6.1,SNR=5.9
comp=Z,1.6nm,0.7s
GERES GERESS Array B 65.97 314 P **P 17 43 10.8 +0.4**
comp=Z,0.4nm,0.5s,baz=81,slow=8.2,SNR=2.8
comp=Z,0.4nm,0.5s
C16K Lisburne Hills 70.30 23 P **P 17 43 36.9 0.0**
C16K IAmb IAmb 17 44 05.7
comp=Z,2.6nm,1.1s
EKA Eskdalemuir Ar 74.16 324 P **P 17 44 00.3 +0.1**
comp=Z,0.4nm,0.4s,baz=67,slow=5.1,SNR=4.7
comp=Z,0.4nm,0.4s
D23K Nanushuk River 74.88 20 P **P 17 44 04.2 +0.2**
D23K IAmb IAmb 17 44 20.8
comp=Z,3.3nm,1.2s
H21K Melozitna Rive 75.86 23 P **P 17 44 08.8 -0.9**
H21K IAmb IAmb 17 44 24.9
comp=Z,4.9nm,1.5s
BMAR Burnt Mountain 77.63 20 P **P 17 44 19.2 -0.5**

---

*SJA **02** 17:48:51.8±0.6, 34°.28S×72°.52W, h19km±2km, ML3.3, MW3.5*
*GUC **02** 17:48:54.6±0.8, 34°.26S×72°.31W, h29km±5km, ML3.3*
ISC 02 17:48:53.5±1.5, 34°.23S±0°.03×72°.40W±0°.05, h9km±10km, n54, σ1°.946/80, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.45**	**126**	*i/P*	**Pg**	**17 49 03.6**	**+1.3**
BO03				*eS*	**Sg**	**17 49 09.5**	**+1.3**
BO03				IAML		17 49 09.8	
comp=N,4μm,0.3s							
GO05	**Hualane**	**0.87**	**153**	‖*iP*	**Pb**	**17 49 10.1**	**-0.7**
GO05				*eS*	**Sg**	**17 49 20.8**	**-0.7**
GO05				IAML		17 49 22.7	
comp=E,2μm,0.3s							
VA05	**Santo Domingo**	**0.87**	**49**	*eP*	**Pn**	**17 49 11.7**	**-0.3**
VA05				*eS*	**Sn**	**17 49 24.4**	**-0.4**
MT01	**Popeta**	**1.02**	**69**	*eP*	**Pg**	**17 49 13.3**	**+0.2**
MT01				*eS*	**Sn**	**17 49 29.3**	**+0.7**
MT01				IAML		17 49 30.5	
comp=Z,482nm,0.3s							
MT01	**Popeta**	**1.02**	**69**	*iP*	**Pg**	**17 49 13.3**	**+0.2**
BO01	**Tunca**	**1.10**	**99**	*eP*	**Pb**	**17 49 13.7**	**-1.1**
BO01				*eS*	**Sb**	**17 49 29.1**	**-0.2**
BO01				IAML		17 49 31.6	
comp=Z,420nm,0.3s							
BO01	**Tunca**	**1.10**	**99**	*eP*	**Pb**	**17 49 13.7**	**-1.1**
BO01				*eS*	**Sg**	**17 49 29.4**	**+0.5**
MT09	**Talagante**	**1.26**	**69**	*eP*	**Pn**	**17 49 17.0**	**-0.4**
VA01	**Torpederas**	**1.36**	**28**	*eP*	**Pb**	**17 49 18.8**	**-0.3**
VA01	**Torpederas**	**1.36**	**28**	*eP*	**Pb**	**17 49 18.9**	**-0.3**
MT02	**Curacav**	**1.43**	**48**	*eP*	**Pb**	**17 49 19.6**	**-0.8**
MT02				*eS*	Sn	17 49 24.9	-14
MT02	**Curacav**	**1.43**	**48**	⇑*iP*	**Pb**	**17 49 19.5**	**-0.8**
BO02	**Sierra Bellavi**	**1.45**	**113**	*eP*	**Pn**	**17 49 19.9**	**-0.1**
BO02				*eS*	**Sg**	**17 49 41.1**	**+1.0**
BO02				IAML		17 49 42.9	
comp=Z,947nm,0.2s							
BO02	**Sierra Bellavi**	**1.45**	**113**	⇑*eP*	**Pn**	**17 49 19.9**	**-0.1**
BO02				*eS*	**Sn**	**17 49 38.9**	**-0.4**
BO04	**La Punta**	**1.51**	**81**	‖*iP*	**Pn**	**17 49 20.7**	**-0.1**
BO04				*eS*	**Sg**	**17 49 43.6**	**+1.7**
BO04				IAML		17 49 46.8	
comp=N,752nm,0.3s							
MT12	**Pirque**	**1.62**	**73**	*eP*	**Pb**	**17 49 23.1**	**-0.5**
MT05	**Renca**	**1.62**	**59**	*eP*	**Pb**	**17 49 22.9**	**-0.7**
MT05				*eS*	**Sn**	**17 49 41.5**	**-1.9**
MT05				IAML		17 49 51.5	
comp=Z,247nm,0.3s							
MT05	**Renca**	**1.62**	**59**	*eP*	**Pb**	**17 49 22.9**	**-0.7**
MT15	**Las Vizcachas**	**1.70**	**69**	*eP*	**Pn**	**17 49 23.8**	**+0.4**
ROC1	**El Roble**	**1.71**	**43**	*eP*	**Pn**	**17 49 23.9**	**+0.2**
ROC1				*eS*	**Sg**	**17 49 48.6**	**+0.2**
ROCH	**El Roble**	**1.71**	**43**	*eP*	**Pb**	**17 49 24.2**	**-1.1**
ROCH				*eP*	**Pb**	**17 49 24.2**	**-1.1**
ML02	**Panimavida**	**1.73**	**152**	*eP*	Pg	17 49 37.0	+10
MT03	**Universidad Ad**	**1.74**	**65**	*eP*	**Pb**	**17 49 24.7**	**-1.0**
MT03				*eS*	**Sb**	**17 49 47.8**	**+0.1**
MT03				IAML		17 49 54.4	
comp=Z,371nm,0.3s							
MT03	**Universidad Ad**	**1.74**	**65**	*eP*	**Pn**	**17 49 24.5**	**+0.5**
MT14	**Cerro Calıın**	**1.76**	**62**	*eP*	**Pb**	**17 49 24.9**	**-1.2**
PEL	**Peldehue**	**1.80**	**53**	*eP*	**Pb**	**17 49 25.8**	**-0.9**
PEL				*eS*	**Sg**	**17 49 51.0**	**-0.3**
PEL				IAML		17 49 57.9	
comp=Z,226nm,0.3s							
PEL	**Peldehue**	**1.80**	**53**	*eP*	**Pb**	**17 49 25.8**	**-0.9**
MT13	**San Alfonso**	**1.82**	**75**	*eP*	**Pb**	**17 49 26.2**	**-0.9**
MT13				*eS*	**Sg**	**17 49 50.9**	**-1.2**
MT13				IAML		17 49 53.6	
comp=Z,307nm,0.5s							
MT13	**San Alfonso**	**1.82**	**75**	*eP*	**Pb**	**17 49 26.3**	**-0.9**
LMEL	**Las Melosas**	**1.87**	**79**	*eP*	**Pn**	**17 49 26.6**	**+0.8**
LMEL				*eS*	**Sg**	**17 49 52.3**	**-1.2**
LMEL				IAML		17 49 56.9	
comp=Z,263nm,0.2s							
LMEL	**Las Melosas**	**1.87**	**79**	*eP*	**Pn**	**17 49 26.5**	**+0.7**
VA06	**Catapilco**	**1.91**	**29**	*eP*	**Pn**	**17 49 26.2**	**0.0**
FCH	**Farellones**	**1.98**	**63**	⇑*iP*	**Pn**	**17 49 27.8**	**+0.3**
FCH				*eS*	**Sb**	**17 49 54.3**	**-0.5**
MT04	**Ro Olivares**	**2.06**	**67**	*eP*	**Pb**	**17 49 29.7**	**-1.5**
MT04	**Ro Olivares**	**2.06**	**67**	*eP*	**Pn**	**17 49 29.2**	**+0.6**
VA03	**San Esteban**	**2.13**	**47**	*eP*	**Pb**	**17 49 30.4**	**-2.0**
VA03				*eS*	**Sb**	**17 49 57.0**	**-2.0**
VA03				IAML		17 50 07.3	
comp=Z,214nm,0.3s							
VA03	**San Esteban**	**2.13**	**47**	*eP*	**Pb**	**17 49 30.3**	**-2.0**
MT08	**Bocatoma Ro**	**2.14**	**69**	*eP*	**Pb**	**17 49 31.0**	**-1.5**
MT08				*eS*	**Sb**	**17 49 57.9**	**-1.3**
MT08				IAML		17 50 08.2	
comp=Z,117nm,1.3s							
MT08	**Bocatoma Ro**	**2.14**	**69**	*eP*	**Pb**	**17 49 30.9**	**-1.6**
CO04	**Los Peladeros**	**2.49**	**29**	*eP*	**Pn**	**17 49 34.4**	**-0.1**
BI05	**Punta Hualpn**	**2.59**	**194**	*eP*	**Pn**	**17 49 34.3**	**-1.3**
BI02	**San Fabin de**	**2.59**	**160**	*eP*	**Pn**	**17 49 35.2**	**-0.6**
BI02				IAML		17 50 17.6	
comp=Z,74nm,0.8s							
BI02	**San Fabin de**	**2.59**	**160**	*eP*	**Pn**	**17 49 35.8**	**+0.1**
AAGR	**Agrelo**	**3.19**	**70**	*eP*	**Pb**	**17 49 48.9**	**-1.6**
ARCO	**CERRO ARCO**	**3.21**	**65**	*eP*	**Pn**	**17 49 46.3**	**+2.0**
ARCO				IAML		17 50 42.5	
comp=Z,41nm,1.0s							
RFA	**San Rafael**	**3.29**	**100**	*eP*	**Pn**	**17 49 48.1**	**+2.7**
RFA				*eS*	**Sb**	**17 50 33.1**	**+0.6**
ASAL	**Salagasta**	**3.40**	**62**	*eP*	**Pn**	**17 49 46.7**	**-0.2**
ASAL				*eS*	**Sg**	**17 50 41.2**	**-1.6**
RTLS	**Leoncito**	**3.56**	**48**	*eP*	**Pn**	**17 49 52.3**	**+3.0**
RTLS				*eS*	**Sg**	**17 50 43.6**	**-4.4**
RTLS				IAML		17 50 53.8	
comp=Z,138nm,0.8s							
CO03	**El Pedregal**	**3.68**	**24**	*eP*	**Pn**	**17 49 51.9**	**+1.1**
CO03				*eS*	**Sn**	**17 50 35.6**	**+1.3**
CO03				IAML		17 51 01.8	
comp=Z,29nm,0.8s							
CO03	**El Pedregal**	**3.68**	**24**	*eP*	**Pn**	**17 49 51.8**	**+1.1**
GO04	**Tololo Observa**	**4.27**	**19**	*eP*	**Pn**	**17 49 59.5**	**+0.6**
GO04				*eS*	**Sn**	**17 50 50.5**	**+1.4**
GO04				IAML		17 51 15.3	
comp=Z,47nm,1.0s							
DOCA	**Reserva Natura**	**4.31**	**41**	*eP*	**Pn**	**17 50 01.9**	**+2.2**
DOCA				*eS*	**Sg**	**17 51 08.1**	**-3.8**
DOCA				IAML		17 51 24.4	
comp=Z,26nm,0.8s							
ACCO	**Cerro Coronel**	**4.60**	**39**	*eP*	**Pn**	**17 50 06.1**	**+2.5**
ACCO				*eS*	**Sb**	**17 51 12.8**	**+2.5**
AROD	**Rodeo**	**4.75**	**32**	*eP*	**Pn**	**17 50 08.5**	**+2.9**
AROD				*eS*	**Sb**	**17 51 18.6**	**+4.0**

---

*GUC **02** 17:55:35.0, 41°.08S×88°.91W, h10km, MW5.5*
*MOS **02** 17:55:36.8±1.5, 41°.37S×88°.29W, h10km, mb5.3/29, MS4.8/9, Error ellipse: s-maj=12.7km s-min=8.8km az=76.7*
*IDC **02** 17:55:37.5±0.5, 41°.41S×88°.33W, h0km, mb4.8/19, mbtmp4.8/20, ML4.0/1, MS4.7/47, Error ellipse: s-maj=19.3km s-min=14.5km az=99.0*
*BJI **02** 17:55:37.3, 40°.67S×88°.41W, h13km, mB5.0/1, Ms5.5/16, Ms7 5.3/17*
*NEIC **02** 17:55:38.8±1.9, 41°.34S±0°.05×88°.3W±0°.1, h10km±1km, mb5.2/308, Ms_20 5.0/189, Mwb5.4/22, Mww5.5/41, Error ellipse: s-maj=16.0km s-min=8.4km az=286.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.40; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-0.43; $M_{r\theta}$0.36; $M_{\theta\phi}$-1.68; $M_{\phi r}$-0.38; Fault plane solution: $M_0$1.81000×10^{17} NP1: ϕ_s178.25000°, δ75.77000°, λ16.77000°. NP2:ϕ_s84.01000°, δ73.76000°, λ165.17000°. Principal axes: T 1.6992, Plg22.0000°, Azm41.0000°; N 0.1978, Plg68.0000°, Azm217.0000°; P -1.8970, Plg1.0000°, Azm311.0000°;*
*NEIC **02** 17:55:39.2, 41°.35S×88°.20W, h14km*
*NEIC **02** 17:55:39.2, 41°.35S×88°.20W, h10km*
*NEIC **02** 17:55:39.2, 41°.25S×88°.20W, h14km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.46; $M_{\theta\theta}$0.55; $M_{\phi\phi}$-0.09; $M_{r\theta}$-0.96; $M_{\theta\phi}$-1.95; $M_{\phi r}$-0.30; Fault plane solution: $M_0$2.25000×10^{17} NP1: ϕ_s352.86000°, δ62.34000°, λ-11.58000°. NP2:ϕ_s88.29000°, δ79.76000°, λ-151.86000°. Principal axes: T 2.3208, Plg12.0000°, Azm218.0000°; N -0.1363, Plg60.0000°, Azm107.0000°; P -2.1845, Plg27.0000°, Azm314.0000°;*
*GCMT **02** 17:55:39.8±0.1, 41°.43S±0°.01×88°.45W±0°.01, h12km, MW5.5/161, Moment Tensor Solution. s117,c212; s161,c301; Duration: 1s3 Moment tensor: Scale 1017 Nm; M_{rr}-0.38±.02; $M_{\theta\theta}$0.44±.02; $M_{\phi\phi}$-0.05±.02; $M_{r\theta}$0.43±.05; $M_{\theta\phi}$-1.95±.02; $M_{\phi r}$-0.55±.05; Best double couple: $M_0$2.05900×10^{17} NP1:ϕ_s85.00000°, δ76.00000°, λ174.00000°. NP2:ϕ_s177.00000°, δ84.00000°, λ14.00000°. Principal axes: T 2.3300, Plg14.0000°, Azm42.0000°; N -0.5410, Plg75.0000°, Azm199.0000°; P -1.7890, Plg6.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **02** 17:55:40.6±4.4, 41°.5S±10°×8°.8W±1°0, h17km, M5.2, mB5.7, mb5.0, Mw(mB)5.5, MwMwp6.3, Mwp6.2, Hypocentre not reviewed by the ISC*
ISC 02 17:55:38.4±0.3, 41°.33S±0°.05×88°.50W±0°.04, h10km, n560, σ1°.58/411, mb5.2/157, MS5.0/140, 13C-6D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**10.66**	**48**	T	T	18 09 18.9	
baz=221,slow=73,SNR=836							
H03S1	**Juan Fernandez**	**10.66**	**49**	T	T	18 09 20.1	
baz=221,slow=73,SNR=1017							
H03S3	**Juan Fernandez**	**10.67**	**48**	T	T	18 09 08.0	
baz=221,slow=73,SNR=938							
VA04	**Juan Fernndez**	**10.85**	**48**	Pn	**Pn**	**17 58 09.1**	**-4.6**
H03N3	**Juan Fernandez**	**10.94**	**47**	T	T	18 09 32.3	
baz=218,slow=70,SNR=2385							
H03N2	**Juan Fernandez**	**10.95**	**47**	T	T	18 09 35.6	
baz=218,slow=70,SNR=1799							
H03N1	**Juan Fernandez**	**10.96**	**47**	T	T	18 09 30.6	
baz=218,slow=70,SNR=1633							
LL06	**Loncomilla**	**11.14**	**99**	Pn	**Pn**	**17 58 15.3**	**-2.4**
LL06	**Loncomilla**	**11.14**	**99**	⇑*eP*	**Pn**	**17 58 20.3**	**+2.6**
LL06				*eS*	**Sn**	**18 00 26.0**	**+3.7**
LL06				IVMs_BB	IVMs_BB	18 03 04.4	
comp=Z,14μm,4.5s							
GO07	**Milladeo Hill,**	**11.15**	**104**		**Pn**	**17 58 13.8**	**-3.9**
GO07	**Milladeo Hill,**	**11.15**	**104**	*eP*	**Pn**	**17 58 15.7**	**-2.0**
GO07				*eS*	**Sn**	**18 00 25.6**	**+3.2**
GO07				IVMs_BB	IVMs_BB	18 03 08.5	
comp=Z,8μm,8.3s							
LL07	**Hotel Espejo d**	**11.27**	**103**	Pn	Pn	17 58 14.3	-5.1
LL07	**Hotel Espejo d**	**11.27**	**103**	*eP*	**Pn**	**17 58 24.0**	**+4.7**
LL07				*eS*	**Sn**	**18 00 28.7**	**+3.4**
LL05	**Los Muermos**	**11.30**	**95**		**Pn**	**17 58 16.8**	**-2.9**
LL05	**Los Muermos**	**11.30**	**95**	*eP*	**Pn**	**17 58 23.9**	**+4.1**
USPA	**Uspallante**	**11.81**	**113**	‖*eP*	**Pn**	**17 58 25.4**	**-1.5**
MGDN	**Magdalena**	**11.88**	**111**	‖*eP*	**Pn**	**17 58 29.7**	**+2.1**
AY01	**Puyuhuapi**	**12.03**	**110**		**Pn**	**17 58 29.1**	**-0.7**
LL01	**San Ignacio de**	**12.05**	**100**		**Pn**	**17 58 28.4**	**-1.6**
LJUN	**La Junta**	**12.10**	**108**	‖*eP*	**Pn**	**17 58 33.3**	**+2.5**
LJUN				IVMs_BB	IVMs_BB	18 03 49.2	
comp=Z,10μm,7.2s							
LL03	**Petrohue**	**12.12**	**94**	Pn	**Pn**	**17 58 29.5**	**-1.6**
LL04	**Puerto Octay**	**12.15**	**93**		**Pn**	**17 58 29.5**	**-2.0**
LL02	**Futaleuf**	**12.48**	**104**	Pn	**Pn**	**17 58 35.0**	**-1.0**
LR05	**Currie**	**12.56**	**90**	Pn	**Pn**	**17 58 36.1**	**-0.9**
LR05	**Currie**	**12.56**	**90**	*eP*	**Pn**	**17 58 39.7**	**+2.7**
LR05				*eS*	**Sn**	**18 01 00.5**	**+3.6**
COYC	**Coyhaique**	**12.66**	**115**	Pn	**Pn**	**17 58 38.6**	**+0.3**
COYC	**Coyhaique**	**12.66**	**115**	*eP*	**Pn**	**17 58 38.5**	**+0.2**
CYQE	**Coyhaique**	**12.67**	**115**	*eP*	**Pn**	**17 58 39.9**	**+1.4**
CYQE				IVMs_BB	IVMs_BB	18 05 25.4	
comp=E,13μm,7.5s							
AY03	**Cochrane**	**12.83**	**123**		**Pn**	**17 58 41.2**	**+0.4**
GO06	**Curarrehue**	**13.09**	**88**	*eP*	**Pn**	**17 58 47.0**	**+2.6**
GO06				*eS*	**Sn**	**18 01 08.4**	**-1.7**
GO08	**Villa O'Higgin**	**13.35**	**128**	‖*eP*	**Pn**	**17 58 48.0**	**+0.2**
PLCA	**Paso Flores**	**13.57**	**93**		**Pn**	**17 58 49.5**	**-1.4**
PLCA	**Paso Flores**	**13.57**	**93**	Pn	**Pn**	**17 58 52.5**	**+1.7**
comp=E,0.2nm,0.3s,baz=262,slow=12,SNR=14							
PLCA				LR	LR	18 02 42.0	
comp=E,3μm,19.6s,baz=262,slow=32							
PLCA	**Paso Flores**	**13.57**	**93**	P	**Pn**	**17 58 49.5**	**-1.4**
PLCA	**Paso Flores**	**13.57**	**93**	*eP*	**Pn**	**17 58 54.5**	**+3.7**
BI02	**San Fabin de**	**14.18**	**76**	Pn	**Pn**	**17 58 55.2**	**-4.1**
BI02	**San Fabin de**	**14.18**	**76**	*eP*	**Pn**	**17 58 56.4**	**-2.9**
ML02	**Panimavida**	**14.47**	**73**		**Pn**	**17 59 01.2**	**-1.9**
ML02	**Panimavida**	**14.47**	**73**	⇑*eP*	**Pn**	**17 59 01.8**	**-1.4**
GO05	**Hualane**	**14.47**	**70**	⇑*eP*	**Pn**	**17 59 03.0**	**-0.3**
MG05	**Puerto Natales**	**15.08**	**139**		**Pn**	**17 59 09.6**	**-1.7**
BO01	**Tunca**	**15.39**	**69**		**Pn**	**17 59 12.9**	**-2.6**
BO02	**Sierra Bellavi**	**15.40**	**71**		**Pn**	**17 59 12.8**	**-2.9**
BO02				IAmb	IAmb	17 59 16.9	
comp=Z,197nm,1.9s							
VA05	**Santo Domingo**	**15.42**	**66**		**Pn**	**17 59 11.9**	**-4.0**
MT01	**Popeta**	**15.56**	**67**		**Pn**	**17 59 14.2**	**-3.6**
MT01				IAmb	IAmb	17 59 18.8	
comp=Z,199nm,1.4s							
VA01	**Torpederas**	**15.77**	**64**		**Pn**	**17 59 16.9**	**-3.6**
VA01				IAmb	IAmb	17 59 26.2	
comp=Z,416nm,1.9s							
VA01	**Torpederas**	**15.77**	**64**	*eP*	Pn	17 59 12.4	-8.0
MT09	**Talagante**	**15.79**	**67**		**Pn**	**17 59 17.8**	**-3.0**
MT09				IAmb	IAmb	17 59 26.6	
comp=Z,231nm,1.1s							
BO04	**La Punta**	**15.94**	**68**		**Pn**	**17 59 19.9**	**-2.8**
BO04				IAmb	IAmb	17 59 28.0	
comp=Z,229nm,1.1s							
BO04	**La Punta**	**15.94**	**68**	⇑*eP*	**Pn**	**17 59 21.3**	**-1.4**
MT02	**Curacav**	**15.98**	**65**		**Pn**	**17 59 20.8**	**-2.3**
MT02				IAmb	IAmb	17 59 28.9	
comp=Z,267nm,1.4s							
MT05	**Renca**	**16.18**	**66**		**Pn**	**17 59 23.2**	**-2.6**
MG04	**Isla Riesco**	**16.25**	**141**		**Pn**	**17 59 25.0**	**-1.6**
MT03	**Universidad Ad**	**16.28**	**67**		**Pn**	**17 59 25.1**	**-2.0**
MT03				IAmb	IAmb	17 59 31.9	
comp=Z,217nm,1.1s							
VA06	**Catapilco**	**16.28**	**63**		**Pn**	**17 59 23.8**	**-3.2**
VA06				IAmb	IAmb	17 59 31.9	
comp=Z,285nm,1.4s							
MT13	**San Alfonso**	**16.29**	**68**		**Pn**	**17 59 25.2**	**-2.1**
MT13				IAmb	IAmb	17 59 32.6	
comp=Z,262nm,1.4s							
LMEL	**Las Melosas**	**16.30**	**69**		**Pn**	**17 59 26.6**	**-0.9**
LMEL				IAmb	IAmb	17 59 32.9	
comp=Z,280nm,0.9s							
MT16	**CCHEN**	**16.30**	**67**		**Pn**	**17 59 25.1**	**-2.3**
MT16				IAmb	IAmb	17 59 32.2	
comp=Z,133nm,0.8s							
PEL	**Peldehue**	**16.35**	**66**		**Pn**	**17 59 26.3**	**-1.7**
PEL				IAmb	IAmb	17 59 33.4	
comp=Z,233nm,1.3s							
PEL	**Peldehue**	**16.35**	**66**	P	**Pn**	**17 59 26.3**	**-1.7**
PEL				pmax	pmax		
comp=Z,233nm,1.3s							
MT08	**Bocatoma Ro**	**16.64**	**68**		**Pn**	**17 59 30.0**	**-1.9**
VA03	**San Esteban**	**16.66**	**65**		**Pn**	**17 59 29.8**	**-2.3**
VA03				IAmb	IAmb	17 59 33.6	
comp=Z,362nm,1.2s							
GO10	**Punta Arenas**	**16.69**	**141**	P	**Pn**	**17 59 32.4**	**+0.2**
GO10	**Punta Arenas**	**16.69**	**141**	IVMs_BB	IVMs_BB	18 09 19.3	
comp=Z,6μm,4.6s							
MG02	**Cerro Sombrero**	**17.36**	**138**	P	**Pn**	**17 59 40.4**	**-0.2**
MG02				IAmb	IAmb	17 59 44.4	
comp=Z,276nm,1.3s							
MG03	**Isla Dawson**	**17.39**	**142**	P	**Pn**	**17 59 40.8**	**-0.1**
CO03	**El Pedregal**	**17.77**	**60**	P	**Pn**	**17 59 44.5**	**-1.4**
CO03				IAmb	IAmb	17 59 50.4	
comp=Z,233nm,1.2s							
CO05	**La Serena**	**18.04**	**56**	P	**Pn**	**17 59 48.1**	**-0.9**
GO04	**Tololo Observa**	**18.14**	**58**	P	**Pn**	**17 59 49.9**	**-0.7**
GO04				IAmb	IAmb	17 59 54.5	
comp=Z,229nm,1.2s							
ZON	**Zonda**	**18.66**	**65**	P	**P**	**17 59 55.6**	**-0.8**
ZON	**Zonda**	**18.66**	**65**	P	**P**	**17 59 55.7**	**-0.8**
ZON				pmax	pmax		
comp=Z,103nm,1.1s							
CO01	**Juntas del Tor**	**18.72**	**59**	P	**P**	**17 59 56.1**	**-1.2**
USHA	**Ushuaia**	**18.94**	**142**	P	**P**	**17 59 59.9**	**+0.6**
comp=Z,0.4nm,0.3s,baz=296,slow=12,SNR=11							
USHA				LR	LR	18 05 42.3	
comp=Z,7μm,20.5s,baz=304,slow=32							
comp=Z,42nm,0.9s							
LCO	**Las Campanas**	**19.00**	**55**	P	**P**	**18 00 00.2**	**-0.3**
LCO				IAmb	IAmb	18 00 03.9	
comp=Z,230nm,1.2s							
LCO	**Las Campanas**	**19.00**	**55**	P	**P**	**18 00 00.2**	**-0.3**
LCO				pmax	pmax		
comp=Z,230nm,1.3s							
AC04	**Llanos de Chal**	**19.36**	**53**	P	**P**	**18 00 02.9**	**-1.1**
MG01	**Puerto William**	**19.37**	**142**	P	**P**	**18 00 04.8**	**+0.8**
MG01				IAmb	IAmb	18 00 12.7	
comp=Z,193nm,1.5s							
AC01	**Pan de Azucar**	**21.17**	**50**	P	**P**	**18 00 22.9**	**-0.9**
AC01				IAMs_20	IAMs_20	18 05 56.6	
comp=Z,6μm,21.0s							
AC02	**Maricunga**	**21.53**	**54**	P	**P**	**18 00 27.6**	**-0.6**
AC02				IAMs_20	IAMs_20	18 06 25.8	
comp=Z,5μm,18.0s							
RPN	**Rapa Nui**	**22.23**	**303**	P	**P**	**18 00 36.9**	**+1.8**
RPN	**Rapa Nui**	**22.23**	**303**	LR	LR	18 06 56.1	
comp=Z,4μm,21.8s,baz=110,slow=30							
RPN	**Rapa Nui**	**22.23**	**303**	P	**P**	**18 00 36.9**	**+1.8**
RPN				pmax	pmax		
comp=Z,188nm,1.3s							
VA02	**Isla de Pascua**	**22.27**	**303**	P	**P**	**18 00 37.9**	**+2.4**
VA02				IAmb	IAmb	18 00 40.6	
comp=Z,139nm,1.1s							
PB14	**IPOC Station P**	**22.46**	**48**	P	**P**	**18 00 35.9**	**-2.1**
PB14				IAmb	IAmb	18 00 44.2	
comp=Z,94nm,1.1s							
GO02	**Mina Guanaco**	**22.51**	**50**	P	**P**	**18 00 36.1**	**-2.4**
GO02				IAMs_20	IAMs_20	18 06 39.0	
comp=Z,7μm,22.0s							
EFI	**East Falkland**	**23.20**	**127**	P	**P**	**18 00 44.5**	**-0.7**
EFI	**East Falkland**	**23.20**	**127**	P	**P**	**18 00 44.5**	**-0.7**
EFI				pmax	pmax		
comp=Z,515nm,1.5s							
EFI				MLR	MLR		
comp=Z,2μm,18.0s							
AF01	**San Pedro de A**	**25.03**	**49**	P	**P**	**18 01 02.9**	**-0.1**
AF01				IAMs_20	IAMs_20	18 08 10.8	
comp=Z,5μm,21.0s							
PB09	**IPOC Station P**	**25.36**	**46**	IAmb	IAmb	18 01 32.8	
comp=Z,60nm,1.1s							
PATCX	**Punta Patache**	**25.69**	**43**	P	**P**	**18 01 08.2**	**-0.5**
PATCX				IAmb	IAmb	18 01 11.9	
comp=Z,66nm,0.9s							
PATCX				IAMs_20	IAMs_20	18 08 08.6	
comp=Z,5μm,22.0s							
PB01	**IPOC Station P**	**25.85**	**44**

PTGB Pitanga 34.45 73 *eP* **P 18 02 25.4 -0.9**
SIV San Ignacio 34.61 51 P **P 18 02 26.9 -0.8**
comp=Z,24nm,1.0s,baz=227,slow=9.8,SNR=47
SIV LR LR 18 15 16.1
comp=Z,3µm,21.6s,baz=256,slow=34
comp=Z,24nm,1.0s
AQDB Aquidauana 34.68 63 *eP* **P 18 02 27.9 -0.3**
MAJ01 Sao Joao Batis 35.13 79 *eP* **P 18 02 32.6 +0.5**
ATAH Atahualpa 35.22 18 P **P 18 02 36.9 +3.5**
comp=Z,42nm,0.8s,baz=174,slow=5.3,SNR=39
ATAH LR LR 18 13 23.3
comp=Z,4µm,21.2s,baz=208,slow=30
LDASE Londrina, Braz 35.95 72 *eP* **P 18 02 38.8 -0.4**
RPRD Ribas do Rio P 36.04 65 *eP* **P 18 02 40.2 +0.3**
PTLB Pontes e Lacer 36.19 53 IAmb IAmb 18 02 42.2
comp=Z,52nm,0.9s
PTLB IAMs_20 IAMs_20 18 16 13.0
comp=Z,3µm,20.0s
PTLB Pontes e Lacer 36.19 53 *eP* **P 18 02 41.0 -0.2**
CZSB Cruzeiro do Su 36.29 27 P **P 18 02 42.5 +0.5**
CZSB IAMs_20 IAMs_20 18 14 11.9
comp=Z,3µm,22.0s
CZSB Cruzeiro do Su 36.29 27 *eP* **P 18 02 43.5 +1.5**
ETMB Extrema 37.04 38 P **P 18 02 48.3 -0.2**
ETMB IAmb IAmb 18 02 49.9
comp=Z,39nm,0.9s
ETMB IAMs_20 IAMs_20 18 15 20.8
comp=Z,3µm,20.0s
ETMB Extrema 37.04 38 *eP* **P 18 02 48.6 +0.2**
FRTB Fartura 37.10 73 *eP* **P 18 02 49.5 +0.5**
VILB Vilhena 37.54 49 *eP* **P 18 02 52.6 -0.2**
C2SB Chapadao do Su 37.80 64 *eP* **P 18 02 56.1 +1.2**
SALV Santo Antonio 37.98 58 *eP* **P 18 02 56.5 0.0**
SPB Sao Paulo 38.49 76 *eP* **P 18 03 01.2 +0.5**
ITRB Iturama 38.87 68 *eP* **P 18 03 04.1 +0.1**
VAO Valinhos 39.19 75 P **P 18 03 05.0 -1.7**
VAO IAMs_20 IAMs_20 18 18 35.2
comp=Z,2µm,20.0s
VAO Valinhos 39.19 75 *eP* **P 18 03 07.4 +0.8**
TBTG Tabatinga, AM 40.57 29 IAmb IAmb 18 03 21.1
comp=Z,85nm,1.1s
TBTG Tabatinga, AM 40.57 29 *eP* **P 18 03 19.0 +0.9**
PDRB Porto dos Gac 40.63 52 *eP* **P 18 03 18.4 -0.3**
MAN01 Angra dos Reis 41.47 78 *eP* **P 18 03 26.4 +0.9**
IPMB Ipameri, GO 41.53 68 *eP* **P 18 03 25.4 -0.7**
CLDB Colider 41.77 53 *eP* **P 18 03 27.4 -0.6**
BSCB Bom Sucesso 42.02 75 *eP* **P 18 03 30.6 +0.4**
OTAV Otavalo 42.37 15 P **P 18 03 33.6 +0.2**
OTAV IAmb IAmb 18 03 38.3
comp=Z,48nm,1.1s
OTAV Otavalo 42.37 15 IAMs_20 IAMs_20 18 18 01.1
comp=Z,2µm,20.0s
OTAV Otavalo 42.37 15 P **P 18 03 33.6 +0.2**
OTAV pmax pmax
comp=Z,48nm,1.2s
OTAV MLR MLR
comp=Z,2µm,20.0s
OTAV Otavalo 42.37 15 *eP* **P 18 03 34.0 +0.6**
PMNB Patos De Minas 42.41 70 *eP* **P 18 03 33.4 +0.1**
DUB01 Friburgo-RJ 43.11 78 *eP* **P 18 03 40.2 +1.3**
BDFB Brasilia 43.27 66 P **P 18 03 38.5 -1.8**
BDFB Brasilia 43.27 66 P **P 18 03 39.7 -0.6**
comp=Z,16nm,0.8s,baz=234,slow=7.9,SNR=27
BDFB LR LR 18 21 14.4
comp=Z,3µm,18.8s,baz=232,slow=36
comp=Z,16nm,0.8s
BDFB Brasilia 43.27 66 P **P 18 03 38.6 -1.8**
BDFB pmax pmax
comp=Z,26nm,0.9s
TEFE Tefe 43.33 36 *eP* **P 18 03 41.1 +0.4**
SNDB Serra Nova Dou 43.73 59 *eP* **P 18 03 43.8 -0.2**
FLOC Florencia 44.28 19 IAmb IAmb 18 03 51.0
comp=Z,74nm,1.4s
NPGB Novo Progresso 45.09 50 *eP* **P 18 03 53.8 -1.0**
MACA Manacapuru-AM 45.48 41 P **P 18 03 55.6 -2.3**
MACA IAmb IAmb 18 03 58.5
comp=Z,31nm,0.7s
MACA Manacapuru-AM 45.48 41 *eP* **P 18 03 57.9 0.0**
SJMB Sao Joao De Ma 46.08 75 *eP* **P 18 04 03.7 +1.0**
BSFB Barra de Sao F 46.25 76 *eP* **P 18 04 04.5 +0.6**
JANB Januaria 46.25 69 *eP* **P 18 04 04.9 +0.9**
RIB01 Linhares ES 46.27 77 *eP* **P 18 04 04.9 +0.8**
ITTB Itaituba 47.06 47 *eP* **P 18 04 09.9 -0.4**
SDBA SAO DESIDERIO 47.68 66 *eP* **P 18 04 15.6 +0.4**
ROSC El Rosal 47.74 19 P **P 18 04 18.4 +2.4**
comp=Z,21nm,0.9s,baz=152,slow=7.4,SNR=13
ROSC LR LR 18 22 24.7
comp=Z,993nm,18.7s,baz=196,slow=34
comp=Z,21nm,0.9s
VNA3 Neumayer Olymp 47.95 155 P **P 18 04 15.3 -1.3**
VNA3 Neumayer Olymp 47.95 155 ⇑P **P 18 04 15.3 -1.3**
comp=Z,14nm,0.7s
GUA01 Guaratinga, BA 48.45 74 *eP* **P 18 04 22.2 +1.2**
SMTB Santa Maria do 48.46 60 *eP* **P 18 04 22.6 +1.4**
VNA1 Neumayer--Stat 48.48 154 P **P 18 04 23.6 +2.9**
VNA1 Neumayer--Stat 48.48 154 ⇑P **P 18 04 23.6 +2.9**
comp=Z,28nm,0.8s
VNA2 Neumayer--Watz 48.73 154 P **P 18 04 23.3 +0.7**
baz=271,slow=9.9
VNA2 Neumayer--Watz 48.73 154 ⇑P **P 18 04 23.3 +0.7**
comp=Z,11nm,0.6s,baz=271,slow=9.9
QSPA South Pole Qui 48.90 180 P **P 18 04 25.0 +0.8**
comp=Z,11nm,1.1s,baz=134,slow=2.1,SNR=13
QSPA LR LR 18 22 20.1
comp=Z,714nm,19.7s,baz=135,slow=33
comp=Z,11nm,1.1s
CMC01 Camacan, BA 49.46 73 *eP* **P 18 04 29.7 +0.8**
MAL2 Monte Alegre, 49.86 47 IAMs_20 IAMs_20 18 23 22.0
comp=Z,2µm,21.0s
SNAA Sanae 50.05 156 P **P 18 04 33.7 +1.0**
SNAA Sanae 50.05 156 P **P 18 04 33.2 +0.5**
SNAA IAmb IAmb 18 04 49.7
comp=Z,26nm,1.1s
SNAA Sanae 50.05 156 ⇑P **P 18 04 33.7 +1.0**
comp=Z,117nm,0.8s
SNAA Sanae 50.05 156 P **P 18 04 33.0 +0.2**
comp=Z,5.9nm,0.9s,baz=225,slow=6.9,SNR=8.5
SNAA LR LR 18 21 29.9
comp=Z,781nm,21.8s,baz=266,slow=31
comp=Z,5.9nm,0.9s
SNAA Sanae 50.05 156 P **P 18 04 33.2 +0.5**
SNAA pmax pmax
comp=Z,26nm,1.1s
SNAA MLR MLR
comp=Z,900nm,21.0s
BOAV Boa Vista 50.42 37 P **P 18 04 35.2 -0.9**
BOAV IAmb IAmb 18 04 36.5
comp=Z,31nm,0.8s
BOAV Boa Vista 50.42 37 *eP* **P 18 04 35.9 -0.2**
HDC Heredia 51.24 6 IAMs_20 IAMs_20 18 21 14.5
comp=Z,1µm,20.0s
JTS Las Juntas de 51.47 4 P **P 18 04 44.4 +0.5**
JTS Las Juntas de 51.47 4 P **P 18 04 45.7 +1.7**
comp=Z,4.1nm,0.6s,baz=297,slow=7.7,SNR=4.7
JTS LR LR 18 21 34.4
comp=Z,1µm,18.4s,baz=160,slow=30
comp=Z,4.1nm,0.6s
JTS Las Juntas de 51.47 4 P **P 18 04 44.4 +0.5**
JTS pmax pmax
comp=Z,15nm,1.0s
TROLL Troll, Antarti 51.60 157 P **P 18 04 45.2 +0.7**
TROLL Troll, Antarti 51.60 157 ⇑P **P 18 04 45.2 +0.7**
comp=Z,714nm,0.7s
SDV Santo Domingo 52.60 22 P **P 18 04 51.7 -0.9**
SDV IAmb IAmb 18 04 53.2
comp=Z,38nm,1.1s
SDV IAMs_20 IAMs_20 18 24 42.9
comp=Z,2µm,20.0s
SDV Santo Domingo 52.60 22 P **P 18 04 52.4 -0.2**
comp=Z,29nm,1.1s,baz=187,slow=5.4,SNR=16
SDV LR LR 18 24 54.9
comp=Z,2µm,21.5s,baz=207,slow=33
comp=Z,29nm,1.1s
SDV Santo Domingo 52.60 22 *eP* **P 18 04 51.5 -1.1**
ACON Acoyapa 53.12 4 P **P 18 04 56.2 +0.1**
ACON IAmb IAmb 18 04 60.0
comp=Z,32nm,1.3s
TMAB Tom-Au,PA,Br 53.13 54 *eP* **P 18 04 55.7 -0.7**
TBI Tubuai 53.47 270 *eS* **S 18 12 32.9 +1.4**
comp=Z,2µm,28.0s
TBI *e*SS **SS 18 16 10.1 -1.4**
comp=Z,1µm,31.5s
TBI *e*LQ LQ 18 18 10.0
comp=Z,6µm,29.8s
TBI *e*LR LR 18 20 17.2
comp=Z,1µm,29.2s
TBI *e*LR LR 18 20 21.2
comp=Z,5µm,27.0s
BOAB BOACO BROADBAND 53.57 3 P **P 18 04 59.5 0.0**
NBLA Lagarto - SE 53.64 71 *eP* **P 18 04 59.8 -0.3**
VNDA Vanda 54.05 195 LR LR 18 23 17.1
comp=Z,1µm,21.9s,baz=120,slow=31
NVL N'lazarevskaya 54.83 156 *eP* P 18 05 18.7 +11
NVL *e*S **S 18 12 51.4 +2.7**
NVL pmax pmax
NVL comp=Z,12nm,1.0s MLR MLR
comp=Z,406nm,18.0s
TGUH Tegucigalpa,Un 55.12 1 IAMs_20 IAMs_20 18 22 50.8
comp=Z,1µm,20.0s
MTO3 Montecristo 55.45 359 P **P 18 05 13.9 +0.5**
MTO3 IAMs_20 IAMs_20 18 23 37.9
comp=Z,886nm,18.0s
NBMA Muriti-CE 55.49 67 *eP* **P 18 05 14.2 +0.6**
ESQI Esquipulas 55.61 359 P **P 18 05 14.9 +0.5**
RTAL Retalhuleu 55.65 356 P **P 18 05 15.3 +0.7**
PCRV Puerto La Cruz 55.77 29 P **P 18 05 16.5 +0.9**
comp=Z,29nm,1.1s,baz=40,slow=3.6,SNR=4.2
PCRV LR LR 18 26 56.0
comp=Z,2µm,20.4s,slow=34
comp=Z,29nm,1.1s
TAOE Nuku Hiva Isla 55.78 290 *e*S **S 18 13 02.0 -0.9**
comp=Z,436nm,25.1s
TAOE *e*SS **SS 18 16 47.6 -0.9**
comp=Z,255nm,24.7s
TAOE *e*LR LR 18 21 29.6
comp=Z,1µm,26.2s
APG El Apazote 56.08 358 LR LR 18 24 52.1
comp=Z,47nm,18.4s,baz=240,slow=31
NBPB Pedra_Branca-C 56.24 64 *eP* **P 18 05 20.4 +1.4**
MDP Montagnes des 56.64 44 LR LR 18 27 46.6
comp=Z,2µm,21.1s,baz=222,slow=34
NBLV Livramento - P 56.78 68 *eP* **P 18 05 24.1 +1.3**
NBCA Caruaru-PE 56.81 70 *eP* **P 18 05 23.3 +0.2**
PPT2 Papeete2 56.97 275 *e*S **S 18 13 17.8 -0.9**
comp=Z,212nm,24.8s
PPT2 *e*SS **SS 18 17 13.8 +6.8**
comp=Z,189nm,26.0s
PPT2 *e*LQ LQ 18 19 39.8
comp=Z,2µm,30.8s
PPT2 *e*LR LR 18 22 00.9
comp=Z,948nm,29.8s
PPT2 *e*LR LR 18 22 04.1
comp=Z,2µm,27.5s
PPT Papeete 56.99 275 LR LR 18 23 33.2
comp=Z,382nm,19.1s,baz=140,slow=29
NBCL Cascavel-CE 58.07 65 *eP* **P 18 05 33.6 +1.7**
RCBR Riachuelo 58.57 68 LR LR 18 30 51.5
comp=Z,697nm,18.4s,baz=225,slow=36
GRGR Grenville 58.69 31 IAMs_20 IAMs_20 18 29 29.3
comp=Z,1µm,19.0s
TLIG Tlapa 59.33 349 P **P 18 05 42.2 +1.5**
BIM Bigot 61.09 31 IAMs_20 IAMs_20 18 32 24.1
comp=Z,972nm,21.0s
MPOM Morne Pois Mar 61.10 31 IAMs_20 IAMs_20 18 32 34.5
comp=Z,886nm,19.0s
FDF Fort de France 61.25 30 IAMs_20 IAMs_20 18 31 23.5
comp=Z,1µm,21.0s
CHIV Chivirico 62.02 13 P **P 18 05 58.8 +0.1**
CHIV IAmb IAmb 18 06 11.9
comp=Z,97nm,1.9s
CHIV IAMs_20 IAMs_20 18 33 10.4
comp=Z,445nm,18.0s
TDBA Terre de Bas, 62.09 29 IAMs_20 IAMs_20 18 31 15.9
comp=Z,2µm,20.0s
PCDR Punta Cana, DR 62.40 22 IAMs_20 IAMs_20 18 31 38.6
comp=Z,1µm,20.0s
GDHS Morne Mazeau, 62.43 29 IAMs_20 IAMs_20 18 31 25.2
comp=Z,1µm,22.0s
OBIP Obispado Ponce 62.46 24 IAMs_20 IAMs_20 18 32 39.2
comp=Z,1µm,20.0s
RAR Rarotonga 62.47 265 LR LR 18 26 11.1
comp=Z,437nm,21.5s,baz=128,slow=29
IGPR InterUniversit 62.54 24 P **P 18 06 00.6 -1.7**
PDPR Patillas Dam, 62.62 24 P **P 18 06 01.1 -1.7**
UUPR Utuado, UPR, P 62.63 23 P **P 18 06 01.0 -1.9**
SJG San Juan 62.67 24 P **P 18 06 01.7 -1.4**
SJG San Juan 62.67 24 IAMs_20 IAMs_20 18 31 27.5
comp=Z,1µm,20.0s
SJG San Juan 62.67 24 LR LR 18 31 47.1
comp=Z,970nm,19.1s,baz=180,slow=35
SJG San Juan 62.67 24 P **P 18 06 01.7 -1.4**
SJG pmax pmax
comp=Z,128nm,1.8s
SJG MLR MLR
comp=Z,1µm,20.0s
GDSD La Dsirade Is 62.73 30 IAMs_20 IAMs_20 18 31 07.6
comp=Z,1µm,20.0s
NMDO Nuevo Mundo 62.84 14 IAMs_20 IAMs_20 18 30 42.1
comp=Z,875nm,21.0s
SABA Saba 63.15 27 IAMs_20 IAMs_20 18 31 46.1
comp=Z,1µm,20.0s
SYO Syowa Base 63.49 162 ⇑*i*P **P 18 06 08.8 +0.7**
SYO Syowa Base 63.49 162 ⇓*i*S sP 18 06 12.8 +1.8
SMRT St. Maarten 63.61 27 IAMs_20 IAMs_20 18 32 43.2
comp=Z,1µm,20.0s
ANWB Willy Bob 63.71 29 IAMs_20 IAMs_20 18 31 41.7
comp=Z,912nm,19.0s
SOR Soroa 64.00 6 P **P 18 06 12.8 +0.9**
SOR IAMs_20 IAMs_20 18 29 27.7
comp=Z,1µm,19.0s
SOR Soroa 64.00 6 P **P 18 06 12.8 +0.9**
SOR pmax pmax
comp=Z,95nm,1.4s
SOR MLR MLR
comp=Z,1µm,19.0s
ZAIG Zacatecas 65.10 346 IAmb IAmb 18 06 53.8
comp=Z,26nm,1.4s
SLBS Sierra La Lagu 67.68 339 P **P 18 06 37.3 +1.6**
SLBS IAmb IAmb 18 07 02.4
comp=Z,20nm,1.2s
LPIG La Paz 68.17 339 LR LR 18 28 58.7
comp=Z,166nm,20.9s,baz=162,slow=29
RTZ Ruatahuna 68.75 237 P **P 18 06 42.5 0.0**
URZ Urewera 68.88 237 LR LR 18 31 08.4
comp=Z,1µm,18.1s,baz=231,slow=31
MAW Mawson 69.24 169 LR LR 18 35 16.7
comp=Z,345nm,21.4s,baz=196,slow=34
RPZ Rata Peaks 69.27 230 LR LR 18 29 10.0
comp=Z,1µm,21.3s,baz=124,slow=29
HPIG 69.76 344 P **P 18 06 49.9 +1.1**
HPIG IAmb IAmb 18 07 02.0
comp=Z,26nm,1.1s
TOZ Tahuroa Road 70.21 237 IAMs_20 IAMs_20 18 30 20.5
comp=Z,1µm,21.0s
656A Willston 70.56 6 IAMs_20 IAMs_20 18 33 46.6
comp=Z,904nm,20.0s
RAO Raoul Island 70.94 248 LR LR 18 29 30.8
comp=Z,822nm,20.8s,baz=126,slow=29
HNDO Hondo 71.21 350 P **P 18 06 58.2 +0.9**
HNDO IAmb IAmb 18 07 11.2
comp=Z,25nm,0.9s
HKT Hockley 71.25 353 *i*P **P 18 06 56.3 -1.1**
HKT pmax pmax
comp=Z,14nm,1.4s
DRIO Del Rio 71.29 349 P **P 18 06 58.2 +0.4**
TXAR Lajitas Array 71.70 346 P **P 18 07 00.9 +0.5**
TXAR Lajitas Array 71.70 346 P **P 18 07 02.1 +1.7**
comp=Z,5.7nm,0.8s,baz=168,slow=7.6,SNR=26
TXAR LR LR 18 32 51.8
comp=Z,193nm,19.9s,baz=164,slow=31
comp=Z,5.7nm,0.8s
TX31 Lajitas Ar. Si 71.70 346 P **P 18 07 01.3 +0.9**
SAND Sanderson 72.04 348 P **P 18 07 02.9 +0.5**
JCT Junction City 72.21 350 P **P 18 07 04.1 +0.7**
JCT IAmb IAmb 18 07 27.3
comp=Z,31nm,1.2s
JCT Junction City 72.21 350 P **P 18 07 04.1 +0.7**
JCT pmax pmax
comp=Z,31nm,1.3s
ALPN Alpine 72.71 346 P **P 18 07 07.5 +1.0**
ALPN IAmb IAmb 18 07 19.4
comp=Z,22nm,1.1s
OZNA Ozona 72.83 349 IAmb IAmb 18 07 20.1
comp=Z,33nm,1.0s
BRDY Brady 72.90 351 IAmb IAmb 18 07 31.0
comp=Z,33nm,1.7s
250A Grady 72.97 2 P **P 18 07 08.2 +0.3**
HSIG 73.02 340 P **P 18 07 09.4 +1.3**
VHRN Van Horn 73.36 345 P **P 18 07 10.2 -0.1**
WHTX Lake Whitney, 73.43 352 P **P 18 07 10.3 -0.2**
WHTX IAmb IAmb 18 07 23.3
comp=Z,29nm,1.0s
MNHN Monahans 73.50 347 IAmb IAmb 18 07 24.6
comp=Z,24nm,1.1s
PECS Pecos 73.72 346 P **P 18 07 13.2 +0.8**
154A Montrose 73.75 5 IAMs_20 IAMs_20 18 34 60.0
comp=Z,723nm,20.0s
SGCY Sterling City 73.81 349 P **P 18 07 12.8 -0.1**
SGCY IAmb IAmb 18 07 26.1
comp=Z,19nm,0.9s
LRAL Lakeview Retre 74.01 1 P **P 18 07 14.3 +0.4**
LRAL IAmb IAmb 18 07 18.9
comp=Z,24nm,1.0s
ODSA Odessa 74.23 348 P **P 18 07 16.2 +0.9**
ODSA IAmb IAmb 18 07 29.3
comp=Z,27nm,1.1s
ABTX Abilene, Hawle 74.30 350 IAmb IAmb 18 07 29.0
comp=Z,34nm,1.1s
Y52A Lilburn 74.94 4 IAMs_20 IAMs_20 18 35 46.6
comp=Z,638nm,19.0s
APMT Aspermont 75.06 350 P **P 18 07 20.7 +0.7**
HODGE Hodges 75.41 5 IAmb IAmb 18 07 26.9
comp=Z,46nm,1.4s
HODGE IAMs_20 IAMs_20 18 36 09.0
comp=Z,938nm,19.0s
X48A Hartselle 75.42 1 P **P 18 07 22.7 +0.6**
X48A IAmb IAmb 18 07 26.7
comp=Z,23nm,0.9s
DKNS Dickens 75.50 349 IAmb IAmb 18 07 34.9
comp=Z,19nm,0.9s
JSC Jenkinsville 75.54 6 IAMs_20 IAMs_20 18 37 22.3
comp=Z,774nm,18.0s
X51A Calhoun 75.60 3 P **P 18 07 24.2 +1.1**
121A Cookes Peak, D 75.62 343 P **P 18 07 24.6 +1.1**
MIAR Mount Ida 75.65 356 IAmb IAmb 18 07 46.2
comp=Z,29nm,1.3s
PAULI Pauline 76.03 6 IAmb IAmb 18 07 30.3
comp=Z,31nm,1.0s
PAULI IAMs_20 IAMs_20 18 35 10.3
comp=Z,874nm,18.0s
TUC Tucson 76.11 341 P **P 18 07 27.5 +1.4**
TUC Tucson 76.11 341 P **P 18 07 27.5 +1.4**
TUC pmax pmax
comp=Z,19nm,1.5s
BG3 Lake Jocassee 76.12 5 P **P 18 07 26.4 +0.3**
BG3 IAmb IAmb 18 07 38.6
comp=Z,39nm,1.1s
BG3 IAMs_20 IAMs_20 18 36 22.0
comp=Z,911nm,20.0s
W52A Murphy 76.17 4 IAMs_20 IAMs_20 18 34 45.2
comp=Z,724nm,21.0s
SWET Sewanee 76.21 2 P **P 18 07 27.4 +0.8**
SWET IAmb IAmb 18 07 31.2
comp=Z,31nm,1.0s
WMOK Wichita Mounta 76.29 351 IAmb IAmb 18 07 50.7
comp=Z,43nm,2.0s
WHAR Wooly Hollow 76.33 357 P **P 18 07 28.3 +1.0**
WHAR IAmb IAmb 18 07 39.2
comp=Z,23nm,1.0s
KMSC Kings Mountain 76.39 6 IAmb IAmb 18 07 31.1
comp=Z,51nm,1.6s
KMSC IAMs_20 IAMs_20 18 37 05.7
comp=Z,774nm,20.0s
CPCT Cooper Cave 76.50 3 IAmb IAmb 18 07 33.5
comp=Z,26nm,1.0s
CPCT IAMs_20 IAMs_20 18 36 26.9
comp=Z,697nm,20.0s
W35A Tecumseh 76.50 353 P **P 18 07 28.7 +0.5**
W35A IAmb IAmb 18 07 51.5
comp=Z,44nm,1.4s
TKL Tuckaleechee C 76.74 4 LR LR 18 37 03.7
comp=Z,536nm,19.1s,baz=175,slow=32
AMTX Amarillo 76.81 349 P **P 18 07 30.6 +0.5**
AMTX IAmb IAmb 18 07 44.4
comp=Z,26nm,0.8s
V53A Saluda 76.81 5 P **P 18 07 29.7 -0.3**
V53A IAmb IAmb 18 07 34.5
comp=Z,23nm,1.0s
V53A IAMs_20 IAMs_20 18 37 03.0
comp=Z,1µm,20.0s
SMWD Samnorwood 76.83 350 IAmb IAmb 18 07 43.6
comp=Z,30nm,1.1s
SBM South Baldy 76.89 344 P **P 18 07 32.4 +1.5**
BNM Barren Site 76.94 345 **P 18 07 32.2 +1.2**
WVT Waverly 77.09 1 P **P 18 07 31.8 +0.3**
WVT IAmb IAmb 18 07 50.0
comp=Z,22nm,1.2s
WVT Waverly 77.09 1 P **P 18 07 31.8 +0.3**
WVT pmax pmax
comp=Z,22nm,1.3s
113A Mohawk Valley, 77.33 338 P **P 18 07 33.9 +1.0**
OK052 Battle Ridge R 77.33 353 P **P 18 07 33.1 +0.3**
OK052 IAmb IAmb 18 07 46.5
comp=Z,38nm,1.2s
CPBX Cerro Prieto 77.44 337 IAMs_20 IAMs_20 18 47 48.5
comp=Z,795nm,21.0s
QUOK Quay 77.50 353 P **P 18 07 34.0 +0.2**
U38A Gravette 77.58 355 P **P 18 07 34.5 +0.2**
U38A IAmb IAmb 18 07 46.6
comp=Z,22nm,1.0s
U56A King 77.66 7 IAMs_20 IAMs_20 18 39 36.4
comp=Z,631nm,18.0s
ANMO Albuquerque 77.68 345 P **P 18 07 36.0 +0.9**
ANMO IAmb IAmb 18 07 48.8
comp=Z,19nm,0.9s
ANMO Albuquerque 77.68 345 P **P 18 07 36.0 +0.9**
ANMO pmax pmax
comp=Z,19nm,1.0s
U54A Nelsons Funny 77.72 6 IAMs_20 IAMs_20 18 37 58.1
comp=Z,973nm,19.0s
PBMO Poplar Bluff 77.75 358 IAmb IAmb 18 07 47.1
comp=Z,20nm,1.1s
YUH Yuha Desert 77.84 337 P **P 18 07 36.8 +1.0**
T47A Sharon Grove 77.95 1 IAmb IAmb 18 07 47.9
comp=Z,31nm,1.1s
T50A Nancy 78.05 3 IAmb IAmb 18 07 41.2
comp=Z,17nm,1.0s
T50A IAMs_20 IAMs_20 18 37 37.0
comp=Z,580nm,20.0s
MGMO Mountain Grove 78.19 357 IAmb IAmb 18 08 00.3
comp=Z,37nm,1.2s
BLYC Blythe 78.46 338 P **P 18 07 40.4 +1.2**
BLYC IAmb IAmb 18 08 00.8
comp=Z,24nm,1.2s
S51A Beattyville 78.72 4 P **P 18 07 40.7 +0.2**
S51A IAmb IAmb 18 07 45.0
comp=Z,23nm,0.8s
S39A Bolivar 78.77 356 IAmb IAmb 18 07 53.0
comp=Z,29nm,1.1s
PFO Pinyon Flats O 78.89 337 P **P 18 07 42.7 +0.9**
PFO Pinyon Flats O 78.89 337 LR LR 18 34 39.9
comp=Z,188nm,21.8s,baz=164,slow=30
PFO Pinyon Flats O 78.89 337 P **P 18 07 42.7 +0.9**
PFO pmax pmax
comp=Z,17nm,1.1s
CCM Cathedral Cave 79.05 358 P **P 18 07 42.5 +0.2**
CCM Cathedral Cave 79.05 358 P **P 18 07 42.6 +0.2**
CCM pmax pmax
comp=Z,59nm,1.2s
WCI Wyandotte Cave 79.21 2 P **P 18 07 43.0 -0.1**
WCI IAmb IAmb 18 07 54.4
comp=Z,18nm,0.9s
WCI Wyandotte Cave 79.21 2 P **P 18 07 43.1 -0.1**
WCI pmax pmax
comp=Z,18nm,0.9s
R49A Shelbyville 79.30 3 IAmb IAmb 18 07 47.8
comp=Z,27nm,1.3s
WUAZ Wupatki 79.31 341 P **P 18 07 44.7 +0.6**
R50A Paris 79.33 3 IAmb IAmb 18 08 06.2
comp=Z,36nm,1.3s
T25A Trinidad 79.44 347 IAmb IAmb 18 08 00.1
comp=Z,36nm,1.2s
R58B Mineral 79.51 9 IAmb IAmb 18 07 56.5
comp=Z,21nm,1.0s
OLIL Olney 79.69 0 IAmb IAmb 18 07 57.2
comp=Z,18nm,0.8s
Q51A Peebles 80.12 4 IAMs_20 IAMs_20 18 39 16.7
comp=Z,687nm,19.0s
Q52A Bidwell 80.12 5 IAmb IAmb 18 08 10.7
comp=Z,60nm,1.5s
Q52A IAMs_20 IAMs_20 18 39 24.6
comp=Z,882nm,19.0s
BLO Bloomington 80.14 2 P **P 18 07 48.2 -0.1**
BLO IAmb IAmb 18 07 52.4
comp=Z,38nm,0.9s
BLO Bloomington 80.14 2 P **P 18 07 48.2 -0.1**

BLO pmax pmax
comp=Z,38nm,0.9s
KSU1 Kansas State U 80.39 354 IAmb IAmb 18 07 54.7
comp=Z,27nm,0.8s
V12A Nelson 80.41 339 P **P** **18 07 49.0 -0.9**
P48A Milroy 80.46 2 IAmb IAmb 18 08 12.0
comp=Z,37nm,1.4s
P40A Paris 80.55 357 P **P** **18 07 50.4 0.0**
P40A IAmb IAmb 18 08 13.7
comp=Z,29nm,1.2s
P49A Miami Univ. Ec 80.56 3 IAmb IAmb 18 08 01.8
comp=Z,28nm,0.9s
P51A Williamsport 80.59 4 IAMs_20 IAMs_20 18 39 30.1
comp=Z,856nm,18.0s
P43A Skaggs, Pawnee 80.60 359 IAmb IAmb 18 08 02.9
comp=Z,37nm,1.2s
P53A Whipple 80.70 6 IAmb IAmb 18 07 55.5
comp=Z,24nm,1.0s
P53A IAMs_20 IAMs_20 18 39 57.9
comp=Z,653nm,20.0s
P38A Dawn 80.71 356 P **P** **18 07 51.2 -0.1**
P38A IAmb IAmb 18 07 55.5
comp=Z,23nm,0.8s
P52A Corning 80.79 5 P **P** **18 07 49.8 -1.9**
KSCO Kaye Shedlock' 81.00 349 IAmb IAmb 18 08 07.4
comp=Z,36nm,1.1s
MSVF Nonsavu 81.03 254 LR LR 18 40 39.2
comp=Z,195nm,19.5s,baz=176,slow=33
MSVF Nonsavu 81.03 254 *i* P **P** **18 07 53.3 -0.5**
MSVF pmax pmax
comp=Z,44nm,1.5s
KNB Kanab 81.09 341 P **P** **18 07 54.8 +1.1**
KNB Kanab 81.09 341 P **P** **18 07 54.8 +1.1**
KNB pmax pmax
comp=Z,15nm,1.0s
SHPR Sheep Range 81.22 339 P **P** **18 07 55.3 +0.9**
O49A Covington 81.23 3 IAMs_20 IAMs_20 18 37 42.2
comp=Z,603nm,21.0s
O48B Farmland 81.27 3 IAmb IAmb 18 07 58.1
comp=Z,23nm,0.8s
O52A Adamsville 81.29 5 IAmb IAmb 18 07 58.5
comp=Z,25nm,1.0s
O52A IAMs_20 IAMs_20 18 40 17.7
comp=Z,758nm,19.0s
Q24A Divide 81.35 347 IAmb IAmb 18 08 09.7
comp=Z,24nm,1.1s
PV15 Paradox Valley 81.37 344 P **P** **18 07 55.2 0.0**
O53A New Philadelph 81.47 6 IAmb IAmb 18 07 59.4
comp=Z,26nm,0.9s
O53A IAMs_20 IAMs_20 18 40 23.3
comp=Z,702nm,19.0s
PV10 Paradox Valley 81.52 344 P **P** **18 07 56.4 +0.4**
PV10 IAmb IAmb 18 09 02.8
comp=Z,35nm,1.3s
PV23 Carpenter Ridg 81.58 344 IAmb IAmb 18 08 20.4
comp=Z,25nm,1.0s
N47A Urbana 81.87 2 P **P** **18 07 56.5 -0.9**
N47A IAmb IAmb 18 08 01.1
comp=Z,19nm,0.9s
SUR Sutherland 81.96 126 LR LR 18 38 40.4
comp=Z,408nm,20.8s,baz=220,slow=32
N49A Columbus Grove 81.97 3 IAmb IAmb 18 08 09.2
comp=Z,20nm,1.0s
PRN Pahroc Range 82.04 339 IAmb IAmb 18 08 18.5
comp=Z,33nm,1.2s
N53A Lisbon 82.05 6 P **P** **18 07 56.9 -1.5**
N53A IAmb IAmb 18 08 02.5
comp=Z,23nm,0.9s
N51A Ashland 82.06 5 IAMs_20 IAMs_20 18 40 25.0
comp=Z,900nm,19.0s
M50A Fremont 82.50 4 IAMs_20 IAMs_20 18 40 39.8
comp=Z,785nm,20.0s
BRIGG Briggsdale 82.79 348 **P** **18 08 02.8 +0.4**
OGNE Ogallala 82.81 350 IAmb IAmb 18 08 15.5
comp=Z,18nm,0.9s
DSP Deep Springs 82.83 337 IAmb IAmb 18 08 09.9
comp=Z,28nm,1.2s
TMUT Trail Mountain 82.87 342 IAmb IAmb 18 09 29.9
comp=Z,15nm,0.6s
ALLY Alegheny Colle 82.94 6 IAMs_20 IAMs_20 18 43 12.3
comp=Z,768nm,21.0s
ODNJ Ogdensburg 83.00 11 IAmb IAmb 18 08 07.6
comp=Z,16nm,1.0s
L40A Anamosa 83.05 358 P **P** **18 08 02.8 -0.7**
L40A IAmb IAmb 18 08 26.3
comp=Z,29nm,1.2s
O20A White River Ci 83.05 345 IAmb IAmb 18 08 17.5
comp=Z,14nm,1.0s
TRNY Table Rock, Ra 83.11 11 IAmb IAmb 18 08 08.3
comp=Z,16nm,0.8s
SPR3 Spring Creek 3 83.35 340 IAmb IAmb 18 08 12.3
comp=Z,37nm,1.6s
K43A Burlington 83.65 0 P **P** **18 08 05.7 -1.0**
MPU Maple Canyon 83.66 342 IAmb IAmb 18 08 20.4
comp=Z,14nm,1.0s
NV11 Mina Array Sit 83.87 337 IAmb IAmb 18 08 13.9
comp=Z,19nm,1.2s
K50A Casco 83.89 4 IAMs_20 IAMs_20 18 39 26.6
comp=Z,882nm,21.0s
NVAR Mina Array Bea 83.92 337 P **P** **18 08 07.2 -1.2**
NVAR Mina Array Bea 83.92 337 P **P** **18 08 09.8 +1.4**
comp=Z,11nm,1.0s,baz=172,slow=5.8,SNR=19
NVAR LR LR 18 37 55.9
comp=Z,184nm,19.2s,baz=165,slow=30
comp=Z,11nm,1.0s
L59A Walton 84.03 10 IAmb IAmb 18 08 12.9
comp=Z,20nm,1.0s
DUG Dugway, Tooele 84.10 342 P **P** **18 08 11.5 +2.3**
RYN Ryan 84.16 337 IAmb IAmb 18 08 29.5
comp=Z,17nm,1.2s
CMB Columbia Colle 84.19 335 IAmb IAmb 18 08 15.7
comp=Z,23nm,1.1s
WAKR Walker 84.32 336 IAmb IAmb 18 08 32.8
comp=Z,22nm,1.2s
SOE Somerset East 84.55 129 IAMs_20 IAMs_20 18 51 25.2
comp=Z,577nm,18.0s
YERR Yerington 84.71 336 P **P** **18 08 13.1 +0.7**
I40A Norwalk 84.86 358 IAmb IAmb 18 08 31.4
comp=Z,19nm,0.9s
PNTR Pine Nut 84.91 336 IAmb IAmb 18 08 27.1
comp=Z,24nm,1.1s
ECSD EROS Data Cent 85.00 354 P **P** **18 08 12.8 -0.6**
ECSD EROS Data Cent 85.00 354 IAMs_20 IAMs_20 18 41 26.8
comp=Z,570nm,18.0s
SPUT South Promonto 85.08 342 IAmb IAmb 18 08 27.0
comp=Z,16nm,1.1s
J57A Williamstown 85.11 9 P **P** **18 08 13.4 -0.6**
K22A Casper 85.17 347 P **P** **18 08 15.7 +1.1**
AFDM Forest Hills D 85.21 335 IAmb IAmb 18 08 20.6
comp=Z,23nm,1.2s
ELK Elko 85.22 340 P **P** **18 08 18.0 +3.0**
PAHR Pah Rah Range 85.41 337 IAmb IAmb 18 08 57.3
comp=Z,26nm,1.6s
HVU Hansel Valley 85.60 342 P **P** **18 08 16.8 +0.1**
HVU Hansel Valley 85.60 342 P **P** **18 08 16.8 +0.1**
HVU pmax pmax
comp=Z,10.0nm,0.9s
PD31 Pinedale Array 85.85 345 IAmb IAmb 18 08 35.8
comp=Z,20nm,1.4s
PDAR Pinedale Array 85.85 345 P **P** **18 08 17.6 -0.4**
PDAR Pinedale Array 85.85 345 P **P** **18 08 20.1 +2.1**
comp=Z,4.1nm,0.7s,baz=158,slow=5.6,SNR=21
comp=Z,4.1nm,0.7s
ORV Oroville 85.93 335 P **P** **18 08 18.7 +0.5**
ORV Oroville 85.93 335 P **P** **18 08 18.7 +0.5**
ORV pmax pmax
comp=Z,13nm,1.3s
SADO Sadowa 86.13 7 IAmb IAmb 18 08 22.8
comp=Z,22nm,0.8s
SADO Sadowa 86.13 7 LR LR 18 42 43.6
comp=Z,255nm,18.6s,baz=227,slow=33
ONTNC Ouen Toro 86.14 244 P **P** **18 08 19.0 -0.9**
RSSD Black Hills 86.21 349 P **P** **18 08 18.8 -1.0**
RSSD Black Hills 86.21 349 P **P** **18 08 18.8 -1.0**
RSSD pmax pmax
comp=Z,16nm,1.2s
G40A Rib Lake 86.23 359 IAmb IAmb 18 08 42.7
comp=Z,19nm,1.1s
SPMN Marine on St. 86.26 357 IAmb IAmb 18 08 23.5
comp=Z,12nm,0.9s
DZM Mont Dzumac 86.31 244 *e*S **S** **18 18 56.6 0.0**
DZM *e*SS **SS** **18 24 30.3 -4.9**
comp=Z,241nm,28.9s
comp=Z,171nm,24.7s
DZM *e*LQ LQ 18 32 03.4
comp=Z,990nm,26.8s
DZM Mont Dzumac 86.31 244 LR LR 18 39 33.7
comp=Z,584nm,20.4s,baz=136,slow=30
WIN Windhoek 86.34 117 IAMs_20 IAMs_20 18 41 01.7
comp=Z,579nm,20.0s
LONY Lake Ozonia 86.47 10 IAmb IAmb 18 09 30.1
comp=Z,18nm,1.1s
BBTS Babate 86.55 67 LR LR 18 43 33.6
comp=Z,551nm,21.3s,baz=115,slow=33
TPAW Teton Pass 86.83 344 IAmb IAmb 18 08 27.2
comp=Z,10nm,0.8s
FXWY Fox Creek 86.98 344 IAmb IAmb 18 08 43.5
comp=Z,18nm,1.4s
CAN Canberra 87.26 224 IAMs_20 IAMs_20 18 37 30.0
comp=Z,836nm,21.0s
CAN Canberra 87.26 224 P **P** **18 08 23.2 -2.1**
BOSA Boshof 87.32 126 P **P** **18 08 26.0 +0.2**
comp=Z,3.6nm,0.8s,baz=227,slow=2.2,SNR=6.0
BOSA LR LR 18 41 35.1
comp=Z,278nm,22.0s,baz=214,slow=32
comp=Z,3.6nm,0.8s
E46A Sault Ste Mari 87.39 3 P **P** **18 08 25.2 0.0**
HLID Hailey 87.67 341 P **P** **18 08 26.4 -0.4**
HLID IAmb IAmb 18 08 40.8
comp=Z,11nm,1.1s
YFT Old Faithful 87.72 344 IAmb IAmb 18 08 46.4
comp=Z,13nm,1.1s
MFID Camas Ranch 87.88 340 IAmb IAmb 18 08 47.2
comp=Z,13nm,1.3s
PKME Peaks-Kenny Pk 87.91 13 IAMs_20 IAMs_20 18 49 04.0
comp=Z,728nm,21.0s
RLMT Red Lodge 88.06 345 IAmb IAmb 18 08 47.7
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 88.29 335 LR LR 18 40 10.2
comp=Z,193nm,21.4s,baz=158,slow=30
TSUM Tsumeb 88.97 115 LR LR 18 42 04.9
comp=Z,401nm,21.9s,baz=232,slow=31
J05D Fort Rock, OR 89.25 337 P **P** **18 08 34.6 +0.3**
J05D IAmb IAmb 18 08 40.0
comp=Z,24nm,1.4s
MDND Maddock 89.34 353 P **P** **18 08 34.3 -0.1**
I07A Izee 89.48 338 IAmb IAmb 18 08 55.2
comp=Z,32nm,1.5s
PLID Pearl Lake 89.49 341 P **P** **18 08 35.7 +0.2**
PLID IAmb IAmb 18 08 42.6
comp=Z,21nm,1.7s
DBIC Dimbokro 89.60 81 P **P** **18 08 36.2 -0.3**
comp=Z,5.0nm,0.8s,baz=215,slow=5.2,SNR=6.0
DBIC LR LR 18 42 58.3
comp=Z,253nm,21.7s,baz=212,slow=32
comp=Z,5.0nm,0.8s
PINE Pine Mountain 89.62 337 IAmb IAmb 18 08 42.1
comp=Z,18nm,1.2s
LBTB Lobatse 90.13 124 P **P** **18 08 37.2 -1.9**
LBTB IAmb IAmb 18 09 02.6
comp=Z,32nm,1.4s
LBTB Lobatse 90.13 124 P **P** **18 08 37.2 -1.9**
LBTB pmax pmax
comp=Z,32nm,1.4s
LDAQ Lac Daran 90.22 12 IAmb IAmb 18 08 57.4
comp=Z,23nm,1.2s
G08A Pilot Rock 90.44 339 P **P** **18 08 40.4 +0.6**
G08A IAmb IAmb 18 08 50.1
comp=Z,17nm,1.2s
H04A Detroit Lake 90.81 337 P **P** **18 08 42.8 +1.4**
H04A IAmb IAmb 18 08 50.7
comp=Z,29nm,1.5s
ULM Lac du Bonnet 91.43 355 IAmb IAmb 18 09 33.4
comp=Z,18nm,1.6s
ULM Lac du Bonnet 91.43 355 P **P** **18 08 45.6 +1.6**
comp=Z,4.8nm,0.8s,baz=184,slow=3.1,SNR=10.0
ULM LR LR 18 45 58.6
comp=Z,229nm,21.4s,baz=168,slow=33
comp=Z,4.8nm,0.8s
E08A Dider Farm, El 91.58 339 P **P** **18 08 45.9 +1.0**
E08A IAmb IAmb 18 09 04.3
comp=Z,18nm,1.2s
LON Longmire 92.58 338 IAmb IAmb 18 09 04.8
comp=Z,18nm,1.4s
EIDS Eidsvold 93.70 231 IAMs_20 IAMs_20 18 44 50.7
comp=Z,423nm,19.0s
STKA Stephens Creek 93.74 221 P **P** **18 08 53.4 -2.2**
STKA Stephens Creek 93.74 221 P **P** **18 08 54.8 -0.7**
comp=Z,5.3nm,1.1s,baz=163,slow=4.6,SNR=6.3
STKA LR LR 18 44 15.2
comp=Z,692nm,18.2s,baz=151,slow=31
comp=Z,5.3nm,1.1s
STKA Stephens Creek 93.74 221 P **P** **18 08 53.4 -2.2**
STKA pmax pmax
comp=Z,3.0nm,1.4s
BBOO Buckleboo 95.57 216 IAMs_20 IAMs_20 18 42 19.8
comp=Z,797nm,22.0s
SCHQ Schefferville 97.57 12 PP **PP** **18 13 11.8 +1.6**
comp=Z,3.8nm,0.8s,baz=29,slow=18,SNR=4.1
SCHQ LR LR 18 52 15.5
comp=Z,228nm,18.6s,baz=212,slow=35
TORD Torodi Ar. Bea 98.70 80 P **P** **18 09 16.9 -1.3**
comp=Z,1.5nm,1.1s,baz=221,slow=4.3,SNR=4.0
TORD PP **PP** **18 13 19.1 -0.3**
comp=Z,1.0nm,1.0s,baz=227,slow=8.4,SNR=3.5
TORD LR LR 18 50 19.3
comp=Z,245nm,21.4s,baz=239,slow=33
comp=Z,1.5nm,1.1s
LSZ Lusaka 98.87 119 LR LR 18 49 59.0
comp=Z,358nm,19.6s,baz=228,slow=33
BBB Bella Bella 99.28 337 LR LR 18 48 18.5
comp=Z,78nm,18.9s,baz=156,slow=32
HNR Honiara 99.55 249 LR LR 18 45 26.8
comp=Z,191nm,21.2s,baz=141,slow=30
ASAR Alice Springs 104.32 220 Pdiff **Pdif** **18 09 45.0 +1.7**
comp=Z,0.2nm,0.6s,baz=134,slow=4.0,SNR=1.6
MBAR Mbarara 111.16 111 IAMs_20 IAMs_20 18 53 15.8
comp=Z,459nm,21.0s
GHO Glory Hole Cre 113.71 333 IAMs_20 IAMs_20 18 57 54.4
comp=Z,462nm,22.0s
KIBK Kibwezi 114.92 118 IAMs_20 IAMs_20 18 58 37.8
comp=Z,404nm,20.0s
KMBO Kilima Mbogo 115.28 116 IAMs_20 IAMs_20 18 58 12.8
comp=Z,345nm,20.0s
MMRI Maumere 122.81 217 IAMs_20 IAMs_20 19 02 37.7
comp=Z,392nm,22.0s
MOTA Moosalm 124.60 55 *e*PKP **PKiKP** **18 14 38.4 +0.5**
comp=Z,8.1nm,1.2s
SQTA Sankt Quirin 124.61 55 *e*PKP **PKiKP** **18 14 38.2 +0.3**
comp=Z,7.5nm,1.0s
WATA Walderalm 124.88 55 *e*PKiKP **PKiKP** **18 14 39.2 +0.8**
comp=Z,12nm,1.6s
WTTA Wattenberg 124.89 55 *e*PKiKP **PKiKP** **18 14 39.4 +0.8**
comp=Z,7.0nm,1.2s
ABTA Abfaltersbach 125.21 56 *e*PKP **PKiKP** **18 14 39.4 +0.4**
comp=Z,11nm,1.6s
KBA Koelnbreinsper 125.87 56 *e*PKP **PKiKP** **18 14 40.4 -0.1**
comp=Z,11nm,1.7s
SOKA Soboth 126.76 57 *e*PKP **PKiKP** **18 14 42.6 +0.4**
comp=Z,9.9nm,1.4s
GERES GERESS Array B 126.80 54 PKP **PKiKP** **18 14 43.1 +0.9**
comp=Z,1.5nm,0.9s,baz=239,slow=4.5,SNR=4.3
KAPI Kappang 127.14 216 IAMs_20 IAMs_20 19 04 15.3
comp=Z,417nm,20.0s
ATD Arta Tunnel 128.19 111 IAMs_20 IAMs_20 19 08 47.2
comp=Z,322nm,20.0s
NOA NORSAR Array B 129.54 38 PKP **PKiKP** **18 14 47.9 +0.7**
comp=Z,3.8nm,1.1s,baz=255,slow=1.7,SNR=3.7
TOLI2 Tolitoli 132.02 221 IAMs_20 IAMs_20 19 05 42.5
comp=Z,428nm,22.0s
MLR Muntele Rosu 133.38 62 PKP **PKPdf** **18 14 54.3 -0.1**
ISP Isparta 133.72 73 IAMs_20 IAMs_20 19 15 30.8
comp=Z,349nm,21.0s
BORA Eskisehir 134.48 71 IAMs_20 IAMs_20 19 14 33.2
comp=Z,340nm,20.0s
GHAJ Ghor Haditha 134.53 84 IAMs_20 IAMs_20 19 10 49.0
comp=Z,281nm,21.0s
TIRR Tirgusor 134.69 64 IAMs_20 IAMs_20 19 10 10.9
comp=Z,331nm,20.0s
BRTR Keskin Array B 136.70 72 PKP **PKPdf** **18 14 59.6 -1.2**
comp=Z,0.6nm,0.8s,baz=270,slow=0.3,SNR=3.9
AKBB Malin Array Si 136.93 56 *i* PKIKP **PKPdf** **18 14 59.0 -1.6**
RAYN Ar Rayn 137.84 100 IAMs_20 IAMs_20 19 08 33.4
comp=Z,373nm,22.0s
SEY Seymchan 138.82 323 *i* PKIKP **PKPdf** **18 15 02.8 -0.9**
SEY pmax pmax
comp=Z,8.0nm,1.1s
MYKOM Kota Tinggi 139.09 199 IAMs_20 IAMs_20 19 04 36.2
comp=Z,266nm,21.0s
OBN Obninsk 141.91 50 *e*PKIKP **PKPdf** **18 15 05.1 -4.4**
OBN SS SS 18 36 43.0 -4.9
OBN *e*SSS SSS 18 42 05.8
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,332nm,20.0s
IPM Ipoh 142.33 196 IAMs_20 IAMs_20 19 10 27.5
comp=Z,266nm,20.0s
LPSR Galich'ya Gora 143.18 54 PKIKP PKPbc 18 15 08.8 -0.1
LPSR pmax pmax
comp=Z,36nm,1.8s
KLMR Klimovskoe 143.20 40 *e*PKHKP PKPpre 18 15 06.5
KLMR pmax pmax
comp=Z,46nm,1.7s
VSR Storozhevoye 143.22 56 *e*PKHKP PKPpre 18 15 02.1
VSR pmax pmax
comp=Z,10.0nm,1.8s
VORD Divnogorie 143.27 57 *e*PKIKP PKPab 18 15 07.8 -0.1
VORD pmax pmax
comp=Z,5.0nm,0.6s
VORR Voronezh 143.28 55 *e*PKIKP PKPbc 18 15 09.4 +0.2
VORR pmax pmax
comp=Z,21nm,1.5s
MJAR Matsushiro Arr 143.70 278 PKP **PKPdf** **18 15 14.4 +1.0**
comp=Z,1.1nm,0.7s,baz=130,slow=2.6,SNR=5.3
TYV Tymovskoe 143.93 303 *e*PKIKP **PKiKP** **18 15 19.8 +3.1**
TYV pmax pmax
comp=Z,17nm,1.4s
TYV pmax pmax
comp=Z,500nm,4.2s
SHA1 Shidzhatmaz 144.34 69 *i* PKIKP **PKPab** **18 15 12.1 -0.5**
KIV Kislovodsk 144.41 69 **PKPab** **18 15 09.5 -3.2**
KIV Kislovodsk 144.41 69 *i* PKIKP **PKPab** **18 15 11.3 -1.4**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,154nm,25.0s
TIXI Tiksi 144.45 341 **PKPab** **18 15 10.6 -1.2**
TIXI Tiksi 144.45 341 *i* PKIKP **PKPab** **18 15 11.2 -0.7**
KBZ Khabaz 144.51 69 PKP PKPbc 18 15 13.3 +0.2
comp=Z,11nm,0.8s,baz=291,slow=2.4,SNR=27
KBZ Khabaz 144.51 69 *i* PKIKP **PKPab** **18 15 12.3 -0.6**
PALK Pallekele 144.75 161 IAMs_20 IAMs_20 19 10 01.4
comp=Z,324nm,22.0s
VRH Novokhopyorsk 144.82 56 *e*PKIKP **PKPab** **18 15 11.3 -2.5**
VRH pmax pmax
comp=Z,30nm,0.8s
GNI Garni 144.88 76 **PKPab** **18 15 11.2 -3.5**
GNI Garni 144.88 76 *i* PKIKP **PKPab** **18 15 11.6 -3.1**
GOF Gofitskoye 144.90 67 *c e*PKIKP **PKPab** **18 15 14.4 +0.1**
JMN Monobe 145.82 271 **PKPab** **18 15 18.7 +0.6**
UOSS Minazif 146.50 108 IAMs_20 IAMs_20 19 18 37.5
comp=Z,346nm,20.0s
AKT Akhty 147.43 75 *e*PKP2 **PKPbc** **18 15 22.6 +0.3**
AKT pmax pmax
comp=Z,54nm,1.9s
MAK Makhachkala 147.62 72 *c i*PKHKP PKPpre 18 15 14.8
MAK *e* 18 18 45.0
MAK *e* 18 22 25.2
MAK pmax pmax
comp=Z,107nm,1.3s
BELG Belogornoye 148.49 54 PKPbc **PKPbc** **18 15 24.3 -0.2**
comp=Z,18nm,0.8s,baz=208,slow=1.5,SNR=19
KIRV Kirov 148.56 42 PKPbc **PKPbc** **18 15 24.1 -0.4**
comp=Z,12nm,0.6s,baz=211,slow=1.2,SNR=7.4
SSLB Suanglung 149.84 244 **PKPbc** **18 15 27.0 -1.8**
USRK Ussuriysk Ar. 150.35 289 **PKPbc** **18 15 27.3 -2.1**
USRK Ussuriysk Ar. 150.35 289 PKPbc **PKPbc** **18 15 29.4 0.0**
comp=Z,5.1nm,0.8s,baz=92,slow=4.1,SNR=7.1
KLR Kul'dur 150.88 299 *i* PKIKP **PKPbc** **18 15 29.4 -1.1**
KLR pmax pmax
comp=Z,14nm,1.1s
UBPT Khong Chiam 151.36 209 PKPdf **PKPdf** **18 15 23.5 -3.1**
UBPT **PKPbc** **18 15 31.5 -1.1**
KSRS Korea Array 151.72 274 PKPbc **PKPbc** **18 15 32.8 0.0**
comp=Z,3.5nm,0.9s,baz=120,slow=3.3,SNR=7.2
KSAR Wonju Array Be 151.75 274 PKPdf **PKPdf** **18 15 23.9 -2.7**
KSAR **PKPbc** **18 15 31.8 -1.1**
KSAR Wonju Array Be 151.75 274 PKIKP **PKPdf** **18 15 23.9 -2.7**
NRIK Noril'sk 151.85 3 PKPbc **PKiKP** **18 15 33.4 +0.9**
comp=Z,0.8nm,0.3s,baz=87,slow=1.2,SNR=5.3
MDJ Mudanjiang 152.10 290 P **PKPbc** **18 15 32.9 -0.6**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,250nm,3.5s
QIZ Qiongzhong 152.81 221 PKPbc **PKPdf** **18 15 29.7 +1.0**
QIZ PP **PP** **18 19 21.6 +2.6**
QIZ SS SS 18 38 55.0 +4.6
QIZ LR LR
comp=Z,240nm,21.2s
QIZ LR LR
comp=Z,230nm,19.6s
QIZ LR LR
comp=Z,290nm,18.8s
ZEA Zeya 153.17 310 *i* PKIKP **PKiKP** **18 15 37.5 +1.8**
HEH HeiHe 153.64 302 *e*P **PKPbc** **18 15 35.5 -1.2**
HEH pmax pmax
comp=Z,7.0nm,0.8s
BNX BinXian 153.75 292 PKPbc **PKPdf** **18 15 32.3 +3.1**
ARTI Arti 153.84 44 *i* PKIKP **PKiKP** **18 15 42.9 +5.9**
ARTI 18 19 32.2
ARTI SS SS 18 39 05.8 +3.8
NJ2 Nanjing 156.27 256 *e*PKP **PKPdf** **18 15 34.6 +1.5**
NJ2 LR LR
comp=Z,640nm,14.7s
NJ2 LR LR
comp=Z,680nm,17.1s
NJ2 LR LR
comp=Z,730nm,20.6s
CMAR Chiang Mai Arr 156.33 198 **PKPdf** **18 15 31.1 -2.5**
CMAR Chiang Mai Arr 156.33 198 PKP **PKPdf** **18 15 33.0 -0.6**
comp=Z,2.0nm,1.0s,baz=226,slow=1.6,SNR=15
CMAR PP **PP** **18 19 37.9 -0.4**
comp=Z,0.3nm,0.4s,baz=152,slow=6.0,SNR=3.3
ABKAR Akbulak array 156.56 60 PKPdf **PKPdf** **18 15 30.8 -2.2**
CHTO Chiang Mai 156.67 198 PKPdf **PKPdf** **18 15 32.7 -1.3**
CHTO PKPab **PKPab** **18 16 01.8 -1.3**
CHTO Chiang Mai 156.67 198 PKP2 **PKPab** **18 16 01.8 -1.3**
CHTO 19 15 32.7
CHTO MLR MLR
comp=Z,400nm,18.0s
GYA Guiyang 160.59 225 ⇓PKP **PKPdf** **18 15 38.5 -0.2**
GYA PP **PP** **18 20 02.2 -0.1**
GYA AMB AMB
comp=Z,75nm,5.5s
GYA LR LR
comp=Z,700nm,18.7s
GYA LR LR
comp=Z,340nm,20.4s
GYA LR LR
comp=Z,410nm,26.2s
BRVK Borovoye 161.50 43 PKPdf **PKPdf** **18 15 39.0 +0.4**
BRVK **PKPab** **18 16 23.0 -0.2**
BRVK Borovoye 161.50 43 PKIKP **PKPdf** **18 15 39.0 +0.4**
BRVK PKP **PKPab** **18 16 23.0 -0.2**
BVAR Borovoye Array 161.57 43 PKP **PKPdf** **18 15 39.9 +1.2**
comp=Z,1.3nm,0.9s,baz=302,slow=2.7,SNR=5.1
BVAR PKPab **PKPab** **18 16 24.4 +0.9**
comp=Z,2.9nm,0.9s,baz=270,slow=1.5,SNR=7.6
PZH PanZhiHua 162.96 213 PKP **PKPdf** **18 15 45.4 +4.3**
XAN Xi'an 164.42 248 PKP **PKPdf** **18 15 40.6 -1.5**
XAN PKPab **PKPab** **18 16 36.5 -0.3**
HHC Hu-ho-hao-te 164.86 275 *e*PKP **PKPdf** **18 15 40.8 -1.6**
BTO Baotou 165.98 273 PKPab **PKPab** **18 16 44.3 +0.7**
ZALV Zalesovo Beam 166.61 17 **PKPdf** **18 15 40.9 -2.3**
ZALV Zalesovo Beam 166.61 17 PKP **PKPdf** **18 15 41.5 -1.7**
comp=Z,1.1nm,0.8s,baz=260,slow=2.6,SNR=4.0
ZALV PKPab **PKPab** **18 16 46.1 +0.5**
comp=Z,1.4nm,0.8s,baz=314,slow=5.2,SNR=4.1
ZALV PP **PP** **18 20 34.4 +1.2**
comp=Z,0.7nm,0.6s,baz=243,slow=6.5,SNR=3.6
KURK Kurchatov 167.05 39 PKPdf **PKPdf** **18 15 41.5 -2.1**
KURK **PKPab** **18 16 47.6 -0.1**
KURK Kurchatov 167.05 39 PKIKP **PKPdf** **18 15 42.9 -0.7**
KURBB Kurchatov Arra 167.07 40 PKP **PKPdf** **18 15 42.9 -0.8**
comp=Z,0.4nm,0.4s,baz=333,slow=0.5,SNR=4.9
KURBB PKPab **PKPab** **18 16 48.5 +0.7**
comp=Z,2.0nm,0.9s,baz=305,slow=5.2,SNR=7.8
KURBB PP **PP** **18 20 33.9 -2.2**
comp=Z,0.2nm,0.3s,baz=308,slow=4.5,SNR=5.3
AAK Ala-Archa 167.28 78 PKPdf **PKPdf** **18 15 42.5 -1.8**
AAK PKPab **PKPab** **18 16 48.5 -0.8**
AAK Ala-Archa 167.28 78 PKIKP **PKPdf** **18 15 42.5 -1.8**
AAK 18 16 48.5
SONM Songino Array 167.56 306 PKPab **PKPab** **18 16 51.4 +1.1**
comp=Z,1.5nm,1.1s,baz=60,slow=3.6,SNR=5.1
SONM PP **PP** **18 20 38.4 -0.8**
comp=Z,0.9nm,1.1s,baz=37,slow=3.6,SNR=3.9
MAKZ Makanchi 171.23 48 PKPdf **PKPdf** **18 15 45.6 -0.8**

MAKZ					PKPab	18 17 04.7	-1.7
MAKZ	**Makanchi**	**171.23**	**48**	PKP2	**PKPab**	**18 17 04.7**	**-1.7**
MAKZ						19 15 45.6	
MKAR	**Makanchi Array**	**171.41**	**47**	PKPdf	**PKPdf**	**18 15 46.1**	**-0.4**
MKAR				PKPab	**PKPab**	**18 17 06.5**	**-0.8**
MKAR	**Makanchi Array**	**171.41**	**47**	PKP	**PKPdf**	**18 15 48.1**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=355,slow=2.4,SNR=3.9						
MKAR				PKPab	**PKPab**	**18 17 07.3**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=316,slow=3.3,SNR=14						
MKAR				PP	**PP**	**18 20 55.2**	**-3.2**
	comp=Z,0.5nm,0.9s,baz=308,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**171.41**	**47**	PKIKP	**PKPdf**	**18 15 46.1**	**-0.4**
MKAR						18 17 06.5	
WMQ	**Urumqi**	**176.25**	**47**	*e*PKP	**PKPdf**	**18 15 49.1**	**+0.7**
WMQ				LR	LR		
	comp=Z,610nm,24.0s						

DJA 02 18:04:06.6±0.5, 9°S±6°×11°8E±°, h94km±11km, M3.9/13, mb4.6/1, MLv3.5/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.39**	**322**	P	Pn	18 04 22.0	+1.0
TWSI	**Taliwang, Sumb**	**1.19**	**289**	P	Pn	18 04 30.0	+1.2
WBSI	**Waikabubak, Su**	**1.44**	**110**	P	Pn	18 04 31.3	-0.6
WSI	**Waingapu**	**2.31**	**103**	P	Pn	18 04 42.2	-0.8
BASI	**Baing, Sumba**	**2.74**	**113**	P	Pn	18 04 50.3	+1.6
DNP	**Denpasar**	**2.81**	**279**	P	Pn	18 04 49.9	+0.2
SRBI	**Singaraja**	**2.97**	**290**	P	Pn	18 04 53.1	+1.3
BSSI	**Bau Bau, Buton**	**3.85**	**40**	P	Pn	18 05 03.4	-0.4
JAGI	**Jajag, Banyuwa**	**3.88**	**280**	P	Pn	18 05 02.9	-1.2
BKSI	**Bulukumba**	**4.33**	**29**	P	Pn	18 05 10.4	+0.2
GMJI	**Gumukmas**	**4.61**	**280**	P	Pn	18 05 13.3	-0.6
UGM	**Wanagama**	**7.51**	**279**	P	Pn	18 05 54.1	+0.5

*SDD **02** 18:30:41.1±2.0, 17°.44N×68°.39W, h34km±241km, MD3.6, ML3.4, MW3.6*
*RSPR **02** 18:30:42.6, 17°.45N×68°.40W, h41km±11km, MD3.3/10*
*NEIC **02** 18:30:42.3±2.3, 17°.58N±0°.04×68°.25W±0°.02, h35km±2km, ML2.9/38, Md3.3/10(RSPR), Error ellipse: s-maj=7.4km s-min=3.1km az=338.0*
*OSPL **02** 18:30:43.4±2.5, 17°.71N×68°.44W, h95km±96km, ML2.9, Hypocentre not reviewed by the ISC*
ISC 02 18:30:37.6±1.8, 17°.36N±0°.08×68°.41W±0°.03, h23km±16km, n48, σ1.9±61/60, 8C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.90**	**337**	⇑*e*Pg	**Pn**	**18 30 54.1**	**-0.7**
SADR				⇓*e*Sg	**Sb**	**18 31 05.2**	**-0.9**
SADR				IAML		18 31 06.2	
	comp=N,5μm,0.4s						
PCDR	**Punta Cana, DR**	**1.15**	**1**		**Pn**	**18 30 58.8**	**+0.5**
PCDR					**Sn**	**18 31 11.4**	**-1.8**
PCDR				IAML		18 31 17.2	
	comp=E,287nm,0.7s						
PCDR	**Punta Cana, DR**	**1.15**	**1**	⇓*e*Pg	**Pn**	**18 30 58.2**	**0.0**
PCDR				⇓*e*Sg	**Sn**	**18 31 12.2**	**-0.9**
PCDR				IAML		18 31 14.3	
	comp=N,600nm,0.6s						
PCDR	**Punta Cana, DR**	**1.15**	**1**	⇑*e*P	**Pn**	**18 30 59.4**	**+1.2**
PCDR	**Punta Cana, DR**	**1.15**	**1**	*e*S	**Sn**	**18 31 13.5**	**+0.3**
PCDR	**Punta Cana, DR**	**1.15**	**1**	*i* P		18 30 58.9	
PCDR				*e*S		18 31 13.9	
PCDR				IAML		18 31 19.6	
	comp=Z,399nm,0.3s						
HIDR	**Higuey Centro**	**1.26**	**347**	⇓*e*P	**Pn**	**18 31 00.3**	**+0.5**
IDE	**Isla Desecheo**	**1.35**	**41**		**Pb**	**18 31 02.8**	**+0.5**
IDE					**Sn**	**18 31 18.8**	**+0.4**
IDE	**Isla Desecheo**	**1.35**	**41**	⇓*i* P	**Pb**	**18 31 02.8**	**+0.5**
IDE	**Isla Desecheo**	**1.35**	**41**	*e*S	**Sn**	**18 31 18.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.40**	**63**		**Pn**	**18 31 00.6**	**-1.0**
CRPR				Sn	**Sn**	**18 31 16.9**	**-2.5**
CRPR	**Cabo Rojo, PR**	**1.40**	**63**	⇑*e*P	**Pb**	**18 31 03.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.40**	**63**	*i* P		18 31 06.1	
MLPR	**Magueyes Islan**	**1.44**	**65**		**Pn**	**18 31 02.6**	**+0.4**
MLPR					**Sn**	**18 31 16.6**	**-3.8**
MLPR	**Magueyes Islan**	**1.44**	**65**	⇑*e*Pg	**Pn**	**18 31 02.6**	**+0.4**
MLPR				IAML		18 32 42.4	
	comp=N,22nm,2.9s						
MLPR	**Magueyes Islan**	**1.44**	**65**	⇑*e*P	**Pn**	**18 31 02.6**	**+0.4**
MLPR	**Magueyes Islan**	**1.44**	**65**	*e*S	**Sn**	**18 31 20.4**	**0.0**
PRSN	**Puerto Rico Se**	**1.48**	**55**	Pn	**Pn**	**18 31 02.9**	**+0.2**
PRSN				IAML		18 31 28.4	
	comp=N,140nm,0.3s						
PRSN				IAML		18 31 32.6	
	comp=E,109nm,0.3s						
AGPR	**Aguadilla, PR**	**1.66**	**48**		**Pn**	**18 31 05.6**	**+0.4**
AGPR				IAML		18 31 49.9	
	comp=N,111nm,1.8s						
AGPR				IAML		18 31 52.8	
	comp=E,134nm,1.8s						
AGPR	**Aguadilla, PR**	**1.66**	**48**	⇓*e*P	**Pb**	**18 31 07.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.66**	**48**	*i* P		18 31 07.5	
AGPR				IAML		18 31 35.0	
	comp=Z,90nm,0.8s						
DR12	**Loma Pena Alta**	**1.69**	**327**	Pn	**Pn**	**18 31 07.3**	**+1.6**
DR12				IAML		18 31 27.9	
	comp=E,269nm,0.3s						
HATOM	**Hato Mayor del**	**1.69**	**327**	*e*Pg	**Pn**	**18 31 07.6**	**+1.8**
HATOM				⇓*e*Sg	**Sn**	**18 31 25.6**	**-1.2**
HATOM				IAML		18 31 27.9	
	comp=N,322nm,0.4s						
UUPR	**Utuado, UPR, P**	**1.84**	**61**		**Pn**	**18 31 07.3**	**-0.4**
OBIP	**Obispado Ponce**	**1.85**	**68**		**Pn**	**18 31 08.2**	**+0.3**
OBIP					**Sn**	**18 31 26.9**	**-3.7**
OBIP	**Obispado Ponce**	**1.85**	**68**	⇓*e*P	**Pn**	**18 31 10.0**	**+2.1**
OBIP	**Obispado Ponce**	**1.85**	**68**	*e*S	**Sn**	**18 31 31.7**	**+1.1**
AOPR	**Arecibo Observ**	**1.86**	**58**		**Pn**	**18 31 07.8**	**-0.2**
AOPR				Sn	**Sn**	**18 31 26.2**	**-4.6**
AOPR				IAML		18 31 41.0	
	comp=N,125nm,0.3s						
AOPR				IAML		18 31 58.4	
	comp=E,248nm,0.3s						
AOPR	**Arecibo Observ**	**1.86**	**58**	⇑*e*P	**Pn**	**18 31 10.3**	**+2.2**
AOPR	**Arecibo Observ**	**1.86**	**58**	*e*S	**Sn**	**18 31 31.6**	**+0.7**
EMPR	**Esperanza - Ma**	**2.11**	**58**		**Pn**	**18 31 13.2**	**+1.8**
EMPR					**Sn**	**18 31 35.9**	**-1.0**
EMPR				IAML		18 32 07.6	
	comp=E,180nm,1.3s						
EMPR				IAML		18 32 18.0	
	comp=N,181nm,1.5s						
EMPR	**Esperanza - Ma**	**2.11**	**58**	⇓*e*P	**Pn**	**18 31 14.0**	**+2.6**
EMPR	**Esperanza - Ma**	**2.11**	**58**	*e*S	**Sn**	**18 31 36.4**	**-0.5**
BANI	**BANI**	**2.12**	**299**		**Pb**	**18 31 15.5**	**+0.1**
BANI				IAML		18 32 05.9	
	comp=E,121nm,0.7s						
ECPR	**Experimental S**	**2.17**	**64**	⇓*e*P	**Pn**	**18 31 14.9**	**+2.6**
ECPR	**Experimental S**	**2.17**	**64**	*e*S	**Sn**	**18 31 39.7**	**+1.1**
DR08	**Loma La Naviza**	**2.21**	**316**	⇑*e*Pg	**Pn**	**18 31 14.8**	**+1.9**
DR08				*e*Sg	**Sn**	**18 31 37.3**	**-2.2**
DR08				IAML		18 31 47.2	
	comp=N,2μm,0.2s						
IGPR	**InterUniversit**	**2.28**	**74**	Pn	**Pn**	**18 31 13.0**	**-0.8**
IGPR					**Sn**	**18 31 38.7**	**-2.5**
IGPR				IAML		18 31 44.1	
	comp=E,104nm,0.3s						
IGPR				IAML		18 31 45.1	
	comp=N,74nm,0.3s						
IGPR	**InterUniversit**	**2.28**	**74**	*e*S	**Sn**	**18 31 42.7**	**+1.5**
SJG	**San Juan**	**2.28**	**71**	Pn	**Pn**	**18 31 15.0**	**+1.2**
SJG				IAML		18 31 44.2	
	comp=N,39nm,0.3s						
SJG				IAML		18 31 45.0	
	comp=N,65nm,0.4s						
PDPR	**Patillas Dam,**	**2.37**	**74**	Pn	**Pn**	**18 31 16.0**	**+0.9**
PDPR	**Patillas Dam,**	**2.37**	**74**	⇑*e*P	**Pb**	**18 31 18.7**	**-0.9**
PDPR	**Patillas Dam,**	**2.37**	**74**	*e*S	**Sn**	**18 31 44.1**	**+0.7**
GCPR	**Guaynabo City**	**2.41**	**67**		**Pn**	**18 31 16.5**	**+0.9**
GCPR				IAML		18 31 48.8	
	comp=E,38nm,0.6s						
GCPR				IAML		18 32 13.1	
	comp=N,33nm,0.8s						
GCPR	**Guaynabo City**	**2.41**	**67**	*e*S	**Sn**	**18 31 45.8**	**+1.4**
HUMP	**Col San Antoni**	**2.56**	**72**		**Pn**	**18 31 17.2**	**-0.5**
HUMP					**Sn**	**18 31 46.7**	**-1.4**
HUMP				IAML		18 31 49.6	
	comp=N,29nm,0.2s						
HUMP	**Col San Antoni**	**2.56**	**72**	⇓*e*P	**Pn**	**18 31 20.3**	**+2.6**
HUMP	**Col San Antoni**	**2.56**	**72**	*e*S	**Sn**	**18 31 49.0**	**+0.8**
LOVI	**El Cajuil, Ovi**	**2.85**	**279**	*i* P		18 31 25.9	
LOVI				*e*S		18 31 54.0	
SDDR	**Presa de Saban**	**3.17**	**301**		**Pb**	**18 31 32.3**	**-1.0**
SDDR				IAML		18 32 41.8	
	comp=N,49nm,0.9s						
SDDR				IAML		18 32 44.1	
	comp=N,50nm,1.6s						
GRTK	**Grand Turk**	**4.86**	**329**	Pn	**Pn**	**18 31 51.9**	**+2.6**
BAUV	**El Baul**	**8.38**	**177**		Pn	18 32 44.7	+7.1

*IDC **02** 18:34:22.6±16.0, 38°.68N×24°.07E, h0km, mb3.3/2, mbtmp3.2/3, ML2.8/1, MS3.9/2, Error ellipse: s-maj=341.0km s-min=85.9km az=20.0*
*AFAD **02** 18:34:26.0, 39°.55N×24°.28E, h20km±5km, ML3.2*
*ATH **02** 18:34:27.8, 39°.53N×24°.28E, h33km±5km, ML3.4/14, Error ellipse: s-maj=5.4km s-min=0.8km az=159.0*
*ISK **02** 18:34:27.4, 39°.53N×24°.32E, h9km, ML3.3/30*
*THE **02** 18:34:28.2, 39°.54N×24°.28E, h5km±1km, ML3.4/24, Error ellipse: s-maj=1.0km s-min=0.5km az=301.0*
*BEO **02** 18:34:29.5±0.9, 39°.70N×24°.21E, h0km, ML3.1/6*
ISC 02 18:34:27.9±1.0, 39°.54N±0°.01×24°.29E±0°.01, h9km±8km, n143, σ0.9±75/201, 15C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.49**	**220**	P	**Pb**	**18 34 38.1**	**-0.6**
AOS				S	**Sb**	**18 34 45.6**	**-0.3**
	7μm,0.5s						
AOS2	**Alonissos-2**	**0.53**	**221**	P	**Pg**	**18 34 38.0**	**-0.1**
AOS2				S	**Sg**	**18 34 45.2**	**+0.2**
AOS2				AML	AML	18 34 47.2	
	comp=N,14160μm,0.5s						
AOS2				AML	AML	18 34 47.4	
	comp=E,14679μm,0.5s						
EFSA	**Agios Efstrati**	**0.54**	**90**	P	**Pb**	**18 34 39.1**	**-0.4**
EFSA				S	**Sg**	**18 34 46.5**	**+1.0**
PAIG	**Paliouri**	**0.60**	**309**	Pg	**Pb**	**18 34 40.4**	**-0.3**
PAIG				Sg	**Sb**	**18 34 49.5**	**+0.2**
PAIG	**Paliouri**	**0.60**	**309**	P	**Pb**	**18 34 40.4**	**-0.3**
PAIG				S	**Sb**	**18 34 49.3**	**0.0**
	comp=E,4μm,0.6s						
SKY	**Skiros Island**	**0.70**	**163**	P	**Pg**	**18 34 41.4**	**+0.1**
SKY				S	**Sg**	**18 34 50.8**	**+0.4**
SKY				AML	AML	18 34 55.0	
	comp=N,7172μm,0.2s						
SKY				AML	AML	18 34 55.5	
	comp=E,6964μm,0.3s						
LIA	**Limnos Island**	**0.78**	**63**	P	**Pg**	**18 34 43.0**	**+0.2**
LIA				S	**Sb**	**18 34 53.8**	**-0.4**
	comp=E,5μm,0.5s						
LIA	**Limnos Island**	**0.78**	**63**	P	**Pg**	**18 34 43.1**	**+0.2**
LIA				S	**Sg**	**18 34 53.4**	**+0.4**
LIA				AML	AML	18 34 56.5	
	comp=E,9352μm,0.6s						
LIA				AML	AML	18 34 56.6	
	comp=N,11958μm,0.4s						
OUR	**Ouranopolis**	**0.82**	**344**	Pg	**Pb**	**18 34 44.1**	**-0.2**
OUR				Sg	**Sb**	**18 34 56.1**	**+0.5**
OUR	**Ouranopolis**	**0.82**	**344**	P	**Pb**	**18 34 44.2**	**-0.2**
OUR				S	**Sn**	**18 34 56.8**	**-1.2**
	comp=N,2μm,0.6s						
OUR	**Ouranopolis**	**0.82**	**344**	P	**Pb**	**18 34 44.2**	**-0.2**
OUR				S	**Sb**	**18 34 55.2**	**-0.4**
OUR				AML	AML	18 34 57.3	
	comp=E,4728μm,0.3s						
OUR				AML	AML	18 34 57.9	
	comp=N,4442μm,0.3s						
NEO	**Neokhori**	**0.86**	**254**	P	**Pb**	**18 34 44.9**	**-0.1**
NEO				S	**Sb**	**18 34 57.1**	**+0.5**
	comp=N,4μm,0.3s						
NEO	**Neokhori**	**0.86**	**254**	P	**Pg**	**18 34 44.0**	**-0.4**
XOR	**Xorichti**	**0.87**	**258**	P	**Pg**	**18 34 44.6**	**0.0**
XOR				S	**Sb**	**18 34 57.0**	**+0.1**
	comp=N,4μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.92**	**189**	P	**Pg**	**18 34 45.3**	**-0.3**
KYMI				S	**Sb**	**18 34 58.9**	**+0.5**
	comp=N,3μm,0.6s						
KYMI	**Kymi, Euboea I**	**0.92**	**189**	P	**Pg**	**18 34 45.4**	**-0.3**
KYMI				S	**Sg**	**18 34 56.4**	**-1.2**
KYMI				AML	AML	18 35 00.4	
	comp=E,6872μm,0.6s						
KYMI				AML	AML	18 35 01.9	
	comp=N,4613μm,0.5s						
PLG	**Polygyros**	**1.05**	**322**	P	**Pg**	**18 34 47.4**	**-0.7**
PLG				S	**Sb**	**18 35 02.7**	**+0.5**
	comp=N,880nm,0.4s						
PLG	**Polygyros**	**1.05**	**322**	P	**Pg**	**18 34 47.4**	**-0.7**
PLG				S	**Sg**	**18 35 01.0**	**-0.8**
PLG				AML	AML	18 35 04.2	
	comp=N,1781μm,0.3s						
PLG				AML	AML	18 35 05.3	
	comp=E,1724μm,0.4s						
THAS	**Thassos island**	**1.11**	**17**	P	**Pg**	**18 34 48.4**	**-0.8**
THAS				S	**Sn**	**18 35 05.2**	**+0.1**
	comp=E,1μm,0.3s						
THAS	**Thassos island**	**1.11**	**17**	P	**Pg**	**18 34 48.5**	**-0.8**
THAS				S	**Sb**	**18 35 04.0**	**+0.1**
THAS				AML	AML	18 35 06.6	
	comp=E,2310μm,0.2s						
THAS				AML	AML	18 35 06.9	
	comp=N,3124μm,0.3s						
SIGR	**SIGRI**	**1.26**	**105**	Pn	**Pn**	**18 34 51.6**	**-0.1**
SIGR				Sn	**Sn**	**18 35 08.9**	**+0.2**
SIGR	**SIGRI**	**1.26**	**105**	P	**Pb**	**18 34 51.7**	**-0.1**
SIGR				S	**Sn**	**18 35 09.9**	**+1.2**
	comp=N,2μm,0.6s						
SIGR	**SIGRI**	**1.26**	**105**	P	**Pn**	**18 34 51.4**	**-0.2**
SIGR				S	**Sb**	**18 35 07.6**	**-0.5**
SIGR				AML	AML	18 35 11.8	
	comp=N,4306μm,0.6s						
SIGR				AML	AML	18 35 11.9	
	comp=E,5348μm,0.6s						
KOKK	**Kokkinochori,**	**1.29**	**350**	P	**Pn**	**18 34 51.3**	**-0.8**
KOKK				S	**Sn**	**18 35 11.4**	**+1.8**
	comp=E,315nm,0.4s						
KOKK	**Kokkinochori,**	**1.29**	**350**	P	**Pn**	**18 34 51.4**	**-0.8**
KOKK				S	**Sg**	**18 35 09.5**	**0.0**
KOKK				AML	AML	18 35 13.4	
	comp=N,1575μm,0.4s						
KOKK				AML	AML	18 35 13.5	
	comp=E,1767μm,0.4s						
SMTH	**Samothraki Isl**	**1.33**	**46**	P	**Pn**	**18 34 51.6**	**-1.1**
SMTH				S	**Sg**	**18 35 12.2**	**+1.5**
	comp=E,812nm,0.4s						
SMTH	**Samothraki Isl**	**1.33**	**46**	P	**Pn**	**18 34 51.7**	**-1.1**
HORT	**Hortiatis**	**1.39**	**319**	Pn	**Pn**	**18 34 53.7**	**+0.1**
HORT				Sn	**Sg**	**18 35 13.4**	**+0.7**
HORT	**Hortiatis**	**1.39**	**319**	P	**Pn**	**18 34 53.3**	**-0.3**
HORT				S	**Sg**	**18 35 14.0**	**+1.3**
	comp=E,495nm,0.5s						
HORT	**Hortiatis**	**1.39**	**319**	P	**Pn**	**18 34 53.3**	**-0.3**
GOAD	**anakkale-G¶**	**1.39**	**63**	P	**Pn**	**18 34 53.2**	**-0.4**
GOAD				S	**Sg**	**18 35 12.9**	**+0.2**
GOAD				*i* AML	AML	18 35 20.0	
	comp=E,347nm,0.4s						
GOAD				*i* AML	AML	18 35 21.0	
	comp=E,382nm,0.4s						
KVLA	**Kavala**	**1.39**	**3**	P	**Pn**	**18 34 52.5**	**-1.0**
BOZC	**Bozcaada**	**1.39**	**77**	Pn	**Pn**	**18 34 53.4**	**-0.2**
BOZC				Sn	**Sn**	**18 35 12.2**	**+0.1**
BOZC	**Bozcaada**	**1.39**	**77**	P	**Pn**	**18 34 53.3**	**-0.2**
GADA	**Gvkgeada**	**1.40**	**62**	Pn	**Pn**	**18 34 53.3**	**-0.3**
GADA				Sn	**Sb**	**18 35 12.3**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.43**	**93**	Pn	**Pn**	**18 34 54.0**	**0.0**
KOCA	**Canakkale, Ayv**	**1.43**	**91**	P	**Pn**	**18 34 54.2**	**+0.1**
KAVA	**Kavala**	**1.46**	**7**	P	**Pn**	**18 34 53.5**	**-1.0**
KAVA				S	**Sg**	**18 35 15.8**	**+0.9**
	comp=E,1μm,0.3s						
KAVA	**Kavala**	**1.46**	**7**	P	**Pn**	**18 34 53.5**	**-1.0**
SOH	**Sokhos**	**1.46**	**331**	P	**Pn**	**18 34 54.5**	**0.0**
SOH				S	**Sg**	**18 35 15.4**	**+0.5**
	comp=E,998nm,0.6s						
SOH	**Sokhos**	**1.46**	**331**	P	**Pn**	**18 34 54.2**	**-0.3**
AXAR	**Agios Charalam**	**1.48**	**239**	P	**Pn**	**18 34 54.6**	**-0.2**
THE	**Thessaloniki**	**1.49**	**317**	P	**Pn**	**18 34 54.7**	**-0.1**
THE	**Thessaloniki**	**1.49**	**317**	P	**Pn**	**18 34 54.7**	**-0.1**
DION	**Dionisos Attik**	**1.49**	**191**	P	**Pn**	**18 34 54.3**	**-0.6**
DION				S	**Sg**	**18 35 15.9**	**+0.1**
	comp=E,1μm,0.4s						
DION	**Dionisos Attik**	**1.49**	**191**	P	**Pn**	**18 34 54.4**	**-0.6**
DION				S	**Sb**	**18 35 14.5**	**-0.3**
DION				AML	AML	18 35 19.2	
	comp=E,1868μm,0.4s						
DION				AML	AML	18 35 19.6	
	comp=N,1879μm,0.4s						
LIT	**Litokhoron**	**1.49**	**292**	P	**Pn**	**18 34 54.8**	**-0.1**
LIT				S	**Sn**	**18 35 14.1**	**-0.4**
KARY	**Karystos**	**1.52**	**176**	P	**Pn**	**18 34 54.8**	**-0.4**
KARY				S	**Sg**	**18 35 16.7**	**+0.1**
	comp=N,325nm,0.3s						
PTL	**Penteli**	**1.53**	**193**	P	**Pn**	**18 34 55.0**	**-0.4**
PTL				S	**Sg**	**18 35 17.1**	**0.0**
	comp=N,1μm,0.5s						
PTL	**Penteli**	**1.53**	**193**	P	**Pn**	**18 34 54.5**	**-0.9**
PTL				S	**Sn**	**18 35 13.6**	**-1.8**
PTL				AML	AML	18 35 20.3	
	comp=E,2804μm,0.6s						
PTL				AML	AML	18 35 20.4	
	comp=N,1619μm,0.5s						
ECEA	**Canakkale, Ece**	**1.54**	**70**	P	**Pg**	**18 34 57.3**	**-0.1**
ECEA				S	**Sb**	**18 35 16.0**	**-0.1**
VIL2	**Platees**	**1.55**	**211**	P	**Pn**	**18 34 55.7**	**0.0**
VIL2				S	**Sb**	**18 35 16.3**	**-0.2**
VIL2				AML	AML	18 35 21.4	
	comp=N,2714μm,0.6s						
VIL2				AML	AML	18 35 21.5	
	comp=E,3361μm,0.8s						
PRK	**Paraskevi**	**1.57**	**100**	P	**Pb**	**18 34 56.6**	**-0.4**
PRK				S	**Sg**	**18 35 17.8**	**-0.4**
	comp=E,990nm,0.9s						
PRK	**Paraskevi**	**1.57**	**100**	P	**Pn**	**18 34 55.1**	**-0.8**
VILL	**Villia**	**1.57**	**209**	P	**Pn**	**18 34 55.7**	**-0.4**
VILL				S	**Sb**	**18 35 17.5**	**+0.2**
	comp=E,2μm,0.7s						
TYRN	**Tyrnavos**	**1.59**	**277**	P	**Pn**	**18 34 56.3**	**0.0**
TYRN				S	**Sn**	**18 35 17.1**	**+0.1**
EZN	**Ezine**	**1.60**	**79**	Pn	**Pn**	**18 34 55.2**	**-1.1**
EZN				Sn	**Sn**	**18 35 17.1**	**0.0**
EZNE	**Ezine-Canakkal**	**1.62**	**82**	Pn	**Pn**	**18 34 56.6**	**0.0**
SRS	**Serrai**	**1.66**	**342**	P	**Pn**	**18 34 56.7**	**-0.5**
SRS	**Serrai**	**1.66**	**342**	*e*Pn	**Pn**	**18 34 56.6**	**-0.6**
SRS				*e*Sn	**Sn**	**18 35 16.8**	**-1.9**
SRS	**Serrai**	**1.66**	**342**	P	**Pn**	**18 34 56.8**	**-0.5**
CNKL	**anakkale-Mer**	**1.70**	**71**	P	**Pn**	**18 34 57.6**	**-0.2**
CNKL				*i* AML	AML	18 35 35.0	
	comp=E,202nm,1.1s						
VLY	**Voula,Athens**	**1.73**	**193**	P	**Pn**	**18 34 57.6**	**-0.6**
VLY				S	**Sb**	**18 35 21.0**	**-0.8**
	comp=E,2μm,0.6s						
VLY	**Voula,Athens**	**1.73**	**193**	P	**Pn**	**18 34 57.6**	**-0.6**
VLY				S	**Sn**	**18 35 19.6**	**-0.8**
VLY				AML	AML	18 35 26.0	
	comp=E,4303μm,0.5s						
VLY				AML	AML	18 35 27.0	
	comp=N,2850μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.75**	**253**	P	**Pn**	**18 34 59.0**	**+0.5**
BAYC	**CANAKKALE_Bayr**	**1.76**	**83**	P	**Pn**	**18 34 58.7**	**+0.2**
THL	**Klokotos Trika**	**1.76**	**271**	P	**Pn**	**18 34 58.3**	**-0.2**
THL				S	**Sn**	**18 35 20.6**	**-0.4**
	comp=N,215nm,0.4s						
COMU	**Canakkale**	**1.77**	**71**	Pn	**Pn**	**18 34 58.6**	**-0.2**
NVR	**Nevrokopi**	**1.83**	**350**	P	**Pn**	**18 35 00.2**	**+0.6**
NVR	**Nevrokopi**	**1.83**	**350**	P	**Pn**	**18 35 00.2**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**1.84**	**51**	P	**Pn**	**18 35 00.2**	**+0.5**
CAVK				S	**Sg**	**18 35 26.7**	**-0.4**
CAVK				*i* AML	AML	18 35 35.0	
	comp=N,327nm,0.6s						
CAVK				*i* AML	AML	18 35 38.0	
	comp=N,293nm,0.7s						
CAVK	**Edirne/Enez-Ca**	**1.84**	**51**	⇑P	**Pb**	**18 35 01.4**	**-0.4**
CAVK				⇑S	**Sg**	**18 35 26.7**	**-0.4**
ENEZ	**Enez**	**1.86**	**50**	Pn	**Pn**	**18 34 59.9**	**-0.1**
LOUT	**Loutraki**	**1.86**	**214**	P	**Pn**	**18 34 59.7**	**-0.3**
LOUT				S	**Sn**	**18 35 23.6**	**-0.1**
	comp=N,1μm,0.5s						
RDO	**Rodhopi**	**1.86**	**30**	Pn	**Pn**	**18 34 59.3**	**-0.7**
RDO	**Rodhopi**	**1.86**	**30**	P	**Pn**	**18 34 59.0**	**-1.0**
RDO	**Rodhopi**	**1.86**	**30**	P	**Pn**	**18 34 59.1**	**-0.9**
AYVA	**Ayvalik**	**1.88**	**96**	P	**Pn**	**18 35 00.5**	**+0.4**
AYVA				*i* AML	AML	18 35 30.0	
	comp=N,178nm,0.7s						
AYVA				*i* AML	AML	18 35 39.0	
	comp=N,235nm,0.7s						
GELI	**Tayfur-Gelibol**	**1.88**	**62**	Pn	**Pn**	**18 34 59.5**	**-0.8**
ALN	**Alexandroupoli**	**1.91**	**44**	Pn	**Pn**	**18 35 00.3**	**-0.3**
ALN	**Alexandroupoli**	**1.91**	**44**	P	**Pn**	**18 34 59.7**	**-0.9**
ALN	**Alexandroupoli**	**1.91**	**44**	P	**Pn**	**18 34 59.8**	**-0.8**
ALN				S	**Sb**	**18 35 26.2**	**-0.6**
ALN				AML	AML	18 35 30.8	
	comp=E,465μm,1.0s						
ALN				AML	AML	18 35 35.4	
	comp=N,371μm,0.5s						
GRG	**Griva**	**2.02**	**315**	Pn	**Pn**	**18 35 02.9**	**+0.7**
EVR	**Evrytania**	**2.02**	**253**	P	**Pb**	**18 35 03.5**	**-1.4**
ERIK	**Erikli-Kesan**	**2.04**	**56**	Pn	**Pn**	**18 35 02.6**	**+0.1**
ANX	**Ano Chora**	**2.07**	**243**	P	**Pn**	**18 35 03.0**	**0.0**
ANX				S	**Sn**	**18 35 28.5**	**-0.5**
	comp=N,395nm,0.4s						
**

comp=N,0.1nm,0.5s,baz=281,slow=7.4,SNR=4.0
comp=N,0.1nm,0.5s
ZALV Zalesovo Beam 42.58 50 P **P** **18 42 25.6 +1.7**
comp=N,0.4nm,0.5s,baz=268,slow=8.7,SNR=2.5
comp=N,0.4nm,0.5s
PALK Pallekele 59.73 107 LR LR 19 13 13.3
comp=N,218nm,19.4s,baz=182,slow=39

*IDC **02** 18:42:03.8±1.3, 6°.21S×129°.94E, h0km, mb3.8/6, mbtmp4.0/9, ML4.2/3, Error ellipse: s-maj=72.0km s-min=18.9km az=69.0*
*DJA **02** 18:42:20.2±0.4, 7°.5±3°.×13°.0E±°, h208km±10km, M4.4/13, mB5.0/4, mb4.2/8, MLv4.5/13, Mw(mB)4.3/4*
*NEIC **02** 18:42:20.3±1.8, 6°.77S±0°.07×129°.61E±0°.04, h163km±8km, mb4.3/12, Error ellipse: s-maj=11.3km s-min=3.1km az=156.0*
ISC 02 18:42:21.6±0.5, 6°.91S±0°.05×129°.66E±0°.06, h200km, n54, σ3°10/58, mb3.7/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**123**	Pn	**Pn**	**18 42 58.7**	**-0.8**
SAUI				Sn	**Sn**	**18 43 23.5**	**-5.6**
SAUI	**Saumlaki**	**1.94**	**123**	P	**Pn**	**18 42 59.0**	**-0.5**
BNDI	**Bandanaira**	**2.39**	**6**	P	**Pn**	**18 43 02.6**	**-1.7**
MSAI	**Masohi**	**3.62**	**348**	P	**Pn**	**18 43 17.6**	**-1.1**
FAKI	**Fak Fak**	**4.73**	**33**		**Pn**	**18 43 28.9**	**-3.7**
FAKI				Sn	**Sn**	**18 44 20.2**	**-8.4**
FAKI	**Fak Fak**	**4.73**	**33**	P	**Pn**	**18 43 29.0**	**-3.7**
KMPI	**Kaimana, Papua**	**5.16**	**51**	P	**Pn**	**18 43 36.0**	**-2.1**
DRS	**Darwin Rock St**	**5.62**	**168**	P	**Pn**	**18 43 44.2**	**+0.2**
SOEI	**Soe**	**6.04**	**242**	Pn	**Pn**	**18 43 48.5**	**-1.0**
SOEI				Sn	**Sn**	**18 44 54.4**	**-4.6**
SOEI	**Soe**	**6.04**	**242**	P	**Pn**	**18 43 49.1**	**-0.4**
	0.3nm37nm,1.1s						
SANI	**Sanana**	**6.06**	**323**	P	**Pn**	**18 43 49.1**	**-0.6**
	15nm,0.9s						
MTN	**Manton Dam**	**6.07**	**166**		**Pn**	**18 43 49.7**	**-0.1**
MTN				Sn	**Sn**	**18 44 54.9**	**-4.7**
MTN	**Manton Dam**	**6.07**	**166**	P	**Pn**	**18 43 49.7**	**-0.1**
SWI	**Sorong**	**6.22**	**15**	P	**Pn**	**18 43 48.3**	**-3.4**
	0.3nm2um32nm,0.6s						
KDU	**Kakadu**	**6.37**	**154**	P	**Pn**	**18 43 53.7**	**0.0**
BAKI	**Biak**	**8.58**	**49**	P	**Pn**	**18 44 22.2**	**-0.3**
	91nm,1.2s						
KNRA	**Kununurra**	**8.76**	**186**		**Pn**	**18 44 23.9**	**-0.9**
WSI	**Waingapu**	**9.66**	**253**	P	**Pn**	**18 44 33.6**	**-2.9**
FITZ	**Fitzroy Crossi**	**11.79**	**199**	Pn	**Pn**	**18 45 02.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.79**	**199**	Pn	**Pn**	**18 45 02.5**	**-1.4**
	2.5nm,0.3s,baz=29,slow=11,SNR=45						
FITZ				Sn	**Sn**	**18 47 07.6**	**-7.8**
	1.7nm,0.3s,baz=53,slow=16,SNR=3.6						
	5.7nm,0.3s						
WB0	**Warramunga Arr**	**13.58**	**161**	Pn	**Pn**	**18 45 25.3**	**-1.1**
WRAB	**Tennant Creek**	**13.72**	**161**	Pn	**Pn**	**18 45 26.8**	**-1.4**
WRA	**Warramunga Arr**	**13.73**	**161**	Pn	**Pn**	**18 45 26.3**	**-2.0**
WRA	**Warramunga Arr**	**13.73**	**161**	Pn	**Pn**	**18 45 27.2**	**-1.0**
	0.7nm,0.3s,baz=98,slow=6.5,SNR=32						
WRA				Sn	**S**	**18 47 54.4**	**-6.8**
	2.0nm,0.3s,baz=344,slow=25,SNR=8.6						
	2.3nm,0.5s						
COEN	**Coen**	**15.02**	**119**	Pn	**P**	**18 45 43.4**	**-1.4**
COEN	**Coen**	**15.02**	**119**	P	**P**	**18 45 49.9**	**+5.1**
JAGI	**Jajag, Banyuwa**	**15.45**	**263**	Pn	**Pn**	**18 45 48.0**	**-1.4**
JAGI				IAmb	IAmb	18 45 48.7	
	comp=Z,26nm,1.2s						
QIS	**Mount Isa**	**16.64**	**146**	P	**Pn**	**18 46 06.8**	**+3.1**
QIS	**Mount Isa**	**16.64**	**146**	S	**S**	**18 49 03.3**	**-3.2**
AS31	**Alice Springs**	**17.15**	**167**	P	**Pn**	**18 46 10.0**	**+0.3**
ASAR	**Alice Springs**	**17.15**	**167**		**Pn**	**18 46 10.3**	**+0.5**
ASAR	**Alice Springs**	**17.15**	**167**	P	**Pn**	**18 46 12.4**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=342,slow=8.9,SNR=81						
ASAR				S	**S**	**18 49 18.0**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=348,slow=25,SNR=6.4						
	comp=Z,5.4nm,0.6s						
AS01	**Alice Springs**	**17.16**	**167**	P	**Pn**	**18 46 12.3**	**+2.4**
PSA00	**Pilbara Seismi**	**17.39**	**212**		**Pn**	**18 46 13.4**	**+0.9**
PSA00				IAmb	IAmb	18 46 26.7	
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**17.39**	**212**		**Pn**	**18 46 14.2**	**+1.6**
PSA00				IAmb	IAmb	18 46 46.1	
	comp=Z,8.9nm,1.3s						
WRKA	**Warakurna**	**18.07**	**184**	P	**Pn**	**18 46 22.2**	**+1.6**
MTSU	**Mount Surprise**	**18.12**	**129**	P	**Pn**	**18 46 26.4**	**+5.2**
	comp=Z,7.8nm,1.3s						
OOD	**Oodnadatta**	**21.54**	**165**	P	**P**	**18 46 58.7**	**+3.4**
LCRK	**Leigh Creek**	**24.75**	**162**	P	**P**	**18 47 30.9**	**+6.0**
STKA	**Stephens Creek**	**27.22**	**157**	P	P	18 47 55.1	+8.0
	comp=Z,0.7nm,0.3s,baz=324,slow=11,SNR=5.0						
	comp=Z,0.7nm,0.3s						
UBPT	**Khong Chiam**	**32.57**	**313**	P	**P**	**18 48 35.0**	**+0.7**
UBPT				IAmb	IAmb	18 48 46.1	
	comp=Z,9.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.42**	**310**	P	**P**	**18 49 34.5**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=135,slow=6.9,SNR=9.4						
	comp=Z,0.7nm,0.7s						
CN2	**Changchun**	**50.62**	**356**	*e*P	**P**	**18 50 57.4**	**-2.8**
CN2				*es*P	PcP	18 52 08.7	-6.0
FUTU	**Fugatoga**	**51.76**	**103**	P	**P**	**18 51 09.6**	**+0.4**
MK31	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 53 01.8**	**+2.7**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 53 01.5**	**+2.5**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 53 02.2**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=128,slow=6.6,SNR=31						
	comp=Z,0.6nm,0.3s						
YAK	**Yakutsk**	**68.74**	**0**	P	**P**	**18 53 05.4**	**+2.0**
YAK				IAmb	IAmb	18 53 13.3	
	comp=Z,6.5nm,1.1s						
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**18 53 21.7**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=116,slow=5.7,SNR=2.1						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.26**	**329**	P	**P**	**18 53 27.6**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=131,slow=4.4,SNR=5.8						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**77.81**	**328**	P	P	18 54 00.6	+3.9
	comp=Z,0.4nm,0.5s,baz=122,slow=7.1,SNR=2.6						
	comp=Z,0.4nm,0.5s						
SPIA	**Saint Paul Isl**	**80.25**	**29**	P	**P**	**18 54 12.0**	**+2.2**
ABKAR	**Akbulak array**	**82.23**	**322**	P	**P**	**18 54 22.1**	**+1.7**
QSPA	**South Pole Qui**	**83.06**	**180**	P	P	18 54 28.3	+3.7
QSPA				IAmb	IAmb	18 55 03.8	
	comp=Z,4.4nm,1.4s						

IDC 02 18:44:35.5±8.3, 0°.93N×100°.78W, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/1, Error ellipse: s-maj=227.7km s-min=121.4km az=118.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**18.28**	**59**	LR	LR	18 53 00.3	
	comp=Z,69nm,20.0s,baz=312,slow=28						
TXAR	**Lajitas Array**	**28.38**	**355**	P	P	18 50 31.8	0.0
	0.4nm,0.8s,baz=171,slow=8.1,SNR=4.2						
	0.4nm,0.8s						
H03N2	**Juan Fernandez**	**39.90**	**151**	T	T	19 35 32.8	
	baz=326,slow=78,SNR=34						
H03N1	**Juan Fernandez**	**39.91**	**151**	T	T	19 35 34.1	
	baz=326,slow=78,SNR=36						
H03N3	**Juan Fernandez**	**39.91**	**151**	T	T	19 35 33.2	
	baz=326,slow=78,SNR=40						
PDAR	**Pinedale Array**	**42.39**	**350**	P	P	18 52 32.0	0.0
	1.1nm,0.7s,baz=162,slow=8.5,SNR=7.3						
	1.1nm,0.7s						
ULM	**Lac du Bonnet**	**49.32**	**4**	P	P	18 53 26.2	-0.1
	1.5nm,0.7s,baz=168,slow=9.3,SNR=3.1						
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**62.29**	**353**	P	P	18 54 59.4	+0.2
	1.1nm,0.9s,baz=163,slow=6.8,SNR=11						
	1.1nm,0.9s						
ILAR	**Eielson Array**	**71.84**	**341**	P	P	18 55 59.7	-0.3
	0.7nm,0.7s,baz=151,slow=5.3,SNR=9.3						
	0.7nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**91.87**	**290**	T	T	20 38 41.2	
	baz=88,slow=75,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**91.88**	**290**	T	T	20 38 40.8	
	baz=88,slow=75,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**91.89**	**290**	T	T	20 38 42.7	
	baz=88,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**92.10**	**288**	T	T	20 38 55.7	
	baz=89,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**92.10**	**288**	T	T	20 38 56.0	
	baz=89,slow=75,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**92.11**	**288**	T	T	20 38 57.0	
	baz=89,slow=75,SNR=9.9						

*BUT **02** 18:49:43.5±1.5, 46°.89N±0°.03×112°.50W±0°.04, h13km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=209.0*
NEIC 02 18:49:43.1±1.6, 46°.91N±0°.03×112°.50W±0°.02, h13km±3km, ML2.6/48, ML2.6/11(BUT), Error ellipse: s-maj=4.4km s-min=1.8km az=200.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.16**	**66**		Pg	18 49 47.5	+0.4
HRY	**Holter Researc**	**0.50**	**113**		Pg	18 49 53.0	+0.1
BPMT	**Black Pine Rid**	**0.80**	**235**		Pg	18 49 58.4	-0.2
MSO	**Missoula**	**0.99**	**266**		Pg	18 50 02.4	+0.2
MSO				Sg	Sb	18 50 15.2	0.0
MSO				IAML		18 50 18.9	
	121nm,0.3s						
LRM	**Limekiln Ridge**	**1.08**	**178**		Pb	18 50 03.9	0.0
BOZ	**Bozeman (W)**	**1.44**	**155**		Pb	18 50 09.5	-0.4
BOZ					Sb	18 50 28.7	+0.5
DLMT	**Dillon**	**1.54**	**183**		Pn	18 50 10.6	+0.1
DLMT					Sg	18 50 32.9	+0.1
MCMT	**McKenzie Canyo**	**2.09**	**187**	Pn	Pn	18 50 18.8	+0.7
EGMT	**Eagleton**	**2.17**	**58**		Pb	18 50 20.8	-1.5
EGMT					Sb	18 50 49.0	-0.2
EGMT				IAML		18 50 52.1	
	79nm,0.5s						
EGMT				IAML		18 50 53.3	
	52nm,0.3s						
QLMT	**Earthquake Lak**	**2.21**	**160**		Pn	18 50 20.7	+1.1
YHL	**Hebgen Lake**	**2.25**	**155**		Pn	18 50 20.8	+0.5
YHL				IAML		18 50 56.9	
	comp=N,26nm,1.1s						
YHL				IAML		18 50 58.8	
	comp=E,27nm,0.9s						
GCMT	**Greycliff**	**2.26**	**119**		Pn	18 50 21.8	+1.6
YHB	**Horse Butte**	**2.34**	**157**		Pn	18 50 22.4	+0.9
YHH	**Holmes Hill**	**2.41**	**151**		Pn	18 50 23.4	+0.9
YMR	**Madison River**	**2.48**	**154**		Pn	18 50 24.1	+0.7
YMR				IAML		18 50 55.3	
	comp=E,20nm,3.8s						
YMR				IAML		18 51 08.4	
	comp=N,27nm,1.1s						
YNE	**Yellowstone No**	**2.57**	**137**	Pn	Pn	18 50 25.7	+1.0
YNE				IAML		18 51 05.8	
	comp=N,22nm,0.3s						
RLMT	**Red Lodge**	**2.87**	**127**	Pn	Pn	18 50 29.0	+0.2
RLMT				IAML		18 52 01.3	
	comp=N,17nm,5.0s						
PLID	**Pearl Lake**	**3.04**	**235**	Pn	Pn	18 50 31.5	+0.4
PLID				IAML		18 51 24.0	
	comp=N,12nm,4.8s						
FLWY	**Flagg Ranch**	**3.09**	**155**	Pn	Pn	18 50 32.2	+0.4
FLWY				IAML		18 51 49.8	
	comp=N,15nm,4.3s						
FLWY				IAML		18 51 52.7	
	comp=N,14nm,4.7s						
MOOW	**Moose Ponds**	**3.39**	**158**	Pn	Pn	18 50 36.9	+1.0
MOOW				IAML		18 51 33.5	
	comp=N,9.7nm,5.0s						
MOOW				IAML		18 51 39.3	
	comp=N,10.0nm,5.0s						
F10A	**Beach Ranch, E**	**3.40**	**256**	Pn	Pn	18 50 37.0	+1.1
NEW	**Newport**	**3.41**	**295**		Pn	18 50 37.2	+1.2
NEW				IAML		18 52 16.7	
	comp=N,11nm,4.4s						
NEW				IAML		18 52 30.8	
	comp=N,13nm,5.0s						
FXWY	**Fox Creek**	**3.43**	**162**	Pn	Pn	18 50 36.9	+0.5
TPAW	**Teton Pass**	**3.59**	**162**	Pn	Pn	18 50 38.5	-0.2
TPAW				IAML		18 51 41.8	
	comp=N,10nm,4.6s						
TPAW				IAML		18 52 36.7	
	comp=N,16nm,5.0s						
HLID	**Hailey**	**3.61**	**203**	Pn	Pn	18 50 39.4	+0.6
HLID				IAML		18 51 37.5	
	comp=N,12nm,0.3s						
HLID				IAML		18 51 38.2	
	comp=N,14nm,0.2s						
E09A	**Wood Farm, Sta**	**3.90**	**266**		Pn	18 50 43.8	+1.1
E09A				IAML		18 53 08.5	
	comp=N,18nm,4.8s						
BMO	**Blue Mountains**	**3.94**	**240**	Pn	Pn	18 50 42.6	-0.7
BMO				IAML		18 51 39.9	
	comp=N,13nm,4.9s						
BMO				IAML		18 52 55.6	
	comp=N,12nm,5.0s						
C09A	**Chrisman Ranch**	**4.03**	**285**	Pn	Pn	18 50 44.2	-0.3
MFID	**Camas Ranch**	**4.21**	**215**	Pn	Pn	18 50 45.9	-1.1
MFID				IAML		18 51 56.8	
	comp=N,12nm,2.9s						
B08A	**Colville Reser**	**4.84**	**290**	Pn	Pn	18 50 55.8	+0.1
HAWA	**Hanford**	**4.87**	**267**	Pn	Pn	18 50 55.8	-0.2
E07A	**Sunnyside**	**5.07**	**269**		Pn	18 50 57.7	-1.1

*BGSI **02** 19:01:18.7±1.4, 27°.01S×27°.94E, h29km±74km, ML3.0*
*PRE **02** 19:01:20.9±1.0, 26°.41S×27°.52E, h2km, ML2.6*
*BUL **02** 19:01:24.2±1.1, 26°.47S×27°.65E, h10km, MD3.3*
ISC 02 19:01:21.1±1.2, 26°.44S±0°.03×27°.59E±0°.03, h8km±9km, n38, σ1°83/72, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**203**	*e*P	**Pg**	**19 01 31.6**	**+0.3**
PRYS				*e*S	**Sb**	**19 01 39.3**	**-1.2**
PRYS				IAML		19 01 46.9	
	comp=Z,124nm,0.3s						
HRAO	**HartRAO**	**0.56**	**9**	*e*P	**Pg**	**19 01 31.1**	**-0.8**
HRAO				*e*S	**Sg**	**19 01 39.5**	**+0.2**
HRAO				IAML		19 01 40.7	
	comp=Z,208nm,0.3s						
SNKL	**Senekal, Frees**	**1.83**	**175**	*e*P	**Pb**	**19 01 55.5**	**+0.4**
SNKL				*e*S	**Sg**	**19 02 20.1**	**0.0**
SNKL				IAML		19 02 25.6	
	comp=Z,140nm,0.2s						
SWZ	**Schweizer**	**2.15**	**249**	*e*P	**Pn**	**19 01 58.6**	**+1.2**
SWZ				*e*S	**Sn**	**19 02 25.2**	**+0.8**
SWZ				IAML		19 02 29.4	
	comp=Z,152nm,0.6s						
CRLN	**Carolina, Mapu**	**2.23**	**79**	*e*P	**Pn**	**19 02 00.3**	**+1.6**
CRLN				*e*S	**Sb**	**19 02 29.0**	**-0.8**
CRLN				IAML		19 02 33.5	
	comp=Z,32nm,0.2s						
LBTB	**Lobatse**	**2.29**	**308**	*e*P	**Pn**	**19 01 59.9**	**+0.6**
LBTB				*e*S	**Sn**	**19 02 28.0**	**+0.1**
LBTB				IAML		19 02 33.3	
	comp=Z,173nm,0.6s						
LBTB	**Lobatse**	**2.29**	**308**	*i*P	**Pb**	**19 02 01.9**	**-1.0**
LBTB				*i*S	**Sb**	**19 02 31.3**	**0.0**
NWCL	**Newcastle**	**2.43**	**123**	*e*P	**Pb**	**19 02 03.4**	**-1.7**
NWCL				*e*S	**Sb**	**19 02 34.9**	**-0.4**
NWCL				IAML		19 02 41.9	
	comp=Z,43nm,0.3s						
LEPH	**Lephalale, Lim**	**2.58**	**4**	*e*P	**Pn**	**19 02 04.4**	**+1.1**
LEPH				*e*S	**Sn**	**19 02 35.6**	**+0.6**
LEPH				IAML		19 02 46.8	
	comp=Z,44nm,0.5s						
MAKGR	**Makgori**	**2.58**	**283**	*i*P	**Pn**	**19 02 04.7**	**+1.2**
MAKGR				*i*S	**Sn**	**19 02 37.3**	**+2.2**
MAKGR				IAML		19 02 43.7	
	comp=E,277nm,0.4s						
BOSA	**Boshof**	**2.99**	**223**	*e*P	**Pn**	**19 02 10.4**	**+1.4**
BOSA				*e*S	**Sn**	**19 02 45.1**	**-0.2**
BOSA				IAML		19 03 00.5	
	comp=Z,19nm,0.5s						
BOSA	**Boshof**	**2.99**	**223**	*i*P	**Pn**	**19 02 10.9**	**+1.8**
BOSA				*i*S	**Sn**	**19 02 47.2**	**+1.9**
PILG	**Pilgrimsrest,**	**3.19**	**63**	*e*P	**Pn**	**19 02 13.7**	**+1.8**
PILG				*e*S	**Sn**	**19 02 52.0**	**+1.7**
PILG				IAML		19 03 08.0	
	comp=Z,46nm,0.4s						
LPHEP	**Lephephe**	**3.44**	**333**	*i*P	**Pn**	**19 02 18.0**	**+2.8**
LPHEP				*i*S	**Sn**	**19 03 01.2**	**+4.9**
LPHEP				IAML		19 03 14.1	
	comp=N,36nm,0.4s						
POGA	**Pongola**	**3.79**	**105**	*e*P	**Pn**	**19 02 22.5**	**+2.6**
POGA				*e*S	**Sn**	**19 03 06.3**	**+1.5**
POGA				IAML		19 03 22.8	
	comp=Z,22nm,0.4s						
SKOMA	**Sekoma**	**3.82**	**299**	*i*P	**Pn**	**19 02 21.0**	**+0.6**
SKOMA				IAML		19 03 23.5	
	comp=N,52nm,0.5s						
PMBG	**Pietermaritzbu**	**4.00**	**140**	*e*P	**Pn**	**19 02 25.7**	**+2.8**
PMBG				*e*S	**Sn**	**19 03 11.5**	**+1.4**
PMBG				IAML		19 03 31.4	
	comp=Z,28nm,0.4s						
KDWAN	**Kaudwane**	**4.04**	**318**	*i*P	**Pn**	**19 02 25.3**	**+1.7**
KDWAN				*i*S	**Sn**	**19 03 16.6**	**+5.4**
KDWAN				IAML		19 03 27.5	
	comp=E,74nm,0.6s						
KSTD	**Kokstad**	**4.43**	**160**	*e*P	**Pn**	**19 02 30.6**	**+1.8**
KSTD				*e*S	**Sn**	**19 03 21.0**	**+0.3**
KSTD				IAML		19 03 42.6	
	comp=Z,8.8nm,0.4s						
MOPA	**Mopani**	**4.52**	**51**	*e*P	**Pn**	**19 02 31.2**	**+1.3**
MOPA				*e*S	**Sn**	**19 03 22.6**	**-0.2**
MOPA				IAML		19 03 50.6	
	comp=Z,25nm,0.4s						
MOPA	**Mopani**	**4.52**	**51**	*i*P	**Pn**	**19 02 31.6**	**+1.6**
MOPA				*i*S	**Sn**	**19 03 21.1**	**-1.7**
MUSN	**Musina, Limpop**	**4.63**	**27**	*e*P	**Pn**	**19 02 32.6**	**+1.2**
MUSN				*e*S	**Sn**	**19 03 24.6**	**-0.9**
MUSN				IAML		19 03 53.8	
	comp=Z,12nm,0.4s						
MUSN	**Musina, Limpop**	**4.63**	**27**	*i*P	**Pn**	**19 02 33.6**	**+2.1**
MUSN				*i*S	**Sn**	**19 03 24.5**	**-0.9**
BROLN	**Tlhalogang**	**5.32**	**357**	*i*P	**Pn**	**19 02 42.8**	**+1.7**
BROLN				IAML		19 04 08.3	
	comp=E,15nm,0.6s						
ALKP	**Alkanpan, Nort**	**5.86**	**232**	*e*P	**Pn**	**19 02 48.9**	**+0.4**
ALKP				*e*S	**Sn**	**19 03 53.5**	**-2.4**
ALKP				IAML		19 04 38.4	
	comp=Z,9.2nm,0.4s						
UPI	**Upington**	**5.95**	**250**	*e*P	**Pn**	**19 02 50.1**	**+0.4**
UPI				*e*S	**Sn**	**19 03 56.4**	**-1.7**
UPI				IAML		19 04 31.8	
	comp=Z,9.4nm,0.4s						
KGCAE	**Kacgae**	**6.06**	**305**	*i*P	**Pn**	**19 02 52.5**	**+1.3**
KGCAE				*i*S	**Sn**	**19 04 01.2**	**+0.3**
KGCAE				IAML		19 04 37.9	
	comp=N,34nm,0.9s						
CKGRV	**CKGRV**	**6.11**	**324**	*i*P	**Pn**	**19 02 53.7**	**+1.8**
CKGRV				IAML		19 04 41.4	
	comp=E,41nm,0.4s						
BLWY	**Bulawayo**	**6.34**	**9**	*i*P	**Pn**	**19 02 56.9**	**+1.7**
BLWY				*i*S	**Sn**	**19 04 05.4**	**-2.6**
GRAF	**Camdeboo Natio**	**6.41**	**204**	*e*P	**Pn**	**19 02 57.5**	**+1.5**
GRAF				*e*S	**Sn**	**19 04 08.4**	**-1.1**
GRAF				IAML		19 04 42.0	
	comp=Z,3.6nm,0.5s						
BRAK	**Brakfontein**	**6.72**	**217**	*e*P	**Pn**	**19 03 00.8**	**+0.6**
BRAK				*e*S	**Sn**	**19 04 15.7**	**-1.4**
BRAK				IAML		19 04 53.8	
	comp=Z,4.9nm,0.4s						
ROOI	**Rooidraai Farm**	**6.98**	**209**	*e*P	**Pn**	**19 03 04.6**	**+0.7**
ROOI				*e*S	**Sn**	**19 04 20.8**	**-2.7**
ROOI				IAML		19 05 03.0	
	comp=Z,5.5nm,0.4s						
GRAN	**Grantham**	**7.51**	**218**	*e*P	**Pn**	**19 03 12.4**	**+1.3**
GRAN				*e*S	**Sn**	**19 04 34.8**	**-1.8**
GRAN				IAML		19 05 20.7	
	comp=Z,5.4nm,0.4s						
KOOLE	**Kule**	**7.55**	**295**	*i*P	**Pn**	**19 03 11.0**	**-0.7**
KOOLE				IAML		19 05 22.0	
	comp=E,16nm,1.3s						
FRAZ	**Fraserburg**	**7.68**	**223**	*e*P	**Pn**	**19 03 14.9**	**+1.4**
FRAZ				*e*S	**Sn**	**19 04 38.1**	**-2.8**
FRAZ				IAML		19 05 25.9	
	comp=Z,3.7nm,0.5s						
MERW	**Merweville**	**8.15**	**219**	*e*P	**Pn**	**19 03 20.5**	**+0.6**
MERW				*e*S	**Sn**	**19 04 49.0**	**-3.3**
MERW				IAML		19 05 40.5	
	comp=Z,3.9nm,0.6s						
SUR	**Sutherland**	**8.36**	**223**	*e*P	**Pn**	**19 03 24.3**	**+1.4**
SUR				*e*S	**Sn**	**19 04 54.6**	**-3.0**
SUR				IAML		19 05 56.8	
	comp=Z,3.3nm,0.5s						
CVNA	**Calvinia**	**8.49**	**232**	*e*P	**Pn**	**19 03 26.1**	**+1.5**
CVNA				*e*S	**Sn**	**19 04 57.3**	**-3.5**
CVNA				IAML		19 05 50.5	
	comp=Z,6.4nm,0.4s						

*BJI **02** 19:10:09.0, 35°.42N×141°.15E, h40km, mB4.9/28, mb4.6/72, Ms4.4/53, Ms7 4.3/50*
*MOS **02** 19:10:11.4±1.1, 35°.57N×141°.07E, h37km, mb5.1/75, Error ellipse: s-maj=7.0km s-min=4.0km az=118.5*
*JMA **02** 19:10:12.8±0.2, 35°.6N±0°.6×14°.1E±°, h37km±1km, MD4.7/39, MW4.8/39, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NIED **02** 19:10:12.8, 35°.57N×141°.05E, h37km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.36; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-1.14; $M_{r\theta}$0.79; $M_{\theta\phi}$0.16; $M_{\phi r}$2.05; Fault plane solution: $M_0$2.52000×10^{16} NP1: ϕ_s162.00000°, δ17.00000°, λ57.00000°. NP2:ϕ_s16.00000°, δ76.00000°, λ100.00000°.*
*NEIC **02** 19:10:12.8±1.2, 35°.56N±0°.05×141°.11E±0°.08, h33km±4km, mb5.0/107 Error ellipse: s-maj=9.8km s-min=7.0km az=102.0*
*IDC **02** 19:10:15.9±2.4, 35°.48N×140°.85E, h57km±20km, mb4.3/33, mbtmp4.5/36, ML3.8/3, MS4.1/49, Error ellipse: s-maj=14.8km s-min=10.7km az=101.0*
*BGR **02** 19:10:20.8, 36°.52N×140°.11E, h33km, mb5.1*
ISC 02 19:10:13.1±0.3, 35°.54N±0°.03×141°.05E±0°.04, h39km±2km, h39km:pP-P, n543, σ1°37/511, mb4.8/167, MS4.2/64, 24C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.50**	**282**	‖*i*P	**Pn**	**19 10 23.6**	**-0.2**
JSMT	**Sammumatsuo**	**0.50**	**282**	A	A	19 10 23.6	
	comp=N,184nm,1.

JMYK Miyake Tsubota 1.92 220 A A 19 10 44.6
comp=N,17nm,2.8s,comp=E,18nm,4.3s
JIZS Izushimoda 1.96 246 A A 19 10 44.9
comp=N,9.0nm,2.0s,comp=E,6.0nm,1.3s
JFNN Fujinakano 1.96 261 A A 19 10 44.8
comp=N,23nm,3.7s,comp=E,20nm,2.9s
JOTO OTAMA OYAMA 2.10 344 A A 19 10 46.3
comp=N,22nm,1.7s,comp=E,22nm,1.2s
JFY Yanaizu 2.16 330 A A 19 10 47.2
comp=N,4.0nm,3.9s,comp=E,5.0nm,3.2s
JMST Minamisoumatoc 2.19 357 A A 19 10 47.5
comp=N,6.0nm,1.9s,comp=E,5.0nm,1.9s
JGK Kuni 2.20 298 A A 19 10 48.0
comp=N,7.0nm,2.7s,comp=E,6.0nm,2.6s
JMM Marumori 2.33 355 **Pn** **19 10 48.9 -0.1**
JMM Marumori 2.33 355 P **Pn** **19 10 49.5 +0.5**
JMM Marumori 2.33 355 S **Sn** **19 11 18.5 +2.1**
SHZ3 Shizuoka 3 2.37 259 A A 19 10 50.7
comp=N,9.0nm,1.5s,comp=E,9.0nm,1.9s
JYAR Yonezawaarcadi 2.48 343 A A 19 10 51.7
comp=N,12nm,1.1s,comp=E,12nm,2.9s
JSG Sagara 2.50 251 **Pn** **19 10 52.6 +1.4**
JSG Sagara 2.50 251 P **Pn** **19 10 54.7 +3.5**
JSG Sagara 2.50 251 A A 19 10 52.6
comp=N,10.0nm,3.3s,comp=E,10.0nm,3.4s
MJAR Matsushiro Arr 2.51 294 P **Pn** **19 10 53.1 +1.7**
comp=E,12nm,0.3s,baz=98,slow=14,SNR=136
MJAR LR LR 19 12 01.0
comp=E,5μm,20.1s,baz=150,slow=44
comp=E,65nm,0.3s
MAJO Matsushiro 2.51 294 **Pn** **19 10 51.7 +0.2**
MAJO Matsushiro 2.51 294 P **Pn** **19 10 53.3 +1.8**
MAJO Matsushiro 2.51 294 *i* P **Pn** **19 10 52.5 +1.0**
MJB9 Matsu-Tunnel 2.52 294 Pn **Pn** **19 10 52.8 +1.3**
JNG Nsakai 2.54 291 A A 19 10 53.0
comp=N,5.0nm,2.0s,comp=E,5.0nm,3.0s
JNY Yasuok 2.61 267 A A 19 10 54.1
comp=N,8.0nm,3.9s,comp=E,5.0nm,6.1s
JHJ2 Mitsune 2.62 203 Pn **Pn** **19 10 52.7 -0.3**
JHJ2 Mitsune 2.62 203 P **Pn** **19 10 53.7 +0.7**
JHJ2 Mitsune 2.62 203 S **Sn** **19 11 26.2 +2.6**
JIZZ Izumozaki 2.74 317 A A 19 10 55.6
comp=N,21nm,2.5s,comp=E,19nm,4.9s
JYS Shirataka 2.79 344 A A 19 10 56.2
comp=N,9.0nm,1.5s,comp=E,11nm,1.5s
JOU Okura 2.84 354 A A 19 10 56.9
comp=N,8.0nm,3.7s,comp=E,11nm,3.1s
JGF Kuroka 3.01 272 Pn **Pn** **19 10 58.5 +0.2**
JGF Kuroka 3.01 272 P **Pn** **19 11 00.7 +2.4**
JYA Atsumi 3.23 341 A A 19 11 02.5
comp=N,7.0nm,1.5s,comp=E,8.0nm,1.2s
INU Inuyama 3.30 268 Pn **Pn** **19 11 02.5 +0.3**
INU Inuyama 3.30 268 P **Pn** **19 11 04.3 +2.1**
JSD Sado 3.35 319 Pn **Pn** **19 11 03.6 +0.6**
JSD Sado 3.35 319 P **Pn** **19 11 04.5 +1.5**
JTM Tenmabayashi 5.24 0 Pn **Pn** **19 11 29.6 +0.7**
JTM Tenmabayashi 5.24 0 P **Pn** **19 11 29.6 +0.7**
JMN Monobe 6.18 255 Pn **Pn** **19 11 43.3 +1.5**
JMN Monobe 6.18 255 P **Pn** **19 11 44.8 +2.9**
ERM Erimo 6.67 14 **Pn** **19 11 46.7 -1.9**
ERM Erimo 6.67 14 P **Pn** **19 11 47.1 -1.5**
ERM Erimo 6.67 14*ce*P **Pn** **19 11 46.7 -1.9**
ERM pmax pmax
comp=Z,109nm,1.3s
JEM Erimo 6.68 14 P **Pn** **19 11 47.6 -1.0**
JCJ Chichijima 8.47 173 **Pn** **19 12 11.6 -1.7**
JCJ Chichijima 8.47 173 P Pn 19 12 07.7 -5.6
comp=Z,116nm,0.4s,baz=322,slow=7.7,SNR=12
JCJ S Sn 19 13 32.9 -15
comp=Z,120nm,0.3s,baz=269,slow=22,SNR=7.5
JCJ Chichijima 8.47 173 P **Pn** **19 12 13.7 +0.4**
NMR Nemuro--Hokkai 8.62 23 *e*P **Pn** **19 12 12.5 -2.7**
ASAJ Asahikawa 8.65 7 P **Pn** **19 12 13.6 -2.1**
comp=Z,18nm,0.4s,baz=225,slow=9.6,SNR=40
ASAJ S **Sn** **19 13 51.6 -0.3**
comp=Z,31nm,0.7s,baz=143,slow=14,SNR=3.9
ASAJ LR LR 19 16 46.4
comp=Z,766nm,19.2s,baz=195,slow=45
ASAJ Asahikawa 8.65 7 P **Pn** **19 12 13.8 -1.9**
JKA Kamikawa-asahi 8.65 7 Pn **Pn** **19 12 13.8 -1.9**
JNU Nakatsue 8.75 257 Pn **Pn** **19 12 18.6 +1.5**
JNU Nakatsue 8.75 257 P **Pn** **19 12 18.7 +1.6**
comp=Z,1.2nm,0.3s,baz=205,slow=4.5,SNR=11
JNU LR LR 19 16 02.3
comp=Z,2μm,20.9s,baz=100,slow=40
comp=Z,20nm,1.0s
JNU Nakatsue 8.75 257 P **Pn** **19 12 20.2 +3.1**
YUK Yuzh-Kuril'sk 9.26 22 *e*P **Pn** **19 12 20.3 -3.7**
SHO Shikotan 9.44 26 P **Pn** **19 12 23.4 -3.0**
SHO pmax pmax
comp=Z,32nm,0.6s
SHO pmax pmax
comp=N,21nm,0.4s
SHO pmax pmax
comp=E,17nm,0.3s
KSRS Korea Array 10.74 284 P **Pn** **19 12 48.5 +4.3**
comp=E,7.1nm,0.8s,baz=101,slow=13,SNR=15
KSRS LR LR 19 16 55.8
comp=E,2μm,20.7s,baz=95,slow=38
KSAR Wonju Array Be 10.77 284 Pn **Pn** **19 12 45.7 +1.0**
KSAR Wonju Array Be 10.77 284 P **Pn** **19 12 45.7 +1.0**
KS19 Wonju Array Si 10.79 284 **Pn** **19 12 46.6 +1.6**
USA0B Ussuriysk Arra 11.10 324 **Pn** **19 12 48.5 -0.7**
USA0B Ussuriysk Arra 11.10 324 *i* P **Pn** **19 12 50.6 +1.4**
USRK Ussuriysk Ar. 11.10 324 **Pn** **19 12 50.0 +0.8**
USRK Ussuriysk Ar. 11.10 324 P **Pn** **19 12 50.9 +1.7**
comp=E,0.7nm,0.3s,baz=137,slow=12,SNR=20
USRK LR LR 19 16 57.0
comp=E,1μm,18.6s,baz=140,slow=36
comp=E,15nm,0.8s
YSS Yuzhno-Sakhali 11.48 6 Pn **Pn** **19 12 52.1 -2.3**
YSS Yuzhno-Sakhali 11.48 6 P **Pn** **19 12 54.4 0.0**
YSS Yuzhno-Sakhali 11.48 6⇑*e*P **Pn** **19 12 52.9 -1.5**
YSS *e*S **Sn** **19 14 54.5 -6.7**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS MLR MLR
comp=E,1μm,15.0s
MDJ Mudanjiang 12.61 319 Pn **Pn** **19 13 09.7 -0.1**
MDJ Mudanjiang 12.61 319 P Pn 19 13 14.7 +4.9
MDJ PP **P** **19 13 22.1 +1.5**
MDJ S **Sn** **19 15 32.3 +3.5**
MDJ SS **SnSn** **19 15 44.3 +3.2**
MDJ pmax pmax
comp=E,15nm,1.0s
MDJ pmax pmax
comp=E,390nm,4.8s
MDJ LR LR
comp=E,790nm,18.6s
MDJ LR LR
comp=E,700nm,16.8s
MDJ LR LR
comp=E,1μm,17.5s
JOW Kunigami 13.95 235 Pn **Pn** **19 13 30.4 +2.2**
JOW Kunigami 13.95 235 LR LR 19 18 45.4
comp=E,302nm,21.2s,baz=109,slow=37
BNX BinXian 14.51 319 ⇓P **Pn** **19 13 34.4 -1.3**
BNX pmax pmax
comp=E,11nm,1.3s
CN2 Changchun 14.56 309 *e*P **Pn** **19 13 36.2 -0.2**
CN2 *e*PP **PnPn** **19 13 48.2 +3.8**
CN2 *e*S **Sn** **19 16 17.6 +1.2**
CN2 pmax pmax
comp=E,10.0nm,1.5s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=E,340nm,13.0s
KLR Kul'dur 15.29 336 P **Pn** **19 13 43.7 -2.4**
comp=E,2.8nm,0.5s,baz=157,slow=8.4,SNR=13
KLR LR LR 19 19 31.2
comp=E,882nm,19.2s,baz=148,slow=36
KLR Kul'dur 15.29 336*ce*P **Pn** **19 13 44.8 -1.3**
KLR pmax pmax
comp=Z,1.0nm,0.5s
TYV Tymovskoe 15.36 4 *e*P **Pn** **19 13 44.5 -2.5**
TYV *e*S **Sn** **19 16 33.5 -2.4**
TYV pmax pmax
comp=Z,14nm,0.8s
TYV pmax pmax
comp=Z,300nm,3.9s
TYV smax smax
comp=N,6.0nm,1.3s
TYV smax smax
comp=N,300nm,4.8s
TYV smax smax
comp=E,600nm,4.8s
GRNR Gornyy 15.59 349 *e*P **Pn** **19 13 45.8 -4.1**
DL2 Dalian 15.83 288 P **P** **19 13 54.6 -1.8**
DL2 S **Sn** **19 16 46.7 -0.7**
DL2 pmax pmax
comp=E,42nm,1.3s
DL2 pmax pmax
comp=E,370nm,8.3s
DL2 LR LR
comp=E,550nm,23.9s
DL2 LR LR
comp=E,1μm,22.2s
DL2 LR LR
comp=E,2μm,22.1s
NJ2 Nanjing 18.77 266 ⇑P **P** **19 14 28.0 -0.9**
NJ2 pP **pP** **19 14 37.9 -0.7**
NJ2 pmax pmax
comp=E,7.0nm,0.5s
NJ2 pmax pmax
comp=E,150nm,4.5s
NJ2 LR LR
comp=E,630nm,17.1s
NJ2 LR LR
comp=E,680nm,19.9s
NJ2 LR LR
comp=E,500nm,16.6s
TIA Tai'an 19.39 279 P **P** **19 14 33.9 -1.9**
TIA pmax pmax
comp=E,20nm,1.2s
TIA pmax pmax
comp=E,51nm,3.6s
TIA LR LR
comp=E,620nm,15.1s
TIA LR LR
comp=E,670nm,20.6s
TIA LR LR
comp=E,1μm,21.3s
YHNB Yeheng 20.14 243 P **P** **19 14 42.3 -1.7**
BJI Beijing 20.14 290 P **P** **19 14 41.2 -2.7**
BJI PP **PnPn** **19 15 01.6 +0.7**
BJI S **S** **19 18 20.0 -7.9**
BJI pmax pmax
comp=E,7.0nm,1.3s
BJI LR LR
comp=E,150nm,20.6s
BJI LR LR
comp=E,170nm,23.9s
BJI LR LR
comp=E,320nm,24.7s
BJT Baijiatuau 20.15 290 P **P** **19 14 41.6 -2.3**
BJT Baijiatuau 20.15 290 P **P** **19 14 41.6 -2.3**
BJT pmax pmax
comp=Z,23nm,1.2s
NACB Ninganchiao 20.28 241 P **P** **19 14 43.0 -2.5**
ZEA Zeya 20.61 336 *e*P **P** **19 14 46.0 -2.8**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA MLR MLR
comp=N,300nm,17.0s
ZEA MLR MLR
comp=Z,400nm,18.0s
HIA Hailar 20.78 318 P **P** **19 14 48.8 -2.0**
HIA Hailar 20.78 318 P **P** **19 14 48.8 -2.0**
HIA pmax pmax
comp=Z,7.0nm,0.7s
XLT XiLinHaoTe 20.89 301 *e*P **P** **19 14 49.3 -2.7**
XLT pP pP 19 14 58.9 -3.0
XLT sP sP 19 15 03.0 -3.8
XLT pmax pmax
comp=Z,23nm,0.8s
XLT pmax pmax
comp=Z,130nm,4.3s
XLT LR LR
comp=Z,650nm,16.4s
XLT LR LR
comp=Z,900nm,20.7s
PEA0B Petropavlovsk- 21.13 29 *i* P **P** **19 14 52.6 -1.9**
PETK Petropavlovsk- 21.13 29 P **P** **19 14 53.4 -1.1**
PETK Petropavlovsk- 21.13 29 P **P** **19 14 56.5 +2.0**
comp=Z,12nm,1.0s,baz=201,slow=7.9,SNR=4.8
PETK LR LR 19 23 19.4
comp=Z,286nm,20.8s,baz=215,slow=37
comp=Z,12nm,1.0s
HNS HongShan 21.25 283 ⇑P **P** **19 14 52.6 -3.2**
HNS *e*S **S** **19 18 51.3 +1.5**
HNS pmax pmax
comp=Z,45nm,0.9s
HNS LR LR
comp=Z,460nm,17.5s
HNS LR LR
comp=Z,670nm,19.1s
HNS LR LR
comp=Z,940nm,16.7s
PET Petropavlovsk 21.45 30 P **P** **19 14 56.5 -1.3**
PET Petropavlovsk 21.45 30 P **P** **19 14 56.5 -1.3**
comp=Z,30nm,1.2s
KNMB Chin-men Tao 22.46 247 P **P** **19 15 05.8 -3.1**
KNMB IAmb IAmb 19 15 13.6
comp=Z,68nm,1.5s
WHN Wuhan 22.90 265 ⇑P **P** **19 15 11.8 -1.7**
WHN pP **pP** **19 15 21.5 -1.9**
WHN S **S** **19 19 14.5 -6.1**
WHN pmax pmax
comp=Z,44nm,0.7s
WHN LR LR
comp=Z,880nm,14.5s
WHN LR LR
comp=Z,2μm,14.5s
WHN LR LR
comp=Z,4μm,13.6s
TIY Taiyuan 23.03 284 *e*P **P** **19 15 15.4 +0.5**
TIY pP **pP** **19 15 24.6 -0.3**
TIY pmax pmax
comp=Z,14nm,0.6s
TIY LR LR
comp=Z,280nm,14.7s
TIY LR LR
comp=Z,710nm,16.7s
TIY LR LR
comp=Z,820nm,18.2s
LYN LuoYang 23.39 276 P **P** **19 15 15.2 -3.2**
LYN pmax pmax
comp=Z,14nm,0.8s
LYN LR LR
comp=Z,830nm,16.5s
LYN LR LR
comp=Z,1μm,19.6s
LYN LR LR
comp=Z,2μm,17.9s
HHC Hu-ho-hao-te 23.71 292 *e*P **P** **19 15 22.0 +0.4**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,170nm,3.9s
HHC LR LR
comp=Z,250nm,21.0s
HHC LR LR
comp=Z,310nm,21.0s
HHC LR LR
comp=Z,400nm,20.4s
BTO Baotou 24.87 291 *e*P **P** **19 15 30.9 -1.3**
BTO sP **pP** **19 15 44.2 +1.3**
BTO PP **PnPn** **19 16 09.5 +3.7**
BTO S **S** **19 19 52.4 -0.3**
BTO pmax pmax
comp=Z,14nm,0.8s
BTO pmax pmax
comp=Z,490nm,6.9s
BTO LR LR
comp=Z,310nm,5.9s
BTO LR LR
comp=Z,280nm,5.5s
BTO LR LR
comp=Z,630nm,13.4s
MA2 Magadan 24.88 12 P **P** **19 15 31.4 -0.6**
MA2 IAmb IAmb 19 15 36.1
comp=Z,40nm,0.9s
MA2 Magadan 24.88 12 LR LR 19 25 46.8
comp=Z,300nm,20.6s,baz=120,slow=37
MA2 Magadan 24.88 12*ce*P **P** **19 15 29.8 -2.1**
MA2 pmax pmax
comp=Z,45nm,1.0s
MA2 Magadan 24.88 12 P **P** **19 15 33.2 +1.3**
comp=Z,53nm,1.1s
CIT Chita 25.58 319 *e*P **P** **19 15 37.7 -0.7**
CIT *e* 19 15 46.2
CIT pmax pmax
comp=Z,42nm,2.0s
XAN Xi'an 26.37 276 ⇑P **P** **19 15 43.9 -1.9**
XAN pP pP 19 15 57.0 +0.5
XAN S **S** **19 20 15.7 -0.7**
XAN pmax pmax
comp=Z,17nm,0.6s
XAN pmax pmax
comp=Z,140nm,4.5s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,990nm,20.8s
XAN LR LR
comp=Z,1μm,20.8s
YAK Yakutsk 27.47 348 P **P** **19 15 54.6 -0.6**
YAK Yakutsk 27.47 348 LR LR 19 27 01.2
comp=Z,512nm,18.8s,baz=216,slow=37
YAK Yakutsk 27.47 348⇑*i*P **P** **19 15 55.1 -0.2**
YAK *e*AP **sP** **19 16 10.0 -0.6**
YAK *e*S **S** **19 20 29.0 -4.0**
YAK *e* 19 26 44.0
YAK pmax pmax
comp=Z,61nm,1.1s
H11N2 WAKE ISLAND Hy 27.67 118 T T 19 45 00.7
baz=310,slow=75,SNR=108
H11N1 WAKE ISLAND Hy 27.68 118 T T 19 45 00.4
baz=310,slow=75,SNR=74
H11N3 WAKE ISLAND Hy 27.69 118 T T 19 45 01.4
baz=310,slow=75,SNR=130
ULN Ulaanbaatar 27.98 307 P **P** **19 15 59.3 -0.9**
ULN Ulaanbaatar 27.98 307 P **P** **19 15 59.3 -0.9**
ULN pmax pmax
comp=Z,9.0nm,0.8s
SEY Seymchan 28.31 11*ce*P **P** **19 16 01.9 -0.9**
SEY pmax pmax
comp=Z,33nm,1.6s
H11S1 WAKE ISLAND Hy 28.33 120 T T 19 45 46.6
baz=312,slow=75,SNR=740
H11S3 WAKE ISLAND Hy 28.33 120 T T 19 45 45.0
baz=312,slow=75,SNR=500
H11S2 WAKE ISLAND Hy 28.35 120 T T 19 45 46.1
baz=312,slow=75,SNR=480
SONM Songino Array 28.41 306 P **P** **19 16 03.1 -0.9**
SONM Songino Array 28.41 306 P **P** **19 16 03.5 -0.5**
comp=Z,6.4nm,0.6s,baz=110,slow=8.9,SNR=41
SONM PcP **PcP** **19 19 16.5 +1.0**
comp=Z,0.9nm,0.9s,baz=122,slow=2.0,SNR=3.1
SONM LR LR 19 27 58.8
comp=Z,496nm,19.1s,baz=69,slow=38
comp=Z,6.4nm,0.6s
SONM Songino Array 28.41 306 P **P** **19 16 03.1 -0.9**
SONM pmax pmax
comp=Z,7.0nm,0.6s
SHEM Shemya Is, Ala 28.95 43 LR LR 19 27 20.7
comp=Z,220nm,19.7s,baz=300,slow=35
LZH Lanzhou 30.06 282 *e*P **P** **19 16 17.7 -1.1**
LZH pP pP 19 16 28.0 -1.6
LZH sP sP 19 16 35.0 +0.7
LZH pmax pmax
comp=Z,16nm,1.2s
LZH pmax pmax
comp=Z,130nm,5.2s
LZH LR LR
comp=Z,390nm,14.4s
LZH LR LR
comp=Z,670nm,15.5s
LZH LR LR
comp=Z,770nm,14.1s
GYA Guiyang 30.71 263 ⇓P **P** **19 16 22.5 -2.1**
GYA pmax pmax
comp=Z,13nm,1.3s
ZAK Zakamensk 30.99 310 *e*P **P** **19 16 25.7 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
CD2 Chengdu 31.41 272 P **P** **19 16 29.0 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,670nm,17.1s
CD2 LR LR
comp=Z,1μm,17.8s
CD2 LR LR
comp=Z,1μm,14.6s
QIZ Qiongzhong 32.06 247 P **P** **19 16 36.7 +0.3**
QIZ S **S** **19 21 48.9 +2.9**
QIZ LR LR
comp=Z,250nm,17.9s
QIZ LR LR
comp=Z,230nm,19.7s
GTA Gaotai 32.75 289 *e*P **P** **19 16 42.4 0.0**
GTA pP pP 19 16 51.5 -1.7
GTA PcP **PcP** **19 19 28.2 +1.1**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=Z,260nm,14.3s
GTA LR LR
comp=Z,390nm,19.1s
GTA LR LR
comp=Z,530nm,22.7s
ADK Adak 34.09 48 P **P** **19 16 54.4 +0.7**
KMI Kunming 34.47 263 ⇑P **P** **19 16 56.4 -1.2**
KMI pmax pmax
comp=Z,8.0nm,1.4s
PZH PanZhiHua 34.68 266 P **P** **19 16 58.0 -1.3**
PZH S **S** **19 22 28.6 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,8.9s
PZH LR LR
comp=Z,350nm,20.6s
PZH LR LR
comp=Z,430nm,21.0s
PZH LR LR
comp=Z,670nm,19.2s
SLVN Son La 35.37 257 P **P** **19 17 04.2 -1.1**
BILL Bilibino 35.54 16 P **P** **19 17 06.7 +0.6**
BILL IAmb IAmb 19 17 08.8
comp=Z,15nm,1.2s
BILL Bilibino 35.54 16 P **P** **19 17 07.3 +1.2**
TIXI Tiksi 36.74 354 P **P** **19 17 16.0 -0.3**
TIXI IAmb IAmb 19 17 17.7
comp=Z,21nm,1.1s
TIXI Tiksi 36.74 354*ce*P **P** **19 17 16.8 +0.5**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 36.74 354 P **P** **19 17 16.8 +0.5**
GOMU GeErMu 37.20 285 P **P** **19 17 20.2 -0.9**
GOMU pP pP 19 17 26.5 -5.5
GOMU sS sS 19 23 19.3 -1.0
GOMU pmax pmax
comp=Z,17nm,1.5s
GOMU LR LR
comp=Z,390nm,20.2s
GOMU LR LR
comp=Z,620nm,19.1s
GOMU LR LR
comp=Z,690nm,18.3s
UBPT Khong Chiam 37.65 247 P **P** **19 17 23.3 -1.3**
UBPT IAmb IAmb 19 17 53.1
comp=Z,44nm,1.8s
JAY Jayapura 37.85 181 LR LR 19 31 02.2
comp=Z,135nm,20.0s,baz=340,slow=33
PHRA Phrae 39.81 256 P **P** **19 17 41.0 -1.7**
CHTO Chiang Mai 40.66 257 P **P** **19 17 48.3 -1.4**
CHTO Chiang Mai 40.66 257 P **P** **19 17 48.3 -1.4**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CM31 Chiang Mai Arr 40.85 257 P **P** **19 17 50.6 -0.7**
CMAR Chiang Mai Arr 40.85 257 P **P** **19 17 50.4 -1.0**
comp=Z,1.4nm,0.7s,baz=48,slow=7.2,SNR=18
CMAR PcP **PcP** **19 19 52.1 +0.4**
comp=Z,1.3nm,0.9s,baz=23,slow=2.7,SNR=6.2
CMAR LR LR 19 36 33.8
comp=Z,405nm,18.6s,baz=330,slow=39
comp=Z,1.4nm,0.7s
CMAR Chiang Mai Arr 40.85 257 *i* P **P** **19 17 52.0 +0.7**

CMAR pmax pmax
comp=Z,2.0nm,0.7s
KRVT Keravat (AS076 40.95 163 LR LR 19 32 40.0
comp=Z,113nm,21.9s,baz=142,slow=33
WMQ Urumqi 41.27 298 *e*P **P 19 17 55.6 +1.0**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,600nm,21.5s
LSA Lhasa 42.07 277 P **P 19 18 01.8 0.0**
LSA Lhasa 42.07 277 P **P 19 18 01.8 0.0**
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 42.07 277 P **P 19 18 02.9 +1.1**
LSA pP **pP 19 18 13.2 +0.3**
ZAA0 Zalesovo Array 42.72 314 P **P 19 18 05.9 -0.3**
ZAA0 IAmb IAmb 19 18 07.3
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 42.72 314 P **P 19 18 06.3 +0.1**
comp=Z,9.9nm,0.5s,baz=90,slow=7.0,SNR=63
ZALV PcP **PcP 19 19 57.7 +0.5**
comp=Z,1.5nm,0.5s,baz=103,slow=4.0,SNR=5.0
comp=Z,9.9nm,0.5s
ZALV Zalesovo Beam 42.72 314 *i* P **P 19 18 06.6 +0.4**
ZALV pmax pmax
comp=Z,10.0nm,0.5s
ZSN Zaisan 42.86 304 *e*P **P 19 18 08.1 +0.6**
ZSN Zaisan 42.86 304 *e*P **P 19 18 08.1 +0.6**
SHL Shillong 43.11 271 P **P 19 18 08.3 -1.7**
SHL Shillong 43.11 271 P **P 19 18 08.3 -1.7**
SHL pmax pmax
comp=Z,7.0nm,1.0s
C16K Lisburne Hills 44.18 25 P **P 19 18 18.9 +1.2**
KSM Kuching 44.31 227 P **P 19 18 18.6 -0.8**
KSM IAmb IAmb 19 20 01.8
comp=Z,24nm,1.3s
NRIK Noril'sk 44.51 336 P **P 19 18 19.9 -0.4**
NRIK IAmb IAmb 19 18 22.6
comp=Z,19nm,1.1s
NRIK PcP **PcP 19 20 00.6 -2.5**
NRIK Noril'sk 44.51 336 P **P 19 18 20.8 +0.4**
comp=Z,8.3nm,0.8s,baz=108,slow=9.0,SNR=14
NRIK PcP **PP 19 20 03.9 -0.6**
comp=Z,3.8nm,0.8s,baz=171,slow=2.0,SNR=4.3
comp=Z,8.3nm,0.8s
NRIK Noril'sk 44.51 336*ce*P **P 19 18 20.6 +0.2**
NRIK pmax pmax
comp=Z,20nm,1.1s
BRDH Bariadhala 44.60 267 LR LR 19 40 05.9
comp=Z,490nm,18.2s,baz=6.0,slow=40
MK31 Makanchi Array 44.68 303*ce*P **P 19 18 22.4 +0.3**
MKAR Makanchi Array 44.68 303 P **P 19 18 22.1 0.0**
comp=Z,13nm,0.8s,baz=88,slow=9.9,SNR=114
comp=Z,13nm,0.8s
MKAR Makanchi Array 44.68 303 *i* P **P 19 18 22.3 +0.2**
MKAR pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 44.89 303 P **P 19 18 23.4 -0.4**
MAKZ IAmb IAmb 19 18 25.2
comp=Z,13nm,0.8s
MAKZ Makanchi 44.89 303 P **P 19 18 23.4 -0.4**
MAKZ pmax pmax
comp=Z,13nm,0.8s
MAKZ Makanchi 44.89 303 P **P 19 18 24.0 +0.2**
KAPI Kappang 45.03 211 P **P 19 18 25.4 +0.3**
KAPI IAmb IAmb 19 18 40.8
comp=Z,23nm,1.4s
KAPI Kappang 45.03 211 P **P 19 18 25.5 +0.4**
comp=Z,6.2nm,0.4s,baz=91,slow=0.8,SNR=6.2
KAPI LR LR 19 37 39.6
comp=Z,66nm,19.9s,baz=345,slow=37
comp=Z,6.2nm,0.4s
KAPI Kappang 45.03 211 P **P 19 18 25.4 +0.3**
KAPI pmax pmax
comp=Z,23nm,1.4s
PMG Port Moresby 45.07 171 LR LR 19 36 03.3
comp=Z,130nm,21.0s,baz=0.5,slow=34
C18K Utukok River 45.75 26 P **P 19 18 32.2 +1.8**
G18K Tagagawik 46.09 30 P **P 19 18 34.3 +1.3**
G18K IAmb IAmb 19 18 54.6
comp=Z,15nm,1.3s
KURK Kurchatov 46.63 309 P **P 19 18 37.2 -0.3**
KURK Kurchatov 46.63 309*ce*P **P 19 18 37.4 -0.1**
KURK pmax pmax
comp=Z,64nm,1.3s
KURK Kurchatov 46.63 309 P **P 19 18 37.3 -0.1**
KURBB Kurchatov Arra 46.70 309 P **P 19 18 37.9 0.0**
comp=Z,19nm,0.6s,baz=84,slow=7.9,SNR=114
comp=Z,19nm,0.6s
H19K Roundabout Mou 46.93 30 P **P 19 18 40.8 +1.3**
H19K IAmb IAmb 19 18 43.2
comp=Z,15nm,1.2s
SHLS Shalkode 47.28 299 *e*P **P 19 18 40.3 -2.5**
SHLS pmax pmax
comp=Z,12nm,1.1s
SHLS Shalkode 47.28 299 *e*P **P 19 18 40.4 -2.5**
comp=Z,12nm,1.1s
UZB Uzynbulak 47.60 299 *e*P **P 19 18 45.2 -0.1**
UZB pmax pmax
comp=Z,7.0nm,0.9s
UZB Uzynbulak 47.60 299 *e*P **P 19 18 45.2 -0.1**
comp=Z,7.2nm,0.9s
TDK Taldyqorghan 47.65 302 *e*P **P 19 18 45.7 +0.3**
TDK pmax pmax
comp=Z,8.0nm,0.7s
TDK Taldyqorghan 47.65 302 *e*P **P 19 18 45.8 +0.3**
comp=Z,7.6nm,0.7s
SOEI Soe 47.76 203 P **P 19 18 45.4 -1.2**
KPKS Kokpek 47.77 299 *e*P **P 19 18 46.6 +0.1**
KPKS Kokpek 47.77 299 *e*P **P 19 18 46.6 +0.1**
WUS Wushi 47.92 296 P **P 19 18 48.1 +0.4**
WUS IAmb IAmb 19 18 51.7
comp=Z,23nm,1.2s
ZHN Zhinishke 48.02 299 *e*P **P 19 18 48.5 0.0**
ZHN Zhinishke 48.02 299 *e*P **P 19 18 48.5 0.0**
SATY Saty 48.06 299 *e*P **P 19 18 48.7 -0.1**
SATY pmax pmax
comp=Z,8.0nm,1.2s
SATY Saty 48.06 299 *e*P **P 19 18 48.8 -0.1**
comp=Z,7.7nm,1.2s
IPM Ipoh 48.12 239 P **P 19 18 47.7 -1.7**
IPM IAmb IAmb 19 19 53.0
comp=Z,27nm,1.6s
PRZ Przheval'sk 48.20 298 P **P 19 18 50.5 +0.5**
PRZ IAmb IAmb 19 18 52.3
comp=Z,28nm,1.1s
PRZ Przheval'sk 48.20 298 P **P 19 18 50.5 +0.5**
PRZ pmax pmax
comp=Z,28nm,1.1s
KDAK Kodiak Island 48.41 41 P **P 19 18 51.4 +0.3**
KDAK Kodiak Island 48.41 41 LR LR 19 39 04.4
comp=Z,174nm,21.2s,baz=97,slow=36
KDAK Kodiak Island 48.41 41 P **P 19 18 51.4 +0.3**
KDAK pmax pmax
comp=Z,101nm,1.8s
TARG Taragay, Kyrgy 48.81 297 P **P 19 18 55.2 +0.2**
TARG IAmb IAmb 19 18 57.0
comp=Z,15nm,0.8s
TARG Taragay, Kyrgy 48.81 297 P **P 19 18 55.2 +0.2**
TARG pmax pmax
comp=Z,15nm,0.8s
MDOK Medeo 49.00 299 *e*P **P 19 18 55.9 -0.2**
MDOK Medeo 49.00 299 *e*P **P 19 18 56.0 -0.2**
MTN Manton Dam 49.02 193 P **P 19 18 55.9 -0.4**
AAA Alma-Ata 49.09 299 *e*P **P 19 18 57.0 +0.4**
AAA Alma-Ata 49.09 299 *e*P **P 19 18 57.1 +0.4**
TNSS Tian-Shan 49.11 299 *e*P **P 19 18 57.2 0.0**
TNSS Tian-Shan 49.11 299 *e*P **P 19 18 57.2 0.0**
KDJ Kajisay 49.16 298 P **P 19 18 58.1 +0.7**
KDJ IAmb IAmb 19 18 59.0
comp=Z,7.3nm,0.8s
KDJ Kajisay 49.16 298 P **P 19 18 58.1 +0.7**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
COEN Coen 49.26 177 P **P 19 18 58.4 +0.3**
TKM2 Tokmak 2 50.09 299 P **P 19 19 05.5 +1.0**
SNR=31
SML Sawmill 50.38 36 P **P 19 19 06.4 +0.3**
COLA College 50.50 32 *i* P **P 19 19 06.1 -0.8**
COLA pmax pmax
comp=Z,20nm,1.9s
BRZS Berezniki 50.51 309 *e*P **P 19 19 07.1 -0.2**
BRZS pmax pmax
comp=Z,5.0nm,0.8s
BRZS Berezniki 50.51 309 *e*P **P 19 19 07.1 -0.2**
comp=Z,5.0nm,0.8s
KBK Karagaybulak 50.62 299 P **P 19 19 09.3 +0.9**
SNR=11
SGDS Sogindy 50.64 300 *e*P **P 19 19 08.5 0.0**
SGDS Sogindy 50.64 300 *e*P **P 19 19 08.5 0.0**
BTLS Baital 50.66 302 *e*P **P 19 19 08.3 -0.1**
BTLS pmax pmax
comp=Z,6.0nm,0.5s
BTLS Baital 50.66 302 *e*P **P 19 19 08.4 -0.1**
comp=Z,5.6nm,0.5s
G24K Hadweenzic Riv 50.66 29 P **P 19 19 08.7 +0.5**
G24K IAmb IAmb 19 19 12.2
comp=Z,22nm,1.5s
KSH Kashi 50.76 295 P **P 19 19 13.4 +3.9**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH LR LR
comp=Z,270nm,18.2s
KSH LR LR
comp=Z,180nm,14.8s
KSH LR LR
comp=Z,470nm,17.2s
PSI Prapat 50.78 240 P **P 19 19 08.8 -1.1**
comp=Z,2.8nm,0.6s,baz=298,slow=12,SNR=4.3
comp=Z,2.8nm,0.6s
USP Ospenovka 50.78 300 P **P 19 19 10.0 +0.5**
SNR=11
FRU1 Bishkek 50.81 300 P **P 19 19 11.0 +1.3**
FRU1 pmax pmax
comp=Z,13nm,0.5s
ILAR Eielson Array 50.92 32 P **P 19 19 10.7 +0.6**
ILAR Eielson Array 50.92 32 P **P 19 19 11.4 +1.3**
comp=Z,2.4nm,0.7s,baz=265,slow=5.9,SNR=26
comp=Z,2.4nm,0.7s
ILAR Eielson Array 50.92 32 P **P 19 19 10.7 +0.6**
AAK Ala-Archa 50.95 299 P **P 19 19 11.3 +0.3**
AAK Ala-Archa 50.95 299 P **P 19 19 11.1 +0.2**
SNR=6.7
AAK Ala-Archa 50.95 299*ce*P **P 19 19 11.6 +0.7**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 50.95 299 P **P 19 19 11.1 +0.2**
BVAR Borovoye Array 51.37 313 P **P 19 19 13.8 +0.1**
comp=Z,5.1nm,0.5s,baz=90,slow=7.4,SNR=42
BVAR PcP **PcP 19 20 28.7 +0.7**
comp=Z,2.1nm,0.6s,baz=108,slow=4.7,SNR=1.6
comp=Z,5.1nm,0.5s
BRVK Borovoye 51.43 313 P **P 19 19 14.4 +0.3**
BRVK IAmb IAmb 19 19 15.7
comp=Z,18nm,1.1s
BRVK Borovoye 51.43 313*ce*P **P 19 19 14.8 +0.7**
BRVK pmax pmax
comp=Z,22nm,1.3s
AML Almayashu 51.66 299 P **P 19 19 17.6 +1.0**
SNR=30
UGM Wanagama 51.92 220 P **P 19 19 16.7 -1.4**
SCRK Sand Creek 52.22 33 P **P 19 19 20.4 +0.4**
ARSB Arslanbob 52.41 298 P **P 19 19 22.4 +0.6**
ARSB Arslanbob 52.41 298 P **P 19 19 22.4 +0.6**
ARSB pmax pmax
comp=Z,9.0nm,1.4s
LEM Lembang 52.59 224 P **P 19 19 22.0 -1.3**
comp=Z,10nm,0.4s,baz=321,slow=9.4,SNR=5.2
LEM LR LR 19 41 55.6
comp=Z,71nm,20.1s,baz=286,slow=36
comp=Z,10nm,0.4s
GSI Gunungsitoli 52.79 240 P **P 19 19 23.3 -1.3**
GSI IAmb IAmb 19 19 35.7
comp=Z,24nm,0.9s
BCAR Beaver Creek A 53.30 34 P **P 19 19 29.4 +1.4**
KKAR Karatay Array 53.63 301 P **P 19 19 30.6 0.0**
KKAR Karatay Array 53.63 301 P **P 19 19 30.8 +0.2**
KKAR IAmb IAmb 19 19 32.0
comp=Z,12nm,1.2s
KKAR Karatay Array 53.63 301 P **P 19 19 30.6 0.0**
KKAR pmax pmax
comp=Z,12nm,1.2s
TRKS Terek-Say 53.66 299 P **P 19 19 31.4 +0.4**
TRKS pmax pmax
comp=Z,12nm,0.8s
DRK Karamyk 53.84 296 P **P 19 19 32.4 -0.1**
DRK IAmb IAmb 19 19 36.9
comp=Z,7.4nm,0.6s
DRK Karamyk 53.84 296 P **P 19 19 32.4 -0.1**
DRK pmax pmax
comp=Z,7.0nm,0.6s
BRLS Borolday 54.12 301 *e*P **P 19 19 35.8 +1.6**
BRLS pmax pmax
comp=Z,10.0nm,1.4s
BRLS Borolday 54.12 301 *e*P **P 19 19 35.8 +1.6**
comp=Z,9.8nm,1.4s
IUG Iuzhnay 54.26 300 *e*P **P 19 19 35.6 +0.3**
IUG pmax pmax
comp=Z,9.0nm,0.9s
IUG Iuzhnay 54.26 300 *e*P **P 19 19 35.7 +0.3**
comp=Z,9.2nm,0.9s
BTK Batken 54.36 297 P **P 19 19 36.1 0.0**
BTK IAmb IAmb 19 19 40.0
comp=Z,13nm,1.4s
BTK Batken 54.36 297 P **P 19 19 36.1 0.0**
BTK pmax pmax
comp=Z,13nm,1.4s
NIL Nilore 54.81 289 P **P 19 19 39.2 -0.2**
NIL IAmb IAmb 19 19 40.9
comp=Z,21nm,0.9s
NIL Nilore 54.81 289 P **P 19 19 39.2 -0.2**
NIL pmax pmax
comp=Z,21nm,1.0s
NIL Nilore 54.81 289 P **P 19 19 39.7 +0.3**
G30M tAoh Zraii Nji 55.07 28 P **P 19 19 42.4 +1.7**
G30M IAmb IAmb 19 19 44.8
comp=Z,18nm,1.2s
WB0 Warramunga Arr 55.36 188 P **P 19 19 43.0 -0.3**
WRAB Tennant Creek 55.53 188 P **P 19 19 44.6 +0.1**
WRAB Tennant Creek 55.53 188 P **P 19 19 44.6 +0.1**
WRAB pmax pmax
comp=Z,70nm,1.6s
CTA Charters Tower 55.54 174 LR LR 19 42 59.7
comp=Z,96nm,21.1s,baz=344,slow=35
WRA Warramunga Arr 55.54 188 P **P 19 19 44.3 -0.2**
WRA Warramunga Arr 55.54 188 P **P 19 19 44.4 -0.2**
comp=Z,6.8nm,0.6s,baz=5.5,slow=7.7,SNR=57
comp=Z,6.8nm,0.6s
WRA Warramunga Arr 55.54 188 *i* P **P 19 19 44.4 -0.2**
WRA pmax pmax
comp=Z,8.0nm,0.7s
INK Inuvik 55.85 27 P **P 19 19 46.0 -0.2**
INK IAmb IAmb 19 19 49.1
comp=Z,11nm,1.4s
INK Inuvik 55.85 27 P **P 19 19 46.0 -0.2**
INK pmax pmax
comp=Z,11nm,1.4s
CHGR Chuyangaron 56.05 296 P **P 19 19 48.3 0.0**
CHGR Chuyangaron 56.05 296 P **P 19 19 48.3 0.0**
CHGR pmax pmax
comp=Z,40nm,0.7s
SVE Sverdlovsk 56.08 319 *e*P **P 19 19 48.7 +0.6**
SVE pmax pmax
comp=Z,28nm,1.0s
SIMJ Simiganj 56.16 296 P **P 19 19 49.1 0.0**
SIMJ IAmb IAmb 19 19 51.5
comp=Z,20nm,1.1s
SIMJ Simiganj 56.16 296 P **P 19 19 49.2 +0.1**
SANVU Saraoutou 56.44 149 P **P 19 19 51.7 +0.7**
ARTI Arti 57.40 319 P **P 19 19 57.5 0.0**
ARTI Arti 57.40 319*c i*P **P 19 19 57.5 0.0**
ARTI 19 20 47.3
ARTI S **S 19 27 55.1 +3.8**
ARTI SS **SS 19 31 39.6 -1.0**
ARTI pmax pmax
comp=Z,35nm,0.8s
ARTI Arti 57.40 319 P **P 19 19 57.4 0.0**
ARTI pP **pP 19 20 08.0 -0.9**
KBL Kabul 57.69 292 P **P 19 19 59.1 -0.9**
KBL IAmb IAmb 19 20 03.6
comp=Z,5.9nm,0.8s
KBL Kabul 57.69 292 P **P 19 19 59.2 -0.9**
KBL pmax pmax
comp=Z,6.0nm,0.8s
A36M Sachs Harbour 57.76 22 P **P 19 20 00.9 +1.2**
A36M IAmb IAmb 19 20 06.2
comp=Z,9.6nm,0.8s
HYB Hyderabad 57.88 269 *e*P **P 19 20 01.0 -0.4**
HYB IVmB_BB 19 20 01.5
comp=Z,176nm,0.6s
ABKAR Akbulak array 58.68 311 P **P 19 20 06.5 -0.1**
ABKAR IAmb IAmb 19 20 07.2
comp=Z,12nm,0.7s
AS31 Alice Springs 59.27 188 P **P 19 20 10.7 0.0**
ASAR Alice Springs 59.27 188 P **P 19 20 10.9 +0.1**
ASAR Alice Springs 59.27 188 P **P 19 20 11.1 +0.3**
comp=Z,1.5nm,0.6s,baz=1.7,slow=7.4,SNR=28
ASAR LR LR 19 45 01.1
comp=Z,112nm,20.9s,baz=13,slow=35
comp=Z,1.5nm,0.6s
PSA00 Pilbara Seismi 60.25 203 P **P 19 20 17.8 +0.2**
PSA00 IAmb IAmb 19 20 29.8
comp=Z,9.5nm,0.9s
KIRV Kirov 61.27 323 LR LR 19 48 56.0
comp=Z,274nm,20.2s,baz=81,slow=38
KIRV Kirov 61.27 323*ce*P **P 19 20 24.8 +0.8**
ALE Alert 61.62 3 P **P 19 20 27.6 +1.5**
ALE sP **sP 19 20 43.1 +1.0**
SPA0 Spitsbergen Ar 61.93 349 *e*P **P 19 20 30.5 +2.2**
SPITS Spitsbergen Ar 61.93 349 P **P 19 20 29.2 +0.9**
comp=Z,14nm,0.9s,baz=46,slow=7.9,SNR=5.4
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 61.93 349 P **P 19 20 29.1 +0.8**
SPITS pmax pmax
comp=Z,110nm,1.6s
DZM Mont Dzumac 62.14 153 *e*LR LR 19 38 57.5
comp=Z,165nm,22.9s
DZM Mont Dzumac 62.14 153 LR LR 19 46 22.8
comp=Z,76nm,20.0s,baz=14,slow=35
HRA Herat 62.85 294 P **P 19 20 35.3 -0.2**
HRA IAmb IAmb 19 20 37.1
comp=Z,9.2nm,0.8s
LVZ Lovozero 63.35 336 P **P 19 20 37.9 -0.1**
LVZ Lovozero 63.35 336 P **P 19 20 37.9 -0.1**
LVZ pmax pmax
comp=Z,179nm,2.0s
MSVF Nonsavu 63.54 140 LR LR 19 41 27.9
comp=Z,150nm,21.5s,baz=353,slow=29
VADS Vadso 63.86 339 *e*P **P 19 20 41.4 +0.2**
RES Resolute Bay 64.12 14 P **P 19 20 43.1 +0.2**
RES IAmb IAmb 19 20 45.1
comp=Z,43nm,1.8s
RES Resolute Bay 64.12 14 LR LR 19 50 33.3
comp=Z,74nm,19.9s,baz=2.5,slow=38
RES Resolute Bay 64.12 14 P **P 19 20 43.1 +0.2**
RES pmax pmax
comp=Z,43nm,1.8s
BELG Belogornoye 64.70 317 *i* P **P 19 20 46.4 -0.5**
BELG pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 64.86 328 *e*P **P 19 20 46.8 -1.1**
KLMR pmax pmax
comp=Z,24nm,1.3s
YKA Yellowknife Ar 65.25 30 P **P 19 20 51.9 +1.5**
comp=Z,1.9nm,1.0s,baz=297,slow=6.5,SNR=16
comp=Z,1.9nm,1.0s
ARA0 ARCESS Array S 65.29 340 *e*P **P 19 20 51.1 +0.5**
ARCES ARCESS Array B 65.29 340 P **P 19 20 50.8 +0.2**
ARCES ARCESS Array B 65.29 340 P **P 19 20 51.4 +0.8**
comp=Z,3.1nm,0.7s,baz=56,slow=7.5,SNR=15
ARCES LR LR 19 52 32.3
comp=Z,243nm,21.1s,baz=93,slow=39
comp=Z,3.1nm,0.7s
ARCES ARCESS Array B 65.29 340 P **P 19 20 50.8 +0.2**
ARCES pmax pmax
comp=Z,198nm,2.0s
KTK1 Kautokeino 66.25 340 *e*P **P 19 20 57.6 +0.8**
NEEM North Greenlan 67.03 3 *i* P **P 19 21 02.8 +0.8**
NEEM IAmb IAmb 19 21 04.0
comp=Z,21nm,1.0s
STKA Stephens Creek 67.06 179 P **P 19 21 01.1 -1.2**
STKA IAmb IAmb 19 21 45.3
comp=Z,19nm,1.6s
STKA Stephens Creek 67.06 179 P **P 19 21 02.5 +0.3**
comp=Z,2.2nm,0.7s,baz=342,slow=9.5,SNR=5.0
comp=Z,2.2nm,0.7s
STKA Stephens Creek 67.06 179 P **P 19 21 01.1 -1.2**
STKA pmax pmax
comp=Z,19nm,1.7s
FORT Forrest 67.09 192 P **P 19 21 02.5 +0.1**
JOF Joensuu 67.14 332 *e*P **P 19 21 02.9 +0.4**
DAG Danmarks Havn 67.24 355 P **P 19 21 05.3 +2.4**
DAG pmax pmax
comp=Z,6.0nm,2.9s
DAG Danmarks Havn 67.24 355 *i* P **P 19 21 03.0 +0.1**
DAG IAmb IAmb 19 21 05.2
comp=Z,3.9nm,1.1s
BBOO Buckleboo 68.15 185 P **P 19 21 08.9 -0.2**
BBOO IAmb IAmb 19 22 44.1
comp=Z,38nm,1.7s
MOS Moscow 68.28 324 *e*P **P 19 21 09.6 -0.2**
MOS *e* 19 21 34.2
MORW Morawa 68.45 203 P **P 19 21 10.8 -0.2**
VRH Novokhopyorsk 68.49 318 *e*P **P 19 21 11.2 0.0**
VRH pmax pmax
comp=Z,17nm,1.2s
OBN Obninsk 69.12 323 LR LR 19 53 11.0
comp=Z,204nm,21.5s,baz=16,slow=37
OBN Obninsk 69.12 323⇑ *e*P **P 19 21 14.0 -1.0**
OBN *PP **pP 19 21 23.0 -3.6**
OBN *SP **sP 19 21 30.0 -1.1**
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,213nm,22.0s
MAK Makhachkala 69.15 308 *e*P **P 19 21 18.3 +2.9**
MAK *e* 19 23 49.4
MAK *e*S **S 19 30 24.1 +5.8**
MAK pmax pmax
comp=Z,98nm,1.4s
STEI Steigen 69.18 341 *e*P **P 19 21 16.1 +0.9**
LPSR Galich'ya Gora 69.26 320 *e*P **P 19 21 16.3 +0.3**
LPSR pmax pmax
comp=Z,21nm,1.0s
KULLO Kullorsuaq 69.49 5 *i* P **P 19 21 16.4 -0.6**
KULLO IAmb IAmb 19 21 19.4
comp=Z,11nm,0.9s
FAUS Fauske 69.56 340 *e*P **P 19 21 18.2 +0.7**
VORR Voronezh 69.60 319 P **P 19 21 18.6 +0.5**
VORR pmax pmax
comp=Z,9.0nm,0.7s
AKT Akhty 69.74 307 *e*P **P 19 21 19.5 +0.2**
AKT *e* 19 21 43.1
AKT pmax pmax
comp=Z,21nm,0.9s
VSR Storozhevoye 69.86 319 *e*P **P 19 21 18.0 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
KEF Keuruu 70.00 333 *e*P **P 19 21 20.4 0.0**
FIA1 FINESS Array S 70.00 332 P **P 19 21 20.5 +0.1**
FINES FINESS Array B 70.00 332 P **P 19 21 20.3 -0.1**
FINES FINESS Array B 70.00 332 P **P 19 21 20.7 +0.4**
comp=Z,17nm,1.0s,baz=44,slow=7.0,SNR=46
FINES LR LR 19 54 05.2
comp=Z,238nm,20.1s,baz=61,slow=38
comp=Z,17nm,1.0s
SEKA Sheki 70.22 307 P **P 19 21 22.9 +0.7**
VAF Ylistaro 70.22 335 *e*P **P 19 21 22.3 +0.6**
LKRN Lenkeran, Azer 70.42 304 P **P 19 21 24.7 +1.4**
MNGR Mingechevir, A 70.51 307 P **P 19 21 25.0 +1.1**
MOR8 Moi Rana 70.66 340 *e*P **P 19 21 24.2 -0.2**
WSAR Wadi Sarin 70.97 285 LR LR 19 57 34.4
comp=Z,105nm,18.6s,baz=79,slow=40
GANJ Ganja 71.08 307 P **P 19 21 27.9 +0.5**
KBZ Khabaz 71.66 311 P **P 19 21 31.7 +1.0**
comp=Z,13nm,0.9s,baz=78,slow=1.9,SNR=29
comp=Z,13nm,0.9s
KBZ Khabaz 71.66 311*ce*P **P 19 21 31.1 +0.4**
KBZ pmax pmax
comp=Z,19nm,0.9s
KIV Kislovodsk 71.67 311 P **P 19 21 31.1 +0.1**
KIV Kislovodsk 71.67 311 *e*P **P 19 21 31.4 +0.5**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,125nm,18.0s
KIV Kislovodsk 71.67 311 P **P 19 21 32.7 +1.7**
RAF Rauma 71.87 333 *e*P **P 19 21 32.0 +0.3**
SUMG Summit 72.18 360 P **P 19 21 34.1 +0.3**
SUMG IAmb IAmb 19 21 36.8
comp=Z,26nm,1.2s
SUMG Summit 72.18 360 P **P 19 21 34.2 +0.3**
SUMG pmax pmax
comp=Z,26nm,1.2s
SUMG Summit 72.18 360 *i* P **P 19 21 35.0 +1.1**

SUMG IAmb IAmb 19 21 37.4
comp=Z,62nm,1.6s
GNI Garni 72.36 307 P **P 19 21 35.4 +0.1**
GNI IAmb IAmb 19 21 42.6
comp=Z,15nm,0.9s
GNI Garni 72.36 307 LR LR 19 56 06.9
comp=Z,175nm,18.9s,baz=68,slow=38
GNI Garni 72.36 307 P **P 19 21 35.4 +0.1**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 72.36 307 P **P 19 21 36.7 +1.4**
comp=Z,20nm,1.1s
NSS Namsos 72.58 339 *e*P **P 19 21 35.3 -0.6**
MTSE Matsula 72.61 331 *e*P **P 19 21 37.1 +0.9**
MNK Minsk 73.57 326 *i* P **P 19 21 42.5 +0.6**
MNK *i* 19 24 28.0
MNK *i* PPP PPP 19 26 12.8
MNK *i* S **SKiKP 19 31 11.6 +2.8**
MNK *i* SS **SS 19 35 55.6 +4.3**
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,19nm,1.3s
MNK MLR MLR
comp=Z,247nm,19.0s
SCO Scoresbysund 73.57 354 P **P 19 21 43.1 +1.5**
SCO IAmb IAmb 19 22 02.6
comp=Z,28nm,1.8s
SCO Scoresbysund 73.57 354 P **P 19 21 43.1 +1.5**
SCO pmax pmax
comp=Z,29nm,1.8s
SCO Scoresbysund 73.57 354 *i* P **P 19 21 42.0 +0.4**
UMMG Uummannaq 73.66 5 *i* P **P 19 21 40.4 -1.7**
UMMG IAmb IAmb 19 21 42.3
comp=Z,7.3nm,0.8s
SOC Sochi 73.68 312 *e*P **P 19 21 40.5 -2.3**
SOC *e*PPP PPP 19 26 14.3
SOC *e*S **SKiKP 19 31 09.4 +0.2**
SOC *e*SS **SS 19 35 55.1 +1.5**
SOC pmax pmax
comp=Z,28nm,0.7s
SOC MLR MLR
comp=Z,116nm,19.0s
IIGN Ignalina 73.78 327 *e*P **P 19 21 43.9 +0.7**
PABE Paberze 74.66 328 P **P 19 21 48.0 -0.2**
PABE IAmb IAmb 19 21 49.5
comp=Z,20nm,0.7s
PABE Paberze 74.66 328 *e*P **P 19 21 49.0 +0.8**
GURO Guroymak-BITLI 75.00 307 P **P 19 21 51.2 +0.5**
GURO IAmb IAmb 19 21 53.1
comp=Z,11nm,1.0s
FFC Flin Flon 75.12 32 P **P 19 21 51.3 +0.3**
FFC Flin Flon 75.12 32 P **P 19 21 51.3 +0.3**
FFC pmax pmax
comp=Z,5.0nm,1.1s
NC405 NORSAR Array S 75.24 337 P **P 19 21 52.2 +0.6**
AK03 Malin Array Si 75.29 322 P **P 19 21 51.8 -0.2**
AKASG Malin Array Be 75.30 322 P **P 19 21 52.0 0.0**
AKASG IAmb IAmb 19 21 53.6
comp=Z,14nm,1.6s
AKASG Malin Array Be 75.30 322 P **P 19 21 52.1 +0.1**
comp=Z,8.4nm,0.6s,baz=48,slow=6.0,SNR=60
AKASG LR LR 19 57 45.9
comp=Z,340nm,19.8s,baz=58,slow=38
comp=Z,8.4nm,0.6s
AKASG Malin Array Be 75.30 322 P **P 19 21 52.0 0.0**
AKASG pmax pmax
comp=Z,14nm,1.6s
AKBB Malin Array Si 75.30 322 *ce*P **P 19 21 51.2 -0.8**
AKBB pmax pmax
comp=Z,13nm,0.7s
AKBB Malin Array Si 75.30 322 P **P 19 21 52.4 +0.4**
SIRT Sirnak 75.31 306 P **P 19 21 52.9 +0.4**
AK23 Malin Array Si 75.31 322 P **P 19 21 52.6 +0.5**
AK01 Malin Array Si 75.31 322 P **P 19 21 52.2 +0.1**
KIEV Kiev 75.31 322 P **P 19 21 51.8 -0.3**
KIEV IAmb IAmb 19 21 52.7
comp=Z,12nm,0.7s
KIEV Kiev 75.31 322 P **P 19 21 51.8 -0.3**
KIEV Kiev 75.31 322 P **P 19 21 52.0 -0.1**
comp=Z,73nm,1.1s
HFS Hagfors 75.33 336 P **P 19 21 52.7 +0.7**
comp=Z,3.6nm,0.6s,baz=86,slow=4.8,SNR=16
HFS LR LR 19 57 25.2
comp=Z,289nm,21.0s,baz=42,slow=38
comp=Z,3.6nm,0.6s
LRM Limekiln Ridge 75.42 44 P **P 19 21 54.2 +1.0**
NB2 NORSAR Subarra 75.45 337 P **P 19 21 53.7 +0.9**
comp=Z,5.2nm,0.7s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.45 337 P **P 19 21 53.7 +0.9**
baz=41,slow=5.9
NOA NORSAR Array B 75.45 337 P **P 19 21 53.4 +0.6**
comp=Z,8.0nm,0.8s,baz=39,slow=5.8,SNR=31
NOA LR LR 19 58 12.8
comp=Z,276nm,19.9s,baz=60,slow=38
comp=Z,8.0nm,0.8s
FCC Fort Churchill 75.47 26 P **P 19 21 53.1 +0.3**
FCC IAmb IAmb 19 21 55.0
comp=Z,14nm,1.2s
FCC Fort Churchill 75.47 26 P **P 19 21 53.1 +0.3**
FCC pmax pmax
comp=Z,14nm,1.3s
NC602 NORSAR Array S 75.58 337 *e*P **P 19 21 53.9 +0.4**
ICESG Greenland Ices 75.68 0 *i* P **P 19 21 56.0 +1.7**
ICESG IAmb IAmb 19 21 57.6
comp=Z,42nm,1.6s
MI28 Mi28,Pidlybu 75.92 323 P **P 19 21 56.7 +1.1**
comp=Z,12μmcomp=Z,160nm,1.2s
NVAR Mina Array Bea 76.12 53 P **P 19 21 59.0 +1.7**
comp=Z,2.2nm,0.8s,baz=283,slow=6.0,SNR=4.6
NVAR LR LR 19 49 11.8
comp=Z,137nm,21.6s,baz=260,slow=31
comp=Z,2.2nm,0.8s
RNPP9 Sopachiv 76.47 324 P **P 19 21 59.3 +0.6**
MARD Mardin 76.51 306 P **P 19 21 59.7 +0.3**
MARD IAmb IAmb 19 22 01.5
comp=Z,36nm,1.3s
LUBAR Lubar, Ukraine 76.52 322 P **P 19 21 58.8 -0.2**
RNPP8 Varash 76.54 324 P **P 19 21 59.7 +0.6**
RNPP5 Staryi Chortor 76.59 324 P **P 19 22 00.4 +1.0**
BAL3X Bal3x, Balta 76.84 320 P **P 19 22 01.4 +0.6**
SORM Soroca 77.36 321 P **P 19 22 02.9 -0.9**
SFJD Kangerlussuaq 77.40 5 LR LR 19 59 14.0
comp=Z,59nm,18.2s,baz=7.0,slow=38
ILGA Ilgaz 78.77 313 P **P 19 22 12.5 +0.4**
ILGA IAmb IAmb 19 22 14.0
comp=Z,20nm,0.6s
PD31 Pinedale Array 78.93 45 P **P 19 22 13.0 +0.1**
PDAR Pinedale Array 78.93 45 P **P 19 22 13.4 +0.5**
PDAR Pinedale Array 78.93 45 P **P 19 22 14.7 +1.8**
comp=Z,0.6nm,0.5s,baz=295,slow=2.2,SNR=6.4
comp=Z,0.6nm,0.5s
BUR08 Bucovina Ar. S 79.29 322 P **P 19 22 14.9 +0.3**
RAR Rarotonga 79.53 125 LR LR 19 52 39.8
comp=Z,78nm,21.7s,baz=290,slow=32
BR131 Keskin Array S 79.62 312 P **P 19 22 16.6 0.0**
BR131 IAmb IAmb 19 22 20.4
comp=Z,8.5nm,0.9s
BR131 Keskin Array S 79.62 312 P **P 19 22 16.6 0.0**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 79.62 312 P **P 19 22 16.8 +0.2**
BRTR Keskin Array B 79.62 312 P **P 19 22 17.1 +0.5**
comp=Z,5.1nm,0.9s,baz=46,slow=6.7,SNR=21
BRTR PP **PP 19 25 16.0 -1.1**
comp=Z,0.9nm,0.8s,baz=74,slow=4.5,SNR=3.6
comp=Z,5.1nm,0.9s
KOLS Kolonicke sedl 79.86 324 *e*P **P 19 22 18.3 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 79.86 324 *e*P **P 19 22 18.3 +0.7**
OJC Ojcow 80.12 326 P **P 19 22 19.1 +0.2**
OJC IAmb IAmb 19 22 20.9
comp=Z,14nm,1.0s
OJC Ojcow 80.12 326 P **P 19 22 19.1 +0.2**
OJC pmax pmax
comp=Z,14nm,1.0s
PFO Pinyon Flats O 80.12 56 P **P 19 22 19.1 -0.3**
PFO IAmb IAmb 19 24 42.7
comp=Z,21nm,1.4s
PFO Pinyon Flats O 80.12 56 LR LR 19 53 46.5
comp=Z,167nm,18.6s,baz=215,slow=32
PFO Pinyon Flats O 80.12 56 P **P 19 22 19.1 -0.3**
PFO pmax pmax
comp=Z,21nm,1.4s
MLR Muntele Rosu 80.33 320 LR LR 20 01 06.9
comp=Z,216nm,18.3s,baz=48,slow=38
ULM Lac du Bonnet 80.92 33 P **P 19 22 24.2 +1.0**
comp=Z,1.6nm,0.7s,baz=325,slow=5.1,SNR=3.4
comp=Z,1.6nm,0.7s
RAYN Ar Rayn 80.95 292 P **P 19 22 24.2 +0.3**
RAYN IAmb IAmb 19 22 25.3
comp=Z,12nm,0.9s
RAYN Ar Rayn 80.95 292 P **P 19 22 24.2 +0.3**
RAYN pmax pmax
comp=Z,12nm,1.0s
STEB Steborice 81.23 327 *e*P **P 19 22 26.1 +1.2**
BORA Eskisehir 81.44 313 P **P 19 22 26.5 +0.2**
MORC Moravsky Berou 81.45 327 P **P 19 22 26.6 +0.5**
MORC Moravsky Berou 81.45 327 *e*P **P 19 22 26.9 +0.8**
MORC Moravsky Berou 81.45 327 P **P 19 22 26.6 +0.5**
MORC pmax pmax
comp=Z,7.0nm,1.0s
DPC Dobruska-Polom 81.57 328 *e*P **P 19 22 28.1 +1.4**
DPC Dobruska-Polom 81.57 328 *e*P **P 19 22 28.1 +1.4**
KRLC Kraliky 81.57 327 *e*P **P 19 22 27.8 +1.1**
KRLC Kraliky 81.57 327 *e*P **P 19 22 27.8 +1.1**
UPC Upice 81.58 328 *e*P **P 19 22 28.0 +1.2**
UPC Upice 81.58 328 *e*P **P 19 22 28.0 +1.2**
PSZ Piszkesteto 81.70 324 P **P 19 22 28.4 +0.9**
PSZ IAmb IAmb 19 22 29.3
comp=Z,11nm,1.0s
PSZ Piszkesteto 81.70 324 P **P 19 22 28.4 +0.9**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 81.70 324 *e*P **P 19 22 27.9 +0.4**
VYHS Vyhne 81.79 325 *e*P **P 19 22 28.7 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 81.79 325 *e*P **P 19 22 28.7 +0.8**
JAVC Velka Javorina 82.06 326 *e*P **P 19 22 32.0 +2.7**
PVCC Panska Ves 82.19 329 *e*P **P 19 22 31.1 +1.2**
PVCC Panska Ves 82.19 329 *e*P **P 19 22 31.1 +1.2**
BRG Berggiesshubel 82.19 329 *i* P **P 19 22 30.7 +0.8**
BRG Amp 19 22 31.3
comp=Z,5.3nm,0.9s
VRAC Vranov 82.21 327 LR LR 20 01 39.6
comp=Z,151nm,19.2s,baz=45,slow=38
VRAC Vranov 82.21 327 *e*P **P 19 22 31.0 +0.9**
VRAC Vranov 82.21 327 P **P 19 22 30.7 +0.6**
VRAC pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 82.25 330 P **P 19 22 30.3 +0.1**
CLL IAmb IAmb 19 22 31.7
comp=Z,14nm,0.8s
CLL Collm 82.25 330 *i* P **P 19 22 30.6 +0.4**
CLL pmax pmax
comp=Z,16nm,0.9s
CLL Collm 82.25 330 *i* P **P 19 22 30.6 +0.4**
comp=Z,16nm,0.9s
CLL *i* x x 19 22 35.0
comp=Z,11nm,0.9s
CLL AMS AMS 20 02 00.0
comp=Z,200nm,18.3s
KRUC Moravsky 82.48 327 *e*P **P 19 22 32.0 +0.5**
MMAI Mount Meron Ar 82.59 305 P **P 19 22 33.1 +0.7**
comp=Z,3.1nm,0.8s,baz=44,slow=6.5,SNR=2.8
MMAI LR LR 20 02 27.2
comp=Z,140nm,21.0s,baz=60,slow=38
comp=Z,3.1nm,0.8s
MODS Modra-Piesok 82.59 326 *e*P **P 19 22 33.5 +1.4**
MODS Modra-Piesok 82.59 326 *e*P **P 19 22 33.5 +1.4**
HSKC Hora Svate Kat 82.60 329 *e*P **P 19 22 33.1 +1.0**
PRU Pruhonice 82.60 328 *e*P **P 19 22 33.2 +1.1**
PRU Pruhonice 82.60 328 *e*P **P 19 22 33.2 +1.1**
RONA Rosalia, Austr 83.53 326 *i* PcP **P 19 22 38.3 +1.3**
comp=Z,15nm,1.4s
CONA Conrad Observa 83.56 326 *e*PcP **P 19 22 38.9 +1.6**
comp=Z,13nm,1.3s
KHC Kasperske Hory 83.66 328 *e*P **P 19 22 38.5 +0.9**
KHC Kasperske Hory 83.66 328 *ce*P **P 19 22 38.8 +1.2**
KHC pmax pmax
comp=Z,24nm,1.3s
GEC2 GERESS Array S 83.83 328 P **P 19 22 38.7 +0.1**
GERES GERESS Array B 83.83 328 P **P 19 22 39.2 +0.6**
comp=Z,2.6nm,0.8s,baz=36,slow=7.1,SNR=12
GERES PP **PP 19 25 52.8 +1.5**
comp=Z,0.6nm,0.8s,baz=34,slow=9.8,SNR=4.0
GERES LR LR 20 04 07.0
comp=Z,97nm,18.9s,baz=52,slow=39
comp=Z,2.6nm,0.8s
GRA1 Grafenberg Arr 84.22 330 P **P 19 22 40.8 +0.4**
GRF Grafenberg Arr 84.22 330 P **P 19 22 40.8 +0.4**
GRF pmax pmax
comp=Z,24nm,1.0s
GRF Grafenberg Arr 84.22 330 *e*P **P 19 22 41.5 +1.1**
comp=Z,12nm,1.0s,baz=44,slow=4.5
ARSA Arzberg 84.22 326 *i* PcP **PcP 19 22 43.0 -1.3**
comp=Z,5.7nm,0.9s
GRFO Grafenberg 84.22 330 P **P 19 22 40.8 +0.4**
GRFO Grafenberg 84.22 330 P **P 19 22 40.8 +0.4**
GRFO pmax pmax
comp=Z,25nm,1.0s
PPT Papeete 84.23 116 LR LR 19 50 52.1
comp=Z,120nm,21.9s,baz=277,slow=29
PPT2 Papeete2 84.25 116 *e*LR LR 19 49 06.9
comp=Z,190nm,26.5s
PPT2 *e*LR LR 19 49 08.0
comp=Z,200nm,22.2s
MOA Molln 84.33 327 *e*PcP **P 19 22 42.0 +1.0**
comp=Z,8.9nm,1.3s
EKA Eskdalemuir Ar 84.44 340 P **P 19 22 42.2 +0.8**
comp=Z,0.6nm,0.5s,baz=41,slow=4.5,SNR=5.8
comp=Z,0.6nm,0.5s
BIOA Bad Ischl, Aus 84.73 327 *e*PcP **P 19 22 44.1 +1.1**
comp=Z,8.8nm,1.1s
SOKA Soboth 84.87 326 *i* PcP **P 19 22 44.5 +0.7**
comp=Z,22nm,1.3s,SNR=7.0
OBKA Obir 85.22 326 *e*PcP **PcP 19 22 47.5 -1.2**
comp=Z,17nm,1.3s
KBA Koelnbreinsper 85.33 327 *e*P **P 19 22 46.0 -0.2**
comp=Z,7.9nm,1.2s
LESA Schwarzleotal 85.35 328 *e*PcP **P 19 22 47.0 +0.7**
comp=Z,5.8nm,0.8s
MYKA Terra Mystica 85.53 327 *e*PcP **P 19 22 47.2 0.0**
comp=Z,4.5nm,0.5s
STU Stuttgart 85.76 330 P **P 19 22 48.1 -0.1**
STU IAmb IAmb 19 22 50.4
comp=Z,16nm,0.9s
STU Stuttgart 85.76 330 P **P 19 22 48.1 -0.1**
STU pmax pmax
comp=Z,16nm,0.9s
WATA Walderalm 85.90 328 *i* PcP **P 19 22 49.5 +0.4**
comp=Z,8.4nm,1.4s
WTTA Wattenberg 85.93 328 *e*PcP **PcP 19 22 51.0 -1.0**
comp=Z,5.1nm,1.2s
ABTA Abfaltersbach 85.95 327 *i* PcP **P 19 22 49.5 +0.3**
comp=Z,7.5nm,1.1s
MOTA Moosalm 86.09 328 *i* PcP **P 19 22 50.2 +0.1**
comp=Z,9.0nm,1.4s
TAOE Nuku Hiva Isla 86.10 104 *e*LR LR 19 50 02.1
comp=Z,584nm,29.0s
RETA Reutte 86.13 329 *e*PcP **P 19 22 50.8 +0.7**
comp=Z,8.9nm,0.9s
SQTA Sankt Quirin 86.14 328 *e*PcP **PcP 19 22 52.0 -0.9**
comp=Z,3.6nm,0.8s
BFO Black Forest 86.46 331 P **P 19 22 51.5 -0.2**
BFO IAmb IAmb 19 22 53.2
comp=Z,11nm,0.9s
BFO Black Forest 86.46 331 P **P 19 22 51.5 -0.2**
BFO pmax pmax
comp=Z,11nm,0.9s
FETA Feichten 86.51 328 *i* PcP **P 19 22 52.5 +0.5**
comp=Z,8.8nm,1.6s
DAVA Damuels 86.66 329 *e*PcP **P 19 22 53.7 +0.9**
comp=Z,15nm,1.2s
SCHQ Schefferville 86.86 16 P **P 19 22 54.8 +1.4**
comp=Z,5.2nm,0.9s,baz=17,slow=5.1,SNR=5.9
comp=Z,5.2nm,0.9s
FUORN Ofenpass-Fuorn 87.02 328 P **P 19 22 55.2 +0.5**
FUORN IAmb IAmb 19 22 56.4
comp=Z,8.0nm,1.0s
DAVOX Davos/Dischmat 87.06 329 LR LR 20 06 24.7
comp=Z,168nm,18.4s,baz=35,slow=39
TBI Tubuai 88.02 121 *e*LR LR 19 50 54.9
comp=Z,1μm,23.0s
LPIG La Paz 90.19 60 LR LR 19 56 03.4
comp=Z,36nm,21.2s,baz=220,slow=30
TXAR Lajitas Array 91.27 52 P **P 19 23 16.3 +1.4**
TXAR Lajitas Array 91.27 52 P **P 19 23 16.5 +1.6**
comp=Z,1.2nm,1.0s,baz=322,slow=3.1,SNR=7.1
comp=Z,1.2nm,1.0s
VAE Valguarnera 92.10 320 LR LR 20 08 28.4
comp=Z,156nm,18.3s,baz=346,slow=38
KEST Kesra 96.03 322 LR LR 20 11 52.8
comp=Z,130nm,18.4s,baz=21,slow=38
TKL Tuckaleechee C 97.78 35 LR LR 20 09 11.8
comp=Z,21nm,21.0s,baz=340,slow=36
ESDC Sonseca Array 98.50 333 P **P 19 23 46.9 -0.8**
comp=Z,0.7nm,0.9s,baz=21,slow=6.5,SNR=2.3
ESDC LR LR 20 11 30.5
comp=Z,155nm,20.9s,baz=16,slow=37
comp=Z,0.7nm,0.9s
TORD Torodi Ar. Bea 118.17 314 PKP **PKPdf 19 28 55.8 -0.8**
comp=Z,1.0nm,0.9s,baz=350,slow=4.2,SNR=4.1
QSPA South Pole Qui 125.28 180 PKP **PKPdf 19 29 08.5 -0.2**
comp=Z,2.1nm,1.0s,baz=17,slow=4.0,SNR=3.6
SYO Syowa Base 126.74 206 *e*Pdiff **Pdif 19 25 53.8 +1.7**
H03N2 Juan Fernandez 147.13 98 T T 22 14 30.6
baz=289,slow=76,SNR=55
H03N3 Juan Fernandez 147.14 98 T T 22 14 28.8
baz=289,slow=76,SNR=85
H03N1 Juan Fernandez 147.15 98 T T 22 14 29.7
baz=289,slow=76,SNR=78
LPAZ La Paz 147.69 61 PKPbc **PKiKP 19 29 56.4 -0.5**
comp=Z,4.1nm,0.8s,baz=353,slow=7.0,SNR=4.9

---

*NEIC **02** 19:12:05.9±1.5, 2°.94S±0°.09×99°.95E±0°.10, h10km±2km, mb4.2/8, Error ellipse: s-maj=18.8km s-min=10.8km az=231.0*
*IDC **02** 19:12:05.4±2.0, 2°.75S×100°.25E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=70.3km s-min=19.0km az=56.0*
*DJA **02** 19:12:08.3±0.5, 3°S±4°×10°0E±°, h24km±3km, M3.9/9, MLv3.9/9*
ISC 02 19:12:08.1±1.2, 2°.9S±0°.1×100°.01E±0°.09, h27km±6km, n47, σ0°73/40, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.10**	**358**	P	**Pb**	**19 12 13.2**	**+0.2**
PPSI				S	**Sb**	**19 12 16.3**	**0.0**
SISI	**Saibi**	**1.79**	**329**	P	**Pn**	**19 12 37.3**	**+0.1**
SISI				S	**Sn**	**19 12 59.1**	**0.0**
PPI	**Padang Panjang**	**2.42**	**9**	P	**Pn**	**19 12 46.2**	**+0.2**
KSI	**Kapahiang**	**2.69**	**107**	P	**Pn**	**19 12 50.4**	**+0.6**
KSI				S	**Sn**	**19 13 22.4**	**+0.8**
MNAI	**Manna**	**3.29**	**117**	Pn	**Pn**	**19 12 58.1**	**+0.2**
MNAI				Sn	**Sn**	**19 13 35.6**	**-0.7**
MNAI	**Manna**	**3.29**	**117**	P	**Pn**	**19 12 58.2**	**+0.2**
MNAI				S	**Sn**	**19 13 35.2**	**-1.1**
BKNI	**Bangkinang**	**3.33**	**18**	Pn	**Pn**	**19 12 59.1**	**+0.5**
MNSI	**Mandailing Nat**	**3.66**	**353**	P	**Pn**	**19 13 02.6**	**-0.5**
MDSI	**Maura Dua**	**4.46**	**111**	P	**Pn**	**19 13 15.3**	**+1.3**
LWLI	**Liwa**	**4.57**	**118**	P	**Pn**	**19 13 16.7**	**+1.0**
GSI	**Gunungsitoli**	**4.80**	**329**	Pn	**Pn**	**19 13 18.2**	**-0.6**
MYKOM	**Kota Tinggi**	**6.01**	**40**	Pn	**Pn**	**19 13 35.5**	**+0.1**
IPM	**Ipoh**	**7.37**	**8**	Pn	**Pn**	**19 13 55.1**	**+1.1**
KULM	**Kulim**	**8.12**	**4**	Pn	**Pn**	**19 14 03.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**15.13**	**112**	Pn	**Pn**	**19 15 38.8**	**-1.4**
UBPT	**Khong Chiam**	**18.82**	**17**	P	**P**	**19 16 24.6**	**-1.4**
UBPT				IAmb	IAmb	19 16 33.2	
comp=Z,12nm,1.3s							
CMAR	**Chiang Mai Arr**	**21.21**	**357**	P	**P**	**19 16 51.5**	**-0.6**
comp=Z,0.4nm,0.5s,baz=188,slow=10,SNR=7.0							
comp=Z,0.4nm,0.5s							
H08S2	**Diego Garcia H**	**27.80**	**259**	T	T	19 46 51.9	
baz=81,slow=76,SNR=328							
H08S3	**Diego Garcia H**	**27.81**	**259**	T	T	19 46 52.4	
baz=81,slow=76,SNR=433							
H08S1	**Diego Carcia H**	**27.82**	**259**	T	T	19 46 53.3	
baz=81,slow=76,SNR=252							
H01W3	**Cape Leeuwin H**	**34.46**	**159**	T	T	19 55 15.5	
baz=336,slow=76,SNR=3.4							
H01W2	**Cape Leeuwin H**	**34.47**	**159**	T	T	19 55 08.5	
baz=336,slow=76,SNR=4.3							
H01W1	**Cape Leeuwin H**	**34.47**	**159**	T	T	19 55 12.3	
baz=336,slow=76,SNR=4.4							
WB0	**Warramunga Arr**	**37.53**	**119**	P	**P**	**19 19 19.7**	**-0.6**
WRA	**Warramunga Arr**	**37.55**	**119**	P	**P**	**19 19 20.4**	**-0.1**
WRA	**Warramunga Arr**	**37.55**	**119**	P	**P**	**19 19 20.3**	**-0.2**
comp=Z,0.5nm,0.8s,baz=302,slow=8.0,SNR=8.9							
comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**38.74**	**125**	P	**P**	**19 19 30.6**	**+0.1**
comp=Z,0.6nm,0.8s,baz=298,slow=8.7,SNR=6.8							
comp=Z,0.6nm,0.8s							
BTK	**Batken**	**50.40**	**331**	P	**P**	**19 21 03.3**	**-0.1**
BTK				IAmb	IAmb	19 21 05.2	
comp=Z,2.7nm,0.6s							
SONM	**Songino Array**	**50.80**	**6**	P	**P**	**19 21 06.0**	**-0.3**
SONM	**Songino Array**	**50.80**	**6**	P	**P**	**19 21 06.7**	**+0.4**
comp=Z,1.7nm,0.8s,baz=190,slow=8.8,SNR=9.1							
comp=Z,1.7nm,0.8s							
MK31	**Makanchi Array**	**51.86**	**345**	P	**P**	**19 21 15.0**	**+0.9**
MK31				IAmb	IAmb	19 21 15.4	
comp=Z,1.4nm,0.7s							
MKAR	**Makanchi Array**	**51.86**	**345**	P	**P**	**19 21 14.8**	**+0.7**
MKAR	**Makanchi Array**	**51.86**	**345**	P	**P**	**19 21 15.2**	**+1.1**
comp=Z,2.4nm,0.7s,baz=152,slow=8.4,SNR=7.0							
comp=Z,2.4nm,0.7s							
USRK	**Ussuriysk Ar.**	**54.91**	**28**	P	**P**	**19 21 36.6**	**+0.1**
comp=Z,2.7nm,0.8s,baz=210,slow=6.6,SNR=5.0							
comp=Z,2.7nm,0.8s							
KURBB	**Kurchatov Arra**	**56.38**	**344**	P	**P**	**19 21 48.0**	**+1.0**
comp=Z,1.3nm,0.8s,baz=163,slow=7.0,SNR=4.9							
comp=Z,1.3nm,0.8s							
ZALV	**Zalesovo Beam**	**58.02**	**349**	P	**P**	**19 21 58.9**	**+0.4**
comp=Z,1.6nm,0.8s,baz=160,slow=7.6,SNR=3.7							
comp=Z,1.6nm,0.8s							
KLR	**Kul'dur**	**58.71**	**24**	P	**P**	**19 22 03.4**	**-0.1**
comp=Z,0.5nm,0.5s,baz=166,slow=1.8,SNR=3.6							
comp=Z,0.5nm,0.5s							
H04N2	**CROZET ISLANDS**	**60.11**	**217**	T	T	20 27 30.7	
baz=58,slow=75,SNR=545							
H04N1	**CROZET ISLANDS**	**60.13**	**217**	T	T	20 27 31.1	
baz=58,slow=75,SNR=768							
H04N3	**CROZET ISLANDS**	**60.13**	**217**	T	T	20 27 29.8	
baz=58,slow=75,SNR=757							
H04S1	**CROZET ISLANDS**	**60.40**	**216**	T	T	20 27 51.3	
baz=58,slow=75,SNR=130							
H04S3	**CROZET ISLANDS**	**60.41**	**216**	T	T	20 27 44.7	
baz=58,slow=75,SNR=181							
H04S2	**CROZET ISLANDS**	**60.41**	**216**	T	T	20 27 46.7	
baz=58,slow=75,SNR=132							
BVAR	**Borovoye Array**	**60.99**	**340**	P	**P**	**19 22 20.5**	**+1.4**
comp=Z,0.7nm,0.5s,baz=144,slow=7.6,SNR=1.6							
comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**62.40**	**332**	P	**P**	**19 22 28.9**	**+0.3**
ABKAR	**Akbulak array**	**62.40**	**332**	P	**P**	**19 22 28.9**	**+0.3**
ABKAR				IAmb	IAmb	19 22 55.0	
comp=Z,2.2nm,0.9s							
TXAR	**Lajitas Array**	**145.37**	**38**	PKPbc	**PKPbc**	**19 31 44.5**	**+0.1**
comp=Z,0.6nm,0.7s,baz=318,slow=3.5,SNR=6.9							

---

*IDC **02** 19:37:06.7±9.8, 35°.87S×178°.24E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=268.2km s-min=33.0km az=44.0*
*NOU **02** 19:37:40.7, 37°.24S×176°.70E, h285km, MLv3.7/11, North Island, New Zealand*
*WEL **02** 19:37:44.1±1.3, 37°S±4°×17°7E±°, h252km±12km, M2.8/18, MLv2.8/18, Error ellipse: s-maj=8.3km s-min=5.5km az=92.9, confirmed*
ISC 02 19:37:43.7±1.0, 37°.34S±0°.06×176°.49E±0°.06, h251km, n127, σ1°36/135, mb3.3/4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.43**	**205**	P	**Pn**	**19 38 17.5**	**+1.1**
OPRZ	**Ohinepanea**	**0.51**	**174**	P	**Pn**	**19 38 17.6**	**+1.0**
MARZ	**Manawahe**	**0.66**	**167**	P	**Pn**	**19 38 18.8**	**+1.6**
KMRZ	**Kaimai**	**0.66**	**221**	P	**Pn**	**19 38 18.8**	**+1.6**
OMRZ	**Omania**	**0.77**	**187**	P	**Pn**	**19 38 19.4**	**+1.7**
TOZ	**Tahuroa Road**	**0.88**	**243**	P	**Pn**	**19 38 19.1**	**+1.0**
URZ	**Urewera**	**1.04**	**152**	P	**Pn**	**19 38 19.2**	**+0.3**
URZ	**Urewera**	**1.04**	**152**	P	**Pn**	**19 38 19.2**	**+0.3**
MKAZ	**Moumakai**	**1.08**	**282**	P	**Pn**	**19 38 20.3**	**+1.0**
HAZ	**Te Kaha**	**1.11**	**112**	P	**Pn**	**19 38 18.9**	**-0.5**
HAZ				S	**S**	**19 38 46.7**	**-0.8**
RUGZ	**Raukumara Rang**	**1.13**	**124**	P	**Pn**	**19 38 19.1**	**-0.6**
MUGZ	**Murupara**	**1.16**	**169**	P	**Pn**	**19 38 20.5**	**+0.8**
WIAZ	**Waiheke Island**	**1.21**	**296**	P	**Pn**	**19 38 20.7**	**+0.6**

ALRZ	Allen Road	1.22 185	P	Pn	19 38 21.8	+1.6
TLZ	Tolley Road	1.24 217	P	Pn	19 38 22.6	+2.3
MWZ	Matawai	1.29 141	P	Pn	19 38 21.1	+0.5
MWZ			S	S	19 38 50.1	+0.4
ETAZ	East Tamaki Re	1.30 287	P	Pn	19 38 21.8	+1.1
RTZ	Ruatahuna	1.33 163	P	Pn	19 38 21.8	+0.9
RTZ			S	S	19 38 51.5	+1.2
RAGZ	Rawiri	1.37 148	P	Pn	19 38 22.3	+1.1
GRZ	Great Barrier	1.37 322	P	Pn	19 38 21.0	-0.2
PKGZ	Pakihiroa	1.37 113	P	Pn	19 38 21.4	+0.3
MBAZ	Motutapu North	1.40 294	P	Pn	19 38 22.2	+0.9
TWGZ	Tauwhareparae	1.45 126	P	Pn	19 38 22.9	+1.2
MXZ	Matakaoa Point	1.46 99	P	Pn	19 38 21.5	-0.3
MXZ	Matakaoa Point	1.46 99	P	Pn	19 38 21.3	-0.4
MRHZ	Matea Rd	1.49 182	P	Pn	19 38 23.4	+1.4
AWAZ	Awhitu Peninsu	1.50 280	P	Pn	19 38 23.3	+1.2
MTHZ	Maungataniwha	1.53 170	P	Pn	19 38 23.4	+1.0
TKGZ	Te Karaka	1.54 136	P	Pn	19 38 23.0	+0.7
PUZ	Puketiti	1.58 118	P	Pn	19 38 22.8	+0.1
SNGZ	Shannon Statio	1.59 155	P	Pn	19 38 24.2	+1.4
WMGZ	Waiomatatini S	1.60 108	P	Pn	19 38 23.0	+0.2
RATZ	Rangitukua	1.62 200	P	Pn	19 38 25.1	+2.1
RAHZ	Arahi	1.64 163	P	Pn	19 38 24.6	+1.5
RIGZ	Rimuhau	1.69 144	P	Pn	19 38 24.8	+1.2
RITZ	Rihia Road	1.71 197	P	Pn	19 38 26.2	+2.5
HIZ	Hauiti	1.74 227	P	Pn	19 38 26.5	+2.5
HIZ	Hauiti	1.74 227	P	Pn	19 38 26.4	+2.5
KATZ	Kakaramea	1.75 201	P	Pn	19 38 26.6	+2.5
NMHZ	Naumai	1.77 172	P	Pn	19 38 26.3	+2.0
CNGZ	Carnagh Statio	1.77 130	P	Pn	19 38 25.5	+1.3
BKZ	Black Stump Fm	1.82 180	P	Pn	19 38 25.6	+0.9
BKZ	Black Stump Fm	1.82 180	P	Pn	19 38 25.6	+0.9
WHMZ	Waihua	1.83 161	P	Pn	19 38 26.2	+1.5
NTVZ	North Tongarir	1.87 200	P	Pn	19 38 27.3	+2.2
TMVZ	Te Maari	1.88 199	P	Pn	19 38 27.4	+2.2
ETVZ	East Tongariro	1.89 199	P	Pn	19 38 27.3	+1.9
WTVZ	West Tongariro	1.91 202	P	Pn	19 38 27.8	+2.3
TWVZ	Taurewa	1.91 205	P	Pn	19 38 27.6	+2.0
NNVZ	North Ngauruho	1.92 201	P	Pn	19 38 28.1	+2.4
KNZ	Kokohu	1.92 151	P	Pn	19 38 26.4	+1.0
PRGZ	Paritu Road	1.92 146	P	Pn	19 38 26.6	+1.1
OTVZ	Oturere	1.93 199	P	Pn	19 38 27.5	+1.7
SNVZ	South Ngauruho	1.96 200	P	Pn	19 38 27.8	+1.8
ARHZ	Aropaoanui	1.96 168	P	Pn	19 38 27.4	+1.6
NGZ	Ngauruhoe	1.96 201	P	Pn	19 38 28.4	+2.4
COVZ	Chateau Observ	2.00 202	P	Pn	19 38 28.3	+2.1
TUVZ	Tukino	2.03 199	P	Pn	19 38 28.5	+1.9
FWVZ	Far West T-bar	2.05 201	P	Pn	19 38 28.7	+1.9
MAVZ	Matarangi	2.06 200	P	Pn	19 38 29.3	+2.2
WHVZ	Whangaehu Hut	2.06 200	P	Pn	19 38 29.2	+2.2
KWHZ	Kaweka Forest	2.08 181	P	Pn	19 38 28.5	+1.5
TRVZ	Turoa	2.09 200	P	Pn	19 38 28.9	+1.7
WNVZ	Wahianoa	2.10 199	P	Pn	19 38 28.7	+1.4
MCHZ	McNeill Hill	2.11 176	P	Pn	19 38 29.0	+1.8
MHGZ	Mahia Peninsul	2.12 149	P	Pn	19 38 28.4	+1.1
MOVZ	Moawhango	2.14 195	P	Pn	19 38 28.9	+1.3
PKVZ	Pokaka	2.14 204	P	Pn	19 38 29.5	+2.0
WCZ	Waipu Caves	2.22 308	P	Pn	19 38 28.4	+0.1
VRZ	Vera Road	2.24 217	P	Pn	19 38 31.2	+2.8
KRHZ	Kereru	2.30 182	P	Pn	19 38 30.3	+1.3
CKHZ	Cape Kidnapper	2.36 169	P	Pn	19 38 30.8	+1.3
KAHZ	Kahuranaki	2.47 173	P	Pn	19 38 32.0	+1.3
PNHZ	Pukenui	2.58 185	P	Pn	19 38 32.8	+1.0
WAZ	Wanganui	2.68 206	P	Pn	19 38 35.0	+2.2
PKE	Pukeiti	2.70 226	P	Pn	19 38 36.2	+3.1
WPHZ	Waipukurau	2.72 181	P	Pn	19 38 34.5	+1.3
TSZ	Takapari Road	2.74 188	P	Pn	19 38 34.4	+0.9
KHEZ	Kahui Hut	2.75 224	P	Pn	19 38 37.3	+3.7
PRHZ	Porangahau	2.92 178	P	Pn	19 38 36.2	+0.8
DVHZ	Dannevirke	2.96 185	P	Pn	19 38 36.6	+0.8
POWZ	Post Office Ro	3.10 190	P	Pn	19 38 37.9	+0.7
POWZ			S	S	19 39 20.7	+1.0
OUZ	Omahuta	3.15 311	P	Pn	19 38 37.5	-0.4
OUZ	Omahuta	3.15 311	P	Pn	19 38 37.5	-0.4
PRWZ	Pori Road	3.23 187	P	Pn	19 38 39.7	+1.0
PRWZ			S	S	19 39 23.5	+1.1
BFZ	Birch Farm	3.34 183	P	Pn	19 38 40.3	+0.4
BFZ	Birch Farm	3.34 183	P	Pn	19 38 40.3	+0.4
MRZ	Mangatainoka R	3.39 192	P	Pn	19 38 40.5	+0.1
MRZ			S	S	19 39 25.6	+0.1
OGWZ	Otaki Gorge	3.62 196	P	Pn	19 38 43.3	+0.2
OGWZ			S	S	19 39 29.5	-0.7
HOWZ	Holdsworth Sta	3.63 192	P	Pn	19 38 43.1	-0.1
HOWZ			S	S	19 39 28.5	-2.0
KIW	Kapiti Island	3.72 199	P	Pn	19 38 44.1	-0.1
TMWZ	Te Maipa	3.79 187	P	Pn	19 38 45.4	+0.4
MTW	Mount Morrison	3.89 191	P	Pn	19 38 45.7	-0.4
CAW	Cannon Point	3.92 196	P	Pn	19 38 46.4	-0.1
DUWZ	D'Urville Isla	3.99 209	P	Pn	19 38 47.1	-0.3
TRWZ	Traveller	4.10 188	P	Pn	19 38 48.6	0.0
PAWZ	Paruwai Farm	4.12 191	P	Pn	19 38 48.3	-0.5
WEL	Wellington	4.16 198	P	Pn	19 38 49.3	0.0
MSWZ	Moikau Station	4.18 193	P	Pn	19 38 49.0	-0.6
SNZO	South Karori	4.20 199	P	Pn	19 38 49.4	-0.3
TCW	Tory Channel	4.23 203	P	Pn	19 38 49.8	-0.3
BHW	Baring Head	4.25 197	P	Pn	19 38 49.9	-0.5
PLWZ	Palliser	4.33 192	P	Pn	19 38 50.7	-0.6
TUWZ	Tuamarina	4.53 205	P	Pn	19 38 53.3	-0.5
NNZ	Nelson	4.56 211	P	Pn	19 38 53.5	-0.6
TKNZ	Takaka Hill	4.59 216	P	Pn	19 38 53.6	-0.9
QRZ	Quartz Range	4.65 220	P	Pn	19 38 55.2	+0.1
QRZ	Quartz Range	4.65 220	P	Pn	19 38 54.1	-1.0
CMWZ	Cape Campbell	4.74 201	P	Pn	19 38 56.6	+0.4
BSWZ	Blackbirch Sta	4.81 204	P	Pn	19 38 57.1	-0.1
MRNZ	Matariki Terra	4.98 214	P	Pn	19 38 58.3	-0.9
THZ	Tophouse	5.21 211	P	Pn	19 39 01.6	-0.5
KHZ	Kahutara	5.55 203	P	Pn	19 39 05.8	-0.3
KHZ	Kahutara	5.55 203	P	Pn	19 39 05.8	-0.3
DSZ	Denniston Nort	5.70 218	P	Pn	19 39 07.5	-0.5
GVZ	Greta Valley S	6.21 204	P	Pn	19 39 13.9	-0.5
LTZ	Lake Taylor	6.32 209	P	Pn	19 39 14.6	-1.2
INZ	Inchbonnie	6.62 214	P	Pn	19 39 18.3	-1.2
MQZ	McQueen's Vall	7.00 203	P	Pn	19 39 22.3	-1.9
MHCZ	Mount Hutt	7.23 210	P	Pn	19 39 25.8	-1.4
TMZ	Timaru	8.17 209	P	Pn	19 39 37.7	-1.3
ODZ	Otahua Downs	8.86 208	P	Pn	19 39 47.6	-0.2
JCZ	Jackson Bay	8.91 219	P	Pn	19 39 47.5	-0.9
STKA	Stephens Creek	29.12 270	P	P	19 43 22.3	+0.8
	0.4nm,0.2s,baz=337,slow=11,SNR=2.8					
	0.4nm,0.2s					
ASAR	Alice Springs	38.82 278	P	P	19 44 43.4	-1.3
	0.5nm,0.5s,baz=121,slow=8.2,SNR=16					
	0.5nm,0.5s					
WRA	Warramunga Arr	40.48 283	P	P	19 44 56.3	-2.1
	0.5nm,0.3s,baz=120,slow=8.2,SNR=11					
	0.5nm,0.3s					
QSPA	South Pole Qui	52.78 180	P	P	19 46 34.1	+1.1
	0.3nm,0.4s,baz=214,slow=5.4,SNR=7.3					
	0.3nm,0.4s					

RSNC 02 19:42:00.6±0.0, 4°N±1°×7°7W±°, h83km±3km, M2.7, mb4.0, ML2.5, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	Bahia Malaga	0.31	287	P	Pn	19 42 13.0	-0.3
MALC				S	Sn	19 42 23.9	+1.2
YOTC	Yotoco, Valle	0.70	85	P	Pn	19 42 14.8	-1.8
YOTC				S	Sn	19 42 26.0	-2.5
JAMC	Jamundi, Valle	0.79	152	P	Pn	19 42 16.6	-1.1
JAMC				S	Sn	19 42 29.1	-1.3
PIZC	Pizarro, Choco	1.09	343	P	Pn	19 42 20.5	-0.4
PIZC				S	Sn	19 42 35.5	-0.6
PLMC	San Jos del P	1.24	38	P	Pn	19 42 20.6	-2.2
PLMC				S	Sn	19 42 36.6	-2.9
POPC	Popayan, Colom	1.42	165	P	Pn	19 42 25.1	-0.2
POPC				S	Sn	19 42 43.2	-0.6
GR1C	Gorgona, Isla	1.45	231	P	Pn	19 42 23.6	-1.8
GR1C				S	Sn	19 42 42.5	-1.6
ANIL	Santa Ana	1.73	71	P	Pn	19 42 29.4	+0.1
ANIL				S	Sn	19 42 50.2	-0.8
ORTC	Ortega, Tolima	1.79	90	P	Pn	19 42 30.3	+0.4
ORTC				S	Sn	19 42 53.0	+0.9
BBAC	Balboa, Cauca	1.90	186	P	Pn	19 42 31.3	-0.2
BBAC				S	Sn	19 42 54.4	-0.5
NIZA	Niza - Manizal	1.93	54	P	Pn	19 42 30.0	-1.9
NIZA				S	Sn	19 42 55.3	-0.5
RECRC	Villamaria, Ca	1.98	58	P	Pn	19 42 31.3	-1.5
RECRC				S	Sn	19 42 56.1	-1.1
GUY2C	Guyana, Caldas	2.11	52	P	Pn	19 42 35.2	+0.7
GUY2C				S	Sn	19 43 00.4	0.0
PRAC	Prado	2.16	95	P	Pn	19 42 35.4	+0.7
PRAC				S	Sn	19 43 01.0	+0.2
CBOC	Ciudad Bolivar	2.19	28	P	Pn	19 42 33.9	-1.4
CBOC				S	Sn	19 42 58.9	-2.8
GARC	Garzon, Huila	2.31	138	P	Pn	19 42 38.2	+1.2
GARC				S	Sn	19 43 07.1	+2.3
CRUC	La Cruz	2.34	178	P	Pn	19 42 38.6	+1.1
CRUC				S	Sn	19 43 06.0	+0.4
FLOC	Florencia	2.70	149	P	Pn	19 42 42.9	+0.8
FLOC				S	Sn	19 43 14.7	+0.8
NORC	Norcasia	2.71	53	P	Pn	19 42 43.1	+0.9
NORC				S	Sn	19 43 14.7	+0.6
URMC	La Uribe, Meta	2.74	104	P	Pn	19 42 43.0	+0.4
URMC				S	Sn	19 43 14.8	0.0
DBBC	Dabeiba	3.19	15	P	Pn	19 42 47.5	-1.1
DBBC				S	Sn	19 43 26.1	+0.4
PTAC	Punta Ardita,	3.30	347	P	Pn	19 42 48.8	-1.2
PTAC				S	Sn	19 43 24.5	-3.7
VILC	Villavicencio,	3.34	87	P	Pn	19 42 52.8	+2.0
VILC				S	Sn	19 43 30.3	+0.7
CHIC	Chingaza	3.37	78	P	Pn	19 42 52.6	+1.2
CHIC				S	Sn	19 43 31.0	+0.3
MACC	Macarena, Meta	3.64	119	P	Pn	19 42 54.5	-0.3
MACC				S	Sn	19 43 36.3	-0.4
PTBC	PUERTO BERRIO,	3.66	45	P	Pn	19 42 55.8	+0.8
PTBC				S	Sn	19 43 36.9	-0.2
CUSE	Cuicocha Este	3.84	201	P	Pn	19 42 58.1	+0.3
CUSE				S	Sn	19 43 39.4	-2.6
OTAV	Otavalo	3.92	201	P	Pn	19 42 58.2	-0.7
OTAV				S	Sn	19 43 41.3	-2.7
PAC1	Pacto, Paraso	4.03	206	P	Pn	19 42 59.2	-1.0
PAC1				S	Sn	19 43 41.1	-5.2
RUSC	La Rusia	4.40	63	P	Pn	19 43 06.8	+1.3
CAPC	Capurgana	4.70	356	P	Pn	19 43 10.6	+1.5
CAPC				S	Sn	19 44 02.2	-0.1
AZU	Azuero	5.01	320	P	Pn	19 43 12.4	-1.0
	21nm,1.0s						
AZU				S	Sn	19 44 07.5	-2.6
	21nm,1.0s						
BCIP	Isla Barro Col	5.91	332	P	Pn	19 43 24.9	-0.7
BCIP				S	Sn	19 44 30.4	-1.5

*THE **02** 19:52:13.1, 37°.59N×20°.77E, h0km±4km, ML3.2/6, Error ellipse: s-maj=5.3km s-min=0.9km az=205.0*
*ATH **02** 19:52:13.6, 37°.63N×20°.80E, h13km±5km, ML3.0/1, Error ellipse: s-maj=6.6km s-min=2.0km az=20.0*
*IDC **02** 19:52:15.3±4.0, 38°.01N×21°.24E, h0km, mb3.5/6, mbtmp3.5/7, ML0.7/1, Error ellipse: s-maj=82.7km s-min=23.6km az=51.0*
ISC 02 19:52:14.3±0.9, 37°.71N±0°.05×20°.89E±0°.05, h10km±5km, n25, σ0°93/40, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.04	265	P	Pg	19 52 15.4	-0.7
LTHK				S	Sg	19 52 16.8	-0.7
KYPS	Kipseli, Zakin	0.12	334	P	Pg	19 52 17.9	+0.8
KYPS				S	Sg	19 52 20.5	+1.4
ORTH	Orthonies,Zaky	0.21	312	P	Pg	19 52 18.6	0.0
ORTH				S	Sg	19 52 22.0	+0.5
CLEM	Kyllini,Ilia,G	0.26	47	P	Pb	19 52 20.8	-0.3
CLEM				S	Sb	19 52 26.4	+0.8
RTZL	Ratzakli, Kefa	0.37	346	P	Pb	19 52 22.3	-0.7
RTZL				S	Sb	19 52 29.7	+0.8
PSDA	Pessada-Kefalo	0.47	329	P	Pg	19 52 23.6	+0.2
PSDA				S	Sb	19 52 31.6	0.0
	4μm,0.3s						
PSDA	Pessada-Kefalo	0.47	329	P	Pg	19 52 23.3	0.0
PSDA				S	Sg	19 52 30.2	+0.7
VLS	Valsamata	0.52	333	P	Pg	19 52 24.4	0.0
VLS				S	Sb	19 52 33.0	-0.1
	2μm,0.4s						
VLS	Valsamata	0.52	333	P	Pg	19 52 24.5	0.0
VLS				S	Sb	19 52 32.7	-0.4
VLS				AML	AML	19 52 33.7	
	comp=N,4775μm,0.2s						
VLS				AML	AML	19 52 34.3	
	comp=E,3325μm,0.5s						
RLS	Riolos of Patr	0.57	53	P	Pb	19 52 26.4	0.0
RLS				S	Sn	19 52 37.7	-0.3
	comp=E,2μm,0.5s						
DMLN	Damoulianata-K	0.66	322	P	Pg	19 52 26.4	-0.7
DMLN				S	Sb	19 52 38.5	+1.2
	comp=E,4μm,0.5s						
DRO	Drossia	0.69	70	P	Pn	19 52 28.9	-1.3
DRO				S	Sn	19 52 41.4	+0.4
	comp=E,3μm,0.5s						
FSK	Fiskardo	0.79	341	P	Pb	19 52 30.3	+0.2
FSK				S	Sn	19 52 42.7	-0.6
EVGI	Lefkada island	0.93	349	P	Pg	19 52 31.7	-0.4
EVGI				S	Sn	19 52 47.4	+0.7
	comp=E,1μm,0.4s						
ITM	Ithomi	0.98	122	P	Pg	19 52 32.1	-1.1
NYDR	Nydri-Lefkada	1.01	352	P	Pn	19 52 34.2	-0.3
KLV	Kalavryta, Ach	1.05	71	P	Pn	19 52 34.9	-0.2
ANX	Ano Chora	1.20	42	P	Pn	19 52 37.9	+0.7
IDI	Anoyia	4.03	126	Pn	Pn	19 53 17.5	+1.4
	comp=E,0.2nm,0.3s,baz=354,slow=22,SNR=2.5						
IDI				Sn	Sn	19 54 07.1	+3.7
	comp=E,0.5nm,0.3s,baz=87,slow=23,SNR=5.8						
	comp=E,5.5nm,0.8s						
HFS	Hagfors	22.90	351	P	P	19 57 17.7	-0.2
	comp=E,1.7nm,0.5s,baz=159,slow=9.1,SNR=9.4						
	comp=E,1.7nm,0.5s						
FINES	FINESS Array B	23.98	6	P	P	19 57 28.2	-0.4
	comp=E,1.6nm,0.8s,baz=168,slow=9.8,SNR=5.2						
	comp=E,1.6nm,0.8s						
NOA	NORSAR Array B	24.13	348	P	P	19 57 30.4	+0.2
	comp=E,0.7nm,0.9s,baz=161,slow=11,SNR=1.6						
	comp=E,0.7nm,0.9s						
BVAR	Borovoye Array	37.20	49	P	P	19 59 24.3	-1.1
	comp=E,0.7nm,0.7s,baz=266,slow=7.9,SNR=4.9						
	comp=E,0.7nm,0.7s						
MKAR	Makanchi Array	45.30	58	P	P	20 00 31.6	-0.6
	comp=E,0.2nm,0.5s,baz=268,slow=8.2,SNR=8.9						
	comp=E,0.2nm,0.5s						
ZALV	Zalesovo Beam	45.79	48	P	P	20 00 35.1	-0.8
	comp=E,0.5nm,0.4s,baz=276,slow=7.7,SNR=4.5						
	comp=E,0.5nm,0.4s						

*NEIC **02** 20:19:16.6±2.2, 32°.77N±0°.03×118°.32W±0°.03, h5km±2km, Error ellipse: s-maj=5.4km s-min=2.8km az=216.0*
PAS 02 20:19:17.4±2.6, 32°.77N±0°.03×118°.35W±0°.03, h2km±2km, ML3.4/283, ML3.1/42(NEIC), Error ellipse: s-maj=5.5km s-min=1.9km az=222.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	Catalina I. Ai	0.63	355		Pg	20 19 29.1	-0.4
CIAC					Sg	20 19 38.9	+1.1
SBI	Santa Barbara	0.91	321		Pg	20 19 34.7	-0.2
SBI					Sg	20 19 47.4	+0.7
FMP	Fort Macarthur	0.94	3		Pg	20 19 35.0	-0.5
RPV	Rancho Palos V	0.97	357		Pg	20 19 35.8	-0.2
RPV					Sg	20 19 49.1	+0.5
SANC	Santa Ana	1.01	22		Pg	20 19 36.4	-0.4
SANC					Sg	20 19 49.4	-0.5
GORC	Green Oak Ranc	1.01	68		Pg	20 19 36.1	-0.7
GORC					Sg	20 19 48.7	-1.3
SDMC	San Diego Miss	1.02	89		Pg	20 19 36.7	-0.2
SDMC					Sg	20 19 49.8	-0.3
SNCC	San Nicolas Is	1.10	296	Pg	Pg	20 19 37.7	-0.7
SNCC				IAML		20 19 53.8	
	comp=E,616nm,0.5s						
SNCC				IAML		20 19 53.9	
	comp=N,596nm,0.6s						
TJX	Tijuana	1.12	103		Pg	20 19 38.8	-0.1
TJX				Sg	Sg	20 19 53.6	+0.2
ELS	Elsinore Mount	1.17	41		Pg	20 19 38.0	-1.7
ELS				Sg	Sg	20 19 52.5	-2.3
ELS				IAML		20 19 55.5	
	comp=N,472nm,0.3s						
SDRC	San Diego Road	1.18	91		Pg	20 19 39.2	-0.8
DJJ	Donna J Jenkin	1.33	356		Pg	20 19 41.0	-2.0
PASC	Pasadena Art C	1.40	5	Pg	Pn	20 19 41.9	-2.2
TKX	Tecate	1.48	97		Pn	20 19 43.6	-1.5
TKX					Sb	20 20 01.9	-3.0
CBX	Cerro Bola	1.49	107		Pn	20 19 44.0	-1.4
CBX				IAML		20 20 16.0	
	comp=N,392nm,0.7s						
PFO	Pinyon Flats O	1.79	62		Pn	20 19 48.3	-1.2
PFO				IAML		20 20 10.9	
	comp=N,202nm,0.1s						
PFO				IAML		20 20 13.6	
	comp=N,257nm,0.4s						
YUH	Yuha Desert	2.05	93		Pn	20 19 52.5	-0.4
YUH				IAML		20 20 19.8	
	comp=E,97nm,0.6s						
YUH				IAML		20 20 19.9	
	comp=N,96nm,0.3s						
FRK	Frink	2.36	74		Pn	20 19 55.5	-1.6
CCAC	Calif City Air	2.39	6		Pn	20 19 56.7	-1.0
CCAC				IAML		20 20 44.0	
	comp=E,142nm,1.1s						
TEJ	El Tejon	2.47	353		Pb	20 20 02.8	+0.3
VTX	Valle De La Tr	2.57	122	Pn	Pn	20 19 59.6	-0.6
GSC	Goldstone, Bar	2.83	26		Pn	20 20 03.1	-0.7
GSC				IAML		20 20 48.1	
	comp=N,75nm,0.8s						
GSC				IAML		20 20 49.4	
	comp=E,89nm,0.6s						
ISA	Isabella, Lake	2.89	358		Pn	20 20 03.3	-1.3
BLYC	Blythe	3.35	72	Pn	Pn	20 20 09.9	-0.9
GWY	Greenwater Val	3.68	22	Pn	Pn	20 20 14.8	-0.6
GWY				IAML		20 21 20.6	
	comp=N,29nm,0.6s						
GWY				IAML		20 21 22.2	
	comp=E,38nm,0.6s						
113A	Mohawk Valley,	3.86	89	Pn	Pn	20 20 18.1	+0.3
V12A	Nelson	4.13	44	Pn	Pn	20 20 21.1	-0.6
V12A				IAML		20 21 33.0	
	comp=N,18nm,4.9s						
V12A				IAML		20 21 40.5	
	comp=E,15nm,4.0s						
WCT	Wildcat Mounta	4.25	19	Pn	Pn	20 20 22.6	-0.7
WCT				IAML		20 21 02.8	
	comp=E,20nm,4.2s						
WCT				IAML		20 21 52.0	
	comp=N,17nm,4.8s						
W13A	Hualapai Mount	4.38	57	Pn	Pn	20 20 24.2	-0.9
SHPR	Sheep Range	4.56	34	Pn	Pn	20 20 27.6	0.0
DSP	Deep Springs	4.60	4	Pn	Pn	20 20 27.6	-0.4
PRN	Pahroc Range	5.36	29	Pn	Pn	20 20 38.5	0.0
LCMT	Little Creek M	5.96	43	Pn	Pn	20 20 46.7	0.0
X16A	Lo Mia Camp, P	5.99	72	Pn	Pn	20 20 46.9	-0.4
R11B	Troy Canyon, C	6.00	21		Pn	20 20 46.9	-0.5
KNB	Kanab	6.21	45	Pn	Pn	20 20 49.7	-0.5

*IDC **02** 20:25:34.9±1.1, 27°.68N×53°.02E, h0km, mb3.8/16, mbtmp3.8/19, ML3.6/3, Error ellipse: s-maj=24.7km s-min=16.4km az=175.0*
*TEH **02** 20:25:36.3, 27°.70N×53°.08E, h8km±31km*
*OMAN **02** 20:25:40.7±0.1, 27°.43N×53°.14E, h10km, mb4.3/3, ml3.6/17, Error ellipse: s-maj=1.2km s-min=0.6km az=1.0*
ISC 02 20:25:37.9±0.5, 27°.66N±0°.03×53°.05E±0°.04, h20km, n73, σ1°40/95, mb3.8/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.33	162	Pg	Pb	20 25 43.4	-1.7
QIR1	Qir	0.82	360	Pg	Pb	20 25 51.5	-2.0
JHRM	Jahrom	0.97	29	Pg	Pb	20 25 54.0	-2.0
LAR1	LAR	1.18	89	Pg	Pn	20 25 59.1	-0.2
DSBU	Dashti - Bushe	1.73	294	Pg	Pb	20 26 08.7	-0.3
AHBU	AHRAM	1.96	308	Pn	Pb	20 26 11.8	-1.0
SHI	Shiraz	2.03	347	Pn	Pn	20 26 12.5	+1.4
KAZ2	Kazeron-Fars-I	2.30	328	Pn	Pn	20 26 16.6	+1.9
SHMA	Al-Shehemyia	2.59	227	P	Pb	20 26 24.1	+0.5
	SNR=5.9						
GENO	Geno	2.79	95	Pn	Pn	20 26 22.9	+1.4
SAKB	Bahrain	2.80	234	P	Pb	20 26 25.2	-2.0
IBND	Bandar-abas	3.11	93	Pn	Pn	20 26 27.5	+1.8
SHME	Shamm	3.19	119	P	Pn	20 26 28.3	+1.4
TRNA	Turayna	3.34	210	P	Pn	20 26 31.4	+2.4
	SNR=18						
BANOM	Banah	3.38	120	P	Pn	20 26 31.9	+2.3
BANOM				S	Sn	20 27 09.4	+0.3
SMRA	Abu-Samra	3.52	215	P	Pn	20 26 34.4	+3.0
AJN	Ajban	3.54	150	P	Pn	20 26 34.5	+2.8
NAZ	Nazwa, Dubai	3.54	138	P	Pn	20 26 33.5	+1.7
NAZ				S	Sn	20 27 15.1	+2.0
MASF	Masafi	3.60	129	P	Pn	20 26 34.2	+1.6
MASF				S	Sn	20 27 15.7	+1.2
ASUD	Al Ashush, Dub	3.65	145	P	Pn	20 26 34.7	+1.5
ASUD				S	Sn	20 27 17.8	+2.1
GHWR	Ruwais	3.68	182	P	Pn	20 26 35.8	+2.2
MDH	Madha	3.74	128	P	Pn	20 26 35.4	+1.0
MDH				S	Sn	20 27 20.0	+2.0
SLWR	Sila	3.77	199	P	Pn	20 26 35.9	+1.0
UOSS	Minazif	3.91	133	P	Pn	20 26 37.5	+0.6
UOSS				S	Sn	20 27 23.7	+1.5
HATD	Hatta, Dubai	3.95	135	P	Pn	20 26 38.6	+1.2
HATD				S	Sn	20 27 24.7	+1.5
MZWR	Madinat Zayed	3.95	169	P	Pn	20 26 39.2	+1.8
IMEH	Mehriz	3.96

0.3nm,0.7s
ZALV Zalesovo Beam 35.10 33 P **P 20 32 29.4 -0.2**
1.1nm,0.7s,baz=235,slow=5.2,SNR=5.4
1.1nm,0.7s
FINES FINESS Array B 38.30 339 P **P 20 32 56.1 -0.6**
1.4nm,0.5s,baz=139,slow=8.6,SNR=16
1.4nm,0.5s
DAVOX Davos/Dischmat 38.74 311 P **P 20 33 00.4 -0.5**
0.8nm,0.6s,baz=113,slow=15,SNR=3.3
0.8nm,0.6s
HFS Hagfors 42.01 332 P **P 20 33 27.7 +0.2**
1.2nm,0.7s,baz=128,slow=9.3,SNR=7.3
1.2nm,0.7s
NOA NORSAR Array B 43.53 332 P **P 20 33 39.0 -1.0**
0.2nm,0.6s,baz=125,slow=7.7,SNR=1.6
0.2nm,0.6s
ARCES ARCESS Array B 44.86 347 P **P 20 33 50.4 0.0**
3.1nm,0.9s,baz=146,slow=7.5,SNR=2.0
3.1nm,0.9s
SONM Songino Array 45.74 49 P **P 20 33 57.6 -0.2**
0.5nm,0.5s,baz=281,slow=8.8,SNR=5.7
0.5nm,0.5s
NRIK Noril'sk 46.28 16 P **P 20 34 02.7 +1.0**
1.3nm,0.5s,baz=196,slow=7.4,SNR=4.1
1.3nm,0.5s
EKA Eskdalemuir Ar 48.64 321 P **P 20 34 19.3 -0.9**
0.3nm,0.3s,baz=100,slow=8.0,SNR=8.1
0.3nm,0.3s
TORD Torodi Ar. Bea 49.91 264 P **P 20 34 30.1 -0.4**
0.9nm,0.6s,baz=52,slow=8.0,SNR=8.5
0.9nm,0.6s
DBIC Dimbokro 58.57 260 P **P 20 35 33.7 +0.1**
3.9nm,0.9s,baz=74,slow=7.4,SNR=3.5
3.9nm,0.9s
KSRS Korea Array 62.37 60 P **P 20 35 58.0 -1.2**
0.7nm,0.6s,baz=293,slow=6.5,SNR=2.4
0.7nm,0.6s

IDC 02 20:38:52.1±4.1, 4°.95S×152°.44E, h0km, mb3.8/2, mbtmp3.9/2, Error ellipse: s-maj=180.1km s-min=51.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**228**	P	P	20 43 58.8	-0.8
	0.9nm,0.3s,baz=54,slow=9.8,SNR=35						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**25.80**	**222**	P	P	20 44 25.6	+0.5
	0.8nm,0.3s,baz=54,slow=9.3,SNR=20						
	0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.01**	**288**	PKPbc	PKPbc	20 58 45.5	-0.2
	0.2nm,0.7s,baz=80,slow=2.2,SNR=1.3						

---

*IDC **02** 20:40:22.0±0.8, 2°.83S×100°.06E, h0km, mb4.5/22, mbtmp4.5/24, ML4.0/2, MS3.7/15, Error ellipse: s-maj=26.6km s-min=13.2km az=52.0*
*NEIC **02** 20:40:23.8±1.1, 2°.88S±0°.06×100°.01E±0°.07, h10km±1km, mb4.8/53, Error ellipse: s-maj=12.2km s-min=10.1km az=236.0*
*DJA **02** 20:40:24.1±0.5, 3°S±3°×10°0E±°, h19km±3km, M4.6/19, mB5.0/7, mb4.7/17, MLv4.8/19, Mw(mB)4.4/7*
ISC 02 20:40:25.0±0.9, 2°.92S±0°.05×99°.99E±0°.06, h23km±6km, n165, σ1°.17/149, mb4.7/60, MS3.9/20, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.16**	**6**	P	**Pb**	**20 40 30.8**	**+0.8**
PPSI				S	**Sb**	**20 40 34.4**	**+1.1**
SISI	**Saibi**	**1.82**	**330**	P	**Pn**	**20 40 54.9**	**-0.1**
SISI				S	**Sn**	**20 41 17.1**	**-0.3**
PPI	**Padang Panjang**	**2.48**	**9**	P	**Pn**	**20 41 04.2**	**+0.1**
KSI	**Kapahiang**	**2.69**	**106**	P	**Pn**	**20 41 07.1**	**+0.1**
MNAI	**Manna**	**3.28**	**116**		**Pn**	**20 41 15.4**	**+0.3**
MNAI	**Manna**	**3.28**	**116**	P	**Pn**	**20 41 15.9**	**+0.8**
MNAI	**Manna**	**3.28**	**116**	P	**Pn**	**20 41 15.5**	**+0.4**
BKNI	**Bangkinang**	**3.39**	**18**		**Pn**	**20 41 16.4**	**-0.2**
BKNI	**Bangkinang**	**3.39**	**18**	P	**Pn**	**20 41 19.0**	**+2.4**
BKNI	**Bangkinang**	**3.39**	**18**	P	**Pn**	**20 41 17.2**	**+0.6**
MNSI	**Mandailing Nat**	**3.72**	**354**	P	**Pn**	**20 41 20.4**	**-0.6**
MDSI	**Maura Dua**	**4.46**	**111**	P	**Pn**	**20 41 32.3**	**+1.1**
LWLI	**Liwa**	**4.56**	**117**	P	**Pn**	**20 41 33.8**	**+1.1**
PMBI	**Palembang**	**4.77**	**90**	Pn	**Pn**	**20 41 33.7**	**-1.9**
GSI	**Gunungsitoli**	**4.84**	**330**	Pn	**Pn**	**20 41 35.6**	**-1.0**
GSI	**Gunungsitoli**	**4.84**	**330**	P	**Pn**	**20 41 36.0**	**-0.6**
GSI	**Gunungsitoli**	**4.84**	**330**	S	**Sn**	**20 42 31.7**	**-0.3**
GSI	**Gunungsitoli**	**4.84**	**330**	P	**Pn**	**20 41 35.8**	**-0.8**
RPSI	**Rantau Prapat**	**5.68**	**349**		**Pn**	**20 41 46.4**	**-1.7**
RPSI	**Rantau Prapat**	**5.68**	**349**		**Pn**	**20 41 47.6**	**-0.4**
PSI	**Prapat**	**5.79**	**349**	Pn	**Pn**	**20 41 47.6**	**-2.0**
	1.4nm,0.3s,baz=203,slow=9.5,SNR=3.5						
	5.1nm,0.4s						
MYKOM	**Kota Tinggi**	**6.06**	**40**	Pn	**Pn**	**20 41 52.4**	**-0.9**
MYKOM	**Kota Tinggi**	**6.06**	**40**	P	**Pn**	**20 41 54.5**	**+1.2**
SNSI	**Sinabang, Aceh**	**6.44**	**325**	P	**Pn**	**20 41 59.1**	**+0.6**
	0.5nm48nm,1.1s						
TSI	**Tuntungan**	**6.54**	**347**	P	**Pn**	**20 42 00.4**	**+0.6**
	0.3nm35nm,0.9s						
CGJI	**Cibinong**	**6.76**	**123**	P	**Pn**	**20 42 01.8**	**-1.1**
	0.4nm1μm87nm,0.9s						
IPM	**Ipoh**	**7.42**	**8**	Pn	**Pn**	**20 42 11.8**	**-0.2**
IPM	**Ipoh**	**7.42**	**8**	P	**Pn**	**20 42 13.7**	**+1.6**
TPI	**Tanjungpandan**	**7.65**	**89**	P	**Pn**	**20 42 16.1**	**+0.9**
SKJI	**Sukabumi**	**7.69**	**122**	P	**Pn**	**20 42 14.4**	**-1.3**
MLSI	**Meulaboh, Aceh**	**7.99**	**333**	P	**Pn**	**20 42 20.2**	**+0.4**
KULM	**Kulim**	**8.18**	**5**	Pn	**Pn**	**20 42 21.5**	**-0.9**
KULM	**Kulim**	**8.18**	**5**	P	**Pn**	**20 42 22.0**	**-0.5**
CNJI	**Cibinong**	**8.34**	**122**	P	**Pn**	**20 42 22.6**	**-1.9**
	34nm,0.6s						
LEM	**Lembang**	**8.53**	**117**	Pn	**Pn**	**20 42 30.1**	**+2.8**
	5.2nm,0.3s,baz=244,slow=12,SNR=11						
LEM	**Lembang**	**8.53**	**117**	P	**Pn**	**20 42 28.6**	**+1.3**
	47nm,0.7s						
BBJI	**Bungbulang**	**8.86**	**121**	P	**Pn**	**20 42 30.9**	**-0.9**
BSI	**Banda Aceh**	**9.59**	**331**	P	**Pn**	**20 42 40.0**	**-1.8**
	19nm,0.4s						
CMJI	**Cimerak**	**9.70**	**120**	P	**Pn**	**20 42 41.5**	**-1.8**
COCO	**West Island**	**9.72**	**199**		**Pn**	**20 42 43.4**	**-0.2**
KPJI	**Karang Pucung**	**9.92**	**117**	P	**Pn**	**20 42 46.3**	**0.0**
	38nm,0.6s						
UGM	**Wanagama**	**11.59**	**116**	Pn	**Pn**	**20 43 08.9**	**-0.4**
UGM	**Wanagama**	**11.59**	**116**	P	**Pn**	**20 43 10.8**	**+1.5**
	84nm,1.4s						
SBUM	**Sibu**	**13.34**	**67**		**Pn**	**20 43 32.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.12**	**112**	Pn	**Pn**	**20 43 53.9**	**-3.5**
KKM	**Kota Kinabalu**	**18.49**	**61**	P	**P**	**20 44 38.0**	**-1.8**
UBPT	**Khong Chiam**	**18.88**	**17**	P	**P**	**20 44 41.8**	**-2.1**
KAPI	**Kappang**	**19.82**	**97**		**P**	**20 44 53.1**	**-1.1**
KAPI				IAmb	IAmb	20 44 57.9	
	comp=Z,36nm,1.0s						
KAPI	**Kappang**	**19.82**	**97**	P	**Pn**	**20 44 55.6**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=250,slow=10,SNR=10						
	comp=Z,28nm,0.9s						
TOLI2	**Tolitoli**	**21.16**	**79**	P	**P**	**20 45 07.2**	**-1.7**
TOLI2				IAmb	IAmb	20 45 26.0	
	comp=Z,45nm,1.2s						
CM31	**Chiang Mai Arr**	**21.27**	**357**	P	**P**	**20 45 08.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**21.27**	**357**	P	**P**	**20 45 07.4**	**-2.5**
CMAR	**Chiang Mai Arr**	**21.27**	**357**	P	**P**	**20 45 08.7**	**-1.2**
	comp=Z,4.7nm,0.8s,baz=186,slow=9.8,SNR=32						
CMAR				LR	LR	20 53 34.0	
	comp=Z,174nm,19.9s,baz=165,slow=37						
	comp=Z,4.7nm,0.8s						
PHRA	**Phrae**	**21.29**	**1**	P	**P**	**20 45 07.8**	**-2.3**
PHRA				IAmb	IAmb	20 45 12.0	
	comp=Z,37nm,0.8s						
CHTO	**Chiang Mai**	**21.62**	**357**	P	**P**	**20 45 11.5**	**-2.2**
PALK	**Pallekele**	**21.75**	**298**	LR	LR	20 53 01.9	
	comp=Z,189nm,19.2s,baz=114,slow=35						
QIZ	**Qiongzhong**	**23.87**	**24**	P	**P**	**20 45 34.5**	**-2.4**
QIZ				IAmb	IAmb	20 45 41.4	
	comp=Z,47nm,1.4s						
QIZ	**Qiongzhong**	**23.87**	**24**	P	**P**	**20 45 37.9**	**+0.9**
QIZ				S	**S**	**20 49 55.6**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,22nm,1.6s						
QIZ				LR	LR		
	comp=Z,340nm,12.3s						
QIZ				LR	LR		
	comp=Z,110nm,9.6s						
QIZ				LR	LR		
	comp=Z,260nm,13.9s						
SLVN	**Son La**	**24.41**	**9**	P	**P**	**20 45 40.7**	**-1.3**
H08S2	**Diego Garcia H**	**27.77**	**259**	T	T	21 15 03.1	
	baz=81,slow=75,SNR=3499						
H08S3	**Diego Garcia H**	**27.78**	**259**	T	T	21 15 03.6	
	baz=81,slow=75,SNR=3075						
H08S1	**Diego Garcia H**	**27.79**	**259**	T	T	21 15 12.8	
	baz=81,slow=75,SNR=2998						
TNCH	**TengChong**	**27.82**	**357**	P	**P**	**20 46 13.9**	**+1.0**
TNCH				S	**S**	**20 50 57.7**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,11nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,100nm,5.0s						
TNCH				LR	LR		
	comp=Z,160nm,13.6s						
TNCH				LR	LR		
	comp=Z,130nm,13.1s						
TNCH				LR	LR		
	comp=Z,290nm,15.4s						
PZH	**PanZhiHua**	**29.30**	**3**	P	**P**	**20 46 29.1**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
SHL	**Shillong**	**29.39**	**345**	P	**P**	**20 46 26.2**	**-0.7**
KNRA	**Kununurra**	**31.03**	**116**	P	**P**	**20 46 39.1**	**-2.3**
LSA	**Lhasa**	**33.52**	**346**	P	**P**	**20 47 03.2**	**-0.4**
LSA				IAmb	IAmb	20 47 07.3	
	comp=Z,18nm,1.3s						
LSA	**Lhasa**	**33.52**	**346**	P	**P**	**20 47 04.8**	**+1.2**
CD2	**Chengdu**	**33.84**	**6**	P	**P**	**20 47 04.3**	**-1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,260nm,12.7s						
H01W3	**Cape Leeuwin H**	**34.41**	**159**	T	T	21 23 35.3	
	baz=335,slow=76,SNR=50						
H01W2	**Cape Leeuwin H**	**34.42**	**159**	T	T	21 23 36.3	
	baz=335,slow=76,SNR=53						
H01W1	**Cape Leeuwin H**	**34.43**	**159**	T	T	21 23 35.5	
	baz=335,slow=76,SNR=45						
WB0	**Warramunga Arr**	**37.52**	**119**	P	**P**	**20 47 37.3**	**-0.3**
WRA	**Warramunga Arr**	**37.54**	**119**	P	**P**	**20 47 37.3**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=284,slow=12,SNR=29						
WRA				PcP	**PcP**	**20 49 56.4**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=307,slow=2.8,SNR=3.1						
WRA				LR	LR	21 04 57.8	
	comp=Z,101nm,20.1s,baz=7.0,slow=39						
	comp=Z,1.4nm,0.4s						
XAN	**Xi'an**	**37.72**	**12**	⇑P	**P**	**20 47 37.8**	**-1.2**
XAN				pP	pP	20 47 46.2	+0.2
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN				LR	LR		
	comp=Z,350nm,15.6s						
XAN				LR	LR		
	comp=Z,360nm,12.9s						
XAN				LR	LR		
	comp=Z,440nm,16.8s						
ASAR	**Alice Springs**	**38.72**	**125**	P	**P**	**20 47 48.0**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=300,slow=7.9,SNR=32						
ASAR				PcP	**PcP**	**20 50 00.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=270,slow=1.5,SNR=2.6						
ASAR				LR	LR	21 05 26.2	
	comp=Z,176nm,20.7s,baz=309,slow=39						
	comp=Z,4.8nm,0.7s						
AS31	**Alice Springs**	**38.73**	**125**	P	**P**	**20 47 47.9**	**+0.1**
LZH	**Lanzhou**	**38.97**	**5**	*e*P	**P**	**20 47 50.1**	**+0.4**
LZH				pP	pP	20 47 55.6	-1.2
LZH				pmax	pmax		
	comp=Z,13nm,1.2s						
LZH				LR	LR		
	comp=Z,270nm,14.1s						
LZH				LR	LR		
	comp=Z,250nm,13.4s						
LZH				LR	LR		
	comp=Z,240nm,13.4s						
LYN	**LuoYang**	**39.08**	**16**	⇓P	**P**	**20 47 51.0**	**+0.6**
LYN				pmax	pmax		
	comp=Z,63nm,0.8s						
NJ2	**Nanjing**	**39.12**	**26**	*e*P	**P**	**20 47 52.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIY	**Taiyuan**	**42.05**	**15**	*e*P	**P**	**20 48 15.3**	**+0.3**
TIY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	**Gaotai**	**42.12**	**360**	*e*P	**P**	**20 48 16.5**	**+0.8**
GTA				pP	sP	20 48 25.0	-0.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HNS	**HongShan**	**42.38**	**17**	⇓P	**P**	**20 48 17.4**	**-0.3**
HNS				pmax	pmax		
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**44.27**	**327**	P	**P**	**20 48 32.8**	**-0.3**
NIL				IAmb	IAmb	20 48 58.3	
	comp=Z,10nm,1.1s						
HHC	**Hu-ho-hao-te**	**44.83**	**12**	*e*P	**P**	**20 48 40.0**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,4.5s						
BBOO	**Buckleboo**	**45.00**	**135**	P	**P**	**20 48 39.1**	**+0.3**
BBOO				IAmb	IAmb	20 49 38.7	
	comp=Z,24nm,1.6s						
BJT	**Baijiatuau**	**45.24**	**18**	P	**P**	**20 48 40.4**	**-0.2**
BJT				IAmb	IAmb	20 48 41.5	
	comp=Z,7.8nm,0.8s						
BJI	**Beijing**	**45.26**	**18**	P	**P**	**20 48 41.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
JNU	**Nakatsue**	**46.23**	**37**	P	**P**	**20 48 48.3**	**-0.4**
JNU	**Nakatsue**	**46.23**	**37**	P	**P**	**20 48 47.9**	**-0.7**
	comp=Z,11nm,0.9s,baz=218,slow=8.7,SNR=3.2						
	comp=Z,11nm,0.9s						
KSH	**Kashi**	**47.66**	**335**	P	**P**	**20 48 59.9**	**+0.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSAR	**Wonju Array Be**	**47.78**	**30**	P	**P**	**20 49 00.8**	**+0.1**
KSRS	**Korea Array**	**47.81**	**30**	P	**P**	**20 49 00.2**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=238,slow=7.9,SNR=10						
	comp=Z,3.4nm,0.9s						
WUS	**Wushi**	**47.82**	**339**	P	**P**	**20 49 01.2**	**+0.2**
WMQ	**Urumqi**	**47.83**	**348**	*e*P	**P**	**20 49 03.0**	**+2.0**
WMQ				sP	sP	20 49 11.6	+1.0
WMQ				pmax	pmax		
	comp=Z,20nm,0.9s						
CTA	**Charters Tower**	**48.22**	**114**	LR	LR	21 11 42.3	
	comp=Z,131nm,19.1s,baz=278,slow=39						
CTAO	**Charters Tower**	**48.22**	**114**	P	**P**	**20 49 04.0**	**-0.3**
JMN	**Monobe**	**48.47**	**38**	P	**P**	**20 49 05.7**	**-0.4**
STKA	**Stephens Creek**	**48.55**	**131**	P	**P**	**20 49 07.7**	**+1.0**
STKA				IAmb	IAmb	20 49 09.0	
	comp=Z,7.5nm,0.8s						
STKA	**Stephens Creek**	**48.55**	**131**	P	**P**	**20 49 07.8**	**+1.1**
	comp=Z,6.3nm,0.8s,baz=302,slow=8.2,SNR=16						
	comp=Z,6.3nm,0.8s						
XLT	**XiLinHaoTe**	**48.80**	**15**	*e*P	**P**	**20 49 09.0**	**+0.5**
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,100nm,6.0s						
TARG	**Taragay, Kyrgy**	**48.81**	**338**	P	**P**	**20 49 09.0**	**0.0**
TARG				IAmb	IAmb	20 49 17.1	
	comp=Z,10.0nm,1.0s						
KDJ	**Kajisay**	**49.39**	**338**	P	**P**	**20 49 13.2**	**0.0**
KDJ				IAmb	IAmb	20 49 22.3	
	comp=Z,12nm,0.9s						
DRK	**Karamyk**	**49.52**	**331**	P	**P**	**20 49 14.3**	**0.0**
CHGR	**Chuyangaron**	**50.22**	**329**	P	**P**	**20 49 19.1**	**-0.4**
CHGR				IAmb	IAmb	20 49 29.1	
	comp=Z,12nm,1.0s						
SIMJ	**Simiganj**	**50.30**	**328**	P	**P**	**20 49 19.0**	**-1.0**
ARSB	**Arslanbob**	**50.44**	**334**	P	**P**	**20 49 21.1**	**-0.1**
ARSB				IAmb	IAmb	20 49 23.5	
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**50.86**	**6**	P	**P**	**20 49 24.4**	**+0.3**
SONM				IAmb	IAmb	20 49 26.0	
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**50.86**	**6**	P	**P**	**20 49 24.6**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=188,slow=10,SNR=61						
SONM				PcP	**PcP**	**20 50 41.1**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=182,slow=4.3,SNR=2.1						
	comp=Z,9.6nm,0.8s						
AAK	**Ala-Archa**	**50.88**	**336**	P	**P**	**20 49 24.6**	**+0.2**
AAK	**Ala-Archa**	**50.88**	**336**	LR	LR	21 13 56.7	
	comp=Z,66nm,18.6s,baz=148,slow=40						
ULN	**Ulaanbaatar**	**50.95**	**6**	P	**P**	**20 49 24.9**	**0.0**
ULN				IAmb	IAmb	20 49 26.7	
	comp=Z,10nm,0.9s						
FRU1	**Bishkek**	**50.96**	**336**	P	**P**	**20 49 24.8**	**-0.2**
FRU1				IAmb	IAmb	20 49 34.1	
	comp=Z,8.7nm,0.9s						
CN2	**Changchun**	**51.83**	**23**	*e*P	**P**	**20 49 30.3**	**-1.0**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
MKAR	**Makanchi Array**	**51.91**	**345**	P	**P**	**20 49 32.6**	**+0.7**
MKAR	**Makanchi Array**	**51.91**	**345**	P	**P**	**20 49 32.8**	**+0.9**
	comp=Z,14nm,0.6s,baz=148,slow=8.2,SNR=188						
MKAR				LR	LR	21 13 30.7	
	comp=Z,27nm,21.6s,baz=324,slow=38						
	comp=Z,14nm,0.6s						
KRVT	**Keravat (AS076**	**51.94**	**93**	LR	LR	21 15 01.0	
	comp=Z,64nm,18.2s,baz=0.6,slow=40						
MAKZ	**Makanchi**	**52.01**	**344**	P	**P**	**20 49 32.7**	**+0.1**
KK31	**Karatay Array**	**52.97**	**333**	P	**P**	**20 49 39.7**	**-0.1**
KK31				IAmb	IAmb	20 49 48.7	
	comp=Z,15nm,1.9s						
KKAR	**Karatay Array**	**52.97**	**333**	P	**P**	**20 49 40.1**	**+0.3**
MJAR	**Matsushiro Arr**	**52.99**	**39**	P	**P**	**20 49 39.0**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=221,slow=7.9,SNR=12						
	comp=Z,3.7nm,0.9s						
BNX	**BinXian**	**54.22**	**23**	⇑P	**P**	**20 49 48.1**	**-0.8**
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
USA0B	**Ussuriysk Arra**	**54.97**	**28**	P	**P**	**20 49 54.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.97**	**28**	P	**P**	**20 49 53.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**54.97**	**28**	P	**P**	**20 49 54.2**	**-0.2**
	comp=Z,17nm,0.8s,baz=228,slow=7.2,SNR=23						
	comp=Z,17nm,0.8s						
KURBB	**Kurchatov Arra**	**56.43**	**344**	P	**P**	**20 50 05.2**	**+0.5**
	comp=Z,6.1nm,0.8s,baz=161,slow=6.9,SNR=59						
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**56.49**	**344**	P	**P**	**20 50 05.5**	**+0.3**
ZAA0	**Zalesovo Array**	**58.07**	**349**	P	**P**	**20 50 16.0**	**-0.3**
ZAA0				IAmb	IAmb	20 50 33.7	
	comp=Z,8.4nm,0.8s						
ZALV	**Zalesovo Beam**	**58.07**	**349**	P	**P**	**20 50 16.3**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=177,slow=5.8,SNR=36						
	comp=Z,6.8nm,0.7s						
KLR	**Kul'dur**	**58.77**	**24**	P	**P**	**20 50 20.9**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=240,slow=8.1,SNR=15						
	comp=Z,4.1nm,0.8s						
RAYN	**Ar Rayn**	**59.18**	**300**	P	**P**	**20 50 23.7**	**-1.0**
H04N2	**CROZET ISLANDS**	**60.06**	**217**	T	T	21 55 42.8	
	baz=58,slow=75,SNR=9116						
H04N1	**CROZET ISLANDS**	**60.07**	**217**	T	T	21 55 43.2	
	baz=58,slow=75,SNR=7569						
H04N3	**CROZET ISLANDS**	**60.08**	**217**	T	T	21 55 36.9	
	baz=58,slow=75						
H04S1	**CROZET ISLANDS**	**60.34**	**216**	T	T	21 56 03.3	
	baz=57,slow=75,SNR=78						
H04S3	**CROZET ISLANDS**	**60.35**	**216**	T	T	21 56 02.9	
	baz=57,slow=75,SNR=118						
H04S2	**CROZET ISLANDS**	**60.36**	**216**	T	T	21 56 04.3	
	baz=57,slow=75,SNR=72						
BVAR	**Borovoye Array**	**61.04**	**340**	P	**P**	**20 50 36.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=143,slow=8.2,SNR=9.6						
	comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**61.11**	**340**	P	**P**	**20 50 37.2**	**0.0**
BRVK				IAmb	IAmb	20 50 52.2	
	comp=Z,7.7nm,1.4s						
ABKAR	**Akbulak array**	**62.44**	**332**	P	**P**	**20 50 46.3**	**0.0**
ABKAR	**Akbulak array**	**62.44**	**332**	P	**P**	**20 50 46.4**	**0.0**
ABKAR				IAmb	IAmb	20 50 47.4	
	comp=Z,6.0nm,0.8s						
AKTO	**Aktyubinsk**	**64.16**	**332**	LR	LR	21 21 13.3	
	comp=Z,34nm,18.9s,baz=268,slow=38						
ARTI	**Arti**	**68.09**	**337**	P	**P**	**20 51 22.7**	**-0.1**
ARTI				IAmb	IAmb	20 51 51.1	
	comp=Z,5.6nm,1.1s						
YAK	**Yakutsk**	**68.63**	**15**	P	**P**	**20 51 25.1**	**-0.9**
YAK	**Yakutsk**	**68.63**	**15**	P	**P**	**20 51 25.4**	**-0.6**
	comp=Z,16nm,0.9s,baz=158,slow=5.4,SNR=6.0						
	comp=Z,16nm,0.9s						
KBZ	**Khabaz**	**69.00**	**319**	P	**P**	**20 51 29.8**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=95,slow=12,SNR=4.8						
	comp=Z,1.7nm,0.8s						
EIL	**Elat**	**70.01**	**303**	LR	LR	21 21 58.1	
	comp=Z,73nm,19.1s,baz=68,slow=36						
NRIK	**Noril'sk**	**72.61**	**355**	P	**P**	**20 51 49.7**	**-0.5**
NRIK	**Noril'sk**	**72.61**	**355**	P	**P**	**20 51 49.9**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=153,slow=4.3,SNR=4.0						
	comp=Z,1.7nm,0.4s						
MA2	**Magadan**	**73.87**	**24**	P	**P**	**20 51 57.9**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=225,slow=13,SNR=4.1						
MA2				LR	LR	21 27 17.7	
	comp=Z,61nm,18.5s,baz=146,slow=38						
	comp=Z,3.2nm,0.7s						
BR131	**Keskin Array S**	**73.94**	**313**	P	**P**	**20 51 57.9**	**-1.0**
BR131				IAmb	IAmb	20 53 47.7	
	comp=Z,13nm,1.9s						
BRTR	**Keskin Array B**	**73.94**	**313**	P	**P**	**20 51 58.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=131,slow=7.7,SNR=6.3						
	comp=Z,0.6nm,0.7s						
LBTB	**Lobatse**	**74.63**	**245**	LR	LR	21 20 11.7	
	comp=Z,47nm,18.6s,baz=116,slow=32						
BOSA	**Boshof**	**75.21**	**241**	LR	LR	21 22 45.5	
	comp=Z,32nm,18.7s,baz=113,slow=34						
SEY	**Seymchan**	**76.48**	**22**	P	**P**	**20 52 12.9**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=216,slow=5.6,SNR=5.3						
	comp=Z,2.7nm,0.8s						
TIXI	**Tiksi**	**76.76**	**9**	P	**P**	**20 52 13.4**	**-0.8**
TIXI				IAmb	IAmb	20 52 15.6	
	comp=Z,9.0nm,1.1s						
SYO	**Syowa Base**	**77.00**	**199**	‖*e*pP	pP	20 52 20.2	-2.6
SUR	**Sutherland**	**79.30**	**238**	LR	LR	21 23 54.4	
	comp=Z,60nm,18.8s,baz=152,slow=33						
TSUM	**Tsumeb**	**81.88**	**251**	LR	LR	21 24 45.

ASAJ Asahikawa 4.54 214 P **P 20 50 48.4 +2.2**
6.2nm,0.4s,baz=37,slow=12,SNR=17
ASAJ S **S 20 51 54.9 +2.5**
9.7nm,0.9s,baz=308,slow=24,SNR=2.2
NMR Nemuro--Hokkai 4.59 183 *e*P **P 20 50 47.1 +0.5**
NMR *e*S **S 20 51 50.5 -2.7**
AKK Akkeshi 5.01 190 *e*P **P 20 50 51.1 +0.6**
PETK Petropavlovsk- 9.01 51 P P 20 51 36.3 +5.1
7.6nm,0.8s,baz=230,slow=8.9,SNR=6.3
KLR Kul'dur 9.59 283 P **P 20 51 36.5 -0.8**
1.7nm,0.5s,baz=89,slow=9.5,SNR=7.0
USRK Ussuriysk Ar. 10.49 254 P **P 20 51 45.9 -1.3**
6.6nm,0.6s,baz=65,slow=12,SNR=12
MJAR Matsushiro Arr 12.80 210 P **P 20 52 13.8 +1.7**
4.0nm,0.4s,baz=12,slow=12,SNR=35
SEY Seymchan 15.42 11 P **P 20 52 41.5 +2.0**
0.9nm,0.3s,baz=60,slow=22,SNR=4.7
YAK Yakutsk 16.88 333 P **P 20 52 53.1 -1.7**
7.5nm,0.3s,baz=148,slow=1.5,SNR=7.4
YAK Yakutsk 16.88 333 *e*P **P 20 52 52.7 -2.2**
SONM Songino Array 26.41 285 P **P 20 54 25.9 +3.5**
0.6nm,0.8s,baz=87,slow=9.4,SNR=4.4
SONM PcP **PcP 20 57 32.0 -0.5**
0.2nm,0.4s,baz=105,slow=2.8,SNR=2.2
ZALV Zalesovo Beam 37.98 303 P **P 20 55 58.4 -2.4**
0.7nm,0.3s,baz=68,slow=7.8,SNR=5.8
ZALV PcP **PcP 20 58 04.2 -0.2**
1.2nm,0.6s,baz=75,slow=1.6,SNR=6.8
0.7nm,0.3s
ILAR Eielson Array 38.61 39 P **P 20 56 08.0 +2.1**
0.7nm,0.7s,baz=271,slow=7.5,SNR=8.7
0.7nm,0.7s
MKAR Makanchi Array 42.11 293 P **P 20 56 32.4 -1.8**
0.9nm,0.7s,baz=72,slow=7.4,SNR=12
MKAR PcP **PcP 20 58 17.4 -0.7**
0.2nm,0.6s,baz=67,slow=4.8,SNR=3.3
0.9nm,0.7s
KURBB Kurchatov Arra 42.76 300 P **P 20 56 37.2 -2.0**
2.7nm,0.5s,baz=70,slow=8.9,SNR=18
KURBB PcP **PcP 20 58 19.3 -0.8**
0.8nm,0.3s,baz=65,slow=3.5,SNR=5.6
2.7nm,0.5s
BVAR Borovoye Array 46.34 306 P **P 20 57 05.5 -1.5**
1.1nm,0.6s,baz=72,slow=6.7,SNR=6.1
BVAR PcP **PcP 20 58 31.4 -1.2**
0.6nm,0.3s,baz=81,slow=5.4,SNR=4.9
1.1nm,0.6s
SPITS Spitsbergen Ar 50.51 348 P **P 20 57 36.6 -1.1**
24nm,1.0s,baz=64,slow=3.4,SNR=7.0
24nm,1.0s
ARCES ARCESS Array B 55.05 338 P **P 20 58 09.6 -0.8**
3.5nm,0.9s,baz=39,slow=4.7,SNR=6.7
3.5nm,0.9s
FINES FINESS Array B 60.81 332 P **P 20 58 48.1 -1.5**
2.3nm,0.4s,baz=46,slow=7.3,SNR=40
2.3nm,0.4s
NB2 NORSAR Subarra 65.42 338 P **P 20 59 18.6 -0.9**
comp=Z,0.9nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 65.42 338 P **P 20 59 18.6 -0.9**
comp=Z,1.1nm,0.6s,baz=32,slow=6.6,SNR=14
comp=Z,1.1nm,0.6s
HFS Hagfors 65.53 336 P **P 20 59 18.7 -1.5**
comp=Z,2.0nm,0.4s,baz=36,slow=4.6,SNR=21
comp=Z,2.0nm,0.4s
KBZ Khabaz 66.50 310 P **P 20 59 25.9 -0.6**
comp=Z,2.3nm,0.7s,baz=60,slow=8.1,SNR=7.8
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 67.78 322 P **P 20 59 32.4 -1.9**
comp=Z,0.8nm,0.3s,baz=40,slow=6.3,SNR=11
comp=Z,0.8nm,0.3s
PDAR Pinedale Array 67.78 50 P **P 20 59 36.8 +2.0**
comp=Z,0.3nm,0.7s,baz=313,slow=3.5,SNR=2.8
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 68.40 192 P **P 20 59 39.8 +1.4**
comp=Z,0.5nm,0.7s,baz=7.2,slow=7.0,SNR=2.0
comp=Z,0.5nm,0.7s
ASAR Alice Springs 72.13 192 P **P 21 00 02.3 +1.7**
comp=Z,0.7nm,0.6s,baz=5.1,slow=5.6,SNR=6.3
comp=Z,0.7nm,0.6s
EKA Eskdalemuir Ar 73.89 342 P **P 21 00 09.7 -0.6**
comp=Z,0.7nm,0.6s,baz=26,slow=5.8,SNR=1.4
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 74.14 312 P **P 21 00 10.8 -1.4**
comp=Z,0.6nm,0.8s,baz=38,slow=2.2,SNR=4.7
comp=Z,0.6nm,0.8s
MMAI Mount Meron Ar 78.34 307 P **P 21 00 35.2 -0.3**
comp=Z,1.4nm,0.6s,baz=38,slow=8.5,SNR=3.7
comp=Z,1.4nm,0.6s

---

*IDC **02** 20:51:52.0±1.7, 11°.02N×126°.46E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=142.9km s-min=16.4km az=71.0*

ISC 02 20:51:57.4±1.5, 11°.0N±0°.2×126°.4E±0°.8, h37km, n9, σ0§66/9, mb4.2/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**28.90**	**181**	P	**P**	**20 57 52.3**	**-0.6**
3.9nm,0.8s,baz=356,slow=14,SNR=2.3							
3.9nm,0.8s							
WRA	**Warramunga Arr**	**31.71**	**166**	P	**P**	**20 58 17.9**	**0.0**
0.4nm,0.7s,baz=344,slow=8.8,SNR=4.7							
0.4nm,0.7s							
ASAR	**Alice Springs**	**35.21**	**168**	P	**P**	**20 58 49.0**	**+0.7**
0.2nm,0.4s,baz=351,slow=6.9,SNR=13							
0.2nm,0.4s							
SONM	**Songino Array**	**40.40**	**339**	P	**P**	**20 59 32.1**	**+0.1**
0.6nm,0.6s,baz=153,slow=8.4,SNR=5.7							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**51.52**	**322**	P	**P**	**21 01 00.4**	**+0.8**
2.3nm,0.7s,baz=116,slow=8.4,SNR=29							
2.3nm,0.7s							
ZALV	**Zalesovo Beam**	**54.05**	**331**	P	**P**	**21 01 17.8**	**-0.3**
0.6nm,0.6s,baz=108,slow=9.5,SNR=3.9							
0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**55.55**	**325**	P	**P**	**21 01 29.4**	**+0.4**
2.9nm,0.4s,baz=126,slow=7.0,SNR=12							
2.9nm,0.4s							
BVAR	**Borovoye Array**	**61.14**	**325**	P	**P**	**21 02 08.3**	**+0.4**
1.9nm,0.6s,baz=118,slow=8.6,SNR=7.4							
1.9nm,0.8s							
FINES	**FINESS Array B**	**85.32**	**332**	P	**P**	**21 04 29.6**	**-0.8**
2.8nm,0.9s,baz=120,slow=5.5,SNR=3.6							
2.8nm,0.9s							

---

*DJA **02** 20:58:50.0±0.2, 8°.S±3°.×11°.7E±°, h10km, M4.2/19, mb4.4/6, MLv4.1/19*
*NEIC **02** 20:58:52.6±1.6, 8°.23S±0°.10×116°.83E±0°.04, h43km±12km, mb4.1/7, Error ellipse: s-maj=14.5km s-min=5.7km az=176.0*
*IDC **02** 20:58:60.0±5.5, 7°.97S×117°.64E, h83km±52km, mb3.4/6, mbtmp3.8/8, ML3.7/2, MS2.8/1, Error ellipse: s-maj=76.6km s-min=15.7km az=63.0*

ISC 02 20:58:52.1±0.7, 8°.27S±0°.06×116°.83E±0°.05, h35km, n43, σ1§25/45, mb3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.46**	**173**	P	**Pn**	**20 59 00.1**	**-2.2**
PLAI	**Plampang**	**1.09**	**120**	P	**Pn**	**20 59 11.0**	**+0.1**
PLAI				S	**Sn**	**20 59 26.4**	**+1.7**
SRBI	**Singaraja**	**1.61**	**277**	P	**Pn**	**20 59 18.5**	**+0.4**
SRBI				S	**Sn**	**20 59 39.7**	**+2.1**
DNP	**Denpasar**	**1.65**	**256**	P	**Pn**	**20 59 19.0**	**+0.4**
ABJI	**Asem Bagus**	**2.61**	**280**	P	**Pn**	**20 59 33.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.66**	**266**	Pn	**Pn**	**20 59 32.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.66**	**266**	P	**Pn**	**20 59 32.5**	**0.0**
WBSI	**Waikabubak, Su**	**2.87**	**118**	P	**Pn**	**20 59 35.7**	**+0.2**
KMMI	**Kalianget**	**3.09**	**293**	P	**Pn**	**20 59 40.7**	**+2.3**
GMJI	**Gumukmas**	**3.35**	**270**	P	**Pn**	**20 59 42.7**	**+0.7**
WSI	**Waingapu**	**3.70**	**112**	P	**Pn**	**20 59 47.3**	**+0.5**
BASI	**Baing, Sumba**	**4.17**	**118**	P	**Pn**	**20 59 55.0**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.21**	**60**	P	**Pn**	**20 59 53.8**	**0.0**
KAPI	**Kappang**	**4.35**	**42**	Pn	**Pn**	**20 59 55.1**	**-0.7**
KAPI	**Kappang**	**4.35**	**42**	P	**Pn**	**20 59 53.6**	**-2.2**
3.1nm,0.3s,baz=193,slow=6.9,SNR=20							
KAPI				S	Sn	21 00 28.9	-16
19nm,0.5s,baz=238,slow=20,SNR=4.0							
KAPI				LR	LR	21 01 52.8	
comp=Z,118nm,18.9s,baz=224,slow=48							
8.3nm,0.2s							
BKSI	**Bulukumba**	**4.39**	**48**	P	**Pn**	**20 59 55.3**	**-1.1**
SPSI	**Sidrap Palu**	**5.18**	**34**	P	**Pn**	**21 00 05.7**	**-1.5**
0.1nm,24nm,0.7s							
MMRI	**Maumere**	**5.36**	**94**	Pn	**Pn**	**21 00 10.8**	**+1.1**
PCJI	**Pacitan**	**5.59**	**270**	P	**Pn**	**21 00 13.4**	**+0.5**
0.2nm44nm,0.9s							
UGM	**Wanagama**	**6.25**	**273**	Pn	**Pn**	**21 00 22.6**	**+0.7**
UGM	**Wanagama**	**6.25**	**273**	P	**Pn**	**21 00 21.9**	**-0.1**
SOEI	**Soe**	**7.49**	**102**	Pn	**Pn**	**21 00 38.6**	**-0.5**
SOEI	**Soe**	**7.49**	**102**	P	**Pn**	**21 00 40.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**12.99**	**140**	Pn	**Pn**	**21 01 53.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.99**	**140**	P	**Pn**	**21 01 56.9**	**+2.6**
0.5nm,0.3s,baz=331,slow=9.2,SNR=8.4							
FITZ				S	**Sn**	**21 04 15.6**	**-2.2**
2.0nm,0.6s,baz=216,slow=15,SNR=1.2							
4.7nm,0.8s							
PSA00	**Pilbara Seismi**	**13.54**	**168**	Pn	**Pn**	**21 02 01.5**	**-0.3**
KNRA	**Kununurra**	**13.79**	**123**	Pn	**Pn**	**21 02 04.5**	**-0.7**
SAUI	**Saumlaki**	**14.33**	**90**	Pn	**Pn**	**21 02 10.3**	**-2.3**
GIRL	**Giralia**	**14.50**	**190**	Pn	**Pn**	**21 02 13.3**	**-1.7**
WB0	**Warramunga Arr**	**20.49**	**126**	P	**P**	**21 03 27.4**	**+0.2**
WB0				IAmb	IAmb	21 03 29.0	
comp=Z,9.4nm,0.9s							
WRA	**Warramunga Arr**	**20.54**	**126**	P	**P**	**21 03 27.3**	**-0.4**
WRA	**Warramunga Arr**	**20.54**	**126**	P	**P**	**21 03 27.9**	**+0.1**
comp=Z,5.6nm,0.6s,baz=300,slow=12,SNR=50							
comp=Z,5.6nm,0.6s							
AS31	**Alice Springs**	**22.40**	**135**	P	**P**	**21 03 47.9**	**+0.1**
AS31				IAmb	IAmb	21 04 09.1	
comp=Z,2.8nm,1.2s							
ASAR	**Alice Springs**	**22.40**	**135**	P	**P**	**21 03 47.6**	**-0.2**
ASAR	**Alice Springs**	**22.40**	**135**	P	**P**	**21 03 48.5**	**+0.7**
comp=Z,2.4nm,0.7s,baz=311,slow=8.5,SNR=19							
comp=Z,2.4nm,0.7s							
FORT	**Forrest**	**24.73**	**156**	P	**P**	**21 04 10.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.89**	**327**	P	P	21 05 21.1	+6.7
comp=Z,0.3nm,0.3s,baz=147,slow=7.3,SNR=4.4							
comp=Z,0.3nm,0.3s							
STKA	**Stephens Creek**	**32.89**	**139**	P	**P**	**21 05 22.4**	**-0.7**
STKA				IAmb	IAmb	21 05 25.0	
comp=Z,2.9nm,0.9s							
STKA	**Stephens Creek**	**32.89**	**139**	P	**P**	**21 05 23.9**	**+0.9**
comp=Z,1.2nm,0.5s,baz=306,slow=8.7,SNR=4.2							
comp=Z,1.2nm,0.5s							
SONM	**Songino Array**	**56.62**	**352**	P	**P**	**21 08 33.3**	**+1.6**
comp=Z,0.5nm,0.8s,baz=168,slow=7.4,SNR=2.6							
comp=Z,0.5nm,0.8s							
MKAR	**Makanchi Array**	**62.85**	**334**	P	**P**	**21 09 13.2**	**-1.3**
MKAR	**Makanchi Array**	**62.85**	**334**	P	**P**	**21 09 15.8**	**+1.3**
comp=Z,0.3nm,0.7s,baz=150,slow=7.4,SNR=4.0							
comp=Z,0.3nm,0.7s							
AAK	**Ala-Archa**	**63.68**	**326**		**P**	**21 09 19.2**	**-1.0**
AAK				IAmb	IAmb	21 09 32.8	
comp=Z,2.5nm,1.3s							

---

*NEIC **02** 21:01:41.2±0.9, 61°.74N±0°.03×150°.76W±0°.06, h68km±5km, Error ellipse: s-maj=4.6km s-min=4.0km az=155.0*
*AEIC **02** 21:01:41.9±0.9, 61°.75N±0°.04×150°.76W±0°.07, h71km±2km, ML3.2, ML3.4/196(NEIC), Error ellipse: s-maj=5.9km s-min=4.2km az=135.0*
*IDC **02** 21:01:41.8±2.2, 61°.80N×150°.87W, h80km±21km, mb3.2/7, mbtmp3.5/10, MS3.0/3, Error ellipse: s-maj=24.1km s-min=18.9km az=76.0*

ISC 02 21:01:40.9±0.7, 61°.73N±0°.03×150°.76W±0°.02, h75km±4km, n278, σ0§66/277, mb3.6/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.27**	**179**		**Pn**	**21 01 52.5**	**-0.2**
SUA				Sn	**Sn**	**21 02 00.8**	**-0.4**
SUA	**Susitna One**	**0.27**	**179**	P	**Pn**	**21 01 52.6**	**0.0**
baz=359							
SUA				S	**Sn**	**21 02 01.1**	**-0.1**
baz=359							
M22K	**Willow**	**0.31**	**86**		**Pn**	**21 01 52.4**	**-0.2**
M22K				Sn	**Sn**	**21 02 01.2**	**-0.1**
M22K	**Willow**	**0.31**	**86**	P	**Pn**	**21 01 52.5**	**-0.2**
baz=270							
M22K				S	**Sn**	**21 02 01.2**	**-0.1**
baz=270							
SKT	**Skwentna**	**0.44**	**304**		**Pn**	**21 01 53.0**	**-0.6**
SKT				Sn	**Sn**	**21 02 01.9**	**-1.2**
SKT				IAML		21 02 02.3	
comp=E,2μm,0.3s							
SKT	**Skwentna**	**0.44**	**304**	P	**Pn**	**21 01 53.1**	**-0.6**
baz=122							
SKT				S	**Sn**	**21 02 02.1**	**-1.0**
baz=122							
STLK	**Strandline Lak**	**0.56**	**246**		**Pn**	**21 01 54.5**	**-0.3**
STLK				Sn	**Sn**	**21 02 04.4**	**-0.8**
FIS	**Fire Island**	**0.65**	**156**		**Pn**	**21 01 56.6**	**+1.0**
CUT	**Chulitna**	**0.71**	**19**		**Pn**	**21 01 56.2**	**-0.1**
CUT				Sn	**Sn**	**21 02 07.7**	**+0.1**
CUT	**Chulitna**	**0.71**	**19**	P	**Pn**	**21 01 56.2**	**-0.1**
baz=200							
CUT				S	**Sn**	**21 02 07.8**	**+0.2**
baz=200							
SPCG	**Spurr Capps Gl**	**0.75**	**234**		**Pn**	**21 01 56.8**	**-0.1**
SPCG					**Sn**	**21 02 08.3**	**-0.3**
PMR	**Palmer**	**0.79**	**100**		**Pn**	**21 01 56.9**	**-0.3**
PMR				IAML		21 02 10.1	
comp=N,1μm,0.5s							
PMR	**Palmer**	**0.79**	**100**		**Sn**	**21 02 09.0**	**-0.2**
PMR	**Palmer**	**0.79**	**100**	P	**Pn**	**21 01 56.9**	**-0.3**
baz=282							
PMR				S	**Sn**	**21 02 09.0**	**-0.2**
baz=282							
RC01	**Rabbit Creek A**	**0.81**	**142**		**Pn**	**21 01 57.3**	**-0.1**
RC01				IAML		21 02 12.8	
comp=E,2μm,0.2s							
RC01	**Rabbit Creek A**	**0.81**	**142**	P	**Pn**	**21 01 57.3**	**-0.1**
baz=324							
SPU	**Mount Spurr**	**0.83**	**229**		**Pn**	**21 01 57.5**	**-0.2**
SPU				IAML		21 02 10.5	
comp=E,641nm,0.4s							
SPU	**Mount Spurr**	**0.83**	**229**		**Sn**	**21 02 09.7**	**-0.5**
GHO	**Glory Hole Cre**	**0.88**	**87**		**Pn**	**21 01 58.2**	**-0.1**
GHO				IAML		21 02 13.2	
comp=E,2μm,0.4s							
CAPN	**Captain Cook N**	**0.99**	**191**		**Pn**	**21 02 01.1**	**+1.7**
CAPN	**Captain Cook N**	**0.99**	**191**	P	**Pn**	**21 02 01.2**	**+1.7**
baz=11							
M20K	**Styx River**	**1.14**	**279**		**Pn**	**21 02 01.5**	**+0.1**
M20K				IAML		21 02 17.5	
comp=E,574nm,0.9s							
M20K				IAML		21 02 17.7	
comp=N,986nm,0.7s							
M20K	**Styx River**	**1.14**	**279**		**Sn**	**21 02 16.6**	**-0.1**
M20K	**Styx River**	**1.14**	**279**	P	**Pn**	**21 02 01.6**	**+0.1**
baz=96							
M20K				S	**Sn**	**21 02 16.6**	**-0.1**
baz=96							
M20K				S	**Sn**	**21 02 16.6**	**-0.1**
baz=96							
KNK	**Knik Glacier**	**1.15**	**105**		**Pn**	**21 02 01.8**	**+0.3**
KNK	**Knik Glacier**	**1.15**	**105**	P	**Pn**	**21 02 01.7**	**+0.2**
baz=288							
SML	**Sawmill**	**1.16**	**85**		**Pn**	**21 02 01.7**	**0.0**
SML				IAML		21 02 18.6	
comp=E,562nm,0.6s							
SML				IAML		21 02 19.5	
comp=N,673nm,0.8s							
SML	**Sawmill**	**1.16**	**85**		**Sn**	**21 02 17.2**	**0.0**
SML	**Sawmill**	**1.16**	**85**	P	**Pn**	**21 02 01.5**	**-0.1**
baz=268							
SML				S	**Sn**	**21 02 17.2**	**0.0**
baz=268							
SLKM	**Skilak Lake**	**1.26**	**168**		**Pn**	**21 02 02.6**	**-0.3**
SLKM				IAML		21 02 21.1	
comp=E,900nm,0.4s							
SLKM				IAML		21 02 30.2	
comp=N,408nm,0.2s							
PPLA	**Purkeypile**	**1.34**	**331**		**Pn**	**21 02 04.0**	**-0.1**
PPLA	**Purkeypile**	**1.34**	**331**	P	**Pn**	**21 02 03.7**	**-0.5**
baz=149							
O22K	**Cooper Landing**	**1.35**	**158**		**Pn**	**21 02 04.0**	**-0.1**
O22K	**Cooper Landing**	**1.35**	**158**	P	**Pn**	**21 02 03.8**	**-0.3**
baz=339							
M23K	**Glacier View**	**1.44**	**86**		**Sn**	**21 02 23.8**	**+0.1**
M23K	**Glacier View**	**1.44**	**86**	P	**Pn**	**21 02 05.4**	**+0.1**
baz=270							
M23K				S	**Sn**	**21 02 23.8**	**+0.1**
baz=270							
PWL	**Port Wells**	**1.46**	**126**		**Pn**	**21 02 05.2**	**-0.4**
PWL	**Port Wells**	**1.46**	**126**	P	**Pn**	**21 02 05.2**	**-0.4**
baz=309							
RDJH	**Redoubt Jeurge**	**1.52**	**222**		**Pn**	**21 02 07.0**	**+0.6**
SCM	**Sheep Creek Mo**	**1.64**	**85**		**Pn**	**21 02 08.0**	**+0.1**
SCM	**Sheep Creek Mo**	**1.64**	**85**	P	**Pn**	**21 02 07.9**	**+0.1**
baz=269							
L20K	**Farewell, AK**	**1.65**	**298**		**Pn**	**21 02 07.8**	**-0.1**
L20K	**Farewell, AK**	**1.65**	**298**	P	**Pn**	**21 02 07.8**	**-0.1**
baz=115							
TRF	**Thorofare Moun**	**1.74**	**7**		**Pn**	**21 02 09.3**	**+0.1**
TRF	**Thorofare Moun**	**1.74**	**7**	IAML		21 02 32.9	
comp=E,228nm,0.3s							
TRF				IAML		21 02 35.0	
comp=N,301nm,0.2s							
TRF	**Thorofare Moun**	**1.74**	**7**	P	**Pn**	**21 02 09.3**	**+0.1**
baz=187							
SEW	**Seward**	**1.76**	**158**		**Pn**	**21 02 09.4**	**+0.1**
SEW	**Seward**	**1.76**	**158**	P	**Pn**	**21 02 09.0**	**-0.4**
baz=340							
CAST	**Castle Rocks**	**1.80**	**341**	Pn	**Pn**	**21 02 09.9**	**-0.1**
CAST				IAML		21 02 32.9	
comp=N,340nm,0.6s							
CAST				IAML		21 02 33.1	
comp=E,436nm,0.9s							
CAST	**Castle Rocks**	**1.80**	**341**	P	**Pn**	**21 02 09.9**	**-0.1**
baz=159							
KTH	**Kantishna Hill**	**1.83**	**358**	Pn	**Pn**	**21 02 10.8**	**+0.4**
KTH				IAML		21 02 33.9	
comp=N,397nm,0.9s							
KTH				IAML		21 02 34.1	
comp=E,329nm,0.5s							
O20K	**Slope Mountain**	**1.89**	**210**		**Pn**	**21 02 12.3**	**+1.0**
O20K	**Slope Mountain**	**1.89**	**210**	P	**Pn**	**21 02 12.3**	**+1.0**
baz=28							
RND	**Reindeer**	**1.90**	**27**		**Pn**	**21 02 11.5**	**+0.2**
GLI	**Glacier Island**	**1.97**	**114**	Pn	**Pn**	**21 02 11.3**	**-0.9**
GLI	**Glacier Island**	**1.97**	**114**	P	**Pn**	**21 02 11.3**	**-0.9**
baz=298							
BRLK	**Bradley Lake**	**1.98**	**182**	Pn	**Pn**	**21 02 12.2**	**-0.2**
BRLK				IAML		21 02 41.7	
comp=N,274nm,0.3s							
BRLK				IAML		21 02 43.1	
comp=E,220nm,0.2s							
L19K	**White Mountain**	**1.98**	**285**		**Pn**	**21 02 12.8**	**+0.3**
L19K				IAML		21 02 36.6	
comp=N,173nm,0.9s							
L19K				IAML		21 02 37.9	
comp=E,190nm,0.7s							
L19K	**White Mountain**	**1.98**	**285**	P	**Pn**	**21 02 12.8**	**+0.3**
baz=101							
BRSE	**Bradley Lake S**	**2.00**	**180**	P	**Pn**	**21 02 12.2**	**-0.5**
baz=360							
N19K	**Bonanza Creek**	**2.02**	**244**		**Pn**	**21 02 13.2**	**+0.2**
N19K	**Bonanza Creek**	**2.02**	**244**	P	**Pn**	**21 02 13.3**	**+0.2**
baz=61							
ILSW	**Iliamna Southw**	**2.11**	**215**		**Pn**	**21 02 14.7**	**+0.5**
ILS	**Iliamna Low So**	**2.11**	**213**		**Pn**	**21 02 14.9**	**+0.7**
HOM	**Homer**	**2.13**	**192**		**Pn**	**21 02 14.9**	**+0.5**
MCK	**McKinley**	**2.17**	**22**	Pn	**Pn**	**21 02 15.5**	**+0.5**
MCK	**McKinley**	**2.17**	**22**	P	**Pn**	**21 02 15.6**	**+0.6**
baz=204							
M24K	**Tolsona, Glenn**	**2.20**	**78**	Pn	**Pn**	**21 02 16.2**	**+0.8**
M24K				IAML		21 02 44.5	
comp=N,278nm,0.9s							
M24K				IAML		21 02 45.6	
comp=E,347nm,1.1s							
M24K	**Tolsona, Glenn**	**2.20**	**78**	P	**Pn**	**21 02 16.3**	**+0.9**
baz=263							
CNPM	**China Poot**	**2.23**	**186**	Pn	**Pn**	**21 02 15.3**	**-0.4**
CNPM				IAML		21 02 48.1	
comp=N,234nm,0.4s							
CNPM				IAML		21 02 48.6	
comp=E,331nm,0.5s							
K20K	**Telida**	**2.24**	**318**		**Pn**	**21 02 15.9**	**+0.1**
K20K				IAML		21 02 42.3	
comp=N,242nm,0.7s							
K20K				IAML		21 02 48.2	
comp=E,345nm,0.6s							
K20K	**Telida**	**2.24**	**318**	P	**Pn**	**21 02 15.9**	**+0.1**
baz=135							
CHUM	**Lake Minchumin**	**2.27**	**342**		**Pn**	**21 02 16.4**	**+0.1**
CHUM	**Lake Minchumin**	**2.27**	**342**	P	**Pn**	**21 02 16.4**	**+0.1**
baz=161							
FID	**Port Fidalgo**	**2.29**	**114**	Pn	**Pn**	**21 02 15.2**	**-1.4**
O19K	**Port Alsworth**	**2.32**	**230**		**Pn**	**21 02 16.4**	**-0.5**
O19K				IAML		21 02 47.8	
comp=E,228nm,0.4s							
O19K				IAML		21 03 19.4	
comp=N,155nm,0.5s							
KLU	**Klutina**	**2.32**	**94**		**Pn**	**21 02 16.5**	**-0.6**
KLU				IAML		21 02 46.7	
comp=E,187nm,0.2s							
KLU				IAML		21 02 53.3	
comp=N,232nm,0.4s							
KLU	**Klutina**	**2.32**	**94**	P	**Pn**	**21 02 16.7**	**-0.4**
baz=279							
BPAW	**Bear Paw Mtn.**	**2.38**	**358**		**Pn**	**21 02 17.4**	**-0.3**
BPAW				IAML		21 02 45.2	
comp=N,162nm,0.3s							
BPAW				IAML		21 02 45.3	
comp=E,310nm,0.2s							
BPAW	**Bear Paw Mtn.**	**2.38**	**358**	P	**Pn**	**21 02 17.4**	**-0.3**
baz=177							
P23K	**Montague Islan**	**2.39**	**135**		**Pn**	**21 02 16.5**	**-1.4**
P23K	**Montague Islan**	**2.39**	**135**	P	**Pn**	**21 02 16.5**	**-1.4**
baz=318							
P19K	**Oil Pt**	**2.42**	**211**	Pn	**Pn**	**21 02 19.2**	**+0.9**
P19K				IAML		21 02 52.3	
comp=E,218nm,0.6s							
P19K				IAML		21 03 06.6	
comp=N,161nm,0.4s							
M18K	**Stony River**	**2.43**	**266**		**Pn**	**21 02 18.4**	**0.0**
M18K	**Stony River**	**2.43**	**266**	P	**Pn**	**21 02 18.4**	**0.0**
baz=82							
HIN	**Hinchinbrook I**	**2.47**	**121**		**Pn**	**21 02 18.4**	**-0.5**
DIV	**Divide**	**2.47**	**102**		**Pn**	**21 02 18.3**	**-0.8**
BWN	**Browne**	**2.52**	**13**		**Pn**	**21 02 20.5**	**+0.9**
BWN				IAML		21 03 07.6	
comp=E,171nm,0.9s							
BWN				IAML		21 03 17.0	
comp=N,193nm,1.1s							
N18K	**Kilae Creek**	**2.70**	**249**	Pn	**Pn**	**21 02 21.9**	**-0.1**
N18K	**Kilae Creek**	**2.70**	**249**	P	**Pn**	**21 02 21.9**	**-0.1**
baz=64							
EYAK	**Cordova Ski Ar**	**2.71**	**114**		**Pn**	**21 02 21.1**	**-1.0**
EYAK	**Cordova Ski Ar**	**2.71**	**114**	P	**Pn**	**21 02 20.9**	**-1.2**
baz=299							
HARP	**HAARP**	**2.72**	**73**		**Pn**	**21 02 22.7**	**+0.3**
HARP	**HAARP**	**2.72**	**73**	P	**Pn**	**21 02 22.7**	**+0.3**
baz=259							
TTA	**Tatalina**	**2.73**	**298**	Pn	**Pn**	**21 02 22.2**	**-0.2**
TTA				IAML	

J19K	**Poorman**	**3.18 318**		**Pn**	**21 02 28.4**	**-0.2**
J19K			IAML		21 03 06.7	
	comp=N,149nm,0.3s					
J19K			IAML		21 03 22.2	
	comp=E,142nm,0.9s					
J19K	**Poorman**	**3.18 318**	P	**Pn**	**21 02 28.5**	**-0.1**
	baz=133					
HDA	**Harding Lake**	**3.20 31**		**Pn**	**21 02 29.2**	**+0.4**
HDA			IAML		21 03 24.9	
	comp=E,137nm,0.7s					
M17K	**Holitna River**	**3.21 267**		**Pn**	**21 02 29.0**	**0.0**
M17K			IAML		21 03 05.8	
	comp=E,121nm,0.7s					
M17K			IAML		21 03 28.0	
	comp=N,86nm,1.1s					
M17K	**Holitna River**	**3.21 267**	P	**Pn**	**21 02 28.9**	**0.0**
	baz=81					
CCB	**Clear Creek Bu**	**3.22 23**	Pn	**Pn**	**21 02 29.0**	**0.0**
P18K	**Big Mountain,**	**3.22 225**	Pn	**Pn**	**21 02 29.5**	**+0.3**
SYI	**Shuyak Island**	**3.24 195**	Pn	**Pn**	**21 02 29.7**	**+0.4**
SYI			IAML		21 03 15.8	
	comp=N,67nm,0.9s					
SYI			IAML		21 03 27.9	
	comp=E,56nm,1.5s					
Q20K	**Shuyak Island**	**3.24 195**	P	**Pn**	**21 02 29.6**	**+0.2**
	baz=14					
RAGM	**Ragged Mountai**	**3.25 112**	Pn	**Pn**	**21 02 28.5**	**-1.1**
J18K	**Innoko River**	**3.25 305**		**Pn**	**21 02 29.9**	**+0.3**
J18K			IAML		21 03 07.4	
	comp=N,175nm,0.5s					
J18K			IAML		21 03 08.2	
	comp=E,110nm,0.5s					
J18K	**Innoko River**	**3.25 305**	P	**Pn**	**21 02 29.9**	**+0.3**
	baz=119					
GLB	**Gilahina Butte**	**3.34 92**		**Pn**	**21 02 30.3**	**-0.5**
GLB	**Gilahina Butte**	**3.34 92**	IAML		21 03 25.8	
	comp=N,66nm,0.5s					
N17K	**Nushagak Hills**	**3.34 252**		**Pn**	**21 02 30.5**	**-0.3**
N17K	**Nushagak Hills**	**3.34 252**	P	**Pn**	**21 02 30.6**	**-0.2**
	baz=66					
RIDG	**Independent Ri**	**3.38 51**		**Pn**	**21 02 32.8**	**+1.4**
RIDG			IAML		21 03 23.1	
	comp=E,79nm,0.4s					
RIDG			IAML		21 03 23.5	
	comp=N,60nm,0.7s					
COLA	**College**	**3.42 21**		**Pn**	**21 02 32.3**	**+0.6**
COLA			IAML		21 03 36.9	
	comp=N,118nm,0.5s					
COLA			IAML		21 03 43.5	
	comp=N,95nm,0.6s					
HMT	**Hamilton**	**3.46 111**		**Pn**	**21 02 31.6**	**-0.8**
I23K	**Minto, Yukon-K**	**3.48 10**		**Pn**	**21 02 32.5**	**-0.1**
I23K	**Minto, Yukon-K**	**3.48 10**	P	**Pn**	**21 02 32.5**	**-0.1**
	baz=191					
I20K	**Naaghedeneel**	**3.50 333**		**Pn**	**21 02 33.5**	**+0.6**
I21K	**Tanana**	**3.50 352**		**Pn**	**21 02 32.9**	**0.0**
I21K	**Tanana**	**3.50 352**	IAML		21 03 29.3	
	comp=E,62nm,0.8s					
I21K			IAML		21 03 32.0	
	comp=N,59nm,0.9s					
I21K	**Tanana**	**3.50 352**	P	**Pn**	**21 02 32.9**	**0.0**
	baz=170					
ILAR	**Eielson Array**	**3.52 28**		**Pn**	**21 02 33.2**	**+0.1**
ILAR	**Eielson Array**	**3.52 28**	P	**Pn**	**21 02 33.0**	**-0.1**
	comp=N,2.6nm,0.4s,baz=216,slow=14,SNR=28					
ILAR		S		**Sn**	**21 03 10.5**	**-3.0**
	comp=N,5.3nm,0.4s,baz=212,slow=20,SNR=2.9					
ILAR		LR		LR	21 03 23.9	
	comp=N,61nm,21.9s,baz=228,slow=29					
VRDI	**Verde Repeater**	**3.54 95**		**Pn**	**21 02 32.6**	**-1.1**
L17K	**Donlin**	**3.58 280**		**Pn**	**21 02 34.1**	**+0.1**
L17K	**Donlin**	**3.58 280**	P	**Pn**	**21 02 34.1**	**+0.1**
	baz=93					
K17K	**Iditarod**	**3.67 289**		**Pn**	**21 02 35.4**	**+0.2**
K17K	**Iditarod**	**3.67 289**	IAML		21 03 36.2	
	comp=E,65nm,0.7s					
K17K			IAML		21 03 45.6	
	comp=N,70nm,1.4s					
K17K	**Iditarod**	**3.67 289**	P	**Pn**	**21 02 35.4**	**+0.2**
	baz=102					
O17K	**Koliganek Bris**	**3.68 240**		**Pn**	**21 02 35.7**	**+0.4**
O17K	**Koliganek Bris**	**3.68 240**	P	**Pn**	**21 02 35.7**	**+0.4**
	baz=55					
L26K	**Log Cabin Wild**	**3.69 66**		**Pn**	**21 02 36.4**	**+0.9**
L26K			IAML		21 03 42.4	
	comp=N,61nm,0.4s					
L26K			IAML		21 03 43.8	
	comp=E,50nm,0.4s					
POKR	**Poker Plat Res**	**3.71 22**		**Pn**	**21 02 36.3**	**+0.6**
POKR	**Poker Plat Res**	**3.71 22**	P	**Pn**	**21 02 35.8**	**+0.1**
	baz=205					
M26K	**Nabesna, AK**	**3.71 76**		**Pn**	**21 02 36.2**	**+0.3**
M26K			IAML		21 03 36.7	
	comp=E,32nm,0.4s					
M26K			IAML		21 03 46.6	
	comp=N,36nm,0.8s					
M26K	**Nabesna, AK**	**3.71 76**	P	**Pn**	**21 02 36.1**	**+0.3**
	baz=263					
J25K	**Salcha River,**	**3.78 38**		**Pn**	**21 02 38.4**	**+1.5**
J25K			IAML		21 03 28.8	
	comp=E,58nm,0.6s					
J25K			IAML		21 03 30.7	
	comp=N,41nm,0.5s					
SCRK	**Sand Creek**	**3.83 51**		**Pn**	**21 02 37.9**	**+0.3**
SCRK	**Sand Creek**	**3.83 51**	IAML		21 03 46.9	
	comp=E,33nm,0.7s					
SCRK	**Sand Creek**	**3.83 51**	P	**Pn**	**21 02 37.9**	**+0.3**
	baz=237					
M16K	**Timber Creek**	**4.01 263**		**Pn**	**21 02 39.7**	**-0.1**
M16K	**Timber Creek**	**4.01 263**	P	**Pn**	**21 02 39.7**	**-0.1**
	baz=76					
H21K	**Melozitna Rive**	**4.04 348**		**Pn**	**21 02 39.9**	**-0.4**
H21K	**Melozitna Rive**	**4.04 348**	IAML		21 03 42.2	
	comp=E,34nm,0.8s					
H21K			IAML		21 03 52.5	
	comp=N,34nm,1.0s					
H21K	**Melozitna Rive**	**4.04 348**	P	**Pn**	**21 02 39.9**	**-0.4**
	baz=166					
KDAK	**Kodiak Island**	**4.07 194**		**Pn**	**21 02 39.8**	**-0.8**
KDAK	**Kodiak Island**	**4.07 194**	IAML		21 03 39.1	
	comp=N,27nm,0.8s					
KDAK			IAML		21 03 58.5	
	comp=N,27nm,1.4s					
KDAK	**Kodiak Island**	**4.07 194**	P	**Pn**	**21 02 41.8**	**+1.2**
	comp=N,2.7nm,0.4s,baz=311,slow=11,SNR=37					
KDAK		S		**Sn**	**21 03 23.4**	**-3.6**
	comp=N,11nm,0.5s,baz=153,slow=16,SNR=5.0					
N16K	**Nishlik Lake**	**4.09 256**		**Pn**	**21 02 41.1**	**+0.2**
N16K	**Nishlik Lake**	**4.09 256**	P	**Pn**	**21 02 41.1**	**+0.2**
	baz=68					
BALM	**Baldy**	**4.11 96**		**Pn**	**21 02 40.4**	**-0.9**
KIAG	**Kiagna River**	**4.13 98**		**Pn**	**21 02 40.7**	**-1.0**
J17K	**VABM Dome**	**4.19 297**		**Pn**	**21 02 42.3**	**-0.1**
J17K	**VABM Dome**	**4.19 297**	IAML		21 03 31.9	
	comp=E,36nm,1.1s					
J17K			IAML		21 03 59.3	
	comp=N,35nm,1.1s					
J17K	**VABM Dome**	**4.19 297**	P	**Pn**	**21 02 42.3**	**-0.1**
	baz=110					
O16K	**Kokwok River B**	**4.20 242**		**Pn**	**21 02 42.6**	**+0.2**
O16K	**Kokwok River B**	**4.20 242**	IAML		21 04 04.8	
	comp=N,22nm,1.4s					
O16K	**Kokwok River B**	**4.20 242**	P	**Pn**	**21 02 42.6**	**+0.2**
	baz=56					
ACHA	**Angle Creek He**	**4.21 215**	Pn	**Pn**	**21 02 44.7**	**+2.0**
M27K	**Edge Creek, AK**	**4.23 78**		**Pn**	**21 02 43.8**	**+0.8**
ANCK	**Angle Creek**	**4.27 216**		**Pn**	**21 02 43.6**	**+0.2**
J26L	**Joseph Creek**	**4.29 46**		**Pn**	**21 02 44.5**	**+0.8**
J26L	**Joseph Creek**	**4.29 46**	IAML		21 03 41.2	
	comp=E,37nm,0.5s					
J26L			IAML		21 03 42.7	
	comp=N,42nm,0.4s					
J26L	**Joseph Creek**	**4.29 46**	P	**Pn**	**21 02 44.5**	**+0.8**
	baz=233					
H24K	**Noodor Dome**	**4.31 16**		**Pn**	**21 02 43.8**	**-0.2**
H24K	**Noodor Dome**	**4.31 16**	P	**Pn**	**21 02 43.8**	**-0.2**
	baz=199					
L27K	**Beaver Creek,**	**4.37 68**		**Pn**	**21 02 45.4**	**+0.7**
BCAR	**Beaver Creek A**	**4.38 68**	Pn	**Pn**	**21 02 45.4**	**+0.4**
IMAR	**Indian Mountai**	**4.47 344**		**Pn**	**21 02 46.0**	**-0.1**
MESA	**MESA**	**4.57 106**		**Pn**	**21 02 47.1**	**-0.6**
MESA	**MESA**	**4.57 106**	IAML		21 03 43.9	
	comp=N,54nm,0.6s					
MESA			IAML		21 03 44.1	
	comp=E,44nm,0.6s					
MESA	**MESA**	**4.57 106**	P	**Pn**	**21 02 47.1**	**-0.6**
	baz=294					
H19K	**Roundabout Mou**	**4.58 329**		**Pn**	**21 02 47.6**	**+0.1**
H19K	**Roundabout Mou**	**4.58 329**	IAML		21 03 39.8	
	comp=E,39nm,0.7s					
H19K			IAML		21 03 43.7	
	comp=N,36nm,0.6s					
H19K	**Roundabout Mou**	**4.58 329**	P	**Pn**	**21 02 47.6**	**+0.1**
	baz=144					
OHAK	**Old Harbor**	**4.71 197**		**Pn**	**21 02 49.7**	**+0.4**
OHAK	**Old Harbor**	**4.71 197**	IAML		21 04 08.1	
	comp=N,16nm,1.3s					
OHAK	**Old Harbor**	**4.71 197**	P	**Pn**	**21 02 49.7**	**+0.4**
	baz=15					
RKAV	**Rock Avalanche**	**4.80 103**		**Pn**	**21 02 50.5**	**-0.3**
J16K	**Anvik River**	**4.82 293**		**Pn**	**21 02 50.8**	**0.0**
J16K	**Anvik River**	**4.82 293**	IAML		21 04 19.2	
	comp=N,17nm,1.1s					
J16K			IAML		21 04 24.8	
	comp=E,19nm,1.1s					
J16K	**Anvik River**	**4.82 293**	P	**Pn**	**21 02 50.8**	**0.0**
	baz=104					
H18K	**Honhosa River**	**4.84 318**		**Pn**	**21 02 51.5**	**+0.4**
H18K	**Honhosa River**	**4.84 318**	IAML		21 03 47.4	
	comp=E,34nm,0.5s					
H18K			IAML		21 03 47.6	
	comp=N,23nm,0.6s					
H18K	**Honhosa River**	**4.84 318**	P	**Pn**	**21 02 51.5**	**+0.4**
	baz=132					
YUK3	**Moose Creek**	**4.90 85**	P	**Pn**	**21 02 52.3**	**+0.2**
	baz=274					
I26K	**Coal Creek Min**	**4.94 40**		**Pn**	**21 02 53.5**	**+1.0**
I26K			IAML		21 04 36.4	
	comp=N,23nm,0.8s					
I26K			IAML		21 04 37.8	
	comp=E,30nm,1.4s					
G21K	**Allakaket**	**4.95 347**		**Pn**	**21 02 52.6**	**0.0**
G21K	**Allakaket**	**4.95 347**	IAML		21 03 50.0	
	comp=E,34nm,0.9s					
G21K			IAML		21 03 50.5	
	comp=N,37nm,0.7s					
G21K	**Allakaket**	**4.95 347**	P	**Pn**	**21 02 52.6**	**0.0**
	baz=165					
G23K	**Bananza Creek**	**5.01 3**		**Pn**	**21 02 53.9**	**+0.5**
G23K	**Bananza Creek**	**5.01 3**	P	**Pn**	**21 02 53.9**	**+0.5**
	baz=184					
I17K	**Unalakleet**	**5.04 300**	Pn	**Pn**	**21 02 54.5**	**+0.7**
I17K			IAML		21 03 51.5	
	comp=N,20nm,0.8s					
I17K			IAML		21 03 52.7	
	comp=E,39nm,0.8s					
I17K	**Unalakleet**	**5.04 300**	P	**Pn**	**21 02 54.6**	**+0.7**
	baz=111					
K15K	**Wolf Creek Mou**	**5.11 281**		**Pn**	**21 02 54.9**	**+0.1**
K15K	**Wolf Creek Mou**	**5.11 281**	P	**Pn**	**21 02 54.9**	**+0.1**
	baz=91					
L15K	**Ungalak Mounta**	**5.11 274**		**Pn**	**21 02 54.6**	**-0.1**
L15K	**Ungalak Mounta**	**5.11 274**	P	**Pn**	**21 02 54.6**	**-0.1**
	baz=84					
G24K	**Hadweenzic Riv**	**5.19 15**		**Pn**	**21 02 56.1**	**+0.3**
O28M	**Mount Upton**	**5.19 96**		**Pn**	**21 02 57.1**	**+0.9**
O28M	**Mount Upton**	**5.19 96**	P	**Pn**	**21 02 57.1**	**+0.9**
	baz=286					
H17K	**Granite Mounta**	**5.22 312**	Pn	**Pn**	**21 02 57.2**	**+0.8**
H17K			IAML		21 03 57.1	
	comp=N,26nm,0.9s					
H17K			IAML		21 03 57.8	
	comp=E,31nm,1.0s					
G19K	**Purcell Mounta**	**5.23 331**		**Pn**	**21 02 56.3**	**-0.2**
G19K	**Purcell Mounta**	**5.23 331**	IAML		21 03 55.9	
	comp=E,15nm,0.9s					
G19K			IAML		21 04 25.9	
	comp=N,14nm,1.2s					
G19K	**Purcell Mounta**	**5.23 331**	P	**Pn**	**21 02 56.3**	**-0.2**
	baz=145					
PCA	**Pinnacle**	**5.38 103**		**Pn**	**21 02 57.8**	**-0.9**
PINM	**Pinnacle**	**5.38 103**	P	**Pn**	**21 02 57.7**	**-0.9**
	baz=292					
G18K	**Tagagawik**	**5.44 324**		**Pn**	**21 02 59.8**	**+0.4**
G18K	**Tagagawik**	**5.44 324**	P	**Pn**	**21 02 59.8**	**+0.4**
	baz=136					
COLD	**Coldfoot**	**5.52 2**		**Pn**	**21 03 00.9**	**+0.4**
COLD	**Coldfoot**	**5.52 2**	P	**Pn**	**21 03 00.9**	**+0.4**
	baz=183					
F21K	**Alatna River**	**5.63 349**		**Pn**	**21 03 02.5**	**+0.5**
F21K	**Alatna River**	**5.63 349**	P	**Pn**	**21 03 02.5**	**+0.5**
	baz=167					
DAWY	**Dawson**	**5.70 61**		**Pn**	**21 03 03.2**	**+0.3**
DAWY	**Dawson**	**5.70 61**	P	**Pn**	**21 03 03.2**	**+0.3**
	baz=251					
F20K	**Avaraart Lake**	**5.75 340**		**Pn**	**21 03 03.9**	**+0.4**
F20K	**Avaraart Lake**	**5.75 340**	P	**Pn**	**21 03 03.9**	**+0.4**
	baz=156					
G17K	**Kiwalik Mounta**	**5.80 315**		**Pn**	**21 03 04.5**	**+0.2**
G17K	**Kiwalik Mounta**	**5.80 315**	P	**Pn**	**21 03 04.5**	**+0.2**
	baz=126					
M29M	**Somme Creek**	**5.82 78**		**Pn**	**21 03 05.3**	**+0.7**
M29M	**Somme Creek**	**5.82 78**	P	**Pn**	**21 03 05.3**	**+0.7**
	baz=269					
F24K	**Squaw Lake**	**5.94 11**		**Pn**	**21 03 06.4**	**+0.2**
H16K	**Elim**	**5.95 304**		**Pn**	**21 03 06.7**	**+0.4**
H16K	**Elim**	**5.95 304**	P	**Pn**	**21 03 06.7**	**+0.4**
	baz=114					
F19K	**Shaleruckik Mo**	**5.96 332**	Pn	**Pn**	**21 03 06.8**	**+0.5**
J14K	**Nanvaranak Lak**	**6.07 285**		**Pn**	**21 03 08.3**	**+0.5**
J14K	**Nanvaranak Lak**	**6.07 285**	P	**Pn**	**21 03 08.3**	**+0.5**
	baz=94					
F18K	**Selawik**	**6.24 325**		**Pn**	**21 03 10.7**	**+0.6**
F18K	**Selawik**	**6.24 325**	P	**Pn**	**21 03 10.7**	**+0.6**
	baz=137					
F25K	**Christian Rive**	**6.28 18**		**Pn**	**21 03 11.8**	**+1.0**
BMAR	**Burnt Mountain**	**6.30 22**	Pn	**Pn**	**21 03 12.0**	**+0.9**
G16K	**Koyuk River**	**6.34 310**		**Pn**	**21 03 11.6**	**0.0**
G16K	**Koyuk River**	**6.34 310**	P	**Pn**	**21 03 11.8**	**+0.2**
	baz=120					
E23K	**Chandalar**	**6.37 4**		**Pn**	**21 03 10.5**	**-1.6**
E19K	**Redstone River**	**6.38 337**		**Pn**	**21 03 12.6**	**+0.4**
E19K	**Redstone River**	**6.38 337**	P	**Pn**	**21 03 12.6**	**+0.4**
	baz=151					
E24K	**Your Creek**	**6.44 8**		**Pn**	**21 03 13.3**	**+0.3**
G27K	**Doyon Strip**	**6.45 34**		**Pn**	**21 03 13.7**	**+0.6**
G27K	**Doyon Strip**	**6.45 34**	P	**Pn**	**21 03 13.7**	**+0.6**
	baz=222					
N30M	**Aishikik Lake**	**6.53 86**		**Pn**	**21 03 13.3**	**-0.9**
N30M	**Aishikik Lake**	**6.53 86**	P	**Pn**	**21 03 13.3**	**-0.9**
	baz=279					
K13K	**Kusilvak Mount**	**6.58 278**		**Pn**	**21 03 15.2**	**+0.3**
K13K	**Kusilvak Mount**	**6.58 278**	P	**Pn**	**21 03 15.2**	**+0.3**
	baz=85					
F26K	**Sheenjek River**	**6.62 22**		**Pn**	**21 03 16.3**	**+0.9**
E25K	**Arctic Village**	**6.78 17**	Pn	**Pn**	**21 03 18.8**	**+1.2**
J30M	**Hart River**	**7.12 60**		**Pn**	**21 03 22.8**	**+0.4**
INK	**Inuvik**	**9.79 40**	P	**Pn**	**21 04 00.7**	**+2.1**
	comp=N,1.7nm,0.7s,baz=256,slow=12,SNR=5.6					
PDAR	**Pinedale Array**	**30.83 109**	P	**P**	**21 07 50.0**	**+0.3**
	comp=N,0.3nm,0.7s,baz=311,slow=7.2,SNR=2.5					
	comp=N,0.3nm,0.7s					
SPITS	**Spitsbergen Ar**	**40.11 4**	P	**P**	**21 09 07.9**	**-0.6**
	comp=N,25nm,1.1s,baz=351,slow=7.3,SNR=7.4					
NRIK	**Noril'sk**	**42.83 334**	LR	LR	21 32 03.9	
	comp=N,32nm,18.6s,baz=155,slow=43					
TXAR	**Lajitas Array**	**44.63 114**	P	**P**	**21 09 47.6**	**+1.8**
	comp=N,0.3nm,0.5s,baz=326,slow=3.7,SNR=3.6					
	comp=N,0.3nm,0.5s					
SONM	**Songino Array**	**54.65 306**	P	**P**	**21 11 02.5**	**+0.8**
	comp=N,0.5nm,0.6s,baz=25,slow=6.1,SNR=4.7					
	comp=N,0.5nm,0.6s					
ZALV	**Zalesovo Beam**	**56.61 324**	P	**P**	**21 11 15.0**	**-0.5**
	comp=N,0.2nm,0.4s,baz=46,slow=6.2,SNR=1.8					
	comp=N,0.2nm,0.4s					
FINES	**FINESS Array B**	**57.12 2**	LR	LR	21 37 29.9	
	comp=N,31nm,18.7s,baz=216,slow=38					
EKA	**Eskdalemuir Ar**	**60.52 21**	P	**P**	**21 11 42.6**	**0.0**
	comp=N,0.6nm,0.7s,baz=350,slow=7.4,SNR=3.5					
	comp=N,0.6nm,0.7s					
MKAR	**Makanchi Array**	**63.74 322**	P	**P**	**21 12 03.8**	**-0.5**
	comp=N,0.1nm,0.4s,baz=25,slow=5.9,SNR=4.2					
MKAR			pP	**pP**	**21 12 22.9**	**-0.8**
	comp=N,0.2nm,0.5s,baz=40,slow=6.1,SNR=2.8					
	comp=N,0.1nm,0.4s					
AKASG	**Malin Array Be**	**67.92 0**	P	**P**	**21 12 30.5**	**-0.5**
	comp=N,0.4nm,0.3s,baz=4.4,slow=6.8,SNR=5.4					
	comp=N,0.4nm,0.3s					
QSPA	**South Pole Qui**	**151.54 180**	PKPbc	**PKPbc**	**21 21 24.8**	**+0.2**
	comp=N,1.1nm,1.0s,baz=357,slow=2.0,SNR=2.3					

TXNET 02 21:04:09.0, 31°.6N±0°.7×104°.3W±0°.7, h4km±2km, ML1.9/7, Error ellipse: s-maj=1.3km s-min=0.9km az=48.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	21 04 15.4	-0.5
TPB11				S	Sg	21 04 20.0	-0.5
PECS	**Pecos**	**0.42**	**128**	P	Pg	21 04 17.3	+0.2
PECS	**Pecos**	**0.42**	**128**	P	Pg	21 04 17.3	+0.1
PECS				S	Sg	21 04 22.9	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	21 04 18.6	+0.1
TPB12				S	Sg	21 04 25.1	+0.3
TPB07	**Mentone**	**0.50**	**96**	S	Sg	21 04 25.5	+0.3
TPB10	**Southeast of T**	**0.55**	**129**	S	Sg	21 04 27.4	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	21 04 20.1	0.0
PCOS	**Crockett Middl**	**0.67**	**109**	S	Sg	21 04 31.3	+0.6
TPB01	**Permian Basin**	**0.80**	**149**	S	Sg	21 04 34.8	+0.1
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	21 04 25.4	-0.2
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	21 04 27.8	+0.3
MNTX				S	Sg	21 04 40.4	+0.4
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pb	21 04 29.1	+0.4
HTMS				S	Sb	21 04 42.8	+0.6
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	21 04 28.1	+0.1
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	21 04 29.0	-0.2
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	21 04 28.9	-0.3
VHRN				S	Sb	21 04 43.5	-0.5
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	21 04 28.9	-0.6
TPB05				S	Sg	21 04 43.1	-0.3
MNHN	**Monahans**	**1.31**	**103**	S	Sg	21 04 49.8	-1.3
ALPN	**Alpine**	**1.36**	**157**	S	Sg	21 04 51.6	-1.2
TPB08	**Permian Basin**	**1.37**	**122**	S	Sg	21 04 52.2	-0.9
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	21 04 35.4	-0.5
ODSA	**Odessa**	**1.53**	**71**	P	Pn	21 04 36.2	-0.9
ODSA				S	Sn	21 04 56.6	-0.9
TMB04	**Seminole**	**1.79**	**56**	P	Pb	21 04 41.8	-0.7
TMB04				S	Sb	21 05 05.4	+0.1
TMB02	**Rankin**	**1.94**	**102**	P	Pn	21 04 43.5	+0.6
TMB02				S	Sn	21 05 08.3	+0.6
TX31	**Lajitas Ar. Si**	**2.35**	**167**	P	Pb	21 04 50.7	-1.2
TX31				S	Sg	21 05 22.9	-1.6

*IDC **02** 21:08:00.8±2.4, 20°.34S×70°.87W, h0km, mb3.8/2, mbtmp3.8/3, ML3.7/1, MS2.9/3, Error ellipse: s-maj=70.4km s-min=59.4km az=163.0*
*GUC **02** 21:08:07.0±0.7, 19°.71S×70°.88W, h40km±2km, ML3.6*
ISC 02 21:08:06.6±1.9, 19°.71S±0°.04×70°.9W±0°.1, h23km±13km, n26, σ0°95/21, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.89**	**129**	*e*P	**Pn**	**21 08 23.6**	**-0.1**
PX02	**IPOC Station P**	**0.98**	**41**	*e*P	**Pb**	**21 08 23.9**	**-1.0**
PX02				*e*S	**Sn**	**21 08 38.3**	**+0.1**
PX02				IAML		21 08 39.2	
	comp=N,3μm,0.5s						
TA01	**Diego Aracena**	**1.07**	**143**	⇑*i*P	**Pn**	**21 08 26.1**	**-0.1**
TA01				*e*S	**Sn**	**21 08 41.5**	**+1.1**
HMBC	**Humberstone**	**1.08**	**122**	⇑*i*P	**Pn**	**21 08 26.6**	**+0.1**
HMBC				*e*S	**Sn**	**21 08 41.4**	**+0.5**
HMBC				IAML		21 08 42.7	
	comp=N,4μm,0.3s						
PB12	**IPOC Station P**	**1.21**	**25**	⇓*i*P	**Pb**	**21 08 28.1**	**-0.7**
PB12				*e*S	**Sn**	**21 08 45.3**	**+1.4**
PB12				IAML		21 08 46.5	
	comp=N,2μm,0.6s						
PATCX	**Punta Patache**	**1.29**	**149**	⇑*i*P	**Pb**	**21 08 29.3**	**-1.0**
PATCX				*e*S	**Sb**	**21 08 47.5**	**+1.0**
PATCX				IAML		21 08 58.8	
	comp=E,2μm,0.5s						
PX03	**IPOC Station P**	**1.35**	**121**	*e*P	**Pb**	**21 08 30.8**	**-0.6**
AP01	**Chacalluta**	**1.42**	**21**	*e*P	**Pb**	**21 08 31.9**	**-0.6**
AP01				*e*S	**Sb**	**21 08 51.4**	**+1.2**
PB08	**IPOC Station P**	**1.67**	**105**	*i* P	**Pb**	**21 08 35.9**	**-1.0**
PB08				*e*S	**Sb**	**21 08 58.2**	**+0.5**
PB08				IAML		21 09 00.8	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**1.86**	**136**	⇑*i*P	**Pn**	**21 08 37.8**	**+0.7**
PB09	**IPOC Station P**	**2.58**	**144**	*e*P	**Pn**	**21 08 48.6**	**+1.6**
LPAZ	**La Paz**	**4.29**	**38**	Pn	Pn	21 09 15.2	+4.2
	comp=N,1.9nm,0.3s,baz=209,slow=7.6,SNR=13						
LPAZ		LR		LR	LR	21 11 01.4	
	comp=N,122nm,19.8s,baz=258,slow=38						
	comp=N,4.6nm,0.3s						
CPUP	**Villa Florida**	**14.10**	**120**	LR	LR	21 17 16.3	
	comp=N,51nm,20.8s,baz=219,slow=40						
H03N1	**Juan Fernandez**	**15.44**	**206**	T	T	21 27 30.1	
	baz=32,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**15.45**	**206**	T	T	21 27 31.1	
	baz=32,slow=72,SNR=33						
H03N3	**Juan Fernandez**	**15.46**	**206**	T	T	21 27 29.7	
	baz=32,slow=72,SNR=25						
RCBR	**Riachuelo**	**36.69**	**73**	LR	LR	21 31 19.1	
	comp=N,17nm,21.7s,baz=210,slow=38						
TORD	**Torodi Ar. Bea**	**78.51**	**72**	P	**P**	**21 20 05.2**	**-1.3**
	comp=N,0.8nm,0.7s,baz=244,slow=5.4,SNR=7.6						
	comp=N,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**88.90**	**341**	P	**P**	**21 20 58.8**	**+0.2**
	comp=N,0.2nm,0.6s,baz=136,slow=5.3,SNR=5.1						
	comp=N,0.2nm,0.6s						
H11S2	**WAKE ISLAND Hyl**	**25.81**	**279**	T	T	23 46 21.2	
	baz=100,slow=74,SNR=29						
H11S1	**WAKE ISLAND Hyl**	**25.82**	**279**	T	T	23 46 21.3	
	baz=100,slow=74,SNR=17						
H11S3	**WAKE ISLAND Hyl**	**25.83**	**279

MKAR				Sg	Sg	21 15 41.5	-1.6
MK08	**Makanchi Array**	**0.72**	**261**	⇑P	Pg	21 15 32.5	-1.4
MK08				⇓S	Sg	21 15 41.8	-1.6
MK09	**Makanchi Array**	**0.72**	**263**	⇓P	Pg	21 15 32.5	-1.5
MK09				⇓S	Sg	21 15 41.8	-1.7
MAKZ	**Makanchi**	**0.93**	**266**	⇑P	Pg	21 15 35.8	-2.0
	6.8nm,0.3s						
MAKZ				⇓S	Sg	21 15 47.5	-2.4
	28nm,0.5s						
MAKZ	**Makanchi**	**0.93**	**266**	⇑Pg	Pg	21 15 35.9	-2.0
MAKZ				Sg	Sg	21 15 47.4	-2.5
ZSN	**Zaisan**	**1.20**	**61**	P	Pn	21 15 41.8	-1.2
	15nm,0.2s						
ZSN				S	Sb	21 15 58.3	-0.3
	48nm,0.3s						
ZSN	**Zaisan**	**1.20**	**61**	*e*P	Pn	21 15 41.7	-1.3
	15nm,0.2s						
ZSN				*e*S	Sb	21 15 58.2	-0.3
	48nm,0.3s						
DJR	**Jarkent**	**3.55**	**226**	Pg	Pb	21 16 24.8	+1.8
	1.9nm,0.2s						
DJR				Lg	Lg	21 17 11.7	
	5.7nm,0.3s						
DJR	**Jarkent**	**3.55**	**226**	*e*P	Pb	21 16 24.8	+1.8
	1.6nm,0.1s						
DJR				*e*S	Sg	21 17 11.7	-2.3
	5.6nm,0.2s						
TDK	**Taldyqorghan**	**3.91**	**243**	*e*P	Pb	21 16 29.8	+0.8
	8.7nm,0.1s						
TDK				*e*S	Sb	21 17 19.9	+3.6
	5.7nm,0.1s						
DGZ	**Jazzator, Alta**	**3.94**	**43**	Pn	Pn	21 16 22.4	+1.7
DGZ				Pg	Pb	21 16 30.1	+0.4
DGZ				Sg	Sb	21 17 17.5	+0.1
SEM	**Semipalatinsk**	**4.08**	**331**	Pg	Pb	21 16 32.4	+0.3
	2.3nm,0.2s						
SEM				Lg	Lg	21 17 24.9	
	8.2nm,0.3s						
SEM	**Semipalatinsk**	**4.08**	**331**	*e*P	Pb	21 16 32.4	+0.3
	1.1nm,0.1s						
SEM				*e*S	Sb	21 17 24.9	+3.3
	5.4nm,0.1s						
UKR	**Ust'-Kan**	**4.18**	**13**	Pn	Pn	21 16 24.8	+0.9
UKR				Pg	Pb	21 16 34.9	+1.2
UKR				Sg	Sb	21 17 23.0	-1.2
CHBI	**Chibit, Altay**	**4.42**	**37**	Pn	Pn	21 16 24.9	-2.4
CHBI				Pg	Pb	21 16 38.0	+0.1
CHBI				Sg	Sb	21 17 35.3	+4.1
PDGK	**Podgornoye**	**4.46**	**219**	⇓Pn	Pn	21 16 31.0	+3.2
	2.0nm,0.6s						
PDGK				⇑Lg	Lg	21 17 43.3	
	8.4nm,0.6s						
AKAR	**Aktash**	**4.48**	**38**	Pn	Pn	21 16 24.9	-3.1
AKAR				Pg	Pb	21 16 40.4	+1.7
AKAR				Sg	Sb	21 17 35.8	+3.0
SHLS	**Shalkode**	**4.61**	**218**	Pg	Pb	21 16 41.9	+0.8
	1.5nm,0.2s						
SHLS				Lg	Lg	21 17 40.5	
	9.6nm,0.7s						
SHLS	**Shalkode**	**4.61**	**218**	*e*P	Pb	21 16 41.9	+0.8
	1.1nm,0.2s						
SHLS				*e*S	Sb	21 17 40.7	+3.9
	7.2nm,0.3s						
CUR	**Chagan-Uzun**	**4.65**	**44**	Pg	Pb	21 16 45.2	+3.5
CUR				Sg	Sg	21 17 43.6	-5.7
ELDR	**Elanda**	**4.71**	**22**	Pn	Pn	21 16 32.4	+1.2
ELDR				Pg	Pb	21 16 42.8	0.0
ELDR				Sg	Sb	21 17 43.2	+3.7
KPKS	**Kokpek**	**4.73**	**226**	Pg	Pb	21 16 45.9	+2.8
	1.3nm,0.1s						
KPKS				Lg	Lg	21 17 47.7	
	6.5nm,0.6s						
KPKS	**Kokpek**	**4.73**	**226**	*e*P	Pb	21 16 45.9	+2.8
	1.3nm,0.1s						
KPKS				*e*S	Sg	21 17 48.1	-3.7
	6.1nm,0.5s						
UZB	**Uzynbulak**	**4.81**	**221**	Pg	Pb	21 16 47.0	+2.4
	2.4nm,0.2s						
UZB				Lg	Lg	21 17 49.1	
	5.6nm,0.3s						
UZB	**Uzynbulak**	**4.81**	**221**	*e*P	Pb	21 16 47.0	+2.4
	1.9nm,0.1s						
UZB				*e*S	Sg	21 17 49.9	-4.7
	3.4nm,0.3s						
ULGR	**Ulagan, Altay**	**4.85**	**38**	Pn	Pn	21 16 34.6	+1.4
ULGR				Pg	Pb	21 16 46.6	+1.5
ULGR				Sg	Sb	21 17 47.9	+4.4
KURK	**Kurchatov**	**4.94**	**323**	⇑Pg	Pb	21 16 46.5	-0.1
	1.9nm,0.7s						
KURK				⇓Lg	Lg	21 17 49.6	
	11nm,0.5s						
KURK	**Kurchatov**	**4.94**	**323**	Pg	Pb	21 16 41.9	-4.7
KURK				Sg	Sb	21 17 47.3	+1.2
KURS	**Kuram**	**4.97**	**229**	Pg	Pg	21 16 51.5	-3.7
	1.4nm,0.5s						
KURS				Lg	Lg	21 17 57.2	
	3.2nm,0.5s						
SATY	**Saty**	**5.17**	**224**	Pg	Pg	21 16 57.0	-1.9
	0.8nm,0.1s						
SATY				Lg	Lg	21 18 06.6	
	8.8nm,0.4s						
GALT	**Gorno-Altaysk,**	**5.37**	**18**	Sg	Sb	21 18 03.4	+5.0
ARTR	**Artybash**	**5.57**	**26**	Pg	Pb	21 16 57.8	+0.5
ARTR				Sg	Sb	21 18 08.7	+4.7
OTUK	**Ortayu**	**7.56**	**284**	⇓Lg	Lg	21 19 16.1	
	11nm,1.4s						

*NOU **02** 21:29:23.2, 15˚32S×175˚59W, h371km, mb4.8/56, Tonga Islands*
*NEIC **02** 21:29:25.6±1.9, 15˚47S±0˚10×176˚04W±0˚08, h353km±5km, mb4.6/74, Error ellipse: s-maj=14.3km s-min=11.3km az=157.0*
*IDC **02** 21:29:28.3±1.6, 15˚34S×176˚23W, h380km±15km, mb3.8/13, mbtmp4.5/15, Error ellipse: s-maj=19.1km s-min=10.8km az=141.0*
ISC 02 21:29:24.9±0.4,**15˚40S**±0˚06×**176˚03W**±0˚06,**h350**km, **n231**,σ1§**42**/231,**mb4.5**/52,**1D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**2.30**	**298**		**Pn**	**21 30 21.6**	**+3.2**
FUTU	**Fugatoga**	**2.30**	**298**	P	**Pn**	**21 30 21.5**	**+3.1**
LKBA	**Tubou, Lakemba**	**3.88**	**223**	P	**Pn**	**21 30 36.5**	**+3.8**
DGTI	**Dogotuki**	**4.17**	**257**	P	**Pn**	**21 30 38.8**	**+3.1**
AFI	**Afiamalu**	**4.37**	**71**		**Pn**	**21 30 39.3**	**+1.4**
MSVF	**Nonsavu**	**6.13**	**247**		**Pn**	**21 31 00.2**	**+2.9**
MSVF	**Nonsavu**	**6.13**	**247**	P	**Pn**	**21 31 00.1**	**+2.7**
	43nm,0.5s,baz=81,slow=11,SNR=45						
MSVF				S	**S**	**21 32 15.8**	**+3.5**
	24nm,0.9s,baz=85,slow=23,SNR=6.8						
MSVF	**Nonsavu**	**6.13**	**247**	P	**Pn**	**21 31 00.7**	**+3.3**
NIUE	**Niue**	**6.88**	**123**	Pn	**Pn**	**21 31 07.4**	**+1.5**
GLKZ	**Green Lake**	**13.90**	**187**	P	**Pn**	**21 32 32.7**	**+3.7**
MARNC	**Mare, Loyalty**	**16.28**	**246**	P	**P**	**21 32 55.1**	**+1.6**
DZM	**Mont Dzumac**	**17.87**	**246**	P	**P**	**21 33 09.9**	**-0.7**
DZM	**Mont Dzumac**	**17.87**	**246**	P	**P**	**21 33 10.7**	**+0.1**
	9.4nm,0.6s,baz=72,slow=19,SNR=10						
DZM	**Mont Dzumac**	**17.87**	**246**	P	**P**	**21 33 11.7**	**+1.0**
ONTNC	**Ouen Toro**	**17.94**	**245**	P	**P**	**21 33 10.5**	**-0.7**
ONTNC				IAmb	IAmb	21 33 42.0	
	comp=Z,53nm,1.2s						
OUZ	**Omahuta**	**21.82**	**203**	P	**P**	**21 33 49.8**	**+0.4**
OUZ	**Omahuta**	**21.82**	**203**	P	**P**	**21 33 49.3**	**-0.1**
WCZ	**Waipu Caves**	**22.19**	**201**	P	**P**	**21 33 53.4**	**+0.7**
MXZ	**Matakaoa Point**	**22.64**	**192**	P	**P**	**21 33 56.6**	**-0.2**
MXZ	**Matakaoa Point**	**22.64**	**192**	P	**P**	**21 33 56.4**	**-0.4**
WMGZ	**Waiomatatini S**	**22.86**	**191**	P	**P**	**21 33 59.1**	**+0.3**
HAZ	**Te Kaha**	**22.93**	**193**	P	**P**	**21 33 58.4**	**-1.0**
PKGZ	**Pakihiroa**	**22.97**	**192**	P	**P**	**21 34 00.9**	**+0.9**
MKAZ	**Moumakai**	**22.99**	**198**	P	**P**	**21 34 00.4**	**+0.4**
PUZ	**Puketiti**	**23.14**	**192**	P	**P**	**21 34 01.0**	**-0.4**
RUGZ	**Raukumara Rang**	**23.15**	**193**	P	**P**	**21 34 00.7**	**-1.0**
TWGZ	**Tauwhareparae**	**23.29**	**192**	P	**P**	**21 34 02.1**	**-0.8**
TOZ	**Tahuroa Road**	**23.47**	**197**	P	**P**	**21 34 04.2**	**-0.2**
TOZ				IAmb	IAmb	21 34 05.3	
	comp=Z,33nm,0.7s						
TOZ	**Tahuroa Road**	**23.47**	**197**	P	**P**	**21 34 04.7**	**+0.3**
MWZ	**Matawai**	**23.54**	**193**	P	**P**	**21 34 02.4**	**-2.6**
URZ	**Urewera**	**23.56**	**194**	P	**P**	**21 34 02.3**	**-2.9**
URZ	**Urewera**	**23.56**	**194**	P	**P**	**21 34 02.1**	**-3.1**
TKGZ	**Te Karaka**	**23.57**	**192**	P	**P**	**21 34 05.3**	**0.0**
RIGZ	**Rimuhau**	**23.85**	**192**	P	**P**	**21 34 05.5**	**-2.3**
RTZ	**Ruatahuna**	**23.93**	**194**		**P**	**21 34 05.9**	**-2.7**
RTZ				IAmb	IAmb	21 34 39.4	
	comp=Z,28nm,1.1s						
RTZ	**Ruatahuna**	**23.93**	**194**	P	**P**	**21 34 06.1**	**-2.5**
SNGZ	**Shannon Statio**	**24.01**	**193**	P	**P**	**21 34 08.1**	**-1.2**
MTHZ	**Maungataniwha**	**24.19**	**194**	P	**P**	**21 34 09.2**	**-1.7**
RAHZ	**Arahi**	**24.19**	**193**	P	**P**	**21 34 09.2**	**-1.7**
HIZ	**Hauiti**	**24.38**	**198**	P	**P**	**21 34 12.9**	**+0.3**
NMHZ	**Naumai**	**24.43**	**194**	P	**P**	**21 34 11.5**	**-1.6**
RITZ	**Rihia Road**	**24.54**	**195**	P	**P**	**21 34 12.8**	**-1.3**
BKZ	**Black Stump Fm**	**24.57**	**194**		**P**	**21 34 11.6**	**-2.7**
BKZ				IAmb	IAmb	21 34 16.5	
	comp=Z,11nm,0.5s						
BKZ	**Black Stump Fm**	**24.57**	**194**	P	**P**	**21 34 11.3**	**-3.0**
BKZ	**Black Stump Fm**	**24.57**	**194**	P	**P**	**21 34 11.9**	**-2.4**
NTVZ	**North Tongarir**	**24.70**	**196**	P	**P**	**21 34 15.0**	**-0.6**
TWVZ	**Taurewa**	**24.74**	**196**	P	**P**	**21 34 14.1**	**-1.8**
WTVZ	**West Tongariro**	**24.74**	**196**	P	**P**	**21 34 12.8**	**-3.2**
NNVZ	**North Ngauruho**	**24.75**	**196**	P	**P**	**21 34 15.3**	**-0.8**
OTVZ	**Oturere**	**24.77**	**196**	P	**P**	**21 34 13.5**	**-2.8**
SNVZ	**South Ngauruho**	**24.80**	**196**	P	**P**	**21 34 14.2**	**-2.3**
MOVZ	**Moawhango**	**24.98**	**195**	P	**P**	**21 34 16.2**	**-1.8**
KRHZ	**Kereru**	**25.05**	**194**	P	**P**	**21 34 15.7**	**-2.9**
BFZ	**Birch Farm**	**26.07**	**193**	P	**P**	**21 34 25.6**	**-2.0**
SNZO	**South Karori**	**27.04**	**195**	P	**P**	**21 34 34.2**	**-1.9**
QRZ	**Quartz Range**	**27.21**	**199**	P	**P**	**21 34 36.7**	**-1.1**
THZ	**Tophouse**	**27.95**	**198**	P	**P**	**21 34 42.6**	**-1.7**
THZ				IAmb	IAmb	21 34 44.0	
	comp=Z,22nm,0.7s						
KHZ	**Kahutara**	**28.38**	**196**	P	**P**	**21 34 45.9**	**-2.1**
RPZ	**Rata Peaks**	**30.29**	**199**	P	**P**	**21 35 03.2**	**-1.7**
LBZ	**Lake Benmore**	**31.17**	**199**	P	**P**	**21 35 09.7**	**-2.8**
LBZ				IAmb	IAmb	21 35 15.4	
	comp=Z,60nm,1.5s						
JCZ	**Jackson Bay**	**31.36**	**201**	P	**P**	**21 35 12.1**	**-2.2**
ODZ	**Otahua Downs**	**31.62**	**198**	P	**P**	**21 35 14.2**	**-2.2**
EIDS	**Eidsvold**	**32.31**	**247**	P	**P**	**21 35 20.7**	**-1.9**
ARMA	**Armidale**	**33.18**	**238**	P	**P**	**21 35 28.8**	**-1.5**
ARMA				IAmb	IAmb	21 36 02.6	
	comp=Z,32nm,1.5s						
ARMA	**Armidale**	**33.18**	**238**	P	**P**	**21 35 30.7**	**+0.5**
	comp=Z,10nm,0.9s						
MGCD	**Mangrove Creek**	**34.60**	**233**	P	**P**	**21 35 43.3**	**+1.1**
TV1H	**Townsville Har**	**35.65**	**258**	P	**P**	**21 35 50.9**	**-0.3**
CTA	**Charters Tower**	**36.17**	**257**	P	**P**	**21 35 55.0**	**-0.6**
CTAO	**Charters Tower**	**36.17**	**257**	P	**P**	**21 35 54.7**	**-0.9**
CTAO				IAmb	IAmb	21 35 55.6	
	comp=Z,39nm,1.2s						
CTAO	**Charters Tower**	**36.17**	**257**	P	**P**	**21 35 55.1**	**-0.6**
CNB	**Canberra Magne**	**36.76**	**231**	P	**P**	**21 35 59.6**	**-0.8**
CAN	**Canberra**	**37.04**	**231**	P	**P**	**21 36 01.4**	**-1.3**
CAN	**Canberra**	**37.04**	**231**	P	**P**	**21 36 03.1**	**+0.4**
MTSU	**Mount Surprise**	**38.02**	**260**	P	**P**	**21 36 10.9**	**-0.1**
CMSA	**Cobar Meteorol**	**38.38**	**238**	P	**P**	**21 36 13.1**	**-0.7**
QLP	**Quilpie**	**38.59**	**247**	P	**P**	**21 36 14.8**	**-0.8**
COEN	**Coen**	**39.45**	**267**	P	**P**	**21 36 23.1**	**+0.2**
COEN				IAmb	IAmb	21 36 31.6	
	comp=Z,59nm,1.4s						
COEN	**Coen**	**39.45**	**267**	P	**P**	**21 36 23.2**	**+0.4**
HMH	**Humu'ula Sheep**	**40.23**	**31**	P	**P**	**21 36 29.5**	**+0.1**
TOO	**Toolangi**	**40.52**	**230**	P	**P**	**21 36 30.2**	**-1.1**
INKA	**Innaminka**	**41.83**	**246**	P	**P**	**21 36 42.2**	**+0.3**
STKA	**Stephens Creek**	**41.85**	**239**	P	**P**	**21 36 41.4**	**-0.7**
STKA				IAmb	IAmb	21 36 43.2	
	comp=Z,42nm,0.9s						
STKA	**Stephens Creek**	**41.85**	**239**	P	**P**	**21 36 41.4**	**-0.7**
	comp=Z,22nm,0.5s,baz=81,slow=8.7,SNR=68						
	comp=Z,22nm,0.5s						
STKA	**Stephens Creek**	**41.85**	**239**	P	**P**	**21 36 41.6**	**-0.4**
QIS	**Mount Isa**	**42.41**	**256**	P	**P**	**21 36 45.9**	**-0.8**
HTT	**Hallett**	**44.39**	**238**	P	**P**	**21 37 01.7**	**-0.5**
LCRK	**Leigh Creek**	**44.42**	**242**	P	**P**	**21 37 01.7**	**-0.7**
WHYH	**Whyalla**	**45.41**	**239**	P	**P**	**21 37 09.8**	**-0.3**
OOD	**Oodnadatta**	**46.29**	**246**	P	**P**	**21 37 17.1**	**+0.1**
BBOO	**Buckleboo**	**46.62**	**239**	P	**P**	**21 37 18.8**	**-0.8**
BBOO	**Buckleboo**	**46.62**	**239**	P	**P**	**21 37 18.6**	**-0.9**
WB0	**Warramunga Arr**	**47.33**	**257**	P	**P**	**21 37 23.9**	**-1.3**
WRA	**Warramunga Arr**	**47.38**	**257**	P	**P**	**21 37 24.1**	**-1.4**
	comp=Z,6.8nm,0.5s,baz=94,slow=7.4,SNR=172						
WRA				PcP	**PcP**	**21 38 49.2**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=92,slow=3.1,SNR=3.5						
	comp=Z,6.8nm,0.5s						
AS01	**Alice Springs**	**47.66**	**252**	P	**P**	**21 37 26.9**	**-0.7**
AS31	**Alice Springs**	**47.70**	**252**	P	**P**	**21 37 27.3**	**-0.6**
AS31				IAmb	IAmb	21 37 28.0	
	comp=Z,31nm,0.6s						
ASAR	**Alice Springs**	**47.70**	**252**	P	**P**	**21 37 27.5**	**-0.4**
ASAR	**Alice Springs**	**47.70**	**252**	P	**P**	**21 37 27.1**	**-0.8**
	comp=Z,99nm,0.4s,baz=86,slow=7.9,SNR=2136						
ASAR				PcP	**PcP**	**21 38 50.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=91,slow=3.5,SNR=3.8						
ASAR				S	**S**	**21 43 53.6**	**-3.5**
	comp=Z,0.8nm,0.9s,baz=77,slow=15,SNR=4.2						
KDU	**Kakadu**	**49.94**	**266**	P	**P**	**21 37 44.3**	**-0.5**
MTN	**Manton Dam**	**51.20**	**266**	P	**P**	**21 37 53.5**	**-0.7**
MTN	**Manton Dam**	**51.20**	**266**	P	**P**	**21 37 53.4**	**-0.7**
DRS	**Darwin Rock St**	**51.50**	**266**	P	**P**	**21 37 55.7**	**-0.6**
FAKI	**Fak Fak**	**52.41**	**278**	P	**P**	**21 38 02.2**	**-0.8**
FAKI				IAmb	IAmb	21 38 04.2	
	comp=Z,44nm,1.2s						
WRKA	**Warakurna**	**52.81**	**250**	P	**P**	**21 38 05.0**	**-0.9**
KNRA	**Kununurra**	**53.06**	**262**	P	**P**	**21 38 06.5**	**-1.2**
KNRA				IAmb	IAmb	21 38 10.2	
	comp=Z,67nm,1.5s						
FORT	**Forrest**	**53.16**	**243**	P	**P**	**21 38 06.8**	**-1.4**
FORT	**Forrest**	**53.16**	**243**	P	**P**	**21 38 07.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**55.73**	**258**	P	**P**	**21 38 26.3**	**-0.4**
SOEI	**Soe**	**58.40**	**268**	P	**P**	**21 38 44.5**	**-0.9**
SOEI	**Soe**	**58.40**	**268**	P	**P**	**21 38 46.3**	**+0.8**
KMBL	**Kambalda**	**58.47**	**242**	P	**P**	**21 38 44.5**	**-1.1**
PSA00	**Pilbara Seismi**	**60.77**	**254**	P	**P**	**21 39 00.4**	**-1.0**
PSA00	**Pilbara Seismi**	**60.77**	**254**	P	**P**	**21 39 00.3**	**-1.0**
MEEK	**Meekatharra**	**61.47**	**248**	P	**P**	**21 39 04.6**	**-1.3**
KLBR	**Kellerberrin**	**62.00**	**242**	P	**P**	**21 39 08.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**62.41**	**241**	P	**P**	**21 39 10.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**62.41**	**241**	P	**P**	**21 39 11.0**	**-0.9**
BLDU	**Ballidu**	**62.93**	**243**	P	**P**	**21 39 14.3**	**-1.1**
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**21 39 15.9**	**+0.1**
VNDA				IAmb	IAmb	21 39 27.6	
	comp=Z,30nm,1.2s						
VNDA	**Vanda**	**63.13**	**185**	P	**P**	**21 39 16.9**	**+1.1**
	comp=Z,31nm,1.3s,baz=28,slow=9.0,SNR=2.8						
	comp=Z,31nm,1.3s						
MUN	**Mundaring**	**63.30**	**242**	P	**P**	**21 39 17.2**	**-0.6**
KAPI	**Kappang**	**63.84**	**272**	P	**P**	**21 39 21.1**	**-0.5**
TOLI2	**Tolitoli**	**64.54**	**279**	P	**P**	**21 39 26.4**	**+0.4**
TOLI2				IAmb	IAmb	21 40 03.0	
	comp=Z,17nm,1.3s						
GIRL	**Giralia**	**65.82**	**252**	P	**P**	**21 39 33.4**	**-0.7**
GIRL	**Giralia**	**65.82**	**252**	P	**P**	**21 39 32.9**	**-1.2**
MJAR	**Matsushiro Arr**	**67.33**	**321**	P	**P**	**21 39 42.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=156,slow=5.6,SNR=4.1						
	comp=Z,0.7nm,0.5s						
MAJO	**Matsushiro**	**67.33**	**321**	P	**P**	**21 39 42.4**	**-0.8**
MAJO				IAmb	IAmb	21 39 51.9	
	comp=Z,22nm,1.5s						
MJB9	**Matsu-Tunnel**	**67.34**	**321**	P	**P**	**21 39 43.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**68.42**	**267**	P	**P**	**21 39 48.5**	**-2.0**
JAGI	**Jajag, Banyuwa**	**68.42**	**267**	P	**P**	**21 39 48.5**	**-2.0**
CASY	**Casey**	**69.35**	**204**	P	**P**	**21 39 53.7**	**-1.4**
JNU	**Nakatsue**	**69.97**	**314**	P	**P**	**21 39 58.5**	**-1.0**
JNU				IAmb	IAmb	21 40 23.8	
	comp=Z,21nm,1.2s						
KKM	**Kota Kinabalu**	**70.40**	**282**	P	**P**	**21 40 01.5**	**-1.0**
PETK	**Petropavlovsk-**	**71.89**	**344**	P	**P**	**21 40 09.9**	**-0.6**
PETK	**Petropavlovsk-**	**71.89**	**344**	P	**P**	**21 40 10.5**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=112,slow=9.7,SNR=5.0						
	comp=Z,4.3nm,0.8s						
UGM	**Wanagama**	**72.04**	**267**	P	**P**	**21 40 10.8**	**-1.5**
SSLB	**Suanglung**	**72.84**	**301**	P	**P**	**21 40 10.5**	**-1.7**
SSLB				IAmb	IAmb	21 40 37.5	
	comp=Z,10nm,1.1s						
TPUB	**Ta-pu**	**72.90**	**301**		**P**	**21 40 14.7**	**-2.3**
CHGN	**Chignik**	**72.95**	**10**	P	**P**	**21 40 16.0**	**-0.5**
KRMB	**Red Mountain**	**74.31**	**38**	P	**P**	**21 40 25.6**	**+0.6**
KSXB	**Camp Six Broad**	**74.52**	**38**	P	**P**	**21 40 26.6**	**+0.5**
KSXB				IAmb	IAmb	21 40 36.9	
	comp=Z,15nm,1.2s						
QSPA	**South Pole Qui**	**74.64**	**180**	P	**P**	**21 40 26.8**	**+0.4**
QSPA				IAmb	IAmb	21 40 27.8	
	comp=Z,8.7nm,0.8s						
QSPA	**South Pole Qui**	**74.64**	**180**	P	**P**	**21 40 27.3**	**+0.8**
	comp=Z,9.0nm,0.8s,baz=34,slow=2.3,SNR=38						
	comp=Z,9.0nm,0.8s						
OHAK	**Old Harbor**	**74.79**	**13**	P	**P**	**21 40 26.7**	**-0.4**
OHAK				IAmb	IAmb	21 41 00.3	
	comp=Z,15nm,1.4s						
BBJI	**Bungbulang**	**74.92**	**266**	P	**P**	**21 40 28.1**	**-0.8**
YBH	**Yreka Blue Hor**	**75.15**	**38**	P	**P**	**21 40 30.8**	**+1.2**
WAKR	**Walker**	**75.34**	**43**	P	**P**	**21 40 31.7**	**+0.8**
WAKR				IAmb	IAmb	21 40 58.0	
	comp=Z,13nm,1.4s						
KDAK	**Kodiak Island**	**75.45**	**13**	P	**P**	**21 40 31.0**	**+0.1**
PNTR	**Pine Nut**	**75.56**	**42**	P	**P**	**21 40 33.2**	**+0.9**
PNTR				IAmb	IAmb	21 40 54.2	
	comp=Z,15nm,1.2s						
YERR	**Yerington**	**75.74**	**42**	P	**P**	**21 40 33.8**	**+0.6**
YERR				IAmb	IAmb	21 40 35.0	
	comp=Z,5.5nm,0.6s						
NVAR	**Mina Array Bea**	**76.05**	**43**	P	**P**	**21 40 35.9**	**+1.0**
NVAR	**Mina Array Bea**	**76.05**	**43**	P	**P**	**21 40 35.7**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=221,slow=8.7,SNR=14						
	comp=Z,3.1nm,0.7s						
XMIS	**Christmas Isla**	**76.13**	**263**	P	**P**	**21 40 35.2**	**-0.5**
XMIS				IAmb	IAmb	21 41 01.1	
	comp=Z,11nm,0.8s						
NV11	**Mina Array Sit**	**76.15**	**43**	P	**P**	**21 40 36.2**	**+0.8**
J04A	**Umpqua Nationa**	**76.41**	**37**	P	**P**	**21 40 37.8**	**+0.9**
J05D	**Fort Rock, OR**	**76.95**	**38**	P	**P**	**21 40 40.7**	**+0.9**
BRLK	**Bradley Lake**	**77.63**	**13**	P	**P**	**21 40 42.4**	**-0.6**
R11B	**Troy Canyon, C**	**77.82**	**44**	P	**P**	**21 40 45.2**	**+0.5**
WVOR	**Wild Horse Val**	**78.03**	**40**	P	**P**	**21 40 46.5**	**+0.8**
NJ2	**Nanjing**	**78.16**	**308**	*e*P	**P**	**21 40 48.1**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
I07A	**Izee**	**78.44**	**38**	P	**P**	**21 40 48.6**	**+0.8**
SLKM	**Skilak Lake**	**78.45**	**13**	P	**P**	**21 40 47.0**	**-0.5**
SLKM				IAmb	IAmb	21 40 56.3	
	comp=Z,22nm,1.4s						
PSUT	**Pine Spring**	**79.08**	**45**	P	**P**	**21 40 51.9**	**+0.2**
PSUT				IAmb	IAmb	21 40 52.9	
	comp=Z,4.7nm,0.7s						
SUA	**Susitna One**	**79.21**	**12**	P	**P**	**21 40 51.4**	**-0.2**
SUA				IAmb	IAmb	21 40 52.2	
	comp=Z,5.1nm,0.6s						
ELK	**Elko**	**79.28**	**42**	P	**P**	**21 40 52.9**	**+0.3**
ELK				IAmb	IAmb	21 40 54.3	
	comp=Z,8.1nm,1.1s						
J17K	**VABM Dome**	**79.65**	**8**	P	**P**	**21 40 54.4**	**+0.7**
SCM	**Sheep Creek Mo**	**80.27**	**13**	P	**P**	**21 40 57.0**	**-0.2**
SCM				IAmb	IAmb	21 41 12.2	
	comp=Z,20nm,1.2s						
QIZ	**Qiongzhong**	**80.56**	**293**	P	**P**	**21 40 59.4**	**-0.2**
QIZ				S	**S**	**21 50 37.2**	**+0.1**
QIZ	**Qiongzhong**	**80.56**	**293**	sS	**sS**	**21 53 05.6**	**+7.4**
QIZ				LR	LR		
	comp=N,170nm,18.6s						
QIZ				LR	LR		
	comp=E,170nm,15.1s						
QIZ				LR	LR		
	comp=Z,230nm,20.6s						
121A	**Cookes Peak, D**	**80.75**	**53**	P	**P**	**21 41 01.2**	**+0.6**
121A				IAmb	IAmb	21 41 02.8	
	comp=Z,4.8nm,0.7s						
TNA	**Tin City**	**80.95**	**3**	P	**P**	**21 41 01.0**	**+0.4**
TNA				IAmb	IAmb	21 41 02.1	
	comp=Z,7.8nm,0.8s						
PLID	**Pearl Lake**	**81.08**	**38**	P	**P**	**21 41 01.6**	**-0.4**
SEY	**Seymchan**	**81.89**	**346**	P	**P**	**21 41 05.1**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=164,slow=6.6,SNR=7.0						
	comp=Z,3.5nm,0.9s						
VHRN	**Van Horn**	**82.23**	**55**	P	**P**	**21 41 09.5**	**+1.3**
VHRN				IAmb	IAmb

OBKA	Obir	147.75	346	*i* PKiKP	PKPbc	21 48 30.6	+1.6
	comp=Z,13nm,1.5s						
DAVA	Damuels	147.83	352	*e*PKiKP	PKPbc	21 48 29.8	+0.5
	comp=Z,1.3nm,0.4s						
ABTA	Abfaltersbach	147.95	349	*e*PKP	PKPbc	21 48 29.6	+0.1
	comp=Z,2.1nm,0.7s						
FETA	Feichten	147.98	351	*e*PKiKP	PKPbc	21 48 30.5	+0.8
	comp=Z,0.1nm,0.1s						
FUORN	Ofenpass-Fuorn	148.44	352	PKPbc	PKPbc	21 48 30.4	-0.5
TUE	Stuetta	148.70	353	PKPbc	PKPbc	21 48 30.4	-1.2
FNA	Florina	150.53	333	PKPbc	PKPbc	21 48 35.4	-0.6
TORD	Torodi Ar. Bea	176.85	135	PKPab	PKPab	21 50 39.0	-0.7

DJA ***02*** *22:04:38.0±0.8,5°N±3°×9°8E±°, h18km±9km, M3.9/12, mb3.9/1, MLv3.9/12*
ISC 02 22:04:38.4±1.6,5°30N±0°08×97°64E±0°05, h35km, n11, σ1°06/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	Lhok Sumawe	0.69	264	P	Pn	22 04 52.2	+0.6
LHMI	Lhok Sumawe	0.69	264	P	Pn	22 04 51.7	+0.1
LHMI				S	Sn	22 05 01.2	+0.1
MLSI	Meulaboh, Aceh	1.60	230	P	Pn	22 05 05.1	+0.9
KCSI	Kotacane, Aceh	1.77	176	P	Pn	22 05 06.2	-0.3
KCSI				S	Sn	22 05 26.6	-1.2
TSI	Tuntungan	2.01	153	P	Pn	22 05 12.5	+2.7
BSI	Banda Aceh	2.34	275	P	Pn	22 05 14.5	+0.2
PSI	Prapat	2.79	153	P	Pn	22 05 20.8	+0.1
KULM	Kulim	3.00	90	P	Pn	22 05 23.3	-0.2
SNSI	Sinabang, Aceh	3.15	205	P	Pn	22 05 24.6	-1.0
IPM	Ipoh	3.48	103	P	Pn	22 05 30.0	0.0
GSI	Gunungsitoli	3.97	181	P	Pn	22 05 37.3	+0.5

CATAC ***02*** *22:06:07.0±2.3,13°N±14°×9°0W±°, h10km±10km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=33.5km s-min=10.4km az=23.7, confirmed*
SNET ***02*** *22:06:10.3±1.0,12°97N×89°55W, h28km±5km, ML3.3*
ISC 02 22:06:07.8±2.9,12°9N±0°1×89°58W±0°07, h14km±13km, n44, σ0°53/50, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.67	22	*e*P	Pb	22 06 22.0	+0.6
LALI	Alcalda de L	0.67	22	P	Pb	22 06 22.1	+0.8
JAYA	Jayaque - finc	0.80	9	*i* P	Pg	22 06 23.8	+0.3
JAYA				*e*S	Sg	22 06 34.2	+0.2
JAYA				IAML		22 06 36.7	
	comp=Z,1μm,0.2s						
JAYA	Jayaque - finc	0.80	9	P	Pg	22 06 23.7	+0.3
PANCS	Alcalda de	0.84	27	P	Pg	22 06 24.7	+0.5
LOMA	Loma Larga	0.88	27	P	Pg	22 06 25.1	+0.2
PMON	Piamonte	0.89	17	*e*P	Pg	22 06 24.4	-0.6
PMON	Piamonte	0.89	17	P	Pg	22 06 25.0	0.0
LFRS	El Faro	0.91	34	*e*P	Pg	22 06 25.7	+0.2
UEES	Universidad Ev	0.91	21	P	Pg	22 06 25.6	0.0
BOQS	Boqueron	0.92	18	*e*P	Pg	22 06 25.8	+0.1
IGN	Direccin Gen	0.94	25	P	Pg	22 06 26.1	+0.1
UDBS	Universidad Do	0.94	26	P	Pb	22 06 26.6	+0.6
CEVE	Cerro Verde	0.96	357	*e*P	Pg	22 06 26.6	0.0
CEVE				*e*S	Sg	22 06 39.6	+0.4
CEVE				IAML		22 06 41.7	
	comp=Z,2μm,0.5s						
CEVE	Cerro Verde	0.96	357	P	Pg	22 06 26.5	0.0
LFU	La Fuente	0.99	27	*e*P	Pg	22 06 27.0	-0.1
COEG	Centro de Oper	1.02	42	*e*P	Pg	22 06 26.9	-0.5
COEG				*e*S	Sg	22 06 40.2	-0.6
COEG				IAML		22 06 46.5	
	comp=Z,585nm,0.3s						
COEG	Centro de Oper	1.02	42	P	Pg	22 06 27.1	-0.4
TECO	Alcaldia de Te	1.03	49	P	Pb	22 06 27.2	-0.3
RTR	El Retiro	1.03	356	*e*P	Pg	22 06 27.5	-0.3
PAVA	Las Pavas	1.05	36	*e*P	Pb	22 06 27.9	+0.1
PAVA	Las Pavas	1.05	36	P	Pb	22 06 28.0	+0.1
NUBE	Las Nubes	1.05	349	*e*P	Pg	22 06 27.6	-0.6
NUBE	Las Nubes	1.05	349	P	Pg	22 06 27.5	-0.8
UESV	Universidad de	1.09	45	P	Pb	22 06 28.2	-0.2
UNIC	Universidad Ca	1.11	2	P	Pb	22 06 28.7	-0.2
LOAL	Lomas de Alarc	1.15	350	P	Pb	22 06 29.5	0.0
SCLA	Alcaldia de Sa	1.18	45	*e*P	Pn	22 06 29.7	-0.2
SCLA	Alcaldia de Sa	1.18	45	P	Pn	22 06 29.9	0.0
PQSS	Presa 15 de Se	1.25	52	*e*P	Pn	22 06 30.7	-0.2
PQSS				*e*S	Sb	22 06 46.5	-0.7
PQSS	Presa 15 de Se	1.25	52	P	Pn	22 06 30.7	-0.2
PACA	Pacayal	1.36	64	*e*P	Pn	22 06 32.9	+0.3
PACA	Pacayal	1.36	64	P	Pn	22 06 33.0	+0.5
RANC	El Ranchito	1.38	65	P	Pn	22 06 32.8	0.0
BLLM	Bellamira	1.43	66	*e*P	Pn	22 06 33.9	+0.5
LLGN	La Laguna	1.43	25	P	Pn	22 06 33.7	+0.2
MTO3	Montecristo	1.54	8	P	Pn	22 06 35.2	+0.1
CAHU	Cacacuatique	1.61	56	*e*P	Pn	22 06 36.2	+0.2
LCND	La Caada	1.71	75	*e*P	Pn	22 06 37.7	+0.6
LCND				*e*S	Sn	22 06 58.1	-0.6
LCND	La Caada	1.71	75	P	Pn	22 06 37.7	+0.6
CNCH	Conchagua	1.75	76	*e*P	Pn	22 06 38.5	+0.7
CNCH				*e*S	Sn	22 07 00.7	+0.6
CNCH	Conchagua	1.75	76	P	Pn	22 06 36.0	-1.9
AMPH	Amapala	1.92	77	P	Pn	22 06 41.3	+1.3
CHOHN	Orocuina	2.44	75	P	Pn	22 06 47.7	+0.4

JMA ***02*** *22:09:55.6±0.2,24°N±1°×122°4E±0°6, h26km±4km, MV2.5/13, NW OFF ISHIGAKIJIMA IS*
TAP ***02*** *22:09:56.0,24°14N×122°43E, h27km, ML3.2, C*
ISC 02 22:09:55.9±0.9,24°07N±0°03×122°42E±0°02, h31km±6km, n88, σ0°73/116, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.11	298	*i* P	Pb	22 10 00.8	-0.2
EOS4				S	Sb	22 10 04.5	+0.1
EOS3	EOS3	0.24	336	*i* P	Pb	22 10 02.3	-0.2
EOS2	EOS2	0.39	333	*i* P	Pn	22 10 04.8	-0.6
EOS2				*e*S	Sn	22 10 11.4	-0.2
JYNG	Yonagunijimaku	0.61	51	P	Pb	22 10 08.1	-0.1
JYNG				*e*S	Sb	22 10 15.8	-0.7
YOJ	Yonaguni jima	0.66	54	*e*P	Pb	22 10 08.6	-0.4
YOJ	Yonaguni jima	0.66	54	P	Pb	22 10 08.7	-0.4
YOJ				S	Sb	22 10 17.1	-0.9
EAHA	Aohua	0.68	293	*e*P	Pb	22 10 09.2	-0.1
EWUT	Wuta	0.70	303	*e*P	Pb	22 10 09.0	-0.6
EWUT				*e*S	Sb	22 10 18.8	-0.2
ENA	Nanau	0.72	300	*e*P	Pb	22 10 09.5	-0.5
ENA				*e*S	Sb	22 10 19.6	0.0
ESAO	Su ao	0.73	314	*e*P	Pb	22 10 09.4	-0.8
ESAO				*e*S	Sb	22 10 18.9	-1.0
ETL	Fush Village	0.74	277	*e*P	Pb	22 10 10.2	-0.1
TWC	Suao	0.75	316	P	Pb	22 10 09.4	-1.1
TWC				*i* S	Sb	22 10 18.9	-1.5
TWD	Chiawan	0.76	271	*e*P	Pb	22 10 10.0	-0.6
TWD				*e*S	Sb	22 10 20.5	-0.1
NACB	Ninganchiao	0.77	278	*e*P	Pb	22 10 10.1	-0.6
SHUL	Shoufeng	0.84	251	*e*S	Sn	22 10 23.5	+0.6
NDS	Dongshan	0.86	311	*e*P	Pn	22 10 12.1	+0.2
NDS				*e*S	Sb	22 10 22.9	-0.5
ETM	Tongmen	0.86	263	*e*P	Pb	22 10 11.3	-1.0
ETLH	Xiulin Townshi	0.87	279	*e*P	Pb	22 10 11.8	-0.8
ETLH				*e*S	Sn	22 10 24.1	+0.2
EGS		0.89	330	*e*P	Pn	22 10 12.9	+0.6
LXIB	Xiulin Townshi	0.93	267	*e*P	Pn	22 10 12.6	-0.3
LATG	Datong	0.94	300	*e*P	Pn	22 10 13.3	+0.1
TWE	Neicheng	0.95	313	P	Pn	22 10 13.3	+0.2
TWE				S	Sb	22 10 25.5	-0.5
ENTT	Nioudou	0.97	306	*e*P	Pb	22 10 13.8	-0.4
WARBT	Fenglin Townsh	1.01	250	*e*P	Pn	22 10 13.5	-0.5
NNSB	Datong	1.01	291	*e*P	Pn	22 10 14.3	+0.1
NNSB				*i* S	Sn	22 10 28.4	+0.9
TWB1	Santiao Chiao	1.01	337	*e*P	Pn	22 10 14.1	+0.1
FUSB	Fushanzhiwuyua	1.03	312	*e*P	Pb	22 10 14.9	-0.3
NNS	Nan Shan	1.03	291	*i* P	Pn	22 10 14.8	+0.4
NNS				*e*S	Sn	22 10 28.6	+0.8
TIPB	Shuangxi	1.05	329	*e*P	Pb	22 10 15.0	-0.6
TIPB				*e*S	Sb	22 10 27.9	-1.1
WHF	Hehuan Shan	1.06	274	*e*P	Pn	22 10 14.9	-0.2
HGSD	Ruisui	1.08	238	*e*P	Pn	22 10 14.8	-0.2
FUSS	Fushou	1.09	280	*e*P	Pn	22 10 15.7	+0.3
NWLT	Wulai	1.10	310	*e*P	Pb	22 10 16.0	-0.3
NWLT				*e*S	Sb	22 10 30.4	+0.1
YHNB	Yeheng	1.13	302	P	Pn	22 10 16.2	+0.5
SXI1	Grass Mountain	1.14	334	*e*P	Pn	22 10 15.9	+0.1
NSK	Sanguang	1.14	302	*e*P	Pn	22 10 16.4	+0.5
NSK				S	Sb	22 10 31.5	-0.2
OWD	Renai	1.15	265	*e*P	Pn	22 10 16.0	0.0
EHY	Hungye	1.16	241	*e*P	Pn	22 10 16.1	+0.1
TWT	Tachien	1.16	279	*e*P	Pb	22 10 17.2	-0.2
TWT				*e*S	Sb	22 10 32.0	-0.1
NWF	Wu-fen Shan	1.16	330	*e*P	Pn	22 10 16.3	+0.3
NWF				*e*S	Sb	22 10 31.8	-0.3
WFSB	Wu-fen Shan	1.16	330	*e*P	Pn	22 10 16.3	+0.3
TDCB	Techi	1.17	279	*e*P	Pn	22 10 17.0	+0.7
WUSB	Renai	1.20	267	*e*P	Pn	22 10 16.9	+0.2
WUSB				*e*S	Sb	22 10 32.8	-0.5
VWDT	VWDT	1.22	255	*e*P	Pn	22 10 17.6	+0.8
IRIF	Iriomote-Funau	1.22	77	P	Pb	22 10 17.8	-0.6
IRIF				*e*S	Sb	22 10 34.4	+0.6
YULB	Yu-li	1.23	237	*e*P	Pn	22 10 16.9	-0.2
EYUL	Yuli	1.24	235	*e*P	Pn	22 10 17.4	+0.2
EYUL				*e*S	Sn	22 10 33.2	+0.3
TWF1	Yuli	1.26	236	*e*P	Pn	22 10 17.4	0.0
NFF	Wufeng Townshi	1.32	295	*e*P	Pb	22 10 19.6	-0.5
YM01	YM01	1.32	324	*e*P	Pb	22 10 19.7	-0.5
YM08	YM08	1.35	326	*e*P	Pn	22 10 19.0	+0.3
WHP	Taichung City	1.37	279	*e*P	Pb	22 10 20.5	-0.4
SSLB	Suanglung	1.37	259	*e*P	Pn	22 10 19.9	+0.9
WCS	Beigang Elemen	1.38	270	*e*P	Pn	22 10 19.9	+0.8
SMLT	Sun Moon Lake	1.41	263	*e*P	Pn	22 10 19.9	+0.4
LIOB	Emei	1.41	294	P	Pb	22 10 21.1	-0.5
LIOB				*e*S	Sb	22 10 39.4	+0.2
TWY	Chenhua	1.42	328	*e*P	Pn	22 10 19.9	+0.4
TYC	Yuchr	1.44	264	*e*P	Pn	22 10 21.0	+1.1
JKRS	Kuro-shima	1.46	83	P	Pb	22 10 21.6	-0.8
JKRS				S	Sb	22 10 41.3	+0.7
ECS	Chishang	1.47	229	*e*P	Pn	22 10 21.6	+1.2
WHYT	Xinyi Township	1.48	256	*e*P	Pn	22 10 21.8	+1.3
TWQ1	Liyutan	1.53	281	*e*P	Pb	22 10 23.0	-0.7
TWQ1				*e*S	Sb	22 10 43.6	+0.9
NSY	Sanyi	1.56	283	*e*P	Pb	22 10 23.7	-0.4
NSY				S	Sb	22 10 44.5	+1.1
ELDTW	Lidau	1.56	236	*e*P	Pn	22 10 21.3	-0.4
NMLH	Miaoli	1.56	288	*e*S	Sb	22 10 43.8	+0.3
WJS	Zhushan	1.57	261	*e*P	Pb	22 10 24.5	+0.2
ALS	Alishan	1.58	250	*e*P	Pb	22 10 23.7	-1.0
PCYT	Pengchaiyu	1.59	348	*e*P	Pn	22 10 22.2	+0.3
JIJ	Ishigaki jima	1.60	79	P	Pn	22 10 22.5	+0.4
JIJ				*e*S	Sn	22 10 42.6	+1.0
WNT	Mingjian	1.60	264	*e*P	Pb	22 10 24.2	-0.6
LDUT	Ludao	1.64	212	*e*P	Pn	22 10 21.8	-0.9
LONT	Longtian	1.66	226	*e*P	Pn	22 10 22.8	-0.2
CHN5	Tsauling	1.67	254	*e*P	Pb	22 10 26.0	0.0
WCHH	Zhanghua	1.71	271	*e*P	Pb	22 10 25.9	-0.7
WGK	Gukeng	1.75	258	*e*P	Pb	22 10 26.1	-1.2
TWGBT	Beinan	1.75	225	*e*P	Pn	22 10 24.2	-0.1
STYH	Taoyuan	1.76	240	*e*P	Pn	22 10 25.3	+1.1
TWG	Pinlang	1.76	225	*e*P	Pn	22 10 24.3	0.0
WDLH	Douliu	1.77	258	*e*P	Pb	22 10 26.3	-1.4
WCKO	Fanlu	1.78	250	*e*P	Pb	22 10 26.7	-1.2
JISG	Ishigakijimahi	1.80	73	P	Pn	22 10 25.0	+0.2
JISG				S	Sn	22 10 46.6	+0.1
TPUB	Ta-pu	1.81	245	*e*P	Pb	22 10 27.0	-1.5
WTP	Ta-pu	1.85	244	*e*P	Pn	22 10 27.4	+1.8
WTK	Tuku	1.90	259	*e*P	Pb	22 10 28.8	-1.1
TWK	Hsinying	1.95	246	*e*P	Pn	22 10 28.9	+1.9
CHN1	Nanshi	1.95	244	*e*P	Pb	22 10 29.1	-1.7
SGST	Jiashian	1.95	240	*e*P	Pn	22 10 28.6	+1.6
WSL	Shuilin Townsh	2.08	255	*e*P	Pn	22 10 30.6	+1.8

NEIC ***02*** *22:14:56.9±1.4, 61°40N±0°02×150°06W±0°02, h45km±6km, Error ellipse: s-maj=3.4km s-min=1.6km az=181.0*
AEIC 02 22:14:57.5±1.1, 61°38N±0°04×150°01W±0°07, h44km±4km, ML2.8, ML3.0/146(NEIC), **Error ellipse: s-maj=5.3km s-min=4.9km az=148.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	Fire Island	0.25	203		Pn	22 15 05.7	+0.1
FIS					Sn	22 15 13.3	+2.1
FIS				IAML		22 15 13.8	
	comp=N,2μm,0.7s						
RC01	Rabbit Creek A	0.32	155		Pn	22 15 05.4	-0.8
RC01				Sn	Sn	22 15 12.4	+0.1
RC01				IAML		22 15 12.8	
	comp=N,1μm,0.3s						
RC01				IAML		22 15 17.0	
	comp=E,1μm,0.3s						
SUA	Susitna One	0.36	284		Pn	22 15 05.8	-1.1
SUA				Sn	Sn	22 15 12.9	-0.6
M22K	Willow	0.38	352		Pn	22 15 05.8	-1.1
M22K				IAML		22 15 13.7	
	comp=N,2μm,0.4s						
M22K	Willow	0.38	352		Sn	22 15 13.4	-0.2
PMR	Palmer	0.48	62		Pn	22 15 07.2	-0.8
PMR				IAML		22 15 16.2	
	comp=N,1μm,0.5s						
PMR				IAML		22 15 16.2	
	comp=E,695nm,0.2s						
PMR	Palmer	0.48	62		Sn	22 15 15.5	0.0
GHO	Glory Hole Cre	0.66	52		Pn	22 15 09.8	-0.7
GHO				IAML		22 15 22.9	
	comp=N,588nm,0.4s						
KNK	Knik Glacier	0.75	86		Pn	22 15 11.3	-0.3
KNK				IAML		22 15 26.0	
	comp=E,521nm,0.3s						
KNK				IAML		22 15 26.1	
	comp=N,572nm,0.5s						
CAPN	Captain Cook N	0.82	223	Pn	Pn	22 15 12.8	+0.2
SLKM	Skilak Lake	0.88	187		Pn	22 15 12.1	-1.3
SLKM				IAML		22 15 26.7	
	comp=N,750nm,0.3s						
STLK	Strandline Lak	0.88	279		Pn	22 15 12.5	-1.1
STLK				IAML		22 15 25.0	
	comp=E,569nm,0.2s						
STLK	Strandline Lak	0.88	279		Sn	22 15 24.4	-0.8
O22K	Cooper Landing	0.91	171		Pn	22 15 13.1	-0.7
SML	Sawmill	0.91	61	Pn	Pn	22 15 13.5	-0.4
SML				IAML		22 15 28.3	
	comp=E,279nm,0.6s						
SML				IAML		22 15 30.0	
	comp=N,313nm,0.6s						
SKT	Skwentna	0.94	311		Pn	22 15 13.0	-1.3
SKT				IAML		22 15 26.8	
	comp=E,458nm,0.4s						
SKT	Skwentna	0.94	311		Sn	22 15 25.4	-1.3
PWL	Port Wells	0.96	122		Pn	22 15 14.5	-0.1
SPCG	Spurr Capps Gl	0.97	266		Sn	22 15 26.9	-0.6
SPU	Mount Spurr	1.00	260		Pn	22 15 13.8	-1.4
SPU				IAML		22 15 28.9	
	comp=N,250nm,0.3s						
SPU	Mount Spurr	1.00	260		Sn	22 15 27.0	-1.2
CUT	Chulitna	1.04	353		Pn	22 15 14.8	-0.8
CUT				IAML		22 15 30.5	
	comp=E,459nm,0.4s						
CUT				IAML		22 15 30.6	
	comp=N,529nm,0.5s						
SPBG	Spurr Blockage	1.14	265		Pn	22 15 16.0	-1.1
SEW	Seward	1.30	168		Pn	22 15 18.4	-0.8
SCM	Sheep Creek Mo	1.36	69		Pn	22 15 20.3	+0.2
SCM				IAML		22 15 40.0	
	comp=E,272nm,0.5s						
SCM				IAML		22 15 41.0	
	comp=N,218nm,0.8s						
GLI	Glacier Island	1.50	108	Pn	Pn	22 15 21.4	-0.5
GLI				IAML		22 15 43.8	
	comp=N,268nm,0.3s						
M20K	Styx River	1.57	290		Pn	22 15 22.8	-0.2
M20K				IAML		22 15 44.3	
	comp=N,113nm,0.5s						
M20K				IAML		22 15 45.1	
	comp=E,135nm,0.6s						
BRLK	Bradley Lake	1.67	195		Pn	22 15 23.6	-0.7
BRLK				IAML		22 15 49.7	
	comp=E,226nm,0.4s						
BRLK				IAML		22 15 51.0	
	comp=N,218nm,0.1s						
O20K	Slope Mountain	1.82	226		Pn	22 15 26.1	-0.3
FID	Port Fidalgo	1.83	109		Pn	22 15 25.4	-1.0
FID				IAML		22 15 50.4	
	comp=E,183nm,0.7s						
FID				IAML		22 15 57.2	
	comp=N,190nm,0.4s						
PPLA	Purkeypile	1.84	327		Pn	22 15 26.2	-0.5
P23K	Montague Islan	1.89	136		Pn	22 15 25.8	-1.3
HOM	Homer	1.90	206	Pn	Pn	22 15 26.5	-0.9
CNPM	China Poot	1.95	199		Pn	22 15 27.3	-0.9
CNPM				IAML		22 15 55.2	
	comp=N,151nm,0.4s						
CNPM				IAML		22 15 55.8	
	comp=E,163nm,0.6s						
M24K	Tolsona, Glenn	1.97	66		Pn	22 15 29.1	+0.8
M24K				IAML		22 16 01.6	
	comp=N,127nm,1.0s						
M24K				IAML		22 16 05.9	
	comp=E,128nm,1.1s						
KLU	Klutina	1.97	85		Pn	22 15 28.1	-0.3
KLU				IAML		22 16 03.0	
	comp=N,95nm,0.3s						
KLU				IAML		22 16 03.8	
	comp=E,71nm,0.3s						
HIN	Hinchinbrook I	1.98	118		Pn	22 15 27.6	-0.8
DIV	Divide	2.06	95		Pn	22 15 29.3	-0.4
ILS	Iliamna Low So	2.07	228		Pn	22 15 29.3	-0.5
ILSW	Iliamna Southw	2.08	229		Pn	22 15 29.2	-0.7
TRF	Thorofare Moun	2.09	357		Pn	22 15 30.1	0.0
TRF	Thorofare Moun	2.09	357	IAML		22 16 20.2	
	comp=N,68nm,1.1s						
RND	Reindeer	2.11	14		Pn	22 15 30.7	+0.4
RND				IAML		22 16 09.0	
	comp=E,76nm,0.7s						
L20K	Farewell, AK	2.14	303		Pn	22 15 30.3	-0.4
KTH	Kantishna Hill	2.23	349		Pn	22 15 32.7	+0.8
KTH				IAML		22 16 24.2	
	comp=N,56nm,0.9s						
EYAK	Cordova Ski Ar	2.24	110		Pn	22 15 31.6	-0.4
N19K	Bonanza Creek	2.24	257		Pn	22 15 31.5	-0.7
CAST	Castle Rocks	2.27	336		Pn	22 15 32.4	-0.1
P19K	Oil Pt	2.35	224		Pn	22 15 33.5	-0.1
P19K				IAML		22 16 08.2	
	comp=N,138nm,0.3s						
MCK	McKinley	2.42	11		Pn	22 15 35.5	+1.0
O19K	Port Alsworth	2.42	243		Pn	22 15 33.7	-0.8
O19K				IAML		22 16 03.5	
	comp=E,128nm,0.5s						
L19K	White Mountain	2.44	291		Pn	22 15 34.5	-0.3
L19K				IAML		22 16 19.2	
	comp=N,44nm,0.9s						
N25K	Chitina, Valde	2.61	83		Pn	22 15 37.8	+0.6
N25K				IAML		22 16 24.9	
	comp=N,38nm,0.5s						
BMRM	Bremner River	2.65	97		Pn	22 15 36.9	-0.9
PAX	Paxson	2.67	51		Pn	22 15 39.3	+1.3
GOAT	Goat Mountain	2.70	105		Pn	22 15 37.6	-0.8
K20K	Telida	2.74	318		Pn	22 15 38.6	-0.4
BPAW	Bear Paw Mtn.	2.77	351		Pn	22 15 39.3	0.0
RAGM	Ragged Mountai	2.79	108		Pn	22 15 38.9	-0.7
N18K	Kilae Creek	2.94	259		Pn	22 15 40.7	-1.0
N18K				IAML		22 16 15.3	
	comp=N,33nm,0.7s						
O18K	Koktuh Hills	2.98	241		Pn	22 15 40.7	-1.5
O18K				IAML		22 16 43.6	
	comp=N,32nm,1.4s						
O18K				IAML		22 16 43.6	
	comp=E,29nm,1.1s						
GLB	Gilahina Butte	2.98	86		Pn	22 15 42.4	+0.1
GLB				IAML		22 16 32.3	
	comp=N,35nm,1.1s						
HMT	Hamilton	3.00	108		Pn	22 15 41.3	-1.2
SYI	Shuyak Island	3.02	204	Pn	Pn	22 15 41.9	-0.8
SYI				IAML		22 16 26.1	
	comp=E,50nm,0.9s						
SYI				IAML		22 16 27.6	
	comp=N,35nm,0.8s						
Q19K	Cape Douglas,	3.05	218	Pn	Pn	22 15 42.8	-0.4
KAIM	Kayak Island	3.11	115	Pn	Pn	22 15 43.0	-1.0
VRDI	Verde Repeater	3.17	90		Pn	22 15 44.6	-0.3
TTA	Tatalina	3.22	302		Pn	22 15 44.6	-0.9
WRH	Wood River Hil	3.23	15		Pn	22 15 46.3	+0.7
P18K	Big Mountain,	3.27	235	Pn	Pn	22 15 44.8	-1.3
L18K	Granite Mounta	3.28	288		Pn	22 15 45.5	-0.8
L18K				IAML		22 16 43.3	
	comp=E,21nm,0.7s						
L18K				IAML		22 16 51.6	
	comp=N,21nm,1.1s						
J20K	Nowinta River	3.39	328		Pn	22 15 47.6	-0.3
J20K				IAML		22 16 27.3	
	comp=N,24nm,0.6s						
CCB	Clear Creek Bu	3.44	16		Pn	22 15 48.9	+0.5
CCB				IAML		22 16 45.5	
	comp=E,19nm,0.8s						
M26K	Nabesna, AK	3.48	70	Pn	Pn	22 15 49.5	+0.5
M26K				IAML		22 16 54.4	
	comp=N,19nm,0.8s						
M26K				IAML		22 16 54.5	
	comp=E,18nm,0.5s						
M17K	Holitna River	3.57	274		Pn	22 15 49.4	-0.9
M17K				IAML		22 16 52.5	
	comp=N,37nm,1.0s						
M17K				IAML		22 17 02.7	
	comp=E,44nm,0.8s						
N17K	Nushagak Hills	3.60	259	Pn	Pn	22 15 49.8	-0.9
N17K				IAML		22 16 31.8	
	comp=E,28nm,1.2s						
J19K	Poorman	3.69	318		Pn	22 15 51.4	-0.5
J19K				IAML		22 17 07.4	
	comp=N,19nm,0.8s						
ILAR	Eielson Array	3.69	21	Pn	Pn	22 15 53.9	+1.9
SNH	Sunshine Point	3.72	106	Pn	Pn	22 15 51.2

OSPL 02 22:18:27.4±2.5, 18°.23N×68°.48W, h0km±28km, ML2.8, Hypocentre not reviewed by the ISC
RSPR 02 22:18:28.1, 18°.25N×68°.53W, h8km±6km, MD3.0/17
ISC 02 22:18:26.9±1.0, 18°.32N±0°.04×68°.50W±0°.02, h18km±6km, n60, σ1°.00/83, 12C-18D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.23**	**30**		**Pb**	**22 18 32.2**	**-0.4**
PCDR					**Sg**	**22 18 36.8**	**+1.0**
PCDR				IAML		22 18 37.7	
	comp=N,3μm,0.7s						
PCDR	**Punta Cana, DR**	**0.23**	**30**	⇑*e*Pg	**Pb**	**22 18 32.1**	**-0.4**
PCDR				⇓*e*Sg	**Sb**	**22 18 35.7**	**-0.6**
PCDR				IAML		22 18 37.5	
	comp=N,2μm,1.0s						
PCDR	**Punta Cana, DR**	**0.23**	**30**	⇑*i*P	**Pb**	**22 18 32.2**	**-0.4**
PCDR	**Punta Cana, DR**	**0.23**	**30**	*e*S	**Sg**	**22 18 37.1**	**+1.3**
PCDR	**Punta Cana, DR**	**0.23**	**30**	*i*P		22 18 32.2	
PCDR				*e*S		22 18 36.9	
PCDR				IAML		22 18 37.9	
	comp=Z,1μm,0.5s						
SADR	**Isla Saona**	**0.29**	**245**	⇑*e*Pg	**Pg**	**22 18 33.2**	**-0.1**
SADR				⇓*e*Sg	**Sb**	**22 18 38.8**	**+0.5**
SADR				IAML		22 18 42.0	
	comp=N,8μm,0.6s						
HIDR	**Higuey Centro**	**0.34**	**323**	⇑*e*Pg	**Pg**	**22 18 33.8**	**-0.4**
HIDR				⇑*e*Sg	**Sg**	**22 18 38.0**	**-1.1**
HIDR				IAML		22 18 42.0	
	comp=N,2μm,0.2s						
DR12	**Loma Pena Alta**	**0.96**	**299**		**Pb**	**22 18 44.2**	**-0.9**
DR12				Sg	**Sb**	**22 18 57.2**	**-0.2**
HATOM	**Hato Mayor del**	**0.96**	**299**	⇓*e*Pg	**Pb**	**22 18 44.3**	**-0.8**
HATOM				⇓*e*Sg	**Sb**	**22 18 57.7**	**+0.2**
HATOM				IAML		22 18 59.4	
	comp=N,253nm,0.2s						
IDE	**Isla Desecheo**	**0.98**	**86**		**Pb**	**22 18 44.3**	**-1.1**
IDE					**Sb**	**22 18 58.1**	**+0.1**
IDE	**Isla Desecheo**	**0.98**	**86**	⇓*i*P	**Pb**	**22 18 44.3**	**-1.1**
IDE	**Isla Desecheo**	**0.98**	**86**	*e*S	**Sb**	**22 18 58.1**	**+0.1**
PRSN	**Puerto Rico Se**	**1.29**	**94**		**Pn**	**22 18 48.4**	**-1.7**
PRSN				IAML		22 19 09.2	
	comp=N,266nm,0.3s						
PRSN				IAML		22 19 16.6	
	comp=E,208nm,0.2s						
AGPR	**Aguadilla, PR**	**1.33**	**83**		**Pn**	**22 18 49.7**	**-0.8**
AGPR					**Sn**	**22 19 08.0**	**+0.2**
AGPR				IAML		22 19 16.2	
	comp=N,266nm,0.5s						
AGPR				IAML		22 19 18.8	
	comp=E,196nm,0.3s						
AGPR	**Aguadilla, PR**	**1.33**	**83**	⇑*e*Pg	**Pn**	**22 18 49.8**	**-0.8**
AGPR				⇓*e*Sg	**Sn**	**22 19 04.7**	**-3.2**
AGPR				IAML		22 19 16.1	
	comp=N,248nm,0.6s						
AGPR	**Aguadilla, PR**	**1.33**	**83**	⇓*i*P	**Pn**	**22 18 49.9**	**-0.8**
AGPR	**Aguadilla, PR**	**1.33**	**83**	*e*S	**Sb**	**22 19 08.6**	**+0.5**
AGPR	**Aguadilla, PR**	**1.33**	**83**	*i*P		22 18 49.8	
AGPR				*e*S		22 19 08.6	
AGPR				IAML		22 19 15.6	
	comp=Z,161nm,0.6s						
SDD	**Santo Domingo**	**1.35**	**276**	Pn	**Pn**	**22 18 51.2**	**+0.3**
SDD				IAML		22 19 10.5	
	comp=E,413nm,1.2s						
SDD				IAML		22 19 14.7	
	comp=N,452nm,1.2s						
LSP	**Las Mesas**	**1.35**	**96**		**Pn**	**22 18 50.2**	**-0.8**
LSP					**Sg**	**22 19 10.8**	**+0.1**
LSP	**Las Mesas**	**1.35**	**96**	⇓*e*P	**Pn**	**22 18 50.2**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.36**	**103**		**Pn**	**22 18 50.2**	**-0.7**
CRPR					**Sn**	**22 19 08.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.36**	**103**	⇓*e*Pg	**Pn**	**22 18 50.3**	**-0.7**
CRPR				IAML		22 19 14.8	
	comp=N,176nm,1.2s						
CRPR	**Cabo Rojo, PR**	**1.36**	**103**	⇓*i*P	**Pn**	**22 18 50.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.36**	**103**	*e*S	**Sn**	**22 19 08.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.36**	**103**	*i*P		22 18 50.4	
CRPR				*e*S		22 19 08.8	
CRPR				IAML		22 19 16.8	
	comp=Z,241nm,1.2s						
MLPR	**Magueyes Islan**	**1.43**	**104**		**Pn**	**22 18 50.6**	**-1.4**
MLPR					**Sb**	**22 19 11.2**	**+0.3**
MLPR	**Magueyes Islan**	**1.43**	**104**	⇑*e*Pg	**Pn**	**22 18 50.2**	**-1.8**
MLPR				*e*Sg	**Sn**	**22 19 10.2**	**-0.2**
MLPR				IAML		22 19 18.8	
	comp=N,102nm,0.7s						
MLPR	**Magueyes Islan**	**1.43**	**104**	⇓*e*P	**Pn**	**22 18 50.4**	**-1.6**
MLPR	**Magueyes Islan**	**1.43**	**104**	*e*S	**Sb**	**22 19 11.2**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.58**	**102**		**Pn**	**22 18 54.5**	**+0.4**
GBPR					**Sb**	**22 19 15.3**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.58**	**102**	⇓*e*P	**Pn**	**22 18 54.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.58**	**102**	*e*S	**Sb**	**22 19 15.3**	**+0.1**
AOPR	**Arecibo Observ**	**1.66**	**89**		**Pn**	**22 18 54.8**	**-0.5**
AOPR					**Sb**	**22 19 18.3**	**+0.7**
AOPR				IAML		22 19 22.6	
	comp=N,354nm,0.3s						
AOPR	**Arecibo Observ**	**1.66**	**89**	⇑*e*Pg	**Pn**	**22 18 55.1**	**-0.1**
AOPR				*e*Sg	**Sb**	**22 19 18.1**	**+0.4**
AOPR				IAML		22 19 22.5	
	comp=N,345nm,0.2s						
AOPR	**Arecibo Observ**	**1.66**	**89**	⇑*e*P	**Pn**	**22 18 55.5**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.69**	**92**		**Pn**	**22 18 55.5**	**-0.1**
UUPR					**Sb**	**22 19 20.0**	**+1.5**
UUPR	**Utuado, UPR, P**	**1.69**	**92**	⇓*e*P	**Pn**	**22 18 56.4**	**+0.8**
BANI	**BANI**	**1.77**	**273**		**Pb**	**22 18 58.5**	**-0.4**
BANI				IAML		22 19 29.0	
	comp=E,188nm,0.4s						
BANI				IAML		22 19 33.4	
	comp=N,252nm,0.6s						
OBIP	**Obispado Ponce**	**1.82**	**98**		**Pn**	**22 18 57.1**	**-0.3**
OBIP					**Sn**	**22 19 21.2**	**+1.2**
OBIP	**Obispado Ponce**	**1.82**	**98**	⇓*e*P	**Pb**	**22 18 59.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.88**	**85**		**Pn**	**22 18 58.6**	**+0.5**
EMPR					**Sb**	**22 19 25.2**	**+1.3**
EMPR	**Esperanza - Ma**	**1.88**	**85**	⇓*e*P	**Pn**	**22 18 59.5**	**+1.3**
ECPR	**Experimental S**	**2.03**	**90**	⇓*e*P	**Pn**	**22 19 01.3**	**+1.0**
ECPR	**Experimental S**	**2.03**	**90**	*e*S	**Sb**	**22 19 27.6**	**-0.7**
ABDR	**Alto Bandera**	**2.08**	**284**	*e*Pg	**Pn**	**22 19 02.4**	**+1.2**
ABDR				*e*Sg	**Sb**	**22 19 28.7**	**-1.3**
ABDR				IAML		22 19 34.8	
	comp=N,183nm,0.4s						
SJG	**San Juan**	**2.24**	**95**		**Pn**	**22 19 03.8**	**+0.5**
SJG				IAML		22 19 36.4	
	comp=N,124nm,0.4s						
SJG				IAML		22 19 39.8	
	comp=N,123nm,0.3s						
SJG	**San Juan**	**2.24**	**95**	⇑*e*Pg	**Pn**	**22 19 04.4**	**+1.2**
SJG	**San Juan**	**2.24**	**95**	⇑*e*P	**Pn**	**22 19 04.4**	**+1.2**
SJG	**San Juan**	**2.24**	**95**	*e*S	**Sn**	**22 19 31.7**	**+1.3**
SJG	**San Juan**	**2.24**	**95**	*i*P		22 19 04.4	
GCPR	**Guaynabo City**	**2.29**	**90**		**Pn**	**22 19 04.2**	**+0.2**
GCPR					**Sn**	**22 19 33.8**	**+2.0**
GCPR				IAML		22 19 37.8	
	comp=N,109nm,0.7s						
GCPR				IAML		22 19 40.0	
	comp=E,115nm,0.5s						
GCPR	**Guaynabo City**	**2.29**	**90**	⇓*e*P	**Pn**	**22 19 05.4**	**+1.4**
GCPR	**Guaynabo City**	**2.29**	**90**	*e*S	**Sb**	**22 19 34.2**	**-1.7**
IGPR	**InterUniversit**	**2.30**	**98**		**Pn**	**22 19 04.2**	**+0.2**
IGPR					**Sn**	**22 19 32.9**	**+1.0**
IGPR				IAML		22 20 01.4	
	comp=N,120nm,0.2s						
IGPR				IAML		22 20 01.4	
	comp=E,157nm,0.2s						
IGPR	**InterUniversit**	**2.30**	**98**	⇓*e*P	**Pn**	**22 19 05.1**	**+1.1**
IGPR	**InterUniversit**	**2.30**	**98**	*e*S	**Sn**	**22 19 33.8**	**+1.9**
PDPR	**Patillas Dam,**	**2.37**	**97**	Pn	**Pn**	**22 19 04.8**	**-0.2**
PDPR	**Patillas Dam,**	**2.37**	**97**	⇑*e*P	**Pn**	**22 19 06.1**	**+1.0**
SC01	**Santiago de lo**	**2.38**	**298**		**Pn**	**22 19 05.8**	**+0.6**
HUMP	**Col San Antoni**	**2.52**	**94**		**Pn**	**22 19 07.2**	**+0.1**
HUMP					**Sn**	**22 19 38.5**	**+1.1**
HUMP				IAML		22 19 41.9	
	comp=E,74nm,0.3s						
HUMP				IAML		22 19 44.9	
	comp=N,88nm,0.5s						
HUMP	**Col San Antoni**	**2.52**	**94**	⇑*e*P	**Pn**	**22 19 08.4**	**+1.3**
HUMP	**Col San Antoni**	**2.52**	**94**	*e*S	**Sb**	**22 19 40.4**	**-2.2**
SDDR	**Presa de Saban**	**2.73**	**284**		**Pn**	**22 19 10.7**	**+0.8**
SDDR				IAML		22 19 55.8	
	comp=N,80nm,0.8s						
SDDR				IAML		22 19 57.3	
	comp=N,78nm,0.7s						
LOVI	**El Cajuil, Ovi**	**2.78**	**260**	*i*P		22 19 11.3	
LOVI				*e*S		22 19 43.0	
LONE3	**El Aguacate, B**	**2.82**	**276**	*i*P		22 19 14.8	

SJA 02 22:39:06.2±0.7, 21°.05S×68°.57W, h153km±4km, ML3.6, MW3.7
IDC 02 22:39:06.3±8.5, 21°.29S×68°.28W, h115km±55km, mb3.4/3, mbtmp3.8/5, Error ellipse: s-maj=82.1km s-min=29.1km az=37.0
NEIC 02 22:39:08.3±1.8, 21°.05S±0°.04×68°.6W±0°.1, h139km±7km, mb4.1/5, Error ellipse: s-maj=14.2km s-min=5.7km az=81.0
GUC 02 22:39:08.9±0.8, 21°.02S×68°.55W, h138km±4km, ML3.6
ISC 02 22:39:07.1±0.7, 21°.08S±0°.04×68°.44W±0°.05, h139km±7km, n52, σ1°.61/79, mb4.0/3, 5C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.98**	**272**	Pn	**Pn**	**22 39 30.7**	**-0.1**
PB01				Sn	**Sn**	**22 39 46.9**	**-1.8**
PB01	**IPOC Station P**	**0.98**	**272**	*e*P	**Pn**	**22 39 30.7**	**-0.1**
PB01				*e*S	**Sn**	**22 39 49.2**	**+0.5**
PB01				IAML		22 39 49.3	
	comp=Z,905nm,0.2s						
PB01	**IPOC Station P**	**0.98**	**272**	⇑*i*P	**Pn**	**22 39 30.8**	**0.0**
PB01				*i*S	**Sn**	**22 39 47.7**	**-1.1**
PB01				IAML		22 39 49.4	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**1.03**	**226**	Pn	**Pn**	**22 39 32.6**	**+1.2**
PB09				Sn	**Sn**	**22 39 50.4**	**+0.5**
PB09	**IPOC Station P**	**1.03**	**226**	*e*P	**Pn**	**22 39 32.5**	**+1.1**
PB09				*e*S	**Sn**	**22 39 50.7**	**+0.9**
PB09				IAML		22 39 51.9	
	comp=Z,841nm,0.7s						
PB09	**IPOC Station P**	**1.03**	**226**	⇑*i*P	**Pn**	**22 39 32.6**	**+1.2**
PB09				*i*S	**Sn**	**22 39 50.1**	**+0.3**
PB08	**IPOC Station P**	**1.15**	**324**	Pn	**Pn**	**22 39 33.4**	**+0.7**
PB08				Sn	**Sn**	**22 39 51.9**	**-0.2**
PB08	**IPOC Station P**	**1.15**	**324**	*e*P	**Pn**	**22 39 33.1**	**+0.4**
PB08				*e*S	**Sn**	**22 39 52.0**	**-0.1**
PB08				IAML		22 39 53.1	
	comp=Z,751nm,0.3s						
PB08	**IPOC Station P**	**1.15**	**324**	⇑*i*P	**Pn**	**22 39 33.4**	**+0.7**
PB08				*i*S	**Sn**	**22 39 51.8**	**-0.4**
PB08				IAML		22 39 53.2	
	comp=E,1μm,0.2s						
PX03	**IPOC Station P**	**1.30**	**301**	⇓*i*P	**Pn**	**22 39 33.2**	**-0.7**
PX03				*i*S	**Sn**	**22 39 52.8**	**-1.5**
HMBC	**Humberstone**	**1.57**	**300**	Pn	**Pn**	**22 39 36.6**	**-0.3**
HMBC	**Humberstone**	**1.57**	**300**	*e*P	**Pn**	**22 39 36.4**	**-0.5**
HMBC				*e*S	**Sn**	**22 39 58.5**	**-0.9**
HMBC				IAML		22 40 02.1	
	comp=Z,2μm,0.5s						
HMBC	**Humberstone**	**1.57**	**300**	⇑*i*P	**Pn**	**22 39 36.5**	**-0.3**
HMBC				*i*S	**Sn**	**22 39 57.6**	**-1.8**
HMBC				IAML		22 39 60.0	
	comp=E,2μm,0.6s						
PATCX	**Punta Patache**	**1.62**	**279**	Pn	**Pn**	**22 39 37.4**	**0.0**
PATCX				Sn	**Sn**	**22 39 59.3**	**-1.0**
PATCX	**Punta Patache**	**1.62**	**279**	*e*P	**Pn**	**22 39 37.3**	**0.0**
PATCX				*e*S	**Sn**	**22 40 00.4**	**0.0**
PATCX				IAML		22 40 02.7	
	comp=Z,375nm,0.1s						
PATCX	**Punta Patache**	**1.62**	**279**	*i*P	**Pn**	**22 39 37.3**	**0.0**
PATCX				*i*S	**Sn**	**22 39 59.2**	**-1.2**
PATCX				IAML		22 40 02.3	
	comp=E,1μm,0.3s						
TA01	**Diego Aracena**	**1.71**	**287**		**Pn**	**22 39 37.9**	**-0.2**
TA01	**Diego Aracena**	**1.71**	**287**	*e*P	**Pn**	**22 39 37.8**	**-0.4**
TA01				*e*S	**Sn**	**22 40 00.4**	**-1.5**
TA01				IAML		22 40 02.5	
	comp=Z,273nm,0.2s						
TA01	**Diego Aracena**	**1.71**	**287**	⇑*i*P	**Pn**	**22 39 37.8**	**-0.4**
TA01				*i*S	**Sn**	**22 39 60.0**	**-1.9**
TA01				IAML		22 40 01.6	
	comp=E,789nm,0.2s						
TA02	**Huaiquique**	**1.77**	**297**	Pn	**Pn**	**22 39 38.7**	**-0.3**
TA02	**Huaiquique**	**1.77**	**297**	*e*P	**Pn**	**22 39 38.5**	**-0.5**
TA02				*e*S	**Sn**	**22 40 02.0**	**-1.4**
TA02				IAML		22 40 06.4	
	comp=Z,1μm,0.2s						
TA02	**Huaiquique**	**1.77**	**297**	*i*P	**Pn**	**22 39 38.5**	**-0.5**
TA02				*i*S	**Sn**	**22 40 01.4**	**-1.9**
AF01	**San Pedro de A**	**1.88**	**173**	Pn	**Pn**	**22 39 41.8**	**+1.3**
AF01				Sn	**Sn**	**22 40 09.8**	**+3.7**
AF01	**San Pedro de A**	**1.88**	**173**	*e*P	Pn	22 39 55.9	+15
AF01				*e*S	**Sn**	**22 40 05.8**	**-0.3**
AF01				IAML		22 40 38.0	
	comp=Z,170nm,0.6s						
AF01	**San Pedro de A**	**1.88**	**173**	IAML		22 40 28.3	
	comp=N,282nm,0.4s						
YJA	**Yavi**	**2.93**	**112**	*e*P	**Pn**	**22 39 51.8**	**-1.9**
YJA				*e*S	**Sn**	**22 40 28.8**	**-0.7**
PB12	**IPOC Station P**	**3.03**	**324**		**Pn**	**22 39 53.7**	**-0.8**
PB12	**IPOC Station P**	**3.03**	**324**	*e*P	**Pn**	**22 39 53.5**	**-1.1**
PB12				*e*S	**Sn**	**22 40 29.1**	**-2.1**
PB12				IAML		22 40 35.7	
	comp=Z,96nm,0.2s						
PB12	**IPOC Station P**	**3.03**	**324**	*i*P	**Pn**	**22 39 53.4**	**-1.1**
PB12				IAML		22 40 32.8	
	comp=E,243nm,0.1s						
AP01	**Chacalluta**	**3.23**	**326**	*e*P	**Pn**	**22 39 58.9**	**+1.7**
AP01				*e*S	**Sn**	**22 40 34.0**	**-1.8**
AP01				IAML		22 40 39.9	
	comp=Z,200nm,0.1s						
PB14	**IPOC Station P**	**3.97**	**207**	Pn	**Pn**	**22 40 06.4**	**-0.6**
PB14	**IPOC Station P**	**3.97**	**207**	*e*P	**Pn**	**22 40 06.8**	**-0.1**
PB14				*e*S	**Sn**	**22 40 51.9**	**-1.5**
PB14				IAML		22 40 53.0	
	comp=Z,57nm,0.2s						
GO02	**Mina Guanaco**	**4.20**	**194**	Pn	**Pn**	**22 40 10.5**	**+0.5**
GO02	**Mina Guanaco**	**4.20**	**194**	*e*P	**Pn**	**22 40 10.2**	**+0.2**
GO02				*e*S	**Sn**	**22 41 00.1**	**+1.2**
LPAZ	**La Paz**	**4.78**	**4**		**Pn**	**22 40 20.0**	**+2.0**
LPAZ	**La Paz**	**4.78**	**4**	P	**Pn**	**22 40 20.0**	**+2.0**
	comp=Z,2.2nm,0.4s,baz=185,slow=8.1,SNR=6.7						
LPAZ				S	**Sn**	**22 41 16.9**	**+3.9**
	comp=Z,2.0nm,0.6s,baz=6.0,slow=19,SNR=1.6						
AC01	**Pan de Azucar**	**5.42**	**201**	Pn	**Pn**	**22 40 24.2**	**-1.7**
AC01	**Pan de Azucar**	**5.42**	**201**	*e*P	**Pn**	**22 40 24.9**	**-1.0**
AC01				*e*S	**Sn**	**22 41 23.8**	**-3.7**
AC01				IAML		22 41 39.1	
	comp=Z,18nm,2.5s						
AC02	**Maricunga**	**5.76**	**186**	Pn	**Pn**	**22 40 31.4**	**+0.3**
LCO	**Las Campanas**	**8.16**	**194**	Pn	**Pn**	**22 40 59.7**	**-3.2**
SIV	**San Ignacio**	**8.63**	**55**	P	**Pn**	**22 41 07.2**	**-1.9**
	comp=Z,5.5nm,0.6s,baz=235,slow=12,SNR=24						
SIV				S	**Sn**	**22 42 39.3**	**-5.6**
	comp=Z,0.4nm,0.3s,baz=338,slow=23,SNR=3.8						
GO04	**Tololo Observa**	**9.30**	**193**	Pn	**Pn**	**22 41 15.0**	**-3.2**
CO03	**El Pedregal**	**9.93**	**191**	Pn	**Pn**	**22 41 22.9**	**-3.5**
VAO	**Valinhos**	**20.00**	**99**	P	**P**	**22 43 29.1**	**0.0**
VAO				IAmb	IAmb	22 43 35.3	
	comp=Z,15nm,1.5s						
BDFB	**Brasilia**	**20.12**	**78**	P	**P**	**22 43 31.4**	**+1.0**
BDFB				IAmb	IAmb	22 43 44.4	
	comp=Z,6.8nm,1.3s						
BDFB	**Brasilia**	**20.12**	**78**	P	**P**	**22 43 31.6**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=260,slow=12,SNR=5.7						
	comp=Z,1.5nm,0.4s						
MAL2	**Monte Alegre,**	**23.50**	**38**	P	**P**	**22 44 04.7**	**+0.1**
BOAV	**Boa Vista**	**24.59**	**19**	P	**P**	**22 44 14.3**	**-0.1**
BOAV				IAmb	IAmb	22 44 15.8	
	comp=Z,9.1nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P	**P**	**22 50 44.9**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P	**P**	**22 50 45.1**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=254,slow=5.6,SNR=16						
	comp=Z,1.8nm,0.7s						
YKA	**Yellowknife Ar**	**90.94**	**340**	P	**P**	**22 51 57.3**	**+2.6**
	comp=Z,0.1nm,0.5s,baz=125,slow=5.9,SNR=1.4						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**145.04**	**36**	PKPbc	**PKiKP**	**22 58 29.9**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=326,slow=2.8,SNR=7.3						

JMA 02 22:53:51.4±1.1, 46°.N±7°.×15°.1E±°, h30km, MV4.1/11, KURILE ISLANDS REGION
SKHL 02 22:53:53.1±0.4, 44°.90N×151°.20E, h48km±7km, mb4.4/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.38**	**279**	*e*P	Pn	22 54 29.3	-0.4
KUR				AMB	AMB	22 54 31.3	
	80nm,0.3s						
KUR				*e*S	Sn	22 54 56.7	-1.0
KUR				A	A	22 54 59.6	
	180nm,0.5s						
KUR				A	A	22 54 59.6	
	80nm,0.5s						
SHO	**Shikotan**	**3.30**	**253**	*e*P	Pn	22 54 42.6	+0.4
SHO				AMB	AMB	22 54 45.5	
	20nm,0.4s						
SHO				*e*S	Sn	22 55 19.5	-0.6
SHO				A	A	22 55 23.5	
	40nm,0.5s						
SHO				A	A	22 55 23.5	
	70nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.92**	**259**	*e*P	Pn	22 54 51.5	+0.8
YUK				AMB	AMB	22 54 53.0	
	110nm,0.7s						
YUK				*e*S	Sn	22 55 34.7	-0.7
YUK				A	A	22 55 38.6	
	190nm,0.7s						
YUK				A	A	22 55 38.6	
	190nm,0.7s						
NEM2	**Nemuro 2**	**4.22**	**251**	P	Pn	22 54 55.3	+0.5
NEM2				S	Sn	22 55 42.6	-0.1
NMR	**Nemuro--Hokkai**	**4.23**	**251**	*e*P	Pn	22 54 55.4	+0.5
NMR				*e*S	Sn	22 55 42.3	-0.6
JRA	**Rausu**	**4.46**	**260**	P	Pn	22 55 00.3	+2.2
JNK	**Nakash**	**4.84**	**257**	P	Pn	22 55 05.0	+1.7
AKK	**Akkeshi**	**4.96**	**250**	*e*P	Pn	22 55 05.4	+0.4
AKK				*e*S	Sn	22 55 59.8	-1.2
JAK	**Akkeshi**	**5.07**	**250**	P	Pn	22 55 07.0	+0.6
JAK				S	Sn	22 56 02.7	-0.9
JTKR	**Abashiri--Toko**	**5.30**	**262**	P	Pn	22 55 11.5	+1.8
JAR	**Ashorobuto**	**5.59**	**256**	P	Pn	22 55 15.7	+2.2
JAR				S	Sn	22 56 18.3	+1.9
JOB	**Onbets**	**5.68**	**252**	P	Pn	22 55 16.1	+1.2
JOB				S	Sn	22 56 21.9	+3.1
JCH	**Churui**	**6.12**	**251**	P	Pn	22 55 22.3	+1.4
JCH				S	Sn	22 56 30.0	+0.5
JNBK	**Urakawa-nobuka**	**6.67**	**250**	P	Pn	22 55 29.1	+0.6
JNBK				*e*S	Sn	22 56 45.4	+2.3

IDC 02 23:03:46.9±2.9, 3°.03S×99°.94E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=120.8km s-min=20.7km az=56.0
DJA 02 23:03:48.6±0.8, 3°.S±5°.×10°.0E±°, h15km±4km, M3.8/10, mB5.5/1, mb3.6/2, MLv3.9/10, Mw(mB)5.0/1
ISC 02 23:03:50.6±2.0, 3°.0S±0°.1×100°.0E±0°.2, h24km±10km, n28, σ0°.77/17, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.20**	**13**	P	**Pb**	**23 03 55.9**	**-0.3**
PPSI				S	**Sb**	**23 04 00.5**	**+0.6**
SISI	**Saibi**	**1.84**	**332**	P	**Pn**	**23 04 20.3**	**-0.5**
PPI	**Padang Panjang**	**2.52**	**10**	P	**Pn**	**23 04 29.8**	**-0.4**
MNAI	**Manna**	**3.29**	**115**	P	**Pn**	**23 04 41.1**	**+0.3**
BKNI	**Bangkinang**	**3.44**	**18**	P	**Pn**	**23 04 42.5**	**-0.2**
MDSI	**Maura Dua**	**4.47**	**110**	P	**Pn**	**23 04 57.5**	**+0.6**
GSI	**Gunungsitoli**	**4.86**	**331**	P	**Pn**	**23 05 02.1**	**-0.3**
CGJI	**Cibinong**	**6.76**	**123**	P	**Pn**	**23 05 26.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**21.31**	**357**	P	**P**	**23 08 36.2**	**+0.4**
	2.3nm,0.3s,baz=172,slow=10.0,SNR=4.9						
	2.3nm,0.3s						
H08S2	**Diego Garcia H**	**27.74**	**259**	T	T	23 38 35.7	
	baz=82,slow=76,SNR=515						
H08S3	**Diego Garcia H**	**27.75**	**259**	T	T	23 38 38.9	
	baz=82,slow=76,SNR=652						
H08S1	**Diego Carcia H**	**27.75**	**259**	T	T	23 38 37.1	
	baz=82,slow=76,SNR=309						
H01W3	**Cape Leeuwin H**	**34.39**	**159**	T	T	23 46 52.3	
	baz=335,slow=76,SNR=7.8						
H01W2	**Cape Leeuwin H**	**34.40**	**159**	T	T	23 46 54.4	
	baz=335,slow=76,SNR=9.1						
H01W1	**Cape Leeuwin H**	**34.40**	**159**	T	T	23 46 54.0	
	baz=335,slow=76,SNR=6.8						
WRA	**Warramunga Arr**	**37.55**	**119**	P	**P**	**23 11 02.5**	**-0.8**
	0.9nm,1.0s,baz=310,slow=8.8,SNR=6.7						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**38.73**	**125**	P	**P**	**23 11 13.3**	**0.0**
	0.3nm,0.3s,baz=302,slow=7.8,SNR=2.8						
	0.3nm,0.3s						
SONM	**Songino Array**	**50.90**	**6**	P	**P**	**23 12 50.4**	**+0.5**
	0.6nm,0.5s,baz=192,slow=8.8,SNR=6.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**51.94**	**345**	P	**P**	**23 12 58.1**	**+0.5**
	2.0nm,0.6s,baz=156,slow=9.0,SNR=33						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**56.45**	**344**	P	**P**	**23 13 30.5**	**+0.1**
	0.6nm,0.8s,baz=159,slow

PMR IAML 23 41 13.8
comp=E,1μm,0.3s
SUA Susitna One 0.44 272 Pn Pn 23 41 06.6 -1.5
SUA Sn Sn 23 41 14.0 -1.1
SUA IAML 23 41 15.1
comp=E,2μm,0.8s
SUA IAML 23 41 15.1
comp=N,2μm,0.6s
GHO Glory Hole Cre 0.54 53 Pn 23 41 08.3 -1.0
GHO Sn Sn 23 41 17.5 +0.1
KNK Knik Glacier 0.66 92 Pn 23 41 10.3 -0.6
KNK Sn Sn 23 41 20.2 +0.1
KNK IAML 23 41 25.0
comp=E,682nm,0.3s
SML Sawmill 0.80 63 Pn 23 41 11.9 -0.9
SML IAML 23 41 24.9
comp=E,408nm,0.7s
SML IAML 23 41 26.6
comp=N,388nm,0.3s
PWL Port Wells 0.94 129 Pn 23 41 14.1 -0.5
PWL IAML 23 41 31.1
comp=N,551nm,0.4s
CAPN Captain Cook N 0.94 224 Pn Pn 23 41 14.7 +0.1
STLK Strandline Lak 0.96 274 Pn 23 41 13.8 -1.2
STLK IAML 23 41 28.0
comp=E,296nm,0.2s
STLK Strandline Lak 0.96 274 Sn 23 41 26.4 -1.1
SLKM Skilak Lake 0.96 192 Pn 23 41 13.6 -1.4
SLKM IAML 23 41 29.0
comp=E,605nm,0.5s
SLKM IAML 23 41 30.3
comp=N,540nm,0.2s
SKT Skwentna 0.97 304 Pn 23 41 13.7 -1.4
SKT IAML 23 41 27.2
comp=E,488nm,0.3s
SKT Skwentna 0.97 304 Sn 23 41 26.5 -1.2
O22K Cooper Landing 0.97 177 Pn 23 41 14.0 -1.1
CUT Chulitna 0.98 348 Pn 23 41 14.2 -1.0
CUT Chulitna 0.98 348 Sn 23 41 27.5 -0.3
SPCG Spurr Capps Gl 1.07 262 Pn 23 41 15.5 -1.0
SCM Sheep Creek Mo 1.26 71 Pn 23 41 19.0 -0.1
SCM IAML 23 41 37.7
comp=N,326nm,0.8s
SCM IAML 23 41 37.9
comp=E,379nm,0.8s
SEW Seward 1.36 172 Pn 23 41 19.9 -0.5
GLI Glacier Island 1.44 112 Pn Pn 23 41 21.2 -0.3
GLI IAML 23 41 43.2
comp=E,262nm,0.3s
GLI IAML 23 41 45.1
comp=N,290nm,0.5s
M20K Styx River 1.63 287 Pn 23 41 23.6 -0.7
BRLK Bradley Lake 1.77 198 Pn Pn 23 41 25.3 -0.7
BRLK IAML 23 41 52.4
comp=N,201nm,0.4s
FID Port Fidalgo 1.77 112 Pn Pn 23 41 25.1 -1.0
FID IAML 23 41 49.8
comp=E,263nm,0.3s
FID IAML 23 41 53.4
comp=N,196nm,0.5s
PPLA Purkeypile 1.83 324 Pn 23 41 26.5 -0.4
M24K Tolsona, Glenn 1.86 68 Pn 23 41 28.2 +0.9
M24K IAML 23 41 55.3
comp=N,226nm,0.5s
KLU Klutina 1.88 87 Pn 23 41 27.4 -0.2
KLU IAML 23 41 54.7
comp=N,155nm,0.4s
KLU IAML 23 41 59.6
comp=E,94nm,0.3s
P23K Montague Islan 1.88 140 Pn 23 41 26.4 -1.2
HIN Hinchinbrook I 1.94 122 Pn 23 41 28.2 -0.1
HIN IAML 23 41 59.9
comp=E,168nm,0.7s
HIN IAML 23 42 00.1
comp=N,136nm,0.5s
O20K Slope Mountain 1.94 226 Pn 23 41 28.5 +0.1
DIV Divide 1.99 97 Pn 23 41 28.7 -0.3
HOM Homer 2.01 207 Pn Pn 23 41 29.6 +0.3
RND Reindeer 2.02 13 Pn Pn 23 41 29.8 +0.3
RND IAML 23 42 05.9
comp=N,72nm,0.7s
TRF Thorofare Moun 2.02 354 IAML 23 41 58.3
comp=E,83nm,0.5s
TRF IAML 23 42 05.7
comp=N,96nm,0.8s
CNPM China Poot 2.05 200 Pn Pn 23 41 29.0 -0.9
CNPM IAML 23 41 58.6
comp=E,136nm,0.8s
CNPM IAML 23 42 01.1
comp=N,139nm,0.5s
KTH Kantishna Hill 2.17 347 Pn Pn 23 41 31.7 +0.1
KTH IAML 23 41 59.3
comp=E,61nm,0.6s
L20K Farewell, AK 2.17 300 Pn 23 41 31.2 -0.4
EYAK Cordova Ski Ar 2.18 113 Pn 23 41 31.5 -0.2
ILSW Iliamna Southw 2.19 229 Pn 23 41 31.6 -0.3
ILSW IAML 23 42 18.5
comp=N,78nm,0.8s
CAST Castle Rocks 2.24 333 Pn 23 41 32.1 -0.3
MCK McKinley 2.33 10 Pn Pn 23 41 34.5 +0.8
N19K Bonanza Creek 2.35 256 Pn 23 41 33.5 -0.5
HARP HAARP 2.41 65 Pn 23 41 35.5 +0.7
P19K Oil Pt 2.46 224 Pn Pn 23 41 35.4 -0.2
P19K IAML 23 42 15.3
comp=N,118nm,0.8s
L19K White Mountain 2.50 289 Pn 23 41 35.8 -0.2
N25K Chitina, Valde 2.51 84 Pn Pn 23 41 35.5 -0.8
N25K IAML 23 42 17.1
comp=N,59nm,0.4s
O19K Port Alsworth 2.53 242 Pn 23 41 35.7 -0.8
O19K IAML 23 42 12.4
comp=N,122nm,0.5s
PAX Paxson 2.55 51 Pn 23 41 37.6 +0.7
BMRM Bremner River 2.58 99 Pn 23 41 36.2 -0.9
GOAT Goat Mountain 2.63 107 Pn 23 41 37.2 -0.7
WACK Wrangell Chich 2.67 76 Pn 23 41 38.8 +0.1
CHUM Lake Minchumin 2.70 336 Pn 23 41 38.3 -0.4
BPAW Bear Paw Mtn. 2.71 349 Pn 23 41 38.5 -0.6
RAGM Ragged Mountai 2.73 111 Pn 23 41 38.8 -0.5
K20K Telida 2.75 316 Pn 23 41 38.9 -0.6
K20K IAML 23 42 19.3
comp=E,56nm,0.6s
M18K Stony River 2.88 273 Pn 23 41 40.5 -0.7
GLB Gilahina Butte 2.89 87 Pn Pn 23 41 40.9 -0.6
GLB IAML 23 42 24.9
comp=N,48nm,0.9s
GLB IAML 23 42 29.7
comp=E,31nm,0.4s
HMT Hamilton 2.94 110 Pn 23 41 40.6 -1.6
N18K Kilae Creek 3.04 258 Pn 23 41 42.8 -0.8
KAIM Kayak Island 3.07 117 Pn Pn 23 41 45.0 +1.2
KAIM IAML 23 42 36.9
comp=E,65nm,1.4s
KAIM IAML 23 42 49.2
comp=N,76nm,1.5s
VRDI Verde Repeater 3.08 91 Pn Pn 23 41 43.1 -1.1
VRDI IAML 23 42 32.7
comp=N,25nm,0.7s
O18K Koktuh Hills 3.09 241 Pn Pn 23 41 43.2 -1.0
O18K IAML 23 42 45.9
comp=N,25nm,0.7s
O18K IAML 23 42 48.1
comp=E,28nm,0.9s
SYI Shuyak Island 3.12 205 Pn Pn 23 41 43.7 -0.9
SYI IAML 23 42 26.2
comp=E,30nm,1.4s
SYI IAML 23 42 32.7
comp=N,36nm,1.1s
WRH Wood River Hil 3.14 14 Pn 23 41 44.9 +0.1
WRH IAML 23 42 37.1
comp=E,28nm,0.8s
Q19K Cape Douglas, 3.17 219 Pn Pn 23 41 44.8 -0.4
NEA2 Nenana 3.18 6 Pn 23 41 45.0 -0.4
MENT Mentasta 3.23 60 Pn 23 41 46.1 0.0
MENT IAML 23 42 41.9
comp=N,67nm,0.7s
MENT IAML 23 42 46.0
comp=E,68nm,0.7s
HDA Harding Lake 3.25 23 Pn 23 41 45.9 -0.5
HDA IAML 23 42 32.9
comp=E,40nm,0.7s
HDA IAML 23 42 42.4
comp=N,50nm,0.4s
RIDG Independent Ri 3.26 43 Pn 23 41 47.4 +1.0
RIDG IAML 23 42 33.9
comp=N,65nm,0.7s
TTA Tatalina 3.26 300 Pn 23 41 45.7 -0.8
CCB Clear Creek Bu 3.34 15 Pn 23 41 47.6 0.0
CCB IAML 23 42 43.4
comp=E,24nm,1.1s
L18K Granite Mounta 3.34 286 Pn Pn 23 41 47.0 -0.6
M26K Nabesna, AK 3.37 71 Pn 23 41 48.5 +0.5
M26K IAML 23 42 46.7
comp=N,20nm,0.6s
M26K IAML 23 42 52.0
comp=E,25nm,0.9s
J20K Nowinta River 3.38 326 Pn 23 41 47.1 -1.0
J20K IAML 23 42 27.9
comp=N,22nm,0.8s
J20K IAML 23 42 48.6
comp=E,30nm,0.8s
L26K Log Cabin Wild 3.42 60 Pn 23 41 50.1 +1.4
L26K IAML 23 42 51.8
comp=E,44nm,0.6s
L26K IAML 23 42 55.0
comp=N,39nm,0.5s
COLA College 3.55 14 Pn 23 41 50.6 +0.2
COLA IAML 23 42 48.5
comp=N,47nm,0.6s
ILAR Eielson Array 3.59 21 Pn 23 41 51.6 +0.6
BALM Baldy 3.64 93 Pn 23 41 51.1 -0.8
M17K Holitna River 3.66 273 Pn Pn 23 41 51.1 -0.8
M17K IAML 23 43 02.8
comp=N,38nm,1.0s
M17K IAML 23 43 04.3
comp=E,36nm,0.7s
KIAG Kiagna River 3.66 95 Pn 23 41 51.1 -1.0
J19K Poorman 3.69 316 Pn 23 41 51.7 -0.7
J19K IAML 23 42 52.5
comp=N,18nm,0.9s
SCRK Sand Creek 3.70 44 Pn 23 41 53.0 +0.4
SCRK IAML 23 42 54.0
comp=E,18nm,0.8s
SCRK IAML 23 42 54.9
comp=N,17nm,1.3s
N17K Nushagak Hills 3.70 259 Pn 23 41 51.7 -0.8
N17K Nushagak Hills 3.70 259 IAML 23 42 57.6
comp=N,19nm,1.2s
I23K Minto, Yukon-K 3.72 3 Pn 23 41 52.8 +0.1
I23K IAML 23 42 52.2
comp=E,19nm,1.1s
I23K IAML 23 42 57.8
comp=N,17nm,1.2s
J25K Salcha River, 3.77 31 Pn 23 41 55.0 +1.5
J25K IAML 23 42 45.1
comp=N,31nm,0.6s
J18K Innoko River 3.78 305 Pn 23 41 53.5 -0.2
POKR Poker Plat Res 3.84 15 Pn Pn 23 41 54.6 +0.2
POKR IAML 23 43 02.7
comp=N,22nm,0.9s
POKR IAML 23 43 05.9
comp=E,14nm,0.8s
I21K Tanana 3.87 346 Pn Pn 23 41 54.5 -0.4
I21K IAML 23 43 34.5
comp=N,13nm,1.1s
M27K Edge Creek, AK 3.87 73 Pn 23 41 55.6 +0.6
KDAK Kodiak Island 3.93 202 Pn 23 41 55.1 -0.6
KDAK Kodiak Island 3.93 202 IAML 23 42 57.0
comp=N,19nm,1.5s
O17K Koliganek Bris 3.96 248 Pn 23 41 55.3 -0.7
L17K Donlin 4.08 283 Pn 23 41 56.9 -0.8
BCAR Beaver Creek A 4.10 63 Pn 23 41 56.9 -1.1
PRP Porcupine Dome 4.52 23 Pn 23 42 04.7 +0.9
PRP IAML 23 43 03.8
comp=E,16nm,1.0s
PRP IAML 23 43 25.1
comp=N,15nm,0.8s
L16K Owhat River 4.62 277 Pn 23 42 04.3 -0.8
L16K Owhat River 4.62 277 IAML 23 43 30.7
comp=N,8.6nm,1.4s
J17K VABM Dome 4.72 298 Pn 23 42 05.8 -0.7
EGAK Eagle 5.16 46 Pn 23 42 12.8 +0.3
EGAK IAML 23 43 49.2
comp=N,15nm,0.8s
J16K Anvik River 5.34 295 Pn 23 42 14.4 -0.6
J16K Anvik River 5.34 295 IAML 23 43 45.0
comp=N,8.3nm,1.3s
J16K IAML 23 45 04.9
comp=E,6.7nm,1.5s
H18K Honhosa River 5.35 318 Pn 23 42 14.7 -0.4
O15K Ungalikthiuk R 5.46 250 Pn 23 42 16.5 -0.2
K15K Wolf Creek Mou 5.60 284 Pn 23 42 18.0 -0.6

*IDC **03** 00:01:02.7±1.3, 1°.45S×123°.78E, h0km, mb3.2/4, mbtmp3.3/5, ML3.8/1, Error ellipse: s-maj=37.9km s-min=22.6km az=75.0*
*DJA **03** 00:01:05.9±0.3, 2°S±3°×12°4E±°, h10km, M4.1/13, mb4.3/1, MLv4.0/13*
ISC 03 00:01:08.8±1.0, **1°.61S**±0°.05×**123°.73E**±0°.05, **h49**km, **n17,**
σ1§**18**/**18**, **mb3.2/3**, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.11**	**300**	P	**Pn**	**00 01 26.7**	**-1.3**
LUWI				S	**Sn**	**00 01 40.7**	**-1.5**
KMSI	**Cibinong**	**2.18**	**7**	P	**Pn**	**00 01 43.5**	**+0.8**
APSI	**Ampana**	**2.19**	**288**	P	**Pn**	**00 01 42.5**	**-0.3**
SANI	**Sanana**	**2.30**	**101**	P	**Pn**	**00 01 42.9**	**-1.5**
KDI	**Kendari**	**2.58**	**205**	P	**Pn**	**00 01 47.3**	**-0.9**
MRSI	**Marisa**	**2.73**	**319**	P	**Pn**	**00 01 50.2**	**-0.1**
NLAI	**Namlea**	**3.74**	**116**	P	**Pn**	**00 02 04.1**	**0.0**
PCI	**Palu**	**3.95**	**280**	P	**Pn**	**00 02 06.3**	**-0.7**
BBSI	**Bau Bau**	**4.03**	**197**	P	**Pn**	**00 02 06.6**	**-1.4**
TTSI	**Tana Toraja**	**4.16**	**250**	P	Pn	00 02 05.7	-4.1
SPSI	**Sidrap Palu**	**4.59**	**239**	P	**Pn**	**00 02 16.0**	**+0.2**
BKSI	**Bulukumba**	**5.15**	**224**	P	**Pn**	**00 02 22.3**	**-1.2**
KAPI	**Kappang**	**5.21**	**229**	Pn	**Pn**	**00 02 24.8**	**+0.4**
	3.5nm,0.3s,baz=63,slow=9.0,SNR=7.1						
KAPI				Sn	**Sn**	**00 03 25.8**	**+2.5**
	0.9nm,0.3s,baz=71,slow=18,SNR=1.3						
	4.2nm,0.4s						
WRA	**Warramunga Arr**	**20.97**	**151**	P	**P**	**00 05 48.5**	**+0.4**
	0.8nm,0.9s,baz=336,slow=9.6,SNR=8.2						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.05**	**157**	P	**P**	**00 06 21.0**	**+1.4**
	0.7nm,0.9s,baz=336,slow=9.2,SNR=7.6						
	0.7nm,0.9s						
SONM	**Songino Array**	**51.51**	**345**	P	**P**	**00 10 10.1**	**+0.3**
	0.4nm,0.6s,baz=163,slow=9.3,SNR=4.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**60.35**	**328**	P	**P**	**00 11 12.1**	**-0.8**
	0.1nm,0.5s,baz=124,slow=8.4,SNR=2.0						
	0.1nm,0.5s						

*IDC **03** 00:05:54.1±0.8, 2°.79S×138°.94E, h0km, mb3.9/12, mbtmp3.9/13, ML4.2/1, MS3.3/1, Error ellipse: s-maj=21.1km s-min=17.2km az=103.0*
*NEIC **03** 00:05:59.6±2.0, 2°.94S±0°.10×139°.4E±0°.1, h35km±2km, mb4.4/13, Error ellipse: s-maj=21.9km s-min=15.3km az=64.0*
*DJA **03** 00:06:03.7±0.5, 3°S±3°×13°9E±°, h53km±12km, M4.4/6, mb4.5/4, MLv4.4/6*
ISC 03 00:06:00.5±0.5, **2°.95S**±0°.06×**139°.21E**±0°.06, **h50**km, **n44,**
σ1§**52**/**46**, **mb4.0**/17, **1C, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.02**	**70**	P	**Pn**	**00 06 21.6**	**+3.1**
GENI				S	**Sn**	**00 06 34.5**	**+2.8**
WAMI	**Wamena**	**1.06**	**208**	P	Pn	00 06 27.0	+7.9
WAMI				S	Sn	00 06 44.9	+12
SMPI	**Sarmi**	**1.08**	**332**	P	**Pn**	**00 06 20.4**	**+1.1**
SMPI				S	**Sn**	**00 06 32.9**	**-0.3**
JAY	**Jayapura**	**1.55**	**74**	Pg	**Pn**	**00 06 27.8**	**+2.0**
	45nm,0.3s,baz=234,slow=14,SNR=58						
JAY				Lg	Lg	00 06 46.5	
	60nm,0.3s,baz=288,slow=20,SNR=18						
JAY	**Jayapura**	**1.55**	**74**	P	**Pn**	**00 06 27.8**	**+2.0**
SRPI	**Serui, Papua**	**3.16**	**290**	P	**Pn**	**00 06 49.7**	**+1.9**
BAKI	**Biak**	**3.56**	**299**	P	**Pn**	**00 06 55.7**	**+2.4**
KMPI	**Kaimana, Papua**	**5.55**	**262**	P	**Pn**	**00 07 23.9**	**+3.3**
	0.5nm105nm,1.1s						
FAKI	**Fak Fak**	**6.96**	**270**	Pn	**Pn**	**00 07 41.5**	**+1.5**
FAKI	**Fak Fak**	**6.96**	**270**	P	**Pn**	**00 07 41.6**	**+1.7**
	0.2nm21nm,0.8s						
SWI	**Sorong**	**8.21**	**284**	P	**Pn**	**00 08 00.0**	**+2.8**
	40nm,0.6s						
COEN	**Coen**	**11.62**	**161**	Pn	**Pn**	**00 08 44.0**	**+0.2**
MTN	**Manton Dam**	**12.67**	**219**	Pn	**Pn**	**00 08 58.5**	**+0.3**
KNRA	**Kununurra**	**16.31**	**218**	Pn	**Pn**	**00 09 46.7**	**+0.4**
KNRA				IAmb	IAmb	00 10 05.9	
	comp=Z,28nm,1.1s						
WB0	**Warramunga Arr**	**17.37**	**195**		**Pn**	**00 09 59.6**	**+0.1**
WRA	**Warramunga Arr**	**17.55**	**195**	Pn	**Pn**	**00 10 00.7**	**-1.1**
WRA	**Warramunga Arr**	**17.55**	**195**	P	**Pn**	**00 10 01.4**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=15,slow=13,SNR=37						
WRA				S	Sn	00 13 06.5	-10
	comp=Z,5.9nm,0.9s,baz=16,slow=24,SNR=5.5						
	comp=Z,2.1nm,0.4s						
CTAO	**Charters Tower**	**18.37**	**159**	P	**P**	**00 10 08.8**	**-2.6**
CTAO				IAmb	IAmb	00 10 25.7	
	comp=Z,51nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.09**	**221**	P	**P**	**00 10 30.1**	**0.0**
	comp=Z,3.5nm,0.6s,baz=45,slow=11,SNR=5.8						
FITZ				S	S	00 14 03.3	-10
	comp=Z,5.3nm,0.6s,baz=94,slow=13,SNR=7.1						
FITZ				LR	LR	00 18 45.9	
	comp=Z,76nm,19.1s,baz=42,slow=38						
	comp=Z,3.5nm,0.6s						
AS31	**Alice Springs**	**21.23**	**194**	P	**P**	**00 10 43.1**	**+0.7**
ASAR	**Alice Springs**	**21.23**	**194**	P	**P**	**00 10 43.1**	**+0.7**
ASAR	**Alice Springs**	**21.23**	**194**	P	**P**	**00 10 43.6**	**+1.2**
	comp=Z,1.9nm,0.4s,baz=18,slow=10,SNR=41						
ASAR				S	**S**	**00 14 33.6**	**-2.3**
	comp=Z,1.6nm,0.7s,baz=17,slow=26,SNR=4.8						
	comp=Z,1.9nm,0.4s						
EIDS	**Eidsvold**	**25.05**	**154**	P	**P**	**00 11 17.3**	**-3.0**
PSA00	**Pilbara Seismi**	**26.41**	**224**	P	**P**	**00 11 33.6**	**+0.9**
PSA00				IAmb	IAmb	00 12 02.8	
	comp=Z,18nm,1.1s						
FORT	**Forrest**	**29.62**	**200**	P	**P**	**00 12 01.7**	**+0.5**
BBOO	**Buckleboo**	**29.85**	**185**	P	**P**	**00 12 03.9**	**+0.6**
BBOO				IAmb	IAmb	00 12 10.1	
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**41.54**	**346**	P	**P**	**00 13 42.8**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=165,slow=8.6,SNR=5.9						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**47.38**	**353**	P	**P**	**00 14 29.3**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=188,slow=7.7,SNR=3.2						
	comp=Z,1.9nm,0.7s						
BNX	**BinXian**	**49.60**	**349**	⇑P	**P**	**00 14 46.4**	**-0.4**
BNX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**57.98**	**13**	P	**P**	**00 15 48.2**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=200,slow=7.7,SNR=6.5						
	comp=Z,8.2nm,0.9s						
SONM	**Songino Array**	**58.15**	**335**	P	**P**	**00 15 47.2**	**-2.1**
	comp=Z,0.2nm,0.6s,baz=134,slow=6.2,SNR=2.5						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**00 17 08.4**	**-0.3**
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**00 17 08.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=112,slow=7.5,SNR=9.3						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**70.48**	**322**	P	**P**	**00 17 09.5**	**-0.5**
MAKZ				IAmb	IAmb	00 17 31.9	
	comp=Z,5.0nm,1.5s						
ZALV	**Zalesovo Beam**	**72.39**	**330**	P	**P**	**00 17 19.7**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=127,slow=7.3,SNR=2.3						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**74.21**	**325**	P	**P**	**00 17 30.8**	**-1.3**
	comp=Z,0.7nm,1.1s,baz=114,slow=5.5,SNR=3.1						
	comp=Z,0.7nm,1.1s						
BVAR	**Borovoye Array**	**79.79**	**325**	P	**P**	**00 18 02.7**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=116,slow=6.5,SNR=6.2						
	comp=Z,0.8nm,0.6s						
J20K	**Nowinta River**	**82.67**	**24**	P	**P**	**00 18 18.8**	**+0.3**
J20K				IAmb	IAmb	00 18 42.5	
	comp=Z,3.3nm,1.3s						
E19K	**Redstone River**	**82.86**	**20**	P	**P**	**00 18 19.3**	**-0.1**
E19K				IAmb	IAmb	00 18 45.1	
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**85.23**	**320**	P	**P**	**00 18 31.7**	**-0.1**
ILAR	**Eielson Array**	**85.84**	**24**	P	**P**	**00 18 33.3**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.3,SNR=13						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**87.00**	**180**	P	**P**	**00 18 40.8**	**+0.4**
QSPA	**South Pole Qui**	**87.00**	**180**	P	**P**	**00 18 41.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=334,slow=1.7,SNR=11						
	comp=Z,1.3nm,0.7s						
BMAR	**Burnt Mountain**	**87.43**	**22**	P	**P**	**00 18 43.2**	**+0.8**

*HEL **03** 00:15:41.4±0.1, 67°.80N×20°.21E, h0km, ML1.2, Explosion*
*UPP **03** 00:15:41.0±0.1, 67°.82N×20°.21E, h0km, ML2.6, Unknown*
ISC 03 00:15:40.3±0.9, **67°.79N**±0°.03×**20°.27E**±0°.03, **h0**km, **n15,**
σ0§**60**/**22**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.17**	**8**	P	**Pg**	**00 15 44.0**	**+0.6**
KUA				S	**Sg**	**00 15 46.2**	**+0.6**
RATU	**Laukkuluspa**	**0.26**	**278**	P	**Pg**	**00 15 45.7**	**+0.5**
RATU				S	**Sg**	**00 15 49.0**	**+0.4**
DUNU	**Dundret**	**0.68**	**170**	P	**Pb**	**00 15 54.5**	**-0.6**
DUNU				S	**Sb**	**00 16 04.3**	**-0.6**
LANU	**Lannavaara**	**0.70**	**68**	P	**Pg**	**00 15 54.5**	**+0.8**
LANU				S	**Sb**	**00 16 04.3**	**-1.2**
LANU	**Lannavaara**	**0.70**	**68**	*e*P	**Pg**	**00 15 54.4**	**+0.7**
LANU				*e*S	**Sg**	**00 16 03.5**	**+0.8**
KIF	**Kilpisjarvi**	**1.23**	**9**	*e*P	**Pb**	**00 16 04.2**	**-0.2**
KIF				MSG		00 16 19.9	
	comp=Z,3.6nm,0.2s						
KIF				*e*S	**Sg**	**00 16 19.9**	**0.0**
HEF	**Hetta**	**1.41**	**62**	*e*P	**Pn**	**00 16 07.0**	**-0.2**
HEF				MSG		00 16 23.0	
	comp=Z,1.4nm,0.2s						
HEF				*e*S	**Sg**	**00 16 25.5**	**-0.1**
ERTU	**Ertsjaerv**	**1.45**	**148**	P	**Pb**	**00 16 08.4**	**+0.3**
ERTU	**Ertsjaerv**	**1.45**	**148**	*e*PN	**Pb**	**00 16 08.5**	**+0.4**
KLF	**Kolari**	**1.52**	**110**	*e*PG	**Pb**	**00 16 09.5**	**+0.1**
KLF				MSG		00 16 27.1	
	comp=Z,1.4nm,0.2s						
KTK1	**Kautokeino**	**1.65**	**40**	*e*PG	**Pb**	**00 16 11.0**	**-0.5**
HARU	**Harads**	**1.66**	**170**	P	**Pb**	**00 16 11.9**	**+0.3**
TRO	**Tromso**	**1.92**	**346**	*e*SG	**Sb**	**00 16 40.0**	**-0.4**
KALU	**Kalix**	**2.29**	**146**	*e*PB	**Pb**	**00 16 21.6**	**-0.8**
TOF	**Tornio**	**2.34**	**135**	*e*PB	**Pb**	**00 16 22.8**	**-0.5**
TOF				MSG		00 16 52.0	
	comp=Z,0.8nm,0.2s						

*HEL **03** 00:17:11.2±0.3, 67°.83N×19°.92E, h0km, ML1.8, Explosion*
*UPP **03** 00:17:12.4±0.1, 67°.83N×20°.21E, h0km, ML2.5, Unknown*
*IDC **03** 00:17:13.3±1.2, 67°.79N×20°.39E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=19.4km s-min=8.4km az=117.0*
ISC 03 00:17:12.8±0.8, **67°.82N**±0°.03×**20°.20E**±0°.03, **h0**km, **n29,**
σ1§**26**/**46**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**21**	P	**Pg**	**00 17 15.1**	**-0.6**
KUA				S	**Sg**	**00 17 16.9**	**-0.6**
RATU	**Laukkuluspa**	**0.23**	**272**	P	**Pg**	**00 17 17.0**	**-0.2**
RATU				S	**Sg**	**00 17 20.3**	**+0.2**
DUNU	**Dundret**	**0.71**	**168**	P	**Pg**	**00 17 26.1**	**-0.4**
LANU	**Lannavaara**	**0.72**	**70**	P	**Pg**	**00 17 25.7**	**-0.9**
LANU	**Lannavaara**	**0.72**	**70**	PG	**Pg**	**00 17 25.9**	**-0.7**
LANU				SG	**Sg**	**00 17 35.2**	**-0.7**
KIF	**Kilpisjarvi**	**1.22**	**10**	PN	**Pg**	**00 17 35.6**	**-0.5**
KIF				MSG		00 17 49.3	
	comp=Z,16nm,0.2s						
KIF				SB	**Sg**	**00 17 51.3**	**-0.5**
HEF	**Hetta**	**1.43**	**64**	PG	**Pn**	**00 17 38.4**	**-1.5**
HEF				MSG		00 17 56.8	
	comp=Z,7.6nm,0.2s						
HEF				SG	**Sg**	**00 17 57.6**	**-1.1**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**00 17 39.8**	**-1.0**
ERTU	**Ertsjaerv**	**1.49**	**148**	PN	**Pn**	**00 17 40.0**	**-0.7**
ERTU				SN	**Sb**	**00 18 01.0**	**+0.4**
KLF	**Kolari**	**1.56**	**110**	PG	**Pn**	**00 17 41.0**	**-0.7**
KLF				MSG		00 18 01.0	
	comp=Z,5.3nm,0.2s						
KLF				SG	**Sn**	**00 18 02.8**	**+0.1**
KTK1	**Kautokeino**	**1.65**	**42**	PG	**Pn**	**00 17 42.1**	**-0.9**
KTK1				SN	**Sg**	**00 18 06.0**	**+0.3**
HARU	**Harads**	**1.69**	**169**	P	**Pn**	**00 17 43.4**	**-0.1**
KALU	**Kalix**	**2.33**	**146**	PG	**Pn**	**00 17 53.1**	**+0.8**
	baz=325						
KALU				SG	**Sb**	**00 18 25.2**	**+0.4**
TOF	**Tornio**	**2.38**	**135**	PB	**Pn**	**00 17 54.2**	**+1.2**

baz=315
TOF MSG 00 18 24.3
comp=Z,3.1nm,0.2s
TOF SG **Sb** **00 18 27.0 +0.6**
RNF Rovaniemi 2.57 115 PB **Pn** **00 17 57.3 +1.7**
RNF SB **Sb** **00 18 31.0 -0.7**
ARCES ARCESS Array B 2.60 46 Pn **Pn** **00 17 56.1 0.0**
comp=Z,0.6nm,0.3s,baz=229,slow=15,SNR=21
ARCES Sn **Sn** **00 18 29.9 +1.6**
comp=Z,0.9nm,0.3s,baz=226,slow=24,SNR=12
comp=Z,1.1nm,0.3s
KMNF Kaamanen 2.84 59 PB **Pn** **00 17 59.9 +0.5**
KMNF SN **Sn** **00 18 35.6 +1.4**
RAJF Raja-Jooseppi 3.11 74 PB **Pn** **00 18 05.3 +2.3**
RAJF SB **Sb** **00 18 47.0 -0.2**
KEV Kevo 3.15 49 PB **Pn** **00 18 05.4 +1.8**
KEV SN **Sn** **00 18 42.5 +0.7**
RANF Ranua 3.16 122 PG **Pb** **00 18 10.7 +0.9**
baz=306
BURU Burvik 3.28 171 PB **Pn** **00 18 07.8 +2.5**
OUL Oulu 3.57 137 PG **Pb** **00 18 17.5 +0.8**
KU2 Taivalkoski 3.82 120 PG **Pb** **00 18 22.6 +1.6**
OLKF Oulanka, Finla 3.90 108 PN **Pn** **00 18 14.6 +0.7**
UMAU Umeaa 3.96 177 PB **Pn** **00 18 16.9 +2.2**
baz=357
KU6 Riekki 4.22 111 PG **Pb** **00 18 28.5 +0.7**
FINES FINESS Array B 6.88 156 Pn **Pn** **00 18 54.4 -0.3**
comp=Z,0.1nm,0.3s,baz=344,slow=11,SNR=1.6
FINES Sn **Sn** **00 20 12.9 -0.6**
comp=Z,0.1nm,0.3s,baz=345,slow=21,SNR=1.3
FINES Lg Lg 00 20 46.8
comp=Z,0.3nm,0.3s,baz=343,slow=26,SNR=5.4
comp=Z,3.2nm,1.0s
NOA NORSAR Array B 7.82 214 Pn **Pn** **00 19 07.3 -0.5**
baz=30,slow=3.0,SNR=1.6
comp=Z,0.5nm,0.8s
HFS Hagfors 8.22 203 Pn **Pn** **00 19 11.9 -1.2**
comp=Z,0.1nm,0.3s,baz=19,slow=14,SNR=1.1
HFS Sn **Sn** **00 20 42.0 -4.6**
comp=Z,0.1nm,0.3s,baz=32,slow=22,SNR=1.9
HFS Lg Lg 00 21 30.8
comp=Z,0.1nm,0.3s,baz=26,slow=33,SNR=2.0
comp=Z,0.8nm,0.6s

---

*IDC **03** 00:18:29.8±1.4, 56°.15N×149°.57W, h0km, mb3.5/5, mbtmp3.4/9, ML3.0/4, MS3.3/10, Error ellipse: s-maj=29.6km s-min=19.6km az=38.0*
*NEIC **03** 00:18:30.5±1.4, 56°.16N±0°.08×149°.738W±0°.006, h23km±9km, ML3.8/62, ML3.5(AEIC), Error ellipse: s-maj=11.8km s-min=0.5km az=180.0*
*AEIC **03** 00:18:34.2±1.4, 56°.17N±0°.09×149°.7W±0°.1, h10km±7km, Error ellipse: s-maj=13.0km s-min=8.9km az=169.0*
ISC 03 00:18:30.2±0.8, 56°.26N±0°.08×149°.75W±0°.05, h10km, n136, σ1§06/123, mb3.6/5, MS3.3/6, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**298**	Pn	**Pn**	**00 19 05.6**	**-0.8**
OHAK					**Sn**	**00 19 31.0**	**-2.5**
KDAK	**Kodiak Island**	**2.18**	**316**	Pn	**Pn**	**00 19 06.3**	**-0.2**
KDAK					**Sn**	**00 19 32.0**	**-1.5**
KDAK	**Kodiak Island**	**2.18**	**316**	Pn	**Pn**	**00 19 06.3**	**-0.2**
	5.1nm,0.3s,baz=130,slow=7.9,SNR=160						
KDAK				Sn	**Sn**	**00 19 31.5**	**-2.0**
	16nm,0.3s,baz=113,slow=15,SNR=18						
	16nm,0.4s						
SII	**Sitkinak Islan**	**2.48**	**279**		**Pn**	**00 19 09.7**	**-1.0**
SII					**Sn**	**00 19 38.0**	**-3.1**
SII	**Sitkinak Islan**	**2.48**	**279**	IAML		00 19 39.4	
	comp=E,600nm,0.8s						
SII				IAML		00 19 42.4	
	comp=N,595nm,0.7s						
SYI	**Shuyak Island**	**2.76**	**330**	Pn	**Pn**	**00 19 14.4**	**0.0**
SYI	**Shuyak Island**	**2.76**	**330**		**Sn**	**00 19 46.3**	**-1.5**
R18K	**Karluk**	**2.90**	**299**		**Pn**	**00 19 16.5**	**+0.2**
R18K					**Sn**	**00 19 49.5**	**-1.7**
R18K	**Karluk**	**2.90**	**299**	IAML		00 19 52.1	
	comp=N,328nm,0.5s						
R18K				IAML		00 19 55.0	
	comp=E,276nm,0.5s						
CHIR	**Chirikof Islan**	**3.33**	**265**	Pn	**Pn**	**00 19 20.6**	**-1.6**
CHIR				IAML		00 19 58.7	
	comp=N,252nm,0.6s						
CNPM	**China Poot**	**3.37**	**347**		**Pn**	**00 19 22.8**	**-0.2**
CNPM				IAML		00 20 04.6	
	comp=E,136nm,0.7s						
Q19K	**Cape Douglas,**	**3.40**	**324**		**Pn**	**00 19 24.2**	**+0.9**
Q19K				IAML		00 20 19.9	
	comp=N,252nm,1.1s						
KAHG	**Katmai Hook Gl**	**3.43**	**313**		**Pn**	**00 19 25.2**	**+1.4**
BRSE	**Bradley Lake S**	**3.54**	**352**		**Pn**	**00 19 24.9**	**-0.3**
HOM	**Homer**	**3.56**	**344**	Pn	**Pn**	**00 19 25.3**	**-0.1**
HOM				IAML		00 20 16.7	
	comp=E,239nm,1.2s						
BRLK	**Bradley Lake**	**3.57**	**351**		**Pn**	**00 19 25.0**	**-0.6**
BRLK				IAML		00 20 08.3	
	comp=N,92nm,0.3s						
BRLK				IAML		00 20 11.6	
	comp=E,107nm,0.6s						
ACHA	**Angle Creek He**	**3.61**	**305**		**Pn**	**00 19 26.8**	**+0.5**
Q23K	**Middleton Isla**	**3.66**	**28**	Pn	**Pn**	**00 19 25.8**	**-1.1**
ANCK	**Angle Creek**	**3.68**	**304**		**Pn**	**00 19 28.0**	**+0.8**
AUCH	**Augustine Cone**	**3.69**	**329**		**Pn**	**00 19 28.4**	**+1.1**
SEW	**Seward**	**3.86**	**2**	Pn	**Pn**	**00 19 29.0**	**-0.6**
P19K	**Oil Pt**	**3.88**	**333**		**Pn**	**00 19 30.4**	**+0.6**
P19K	**Oil Pt**	**3.88**	**333**	IAML		00 20 19.4	
	comp=N,121nm,0.5s						
P19K				IAML		00 20 20.8	
	comp=E,164nm,0.4s						
KELA	**Mount Kelaz**	**3.92**	**306**		**Pn**	**00 19 31.1**	**+0.7**
P23K	**Montague Islan**	**3.95**	**17**		**Pn**	**00 19 30.8**	**0.0**
PLK1	**Peulik 1**	**4.06**	**295**		**Pn**	**00 19 32.9**	**+0.6**
ILSW	**Iliamna Southw**	**4.15**	**336**		**Pn**	**00 19 33.5**	**-0.2**
O22K	**Cooper Landing**	**4.24**	**0**	Pn	**Pn**	**00 19 34.7**	**-0.1**
SLKM	**Skilak Lake**	**4.27**	**357**		**Pn**	**00 19 34.6**	**-0.7**
SLKM				IAML		00 20 25.1	
	comp=N,76nm,0.2s						
SLKM				IAML		00 20 25.9	
	comp=E,86nm,0.7s						
P18K	**Big Mountain,**	**4.30**	**319**		**Pn**	**00 19 35.7**	**+0.1**
HIN	**Hinchinbrook I**	**4.49**	**21**	Pn	**Pn**	**00 19 38.1**	**-0.1**
HIN				IAML		00 20 18.3	
	comp=E,116nm,2.3s						
HIN				IAML		00 22 24.2	
	comp=N,108nm,2.4s						
RDT	**Redoubt**	**4.55**	**343**		**Pn**	**00 19 38.9**	**-0.2**
O18K	**Koktuh Hills**	**4.63**	**323**		**Pn**	**00 19 40.0**	**-0.1**
O18K				IAML		00 20 49.1	
	comp=E,48nm,0.9s						
O18K				IAML		00 20 50.4	
	comp=N,67nm,0.9s						
KAIM	**Kayak Island**	**4.64**	**35**	Pn	**Pn**	**00 19 40.1**	**-0.2**
ANNE	**Aniakchak Nort**	**4.64**	**282**		**Pn**	**00 19 40.5**	**+0.1**
PWL	**Port Wells**	**4.68**	**9**		**Pn**	**00 19 40.5**	**-0.3**
PWL				IAML		00 20 34.9	
	comp=N,57nm,0.5s						
PWL				IAML		00 20 34.9	
	comp=E,68nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.79**	**24**		**Pn**	**00 19 42.1**	**-0.2**
FID	**Port Fidalgo**	**4.82**	**19**	Pn	**Pn**	**00 19 42.5**	**-0.3**
FID				IAML		00 20 48.5	
	comp=N,46nm,1.4s						
FID				IAML		00 20 52.7	
	comp=E,54nm,1.1s						
CHGN	**Chignik**	**4.83**	**274**	Pn	**Pn**	**00 19 42.7**	**-0.2**
CHGN				IAML		00 20 39.4	
	comp=E,94nm,1.0s						
GLI	**Glacier Island**	**4.84**	**16**		**Pn**	**00 19 43.5**	**+0.5**
GLI	**Glacier Island**	**4.84**	**16**	IAML		00 20 40.9	
	comp=E,58nm,0.5s						
GLI				IAML		00 21 31.9	
	comp=N,40nm,1.5s						
RC01	**Rabbit Creek A**	**4.85**	**0**		**Pn**	**00 19 42.9**	**-0.3**
RC01				IAML		00 20 41.0	
	comp=N,56nm,0.4s						
RC01				IAML		00 20 44.5	
	comp=E,62nm,0.5s						
RAGM	**Ragged Mountai**	**4.93**	**31**		**Pn**	**00 19 44.4**	**+0.1**
SUCK	**Suckling Hills**	**4.96**	**37**		**Pn**	**00 19 44.6**	**-0.1**
SUCK				IAML		00 21 43.3	
	comp=N,90nm,3.1s						
HMT	**Hamilton**	**5.01**	**33**		**Pn**	**00 19 45.6**	**+0.2**
NICHA	**Nichawak Mount**	**5.02**	**35**		**Pn**	**00 19 45.8**	**+0.2**
GOAT	**Goat Mountain**	**5.08**	**29**		**Pn**	**00 19 46.5**	**+0.2**
CKL	**Chakachamna La**	**5.14**	**346**		**Pn**	**00 19 46.5**	**-0.7**
BGLC	**Bering Glacier**	**5.17**	**39**		**Pn**	**00 19 47.9**	**+0.4**
N19K	**Bonanza Creek**	**5.20**	**333**		**Pn**	**00 19 47.3**	**-0.7**
KNK	**Knik Glacier**	**5.22**	**7**		**Pn**	**00 19 48.3**	**+0.1**
KNK	**Knik Glacier**	**5.22**	**7**	IAML		00 20 51.3	
	comp=E,35nm,0.8s						
KNK				IAML		00 21 17.7	
	comp=N,32nm,2.8s						
P16K	**Nushagak River**	**5.23**	**306**		**Pn**	**00 19 49.2**	**+0.8**
SUA	**Susitna One**	**5.25**	**355**		**Pn**	**00 19 48.1**	**-0.7**
SUA				IAML		00 21 53.8	
	comp=E,46nm,3.4s						
SUA				IAML		00 22 29.1	
	comp=N,36nm,3.9s						
O17K	**Koliganek Bris**	**5.26**	**315**		**Pn**	**00 19 49.3**	**+0.5**
DIV	**Divide**	**5.31**	**21**		**Pn**	**00 19 49.8**	**+0.2**
SPNN	**North Nagishla**	**5.35**	**345**		**Pn**	**00 19 50.2**	**0.0**
SNH	**Sunshine Point**	**5.37**	**40**		**Pn**	**00 19 50.1**	**-0.2**
STLK	**Strandline Lak**	**5.37**	**349**		**Pn**	**00 19 50.1**	**-0.2**
BMRM	**Bremner River**	**5.43**	**27**		**Pn**	**00 19 51.3**	**0.0**
N18K	**Kilae Creek**	**5.48**	**327**		**Pn**	**00 19 51.8**	**-0.1**
GHO	**Glory Hole Cre**	**5.55**	**4**		**Pn**	**00 19 53.5**	**+0.6**
O16K	**Kokwok River B**	**5.56**	**310**		**Pn**	**00 19 53.3**	**+0.4**
KLU	**Klutina**	**5.61**	**19**		**Pn**	**00 19 54.4**	**+0.7**
SML	**Sawmill**	**5.62**	**7**	Pn	**Pn**	**00 19 54.5**	**+0.7**
MESA	**MESA**	**5.69**	**43**		**Pn**	**00 19 55.0**	**+0.1**
CNBA	**Chernabura Isl**	**5.77**	**260**	Pn	**Pn**	**00 19 53.8**	**-2.0**
N17K	**Nushagak Hills**	**5.80**	**321**		**Pn**	**00 19 56.8**	**+0.6**
SKT	**Skwentna**	**5.81**	**352**		**Pn**	**00 19 56.4**	**-0.1**
VRDI	**Verde Repeater**	**5.96**	**31**		**Pn**	**00 19 58.0**	**-0.6**
N25K	**Chitina, Valde**	**5.99**	**24**		**Pn**	**00 19 59.4**	**+0.5**
RKAV	**Rock Avalanche**	**6.00**	**44**		**Pn**	**00 19 59.2**	**+0.1**
GLB	**Gilahina Butte**	**6.04**	**28**		**Pn**	**00 19 59.6**	**0.0**
SAMH	**Samovar Hills**	**6.13**	**47**		**Pn**	**00 20 01.0**	**+0.2**
O15K	**Ungalikthiuk R**	**6.14**	**303**		**Pn**	**00 20 01.5**	**+0.6**
M24K	**Tolsona, Glenn**	**6.15**	**16**		**Pn**	**00 20 02.5**	**+1.5**
PCA	**Pinnacle**	**6.32**	**49**		**Pn**	**00 20 03.0**	**-0.5**
N16K	**Nishlik Lake**	**6.36**	**315**		**Pn**	**00 20 04.7**	**+0.9**
WASW	**Wrangell South**	**6.37**	**24**		**Pn**	**00 20 05.1**	**+0.9**
WACK	**Wrangell Chich**	**6.39**	**24**		**Pn**	**00 20 04.4**	**-0.1**
L19K	**White Mountain**	**6.49**	**338**		**Pn**	**00 20 05.1**	**-0.7**
N15K	**Kwethluk River**	**6.72**	**310**		**Pn**	**00 20 10.1**	**+1.1**
PPLA	**Purkeypile**	**6.78**	**350**	Pn	**Pn**	**00 20 11.1**	**+1.4**
PS4A	**Pavlof South-4**	**6.89**	**267**		**Pn**	**00 20 10.3**	**-0.9**
S12K	**Black Hills**	**6.93**	**271**	Pn	**Pn**	**00 20 11.0**	**-0.8**
PAX	**Paxson**	**7.07**	**16**		**Pn**	**00 20 14.0**	**+0.3**
O29M	**Mount Kennedy**	**7.15**	**51**		**Pn**	**00 20 14.9**	**0.0**
RND	**Reindeer**	**7.19**	**3**	Pn	**Pn**	**00 20 15.8**	**+0.5**
YUK8	**Steele Glacier**	**7.23**	**42**		**Pn**	**00 20 16.8**	**+0.7**
YUK3	**Moose Creek**	**7.32**	**37**		**Pn**	**00 20 18.2**	**+1.0**
MCK	**McKinley**	**7.51**	**3**		**Pn**	**00 20 20.2**	**+0.5**
S31K	**Pelican**	**7.56**	**71**	Pn	**Pn**	**00 20 17.5**	**-2.7**
YUK6	**Outpost Mounta**	**7.57**	**47**		**Pn**	**00 20 21.2**	**+0.5**
BPAW	**Bear Paw Mtn.**	**7.89**	**356**	Pn	**Pn**	**00 20 24.7**	**-0.2**
BESE	**Bessie Mountai**	**8.37**	**68**	Pn	**Pn**	**00 20 30.2**	**-1.3**
S32K	**Killisnoo**	**8.40**	**75**	Pn	**Pn**	**00 20 29.2**	**-2.6**
O30N	**Mendenhall**	**8.45**	**52**	Pn	**Pn**	**00 20 32.3**	**-0.3**
M29M	**Somme Creek**	**8.46**	**38**		**Pn**	**00 20 32.5**	**-0.3**
CCB	**Clear Creek Bu**	**8.47**	**6**		**Pn**	**00 20 33.6**	**+0.8**
ILAR	**Eielson Array**	**8.66**	**8**	Pn	**Pn**	**00 20 35.8**	**+0.4**
ILAR	**Eielson Array**	**8.66**	**8**	Pn	**Pn**	**00 20 35.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=192,slow=13,SNR=18						
ILAR				Sn	**Sn**	**00 22 08.3**	**-4.7**
	comp=N,0.4nm,0.3s,baz=201,slow=20,SNR=6.4						
ILAR				LR	LR	00 24 13.7	
	comp=N,58nm,20.4s,baz=242,slow=39						
	comp=N,0.9nm,0.6s						
WHY	**Whitehorse**	**8.95**	**54**	Pn	**Pn**	**00 20 39.3**	**-0.2**
P32M	**Atlin**	**9.16**	**62**	Pn	**Pn**	**00 20 41.5**	**-0.8**
DAWY	**Dawson**	**9.37**	**29**	Pn	**Pn**	**00 20 44.4**	**-0.7**
H21K	**Melozitna Rive**	**9.55**	**352**		**Pn**	**00 20 46.7**	**-0.8**
K29M	**Barlow Dome**	**9.74**	**34**	Pn	**Pn**	**00 20 50.7**	**+0.3**
P33M	**Teslin, Yukon**	**9.76**	**59**	Pn	**Pn**	**00 20 49.4**	**-1.1**
Q32M	**Nakina River**	**9.76**	**67**	Pn	**Pn**	**00 20 51.2**	**+0.6**
M31M	**Drury Creek, Y**	**9.86**	**46**	Pn	**Pn**	**00 20 52.7**	**+0.9**
UNV	**Unalaska Valle**	**9.91**	**263**	Pn	**Pn**	**00 20 50.0**	**-2.6**
IMAR	**Indian Mountai**	**9.95**	**350**	Pn	**Pn**	**00 20 52.7**	**-0.3**
FARO	**Faro, Yukon**	**10.29**	**48**	Pn	**Pn**	**00 20 57.7**	**-0.1**
R33M	**Jennings River**	**10.49**	**65**	Pn	**Pn**	**00 20 59.7**	**-0.9**
G23K	**Bananza Creek**	**10.49**	**359**		**Pn**	**00 20 59.7**	**-0.8**
DLBC	**Dease Lake**	**10.87**	**70**	LR	LR	00 24 41.5	
	comp=N,208nm,18.6s,baz=262,slow=34						
MMPY	**Sheldon Lake,**	**11.34**	**48**	Pn	**Pn**	**00 21 12.5**	**+0.4**
BBB	**Bella Bella**	**13.28**	**99**	LR	LR	00 25 17.1	
	comp=N,80nm,19.2s,baz=5.5,slow=31						
INK	**Inuvik**	**14.18**	**25**	Pn	**Pn**	**00 21 51.3**	**+0.5**
	comp=N,0.1nm,0.3s,baz=222,slow=10,SNR=4.6						
	comp=N,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**18.77**	**56**	P	**P**	**00 22 50.0**	**+0.9**
	baz=266,slow=11,SNR=13						
YKA				LR	LR	00 29 57.5	
	comp=N,83nm,18.5s,baz=344,slow=37						
	comp=N,2.0nm,1.1s						
RES	**Resolute Bay**	**27.70**	**28**	LR	LR	00 35 41.0	
	comp=N,28nm,18.3s,baz=10,slow=37						
PDAR	**Pinedale Array**	**28.91**	**101**	P	**P**	**00 24 28.7**	**-0.7**
	comp=N,0.2nm,0.6s,baz=308,slow=7.9,SNR=4.9						
	comp=N,0.2nm,0.6s						
MA2	**Magadan**	**30.85**	**301**	LR	LR	00 35 56.5	
	comp=N,55nm,20.9s,baz=40,slow=34						
PFO	**Pinyon Flats O**	**32.17**	**121**	LR	LR	00 36 22.7	
	comp=N,60nm,18.6s,baz=166,slow=34						
FRB	**Frobisher Bay**	**38.63**	**45**	LR	LR	00 41 57.1	
	comp=N,84nm,18.2s,baz=278,slow=36						
TXAR	**Lajitas Array**	**42.06**	**110**	P	**P**	**00 26 22.4**	**+0.4**
	comp=N,1.0nm,1.1s,baz=326,slow=6.9,SNR=4.7						
	comp=N,1.0nm,1.1s						
SFJD	**Kangerlussuaq**	**43.26**	**34**	LR	LR	00 43 42.4	
	comp=N,40nm,19.2s,baz=271,slow=35						
NRIK	**Noril'sk**	**48.03**	**336**	LR	LR	00 50 12.0	
	comp=N,55nm,19.5s,baz=108,slow=40						
H11N2	**WAKE ISLAND Hy**	**48.65**	**239**	T	T	01 19 37.7	
	baz=31,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**48.65**	**239**	T	T	01 19 39.6	
	baz=31,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**48.66**	**239**	T	T	01 19 40.7	
	baz=31,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**49.79**	**239**	T	T	01 21 01.7	
	baz=30,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**49.80**	**239**	T	T	01 21 02.7	
	baz=30,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**49.81**	**239**	T	T	01 21 05.1	
	baz=30,slow=76,SNR=5.3						
SONM	**Songino Array**	**58.46**	**310**	P	**P**	**00 28 27.8**	**+1.7**
	comp=N,0.5nm,0.8s,baz=39,slow=7.4,SNR=4.1						
	comp=N,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**61.44**	**327**	P	**P**	**00 28 50.2**	**+4.0**
	comp=N,0.2nm,0.4s,baz=35,slow=7.8,SNR=1.8						
	comp=N,0.2nm,0.4s						
MKAR	**Makanchi Array**	**68.47**	**324**	P	**P**	**00 29 33.3**	**+1.2**
	comp=N,0.4nm,0.9s,baz=25,slow=5.8,SNR=2.0						
	comp=N,0.4nm,0.9s						

---

*DJA **03** 00:33:00.2±0.4, 2°.N±4°×10°.0E±°, h174km±4km, M4.3/15, mB4.9/3, mb4.3/4, MLv4.3/15, Mw(mB)4.2/3*
*IDC **03** 00:33:01.2±1.0, 1°.70N×99°.46E, h164km±4km, mb3.7/13, mbtmp4.1/14, Error ellipse: s-maj=37.6km s-min=13.6km az=54.0*
ISC 03 00:33:01.1±0.6, 1°.72N±0°.06×99°.50E±0°.08, h166km, n28, σ1§06/35, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.92**	**175**	P	**Pn**	**00 33 27.8**	**+1.0**
MNSI				S	**Sn**	**00 33 47.6**	**+0.9**
PSI	**Prapat**	**1.22**	**332**	P	**Pn**	**00 33 29.3**	**-0.1**
	28nm,0.3s,baz=150,slow=9.4,SNR=41						
PSI				S	**Sn**	**00 33 49.6**	**-1.7**
	42nm,0.5s,baz=139,slow=19,SNR=27						
PSI				LR	LR	00 33 56.2	
	comp=Z,32nm,20.6s,baz=142,slow=49						
GSI	**Gunungsitoli**	**1.96**	**258**	P	**Pn**	**00 33 37.8**	**+0.9**
GSI				S	**Sn**	**00 34 03.9**	**-0.6**
TSI	**Tuntungan**	**2.00**	**332**	P	**Pn**	**00 33 37.7**	**+0.4**
PPI	**Padang Panjang**	**2.34**	**157**	P	**Pn**	**00 33 42.3**	**+1.1**
KCSI	**Kotacane, Aceh**	**2.49**	**316**	P	**Pn**	**00 33 43.2**	**+0.3**
SNSI	**Sinabang, Aceh**	**3.24**	**282**	P	**Pn**	**00 33 52.0**	**-0.2**
MLSI	**Meulaboh, Aceh**	**4.00**	**309**	P	**Pn**	**00 34 01.7**	**-0.1**
LHMI	**Lhok Sumawe**	**4.32**	**324**	P	**Pn**	**00 34 06.6**	**+0.6**
PPSI	**Pulau Pagai**	**4.48**	**173**	P	**Pn**	**00 34 04.8**	**-3.3**
BSI	**Banda Aceh**	**5.63**	**312**	P	**Pn**	**00 34 22.3**	**-0.8**
	0.5nm3μm90nm,0.8s						
MNAI	**Manna**	**6.96**	**150**	P	**Pn**	**00 34 38.3**	**-2.4**
	102nm,1.1s						
MDSI	**Maura Dua**	**7.74**	**143**	P	**Pn**	**00 34 50.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.65**	**358**	P	**Pn**	**00 36 46.5**	**+1.4**
	0.4nm,0.4s,baz=173,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**40.39**	**124**	P	**P**	**00 40 23.5**	**+0.3**
	1.4nm,0.3s,baz=298,slow=8.2,SNR=21						
WRA				PcP	**PcP**	**00 42 22.8**	**-0.4**
	0.6nm,0.8s,baz=308,slow=2.9,SNR=1.9						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**41.90**	**129**	P	**P**	**00 40 35.9**	**+0.4**
	0.3nm,0.7s,baz=303,slow=8.3,SNR=2.1						
	0.3nm,0.7s						
KSRS	**Korea Array**	**44.15**	**33**	P	**P**	**00 40 53.0**	**-0.3**
	0.6nm,0.7s,baz=235,slow=9.5,SNR=2.2						
	0.6nm,0.7s						
SONM	**Songino Array**	**46.33**	**6**	P	**P**	**00 41 10.7**	**+0.3**
	1.2nm,0.5s,baz=195,slow=9.0,SNR=14						
SONM				PcP	**PcP**	**00 42 43.1**	**+0.2**
	0.6nm,0.4s,baz=190,slow=4.1,SNR=5.7						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**47.34**	**344**	P	**P**	**00 41 18.8**	**+0.6**
	2.8nm,0.3s,baz=159,slow=7.8,SNR=114						
MKAR				PcP	**PcP**	**00 42 47.3**	**+0.9**
	0.2nm,0.6s,baz=128,slow=1.9,SNR=2.0						
	2.8nm,0.3s						
KURBB	**Kurchatov Arra**	**51.87**	**343**	P	**P**	**00 41 52.8**	**+0.4**
	0.7nm,0.4s,baz=156,slow=7.0,SNR=11						
KURBB				PcP	**PcP**	**00 43 03.7**	**+0.9**
	0.1nm,0.4s,baz=113,slow=2.1,SNR=1.9						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**53.45**	**349**	P	**P**	**00 42 04.1**	**+0.3**
	2.9nm,0.5s,baz=162,slow=7.7,SNR=21						
	2.9nm,0.5s						
BVAR	**Borovoye Array**	**56.55**	**339**	P	**P**	**00 42 26.0**	**-0.2**
	1.0nm,0.4s,baz=142,slow=7.3,SNR=14						
	1.0nm,0.4s						
BRTR	**Keskin Array B**	**70.47**	**312**	P	**P**	**00 43 57.8**	**-0.2**
	0.2nm,0.5s,baz=107,slow=4.2,SNR=2.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**80.61**	**332**	P	**P**	**00 44 55.1**	**+0.1**
	0.5nm,0.4s,baz=107,slow=3.3,SNR=5.5						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**82.83**	**340**	P	**P**	**00 45 06.6**	**+0.1**
	3.5nm,1.0s,baz=110,slow=7.0,SNR=5.0						
	3.5nm,1.0s						
HFS	**Hagfors**	**86.42**	**330**	P	**P**	**00 45 25.2**	**+0.5**
	8.2nm,1.2s,baz=81,slow=10,SNR=1.6						
	8.2nm,1.2s						
SPITS	**Spitsbergen Ar**	**86.92**	**348**	P	**P**	**00 45 26.0**	**-0.8**
	8.1nm,0.9s,baz=92,slow=10,SNR=1.5						
	8.1nm,0.9s						
TXAR	**Lajitas Array**	**141.99**	**34**	PKP	**PKPdf**	**00 52 12.1**	**-2.1**
	0.2nm,0.8s,baz=326,slow=4.3,SNR=3.4						

---

*NEIC **03** 00:36:48.5±1.4, 40°.27N±0°.02×124°.69W±0°.04, h10km±2km, Error ellipse: s-maj=6.1km s-min=3.7km az=67.0*
*NCEDC **03** 00:36:50.9±3.2, 40°.31N±0°.02×124°.48W±0°.05, h7km±6km, Mwr3.5, ML3.0/64(NEIC), Error ellipse: s-maj=5.4km s-min=2.4km az=83.0*
*IDC **03** 00:36:51.1±3.3, 40°.42N×124°.27W, h0km, mb2.9/2, mbtmp3.0/3, ML2.9/1, MS3.0/1, Error ellipse: s-maj=41.3km s-min=17.9km az=86.0*
ISC 03 00:36:48.7±1.6, 40°.28N±0°.03×124°.64W±0°.07, h11km±10km, n77, σ0§94/69, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.30**	**49**		**Pg**	**00 36 55.9**	**+1.0**
KCTM					**Sg**	**00 37 00.0**	**+1.0**
KMPM	**Mount Pierce**	**0.42**	**70**	Pg	**Pb**	**00 36 57.6**	**-0.6**
KMPM				Sg	**Sb**	**00 37 02.9**	**-1.7**
KCRM	**Chalk Rock**	**0.64**	**76**		**Pb**	**00 37 02.2**	**+0.2**
JCC	**Jacoby Creek,**	**0.71**	**40**		**Pb**	**00 37 03.1**	**0.0**
JCC				Sg	**Sb**	**00 37 13.3**	**+0.5**
JCC				IAML		00 37 15.4	
	comp=N,932nm,0.8s						
KMRM	**Mail Ridge**	**0.71**	**94**		**Pb**	**00 37 03.6**	**+0.4**
KMRM				Sg	**Sb**	**00 37 13.8**	**+0.8**
KMRM				IAML		00 37 17.1	
	comp=E,2μm,0.9s						
KMRM				IAML		00 37 17.7	
	comp=N,1μm,0.8s						
KHMM	**Horse Mountain**	**0.91**	**49**		**Pb**	**00 37 06.7**	**0.0**

OSUM	Sutter Buttes	2.37	114			Pn	00 37 27.5 0.0
LRDM	Redding Peak	2.43	85			Pn	00 37 28.9 +0.4
HATC	Hat Creek Radi	2.48	76			Pn	00 37 29.3 +0.2
HATC					IAML		00 38 37.9
	comp=N,95nm,1.3s						
HATC					IAML		00 38 46.4
	comp=E,91nm,1.2s						
LGMM	Garner Mountai	2.50	57			Pn	00 37 30.1 +0.6
ORV	Oroville	2.52	106	Pn		Pn	00 37 29.1 -0.5
K02D	Willamette Mer	2.52	16			Pn	00 37 29.8 +0.1
K02D					IAML		00 38 06.3
	comp=E,92nm,4.4s						
K02D					IAML		00 38 21.4
	comp=N,85nm,4.7s						
MCCM	Marconi Confer	2.53	147	Pn		Pn	00 37 28.6 -1.1
LTIM	Timbered Crate	2.56	68			Pn	00 37 30.2 +0.1
LBCM	Butte Creek Ri	2.57	76			Pn	00 37 30.4 +0.1
M04C	Macdoel	2.60	54			Pn	00 37 31.1 +0.3
L04D	Klamath Falls	2.62	41	Pn		Pn	00 37 31.9 +0.8
L04D					IAML		00 38 06.5
	comp=N,42nm,0.7s						
L04D					IAML		00 38 27.3
	comp=E,84nm,0.9s						
DBO	Dodson Butte	3.03	20			Pn	00 37 36.7 +0.1
AFDM	Forest Hills D	3.13	114			Pn	00 37 38.2 +0.3
K04D	Chiloquin, OR	3.19	42			Pn	00 37 39.2 +0.2
J04A	Umpqua Nationa	3.51	32			Pn	00 37 44.3 +0.9
MPK	Martis Peak	3.68	104	Pn		Pn	00 37 46.2 +0.4
J05D	Fort Rock, OR	3.94	39			Pn	00 37 50.3 +1.1
PNTR	Pine Nut	4.06	105			Pn	00 37 52.2 +1.2
PNTR					IAML		00 38 56.1
	comp=E,13nm,1.1s						
PNTR					IAML		00 39 23.2
	comp=N,30nm,1.4s						
PAHR	Pah Rah Range	4.08	96			Pn	00 37 50.5 -0.6
SAO	San Andreas Ge	4.31	143	Pn		Pn	00 37 54.2 +0.1
PINE	Pine Mountain	4.46	37	Pn		Pn	00 37 57.8 +1.3
NVAR	Mina Array Bea	5.24	109	Pn		Pn	00 38 09.0 +1.8
	comp=N,0.4nm,0.3s,baz=302,slow=15,SNR=6.2						
	comp=N,0.9nm,0.5s						
PLID	Pearl Lake	7.97	50			Pn	00 38 45.2 +0.6
NEW	Newport	9.63	31	LR		LR	00 42 50.0
	comp=N,86nm,18.8s,baz=280,slow=38						
TXAR	Lajitas Array	20.34	116	P		Pn	00 41 26.9 -0.2
	comp=N,0.6nm,0.9s,baz=319,slow=8.2,SNR=4.6						
	comp=N,0.6nm,0.9s						
YKA	Yellowknife Ar	23.06	12	P		P	00 41 56.7 +3.0
	comp=N,0.4nm,0.9s,baz=195,slow=12,SNR=3.3						
	comp=N,0.4nm,0.9s						
H11N3	WAKE ISLAND Hy	61.27	272	T		T	01 53 49.1
	baz=53,slow=75,SNR=35						
H11N2	WAKE ISLAND Hy	61.27	272	T		T	01 53 49.4
	baz=53,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy	61.29	272	T		T	01 53 49.4
	baz=53,slow=75,SNR=23						

*IDC **03** 00:44:05.3±1.3, 4°.29S×144°.57E, h0km, mb3.6/5, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=58.8km s-min=24.8km az=105.0*

ISC 03 00:44:18.0±1.3, 4°.5S±0°.2×144°.3E±0°.4, h100km, n6, σ0°43/6, mb3.5/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.20	212	P	P	00 48 22.9	-0.3
	0.3nm,0.3s,baz=32,slow=11,SNR=13						
	1.7nm,0.6s						
ASAR	Alice Springs	21.57	207	P	P	00 48 59.6	-0.1
	1.4nm,0.7s,baz=24,slow=10,SNR=15						
	1.4nm,0.7s						
MKAR	Makanchi Array	74.66	321	P	P	00 55 46.5	-0.2
	0.1nm,0.5s,baz=108,slow=6.8,SNR=1.8						
	0.1nm,0.5s						
BVAR	Borovoye Array	84.00	324	P	P	00 56 37.6	+0.4
	0.4nm,0.5s,baz=97,slow=7.4,SNR=2.5						
	0.4nm,0.5s						
ILAR	Eielson Array	85.15	24	P	P	00 56 42.4	-0.3
	0.4nm,0.6s,baz=257,slow=5.4,SNR=9.1						
	0.4nm,0.6s						
QSPA	South Pole Qui	85.47	180	P	P	00 56 44.9	+0.3
	0.5nm,0.5s,baz=297,slow=2.3,SNR=1.6						
	0.5nm,0.5s						

TXNET 03 00:47:10.9, 31°.7N±0°.7×104°.3W±0°.8, h4km±1km, ML1.8/9, Error ellipse: s-maj=1.3km s-min=1.0km az=62.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.34	32	P	Pg	00 47 17.6	+0.1
TPB11				S	Sg	00 47 21.9	0.0
PECS	Pecos	0.42	130	P	Pg	00 47 19.3	+0.3
PECS				S	Sg	00 47 24.8	+0.2
PECS	Pecos	0.42	130	P	Pn	00 47 22.7	-1.2
TPB12	Southwest of T	0.50	150	P	Pn	00 47 27.2	+2.3
TPB07	Mentone	0.50	97	P	Pg	00 47 20.9	+0.5
TPB07				S	Sg	00 47 27.3	+0.4
TPB07	Mentone	0.50	97	P	Sg	00 47 27.8	+0.9
TPB10	Southeast of T	0.55	131	P	Pg	00 47 21.9	+0.4
TPB10	Southeast of T	0.55	131	P	Sg	00 47 29.6	+0.9
TPB10	Southeast of T	0.55	131	S	Sg	00 47 29.4	+0.7
GDL2	Guadalupe Moun	0.56	350	P	Pg	00 47 22.3	+0.6
PCOS	Crockett Middl	0.67	110	S	Sg	00 47 32.7	+0.2
CLNB	Carlsbad	0.69	27	P	Pg	00 47 23.9	-0.2
CLNB				S	Sg	00 47 33.7	+0.5
CLNB	Carlsbad	0.69	27	P	Pn	00 47 24.3	+0.1
TPB01	Permian Basin	0.81	150	P	Pg	00 47 25.7	-0.6
TPB01				S	Sg	00 47 36.0	-0.7
TPB03	Saragosa	0.84	132	P	Pg	00 47 23.6	-3.3
CLN7	Carlsbad 7	0.85	26	P	Pb	00 47 28.6	+0.3
TPB06	Permian Basin	0.88	90	S	Sg	00 47 38.8	-0.3
MNTX	Cornudas Mount	0.97	273	P	Pg	00 47 29.5	+0.1
MNTX				S	Sg	00 47 42.5	+0.4
HTMS	Hat Mesa	0.97	32	P	Pg	00 47 29.4	-0.2
HTMS				S	Sg	00 47 42.6	+0.4
HTMS	Hat Mesa	0.97	32	P	Pb	00 47 30.1	-0.3
VHRN	Van Horn	1.06	217	P	Pg	00 47 31.0	-0.3
VHRN				S	Sb	00 47 45.9	-0.4
TPB05	Hovey Rd	1.07	132	P	Pg	00 47 31.0	-0.4
TPB05				S	Sg	00 47 45.1	-0.2
MNHN	Monahans	1.30	103	P	Pg	00 47 34.5	-1.4
MNHN				S	Sg	00 47 52.0	-0.8
ALPN	Alpine	1.37	157	P	Pn	00 47 35.5	-1.4
ALPN				S	Sg	00 47 53.3	-1.6
TPB08	Permian Basin	1.37	123	P	Pn	00 47 36.4	-0.5
TPB08				S	Sg	00 47 54.2	-0.7
CPRX	Cap Rock	1.42	13	P	Pn	00 47 37.5	-0.1
ODSA	Odessa	1.52	71	P	Pn	00 47 38.5	-0.5
ODSA				S	Sn	00 47 58.7	-0.5
TMB04	Seminole	1.78	56	P	Pn	00 47 42.6	0.0
TMB04				S	Sb	00 48 06.8	-0.1
TMB02	Rankin	1.94	103	P	Pn	00 47 45.6	+0.9
TMB02				S	Sb	00 48 10.6	-0.9
TX31	Lajitas Ar. Si	2.36	168	P	Pb	00 47 52.9	-1.1

IDC 03 00:53:44.8±2.4, 6°.70S×129°.80E, h0km, mb3.4/1, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=90.9km s-min=30.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.04	199	Pn	Pn	00 56 38.5	+0.8
	0.7nm,0.3s,baz=29,slow=10,SNR=12						
FITZ				Sn	Sn	00 58 38.3	-14
	0.3nm,0.3s,baz=312,slow=3.5,SNR=1.1						
	1.8nm,0.4s						
WRA	Warramunga Arr	13.88	162	Pn	Pn	00 57 02.5	-0.5
	0.3nm,0.3s,baz=340,slow=13,SNR=11						
WRA				Sn	Sn	00 59 21.8	-16
	0.5nm,0.3s,baz=332,slow=22,SNR=9.0						
	0.9nm,0.8s						
ASAR	Alice Springs	17.32	167	P	Pn	00 57 47.9	-0.4
	0.2nm,0.3s,baz=337,slow=8.7,SNR=9.4						
ASAR				S	Sn	01 00 47.0	-15
	0.4nm,0.7s,baz=343,slow=25,SNR=2.7						
	0.5nm,0.7s						
MKAR	Makanchi Array	67.87	327	P	P	01 04 45.1	0.0
	0.1nm,0.3s,baz=126,slow=7.9,SNR=2.6						
	0.1nm,0.3s						

TXNET 03 00:58:02.4, 31°.6N±0°.6×104°.3W±0°.7, h5km±2km, ML1.8/6, Error ellipse: s-maj=1.1km s-min=0.9km az=63.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	34	P	Pg	00 58 09.2	-0.1
TPB11				S	Sg	00 58 14.0	+0.1
PECS	Pecos	0.43	129	P	Pg	00 58 11.0	+0.2
PECS				S	Sg	00 58 16.8	+0.3
TPB12	Southwest of T	0.50	149	S	Sg	00 58 18.8	+0.2
TPB07	Mentone	0.51	97	S	Sg	00 58 19.4	+0.4
GDL2	Guadalupe Moun	0.56	351	P	Pg	00 58 13.5	+0.2
TPB10	Southeast of T	0.56	129	P	Pg	00 58 13.3	0.0
TPB10				S	Sg	00 58 21.0	+0.4
CLNB	Carlsbad	0.70	28	P	Pg	00 58 15.6	-0.3
CLNB				S	Sg	00 58 25.7	+0.7
TPB01	Permian Basin	0.81	149	P	Pg	00 58 17.4	-0.6
TPB01				S	Sg	00 58 28.0	-0.5
TPB03	Saragosa	0.85	131	S	Sg	00 58 30.4	+0.7
CLN7	Carlsbad 7	0.86	27	P	Pg	00 58 18.6	-0.3
MNTX	Cornudas Mount	0.96	274	P	Pg	00 58 20.9	+0.1
MNTX				S	Sg	00 58 33.6	+0.4
HTMS	Hat Mesa	0.98	33	P	Pg	00 58 21.3	0.0
VHRN	Van Horn	1.05	216	P	Pg	00 58 22.3	-0.3
VHRN				S	Sb	00 58 37.9	+0.5
TPB05	Hovey Rd	1.08	132	P	Pg	00 58 22.2	-1.0
TPB05				S	Sg	00 58 36.8	-0.3
MNHN	Monahans	1.32	103	P	Pn	00 58 26.2	-1.4
MNHN				S	Sg	00 58 42.8	-2.0
ALPN	Alpine	1.37	157	P	Pn	00 58 27.1	-1.3
ALPN				S	Sg	00 58 44.6	-2.0
TPB08	Permian Basin	1.38	122	S	Sb	00 58 45.2	-1.6
CPRX	Cap Rock	1.42	14	P	Pn	00 58 28.9	-0.2
ODSA	Odessa	1.53	71	P	Pn	00 58 30.0	-0.6
ODSA				S	Sn	00 58 49.7	-1.3
TMB04	Seminole	1.80	56	P	Pn	00 58 34.5	+0.3
TMB04				S	Sb	00 58 58.4	-0.4
TMB02	Rankin	1.95	103	P	Pn	00 58 36.7	+0.4
TMB02				S	Sn	00 59 02.2	+0.9

*ISN **03** 01:00:23.7±0.3, 34°.15N×45°.62E, h14km±10km, ML3.5*
*TEH **03** 01:00:23.9, 34°.17N×45°.62E, h16km±21km*

ISC 03 01:00:24.4±0.9, 34°.16N±0°.03×45°.65E±0°.04, h10km, n30, σ1°01/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.22	101	Pg	Pg	01 00 28.8	-0.1
KGS1	Ghasr-e-Shirin	0.35	352	Pg	Pg	01 00 30.3	-1.2
ILBA	Ilam Banvizeh	0.70	139	Pg	Pg	01 00 37.6	-0.4
IGHG	Ghaleghazi	0.78	77	Pg	Pg	01 00 39.2	-0.3
IDHR	Dehrash	0.81	48	Pg	Pg	01 00 38.8	-1.4
IBDR	Badra	1.07	167	*e*Pg	Pg	01 00 44.4	-0.5
IBDR				*e*Sg	Sn	01 00 59.3	-1.0
KCHF	Cheshme Sefid,	1.16	84	Pg	Pb	01 00 45.6	-1.0
ILIN	Lien	1.32	54	Pg	Pn	01 00 48.6	-0.6
BHD	Baghdad	1.38	231	*e*Pn	Pn	01 00 50.0	+0.3
BHD				*e*Sn	Sg	01 01 09.1	+0.3
BHD				AML	AML	01 01 19.2	
	comp=E,1μm,0.4s						
IKRK	Kirkuk	1.65	319	*e*Pn	Pn	01 00 54.0	+0.6
IKRK				*e*Sn	Sn	01 01 16.0	+1.4
IKRK				AML	AML	01 01 18.8	
	comp=N,507nm,0.5s						
IKRK				AML	AML	01 01 18.9	
	comp=E,671nm,0.4s						
SNQR	Sonqor, Kerman	1.78	66	Pg	Pb	01 00 57.1	-0.1
IKFM	Kafar-mosalman	1.93	108	Pn	Pb	01 00 59.1	-0.6
SDS1	Sardasht. Az.	2.00	356	Pn	Pn	01 00 59.8	+1.4
IDOB	Doab	2.13	99	Pn	Pn	01 01 01.5	+1.3
HSAM	Samen	2.45	88	Pn	Pn	01 01 05.5	+0.9
MAHB	Mahabad	2.61	1	Pn	Pn	01 01 08.1	+1.4
BDRS	Dareh Seyedi	2.69	93	Pn	Pn	01 01 09.2	+1.3
HGHA	Hamedan- Ghaye	2.95	62	Pn	Pn	01 01 13.2	+1.6
HAGD	Aghdareh	2.96	76	Pn	Pn	01 01 13.0	+1.4
QABG	Abgarm-Qazvin	3.58	63	Pn	Pn	01 01 21.5	+1.3
IRAZ	Razeghan	3.73	69	Pn	Pn	01 01 23.9	+1.6
ISRB	Sarab	4.01	23	Pn	Pn	01 01 26.1	0.0
ISHB	Shabestar	4.12	360	Pn	Pn	01 01 28.2	+0.6
IQOM	Qom	4.53	80	Pn	Pn	01 01 33.3	+0.1
IMRD	Marand	4.55	1	Pn	Pn	01 01 34.3	+0.9
IPIR	Pirpir	4.62	107	Pn	Pn	01 01 34.9	+0.3
IKLH	Kolahrood	5.01	98	Pn	Pn	01 01 41.5	+1.6
ISFB	Sefidab	5.46	86	Pn	Pn	01 01 46.5	+0.6
IZEF	Zefreh	5.72	101	Pn	Pn	01 01 50.2	+0.7
IRAM	Ramesheh	6.12	111	Pn	Pn	01 01 55.7	+0.6

*KOLA **03** 01:00:37.2, 67°.68N×34°.23E, h0km, ML2.0, Error ellipse: s-maj=4.0km s-min=1.5km az=120.0, Khibiny Massif*
*HEL **03** 01:00:37.1±0.1, 67°.71N×34°.14E, h0km, ML1.6, Explosion*
*IDC **03** 01:00:39.6±2.1, 67°.78N×33°.69E, h0km, mbtmp3.7/3, ML1.7/2, Error ellipse: s-maj=25.4km s-min=14.0km az=63.0.*

ISC 03 01:00:36.1±0.9, 67°.70N±0°.03×34°.14E±0°.04, h0km, n27, σ1°03/42, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.28	44	P	Pg	01 00 41.9	+0.4
LVZ				S	Sg	01 00 45.7	+0.6
LVZ	Lovozero	0.28	44	*e*P	Pg	01 00 41.7	+0.2
LVZ				*e*S	Sg	01 00 45.6	+0.5
APA	Apatity	0.31	246	P	Pg	01 00 42.6	+0.6
APA				S	Sg	01 00 47.4	+1.4
KVDA	Kovda	1.12	207	P	Pg	01 00 57.1	-0.5
KVDA				S	Sg	01 01 11.9	-0.3
TERR	Teriberka	1.55	13	P	Pn	01 01 04.8	-0.2
TERR				S	Sn	01 01 24.9	-0.8
VRF	Varrio	1.73	274	*e*P	Pn	01 01 08.0	+0.6
VRF				MSG		01 01 28.8	
	comp=Z,6.1nm,0.2s						
VRF				*e*S	Sn	01 01 30.2	+0.1
PRVG	Vayda Guba	2.18	342	P	Pb	01 01 16.2	-0.1
PRVG				S	Sb	01 01 45.1	+1.3
OLKF	Oulanka, Finla	2.32	236	*e*PG	Pb	01 01 18.4	-0.4
OLKF				MSG		01 01 46.9	
	comp=Z,2.1nm,0.2s						
OLKF				*e*SG	Sb	01 01 48.3	+0.5
RAJF	Raja-Jooseppi	2.32	292	*e*P	Pn	01 01 16.7	+1.1
RAJF				*e*SB	Sb	01 01 47.3	-0.6
KU6	Riekki	2.37	227	*e*P	Pn	01 01 17.8	+1.6
KU6				MSG		01 01 48.7	
	comp=Z,1.5nm,0.2s						
KU6				*e*SG	Sb	01 01 49.8	+0.4
MSF	Maaselka	2.70	231	*e*P	Pn	01 01 22.7	+2.0
MSF				*e*SB	Sb	01 01 58.3	-0.6
KU1	Kurvinen	2.81	223	*e*P	Pn	01 01 23.7	+1.4
VADS	Vadso	2.98	327	P	Pn	01 01 25.6	+0.9
VADS				S	Sn	01 02 01.0	0.0
KMNF	Kaamanen	3.02	302	*e*P	Pn	01 01 26.1	+1.1
KMNF				*e*SG	Sb	01 02 09.1	+1.2
KU2	Taivalkoski	3.08	232	*e*PB	Pb	01 01 30.9	-0.8
KEV	Kevo	3.32	312	*e*P	Pn	01 01 30.5	+1.3
RNF	Rovaniemi	3.35	255	*e*P	Pn	01 01 30.5	+0.8
RANF	Ranua	3.36	243	*e*P	Pn	01 01 30.7	+0.9
ARA0	ARCESS Array S	3.66	304	*e*P	Pn	01 01 34.7	+0.8
ARCES	ARCESS Array B	3.66	304	Pn	Pn	01 01 34.6	+0.7
	comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=45						
ARCES				Sn	Sn	01 02 16.3	-1.4
	comp=Z,0.2nm,0.3s,baz=117,slow=28,SNR=7.0						
ARCES				Lg	Lg	01 02 27.9	
	comp=Z,0.6nm,0.3s,baz=119,slow=28,SNR=15						
	comp=Z,6.5nm,1.0s						
ARCES	ARCESS Array B	3.66	304	P	Pn	01 01 34.5	+0.6
ARCES				S	Sn	01 02 16.8	-0.9
RMF	Romuvaara	3.90	208	*e*P	Pn	01 01 37.3	+0.2
HEF	Hetta	4.00	285	*e*P	Pn	01 01 39.2	+0.6
FINES	FINESS Array B	7.17	213	Pn	Pn	01 02 23.2	+1.2
	baz=23,slow=12,SNR=1.3						
	comp=Z,4.9nm,1.2s						
FAUS	Fauske	7.22	276	P	Pn	01 02 21.3	-1.4
FAUS				S	Sn	01 03 43.0	-2.2
I43RU	DUBNA INFRASONI	11.11	171	I	I	02 12 22.1	
	baz=0.9,slow=311,SNR=5.0						
SPITS	Spitsbergen Ar	11.66	342	Pn	Pn	01 03 21.5	-1.9
	comp=Z,9.4nm,1.0s,baz=140,slow=21,SNR=1.0						

*MOS **03** 01:01:12.0±0.9, 37°.01N×141°.30E, h46km, mb4.7/7, Error ellipse: s-maj=12.0km s-min=8.3km az=119.1*
*BJI **03** 01:01:12.4, 37°.06N×141°.24E, h51km, mB4.7/7, mb4.2/28, Ms4.1/3, Ms7 3.9/3*
*NIED **03** 01:01:14.5, 37°.02N×141°.13E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}1.22; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.33; $M_{\phi r}$0.62; Fault plane solution: $M_0$1.36000×10^15 NP1: ϕ_s201.00000°, δ29.00000°, λ82.00000°. NP2:ϕ_s30.00000°, δ62.00000°, λ94.00000°.*
*JMA **03** 01:01:14.5±0.1, 37°.0N±0°.4×141°.1E±0°.8, h50km±1km, MD4.0/40, MV4.2/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **03** 01:01:15.3±1.2, 37°.10N±0°.05×141°.3E±0°.1, h56km±4km, mb4.8/12, Error ellipse: s-maj=11.8km s-min=7.4km az=84.0*
*IDC **03** 01:01:15.6±2.2, 37°.06N×141°.26E, h62km±17km, mb3.8/21, mbtmp4.0/25, MS3.1/8, Error ellipse: s-maj=18.2km s-min=12.3km az=120.0*

ISC 03 01:01:13.6±0.8, 37°.00N±0°.05×141°.27E±0°.06, h42km±5km, n114, σ1°08/111, mb4.2/35, MS3.2/5, 8C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.39	285	⇓P	Pn	01 01 23.3	+0.3
ONAJ				⇓S	Sn	01 01 29.5	-0.2
ONAJ	Iwakimizuishiy	0.39	285	A	A	01 01 23.3	
	comp=N,37nm,0.3s,comp=E,54nm,0.2s						
JFK	Kawauchi	0.48	319	⇓P	Pn	01 01 24.5	+0.3
JFK				⇓S	Sn	01 01 31.4	-0.2
JFK	Kawauchi	0.48	319	A	A	01 01 24.5	
	comp=N,24nm,0.5s,comp=E,36nm,0.6s						
JFFD	Fukushimafurud	0.57	279	*i*P	Pn	01 01 25.3	-0.1
JFFD				⇓*e*S	Sn	01 01 32.7	-1.0
JHO	Hitachi	0.68	235	⇓P	Pn	01 01 26.7	-0.1
JHO				⇓*e*S	Sn	01 01 35.3	-1.0
JHO	Hitachi	0.68	235	A	A	01 01 26.7	
	comp=N,9.0nm,0.5s,comp=E,10.0nm,1.0s						
JMST	Minamisoumatoc	0.78	337	A	A	01 01 28.7	
	comp=N,7.0nm,0.7s,comp=E,12nm,1.3s						
JHYU	Hitachinakayam	0.86	220	A	A	01 01 29.7	
	comp=N,5.0nm,0.8s,comp=E,4.0nm,1.5s						
JOTO	OTAMA OYAMA	0.93	307	*i* P	Pn	01 01 30.9	+0.7
JOTO				*e*S	Sn	01 01 42.4	+0.1
JOTO	OTAMA OYAMA	0.93	307	A	A	01 01 30.9	
	comp=N,23nm,0.4s,comp=E,29nm,0.4s						
JMM	Marumori	0.94	336		Pn	01 01 30.5	+0.2
JMM				Sn	Sn	01 01 42.1	-0.5
JMM	Marumori	0.94	336	*i* P	Pn	01 01 30.5	+0.2
JMM				*e*S	Sn	01 01 42.2	-0.4
JMM	Marumori	0.94	336	A	A	01 01 30.5	
	comp=N,8.0nm,0.3s,comp=E,11nm,0.4s						
JSB	Shiboa	1.08	269	A	A	01 01 32.0	
	comp=N,8.0nm,0.9s,comp=E,10.0nm,1.0s						
JYT	Yasato	1.16	228	A	A	01 01 33.7	
	comp=N,6.0nm,0.3s,comp=E,7.0nm,0.3s						
JYAR	Yonezawaarcadi	1.27	316	A	A	01 01 35.1	
	comp=N,5.0nm,0.6s,comp=E,5.0nm,0.8s						
JFY	Yanaizu	1.31	288	⇓*i*P	Pn	01 01 35.4	0.0
JOU	Okura	1.44	341	⇓*i*P	Pn	01 01 37.7	+0.5
JOU	Okura	1.44	341	A	A	01 01 37.7	
	comp=N,5.0nm,0.3s,comp=E,7.0nm,0.5s						
JIO	Ouri	1.45	3	⇓*i*P	Pn	01 01 37.9	+0.6
JIO				⇓*e*S	Sn	01 01 54.4	-0.7
JYS	Shirataka	1.55	322	⇓*i*P	Pn	01 01 39.3	+0.7
JAG	Ashikaga	1.57	249	⇓*i*P	Pn	01 01 38.8	-0.1
MJAR	Matsushiro Arr	2.50	260	P	Pn	01 01 52.5	+0.8
	comp=E,15nm,0.4s,baz=84,slow=15,SNR=136						
MJAR				S	Sn	01 02 24.5	+3.5
	comp=E,40nm,0.5s,baz=53,slow=14,SNR=4.1						
MJAR				LR	LR	01 03 10.1	
	comp=E,265nm,21.0s,baz=52,slow=46						
MAJO	Matsushiro	2.50	260		Pn	01 01 52.9	+1.2
MAJO	Matsushiro	2.50	260	P	Pn	01 01 52.9	+1.2
MJB9	Matsu-Tunnel	2.50	260	Pn	Pn	01 01 54.1	+2.3
JSD	Sado	2.60	294		Pn	01 01 52.4	-0.7
JGF	Kuroka	3.45	247	Pn	Pn	01 02 06.9	+2.1
JTM	Tenmabayashi	3.78	358		Pn	01 02 11.4	+2.1
INU	Inuyama	3.81	246		Pn	01 02 12.0	+2.3
JHJ2	Mitsune	4.06	197	Pn	Pn	01 02 15.1	+1.9
ERM	Erimo	5.21	16	Pn	Pn	01 02 30.2	+1.2
ERM	Erimo	5.21	16	P	Pn	01 02 30.2	+1.2
ASAJ	Asahikawa	7.18	8	P	Pn	01 02 56.0	+0.1
	comp=E,5.1nm,0.3s,baz=170,slow=17,SNR=8.6						
ASAJ				S	Sn	01 04 17.6	+1.5
	comp=E,6.2nm,0.5s,baz=180,slow=20,SNR=2.0						
JKA	Kamikawa-asahi	7.18	8	Pn	Pn	01 02 56.4	+0.5
USRK	Ussuriysk Ar.	10.07	318	P	Pn	01 03 36.1	+0.6
	comp=E,5.9nm,0.8s,baz=131,slow=12,SNR=6.8						
USRK				LR	LR	01 07 14.0	
	comp=E,70nm,20.2s,baz=176,slow=36						
KSRS	Korea Array	10.65	276	P	Pn	01 03 45.5	+1.9
	comp=E,2.9nm,0.8s,baz=90,slow=14,SNR=6.6						
KSRS				LR	LR	01 07 43.5	
	comp=E,82nm,18.0s,baz=130,slow=36						
KLR	Kul'dur	14.04	333	LR	LR	01 08 49.4	
	comp=E,53nm,21.9s,slow=32						
KLR	Kul'dur	14.04	333	*ce*P	P	01 04 36.7	0.0
KLR				pmax	pmax		
	comp=Z,7.0nm,2.5s						
NJ2	Nanjing	19.10	262	*e*P	Pn	01 05 34

ZALV Zalesovo Beam 41.85 312 P **P 01 08 58.9 -0.3**
comp=Z,3.1nm,0.5s,baz=90,slow=7.2,SNR=21
ZALV PcP **PcP 01 10 53.8 -0.6**
comp=Z,0.9nm,0.7s,baz=95,slow=1.6,SNR=3.5
comp=Z,3.1nm,0.5s
NRIK Noril'sk 43.25 335 *ceP* **P 01 09 11.6 +1.3**
MK31 Makanchi Array 44.04 302 *ceP* **P 01 09 16.9 -0.2**
MKAR Makanchi Array 44.04 302 P **P 01 09 17.0 -0.1**
MKAR Makanchi Array 44.04 302 P **P 01 09 16.5 -0.6**
comp=Z,1.8nm,0.8s,baz=82,slow=10,SNR=18
MKAR PcP **PcP 01 11 01.4 -0.6**
comp=Z,0.3nm,0.6s,baz=69,slow=4.9,SNR=2.3
comp=Z,1.8nm,0.8s
MAKZ Makanchi 44.25 302 P **P 01 09 18.7 -0.1**
KURK Kurchatov 45.86 308 P **P 01 09 30.4 -1.0**
KURK IAmb IAmb 01 09 31.9
comp=Z,4.5nm,0.8s
KURK Kurchatov 45.86 308 *ceP* **P 01 09 32.1 +0.7**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 45.86 308 P **P 01 09 30.9 -0.5**
KURK pP **sP 01 09 48.1 0.0**
KURBB Kurchatov Arra 45.93 308 P **P 01 09 31.4 -0.6**
comp=Z,2.8nm,0.7s,baz=85,slow=8.1,SNR=31
KURBB PcP **PcP 01 11 07.6 -0.7**
comp=Z,0.4nm,0.6s,baz=76,slow=4.2,SNR=2.1
comp=Z,2.8nm,0.7s
ILAR Eielson Array 49.58 32 P **P 01 10 00.7 +0.6**
comp=Z,0.3nm,0.6s,baz=271,slow=7.1,SNR=2.3
ILAR PcP **PcP 01 11 21.0 -0.2**
comp=Z,0.2nm,0.8s,baz=305,slow=5.5,SNR=1.8
comp=Z,0.3nm,0.6s
KSH Kashi 50.31 294 P **P 01 10 09.2 +3.0**
KSH pmax pmax
comp=Z,1.0nm,1.1s
AAK Ala-Archa 50.40 298 LR LR 01 32 31.8
comp=Z,38nm,19.7s,baz=76,slow=37
BVAR Borovoye Array 50.51 312 P **P 01 10 06.7 -0.6**
comp=Z,1.4nm,0.5s,baz=81,slow=6.3,SNR=7.4
BVAR PcP **PcP 01 11 24.4 -0.3**
comp=Z,1.6nm,0.7s,baz=80,slow=4.0,SNR=5.7
comp=Z,1.4nm,0.5s
BRVK Borovoye 50.56 312 *ceP* **P 01 10 08.4 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
ARSB Arslanbob 51.88 297 P **P 01 10 17.8 -0.2**
ARSB IAmb IAmb 01 10 19.9
comp=Z,8.4nm,1.4s
ARSB Arslanbob 51.88 297 P **P 01 10 17.8 -0.2**
ARSB pmax pmax
comp=Z,8.0nm,1.4s
KNRA Kununurra 53.71 195 P **P 01 10 31.2 -0.1**
CHGR Chuyangaron 55.57 295 P **P 01 10 44.0 -1.0**
CHGR IAmb IAmb 01 10 45.2
comp=Z,19nm,1.3s
CHGR Chuyangaron 55.57 295 P **P 01 10 44.0 -1.0**
CHGR pmax pmax
comp=Z,19nm,1.3s
SIMJ Simiganj 55.68 295 P **P 01 10 45.1 -0.7**
SIMJ Simiganj 55.68 295 P **P 01 10 44.8 -1.0**
SIMJ pP **sP 01 11 02.6 -0.1**
ARTI Arti 56.41 319 P **P 01 10 50.0 -0.5**
ARTI IAmb IAmb 01 10 50.7
comp=Z,9.4nm,0.6s
ARTI Arti 56.41 319 P **P 01 10 50.0 -0.5**
ARTI pmax pmax
comp=Z,9.0nm,0.6s
ARTI Arti 56.41 319 P **P 01 10 49.9 -0.6**
WB0 Warramunga Arr 56.83 188 P **P 01 10 53.0 -0.8**
WB0 IAmb IAmb 01 11 10.1
comp=Z,26nm,1.6s
WRA Warramunga Arr 57.01 188 P **P 01 10 54.3 -0.8**
comp=Z,0.5nm,0.6s,baz=4.8,slow=7.1,SNR=5.7
WRA PcP **PcP 01 11 49.5 -0.3**
comp=Z,0.6nm,0.7s,baz=4.9,slow=4.6,SNR=1.9
comp=Z,0.5nm,0.6s
ABKAR Akbulak array 57.87 310 P **P 01 10 60.0 -1.0**
ABKAR IAmb IAmb 01 11 00.5
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 57.87 310 P **P 01 10 59.9 -1.0**
KIRV Kirov 60.20 323 *ceP* **P 01 11 17.4 +0.5**
ASAR Alice Springs 60.74 188 P **P 01 11 21.2 +0.2**
comp=Z,0.6nm,0.9s,baz=14,slow=7.9,SNR=5.3
comp=Z,0.6nm,0.9s
ARCES ARCESS Array B 63.98 339 P **P 01 11 41.7 -0.4**
comp=Z,7.3nm,1.0s,baz=51,slow=6.5,SNR=6.0
comp=Z,7.3nm,1.0s
RADR Rader Ridge 67.35 48 P **P 01 12 02.9 -1.4**
OBN Obninsk 68.05 323 *eP* **P 01 12 09.7 +1.3**
OBN *e* 01 12 38.0
OBN pmax pmax
comp=Z,3.0nm,0.6s
FIA1 FINESS Array S 68.79 332 P **P 01 12 12.2 -0.7**
FINES FINESS Array B 68.79 332 P **P 01 12 12.6 -0.3**
FINES FINESS Array B 68.79 332 P **P 01 12 12.5 -0.4**
comp=Z,2.0nm,0.6s,baz=49,slow=6.6,SNR=14
comp=Z,2.0nm,0.6s
FINES FINESS Array B 68.79 332 P **P 01 12 12.6 -0.3**
KBZ Khabaz 70.83 311 P **P 01 12 25.9 +0.1**
comp=Z,2.0nm,0.9s,baz=60,slow=14,SNR=5.3
comp=Z,2.0nm,0.9s
KBZ Khabaz 70.83 311 *ceP* **P 01 12 26.7 +0.9**
HFS Hagfors 74.07 336 P **P 01 12 43.6 -1.2**
comp=Z,17nm,1.2s,baz=42,slow=8.8,SNR=9.3
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 74.17 337 P **P 01 12 45.0 -0.5**
comp=Z,2.2nm,0.8s,baz=40,slow=6.2
NOA NORSAR Array B 74.17 337 P **P 01 12 45.0 -0.5**
comp=Z,1.5nm,0.6s,baz=39,slow=5.9,SNR=8.3
comp=Z,1.5nm,0.6s
NOA NORSAR Array B 74.17 337 P **P 01 12 45.0 -0.5**
AKASG Malin Array Be 74.25 322 P **P 01 12 45.1 -0.9**
comp=Z,1.0nm,0.4s,baz=47,slow=6.2,SNR=16
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 77.77 45 P **P 01 13 07.0 +0.4**
comp=Z,0.2nm,0.6s,baz=306,slow=4.0,SNR=2.3
comp=Z,0.2nm,0.6s
BRTR Keskin Array B 78.78 311 P **P 01 13 11.3 -0.8**
comp=Z,0.6nm,0.7s,baz=45,slow=8.4,SNR=5.1
comp=Z,0.6nm,0.7s
CLL Collm 81.06 330 *eP* **P 01 13 24.0 0.0**
MMAI Mount Meron Ar 81.89 305 P **P 01 13 28.5 -0.3**
comp=Z,1.5nm,0.7s,baz=46,slow=12,SNR=1.7
comp=Z,1.5nm,0.7s
GERES GERESS Array B 82.68 328 P **P 01 13 32.2 -0.5**
comp=Z,1.0nm,0.5s,baz=42,slow=6.3,SNR=6.7
comp=Z,1.0nm,0.5s
EKA Eskdalemuir Ar 83.12 340 P **P 01 13 34.2 -0.5**
comp=Z,1.4nm,0.9s,baz=33,slow=7.9,SNR=3.5
comp=Z,1.4nm,0.9s
TXAR Lajitas Array 90.23 52 P **P 01 14 10.3 +0.2**
comp=Z,0.5nm,0.8s,baz=316,slow=4.7,SNR=4.8
comp=Z,0.5nm,0.8s
H03N2 Juan Fernandez 147.14 96 T T 04 05 51.5
baz=292,slow=76,SNR=3.7
H03N3 Juan Fernandez 147.15 96 T T 04 05 47.5
baz=292,slow=76,SNR=9.1
H03N1 Juan Fernandez 147.15 96 T T 04 05 54.5
baz=292,slow=76,SNR=4.7

*IDC **03** 01:12:03.2±3.5, 2°.68S×100°.18E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=151.9km s-min=22.7km az=54.0*
*DJA **03** 01:12:05.4±0.7, 3°S±6°×10°0E±°, h24km±3km, M3.8/7, MLv3.8/7*
ISC 03 01:12:06.1±1.3, **2°.9S**±0°.2×**100°.0E**±0°.2, **h26**km±6km, **n24, σ0.67**/14, **mb3.8/6, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.09**	**338**	P	**Pb**	**01 12 10.7**	**-0.1**
PPSI				S	**Sb**	**01 12 14.3**	**+0.3**
SISI	**Saibi**	**1.79**	**328**	P	**Pn**	**01 12 34.9**	**-0.3**
SISI				S	**Sn**	**01 12 56.4**	**-0.7**
PPI	**Padang Panjang**	**2.40**	**8**	P	**Pn**	**01 12 43.9**	**+0.2**
MNAI	**Manna**	**3.27**	**117**	P	**Pn**	**01 12 55.5**	**-0.2**
MDSI	**Maura Dua**	**4.44**	**112**	P	**Pn**	**01 13 10.8**	**-0.9**
H08S2	**Diego Garcia H**	**27.84**	**259**	T	T	01 46 55.6	
baz=82,slow=76,SNR=278							
H08S3	**Diego Garcia H**	**27.84**	**259**	T	T	01 46 56.0	
baz=82,slow=76,SNR=381							
H08S1	**Diego Garcia H**	**27.86**	**259**	T	T	01 46 56.9	
baz=82,slow=76,SNR=143							
H01W3	**Cape Leeuwin H**	**34.46**	**159**	T	T	01 55 17.7	
baz=335,slow=76,SNR=5.3							
H01W2	**Cape Leeuwin H**	**34.48**	**159**	T	T	01 55 18.9	
baz=335,slow=76,SNR=6.5							
H01W1	**Cape Leeuwin H**	**34.48**	**159**	T	T	01 55 02.1	
baz=335,slow=76,SNR=2.8							
WRA	**Warramunga Arr**	**37.53**	**120**	P	**P**	**01 19 18.1**	**-0.3**
0.4nm,0.7s,baz=303,slow=7.8,SNR=1.8							
0.4nm,0.7s							
ASAR	**Alice Springs**	**38.73**	**125**	P	**P**	**01 19 29.9**	**+1.6**
0.5nm,0.8s,baz=301,slow=8.5,SNR=2.9							
0.5nm,0.8s							
SONM	**Songino Array**	**50.78**	**6**	P	**P**	**01 21 04.0**	**-0.1**
1.1nm,0.7s,baz=188,slow=4.4,SNR=9.0							
1.1nm,0.7s							
MKAR	**Makanchi Array**	**51.85**	**345**	P	**P**	**01 21 12.5**	**+0.4**
1.4nm,0.7s,baz=155,slow=8.4,SNR=16							
1.4nm,0.7s							
KURBB	**Kurchatov Arra**	**56.37**	**344**	P	**P**	**01 21 44.9**	**0.0**
0.7nm,0.8s,baz=163,slow=7.2,SNR=8.2							
0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**58.01**	**349**	P	**P**	**01 21 55.9**	**-0.5**
0.6nm,0.6s,baz=170,slow=8.8,SNR=2.0							
0.6nm,0.6s							
H04N2	**CROZET ISLANDS**	**60.15**	**217**	T	T	02 27 20.1	
baz=59,slow=75,SNR=1233							
H04N1	**CROZET ISLANDS**	**60.16**	**217**	T	T	02 27 19.7	
baz=59,slow=75,SNR=1183							
H04N3	**CROZET ISLANDS**	**60.16**	**217**	T	T	02 27 16.7	
baz=59,slow=75,SNR=1549							
H04S1	**CROZET ISLANDS**	**60.43**	**216**	T	T	02 27 41.0	
baz=58,slow=75,SNR=176							
H04S3	**CROZET ISLANDS**	**60.44**	**216**	T	T	02 27 39.1	
baz=58,slow=75,SNR=194							
H04S2	**CROZET ISLANDS**	**60.45**	**216**	T	T	02 27 40.4	
baz=58,slow=75,SNR=123							
TXAR	**Lajitas Array**	**145.34**	**38**	PKPbc	**PKPdf**	**01 31 42.7**	**+0.2**
0.6nm,0.7s,baz=321,slow=2.8,SNR=7.1							

*IDC **03** 01:16:03.0±4.1, 35°.64S×177°.97E, h205km±28km, mb3.5/3, mbtmp4.1/4, Error ellipse: s-maj=56.4km s-min=24.1km az=44.0*
*WEL **03** 01:16:08.4±1.0, 36°S±10°×17°8E±°, h218km±12km, M3.8/18, ML4.2/6, MLv3.8/18, Error ellipse: s-maj=14.2km s-min=10.5km az=32.8, confirmed*
ISC 03 01:16:07.1±1.2, **36°.08S**±0°.09×**177°.89E**±0°.09, **h247**km±7km, **n89, σ1.30**/100, **mb3.8**/3, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.52**	**167**	P	**Pn**	**01 16 44.7**	**-0.5**
MXZ				S	**S**	**01 17 13.5**	**-1.8**
HAZ	**Te Kaha**	**1.67**	**183**	P	**Pn**	**01 16 46.0**	**-0.4**
HAZ				S	**S**	**01 17 16.2**	**-1.3**
WMGZ	**Waiomatatini S**	**1.78**	**167**	P	**Pn**	**01 16 47.7**	**+0.3**
WMGZ				S	**S**	**01 17 18.1**	**-1.1**
PKGZ	**Pakihiroa**	**1.79**	**175**	P	**Pn**	**01 16 47.5**	**0.0**
RUGZ	**Raukumara Rang**	**1.89**	**185**	P	**Pn**	**01 16 47.6**	**-0.9**
GRZ	**Great Barrier**	**1.97**	**264**	P	**Pn**	**01 16 47.6**	**-1.5**
PUZ	**Puketiti**	**2.01**	**172**	P	**Pn**	**01 16 49.3**	**-0.1**
PUZ				S	**S**	**01 17 21.1**	**-1.6**
OPRZ	**Ohinepanea**	**2.06**	**211**	P	**Pn**	**01 16 50.9**	**+1.0**
TWGZ	**Tauwhareparae**	**2.09**	**178**	P	**Pn**	**01 16 50.9**	**+0.7**
TWGZ				S	**S**	**01 17 25.3**	**+1.0**
URZ	**Urewera**	**2.26**	**196**	P	**Pn**	**01 16 51.3**	**-0.4**
88nm,0.3s,baz=22,slow=3.2,SNR=223							
URZ				S	**S**	**01 17 25.8**	**-1.2**
90nm,0.5s,baz=319,slow=19,SNR=16							
URZ	**Urewera**	**2.26**	**196**	P	**Pn**	**01 16 51.6**	**-0.1**
URZ				S	**S**	**01 17 25.7**	**-1.2**
MWZ	**Matawai**	**2.27**	**187**	P	**Pn**	**01 16 51.8**	**-0.1**
MWZ				S	**S**	**01 17 27.5**	**+0.3**
KARZ	**Kaharoa**	**2.34**	**214**	P	**Pn**	**01 16 54.1**	**+1.6**
TKGZ	**Te Karaka**	**2.35**	**181**	S	**S**	**01 17 28.2**	**-0.4**
OMRZ	**Omania**	**2.36**	**211**	P	**Pn**	**01 16 53.8**	**+1.1**
CNGZ	**Carnagh Statio**	**2.41**	**174**	P	**Pn**	**01 16 53.8**	**+0.6**
MKAZ	**Moumakai**	**2.42**	**244**	P	**Pn**	**01 16 52.9**	**-0.4**
RAGZ	**Rawiri**	**2.44**	**189**	P	**Pn**	**01 16 54.0**	**+0.4**
RRRZ	**Republican Roa**	**2.51**	**206**	P	**Pn**	**01 16 55.5**	**+1.3**
TOZ	**Tahuroa Road**	**2.52**	**229**	P	**Pn**	**01 16 55.2**	**+0.8**
MUGZ	**Murupara**	**2.55**	**200**	P	**Pn**	**01 16 54.7**	**+0.1**
MUGZ				S	**S**	**01 17 31.5**	**-0.7**
RIGZ	**Rimuhau**	**2.62**	**182**	P	**Pn**	**01 16 55.5**	**+0.1**
RTZ	**Ruatahuna**	**2.63**	**196**	P	**Pn**	**01 16 55.1**	**-0.4**
RTZ				S	**S**	**01 17 33.2**	**-0.6**
PRRZ	**Plateau Road**	**2.69**	**206**	P	**Pn**	**01 16 56.0**	**-0.1**
SNGZ	**Shannon Statio**	**2.73**	**189**	P	**Pn**	**01 16 56.6**	**+0.1**
ALRZ	**Allen Road**	**2.77**	**206**	P	**Pn**	**01 16 57.4**	**+0.6**
PRGZ	**Paritu Road**	**2.84**	**180**	P	**Pn**	**01 16 57.8**	**+0.2**
WCZ	**Waipu Caves**	**2.88**	**272**	P	**Pn**	**01 16 56.7**	**-1.4**
RAHZ	**Arahi**	**2.90**	**192**	P	**Pn**	**01 16 58.5**	**+0.2**
TLZ	**Tolley Road**	**2.92**	**219**	P	**Pn**	**01 17 00.2**	**+1.6**
MRHZ	**Matea Rd**	**2.99**	**203**	P	**Pn**	**01 16 59.2**	**-0.1**
WHHZ	**Waihua**	**3.04**	**190**	P	**Pn**	**01 16 59.9**	**+0.2**
BKZ	**Black Stump Fm**	**3.27**	**199**	P	**Pn**	**01 17 02.0**	**-0.4**
KATZ	**Kakaramea**	**3.37**	**210**	P	**Pn**	**01 17 05.7**	**+2.0**
HIZ	**Hauiti**	**3.43**	**224**	P	**Pn**	**01 17 06.0**	**+1.9**
NTVZ	**North Tongarir**	**3.49**	**210**	P	**Pn**	**01 17 05.6**	**+0.7**
TMVZ	**Te Maari**	**3.49**	**209**	P	**Pn**	**01 17 05.6**	**+0.6**
WTVZ	**West Tongariro**	**3.54**	**210**	P	**Pn**	**01 17 06.0**	**+0.5**
NNVZ	**North Ngauruho**	**3.54**	**210**	P	**Pn**	**01 17 06.2**	**+0.6**
OTVZ	**Oturere**	**3.55**	**209**	P	**Pn**	**01 17 05.9**	**+0.3**
TWVZ	**Taurewa**	**3.56**	**212**	P	**Pn**	**01 17 06.3**	**+0.6**
NGZ	**Ngauruhoe**	**3.58**	**210**	P	**Pn**	**01 17 06.8**	**+0.8**
TUVZ	**Tukino**	**3.64**	**208**	P	**Pn**	**01 17 07.0**	**+0.3**
FWVZ	**Far West T-bar**	**3.67**	**210**	P	**Pn**	**01 17 07.3**	**+0.2**
MAVZ	**Matarangi**	**3.68**	**209**	P	**Pn**	**01 17 07.7**	**+0.4**
TRVZ	**Turoa**	**3.71**	**209**	P	**Pn**	**01 17 07.6**	**0.0**
WNVZ	**Wahianoa**	**3.71**	**209**	P	**Pn**	**01 17 07.3**	**-0.3**
MOVZ	**Moawhango**	**3.73**	**206**	P	**Pn**	**01 17 07.0**	**-0.6**
PKVZ	**Pokaka**	**3.78**	**211**	P	**Pn**	**01 17 08.3**	**+0.1**
KAHZ	**Kahuranaki**	**3.79**	**192**	P	**Pn**	**01 17 08.1**	**-0.2**
MTVZ	**Mangateitei**	**3.81**	**209**	P	**Pn**	**01 17 09.8**	**+1.2**
VRZ	**Vera Road**	**3.92**	**218**	P	**Pn**	**01 17 12.0**	**+2.2**
PXZ	**Pawanui**	**4.03**	**191**	P	**Pn**	**01 17 10.4**	**-0.6**
PNHZ	**Pukenui**	**4.05**	**199**	P	**Pn**	**01 17 10.3**	**-1.1**
WPHZ	**Waipukurau**	**4.14**	**196**	P	**Pn**	**01 17 11.3**	**-1.0**
PRHZ	**Porangahau**	**4.29**	**193**	P	**Pn**	**01 17 13.4**	**-0.8**
WAZ	**Wanganui**	**4.33**	**211**	P	**Pn**	**01 17 14.9**	**+0.3**
PKE	**Pukeiti**	**4.39**	**224**	P	**Pn**	**01 17 13.7**	**-1.7**
DVHZ	**Dannevirke**	**4.42**	**197**	P	**Pn**	**01 17 14.3**	**-1.4**
KHEZ	**Kahui Hut**	**4.44**	**223**	P	**Pn**	**01 17 19.8**	**+3.8**
ANWZ	**Angora Road**	**4.51**	**194**	P	**Pn**	**01 17 15.9**	**-0.8**
POWZ	**Post Office Ro**	**4.62**	**201**	P	**Pn**	**01 17 17.1**	**-1.0**
PRWZ	**Pori Road**	**4.71**	**198**	P	**Pn**	**01 17 18.5**	**-0.7**
BFZ	**Birch Farm**	**4.77**	**195**	P	**Pn**	**01 17 18.6**	**-1.3**
MRZ	**Mangatainoka R**	**4.92**	**201**	P	**Pn**	**01 17 20.0**	**-1.7**
CPWZ	**Castlepoint**	**5.00**	**195**	P	**Pn**	**01 17 22.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**5.16**	**200**	P	**Pn**	**01 17 22.5**	**-2.1**
OGWZ	**Otaki Gorge**	**5.19**	**203**	P	**Pn**	**01 17 23.0**	**-2.0**
TMWZ	**Te Maipa**	**5.25**	**197**	P	**Pn**	**01 17 24.8**	**-1.1**
KIW	**Kapiti Island**	**5.31**	**205**	P	**Pn**	**01 17 24.6**	**-2.0**
MTW	**Mount Morrison**	**5.40**	**200**	P	**Pn**	**01 17 25.7**	**-2.0**
CAW	**Cannon Point**	**5.48**	**203**	P	**Pn**	**01 17 26.2**	**-2.4**
TRWZ	**Traveller**	**5.58**	**197**	P	**Pn**	**01 17 28.6**	**-1.2**
PAWZ	**Paruwai Farm**	**5.63**	**199**	P	**Pn**	**01 17 28.4**	**-2.1**
DUWZ	**D'Urville Isla**	**5.65**	**212**	P	**Pn**	**01 17 29.0**	**-1.7**
MSWZ	**Moikau Station**	**5.71**	**200**	P	**Pn**	**01 17 29.3**	**-2.2**
WEL	**Wellington**	**5.74**	**204**	P	**Pn**	**01 17 29.6**	**-2.2**
BHW	**Baring Head**	**5.82**	**203**	P	**Pn**	**01 17 30.7**	**-2.1**
TCW	**Tory Channel**	**5.85**	**208**	P	**Pn**	**01 17 31.1**	**-2.1**
PLWZ	**Palliser**	**5.85**	**200**	P	**Pn**	**01 17 30.9**	**-2.4**
TUWZ	**Tuamarina**	**6.17**	**209**	P	**Pn**	**01 17 34.9**	**-2.2**
NNZ	**Nelson**	**6.22**	**213**	P	**Pn**	**01 17 36.1**	**-1.7**
TKNZ	**Takaka Hill**	**6.27**	**217**	P	**Pn**	**01 17 37.6**	**-1.0**
QRZ	**Quartz Range**	**6.33**	**220**	P	**Pn**	**01 17 37.5**	**-1.8**
MRNZ	**Matariki Terra**	**6.65**	**216**	P	**Pn**	**01 17 41.8**	**-1.5**
ASAR	**Alice Springs**	**39.78**	**276**	P	**P**	**01 23 16.6**	**+0.1**
1.7nm,0.5s,baz=116,slow=8.4,SNR=24							
1.7nm,0.5s							
WRA	**Warramunga Arr**	**41.31**	**281**	P	**P**	**01 23 28.5**	**-0.4**
1.9nm,0.5s,baz=119,slow=8.2,SNR=28							
WRA				PcP	**PcP**	**01 25 22.2**	**-0.2**
0.7nm,1.0s,baz=120,slow=3.2,SNR=1.9							
1.9nm,0.5s							
QSPA	**South Pole Qui**	**54.04**	**180**	P	**P**	**01 25 09.5**	**+3.6**
0.4nm,0.4s,baz=51,slow=14,SNR=5.1							
0.4nm,0.4s							
FINES	**FINESS Array B**	**149.01**	**334**	PKPbc	**PKPbc**	**01 35 23.8**	**-1.1**
2.3nm,0.9s,baz=54,slow=2.4,SNR=3.9							

*SJA **03** 01:26:16.3±0.6, 18°.85S×69°.05W, h176km±9km, ML3.8, MW3.6*
*NEIC **03** 01:26:18.1±1.6, 18°.91S±0°.07×68°.99W±0°.07, h156km±12km, mb4.3/8, Error ellipse: s-maj=10.1km s-min=8.8km az=139.0*
*GUC **03** 01:26:19.7±0.9, 18°.95S×68°.94W, h142km±6km, ML3.6*
*SCB **03** 01:26:19.0±1.1, 18°.87S×68°.87W, h125km±9km, ML3.2/3, MW3.9, Error ellipse: s-maj=6.5km s-min=2.4km az=1.0*
*IDC **03** 01:26:22.7±5.9, 18°.60S×68°.29W, h166km±37km, mb3.0/3, mbtmp3.5/4, Error ellipse: s-maj=75.6km s-min=20.0km az=20.0*
ISC 03 01:26:17.2±0.7, **18°.84S**±0°.04×**68°.78W**±0°.05, **h138**km±7km, **n57, σ1.99**/75, **mb3.5**/4, **3C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.89**	**72**	Pg	**Pn**	**01 26 42.5**	**+2.0**
SOEO				Sg	**Sn**	**01 27 00.4**	**+2.3**
SOEO				IAML		01 27 01.4	
101nm,0.9s							
PB18	**Visviri**	**1.41**	**332**		**Pn**	**01 26 48.4**	**+2.9**
PB18	**Visviri**	**1.41**	**332**	↑*iP*	**Pn**	**01 26 48.4**	**+2.9**
PB18				*eS*	**Sn**	**01 27 11.7**	**+4.7**
PB12	**IPOC Station P**	**1.48**	**278**	Pn	**Pn**	**01 26 46.2**	**+0.4**
PB12				Sn	**Sn**	**01 27 06.9**	**-0.6**
PB12	**IPOC Station P**	**1.48**	**278**	*eP*	**Pn**	**01 26 46.2**	**+0.4**
PB12				*eS*	**Sn**	**01 27 08.1**	**+0.5**
PB12				IAML		01 27 09.4	
comp=Z,886nm,0.3s							
PB12	**IPOC Station P**	**1.48**	**278**	↑*iP*	**Pn**	**01 26 46.2**	**+0.4**
PB12				*eS*	**Sn**	**01 27 06.9**	**-0.6**
AP01	**Chacalluta**	**1.55**	**287**		**Pn**	**01 26 47.2**	**+0.8**
AP01	**Chacalluta**	**1.55**	**287**	↑*iP*	**Pn**	**01 26 47.2**	**+0.8**
AP01				*eS*	**Sn**	**01 27 08.7**	**0.0**
AP01				IAML		01 27 14.2	
comp=N,2μm,0.2s							
HMBC	**Humberstone**	**1.77**	**216**		**Pn**	**01 26 49.3**	**+0.2**
HMBC	**Humberstone**	**1.77**	**216**	*eP*	**Pn**	**01 26 49.4**	**+0.4**
HMBC				*eS*	**Sn**	**01 27 14.7**	**+1.2**
HMBC				IAML		01 27 23.3	
comp=Z,536nm,0.3s							
HMBC	**Humberstone**	**1.77**	**216**	*i* P	**Pn**	**01 26 49.3**	**+0.2**
HMBC				*eS*	**Sn**	**01 27 13.5**	**0.0**
HMBC				IAML		01 27 17.6	
comp=N,1μm,0.2s							
TA02	**Huaiquique**	**1.91**	**222**		**Pn**	**01 26 51.0**	**+0.5**
TA02	**Huaiquique**	**1.91**	**222**	*eP*	**Pn**	**01 26 51.2**	**+0.7**
TA02				IAML		01 27 20.2	
comp=Z,378nm,0.3s							
TA02	**Huaiquique**	**1.91**	**222**	*eP*	**Pn**	**01 26 51.2**	**+0.7**
BBOE	**La Paz, Chanca**	**2.15**	**21**	Pg	**Pn**	**01 26 57.4**	**+3.3**
TA01	**Diego Aracena**	**2.17**	**217**	Pn	**Pn**	**01 26 53.8**	**+0.2**
TA01	**Diego Aracena**	**2.17**	**217**	*eP*	**Pn**	**01 26 54.0**	**+0.3**
TA01				*eS*	**Sn**	**01 27 20.9**	**-0.7**
TA01	**Diego Aracena**	**2.17**	**217**	↓*iP*	**Pn**	**01 26 53.8**	**+0.2**
TA01				*eS*	**Sn**	**01 27 20.4**	**-1.2**
BBOD	**La Paz, Gloria**	**2.19**	**5**	Pg	**Pn**	**01 26 57.3**	**+2.7**
PB01	**IPOC Station P**	**2.29**	**197**		**Pn**	**01 26 56.2**	**+0.9**
PB01	**IPOC Station P**	**2.29**	**197**	*eP*	**Pn**	**01 26 56.2**	**+0.9**
PB01				*eS*	**Sn**	**01 27 26.2**	**+1.6**
PB01	**IPOC Station P**	**2.29**	**197**	↓*iP*	**Pn**	**01 26 56.1**	**+0.9**
PB01				IAML		01 27 32.1	
comp=N,278nm,0.3s							
PB01	**IPOC Station P**	**2.29**	**197**	Pg	**Pn**	**01 26 56.4**	**+1.1**
PB01				Sg	**Sn**	**01 27 25.3**	**+0.7**
PB01				IAML		01 27 26.3	
comp=N,204nm,0.3s							
PATCX	**Punta Patache**	**2.36**	**213**		**Pn**	**01 26 56.3**	**+0.2**
PATCX	**Punta Patache**	**2.36**	**213**	*eP*	**Pn**	**01 26 56.3**	**+0.2**
PATCX				*eS*	**Sn**	**01 27 25.5**	**-0.5**
PATCX				IAML		01 27 26.4	
comp=Z,177nm,0.3s							
PATCX	**Punta Patache**	**2.36**	**213**	*i* P	**Pn**	**01 26 56.2**	**+0.2**
PATCX				*eS*	**Sn**	**01 27 25.0**	**-1.0**
PATCX				IAML		01 27 33.0	
comp=E,252nm,0.2s							
LPAZ	**La Paz**	**2.61**	**14**	Pn	**Pn**	**01 27 02.4**	**+2.6**
LPAZ	**La Paz**	**2.61**	**14**	P	**Pn**	**01 27 02.7**	**+2.8**
comp=E,207nm,0.4s,baz=180,slow=4.2,SNR=553							
LPAZ				S	**Sn**	**01 27 34.8**	**+2.3**
comp=E,10nm,0.5s,baz=94,slow=19,SNR=0.9							
LPAZ	**La Paz**	**2.61**	**14**	*eP*	**Pn**	**01 27 02.4**	**+2.6**
LPAZ	**La Paz**	**2.61**	**14**	Pg	**Pn**	**01 27 02.6**	**+2.8**
SOET	**ToroToro**	**2.91**	**76**	Pg	**Pn**	**01 27 05.9**	**+2.6**
PB09	**IPOC Station P**	**2.98**	**188**		**Pn**	**01 27 05.2**	**+1.2**
PB09	**IPOC Station P**	**2.98**	**188**	*eP*	**Pn**	**01 27 04.8**	**+0.9**
PB09				*eS*	**Sn**	**01 27 43.3**	**+3.2**
PB09	**IPOC Station P**	**2.98**	**188**	*eP*	**Pn**	**01 27 05.0**	**+1.1**
PB09				IAML		01 27 48.4	
comp=E,93nm,0.4s							
PB09	**IPOC Station P**	**2.98**	**188**	Pg	**Pn**	**01 27 05.4**	**+1.4**
PB09				Sg	**Sn**	**01 27 40.8**	**+0.7**
PB09				IAML		01 27 45.2	
comp=E,102nm,0.7s							
AOEA	**Aiquile**	**3.43**	**80**	Pg	**Pn**	**01 27 13.3**	**+3.3**
AOEA	**Aiquile**	**3.43**	**80**	Pg	**Pn**	**01 27 13.4**	**+3.4**
MOCB	**Mochara**	**

KRPM Rodgers 0.92 21 Pg Pg 01 38 41.2 -0.9
KRPM IAML 01 39 08.0
comp=N,1μm,0.7s
KRPM IAML 01 39 08.1
comp=E,1μm,0.7s
KHBM Hayfork Bally 1.02 69 Pg 01 38 43.1 -0.7
KHBM IAML 01 39 02.1
comp=E,836nm,0.6s
KFPM Farley Peak 1.03 129 Pg 01 38 43.4 -0.8
KBNM Bluenose Ridge 1.05 112 Pg 01 38 44.0 -0.6
DCMP DeCamp, Califo 1.20 133 Pg 01 38 45.2 -2.0
DCMP DeCamp, Califo 1.20 133 IAML 01 39 07.4
comp=N,400nm,0.5s
LBPM Beegum Peak 1.21 88 Pg 01 38 46.3 -1.2
WEAV Weaverville 1.21 68 Pn 01 38 48.5 +0.6
KOMM Orleans Mounta 1.25 38 Pg 01 38 46.0 -2.2
O02D Mt. Diablo Mer 1.29 95 Pn 01 38 47.4 -1.5
O02D IAML 01 39 17.3
comp=E,384nm,1.4s
O02D IAML 01 39 18.0
comp=N,409nm,1.0s
KRMB Red Mountain 1.30 19 Pn 01 38 46.5 -2.5
GWRM Wonder Ranch 1.41 140 Pn 01 38 48.4 -2.1
GROM Round Mountain 1.43 105 Pn 01 38 50.0 -0.8
GVV Valley View 1.47 110 Pn 01 38 49.8 -1.6
N02D Trinity Center 1.50 63 Pn 01 38 49.9 -1.9
N02D Trinity Center 1.50 63 IAML 01 39 20.4
comp=E,357nm,0.6s
N02D IAML 01 39 22.4
comp=N,333nm,0.7s
LBKM Bonanza King 1.58 59 Pn 01 38 51.1 -1.8
KSXB Camp Six Broad 1.60 16 Pn 01 38 50.5 -2.6
KSXB IAML 01 39 11.1
comp=E,323nm,0.6s
SIGP Signal Peak, C 1.60 11 Pn 01 38 50.5 -2.7
M02C Callahan 1.64 48 Pn 01 38 51.8 -1.9
HOPS Hopland Field 1.69 140 Pn 01 38 52.4 -1.8
LTCM Tuscan Springs 1.79 92 Pn 01 38 54.9 -0.9
LAMM Antelope Mount 1.91 46 Pn 01 38 56.0 -1.6
YBH Yreka Blue Hor 1.95 42 Pn Pn 01 38 56.4 -1.7
LGBM Gray Butte 2.02 58 Pn 01 38 58.6 -0.4
M03C McCloud 2.03 60 Pn 01 38 58.4 -0.7
M03C McCloud 2.03 60 IAML 01 39 39.3
comp=E,278nm,0.9s
M03C IAML 01 39 40.1
comp=N,238nm,1.5s
O03E Paynes Creek 2.03 89 Pn 01 38 57.6 -1.5
O03E Paynes Creek 2.03 89 IAML 01 39 46.9
comp=E,198nm,0.9s
LMPM Military Pass 2.11 55 Pn 01 39 00.0 -0.3
LHEM Herd Peak 2.16 51 Pn 01 39 00.3 -0.7
LBFM Black Fox Moun 2.22 61 Pn 01 39 01.4 -0.4
LRDM Redding Peak 2.30 85 Pn 01 39 02.4 -0.4
HATC Hat Creek Radi 2.34 76 Pn 01 39 02.9 -0.6
LGMM Garner Mountai 2.38 56 Pn 01 39 03.2 -0.7
ORV Oroville 2.40 107 Pn Pn 01 39 02.1 -1.9
LBCM Butte Creek Ri 2.43 76 Pn 01 39 03.6 -1.0
K02D Willamette Mer 2.47 14 IAML 01 39 25.1
comp=N,116nm,4.6s
K02D IAML 01 39 59.8
comp=E,130nm,5.0s
M04C Macdoel 2.48 52 Pn 01 39 04.5 -0.8
L04D Klamath Falls 2.52 40 Pn Pn 01 39 05.8 0.0
L04D IAML 01 40 11.9
comp=E,133nm,3.5s
L04D IAML 01 40 29.1
comp=N,116nm,4.9s
DBO Dodson Butte 2.96 18 Pn 01 39 11.3 -0.7
DBO IAML 01 39 37.3
comp=N,98nm,4.7s
DBO IAML 01 39 59.5
comp=E,71nm,4.2s
AFDM Forest Hills D 3.01 115 Pn 01 39 11.7 -0.9
J04A Umpqua Nationa 3.43 30 Pn 01 39 18.6 +0.1
I04A Tendick Farm, 3.81 23 IAML 01 39 52.7
comp=N,59nm,4.4s
I04A IAML 01 40 24.5
comp=E,48nm,4.4s
J05D Fort Rock, OR 3.84 38 Pn 01 39 24.1 +0.1
J05D IAML 01 40 45.7
comp=E,54nm,4.7s
PNTR Pine Nut 3.94 106 IAML 01 40 39.5
comp=E,56nm,4.5s
PNTR IAML 01 40 45.8
comp=N,58nm,1.6s
PAHR Pah Rah Range 3.94 97 Pn 01 39 24.5 -0.9
PAHR IAML 01 39 54.2
comp=N,36nm,4.6s
PAHR IAML 01 40 41.6
comp=E,32nm,4.5s
WVOR Wild Horse Val 4.88 62 IAML 01 41 10.2
comp=E,23nm,4.9s
WVOR IAML 01 41 48.5
comp=E,30nm,4.7s
J08A Circle Bar Ran 5.42 54 Pn 01 39 43.6 -2.1

*IDC **03** 01:40:17.6±1.7,34°.61N×140°.95E,h0km,mb3.7/7,*
mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=59.4km
s-min=19.5km az=68.0
*JMA **03** 01:40:21.8±0.2,34°.5N±0°.7×140°.8E±0°.8,h53km±1km,*
MV3.4/37,SE OFF BOSO PENINSULA
ISC 03 01:40:23.2±1.1,34°.55N±0°.06×140°.77E±0°.08,h36km±3km,
n28,σ0°.88/29,mb3.7/7,9D,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.20**	**58**	*i* P	**Pn**	**01 40 30.3**	**-0.5**
BSO1				*e*X		01 40 36.8	
BSO2	**Boso 2**	**0.20**	**357**	*e*P	**Pn**	**01 40 30.5**	**-0.6**
BSO2				X		01 40 37.2	
BSO3	**Boso 3**	**0.33**	**320**	⇓*i*P	**Pn**	**01 40 31.8**	**+0.5**
BSO3				⇓*e*X		01 40 39.4	
BSO4	**Boso 4**	**0.57**	**322**	⇓P	**Pn**	**01 40 34.9**	**+0.1**
BSO4				⇓*e*X		01 40 44.8	
KTR	**Katsuura**	**0.71**	**328**	*e*P	**Pn**	**01 40 36.4**	**-0.3**
KTR				*e*S	**Sn**	**01 40 46.7**	**+0.4**
JKUC	**kamogawauchiur**	**0.77**	**323**	⇓*i*P	**Pn**	**01 40 37.1**	**-0.4**
JKUC				⇓*e*S	**Sn**	**01 40 48.0**	**+0.1**
TATJ	**Tateyama 2**	**0.87**	**304**	⇓P	**Pn**	**01 40 39.1**	**+0.1**
TATJ				⇓*e*S	**Sn**	**01 40 51.5**	**+1.1**
JCN	**Nagara**	**0.99**	**332**	*e*P	**Pn**	**01 40 40.5**	**0.0**
JCN				*e*S	**Sn**	**01 40 54.1**	**+0.8**
JIM2	**Oshima 3**	**1.11**	**279**	P	**Pn**	**01 40 41.8**	**-0.6**
JIM2				*e*S	**Sn**	**01 40 55.5**	**-1.0**
JMYK	**Miyake Tsubota**	**1.12**	**245**	*e*P	**Pn**	**01 40 42.7**	**+0.3**
JMKN	**Mikurajimanish**	**1.17**	**237**	*e*P	**Pn**	**01 40 42.5**	**-0.6**
JTHY	**Toshimahigashi**	**1.22**	**269**	*e*P	**Pn**	**01 40 43.7**	**-0.1**
JTHY				*e*S	**Sn**	**01 40 59.3**	**+0.3**
KTJ3	**Kamata3**	**1.45**	**286**	⇓P	**Pn**	**01 40 46.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.88**	**314**	Pn	**Pn**	**01 41 06.6**	**-0.1**
	1.4nm,0.3s,baz=145,slow=11,SNR=56						
MJAR				Sn	**Sn**	**01 41 41.1**	**+1.0**
	0.7nm,0.3s,baz=146,slow=11,SNR=6.7						
	7.5nm,0.3s						
ASAJ	**Asahikawa**	**9.66**	**8**	Pn	**Pn**	**01 42 36.8**	**-2.9**
	0.4nm,0.3s,baz=180,slow=20,SNR=2.6						
	8.2nm,0.8s						
H11N2	**WAKE ISLAND Hy 27.43 116**			T	T	02 15 24.1	
	baz=309,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy 27.44 116**			T	T	02 15 43.9	
	baz=309,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy 27.45 116**			T	T	02 15 19.2	
	baz=309,slow=75,SNR=5.0						
H11S3	**WAKE ISLAND Hy 28.05 118**			T	T	02 16 09.2	
	baz=311,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy 28.05 118**			T	T	02 16 05.4	
	baz=311,slow=76,SNR=4.3						
H11S2	**WAKE ISLAND Hy 28.07 118**			T	T	02 16 12.5	
	baz=311,slow=76,SNR=4.4						
ZALV	**Zalesovo Beam 43.24 314**			P	**P**	**01 48 21.0**	**+0.2**
	0.3nm,0.3s,baz=94,slow=6.4,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array 45.03 304**			P	**P**	**01 48 35.0**	**-0.4**
	0.5nm,0.7s,baz=89,slow=8.3,SNR=6.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra 47.15 310**			P	**P**	**01 48 52.0**	**+0.1**
	0.7nm,0.6s,baz=86,slow=7.7,SNR=11						
	0.7nm,0.6s						
BVAR	**Borovoye Array 51.88 314**			P	**P**	**01 49 27.8**	**-0.1**
	0.6nm,0.7s,baz=100,slow=7.9,SNR=4.2						
	0.6nm,0.7s						
WRA	**Warramunga Arr 54.53 187**			P	**P**	**01 49 46.9**	**-0.7**
	0.4nm,0.3s,baz=6.1,slow=7.5,SNR=8.4						
	0.4nm,0.3s						
ASAR	**Alice Springs 58.26 187**			P	**P**	**01 50 16.1**	**+1.9**
	0.8nm,1.1s,baz=17,slow=11,SNR=1.3						
	0.8nm,1.1s						
KBZ	**Khabaz 72.13 311**			P	**P**	**01 51 44.3**	**+0.3**
	1.7nm,0.9s,baz=52,slow=6.8,SNR=4.9						
	1.7nm,0.9s						

*IDC **03** 01:43:46.5±1.3,31°.27S×67°.84W,h0km,mb3.7/2,*
mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=51.1km
s-min=20.9km az=124.0
*SJA **03** 01:43:49.4±1.1,31°.33S×67°.94W,h9km±4km,ML3.6,*
MW3.3
ISC 03 01:43:49.8±0.9,31°.30S±0°.03×67°.88W±0°.03,h13km±6km,
n35,σ1°.48/49,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.62**	**249**	*i* P	**Pg**	**01 44 00.9**	**-1.1**
SJA				*i* S	**Sg**	**01 44 10.3**	**+0.1**
ZON	**Zonda**	**0.73**	**250**	*i* P	**Pg**	**01 44 03.4**	**-0.5**
ZON				*i* S	**Sg**	**01 44 13.0**	**-0.5**
ZON				IAML		01 44 14.4	
	comp=Z,2μm,0.2s						
DOCA	**Reserva Natura**	**1.09**	**288**	*i* P	**Pg**	**01 44 10.2**	**-0.7**
DOCA				*i* S	**Sg**	**01 44 24.8**	**-0.3**
ACCO	**Cerro Coronel**	**1.24**	**305**	*i* P	**Pb**	**01 44 13.2**	**-0.1**
ACCO				*i* S	**Sn**	**01 44 30.6**	**+0.7**
RTLS	**Leoncito**	**1.31**	**247**	*i* P	**Pn**	**01 44 13.4**	**-0.6**
RTLS				*i* S	**Sb**	**01 44 31.9**	**+0.7**
RTLS				IAML		01 44 32.3	
	comp=Z,1μm,0.3s						
APLL	**PUNTA DE LOS L**	**1.47**	**53**	*i* P	**Pg**	**01 44 17.8**	**-0.3**
APLL				*i* S	**Sg**	**01 44 37.7**	**+0.5**
ASAL	**Salagasta**	**1.52**	**212**	*i* P	**Pn**	**01 44 17.4**	**+0.6**
ASAL				*i* S	**Sn**	**01 44 37.6**	**+1.1**
ASAL				IAML		01 44 38.3	
	comp=Z,564nm,0.5s						
ACDV	**Cuesta del Vie**	**1.55**	**316**	*i* P	**Pb**	**01 44 18.6**	**+0.1**
ARCO	**CERRO ARCO**	**1.78**	**210**	*i* P	**Pn**	**01 44 21.7**	**+1.3**
ARCO				IAML		01 44 46.6	
	comp=Z,719nm,0.3s						
AROD	**Rodeo**	**1.78**	**309**	*i* P	**Pb**	**01 44 22.4**	**0.0**
AROD				*i* S	**Sb**	**01 44 45.6**	**+0.8**
AGUA	**GUANDACOL**	**1.88**	**344**	*i* P	**Pb**	**01 44 24.8**	**+0.7**
AGUA				*i* S	**Sg**	**01 44 49.4**	**-1.0**
AGUA				IAML		01 44 54.0	
	comp=Z,584nm,0.2s						
AAGR	**Agrelo**	**1.95**	**204**	*i* P	**Pn**	**01 44 23.9**	**+1.2**
AAGR				*i* S	**Sb**	**01 44 50.4**	**+0.8**
AAGR				IAML		01 44 53.1	
	comp=Z,801nm,0.5s						
ACLC	**CERRO LA CRUZ**	**2.03**	**23**	*i* P	**Pb**	**01 44 27.2**	**+0.5**
ACLC				*i* S	**Sg**	**01 44 55.0**	**-0.2**
ACLC				IAML		01 45 00.9	
	comp=Z,238nm,0.3s						
CO01	**Juntas del Tor**	**2.32**	**304**	*i* P	**Pb**	**01 44 31.4**	**-0.2**
CO01				IAML		01 45 02.7	
	comp=Z,196nm,0.5s						
CO03	**El Pedregal**	**2.45**	**280**	*i* P	**Pb**	**01 44 33.0**	**-0.8**
CO03				IAML		01 45 06.6	
	comp=Z,459nm,0.5s						
VA03	**San Esteban**	**2.70**	**237**	*i* P	**Pn**	**01 44 36.0**	**+3.0**
VA03				IAML		01 45 13.7	
	comp=Z,502nm,0.5s						
GO04	**Tololo Observa**	**2.75**	**293**	*i* P	**Pn**	**01 44 36.6**	**+2.7**
MT08	**Bocatoma Ro**	**2.80**	**220**	*i* P	**Pn**	**01 44 36.5**	**+2.0**
MT08				IAML		01 45 19.9	
	comp=Z,173nm,0.7s						
MT03	**Universidad Ad**	**3.12**	**225**	*i* P	**Pn**	**01 44 41.2**	**+2.4**
MT03				IAML		01 45 28.8	
	comp=Z,154nm,0.6s						
MT05	**Renca**	**3.19**	**228**	*i* P	**Pn**	**01 44 42.0**	**+2.2**
MT05				IAML		01 45 32.0	
	comp=Z,132nm,0.4s						
LCO	**Las Campanas**	**3.34**	**312**	*i* P	**Pn**	**01 44 45.1**	**+3.1**
LCO				IAML		01 45 40.0	
	comp=Z,275nm,0.4s						
CYA	**Choya**	**3.37**	**33**	*i* P	**Pn**	**01 44 44.5**	**+2.3**
CYA				IAML		01 45 47.2	
	comp=Z,171nm,0.4s						
MT02	**Curacav**	**3.38**	**234**	*i* P	**Pn**	**01 44 43.4**	**+1.1**
MT02				IAML		01 45 35.5	
	comp=Z,76nm,0.6s						
RFA	**San Rafael**	**3.50**	**188**	*i* P	**Pn**	**01 44 43.5**	**-0.5**
RFA				*i* S	**Sb**	**01 45 36.7**	**+2.7**
RFA				IAML		01 45 45.8	
	comp=Z,216nm,0.4s						
MT01	**Popeta**	**3.83**	**227**	*i* P	**Pn**	**01 44 48.9**	**+0.5**
MT01				IAML		01 45 48.6	
	comp=Z,47nm,0.6s						
BO01	**Tunca**	**4.10**	**220**	*i* P	**Pn**	**01 44 53.2**	**+1.1**
AC04	**Llanos de Chal**	**4.15**	**317**	*i* P	**Pn**	**01 44 55.2**	**+2.3**
AC04				IAML		01 45 58.9	
	comp=Z,48nm,0.2s						
BO02	**Sierra Bellavi**	**4.25**	**214**	*i* P	**Pn**	**01 44 56.3**	**+2.0**
BO02				IAML		01 45 53.6	
	comp=Z,35nm,0.3s						
PLCA	**Paso Flores**	**9.66**	**192**	Pn	**Pn**	**01 46 09.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=12,slow=15,SNR=5.3						
PLCA				Lg	Lg	01 48 52.5	
	comp=Z,0.1nm,0.3s,baz=105,slow=20,SNR=3.6						
	comp=Z,0.9nm,0.7s						
CPUP	**Villa Florida**	**10.49**	**64**	Pn	**Pn**	**01 46 17.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=232,slow=13,SNR=1.8						
CPUP				Sn	**Sn**	**01 48 18.0**	**+0.7**
	baz=32,slow=12,SNR=1.8						
CPUP				Lg	Lg	01 49 18.2	
	comp=Z,0.2nm,0.3s,baz=280,slow=18,SNR=3.0						
	comp=Z,0.6nm,0.4s						
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**01 53 47.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=153,slow=2.3,SNR=2.1						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea 79.97 68**			P	**P**	**01 55 57.4**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=242,slow=3.1,SNR=5.6						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra 148.51 42**			PKPbc	**PKPdf**	**02 03 34.7**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.3,SNR=1.7						
ZALV	**Zalesovo Beam 150.07 33**			PKPbc	**PKPbc**	**02 03 38.3**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=318,slow=1.9,SNR=1.9						
MKAR	**Makanchi Array 152.35 47**			PKPbc	**PKPbc**	**02 03 43.6**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=317,slow=2.7,SNR=3.0						
MKAR				PKPab	**sPKPbc**	**02 03 53.2**	**+0.8**

ISC 03 01:46:58.6±1.5,59°.94N±0°.07×140°.13W±0°.04,h12km±8km,
n12,σ0°.98/21,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	**Pinnacle**	**0.17**	**338**	P	**Pg**	**01 47 02.4**	**-0.2**
	baz=136,SNR=595						
PINM				S	**Sg**	**01 47 06.0**	**+0.7**
	baz=136						
O28M	**Mount Upton**	**0.83**	**358**	P	**Pg**	**01 47 14.0**	**-0.8**
	baz=177						
O28M				S	**Sg**	**01 47 25.0**	**-0.7**
	baz=177						
O29M	**Mount Kennedy**	**0.86**	**64**	P	**Pg**	**01 47 14.4**	**-0.8**
	baz=251						
O29M				S	**Sg**	**01 47 26.0**	**-0.4**
	baz=251						
MESA	**MESA**	**0.94**	**285**	P	**Pg**	**01 47 16.8**	**-0.1**
	baz=99,SNR=19						
MESA				S	**Sb**	**01 47 30.4**	**+0.8**
	baz=99						
YUK6	**Outpost Mounta**	**1.33**	**40**	Pg	**Pn**	**01 47 23.3**	**0.0**
	baz=224,SNR=16						
YUK6				Sg	**Sn**	**01 47 41.1**	**+0.1**
	baz=224						
YUK8	**Steele Glacier**	**1.36**	**7**	Pb	**Pn**	**01 47 23.5**	**-0.1**
	baz=188,SNR=24						
YUK8				S	**Sb**	**01 47 41.3**	**-0.3**
	baz=188						
HYT	**Haines Junctio**	**1.57**	**55**	Sg	**Sg**	**01 47 48.9**	**-0.5**
	baz=239						
YUK4	**Talbot Arm**	**1.59**	**27**	Pg	**Pg**	**01 47 29.8**	**+0.7**
	baz=209,SNR=15						
YUK4				Sg	**Sg**	**01 47 52.7**	**+3.0**
	baz=209						
P30M	**Million Dollar**	**1.60**	**82**	Sg	**Sg**	**01 47 49.9**	**-0.2**
	baz=268						
YUK3	**Moose Creek**	**1.85**	**355**	Pb	**Pb**	**01 47 31.8**	**-0.7**
	baz=174,SNR=14						
YUK3				Sb	**Sg**	**01 47 56.6**	**-1.4**
	baz=174						
N30M	**Aishikik Lake**	**2.13**	**43**	Pg	**Pb**	**01 47 38.0**	**+0.8**
	baz=227						
N30M				Sg	**Sg**	**01 48 07.3**	**+0.2**
	baz=227						
O30N	**Mendenhall**	**2.17**	**66**	Sg	**Sg**	**01 48 08.1**	**-0.3**
	baz=251						

*NEIC **03** 02:08:55.0±1.1,61°.52N±0°.03×149°.85W±0°.05,h41km±8km,*
Error ellipse: s-maj=4.7km s-min=2.2km az=213.0
AEIC 03 02:08:55.5±1.2,61°.481N±0°.010×149°.85W±0°.05,
h37km±7km,ML2.4,ML2.6/108(NEIC),**Error ellipse:**
s-maj=3.7km s-min=1.1km az=74.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**334**		Pn	02 09 02.5	-1.2
M22K					Sn	02 09 09.1	-1.7
PMR	**Palmer**	**0.36**	**72**		Pn	02 09 03.3	-0.7
PMR					Sn	02 09 10.0	-0.8
PMR				IAML		02 09 10.5	
	comp=N,489nm,0.3s						
PMR				IAML		02 09 10.9	
	comp=E,415nm,0.3s						
FIS	**Fire Island**	**0.38**	**208**		Pn	02 09 04.8	+0.5
FIS	**Fire Island**	**0.38**	**208**	IAML		02 09 13.5	
	comp=E,276nm,0.5s						
FIS				IAML		02 09 13.8	
	comp=N,415nm,0.6s						
RC01	**Rabbit Creek A**	**0.40**	**172**		Sn	02 09 11.8	+0.5
SUA	**Susitna One**	**0.43**	**268**		Pn	02 09 04.5	-0.6
SUA					Sn	02 09 12.2	0.0
SUA				IAML		02 09 12.6	
	comp=N,336nm,0.5s						
SUA				IAML		02 09 12.9	
	comp=E,491nm,0.3s						
GHO	**Glory Hole Cre**	**0.53**	**56**		Sn	02 09 14.1	-0.3
KNK	**Knik Glacier**	**0.67**	**95**		Pn	02 09 07.8	-0.8
KNK					Sn	02 09 17.8	0.0
KNK				IAML		02 09 20.3	
	comp=E,344nm,0.2s						
SML	**Sawmill**	**0.79**	**65**		Pn	02 09 09.0	-1.2
SML					Sn	02 09 20.0	-0.9
SML				IAML		02 09 22.8	
	comp=E,134nm,1.0s						
SML				IAML		02 09 23.7	
	comp=N,145nm,0.4s						
SKT	**Skwentna**	**0.95**	**303**		Pn	02 09 11.0	-1.3
SKT				IAML		02 09 24.3	
	comp=N,236nm,0.3s						
SKT				IAML		02 09 24.4	
	comp=E,144nm,0.3s						
CUT	**Chulitna**	**0.95**	**348**		Pn	02 09 11.2	-1.1
STLK	**Strandline Lak**	**0.95**	**272**		Pn	02 09 11.6	-0.8
STLK				IAML		02 09 25.4	
	comp=E,117nm,0.1s						
STLK				IAML		02 09 25.6	
	comp=N,218nm,0.3s						
STLK	**Strandline Lak**	**0.95**	**272**		Sn	02 09 24.8	-0.1
CAPN	**Captain Cook N**	**0.96**	**222**		Pn	02 09 13.5	+1.1
PWL	**Port Wells**	**0.96**	**130**		Pn	02 09 11.9	-0.6
PWL				IAML		02 09 28.3	
	comp=N,243nm,0.2s						
SLKM	**Skilak Lake**	**0.99**	**191**		Pn	02 09 11.9	-1.0
SLKM				IAML		02 09 27.2	
	comp=N,217nm,0.1s						
SLKM				IAML		02 09 27.5	
	comp=E,234nm,0.2s						
O22K	**Cooper Landing**	**1.00**	**177**		Pn	02 09 12.2	-0.9
O22K	**Cooper Landing**	**1.00**	**177**		Sn	02 09 27.1	+1.3
O22K	**Cooper Landing**	**1.00**	**177**	IAML		02 09 27.8	
	comp=N,586nm,0.2s						
O22K				IAML		02 09 28.7	
	comp=E,596nm,0.3s						
SPCG	**Spurr Capps Gl**	**1.06**	**261**		Sn	02 09 28.0	+0.4
SPU	**Mount Spurr**	**1.11**	**255**		Pn	02 09 13.7	-0.8
SPU				IAML		02 09 30.1	
	comp=N,121nm,0.3s						
SPU				IAML		02 09 30.3	
	comp=E,99nm,0.3s						
SPCR	**Spurr Chakacha**	**1.17**	**257**		Pn	02 09 14.9	-0.5
SPCR					Sn	02 09 30.5	+0.3
SPBG	**Spurr Blockage**	**1.24**	**261**		Sn	02 09 32.5	+0.7
SCM	**Sheep Creek Mo**	**1.25**	**72**		Pn	02 09 16.1	-0.4
SEW	**Seward**	**1.40**	**172**		Pn	02 09 17.7	-0.7
GLI	**Glacier Island**	**1.46**	**113**	Pn	Pn	02 09 18.8	-0.5
GLI				IAML		02 09 42.4	
	comp=E,104nm,0.2s						
GLI				IAML		02 09 42.5	
	comp=N,80nm,0.5s						
M20K	**Styx River**	**1.62**	**286**		Pn	02 09 21.1	-0.5
M20K	**Styx River**	**1.62**	**286**	IAML		02 09 44.4	
	comp=E,64nm,0.9s						
M20K				IAML		02 09 44.6	
	comp=N,46nm,1.0s						
DFR	**Drift River**	**1.65**	**238**		Pn	02 09 21.5	-0.5
FID	**Port Fidalgo**	**1.79**	**113**	Pn	Pn	02 09 22.7	-1.1
FID				IAML		02 09 52.4	
	comp=N,56nm,0.5s						
FID				IAML		02 09 52.7	
	comp=E,67nm,0.3s						
PPLA	**Purkeypile**	**1.80**	**323**		Pn	02 09 23.5	-0.6
PPLA	**Purkeypile**	**1.80**	**323**		Sn	02 09 46.4	+0.7
BRLK	**Bradley Lake**	**1.80**	**197**	Pn	Pn	02 09 23.5	-0.5
BRLK				IAML		02 09 50.5	
	comp=N,63nm,0.4s						
BRSE	**Bradley Lake S**	**1.80**	**195**		Pn	02 09 23.1	-0.9
M24K	**Tolsona, Glenn**	**1.85**	**69**		Pn	02 09 25.4	+0.6
KLU	**Klutina**	**1.88**	**88**		Pn	02 09 24.6	-0.6
KLU	**Klutina**	**1.88**	**88**		Sn	02 09 48.7	+1.0
KLU	**Klutina**	**1.88**	**88**	IAML		02 09 51.3	
	comp=N,80nm,0.2s						
KLU				IAML		02 09 51.5	
	comp=E,74nm,0.2s						
P23K	**Montague Islan**	**1.91**	**140**		Pn	02 09 24.2	-1.3
O20K	**Slope Mountain**	**1.96**	**225**		Pn	02 09 26.4	+0.2
HIN	**Hinchinbrook I**	**1.96**	**122**		Pn	02 09 25.7	-0.5
HIN				IAML		02 09 57.5	
	comp=N,58nm,1.1s						
HIN				IAML		02 09 57.8	
	comp=E,68nm,1.2s						
RND	**Reindeer**	**1.99**	**13**	Pn	Pn	02 09 26.4	-0.2
TRF	**Thorofare Moun**	**1.99**	**354**	IAML		02 09 53.9	
	comp=N,52nm,0.4s						
TRF				IAML		02 09 55.2	
	comp=E,44nm,0.6s						
CNPM	**China Poot**	**2.08**	**200**		Pn	02 09 26.8	-1.0
CNPM	**China Poot**	**2.08**	**200**	IAML		02 09 57.4	
	comp=E,49nm,0.7s						
CNPM				IAML		02 09 57.6	
	comp=N,48nm,0.6s						
KTH	**Kantishna Hill**	**2.14**	**347**	Pn	Pn	02 09 28.6	-0.1
KTH	**Kantishna Hill**	**2.14**	**347**		Sn	02 09 54.9	+0.9
KTH	**Kantishna Hill**	**2.14**	**347**	IAML		02 09 55.9	
	comp=E,72nm,0.6s						
KTH				IAML		02 09 57.9	
	comp=N,72nm,0.6s						
L20K	**Farewell, AK**	**2.15**	**299**		Pn	02 09 28.5	-0.4
ILS	**Iliamna Low So**	**2.20**	**227**		Pn	02 09 29.6	0.0
EYAK	**Cordova Ski Ar**	**2.20**	**113**		Pn	02 09 28.6	-0.9
CAST	**Castle Rocks**	**2.21**	**333**	Pn	Pn	02 09 29.3	-0.3
ILSW	**Iliamna Southw**	**2.21**	**229**		Pn	02 09 29.6	-0.2
MCK	**McKinley**	**2.30**	**10**	Pn	Pn	02 09 31.5	+0.6
N19K	**Bonanza Creek**	**2.35**	**255**		Pn	02 09 31.3	-0.3
HARP	**HAARP**	**2.40**	**65**		Pn	02 09 31.9	-0.3
L19K	**White Mountain**	**2.48**

K20K	Telida	2.72 316			Pn	02 09 35.8	-0.8
M18K	Stony River	2.87 273			Pn	02 09 38.0	-0.6
N18K	Kilae Creek	3.04 257			Pn	02 09 40.3	-0.8
O18K	Koktuh Hills	3.10 241		Pn	Pn	02 09 40.0	-1.9
O18K				IAML		02 10 28.8	
	comp=N,15nm,1.5s						
SYI	Shuyak Island	3.15 205			Pn	02 09 42.2	-0.3
SYI	Shuyak Island	3.15 205		IAML		02 10 49.1	
	comp=N,24nm,1.4s						
CCB	Clear Creek Bu	3.31 15			Pn	02 09 44.3	-0.4
L18K	Granite Mounta	3.33 286			Pn	02 09 44.5	-0.5
J20K	Nowinta River	3.35 326			Pn	02 09 44.2	-1.0
J20K	Nowinta River	3.35 326		IAML		02 10 46.4	
	comp=E,13nm,1.3s						
J20K				IAML		02 10 47.7	
	comp=N,14nm,1.2s						
M26K	Nabesna, AK	3.37 71			Pn	02 09 46.1	+0.5
M26K	Nabesna, AK	3.37 71		IAML		02 10 39.1	
	comp=E,9.5nm,0.9s						
M26K				IAML		02 10 52.3	
	comp=N,11nm,0.6s						
L26K	Log Cabin Wild	3.41 60		IAML		02 10 41.7	
	comp=E,14nm,0.5s						
L26K				IAML		02 10 42.3	
	comp=N,19nm,0.4s						
IL31		3.57 21			Pn	02 09 48.4	+0.3
M17K	Holitna River	3.65 272			Pn	02 09 48.8	-0.5
J19K	Poorman	3.66 316			Pn	02 09 49.3	-0.3
J19K	Poorman	3.66 316		IAML		02 10 51.5	
	comp=E,8.2nm,0.9s						
J19K				IAML		02 10 53.5	
	comp=N,7.2nm,1.4s						
I23K	Minto, Yukon-K	3.69 3		IAML		02 10 48.4	
	comp=E,10nm,1.3s						
I23K				IAML		02 11 00.5	
	comp=N,9.5nm,1.0s						
N17K	Nushagak Hills	3.70 258			Pn	02 09 49.4	-0.7
N17K	Nushagak Hills	3.70 258		IAML		02 10 50.5	
	comp=N,9.9nm,1.4s						
J25K	Salcha River,	3.75 31		IAML		02 10 41.7	
	comp=E,7.7nm,0.4s						
J25K				IAML		02 10 42.1	
	comp=N,8.2nm,0.4s						
J26L	Joseph Creek	4.17 41			Pn	02 09 57.0	+0.4
J26L	Joseph Creek	4.17 41		IAML		02 10 54.6	
	comp=E,6.4nm,0.6s						
J26L				IAML		02 10 55.2	
	comp=N,6.5nm,0.6s						

*IDC **03** 02:29:39.1±1.3,23°.41N×143°.81E,h0km,mb3.9/7, mbtmp3.9/8,ML3.7/1,Error ellipse: s-maj=51.9km s-min=19.6km az=82.0*

ISC 03 02:29:43.2±1.6,23°.9N±0°.2×143°.8E±0°.3,h10km,n8, σ0§88/7,mb3.9/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.54	336	Pn	Pn	02 30 39.2	+1.0
	4.8nm,0.3s,baz=216,slow=19,SNR=1.1						
JCJ				Sn	Sn	02 31 19.2	-0.9
	11nm,0.3s,baz=105,slow=23,SNR=5.7 19nm,0.3s						
WRA	Warramunga Arr	44.48	193	P	P	02 37 48.9	-6.0
	1.3nm,0.6s,baz=14,slow=9.3,SNR=21 1.3nm,0.6s						
ASAR	Alice Springs	48.19	192	P	P	02 38 18.0	-6.1
	0.4nm,0.4s,baz=16,slow=12,SNR=9.5 0.4nm,0.4s						
MKAR	Makanchi Array	53.66	311	P	P	02 39 05.1	+0.1
	0.2nm,0.5s,baz=90,slow=8.8,SNR=4.3 0.2nm,0.5s						
KURBB	Kurchatov Arra	56.34	316	P	P	02 39 24.4	+0.1
	0.7nm,0.6s,baz=94,slow=8.2,SNR=13 0.7nm,0.6s						
BVAR	Borovoye Array	61.41	319	P	P	02 39 59.7	+0.2
	2.5nm,0.5s,baz=90,slow=8.0,SNR=17 2.5nm,0.5s						
YKA	Yellowknife Ar	74.31	28	P	P	02 41 20.7	+0.1
	0.2nm,0.6s,baz=286,slow=6.0,SNR=2.7 0.2nm,0.6s						
FINES	FINESS Array B	81.48	335	P	P	02 41 59.4	-1.1
	5.7nm,1.1s,baz=51,slow=6.4,SNR=7.0 5.7nm,1.1s						

*KRSC **03** 02:31:22.0±1.7,54°.87N×164°.79E,h68km±23km,Ml4.1*
*IDC **03** 02:31:21.4±1.0,54°.85N×164°.69E,h0km,mb3.7/7, mbtmp3.6/8,ML2.6/1,MS3.6/2,Error ellipse: s-maj=39.0km s-min=17.1km az=155.0*

ISC 03 02:31:22.2±1.6,54°.97N±0°.05×164°.52E±0°.05,h5km±12km, n40,σ1§37/47,mb3.7/7,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.87	74	eP	Pg	02 31 39.2	+0.4
BKI				eS	Sg	02 31 49.9	-0.1
KBTR	Krutoberegovo	1.58	323	eP	Pn	02 31 50.4	-0.4
KBTR				eS	Sn	02 32 10.9	-0.6
KBG	Krutoberegovo	1.65	322	eP	Pn	02 31 52.2	+0.4
KBG				eS	Sn	02 32 13.4	0.0
SMKR	Semkarok	2.37	314	eP	Pb	02 32 04.3	-1.0
SMKR				eS	Sb	02 32 34.8	0.0
BZGR	Bezymyannyi-Gr	2.39	296	eP	Pb	02 32 04.6	-1.1
BZGR				eS	Sb	02 32 35.3	-0.1
LGNR	Loginova	2.45	299	eP	Pb	02 32 05.8	-1.0
BZWR	Bezymyannyi-We	2.50	295	eP	Pb	02 32 06.4	-1.2
BZWR				eS	Sb	02 32 39.0	+0.2
KMNR	Kamenistaya	2.57	290	eP	Pn	02 32 06.9	+2.4
KMNR				eS	Sb	02 32 40.8	0.0
KRSR	Krestovskiy	2.57	301	eP	Pn	02 32 06.3	+1.8
KRSR				eS	Sb	02 32 39.3	-1.5
KLY	Klyuchi	2.58	303	eP	Pn	02 32 05.3	+0.8
KLY				eS	Sn	02 32 36.3	+0.1
KIRR	Kirishev	2.58	294	eP	Pb	02 32 07.6	-1.4
KIRR				eS	Sb	02 32 40.8	-0.2
KPT	Kopyto	2.65	294	eP	Pb	02 32 08.6	-1.5
KPT				eS	Sb	02 32 42.7	-0.1
KOZ	Kozyrevsk	2.86	294	eP	Pb	02 32 11.8	-1.9
SRDR	Sredinnyy	3.04	298	eP	Pn	02 32 13.9	+2.9
KII	Karymskiy	3.10	255	eP	Pn	02 32 13.4	+1.5
KII				eS	Sn	02 32 48.4	-0.8
ESO	Esso	3.45	289	eP	Pn	02 32 18.7	+2.1
ESO				eS	Sn	02 32 58.9	+1.1
AVH	Avacha	3.81	246	eP	Pn	02 32 23.6	+2.1
KRX	Arik	3.81	247	eP	Pn	02 32 23.0	+1.3
KOK	Koryaka	3.85	247	eP	Pn	02 32 24.0	+1.9
DALK	Dalny	3.92	243	eP	Pn	02 32 24.5	+1.6
DALK				eS	Sn	02 33 06.3	-2.9
PET	Petropavlovsk	3.97	243	eS	Sn	02 33 08.6	-2.0
GNL	Ganaly	4.06	254	eP	Pn	02 32 27.0	+2.0
KRMR	Karymshinskiy	4.34	243	eS	Sn	02 33 18.3	-1.4
OSSR	Ossora	4.37	350	eS	Sn	02 33 19.2	-1.1
PETK	Petropavlovsk-	4.43	248	Pn	Pn	02 32 30.9	+0.9
	1.6nm,0.3s,baz=67,slow=17,SNR=39						
PETK				Sn	Sn	02 33 21.8	-0.2
	3.6nm,0.3s,baz=52,slow=17,SNR=11 3.0nm,0.5s						
MA2	Magadan	8.76	307	LR	LR	02 37 08.0	
	comp=Z,73nm,19.3s,baz=130,slow=39						
ILAR	Eielson Array	25.63	48	P	P	02 36 51.4	-0.8
	1.7nm,0.8s,baz=258,slow=8.4,SNR=16 1.7nm,0.8s						
MJAR	Matsushiro Arr	25.76	235	P	P	02 36 52.4	-1.2
	0.8nm,0.6s,baz=32,slow=11,SNR=2.0 0.8nm,0.6s						
H11N2	WAKE ISLAND Hy	35.22	176	T	T	03 16 44.9	
	baz=359,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy	35.24	176	T	T	03 16 42.8	
	baz=359,slow=76,SNR=23						
H11N1	WAKE ISLAND Hy	35.24	176	T	T	03 16 43.1	
	baz=359,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	36.43	177	T	T	03 18 11.7	
	baz=356						
H11S3	WAKE ISLAND Hy	36.45	177	T	T	03 17 41.9	
	baz=356						
H11S2	WAKE ISLAND Hy	36.45	177	T	T	03 18 13.1	
	baz=356						
YKA	Yellowknife Ar	40.00	45	P	P	02 38 57.2	-0.1
	0.4nm,0.7s,baz=298,slow=8.1,SNR=6.5 0.4nm,0.7s						
KURBB	Kurchatov Arra	49.04	303	P	P	02 40 10.5	+0.8
	0.4nm,0.5s,baz=55,slow=8.0,SNR=6.3 0.4nm,0.5s						
MKAR	Makanchi Array	49.67	297	P	P	02 40 16.4	+1.8
	0.6nm,0.8s,baz=48,slow=8.2,SNR=4.8 0.6nm,0.8s						
TXAR	Lajitas Array	67.52	71	P	P	02 42 19.4	+0.1
	0.5nm,0.6s,baz=303,slow=5.3,SNR=9.3 0.5nm,0.6s						
ASAR	Alice Springs	82.59	208	P	P	02 43 46.4	+0.3
	0.9nm,0.9s,baz=19,slow=3.4,SNR=4.2 0.9nm,0.9s						
SJG	San Juan	95.46	48	LR	LR	03 30 25.4	
	comp=Z,137nm,20.1s,baz=179,slow=37						

*SDD **03** 02:40:47.4±2.1,19°.40N×68°.15W,h12km±187km,MD3.5, ML2.6,MW3.1*
*OSPL **03** 02:40:47.2±2.5,19°.45N×68°.20W,h0km±115km,ML2.7, Hypocentre not reviewed by the ISC*
*NEIC **03** 02:40:49.1±2.2,19°.39N±0°.07×68°.32W±0°.07,h35km±2km, ML2.6/24,Md3.2/14(RSPR),Error ellipse: s-maj=13.8km s-min=8.8km az=326.0*
*RSPR **03** 02:40:50.0,19°.49N×68°.16W,h76km±11km,MD3.1/14*

ISC 03 02:40:48.1±1.8,19°.32N±0°.08×68°.16W±0°.03,h10km±10km, n63,σ0§88/72,24C-2D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.83	195		Sg	02 41 15.7	+0.8
PCDR	Punta Cana, DR	0.83	195		Pg	02 41 03.9	-0.3
PCDR				IAML		02 41 20.1	
	comp=N,255nm,0.6s						
PCDR	Punta Cana, DR	0.83	195	⇑ePg	Pg	02 41 04.0	-0.1
PCDR				⇓eSg	Sg	02 41 15.7	+0.8
PCDR				IAML		02 41 19.9	
	comp=N,238nm,0.6s						
PCDR	Punta Cana, DR	0.83	195	⇓eP	Pg	02 41 03.8	-0.3
PCDR	Punta Cana, DR	0.83	195	eS	Sg	02 41 15.7	+0.8
PCDR	Punta Cana, DR	0.83	195	i P		02 41 04.7	
PCDR				eS		02 41 16.3	
PCDR				IAML		02 41 20.1	
	comp=Z,206nm,0.6s						
HIDR	Higuey Centro	0.90	216	⇑ePg	Pg	02 41 04.3	-1.1
HIDR				⇑eSg	Sg	02 41 17.2	+0.1
HIDR				IAML		02 41 18.8	
	comp=N,224nm,0.2s						
IDE	Isla Desecheo	1.13	145		Pn	02 41 07.7	-2.4
IDE					Sb	02 41 25.7	+1.0
IDE	Isla Desecheo	1.13	145	⇑eP	Pn	02 41 07.7	-2.4
IDE	Isla Desecheo	1.13	145	eS	Sb	02 41 25.7	+1.0
SADR	Isla Saona	1.27	208	⇑ePg	Pn	02 41 09.9	-2.0
SADR				⇑eSg	Sg	02 41 30.8	+1.9
SADR				IAML		02 41 34.2	
	comp=N,125nm,0.8s						
DR12	Loma Pena Alta	1.27	246		Pg	02 41 12.6	+0.1
DR12				Sn	Sg	02 41 31.0	+2.0
HATOM	Hato Mayor del	1.27	246	⇑ePg	Pn	02 41 11.8	-0.3
HATOM				⇑eSg	Sn	02 41 29.5	+0.3
HATOM				IAML		02 41 31.4	
	comp=N,53nm,0.5s						
AGPR	Aguadilla, PR	1.31	130		Pn	02 41 12.2	-0.3
AGPR	Aguadilla, PR	1.31	130		Sn	02 41 30.0	-0.1
AGPR				IAML		02 41 33.3	
	comp=N,91nm,1.0s						
AGPR				IAML		02 41 39.4	
	comp=E,108nm,0.8s						
AGPR	Aguadilla, PR	1.31	130	⇑ePg	Pb	02 41 12.4	-0.4
AGPR				⇑eSg	Sn	02 41 29.9	-0.1
AGPR				IAML		02 41 36.3	
	comp=N,78nm,0.3s						
AGPR	Aguadilla, PR	1.31	130	⇑eP	Pn	02 41 12.2	-0.3
AGPR	Aguadilla, PR	1.31	130	eS	Sg	02 41 30.7	+0.5
AGPR	Aguadilla, PR	1.31	130	i P		02 41 11.8	
AGPR				eS		02 41 29.7	
AGPR				IAML		02 41 32.0	
	comp=Z,54nm,0.2s						
PRSN	Puerto Rico Se	1.46	139	Pn	Pg	02 41 16.0	-0.2
PRSN				Sn	Sg	02 41 35.5	+0.4
LSP	Las Mesas	1.53	138		Pb	02 41 16.0	-0.6
LSP					Sg	02 41 37.8	+0.5
LSP	Las Mesas	1.53	138	⇑eP	Pb	02 41 16.0	-0.6
LSP	Las Mesas	1.53	138	eS	Sg	02 41 37.8	+0.5
CRPR	Cabo Rojo, PR	1.64	143		Sb	02 41 40.6	+1.3
CRPR	Cabo Rojo, PR	1.64	143		Pn	02 41 16.5	-0.6
CRPR	Cabo Rojo, PR	1.64	143	IAML		02 41 43.4	
	comp=N,35nm,0.8s						
CRPR				IAML		02 41 56.1	
	comp=E,39nm,2.7s						
CRPR	Cabo Rojo, PR	1.64	143	⇑eP	Pb	02 41 18.2	-0.4
CRPR	Cabo Rojo, PR	1.64	143	eS	Sb	02 41 40.6	+1.3
CRPR	Cabo Rojo, PR	1.64	143	i P		02 41 17.4	
CRPR				eS		02 41 40.4	
CRPR				eS		02 41 41.2	
CRPR				IAML		02 41 46.1	
	comp=Z,76nm,0.5s						
AOPR	Arecibo Observ	1.65	126		Pb	02 41 17.7	-0.9
AOPR					Sb	02 41 40.0	+0.5
AOPR	Arecibo Observ	1.65	126	⇑ePg	Pn	02 41 17.1	-0.2
AOPR				⇑eSg	Sb	02 41 40.4	+0.9
AOPR				IAML		02 41 42.9	
	comp=N,94nm,0.3s						
AOPR	Arecibo Observ	1.65	126	⇑eP	Pb	02 41 17.7	-0.9
AOPR	Arecibo Observ	1.65	126	eS	Sb	02 41 40.0	+0.5
MLPR	Magueyes Islan	1.71	142		Pn	02 41 18.2	+0.2
MLPR					Sb	02 41 41.2	0.0
MLPR	Magueyes Islan	1.71	142	IAML		02 41 44.2	
	comp=N,36nm,0.4s						
MLPR				IAML		02 41 44.7	
	comp=E,42nm,0.5s						
MLPR	Magueyes Islan	1.71	142	⇑eP	Pn	02 41 18.2	+0.2
MLPR	Magueyes Islan	1.71	142	eS	Sb	02 41 41.2	0.0
UUPR	Utuado, UPR, P	1.73	128		Sb	02 41 41.9	+0.1
UUPR	Utuado, UPR, P	1.73	128		Pn	02 41 17.8	-0.5
UUPR	Utuado, UPR, P	1.73	128	IAML		02 41 44.6	
	comp=N,818nm,0.4s						
UUPR				IAML		02 41 46.7	
	comp=E,784nm,0.3s						
UUPR	Utuado, UPR, P	1.73	128	⇑eP	Pb	02 41 19.2	-0.8
UUPR	Utuado, UPR, P	1.73	128	eS	Sb	02 41 41.9	+0.1
EMPR	Esperanza - Ma	1.76	118		Sb	02 41 42.0	-0.6
EMPR	Esperanza - Ma	1.76	118	eS	Sb	02 41 42.0	-0.6
GBPR	Guanica, Bosqu	1.81	138		Pb	02 41 21.0	-0.4
GBPR					Sb	02 41 44.2	+0.2
GBPR	Guanica, Bosqu	1.81	138	⇑eP	Pb	02 41 21.0	-0.4
GBPR	Guanica, Bosqu	1.81	138	eS	Sb	02 41 44.2	+0.2
OBIP	Obispado Ponce	1.94	131		Pb	02 41 22.6	-1.1
OBIP					Sn	02 41 46.2	+0.4
OBIP	Obispado Ponce	1.94	131	IAML		02 41 53.2	
	comp=N,28nm,1.1s						
OBIP	Obispado Ponce	1.94	131	⇑eP	Pb	02 41 22.6	-1.1
OBIP	Obispado Ponce	1.94	131	eS	Sn	02 41 46.2	+0.4
ECPR	Experimental S	1.97	120	⇑eP	Pb	02 41 23.0	-1.2
ECPR	Experimental S	1.97	120	eS	Sb	02 41 47.8	-1.0
GCPR	Guaynabo City	2.21	117		Pn	02 41 24.7	-0.2
GCPR	Guaynabo City	2.21	117	IAML		02 41 57.0	
	comp=E,23nm,1.3s						
GCPR	Guaynabo City	2.21	117	⇑eP	Pn	02 41 24.7	-0.2
GCPR	Guaynabo City	2.21	117	eS	Sn	02 41 52.9	+0.6
IGPR	InterUniversit	2.37	124		Pn	02 41 27.9	+0.8
IGPR					Sn	02 41 57.9	+1.6
IGPR	InterUniversit	2.37	124	IAML		02 42 03.0	
	comp=N,32nm,0.2s						
IGPR				IAML		02 42 06.5	
	comp=E,42nm,0.3s						
IGPR	InterUniversit	2.37	124	⇑eP	Pn	02 41 27.9	+0.8
IGPR	InterUniversit	2.37	124	eS	Sn	02 41 57.9	+1.6
PDPR	Patillas Dam,	2.41	122	eS	Sn	02 41 57.7	+0.5
HUMP	Col San Antoni	2.48	118		Pn	02 41 29.1	+0.4
HUMP					Sn	02 41 59.5	+0.4
HUMP	Col San Antoni	2.48	118	IAML		02 42 04.1	
	comp=E,22nm,0.2s						
HUMP				IAML		02 42 07.2	
	comp=N,18nm,0.3s						
HUMP	Col San Antoni	2.48	118	⇑eP	Pn	02 41 29.1	+0.4
HUMP	Col San Antoni	2.48	118	eS	Sn	02 41 59.5	+0.4

*IDC **03** 02:43:13.5±0.5,6°.47N×125°.31E,h203km±3km,mb3.7/20, mbtmp4.2/21,MS3.0/1,Error ellipse: s-maj=27.3km s-min=9.1km az=68.0*
*NEIC **03** 02:43:14.3±1.4,6°.54N±0°.08×125°.6E±0°.2,h209km±6km, mb4.2/16,Error ellipse: s-maj=25.1km s-min=11.4km az=83.0*
*DJA **03** 02:43:15.8±1.4,6°N±6°×12°6E±1°5,h185km±11km,M4.6/6, mB5.0/1,mb4.3/2,MLv4.7/6,Mw(mB)4.3/1*

ISC 03 02:43:13.4±0.4,6°.53N±0°.05×125°.5E±0°.1,h200km,n53, σ1§05/59,mb4.0/31,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.55	11		Pn	02 43 42.8	+2.1
DAV	Davao City (W)	0.55	11	P	Pn	02 43 40.6	-0.1
	494nm,0.4s,baz=249,slow=5.6,SNR=19						
DAV				S	Sn	02 44 04.5	+2.4
	1μm,0.4s,baz=342,slow=1.8,SNR=51						
SGSI	Sangihe	2.82	179	P	Pn	02 44 03.5	+2.5
SGSI				S	Sn	02 44 38.3	0.0
TNTI	Ternate	6.02	162	Pn	Pn	02 44 41.8	+0.8
TOLI2	Tolitoli	7.13	221		Pn	02 44 57.1	+1.7
MSAI	Masohi	10.39	161	P	P	02 45 44.2	-1.1
SBUM	Sibu	13.82	254	P	P	02 46 28.6	+5.3
JAY	Jayapura	17.66	120	P	P	02 47 06.5	+0.8
	28nm,0.8s,baz=306,slow=13,SNR=4.4						
GUMO	Guam	20.33	68	LR	LR	02 57 05.8	
	comp=Z,36nm,18.7s,baz=53,slow=41						
FITZ	Fitzroy Crossi	24.47	180	P	P	02 48 14.9	+0.7
WRA	Warramunga Arr	27.71	162	P	P	02 48 40.3	-3.0
WRA	Warramunga Arr	27.71	162	P	P	02 48 43.1	-0.3
	0.4nm,0.4s,baz=343,slow=9.4,SNR=4.9						
WRA				PcP	PcP	02 51 54.6	-0.5
	0.8nm,0.8s,baz=338,slow=2.8,SNR=2.7 0.4nm,0.4s						
PSA00	Pilbara Seismi	28.46	191	P	P	02 48 50.3	+0.3
KSRS	Korea Array	30.87	4	P	P	02 49 11.5	+0.5
	1.8nm,0.6s,baz=184,slow=9.2,SNR=6.2 1.8nm,0.6s						
ASAR	Alice Springs	31.12	165	P	P	02 49 13.3	-0.1
	1.4nm,0.6s,baz=342,slow=6.9,SNR=29						
ASAR				PcP	PcP	02 52 03.5	-0.4
	0.4nm,0.4s,baz=350,slow=3.0,SNR=4.6						
ASAR				S	S	02 54 03.1	-1.1
	0.5nm,0.8s,baz=350,slow=19,SNR=2.7 1.4nm,0.6s						
XAN	Xi'an	31.37	333	P	P	02 49 15.5	-0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
USRK	Ussuriysk Ar.	37.96	8	P	P	02 50 12.4	+0.7
	comp=Z,2.8nm,0.7s,baz=197,slow=8.3,SNR=4.7 comp=Z,2.8nm,0.7s						
BNX	BinXian	39.10	2	⇑P	P	02 50 22.5	+1.3
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA	Gaotai	40.07	329	eP	P	02 50 31.1	+1.6
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
STKA	Stephens Creek	41.17	159	P	P	02 50 39.4	+1.0
	comp=Z,1.3nm,0.5s,baz=326,slow=4.8,SNR=5.5 comp=Z,1.3nm,0.5s						
SONM	Songino Array	44.27	342	P	P	02 51 03.3	+0.1
	comp=Z,0.4nm,0.5s,baz=142,slow=7.4,SNR=4.8						
SONM				PcP	PcP	02 52 43.7	-0.3
	comp=Z,0.6nm,0.4s,baz=151,slow=3.5,SNR=6.3 comp=Z,0.4nm,0.5s						
MKAR	Makanchi Array	54.56	325	P	P	02 52 21.0	0.0
	comp=Z,1.3nm,0.4s,baz=116,slow=7.3,SNR=64						
MKAR				PcP	PcP	02 53 20.8	-0.8
	comp=Z,1.4nm,0.6s,baz=126,slow=3.1,SNR=14 comp=Z,1.3nm,0.4s						
KSH	Kashi	55.20	314	P	P	02 52 27.5	+1.7
ZALV	Zalesovo Beam	57.55	333	P	P	02 52 41.7	-0.3
	comp=Z,0.4nm,0.4s,baz=116,slow=9.8,SNR=1.9						
ZALV				PcP	PcP	02 53 32.0	-0.9
	comp=Z,0.3nm,0.2s,baz=120,slow=5.2,SNR=1.5 comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	58.73	327	P	P	02 52 49.9	-0.2
	comp=Z,1.4nm,0.5s,baz=129,slow=6.8,SNR=32 comp=Z,1.4nm,0.5s						
KURK	Kurchatov	58.73	327	P	P	02 52 50.0	-0.2
KURK				IAmb	IAmb	02 52 50.4	
	comp=Z,3.0nm,0.6s						
KKAR	Karatay Array	60.35	316	P	P	02 53 01.6	+0.1
KKAR	Karatay Array	60.35	316	P	P	02 53 01.4	-0.1
BVAR	Borovoye Array	64.31	327	P	P	02 53 27.0	-0.5
	comp=Z,1.7nm,0.4s,baz=122,slow=5.3,SNR=14 comp=Z,1.7nm,0.4s						
BRVK	Borovoye	64.38	327	P	P	02 53 27.7	-0.3
BRVK				IAmb	IAmb	02 53 28.4	
	comp=Z,1.7nm,0.6s						
TIXI	Tiksi	65.09	1	P	P	02 53 32.4	+0.3
TIXI				IAmb	IAmb	02 53 33.0	
	comp=Z,6.7nm,1.1s						
ABKAR	Akbulak array	69.21	320	P	P	02 53 58.0	-0.5
ABKAR	Akbulak array	69.21	320	P	P	02 53 58.0	-0.5
ABKAR				IAmb	IAmb	02 54 21.0	
	comp=Z,1.8nm,1.1s						
C18K	Utukok River	77.91	21	P	P	02 54 50.1	+1.2
C18K				IAmb	IAmb	02 55 30.1	
	comp=Z,4.6nm,1.4s						
RAYN	Ar Rayn	78.25	293	P	P	02 54 51.7	+0.1
RAYN				IAmb	IAmb	02 54 53.1	
	comp=Z,6.9nm,0.8s						
H18K	Honhosa River	78.30	25	P	P	02 54 51.1	0.0
H18K				IAmb	IAmb	02 55 26.5	
	comp=Z,6.3nm,1.5s						
E19K	Redstone River	79.14	23	P	P	02 54 56.5	+0.9
E19K				IAmb	IAmb	02 55 02.8	
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	83.13	26	P	P	02 55 16.6	-0.1
	comp=Z,0.9nm,0.6s,baz=246,slow=5.0,SNR=23 comp=Z,0.9nm,0.6s						
MMAI	Mount Meron Ar	86.55	303	P	P	02 55 34.1	-0.4
	comp=Z,0.6nm,0.5s,baz=89,slow=7.4,SNR=2.1 comp=Z,0.6nm,0.5s						
ILGA	Ilgaz	87.09	311	P	P	02 55 36.6	-0.5
ILGA				IAmb	IAmb	02 56 18.2	
	comp=Z,16nm,1.5s						
BRTR	Keskin Array B	87.29	309	P	P	02 55 36.6	-1.4
BRTR	Keskin Array B	87.29	309	P	P	02 55 36.4	-1.5
	comp=Z,0.8nm,0.7s,baz=108,slow=3.5,SNR=7.9 comp=Z,0.8nm,0.7s						
ARCES	ARCESS Array B	87.41	340	P	P	02 55 37.2	-0.5
ARCES	ARCESS Array B	87.41	340	P	P	02 55 36.6	-1.1
	comp=Z,1.8nm,0.6s,baz=82,slow=6.5,SNR=9.7 comp=Z,1.8nm,0.6s						
SPITS	Spitsbergen Ar	87.51	349	P	P	02 55 38.0	-0.1
	comp=Z,1.9nm,0.5s,baz=102,slow=8.0,SNR=12 comp=Z,1.9nm,0.5s						
FIA1	FINESS Array S	88.79	332	P	P	02 55 43.3	-1.0
FINES	FINESS Array B	88.79	332	P	P	02 55 43.2	-1.1
	comp=Z,2.3nm,0.5s,baz=142,slow=9.6,SNR=32 comp=Z,2.3nm,0

VAO 03 02:56:43.6±1.0,31°.36S×71°.60W,h33km±7km,mb5.1
NEIC 03 02:56:43.1±2.2,31°.37S±0°.04×71°.81W±0°.07,h27km±4km, mb5.1/260,Mww4.8/12,Error ellipse: s-maj=9.1km s-min=4.7km az=105.0
GCMT 03 02:56:47.1±0.4,31°.49S±0°.02×71°.77W±0°.04,h33km±1km, MW4.9/68,Moment Tension Solution. s22,c24; s68,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.35±.20; Mθθ-0.11±.12; Mφφ-2.23±.17; Mrθ0.92±.12; Mθφ1.58±.08; Mφr0.41±.17; Best double couple: M0=2.95400×10^16 NP1:φs355.00000°,δ50.00000°,λ125.00000°. NP2: φs129.00000°,δ51.00000°,λ56.00000°. Principal axes: T 2.8340, Plg64.0000°, Azm333.0000°; N 0.2470, Plg26.0000°, Azm151.0000°; P -3.0750, Plg1.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 03 02:56:39.5±0.8,31°.42S±0°.02×71°.77W±0°.03,h10km±5km, n466,σ1$32/346,mb5.2/146,MS4.2/32,13C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.92**	**133**	*eP*	**Pn**	**02 56 59.0**	**+0.3**
CO04				*eS*	**Sn**	**02 57 10.9**	**-1.2**
CO04				IAML		02 57 15.1	
	comp=N,53μm,0.4s						
CO03	**El Pedregal**	**1.09**	**58**	Pn	**Pn**	**02 57 01.2**	**+0.2**
CO03	**El Pedregal**	**1.09**	**58**	⇓*iP*	**Pn**	**02 57 01.2**	**+0.2**
CO03				*eS*	**Sn**	**02 57 15.0**	**-1.2**
CO03				IAML		02 57 17.9	
	comp=N,66μm,0.2s						
VA06	**Catapilco**	**1.21**	**161**	Pn	**Pn**	**02 57 03.5**	**+1.1**
VA06	**Catapilco**	**1.21**	**161**	⇑*iP*	**Pn**	**02 57 03.5**	**+1.1**
VA06				*eS*	**Sn**	**02 57 18.8**	**0.0**
VA06				IAML		02 57 22.0	
	comp=E,28μm,0.4s						
GO04	**Tololo Observa**	**1.50**	**34**		**Pg**	**02 57 07.7**	**-0.6**
GO04	**Tololo Observa**	**1.50**	**34**	⇓*iP*	**Pg**	**02 57 07.7**	**-0.6**
GO04				*eS*	**Sg**	**02 57 27.0**	**-0.8**
CO05	**La Serena**	**1.56**	**17**		**Pb**	**02 57 08.6**	**0.0**
CO05	**La Serena**	**1.56**	**17**	*eP*	**Pb**	**02 57 08.6**	**0.0**
CO05				*eS*	**Sg**	**02 57 28.8**	**-1.1**
CO05				IAML		02 57 34.2	
	comp=E,41μm,0.4s						
VA01	**Torpederas**	**1.60**	**176**		**Pb**	**02 57 09.3**	**+0.1**
VA01	**Torpederas**	**1.60**	**176**	*eP*	**Pb**	**02 57 09.2**	**+0.1**
ROCH	**El Roble**	**1.68**	**158**	⇑*iP*	**Pb**	**02 57 10.7**	**+0.1**
ROCH				IAML		02 57 37.8	
	comp=N,20μm,0.5s						
VA03	**San Esteban**	**1.69**	**143**		**Pg**	**02 57 11.3**	**-0.7**
VA03	**San Esteban**	**1.69**	**143**	⇑*iP*	**Pg**	**02 57 11.4**	**-0.7**
VA03				*eS*	**Sg**	**02 57 33.1**	**-0.8**
VA03				IAML		02 57 36.3	
	comp=E,29μm,0.2s						
MT02	**Curacav**	**1.91**	**164**		**Pb**	**02 57 13.8**	**-0.6**
MT02	**Curacav**	**1.91**	**164**	⇑*iP*	**Pb**	**02 57 13.5**	**-0.9**
PEL	**Peldehue**	**1.95**	**152**		**Pb**	**02 57 15.1**	**-0.1**
PEL	**Peldehue**	**1.95**	**152**	⇑*iP*	**Pb**	**02 57 15.1**	**-0.1**
PEL				*eS*	**Sg**	**02 57 40.2**	**-2.0**
PEL				IAML		02 57 45.4	
	comp=E,11μm,0.3s						
PEL	**Peldehue**	**1.95**	**152**	P	**Pb**	**02 57 15.1**	**-0.1**
CO01	**Juntas del Tor**	**2.04**	**46**		**Pg**	**02 57 16.5**	**-2.1**
CO01	**Juntas del Tor**	**2.04**	**46**	⇓*iP*	**Pg**	**02 57 16.5**	**-2.1**
CO01				*eS*	**Sg**	**02 57 42.0**	**-3.1**
CO01				IAML		02 57 44.7	
	comp=E,25μm,0.1s						
MT10	**Hacienda Santa**	**2.12**	**151**	*eP*	**Pb**	**02 57 17.7**	**-0.5**
MT10				*eS*	**Sg**	**02 57 45.2**	**-2.6**
MT10				IAML		02 58 07.1	
	comp=N,21μm,0.6s						
MT05	**Renca**	**2.15**	**156**		**Pb**	**02 57 17.7**	**-0.9**
MT14	**Cerro Cal¡n**	**2.23**	**152**	⇑*iP*	**Pb**	**02 57 19.1**	**-0.8**
MT14				*eS*	**Sb**	**02 57 47.1**	**-0.5**
MT14				IAML		02 58 04.6	
	comp=E,14μm,0.4s						
VA05	**Santo Domingo**	**2.23**	**177**		**Pn**	**02 57 17.8**	**+1.2**
VA05	**Santo Domingo**	**2.23**	**177**	*eP*	**Pn**	**02 57 17.8**	**+1.2**
VA05				IAML		02 58 00.5	
	comp=E,9μm,0.3s						
MT16	**CCHEN**	**2.26**	**153**		**Pb**	**02 57 19.6**	**-0.9**
MT03	**Universidad Ad**	**2.33**	**153**		**Pb**	**02 57 20.5**	**-1.1**
MT09	**Talagante**	**2.44**	**165**		**Pb**	**02 57 22.0**	**-1.6**
MT01	**Popeta**	**2.48**	**170**		**Pn**	**02 57 21.7**	**+1.8**
LCO	**Las Campanas**	**2.57**	**21**		**Pn**	**02 57 22.7**	**+1.2**
LCO	**Las Campanas**	**2.57**	**21**	P	**Pn**	**02 57 22.7**	**+1.2**
ZON	**Zonda**	**2.64**	**94**		**Pg**	**02 57 27.0**	**-3.2**
ZON	**Zonda**	**2.64**	**94**	P	**Pb**	**02 57 26.0**	**-1.0**
BO01	**Tunca**	**3.02**	**169**	Pn	**Pn**	**02 57 29.4**	**+2.0**
AC04	**Llanos de Chal**	**3.26**	**11**	Pn	**Pn**	**02 57 30.9**	**+0.2**
AC02	**Maricunga**	**5.12**	**27**	Pn	**Pn**	**02 57 58.0**	**+1.3**
BI02	**San Fabín de**	**5.25**	**176**	Pn	**Pn**	**02 57 59.7**	**+1.7**
BI05	**Punta Hualpn**	**5.44**	**192**	Pn	**Pn**	**02 58 00.6**	**-0.1**
VA04	**Juan Fernndez**	**6.36**	**248**	Pn	**Pn**	**02 58 13.8**	**+0.6**
H03N1	**Juan Fernandez**	**6.37**	**250**	Pn	**Pn**	**02 58 14.1**	**+1.0**
	baz=120,slow=19						
H03N1				Sn	Sn	02 59 19.9	-5.9
H03N1				T	T	03 04 56.4	
	baz=77,slow=72,SNR=4278						
H03N3	**Juan Fernandez**	**6.38**	**250**	Pn	**Pn**	**02 58 14.1**	**+0.7**
	baz=120,slow=19						
H03N3				Sn	**Sn**	**02 59 21.4**	**-4.8**
H03N3				T	T	03 04 56.1	
	baz=77,slow=72,SNR=4075						
H03N2	**Juan Fernandez**	**6.38**	**250**	Pn	**Pn**	**02 58 14.9**	**+1.5**
	baz=120,slow=19						
H03N2				Sn	**Sn**	**02 59 21.3**	**-4.8**
H03N2				T	T	03 05 05.5	
	baz=77,slow=72,SNR=5187						
H03S3	**Juan Fernandez**	**6.48**	**246**	Pn	**Pn**	**02 58 15.7**	**+1.0**
H03S3				Sn	**Sn**	**02 59 24.1**	**-4.5**
	baz=305,slow=71						
H03S1	**Juan Fernandez**	**6.49**	**246**	Pn	**Pn**	**02 58 15.2**	**+0.4**
H03S1				Sn	Sn	02 59 21.9	-6.8
	baz=305,slow=71						
H03S2	**Juan Fernandez**	**6.50**	**246**	Pn	**Pn**	**02 58 15.4**	**+0.4**
H03S2				Sn	Sn	02 59 22.9	-6.1
	baz=305,slow=71						
PLCA	**Paso Flores**	**9.35**	**174**	Pn	**Pn**	**02 58 56.0**	**+1.7**
	comp=E,1.0nm,0.3s,baz=315,slow=11,SNR=53						
PLCA				LR	LR	03 03 08.0	
	comp=E,787nm,19.9s,baz=348,slow=42						
	comp=E,3.7nm,0.4s						
PLCA	**Paso Flores**	**9.35**	**174**	*eP*	**Pn**	**02 58 56.9**	**+2.6**
TRQA	**Tornquist**	**10.42**	**132**		**Pn**	**02 59 11.4**	**+2.4**
TRQA	**Tornquist**	**10.42**	**132**	P	**Pn**	**02 59 11.4**	**+2.4**
PB01	**IPOC Station P**	**10.54**	**12**		**Pn**	**02 59 07.2**	**-3.4**
HMBC	**Humberstone**	**11.22**	**9**		**Pn**	**02 59 18.1**	**-2.1**
TBOT	**Tacuaremb**	**13.51**	**95**	*eP*	**Pn**	**02 59 50.7**	**-0.5**
CPUP	**Villa Florida**	**13.63**	**72**	Pn	**Pn**	**02 59 51.4**	**-1.5**
	comp=E,0.5nm,0.3s,baz=253,slow=13,SNR=24						
CPUP				Sn	**Sn**	**03 02 24.3**	**0.0**
	comp=E,2.2nm,0.3s,baz=258,slow=3.9,SNR=3.3						
CPUP				LR	LR	03 05 30.8	
	comp=E,2μm,19.4s,baz=250,slow=39						
	comp=E,15nm,0.7s						
CPUP	**Villa Florida**	**13.63**	**72**	*eP*	**Pn**	**02 59 50.3**	**-2.5**
PB18	**Visviri**	**13.93**	**9**		**Pn**	**03 00 01.6**	**+4.1**
PAPY	**Pozo Azul**	**14.03**	**62**	*eP*	**Pn**	**03 00 00.3**	**+1.9**
COYC	**Coyhaique**	**14.13**	**181**		**Pn**	**03 00 02.3**	**+2.6**
LPAZ	**La Paz**	**15.43**	**13**	Pn	**Pn**	**03 00 18.6**	**+0.7**
	comp=E,2.6nm,0.3s,baz=184,slow=6.1,SNR=53						
	comp=E,19nm,0.6s						
LPAZ	**La Paz**	**15.43**	**13**	*eP*	**Pn**	**03 00 17.9**	**+0.1**
PLTB	**Pedras Altas**	**15.49**	**96**		**Pn**	**03 00 16.5**	**-1.5**
PLTB	**Pedras Altas**	**15.49**	**96**	*eP*	**Pn**	**03 00 16.6**	**-1.5**
CPSB	**Cacapava Do Su**	**15.77**	**91**	*eP*	**Pn**	**03 00 20.0**	**-1.7**
AY03	**Cochrane**	**15.82**	**182**	P	**Pn**	**03 00 23.2**	**+0.9**
MURT	**Porto Murtinho**	**15.96**	**56**	*eP*	**Pn**	**03 00 22.5**	**-1.6**
BDQN	**Bodoquena, MS**	**17.35**	**55**	*eP*	**P**	**03 00 42.0**	**-1.2**
ITAB	**Concordia**	**17.62**	**81**	P	**P**	**03 00 47.5**	**+1.3**
ITAB	**Concordia**	**17.62**	**81**	*eP*	**Pn**	**03 00 44.6**	**-0.5**
AQDB	**Aquidauana**	**18.08**	**57**	P	**Pn**	**03 00 49.4**	**-1.5**
AQDB	**Aquidauana**	**18.08**	**57**	*eP*	**Pn**	**03 00 48.9**	**-1.9**
CNLB	**Canela**	**18.17**	**89**	*eP*	**P**	**03 00 52.1**	**-0.2**
SIV	**San Ignacio**	**18.20**	**35**	P	**Pn**	**03 00 52.1**	**-0.3**
	comp=E,0.1nm,0.3s,baz=216,slow=9.8,SNR=44						
SIV				LR	LR	03 08 30.1	
	comp=E,379nm,20.6s,baz=242,slow=39						
	comp=E,36nm,0.9s						
PANT	**Pantanal (Braz**	**18.45**	**51**	*eP*	**P**	**03 00 55.6**	**+0.3**
PTGB	**Pitanga**	**18.61**	**74**	*eP*	**Pn**	**03 00 57.7**	**+0.2**
RPRD	**Ribas do Rio P**	**19.53**	**60**	*eP*	**Pn**	**03 01 08.4**	**-0.1**
PTLB	**Pontes e Lacer**	**19.65**	**39**	*eP*	**P**	**03 01 08.0**	**-0.5**
TER01	**Tubaro-SC**	**19.82**	**87**	*eP*	**Pn**	**03 01 10.7**	**-1.2**
NNA	**Nana**	**19.90**	**345**	P	**Pn**	**03 01 14.2**	**+1.2**
	comp=E,27nm,0.8s,baz=157,slow=15,SNR=11						
NNA				LR	LR	03 07 09.7	
	comp=E,524nm,21.5s,baz=150,slow=32						
NNA	**Nana**	**19.90**	**345**	*i* P	**P**	**03 01 12.4**	**+1.1**
LDASE	**Londrina, Braz**	**19.98**	**71**	*eP*	**P**	**03 01 11.3**	**-0.9**
MAJ01	**Sao Joao Batis**	**20.22**	**84**	*eP*	Pn	03 01 15.2	-1.4
MG05	**Puerto Natales**	**20.25**	**181**	P	Pn	03 01 17.6	+0.9
MG05				IAmb	IAmb	03 01 21.9	
	comp=Z,82nm,1.1s						
C2SB	**Chapadao do Su**	**21.23**	**58**	*eP*	**P**	**03 01 26.5**	**+0.8**
VILB	**Vilhena**	**21.24**	**33**	P	**P**	**03 01 25.1**	**-0.8**
VILB				IAmb	IAmb	03 01 43.3	
	comp=Z,73nm,0.8s						
VILB	**Vilhena**	**21.24**	**33**	*eP*	**P**	**03 01 25.3**	**-0.6**
FRTB	**Fartura**	**21.27**	**73**	*eP*	**P**	**03 01 26.3**	**+0.2**
SALV	**Santo Antonio**	**21.30**	**47**	*eP*	**P**	**03 01 25.9**	**-0.6**
ITRB	**Iturama**	**22.52**	**64**	*eP*	**P**	**03 01 38.5**	**-1.0**
EFI	**East Falkland**	**22.62**	**157**	*i* P	**P**	**03 01 41.1**	**+0.8**
SPB	**Sao Paulo**	**22.92**	**76**	P	**P**	**03 01 44.2**	**+0.5**
SPB				IAmb	IAmb	03 01 52.8	
	comp=Z,55nm,0.8s						
SPB	**Sao Paulo**	**22.92**	**76**	*eP*	**P**	**03 01 44.4**	**+0.7**
BB19B	**Bebedouro**	**23.21**	**69**	*eP*	**P**	**03 01 45.1**	**-1.7**
USHA	**Ushuaia**	**23.52**	**175**	LR	LR	03 12 41.7	
	comp=Z,711nm,18.6s,baz=358,slow=41						
VAO	**Valinhos**	**23.56**	**75**	P	**P**	**03 01 49.8**	**-0.6**
VAO				IAmb	IAmb	03 01 58.5	
	comp=Z,40nm,0.8s						
VAO	**Valinhos**	**23.56**	**75**	*eP*	**P**	**03 01 48.2**	**-2.1**
CZSB	**Cruzeiro do Su**	**23.59**	**358**	P	**P**	**03 01 51.5**	**+1.0**
CZSB				IAmb	IAmb	03 01 56.0	
	comp=Z,88nm,0.8s						
CZSB	**Cruzeiro do Su**	**23.59**	**358**	*eP*	**P**	**03 01 51.6**	**+1.1**
PDRB	**Porto dos Gac**	**24.12**	**38**	*eP*	**P**	**03 01 54.8**	**-0.8**
PARB	**Paraibuna**	**24.53**	**77**	*eP*	**P**	**03 01 58.2**	**-1.3**
ATAH	**Atahualpa**	**24.94**	**344**	P	**P**	**03 02 05.8**	**+2.2**
	comp=Z,14nm,0.9s,baz=171,slow=9.9,SNR=8.6						
	comp=Z,14nm,0.9s						
IPMB	**Ipameri, GO**	**25.17**	**63**	*eP*	**P**	**03 02 04.4**	**-0.8**
CLDB	**Colider**	**25.23**	**39**	*eP*	**P**	**03 02 06.0**	**+0.3**
PMNB	**Patos De Minas**	**26.23**	**67**	*eP*	**P**	**03 02 14.0**	**-0.9**
BSCB	**Bom Sucesso**	**26.29**	**73**	*eP*	**P**	**03 02 14.2**	**-1.2**
BDFB	**Brasilia**	**26.76**	**60**	P	**P**	**03 02 19.2**	**-0.6**
BDFB				IAmb	IAmb	03 02 28.1	
	comp=Z,51nm,0.7s						
BDFB	**Brasilia**	**26.76**	**60**	P	**P**	**03 02 19.1**	**-0.7**
	comp=Z,17nm,0.9s,baz=230,slow=6.6,SNR=27						
BDFB				LR	LR	03 14 01.4	
	comp=Z,2μm,19.0s,baz=226,slow=39						
	comp=Z,17nm,0.9s						
BDFB	**Brasilia**	**26.76**	**60**	P	**P**	**03 02 19.2**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,51nm,0.7s						
SNDB	**Serra Nova Dou**	**27.05**	**49**	*eP*	**P**	**03 02 20.8**	**-1.3**
TBTG	**Tabatinga, AM**	**27.15**	**4**	P	**P**	**03 02 24.2**	**+1.2**
TBTG	**Tabatinga, AM**	**27.15**	**4**	*eP*	**P**	**03 02 21.6**	**-1.4**
DUB01	**Friburgo-RJ**	**27.78**	**78**	*eP*	**P**	**03 02 28.8**	**0.0**
TEFE	**Tefe**	**28.57**	**15**	*eP*	**P**	**03 02 35.0**	**-0.7**
NPGB	**Novo Progresso**	**28.70**	**36**	*eP*	**P**	**03 02 35.2**	**-1.7**
JANB	**Januaria**	**29.91**	**63**	*eP*	**P**	**03 02 46.6**	**-1.2**
MACA	**Manacapuru-AM**	**29.99**	**23**	P	**P**	**03 02 48.2**	**-0.1**
MACA	**Manacapuru-AM**	**29.99**	**23**	*eP*	**P**	**03 02 48.6**	**+0.3**
SJMB	**Sao Joao De Ma**	**30.35**	**73**	*eP*	**P**	**03 02 50.7**	**-0.9**
BSFB	**Barra de Sao F**	**30.56**	**73**	*eP*	**P**	**03 02 51.9**	**-1.5**
RIB01	**Linhares ES**	**30.70**	**74**	*eP*	**P**	**03 02 55.0**	**+0.4**
ITTB	**Itaituba**	**30.85**	**32**	*eP*	**P**	**03 02 54.3**	**-1.6**
SDBA	**SAO DESIDERIO**	**31.15**	**59**	*eP*	**P**	**03 02 58.0**	**-0.7**
SMTB	**Santa Maria do**	**31.78**	**50**	*eP*	**P**	**03 03 04.0**	**-0.2**
OTAV	**Otavalo**	**32.12**	**347**	P	**P**	**03 03 09.8**	**+2.2**
OTAV	**Otavalo**	**32.12**	**347**	P	**P**	**03 03 09.8**	**+2.2**
OTAV	**Otavalo**	**32.12**	**347**	*eP*	**P**	**03 03 07.9**	**+0.3**
GUA01	**Guaratinga, BA**	**32.58**	**71**	*eP*	**P**	**03 03 12.1**	**+0.9**
RPN	**Rapa Nui**	**32.94**	**268**	LR	LR	03 12 50.1	
	comp=Z,385nm,19.5s,baz=104,slow=29						
FLOC	**Florencia**	**33.03**	**353**	P	**P**	**03 03 17.4**	**+2.2**
CMC01	**Camacan, BA**	**33.48**	**69**	*eP*	**P**	**03 03 19.1**	**0.0**
PMSA	**Palmer Station**	**33.72**	**174**	LR	LR	03 16 34.6	
	comp=Z,553nm,21.1s,baz=360,slow=36						
BOAV	**Boa Vista**	**35.29**	**20**	IAmb	IAmb	03 03 51.3	
	comp=Z,18nm,0.9s						
BOAV	**Boa Vista**	**35.29**	**20**	*eP*	**P**	**03 03 34.4**	**-0.3**
ROSC	**El Rosal**	**36.14**	**356**	P	**P**	**03 03 42.0**	**-0.4**
	comp=Z,4.0nm,0.4s,baz=117,slow=9.0,SNR=5.8						
	comp=Z,4.0nm,0.4s						
TMAB	**Tom-Au,PA,Br**	**36.52**	**42**	*eP*	**P**	**03 03 45.1**	**-0.2**
NBLA	**Lagarto - SE**	**37.41**	**65**	*eP*	**P**	**03 03 53.5**	**+0.7**
NBMA	**Muriti-CE**	**39.00**	**59**	*eP*	**P**	**03 04 05.8**	**-0.5**
NBAN	**Anadia - AL**	**39.39**	**64**	*eP*	**P**	**03 04 08.3**	**-1.3**
NBPB	**Pedra_Branca-C**	**39.65**	**56**	*eP*	**P**	**03 04 11.8**	**0.0**
SDV	**Santo Domingo**	**40.09**	**2**	P	**P**	**03 04 15.1**	**-0.5**
SDV	**Santo Domingo**	**40.09**	**2**	P	**P**	**03 04 15.0**	**-0.5**
	comp=Z,15nm,0.9s,baz=228,slow=3.0,SNR=9.6						
SDV				LR	LR	03 21 53.7	
	comp=Z,290nm,19.2s,baz=248,slow=38						
	comp=Z,15nm,0.9s						
SDV	**Santo Domingo**	**40.09**	**2**	*eP*	**P**	**03 04 15.3**	**-0.3**
NBLV	**Livramento - P**	**40.37**	**61**	*eP*	**P**	**03 04 17.1**	**-0.7**
MDP	**Montagnes des**	**40.65**	**30**	LR	LR	03 23 22.5	
	comp=Z,377nm,18.8s,baz=204,slow=40						
PCRV	**Puerto La Cruz**	**41.92**	**11**	P	**P**	**03 04 30.3**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=173,slow=7.3,SNR=1.4						
PCRV				LR	LR	03 23 57.3	
	comp=Z,480nm,19.2s,slow=39						
	comp=Z,5.3nm,0.6s						
RCBR	**Riachuelo**	**42.13**	**60**	LR	LR	03 23 02.7	
	comp=Z,278nm,18.9s,baz=234,slow=38						
SOCE	**Pocosol**	**43.35**	**341**	P	**P**	**03 04 44.3**	**+2.2**
SOCE				IAmb	IAmb	03 04 45.8	
	comp=Z,48nm,1.1s						
JTS	**Las Juntas de**	**43.36**	**341**	P	**P**	**03 04 42.5**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=172,slow=12,SNR=3.9						
	comp=Z,4.8nm,0.6s						
TGUH	**Tegucigalpa,Un**	**47.60**	**339**	P	**P**	**03 05 16.8**	**+0.9**
MTO3	**Montecristo**	**48.59**	**337**	P	**P**	**03 05 25.0**	**+1.4**
MTO3				IAmb	IAmb	03 05 26.0	
	comp=Z,25nm,1.3s						
BELA	**Belgrano 2**	**49.38**	**170**	P	**P**	**03 05 30.3**	**+1.6**
BELA				IAmb	IAmb	03 05 31.5	
	comp=Z,19nm,0.9s						
IGPR	**InterUniversit**	**49.40**	**7**	P	**P**	**03 05 28.1**	**-1.4**
IGPR				IAmb	IAmb	03 05 37.0	
	comp=Z,23nm,0.8s						
PDPR	**Patillas Dam,**	**49.46**	**7**	IAmb	IAmb	03 05 37.0	
	comp=Z,22nm,0.9s						
APG	**El Apazote**	**49.53**	**336**	P	**P**	**03 05 31.8**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=148,slow=9.6,SNR=14						
	comp=Z,1.6nm,0.9s						
SJG	**San Juan**	**49.54**	**7**	P	**P**	**03 05 29.4**	**-1.2**
SJG	**San Juan**	**49.54**	**7**	P	**P**	**03 05 29.4**	**-1.2**
SJG				pmax	pmax		
	comp=Z,32nm,0.9s						
PETF	**Flores**	**51.11**	**338**	IAmb	IAmb	03 05 44.5	
	comp=Z,48nm,1.3s						
CCIG	**Comitan**	**51.30**	**335**	IAmb	IAmb	03 05 46.2	
	comp=Z,27nm,1.3s						
VNA3	**Neumayer Olymp**	**51.66**	**159**	P	**P**	**03 05 45.6**	**-0.5**
VNA3	**Neumayer Olymp**	**51.66**	**159**	⇓P	**P**	**03 05 45.6**	**-0.5**
	comp=Z,7.5nm,0.8s						
VNA2	**Neumayer--Watz**	**52.30**	**158**	P	**P**	**03 05 51.9**	**+1.0**
	baz=268,slow=8.6						
VNA2	**Neumayer--Watz**	**52.30**	**158**	⇓P	**P**	**03 05 51.9**	**+1.0**
	comp=Z,9.1nm,0.6s,baz=268,slow=8.6						
CMIG	**Matias Romero**	**53.10**	**332**	LR	LR	03 24 36.2	
	comp=Z,96nm,18.1s,baz=168,slow=32						
TEIG	**Tepich**	**53.74**	**341**	P	**P**	**03 06 02.4**	**+0.5**
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**03 06 03.7**	**+1.1**
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**03 06 01.8**	**-0.8**
SNAA	**Sanae**	**53.89**	**159**	⇓P	**P**	**03 06 03.7**	**+1.1**
	comp=Z,373nm,0.8s						
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**03 06 03.2**	**+0.6**
	comp=Z,20nm,1.0s,baz=276,slow=6.5,SNR=18						
SNAA				LR	LR	03 28 49.2	
	comp=Z,140nm,19.0s,baz=324,slow=36						
	comp=Z,20nm,1.0s						
SNAA	**Sanae**	**53.89**	**159**	P	**P**	**03 06 01.8**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,56nm,1.4s						
TLIG	**Tlapa**	**55.08**	**328**	IAmb	IAmb	03 06 14.9	
	comp=Z,16nm,1.1s						
TROLL	**Troll, Antarti**	**55.60**	**159**	P	**P**	**03 06 16.2**	**+1.1**
TROLL	**Troll, Antarti**	**55.60**	**159**	⇓P	**P**	**03 06 16.2**	**+1.1**
	comp=Z,499nm,0.9s						
NVL	**N'lazarevskaya**	**58.60**	**157**	*eP*	**P**	**03 06 36.4**	**+0.3**
NVL				pmax	pmax		
	comp=Z,26nm,1.1s						
QSPA	**South Pole Qui**	**58.81**	**180**	P	**P**	**03 06 39.2**	**+1.3**
QSPA				IAmb	IAmb	03 06 40.4	
	comp=Z,15nm,0.9s						
QSPA	**South Pole Qui**	**58.81**	**180**	P	**P**	**03 06 38.8**	**+1.0**
	comp=Z,9.9nm,0.8s,baz=156,slow=2.2,SNR=27						
QSPA				LR	LR	03 31 53.1	
	comp=Z,198nm,18.5s,baz=153,slow=36						
	comp=Z,9.9nm,0.8s						
HKT	**Hockley**	**65.18**	**337**	*i* P	**P**	**03 07 21.0**	**+0.3**
HKT				pmax	pmax		
	comp=Z,23nm,2.5s						
HNVL	**Huntsville, TX**	**65.80**	**338**	IAmb	IAmb	03 07 27.3	
	comp=Z,16nm,0.7s						
SLBS	**Sierra La Lagu**	**65.86**	**322**	P	**P**	**03 07 27.4**	**+1.9**
HPIG		**66.44**	**327**	IAmb	IAmb	03 07 31.1	
	comp=Z,11nm,0.7s						
VNDA	**Vanda**	**66.67**	**191**	LR	LR	03 32 49.0	
	comp=Z,43nm,20.6s,baz=50,slow=32						
BG3	**Lake Jocassee**	**66.89**	**350**	IAmb	IAmb	03 07 33.0	
	comp=Z,15nm,1.0s						
TAOE	**Nuku Hiva Isla**	**67.01**	**274**	*e*LR	LR	03 27 40.5	
	comp=Z,194nm,25.4s						
JCT	**Junction City**	**67.07**	**334**	IAmb	IAmb	03 07 35.0	
	comp=Z,18nm,0.8s						
BRDY	**Brady**	**67.50**	**335**	IAmb	IAmb	03 07 37.3	
	comp=Z,10nm,0.8s						
V55A	**Taylorsville**	**67.50**	**352**	IAmb	IAmb	03 07 36.7	
	comp=Z,16nm,0.9s						
SAND	**Sanderson**	**67.51**	**332**	IAmb	IAmb	03 07 38.0	
	comp=Z,19nm,0.9s						
V53A	**Saluda**	**67.54**	**350**	IAmb	IAmb	03 07 36.8	
	comp=Z,13nm,0.8s						
CPCT	**Cooper Cave**	**67.59**	**349**	IAmb	IAmb	03 07 37.2	
	comp=Z,20nm,0.9s						
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**03 07 37.3**	**+0.7**
TXAR	**Lajitas Array**	**67.61**	**330**	P	**P**	**03 07 37.4**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=154,slow=8.0,SNR=80						
TXAR				LR	LR	03 33 03.9	
	comp=Z,109nm,18.3s,baz=162,slow=32						
	comp=Z,5.0nm,0.7s						
TKL	**Tuckaleechee C**	**67.67**	**349**	IAmb	IAmb	03 07 37.4	
	comp=Z,15nm,0.8s						
WLAR	**White Oak Lake**	**67.82**	**341**	IAmb	IAmb	03 07 39.3	
	comp=Z,15nm,0.8s						
OZNA	**Ozona**	**67.97**	**333**	IAmb	IAmb	03 07 40.5	
	comp=Z,19nm,0.8s						
TBI	**Tubuai**	**68.17**	**255**	*e*S	S	03 16 33.6	-7.0
	comp=Z,353nm,27.5s						
TBI	**Tubuai**	**68.17**	**255**	*e*LR	LR	03 28 12.7	
	comp=Z,1μm,24.0s						
TBI				*e*LR	LR	03 28 18.7	
	comp=Z,1μm,28.0s						
SYO	**Syowa Base**	**68.18**	**159**	⇑*eP*	**P**	**03 07 39.4**	**-0.1**
CLTN	**Cedars of Leba**	**68.53**	**347**	IAmb	IAmb	03 07 43.2	
	comp=Z,11nm,0.8s						
PLPT	**Palo Pinto**	**68.64**	**336**	IAmb	IAmb	03 07 44.4	
	comp=Z,18nm,0.9s						
**M

ANMO Albuquerque 73.64 331 P P 03 08 14.6 +1.2
ANMO pmax pmax
comp=Z,23nm,1.5s
R32A Long Quarter, 73.88 338 IAmb IAmb 03 08 16.1
comp=Z,14nm,0.9s
L48A N Adams 73.93 350 IAmb IAmb 03 08 15.0
comp=Z,27nm,0.8s
M44A Midewin, Midew 73.99 347 IAmb IAmb 03 08 15.4
comp=Z,29nm,0.9s
DBIC Dimbokro 74.15 72 P P 03 08 16.7 +0.1
DBIC IAmb IAmb 03 08 24.8
comp=Z,16nm,0.7s
DBIC Dimbokro 74.15 72 P P 03 08 16.4 -0.2
comp=Z,15nm,0.6s,baz=221,slow=5.5,SNR=31
DBIC LR LR 03 37 48.4
comp=Z,341nm,20.9s,baz=212,slow=33
comp=Z,15nm,0.6s
DBIC Dimbokro 74.15 72 P P 03 08 16.7 +0.1
DBIC pmax pmax
comp=Z,17nm,0.7s
CBKS Cedar Bluff 74.57 338 IAmb IAmb 03 08 20.3
comp=Z,24nm,0.8s
T25A Trinidad 74.73 333 P P 03 08 21.4 +1.8
baz=152
L44A Lake County Fo 74.73 348 P P 03 08 19.6 +0.4
baz=166
X18A Snowflake 74.80 328 IAmb IAmb 03 08 22.9
comp=Z,22nm,1.5s
L42A Oliver, Polo 74.90 346 IAmb IAmb 03 08 21.0
comp=Z,24nm,1.0s
J47A Sunmer 75.25 350 IAmb IAmb 03 08 24.1
comp=Z,24nm,0.8s
X16A Lo Mia Camp, P 75.40 327 IAmb IAmb 03 08 26.3
comp=Z,20nm,1.2s
MAW Mawson 75.58 164 LR LR 03 44 42.9
comp=Z,233nm,18.3s,baz=219,slow=38
I49A Point Hope 75.68 352 IAmb IAmb 03 08 25.1
comp=Z,20nm,0.8s
SUR Sutherland 75.88 119 LR LR 03 36 43.2
comp=Z,171nm,21.8s,baz=241,slow=32
JFWS Jewell Farm 75.89 346 IAmb IAmb 03 08 27.0
comp=Z,36nm,1.1s
FRNY Flat Rock 75.91 359 IAmb IAmb 03 08 27.5
comp=Z,17nm,0.8s
SADO Sadowa 76.12 355 IAmb IAmb 03 08 28.2
comp=Z,24nm,0.9s
S22A 4UR Ranch, Cre 76.20 332 P P 03 08 30.0 +1.7
baz=150
WUAZ Wupatki 76.27 328 IAmb IAmb 03 08 31.3
comp=Z,20nm,1.2s
G62A West of Eustis 76.28 1 P P 03 08 29.5 +1.4
G62A IAmb IAmb 03 08 30.3
comp=Z,24nm,0.8s
MVCO Mesa Verde 76.43 331 IAmb IAmb 03 08 31.8
comp=Z,16nm,1.0s
L34A Svendsen Farm, 76.46 341 IAmb IAmb 03 08 29.9
comp=Z,25nm,0.8s
Q24A Divide 76.61 334 P P 03 08 32.2 +1.7
baz=151
I40A Norwalk 76.91 346 IAmb IAmb 03 08 32.5
comp=Z,31nm,1.1s
W13A Hualapai Mount 77.11 326 IAmb IAmb 03 08 35.5
comp=Z,26nm,1.4s
PFO Pinyon Flats O 77.21 323 LR LR 03 35 58.4
comp=Z,150nm,19.4s,baz=179,slow=30
TRQ Mont Tremblant 77.32 358 IAmb IAmb 03 08 35.2
comp=Z,22nm,0.9s
PV13 Radium Mtn., P 77.37 331 IAmb IAmb 03 08 37.0
comp=Z,14nm,0.9s
ISCO Idaho Springs 77.51 334 IAmb IAmb 03 10 09.3
comp=Z,21nm,0.8s
PV10 Paradox Valley 77.64 331 IAmb IAmb 03 08 37.9
comp=Z,18nm,0.9s
KNB Kanab 78.17 328 IAmb IAmb 03 08 42.1
comp=Z,48nm,1.6s
F42A Maple Grove Fa 78.24 348 IAmb IAmb 03 08 40.1
comp=Z,21nm,0.7s
LMQ La Malbaie 78.62 1 P P 03 08 41.9 +0.7
LMQ IAmb IAmb 03 08 42.6
comp=Z,25nm,1.0s
SPMN Marine on St. 78.64 345 IAmb IAmb 03 08 41.8
comp=Z,20nm,1.1s
Q16A Castle Valley 79.00 330 IAmb IAmb 03 08 46.2
comp=Z,19nm,1.2s
LDAQ Lac Daran 79.02 0 P P 03 08 44.0 +0.5
LDAQ IAmb IAmb 03 08 44.8
comp=Z,22nm,0.9s
P18A Preston Nutter 79.20 331 IAmb IAmb 03 08 47.4
comp=Z,20nm,1.0s
SUSD Miller 79.47 341 IAmb IAmb 03 08 46.8
comp=Z,18nm,0.6s
TSUM Tsumeb 79.70 106 LR LR 03 40 21.1
comp=Z,211nm,19.1s,baz=208,slow=33
K22A Casper 80.33 335 IAmb IAmb 03 08 53.0
comp=Z,34nm,1.4s
SPR3 Spring Creek 3 80.47 328 IAmb IAmb 03 08 54.2
comp=Z,29nm,1.5s
R11B Troy Canyon, C 80.53 327 P P 03 08 53.1 +1.1
baz=143
RSSD Black Hills 80.75 337 P P 03 08 53.3 +0.2
RSSD Black Hills 80.75 337 P P 03 08 53.3 +0.2
RSSD pmax pmax
comp=Z,9.0nm,1.0s
DUG Dugway, Tooele 80.77 329 P P 03 08 54.8 +1.6
DUG pmax pmax
comp=Z,9.0nm,1.9s
EYMN Ely 80.97 347 IAmb IAmb 03 08 54.6
comp=Z,20nm,1.1s
BOSA Boshof 81.07 118 P P 03 08 55.8 +0.5
BOSA IAmb IAmb 03 09 04.1
comp=Z,14nm,0.9s
BOSA Boshof 81.07 118 P P 03 08 55.0 -0.2
comp=Z,7.3nm,0.9s,baz=242,slow=3.4,SNR=7.6
BOSA LR LR 03 42 33.1
comp=Z,165nm,18.4s,baz=206,slow=34
comp=Z,7.3nm,0.9s
BOSA Boshof 81.07 118 P P 03 08 55.8 +0.5
BOSA pmax pmax
comp=Z,14nm,1.0s
SPUT South Promonto 81.53 330 IAmb IAmb 03 08 59.1
comp=Z,26nm,1.4s
PDAR Pinedale Array 81.57 333 P P 03 08 57.8 +0.3
comp=Z,1.4nm,0.7s,baz=135,slow=6.4,SNR=14
PDAR LR LR 03 41 45.7
comp=Z,55nm,20.4s,baz=143,slow=33
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 81.91 325 P P 03 09 00.5 +1.1
comp=Z,3.7nm,0.7s,baz=155,slow=5.6,SNR=22
comp=Z,3.7nm,0.7s
E28A Huff 81.92 340 IAmb IAmb 03 08 59.9
comp=Z,17nm,0.8s
HVU Hansel Valley 82.06 330 IAmb IAmb 03 09 01.2
comp=Z,23nm,1.7s
AGMN Agassiz Nation 82.24 344 IAmb IAmb 03 09 01.5
comp=Z,12nm,0.8s
ELK Elko 82.29 328 LR LR 03 41 03.5
comp=Z,96nm,20.1s,baz=98,slow=32
CASY Casey 82.60 181 P P 03 09 04.1 +1.7
PNTR Pine Nut 83.06 324 IAmb IAmb 03 09 08.0
comp=Z,17nm,0.9s
TORD Torodi Ar. Bea 83.12 70 P P 03 09 05.8 -0.2
comp=Z,16nm,0.8s,baz=283,slow=4.8,SNR=96
comp=Z,16nm,0.8s
FLWY Flagg Ranch 83.13 333 IAmb IAmb 03 09 26.5
comp=Z,24nm,1.5s
LBTB Lobatse 83.18 115 P P 03 09 06.5 +0.1
LBTB IAmb IAmb 03 09 14.9
comp=Z,11nm,0.9s
LBTB Lobatse 83.18 115 LR LR 03 41 41.4
comp=Z,338nm,20.8s,baz=228,slow=32
LBTB Lobatse 83.18 115 P P 03 09 06.5 +0.1
LBTB pmax pmax
comp=Z,11nm,0.9s
PAHR Pah Rah Range 83.43 325 IAmb IAmb 03 09 09.2
comp=Z,17nm,1.1s
RLMT Red Lodge 83.46 334 IAmb IAmb 03 09 08.3
comp=Z,29nm,1.9s
YMR Madison River 83.72 333 IAmb IAmb 03 09 11.1
comp=Z,38nm,1.8s
ULM Lac du Bonnet 84.08 345 IAmb IAmb 03 09 10.6
comp=Z,17nm,0.9s
ULM Lac du Bonnet 84.08 345 P P 03 09 09.5 -0.5
comp=Z,12nm,0.8s,baz=146,slow=3.8,SNR=21
comp=Z,12nm,0.8s
ULM Lac du Bonnet 84.08 345 *i* P P **03 09 08.4 -1.6**
ORV Oroville 84.36 324 IAmb IAmb 03 09 13.7
comp=Z,16nm,1.2s
MFID Camas Ranch 84.70 329 IAmb IAmb 03 10 00.5
comp=Z,13nm,1.2s
DLMT Dillon 84.94 332 IAmb IAmb 03 09 17.3
comp=Z,23nm,1.6s
J08A Circle Bar Ran 85.83 328 IAmb IAmb 03 09 21.4
comp=Z,18nm,1.1s
SCHQ Schefferville 86.00 3 P P 03 09 19.0 -0.6
comp=Z,15nm,1.1s,baz=208,slow=3.9,SNR=7.5
SCHQ LR LR 03 48 03.6
comp=Z,46nm,20.6s,baz=45,slow=36
comp=Z,15nm,1.1s
PLID Pearl Lake 86.11 330 IAmb IAmb 03 10 08.6
comp=Z,33nm,2.0s
PINE Pine Mountain 87.31 327 IAmb IAmb 03 09 28.9
comp=Z,20nm,1.1s
G08A Pilot Rock 87.56 329 IAmb IAmb 03 09 29.6
comp=Z,20nm,1.7s
NEW Newport 89.11 332 LR LR 03 46 49.7
comp=Z,155nm,18.1s,baz=156,slow=34
FFC Flin Flon 89.66 343 P P 03 09 36.4 -0.7
FFC IAmb IAmb 03 13 08.8
comp=Z,11nm,1.2s
FFC Flin Flon 89.66 343 P P 03 09 36.4 -0.7
FFC pmax pmax
comp=Z,11nm,1.2s
LTY Liberty 89.83 329 IAmb IAmb 03 09 39.0
comp=Z,12nm,1.2s
LSZ Lusaka 90.39 108 P P 03 09 42.5 +0.7
LSZ IAmb IAmb 03 10 02.6
comp=Z,11nm,1.1s
LSZ Lusaka 90.39 108 LR LR 03 47 26.7
comp=Z,150nm,18.6s,baz=233,slow=34
LSZ Lusaka 90.39 108 P P 03 09 42.5 +0.7
LSZ pmax pmax
comp=Z,11nm,1.1s
TAM Tamanrasset 91.50 64 P P 03 09 47.4 +0.7
TAM Tamanrasset 91.50 64 P P 03 09 47.4 +0.7
TAM pmax pmax
comp=Z,4.0nm,0.9s
FCC Fort Churchill 91.75 349 IAmb IAmb 03 09 48.0
comp=Z,13nm,1.2s
ESDC Sonseca Array 94.62 46 P P 03 09 59.9 -0.7
comp=Z,1.2nm,0.9s,baz=256,slow=3.8,SNR=3.7
comp=Z,1.2nm,0.9s
FRB Frobisher Bay 94.88 1 LR LR 03 54 54.5
comp=Z,50nm,20.2s,baz=274,slow=37
BBB Bella Bella 96.72 329 LR LR 03 49 17.5
comp=Z,41nm,20.2s,baz=349,slow=33
SFJD Kangerlussuaq 99.42 8 LR LR 03 55 18.3
comp=Z,36nm,20.5s,baz=174,slow=35
YKA Yellowknife Ar 99.69 341 P Pdif 03 10 22.3 -0.5
comp=Z,0.6nm,0.7s,baz=145,slow=4.7,SNR=14
comp=Z,0.6nm,0.7s
V35K Ketchikan 100.39 330 P Pdif 03 10 27.6 +1.6
baz=131
KOTAN Kotaneelee Air 100.80 336 P Pdif 03 10 29.0 +1.2
baz=137
S34M Telegraph Cree 101.90 332 P Pdif 03 10 33.7 +1.0
baz=131
DZM Mont Dzumac 102.94 234 *e*LR LR 03 44 23.8
comp=Z,172nm,21.6s
OHAK Old Harbor 111.51 325 P PKiKP 03 15 14.4 +1.0
baz=115
ILAR Eielson Array 112.00 333 PKiKP **PKiKP 03 15 13.8 -0.3**
comp=Z,0.7nm,0.8s,baz=75,slow=0.8,SNR=8.1
TRF Thorofare Moun 112.77 331 P PKiKP 03 15 16.3 +0.4
baz=115
BPAW Bear Paw Mtn. 113.32 332 P PKiKP 03 15 17.6 +0.9
baz=114
F24K Squaw Lake 113.58 336 P PKiKP 03 15 18.7 +1.6
baz=115
CHGN Chignik 113.75 323 P PKiKP 03 15 18.5 +0.8
baz=111
R16K Pilot Point 113.78 324 P PKiKP 03 15 18.8 +1.1
baz=111
P17K Kvichak River 113.82 326 P PKiKP 03 15 18.9 +1.2
baz=112
CHNA Chernabura Isl 113.85 321 P PKiKP 03 15 18.9 +1.0
baz=111
COLD Coldfoot 114.27 335 P PKiKP 03 15 19.4 +1.0
baz=113
E23K Chandalar 114.40 336 P PKPdf 03 15 19.3 +0.6
baz=114
P16K Nushagak River 114.51 325 P PKPdf 03 15 19.7 +0.7
baz=110
TOLK Toolik Lake Re 114.62 337 P PKPdf 03 15 19.7 +0.6
baz=113
J20K Nowinta River 114.63 331 P PKPdf 03 15 19.4 +0.2
baz=111
H21K Melozitna Rive 114.64 333 P PKiKP 03 15 20.1 +0.9
baz=112
N17K Nushagak Hills 114.65 327 P PKPdf 03 15 19.8 +0.4
baz=110
TTA Tatalina 114.96 330 P PKiKP 03 15 20.8 +0.9
baz=110
D23K Nanushuk River 115.11 337 P PKPdf 03 15 21.8 +1.8
baz=112
G21K Allakaket 115.22 334 P PKPdf 03 15 21.3 +1.1
baz=111
H20K Anotleneega Mo 115.39 333 P PKiKP 03 15 21.9 +1.3
baz=110
C23K Itkillik River 115.42 338 P PKPdf 03 15 21.7 +1.2
baz=112
O15K Ungalikthiuk R 115.45 325 P PKiKP 03 15 21.6 +0.8
baz=109
F21K Alatna River 115.46 335 P PKPdf 03 15 21.7 +1.0
baz=110
D22K Ayikyak River 115.76 337 P PKiKP 03 15 22.4 +1.1
baz=110
J17K VABM Dome 116.43 330 P PKiKP 03 15 23.8 +1.1
baz=108
G19K Purcell Mounta 116.46 333 P PKiKP 03 15 23.9 +1.3
baz=108
C21K Knifeblade Rid 116.56 337 P PKiKP 03 15 23.5 +0.8
baz=108
N14K Kuskokwak Cree 116.58 326 P PKiKP 03 15 24.2 +1.2
baz=107
B21K Ikpikpuk River 116.65 337 P PKiKP 03 15 24.0 +1.1
baz=108
H18K Honhosa River 116.66 332 P PKiKP 03 15 24.0 +0.9
baz=107
E20K Nigu River 116.77 335 P PKiKP 03 15 24.1 +0.8
baz=108
E19K Redstone River 116.91 334 P PKiKP 03 15 24.8 +1.3
baz=107
G18K Tagagawik 117.00 333 P PKiKP 03 15 24.6 +0.9
baz=107
L15K Ungalak Mounta 117.00 328 P PKiKP 03 15 24.7 +0.9
baz=106
J16K Anvik River 117.06 330 P PKiKP 03 15 24.8 +1.0
baz=106
D20K Etivluk River 117.06 336 P PKiKP 03 15 25.3 +1.6
baz=107
H17K Granite Mounta 117.23 331 P PKiKP 03 15 25.4 +1.2
baz=106
UNV Unalaska Valle 117.37 318 P PKiKP 03 15 26.4 +1.6
baz=106
F18K Selawik 117.58 333 P PKiKP 03 15 25.5 +0.7
baz=106
G17K Kiwalik Mounta 117.68 332 P PKiKP 03 15 25.8 +0.8
baz=105
A21K Barrow 117.80 339 P PKiKP 03 15 26.6 +1.6
baz=106
E18K Tukpahlearik C 118.15 334 P PKiKP 03 15 26.6 +0.7
baz=104
J14K Nanvaranak Lak 118.22 329 P PKiKP 03 15 27.5 +1.4
baz=104
G16K Koyuk River 118.34 332 P PKiKP 03 15 27.5 +1.2
baz=104
C18K Utukok River 118.66 335 P PKPdf 03 15 27.5 +0.6
baz=103
M11K Mekoryuk 118.89 326 P PKPdf 03 15 27.7 +0.3
baz=103
G15K Niukluk 118.94 331 P PKPdf 03 15 27.9 +0.5
baz=103
B18K Kokolik River 119.03 336 P PKiKP 03 15 28.4 +0.8
baz=102
D17K Noatak River 119.14 334 P PKPdf 03 15 28.3 +0.6
baz=102
C17K DeLong Mountai 119.33 335 P PKPdf 03 15 28.7 +0.5
baz=102
ANM Nome 119.41 330 P PKPdf 03 15 27.5 -0.9
baz=102
P08K Saint George I 119.75 321 P PKPdf 03 15 29.4 +0.3
baz=103
ASAR Alice Springs 119.96 207 PKP **PKPdf 03 15 29.9 -1.0**
comp=Z,14nm,0.8s,baz=131,slow=1.7,SNR=10
C16K Lisburne Hills 120.09 335 P PKPdf 03 15 29.9 +0.3
baz=100
SPIA Saint Paul Isl 120.25 321 P **PKPdf 03 15 30.4 +0.3**
baz=102
AKASG Malin Array Be 120.27 46 PKP **PKPdf 03 15 29.3 -1.1**
comp=Z,2.6nm,0.6s,baz=266,slow=2.8,SNR=21
AKBB Malin Array Si 120.27 46 *ce*PKIKP **PKPdf 03 15 29.8 -0.6**
BRTR Keskin Array B 120.36 60 PKP **PKPdf 03 15 30.5 -0.7**
comp=Z,1.5nm,0.8s,baz=215,slow=1.2,SNR=13
BR131 Keskin Array S 120.36 60 *i* PKIKP **PKPdf 03 15 30.4 -0.7**
TNA Tin City 120.66 331 P **PKPdf 03 15 31.3 +0.6**
baz=99
FINES FINESS Array B 120.73 34 PKP **PKPdf 03 15 30.6 -0.4**
comp=Z,2.5nm,0.9s,baz=198,slow=5.4,SNR=4.4
GAMB Gambell 122.02 329 P **PKPdf 03 15 33.8 +0.4**
baz=97
WRA Warramunga Arr 123.11 210 PKP **PKPdf 03 15 36.1 -0.8**
comp=Z,3.3nm,0.8s,baz=161,slow=1.7,SNR=16
OBN Obninsk 125.39 42 *i* PKIKP **PKPdf 03 15 39.1 -1.0**
OBN *e* 03 15 46.9
OBN pmax pmax
comp=Z,16nm,1.7s
OBN MLR MLR
comp=Z,146nm,20.0s
SOC Sochi 125.73 56 *e*PKIKP **PKPdf 03 15 38.4 -2.7**
SOC *e*SS SS 03 34 34.1 -0.2
SOC MLR MLR
comp=Z,49nm,18.0s
H11S2 WAKE ISLAND Hyl 26.00 271 T T 05 34 31.1
baz=116,slow=75,SNR=627
H11S1 WAKE ISLAND Hyl 26.01 271 T T 05 34 33.0
baz=116,slow=75,SNR=266
H11S3 WAKE ISLAND Hyl 26.02 271 T T 05 34 31.9
baz=116,slow=75,SNR=556
H11N3 WAKE ISLAND Hyl 26.35 272 T T 05 34 53.3
baz=116,slow=75,SNR=218
H11N1 WAKE ISLAND Hyl 26.36 272 T T 05 34 55.7
baz=116,slow=75,SNR=84
H11N2 WAKE ISLAND Hyl 26.36 272 T T 05 34 54.6
baz=116,slow=75,SNR=400
LPSR Galich'ya Gora 126.54 45 *e*PKIKP **PKPdf 03 15 40.4 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 126.54 47 *e*PKIKP **PKPdf 03 15 39.3 -3.1**
VSR pmax pmax
comp=Z,5.0nm,1.0s
VORR Voronezh 126.62 46 *e*PKIKP **PKPdf 03 15 39.4 -3.2**
VORR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 127.18 35 *e*PKIKP **PKPdf 03 15 41.7 -1.6**
KLMR pmax pmax
comp=Z,24nm,1.4s
KIV Kislovodsk 127.91 56 *i* PKIKP **PKPdf 03 15 43.4 -2.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 128.02 57 PKP **PKPdf 03 15 45.4 -0.1**
comp=Z,2.4nm,1.0s,baz=219,slow=6.5,SNR=4.7
KBZ Khabaz 128.02 57 *ce*PKIKP **PKPdf 03 15 43.5 -2.0**
VRH Novokhopyorsk 128.14 47 *e*PKIKP **PKPdf 03 15 41.4 -4.1**
VRH pmax pmax
comp=Z,7.0nm,0.9s
BELG Belogornoye 131.84 46 PKP **PKPdf 03 15 52.9 +0.5**
comp=Z,11nm,0.7s,baz=243,slow=2.3,SNR=4.9
ARTI Arti 137.54 39 *i* PKIKP **PKPdf 03 16 03.8 +0.8**
ARTI 03 18 46.3
SEY Seymchan 137.89 332 *ce*PKIKP **PKPdf 03 16 04.8 +1.3**
SEY pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 138.20 350 *ce*PKIKP **PKPdf 03 16 04.2 +0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
PETK Petropavlovsk- 138.49 316 PKP **PKPdf 03 16 05.9 +1.0**
comp=Z,7.8nm,0.8s,baz=76,slow=3.2,SNR=6.2
NRIK Noril'sk 140.25 11 *ce*PKIKP **PKPdf 03 16 06.0 -1.6**
BRVK Borovoye 145.14 40 *i* PKIKP **PKPbc 03 16 15.5 -0.8**
BVA0 Borovoye Array 145.21 41 *i* PKIKP **PKPab 03 16 16.9 +0.2**
BVAR Borovoye Array 145.21 41 PKPbc **PKPab 03 16 17.1 +0.5**
comp=Z,20nm,0.5s,baz=299,slow=2.9,SNR=116
YAK Yakutsk 146.37 342 *ce*PKIKP **PKPdf 03 16 17.0 -1.6**
YAK pmax pmax
comp=Z,73nm,0.8s
KK31 Karatay Array 148.05 58 *i* PKP2 **PKPbc 03 16 24.1 -1.1**
YSS Yuzhno-Sakhali 149.37 310 *e*PKP2 **PKPbc 03 16 28.2 -0.2**
YSS pmax pmax
comp=Z,30nm,0.7s
HYB Hyderabad 149.71 110 *e*PKPbc **PKPbc 03 16 30.1 0.0**
AML Almayashu 150.53 59 P **PKiKP 03 16 32.8 +0.1**
SNR=9.0
KURBB Kurchatov Arra 150.80 40 PKP **PKPdf 03 16 26.8 +0.6**
comp=Z,18nm,0.9s,baz=298,slow=3.0,SNR=61
KURBB PKPbc **PKPbc 03 16 32.0 +0.2**
comp=Z,18nm,0.9s,baz=301,slow=2.3,SNR=77
KURK Kurchatov 150.80 40 PKIKP **PKPdf 03 16 26.8 +0.7**
KURK 03 16 32.0
USP Ospenovka 150.88 56 P **PKPbc 03 16 32.7 +0.4**
SNR=17
AAK Ala-Archa 151.01 58 P **PKiKP 03 16 33.5 +0.2**
SNR=15
CHMS Chumysh 151.12 57 P **PKPbc 03 16 33.3 +0.4**
SNR=6.1
KBK Karagaybulak 151.34 58 P **PKPbc 03 16 34.1 +0.5**
SNR=7.3
TKM2 Tokmak 2 151.75 57 P **PKPbc 03 16 34.8 +0.3**
SNR=7.7
ZALV Zalesovo Beam 151.91 30 PKP **PKPdf 03 16 27.8 +0.1**
comp=Z,3.1nm,0.7s,baz=303,slow=3.0,SNR=13
ZALV PKPbc **PKPbc 03 16 34.5 +0.3**
comp=Z,17nm,0.5s,baz=309,slow=3.3,SNR=13
BOD Bodaibo 153.31 353 *e*PKIKP **PKPdf 03 16 28.6 -1.1**
BOD pmax pmax
comp=Z,24nm,1.5s
ZEA Zeya 153.82 334 *e*PKIKP **PKPdf 03 16 30.1 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
MJAR Matsushiro Arr 154.68 290 PKP **PKPdf 03 16 31.0 -1.4**
comp=Z,3.8nm,1.0s,baz=123,slow=2.2,SNR=6.9
MJAR PKPab **PKPab 03 16 56.5 +0.8**
comp=Z,4.9nm,0.9s,baz=61,slow=4.4,SNR=6.6
MJAR Matsushiro Arr 154.68 290 PKIKP **PKPdf 03 16 31.0 -1.4**
MKAR Makanchi Array 154.84 45 PKP **PKPdf 03 16 31.7 -0.6**
comp=Z,1.2nm,0.7s,baz=321,slow=1.3,SNR=17
MKAR PKPbc **PKPbc 03 16 40.8 -0.1**
comp=Z,5.8nm,0.7s,baz=312,slow=2.0,SNR=38
KLR Kul'dur 154.91 322 *i* PKIKP **PKPdf 03 16 30.0 -2.2**
KLR pmax pmax
comp=Z,9.0nm,1.4s
WMQ Urumqi 159.62 47 *e*PKP **PKPdf 03 16 38.5 +0.1**
KSRS Korea Array 162.69 296 PKP **PKPdf 03 16 41.7 0.0**
comp=Z,1.3nm,0.9s,baz=158,slow=0.7,SNR=4.9
KSRS PKPab **PKPab 03 17 32.1 +1.7**
comp=Z,4.1nm,1.0s,baz=88,slow=4.6,SNR=5.5
SONM Songino Array 163.55 4 PKP **PKPdf 03 16 42.1 -0.4**
comp=Z,1.3nm,0.9s,baz=354,slow=1.7,SNR=6.8
SONM PKPab **PKPab 03 17 34.0 +0.1**
comp=Z,2.8nm,1.0s,baz=344,slow=4.2,SNR=7.1
CMAR Chiang Mai Arr 164.60 145 PKP **PKPdf 03 16 44.3 +0.1**
comp=Z,2.2nm,0.3s,baz=243,slow=2.1,SNR=7.6
CMAR PKPab **PKPab 03 17 39.0 -0.1**
comp=Z,1.5nm,0.3s,baz=229,slow=6.5,SNR=5.3
GOMU GeErMu 167.87 63 PKP **PKPdf 03 16 46.6 -0.1**
GOMU pPKP sPKPdf 03 16 51.9 +1.1
GOMU sPKP 03 16 56.1
GTA Gaotai 169.48 38 PKP **PKPdf 03 16 47.5 +0.2**
GTA sPKP 03 16 56.4
GTA PKPab **PKPab 03 18 00.2 -0.2**
HHC Hu-ho-hao-te 170.21 345 *e*PKP **PKPdf 03 16 48.2 +0.5**
BTO Baotou 170.72 352 *e*PKP **PKPdf 03 16 42.6 -5.4**
BTO pPKP **sPKPdf 03 16 53.2 +1.2**
BTO sPKP 03 16 55.8
BTO LR LR
comp=Z,410nm,13.4s
BTO LR LR
comp=Z,290nm,6.8s
NJ2 Nanjing 170.93 277 *e*PKP **PKPdf 03 16 49.1 +0.9**
PZH PanZhiHua 172.50 129 PKP **PKPdf 03 16 47.0 -2.3**
LZH Lanzhou 174.08 37 *e*PKP **PKPdf 03 16 50.2 +0.5**
WHN Wuhan 174.67 262 PKP **PKPdf 03 16 49.9 +0.1**

*IDC **03** 03:03:08.5±1.6,2.58S×78.53W,h86km±15km,mb4.0/15, mbtmp4.4/22,MS3.5/5,Error ellipse: s-maj=17.7km s-min=10.3km az=73.0*
*IGQ **03** 03:03:10.6±0.2,3°S±2°×7°9W±°,h78km±3km,MLv4.4/50*
*RSNC **03** 03:03:10.1±0.6,3°S±5°×7°8W±°,h101km±9km,M5.0,mB5.0, mb4.6,ML3.6,Mw(mB)4.3*
*NEIC **03** 03:03:10.6±1.7,2.65S±0.06×78.53W±0.05,h94km±8km,*

mb4.9/298, Error ellipse: s-maj=10.1km s-min=5.7km
az=141.0
VAO 03 03:03:26.9±1.7, 2.91S±77.10W, h135km±8km, mb4.8
ISC 03 03:03:09.2±0.5, 2.70S±0.03±78.74W±0.04, h93km±4km,
n596, σ1°09/486, mb4.9/150, 35C-19D, Ecuador

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
AZOG	**Ecuador-Azogue**	**0.12**	**242**	S		**Sn**	**03 03 32.0**	**-0.9**
AZOG				↓P		**Pn**	**03 03 21.7**	**-1.1**
ACUE	**Ecuador-Cuenca**	**0.30**	**226**	S		**Sn**	**03 03 36.0**	**+2.0**
ACUE				↓P		**Pn**	**03 03 24.0**	**+0.5**
BOSC	**San Juan Bosco**	**0.51**	**151**	↓P		**Pn**	**03 03 25.1**	**+0.4**
BOSC				S		**Sn**	**03 03 37.6**	**+1.5**
COHC	**Cochancay**	**0.56**	**294**	Pn		**Pn**	**03 03 24.5**	**-0.3**
COHC	**Cochancay**	**0.56**	**294**	S		**Sn**	**03 03 36.2**	**-0.2**
COHC				↑P		**Pn**	**03 03 24.7**	**-0.1**
SANGA	**Volcan Sangay**	**0.74**	**30**	S		**Sn**	**03 03 40.6**	**+0.4**
SANGA				↑P		**Pn**	**03 03 27.1**	**+0.1**
PU05	**PU05**	**0.77**	**282**	↑P		**Pn**	**03 03 26.9**	**+0.1**
PU07	**PU07**	**0.78**	**297**	↑P		Pn	03 03 24.5	-2.3
PU04	**PU04**	**0.84**	**271**	↑P		**Pn**	**03 03 26.9**	**-0.6**
MILO	**Milagro-Astudi**	**0.91**	**297**	S		**Sn**	**03 03 43.3**	**+0.9**
MILO				↑P		**Pn**	**03 03 28.2**	**0.0**
PU06	**PU06**	**0.92**	**287**	↑P		**Pn**	**03 03 27.7**	**-0.7**
JSCH	**Cashca Tororas**	**1.00**	**346**	↓P		**Pn**	**03 03 29.8**	**+0.2**
MONB	**Balzapamba Mon**	**1.03**	**334**	↓P		**Pn**	**03 03 29.0**	**-0.6**
ARIO	**Riobamba**	**1.04**	**3**	P		**Pn**	**03 03 30.0**	**0.0**
PU03	**PU03**	**1.08**	**259**	↑P		Pn	03 03 29.0	-1.1
TAMH	**Tambohuasha Ch**	**1.15**	**358**	↓P		**Pn**	**03 03 31.9**	**+0.5**
AGRD	**Ecuador-Guaran**	**1.15**	**347**	↓P		**Pn**	**03 03 31.4**	**+0.1**
ABAB	**Ecuador-Univer**	**1.18**	**319**	↑P		**Pn**	**03 03 30.1**	**-1.1**
IGUA	**Igualata**	**1.21**	**5**	P		**Pn**	**03 03 32.2**	**0.0**
BMAS	**Trigal station**	**1.22**	**13**	↑P		**Pn**	**03 03 30.9**	**-1.2**
BPAT	**Tungurahua Vol**	**1.23**	**15**	↑P		**Pn**	**03 03 32.2**	**-0.1**
PORT	**Chimborazo Vol**	**1.23**	**359**	P		**Pn**	**03 03 33.1**	**+0.7**
BBIL	**Ulba Tungurahu**	**1.27**	**12**	↑P		**Pn**	**03 03 32.7**	**0.0**
GYE3	**Ecuador-Guayaq**	**1.27**	**295**	P		Pn	03 03 31.1	-1.2
JUI6	**Juive**	**1.29**	**12**	P		**Pn**	**03 03 33.0**	**0.0**
BULB	**Ulba Tungurahu**	**1.30**	**15**	↑P		**Pn**	**03 03 33.0**	**0.0**
POND	**Pondoa**	**1.30**	**13**	↑P		**Pn**	**03 03 33.0**	**-0.1**
PU02	**PU02**	**1.32**	**265**	↑P		**Pn**	**03 03 33.3**	**+0.5**
ALJ1	**Ecuador-Loja-U**	**1.36**	**200**	P		**Pn**	**03 03 33.5**	**-0.2**
AGUAY	**Guayaquil**	**1.37**	**298**	P		Pn	03 03 32.1	-1.4
AZAM	**Ecuador-Zamora**	**1.38**	**189**	P		**Pn**	**03 03 34.2**	**+0.4**
PUYO	**Puyo, Santa Ro**	**1.40**	**31**	↑P		**Pn**	**03 03 34.3**	**+0.2**
AAM2	**Ambato 2 (Merc**	**1.43**	**5**	P		**Pn**	**03 03 35.0**	**+0.4**
ISPG	**Isla Puna-Puer**	**1.45**	**259**	↑P		**Pn**	**03 03 34.9**	**+0.4**
GONZ	**Gonzanam**	**1.66**	**203**	↑P		**Pn**	**03 03 38.0**	**+0.4**
PIS1	**Pisayambo**	**1.67**	**12**	↑P		**Pn**	**03 03 38.1**	**+0.3**
PIAT	**Ana Tenorio**	**1.76**	**16**	↑P		**Pn**	**03 03 39.3**	**+0.5**
AQUE	**Quevedo**	**1.80**	**335**	P		**Pn**	**03 03 39.0**	**0.0**
LAMO	**ALAMOR**	**1.82**	**224**	P		**Pn**	**03 03 38.7**	**-0.8**
VCES	**Cotopaxi**	**1.92**	**10**	↑P		**Pn**	**03 03 41.8**	**+0.8**
BRRN	**Barrancas-Volc**	**1.92**	**8**	P		**Pn**	**03 03 41.7**	**+0.6**
ARDO	**Archidona, Ten**	**1.94**	**29**	↑P		**Pn**	**03 03 40.5**	**-0.3**
SRAM	**San Ramn-Vol**	**1.94**	**5**	P		**Pn**	**03 03 42.0**	**+0.8**
ILLI	**Illinizas Sur**	**1.97**	**0**	P		**Pn**	**03 03 42.3**	**+0.6**
SLOR	**San Lorenzo -**	**1.97**	**7**	P		**Pn**	**03 03 42.3**	**+0.6**
BMOR	**Cotopaxi Volca**	**1.98**	**7**	P		**Pn**	**03 03 42.9**	**+1.1**
PAST	**Pastocalle**	**1.99**	**3**	P		**Pn**	**03 03 46.6**	**+4.7**
CAMI	**Rancho Maria**	**2.02**	**7**	P		**Pn**	**03 03 43.5**	**+1.2**
TAMB	**Tambo**	**2.03**	**11**	↑P		**Pn**	**03 03 43.6**	**+1.1**
BNAS	**Cotopaxi Volca**	**2.03**	**7**	P		**Pn**	**03 03 44.7**	**+2.2**
BREF	**Cotopaxi Volca**	**2.04**	**9**	↑P		**Pn**	**03 03 43.8**	**+1.1**
BTAM	**Cotopaxi Volca**	**2.04**	**10**	↑P		**Pn**	**03 03 43.7**	**+1.1**
BVC2	**Cotopaxi Volca**	**2.05**	**9**	↑P		**Pn**	**03 03 44.0**	**+1.1**
MCRA	**Macar, Loja**	**2.05**	**216**	↑P		**Pn**	**03 03 41.2**	**-1.1**
VC1	**Cotopaxi 1**	**2.07**	**9**	P		**Pn**	**03 03 45.1**	**+2.0**
PITA	**Cotopaxi Volc**	**2.15**	**8**	↓P		**Pn**	**03 03 45.3**	**+1.3**
ZUMB	**Zumba**	**2.19**	**191**	P		**Pn**	**03 03 44.9**	**+0.7**
TOMA	**Boca Toma-Volc**	**2.21**	**8**	P		**Pn**	**03 03 45.9**	**+1.1**
ANTM	**Antisana-La Mi**	**2.21**	**14**	P		**Pn**	**03 03 45.5**	**+0.7**
ANTG	**Antisana-Guama**	**2.23**	**13**	↑P		**Pn**	**03 03 45.9**	**+0.7**
ANTS	**Antisana-Sarah**	**2.26**	**15**	↑P		**Pn**	**03 03 46.5**	**+0.9**
SALI	**Salinas**	**2.30**	**283**	↑P		Pn	03 03 44.6	-0.9
ANTI	**Antisana**	**2.31**	**15**	↑P		**Pn**	**03 03 46.9**	**+0.7**
PPLP	**Puerto Lpez**	**2.33**	**299**	↑P		Pn	03 03 44.4	-1.5
TING	**Casa Alexandra**	**2.42**	**7**	P		**Pn**	**03 03 48.5**	**+1.1**
ASDO	**Santo Domingo**	**2.45**	**351**	P		**Pn**	**03 03 47.8**	**+0.2**
GGPT	**Toaza - Volcan**	**2.46**	**3**	↓P		**Pn**	**03 03 48.9**	**+0.9**
HPAL	**Hacienda Las P**	**2.47**	**2**	P		**Pn**	**03 03 50.7**	**+2.6**
JUA2	**San Juan 2**	**2.47**	**3**	↓P		**Pn**	**03 03 49.0**	**+0.8**
GGPC	**Guagua Pichinc**	**2.51**	**3**	↓P		**Pn**	**03 03 49.6**	**+0.8**
TERV	**Terraza Guagua**	**2.51**	**3**	↓P		**Pn**	**03 03 50.4**	**+1.5**
PINO	**Pino**	**2.53**	**3**	↓P		**Pn**	**03 03 49.9**	**+0.8**
YANA	**Yana**	**2.57**	**4**	↓P		**Pn**	**03 03 50.5**	**+0.9**
PUEM	**Granja Avicola**	**2.57**	**8**	P		**Pn**	**03 03 51.1**	**+1.7**
FLF1	**Flavio Alfaro-**	**2.57**	**335**	↓P		**Pn**	**03 03 48.4**	**-0.7**
APR1	**Acelerografo,**	**2.64**	**3**	P		**Pn**	**03 03 54.2**	**+3.8**
PULU	**Pululahua**	**2.71**	**5**	↓P		**Pn**	**03 03 51.9**	**+0.5**
ISPT	**Isla de la Pla**	**2.73**	**301**	P		**Pn**	**03 03 50.9**	**-0.4**
CAYR	**Refugio Cayamb**	**2.79**	**15**	↑P		**Pn**	**03 03 53.6**	**+0.9**
ANGU	**Angureal**	**2.82**	**15**	↑P		**Pn**	**03 03 53.9**	**+0.8**
JAMA	**Jama**	**2.83**	**329**	P		**Pn**	**03 03 50.8**	**-1.9**
CAB1	**Cabo Pasado-Ma**	**2.85**	**324**	P		**Pn**	**03 03 51.9**	**-0.9**
CAYA	**Cayambe**	**2.85**	**15**	P		**Pn**	**03 03 54.7**	**+1.3**
OTAV	**Otavalo**	**2.93**	**6**	Pn		**Pn**	**03 03 55.2**	**+0.8**
OTAV	**Otavalo**	**2.93**	**6**	↓P		**Pn**	**03 03 55.7**	**+1.3**
PAC1	**Pacto, Paraso**	**2.94**	**359**	P		**Pn**	**03 03 55.0**	**+0.7**
CUSW	**Cuicocha Oeste**	**2.99**	**8**	P		**Pn**	**03 03 55.2**	**+0.1**
CUSE	**Cuicocha Este**	**3.00**	**7**	↓P		**Pn**	**03 03 56.9**	**+1.6**
IMBA	**Imbabura, San**	**3.00**	**10**	P		**Pn**	**03 03 57.1**	**+1.8**
CUIC	**Cuicocha-Domo**	**3.01**	**7**	P		**Pn**	**03 03 57.1**	**+1.8**
COTA	**Cotacachi**	**3.04**	**8**	P		**Pn**	**03 03 58.1**	**+2.2**
AV18	**Acelerografo,**	**3.08**	**346**	P		**Pn**	**03 03 55.2**	**-0.7**
YAHU	**Yahuarcocha**	**3.12**	**12**	P		**Pn**	**03 03 58.6**	**+1.7**
CASC	**Dorado de Casc**	**3.15**	**27**	P		**Pn**	**03 03 56.8**	**-0.2**
URCU	**Urcuqui**	**3.15**	**9**	P		**Pn**	**03 03 58.6**	**+1.3**
BONI	**La Bonita**	**3.36**	**21**	↑P		**Pn**	**03 04 00.5**	**+0.6**
AV21	**Acelerografo,**	**3.43**	**346**	P		**Pn**	**03 04 00.1**	**-0.6**
LITE1	**Lita**	**3.49**	**6**	P		**Pn**	**03 04 03.0**	**+1.3**
LNGL	**El Angel-Carch**	**3.50**	**12**	P		**Pn**	**03 04 04.9**	**+2.8**
TULM	**Tulcn-Chalpat**	**3.52**	**16**	P		**Pn**	**03 04 03.4**	**+1.1**
CHL1	**Volcn Chiles**	**3.56**	**13**	P		**Pn**	**03 04 04.4**	**+1.5**
CHL2	**Volcn Chiles**	**3.57**	**13**	P		**Pn**	**03 04 04.8**	**+1.7**
ECEN	**Cerro Negro**	**3.58**	**12**	P		**Pn**	**03 04 04.6**	**+1.4**
ATUL	**Tulcn**	**3.59**	**17**	P		**Pn**	**03 04 05.6**	**+2.4**
CHMA	**Chilma**	**3.60**	**11**	P		**Pn**	**03 04 04.7**	**+1.5**
CMBC	**Cumbal**	**3.73**	**14**	P		**Pn**	**03 04 07.2**	**+2.1**
AMA1	**Acelerografo,**	**3.74**	**345**	P		**Pn**	**03 04 04.8**	**-0.1**
AES2	**Ecuador-Puerto**	**3.77**	**346**	P		**Pn**	**03 04 05.8**	**+0.5**
SNLR	**San Lorenzo-Es**	**3.97**	**359**	P		**Pn**	**03 04 07.7**	**-0.2**
ATAH	**Atahualpa**	**4.42**	**176**	P		**Pn**	**03 04 15.7**	**+1.3**
	289nm,0.6s,baz=11,slow=10,SNR=196							
ATAH				S		**Sn**	**03 05 06.6**	**+1.6**
	534nm,0.8s,baz=39,slow=23,SNR=11							
BBAC	**Balboa, Cauca**	**4.92**	**18**	P		**Pn**	**03 04 20.4**	**-0.6**
FLOC	**Florencia**	**5.26**	**36**			**Pn**	**03 04 23.6**	**-1.9**
FLOC	**Florencia**	**5.26**	**36**	P		**Pn**	**03 04 23.2**	**-2.3**
MALC	**Bahia Malaga**	**6.81**	**12**	P		**Pn**	**03 04 45.4**	**-1.2**
CZSB	**Cruzeiro do Su**	**7.82**	**130**	Pn		**Pn**	**03 04 58.8**	**-1.5**
CZSB	**Cruzeiro do Su**	**7.82**	**130**	*eP*		**Pn**	**03 04 58.9**	**-1.5**
ROSC	**El Rosal**	**8.70**	**31**	P		**Pn**	**03 05 09.0**	**-3.6**
	6.0nm,0.5s,baz=233,slow=20,SNR=1.2							
ROSC				LR		LR	03 08 49.3	
	comp=Z,139nm,19.8s,baz=308,slow=40							
TBTG	**Tabatinga, AM**	**8.94**	**100**	Pn		**Pn**	**03 05 11.6**	**-4.1**
TBTG	**Tabatinga, AM**	**8.94**	**100**	*eP*		Pn	03 05 11.7	-4.0
NNA	**Nana**	**9.42**	**169**	P		**Pn**	**03 05 21.9**	**-0.3**
	85nm,0.4s,baz=346,slow=16,SNR=38							
NNA				S		**Sn**	**03 07 02.0**	**-4.4**
	122nm,0.5s,baz=131,slow=4.9,SNR=13							
SDV	**Santo Domingo**	**14.06**	**35**	P		**Pn**	**03 06 19.9**	**-4.6**
	4.1nm,0.4s,baz=220,slow=13,SNR=3.9							
SDV				LR		LR	03 12 40.1	
	comp=Z,112nm,20.5s,baz=247,slow=41							
TEFE	**Tefe**	**14.11**	**94**	*eP*		Pn	03 06 18.5	-6.5
SOCE	**Pocosol**	**14.25**	**336**	P		**P**	**03 06 34.0**	**+2.7**
JTS	**Las Juntas de**	**14.31**	**334**	P		**P**	**03 06 34.9**	**+3.0**
JTS	**Las Juntas de**	**14.31**	**334**	P		**Pn**	**03 06 26.2**	**-1.3**
	22nm,1.1s,baz=170,slow=1.6,SNR=15							
ESPN	**Las Esperanzas**	**15.79**	**340**	P		**P**	**03 06 50.3**	**+2.0**
ACON	**Acoyapa**	**15.91**	**336**	P		**P**	**03 06 51.8**	**+2.2**
BOAB	**BOACO BROADBAN**	**16.55**	**336**	P		**P**	**03 06 58.3**	**+1.6**
LPAZ	**La Paz**	**17.07**	**143**			**P**	**03 07 03.2**	**+0.1**
LPAZ	**La Paz**	**17.07**	**143**	P		**P**	**03 07 03.9**	**+0.7**
	3.6nm,0.5s,baz=323,slow=13,SNR=8.4							
LPAZ	**La Paz**	**17.07**	**143**	*eP*		**P**	**03 07 03.5**	**+0.3**
MACA	**Manacapuru-AM**	**18.04**	**92**	P		**P**	**03 07 10.5**	**-2.7**
MACA	**Manacapuru-AM**	**18.04**	**92**	*eP*		**P**	**03 07 09.0**	**-4.3**
TGUH	**Tegucigalpa,Un**	**18.67**	**333**	P		**P**	**03 07 20.8**	**+0.5**
BOAV	**Boa Vista**	**18.91**	**75**	P		**Pn**	**03 07 26.3**	**+2.0**
BOAV	**Boa Vista**	**18.91**	**75**	*eP*		**P**	**03 07 21.6**	**-1.1**
PCRV	**Puerto La Cruz**	**19.00**	**47**	P		**P**	**03 07 22.3**	**-1.4**
	4.6nm,0.5s,baz=190,slow=12,SNR=1.4							
MTO3	**Montecristo**	**19.98**	**329**	P		**P**	**03 07 36.5**	**+2.0**
ESQI	**Esquipulas**	**20.11**	**329**	P		**P**	**03 07 37.9**	**+2.1**
VILB	**Vilhena**	**20.98**	**120**	P		**P**	**03 07 44.6**	**-0.7**
VILB	**Vilhena**	**20.98**	**120**	*eP*		**P**	**03 07 43.8**	**-1.5**
APG	**El Apazote**	**21.07**	**327**	P		**P**	**03 07 48.3**	**+1.9**
	0.8nm,0.8s,baz=164,slow=10.0,SNR=5.9							
SIV	**San Ignacio**	**21.84**	**128**	P		**P**	**03 07 52.0**	**-2.4**
	3.5nm,0.7s,baz=310,slow=9.7,SNR=7.0							
	3.5nm,0.7s							
ITTB	**Itaituba**	**23.02**	**95**	*eP*		**P**	**03 08 04.7**	**-2.0**
CCIG	**Comitan**	**23.04**	**325**	P		**P**	**03 08 08.0**	**+1.1**
PTLB	**Pontes e Lacer**	**23.10**	**124**	*eP*		**P**	**03 08 07.0**	**-0.3**
PDRB	**Porto dos Gac**	**23.55**	**113**	*eP*		**P**	**03 08 10.7**	**-0.8**
NPGB	**Novo Progresso**	**23.69**	**101**	*eP*		**P**	**03 08 11.1**	**-1.7**
CLDB	**Colider**	**24.17**	**111**	*eP*		**P**	**03 08 16.4**	**-0.7**
MAL2	**Monte Alegre,**	**24.55**	**89**	P		**P**	**03 08 19.9**	**-0.7**
TEIG	**Tepich**	**24.63**	**338**	P		**P**	**03 08 22.3**	**+1.2**
SALV	**Santo Antonio**	**26.21**	**121**	*eP*		**P**	**03 08 36.5**	**+0.9**
BDQN	**Bodoquena, MS**	**27.77**	**131**	*eP*		**P**	**03 08 51.5**	**+2.0**
MURT	**Porto Murtinho**	**27.89**	**134**	*eP*		**P**	**03 08 53.3**	**+2.8**
SNDB	**Serra Nova Dou**	**28.71**	**110**	*eP*		**P**	**03 08 57.6**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**30.62**	**90**	*eP*		**P**	**03 09 14.6**	**-0.2**
CPUP	**Villa Florida**	**31.22**	**141**	*eP*		**P**	**03 09 23.4**	**+3.5**
SMTB	**Santa Maria do**	**31.58**	**102**	*eP*		**P**	**03 09 22.6**	**-0.7**
ITRB	**Iturama**	**32.47**	**123**	*eP*		**P**	**03 09 30.1**	**-0.9**
BDFB	**Brasilia**	**32.88**	**115**	P		**P**	**03 09 34.5**	**-0.3**
	3.8nm,0.5s,baz=307,slow=14,SNR=5.6							
	3.8nm,0.5s							
IPMB	**Ipameri, GO**	**33.57**	**119**	*eP*		**P**	**03 09 40.5**	**-0.2**
SDBA	**SAO DESIDERIO**	**34.86**	**108**	*eP*		**P**	**03 09 50.8**	**-1.1**
TBOT	**Tacuaremb**	**35.96**	**146**	*eP*		**P**	**03 10 05.1**	**+4.1**
JANB	**Januaria**	**36.10**	**112**	*eP*		**P**	**03 10 01.6**	**-0.9**
LRAL	**Lakeview Retre**	**36.39**	**348**	P		**P**	**03 10 03.9**	**-0.7**
Z47A	**Carrollton**	**36.78**	**347**	IAmb		IAmb	03 10 07.7	
	comp=Z,19nm,0.8s							
HNDO	**Hondo**	**37.60**	**330**	P		**P**	**03 10 16.5**	**+1.5**
BSCB	**Bom Sucesso**	**37.75**	**121**	*eP*		**P**	**03 10 17.8**	**+1.4**
Y45A	**Yeager Farm, C**	**37.77**	**345**	P		**P**	**03 10 16.0**	**-0.3**
435B	**Jarrell**	**37.83**	**333**	IAmb		IAmb	03 10 18.7	
	comp=Z,16nm,0.8s							
435B	**Jarrell**	**37.83**	**333**	P		**P**	**03 10 17.6**	**+0.7**
	baz=148							
RPN	**Rapa Nui**	**38.04**	**227**	LR		LR	03 23 21.0	
	comp=Z,85nm,20.0s,baz=56,slow=32							
DRIO	**Del Rio**	**38.20**	**328**	P		**P**	**03 10 21.1**	**+1.1**
CCAR	**Cane Creek**	**38.44**	**342**	P		**P**	**03 10 21.5**	**-0.4**
CCAR				IAmb		IAmb	03 10 22.5	
	comp=Z,23nm,0.9s							
PLCA	**Paso Flores**	**38.58**	**170**	P		**P**	**03 10 24.9**	**+1.8**
	comp=Z,4.0nm,1.0s,baz=321,slow=13,SNR=3.1							
PLCA				LR		LR	03 24 08.8	
	comp=Z,60nm,18.5s,baz=134,slow=33							
	comp=Z,4.0nm,1.0s							
WHTX	**Lake Whitney,**	**38.81**	**334**	P		**P**	**03 10 25.6**	**+0.5**
WHTX				IAmb		IAmb	03 10 26.6	
	comp=Z,24nm,1.0s							
BRDY	**Brady**	**38.91**	**332**	P		**P**	**03 10 26.6**	**+0.7**
BRDY				IAmb		IAmb	03 10 27.4	
	comp=Z,14nm,0.9s							
Z38A	**Mt. Pleasant**	**38.92**	**338**	P		**P**	**03 10 27.0**	**+1.0**
V48A	**Smith Brothers**	**38.98**	**350**	IAmb		IAmb	03 10 26.1	
	comp=Z,18nm,0.8s							
FW13	**Cleburne**	**39.10**	**335**	IAmb		IAmb	03 10 29.1	
	comp=Z,36nm,1.2s							
UALR	**University of**	**39.41**	**342**	IAmb		IAmb	03 10 30.0	
	comp=Z,15nm,0.8s							
T59A	**Double "B" Far**	**39.48**	**1**	P		**P**	**03 10 30.7**	**+0.1**
T59A				IAmb		IAmb	03 10 31.2	
	comp=Z,13nm,0.8s							
T57A	**Hurt**	**39.50**	**359**	IAmb		IAmb	03 10 31.0	
	comp=Z,18nm,0.9s							
WVT	**Waverly**	**39.55**	**348**	P		**P**	**03 10 28.9**	**-2.2**
WVT				pP		**pP**	**03 10 54.2**	**+0.3**
WVT				PcP		**PcP**	**03 12 36.7**	**-0.2**
FW06	**Azle**	**39.69**	**335**	IAmb		IAmb	03 10 34.3	
	comp=Z,38nm,1.2s							
TXAR	**Lajitas Array**	**39.81**	**325**	P		**P**	**03 10 34.3**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=144,slow=8.8,SNR=5.8							
TXAR				PcP		**PcP**	**03 12 38.8**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=146,slow=6.3,SNR=15							
	comp=Z,1.8nm,0.7s							
TX31	**Lajitas Ar. Si**	**39.81**	**325**	P		**P**	**03 10 34.7**	**+1.1**
WHAR	**Wooly Hollow**	**39.87**	**343**	IAmb		IAmb	03 10 33.8	
	comp=Z,18nm,1.0s							
PLPT	**Palo Pinto**	**39.88**	**334**	P		**P**	**03 10 34.9**	**+0.9**
SLBS	**Sierra La Lagu**	**40.13**	**313**	P		**P**	**03 10 38.5**	**+2.2**
SLBS				IAmb		IAmb	03 10 39.2	
	comp=Z,14nm,0.7s							
SLBS	**Sierra La Lagu**	**40.13**	**313**	P		**P**	**03 10 38.3**	**+2.0**
DUB01	**Friburgo-RJ**	**40.23**	**122**	*eP*		**P**	**03 10 37.4**	**+0.3**
LCAR	**Lake Charles**	**40.27**	**344**	IAmb		IAmb	03 10 36.7	
	comp=Z,12nm,0.7s							
ABTX	**Abilene, Hawle**	**40.32**	**332**	P		**P**	**03 10 39.2**	**+1.5**
ABTX				IAmb		IAmb	03 10 39.6	
	comp=Z,27nm,0.9s							
BSFB	**Barra de Sao F**	**40.40**	**116**	*eP*		**P**	**03 10 39.0**	**+0.5**
SGCY	**Sterling City**	**40.46**	**330**	P		**P**	**03 10 39.1**	**+0.3**
ALPN	**Alpine**	**40.58**	**326**	IAmb		IAmb	03 10 42.0	
	comp=Z,20nm,0.9s							
WTFS	**Witchita Falls**	**40.76**	**334**	P		**P**	**03 10 42.2**	**+1.0**
MNHN	**Monahans**	**40.84**	**328**	IAmb		IAmb	03 10 43.9	
	comp=Z,19nm,0.8s							
SN05	**Snyder 5**	**41.12**	**331**	IAmb		IAmb	03 10 46.1	
	comp=Z,17nm,0.6s							
APMT	**Aspermont**	**41.13**	**332**	IAmb		IAmb	03 10 46.2	
	comp=Z,21nm,0.7s							
X34A	**Smith Ranch, M**	**41.21**	**336**	IAmb		IAmb	03 10 47.6	
	comp=Z,25nm,0.8s							
SN07	**Snyder 07**	**41.30**	**331**	IAmb		IAmb	03 10 47.3	
	comp=Z,13nm,0.8s							
W35A	**Tecumseh**	**41.31**	**337**	IAmb		IAmb	03 10 46.4	
	comp=Z,25nm,0.8s							
S44A	**Carbondale**	**41.35**	**347**	IAmb		IAmb	03 10 45.2	
	comp=Z,13nm,0.8s							
SIUC	**Southern Illin**	**41.37**	**347**	IAmb		IAmb	03 10 45.3	
	comp=Z,16nm,0.8s							
NBLA	**Lagarto - SE**	**41.44**	**104**	*eP*		**P**	**03 10 45.7**	**-1.5**
PECS	**Pecos**	**41.46**	**327**	IAmb		IAmb	03 10 49.1	
	comp=Z,39nm,1.6s							
POST	**Post**	**41.57**	**331**	IAmb		IAmb	03 10 49.5	
	comp=Z,26nm,1.0s							
TUL3	**Leonard**	**41.59**	**339**	IAmb		IAmb	03 10 48.8	
	comp=Z,16nm,1.0s							
MGMO	**Mountain Grove**	**41.60**	**344**	IAmb		IAmb	03 10 47.8	
	comp=Z,14nm,0.8s							
VHRN	**Van Horn**	**41.65**	**325**	IAmb		IAmb	03 10 50.7	
	comp=Z,14nm,0.8s							
WMOK	**Wichita Mounta**	**41.73**	**335**	IAmb		IAmb	03 10 50.4	
	comp=Z,21nm,1.0s							
FVM	**French Village**	**41.90**	**346**	IAmb		IAmb	03 10 49.9	
	comp=Z,17nm,1.0s							
NBLV	**Livramento - P**	**41.90**	**98**	*eP*		**P**	**03 10 50.4**	**-0.5**
OLIL	**Olney**	**42.12**	**349**	IAmb		IAmb	03 10 51.1	
	comp=Z,20nm,1.0s							
QUOK	**Quay**	**42.15**	**338**	IAmb		IAmb	03 10 53.5	
	comp=Z,29nm,0.8s							
CCM	**Cathedral Cave**	**42.17**	**345**	P		**P**	**03 10 51.2**	**-1.5**
CCM				IAmb		IAmb	03 10 52.6	
	comp=Z,10nm,0.6s							
CCM	**Cathedral Cave**	**42.17**	**345**	P		**P**	**03 10 51.0**	**-1.7**
CCM				pP		**pP**	**03 11 16.1**	**+0.4**
CCM				PcP		**PcP**	**03 12 45.5**	**+0.1**
T35A	**Sooner Cattle**	**42.74**	**339**	IAmb		IAmb	03 10 59.9	
	comp=Z,17nm,0.8s							
NBAN	**Anadia - AL**	**42.75**	**101**	*eP*		**P**	**03 10 57.0**	**-0.8**
O53A	**New Philadelph**	**42.80**	**357**	IAmb		IAmb	03 10 57.5	
	comp=Z,18nm,1.1s							
RCBR	**Riachuelo**	**42.83**	**96**	*eP*		**P**	**03 10 58.2**	**-0.3**
NBCA	**Caruaru-PE**	**42.87**	**99**	*eP*		**P**	**03 10 58.9**	**+0.1**
ACSO	**Alum Creek Sta**	**42.90**	**355**	IAmb		IAmb	03 10 58.0	
	comp=Z,17nm,0.8s							
MSTX	**Muleshoe**	**42.93**	**330**	IAmb		IAmb	03 11 00.6	
	comp=Z,23nm,0.9s							
SSPA	**Standing Stone**	**43.13**	**1**	P		**P**	**03 11 00.2**	**-0.2**
SSPA				IAmb		IAmb	03 11 01.1	
	comp=Z,16nm,0.8s							
SSPA	**Standing Stone**	**43.13**	**1**	P		**P**	**03 11 00.0**	**-0.4**
SSPA				pP		**pP**	**03 11 25.8**	**+2.1**
SSPA				PcP		**PcP**	**03 12 48.4**	**-0.2**
AMTX	**Amarillo**	**43.14**	**332**	IAmb		IAmb	03 11 02.2	
	comp=Z,16nm,0.8s							
O48B	**Farmland**	**43.15**	**353**	IAmb		IAmb	03 10 59.8	
	comp=Z,13nm,0.7s							
O48B	**Farmland**	**43.15**	**353**	P		**P**	**03 10 58.7**	**-1.8**
	baz=170							
LUPA	**Lehigh Univers**	**43.20**	**4**	IAmb		IAmb	03 11 02.8	
	comp=Z,18nm,0.9s							
KAN14	**Manchester OK**	**43.32**	**337**	IAmb		IAmb	03 11 02.9	
	comp=Z,23nm,0.8s							
M57A	**Sunshine Farm,**	**43.85**	**2**	IAmb		IAmb	03 11 07.2	
	comp=Z,16nm,0.7s							
M50A	**Fremont**	**44.07**	**355**	IAmb		IAmb	03 11 07.2	
	comp=Z,24nm,0.8s							
121A	**Cookes Peak, D**	**44.55**	**324**	IAmb		IAmb	03 11 15.1	
	comp=Z,21nm,1.1s							
121A	**C

comp=Z,15nm,1.0s
G08A Pilot Rock 59.65 328 IAmb IAmb 03 13 05.5
comp=Z,15nm,0.8s
E09A Wood Farm, Sta 60.05 330 P P 03 13 07.0 +0.6
E09A IAmb IAmb 03 13 07.6
comp=Z,10.0nm,0.7s
I05D Terrebonne, OR 60.33 326 IAmb IAmb 03 13 10.4
comp=Z,12nm,0.7s
G06A Carlson Farm, 60.51 327 P P 03 13 11.1 +1.4
G06A IAmb IAmb 03 13 11.5
comp=Z,9.4nm,0.9s
HAWA Hanford 60.68 329 IAmb IAmb 03 13 12.0
comp=Z,6.6nm,0.6s
NEW Newport 60.76 332 P P 03 13 11.4 +0.1
NEW IAmb IAmb 03 13 12.6
comp=Z,15nm,0.9s
E07A Sunnyside 60.95 329 IAmb IAmb 03 13 14.5
comp=Z,12nm,0.7s
MXC Moxie City 61.20 329 IAmb IAmb 03 13 16.6
comp=Z,8.4nm,0.9s
LTY Liberty 61.84 329 IAmb IAmb 03 13 38.1
comp=Z,37nm,2.0s
LLLB Lillooet 64.64 331 IAmb IAmb 03 13 38.8
comp=Z,22nm,1.3s
YKA Yellowknife Ar 70.46 343 P P 03 14 12.4 -0.9
comp=Z,2.4nm,0.8s,baz=143,slow=5.9,SNR=24
comp=Z,2.4nm,0.8s
TOAD Toad River Com 71.48 337 P P 03 14 20.0 +0.3
baz=130
KOTAN Kotaneelee Air 71.87 338 P P 03 14 22.2 +0.3
baz=131
T35M Bob Quinn 72.47 333 P P 03 14 25.6 0.0
baz=125
CRAG Craig 72.97 331 P P 03 14 28.9 +0.4
baz=122
WRAK Wrangell Islan 73.11 332 P P 03 14 29.7 +0.4
baz=123
DLBC Dease Lake 73.21 335 P P 03 14 30.9 +0.9
baz=125
S34M Telegraph Cree 73.39 334 P P 03 14 32.2 +1.3
baz=124
WRGLY Wrigley 73.75 341 P P 03 14 34.3 +1.4
baz=133
R33M Jennings River 74.16 335 P P 03 14 36.7 +1.1
baz=125
DBIC Dimbokro 74.34 82 P P 03 14 36.5 -0.9
comp=Z,1.8nm,0.6s,baz=248,slow=6.1,SNR=1.5
comp=Z,1.8nm,0.6s
Q32M Nakina River 74.47 334 P P 03 14 37.9 +0.4
baz=123
S32K Killisnoo 74.71 332 P P 03 14 39.1 +0.5
baz=121
SIT Sitka 74.84 332 P P 03 14 39.6 +0.3
baz=120
P33M Teslin, Yukon 75.40 335 P P 03 14 42.7 +0.1
baz=123
P32M Atlin 75.44 335 P P 03 14 43.5 +0.7
baz=122
S31K Pelican 75.72 332 P P 03 14 44.2 -0.2
baz=119
N32M Quiet Lake 76.02 336 P P 03 14 45.7 -0.5
baz=123
SKAG Skagway 76.07 334 P P 03 14 46.4 +0.1
baz=120
WHY Whitehorse 76.50 335 P P 03 14 49.2 +0.2
baz=121
PLBC Pleasant Camp 76.53 334 P P 03 14 49.8 +0.8
baz=120
FARO Faro, Yukon 76.72 337 P P 03 14 50.5 +0.4
baz=123
O30N Mendenhall 77.07 335 P P 03 14 52.8 +0.7
baz=120
M31M Drury Creek, Y 77.12 337 P P 03 14 52.6 +0.3
baz=122
P30M Million Dollar 77.12 334 P P 03 14 52.9 +0.5
baz=119
N31M Braeburn, Yuko 77.30 336 P P 03 14 54.0 +0.6
baz=120
HYT Haines Junctio 77.70 335 P P 03 14 54.9 -0.8
baz=119
N30M Aishikik Lake 77.83 335 P P 03 14 55.9 -0.5
baz=119
O29M Mount Kennedy 77.91 334 P P 03 14 55.7 -1.2
baz=118
YUK6 Outpost Mounta 78.12 335 P P 03 14 57.3 -0.9
baz=118
C36M Paulatuk 78.14 345 P P 03 14 57.3 -0.5
baz=133
M30M Minto, Yukon 78.27 336 P P 03 14 58.4 -0.3
baz=120
YUK4 Talbot Arm 78.44 335 P P 03 14 59.5 -0.3
baz=118
PINM Pinnacle 78.56 333 P P 03 15 01.2 +0.8
baz=116
O28M Mount Upton 78.84 334 P P 03 15 02.2 0.0
baz=116
M29M Somme Creek 78.88 336 P P 03 15 01.9 -0.2
baz=118
YUK8 Steele Glacier 78.89 334 P P 03 15 02.2 -0.2
baz=117
H31M Peel River 79.05 340 P P 03 15 02.6 -0.3
baz=123
L29M L29M 79.07 337 IAmb IAmb 03 15 04.4
comp=Z,13nm,0.8s
L29M L29M 79.07 337 P P 03 15 03.3 +0.2
baz=119
J30M Hart River 79.11 338 P P 03 15 03.5 +0.1
baz=120
K29M Barlow Dome 79.19 337 P P 03 15 03.4 -0.4
baz=119
MESA MESA 79.36 333 P P 03 15 04.4 -0.6
baz=115
YUK3 Moose Creek 79.40 335 P P 03 15 05.3 +0.2
baz=116
I30M Mount Dempster 79.46 339 P P 03 15 05.3 +0.1
baz=121
G31M Satah River 79.64 341 P P 03 15 06.2 +0.3
baz=123
F31M Tsiigehtchic 79.75 341 IAmb IAmb 03 15 07.9
comp=Z,24nm,1.4s
F31M Tsiigehtchic 79.75 341 P P 03 15 06.8 +0.3
baz=124
J29N Klondike Camp 79.75 338 P P 03 15 07.0 +0.2
baz=119
BVCY Beaver Creek 79.86 335 P P 03 15 07.9 +0.5
baz=116
DAWY Dawson 80.02 337 P P 03 15 08.5 +0.3
baz=118
ESDC Sonseca Array 80.06 49 P P 03 15 08.3 -0.6
comp=Z,0.4nm,0.7s,baz=248,slow=5.5,SNR=1.4
comp=Z,0.4nm,0.7s
INK Inuvik 80.17 342 P P 03 15 09.0 +0.2
baz=124
EPYK Eagle Plains 80.17 340 P P 03 15 08.3 -0.7
baz=120
I29M Ogilvie Camp, 80.23 338 P P 03 15 09.2 -0.1
baz=119
A36M Sachs Harbour 80.24 347 P P 03 15 08.4 -0.7
baz=132
M27K Edge Creek, AK 80.26 335 P P 03 15 09.9 +0.3
baz=115
G30M tAoh Zraii Nji 80.32 340 P P 03 15 09.7 -0.1
baz=121
KAIM Kayak Island 80.40 332 P P 03 15 10.4 +0.1
baz=112
F30M Barrier River 80.50 341 P P 03 15 09.8 -0.9
baz=122
L27K Beaver Creek, 80.54 336 P P 03 15 10.7 -0.3
baz=115
H29M Whitestone 80.67 339 P P 03 15 11.0 -0.6
baz=119
M26K Nabesna, AK 80.75 335 P P 03 15 12.0 -0.2
baz=114
I28M Miner Creek 80.87 338 P P 03 15 12.8 -0.1
baz=117
BMRM Bremner River 80.88 333 P P 03 15 12.2 -0.7
baz=112
G29M Pine Creek 80.89 340 P P 03 15 12.6 -0.2
baz=119
EGAK Eagle 81.03 337 IAmb IAmb 03 15 14.6
comp=Z,16nm,0.8s
EGAK Eagle 81.03 337 P P 03 15 13.3 -0.3
baz=116,SNR=5.6
Q23K Middleton Isla 81.12 331 P P 03 15 14.3 +0.2
baz=111
N25K Chitina, Valde 81.13 334 P P 03 15 14.0 -0.3
baz=112
L26K Log Cabin Wild 81.16 335 P P 03 15 14.0 -0.3
baz=114
EYAK Cordova Ski Ar 81.25 333 P P 03 15 14.7 0.0
baz=111
TORD Torodi Ar. Bea 81.31 76 P P 03 15 14.6 -1.5
comp=Z,0.8nm,0.6s,baz=235,slow=5.1,SNR=8.3
comp=Z,0.8nm,0.6s
I27K Kandik River 81.57 338 P P 03 15 16.1 -0.4
baz=116
E29M Blow River 81.59 341 P P 03 15 16.0 -0.4
baz=120
KLU Klutina 81.67 333 P P 03 15 16.9 -0.2
baz=111
HARP HAARP 81.67 334 P P 03 15 16.8 -0.2
baz=112
SCRK Sand Creek 81.80 336 P P 03 15 17.2 -0.6
baz=113,SNR=5.4
H27K Steamboat Moun 81.81 339 P P 03 15 17.0 -0.7
baz=116
J26L Joseph Creek 81.85 337 IAmb IAmb 03 15 19.1
comp=Z,12nm,0.6s
J26L Joseph Creek 81.85 337 P P 03 15 17.4 -0.5
baz=114,SNR=18
F28M Old Crow 81.86 340 P P 03 15 17.5 -0.4
baz=118
GLI Glacier Island 81.98 333 P P 03 15 18.6 -0.1
baz=110
M24K Tolsona, Glenn 82.01 334 P P 03 15 18.6 -0.3
baz=111
I26K Coal Creek Min 82.02 338 P P 03 15 18.2 -0.5
baz=114
PAX Paxson 82.03 335 P P 03 15 18.4 -0.5
baz=112,SNR=6.0
G27K Doyon Strip 82.11 339 P P 03 15 18.5 -0.7
baz=116
E28M Babbage River 82.22 341 P P 03 15 19.5 -0.3
baz=118
D28M Stokes Point 82.32 342 P P 03 15 20.1 -0.1
baz=119
SCM Sheep Creek Mo 82.42 334 P P 03 15 20.7 -0.3
baz=110
K24K Donnelly Dome 82.47 336 P P 03 15 20.6 -0.6
baz=112
PWL Port Wells 82.55 332 P P 03 15 21.6 0.0
baz=109
M23K Glacier View 82.58 333 P P 03 15 21.4 -0.4
baz=110
J25K Salcha River, 82.61 336 IAmb IAmb 03 15 22.8
comp=Z,9.1nm,0.7s
J25K Salcha River, 82.61 336 P P 03 15 21.5 -0.4
baz=112
EUNU Eureka 82.76 359 IAmb IAmb 03 16 09.9
comp=Z,25nm,2.0s
KNK Knik Glacier 82.79 333 P P 03 15 21.9 -0.9
baz=109
SEW Seward 82.83 332 P P 03 15 22.6 -0.4
baz=108
SML Sawmill 82.86 333 IAmb IAmb 03 15 24.0
comp=Z,14nm,0.7s
SML Sawmill 82.86 333 P P 03 15 22.5 -0.8
baz=109
G26K Porcupine Rive 82.94 339 P P 03 15 23.0 -0.4
baz=114
D27M Malcolm River 82.98 341 P P 03 15 23.3 -0.5
baz=117
PRP Porcupine Dome 83.02 337 P P 03 15 23.6 -0.5
baz=112
O22K Cooper Landing 83.07 332 P P 03 15 24.3 0.0
baz=108
GHO Glory Hole Cre 83.11 333 IAmb IAmb 03 15 25.3
comp=Z,17nm,0.8s
PMR Palmer 83.15 333 P P 03 15 24.2 -0.4
baz=108
HDA Harding Lake 83.17 336 IAmb IAmb 03 15 25.1
comp=Z,10nm,0.6s
HDA Harding Lake 83.17 336 P P 03 15 24.5 -0.3
baz=111
RC01 Rabbit Creek A 83.27 332 P P 03 15 24.8 -0.5
baz=108
ILAR Eielson Array 83.27 336 P P 03 15 23.5 -1.7
ILAR Eielson Array 83.27 336 P P 03 15 24.6 -0.6
comp=Z,3.5nm,0.7s,baz=124,slow=4.1,SNR=41
ILAR PP PP 03 18 38.7 +0.7
comp=Z,1.7nm,1.0s,baz=106,slow=7.4,SNR=12
comp=Z,3.5nm,0.7s
BRSE Bradley Lake S 83.34 331 P P 03 15 25.7 0.0
baz=107
F26K Sheenjek River 83.37 340 P P 03 15 26.0 +0.2
baz=114
BMAR Burnt Mountain 83.41 339 P P 03 15 26.2 +0.2
POKR Poker Plat Res 83.61 337 P P 03 15 26.4 -0.6
baz=110
RND Reindeer 83.62 335 IAmb IAmb 03 15 28.3
comp=Z,10nm,0.8s
M22K Willow 83.65 333 P P 03 15 27.0 -0.2
baz=108
COLA College 83.70 336 P P 03 15 27.5 +0.1
baz=110
KDAK Kodiak Island 83.72 329 P P 03 15 27.3 -0.3
baz=105
MCK McKinley 83.76 335 P P 03 15 27.5 -0.3
baz=109,SNR=5.6
Q20K Shuyak Island 83.84 330 P P 03 15 28.0 -0.2
baz=105
SUA Susitna One 83.85 333 P P 03 15 27.8 -0.7
baz=107
F25K Christian Rive 83.85 339 P P 03 15 27.9 -0.4
baz=112
CUT Chulitna 83.91 334 IAmb IAmb 03 15 29.2
comp=Z,16nm,0.8s
CUT Chulitna 83.91 334 P P 03 15 27.9 -0.6
baz=107
OHAK Old Harbor 83.94 328 P P 03 15 29.2 +0.5
baz=104
C27K Jago River 84.02 341 IAmb IAmb 03 15 30.4
comp=Z,14nm,1.2s
C27K Jago River 84.02 341 P P 03 15 28.8 -0.2
baz=114
E25K Arctic Village 84.03 340 P P 03 15 28.5 -0.6
baz=112
H24K Noodor Dome 84.04 337 P P 03 15 28.5 -0.7
baz=110
EKA Eskdalemuir Ar 84.05 34 P P 03 15 28.9 -0.5
comp=Z,0.9nm,0.6s,baz=243,slow=4.7,SNR=4.6
comp=Z,0.9nm,0.6s
NEA2 Nenana 84.09 336 IAmb IAmb 03 15 30.1
comp=Z,18nm,0.8s
NEA2 Nenana 84.09 336 P P 03 15 29.0 -0.4
baz=109
G24K Hadweenzic Riv 84.19 338 P P 03 15 29.7 -0.2
baz=110
TRF Thorofare Moun 84.24 335 P P 03 15 29.8 -0.6
baz=108
O20K Slope Mountain 84.34 331 P P 03 15 31.0 +0.1
baz=105
SKT Skwentna 84.36 333 IAmb IAmb 03 15 31.6
comp=Z,14nm,0.8s
SKT Skwentna 84.36 333 P P 03 15 30.8 -0.1
baz=106,SNR=9.0
I23K Minto, Yukon-K 84.39 336 IAmb IAmb 03 15 31.9
comp=Z,8.9nm,0.8s
I23K Minto, Yukon-K 84.39 336 P P 03 15 30.4 -0.5
baz=108,SNR=7.7
SPCR Spurr Chakacha 84.45 332 P P 03 15 31.0 -0.4
baz=106
C26K Camden Bay 84.52 341 P P 03 15 31.2 -0.3
baz=113
KTH Kantishna Hill 84.54 335 IAmb IAmb 03 15 32.5
comp=Z,11nm,0.9s
Q19K Cape Douglas, 84.55 330 P P 03 15 31.6 -0.3
baz=104
F24K Squaw Lake 84.63 339 P P 03 15 32.1 0.0
baz=110
BPAW Bear Paw Mtn. 84.73 335 IAmb IAmb 03 15 33.3
comp=Z,17nm,0.8s
BPAW Bear Paw Mtn. 84.73 335 P P 03 15 32.6 -0.1
baz=107,SNR=10
D25K Kavik River 84.76 341 P P 03 15 32.5 -0.3
baz=112
CHIR Chirikof Islan 84.87 327 P P 03 15 33.8 +0.3
baz=102
PPLA Purkeypile 84.91 334 P P 03 15 33.4 -0.4
baz=106,SNR=7.1
CAST Castle Rocks 85.00 334 IAmb IAmb 03 15 34.4
comp=Z,14nm,0.6s
CAST Castle Rocks 85.00 334 P P 03 15 33.5 -0.6
baz=106,SNR=9.2
E24K Your Creek 85.03 339 P P 03 15 34.1 -0.1
baz=110
M20K Styx River 85.06 333 P P 03 15 34.2 -0.2
baz=105
G23K Bananza Creek 85.15 338 P P 03 15 34.6 -0.2
baz=108
O19K Port Alsworth 85.19 331 P P 03 15 34.9 -0.2
baz=104
CHUM Lake Minchumin 85.23 335 P P 03 15 34.4 -0.8
baz=106
COLD Coldfoot 85.38 338 P P 03 15 35.9 +0.1
baz=108
N19K Bonanza Creek 85.42 332 P P 03 15 36.0 -0.4
baz=104
H22K Ishtalitna Cre 85.42 337 P P 03 15 36.2 +0.1
baz=107
E23K Chandalar 85.43 339 P P 03 15 36.3 +0.1
baz=108
P18K Big Mountain, 85.45 330 P P 03 15 36.4 -0.1
baz=103
I21K Tanana 85.46 336 P P 03 15 35.6 -0.7
baz=106
D24K Happy Valley 85.52 340 P P 03 15 35.8 -0.7
baz=109
O18K Koktuh Hills 85.55 331 P P 03 15 36.7 -0.1
baz=103
L20K Farewell, AK 85.55 333 P P 03 15 36.6 -0.3
baz=104
TOLK Toolik Lake Re 85.60 340 P P 03 15 36.8 -0.2
baz=109
C24K Franklin Bluff 85.67 341 IAmb IAmb 03 15 38.7
comp=Z,19nm,0.9s
C24K Franklin Bluff 85.67 341 P P 03 15 37.0 -0.2
baz=110
K20K Telida 85.85 334 P P 03 15 36.9 -1.4
baz=104
L19K White Mountain 85.92 333 P P 03 15 37.5 -1.2
baz=103
H21K Melozitna Rive 85.92 336 P P 03 15 37.2 -1.4
baz=105
P17K Kvichak River 86.02 330 P P 03 15 38.1 -1.0
baz=102
Q16K King Salmon 86.02 329 P P 03 15 37.7 -1.4
baz=102
N18K Kilae Creek 86.06 331 P P 03 15 39.3 -0.1
baz=102
J20K Nowinta River 86.09 335 P P 03 15 39.3 -0.1
baz=104
D23K Nanushuk River 86.09 340 IAmb IAmb 03 15 41.0
comp=Z,13nm,1.1s
D23K Nanushuk River 86.09 340 P P 03 15 39.3 -0.1
baz=108
M18K Stony River 86.21 332 P P 03 15 40.7 +0.7
baz=102
E22K Anaktuvuk Pass 86.24 339 P P 03 15 40.7 +0.6
baz=106
C23K Itkillik River 86.33 341 IAmb IAmb 03 15 41.6
comp=Z,8.7nm,0.7s
C23K Itkillik River 86.33 341 P P 03 15 40.6 +0.1
baz=108
G21K Allakaket 86.42 337 IAmb IAmb 03 15 42.4
comp=Z,12nm,1.1s
G21K Allakaket 86.42 337 P P 03 15 41.3 +0.3
baz=105
O17K Koliganek Bris 86.46 330 P P 03 15 41.5 +0.2
baz=101
CHGN Chignik 86.50 327 P P 03 15 41.3 -0.2
baz=100
F21K Alatna River 86.60 338 P P 03 15 42.7 +0.8
baz=105
TTA Tatalina 86.61 333 P P 03 15 42.1 0.0
baz=102
N17K Nushagak Hills 86.66 331 P P 03 15 42.1 -0.2
baz=101
J19K Poorman 86.67 335 P P 03 15 42.0 -0.3
baz=103
H20K Anotneeega Mo 86.71 336 P P 03 15 42.3 -0.2
baz=104
D22K Ayikyak River 86.76 340 P P 03 15 42.7 +0.1
baz=106
L18K Granite Mounta 86.77 333 P P 03 15 42.7 -0.1
baz=102
P16K Nushagak River 86.77 329 P P 03 15 43.5 +0.7
baz=100
CHNA Chernabura Isl 86.92 325 P P 03 15 44.6 +1.0
baz=99
O16K Kokwok River B 86.92 330 P P 03 15 44.7 +1.1
baz=100
M17K Holitna River 86.95 332 P P 03 15 44.2 +0.5
baz=101
J18K Innoko River 87.03 334 P P 03 15 45.0 +0.9
baz=102
H19K Roundabout Mou 87.36 336 P P 03 15 46.7 +1.2
baz=102
QSPA South Pole Qui 87.37 180 P P 03 15 47.4 +1.5
QSPA IAmb IAmb 03 16 13.1
comp=Z,16nm,1.2s
QSPA South Pole Qui 87.37 180 P P 03 15 47.0 +1.1
comp=Z,4.4nm,0.9s,baz=161,slow=3.1,SNR=12
comp=Z,4.4nm,0.9s
B22K Teshekpuk Lake 87.40 341 P P 03 15 45.9 +0.3
baz=105
F20K Avaraart Lake 87.41 338 P P 03 15 46.2 +0.5
baz=103
L17K Donlin 87.49 332 P P 03 15 47.3 +1.0
baz=100
C21K Knifeblade Rid 87.56 340 P P 03 15 46.9 +0.4
baz=104
K17K Iditarod 87.60 333 P P 03 15 47.2 +0.5
baz=100
M16K Timber Creek 87.60 331 P P 03 15 47.3 +0.5
baz=100
B21K Ikpikpuk River 87.61 340 IAmb IAmb 03 15 48.0
comp=Z,17nm,0.8s
B21K Ikpikpuk River 87.61 340 P P 03 15 47.6 +0.9
baz=104
O15K Ungalikthiuk R 87.73 329 P P 03 15 46.9 -0.6
baz=99
G19K Purcell Mounta 87.74 337 IAmb IAmb 03 15 48.9
comp=Z,13nm,1.2s
G19K Purcell Mounta 87.74 337 P P 03 15 47.2 -0.2
baz=102
E20K Nigu River 87.85 339 P P 03 15 48.1 +0.1
baz=102
L16K Owhat River 87.96 332 P P 03 15 48.3 -0.2
baz=99
N15K Kwethluk River 88.02 330 P P 03 15 49.0 +0.2
baz=99
J17K VABM Dome 88.07 334 P P 03 15 49.9 +0.9
baz=100
E19K Redstone River 88.07 338 P P 03 15 49.3 +0.4
baz=101
H18K Honhosa River 88.07 335 IAmb IAmb 03 15 51.4
comp=Z,12nm,0.9s
H18K Honhosa River 88.07 335 P P 03 15 49.6 +0.6
baz=100
D20K Etivluk River 88.10 339 P P 03 15 48.9 -0.2
baz=102
F19K Shaleruckik Mo 88.15 337 P P 03 15 49.5 +0.2
baz=101
G18K Tagagawik 88.33 336 P P 03 15 50.0 -0.2
baz=100
M15K Kasigluk River 88.39 331 P P 03 15 51.0 +0.4
baz=98
S12K Black Hills 88.44 326 P P 03 15 51.3 +0.4
baz=97
O14K Tigyukauivet M 88.47 329 P P 03 15 51.4 +0.5
baz=98
D19K Kuna River 88.60 339 IAmb IAmb 03 15 53.2
comp=Z,10nm,1.0s
D19K Kuna River 88.60 339 P P 03 15 52.1 +0.7
baz=101
A21K Barrow 88.66 342 P P 03 15 51.7 +0.1
baz=102
H17K Granite Mounta 88.68 335 IAmb IAmb 03 15 53.6
comp=Z,6.8nm,0.8s
H17K Granite Mounta 88.68 335 P P 03 15 52.1 +0.3
baz=99
J16K Anvik River 88.73 333 P P 03 15 52.5 +0.4
baz=98
N14K Kuskokwak Cree 88.77 330 P P 03 15 53.1 +0.8
baz=97
F18K Selawik 88.84 337 P P 03 15 53.1 +0.6
baz=99
I17K Unalakleet 88.86 334 P P 03 15 53.3 +0.7
baz=98
L15K Ungalak Mounta 88.91 332 P P 03 15 53.3 +0.3
baz=97
K15K Wolf Creek Mou 89.01 332 P P 03 15 54.3 +0.9
baz=97
M14K Bethel 89.01 331 P P 03 15 54.8 +1.4
baz=97

G17K Kiwalik Mounta 89.08 336 P **P** **03 15 54.3 +0.6**
baz=98
E18K Tukpahlearik C 89.34 338 P **P** **03 15 55.4 +0.5**
baz=98
L14K Kuka Creek 89.43 331 P **P** **03 15 56.6 +1.2**
baz=96
F17K Baldwin Pennin 89.45 337 P **P** **03 15 55.9 +0.5**
baz=98
H16K Elim 89.63 335 P **P** **03 15 56.5 +0.3**
baz=97
C18K Utukok River 89.74 339 P **P** **03 15 57.1 +0.3**
baz=98
E17K Hotham Inlet 89.77 337 P **P** **03 15 57.0 +0.2**
baz=97
G16K Koyuk River 89.77 335 P **P** **03 15 57.6 +0.7**
baz=97
J14K Nanvaranak Lak 90.00 333 P **P** **03 15 58.6 +0.7**
baz=96
KEST Kesra 90.00 54 LR LR 03 58 33.7
comp=Z,92nm,18.1s,baz=305,slow=37
B18K Kokolik River 90.05 339 P **P** **03 15 58.4 +0.2**
baz=97
RDOG Red Dog Mine 90.30 338 P **P** **03 15 59.3 0.0**
baz=96
D17K Noatak River 90.32 338 P **P** **03 16 00.3 +0.8**
baz=96
G15K Niuluk 90.43 335 P **P** **03 16 00.5 +0.5**
baz=95
K13K Kusilvak Mount 90.43 332 P **P** **03 16 00.9 +0.8**
baz=95
C17K DeLong Mountai 90.44 338 P **P** **03 16 00.6 +0.5**
baz=96
F15K North Star Dit 90.75 336 P **P** **03 16 02.1 +0.6**
baz=94
UNV Unalaska Valle 90.83 324 P **P** **03 16 02.7 +0.6**
baz=93
ANM Nome 90.96 334 P **P** **03 16 02.6 +0.1**
baz=94
M11K Mekoryuk 91.06 330 P **P** **03 16 03.0 -0.1**
baz=93
ELIB Princess Elisa 91.19 162 *d*P **P** **03 16 03.9 +0.2**
C16K Lisburne Hills 91.22 338 P **P** **03 16 04.3 +0.7**
baz=94
F14K Arctic Creek 91.43 335 P **P** **03 16 05.0 +0.3**
baz=93
TNA Tin City 92.10 335 P **P** **03 16 07.6 -0.1**
baz=92
P08K Saint George I 92.68 326 P **P** **03 16 10.5 0.0**
baz=90
SPIA Saint Paul Isl 93.07 327 P **P** **03 16 11.5 -0.8**
baz=90
GAMB Gambell 93.72 334 P **P** **03 16 14.4 -0.8**
baz=88
TIR Tirane 98.24 49 P **P** **03 16 34.4 -1.9**
BVAR Borovoye Array 123.72 22 PKP **PKPdf** **03 21 54.6 -1.6**
comp=Z,0.8nm,0.6s,baz=329,slow=5.0,SNR=3.1
ZALV Zalesovo Beam 127.16 12 PKP **PKPdf** **03 22 02.1 -0.5**
comp=Z,2.3nm,0.5s,baz=284,slow=2.8,SNR=7.4
KURBB Kurchatov Arra 128.53 18 PKP **PKPdf** **03 22 05.3 -0.1**
comp=Z,1.9nm,0.6s,baz=321,slow=2.3,SNR=15
STKA Stephens Creek 128.55 225 PKP **PKPdf** **03 22 05.1 -0.9**
comp=Z,0.8nm,0.7s,baz=304,slow=4.1,SNR=3.6
USRK Ussuriysk Ar. 130.54 331 PKP **PKPdf** **03 22 09.8 +0.3**
comp=Z,1.7nm,0.6s,baz=146,slow=41,SNR=3.8
MJAR Matsushiro Arr 132.11 319 PKP **PKPdf** **03 22 12.2 -0.4**
comp=Z,0.9nm,0.6s,baz=91,slow=1.5,SNR=2.4
MKAR Makanchi Array 133.08 18 PKP **PKPdf** **03 22 13.7 -0.5**
comp=Z,0.6nm,0.6s,baz=314,slow=2.2,SNR=11
SONM Songino Array 134.82 355 PKP **PKPdf** **03 22 17.5 -0.1**
comp=Z,0.9nm,0.7s,baz=348,slow=0.7,SNR=5.4
KSRS Korea Array 137.62 328 PKhKP PKPpre 03 22 16.9
comp=Z,1.3nm,0.8s,baz=31,slow=28,SNR=2.4
KSRS PKP **PKPdf** **03 22 23.1 +0.3**
comp=Z,2.6nm,0.8s,baz=60,slow=1.6,SNR=5.9
ASAR Alice Springs 138.81 229 PKhKP PKPpre 03 22 17.3
comp=Z,1.3nm,0.7s,baz=132,slow=3.6,SNR=6.1
ASAR PKP **PKPdf** **03 22 24.6 -0.9**
comp=Z,1.4nm,0.7s,baz=107,slow=2.1,SNR=9.9
WRA Warramunga Arr 140.49 234 PKhKP PKPpre 03 22 19.5
comp=Z,0.9nm,0.7s,baz=118,slow=2.7,SNR=5.2
WRA PKP **PKPdf** **03 22 28.2 -0.4**
comp=Z,2.1nm,0.8s,baz=119,slow=1.5,SNR=9.0
CMAR Chiang Mai Arr 164.18 8 PKP **PKPdf** **03 23 01.9 -0.9**
comp=Z,0.9nm,0.3s,baz=128,slow=0.9,SNR=7.4
CMAR PKPab **PKPab** **03 23 55.5 -0.9**
comp=Z,1.3nm,0.3s,baz=326,slow=5.1,SNR=4.5

*RSNC **03** 03:20:49.2±0.0,3°N±1°×7°6W±°, h9km±3km, M3.2, ML3.0*
*IDC **03** 03:21:03.2±7.4,5°.26N×77°.01W, h113km±58km, mb3.2/1, mbtmp3.8/2, Error ellipse: s-maj=155.1km s-min=41.8km az=167.0*
ISC 03 03:20:49.8±1.2,**3°04N**±0°.03×**75°91W**±0°.03,**h5**km±9km,**n23**, σ2°22/33,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.58**	**127**	P	**Pg**	**03 21 00.9**	**-0.1**
BETC				S	**Sg**	**03 21 09.4**	**+0.7**
JAMC	**Jamundi, Valle**	**0.79**	**283**	P	**Pg**	**03 21 04.0**	**-0.9**
POPC	**Popayan, Colom**	**0.91**	**237**	P	**Pg**	**03 21 06.0**	**-1.3**
GARC	**Garzon, Huila**	**0.94**	**154**	P	**Pg**	**03 21 07.4**	**-0.4**
GARC				S	**Sn**	**03 21 24.4**	**+0.7**
YOTC	**Yotoco, Valle**	**1.04**	**335**	P	**Pg**	**03 21 07.3**	**-2.4**
YOTC				S	**Sn**	**03 21 30.3**	**+4.3**
ORTC	**Ortega, Tolima**	**1.09**	**37**	P	**Pg**	**03 21 09.8**	**-1.0**
ORTC				P	**Pg**	**03 21 09.8**	**-1.0**
ORTC				P	**Pg**	**03 21 09.8**	**-1.0**
PRAC	**Prado**	**1.22**	**56**	P	**Pb**	**03 21 11.9**	**-1.5**
PRAC				S	**Sn**	**03 21 28.9**	**-1.6**
FLOC	**Florencia**	**1.47**	**170**	P	**Pn**	**03 21 15.8**	**-1.1**
FLOC				S	**Sb**	**03 21 36.5**	**0.0**
URMC	**La Uribe, Meta**	**1.54**	**82**	P	**Pb**	**03 21 17.9**	**-1.0**
URMC				S	**Sn**	**03 21 34.6**	**-3.8**
BBAC	**Balboa, Cauca**	**1.67**	**233**	P	**Pn**	**03 21 19.7**	**-0.2**
MALC	**Bahia Malaga**	**1.72**	**304**	P	**Pb**	**03 21 21.1**	**-0.8**
MALC				S	**Sb**	**03 21 41.7**	**-2.2**
CRUC	**La Cruz**	**1.79**	**216**	P	Pg	03 21 29.7	+5.5
PLMC	**San Jos del P**	**1.90**	**349**	P	**Pn**	**03 21 21.8**	**-1.0**
PLMC				S	**Sg**	**03 21 51.8**	**+1.0**
MACC	**Macarena, Meta**	**2.24**	**113**	P	**Pb**	**03 21 29.6**	**-1.2**
MACC				S	**Sb**	**03 21 58.9**	**+0.1**
GUY2C	**Guyana, Caldas**	**2.24**	**14**	P	Pg	03 21 38.9	+6.1
GUY2C				S	**Sg**	**03 22 05.6**	**+3.7**
GR1C	**Gorgona, Isla**	**2.26**	**269**	P	**Pn**	**03 21 27.9**	**+0.2**
ROSC	**El Rosal**	**2.39**	**41**	P	Pg	03 21 45.9	+10
	180nm,0.4s,baz=282,slow=20,SNR=71						
ROSC				S	Sg	03 22 19.0	+12
	73nm,0.3s,baz=33,slow=22,SNR=6.8						
ROSC	**El Rosal**	**2.39**	**41**	P	**Pg**	**03 21 33.8**	**-1.9**
ROSC				S	**Sg**	**03 22 13.4**	**+6.6**
VILC	**Villavicencio,**	**2.46**	**64**	P	**Pb**	**03 21 33.6**	**-0.9**
CHIC	**Chingaza**	**2.69**	**54**	P	**Pb**	**03 21 36.1**	**-2.5**
TORD	**Torodi Ar. Bea**	**77.25**	**77**	P	**P**	**03 32 49.1**	**+3.4**
	0.2nm,0.5s,baz=288,slow=7.0,SNR=4.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**144.63**	**232**	PKPbc	**PKPdf**	**03 40 27.3**	**-1.2**
	0.9nm,0.5s,baz=119,slow=3.8,SNR=15						
WRA	**Warramunga Arr**	**146.04**	**238**	PKPbc	**PKPdf**	**03 40 30.0**	**-0.9**
	1.1nm,1.1s,baz=113,slow=2.5,SNR=5.8						

*FUNV **03** 03:22:34.7, 10°.78N×62°.08W, h96km, MW3.7*
*TRN **03** 03:22:34.9, 10°.79N×62°.13W, h84km, MD3.5, North of the Paria peninsula.*
ISC 03 03:22:33.2±1.4,**10°75N**±0°.04×**62°12W**±0°.04,
h100km±10km,**n51**,σ1°28/94,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.58**	**97**	*e*P	**Pn**	**03 22 49.8**	**+0.2**
PSMG				*e*S	**Sn**	**03 23 01.0**	**-0.9**
PSMG	**Mucurapo Girls**	**0.58**	**97**	*e*P	**Pn**	**03 22 49.8**	**+0.2**
PSMG				*e*S	**Sn**	**03 23 01.0**	**-0.9**
PSKH	**Kent House, Po**	**0.59**	**96**	*e*P	**Pn**	**03 22 50.8**	**+1.2**
PSKH				*e*S	**Sn**	**03 23 01.2**	**-0.8**
PSKH	**Kent House, Po**	**0.59**	**96**	*e*P	**Pn**	**03 22 50.8**	**+1.2**
PSKH				*e*S	**Sn**	**03 23 01.2**	**-0.8**
PSGH	**Port of Spain**	**0.60**	**98**	*e*P	**Pn**	**03 22 50.9**	**+1.1**
PSGH				*e*S	**Sn**	**03 23 01.3**	**-0.9**
PSGH	**Port of Spain**	**0.60**	**98**	*e*P	**Pn**	**03 22 50.9**	**+1.1**
PSGH				*e*S	**Sn**	**03 23 01.3**	**-0.9**
TRN	**Trinidad (W)**	**0.71**	**98**	*i* P	**Pn**	**03 22 51.8**	**+1.1**
TRN				*e*S	**Sn**	**03 23 03.1**	**-0.7**
TRN	**Trinidad (W)**	**0.71**	**98**	*i* P	**Pn**	**03 22 51.8**	**+1.1**
TRN				*e*S	**Sn**	**03 23 03.1**	**-0.7**
TBH	**Brigand Hill**	**1.06**	**104**	*e*P	**Pn**	**03 22 54.2**	**-0.1**
TBH				*e*S	**Sn**	**03 23 11.4**	**+1.0**
TBH	**Brigand Hill**	**1.06**	**104**	*e*P	**Pn**	**03 22 54.2**	**-0.1**
TBH				*e*S	**Sn**	**03 23 11.4**	**+1.0**
GRFF	**Grenada Fort F**	**1.35**	**16**	*e*P	**Pn**	**03 22 57.7**	**0.0**
GRFF				*e*S	**Sn**	**03 23 14.7**	**-1.4**
GRFF	**Grenada Fort F**	**1.35**	**16**	*e*P	**Pn**	**03 22 57.7**	**0.0**
GRFF				*e*S	**Sn**	**03 23 14.7**	**-1.4**
GRGR	**Grenville**	**1.45**	**18**	*e*P	**Pn**	**03 22 59.4**	**+0.4**
GRGR				*e*S	**Sn**	**03 23 18.1**	**-0.3**
GRGR	**Grenville**	**1.45**	**18**	*e*P	**Pn**	**03 22 59.4**	**+0.4**
GRGR				*e*S	**Sn**	**03 23 18.1**	**-0.3**
GRW	**Mount Saint Ca**	**1.48**	**18**	*e*P	**Pn**	**03 22 59.5**	**+0.2**
GRW				*e*S	**Sn**	**03 23 18.9**	**-0.2**
GRW	**Mount Saint Ca**	**1.48**	**18**	*e*P	**Pn**	**03 22 59.5**	**+0.2**
GRW				*e*S	**Sn**	**03 23 18.9**	**-0.2**
GRHS	**Sauteurs**	**1.54**	**18**	*e*P	**Pn**	**03 23 00.4**	**+0.3**
GRHS				*e*S	**Sn**	**03 23 19.4**	**-0.9**
GRHS	**Sauteurs**	**1.54**	**18**	*e*P	**Pn**	**03 23 00.4**	**+0.3**
GRHS				*e*S	**Sn**	**03 23 19.4**	**-0.9**
GRSS	**Sisters**	**1.62**	**18**	*e*P	**Pn**	**03 23 01.9**	**+0.9**
GRSS				*e*S	**Sn**	**03 23 21.8**	**-0.3**
GRSS	**Sisters**	**1.62**	**18**	*e*P	**Pn**	**03 23 01.9**	**+0.9**
GRSS				*e*S	**Sn**	**03 23 21.8**	**-0.3**
TOSP	**Speyside**	**1.65**	**70**	*e*P	**Pn**	**03 23 02.0**	**+0.7**
TOSP				*e*S	**Sn**	**03 23 21.5**	**-1.1**
TOSP	**Speyside**	**1.65**	**70**	*e*P	**Pn**	**03 23 02.0**	**+0.7**
TOSP				*e*S	**Sn**	**03 23 21.5**	**-1.1**
GCMP	**Grenada, Carri**	**1.86**	**21**	*e*P	**Pn**	**03 23 04.5**	**+0.5**
GCMP				*e*S	**Sn**	**03 23 26.3**	**-1.1**
GCMP	**Grenada, Carri**	**1.86**	**21**	*e*P	**Pn**	**03 23 04.5**	**+0.5**
GCMP				*e*S	**Sn**	**03 23 26.3**	**-1.1**
CUMV	**Cumana_UDO**	**2.07**	**261**	*e*P	**Pn**	**03 23 08.4**	**+1.8**
CUMV				*e*S	**Sn**	**03 23 33.2**	**+1.0**
PCRV	**Puerto La Cruz**	**2.54**	**257**	*e*P	**Pn**	**03 23 13.8**	**+0.9**
PCRV				*e*S	**Sn**	**03 23 41.7**	**-1.7**
PCRV	**Puerto La Cruz**	**2.54**	**257**	*e*P	**Pn**	**03 23 14.3**	**+1.4**
PCRV				*e*S	**Sn**	**03 23 43.1**	**-0.4**
PCRV	**Puerto La Cruz**	**2.54**	**257**	*e*P	**Pn**	**03 23 14.3**	**+1.4**
PCRV				*e*S	**Sn**	**03 23 43.1**	**-0.4**
SVOC	**Richmond Hill,**	**2.55**	**20**	*e*P	**Pn**	**03 23 15.1**	**+2.1**
SVOC				*e*S	**Sn**	**03 23 42.2**	**-1.3**
SVOC	**Richmond Hill,**	**2.55**	**20**	*e*P	**Pn**	**03 23 15.1**	**+2.1**
SVOC				*e*S	**Sn**	**03 23 42.2**	**-1.3**
SVT	**Saint Vincent**	**2.56**	**19**	*e*P	**Pn**	**03 23 13.6**	**+0.5**
SVT				*e*S	**Sn**	**03 23 42.4**	**-1.3**
SVT	**Saint Vincent**	**2.56**	**19**	*e*P	**Pn**	**03 23 13.6**	**+0.5**
SVT				*e*S	**Sn**	**03 23 42.4**	**-1.3**
SVB	**Belmont**	**2.65**	**19**	*e*P	**Pn**	**03 23 15.6**	**+1.3**
SVB				*e*S	**Sn**	**03 23 45.4**	**-0.6**
SVB	**Belmont**	**2.65**	**19**	*e*P	**Pn**	**03 23 15.6**	**+1.3**
SVB				*e*S	**Sn**	**03 23 45.4**	**-0.6**
SVV	**Soufriere Volc**	**2.71**	**19**	*e*P	**Pn**	**03 23 17.3**	**+2.2**
SVV	**Soufriere Volc**	**2.71**	**19**	*e*P	**Pn**	**03 23 17.3**	**+2.2**
SSV	**Crater Summit**	**2.72**	**19**	*e*P	**Pn**	**03 23 17.4**	**+2.0**
SSV				*e*S	**Sn**	**03 23 45.8**	**-1.9**
SSV	**Crater Summit**	**2.72**	**19**	*e*P	**Pn**	**03 23 17.4**	**+2.0**
SSV				*e*S	**Sn**	**03 23 45.8**	**-1.9**
SLAC	**Saint Lucia, A**	**3.35**	**21**	*e*P	**Pn**	**03 23 25.1**	**+1.4**
SLAC				*e*S	**Sn**	**03 24 02.2**	**-0.5**
SLAC	**Saint Lucia, A**	**3.35**	**21**	*e*P	**Pn**	**03 23 25.1**	**+1.4**
SLAC				*e*S	**Sn**	**03 24 02.2**	**-0.5**
SLBI	**Saint Lucia, B**	**3.44**	**19**	*e*P	**Pn**	**03 23 26.4**	**+1.5**
SLBI				*e*S	**Sn**	**03 24 04.8**	**-0.1**
SLBI	**Saint Lucia, B**	**3.44**	**19**	*e*P	**Pn**	**03 23 26.4**	**+1.5**
SLBI				*e*S	**Sn**	**03 24 04.8**	**-0.1**
BIM	**Bigot**	**3.89**	**15**	*e*P	**Pn**	**03 23 32.0**	**+1.0**
BIM				*e*S	**Sn**	**03 24 13.3**	**-2.3**
BIM	**Bigot**	**3.89**	**15**	*e*P	**Pn**	**03 23 32.0**	**+1.0**
BIM				*e*S	**Sn**	**03 24 13.3**	**-2.3**
DSLB	**Salisbury**	**4.71**	**8**	*e*S	**Sn**	**03 24 34.8**	**-0.8**
DSLB	**Salisbury**	**4.71**	**8**	*e*S	**Sn**	**03 24 34.8**	**-0.8**
TACV	**Tcata**	**4.87**	**263**	*e*P	**Pn**	**03 23 43.8**	**-0.4**
LUEV	**Luepa**	**4.91**	**172**	*e*P	**Pn**	**03 23 45.6**	**+0.6**
LUEV				*e*S	**Sn**	**03 24 37.9**	**-2.8**
BAUV	**El Baul**	**6.11**	**253**	*e*S	**Sn**	**03 25 04.8**	**-4.8**
ANBD	**Bethesda, Anti**	**6.28**	**3**	*e*P	**Pn**	**03 24 05.1**	**+1.8**
ANBD	**Bethesda, Anti**	**6.28**	**3**	*e*P	**Pn**	**03 24 05.1**	**+1.8**

*NEIC **03** 03:39:01.4±0.7,59°.90N±0°.04×152°.47W±0°.07, h101km±4km, Error ellipse: s-maj=5.7km s-min=4.7km az=182.0*
AEIC 03 03:39:02.2±0.7,**59°91N**±0°.04×**152°46W**±0°.06,**h99**km±4km, **ML2.5, ML2.7**/130(NEIC),**Error ellipse: s-maj=5.7km s-min=4.2km az=185.0**,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.19**	**334**		Pn	03 39 15.8	-0.6
O20K					Sn	03 39 26.5	-0.4
ILS	**Iliamna Low So**	**0.31**	**279**		Pn	03 39 16.0	-0.9
ILS					Sn	03 39 27.0	-0.8
ILSW	**Iliamna Southw**	**0.35**	**282**		Pn	03 39 16.2	-0.9
ILSW				Sn	Sn	03 39 27.1	-1.1
ILSW				IAML		03 39 28.1	
	comp=E,123nm,0.5s						
OPT	**Oil Point**	**0.47**	**237**		Pn	03 39 17.1	-0.6
P19K	**Oil Pt**	**0.47**	**237**	Pn	Pn	03 39 17.1	-0.6
P19K				Sn	Sn	03 39 28.9	-0.5
P19K				IAML		03 39 29.2	
	comp=N,363nm,0.2s						
P19K				IAML		03 39 30.0	
	comp=E,318nm,0.3s						
HOM	**Homer**	**0.48**	**121**	Pn	Pn	03 39 17.6	-0.2
HOM				Sn	Sn	03 39 29.9	+0.5
RDWB	**Redoubt West**	**0.61**	**342**		Pn	03 39 18.1	-0.9
RDT	**Redoubt**	**0.67**	**2**		Pn	03 39 18.3	-1.0
RDJH	**Redoubt Jeurge**	**0.70**	**346**		Pn	03 39 19.0	-0.7
AU22	**Augustine Moun**	**0.71**	**220**		Pn	03 39 19.0	-0.6
AU22					Sn	03 39 32.1	-0.6
AUL	**Augustine Lava**	**0.73**	**223**		Pn	03 39 19.3	-0.5
CNPM	**China Poot**	**0.73**	**121**		Pn	03 39 19.2	-0.6
CNPM				Sn	Sn	03 39 32.4	-0.7
BRLK	**Bradley Lake**	**0.81**	**100**		Pn	03 39 19.8	-0.8
O19K	**Port Alsworth**	**0.98**	**288**	Pn	Pn	03 39 21.6	-0.7
O19K				IAML		03 39 37.4	
	comp=E,195nm,0.4s						
CAPN	**Captain Cook N**	**1.08**	**37**	Pn	Pn	03 39 24.6	+1.2
Q19K	**Cape Douglas,**	**1.16**	**212**	Pn	Pn	03 39 23.5	-0.9
Q19K				IAML		03 39 36.4	
	comp=N,187nm,1.4s						
SLKM	**Skilak Lake**	**1.27**	**61**		Pn	03 39 24.4	-1.3
SLKM				IAML		03 39 42.6	
	comp=E,136nm,0.2s						
SLKM				IAML		03 39 43.8	
	comp=N,160nm,0.3s						
SPU	**Mount Spurr**	**1.29**	**9**		Pn	03 39 25.3	-0.6
SPU				IAML		03 39 44.0	
	comp=N,89nm,0.3s						
SPU				IAML		03 39 44.6	
	comp=E,104nm,0.5s						
SPCR	**Spurr Chakacha**	**1.30**	**5**		Pn	03 39 25.4	-0.7
SYI	**Shuyak Island**	**1.31**	**178**		Pn	03 39 25.4	-0.6
SYI				IAML		03 39 44.6	
	comp=E,106nm,0.4s						
SYI				IAML		03 39 46.9	
	comp=N,68nm,0.5s						
SYI	**Shuyak Island**	**1.31**	**178**		Sn	03 39 43.2	-0.9
N19K	**Bonanza Creek**	**1.35**	**313**		Pn	03 39 26.0	-0.7
N19K	**Bonanza Creek**	**1.35**	**313**		Sn	03 39 44.4	-0.8
O18K	**Koktuh Hills**	**1.39**	**269**	Pn	Pn	03 39 26.5	-0.6
O22K	**Cooper Landing**	**1.48**	**66**		Pn	03 39 27.4	-0.8
O22K	**Cooper Landing**	**1.48**	**66**		Sn	03 39 45.8	-2.0
O22K	**Cooper Landing**	**1.48**	**66**	IAML		03 39 53.1	
	comp=N,194nm,0.6s						
O22K				IAML		03 39 59.0	
	comp=E,150nm,0.6s						
P18K	**Big Mountain,**	**1.50**	**251**	Pn	Pn	03 39 27.5	-0.9
SEW	**Seward**	**1.52**	**81**		Pn	03 39 27.5	-1.1
STLK	**Strandline Lak**	**1.62**	**11**		Pn	03 39 29.6	-0.4
STLK				IAML		03 39 52.8	
	comp=E,42nm,0.4s						
STLK	**Strandline Lak**	**1.62**	**11**		Sn	03 39 50.1	-1.0
SUA	**Susitna One**	**1.77**	**28**		Pn	03 39 31.6	-0.3
SUA				IAML		03 39 55.8	
	comp=N,98nm,0.7s						
RC01	**Rabbit Creek A**	**1.79**	**48**		Pn	03 39 31.5	-0.6
RC01	**Rabbit Creek A**	**1.79**	**48**		Sn	03 39 53.2	-1.6
RC01	**Rabbit Creek A**	**1.79**	**48**	IAML		03 39 54.4	
	comp=N,107nm,0.3s						
RC01				IAML		03 39 54.8	
	comp=E,115nm,0.2s						
N18K	**Kilae Creek**	**1.87**	**296**		Pn	03 39 32.3	-0.8
M20K	**Styx River**	**2.00**	**351**		Pn	03 39 34.5	-0.3
SKT	**Skwentna**	**2.12**	**12**		Pn	03 39 35.6	-0.8
SKT				IAML		03 40 04.4	
	comp=N,30nm,0.4s						
SKT				IAML		03 40 06.4	
	comp=E,27nm,0.3s						
KDAK	**Kodiak Island**	**2.14**	**182**		Pn	03 39 34.6	-1.9
P17K	**Kvichak River**	**2.15**	**252**		Pn	03 39 36.4	-0.3
M22K	**Willow**	**2.17**	**31**		Sn	03 40 02.8	-0.7
M22K	**Willow**	**2.17**	**31**	IAML		03 40 08.0	
	comp=E,141nm,0.5s						
M22K				IAML		03 40 08.2	
	comp=N,150nm,0.5s						
PWL	**Port Wells**	**2.26**	**63**		Pn	03 39 36.4	-1.7
PWL				IAML		03 40 06.4	
	comp=E,74nm,0.6s						
M18K	**Stony River**	**2.29**	**315**		Pn	03 39 37.5	-1.0
ANCK	**Angle Creek**	**2.33**	**224**		Pn	03 39 38.6	-0.5
PMR	**Palmer**	**2.35**	**43**		Pn	03 39 38.4	-0.8
PMR					Sn	03 40 04.5	-3.1
PMR	**Palmer**	**2.35**	**43**	IAML		03 40 05.6	
	comp=N,34nm,0.6s						
PMR				IAML		03 40 06.3	
	comp=E,33nm,0.4s						
CNTC	**Contact Creek**	**2.42**	**228**		Pn	03 39 40.0	-0.3
N17K	**Nushagak Hills**	**2.44**	**287**		Pn	03 39 39.8	-0.6
KNK	**Knik Glacier**	**2.48**	**51**		Pn	03 39 39.5	-1.5
KNK				IAML		03 40 08.8	
	comp=E,65nm,0.7s						
GHO	**Glory Hole Cre**	**2.55**	**41**	IAML		03 40 10.5	
	comp=E,52nm,0.3s						
GHO				IAML		03 40 10.9	
	comp=N,41nm,0.4s						
P23K	**Montague Islan**	**2.55**	**86**		Pn	03 39 41.0	-0.8
L19K	**White Mountain**	**2.56**	**334**		Pn	03 39 41.4	-0.6
R18K	**Karluk**	**2.57**	**205**		Pn	03 39 41.0	-1.2
R18K	**Karluk**	**2.57**	**205**	IAML		03 40 13.4	
	comp=N,60nm,1.1s						
R18K				IAML		03 40 13.7	
	comp=E,58nm,0.4s						
L20K	**Farewell, AK**	**2.67**	**346**		Pn	03 39 42.9	-0.6
CUT	**Chulitna**	**2.72**	**22**		Pn	03 39 43.5	-0.6
CUT	**Chulitna**	**2.72**	**22**	IAML		03 40 20.6	
	comp=N,45nm,0.4s						
CUT				IAML		03 40 21.1	
	comp=E,46nm,1.0s						
OHAK	**Old Harbor**	**2.73**	**189**		Pn	03 39 42.1	-2.3
OHAK	**Old Harbor**	**2.73**	**189**	IAML		03 40 17.9	
	comp=E,16nm,1.5s						
OHAK				IAML		03 40 32.7	
	comp=N,15nm,1.4s						
SML	**Sawmill**	**2.77**	**45**	IAML		03 40 15.6	
	comp=E,31nm,0.6s						
SML				IAML		03 40 17.4	
	comp=N,29nm,0.7s						
GLI	**Glacier Island**	**2.83**	**68**		Pn	03 39 44.0	-1.6
GLI	**Glacier Island**	**2.83**	**68**	IAML		03 40 17.0	
	comp=N,22nm,0.6s						
GLI				IAML		03 40 19.4	
	comp=E,29nm,1.0s						
M17K	**Holitna River**	**2.87**	**304**		Pn	03 39 45.4	-0.7
M17K	**Holitna River**	**2.87**	**304**	IAML		03 40 20.2	
	comp=E,18nm,0.9s						
M17K				IAML		03 40 20.3	
	comp=N,16nm,0.9s						
M23K	**Glacier View**	**2.99**	**49**		Pn	03 39 46.4	-1.3
HIN	**Hinchinbrook I**	**3.02**	**78**		Pn	03 39 46.3	-1.9
HIN	**Hinchinbrook I**	**3.02**	**78**	IAML		03 40 23.8	
	comp=N,34nm,1.2s						
HIN				IAML		03 40 56.1	
	comp=E,33nm,1.1s						
FID	**Port Fidalgo**	**3.09**	**72**	IAML		03 40 22.2	
	comp=N,29nm,1.2s						
FID				IAML		03 40 23.9	
	comp=E,29nm,0.3s						
L18K	**Granite Mounta**	**3.10**	**320**		Pn	03 39 48.4	-0.7
SCM	**Sheep Creek Mo**	**3.17**	**50**	IAML		03 40 27.5	
	comp=E,28nm,0.8s						
SCM				IAML		03 40 28.4	
	comp=N,34nm,1.3s						
EYAK	**Cordova Ski Ar**	**3.41**	**76**		Pn	03 39 52.1	-1.2
SII	**Sitkinak Islan**	**3.48**	**196**		Pn	03 39 52.5	-1.9
CAST	**Castle Rocks**	**3.52**	**3**	Pn	Pn	03 39 54.0	-0.9
KLU	**Klutina**	**3.58**	**61**	IAML		03 40 35.8	
	comp=E,22nm,0.6s						
L17K	**Donlin**	**3.61**	**311**		Pn	03 39 54.9	-1.1
TRF	**Thorofare Moun**	**3.70**	**15**		Pn	03 39 56.7	-0.7
TRF	**Thorofare Moun**	**3.70**	**15**	IAML		03 40 40.2	
	comp=N,11nm,1.5s						
TRF				IAML		03 40 41.9	
	comp=E,7.7nm,1.0s						
KTH	**Kantishna Hill**	**3.73**	**11**		Pn	03 39 57.7	0.0
KTH				IAML		03 40 47.1	
	comp=N,7.4nm,1.0s						
KTH				IAML		03 41 03.2	
	comp=E,6.8nm,0.7s						
M24K	**Tolsona, Glenn**	**3.77**	**52**		Pn	03 39 57.6	-0.7
M24K	**Tolsona, Glenn**	**3.77**	**52**	IAML		03 40 49.5	
	comp=N,19nm,1.1s						
RND	**Reindeer**	**3.91**	**25**	Pn	Pn	03 39 59.3	-0.8
RND				IAML		03 40 45.1	
	comp=N,8.2nm,0.7s						
RND				IAML		03 40 47.3	
	comp=E,7.1nm,0.4s						
GOAT	**Goat Mountain**	**3.91**	**77**		Pn	03 39 59.

mbtmp4.2/13, MS3.5/2, Error ellipse: s-maj=44.9km s-min=14.3km az=70.0
NEIC ***03*** *03:42:56.0±1.3, 7°.5S±0°.1×127°.77E±0°.10, h141km±8km, mb4.3/17, Error ellipse: s-maj=17.0km s-min=11.2km az=140.0*
ISC 03 03:42:56.1±0.5, **7°.75S**±0°.06×**127°.82E**±0°.06, **h150**km, **n61**, σ2§**26**/63, **mb4.0**/15, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.04**	**240**		**Pn**	**03 43 57.6**	**+0.5**
SOEI	**Soe**	**4.04**	**240**	P	**Pn**	**03 43 57.8**	**+0.8**
SOEI	**Soe**	**4.04**	**240**	S	**Sn**	**03 44 44.9**	**+0.6**
DRS	**Darwin Rock St**	**5.55**	**147**	P	**Pn**	**03 44 16.7**	**-0.1**
DRS	**Darwin Rock St**	**5.55**	**147**	S	**Sn**	**03 45 18.6**	**-1.3**
MTN	**Manton Dam**	**6.02**	**148**		**Pn**	**03 44 22.8**	**-0.3**
MTN	**Manton Dam**	**6.02**	**148**	P	**Pn**	**03 44 23.3**	**+0.2**
MTN	**Manton Dam**	**6.02**	**148**	S	**Sn**	**03 45 29.3**	**-1.8**
KDU	**Kakadu**	**6.71**	**137**	P	**Pn**	**03 44 31.2**	**-1.1**
KNRA	**Kununurra**	**7.93**	**173**		**Pn**	**03 44 47.7**	**-0.9**
PLAI	**Plampang**	**10.00**	**263**	P	**Pn**	**03 45 16.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.50**	**191**		**Pn**	**03 45 20.7**	**-2.1**
FITZ	**Fitzroy Crossi**	**10.50**	**191**	P	**Pn**	**03 45 19.7**	**-3.1**
	10nm,0.4s,baz=26,slow=10,SNR=38						
FITZ				S	**Sn**	**03 47 13.3**	**-5.8**
	29nm,0.7s,baz=84,slow=16,SNR=9.3						
WB0	**Warramunga Arr**	**13.54**	**153**		**Pn**	**03 46 00.1**	**-2.2**
WRA	**Warramunga Arr**	**13.67**	**153**	P	**Pn**	**03 46 01.3**	**-2.6**
	14nm,0.9s,baz=320,slow=14,SNR=43						
WRA				S	**Sn**	**03 48 26.7**	**-8.7**
	12nm,0.9s,baz=331,slow=24,SNR=7.6						
WB2	**Warramunga Arr**	**13.67**	**153**		**Pn**	**03 46 01.9**	**-2.1**
PSA00	**Pilbara Seismi**	**15.75**	**208**	P	**P**	**03 46 30.7**	**0.0**
PSA00				IAmb	IAmb	03 46 30.8	
	comp=Z,19nm,0.9s						
PSA00	**Pilbara Seismi**	**15.75**	**208**	P	**P**	**03 46 31.1**	**+0.4**
	comp=Z,27nm,2.4s						
COEN	**Coen**	**16.28**	**114**	P	**P**	**03 46 37.6**	**+1.0**
AS31	**Alice Springs**	**16.86**	**160**	P	**Pn**	**03 46 45.2**	**+1.7**
ASAR	**Alice Springs**	**16.87**	**160**		**Pn**	**03 46 44.4**	**+0.9**
ASAR	**Alice Springs**	**16.87**	**160**	P	**Pn**	**03 46 43.4**	**-0.1**
	comp=Z,4.5nm,0.5s,baz=334,slow=9.8,SNR=51						
ASAR				S	**S**	**03 49 45.7**	**-5.4**
	comp=Z,1.1nm,0.5s,baz=322,slow=17,SNR=5.1						
AS01	**Alice Springs**	**16.88**	**160**	P	**Pn**	**03 46 44.8**	**+1.1**
	comp=Z,1.1nm,0.8s						
QIS	**Mount Isa**	**17.09**	**139**	P	**Pn**	**03 46 48.7**	**+2.5**
WRKA	**Warakurna**	**17.20**	**179**	P	**Pn**	**03 46 48.9**	**+1.5**
GIRL	**Giralia**	**19.75**	**220**	P	**Pn**	**03 47 17.4**	**-0.1**
MEEK	**Meekatharra**	**20.72**	**204**	P	**P**	**03 47 27.3**	**+2.4**
OOD	**Oodnadatta**	**21.28**	**160**	P	**P**	**03 47 33.6**	**+2.8**
FORT	**Forrest**	**22.91**	**179**	P	**P**	**03 47 49.7**	**+2.6**
FORT				IAmb	IAmb	03 48 02.4	
	comp=Z,25nm,1.0s						
FORT	**Forrest**	**22.91**	**179**	P	**P**	**03 47 50.4**	**+3.3**
KRVT	**Keravat (AS076**	**24.31**	**83**	LR	LR	03 59 14.0	
	comp=Z,100nm,21.5s,baz=197,slow=40						
BBOO	**Buckleboo**	**26.08**	**164**	P	**P**	**03 48 18.8**	**+2.9**
BBOO				IAmb	IAmb	03 49 01.6	
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**26.91**	**200**	P	**P**	**03 48 25.4**	**+2.1**
STKA	**Stephens Creek**	**27.22**	**154**	P	**P**	**03 48 28.1**	**+2.0**
STKA				IAmb	IAmb	03 48 28.8	
	comp=Z,2.4nm,0.7s						
STKA	**Stephens Creek**	**27.22**	**154**	P	**P**	**03 48 28.0**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=318,slow=12,SNR=6.0						
	comp=Z,2.0nm,0.5s						
CAN	**Canberra**	**33.62**	**148**	P	**P**	**03 49 26.0**	**+3.6**
CMAR	**Chiang Mai Arr**	**38.60**	**313**	P	**P**	**03 50 02.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=144,slow=6.4,SNR=4.7						
	comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**44.97**	**0**	P	**P**	**03 50 54.3**	**-2.0**
	comp=Z,1.0nm,0.8s,baz=180,slow=10,SNR=1.7						
	comp=Z,1.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.85**	**4**	P	**P**	**03 51 47.2**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=187,slow=10,SNR=1.7						
	comp=Z,0.8nm,0.5s						
TUWZ	**Tuamarina**	**52.78**	**137**	P	**P**	**03 51 58.0**	**+2.1**
SONM	**Songino Array**	**58.50**	**343**	P	**P**	**03 52 36.5**	**-0.2**
SONM	**Songino Array**	**58.50**	**343**	P	**P**	**03 52 35.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=171,slow=7.5,SNR=5.9						
	comp=Z,0.4nm,0.5s						
MK31	**Makanchi Array**	**67.69**	**328**	P	**P**	**03 53 36.1**	**-1.0**
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**03 53 36.1**	**-1.1**
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**03 53 36.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=123,slow=8.1,SNR=22						
MKAR				LR	LR	04 24 25.7	
	comp=Z,45nm,21.8s,baz=304,slow=37						
	comp=Z,0.6nm,0.4s						
BOOM	**Boomskoye usch**	**68.76**	**321**	P	**P**	**03 53 43.2**	**-1.0**
GAR	**Garm**	**70.68**	**316**	P	**P**	**03 53 54.3**	**-1.6**
GAR				IAmb	IAmb	03 54 27.8	
	comp=Z,5.9nm,1.3s						
ZALV	**Zalesovo Beam**	**71.32**	**335**	P	**P**	**03 53 56.9**	**-2.3**
ZALV	**Zalesovo Beam**	**71.32**	**335**	P	**P**	**03 53 57.2**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=136,slow=5.3,SNR=7.0						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**72.04**	**329**	P	**P**	**03 54 02.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=134,slow=5.1,SNR=21						
	comp=Z,1.1nm,0.4s						
KURK	**Kurchatov**	**72.05**	**330**	P	**P**	**03 54 03.0**	**-0.7**
KURK				IAmb	IAmb	03 54 04.8	
	comp=Z,2.9nm,0.8s						
BVAR	**Borovoye Array**	**77.56**	**329**	P	**P**	**03 54 34.3**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=132,slow=9.8,SNR=4.9						
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**81.76**	**322**	P	**P**	**03 54 57.7**	**-0.4**
ABKAR	**Akbulak array**	**81.76**	**322**	P	**P**	**03 54 57.6**	**-0.5**
ABKAR				IAmb	IAmb	03 55 19.3	
	comp=Z,3.2nm,1.5s						
QSPA	**South Pole Qui**	**82.23**	**180**	P	**P**	**03 55 02.0**	**+1.6**
QSPA				IAmb	IAmb	03 55 02.7	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**82.23**	**180**	P	**P**	**03 55 02.0**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=9.0,slow=0.7,SNR=15						
	comp=Z,2.4nm,0.7s						
BELA	**Belgrano 2**	**93.94**	**184**	P	**P**	**03 55 57.9**	**+1.5**
BELA				IAmb	IAmb	03 56 00.2	
	comp=Z,4.4nm,1.2s						
BMAR	**Burnt Mountain**	**96.17**	**23**	P	**P**	**03 56 06.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**126.83**	**281**	PKP	**PKiKP**	**04 01 42.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=71,slow=2.0,SNR=5.2						
CPUP	**Villa Florida**	**145.75**	**172**	PKPbc	**PKPab**	**04 02 19.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=185,slow=0.4,SNR=7.6						
LPAZ	**La Paz**	**151.37**	**147**	PKPab	**PKPab**	**04 02 45.1**	**+2.8**
	comp=Z,3.1nm,0.6s,baz=217,slow=1.4,SNR=8.4						

SSNC ***03*** *04:14:46.3±0.9, 18°.30N×76°.56W, h12km±21km, MD2.9, ML2.6*
JSN ***03*** *04:14:46.5±0.9, 18°.28N×76°.61W, h0km±8km, MD2.6*
ISC 03 04:14:44.5±1.8, **18°.38N**±0°.09×**76°.56W**±0°.08, **h11**km±18km, **n8**, σ0§**87**/13, **1C-1D**, **Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.38**	**219**	*e*P	**Pg**	**04 14 52.1**	**+0.1**
STH				*e*S	**Sg**	**04 14 56.7**	**-0.5**
STH				IAML		04 14 57.3	
	comp=N,32μm,0.1s						
STH				IAML		04 14 57.6	
	comp=E,20μm,0.1s						
STH	**Stony Hill**	**0.38**	**219**	⇑*i*P	**Pg**	**04 14 52.2**	**+0.1**
HOJ	**Hope**	**0.41**	**206**	⇓*i*P	**Pb**	**04 14 53.4**	**-0.4**
MTDJ	**Mount Denham**	**0.94**	**261**	*e*P	**Pg**	**04 15 02.6**	**0.0**
MTDJ				*e*S	**Sb**	**04 15 16.2**	**+0.9**
LMGC	**Las Mercedes**	**1.73**	**346**	*e*P	**Pn**	**04 15 15.0**	**+0.5**
LMGC				*e*S	**Sn**	**04 15 35.6**	**-1.0**
LMGC				IAML		04 15 37.9	
	comp=E,16nm,0.1s						
LMGC				IAML		04 15 38.6	
	comp=N,17nm,0.1s						
RCC	**Rio Carpintero**	**1.81**	**27**	*e*P	**Pn**	**04 15 16.9**	**+1.3**
RCC				*e*S	**Sn**	**04 15 38.0**	**-0.4**
PINC	**Pinares de May**	**2.22**	**19**	*e*P	**Pn**	**04 15 21.9**	**+0.7**
PINC				*e*S	**Sn**	**04 15 47.3**	**-1.4**
PINC				IAML		04 15 51.0	
	comp=E,3.7nm,0.1s						
PINC				IAML		04 15 51.0	
	comp=N,3.8nm,0.1s						
QMBU	**Quimbuelo**	**2.45**	**42**	*e*P	**Pn**	**04 15 24.8**	**+0.4**

TIF ***03*** *04:30:57.7, 39°.90N×46°.23E, h36km±1km*
NSSP ***03*** *04:30:58.3, 40°.15N×46°.08E, h5km, Ms2.9*
AZER ***03*** *04:30:58.2, 40°.14N×46°.02E, h10km, ml3.3*
MOS ***03*** *04:31:01.0±0.8, 40°.10N×46°.12E, h12km, mb3.9/1, Error ellipse: s-maj=8.3km s-min=4.0km az=90.6*
TEH ***03*** *04:31:01.1, 40°.00N×46°.06E, h10km±104km*
AFAD ***03*** *04:31:03.0, 40°.10N×45°.72E, h5km±14km, ML2.6*
ISK ***03*** *04:31:04.3, 40°.24N×45°.68E, h5km, ML2.6/7*
DRS ***03*** *04:31:04.4, 40°.10N×46°.27E, h0km*
ISC 03 04:30:59.7±1.0, **40°.14N**±0°.01×**46°.07E**±0°.01, **h7**km±8km, **n132**, σ1§**22**/220, **10C-4D**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYRK	**Ayrk**	**0.22**	**263**	⇑*i*P	**Pg**	**04 31 04.7**	**+0.5**
AYRK				⇑*i*S	**Sg**	**04 31 08.4**	**+1.2**
GANJ	**Ganja**	**0.54**	**21**	P	**Pg**	**04 31 09.9**	**-0.2**
GANJ				S	**Sg**	**04 31 17.4**	**+0.3**
GANJ	**Ganja**	**0.54**	**21**	PG	**Pg**	**04 31 09.8**	**-0.2**
GDB	**GEDABAY**	**0.63**	**337**	P	**Pg**	**04 31 11.5**	**-0.3**
GDB				S	**Sg**	**04 31 20.9**	**+0.9**
VAYK	**Vayk**	**0.67**	**228**	*i* P	**Pg**	**04 31 12.4**	**-0.2**
VAYK				*i* S	**Sg**	**04 31 21.6**	**+0.3**
AGDM	**Agdam**	**0.79**	**92**	P	**Pg**	**04 31 15.0**	**+0.1**
AGDM				S	**Sb**	**04 31 27.6**	**+0.8**
SBZ	**Shahbuz**	**0.85**	**208**	P	**Pg**	**04 31 16.1**	**+0.1**
SBZ				S	**Sb**	**04 31 28.1**	**-0.2**
BRDA	**Brd**	**0.85**	**82**	P	**Pb**	**04 31 16.9**	**+0.1**
BRDA				S	**Sn**	**04 31 30.7**	**-0.1**
MNGR	**Mingechevir, A**	**1.00**	**50**	P	**Pn**	**04 31 20.1**	**0.0**
MNGR				S	**Sn**	**04 31 35.3**	**+1.0**
MNGR	**Mingechevir, A**	**1.00**	**50**	PG	**Pn**	**04 31 20.0**	**0.0**
GNI	**Garni**	**1.02**	**271**	Pg	**Pg**	**04 31 19.5**	**+0.2**
GNI				Sg	**Sg**	**04 31 30.6**	**-2.0**
GNI	**Garni**	**1.02**	**271**	⇑*i*P	**Pg**	**04 31 19.3**	**-0.1**
GNI				⇑S	**Sn**	**04 31 34.6**	**-0.6**
GNI	**Garni**	**1.02**	**271**	*i* PG	**Pg**	**04 31 19.2**	**-0.1**
HYR	**Heyderabad**	**1.03**	**246**	P	**Pg**	**04 31 19.5**	**+0.1**
HYR				S	**Sn**	**04 31 34.2**	**-1.1**
QZX	**Qazax, Azerbai**	**1.06**	**330**	P	**Pg**	**04 31 19.4**	**-0.6**
QZX				S	**Sg**	**04 31 34.4**	**+0.7**
NAX	**Nakhchivan**	**1.06**	**205**	P	**Pn**	**04 31 20.8**	**-0.3**
NAX				S	**Sn**	**04 31 36.0**	**-0.1**
NAX	**Nakhchivan**	**1.06**	**205**	PG	**Pn**	**04 31 20.9**	**-0.2**
KAPZ	**Kaputan**	**1.07**	**280**	⇓*i*P	**Pg**	**04 31 20.1**	**-0.1**
KAPZ				⇑*i*S	**Sn**	**04 31 35.5**	**-0.8**
NRKZ	**NAREK**	**1.09**	**263**	⇑*i*P	**Pg**	**04 31 20.6**	**-0.1**
NRKZ				⇓*i*S	**Sn**	**04 31 36.5**	**-0.4**
VSHL	**Vashlovani**	**1.11**	**13**	P	**Pn**	**04 31 22.0**	**+0.3**
VSHL				S	**Sn**	**04 31 39.9**	**+2.6**
QRD	**Qoradiz**	**1.18**	**125**	P	**Pb**	**04 31 21.8**	**-0.5**
QRD				S	**Sn**	**04 31 38.3**	**-0.5**
ORD	**Ordubad**	**1.22**	**183**	P	**Pb**	**04 31 22.0**	**-1.0**
ORD				S	**Sb**	**04 31 38.5**	**-0.4**
BLQ	**Beylaqan**	**1.22**	**110**	P	**Pn**	**04 31 22.2**	**-0.9**
BLQ				S	**Sn**	**04 31 39.3**	**-0.5**
ZRD	**Zardab**	**1.24**	**83**	P	**Pg**	**04 31 24.0**	**+0.5**
ZRD				S	**Sn**	**04 31 43.5**	**+3.2**
MAKU	**Maku**	**1.33**	**234**	Pg	**Pn**	**04 31 24.2**	**-0.6**
SEKA	**Sheki**	**1.37**	**38**	Pg	**Pn**	**04 31 24.9**	**-0.3**
SEKA				Sg	**Sb**	**04 31 43.5**	**+0.2**
SEKA	**Sheki**	**1.37**	**38**	PG	**Pn**	**04 31 24.6**	**-0.6**
AMBZ	**Amberd**	**1.41**	**281**	⇑*i*P	**Pn**	**04 31 26.1**	**+0.1**
AMBZ				⇑*i*S	**Sg**	**04 31 45.7**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.42**	**264**	Pn	**Pb**	**04 31 26.5**	**0.0**
TASB				Sn	**Sn**	**04 31 44.1**	**-0.7**
IMRD	**Marand**	**1.46**	**191**	Pg	**Pn**	**04 31 26.6**	**0.0**
ARUZ	**Aruch**	**1.52**	**276**	⇑*i*P	**Pb**	**04 31 28.6**	**+0.3**
ARUZ				⇓*i*S	**Sg**	**04 31 50.0**	**+1.3**
METS	**Metsamor**	**1.53**	**271**	*e*P	**Pn**	**04 31 27.8**	**+0.4**
METS				*e*S	**Sg**	**04 31 48.6**	**-0.2**
ZKTA	**Zakatala**	**1.55**	**15**	Pn	**Pn**	**04 31 28.2**	**+0.5**
ZKTA				Sn	**Sg**	**04 31 49.8**	**+0.3**
IGDI	**IGDIR**	**1.56**	**260**	P	**Pn**	**04 31 27.8**	**0.0**
IGDI				S	**Sb**	**04 31 48.4**	**-0.4**
IGDI				*i* AML	AML	04 31 52.0	
	comp=E,90nm,0.4s						
IGDI				*i* AML	AML	04 31 56.0	
	comp=N,70nm,0.6s						
QBL	**Gabala**	**1.56**	**59**	Pn	**Pb**	**04 31 28.9**	**-0.1**
QBL				Sn	**Sg**	**04 31 50.8**	**+0.8**
SRTK	**Saratovka**	**1.62**	**305**	⇓*i*P	**Pb**	**04 31 29.6**	**-0.4**
SRTK				⇑*i*S	**Sb**	**04 31 51.3**	**+0.6**
KDMR	**Kurdemir**	**1.63**	**81**	Pn	**Pb**	**04 31 30.1**	**0.0**
KDMR				Sn	**Sg**	**04 31 53.7**	**+1.6**
LGD	**Lagodekhi**	**1.69**	**4**	P	**Pn**	**04 31 30.4**	**+0.7**
LGD				S	**Sg**	**04 31 54.8**	**+0.6**
LGD	**Lagodekhi**	**1.69**	**4**	PN	**Pn**	**04 31 30.4**	**+0.7**
LGD				S	**Sg**	**04 31 54.8**	**+0.6**
VNNZ	**Vanand**	**1.73**	**269**	*e*P	**Pb**	**04 31 31.7**	**-0.1**
VNNZ				*e*S	**Sg**	**04 31 55.5**	**+0.3**
KZRT	**Kazreti**	**1.78**	**315**	P	**Pn**	**04 31 31.2**	**+0.4**
KZRT				S	**Sn**	**04 31 54.5**	**+0.8**
KZRT	**Kazreti**	**1.78**	**315**	PN	**Pn**	**04 31 31.2**	**+0.4**
BTNK	**Botanikuri**	**1.82**	**328**	PN	**Pn**	**04 31 32.5**	**+1.1**
SAAT	**Saatly**	**1.83**	**98**	Pn	**Pn**	**04 31 30.7**	**-0.7**
SAAT				Sn	**Sb**	**04 31 55.9**	**-0.6**
AKT	**Akhty**	**1.83**	**43**	*e*Pg	**Pb**	**04 31 32.9**	**-0.7**
	65nm,0.5s						
AKT				*e*Sg	**Sb**	**04 31 56.5**	**-0.3**
	599nm,0.4s						
AKT	**Akhty**	**1.83**	**43**	*e*PN	**Pb**	**04 31 32.9**	**-0.7**
AKT				pmax	pmax		
	comp=Z,65nm,0.5s						
XNQ	**Khinaliq**	**1.88**	**56**	Pn	**Pn**	**04 31 32.9**	**+0.5**
XNQ				Sn	**Sb**	**04 31 58.8**	**+0.6**
TBLG	**Delisi**	**1.88**	**328**	P	**Pn**	**04 31 33.3**	**+1.0**
TBLG				S	**Sb**	**04 31 58.9**	**+0.8**
TBLG	**Delisi**	**1.88**	**328**	PN	**Pn**	**04 31 33.3**	**+1.0**
ISHB	**Shabestar**	**1.89**	**191**	Pg	**Pn**	**04 31 33.2**	**+0.6**
ITBZ	**Tabriz**	**1.91**	**178**	Pg	**Pn**	**04 31 33.3**	**+0.6**
DYDN	**Diyadin**	**1.93**	**253**	P	**Pg**	**04 31 36.2**	**-0.5**
GRMI	**Germi**	**1.94**	**133**	Pn	**Pb**	**04 31 34.4**	**-1.0**
EAK	**Akyaka**	**1.96**	**287**	P	**Pb**	**04 31 36.0**	**+0.2**
EAK				S	**Sg**	**04 32 02.3**	**-0.4**
EAK				*i* AML	AML	04 32 11.0	
	comp=Z,133nm,0.6s						
EAK				*i* AML	AML	04 32 16.0	
	comp=Z,96nm,1.2s						
IHRS	**Heris**	**1.97**	**157**	Pn	**Pn**	**04 31 34.2**	**+0.6**
GLBA	**Ciilabad**	**2.00**	**116**	Pn	**Pn**	**04 31 35.0**	**+1.2**
GLBA				Sn	**Sb**	**04 32 02.4**	**+0.9**
PQL	**Pirkuli**	**2.03**	**71**	Pn	**Pn**	**04 31 35.5**	**+1.1**
PQL				Sn	**Sb**	**04 32 03.9**	**+1.5**
TRLG	**Trialeti**	**2.04**	**314**	P	**Pn**	**04 31 36.0**	**+1.3**
TRLG				S	**Sb**	**04 32 03.4**	**+0.5**
TRLG	**Trialeti**	**2.04**	**314**	PN	**Pn**	**04 31 36.0**	**+1.3**
TRLG				S	**Sb**	**04 32 03.4**	**+0.5**
YRD	**Yardimli**	**2.08**	**125**	Pn	**Pb**	**04 31 36.4**	**-1.3**
YRD				Sn	**Sb**	**04 32 04.1**	**+0.3**
DIGO	**Kars**	**2.08**	**278**	P	**Pn**	**04 31 36.4**	**+1.1**
KMKR	**Kumukh**	**2.13**	**21**	*e*Pg	**Pb**	**04 31 38.1**	**-0.6**
	comp=Z,71nm,0.7s						
KMKR				*e*Sg	**Sb**	**04 32 06.1**	**+0.6**
	comp=Z,239nm,0.5s						
KMKR	**Kumukh**	**2.13**	**21**	*e*PN	**Pb**	**04 31 38.1**	**-0.6**
KMKR				*e*S	**Sb**	**04 32 06.0**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,71nm,0.7s						
KSMR	**Kasumkent**	**2.13**	**46**	*e*Pg	**Pb**	**04 31 38.0**	**-0.7**
	comp=Z,65nm,0.2s						
KSMR				*e*Sg	**Sb**	**04 32 05.4**	**0.0**
	comp=Z,559nm,0.4s						
KSMR	**Kasumkent**	**2.13**	**46**	*e*PN	**Pb**	**04 31 38.0**	**-0.7**
KSMR				*e*S	**Sb**	**04 32 05.4**	**0.0**
KSMR				pmax	pmax		
	comp=Z,65nm,0.2s						
QSAR	**Qusar**	**2.15**	**50**	Pg	**Pb**	**04 31 39.4**	**+0.4**
QSAR				Sn	**Sb**	**04 32 04.7**	**-1.3**
OZAP	**Van, Ozalp-Mer**	**2.19**	**228**	P	**Pb**	**04 31 40.5**	**+0.8**
OZAP				S	**Sg**	**04 32 09.0**	**-1.0**
QUBA	**Quba, Azerbaij**	**2.20**	**56**	Pg	**Pb**	**04 31 40.4**	**+0.5**
QUBA				Sn	**Sb**	**04 32 08.3**	**+1.0**
GBS	**Qobustan**	**2.23**	**79**	Pg	**Pn**	**04 31 38.6**	**+1.6**
GBS				Sn	**Sb**	**04 32 08.5**	**+0.4**
KOTA	**Agri, Merkez-K**	**2.23**	**262**	P	**Pb**	**04 31 41.2**	**+0.8**
VMUR	**Van-Muradiye**	**2.25**	**240**	P	**Pb**	**04 31 41.1**	**+0.4**
VMUR				S	**Sg**	**04 32 11.4**	**-0.6**
VMUR				*i* AML	AML	04 32 23.0	
	comp=Z,38nm,0.6s						
ALIB	**&Aumlli-Bayram**	**2.26**	**94**	Pn	**Pb**	**04 31 41.7**	**+1.0**
ATGJ	**Altiaghaj**	**2.30**	**71**	Pg	**Pb**	**04 31 40.2**	**-1.3**
ATGJ				Sg	**Sg**	**04 32 12.2**	**-1.3**
LRK	**Lerik**	**2.31**	**130**	Pg	**Pb**	**04 31 40.5**	**-1.2**
LRK				Sg	**Sb**	**04 32 11.8**	**+1.3**
KARS	**Kars**	**2.34**	**283**	Pn	**Pb**	**04 31 40.8**	**-1.4**
KARS	**Kars**	**2.34**	**283**	PN	**Pb**	**04 31 40.9**	**-1.3**
URKR	**Urkarakh**	**2.34**	**30**	*e*Pn	**Pb**	**04 31 41.4**	**-0.8**
	comp=Z,28nm,0.4s						
URKR				*e*Sn	**Sb**	**04 32 11.1**	**-0.3**
	comp=Z,109nm,0.5s						
URKR	**Urkarakh**	**2.34**	**30**	*e*PN	**Pb**	**04 31 41.4**	**-0.8**
URKR				*e*S	**Sb**	**04 32 11.0**	**-0.3**
URKR				pmax	pmax		
	comp=Z,28nm,0.4s						
GNBR	**Gunib**	**2.34**	**16**	*e*Pn	**Pb**	**04 31 41.5**	**-0.7**
	comp=Z,34nm,0.4s						
GNBR				*e*Sn	**Sb**	**04 32 12.0**	**+0.6**
	comp=Z,124nm,0.5s						
GNBR	**Gunib**	**2.34**	**16**	*e*PN	**Pb**	**04 31 41.5**	**-0.7**
GNBR				*e*S	**Sb**	**04 32 11.9**	**+0.6**
GNBR				pmax	pmax		
	comp=Z,34nm,0.4s						
SIZA	**Siyzn**	**2.34**	**66**	Pg	**Pb**	**04 31 41.3**	**-1.0**
SIZA				Sg	**Sb**	**04 32 13.1**	**+1.6**
CHRG	**Chargali**	**2.35**	**339**	P	**Pb**	**04 31 41.0**	**-1.4**
CHRG				S	**Sb**	**04 32 13.1**	**+1.4**
AGRB	**Hanur-Agry**	**2.44**	**258**	Pn	**Pb**	**04 31 43.0**	**-0.9**
XNZR	**Khunzakh**	**2.44**	**11**	*e*Pn	**Pb**	**04 31 44.2**	**+0.2**
	comp=Z,31nm,0.5s						
XNZR				*e*Sn	**Sb**	**04 32 16.4**	**+2.0**
	comp=Z,35nm,0.5s						
HNZR	**Khunzah**	**2.46**	**11**	*e*PN	**Pb**	**04 31 44.1**	**-0.2**
HNZR				*e*S	**Sb**	**04 32 16.3**	**+1.4**
HNZR				pmax	pmax		
	comp=Z,31nm,0.5s						
BTLR	**Botlikh**	**2.52**	**2**	*e*Pn	**Pb**	**04 31 44.5**	**-0.9**
	comp=Z,33nm,0.4s						
BTLR				*e*Sn	**Sb**	**04 32 17.7**	**+1.1**
	comp=Z,76nm,0.5s						
BTLR	**Botlikh**	**2.52**	**2**	*e*PN	**Pb**	**04 31 44.4**	**-0.9**
BTLR				*e*S	**Sb**	**04 32 17.6**	**+1.1**
BTLR				pmax	pmax		
	comp=Z,33nm,0.4s						
LKRN	**Lenkeran, Azer**	**2.54**	**123**	Pg	**Pb**	**04 31 43.9**	**-1.6**
LKRN				Sn	**Sb**	**04 32 16.6**	**-0.3**
LKRN	**Lenkeran, Azer**	**2.54**	**123**	PN	**Pn**	**04 31 43.2**	**+2.0**
DRN	**Derbent**	**2.54**	**41**	*e*Pn	**Pb**	**04 31 43.7**	**-1.9**
	comp=Z,39nm,0.1s						
DRN				*e*Sn	**Sb**	**04 32 15.6**	**-1.4**
	comp=Z,184nm,0.6s						
DRN	**Derbent**	**2.54**	**41**	*e*PN	**Pb**	**04 31 43.7**	**-1.9**
DRN				*e*S	**Sb**	**04 32 15.6**	**-1.4**
DRN				pmax	pmax		
	comp=Z,39nm,0.1s						
ARKR	**Arakani**	**2.55**	**15**	*e*Pn	**Pb**	**04 31 44.3**	**-1.6**
	comp=Z,19nm,0.4s						
ARKR				*e*Sn	**Sb**	**04 32 17.2**	**-0.3**
	comp=Z,74nm,0.6s						
ARKR	**Arakani**	**2.55**	**15**	*e*PN	**Pb**	**04 31 44.2**	**-1.6**
ARKR				*e*S	**Sb**	**04 32 17.2**	**-0.3**
ARKR				pmax	pmax		
	comp=Z,19nm,0.4s						
VANB	**Van**	**2.59**	**234**	Pn	**Pb**	**04 31 47.4**	**+0.9**
SGKR	**Sergokala**	**2.60**	**27**	*e*Pn	**Pb**	**04 31 44.8**	**-1.9**
	comp=Z,16nm,0.2s						
SGKR				*e*Sn	**Sb**	**04 32 18.0**	**-0.9**
	comp=Z,70nm,0.4s						

s-min=12.3km az=68.0

ISC 03 04:45:17.2±0.5, 9°84N±0°06×126°0E±0°2, h150km, n47, σ1°63/38, mb4.0/22, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.77**	**188**	P	**Pn**	**04 46 01.1**	**-0.7**
	255nm,0.4s,baz=72,slow=13,SNR=3.5						
DAV				S	**Sn**	**04 46 35.2**	**-1.0**
	229nm,0.4s,baz=131,slow=21,SNR=5.9						
DAV				LR	LR	04 47 32.9	
	comp=Z,791nm,18.9s,baz=330,slow=50						
TGY	**Tagaytay City**	**6.49**	**311**	P	**Pn**	**04 46 51.4**	**+0.9**
	128nm,0.4s,baz=108,slow=6.4,SNR=3.8						
TGY				LR	LR	04 49 37.5	
	comp=Z,608nm,21.0s,baz=148,slow=40						
TATO	**Taipei**	**15.64**	**345**	Pn	**Pn**	**04 48 43.7**	**-5.9**
TATO				IAmb	IAmb	04 49 00.7	
	comp=Z,34nm,1.1s						
KAPI	**Kappang**	**16.00**	**203**	LR	LR	04 55 31.6	
	comp=Z,90nm,19.1s,baz=11,slow=39						
MTN	**Manton Dam**	**23.11**	**167**	P	**P**	**04 50 09.8**	**-0.3**
MTN				IAmb	IAmb	04 50 13.0	
	comp=Z,70nm,1.4s						
LEM	**Lembang**	**24.66**	**229**	LR	LR	05 01 48.5	
	comp=Z,131nm,18.6s,baz=11,slow=40						
KNRA	**Kununurra**	**25.50**	**174**	P	**P**	**04 50 32.4**	**+0.6**
KNRA				IAmb	IAmb	04 50 35.4	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.53**	**291**	LR	LR	05 02 18.4	
	comp=Z,39nm,18.2s,baz=90,slow=37						
PSI	**Prapat**	**27.75**	**257**	LR	LR	05 04 34.0	
	comp=Z,99nm,19.5s,baz=70,slow=42						
FITZ	**Fitzroy Crossi**	**27.76**	**181**	P	**P**	**04 50 52.5**	**+0.5**
WRA	**Warramunga Arr**	**30.72**	**164**	P	**P**	**04 51 16.3**	**-2.0**
WRA	**Warramunga Arr**	**30.72**	**164**	P	**P**	**04 51 17.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=334,slow=8.7,SNR=2.5						
WRA				LR	LR	05 05 10.2	
	comp=Z,51nm,18.4s,baz=179,slow=39						
PSA00	**Pilbara Seismi**	**31.79**	**191**	P	**P**	**04 51 28.7**	**+1.2**
PSA00				IAmb	IAmb	04 51 57.5	
	comp=Z,13nm,1.0s						
ASAR	**Alice Springs**	**34.19**	**167**	P	**P**	**04 51 47.6**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=355,slow=7.2,SNR=11						
	comp=Z,0.8nm,0.4s						
BRDH	**Bariadhala**	**35.23**	**295**	LR	LR	05 07 06.8	
	comp=Z,80nm,21.3s,baz=252,slow=37						
CTAO	**Charters Tower**	**35.83**	**146**	P	**P**	**04 52 00.8**	**-1.7**
COCO	**West Island**	**36.28**	**234**	P	P	04 52 13.0	+6.6
FORT	**Forrest**	**40.43**	**177**	P	**P**	**04 52 42.8**	**+1.9**
H11N1	**WAKE ISLAND Hy**	**40.68**	**71**	T	T	05 36 06.9	
	baz=264,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.69**	**71**	T	T	05 36 05.7	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**40.70**	**71**	T	T	05 36 05.8	
	baz=264,slow=74						
SONM	**Songino Array**	**41.32**	**340**	P	**P**	**04 52 49.3**	**+1.1**
SONM	**Songino Array**	**41.32**	**340**	P	**P**	**04 52 47.7**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=159,slow=9.5,SNR=7.0						
	comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**43.49**	**168**	P	**P**	**04 53 07.2**	**+1.5**
BBOO				IAmb	IAmb	04 53 07.7	
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**44.09**	**161**	P	**P**	**04 53 10.5**	**-0.1**
STKA	**Stephens Creek**	**44.09**	**161**	P	**P**	**04 53 09.3**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=340,slow=10,SNR=4.1						
	comp=Z,3.6nm,0.9s						
PALK	**Pallekele**	**44.80**	**270**	LR	LR	05 14 23.8	
	comp=Z,42nm,18.3s,baz=73,slow=39						
PETK	**Petropavlovsk-**	**50.16**	**24**	P	**P**	**04 53 56.9**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=225,slow=6.8,SNR=2.0						
	comp=Z,5.3nm,0.9s						
MK31	**Makanchi Array**	**52.19**	**323**	P	**P**	**04 54 13.2**	**+0.6**
MKAR	**Makanchi Array**	**52.19**	**323**	P	**P**	**04 54 13.0**	**+0.4**
MKAR	**Makanchi Array**	**52.19**	**323**	P	**P**	**04 54 12.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=121,slow=7.8,SNR=20						
	comp=Z,2.1nm,0.7s						
MAKZ	**Makanchi**	**52.38**	**323**	P	**P**	**04 54 15.0**	**+1.0**
MAKZ				IAmb	IAmb	04 54 39.2	
	comp=Z,2.7nm,1.1s						
ZALV	**Zalesovo Beam**	**54.86**	**332**	P	**P**	**04 54 31.8**	**-0.1**
ZALV	**Zalesovo Beam**	**54.86**	**332**	P	**P**	**04 54 31.6**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=108,slow=10,SNR=4.7						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**56.25**	**326**	P	**P**	**04 54 41.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=127,slow=6.6,SNR=7.2						
	comp=Z,1.2nm,0.5s						
TIXI	**Tiksi**	**61.79**	**1**	P	**P**	**04 55 18.2**	**-1.4**
BVAR	**Borovoye Array**	**61.85**	**326**	P	**P**	**04 55 20.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=120,slow=5.2,SNR=3.9						
	comp=Z,0.6nm,0.5s						
BKZ	**Black Stump Fm**	**67.66**	**140**	P	**P**	**04 56 00.2**	**+2.0**
C23K	**Itkillik River**	**78.56**	**21**	P	**P**	**04 57 03.3**	**+1.6**
C23K				IAmb	IAmb	04 57 04.2	
	comp=Z,5.6nm,0.5s						
TOLK	**Toolik Lake Re**	**78.89**	**22**	P	**P**	**04 57 05.7**	**+2.1**
TOLK				IAmb	IAmb	04 57 06.3	
	comp=Z,2.6nm,0.8s						
ILAR	**Eielson Array**	**79.96**	**26**	P	**P**	**04 57 09.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=256,slow=6.8,SNR=4.2						
	comp=Z,0.6nm,0.8s						
BCAR	**Beaver Creek A**	**82.33**	**27**	P	**P**	**04 57 25.2**	**+3.2**
I28M	**Miner Creek**	**82.83**	**25**	P	**P**	**04 57 27.4**	**+2.8**
I28M				IAmb	IAmb	04 57 28.4	
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**85.57**	**309**	P	**P**	**04 57 38.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=103,slow=3.9,SNR=6.9						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**04 57 41.3**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=64,slow=3.2,SNR=5.4						
	comp=Z,1.1nm,0.4s						
A36M	**Sachs Harbour**	**86.41**	**17**	P	**P**	**04 57 44.2**	**+1.9**
A36M				IAmb	IAmb	04 57 45.4	
	comp=Z,6.9nm,0.9s						
YKA	**Yellowknife Ar**	**94.27**	**24**	P	**P**	**04 58 19.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=297,slow=4.6,SNR=6.3						
	comp=Z,0.8nm,0.7s						

*IDC **03** 04:45:51.0±0.5, 52°09N×174°14E, h0km, mb4.7/36, mbtmp4.7/39, ML5.1/2, MS3.9/78, Error ellipse: s-maj=12.5km s-min=10.0km az=158.0*

*BJI **03** 04:45:53.9, 52°20N×174°09E, h34km, mB5.1/14, mb4.6/50, Ms4.6/25, Ms7 4.3/25*

*MOS **03** 04:45:55.2±1.1, 52°00N×173°98E, h41km, mb5.1/63, Error ellipse: s-maj=6.9km s-min=4.0km az=118.9*

*NEIC **03** 04:45:57.5±1.4, 52°15N±0°08×174°1E±0°1, h40km±6km, mb5.0/577, Error ellipse: s-maj=11.2km s-min=10.4km az=173.0*

*GCMT **03** 04:45:58.5±0.4, 52°14N±0°02×174°07E±0°05, h15km, MW5.0/70, Moment Tensor Solution. s19,c21; s70,c86; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.97±.10; Mθθ-1.62±.07; Mφφ0.64±.09; Mrθ3.41±.28; Mrφ-0.29±.07; Mθφ-3.10±.34; Best double couple: M0=4.80300×10^16 NP1:φ1=236.00000°, δ15.00000°, λ18.00000°. NP2: φ2=129.00000°, δ85.00000°, λ104.00000°. Principal axes: T 5.0870, Plg48.0000°, Azm54.0000°; N -0.5710, Plg14.0000°, Azm307.0000°; P -4.5200, Plg39.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **03** 04:45:59.8, 52°67N×172°72E, h33km, mb4.8*

ISC 03 04:45:57.0±0.5, 52°03N±0°06×174°04E±0°03, h42km±3km, h41km:pP-P, n1060, σ1°12/787, mb5.0/389, MS4.0/88, 20C-35D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.70**	**3**	Pn	**Pn**	**04 46 07.8**	**-2.6**
	2μm,0.3s,baz=164,slow=4.9,SNR=831						
SHEM				Sn	**Sn**	**04 46 17.4**	**-2.8**
	810nm,0.3s,baz=326,slow=23,SNR=1.2						
KIWB	**Kanaga Island**	**5.45**	**88**		**Pn**	**04 47 15.8**	**+0.1**
ADK	**Adak**	**5.74**	**88**	Pn	**Pn**	**04 47 19.4**	**-0.1**
ADK	**Adak**	**5.74**	**88**	P	**Pn**	**04 47 20.2**	**+0.7**
ADK	**Adak**	**5.74**	**88**	P	**Pn**	**04 47 19.4**	**-0.1**
BKI	**Bering**	**5.76**	**307**	P	**Pn**	**04 47 19.7**	**0.0**
BKI				S	**Sn**	**04 48 29.3**	**+4.9**
ATKA	**Atka Island**	**7.25**	**84**	Pn	**Pn**	**04 47 39.2**	**-1.0**
ATKA	**Atka Island**	**7.25**	**84**	P	**Pn**	**04 47 41.0**	**+0.8**
	188nm,1.4s						
SMKR	**Semkarok**	**8.64**	**307**	P	**Pn**	**04 48 01.2**	**+1.8**
BZWR	**Bezymyannyi-We**	**8.89**	**302**	P	**Pn**	**04 48 04.0**	**+1.1**
BZWR				S	**Sn**	**04 49 44.7**	**+2.9**
KRSR	**Krestovskiy**	**8.95**	**303**	P	**Pn**	**04 48 05.0**	**+1.4**
KRSR				S	**Sn**	**04 49 45.3**	**+2.2**
KMNR	**Kamenistaya**	**8.96**	**300**	P	**Pn**	**04 48 04.6**	**+0.8**
KMNR				S	**Sn**	**04 49 45.1**	**+1.8**
KIRR	**Kirishev**	**8.97**	**301**	P	**Pn**	**04 48 04.9**	**+1.0**
KPT	**Kopyto**	**9.04**	**301**	P	**Pn**	**04 48 05.9**	**+1.1**
UGLR	**Uglovaya**	**9.33**	**283**	P	**Pn**	**04 48 08.1**	**-0.8**
AVH	**Avacha**	**9.39**	**284**	P	**Pn**	**04 48 08.9**	**-0.7**
PET	**Petropavlovsk**	**9.43**	**282**	*e*P	**Pn**	**04 48 10.4**	**+0.3**
PET				*e*S	**Sn**	**04 49 49.1**	**-5.6**
PET				pmax	pmax		
	comp=Z,16nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
KRX	**Arik**	**9.44**	**284**	P	**Pn**	**04 48 09.1**	**-1.3**
KRX				S	**Sn**	**04 49 49.9**	**-5.3**
KOK	**Koryaka**	**9.45**	**284**	P	**Pn**	**04 48 09.4**	**-1.0**
TILK	**Tilichiki**	**9.50**	**336**	P	**Pn**	**04 48 12.8**	**+1.8**
OSSR	**Ossora**	**9.52**	**324**	P	**Pn**	**04 48 12.7**	**+1.4**
RUS	**Russkaya**	**9.54**	**279**	P	**Pn**	**04 48 10.5**	**-1.1**
RUS				S	**Sn**	**04 49 51.0**	**-6.3**
GRL	**Gorelyy**	**9.80**	**279**	P	**Pn**	**04 48 15.9**	**+0.6**
ESO	**Esso**	**9.84**	**299**	P	**Pn**	**04 48 15.2**	**-0.5**
KDTR	**Khodutka, Kamc**	**9.87**	**275**	P	**Pn**	**04 48 14.9**	**-1.2**
GNL	**Ganaly**	**9.88**	**286**	P	**Pn**	**04 48 18.4**	**+2.1**
ASAK	**Asacha**	**9.92**	**278**	P	**Pn**	**04 48 16.7**	**-0.1**
PEA0B	**Petropavlovsk-**	**10.01**	**283**	Pn	**Pn**	**04 48 17.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**10.01**	**283**	P	**Pn**	**04 48 18.2**	**+0.2**
PEA0B				S	**Sn**	**04 50 03.6**	**-5.3**
PETK	**Petropavlovsk-**	**10.01**	**283**	Pn	**Pn**	**04 48 18.2**	**+0.2**
PETK	**Petropavlovsk-**	**10.01**	**283**	Pn	**Pn**	**04 48 17.3**	**-0.7**
	comp=Z,17nm,0.7s,baz=98,slow=18,SNR=38						
PETK				Sn	**Sn**	**04 50 02.0**	**-6.8**
	comp=Z,3.0nm,0.3s,baz=9.3,slow=28,SNR=5.8						
PETK				LR	LR	04 53 17.4	
	comp=Z,316nm,18.2s,baz=82,slow=44						
SPIA	**Saint Paul Isl**	**10.46**	**54**	P	**Pn**	**04 48 22.8**	**-1.3**
	baz=248						
P08K	**Saint George I**	**10.62**	**58**		**Pn**	**04 48 27.1**	**+0.9**
P08K	**Saint George I**	**10.62**	**58**	P	**Pn**	**04 48 25.5**	**-0.7**
	baz=252						
PALN	**Palana**	**10.64**	**317**	P	**Pn**	**04 48 30.4**	**+3.9**
UNV	**Unalaska Valle**	**11.88**	**74**	P	**Pn**	**04 48 43.7**	**+0.1**
	baz=270						
M11K	**Mekoryuk**	**13.77**	**45**	Pn	**Pn**	**04 49 11.3**	**+2.1**
M11K	**Mekoryuk**	**13.77**	**45**	P	**Pn**	**04 49 09.3**	**0.0**
	baz=242						
GAMB	**Gambell**	**13.96**	**27**	P	**Pn**	**04 49 11.4**	**-0.3**
	baz=219						
S12K	**Black Hills**	**14.55**	**66**	Pn	**Pn**	**04 49 22.1**	**+2.3**
S12K	**Black Hills**	**14.55**	**66**	P	**Pn**	**04 49 20.0**	**+0.2**
	baz=266						
MA2	**Magadan**	**15.04**	**309**		**P**	**04 49 31.6**	**+0.5**
MA2	**Magadan**	**15.04**	**309**	Pn	**Pn**	**04 49 27.3**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=32,slow=12,SNR=4.0						
MA2				LR	LR	04 56 02.1	
	comp=Z,373nm,18.1s,baz=111,slow=41						
	comp=Z,5.4nm,0.7s						
MA2	**Magadan**	**15.04**	**309**	*ce*P	**P**	**04 49 29.4**	**-1.7**
MA2				pmax	pmax		
	comp=Z,36nm,1.0s						
M13K	**Dall Lake**	**15.05**	**47**	P	**P**	**04 49 30.4**	**-0.7**
M13K	**Dall Lake**	**15.05**	**47**	P	**Pn**	**04 49 26.2**	**-0.2**
	baz=246						
K13K	**Kusilvak Mount**	**15.19**	**41**	P	**P**	**04 49 30.4**	**-2.3**
K13K				IAmb	IAmb	04 49 32.0	
	comp=Z,45nm,0.6s						
K13K	**Kusilvak Mount**	**15.19**	**41**	P	**Pn**	**04 49 28.6**	**+0.3**
	baz=239						
O14K	**Tigyukauivet M**	**15.64**	**53**	P	**Pn**	**04 49 35.3**	**+1.3**
O14K				IAmb	IAmb	04 49 39.0	
	comp=Z,158nm,1.4s						
O14K	**Tigyukauivet M**	**15.64**	**53**	P	**Pn**	**04 49 33.8**	**-0.2**
	baz=254						
N14K	**Kuskokwak Cree**	**15.64**	**50**	P	**Pn**	**04 49 34.6**	**+0.4**
	baz=251,SNR=15						
L14K	**Kuka Creek**	**15.74**	**45**	P	**P**	**04 49 38.7**	**-0.1**
L14K	**Kuka Creek**	**15.74**	**45**	P	**Pn**	**04 49 35.9**	**+0.5**
	baz=244						
M14K	**Bethel**	**15.82**	**47**	P	**P**	**04 49 39.1**	**-0.5**
M14K	**Bethel**	**15.82**	**47**	P	**Pn**	**04 49 37.1**	**+0.7**
	baz=247,SNR=33						
SEY	**Seymchan**	**15.87**	**322**	Pn	**P**	**04 49 40.0**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=121,slow=10,SNR=25						
SEY				LR	LR	04 55 23.1	
	comp=Z,413nm,18.4s,baz=117,slow=36						
SEY	**Seymchan**	**15.87**	**322**	*e*P	**P**	**04 49 39.9**	**-0.3**
SEY				pmax	pmax		
	comp=Z,19nm,1.1s						
CHNA	**Chernabura Isl**	**15.93**	**69**	P	**Pn**	**04 49 38.2**	**+0.3**
	baz=271						
J14K	**Nanvaranak Lak**	**16.06**	**39**	P	**P**	**04 49 42.5**	**+0.3**
J14K	**Nanvaranak Lak**	**16.06**	**39**	P	**Pn**	**04 49 40.0**	**+0.6**
	baz=238,SNR=9.1						
O15K	**Ungalikthiuk R**	**16.33**	**54**	P	**Pn**	**04 49 43.2**	**+0.3**
	baz=256						
TNA	**Tin City**	**16.37**	**27**		**P**	**04 49 45.0**	**-0.7**
TNA	**Tin City**	**16.37**	**27**	P	**Pn**	**04 49 43.9**	**+0.5**
	baz=223,SNR=19						
M15K	**Kasigluk River**	**16.38**	**48**	P	**Pn**	**04 49 42.5**	**-1.0**
	baz=250,SNR=16						
L15K	**Ungalak Mounta**	**16.40**	**44**	P	**Pn**	**04 49 42.9**	**-0.9**
	baz=245						
ANM	**Nome**	**16.47**	**32**		**P**	**04 49 47.0**	**+0.2**
ANM	**Nome**	**16.47**	**32**	P	**Pn**	**04 49 44.7**	**0.0**
	baz=230,SNR=27						
ANM	**Nome**	**16.47**	**32**	P	**P**	**04 49 47.0**	**+0.2**
ANM				pmax	pmax		
	comp=Z,46nm,0.9s						
N15K	**Kwethluk River**	**16.48**	**50**	P	**P**	**04 49 46.9**	**-0.2**
N15K				IAmb	IAmb	04 49 49.4	
	comp=Z,68nm,0.8s						
N15K	**Kwethluk River**	**16.48**	**50**	P	**Pn**	**04 49 44.5**	**-0.3**
	baz=252						
BILL	**Bilibino**	**16.50**	**350**	P	**P**	**04 49 48.1**	**+1.0**
CHGN	**Chignik**	**16.63**	**64**	P	**Pn**	**04 49 45.8**	**-0.9**
	baz=267						
K15K	**Wolf Creek Mou**	**16.65**	**42**	P	**P**	**04 49 49.4**	**+0.5**
K15K				IAmb	IAmb	04 49 52.5	
	comp=Z,67nm,0.8s						
K15K	**Wolf Creek Mou**	**16.65**	**42**	P	**Pn**	**04 49 46.7**	**-0.3**
	baz=243,SNR=14						
F14K	**Arctic Creek**	**16.78**	**29**	P	**Pn**	**04 49 47.9**	**-0.5**
	baz=226,SNR=33						
G15K	**Niukluk**	**17.18**	**32**	P	**Pn**	**04 49 53.3**	**-0.2**
	baz=231						
N16K	**Nishlik Lake**	**17.20**	**50**	P	**Pn**	**04 49 53.8**	**0.0**
	baz=253						
R16K	**Pilot Point**	**17.20**	**60**	P	**P**	**04 49 54.6**	**-0.3**
	baz=264						
P16K	**Nushagak River**	**17.22**	**55**	P	**Pn**	**04 49 54.1**	**+0.1**
	baz=258						
M16K	**Timber Creek**	**17.28**	**48**	IAmb	IAmb	04 49 58.2	
	comp=Z,75nm,0.8s						
M16K	**Timber Creek**	**17.28**	**48**	P	**Pn**	**04 49 54.9**	**+0.1**
	baz=251,SNR=19						
O16K	**Kokwok River B**	**17.29**	**53**	P	**P**	**04 49 55.5**	**-0.4**
O16K				IAmb	IAmb	04 50 02.3	
	comp=Z,85nm,1.0s						
O16K	**Kokwok River B**	**17.29**	**53**	P	**Pn**	**04 49 54.7**	**-0.2**
	baz=256,SNR=16						
L16K	**Owhat River**	**17.29**	**46**	P	**P**	**04 49 56.2**	**+0.2**
L16K	**Owhat River**	**17.29**	**46**	P	**Pn**	**04 49 55.0**	**+0.1**
	baz=248,SNR=12						
F15K	**North Star Dit**	**17.45**	**30**	P	**P**	**04 49 57.2**	**-0.5**
	baz=229,SNR=44						
J16K	**Anvik River**	**17.49**	**40**	P	**P**	**04 49 57.7**	**-0.5**
	baz=242,SNR=8.7						
H16K	**Elim**	**17.59**	**35**	P	**P**	**04 49 58.7**	**-0.5**
	baz=236,SNR=45						
I17K	**Unalakleet**	**17.75**	**38**	P	**P**	**04 50 03.0**	**+2.0**
I17K				IAmb	IAmb	04 50 07.6	
	comp=Z,83nm,0.7s						
I17K	**Unalakleet**	**17.75**	**38**	P	**P**	**04 50 00.9**	**0.0**
	baz=240,SNR=35						
O17K	**Koliganek Bris**	**17.82**	**53**	P	**P**	**04 50 02.0**	**+0.1**
	baz=257,SNR=6.7						
Q16K	**King Salmon**	**17.84**	**57**	P	**P**	**04 50 01.7**	**-0.3**
	baz=261,SNR=15						
N17K	**Nushagak Hills**	**17.97**	**51**	IAmb	IAmb	04 50 08.0	
	comp=Z,137nm,1.5s						
N17K	**Nushagak Hills**	**17.97**	**51**	P	**Pn**	**04 50 02.7**	**-0.5**
	baz=255,SNR=12						
L17K	**Donlin**	**17.97**	**45**	P	**Pn**	**04 50 02.7**	**-0.5**
	baz=249,SNR=8.9						
G16K	**Koyuk River**	**17.99**	**33**	P	**Pn**	**04 50 02.9**	**-0.6**
	baz=233						
P17K	**Kvichak River**	**18.04**	**55**	P	**Pn**	**04 50 03.5**	**-0.5**
	baz=260						
M17K	**Holitna River**	**18.10**	**48**	IAmb	IAmb	04 50 08.4	
	comp=Z,184nm,0.9s						
M17K	**Holitna River**	**18.10**	**48**	P	**Pn**	**04 50 03.7**	**-1.2**
	baz=252						
J17K	**VABM Dome**	**18.16**	**41**	P	**Pn**	**04 50 05.0**	**-0.6**
	baz=244						
Q17K	**Contact Creek**	**18.18**	**58**	P	**Pn**	**04 50 04.9**	**-1.0**
	baz=263						
CHIR	**Chirikof Islan**	**18.18**	**66**	P	**P**	**04 50 05.0**	**-0.8**
	baz=271						
CHIR	**Chirikof Islan**	**18.18**	**66**	P	**Pn**	**04 50 07.3**	**+1.4**
K17K	**Iditarod**	**18.19**	**43**	P	**P**	**04 50 06.8**	**+0.9**
K17K	**Iditarod**	**18.19**	**43**	P	**Pn**	**04 50 05.0**	**-0.9**
	baz=247,SNR=13						
ACHA	**Angle Creek He**	**18.47**	**58**		**Pn**	**04 50 09.4**	**0.0**
H17K	**Granite Mounta**	**18.59**	**36**	P	**P**	**04 50 09.4**	**-0.8**
	baz=238						
N18K	**Kilae Creek**	**18.62**	**51**	P	**P**	**04 50 10.4**	**-0.3**
	baz=256						
G17K	**Kiwalik Mounta**	**18.63**	**34**	P	**Pn**	**04 50 10.6**	**-0.7**
	baz=236						
P18K	**Big Mountain,**	**18.68**	**55**	P	**P**	**04 50 11.4**	**+0.1**
P18K	**Big Mountain,**	**18.68**	**55**	P	**P**	**04 50 11.1**	**-0.2**
	baz=260,SNR=6.5						
L18K	**Granite Mounta**	**18.71**	**46**	IAmb	IAmb	04 50 15.9	
	comp=Z,72nm,1.1s						
L18K	**Granite Mounta**	**18.71**	**46**	P	**P**	**04 50 11.5**	**0.0**
	baz=250						
O18K	**Koktuh Hills**	**18.77**	**53**	P	**Pn**	**04 50 13.0**	**-0.1**
O18K				IAmb	IAmb	04 50 17.6	
	comp=Z,66nm,0.8s						
O18K	**Koktuh Hills**	**18.77**	**53**	P	**P**	**04 50 11.7**	**-0.6**
	baz=259						
M18K	**Stony River**	**18.87**	**48**	P	**P**	**04 50 13.3**	**0.0**
	baz=254						
R18K	**Karluk**	**18.88**	**61**	P	**P**	**04 50 13.5**	**+0.1**
	baz=267						
F17K	**Baldwin Pennin**	**18.99**	**31**	IAmb	IAmb	04 50 19.6	
	comp=Z,109nm,0.8s						
F17K	**Baldwin Pennin**	**18.99**	**31**	P	**Pn**	**04 50 14.5**	**-1.1**
	baz=233,SNR=66						
SII	**Sitkinak Islan**	**18.99**	**64**	IAmb	IAmb	04 50 16.9	
	comp=Z,58nm,0.8s						
SII	**Sitkinak Islan**	**18.99**	**64**	P	**Pn**	**04 50 15.2**	**-0.4**
	baz=270						
SII	**Sitkinak Islan**	**18.99**	**64**	P	**Pn**	**04 50 16.4**	**+0.7**
J18K	**Innoko River**	**19.15**	**42**	P	**Pn**	**04 50 16.6**	**-0.9**
	baz=247,SNR=20						
E17K	**Hotham Inlet**	**19.21**	**29**	P	**Pn**	**04 50 17.1**	**-1.1**
	baz=230,SNR=33						
TTA	**Tatalina**	**19.25**	**44**	P	**Pn**	**04 50 18.2**	**-0.6**
TTA	**Tatalina**	**19.25**	**44**	P	**Pn**	**04 50 17.8**	**-1.0**
	baz=250,SNR=6.3						
TTA	**Tatalina**	**19.25**	**44**	P	**Pn**	**04 50 19.3**	**+0.5**
TTA	**Tatalina**	**19.25**	**44**	P	**Pn**	**04 50 18.2**	**-0.6**
TTA				pmax	pmax		
	comp=Z,21nm,0.9s						
D17K	**Noatak River**	**19.26**	**27**	P	**Pn**	**04 50 18.0**	**-0.8**
	baz=227,SNR=127						
H18K	**Honhosa River**	**19.26**	**36**	IAmb	IAmb	04 50 20.0	
	comp=Z,52nm,0.7s						
H18K	**Honhosa River**	**19.26**	**36**	P	**P**	**04 50 17.7**	**+0.1**
	baz=240,SNR=35						
O19K	**Port Alsworth**	**19.28**	**53**	IAmb	IAmb	04 50 22.8	
	comp=Z,61nm,0.7s						
O19K	**Port Alsworth**	**19.28**	**53**	P	**P**	**04 50 17.8**	**0.0**
	baz=259,SNR=12						
N19K	**Bonanza Creek**	**19.33**	**51**	IAmb	IAmb	04 50 31.8	
	comp=Z,72nm,0.9s						
N19K	**Bonanza Creek**	**19.33**	**51**	P	**P**	**04 50 18.1**	**-0.4**
	baz=257						
Q19K	**Cape Douglas,**	**19.42**	**56**	P	**P**	**04 50 19.4**	**0.0**
	baz=264						
OHAK	**Old Harbor**	**19.49**	**62**	P	**P**	**04 50 17.9**	**-2.2**
OHAK	**Old Harbor**	**19.49**	**62**	P	**P**	**04 50 19.4**	**-0.7**
	baz=269,SNR=9.4						
L19K	**White Mountain**	**19.51**	**47**	P	**P**	**04 50 20.3**	**-0.1**
	baz=253						
TYV	**Tymovskoe**	**19.52**	**279**	*e*P	Pn	04 50 30.1	+8.1
TYV				pmax	pmax		
	comp=Z,12nm,0.9s						
TYV				pmax	pmax		
	comp=Z,400nm,3.1s						
G18K	**Tagagawik**	**19.54**	**34**	IAmb	IAmb	04 50 22.6	
	comp=Z,106nm,0.8s						
G18K	**Tagagawik**	**19.54**	**34**	P	**P**	**04 50 20.3**	**-0.4**
	baz=238						
RDOG	**Red Dog Mine**	**19.55**	**26**	IAmb	IAmb	04 50 23.2	
	comp=Z,112nm,0.8s						
RDOG	**Red Dog Mine**	**19.55**	**26**	P	**Pn**	**04 50 20.9**	**-1.3**
	baz=226,SN

I20K	Naaghedeneel	20.58	40	IAmb	IAmb	04 50 33.3	
	comp=Z,96nm,0.9s						
I20K	Naaghedeneel	20.58	40	P	P	04 50 32.2	+0.4
	baz=247,SNR=5.1						
H20K	Anotleneega Mo	20.71	38	P	P	04 50 33.7	+0.3
	baz=244,SNR=172						
CNPM	China Poot	20.72	55	IAmb	IAmb	04 50 34.4	
	comp=Z,84nm,0.8s						
B18K	Kokolik River	20.76	24	P	P	04 50 34.0	+0.2
	baz=226						
YSS	Yuzhno-Sakhali	20.85	268	*e*P	Pn	04 50 37.2	-0.4
YSS				*e*S	S	04 54 21.7	-3.2
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
E19K	Redstone River	20.87	31	IAmb	IAmb	04 50 37.0	
	comp=Z,119nm,1.4s						
E19K	Redstone River	20.87	31	P	P	04 50 35.1	+0.1
	baz=237						
PPLA	Purkeypile	20.90	46	IAmb	IAmb	04 50 50.2	
	comp=Z,80nm,1.1s						
PPLA	Purkeypile	20.90	46	P	P	04 50 35.7	+0.2
	baz=254,SNR=13						
BRLK	Bradley Lake	20.92	55	IAmb	IAmb	04 50 36.7	
	comp=Z,48nm,0.6s						
CAPN	Captain Cook N	20.92	52	P	P	04 50 35.5	0.0
	baz=261						
SKT	Skwentna	20.97	48	P	P	04 50 36.7	+0.6
	baz=258,SNR=12						
BRSE	Bradley Lake S	20.99	55	P	P	04 50 36.1	-0.3
	baz=264						
CAST	Castle Rocks	21.09	44	P	P	04 50 37.6	+0.2
	baz=253,SNR=25						
CHUM	Lake Minchumin	21.13	43	P	P	04 50 38.1	+0.2
	baz=252,SNR=19						
F20K	Avaraart Lake	21.15	33	P	P	04 50 37.8	-0.1
	baz=240						
D19K	Kuna River	21.20	28	P	P	04 50 38.7	+0.1
	baz=233						
SUA	Susitna One	21.23	50	IAmb	IAmb	04 50 47.9	
	comp=Z,82nm,1.4s						
SUA	Susitna One	21.23	50	P	P	04 50 39.0	-0.1
	baz=260,SNR=11						
H21K	Melozitna Rive	21.57	38	IAmb	IAmb	04 50 43.8	
	comp=Z,40nm,0.8s						
H21K	Melozitna Rive	21.57	38	P	P	04 50 42.8	+0.3
	baz=247,SNR=37						
M22K	Willow	21.58	49	IAmb	IAmb	04 51 03.3	
	comp=Z,71nm,1.1s						
O22K	Cooper Landing	21.58	53	IAmb	IAmb	04 51 03.5	
	comp=Z,84nm,0.6s						
KTH	Kantishna Hill	21.63	44	IAmb	IAmb	04 50 57.5	
	comp=Z,88nm,1.1s						
CUT	Chulitna	21.64	47	P	P	04 50 43.6	+0.3
	baz=258						
E20K	Nigu River	21.64	30	P	P	04 50 43.5	+0.2
	baz=236,SNR=46						
G21K	Allakaket	21.67	36	P	P	04 50 43.6	+0.1
	baz=244						
SEW	Seward	21.67	54	P	P	04 50 43.6	0.0
	baz=265						
I21K	Tanana	21.71	40	P	P	04 50 43.9	-0.1
	baz=249						
BPAW	Bear Paw Mtn.	21.76	43	P	P	04 50 44.7	+0.1
	baz=253,SNR=16						
D20K	Etivluk River	21.77	29	P	P	04 50 44.2	-0.5
	baz=235,SNR=23						
TRF	Thorofare Moun	21.88	45	P	P	04 50 45.2	-0.8
	baz=255,SNR=8.2						
F21K	Alatna River	22.00	34	IAmb	IAmb	04 50 51.0	
	comp=Z,47nm,1.0s						
F21K	Alatna River	22.00	34	P	P	04 50 47.1	0.0
	baz=242						
PMR	Palmer	22.02	50	P	P	04 50 47.1	-0.2
	baz=261,SNR=6.0						
PMR	Palmer	22.02	50	P	P	04 50 48.0	+0.7
H22K	Ishtalitna Cre	22.20	38	P	P	04 50 48.5	-0.8
	baz=248,SNR=14						
PWL	Port Wells	22.30	52	IAmb	IAmb	04 50 51.8	
	comp=Z,31nm,0.8s						
PWL	Port Wells	22.30	52	P	P	04 50 49.6	-0.9
	baz=264,SNR=8.9						
ASAJ	Asahikawa	22.31	262	LR	LR	04 58 41.2	
	comp=Z,165nm,21.2s,baz=135,slow=34						
KNK	Knik Glacier	22.31	50	P	P	04 50 49.9	-0.7
	baz=262,SNR=8.8						
SML	Sawmill	22.43	49	IAmb	IAmb	04 50 54.0	
	comp=Z,79nm,0.8s						
SML	Sawmill	22.43	49	P	P	04 50 51.6	-0.3
	baz=262,SNR=34						
E21K	Killik River	22.43	31	P	P	04 50 51.6	-0.2
	baz=239						
RND	Reindeer	22.49	45	IAmb	IAmb	04 51 07.9	
	comp=Z,64nm,1.5s						
MCK	McKinley	22.53	44	P	P	04 50 52.7	-0.2
	baz=256,SNR=11						
G22K	Bettles	22.56	36	P	P	04 50 52.8	-0.4
	baz=246						
C21K	Knifeblade Rid	22.57	29	P	P	04 50 52.3	-1.0
	baz=236						
P23K	Montague Islan	22.69	54	P	P	04 50 53.5	-1.1
	baz=267						
NEA2	Nenana	22.70	42	IAmb	IAmb	04 51 07.8	
	comp=Z,60nm,1.0s						
NEA2	Nenana	22.70	42	P	P	04 50 53.9	-0.7
	baz=254,SNR=17						
M23K	Glacier View	22.71	50	P	P	04 50 54.2	-0.6
	baz=262,SNR=15						
I23K	Minto, Yukon-K	22.74	41	IAmb	IAmb	04 51 09.3	
	comp=Z,156nm,1.9s						
I23K	Minto, Yukon-K	22.74	41	P	P	04 50 54.0	-1.0
	baz=252,SNR=18						
B21K	Ikpikpuk River	22.88	28	IAmb	IAmb	04 50 58.5	
	comp=Z,109nm,1.4s						
B21K	Ikpikpuk River	22.88	28	P	P	04 50 55.4	-1.0
	baz=236						
SCM	Sheep Creek Mo	22.90	50	IAmb	IAmb	04 51 07.1	
	comp=Z,55nm,0.6s						
SCM	Sheep Creek Mo	22.90	50	P	P	04 50 56.5	-0.4
	baz=262,SNR=13						
GLI	Glacier Island	22.91	52	P	P	04 50 55.0	-1.9
GLI				IAmb	IAmb	04 50 59.8	
	comp=Z,146nm,1.7s						
GLI	Glacier Island	22.91	52	P	P	04 50 56.2	-0.6
	baz=265						
E22K	Anaktuvuk Pass	22.99	33	IAmb	IAmb	04 50 58.0	
	comp=Z,40nm,0.7s						
E22K	Anaktuvuk Pass	22.99	33	P	P	04 50 56.7	-1.0
	baz=243,SNR=60						
G23K	Bananza Creek	23.02	37	IAmb	IAmb	04 50 60.0	
	comp=Z,31nm,0.8s						
G23K	Bananza Creek	23.02	37	P	P	04 50 57.6	-0.4
	baz=248						
D22K	Ayikyak River	23.07	31	P	P	04 50 58.2	-0.2
	baz=240,SNR=17						
COLD	Coldfoot	23.15	35	P	P	04 50 57.8	-1.4
COLD	Coldfoot	23.15	35	P	P	04 50 58.7	-0.5
	baz=247,SNR=12						
Q23K	Middleton Isla	23.20	56	P	P	04 50 59.2	-0.6
	baz=269						
COLA	College	23.28	42	P	P	04 50 59.8	-0.6
COLA				IAmb	IAmb	04 51 04.8	
	comp=Z,51nm,0.8s						
COLA	College	23.28	42	P	P	04 50 59.5	-1.0
	baz=255						
COLA	College	23.28	42	P	P	04 51 01.6	+1.1
COLA	College	23.28	42	P	P	04 50 59.8	-0.6
COLA				pmax	pmax		
	comp=Z,51nm,0.9s						
A21K	Barrow	23.38	23	P	P	04 51 00.5	-0.9
	baz=230,SNR=28						
M24K	Tolsona, Glenn	23.48	49	IAmb	IAmb	04 51 19.3	
	comp=Z,63nm,1.1s						
M24K	Tolsona, Glenn	23.48	49	P	P	04 51 01.4	-1.1
	baz=263,SNR=7.3						
POKR	Poker Plat Res	23.51	41	IAmb	IAmb	04 51 07.2	
	comp=Z,41nm,0.7s						
POKR	Poker Plat Res	23.51	41	P	P	04 51 02.0	-0.8
	baz=255,SNR=17						
KLU	Klutina	23.53	51	P	P	04 51 02.5	-0.6
	baz=265,SNR=9.7						
H24K	Noodor Dome	23.54	39	IAmb	IAmb	04 51 18.5	
	comp=Z,35nm,0.9s						
H24K	Noodor Dome	23.54	39	P	P	04 51 02.6	-0.5
	baz=253,SNR=27						
HDA	Harding Lake	23.54	43	P	P	04 51 02.4	-0.6
	baz=257						
EYAK	Cordova Ski Ar	23.54	53	P	P	04 51 02.2	-0.9
	baz=267						
B22K	Teshekpuk Lake	23.62	27	IAmb	IAmb	04 51 20.9	
	comp=Z,46nm,0.7s						
B22K	Teshekpuk Lake	23.62	27	P	P	04 51 02.9	-0.9
	baz=236						
ILAR	Eielson Array	23.65	42	P	P	04 51 01.9	-2.1
ILAR	Eielson Array	23.65	42	P	P	04 51 02.2	-1.8
	comp=Z,10nm,0.6s,baz=246,slow=7.7,SNR=146						
ILAR				LR	LR	05 00 17.0	
	comp=Z,381nm,19.5s,baz=241,slow=37						
	comp=Z,10nm,0.6s						
E23K	Chandalar	23.70	34	P	P	04 51 04.2	-0.4
	baz=246,SNR=30						
D23K	Nanushuk River	23.74	31	IAmb	IAmb	04 51 06.4	
	comp=Z,27nm,0.7s						
D23K	Nanushuk River	23.74	31	P	P	04 51 04.3	-0.6
	baz=242						
K24K	Donnelly Dome	23.92	45	P	P	04 51 06.0	-0.7
	baz=260,SNR=13						
PAX	Paxson	23.92	47	IAmb	IAmb	04 51 16.2	
	comp=Z,127nm,1.6s						
PAX	Paxson	23.92	47	P	P	04 51 06.2	-0.5
	baz=262,SNR=24						
TOLK	Toolik Lake Re	23.96	32	IAmb	IAmb	04 51 11.2	
	comp=Z,55nm,0.8s						
TOLK	Toolik Lake Re	23.96	32	P	P	04 51 06.6	-0.4
	baz=245,SNR=56						
G24K	Hadweenzic Riv	23.96	38	P	P	04 51 06.4	-0.5
	baz=251						
HARP	HAARP	23.99	48	P	P	04 51 07.4	+0.2
	baz=263						
RAGM	Ragged Mountai	24.07	53	IAmb	IAmb	04 51 12.5	
	comp=Z,54nm,0.7s						
F24K	Squaw Lake	24.09	36	P	P	04 51 08.2	0.0
	baz=249						
BMRM	Bremner River	24.13	52	IAmb	IAmb	04 51 27.7	
	comp=Z,112nm,1.8s						
BMRM	Bremner River	24.13	52	P	P	04 51 08.0	-0.6
	baz=267						
N25K	Chitina, Valde	24.17	50	P	P	04 51 07.9	-1.2
	baz=266,SNR=8.3						
C23K	Itkillik River	24.18	29	IAmb	IAmb	04 51 10.0	
	comp=Z,74nm,0.8s						
C23K	Itkillik River	24.18	29	P	P	04 51 08.1	-0.8
	baz=241						
KAIM	Kayak Island	24.19	55	P	P	04 51 08.0	-1.0
	baz=270						
J25K	Salcha River,	24.25	43	P	P	04 51 08.3	-1.4
	baz=258,SNR=13						
RIDG	Independent Ri	24.32	45	IAmb	IAmb	04 51 14.7	
	comp=Z,20nm,0.6s						
RIDG	Independent Ri	24.32	45	P	P	04 51 09.1	-1.2
	baz=261,SNR=8.8						
PRP	Porcupine Dome	24.39	41	IAmb	IAmb	04 51 13.2	
	comp=Z,31nm,0.8s						
PRP	Porcupine Dome	24.39	41	P	P	04 51 10.8	-0.2
	baz=256,SNR=23						
D24K	Happy Valley	24.42	32	IAmb	IAmb	04 51 12.4	
	comp=Z,34nm,0.7s						
D24K	Happy Valley	24.42	32	P	P	04 51 10.9	-0.2
	baz=244,SNR=42						
GLB	Gilahina Butte	24.54	51	IAmb	IAmb	04 51 24.0	
	comp=Z,35nm,1.1s						
MENT	Mentasta	24.71	47	IAmb	IAmb	04 51 23.9	
	comp=Z,26nm,0.8s						
C24K	Franklin Bluff	24.71	30	IAmb	IAmb	04 51 17.7	
	comp=Z,63nm,1.1s						
C24K	Franklin Bluff	24.71	30	P	P	04 51 13.5	-0.2
	baz=244						
SCRK	Sand Creek	24.73	45	P	P	04 51 12.6	-1.5
	baz=261,SNR=18						
FYU	Fort Yukon	24.78	39	IAmb	IAmb	04 51 26.2	
	comp=Z,56nm,1.0s						
L26K	Log Cabin Wild	24.89	47	IAmb	IAmb	04 51 27.2	
	comp=Z,27nm,0.7s						
L26K	Log Cabin Wild	24.89	47	P	P	04 51 14.3	-1.1
	baz=264,SNR=25						
F25K	Christian Rive	24.93	36	IAmb	IAmb	04 51 18.7	
	comp=Z,46nm,1.3s						
F25K	Christian Rive	24.93	36	P	P	04 51 14.3	-1.5
	baz=252,SNR=45						
M26K	Nabesna, AK	24.99	49	P	P	04 51 15.3	-1.1
	baz=266						
J26L	Joseph Creek	25.00	44	IAmb	IAmb	04 51 28.6	
	comp=Z,24nm,0.8s						
J26L	Joseph Creek	25.00	44	P	P	04 51 15.3	-1.2
	baz=260						
E25K	Arctic Village	25.13	35	IAmb	IAmb	04 51 23.0	
	comp=Z,43nm,1.1s						
E25K	Arctic Village	25.13	35	P	P	04 51 17.2	-0.4
	baz=251,SNR=41						
BMAR	Burnt Mountain	25.27	37	P	P	04 51 18.7	-0.2
D25K	Kavik River	25.29	32	IAmb	IAmb	04 51 20.9	
	comp=Z,34nm,0.6s						
D25K	Kavik River	25.29	32	P	P	04 51 18.4	-0.6
	baz=247						
I26K	Coal Creek Min	25.31	42	P	P	04 51 18.6	-0.7
	baz=259						
MESA	MESA	25.43	54	IAmb	IAmb	04 51 34.3	
	comp=Z,38nm,0.8s						
MESA	MESA	25.43	54	P	P	04 51 20.4	-0.2
	baz=271						
G26K	Porcupine Rive	25.43	38	P	P	04 51 20.2	-0.1
	baz=255,SNR=30						
F26K	Sheenjek River	25.50	36	IAmb	IAmb	04 51 23.6	
	comp=Z,74nm,1.4s						
F26K	Sheenjek River	25.50	36	P	P	04 51 21.0	0.0
	baz=253						
M27K	Edge Creek, AK	25.50	49	IAmb	IAmb	04 51 33.8	
	comp=Z,37nm,0.9s						
M27K	Edge Creek, AK	25.50	49	P	P	04 51 20.1	-1.0
	baz=267						
L27K	Beaver Creek,	25.58	47	IAmb	IAmb	04 51 23.8	
	comp=Z,19nm,0.7s						
L27K	Beaver Creek,	25.58	47	P	P	04 51 20.8	-0.9
	baz=265,SNR=26						
BCAR	Beaver Creek A	25.60	47	P	P	04 51 21.5	-0.5
YAK	Yakutsk	25.62	310	P	P	04 51 21.3	-0.7
YAK	Yakutsk	25.62	310	LR	LR	05 02 41.8	
	comp=Z,184nm,18.1s,baz=96,slow=39						
YAK	Yakutsk	25.62	310	*e*P	P	04 51 21.0	-1.0
YAK				*e**PP	sP	04 51 36.0	-2.1
YAK				*e*		04 51 59.2	
YAK				*e*S	S	04 55 46.2	-0.7
YAK				*e*SS	SnSn	04 56 43.2	0.0
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=E,26nm,1.4s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=E,51nm,1.4s						
YAK				pmax	pmax		
	comp=N,30nm,1.5s						
YAK				smax	smax		
	comp=E,70nm,2.7s						
YAK				smax	smax		
	comp=N,25nm,1.8s						
BVCY	Beaver Creek	25.98	49	P	P	04 51 24.7	-0.7
	baz=268,SNR=8.6						
C26K	Camden Bay	25.99	31	P	P	04 51 24.7	-0.6
	baz=248,SNR=65						
I27K	Kandik River	26.00	41	P	P	04 51 25.0	-0.5
	baz=260						
EGAK	Eagle	26.06	43	P	P	04 51 25.2	-0.9
	baz=262,SNR=10						
H27K	Steamboat Moun	26.15	40	P	P	04 51 26.4	-0.4
	baz=259						
YUK3	Moose Creek	26.15	50	P	P	04 51 26.5	-0.6
	baz=269,SNR=13						
G27K	Doyon Strip	26.22	39	P	P	04 51 26.8	-0.6
	baz=258						
C27K	Jago River	26.27	32	IAmb	IAmb	04 51 31.3	
	comp=Z,24nm,0.7s						
C27K	Jago River	26.27	32	P	P	04 51 27.1	-0.8
	baz=250,SNR=35						
PCA	Pinnacle	26.27	54	IAmb	IAmb	04 51 40.3	
	comp=Z,37nm,0.8s						
PINM	Pinnacle	26.28	54	P	P	04 51 27.8	-0.3
	baz=273						
O28M	Mount Upton	26.28	53	P	P	04 51 27.9	-0.5
	baz=272						
YUK8	Steele Glacier	26.48	51	P	P	04 51 29.6	-0.5
	baz=271						
I28M	Miner Creek	26.67	42	P	P	04 51 31.1	-0.5
	baz=262,SNR=16						
KLR	Kul'dur	26.70	281	LR	LR	05 02 34.1	
	comp=Z,144nm,18.8s,baz=84,slow=38						
KLR	Kul'dur	26.70	281	*ce*P	P	04 51 32.5	+0.6
KLR				pmax	pmax		
	comp=Z,11nm,1.7s						
DAWY	Dawson	26.75	45	IAmb	IAmb	04 51 45.0	
	comp=Z,28nm,0.8s						
DAWY	Dawson	26.75	45	P	P	04 51 32.0	-0.3
	baz=266,SNR=28						
YUK4	Talbot Arm	27.02	51	P	P	04 51 34.4	-0.5
	baz=272,SNR=6.1						
F28M	Old Crow	27.07	37	P	P	04 51 34.4	-0.7
	baz=258,SNR=12						
D27M	Malcolm River	27.08	34	P	P	04 51 34.7	-0.5
	baz=254						
M29M	Somme Creek	27.10	49	P	P	04 51 34.8	-0.7
	baz=270,SNR=12						
O29M	Mount Kennedy	27.10	54	P	P	04 51 34.7	-0.9
	baz=274						
YUK6	Outpost Mounta	27.17	52	P	P	04 51 35.2	-1.2
	baz=273						
L29M	L29M	27.26	47	P	P	04 51 36.5	-0.4
	baz=269						
J29N	Klondike Camp	27.29	44	P	P	04 51 36.7	-0.5
	baz=266,SNR=6.3						
I29M	Ogilvie Camp,	27.33	42	P	P	04 51 37.5	+0.1
	baz=264,SNR=11						
E28M	Babbage River	27.41	35	P	P	04 51 37.6	-0.5
	baz=257						
H29M	Whitestone	27.41	41	P	P	04 51 38.0	-0.2
	baz=262,SNR=6.4						
K29M	Barlow Dome	27.56	46	P	P	04 51 39.6	-0.1
	baz=268,SNR=11						
HYT	Haines Junctio	27.60	52	IAmb	IAmb	04 51 51.4	
	comp=Z,25nm,0.8s						
HYT	Haines Junctio	27.60	52	P	P	04 51 39.5	-0.5
	baz=274,SNR=12						
G29M	Pine Creek	27.65	39	IAmb	IAmb	04 51 42.6	
	comp=Z,29nm,0.8s						
G29M	Pine Creek	27.65	39	P	P	04 51 38.6	-1.7
	baz=261						
N30M	Aishikik Lake	27.77	51	P	P	04 51 40.8	-0.7
	baz=273						
D28M	Stokes Point	27.86	34	P	P	04 51 40.7	-1.4
	baz=256						
M30M	Minto, Yukon	27.87	49	P	P	04 51 41.2	-1.1
	baz=271						
ZEA	Zeya	27.89	292	*e*P	P	04 51 42.5	-0.1
ZEA				*e*		04 51 53.4	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZEA				MLR	MLR		
	comp=Z,200nm,13.0s						
TIXI	Tiksi	27.90	331	P	P	04 51 41.5	-0.9
TIXI	Tiksi	27.90	331	LR	LR	05 02 53.1	
	comp=Z,134nm,18.7s,baz=191,slow=37						
TIXI	Tiksi	27.90	331	*ce*P	P	04 51 42.3	-0.1
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
P30M	Million Dollar	27.92	54	P	P	04 51 42.7	-0.1
	baz=275						
E29M	Blow River	27.95	36	P	P	04 51 43.1	+0.1
	baz=259						
EPYK	Eagle Plains	28.09	40	P	P	04 51 43.9	-0.4
	baz=264,SNR=12						
J30M	Hart River	28.11	44	P	P	04 51 43.4	-1.1
	baz=268,SNR=9.7						
I30M	Mount Dempster	28.13	43	P	P	04 51 44.5	-0.2
	baz=266						
MAYO	Mayo, Yukon	28.28	46	P	P	04 51 46.4	+0.5
	baz=270						
O30N	Mendenhall	28.29	52	P	P	04 51 46.2	0.0
	baz=275						
G30M	tAoh Zraii Nji	28.36	39	IAmb	IAmb	04 52 06.3	
	comp=Z,56nm,2.0s						
G30M	tAoh Zraii Nji	28.36	39	P	P	04 51 46.5	-0.2
	baz=263						
N31M	Braeburn, Yuko	28.39	51	P	P	04 51 47.7	+0.7
N31M				IAmb	IAmb	04 51 58.2	
	comp=Z,70nm,2.0s						
N31M	Braeburn, Yuko	28.39	51	P	P	04 51 46.8	-0.2
	baz=274						
S31K	Pelican	28.58	58	P	P	04 51 47.6	-1.0
	baz=280						
F30M	Barrier River	28.61	38	P	P	04 51 48.0	-0.8
	baz=262						
USRK	Ussuriysk Ar.	28.80	271	P	P	04 51 50.5	-0.3
	comp=Z,1.0nm,0.6s,baz=107,slow=5.0,SNR=1.7						
USRK				LR	LR	05 02 44.6	
	comp=Z,133nm,21.5s,baz=52,slow=35						
	comp=Z,1.0nm,0.6s						
WHY	Whitehorse	28.90	52	P	P	04 51 50.6	-1.0
	baz=276						
M31M	Drury Creek, Y	29.00	49	P	P	04 51 51.5	-0.9
	baz=274						
H31M	Peel River	29.01	42	P	P	04 51 51.3	-1.2
	baz=267						
G31M	Satah River	29.12	39	IAmb	IAmb	04 51 54.9	
	comp=Z,22nm,0.8s						
G31M	Satah River	29.12	39	P	P	04 51 51.6	-1.7
	baz=265						
F31M	Tsiigehtchic	29.37	38	P	P	04 51 54.3	-1.2
	baz=265,SNR=5.1						
FARO	Faro, Yukon	29.49	49	P	P	04 51 55.7	-1.1
	baz=274						
INK	Inuvik	29.54	37	P	P	04 51 56.6	-0.4
INK	Inuvik	29.54	37	LR	LR	05 03 30.4	
	comp=Z,244nm,20.3s,baz=230,slow=36						
INK	Inuvik	29.54	37	P	P	04 51 56.9	-0.1
	baz=263,SNR=7.5						
INK	Inuvik	29.54	37	P	P	04 51 56.6	-0.4
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
S32K	Killisnoo	29.54	59	P	P	04 51 56.8	-0.3
	baz=282						
MJAR	Matsushiro Arr	29.59	253	P	P	04 51 58.6	+0.7
	comp=Z,1.3nm,0.8s,baz=53,slow=6.7,SNR=1.5						
	comp=Z,1.3nm,0.8s						
MAJO	Matsushiro	29.59	253	*i*P	P	04 51 58.0	+0.1
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
P32M	Atlin	29.61	54	P	P	04 51 57.0	-0.8
	baz=279						
N32M	Quiet Lake	29.72	51	IAmb	IAmb	04 52 12.8	
	comp=Z,16nm,0.8s						
N32M	Quiet Lake	29.72	51	P	P	04 51 57.9	-0.8
	baz=277						
P33M	Teslin, Yukon	29.97	53	P	P	04 52 00.3	-0.8
	baz=278,SNR=7.0						
Q32M	Nakina River	30.45	55	IAmb	IAmb	04 52 07.7	
	comp=Z,28nm,1.4s						
Q32M	Nakina River	30.45	55	P	P	04 52 05.1	-0.3
	baz=281						
U33K	Whale Pass	30.64	61	P	P	04 52 06.6	-0.2
	baz=285						
CRAG	Craig	30.81	62	P	P	04 52 06.9	-1.5
	baz=286						
BNX	BinXian	30.86	277	⇑P	P	04 52 09.1	+0.1
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRAK	Wrangell Islan	30.98	60	P	P	04 52 09.3	-0.5
	baz=285						
R33M	Jennings River	31.03	54	IAmb	IAmb	04 52 12.4	
	comp=Z,29nm,1.4s						
R33M	Jennings River	31.03	54	P	P	04 52 10.1	-0.3
	baz=281,SNR=7.3						
S34M	Telegraph Cree	31.25	57	P	P	04 52 11.8	-0.4
	baz=283						
V35K	Ketchikan	31.67	62	P	P	04 52 14.6	-1.4
	baz=287						
DLBC	Dease Lake	31.70	56	LR	LR	05 06 42.0	
	comp=Z,595nm,18.1s,baz=283,slow=40						
DLBC	Dease Lake	31.70	56	P	P	04 52 16.2	-0.1
	baz=283						
T35M	Bob Quinn	31.95	59	IAmb	IAmb	04 52 46.0	
	comp=Z,18nm,0.8s						
T35M	Bob Quinn	31.95	59	P	P	04 52 18.4	0.0
	baz=285,SNR=5.3						
WTLY	Watson Lake, Y	31.96	53	IAmb	IAmb	04 52 20.6	
	comp=Z,10nm,0.5s						
WTLY	Watson Lake, Y	31.96	53	P	P	04 52 18.7	+0.1
	baz=282,SNR

A36M	Sachs Harbour	32.72	30		IAmb	IAmb	04 52 28.0	
	comp=Z,36nm,0.8s							
A36M	Sachs Harbour	32.72	30		P	P	04 52 25.4	+0.4
	baz=266,SNR=35							
H11N3	WAKE ISLAND Hy	32.73	192		T	T	05 27 32.6	
	baz=8.7,slow=76,SNR=153							
H11N1	WAKE ISLAND Hy	32.73	193		T	T	05 27 32.6	
	baz=8.7,slow=76,SNR=156							
C36M	Paulatuk	33.02	35		IAmb	IAmb	04 52 29.5	
	comp=Z,32nm,0.7s							
C36M	Paulatuk	33.02	35		P	P	04 52 27.0	-0.6
	baz=271,SNR=29							
H11S1	WAKE ISLAND Hy	33.95	193		T	T	05 29 00.6	
	baz=7.6,slow=74,SNR=89							
H11S3	WAKE ISLAND Hy	33.96	193		T	T	05 28 59.5	
	baz=7.6,slow=74,SNR=47							
H11S2	WAKE ISLAND Hy	33.96	193		T	T	05 29 01.1	
	baz=7.6,SNR=42							
BOD	Bodaibo	33.96	304	*e*	P	P	04 52 35.2	-0.8
BOD					pmax	pmax		
	comp=Z,15nm,2.2s							
TOAD	Toad River Com	34.03	54		P	P	04 52 36.8	+0.3
	baz=286,SNR=9.6							
KOTAN	Kotaneelee Air	34.27	52		P	P	04 52 38.6	-0.1
	baz=285,SNR=13							
JCJ	Chichijima	34.51	236		LR	LR	05 07 55.7	
	comp=Z,55nm,19.2s,baz=52,slow=38							
BBB	Bella Bella	34.71	66		LR	LR	05 06 27.0	
	comp=Z,97nm,18.7s,baz=220,slow=36							
KSRS	Korea Array	35.22	264		P	P	04 52 48.3	+1.4
	comp=Z,1.5nm,0.8s,baz=39,slow=7.9,SNR=3.8							
KSRS					LR	LR	05 06 05.9	
	comp=Z,103nm,21.9s,baz=65,slow=34							
	comp=Z,1.5nm,0.8s							
YKA	Yellowknife Ar	37.99	46		P	P	04 53 10.2	-0.2
	comp=Z,6.4nm,0.7s,baz=288,slow=8.2,SNR=72							
YKA					LR	LR	05 10 04.5	
	comp=Z,552nm,18.8s,baz=279,slow=38							
	comp=Z,6.4nm,0.7s							
YKA	Yellowknife Ar	37.99	46	*i*	P	P	04 53 10.1	-0.2
YKA					pmax	pmax		
	comp=Z,7.0nm,0.6s							
XLT	XiLinHaoTe	38.71	282	*e*	P	P	04 53 18.0	+1.2
XLT					sP	sP	04 53 34.0	+1.9
XLT					pmax	pmax		
	comp=Z,6.0nm,1.0s							
XLT					pmax	pmax		
	comp=Z,78nm,5.6s							
LLLB	Lillooet	38.91	66		IAmb	IAmb	04 53 19.9	
	comp=Z,33nm,0.8s							
D05A	Enumclaw	40.54	71		IAmb	IAmb	04 53 33.9	
	comp=Z,71nm,1.6s							
EUNU	Eureka	40.84	15		P	P	04 53 34.3	+0.3
LON	Longmire	40.88	71		IAmb	IAmb	04 54 57.2	
	comp=Z,45nm,1.9s							
RES	Resolute Bay	40.97	24		P	P	04 53 35.0	0.0
RES	Resolute Bay	40.97	24		LR	LR	05 12 35.9	
	comp=Z,123nm,20.0s,baz=290,slow=39							
RES	Resolute Bay	40.97	24		P	P	04 53 35.0	0.0
RES					pmax	pmax		
	comp=Z,9.0nm,0.9s							
LTY	Liberty	41.27	70		IAmb	IAmb	04 53 38.3	
	comp=Z,36nm,1.6s							
B08A	Colville Reser	41.47	68		IAmb	IAmb	04 53 40.2	
	comp=Z,24nm,0.8s							
NRIK	Noril'sk	41.53	328		P	P	04 53 39.7	0.0
NRIK	Noril'sk	41.53	328		P	P	04 53 39.4	-0.2
	comp=Z,11nm,0.9s,baz=77,slow=9.0,SNR=10							
NRIK					LR	LR	05 12 00.4	
	comp=Z,132nm,18.3s,baz=85,slow=38							
	comp=Z,11nm,0.9s							
NRIK	Noril'sk	41.53	328	*ce*	P	P	04 53 39.3	-0.4
NRIK					pmax	pmax		
	comp=Z,21nm,1.3s							
HOOD	Mount Hood Mea	41.74	73		IAmb	IAmb	04 53 42.6	
	comp=Z,26nm,1.2s							
H04A	Detroit Lake	41.77	74		IAmb	IAmb	04 53 44.6	
	comp=Z,39nm,1.6s							
MXC	Moxie City	41.85	70		IAmb	IAmb	04 53 43.4	
	comp=Z,29nm,1.5s							
ULN	Ulaanbaatar	41.93	292	*i*	P	P	04 53 41.7	-1.7
ULN					pmax	pmax		
	comp=Z,12nm,2.7s							
E07A	Sunnyside	42.12	70		IAmb	IAmb	04 53 45.8	
	comp=Z,38nm,1.5s							
SONM	Songino Array	42.32	292		P	P	04 53 47.0	+0.5
	comp=Z,1.2nm,0.5s,baz=59,slow=7.1,SNR=8.2							
SONM					PcP	PcP	04 55 39.5	+0.1
	comp=Z,0.6nm,0.7s,baz=57,slow=4.5,SNR=1.7							
SONM					LR	LR	05 13 28.2	
	comp=Z,123nm,18.5s,baz=30,slow=39							
	comp=Z,1.2nm,0.5s							
C09A	Chrisman Ranch	42.36	68		IAmb	IAmb	04 53 47.2	
	comp=Z,24nm,0.8s							
HAWA	Hanford	42.39	70		IAmb	IAmb	04 53 47.7	
	comp=Z,28nm,0.7s							
F07A	Phinny Hill Vi	42.43	71		IAmb	IAmb	04 53 48.1	
	comp=Z,20nm,0.8s							
E08A	Dider Farm, El	42.61	70		IAmb	IAmb	04 53 49.2	
	comp=Z,16nm,0.7s							
ALE	Alert	42.73	9		P	P	04 53 49.4	+0.1
ALE					pP	pP	04 54 00.8	+0.4
ALE					PcP	PcP	04 55 40.4	+0.3
NEW	Newport	42.77	67		IAmb	IAmb	04 53 50.6	
	comp=Z,22nm,0.8s							
NEW	Newport	42.77	67		LR	LR	05 09 47.2	
	comp=Z,98nm,19.4s,baz=312,slow=34							
E09A	Wood Farm, Sta	43.13	69		IAmb	IAmb	04 53 53.4	
	comp=Z,28nm,1.2s							
YBH	Yreka Blue Hor	43.15	78		P	P	04 53 53.9	+0.6
YBH	Yreka Blue Hor	43.15	78		LR	LR	05 08 34.2	
	comp=Z,186nm,21.3s,baz=299,slow=32							
YBH	Yreka Blue Hor	43.15	78		P	P	04 53 53.9	+0.6
YBH					pmax	pmax		
	comp=Z,8.0nm,1.1s							
HHC	Hu-ho-hao-te	43.20	281	*e*	P	P	04 53 54.6	+0.9
HHC					pmax	pmax		
	comp=Z,6.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,120nm,5.3s							
HHC					LR	LR		
	comp=Z,210nm,16.0s							
HHC					LR	LR		
	comp=Z,230nm,16.8s							
HHC					LR	LR		
	comp=Z,220nm,16.8s							
HNS	HongShan	43.40	275	⇑	P	P	04 53 57.7	+2.5
HNS				*e*	S	S	05 00 23.2	+3.0
HNS					pmax	pmax		
	comp=Z,10.0nm,1.2s							
HNS					LR	LR		
	comp=Z,210nm,19.1s							
HNS					LR	LR		
	comp=Z,190nm,19.9s							
BTO	Baotou	44.29	281	*e*	P	P	04 54 03.9	+1.5
BTO					pP	pP	04 54 15.3	+2.0
BTO					sP	sP	04 54 21.4	+3.5
BTO					PP	PP	04 55 45.3	-0.7
BTO					S	S	05 00 35.9	+2.6
BTO					pmax	pmax		
	comp=Z,30nm,0.9s							
BTO					pmax	pmax		
	comp=Z,250nm,3.8s							
BTO					LR	LR		
	comp=Z,430nm,17.1s							
BTO					LR	LR		
	comp=Z,710nm,15.1s							
BTO					LR	LR		
	comp=Z,410nm,18.0s							
NJ2	Nanjing	44.37	265	*e*	P	P	04 54 03.6	+0.5
NJ2					pmax	pmax		
	comp=Z,5.0nm,0.5s							
GUMO	Guam	44.92	222		LR	LR	05 11 57.0	
	comp=Z,113nm,19.0s,baz=52,slow=35							
MSO	Missoula	45.36	67		IAmb	IAmb	04 54 15.5	
	comp=Z,21nm,1.1s							
NOR	Nord	46.49	2	*i*	P	P	04 54 16.4	-2.8
NOR					IAmb	IAmb	04 54 21.9	
	comp=Z,1.5nm,0.8s							
LYN	LuoYang	46.63	273	*e*	P	P	04 54 20.0	-0.9
LYN					pP	pP	04 54 32.7	+0.8
LYN					pmax	pmax		
	comp=Z,10.0nm,0.7s							
PNTR	Pine Nut	46.64	79		IAmb	IAmb	04 54 26.3	
	comp=Z,15nm,0.8s							
HLID	Hailey	46.99	71		IAmb	IAmb	04 54 24.4	
	comp=Z,13nm,1.1s							
EGMT	Eagleton	47.02	63		IAmb	IAmb	04 54 24.2	
	comp=Z,20nm,0.9s							
FFC	Flin Flon	47.31	52		P	P	04 54 25.7	-0.2
FFC	Flin Flon	47.31	52		P	P	04 54 25.7	-0.2
FFC					pmax	pmax		
	comp=Z,10.0nm,1.0s							
FFC	Flin Flon	47.31	52		P	P	04 54 25.7	-0.2
FFC					PcP	PcP	04 55 56.8	+0.5
BOZ	Bozeman (W)	47.38	67		IAmb	IAmb	04 54 27.2	
	comp=Z,16nm,0.9s							
RYN	Ryan	47.58	78		IAmb	IAmb	04 54 29.2	
	comp=Z,12nm,1.0s							
NEEM	North Greenlan	47.79	12	*i*	P	P	04 54 27.9	-1.9
NEEM					IAmb	IAmb	04 54 30.3	
	comp=Z,79nm,1.0s							
NVAR	Mina Array Bea	47.84	79		P	P	04 54 30.4	-0.1
	comp=Z,5.9nm,0.8s,baz=290,slow=7.8,SNR=32							
NVAR					PcP	PcP	04 55 59.6	+0.9
	comp=Z,1.7nm,0.6s,baz=273,slow=3.7,SNR=4.1							
NVAR					LR	LR	05 11 24.9	
	comp=Z,83nm,20.9s,baz=290,slow=32							
	comp=Z,5.9nm,0.8s							
YHL	Hebgen Lake	48.08	67		IAmb	IAmb	04 54 33.0	
	comp=Z,20nm,1.0s							
ELK	Elko	48.22	74		LR	LR	05 11 48.4	
	comp=Z,167nm,21.9s,baz=312,slow=32							
YMR	Madison River	48.32	67		IAmb	IAmb	04 54 39.0	
	comp=Z,14nm,0.9s							
YNR	Norris Junctio	48.45	67		IAmb	IAmb	04 54 41.1	
	comp=Z,13nm,1.0s							
YFT	Old Faithful	48.52	68		IAmb	IAmb	04 54 42.0	
	comp=Z,14nm,0.8s							
YNE	Yellowstone No	48.66	66		IAmb	IAmb	04 54 39.0	
	comp=Z,6.9nm,0.7s							
FCC	Fort Churchill	48.66	44		IAmb	IAmb	04 54 37.0	
	comp=Z,25nm,0.8s							
H17A	Grant Village	48.70	67		IAmb	IAmb	04 54 39.1	
	comp=Z,12nm,1.0s							
DSP	Deep Springs	48.72	79		IAmb	IAmb	04 54 40.1	
	comp=Z,28nm,1.7s							
FLWY	Flagg Ranch	48.82	68		IAmb	IAmb	04 54 39.2	
	comp=Z,12nm,0.8s							
RLMT	Red Lodge	49.01	66		IAmb	IAmb	04 54 40.4	
	comp=Z,16nm,1.0s							
HVU	Hansel Valley	49.03	71		IAmb	IAmb	04 54 40.4	
	comp=Z,7.6nm,0.7s							
TPAW	Teton Pass	49.04	69		IAmb	IAmb	04 55 03.8	
	comp=Z,24nm,1.9s							
KULLO	Kullorsuaq	49.14	16	*i*	P	P	04 54 38.6	-1.1
KULLO					IAmb	IAmb	04 54 40.5	
	comp=Z,34nm,0.9s							
XAN	Xi'an	49.16	275		P	P	04 54 40.9	+0.4
XAN					pmax	pmax		
	comp=Z,5.0nm,1.1s							
XAN					LR	LR		
	comp=Z,280nm,17.5s							
XAN					LR	LR		
	comp=Z,260nm,16.3s							
XAN					LR	LR		
	comp=Z,280nm,16.0s							
SPA0	Spitsbergen Ar	49.34	354	*e*	P	P	04 54 41.1	-0.2
SPA0					IAmb	IAmb	04 54 55.0	
	comp=Z,97nm,1.2s							
SPITS	Spitsbergen Ar	49.34	354		P	P	04 54 41.1	-0.2
	comp=Z,6.7nm,0.4s,baz=40,slow=7.7,SNR=60							
SPITS					LR	LR	05 14 44.0	
	comp=Z,132nm,21.1s,baz=0.0,slow=35							
	comp=Z,6.7nm,0.4s							
SPITS	Spitsbergen Ar	49.34	354		P	P	04 54 40.8	-0.5
SPITS					pmax	pmax		
	comp=Z,79nm,1.3s							
R11B	Troy Canyon, C	49.53	77		IAmb	IAmb	04 54 44.0	
	comp=Z,9.7nm,0.9s							
R11B	Troy Canyon, C	49.53	77		P	P	04 54 43.2	-0.3
	baz=310,SNR=10							
SPR3	Spring Creek 3	49.87	75		IAmb	IAmb	04 54 47.2	
	comp=Z,6.3nm,0.6s							
DUG	Dugway, Tooele	50.01	73		IAmb	IAmb	04 54 48.0	
	comp=Z,14nm,1.1s							
DUG	Dugway, Tooele	50.01	73		P	P	04 54 46.4	-0.7
DUG					pmax	pmax		
	comp=Z,13nm,1.4s							
ZALV	Zalesovo Beam	50.27	310		P	P	04 54 47.5	-1.2
	comp=Z,1.0nm,0.6s,baz=53,slow=6.4,SNR=4.6							
ZALV					LR	LR	05 17 41.8	
	comp=Z,98nm,18.9s,baz=53,slow=38							
	comp=Z,1.0nm,0.6s							
PD31	Pinedale Array	50.29	69		IAmb	IAmb	04 54 49.7	
	comp=Z,10nm,0.9s							
PDAR	Pinedale Array	50.29	69		P	P	04 54 48.5	-0.7
	comp=Z,5.8nm,0.6s,baz=305,slow=3.7,SNR=53							
PDAR					LR	LR	05 16 00.3	
	comp=Z,56nm,19.1s,baz=312,slow=36							
	comp=Z,5.8nm,0.6s							
UPNV	Upernavik	50.74	17	*i*	P	P	04 54 50.8	-1.2
UPNV					IAmb	IAmb	04 54 52.5	
	comp=Z,46nm,0.8s							
GSC	Goldstone, Bar	50.79	81		P	P	04 54 53.0	0.0
GSC					IAmb	IAmb	04 54 53.4	
	comp=Z,11nm,0.7s							
GSC	Goldstone, Bar	50.79	81		P	P	04 54 53.0	0.0
GSC					pmax	pmax		
	comp=Z,11nm,0.7s							
LZH	Lanzhou	50.90	281	*e*	P	P	04 54 54.7	+0.8
LZH					sP	sP	04 55 12.6	+3.2
LZH					pmax	pmax		
	comp=Z,14nm,1.2s							
LZH					LR	LR		
	comp=Z,270nm,16.1s							
LZH					LR	LR		
	comp=Z,240nm,16.5s							
LZH					LR	LR		
	comp=Z,240nm,15.5s							
GTA	Gaotai	51.15	287	*e*	P	P	04 54 55.5	-0.1
GTA					pP	pP	04 55 04.0	-2.7
GTA					pmax	pmax		
	comp=Z,12nm,0.8s							
GTA					LR	LR		
	comp=Z,200nm,15.9s							
GTA					LR	LR		
	comp=Z,150nm,17.9s							
GTA					LR	LR		
	comp=Z,180nm,16.7s							
DAG	Danmarks Havn	51.22	4		P	P	04 54 55.0	-0.5
DAG					pmax	pmax		
	comp=Z,14nm,0.9s							
DAG	Danmarks Havn	51.22	4	*i*	P	P	04 54 53.1	-2.3
DAG					IAmb	IAmb	04 54 55.3	
	comp=Z,10nm,0.8s							
MVU	Marysvale	51.45	74		IAmb	IAmb	04 54 59.4	
	comp=Z,31nm,0.9s							
TMUT	Trail Mountain	51.53	73		IAmb	IAmb	04 54 59.7	
	comp=Z,14nm,0.7s							
LCMT	Little Creek M	51.81	77		IAmb	IAmb	04 55 01.9	
	comp=Z,10nm,0.9s							
SRU	San Rafael Swe	52.06	73		IAmb	IAmb	04 55 03.5	
	comp=Z,12nm,0.7s							
KNB	Kanab	52.06	76		IAmb	IAmb	04 56 27.2	
	comp=Z,20nm,1.1s							
PKCU	Pink Cliffs	52.09	75		IAmb	IAmb	04 55 50.8	
	comp=Z,54nm,2.0s							
K22A	Casper	52.09	67		IAmb	IAmb	04 55 07.7	
	comp=Z,8.6nm,0.8s							
PFO	Pinyon Flats O	52.14	82		LR	LR	05 14 05.8	
	comp=Z,100nm,19.5s,baz=253,slow=32							
NUUG	Nuugaatsiaq	52.29	17	*i*	P	P	04 55 01.8	-1.7
NUUG					IAmb	IAmb	04 55 04.3	
	comp=Z,15nm,1.0s							
RSSD	Black Hills	52.55	64		P	P	04 55 05.5	-0.7
RSSD	Black Hills	52.55	64		P	P	04 55 05.5	-0.7
RSSD					pmax	pmax		
	comp=Z,7.0nm,0.9s							
RSSD	Black Hills	52.55	64		P	P	04 55 05.7	-0.4
O20A	White River Ci	52.73	70		IAmb	IAmb	04 55 12.6	
	comp=Z,9.4nm,0.7s							
U15A	North Rim	52.77	76		IAmb	IAmb	04 55 09.1	
	comp=Z,12nm,0.9s							
ULM	Lac du Bonnet	52.97	54		IAmb	IAmb	04 55 09.4	
	comp=Z,17nm,0.9s							
ULM	Lac du Bonnet	52.97	54		P	P	04 55 08.1	-0.8
	comp=Z,12nm,0.7s,baz=306,slow=7.7,SNR=35							
ULM					LR	LR	05 18 39.2	
	comp=Z,271nm,19.6s,baz=324,slow=37							
	comp=Z,12nm,0.7s							
UMMG	Uummannaq	53.20	17	*i*	P	P	04 55 09.0	-1.2
UMMG					IAmb	IAmb	04 55 11.2	
	comp=Z,32nm,1.3s							
PV23	Carpenter Ridg	53.38	72		IAmb	IAmb	04 56 32.2	
	comp=Z,18nm,1.0s							
N23A	Red Feather La	53.56	68		P	P	04 55 12.9	-0.8
	baz=311							
PV11	David Mesa, Pa	53.56	72		IAmb	IAmb	04 55 14.2	
	comp=Z,40nm,1.3s							
DBG	Daneborg	53.58	5	*i*	P	P	04 55 11.1	-2.0
DBG					IAmb	IAmb	04 55 13.5	
	comp=Z,17nm,0.8s							
SUMG	Summit	53.64	12		P	P	04 55 14.0	0.0
SUMG	Summit	53.64	12		P	P	04 55 14.0	0.0
SUMG					pmax	pmax		
	comp=Z,47nm,1.1s							
SUMG	Summit	53.64	12	*i*	P	P	04 55 12.8	-1.2
SUMG					IAmb	IAmb	04 55 14.9	
	comp=Z,58nm,1.2s							
PV15	Paradox Valley	53.77	72		IAmb	IAmb	04 56 22.6	
	comp=Z,10nm,0.9s							
WUAZ	Wupatki	53.93	77		IAmb	IAmb	04 56 33.9	
	comp=Z,12nm,0.9s							
AGMN	Agassiz Nation	54.23	55		IAmb	IAmb	04 55 18.6	
	comp=Z,20nm,0.9s							
ZSN	Zaisan	54.30	303	*e*	P	P	04 55 18.4	-0.3
ZSN					pmax	pmax		
	comp=Z,8.0nm,0.9s							
ZSN	Zaisan	54.30	303	*e*	P	P	04 55 18.4	-0.3
	comp=Z,7.6nm,0.9s							
CD2	Chengdu	54.47	276		P	P	04 55 21.3	+1.1
CD2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
ILULI	Ilulissat	54.62	18	*i*	P	P	04 55 18.6	-2.0
ILULI					IAmb	IAmb	04 55 20.7	
	comp=Z,32nm,0.8s							
FRB	Frobisher Bay	54.71	29		P	P	04 55 20.1	-1.1
	comp=Z,23nm,0.7s,baz=310,slow=8.4,SNR=43							
FRB					LR	LR	05 19 58.2	
	comp=Z,162nm,20.3s,baz=333,slow=38							
	comp=Z,23nm,0.7s							
SUSD	Miller	55.12	61		IAmb	IAmb	04 55 25.1	
	comp=Z,26nm,1.0s							
S22A	4UR Ranch, Cre	55.13	72		P	P	04 55 24.8	-0.4
	baz=312,SNR=8.0							
WMQ	Urumqi	55.17	298	*e*	P	P	04 55 26.2	+1.1
WMQ					pmax	pmax		
	comp=Z,18nm,1.5s							
WMQ					LR	LR		
	comp=Z,520nm,23.9s							
WMQ					LR	LR		
	comp=Z,700nm,20.5s							
WMQ					LR	LR		
	comp=Z,140nm,23.9s							
KURK	Kurchatov	55.26	310		P	P	04 55 25.3	-0.2
KURK	Kurchatov	55.26	310		P	P	04 55 25.3	-0.2
KURK					pmax	pmax		
	comp=Z,36nm,1.1s							
KURK	Kurchatov	55.26	310		P	P	04 55 25.5	0.0
KURK					sP	sP	04 55 42.0	+0.2
KURBB	Kurchatov Arra	55.36	310		P	P	04 55 25.8	-0.4
	comp=Z,20nm,0.9s,baz=49,slow=7.2,SNR=44							
	comp=Z,20nm,0.9s							
VADS	Vadso	55.50	346	*e*	P	P	04 55 26.4	-0.6
VADS					IAmb	IAmb	04 55 37.9	
	comp=Z,3μm,4.1s							
MK31	Makanchi Array	56.05	304	*i*	P	P	04 55 30.4	-1.0
MK31					pmax	pmax		
	comp=Z,3.0nm,0.5s							
MKAR	Makanchi Array	56.05	304		P	P	04 55 30.6	-0.7
	comp=Z,2.7nm,0.5s,baz=53,slow=6.6,SNR=30							
	comp=Z,2.7nm,0.5s							
MAKZ	Makanchi	56.21	304		P	P	04 55 31.6	-0.7
MAKZ	Makanchi	56.21	304		P	P	04 55 31.7	-0.7
MAKZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
MAKZ	Makanchi	56.21	304		P	P	04 55 32.0	-0.5
GOMU	GeErMu	56.23	287		P	P	04 55 32.4	-0.8
GOMU					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GOMU					LR	LR		
	comp=Z,430nm,17.7s							
GOMU					LR	LR		
	comp=Z,430nm,17.0s							
GOMU					LR	LR		
	comp=Z,270nm,16.7s							
TUC	Tucson	56.49	79		P	P	04 55 34.9	+0.2
TUC	Tucson	56.49	79		P	P	04 55 34.9	+0.2
TUC					pmax	pmax		
	comp=Z,7.0nm,1.1s							
TUC	Tucson	56.49	79		P	P	04 55 34.7	0.0
ARA0	ARCESS Array S	56.58	347	*e*	P	P	04 55 31.0	-3.7
ARA0					IAmb	IAmb	04 55 46.5	
	comp=Z,1μm,3.1s							
ARCES	ARCESS Array B	56.58	347		P	P	04 55 33.9	-0.8
	comp=Z,2.8nm,0.5s,baz=34,slow=7.3,SNR=6.0							
ARCES					PcP	PcP	04 56 31.2	+0.5
	comp=Z,4.3nm,0.8s,baz=28,slow=4.2,SNR=4.3							
ARCES					LR	LR	05 22 09.0	
	comp=Z,128nm,18.1s,baz=18,slow=38							
	comp=Z,2.8nm,0.5s							
LVZ	Lovozero	56.61	343		P	P	04 55 34.4	-0.5
SFJD	Kangerlussuaq	56.61	19		P	P	04 55 34.6	-0.3
SFJD	Kangerlussuaq	56.61	19		P	P	04 55 33.8	-1.1
	comp=Z,11nm,0.6s,baz=334,slow=4.2,SNR=12							
SFJD					LR	LR	05 20 56.9	
	comp=Z,99nm,22.0s,baz=320,slow=37							
	comp=Z,11nm,0.6s							
SFJD	Kangerlussuaq	56.61	19		P	P	04 55 34.6	-0.3
SFJD					pmax	pmax		
	comp=Z,111nm,1.7s							
SFJD	Kangerlussuaq	56.61	19	*i*	P	P	04 55 33.1	-1.8
SFJD					IAmb	IAmb	04 55 35.7	
	comp=Z,9.3nm,0.7s							
SFJD	Kangerlussuaq	56.61	19		P	P	04 55 34.4	-0.5
EYMN	Ely	56.65	53		IAmb	IAmb	04 55 36.4	
	comp=Z,21nm,0.8s							
ICESG	Greenland Ices	56.68	14	*i*	P	P	04 55 33.1	-2.7
ICESG					IAmb	IAmb	04 55 36.4	
	comp=Z,40nm,1.3s							
T25A	Trinidad	56.96	71		IAmb	IAmb	04 55 39.9	
	comp=Z,19nm,1.1s							
T25A	Trinidad	56.96	71		P	P	04 55 37.8	-0.3
	baz=313,SNR=6.2							
APA	Apatity	57.12	343	⇓ *i*	P	P	04 55 34.5	-4.1
APA					pmax	pmax		
	comp=Z,7.0nm,1.3s							
JETT	Jettan, Norway	57.20	349	*e*	P	P	04 55 39.1	-0.1
JETT					IAmb	IAmb	04 55 39.6	
	comp=Z,30nm,0.8s							
SCO	Scoresbysund	57.25	6		IAmb	IAmb	04 55 41.0	
	comp=Z,22nm,1.1s							
SCO	Scoresbysund	57.25	6	*i*	P	P	04 55 38.0	-1.3
SCO					IAmb	IAmb	04 55 41.1	
	comp=Z,20nm,1.1s							
ANMO	Albuquerque	57.26	74		P	P	04 55 39.9	-0.4
ANMO	Albuquerque	57.26	74		LR	LR	05 17 54.1	
	comp=Z,84nm,21.6s,baz=120,slow=34							
ANMO	Albuquerque	57.26	74		P	P	04 55 39.9	-0.4
ANMO					pmax	pmax		
	comp=Z,4.0nm,1.1s							
JMIC	Jan Mayen	57.27	1		LR	LR	05 19 56.6	

SVE **Sverdlovsk** 58.54 324 *e*P P 04 55 49.4 +0.8
SVE pmax pmax
comp=Z,21nm,1.1s
HSIG 58.71 82 P P 04 55 50.3 0.0
HSIG IAmb IAmb 04 55 51.5
comp=Z,13nm,0.9s
PZH **PanZhiHua** 58.84 274 P P 04 55 52.2 +0.8
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,5.2s
COWI **Conover** 59.09 54 IAmb IAmb 04 55 53.4
comp=Z,18nm,0.8s
KRVT **Keravat (AS076** 59.17 206 LR LR 05 15 58.2
comp=Z,246nm,20.8s,baz=102,slow=30
QIZ **Qiongzhong** 59.38 262 P P 04 55 56.2 +1.2
QIZ S S 05 04 03.3 +2.4
QIZ LR LR
comp=Z,91nm,7.3s
QIZ LR LR
comp=Z,150nm,7.5s
QIZ LR LR
comp=Z,89nm,8.8s
ARTI **Arti** 59.69 324 P P 04 55 56.9 +0.3
ARTI **Arti** 59.69 324 LR LR 05 23 25.4
comp=Z,112nm,20.9s,baz=40,slow=38
ARTI **Arti** 59.69 324*c i*P P 04 55 56.9 +0.3
ARTI 04 56 38.9
ARTI 04 58 08.5
ARTI S S 05 04 08.6 +4.8
ARTI SS SS 05 07 55.4 -3.6
ARTI pmax pmax
comp=Z,43nm,1.2s
ARTI **Arti** 59.69 324 P P 04 55 56.9 +0.3
DAV **Davao City (W)** 59.82 239 LR LR 05 17 57.5
comp=Z,77nm,20.1s,baz=328,slow=32
SHLS **Shalkode** 60.01 303 *e*P P 04 55 57.4 -1.8
SHLS pmax pmax
comp=Z,9.0nm,0.8s
SHLS **Shalkode** 60.01 303 *e*P P 04 55 57.5 -1.8
comp=Z,8.8nm,0.8s
KSU1 **Kansas State U** 60.04 64 IAmb IAmb 04 55 59.2
comp=Z,16nm,0.8s
AMTX **Amarillo** 60.11 71 IAmb IAmb 04 56 01.2
comp=Z,17nm,1.0s
MSTX **Muleshoe** 60.12 72 IAmb IAmb 04 56 02.0
comp=Z,13nm,1.1s
ANGG **Ammassalik, Gr** 60.19 15 *i*P P 04 55 57.7 -2.2
ANGG IAmb IAmb 04 55 59.0
comp=Z,22nm,0.6s
KPKS **Kokpek** 60.20 303 *e*P P 04 56 00.4 0.0
KPKS **Kokpek** 60.20 303 *e*P P 04 56 00.5 0.0
UZB **Uzynbulak** 60.25 303 *e*P P 04 56 00.7 -0.1
UZB **Uzynbulak** 60.25 303 *e*P P 04 56 00.7 -0.1
SATY **Saty** 60.63 303 *e*P P 04 56 03.3 -0.1
SATY **Saty** 60.63 303 *e*P P 04 56 03.3 -0.1
SMWD **Samnorwood** 60.79 70 IAmb IAmb 04 56 05.8
comp=Z,18nm,0.9s
KIRV **Kirov** 60.92 330 LR LR 05 23 46.8
comp=Z,92nm,21.1s,baz=42,slow=37
KIRV **Kirov** 60.92 330*ce*P P 04 56 06.3 +1.3
VHRN **Van Horn** 61.06 76 IAmb IAmb 04 56 07.7
comp=Z,9.8nm,0.8s
STOK **Stokkvaagen** 61.08 351 *e*P P 04 56 06.2 +0.3
STOK IAmb IAmb 04 56 06.8
comp=Z,1µm,3.0s
MOR8 **Moi Rana** 61.10 351 *e*P P 04 56 05.0 -1.1
MOR8 IAmb IAmb 04 56 05.7
comp=Z,24nm,0.8s
JAY **Jayapura** 61.22 219 LR LR 05 17 44.8
comp=Z,162nm,20.7s,baz=326,slow=31
MDOK **Medeo** 61.25 304 *e*P P 04 56 07.4 -0.3
MDOK **Medeo** 61.25 304 *e*P P 04 56 07.5 -0.3
E46A **Sault Ste Mari** 61.26 51 IAmb IAmb 04 56 08.4
comp=Z,20nm,0.8s
LEIR **Leirfjorden** 61.29 351 *e*P P 04 56 06.7 -0.6
SLVN **Son La** 61.30 268 P P 04 56 09.3 +1.1
PECS **Pecos** 61.31 75 IAmb IAmb 04 56 09.5
comp=Z,18nm,1.4s
P38A **Dawn** 61.36 62 IAmb IAmb 04 56 08.3
comp=Z,17nm,0.9s
BTLS **Baital** 61.41 307 *e*P P 04 56 08.2 -0.3
BTLS **Baital** 61.41 307 *e*P P 04 56 08.2 -0.3
DKNS **Dickens** 61.42 71 IAmb IAmb 04 56 10.1
comp=Z,18nm,0.9s
WUS **Wushi** 61.52 301 IAmb IAmb 04 56 10.8
comp=Z,8.4nm,0.9s
ODSA **Odessa** 61.56 73 IAmb IAmb 04 56 10.7
comp=Z,13nm,0.6s
JOF **Joensuu** 61.70 342 *e*P P 04 56 10.9 +0.7
KLMR **Klimovskoe** 61.73 337 *e*P P 04 56 07.6 -2.8
KLMR pmax pmax
comp=Z,53nm,1.3s
WMOK **Wichita Mounta** 61.90 69 IAmb IAmb 04 56 12.7
comp=Z,13nm,1.0s
OK029 **Liberty Lake** 61.90 67 IAmb IAmb 04 57 04.2
comp=Z,19nm,0.8s
MNHN **Monahans** 61.99 74 IAmb IAmb 04 56 13.6
comp=Z,19nm,0.7s
OK052 **Battle Ridge R** 62.13 67 IAmb IAmb 04 56 14.0
comp=Z,13nm,0.8s
SCHQ **Schefferville** 62.14 35 P P 04 56 12.9 -0.4
SCHQ **Schefferville** 62.14 35 P P 04 56 13.0 -0.3
comp=Z,48nm,0.7s,baz=327,slow=6.5,SNR=84
SCHQ LR LR 05 25 53.0
comp=Z,280nm,18.2s,baz=308,slow=39
comp=Z,48nm,0.7s
ALPN **Alpine** 62.16 76 IAmb IAmb 04 56 15.0
comp=Z,17nm,1.4s
DEOK **Depew** 62.41 66 IAmb IAmb 04 56 15.9
comp=Z,25nm,1.2s
L44A **Lake County Fo** 62.50 56 P P 04 56 14.6 -1.3
baz=317,SNR=5.1
TUL3 **Leonard** 62.76 66 IAmb IAmb 04 56 18.4
comp=Z,27nm,1.4s
NRS **Narsarsuaq** 62.84 20 *i*P P 04 56 16.4 -1.4
NRS IAmb IAmb 04 56 18.0
comp=Z,7.9nm,0.6s
TXAR **Lajitas Array** 62.90 76 P P 04 56 19.1 +0.3
comp=Z,19nm,0.7s,baz=302,slow=4.7,SNR=250
comp=Z,19nm,0.7s
AAK **Ala-Archa** 62.93 305 P P 04 56 19.3 +0.3
AAK **Ala-Archa** 62.93 305*ce*P P 04 56 19.7 +0.7
AAK pmax pmax
comp=Z,9.0nm,1.3s
AAK **Ala-Archa** 62.93 305 P P 04 56 19.3 +0.3
NSS **Namsos** 62.95 351 *e*P P 04 56 18.9 +0.4
NSS IAmb IAmb 04 56 22.5
comp=Z,8.4nm,0.1s
BORG **Borgarnes** 62.95 7 LR LR 05 23 36.5
comp=Z,77nm,20.1s,baz=7.1,slow=36
R40A **Maddies Statio** 63.01 62 IAmb IAmb 04 56 18.9
comp=Z,18nm,0.8s
VAF **Ylistaro** 63.08 346 *e*P P 04 56 19.6 +0.3
VLDQ **Val d'Or** 63.12 45 IAmb IAmb 04 56 18.3
comp=Z,13nm,0.9s
U38A **Gravette** 63.17 65 IAmb IAmb 04 56 20.2
comp=Z,11nm,0.7s
SLBS **Sierra La Lagu** 63.20 85 P P 04 56 22.1 +1.3
SLBS IAmb IAmb 04 56 22.9
comp=Z,23nm,1.0s
SLBS **Sierra La Lagu** 63.20 85 P P 04 56 21.8 +0.9
SLBS sP sP 04 56 38.1 +1.6
OZNA **Ozona** 63.27 73 IAmb IAmb 04 56 22.2
comp=Z,22nm,1.3s
SAND **Sanderson** 63.37 75 IAmb IAmb 04 56 22.8
comp=Z,8.8nm,0.8s
HHAR **Hobbs** 63.53 64 IAmb IAmb 04 56 22.5
comp=Z,11nm,0.7s
PLPT **Palo Pinto** 63.55 70 IAmb IAmb 04 56 23.9
comp=Z,13nm,0.7s
CCM **Cathedral Cave** 63.73 61 P P 04 56 22.9 -1.2
CCM IAmb IAmb 04 56 23.8
comp=Z,13nm,0.8s
CCM **Cathedral Cave** 63.73 61 P P 04 56 22.9 -1.2
CCM pmax pmax
comp=Z,13nm,0.8s
CCM **Cathedral Cave** 63.73 61 P P 04 56 23.0 -1.2
Z35A **Perchaven, San** 63.79 69 IAmb IAmb 04 56 25.1
comp=Z,20nm,0.8s
MGMO **Mountain Grove** 63.83 63 IAmb IAmb 04 56 24.2
comp=Z,13nm,0.8s
FW06 **Azle** 63.87 69 IAmb IAmb 04 56 26.0
comp=Z,16nm,0.6s
FW07 **Weatherford** 63.94 70 IAmb IAmb 04 56 26.6
comp=Z,15nm,0.8s

FINES **FINESS Array B** 64.03 344 P P 04 56 25.3 -0.4
comp=Z,13nm,0.8s,baz=30,slow=7.8,SNR=33
FINES LR LR 05 28 59.6
comp=Z,96nm,18.0s,baz=44,slow=40
comp=Z,13nm,0.8s
FINES **FINESS Array B** 64.03 344 *i*P P 04 56 25.6 0.0
FINES pmax pmax
comp=Z,13nm,0.8s
FVM **French Village** 64.23 61 IAmb IAmb 04 56 27.4
comp=Z,17nm,0.7s
BRDY **Brady** 64.25 72 IAmb IAmb 04 56 28.8
comp=Z,12nm,0.8s
DZA **Taraz** 64.32 307 *e*P P 04 56 27.7 -0.2
DZA **Taraz** 64.32 307 *e*P P 04 56 27.7 -0.2
JCT **Junction City** 64.37 73 IAmb IAmb 04 56 29.8
comp=Z,17nm,0.8s
FW13 **Cleburne** 64.39 70 IAmb IAmb 04 56 29.5
comp=Z,16nm,0.9s
KSH **Kashi** 64.45 302 P P 04 56 33.1 +4.1
KSH pmax pmax
comp=Z,13nm,1.1s
KSH LR LR
comp=Z,240nm,15.1s
KSH LR LR
comp=Z,300nm,18.9s
KSH LR LR
comp=Z,150nm,15.1s
AKTO **Aktyubinsk** 64.46 320 LR LR 05 28 18.2
comp=Z,132nm,18.2s,baz=47,slow=40
AKTO **Aktyubinsk** 64.46 320 P P 04 56 28.3 -0.4
FW14 **Alvarado** 64.50 70 IAmb IAmb 04 56 30.1
comp=Z,12nm,0.8s
AAM **Ann Arbor** 64.56 53 IAmb IAmb 04 56 30.1
comp=Z,13nm,0.6s
KK31 **Karatay Array** 64.56 308 *i*P P 04 56 28.9 -0.6
KKAR **Karatay Array** 64.56 308 P P 04 56 29.1 -0.4
KKAR **Karatay Array** 64.56 308 P P 04 56 29.2 -0.2
KKAR IAmb IAmb 04 56 30.0
comp=Z,3.7nm,0.8s
KKAR **Karatay Array** 64.56 308 P P 04 56 29.3 -0.2
KKAR pmax pmax
comp=Z,4.0nm,0.8s
N47A **Urbana** 64.59 56 IAmb IAmb 04 56 29.5
comp=Z,21nm,1.0s
AB31 **Akbulak array** 64.61 319 *i*P P 04 56 29.7 0.0
ABKAR **Akbulak array** 64.61 319 P P 04 56 30.0 +0.3
ABKAR IAmb IAmb 04 56 31.1
comp=Z,16nm,0.7s
ABKAR **Akbulak array** 64.61 319 P P 04 56 30.0 +0.3
WHTX **Lake Whitney,** 64.64 70 IAmb IAmb 04 56 31.2
comp=Z,14nm,0.7s
DRIO **Del Rio** 64.65 74 IAmb IAmb 04 56 30.8
comp=Z,13nm,1.1s
SADO **Sadowa** 64.88 49 P P 04 56 30.1 -1.4
comp=Z,5.3nm,0.5s,baz=339,slow=7.5,SNR=14
SADO LR LR 05 26 11.4
comp=Z,80nm,18.5s,baz=286,slow=37
comp=Z,5.3nm,0.5s
TREL **Terrell** 64.89 69 IAmb IAmb 04 56 32.5
comp=Z,16nm,0.7s
BRLS **Borolday** 64.94 308 *e*P P 04 56 33.3 +1.3
BRLS **Borolday** 64.94 308 *e*P P 04 56 33.3 +1.3
MIAR **Mount Ida** 65.00 66 IAmb IAmb 04 56 33.2
comp=Z,21nm,0.8s
S44A **Carbondale** 65.07 60 IAmb IAmb 04 56 33.0
comp=Z,21nm,0.7s
RAF **Rauma** 65.13 346 *e*P P 04 56 32.4 -0.5
WHAR **Wooly Hollow** 65.17 64 IAmb IAmb 04 56 33.5
comp=Z,15nm,0.8s
MOL **Molde** 65.25 353 *e*P P 04 56 34.0 +0.4
O48B **Farmland** 65.32 56 IAmb IAmb 04 56 34.2
comp=Z,25nm,0.8s
O48B **Farmland** 65.32 56 P P 04 56 33.5 -0.9
baz=318,SNR=8.8
HNDO **Hondo** 65.37 73 IAmb IAmb 04 56 35.6
comp=Z,8.5nm,0.7s
PMG **Port Moresby** 65.41 209 LR LR 05 20 43.4
comp=Z,109nm,19.5s,baz=322,slow=32
BLO **Bloomington** 65.42 57 IAmb IAmb 04 56 35.5
comp=Z,29nm,1.0s
TRKS **Terek-Say** 65.43 306 P P 04 56 36.4 +1.0
435B **Jarrell** 65.45 71 P P 04 56 35.7 +0.2
baz=318
X40A **Basin Creek Fa** 65.46 65 IAmb IAmb 04 58 08.5
comp=Z,11nm,0.6s
M50A **Fremont** 65.53 54 IAmb IAmb 04 56 36.0
comp=Z,15nm,0.9s
SHL **Shillong** 65.56 281 IAmb IAmb 04 56 37.3
comp=Z,28nm,1.4s
SHL **Shillong** 65.56 281 P P 04 56 36.7 +0.2
SHL pmax pmax
comp=Z,11nm,1.6s
DOMB **Dombas** 65.65 352 *e*P P 04 56 36.3 0.0
AKN **Aaknes** 65.67 353 *e*P P 04 56 36.9 +0.5
TRQ **Mont Tremblant** 65.83 45 IAmb IAmb 04 56 37.1
comp=Z,31nm,1.4s
LDAQ **Lac Daran** 65.88 42 IAmb IAmb 04 56 38.0
comp=Z,8.5nm,0.6s
N51A **Ashland** 66.23 54 IAmb IAmb 04 56 40.5
comp=Z,20nm,0.8s
WCI **Wyandotte Cave** 66.24 58 P P 04 56 40.0 -0.4
WCI **Wyandotte Cave** 66.24 58 P P 04 56 40.0 -0.4
WCI pmax pmax
comp=Z,29nm,1.0s
NC303 **NORSAR Array S** 66.25 351 IAmb IAmb 04 56 41.2
comp=Z,25nm,1.1s
NC204 **NORSAR Array S** 66.25 351 IAmb IAmb 04 56 40.9
comp=Z,20nm,0.7s
CHTO **Chiang Mai** 66.26 270 P P 04 56 43.6 +2.8
NATX **Nacogdoches** 66.43 68 IAmb IAmb 04 56 42.9
comp=Z,22nm,0.8s
ACSO **Alum Creek Sta** 66.44 54 IAmb IAmb 04 56 42.1
comp=Z,12nm,0.9s
NB2 **NORSAR Subarra** 66.44 351 P P 04 56 41.1 -0.3
comp=Z,7.4nm,0.6s,baz=11,slow=6.5
NB2 **NORSAR Subarra** 66.44 351 P P 04 56 41.1 -0.3
baz=11,slow=6.5
NOA **NORSAR Array B** 66.44 351 P P 04 56 41.4 -0.1
comp=Z,11nm,0.6s,baz=2.7,slow=5.7,SNR=41
NOA LR LR 05 26 15.3
comp=Z,43nm,21.7s,baz=30,slow=36
comp=Z,11nm,0.6s
CMAR **Chiang Mai Arr** 66.53 270 P P 04 56 42.8 +0.3
comp=Z,1.0nm,0.3s,baz=21,slow=7.1,SNR=12
CMAR LR LR 05 28 40.3
comp=Z,32nm,19.4s,baz=55,slow=39
comp=Z,1.0nm,0.3s
CMAR **Chiang Mai Arr** 66.53 270 *i*P P 04 56 43.4 +0.9
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BELG **Belogornoye** 66.63 328 *i*P P 04 56 43.2 +0.6
BELG pmax pmax
comp=Z,12nm,0.9s
DRK **Karamyk** 66.64 305 P P 04 56 44.7 +1.4
VSU **Vasula** 66.69 342*ce*P P 04 56 43.6 +0.7
VSU pmax pmax
comp=Z,33nm,1.3s
BTK **Batken** 66.70 306 IAmb IAmb 04 56 44.9
comp=Z,11nm,0.8s
BTK **Batken** 66.70 306 P P 04 56 44.1 +0.7
MOS **Moscow** 66.71 335 *e*P P 04 56 43.1 0.0
MOS pmax pmax
comp=Z,30nm,0.8s
NC602 **NORSAR Array S** 66.71 351 *e*P P 04 56 43.2 +0.2
HYA **Hoyanger** 66.74 354 *e*P P 04 56 43.6 +0.5
WVNY **West Valley, N** 66.93 50 IAmb IAmb 04 56 46.8
comp=Z,20nm,0.8s
P51A **Williamsport** 66.97 55 IAmb IAmb 04 56 45.0
comp=Z,10nm,0.9s
WVT **Waverly** 66.99 61 P P 04 56 44.9 -0.3
WVT **Waverly** 66.99 61 P P 04 56 44.9 -0.3
WVT pmax pmax
comp=Z,28nm,0.8s
WVT **Waverly** 66.99 61 P P 04 56 44.9 -0.3
SKAR **Skarslia** 67.06 352 *e*P P 04 56 46.0 +0.6
HFS **Hagfors** 67.07 349 P P 04 56 44.6 -0.7
comp=Z,8.5nm,0.5s,baz=33,slow=3.5,SNR=81
HFS LR LR 05 25 52.0
comp=Z,50nm,21.8s,baz=352,slow=36
comp=Z,8.5nm,0.5s
N53A **Lisbon** 67.08 53 IAmb IAmb 04 56 46.2
comp=Z,26nm,1.1s
HKT **Hockley** 67.08 70 P P 04 56 46.2 +0.4
HKT IAmb IAmb 04 56 47.5
comp=Z,28nm,1.5s
HKT **Hockley** 67.08 70 P P 04 56 46.2 +0.4
HKT pmax pmax

comp=Z,28nm,1.5s
HKT **Hockley** 67.08 70 P P 04 56 46.2 +0.4
HKT pP **pP** 04 56 59.1 +2.1
HKT PcP **PcP** 04 57 13.9 +0.2
O53A **New Philadelph** 67.31 53 IAmb IAmb 04 56 47.0
comp=Z,14nm,0.7s
OBN **Obninsk** 67.54 335 ⇓P P 04 56 49.3 +0.9
OBN **Obninsk** 67.54 335 *e*P P 04 56 48.9 +0.6
OBN *e**PP **pP** 04 57 00.0 +0.2
OBN *e* 04 57 09.5
OBN *e* 04 59 15.7
OBN *e*PPP PPP 05 00 58.1
OBN pmax pmax
comp=Z,74nm,2.5s
OBN MLR MLR
comp=Z,164nm,22.0s
OBN **Obninsk** 67.54 335 P P 04 56 49.0 +0.6
comp=Z,29nm,1.1s
OSL **Oslo** 67.58 351 *e*P P 04 56 49.1 +0.6
143A **Socs Landing,** 67.58 65 IAmb IAmb 04 56 49.9
comp=Z,32nm,1.1s
K57A **Scipio Center** 67.66 49 IAmb IAmb 04 56 49.4
comp=Z,20nm,0.7s
Q52A **Bidwell** 67.77 55 IAmb IAmb 04 56 49.8
comp=Z,14nm,0.8s
O54A **Avella** 67.78 53 IAmb IAmb 04 56 50.5
comp=Z,17nm,0.8s
ODD1 **Odda** 67.95 353 *e*P P 04 56 51.4 +0.4
KONO **Kongsberg** 67.97 352 *e*P P 04 56 51.5 +0.5
KONO IAmb IAmb 04 57 03.3
comp=Z,273nm,2.6s
KONO **Kongsberg** 67.97 352 P P 04 56 51.8 +0.8
ZAIG **Zacatecas** 68.40 80 P P 04 56 55.0 +0.4
ZAIG IAmb IAmb 04 56 56.4
comp=Z,20nm,1.1s
MCWV **Mont Chateau** 68.44 53 IAmb IAmb 04 56 54.5
comp=Z,18nm,0.8s
BLS5 **Blasjo** 68.45 353 *e*P P 04 56 54.5 +0.4
BLS5 IAmb IAmb 04 57 05.0
comp=Z,346nm,2.8s
M57A **Sunshine Farm,** 68.46 50 IAmb IAmb 04 56 55.1
comp=Z,34nm,1.1s
CHGR **Chuyangaron** 68.59 306 P P 04 56 55.8 +0.4
CHGR pmax pmax
comp=Z,46nm,0.8s
SSPA **Standing Stone** 68.64 51 P P 04 56 55.2 -0.3
SSPA **Standing Stone** 68.64 51 P P 04 56 55.2 -0.3
SIMJ **Simiganj** 68.67 306 P P 04 56 56.0 0.0
SIMJ IAmb IAmb 04 56 57.1
comp=Z,16nm,0.9s
X48A **Hartselle** 68.67 61 IAmb IAmb 04 56 55.6
comp=Z,12nm,0.6s
KMY **Karmoy** 68.74 354 *e*P P 04 56 56.4 +0.6
TZTN **Tazewell** 68.95 57 IAmb IAmb 04 56 58.5
comp=Z,18nm,0.8s
LPSR **Galich'ya Gora** 69.14 333 *e*P P 04 56 57.8 -0.6
LPSR pmax pmax
comp=Z,21nm,1.0s
CPCT **Cooper Cave** 69.27 59 IAmb IAmb 04 56 59.9
comp=Z,40nm,1.3s
FPAL **Fort Paine** 69.38 60 IAmb IAmb 04 57 00.6
comp=Z,21nm,0.8s
HOMB **Homborsund** 69.43 352 *e*P P 04 57 00.5 +0.4
Y49A **Blount Mountai** 69.47 61 IAmb IAmb 04 57 00.8
comp=Z,21nm,0.8s
SNART **Snartemo** 69.47 353 *e*P P 04 57 00.8 +0.4
TKL **Tuckaleechee C** 69.50 58 IAmb IAmb 04 57 01.5
comp=Z,20nm,0.8s
TKL **Tuckaleechee C** 69.50 58 LR LR 05 29 04.0
comp=Z,378nm,18.6s,baz=332,slow=37
VRH **Novokhopyorsk** 69.54 330 *e*P P 04 57 00.3 -0.6
VRH pmax pmax
comp=Z,26nm,0.8s
MSVF **Nonsavu** 69.55 176 LR LR 05 21 24.8
comp=Z,177nm,21.9s,baz=237,slow=31
IIGN **Ignalina** 69.71 341 *e*P P 04 57 02.9 +1.0
X51A **Calhoun** 69.76 60 IAmb IAmb 04 57 03.1
comp=Z,30nm,1.2s
LRAL **Lakeview Retre** 69.77 62 IAmb IAmb 04 57 02.5
comp=Z,15nm,0.8s
U54A **Nelsons Funny** 69.86 56 IAmb IAmb 04 57 04.1
comp=Z,23nm,0.7s
LUPA **Lehigh Univers** 69.86 49 IAmb IAmb 04 57 03.6
comp=Z,29nm,1.0s
MVL **Millersville** 69.87 50 IAmb IAmb 04 57 03.8
comp=Z,20nm,0.9s
VORR **Voronezh** 69.88 332 *e*P P 04 57 02.7 -0.3
VORR pmax pmax
comp=Z,11nm,0.7s
PABE **Paberze** 70.00 342 *e*P P 04 57 04.2 +0.6
V53A **Saluda** 70.00 58 IAmb IAmb 04 57 04.5
comp=Z,16nm,0.7s
BLA **Blacksburg** 70.04 55 IAmb IAmb 04 57 04.9
comp=Z,13nm,0.7s
SDMD **Soldier's Deli** 70.10 51 IAmb IAmb 04 57 05.1
comp=Z,14nm,0.8s
MNK **Minsk** 70.16 340 *i*P P 04 57 03.5 -1.1
MNK *i**PP **pP** 04 57 15.6 -0.7
MNK *i* 04 59 35.8
MNK *i*PPP PPP 05 01 20.9
MNK *i*S S 05 06 12.5 0.0
MNK *i*SS SS 05 10 43.7 +2.1
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,50nm,0.9s
MNK MLR MLR
comp=E,260nm,19.0s
MNK MLR MLR
comp=N,433nm,22.0s
MNK MLR MLR
comp=Z,76nm,16.0s
NIL **Nilore** 70.29 299 P P 04 57 06.6 +0.7
NIL IAmb IAmb 04 57 07.5
comp=Z,26nm,1.2s
NIL **Nilore** 70.29 299 P P 04 57 06.6 +0.7
NIL pmax pmax
comp=Z,26nm,1.2s
VSR **Storozhevoye** 70.29 332 *e*P P 04 57 04.0 -1.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
S57A **Dark Hollow, R** 70.35 54 IAmb IAmb 04 57 07.0
comp=Z,39nm,1.5s
VORD **Divnogorie** 70.48 332 *e*P P 04 57 06.2 -0.5
VORD pmax pmax
comp=Z,20nm,1.0s
U56A **King** 70.73 55 IAmb IAmb 04 57 09.2
comp=Z,16nm,0.8s
T57A **Hurt** 70.79 54 IAmb IAmb 04 57 09.2
comp=Z,13nm,0.7s
250A **Grady** 70.97 62 IAmb IAmb 04 57 10.4
comp=Z,26nm,0.7s
PAULI **Pauline** 71.17 57 IAmb IAmb 04 57 11.7
comp=Z,37nm,1.2s
152A **Waverly Hall** 71.29 61 IAmb IAmb 04 57 11.3
comp=Z,12nm,0.7s
SUW **Suwalki** 71.56 342 *e*P P 04 57 13.4 +0.3
V58A **Windy Hill, Pi** 71.80 55 IAmb IAmb 04 57 15.7
comp=Z,16nm,0.9s
KBL **Kabul** 71.83 303 P P 04 57 14.9 -0.5
KBL IAmb IAmb 04 57 15.5
comp=Z,11nm,0.8s
KBL **Kabul** 71.83 303 P P 04 57 14.9 -0.5
KBL pmax pmax
comp=Z,11nm,0.8s
JSC **Jenkinsville** 71.88 57 IAmb IAmb 04 57 16.1
comp=Z,19nm,0.8s
BIRD **Birdtown, Kers** 72.01 57 IAmb IAmb 04 57 16.8
comp=Z,22nm,0.9s
KHAM **Kharkiv** 72.22 333 P P 04 57 17.4 +0.1
TAOE **Nuku Hiva Isla** 72.22 132 *e*LR LR 05 19 26.8
comp=Z,167nm,25.2s
EKA **Eskdalemuir Ar** 72.98 358 P P 04 57 22.0 +0.4
comp=Z,5.9nm,0.6s,baz=4.2,slow=5.1,SNR=32
comp=Z,5.9nm,0.6s
EKA **Eskdalemuir Ar** 72.98 358 P P 04 57 22.0 +0.4
KAPI **Kappang** 73.08 238 LR LR 05 26 21.0
comp=Z,33nm,20.4s,baz=54,slow=33
AK23 **Malin Array Si** 73.36 338 P P 04 57 24.0 +0.1
AK21 **Malin Array Si** 73.37 338 P P 04 57 24.1 +0.1
AK03 **Malin Array Si** 73.37 338 P P 04 57 23.9 -0.1
AK22 **Malin Array Si** 73.38 338 P P 04 57 24.0 0.0
AK04 **Malin Array Si** 73.39 338 P P 04 57 24.1 0.0
AKASG **Malin Array Be** 73.39 338 P P 04 57 24.2 +0.1

AKASG Malin Array Be 73.39 338 P **P 04 57 24.3 +0.1**
comp=Z,8.1nm,0.5s,baz=25,slow=6.3,SNR=50
AKASG LR LR 05 32 37.9
comp=Z,110nm,20.0s,baz=28,slow=38
comp=Z,8.1nm,0.5s
AKASG Malin Array Be 73.39 338 *i* P **P 04 57 24.2 +0.1**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKBB Malin Array Si 73.39 338 IAmb IAmb 04 57 25.2
comp=Z,18nm,0.7s
AKBB Malin Array Si 73.39 338 *ce*P **P 04 57 24.5 +0.4**
AKBB pmax pmax
comp=Z,25nm,1.0s
AKBB Malin Array Si 73.39 338 P **P 04 57 24.2 +0.1**
KIEV Kiev 73.41 338 P **P 04 57 24.1 -0.1**
KIEV IAmb IAmb 04 57 25.2
comp=Z,16nm,0.7s
KIEV Kiev 73.41 338 P **P 04 57 24.1 -0.1**
KIEV pmax pmax
comp=Z,16nm,0.7s
KIEV Kiev 73.41 338 P **P 04 57 24.2 -0.1**
comp=Z,115nm,1.0s
AK15 Malin Array Si 73.42 338 P **P 04 57 24.5 +0.2**
AK19 Malin Array Si 73.43 338 P **P 04 57 24.5 +0.2**
AK05 Malin Array Si 73.48 338 P **P 04 57 24.9 +0.3**
RNPP9 Sopachiv 73.48 340 P **P 04 57 25.3 +0.7**
AK10 Malin Array Si 73.48 337 P **P 04 57 24.4 -0.3**
AK14 Malin Array Si 73.49 338 P **P 04 57 24.5 -0.2**
AK06 Malin Array Si 73.51 337 P **P 04 57 24.6 -0.2**
AK13 Malin Array Si 73.52 338 P **P 04 57 24.6 -0.3**
BSEG Bad Segeberg 73.53 350 *eP* **P 04 57 25.6 +0.7**
comp=Z,11nm,0.8s,baz=11,slow=5.7
MI28 Mi28,Pidlybu 73.54 339 P **P 04 57 25.4 +0.4**
comp=Z,203nm,1.0s
RNPP8 Varash 73.56 340 P **P 04 57 25.8 +0.7**
RNPP5 Staryi Chortor 73.65 340 P **P 04 57 26.2 +0.5**
BEL Belsk 74.08 343 *eP* **P 04 57 29.7 +1.6**
DZM Mont Dzumac 74.08 187 *eLR* LR 05 20 18.9
comp=Z,506nm,24.0s
DZM Mont Dzumac 74.08 187 LR LR 05 23 24.8
comp=Z,266nm,21.6s,baz=27,slow=30
LUBAR Lubar, Ukraine 74.47 338 P **P 04 57 30.0 -0.4**
GOF Gofitskoye 74.49 326 *ceP* **P 04 57 31.6 +0.9**
TLIG Tlapa 74.78 81 P **P 04 57 33.7 +0.9**
TLIG IAmb IAmb 04 57 35.4
comp=Z,19nm,0.9s
NRDL Niedersach Rie 74.97 350 *eP* **P 04 57 33.7 +0.5**
comp=Z,8.5nm,1.1s,baz=11,slow=5.7
FLTG Flechtingen 75.01 349 *eP* **P 04 57 33.0 -0.5**
comp=Z,3.7nm,0.9s,baz=11,slow=5.7
IBBN Ibbenburen 75.40 351 *eP* **P 04 57 36.6 +0.8**
comp=Z,18nm,0.7s,baz=11,slow=5.7
HORU Horodok 75.43 339 P **P 04 57 36.2 +0.2**
HORU Horodok 75.43 339 P **P 04 57 36.2 +0.2**
KIV Kislovodsk 75.58 326 P **P 04 57 38.4 +1.4**
KIV IAmb IAmb 04 57 40.3
comp=Z,16nm,0.9s
KIV Kislovodsk 75.58 326 ⇓P **P 04 57 38.5 +1.4**
KIV Kislovodsk 75.58 326 *eP* **P 04 57 37.3 +0.2**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,54nm,18.0s
KIV Kislovodsk 75.58 326 P **P 04 57 38.5 +1.4**
comp=Z,17nm,0.8s
KBZ Khabaz 75.70 326 P **P 04 57 39.0 +1.4**
comp=Z,14nm,0.9s,baz=92,slow=1.5,SNR=28
KBZ LR LR 05 35 58.6
comp=Z,68nm,18.4s,baz=26,slow=40
comp=Z,14nm,0.9s
KBZ Khabaz 75.70 326 *i* P **P 04 57 38.1 +0.5**
KBZ pmax pmax
comp=Z,19nm,0.9s
SHA1 Shidzhatmaz 75.78 326 *i* P **P 04 57 38.6 +0.2**
KSP Ksiaz 75.78 346 *eP* **P 04 57 39.0 +1.0**
KSP Ksiaz 75.78 346 P **P 04 57 38.6 +0.6**
comp=Z,12nm,1.3s
CLL Collm 75.80 348 *i* P **P 04 57 38.3 +0.3**
CLL pmax pmax
comp=Z,15nm,1.7s
CLL Collm 75.80 348 *i* P **P 04 57 38.3 +0.3**
comp=Z,15nm,1.7s
CLL *i* x x 04 57 43.8
CLL *ep*P **pP 04 57 49.0 -0.9**
CLL Collm 75.80 348 *eP* **P 04 57 38.4 +0.3**
comp=Z,3.7nm,0.6s,baz=11,slow=5.7
CTA Charters Tower 75.80 207 LR LR 05 28 26.9
comp=Z,121nm,19.3s,baz=87,slow=34
OJC Ojcow 75.81 343 *eP* **P 04 57 39.7 +1.5**
OJC Ojcow 75.81 343 IAmb IAmb 04 57 40.2
comp=Z,26nm,1.1s
OJC Ojcow 75.81 343 P **P 04 57 38.9 +0.7**
comp=Z,24nm,1.3s
AKT Akhty 75.88 321 *eP* **P 04 57 39.5 +0.6**
AKT *e* 04 57 51.8
AKT *e**SP **sP 04 57 56.7 +1.1**
AKT *e* 05 00 30.8
AKT *e*PPP PPP 05 02 14.8
AKT *e*S **S 05 07 19.2 +1.1**
AKT pmax pmax
comp=Z,21nm,1.0s
SORM Soroca 76.00 337 ⇓P **P 04 57 39.8 +0.5**
SORM Soroca 76.00 337 P **P 04 57 39.7 +0.5**
SORM Soroca 76.00 337 P **P 04 57 39.2 0.0**
comp=Z,42nm,0.9s
KMPD K-Podol'skiy 76.04 338 P **P 04 57 38.7 -0.8**
OSTC Ostas 76.07 346 *eP* **P 04 57 40.0 +0.3**
OSTC Ostas 76.07 346 *eP* **P 04 57 40.0 +0.3**
BRG Berggiesshubel 76.10 347 *eP* **P 04 57 39.8 0.0**
BRG Amp 04 57 41.3
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 76.10 347 P P 04 57 44.7 +4.9
BRG Amp 04 57 51.3
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 76.10 347 *eP* **P 04 57 39.8 0.0**
comp=Z,5.4nm,1.1s,baz=11,slow=5.7
PPT Papeete 76.20 144 LR LR 05 24 48.3
comp=Z,124nm,19.2s,baz=317,slow=31
PPT2 Papeete2 76.22 144 *eLR* LR 05 21 18.6
comp=Z,235nm,22.8s
PPT2 *eLR* LR 05 21 19.8
comp=Z,207nm,28.2s
DPC Dobruska-Polom 76.26 346 *eP* **P 04 57 41.7 +0.9**
DPC Dobruska-Polom 76.26 346 *eP* **P 04 57 41.7 +0.9**
DPC Dobruska-Polom 76.26 346 P **P 04 57 41.4 +0.6**
STHS Stebnicka Huta 76.31 342 *eP* **P 04 57 42.3 +1.2**
STHS pmax pmax
comp=Z,24nm,1.3s
STHS Stebnicka Huta 76.31 342 *eP* **P 04 57 42.3 +1.2**
STEB Steborice 76.43 344 *eP* **P 04 57 42.7 +1.0**
RAR Rarotonga 76.44 155 LR LR 05 23 56.8
comp=Z,133nm,19.4s,baz=291,slow=30
KRLC Kraliky 76.45 345 *eP* **P 04 57 42.4 +0.5**
KRLC Kraliky 76.45 345 *eP* **P 04 57 42.4 +0.5**
NIE Niedzica 76.49 343 *eP* **P 04 57 44.8 +2.7**
NIE Niedzica 76.49 343 P **P 04 57 43.2 +1.1**
comp=Z,5.3nm,1.2s
KOLS Kolonicke sedl 76.57 341 *eP* **P 04 57 44.0 +1.4**
KOLS pmax pmax
comp=Z,20nm,0.7s
KOLS Kolonicke sedl 76.57 341 *eP* **P 04 57 44.0 +1.4**
MORC Moravsky Berou 76.62 345 IAmb IAmb 04 57 54.5
comp=Z,21nm,1.5s
MORC Moravsky Berou 76.62 345 *eP* **P 04 57 43.7 +0.9**
MORC Moravsky Berou 76.62 345 ⇓P **P 04 57 44.0 +1.1**
MORC Moravsky Berou 76.62 345 P **P 04 57 43.9 +1.1**
MOX Moxa 76.62 349 *eP* **P 04 57 43.2 +0.4**
comp=Z,9.1nm,1.3s,baz=11,slow=5.7
TANN Tannenbergstha 76.74 348 *eP* **P 04 57 43.6 +0.1**
comp=Z,11nm,1.6s,baz=11,slow=5.7
PRU Pruhonice 76.88 347 *eP* **P 04 57 45.0 +0.8**
PRU Pruhonice 76.88 347 *eP* **P 04 57 45.0 +0.8**
LANS Liptovska Anna 76.89 343 *eP* **P 04 57 46.4 +2.0**
LANS pmax pmax
comp=Z,22nm,1.2s
LANS Liptovska Anna 76.89 343 *eP* **P 04 57 46.4 +2.0**
HOLU Holmets 76.94 341 P **P 04 57 45.9 +1.3**
MAUC Maruska 76.97 344 *eP* **P 04 57 45.9 +1.1**
BRIU Brid 76.99 341 P **P 04 57 45.5 +0.6**
MILM Milestii Mici 77.02 336 ⇓P **P 04 57 45.4 +0.4**
MILM Milestii Mici 77.02 336 P **P 04 57 45.4 +0.4**
BUR08 Bucovina Ar. S 77.19 339 IAmb IAmb 04 57 48.1
comp=Z,14nm,0.8s
BURAR Bucovina Array 77.21 339 ⇓P **P 04 57 47.5 +1.2**
BURAR Bucovina Array 77.21 339 P **P 04 57 47.5 +1.2**

VRAC Vranov 77.23 345 LR LR 05 32 22.4
comp=Z,58nm,21.9s,baz=29,slow=36
VRAC Vranov 77.23 345 *eP* **P 04 57 47.3 +1.1**
VRAC Vranov 77.23 345 ⇑P **P 04 57 47.5 +1.2**
VRAC Vranov 77.23 345 P **P 04 57 47.4 +1.2**
MEM Membach 77.23 352 *dP* **P 04 57 46.6 +0.4**
comp=Z,9.4nm,1.2s
KECS Kecovo 77.35 342 *eP* **P 04 57 48.4 +1.5**
KECS pmax pmax
comp=Z,20nm,1.1s
KECS Kecovo 77.35 342 *eP* **P 04 57 48.4 +1.5**
CMIG Matias Romero 77.38 78 LR LR 05 31 47.4
comp=Z,54nm,18.8s,baz=310,slow=36
TNS Taunus Mts 77.39 351 *eP* **P 04 57 47.3 +0.1**
comp=Z,6.8nm,0.9s,baz=11,slow=5.7
ROTZ Rotzenmuhle 77.41 348 *eP* **P 04 57 47.8 +0.5**
baz=11,slow=5.7
ZVC Zvikov 77.46 347 *eP* **P 04 57 48.2 +0.7**
JAVC Velka Javorina 77.49 344 *eP* **P 04 57 49.9 +2.1**
KRUC Moravsky 77.50 345 *eP* **P 04 57 48.6 +0.9**
GRF Grafenberg Arr 77.61 349 *eP* **P 04 57 49.2 +0.9**
comp=Z,16nm,1.1s,baz=11,slow=5.7
VYHS Vyhne 77.64 343 *eP* **P 04 57 50.0 +1.4**
VYHS pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 77.64 343 *eP* **P 04 57 49.9 +1.4**
KHC Kasperske Hory 77.85 347 *eP* **P 04 57 50.7 +1.0**
KHC Kasperske Hory 77.85 347 *ceP* **P 04 57 49.5 -0.2**
KHC pmax pmax
comp=Z,26nm,1.3s
KHC Kasperske Hory 77.85 347 P **P 04 57 50.8 +1.0**
DOU Dourbes 77.86 353 *dP* **P 04 57 49.8 +0.1**
SMOL Smolenice 77.86 344 *eP* **P 04 57 51.5 +1.7**
SMOL pmax pmax
comp=Z,10.0nm,0.8s
ARCR ARCALIA 77.90 339 ⇑P **P 04 57 51.5 +1.5**
TESR Tescani 77.92 338 ⇓P **P 04 57 51.0 +0.9**
TESR Tescani 77.92 338 P **P 04 57 50.1 0.0**
comp=Z,16nm,1.0s
WET Wettzell 77.93 347 *eP* **P 04 57 50.7 +0.5**
comp=Z,8.0nm,1.2s,baz=11,slow=5.7
PSZ Piszkesteto 78.00 343 IAmb IAmb 04 57 53.5
comp=Z,20nm,1.0s
PSZ Piszkesteto 78.00 343 ⇑P **P 04 57 52.4 +1.7**
PSZ Piszkesteto 78.00 343 P **P 04 57 52.3 +1.7**
PSZ Piszkesteto 78.00 343 *eP* **P 04 57 51.2 +0.6**
MODS Modra-Piesok 78.02 344 *eP* **P 04 57 52.4 +1.7**
MODS pmax pmax
comp=Z,44nm,1.2s
MODS Modra-Piesok 78.02 344 *eP* **P 04 57 52.4 +1.7**
GEC2 GERESS Array S 78.11 347 IAmb IAmb 04 57 53.5
comp=Z,20nm,1.6s
GEC2 GERESS Array S 78.11 347 *eP* **P 04 57 51.5 +0.2**
comp=Z,6.7nm,1.0s,baz=11,slow=5.7
GERES GERESS Array B 78.11 347 P **P 04 57 52.0 +0.7**
comp=Z,2.8nm,0.8s,baz=25,slow=3.5,SNR=8.3
GERES LR LR 05 32 36.2
comp=Z,52nm,21.9s,baz=40,slow=36
comp=Z,2.8nm,0.8s
GERES GERESS Array B 78.11 347 P **P 04 57 52.0 +0.7**
WLF Walferdange 78.16 352 *eP* **P 04 57 52.1 +0.7**
comp=Z,4.9nm,0.8s,baz=11,slow=5.7
GHRR 78.16 337 ⇓P **P 04 57 53.3 +1.8**
VLDR Vladesti 78.20 336 ⇓P **P 04 57 53.0 +1.3**
CJR Cluj-Napoca 78.42 340 ⇓P **P 04 57 54.7 +1.8**
CJR Cluj-Napoca 78.42 340 P **P 04 57 54.7 +1.8**
VRI Vrincioaia 78.51 337 ⇓P **P 04 57 54.6 +1.2**
VRI Vrincioaia 78.51 337 P **P 04 57 54.6 +1.2**
OZUR 78.51 338 ⇓P **P 04 57 55.2 +1.7**
ODBI Odobesti 78.53 337 ⇑P **P 04 57 55.4 +1.9**
DRGR 78.53 340 ⇓P **P 04 57 54.9 +1.3**
DRGR 78.53 340 P **P 04 57 54.9 +1.3**
PLOR Plostina 78.54 337 ⇑P **P 04 57 55.1 +1.5**
PLOR Plostina 78.54 337 P **P 04 57 55.1 +1.5**
MARR Marisel-Cluj 78.55 340 ⇓P **P 04 57 55.0 +1.3**
SPBR Spulber 78.61 337 ⇓P **P 04 57 55.6 +1.6**
COVR Voineasa-Covas 78.65 338 ⇓P **P 04 57 56.2 +1.9**
PSI Prapat 78.66 260 LR LR 05 32 03.8
comp=Z,25nm,21.7s,baz=60,slow=35
CONA Conrad Observa 78.69 345 *i* P **P 04 57 55.5 +1.1**
comp=Z,5.5nm,0.8s
DOPR Dopca 78.73 338 ⇓P **P 04 57 56.4 +1.8**
CFR Carcaliu 78.81 336 ⇑P **P 04 57 56.2 +1.2**
CFR Carcaliu 78.81 336 P **P 04 57 56.2 +1.2**
RONA Rosalia, Austr 78.84 345 *eP* **P 04 57 56.7 +1.5**
comp=Z,2.1nm,0.6s
TEIG Tepich 78.89 72 P **P 04 57 56.1 +0.2**
TEIG IAmb IAmb 04 57 57.3
comp=Z,26nm,1.1s
MOA Molln 79.00 346 *eP* **P 04 57 56.9 +0.7**
comp=Z,4.1nm,0.9s
TPGR Topolog 79.04 336 ⇓P **P 04 57 57.5 +1.1**
MLR Muntele Rosu 79.05 338 IAmb IAmb 04 57 59.3
comp=Z,18nm,1.1s
MLR Muntele Rosu 79.05 338 LR LR 05 37 27.8
comp=Z,84nm,18.1s,baz=29,slow=39
MLR Muntele Rosu 79.05 338 ⇓P **P 04 57 58.6 +2.1**
MLR Muntele Rosu 79.05 338 P **P 04 57 58.6 +2.1**
MLR Muntele Rosu 79.05 338 P **P 04 57 58.2 +1.7**
comp=Z,20nm,0.9s
BIOA Bad Ischl, Aus 79.25 347 *eP* **P 04 57 58.2 +0.7**
comp=Z,0.9nm,0.3s
ISR Istrita 79.26 337 P **P 04 57 59.4 +1.8**
ISR Istrita 79.26 337 P **P 04 57 59.4 +1.8**
BFO Black Forest 79.28 350 P **P 04 57 57.8 +0.2**
BFO Black Forest 79.28 350 P **P 04 57 57.8 +0.2**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 79.28 350 *eP* **P 04 57 57.9 +0.3**
comp=Z,6.0nm,0.9s,baz=11,slow=5.7
VOIR 79.31 338 ⇓P **P 04 57 59.7 +1.8**
VOIR 79.31 338 P **P 04 57 59.7 +1.8**
VOIR 79.31 338 P **P 04 57 59.7 +1.8**
comp=Z,17nm,1.4s
HARR Harsova 79.32 336 ⇓P **P 04 57 58.9 +1.0**
HARR Harsova 79.32 336 P **P 04 57 58.8 +1.0**
ARSA Arzberg 79.40 345 *eP* **P 04 57 59.7 +1.5**
comp=Z,4.5nm,0.7s
TIRR Tirgusor 79.42 336 ⇓P **P 04 57 59.5 +1.1**
TIRR Tirgusor 79.42 336 P **P 04 57 59.4 +1.1**
TLBR Topalu 79.43 336 P **P 04 57 59.6 +1.2**
ARR Arges 79.47 339 ⇓P **P 04 58 00.8 +2.1**
LOT Lotru 79.58 339 ⇓P **P 04 58 00.0 +0.6**
WRA Warramunga Arr 79.60 218 P **P 04 57 59.5 -0.1**
comp=Z,3.9nm,0.8s,baz=33,slow=6.2,SNR=14
WRA LR LR 05 30 40.2
comp=Z,139nm,19.1s,baz=29,slow=34
comp=Z,3.9nm,0.8s
SURR Surduc 79.64 340 ⇓P **P 04 58 01.0 +1.5**
LESA Schwarzleotal 79.64 347 *eP* **P 04 58 01.1 +1.4**
comp=Z,4.4nm,0.7s
CCIG Comitan 79.66 77 IAmb IAmb 04 58 02.9
comp=Z,12nm,1.0s
KOPT Kop Dagi 79.82 326 IAmb IAmb 04 58 05.8
comp=Z,13nm,0.9s
RETA Reutte 79.83 349 *eP* **P 04 58 01.2 +0.5**
comp=Z,3.3nm,0.9s
GZR Gura Zlata 79.85 340 ⇓P **P 04 58 02.1 +1.2**
GZR Gura Zlata 79.85 340 P **P 04 58 02.0 +1.2**
MORH Mrgy, Hungar 79.87 343 ⇓P **P 04 58 01.8 +1.0**
BZS Buzias 79.88 341 ⇓P **P 04 58 02.0 +1.1**
BZS Buzias 79.88 341 P **P 04 58 01.9 +1.1**
WATA Walderalm 79.88 348 *i* P **P 04 58 01.7 +0.7**
comp=Z,7.1nm,0.7s,SNR=5.3
KBA Koelnbreinsper 79.89 347 *eP* **P 04 58 02.5 +1.4**
comp=Z,12nm,0.7s,SNR=11
MOTA Moosalm 79.93 348 *i* P **P 04 58 02.0 +0.7**
comp=Z,9.6nm,1.0s
WTTA Wattenberg 79.94 348 *eP* **P 04 58 02.5 +1.1**
comp=Z,6.4nm,0.7s,SNR=6.4
SOKA Soboth 80.03 345 *eP* **P 04 58 03.3 +1.5**
comp=Z,11nm,0.8s,SNR=7.8
SQTA Sankt Quirin 80.04 348 *i* P **P 04 58 02.8 +1.0**
comp=Z,0.9nm,0.2s,SNR=5.6
DAVA Damuels 80.13 349 *eP* **P 04 58 03.8 +1.3**
comp=Z,0.5nm,0.2s
OBKA Obir 80.27 346 *eP* **P 04 58 04.6 +1.5**
comp=Z,16nm,0.8s
FETA Feichten 80.29 349 *eP* **P 04 58 04.2 +0.9**
comp=Z,2.9nm,0.6s
ABTA Abfaltersbach 80.33 347 *i* P **P 04 58 04.0 +0.6**
comp=Z,9.9nm,1.0s
HERR Herculane 80.41 340 ⇓P **P 04 58 04.6 +0.9**
DAVOX Davos/Dischmat 80.63 349 LR LR 05 33 24.7
comp=Z,58nm,22.0s,baz=78,slow=35

FUORN Ofenpass-Fuorn 80.75 349 IAmb IAmb 04 58 10.0
comp=Z,12nm,0.8s
PUNG Punghina 80.88 339 ⇑P **P 04 58 07.4 +1.1**
TUE Stuetta 81.00 349 IAmb IAmb 04 58 11.0
comp=Z,68nm,1.9s
TUE Stuetta 81.00 349 P **P 04 58 07.8 +0.7**
comp=Z,61nm,1.7s
CTI Castel Tesino 81.13 348 IAmb IAmb 04 58 08.8
comp=Z,25nm,1.2s
ELND Elena 81.48 337 ⇓P **P 04 58 10.1 +0.6**
FITZ Fitzroy Crossi 81.53 226 LR LR 05 32 21.8
comp=Z,55nm,19.9s,baz=55,slow=34
TBI Tubuai 81.57 146 *eLR* LR 05 23 50.7
comp=Z,780nm,23.5s
BOVS Bovan 81.75 340 ⇓P **P 04 58 11.3 +0.4**
MARD Mardin 82.12 324 IAmb IAmb 04 58 15.6
comp=Z,14nm,0.8s
BR106 Keskin Array S 82.33 330 P **P 04 58 14.8 +0.6**
comp=Z,92nmcomp=Z,12nm,0.8s
BR131 Keskin Array S 82.33 330 IAmb IAmb 04 58 15.8
comp=Z,12nm,0.8s
BRTR Keskin Array B 82.33 330 P **P 04 58 15.1 +0.9**
BRTR Keskin Array B 82.33 330 P **P 04 58 14.9 +0.7**
comp=Z,8.8nm,0.7s,baz=54,slow=3.0,SNR=59
BRTR LR LR 05 40 06.5
comp=Z,46nm,18.9s,baz=334,slow=40
comp=Z,8.8nm,0.7s
BRTR Keskin Array B 82.33 330 P **P 04 58 15.1 +0.9**
ANTO Ankara 82.46 331 P **P 04 58 15.8 +1.0**
ANTO IAmb IAmb 04 58 16.9
comp=Z,11nm,0.8s
ANTO Ankara 82.46 331 P **P 04 58 15.8 +1.0**
ANTO pmax pmax
comp=Z,11nm,0.9s
ANTO Ankara 82.46 331 P **P 04 58 15.8 +1.0**
BNI Bardonecchia 82.68 351 IAmb IAmb 04 58 19.8
comp=Z,24nm,0.9s
KIRS Kirsehir-Merke 82.79 330 ⇓P **P 04 58 17.8 +1.3**
BORA Eskisehir 83.13 333 IAmb IAmb 04 58 19.8
comp=Z,11nm,0.7s
ASAR Alice Springs 83.15 217 P **P 04 58 19.2 +0.9**
comp=Z,2.0nm,0.6s,baz=18,slow=5.2,SNR=23
ASAR LR LR 05 32 43.0
comp=Z,103nm,20.8s,baz=31,slow=34
comp=Z,2.0nm,0.6s
GAZ Gaziantep 83.50 327 IAmb IAmb 04 58 22.7
comp=Z,14nm,0.8s
CEST Esterri de Car 85.54 355 IAmb IAmb 04 58 33.2
comp=Z,31nm,0.9s
NMDO Nuevo Mundo 86.14 61 IAmb IAmb 04 58 34.8
comp=Z,23nm,0.7s
WSAR Wadi Sarin 86.29 304 LR LR 05 40 07.8
comp=Z,72nm,21.5s,baz=76,slow=38
MMAI Mount Meron Ar 87.89 326 P **P 04 58 41.9 -0.1**
comp=Z,4.2nm,0.8s,baz=30,slow=32,SNR=5.3
MMAI LR LR 05 41 40.7
comp=Z,50nm,20.3s,baz=7.0,slow=38
comp=Z,4.2nm,0.8s
ASF Jabal al Asfar 88.13 325 LR LR 05 41 41.7
comp=Z,27nm,19.7s,baz=55,slow=38
STKA Stephens Creek 88.26 207 P **P 04 58 43.5 +0.2**
comp=Z,1.4nm,0.3s,baz=24,slow=10.0,SNR=5.0
comp=Z,1.4nm,0.3s
ESDC Sonseca Array 88.66 358 P **P 04 58 45.7 +0.1**
ESDC Sonseca Array 88.66 358 P **P 04 58 45.0 -0.5**
comp=Z,4.0nm,1.0s,baz=357,slow=4.5,SNR=17
comp=Z,4.0nm,1.0s
URZ Urewera 89.96 178 LR LR 05 34 08.0
comp=Z,103nm,21.1s,baz=128,slow=32
EIL Elat 91.09 325 LR LR 05 45 05.7
comp=Z,22nm,18.1s,baz=66,slow=39
KEST Kesra 91.58 348 P **P 04 58 58.4 -0.9**
comp=Z,8.5nm,0.9s,baz=339,slow=8.4,SNR=3.8
KEST LR LR 05 43 48.2
comp=Z,54nm,18.4s,baz=306,slow=38
comp=Z,8.5nm,0.9s
RAYN Ar Rayn 92.36 314 P **P 04 59 04.2 +1.1**
SJG San Juan 92.82 56 LR LR 05 42 51.7
comp=Z,94nm,20.0s,baz=330,slow=37
SDV Santo Domingo 98.08 64 LR LR 05 44 45.8
comp=Z,61nm,21.8s,baz=304,slow=36
NWAO Narrogin (SRO) 98.10 225 LR LR 05 38 57.7
comp=Z,87nm,21.0s,baz=244,slow=32
ROSC El Rosal 99.27 70 LR LR 05 49 59.4
comp=Z,46nm,18.1s,baz=8.0,slow=39
BDFB Brasilia 130.74 58 PKP **PKPdf 05 05 03.4 -0.2**
comp=Z,4.0nm,1.1s,baz=36,slow=18,SNR=3.7
QSPA South Pole Qui 141.78 180 PKhKP PKPpre 05 05 19.2
comp=Z,3.7nm,1.0s,baz=51,slow=0.2,SNR=6.4
LBTB Lobatse 143.93 306 PKPbc 05 05 26.2 +0.7
LBTB Lobatse 143.93 306 PKIKP PKPbc 05 05 26.2 +0.7
BOSA Boshof 147.05 303 PKPbc **PKPbc 05 05 34.9 -0.2**
comp=Z,4.3nm,0.8s,baz=35,slow=3.5,SNR=8.4

---

*NEIC **03** 05:00:59.7±1.0, 29°.22N±0°.05×97°.51W±0°.09, h5km±2km, mb_Lg3.0/48, Error ellipse: s-maj=13.1km s-min=8.1km az=285.0*
*TXNET **03** 05:00:59.3, 29°.2N±0°.7×97°.6W±0°.7, h5km±1km, ML3.2/13, Error ellipse: s-maj=1.2km s-min=0.9km az=129.0, final*
ISC 03 05:00:59.7±0.9, 29°.24N±0°.02×97°.56W±0°.02, h10km±7km, n67, σ0.68/86, 4C-1D, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EF62	**Nixon**	**0.17**	**317**	⇑P	**Pg**	**05 01 02.7**	**-0.6**
EF62				S	**Sg**	**05 01 06.7**	**+0.9**
EF67	**Cuero**	**0.20**	**125**	⇑P	**Pg**	**05 01 03.1**	**-0.8**
EF67				S	**Sg**	**05 01 06.6**	**-0.1**
EF04	**Eagle Ford 04**	**0.21**	**261**	P	**Pg**	**05 01 03.3**	**-0.7**
EF04				S	**Sg**	**05 01 07.6**	**+0.7**
EF05	**Yorktown**	**0.26**	**172**	⇑P	**Pg**	**05 01 04.1**	**-0.8**
EF05				S	**Sg**	**05 01 09.6**	**+1.2**
EF63	**Gonzales**	**0.34**	**14**	⇑P	**Pg**	**05 01 06.2**	**-0.3**
EF63				S	**Sb**	**05 01 12.4**	**-1.0**
EF72	**Nordheim**	**0.38**	**185**	P	**Pg**	**05 01 06.9**	**-0.3**
EF72				S	**Sb**	**05 01 14.6**	**-0.1**
EF61	**Poth**	**0.39**	**253**	P	**Pg**	**05 01 06.9**	**-0.5**
EF61				S	**Sg**	**05 01 13.2**	**+0.6**
EF73	**North Karnes**	**0.40**	**229**	P	**Pg**	**05 01 07.5**	**+0.1**
EF73				S	**Sb**	**05 01 14.9**	**-0.1**
735A	**Kenedy**	**0.45**	**210**	P	**Pg**	**05 01 08.1**	**-0.3**
735A				S	**Sb**	**05 01 16.3**	**-0.1**
EF03	**Hobson**	**0.47**	**232**	P	**Pg**	**05 01 09.1**	**+0.1**
EF03				S	**Sb**	**05 01 17.4**	**+0.1**
EF64	**Waelder**	**0.54**	**23**	P	**Pg**	**05 01 09.9**	**-0.3**
EF64				S	**Sb**	**05 01 18.8**	**-0.3**
EF75	**Tulsita**	**0.60**	**204**	P	**Pb**	**05 01 12.1**	**-0.2**
EF75				S	**Sb**	**05 01 22.3**	**+1.5**
EF68	**Kenedy**	**0.60**	**218**	⇓P	**Pb**	**05 01 12.0**	**-0.4**
EF68				S	**Sb**	**05 01 22.4**	**+1.4**
EF65	**Schulenburg**	**0.66**	**50**	P	**Pb**	**05 01 13.5**	**+0.2**
EF65				S	**Sb**	**05 01 23.8**	**+1.2**
MLDN	**Muldoon**	**0.69**	**38**	Pg	**Pb**	**05 01 13.7**	**-0.1**
MLDN				Sg	**Sb**	**05 01 24.2**	**+0.9**
MLDN	**Muldoon**	**0.69**	**38**	P	**Pb**	**05 01 13.9**	**+0.1**
MLDN				S	**Sn**	**05 01 25.6**	**-0.6**
EF01	**Eagle Ford 01**	**0.73**	**261**	P	**Pg**	**05 01 12.5**	**-1.3**
EF01				S	**Sg**	**05 01 23.4**	**+0.1**
EF59	**Coughran**	**0.81**	**249**	P	**Pg**	**05 01 13.8**	**-1.5**
EF59				S	**Sb**	**05 01 26.1**	**-0.8**
EF51	**Christine**	**0.94**	**241**	P	**Pg**	**05 01 17.3**	**-0.5**
EF51				S	**Sn**	**05 01 31.9**	**-0.7**
EF02	**Christine**	**0.97**	**242**	P	**Pg**	**05 01 17.9**	**-0.5**
EF02				S	**Sn**	**05 01 33.0**	**-0.3**
EF58	**Charlotte**	**1.10**	**249**	S	**Sb**	**05 01 36.0**	**+0.8**
EF74	**Calliham**	**1.11**	**224**	P	**Pg**	**05 01 20.4**	**-0.5**
EF74				S	**Sn**	**05 01 38.0**	**+1.4**
HNDO	**Hondo**	**1.53**	**281**		**Pn**	**05 01 26.0**	**-1.2**
HNDO	**Hondo**	**1.53**	**281**	Pg	**Pb**	**05 01 28.1**	**-0.1**
435B	**Jarrell**	**1.53**	**359**		**Pn**	**05 01 26.9**	**-0.3**
435B				IAmb_Lg		05 01 50.2	
comp=Z,86nm,0.8s							
HKT	**Hockley**	**1.66**	**64**		**Pn**	**05 01 27.8**	**-1.0**
HKT	**Hockley**	**1.66**	**64**		**Pn**	**05 01 28.6**	**-0.2**
HKT				IAmb_Lg		05 01 54.2	
comp=Z,12nm,1.1s							
HKT	**Hockley**	**1.66**	**64**	Pg	**Pg**	**05 01 31.2**	**-0.3**
KVTX	**Kingsville**	**1.72**	**190**	Pn	**Pn**	**05 01 29.7**	**0.0**
KVTX	**Kingsville**	**1.72**	**190**	Pg	**Pg**	**05 01 31.8**	**-0.9**
JCT	**Junction City**	**2.31**	**303**	Pn	**Pn**	**05 01 37.9**	**0.0**
JCT				IAmb_Lg		05 02 20.6	
comp=Z,71nm,0.9s							
JCT	**Junction City**	**2.31**	**303**	P	**Pn**	**05 01 38.3**	**+0.4**

JCT			S	Sb	05 02 09.0	-1.1
HBVL	Hebbronville	2.38 205	Pn	Pn	05 01 38.6	-0.3
HBVL	Hebbronville	2.38 205	P	Pn	05 01 38.6	-0.3
BRDY	Brady	2.39 329	Pn	Pn	05 01 39.4	+0.4
BRDY			IAmb_Lg		05 02 18.5	
	comp=Z,71nm,0.7s					
BRDY	Brady	2.39 329	P	Pn	05 01 38.9	0.0
DRIO	Del Rio	2.68 275	Pn	Pn	05 01 43.2	+0.2
DRIO			IAmb_Lg		05 02 26.9	
	comp=Z,45nm,0.8s					
DRIO	Del Rio	2.68 275	P	Pn	05 01 43.2	+0.2
WHTX	Lake Whitney,	2.74 2	P	Pn	05 01 43.9	+0.1
FW13	Cleburne	3.10 2		Pn	05 01 48.7	0.0
237A	Washetta, Mont	3.13 28	Pn	Pn	05 01 48.5	-0.7
FW07	Weatherford	3.45 357	Pn	Pn	05 01 54.0	+0.4
OZNA	Ozona	3.52 299	Pn	Pn	05 01 54.9	+0.4
OZNA			IAmb_Lg		05 02 58.1	
	comp=Z,39nm,0.7s					
PLPT	Palo Pinto	3.62 350	Pn	Pn	05 01 56.0	+0.1
TREL	Terrell	3.70 20	Pn	Pn	05 01 56.8	-0.1
FW06	Azle	3.72 360		Pn	05 01 57.6	+0.4
FW03	Perrin-Whitt E	3.81 354		Pn	05 02 00.0	+1.5
FW03			IAmb_Lg		05 03 04.9	
	comp=Z,33nm,0.7s					
SAND	Sanderson	4.04 281	Pn	Pn	05 02 01.8	+0.1
SAND			IAmb_Lg		05 03 16.0	
	comp=Z,36nm,0.7s					
SGCY	Sterling City	4.07 312		Pn	05 02 03.6	+1.5
WTFS	Witchita Falls	4.58 350	Pn	Pn	05 02 09.0	0.0
WTFS			IAmb_Lg		05 03 35.1	
	comp=Z,20nm,0.8s					
APMT	Aspermont	4.62 332	Pn	Pn	05 02 10.3	+0.6
APMT			IAmb_Lg		05 03 39.9	
	comp=Z,36nm,0.8s					
SN07	Snyder 07	4.78 324		Pn	05 02 12.0	+0.1
MNHN	Monahans	4.96 296		Pn	05 02 14.2	-0.2
MNHN			IAmb_Lg		05 03 44.5	
	comp=Z,26nm,0.9s					
POST	Post	5.09 319		Pn	05 02 17.2	+1.0
POST			IAmb_Lg		05 03 40.1	
	comp=Z,31nm,0.9s					
ODSA	Odessa	5.17 305	Pn	Pn	05 02 17.2	0.0
ODSA			IAmb_Lg		05 03 54.0	
	comp=Z,18nm,0.7s					
DKNS	Dickens	5.26 328		Pn	05 02 19.4	+0.8
TXAR	Lajitas Array	5.34 272		Pn	05 02 19.9	+0.3
TX31	Lajitas Ar. Si	5.34 272		Pn	05 02 20.1	+0.4
X34A	Smith Ranch, M	5.35 358		Pn	05 02 20.1	+0.5
ALPN	Alpine	5.40 284		Pn	05 02 20.7	+0.2
ALPN			IAmb_Lg		05 04 06.1	
	comp=Z,24nm,0.9s					
WMOK	Wichita Mounta	5.58 350		Pn	05 02 23.8	+1.0
WMOK			IAmb_Lg		05 03 59.9	
	comp=Z,17nm,0.8s					
PECS	Pecos	5.85 293		Pn	05 02 26.8	+0.1
PECS			IAmb_Lg		05 04 10.6	
	comp=Z,16nm,0.8s					
CLN7	Carlsbad 7	6.24 302	Pn	Pn	05 02 32.5	+0.6
SMWD	Samnorwood	6.27 339	Pn	Pn	05 02 32.1	-0.2
SMWD			IAmb_Lg		05 04 24.5	
	comp=Z,21nm,0.7s					
VHRN	Van Horn	6.62 285	IAmb_Lg		05 04 41.8	
	comp=Z,14nm,0.8s					
OK038	West end E0370	7.28 352	IAmb_Lg		05 05 02.6	
	comp=Z,15nm,1.0s					
ANMO	Albuquerque	9.45 309	IAmb_Lg		05 05 60.0	
	comp=Z,8.4nm,0.9s					

*IDC **03** 05:04:03.5±1.1, 6°.15S×151°.07E, h0km, mb4.0/8, mbtmp4.0/9, ML1.7/1, MS3.1/3, Error ellipse: s-maj=45.4km s-min=18.2km az=116.0*

ISC 03 05:04:04.9±1.2, 5°.9S±0°.2×150°.9E±0°.2, h10km, n14, σ1s96/12, mb4.0/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.94	34	LR	LR	05 05 36.5	
	comp=Z,152nm,20.1s,baz=348,slow=45						
PMG	Port Moresby	5.10	227	Pn	Pn	05 05 22.5	+1.1
	1.8nm,0.3s,baz=59,slow=5.9,SNR=2.1						
PMG				Sn	Sn	05 06 20.0	-0.3
	5.4nm,0.3s,baz=226,slow=15,SNR=5.6						
	10nm,0.5s						
HNR	Honiara	9.58	112	LR	LR	05 09 17.1	
	comp=Z,137nm,19.3s,baz=19,slow=34						
GUMO	Guam	20.31	343	P	P	05 08 37.0	-4.2
	51nm,0.3s,baz=162,slow=20,SNR=7.2						
WRA	Warramunga Arr	21.32	228	P	P	05 08 51.1	-1.1
	6.1nm,0.8s,baz=52,slow=10,SNR=32						
WRA				PcP	PcP	05 12 56.9	+0.2
	0.7nm,0.7s,baz=56,slow=1.9,SNR=1.9						
	6.1nm,0.8s						
ASAR	Alice Springs	24.08	221	P	P	05 09 19.8	-1.0
	2.6nm,0.8s,baz=54,slow=8.7,SNR=31						
	2.6nm,0.8s						
STKA	Stephens Creek	27.25	198	P	P	05 09 48.1	-1.3
	5.3nm,1.0s,baz=9.6,slow=13,SNR=6.3						
	5.3nm,1.0s						
SONM	Songino Array	66.31	329	P	P	05 14 56.5	+2.7
	0.5nm,0.4s,baz=140,slow=4.7,SNR=5.9						
	0.5nm,0.4s						
MKAR	Makanchi Array	79.97	319	P	P	05 16 15.6	+1.1
	0.8nm,0.8s,baz=111,slow=5.5,SNR=7.5						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	83.55	322	P	P	05 16 34.4	+1.1
	1.1nm,0.9s,baz=111,slow=4.3,SNR=10						
	1.1nm,0.9s						
ILAR	Eielson Array	83.90	22	P	P	05 16 35.2	+0.5
	1.5nm,0.7s,baz=246,slow=5.2,SNR=30						
	1.5nm,0.7s						
INK	Inuvik	90.17	21	LR	LR	05 53 36.7	
	comp=Z,32nm,21.9s,baz=249,slow=33						
YKA	Yellowknife Ar	97.28	28	P	Pdif	05 17 39.3	+1.3
	0.3nm,0.7s,baz=269,slow=4.4,SNR=6.1						
	0.3nm,0.7s						
TORD	Torodi Ar. Bea	148.86	286	PKPbc	PKiKP	05 23 54.1	-1.3
	1.8nm,0.6s,baz=83,slow=2.1,SNR=11						

*NCEDC **03** 05:14:10.3±3.7, 40°.29N±0°.01×124°.45W±0°.03, h7km±5km, Error ellipse: s-maj=3.2km s-min=1.8km az=95.0*

NEIC 03 05:14:07.6±1.7, 40°.25N±0°.01×124°.69W±0°.03, h10km±2km, ML2.9/46, Md2.5/22(NCEDC), Error ellipse: s-maj=4.5km s-min=3.0km az=76.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.35	50		Pg	05 14 15.1	+0.4
KCTM					Sg	05 14 19.4	0.0
KMPM	Mount Pierce	0.47	68		Pg	05 14 16.5	-0.3
KMPM					Sg	05 14 21.8	-1.2
KMPM				IAML		05 14 23.0	
	comp=N,2μm,0.5s						
KMPM				IAML		05 14 26.3	
	comp=E,1μm,0.7s						
KCRM	Chalk Rock	0.69	75		Pg	05 14 21.2	+0.3
KMRM	Mail Ridge	0.75	92		Pb	05 14 22.5	-0.4
KMRM				IAML		05 14 35.0	
	comp=E,390nm,0.4s						
KMRM				IAML		05 14 35.8	
	comp=N,430nm,0.4s						
JCC	Jacoby Creek,	0.76	41	Pg	Pg	05 14 22.4	+0.1
JCC	Jacoby Creek,	0.76	41		Sg	05 14 32.0	-0.2
KHMM	Horse Mountain	0.96	49		Pg	05 14 25.9	-0.2
KHMM				IAML		05 14 40.8	
	comp=E,178nm,0.7s						
KHMM				IAML		05 14 49.9	
	comp=N,195nm,4.3s						
KCPM	Cahto Peak	1.02	123		Pb	05 14 27.5	+0.1
KCPM				IAML		05 14 44.5	
	comp=E,369nm,0.5s						
KCPM				IAML		05 14 50.0	
	comp=N,258nm,2.6s						
KIPM	Iron Peak	1.03	115		Pb	05 14 27.6	0.0
KRPM	Rodgers	1.04	29		Pg	05 14 27.0	-0.7
KRPM				IAML		05 14 54.3	
	comp=N,183nm,3.6s						
KRPM				IAML		05 14 55.7	
	comp=E,288nm,4.9s						
KHBM	Hayfork Bally	1.20	69		Pb	05 14 29.0	-1.5
KHBM				IAML		05 14 48.2	
	comp=N,113nm,1.4s						
KBNM	Bluenose Ridge	1.20	107		Pb	05 14 30.1	-0.4
DCMP	DeCamp, Califo	1.30	126		Pn	05 14 31.1	-0.8
WEAV	Weaverville	1.39	68		Pn	05 14 31.9	-1.3
KOMM	Orleans Mounta	1.40	42		Pn	05 14 31.9	-1.4
KRMB	Red Mountain	1.41	25		Pn	05 14 32.3	-1.2
O02D	Mt. Diablo Mer	1.46	92	Pn	Pn	05 14 33.5	-0.6
N02D	Trinity Center	1.68	64		Pn	05 14 35.8	-1.3
N02D	Trinity Center	1.68	64	IAML		05 14 51.9	
	comp=N,69nm,4.6s						
N02D				IAML		05 15 32.5	
	comp=E,88nm,5.0s						
SIGP	Signal Peak, C	1.69	16		Pn	05 14 36.3	-1.0
KSXB	Camp Six Broad	1.70	21		Pn	05 14 36.8	-0.6
KSXB				IAML		05 15 02.9	
	comp=E,125nm,4.8s						
KSXB				IAML		05 15 36.3	
	comp=N,121nm,4.9s						
HOPS	Hopland Field	1.77	135	Pn	Pn	05 14 38.3	0.0
HOPS				IAML		05 15 17.1	
	comp=N,192nm,2.9s						
HOPS				IAML		05 15 24.3	
	comp=E,140nm,4.9s						
YBH	Yreka Blue Hor	2.11	45		Pn	05 14 42.5	-0.6
YBH				IAML		05 15 58.2	
	comp=N,43nm,4.9s						
YBH				IAML		05 16 01.7	
	comp=E,56nm,4.8s						
HATC	Hat Creek Radi	2.53	76	Pn	Pn	05 14 48.2	-0.6
MCCM	Marconi Confer	2.53	146	Pn	Pn	05 14 49.8	+1.2
ORV	Oroville	2.55	105	Pn	Pn	05 14 49.8	+0.8
K02D	Willamette Mer	2.56	17	Pn	Pn	05 14 49.2	-0.1
K02D				IAML		05 15 58.9	
	comp=E,110nm,4.8s						
K02D				IAML		05 16 05.1	
	comp=N,107nm,4.8s						
L04D	Klamath Falls	2.67	42	Pn	Pn	05 14 51.6	+0.8
L04D				IAML		05 15 46.8	
	comp=E,93nm,4.8s						
L04D				IAML		05 16 30.5	
	comp=N,98nm,5.0s						
DBO	Dodson Butte	3.07	20	Pn	Pn	05 14 57.9	+1.7
DBO				IAML		05 15 46.8	
	comp=E,97nm,5.0s						
K04D	Chiloquin, OR	3.24	42	Pn	Pn	05 14 58.0	-0.7
J04A	Umpqua Nationa	3.56	32	Pn	Pn	05 15 04.4	+1.3
J05D	Fort Rock, OR	3.99	39	Pn	Pn	05 15 09.2	+0.3
F07A	Phinny Hill Vi	6.63	30	Pn	Pn	05 15 45.9	+0.8

*FUNV **03** 05:23:00.9, 8°.81N×70°.70W, h5km, MW3.1*
*RSNC **03** 05:23:00.1±0.0, 9°N±3°×7°1W±°, h0km±3km, M2.7, mb3.7, mB4.6, ML2.5, Mw(mB)3.8*

ISC 03 05:22:59.1±0.9, 8°.93N±0°.03×70°.67W±0°.03, h7km±6km, n30, σ2s01/51, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.05	143	P	Pg	05 23 01.5	+0.5
SDV				S	Sg	05 23 03.4	+1.1
SDV	Santo Domingo	0.05	143	P		05 23 01.5	
SDV				S		05 23 03.4	
SOCV	Socops	0.67	196	iP	Pg	05 23 10.3	-1.7
SOCV				eS	Sg	05 23 18.6	-2.1
TEPV	Terepaima	1.78	55	eP	Pg	05 23 32.6	-0.7
TEPV				eS	Sg	05 23 57.7	+1.3
CAPV	Capacho	1.94	237	eP	Pb	05 23 33.3	-1.6
CAPV				eS	Sn	05 23 57.5	0.0
MCQV	Machiques	2.15	301	eP	Pb	05 23 38.0	-0.5
PAMC	Pamplona, Colo	2.56	232	P	Pn	05 23 42.4	+1.0
PAMC				S	Sb	05 24 15.6	-1.9
PAMC	Pamplona, Colo	2.56	232	P		05 23 42.4	
PAMC				S		05 24 15.6	
BAUV	El Baul	2.59	89	eP	Pb	05 23 43.4	-2.6
BAUV				eS	Sn	05 24 14.9	+1.7
OCAC	Ocana	2.71	256	P	Pb	05 23 45.4	-2.7
OCAC				S	Sn	05 24 17.6	+1.2
OCAC	Ocana	2.71	256	P		05 23 45.4	
OCAC				S		05 24 17.6	
TAMC	Tame, Arauca	2.72	204	P		05 23 44.7	
TAMC				S		05 24 19.2	
TAMC	Tame, Arauca	2.72	204	P	Pn	05 23 44.7	+1.5
TAMC				S	Sb	05 24 19.2	-2.4
CRJC	Cerrejon, Guaj	3.02	314	P	Pn	05 23 47.4	+0.1
CRJC				S	Sn	05 24 22.6	-1.2
CRJC	Cerrejon, Guaj	3.02	314	P		05 23 47.4	
CRJC				S		05 24 22.6	
URIC	Uribia, Colomb	3.05	335	P	Pn	05 23 48.5	+0.8
URIC				S	Sn	05 24 24.6	+0.1
URIC	Uribia, Colomb	3.05	335	P		05 23 48.5	
URIC				S		05 24 24.6	
BENV	Beln	3.19	71	eP	Pn	05 23 52.2	+2.4
BENV				eS	Sn	05 24 29.9	+1.7
BARC	Barichara	3.41	227	P	Pn	05 23 55.3	+2.4
BARC	Barichara	3.41	227	P		05 23 55.3	
ARGC	Ariguani, Magd	3.65	285	P	Pn	05 23 56.8	+0.8
ARGC				S	Sn	05 24 40.2	+0.8
ARGC	Ariguani, Magd	3.65	285	P		05 23 56.8	
ARGC				S		05 24 40.2	
TACV	Tcata	3.79	71	eP	Pn	05 23 59.8	+1.9
TACV				eS	Sn	05 24 43.4	+0.6
RUSC	La Rusia	3.85	219	P	Pn	05 24 00.8	+1.6
RUSC	La Rusia	3.85	219	P		05 24 00.8	
CACV	CAICARA DEL OR	4.30	108	eP	Pb	05 24 12.2	-2.9
CACV				eS	Sb	05 25 06.7	-0.5
ZARC	Zaragoza, Cauc	4.39	251	P	Pn	05 24 06.7	+0.5
ZARC				S	Sn	05 24 56.7	-0.9
ZARC	Zaragoza, Cauc	4.39	251	P		05 24 06.7	
ZARC				S		05 24 56.7	
PTBC	PUERTO BERRIO,	4.44	238	P	Pn	05 24 06.5	-0.4
PTBC	PUERTO BERRIO,	4.44	238	P		05 24 06.5	
SJCC	San Jacinto, C	4.56	283	P	Pn	05 24 10.5	+2.0
SJCC	San Jacinto, C	4.56	283	P		05 24 10.5	
SPBC	San Pablo de B	4.69	226	P	Pn	05 24 11.6	+1.2
SPBC				S	Sn	05 25 08.7	+3.5
SPBC	San Pablo de B	4.69	226	P		05 24 11.6	
SPBC				S		05 25 08.7	
CHIC	Chingaza	5.25	216	P	Pn	05 24 19.2	+0.9
CHIC				S	Sn	05 25 21.6	+2.3
CHIC	Chingaza	5.25	216	P		05 24 19.2	
CHIC				S		05 25 21.6	
VILC	Villavicencio,	5.65	212	P	Pn	05 24 23.8	+0.1
	342nm9.0nm,0.4s						
VILC				S	Sn	05 25 32.8	+3.9
	342nm9.0nm,0.4s						
VILC	Villavicencio,	5.65	212	P		05 24 23.8	
	342nm9.0nm,0.4s						
VILC				S		05 25 32.8	
	342nm9.0nm,0.4s						
APAC	Apartado, Choc	5.94	261	P	Pn	05 24 30.4	+2.9
APAC				S	Sn	05 25 39.4	+3.5
APAC	Apartado, Choc	5.94	261	P		05 24 30.4	
APAC				S		05 25 39.4	
GUY2C	Guyana, Caldas	5.94	232	P	Pn	05 24 29.0	+1.1
GUY2C	Guyana, Caldas	5.94	232	P		05 24 29.0	
PCRV	Puerto La Cruz	6.07	78	eP	Pn	05 24 31.4	+2.0
CBOC	Ciudad Bolivar	6.11	241	P	Pn	05 24 32.7	+2.6
	3.0nm,1.9s						
CBOC	Ciudad Bolivar	6.11	241	P		05 24 32.7	
	3.0nm,1.9s						
PRAC	Prado	6.67	219	P	Pn	05 24 39.5	+2.0
	3.3nm,0.6s						
PRAC				S	Sn	05 25 58.1	+4.3
	3.3nm,0.6s						
PRAC	Prado	6.67	219	P		05 24 39.5	
	3.3nm,0.6s						
PRAC				S		05 25 58.1	
	3.3nm,0.6s						
URMC	La Uribe, Meta	6.74	213	P	Pn	05 24 40.4	+1.8
	660nm6.1nm,0.7s						
URMC				S	Sn	05 25 58.7	+2.9
	660nm6.1nm,0.7s						
URMC	La Uribe, Meta	6.74	213	P		05 24 40.4	
	660nm6.1nm,0.7s						
URMC				S		05 25 58.7	
	660nm6.1nm,0.7s						
PLMC	San Jos del P	6.86	235	P		05 24 42.7	
PLMC	San Jos del P	6.86	235	P	Pn	05 24 42.7	+2.5

KRSC 03 05:52:10.8±1.6, 54°.93N×164°.60E, h50km±24km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.84	70	eP	Pn	05 52 27.3	+1.0
BKI				eS	Sn	05 52 36.9	-0.7
KBTR	Krutoberegovo	1.64	323	eP	Pn	05 52 38.7	+1.7
KBTR				eS	Sn	05 52 56.7	-0.2
KBG	Krutoberegovo	1.71	322	eP	Pn	05 52 40.0	+2.0
KBG				eS	Sn	05 52 58.9	+0.1
BZGR	Bezymyannyi-Gr	2.44	296	eP	Pn	05 52 52.4	+4.2
LGNR	Loginova	2.51	299	eP	Pn	05 52 54.0	+4.8
BZWR	Bezymyannyi-We	2.56	296	eP	Pn	05 52 54.4	+4.6
KMNR	Kamenistaya	2.62	290	eP	Pn	05 52 55.0	+4.3
KMNR				eS	Sn	05 53 24.6	+3.2
KRSR	Krestovskiy	2.63	301	eP	Pn	05 52 54.2	+3.4
KIRR	Kirishev	2.63	295	eP	Pn	05 52 55.8	+5.0
KPT	Kopyto	2.70	295	eP	Pn	05 52 56.4	+4.7
KPT				eS	Sn	05 53 27.2	+4.0
KOZ	Kozyrevsk	2.92	295	eP	Pn	05 53 01.0	+6.3
SRDR	Sredinnyy	3.10	299	eP	Pn	05 53 02.2	+5.0
KII	Karymskiy	3.13	256	eP	Pn	05 53 02.2	+4.5
KII				eS	Sn	05 53 36.9	+3.1
SPN	Mys Shipunski	3.26	238	eP	Pn	05 53 02.1	+2.8
SPN				eS	Sn	05 53 37.7	+0.8
ESO	Esso	3.51	289	eP	Pn	05 53 06.9	+4.2
NLC	Nalytchevo	3.56	243	eS	Sn	05 53 46.4	+2.2
UGLR	Uglovaya	3.81	246	eP	Pn	05 53 11.6	+4.6
AVH	Avacha	3.83	247	eP	Pn	05 53 12.0	+4.8
AVH				eS	Sn	05 53 53.9	+3.0
KRX	Arik	3.83	248	eP	Pn	05 53 11.9	+4.6
KRX				eS	Sn	05 53 52.9	+1.8
KOK	Koryaka	3.87	247	eP	Pn	05 53 12.4	+4.6
KOK				eS	Sn	05 53 54.8	+2.9
PET	Petropavlovsk	3.99	244	eP	Pn	05 53 14.3	+5.0
PET				eS	Sn	05 53 56.8	+2.0
GNL	Ganaly	4.09	255	eP	Pn	05 53 15.2	+4.4
KRMR	Karymshinskiy	4.36	244	eP	Pn	05 53 19.5	+5.1
KRMR				eS	Sn	05 54 06.4	+2.5
OSSR	Ossora	4.42	350	eP	Pn	05 53 18.7	+3.6
OSSR				eS	Sn	05 54 06.1	+0.9
GRL	Gorelyy	4.54	241	eP	Pn	05 53 21.3	+4.3
ASAK	Asacha	4.73	240	eP	Pn	05 53 24.0	+4.5

*DNK **03** 06:03:37.0±3.1, 75°.88N×67°.13W, h5km±11km, ML2.5*
*OTT **03** 06:03:38.7±0.1, 75°.82N×67°.36W, h18km, ML3.3/5, 371km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone.*

ISC 03 06:03:33.1±0.7, 75°.79N±0°.04×66°.98W±0°.04, h10km, n20, σ3s14/38, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	Thule	0.87	330	iP	Pb	06 03 51.4	+1.1
TULEG				iS	Sg	06 04 01.2	+0.1
TULEG				IAML		06 04 03.8	
	comp=Z,316nm,0.3s						
KULLO	Kullorsuaq	2.79	111	PN	Pb	06 04 23.1	+0.3
KULLO				SN	Sb	06 04 56.7	-0.3
KULLO				Trac		06 04 59.8	
	comp=Z,17nm,0.1s						
KULLO	Kullorsuaq	2.79	111	iP	Pb	06 04 23.2	+0.3
KULLO				iS	Sn	06 04 54.7	+3.4
KULLO				IAML		06 05 00.4	
	comp=Z,48nm,0.6s						
NEEM	North Greenlan	4.05	58	iP	Pn	06 04 39.4	+4.1
NEEM				iS	Sn	06 05 24.4	+1.7
NEEM				IAML		06 05 43.4	
	comp=Z,32nm,0.7s						
UPNV	Upernavik	4.22	130	iP	Pn	06 04 42.0	+4.7
UPNV				iS	Sn	06 05 29.1	+2.6
UPNV				IAML		06 05 35.0	
	comp=Z,14nm,0.4s						
POIN	Pond Inlet	4.31	229	PN	Pn	06 04 41.9	+3.3
POIN				SN	Sn	06 05 29.2	+0.5
POIN				Trac		06 05 31.3	
	comp=Z,4.7nm,0.2s						
CLRN	Clyde River	5.37	186	PN	Pn	06 04 57.7	+4.6
CLRN				SN	Sn	06 05 55.8	+0.9
CLRN				Trac		06 05 59.5	
	comp=Z,20nm,0.3s						
NUUG	Nuugaatsiaq	5.76	131	iP	Pn	06 05 03.4	+4.9
NUUG				iS	Sn	06 06 08.0	+3.5
NUUG				IAML		06 06 08.6	
	comp=Z,8.3nm,0.5s						
EUNU	Eureka	5.87	326	PN	Pn	06 05 02.6	+2.6
EUNU				SN	Sn	06 06 06.0	-1.3
EUNU				Trac		06 06 24.1	
	comp=Z,152nm,2.2s						
EUNU	Eureka	5.87	326	iP	Pn	06 05 02.7	+2.6
EUNU				iS	Sn	06 06 05.6	-1.7
UMMG	Uummannaq	6.67	133	iP	Pn	06 05 11.9	+0.9
UMMG				eS	Sn	06 06 27.9	+0.9
RES	Resolute Bay	7.17	275	PN	Pn	06 05 20.2	+2.3
RES				SN	Sn	06 06 36.0	-3.3
RES				Trac		06 06 45.7	
	comp=Z,4.3nm,0.2s						
RES	Resolute Bay	7.17	275	iP	Pn	06 05 19.9	+2.1
RES				iS	Sn	06 06 34.6	-4.6
ILON	Igloolik, Nuna	7.80	222	PN	Pn	06 05 29.7	+3.2
ILON				SN	Sn	06 06 52.8	-2.0
ILON				Trac		06 06 57.5	
	comp=Z,0.6nm,0.1s						
SUMG	Summit	8.36	98	iP	Pn	06 05 37.0	+2.5
SUMG				iS	Sn	06 07 06.4	-2.6
ICESG	Greenland Ices	10.52	115	iP	Pn	06 06 05.7	+1.7
ICESG				iS	Sn	06 07 56.5	-5.4
DAG	Danmarks Havn	11.25	62	iP	Pn	06 06 14.2	+0.6
DAG				iS	Sn	06 08 10.9	-8.2
DBG	Daneborg	11.91	74	iP	Pn	06 06 22.5	0.0
DBG				iS	Sn	06 08 25.6	-10
FRB	Frobisher Bay	12.12	183	PN	Pn	06 06 29.6	+4.0
FRB				PN		06 06 29.7	
FRB				SN	Sn	06 08 36.7	-3.8
FRB				SN	Sn	06 08 36.7	-3.8
FRB				Trac		06 08 53.2	
	comp=Z,2.2nm,0.3s						
FRB				Trac		06 08 54.9	
	comp=Z,15nm,0.8s						
FRB	Frobisher Bay	12.12	183	iP	Pn	06 06 27.7	+2.1
FRB				iS	Sn	06 08 35.1	-5.3

IDC 03 06:03:43.6±1.8, 2°.23S×141°.19E, h0km, mb3.3/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=80.6km s-min=28.2km az=99.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.83	200	P	P	06 08 05.2	0.0
	0.1nm,0.3s,baz=26,slow=13,SNR=1.9						
	1.0nm,1.0s						
ASAR	Alice Springs	22.44	198	P	P	06 08 44.5	+0.1
	0.3nm,0.6s,baz=29,slow=11,SNR=5.4						
	0.3nm,0.6s						
H11S3	WAKE ISLAND Hy	32.47	50	T	T	06 45 00.3	
	baz=228						
H11S2	WAKE ISLAND Hy	32.48	50	T	T	06 45 01.7	
	baz=228						
H11S1	WAKE ISLAND Hy	32.48	50	T	T	06 44 56.9	
	baz=228						
MKAR	Makanchi Array	70.94	322	P	P	06 15 02.8	-0.3
	0.2nm,0.5s,baz=102,slow=7.9,SNR=5.2						
	0.2nm,0.5s						
ILAR	Eiel

M14K Bethel 15.57 47 Pn **Pn 06 09 30.8 -1.0**
CNBA Chernabura Isl 15.68 70 Pn **Pn 06 09 31.7 -1.4**
J16K Anvik River 17.26 40 P **Pn 06 09 52.3 -0.9**
G16K Koyuk River 17.78 33 P **Pn 06 09 58.1 -1.3**
KDAK Kodiak Island 19.64 60 P **Pn 06 10 23.0 +0.9**
comp=Z,0.2nm,0.3s,baz=329,slow=8.4,SNR=0.7
comp=Z,2.8nm,0.8s
C18K Utukok River 20.23 26 P **P 06 10 26.4 -0.6**
C18K IAmb IAmb 06 10 31.0
comp=Z,1.9nm,0.8s
J20K Nowinta River 20.24 41 P **P 06 10 26.8 -0.3**
J20K IAmb IAmb 06 10 40.3
comp=Z,3.2nm,0.9s
E19K Redstone River 20.66 31 P **P 06 10 30.7 -0.9**
E19K IAmb IAmb 06 10 35.8
comp=Z,1.2nm,0.6s
SKT Skwentna 20.73 48 P **P 06 10 30.3 -2.1**
SKT IAmb IAmb 06 10 30.9
comp=Z,1.2nm,1.0s
I21K Tanana 21.48 40 P **P 06 10 39.1 -1.3**
I21K IAmb IAmb 06 10 59.9
comp=Z,4.6nm,1.1s
F21K Alatna River 21.78 34 P **P 06 10 42.0 -1.7**
E22K Anaktuvuk Pass 22.77 33 P **P 06 10 52.9 -1.4**
E22K IAmb IAmb 06 11 09.2
comp=Z,1.2nm,0.9s
ILAR Eielson Array 23.42 42 P **P 06 11 03.0 +2.2**
comp=Z,0.3nm,0.6s,baz=249,slow=8.1,SNR=6.5
comp=Z,0.3nm,0.6s
HG4B Hotspring 32.66 68 P **P 06 12 21.6 -2.1**
H11N2 WAKE ISLAND Hy 32.87 193 T T 06 47 26.7
baz=8.2,slow=76,SNR=4.1
H11N3 WAKE ISLAND Hy 32.88 193 T T 06 47 25.5
baz=8.2,slow=76,SNR=5.7
H11N1 WAKE ISLAND Hy 32.89 193 T T 06 47 26.6
baz=8.2,slow=76,SNR=4.5
H11S1 WAKE ISLAND Hy 34.10 193 T T 06 48 57.4
baz=8.1
H11S3 WAKE ISLAND Hy 34.12 193 T T 06 49 00.7
baz=8.1
H11S2 WAKE ISLAND Hy 34.12 193 T T 06 48 57.7
baz=8.1
YKA Yellowknife Ar 37.75 46 P **P 06 13 10.2 +2.8**
comp=Z,0.2nm,0.5s,baz=286,slow=8.6,SNR=1.9
comp=Z,0.2nm,0.5s
SPITS Spitsbergen Ar 49.26 354 P **P 06 14 40.0 +0.1**
comp=Z,18nm,1.0s,baz=64,slow=5.7,SNR=6.2
KURBB Kurchatov Arra 55.47 310 P **P 06 15 25.9 -0.3**
comp=Z,0.4nm,0.6s,baz=47,slow=6.8,SNR=5.3
comp=Z,0.4nm,0.6s
MKAR Makanchi Array 56.19 304 P **P 06 15 30.6 -0.9**
comp=Z,0.2nm,0.4s,baz=47,slow=7.0,SNR=5.4
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 62.65 77 P **P 06 16 18.8 +2.4**
comp=Z,0.2nm,0.5s,baz=295,slow=5.0,SNR=4.7
comp=Z,0.2nm,0.5s

*NAO **03** 06:08:11.6, 35°.82N×25°.07E, h33km, mb3.8*
*MOS **03** 06:08:30.0±1.8, 37°.55N×20°.87E, h14km, mb4.2/10, Error ellipse: s-maj=8.0km s-min=5.0km az=77.3*
*IDC **03** 06:08:30.1±0.6, 37°.72N×21°.10E, h0km, mb4.0/22, mbtmp3.9/30, ML3.5/6, MS3.1/4, Error ellipse: s-maj=14.3km s-min=12.4km az=5.0*
*THE **03** 06:08:31.7, 37°.61N×20°.84E, h11km±1km, ML3.8/12, Error ellipse: s-maj=2.1km s-min=1.0km az=221.0*
*NEIC **03** 06:08:32.1±2.1, 37°.60N±0°.06×20°.89E±0°.06, h10km±2km, mb4.4/15, Error ellipse: s-maj=11.5km s-min=7.7km az=206.0*
*BEO **03** 06:08:32.7±0.6, 37°.72N×20°.68E, h0km, ML3.7/10*
*ATH **03** 06:08:33.0, 37°.73N×20°.92E, h14km, ML3.8/21, Error ellipse: s-maj=1.8km s-min=0.8km az=211.0*

ISC 03 06:08:32.6±0.7,**37°.71N**±0°.03×**20°.90E**±0°.02,**h16**km±4km, **n235**,σ1°**58**/275,**mb4.2**/39,**MS2.9**/3,**6C-4D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.05**	**265**	P	**Pg**	**06 08 35.5**	**-0.1**
LTHK				S	**Sg**	**06 08 37.5**	**-0.1**
LTHK	**Lithakia**	**0.05**	**265**	P	**Pg**	**06 08 35.5**	**-0.1**
LTHK				S	**Sg**	**06 08 37.5**	**-0.1**
LTHK				AML	AML	06 08 41.0	
LTHK				AML	AML	06 08 41.3	
KYPS	**Kipseli, Zakin**	**0.12**	**329**	P	**Pb**	**06 08 36.9**	**+0.4**
KYPS				S	**Sg**	**06 08 38.6**	**-0.2**
ORTH	**Orthonies,Zaky**	**0.21**	**310**	P	**Pb**	**06 08 38.0**	**0.0**
ORTH				S	**Sg**	**06 08 41.4**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.25**	**46**	P	**Pb**	**06 08 38.5**	**-0.3**
CLEM				S	**Sg**	**06 08 41.0**	**-1.1**
CLEM				AML	AML	06 08 44.1	
CLEM				AML	AML	06 08 53.5	
RTZL	**Ratzakli, Kefa**	**0.38**	**344**	P	**Pb**	**06 08 40.8**	**0.0**
RTZL				S	**Sb**	**06 08 48.0**	**+1.6**
PSDA	**Pessada-Kefalo**	**0.47**	**328**	P	**Pb**	**06 08 42.4**	**-0.1**
PSDA				S	**Sb**	**06 08 50.5**	**+1.3**
	19μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.47**	**328**	P	**Pb**	**06 08 42.3**	**-0.2**
PSDA				S	**Sb**	**06 08 48.5**	**-0.7**
VLS	**Valsamata**	**0.52**	**332**	P	**Pb**	**06 08 43.1**	**-0.3**
VLS				S	**Sb**	**06 08 51.2**	**+0.5**
	7μm,0.3s						
VLS	**Valsamata**	**0.52**	**332**	P	**Pb**	**06 08 43.0**	**-0.3**
VLS				AML	AML	06 08 53.3	
	comp=E,12519μm,0.4s						
VLS				AML	AML	06 08 58.3	
	comp=N,16276μm,0.7s						
RLS	**Riolos of Patr**	**0.56**	**52**	P	**Pg**	**06 08 43.6**	**-0.1**
RLS				S	**Sb**	**06 08 53.3**	**+1.5**
	comp=N,10μm,0.4s						
RLS	**Riolos of Patr**	**0.56**	**52**	P	**Pg**	**06 08 43.6**	**-0.1**
RLS				S	**Sg**	**06 08 50.2**	**-1.1**
RLS				AML	AML	06 08 54.3	
	comp=N,17738μm,0.3s						
RLS				AML	AML	06 09 01.8	
	comp=E,20377μm,0.5s						
SMHA	**Samh**	**0.57**	**340**	P	**Pg**	**06 08 43.3**	**-0.6**
SMHA				AML	AML	06 08 56.7	
	comp=N,48848μm,0.3s						
SMHA				AML	AML	06 08 59.9	
	comp=E,71651μm,0.4s						
AMT	**Artemida-Makis**	**0.67**	**106**	P	**Pg**	**06 08 44.8**	**-0.9**
AMT				AML	AML	06 08 57.3	
AMT				AML	AML	06 08 58.7	
DMLN	**Damoulianata-K**	**0.67**	**322**	P	**Pb**	**06 08 45.9**	**0.0**
DMLN	**Damoulianata-K**	**0.67**	**322**	P	**Pb**	**06 08 45.8**	**0.0**
DRO	**Drossia**	**0.68**	**69**	P	**Pg**	**06 08 45.8**	**-0.1**
DRO				S	**Sn**	**06 08 57.2**	**-0.6**
	comp=E,20μm,0.6s						
DRO	**Drossia**	**0.68**	**69**	P	**Pg**	**06 08 45.9**	**-0.1**
DRO				AML	AML	06 08 58.9	
	comp=N,28147μm,0.4s						
DRO				AML	AML	06 09 01.3	
	comp=E,51558μm,0.7s						
FSK	**Fiskardo**	**0.79**	**340**	P	**Pg**	**06 08 47.4**	**-0.6**
FSK				S	**Sn**	**06 09 01.0**	**+0.5**
	comp=E,4μm,0.6s						
FSK	**Fiskardo**	**0.79**	**340**	P	**Pb**	**06 08 47.5**	**-0.4**
FSK				AML	AML	06 09 06.9	
	comp=N,7442μm,0.5s						
FSK				AML	AML	06 09 13.3	
	comp=E,8814μm,0.6s						
UPR	**University Cam**	**0.90**	**51**	P	**Pg**	**06 08 49.0**	**-1.1**
EVGI	**Lefkada island**	**0.93**	**348**	P	**Pg**	**06 08 49.8**	**-0.8**
EVGI				S	**Sn**	**06 09 05.6**	**+1.8**
	comp=E,5μm,0.5s						
EVGI	**Lefkada island**	**0.93**	**348**	P	**Pg**	**06 08 49.9**	**-0.6**
ITM	**Ithomi**	**0.97**	**123**	Pg	**Pg**	**06 08 50.9**	**-0.6**
ITM	**Ithomi**	**0.97**	**123**	P	**Pg**	**06 08 50.0**	**-1.5**
ITM				S	**Sb**	**06 09 04.5**	**+0.8**
	comp=E,6μm,0.5s						
ITM	**Ithomi**	**0.97**	**123**	P	**Pg**	**06 08 50.5**	**-0.9**
ITM				AML	AML	06 09 09.6	
	comp=E,15412μm,0.5s						
ITM				AML	AML	06 09 11.2	
	comp=N,10424μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.00**	**345**	P	**Pg**	**06 08 51.0**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.00**	**345**	P	**Pg**	**06 08 51.0**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.01**	**351**	P	**Pg**	**06 08 51.2**	**-1.0**
NYDR				S	**Sn**	**06 09 09.0**	**+3.1**
	comp=N,3μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.01**	**351**	P	**Pb**	**06 08 51.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.04**	**71**	P	**Pg**	**06 08 51.6**	**-1.1**
KLV	**Kalavryta, Ach**	**1.04**	**71**	P	**Pg**	**06 08 52.0**	**-0.7**
EFP	**Efpalio**	**1.06**	**48**	P	**Pb**	**06 08 52.3**	**-0.3**
EFP				S	**Sn**	**06 09 10.4**	**+3.2**
	comp=N,3μm,0.6s						
EFP	**Efpalio**	**1.06**	**48**	P	**Pb**	**06 08 52.2**	**-0.4**
EFP				AML	AML	06 09 11.8	
	comp=E,4924μm,0.5s						
EFP				AML	AML	06 09 19.6	
	comp=N,6159μm,0.5s						
LKD2	**Lefkada island**	**1.09**	**350**	P	**Pb**	**06 08 52.8**	**-0.3**
LKD2				S	**Sn**	**06 09 11.1**	**+3.2**
	comp=N,4μm,0.6s						
LKD2	**Lefkada island**	**1.09**	**350**	P	**Pb**	**06 08 52.7**	**-0.3**
LKD2				AML	AML	06 09 18.3	
	comp=E,10819μm,0.6s						
LKD2				AML	AML	06 09 20.7	
	comp=N,6974μm,0.5s						
TSLK	**Tsoukalades, L**	**1.13**	**350**	P	**Pb**	**06 08 53.5**	**-0.1**
TSLK				S	**Sn**	**06 09 11.5**	**+2.8**
	comp=N,4μm,0.5s						
TSLK	**Tsoukalades, L**	**1.13**	**350**	P	**Pb**	**06 08 52.9**	**-0.7**
TSLK				AML	AML	06 09 22.3	
	comp=E,6970μm,0.5s						
TSLK				AML	AML	06 09 23.1	
	comp=N,9965μm,0.6s						
GUR	**Goura**	**1.16**	**79**	P	**Pb**	**06 08 53.6**	**-0.7**
GUR	**Goura**	**1.16**	**79**	P	**Pb**	**06 08 54.0**	**-0.3**
GUR				AML	AML	06 09 23.2	
	comp=N,13247μm,0.5s						
GUR				AML	AML	06 09 24.0	
	comp=E,10287μm,0.4s						
KALE	**Kalithea**	**1.19**	**55**	P	**Pb**	**06 08 54.5**	**-0.2**
KALE				AML	AML	06 09 20.2	
	comp=E,8432μm,0.5s						
KALE				AML	AML	06 09 21.7	
	comp=N,10676μm,0.6s						
ANX	**Ano Chora**	**1.19**	**42**	P	**Pb**	**06 08 54.7**	**-0.1**
ANX				S	**Sn**	**06 09 14.1**	**+3.6**
	comp=N,5μm,0.7s						
ANX	**Ano Chora**	**1.19**	**42**	P	**Pn**	**06 08 54.9**	**+0.3**
ANX				AML	AML	06 09 20.7	
	comp=E,9104μm,0.8s						
ANX				AML	AML	06 09 21.4	
	comp=N,12383μm,0.6s						
EVR	**Evrytania**	**1.40**	**30**	P	**Pg**	**06 08 59.1**	**-0.4**
DLFA	**Delphi**	**1.47**	**58**	P	**Pb**	**06 08 59.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.62**	**36**	P	**Pg**	**06 09 02.6**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.62**	**36**	P	**Pg**	**06 09 02.7**	**-1.0**
MAKR				AML	AML	06 09 38.3	
	comp=E,7886μm,0.8s						
MAKR				AML	AML	06 09 40.3	
	comp=N,6437μm,1.2s						
TETR	**Tetrakomo, Epi**	**1.65**	**10**	P	**Pb**	**06 09 02.6**	**-0.1**
LTK	**Loutraki**	**1.66**	**79**	P	**Pg**	**06 09 03.9**	**-0.7**
AXAR	**Agios Charalam**	**1.74**	**52**	P	**Pb**	**06 09 04.8**	**+0.8**
AXAR				AML	AML	06 09 49.3	
	comp=E,7286μm,0.6s						
AXAR				AML	AML	06 09 49.6	
	comp=N,9987μm,0.7s						
KRND	**KRANIDI**	**1.82**	**100**	P	**Pb**	**06 09 04.7**	**-0.7**
IGT	**Igoumenitsa**	**1.87**	**346**	P	**Pb**	**06 09 05.3**	**-1.0**
IGT	**Igoumenitsa**	**1.87**	**346**	P	**Pb**	**06 09 05.8**	**-0.6**
LKR	**Lokris**	**1.90**	**60**	P	**Pb**	**06 09 07.0**	**+0.2**
LKR				AML	AML	06 09 41.9	
	comp=E,1551μm,0.3s						
LKR				AML	AML	06 09 45.5	
	comp=N,1974μm,0.5s						
VIL2	**Platees**	**1.94**	**74**	P	**Pb**	**06 09 07.5**	**+0.1**
VIL2				AML	AML	06 09 44.7	
	comp=N,2482μm,1.3s						
VIL2				AML	AML	06 09 45.8	
	comp=E,3479μm,0.6s						
JAN	**Janina**	**1.94**	**359**	P	**Pb**	**06 09 07.8**	**+0.3**
JAN				AML	AML	06 09 51.5	
	comp=E,1545μm,0.7s						
JAN				AML	AML	06 09 51.9	
	comp=N,1153μm,0.7s						
THL	**Klokotos Trika**	**2.04**	**25**	P	**Pb**	**06 09 09.7**	**+0.5**
KEK	**Kerkira**	**2.17**	**337**	Pn	**Pb**	**06 09 11.5**	**0.0**
KEK	**Kerkira**	**2.17**	**337**	P	**Pb**	**06 09 10.8**	**-0.7**
KEK				AML	AML	06 09 59.3	
	comp=E,1541μm,0.7s						
KEK				AML	AML	06 10 02.3	
	comp=N,1012μm,1.0s						
ATH	**Athens Observa**	**2.24**	**83**	P	**Pb**	**06 09 12.0**	**-0.7**
KPRO	**Kipourio**	**2.27**	**9**	P	**Pb**	**06 09 13.0**	**-0.1**
PENT	**Pentalofos**	**2.48**	**4**	P	**Pb**	**06 09 15.8**	**-1.1**
LIT	**Litokhoron**	**2.69**	**27**	P	**Pb**	**06 09 18.3**	**-2.0**
LIT	**Litokhoron**	**2.69**	**27**	P	**Pb**	**06 09 18.3**	**-2.0**
NEST	**Nestorio**	**2.70**	**2**	P	**Pb**	**06 09 19.3**	**-1.2**
KBN	**Korca**	**2.91**	**358**		**Pb**	**06 09 22.2**	**-1.8**
KBN	**Korca**	**2.91**	**358**	P	**Pb**	**06 09 22.2**	**-1.8**
FNA	**Florina**	**3.09**	**7**		**Pb**	**06 09 23.9**	**-3.2**
FNA	**Florina**	**3.09**	**7**	P	**Pb**	**06 09 23.9**	**-3.2**
FNA	**Florina**	**3.09**	**7**	*e*Pn	**Pn**	**06 09 23.4**	**+2.7**
FNA				*e*Sn	**Sb**	**06 10 01.4**	**-3.1**
OHR	**Ohrid**	**3.39**	**359**	*i* Pn	**Pb**	**06 09 29.7**	**-2.6**
OHR	**Ohrid**	**3.39**	**359**	P	**Pb**	**06 09 31.4**	**-0.9**
OHR	**Ohrid**	**3.39**	**359**	*e*Pn	**Pn**	**06 09 27.7**	**+2.8**
TIP	**Timpagrande**	**3.57**	**295**		**Pn**	**06 09 28.7**	**+1.4**
TIR	**Tirane**	**3.72**	**348**	Pn	**Pn**	**06 09 31.6**	**+2.4**
TIR	**Tirane**	**3.72**	**348**	P	**Pn**	**06 09 31.6**	**+2.4**
TIR	**Tirane**	**3.72**	**348**	*e*Pn	**Pn**	**06 09 30.3**	**+1.1**
APE	**Apeiranthos**	**3.74**	**99**‖	*e*P	**Pn**	**06 09 30.1**	**+0.5**
VAY	**Valandovo**	**3.83**	**19**	*i* Pn	**Pb**	**06 09 35.4**	**-4.3**
VAY	**Valandovo**	**3.83**	**19**	*e*Pn	**Pn**	**06 09 33.8**	**+3.1**
VAY				*e*Sn	**Sn**	**06 10 18.2**	**+2.9**
SRS	**Serrai**	**3.99**	**31**	*e*Pn	**Pn**	**06 09 35.5**	**+2.5**
CEL	**Celeste**	**3.99**	**279**		**Pn**	**06 09 33.5**	**+0.4**
IDI	**Anoyia**	**4.02**	**126**	Pn	**Pn**	**06 09 33.3**	**-0.2**
IDI	**Anoyia**	**4.02**	**126**	Pn	**Pn**	**06 09 33.0**	**-0.5**
	comp=N,4.6nm,0.2s,baz=294,slow=12,SNR=13						
IDI				Sn	**Sn**	**06 10 17.6**	**-2.7**
	comp=N,10nm,0.3s,baz=308,slow=23,SNR=12						
PEHC	**Pehcevo**	**4.34**	**20**	*i* Pn	**Pn**	**06 09 41.9**	**+4.0**
PUK	**Puka**	**4.39**	**350**	Pn	**Pn**	**06 09 40.3**	**+1.7**
CUC	**Castrocucco**	**4.58**	**301**	Pn	**Pn**	**06 09 43.6**	**+2.5**
DRME	**Dracevica, Mon**	**4.66**	**344**	*e*Pn	**Pn**	**06 09 42.6**	**+0.4**
PDG	**Podgorica**	**4.88**	**346**	Pn	**Pn**	**06 09 46.5**	**+1.4**
PDG	**Podgorica**	**4.88**	**346**	*e*Pn	**Pn**	**06 09 45.6**	**+0.4**
PDG	**Podgorica**	**4.88**	**346**	*e*Pn	**Pn**	**06 09 46.1**	**+0.9**
PDG				*e*Sn	**Sn**	**06 10 42.3**	**+1.1**
RDO	**Rodhopi**	**4.96**	**45**	Pn	**Pn**	**06 09 47.5**	**+1.2**
ALN	**Alexandroupoli**	**5.10**	**50**	Pn	**Pn**	**06 09 49.2**	**+0.9**
ALN	**Alexandroupoli**	**5.10**	**50**	P	**Pn**	**06 09 49.2**	**+0.9**
BARS	**Barje**	**5.14**	**8**	*e*Pn	**Pn**	**06 09 51.3**	**+2.4**
BARS				*e*Sn	**Sn**	**06 10 48.7**	**+0.8**
VAE	**Valguarnera**	**5.16**	**269**	Pn	**Pn**	**06 09 52.7**	**+3.6**
	comp=N,11nm,0.6s,baz=301,slow=14,SNR=5.6						
VAE				Sn	**Sn**	**06 10 47.5**	**-0.9**
	comp=N,4.3nm,0.3s,baz=114,slow=9.0,SNR=3.1						
VTS	**Vitosha**	**5.21**	**19**	*e*Pn	**Pn**	**06 09 52.6**	**+2.6**
RAFF	**Raffo Rosso**	**5.22**	**267**	Pn	**Pn**	**06 09 49.1**	**-0.9**
WDD	**Wied Dalam**	**5.45**	**252**	Pn	**Pn**	**06 09 54.1**	**+1.1**
BRY	**Bratogost**	**5.49**	**342**	*e*Pn	**Pn**	**06 09 52.6**	**-1.1**
SELS	**Selova**	**5.50**	**2**	*e*Pn	**Pn**	**06 09 55.1**	**+1.3**
SELS				*e*Sn	**Sn**	**06 10 57.4**	**+0.7**
SJES	**Sjenica**	**5.59**	**353**	*e*Pn	**Pn**	**06 09 57.6**	**+2.6**
SJES	**Sjenica**	**5.59**	**353**	*e*Pn	**Pn**	**06 09 55.6**	**+0.6**
STON	**Ston**	**5.70**	**336**	*e*Pn	**Pn**	**06 09 55.2**	**-1.3**
STON	**Ston**	**5.70**	**336**	*e*Pn	**Pn**	**06 09 56.4**	**-0.1**
ZAPS	**Zavoj**	**5.71**	**13**	*e*Pn	**Pn**	**06 09 59.1**	**+2.5**
GOCS	**Kraljevo Serbi**	**5.84**	**360**	*e*Pn	**Pn**	**06 09 58.9**	**+0.4**
GOCS				*e*Sn	**Sn**	**06 11 04.7**	**-0.5**
IVAS	**Ivanjica**	**5.88**	**355**	*e*Pn	**Pn**	**06 09 59.6**	**+0.5**
IVAS				*e*Sn	**Sn**	**06 11 06.0**	**-0.2**
PAOL	**Paolisi**	**5.92**	**306**	Pn	**Pn**	**06 10 02.6**	**+3.1**
RUDO	**Rudo**	**6.01**	**349**	*e*Pn	**Pn**	**06 10 03.3**	**+2.5**
GRUS	**Gruza**	**6.17**	**359**	*e*Pn	**Pn**	**06 10 03.8**	**+0.9**
GRUS				*e*Sn	**Sn**	**06 11 13.1**	**0.0**
ZAGS	**Zajecar**	**6.17**	**9**	*e*Pn	**Pn**	**06 10 04.4**	**+1.4**
BBLS	**Lazi&#263i**	**6.25**	**350**	*e*Pn	**Pn**	**06 10 04.0**	**-0.1**
BBLS	**Lazi&#263i**	**6.25**	**350**	*e*Pn	**Pn**	**06 10 03.9**	**-0.1**
DIVS	**Divibare**	**6.42**	**354**	*e*Pn	**Pn**	**06 10 06.6**	**+0.2**
DIVS				*e*Sn	**Sn**	**06 11 17.5**	**-1.8**
HAPS	**Han Pijesak,BI**	**6.54**	**348**	*e*Pn	**Pn**	**06 10 07.3**	**-0.8**
HAPS	**Han Pijesak,BI**	**6.54**	**348**	*e*Pn	**Pn**	**06 10 08.5**	**+0.4**
INTR	**Introdacqua**	**6.88**	**311**		**Pn**	**06 10 14.3**	**+1.5**
TEKS	**Tekeris**	**6.91**	**352**	*e*Pn	**Pn**	**06 10 12.0**	**-1.1**
FRGS	**Fruska Gora**	**7.48**	**354**	*e*Pn	**Pn**	**06 10 23.1**	**+2.1**
CAMP	**Campotosto**	**7.49**	**312**	Pn	**Pn**	**06 10 22.3**	**+1.1**
A050A	**Klekovaca**	**7.52**	**335**	*e*Pn	**Pn**	**06 10 21.7**	**+0.1**
BLY	**Banja Luka**	**7.56**	**339**	*e*Pn	**Pn**	**06 10 22.0**	**-0.1**
BLY	**Banja Luka**	**7.56**	**339**	*e*Pn	**Pn**	**06 10 23.2**	**+1.1**
NRCA	**Norcia**	**7.85**	**313**		**Pn**	**06 10 28.5**	**+2.5**
A051A	**Mrakovica**	**7.88**	**339**	*e*Pn	**Pn**	**06 10 25.7**	**-0.8**
BZS	**Buzias**	**7.91**	**4**	*e*Pn	**Pn**	**06 10 27.1**	**+0.2**
FDMO	**Fiordimonte**	**7.99**	**314**	Pn	**Pn**	**06 10 30.6**	**+2.7**
CESX	**Cesi**	**8.03**	**310**	Pn	**Pn**	**06 10 29.6**	**+1.1**
MLR	**Muntele Rosu**	**8.64**	**24**	Pn	**Pn**	**06 10 41.1**	**+4.2**
	comp=N,0.3nm,0.3s,baz=14,slow=16,SNR=4.7						
CRES	**Cresnjevec Ost**	**9.07**	**335**	*e*Pn	**Pn**	**06 10 41.1**	**-1.6**
CEY	**Cerknica**	**9.36**	**331**	*e*Pn	**Pn**	**06 10 46.4**	**-0.3**
SKDS	**Skadanscina**	**9.37**	**329**	*e*Pn	**Pn**	**06 10 46.8**	**0.0**
KEST	**Kesra**	**9.49**	**261**	Pn	**Pn**	**06 10 47.1**	**-1.4**
KEST	**Kesra**	**9.49**	**261**	Pn	**Pn**	**06 10 51.5**	**+2.9**
	comp=N,0.3nm,0.3s,baz=349,slow=7.5,SNR=4.2						
	comp=N,3.9nm,0.8s						
SOKA	**Soboth**	**9.96**	**336**	*e*Pn	**Pn**	**06 10 54.7**	**-0.2**
	comp=N,2.2nm,0.4s						
SOKA				*e*Sn	**Sn**	**06 12 41.7**	**-4.6**
	comp=N,1.8nm,0.6s						
OBKA	**Obir**	**9.97**	**334**	*e*Pn	**Pn**	**06 10 55.7**	**+0.6**
	comp=N,1.4nm,0.3s						
OBKA				*e*Sn	**Sn**	**06 12 43.3**	**-3.3**
	comp=N,7.9nm,0.6s						
OBKA	**Obir**	**9.97**	**334**	*e*Pn	**Pn**	**06 10 55.0**	**-0.2**
BRTR	**Keskin Array B**	**10.15**	**75**	Pn	**Pn**	**06 10 56.9**	**-0.9**
	comp=N,0.2nm,0.3s,baz=254,slow=14,SNR=4.8						
PSZ	**Piszkesteto**	**10.23**	**356**	Pn	**Pn**	**06 11 00.4**	**+1.8**
PSZ	**Piszkesteto**	**10.23**	**356**	P	**Pn**	**06 11 00.4**	**+1.8**
TEOL	**Teolo**	**10.30**	**321**	Pn	**Pn**	**06 11 00.4**	**+0.8**
ARSA	**Arzberg**	**10.32**	**339**		**Pn**	**06 11 00.2**	**+0.3**
CIMO	**Cimolais**	**10.64**	**326**	Pn	**Pn**	**06 11 04.0**	**-0.3**
CTI	**Castel Tesino**	**10.80**	**323**		**Pn**	**06 11 06.3**	**-0.3**
CTI	**Castel Tesino**	**10.80**	**323**	P	**Pn**	**06 11 06.3**	**-0.3**
KBA	**Koelnbreinsper**	**10.89**	**332**	*e*Pn	**Pn**	**06 11 07.6**	**-0.2**
	comp=N,0.8nm,0.4s						
ABTA	**Abfaltersbach**	**10.96**	**328**	*e*Pn	**Pn**	**06 11 08.2**	**-0.4**
	comp=N,0.7nm,0.4s						
ABTA				*e*Sn	**Sn**	**06 13 05.2**	**-5.6**
	comp=N,7.1nm,0.6s						
LESA	**Schwarzleotal**	**11.44**	**331**	*e*Pn	**Pn**	**06 11 16.1**	**+1.0**
	comp=N,5.9nm,0.6s						
LESA				*e*Sn	**Sn**	**06 13 16.6**	**-6.0**
	comp=N,1.9nm,0.5s						
WTTA	**Wattenberg**	**11.73**	**327**	*e*Pn	**Pn**	**06 11 19.8**	**+0.5**
	comp=N,0.4nm,0.2s						
WATA	**Walderalm**	**11.81**	**327**	*e*Pn	**Pn**	**06 11 21.4**	**+1.0**
	comp=N,1.3nm,0.5s						
SQTA	**Sankt Quirin**	**11.88**	**326**	*e*Pn	**Pn**	**06 11 22.5**	**+1.2**
	comp=N,0.6nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**11.88**	**322**	Pn	**Pn**	**06 11 23.4**	**+1.9**
FETA	**Feichten**	**11.95**	**324**	*e*Pn	**Pn**	**06 11 23.9**	**+1.6**
	comp=N,0.7nm,0.4s						
VRAC	**Vranov**	**12.00**	**346**	LR	LR	06 16 23.2	
	comp=N,42nm,19.3s,baz=33,slow=39						
MOTA	**Moosalm**	**12.03**	**326**	*e*Pn	**Pn**	**06 11 24.1**	**+0.8**
	comp=N,0.6nm,0.4s						
DAVOX	**Davos/Dischmat**	**12.19**	**322**	Pn	**Pn**	**06 11 27.7**	**+2.2**
	comp=N,0.2nm,0.3s,baz=148,slow=22,SNR=2.2						
DAVOX				Sn	**Sn**	**06 13 34.6**	**-6.5**
	comp=N,0.5nm,0.3s,baz=131,slow=22,SNR=4.2						
	comp=N,0.6nm,0.3s						
TUE	**Stuetta**	**12.24**	**319**	Pn	**Pn**	**06 11 26.6**	**+0.2**
GERES	**GERESS Array B**	**12.29**	**337**	Pn	**Pn**	**06 11 28.5**	**+1.6**
	comp=N,0.2nm,0.3s,baz=167,slow=18,SNR=3.0						
GERES				Sn	**Sn**	**06 13 37.4**	**-6.2**
	comp=N,0.4nm,0.3s,baz=150,slow=24,SNR=4.6						
	comp=N,0.6nm,0.5s						
KHC	**Kasperske Hory**	**12.58**	**337**	*e*P	**Pn**	**06 11 32.4**	**+1.6**
KHC				*e*x	x	06 13 45.0	
KHC	**Kasperske Hory**	**12.58**	**337**	*e*P	**Pn**	**06 11 32.4**	**+1.6**
EIL	**Elat**	**14.17**	**120**	Pn	**Pn**	**06 11 50.9**	**-1.7**
	comp=N,0.3nm,0.3s,baz=70,slow=22,SNR=1.9						
EIL				Sn	Sn	06 14 17.3	-12
	comp=N,0.8nm,0.3s,baz=156,slow=14,SNR=4.1						
	comp=N,2.6nm,0.5s						
AKASG	**Malin Array Be**	**14.28**	**22**	Pn	**Pn**	**06 11 52.7**	**-1.2**
	comp=N,0.2nm,0.5s,baz=214,slow=11,SNR=12						
ECH	**Echery**	**14.52**	**321**	Pn	**Pn**	**06 11 57.7**	**+0.5**
ECH	**Echery**	**14.52**	**321**	P	**Pn**	**06 11 57.7**	**+0.5**

comp=Z,4.6nm,1.0s,baz=209,slow=3.5,SNR=1.4
comp=Z,4.4nm,1.0s
UOSS Minazif 32.54 103 P **P 06 15 02.5 -0.4**
BRVK Borovoye 37.13 49 P **P 06 15 42.0 -0.1**
BRVK IAmb IAmb 06 16 07.0
comp=Z,2.2nm,0.8s
BRVK Borovoye 37.13 49 P **P 06 15 42.0 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 37.19 49 P **P 06 15 42.9 +0.2**
comp=Z,2.2nm,0.7s,baz=265,slow=6.9,SNR=9.3
BVAR PcP **PcP 06 18 02.5 +0.2**
comp=Z,0.3nm,0.4s,baz=256,slow=5.8,SNR=2.1
comp=Z,2.2nm,0.7s
CHGR Chuyangaron 37.59 73 P **P 06 15 47.0 +0.6**
CHGR Chuyangaron 37.59 73 P **P 06 15 47.0 +0.6**
CHGR pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 37.71 66 P **P 06 15 47.8 +0.6**
KKAR Karatay Array 37.71 66 P **P 06 15 47.7 +0.4**
KKAR Karatay Array 37.71 66 P **P 06 15 47.8 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.8s
GAR Garm 38.39 72 P **P 06 15 54.1 +1.0**
GAR IAmb IAmb 06 15 54.1
comp=Z,4.3nm,0.8s
DBIC Dimbokro 38.76 224 P **P 06 15 56.8 +0.5**
comp=Z,0.9nm,0.3s,baz=31,slow=7.9,SNR=1.7
comp=Z,0.9nm,0.3s
SPITS Spitsbergen Ar 40.62 359 P **P 06 16 10.8 -0.3**
comp=Z,14nm,1.0s,baz=144,slow=10,SNR=1.6
comp=Z,14nm,1.0s
KURBB Kurchatov Arra 42.26 53 P **P 06 16 23.9 -1.0**
comp=Z,1.4nm,0.6s,baz=279,slow=8.7,SNR=25
comp=Z,1.4nm,0.6s
KURK Kurchatov 42.31 53 P **P 06 16 24.9 -0.4**
KURK Kurchatov 42.31 53⇓*eP* **P 06 16 24.4 -0.9**
KURK pmax pmax
comp=Z,2.0nm,1.0s
MK31 Makanchi Array 45.29 58*c iP* **P 06 16 48.3 -1.0**
MKAR Makanchi Array 45.29 58 P **P 06 16 48.7 -0.6**
MKAR Makanchi Array 45.29 58 P **P 06 16 48.4 -1.0**
comp=Z,1.4nm,0.4s,baz=270,slow=7.6,SNR=39
MKAR PcP **PcP 06 18 29.1 +0.2**
comp=Z,0.8nm,0.6s,baz=272,slow=3.2,SNR=4.3
comp=Z,1.4nm,0.4s
MKAR Makanchi Array 45.29 58 *i P* **P 06 16 48.5 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
ZAA0 Zalesovo Array 45.78 48 P **P 06 16 52.7 -0.4**
ZAA0 IAmb IAmb 06 16 52.9
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 45.78 48 P **P 06 16 52.5 -0.5**
ZALV Zalesovo Beam 45.78 48 P **P 06 16 52.2 -0.8**
comp=Z,4.1nm,0.6s,baz=280,slow=8.3,SNR=22
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 45.78 48 P **P 06 16 52.6 -0.5**
NRIK Noril'sk 47.08 26 P **P 06 17 01.8 -1.2**
comp=Z,1.7nm,0.4s,baz=114,slow=4.0,SNR=2.2
comp=Z,1.7nm,0.4s
NRIK Noril'sk 47.08 26⇑*eP* **P 06 17 04.3 +1.3**
NRIK pmax pmax
comp=Z,9.0nm,2.5s
SCHQ Schefferville 59.00 318 P **P 06 18 32.0 +0.9**
comp=Z,3.7nm,1.0s,baz=90,slow=3.0,SNR=2.4
comp=Z,3.7nm,1.0s
SONM Songino Array 60.52 50 P **P 06 18 40.8 -1.0**
comp=Z,0.5nm,0.8s,baz=270,slow=5.8,SNR=2.6
comp=Z,0.5nm,0.8s
ULN Ulaanbaatar 60.91 50⇓*eP* **P 06 18 44.6 0.0**
ULN pmax pmax
comp=Z,9.0nm,2.7s
HHC Hu-ho-hao-te 67.05 55 *eP* **P 06 19 25.2 +0.2**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.1s
PZH PanZhiHua 67.45 73 P **P 06 19 30.3 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.6s
CMAR Chiang Mai Arr 69.66 82 P **P 06 19 40.8 -0.8**
comp=Z,1.8nm,0.6s,baz=304,slow=7.9,SNR=14
comp=Z,1.8nm,0.6s
YKA Yellowknife Ar 73.93 340 P **P 06 20 06.7 +0.3**
comp=Z,0.5nm,0.8s,baz=32,slow=4.8,SNR=5.8
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 73.93 340 *i P* **P 06 20 06.0 -0.4**
ULM Lac du Bonnet 76.25 324 P **P 06 20 21.0 +0.9**
comp=Z,1.4nm,0.6s,baz=55,slow=9.1,SNR=3.5
comp=Z,1.4nm,0.6s
ULM Lac du Bonnet 76.25 324 P **P 06 20 21.0 +0.9**
ILAR Eielson Array 77.40 355 P **P 06 20 27.6 +1.3**
comp=Z,0.2nm,0.5s,baz=359,slow=2.8,SNR=6.0
comp=Z,0.2nm,0.5s
USRK Ussuriysk Ar. 77.41 43 P **P 06 20 24.6 -2.1**
comp=Z,0.9nm,0.6s,baz=317,slow=5.9,SNR=2.0
comp=Z,0.9nm,0.6s
KSRS Korea Array 79.39 51 P **P 06 20 37.9 +0.1**
comp=Z,0.9nm,0.5s,baz=303,slow=4.3,SNR=4.1
comp=Z,0.9nm,0.5s
BBB Bella Bella 86.48 341 LR LR 07 03 38.5
comp=Z,44nm,18.6s,baz=336,slow=38
TXAR Lajitas Array 95.51 314 P **P 06 21 56.3 -0.7**
comp=Z,0.1nm,0.7s,baz=44,slow=5.9,SNR=1.4
comp=Z,0.1nm,0.7s
WRA Warramunga Arr 120.22 93 PKP **PKPdf 06 27 22.1 -1.0**
comp=Z,0.7nm,0.5s,baz=311,slow=2.6,SNR=2.8
QSPA South Pole Qui 127.57 180 PKP **PKPdf 06 27 35.9 +0.1**
comp=Z,1.6nm,1.0s,baz=270,slow=2.0,SNR=2.3

---

*IDC **03** 06:11:48.8±0.5, 33°.55S×179°.57W, h0km, mb4.5/8, mbtmp4.5/10, ML4.8/2, MS3.7/21, Error ellipse: s-maj=23.1km s-min=17.7km az=98.0*
*WEL **03** 06:11:52.2±0.7, 34°.S±5°×17°.9W±1°.2, h33km, mB5.5/19, ML5.2/29, MLv5.1/30, Mw(mB)4.9/19, Error ellipse: s-maj=16.0km s-min=4.0km az=109.9, confirmed*
*NEIC **03** 06:11:56.1±1.6, 34°.0S±0°.1×179°.52W±0°.04, h35km±1km, mb4.9/24, Error ellipse: s-maj=20.0km s-min=6.0km az=8.0*

ISC 03 06:11:55.4±0.4, **33°.78S**±0°.05×**179°.16W**±0°.07, **h50**km, **n180**, σ1°**70**/171, **mb4.8**/24, **MS3.9**/21, **6C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.30**	**208**		**Pn**	**06 12 56.4**	**-1.9**
MXZ	**Matakaoa Point**	**4.30**	**208**	P	**Pn**	**06 12 57.0**	**-1.2**
MXZ				S	**Sn**	06 13 47.1	-0.1
MXZ				T	T	06 16 34.8	
WMGZ	**Waiomatatini S**	**4.49**	**205**	P	**Pn**	06 12 59.9	-0.9
WMGZ				S	**Sn**	06 13 51.7	0.0
GLKZ	**Green Lake**	**4.62**	**14**	P	**Pn**	06 12 58.8	-3.9
GLKZ				S	**Sn**	06 13 50.9	-4.2
RAO	**Raoul Island**	**4.63**	**14**	Pn	**Pn**	06 13 00.2	-2.7
	127nm,0.3s,baz=275,slow=23,SNR=4.5						
RAO				Sn	**Sn**	06 13 54.0	-1.4
	127nm,0.3s,baz=56,slow=23,SNR=2.3						
	264nm,0.3s						
PKGZ	**Pakihiroa**	**4.66**	**208**	P	**Pn**	06 13 02.4	-0.8
PKGZ				S	**Sn**	06 13 55.7	-0.2
HAZ	**Te Kaha**	**4.68**	**211**	P	**Pn**	06 13 02.2	-1.3
HAZ				S	**Sn**	06 13 57.1	+0.5
PUZ	**Puketiti**	**4.77**	**205**	P	**Pn**	06 13 03.0	-1.7
PUZ				S	**Sn**	06 13 56.2	-2.5
WIZ	**White Island**	**4.78**	**217**	P	**Pn**	06 13 04.7	-0.1
WIZ				S	**Sn**	06 13 57.0	-1.9
RUGZ	**Raukumara Rang**	**4.91**	**211**	P	**Pn**	06 13 05.2	-1.4
RUGZ				S	**Sn**	06 14 01.5	-0.7
TWGZ	**Tauwhareparae**	**4.96**	**207**	P	**Pn**	06 13 05.7	-1.7
TWGZ				S	**Sn**	06 14 03.7	+0.2
GRZ	**Great Barrier**	**5.06**	**239**	P	**Pn**	06 13 09.3	+0.6
MYRZ	**Mayor Island**	**5.13**	**226**	P	**Pn**	06 13 13.8	+4.2
WHRZ	**Whale Island**	**5.14**	**217**	P	**Pn**	06 13 12.0	+2.2
CNGZ	**Carnagh Statio**	**5.16**	**204**	P	**Pn**	06 13 08.7	-1.3
CNGZ				S	**Sn**	06 14 09.3	+1.1
TKGZ	**Te Karaka**	**5.25**	**207**	P	**Pn**	06 13 09.5	-1.7
TKGZ				S	**Sn**	06 14 10.5	+0.2
MWZ	**Matawai**	**5.28**	**210**	P	**Pn**	06 13 09.3	-2.5
MWZ				S	**Sn**	06 14 11.6	+0.3
OPRZ	**Ohinepanea**	**5.35**	**219**	P	**Pn**	06 13 13.3	+0.7
MARZ	**Manawahe**	**5.39**	**218**	P	**Pn**	06 13 13.8	+0.5
URZ	**Urewera**	**5.40**	**213**	Pn	**Pn**	06 13 11.5	-1.7
	12nm,0.3s,baz=156,slow=4.8,SNR=46						
URZ				Sn	**Sn**	06 14 10.8	-3.3
	16nm,0.3s,baz=252,slow=21,SNR=5.5						
	46nm,0.4s						
URZ	**Urewera**	**5.40**	**213**	P	**Pn**	06 13 11.6	-1.7
RAGZ	**Rawiri**	**5.46**	**210**	P	**Pn**	06 13 12.7	-1.6
RAGZ				S	**Sn**	06 14 15.4	-0.5
RIGZ	**Rimuhau**	**5.51**	**206**	P	**Pn**	06 13 13.5	-1.4
OMRZ	**Omania**	**5.64**	**219**	P	**Pn**	06 13 18.0	+1.3
PRGZ	**Paritu Road**	**5.66**	**204**	P	**Pn**	06 13 14.7	-2.3
KMRZ	**Kaimai**	**5.69**	**223**	P	**Pn**	06 13 18.2	+0.9
MUGZ	**Murupara**	**5.73**	**214**	P	**Pn**	06 13 17.6	-0.3
SNGZ	**Shannon Statio**	**5.74**	**209**	P	**Pn**	06 13 17.8	-0.2
RTZ	**Ruatahuna**	**5.75**	**212**	Pn	**Pn**	06 13 16.0	-2.2
RTZ	**Ruatahuna**	**5.75**	**212**	P	**Pn**	06 13 17.2	-1.0
HLRZ	**Highlands Stat**	**5.76**	**218**	P	**Pn**	06 13 19.4	+1.1
WCZ	**Waipu Caves**	**5.76**	**246**	P	**Pn**	06 13 18.9	+0.6
KNZ	**Kokohu**	**5.82**	**205**	P	**Pn**	06 13 17.2	-1.9
MHGZ	**Mahia Peninsul**	**5.86**	**203**	P	**Pn**	06 13 17.7	-2.0
TOZ	**Tahuroa Road**	**5.87**	**226**	Pn	**Pn**	06 13 20.6	+0.9
TOZ	**Tahuroa Road**	**5.87**	**226**	P	**Pn**	06 13 21.9	+2.2
PRRZ	**Plateau Road**	**5.93**	**216**	P	**Pn**	06 13 20.5	-0.1
RAHZ	**Arahi**	**5.96**	**210**	P	**Pn**	06 13 19.9	-1.1
ALRZ	**Allen Road**	**6.00**	**216**	P	**Pn**	06 13 21.3	-0.3
MTHZ	**Maungataniwha**	**6.01**	**211**	P	**Pn**	06 13 20.7	-1.0
WTAZ	**Waiatarua**	**6.01**	**237**	P	**Pn**	06 13 26.0	+4.3
WHHZ	**Waihua**	**6.04**	**208**	P	**Pn**	06 13 22.3	+0.2
OUZ	**Omahuta**	**6.15**	**254**	P	**Pn**	06 13 23.9	+0.2
MRHZ	**Matea Rd**	**6.18**	**214**	P	**Pn**	06 13 23.8	-0.3
NMHZ	**Naumai**	**6.22**	**210**	P	**Pn**	06 13 24.2	-0.5
TLZ	**Tolley Road**	**6.25**	**222**	P	**Pn**	06 13 25.0	0.0
ARHZ	**Aropaoanui**	**6.29**	**208**	P	**Pn**	06 13 23.6	-1.9
BKZ	**Black Stump Fm**	**6.42**	**212**	Pn	**Pn**	06 13 25.6	-1.7
BKZ	**Black Stump Fm**	**6.42**	**212**	P	**Pn**	06 13 25.6	-1.7
RITZ	**Rihia Road**	**6.56**	**216**	P	**Pn**	06 13 29.4	+0.1
MCHZ	**McNeill Hill**	**6.56**	**209**	P	**Pn**	06 13 27.4	-1.9
CKHZ	**Cape Kidnapper**	**6.60**	**206**	P	**Pn**	06 13 27.9	-1.8
KATZ	**Kakaramea**	**6.64**	**217**	P	**Pn**	06 13 30.4	-0.1
KWHZ	**Kaweka Forest**	**6.66**	**211**	P	**Pn**	06 13 28.4	-2.3
NTVZ	**North Tongarir**	**6.75**	**217**	P	**Pn**	06 13 30.5	-1.4
TMVZ	**Te Maari**	**6.75**	**216**	P	**Pn**	06 13 30.2	-1.8
ETVZ	**East Tongariro**	**6.76**	**216**	P	**Pn**	06 13 30.0	-2.1
KRVZ	**Karewarewa**	**6.76**	**217**	P	**Pn**	06 13 32.6	+0.5
HIZ	**Hauiti**	**6.76**	**224**	Pn	**Pn**	06 13 34.0	+1.9
HIZ	**Hauiti**	**6.76**	**224**	P	**Pn**	06 13 34.1	+2.1
KAHZ	**Kahuranaki**	**6.79**	**207**	P	**Pn**	06 13 28.8	-3.7
NNVZ	**North Ngauruho**	**6.80**	**217**	P	**Pn**	06 13 33.3	+0.6
OTVZ	**Oturere**	**6.80**	**216**	P	**Pn**	06 13 30.6	-2.2
WTVZ	**West Tongariro**	**6.80**	**217**	P	**Pn**	06 13 32.5	-0.2
SNVZ	**South Ngauruho**	**6.83**	**216**	P	**Pn**	06 13 31.8	-1.3
NGZ	**Ngauruhoe**	**6.84**	**217**	P	**Pn**	06 13 32.5	-0.7
KRHZ	**Kereru**	**6.87**	**210**	P	**Pn**	06 13 30.4	-3.1
TUVZ	**Tukino**	**6.89**	**216**	P	**Pn**	06 13 35.0	+1.1
FWVZ	**Far West T-bar**	**6.93**	**216**	P	**Pn**	06 13 34.7	+0.2
MAVZ	**Matarangi**	**6.93**	**216**	P	**Pn**	06 13 35.9	+1.2
MOVZ	**Moawhango**	**6.95**	**215**	P	**Pn**	06 13 33.6	-1.0
WNVZ	**Wahianoa**	**6.96**	**216**	P	**Pn**	06 13 33.1	-1.9
TRVZ	**Turoa**	**6.96**	**216**	P	**Pn**	06 13 35.8	+0.8
PKVZ	**Pokaka**	**7.06**	**217**	P	**Pn**	06 13 37.4	+1.3
PNHZ	**Pukenui**	**7.17**	**210**	P	**Pn**	06 13 34.7	-2.9
WPHZ	**Waipukurau**	**7.20**	**208**	P	**Pn**	06 13 36.4	-1.6
PRHZ	**Porangahau**	**7.30**	**206**	P	**Pn**	06 13 35.7	-3.6
DVHZ	**Dannevirke**	**7.50**	**209**	P	**Pn**	06 13 40.0	-2.2
MRZ	**Mangatainoka R**	**8.05**	**210**	Pn	**Pn**	06 13 47.7	-1.9
RPZ	**Rata Peaks**	**12.51**	**215**	Pn	Pn	06 14 42.7	-8.0
	0.4nm,0.3s,baz=96,slow=17,SNR=1.2						
RPZ				Sn	Sn	06 16 54.2	-14
	1.1nm,0.3s,baz=199,slow=23,SNR=1.9						
MSVF	**Nonsavu**	**16.17**	**350**	Pn	**Pn**	**06 15 39.6**	**+0.2**
	1.4nm,0.3s,baz=139,slow=11,SNR=5.7						
DZM	**Mont Dzumac**	**17.24**	**309**	P	**P**	**06 15 56.9**	**+3.2**
DZM	**Mont Dzumac**	**17.24**	**309**	*e*LR	LR	06 19 54.2	
	945nm,25.2s						
DZM	**Mont Dzumac**	**17.24**	**309**	Pn	**P**	**06 15 54.8**	**+1.1**
	0.3nm,0.3s,baz=137,slow=16,SNR=3.6						
DZM				LR	LR	06 20 52.5	
	comp=Z,629nm,21.1s,baz=145,slow=32						
RAR	**Rarotonga**	**21.22**	**59**	LR	LR	06 22 58.5	
	comp=Z,124nm,21.9s,baz=262,slow=31						
ARMA	**Armidale**	**24.94**	**270**	P	**P**	**06 17 13.8**	**-0.3**
TBI	**Tubuai**	**27.99**	**76**	*e*LR	LR	06 24 56.3	
	1μm,25.5s						
TOO	**Toolangi**	**28.86**	**252**	P	**P**	**06 17 45.8**	**-3.4**
PPT2	**Papeete2**	**31.00**	**66**	*e*LR	LR	06 26 06.9	
	297nm,29.2s						
PPT2				*e*LR	LR	06 26 14.2	
	422nm,27.0s						
CTA	**Charters Tower**	**33.55**	**285**	LR	LR	06 30 01.8	
	comp=Z,123nm,21.0s,baz=90,slow=33						
CTAO	**Charters Tower**	**33.55**	**285**	P	**P**	**06 18 30.5**	**0.0**
CTAO				IAmb	IAmb	06 18 35.4	
	comp=Z,18nm,1.0s						
BBOO	**Buckleboo**	**37.22**	**259**	P	**P**	**06 18 59.4**	**-2.6**
COEN	**Coen**	**39.40**	**291**	P	**P**	**06 19 20.5**	**0.0**
COEN				IAmb	IAmb	06 19 40.4	
	comp=Z,17nm,1.1s						
RABL	**Rabaul**	**39.74**	**312**	P	**P**	**06 19 23.0**	**-0.3**
AS31	**Alice Springs**	**42.07**	**271**	P	**P**	**06 19 41.9**	**-0.6**
ASAR	**Alice Springs**	**42.07**	**271**	P	**P**	**06 19 40.0**	**-2.5**
	comp=Z,6.9nm,0.9s,baz=113,slow=7.4,SNR=46						
ASAR				PcP	**PcP**	**06 21 34.2**	**-2.4**
	comp=Z,1.0nm,0.8s,baz=110,slow=5.5,SNR=4.1						
ASAR				LR	LR	06 35 52.5	
	comp=Z,130nm,21.6s,baz=49,slow=35						
	comp=Z,6.9nm,0.9s						
WB2	**Warramunga Arr**	**43.36**	**276**	P	**P**	**06 19 51.5**	**-1.4**
WB2				IAmb	IAmb	06 20 14.4	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**43.37**	**276**	P	**P**	**06 19 50.9**	**-2.1**
	comp=Z,5.3nm,0.9s,baz=117,slow=7.8,SNR=42						
WRA				PcP	**PcP**	**06 21 39.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=118,slow=2.9,SNR=1.2						
WRA				LR	LR	06 37 09.6	
	comp=Z,137nm,18.3s,baz=126,slow=35						
	comp=Z,5.3nm,0.9s						
WB0	**Warramunga Arr**	**43.41**	**277**	P	**P**	**06 19 52.2**	**-1.1**
WB0				IAmb	IAmb	06 20 05.2	
	comp=Z,16nm,1.1s						
TAOE	**Nuku Hiva Isla**	**43.59**	**64**	*e*LR	LR	06 32 05.2	
	comp=Z,173nm,23.6s						
FORT	**Forrest**	**44.33**	**259**	P	**P**	**06 19 59.2**	**-1.4**
FORT				IAmb	IAmb	06 20 13.4	
	comp=Z,18nm,0.8s						
MTN	**Manton Dam**	**49.64**	**283**	P	**P**	**06 20 41.9**	**-0.3**
MTN				IAmb	IAmb	06 20 49.3	
	comp=Z,13nm,0.9s						
KNRA	**Kununurra**	**50.08**	**278**	P	**P**	**06 20 44.6**	**-0.9**
KNRA				IAmb	IAmb	06 20 50.8	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.47**	**273**	P	**P**	**06 20 54.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.47**	**273**	LR	LR	06 42 20.6	
	comp=Z,197nm,18.1s,baz=112,slow=36						
NWAO	**Narrogin (SRO)**	**52.35**	**252**	P	**P**	**06 21 00.4**	**-2.0**
NWAO				IAmb	IAmb	06 21 14.0	
	comp=Z,19nm,1.1s						
NWAO	**Narrogin (SRO)**	**52.35**	**252**	LR	LR	06 42 09.9	
	comp=Z,100nm,19.3s,baz=21,slow=35						
FAKI	**Fak Fak**	**54.68**	**293**	P	**P**	**06 21 18.5**	**-1.1**
MORW	**Morawa**	**54.70**	**256**	P	**P**	**06 21 18.1**	**-1.5**
MORW				IAmb	IAmb	06 21 31.8	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**06 21 32.5**	**+1.5**
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**06 21 33.4**	**+2.4**
	comp=Z,5.7nm,0.9s,baz=31,slow=8.3,SNR=13						
	comp=Z,5.7nm,0.9s						
SOEI	**Soe**	**56.95**	**281**	P	**P**	**06 21 36.0**	**0.0**
SOEI				IAmb	IAmb	06 22 03.4	
	comp=Z,15nm,0.9s						
KAPI	**Kappang**	**63.31**	**283**	LR	LR	06 50 18.8	
	comp=Z,60nm,19.5s,baz=76,slow=37						
BELA	**Belgrano 2**	**66.58**	**172**	P	**P**	**06 22 41.0**	**+1.2**
LEM	**Lembang**	**72.30**	**274**	LR	LR	06 53 53.1	
	comp=Z,81nm,21.7s,baz=164,slow=35						
ELIB	**Princess Elisa**	**73.39**	**187**	*d*P	**P**	**06 23 23.6**	**+1.8**
	comp=Z,9.8nm,0.9s						
SYO	**Syowa Base**	**73.61**	**194**⇑	*e*P	**P**	**06 23 22.8**	**-0.1**
TROLL	**Troll, Antarti**	**74.50**	**181**	P	**P**	**06 23 29.3**	**+1.1**
TROLL	**Troll, Antarti**	**74.50**	**181**	⇑P	**P**	**06 23 29.3**	**+1.1**
	comp=Z,1μm,1.0s						
SNAA	**Sanae**	**74.81**	**179**	P	**P**	**06 23 31.4**	**+1.4**
SNAA	**Sanae**	**74.81**	**179**	P	**P**	**06 23 30.2**	**+0.2**
SNAA				IAmb	IAmb	06 23 46.9	
	comp=Z,19nm,1.1s						
SNAA	**Sanae**	**74.81**	**179**	⇑P	**P**	**06 23 31.4**	**+1.4**
	comp=Z,295nm,1.2s						
SNAA	**Sanae**	**74.81**	**179**	P	**P**	**06 23 32.0**	**+2.1**
	comp=Z,1.4nm,0.5s,baz=192,slow=9.3,SNR=7.3						
	comp=Z,1.4nm,0.5s						
VNA3	**Neumayer Olymp**	**75.01**	**176**	P	**P**	**06 23 32.6**	**+1.5**
VNA3	**Neumayer Olymp**	**75.01**	**176**	⇑P	**P**	**06 23 32.6**	**+1.5**
	comp=Z,48nm,0.8s						
VNA2	**Neumayer--Watz**	**75.43**	**177**	P	**P**	**06 23 36.4**	**+2.9**
	baz=186,slow=5.3						
VNA2	**Neumayer--Watz**	**75.43**	**177**	⇑P	**P**	**06 23 36.4**	**+2.9**
	comp=Z,32nm,0.7s,baz=186,slow=5.3						
VNA1	**Neumayer--Stat**	**75.66**	**177**	P	**P**	**06 23 33.9**	**-0.9**
VNA1	**Neumayer--Stat**	**75.66**	**177**	⇑P	**P**	**06 23 33.9**	**-0.9**
	comp=Z,30nm,0.8s						
LL02	**Futaleuf**	**78.69**	**135**	P	**P**	**06 23 55.0**	**+2.8**
LL02				IAmb	IAmb	06 23 55.8	
	comp=Z,7.4nm,0.8s						
H03S2	**Juan Fernandez**	**79.42**	**124**	T	T	07 52 28.6	
	baz=234,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**79.43**	**124**	T	T	07 52 29.8	
	baz=234,slow=74,SNR=20						
H03S3	**Juan Fernandez**	**79.44**	**124**	T	T	07 52 28.7	
	baz=234,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**79.63**	**123**	T	T	07 52 29.5	
	baz=239,slow=72,SNR=46						
H03N2	**Juan Fernandez**	**79.64**	**123**	T	T	07 52 28.5	
	baz=239,slow=72,SNR=30						
H03N1	**Juan Fernandez**	**79.65**	**123**	T	T	07 52 28.6	
	baz=239,slow=72,SNR=49						
PLCA	**Paso Flores**	**80.92**	**133**	P	**P**	**06 24 07.2**	**+2.6**
	comp=Z,2.5nm,0.8s,baz=230,slow=6.0,SNR=5.6						
	comp=Z,2.5nm,0.8s						
MT01	**Popeta**	**84.61**	**127**	P	**P**	**06 24 26.2**	**+2.5**
PSI	**Prapat**	**84.83**	**277**	LR	LR	07 04 18.1	
	comp=Z,66nm,18.5s,baz=62,slow=37						
ASAJ	**Asahikawa**	**84.99**	**333**	LR	LR	06 55 18.5	
	comp=Z,56nm,21.3s,baz=229,slow=31						
LPIG	**La Paz**	**87.14**	**59**	LR	LR	06 58 22.3	
	comp=Z,41nm,19.1s,baz=206,slow=32						
PETK	**Petropavlovsk-**	**88.84**	**346**	P	**P**	**06 24 42.8**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=112,slow=6.8,SNR=5.6						
	comp=Z,4.2nm,0.8s						
GO02	**Mina Guanaco**	**91.08**	**121**	P	**P**	**06 24 57.9**	**+2.6**
YBH	**Yreka Blue Hor**	**91.28**	**39**	LR	LR	06 55 50.3	
	comp=Z,43nm,21.7s,baz=225,slow=29						
NVAR	**Mina Array Bea**	**91.37**	**43**	P	**P**	**06 24 57.8**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=225,slow=8.3,SNR=7.7						
NVAR				LR	LR	06 58 43.4	
	comp=Z,45nm,20.5s,baz=218,slow=31						
	comp=Z,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.60**	**290**	P	**P**	**06 25 06.2**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=115,slow=4.0,SNR=4.6						
CMAR				LR	LR	07 08 08.4	
	comp=Z,16nm,20.3s,baz=75,slow=36						
	comp=Z,0.7nm,0.3s						
KDAK	**Kodiak Island**	**93.91**	**14**	LR	LR	07 06 28.5	
	comp=Z,46nm,18.3s,baz=72,slow=35						
CMIG	**Matias Romero**	**94.71**	**73**	LR	LR	06 57 48.5	
	comp=Z,39nm,21.7s,baz=183,slow=29						
ATAH	**Atahualpa**	**94.94**	**102**	LR	LR	06 58 45.9	
	comp=Z,31nm,19.4s,baz=206,slow=30						
TXAR	**Lajitas Array**	**95.02**	**58**	LR	LR	07 04 15.5	
	comp=Z,21nm,18.2s,baz=228,slow=33						
HHC	**Hu-ho-hao-te**	**97.87**	**314**	*e*P	Pdif	06 25 30.4	+4.8
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,55nm,5.0s						
JTS	**Las Juntas de**	**99.11**	**84**	LR	LR	07 03 19.6	
	comp=Z,17nm,18.0s,baz=248,slow=31						
PDAR	**Pinedale Array**	**99.24**	**44**	LR	LR	07 01 25.2	
	comp=Z,26nm,21.7s,baz=228,slow=30						
ILAR	**Eielson Array**	**101.43**	**14**	P	**Pdif**	**06 25 41.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=190,slow=4.6,SNR=5.6						
ILAR				PKiKP	**PKiKP**	**06 30 05.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=227,slow=3.6,SNR=5.3						
SONM	**Songino Array**	**104.98**	**318**	PKiKP	**PKiKP**	**06 30 10.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=79,slow=3.5,SNR=1.4						
YKA	**Yellowknife Ar**	**108.90**	**26**	PKiKP	**PKiKP**	**06 30 17.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=234,slow=1.7,SNR=2.0						
WMQ	**Urumqi**	**114.52**	**307**	*e*PKP	**PKiKP**	**06 30 34.2**	**+4.5**
WMQ				LR	LR		
	comp=N,310nm,19.1s						
WMQ				LR	LR		
	comp=E,570nm,19.1s						
MKAR	**Makanchi Array**	**119.16**	**309**	PKP	**PKPdf**	**06 30 36.6**	**-1.8**
	comp=E,0.6nm,0.7s,baz=178,slow=3.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**119.87**	**317**	PKP	**PKPdf**	**06 30 37.9**	**-1.6**
	comp=E,0.5nm,0.5s,

PMSA	Palmer Station	19.32	237	LR	LR	06 36 03.7
	comp=Z,83nm,18.2s,baz=124,slow=34					
EFI	East Falkland	20.84	277	P	P	06 30 02.8 +0.8
USHA	Ushuaia	24.39	261	LR	LR	06 37 40.6
	comp=Z,154nm,21.3s,baz=171,slow=30					
QSPA	South Pole Qui	30.62	180	P	P	06 31 36.0 +1.4
QSPA				IAmb	IAmb	06 31 36.3
	comp=Z,9.1nm,0.8s					
QSPA	South Pole Qui	30.62	180	P	P	06 31 35.4 +0.8
	comp=Z,7.0nm,0.6s,baz=201,slow=2.5,SNR=29					
	comp=Z,7.0nm,0.6s					
TRQA	Tornquist	32.55	294	P	P	06 31 51.3 -0.3
TRQA				IAmb	IAmb	06 31 52.5
	comp=Z,7.3nm,1.1s					
AY01	Puyuhuapi	32.95	275	P	P	06 31 54.7 -0.3
AY01				IAmb	IAmb	06 31 54.9
	comp=Z,6.4nm,0.7s					
PLCA	Paso Flores	34.60	282	P	P	06 32 09.0 -0.5
PLCA				IAmb	IAmb	06 32 09.4
	comp=Z,4.1nm,0.8s					
PLCA	Paso Flores	34.60	282	P	P	06 32 08.3 -1.2
	comp=Z,2.9nm,0.7s,baz=148,slow=7.7,SNR=11					
PLCA				LR	LR	06 45 09.3
	comp=Z,62nm,20.2s,baz=152,slow=34					
	comp=Z,2.9nm,0.7s					
BI05	Punta Hualpn	38.98	283	P	P	06 32 46.6 -0.1
BO02	Sierra Bellavi	39.36	288	P	P	06 32 49.6 -0.4
BO01	Tunca	39.83	288	P	P	06 32 53.0 -0.8
BO01				IAmb	IAmb	06 33 00.5
	comp=Z,7.7nm,0.9s					
BO04	La Punta	39.93	289	P	P	06 32 54.8 +0.1
SUR	Sutherland	39.95	67	LR	LR	06 46 32.8
	comp=Z,67nm,18.1s,baz=180,slow=32					
MT08	Bocatoma Ro	40.09	290	P	P	06 32 56.6 +0.4
VAO	Valinhos	40.15	325	P	P	06 32 58.7 +2.1
MT09	Talagante	40.28	288	P	P	06 32 57.4 -0.3
MT09				IAmb	IAmb	06 32 57.9
	comp=Z,10nm,0.8s					
MT01	Popeta	40.34	288	P	P	06 32 57.8 -0.3
MT01				IAmb	IAmb	06 32 58.1
	comp=Z,7.7nm,0.9s					
MT16	CCHEN	40.34	289	P	P	06 32 58.1 -0.1
MT16				IAmb	IAmb	06 32 59.0
	comp=Z,14nm,0.9s					
CPUP	Villa Florida	40.62	310	P	P	06 32 59.4 -1.0
CPUP	Villa Florida	40.62	310	P	P	06 32 59.1 -1.2
	comp=Z,0.5nm,0.5s,baz=157,slow=8.5,SNR=3.4					
	comp=Z,0.5nm,0.5s					
PEL	Peldehue	40.65	289	P	P	06 33 00.9 +0.2
PEL				IAmb	IAmb	06 33 08.1
	comp=Z,9.1nm,0.9s					
MT02	Curacav	40.78	289	P	P	06 33 01.7 0.0
MT02				IAmb	IAmb	06 33 02.7
	comp=Z,14nm,1.1s					
VA03	San Esteban	40.90	290	P	P	06 33 02.6 -0.2
VA03				IAmb	IAmb	06 33 10.6
	comp=Z,11nm,0.9s					
CO01	Juntas del Tor	43.00	293	P	P	06 33 20.7 +0.6
VNDA	Vanda	43.08	182	LR	LR	06 49 43.7
	comp=Z,56nm,19.4s,baz=151,slow=34					
GO04	Tololo Observa	43.16	292	P	P	06 33 21.1 -0.3
GO04				IAmb	IAmb	06 33 24.9
	comp=Z,8.1nm,0.9s					
CO05	La Serena	43.59	291	P	P	06 33 24.0 -0.6
LCO	Las Campanas	44.09	293	P	P	06 33 28.8 -0.2
LCO				IAmb	IAmb	06 33 29.3
	comp=Z,11nm,0.8s					
H04S2	CROZET ISLANDS	44.43	108	T	T	07 21 12.3
	baz=225					
H04S3	CROZET ISLANDS	44.44	108	T	T	07 21 20.0
	baz=225					
H04S1	CROZET ISLANDS	44.45	108	T	T	07 21 18.0
	baz=225					
AC04	Llanos de Chal	44.95	293	P	P	06 33 35.9 +0.4
BOSA	Boshof	45.19	69	P	P	06 33 38.5 +0.9
BOSA	Boshof	45.19	69	P	P	06 33 37.7 +0.1
	comp=Z,1.8nm,0.8s,baz=215,slow=6.1,SNR=5.9					
	comp=Z,1.8nm,0.8s					
AC02	Maricunga	45.21	296	P	P	06 33 38.9 +0.7
GO02	Mina Guanaco	46.86	297	P	P	06 33 50.9 -0.1
BDFB	Brasilia	47.43	327	P	P	06 33 56.0 +0.7
BDFB				IAmb	IAmb	06 33 57.5
	comp=Z,5.6nm,0.9s					
BDFB	Brasilia	47.43	327	P	P	06 33 56.5 +1.2
	comp=Z,4.7nm,0.8s,baz=171,slow=4.6,SNR=8.7					
BDFB				LR	LR	06 52 29.8
	comp=Z,46nm,19.9s,baz=161,slow=34					
	comp=Z,4.7nm,0.8s					
PB14	IPOC Station P	47.69	296	P	P	06 33 56.4 -1.1
PB14				IAmb	IAmb	06 33 57.4
	comp=Z,4.5nm,1.0s					
LBTB	Lobatse	48.40	67	LR	LR	06 50 57.5
	comp=Z,49nm,19.2s,baz=202,slow=32					
CASY	Casey	49.87	158	P	P	06 34 14.8 +1.5
CASY				IAmb	IAmb	06 34 15.1
	comp=Z,6.1nm,0.8s					
TSUM	Tsumeb	49.95	54	LR	LR	06 51 37.7
	comp=Z,31nm,18.4s,baz=158,slow=32					
H10S2	ASCENSION HYDR	50.99	11	T	T	07 29 50.6
	baz=185					
H10S3	ASCENSION HYDR	51.00	11	T	T	07 29 51.5
	baz=35					
PTLB	Pontes e Lacer	51.20	314	P	P	06 34 23.9 0.0
HMBC	Humberstone	51.24	299	P	P	06 34 24.1 -0.3
HMBC				IAmb	IAmb	06 34 24.2
	comp=Z,5.0nm,0.8s					
H10N1	ASCENSION HYDR	52.11	11	T	T	07 31 16.4
	baz=191					
H10N3	ASCENSION HYDR	52.11	11	T	T	07 31 15.1
	baz=191					
H10N2	ASCENSION HYDR	52.13	11	T	T	07 31 18.7
	baz=191					
LPAZ	La Paz	54.01	304	P	P	06 34 45.8 +0.3
LPAZ				IAmb	IAmb	06 34 46.3
	comp=Z,2.9nm,0.7s					
LPAZ	La Paz	54.01	304	P	P	06 34 45.6 +0.2
	comp=Z,2.8nm,0.6s,baz=156,slow=2.6,SNR=8.7					
	comp=Z,2.8nm,0.6s					
LSZ	Lusaka	58.04	63	LR	LR	06 56 05.9
	comp=Z,61nm,21.9s,baz=148,slow=32					
MAL2	Monte Alegre,	62.15	325	P	P	06 35 42.8 +1.0
OPO	Ambohidratompo	64.42	83	LR	LR	06 58 23.2
	comp=Z,46nm,19.6s,baz=336,slow=31					
BOAV	Boa Vista	68.29	320	P	P	06 36 21.7 +0.1
COHC	Cochancay	71.16	299	P	P	06 36 40.6 +1.2
OTAV	Otavalo	73.22	301	P	P	06 36 52.5 +0.3
OTAV				IAmb	IAmb	06 36 53.2
	comp=Z,6.8nm,1.1s					
TORD	Torodi Ar. Bea	75.33	25	P	P	06 37 04.8 +1.0
TORD				IAmb	IAmb	06 37 13.9
	comp=Z,4.9nm,0.7s					
TORD	Torodi Ar. Bea	75.33	25	P	P	06 37 04.8 +1.0
	comp=Z,3.3nm,0.6s,baz=199,slow=5.0,SNR=18					
	comp=Z,3.3nm,0.6s					
SDV	Santo Domingo	77.89	312	LR	LR	07 12 12.7
	comp=Z,31nm,20.0s,baz=256,slow=36					
ASAR	Alice Springs	94.97	159	P	P	06 38 42.1 -1.1
	comp=Z,1.4nm,0.9s,baz=196,slow=5.0,SNR=7.0					
	comp=Z,1.4nm,0.9s					
CMAR	Chiang Mai Arr	122.01	109	PKP	PKPdf	06 44 14.8 -0.2
	comp=Z,0.6nm,0.3s,baz=213,slow=3.1,SNR=4.9					
FINES	FINESS Array B	126.65	27	PKP	PKPdf	06 44 21.8 -0.7
	comp=Z,4.9nm,1.1s,baz=332,slow=5.5,SNR=1.8					
BVAR	Borovoye Array	135.02	58	PKP	PKiKP	06 44 39.7 -0.4
	comp=Z,0.8nm,0.6s,baz=242,slow=3.1,SNR=4.6					
MKAR	Makanchi Array	136.13	73	PKP	PKPdf	06 44 41.6 +0.6
	comp=Z,0.6nm,0.9s,baz=241,slow=1.2,SNR=4.2					
KURBB	Kurchatov Arra	137.02	66	PKP	PKiKP	06 44 43.6 -0.6
	comp=Z,0.6nm,0.8s,baz=261,slow=2.7,SNR=6.8					
GTA	Gaotai	139.56	94	PKP	PKPdf	06 44 40.8 -6.8
YKA	Yellowknife Ar	140.09	314	PKP	PKPdf	06 44 47.7 +0.1
	comp=Z,0.5nm,0.8s,baz=123,slow=2.3,SNR=5.5					
ZALV	Zalesovo Beam	142.11	66	PKhKP	PKPpre	06 44 46.5
	comp=Z,0.6nm,0.4s,baz=250,slow=2.3,SNR=3.8					
A36M	Sachs Harbour	148.27	325		PKPbc	06 45 05.0 0.0
SONM	Songino Array	148.89	90	PKPbc	PKPbc	06 45 07.5 -0.1
	comp=Z,5.4nm,0.8s,baz=218,slow=2.8,SNR=25					
G31M	Satah River	149.58	313		PKPbc	06 45 08.2 -0.2
L29M	L29M	149.68	305		PKiKP	06 45 09.7 -0.2
NRIK	Noril'sk	150.46	42	PKPbc	PKPbc	06 45 10.2 -0.3
	comp=Z,1.3nm,0.5s,baz=73,slow=3.3,SNR=2.0					
KSRS	Korea Array	151.26	128	PKPbc	PKPbc	06 45 13.2 -0.2
	comp=Z,2.5nm,0.9s,baz=164,slow=2.8,SNR=5.2					
ILAR	Eielson Array	153.88	306	PKPbc	PKPbc	06 45 17.4 -1.0
	comp=Z,1.0nm,0.9s,baz=169,slow=0.9,SNR=7.9					

*NEIC **03** 06:33:46.8±1.3,5°.8S±0°.1×153°.8E±0°.1,h10km±1km, mb4.5/16,Error ellipse: s-maj=26.8km s-min=16.8km az=50.0*
*IDC **03** 06:33:52.1±4.5,5°.61S×153°.71E,h52km±38km,mb3.9/13, mbtmp4.2/14,ML2.6/1,MS3.3/6,Error ellipse: s-maj=24.7km s-min=20.2km az=65.0*

ISC 03 06:33:50.1±0.7,**5°.65**±0°.09×**153°.8E**±0°.1,**h35**km,**n44,** σ1°**04**/**41**,**mb4.3**/**19**,**MS3.3**/**4**,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	Rabaul		2.17	312			Pn	06 34 24.3	+0.5
KRVT	Keravat (AS076		2.21	307		LR	LR	06 35 07.2	
	comp=Z,304nm,21.9s,baz=227,slow=35								
PMG	Port Moresby		7.56	240		P	Pn	06 35 39.6	+1.7
	5.4nm,0.3s,baz=2.1,slow=13,SNR=8.5								
PMG						S	Sn	06 37 02.3	-0.1
	41nm,0.6s,baz=155,slow=8.4,SNR=6.6								
	24nm,0.5s								
CTA	Charters Tower		16.11	206		LR	LR	06 43 10.3	
	comp=Z,95nm,20.4s,baz=74,slow=35								
DZM	Mont Dzumac		20.40	144		P	P	06 38 22.4	-1.9
DZM						IAmb	IAmb	06 38 31.9	
	comp=Z,18nm,0.9s								
DZM	Mont Dzumac		20.40	144		P	P	06 38 25.9	+1.6
	comp=Z,22nm,1.0s,baz=131,slow=15,SNR=23								
	comp=Z,22nm,1.0s								
WB0	Warramunga Arr		23.51	232		P	P	06 38 54.6	-2.6
WB2	Warramunga Arr		23.64	231		P	P	06 38 58.2	-0.2
WB2						IAmb	IAmb	06 39 20.6	
	comp=Z,7.6nm,1.0s								
WRA	Warramunga Arr		23.65	231		P	P	06 38 57.5	-1.0
WRA	Warramunga Arr		23.65	231		P	P	06 38 59.2	+0.6
	comp=Z,1.6nm,0.9s,baz=57,slow=10,SNR=5.9								
WRA						PcP	PcP	06 42 42.8	+0.1
	comp=Z,2.0nm,0.8s,baz=32,slow=2.0,SNR=8.2								
WRA						LR	LR	06 48 41.5	
	comp=Z,77nm,18.5s,baz=128,slow=38								
	comp=Z,1.6nm,0.9s								
AS31	Alice Springs		26.22	225		P	P	06 39 20.4	-1.6
ASAR	Alice Springs		26.22	225		P	P	06 39 20.9	-1.0
ASAR	Alice Springs		26.22	225		P	P	06 39 22.8	+0.8
	comp=Z,2.2nm,0.9s,baz=57,slow=9.3,SNR=13								
ASAR						PcP	PcP	06 42 48.8	+0.4
	comp=Z,1.8nm,0.7s,baz=58,slow=2.7,SNR=13								
ASAR						LR	LR	06 49 30.5	
	comp=Z,70nm,21.0s,baz=38,slow=36								
	comp=Z,2.2nm,0.9s								
KNRA	Kununurra		26.50	246		P	P	06 39 23.4	-1.1
KNRA						IAmb	IAmb	06 39 40.8	
	comp=Z,24nm,1.1s								
H11S3	WAKE ISLAND Hy	27.16	28			T	T	07 07 57.2	
	baz=208,slow=76,SNR=17								
H11S2	WAKE ISLAND Hy	27.16	28			T	T	07 07 53.8	
	baz=208,slow=76,SNR=28								
H11S1	WAKE ISLAND Hy	27.17	28			T	T	07 07 44.0	
	baz=208,slow=76,SNR=21								
STKA	Stephens Creek		28.48	202		LR	LR	06 51 29.5	
	comp=Z,86nm,19.4s,baz=18,slow=37								
FITZ	Fitzroy Crossi		30.14	243		P	P	06 39 56.6	-0.3
FITZ	Fitzroy Crossi		30.14	243		P	P	06 39 56.4	-0.6
	comp=Z,4.3nm,0.9s,baz=52,slow=7.0,SNR=9.2								
	comp=Z,4.3nm,0.9s								
NWAO	Narrogin (SRO)		43.51	227		LR	LR	06 59 26.8	
	comp=Z,82nm,20.4s,baz=302,slow=35								
PHRA	Phrae		57.99	296		P	P	06 43 39.5	-0.2
PEA0B	Petropavlovsk-		58.63	3		P	P	06 43 44.9	+1.3
CM31	Chiang Mai Arr		59.13	295		P	P	06 43 46.9	-0.8
CM31						IAmb	IAmb	06 43 50.5	
	comp=Z,5.5nm,0.9s								
CMAR	Chiang Mai Arr		59.13	295		P	P	06 43 46.4	-1.4
CMAR	Chiang Mai Arr		59.13	295		P	P	06 43 49.0	+1.3
	comp=Z,2.9nm,0.8s,baz=113,slow=5.1,SNR=16								
	comp=Z,2.9nm,0.8s								
SONM	Songino Array		67.56	328		P	P	06 44 44.3	+1.1
SONM	Songino Array		67.56	328		P	P	06 44 43.5	+0.3
	comp=Z,0.3nm,0.4s,baz=145,slow=5.8,SNR=4.3								
	comp=Z,0.3nm,0.4s								
SHL	Shillong		67.58	300		P	P	06 44 43.9	+0.1
SHL						IAmb	IAmb	06 44 44.9	
	comp=Z,5.8nm,0.9s								
K15K	Wolf Creek Mou		75.86	20		P	P	06 45 33.0	+0.4
K15K						IAmb	IAmb	06 45 39.5	
	comp=Z,3.8nm,1.1s								
MKAR	Makanchi Array		81.61	319		P	P	06 46 04.7	+0.1
MKAR	Makanchi Array		81.61	319		P	P	06 46 04.4	-0.2
	comp=Z,2.3nm,0.8s,baz=100,slow=6.0,SNR=19								
	comp=Z,2.3nm,0.8s								
MAKZ	Makanchi		81.82	319		P	P	06 46 05.5	-0.2
MAKZ						IAmb	IAmb	06 46 06.7	
	comp=Z,3.0nm,0.8s								
ZALV	Zalesovo Beam		82.40	326		P	P	06 46 08.6	0.0
ZALV	Zalesovo Beam		82.40	326		P	P	06 46 06.8	-1.8
	comp=Z,1.0nm,0.5s,baz=108,slow=8.0,SNR=5.1								
	comp=Z,1.0nm,0.5s								
ILAR	Eielson Array		82.57	22		P	P	06 46 09.6	+0.4
	comp=Z,0.3nm,0.3s,baz=260,slow=1.6,SNR=8.5								
	comp=Z,0.3nm,0.3s								
QSPA	South Pole Qui		84.32	180		P	P	06 46 19.0	+0.6
QSPA	South Pole Qui		84.32	180		P	P	06 46 18.6	+0.2
	comp=Z,3.2nm,0.8s,baz=198,slow=3.2,SNR=13								
	comp=Z,3.2nm,0.8s								
KURK	Kurchatov		85.04	322		P	P	06 46 21.6	-0.5
KURK						IAmb	IAmb	06 46 22.5	
	comp=Z,3.6nm,1.1s								
KURBB	Kurchatov Arra		85.07	322		P	P	06 46 21.2	-1.1
	comp=Z,1.5nm,1.0s,baz=110,slow=4.0,SNR=12								
	comp=Z,1.5nm,1.0s								
NRIK	Noril'sk		87.08	341		P	P	06 46 31.9	+0.1
	comp=Z,1.2nm,0.3s,baz=91,slow=5.7,SNR=2.0								
	comp=Z,1.2nm,0.3s								
BVAR	Borovoye Array		90.51	323		P	P	06 46 47.6	-0.8
	comp=Z,1.0nm,0.7s,baz=128,slow=4.0,SNR=2.4								
	comp=Z,1.0nm,0.7s								
BRTR	Keskin Array B		116.60	312		PKP	PKPdf	06 52 30.2	-0.9
	comp=Z,0.1nm,0.3s,baz=319,slow=8.0,SNR=1.8								
TORD	Torodi Ar. Bea		151.50	287		PKPbc	PKPbc	06 53 40.5	-1.1
	comp=Z,1.0nm,0.6s,baz=16,slow=3.0,SNR=7.1								
TORD						PKPab	sPKPdf	06 53 48.4	-1.5
	comp=Z,1.7nm,0.8s,baz=43,slow=3.6,SNR=8.2								

*IDC **03** 06:43:53.7±1.6,30°.20S×177°.53W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=44.0km s-min=20.4km az=79.0*
*NEIC **03** 06:43:55.8±1.7,30°.23S±0°.03×177°.5W±0°.2,h10km±2km, mb4.3/5,Error ellipse: s-maj=29.6km s-min=5.4km az=85.0*

ISC 03 06:43:58.8±1.1,**30°.26S**±0°.07×**177°.6W**±0°.2,**h33**km,**n19,** σ1°**12**/**17**,**mb4.2**/**6**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island		1.03	347		Pn	Pn	06 44 15.9	-1.0
	274nm,0.3s,baz=130,slow=7.4,SNR=5.6								
RAO						Sn	Sn	06 44 30.7	+0.5
	599nm,0.3s,baz=47,slow=21,SNR=9.1								
URZ	Urewera		9.08	207		Sn	Sn	06 47 47.1	-1.5
	0.8nm,0.3s,baz=330,slow=23,SNR=8.0								
RTZ	Ruatahuna		9.44	207		Pn	Pn	06 46 12.2	-0.3
BKZ	Black Stump Fm		10.11	207		Pn	Pn	06 46 20.4	-1.2
BBOO	Buckleboo		39.30	254		P	P	06 51 25.2	+0.4
BBOO						IAmb	IAmb	06 51 40.8	
	comp=Z,6.2nm,1.0s								
ASAR	Alice Springs		43.42	267		P	P	06 51 59.2	+0.5
	comp=Z,0.7nm,0.8s,baz=104,slow=7.5,SNR=6.1								
	comp=Z,0.7nm,0.8s								
WB2	Warramunga Arr		44.39	272		P	P	06 52 07.5	+1.0
WRA	Warramunga Arr		44.40	272		P	P	06 52 07.3	+0.7
WRA	Warramunga Arr		44.40	272		P	P	06 52 06.9	+0.3
	comp=Z,1.2nm,0.3s,baz=111,slow=7.9,SNR=13								
	comp=Z,1.2nm,0.3s								
WB0	Warramunga Arr		44.42	272		P	P	06 52 07.7	+1.0
WB0						IAmb	IAmb	06 52 10.1	
	comp=Z,4.9nm,0.9s								
CASY	Casey		55.41	208		P	P	06 53 30.9	+1.4
QSPA	South Pole Qui		59.85	180		P	P	06 54 02.4	+1.5
QSPA	South Pole Qui		59.85	180		P	P	06 54 02.2	+1.3
	comp=Z,2.4nm,1.1s,baz=0.5,slow=1.3,SNR=3.3								
	comp=Z,2.4nm,1.1s								
BELA	Belgrano 2		69.88	172		P	P	06 55 05.3	-0.5
BELA						IAmb	IAmb	06 55 24.1	
	comp=Z,1.8nm,1.0s								
H03S2	Juan Fernandez		80.28	123		T	T	08 24 18.6	
	baz=202,slow=74,SNR=7.2								
H03S1	Juan Fernandez		80.30	123		T	T	08 24 19.4	
	baz=202,slow=74,SNR=8.5								
H03S3	Juan Fernandez		80.30	123		T	T	08 24 20.5	
	baz=202,slow=74,SNR=11								
FINES	FINESS Array B		145.12	340		PKPbc	PKPbc	07 03 30.3	-1.3
	comp=Z,5.7nm,0.8s,baz=49,slow=4.2,SNR=15								
TORD	Torodi Ar. Bea		162.96	178		PKP	PKPdf	07 03 57.1	-1.3
	comp=Z,0.3nm,0.6s,baz=139,slow=2.3,SNR=1.3								

*IDC **03** 06:48:22.3±2.0,30°.08S×177°.37W,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=53.5km s-min=21.7km az=70.0*

ISC 03 06:48:23.5±1.7,**30°.24S**±0°.09×**177°.6W**±0°.3,**h10**km,**n6,** σ1°**99**/**7**,**mb3.8**/**3**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island		1.03	342		Pn	Pn	06 48 42.6	-1.4
	180nm,0.3s,baz=9.0,slow=19,SNR=3.8								
RAO						Sn	Sn	06 48 59.1	+0.6
	271nm,0.3s,baz=85,slow=22,SNR=4.0								
URZ	Urewera		9.13	207		Pn	Pn	06 50 33.4	-2.0
	0.2nm,0.3s,baz=124,slow=6.5,SNR=1.9								
URZ						Sn	Sn	06 52 12.7	-5.5
	1.9nm,0.3s,baz=181,slow=18,SNR=9.8								
ASAR	Alice Springs		43.50	267		P	P	06 56 29.3	+1.9
	0.2nm,0.3s,baz=110,slow=8.4,SNR=1.8								
	0.2nm,0.3s								
WRA	Warramunga Arr		44.47	272		P	P	06 56 36.3	+1.1
	0.4nm,0.3s,baz=114,slow=7.0,SNR=8.7								
	0.4nm,0.3s								
QSPA	South Pole Qui		59.87	180		P	P	06 58 31.0	+1.8
	1.2nm,0.9s,baz=129,slow=18,SNR=2.6								
	1.2nm,0.9s								
FINES	FINESS Array B		145.12	340		PKPbc	PKPdf	07 07 59.4	-1.2
	2.3nm,0.8s,baz=33,slow=3.3,SNR=6.9								

*IDC **03** 06:49:19.7±1.8,7°.66N×135°.56E,h0km,mb3.9/7, mbtmp3.9/7,MS3.1/2,Error ellipse: s-maj=73.8km s-min=19.5km az=74.0*

ISC 03 06:49:24.9±2.0,**7°.7N**±0°.2×**135°.6E**±0°.5,**h35**km,**n15,** σ0°**55**/**7**,**mb4.0**/**7**,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)		9.95	267		LR	LR	06 56 19.0	
	comp=Z,59nm,18.9s,baz=99,slow=42								
KRVT	Keravat (AS076		20.26	125		LR	LR	06 59 46.8	
	comp=Z,110nm,18.9s,baz=17,slow=31								
WRA	Warramunga Arr		27.46	183		P	P	06 55 07.1	-0.7
	3.3nm,0.8s,baz=359,slow=8.8,SNR=14								
	3.3nm,0.8s								
ASAR	Alice Springs		31.18	183		P	P	06 55 41.3	+0.4
	0.3nm,0.5s,baz=1.7,slow=7.2,SNR=6.6								
	0.3nm,0.5s								
H11S3	WAKE ISLAND Hy	32.09	67			T	T	07 29 26.8	
	baz=254,slow=75,SNR=12								
H11S2	WAKE ISLAND Hy	32.10	67			T	T	07 29 28.5	
	baz=254,slow=75,SNR=7.1								
H11S1	WAKE ISLAND Hy	32.10	67			T	T	07 29 28.0	
	baz=254,slow=75								
H11N1	WAKE ISLAND Hy	32.62	65			T	T	07 31 27.2	
	baz=254,slow=75								
H11N2	WAKE ISLAND Hy	32.62	65			T	T	07 31 27.6	
	baz=254,slow=75								
H11N3	WAKE ISLAND Hy	32.63	65			T	T	07 31 27.8	
	baz=254,slow=75								
CMAR	Chiang Mai Arr		37.20	290		P	P	06 56 33.1	0.0
	0.7nm,0.3s,baz=103,slow=8.1,SNR=9.8								
	0.7nm,0.3s								
SONM	Songino Array		47.09	333		P	P	06 57 53.7	+0.2
	1.3nm,0.8s,baz=148,slow=9.3,SNR=8.4								
	1.3nm,0.8s								
MKAR	Makanchi Array		59.79	320		P	P	06 59 26.9	+0.3
	1.2nm,0.6s,baz=108,slow=8.7,SNR=17								
	1.2nm,0.6s								
KURBB	Kurchatov Arra		63.55	323		P	P	06 59 51.3	-0.6
	0.5nm,0.6s,baz=114,slow=5.8,SNR=5.4								
	0.5nm,0.6s								
BVAR	Borovoye Array		69.10	324		P	P	07 00 27.4	0.0
	0.7nm,0.5s,baz=101,slow=6.9,SNR=4.6								
	0.7nm,0.5s								

*DJA **03** 06:51:29.6±0.7,3°.S±5°.×10°.0E±°,h23km±3km,M3.4/6, MLv3.4/6*
*IDC **03** 06:51:29.8±3.9,2°.45S×100°.07E,h0km,mb3.5/4, mbtmp3.5/4,MS3.6/3,Error ellipse: s-maj=174.1km s-min=30.7km az=56.0*

ISC 03 06:51:31.1±1.4,**2°.9S**±0°.2×**100°.1E**±0°.2,**h27**km,**n22,** σ0°**33**/**11**,**mb3.6**/**4**,**MS3.6**/**3**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai		0.11	329		P	Pb	06 51 35.9	-0.2
PPSI						S	Sb	06 51 40.0	+0.5
SISI	Saibi		1.81	327		P	Pn	06 52 00.2	-

CTAO	**Charters Tower**	**33.99 278**	P	**P**	**06 59 04.6**	**+2.6**
STKA	**Stephens Creek**	**34.85 256**	P	**P**	**06 59 09.2**	**-0.1**
	1.4nm,0.4s,baz=172,slow=15,SNR=3.2					
	1.4nm,0.4s					
BBOO	**Buckleboo**	**39.36 254**	P	**P**	**06 59 48.4**	**+0.8**
BBOO			IAmb	IAmb	06 59 58.5	
	comp=Z,7.6nm,1.0s					
ASAR	**Alice Springs**	**43.40 266**	P	**P**	**07 00 20.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=105,slow=7.1,SNR=11					
	comp=Z,0.4nm,0.4s					
WB2	**Warramunga Arr**	**44.34 272**	P	**P**	**07 00 26.7**	**-1.7**
WB2			IAmb	IAmb	07 00 32.7	
	comp=Z,7.2nm,1.1s					
WRA	**Warramunga Arr**	**44.35 271**	P	**P**	**07 00 27.4**	**-1.0**
WRA	**Warramunga Arr**	**44.35 271**	P	**P**	**07 00 28.1**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=111,slow=8.0,SNR=12					
	comp=Z,1.2nm,0.5s					
WB0	**Warramunga Arr**	**44.37 272**	P	**P**	**07 00 28.2**	**-0.5**
WB0			IAmb	IAmb	07 00 30.1	
	comp=Z,10nm,1.1s					
CASY	**Casey**	**55.69 208**	P	**P**	**07 01 52.9**	**-0.9**
CASY			IAmb	IAmb	07 01 53.9	
	comp=Z,3.6nm,0.7s					
PSA00	**Pilbara Seismi**	**56.29 263**	P	**P**	**07 01 58.5**	**-0.3**
PSA00			IAmb	IAmb	07 02 08.4	
	comp=Z,3.7nm,1.0s					
QSPA	**South Pole Qui**	**60.19 180**	P	**P**	**07 02 27.5**	**+2.0**
QSPA	**South Pole Qui**	**60.19 180**	P	**P**	**07 02 26.6**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=287,slow=0.9,SNR=6.6					
H03S2	**Juan Fernandez**	**80.50 123**	T	T	08 33 48.5	
	baz=240					
H03S1	**Juan Fernandez**	**80.52 123**	T	T	08 33 49.2	
	baz=240					
H03S3	**Juan Fernandez**	**80.52 123**	T	T	08 33 49.2	
	baz=240					
FINES	**FINESS Array B**	**144.79 340**	PKPbc	**PKPdf**	**07 11 52.9**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=34,slow=3.5,SNR=11					

*GCG **03** 06:53:03.9±1.6, 14°.64N×92°.54W, h75km±10km, MD4.8, ML3.9, MW3.7, Hypocentre not reviewed by the ISC*
*IDC **03** 06:53:04.3±1.7, 14°.72N×92°.38W, h73km±15km, mb3.6/11, mbtmp3.8/15, MS3.6/1, Error ellipse: s-maj=30.6km s-min=9.6km az=41.0*
*MEX **03** 06:53:05.3±1.1, 14°.50N×92°.60W, h62km±12km, MD4.5*
*CATAC **03** 06:53:29.9±2.0, 15°.N±6°.×9°.0W±1°.6, h5km, M3.6/14, MLv3.6/14, Error ellipse: s-maj=34.7km s-min=10.9km az=103.3*

ISC 03 06:53:04.0±0.7, 14°.69N±0°.05×92°.52W±0°.03, h76km±7km, n74, σ2.80/110, mb4.0/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.32**	**48**	*eP*	**Pn**	**06 53 16.2**	**+0.2**
THIG				*eS*	**Sn**	**06 53 24.4**	**-0.4**
THIG		**0.32**	**48**	*eP*		06 53 16.2	
	comp=Z,6μm,0.5s						
THIG				*eS*		06 53 25.5	
THIG				IAML		06 53 32.0	
	comp=Z,6μm,0.5s						
RTAL	**Retalhuleu**	**0.81**	**102**	*eP*	**Pn**	**06 53 20.8**	**+0.1**
RTAL				*eS*	**Sn**	**06 53 31.0**	**-1.9**
SOKI	**Kika Raxquin**	**1.08**	**83**	*eP*		06 53 25.2	
	comp=Z,2μm,0.5s						
SOKI				*eS*		06 53 41.4	
SOKI				IAML		06 53 47.1	
	comp=Z,2μm,0.5s						
HUEH	**Huehuetenango**	**1.16**	**57**	*eP*	**Pn**	**06 53 26.3**	**+1.2**
HUEH				*eS*	**Sn**	**06 53 43.4**	**+2.6**
HUEH	**Huehuetenango**	**1.16**	**57**	*eP*		06 53 26.1	
	comp=Z,5μm,0.5s						
HUEH				*eS*		06 53 44.0	
HUEH				IAML		06 53 54.9	
	comp=Z,5μm,0.5s						
PCIG		**1.22**	**326**	*eP*	**Pn**	**06 53 26.6**	**+1.1**
PCIG				*eS*	**Sn**	**06 53 41.9**	**+0.2**
QUIS	**Sacapulas**	**1.50**	**66**	*eP*		06 53 30.5	
	comp=Z,1μm,0.5s						
QUIS				IAML		06 53 52.2	
	comp=Z,1μm,0.5s						
CCIG	**Comitan**	**1.62**	**13**	*eP*	**Pn**	**06 53 33.0**	**+1.9**
CCIG				*eS*	**Sn**	**06 53 49.5**	**-1.9**
CCIG	**Comitan**	**1.62**	**13**	*eP*		06 53 33.1	
	comp=Z,1μm,0.4s						
CCIG				IAML		06 54 02.0	
	comp=Z,1μm,0.4s						
GUMI	**Mixco**	**1.84**	**92**	*eP*		06 53 35.1	
	comp=Z,1μm,0.4s						
GUMI				*eS*		06 54 00.2	
GUMI				IAML		06 54 03.2	
	comp=Z,1μm,0.4s						
GCG4	**OSOP**	**1.92**	**93**	*eP*		06 53 37.0	
GCG4				*eS*		06 54 02.0	
CARR	**Arriaga**	**2.05**	**319**	*eP*	**Pn**	**06 53 38.6**	**+2.0**
CARR				*eS*	**Sn**	**06 54 03.6**	**+2.3**
TGIG		**2.16**	**344**	*eP*	**Pn**	**06 53 38.7**	**+0.7**
TGIG				*eS*	**Sn**	**06 53 59.6**	**-4.3**
TGIG		**2.16**	**344**	*eP*		06 53 38.4	
	comp=Z,885nm,1.2s						
TGIG				IAML		06 54 18.2	
	comp=Z,885nm,1.2s						
AVCB	**Coban**	**2.18**	**69**	*eP*		06 53 40.4	
	comp=Z,834nm,0.3s						
AVCB				IAML		06 54 37.4	
	comp=Z,834nm,0.3s						
SLOZ	**Alcaldia de Sa**	**2.73**	**104**	P	**Pn**	**06 53 46.2**	**+0.5**
LOAL	**Lomas de Alarc**	**2.74**	**104**	P	**Pn**	**06 53 47.0**	**+1.2**
JUAM	**Asuncion Mita**	**2.74**	**97**	*eP*		06 53 46.5	
NILT	**Santiago Nilte**	**2.75**	**313**	*eP*	**Pn**	**06 53 47.7**	**+1.7**
NILT				*eS*	**Sn**	**06 54 19.0**	**+0.8**
NUBE	**Las Nubes**	**2.77**	**106**	P	**Pn**	**06 53 46.9**	**+0.6**
NUBE	**Las Nubes**	**2.77**	**106**	*eP*		06 53 46.8	
CEVE	**Cerro Verde**	**2.93**	**107**	P	**Pn**	**06 53 49.6**	**+1.0**
UNIC	**Universidad Ca**	**2.96**	**103**	P	**Pn**	**06 53 50.0**	**+1.1**
UXUV	**UXUV**	**3.05**	**329**	*eP*	**Pn**	**06 53 52.2**	**+2.2**
UXUV				*eS*	**Sn**	**06 54 26.4**	**+1.0**
MTO3	**Montecristo**	**3.07**	**95**	P	Pn	06 53 45.7	-4.7
MTO3	**Montecristo**	**3.07**	**95**	*eP*		06 53 50.8	
	comp=Z,50nm,0.7s						
MTO3				IAML		06 54 42.3	
	comp=Z,50nm,0.7s						
JAYA	**Jayaque - finc**	**3.15**	**109**	P	**Pn**	**06 53 52.3**	**+0.8**
JAYA	**Jayaque - finc**	**3.15**	**109**	*eP*		06 53 51.9	
PMON	**Piamonte**	**3.25**	**107**	P	**Pn**	**06 53 53.7**	**+0.8**
CMIG	**Matias Romero**	**3.30**	**317**	P	**Pn**	**06 53 54.8**	**+1.3**
	comp=Z,29nm,0.3s,baz=163,slow=14,SNR=72						
CMIG				S	**Sn**	**06 54 33.5**	**+1.9**
	comp=Z,134nm,0.3s,baz=71,slow=22,SNR=7.5						
CMIG	**Matias Romero**	**3.30**	**317**	*eP*	**Pn**	**06 53 55.0**	**+1.5**
CMIG				*eS*	**Sn**	**06 54 31.6**	**0.0**
LALI	**Alcalda de L**	**3.32**	**111**	*eP*		06 53 55.2	
UEES	**Universidad Ev**	**3.32**	**107**	P	**Pn**	**06 53 55.9**	**+2.1**
PETF	**Flores**	**3.38**	**49**	*eP*	**Pn**	**06 53 55.3**	**+0.9**
PETF				*eS*	**Sn**	**06 54 28.8**	**-4.6**
PETF	**Flores**	**3.38**	**49**	*eP*		06 53 55.3	
	comp=Z,228nm,0.3s						
PETF				IAML		06 54 35.9	
	comp=Z,228nm,0.3s						
LOMA	**Loma Larga**	**3.41**	**107**	P	**Pn**	**06 53 57.4**	**+2.4**
PANCS	**Alcalda de**	**3.41**	**108**	P	**Pn**	**06 53 56.8**	**+1.8**
PAVA	**Las Pavas**	**3.60**	**105**	P	**Pn**	**06 53 58.2**	**+0.6**
HUIG	**Huatulco**	**3.63**	**288**	*eP*	**Pn**	**06 53 57.7**	**-0.2**
HUIG				*eS*	**Sn**	**06 54 34.8**	**-4.9**
HUIG	**Huatulco**	**3.63**	**288**	*eP*		06 53 58.2	
	comp=Z,85nm,0.8s						
HUIG				IAML		06 55 01.8	
	comp=Z,85nm,0.8s						
COEG	**Centro de Oper**	**3.68**	**106**	P	**Pn**	**06 54 00.8**	**+2.1**
TECO	**Alcaldia de Te**	**3.80**	**107**	P	**Pn**	**06 54 02.0**	**+1.8**
SCLA	**Alcaldia de Sa**	**3.80**	**105**	P	**Pn**	**06 54 01.9**	**+1.6**
NEUV	**Arroyo Zacate**	**4.36**	**314**	*eP*	**Pn**	**06 54 09.3**	**+1.4**
NEUV				*eS*	**Sn**	**06 54 57.9**	**+0.5**
SCIG	**Sabancuy**	**4.44**	**16**	*eP*	**Pn**	**06 54 08.8**	**-0.2**
SCIG				*eS*	**Sn**	**06 54 56.1**	**-3.2**
SCIG	**Sabancuy**	**4.44**	**16**	*eP*		06 54 09.5	
	comp=Z,141nm,0.8s						
SCIG				IAML		06 55 03.2	
	comp=Z,141nm,0.8s						
PMUV	**Sontecomapan**	**4.58**	**327**	*eS*	**Sn**	**06 54 54.9**	**-8.0**
NISHN	**Nisperales Com**	**4.60**	**76**	P	**Pn**	**06 54 10.9**	**-0.2**
NISHN	**Nisperales Com**	**4.60**	**76**	*eP*		06 54 10.9	
PEIG	**Puerto Escondi**	**4.66**	**287**	*eP*	**Pn**	**06 54 12.2**	**+0.3**
PEIG				*eS*	**Sn**	**06 54 57.6**	**-7.1**
LCND	**La Caada**	**4.69**	**106**	P	**Pn**	**06 54 15.2**	**+2.7**
VHO	**Vista Hermosa**	**4.70**	**301**	*eP*	**Pn**	**06 54 15.5**	**+2.8**
VHO				*eS*	**Sn**	**06 55 06.5**	**+0.5**
CNCH	**Conchagua**	**4.76**	**107**	P	**Pn**	**06 54 16.6**	**+3.2**
YOIG	**Yosondua**	**5.30**	**295**	*eP*	**Pn**	**06 54 23.7**	**+2.8**
YOIG				*eS*	**Sn**	**06 55 17.7**	**-3.2**
TOIG	**Toxpalan**	**5.53**	**308**	*eP*	**Pn**	**06 54 26.0**	**+2.1**
TOIG				*eS*	**Sn**	**06 55 28.4**	**+2.2**
TXIG	**Tlaxiaco**	**5.66**	**297**	*eP*	**Pn**	**06 54 28.6**	**+2.8**
TXIG				*eS*	**Sn**	**06 55 26.0**	**-3.7**
PNIG	**Pinotepa**	**5.67**	**288**	*eP*	**Pn**	**06 54 27.1**	**+1.3**
PNIG				*eS*	Sn	06 55 21.7	-7.9
TPIG	**Tehuac#an**	**5.95**	**309**	*eP*	**Pn**	**06 54 31.5**	**+1.8**
TPIG				*eS*	**Sn**	**06 55 35.0**	**-1.6**
HLIG	**Huajuapan de L**	**5.96**	**302**	*eP*	**Pn**	**06 54 33.5**	**+3.5**
HLIG				*eS*	**Sn**	**06 55 34.4**	**-2.6**
JAUV	**Jalcomulco**	**6.20**	**319**	*eP*	**Pn**	**06 54 32.3**	**-0.8**
JAUV				*eS*	**Sn**	**06 55 36.5**	**-6.1**
LVIG	**Laguna Verde**	**6.24**	**324**	*eP*	**Pn**	**06 54 33.4**	**-0.1**
LVIG				*eS*	**Sn**	**06 55 38.5**	**-4.9**
FTIG	**Fresnillo de T**	**6.27**	**301**	*eP*	**Pn**	**06 54 37.5**	**+3.4**
FTIG				*eS*	**Sn**	**06 55 41.3**	**-3.1**
COPN	**Copaltepe**	**6.28**	**113**	P	**Pn**	**06 54 34.5**	**+0.4**
TLIG	**Tlapa**	**6.48**	**297**	*eP*	**Pn**	**06 54 40.1**	**+3.1**
TLIG				*eS*	**Sn**	**06 55 47.5**	**-2.0**
CRIG	**Cruz Grande**	**6.69**	**289**	*eP*	**Pn**	**06 54 40.5**	**+0.9**
CRIG				*eS*	**Sn**	**06 55 47.7**	**-6.8**
TEIG	**Tepich**	**6.83**	**36**	P	**Pn**	**06 54 40.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=52,slow=19,SNR=143						
TEIG				S	**Sn**	**06 55 53.8**	**-4.1**
	comp=Z,0.3nm,0.4s,baz=130,slow=24,SNR=19						
PBCV	**Popocatepetl**	**7.19**	**307**	*eP*	Pn	06 54 51.5	+4.7
PBCV				*eS*	**Sn**	**06 56 03.0**	**-4.3**
DAIG	**Los Arroyos**	**7.25**	**290**	*eP*	**Pn**	**06 54 49.6**	**+2.2**
DAIG				*eS*	**Sn**	**06 56 02.9**	**-5.3**
PBPN	**Popocatepetl**	**7.28**	**307**	*eP*	Pn	06 54 53.3	+5.1
PBPN				*eP*		06 54 53.8	
PBPN				*eS*	**Sn**	**06 56 10.0**	**+0.3**
PBPN				*eS*		06 56 14.3	
PBXN	**Popocatepetl**	**7.28**	**307**	*eP*	**Pn**	**06 54 52.8**	**+4.5**
PBXN				*eP*		06 54 53.1	
PBXN				*eS*	**Sn**	**06 56 07.3**	**-2.4**
PBXN				*eS*		06 56 14.9	
PPM	**Popocatepetl**	**7.29**	**307**	*eP*	Pn	06 54 53.9	+5.5
PPM				*eS*	**Sn**	**06 56 14.7**	**+4.8**
CXUV	**Coxquihui**	**7.29**	**319**	*eP*	**Pn**	**06 54 48.2**	**+0.2**
CXUV				*eS*	**Sn**	**06 56 03.1**	**-6.2**
YAIG	**Yautepec**	**7.52**	**304**	*eP*	**Pn**	**06 54 54.9**	**+3.7**
YAIG				*eS*	Sn	06 56 06.5	-8.6
PLIG	**Platanillo**	**7.64**	**300**	*eP*	**Pn**	**06 54 56.1**	**+3.2**
PLIG				*eS*	**Sn**	**06 56 12.0**	**-6.0**
CAIG	**El Cayaco**	**7.82**	**288**	*eP*	**Pn**	**06 54 55.5**	**+0.4**
CAIG				*eS*	**Sn**	**06 56 15.1**	**-7.1**
ARIG	**Puente Sto Nin**	**8.32**	**296**	*eP*	**Pn**	**06 55 06.1**	**+4.1**
ARIG				*eS*	**Sn**	**06 56 32.8**	**-1.6**
JTS	**Las Juntas de**	**8.58**	**120**	P	**Pn**	**06 55 05.7**	**+0.1**
	comp=Z,4.0nm,0.4s,baz=295,slow=19,SNR=8.0						
JTS				S	**Sn**	**06 56 39.8**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=288,slow=20,SNR=1.6						
TXAR	**Lajitas Array**	**17.85**	**327**	P	**Pn**	**06 57 10.2**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=141,slow=12,SNR=4.3						
TXAR				PcP	**PcP**	**07 01 42.9**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=106,slow=4.4,SNR=4.0						
ROSC	**El Rosal**	**20.41**	**117**	P	**P**	**06 57 35.6**	**0.0**
	comp=Z,3.4nm,0.4s,baz=317,slow=19,SNR=2.2						
	comp=Z,3.4nm,0.4s						
SDV	**Santo Domingo**	**22.17**	**103**	P	**P**	**06 57 54.6**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=5.1,slow=9.8,SNR=2.4						
	comp=Z,3.1nm,0.5s						
TKL	**Tuckaleechee C**	**22.30**	**19**	P	**P**	**06 57 55.7**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=194,slow=8.3,SNR=3.6						
	comp=Z,5.2nm,0.9s						
NVAR	**Mina Array Bea**	**32.82**	**321**	P	**P**	**06 59 33.5**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=158,slow=6.3,SNR=4.3						
	comp=Z,0.8nm,0.8s						
YBH	**Yreka Blue Hor**	**37.52**	**322**	LR	LR	07 17 57.9	
	comp=Z,94nm,21.9s,baz=254,slow=40						
SIV	**San Ignacio**	**43.52**	**133**	P	**P**	**07 01 00.0**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=304,slow=7.0,SNR=7.8						
SIV				PcP	**PcP**	**07 02 48.3**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=309,slow=6.5,SNR=3.5						
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**50.24**	**347**	P	**P**	**07 01 51.1**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=143,slow=8.3,SNR=5.4						
YKA				PcP	**PcP**	**07 03 10.2**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=140,slow=4.8,SNR=5.1						
	comp=Z,0.2nm,0.6s						
CPUP	**Villa Florida**	**53.23**	**140**	P	**P**	**07 02 13.7**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=56,slow=3.6,SNR=1.8						
	comp=Z,0.9nm,0.7s						
BDFB	**Brasilia**	**53.31**	**123**	P	**P**	**07 02 14.8**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=305,slow=9.7,SNR=5.4						
	comp=Z,1.9nm,0.6s						
INK	**Inuvik**	**59.64**	**344**	P	**P**	**07 03 00.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=117,slow=11,SNR=4.1						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**62.01**	**337**	P	**P**	**07 03 16.9**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=133,slow=4.7,SNR=12						
	comp=Z,1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**90.70**	**76**	P	**P**	**07 05 57.3**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=289,slow=4.4,SNR=1.4						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**145.18**	**341**	PKPbc	**PKPdf**	**07 12 34.2**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=15,slow=2.7,SNR=11						

*SJA **03** 06:53:19.0±0.5, 20°.98S×67°.15W, h236km±7km, ML3.5, MW3.6*
*GUC **03** 06:53:23.2±0.7, 20°.98S×67°.37W, h176km±7km, ML3.6*
*SCB **03** 06:53:24.6±1.3, 21°.08S×67°.37W, h150km±31km, ML3.1/2, MW3.2, Error ellipse: s-maj=9.6km s-min=8.9km az=0.0*
*IDC **03** 06:53:29.0±2.9, 20°.57S×66°.97W, h223km±21km, mb3.1/4, mbtmp3.6/7, Error ellipse: s-maj=36.7km s-min=17.5km az=30.0*

ISC 03 06:53:21.8±0.7, 21°.17S±0°.05×67°.36W±0°.04, h180km±7km, n41, σ2.04/57, mb3.4/4, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.60**	**93**	Pg	**Pn**	**06 53 57.5**	**+2.2**
PB09	**IPOC Station P**	**1.86**	**250**	*eP*	**Pn**	**06 53 59.3**	**+1.7**
PB09				*eS*	**Sn**	**06 54 26.1**	**+0.7**
PB09	**IPOC Station P**	**1.86**	**250**	Pg	**Pn**	**06 53 59.3**	**+1.7**
PB09				Sg	**Sn**	**06 54 25.9**	**+0.5**
PB09				IAML		06 54 29.6	
	62nm,0.4s						
AF01	**San Pedro de A**	**1.93**	**203**	⇑*iP*	**Pn**	**06 54 01.1**	**+2.7**
YJA	**Yavi**	**1.98**	**121**	*iP*	**Pn**	**06 54 01.4**	**+2.3**
YJA				*iS*	**Sn**	**06 54 32.0**	**+3.9**
YJA				IAML		06 54 32.6	
	comp=Z,38nm,0.5s						
YJA	**Yavi**	**1.98**	**121**	⇓*iP*	**Pn**	**06 54 01.8**	**+2.6**
YJA				*eS*	**Sn**	**06 54 29.5**	**+1.4**
PB01	**IPOC Station P**	**1.99**	**273**	*eP*	**Pn**	**06 53 59.8**	**+0.8**
PB01				*eS*	**Sn**	**06 54 26.9**	**-0.8**
PB01				IAML		06 54 31.7	
	comp=N,217nm,0.1s						
PB01	**IPOC Station P**	**1.99**	**273**	Pg	**Pn**	**06 54 00.1**	**+1.2**
PB01				Sg	**Sn**	**06 54 26.5**	**-1.2**
PB01				IAML		06 54 31.7	
	comp=N,137nm,0.2s						
AOVT	**TarijaAcel**	**2.50**	**99**	Pg	**Pn**	**06 54 06.8**	**+2.1**
HMBC	**Humberstone**	**2.53**	**290**	*iP*	**Pn**	**06 54 04.5**	**-0.6**
HMBC				*eS*	**Sn**	**06 54 36.5**	**-2.2**
HMBC				IAML		06 54 40.9	
	comp=E,249nm,0.2s						
PATCX	**Punta Patache**	**2.64**	**277**	*eP*	**Pn**	**06 54 06.4**	**+0.2**
PATCX				*eS*	**Sn**	**06 54 38.5**	**-2.2**
PATCX				IAML		06 54 40.6	
	comp=N,179nm,0.3s						
SOEO	**Opoqueri**	**2.65**	**349**	Pg	**Pn**	**06 54 07.9**	**+1.1**
TA01	**Diego Aracena**	**2.71**	**282**	*eP*	**Pn**	**06 54 06.5**	**-0.5**
SOET	**ToroToro**	**3.37**	**26**	Pg	**Pn**	**06 54 16.8**	**+1.3**
AOEA	**Aiquile**	**3.59**	**34**	Pg	**Pn**	**06 54 18.9**	**+0.8**
AOEA	**Aiquile**	**3.59**	**34**	Pg	**Pn**	**06 54 18.9**	**+0.8**
AZAP	**Zapla**	**3.70**	**146**	*iP*	**Pn**	**06 54 20.2**	**+0.8**
AZAP				*iS*	**Sn**	**06 55 05.9**	**+1.5**
AZAP				IAML		06 55 08.8	
	comp=Z,83nm,0.3s						
PB12	**IPOC Station P**	**3.78**	**312**	*eP*	**Pn**	**06 54 18.7**	**-1.6**
PB12				*eS*	**Sn**	**06 55 01.6**	**-4.5**
SLA	**San Lorenzo**	**3.92**	**155**	*eP*	**Pn**	**06 54 24.7**	**+2.6**
PB18	**Visviri**	**4.09**	**330**	*iP*	**Pn**	**06 54 26.7**	**+2.0**
SOEJ	**Jacaque**	**4.25**	**349**	Pg	**Pn**	**06 54 28.4**	**+1.7**
BBOE	**La Paz, Chanca**	**4.38**	**352**	Pg	**Pn**	**06 54 30.2**	**+1.8**
PB14	**IPOC Station P**	**4.44**	**219**	*eP*	**Pn**	**06 54 29.0**	**+0.2**
GO02	**Mina Guanaco**	**4.47**	**207**	⇑*iP*	**Pn**	**06 54 29.7**	**+0.5**
BBOD	**La Paz, Gloria**	**4.66**	**345**	Pg	**Pn**	**06 54 33.5**	**+1.5**
LPAZ	**La Paz**	**4.92**	**351**	P	**Pn**	**06 54 36.5**	**+1.1**
	comp=Z,10nm,0.4s,baz=162,slow=7.1,SNR=45						
LPAZ				S	**Sn**	**06 55 32.5**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=176,slow=25,SNR=0.8						
LPAZ	**La Paz**	**4.92**	**351**	Pg	**Pn**	**06 54 36.4**	**+1.1**
FSA	**Cafayete**	**5.07**	**166**	*iP*	**Pn**	**06 54 38.2**	**+1.3**
AC02	**Maricunga**	**5.87**	**196**	*iP*	**Pn**	**06 54 48.4**	**+0.9**
AC02				*iS*	**Sn**	**06 55 56.3**	**+1.4**
AC02				IAML		06 56 07.3	
	comp=Z,7.8nm,0.3s						
CYA	**Choya**	**7.37**	**169**	*iP*	**Pn**	**06 55 06.7**	**-0.1**
CYA				IAML		06 57 10.4	
	comp=Z,3.9nm,3.4s						
SIV	**San Ignacio**	**7.88**	**50**	P	**Pn**	**06 55 11.8**	**-1.8**
	comp=Z,3.5nm,0.4s,baz=235,slow=10,SNR=52						
SIV				S	**Sn**	**06 56 35.2**	**-6.9**
	comp=Z,1.5nm,0.6s,baz=293,slow=23,SNR=7.3						
ACLC	**CERRO LA CRUZ**	**8.22**	**178**	*iP*	**Pn**	**06 55 18.0**	**-0.2**
ACLC				*iS*	**Sn**	**06 56 46.6**	**-3.9**
ACLC				IAML		06 57 05.2	
	comp=Z,3.3nm,3.1s						
AGUA	**GUANDACOL**	**8.34**	**187**	*iP*	**Pn**	**06 55 19.6**	**-0.1**
AGUA				*iS*	**Sn**	**06 56 49.2**	**-4.0**
AGUA				IAML		06 57 05.7	
	comp=Z,8.5nm,4.1s						
AROD	**Rodeo**	**9.16**	**192**	*iP*	**Pn**	**06 55 30.9**	**+0.3**
AROD				*iS*	**Sn**	**06 57 09.3**	**-3.6**
APLL	**PUNTA DE LOS L**	**9.21**	**176**	*iP*	**Pn**	**06 55 30.2**	**-0.9**
CPUP	**Villa Florida**	**10.52**	**121**	P	**P**	**06 55 55.4**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=256,slow=16,SNR=1.8						
TXAR	**Lajitas Array**	**61.21**	**324**	P	**P**	**07 03 18.3**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=129,slow=5.2,SNR=3.2						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**74.56**	**329**	P	**P**	**07 04 41.9**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=103,slow=5.3,SNR=2.0						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.88**	**70**	P	**P**	**07 04 48.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=259,slow=5.8,SNR=5.1						
	comp=Z,0.5nm,0.4s						
YKA	**Yellowknife Ar**	**91.37**	**340**	P	**P**	**07 06 07.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=138,slow=5.1,SNR=7.6						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**144.51**	**37**	PKP	**PKPdf**	**07 12 36.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=336,slow=2.6,SNR=13						

*RSPR **03** 07:11:11.2, 19°.54N×67°.92W, h41km±14km, MD3.3/18*
*SDD **03** 07:11:11.4±1.1, 19°.33N×67°.86W, h20km±90km, MD3.5, ML3.3, MW3.5*
*OSPL **03** 07:11:12.6±2.1, 19°.26N×67°.83W, h0km±11km, ML2.8, Hypocentre not reviewed by the ISC*
*NEIC **03** 07:11:13.9±2.2, 19°.22N±0°.04×67°.86W±0°.04, h35km±2km, ML3.1/38, Md3.3/18(RSPR), Error ellipse: s-maj=8.9km s-min=3.1km az=47.0*

ISC 03 07:11:09.4±1.7, 19°.34N±0°.07×67°.82W±0°.02, h3km±11km, n67, σ0.96/78, 13C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.98**	**213**		**Pg**	**07 11 27.9**	**-0.3**
PCDR					**Sb**	**07 11 41.4**	**-1.0**
PCDR				IAML		07 11 49.1	
	comp=N,438nm,0.6s						
PCDR	**Punta Cana, DR**	**0.98**	**213**	*e*Pg	**Pg**	**07 11 28.1**	**-0.1**
PCDR				IAML		07 11 48.8	
	comp=N,411nm,0.8s						
PCDR	**Punta Cana, DR**	**0.98**	**213**	⇑*eP*	**Pb**	**07 11 29.1**	**+0.1**
PCDR	**Punta Cana, DR**	**0.98**	**213**	*eS*	**Sb**	**07 11 42.4**	**0.0**
PCDR	**Punta Cana, DR**	**0.98**	**213**	*iP*		07 11 27.9	
PCDR				*eS*		07

OBIP	Obispado Ponce	1.73 138	‖eP	Pn	07 11 41.3	+0.9
OBIP	Obispado Ponce	1.73 138	eS	Sb	07 12 03.4	-0.6
NADR	Nagua	1.92 271	⇑eP	Pn	07 11 44.0	+1.0
NADR			IAML		07 12 13.2	
comp=N,903nm,0.4s						
GCPR	Guaynabo City	1.94 122		Pn	07 11 42.6	-0.6
GCPR	Guaynabo City	1.94 122	⇑eP	Pn	07 11 43.0	-0.3
GCPR	Guaynabo City	1.94 122	eS	Sn	07 12 08.3	+0.2
SJG	San Juan	2.00 127		Pn	07 11 44.4	+0.4
SJG			IAML		07 12 15.4	
comp=N,139nm,0.5s						
SJG			IAML		07 12 17.5	
comp=N,128nm,0.3s						
SJG	San Juan	2.00 127	‖eP	Pn	07 11 44.6	+0.6
SJG	San Juan	2.00 127	eS	Sn	07 12 09.6	0.0
SJG	San Juan	2.00 127	i P		07 11 44.1	
SJG			eS		07 12 08.5	
DR08	Loma La Naviza	2.12 260	ePg	Pn	07 11 46.9	+1.1
DR08			eSg	Sn	07 12 13.4	+0.8
DR08			IAML		07 12 16.4	
comp=N,3μm,0.2s						
IGPR	InterUniversit	2.12 130		Pn	07 11 46.0	+0.2
IGPR			IAML		07 12 19.4	
comp=N,203nm,0.2s						
IGPR	InterUniversit	2.12 130	⇑eP	Pn	07 11 46.5	+0.8
IGPR	InterUniversit	2.12 130	eS	Sn	07 12 12.9	+0.2
PDPR	Patillas Dam,	2.15 127		Pn	07 11 46.2	0.0
PDPR	Patillas Dam,	2.15 127	‖eP	Pn	07 11 46.4	+0.2
SDD	Santo Domingo	2.17 246		Pn	07 11 47.1	+0.7
SDD			IAML		07 12 30.9	
comp=E,247nm,1.7s						
SDD	Santo Domingo	2.17 246	i P		07 11 48.0	
HUMP	Col San Antoni	2.21 122		Pn	07 11 47.0	0.0
HUMP			IAML		07 12 16.1	
comp=E,141nm,0.2s						
HUMP			IAML		07 12 28.7	
comp=N,86nm,0.2s						
HUMP	Col San Antoni	2.21 122	⇑eP	Pn	07 11 46.9	0.0
HUMP	Col San Antoni	2.21 122	eS	Sn	07 12 15.0	+0.1
SFDR	San Fco. de Ma	2.29 269	ePg	Pn	07 11 50.2	+2.2
SFDR			eSg	Sn	07 12 19.2	+2.5
SFDR			IAML		07 12 31.1	
comp=N,277nm,0.3s						
BANI	BANI	2.58 249		Pn	07 11 54.1	+1.8
BANI			IAML		07 12 38.3	
comp=E,132nm,0.4s						
BANI			IAML		07 12 40.8	
comp=N,153nm,0.4s						
SDDR	Presa de Saban	3.30 264		Pn	07 12 04.0	+2.0
SDDR			IAML		07 12 58.6	
comp=N,77nm,0.7s						
SDDR			IAML		07 13 04.2	
comp=N,77nm,0.8s						
SDDR	Presa de Saban	3.30 264	i P		07 12 04.0	
LONE3	El Aguacate, B	3.52 259	i P		07 12 06.8	
JIDR	Jimani	3.91 258	⇑ePg	Pb	07 12 17.2	-1.8
JIDR			IAML		07 13 22.9	
comp=N,36nm,1.6s						
ANWB	Willy Bob	5.96 105	eP	Pn	07 12 39.1	+0.5
ANBD	Bethesda, Anti	6.19 111	eP	Pn	07 12 40.4	-1.3
ANBD	Bethesda, Anti	6.19 111	eS	Sn	07 13 48.8	-4.2

*AEIC **03** 07:11:17.0±1.4, 68°.89N±0°.03×147°.59W±0°.05, h14km±7km, ML3.0, ML3.2/98(NEIC), Error ellipse: s-maj=4.8km s-min=2.6km az=172.0*
*NEIC **03** 07:11:18.7±3.5, 68°.90N±0°.02×147°.6W±0°.1, h10km±2km, Error ellipse: s-maj=6.4km s-min=3.7km az=271.0*
*IDC **03** 07:11:21.7±3.5, 68°.75N×146°.82W, h0km, mb3.3/2, mbtmp3.3/5, ML3.2/3, MS3.3/1, Error ellipse: s-maj=49.0km s-min=21.4km az=122.0*

ISC 03 07:11:17.6±1.2, 68°.89N±0°.03×147°.57W±0°.02, h2km±10km, n135, σ1§03/146, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D24K	Happy Valley	0.52	301		Pg	07 11 27.8	+0.2
D24K					Sg	07 11 35.1	+0.8
D24K				IAML		07 11 40.5	
comp=E,2μm,0.7s							
D24K				IAML		07 11 42.7	
comp=N,1μm,1.1s							
D24K	Happy Valley	0.52	301	P	Pg	07 11 27.9	+0.4
baz=120							
D24K				S	Sg	07 11 35.3	+1.0
baz=120							
D25K	Kavik River	0.61	44		Pg	07 11 29.0	-0.3
D25K				Sg	Sg	07 11 35.9	-1.3
D25K	Kavik River	0.61	44	P	Pg	07 11 28.9	-0.3
baz=226							
D25K				S	Sg	07 11 37.4	+0.3
baz=226							
TOLK	Toolik Lake Re	0.77	252		Pg	07 11 31.5	-0.8
TOLK				IAML		07 11 47.3	
comp=N,945nm,0.7s							
TOLK	Toolik Lake Re	0.77	252	P	Pg	07 11 31.6	-0.7
baz=70							
TOLK				S	Sg	07 11 42.5	+0.3
baz=70							
TOLK				S	Sg	07 11 42.5	+0.3
baz=70							
C24K	Franklin Bluff	0.93	335		Pg	07 11 35.5	+0.2
C24K				IAML		07 11 52.1	
comp=E,653nm,0.7s							
C24K				IAML		07 11 52.2	
comp=N,669nm,1.0s							
C24K	Franklin Bluff	0.93	335	P	Pg	07 11 35.2	-0.1
baz=154							
C24K				S	Sg	07 11 47.2	-0.1
baz=154							
E25K	Arctic Village	1.07	135		Pg	07 11 37.9	-0.1
E25K	Arctic Village	1.07	135	P	Pg	07 11 37.8	-0.2
baz=317							
E23K	Chandalar	1.12	223		Pb	07 11 37.8	-1.9
E23K				IAML		07 11 59.5	
comp=E,676nm,0.5s							
E23K				IAML		07 12 03.7	
comp=N,371nm,0.8s							
E23K	Chandalar	1.12	223	P	Pb	07 11 37.6	-2.1
baz=41							
D23K	Nanushuk River	1.13	275		Pb	07 11 39.3	-0.4
D23K				IAML		07 11 60.0	
comp=N,511nm,1.1s							
D23K				IAML		07 12 00.2	
comp=E,554nm,0.8s							
D23K	Nanushuk River	1.13	275	P	Pb	07 11 39.3	-0.4
baz=92							
D23K				S	Sg	07 11 54.6	+0.9
baz=92							
F24K	Squaw Lake	1.38	185		Pn	07 11 42.9	-1.0
F24K				IAML		07 12 05.4	
comp=N,543nm,0.5s							
F24K				IAML		07 12 05.7	
comp=E,333nm,0.6s							
F24K	Squaw Lake	1.38	185	P	Pn	07 11 43.0	-0.9
baz=4.5							
F24K				S	Sg	07 12 03.1	+1.2
baz=4.5							
C26K	Camden Bay	1.40	41		Pb	07 11 44.5	+0.2
C26K				IAML		07 12 07.5	
comp=N,437nm,0.8s							
C26K	Camden Bay	1.40	41	P	Pn	07 11 44.3	+0.4
baz=224							
C23K	Itkillik River	1.44	313		Pn	07 11 44.1	-0.4
C23K	Itkillik River	1.44	313	P	Pn	07 11 44.0	-0.6
baz=130							
F25K	Christian Rive	1.49	150		Pn	07 11 45.4	+0.1
F25K	Christian Rive	1.49	150	P	Pn	07 11 45.1	-0.2
baz=332							
C27K	Jago River	1.56	60		Pn	07 11 46.5	+0.3
C27K				IAML		07 12 11.6	
comp=N,315nm,1.2s							
C27K				IAML		07 12 14.7	
comp=E,255nm,0.8s							
C27K	Jago River	1.56	60	P	Pn	07 11 46.3	+0.1
baz=244							
E22K	Anaktuvuk Pass	1.74	246		Pn	07 11 48.3	-0.4
E22K				IAML		07 12 17.0	
comp=N,208nm,0.9s							
E22K	Anaktuvuk Pass	1.74	246	P	Pn	07 11 48.4	-0.4
baz=62							
E22K				S	Sb	07 12 12.7	+0.4
baz=62							
F26K	Sheenjek River	1.75	132		Pn	07 11 49.6	+0.7
F26K				IAML		07 12 19.3	
comp=N,175nm,0.8s							
BMAR	Burnt Mountain	1.84	141	Pn	Pn	07 11 50.8	+0.6
D22K	Ayikyak River	1.85	272		Pn	07 11 50.4	+0.1
D22K	Ayikyak River	1.85	272	P	Pn	07 11 50.2	0.0
baz=87							
COLD	Coldfoot	1.94	212		Sb	07 12 18.4	+0.3
COLD	Coldfoot	1.94	212	P	Pn	07 11 51.9	+0.5
baz=29							
COLD				S	Sb	07 12 18.4	+0.3
baz=29							
G24K	Hadweenzic Riv	2.20	179		Pn	07 11 54.6	-0.4
G24K				IAML		07 12 34.9	
comp=N,147nm,1.0s							
G24K				IAML		07 12 39.7	
comp=E,172nm,0.8s							
G24K	Hadweenzic Riv	2.20	179	P	Pn	07 11 55.2	+0.2
baz=359							
G23K	Bananza Creek	2.38	204		Pn	07 11 57.5	-0.1
G23K				IAML		07 12 34.5	
comp=E,105nm,0.7s							
G23K	Bananza Creek	2.38	204	P	Pn	07 11 57.4	-0.1
baz=22							
G26K	Porcupine Rive	2.42	142		Pn	07 11 58.2	+0.2
G26K	Porcupine Rive	2.42	142	P	Pn	07 11 58.2	+0.2
baz=325							
G22K	Bettles	2.47	219		Pn	07 11 59.5	+0.7
G22K	Bettles	2.47	219	P	Pn	07 11 59.5	+0.7
baz=35							
FYU	Fort Yukon	2.50	158		Pn	07 11 59.3	+0.2
FYU				IAML		07 12 46.6	
comp=N,110nm,1.1s							
FYU				IAML		07 12 49.8	
comp=E,74nm,0.8s							
B22K	Teshekpuk Lake	2.51	308		Pn	07 11 58.5	-0.8
B22K	Teshekpuk Lake	2.51	308	P	Pn	07 11 58.7	-0.6
baz=123							
B21K	Ikpikpuk River	2.61	290		Pn	07 12 00.4	-0.2
B21K				IAML		07 12 53.3	
comp=N,132nm,0.9s							
B21K	Ikpikpuk River	2.61	290	P	Pn	07 12 00.1	-0.5
baz=103							
F21K	Alatna River	2.78	236	Pn	Pn	07 12 03.1	+0.1
F21K				IAML		07 12 54.3	
comp=E,130nm,0.7s							
G27K	Doyon Strip	3.06	130		Pn	07 12 07.1	+0.2
G27K	Doyon Strip	3.06	130	P	Pn	07 12 07.7	+0.8
baz=316							
H24K	Noodor Dome	3.07	182		Pn	07 12 07.1	+0.1
H24K				IAML		07 13 07.2	
comp=E,53nm,1.1s							
H24K	Noodor Dome	3.07	182	P	Pn	07 12 07.1	+0.1
baz=2.0							
F28M	Old Crow	3.14	110		Pn	07 12 08.5	+0.6
F28M	Old Crow	3.14	110	P	Pn	07 12 08.8	+0.8
baz=298							
G21K	Allakaket	3.29	226	Pn	Pn	07 12 09.5	-0.4
H22K	Ishtalitna Cre	3.35	208		Pn	07 12 11.1	+0.3
H22K	Ishtalitna Cre	3.35	208	P	Pn	07 12 11.1	+0.3
baz=24							
PRP	Porcupine Dome	3.48	166		Pn	07 12 13.3	+0.7
PRP	Porcupine Dome	3.48	166	P	Pn	07 12 13.4	+0.7
baz=348							
H27K	Steamboat Moun	3.54	136		Pn	07 12 14.6	+1.2
H27K	Steamboat Moun	3.54	136	P	Pn	07 12 14.6	+1.2
baz=322							
E29M	Blow River	3.58	94	P	Pn	07 12 15.5	+1.6
baz=283							
POKR	Poker Plat Res	3.79	179		Pn	07 12 17.4	+0.5
POKR				IAML		07 13 06.4	
comp=N,27nm,0.6s							
POKR				IAML		07 13 34.4	
comp=E,29nm,1.0s							
POKR	Poker Plat Res	3.79	179	P	Pn	07 12 17.5	+0.7
baz=359							
I23K	Minto, Yukon-K	3.82	191		Pn	07 12 17.8	+0.5
I23K				IAML		07 13 22.6	
comp=N,44nm,1.1s							
I23K				IAML		07 13 22.8	
comp=E,38nm,0.7s							
I23K	Minto, Yukon-K	3.82	191	P	Pn	07 12 17.3	0.0
baz=9.7							
D19K	Kuna River	3.87	269	P	Pn	07 12 17.6	-0.4
baz=79							
E19K	Redstone River	3.88	253		Pn	07 12 18.2	+0.1
E19K				IAML		07 13 36.4	
comp=E,44nm,0.8s							
A21K	Barrow	3.94	312	P	Pn	07 12 17.6	-1.3
baz=124							
I26K	Coal Creek Min	3.99	152		Pn	07 12 20.0	+0.4
I26K				IAML		07 13 32.1	
comp=E,44nm,0.8s							
I26K				IAML		07 13 43.1	
comp=N,42nm,1.0s							
I26K	Coal Creek Min	3.99	152	P	Pn	07 12 20.1	+0.5
baz=336							
COLA	College	4.04	182		Pn	07 12 20.8	+0.7
G29M	Pine Creek	4.12	114		Pn	07 12 22.7	+1.3
G29M	Pine Creek	4.12	114	P	Pn	07 12 22.4	+1.1
baz=303							
IL31		4.14	176		Pn	07 12 22.1	+0.4
ILAR	Eielson Array	4.14	176		Pn	07 12 22.3	+0.6
ILAR	Eielson Array	4.14	176	Pn	Pn	07 12 22.4	+0.7
comp=N,1.5nm,0.3s,baz=354,slow=13,SNR=86							
ILAR				Sn	Sn	07 13 10.7	0.0
comp=N,2.5nm,0.3s,baz=2.8,slow=32,SNR=9.1							
ILAR				Lg	Lg	07 13 28.3	
comp=N,1.8nm,0.3s,baz=344,slow=19,SNR=6.1							
comp=N,4.1nm,0.6s							
CCB	Clear Creek Bu	4.26	181	Pn	Pn	07 12 23.9	+0.5
CCB				IAML		07 13 17.2	
comp=E,31nm,0.4s							
NEA2	Nenana	4.36	189		Pn	07 12 25.1	+0.5
WRH	Wood River Hil	4.44	183	Pn	Pn	07 12 26.4	+0.6
HDA	Harding Lake	4.51	177		Pn	07 12 27.8	+1.1
HDA				IAML		07 13 23.6	
comp=N,21nm,1.0s							
HDA				IAML		07 13 58.2	
comp=E,26nm,1.0s							
I28M	Miner Creek	4.56	136		Pn	07 12 28.2	+0.7
I28M				IAML		07 13 55.5	
comp=N,17nm,0.7s							
I28M				IAML		07 14 03.0	
comp=E,18nm,1.1s							
G19K	Purcell Mounta	4.58	237		Pn	07 12 26.4	-1.2
J26L	Joseph Creek	4.69	158		Pn	07 12 29.9	+0.6
J26L				IAML		07 13 57.6	
comp=E,16nm,0.8s							
J26L	Joseph Creek	4.69	158	P	Pn	07 12 29.8	+0.6
baz=342							
G30M	tAoh Zraii Nji	4.69	109		Pn	07 12 30.6	+1.4
G30M				IAML		07 13 28.9	
comp=N,17nm,0.6s							
G30M				IAML		07 13 54.6	
comp=E,13nm,1.1s							
G30M	tAoh Zraii Nji	4.69	109	P	Pn	07 12 30.4	+1.2
baz=299							
BWN	Browne	4.80	190		Pn	07 12 31.5	+0.8
BWN				IAML		07 14 07.7	
comp=E,21nm,1.0s							
EPYK	Eagle Plains	4.86	116		Pn	07 12 32.4	+0.9
C18K	Utukok River	4.96	274		Pn	07 12 32.1	-0.9
C18K				IAML		07 13 30.0	
comp=E,24nm,0.5s							
C18K				IAML		07 14 24.8	
comp=N,21nm,1.2s							
C18K	Utukok River	4.96	274	P	Pn	07 12 32.2	-0.7
baz=81							
BPAW	Bear Paw Mtn.	5.00	197	Pn	Pn	07 12 33.1	-0.4
BPAW				IAML		07 14 02.7	
comp=E,19nm,1.1s							
BPAW				IAML		07 14 06.8	
comp=N,13nm,1.2s							
BPAW	Bear Paw Mtn.	5.00	197	P	Pn	07 12 33.6	+0.1
baz=14							
I29M	Ogilvie Camp,	5.06	130		Pn	07 12 35.5	+1.2
I29M				IAML		07 13 38.6	
comp=E,15nm,0.7s							
I29M				IAML		07 13 39.5	
comp=N,19nm,0.5s							
SCRK	Sand Creek	5.14	162	Pn	Pn	07 12 36.6	+1.1
SCRK				IAML		07 13 38.6	
comp=E,14nm,0.9s							
SCRK				IAML		07 14 12.8	
comp=N,9.1nm,1.2s							
SCRK	Sand Creek	5.14	162	P	Pn	07 12 36.5	+1.1
baz=345							
K24K	Donnelly Dome	5.16	171	P	Pn	07 12 37.0	+1.3
baz=353							
INK	Inuvik	5.18	90	Pn	Pn	07 12 32.5	-3.4
INK	Inuvik	5.18	90	Pn	Pn	07 12 37.0	+1.2
comp=N,0.4nm,0.3s,baz=284,slow=17,SNR=15							
INK				Sn	Sn	07 13 30.7	-5.3
comp=N,0.4nm,0.3s,baz=336,slow=19,SNR=2.0							
comp=N,1.9nm,0.4s							
RIDG	Independent Ri	5.29	167	Pn	Pn	07 12 38.6	+1.2
RIDG	Independent Ri	5.29	167	P	Pn	07 12 38.6	+1.2
baz=349							
F31M	Tsiigehtchic	5.36	99		Pn	07 12 39.6	+1.2
F31M				IAML		07 14 17.0	
comp=N,14nm,1.2s							
F31M				IAML		07 14 17.8	
comp=E,14nm,1.0s							
J20K	Nowinta River	5.41	212		Pn	07 12 39.3	+0.2
KTH	Kantishna Hill	5.53	196		Pn	07 12 41.3	+0.5
RND	Reindeer	5.53	186	Pn	Pn	07 12 41.9	+1.1
TRF	Thorofare Moun	5.57	193		Pn	07 12 41.5	+0.1
TRF	Thorofare Moun	5.57	193	P	Pn	07 12 41.7	+0.2
baz=10							
RDOG	Red Dog Mine	5.71	269	Pn	Pn	07 12 42.2	-1.0
F17K	Baldwin Pennin	5.76	251	Pn	Pn	07 12 42.3	-1.6
CAST	Castle Rocks	5.79	201	Pn	Pn	07 12 44.4	0.0
DAWY	Dawson	5.84	142	Pn	Pn	07 12 45.8	+0.8
DAWY	Dawson	5.84	142	P	Pn	07 12 46.0	+0.9
baz=330							
D17K	Noatak River	5.88	266	P	Pn	07 12 44.5	-0.9
baz=71							
J19K	Poorman	5.88	217	Pn	Pn	07 12 45.8	+0.3
PAX	Paxson	6.01	171		Pn	07 12 48.4	+1.0
PAX	Paxson	6.01	171	P	Pn	07 12 48.4	+1.0
baz=353							
L26K	Log Cabin Wild	6.13	162		Pn	07 12 49.9	+0.9
MENT	Mentasta	6.18	163		Pn	07 12 50.8	+1.1
H17K	Granite Mounta	6.26	237	Pn	Pn	07 12 47.5	-3.2
BCAR	Beaver Creek A	6.30	155	Pn	Pn	07 12 50.6	-0.8
C16K	Lisburne Hills	6.53	273	Pn	Pn	07 12 53.0	-1.4
BVCY	Beaver Creek	7.06	154	P	Pn	07 13 03.4	+1.6
baz=340							
SKT	Skwentna	7.13	195	Pn	Pn	07 13 01.3	-1.4
GHO	Glory Hole Cre	7.17	185	Pn	Pn	07 13 04.1	+0.8
J17K	VABM Dome	7.21	226	Pn	Pn	07 13 03.6	-0.2
F15K	North Star Dit	7.33	252	Pn	Pn	07 13 03.4	-2.0
M20K	Styx River	7.41	201	Pn	Pn	07 13 05.3	-1.2
L18K	Granite Mounta	7.68	214	Pn	Pn	07 13 10.0	-0.2
M30M	Minto, Yukon	7.73	140	Pn	Pn	07 13 09.9	-1.0
YUK3	Moose Creek	7.73	154		Pn	07 13 12.2	+1.1
YUK3	Moose Creek	7.73	154	P	Pn	07 13 12.2	+1.1
baz=340							
A36M	Sachs Harbour	8.08	57	Pn	Pn	07 13 14.2	-1.4
C36M	Paulatuk	8.39	76	Pn	Pn	07 13 17.9	-1.9
YKA	Yellowknife Ar	14.84	99	Pn	Pn	07 14 43.5	-4.6
comp=E,0.2nm,0.3s,baz=310,slow=13,SNR=8.2							
comp=E,0.3nm,0.4s							
PDAR	Pinedale Array	32.78	123	P	P	07 17 54.4	+2.5
comp=E,0.7nm,0.9s,baz=15,slow=6.3,SNR=5.3							
comp=E,0.7nm,0.9s							
SADO	Sadowa	41.49	89	LR	LR	07 35 46.2	
comp=E,35nm,18.3s,baz=262,slow=36							
TXAR	Lajitas Array	46.98	124	P	P	07 19 50.8	+1.0
comp=E,0.2nm,0.7s,baz=334,slow=7.8,SNR=3.9							
comp=E,0.2nm,0.7s							

TXNET 03 07:11:50.3, 29°.2N±0°.9×97°.6W±0°.8, h5km±3km, ML1.9/8, 1C-1D, Error ellipse: s-maj=1.5km s-min=1.2km az=148.2, final, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EF62	Nixon	0.18	318	P	Pg	07 11 53.9	0.0
EF62	Nixon	0.18	318	P	Pg	07 11 53.9	0.0
EF62				S	Sg	07 11 57.7	+1.4
EF67	Cuero	0.19	123	P	Pg	07 11 54.1	0.0
EF67	Cuero	0.19	123	⇑P	Pg	07 11 54.0	0.0
EF67				S	Sg	07 11 58.5	+2.0
EF67	Cuero	0.19	123	P	Pg	07 11 54.1	0.0
EF67				S	Sg	07 11 56.8	+0.3
EF04	Eagle Ford 04	0.21	264	‖P	Pg	07 11 54.6	+0.1
EF04				S	Sg	07 11 58.7	+1.4
EF04	Eagle Ford 04	0.21	264	P	Pg	07 11 54.6	+0.1
EF04	Eagle Ford 04	0.21	264	S	Sg	07 11 57.9	+0.6
EF05	Yorktown	0.24	173	P	Pg	07 11 55.2	+0.1
EF05	Yorktown	0.24	173	P	Pg	07 11 55.1	+0.1
EF05				S	Sg	07 12 00.7	+2.4
EF63	Gonzales	0.35	12	P	Pg	07 11 57.2	0.0
EF63				S	Sg	07 12 03.3	+1.5
EF72	Nordheim	0.37	186	P	Pg	07 11 58.2	+0.6
EF72				S	Sb	07 12 05.6	+0.1
EF72	Nordheim	0.37	186	P	Pg	07 11 58.2	+0.7
EF72				S	Sb	07 12 05.8	+0.3
EF73	North Karnes	0.39	231	P	Pg	07 11 58.5	+0.5
EF73				S	Sb	07 12 06.1	0.0
EF61	Poth	0.39	254	P	Pg	07 11 58.2	+0.3
EF61				S	Sg	07 12 04.5	+1.4
735A	Kenedy	0.44	211	P	Pb	07 12 00.6	0.0
735A				S	Sb	07 12 07.8	+0.4
735A	Kenedy	0.44	211	P	Pb	07 12 01.4	+0.9
735A				S	Sb	07 12 08.2	+0.8
EF64	Waelder	0.55	22	P	Pg	07 12 01.0	+0.1
EF64				S	Sb	07 12 09.6	-1.0
EF64	Waelder	0.55	22	P	Pg	07 12 01.2	+0.4
EF64				S	Sb	07 12 09.8	-0.8
EF75	Tulsita	0.59	205	S	Sb	07 12 13.5	+1.7
EF68	Kenedy	0.60	220	S	Sb	07 12 13.5	+1.5
EF65	Schulenburg	0.66	48	P	Pb	07 12 04.6	+0.2
EF65				S	Sb	07 12 15.2	+1.3
EF65	Schulenburg	0.66	48	P	Pb	07 12 04.4	+0.1
EF65				S	Sn	07 12 16.7	-0.5
MLDN	Muldoon	0.69	37	P	Pb	07 12 04.8	-0.1
MLDN				S	Sn	07 12 16.4	-1.5
EF01	Eagle Ford 01	0.73	262	P	Pg	07 12 04.2	-0.3
EF01				S	Sg	07 12 14.6	+0.6
HNDO	Hondo	1.54	282	Pg	Pb	07 12 19.1	-0.3
HNDO				S	Sg	07 12 40.1	+0.2
HNDO	Hondo	1.54	282	P	Pn	07 12 17.5	-1.0
JCT	Junction City	2.32	303	P	Pn	07 12 29.7	+0.5
JCT				S	Sb	07 13 00.1	-1.5

*THE **03** 07:14:18.8, 37°.53N×21°.79E, h7km±4km, ML2.5/6, Error ellipse: s-maj=4.6km s-min=0.9km az=322.0*
*ATH **03** 07:14:18.4, 37°.54N×21°.79E, h10km±3km, ML2.5/7, Error ellipse: s-maj=3.6km s-min=1.2km az=253.0*

ISC 03 07:14:18.5±1.0, 37°.54N±0°.03×21°.79E±0°.04, h6km±9km, n19, σ0§52/30, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	Artemida-Makis	0.07	261	P	Pg	07 14 20.0	-0.3
AMT				S	Sg	07 14 21.6	+0.1
AMT				AML	AML	07 14 21.7	
comp=E,50636μm,0.1s							
AMT				AML	AML	07 14 21.9	
comp=N,47606μm,0.2s							
ITM	Ithomi	0.38	164	P	Pg	07 14 25.8	-0.1
ITM				S	Sg	07 14 31.9	+1.1
comp=N,1μm,0.3s							
ITM	Ithomi	0.38	164	P	Pg	07 14 25.7	-0.1
ITM				S	Sg	07 14 31.0	+0.2
ITM				AML	AML	07 14 32.8	
comp=E,1984μm,0.2s							
ITM				AML	AML	07 14 34.3	
comp=N,1582μm,0.2s							
DRO	Drossia	0.41	351	P	Pg	07 14 26.6	0.0
DRO				S	Sb	07 14 33.9	-0.9
comp=N,1μm,0.3s							
DRO	Drossia	0.41	351	P	Pg	07 14 26.5	-0.1
DRO				S	Sg	07 14 32.6	+0.6
DRO				AML	AML	07 14 37.5	
comp=E,2285μm,0.3

comp=N,280μm,0.3s
RLS Riolos of Patr 0.57 333 P **Pg** **07 14 29.4 -0.2**
RLS Riolos of Patr 0.57 333 P **Pg** **07 14 28.9 -0.7**
RLS AML AML 07 14 40.2
comp=E,625μm,0.2s
RLS AML AML 07 14 40.3
comp=N,689μm,0.3s
GUR Goura 0.59 48 P **Pg** **07 14 29.5 -0.3**
GUR S **Sg** **07 14 38.4 +0.9**
comp=N,732nm,0.3s
GUR Goura 0.59 48 P **Pg** **07 14 29.3 -0.5**
GUR S **Sg** **07 14 37.5 +0.1**
GUR AML AML 07 14 40.1
comp=N,1403μm,0.3s
GUR AML AML 07 14 40.8
comp=E,1429μm,0.3s
UPR University Cam 0.74 360 P **Pg** **07 14 33.0 +0.2**
ALIK Aliki, Aigiali 0.76 19 P **Pg** **07 14 33.0 -0.1**
ALIK S **Sb** **07 14 45.3 +0.6**
EFP Efpalio 0.89 6 P **Pg** **07 14 35.2 -0.4**
EFP S **Sb** **07 14 49.4 +1.0**
comp=E,250nm,0.3s
EFP Efpalio 0.89 6 P **Pg** **07 14 35.4 -0.2**
LOUT Loutraki 1.04 64 P **Pg** **07 14 37.8 -0.6**
ANX Ano Chora 1.05 5 P **Pg** **07 14 38.4 -0.4**
ANX S **Sn** **07 14 55.2 +0.3**
comp=E,242nm,0.7s
ANX Ano Chora 1.05 5 P **Pg** **07 14 38.3 -0.4**
ANX AML AML 07 14 57.0
comp=E,491μm,0.6s
ANX AML AML 07 14 57.3
comp=N,477μm,0.8s
VLI Velíai 1.23 132 P **Pn** **07 14 41.8 -0.4**

---

*NEIC **03** 07:16:20.4±1.2,53.°0N±0.°1×159.°5W±0.°1, h10km±2km, mb3.6/7, ML3.7/10, ML3.3(AEIC), Error ellipse: s-maj=19.1km s-min=11.9km az=205.0*
*IDC **03** 07:16:29.0±1.7, 53.°56N×159.°28W, h0km, mb3.8/3, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=32.9km s-min=28.1km az=11.0*
*AEIC **03** 07:16:31.1±2.7, 53.°6N±0.°1×159.°6W±0.°1, h25km±9km, Error ellipse: s-maj=19.3km s-min=11.4km az=189.0*
ISC 03 07:16:34.1±1.3, 53.°9N±0.°1×159.°11W±0.°08, h35km, n72, σ1§44/64, mb3.6/5, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.98**	**344**	Pn	**Pn**	**07 16 50.7**	**-0.6**
CHGN	**Chignik**	**2.45**	**9**	Pn	**Pn**	**07 17 13.6**	**+2.1**
CHGN				IAML		07 17 48.5	
comp=E,227nm,0.1s							
CHGN				IAML		07 17 49.6	
comp=N,114nm,0.1s							
S12K	**Black Hills**	**2.50**	**318**	Pn	**Pn**	**07 17 10.2**	**-1.9**
S12K				IAML		07 17 43.5	
comp=E,179nm,0.3s							
S12K				IAML		07 17 43.9	
comp=N,190nm,0.4s							
CHIR	**Chirikof Islan**	**2.80**	**45**	Pn	**Pn**	**07 17 16.6**	**+0.3**
CHIR				IAML		07 19 19.1	
comp=E,159nm,3.4s							
CHIR				IAML		07 19 41.9	
comp=N,120nm,4.1s							
SII	**Sitkinak Islan**	**3.89**	**45**	Pn	**Pn**	**07 17 32.0**	**+0.7**
OHAK	**Old Harbor**	**4.70**	**42**	Pn	**Pn**	**07 17 43.1**	**+0.7**
KDAK	**Kodiak Island**	**5.36**	**41**	Pn	**Pn**	**07 17 52.3**	**+0.8**
KDAK	**Kodiak Island**	**5.36**	**41**	Pn	**Pn**	**07 17 51.8**	**+0.3**
comp=N,0.8nm,0.3s,baz=43,slow=3.5,SNR=26							
KDAK				Sn	**Sn**	**07 18 49.7**	**-2.3**
comp=N,0.6nm,0.3s,baz=248,slow=17,SNR=7.4							
comp=N,1.9nm,0.3s							
O14K	**Tigyukauivet M**	**5.51**	**348**	Pn	**Pn**	**07 17 54.5**	**+1.0**
O16K	**Kokwok River B**	**5.75**	**5**	Pn	**Pn**	**07 17 58.9**	**+2.1**
N15K	**Kwethluk River**	**6.32**	**356**	Pn	**Pn**	**07 18 05.3**	**+0.7**
O18K	**Koktuh Hills**	**6.35**	**18**	Pn	**Pn**	**07 18 06.8**	**+1.7**
N17K	**Nushagak Hills**	**6.74**	**8**	Pn	**Pn**	**07 18 12.1**	**+1.8**
ILSW	**Iliamna Southw**	**6.93**	**26**	Pn	**Pn**	**07 18 14.2**	**+1.1**
N18K	**Kilae Creek**	**7.03**	**13**	Pn	**Pn**	**07 18 16.9**	**+2.5**
M14K	**Bethel**	**7.05**	**349**	Pn	**Pn**	**07 18 15.2**	**+0.6**
CNPM	**China Poot**	**7.12**	**34**	Pn	**Pn**	**07 18 17.2**	**+1.6**
M16K	**Timber Creek**	**7.16**	**1**	Pn	**Pn**	**07 18 17.3**	**+1.2**
N19K	**Bonanza Creek**	**7.38**	**18**	Pn	**Pn**	**07 18 21.1**	**+1.9**
BRLK	**Bradley Lake**	**7.42**	**34**	Pn	**Pn**	**07 18 19.2**	**-0.5**
M17K	**Holitna River**	**7.59**	**6**	Pn	**Pn**	**07 18 23.6**	**+1.5**
L14K	**Kuka Creek**	**7.72**	**347**	Pn	**Pn**	**07 18 24.0**	**+0.3**
L16K	**Owhat River**	**7.85**	**359**	Pn	**Pn**	**07 18 27.5**	**+1.9**
SLKM	**Skilak Lake**	**8.20**	**32**	Pn	**Pn**	**07 18 32.2**	**+1.8**
SPU	**Mount Spurr**	**8.24**	**25**	Pn	**Pn**	**07 18 33.8**	**+2.8**
O22K	**Cooper Landing**	**8.34**	**34**	Pn	**Pn**	**07 18 33.5**	**+1.1**
L18K	**Granite Mounta**	**8.45**	**8**	Pn	**Pn**	**07 18 35.7**	**+1.9**
K15K	**Wolf Creek Mou**	**8.53**	**352**	Pn	**Pn**	**07 18 33.8**	**-1.1**
STLK	**Strandline Lak**	**8.56**	**24**	Pn	**Pn**	**07 18 36.9**	**+1.5**
K13K	**Kusilvak Mount**	**8.59**	**342**	Pn	**Pn**	**07 18 35.3**	**-0.4**
L19K	**White Mountain**	**8.62**	**13**	Pn	**Pn**	**07 18 38.4**	**+2.3**
M20K	**Styx River**	**8.62**	**19**	Pn	**Pn**	**07 18 37.4**	**+1.1**
RC01	**Rabbit Creek A**	**8.80**	**31**	Pn	**Pn**	**07 18 39.8**	**+1.2**
K17K	**Iditarod**	**8.87**	**2**	Pn	**Pn**	**07 18 40.9**	**+1.4**
PWL	**Port Wells**	**9.09**	**35**	Pn	**Pn**	**07 18 43.6**	**+1.1**
HIN	**Hinchinbrook I**	**9.45**	**41**	Pn	**Pn**	**07 18 48.6**	**+1.1**
J16K	**Anvik River**	**9.46**	**356**	Pn	**Pn**	**07 18 48.1**	**+0.5**
GHO	**Glory Hole Cre**	**9.58**	**30**	Pn	**Pn**	**07 18 51.0**	**+1.7**
SML	**Sawmill**	**9.79**	**32**	Pn	**Pn**	**07 18 53.7**	**+1.5**
SCM	**Sheep Creek Mo**	**10.13**	**33**	Pn	**Pn**	**07 18 58.8**	**+2.0**
RAGM	**Ragged Mountai**	**10.18**	**44**	Pn	**Pn**	**07 18 59.1**	**+1.5**
CAST	**Castle Rocks**	**10.23**	**18**	Pn	**Pn**	**07 18 59.9**	**+1.7**
HMT	**Hamilton**	**10.33**	**45**	Pn	**Pn**	**07 18 58.1**	**-1.4**
KLU	**Klutina**	**10.37**	**37**	Pn	**Pn**	**07 19 00.2**	**+0.1**
M24K	**Tolsona, Glenn**	**10.70**	**35**	Pn	**Pn**	**07 19 06.4**	**+1.6**
N25K	**Chitina, Valde**	**10.93**	**39**	Pn	**Pn**	**07 19 08.7**	**+0.9**
BPAW	**Bear Paw Mtn.**	**11.05**	**19**	Pn	**Pn**	**07 19 10.9**	**+1.5**
GLB	**Gilahina Butte**	**11.13**	**41**	Pn	**Pn**	**07 19 12.2**	**+1.6**
CCB	**Clear Creek Bu**	**12.21**	**24**	Pn	**Pn**	**07 19 25.8**	**+0.5**
H21K	**Melozitna Rive**	**12.22**	**12**	Pn	**Pn**	**07 19 25.2**	**-0.1**
ILAR	**Eielson Array**	**12.54**	**25**	Pn	**Pn**	**07 19 29.6**	**-0.1**
comp=N,0.1nm,0.3s,baz=217,slow=13,SNR=4.8							
ILAR				Sn	Sn	07 21 42.2	-5.7
baz=319,slow=34,SNR=1.2							
comp=N,0.2nm,0.5s							
J25K	**Salcha River,**	**12.81**	**28**	Pn	**Pn**	**07 19 34.2**	**+0.7**
J26L	**Joseph Creek**	**13.24**	**30**	Pn	**Pn**	**07 19 40.5**	**+1.1**
HYT	**Haines Junctio**	**13.53**	**50**	Pn	Pn	07 19 36.3	-7.1
E19K	**Redstone River**	**13.65**	**3**	Pn	**Pn**	**07 19 47.2**	**+2.4**
I28M	**Miner Creek**	**15.02**	**32**		**Pn**	**07 20 03.9**	**+0.4**
BMAR	**Burnt Mountain**	**15.27**	**22**		**Pn**	**07 20 07.6**	**+0.8**
H29M	**Whitestone**	**16.01**	**31**	IAmb	IAmb	07 20 54.4	
comp=Z,3.3nm,0.8s							
G30M	**tAoh Zraii Nji**	**17.16**	**31**	IAmb	IAmb	07 20 38.1	
comp=Z,4.4nm,0.9s							
INK	**Inuvik**	**18.79**	**30**	P	**P**	**07 20 48.7**	**-1.3**
INK				IAmb	IAmb	07 20 55.3	
comp=Z,2.4nm,0.7s							
INK	**Inuvik**	**18.79**	**30**	P	**Pn**	**07 20 53.1**	**+2.4**
comp=Z,0.3nm,0.3s,baz=252,slow=11,SNR=12							
comp=Z,2.7nm,0.7s							
C36M	**Paulatuk**	**22.26**	**33**	P	**P**	**07 21 26.1**	**-1.4**
C36M				IAmb	IAmb	07 21 42.8	
comp=Z,1.2nm,0.6s							
A36M	**Sachs Harbour**	**23.24**	**26**	P	**P**	**07 21 36.0**	**-1.6**
A36M				IAmb	IAmb	07 21 41.0	
comp=Z,4.9nm,0.9s							
PETK	**Petropavlovsk-**	**25.41**	**286**	P	**P**	**07 21 58.0**	**0.0**
comp=Z,8.0nm,1.1s,baz=68,slow=8.6,SNR=1.9							
comp=Z,8.0nm,1.1s							
NVAR	**Mina Array Bea**	**31.70**	**102**	P	**P**	**07 22 55.0**	**+0.6**
comp=Z,0.3nm,0.6s,baz=304,slow=7.8,SNR=2.0							
comp=Z,0.3nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**42.88**	**231**	T	T	08 09 54.6	
baz=29							
H11N3	**WAKE ISLAND Hy**	**42.88**	**231**	T	T	08 09 48.0	
baz=29							
H11N1	**WAKE ISLAND Hy**	**42.89**	**231**	T	T	08 09 50.8	
baz=29							
H11S1	**WAKE ISLAND Hy**	**44.03**	**230**	T	T	08 11 12.5	
baz=27							
H11S2	**WAKE ISLAND Hy**	**44.04**	**230**	T	T	08 11 16.0	
baz=27							
H11S3	**WAKE ISLAND Hy**	**44.05**	**230**	T	T	08 11 19.0	
baz=27							
TXAR	**Lajitas Array**	**46.69**	**99**	P	**P**	**07 24 59.4**	**+0.1**
comp=Z,0.5nm,0.6s,baz=304,slow=6.1,SNR=8.8							
comp=Z,0.5nm,0.6s							

IDC 03 07:34:40.3±1.9, 6.°25S×129.°74E, h0km, mb3.9/2, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=94.0km s-min=25.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.44**	**198**	Pn	Pn	07 37 39.8	+1.1
0.7nm,0.3s,baz=11,slow=9.2,SNR=26							
FITZ				Sn	Sn	07 39 47.0	-11
2.3nm,0.3s,baz=168,slow=17,SNR=9.7							
2.2nm,0.4s							
WRA	**Warramunga Arr**	**14.33**	**162**	Pn	Pn	07 38 04.6	0.0
0.3nm,0.3s,baz=339,slow=13,SNR=4.9							
WRA				Sn	Sn	07 40 27.0	-17
1.0nm,0.3s,baz=334,slow=23,SNR=6.3							
0.6nm,0.5s							
ASAR	**Alice Springs**	**17.78**	**167**	P	Pn	07 38 48.4	-1.0
0.2nm,0.3s,baz=348,slow=11,SNR=11							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	07 45 38.2	+0.2
1.0nm,0.5s,baz=123,slow=7.8,SNR=25							
1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**71.74**	**328**	P	P	07 46 04.0	-0.3
0.3nm,0.4s,baz=133,slow=5.2,SNR=4.0							
0.3nm,0.4s							

---

*BJI **03** 07:36:42.5, 3.°63S×131.°11E, h24km, mB5.5/58, mb5.2/97, Ms5.3/99, Ms7 5.1/98*
*IDC **03** 07:36:44.6±0.3, 3.°23S×130.°82E, h0km, mb5.3/40, mbtmp5.3/45, ML4.9/3, MS5.1/47, Error ellipse: s-maj=15.1km s-min=9.4km az=70.0*
*NEIC **03** 07:36:46.3, 3.°49S×130.°95E, h20km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.04; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$-0.52; $M_{r\theta}$0.13; $M_{\theta\phi}$0.71; $M_{r\phi}$0.74; Fault plane solution: $M_0$1.37000×10^{17} NP1: ϕ_s111.45000°, δ39.84000°, λ49.17000°. NP2: ϕ_s339.83000°, δ61.00000°, λ118.62000°. Principal axes: T 1.4200, Plg62.0000°, Azm297.0000°; N -0.1049, Plg25.0000°, Azm145.0000°; P -1.3151, Plg12.0000°, Azm50.0000°;*
*MOS **03** 07:36:46.5±1.2, 3.°23S×130.°85E, h25km, mb5.8/76, MS5.1/15 Error ellipse: s-maj=7.3km s-min=4.1km az=115.6*
*NEIC **03** 07:36:46.3±1.9, 3.°28S±0.°06×130.°76E±0.°04, h10km±1km, mb5.7/293, Ms_20 5.4/296, Mww5.4/15, Error ellipse: s-maj=10.3km s-min=6.0km az=165.0*
*NEIC **03** 07:36:46.3, 3.°29S×130.°75E, h20km*
*DJA **03** 07:36:47.9±0.3, 3.°S±2.°×13.°1E±.°, h25km±2km, M5.7/117, mb5.9/117, mB6.2/99, MLv5.8/19, Mw(mB)5.8/99, MwMwp5.4/68, Mwp5.6/68*
*GCMT **03** 07:36:49.3±0.1, 3.°07S±0.°01×130.°89E±0.°01, h24km, MW5.5/135, Moment Tensor Solution. s123,c218; s135,c227; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.58±.03; $M_{\theta\theta}$-0.94±.02; $M_{\phi\phi}$-0.64±.03; $M_{r\theta}$-1.11±.05; $M_{\theta\phi}$0.86±.02; $M_{r\phi}$1.82±.06; Best double couple: $M_0$2.68000×10^{17} NP1:ϕ_s116.00000°, δ21.00000°, λ63.00000°. NP2:ϕ_s325.00000°, δ72.00000°, λ100.00000°. Principal axes: T 2.6930, Plg62.0000°, Azm249.0000°; N -0.0230, Plg9.0000°, Azm142.0000°; P -2.6660, Plg26.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **03** 07:36:50.6±7.8, 3.°S±10.°×13.°1E±1.°0, h35km, M6.1, mB6.4, mb5.9, Mw(mB)5.4, Hypocentre not reviewed by the ISC*
ISC 03 07:36:48.7±0.4, 3.°31S±0.°03×130.°78E±0.°03, h28km±2km, h28km:pP-P, n1341, σ1§55/1293, mb5.6/347, MS5.4/230, 18C-23D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.49**	**216**	P	**Pb**	**07 37 15.4**	**-0.3**
BNDI	**Bandanaira**	**1.49**	**216**	P	**Pn**	**07 37 13.4**	**-0.2**
FAKI	**Fak Fak**	**1.52**	**75**	Pn	**Pn**	**07 37 13.8**	**-0.2**
FAKI	**Fak Fak**	**1.52**	**75**	P	**Pn**	**07 37 13.4**	**-0.6**
FAKI	**Fak Fak**	**1.52**	**75**	P	**Pn**	**07 37 13.7**	**-0.3**
MSAI	**Masohi**	**1.85**	**269**	P	**Pn**	**07 37 18.4**	**-0.1**
SWI	**Sorong**	**2.48**	**11**	P	**Pn**	**07 37 25.5**	**-1.7**
AAI	**Ambon**	**2.61**	**262**	P	**Pn**	**07 37 29.7**	**+0.7**
KMPI	**Kaimana, Papua**	**2.94**	**97**	P	**Pn**	**07 37 34.0**	**+0.4**
NLAI	**Namlea**	**3.67**	**271**	P	**Pn**	**07 37 44.5**	**+0.9**
LBMI	**Labuha**	**4.21**	**309**	P	**Pn**	**07 37 50.0**	**-1.1**
SAUI	**Saumlaki**	**4.67**	**174**	Pn	**Pn**	**07 37 56.9**	**-0.5**
SAUI	**Saumlaki**	**4.67**	**174**	P	**Pn**	**07 37 59.0**	**+1.6**
SAUI	**Saumlaki**	**4.67**	**174**	P	**Pn**	**07 37 58.4**	**+1.0**
SANI	**Sanana**	**4.95**	**285**	P	**Pn**	**07 37 59.5**	**-1.7**
SANI	**Sanana**	**4.95**	**285**	P	**Pn**	**07 37 58.4**	**-2.8**
SANI				S	**Sn**	**07 38 53.4**	**-4.1**
TNTI	**Ternate**	**5.30**	**320**	Pn	**Pn**	**07 38 04.8**	**-1.2**
TNTI	**Ternate**	**5.30**	**320**	P	**Pn**	**07 38 06.6**	**+0.6**
611nm,1.2s							
TNTI	**Ternate**	**5.30**	**320**	P	**Pn**	**07 38 05.8**	**-0.2**
10μm605nm,1.2s							
SRPI	**Serui, Papua**	**5.64**	**75**	P	**Pn**	**07 38 08.6**	**-2.1**
9.4nm21μm12μm771nm,0.6s							
SRPI				S	**Sn**	**07 39 12.6**	**-2.0**
9.4nm21μm12μm771nm,0.6s							
BAKI	**Biak**	**5.72**	**69**	P	**Pn**	**07 38 12.3**	**+0.4**
KMSI	**Cibinong**	**7.81**	**299**	P	**Pn**	**07 38 38.8**	**-1.8**
SMPI	**Sarmi**	**8.03**	**81**	P	**Pn**	**07 38 43.2**	**-0.4**
KDI	**Kendari**	**8.17**	**265**	P	**Pn**	**07 38 45.9**	**+0.4**
22μm6μm462nm,1.4s							
LUWI	**Luwuk**	**8.31**	**286**	Pn	**Pn**	**07 38 45.6**	**-1.8**
LUWI	**Luwuk**	**8.31**	**286**	P	**Pn**	**07 38 47.0**	**-0.4**
928nm,0.8s							
LUWI	**Luwuk**	**8.31**	**286**	P	**Pn**	**07 38 46.1**	**-1.3**
11μm920nm,0.7s							
BBSI	**Bau Bau**	**8.46**	**255**	P	**Pn**	**07 38 50.6**	**+1.1**
2μm,1.3s							
DRS	**Darwin Rock St**	**9.07**	**179**	P	**Pn**	**07 38 56.6**	**-1.2**
462nm,0.6s							
DRS	**Darwin Rock St**	**9.07**	**179**	S	**Sn**	**07 40 40.6**	**+1.6**
462nm,0.6s							
SOEI	**Soe**	**9.10**	**225**	Pn	**Pn**	**07 39 02.6**	**+4.2**
SOEI	**Soe**	**9.10**	**225**	P	**Pn**	**07 39 01.2**	**+2.8**
2μm,1.2s							
SOEI	**Soe**	**9.10**	**225**	P	**Pn**	**07 38 59.9**	**+1.5**
GENI	**Genyem**	**9.40**	**86**	P	**Pn**	**07 39 03.1**	**+0.7**
19μm10μm1μm,1.0s							
APSI	**Ampana**	**9.43**	**284**	P	**Pn**	**07 39 01.9**	**-0.8**
11μm1μm,1.1s							
KDU	**Kakadu**	**9.47**	**170**	P	**Pn**	**07 39 01.6**	**-1.7**
comp=Z,0.0nmcomp=Z,441nm,0.6s							
KDU	**Kakadu**	**9.47**	**170**	P	**Pn**	**07 39 02.8**	**-0.5**
comp=Z,441nm,0.6s							
MTN	**Manton Dam**	**9.48**	**178**	Pn	**Pn**	**07 39 02.3**	**-1.2**
MTN	**Manton Dam**	**9.48**	**178**	P	**Pn**	**07 39 02.5**	**-1.0**
comp=Z,0.0nmcomp=Z,587nm,0.5s							
MTN	**Manton Dam**	**9.48**	**178**	P	**Pn**	**07 39 02.3**	**-1.2**
comp=Z,587nm,0.5s							
MRSI	**Marisa**	**9.60**	**293**	P	**Pn**	**07 39 02.2**	**-2.9**
comp=Z,375nm,0.7s							
BATI	**Baumata**	**9.84**	**226**	P	**Pn**	**07 39 12.0**	**+3.6**
comp=Z,17μmcomp=Z,14μmcomp=Z,1μm,1.4s							
JAY	**Jayapura**	**9.95**	**86**	Pn	**Pn**	**07 39 08.0**	**-1.9**
comp=Z,4.4nm,0.3s,baz=255,slow=9.8,SNR=7.9							
comp=Z,97nm,1.0s							
JAY	**Jayapura**	**9.95**	**86**	P	**Pn**	**07 39 09.0**	**-0.9**
JAY	**Jayapura**	**9.95**	**86**	P	**Pn**	**07 39 08.0**	**-1.9**
MMRI	**Maumere**	**10.01**	**238**	Pn	**Pn**	**07 39 12.6**	**+1.9**
MMRI	**Maumere**	**10.01**	**238**	P	**Pn**	**07 39 13.1**	**+2.4**
comp=Z,930nm,1.3s							
MMRI	**Maumere**	**10.01**	**238**	P	**Pn**	**07 39 13.6**	**+2.9**
comp=Z,22μmcomp=Z,14μmcomp=Z,924nm,1.3s							
TABU	**Tabubil**	**10.60**	**101**	P	**Pn**	**07 39 19.3**	**+0.5**
comp=Z,37μm,1.1s							
BSSI	**Bau Bau, Buton**	**10.63**	**254**	P	**Pn**	**07 39 21.4**	**+2.1**
comp=Z,16μmcomp=Z,14μmcomp=Z,1μm,1.5s							
BKSI	**Bulukumba**	**10.81**	**259**	P	**Pn**	**07 39 22.5**	**+0.8**
comp=Z,14μmcomp=Z,12μmcomp=Z,801nm,0.7s							
TOLI2	**Tolitoli**	**10.91**	**294**	Pn	**Pn**	**07 39 21.3**	**-1.8**
TOLI2	**Tolitoli**	**10.91**	**294**	P	**Pn**	**07 39 22.7**	**-0.4**
comp=Z,204nm,1.2s							
TOLI2	**Tolitoli**	**10.91**	**294**	S	**Sn**	**07 41 26.1**	**+1.7**
comp=Z,204nm,1.2s							
TTSI	**Tana Toraja**	**10.95**	**271**	P	**Pn**	**07 39 24.2**	**+0.6**
comp=Z,13μmcomp=Z,4μmcomp=Z,317nm,1.0s							
SPSI	**Sidrap Palu**	**11.01**	**266**	P	**Pn**	**07 39 24.7**	**+0.3**
comp=Z,14μmcomp=Z,8μmcomp=Z,513nm,1.2s							
KAPI	**Kappang**	**11.13**	**261**		**Pn**	**07 39 25.5**	**-0.6**
KAPI	**Kappang**	**11.13**	**261**	Pn	**Pn**	**07 39 27.5**	**+1.5**
comp=Z,6.3nm,0.3s,baz=111,slow=6.5,SNR=26							
KAPI				LR	LR	07 44 53.7	
comp=Z,29μm,20.1s,baz=75,slow=44							
KAPI				ScS	ScS	07 52 27.2	-1.6
comp=Z,3.1nm,0.6s,baz=62,slow=16,SNR=1.4							
comp=Z,49nm,0.6s							
KAPI	**Kappang**	**11.13**	**261**	P	**Pn**	**07 39 28.6**	**+2.6**
comp=Z,287nm,0.6s							
KAPI	**Kappang**	**11.13**	**261**	*c iP*	**Pn**	**07 39 27.7**	**+1.7**
PCI	**Palu**	**11.19**	**282**	P	**Pn**	**07 39 28.7**	**+1.8**
comp=Z,11μmcomp=Z,10μmcomp=Z,527nm,1.2s							
I39PW	**PALAU INFRASON**	**11.41**	**19**	I	I	08 41 00.0	
baz=201,slow=314,SNR=0.6							
DAV	**Davao City (W)**	**11.54**	**333**	Pn	**Pn**	**07 39 31.6**	**-0.1**
comp=Z,18nm,0.3s,baz=288,slow=2.6,SNR=5.7							
DAV				LR	LR	07 44 52.5	
comp=Z,20μm,20.6s,baz=118,slow=42							
comp=Z,78nm,0.3s							
WSI	**Waingapu**	**12.18**	**238**	P	**Pn**	**07 39 41.4**	**+1.0**
BASI	**Baing, Sumba**	**12.23**	**235**	P	**Pn**	**07 39 39.3**	**-1.9**
comp=Z,16μmcomp=Z,14μmcomp=Z,489nm,0.8s							
KNRA	**Kununurra**	**12.45**	**189**		**Pn**	**07 39 40.9**	**-3.2**
KNRA	**Kununurra**	**12.45**	**189**	P	**Pn**	**07 39 39.8**	**-4.3**
WBSI	**Waikabubak, Su**	**12.94**	**240**	P	**Pn**	**07 39 50.6**	**-0.3**
comp=Z,10μmcomp=Z,675nm,1.3s							
SMKI	**Samarinda**	**13.86**	**282**	P	**Pn**	**07 40 03.2**	**-0.2**
comp=Z,8μmcomp=Z,14μmcomp=Z,769nm,1.1s							
BKB	**Balikpapan**	**14.02**	**278**		**Pn**	**07 40 03.8**	**-1.8**
BKB	**Balikpapan**	**14.02**	**278**	P	**Pn**	**07 40 06.3**	**+0.7**
comp=Z,606nm,1.2s							
BKB	**Balikpapan**	**14.02**	**278**	P	**Pn**	**07 40 06.6**	**+1.0**
comp=Z,13μmcomp=Z,11μmcomp=Z,604nm,1.2s							
PLAI	**Plampang**	**14.04**	**246**	P	**Pn**	**07 40 07.4**	**+1.5**
comp=Z,1μm,1.2s							
PLAI	**Plampang**	**14.04**	**246**	P	**Pn**	**07 40 06.0**	**+0.1**
comp=Z,16μmcomp=Z,1μm,1.2s							
TWSI	**Taliwang, Sumb**	**14.83**	**248**	P	**Pn**	**07 40 15.1**	**-1.5**
comp=Z,14μmcomp=Z,9μmcomp=Z,651nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.54**	**199**	Pn	**Pn**	**07 40 20.8**	**-5.2**
FITZ	**Fitzroy Crossi**	**15.54**	**199**	P	**Pn**	**07 40 20.2**	**-5.7**
FITZ	**Fitzroy Crossi**	**15.54**	**199**	Pn	**Pn**	**07 40 20.5**	**-5.4**
comp=Z,7.2nm,0.3s,baz=33,slow=12,SNR=17							
FITZ				Sn	Sn	07 43 04.8	-13
comp=Z,6.0nm,0.3s,baz=236,slow=20,SNR=3.1							
FITZ				LR	LR	07 47 56.2	
comp=Z,21μm,18.5s,baz=28,slow=43							
FITZ	**Fitzroy Crossi**	**15.54**	**199**	P	**Pn**	**07 40 25.5**	**-0.4**
comp=Z,587nm,1.3s							
MTKI	**Muara Teweh, K**	**16.04**	**278**	P	**Pn**	**07 40 32.8**	**+0.3**
comp=Z,9μmcomp=Z,523nm,1.0s							
COEN	**Coen**	**16.18**	**132**		**Pn**	**07 40 31.7**	**-2.5**
COEN	**Coen**	**16.18**	**132**	P	**Pn**	**07 40 31.3**	**-2.9**
comp=Z,0.0nmcomp=Z,292nm,1.0s							
COEN	**Coen**	**16.18**	**132**	P	**Pn**	**07 40 31.7**	**-2.5**
comp=Z,292nm,1.0s							
SRBI	**Singaraja**	**16.20**	**252**	P	**Pn**	**07 40 33.8**	**-0.6**
comp=Z,13μmcomp=Z,9μmcomp=Z,679nm,0.9s							
DNP	**Denpasar**	**16.37**	**250**	P	**Pn**	**07 40 36.3**	**-0.4**
comp=Z,515nm,0.5s							
MANU	**Manus Island**	**16.62**	**86**		**Pn**	**07 40 39.9**	**0.0**
WB0	**Warramunga Arr**	**16.74**	**168**		**Pn**	**07 40 38.8**	**-2.5**
WB0				IAmb	IAmb	07 40 50.2	
comp=Z,748nm,1.3s							
WRAB	**Tennant Creek**	**16.89**	**168**	*d iP*	**Pn**	**07 40 41.4**	**-1.8**
WRA	**Warramunga Arr**	**16.90**	**168**	Pn	**Pn**	**07 40 40.0**	**-3.3**
comp=Z,13nm,0.3s,baz=336,slow=25,SNR=16							
WRA				Sn	Sn	07 43 36.1	-14
comp=Z,8.5nm,0.3s,baz=350,slow=22,SNR=5.3							
WB2	**Warramunga Arr**	**16.90**	**168**		**Pn**	**07 40 40.8**	**-2.6**
WB2	**Warramunga Arr**	**16.90**	**168**	P	**Pn**	**07 40 38.6**	**-4.7**
WB1	**Warramunga Ar.**	**16.91**	**168**	P	**Pn**	**07 40 44.4**	**+0.9**
comp=Z,638nm,0.8s							
ABJI	**Asem Bagus**	**17.05**	**254**	P	**Pn**	**07 40 45.0**	**-0.3**
comp=Z,11μmcomp=Z,548nm,1.3s							
KMMI	**Kalianget**	**17.15**	**257**	P	**Pn**	**07 40 46.6**	**+0.1**
comp=Z,13μ

comp=Z,179nm,1.0s,baz=178,slow=12,SNR=3.9
GUMO LR LR 07 49 40.3
comp=Z,4μm,18.0s,baz=229,slow=36
comp=Z,179nm,1.0s
KPJI Karang Pucung 22.11 259 P **P 07 41 38.2 -3.9**
comp=Z,7μmcomp=Z,5μmcomp=Z,672nm,1.1s
TV1H Townsville Har 22.28 137 P **P 07 41 44.4 +0.5**
comp=Z,122nm,1.0s
CTA Charters Tower 22.50 139 P **P 07 41 46.4 +0.2**
comp=Z,86nm,0.8s,baz=323,slow=11,SNR=32
CTA S **S 07 45 50.1 -1.5**
comp=Z,6.4nm,0.7s,baz=351,slow=19,SNR=1.0
comp=Z,86nm,0.8s
CTAO Charters Tower 22.50 139 P **P 07 41 46.7 +0.5**
CTAO Charters Tower 22.50 139 P **P 07 41 46.8 +0.6**
comp=Z,151nm,1.9s
CTAO Charters Tower 22.50 139 S **S 07 45 49.9 -1.7**
comp=Z,151nm,1.9s
CTAO Charters Tower 22.50 139 P **P 07 41 46.7 +0.5**
CTAO pmax pmax
comp=Z,141nm,1.0s
CTAO MLR MLR
comp=Z,7μm,21.0s
JCJI Jatiwangi 22.64 261 P **P 07 41 44.1 -3.7**
comp=Z,6μmcomp=Z,8μmcomp=Z,515nm,1.3s
AUAYR Ayr State High 22.92 136 P **P 07 41 53.0 +2.4**
comp=Z,173nm,1.4s
SZP Santa 23.09 334 P **P 07 41 53.8 +1.4**
comp=Z,183nm,0.9s
TPI Tanjungpandan 23.10 271 P **P 07 41 50.8 -1.8**
comp=Z,7μmcomp=Z,5μmcomp=Z,377nm,1.1s
LEM Lembang 23.33 260 P **P 07 41 52.0 -3.0**
comp=Z,302nm,0.9s,baz=81,slow=9.6,SNR=27
LEM S **S 07 46 01.7 -4.6**
comp=Z,17nm,0.5s,baz=304,slow=23,SNR=1.4
LEM LR LR 07 51 43.8
comp=Z,15μm,21.7s,baz=87,slow=38
LEM Lembang 23.33 260 P **P 07 41 50.6 -4.4**
comp=Z,5μmcomp=Z,230nm,0.9s
BBJI Bungbulang 23.39 259 P **P 07 41 51.9 -3.6**
comp=Z,366nm,1.2s
SKJI Sukabumi 24.40 260 P **P 07 42 00.8 -4.2**
comp=Z,4μmcomp=Z,8μmcomp=Z,646nm,1.0s
PPBI Pangkal Pinang 24.64 272 P **P 07 42 08.1 +0.9**
SBJI Serang 24.72 263 P **P 07 42 03.6 -4.3**
comp=Z,248nm,1.1s
OOD Oodnadatta 24.80 170 P **P 07 42 08.9 +0.5**
comp=Z,697nm,0.6s
OOD Oodnadatta 24.80 170 S **S 07 46 30.7 +1.4**
comp=Z,697nm,0.6s
GIRL Giralia 25.03 218 P **P 07 42 09.1 -1.6**
GIRL Giralia 25.03 218 P **P 07 42 09.0 -1.6**
comp=Z,0.0nmcomp=Z,281nm,1.2s
GIRL Giralia 25.03 218 P **P 07 42 09.9 -0.7**
comp=Z,278nm,1.2s
XMI Christmas Isla 25.88 253 P **P 07 42 16.0 -2.5**
comp=Z,386nm,1.3s
XMI Christmas Isla 25.88 253 S **S 07 46 47.9 +1.0**
comp=Z,386nm,1.3s
XMIS Christmas Isla 25.93 253 P **P 07 42 14.9 -4.0**
XMIS IAmb IAmb 07 42 17.8
comp=Z,318nm,1.1s
XMIS Christmas Isla 25.93 253 P **P 07 42 16.9 -1.9**
comp=Z,316nm,1.4s
XMIS Christmas Isla 25.93 253 S **S 07 46 48.8 +1.2**
comp=Z,316nm,1.4s
MEEK Meekatharra 25.96 206 P **P 07 42 16.4 -2.6**
comp=Z,0.0nmcomp=Z,265nm,1.1s
MEEK Meekatharra 25.96 206 P **P 07 42 16.9 -2.2**
comp=Z,265nm,1.1s
PMBI Palembang 25.97 270 IAMs_20 IAMs_20 07 53 41.1
comp=Z,9μm,20.0s
PMBI Palembang 25.97 270 P **P 07 42 21.0 +1.8**
comp=Z,409nm,0.7s
INKA Innaminka 26.09 160 P **P 07 42 20.6 +0.4**
comp=Z,761nm,0.7s
QLP Quilpie 26.49 152 P **P 07 42 24.3 +0.5**
comp=Z,0.0nmcomp=Z,237nm,1.5s
QLP Quilpie 26.49 152 P **P 07 42 24.7 +0.9**
comp=Z,237nm,1.5s
MDSI Maura Dua 26.56 267 P **P 07 42 22.0 -2.6**
TPRI Tanjung Pinang 26.57 279 P **P 07 42 25.5 +0.8**
comp=Z,5μmcomp=Z,617nm,0.9s
LWLI Liwa 26.70 265 P **P 07 42 21.7 -4.3**
comp=Z,4μmcomp=Z,5μmcomp=Z,303nm,1.1s
DLV Lat 26.85 305 P **P 07 42 27.8 +0.5**
comp=Z,91nm,1.1s
JMBI JAMBI 27.16 273 P **P 07 42 32.2 +2.2**
comp=Z,8μmcomp=Z,553nm,1.4s
MYKOM Kota Tinggi 27.39 280 P **P 07 42 32.9 +0.9**
comp=Z,420nm,1.3s
MYKOM Kota Tinggi 27.39 280 S **S 07 47 13.0 +2.3**
comp=Z,420nm,1.3s
FORT Forrest 27.45 185 P **P 07 42 32.1 -0.2**
FORT Forrest 27.45 185 P **P 07 42 31.3 -1.1**
comp=Z,0.0nmcomp=Z,661nm,0.8s
FORT Forrest 27.45 185 P **P 07 42 32.4 +0.1**
comp=Z,661nm,0.8s
MNAI Manna 27.78 267 IAMs_20 IAMs_20 07 54 33.1
comp=Z,9μm,20.0s
LCRK Leigh Creek 27.90 166 P **P 07 42 37.2 +0.8**
comp=Z,624nm,0.9s
YULB Yu-li 28.10 341 P **P 07 42 36.4 -1.9**
YULB IAmb IAmb 07 42 53.7
comp=Z,161nm,1.9s
KSI Kapahiang 28.14 268 P **P 07 42 37.1 -1.7**
TPUB Ta-pu 28.24 340 P **P 07 42 41.2 +1.7**
comp=Z,72nm,1.1s
SSLB Suanglung 28.58 341 P **P 07 42 41.3 -1.3**
SSLB IAmb IAmb 07 42 50.2
comp=Z,89nm,1.0s
SSLB Suanglung 28.58 341 P **P 07 42 43.7 +1.1**
comp=Z,90nm,1.0s
NACB Ningancbiao 28.74 342 P **P 07 42 42.0 -1.9**
KMBL Kambalda 29.14 196 P **P 07 42 46.1 -1.4**
comp=Z,417nm,1.0s
MORW Morawa 29.20 207 P **P 07 42 46.2 -1.8**
MORW IAmb IAmb 07 43 47.7
comp=Z,146nm,1.3s
MORW Morawa 29.20 207 P **P 07 42 45.8 -2.2**
comp=Z,62nm,0.9s
YHNB Yeheng 29.27 342 P **P 07 42 47.3 -1.5**
YHNB Yeheng 29.27 342 P **P 07 42 50.1 +1.4**
comp=Z,46nm,1.0s
PATS Pohnpei 29.27 70 IAMs_20 IAMs_20 07 53 37.6
comp=Z,11μm,19.0s
EIDS Eidsvold 29.37 140 P **P 07 42 49.5 -0.1**
EIDS Eidsvold 29.37 140 P **P 07 42 49.2 -0.3**
BBOO Buckleboo 29.76 171 P **P 07 42 52.6 -0.3**
BBOO IAmb IAmb 07 43 01.6
comp=Z,154nm,1.1s
BBOO Buckleboo 29.76 171 P **P 07 42 53.1 +0.1**
comp=Z,168nm,0.9s
BKNI Bangkinang 29.94 276 P **P 07 42 56.5 +1.7**
comp=Z,626nm,1.2s
BKNI Bangkinang 29.94 276 P **P 07 42 54.8 0.0**
JOW Kunigami 30.06 356 IAmb IAmb 07 43 05.0
comp=Z,119nm,1.1s
JOW Kunigami 30.06 356 P **P 07 42 55.8 +0.1**
comp=Z,66nm,1.1s,baz=175,slow=13,SNR=5.0
JOW LR LR 07 54 40.0
comp=Z,10μm,20.7s,baz=166,slow=36
comp=Z,66nm,1.1s
JOW Kunigami 30.06 356 P **P 07 42 57.5 +1.9**
comp=Z,112nm,1.4s
STKA Stephens Creek 30.19 161 P **P 07 42 56.7 0.0**
STKA Stephens Creek 30.19 161 P **P 07 42 56.7 0.0**
comp=Z,18nm,0.5s,baz=339,slow=8.5,SNR=44
STKA LR LR 07 56 14.1
comp=Z,9μm,18.1s,baz=326,slow=39
comp=Z,18nm,0.5s
STKA Stephens Creek 30.19 161 P **P 07 42 57.3 +0.6**
comp=Z,31nm,1.2s
STKA Stephens Creek 30.19 161 *c iP* **P 07 42 56.5 -0.2**
BLDU Ballidu 30.24 205 P **P 07 42 55.4 -1.8**
comp=Z,110nm,1.4s
WHYH Whyalla 30.25 169 P **P 07 42 57.6 +0.4**
comp=Z,141nm,0.8s
QIZ Qiongzhong 30.28 318 P **P 07 42 57.5 -0.2**
QIZ IAmb IAmb 07 43 02.6
comp=Z,183nm,1.9s
QIZ Qiongzhong 30.28 318 P **P 07 42 58.0 +0.3**
QIZ pP **pP 07 43 07.1 +1.2**
QIZ sP **sP 07 43 11.9 +2.6**
QIZ S **S 07 47 57.8 +1.7**
QIZ sS **sS 07 48 14.2 +4.5**
QIZ pmax pmax
comp=Z,31nm,0.8s
QIZ LR LR
comp=Z,3μm,21.6s
QIZ LR LR
comp=Z,2μm,21.6s
QIZ LR LR
comp=Z,3μm,19.6s
QIZ Qiongzhong 30.28 318 P **P 07 42 58.7 +1.0**
comp=Z,60nm,1.4s
QZH Quanzhou 30.47 338 P **P 07 42 58.5 -0.8**
QZH S **S 07 47 57.0 -1.9**
QZH pmax pmax
comp=Z,100nm,1.0s
QZH pmax pmax
comp=Z,300nm,6.4s
QZH LR LR
comp=Z,3μm,24.5s
QZH LR LR
comp=Z,3μm,20.2s
QZH LR LR
comp=Z,4μm,22.0s
PPI Padang Panjang 30.49 275 P **P 07 42 59.1 -0.5**
AULRC Lightning Ridg 30.68 150 P **P 07 43 02.6 +1.5**
comp=Z,184nm,1.4s
KLBR Kellerberrin 30.69 202 P **P 07 42 59.8 -1.4**
comp=Z,717nm,1.0s
IPM Ipoh 30.72 284 P **P 07 43 02.4 +0.7**
IPM Ipoh 30.72 284 P **P 07 43 02.2 +0.5**
comp=Z,472nm,1.2s
PPSI Pulau Pagai 30.73 270 P **P 07 43 00.0 -1.7**
comp=Z,278nm,1.1s
HTT Hallett 30.92 167 P **P 07 43 04.0 +0.8**
comp=Z,64nm,1.6s
UBPT Khong Chiam 31.13 307 P **P 07 43 05.2 0.0**
UBPT Khong Chiam 31.13 307 P **P 07 43 05.8 +0.6**
comp=Z,49nm,1.3s
GZH Guangzhou 31.27 328 P **P 07 43 09.6 +3.3**
GZH S **S 07 48 15.2 +3.8**
GZH pmax pmax
comp=Z,97nm,0.9s
GZH LR LR
comp=Z,3μm,25.3s
GZH LR LR
comp=Z,2μm,18.8s
KULM Kulim 31.28 286 IAmb IAmb 07 43 21.0
comp=Z,82nm,0.8s
KULM Kulim 31.28 286 P **P 07 43 07.4 +0.8**
comp=Z,127nm,1.1s
CMSA Cobar Meteorol 31.40 155 P **P 07 43 08.1 +0.7**
comp=Z,108nm,1.2s
MNSI Mandailing Nat 31.45 277 P **P 07 43 07.3 -0.8**
comp=Z,3μmcomp=Z,3μmcomp=Z,225nm,1.2s
TW1H Toowoomba 1 Ha 31.48 142 P **P 07 43 09.6 +1.4**
comp=Z,116nm,0.9s
MUN Mundaring 31.64 204 P **P 07 43 08.2 -1.3**
comp=Z,176nm,1.2s
SISI Saibi 31.72 273 P **P 07 43 08.7 -1.8**
comp=Z,5μmcomp=Z,409nm,1.2s
MTKN Mount Kenneth 31.78 205 P **P 07 43 11.6 +0.9**
comp=Z,307nm,1.2s
NWAO Narrogin (SRO) 32.08 202 P **P 07 43 12.2 -1.2**
NWAO IAmb IAmb 07 43 13.7
comp=Z,159nm,1.0s
NWAO Narrogin (SRO) 32.08 202 IAMs_20 IAMs_20 07 58 37.7
comp=Z,8μm,19.0s
NWAO Narrogin (SRO) 32.08 202 LR LR 07 58 41.3
comp=Z,5μm,18.7s,baz=346,slow=41
NWAO Narrogin (SRO) 32.08 202 P **P 07 43 12.4 -1.0**
NWAO P **P 07 43 12.4 -1.0**
NWAO Narrogin (SRO) 32.08 202 P **P 07 43 12.5 -0.9**
comp=Z,96nm,1.1s
NWAO Narrogin (SRO) 32.08 202 P **P 07 43 12.2 -1.2**
NWAO pmax pmax
comp=Z,159nm,1.0s
NWAO MLR MLR
comp=Z,8μm,19.0s
JCJ Chichijima 32.17 19 LR LR 07 54 47.2
comp=Z,3μm,18.8s,baz=210,slow=34
GHSS Government Hou 32.28 168 P **P 07 43 16.3 +1.2**
comp=Z,270nm,0.9s
PSI Prapat 32.41 280 P **P 07 43 15.3 -1.4**
comp=Z,132nm,0.8s,baz=117,slow=5.7,SNR=91
PSI LR LR 07 58 46.0
comp=Z,6μm,18.1s,baz=114,slow=41
comp=Z,132nm,0.8s
PSI Prapat 32.41 280 P **P 07 43 16.3 -0.4**
comp=Z,220nm,1.1s
AUMBR Murray Bridge 32.64 167 P **P 07 43 19.5 +1.3**
comp=Z,284nm,0.9s
TSI Tuntungan 32.90 282 P **P 07 43 20.3 -0.5**
comp=Z,3μmcomp=Z,203nm,1.0s
SRIT Nakonsritamara 33.26 291 P **P 07 43 25.2 +1.3**
comp=Z,206nm,1.4s
AUDCS Dubbo College 33.30 152 P **P 07 43 25.1 +1.0**
comp=Z,265nm,0.8s
ARMA Armidale 33.41 146 P **P 07 43 25.7 +0.6**
ARMA IAmb IAmb 07 43 36.2
comp=Z,70nm,1.0s
ARMA Armidale 33.41 146 P **P 07 43 26.5 +1.3**
comp=Z,85nm,1.0s
GSI Gunungsitoli 33.50 277 P **P 07 43 24.3 -1.8**
GSI IAMs_20 IAMs_20 07 58 28.7
comp=Z,7μm,21.0s
GSI Gunungsitoli 33.50 277 P **P 07 43 26.1 0.0**
comp=Z,256nm,1.0s
GSI Gunungsitoli 33.50 277 P **P 07 43 24.5 -1.6**
comp=Z,4μmcomp=Z,257nm,1.0s
AUPHS Peel High Scho 33.53 148 P **P 07 43 28.1 +2.0**
comp=Z,75nm,1.4s
KCSI Kotacane, Aceh 33.68 281 P **P 07 43 26.0 -1.6**
comp=Z,2μmcomp=Z,145nm,1.3s
RKGY Rocky Gully 33.69 201 P **P 07 43 27.6 +0.2**
comp=Z,328nm,1.1s
NAYO Nakonayok 34.05 302 P **P 07 43 31.5 +0.7**
comp=Z,835nm,1.0s
COCO West Island 34.73 253 P **P 07 43 34.8 -1.9**
COCO IAmb IAmb 07 44 49.0
comp=Z,199nm,1.5s
COCO West Island 34.73 253 P **P 07 43 37.1 +0.4**
comp=Z,57nm,2.5s
COCO West Island 34.73 253 P **P 07 43 34.8 -1.9**
COCO pmax pmax
comp=Z,199nm,1.5s
ARPS Mount Arapiles 34.82 164 P **P 07 43 38.6 +1.4**
comp=Z,337nm,1.1s
LHMI Lhok Sumawe 34.84 284 P **P 07 43 36.6 -1.2**
LHMI Lhok Sumawe 34.84 284 P **P 07 43 39.4 +1.7**
comp=Z,240nm,1.2s
LHMI Lhok Sumawe 34.84 284 P **P 07 43 37.7 0.0**
comp=Z,237nm,1.2s
SNSI Sinabang, Aceh 34.90 279 P **P 07 43 37.1 -1.1**
comp=Z,3μmcomp=Z,181nm,1.4s
YNG Young 34.93 154 P **P 07 43 38.4 +0.2**
comp=Z,282nm,1.2s
MLSI Meulaboh, Aceh 35.16 282 P **P 07 43 39.3 -1.2**
MGCD Mangrove Creek 35.31 150 P **P 07 43 44.2 +2.7**
comp=Z,89nm,0.9s
MGBR Mount Gambier 35.41 167 P **P 07 43 43.3 +1.0**
SSE Sheshan 35.41 346 P **P 07 43 43.2 +0.9**
SSE S **S 07 49 19.9 +4.4**
SSE pmax pmax
comp=Z,15nm,1.0s
SSE pmax pmax
comp=Z,170nm,3.5s
SSE LR LR
comp=Z,940nm,24.0s
SSE LR LR
comp=Z,960nm,23.5s
SYDH Sydney Hard Ro 35.57 151 P **P 07 43 44.2 +0.5**
comp=Z,51nm,0.7s
CNSH ChangSha 35.71 332 P **P 07 43 44.7 -0.3**
CNSH S **S 07 49 19.0 -1.2**
CNSH pmax pmax
comp=Z,35nm,1.4s
CNSH LR LR
comp=Z,3μm,27.5s
CNSH LR LR
comp=Z,2μm,25.3s
CNSH LR LR
comp=Z,2μm,27.9s
RIV Riverview 35.83 150 P **P 07 43 48.0 +2.1**
comp=Z,186nm,1.4s
SLVN Son La 35.95 314 P **P 07 43 47.9 +0.7**
comp=Z,38nm,1.9s
SRDT SRDT 35.95 300 P **P 07 43 48.0 +0.8**
comp=Z,82nm,1.1s
CAN Canberra 36.05 154 P **P 07 43 49.1 +1.2**
CAN IAmb IAmb 07 43 54.5
comp=Z,65nm,0.7s
CAN Canberra 36.05 154 P **P 07 43 49.4 +1.5**
comp=Z,147nm,0.8s
CAN Canberra 36.05 154 P **P 07 43 49.1 +1.2**
CAN pmax pmax
comp=Z,65nm,0.7s
CAN MLR MLR
comp=Z,5μm,22.0s
WOLH Wollongong Har 36.16 151 P **P 07 43 50.3 +1.6**
comp=Z,98nm,0.8s
CNB Canberra Magne 36.21 154 P **P 07 43 50.0 +0.7**
comp=Z,88nm,1.4s
AUHPC Hawkesdale P12 36.21 165 P **P 07 43 49.8 +0.7**
comp=Z,649nm,1.4s
JNU Nakatsue 36.23 0 P **P 07 43 48.8 -0.6**
JNU IAmb IAmb 07 44 05.7
comp=Z,212nm,1.4s
JNU Nakatsue 36.23 0 LR LR 07 58 04.7
comp=Z,3μm,20.0s,baz=180,slow=35
JNU Nakatsue 36.23 0 P **P 07 43 51.3 +1.9**
comp=Z,125nm,1.2s
BSI Banda Aceh 36.50 284 P **P 07 43 50.2 -1.8**
comp=Z,2μmcomp=Z,170nm,1.2s
TOO Toolangi 36.67 160 P **P 07 43 54.0 +0.8**
TOO Toolangi 36.67 160 P **P 07 43 54.0 +0.8**
TOO pmax pmax
comp=Z,56nm,1.1s
GEXS Deakin Univers 36.86 162 P **P 07 43 57.4 +2.7**
comp=Z,509nm,0.8s
NJ2 Nanjing 36.95 343 *e*P **P 07 43 55.9 +0.5**
NJ2 pP **pP 07 44 03.9 +0.1**
NJ2 PP **PnPn 07 45 24.0 +3.7**
NJ2 S **S 07 49 40.3 +1.4**
NJ2 pmax pmax
comp=Z,25nm,0.9s
NJ2 pmax pmax
comp=Z,230nm,3.8s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,2μm,22.7s
NJ2 LR LR
comp=Z,2μm,19.1s
JMN Monobe 36.95 4 P **P 07 43 55.3 -0.3**
JMN IAmb IAmb 07 44 11.2
comp=Z,98nm,1.1s
JMN Monobe 36.95 4 P **P 07 43 56.1 +0.6**
comp=Z,90nm,1.3s
WHN Wuhan 37.14 336 ⇑P **P 07 43 57.9 +0.8**
WHN sP **pP 07 44 06.3 +0.8**
WHN S **S 07 49 42.7 +0.8**
WHN pmax pmax
comp=Z,420nm,1.2s
WHN pmax pmax
comp=Z,1μm,3.7s
WHN LR LR
comp=Z,5μm,18.6s
WHN LR LR
comp=Z,17μm,25.9s
WHN LR LR
comp=Z,9μm,22.4s
GYA Guiyang 37.68 323 ⇓P **P 07 44 02.5 +0.6**
GYA S **S 07 49 49.0 -1.5**
GYA pmax pmax
comp=Z,26nm,0.9s
GYA pmax pmax
comp=Z,190nm,4.8s
GYA LR LR
comp=Z,1μm,18.8s
GYA LR LR
comp=Z,1μm,26.0s
GYA LR LR
comp=Z,2μm,18.2s
CM31 Chiang Mai Arr 38.09 306 P **P 07 44 05.8 +0.5**
CMAR Chiang Mai Arr 38.09 306 P **P 07 44 05.3 -0.1**
CMAR Chiang Mai Arr 38.09 306 P **P 07 44 06.0 +0.6**
comp=Z,46nm,1.0s,baz=131,slow=6.7,SNR=143
CMAR PcP **PcP 07 46 22.4 +2.1**
comp=Z,7.9nm,0.8s,baz=123,slow=3.6,SNR=4.4
CMAR S **S 07 49 57.7 +0.9**
comp=Z,2.5nm,0.3s,baz=242,slow=27,SNR=5.4
CMAR ScP **ScP 07 50 08.3 +2.0**
comp=Z,2.1nm,0.3s,baz=120,slow=3.5,SNR=11
CMAR ScS **ScS 07 54 18.6 +2.6**
comp=Z,0.7nm,0.3s,baz=45,slow=55,SNR=1.4
comp=Z,46nm,1.0s
CHTO Chiang Mai 38.27 306 P **P 07 44 07.2 +0.3**
CHTO Chiang Mai 38.27 306 P **P 07 44 07.2 +0.3**
CHTO pmax pmax
comp=Z,78nm,1.0s
INU Inuyama 38.90 8 P **P 07 44 11.0 -0.8**
INU Inuyama 38.90 8 P **P 07 44 11.4 -0.5**
comp=Z,54nm,1.5s
JGF Kuroka 39.19 8 P **P 07 44 13.4 -1.0**
JGF Kuroka 39.19 8 P **P 07 44 12.0 -2.4**
comp=Z,48nm,1.6s
KMI Kunming 39.23 318 ⇑P **P 07 44 15.8 +0.7**
KMI pP pP 07 44 24.2 +0.7
KMI sP sP 07 44 29.0 +2.1
KMI PcP **PcP 07 46 26.9 +2.8**
KMI S **S 07 50 15.2 +0.9**
KMI SS **SS 07 53 05.1 -3.0**
KMI pmax pmax
comp=Z,48nm,1.0s
KMI LR LR
comp=Z,3μm,21.4s
KMI LR LR
comp=Z,1μm,12.3s
KMI LR LR
comp=Z,2μm,24.4s
DZM Mont Dzumac 39.31 121 P **P 07 44 15.5 -0.2**
DZM Mont Dzumac 39.31 121 *e*P **P 07 44 15.5 -0.2**
comp=Z,122nm,1.2s
DZM Mont Dzumac 39.31 121 *e*PP **PP 07 45 47.6 +1.4**
comp=Z,136nm,21.7s
DZM *e*S **S 07 50 17.1 +1.9**
comp=Z,852nm,28.5s
DZM *e*SS **SS 07 53 04.3 -5.1**
comp=Z,1μm,24.1s
DZM *e*LR LR 07 55 07.0
comp=Z,4μm,23.4s
DZM Mont Dzumac 39.31 121 P **P 07 44 16.9 +1.2**
comp=Z,47nm,1.0s
TJN Taejon 39.61 356 P **P 07 44 16.4 -1.4**
comp=Z,512nm,1.9s
TJN Taejon 39.61 356⇑*e*P **P 07 44 17.8 0.0**
YATNC Mamie plateau, 39.68 121 P **P 07 44 19.8 +1.1**
comp=Z,49nm,0.9s
MAJO Matsushiro 40.25 9 P **P 07 44 21.1 -2.1**
MAJO Matsushiro 40.25 9 IAMs_20 IAMs_20 07 59 46.2
comp=Z,4μm,20.0s
MAJO Matsushiro 40.25 9 P **P 07 44 21.3 -1.9**
comp=Z,61nm,0.8s
MAJO Matsushiro 40.25 9 P **P 07 44 21.1 -2.1**
MAJO pmax pmax
comp=Z,47nm,0.8s
MJAR Matsushiro Arr 40.25 9 P **P 07 44 20.9 -2.3**
comp=Z,14nm,0.7s,baz=186,slow=9.0,SNR=30
MJAR PcP **PcP 07 46 27.2 +0.5**
comp=Z,2.5nm,0.8s,baz=187,slow=3.7,SNR=1.7
MJAR LR LR 07 59 57.9
comp=Z,5μm,20.9s,baz=194,slow=35
comp=Z,14nm,0.7s
MJB9 Matsu-Tunnel 40.25 9 P **P 07 44 21.1 -2.1**
KSAR Wonju Array Be 40.63 356 P **P 07 44 25.5 -0.8**
KSAR Wonju Array Be 40.63 356 P **P 07 44 25.5 -0.8**
KSRS Korea Array 40.64 357 P **P 07 44 26.4 0.0**
comp=Z,23nm,0.7s,baz=176,slow=9.1,SNR=69
KSRS PcP **PcP 07 46 27.8 -0.1**
comp=Z,1.9nm,0.7s,baz=163,slow=4.1,SNR=1.8
KSRS LR LR 08 00 49.4
comp=Z,4μm,20.8s,baz=170,slow=36
comp=Z,23nm,0.7s
KS19 Wonju Array Si 40.69 356 P **P 07 44 25.8 -1.0**
KS19 IAmb IAmb 07 45 07.8
comp=Z,230nm,1.8s
INCN Inchon 40.77 355 IAMs_20 IAMs_20 08 00 51.5
comp=Z,5μm,20.0s
INCN Inchon 40.77 355 P **P 07 44 31.5 +4.1**
comp=Z,88nm,2.2s
PZH PanZhiHua 40.82 318 P **P 07 44 28.3 +0.1**
PZH pP **pP 07 44 36.2 -0.4**
PZH S **S 07 50 36.0 -1.8**
PZH ScS **ScS 07 54 23.1 -8.9**
PZH pmax pmax

	comp=Z,50nm,0.9s					
PZH			pmax	pmax		
	comp=Z,400nm,4.9s					
PZH			LR	LR		
	comp=Z,1μm,18.2s					
PZH			LR	LR		
	comp=Z,1μm,18.4s					
PZH			LR	LR		
	comp=Z,1μm,21.4s					
TIA	**Tai'an**	**41.33 343**	P	**P**	**07 44 31.3**	**-0.8**
TIA			S	**S**	**07 50 41.7**	**-3.2**
TIA			pmax	pmax		
	comp=Z,25nm,1.0s					
TIA			pmax	pmax		
	comp=Z,250nm,3.5s					
TIA			LR	LR		
	comp=Z,1μm,19.1s					
TIA			LR	LR		
	comp=Z,2μm,20.6s					
TIA			LR	LR		
	comp=Z,2μm,20.3s					
LYN	**LuoYang**	**41.41 337**	P	**P**	**07 44 33.8**	**+1.0**
LYN			sP	pP	07 44 41.1	-0.1
LYN			S	**S**	**07 50 43.1**	**-3.0**
LYN			sS	pS	07 50 57.6	+1.9
LYN			pmax	pmax		
	comp=Z,63nm,0.9s					
LYN			pmax	pmax		
	comp=Z,650nm,4.1s					
LYN			LR	LR		
	comp=Z,3μm,26.1s					
LYN			LR	LR		
	comp=Z,5μm,25.1s					
LYN			LR	LR		
	comp=Z,3μm,18.9s					
JSD	**Sado**	**41.72 9**	P	**P**	**07 44 34.6**	**-0.6**
JMM	**Marumori**	**42.01 12**	P	**P**	**07 44 37.0**	**-0.5**
JMM			IAmb	IAmb	07 44 55.9	
	comp=Z,81nm,0.7s					
JMM	**Marumori**	**42.01 12**	P	**P**	**07 44 39.0**	**+1.4**
	comp=Z,130nm,0.8s					
TNCH	**TengChong**	**42.12 314**	P	**P**	**07 44 38.6**	**-0.3**
TNCH			PcP	**PcP**	**07 46 33.5**	**+0.2**
TNCH			S	**S**	**07 50 58.2**	**+1.0**
TNCH			ScS	**ScS**	**07 54 31.2**	**-8.9**
TNCH			pmax	pmax		
	comp=Z,53nm,1.0s					
TNCH			pmax	pmax		
	comp=Z,460nm,3.2s					
TNCH			LR	LR		
	comp=Z,710nm,13.8s					
TNCH			LR	LR		
	comp=Z,990nm,15.0s					
TNCH			LR	LR		
	comp=Z,2μm,17.0s					
XAN	**Xi'an**	**42.48 333**	⇑P	**P**	**07 44 41.0**	**-0.6**
XAN			pP	pP	07 44 48.3	-1.7
XAN			ScP	**ScP**	**07 50 22.6**	**-0.6**
XAN			S	**S**	**07 50 58.8**	**-3.2**
XAN			ScS	**ScS**	**07 54 39.9**	**-1.8**
XAN			pmax	pmax		
	comp=Z,83nm,1.0s					
XAN			pmax	pmax		
	comp=Z,580nm,4.1s					
XAN			LR	LR		
	comp=Z,2μm,18.7s					
XAN			LR	LR		
	comp=Z,2μm,19.1s					
XAN			LR	LR		
	comp=Z,3μm,21.6s					
CD2	**Chengdu**	**42.68 325**	P	**P**	**07 44 43.0**	**-0.3**
CD2			S	**S**	**07 51 01.9**	**-3.2**
CD2			pmax	pmax		
	comp=Z,20nm,1.0s					
CD2			pmax	pmax		
	comp=Z,310nm,4.5s					
CD2			LR	LR		
	comp=Z,2μm,23.5s					
CD2			LR	LR		
	comp=Z,1μm,13.2s					
CD2			LR	LR		
	comp=Z,2μm,17.1s					
DL2	**Dalian**	**42.84 349**	P	**P**	**07 44 45.0**	**+0.6**
DL2			S	**S**	**07 51 07.2**	**+0.1**
DL2			pmax	pmax		
	comp=Z,94nm,1.6s					
DL2			LR	LR		
	comp=Z,2μm,20.0s					
DL2			LR	LR		
	comp=Z,5μm,21.2s					
DL2			LR	LR		
	comp=Z,2μm,16.2s					
HNS	**HongShan**	**43.17 341**	⇓P	**P**	**07 44 46.3**	**-0.7**
HNS			S	**S**	**07 51 09.7**	**-2.2**
HNS			pmax	pmax		
	comp=Z,43nm,1.2s					
HNS			LR	LR		
	comp=Z,1μm,22.3s					
HNS			LR	LR		
	comp=Z,2μm,22.3s					
HNS			LR	LR		
	comp=Z,2μm,23.9s					
TIY	**Taiyuan**	**44.22 339**	*e*P	**P**	**07 44 55.9**	**+0.3**
TIY			pP	**sP**	**07 45 06.2**	**-1.3**
TIY			S	**S**	**07 51 24.0**	**-3.5**
TIY			ScS	**ScS**	**07 54 50.1**	**-2.3**
TIY			pmax	pmax		
	comp=Z,74nm,0.8s					
TIY			pmax	pmax		
	comp=Z,400nm,5.2s					
TIY			LR	LR		
	comp=Z,1μm,24.7s					
TIY			LR	LR		
	comp=Z,2μm,21.3s					
TIY			LR	LR		
	comp=Z,2μm,21.3s					
JTM	**Tenmabayashi**	**44.88 11**	P	**P**	**07 45 00.6**	**-0.1**
	comp=Z,128nm,1.4s					
BJT	**Baijiatuau**	**45.15 344**	P	**P**	**07 45 02.4**	**-0.5**
BJT			IAmb	IAmb	07 45 11.9	
	comp=Z,63nm,1.0s					
BJT	**Baijiatuau**	**45.15 344**	P	**P**	**07 45 03.9**	**+1.0**
	comp=Z,69nm,1.2s					
BJT	**Baijiatuau**	**45.15 344**	P	**P**	**07 45 02.4**	**-0.5**
BJT			pmax	pmax		
	comp=Z,63nm,1.0s					
BJI	**Beijing**	**45.17 344**	P	**P**	**07 45 02.8**	**-0.2**
BJI			ScP	**ScP**	**07 50 36.0**	**+2.1**
BJI			S	**S**	**07 51 36.3**	**-4.7**
BJI			pmax	pmax		
	comp=Z,29nm,0.8s					
BJI			pmax	pmax		
	comp=Z,180nm,4.1s					
BJI			LR	LR		
	comp=Z,400nm,13.7s					
BJI			LR	LR		
	comp=Z,590nm,18.3s					
BJI			LR	LR		
	comp=Z,720nm,19.3s					
SNY	**Shenyang**	**45.40 352**	⇑P	**P**	**07 45 04.8**	**0.0**
SNY			S	**S**	**07 51 44.5**	**+0.3**
SNY			pmax	pmax		
	comp=Z,34nm,0.9s					
SNY			pmax	pmax		
	comp=Z,310nm,3.8s					
SNY			LR	LR		
	comp=Z,2μm,18.4s					
SNY			LR	LR		
	comp=Z,1μm,18.8s					
SNY			LR	LR		
	comp=Z,5μm,19.6s					
MSHR	**Mys Shultsa**	**45.67 0**	⇑*e*P	**P**	**07 45 07.3**	**+0.3**
MSHR			pmax	pmax		
	comp=Z,49nm,1.0s					
PSTR	**Posyet**	**45.74 0**	*ce*P	**P**	**07 45 07.9**	**+0.4**
BRDH	**Bariadhala**	**46.11 306**	P	**P**	**07 45 11.5**	**+0.8**
	comp=Z,81nm,0.3s,baz=74,slow=8.4,SNR=8.8					
	comp=Z,81nm,0.3s					
VLA	**Vladivostok**	**46.22 1**	⇓*e*P	**P**	**07 45 12.0**	**+0.7**
VLA			pmax	pmax		
	comp=Z,158nm,1.8s					
ERM	**Erimo**	**46.49 13**	P	**P**	**07 45 12.7**	**-0.7**
ERM	**Erimo**	**46.49 13**	P	**P**	**07 45 12.7**	**-0.7**
ERM			pmax	pmax		
	comp=Z,37nm,1.0s					
LZH	**Lanzhou**	**46.58 330**	*e*P	**P**	**07 45 15.1**	**+0.6**
LZH			pP	pP	07 45 23.4	+0.5
LZH			sP	sP	07 45 27.9	+1.6
LZH			S	**S**	**07 52 01.8**	**0.0**
LZH			sS	sS	07 52 20.4	+4.8
LZH			ScS	**ScS**	**07 55 08.5**	**+0.6**
LZH			pmax	pmax		
	comp=Z,80nm,1.3s					
LZH			LR	LR		
	comp=Z,3μm,16.5s					
LZH			LR	LR		
	comp=Z,2μm,16.5s					
LZH			LR	LR		
	comp=Z,3μm,16.5s					
CN2	**Changchun**	**47.14 355**	P	**P**	**07 45 17.8**	**-0.7**
CN2			S	**S**	**07 52 07.6**	**-1.6**
CN2			pmax	pmax		
	comp=Z,20nm,1.2s					
CN2			pmax	pmax		
	comp=Z,400nm,6.0s					
CN2			LR	LR		
	comp=Z,3μm,17.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
CN2			LR	LR		
	comp=Z,3μm,19.0s					
USA0B	**Ussuriysk Arra**	**47.30 1**	P	**P**	**07 45 19.2**	**-0.5**
USA0B	**Ussuriysk Arra**	**47.30 1**	P	**P**	**07 45 19.2**	**-0.5**
USA0B			pmax	pmax		
	comp=Z,244nm,1.7s					
USRK	**Ussuriysk Ar.**	**47.30 1**	P	**P**	**07 45 19.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**47.30 1**	P	**P**	**07 45 19.8**	**+0.1**
	comp=Z,22nm,0.7s,baz=186,slow=8.3,SNR=25					
USRK			LR	LR	08 04 48.2	
	comp=Z,2μm,20.2s,baz=178,slow=36					
	comp=Z,22nm,0.7s					
HHC	**Hu-ho-hao-te**	**47.33 340**	*e*P	**P**	**07 45 20.4**	**+0.3**
HHC			sP	sP	07 45 32.7	+0.9
HHC			S	**S**	**07 52 10.5**	**-1.7**
HHC			sS	pS	07 52 24.1	+2.1
HHC			pmax	pmax		
	comp=Z,33nm,1.0s					
HHC			pmax	pmax		
	comp=Z,490nm,4.8s					
HHC			LR	LR		
	comp=Z,810nm,16.8s					
HHC			LR	LR		
	comp=Z,1μm,16.6s					
HHC			LR	LR		
	comp=Z,2μm,17.7s					
SHL	**Shillong**	**47.37 310**	P	**P**	**07 45 20.1**	**-0.8**
SHL	**Shillong**	**47.37 310**	P	**P**	**07 45 20.8**	**0.0**
	SNR=36					
SHL	**Shillong**	**47.37 310**	P	**P**	**07 45 20.1**	**-0.8**
SHL			pmax	pmax		
	comp=Z,126nm,0.9s					
BTO	**Baotou**	**47.65 339**	*e*P	**P**	**07 45 24.4**	**+1.7**
BTO			pP	**pP**	**07 45 27.6**	**-3.6**
BTO			sP	**sP**	**07 45 31.8**	**-2.8**
BTO			PP	**PP**	**07 47 16.0**	**+1.4**
BTO			S	**S**	**07 52 19.9**	**+3.1**
BTO			SS	**SS**	**07 55 38.8**	**-6.6**
BTO			pmax	pmax		
	comp=Z,48nm,0.9s					
BTO			pmax	pmax		
	comp=Z,440nm,3.7s					
BTO			LR	LR		
	comp=Z,1μm,11.0s					
BTO			LR	LR		
	comp=Z,2μm,17.1s					
BTO			LR	LR		
	comp=Z,1μm,11.8s					
MDJ	**Mudanjiang**	**47.72 359**	P	**P**	**07 45 22.8**	**-0.2**
MDJ			IAmb	IAmb	07 45 31.9	
	comp=Z,155nm,1.6s					
MDJ			IAMs_20	IAMs_20	08 07 59.8	
	comp=Z,3μm,18.0s					
MDJ	**Mudanjiang**	**47.72 359**	P	**P**	**07 45 23.2**	**+0.2**
MDJ			PcP	**PcP**	**07 46 53.6**	**+1.6**
MDJ			ScP	**ScP**	**07 50 44.5**	**0.0**
MDJ			PcS	**PcS**	**07 50 46.6**	**-0.7**
MDJ			S	**S**	**07 52 18.1**	**+0.7**
MDJ			sS	sS	07 52 33.2	+2.1
MDJ			SS	**SS**	**07 55 43.4**	**-2.8**
MDJ			pmax	pmax		
	comp=Z,34nm,1.2s					
MDJ			LR	LR		
	comp=Z,2μm,17.0s					
MDJ			LR	LR		
	comp=Z,990nm,16.0s					
MDJ			LR	LR		
	comp=Z,3μm,18.1s					
MDJ	**Mudanjiang**	**47.72 359**	P	**P**	**07 45 23.6**	**+0.6**
	comp=Z,54nm,1.1s					
ASAJ	**Asahikawa**	**48.39 11**	LR	LR	08 06 15.8	
	comp=Z,2μm,20.0s,baz=200,slow=37					
JKA	**Kamikawa-asahi**	**48.39 11**	IAmb	IAmb	07 45 56.0	
	comp=Z,85nm,1.4s					
TEY	**Ternei**	**48.41 6**	⇓*e*P	**P**	**07 45 26.4**	**-1.9**
TEY					07 52 27.8	
TEY			pmax	pmax		
	comp=N,10.0nm,1.7s					
TEY			pmax	pmax		
	comp=Z,10.0nm,1.4s					
MSVF	**Nonsavu**	**48.47 111**	P	**P**	**07 45 28.6**	**-0.8**
MSVF			IAmb	IAmb	07 45 47.9	
	comp=Z,79nm,1.1s					
MSVF	**Nonsavu**	**48.47 111**	P	**P**	**07 45 31.3**	**+1.9**
	comp=Z,76nm,1.2s					
MSVF	**Nonsavu**	**48.47 111**	P	**P**	**07 45 28.6**	**-0.8**
MSVF			pmax	pmax		
	comp=Z,79nm,1.1s					
XLT	**XiLinHaoTe**	**48.82 346**	*e*P	**P**	**07 45 31.6**	**0.0**
XLT			sP	pP	07 45 39.4	-0.7
XLT			S	**S**	**07 52 32.2**	**-0.9**
XLT			pmax	pmax		
	comp=Z,46nm,1.6s					
XLT			LR	LR		
	comp=Z,160nm,18.3s					
XLT			LR	LR		
	comp=Z,840nm,22.2s					
XLT			LR	LR		
	comp=Z,2μm,22.2s					
BNX	**BinXian**	**48.92 357**	⇓P	**P**	**07 45 30.7**	**-1.5**
BNX			sP	**pP**	**07 45 40.1**	**-0.6**
BNX			S	**S**	**07 52 31.1**	**-3.3**
BNX			pmax	pmax		
	comp=Z,22nm,1.5s					
BNX			pmax	pmax		
	comp=Z,480nm,3.8s					
BNX			LR	LR		
	comp=Z,2μm,17.9s					
BNX			LR	LR		
	comp=Z,2μm,20.1s					
BNX			LR	LR		
	comp=Z,5μm,20.6s					
DGTI	**Dogotuki**	**49.80 108**	P	**P**	**07 45 41.3**	**+1.8**
	comp=Z,119nm,1.0s					
LSA	**Lhasa**	**50.15 314**	P	**P**	**07 45 42.5**	**0.0**
LSA			IAmb	IAmb	07 45 49.7	
	comp=Z,56nm,0.8s					
LSA	**Lhasa**	**50.15 314**	P	**P**	**07 45 43.4**	**+0.9**
LSA			pmax	pmax		
	comp=Z,60nm,0.9s					
LSA			LR	LR		
	comp=Z,670nm,16.5s					
LSA			LR	LR		
	comp=Z,1μm,20.8s					
LSA	**Lhasa**	**50.15 314**	P	**P**	**07 45 43.7**	**+1.2**
LSA			P	**P**	**07 45 43.7**	**+1.2**
LSA	**Lhasa**	**50.15 314**	P	**P**	**07 45 42.5**	**0.0**
LSA			pmax	pmax		
	comp=Z,56nm,0.8s					
LSA	**Lhasa**	**50.15 314**	P	**P**	**07 45 42.7**	**+0.2**
KUR	**Kuril'sk**	**50.67 16**	⇓*e*P	**P**	**07 45 47.6**	**+2.1**
KUR			pmax	pmax		
	comp=Z,332nm,1.1s					
OUZ	**Omahuta**	**50.77 134**	IAMs_20	IAMs_20	08 11 00.1	
	comp=Z,4μm,20.0s					
PALK	**Pallekele**	**51.07 282**	P	**P**	**07 45 48.2**	**-0.9**
PALK			IAmb	IAmb	07 45 57.3	
	comp=Z,186nm,1.4s					
PALK	**Pallekele**	**51.07 282**	LR	LR	08 09 43.9	
	comp=Z,4μm,19.6s,baz=105,slow=39					
PALK	**Pallekele**	**51.07 282**	P	**P**	**07 45 49.3**	**+0.2**
PALK			P	**P**	**07 45 49.3**	**+0.2**
PALK			S	**S**	**07 53 03.7**	**-1.7**
PALK			S	**S**	**07 53 03.7**	**-1.7**
PALK	**Pallekele**	**51.07 282**	P	**P**	**07 45 48.2**	**-0.9**
PALK			pmax	pmax		
	comp=Z,186nm,1.4s					
YSS	**Yuzhno-Sakhali**	**51.15 11**	P	**P**	**07 45 48.7**	**-0.4**
YSS			IAMs_20	IAMs_20	08 06 19.9	
	comp=Z,3μm,22.0s					
YSS	**Yuzhno-Sakhali**	**51.15 11**	P	**P**	**07 45 49.7**	**+0.6**
	comp=Z,42nm,0.6s					
YSS	**Yuzhno-Sakhali**	**51.15 11**	*e*P	**P**	**07 45 48.4**	**-0.7**
YSS			*e*		07 47 51.2	
YSS			*e*S	**S**	**07 53 06.6**	**+1.2**
YSS			pmax	pmax		
	comp=Z,30nm,0.6s					
YSS			pmax	pmax		
	comp=Z,300nm,4.8s					
YSS			MLR	MLR		
	comp=Z,1μm,18.0s					
YSS			MLR	MLR		
	comp=N,1μm,17.0s					
GTA	**Gaotai**	**51.17 329**	P	**P**	**07 45 49.9**	**+0.3**
GTA			sP	sP	07 46 03.2	+1.7
GTA			ScP	**ScP**	**07 51 01.1**	**+1.5**
GTA			S	**S**	**07 53 06.0**	**-0.3**
GTA			ScS	**ScS**	**07 55 39.0**	**+0.5**
GTA			pmax	pmax		
	comp=N,41nm,0.9s					
GTA			LR	LR		
	comp=N,1μm,21.1s					
GTA			LR	LR		
	comp=N,1μm,21.9s					
GTA			LR	LR		
	comp=N,2μm,23.1s					
GOMU	**GeErMu**	**51.69 323**	P	**P**	**07 45 53.8**	**0.0**
GOMU			pP	pP	07 45 59.4	-3.0
GOMU			sP	sP	07 46 06.2	+0.4
GOMU			S	**S**	**07 53 12.6**	**-1.4**
GOMU			sS	sS	07 53 33.8	+5.7
GOMU			pmax	pmax		
	comp=N,18nm,1.4s					
GOMU			LR	LR		
	comp=N,2μm,21.7s					
GOMU			LR	LR		
	comp=N,2μm,20.4s					
GOMU			LR	LR		
	comp=N,3μm,20.6s					
KLR	**Kul'dur**	**52.33 1**	P	**P**	**07 45 57.5**	**-0.4**
	comp=N,19nm,0.8s,baz=201,slow=4.6,SNR=35					
KLR			LR	LR	08 07 45.5	
	comp=N,2μm,20.2s,baz=166,slow=36					
	comp=N,19nm,0.8s					
KLR	**Kul'dur**	**52.33 1**	*e*P	**P**	**07 45 55.3**	**-2.6**
KLR			pmax	pmax		
	comp=Z,101nm,1.5s					
JCZ	**Jackson Bay**	**52.65 146**	P	**P**	**07 46 02.1**	**+1.6**
	comp=Z,163nm,1.3s					
JCZ	**Jackson Bay**	**52.65 146**	P	**P**	**07 46 02.3**	**+1.8**
FOZ	**Fox Glacier**	**52.89 145**	P	**P**	**07 46 04.1**	**+1.9**
QRZ	**Quartz Range**	**52.95 141**	IAMs_20	IAMs_20	08 10 16.7	
	comp=Z,4μm,20.0s					
QRZ	**Quartz Range**	**52.95 141**	P	**P**	**07 46 05.3**	**+2.6**
	comp=Z,82nm,2.5s					
QRZ	**Quartz Range**	**52.95 141**	P	**P**	**07 46 05.1**	**+2.4**
DSZ	**Denniston Nort**	**53.01 142**	IAMs_20	IAMs_20	08 09 58.4	
	comp=Z,5μm,20.0s					
DSZ	**Denniston Nort**	**53.01 142**	P	**P**	**07 46 06.0**	**+2.8**
UGL	**Uglegorsk**	**53.09 9**	*e*P	**P**	**07 46 03.5**	**0.0**
UGL			*e*S	**S**	**07 53 28.3**	**-3.6**
UGL			pmax	pmax		
	comp=Z,100nm,0.7s					
UGL			smax	smax		
	comp=E,1μm,7.5s					
UGL			smax	smax		
	comp=N,1μm,6.7s					
MLZ	**Mavora Lakes**	**53.12 148**	IAMs_20	IAMs_20	08 09 53.0	
	comp=Z,5μm,21.0s					
MLZ	**Mavora Lakes**	**53.12 148**	P	**P**	**07 46 05.6**	**+1.8**
NEZ	**North Egmont**	**53.13 138**	P	**P**	07 46 10.8	+6.6
WVZ	**Waitaha Valley**	**53.15 144**	P	**P**	**07 46 06.3**	**+2.2**
HIA	**Hailar**	**53.23 351**	P	**P**	**07 46 03.5**	**-1.1**
HIA	**Hailar**	**53.23 351**	IAMs_20	IAMs_20	08 09 06.6	
	comp=Z,3μm,20.0s					
HIA	**Hailar**	**53.23 351**	P	**P**	**07 46 06.6**	**+2.0**
	comp=Z,34nm,1.4s					
HIA	**Hailar**	**53.23 351**	P	**P**	**07 46 03.5**	**-1.1**
HIA			pmax	pmax		
	comp=Z,29nm,1.1s					
HIA			MLR	MLR		
	comp=Z,3μm,20.0s					
WKZ	**Wanaka**	**53.26 147**	P	**P**	**07 46 06.1**	**+1.2**
TOZ	**Tahuroa Road**	**53.32 136**	P	**P**	**07 46 06.2**	**+0.7**
TOZ			IAMs_20	IAMs_20	08 08 07.7	
	comp=Z,3μm,19.0s					
INZ	**Inchbonnie**	**53.36 143**	IAMs_20	IAMs_20	08 09 45.6	
	comp=Z,4μm,18.0s					
WHZ	**Wether Hill Ro**	**53.37 148**	IAmb	IAmb	07 46 19.4	
	comp=Z,130nm,1.6s					
WHZ	**Wether Hill Ro**	**53.37 148**	P	**P**	**07 46 06.1**	**+0.4**
MRNZ	**Matariki Terra**	**53.41 141**	P	**P**	**07 46 07.3**	**+1.2**
HEH	**HeiHe**	**53.43 357**	*e*P	**P**	**07 46 05.0**	**-1.0**
HEH			pP	**pP**	**07 46 09.3**	**-5.2**
HEH			S	**S**	**07 53 33.6**	**-2.9**
HEH			pmax	pmax		
	comp=Z,73nm,1.5s					
HEH			LR	LR		
	comp=Z,2μm,21.0s					
HEH			LR	LR		
	comp=Z,610nm,15.1s					
HEH			LR	LR		
	comp=Z,3μm,20.7s					
LBZ	**Lake Benmore**	**53.63 146**	P	**P**	**07 46 09.6**	**+1.9**
LBZ			IAmb	IAmb	07 46 19.4	
	comp=Z,84nm,0.9s					
LBZ			IAMs_20	IAMs_20	08 10 55.6	
	comp=Z,4μm,20.0s					
LBZ	**Lake Benmore**	**53.63 146**	P	**P**	**07 46 08.9**	**+1.2**
NNZ	**Nelson**	**53.70 141**	IAMs_20	IAMs_20	08 10 50.6	
	comp=Z,3μm,20.0s					
NNZ	**Nelson**	**53.70 141**	P	**P**	**07 46 08.3**	**+0.1**
THZ	**Tophouse**	**53.70 141**	P	**P**	**07 46 11.0**	**+2.7**
THZ			IAMs_20	IAMs_20	08 10 29.7	
	comp=Z,4μm,20.0s					
RPZ	**Rata Peaks**	**53.72 144**	P	**P**	**07 46 11.3**	**+3.0**
RPZ			IAmb	IAmb	07 46 43.7	
	comp=Z,60nm,1.0s					
RPZ	**Rata Peaks**	**53.72 144**	LR	LR	08 09 26.3	
	comp=Z,3μm,20.9s,baz=308,slow=36					
RPZ	**Rata Peaks**	**53.72 144**	P	**P**	**07 46 11.0**	**+2.7**
DUWZ	**D'Urville Isla**	**53.82 140**	P	**P**	**07 46 11.2**	**+2.1**
LTZ	**Lake Taylor**	**53.89 143**	IAmb	IAmb	07 46 36.9	
	comp=Z,100nm,1.3s					
LTZ	**Lake Taylor**	**53.89 143**	P	**P**	**07 46 12.9**	**+3.3**
APZ	**The Paps**	**54.02 149**	P	**P**	**07 46 11.7**	**+1.2**
OXZ	**Oxford**	**54.07 144**	P	**P**	**07 46 14.1**	**+3.2**
GRNR	**Gornyy**	**54.08 4**	⇓*i*P	**P**	**07 46 10.4**	**-0.4**
GRNR			pmax	pmax		
	comp=Z,10.0nm,1.3s					
GRNR			MLR	MLR		
	comp=N,860nm,17.0s					
GRNR			MLR	MLR		
	comp=E,480nm,17.0s					
GRNR			MLR	MLR		
	comp=Z,920nm,18.0s					
TMZ	**Timaru**	**54.09 145**	P	**P**	**07 46 13.2**	**+2.1**
TCW	**Tory Channel**	**54.27 140**	P	**P**	**07 46 13.3**	**+1.0**
TUZ	**Tuapeka**	**54.31 147**	P	**P**	**07 46 13.4**	**+0.9**
GVZ	**Greta Valley S**	**54.46 143**	P	**P**	**07 46 15.9**	**+2.1**
KHZ	**Kahutara**	**54.46 142**	P	**P**	**07 46 14.7**	**+1.0**
	comp=Z,49nm,1.1s					
KHZ	**Kahutara**	**54.46 142**	P	**P**	**07 46 14.0**	**+0.3**
SNZO	**South Karori**	**54.59 140**	IAMs_20	IAMs_20	08 09 14.3	
	comp=Z,5μm,22.0s					
MQZ	**McQueen's Vall**	**54.65 144**	IAMs_20	IAMs_20	08 13 16.7	
	comp=Z,3μm,20.0s					
URZ	**Urewera**	**54.69 136**	LR	LR	08 11 37.3	
	comp=Z,2μm,18.3s,baz=33,slow=38					
URZ	**Urewera**	**54.69 136**	P	**P**	**07 46 15.9**	**+0.4**
BKZ	**Black Stump Fm**	**54.69 137**	IAmb	IAmb	07 46 31.3	
	comp=Z,34nm,0.7s					
BKZ	**Black Stump Fm**	**54.69 137**	P	**P**	**07 46 16.8**	**+1.2**
	comp=Z,52nm,0.9s					
BKZ	**Black Stump Fm**	**54.69 137**	P	**P**	**07 46 16.3**	**+0.8**
BHW	**Baring Head**	**54.75 140**	IAMs_20	IAMs_20	08 11 36.5	
	comp=Z,3μm,18.0s					
RTZ	**Ruatahuna**	**54.77 136**	IAMs_20	IAMs_20	08 08 55.9	

comp=Z,3μm,21.0s
MRZ Mangatainoka R 54.82 139 IAMs_20 IAMs_20 08 09 01.4
comp=Z,5μm,22.0s
MRZ Mangatainoka R 54.82 139 P **P** **07 46 16.7 +0.3**
TYV Tymovskoe 54.91 9 *eP* **P** **07 46 17.7 +0.9**
TYV *eS* **S** **07 53 59.0 +2.5**
TYV pmax pmax
comp=Z,20nm,1.3s
TYV pmax pmax
comp=Z,500nm,4.1s
TYV smax smax
comp=N,1μm,7.7s
TYV smax smax
comp=E,600nm,7.7s
HAZ Te Kaha 54.93 135 P **P** **07 46 18.5 +1.3**
MWZ Matawai 55.02 136 P **P** **07 46 19.0 +1.1**
ULN Ulaanbaatar 55.04 341 P **P** **07 46 18.4 +0.4**
ULN IAmb IAmb 07 46 28.0
comp=Z,113nm,1.1s
ULN Ulaanbaatar 55.04 341 P **P** **07 46 18.9 +1.0**
ULN P **P** **07 46 18.9 +1.0**
ULN S **S** **07 54 02.8 +4.2**
ULN S **S** **07 54 02.8 +4.2**
ULN Ulaanbaatar 55.04 341 P **P** **07 46 18.4 +0.4**
ULN pmax pmax
comp=Z,113nm,1.1s
ULN MLR MLR
comp=Z,1μm,19.0s
MXZ Matakaoa Point 55.22 134 IAMs_20 IAMs_20 08 14 10.9
comp=Z,4μm,19.0s
SONM Songino Array 55.23 340 P **P** **07 46 19.6 +0.3**
SONM IAmb IAmb 07 46 29.1
comp=Z,108nm,1.4s
SONM Songino Array 55.23 340 P **P** **07 46 19.7 +0.3**
comp=Z,25nm,0.9s,baz=151,slow=8.4,SNR=80
SONM ScP **ScP** **07 51 18.7 +1.6**
comp=Z,3.6nm,1.2s,baz=151,slow=3.3,SNR=4.2
SONM LR LR 08 12 20.5
comp=Z,1μm,20.6s,baz=156,slow=39
SONM PKPPKP **P'P'df** **08 16 25.5 +1.0**
comp=Z,0.6nm,1.0s,baz=349,slow=1.5,SNR=3.5
SONM PKP2bc **P'P'bc** **08 16 42.0 +3.8**
comp=Z,3.4nm,1.3s,baz=261,slow=1.8,SNR=5.9
comp=Z,25nm,0.9s
SONM Songino Array 55.23 340 P **P** **07 46 19.6 +0.3**
SONM pmax pmax
comp=Z,108nm,1.4s
BFZ Birch Farm 55.27 139 P **P** **07 46 20.5 +0.8**
HYB Hyderabad 55.47 294 *eP* **P** **07 46 20.4 -1.1**
HYB IVmB_BB 07 46 28.2
comp=Z,1μm,2.2s
NKL Nikolayevsk 56.87 7 *eP* **P** **07 46 29.2 -1.5**
NKL *eS* **S** **07 54 20.5 -1.9**
NKL pmax pmax
comp=E,56nm,1.3s
NKL pmax pmax
comp=N,64nm,1.0s
NKL pmax pmax
comp=Z,215nm,1.2s
NKL smax smax
comp=E,181nm,3.4s
NKL smax smax
comp=N,151nm,4.2s
ZEA Zeya 56.92 357 *eP* **P** **07 46 31.1 0.0**
ZEA *eS* **S** **07 54 27.1 +4.0**
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA pmax pmax
comp=Z,100nm,2.0s
ZEA smax smax
comp=E,400nm,15.6s
ZEA MLR MLR
comp=N,900nm,11.0s
CIT Chita 57.03 347 *eP* **P** **07 46 33.4 +1.4**
CIT *e* 07 46 45.0
CIT *e* 07 47 28.7
CIT *e* 07 49 53.9
CIT pmax pmax
comp=Z,229nm,1.6s
AFI Afiamalu 57.63 104 P **P** **07 46 37.7 +0.7**
comp=Z,44nm,1.2s
AFI Afiamalu 57.63 104 P **P** **07 46 39.5 +2.5**
AFI pmax pmax
comp=Z,45nm,1.2s
KAAM Kaadhehdhoo 57.88 273 P **P** **07 46 37.9 -0.7**
KAAM IAMs_20 IAMs_20 08 12 39.8
comp=Z,3μm,20.0s
KAAM Kaadhehdhoo 57.88 273 P **P** **07 46 39.6 +1.0**
SKR Severo-Kuril's 58.01 19⇑ *eP* **P** **07 46 38.4 -0.4**
H08S2 Diego Garcia H 58.14 263 P **P** **07 46 41.6 +1.4**
baz=59,slow=8.3,SNR=4.1
H08S3 Diego Garcia H 58.15 263 P **P** **07 46 41.1 +0.8**
baz=59,slow=8.3,SNR=7.8
H08S1 Diego Garcia H 58.16 263 P **P** **07 46 41.6 +1.3**
baz=59,slow=8.3,SNR=3.4
DGAR Diego Garcia 58.18 263 P **P** **07 46 41.9 +1.2**
DGAR Diego Garcia 58.18 263 P **P** **07 46 42.0 +1.2**
DGAR P **P** **07 46 42.0 +1.2**
DGAR Diego Garcia 58.18 263 P **P** **07 46 41.9 +1.2**
DGAR pmax pmax
comp=Z,628nm,1.0s
HMDM Hanimaadhoo 58.36 280 IAMs_20 IAMs_20 08 13 47.5
comp=Z,2μm,20.0s
ZAK Zakamensk 58.47 340 *eP* **P** **07 46 41.1 -1.1**
ZAK pmax pmax
comp=Z,27nm,1.2s
AIS Amsterdam Isla 59.43 227 P **P** **07 46 48.6 -0.4**
IRK Irkutsk 59.73 341 *eP* **P** **07 46 51.0 +0.2**
IRK *e* 07 55 03.2
IRK pmax pmax
comp=Z,133nm,2.1s
MOY Mondy 60.34 339 *eP* **P** **07 46 55.5 +0.3**
MOY pmax pmax
comp=Z,147nm,1.9s
PEA0B Petropavlovsk- 60.60 18 P **P** **07 46 56.5 -0.2**
PEA0B IAmb IAmb 07 47 14.7
comp=Z,71nm,1.1s
PEA0B Petropavlovsk- 60.60 18 P **P** **07 46 56.5 -0.2**
PEA0B pmax pmax
comp=Z,71nm,1.1s
PETK Petropavlovsk- 60.60 18 P **P** **07 46 56.7 -0.1**
PETK Petropavlovsk- 60.60 18 P **P** **07 46 56.9 +0.1**
comp=Z,32nm,1.0s,baz=183,slow=6.7,SNR=14
PETK PcP **PcP** **07 47 41.1 +0.2**
comp=Z,19nm,0.8s,baz=222,slow=7.0,SNR=5.3
PETK LR LR 08 10 55.6
comp=Z,1μm,21.6s,baz=197,slow=34
comp=Z,32nm,1.0s
WMQ Urumqi 60.77 325 ⇓P **P** **07 46 59.3 +1.1**
WMQ ScP **ScP** **07 51 43.4 +1.8**
WMQ S **S** **07 55 14.4 +0.6**
WMQ ScS SKKSac 07 56 47.0 -0.3
WMQ pmax pmax
comp=Z,58nm,1.1s
WMQ pmax pmax
comp=Z,180nm,4.3s
WMQ LR LR
comp=Z,2μm,20.5s
WMQ LR LR
comp=Z,1μm,21.7s
WMQ LR LR
comp=Z,2μm,22.9s
PET Petropavlovsk 60.83 19 P **P** **07 46 58.0 -0.2**
PET IAmb IAmb 07 47 04.9
comp=Z,64nm,1.2s
PET Petropavlovsk 60.83 19 P **P** **07 46 59.6 +1.3**
comp=Z,244nm,2.2s
PET Petropavlovsk 60.83 19 *eP* **P** **07 46 57.6 -0.7**
PET *eS* **S** **07 55 10.3 -3.6**
PET pmax pmax
comp=Z,48nm,1.2s
PET pmax pmax
comp=Z,300nm,11.4s
BOD Bodaibo 62.41 350 *eP* **P** **07 47 08.5 -0.4**
BOD pmax pmax
comp=Z,111nm,1.7s
CASY Casey 64.45 189 P **P** **07 47 22.7 +0.5**
CASY IAmb IAmb 07 47 30.5
comp=Z,53nm,0.8s
CASY Casey 64.45 189 IAMs_20 IAMs_20 08 14 56.0
comp=Z,3μm,19.0s
WUS Wushi 64.48 319 P **P** **07 47 21.9 -1.2**
WUS IAmb IAmb 07 47 32.5
comp=Z,85nm,1.3s

ZSN Zaisan 64.57 327 *eP* **P** **07 47 23.5 +0.1**
ZSN pmax pmax
comp=Z,19nm,0.8s
ZSN Zaisan 64.57 327 *eP* **P** **07 47 23.6 +0.1**
comp=Z,19nm,0.8s
MA2 Magadan 64.65 11 P **P** **07 47 23.5 -0.1**
MA2 IAmb IAmb 07 47 33.1
comp=Z,84nm,1.1s
MA2 Magadan 64.65 11 LR LR 08 13 51.5
comp=Z,1μm,21.8s,baz=202,slow=34
MA2 Magadan 64.65 11 P **P** **07 47 24.8 +1.2**
comp=Z,79nm,1.6s
MA2 Magadan 64.65 11 *d iP* **P** **07 47 23.6 0.0**
MA2 pmax pmax
comp=Z,70nm,1.7s
MA2 Magadan 64.65 11 P **P** **07 47 23.5 -0.1**
comp=Z,78nm,1.6s
YAK Yakutsk 65.16 359 P **P** **07 47 26.6 -0.2**
YAK Yakutsk 65.16 359 P **P** **07 47 26.9 0.0**
comp=Z,81nm,0.7s,baz=162,slow=3.0,SNR=26
YAK S **S** **07 56 07.6 -0.2**
comp=Z,9.4nm,0.3s,baz=45,slow=21,SNR=7.1
YAK LR LR 08 16 18.2
comp=Z,1μm,20.1s,baz=181,slow=36
comp=Z,81nm,0.7s
YAK Yakutsk 65.16 359 *eP* **P** **07 47 26.7 -0.2**
YAK *e**PP **pP** **07 47 31.2 -4.3**
YAK *e* 07 49 51.4
YAK *eS* **S** **07 56 08.4 +0.6**
YAK *e*SSS SSS 08 03 16.1
YAK pmax pmax
comp=Z,93nm,0.9s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,143nm,2.9s
YAK pmax pmax
comp=N,58nm,2.0s
YAK pmax pmax
comp=E,36nm,1.4s
YAK smax smax
comp=E,327nm,3.0s
YAK smax smax
comp=N,908nm,4.5s
YAK MLR MLR
comp=Z,2μm,22.0s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=E,255nm,19.0s
SHLS Shalkode 65.32 321 *eP* **P** **07 47 26.8 -1.7**
SHLS pmax pmax
comp=Z,38nm,0.9s
SHLS Shalkode 65.32 321 *eP* **P** **07 47 26.9 -1.7**
comp=Z,38nm,0.9s
PDGK Podgornoye 65.39 321 P **P** **07 47 28.3 -0.7**
NIL Nilore 65.45 309 P **P** **07 47 28.6 -0.8**
NIL IAmb IAmb 07 47 39.8
comp=Z,128nm,1.4s
NIL Nilore 65.45 309 P **P** **07 47 29.7 +0.3**
NIL P **P** **07 47 29.7 +0.3**
NIL Nilore 65.45 309 P **P** **07 47 28.6 -0.8**
NIL pmax pmax
comp=Z,128nm,1.5s
MK31 Makanchi Array 65.61 326 *eP* **P** **07 47 30.1 -0.1**
MKAR Makanchi Array 65.61 326 P **P** **07 47 30.4 +0.2**
MKAR Makanchi Array 65.61 326 P **P** **07 47 30.5 +0.3**
comp=Z,62nm,0.8s,baz=122,slow=7.2,SNR=190
MKAR S **S** **07 56 10.8 -3.2**
comp=Z,1.3nm,1.2s,baz=105,slow=11,SNR=1.7
MKAR PKP2bc **P'P'bc** **08 16 14.5 +1.1**
comp=Z,1.5nm,1.0s,baz=357,slow=2.6,SNR=3.6
comp=Z,62nm,0.8s
TARG Taragay, Kyrgy 65.67 319 IAmb IAmb 07 47 41.0
comp=Z,51nm,1.0s
MAKZ Makanchi 65.79 325 P **P** **07 47 31.4 +0.1**
MAKZ Makanchi 65.79 325 P **P** **07 47 31.4 +0.1**
MAKZ pmax pmax
comp=Z,172nm,1.4s
MAKZ MLR MLR
comp=Z,1μm,19.0s
KSH Kashi 65.87 316 P **P** **07 47 33.1 +0.9**
KSH PP **PP** **07 50 03.3 +5.9**
KSH S **S** **07 56 17.6 -0.1**
KSH ScS **ScS** **07 57 28.1 +1.5**
KSH pmax pmax
comp=Z,38nm,0.9s
KSH pmax pmax
comp=Z,320nm,4.8s
KSH LR LR
comp=Z,660nm,19.9s
KSH LR LR
comp=Z,650nm,20.2s
KSH LR LR
comp=Z,1μm,21.3s
SATY Saty 65.94 321 *eP* **P** **07 47 32.4 -0.1**
SATY *eS* **S** **07 56 20.7 +2.4**
SATY pmax pmax
comp=Z,36nm,0.9s
SATY Saty 65.94 321 *eP* **P** **07 47 32.5 -0.1**
comp=Z,36nm,0.9s
SATY *eS* **S** **07 56 20.8 +2.4**
KPKS Kokpek 65.97 321 *eP* **P** **07 47 32.6 0.0**
KPKS *eS* **S** **07 56 20.7 +2.1**
KPKS pmax pmax
comp=Z,38nm,0.9s
KPKS Kokpek 65.97 321 *eP* **P** **07 47 32.7 0.0**
comp=Z,38nm,0.9s
KPKS *eS* **S** **07 56 20.8 +2.1**
ZHN Zhinishke 65.97 321 *eP* **P** **07 47 32.7 0.0**
ZHN Zhinishke 65.97 321 *eP* **P** **07 47 32.7 0.0**
KDJ Kajisay 66.27 319 IAmb IAmb 07 47 39.0
comp=Z,58nm,0.9s
SHEM Shemya Is, Ala 66.66 27 LR LR 08 13 34.5
comp=Z,1μm,19.4s,baz=196,slow=33
MDOK Medeo 66.85 320 *eP* **P** **07 47 38.2 -0.2**
MDOK *eS* **S** **07 56 31.9 +2.4**
MDOK Medeo 66.85 320 *eP* **P** **07 47 38.2 -0.2**
MDOK *eS* **S** **07 56 31.9 +2.4**
TNSS Tian-Shan 66.86 320 *eP* **P** **07 47 38.3 -0.4**
TNSS Tian-Shan 66.86 320 *eP* **P** **07 47 38.4 -0.3**
TDK Taldyqorghan 66.92 322 *eP* **P** **07 47 38.6 0.0**
TDK pmax pmax
comp=Z,30nm,1.1s
TDK Taldyqorghan 66.92 322 *eP* **P** **07 47 38.7 0.0**
comp=Z,30nm,1.1s
ULHL Ulahol 66.94 319 P **P** **07 47 40.0 +1.0**
SNR=5.3
AAA Alma-Ata 66.96 320 *eP* **P** **07 47 39.0 0.0**
AAA pmax pmax
comp=Z,30nm,0.8s
AAA Alma-Ata 66.96 320 *eP* **P** **07 47 39.0 0.0**
comp=Z,30nm,0.8s
BOOM Boomskoye usch 67.25 319 IAmb IAmb 07 47 50.4
comp=Z,87nm,1.2s
TKM2 Tokmak 2 67.67 319 P **P** **07 47 44.3 +0.6**
SNR=111
TKM2 Tokmak 2 67.67 319 *i* P **P** **07 47 43.6 -0.1**
TKM2 pmax pmax
comp=Z,54nm,0.7s
KBK Karagaybulak 67.98 319 P **P** **07 47 46.6 +1.0**
SNR=26
SEY Seymchan 68.06 10 LR LR 08 16 01.0
comp=Z,1μm,21.5s,baz=192,slow=35
SEY Seymchan 68.06 10 *eP* **P** **07 47 43.1 -2.3**
SEY pmax pmax
comp=Z,157nm,1.5s
UCH Uchtor 68.07 318 P **P** **07 47 47.7 +1.2**
SNR=13
AAK Ala-Archa 68.27 319 P **P** **07 47 47.8 +0.5**
AAK Ala-Archa 68.27 319 P **P** **07 47 48.0 +0.6**
comp=Z,23nm,0.9s,baz=111,slow=7.5,SNR=12
AAK S **S** **07 56 45.9 -0.7**
comp=Z,0.4nm,0.2s,baz=244,slow=19,SNR=1.6
comp=Z,23nm,0.9s
AAK Ala-Archa 68.27 319 P **P** **07 47 48.6 +1.2**
AAK P **P** **07 47 48.6 +1.2**
AAK Ala-Archa 68.27 319 P **P** **07 47 48.2 +0.8**
SNR=26
AAK Ala-Archa 68.27 319 *c iP* **P** **07 47 47.8 +0.5**
AAK pmax pmax
comp=Z,83nm,2.5s
AAK Ala-Archa 68.27 319 *i* P **P** **07 47 47.9 +0.5**
SNR=35

SGDS Sogindy 68.55 319 *eP* **P** **07 47 49.0 0.0**
SGDS Sogindy 68.55 319 *eP* **P** **07 47 49.1 0.0**
USP Ospenovka 68.55 319 P **P** **07 47 49.5 +0.5**
SNR=92
AML Almayashu 68.58 318 P **P** **07 47 51.0 +1.4**
SNR=81
ZAA0 Zalesovo Array 68.65 333 P **P** **07 47 48.8 -0.5**
ZAA0 IAmb IAmb 07 47 57.9
comp=Z,113nm,1.4s
ZALV Zalesovo Beam 68.65 333 P **P** **07 47 48.7 -0.6**
comp=Z,26nm,0.8s,baz=116,slow=5.3,SNR=73
ZALV PKP2bc **P'P'ab** **08 16 05.1 +0.5**
comp=Z,0.7nm,0.5s,baz=248,slow=6.1,SNR=3.6
comp=Z,26nm,0.8s
EKS2 Erkin-Say 68.75 318 P **P** **07 47 51.8 +1.4**
SNR=51
DRK Karamyk 68.78 315 IAmb IAmb 07 47 54.3
comp=Z,35nm,0.7s
KBL Kabul 69.03 309 P **P** **07 47 51.8 -0.6**
KBL IAmb IAmb 07 48 22.3
comp=Z,39nm,0.9s
KBL Kabul 69.03 309 P **P** **07 47 52.4 +0.1**
SNR=28
KBL Kabul 69.03 309 P **P** **07 47 51.8 -0.6**
KBL pmax pmax
comp=Z,39nm,0.9s
BTLS Baital 69.64 321 *eP* **P** **07 47 55.5 -0.2**
BTLS pmax pmax
comp=Z,38nm,2.2s
BTLS Baital 69.64 321 *eP* **P** **07 47 55.8 +0.2**
RAR Rarotonga 69.66 111 LR LR 08 17 38.4
comp=Z,325nm,21.2s,baz=272,slow=35
BTK Batken 69.70 315 IAmb IAmb 07 48 04.8
comp=Z,52nm,0.9s
KURBB Kurchatov Arra 69.81 328 P **P** **07 47 56.7 +0.2**
comp=Z,40nm,0.7s,baz=129,slow=5.4,SNR=138
KURBB S **S** **07 57 02.6 -1.5**
comp=Z,0.7nm,0.9s,baz=133,slow=11,SNR=4.9
KURBB PKP2bc **P'P'df** **08 16 02.2 +0.5**
comp=Z,0.3nm,0.3s,baz=301,slow=3.8,SNR=5.3
comp=Z,40nm,0.7s
KURK Kurchatov 69.81 328 P **P** **07 47 56.9 +0.3**
KURK Kurchatov 69.81 328 P **P** **07 47 57.2 +0.7**
KURK P **P** **07 47 57.2 +0.7**
KURK Kurchatov 69.81 328 P **P** **07 47 56.9 +0.3**
KURK pmax pmax
comp=Z,119nm,0.9s
CHGR Chuyangaron 70.37 313 P **P** **07 48 00.2 -0.2**
DZA Taraz 70.48 318 *eP* **P** **07 48 00.9 0.0**
DZA pmax pmax
comp=Z,25nm,0.8s
DZA Taraz 70.48 318 *eP* **P** **07 48 00.9 0.0**
comp=Z,25nm,0.8s
SIMJ Simiganj 70.48 313 P **P** **07 48 00.8 -0.4**
SIMJ IAmb IAmb 07 48 09.7
comp=Z,61nm,0.9s
ADK Adak 70.65 31 P **P** **07 48 00.6 -1.0**
ADK Adak 70.65 31 P **P** **07 48 00.6 -1.0**
ADK pmax pmax
comp=Z,273nm,1.4s
IUG Iuzhnay 71.06 317 *eP* **P** **07 48 04.3 -0.2**
IUG pmax pmax
comp=Z,52nm,0.9s
IUG Iuzhnay 71.06 317 *eP* **P** **07 48 04.3 -0.2**
comp=Z,52nm,0.9s
GSTR Great Sitkin T 71.08 31 P **P** **07 48 05.0 +0.7**
KK31 Karatay Array 71.12 318 P **P** **07 48 04.4 -0.3**
KK31 IAmb IAmb 07 48 13.7
comp=Z,64nm,1.1s
KK31 Karatay Array 71.12 318 P **P** **07 48 04.4 -0.3**
KK31 pmax pmax
comp=Z,64nm,1.1s
KKAR Karatay Array 71.12 318 P **P** **07 48 05.0 +0.3**
KKAR Karatay Array 71.12 318 P **P** **07 48 05.0 +0.3**
BRLS Borolday 71.54 317 *eP* **P** **07 48 07.3 0.0**
BRLS pmax pmax
comp=Z,22nm,0.6s
BRLS Borolday 71.54 317 *eP* **P** **07 48 07.3 0.0**
comp=Z,22nm,0.6s
OTUK Ortayu 72.14 323 P **P** **07 48 10.5 -0.3**
BRZS Berezniki 72.73 325 *eP* **P** **07 48 14.6 +0.3**
BRZS *eS* **S** **07 57 40.8 +2.8**
BRZS Berezniki 72.73 325 *eP* **P** **07 48 14.6 +0.3**
BRZS *eS* **S** **07 57 40.9 +2.8**
NGCH Negor - Chabah 73.15 298 P **P** **07 48 18.2 +1.0**
JLN Jalan Bani Buh 74.08 294 P **P** **07 48 23.3 +0.5**
SNR=5.8
JLN P **P** **07 48 23.3 +0.5**
SNR=5.8
WBK Wadi Bani Khal 74.57 294 P **P** **07 48 26.7 +1.1**
TIXI Tiksi 74.83 359 P **P** **07 48 25.4 -0.6**
TIXI IAmb IAmb 07 48 35.0
comp=Z,53nm,1.1s
TIXI Tiksi 74.83 359 IAMs_20 IAMs_20 08 19 37.2
comp=Z,2μm,22.0s
TIXI Tiksi 74.83 359 LR LR 08 23 04.5
comp=Z,1μm,18.9s,baz=194,slow=37
TIXI Tiksi 74.83 359⇑ *i P* **P** **07 48 25.5 -0.6**
TIXI pmax pmax
comp=Z,58nm,1.7s
RER Riviere de l'E 74.86 249 P **P** **07 48 26.2 -1.3**
WSAR Wadi Sarin 74.99 295 LR LR 08 26 24.1
comp=Z,685nm,18.2s,baz=134,slow=40
MHTO MHTO 75.21 293 P **P** **07 48 29.8 +0.5**
SNR=14
MHTO P **P** **07 48 29.8 +0.5**
SNR=14
MHTO S **S** **07 58 05.1 -1.8**
MHTO S **S** **07 58 05.1 -1.8**
JMDO Jabal Madar 75.31 294 P **P** **07 48 31.0 +1.0**
SNR=11
JMDO P **P** **07 48 31.0 +1.0**
SNR=11
JMDO S **S** **07 58 07.3 -0.9**
JMDO S **S** **07 58 07.3 -0.9**
BILL Bilibino 75.37 13 P **P** **07 48 28.7 -0.5**
BVA0 Borovoye Array 75.39 327 *i P* **P** **07 48 30.1 +0.4**
BVAR Borovoye Array 75.39 327 P **P** **07 48 29.6 -0.1**
comp=Z,53nm,0.8s,baz=129,slow=6.1,SNR=94
comp=Z,53nm,0.8s
DQM DQM 75.44 291 P **P** **07 48 31.3 +0.6**
DQM P **P** **07 48 31.3 +0.6**
BRVK Borovoye 75.46 327 P **P** **07 48 30.0 -0.1**
BRVK Borovoye 75.46 327 P **P** **07 48 30.7 +0.6**
BRVK P **P** **07 48 30.7 +0.6**
BRVK Borovoye 75.46 327 *c iP* **P** **07 48 30.4 +0.3**
BRVK pmax pmax
comp=Z,53nm,0.7s
SMDO Samad 75.48 295 P **P** **07 48 31.7 +0.7**
SNR=8.8
SMDO P **P** **07 48 31.7 +0.7**
SNR=8.8
BIDO Bidbid 75.49 295 P **P** **07 48 32.0 +1.1**
SNR=14
HMH Humu'ula Sheep 75.85 69 P **P** **07 48 35.9 +2.5**
MLH Mauna Loa 75.93 69 P **P** **07 48 35.5 +1.8**
VNDA Vanda 76.00 173 P **P** **07 48 34.4 +1.6**
comp=Z,6.3nm,0.5s,baz=318,slow=10,SNR=6.1
VNDA LR LR 08 23 51.5
comp=Z,2μm,18.7s,baz=341,slow=37
comp=Z,6.3nm,0.5s
PUH Pauahi 76.07 69 P **P** **07 48 36.2 +1.8**
PUH IAmb IAmb 07 48 36.5
comp=Z,67nm,1.0s
JASK Jask - Hormozg 76.15 298 P **P** **07 48 35.5 +0.9**
STCH Steam Cracks 76.15 69 P **P** **07 48 36.7 +1.8**
STCH IAmb IAmb 07 48 44.7
comp=Z,71nm,1.0s
BSY Bisya 76.20 294 P **P** **07 48 36.0 +1.0**
SNR=11
BSY P **P** **07 48 36.0 +1.0**
SNR=11
HOQ Hoqain 76.24 295 P **P** **07 48 36.0 +0.8**
SNR=20
HOQ P **P** **07 48 36.0 +0.8**
SNR=20
SPIA Saint Paul Isl 76.57 29 P **P** **07 48 36.2 -0.1**
baz=242
P08K Saint George I 76.64 29 P **P** **07 48 36.7 0.0**
baz=242
ARQ Araqi 76.91 295 P **P** **07 48 40.0 +1.0**
SNR=14
ARQ P **P** **07 48 40.0 +1.0**
SNR=14
UNV Unalaska Valle 77.00 33 P **P** **07 48 38.9 +0.1**
baz=246

SOHO	SOHO	77.03 296	P	P	07 48 40.5	+0.8
SOHO			P	P	07 48 40.5	+0.8
SOHO	SOHO	77.03 296	*i* P	P	07 48 39.5	-0.2
	SNR=11					
MDH	Madha	77.44 297	P	P	07 48 41.6	-0.3
UOSS	Minazif	77.47 296	P	P	07 48 41.2	-0.9
UOSS			IAmb	IAmb	07 48 45.7	
	comp=Z,182nm,1.6s					
UOSS	Minazif	77.47 296	P	P	07 48 42.8	+0.7
UOSS			P	P	07 48 42.8	+0.7
UOSS	Minazif	77.47 296	*i* P	P	07 48 41.8	-0.3
	SNR=6.2					
HATD	Hatta, Dubai	77.51 296	P	P	07 48 43.3	+0.9
	SNR=13					
HATD			P	P	07 48 43.3	+0.9
	SNR=13					
HATD	Hatta, Dubai	77.51 296	*i* P	P	07 48 42.6	+0.3
	SNR=9.8					
BANOM	Banah	77.55 297	P	P	07 48 44.2	+1.7
BANOM			P	P	07 48 44.2	+1.7
BANOM	Banah	77.55 297	*i* P	P	07 48 43.2	+0.7
	SNR=9.1					
DMTO	DMTO	77.55 289	P	P	07 48 43.2	+0.5
DMTO			P	P	07 48 43.2	+0.5
ASHO	Ashiyiah	77.55 296	P	P	07 48 43.6	+1.0
	SNR=13					
ASHO			P	P	07 48 43.6	+1.0
	SNR=13					
ASHO	Ashiyiah	77.55 296	*i* P	P	07 48 44.0	+1.4
	SNR=10					
MSFE	Esma-Masafi	77.57 297	*i* P	P	07 48 43.2	+0.4
	SNR=7.8					
MASF	Masafi	77.58 297	P	P	07 48 44.7	+1.9
	SNR=8.7					
MASF			P	P	07 48 44.7	+1.9
	SNR=8.7					
SHME	Shamm	77.71 297	P	P	07 48 44.9	+1.5
SHME			P	P	07 48 44.9	+1.5
SHME	Shamm	77.71 297	*i* P	P	07 48 43.7	+0.3
	SNR=6.5					
ALNE	Al Ain	77.73 295	P	P	07 48 44.4	+0.8
	SNR=16					
ALNE			P	P	07 48 44.4	+0.8
	SNR=16					
ALNE	Al Ain	77.73 295	*i* P	P	07 48 43.9	+0.3
	SNR=15					
NAZ	Nazwa, Dubai	77.96 296	P	P	07 48 45.9	+1.0
NAZ			P	P	07 48 45.9	+1.0
NAZ	Nazwa, Dubai	77.96 296	*i* P	P	07 48 44.8	-0.1
	SNR=6.6					
FAQ	Al Faqa, Dubai	77.98 296	P	P	07 48 46.0	+1.0
FAQ			P	P	07 48 46.0	+1.0
FAQ	Al Faqa, Dubai	77.98 296	*i* P	P	07 48 44.9	0.0
	SNR=5.9					
UMZA	Um Al Zommool	78.05 294	P	P	07 48 45.9	+0.5
UMZA			P	P	07 48 45.9	+0.5
NRIK	Noril'sk	78.19 346	P	P	07 48 45.5	+0.3
NRIK			IAmb	IAmb	07 49 03.1	
	comp=Z,135nm,1.3s					
NRIK	Noril'sk	78.19 346	P	P	07 48 45.6	+0.5
	comp=Z,17nm,0.6s,baz=120,slow=5.9,SNR=35					
NRIK			S	S	07 58 35.2	-2.5
	comp=Z,0.8nm,0.4s,baz=177,slow=18,SNR=1.7					
NRIK			LR	LR	08 24 50.2	
	comp=Z,2μm,21.4s,baz=142,slow=37					
	comp=Z,17nm,0.6s					
NRIK	Noril'sk	78.19 346	*d i* P	P	07 48 45.0	-0.2
NRIK			pmax	pmax		
	comp=Z,94nm,1.0s					
ASUD	Al Ashush, Dub	78.20 296	P	P	07 48 47.5	+1.3
ASUD			P	P	07 48 47.5	+1.3
ASUD	Al Ashush, Dub	78.20 296	*i* P	P	07 48 46.5	+0.3
	SNR=7.6					
RBK	Rabkut	78.22 289	P	P	07 48 47.1	+0.7
	SNR=12					
RBK			P	P	07 48 47.1	+0.7
	SNR=12					
DOK	Doka	78.44 290	P	P	07 48 47.8	+0.3
	SNR=16					
DOK			P	P	07 48 47.8	+0.3
	SNR=16					
AJN	Ajban	78.50 296	P	P	07 48 48.6	+0.8
AJN			P	P	07 48 48.6	+0.8
AJN	Ajban	78.50 296	P	P	07 48 47.2	-0.6
MAW	Mawson	78.65 201	P	P	07 48 48.3	+0.6
	comp=Z,27nm,0.7s,baz=78,slow=5.1,SNR=13					
MAW			LR	LR	08 20 50.9	
	comp=Z,2μm,21.9s,baz=68,slow=34					
	comp=Z,27nm,0.7s					
WHFO	Wadi Hawf	78.69 289	P	P	07 48 49.2	+0.2
	SNR=13					
WHFO			P	P	07 48 49.2	+0.2
	SNR=13					
FALS	False Pass	79.06 32	P	P	07 48 50.3	+0.1
	baz=248					
ABTO	Aybut	79.07 288	P	P	07 48 51.6	+0.5
	SNR=24					
ABTO			P	P	07 48 51.6	+0.5
	SNR=24					
PPT	Papeete	79.14 107	LR	LR	08 25 23.6	
	comp=Z,414nm,18.1s,baz=258,slow=37					
PPT2	Papeete2	79.14 107	*e* P	P	07 48 53.9	+2.3
	comp=Z,58nm,23.5s					
PPT2			*e* S	S	07 58 48.1	-1.9
	comp=Z,580nm,27.8s					
PPT2			*e* SS	SS	08 03 57.9	+1.3
	comp=Z,510nm,27.8s					
PPT2			*e* LQ	LQ	08 10 12.8	
	comp=Z,1μm,23.5s					
PPT2			*e* LR	LR	08 13 28.2	
	comp=Z,946nm,24.2s					
PPT2			*e* LR	LR	08 13 32.9	
	comp=Z,1μm,24.0s					
GAMB	Gambell	79.23 22	P	P	07 48 51.4	+0.4
	baz=239					
TBI	Tubuai	79.30 113	*e* P	P	07 48 55.4	+3.2
	comp=Z,229nm,24.2s					
TBI			*e* S	S	07 58 47.3	-4.0
	comp=Z,2μm,29.5s					
TBI			*e* SS	SS	08 03 57.0	-1.6
	comp=Z,3μm,33.8s					
TBI			*e* LQ	LQ	08 10 19.6	
	comp=Z,8μm,33.5s					
TBI			*e* LR	LR	08 13 32.0	
	comp=Z,6μm,32.0s					
TBI			*e* LR	LR	08 13 37.3	
	comp=Z,2μm,31.5s					
MZR	Muzera	79.63 294	P	P	07 48 55.4	+1.3
	SNR=5.7					
MZR			P	P	07 48 55.4	+1.3
	SNR=5.7					
MZR	Muzera	79.63 294	*i* P	P	07 48 54.2	+0.2
	SNR=8.9					
M11K	Mekoryuk	79.91 27	P	P	07 48 55.0	+0.3
	baz=245					
S12K	Black Hills	80.09 32	P	P	07 48 56.4	+0.6
	baz=249					
AB31	Akbulak array	80.13 321	*i* P	P	07 48 55.7	-0.5
ABKAR	Akbulak array	80.13 321	P	P	07 48 55.9	-0.3
GHWR	Ruwais	80.31 295	P	P	07 48 58.5	+0.8
SBV	Sambava	80.35 257	P	P	07 48 58.7	+0.6
	SNR=6.0					
JRN	Qarnain Island	80.47 296	P	P	07 48 59.3	+0.7
JRN			P	P	07 48 59.3	+0.7
CHNA	Chernabura Isl	81.12 33	P	P	07 49 00.6	-0.8
	baz=251					
M13K	Dall Lake	81.21 27	P	P	07 49 01.8	+0.1
	baz=247					
K13K	Kusilvak Mount	81.24 26	IAmb	IAmb	07 49 11.8	
	comp=Z,113nm,1.4s					
K13K	Kusilvak Mount	81.24 26	P	P	07 49 02.4	+0.6
	baz=246					
SLWR	Sila	81.40 295	P	P	07 49 04.6	+1.1
SLWR			P	P	07 49 04.6	+1.1
TNA	Tin City	81.53 22	P	P	07 49 04.3	+1.0
	baz=242					
AKTO	Aktyubinsk	81.65 322	P	P	07 49 04.1	-0.2
	comp=Z,15nm,0.8s,baz=124,slow=3.4,SNR=37					
AKTO			LR	LR	08 28 59.1	
	comp=Z,1μm,21.4s,baz=82,slow=38					
	comp=Z,15nm,0.8s					
O14K	Tigyukauivet M	81.76 29	IAmb	IAmb	07 49 16.5	
	comp=Z,62nm,1.1s					
O14K	Tigyukauivet M	81.76 29	P	P	07 49 04.9	+0.3
	baz=249					
N14K	Kuskokwak Cree	81.80 28	P	P	07 49 05.7	+0.9
	baz=249					
L14K	Kuka Creek	81.87 27	IAmb	IAmb	07 49 12.1	
	comp=Z,69nm,1.1s					
L14K			IAMs_20	IAMs_20	08 19 04.6	
	comp=Z,1μm,19.0s					
L14K	Kuka Creek	81.87 27	P	P	07 49 05.5	+0.4
	baz=248					
TRNA	Turayna	81.92 295	P	P	07 49 06.7	+0.5
M14K	Bethel	81.98 27	IAmb	IAmb	07 49 09.7	
	comp=Z,68nm,0.8s					
M14K	Bethel	81.98 27	P	P	07 49 06.9	+1.1
	baz=248					
SVE	Sverdlovsk	82.03 329	*e* P	P	07 49 06.9	+0.7
SVE			*e* S	S	07 59 17.1	-1.5
SVE			pmax	pmax		
	comp=Z,91nm,1.0s					
J14K	Nanvaranak Lak	82.04 25	IAmb	IAmb	07 49 13.1	
	comp=Z,61nm,1.4s					
J14K	Nanvaranak Lak	82.04 25	P	P	07 49 07.0	+0.9
	baz=247					
ANM	Nome	82.05 23	P	P	07 49 06.8	+0.7
	baz=245					
F14K	Arctic Creek	82.08 22	P	P	07 49 07.3	+1.1
	baz=244					
CHGN	Chignik	82.22 32	P	P	07 49 08.0	+0.9
	baz=252					
SMRA	Abu-Samra	82.27 295	P	P	07 49 08.9	+0.9
SHMA	Al-Shehemyia	82.29 297	P	P	07 49 09.0	+0.8
O15K	Ungalikthiuk R	82.43 29	P	P	07 49 08.9	+0.7
	baz=250					
L15K	Ungalak Mounta	82.53 26	P	P	07 49 09.3	+0.6
	baz=249					
M15K	Kasigluk River	82.54 28	P	P	07 49 08.5	-0.2
	baz=250					
N15K	Kwethluk River	82.64 28	IAmb	IAmb	07 49 19.7	
	comp=Z,94nm,1.4s					
N15K	Kwethluk River	82.64 28	P	P	07 49 09.8	+0.6
	baz=250					
SAKB	Bahrain	82.68 297	P	P	07 49 10.8	+0.6
K15K	Wolf Creek Mou	82.73 26	IAmb	IAmb	07 49 19.8	
	comp=Z,64nm,1.2s					
K15K	Wolf Creek Mou	82.73 26	P	P	07 49 10.2	+0.5
	baz=249					
G15K	Niukluk	82.75 23	P	P	07 49 10.0	+0.2
	baz=246					
F15K	North Star Dit	82.81 22	IAmb	IAmb	07 49 20.8	
	comp=Z,141nm,1.4s					
F15K	North Star Dit	82.81 22	P	P	07 49 10.2	+0.1
	baz=245					
ABPO	Ambohimpanom	82.84 251	P	P	07 49 11.2	-0.1
ABPO			IAmb	IAmb	07 49 20.4	
	comp=Z,129nm,1.4s					
ABPO	Ambohimpanom	82.84 251	P	P	07 49 11.3	-0.1
ABPO			pmax	pmax		
	comp=Z,129nm,1.4s					
FOMA	Nahampoana Res	83.00 245	P	P	07 49 10.8	-1.1
FOMA			IAMs_20	IAMs_20	08 23 37.2	
	comp=Z,2μm,20.0s					
ARTI	Arti	83.09 328	P	P	07 49 11.3	-0.4
ARTI			IAmb	IAmb	07 49 20.6	
	comp=Z,121nm,1.3s					
ARTI	Arti	83.09 328	P	P	07 49 11.5	-0.2
	comp=Z,11nm,0.8s,baz=123,slow=4.5,SNR=15					
ARTI			S	S	07 59 24.7	-4.7
	comp=Z,0.7nm,0.5s,baz=209,slow=22,SNR=1.4					
	comp=Z,11nm,0.8s					
ARTI	Arti	83.09 328	*c i* P	P	07 49 11.4	-0.2
ARTI					07 52 18.3	
ARTI			S	S	07 59 31.0	+1.6
ARTI			pmax	pmax		
	comp=Z,11nm,0.9s					
ARTI			MLR	MLR		
	comp=Z,573nm,21.0s					
VOI	Vohitsoka	83.20 248	P	P	07 49 13.6	+0.4
	SNR=15					
P16K	Nushagak River	83.28 30	P	P	07 49 12.5	-0.1
	baz=252					
H16K	Elim	83.31 24	P	P	07 49 13.0	+0.3
	baz=248,SNR=19					
N16K	Nishlik Lake	83.36 28	P	P	07 49 12.7	-0.3
	baz=251					
O16K	Kokwok River B	83.40 29	IAmb	IAmb	07 49 22.6	
	comp=Z,97nm,1.5s					
O16K	Kokwok River B	83.40 29	P	P	07 49 14.0	+0.8
	baz=252					
L16K	Owhat River	83.44 27	IAmb	IAmb	07 49 17.2	
	comp=Z,34nm,0.8s					
L16K	Owhat River	83.44 27	P	P	07 49 14.2	+0.8
	baz=251					
M16K	Timber Creek	83.45 27	IAmb	IAmb	07 49 17.4	
	comp=Z,43nm,0.8s					
M16K			IAMs_20	IAMs_20	08 21 01.3	
	comp=Z,2μm,22.0s					
M16K	Timber Creek	83.45 27	P	P	07 49 13.0	-0.5
	baz=251					
J16K	Anvik River	83.49 25	P	P	07 49 13.0	-0.6
	baz=249					
G16K	Koyuk River	83.56 23	IAmb	IAmb	07 49 24.3	
	comp=Z,104nm,1.2s					
G16K	Koyuk River	83.56 23	P	P	07 49 14.3	+0.5
	baz=248					
CHIR	Chirikof Islan	83.58 33	P	P	07 49 14.7	+0.5
	baz=255					
C16K	Lisburne Hills	83.66 20	P	P	07 49 15.1	+0.7
	baz=244					
I17K	Unalakleet	83.67 24	P	P	07 49 14.5	+0.1
	baz=249,SNR=16					
Q16K	King Salmon	83.83 30	P	P	07 49 15.4	0.0
	baz=253					
O17K	Koliganek Bris	83.94 29	P	P	07 49 15.9	0.0
	baz=253					
L17K	Donlin	84.11 27	P	P	07 49 16.9	+0.1
	baz=252					
Q17K	Contact Creek	84.11 31	P	P	07 49 16.9	-0.1
	baz=254					
N17K	Nushagak Hills	84.12 28	IAmb	IAmb	07 49 40.9	
	comp=Z,92nm,1.8s					
N17K	Nushagak Hills	84.12 28	P	P	07 49 17.4	+0.5
	baz=253					
J17K	VABM Dome	84.17 25	P	P	07 49 17.8	+0.7
	baz=251					
D17K	Noatak River	84.19 21	P	P	07 49 17.7	+0.6
	baz=247,SNR=54					
G17K	Kiwalik Mounta	84.26 23	P	P	07 49 18.2	+0.7
	baz=249					
M17K	Holitna River	84.27 27	IAmb	IAmb	07 49 25.9	
	comp=Z,57nm,1.2s					
M17K	Holitna River	84.27 27	P	P	07 49 18.1	+0.5
	baz=252					
K17K	Iditarod	84.29 26	P	P	07 49 18.4	+0.7
	baz=252,SNR=33					
H17K	Granite Mounta	84.35 24	P	P	07 49 18.4	+0.4
	baz=250					
F17K	Baldwin Pennin	84.37 22	P	P	07 49 18.5	+0.5
	baz=248,SNR=20					
RDOG	Red Dog Mine	84.40 20	IAmb	IAmb	07 49 42.2	
	comp=Z,80nm,1.4s					
RDOG	Red Dog Mine	84.40 20	P	P	07 49 18.7	+0.5
	baz=247,SNR=12					
E17K	Hotham Inlet	84.40 21	P	P	07 49 18.8	+0.7
	baz=248,SNR=27					
SII	Sitkinak Islan	84.55 33	P	P	07 49 19.0	-0.2
	baz=256					
R18K	Karluk	84.66 31	P	P	07 49 20.1	+0.5
	baz=255					
P18K	Big Mountain,	84.74 30	P	P	07 49 20.2	+0.1
	baz=254					
N18K	Kilae Creek	84.78 28	P	P	07 49 20.1	-0.1
	baz=254					
L18K	Granite Mounta	84.85 27	P	P	07 49 21.0	+0.4
	baz=253					
O18K	Koktuh Hills	84.88 29	P	P	07 49 20.9	+0.1
	baz=254					
E18K	Tukpahlearik C	84.97 21	IAmb	IAmb	07 49 30.7	
	comp=Z,82nm,1.5s					
E18K	Tukpahlearik C	84.97 21	P	P	07 49 22.1	+1.0
	baz=249,SNR=23					
F18K	Selawik	85.03 22	P	P	07 49 22.1	+0.8
	baz=250					
M18K	Stony River	85.03 27	P	P	07 49 22.0	+0.5
	baz=254					
H18K	Honhosa River	85.05 24	IAmb	IAmb	07 49 30.8	
	comp=Z,107nm,1.4s					
H18K	Honhosa River	85.05 24	P	P	07 49 21.8	+0.3
	baz=251					
G18K	Tagagawik	85.17 23	P	P	07 49 22.9	+0.8
	baz=251					
OHAK	Old Harbor	85.19 32	IAmb	IAmb	07 49 33.9	
	comp=Z,82nm,1.3s					
OHAK	Old Harbor	85.19 32	P	P	07 49 23.0	+0.7
	baz=256					
OHAK	Old Harbor	85.19 32	P	P	07 49 24.1	+1.8
	comp=Z,68nm,1.4s					
J18K	Innoko River	85.20 25	P	P	07 49 22.5	+0.2
	baz=253					
C18K	Utukok River	85.21 20	P	P	07 49 22.5	+0.2
	baz=248					
B18K	Kokolik River	85.28 19	P	P	07 49 22.9	+0.3
	baz=248					
TTA	Tatalina	85.36 26	P	P	07 49 23.7	+0.5
	baz=254,SNR=32					
TTA	Tatalina	85.36 26	P	P	07 49 24.0	+0.8
	comp=Z,72nm,1.4s					
O19K	Port Alsworth	85.40 29	P	P	07 49 23.4	+0.2
	baz=255					
Q19K	Cape Douglas,	85.41 30	IAMs_20	IAMs_20	08 24 59.5	
	comp=Z,2μm,21.0s					
Q19K	Cape Douglas,	85.41 30	P	P	07 49 23.3	-0.2
	baz=256					
N19K	Bonanza Creek	85.48 28	P	P	07 49 23.2	-0.7
	baz=255					
GCSA	Galena City Sc	85.52 24	P	P	07 49 24.1	+0.3
	baz=253					
KBD	Kabd	85.56 299	P	P	07 49 24.2	-0.6
L19K	White Mountain	85.67 27	P	P	07 49 25.2	+0.6
	baz=255					
KDAK	Kodiak Island	85.69 32	P	P	07 49 25.3	+0.5
KDAK	Kodiak Island	85.69 32	LR	LR	08 22 26.2	
	comp=Z,1μm,21.8s,baz=89,slow=32					
KDAK	Kodiak Island	85.69 32	P	P	07 49 24.0	-0.8
	baz=257					
KDAK	Kodiak Island	85.69 32	P	P	07 49 25.3	+0.5
KDAK			pmax	pmax		
	comp=Z,335nm,2.0s					
P19K	Oil Pt	85.79 30	P	P	07 49 24.8	-0.5
	baz=256					
F19K	Shaleruckik Mo	85.81 22	P	P	07 49 24.9	-0.3
	baz=252					
LKRN	Lenkeran, Azer	85.81 309	P	P	07 49 27.8	+1.9
J19K	Poorman	85.82 25	IAmb	IAmb	07 49 35.8	
	comp=Z,78nm,1.2s					
J19K	Poorman	85.82 25	P	P	07 49 25.6	+0.2
	baz=254,SNR=19					
G19K	Purcell Mounta	85.86 23	IAmb	IAmb	07 49 35.9	
	comp=Z,89nm,1.6s					
G19K	Purcell Mounta	85.86 23	P	P	07 49 25.7	+0.2
	baz=252					
H19K	Roundabout Mou	85.92 24	IAmb	IAmb	07 49 38.1	
	comp=Z,110nm,1.6s					
H19K	Roundabout Mou	85.92 24	P	P	07 49 26.2	+0.4
	baz=253					
Q20K	Shuyak Island	85.97 31	P	P	07 49 25.9	-0.2
	baz=257					
L20K	Farewell, AK	86.18 27	P	P	07 49 27.5	+0.3
	baz=256					
O20K	Slope Mountain	86.19 29	P	P	07 49 26.6	-0.8
	baz=257					
E19K	Redstone River	86.21 22	P	P	07 49 26.4	-0.8
	baz=252					
D19K	Kuna River	86.22 20	IAmb	IAmb	07 49 36.2	
	comp=Z,51nm,1.2s					
D19K	Kuna River	86.22 20	P	P	07 49 26.2	-1.1
	baz=251					
K20K	Telida	86.32 26	IAmb	IAmb	07 49 37.7	
	comp=Z,127nm,1.4s					
K20K	Telida	86.32 26	P	P	07 49 27.8	-0.1
	baz=255					
M20K	Styx River	86.38 27	IAMs_20	IAMs_20	08 22 41.7	
	comp=Z,2μm,22.0s					
M20K	Styx River	86.38 27	P	P	07 49 27.6	-0.7
	baz=256					
J20K	Nowinta River	86.50 25	IAmb	IAmb	07 49 39.2	
	comp=Z,90nm,1.4s					
J20K	Nowinta River	86.50 25	P	P	07 49 29.2	+0.5
	baz=255					
I20K	Naaghedeneel	86.52 24	P	P	07 49 28.9	+0.1
	baz=255					
H20K	Anotleneega Mo	86.54 24	P	P	07 49 28.8	-0.1
	baz=254					
HOM	Homer	86.58 30	P	P	07 49 29.1	0.0
	baz=258					
QSPA	South Pole Qui	86.64 180	P	P	07 49 29.4	-0.2
QSPA	South Pole Qui	86.64 180	P	P	07 49 29.2	-0.3
	comp=Z,32nm,1.1s,baz=275,slow=1.8,SNR=41					
QSPA			LR	LR	08 28 15.0	
	comp=Z,1μm,20.9s,baz=352,slow=36					
	comp=Z,32nm,1.1s					
F20K	Avaraart Lake	86.65 22	P	P	07 49 29.5	+0.1
	baz=254					
SPCR	Spurr Chakacha	86.65 28	P	P	07 49 29.4	-0.2
	baz=257,SNR=8.9					
SPU	Mount Spurr	86.72 28	IAmb	IAmb	07 49 38.8	
	comp=Z,70nm,1.4s					
D20K	Etivluk River	86.81 20	P	P	07 49 30.2	0.0
	baz=253					
E20K	Nigu River	86.83 21	P	P	07 49 30.2	-0.1
	baz=253					
STLK	Strandline Lak	86.89 28	P	P	07 49 29.9	-0.9
STLK			IAmb	IAmb	07 49 39.4	
	comp=Z,50nm,1.3s					
AKT	Akhty	86.96 312	*e* P	P	07 49 29.8	-1.8
AKT			*e* S	SKSac	07 59 56.5	-0.7
AKT			*e*		08 00 06.9	
AKT			pmax	pmax		
	comp=Z,113nm,1.3s					
RAYN	Ar Rayn	86.98 294	P	P	07 49 32.0	0.0
RAYN	Ar Rayn	86.98 294	P	P	07 49 33.0	+1.0
RAYN	Ar Rayn	86.98 294	P	P	07 49 32.0	0.0
RAYN			pmax	pmax		
	comp=Z,281nm,1.4s					
RAYN	Ar Rayn	86.98 294	*i* P	P	07 49 32.1	0.0
	SNR=27					
PPLA	Purkeypile	87.04 27	P	P	07 49 31.5	-0.1
	baz=257,SNR=8.6					
BRSE	Bradley Lake S	87.05 30	P	P	07 49 31.3	-0.2
	baz=258					
CAPN	Captain Cook N	87.06 29	P	P	07 49 31.6	+0.1
	baz=258					
SKT	Skwentna	87.13 28	IAmb	IAmb	07 49 40.4	
	comp=Z,108nm,1.4s					
SKT			IAMs_20	IAMs_20	08 22 55.8	
	comp=Z,1μm,22.0s					
SKT	Skwentna	87.13 28	P	P	07 49 31.8	-0.1
	baz=258,SNR=9.7					
CAST	Castle Rocks	87.20 26	IAmb	IAmb	07 49 41.9	
	comp=Z,44nm,1.3s					
CAST	Castle Rocks	87.20 26	P	P	07 49 32.3	+0.1
	baz=257,SNR=9.4					
CHUM	Lake Minchumin	87.21 26	P	P	07 49 31.8	-0.3
	baz=257,SNR=48					
MAK	Makhachkala	87.31 313	*e* P	P	07 49 26.9	-6.2
MAK			*e*		07 59 50.7	
MAK			*e* SS	SS	08 05 57.4	+0.9
MAK			*e* SSS	SSS	08 09 35.0	
MAK			pmax	pmax		
	comp=Z,260nm,1.5s					
MAK			pmax	pmax		
	comp=Z,526nm,16.0s					
SEKA	Sheki	87.33 311	P	P	07 49 34.9	+1.5
G21K	Allakaket	87.35 23	P	P	07 49 32.6	-0.2
	baz=256					
MNGR	Mingechevir, A	87.36 311	P	P	07 49 35.4	+2.0
SYO	Syowa Base	87.36 201 ⇑	*i* P	P	07 49 33.0	+0.2
SYO	Syowa Base	87.36 201 ⇓	*i* PcP	PcP	07 49 36.6	+1.8
SUA	Susitna One	87.39 28	IAmb	IAmb	07 49 43.5	
	comp=Z,70nm,1.1s					
SUA	Susitna One	87.39 28	P	P	07 49 32.8	-0.4
	baz=258,SNR=16					
H21K	Melozitna Rive	87.42 24	IAMs_20	IAMs_20	08 29 04.1	
	comp=Z,1μm,21.0s					
H21K	Melozitna Rive	87.42 24	P	P	07 49 33.5	+0.3
	baz=256					
F21K	Alatna River	87.54 22	P	P	07 49 33.6	-0.1
	baz=256					
C21K	Knifeblade Rid	87.57 20	P	P	07 49 33.7	-0.2
	baz=254					
A21K	Barrow	87.60 18	P	P	07 49 33.5	-0.4
	baz=252					
I21K	Tanana	87.64 24	P	P	07 49 33.7	-0.5
	baz=257					
E21K	Killik River	87.67 21	P	P	07 49 34.6	+0.2
	baz=255					
O22K	Cooper Landing	87.69 29	P	P	07 49 33.8	-0.7
	baz=259					
KTH	Kantishna Hill	87.74 26	IAmb	IAmb	07 49 44.0	
	comp=Z,67nm,1.4s					

M22K	**Willow**	87.74	28	IAMs_20	IAMs_20	08 23 35.9	
	comp=Z,1µm,22.0s						
M22K	**Willow**	87.74	28	P	**P**	**07 49 34.4**	**-0.3**
	baz=259,SNR=10.0						
SEW	**Seward**	87.75	30	P	**P**	**07 49 34.4**	**-0.4**
	baz=260,SNR=7.8						
B21K	**Ikpikpuk River**	87.76	20	IAmb	IAmb	07 49 37.7	
	comp=Z,25nm,0.8s						
B21K	**Ikpikpuk River**	87.76	20	P	**P**	**07 49 34.7**	**0.0**
	baz=254						
RC01	**Rabbit Creek A**	87.80	29	IAMs_20	IAMs_20	08 25 55.4	
	comp=Z,1µm,20.0s						
RC01	**Rabbit Creek A**	87.80	29	P	**P**	**07 49 35.3**	**+0.2**
	baz=259,SNR=11						
CUT	**Chulitna**	87.80	27	P	**P**	**07 49 35.0**	**0.0**
	baz=259						
BPAW	**Bear Paw Mtn.**	87.83	25	IAmb	IAmb	07 49 46.0	
	comp=Z,53nm,1.5s						
BPAW	**Bear Paw Mtn.**	87.83	25	P	**P**	**07 49 35.0**	**-0.2**
	baz=258,SNR=7.7						
GANJ	**Ganja**	87.92	311	P	**P**	**07 49 37.9**	**+1.7**
TRF	**Thorofare Moun**	88.00	26	P	**P**	**07 49 35.7**	**-0.5**
	baz=259,SNR=6.0						
H22K	**Ishtalitna Cre**	88.05	24	P	**P**	**07 49 35.9**	**-0.3**
	baz=258						
PMR	**Palmer**	88.18	28	P	**P**	**07 49 36.3**	**-0.5**
	baz=260,SNR=11						
PMR	**Palmer**	88.18	28	P	**P**	**07 49 37.0**	**+0.2**
G22K	**Bettles**	88.22	23	P	**P**	**07 49 36.4**	**-0.5**
	baz=257						
D22K	**Ayikyak River**	88.23	21	IAmb	IAmb	07 49 46.1	
	comp=Z,45nm,1.4s						
D22K	**Ayikyak River**	88.23	21	P	**P**	**07 49 37.0**	**0.0**
	baz=256						
KIRV	**Kirov**	88.30	329	P	**P**	**07 49 37.8**	**+0.3**
	comp=Z,12nm,0.7s,baz=162,slow=2.2,SNR=6.9						
KIRV				S	**SKSac**	**08 00 05.9**	**+1.7**
	comp=Z,3.7nm,0.5s,baz=210,slow=24,SNR=2.1						
KIRV				LR	LR	08 32 59.8	
	comp=Z,344nm,20.1s,baz=104,slow=38						
	comp=Z,12nm,0.7s						
KIRV	**Kirov**	88.30	329	⇓*e*P	**P**	**07 49 38.2**	**+0.8**
GHO	**Glory Hole Cre**	88.31	28	IAmb	IAmb	07 49 46.3	
	comp=Z,48nm,1.2s						
B22K	**Teshekpuk Lake**	88.34	19	P	**P**	**07 49 36.8**	**-0.6**
	baz=256						
E22K	**Anaktuvuk Pass**	88.37	21	IAmb	IAmb	07 49 46.6	
	comp=Z,57nm,1.3s						
E22K	**Anaktuvuk Pass**	88.37	21	P	**P**	**07 49 37.1**	**-0.6**
	baz=257						
NAX	**Nakhchivan**	88.41	309	P	**P**	**07 49 40.3**	**+1.7**
BELG	**Belogornoye**	88.42	323	P	**P**	**07 49 36.9**	**-1.2**
	comp=Z,34nm,0.8s,baz=188,slow=2.1,SNR=14						
BELG				S	**SKSac**	**08 00 10.1**	**+4.9**
	comp=Z,3.6nm,0.8s,baz=109,slow=22,SNR=1.7						
	comp=Z,34nm,0.8s						
BELG	**Belogornoye**	88.42	323	*c i*P	**P**	**07 49 38.5**	**+0.4**
BELG				pmax	pmax		
	comp=Z,23nm,1.2s						
PWL	**Port Wells**	88.43	29	IAMs_20	IAMs_20	08 24 35.1	
	comp=Z,1µm,21.0s						
PWL	**Port Wells**	88.43	29	P	**P**	**07 49 38.0**	**-0.1**
	baz=260,SNR=6.4						
KNK	**Knik Glacier**	88.46	28	IAMs_20	IAMs_20	08 26 37.0	
	comp=Z,2µm,21.0s						
KNK	**Knik Glacier**	88.46	28	P	**P**	**07 49 38.5**	**+0.2**
	baz=260,SNR=16						
BWN	**Browne**	88.50	26	IAmb	IAmb	07 49 48.3	
	comp=Z,86nm,1.2s						
TAOE	**Nuku Hiva Isla**	88.58	99	*e*S	**S**	**08 00 21.3**	**-3.9**
	comp=Z,311nm,25.7s						
TAOE	**Nuku Hiva Isla**	88.58	99	*e*LR	LR	08 17 51.4	
	comp=Z,970nm,24.8s						
SML	**Sawmill**	88.59	28	IAMs_20	IAMs_20	08 24 04.3	
	comp=Z,1µm,19.0s						
SML	**Sawmill**	88.59	28	P	**P**	**07 49 39.7**	**+0.9**
	baz=260,SNR=14						
RND	**Reindeer**	88.62	26	IAmb	IAmb	07 49 49.9	
	comp=Z,24nm,0.8s						
MCK	**McKinley**	88.65	26	P	**P**	**07 49 38.9**	**-0.2**
	baz=260,SNR=6.9						
I23K	**Minto, Yukon-K**	88.72	25	IAmb	IAmb	07 49 49.7	
	comp=Z,73nm,1.2s						
I23K	**Minto, Yukon-K**	88.72	25	P	**P**	**07 49 39.1**	**-0.2**
	baz=260,SNR=20						
NEA2	**Nenana**	88.74	25	P	**P**	**07 49 39.3**	**-0.2**
	baz=260						
P23K	**Montague Islan**	88.75	30	P	**P**	**07 49 39.8**	**+0.2**
	baz=261						
G23K	**Bananza Creek**	88.75	23	IAmb	IAmb	07 49 49.7	
	comp=Z,45nm,1.1s						
G23K	**Bananza Creek**	88.75	23	P	**P**	**07 49 39.7**	**+0.2**
	baz=259						
COLD	**Coldfoot**	88.78	22	P	**P**	**07 49 39.3**	**-0.4**
	baz=259,SNR=15						
M23K	**Glacier View**	88.87	28	P	**P**	**07 49 40.1**	**0.0**
	baz=261						
D23K	**Nanushuk River**	88.96	21	IAmb	IAmb	07 49 50.3	
	comp=Z,67nm,1.2s						
D23K	**Nanushuk River**	88.96	21	P	**P**	**07 49 41.1**	**+0.7**
	baz=258						
GLI	**Glacier Island**	89.03	29	IAMs_20	IAMs_20	08 27 14.0	
	comp=Z,1µm,20.0s						
GLI	**Glacier Island**	89.03	29	P	**P**	**07 49 40.3**	**-0.6**
	baz=262						
SCM	**Sheep Creek Mo**	89.06	28	IAmb	IAmb	07 49 56.3	
	comp=Z,71nm,1.2s						
SCM				IAMs_20	IAMs_20	08 29 48.8	
	comp=Z,1µm,20.0s						
SCM	**Sheep Creek Mo**	89.06	28	P	**P**	**07 49 40.5**	**-0.7**
	baz=261,SNR=7.9						
GNI	**Garni**	89.08	310	P	**P**	**07 49 41.0**	**-0.9**
GNI				IAmb	IAmb	07 50 14.4	
	comp=Z,38nm,0.9s						
GNI	**Garni**	89.08	310	P	**P**	**07 49 43.1**	**+1.3**
	comp=Z,8.0nm,0.7s,baz=32,slow=9.5,SNR=5.3						
	comp=Z,8.0nm,0.7s						
GNI	**Garni**	89.08	310	*c i*P	**P**	**07 49 42.2**	**+0.4**
GNI				pmax	pmax		
	comp=Z,66nm,1.5s						
GNI	**Garni**	89.08	310	P	**P**	**07 49 41.9**	**+0.1**
GNI	**Garni**	89.08	310	P	**P**	**07 49 41.7**	**-0.1**
	comp=Z,825nmcomp=Z,42nm,1.7s						
WRH	**Wood River Hil**	89.14	25	IAmb	IAmb	07 49 50.7	
	comp=Z,40nm,1.0s						
C23K	**Itkillik River**	89.16	20	IAmb	IAmb	07 49 49.9	
	comp=Z,42nm,0.9s						
C23K	**Itkillik River**	89.16	20	P	**P**	**07 49 40.9**	**-0.4**
	baz=258						
E23K	**Chandalar**	89.16	22	IAmb	IAmb	07 49 52.9	
	comp=Z,28nm,0.8s						
E23K	**Chandalar**	89.16	22	P	**P**	**07 49 41.3**	**-0.2**
	baz=259						
Q23K	**Middleton Isla**	89.19	30	P	**P**	**07 49 41.7**	**0.0**
	baz=262						
HIN	**Hinchinbrook I**	89.25	30	IAMs_20	IAMs_20	08 27 12.9	
	comp=Z,2µm,19.0s						
CCB	**Clear Creek Bu**	89.29	25	IAmb	IAmb	07 49 50.6	
	comp=Z,78nm,1.3s						
TOLK	**Toolik Lake Re**	89.29	21	P	**P**	**07 49 42.4**	**+0.3**
	baz=259,SNR=10.0						
COLA	**College**	89.31	25	P	**P**	**07 49 41.7**	**-0.4**
	baz=261						
COLA	**College**	89.31	25	P	**P**	**07 49 43.0**	**+1.0**
	comp=Z,8.3nm,1.2s						
COLA	**College**	89.31	25	⇓*e*P	**P**	**07 49 42.6**	**+0.6**
COLA				pmax	pmax		
	comp=Z,19nm,1.2s						
FID	**Port Fidalgo**	89.31	29	IAMs_20	IAMs_20	08 27 27.9	
	comp=Z,2µm,20.0s						
H24K	**Noodor Dome**	89.45	24	IAmb	IAmb	07 49 52.2	
	comp=Z,52nm,1.1s						
H24K	**Noodor Dome**	89.45	24	P	**P**	**07 49 42.6**	**-0.2**
	baz=261						
POKR	**Poker Plat Res**	89.52	25	P	**P**	**07 49 43.1**	**0.0**
	baz=261						
EYAK	**Cordova Ski Ar**	89.64	29	P	**P**	**07 49 43.3**	**-0.5**
	baz=263						
M24K	**Tolsona, Glenn**	89.64	28	IAmb	IAmb	07 49 59.0	
	comp=Z,40nm,1.1s						
M24K	**Tolsona, Glenn**	89.64	28	P	**P**	**07 49 43.3**	**-0.6**
	baz=262						
D24K	**Happy Valley**	89.65	21	IAmb	IAmb	07 49 52.6	
	comp=Z,37nm,1.2s						
D24K	**Happy Valley**	89.65	21	P	**P**	**07 49 43.4**	**-0.2**
	baz=260						
KLU	**Klutina**	89.68	28	IAmb	IAmb	07 50 31.9	
	comp=Z,52nm,1.7s						
KLU				IAMs_20	IAMs_20	08 27 05.1	
	comp=Z,1µm,20.0s						
KLU	**Klutina**	89.68	28	P	**P**	**07 49 43.8**	**-0.2**
	baz=263						
ILAR	**Eielson Array**	89.70	25	P	**P**	**07 49 42.1**	**-1.8**
ILAR	**Eielson Array**	89.70	25	P	**P**	**07 49 42.0**	**-1.9**
	comp=Z,5.4nm,0.7s,baz=264,slow=4.9,SNR=40						
ILAR				PP	**PP**	**07 53 15.7**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=277,slow=8.4,SNR=4.1						
ILAR				PKKP	**PKKPdf**	**08 07 17.8**	**+2.2**
	comp=Z,2.1nm,1.1s,baz=28,slow=0.9,SNR=6.5						
ILAR				PKPPKP	**P'P'df**	**08 15 25.9**	**+0.4**
	comp=Z,0.3nm,1.0s,baz=113,slow=2.1,SNR=4.3						
	comp=Z,5.4nm,0.7s						
F24K	**Squaw Lake**	89.72	22	IAmb	IAmb	07 49 53.1	
	comp=Z,47nm,1.3s						
F24K	**Squaw Lake**	89.72	22	P	**P**	**07 49 43.6**	**-0.4**
	baz=261						
G24K	**Hadweenzic Riv**	89.75	23	IAmb	IAmb	07 49 53.8	
	comp=Z,47nm,1.1s						
G24K	**Hadweenzic Riv**	89.75	23	P	**P**	**07 49 44.0**	**-0.2**
	baz=261						
C24K	**Franklin Bluff**	89.79	20	IAmb	IAmb	07 49 52.9	
	comp=Z,42nm,1.1s						
C24K	**Franklin Bluff**	89.79	20	P	**P**	**07 49 43.6**	**-0.6**
	baz=260						
K24K	**Donnelly Dome**	90.04	26	P	**P**	**07 49 45.6**	**0.0**
	baz=263						
PAX	**Paxson**	90.08	27	P	**P**	**07 49 45.6**	**-0.2**
	baz=263,SNR=7.5						
RAGM	**Ragged Mountai**	90.15	30	IAMs_20	IAMs_20	08 27 50.7	
	comp=Z,1µm,18.0s						
HARP	**HAARP**	90.15	28	P	**P**	**07 49 45.4**	**-0.7**
	baz=263						
NCK	**Nalchik**	90.21	313	⇓*e*P	**P**	**07 49 47.1**	**+0.3**
NCK				pmax	pmax		
	comp=Z,22nm,0.8s						
KAIM	**Kayak Island**	90.23	30	P	**P**	**07 49 45.2**	**-1.3**
	baz=264						
BMRM	**Bremner River**	90.25	29	P	**P**	**07 49 45.6**	**-1.0**
	baz=264						
J25K	**Salcha River,**	90.32	25	P	**P**	**07 49 45.8**	**-1.1**
	baz=263						
N25K	**Chitina, Valde**	90.32	28	IAMs_20	IAMs_20	08 25 23.1	
	comp=Z,2µm,22.0s						
N25K	**Chitina, Valde**	90.32	28	P	**P**	**07 49 46.4**	**-0.6**
	baz=264						
PRP	**Porcupine Dome**	90.37	24	P	**P**	**07 49 46.6**	**-0.6**
	baz=263						
KARS	**Kars**	90.38	310	P	**P**	**07 49 49.9**	**+2.0**
KARS				pmax	pmax		
	comp=Z,43nm,0.8s						
RIDG	**Independent Ri**	90.45	26	P	**P**	**07 49 46.8**	**-0.8**
	baz=264						
D25K	**Kavik River**	90.54	21	P	**P**	**07 49 47.3**	**-0.6**
	baz=262						
F25K	**Christian Rive**	90.58	22	P	**P**	**07 49 47.0**	**-1.1**
	baz=263						
FYU	**Fort Yukon**	90.61	23	IAmb	IAmb	07 49 57.4	
	comp=Z,69nm,1.3s						
E25K	**Arctic Village**	90.67	22	P	**P**	**07 49 47.5**	**-1.0**
	baz=263,SNR=16						
GLB	**Gilahina Butte**	90.68	29	IAmb	IAmb	07 49 57.5	
	comp=Z,51nm,1.5s						
GLB				IAMs_20	IAMs_20	08 27 55.6	
	comp=Z,2µm,21.0s						
GOF	**Gofitskoye**	90.71	315	*ce*P	**P**	**07 49 50.7**	**+1.6**
KBZ	**Khabaz**	90.73	314	P	**P**	**07 49 48.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=149,slow=3.5,SNR=13						
KBZ				ScS	**S**	**08 00 46.2**	**+2.5**
	comp=Z,1.9nm,1.1s,baz=300,slow=18,SNR=19						
	comp=Z,4.1nm,0.8s						
KBZ	**Khabaz**	90.73	314	⇓*i*P	**P**	**07 49 49.3**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,20nm,1.3s						
BGLC	**Bering Glacier**	90.81	30	P	**P**	**07 49 49.0**	**-0.1**
	baz=265						
VRDI	**Verde Repeater**	90.83	29	IAMs_20	IAMs_20	08 27 57.6	
	comp=Z,1µm,21.0s						
NEUR	**Neytrino**	90.84	313	P	**P**	**07 49 49.7**	**-0.3**
NEUR				pmax	pmax		
	comp=Z,30nm,1.7s						
SCRK	**Sand Creek**	90.85	26	P	**P**	**07 49 49.1**	**-0.4**
	baz=264						
MENT	**Mentasta**	90.87	27	P	**P**	**07 49 50.0**	**+0.5**
KVAR	**Kislovodsk Arr**	90.89	314	ScS	**S**	**08 00 46.8**	**+1.2**
	comp=Z,5.1nm,1.0s,baz=2.6,slow=5.3,SNR=2.5						
KIV	**Kislovodsk**	90.89	314	*e*P	**P**	**07 49 49.7**	**-0.4**
KIV				*e*		07 53 25.7	
KIV				*e*		08 00 21.0	
KIV				*e*SS	SS	08 06 43.9	-4.9
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	**Kislovodsk**	90.89	314	P	**P**	**07 49 48.7**	**-1.4**
SHA1	**Shidzhatmaz**	90.90	314	*d i*P	**P**	**07 49 50.1**	**-0.2**
BMAR	**Burnt Mountain**	90.97	23	P	**P**	**07 49 49.9**	**+0.1**
L26K	**Log Cabin Wild**	91.05	27	P	**P**	**07 49 49.2**	**-1.1**
	baz=265						
GURO	**Guroymak-BITLI**	91.06	308	IAmb	IAmb	07 50 01.1	
	comp=Z,72nm,1.3s						
J26L	**Joseph Creek**	91.09	26	P	**P**	**07 49 49.1**	**-1.4**
	baz=265						
C26K	**Camden Bay**	91.12	20	P	**P**	**07 49 50.2**	**-0.2**
	baz=264						
M26K	**Nabesna, AK**	91.15	28	IAMs_20	IAMs_20	08 28 54.0	
	comp=Z,1µm,21.0s						
M26K	**Nabesna, AK**	91.15	28	P	**P**	**07 49 50.3**	**-0.6**
	baz=265						
F26K	**Sheenjek River**	91.16	22	IAmb	IAmb	07 50 00.1	
	comp=Z,33nm,1.4s						
G26K	**Porcupine Rive**	91.23	23	P	**P**	**07 49 50.2**	**-0.7**
	baz=265						
I26K	**Coal Creek Min**	91.33	25	P	**P**	**07 49 50.7**	**-0.8**
	baz=265						
MESA	**MESA**	91.48	30	P	**P**	**07 49 51.7**	**-0.9**
	baz=266						
C27K	**Jago River**	91.51	20	IAmb	IAmb	07 50 15.8	
	comp=Z,42nm,1.6s						
C27K	**Jago River**	91.51	20	P	**P**	**07 49 51.8**	**-0.5**
	baz=265						
M27K	**Edge Creek, AK**	91.67	28	IAMs_20	IAMs_20	08 29 07.7	
	comp=Z,1µm,21.0s						
M27K	**Edge Creek, AK**	91.67	28	P	**P**	**07 49 52.2**	**-1.2**
	baz=266						
L27K	**Beaver Creek,**	91.74	27	IAmb	IAmb	07 50 03.2	
	comp=Z,34nm,1.2s						
L27K	**Beaver Creek,**	91.74	27	P	**P**	**07 49 52.5**	**-1.0**
	baz=266						
BCAR	**Beaver Creek A**	91.76	27	P	**P**	**07 49 53.5**	**-0.2**
VRH	**Novokhopyorsk**	91.96	321	*e*P	**P**	**07 49 55.5**	**+0.8**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
I27K	**Kandik River**	92.00	25	P	**P**	**07 49 53.8**	**-0.9**
	baz=266						
G27K	**Doyon Strip**	92.05	23	IAmb	IAmb	07 50 04.8	
	comp=Z,30nm,1.3s						
G27K	**Doyon Strip**	92.05	23	P	**P**	**07 49 54.4**	**-0.5**
	baz=266						
H27K	**Steamboat Moun**	92.07	24	P	**P**	**07 49 54.5**	**-0.6**
	baz=267						
EGAK	**Eagle**	92.14	25	IAmb	IAmb	07 50 03.9	
	comp=Z,35nm,1.2s						
EGAK	**Eagle**	92.14	25	P	**P**	**07 49 54.7**	**-0.6**
	baz=267						
BVCY	**Beaver Creek**	92.14	28	P	**P**	**07 49 55.4**	**0.0**
	baz=267,SNR=9.2						
ELIB	**Princess Elisa**	92.22	197	*d*P	**P**	**07 49 56.7**	**+1.0**
	comp=Z,40nm,1.1s						
YUK3	**Moose Creek**	92.30	28	P	**P**	**07 49 56.2**	**-0.2**
	baz=267,SNR=8.9						
PINM	**Pinnacle**	92.33	30	P	**P**	**07 49 55.2**	**-1.2**
	baz=268						
O28M	**Mount Upton**	92.39	29	P	**P**	**07 49 55.1**	**-1.8**
	baz=268						
D27M	**Malcolm River**	92.45	21	P	**P**	**07 49 56.0**	**-0.8**
	baz=267						
ERBR	**Yeremizino-Bor**	92.55	315	*e*P	**P**	**07 49 55.3**	**-2.3**
ERBR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KIBK	**Kibwezi**	92.59	268	IAmb	IAmb	07 50 08.1	
	comp=Z,72nm,1.3s						
KIBK	**Kibwezi**	92.59	268	P	**P**	**07 49 59.5**	**+0.8**
	SNR=16						
YUK8	**Steele Glacier**	92.61	29	P	**P**	**07 49 56.9**	**-1.0**
	baz=268						
I28M	**Miner Creek**	92.69	25	IAMs_20	IAMs_20	08 34 36.4	
	comp=Z,1µm,20.0s						
I28M	**Miner Creek**	92.69	25	P	**P**	**07 49 57.2**	**-0.8**
	baz=268						
F28M	**Old Crow**	92.79	23	IAmb	IAmb	07 50 06.9	
	comp=Z,36nm,1.2s						
F28M	**Old Crow**	92.79	23	P	**P**	**07 49 57.6**	**-0.6**
	baz=268,SNR=19						
VSLR	**Vesyoloye**	92.79	313	⇓*e*P	**P**	**07 49 59.6**	**+0.8**
VSLR				pmax	pmax		
	comp=Z,17nm,0.7s						
DAWY	**Dawson**	92.88	26	IAmb	IAmb	07 50 07.7	
	comp=Z,72nm,1.3s						
DAWY	**Dawson**	92.88	26	P	**P**	**07 49 58.4**	**-0.4**
	baz=268,SNR=18						
E28M	**Babbage River**	92.94	22	IAmb	IAmb	07 50 08.4	
	comp=Z,47nm,1.4s						
E28M				IAMs_20	IAMs_20	08 32 46.9	
	comp=Z,1µm,20.0s						
E28M	**Babbage River**	92.94	22	P	**P**	**07 49 58.1**	**-0.8**
	baz=268						
SOC	**Sochi**	93.03	313	*e*P	**P**	**07 49 57.9**	**-2.0**
SOC				*e*		07 53 38.6	
SOC				*e*PPP	PPP	07 55 41.4	
SOC				*e*S	**SKSac**	**08 00 31.5**	**-0.6**
SOC				*e*SS	**SS**	**08 07 17.2**	**-2.1**
SOC				*e*SSS	SSS	08 10 54.7	
YUK4	**Talbot Arm**	93.16	29	P	**P**	**07 50 00.0**	**-0.3**
	baz=269						
O29M	**Mount Kennedy**	93.17	30	IAMs_20	IAMs_20	08 29 11.6	
	comp=Z,1µm,20.0s						
O29M	**Mount Kennedy**	93.17	30	P	**P**	**07 50 00.2**	**-0.1**
	baz=269						
D28M	**Stokes Point**	93.24	21	P	**P**	**07 49 59.7**	**-0.5**
	baz=269						
M29M	**Somme Creek**	93.26	28	IAmb	IAmb	07 50 10.6	
	comp=Z,34nm,1.2s						
M29M				IAMs_20	IAMs_20	08 32 11.8	
	comp=Z,1µm,21.0s						
M29M	**Somme Creek**	93.26	28	P	**P**	**07 50 00.3**	**-0.4**
	baz=269						
YUK6	**Outpost Mounta**	93.29	29	P	**P**	**07 50 00.2**	**-0.8**
	baz=269						
H29M	**Whitestone**	93.35	24	IAmb	IAmb	07 50 22.7	
	comp=Z,95nm,1.9s						
H29M	**Whitestone**	93.35	24	P	**P**	**07 50 00.5**	**-0.3**
	baz=270						
I29M	**Ogilvie Camp,**	93.37	25	P	**P**	**07 50 00.5**	**-0.5**
	baz=270,SNR=17						
J29N	**Klondike Camp**	93.40	26	IAmb	IAmb	07 50 11.3	
	comp=Z,59nm,1.4s						
J29N	**Klondike Camp**	93.40	26	P	**P**	**07 50 01.3**	**+0.1**
	baz=270,SNR=8.7						
L29M	**L29M**	93.42	27	IAmb	IAmb	07 50 10.8	
	comp=Z,65nm,1.2s						
L29M	**L29M**	93.42	27	P	**P**	**07 50 00.7**	**-0.7**
	baz=270						
KMBO	**Kilima Mbogo**	93.45	269	P	**P**	**07 50 02.4**	**-0.4**
KMBO				IAmb	IAmb	07 50 12.4	
	comp=Z,67nm,1.2s						
KMBO	**Kilima Mbogo**	93.45	269	P	**P**	**07 50 04.2**	**+1.3**
KMBO				P	**P**	**07 50 04.2**	**+1.3**
KMBO	**Kilima Mbogo**	93.45	269	P	**P**	**07 50 02.4**	**-0.4**
KMBO	**Kilima Mbogo**	93.45	269	*i* P	**P**	**07 50 04.1**	**+1.3**
	SNR=8.1						
KLMR	**Klimovskoe**	93.48	331	*e*P	**P**	**07 50 00.5**	**-1.0**
KLMR				S	**SKSac**	**08 00 34.9**	**+1.0**
KLMR				pmax	pmax		
	comp=Z,45nm,1.3s						
VORD	**Divnogorie**	93.48	321	*e*P	**P**	**07 50 00.0**	**-1.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
G29M	**Pine Creek**	93.49	23	P	**P**	**07 50 01.5**	**0.0**
	baz=270						
E29M	**Blow River**	93.54	22	IAmb	IAmb	07 50 10.1	
	comp=Z,47nm,1.4s						
E29M	**Blow River**	93.54	22	P	**P**	**07 50 02.0**	**+0.3**
	baz=270						
VORR	**Voronezh**	93.55	321	*e*P	**P**	**07 50 03.3**	**+1.3**
VORR				pmax	pmax		
	comp=Z,33nm,1.5s						
VSR	**Storozhevoye**	93.57	321	*e*P	**P**	**07 50 00.7**	**-1.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
K29M	**Barlow Dome**	93.70	26	IAmb	IAmb	07 50 11.9	
	comp=Z,70nm,1.3s						
K29M	**Barlow Dome**	93.70	26	P	**P**	**07 50 02.6**	**-0.1**
	baz=270						
HYT	**Haines Junctio**	93.70	29	P	**P**	**07 50 02.6**	**-0.1**
	baz=270						
LPSR	**Galich'ya Gora**	93.73	322	*e*P	**P**	**07 50 01.1**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,30nm,1.1s						
N30M	**Aishikik Lake**	93.91	29	IAMs_20	IAMs_20	08 30 17.9	
	comp=Z,1µm,20.0s						
N30M	**Aishikik Lake**	93.91	29	P	**P**	**07 50 03.4**	**-0.2**
	baz=270						
P30M	**Million Dollar**	93.98	30	P	**P**	**07 50 03.6**	**-0.3**
	baz=270						
EPYK	**Eagle Plains**	94.02	24	P	**P**	**07 50 03.6**	**-0.4**
	baz=271,SNR=12						
M30M	**Minto, Yukon**	94.04	28	IAMs_20	IAMs_20	08 31 10.3	
	comp=Z,1µm,20.0s						
M30M	**Minto, Yukon**	94.04	28	P	**P**	**07 50 03.8**	**-0.4**
	baz=271						
I30M	**Mount Dempster**	94.18	25	P	**P**	**07 50 04.1**	**-0.8**
	baz=271						
G30M	**tAoh Zraii Nji**	94.20	23	IAmb	IAmb	07 50 12.7	
	comp=Z,42nm,1.1s						
G30M	**tAoh Zraii Nji**	94.20	23	P	**P**	**07 50 04.2**	**-0.6**
	baz=272						
J30M	**Hart River**	94.21	26	IAmb	IAmb	07 50 14.1	
	comp=Z,74nm,1.4s						
J30M	**Hart River**	94.21	26	P	**P**	**07 50 04.4**	**-0.7**
	baz=271						
PLBC	**Pleasant Camp**	94.28	31	P	**P**	**07 50 04.8**	**-0.5**
	baz=271						
F30M	**Barrier River**	94.35	23	P	**P**	**07 50 05.2**	**-0.2**
	baz=272,SNR=9.2						
S31K	**Pelican**	94.37	32	P	**P**	**07 50 05.7**	**0.0**
	baz=271						
O30N	**Mendenhall**	94.40	29	IAMs_20	IAMs_20	08 27 59.0	
	comp=Z,1µm,22.0s						
O30N	**Mendenhall**	94.40	29	P	**P**	**07 50 05.3**	**-0.5**
	baz=271						
MAYO

comp=Z,34nm,1.6s
OBN MLR MLR
F31M Tsiigehtchic 95.14 23 P P 07 50 07.7 -1.3
F31M IAmb IAmb 07 50 16.8
comp=Z,66nm,1.3s
F31M Tsiigehtchic 95.14 23 P P 07 50 08.3 -0.7
baz=274,SNR=23
INK Inuvik 95.17 22 IAmb IAmb 07 50 17.6
comp=Z,57nm,1.3s
INK Inuvik 95.17 22 P P 07 50 08.5 -0.6
baz=274,SNR=21
M31M Drury Creek, Y 95.17 28 IAMs_20 IAMs_20 08 31 03.2
comp=Z,1μm,22.0s
M31M Drury Creek, Y 95.17 28 P P 07 50 08.4 -1.0
baz=273
S32K Killisnoo 95.27 33 IAMs_20 IAMs_20 08 28 17.4
comp=Z,1μm,20.0s
S32K Killisnoo 95.27 33 P P 07 50 09.0 -0.8
baz=272
LODK Lodwar 95.59 273 P P 07 50 13.2 +0.8
P32M Atlin 95.63 31 P P 07 50 10.3 -1.2
baz=273
FARO Faro, Yukon 95.65 28 IAmb IAmb 07 50 21.0
comp=Z,31nm,1.4s
FARO Faro, Yukon 95.65 28 P P 07 50 10.1 -1.5
baz=274
N32M Quiet Lake 95.85 29 IAMs_20 IAMs_20 08 31 46.3
comp=Z,1μm,20.0s
N32M Quiet Lake 95.85 29 P P 07 50 11.2 -1.3
baz=274
APA Apatity 95.86 338 ⇓*i*P **P 07 50 14.3 +2.0**
APA pmax pmax
comp=Z,7.0nm,1.0s
P33M Teslin, Yukon 96.04 30 P P 07 50 12.0 -1.5
baz=274
NVL N'lazarevskaya 96.09 197 *e*P P 07 50 07.7 -5.6
NVL *e*S **SKSac 08 00 43.7 -3.9**
NVL pmax pmax
comp=Z,13nm,0.9s
NVL MLR MLR
comp=Z,3μm,18.0s
U33K Whale Pass 96.14 34 IAMs_20 IAMs_20 08 31 34.3
comp=Z,1μm,18.0s
U33K Whale Pass 96.14 34 P P 07 50 12.6 -1.1
baz=273
GHAJ Ghor Haditha 96.16 301 IAMs_20 IAMs_20 08 38 06.1
comp=Z,1μm,21.0s
CRAG Craig 96.17 35 P P 07 50 12.9 -1.0
baz=273
MMAI Mount Meron Ar 96.30 303 P P 07 50 15.7 +0.5
comp=Z,7.1nm,0.3s,baz=112,slow=11,SNR=2.6
comp=Z,7.1nm,0.3s
Q32M Nakina River 96.41 31 P P 07 50 14.3 -1.0
baz=274
WRAK Wrangell Islan 96.55 34 P P 07 50 15.1 -0.6
baz=274
EIL Elat 96.69 299 LR LR 08 38 60.0
comp=Z,503nm,20.5s,baz=82,slow=39
V35K Ketchikan 97.04 35 IAMs_20 IAMs_20 08 28 11.3
comp=Z,1μm,20.0s
V35K Ketchikan 97.04 35 P P 07 50 17.5 -0.4
baz=274
R33M Jennings River 97.04 31 P P 07 50 17.1 -0.9
baz=276
SIM Simferopol' 97.04 315 *e*P Pdif 07 50 18.7 +0.4
SIM *e* 07 54 18.0
SIM *e*S **S 08 01 36.0 -3.4**
SIM pmax pmax
comp=Z,20nm,0.8s
S34M Telegraph Cree 97.09 32 IAMs_20 IAMs_20 08 34 59.4
comp=Z,1μm,19.0s
S34M Telegraph Cree 97.09 32 P P 07 50 17.8 -0.3
baz=275
A36M Sachs Harbour 97.44 18 IAmb IAmb 07 50 27.4
comp=Z,16nm,1.1s
A36M Sachs Harbour 97.44 18 P P 07 50 19.0 -0.4
baz=282
ILGA Ilgaz 97.49 311 IAmb IAmb 07 50 29.8
comp=Z,60nm,1.7s
BR104 Keskin Array S 97.59 309 P P 07 50 19.8 -1.2
comp=Z,43nmcomp=Z,4.5nm,1.1s
BR131 Keskin Array S 97.59 309 ⇓*i*P Pdif 07 50 22.0 +0.9
BRTR Keskin Array B 97.59 309 P P 07 50 19.4 -1.6
BRTR Keskin Array B 97.59 309 P P 07 50 20.1 -0.9
comp=Z,1.8nm,0.8s,baz=126,slow=5.3,SNR=10
BRTR PP **PP 07 54 18.4 -0.3**
comp=Z,1.2nm,0.9s,baz=104,slow=6.9,SNR=5.0
BRTR LR LR 08 42 37.9
comp=Z,238nm,19.0s,baz=88,slow=40
comp=Z,1.8nm,0.8s
BR106 Keskin Array S 97.61 309 P P 07 50 19.5 -1.6
comp=Z,49nmcomp=Z,4.9nm,1.0s
BR105 Keskin Array S 97.61 309 P P 07 50 20.2 -0.9
comp=Z,62nmcomp=Z,6.9nm,1.0s
DLBC Dease Lake 97.62 32 LR LR 08 30 08.0
comp=Z,749nm,21.0s,baz=286,slow=33
DLBC Dease Lake 97.62 32 P P 07 50 19.8 -0.8
baz=276
T35M Bob Quinn 97.66 33 IAMs_20 IAMs_20 08 34 06.4
comp=Z,1μm,20.0s
T35M Bob Quinn 97.66 33 P P 07 50 20.1 -0.6
baz=276
TROLL Troll, Antarti 97.91 194 P Pdif 07 50 22.4 +0.6
TROLL Troll, Antarti 97.91 194 ⇓P Pdif 07 50 22.4 +0.6
comp=Z,628nm,0.9s
CSS Mathiatis 97.99 305 IAmb IAmb 07 50 43.2
comp=Z,15nm,0.8s
CSS Mathiatis 97.99 305 P P 07 50 22.5 -0.2
comp=Z,21nm,0.9s
SPITS Spitsbergen Ar 98.11 349 P P 07 50 21.6 -0.8
comp=Z,4.7nm,0.7s,baz=55,slow=7.2,SNR=4.2
SPITS LR LR 08 36 41.9
comp=Z,1μm,21.0s,baz=20,slow=37
comp=Z,4.7nm,0.7s
ARCES ARCESS Array B 98.40 340 P P 07 50 22.2 -1.6
comp=Z,2.2nm,0.8s,baz=77,slow=4.2,SNR=19
ARCES PKiKP **PKiKP 07 54 57.2 +1.4**
comp=Z,4.1nm,0.9s,baz=126,slow=1.6,SNR=5.1
ARCES LR LR 08 40 17.6
comp=Z,775nm,21.2s,baz=78,slow=39
comp=Z,2.2nm,0.8s
C36M Paulatuk 98.40 20 P P 07 50 23.2 -0.6
C36M IAmb IAmb 07 50 31.7
comp=Z,34nm,1.2s
C36M Paulatuk 98.40 20 P P 07 50 23.1 -0.6
baz=283
BELA Belgrano 2 98.52 183 P 07 50 24.2 0.0
BELA IAmb IAmb 07 50 31.8
comp=Z,21nm,1.2s
KBS Kingsbay 98.59 350 IAMs_20 IAMs_20 08 39 56.5
comp=Z,2μm,20.0s
SNAA Sanae 99.41 193 P Pdif 07 50 28.4 +0.1
SNAA Sanae 99.41 193 P Pdif 07 50 28.5 +0.1
SNAA IAmb IAmb 07 50 36.8
comp=Z,23nm,1.2s
SNAA Sanae 99.41 193 ⇓P **Pdif 07 50 28.4 +0.1**
comp=Z,149nm,0.8s
SNAA Sanae 99.41 193 P Pdif 07 50 28.3 -0.1
comp=Z,7.5nm,1.0s,baz=192,slow=6.8,SNR=18
SNAA PP **PP 07 54 31.6 +0.3**
comp=Z,7.0nm,1.0s,baz=226,slow=5.3,SNR=4.0
SNAA LR LR 08 37 56.5
comp=Z,2μm,18.1s,baz=111,slow=37
comp=Z,7.5nm,1.0s
SNAA Sanae 99.41 193 P Pdif 07 50 28.5 +0.1
SNAA pmax pmax
comp=Z,23nm,1.2s
SNAA MLR MLR
comp=Z,3μm,19.0s
BBB Bella Bella 99.42 38 LR LR 08 28 46.7
comp=Z,2μm,21.5s,baz=226,slow=31
AKASG Malin Array Be 99.87 321 P Pdif 07 50 29.6 -1.1
comp=Z,1.3nm,0.8s,baz=70,slow=4.7,SNR=5.3
AKASG PP **PP 07 54 33.7 -1.8**
comp=Z,1.4nm,0.8s,baz=75,slow=6.6,SNR=4.5
AKASG LR LR 08 40 56.9
comp=Z,581nm,20.5s,baz=74,slow=39
comp=Z,1.3nm,0.8s
AKASG Malin Array Be 99.87 321 *i*P **Pdif 07 50 32.0 +1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AK02 Malin Array Si 99.89 321 P Pdif 07 50 30.4 -0.4
FINES FINESS Array B 99.90 332 P Pdif 07 50 31.9 +1.3
comp=Z,4.4nm,0.9s,baz=62,slow=4.5,SNR=6.0
FINES PP **PP 07 54 33.3 -2.2**
comp=Z,4.6nm,1.0s,baz=133,slow=6.1,SNR=2.1
FINES PKiKP **PKiKP 07 54 59.0 +0.3**
comp=Z,3.3nm,0.8s,baz=94,slow=4.3,SNR=4.7
FINES LR LR 08 39 09.7
comp=Z,1μm,20.5s,baz=80,slow=38
comp=Z,4.4nm,0.9s
FINES FINESS Array B 99.90 332 *i*P **Pdif 07 50 33.7 +3.1**
FINES pmax pmax
comp=Z,25nm,1.3s
AK17 Malin Array Si 99.97 321 P Pdif 07 50 31.0 -0.2
MNK Minsk 100.17 325 *i*P **Pdif 07 50 32.0 +0.1**
MNK *i* 07 54 34.8
MNK *i*PPP PPP 07 56 42.2
MNK *i*S **SKSac 08 01 10.9 +2.1**
MNK *i*SS **SS 08 09 03.0 +3.6**
MNK *i*SSS SSS 08 12 53.3
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=E,12nm,0.8s
MNK MLR MLR
comp=E,639nm,22.0s
MNK MLR MLR
comp=Z,901nm,20.0s
KOTAN Kotaneelee Air 100.39 29 P Pdif 07 50 31.9 -0.9
baz=282
NOR Nord 100.40 355 *i*P **Pdif 07 50 29.7 -2.8**
NOR IAmb IAmb 07 50 34.9
comp=Z,3.4nm,0.7s
MI28 Mi28,Pidlybu 100.82 321 P Pdif 07 50 34.9 0.0
comp=Z,101nm,1.3s
LUBAR Lubar, Ukraine 100.90 320 P Pdif 07 50 33.8 -1.5
LSZ Lusaka 101.25 254 IAMs_20 IAMs_20 08 36 03.0
comp=Z,2μm,20.0s
HORU Horodok 101.86 320 P Pdif 07 50 38.3 -1.3
RNPP2 Kostyukhnivka 101.86 322 P Pdif 07 50 39.3 -0.3
KMPD K-Podol'skiy 101.94 319 P Pdif 07 50 39.6 -0.4
comp=Z,2μm,1.3s
BOSA Boshof 101.98 240 P Pdif 07 50 40.8 0.0
comp=Z,7.4nm,0.7s,baz=102,slow=3.6,SNR=18
BOSA PKiKP **PKiKP 07 55 05.8 +2.2**
comp=Z,1.7nm,0.6s,baz=180,slow=5.1,SNR=5.1
TESR Tescani 102.11 317 P Pdif 07 50 40.2 -0.6
YKA Yellowknife Ar 104.11 26 Pdiff **Pdif 07 50 48.5 -0.8**
comp=Z,0.7nm,0.9s,baz=293,slow=4.5,SNR=8.2
YKA PKiKP **PKiKP 07 55 06.1 -0.2**
comp=Z,0.3nm,0.7s,baz=37,slow=0.3,SNR=5.2
YKA PKKPbc **PKKPbc 08 06 37.8 -2.6**
comp=Z,1.0nm,0.8s,baz=114,slow=2.8,SNR=11
KOLS Kolonicke sedl 104.60 320 *e*PP **PKiKP 07 55 14.0 +6.4**
DAG Danmarks Havn 104.70 353 P Pdif 07 50 55.5 +3.8
DAG pmax pmax
comp=Z,7.0nm,0.4s
DAG Danmarks Havn 104.70 353 *i*P **Pdif 07 50 50.0 -1.7**
DAG IAmb IAmb 07 50 54.2
comp=Z,1.9nm,0.6s
DAG Danmarks Havn 104.70 353 *i*P **PP 07 55 13.0 +2.0**
STHS Stebnicka Huta 105.15 320 *e*PP **PKiKP 07 55 15.5 +6.9**
NEEM North Greenlan 105.92 0 *i*P **Pdif 07 50 54.9 -2.6**
NEEM IAmb IAmb 07 51 03.6
comp=Z,2.7nm,0.8s
HFS Hagfors 106.09 332 Pdiff **Pdif 07 50 56.9 -1.3**
comp=Z,2.0nm,0.8s,baz=31,slow=8.6,SNR=1.7
NB2 NORSAR Subarra106.85 334 P Pdif 07 51 00.4 -1.2
comp=Z,6.5nm,1.1s,baz=67,slow=4.6
NB2 NORSAR Subarra106.85 334 P Pdif 07 51 00.4 -1.2
baz=67,slow=4.6
NOA NORSAR Array B106.85 334 Pdiff **Pdif 07 51 00.9 -0.7**
comp=Z,2.6nm,0.8s,baz=227,slow=22,SNR=6.1
NOA PP **PP 07 55 26.8 -0.5**
comp=Z,0.8nm,0.8s,baz=72,slow=7.5,SNR=3.4
VYHS Vyhne 106.91 320 *e*PP **PP 07 55 29.3 +1.1**
NEW Newport 107.07 40 IAMs_20 IAMs_20 08 31 43.2
comp=Z,1μm,22.0s
KONO Kongsberg 108.17 333 IAMs_20 IAMs_20 08 48 29.4
comp=Z,1μm,21.0s
NVAR Mina Array Bea 108.39 51 Pdiff **Pdif 07 51 11.9 +2.7**
comp=Z,0.7nm,0.6s,baz=261,slow=5.2,SNR=4.1
NVAR PKiKP **PKiKP 07 55 16.0 +0.7**
comp=Z,0.1nm,0.4s,baz=331,slow=1.9,SNR=1.5
NVAR PP **PP 07 55 38.4 -1.2**
comp=Z,2.0nm,1.1s,baz=311,slow=5.0,SNR=4.1
NVAR PKKPbc **PKKPbc 08 06 27.4 +0.6**
comp=Z,0.9nm,0.8s,baz=78,slow=2.7,SNR=4.5
NVAR PKKP **PKKPab 08 06 38.0 -1.2**
comp=Z,1.3nm,0.9s,baz=60,slow=6.5,SNR=4.6
RONA Rosalia, Austr 108.77 320 *e*PP **PP 07 55 45.8 +4.0**
comp=Z,8.2nm,1.4s
CONA Conrad Observa 108.98 320 *e*PP **PP 07 55 44.2 +0.8**
comp=Z,9.7nm,1.2s
BRG Berggiesshubel 109.26 323 *e*PKP **PKiKP 07 55 21.8 +5.6**
BRG Amp 07 55 26.1
comp=Z,8.3nm,1.2s
SOKA Soboth 109.89 319 *e*PKiKP **PKiKP 07 55 17.5 -0.1**
comp=Z,12nm,1.8s
GERES GERESS Array B 110.07 321 Pdiff **Pdif 07 51 17.1 +0.8**
comp=Z,0.4nm,0.6s,baz=45,slow=1.5,SNR=2.0
GERES PKiKP **PKiKP 07 55 19.2 +1.3**
comp=Z,1.3nm,0.6s,baz=157,slow=3.2,SNR=5.9
WIN Windhoek 110.41 245 IAMs_20 IAMs_20 08 38 39.5
comp=Z,1μm,21.0s
R11B Troy Canyon, C 110.50 50 P PKiKP 07 55 17.7 -1.5
baz=283
MYKA Terra Mystica 110.81 319 *e*PKiKP **PKiKP 07 55 20.0 +0.6**
comp=Z,19nm,1.8s
KBA Koelnbreinsper 110.87 320 *e*PKiKP **PKiKP 07 55 20.0 +0.4**
comp=Z,9.3nm,1.3s
LESA Schwarzleotal 111.19 320 *e*PKiKP **PKiKP 07 55 18.2 -1.9**
comp=Z,4.5nm,1.0s
EGMT Eagleton 111.85 39 IAMs_20 IAMs_20 08 34 49.4
comp=Z,2μm,22.0s
WTTA Wattenberg 111.91 320 *e*PKiKP **PKiKP 07 55 22.3 +0.7**
comp=Z,5.4nm,0.8s
WATA Walderalm 111.92 320 *e*PKiKP **PKiKP 07 55 22.0 +0.4**
comp=Z,1.8nm,0.4s
SQTA Sankt Quirin 112.19 320 *e*PKiKP **PKiKP 07 55 22.3 +0.2**
comp=Z,1.5nm,0.5s
MOTA Moosalm 112.22 320 *e*PKiKP **PKiKP 07 55 22.1 0.0**
comp=Z,4.5nm,1.0s
FETA Feichten 112.57 320 *e*PKiKP **PKiKP 07 55 22.0 -0.8**
comp=Z,7.9nm,1.5s
DAVA Damuels 113.02 321 *e*PKiKP **PKiKP 07 55 24.5 +0.8**
comp=Z,17nm,1.3s
PDAR Pinedale Array 113.74 44 PKiKP **PKiKP 07 55 25.2 -0.1**
comp=Z,0.2nm,0.7s,baz=268,slow=3.2,SNR=2.0
PDAR PKKPbc **PKKPbc 08 06 08.2 -1.2**
comp=Z,1.7nm,0.7s,baz=110,slow=4.9,SNR=16
LAO LASA Array 114.57 39 IAMs_20 IAMs_20 08 38 57.5
comp=Z,1μm,20.0s
DGMT Dagmar 115.09 37 IAMs_20 IAMs_20 08 39 01.0
comp=Z,1μm,21.0s
K22A Casper 115.89 44 IAMs_20 IAMs_20 08 39 11.7
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 116.29 333 PKP **PKPdf 07 55 30.0 +0.5**
comp=Z,1.7nm,0.7s,baz=34,slow=2.7,SNR=4.7
EKA Eskdalemuir Ar 116.29 333 PKiKP **PKPdf 07 55 30.0 +0.5**
N23A Red Feather La 116.91 45 P PKPdf 07 55 29.7 -1.8
baz=291
KEST Kesra 117.19 309 PKP **PKiKP 07 55 32.9 +0.9**
comp=Z,2.2nm,0.5s,baz=20,slow=4.5,SNR=7.2
KEST PP **PP 07 56 42.0 -0.2**
comp=Z,11nm,0.9s,baz=345,slow=8.8,SNR=5.6
S22A 4UR Ranch, Cre 117.32 49 P PKPdf 07 55 30.5 -2.0
baz=288
E28A Huff 118.07 38 IAMs_20 IAMs_20 08 37 40.7
comp=Z,1μm,22.0s
121A Cookes Peak, D 118.07 55 P PKPdf 07 55 31.9 -1.9
baz=285
MDND Maddock 118.11 36 IAMs_20 IAMs_20 08 40 19.7
comp=Z,1μm,21.0s
Q24A Divide 118.16 47 P PKPdf 07 55 32.5 -1.5
baz=290
BRIGG Briggsdale 118.18 45 IAMs_20 IAMs_20 08 42 26.6
comp=Z,1μm,19.0s
SDCO Great Sand Dun 118.31 48 IAMs_20 IAMs_20 08 42 25.5
comp=Z,1μm,20.0s
Y22D IRIS PASSCAL I 118.34 53 P PKPdf 07 55 32.3 -2.0
baz=287
ULM Lac du Bonnet 118.94 32 PKP **PKiKP 07 55 35.0 +0.2**
comp=Z,4.3nm,0.8s,baz=301,slow=4.6,SNR=5.8
ULM PKKPbc **PKKPbc 08 05 50.1 -0.9**
comp=Z,4.0nm,0.9s,baz=126,slow=5.8,SNR=6.9
T25A Trinidad 119.33 49 P PKPdf 07 55 33.6 -2.6
baz=290
OGNE Ogallala 119.64 44 IAMs_20 IAMs_20 08 41 30.1
comp=Z,1μm,21.0s
KSCO Kaye Shedlock' 119.97 46 IAMs_20 IAMs_20 08 41 14.2
comp=Z,1μm,20.0s
SUSD Miller 120.15 39 IAMs_20 IAMs_20 08 44 11.9
comp=Z,1μm,21.0s
F33A 5 Mile Ranch, 121.09 37 PKPdf **PKPdf 07 55 38.3 -0.7**
F33A IAMs_20 IAMs_20 08 48 40.5
comp=Z,1μm,20.0s
ECSD EROS Data Cent 121.97 39 PKPdf 07 55 40.6 -0.2
ECSD EROS Data Cent 121.97 39 IAMs_20 IAMs_20 08 40 10.0
comp=Z,928nm,22.0s
CBKS Cedar Bluff 122.12 45 IAMs_20 IAMs_20 08 45 03.0
comp=Z,1μm,20.0s
TXAR Lajitas Array 122.33 57 PKP **PKiKP 07 55 42.5 +0.3**
comp=Z,1.8nm,0.8s,baz=239,slow=0.8,SNR=9.4
TXAR PKKPbc **PKKPbc 08 05 37.9 0.0**
comp=Z,1.9nm,0.8s,baz=97,slow=2.6,SNR=22
TXAR SKKPbc SKKPbc 08 09 24.4 -1.1
comp=Z,3.6nm,1.3s,baz=82,slow=2.3,SNR=4.0
EYMN Ely 122.62 32 IAMs_20 IAMs_20 08 43 36.6
comp=Z,1μm,20.0s
SPMN Marine on St. 123.48 36 IAMs_20 IAMs_20 08 43 11.7
comp=Z,1μm,22.0s
OK038 West end E0370 123.80 48 IAMs_20 IAMs_20 08 43 43.7
comp=Z,1μm,21.0s
KSU1 Kansas State U 124.19 44 IAMs_20 IAMs_20 08 45 02.5
comp=Z,1μm,21.0s
WMOK Wichita Mounta 124.46 49 IAMs_20 IAMs_20 08 42 25.4
comp=Z,1μm,20.0s
OK029 Liberty Lake 125.03 48 IAMs_20 IAMs_20 08 51 47.2
comp=Z,1μm,21.0s
SCIA State Center 125.05 39 IAMs_20 IAMs_20 08 42 31.7
comp=Z,1μm,22.0s
ESDC Sonseca Array 125.37 318 PKP **PKiKP 07 55 48.2 +0.4**
comp=Z,2.3nm,0.9s,baz=24,slow=1.5,SNR=8.2
ESDC PP **PP 07 57 40.9 +3.2**
comp=Z,4.0nm,0.9s,baz=65,slow=7.1,SNR=9.0
OK052 Battle Ridge R 125.43 47 IAMs_20 IAMs_20 08 52 01.7
comp=Z,1μm,20.0s
N38A Joes South For 125.62 40 IAMs_20 IAMs_20 08 44 18.0
comp=Z,740nm,22.0s
PBRG Braganca 126.05 321 *e*PKP **PKiKP 07 55 51.7 +2.5**
L40A Anamosa 126.21 38 IAMs_20 IAMs_20 08 44 02.2
comp=Z,975nm,21.0s
JFWS Jewell Farm 126.31 37 PKPdf **PKiKP 07 55 49.4 -0.2**
JFWS Jewell Farm 126.31 37 PKIKP **PKiKP 07 55 49.4 -0.2**
JFWS MLR MLR
comp=Z,2μm,20.0s
MVO Moncorvo 126.59 321 *e*PKP **PKiKP 07 55 53.1 +2.8**
MVO *e*LQ LQ 08 40 25.6
MVO *e*LR LR 08 46 54.5
MVO *i* AMs_20 08 59 37.5
comp=Z,589nm,20.0s
SCHQ Schefferville 126.67 13 PKP **PKPdf 07 55 49.6 +0.1**
comp=Z,18nm,1.1s,baz=347,slow=2.2,SNR=7.0
435B Jarrell 126.87 54 P PKPdf 07 55 49.3 -1.3
baz=291
PGAV Gavieira, Arco 126.91 322 *e*PKP **PKiKP 07 55 53.0 +2.1**
PGAV *e*LQ LQ 08 39 57.6
PGAV *e*LR LR 08 47 17.1
PGAV *i* AMs_20 09 02 57.4
comp=Z,416nm,20.0s
POLO Lamas de Olo 126.95 321 *e*PKP **PKiKP 07 55 50.8 -0.2**
N41A Harden Midland 127.19 39 IAMs_20 IAMs_20 08 42 49.4
comp=Z,818nm,20.0s
MTE Manteigas 127.33 320 *e*PKP **PKiKP 07 55 57.4 +5.6**
MTE *e*SS SS 08 15 09.1 +11
MTE *e*LQ LQ 08 40 25.3
MTE *e*LR LR 08 47 43.8
MTE *i* AMs_20 09 00 01.3
comp=Z,645nm,20.0s
E46A Sault Ste Mari 127.38 30 IAMs_20 IAMs_20 08 47 31.2
comp=Z,1μm,21.0s
PVIS Viseu 127.38 321 *e*PKP **PKiKP 07 55 52.8 +1.0**
K43A Burlington 127.57 36 IAMs_20 IAMs_20 08 44 24.0
comp=Z,1μm,22.0s
PCBR Castelo Branco 127.60 320 *e*PKP **PKiKP 07 55 53.1 +0.9**
PMRV Marv??o 127.76 319 *e*PKP **PKiKP 07 55 58.7 +6.1**
PMRV *e*LR LR 08 48 11.4
PMRV *i* AMs_20 09 07 36.1
comp=Z,378nm,18.0s
PCAS Casmilo, Conde 128.13 320 *e*PKP **PKiKP 07 55 55.2 +1.9**
L44A Lake County Fo 128.14 36 P PKPdf 07 55 51.5 -1.1
baz=308
PBAR Barrancos 128.19 318 *e*PKP **PKiKP 07 55 54.4 +0.9**
PESTR Estremoz 128.19 319 *e*PKP **PKiKP 07 55 56.6 +3.1**
HDIL Hopedale 128.26 39 IAMs_20 IAMs_20 08 44 05.5
comp=Z,1μm,22.0s
GLMI Grayling 128.27 32 IAMs_20 IAMs_20 08 47 14.1
comp=Z,1μm,21.0s
CCM Cathedral Cave 128.36 42 IAMs_20 IAMs_20 08 51 20.8
comp=Z,960nm,20.0s
MIAR Mount Ida 128.43 47 IAMs_20 IAMs_20 08 43 59.3
comp=Z,980nm,21.0s
TORD Torodi Ar. Bea 128.76 284 PKP **PKPdf 07 55 54.6 +0.1**
comp=Z,11nm,0.6s,baz=78,slow=2.2,SNR=33
PBEJ Beja 128.83 318 *e*PKP **PKiKP 07 55 56.8 +2.0**
PVAQ Vaqueiros 129.06 317 *e*PKP PKiKP 07 56 05.7 +11
PVAQ *e*LR LR 08 52 01.4
PVAQ *i* AMs_20 09 05 02.0
comp=Z,517nm,20.0s
PCVE Castro Verde 129.15 318 *e*PKP **PKiKP 07 55 57.7 +2.3**
MESJ Messejana 129.16 318 *e*PKP **PKiKP 07 55 58.4 +2.9**
PBMO Poplar Bluff 129.58 43 PKPdf 07 55 53.0 -2.5
SFIN Lafayette 129.72 38 IAMs_20 IAMs_20 08 45 59.0
comp=Z,1μm,22.0s
MORF Marmelete 129.74 318 *e*PKP **PKiKP 07 55 58.6 +2.0**
I49A Point Hope 129.81 31 IAMs_20 IAMs_20 08 52 00.8
comp=Z,933nm,18.0s
PFVI Vila Bisbo 129.95 318 *e*PKP **PKiKP 07 55 59.5 +2.5**
T45A Paducah 130.66 42 IAMs_20 IAMs_20 08 53 07.7
comp=Z,825nm,20.0s
O48B Farmland 130.96 36 IAMs_20 IAMs_20 08 49 47.7
comp=Z,1μm,20.0s
O48B Farmland 130.96 36 P PKPdf 07 55 56.8 -1.2
baz=309
WCI Wyandotte Cave 131.50 39 IAMs_20 IAMs_20 08 47 37.5
comp=Z,979nm,22.0s
VBMS Vicksburg 131.77 49 IAMs_20 IAMs_20 08 51 17.9
comp=Z,1μm,20.0s
PLCA Paso Flores 132.03 158 PKP **PKiKP 07 56 02.5 +1.2**
comp=Z,1.8nm,0.7s,baz=230,slow=2.1,SNR=6.8
PLCA Paso Flores 132.03 158 *e*P **PKPdf 07 56 00.0 -0.2**
PLAL Pickwick Lake 132.15 44 IAMs_20 IAMs_20 08 49 19.3
comp=Z,959nm,20.0s
ACSO Alum Creek Sta 132.25 35 IAMs_20 IAMs_20 08 46 42.6
comp=Z,1μm,22.0s
V48A Smith Brothers 132.60 42 IAMs_20 IAMs_20 09 02 27.8
comp=Z,1μm,18.0s
U49A Red Boiling Sp 132.84 41 IAMs_20 IAMs_20 08 49 22.2
comp=Z,1μm,21.0s
LONY Lake Ozonia 133.19 25 IAMs_20 IAMs_20 08 56 43.3
comp=Z,878nm,20.0s
J57A Williamstown 133.53 27 IAMs_20 IAMs_20 08 56 44.7
comp=Z,934nm,20.0s
P53A Whipple 133.65 35 IAMs_20 IAMs_20 08 59 43.8
comp=Z,944nm,21.0s
L56A Greenwood 133.78 29 IAMs_20 IAMs_20 08 54 29.5
comp=Z,1μm,21.0s
K57A Scipio Center 133.82 28 IAMs_20 IAMs_20 08 56 15.5
comp=Z,972nm,20.0s
J59A Piesco 134.15 26 IAMs_20 IAMs_20 08 54 43.9
comp=Z,1μm,22.0s
TZTN Tazewell 134.26 39 IAMs_20 IAMs_20 08 50 37.5
comp=Z,1μm,21.0s
Q54A Coxs Mills 134.31 35 IAMs_20 IAMs_20 08 52 49.2
comp=Z,1μm,20.0s
M57A Sunshine Farm, 134.59 30 IAMs_20 IAMs_20 08 53 19.1
comp=Z,1μm,22.0s
PKME Peaks-Kenny Pk 134.65 20 IAMs_20 IAMs_20 08 57 49.6
comp=Z,760nm,22.0s
TRY Troy 135.11 26 IAMs_20 IAMs_20 08 58 57.1
comp=Z,809nm,20.0s
N58A Sunbury 135.17 30 IAMs_20 IAMs_20 09 02 45.4
comp=Z,823nm,20.0s
R55A Marlinton 135.20 35 IAMs_20 IAMs_20 08 49 54.7
comp=Z,1μm,21.0s
V53A Saluda 135.27 40 IAMs_20 IAMs_20 09 01 48.3
comp=Z,966nm,18.0s
DBIC Dimbokro 135.69 276 PKhKP PKPpre 07 55 58.4
comp=Z,4.4nm,0.6s,baz=118,slow=2.9,SNR=7.4
DBIC PKP **PKiKP 07 56 08.5 -0.8**
comp=Z,7.6nm,0.7s,baz=32,slow=1.7,SNR=9.8
DBIC SKPbc **SKPab 07 59 41.4 -0.7**
comp=Z,6.9nm,1.1s,baz=72,slow=6.4,SNR=4.1
BLA Blacksburg 135.75 36 IAMs_20 IAMs_20 08 58 45.5
comp=Z,1μm,20.0s
L61B Northampton 135.76 25 P PKPdf 07 56 05.4 -1.7
baz=325

K62A	Royalston	135.76	24	IAMs_20	IAMs_20	08 52 47.4		
	comp=Z,1μm,22.0s							
GOGA	Godfrey	136.19	43	IAMs_20	IAMs_20	08 54 26.2		
	comp=Z,919nm,21.0s							
U56A	King	136.35	37	IAMs_20	IAMs_20	08 52 25.4		
	comp=Z,958nm,20.0s							
WSPT	Westport, CT	136.51	27	IAMs_20	IAMs_20	08 59 15.5		
	comp=Z,772nm,20.0s							
KMSC	Kings Mountain	136.54	39	IAMs_20	IAMs_20	08 48 20.9		
	comp=Z,1μm,22.0s							
P61A	Hammonton	137.01	29	IAMs_20	IAMs_20	08 55 04.0		
	comp=Z,1μm,21.0s							
BO02	Sierra Bellavi	137.02	154		PKPdf	07 56 05.8	-3.9	
BO01	Tunca	137.22	153	PKPdf	PKPdf	07 56 07.3	-2.7	
Y57A	Sumter	137.85	40	IAMs_20	IAMs_20	08 54 49.7		
	comp=Z,777nm,20.0s							
PMOZ	Porto Moniz, M	138.04	318	ePKP	PKPdf	07 56 06.1	-5.6	
Y58A	Scranton	138.39	39	IAMs_20	IAMs_20	09 08 14.8		
	comp=Z,861nm,18.0s							
TEIG	Tepich	138.40	63	IAMs_20	IAMs_20	08 51 41.2		
	comp=Z,563nm,21.0s							
CO03	El Pedregal	140.34	150	PKPdf	PKPdf	07 56 13.0	-3.0	
TGUH	Tegucigalpa,Un	140.97	72	IAMs_20	IAMs_20	08 56 09.2		
	comp=Z,660nm,20.0s							
LCO	Las Campanas	141.82	149	PKPdf	PKPdf	07 56 15.7	-3.2	
LCO	Las Campanas	141.82	149	PKIKP	PKPdf	07 56 15.7	-3.2	
TBOT	Tacuaremb	144.62	170	eP	PKPdf	07 56 23.2	-0.2	
HDC	Heredia	144.74	77	IAMs_20	IAMs_20	08 49 41.6		
	comp=Z,949nm,22.0s							
HDC	Heredia	144.74	77	eP	PKPab	07 56 22.4	-0.6	
PLTB	Pedras Altas	144.88	174	eP	PKPdf	07 56 23.6	-0.3	
CPSB	Cacapava Do Su	146.24	173	eP	PKPab	07 56 27.8	-0.1	
TER01	Tubaro-SC	148.34	180	eP	PKPdf	07 56 29.0	-0.8	
NNA	Nana	148.62	119	PKPab	PKiKP	07 56 36.1	+0.3	
NNA	Nana	148.62	119	PKPbc	PKiKP	07 56 35.6	-0.2	
	comp=Z,15nm,0.7s,baz=290,slow=3.8,SNR=8.5							
NNA	Nana	148.62	119	PKP2	PKiKP	07 56 36.1	+0.3	
COHC	Cochancay	149.44	100		PKPbc	07 56 34.5	-1.8	
ITAB	Concordia	149.51	175	eP	PKPdf	07 56 32.0	+0.3	
CPUP	Villa Florida	149.51	166	PKPbc	PKPbc	07 56 34.9	-1.3	
	comp=Z,14nm,0.6s,baz=184,slow=2.3,SNR=23							
CPUP	Villa Florida	149.51	166	eP	PKPdf	07 56 33.4	+1.7	
NMDO	Nuevo Mundo	149.61	54	PKPab	PKiKP	07 56 38.1	+0.5	
OTAV	Otavalo	150.63	94		PKPdf	07 56 36.7	+2.3	
OTAV	Otavalo	150.63	95	IAMs_20	IAMs_20	08 55 12.3		
	comp=Z,774nm,20.0s							
OTAV	Otavalo	150.63	95	PKIKP	PKPdf	07 56 36.7	+2.3	
OTAV	Otavalo	150.63	95	eP	PKPdf	07 56 34.6	+0.2	
PAPY	Pozo Azul	151.39	163	eP	PKPdf	07 56 36.2	+1.5	
PTGB	Pitanga	152.01	174	eP	PKPdf	07 56 37.0	+1.3	
LPAZ	La Paz	153.01	137		PKPdf	07 56 39.9	+1.9	
LPAZ	La Paz	153.01	137	PKPbc	PKiKP	07 56 46.6	+1.1	
	comp=Z,11nm,0.6s,baz=262,slow=1.0,SNR=20							
LPAZ	La Paz	153.01	137	PKIKP	PKPdf	07 56 39.9	+1.9	
LPAZ	La Paz	153.01	137	eP	PKPdf	07 56 38.6	+0.6	
PARB	Paraibuna	153.28	187	eP	PKPdf	07 56 37.6	0.0	
SDDR	Presa de Saban	153.39	53	IAMs_20	IAMs_20	09 03 27.0		
	comp=Z,843nm,20.0s							
MURT	Porto Murtinho	153.86	162	eP	PKPdf	07 56 40.2	+1.9	
DUB01	Friburgo-RJ	153.89	195	eP	PKPdf	07 56 40.4	+2.0	
CZSB	Cruzeiro do Su	154.13	115	eP	PKPdf	07 56 40.6	+1.7	
ALF01	Guarapari-ES	154.81	199	eP	PKPdf	07 56 40.4	+0.7	
ROSC	El Rosal	154.92	86	PKP	PKPdf	07 56 40.9	+0.3	
	comp=Z,3.2nm,0.4s,baz=11,slow=10,SNR=1.9							
BDQN	Bodoquena, MS	155.26	163	eP	PKPdf	07 56 41.2	+0.9	
BSCB	Bom Sucesso	155.46	190	eP	PKPdf	07 56 43.5	+2.7	
AQDB	Aquidauana	155.53	165	eP	PKPdf	07 56 41.6	+0.9	
RIB01	Linhares ES	155.90	201	eP	PKPdf	07 56 42.6	+1.4	
ABR01	Abrolhos, BA	156.45	206	eP	PKPdf	07 56 43.2	+1.2	
SJMB	Sao Joao De Ma	156.74	200	eP	PKPdf	07 56 40.6	-1.7	
ITRB	Iturama	157.10	177	eP	PKPdf	07 56 43.9	+1.0	
SIV	San Ignacio	157.53	149	PKP	PKPdf	07 56 44.3	+0.9	
	comp=Z,4.3nm,1.0s,baz=193,slow=3.4,SNR=14							
SIV				PKPab	PKPab	07 57 17.1	+2.1	
	comp=Z,13nm,1.2s,baz=200,slow=5.9,SNR=5.4							
SJG	San Juan	157.83	47	IAMs_20	IAMs_20	09 16 24.9		
	comp=Z,630nm,20.0s							
SDV	Santo Domingo	158.01	74	IAMs_20	IAMs_20	09 25 04.1		
	comp=Z,847nm,21.0s							
SDV	Santo Domingo	158.01	74	eP	PKPdf	07 56 44.2	-0.1	
TBTG	Tabatinga, AM	158.03	110	eP	PKPdf	07 56 44.5	+0.3	
PMNB	Patos De Minas	158.12	187	eP	PKPdf	07 56 44.7	+0.5	
GUA01	Guaratinga, BA	158.16	205	eP	PKPdf	07 56 46.1	+1.9	
HATO	Hato, Curacao	158.57	65	IAMs_20	IAMs_20	09 18 13.8		
	comp=Z,764nm,22.0s							
IPMB	Ipameri, GO	158.82	183	eP	PKPdf	07 56 46.1	+1.0	
PTLB	Pontes e Lacer	158.94	152	eP	PKPdf	07 56 46.1	+1.0	
CMC01	Camacan, BA	159.11	207	eP	PKPdf	07 56 45.7	+0.3	
SALV	Santo Antonio	159.87	162	eP	PKPdf	07 56 47.1	+0.9	
VILB	Vilhena	160.51	146	eP	PKPdf	07 56 47.7	+0.7	
GDU01	Guandu, BA	160.56	209	eP	PKPdf	07 56 47.5	+0.5	
JANB	Januaria	161.12	195	eP	PKPdf	07 56 46.6	-1.0	
BDFB	Brasilia	161.13	184	PKP	PKPdf	07 56 48.9	+1.2	
	comp=Z,8.0nm,1.0s,baz=153,slow=2.3,SNR=7.1							
BDFB				PKPab	PKPab	07 57 31.2	+0.5	
	comp=Z,11nm,1.1s,baz=99,slow=5.1,SNR=4.7							
NBAN	Anadia - AL	161.76	225	eP	PKPdf	07 56 49.3	+1.0	
NBLA	Lagarto - SE	161.80	219	eP	PKPdf	07 56 48.7	+0.3	
NBCA	Caruaru-PE	162.54	229	eP	PKPdf	07 56 49.3	+0.1	
NBPV	Pedro Velho	163.06	235	eP	PKPdf	07 56 50.5	+0.9	
TEFE	Tefe	163.17	114	eP	PKPdf	07 56 50.7	+0.9	
PDRB	Porto dos Gac	163.40	153	eP	PKPdf	07 56 50.5	+0.5	
NBLV	Livramento - P	163.78	229	eP	PKPdf	07 56 50.7	+0.3	
SDBA	SAO DESIDERIO	163.81	195	eP	PKPdf	07 56 50.7	+0.3	
RCBR	Riachuelo	163.90	236	eP	PKPdf	07 56 50.5	0.0	
CLDB	Colider	164.47	155	eP	PKPdf	07 56 51.1	+0.2	
SNDB	Serra Nova Dou	164.68	172	eP	PKPdf	07 56 52.1	+1.0	
NBMA	Muriti-CE	165.12	225	eP	PKPdf	07 56 52.3	+0.7	
SMTB	Santa Maria do	167.80	188	eP	PKPdf	07 56 53.7	+0.1	
NPGB	Novo Progresso	168.03	149	eP	PKPdf	07 56 54.3	+0.6	
BOAV	Boa Vista	168.68	94	eP	PKPdf	07 56 54.3	+0.1	
ITTB	Itaituba	169.98	139	eP	PKPdf	07 56 55.1	+0.1	
TMAB	Tom-Au,PA,Br	174.25	191	eP	PKPdf	07 56 56.1	-0.8	

NEIC ***03*** *07:37:37.4±1.5, 40°.26N±0°.01×124°.69W±0°.04, h10km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=82.0*

NCEDC 03 07:37:39.6±3.1, 40°31N±0°.02×124°48W±0°.04, h7km±6km, ML2.8/10, ML2.9/50(NEIC), Error ellipse: s-maj=4.5km s-min=2.7km az=81.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.20	34		Pg	07 37 44.7	+1.0
KCTM					Sg	07 37 48.9	+2.5
KMPM	Mount Pierce	0.30	69		Pb	07 37 46.5	-0.8
KMPM				Sg	Sb	07 37 51.6	-0.9
KCRM	Chalk Rock	0.52	77		Pb	07 37 51.0	-0.1
KMRM	Mail Ridge	0.60	98		Pb	07 37 52.0	-0.5
KMRM				IAML		07 38 05.4	
	comp=E,673nm,0.4s						
KMRM				IAML		07 38 07.0	
	comp=N,513nm,0.8s						
JCC	Jacoby Creek,	0.61	34		Pg	07 37 51.7	+0.2
JCC				IAML		07 38 03.6	
	comp=E,494nm,1.0s						
KHMM	Horse Mountain	0.81	45		Pg	07 37 55.3	+0.2
KHMM				IAML		07 38 10.6	
	comp=E,849nm,0.5s						
KHMM				IAML		07 38 15.0	
	comp=N,443nm,0.8s						
KIPM	Iron Peak	0.92	123		Pg	07 37 57.3	0.0
KRPM	Rodgers	0.92	22		Pg	07 37 56.7	-0.5
KRPM				IAML		07 38 14.8	
	comp=N,204nm,0.8s						
KCPM	Cahto Peak	0.93	132		Pg	07 37 57.1	-0.4
KCPM				IAML		07 38 13.9	
	comp=N,661nm,0.4s						
KHBM	Hayfork Bally	1.03	70		Pg	07 37 58.8	-0.6
KHBM				IAML		07 38 17.6	
	comp=N,287nm,0.8s						
KHBM				IAML		07 38 18.8	
	comp=E,254nm,1.0s						
KBNM	Bluenose Ridge	1.07	112		Pg	07 37 59.7	-0.5
DCMP	DeCamp, Califo	1.22	133		Pg	07 38 00.8	-2.2
DCMP	DeCamp, Califo	1.22	133	IAML		07 38 07.5	
	comp=N,120nm,2.9s						
DCMP				IAML		07 38 34.9	
	comp=E,67nm,3.9s						
WEAV	Weaverville	1.22	69		Pg	07 38 01.4	-1.6
LBPM	Beegum Peak	1.23	89		Pg	07 38 01.9	-1.2
KOMM	Orleans Mounta	1.25	39		Pb	07 38 01.6	-1.9
KRMB	Red Mountain	1.29	20		Pn	07 38 01.8	-2.4

O02D	Mt. Diablo Mer	1.30	95	Pn	Pn	07 38 03.0	-1.3
GWRM	Wonder Ranch	1.43	140		Pn	07 38 03.9	-2.1
GROM	Round Mountain	1.44	105		Pn	07 38 05.2	-1.0
GVV	Valley View	1.49	110		Pn	07 38 06.1	-0.8
N02D	Trinity Center	1.51	63		Pn	07 38 05.5	-1.6
N02D	Trinity Center	1.51	63	IAML		07 38 32.0	
	comp=N,128nm,0.5s						
N02D				IAML		07 38 34.2	
	comp=E,136nm,0.5s						
LBKM	Bonanza King	1.58	60		Pn	07 38 06.9	-1.3
KSXB	Camp Six Broad	1.59	17	Pn	Pn	07 38 06.0	-2.3
KSXB				IAML		07 39 02.8	
	comp=E,109nm,4.9s						
SIGP	Signal Peak, C	1.59	11		Pn	07 38 05.8	-2.5
M02C	Callahan	1.64	48		Pn	07 38 07.3	-1.7
M02C	Callahan	1.64	48	IAML		07 38 33.6	
	comp=E,92nm,5.0s						
M02C				IAML		07 38 33.9	
	comp=N,81nm,4.5s						
HOPS	Hopland Field	1.71	140	Pn	Pn	07 38 07.9	-1.9
HOPS				IAML		07 38 30.2	
	comp=N,164nm,4.5s						
HOPS				IAML		07 39 10.8	
	comp=E,179nm,2.9s						
LTCM	Tuscan Springs	1.81	92		Pn	07 38 10.7	-0.5
KBO	Bosley Butte	1.91	6	Pn	Pn	07 38 10.9	-1.7
KBO				IAML		07 39 07.4	
	comp=N,254nm,4.6s						
YBH	Yreka Blue Hor	1.96	43	Pn	Pn	07 38 12.0	-1.3
LMPM	Military Pass	2.12	55		Pn	07 38 15.6	0.0
LBFM	Black Fox Moun	2.23	61		Pn	07 38 16.9	-0.2
HATC	Hat Creek Radi	2.36	77	Pn	Pn	07 38 18.6	-0.3
ORV	Oroville	2.42	107	Pn	Pn	07 38 18.6	-1.0
ORV				IAML		07 39 26.2	
	comp=N,35nm,5.0s						
K02D	Willamette Mer	2.46	14	Pn	Pn	07 38 19.5	-0.8
K02D				IAML		07 39 10.1	
	comp=N,79nm,4.7s						
K02D				IAML		07 39 54.0	
	comp=E,80nm,4.8s						
L04D	Klamath Falls	2.52	40	Pn	Pn	07 38 21.1	0.0
L04D				IAML		07 39 04.8	
	comp=N,86nm,4.6s						
L04D				IAML		07 39 22.8	
	comp=E,69nm,3.7s						
DBO	Dodson Butte	2.96	18	Pn	Pn	07 38 26.4	-0.7
AFDM	Forest Hills D	3.03	115	Pn	Pn	07 38 27.3	-0.7
AFDM				IAML		07 38 58.6	
	comp=N,25nm,4.6s						
AFDM				IAML		07 39 16.3	
	comp=E,28nm,4.9s						
K04D	Chiloquin, OR	3.09	41	Pn	Pn	07 38 28.5	-0.5
J05D	Fort Rock, OR	3.84	38	Pn	Pn	07 38 38.9	-0.3
PAHR	Pah Rah Range	3.96	97	Pn	Pn	07 38 40.0	-1.0
PAHR				IAML		07 40 02.1	
	comp=N,28nm,4.8s						
PAHR				IAML		07 41 04.1	
	comp=E,34nm,5.0s						
SAO	San Andreas Ge	4.27	145	Pn	Pn	07 38 43.7	-1.2
PINE	Pine Mountain	4.37	36	Pn	Pn	07 38 46.7	+0.2
BJOM	Mount Johnson	4.44	145		Pb	07 38 54.2	-3.7
ISA	Isabella, Lake	6.63	132	Pn	Pn	07 39 17.9	+0.3

TXNET 03 07:44:49.2, 31°.6N±0°.7×104°.2W±0°.9, h6km±2km, ML1.7/7, Error ellipse: s-maj=1.5km s-min=0.9km az=52.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.34	28	P	Pg	07 44 56.5	+0.6
TPB11				S	Sg	07 45 01.0	+0.6
PECS	Pecos	0.40	131	P	Pb	07 44 58.0	-0.7
PECS				S	Sb	07 45 03.7	-1.4
TPB07	Mentone	0.47	97	P	Pb	07 44 59.4	-0.5
TPB07				S	Sb	07 45 06.1	-1.1
TPB12	Southwest of T	0.48	152	P	Pg	07 44 59.0	+0.6
TPB12				S	Sg	07 45 05.9	+1.3
TPB10	Southeast of T	0.53	131	P	Pb	07 45 00.8	-0.1
TPB10				S	Sb	07 45 08.0	-0.9
GDL2	Guadalupe Moun	0.58	348	P	Pg	07 45 01.0	+0.7
CLNB	Carlsbad	0.69	25	S	Sb	07 45 12.9	-0.6
CLNB	Carlsbad	0.69	25	P	Pg	07 45 02.9	+0.4
TPB01	Permian Basin	0.78	151	P	Pg	07 45 04.4	+0.1
TPB01				S	Sg	07 45 14.8	+0.3
TPB03	Saragosa	0.81	132	S	Sb	07 45 17.1	+0.1
CLN7	Carlsbad 7	0.85	24	P	Pb	07 45 06.7	+0.3
TPB06	Permian Basin	0.85	89	S	Sb	07 45 18.3	+0.1
HTMS	Hat Mesa	0.97	31	P	Pn	07 45 09.0	-0.5
HTMS				S	Sb	07 45 22.5	+0.9
MNTX	Cornudas Mount	0.99	274	P	Pg	07 45 08.5	+0.2
MNTX				S	Sg	07 45 21.6	+0.4
TPB05	Hovey Rd	1.05	133	S	Sb	07 45 23.6	-0.1
VHRN	Van Horn	1.07	218	P	Pg	07 45 09.7	0.0
VHRN				S	Sb	07 45 24.2	-0.3
MNHN	Monahans	1.28	103	P	Pg	07 45 14.0	+0.2
MNHN				S	Sb	07 45 30.4	0.0
TPB08	Permian Basin	1.34	123	S	Sn	07 45 34.7	+1.9
ALPN	Alpine	1.35	158	P	Pn	07 45 14.2	-0.5
ALPN				S	Sb	07 45 31.9	-0.7
ODSA	Odessa	1.50	71	P	Pb	07 45 17.5	0.0
ODSA				S	Sg	07 45 37.2	-0.3
TMB04	Seminole	1.77	56	P	Pb	07 45 22.1	0.0
TMB04				S	Sg	07 45 45.5	-0.6
TMB02	Rankin	1.91	103	P	Pg	07 45 25.8	-0.1
TMB02				S	Sb	07 45 49.6	+0.8
TX31	Lajitas Ar. Si	2.34	168	P	Pb	07 45 30.9	-0.9
TX31	Lajitas Ar. Si	2.34	168	S	Sb	07 46 00.6	-0.5
SAND	Sanderson	2.46	132	S	Sg	07 46 07.5	-0.8
MSTX	Muleshoe	2.63	27	S	Sb	07 46 10.5	+1.2
MSTX	Muleshoe	2.63	27	P	Pb	07 45 35.8	-0.9

IDC ***03*** *07:49:58.0±0.8, 3°.22S×130°.97E, h0km, mb4.2/12, mbtmp4.2/13, ML4.2/1, Error ellipse: s-maj=54.1km s-min=16.2km az=73.0*

NEIC ***03*** *07:50:01.4±1.5, 3°.32S±0°.07×130°.68E±0°.07, h15km±3km, mb4.3/15, Error ellipse: s-maj=10.7km s-min=9.0km az=220.0*

DJA ***03*** *07:50:02.5±0.3, 3°S±4°×13°1E±°, h10km, M4.2/13, mb4.4/2, MLv4.1/13*

ISC 03 07:50:02.4±0.5, 3°33S±0°.05×130°.67E±0°.06, h31km, n58, σ1°58/55, mb4.2/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.41	213	P	Pb	07 50 30.0	+1.9
BNDI	Bandanaira	1.41	213	P	Pb	07 50 30.6	+2.5
FAKI	Fak Fak	1.63	75		Pn	07 50 29.1	+0.1
FAKI	Fak Fak	1.63	75	P	Pn	07 50 29.3	+0.3
FAKI	Fak Fak	1.63	75	P	Pn	07 50 29.0	0.0
MSAI	Masohi	1.74	270	P	Pb	07 50 35.4	+1.7
AAI	Ambon	2.50	262	P	Pb	07 50 46.6	0.0
SWI	Sorong	2.52	13	P	Pn	07 50 40.2	-1.1
KMPI	Kaimana, Papua	3.04	96	P	Pn	07 50 49.1	+0.6
NLAI	Namlea	3.57	271	P	Pn	07 50 59.4	+3.8
SANI	Sanana	4.85	285	P	Pb	07 51 24.6	-2.1
SANI	Sanana	4.85	285	P	Pn	07 51 15.0	+1.7
BAKI	Biak	5.83	69	P	Pn	07 51 28.0	+1.2
	102nm,0.8s						
LUWI	Luwuk	8.21	286	Pn	Pn	07 52 00.5	+1.0
MTN	Manton Dam	9.46	177	Pn	Pn	07 52 17.3	+0.7
MTN	Manton Dam	9.46	177	P	Pn	07 52 16.7	+0.1
KDU	Kakadu	9.46	169	P	Pn	07 52 15.5	-1.2
KDU	Kakadu	9.46	169	S	Sn	07 53 59.5	-2.5
KAPI	Kappang	11.02	261	Pn	Pn	07 52 49.0	+11
	1.2nm,0.3s,baz=137,slow=6.6,SNR=4.8						
KNRA	Kununurra	12.41	189	Pn	Pn	07 52 55.3	-1.7
PLAI	Plampang	13.93	246	P	P	07 53 24.3	-1.3
FITZ	Fitzroy Crossi	15.48	198	Pn	Pn	07 53 35.7	-2.9
FITZ	Fitzroy Crossi	15.48	198	Pn	Pn	07 53 35.9	-2.8
	0.6nm,0.3s,baz=40,slow=9.5,SNR=7.1						
FITZ				Sn	Sn	07 56 24.4	-4.8
	0.2nm,0.3s,baz=90,slow=13,SNR=1.4						
COEN	Coen	16.24	131	Pn	Pn	07 53 47.3	-1.2
COEN				IAmb	IAmb	07 53 53.1	
	comp=Z,24nm,1.1s						
WB0	Warramunga Arr	16.73	168	Pn	Pn	07 53 53.2	-1.5
WB0				IAmb	IAmb	07 54 06.1	
	comp=Z,21nm,1.0s						
WRA	Warramunga Arr	16.89	168	Pn	Pn	07 53 55.9	-0.8
WRA	Warramunga Arr	16.89	168	Pn	Pn	07 53 54.6	-2.1
	comp=Z,0.9nm,0.3s,baz=350,slow=12,SNR=10						
WRA				Sn	Sn	07 56 50.7	-13
	comp=Z,0.2nm,0.3s,baz=340,slow=23,SNR=2.0						
	comp=Z,3.1nm,1.0s						
WB2	Warramunga Arr	16.89	168	Pn	Pn	07 53 55.4	-1.3
WB2				IAmb	IAmb	07 54 07.8	
	comp=Z,25nm,1.1s						
QIS	Mount Isa	19.21	154	P	Pn	07 54 25.3	+0.2
AS31	Alice Springs	20.45	171	P	Pn	07 54 39.2	-0.7
AS31				IAmb	IAmb	07 54 40.2	
	comp=Z,7.2nm,0.6s						
ASAR	Alice Springs	20.45	171	P	Pn	07 54 39.8	0.0
ASAR	Alice Springs	20.45	171	P	Pn	07 54 39.1	-0.7
	comp=Z,16nm,0.5s,baz=351,slow=10,SNR=121						
ASAR				S	S	07 58 23.6	-1.6
	comp=Z,0.6nm,0.9s,baz=344,slow=20,SNR=4.1						
	comp=Z,16nm,0.5s						
AS01	Alice Springs	20.46	171	P	Pn	07 54 38.9	-1.0
PSA00	Pilbara Seismi	20.96	209	P	P	07 54 42.0	-1.0
WRKA	Warakurna	21.70	186	P	P	07 54 51.6	+0.6
CTAO	Charters Tower	22.55	139	P	P	07 55 00.5	+0.4
OOD	Oodnadatta	24.79	169	P	P	07 55 23.7	+2.0
FORT	Forrest	27.41	185	P	P	07 55 46.3	+1.0
STKA	Stephens Creek	30.20	161	P	P	07 56 10.0	-0.1
STKA				IAmb	IAmb	07 56 19.1	
	comp=Z,7.4nm,1.1s						
STKA	Stephens Creek	30.20	161	P	P	07 56 09.6	-0.6
	comp=Z,2.2nm,0.8s,baz=327,slow=13,SNR=1.7						
	comp=Z,2.2nm,0.8s						
ARMA	Armidale	33.44	146	P	P	07 56 38.9	+0.1
ARMA				IAmb	IAmb	07 56 56.4	
	comp=Z,6.4nm,1.1s						
JNU	Nakatsue	36.26	0	P	P	07 57 00.7	-2.3
	comp=Z,15nm,1.0s,baz=173,slow=8.1,SNR=2.8						
	comp=Z,15nm,1.0s						
CMAR	Chiang Mai Arr	38.02	306	P	P	07 57 19.5	+1.4
	comp=Z,0.6nm,0.3s,baz=123,slow=7.8,SNR=4.3						
	comp=Z,0.6nm,0.3s						
KSRS	Korea Array	40.66	357	P	P	07 57 40.2	+0.4
	comp=Z,1.1nm,0.6s,baz=175,slow=9.4,SNR=7.0						
	comp=Z,1.1nm,0.6s						
SONM	Songino Array	55.22	340	P	P	07 59 33.1	+0.5
	comp=Z,1.8nm,1.1s,baz=174,slow=6.5,SNR=6.1						
	comp=Z,1.8nm,1.1s						
MK31	Makanchi Array	65.57	326	P	P	08 00 44.3	+1.0
MK31				IAmb	IAmb	08 00 45.7	
	comp=Z,1.3nm,0.9s						
MKAR	Makanchi Array	65.57	326	P	P	08 00 44.4	+1.2
MKAR	Makanchi Array	65.57	326	P	P	08 00 43.7	+0.4
	comp=Z,0.9nm,0.5s,baz=116,slow=7.3,SNR=18						
	comp=Z,0.9nm,0.5s						
MAKZ	Makanchi	65.75	326	P	P	08 00 45.2	+0.8
MAKZ				IAmb	IAmb	08 00 46.3	
	comp=Z,3.4nm,1.1s						
ZALV	Zalesovo Beam	68.63	333	P	P	08 01 02.6	+0.2
	comp=Z,0.4nm,0.4s,baz=151,slow=3.4,SNR=3.5						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	69.77	328	P	P	08 01 10.4	+0.8
	comp=Z,1.3nm,0.7s,baz=125,slow=5.7,SNR=16						
	comp=Z,1.3nm,0.7s						
KURK	Kurchatov	69.78	328	P	P	08 01 10.2	+0.6
KURK				IAmb	IAmb	08 01 12.0	
	comp=Z,2.3nm,0.8s						
BVAR	Borovoye Array	75.35	327	P	P	08 01 44.0	+1.2
	comp=Z,7.1nm,1.2s,baz=134,slow=6.2,SNR=6.7						
	comp=Z,7.1nm,1.2s						
NRIK	Noril'sk	78.19	346	P	P	08 01 59.4	+0.9
	comp=Z,0.8nm,0.2s,baz=158,slow=5.4,SNR=2.0						
	comp=Z,0.8nm,0.2s						
QSPA	South Pole Qui	86.62	180	P	P	08 02 44.4	+1.7
QSPA	South Pole Qui	86.62	180	P	P	08 02 43.7	+1.0
	comp=Z,2.0nm,1.0s,baz=352,slow=3.8,SNR=3.2						
	comp=Z,2.0nm,1.0s						
SCHQ	Schefferville	126.72	13	PKP	PKPdf	08 09 01.4	-1.4
	comp=Z,4.4nm,0.9s,baz=206,slow=15,SNR=2.1						
CPUP	Villa Florida	149.51	166	PKPbc	PKiKP	08 09 51.3	+0.7
	comp=Z,1.4nm,0.9s,baz=225,slow=2.7,SNR=2.1						

KRNET ***03*** *07:59:05.9±0.1, 42°.47N×78°.74E, h27km, mb2.3*
SOME ***03*** *07:59:05.2, 42°.67N×78°.75E, h20km*
NNC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.89**	**169**	Pn	Pn	08 11 52.1	+0.8
	0.3nm,0.3s,baz=350,slow=11,SNR=18						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**20.47**	**172**	P	P	08 12 32.5	-0.4
	2.2nm,0.4s,baz=350,slow=10,SNR=21						
	2.2nm,0.4s						
MKAR	**Makanchi Array**	**65.68**	**326**	P	P	08 18 39.8	0.0
	0.2nm,0.8s,baz=116,slow=6.7,SNR=1.3						
	0.2nm,0.8s						

IDC 03 08:08:20.8±4.2, 3°.12S×130°.71E, h0^{km}, mb3.2/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=304.0km s-min=31.2km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.09**	**168**	Pn	P	08 12 23.0	-0.1
	0.2nm,0.3s,baz=349,slow=11,SNR=5.2						
	0.2nm,0.2s						
ASAR	**Alice Springs**	**20.66**	**172**	P	P	08 13 01.4	-0.8
	0.9nm,0.5s,baz=351,slow=11,SNR=5.9						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**65.42**	**326**	P	P	08 19 05.5	+0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=1.3						
	0.1nm,0.4s						

*ATH **03** 08:08:20.0, 37°.17N×20°.62E, h11^{km}±2^{km}, ML3.7/2, Error ellipse: s-maj=4.2km s-min=1.6km az=58.0*
*THE **03** 08:08:21.1, 37°.13N×20°.56E, h26^{km}±9^{km}, ML3.5/7, Error ellipse: s-maj=11.6km s-min=1.6km az=216.0*
ISC 03 08:08:20.4±2.2, 37°.19N±0°.08×20°.62E±0°.07, h14^{km}±9^{km}, n25, σ0^{s}.57/39, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.54**	**18**	P	**Pg**	**08 08 31.1**	**0.0**
LTHK				S	**Sg**	**08 08 38.1**	**-0.2**
LTHK				AML	AML	08 08 39.6	
	comp=E,35096μm,0.3s						
LTHK				AML	AML	08 08 40.3	
	comp=N,24933μm,0.1s						
KYPS	**Kipseli, Zakin**	**0.65**	**14**	P	**Pg**	**08 08 32.7**	**-0.3**
KYPS				S	**Sb**	**08 08 41.9**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.66**	**5**	P	**Pg**	**08 08 32.8**	**-0.5**
ORTH				S	**Sg**	**08 08 42.3**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.81**	**30**	P	**Pb**	**08 08 35.5**	**-0.7**
CLEM				S	**Sb**	**08 08 47.1**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.89**	**8**	P	**Pb**	**08 08 36.7**	**-0.9**
RTZL				S	**Sn**	**08 08 51.1**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.92**	**358**	P	**Pb**	**08 08 38.1**	**-0.1**
PSDA				S	**Sn**	**08 08 51.7**	**-0.3**
	comp=N,3μm,0.2s						
AMT	**Artemida-Makis**	**0.93**	**68**	P	**Pb**	**08 08 38.0**	**-0.3**
VLS	**Valsamata**	**0.98**	**359**	P	**Pb**	**08 08 38.6**	**-0.7**
VLS				S	**Sg**	**08 08 53.0**	**+0.7**
	comp=N,3μm,0.2s						
VLS	**Valsamata**	**0.98**	**359**	P	**Pb**	**08 08 38.7**	**-0.5**
VLS				S	**Sg**	**08 08 52.9**	**+0.6**
VLS				AML	AML	08 08 54.8	
	comp=E,6143μm,0.4s						
VLS				AML	AML	08 08 55.3	
	comp=N,4866μm,0.1s						
ITM	**Ithomi**	**1.04**	**90**	P	**Pb**	**08 08 39.5**	**-0.7**
ITM				S	**Sg**	**08 08 54.8**	**+0.7**
	comp=N,2μm,0.4s						
ITM	**Ithomi**	**1.04**	**90**	P	**Pb**	**08 08 39.8**	**-0.4**
DMLN	**Damoulianata-K**	**1.06**	**349**	P	**Pb**	**08 08 40.6**	**0.0**
DMLN				S	**Sg**	**08 08 55.2**	**+0.4**
RLS	**Riolos of Patr**	**1.09**	**38**	P	**Pb**	**08 08 40.5**	**-0.6**
RLS				S	**Sn**	**08 08 56.7**	**+0.4**
	comp=N,732nm,0.5s						
DRO	**Drossia**	**1.15**	**48**	P	**Pb**	**08 08 41.2**	**-0.9**
DRO				S	**Sg**	**08 08 58.4**	**+0.8**
	comp=N,2μm,0.4s						
DRO	**Drossia**	**1.15**	**48**	P	**Pb**	**08 08 41.1**	**-1.0**
FSK	**Fiskardo**	**1.27**	**358**	P	**Pn**	**08 08 43.4**	**-0.3**
FSK				S	**Sg**	**08 09 01.5**	**+0.2**
	comp=N,1μm,0.3s						
EVGI	**Lefkada island**	**1.43**	**1**	P	**Pn**	**08 08 45.8**	**-0.1**
EVGI				S	**Sb**	**08 09 05.4**	**+0.5**
	comp=N,2μm,0.3s						
KLV	**Kalavryta, Ach**	**1.48**	**55**	P	**Pn**	**08 08 46.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.48**	**55**	P	**Pn**	**08 08 46.8**	**0.0**
DRAG	**Dragano-Lefkad**	**1.49**	**359**	P	**Pn**	**08 08 47.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.52**	**2**	P	**Pn**	**08 08 47.6**	**+0.4**
GUR	**Goura**	**1.56**	**61**	P	**Pn**	**08 08 48.1**	**+0.3**
LKD2	**Lefkada island**	**1.59**	**1**	P	**Pn**	**08 08 48.9**	**+0.7**
EFP	**Efpalio**	**1.60**	**39**	P	**Pn**	**08 08 49.1**	**+0.9**
ANX	**Ano Chora**	**1.74**	**36**	P	**Pn**	**08 08 51.0**	**+0.8**

*IDC **03** 08:13:37.3±4.0, 3°.19S×130°.64E, h0^{km}, mb3.7/2, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=292.5km s-min=29.0km az=71.0*
*DJA **03** 08:13:39.8±0.4, 3°.5S±5°×13°.1E±°, h10^{km}, M3.4/7, MLv3.4/7*
ISC 03 08:13:40.4±1.0, 3°.21S±0°.08×130°.70E±0°.06, h24^{km}, n7, σ0^{s}.81/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.53**	**211**	P	**Pn**	**08 14 06.7**	**+0.4**
FAKI	**Fak Fak**	**1.57**	**80**	P	**Pb**	**08 14 08.0**	**-0.8**
FAKI				S	**Sb**	**08 14 27.6**	**-0.7**
MSAI	**Masohi**	**1.78**	**265**	P	**Pb**	**08 14 11.2**	**-1.1**
SWI	**Sorong**	**2.39**	**13**	P	**Pn**	**08 14 18.7**	**+0.6**
WRA	**Warramunga Arr**	**17.01**	**168**	P	**Pn**	**08 17 37.2**	**+0.3**
	0.2nm,0.3s,baz=348,slow=12,SNR=3.5						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**20.58**	**172**	P	**P**	**08 18 18.1**	**+0.4**
	4.5nm,0.5s,baz=352,slow=10,SNR=102						
	4.5nm,0.5s						
MKAR	**Makanchi Array**	**65.48**	**326**	P	**P**	**08 24 22.1**	**+0.5**
	0.2nm,0.4s,baz=120,slow=7.9,SNR=5.0						
	0.2nm,0.4s						

*THE **03** 08:19:12.9, 37°.67N×20°.88E, h12^{km}, ML3.2/12, Error ellipse: s-maj=1.4km s-min=0.6km az=219.0*
*ATH **03** 08:19:12.4, 37°.63N×20°.88E, h15^{km}±2^{km}, ML3.5/1, Error ellipse: s-maj=3.2km s-min=1.1km az=357.0*
ISC 03 08:19:12.5±1.0, 37°.65N±0°.05×20°.88E±0°.03, h16^{km}±5^{km}, n32, σ0^{s}.60/52, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.07**	**331**	P	**Pg**	**08 19 15.4**	**-0.1**
LTHK				S	**Sg**	**08 19 17.5**	**0.0**
LTHK	**Lithakia**	**0.07**	**331**	P	**Pg**	**08 19 15.4**	**-0.1**
LTHK				S	**Sg**	**08 19 17.5**	**0.0**
LTHK				AML	AML	08 19 17.8	
	comp=E,78560μm,0.2s						
LTHK				AML	AML	08 19 21.3	
	comp=N,44848μm,0.2s						
KYPS	**Kipseli, Zakin**	**0.17**	**346**	P	**Pg**	**08 19 17.0**	**+0.2**
KYPS				S	**Sb**	**08 19 20.7**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.24**	**324**	P	**Pg**	**08 19 18.2**	**+0.2**
ORTH				S	**Sb**	**08 19 22.6**	**-0.1**
CLEM	**Kyllini,Ilia,G**	**0.31**	**40**	P	**Pg**	**08 19 18.4**	**-0.7**
CLEM				S	**Sg**	**08 19 23.2**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.43**	**349**	P	**Pg**	**08 19 20.9**	**-0.3**
RTZL				S	**Sb**	**08 19 28.0**	**0.0**
PSDA	**Pessada-Kefalo**	**0.52**	**333**	P	**Pg**	**08 19 22.5**	**-0.3**
PSDA				S	**Sg**	**08 19 30.3**	**+0.6**
	comp=N,8μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.52**	**333**	P	**Pg**	**08 19 22.4**	**-0.3**
VLS	**Valsamata**	**0.57**	**337**	P	**Pg**	**08 19 23.1**	**-0.7**
VLS				S	**Sg**	**08 19 31.6**	**+0.2**
	comp=N,2μm,0.5s						
VLS	**Valsamata**	**0.57**	**337**	P	**Pg**	**08 19 23.1**	**-0.7**
VLS				S	**Sg**	**08 19 31.8**	**+0.3**
RLS	**Riolos of Patr**	**0.62**	**49**	P	**Pg**	**08 19 23.5**	**-1.2**
RLS				S	**Sg**	**08 19 32.7**	**-0.2**
	comp=N,3μm,0.3s						
RLS	**Riolos of Patr**	**0.62**	**49**	P	**Pg**	**08 19 23.6**	**-1.0**
AMT	**Artemida-Makis**	**0.67**	**100**	P	**Pg**	**08 19 25.1**	**-0.5**
DMLN	**Damoulianata-K**	**0.71**	**326**	P	**Pg**	**08 19 25.9**	**-0.5**
DMLN				S	**Sb**	**08 19 36.5**	**+0.5**
	comp=N,4μm,0.4s						
DMLN	**Damoulianata-K**	**0.71**	**326**	P	**Pg**	**08 19 25.5**	**-0.8**
DRO	**Drossia**	**0.72**	**65**	P	**Pg**	**08 19 26.1**	**-0.6**
DRO				S	**Sb**	**08 19 37.1**	**+0.6**
	comp=N,4μm,0.3s						
DRO	**Drossia**	**0.72**	**65**	P	**Pg**	**08 19 26.5**	**-0.2**
DRO				S	**Sb**	**08 19 37.4**	**+0.9**
FSK	**Fiskardo**	**0.84**	**343**	P	**Pg**	**08 19 27.7**	**-1.2**
FSK				S	**Sb**	**08 19 41.2**	**+1.3**
	comp=N,1μm,0.6s						
UPR	**University Cam**	**0.96**	**48**	P	**Pb**	**08 19 30.9**	**+0.2**
ITM	**Ithomi**	**0.96**	**119**	P	**Pb**	**08 19 30.2**	**-0.6**
ITM				S	**Sn**	**08 19 45.7**	**+1.0**
	comp=N,1μm,0.5s						
ITM	**Ithomi**	**0.96**	**119**	P	**Pb**	**08 19 29.8**	**-1.0**
EVGI	**Lefkada island**	**0.98**	**350**	P	**Pb**	**08 19 30.6**	**-0.6**
EVGI				S	**Sg**	**08 19 45.0**	**+0.6**
	comp=N,1μm,0.4s						
KLV	**Kalavryta, Ach**	**1.08**	**68**	P	**Pb**	**08 19 32.5**	**-0.4**
KLV				S	**Sn**	**08 19 48.3**	**+0.5**
	comp=N,555nm,0.6s						
KLV	**Kalavryta, Ach**	**1.08**	**68**	P	**Pb**	**08 19 33.3**	**+0.4**
EFP	**Efpalio**	**1.12**	**46**	P	**Pb**	**08 19 32.9**	**-0.6**
EFP				S	**Sn**	**08 19 49.2**	**+0.5**
	comp=N,935nm,0.5s						
LKD2	**Lefkada island**	**1.15**	**351**	P	**Pb**	**08 19 33.1**	**-0.9**
LKD2				S	**Sb**	**08 19 49.3**	**+0.6**
	comp=N,1μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.15**	**58**	P	**Pg**	**08 19 34.9**	**+0.2**
TSLK	**Tsoukalades, L**	**1.18**	**352**	P	**Pn**	**08 19 34.4**	**0.0**
GUR	**Goura**	**1.20**	**76**	P	**Pn**	**08 19 35.1**	**+0.4**
ANX	**Ano Chora**	**1.25**	**41**	P	**Pn**	**08 19 34.9**	**-0.5**
ANX				S	**Sg**	**08 19 52.9**	**0.0**
	comp=N,1μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.68**	**36**	P	**Pb**	**08 19 42.9**	**-0.1**
VIL2	**Platees**	**1.97**	**73**	P	**Pb**	**08 19 47.8**	**-0.2**

*NEIC **03** 08:59:53.4±0.6, 19°.08S±0°.06×177°.4W±0°.2, h584^{km}±13^{km}, mb4.2/17, Error ellipse: s-maj=22.4km s-min=8.9km az=93.0*
*IDC **03** 08:59:53.1±1.6, 19°.22S×177°.52W, h578^{km}±17^{km}, mb3.3/9, mbtmp4.3/11, Error ellipse: s-maj=18.5km s-min=14.0km az=141.0*
ISC 03 08:59:52.5±0.5, 19°.1S±0°.1×177°.47W±0°.10, h570^{km}, n47, σ0^{s}.95/49, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**287**	P	**P**	**09 01 21.8**	**+2.3**
MSVF	**Nonsavu**	**4.48**	**287**	P	**P**	**09 01 20.8**	**+1.4**
	52nm,0.8s,baz=128,slow=8.3,SNR=21						
FUTU	**Fugatoga**	**4.84**	**352**	P	**P**	**09 01 24.7**	**+2.4**
NIUE	**Niue**	**7.13**	**91**	P	**P**	**09 01 42.6**	**+0.1**
AFI	**Afiamalu**	**7.54**	**47**	P	**P**	**09 01 45.6**	**-0.9**
TOZ	**Tahuroa Road**	**19.52**	**197**	P	**P**	**09 03 44.5**	**+1.4**
URZ	**Urewera**	**19.63**	**193**	P	**P**	**09 03 41.9**	**-2.1**
	12nm,0.5s,baz=352,slow=1.4,SNR=29						
ARMA	**Armidale**	**30.13**	**242**	P	**P**	**09 05 17.4**	**+0.3**
ARMA				IAmb	IAmb	09 05 32.9	
	comp=Z,3.3nm,0.9s						
CAN	**Canberra**	**33.70**	**235**	P	**P**	**09 05 47.8**	**+0.5**
CAN				IAmb	IAmb	09 06 03.7	
	comp=Z,6.9nm,1.0s						
TOO	**Toolangi**	**37.11**	**232**	P	**P**	**09 06 16.3**	**+0.9**
TOO				IAmb	IAmb	09 06 17.1	
	comp=Z,2.8nm,0.7s						
STKA	**Stephens Creek**	**38.84**	**243**	P	**P**	**09 06 29.5**	**-0.1**
STKA				IAmb	IAmb	09 06 31.4	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**38.84**	**243**	P	**P**	**09 06 29.0**	**-0.6**
	comp=Z,4.4nm,0.5s,baz=89,slow=8.5,SNR=10						
	comp=Z,4.4nm,0.5s						
BBOO	**Buckleboo**	**43.61**	**242**	P	**P**	**09 07 07.5**	**+0.2**
WB0	**Warramunga Arr**	**45.27**	**261**	P	**P**	**09 07 19.9**	**-0.3**
WB0				IAmb	IAmb	09 07 20.1	
	comp=Z,5.5nm,0.8s						
WB2	**Warramunga Arr**	**45.29**	**261**	P	**P**	**09 07 20.2**	**-0.1**
WB2				IAmb	IAmb	09 07 32.8	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**45.30**	**261**	P	**P**	**09 07 20.3**	**-0.1**
WRA	**Warramunga Arr**	**45.30**	**261**	P	**P**	**09 07 19.9**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=97,slow=8.1,SNR=28						
WRA				PcP	**PcP**	**09 08 47.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=92,slow=3.1,SNR=3.6						
	comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**45.33**	**255**	P	**P**	**09 07 20.8**	**+0.2**
ASAR	**Alice Springs**	**45.33**	**255**	P	**P**	**09 07 20.6**	**0.0**
	comp=Z,8.7nm,0.8s,baz=88,slow=8.0,SNR=87						
ASAR				PcP	**PcP**	**09 08 47.8**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=108,slow=3.4,SNR=6.5						
ASAR				S	**S**	**09 13 18.6**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=91,slow=16,SNR=8.9						
	comp=Z,8.7nm,0.8s						
MTN	**Manton Dam**	**49.66**	**269**	P	**P**	**09 07 52.2**	**-0.9**
FORT	**Forrest**	**50.30**	**246**	P	**P**	**09 07 57.4**	**-0.2**
PSA00	**Pilbara Seismi**	**58.47**	**256**	P	**P**	**09 08 54.6**	**-0.3**
PSA00				IAmb	IAmb	09 08 54.9	
	comp=Z,14nm,0.8s						
CASY	**Casey**	**65.41**	**205**	P	**P**	**09 09 39.2**	**+0.2**
CASY				IAmb	IAmb	09 09 44.1	
	comp=Z,5.6nm,1.0s						
KKM	**Kota Kinabalu**	**69.90**	**284**	P	**P**	**09 10 07.7**	**+0.1**
KKM				IAmb	IAmb	09 10 11.0	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**70.93**	**180**	P	**P**	**09 10 13.3**	**+0.6**
QSPA	**South Pole Qui**	**70.93**	**180**	P	**P**	**09 10 13.5**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=45,slow=1.1,SNR=10						
	comp=Z,1.8nm,0.8s						
PETK	**Petropavlovsk-**	**75.09**	**345**	P	**P**	**09 10 36.1**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=163,slow=6.2,SNR=2.1						
	comp=Z,3.5nm,0.8s						
BELA	**Belgrano 2**	**80.84**	**173**	P	**P**	**09 11 07.5**	**+0.5**
TXAR	**Lajitas Array**	**85.90**	**57**	P	**P**	**09 11 34.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=211,slow=5.6,SNR=5.6						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**86.88**	**13**	P	**P**	**09 11 35.8**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=235,slow=4.8,SNR=9.7						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**87.63**	**43**	P	**P**	**09 11 41.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=250,slow=2.5,SNR=2.8						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.13**	**289**	P	**P**	**09 11 54.4**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=113,slow=2.3,SNR=7.4						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**110.62**	**314**	PKiKP	**PKiKP**	**09 17 19.6**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=57,slow=4.0,SNR=2.0						
BVAR	**Borovoye Array**	**118.35**	**321**	PKP	**PKPdf**	**09 17 34.2**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=90,slow=1.9,SNR=3.6						
EKA	**Eskdalemuir Ar**	**143.61**	**5**	PKP	PKPab	09 18 20.6	-0.9
	comp=Z,3.0nm,0.8s,baz=316,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**146.27**	**314**	PKPbc	**PKPbc**	**09 18 29.4**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=134,slow=3.6,SNR=8.3						
GERES	**GERESS Array B**	**149.02**	**346**	PKPbc	**PKPbc**	**09 18 36.8**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=11,slow=2.7,SNR=6.5						
CONA	**Conrad Observa**	**149.30**	**342**	*e*PKP	**PKiKP**	**09 18 37.7**	**-0.6**
	comp=Z,2.3nm,0.8s						
RONA	**Rosalia, Austr**	**149.38**	**342**	*i* PKP	**PKiKP**	**09 18 37.8**	**-0.6**
	comp=Z,2.3nm,0.6s						
LESA	**Schwarzleotal**	**150.59**	**346**	*i* PKP	**PKPbc**	**09 18 40.1**	**-0.5**
	comp=Z,0.6nm,0.3s						
SOKA	**Soboth**	**150.67**	**342**	*i* PKP	**PKPbc**	**09 18 39.6**	**-1.1**
	comp=Z,1.7nm,0.7s						
WATA	**Walderalm**	**150.92**	**347**	*i* PKP	**PKPbc**	**09 18 40.4**	**-1.0**
	comp=Z,1.1nm,0.3s						
WTTA	**Wattenberg**	**150.97**	**347**	*e*PKP	**PKPbc**	**09 18 41.0**	**-0.5**
	comp=Z,2.0nm,0.3s						
MOTA	**Moosalm**	**151.00**	**348**	*e*PKP	**PKPbc**	**09 18 40.9**	**-0.7**
	comp=Z,1.0nm,0.5s						
SQTA	**Sankt Quirin**	**151.10**	**348**	*e*PKP	**PKPbc**	**09 18 41.3**	**-0.5**
	comp=Z,1.8nm,0.5s						
ABTA	**Abfaltersbach**	**151.27**	**346**	*i* PKP	**PKPbc**	**09 18 41.2**	**-0.9**
	comp=Z,3.1nm,0.6s						
FETA	**Feichten**	**151.39**	**348**	*e*PKP	**PKPbc**	**09 18 42.2**	**-0.3**

*NEIC **03** 09:04:14.4±2.2, 0°.09N±0°.08×124°.41E±0°.06, h72^{km}±8^{km}, mb4.5/25, Error ellipse: s-maj=11.9km s-min=9.1km az=179.0*
*DJA **03** 09:04:14.2±0.5, 0°.5S±2°×12°.4E±°, h38^{km}±12^{km}, M4.6/25, mB5.1/6, mb4.9/10, MLv4.6/25, Mw(mB)4.4/6*
*IDC **03** 09:04:15.1±3.4, 0°.00N×124°.28E, h88^{km}±33^{km}, mb3.7/13, mbtmp4.1/15, Error ellipse: s-maj=24.4km s-min=14.6km az=69.0*
ISC 03 09:04:13.6±0.4, 0°.03N±0°.04×124°.43E±0°.04, h73^{km}, n69, σ1^{s}.20/76, mb4.3/26, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.70**	**320**	P	**Pn**	**09 04 28.1**	**-0.7**
KMSI				S	**Sn**	**09 04 39.7**	**-0.3**
LUWI	**Luwuk**	**1.97**	**237**		**Pn**	**09 04 45.7**	**+0.8**
LUWI	**Luwuk**	**1.97**	**237**	P	**Pn**	**09 04 45.6**	**+0.7**
LUWI				S	**Sn**	**09 05 09.0**	**+0.2**
MRSI	**Marisa**	**2.53**	**280**	P	**Pn**	**09 04 50.1**	**-2.4**
SANI	**Sanana**	**2.59**	**143**	P	**Pn**	**09 04 50.9**	**-2.3**
SANI				S	**Sn**	**09 05 18.6**	**-5.1**
APSI	**Ampana**	**2.94**	**251**	P	**Pn**	**09 04 59.2**	**+1.2**
TNTI	**Ternate**	**3.03**	**76**	Pn	**Pn**	**09 05 00.0**	**+0.8**
TNTI	**Ternate**	**3.03**	**76**	P	**Pn**	**09 04 59.8**	**+0.6**
LBMI	**Labuha**	**3.14**	**102**	P	**Pn**	**09 05 00.4**	**-0.4**
LBMI				S	**Sn**	**09 05 37.9**	**+0.7**
TOLI2	**Tolitoli**	**3.80**	**286**		**Pn**	**09 05 10.1**	**+0.3**
NLAI	**Namlea**	**4.20**	**141**	P	**Pn**	**09 05 15.4**	**+0.2**
KDI	**Kendari**	**4.36**	**205**	P	**Pn**	**09 05 16.6**	**-0.8**
PCI	**Palu**	**4.69**	**259**	P	**Pn**	**09 05 22.9**	**+1.0**
AAI	**Ambon**	**5.27**	**135**	P	**Pn**	**09 05 30.2**	**+0.3**
	0.4nm102nm,0.5s						
TTSI	**Tana Toraja**	**5.53**	**236**	P	**Pn**	**09 05 33.9**	**+0.5**
	0.9nm3μm187nm,0.6s						
MSAI	**Masohi**	**5.61**	**127**	P	**Pn**	**09 05 35.5**	**+1.0**
SPSI	**Sidrap Palu**	**6.12**	**230**	P	**Pn**	**09 05 41.8**	**+0.3**
	0.5nm2μm110nm,0.6s						
BKSI	**Bulukumba**	**6.84**	**219**	P	**Pn**	**09 05 51.5**	**+0.2**
	0.2nm457nm22nm,0.6s						
KAPI	**Kappang**	**6.85**	**223**	P	**Pn**	**09 05 52.6**	**+1.1**
	43nm,0.6s,baz=137,slow=21,SNR=7.9						
KAPI				S	**Sn**	**09 07 06.4**	**-1.7**
	16nm,0.3s,baz=223,slow=23,SNR=5.5						
SWI	**Sorong**	**6.89**	**97**	P	**Pn**	**09 05 52.9**	**+1.0**
	0.2nm44nm,0.7s						
BSSI	**Bau Bau, Buton**	**7.29**	**213**	P	**Pn**	**09 05 58.6**	**+1.2**
FAKI	**Fak Fak**	**8.35**	**111**	Pn	**Pn**	**09 06 11.9**	**0.0**
KKM	**Kota Kinabalu**	**10.15**	**306**	Pn	**Pn**	**09 06 34.8**	**-1.8**
MTN	**Manton Dam**	**14.41**	**153**	Pn	**Pn**	**09 07 35.6**	**+1.6**
KNRA	**Kununurra**	**16.18**	**165**		**P**	**09 07 58.5**	**0.0**
KNRA				IAmb	IAmb	09 08 41.7	
	comp=Z,39nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.05**	**176**	P	**Pn**	**09 08 19.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**18.05**	**176**	P	**Pn**	**09 08 19.4**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=341,slow=11,SNR=13						
WB0	**Warramunga Arr**	**21.96**	**154**	P	**P**	**09 09 01.3**	**-0.2**
WB0				IAmb	IAmb	09 09 18.3	
	comp=Z,27nm,1.4s						
WRA	**Warramunga Arr**	**22.10**	**155**	P	**P**	**09 09 03.5**	**+0.6**
WRA	**Warramunga Arr**	**22.10**	**155**	P	**P**	**09 09 02.1**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=330,slow=11,SNR=10						
	comp=Z,1.8nm,0.5s						
WB2	**Warramunga Arr**	**22.10**	**154**	P	**P**	**09 09 03.3**	**+0.3**
COEN	**Coen**	**23.18**	**128**	P	**P**	**09 09 15.0**	**+0.7**
COEN				IAmb	IAmb	09 09 37.4	
	comp=Z,48nm,1.4s						
TPUB	**Ta-pu**	**23.42**	**351**	P	**P**	**09 09 15.9**	**-0.6**
TPUB				IAmb	IAmb	09 09 35.0	
	comp=Z,72nm,1.4s						
AS31	**Alice Springs**	**25.29**	**159**	P	**P**	**09 09 34.1**	**+0.7**
ASAR	**Alice Springs**	**25.29**	**159**	P	**P**	**09 09 34.1**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=351,slow=15,SNR=24						
ASAR				PcP	**PcP**	**09 13 05.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=335,slow=2.4,SNR=2.6						
	comp=Z,3.2nm,0.7s						
PHRA	**Phrae**	**30.03**	**309**	P	**P**	**09 10 16.2**	**+0.4**
FORT	**Forrest**	**30.83**	**174**	P	**P**	**09 10 22.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.02**	**308**	P	**P**	**09 10 24.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.02**	**308**	P	**P**	**09 10 25.1**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=135,slow=7.2,SNR=7.2						
CMAR				PcP	**PcP**	**09 13 19.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=180,slow=2.5,SNR=4.1						
	comp=Z,0.5nm,0.3s						
CHTO	**Chiang Mai**	**31.22**	**308**	P	**P**	**09 10 26.1**	**-0.2**
CHTO				IAmb	IAmb	09 10 28.3	
	comp=Z,4.3nm,0.8s						
BBOO	**Buckleboo**	**34.46**	**163**	P	**P**	**09 10 55.5**	**+1.1**
JGF	**Kuroka**	**37.38**	**17**	P	**P**	**09 11 20.3**	**+0.8**
MJAR	**Matsushiro Arr**	**38.51**	**18**	P	**P**	**09 11 29.6**	**+0.6**
	comp=Z

NV11	Mina Array Sit	0.64 179		Sg	09 09 07.2	+0.5
NV09	Mina Array Sit	0.65 192		Pg	09 08 58.5	+0.1
NVAR	Mina Array Bea	0.66 190		Pg	09 08 58.1	-0.3
NV08	Mina Array Sit	0.68 190		Pg	09 08 59.0	+0.1
Q09A	Carvers	0.80 107		Pg	09 09 01.1	-0.1
Q09A	Carvers	0.80 107		Sb	09 09 12.5	0.0
YERR	Yerington	0.84 264		Pg	09 09 01.6	-0.4
LHV	Little Huntoon	0.87 198		Pb	09 09 02.5	-0.1
LHV				Sb	09 09 14.7	+0.6
PNTR	Pine Nut	1.12 271		Pb	09 09 07.0	0.0
PNTR	Pine Nut	1.12 271	IAML		09 09 28.3	
	comp=E,98nm,1.0s					
PNTR			IAML		09 09 28.4	
	comp=N,97nm,0.9s					
PAHR	Pah Rah Range	1.14 304		Pb	09 09 07.1	-0.2
PAHR	Pah Rah Range	1.14 304	IAML		09 09 23.5	
	comp=N,54nm,0.7s					
WAKR	Walker	1.15 241		Pb	09 09 07.6	+0.1
WAKR	Walker	1.15 241	IAML		09 09 25.1	
	comp=E,91nm,0.3s					
WAKR			IAML		09 09 25.6	
	comp=N,101nm,0.4s					
BENR	Benton	1.40 193		Pb	09 09 11.9	+0.1
MPK	Martis Peak	1.47 279		Pg	09 09 13.4	-0.4
MPK	Martis Peak	1.47 279	IAML		09 09 34.3	
	comp=E,71nm,0.7s					
PEAR	Peavine Mounta	1.49 291		Pb	09 09 13.2	-0.2
MZP	Montezuma Peak	1.50 156		Pn	09 09 12.8	+0.2
MZP			IAML		09 09 35.3	
	comp=E,49nm,0.5s					
MZP			IAML		09 09 36.1	
	comp=N,45nm,0.4s					
MDPB	Devils Postpil	1.61 207		Pn	09 09 14.7	+0.6
MDPB	Devils Postpil	1.61 207	IAML		09 10 12.4	
	comp=N,26nm,4.9s					
DSP	Deep Springs	1.71 175		Pn	09 09 15.6	+0.4
BEKR	Beckworth	1.87 296		Pb	09 09 19.2	-0.7
CMB	Columbia Colle	2.03 240	Pn	Pb	09 09 21.7	-0.8
CMB			IAML		09 09 58.1	
	comp=E,19nm,5.0s					
CMB			IAML		09 10 28.6	
	comp=N,31nm,4.4s					
R11B	Troy Canyon, C	2.14 109		Pn	09 09 21.8	+0.4
R11B			IAML		09 09 53.6	
	comp=N,14nm,0.6s					
R11B			IAML		09 09 55.1	
	comp=E,17nm,0.3s					
AFDM	Forest Hills D	2.19 268	Pn	Pn	09 09 21.8	-0.1
AFDM			IAML		09 09 52.7	
	comp=E,26nm,4.5s					
WCT	Wildcat Mounta	2.58 151		Pn	09 09 27.4	+0.1
WCT			IAML		09 10 09.2	
	comp=N,14nm,0.5s					
WCT			IAML		09 10 12.8	
	comp=E,22nm,3.3s					
Q12A	Willow Creek R	2.60 90		Pb	09 09 33.1	+1.0
ELK	Elko	2.80 53	Pn	Pn	09 09 29.9	-0.6
AMDNV	Amargosa	3.02 150		Pn	09 09 34.4	+1.3
GWY	Greenwater Val	3.12 157		Pn	09 09 34.9	+0.2
PSUT	Pine Spring	3.41 98		Pn	09 09 41.1	+2.3
SHPR	Sheep Range	3.50 136		Pn	09 09 40.7	+0.7
L04D	Klamath Falls	4.45 316	Pn	Pn	09 09 55.0	+2.1

NEIC ***03*** *09:12:25.4±1.4,61°.48N±0°.03×149°.84W±0°.03,h34km±7km, Error ellipse: s-maj=3.8km s-min=2.2km az=173.0*

AEIC 03 09:12:26.1±1.4,61°.49N±0°.02×149°.86W±0°.04,h35km±7km, ML2.6,ML2.8/142(NEIC),Error ellipse: s-maj=3.5km s-min=2.8km az=189.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.30	335		Pn	09 12 32.9	-1.1
M22K	Willow	0.30	335		Sn	09 12 39.8	+0.4
PMR	Palmer	0.36	73		Pn	09 12 33.6	-1.3
PMR				IAML		09 12 41.1	
	comp=N,949nm,0.2s						
PMR	Palmer	0.36	73		Sn	09 12 40.6	-0.2
FIS	Fire Island	0.39	207		Pn	09 12 35.3	+0.1
FIS	Fire Island	0.39	207	IAML		09 12 46.6	
	comp=N,383nm,0.2s						
FIS				IAML		09 12 51.5	
	comp=E,415nm,0.3s						
RC01	Rabbit Creek A	0.40	172		Pn	09 12 34.3	-1.1
RC01				IAML		09 12 43.2	
	comp=E,393nm,0.1s						
RC01				IAML		09 12 43.4	
	comp=N,496nm,0.2s						
RC01	Rabbit Creek A	0.40	172		Sn	09 12 42.5	+0.7
SUA	Susitna One	0.43	267		Pn	09 12 35.0	-0.9
SUA				IAML		09 12 43.4	
	comp=E,1μm,0.7s						
SUA				IAML		09 12 43.8	
	comp=N,917nm,0.7s						
SUA	Susitna One	0.43	267		Sn	09 12 43.1	+0.5
GHO	Glory Hole Cre	0.53	57		Pn	09 12 36.1	-1.2
GHO				IAML		09 12 45.7	
	comp=E,572nm,0.4s						
GHO	Glory Hole Cre	0.53	57		Sn	09 12 44.9	-0.2
KNK	Knik Glacier	0.68	96		Pn	09 12 38.1	-1.1
KNK				IAML		09 12 50.6	
	comp=E,426nm,0.3s						
KNK	Knik Glacier	0.68	96		Sn	09 12 48.7	+0.2
SML	Sawmill	0.80	65		Pn	09 12 39.4	-1.5
SML				IAML		09 12 52.1	
	comp=E,385nm,0.7s						
SML				IAML		09 12 52.7	
	comp=N,363nm,0.6s						
SKT	Skwentna	0.94	303		Pn	09 12 41.4	-1.5
SKT				IAML		09 12 55.0	
	comp=E,258nm,0.3s						
CUT	Chulitna	0.94	348		Pn	09 12 41.3	-1.6
STLK	Strandline Lak	0.95	272		Pn	09 12 42.1	-0.9
STLK				IAML		09 12 58.0	
	comp=E,176nm,0.3s						
STLK				IAML		09 12 58.6	
	comp=N,193nm,0.4s						
STLK	Strandline Lak	0.95	272		Sn	09 12 55.6	+0.3
CAPN	Captain Cook N	0.96	222		Pn	09 12 43.5	+0.5
PWL	Port Wells	0.97	130		Pn	09 12 42.4	-0.8
SLKM	Skilak Lake	1.00	190	Pn	Pn	09 12 42.7	-1.0
SLKM				IAML		09 12 59.6	
	comp=N,309nm,0.2s						
SLKM				IAML		09 12 59.8	
	comp=E,342nm,0.3s						
O22K	Cooper Landing	1.01	176		Pn	09 12 42.7	-1.1
SPCG	Spurr Capps Gl	1.06	260		Pn	09 12 44.0	-0.6
M23K	Glacier View	1.06	72		Pn	09 12 43.8	-0.7
SPU	Mount Spurr	1.10	255		Pn	09 12 44.2	-0.9
SPU				IAML		09 13 00.9	
	comp=E,176nm,0.3s						
SPU				IAML		09 13 01.5	
	comp=N,181nm,0.6s						
SPCR	Spurr Chakacha	1.17	257		Pn	09 12 45.4	-0.6
SPBG	Spurr Blockage	1.23	260		Pn	09 12 46.4	-0.5
SPBG					Sn	09 13 03.4	+1.0
SCM	Sheep Creek Mo	1.25	73		Pn	09 12 46.5	-0.7
SCM				IAML		09 13 04.8	
	comp=N,244nm,0.8s						
SCM				IAML		09 13 05.5	
	comp=E,242nm,0.5s						
SEW	Seward	1.40	172		Pn	09 12 48.0	-1.2
GLI	Glacier Island	1.47	113	Pn	Pn	09 12 49.1	-1.0
GLI				IAML		09 13 09.4	
	comp=N,139nm,0.3s						
GLI				IAML		09 13 10.5	
	comp=E,170nm,0.3s						
RDT	Redoubt	1.54	235		Pn	09 12 50.6	-0.6
RDT					Sn	09 13 11.1	+1.1
M20K	Styx River	1.61	286		Pn	09 12 51.7	-0.4
M20K				IAML		09 13 15.7	
	comp=E,87nm,0.9s						
DFR	Drift River	1.64	238		Pn	09 12 52.1	-0.4
RDJH	Redoubt Jeurge	1.69	239		Pn	09 12 53.1	-0.2
NCT	North Crescent	1.76	240		Pn	09 12 53.9	-0.3
RDWB	Redoubt West	1.77	237		Pn	09 12 53.9	-0.4
RDWB					Sn	09 13 17.0	+1.3
PPLA	Purkeypile	1.79	323		Pn	09 12 54.0	-0.6
PPLA					Sn	09 13 16.9	+0.8
FID	Port Fidalgo	1.80	113	Pn	Pn	09 12 53.2	-1.5
FID				IAML		09 13 17.3	
	comp=E,109nm,0.4s						
FID				IAML		09 13 17.5	
	comp=N,87nm,0.4s						

BRLK	Bradley Lake	1.80 197		Pn	09 12 53.4	-1.3
BRLK			IAML		09 13 20.1	
	comp=E,69nm,0.4s					
BRLK			IAML		09 13 21.9	
	comp=N,84nm,0.2s					
BRSE	Bradley Lake S	1.80 194		Pn	09 12 53.6	-1.1
M24K	Tolsona, Glenn	1.86 69		Pn	09 12 55.5	0.0
KLU	Klutina	1.89 88		Pn	09 12 55.0	-0.9
KLU			IAML		09 13 25.1	
	comp=E,61nm,0.4s					
KLU			IAML		09 13 25.7	
	comp=N,91nm,0.5s					
P23K	Montague Islan	1.92 140		Pn	09 12 55.5	-0.8
O20K	Slope Mountain	1.96 225		Pn	09 12 57.0	+0.2
HIN	Hinchinbrook I	1.97 122	Pn	Pn	09 12 56.0	-1.0
HIN			IAML		09 13 21.9	
	comp=N,84nm,1.1s					
HIN			IAML		09 13 29.5	
	comp=E,101nm,0.8s					
TRF	Thorofare Moun	1.98 354		Pn	09 12 57.1	-0.2
TRF	Thorofare Moun	1.98 354	IAML		09 13 24.2	
	comp=N,51nm,0.3s					
TRF			IAML		09 13 25.7	
	comp=E,47nm,0.6s					
RND	Reindeer	1.98 13	Pn	Pn	09 12 57.1	-0.1
DIV	Divide	2.00 98		Pn	09 12 56.5	-1.0
HOM	Homer	2.04 206		Pn	09 12 57.6	-0.2
CNPM	China Poot	2.08 200	Pn	Pn	09 12 57.4	-1.1
CNPM			IAML		09 13 27.7	
	comp=E,68nm,0.7s					
CNPM			IAML		09 13 29.1	
	comp=N,56nm,0.5s					
KTH	Kantishna Hill	2.13 347	Pn	Pn	09 12 58.8	-0.5
KTH			IAML		09 13 26.4	
	comp=E,70nm,0.7s					
KTH			IAML		09 13 28.5	
	comp=N,72nm,0.6s					
KTH	Kantishna Hill	2.13 347		Sn	09 13 25.6	+1.1
L20K	Farewell, AK	2.15 299		Pn	09 12 59.0	-0.4
CAST	Castle Rocks	2.20 333	Pn	Pn	09 12 59.7	-0.5
EYAK	Cordova Ski Ar	2.21 113		Pn	09 12 59.3	-0.9
ILSW	Iliamna Southw	2.21 228		Pn	09 13 00.2	-0.2
ILSW	Iliamna Southw	2.21 228	IAML		09 13 34.7	
	comp=N,34nm,1.1s					
MCK	McKinley	2.29 10		Pn	09 13 01.4	-0.1
N19K	Bonanza Creek	2.34 255	Pn	Pn	09 13 01.9	-0.3
HARP	HAARP	2.40 66		Pn	09 13 03.1	+0.1
L19K	White Mountain	2.47 289	Pn	Pn	09 13 03.6	-0.3
P19K	Oil Pt	2.48 224	Pn	Pn	09 13 04.2	+0.2
N25K	Chitina, Valde	2.52 85	Pn	Pn	09 13 04.4	-0.2
N25K			IAML		09 13 42.4	
	comp=N,60nm,0.8s					
N25K			IAML		09 13 43.6	
	comp=E,30nm,0.6s					
PAX	Paxson	2.54 52		Pn	09 13 05.3	+0.5
O19K	Port Alsworth	2.54 241		Pn	09 13 03.9	-0.9
BMRM	Bremner River	2.59 99		Pn	09 13 04.0	-1.6
CHUM	Lake Minchumin	2.66 336		Pn	09 13 05.8	-0.6
BPAW	Bear Paw Mtn.	2.67 349	Pn	Pn	09 13 05.6	-1.0
BPAW			IAML		09 13 51.8	
	comp=E,22nm,0.4s					
WACK	Wrangell Chich	2.68 77		Pn	09 13 06.3	-0.6
K20K	Telida	2.71 316	Pn	Pn	09 13 06.3	-0.9
K20K			IAML		09 13 56.9	
	comp=E,24nm,0.7s					
WASW	Wrangell South	2.74 78		Pn	09 13 07.4	-0.4
RAGM	Ragged Mountai	2.76 111		Pn	09 13 06.6	-1.3
WAZA	Wrangell Mount	2.77 75		Pn	09 13 08.3	+0.1
M18K	Stony River	2.86 273		Pn	09 13 08.6	-0.6
GLB	Gilahina Butte	2.90 88		Pn	09 13 08.6	-1.2
GLB			IAML		09 13 54.4	
	comp=E,22nm,0.6s					
GLB			IAML		09 13 54.7	
	comp=N,27nm,0.8s					
HMT	Hamilton	2.97 110		Pn	09 13 09.3	-1.4
N18K	Kilae Creek	3.04 257	IAML		09 14 05.4	
	comp=E,14nm,1.2s					
VRDI	Verde Repeater	3.10 92		Pn	09 13 10.8	-1.8
VRDI			IAML		09 14 02.7	
	comp=N,17nm,1.0s					
O18K	Koktuh Hills	3.10 241	Pn	Pn	09 13 11.2	-1.3
O18K			IAML		09 14 04.2	
	comp=N,16nm,1.4s					
O18K			IAML		09 14 05.3	
	comp=E,16nm,0.9s					
WRH	Wood River Hil	3.10 14		Pn	09 13 12.2	-0.3
SYI	Shuyak Island	3.15 205	Pn	Pn	09 13 12.4	-0.8
SYI			IAML		09 13 54.8	
	comp=E,24nm,1.4s					
SYI			IAML		09 14 03.7	
	comp=N,32nm,1.5s					
MENT	Mentasta	3.22 60		Pn	09 13 14.8	+0.6
TTA	Tatalina	3.23 299	Pn	Pn	09 13 13.4	-0.9
CCB	Clear Creek Bu	3.31 15	Pn	Pn	09 13 14.9	-0.4
L18K	Granite Mounta	3.32 286		Pn	09 13 14.8	-0.7
J20K	Nowinta River	3.34 326	Pn	Pn	09 13 14.7	-1.1
J20K			IAML		09 14 17.2	
	comp=E,24nm,0.8s					
J20K			IAML		09 14 19.4	
	comp=N,16nm,0.8s					
P18K	Big Mountain,	3.39 234	Pn	Pn	09 13 15.8	-0.8
COLA	College	3.52 14		Pn	09 13 19.2	+1.0
IL31		3.56 21		Pn	09 13 19.2	+0.4
M17K	Holitna River	3.64 272	Pn	Pn	09 13 19.2	-0.7
M17K			IAML		09 14 05.2	
	comp=E,22nm,1.4s					
M17K			IAML		09 14 22.0	
	comp=N,24nm,1.4s					
BALM	Baldy	3.66 94		Pn	09 13 19.4	-0.8
J19K	Poorman	3.66 316		Pn	09 13 19.4	-0.7
SCRK	Sand Creek	3.68 45	Pn	Pn	09 13 20.2	-0.3
SCRK			IAML		09 14 20.9	
	comp=E,13nm,0.6s					
SCRK			IAML		09 14 23.6	
	comp=N,12nm,0.8s					
I23K	Minto, Yukon-K	3.68 3		Pn	09 13 20.5	0.0
I23K			IAML		09 13 59.3	
	comp=E,9.8nm,0.2s					
I23K			IAML		09 14 00.1	
	comp=N,17nm,0.3s					
N17K	Nushagak Hills	3.70 258	Pn	Pn	09 13 19.8	-0.9
N17K			IAML		09 14 20.7	
	comp=N,12nm,0.9s					
J25K	Salcha River,	3.74 31		Pn	09 13 22.3	+0.9
J25K			IAML		09 14 11.2	
	comp=N,11nm,0.5s					
J25K			IAML		09 14 13.8	
	comp=E,12nm,0.8s					
J18K	Innoko River	3.75 305	Pn	Pn	09 13 20.7	-0.7
POKR	Poker Plat Res	3.81 16	Pn	Pn	09 13 22.2	0.0
K17K	Iditarod	4.16 291	Pn	Pn	09 13 26.9	-0.1
K17K			IAML		09 14 35.5	
	comp=N,9.7nm,1.2s					
K17K			IAML		09 14 50.5	
	comp=E,11nm,1.4s					
J26L	Joseph Creek	4.17 41		Pn	09 13 29.7	+2.4
J26L			IAML		09 14 19.6	
	comp=E,10nm,0.3s					
J26L			IAML		09 14 34.8	
	comp=N,11nm,0.6s					
H21K	Melozitna Rive	4.39 344	Pn	Pn	09 13 29.9	-0.3
L16K	Owhat River	4.60 277	Pn	Pn	09 13 32.7	-0.3
L16K			IAML		09 14 25.1	
	comp=E,5.7nm,0.5s					
L16K			IAML		09 14 25.8	
	comp=N,4.8nm,0.9s					
J16K	Anvik River	5.32 295	Pn	Pn	09 13 42.2	-0.7
J16K			IAML		09 15 12.4	
	comp=N,3.2nm,1.4s					
J16K			IAML		09 15 45.4	
	comp=E,4.2nm,1.5s					
G24K	Hadweenzic Riv	5.34 10	Pn	Pn	09 13 44.3	+1.1

NEIC ***03*** *09:18:13.9±2.1,15°.16S±0°.07×74°.8W±0°.1,h41km±9km, mb4.1/19,Error ellipse: s-maj=16.1km s-min=9.3km az=67.0*

IDC ***03*** *09:18:14.7±0.8,14°.75S×74°.38W,h42km±5km,mb3.5/4, mbtmp3.8/8,ML3.8/3,Error ellipse: s-maj=29.9km s-min=11.0km az=48.0*

VAO ***03*** *09:18:21.5±1.0,15°.25S×74°.10W,h64km±8km,mb4.3*

ISC 03 09:18:14.3±0.6,15°.19S±0°.06×74°.63W±0°.07,h35km,n71, σ1§88/72,mb4.1/10,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.84	326	P	Pn	09 19 08.9	-2.1
	12nm,0.3s,baz=163,slow=9.1,SNR=26						
NNA				S	Sn	09 19 52.0	-3.0
	261nm,0.3s,baz=243,slow=17,SNR=7.5						
	23nm,0.3s						
AP01	Chacalluta	5.19	128	Pn	Pn	09 19 30.9	+1.5
AP01	Chacalluta	5.19	128	eP	Pn	09 19 31.0	+1.6
AP01				eS	Sn	09 20 27.1	-0.9
PB12	IPOC Station P	5.34	130	Pn	Pn	09 19 32.5	+0.8
PB12	IPOC Station P	5.34	130	eP	Pn	09 19 32.7	+1.0
PB12				eS	Sn	09 20 30.6	-1.6
PB18	Visviri	5.49	116	Pn	Pn	09 19 37.6	+3.5
LPAZ	La Paz	6.36	101	Pn	Pn	09 19 51.6	+5.6
LPAZ	La Paz	6.36	101	P	Pn	09 19 49.4	+3.3
	5.6nm,0.3s,baz=316,slow=6.8,SNR=34						
LPAZ	La Paz	6.36	101	eP	Pn	09 19 45.5	-0.6
TA02	Huaiquique	6.63	140		Pn	09 19 50.4	+1.2
HMBC	Humberstone	6.79	139		Pn	09 19 53.0	+1.5
TA01	Diego Aracena	6.82	142	Pn	Pn	09 19 53.0	+1.1
PATCX	Punta Patache	7.04	143		Pn	09 19 55.4	+0.5
PB01	IPOC Station P	7.60	141		Pn	09 20 04.0	+1.3
CZSB	Cruzeiro do Su	7.65	15	Pn	Pn	09 20 01.5	-1.8
PB09	IPOC Station P	8.32	143		Pn	09 20 14.4	+1.7
ATAH	Atahualpa	8.81	335	P	Pn	09 20 23.4	+3.7
	4.0nm,0.3s,baz=157,slow=1.3,SNR=7.7						
ATAH				S	Sn	09 21 57.8	-0.3
	12nm,0.8s,baz=185,slow=20,SNR=1.8						
AF01	San Pedro de A	9.84	143	Pn	Pn	09 20 35.0	+1.4
PB14	IPOC Station P	10.19	158		Pn	09 20 38.0	-0.4
GO02	Mina Guanaco	10.99	155	Pn	Pn	09 20 48.3	-1.0
AC01	Pan de Azucar	11.54	162	Pn	Pn	09 20 56.8	+0.2
TBTG	Tabatinga, AM	11.88	24	Pn	Pn	09 21 03.9	+2.6
TBTG	Tabatinga, AM	11.88	24	eP	Pn	09 21 06.7	+5.4
SIV	San Ignacio	13.09	95	P	Pn	09 21 14.0	-3.9
	baz=274,slow=15,SNR=8.4						
	3.2nm,1.0s						
VILB	Vilhena	14.18	83	Pn	Pn	09 21 32.1	-0.7
LCO	Las Campanas	14.23	166	Pn	Pn	09 21 34.0	+0.5
OTAV	Otavalo	15.79	346	eP	P	09 22 02.7	+4.7
MURT	Porto Murtinho	17.38	114	eP	Pn	09 22 12.8	-1.4
BDQN	Bodoquena, MS	17.81	110	eP	Pn	09 22 19.0	-0.4
MACA	Manacapuru-AM	18.22	50	P	P	09 22 23.7	-0.8
MACA				IAmb	IAmb	09 22 49.8	
	comp=Z,14nm,0.8s						
H03N1	Juan Fernandez	18.58	191	T	T	09 41 13.4	
	baz=14,slow=74,SNR=1330						
H03N2	Juan Fernandez	18.58	191	T	T	09 41 15.6	
	baz=14,slow=74,SNR=1290						
H03N3	Juan Fernandez	18.60	191	T	T	09 41 15.0	
	baz=14,slow=74,SNR=1596						
AQDB	Aquidauana	18.77	109	P	P	09 22 31.2	+0.7
AQDB	Aquidauana	18.77	109	eP	P	09 22 31.2	+0.7
LMEL	Las Melosas	19.00	169	P	P	09 22 32.4	-0.8
BO01	Tunca	19.39	171	P	P	09 22 35.3	-1.9
CPUP	Villa Florida	19.59	127	P	P	09 22 40.0	+0.6
	comp=Z,0.1nm,0.3s,baz=294,slow=15,SNR=4.5						
	comp=Z,2.8nm,0.9s						
ROSC	El Rosal	19.90	1	P	P	09 22 41.1	-2.3
ROSC				IAmb	IAmb	09 23 05.3	
	comp=Z,11nm,0.9s						
ROSC	El Rosal	19.90	1	P	P	09 22 39.6	-3.7
	comp=Z,2.5nm,0.6s,baz=127,slow=20,SNR=1.2						
NPGB	Novo Progresso	20.56	69	eP	P	09 22 47.7	-2.4
RPRD	Ribas do Rio P	20.60	108	eP	P	09 22 51.6	+1.0
RUSC	La Rusia	21.00	4	P	P	09 22 53.8	-1.6
BOAV	Boa Vista	22.37	40	eP	P	09 23 12.2	+2.6
SNDB	Serra Nova Dou	22.91	85	eP	P	09 23 13.0	-2.3
PTGB	Pitanga	23.20	118	eP	P	09 23 18.9	+0.5
ITRB	Iturama	23.58	104	eP	P	09 23 21.5	-0.5
LDASE	Londrina, Braz	23.62	114	eP	P	09 23 21.4	-1.0
ITAB	Concordia	24.11	123	P	P	09 23 26.9	0.0
ITAB				IAmb	IAmb	09 23 45.9	
	comp=Z,9.9nm,1.0s						
ITAB	Concordia	24.11	123	eP	P	09 23 27.4	+0.6
SDV	Santo Domingo	24.25	10	P	P	09 23 26.6	-1.8
SDV				IAmb	IAmb	09 23 53.9	
	comp=Z,5.6nm,0.7s						
CPSB	Cacapava Do Su	24.65	132	eP	P	09 23 31.8	0.0
BAUV	El Baul	24.85	16	P	P	09 23 31.7	-2.0
FRTB	Fartura	24.99	113	eP	P	09 23 35.2	+0.2
PLTB	Pedras Altas	25.30	134	P	P	09 23 37.1	-0.6
PLTB				IAmb	IAmb	09 23 44.3	
	comp=Z,6.2nm,1.0s						
PLTB	Pedras Altas	25.30	134	eP	P	09 23 37.1	-0.6
TRQA	Tornquist	25.38	156	P	P	09 23 38.5	+0.2
TRQA				IAmb	IAmb	09 23 50.7	
	comp=Z,4.9nm,1.1s						
IPMB	Ipameri, GO	25.47	100	eP	P	09 23 39.8	+0.4
BB19B	Bebedouro	25.47	107	eP	P	09 23 40.3	+1.0
PLCA	Paso Flores	25.70	173	P	P	09 23 39.4	-1.8
PLCA				IAmb	IAmb	09 23 57.9	
	comp=Z,5.4nm,1.0s						
PLCA	Paso Flores	25.70	173	P	P	09 23 45.1	+3.9
	comp=Z,1.0nm,0.8s,baz=350,slow=17,SNR=1.8						
PLCA				pP	sP	09 23 56.5	+0.7
	comp=Z,2.7nm,0.8s,baz=337,slow=13,SNR=4.5						
	comp=Z,1.0nm,0.8s						
MAJ01	Sao Joao Batis	26.72	121	eP	P	09 23 51.0	+0.4
HNDO	Hondo	50.42	332	P	P	09 27 06.8	-1.7
NATX	Nacogdoches	50.48	338	P	P	09 27 05.3	-3.5
TXAR	Lajitas Array	52.40	328	P	P	09 27 21.4	-2.0
	comp=Z,0.5nm,0.5s,baz=153,slow=8.4,SNR=21						
TXAR				pP	pP	09 27 31.8	-2.7
	comp=Z,0.9nm,0.5s,baz=151,slow=8.9,SNR=15						
	comp=Z,0.5nm,0.5s						
TX31	Lajitas Ar. Si	52.40	328	P	P	09 27 21.6	-1.8
TX31				IAmb	IAmb	09 27 32.1	
	comp=Z,1.6nm,0.8s						
SNAA	Sanae	69.97	161	P	P	09 29 22.6	+0.7
SNAA				IAmb	IAmb	09 29 40.7	
	comp=Z,3.2nm,0.9s						
QSPA	South Pole Qui	74.96	180	P	P	09 29 51.6	-0.2
TORD	Torodi Ar. Bea	80.59	74	P	P	09 30 21.8	-2.1
	comp=Z,0.8nm,0.6s,baz=254,slow=5.2,SNR=5.5						
TORD				pP	PcP	09 30 33.9	+3.2
	comp=Z,0.8nm,0.9s,baz=283,slow=6.3,SNR=3.0						
TORD				sP	sP	09 30 41.0	+1.3
	comp=Z,2.0nm,0.7s,baz=272,slow=4.9,SNR=9.3						
	comp=Z,0.8nm,0.6s						
YKA	Yellowknife Ar	83.52	343	P	P	09 30 34.9	-3.2
	comp=Z,0.3nm,0.9s,baz=145,slow=5.3,SNR=4.7						
YKA				pP	PcP	09 30 47.5	+5.2
	comp=Z,0.5nm,0.9s,baz=142,slow=5.3,SNR=5.2						
	comp=Z,0.3nm,0.9s						
SONM	Songino Array	147.44	359	PKPbc	PKPdf	09 37 52.7	+0.5
	comp=Z,1.9nm,1.1s,baz=338,slow=1.2,SNR=9.3						

PRE ***03*** *09:24:46.6±0.9,26°.87S×26°.73E,h2km,ML3.0*

BGSI ***03*** *09:24:49.0±1.3,27°.05S×26°.91E,h0km±58km,ML3.5*

BUL ***03*** *09:24:50.0±1.9,26°.82S×26°.71E,h10km,MD3.5*

**ISC 03 09:24:49.2±1.1,26°.87S±0°.03×26°.78E±

BOSA	**Boshof**	**2.20 217**	*i* P		**Pn**	**09 25 26.5**	**+1.9**
BOSA			*i* S		**Sn**	**09 25 52.5**	**+1.2**
NWCL	**Newcastle**	**2.90 108**	*eP*		**Pn**	**09 25 35.5**	**+1.2**
NWCL			*eS*		**Sn**	**09 26 11.2**	**+2.5**
NWCL			IAML			09 26 21.3	
comp=Z,92nm,0.4s							
CRLN	**Carolina, Mapu**	**3.04 74**	*eP*		**Pn**	**09 25 37.2**	**+1.0**
CRLN			*eS*		**Sn**	**09 26 13.7**	**+1.7**
CRLN			IAML			09 26 25.1	
comp=Z,42nm,0.7s							
LEPH	**Lephalale, Lim**	**3.14 17**	*eP*		**Pn**	**09 25 38.0**	**+0.5**
LEPH			*eS*		**Sn**	**09 26 15.8**	**+1.4**
LEPH			IAML			09 26 31.2	
comp=Z,60nm,0.4s							
SKOMA	**Sekoma**	**3.48 312**	*i* P		**Pn**	**09 25 44.9**	**+2.8**
SKOMA			IAML			09 26 41.5	
comp=N,102nm,0.1s							
PHPEN	**Phepeng**	**3.79 291**	*i* P		**Pn**	**09 25 49.4**	**+3.0**
PILG	**Pilgrimsrest,**	**4.03 62**	*eP*		**Pn**	**09 25 50.5**	**+0.6**
PILG			*eS*		**Sn**	**09 26 38.1**	**+1.5**
PILG			IAML			09 26 59.7	
comp=Z,80nm,0.6s							
PMBG	**Pietermaritzbu**	**4.22 129**	*eP*		**Pn**	**09 25 53.4**	**+1.1**
PMBG			*eS*		**Sn**	**09 26 42.6**	**+1.7**
PMBG			IAML			09 27 00.9	
comp=Z,33nm,0.3s							
MREMI	**Moremi**	**4.32 8**	*i* P		**Pn**	**09 25 56.2**	**+2.4**
MREMI			*i* S		**Sn**	**09 26 46.3**	**+2.6**
MREMI			IAML			09 27 06.2	
comp=N,210nm,0.3s							
KSTD	**Kokstad**	**4.35 150**	*eP*		**Pn**	**09 25 54.8**	**+0.6**
KSTD			*eS*		**Sn**	**09 26 45.3**	**+1.0**
KSTD			IAML			09 27 07.0	
comp=Z,26nm,0.3s							
POGA	**Pongola**	**4.42 97**	*eP*		**Pn**	**09 25 55.9**	**+0.9**
POGA			*eS*		**Sn**	**09 26 46.5**	**+0.7**
POGA			IAML			09 27 09.3	
comp=Z,66nm,0.5s							
ALKP	**Alkanpan, Nort**	**5.03 231**	*eP*		**Pn**	**09 26 03.9**	**+0.4**
ALKP			*eS*		**Sn**	**09 26 59.1**	**-1.9**
ALKP			IAML			09 27 23.9	
comp=Z,36nm,0.4s							
UPI	**Upington**	**5.12 252**	*eP*		**Pn**	**09 26 05.1**	**+0.4**
UPI			*eS*		**Sn**	**09 27 02.6**	**-0.7**
UPI			IAML			09 27 28.8	
comp=Z,40nm,0.4s							
MOPA	**Mopani**	**5.35 52**	*eP*		**Pn**	**09 26 08.7**	**+0.9**
MOPA			*eS*		**Sn**	**09 27 08.3**	**-0.6**
MOPA			IAML			09 27 40.6	
comp=Z,67nm,0.5s							
MOPA	**Mopani**	**5.35 52**	*i* P		**Pn**	**09 26 09.4**	**+1.6**
MOPA			*i* S		**Sn**	**09 27 07.4**	**-1.6**
MUSN	**Musina, Limpop**	**5.36 32**	*i* P		**Pn**	**09 26 09.9**	**+2.0**
MUSN			*i* S		**Sn**	**09 27 06.1**	**-2.9**
GRAF	**Camdeboo Natio**	**5.75 200**	*eP*		**Pn**	**09 26 13.5**	**+0.2**
GRAF			*eS*		**Sn**	**09 27 16.7**	**-2.0**
GRAF			IAML			09 27 50.1	
comp=Z,19nm,0.4s							
KGCAE	**Kacgae**	**5.76 313**	*i* P		**Pn**	**09 26 15.6**	**+1.9**
KGCAE			IAML			09 27 54.1	
comp=N,64nm,0.6s							
SOE	**Somerset East**	**5.92 190**	*eP*		**Pn**	**09 26 15.7**	**+0.1**
SOE			*eS*		**Sn**	**09 27 21.3**	**-1.5**
SOE			IAML			09 28 05.1	
comp=Z,13nm,0.5s							
BRAK	**Brakfontein**	**5.95 214**	*eP*		**Pn**	**09 26 16.8**	**+0.6**
BRAK			*eS*		**Sn**	**09 27 22.4**	**-1.4**
BRAK			IAML			09 27 27.6	
comp=Z,14nm,0.3s							
AUGR	**Augrabies**	**5.96 252**	*eP*		**Pn**	**09 26 15.8**	**-0.5**
AUGR			*eS*		**Sn**	**09 27 21.8**	**-2.2**
AUGR			IAML			09 27 53.2	
comp=Z,29nm,0.4s							
ROOI	**Rooidraai Farm**	**6.27 206**	*eP*		**Pn**	**09 26 20.6**	**+0.1**
ROOI			*eS*		**Sn**	**09 27 29.6**	**-2.0**
ROOI			IAML			09 28 13.2	
comp=Z,13nm,0.4s							
GRAN	**Grantham**	**6.74 215**	*eP*		**Pn**	**09 26 27.3**	**+0.3**
GRAN			*eS*		**Sn**	**09 27 40.7**	**-2.4**
GRAN			IAML			09 28 27.8	
comp=Z,17nm,0.5s							
FRAZ	**Fraserburg**	**6.88 222**	*eP*		**Pn**	**09 26 29.3**	**+0.3**
FRAZ			*eS*		**Sn**	**09 27 44.5**	**-2.2**
FRAZ			IAML			09 28 21.6	
comp=Z,13nm,0.4s							
BLWY	**Bulawayo**	**6.91 14**	*i* P		**Pn**	**09 26 30.1**	**+0.8**
BLWY			*i* S		**Sn**	**09 27 42.4**	**-5.0**
MERW	**Merweville**	**7.37 217**	*eP*		**Pn**	**09 26 35.4**	**-0.3**
MERW			*eS*		**Sn**	**09 27 55.9**	**-2.7**
MERW			IAML			09 28 15.2	
comp=Z,12nm,0.5s							
SUR	**Sutherland**	**7.56 222**	*eP*		**Pn**	**09 26 37.9**	**-0.4**
SUR			*eS*		**Sn**	**09 28 00.1**	**-3.3**
SUR			IAML			09 28 47.2	
comp=Z,14nm,0.6s							
CVNA	**Calvinia**	**7.66 231**	*eP*		**Pn**	**09 26 40.2**	**+0.5**
CVNA			*eS*		**Sn**	**09 28 03.1**	**-2.8**
CVNA			IAML			09 29 01.7	
comp=Z,19nm,0.5s							
KOMG	**Komaggas**	**8.69 248**	*eP*		**Pn**	**09 26 53.8**	**+0.1**
KOMG			*eS*		**Sn**	**09 28 27.7**	**-3.4**
KOMG			IAML			09 28 34.7	
comp=Z,3.3nm,0.5s							

*SKHL **03** 09:29:23.3±0.4, 47°.60N×149°.60E, h354km±5km, mb4.8/3, msha5.1/3*
*IDC **03** 09:29:26.0±2.0, 47°.99N×148°.70E, h370km±26km, mb2.8/6, mbtmp3.7/11, Error ellipse: s-maj=30.4km s-min=18.0km az=150.0*
ISC 03 09:29:23.5±0.7, 47°.69N±0°.09×149°.1E±0°.1, h357km, n17, σ1°67/20, mb3.1/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.59**	**199**	*eP*	**Pn**	**09 30 20.7**	**+0.7**
KUR				AMB	AMB	09 30 24.6	
130nm,0.7s							
KUR				*eS*	**S**	**09 31 05.3**	**-0.1**
KUR				A	A	09 31 08.7	
60nm,0.7s							
KUR				A	A	09 31 08.7	
90nm,0.7s							
SHO	**Shikotan**	**4.13**	**203**	*i* P	**Pn**	**09 30 33.7**	**-0.6**
SHO				AMB	AMB	09 30 34.8	
60nm,0.3s							
SHO				*eS*	**S**	**09 31 28.4**	**-3.0**
SHO				A	A	09 31 32.6	
20nm,0.2s							
SHO				A	A	09 31 32.6	
50nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.29**	**213**	*i* P	**Pn**	**09 30 37.4**	**+1.5**
YUK				AMB	AMB	09 30 37.7	
80nm,0.2s							
YUK				*eS*	**S**	**09 31 35.5**	**+1.1**
YUK				A	A	09 31 39.4	
30nm,0.4s							
YUK				A	A	09 31 39.4	
70nm,0.4s							
NMR	**Nemuro--Hokkai**	**4.92**	**210**	*eP*	**Pn**	**09 30 40.8**	**-1.8**
SKR	**Severo-Kuril's**	**5.50**	**54**	*eP*	**Pn**	**09 30 47.0**	**-1.8**
AKK	**Akkeshi**	**5.54**	**214**	*eP*	**Pn**	**09 30 48.2**	**-1.3**
ASAJ	**Asahikawa**	**5.76**	**234**	P	**Pn**	**09 30 53.2**	**+1.3**
12nm,0.6s,baz=70,slow=10.0,SNR=29							
KLR	**Kul'dur**	**11.61**	**284**	P	**Pn**	**09 32 00.4**	**0.0**
0.9nm,0.4s,baz=92,slow=12,SNR=8.6							
MA2	**Magadan**	**11.95**	**4**	P	**P**	**09 32 03.1**	**-0.8**
3.5nm,0.6s,baz=184,slow=9.8,SNR=5.7							
MJAR	**Matsushiro Arr**	**13.74**	**220**	P	**Pn**	**09 32 28.4**	**+2.8**
2.3nm,0.7s,baz=17,slow=11,SNR=7.8							
KSRS	**Korea Array**	**18.58**	**244**	P	**P**	**09 33 17.5**	**+1.3**
1.3nm,0.4s,baz=49,slow=10,SNR=8.4							
ILAR	**Eielson Array**	**37.54**	**39**	P	**P**	**09 36 05.0**	**+0.6**
0.7nm,0.7s,baz=270,slow=8.5,SNR=8.8							
0.7nm,0.7s							
MKAR	**Makanchi Array**	**44.06**	**295**	P	**P**	**09 36 55.7**	**-1.5**
0.2nm,0.5s,baz=75,slow=8.4,SNR=2.6							
0.2nm,0.5s							
YKA	**Yellowknife Ar**	**51.80**	**36**	P	**P**	**09 37 56.0**	**+0.5**
0.3nm,0.7s,baz=301,slow=6.9,SNR=5.5							
0.3nm,0.7s							
FINES	**FINESS Array B**	**61.98**	**333**	P	**P**	**09 39 03.9**	**-2.3**
4.9nm,1.1s,baz=40,slow=2.4,SNR=4.7							
4.9nm,1.1s							
PDAR	**Pinedale Array**	**66.37**	**52**	P	**P**	**09 39 37.1**	**+2.0**
0.2nm,0.5s,baz=49,slow=2.4,SNR=4.4							
0.2nm,0.5s							
TXAR	**Lajitas Array**	**79.38**	**58**	P	**P**	**09 40 52.2**	**+1.4**
0.1nm,0.3s,baz=295,slow=4.5,SNR=4.7							
0.1nm,0.3s							

*IDC **03** 09:32:22.2±15.0, 22°.15N×144°.45E, h125km±147km, mb3.4/7, mbtmp3.8/7, Error ellipse: s-maj=101.2km s-min=21.5km az=81.0*
ISC 03 09:32:16.3±2.7, 22°.1N±0°.2×144°.4E±0°.9, h69km, n7, σ0°63/7, mb3.7/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**28.84**	**343**	P	**P**	**09 38 08.6**	**+0.5**
0.6nm,0.7s,baz=176,slow=14,SNR=2.2							
0.6nm,0.7s							
WRA	**Warramunga Arr**	**42.97**	**194**	P	**P**	**09 40 08.3**	**-0.5**
0.4nm,0.3s,baz=14,slow=7.4,SNR=2.3							
0.4nm,0.3s							
ASAR	**Alice Springs**	**46.66**	**193**	P	**P**	**09 40 38.9**	**+0.8**
0.4nm,1.0s,baz=8.8,slow=6.7,SNR=1.7							
0.4nm,1.0s							
MKAR	**Makanchi Array**	**55.24**	**312**	P	**P**	**09 41 42.4**	**0.0**
0.4nm,0.5s,baz=85,slow=8.1,SNR=6.6							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**57.98**	**317**	P	**P**	**09 42 01.7**	**0.0**
0.7nm,0.5s,baz=93,slow=7.5,SNR=14							
0.7nm,0.5s							
BVAR	**Borovoye Array**	**63.08**	**319**	P	**P**	**09 42 36.5**	**+0.1**
1.0nm,0.3s,baz=92,slow=7.6,SNR=4.5							
1.0nm,0.3s							
FINES	**FINESS Array B**	**83.27**	**335**	P	**P**	**09 44 34.4**	**-0.7**
5.0nm,1.1s,baz=48,slow=5.4,SNR=4.6							
5.0nm,1.1s							

*DJA **03** 09:37:21.7±0.4, 10°.S±5°.×11°.9E±°, h10km, M4.6/14, mB4.9/3, mb4.9/3, MLv4.5/14, Mw(mB)4.2/3, MwMwp5.3/1, Mwp5.5/1*
*IDC **03** 09:37:23.8±3.2, 10°.29S×119°.42E, h62km±28km, mb4.0/8, mbtmp4.2/12, ML4.1/4, MS3.2/4, Error ellipse: s-maj=41.9km s-min=15.0km az=68.0*
ISC 03 09:37:21.1±0.7, 10°.36S±0°.06×119°.44E±0°.05, h35km, n40, σ2°52/39, mb4.4/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.71**	**356**	P	**Pn**	**09 37 31.9**	**-2.9**
WSI	**Waingapu**	**1.09**	**51**	P	**Pn**	**09 37 39.8**	**-0.1**
BASI	**Baing, Sumba**	**1.13**	**83**	P	**Pn**	**09 37 42.8**	**+2.3**
PLAI	**Plampang**	**2.23**	**313**	P	**Pn**	**09 37 56.1**	**+0.4**
PLAI	**Plampang**	**2.23**	**313**	S	**Sn**	**09 38 24.1**	**+2.0**
PLAI	**Plampang**	**2.23**	**313**	P	**Pn**	**09 37 55.7**	**0.0**
PLAI				S	**Sn**	**09 38 23.0**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.99**	**302**	P	**Pn**	**09 38 06.7**	**+0.6**
TWSI				S	**Sn**	**09 38 42.1**	**+1.4**
MMRI	**Maumere**	**3.25**	**58**	P	**Pn**	**09 38 11.9**	**+2.2**
MMRI	**Maumere**	**3.25**	**58**	P	**Pn**	**09 38 11.4**	**+1.7**
BATI	**Baumata**	**4.16**	**88**	P	**Pn**	**09 38 25.9**	**+3.7**
BSSI	**Bau Bau, Buton**	**4.31**	**14**	P	**Pn**	**09 38 25.8**	**+1.5**
SRBI	**Singaraja**	**4.74**	**298**	P	**Pn**	**09 38 32.0**	**+1.8**
SOEI	**Soe**	**4.79**	**83**	P	**Pn**	**09 38 34.9**	**+3.9**
SOEI	**Soe**	**4.79**	**83**	P	**Pn**	**09 38 34.4**	**+3.4**
BKSI	**Bulukumba**	**5.05**	**8**	P	**Pn**	**09 38 35.2**	**+0.8**
KAPI	**Kappang**	**5.32**	**3**	P	**Pn**	**09 38 39.9**	**+1.7**
8.3nm,0.3s,baz=173,slow=8.4,SNR=16							
KAPI				S	**Sn**	**09 39 39.9**	**+1.7**
46nm,0.5s,baz=48,slow=22,SNR=5.8							
KAPI				LR	LR	09 40 53.8	
comp=Z,296nm,19.6s,baz=194,slow=40							
43nm,0.5s							
KAPI	**Kappang**	**5.32**	**3**	P	**Pn**	**09 38 39.8**	**+1.7**
KAPI	**Kappang**	**5.32**	**3**	S	**Sn**	**09 39 40.4**	**+2.2**
JAGI	**Jajag, Banyuwa**	**5.54**	**289**	P	**Pn**	**09 38 44.2**	**+3.0**
JAGI	**Jajag, Banyuwa**	**5.54**	**289**	P	**Pn**	**09 38 43.2**	**+2.0**
0.3nm863nm44nm,0.5s							
GMJI	**Gumukmas**	**6.27**	**289**	P	**Pn**	**09 38 53.4**	**+2.2**
FITZ	**Fitzroy Crossi**	**9.76**	**143**	P	**Pn**	**09 39 41.3**	**+2.2**
0.8nm,0.3s,baz=344,slow=10.0,SNR=20							
FITZ				S	**Sn**	**09 41 25.6**	**-2.0**
25nm,0.4s,baz=182,slow=18,SNR=13							
FITZ				LR	LR	09 43 35.3	
comp=Z,137nm,19.8s,baz=262,slow=38							
5.2nm,0.4s							
WRA	**Warramunga Arr**	**17.24**	**125**	P	**Pn**	**09 41 20.3**	**+0.9**
0.6nm,0.3s,baz=297,slow=14,SNR=16							
WRA				S	**Sn**	**09 44 23.0**	**-7.3**
0.8nm,0.3s,baz=42,slow=28,SNR=7.5							
1.1nm,0.4s							
DAV	**Davao City (W)**	**18.36**	**20**	LR	LR	09 51 06.0	
comp=Z,81nm,18.1s,baz=358,slow=45							
ASAR	**Alice Springs**	**19.12**	**136**	P	**Pn**	**09 41 44.3**	**+1.9**
0.8nm,0.3s,baz=315,slow=12,SNR=50							
ASAR				S	**Sn**	**09 45 08.9**	**-6.8**
4.0nm,0.6s,baz=311,slow=23,SNR=12							
2.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**35.05**	**325**	P	**P**	**09 44 10.9**	**0.0**
1.7nm,0.6s,baz=153,slow=7.2,SNR=11							
CMAR				LR	LR	09 59 23.0	
comp=Z,34nm,18.1s,baz=5.0,slow=38							
1.7nm,0.6s							
H08S2	**Diego Garcia H**	**46.41**	**269**	T	T	10 35 57.2	
baz=98,slow=74,SNR=4.8							
H08S3	**Diego Garcia H**	**46.42**	**269**	T	T	10 35 53.9	
baz=98,slow=74,SNR=11							
H08S1	**Diego Carcia H**	**46.43**	**269**	T	T	10 36 15.8	
baz=98							
MJAR	**Matsushiro Arr**	**49.88**	**20**	P	**P**	**09 46 09.0**	**-2.2**
0.5nm,0.4s,baz=203,slow=9.1,SNR=2.2							
0.5nm,0.4s							
SONM	**Songino Array**	**59.08**	**350**	P	**P**	**09 47 17.5**	**-0.5**
1.8nm,0.6s,baz=168,slow=8.7,SNR=15							
1.8nm,0.6s							
KSH	**Kashi**	**63.95**	**324**	P	**P**	**09 47 50.5**	**-0.5**
KSH				pmax	pmax		
comp=Z,6.0nm,0.8s							
MKAR	**Makanchi Array**	**65.85**	**333**	P	**P**	**09 48 02.5**	**-0.7**
comp=Z,3.9nm,0.6s,baz=144,slow=7.4,SNR=72							
comp=Z,3.9nm,0.6s							
H04N2	**CROZET ISLANDS**	**67.13**	**224**	T	T	11 02 30.3	
baz=83							
H04N3	**CROZET ISLANDS**	**67.15**	**224**	T	T	11 02 27.5	
baz=83							
H04N1	**CROZET ISLANDS**	**67.15**	**224**	T	T	11 02 29.2	
baz=83							
KURBB	**Kurchatov Arra**	**70.37**	**334**	P	**P**	**09 48 30.1**	**-1.3**
comp=Z,1.9nm,0.6s,baz=144,slow=5.7,SNR=25							
comp=Z,1.9nm,0.6s							
ZALV	**Zasovo Beam**	**70.45**	**339**	P	**P**	**09 48 30.4**	**-1.4**
comp=Z,4.0nm,0.6s,baz=142,slow=4.9,SNR=22							
comp=Z,4.0nm,0.6s							
PETK	**Petropavlovsk-**	**71.14**	**23**	P	**P**	**09 48 36.3**	**+0.3**
comp=Z,9.8nm,1.1s,baz=202,slow=6.9,SNR=4.4							
comp=Z,9.8nm,1.1s							
BVAR	**Borovoye Array**	**75.69**	**332**	P	**P**	**09 49 02.7**	**-0.1**
comp=Z,0.6nm,0.5s,baz=146,slow=10,SNR=2.1							
comp=Z,0.6nm,0.5s							

IDC 03 09:46:38.8±1.3, 1°.73S×138°.95E, h0km, mb3.4/3, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=32.8km s-min=22.2km az=48.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.92**	**114**	Pn	Pn	09 47 13.4	+0.5
6.7nm,0.3s,baz=244,slow=14,SNR=13							
JAY				Sn	Sn	09 47 37.2	-0.5
7.3nm,0.3s,baz=311,slow=19,SNR=5.8							
WRA	**Warramunga Arr**	**18.66**	**194**	P	P	09 50 58.2	-0.3
0.4nm,0.3s,baz=15,slow=12,SNR=12							
2.9nm,0.7s							
ASAR	**Alice Springs**	**22.35**	**192**	P	P	09 51 38.8	+0.2
2.1nm,0.7s,baz=16,slow=10.0,SNR=19							
2.1nm,0.7s							
MKAR	**Makanchi Array**	**69.16**	**322**	P	P	09 57 47.1	-0.2
0.1nm,0.4s,baz=120,slow=8.5,SNR=2.2							
0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**73.07**	**325**	P	P	09 58 10.9	+0.1
0.2nm,0.7s,baz=116,slow=5.8,SNR=1.9							
0.2nm,0.7s							

*JMA **03** 09:47:53.3±0.3, 33°.4N±0°.7×14°.1E±°, h61km, MV2.9/26, E OFF HACHIJOJIMA ISLAND*
*IDC **03** 09:47:59.7±8.8, 33°.41N×140°.54E, h100km±118km, mb3.1/2, mbtmp3.2/3, ML1.8/1, Error ellipse: s-maj=82.4km s-min=76.8km az=0.0*
ISC 03 09:47:53.9±1.5, 33°.33N±0°.08×141°.1E±0°.1, h48km, n8, σ0°78/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.06**	**258**	P	**Pn**	**09 48 12.1**	**-0.3**
JHCJ	**Hachijojimakas**	**1.09**	**257**	*eP*	**Pn**	**09 48 12.2**	**-0.6**
BSO1	**Boso 1**	**1.32**	**357**	P	**Pn**	**09 48 14.9**	**-0.6**
JHO	**Hitachi**	**3.29**	**353**	*eP*	**Pn**	**09 48 42.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.96**	**325**	P	**Pn**	**09 48 53.5**	**+1.3**
0.1nm,0.3s,baz=158,slow=11,SNR=4.9							
MJAR				S	**Sn**	**09 49 36.6**	**-0.8**
0.7nm,0.4s,baz=146,slow=28,SNR=4.3							
0.4nm,0.3s							
JKN2	**Miekihoku**	**4.08**	**284**	P	**Pn**	**09 48 53.9**	**+0.1**
WRA	**Warramunga Arr**	**53.36**	**188**	P	**P**	**09 57 08.8**	**+0.3**
0.4nm,0.5s,baz=2.2,slow=7.3,SNR=2.1							
0.4nm,0.5s							
ASAR	**Alice Springs**	**57.09**	**188**	P	**P**	**09 57 35.8**	**+0.4**
0.3nm,0.8s,baz=9.8,slow=6.8,SNR=1.6							
0.3nm,0.8s							

*IDC **03** 09:58:19.0±3.0, 6°.08N×126°.58E, h70km±25km, mb3.3/6, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=60.4km s-min=15.9km az=68.0*
ISC 03 09:58:19.1±1.0, 6°.0N±0°.2×126°.4E±0°.3, h71km, n11, σ1°31/10, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.33**	**320**	P	**Pn**	**09 58 40.7**	**-1.2**
263nm,0.4s,baz=162,slow=3.5,SNR=8.0							
DAV				S	**Sn**	**09 59 00.5**	**+1.6**
460nm,0.6s,baz=178,slow=22,SNR=27							
DAV				LR	LR	09 59 27.8	
comp=Z,417nm,19.8s,baz=116,slow=49							
FITZ	**Fitzroy Crossi**	**24.00**	**182**	P	**P**	**10 03 25.9**	**-1.4**
3.3nm,0.9s,baz=360,slow=9.8,SNR=1.6							
3.3nm,0.9s							
WRA	**Warramunga Arr**	**26.97**	**163**	P	**P**	**10 03 55.0**	**+0.7**
0.5nm,0.6s,baz=342,slow=9.4,SNR=2.5							
0.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**29.51**	**297**	LR	LR	10 18 29.9	
comp=Z,17nm,18.8s,baz=305,slow=41							
ASAR	**Alice Springs**	**30.41**	**166**	P	**P**	**10 04 25.3**	**+0.4**
0.3nm,0.6s,baz=344,slow=7.2,SNR=4.3							
ASAR				PcP	**PcP**	**10 07 25.3**	**+2.1**
0.4nm,0.8s,baz=341,slow=3.2,SNR=2.2							
0.3nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**41.13**	**69**	T	T	10 49 44.2	
baz=258,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**41.14**	**69**	T	T	10 49 41.9	
baz=258,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**41.14**	**69**	T	T	10 49 44.1	
baz=258,slow=75,SNR=24							
MKAR	**Makanchi Array**	**55.51**	**325**	P	**P**	**10 07 46.3**	**-0.7**
0.5nm,0.5s,baz=116,slow=8.8,SNR=11							
MKAR				PcP	**PcP**	**10 08 46.5**	**+0.3**
0.4nm,0.6s,baz=122,slow=3.2,SNR=4.9							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**59.65**	**327**	P	**P**	**10 08 16.4**	**+0.5**
0.8nm,0.7s,baz=124,slow=6.2,SNR=9.6							
0.8nm,0.7s							
ILAR	**Eielson Array**	**83.16**	**26**	P	**P**	**10 10 36.5**	**-0.7**
0.2nm,0.7s,baz=255,slow=5.3,SNR=4.3							
0.2nm,0.7s							

IDC 03 10:09:58.6±3.9, 3°.32S×130°.48E, h0km, mb3.5/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=290.2km s-min=30.6km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.95**	**167**	Pn	Pn	10 13 57.6	+0.3
0.2nm,0.3s,baz=348,slow=11,SNR=6.1							
0.6nm,0.7s							
ASAR	**Alice Springs**	**20.50**	**171**	P	P	10 14 38.2	-0.1
1.6nm,0.4s,baz=350,slow=11,SNR=34							
1.6nm,0.4s							
MKAR	**Makanchi Array**	**65.45**	**326**	P	P	10 20 43.4	0.0
0.2nm,0.4s,baz=116,slow=8.1,SNR=2.2							
0.2nm,0.4s							

IDC 03 10:10:32.8±3.9, 3°.31S×130°.48E, h0km, mb3.5/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=293.5km s-min=30.2km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.95**	**167**	Pn	P	10 14 32.8	-0.9
0.2nm,0.3s,baz=348,slow=11,SNR=2.1							
0.4nm,0.5s							
ASAR	**Alice Springs**	**20.50**	**171**	P	P	10 15 12.2	-0.5
1.5nm,0.4s,baz=350,slow=11,SNR=7.3							
1.5nm,0.4s							
MKAR	**Makanchi Array**	**65.44**	**326**	P	P	10 21 17.7	0.0
0.3nm,0.7s,baz=114,slow=8.4,SNR=4.2							
0.3nm,0.7s							

*HVO **03** 10:25:51.3±0.9, 19°.12N±0°.03×155°.44W±0°.03, h36km±3km, ML2.3/16, ML2.4/40(NEIC), Error ellipse: s-maj=4.2km s-min=2.8km az=137.0*
NEIC 03 10:25:50.7±1.1, 19°.19N±0°.05×155°.48W±0°.03, h35km±2km, Error ellipse: s-maj=8.5km s-min=3.6km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**60**		Pn	10 25 57.5	+0.7
KHU	**Kahuku**	**0.14**	**292**		Pn	10 25 57.9	+0.6
KHU					Sn	10 26 02.2	+0.3
KHU	**Kahuku**	**0.14**	**292**	IAML		10 26 02.4	
comp=E,564nm,0.6s							
KHU				IAML		10 26 10.0	
comp=N,370nm,0.5s							
HLP	**Hilina Pali**

MWH	**Mokuaweoweo**	**0.31**	**339**		Sn	10 26 05.1	-0.1
MLH	**Mauna Loa**	**0.31**	**16**		Pn	10 25 59.4	+0.3
MLH					Sn	10 26 05.3	+0.5
MLH	**Mauna Loa**	**0.31**	**16**	IAML		10 26 11.0	
	comp=E,238nm,0.4s						
MLH				IAML		10 26 14.9	
	comp=N,286nm,0.7s						
RSD	**Rainshed**	**0.33**	**35**		Pn	10 25 59.0	-0.2
RSD					Sn	10 26 05.1	+0.2
KNHH	**Kane Nui o Ham**	**0.34**	**58**		Pn	10 25 58.8	-0.5
MLOA	**Mauna Loa Obse**	**0.35**	**345**		Pn	10 26 00.0	+0.3
MLOA					Sn	10 26 06.7	+0.7
ALEP	**Alea Permanent**	**0.38**	**336**		Pn	10 26 00.2	+0.1
STCH	**Steam Cracks**	**0.38**	**60**		Pn	10 25 59.2	-0.6
STCH	**Steam Cracks**	**0.38**	**60**		Sn	10 26 04.7	-1.4
STCH	**Steam Cracks**	**0.38**	**60**	IAML		10 26 04.6	
	comp=E,182nm,0.8s						
NPOC	**North of Pu'u**	**0.40**	**60**		Pn	10 25 59.3	-0.8
NPOC					Sn	10 26 05.2	-1.3
JCUZ	**Jacuzzi**	**0.40**	**62**		Pn	10 25 59.5	-0.6
JCUZ					Sn	10 26 04.9	-1.6
HMH	**Humu'ula Sheep**	**0.41**	**359**		Pn	10 25 59.4	-1.0
HMH	**Humu'ula Sheep**	**0.41**	**359**	IAML		10 26 08.4	
	comp=E,413nm,0.4s						
HMH				IAML		10 26 08.6	
	comp=N,278nm,0.4s						
JOKA	**Jonika Flow**	**0.51**	**62**		Pn	10 26 00.7	-0.8
JOKA				IAML		10 26 18.5	
	comp=N,215nm,1.1s						
CPH	**Captain Cook**	**0.51**	**305**		Pn	10 25 59.4	-2.1
POHA	**Pohakuloa**	**0.56**	**355**		Sn	10 26 09.5	-1.2
HUH	**Hualalai**	**0.59**	**325**	Pn	Pn	10 26 00.8	-2.2

IDC 03 10:31:47.8±2.3, 3°.40S×130°.38E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=130.0km s-min=28.6km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.89**	**167**	Pn	P	10 35 47.1	-0.7
	0.2nm,0.3s,baz=347,slow=11,SNR=5.1 0.3nm,0.4s						
ASAR	**Alice Springs**	**20.43**	**171**	P	P	10 36 26.2	-0.6
	1.3nm,0.6s,baz=348,slow=9.0,SNR=24 1.3nm,0.6s						
MKAR	**Makanchi Array**	**65.46**	**326**	P	P	10 42 32.7	0.0
	0.2nm,0.4s,baz=125,slow=8.2,SNR=6.0 0.2nm,0.4s						

ISC 03 11:02:09.1±1.1, 60°.41N±0°.04×139°.06W±0°.02, h7km±11km, n14, σ0°.41/23, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O29M	**Mount Kennedy**	**0.26**	**114**	P	**Pg**	**11 02 14.2**	**-0.1**
	baz=296						
O29M				S	**Sg**	**11 02 18.1**	**+0.3**
	baz=296						
YUK6	**Outpost Mounta**	**0.63**	**32**	P	**Pg**	**11 02 21.7**	**+0.4**
	baz=212,SNR=94						
YUK6				S	**Sg**	**11 02 30.0**	**+0.4**
	baz=212						
O28M	**Mount Upton**	**0.67**	**303**	P	**Pg**	**11 02 21.4**	**-0.6**
	baz=122						
O28M				S	**Sg**	**11 02 30.9**	**+0.2**
	baz=122						
PINM	**Pinnacle**	**0.68**	**243**	P	**Pg**	**11 02 21.9**	**-0.1**
	baz=62						
PINM				S	**Sg**	**11 02 31.3**	**+0.4**
	baz=62						
HYT	**Haines Junctio**	**0.87**	**61**	P	**Pg**	**11 02 25.7**	**-0.1**
	baz=242						
HYT				S	**Sg**	**11 02 37.3**	**+0.2**
	baz=242						
YUK8	**Steele Glacier**	**0.94**	**339**	P	**Pg**	**11 02 26.8**	**-0.4**
	baz=158,SNR=14						
YUK4	**Talbot Arm**	**0.96**	**12**	P	**Pn**	**11 02 29.4**	**+0.2**
	baz=193,SNR=27						
YUK4				S	**Sn**	**11 02 43.3**	**+0.2**
	baz=193						
P30M	**Million Dollar**	**1.08**	**105**	P	**Pg**	**11 02 29.1**	**-0.7**
	baz=287						
P30M				S	**Sb**	**11 02 44.3**	**-0.2**
	baz=287						
N30M	**Aishikik Lake**	**1.42**	**42**	P	**Pb**	**11 02 36.0**	**0.0**
	baz=223						
N30M				S	**Sg**	**11 02 55.0**	**+0.2**
	baz=223						
MESA	**MESA**	**1.46**	**262**	P	**Pb**	**11 02 36.6**	**-0.1**
	baz=80						
O30N	**Mendenhall**	**1.51**	**75**	P	**Pb**	**11 02 37.4**	**0.0**
	baz=257,SNR=6.7						
O30N				S	**Sg**	**11 02 57.6**	**+0.2**
	baz=257						
YUK3	**Moose Creek**	**1.53**	**334**	P	**Pn**	**11 02 37.4**	**+0.4**
	baz=153,SNR=10						
M29M	**Somme Creek**	**2.06**	**8**	Sb	**Sg**	**11 03 14.2**	**-1.0**
	baz=188						
WHY	**Whitehorse**	**2.08**	**81**	Sb	**Sg**	**11 03 15.3**	**-0.5**
	baz=265						

DJA 03 11:05:32.8±0.5, 4°.5S±6°.×12°.6E±°, h288km±8km, M4.1/13, mB4.6/1, mb4.0/7, MLv4.1/13, Mw(mB)3.8/1
IDC 03 11:05:34.3±2.3, 4°.28S×126°.27E, h322km±24km, mb3.2/6, mbtmp4.1/9, Error ellipse: s-maj=56.3km s-min=9.8km az=67.0

ISC 03 11:05:32.4±0.6, 4°.22S±0°.07×126°.36E±0°.09, h300km, n30, σ1°.11/33, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.22**	**37**	P	**Pn**	**11 06 13.8**	**-0.1**
AAI	**Ambon**	**1.91**	**74**	P	**Pn**	**11 06 18.0**	**-0.5**
SANI	**Sanana**	**2.18**	**350**	P	**Pn**	**11 06 20.2**	**-0.5**
SANI	**Sanana**	**2.18**	**350**	P	**Pn**	**11 06 20.2**	**-0.5**
MSAI	**Masohi**	**2.71**	**71**	P	**Pn**	**11 06 24.9**	**-0.5**
BNDI	**Bandanaira**	**3.55**	**95**	P	**Pn**	**11 06 34.3**	**+0.5**
KDI	**Kendari**	**3.73**	**274**	P	**Pn**	**11 06 35.5**	**-0.3**
SWI	**Sorong**	**5.92**	**56**	P	**Pn**	**11 07 01.1**	**+0.2**
FAKI	**Fak Fak**	**6.02**	**78**	P	**Pn**	**11 07 02.2**	**+0.2**
FAKI	**Fak Fak**	**6.02**	**78**	P	**Pn**	**11 07 02.0**	**0.0**
SPSI	**Sidrap Palu**	**6.57**	**272**	P	**Pn**	**11 07 08.9**	**+0.2**
	0.1nm20nm,0.7s						
DRS	**Darwin Rock St**	**9.32**	**151**	P	**Pn**	**11 07 42.7**	**+0.5**
MTN	**Manton Dam**	**9.79**	**151**	P	**Pn**	**11 07 48.6**	**+0.6**
KDU	**Kakadu**	**10.36**	**145**	P	**Pn**	**11 07 56.5**	**+1.5**
DAV	**Davao City (W)**	**11.24**	**356**	P	**P**	**11 08 07.7**	**-0.3**
	93nm,0.4s,baz=203,slow=7.7,SNR=1.6						
FITZ	**Fitzroy Crossi**	**13.81**	**183**	P	**Pn**	**11 08 36.9**	**+0.1**
	4.6nm,0.5s,baz=3.8,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**13.81**	**183**	P	**Pn**	**11 08 37.3**	**+0.5**
WRA	**Warramunga Arr**	**17.46**	**154**	P	**P**	**11 09 16.4**	**+0.1**
	2.2nm,0.5s,baz=331,slow=11,SNR=20						
WRA				S	**S**	**11 12 17.6**	**-4.7**
	3.7nm,0.9s,baz=329,slow=20,SNR=7.1						
COEN	**Coen**	**19.21**	**121**	P	**P**	**11 09 35.8**	**+0.7**
ASAR	**Alice Springs**	**20.66**	**160**	P	**P**	**11 09 50.6**	**+0.5**
	0.7nm,0.4s,baz=336,slow=11,SNR=16						
ASAR				S	**S**	**11 13 20.6**	**-1.2**
	1.5nm,0.8s,baz=348,slow=23,SNR=9.8 0.7nm,0.4s						
QIS	**Mount Isa**	**20.74**	**143**	P	**P**	**11 09 52.0**	**+1.1**
WRKA	**Warakurna**	**20.79**	**175**	P	**P**	**11 09 51.7**	**+0.4**
GIRL	**Giralia**	**21.75**	**212**	P	**P**	**11 10 01.7**	**+1.4**
MEEK	**Meekatharra**	**23.49**	**198**	P	**P**	**11 10 17.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**35.18**	**311**	P	**P**	**11 11 58.3**	**-0.5**
	0.7nm,0.6s,baz=146,slow=7.2,SNR=5.5 0.7nm,0.6s						
SONM	**Songino Array**	**54.72**	**344**	P	**P**	**11 14 31.9**	**+0.6**
	0.7nm,0.8s,baz=161,slow=6.3,SNR=4.3 0.7nm,0.8s						
MKAR	**Makanchi Array**	**63.94**	**328**	P	**P**	**11 15 34.1**	**+0.1**
	1.3nm,0.4s,baz=115,slow=8.3,SNR=29						
MKAR				PcP	**PcP**	**11 16 06.7**	**-0.1**
	0.3nm,0.5s,baz=124,slow=4.8,SNR=2.2 1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**67.52**	**335**	P	**P**	**11 15 55.5**	**-1.0**
	1.2nm,0.6s,baz=114,slow=7.2,SNR=4.2 1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**68.27**	**329**	P	**P**	**11 16 01.0**	**-0.3**
	0.8nm,0.6s,baz=137,slow=5.5,SNR=12 0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**124.68**	**283**	PKP	**PKPdf**	**11 23 57.2**	**-0.3**
	0.1nm,0.4s,baz=74,slow=3.3,SNR=1.9						

ISN 03 11:07:59.5±0.3, 34°.32N×45°.66E, h11km±16km, ML2.7
TEH 03 11:07:59.5, 34°.32N×45°.68E, h12km±139km

ISC 03 11:07:59.7±1.1, 34°.31N±0°.04×45°.67E±0°.04, h11km±11km, n9, σ0°.67/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**340**	Pg	**Pg**	**11 08 04.0**	**-0.2**
KGS1				Sg	**Sg**	**11 08 07.8**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.28**	**135**	Pg	**Pb**	**11 08 06.0**	**-0.7**
IDHR	**Dehrash**	**0.70**	**57**	Pg	**Pg**	**11 08 12.9**	**-0.5**
IDHR				Sg	**Sb**	**11 08 23.6**	**-0.3**
IGHG	**Ghaleghazi**	**0.74**	**88**	Pg	**Pb**	**11 08 14.7**	**0.0**
ILBA	**Ilam Banvizeh**	**0.82**	**147**	Pg	**Pg**	**11 08 14.9**	**-0.6**
IBDR	**Badra**	**1.22**	**170**	*e*Pg	**Pg**	**11 08 23.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**11 08 40.1**	**+1.0**
BHD	**Baghdad**	**1.50**	**226**	*e*Pn	**Pg**	**11 08 28.0**	**-0.4**
BHD				*e*Sn	**Sg**	**11 08 48.6**	**+0.7**
IKRK	**Kirkuk**	**1.54**	**315**	*e*Pn	**Pg**	**11 08 28.5**	**-0.8**
IKRK				*e*Sn	**Sg**	**11 08 50.0**	**+0.6**
IKRK				AML	AML	11 08 51.7	
	comp=N,146nm,0.4s						
IKRK				AML	AML	11 08 54.2	
	comp=E,105nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.70**	**71**	Pg	**Pg**	**11 08 32.4**	**0.0**

IDC 03 11:19:10.6±10.0, 8°.43S×129°.62E, h159km±116km, mb2.8/2, mbtmp3.5/5, Error ellipse: s-maj=78.5km s-min=46.7km az=26.0

ISC 03 11:19:10.6±1.4, 8°.42S±0°.10×129°.7E±0°.1, h150km, n11, σ2°.23/14, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**4.17**	**163**	P	**Pn**	**11 20 14.4**	**+1.4**
MTN	**Manton Dam**	**4.62**	**162**	P	**Pn**	**11 20 20.1**	**+1.0**
KDU	**Kakadu**	**5.05**	**147**	P	**Pn**	**11 20 23.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.40**	**202**	P	**Pn**	**11 21 35.3**	**-0.6**
	2.4nm,0.3s,baz=23,slow=10,SNR=31						
FITZ				S	**Sn**	**11 23 30.3**	**-0.7**
	2.8nm,0.4s,baz=78,slow=14,SNR=1.0						
FITZ	**Fitzroy Crossi**	**10.40**	**202**	P	**Pn**	**11 21 36.1**	**+0.2**
WRA	**Warramunga Arr**	**12.31**	**159**	P	**Pn**	**11 22 00.1**	**-0.9**
	1.3nm,0.5s,baz=333,slow=13,SNR=19						
WRA				S	**Sn**	**11 24 12.6**	**-4.7**
	1.7nm,0.5s,baz=331,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**15.69**	**166**	P	**P**	**11 22 45.0**	**+0.4**
	0.3nm,0.5s,baz=346,slow=10,SNR=19						
ASAR				S	**Sn**	**11 25 37.1**	**-1.4**
	0.7nm,0.7s,baz=347,slow=25,SNR=5.3						
AS01	**Alice Springs**	**15.70**	**165**	P	**P**	**11 22 47.8**	**+3.1**
WRKA	**Warakurna**	**16.58**	**184**	P	**Pn**	**11 22 58.0**	**+3.5**
MKAR	**Makanchi Array**	**69.23**	**327**	P	**P**	**11 30 00.6**	**-0.7**
	0.1nm,0.3s,baz=113,slow=6.9,SNR=4.3 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**73.55**	**329**	P	**P**	**11 30 25.1**	**-1.9**
	0.1nm,0.3s,baz=123,slow=4.5,SNR=2.0 0.1nm,0.3s						

BGSI 03 11:23:35.1±1.4, 26°.83S×27°.94E, h0km±54km, ML3.3
PRE 03 11:23:36.7±1.0, 26°.44S×27°.56E, h2km, ML2.9
IDC 03 11:23:38.8±1.3, 26°.44S×27°.44E, h0km, mb3.9/5, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=38.1km s-min=15.1km az=119.0

ISC 03 11:23:38.1±1.3, 26°.47S±0°.03×27°.58E±0°.03, h5km±8km, n41, σ2°.13/75, mb3.9/5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.50**	**203**	*e*P	**Pg**	**11 23 47.6**	**-0.1**
PRYS				*e*S	**Sg**	**11 23 54.3**	**+0.1**
PRYS				IAML		11 24 00.0	
	comp=Z,256nm,0.4s						
HRAO	**HartRAO**	**0.58**	**9**	*e*P	**Pg**	**11 23 48.3**	**-1.1**
HRAO				*e*S	**Sg**	**11 23 55.8**	**-1.1**
HRAO				IAML		11 24 03.6	
	comp=Z,175nm,0.2s						
SNKL	**Senekal, Frees**	**1.81**	**175**	*e*P	**Pn**	**11 24 10.8**	**+0.6**
SNKL				*e*S	**Sn**	**11 24 34.5**	**+1.0**
SNKL				IAML		11 24 38.8	
	comp=Z,208nm,0.4s						
SWZ	**Schweizer**	**2.13**	**250**	*e*P	**Pn**	**11 24 14.6**	**0.0**
SWZ				*e*S	**Sn**	**11 24 41.2**	**-0.3**
SWZ				IAML		11 24 46.5	
	comp=Z,225nm,0.5s						
CRLN	**Carolina, Mapu**	**2.24**	**78**	*e*P	**Pn**	**11 24 15.8**	**-0.3**
CRLN				*e*S	**Sn**	**11 24 44.0**	**-0.2**
CRLN				IAML		11 24 50.7	
	comp=Z,52nm,0.4s						
LBTB	**Lobatse**	**2.30**	**308**	*e*P	**Pn**	**11 24 16.4**	**-0.4**
LBTB				*e*S	**Sn**	**11 24 44.8**	**-0.7**
LBTB				IAML		11 24 50.7	
	comp=Z,315nm,0.5s						
NWCL	**Newcastle**	**2.42**	**122**	*e*P	**Pn**	**11 24 18.5**	**+0.1**
NWCL				*e*S	**Sn**	**11 24 49.3**	**+0.8**
NWCL				IAML		11 24 56.2	
	comp=Z,174nm,0.5s						
MAKGR	**Makgori**	**2.58**	**284**	*i* P	**Pn**	**11 24 22.1**	**+1.4**
MAKGR				*i* S	**Sb**	**11 24 55.8**	**-1.3**
MAKGR				IAML		11 25 00.5	
	comp=E,451nm,0.7s						
LEPH	**Lephalale, Lim**	**2.60**	**4**	*e*P	**Pn**	**11 24 20.4**	**-0.6**
LEPH				*e*S	**Sn**	**11 24 51.7**	**-1.3**
LEPH				IAML		11 24 59.6	
	comp=Z,75nm,0.5s						
BOSA	**Boshof**	**2.97**	**223**	Pn	**Pn**	**11 24 27.3**	**+1.3**
	comp=Z,6.4nm,0.3s,baz=43,slow=12,SNR=197						
BOSA				Pg	**Pb**	**11 24 33.9**	**+2.2**
	comp=Z,9.8nm,0.3s,baz=42,slow=16,SNR=23						
BOSA				Sn	**Sn**	**11 25 01.7**	**-0.4**
	comp=Z,5.6nm,0.3s,baz=24,slow=18,SNR=5.6						
BOSA				Lg	Lg	11 25 09.6	
	comp=Z,13nm,0.3s,baz=314,slow=20,SNR=12 comp=Z,20nm,0.3s						
BOSA	**Boshof**	**2.97**	**223**	*e*P	**Pn**	**11 24 26.4**	**+0.3**
BOSA				*e*S	**Sn**	**11 25 02.0**	**-0.2**
BOSA				IAML		11 25 12.2	
	comp=Z,40nm,0.3s						
PILG	**Pilgrimsrest,**	**3.21**	**62**	*e*P	**Pn**	**11 24 28.7**	**-0.7**
PILG				*e*S	**Sn**	**11 25 07.3**	**-0.8**
PILG				IAML		11 25 25.2	
	comp=Z,105nm,0.6s						
LPHEP	**Lephephe**	**3.46**	**333**	*i* P	**Pn**	**11 24 35.3**	**+2.5**
LPHEP				*i* S	**Sb**	**11 25 19.3**	**-3.1**
LPHEP				IAML		11 25 30.8	
	comp=E,88nm,0.5s						
POGA	**Pongola**	**3.79**	**104**	*e*P	**Pn**	**11 24 38.0**	**+0.9**
POGA				*e*S	**Sn**	**11 25 22.4**	**+0.3**
POGA				IAML		11 25 33.8	
	comp=Z,57nm,0.3s						
SKOMA	**Sekoma**	**3.83**	**300**	*i* P	**Pn**	**11 24 40.3**	**+2.6**
SKOMA				*i* S	**Sb**	**11 25 28.1**	**-4.8**
SKOMA				IAML		11 25 40.0	
	comp=N,59nm,1.0s						
MREMI	**Moremi**	**3.88**	**358**	*i* P	**Pn**	**11 24 39.5**	**+1.0**
MREMI				IAML		11 25 43.9	
	comp=N,139nm,0.3s						
PMBG	**Pietermaritzbu**	**3.99**	**140**	*e*P	**Pn**	**11 24 40.6**	**+0.7**
PMBG				*e*S	**Sn**	**11 25 26.4**	**-0.7**
PMBG				IAML		11 25 45.4	
	comp=Z,44nm,0.5s						
KDWAN	**Kaudwane**	**4.06**	**319**	*i* P	**Pn**	**11 24 42.5**	**+1.5**
KDWAN				*i* S	**Sn**	**11 25 33.5**	**+4.5**
KDWAN				IAML		11 25 47.0	
	comp=N,197nm,0.7s						
PHPEN	**Phepeng**	**4.37**	**282**	*i* P	**Pn**	**11 24 46.7**	**+1.5**
PHPEN				*i* S	**Sn**	**11 25 39.2**	**+2.7**
KSTD	**Kokstad**	**4.41**	**160**	*e*P	**Pn**	**11 24 46.9**	**+1.1**
KSTD				*e*S	**Sn**	**11 25 36.4**	**-1.2**
KSTD				IAML		11 26 02.7	
	comp=Z,22nm,0.5s						
MOPA	**Mopani**	**4.54**	**51**	*e*P	**Pn**	**11 24 47.5**	**0.0**
MOPA				*e*S	**Sn**	**11 25 38.0**	**-2.6**
MOPA				IAML		11 26 15.9	
	comp=Z,62nm,0.4s						
MUSN	**Musina, Limpop**	**4.65**	**27**	*e*P	**Pn**	**11 24 48.4**	**-0.7**
MUSN				*e*S	**Sn**	**11 25 40.6**	**-2.8**
MUSN				IAML		11 26 11.2	
	comp=Z,21nm,0.5s						
ALKP	**Alkanpan, Nort**	**5.84**	**232**	*e*P	**Pn**	**11 25 04.5**	**-0.9**
ALKP				*e*S	**Sn**	**11 26 09.4**	**-3.5**
ALKP				IAML		11 26 44.3	
	comp=Z,31nm,0.6s						
UPI	**Upington**	**5.93**	**250**	*e*P	**Pn**	**11 25 06.8**	**+0.1**
UPI				*e*S	**Sn**	**11 26 12.5**	**-2.7**
UPI				IAML		11 26 47.5	
	comp=Z,20nm,0.4s						
KGCAE	**Kacgae**	**6.07**	**305**	*i* P	**Pn**	**11 25 09.4**	**+0.8**
KGCAE				IAML		11 26 53.5	
	comp=E,100nm,0.8s						
KEIM	**Keimoes**	**6.28**	**248**	*e*P	**Pn**	**11 25 10.7**	**-0.8**
KEIM				*e*S	**Sn**	**11 26 20.4**	**-3.2**
KEIM				IAML		11 26 57.5	
	comp=Z,19nm,0.6s						
GRAF	**Camdeboo Natio**	**6.39**	**204**	*e*P	**Pn**	**11 25 12.8**	**-0.1**
GRAF				*e*S	**Sn**	**11 26 24.2**	**-2.1**
GRAF				IAML		11 27 04.4	
	comp=Z,11nm,0.4s						
BRAK	**Brakfontein**	**6.70**	**217**	*e*P	**Pn**	**11 25 17.3**	**+0.1**
BRAK				*e*S	**Sn**	**11 26 31.4**	**-2.5**
BRAK				IAML		11 26 51.1	
	comp=Z,5.3nm,0.3s						
AUGR	**Augrabies**	**6.77**	**250**	*e*P	**Pn**	**11 25 17.2**	**-1.0**
AUGR				*e*S	**Sn**	**11 26 31.9**	**-3.9**
AUGR				IAML		11 27 19.3	
	comp=Z,19nm,0.4s						
GRAN	**Grantham**	**7.49**	**218**	*e*P	**Pn**	**11 25 28.6**	**+0.5**
GRAN				*e*S	**Sn**	**11 26 50.3**	**-3.2**
GRAN				IAML		11 27 36.6	
	comp=Z,15nm,0.5s						
FRAZ	**Fraserburg**	**7.66**	**223**	*e*P	**Pn**	**11 25 31.1**	**+0.6**
FRAZ				*e*S	**Sn**	**11 26 54.2**	**-3.6**
FRAZ				IAML		11 27 38.6	
	comp=Z,10nm,0.6s						
GRTLG	**Ghanzi**	**7.73**	**310**	*i* P	**Pn**	**11 25 31.0**	**-0.4**
GRTLG				IAML		11 27 42.3	
	comp=N,29nm,1.0s						
SUR	**Sutherland**	**8.34**	**223**	*e*P	**Pn**	**11 25 39.5**	**-0.3**
SUR				*e*S	**Sn**	**11 27 10.0**	**-4.5**
SUR				IAML		11 28 02.9	
	comp=Z,15nm,0.5s						
CVNA	**Calvinia**	**8.48**	**232**	*e*P	**Pn**	**11 25 41.8**	**+0.2**
CVNA				*e*S	**Sn**	**11 27 13.1**	**-4.6**
CVNA				IAML		11 28 06.6	
	comp=Z,23nm,0.5s						
KOMG	**Komaggas**	**9.51**	**247**	*e*P	**Pn**	**11 25 55.9**	**+0.1**
KOMG				*e*S	**Sn**	**11 27 37.0**	**-6.1**
KOMG				IAML		11 27 44.6	
	comp=Z,3.5nm,0.4s						
PRTV	**Porterville,We**	**9.88**	**226**	*e*P	**Pn**	**11 26 01.0**	**+0.2**
PRTV				*e*S	**Sn**	**11 27 46.5**	**-5.7**
PRTV				IAML		11 28 49.9	
	comp=Z,11nm,0.5s						
TORD	**Torodi Ar. Bea**	**46.73**	**324**	P	**P**	**11 32 08.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=139,slow=6.0,SNR=7.4 comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**63.72**	**180**	P	**P**	**11 34 12.0**	**+1.4**
	comp=Z,1.8nm,1.1s,baz=166,slow=4.2,SNR=2.1 comp=Z,1.8nm,1.1s						
ESDC	**Sonseca Array**	**72.08**	**335**	P	**P**	**11 35 04.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=160,slow=6.9,SNR=4.3 comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**87.60**	**359**	P	**P**	**11 36 28.5**	**+1.7**
	comp=Z,6.2nm,1.1s,baz=213,slow=9.9,SNR=2.3 comp=Z,6.2nm,1.1s						
MKAR	**Makanchi Array**	**88.07**	**34**	P	**P**	**11 36 30.9**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=219,slow=1.8,SNR=2.0 comp=Z,0.2nm,0.7s						

IDC 03 11:24:22.2±2.7, 10°.71S×119°.21E, h0km, mb3.6/1, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=222.6km s-min=25.3km az=51.0
DJA 03 11:24:28.2±0.7, 11°.5S±6°.×11°.8E±°, h10km, M3.9/9, mb4.2/3, MLv3.7/9

ISC 03 11:24:21.5±0.9, 11°.60S±0°.07×118°.29E±0°.06, h26km, n13, σ3°.48/18, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.23**	**29**	P	**Pn**	**11 24 58.4**	**+1.5**
WBSI				S	**Sn**	**11 25 21.3**	**-2.3**
BASI	**Baing, Sumba**	**2.64**	**59**	P	**Pn**	**11 25 04.1**	**+1.7**
PLAI	**Plampang**	**2.80**	**350**	P	**Pn**	**11 25 06.0**	**+1.3**
PLAI				S	**Sn**	**11 25 33.9**	**-3.8**
TWSI	**Taliwang, Sumb**	**3.17**	**334**	P	**Pn**	**11 25 09.9**	**+0.2**
TWSI				S	**Sn**	**11 25 40.7**	**-6.0**
SRBI	**Singaraja**	**4.63**	**319**	P	**Pn**	**11 25 31.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.13**	**307**	P	**Pn**	**11 25 37.9**	**+1.2**
GMJI	**Gumukmas**	**5.81**	**304**	P	**Pn**	**11 25 47.6**	**+1.6**
	0.1nm19nm,1.4s						
BSSI	**Bau Bau, Buton**	**5.85**	**22**	P	**Pn**	**11 25 48.8**	**+2.2**
	50nm,1.2s						
BKSI	**Bulukumba**	**6.50**	**16**	P	**Pn**	**11 25 58.2**	**+2.7**
FITZ	**Fitzroy Crossi**	**9.60**	**133**	Pn	**Pn**	**11 26 40.2**	**+2.1**
	0.6nm,0.3s,baz=322,slow=11,SNR=2.9						
FITZ				Sn	**Sn**	**11 28 20.9**	**-4.2**
	0.5nm,0.3s,baz=3.6,slow=19,SNR=1.4 5.5nm,0.7s						
WRA	**Warramunga Arr**	**17.52**	**120**	P	**P**	**11 28 24.3**	**-0.8**
	baz=302,slow=14,SNR=1.8						
WRA				S	Sn	11 31 27.1	-12
	0.4nm,0.7s,baz=306,slow=18,SNR=1.9 0.6nm,0.8s						
ASAR	**Alice Springs**	**19.09**	**131**	P	**Pn**	**11 28 47.4**	**+4.1**
	0.1nm,0.3s,baz=306,slow=12,SNR=5.3						
ASAR				S	**Sn**	**11 32 09.1**	**-7.5**
	0.3nm,0.5s,baz=311,slow=24,SNR=2.1 0.4nm,0.5s						
MKAR	**Makanchi Array**	**66.46**	**334**	P	**P**	**11 35 10.8**	**+2.2**
	0.4nm,0.6s,baz=143,slow=6.7,SNR=9.6 0.4nm,0.6s						

SDD 03 11:26:20.2±2.5, 19°.29N×68°.10W, h20km±144km, MD3.6, ML3.1, MW3.3
RSPR 03 11:26:20.3, 19°.33N×68°.21W, h101km±6km, MD3.3/12
*OSPL 03 11:

DR12	**Loma Pena Alta**	**1.36 243**		**Pg**	**11 26 41.9**	**+0.3**
HATOM	**Hato Mayor del**	**1.36 243**	⇑*e*Pg	**Pg**	**11 26 42.1**	**+0.4**
HATOM			⇑*e*Sg	**Sn**	**11 27 00.8**	**+2.4**
HATOM			IAML		11 27 01.4	
	comp=N,94nm,0.2s					
SADR	**Isla Saona**	**1.37 208**	⇑*e*Pg	**Pg**	**11 26 42.9**	**+1.1**
SADR			⇑*e*Sg	**Sn**	**11 26 59.1**	**+0.4**
SADR			IAML		11 27 02.9	
	comp=N,276nm,0.5s					
NADR	**Nagua**	**1.66 268**	⇑*e*Pg	**Pg**	**11 26 49.3**	**+2.0**
NADR			⇓*e*Sg	**Sg**	**11 27 11.9**	**+3.1**
NADR			IAML		11 27 21.6	
	comp=N,519nm,0.5s					
AOPR	**Arecibo Observ**	**1.66 129**		**Pg**	**11 26 47.4**	**0.0**
AOPR				**Sg**	**11 27 08.5**	**-0.5**
AOPR			IAML		11 27 13.4	
	comp=N,251nm,0.5s					
AOPR	**Arecibo Observ**	**1.66 129**	⇑*e*Pg	**Pg**	**11 26 46.9**	**-0.5**
AOPR			⇑*e*Sg	**Sg**	**11 27 09.4**	**+0.4**
AOPR			IAML		11 27 13.3	
	comp=N,231nm,0.5s					
AOPR	**Arecibo Observ**	**1.66 129**	⇑*e*P	**Pg**	**11 26 48.6**	**+1.1**
AOPR	**Arecibo Observ**	**1.66 129**	*e*S	**Sg**	**11 27 10.3**	**+1.4**
CRPR	**Cabo Rojo, PR**	**1.69 146**		**Pg**	**11 26 46.8**	**-1.1**
CRPR				**Sn**	**11 27 07.1**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.69 146**	⇑*e*P	**Pg**	**11 26 48.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.69 146**	*e*S	**Sg**	**11 27 10.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.69 146**	*i* P		11 26 48.1	
CRPR			*e*S		11 27 08.8	
CRPR			IAML		11 27 12.0	
	comp=Z,159nm,0.3s					
UUPR	**Utuado, UPR, P**	**1.75 131**		**Pg**	**11 26 48.7**	**-0.3**
UUPR				**Sg**	**11 27 10.9**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.75 131**	⇑*e*P	**Pg**	**11 26 49.6**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.75 131**	*e*S	**Sg**	**11 27 12.0**	**+0.3**
MLPR	**Magueyes Islan**	**1.75 145**		**Pb**	**11 26 47.4**	**-0.2**
MLPR				**Sn**	**11 27 06.9**	**-1.2**
MLPR			IAML		11 27 12.5	
	comp=E,101nm,0.5s					
MLPR			IAML		11 27 15.2	
	comp=N,100nm,0.6s					
MLPR	**Magueyes Islan**	**1.75 145**	⇑*e*Pg	**Pg**	**11 26 48.4**	**-0.8**
MLPR			⇑*e*Sg	**Sb**	**11 27 09.6**	**0.0**
MLPR			IAML		11 27 15.1	
	comp=N,90nm,0.5s					
MLPR	**Magueyes Islan**	**1.75 145**	⇑*e*P	**Pg**	**11 26 48.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.75 145**	*e*S	**Sg**	**11 27 11.0**	**-0.9**
EMPR	**Esperanza - Ma**	**1.76 122**		**Sg**	**11 27 11.2**	**-0.9**
EMPR			IAML		11 27 19.1	
	comp=N,175nm,1.0s					
EMPR			IAML		11 27 19.2	
	comp=E,229nm,0.4s					
EMPR	**Esperanza - Ma**	**1.76 122**		**Pg**	**11 26 49.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.76 122**	⇓*e*P	**Pg**	**11 26 49.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.76 122**	*e*S	**Sg**	**11 27 13.8**	**+1.8**
GBPR	**Guanica, Bosqu**	**1.84 141**		**Pg**	**11 26 51.1**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.84 141**	⇑*e*P	**Pg**	**11 26 51.1**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.84 141**	*e*S	**Sg**	**11 27 14.7**	**-0.1**
DR08	**Loma La Naviza**	**1.87 256**	⇑*e*Pg	**Pg**	**11 26 50.6**	**-0.8**
DR08			⇑*e*Sg	**Sg**	**11 27 15.8**	**+0.2**
DR08			IAML		11 27 19.3	
	comp=N,2μm,0.1s					
SDD	**Santo Domingo**	**1.96 241**	Pn	**Pg**	**11 26 52.0**	**-1.1**
SDD	**Santo Domingo**	**1.96 241**	*i* P		11 26 52.3	
SDD			*e*S		11 27 17.3	
OBIP	**Obispado Ponce**	**1.97 134**		**Pg**	**11 26 52.3**	**-1.0**
OBIP	**Obispado Ponce**	**1.97 134**		**Sb**	**11 27 15.6**	**-0.3**
OBIP			IAML		11 27 19.7	
	comp=E,81nm,0.5s					
OBIP			IAML		11 27 20.1	
	comp=N,102nm,0.6s					
OBIP	**Obispado Ponce**	**1.97 134**	⇑*e*P	**Pg**	**11 26 52.3**	**-1.0**
OBIP	**Obispado Ponce**	**1.97 134**	*e*S	**Sg**	**11 27 18.0**	**-0.8**
GCPR	**Guaynabo City**	**2.21 119**		**Pb**	**11 26 54.2**	**-1.2**
GCPR				**Sn**	**11 27 20.7**	**+1.3**
GCPR	**Guaynabo City**	**2.21 119**	⇑*e*P	**Pg**	**11 26 56.1**	**-1.8**
GCPR	**Guaynabo City**	**2.21 119**	*e*S	**Sb**	**11 27 23.4**	**+0.7**
SJG	**San Juan**	**2.26 125**		**Pb**	**11 26 56.4**	**+0.1**
SJG	**San Juan**	**2.26 125**	IAML		11 27 30.5	
	comp=N,77nm,0.3s					
SJG			IAML		11 27 31.3	
	comp=N,80nm,0.5s					
SJG	**San Juan**	**2.26 125**	⇑*e*P	**Pb**	**11 26 56.4**	**+0.1**
SJG	**San Juan**	**2.26 125**	*e*S	**Sb**	**11 27 25.0**	**+0.7**
SJG	**San Juan**	**2.26 125**	*i* P		11 26 56.6	
SJG			*e*S		11 27 22.4	
SJG			IAML		11 27 29.9	
	comp=Z,48nm,0.5s					
BANI	**BANI**	**2.36 245**	Pn	**Pb**	**11 26 57.9**	**-0.3**
BANI			IAML		11 27 30.1	
	comp=E,108nm,0.5s					
IGPR	**InterUniversit**	**2.38 127**	Pn	**Pb**	**11 26 57.8**	**-0.5**
IGPR			IAML		11 27 36.2	
	comp=N,138nm,0.2s					
PDPR	**Patillas Dam,**	**2.41 125**	Pn	**Pb**	**11 26 59.0**	**+0.1**
PDPR	**Patillas Dam,**	**2.41 125**	⇑*e*P	**Pb**	**11 26 58.9**	**0.0**
PDPR	**Patillas Dam,**	**2.41 125**	*e*S	**Sb**	**11 27 28.1**	**-0.6**
SC01	**Santiago de lo**	**2.48 271**	Pn	**Pg**	**11 27 00.9**	**-2.1**
SC01			IAML		11 27 50.3	
	comp=E,93nm,0.7s					
SC01			IAML		11 27 53.0	
	comp=N,107nm,0.8s					
SC01	**Santiago de lo**	**2.48 271**	*i* P		11 27 04.1	
HUMP	**Col San Antoni**	**2.48 120**		**Pb**	**11 26 59.5**	**-0.6**
HUMP				**Sn**	**11 27 27.6**	**+1.4**
HUMP			IAML		11 27 34.8	
	comp=E,48nm,0.2s					
HUMP	**Col San Antoni**	**2.48 120**	⇓*e*P	**Pb**	**11 27 00.2**	**0.0**
HUMP	**Col San Antoni**	**2.48 120**	*e*S	**Sb**	**11 27 30.4**	**-0.3**
SDDR	**Presa de Saban**	**3.04 262**	Pn	**Pb**	**11 27 08.0**	**-1.7**
SDDR			IAML		11 28 02.7	
	comp=E,54nm,0.8s					
SDDR			IAML		11 28 04.9	
	comp=E,60nm,0.7s					

*IDC **03** 11:31:31.1±1.5, 39°.71N×140°.44E, h163km±16km, mb3.3/7, mbtmp3.7/9, MS2.7/1, Error ellipse: s-maj=20.3km s-min=13.3km az=84.0*
*JMA **03** 11:31:32.8±0.1, 39°.6N±0°.5×140°.3E±0°.7, h163km±1km, MV3.3/34, SOUTHERN AKITA PREF*

ISC 03 11:31:32.0±0.8, 39°.68N±0°.05×140°.33E±0°.09, h171km±6km, n27, σ0°82/30, mb3.7/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYW	**Yuwa**	**0.17**	**213**	P	**Pn**	**11 31 55.0**	**+0.2**
JYW				S	**Sn**	**11 32 11.8**	**-0.3**
JRG	**Rokugo**	**0.37**	**140**	*i* P	**Pn**	**11 31 55.4**	**+0.1**
JRG				S	**Sn**	**11 32 12.5**	**-0.5**
JAH	**Hinai**	**0.56**	**25**	*i* P	**Pn**	**11 31 56.5**	**+0.5**
JAH				S	**Sn**	**11 32 14.4**	**-0.2**
JYK	**Kaneyama**	**0.76**	**178**	P	**Pn**	**11 31 57.0**	**-0.1**
JYK				S	**Sn**	**11 32 15.4**	**-1.0**
JOM	**Ohasama**	**0.77**	**105**	*i* P	**Pn**	**11 31 57.5**	**+0.3**
JOM				*e*S	**Sn**	**11 32 16.2**	**-0.3**
JIW	**Iwasaki**	**0.94**	**345**	*i* P	**Pn**	**11 31 58.9**	**+0.5**
JMK	**Ichinoseki**	**1.00**	**136**	*i* P	**Pn**	**11 31 58.7**	**-0.1**
JMK				S	**Sn**	**11 32 18.7**	**-0.7**
JANG	**Nango**	**1.15**	**52**	*i* P	**Pn**	**11 32 00.6**	**+0.6**
JANG				S	**Sn**	**11 32 21.6**	**+0.1**
JYA	**Atsumi**	**1.19**	**204**	*i* P	**Pn**	**11 32 00.1**	**-0.3**
JYA				S	**Sn**	**11 32 20.7**	**-1.4**
JOT	**Ohata**	**1.79**	**18**	*i* P	**Pn**	**11 32 07.0**	**+0.9**
JOTO	**OTAMA OYAMA**	**2.12**	**180**	P	**Pn**	**11 32 09.7**	**-0.1**
MJAR	**Matsushiro Arr**	**3.55**	**209**	P	**Pn**	**11 32 27.5**	**+0.4**
	1.2nm,0.7s,baz=30,slow=9.8,SNR=4.7						
ASAJ	**Asahikawa**	**4.75**	**20**	P	**Pn**	**11 32 41.6**	**-0.8**
	2.1nm,0.3s,baz=228,slow=12,SNR=14						
ASAJ				S	**Sn**	**11 33 34.5**	**-3.1**
	4.7nm,0.5s,baz=157,slow=33,SNR=5.5						
USRK	**Ussuriysk Ar.**	**7.68**	**309**	P	**Pn**	**11 33 20.8**	**-0.2**
	4.0nm,0.8s,baz=112,slow=13,SNR=7.7						
USRK				LR	LR	11 35 56.3	
	comp=Z,59nm,20.5s,baz=165,slow=34						
SONM	**Songino Array**	**25.66**	**300**	P	**P**	**11 36 46.4**	**+0.4**
	0.2nm,0.7s,baz=117,slow=8.6,SNR=1.9						
	0.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.27**	**123**	T	T	12 08 36.9	
	baz=318,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.28**	**123**	T	T	12 08 37.4	
	baz=318,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**30.29**	**123**	T	T	12 08 39.5	
	baz=318,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.05**	**125**	T	T	12 09 25.6	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**31.05**	**125**	T	T	12 09 19.7	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**31.06**	**125**	T	T	12 09 25.0	
	baz=318						
ZALV	**Zalesovo Beam**	**39.53**	**310**	P	**P**	**11 38 46.3**	**+0.4**
	0.9nm,0.4s,baz=78,slow=7.6,SNR=5.7						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**42.03**	**299**	P	**P**	**11 39 06.5**	**0.0**
	0.9nm,0.5s,baz=81,slow=11,SNR=16						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**43.73**	**306**	P	**P**	**11 39 20.2**	**+0.2**
	2.2nm,0.3s,baz=80,slow=8.2,SNR=22						
	2.2nm,0.3s						
WRA	**Warramunga Arr**	**59.57**	**187**	P	**P**	**11 41 17.3**	**-0.4**
	0.7nm,0.5s,baz=0.9,slow=7.0,SNR=11						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**63.30**	**187**	P	**P**	**11 41 42.8**	**+0.2**
	1.0nm,0.7s,baz=1.6,slow=7.7,SNR=18						
	1.0nm,0.7s						
TXAR	**Lajitas Array**	**89.17**	**52**	P	**P**	**11 44 09.2**	**+0.8**
	0.3nm,1.1s,baz=329,slow=7.8,SNR=1.6						
	0.3nm,1.1s						

SJA 03 11:33:28.3±0.9, 25°.87S×66°.82W, h8km±5km, ML3.6, MW3.6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**0.79**	**108**	*e*S	Sg	11 33 52.2	-1.7
SLA	**San Lorenzo**	**1.65**	**46**	*e*P	Pg	11 34 00.0	+0.1
SLA				*e*S	Sg	11 34 23.1	+1.8
SLA				IAML		11 34 27.4	
	comp=Z,724nm,0.4s						
SALTA		**1.69**	**15**	*e*P	Pb	11 34 00.0	+0.1
SALTA				*e*S	Sg	11 34 23.9	+1.1
AZAP	**Zapla**	**2.28**	**45**	*e*P	Pg	11 34 11.4	-0.7
AZAP				*e*S	Sg	11 34 43.8	+2.2
AC02	**Maricunga**	**2.29**	**245**	*e*P	Pb	11 34 10.3	+0.2
AC02				*e*S	Sb	11 34 39.7	+1.0
GO02	**Mina Guanaco**	**2.60**	**285**	*e*P	Pg	11 34 16.9	-1.3
GO02				*e*S	Sg	11 35 00.1	+8.2
CYA	**Choya**	**2.72**	**161**	*e*P	Pn	11 34 14.0	+1.7
CYA				*e*S	Sb	11 34 49.1	-1.6
CYA				IAML		11 34 53.2	
	comp=Z,464nm,0.7s						
ALOL	**LOMAS DE OLMED**	**3.29**	**52**	*e*P	Pb	11 34 25.0	-1.8
ALOL				*e*S	Sb	11 35 09.5	+2.4
ACLC	**CERRO LA CRUZ**	**3.55**	**182**	*e*P	Pn	11 34 26.4	+2.6
ACLC				*e*Pg	Pb	11 34 32.4	+1.0
ACLC				*e*S	Sn	11 35 09.7	+3.7
ACLC				*e*Sg	Sb	11 35 15.4	+0.8
ACLC				IAML		11 35 19.6	
	comp=Z,75nm,0.4s						
YJA	**Yavi**	**3.86**	**18**	*e*P	Pb	11 34 33.0	-3.9
AGUA	**GUANDACOL**	**3.90**	**202**	*e*P	Pn	11 34 32.1	+3.5
AGUA				*e*S	Sn	11 35 19.3	+4.7
AGUA				IAML		11 35 35.1	
	comp=Z,85nm,0.9s						
APLL	**PUNTA DE LOS L**	**4.52**	**177**	*e*P	Pn	11 34 37.4	+0.3
APLL				*e*S	Sn	11 35 27.4	-2.4
AROD	**Rodeo**	**4.88**	**208**	*e*P	Pn	11 34 47.9	+5.6
ACCO	**Cerro Coronel**	**5.10**	**202**	*e*P	Pn	11 34 49.3	+3.9
ACCO				*e*S	Sg	11 36 06.5	-5.8
ZON	**Zonda**	**5.89**	**196**	*e*S	Sn	11 35 48.0	-16
ZON				IAML		11 35 54.0	
	comp=Z,13nm,1.9s						

*KRNET **03** 11:36:32.3±0.1, 39°.25N×77°.14E, mb3.4*
*SOME **03** 11:36:32.6, 39°.53N×76°.90E, h5km*
*NNC **03** 11:36:34.0±1.3, 39°.55N×76°.91E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=8.5km s-min=6.5km az=167.0*

ISC 03 11:36:37.1±1.6, 39°.44N±0°.06×77°.03E±0°.04, h10km, n64, σ2°44/96, 29C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.36**	**14**	⇓*i*P	**Pn**	**11 37 16.0**	**-0.3**
TARG				⇓*i*S	**Sb**	**11 37 47.8**	**-1.5**
KDJ	**Kajisay**	**2.69**	**2**	⇑*i*P	**Pn**	**11 37 20.8**	**+0.2**
KDJ				⇑*i*S	**Sb**	**11 37 56.3**	**-2.2**
SFK	**Sufi-Kurgan**	**2.78**	**283**	⇑*e*P	**Pn**	**11 37 21.6**	**-0.3**
SFK				⇑*e*S	**Sn**	**11 37 57.4**	**+1.8**
SALK	**Salom-Alik**	**2.85**	**301**	⇓*e*P	**Pn**	**11 37 22.5**	**-0.3**
SALK				⇓*e*S	**Sn**	**11 37 59.7**	**+2.5**
ULHL	**Ulahol**	**2.86**	**348**	P	**Pn**	**11 37 23.6**	**+0.7**
	SNR=25						
ULHL	**Ulahol**	**2.86**	**348**	⇑*i*P	**Pn**	**11 37 23.7**	**+0.7**
ULHL				⇑*i*S	**Sn**	**11 38 01.1**	**+3.5**
BOOM	**Boomskoye usch**	**3.15**	**345**	⇑*i*P	**Pn**	**11 37 27.8**	**+0.8**
BOOM				⇑*i*S	**Sn**	**11 38 08.2**	**+3.4**
ARLS	**Aral**	**3.17**	**320**	⇑*i*P	**Pn**	**11 37 27.9**	**+0.7**
ARLS				⇑*i*S	**Sn**	**11 38 08.4**	**+3.2**
PRZ	**Przheval'sk**	**3.21**	**18**	⇑*e*P	**Pn**	**11 37 27.9**	**+0.1**
PRZ				⇑*e*S	**Sn**	**11 38 08.4**	**+2.2**
ANVS	**Anan'yevo**	**3.37**	**8**	⇓*e*P	**Pn**	**11 37 30.1**	**+0.1**
ANVS				⇓*e*S	**Sn**	**11 38 12.7**	**+2.5**
OHH	**Osh**	**3.43**	**290**	⇓*e*P	**Pn**	**11 37 30.5**	**-0.2**
OHH				⇓*e*S	**Sn**	**11 38 13.1**	**+1.6**
KBK	**Karagaybulak**	**3.57**	**335**	P	**Pb**	**11 37 38.4**	**-2.1**
	SNR=7.5						
KBK	**Karagaybulak**	**3.57**	**335**	⇑*i*P	**Pn**	**11 37 33.6**	**+0.8**
KBK				⇑*i*S	**Sn**	**11 38 18.2**	**+3.1**
TNSS	**Tian-Shan**	**3.59**	**359**	Pg	**Pb**	**11 37 37.1**	**-3.8**
	15nm,0.4s						
TNSS				Lg	Lg	11 38 24.2	
	16nm,0.6s						
TNSS	**Tian-Shan**	**3.59**	**359**	*e*P	**Pb**	**11 37 37.1**	**-3.8**
	5.1nm,0.4s						
TNSS				*e*S	**Sb**	**11 38 23.9**	**-0.8**
	16nm,0.7s						
IZV	**Izvestkoviy**	**3.60**	**355**	Pg	**Pb**	**11 37 37.3**	**-3.7**
	7.7nm,0.4s						
IZV				Lg	Lg	11 38 24.6	
	26nm,0.7s						
IZV	**Izvestkoviy**	**3.60**	**355**	*e*P	**Pb**	**11 37 37.3**	**-3.7**
	5.1nm,0.4s						
IZV				*e*S	**Sb**	**11 38 23.7**	**-1.1**
	23nm,0.7s						
ARSB	**Arslanbob**	**3.62**	**303**	⇑*e*P	**Pn**	**11 37 33.9**	**+0.6**
ARSB				⇑*e*S	**Sn**	**11 38 18.7**	**+2.6**
TKM2	**Tokmak 2**	**3.64**	**343**	P	**Pn**	**11 37 34.4**	**+0.7**
	SNR=16						
TKM2	**Tokmak 2**	**3.64**	**343**	⇓Pg	**Pb**	**11 37 37.7**	**-3.9**
	7.5nm,0.5s						
TKM2				⇓Lg	Lg	11 38 26.3	
	22nm,0.6s						
TKM2	**Tokmak 2**	**3.64**	**343**	⇓*i*P	**Pn**	**11 37 34.6**	**+0.9**
TKM2				⇓*i*S	**Sn**	**11 38 20.0**	**+3.2**
KST	**Kastek**	**3.68**	**348**	Pg	**Pb**	**11 37 39.8**	**-2.6**
	14nm,0.6s						
KST				Lg	Lg	11 38 28.1	
	40nm,0.6s						
KST	**Kastek**	**3.68**	**348**	*e*P	Pb	11 37 37.9	-4.5
	4.9nm,0.7s						
KST				*e*S	**Sb**	**11 38 24.7**	**-2.5**
	40nm,0.6s						
AML	**Almayashu**	**3.69**	**318**	P	**Pb**	**11 37 40.8**	**-1.8**
	SNR=6.6						
AML	**Almayashu**	**3.69**	**318**	⇓*i*P	**Pn**	**11 37 35.0**	**+0.5**
AML				⇓*i*S	**Sn**	**11 38 20.6**	**+2.3**
MTBS	**Maitube**	**3.71**	**353**	Pg	**Pb**	**11 37 39.1**	**-3.7**
	9.1nm,0.5s						
MTBS				Lg	Lg	11 38 27.2	
	16nm,0.4s						
MTBS	**Maitube**	**3.71**	**353**	*e*P	**Pb**	**11 37 39.1**	**-3.7**
	9.1nm,0.5s						
MTBS				*e*S	**Sb**	**11 38 27.2**	**-0.6**
	16nm,0.4s						
MDOK	**Medeo**	**3.72**	**0**	Pg	**Pb**	**11 37 40.1**	**-2.8**
	26nm,0.6s						
MDOK				⇓Pg	Pg	11 37 41.2	-7.1
	26nm,0.6s						
MDOK				Lg	Lg	11 38 29.3	
	28nm,0.9s						
MDOK				Lg	Lg	11 38 29.8	
	22nm,0.7s						
MDOK	**Medeo**	**3.72**	**0**	*e*P	**Pb**	**11 37 39.8**	**-3.1**
	11nm,0.5s						
MDOK				*e*S	**Sb**	**11 38 28.2**	**+0.1**
	28nm,0.8s						
AAK	**Ala-Archa**	**3.72**	**330**	⇓*i*P	**Pn**	**11 37 35.6**	**+0.8**
AAK				⇓*i*S	**Sn**	**11 38 21.6**	**+2.8**
SATY	**Saty**	**3.76**	**16**	Pg	**Pb**	**11 37 43.0**	**-0.6**
	19nm,0.9s						
SATY				Lg	Lg	11 38 34.4	
	47nm,0.9s						
FRU1	**Bishkek**	**3.82**	**332**	⇓*e*P	**Pn**	**11 37 36.9**	**+0.9**
FRU1				⇓*e*S	**Sn**	**11 38 24.6**	**+3.6**
DGS	**Degeres**	**3.91**	**346**	Pg	**Pb**	**11 37 42.8**	**-3.4**
	7.2nm,0.4s						
DGS				Lg	Lg	11 38 35.1	
	29nm,0.6s						
CHMS	**Chumysh**	**3.94**	**335**	P	Pb	11 37 42.0	-4.8
	SNR=5.2						
CHMS	**Chumysh**	**3.94**	**335**	Pg	**Pn**	**11 37 41.1**	**+3.4**
	10nm,0.8s						
CHMS				Lg	Lg	11 38 35.4	
	14nm,0.6s						
CHMS	**Chumysh**	**3.94**	**335**	⇑*i*P	**Pn**	**11 37 38.6**	**+0.9**
CHMS				⇑*i*S	**Sn**	**11 38 26.8**	**+2.7**
UZB	**Uzynbulak**	**3.99**	**21**	Pg	**Pb**	**11 37 44.2**	**-3.5**
	14nm,0.5s						
UZB				Lg	Lg	11 38 36.5	
	42nm,1.1s						
UZB	**Uzynbulak**	**3.99**	**21**	*e*P	**Pb**	**11 37 45.3**	**-2.3**
	3.4nm,0.2s						
UZB				*e*S	**Sb**	**11 38 37.2**	**+1.2**
	12nm,0.6s						
DRK	**Karamyk**	**4.05**	**272**	⇑*e*P	**Pn**	**11 37 38.6**	**-0.8**
DRK				⇑*e*S	**Sn**	**11 38 27.2**	**+0.2**
KURS	**Kuram**	**4.13**	**12**	Pg	**Pb**	**11 37 49.4**	**-0.5**
	13nm,0.5s						
KURS				Lg	Lg	11 38 44.8	
	15nm,0.9s						
KPKS	**Kokpek**	**4.21**	**17**	Pg	**Pb**	**11 37 49.0**	**-2.3**
	12nm,0.6s						
KPKS				Lg	Lg	11 38 43.9	
	24nm,0.5s						
KPKS	**Kokpek**	**4.21**	**17**	*e*P	**Pn**	**11 37 42.8**	**+1.4**
	5.9nm,0.4s						
KPKS				*e*S	**Sn**	**11 38 33.1**	**+2.5**
	21nm,0.7s						
KPKS	**Kokpek**	**4.21**	**17**	*e*P	**Pb**	**11 37 49.0**	**-2.3**
	12nm,0.6s						
KPKS				*e*S	**Sb**	**11 38 43.9**	**+1.8**
	24nm,0.5s						
USP	**Ospenovka**	**4.27**	**334**	⇓*i*P	**Pn**	**11 37 42.9**	**+0.7**
USP				⇓*i*S	**Sn**	**11 38 34.6**	**+2.6**
KTBS	**Karatobe**	**4.27**	**357**	Pg	**Pb**	**11 37 49.8**	**-2.6**
	10nm,0.5s						
KTBS				Lg	Lg	11 38 45.3	
	27nm,0.8s						
PDGK	**Podgornoye**	**4.30**	**25**	⇓Pg	**Pb**	**11 37 50.8**	**-2.1**
	8.6nm,0.5s						
PDGK				⇑Lg	Lg	11 38 48.6	
	57nm,0.8s						
KRBS	**Karabastau**	**4.37**	**347**	Pg	**Pb**	**11 37 51.8**	**-2.2**
	15nm,0.8s						
KRBS				Lg	Lg	11 38 48.8	
	18nm,0.4s						
MRKS	**Merke**	**4.37**	**320**	Pg	**Pb**	**11 37 51.2**	**-2.9**
	5.9nm,0.4s						
MRKS				Lg	Lg	11 38 47.9	
	39nm,0.6s						
MRKS	**Merke**	**4.37**	**320**	*e*P	**Pb**	**11 37 51.2**	**-2.9**
	5.9nm,0.4s						
MRKS				*e*S	**Sb**	**11 38 47.9**	**+1.0**
	39nm,0.6s						
SGDS	**Sogindy**	**4.39**	**337**	Pg	**Pb**	**11 37 51.1**	**-3.2**
	3.9nm,0.5s						
SGDS				Lg	Lg	11 38 47.9	
	17nm,0.4s						
MNAS	**Manas**	**4.58**	**313**	⇑*e*P	**Pn**	**11 37 47.1**	**+0.6**
MNAS				⇑*e*S	**Sn**	**11 38 41.7**	**+1.8**
KTMS	**Ketmen**	**4.71**	**31**	Pg	**Pb**	**11 37 57.7**	**-2.2**
	1.7nm,0.4s						
KTMS				Lg	Lg	11 38 58.9	
	13nm,0.6s						
KTMS	**Ketmen**	**4.71**	**31**	*e*P	**Pb**	**11 37 59.3**	**-0.7**
	0.5nm,0.1s						
KTMS				*e*S	**Sb**	**11 39 01.6**	**+4.8**
	17nm,0.3s						
ARXS	**Arharly**	**4.80**	**7**	Pg	**Pb**	**11 38 01.3**	**-0.1**
	0.2nm,0.1s						
ARXS				Lg	Lg	11 39 05.0	
	11nm,0.6s						
BTK	**Batken**	**4.83**	**279**	⇑*e*P	**Pn**	**11 37 49.7**	**-0.2**
BTK				⇑*e*S	**Sn**	**11 38 45.5**	**-0.4**
TRKS	**Terek-Say**	**4.95**	**297**	⇑*e*P	**Pn**	**11 37 51.4**	**-0.3**
TRKS				⇑*e*S	**Sn**	**11 38 49.4**	**+0.4**
DJR	**Jarkent**	**5.30**	**22**	Pg	**Pb**	**11 38 09.4**	**-0.5**
	6.8nm,0.8s						
DJR				Lg	Lg	11 39 19.1	
	10.0nm,0.5s						
DJR	**Jarkent**	**5.30**	**22**	*e*P	**Pb**	**11 38 09.4**	**-0.5**
	6.8nm,0.8s						
DJR				*e*S	**Sb**	**11 39 19.1**	**+5.5**
	10.0nm,0.5s						
BTLS	**Baital**	**6.01**	**339**	Pg	**Pb**	**11 38 20.6**	**-1.4**
	1.0nm,0.4s						
BTLS				Lg	Lg	11 39 38.0	
	8.5nm,0.5s						
BTLS	**Baital**	**6.01**	**339**	*e*P	**Pb**	**11 38 22.4**	**+0.

IVK				*e*Sg	**Sb**	**11 41 01.1 +1.9**
IVK				Pmax		
	104nm,0.2s					
IVK				Smax		
	491nm,0.1s					
LSTR	**Listvyanka**	**3.00**	**133**	*e*Pn	**Pn**	**11 40 21.5 +1.3**
LSTR				*e*Pg	**Pb**	**11 40 27.0 +0.9**
LSTR				*e*Sn	**Sn**	**11 40 56.4 +0.2**
LSTR				*e*Sg	**Sg**	**11 41 05.6 -3.3**
LSTR				*e*SgSg	**SbSb**	**11 41 10.7 +2.8**
LSTR				Pmax		
	73nm,0.5s					
LSTR				max		
	428nm,0.4s					
BGT	**Bolshoye Golou**	**3.15**	**126**	*e*Pn	**Pn**	**11 40 24.4 +2.2**
BGT				*e*Pg	**Pb**	**11 40 30.2 +1.6**
BGT				*e*Sn	**Sn**	**11 40 59.9 +0.1**
BGT				*e*Sg	**Sb**	**11 41 09.4 +2.4**
BGT				Pmax		
	77nm,0.2s					
BGT				Smax		
	498nm,0.2s					
TRG	**Tyrgan**	**3.27**	**109**	⇓*i*Pn	**Pn**	**11 40 25.8 +1.9**
TRG				*e*		11 40 35.7
TRG				*e*Sn	**Sn**	**11 41 04.0 +1.1**
TRG				*e*Sg	**Sg**	**11 41 14.7 -2.8**
TRG				max		
	68nm,0.2s					
TRG				Smax		
	364nm,0.1s					
TDJR	**Todzha**	**3.48**	**246**	*e*Pg	**Pb**	**11 40 35.8 +1.6**
TDJR				*e*Sg	**Sb**	**11 41 20.2 +3.7**
OGRR	**Ongureny**	**3.77**	**92**	*e*Pn	**Pn**	**11 40 34.6 +3.9**
OGRR				*e*Pg	**Pg**	**11 40 42.6 -2.1**
OGRR				*e*Sn	**Sn**	**11 41 15.8 +0.8**
OGRR				*e*Sg	**Sg**	**11 41 32.0 -1.4**
OGRR				Pmax		
	58nm,0.3s					
OGRR				Smax		
	536nm,0.5s					
KAB	**Kabansk**	**3.77**	**118**	*e*Pg	**Pb**	**11 40 41.3 +2.1**
KAB				*e*		11 40 45.8
KAB				*e*		11 41 19.1
KAB				*e*Sg	**Sg**	**11 41 29.9 -3.7**
KAB				*e*		11 41 43.9
KAB				max		
	152nm,0.2s					
KAB				max		
	922nm,0.7s					
ZAK	**Zakamensk**	**3.78**	**160**	*e*Pn	**Pn**	**11 40 32.9 +1.9**
ZAK				*e*Pg	**Pb**	**11 40 41.0 +1.5**
ZAK				*e*Sg	**Sb**	**11 41 27.9 +2.5**
ZAK				Pmax		
	29nm,0.3s					
ZAK				Smax		
	154nm,0.7s					
ZRHB	**Zarechye**	**3.80**	**109**	*e*Pn	**Pn**	**11 40 34.2 +3.0**
ZRHB				*e*Sn	**Sn**	**11 41 15.9 0.0**
ZRHB				*e*Sg	**Sg**	**11 41 32.2 -2.4**
ZRHB				*e*		11 41 42.5
ZRHB				max		
	923nm,0.9s					
FFNB	**Fofonovo**	**3.83**	**118**	*e*Pn	**Pn**	**11 40 33.5 +1.9**
FFNB				*e*Pg	**Pg**	**11 40 43.8 -2.1**
FFNB				*e*Sn	**Sn**	**11 41 17.9 +1.3**
FFNB				*e*Sg	**Sg**	**11 41 32.5 -3.0**
KELR	**Kotokel**	**4.25**	**104**	*e*Pn	**Pn**	**11 40 39.6 +2.2**
KELR				*e*Pg	**Pg**	**11 40 52.1 -1.9**
KELR				*e*Sn	**Sn**	**11 41 27.8 +0.8**
KELR				*e*Sg	**Sg**	**11 41 46.5 -2.5**
GORB	**Goryachinsk**	**4.30**	**100**	*e*Pn	**Pn**	**11 40 40.8 +2.7**
GORB				*e*Pg	**Pg**	**11 40 52.5 -2.5**
GORB				*e*Sn	**Sn**	**11 41 29.9 +1.6**
GORB				*e*Sg	**Sg**	**11 41 48.3 -2.4**
UUDB	**Ulan-Yde**	**4.40**	**116**	*e*Pn	**Pn**	**11 40 40.5 +1.1**
UUDB				*e*Pg	**Pb**	**11 40 53.1 +3.2**
UUDB				*e*Sn	**Sn**	**11 41 31.0 +0.3**
UUDB				*e*Sg	**Sg**	**11 41 49.7 -4.0**
UUDB				Pmax		
	169nm,0.4s					
UUDB				Smax		
	163nm,1.0s					
MXMB	**Maximikha**	**4.51**	**96**	*e*Pn	**Pn**	**11 40 44.3 +3.4**
MXMB				*e*Pg	**Pb**	**11 40 55.4 +3.6**
MXMB				*e*		11 41 00.3
MXMB				*e*Sn	**Sn**	**11 41 35.1 +1.8**
MXMB				*e*Sg	**Sg**	**11 41 55.2 -2.0**
NIZB	**Nizh Angarsk**	**5.12**	**66**	⇑*i*Pn	**Pn**	**11 40 52.5 +3.2**
NIZB				*e*		11 41 01.9
NIZB				*e*		11 41 09.4
NIZB				*e*Sn	**Sn**	**11 41 49.4 +1.1**
NIZB				*e*Sg	**Sg**	**11 42 14.5 -2.3**
NIZB				max		
	34nm,0.2s					
NIZB				Smax		
	175nm,0.4s					
SYVR	**Suvo**	**5.18**	**90**	⇑*i*Pn	**Pn**	**11 40 52.8 +2.6**
SYVR				*e*Pg	**Pg**	**11 41 09.2 -2.6**
SYVR				*e*Sn	**Sn**	**11 41 51.4 +1.4**
SYVR				*e*Sg	**Sg**	**11 42 15.9 -3.0**
SYVR				*e*		11 42 22.8
SYVR				Pmax		
	13nm,0.5s					
SYVR				max		
	105nm,0.8s					
YLYR	**Ulyunkhan**	**5.85**	**77**	*e*Pn	**Pn**	**11 41 02.0 +2.6**
YLYR				*e*		11 41 17.8
YLYR				*e*Pg	**Pg**	**11 41 20.3 -4.3**
YLYR				*e*Sn	**Sn**	**11 42 07.6 +1.1**
YLYR				*e*Sg	**Sg**	**11 42 37.1 -3.2**
YLYR				*e*		11 42 39.6
YLYR				Pmax		
	9.0nm,0.4s					
YLYR				max		
	70nm,0.8s					
KMO	**Kumora**	**6.05**	**67**	*e*Pn	**Pn**	**11 41 05.5 +3.5**
KMO				*e*		11 41 13.8
KMO				*e*Pg	**Pg**	**11 41 24.3 -4.0**
KMO				*e*		11 41 38.4
KMO				*e*Sn	**Sn**	**11 42 11.9 +0.6**
KMO				*e*Sg	**Sg**	**11 42 44.5 -2.1**
KMO				max		
	21nm,0.4s					
KMO				Smax		
	113nm,1.1s					
YOAB	**Uoyan, Buryati**	**6.40**	**66**	*e*Sg	**Sg**	**11 42 55.8 -2.0**
YOAB				Smax		
	339nm,1.2s					
SONM	**Songino Array**	**6.93**	**150**	Pn	**Pn**	**11 41 16.8 +2.6**
	0.2nm,0.3s,baz=328,slow=14,SNR=7.3					
SONM				Pg	**Pb**	**11 41 37.6 +4.6**
	1.4nm,0.3s,baz=330,slow=17,SNR=22					
SONM				Sn	**Sn**	**11 42 32.3 -0.8**
	0.9nm,0.3s,baz=323,slow=20,SNR=4.2					
SONM				Lg	Lg	11 43 04.1
	3.9nm,0.3s,baz=328,slow=28,SNR=22					
	0.3nm,0.3s					
ULN	**Ulaanbaatar**	**7.10**	**147**	*e*Pn	**Pn**	**11 41 19.3 +2.6**
ULN				*e*Pg	Pb	11 41 41.0 +4.9
ULN				*e*		11 42 51.6
ULN				*e*Sg	Sg	11 43 11.1 -9.4
ULN				Pmax		
	10.0nm,0.6s					
ULN				Smax		
	97nm,1.8s					
UKT	**Uakit**	**7.32**	**73**	*e*Pn	**Pn**	**11 41 22.0 +2.4**
UKT				*e*		11 41 48.5
UKT				*e*Sn	**Sn**	**11 42 42.0 -0.8**
UKT				*e*Sg	**Sg**	**11 43 22.3 -5.2**
UKT				max		
	5.0nm,0.8s					
UKT				Smax		
	80nm,1.4s					
KPC	**Khapcheranga**	**8.09**	**117**	*e*Pn	**Pn**	**11 41 31.1 +1.0**
KPC				*e*		11 42 04.1
KPC				*e*		11 42 53.2
KPC				*e*Sg	**Sg**	**11 43 43.5 -8.5**
KPC				*e*		11 44 01.3
KPC				max		
	4.0nm,0.6s					
KPC				Smax		
	31nm,1.0s					
BOD	**Bodaibo**	**8.14**	**56**	*e*Pn	**Pn**	**11 41 34.4 +3.7**
BOD				*e*Sn	**Sn**	**11 43 02.8 +0.2**
BOD				*e*Sg	**Sg**	**11 43 48.2 -5.3**
BOD				Smax		
	56nm,1.2s					
VTMR	**Vitim**	**8.29**	**44**	*e*Sg	**Sg**	**11 43 54.3 -4.0**
NLYR	**Nelyaty**	**8.64**	**67**	*e*Pn	**Pn**	**11 41 41.8 +4.3**
NLYR				*e*Sn	**Sn**	**11 43 16.2 +1.3**
NLYR				*e*Sg	**Sg**	**11 44 02.8 -6.7**
NLYR				Smax		
	59nm,1.4s					
ZALV	**Zalesovo Beam**	**9.70**	**277**	Pg	Pn	11 42 28.5 +36
	0.1nm,0.3s,baz=84,slow=15,SNR=2.9					
ZALV				Lg	Lg	11 44 32.2
	0.3nm,0.3s,baz=92,slow=28,SNR=7.5					
MKAR	**Makanchi Array**	**14.04**	**247**	Pn	**Pn**	**11 42 48.7 -2.7**
	0.1nm,0.3s,baz=61,slow=9.4,SNR=1.8					
MKAR				Lg	Lg	11 46 35.5
	0.2nm,0.3s,baz=58,slow=31,SNR=8.1					
	0.3nm,0.8s					
KURBB	**Kurchatov Arra**	**14.29**	**266**	Lg	Lg	11 46 51.9
	baz=66,slow=29,SNR=1.8					

*NNC **03** 11:47:04.3±0.9, 42°.17N×76°.19E, h0km, mb2.6, mpv2.9, Error ellipse: s-maj=5.9km s-min=3.5km az=9.0*
*SOME **03** 11:47:04.0, 42°.15N×76°.18E, h10km*
*KNET **03** 11:47:04.6±0.6, 42°.19N×76°.08E, h0km, ml1.6, Error ellipse: s-maj=5.4km s-min=2.0km az=1.0*

ISC 03 11:47:04.4±1.3, 42°.17N±0°.06×76°.15E±0°.02, h8km±8km, n27, σ0°.49/46, 12C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.10**	**43**	⇑P	**Pg**	**11 47 07.0**	**0.0**
	67nm,0.1s						
ULHL				⇑S	**Sg**	**11 47 09.0**	**+0.2**
	350nm,0.2s						
ULHL				⇑S		11 47 09.2	
TKM2	**Tokmak 2**	**0.85**	**332**	⇑P	**Pg**	**11 47 20.8**	**-0.1**
	4.5nm,0.2s						
TKM2				⇑S	**Sb**	**11 47 33.2**	**-0.1**
	12nm,0.1s						
TKM2	**Tokmak 2**	**0.85**	**332**	⇑P	**Pg**	**11 47 20.5**	**-0.3**
	0.6nm,0.2s						
TKM2				⇑S	**Sb**	**11 47 33.2**	**-0.1**
	6.6nm,0.4s						
KST	**Kastek**	**0.88**	**351**	P	**Pg**	**11 47 21.4**	**0.0**
	2.3nm,0.2s						
KST				S	**Sg**	**11 47 33.7**	**+0.8**
	4.6nm,0.2s						
KST	**Kastek**	**0.88**	**351**	*e*P	**Pg**	**11 47 20.9**	**-0.5**
	2.6nm,0.1s						
KST				*e*S	**Sg**	**11 47 32.7**	**-0.2**
	4.8nm,0.3s						
MTBS	**Maitube**	**0.98**	**12**	P	**Pg**	**11 47 22.9**	**-0.3**
	4.7nm,0.1s						
MTBS				S	**Sg**	**11 47 36.4**	**+0.4**
	11nm,0.2s						
MTBS	**Maitube**	**0.98**	**12**	*e*P	**Pg**	**11 47 22.5**	**-0.8**
	4.7nm,0.1s						
MTBS				*e*S	**Sg**	**11 47 35.5**	**-0.5**
	11nm,0.2s						
KBK	**Karagaybulak**	**1.01**	**299**	⇓P	**Pg**	**11 47 23.8**	**-0.1**
	2.0nm,0.1s						
KBK				⇓S	**Sb**	**11 47 38.2**	**+0.3**
	16nm,0.2s						
TNSS	**Tian-Shan**	**1.05**	**34**	P	**Pg**	**11 47 24.0**	**-0.6**
	2.0nm,0.2s						
TNSS				S	**Sg**	**11 47 38.2**	**0.0**
	6.4nm,0.2s						
TNSS	**Tian-Shan**	**1.05**	**34**	*e*P	**Pg**	**11 47 24.0**	**-0.6**
	1.7nm,0.1s						
TNSS				*e*S	**Sg**	**11 47 38.0**	**-0.1**
	6.4nm,0.1s						
DGS	**Degeres**	**1.10**	**346**	P	**Pb**	**11 47 25.6**	**-0.2**
	3.8nm,0.1s						
DGS				S	**Sb**	**11 47 41.0**	**+0.5**
	8.3nm,0.2s						
MDOK	**Medeo**	**1.19**	**33**	Pg	**Pb**	**11 47 26.5**	**-0.8**
	1.7nm,0.2s						
MDOK				Lg	Lg	11 47 42.7	
	3.1nm,0.2s						
MDOK	**Medeo**	**1.19**	**33**	*e*P	**Pb**	**11 47 26.5**	**-0.8**
	1.7nm,0.2s						
MDOK				*e*S	**Sb**	**11 47 42.7**	**-0.4**
	3.1nm,0.2s						
AAK	**Ala-Archa**	**1.31**	**291**	⇑P	**Pn**	**11 47 28.9**	**-0.3**
	1.4nm,0.2s						
AAK				⇑S	**Sb**	**11 47 46.4**	**-0.1**
	5.5nm,0.2s						
CHMS	**Chumysh**	**1.32**	**309**	⇑P	**Pb**	**11 47 29.4**	**-0.1**
	1.6nm,0.1s						
CHMS				⇓S	**Sn**	**11 47 47.3**	**+0.2**
	7.0nm,0.2s						
KRBS	**Karabastau**	**1.56**	**347**	P	**Pb**	**11 47 33.8**	**+0.1**
	6.5nm,0.2s						
KRBS				S	**Sg**	**11 47 55.0**	**+0.3**
	3.4nm,0.3s						
KTBS	**Karatobe**	**1.59**	**14**	P	**Pb**	**11 47 34.0**	**0.0**
	4.6nm,0.1s						
KTBS				S	**Sg**	**11 47 55.5**	**+0.1**
	8.7nm,0.3s						
SGDS	**Sogindy**	**1.70**	**319**	P	**Pb**	**11 47 35.9**	**-0.1**
	1.9nm,0.2s						
SGDS				S	**Sg**	**11 47 58.8**	**-0.2**
	4.8nm,0.2s						
SATY	**Saty**	**1.89**	**61**	P	**Pb**	**11 47 38.5**	**-0.7**
	1.7nm,0.3s						
SATY				S	**Sb**	**11 48 03.0**	**0.0**
	25nm,0.3s						
SATY	**Saty**	**1.89**	**61**	*e*P	Pg	11 47 47.8	+7.2
	0.9nm,0.1s						
SATY				*e*S	Sg	11 48 19.3	+14
	6.2nm,0.2s						
KURS	**Kuram**	**1.98**	**48**	Pg	**Pb**	**11 47 41.2**	**+0.4**
	1.1nm,0.2s						
KURS				Lg	Lg	11 48 07.6	
	2.7nm,0.4s						
MRKS	**Merke**	**2.24**	**286**	Pg	**Pb**	**11 47 45.6**	**+0.4**
	1.7nm,0.2s						
MRKS				Lg	Lg	11 48 15.0	
	5.0nm,0.3s						
MRKS	**Merke**	**2.24**	**286**	*e*P	**Pb**	**11 47 45.5**	**+0.4**
	1.7nm,0.2s						
MRKS				*e*S	**Sg**	**11 48 15.1**	**-1.3**
	5.0nm,0.3s						
UZB	**Uzynbulak**	**2.33**	**64**	Pg	**Pb**	**11 47 46.4**	**-0.4**
	2.2nm,0.1s						
UZB				Lg	Lg	11 48 16.5	
	6.3nm,0.2s						
UZB	**Uzynbulak**	**2.33**	**64**	*e*P	**Pb**	**11 47 46.4**	**-0.4**
	2.2nm,0.1s						
UZB				*e*S	**Sb**	**11 48 16.5**	**+0.7**
	6.3nm,0.2s						
ARXS	**Arharly**	**2.38**	**30**	Pg	**Pb**	**11 47 47.8**	**+0.2**
	0.9nm,0.1s						
ARXS				Lg	Lg	11 48 19.3	
	6.2nm,0.2s						
PDGK	**Podgornoye**	**2.72**	**64**	⇑Pg	**Pn**	**11 47 49.7**	**+1.1**
	0.3nm,0.4s						
PDGK				⇑Lg	Lg	11 48 26.6	
	1.9nm,0.5s						

IDC 03 12:00:08.9±2.3, 3°.48S×130°.28E, h0km, mb3.3/3, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=137.4km s-min=25.3km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.22**	**197**	Pn	Pn	12 03 45.2	-0.1
	0.1nm,0.3s,baz=22,slow=11,SNR=1.9						
	4.2nm,0.9s						
WRA	**Warramunga Arr**	**16.84**	**167**	Pn	Pn	12 04 07.0	+0.8
	0.1nm,0.3s,baz=348,slow=11,SNR=5.5						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**20.37**	**170**	P	P	12 04 47.0	-0.3
	0.9nm,0.6s,baz=347,slow=9.9,SNR=16						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**65.47**	**326**	P	P	12 10 53.8	0.0
	0.3nm,0.7s,baz=123,slow=6.1,SNR=3.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**69.69**	**328**	P	P	12 11 20.4	+0.1
	0.2nm,0.7s,baz=111,slow=6.4,SNR=1.6						
	0.2nm,0.7s						

*NIED **03** 12:14:55.9, 41°.40N×141°.88E, h24km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.62; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$0.57; $M_{r\theta}$0.60; $M_{r\phi}$0.98; $M_{\theta\phi}$-0.30; Fault plane solution: $M_0$3.10000×10^{14} NP1: ϕ_s279.00000°, δ_s39.00000°, λ_s83.00000°. NP2: ϕ_s108.00000°, δ_s51.00000°, λ_s96.00000°.*
*JMA **03** 12:14:55.9±0.1, 41°.4N±0°.2×141°.9E±0°.5, h24km±1km, MV3.5/39, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*IDC **03** 12:14:59.3±1.9, 41°.42N×141°.92E, h53km±16km, mb3.3/15, mbtmp3.6/19, ML3.3/4, Error ellipse: s-maj=19.7km s-min=11.6km az=117.0*

ISC 03 12:14:54.6±1.2, 41°.44N±0°.03×141°.94E±0°.04, h15km±7km, n42, σ1°.35/43, mb3.6/15, 17D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.49**	**249**	⇓*i*P	**Pb**	**12 15 04.9**	**0.0**
JAHD				⇓*e*S	**Sb**	**12 15 11.4**	**-0.5**
JARK	**Aomorirokkasho**	**0.62**	**225**	⇓*i*P	**Pg**	**12 15 06.5**	**-0.2**
JARK				⇓*e*S	**Sg**	**12 15 14.2**	**-0.7**
JOT	**Ohata**	**0.68**	**265**	⇓*i*P	**Pb**	**12 15 07.8**	**-0.3**
JOT				⇓S	**Sb**	**12 15 16.4**	**-0.8**
JKB	**Kayabe**	**0.81**	**303**	⇓*i*P	**Pn**	**12 15 10.6**	**-0.9**
JKB				⇓*e*S	**Sg**	**12 15 21.1**	**0.0**
JTM	**Tenmabayashi**	**0.93**	**225**	⇓*i*P	**Pb**	**12 15 11.8**	**-0.6**
JTM				⇓S	**Sb**	**12 15 23.9**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.03**	**36**	P	**Pg**	**12 15 15.1**	**+0.5**
JSHD	**Hidakashinhida**	**1.04**	**22**	⇓*i*P	**Pg**	**12 15 16.4**	**+1.6**
JEM	**Erimo**	**1.07**	**57**	*i* P	**Pg**	**12 15 16.3**	**+0.9**
JANG	**Nango**	**1.12**	**197**	⇓*i*P	**Pn**	**12 15 14.3**	**-1.4**
JANG				⇓S	**Sb**	**12 15 28.5**	**-1.5**
JSR	**Shiriuchi**	**1.15**	**275**	P	**Pg**	**12 15 16.1**	**-0.7**
JSR				*e*S	**Sg**	**12 15 30.8**	**-0.9**
JIAM	**Iburiatsuma**	**1.18**	**359**	P	**Pg**	**12 15 18.3**	**+1.0**
JNB	**Noboribetsu**	**1.23**	**327**	⇓*i*P	**Pn**	**12 15 16.9**	**-0.3**
JNB				⇓S	**Sn**	**12 15 32.5**	**-1.0**
JYM2	**Yakumo 2**	**1.35**	**300**	⇓*i*P	**Pb**	**12 15 19.5**	**-0.2**
JYM2				⇓S	**Sg**	**12 15 37.5**	**-0.8**
JOMM	**Oshimamatsumae**	**1.46**	**274**	P	**Pb**	**12 15 21.1**	**-0.3**
ASAJ	**Asahikawa**	**2.71**	**10**	P	**Pb**	**12 15 40.3**	**-2.6**
	21nm,0.3s,baz=229,slow=11,SNR=228						
ASAJ				S	**Sb**	**12 16 13.1**	**-2.8**
	56nm,0.4s,baz=264,slow=19,SNR=8.2						
	40nm,0.3s						
MJAR	**Matsushiro Arr**	**5.69**	**212**	P	**Pn**	**12 16 21.1**	**+2.4**
	0.1nm,0.3s,baz=22,slow=15,SNR=20						
	6.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**7.82**	**294**	P	**Pn**	**12 16 50.9**	**+3.1**
	0.1nm,0.3s,baz=108,slow=17,SNR=1.6						
	1.2nm,0.7s						
KSRS	**Korea Array**	**11.55**	**254**	P	**Pn**	**12 17 43.2**	**+4.3**
	0.1nm,0.3s,baz=65,slow=14,SNR=1.7						
	1.1nm,0.8s						
SONM	**Songino Array**	**25.92**	**296**	P	**P**	**12 20 26.2**	**0.0**
	0.1nm,0.3s,baz=99,slow=9.2,SNR=1.9						
	0.1nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	12 53 22.9	
	baz=321,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	12 53 18.4	
	baz=321,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**30.32**	**128**	T	T	12 53 23.1	
	baz=321,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	12 54 20.6	
	baz=322,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	12 54 20.8	
	baz=322,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	12 54 22.2	
	baz=322,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**12 22 24.2**	**+1.0**
	0.3nm,0.3s,baz=53,slow=15,SNR=1.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.26**	**298**	P	**P**	**12 22 46.7**	**-0.6**
	0.2nm,0.5s,baz=85,slow=9.5,SNR=8.6						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.16**	**251**	P	**P**	**12 22 54.9**	**+0.1**
	0.6nm,0.3s,baz=74,slow=4.3,SNR=2.0						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**43.73**	**305**	P	**P**	**12 22 58.4**	**-0.5**
	0.3nm,0.5s,baz=77,slow=8.8,SNR=4.9						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**45.59**	**35**	P	**P**	**12 23 14.9**	**+1.2**
	0.3nm,0.6s,baz=259,slow=5.6,SNR=7.8						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**47.99**	**310**	P	**P**	**12 23 33.3**	**+0.7**
	0.3nm,0.4s,baz=47,slow=17,SNR=1.9						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**59.81**	**31**	P	**P**	**12 24 58.7**	**-0.1**
	0.1nm,0.7s,baz=312,slow=8.1,SNR=5.3						
	0.1nm,0.7s						
WRA	**Warramunga Arr**	**61.48**	**188**	P	**P**	**12 25 09.5**	**-1.1**
	0.5nm,0.6s,baz=5.5,slow=6.9,SNR=7.5						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**65.12**	**332**	P	**P**	**12 25 33.5**	**-0.8**
	7.3nm,1.3s,baz=333,slow=2.6,SNR=4.6						
	7.3nm,1.3s						
ASAR	**Alice Springs**	**65.21**	**188**	P	**P**	**12 25 34.6**	**-0.7**
	0.4nm,0.9s,baz=5.2,slow=7.3,SNR=4.2						
	0.4nm,0.9s						
HFS	**Hagfors**	**70.25**	**335**	P	**P**	**12 26 06.6**	**-0.1**
	1.7nm,0.9s,baz=43,slow=5.0,SNR=4.4						
	1.7nm,0.9s						
AKASG	**Malin Array Be**	**71.08**	**322**	P	**P**	**12 26 11.4**	**-0.5**
	0.2nm,0.3s,baz=44,slow=7.3,SNR=1.9						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**74.31**	**46**	P	**P**	**12 26 32.2**	**+0.6**
	0.3nm,0.6s,baz=278,slow=1.0,SNR=4.0						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**76.25**	**311**	P	**P**	**12 26 42.2**	**-0.5**
	0.2nm,0.4s,baz=9.9,slow=12,SNR=1.6						
	0.2nm,0.4s						
H03N2	**Juan Fernandez**	**146.82**	**90**	T	T	15 19 16.0	
	baz=299,slow=77,SNR=5.4						
H03N3	**Juan Fernandez**	**146.84**	**90**	T	T	15 19 19.4	
	baz=299,slow=77,SNR=8.1						
H03N1	**Juan Fernandez**	**146.84**	**90**	T	T	15 19 17.4	
	baz=299,slow=77,SNR=7.2						

*IDC **03** 12:31:12.9±0.6, 58°.74S×25°.17W, h0km, mb4.2/9, mbtmp4.2/10, ML4.2/1, MS3.5/10, Error ellipse: s-maj=25.1km s-min=19.0km az=76.0*
*NEIC **03** 12:31:17.1±1.4, 58°.79S±0°.09×25°.3W±0°.2, h26km±5km, mb4.6/26, Error ellipse: s-maj=13.3km s-min=12.7km az=199.0*

ISC 03 12:31:15.7±0.4, 58°.77S±0°.08×25°.22W±0°.09, h18km, n73, σ0°.84/59, mb4.5/20, MS3.4/8, 4C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.68**	**301**	Pn	**Pn**	**12 33 06.9**	**+0.4**
VNA1	**Neumayer--Stat**	**13.87**	**156**	P	**Pn**	**12 34 30.9**	**-0.1**
VNA1	**Neumayer--Stat**	**13.87**	**156**	⇑P	**Pn**	**12 34 30.9**	**-0.1**
	comp=Z,8.5nm,0.4s						
VNA3	**Neumayer Olymp**	**14.06**	**159**	P	**Pn**	**12 34 33.0**	**-0.7**
VNA3	**Neumayer Olymp**	**14.06**	**159**	⇓P	**Pn**	**12 34 33.0**	**-0.7**
	comp=Z,6.2nm,0.3s						
VNA2	**Neumayer--Watz**	**14.26**	**156**	P	**Pn**	**12 34 36.2**	**-0.2**
	baz=321,slow=15						
VNA2	**Neumayer--Watz**	**14.26**	**156**	⇑P	**Pn**	**12 34 36.2**	**-0.2**
	comp=Z,4.0nm,0.2s,baz=321,slow=15						
SNAA	**Sanae**	**15.82**	**154**	P	**Pn**	**12 34 56.0**	**-1.2**
SNAA	**Sanae**	**15.82**	**154**	P

MG05 IAmb IAmb 12 37 25.7
comp=Z,26nm,1.4s
TRQA Tornquist 31.41 295 P **P 12 37 35.6 +0.1**
TRQA IAmb IAmb 12 37 50.3
comp=Z,9.2nm,1.2s
QSPA South Pole Qui 31.47 180 P **P 12 37 36.8 +0.8**
QSPA IAmb IAmb 12 37 39.1
comp=Z,5.0nm,0.7s
QSPA South Pole Qui 31.47 180 P **P 12 37 37.0 +1.1**
comp=Z,4.1nm,0.6s,baz=208,slow=2.1,SNR=51
QSPA PcP **PcP 12 40 28.3 -0.1**
comp=Z,2.4nm,0.9s,baz=270,slow=4.0,SNR=3.4
comp=Z,4.1nm,0.6s
AY01 Puyuhuapi 32.01 275 P **P 12 37 40.7 +0.1**
AY01 IAmb IAmb 12 37 49.1
comp=Z,13nm,1.4s
PLCA Paso Flores 33.58 282 P **P 12 37 54.3 -0.2**
PLCA Paso Flores 33.58 282 P **P 12 37 54.0 -0.4**
comp=Z,1.7nm,0.7s,baz=149,slow=7.8,SNR=5.3
PLCA LR LR 12 50 01.9
comp=Z,36nm,19.4s,baz=157,slow=34
comp=Z,1.7nm,0.7s
BI02 San Fabin de 37.04 286 P **P 12 38 22.6 -1.7**
BI02 IAmb IAmb 12 38 35.3
comp=Z,14nm,1.4s
BI05 Punta Hualpn 37.94 284 P **P 12 38 31.5 -0.3**
BO02 Sierra Bellavi 38.28 288 P **P 12 38 33.7 -1.1**
BO02 IAmb IAmb 12 38 49.4
comp=Z,18nm,1.4s
BO04 La Punta 38.84 289 P **P 12 38 38.4 -1.1**
BO04 IAmb IAmb 12 39 13.8
comp=Z,12nm,1.4s
MT09 Talagante 39.19 289 P **P 12 38 41.8 -0.8**
MT09 IAmb IAmb 12 38 43.1
comp=Z,27nm,1.5s
MT01 Popeta 39.25 289 P **P 12 38 42.0 -0.9**
MT01 IAmb IAmb 12 38 45.9
comp=Z,6.2nm,0.6s
MT02 Curacav 39.68 289 P **P 12 38 45.7 -0.7**
MT02 IAmb IAmb 12 38 49.6
comp=Z,9.2nm,0.9s
SUR Sutherland 40.45 70 P **P 12 38 53.3 +0.2**
SUR IAmb IAmb 12 39 11.1
comp=Z,40nm,1.4s
CO03 El Pedregal 41.44 292 P **P 12 39 01.0 -0.1**
LCO Las Campanas 42.97 294 P **P 12 39 13.0 -0.8**
LCO IAmb IAmb 12 39 36.0
comp=Z,14nm,1.4s
VNDA Vanda 43.89 182 P **P 12 39 21.8 +1.4**
VNDA Vanda 43.89 182 P **P 12 39 22.1 +1.7**
comp=Z,3.4nm,0.6s,baz=122,slow=5.5,SNR=1.3
comp=Z,3.4nm,0.6s
H04S2 CROZET ISLANDS 45.53 110 T T 13 29 54.5
baz=225,slow=75,SNR=18
H04S3 CROZET ISLANDS 45.54 110 T T 13 29 59.0
baz=225,slow=75,SNR=17
H04S1 CROZET ISLANDS 45.55 110 T T 13 29 56.0
baz=225,slow=75,SNR=17
BOSA Boshof 45.72 71 P **P 12 39 35.7 +0.1**
comp=Z,1.3nm,0.7s,baz=136,slow=6.5,SNR=1.6
BOSA LR LR 12 54 01.2
comp=Z,33nm,19.4s,baz=207,slow=30
comp=Z,1.3nm,0.7s
CRZF Crozet Islands 45.81 110 P **P 12 39 35.7 -0.3**
BDFB Brasilia 46.26 329 P **P 12 39 40.8 +0.8**
BDFB Brasilia 46.26 329 P **P 12 39 40.7 +0.8**
comp=Z,2.0nm,0.6s,baz=177,slow=5.8,SNR=4.3
BDFB PcP **PcP 12 41 15.8 +0.5**
comp=Z,1.0nm,0.6s,baz=159,slow=6.8,SNR=3.1
comp=Z,2.0nm,0.6s
LBTB Lobatse 48.88 69 LR LR 12 56 52.2
comp=Z,53nm,20.6s,baz=186,slow=32
TSUM Tsumeb 50.18 57 LR LR 12 56 00.3
comp=Z,36nm,21.1s,baz=150,slow=30
H10S2 ASCENSION HYDR 50.35 14 T T 13 34 40.0
baz=188,slow=74,SNR=38
H10S3 ASCENSION HYDR 50.36 14 T T 13 34 45.1
baz=32,slow=74,SNR=39
H10N1 ASCENSION HYDR 51.47 14 T T 13 36 02.4
baz=190,slow=71,SNR=16
H10N3 ASCENSION HYDR 51.47 14 T T 13 36 06.5
baz=190,slow=71,SNR=31
H10N2 ASCENSION HYDR 51.49 14 T T 13 36 05.2
baz=190,slow=71,SNR=18
LPAZ La Paz 52.82 305 P **P 12 40 29.9 -0.6**
LPAZ La Paz 52.82 305 P **P 12 40 30.9 +0.4**
comp=Z,1.1nm,0.4s,baz=177,slow=8.7,SNR=3.6
comp=Z,1.1nm,0.4s
LSZ Lusaka 58.45 65 LR LR 13 02 53.2
comp=Z,94nm,19.1s,baz=152,slow=32
DBIC Dimbokro 67.25 22 P **P 12 42 09.3 +0.5**
DBIC IAmb IAmb 12 42 24.1
comp=Z,11nm,1.4s
DBIC Dimbokro 67.25 22 P **P 12 42 09.6 +0.8**
comp=Z,1.6nm,0.6s,baz=98,slow=6.1,SNR=2.0
comp=Z,1.6nm,0.6s
MDP Montagnes des 67.34 330 LR LR 13 08 30.4
comp=Z,29nm,21.3s,baz=196,slow=33
BBTS Babate 73.51 9 LR LR 13 08 16.9
comp=Z,54nm,19.6s,baz=183,slow=30
TORD Torodi Ar. Bea 74.95 27 P **P 12 42 55.9 +0.5**
comp=Z,2.0nm,0.6s,baz=197,slow=5.4,SNR=14
comp=Z,2.0nm,0.6s
MLZ Mavora Lakes 75.64 190 P **P 12 42 59.6 +0.4**
THZ Tophouse 78.70 194 P **P 12 43 17.6 +1.1**
ASAR Alice Springs 96.06 161 P **P 12 44 41.2 -0.8**
comp=Z,0.5nm,0.6s,baz=182,slow=4.3,SNR=10.0
ASAR PKKPbc **PKKPbc 13 01 28.4 +1.9**
comp=Z,0.3nm,0.6s,baz=16,slow=2.5,SNR=6.8
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 122.66 299 PKP **PKPdf 12 50 08.6 -1.0**
comp=Z,0.3nm,0.5s,baz=133,slow=6.3,SNR=5.8
ULM Lac du Bonnet 122.93 314 PKP **PKPdf 12 50 08.7 -0.8**
comp=Z,0.9nm,0.5s,baz=207,slow=18,SNR=4.3
CMAR Chiang Mai Arr 123.11 110 PKP **PKPdf 12 50 09.9 -0.9**
comp=Z,0.3nm,0.4s,baz=191,slow=3.7,SNR=1.1
NVAR Mina Array Bea 123.39 290 PKP **PKiKP 12 50 12.0 +0.7**
comp=Z,1.0nm,0.7s,baz=137,slow=3.5,SNR=5.6
FINES FINESS Array B 126.30 28 PKP **PKPdf 12 50 14.9 -0.7**
comp=Z,3.2nm,0.9s,baz=207,slow=2.1,SNR=7.9
ARCES ARCESS Array B 133.08 22 PKP **PKPdf 12 50 27.6 -0.7**
comp=Z,6.3nm,1.0s,baz=258,slow=2.7,SNR=7.5
BVAR Borovoye Array 135.31 59 PKP **PKPdf 12 50 31.9 -1.0**
comp=Z,0.5nm,0.5s,baz=231,slow=3.0,SNR=3.9
MKAR Makanchi Array 136.71 73 PKhKP PKPpre 12 50 32.5
comp=Z,0.2nm,0.8s,baz=298,slow=3.1,SNR=3.0
YKA Yellowknife Ar 138.88 315 PKP **PKPdf 12 50 38.8 -0.4**
comp=Z,1.9nm,0.6s,baz=137,slow=2.2,SNR=28
ZALV Zalesovo Beam 142.56 66 PKhKP PKPpre 12 50 40.4
comp=Z,0.2nm,0.4s,baz=230,slow=2.4,SNR=1.9
SONM Songino Array 149.75 90 PKPbc **PKPbc 12 51 02.8 -0.6**
comp=Z,1.4nm,0.7s,baz=229,slow=2.8,SNR=11
ILAR Eielson Array 152.68 307 PKPbc **PKPbc 12 51 09.2 -0.3**
comp=Z,4.2nm,0.6s,baz=144,slow=6.0,SNR=77

*IDC **03** 12:33:20.2±1.4, 20°.66S×178°.13W, h528km±13km, mb3.2/10, mbtmp4.1/13, Error ellipse: s-maj=18.4km s-min=14.7km az=102.0*
ISC 03 12:33:20.5±0.6, 20°.66S±0°.08×178°.1W±0°.1, h534km, n38, σ19 35/37, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**308**	P	**P**	**12 34 45.7**	**-0.9**
	5.3nm,0.5s,baz=165,slow=16,SNR=2.6						
MSVF				S	**S**	**12 35 57.5**	**+0.9**
	1.5nm,0.3s,baz=198,slow=22,SNR=1.1						
RIZ	**Raoul Island**	**8.55**	**179**	P	**P**	**12 35 21.0**	**-2.2**
RAO	**Raoul Island**	**8.55**	**179**	P	**P**	**12 35 21.0**	**-2.3**
	147nm,0.2s,baz=295,slow=24,SNR=1.9						
GLKZ	**Green Lake**	**8.56**	**179**	S	**S**	**12 37 04.1**	**-0.1**
AFI	**Afiamalu**	**9.05**	**43**	P	P	12 35 22.0	-6.7
DZM	**Mont Dzumac**	**14.44**	**262**	P	**P**	**12 36 23.8**	**-0.8**
	6.8nm,0.9s,baz=32,slow=18,SNR=2.4						
OUZ	**Omahuta**	**16.23**	**205**	P	**P**	**12 36 44.6**	**+2.0**
WCZ	**Waipu Caves**	**16.59**	**202**	P	**P**	**12 36 49.3**	**+3.2**
WMGZ	**Waiomatatini S**	**17.36**	**189**	P	**P**	**12 36 55.1**	**+2.0**
MKAZ	**Moumakai**	**17.39**	**198**	P	**P**	**12 36 55.9**	**+2.4**
HAZ	**Te Kaha**	**17.40**	**191**	P	**P**	**12 36 54.6**	**+1.1**
TWGZ	**Tauwhareparae**	**17.77**	**190**	P	**P**	**12 36 59.6**	**+2.6**
TOZ	**Tahuroa Road**	**17.88**	**197**	P	**P**	**12 37 00.2**	**+2.3**
MWZ	**Matawai**	**18.01**	**191**	P	**P**	**12 36 59.6**	**+0.5**
URZ	**Urewera**	**18.01**	**192**	P	**P**	**12 36 58.0**	**-1.1**
	3.0nm,0.3s,baz=357,slow=5.7,SNR=12						
URZ	**Urewera**	**18.01**	**192**	P	**P**	**12 36 58.5**	**-0.6**
RAHZ	**Arahi**	**18.65**	**192**	P	**P**	**12 37 05.8**	**+0.8**
BKZ	**Black Stump Fm**	**19.01**	**193**	P	**P**	**12 37 08.1**	**-0.2**
TMVZ	**Te Maari**	**19.14**	**195**	P	**P**	**12 37 10.6**	**+1.0**
ETVZ	**East Tongariro**	**19.16**	**195**	P	**P**	**12 37 10.5**	**+0.8**
ASAR	**Alice Springs**	**44.36**	**257**	P	**P**	**12 40 43.9**	**+0.2**
	1.8nm,0.5s,baz=92,slow=8.2,SNR=55						
ASAR				PcP	**PcP**	**12 42 16.8**	**+0.6**
	0.4nm,0.7s,baz=103,slow=3.7,SNR=2.2						
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**44.46**	**262**	P	**P**	**12 40 44.0**	**-0.4**
	1.3nm,0.5s,baz=96,slow=6.7,SNR=28						
	1.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.89**	**263**	P	**P**	**12 41 46.8**	**-0.2**
	6.3nm,1.1s,baz=106,slow=11,SNR=1.9						
	6.3nm,1.1s						
QSPA	**South Pole Qui**	**69.41**	**180**	P	**P**	**12 43 36.1**	**+1.4**
	2.1nm,0.7s,baz=9.7,slow=1.1,SNR=12						
	2.1nm,0.7s						
PETK	**Petropavlovsk-**	**76.40**	**345**	P	**P**	**12 44 14.5**	**-0.3**
	4.1nm,1.0s,baz=95,slow=5.4,SNR=6.4						
	4.1nm,1.0s						
NVAR	**Mina Array Bea**	**81.23**	**43**	P	**P**	**12 44 41.4**	**+0.3**
	0.5nm,0.7s,baz=256,slow=9.9,SNR=1.8						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**87.25**	**57**	P	**P**	**12 45 11.6**	**+0.9**
	0.2nm,0.8s,baz=202,slow=3.6,SNR=2.0						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**88.50**	**13**	P	**P**	**12 45 14.7**	**-0.9**
	0.4nm,0.5s,baz=213,slow=5.3,SNR=12						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**89.16**	**43**	P	**P**	**12 45 19.9**	**+0.3**
	0.4nm,0.6s,baz=230,slow=3.3,SNR=4.7						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.06**	**290**	P	**P**	**12 45 24.9**	**+1.0**
	0.2nm,0.3s,baz=106,slow=6.3,SNR=1.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	**PKiKP**	**12 50 52.5**	**-1.1**
	0.2nm,0.7s,baz=117,slow=2.1,SNR=4.8						
BVAR	**Borovoye Array**	**119.13**	**320**	PKP	**PKPdf**	**12 51 07.8**	**-0.7**
	0.4nm,0.4s,baz=57,slow=5.3,SNR=2.8						
HFS	**Hagfors**	**139.68**	**351**	PKhKP	PKPpre	12 51 40.3	
	7.0nm,1.2s,baz=66,slow=3.7,SNR=6.4						
AKASG	**Malin Array Be**	**143.10**	**331**	PKhKP	PKPpre	12 51 50.5	
	2.6nm,0.5s,baz=44,slow=4.2,SNR=27						
EKA	**Eskdalemuir Ar**	**145.18**	**5**	PKPbc	**PKPbc**	**12 51 58.2**	**+0.3**
	0.9nm,0.8s,baz=39,slow=10,SNR=1.6						
BRTR	**Keskin Array B**	**146.86**	**312**	PKPbc	**PKPbc**	**12 52 03.2**	**-0.1**
	0.7nm,0.7s,baz=145,slow=5.2,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.79**	**299**	PKPbc	**PKPbc**	**12 52 06.5**	**+0.6**
	0.7nm,0.4s,baz=64,slow=8.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**172.52**	**179**	PKPab	**PKPab**	**12 53 57.4**	**-0.2**
	0.2nm,0.5s,baz=153,slow=13,SNR=1.6						

*TRN **03** 12:36:03.4, 10°.08N×63°.24W, h81km, MD4.0, Venezuela.*
*FUNV **03** 12:36:05.6, 10°.35N×63°.25W, h28km, MW3.9*
ISC 03 12:36:04.0±1.4, 10°.14N±0°.08×63°.26W±0°.04, h72km±20km, n34, σ0 99/54, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUMV	**Cumana_UDO**	**0.97**	**287**	*e*P	**Pn**	**12 36 22.4**	**+0.2**
CUMV				*e*S	**Sn**	**12 36 35.5**	**-0.2**
PCRV	**Puerto La Cruz**	**1.36**	**272**	*e*P	**Pn**	**12 36 27.4**	**+0.1**
PCRV				*e*S	**Sn**	**12 36 43.9**	**-0.9**
PCRV	**Puerto La Cruz**	**1.36**	**272**	*e*P	**Pn**	**12 36 27.6**	**+0.3**
PCRV				*e*S	**Sn**	**12 36 44.9**	**+0.2**
PCRV	**Puerto La Cruz**	**1.36**	**272**	*e*P	**Pn**	**12 36 27.6**	**+0.3**
PCRV				*e*S	**Sn**	**12 36 44.9**	**+0.2**
PSKH	**Kent House, Po**	**1.79**	**72**	*e*P	**Pn**	**12 36 33.6**	**+0.7**
PSKH	**Kent House, Po**	**1.79**	**72**	*e*P	**Pn**	**12 36 33.6**	**+0.7**
PSGH	**Port of Spain**	**1.79**	**73**	*e*P	**Pn**	**12 36 32.9**	**-0.1**
PSGH	**Port of Spain**	**1.79**	**73**	*e*P	**Pn**	**12 36 32.9**	**-0.1**
TRN	**Trinidad (W)**	**1.89**	**74**	*e*P	**Pn**	**12 36 35.7**	**+1.5**
TRN	**Trinidad (W)**	**1.89**	**74**	*e*P	**Pn**	**12 36 35.7**	**+1.5**
GRFF	**Grenada Fort F**	**2.41**	**38**	*e*P	**Pn**	**12 36 42.2**	**+0.9**
GRFF				*e*S	**Sn**	**12 37 09.3**	**-0.6**
GRFF	**Grenada Fort F**	**2.41**	**38**	*e*P	**Pn**	**12 36 42.2**	**+0.9**
GRFF				*e*S	**Sn**	**12 37 09.3**	**-0.6**
GRGR	**Grenville**	**2.53**	**38**	*e*P	**Pn**	**12 36 43.1**	**+0.3**
GRGR				*e*S	**Sn**	**12 37 13.2**	**+0.5**
GRGR	**Grenville**	**2.53**	**38**	*e*P	**Pn**	**12 36 43.1**	**+0.3**
GRGR				*e*S	**Sn**	**12 37 13.2**	**+0.5**
GRW	**Mount Saint Ca**	**2.54**	**38**	*e*P	**Pn**	**12 36 43.7**	**+0.5**
GRW	**Mount Saint Ca**	**2.54**	**38**	*e*P	**Pn**	**12 36 43.7**	**+0.5**
GRHS	**Sauteurs**	**2.61**	**37**	*e*P	**Pn**	**12 36 43.4**	**-0.6**
GRHS				*e*S	**Sn**	**12 37 13.8**	**-0.8**
GRHS	**Sauteurs**	**2.61**	**37**	*e*P	**Pn**	**12 36 43.4**	**-0.6**
GRHS				*e*S	**Sn**	**12 37 13.8**	**-0.8**
GRSS	**Sisters**	**2.68**	**37**	*e*P	**Pn**	**12 36 44.8**	**-0.2**
GRSS				*e*S	**Sn**	**12 37 16.5**	**+0.1**
GRSS	**Sisters**	**2.68**	**37**	*e*P	**Pn**	**12 36 44.8**	**-0.2**
GRSS				*e*S	**Sn**	**12 37 16.5**	**+0.1**
TOSP	**Speyside**	**2.91**	**66**	*e*P	**Pn**	**12 36 49.0**	**+0.9**
TOSP				*e*S	**Sn**	**12 37 19.7**	**-2.2**
TOSP	**Speyside**	**2.91**	**66**	*e*P	**Pn**	**12 36 49.0**	**+0.9**
TOSP				*e*S	**Sn**	**12 37 19.7**	**-2.2**
GCMP	**Grenada, Carri**	**2.94**	**37**	*e*P	**Pn**	**12 36 48.6**	**+0.1**
GCMP				*e*S	**Sn**	**12 37 23.3**	**+0.6**
GCMP	**Grenada, Carri**	**2.94**	**37**	*e*P	**Pn**	**12 36 48.6**	**+0.1**
GCMP				*e*S	**Sn**	**12 37 23.3**	**+0.6**
SVB	**Belmont**	**3.68**	**32**	*e*P	**Pn**	**12 36 58.8**	**+0.2**
SVB				*e*S	**Sn**	**12 37 39.6**	**-1.2**
SVB	**Belmont**	**3.68**	**32**	*e*P	**Pn**	**12 36 58.8**	**+0.2**
SVB				*e*S	**Sn**	**12 37 39.6**	**-1.2**
TACV	**Tcata**	**3.71**	**270**	*e*P	**Pn**	**12 37 00.9**	**+1.9**
TACV				*e*S	**Sn**	**12 37 40.1**	**-1.5**
CACV	**CAICARA DEL OR**	**4.13**	**232**	*e*P	Pn	12 37 02.2	-2.5
CACV				*e*S	Sn	12 37 45.4	-6.5
SLB	**Belfond**	**4.26**	**30**	*e*P	**Pn**	**12 37 07.8**	**+1.3**
SLB	**Belfond**	**4.26**	**30**	*e*P	**Pn**	**12 37 07.8**	**+1.3**
BENV	**Beln**	**4.28**	**268**	*e*P	**Pn**	**12 37 08.0**	**+1.1**
BENV				*e*S	**Sn**	**12 37 53.4**	**-2.2**
SLBI	**Saint Lucia, B**	**4.46**	**30**	*e*P	**Pn**	**12 37 09.4**	**+0.2**
SLBI	**Saint Lucia, B**	**4.46**	**30**	*e*P	**Pn**	**12 37 09.4**	**+0.2**
BAUV	**El Baul**	**4.87**	**256**	*e*P	**Pn**	**12 37 16.4**	**+1.6**
BAUV				*e*S	**Sn**	**12 38 07.9**	**-2.0**

IDC 03 12:42:16.7±2.5, 3°.54S×130°.11E, h0km, mb3.4/2, mbtmp3.7/4, ML3.3/2, MS3.0/2, Error ellipse: s-maj=135.6km s-min=27.8km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.12**	**197**	Pn	Pn	12 45 50.4	-1.3
	0.1nm,0.3s,baz=15,slow=20,SNR=1.9						
	4.9nm,1.0s						
WRA	**Warramunga Arr**	**16.82**	**166**	Pn	Pn	12 46 12.5	-1.2
	0.1nm,0.3s,baz=349,slow=11,SNR=7.6						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**20.34**	**170**	P	P	12 46 55.7	+0.9
	1.5nm,0.5s,baz=350,slow=11,SNR=39						
	1.5nm,0.5s						
GUMO	**Guam**	**22.45**	**40**	LR	LR	12 57 15.6	
	comp=Z,31nm,18.9s,baz=72,slow=40						
MA2	**Magadan**	**65.01**	**11**	LR	LR	13 20 39.1	
	comp=Z,16nm,20.5s,baz=138,slow=35						
MKAR	**Makanchi Array**	**65.42**	**326**	P	P	12 53 01.4	0.0
	0.2nm,0.6s,baz=110,slow=7.8,SNR=4.7						
	0.2nm,0.6s						

*IDC **03** 12:43:16.2±1.3, 3°.27S×130°.94E, h0km, mb3.8/6, mbtmp3.8/8, ML3.9/2, MS2.9/1, Error ellipse: s-maj=72.6km s-min=22.8km az=77.0*
*DJA **03** 12:43:20.6±0.5, 3°.5±4°.×13°.1E±°, h10km±4km, M4.0/12, mB5.6/1, mb4.2/2, MLv3.8/12, Mw(mB)5.1/1*
ISC 03 12:43:20.6±0.8, 3°.34S±0°.06×130°.58E±0°.06, h31km, n20, σ2 56/20, mb3.6/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.35**	**210**	P	**Pb**	**12 43 49.0**	**+3.7**
MSAI	**Masohi**	**1.65**	**270**	P	**Pb**	**12 43 53.1**	**+2.8**
FAKI	**Fak Fak**	**1.72**	**76**	P	**Pn**	**12 43 46.9**	**-1.5**
AAI	**Ambon**	**2.40**	**262**	P	**Pb**	**12 44 02.3**	**-0.9**
SWI	**Sorong**	**2.55**	**15**	P	**Pn**	**12 43 58.8**	**-1.1**
KMPI	**Kaimana, Papua**	**3.14**	**96**	P	**Pn**	**12 44 08.6**	**+0.7**
NLAI	**Namlea**	**3.47**	**272**	P	**Pn**	**12 44 16.5**	**+4.0**
LBMI	**Labuha**	**4.08**	**311**	P	**Pn**	**12 44 18.1**	**-2.8**
SANI	**Sanana**	**4.76**	**286**	P	Pn	12 44 24.6	-5.6
SRPI	**Serui, Papua**	**5.84**	**76**	P	**Pn**	**12 44 45.1**	**0.0**
BAKI	**Biak**	**5.92**	**69**	P	**Pn**	**12 44 46.2**	**0.0**
	45nm,1.1s						
KAPI	**Kappang**	**10.93**	**261**	LR	LR	12 51 21.0	
	comp=Z,58nm,20.2s,baz=54,slow=43						
FITZ	**Fitzroy Crossi**	**15.44**	**198**	Pn	**Pn**	**12 46 55.8**	**-0.6**
	0.2nm,0.3s,baz=18,slow=6.4,SNR=1.9						
FITZ				Sn	**Sn**	**12 49 43.5**	**-3.0**
	0.2nm,0.3s,baz=343,slow=14,SNR=1.4						
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**16.91**	**168**	Pn	**Pn**	**12 47 13.1**	**-1.9**
	0.5nm,0.3s,baz=350,slow=11,SNR=11						
WRA				Sn	Sn	12 50 09.0	-13
	0.1nm,0.3s,baz=324,slow=25,SNR=1.6						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**20.46**	**171**	P	**P**	**12 47 56.9**	**+1.1**
	3.6nm,0.5s,baz=350,slow=10,SNR=18						
ASAR				S	**S**	**12 51 37.2**	**-6.3**
	1.1nm,1.1s,baz=350,slow=21,SNR=1.9						
	3.6nm,0.5s						
MKAR	**Makanchi Array**	**65.52**	**326**	P	**P**	**12 54 02.9**	**+1.8**
	0.6nm,0.6s,baz=114,slow=8.3,SNR=10						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**68.59**	**333**	P	**P**	**12 54 21.0**	**+0.6**
	0.2nm,0.4s,baz=126,slow=7.3,SNR=1.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**69.73**	**328**	P	**P**	**12 54 29.2**	**+1.7**
	0.9nm,0.2s,baz=124,slow=5.5,SNR=1.8						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**75.31**	**327**	P	**P**	**12 55 01.7**	**+1.0**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.6						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**89.81**	**25**	P	**P**	**12 56 15.1**	**-0.8**
	0.2nm,0.7s,baz=264,slow=5.3,SNR=2.0						
	0.2nm,0.7s						

*IPEC **03** 12:44:14.6±0.3, 49°.83N×18°.55E, h1km, ML1.6/4, Error ellipse: s-maj=2.1km s-min=1.7km az=70.0*
PRU 03 12:44:15.9, 49°.90N×18°.51E, h0km, Mining Induced Event Csm, E=6.0e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**255**	*e*PG	Pg	12 44 20.1	-0.4
OKC				*e*SG	Sg	12 44 24.5	+0.8
	comp=Z,35nm,0.5s						
STEB	**Steborice**	**0.48**	**274**	*e*PG	Pg	12 44 24.6	-0.4
STEB				*e*SG	Sg	12 44 31.7	+0.5
MORC	**Moravsky Berou**	**0.64**	**259**	*e*Pg	Pg	12 44 27.1	-1.0
	baz=85						
MORC				*e*Sg	Sg	12 44 35.1	-1.3
	9.1nm,0.2s,baz=85						
MORC	**Moravsky Berou**	**0.64**	**259**	*e*PG	Pg	12 44 27.2	-0.9
MORC				*e*SG	Sg	12 44 35.2	-1.2
OJC	**Ojcow**	**0.89**	**68**	*e*Pg	Pg	12 44 31.1	-1.9
OJC				*e*Sg	Sg	12 44 43.1	-1.4
LANS	**Liptovska Anna**	**0.98**	**140**	*e*PG	Pg	12 44 32.2	-2.4
LANS				*e*SG	Sg	12 44 45.7	-1.5
LANS				*e*LG	Lg	12 44 51.9	
KRLC	**Kraliky**	**1.13**	**280**	*e*PG	Pg	12 44 35.8	-1.7
JAVC	**Velka Javorina**	**1.18**	**208**	*e*Pg	Pg	12 44 36.4	-2.0
	baz=30						
JAVC	**Velka Javorina**	**1.18**	**208**	*e*PG	Pg	12 44 36.5	-1.9
NIE	**Niedzica**	**1.26**	**112**	*e*Pg	Pg	12 44 37.8	-2.2
NIE				*e*Sg	Sg	12 44 55.9	-0.5
VRAC	**Vranov**	**1.38**	**245**	*e*Pg	Pg	12 44 40.4	-1.9
	baz=67						
VRAC				*e*Sg	Sg	12 44 57.8	-2.4
	8.9nm,0.4s,baz=67						
VRAC	**Vranov**	**1.38**	**245**	*e*PG	Pg	12 44 40.4	-1.9
VRAC				*e*SG	Sg	12 44 57.9	-2.3
VYHS	**Vyhne**	**1.42**	**171**	*e*PG	Pn	12 44 40.0	-3.0
VYHS				*e*SG	Sg	12 44 58.1	-3.5
DPC	**Dobruska-Polom**	**1.48**	**289**	*e*PG	Pn	12 44 42.4	-1.4
DPC				*e*SG	Sg	12 45 02.8	-0.6
	comp=Z,5.0nm,0.5s						
OSTC	**Ostas**	**1.61**	**295**	*e*PG	Pn	12 44 45.3	-0.4
OSTC				*e*SG	Sb	12 45 07.5	0.0
KRUC	**Moravsky**	**1.61**	**239**	*e*Pg	Pn	12 44 43.8	-1.8
	baz=60						
KRUC				*e*Sg	Sn	12 45 04.8	-2.3
	3.6nm,0.2s,baz=60						
KRUC	**Moravsky**	**1.61**	**239**	*e*PG	Pn	12 44 43.8	-1.8
KRUC				*e*SG	Sn	12 45 04.8	-2.3
UPC	**Upice**	**1.72**	**292**	*e*PG	Pn	12 44 47.0	0.0
MODS	**Modra-Piesok**	**1.73**	**208**	*e*PG	Pn	12 44 44.8	-2.4
STHS	**Stebnicka Huta**	**1.84**	**104**	*e*PN	Pn	12 44 48.8	0.0
STHS				*e*LG	Lg	12 45 19.0	
KHC	**Kasperske Hory**	**3.31**	**258**	*e*PG	Pb	12 45 14.6	-0.8
KHC				*e*SG	Sg	12 45 59.1	-2.9

BUC 03 12:47:15.3±0.5, 45°.78N×26°.66E, h82km±3km, ml2.3/6, 24C-26D, Error ellipse: s-maj=4.5km s-min=2.3km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.07**	**356**	⇓P	Pn	12 47 27.3	+0.3
PLOR				⇑S	Sn	12 47 35.5	-0.2
PLOR	**Plostina**	**0.07**	**356**	⇓P	Pn	12 47 27.3	+0.3
PLOR				⇑S	Sn	12 47 35.5	-0.2
SPBR	**Spulber**	**0.07**	**115**	⇓P	Pn	12 47 27.9	+0.9
SPBR				⇓S	Sn	12 47 36.3	+0.7
SPBR	**Spulber**	**0.07**	**115**	⇓P	Pn	12 47 27.9	+0.9
SPBR				⇓S	Sn	12 47 36.3	+0.7
VRI	**Vrincioaia**	**0.10**	**30**	⇑P	Pn

comp=Z,2.0nm,0.2s
VNA3 Neumayer Olymp 14.10 159 P **Pn 13 21 15.8 -2.0**
VNA3 Neumayer Olymp 14.10 159 ⇑P **Pn 13 21 15.8 -2.0**
comp=Z,5.1nm,0.3s
VNA2 Neumayer--Watz 14.30 156 P **Pn 13 21 19.9 -0.7**
baz=317,slow=14
VNA2 Neumayer--Watz 14.30 156 ⇑P **Pn 13 21 19.9 -0.7**
comp=Z,1.1nm,0.2s,baz=317,slow=14
SNAA Sanae 15.86 154 Pn **Pn 13 21 40.1 -1.0**
SNAA Sanae 15.86 154 Pn **Pn 13 21 39.9 -1.3**
comp=Z,0.6nm,0.3s,baz=308,slow=11,SNR=10
SNAA Sn Sn 13 24 21.6 -14
comp=Z,0.2nm,0.3s,baz=299,slow=18,SNR=1.4
comp=Z,2.7nm,0.5s
TROLL Troll, Antarti 17.38 151 P **Pn 13 22 00.2 -0.1**
TROLL Troll, Antarti 17.38 151 ⇑P **Pn 13 22 00.2 -0.1**
comp=Z,36nm,0.2s
MG05 Puerto Natales 27.34 264 P **P 13 23 41.5 -0.4**
QSPA South Pole Qui 31.49 180 P **P 13 24 20.2 +1.3**
QSPA South Pole Qui 31.49 180 P **P 13 24 20.0 +1.1**
comp=Z,2.2nm,0.6s,baz=210,slow=2.3,SNR=30
comp=Z,2.2nm,0.6s
PLCA Paso Flores 33.52 282 P **P 13 24 36.0 -0.8**
PLCA IAmb IAmb 13 25 01.3
comp=Z,6.0nm,1.3s
PLCA Paso Flores 33.52 282 P **P 13 24 37.4 +0.6**
comp=Z,1.3nm,0.8s,baz=198,slow=5.7,SNR=3.8
PLCA LR LR 13 36 33.2
comp=Z,19nm,19.4s,baz=176,slow=33
comp=Z,1.3nm,0.8s
LL05 Los Muermos 34.53 279 P **P 13 24 44.7 -0.7**
MT09 Talagante 39.14 289 P **P 13 25 25.1 +0.3**
MT09 IAmb IAmb 13 25 28.7
comp=Z,7.8nm,1.1s
MT01 Popeta 39.20 289 P **P 13 25 24.7 -0.4**
MT01 IAmb IAmb 13 25 42.4
comp=Z,12nm,1.4s
CPUP Villa Florida 39.36 311 LR LR 13 42 28.8
comp=Z,19nm,18.3s,baz=124,slow=38
MT02 Curacav 39.63 290 P **P 13 25 28.6 -0.1**
MT02 IAmb IAmb 13 25 44.7
comp=Z,7.5nm,1.1s
SUR Sutherland 40.49 70 LR LR 13 39 31.7
comp=Z,37nm,19.5s,baz=170,slow=32
H04S2 CROZET ISLANDS 45.58 110 T T 14 16 28.5
baz=225,slow=75,SNR=4.0
H04S3 CROZET ISLANDS 45.59 110 T T 14 16 41.1
baz=225,slow=75,SNR=2.7
H04S1 CROZET ISLANDS 45.60 110 T T 14 16 29.6
baz=225,slow=75,SNR=6.6
BOSA Boshof 45.76 71 LR LR 13 40 57.2
comp=Z,45nm,18.5s,baz=246,slow=30
LBTB Lobatse 48.92 69 P **P 13 26 41.5 -1.7**
LBTB IAmb IAmb 13 27 01.9
comp=Z,10.0nm,1.2s
LBTB Lobatse 48.92 69 LR LR 13 43 54.2
comp=Z,26nm,18.9s,baz=186,slow=32
H10S2 ASCENSION HYDR 50.34 14 T T 14 21 16.0
baz=187,slow=74,SNR=26
H10S3 ASCENSION HYDR 50.35 14 T T 14 21 20.7
baz=33,slow=74,SNR=30
H10N1 ASCENSION HYDR 51.46 14 T T 14 22 43.2
baz=181,slow=72,SNR=4.4
H10N3 ASCENSION HYDR 51.46 14 T T 14 22 49.3
baz=181,slow=72,SNR=16
H10N2 ASCENSION HYDR 51.48 14 T T 14 22 49.7
baz=181,slow=72,SNR=10
BOAV Boa Vista 67.04 321 P **P 13 28 48.7 -1.3**
BOAV IAmb IAmb 13 29 03.1
comp=Z,8.5nm,1.5s
DBIC Dimbokro 67.25 22 P **P 13 28 51.6 +0.3**
DBIC IAmb IAmb 13 29 32.6
comp=Z,6.6nm,1.3s
RER Riviere de l'E 67.55 94 P **P 13 28 53.7 +0.3**
TORD Torodi Ar. Bea 74.95 27 P **P 13 29 38.8 +0.9**
comp=Z,0.7nm,0.4s,baz=203,slow=5.9,SNR=9.2
comp=Z,0.7nm,0.4s
MRNZ Matariki Terra 79.09 194 P **P 13 30 01.9 +0.9**
TKNZ Takaka Hill 79.42 194 P **P 13 30 02.9 +0.1**
MRZ Mangatainoka R 79.44 196 P **P 13 30 03.9 +1.0**
RAR Rarotonga 91.94 222 LR LR 14 05 02.5
comp=Z,221nm,21.3s,baz=98,slow=31
PDAR Pinedale Array 122.61 300 PKP **PKPdf 13 36 51.6 -0.1**
comp=Z,0.2nm,0.5s,baz=219,slow=2.3,SNR=2.2
YKA Yellowknife Ar 138.83 315 PKP **PKPdf 13 37 22.2 +0.8**
comp=Z,0.8nm,0.7s,baz=218,slow=1.3,SNR=15
F31M Tsiigehtchic 148.31 316 PKPbc 13 37 41.5 +0.2
G31M Satah River 148.32 315 PKPbc 13 37 41.9 +0.5
INK Inuvik 148.51 317 PKPbc 13 37 42.2 +0.4
I30M Mount Dempster 148.52 311 PKPbc 13 37 42.6 +0.4
G30M tAoh Zraii Nji 149.07 314 PKPbc 13 37 44.1 +0.8
SONM Songino Array 149.80 90 PKPbc **PKPbc 13 37 46.3 +0.4**
comp=Z,0.5nm,0.5s,baz=232,slow=3.2,SNR=3.2
J26L Joseph Creek 151.17 308 PKiKP 13 37 49.5 +0.4
ILAR Eielson Array 152.62 307 PKPbc **PKPbc 13 37 51.7 0.0**
comp=Z,2.6nm,0.8s,baz=144,slow=3.5,SNR=41
TOLK Toolik Lake Re 154.36 316 PKiKP 13 37 56.4 +0.9

TXNET 03 13:22:27.3, 31°.2N±0°.7×103°.6W±0°.6, h6km±2km, ML1.9/7, 1C-1D, Error ellipse: s-maj=1.2km s-min=0.9km az=35.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.11**	**151**	P	Pg	13 22 29.9	+0.2
TPB03				S	Sg	13 22 32.0	+0.7
TPB10	**Southeast of T**	**0.18**	**304**	⇓P	Pg	13 22 31.9	+0.8
TPB10				S	Sg	13 22 35.4	+1.8
PCOS	**Crockett Middl**	**0.24**	**14**	S	Sg	13 22 36.5	+1.4
TPB01	**Permian Basin**	**0.29**	**217**	⇑P	Pg	13 22 34.0	+0.9
TPB01				S	Sb	13 22 39.3	-1.0
PECS	**Pecos**	**0.31**	**307**	P	Pg	13 22 34.0	+0.4
PECS				S	Sg	13 22 39.0	+1.3
TPB12	**Southwest of T**	**0.33**	**276**	S	Sg	13 22 39.7	+1.5
TPB05	**Hovey Rd**	**0.34**	**140**	P	Pb	13 22 35.0	-0.8
TPB05				S	Sb	13 22 40.2	-1.2
TPB07	**Mentone**	**0.41**	**349**	P	Pg	13 22 35.7	+0.4
TPB07				S	Sb	13 22 42.3	-1.2
TPB08	**Permian Basin**	**0.64**	**116**	S	Sb	13 22 49.8	-0.5
MNHN	**Monahans**	**0.71**	**77**	P	Pb	13 22 41.8	-0.5
ALPN	**Alpine**	**0.80**	**184**	P	Pg	13 22 42.5	-0.3
ALPN				S	Sg	13 22 53.8	+0.6
TPB11	**China Draw**	**0.85**	**333**	S	Sg	13 22 55.0	+0.3
VHRN	**Van Horn**	**1.27**	**252**	P	Pg	13 22 51.5	-0.3
VHRN				S	Sn	13 23 08.9	-0.4
ODSA	**Odessa**	**1.28**	**43**	S	Sg	13 23 07.4	-1.2
TMB02	**Rankin**	**1.32**	**89**	P	Pn	13 22 51.7	-0.7
TMB02				S	Sb	13 23 09.8	+0.1
MNTX	**Cornudas Mount**	**1.63**	**289**	P	Pb	13 22 57.6	-0.2
MNTX				S	Sg	13 23 19.8	+0.1
TMB04	**Seminole**	**1.71**	**32**	P	Pn	13 22 58.2	+0.4
TMB04				S	Sb	13 23 20.8	-0.4
SAND	**Sanderson**	**1.75**	**134**	P	Pb	13 22 59.2	-0.7
SAND				S	Sg	13 23 23.1	-0.5
TX31	**Lajitas Ar. Si**	**1.84**	**183**	Pg	Pb	13 23 01.1	-0.4
OZNA	**Ozona**	**2.12**	**96**	Pg	Pn	13 23 04.5	+1.1
OZNA				Sg	Sb	13 23 33.2	+0.4

---

*IDC **03** 13:26:05.7±0.5, 2°.75S×141°.75E, h0km, mb4.3/17, mbtmp4.4/19, ML4.8/2, MS3.5/12, Error ellipse: s-maj=14.2km s-min=10.2km az=27.0*
*NEIC **03** 13:26:07.4±2.0, 2°.70S±0°.08×141°.73E±0°.04, h10km±1km, mb4.9/55, Error ellipse: s-maj=14.4km s-min=6.9km az=189.0*
*DJA **03** 13:26:22.4±2.1, 3°S±10°×14°1E±1°9, h16km±6km, M3.9/4, mb4.4/1, MLv3.7/4*
ISC 03 13:26:11.0±0.4, 2°.80S±0°.05×141°.66E±0°.06, h35km, n142, σ1°17/126, mb4.7/50, MS3.4/9, 1C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.00**	**286**	Pg	**Pn**	**13 26 26.5**	**-2.1**
	75nm,0.3s,baz=114,slow=6.1,SNR=127						
JAY				Lg	Lg	13 26 40.9	
	142nm,0.3s,baz=18,slow=20,SNR=11						
JAY	**Jayapura**	**1.00**	**286**	P	**Pn**	**13 26 26.1**	**-2.4**
GENI	**Genyem**	**1.51**	**278**	P	**Pn**	**13 26 34.2**	**-1.3**
SMPI	**Sarmi**	**3.06**	**285**	P	**Pn**	**13 26 56.8**	**-0.1**
WAMI	**Wamena**	**3.14**	**250**	P	**Pn**	**13 27 00.2**	**+2.2**
MANU	**Manus Island**	**5.75**	**83**	Pn	**Pn**	**13 27 30.3**	**-3.6**
PMG	**Port Moresby**	**8.54**	**140**	LR	LR	13 32 24.7	

comp=Z,243nm,21.0s,baz=343,slow=44
FAKI Fak Fak 9.40 269 Pn **Pn 13 28 24.0 -0.1**
FAKI Fak Fak 9.40 269 P **Pn 13 28 24.7 +0.6**
COEN Coen 11.19 172 Pn **Pn 13 28 49.0 +0.3**
KDU Kakadu 13.39 222 S **Sn 13 31 43.3 -3.1**
MTN Manton Dam 14.43 226 Pn **Pn 13 29 32.0 -0.9**
GUMO Guam 16.59 11 LR LR 13 34 35.3
comp=Z,224nm,21.7s,baz=139,slow=31
QIS Mount Isa 17.77 186 P **P 13 30 16.4 +0.1**
KNRA Kununurra 18.04 224 Pn 13 30 18.2 -0.8
KNRA IAmb IAmb 13 30 25.3
comp=Z,31nm,0.6s
WB0 Warramunga Arr 18.30 202 P 13 30 21.3 -0.9
WRAB Tennant Creek 18.47 202 P **P 13 30 23.2 -0.8**
WRA Warramunga Arr 18.48 202 P **Pn 13 30 24.2 -0.3**
comp=Z,1.5nm,0.3s,baz=21,slow=12,SNR=73
WRA S **Sn 13 33 47.7 -2.5**
comp=Z,2.3nm,1.1s,baz=23,slow=21,SNR=1.7
WRA LR LR 13 37 56.5
comp=Z,306nm,18.8s,baz=346,slow=38
comp=Z,12nm,0.6s
SOEI Soe 18.61 247 P **Pn 13 30 26.7 +0.4**
SOEI IAmb IAmb 13 30 31.6
comp=Z,66nm,1.3s
SOEI Soe 18.61 247 S **Sn 13 33 51.2 -2.3**
HNR Honiara 19.33 111 P **P 13 30 32.6 -0.9**
HNR Honiara 19.33 111 P **P 13 30 32.9 -0.6**
comp=Z,19nm,0.3s,baz=277,slow=1.2,SNR=15
comp=Z,194nm,0.6s
TOLI2 Tolitoli 21.23 280 P **P 13 30 55.1 +0.9**
FITZ Fitzroy Crossi 21.86 225 P **P 13 30 59.9 -1.0**
FITZ Fitzroy Crossi 21.86 225 P **P 13 31 00.2 -0.7**
comp=Z,12nm,0.7s,baz=46,slow=9.4,SNR=17
FITZ S **S 13 35 01.4 +0.6**
comp=Z,2.4nm,0.6s,baz=278,slow=19,SNR=6.5
FITZ LR LR 13 39 38.3
comp=Z,204nm,18.2s,baz=60,slow=37
comp=Z,12nm,0.7s
AS01 Alice Springs 22.05 199 P **P 13 31 04.0 +1.1**
AS31 Alice Springs 22.06 199 P **P 13 31 03.1 0.0**
ASAR Alice Springs 22.07 199 P **P 13 31 02.3 -0.8**
comp=Z,5.3nm,0.7s,baz=28,slow=11,SNR=53
comp=Z,5.3nm,0.7s
QLP Quilpie 23.78 174 P **P 13 31 21.4 +0.9**
EIDS Eidsvold 24.21 159 P **P 13 31 23.8 -0.7**
EIDS IAmb IAmb 13 31 34.9
comp=Z,70nm,1.6s
EIDS Eidsvold 24.21 159 P **P 13 31 26.4 +1.9**
INKA Innaminka 24.82 182 P **P 13 31 30.6 +0.6**
OOD Oodnadatta 25.51 192 P **P 13 31 36.7 +0.4**
TGY Tagaytay City 26.53 310 LR LR 13 42 08.6
comp=Z,56nm,22.0s,baz=173,slow=36
AULRC Lightning Ridg 27.16 168 P **P 13 31 51.2 0.0**
PSA00 Pilbara Seismi 28.26 227 P **P 13 32 02.3 +1.2**
PSA00 IAmb IAmb 13 32 38.4
comp=Z,48nm,1.4s
CMSA Cobar Meteorol 28.84 173 P **P 13 32 07.2 +1.0**
STKA Stephens Creek 28.93 180 P **P 13 32 06.8 -0.1**
STKA Stephens Creek 28.93 180 P **P 13 32 06.8 -0.1**
comp=Z,4.0nm,0.7s,baz=10.0,slow=13,SNR=7.0
STKA LR LR 13 43 47.3
comp=Z,136nm,19.8s,baz=3.2,slow=37
comp=Z,4.0nm,0.7s
ARMA Armidale 29.05 162 P **P 13 32 08.5 +0.3**
ARMA IAmb IAmb 13 32 33.2
comp=Z,36nm,1.8s
BBOO Buckleboo 30.32 189 P **P 13 32 18.8 -0.5**
BBOO IAmb IAmb 13 33 11.7
comp=Z,46nm,1.6s
FORT Forrest 30.66 203 P **P 13 32 22.6 +0.3**
FORT Forrest 30.66 203 P **P 13 32 23.2 +0.9**
DZM Mont Dzumac 30.76 131 P **P 13 32 22.2 -1.3**
DZM Mont Dzumac 30.76 131 P **P 13 32 22.6 -0.8**
comp=Z,14nm,1.0s,baz=343,slow=19,SNR=7.5
comp=Z,14nm,1.0s
YNG Young 31.96 169 P **P 13 32 35.0 +1.2**
CAN Canberra 33.07 169 P **P 13 32 44.0 +0.5**
CAN IAmb IAmb 13 32 49.0
comp=Z,23nm,1.1s
H11N1 WAKE ISLAND Hy 33.38 47 T T 14 07 56.4
baz=230,slow=76,SNR=364
H11N2 WAKE ISLAND Hy 33.40 47 T T 14 07 52.6
baz=230,slow=76,SNR=448
H11N3 WAKE ISLAND Hy 33.40 47 T T 14 07 57.7
baz=230,slow=76,SNR=214
MORW Morawa 35.73 220 P **P 13 33 05.1 -1.4**
MJAR Matsushiro Arr 39.27 356 P **P 13 33 34.4 -2.1**
comp=Z,1.1nm,0.7s,baz=175,slow=8.5,SNR=5.1
MJAR LR LR 13 48 47.6
comp=Z,48nm,19.3s,baz=191,slow=35
comp=Z,1.1nm,0.7s
MAJO Matsushiro 39.27 356 P **P 13 33 34.4 -2.0**
MAJO IAmb IAmb 13 34 58.6
comp=Z,36nm,1.6s
MJB9 Matsu-Tunnel 39.27 356 P **P 13 33 34.8 -1.7**
MJB9 IAmb IAmb 13 34 58.6
comp=Z,38nm,1.6s
JSD Sado 40.75 356 P **P 13 33 47.1 -1.6**
JSD IAmb IAmb 13 35 17.1
comp=Z,22nm,1.2s
NJ2 Nanjing 40.86 330 *e*P **P 13 33 49.5 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.6s
OUZ Omahuta 43.79 141 P **P 13 34 15.4 +1.9**
LYN LuoYang 46.18 326 *e*P **P 13 34 34.6 +2.1**
LYN pmax pmax
comp=Z,10.0nm,1.8s
TOZ Tahuroa Road 46.58 143 P **P 13 34 36.7 +1.0**
QRZ Quartz Range 46.99 148 P **P 13 34 39.6 +0.8**
QRZ Quartz Range 46.99 148 P **P 13 34 39.9 +1.1**
VRZ Vera Road 47.05 145 P **P 13 34 41.1 +1.8**
CMAR Chiang Mai Arr 47.05 298 P **P 13 34 39.8 +0.1**
comp=Z,0.4nm,0.5s,baz=129,slow=6.6,SNR=5.0
CMAR PcP **PcP 13 36 13.1 +1.6**
comp=Z,0.8nm,0.8s,baz=114,slow=3.9,SNR=4.8
comp=Z,0.4nm,0.5s
WTVZ West Tongariro 47.53 144 P **P 13 34 45.0 +1.8**
NNVZ North Ngauruho 47.56 144 P **P 13 34 45.5 +2.0**
NGZ Ngauruhoe 47.58 144 P **P 13 34 45.2 +1.6**
OTVZ Oturere 47.61 144 P **P 13 34 46.0 +2.2**
SNVZ South Ngauruho 47.61 144 P **P 13 34 46.1 +2.2**
THZ Tophouse 47.85 148 P **P 13 34 47.0 +1.4**
HAZ Te Kaha 48.01 141 P **P 13 34 47.1 +0.4**
RTZ Ruatahuna 48.04 142 P **P 13 34 46.8 -0.3**
RTZ Ruatahuna 48.04 142 P **P 13 34 47.2 0.0**
BKZ Black Stump Fm 48.10 143 P **P 13 34 48.1 +0.5**
MWZ Matawai 48.20 142 P **P 13 34 49.1 +0.7**
PZH PanZhiHua 48.32 310 P **P 13 34 50.3 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
KRHZ Kereru 48.34 144 P **P 13 34 50.1 +0.8**
PNHZ Pukenui 48.41 144 P **P 13 34 50.3 +0.4**
OGWZ Otaki Gorge 48.42 146 P **P 13 34 49.8 -0.1**
PUZ Puketiti 48.50 141 P **P 13 34 50.9 +0.4**
MRZ Mangatainoka R 48.55 146 P **P 13 34 50.3 -0.6**
DVHZ Dannevirke 48.64 145 P **P 13 34 51.4 -0.3**
WPHZ Waipukurau 48.65 144 P **P 13 34 52.1 +0.4**
KHZ Kahutara 48.65 149 P **P 13 34 50.7 -0.9**
HOWZ Holdsworth Sta 48.67 146 P **P 13 34 51.3 -0.6**
BFZ Birch Farm 48.94 145 P **P 13 34 53.7 -0.2**
CD2 Chengdu 49.26 316 P **P 13 34 57.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 49.96 347 ⇑P **P 13 35 01.5 0.0**
BNX pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 51.39 331 *e*P **P 13 35 13.7 +1.1**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.7s
LZH Lanzhou 52.36 321 *e*P P 13 35 08.3 -12
LZH pP pP 13 35 12.0 -18
LZH pmax pmax
comp=Z,18nm,1.5s
KLR Kul'dur 52.52 352 LR LR 13 53 37.3
comp=Z,59nm,21.9s,baz=268,slow=32
SHL Shillong 55.82 304 P **P 13 35 45.6 +0.2**
SHL IAmb IAmb 13 37 46.1
comp=Z,6.0nm,0.3s
GTA Gaotai 56.92 322 *e*P **P 13 35 54.9 +1.9**
GTA pP pP 13 36 00.8 -2.7
GTA pmax pmax

comp=Z,2.0nm,1.5s
PETK Petropavlovsk- 57.31 11 P **P 13 35 53.9 -1.4**
PETK Petropavlovsk- 57.31 11 P **P 13 35 54.7 -0.5**
comp=Z,2.7nm,0.7s,baz=185,slow=7.2,SNR=2.1
PETK LR LR 13 57 35.0
comp=Z,27nm,21.9s,baz=180,slow=33
comp=Z,2.7nm,0.7s
ULN Ulaanbaatar 58.82 333 P **P 13 36 05.8 -0.4**
SONM Songino Array 59.09 333 P **P 13 36 08.0 0.0**
SONM IAmb IAmb 13 36 10.1
comp=Z,14nm,2.0s
SONM Songino Array 59.09 333 P **P 13 36 08.6 +0.6**
comp=Z,0.4nm,0.5s,baz=153,slow=8.7,SNR=5.7
SONM LR LR 14 00 21.0
comp=Z,32nm,20.9s,baz=47,slow=35
comp=Z,0.4nm,0.5s
MA2 Magadan 62.60 5 LR LR 14 00 51.4
comp=Z,22nm,22.0s,baz=174,slow=33
YAK Yakutsk 65.30 354 LR LR 14 03 09.8
comp=Z,29nm,21.4s,baz=98,slow=34
WMQ Urumqi 66.93 320 *e*P **P 13 37 01.6 +1.5**
WMQ sP pP 13 37 07.9 -2.8
WMQ PcP **PcP 13 37 29.7 +1.2**
WMQ pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 71.67 321 P **P 13 37 29.9 +0.5**
MKAR Makanchi Array 71.67 321 P **P 13 37 30.4 +1.0**
comp=Z,3.7nm,0.7s,baz=109,slow=8.1,SNR=52
comp=Z,3.7nm,0.7s
MAKZ Makanchi 71.88 321 P **P 13 37 30.7 +0.1**
MAKZ IAmb IAmb 13 37 32.4
comp=Z,6.8nm,0.8s
KSH Kashi 73.30 313 P **P 13 37 42.1 +2.8**
KSH pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 73.51 329 P **P 13 37 39.4 -0.7**
ZALV Zalesovo Beam 73.51 329 P **P 13 37 39.2 -0.9**
ZALV Zalesovo Beam 73.51 329 P **P 13 37 39.0 -1.1**
comp=Z,2.7nm,0.8s,baz=117,slow=5.3,SNR=13
comp=Z,2.7nm,0.8s
AAK Ala-Archa 75.33 315 P **P 13 37 50.2 -0.9**
VNDA Vanda 75.45 176 P **P 13 37 52.1 +1.2**
comp=Z,10.0nm,1.0s,baz=333,slow=2.3,SNR=2.7
comp=Z,10.0nm,1.0s
KURK Kurchatov 75.50 324 P **P 13 37 50.4 -1.3**
KURK IAmb IAmb 13 37 53.2
comp=Z,3.9nm,0.7s
KURBB Kurchatov Arra 75.51 324 P **P 13 37 52.4 +0.6**
comp=Z,2.0nm,0.8s,baz=112,slow=5.7,SNR=14
comp=Z,2.0nm,0.8s
M14K Bethel 76.74 25 P **P 13 37 58.6 +0.2**
KKAR Karatay Array 78.27 315 P **P 13 38 06.9 -0.6**
J17K VABM Dome 79.25 23 IAmb IAmb 13 38 31.6
comp=Z,45nm,1.9s
TTA Tatalina 80.26 24 P **P 13 38 17.5 -0.6**
TTA IAmb IAmb 13 39 13.9
comp=Z,29nm,1.9s
NRIK Noril'sk 80.65 343 P **P 13 38 19.8 -0.1**
NRIK IAmb IAmb 13 40 04.3
comp=Z,4.8nm,0.6s
NRIK Noril'sk 80.65 343 P **P 13 38 19.9 0.0**
comp=Z,2.4nm,0.6s,baz=104,slow=3.9,SNR=6.1
comp=Z,2.4nm,0.6s
BVAR Borovoye Array 81.08 325 P **P 13 38 23.5 +0.9**
comp=Z,5.2nm,0.6s,baz=113,slow=7.3,SNR=20
comp=Z,5.2nm,0.6s
BRVK Borovoye 81.15 325 P **P 13 38 23.2 +0.3**
K20K Telida 81.24 24 IAmb IAmb 13 38 24.8
comp=Z,8.7nm,1.0s
H19K Roundabout Mou 81.26 22 IAmb IAmb 13 38 24.8
comp=Z,5.1nm,0.8s
PPLA Purkeypile 81.84 25 P **P 13 38 25.7 -0.8**
RC01 Rabbit Creek A 82.26 27 P **P 13 38 27.8 -0.7**
KTH Kantishna Hill 82.62 25 P **P 13 38 29.1 -1.4**
I23K Minto, Yukon-K 83.83 23 P **P 13 38 36.6 0.0**
I23K IAmb IAmb 13 39 01.8
comp=Z,20nm,1.8s
E22K Anaktuvuk Pass 84.02 20 IAmb IAmb 13 38 56.3
comp=Z,6.9nm,1.2s
G23K Bananza Creek 84.13 22 pP **P 13 38 38.6 +0.4**
COLD Coldfoot 84.25 21 P **P 13 38 39.1 +0.4**
CCB Clear Creek Bu 84.28 24 IAmb IAmb 13 38 38.2
comp=Z,5.4nm,1.0s
ILAR Eielson Array 84.70 24 P **P 13 38 39.5 -1.6**
comp=Z,2.4nm,0.8s,baz=262,slow=4.7,SNR=21
comp=Z,2.4nm,0.8s
E23K Chandalar 84.76 21 IAmb IAmb 13 38 43.4
comp=Z,19nm,1.8s
C23K Itkillik River 85.08 19 IAmb IAmb 13 38 45.2
comp=Z,11nm,0.9s
F25K Christian Rive 86.03 22 IAmb IAmb 13 38 59.1
comp=Z,5.5nm,1.2s
E25K Arctic Village 86.22 21 IAmb IAmb 13 38 51.6
comp=Z,28nm,1.9s
QSPA South Pole Qui 87.15 180 P **P 13 38 53.8 +0.4**
QSPA IAmb IAmb 13 38 54.7
comp=Z,17nm,1.1s
QSPA South Pole Qui 87.15 180 P **P 13 38 53.4 +0.1**
comp=Z,6.8nm,0.9s,baz=264,slow=0.4,SNR=28
comp=Z,6.8nm,0.9s
DAWY Dawson 87.67 26 P **P 13 38 56.1 +0.3**
DAWY IAmb IAmb 13 38 57.1
comp=Z,5.7nm,0.9s
SYO Syowa Base 91.72 201 ⇓*es*P P 13 39 20.2 +5.6
YKA Yellowknife Ar 98.80 27 P **P 13 39 46.5 -0.5**
comp=Z,0.5nm,0.7s,baz=281,slow=4.3,SNR=7.2
comp=Z,0.5nm,0.7s
LPAZ La Paz 144.98 124 PKP **PKPdf 13 45 46.7 +0.2**
comp=Z,12nm,0.8s,baz=276,slow=1.6,SNR=38
CPUP Villa Florida 145.71 149 PKPbc **PKPab 13 45 47.4 0.0**
comp=Z,1.5nm,0.6s,baz=175,slow=5.8,SNR=4.3
DBIC Dimbokro 146.42 278 PKPbc **PKPab 13 45 49.8 -0.6**
comp=Z,6.6nm,0.8s,baz=75,slow=4.9,SNR=8.7

IDC 03 13:27:12.4±8.1, 5°.25S×146°.37E, h134km±84km, mb3.8/3, mbtmp4.1/5, Error ellipse: s-maj=85.0km s-min=29.7km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**169**	P	Pn	13 28 16.2	+1.2
	10nm,0.4s,baz=340,slow=12,SNR=9.4						
PMG				S	Sn	13 29 03.4	-0.2
	17nm,0.3s,baz=163,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**18.72**	**218**	P	P	13 31 21.4	+0.6
	1.2nm,0.3s,baz=39,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**21.90**	**212**	P	P	13 31 55.3	+0.3
	3.4nm,0.8s,baz=34,slow=9.4,SNR=4.2						
	3.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.94**	**236**	P	P	13 32 13.9	-0.5
	7.8nm,0.5s,baz=50,slow=12,SNR=1.9						
	7.8nm,0.5s						
ILAR	**Eielson Array**	**85.04**	**23**	P	P	13 39 32.5	-0.2
	1.0nm,0.7s,baz=259,slow=5.5,SNR=5.4						
	1.0nm,0.7s						

---

*NEIC **03** 13:40:16.7±1.6, 18°.7S±0°.1×177°.2W±0°.3, h330km±15km, mb4.2/16, Error ellipse: s-maj=38.0km s-min=18.7km az=104.0*
*IDC **03** 13:40:36.1±7.7, 19°.12S×177°.48W, h546km±90km, mb2.9/5, mbtmp3.8/6, Error ellipse: s-maj=38.3km s-min=27.9km az=25.0*
ISC 03 13:40:18.2±0.9, 18°.8S±0°.1×177°.3W±0°.2, h350km, n24, σ1°45/25, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.46**	**183**	Pn	**Pn**	**13 42 40.0**	**-1.6**
URZ	**Urewera**	**20.02**	**193**	P	**P**	**13 44 28.3**	**+2.0**
	7.1nm,0.9s,baz=323,slow=2.6,SNR=1.8						
DSZ	**Denniston Nort**	**24.71**	**200**	P	**P**	**13 45 10.6**	**+1.7**
WHZ	**Wether Hill Ro**	**29.68**	**201**	P	**P**	**13 45 55.0**	**+2.2**
TOO	**Toolangi**	**37.44**	**232**	P	**P**	**13 46 59.9**	**+0.6**
TOO				IAmb	IAmb	13 47 17.3	
	comp=Z,7.8nm,1.4s						
STKA	**Stephens Creek**	**39.13**	**242**	P	**P**	**13 47 13.4**	**+0.1**
BBOO	**Buckleboo**	**43.90**	**242**	P	**P**	**13 47 52.9**	**+1.2**
BBOO				IAmb	IAmb	13 48 11.8	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**45.30**	**260**	P	**P**	**13 48 04.1**	**+1.4**
WR0				IAmb	IAmb	13 48 13.5	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**45.46**	**260**	P	**P**	**13 48 05.0**	**+1.0**
WB2	**Warramunga Arr**	**45.48**	**260**	P	**P**	**13 48 05.3**	**+1.1**

WB2				IAmb	IAmb	13 48 28.2		
	comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**45.49**	**260**	P	**P**	**13 48 05.4**	**+1.2**	
	comp=Z,1.1nm,0.5s,baz=98,slow=6.7,SNR=43							
	comp=Z,1.1nm,0.5s							
AS31	**Alice Springs**	**45.55**	**255**	P	**P**	**13 48 05.8**	**+1.1**	
ASAR	**Alice Springs**	**45.55**	**255**	P	**P**	**13 48 05.3**	**+0.6**	
ASAR	**Alice Springs**	**45.55**	**255**	P	**P**	**13 48 06.0**	**+1.3**	
	comp=Z,2.2nm,0.6s,baz=87,slow=8.2,SNR=77							
ASAR				PcP	**PcP**	**13 49 33.1**	**-3.6**	
	comp=Z,0.2nm,0.5s,baz=100,slow=3.9,SNR=1.6							
	comp=Z,2.2nm,0.6s							
MTN	**Manton Dam**	**49.80**	**269**	P	**P**	**13 48 38.1**	**+1.0**	
KNRA	**Kununurra**	**51.42**	**265**	P	**P**	**13 48 49.5**	**+0.4**	
PSA00	**Pilbara Seismi**	**58.69**	**256**	P	**P**	**13 49 39.5**	**-1.0**	
PSA00				IAmb	IAmb	13 50 12.7		
	comp=Z,13nm,1.4s							
KKM	**Kota Kinabalu**	**69.94**	**284**	P	**P**	**13 50 52.6**	**-0.5**	
UGM	**Wanagama**	**70.64**	**268**	P	**P**	**13 50 55.9**	**-1.4**	
QSPA	**South Pole Qui**	**71.30**	**180**	P	**P**	**13 50 58.9**	**-1.4**	
	comp=Z,0.6nm,0.7s,baz=90,slow=1.0,SNR=1.7							
	comp=Z,0.6nm,0.7s							
TRF	**Thorofare Moun**	**84.62**	**12**	P	**P**	**13 52 13.2**	**+0.4**	
TRF				IAmb	IAmb	13 52 13.6		
	comp=Z,10nm,1.4s							
G18K	**Tagagawik**	**85.57**	**8**	P	**P**	**13 52 17.6**	**+0.3**	
G18K				IAmb	IAmb	13 52 51.7		
	comp=Z,2.4nm,1.2s							
TXAR	**Lajitas Array**	**85.59**	**57**	P	**P**	**13 52 19.6**	**+1.2**	
	comp=Z,0.2nm,0.7s,baz=203,slow=6.0,SNR=3.5							
	comp=Z,0.2nm,0.7s							
ILAR	**Eielson Array**	**86.49**	**13**	P	**P**	**13 52 21.8**	**+0.1**	
	comp=Z,0.1nm,0.4s,baz=213,slow=4.5,SNR=5.7							
	comp=Z,0.1nm,0.4s							

*IDC **03** 14:17:59.3±2.4, 35°.90N×77°.20E, h0km, mb3.7/5, mbtmp3.6/9, ML3.1/4, MS2.5/1, Error ellipse: s-maj=34.6km s-min=30.7km az=15.0*

ISC 03 14:18:01.9±2.4, 36°.0N±0°.2×77°.2E±0°.2, h10km, n9, σ0§98/9, mb3.8/4, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.93**	**343**	Pn	Pn	14 19 50.0	+6.4
	0.4nm,0.3s,baz=178,slow=8.4,SNR=6.5						
AAK				Lg	Lg	14 21 43.9	
	0.2nm,0.3s,baz=345,slow=19,SNR=3.9						
AAK				LR	LR	14 22 44.6	
	comp=Z,35nm,18.8s,baz=210,slow=40						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**11.43**	**18**	Pn	**Pn**	**14 20 45.3**	**+0.2**
	0.3nm,0.3s,baz=208,slow=13,SNR=16						
MKAR				Sn	**Sn**	**14 22 52.4**	**-0.4**
	0.2nm,0.3s,baz=196,slow=26,SNR=3.3						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**17.67**	**346**	P	**P**	**14 22 09.7**	**+0.8**
	baz=151,slow=11,SNR=7.0						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**18.71**	**14**	P	**P**	**14 22 20.8**	**+0.5**
	0.1nm,0.3s,baz=206,slow=13,SNR=2.6						
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**19.98**	**322**	P	**P**	**14 22 35.7**	**+1.5**
	1.1nm,0.5s,baz=109,slow=8.5,SNR=2.6						
	1.1nm,0.5s						
SONM	**Songino Array**	**24.59**	**52**	P	**P**	**14 23 22.4**	**+0.2**
	0.4nm,0.5s,baz=241,slow=8.1,SNR=6.2						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**40.71**	**325**	P	**P**	**14 25 40.9**	**-1.4**
	1.6nm,0.7s,baz=120,slow=11,SNR=5.1						
	1.6nm,0.7s						
ARCES	**ARCESS Array B**	**43.54**	**336**	P	**P**	**14 26 04.6**	**-0.8**
	3.6nm,1.0s,baz=94,slow=9.1,SNR=1.5						
	3.6nm,1.0s						
NOA	**NORSAR Array B**	**47.77**	**323**	P	**P**	**14 26 38.7**	**-0.2**
	0.5nm,0.6s,baz=89,slow=7.8,SNR=3.7						
	0.5nm,0.6s						

IDC 03 14:42:15.5±2.1, 1°.10N×126°.04E, h0km, mb3.2/3, mbtmp3.2/3, MS3.3/2, Error ellipse: s-maj=172.7km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.44**	**159**	P	P	14 47 17.2	+0.9
	0.6nm,0.5s,baz=338,slow=10,SNR=13						
	0.6nm,0.5s						
JOW	**Kunigami**	**25.67**	**5**	LR	LR	14 57 27.8	
	comp=Z,56nm,20.9s,baz=276,slow=36						
ASAR	**Alice Springs**	**25.78**	**163**	P	P	14 47 47.3	-1.0
	0.3nm,0.7s,baz=346,slow=9.7,SNR=4.9						
	0.3nm,0.7s						
JNU	**Nakatsue**	**32.17**	**8**	LR	LR	15 01 10.5	
	comp=Z,58nm,21.3s,baz=148,slow=35						
MKAR	**Makanchi Array**	**59.33**	**326**	P	P	14 52 19.5	+0.1
	0.1nm,0.4s,baz=117,slow=8.3,SNR=1.1						
	0.1nm,0.4s						

*IDC **03** 14:51:38.4±1.0, 19°.88N×122°.30E, h0km, mb3.5/8, mbtmp3.6/9, ML4.1/1, MS3.1/4, Error ellipse: s-maj=32.9km s-min=18.9km az=68.0*
*NEIC **03** 14:51:39.3±2.0, 19°.9N±0°.1×122°.09E±0°.05, h9km±6km, mb4.5/10, Error ellipse: s-maj=14.7km s-min=6.0km az=170.0*
*JMA **03** 14:51:44.3±0.5, 20°.N±2°.×12°.2E±°, h125km, MV3.2/15, PHILIPPINE ISL REGION*

ISC 03 14:51:42.1±0.7, 20°.01N±0°.07×122°.20E±0°.08, h27km, n47, σ1§39/46, mb3.7/13, MS3.0/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**3.58**	**336**	Pn	**Pn**	**14 52 35.6**	**-0.4**
NACB	**Ninganchiao**	**4.18**	**352**	Pn	**Pn**	**14 52 42.5**	**-1.7**
HATJ	**Hateruma jima**	**4.29**	**20**	*e*P	**Pn**	**14 52 45.8**	**+0.2**
HATJ				*e*S	**Sn**	**14 53 32.4**	**-2.5**
JYNG	**Yonaguni jima**	**4.47**	**9**	*e*P	**Pn**	**14 52 48.2**	**0.0**
JYNG				*e*S	**Sn**	**14 53 38.4**	**-0.9**
YOJ	**Yonaguni jima**	**4.49**	**9**	Pn	**Pn**	**14 52 47.9**	**-0.5**
YOJ	**Yonaguni jima**	**4.49**	**9**	*e*P	**Pn**	**14 52 47.9**	**-0.5**
YOJ				*e*S	**Sn**	**14 53 37.8**	**-2.0**
JKRS	**Kuro-shima**	**4.53**	**21**	*e*P	**Pn**	**14 52 49.9**	**+1.0**
JKRS				*e*S	**Sn**	**14 53 40.0**	**-0.6**
IRIF	**Iriomote-Funau**	**4.53**	**18**	*e*P	**Pn**	**14 52 49.0**	**+0.1**
IRIF				*e*S	**Sn**	**14 53 38.2**	**-2.5**
JIJ	**Ishigaki jima**	**4.69**	**22**	*e*P	**Pn**	**14 52 51.4**	**+0.2**
JIJ				*e*S	**Sn**	**14 53 42.5**	**-2.1**
YHNB	**Yeheng**	**4.70**	**351**	Pn	**Pn**	**14 52 51.0**	**-0.3**
JISG	**Ishigakijimahi**	**4.95**	**23**	*e*P	**Pn**	**14 52 54.2**	**-0.6**
JISG				*e*S	**Sn**	**14 53 48.4**	**-2.8**
TATO	**Taipei**	**4.98**	**352**		**Pn**	**14 52 54.7**	**-0.5**
JTJ	**Tarama**	**5.15**	**26**	*e*P	**Pn**	**14 52 57.7**	**+0.2**
JTJ				*e*S	**Sn**	**14 53 54.0**	**-2.1**
JIRB	**Irabujima**	**5.52**	**29**	*e*P	**Pn**	**14 53 03.0**	**+0.4**
KNMB	**Chin-men Tao**	**5.67**	**322**	Pn	**Pn**	**14 53 01.7**	**-2.9**
JOW	**Kunigami**	**8.78**	**38**	Pn	**Pn**	**14 53 47.4**	**0.0**
	4.3nm,0.3s,baz=180,slow=11,SNR=12						
	33nm,0.6s						
DAV	**Davao City (W)**	**13.28**	**165**	LR	LR	15 00 17.5	
	comp=Z,84nm,21.2s,baz=310,slow=40						
INU	**Inuyama**	**20.10**	**37**		**P**	**14 56 14.8**	**+1.1**
INU				IAmb	IAmb	14 56 45.6	
	comp=Z,47nm,1.5s						
MJAR	**Matsushiro Arr**	**21.62**	**37**	LR	LR	15 04 14.2	
	comp=Z,32nm,18.9s,baz=226,slow=35						
CMAR	**Chiang Mai Arr**	**22.02**	**270**	P	**P**	**14 56 36.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=77,slow=9.6,SNR=4.2						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**30.57**	**339**	P	**P**	**14 57 55.6**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=134,slow=8.3,SNR=3.6						
SONM				LR	LR	15 11 10.1	
	comp=Z,35nm,19.3s,baz=214,slow=38						
	comp=Z,0.2nm,0.5s						
WB0	**Warramunga Arr**	**41.30**	**162**	P	**P**	**14 59 23.9**	**-1.6**
WB0				IAmb	IAmb	14 59 29.6	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**41.45**	**163**	P	**P**	**14 59 25.2**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=343,slow=8.8,SNR=5.3						
	comp=Z,1.3nm,0.8s						
WB2	**Warramunga Arr**	**41.45**	**163**	P	**P**	**14 59 25.5**	**-1.3**
WB2				IAmb	IAmb	14 59 35.9	
	comp=Z,30nm,1.5s						
WR0	**Warramunga Arr**	**41.52**	**162**	P	**P**	**14 59 25.7**	**-1.7**
WR0				IAmb	IAmb	14 59 34.0	
	comp=Z,6.5nm,0.9s						

H11S3	**WAKE ISLAND Hy**	**41.93**	**84**	T	T	15 44 39.9		
	baz=280,slow=75,SNR=59							
H11N1	**WAKE ISLAND Hy**	**41.93**	**82**	T	T	15 44 38.7		
	baz=278,slow=75,SNR=35							
H11N2	**WAKE ISLAND Hy**	**41.94**	**82**	T	T	15 44 38.9		
	baz=278,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**41.94**	**84**	T	T	15 44 40.1		
	baz=280,slow=75,SNR=79							
H11S2	**WAKE ISLAND Hy**	**41.95**	**84**	T	T	15 44 41.3		
	baz=280,slow=75,SNR=83							
H11N3	**WAKE ISLAND Hy**	**41.95**	**82**	T	T	15 44 39.9		
	baz=278,slow=75,SNR=36							
MKAR	**Makanchi Array**	**42.03**	**319**	P	**P**	**14 59 31.8**	**+0.5**	
MKAR	**Makanchi Array**	**42.03**	**319**	P	**P**	**14 59 32.0**	**+0.6**	
	comp=Z,0.3nm,0.6s,baz=113,slow=9.9,SNR=7.0							
	comp=Z,0.3nm,0.6s							
WUS	**Wushi**	**42.07**	**310**	P	**P**	**14 59 31.9**	**0.0**	
ZALV	**Zalesovo Beam**	**44.27**	**329**	P	**P**	**14 59 52.2**	**+3.0**	
	comp=Z,0.6nm,0.5s,baz=128,slow=9.3,SNR=3.9							
	comp=Z,0.6nm,0.5s							
AS31	**Alice Springs**	**44.89**	**165**	P	**P**	**14 59 53.9**	**-0.7**	
ASAR	**Alice Springs**	**44.89**	**165**	P	**P**	**14 59 54.2**	**-0.4**	
ASAR	**Alice Springs**	**44.89**	**165**	P	**P**	**14 59 54.0**	**-0.5**	
	comp=Z,0.4nm,0.6s,baz=349,slow=7.7,SNR=9.5							
	comp=Z,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**45.93**	**322**	P	**P**	**15 00 03.3**	**+0.7**	
	comp=Z,0.6nm,0.3s,baz=125,slow=8.4,SNR=1.4							
	comp=Z,0.6nm,0.3s							
ARMA	**Armidale**	**57.58**	**150**	P	**P**	**15 01 27.7**	**-2.1**	
TOO	**Toolangi**	**61.33**	**159**	P	**P**	**15 01 54.5**	**-1.0**	
TOO				IAmb	IAmb	15 02 07.0		
	comp=Z,3.7nm,1.2s							
J14K	**Nanvaranak Lak**	**65.19**	**29**	P	**P**	**15 02 21.4**	**+0.7**	
F24K	**Squaw Lake**	**71.66**	**24**	P	**P**	**15 03 01.0**	**-0.2**	
F24K				IAmb	IAmb	15 03 28.1		
	comp=Z,2.5nm,1.2s							
BMAR	**Burnt Mountain**	**72.93**	**24**	P	**P**	**15 03 09.2**	**+0.4**	
BCAR	**Beaver Creek A**	**75.05**	**28**	P	**P**	**15 03 22.1**	**+0.9**	
NOA	**NORSAR Array B**	**82.34**	**333**	LR	LR	15 44 21.9		
	comp=Z,12nm,18.2s,baz=220,slow=38							
YKA	**Yellowknife Ar**	**86.43**	**23**	P	**P**	**15 04 23.1**	**+1.1**	
	comp=Z,0.1nm,0.6s,baz=310,slow=5.5,SNR=3.6							
	comp=Z,0.1nm,0.6s							

RSNC 03 15:01:33.5±0.0, 10°N±1°×7°8W±°, h14km±1km, M2.6, mb3.8, mB5.8, ML2.4, Mw(mB)5.3, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**1.19**	**167**	P	Pn	15 01 53.9	-1.8
CAPC				S	Sb	15 02 09.9	-1.2
CAPC	**Capurgana**	**1.19**	**167**	P		15 01 53.9	
CAPC				S		15 02 09.9	
LCBC	**Los crdobas,**	**1.55**	**127**	P	Pn	15 02 00.1	-0.6
LCBC				S	Sn	15 02 19.6	-1.0
LCBC	**Los crdobas,**	**1.55**	**127**	P		15 02 00.1	
LCBC				S		15 02 19.6	
APAC	**Apartado, Choc**	**2.15**	**151**	P	Pn	15 02 08.2	-0.8
APAC				S	Sn	15 02 35.2	-0.2
APAC	**Apartado, Choc**	**2.15**	**151**	P		15 02 08.2	
APAC				S		15 02 35.2	
BCIP	**Isla Barro Col**	**2.28**	**254**	P	Pn	15 02 09.8	-0.9
BCIP				S	Sn	15 02 37.3	-1.3
BCIP	**Isla Barro Col**	**2.28**	**254**	P		15 02 09.8	
BCIP				S		15 02 37.3	
SJCC	**San Jacinto, C**	**2.41**	**88**	P	Pn	15 02 10.8	-1.8
SJCC				S	Sn	15 02 39.2	-2.7
SJCC	**San Jacinto, C**	**2.41**	**88**	P		15 02 10.8	
SJCC				S		15 02 39.2	
UREC	**San Jos de Ur**	**2.90**	**134**	P	Pn	15 02 18.4	-0.9
UREC				S	Sn	15 02 52.1	-1.9
UREC	**San Jos de Ur**	**2.90**	**134**	P		15 02 18.4	
UREC				S		15 02 52.1	
DBBC	**Dabeiba**	**3.10**	**153**	P	Pn	15 02 21.4	-0.7
DBBC				S	Sn	15 02 58.1	-0.9
DBBC	**Dabeiba**	**3.10**	**153**	P		15 02 21.4	
DBBC				S		15 02 58.1	
ARGC	**Ariguani, Magd**	**3.33**	**89**	P	Pn	15 02 23.4	-1.8
ARGC				S	Sn	15 03 02.6	-1.9
ARGC	**Ariguani, Magd**	**3.33**	**89**	P		15 02 23.4	
ARGC				S		15 03 02.6	
ZARC	**Zaragoza, Cauc**	**3.57**	**130**	P	Pn	15 02 28.9	+0.4
ZARC				S	Sn	15 03 08.5	-1.9
ZARC	**Zaragoza, Cauc**	**3.57**	**130**	P		15 02 28.9	
ZARC				S		15 03 08.5	
PTBC	**PUERTO BERRIO,**	**4.51**	**136**	P	Pn	15 02 39.4	-2.0
PTBC				S	Sn	15 03 30.7	-3.0
PTBC	**PUERTO BERRIO,**	**4.51**	**136**	P		15 02 39.4	
PTBC				S		15 03 30.7	
OCAC	**Ocana**	**4.52**	**110**	P	Pn	15 02 39.5	-2.3
OCAC				S	Sn	15 03 31.9	-2.4
OCAC	**Ocana**	**4.52**	**110**	P		15 02 39.5	
OCAC				S		15 03 31.9	
CRJC	**Cerrejon, Guaj**	**4.82**	**75**	P	Pn	15 02 44.1	-1.6
CRJC				S	Sn	15 03 35.6	-5.8
CRJC	**Cerrejon, Guaj**	**4.82**	**75**	P		15 02 44.1	
CRJC				S		15 03 35.6	
PAMC	**Pamplona, Colo**	**5.45**	**116**	P	Pn	15 02 54.4	-0.3
PAMC				S	Sn	15 03 55.3	-2.2
PAMC	**Pamplona, Colo**	**5.45**	**116**	P		15 02 54.4	
PAMC				S		15 03 55.3	
ROSC	**El Rosal**	**5.92**	**146**	P	Pn	15 02 59.6	-1.5
	14nm,0.5s						
ROSC				S	Sn	15 04 08.3	-0.7
	14nm,0.5s						
ROSC	**El Rosal**	**5.92**	**146**	P		15 02 59.6	
	14nm,0.5s						
ROSC				S		15 04 08.3	
	14nm,0.5s						
RUSC	**La Rusia**	**5.94**	**130**	P	Pn	15 03 01.7	+0.2
RUSC				S	Sn	15 04 07.9	-1.8
RUSC	**La Rusia**	**5.94**	**130**	P		15 03 01.7	
RUSC				S		15 04 07.9	

IDC 03 15:08:33.7±3.6, 19°.23N×119°.92E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/2, Error ellipse: s-maj=373.1km s-min=21.8km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**16.96**	**33**	LR	LR	15 18 39.8	
	comp=Z,67nm,20.5s,baz=162,slow=36						
MKAR	**Makanchi Array**	**41.23**	**320**	P	P	15 16 20.6	+0.1
	0.3nm,0.5s,baz=109,slow=8.9,SNR=5.9						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**41.41**	**159**	P	P	15 16 21.5	-0.7
	0.9nm,0.8s,baz=339,slow=8.9,SNR=9.7						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**44.76**	**162**	P	P	15 16 49.6	+0.4
	0.5nm,0.6s,baz=340,slow=8.4,SNR=20						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.26**	**324**	P	P	15 16 52.5	-0.4
	1.1nm,0.2s,baz=129,slow=8.3,SNR=1.7						
	1.1nm,0.2s						
DLBC	**Dease Lake**	**83.80**	**30**	LR	LR	16 00 15.0	
	comp=Z,17nm,21.1s,baz=256,slow=37						

IDC 03 15:10:35.6±6.9, 18°.81S×177°.60W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=297.7km s-min=38.5km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.23**	**260**	P	P	15 18 54.8	-0.2
	0.4nm,0.5s,baz=96,slow=7.8,SNR=14						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**45.29**	**255**	P	P	15 18 55.5	0.0
	1.2nm,0.6s,baz=93,slow=8.1,SNR=23						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**86.59**	**13**	P	P	15 23 20.3	0.0
	0.2nm,0.6s,baz=208,slow=4.8,SNR=4.5						
	0.2nm,0.6s						

*UPP **03** 15:10:53.2±0.0, 67°.82N×20°.14E, h0km, ML2.3, Confirmed Induced event*
*HEL **03** 15:10:53.0±0.3, 67°.85N×20°.07E, h0km, ML1.6, Explosion*
*IDC **03** 15:10:55.4±0.9, 67°.79N×20°.59E, h0km, mbtmp3.4/5, ML2.0/4, Error ellipse: s-maj=16.0km s-min=7.4km az=114.0*

ISC 03 15:10:52.8±0.7, 67°.81N±0°.02×20°.34E±0°.03, h0km, n33, σ1§40/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**0**	P	**Pg**	**15 10 56.4**	**+0.8**
KUA				S	**Sg**	**15 10 58.8**	**+1.4**
RATU	**Laukkuluspa**	**0.28**	**273**	P	**Pg**	**15 10 57.4**	**-0.9**
RATU				S	**Sg**	**15 11 00.2**	**-1.7**
LANU	**Lannavaara**	**0.67**	**69**	P	**Pb**	**15 11 07.1**	**-0.3**
LANU				S	**Sb**	**15 11 17.3**	**0.0**
LANU	**Lannavaara**	**0.67**	**69**	PG	**Pb**	**15 11 07.0**	**-0.4**
LANU				SG	**Sb**	**15 11 16.2**	**-1.1**
DUNU	**Dundret**	**0.70**	**173**	P	**Pg**	**15 11 06.5**	**+0.3**
DUNU				S	**Sg**	**15 11 16.7**	**+1.4**
MASU	**Masugnsbyn**	**0.73**	**119**	P	**Pb**	**15 11 08.2**	**-0.2**
MASU				S	**Sb**	**15 11 19.3**	**+0.4**
KIF	**Kilpisjarvi**	**1.21**	**8**	*e*P	**Pb**	**15 11 16.6**	**0.0**
KIF	**Kilpisjarvi**	**1.21**	**8**	PN	**Pb**	**15 11 16.9**	**+0.3**
	baz=190						
KIF				SG	**Sg**	**15 11 30.2**	**-1.5**
KIF				MSG		15 11 30.3	
	comp=Z,7.6nm,0.2s						
HEF	**Hetta**	**1.38**	**63**	*e*P	**Pg**	**15 11 18.6**	**-0.7**
HEF	**Hetta**	**1.38**	**63**	PG	**Pb**	**15 11 19.2**	**-0.3**
	baz=249						
HEF				MSG		15 11 36.8	
	comp=Z,3.5nm,0.2s						
HEF				SN	**Sn**	**15 11 39.4**	**+1.1**
ERTU	**Ertsjaerv**	**1.46**	**149**	P	**Pb**	**15 11 21.1**	**+0.3**
ERTU				S	**Sn**	**15 11 41.0**	**+0.9**
ERTU	**Ertsjaerv**	**1.46**	**149**	PG	**Pn**	**15 11 20.6**	**+0.2**
ERTU				SN	**Sn**	**15 11 43.2**	**+3.0**
KLF	**Kolari**	**1.51**	**111**	PG	**Pb**	**15 11 21.5**	**-0.2**
	baz=295						
KLF				MSG		15 11 41.5	
	comp=Z,3.1nm,0.2s						
KLF				SN	**Sn**	**15 11 43.8**	**+2.3**
KTK1	**Kautokeino**	**1.61**	**40**	PN	**Pg**	**15 11 23.7**	**0.0**
KTK1				SN	**Sg**	**15 11 46.7**	**+2.1**
HARU	**Harads**	**1.68**	**171**	P	**Pb**	**15 11 24.4**	**-0.1**
KALU	**Kalix**	**2.30**	**147**	PB	**Pb**	**15 11 34.0**	**-1.1**
KALU				SG	**Sg**	**15 12 06.5**	**0.0**
TOF	**Tornio**	**2.34**	**136**	PB	**Pb**	**15 11 35.1**	**-0.8**
TOF				MSG		15 12 05.3	
	comp=Z,2.6nm,0.2s						
TOF				SG	**Sg**	**15 12 07.6**	**-0.4**
RNF	**Rovaniemi**	**2.52**	**116**	PB	**Pb**	**15 11 38.3**	**-0.6**
	baz=300						
RNF				SG	**Sg**	**15 12 12.2**	**-1.5**
ARCES	**ARCESS Array B**	**2.56**	**45**	Pn	**Pb**	**15 11 37.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=14,SNR=22						
ARCES				Sn	**Sb**	**15 12 09.7**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=228,slow=22,SNR=17						
	comp=Z,0.8nm,0.2s						
KMNF	**Kaamanen**	**2.80**	**58**	PB	**Pb**	**15 11 42.4**	**-1.2**
KMNF				SB	**Sb**	**15 12 17.7**	**-0.7**
RAJF	**Raja-Jooseppi**	**3.06**	**74**	PG	**Pb**	**15 11 48.5**	**+0.4**
RAJF				SB	**Sb**	**15 12 27.4**	**+1.6**
KEV	**Kevo**	**3.11**	**48**	PB	**Pb**	**15 11 46.8**	**-2.1**
KEV				SB	**Sb**	**15 12 25.5**	**-1.9**
RANF	**Ranua**	**3.12**	**122**	PG	**Pg**	**15 11 51.9**	**-0.6**
RANF				SG	**Sg**	**15 12 31.6**	**-1.2**
BURU	**Burvik**	**3.27**	**172**	PB	**Pb**	**15 11 49.6**	**-2.1**
VRF	**Varrio**	**3.52**	**87**	SG	**Sg**	**15 12 44.9**	**-1.0**
OUL	**Oulu**	**3.53**	**138**	SG	**Sg**	**15 12 46.0**	**-0.2**
OLKF	**Oulanka, Finla**	**3.85**	**109**	PG	**Pg**	**15 12 04.8**	**-1.7**
	baz=299						
OLKF				SG	**Sg**	**15 12 55.5**	**-0.9**
MSF	**Maaselka**	**3.93**	**115**	PG	**Pg**	**15 12 07.2**	**-0.9**
MSF				SG	**Sg**	**15 12 58.7**	**-0.2**
KU6	**Riekki**	**4.17**	**111**	PG	**Pg**	**15 12 10.1**	**-2.5**
	baz=299						
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**15 12 37.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=350,slow=13,SNR=4.4						
FINES				Sn	**Sn**	**15 13 52.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=24,SNR=1.4						
FINES				Lg	Lg	15 14 26.1	
	comp=Z,0.2nm,0.3s,baz=342,slow=27,SNR=1.6						
	comp=Z,1.9nm,1.0s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**15 12 49.6**	**+1.4**
	baz=22,slow=11,SNR=1.5						
NOA				Sn	**Sn**	**15 14 13.9**	**-3.7**
	baz=41,slow=22,SNR=1.1						
NOA				Lg	Lg	15 14 57.4	
	baz=48,slow=23,SNR=1.1						
	comp=Z,0.5nm,0.9s						
HFS	**Hagfors**	**8.24**	**204**	Pn	**Pn**	**15 12 55.3**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=32,slow=14,SNR=1.4						
HFS				Sn	**Sn**	**15 14 26.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=21,SNR=2.0						
HFS				Lg	Lg	15 15 12.6	
	comp=Z,0.1nm,0.3s,baz=34,slow=34,SNR=1.7						
	comp=Z,2.4nm,1.0s						
SPITS	**Spitsbergen Ar**	**10.48**	**356**	Pn	**Pn**	**15 13 25.3**	**+1.2**
	comp=Z,23nm,1.1s,baz=172,slow=11,SNR=1.6						

TAP 03 15:20:56.6, 24°.86N×122°.28E, h13km±1km, ML2.2, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.30**	**300**	*i* P	Pb	15 21 03.3	+0.5
TIPB	**Sh

baz=267,slow=74,SNR=38
H11N3 WAKE ISLAND Hy 39.66 76 T T 16 28 29.7
baz=267,slow=74,SNR=34
NWAO Narrogin (SRO) 47.64 190 P **P** **15 45 38.5 -0.3**
BBOO Buckleboo 47.85 168 P **P** **15 45 41.2 +0.8**
MKAR Makanchi Array 48.58 321 P **P** **15 45 45.8 -0.2**
comp=Z,0.1nm,0.6s,baz=118,slow=8.6,SNR=2.3
comp=Z,0.1nm,0.6s
KURBB Kurchatov Arra 52.53 324 P **P** **15 46 16.9 +1.2**
comp=Z,0.3nm,0.6s,baz=125,slow=7.3,SNR=4.4
comp=Z,0.3nm,0.6s
BVAR Borovoye Array 58.12 324 P **P** **15 46 57.4 +1.4**
comp=Z,0.2nm,0.4s,baz=285,slow=34,SNR=1.8
comp=Z,0.2nm,0.4s
ABKAR Abkulak array 63.55 318 P **P** **15 47 32.6 -0.4**
I21K Tanana 73.90 26 P **P** **15 48 37.0 -0.4**
I21K IAmb IAmb 15 48 42.4
comp=Z,11nm,1.5s
E23K Chandalar 74.86 23 P **P** **15 48 42.7 -0.3**
E23K IAmb IAmb 15 48 43.2
comp=Z,4.3nm,1.5s

IDC 03 15:41:55.4±5.4, 16°.81S×175°.73W, h0km, mb4.1/3, mbtmp4.1/3, MS3.6/3, Error ellipse: s-maj=179.9km s-min=107.2km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.40**	**241**	P	P	15 49 44.2	+0.6
	2.9nm,1.1s,baz=66,slow=10.0,SNR=3.5						
	2.9nm,1.1s						
WRA	**Warramunga Arr**	**47.35**	**258**	P	P	15 50 31.2	-0.4
	0.7nm,0.6s,baz=96,slow=7.7,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**47.55**	**253**	P	P	15 50 32.8	-0.3
	3.1nm,0.6s,baz=90,slow=7.6,SNR=80						
ASAR				PcP	PcP	15 52 02.8	-0.4
	0.4nm,0.9s,baz=96,slow=3.8,SNR=2.0						
	3.1nm,0.6s						
GUMO	**Guam**	**49.26**	**305**	LR	LR	16 09 14.5	
	comp=Z,19nm,21.0s,baz=67,slow=33						
ELK	**Elko**	**80.12**	**42**	LR	LR	16 20 52.5	
	comp=Z,79nm,19.6s,baz=79,slow=29						
MAW	**Mawson**	**85.74**	**199**	LR	LR	16 31 54.4	
	comp=Z,38nm,18.2s,baz=84,slow=35						

IDC 03 15:44:42.2±4.8, 19°.90N×144°.10E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=219.0km s-min=92.4km az=46.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.46**	**325**	P	P	15 49 43.5	+0.5
	0.9nm,0.6s,baz=146,slow=9.5,SNR=5.4						
	0.9nm,0.6s						
SONM	**Songino Array**	**41.27**	**321**	P	P	15 52 29.0	-0.4
	0.2nm,0.4s,baz=125,slow=7.5,SNR=2.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**56.15**	**322**	P	P	15 54 22.3	-1.2
	0.5nm,0.5s,baz=120,slow=8.5,SNR=2.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**56.54**	**313**	P	P	15 54 27.3	+0.7
	0.1nm,0.6s,baz=97,slow=8.8,SNR=1.6						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**59.42**	**318**	P	P	15 54 46.6	0.0
	0.3nm,0.5s,baz=97,slow=7.3,SNR=4.2						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**64.59**	**320**	P	P	15 55 21.2	-0.2
	1.3nm,1.0s,baz=101,slow=6.4,SNR=3.1						
	1.3nm,1.0s						
FINES	**FINESS Array B**	**85.16**	**335**	P	P	15 57 20.4	+0.3
	3.8nm,1.0s,baz=68,slow=5.9,SNR=4.9						
	3.8nm,1.0s						

TXNET 03 15:45:44.2, 31°.7N±0°.8×104°.6W±0°.7, h4km±1km, ML1.9/6, Error ellipse: s-maj=1.2km s-min=1.0km az=148.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.51**	**64**	S	Sg	15 46 01.4	+0.7
GDL2	**Guadalupe Moun**	**0.52**	**20**	P	Pg	15 45 54.3	+0.1
MNTX	**Cornudas Mount**	**0.69**	**269**	P	Pg	15 45 57.6	+0.1
MNTX				S	Sg	15 46 07.0	+0.6
PECS	**Pecos**	**0.69**	**119**	P	Pb	15 45 58.5	-0.5
PECS				S	Sg	15 46 06.7	+0.2
TPB12	**Southwest of T**	**0.72**	**133**	S	Sg	15 46 08.0	+0.4
TPB07	**Mentone**	**0.78**	**100**	S	Sg	15 46 10.2	+0.7
CLNB	**Carlsbad**	**0.81**	**47**	P	Pg	15 45 59.4	-0.3
CLNB				S	Sg	15 46 10.4	+0.2
CLN7	**Carlsbad 7**	**0.95**	**43**	P	Pg	15 46 01.9	-0.6
VHRN	**Van Horn**	**0.99**	**201**	P	Pg	15 46 02.8	-0.3
VHRN				S	Sb	15 46 17.0	-0.4
TPB01	**Permian Basin**	**1.02**	**138**	P	Pb	15 46 04.5	-0.1
TPB01				S	Sb	15 46 18.1	-0.3
HTMS	**Hat Mesa**	**1.10**	**46**	P	Pb	15 46 05.8	-0.1
HTMS				S	Sb	15 46 20.7	0.0
HTMS	**Hat Mesa**	**1.10**	**46**	P	Pb	15 46 05.7	-0.2
TPB05	**Hovey Rd**	**1.33**	**126**	S	Sg	15 46 25.6	-1.3
ALPN	**Alpine**	**1.56**	**149**	P	Pn	15 46 12.5	-0.4
ALPN				S	Sn	15 46 32.5	-1.1
MNHN	**Monahans**	**1.59**	**103**	P	Pn	15 46 11.6	-1.6
MNHN				S	Sg	15 46 35.1	-0.2
ODSA	**Odessa**	**1.77**	**76**	P	Pb	15 46 16.5	-0.7
ODSA				S	Sb	15 46 39.4	-0.5
TMB04	**Seminole**	**1.99**	**62**	S	Sb	15 46 45.3	-1.0
TX31	**Lajitas Ar. Si**	**2.50**	**162**	S	Sb	15 47 01.9	+1.1

---

*NEIC **03** 15:46:43.3±1.2, 59°.87N±0°.05×153°.3W±0°.1, h136km±5km, Error ellipse: s-maj=8.1km s-min=6.2km az=124.0*
AEIC 03 15:46:44.9±0.9, 59°.89N±0°.05×153°.30W±0°.10, h126km±5km, ML2.4, ML2.6/103(NEIC), Error ellipse: s-maj=7.8km s-min=6.1km az=127.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.13**	**40**		Pn	15 47 01.1	-1.1
ILSW				IAML		15 47 15.0	
	comp=E,40nm,1.0s						
ILS	**Iliamna Low So**	**0.14**	**59**		Pn	15 47 01.4	-0.8
ILS					Sn	15 47 14.9	-0.5
P19K	**Oil Pt**	**0.24**	**171**		Pn	15 47 01.8	-0.6
P19K				IAML		15 47 16.4	
	comp=N,274nm,0.4s						
O20K	**Slope Mountain**	**0.39**	**60**		Pn	15 47 02.5	-0.5
O20K					Sn	15 47 16.6	-0.2
AUL	**Augustine Lava**	**0.51**	**188**		Pn	15 47 03.1	-0.4
AUL					Sn	15 47 17.4	-0.3
AU22	**Augustine Moun**	**0.52**	**183**		Pn	15 47 03.0	-0.6
O19K	**Port Alsworth**	**0.60**	**302**	Pn	Pn	15 47 03.0	-1.1
O19K				IAML		15 47 17.9	
	comp=N,173nm,0.5s						
O19K				IAML		15 47 18.9	
	comp=E,127nm,0.4s						
RDWB	**Redoubt West**	**0.65**	**21**		Pn	15 47 03.8	-0.9
RDJH	**Redoubt Jeurge**	**0.75**	**19**		Pn	15 47 04.8	-0.6
RDJH					Sn	15 47 20.7	-0.3
HOM	**Homer**	**0.87**	**104**	Pn	Pn	15 47 05.8	-0.4
HOM	**Homer**	**0.87**	**104**		Sn	15 47 22.5	+0.1
O18K	**Koktuh Hills**	**0.96**	**269**	Pn	Pn	15 47 06.0	-1.1
Q19K	**Cape Douglas,**	**0.98**	**190**	Pn	Pn	15 47 06.5	-0.7
Q19K				IAML		15 47 24.2	
	comp=N,141nm,1.1s						
Q19K				IAML		15 47 38.4	
	comp=E,166nm,1.1s						
P18K	**Big Mountain,**	**1.10**	**244**		Pn	15 47 07.2	-1.2
P18K					Sn	15 47 24.6	-1.6
N19K	**Bonanza Creek**	**1.10**	**328**	Pn	Pn	15 47 07.6	-0.9
N19K				IAML		15 47 25.7	
	comp=N,36nm,0.7s						
N19K				IAML		15 47 26.0	
	comp=E,35nm,0.8s						
CNPM	**China Poot**	**1.11**	**108**		Pn	15 47 07.7	-0.8
CNPM				IAML		15 47 25.9	
	comp=N,91nm,0.8s						
CNPM				IAML		15 47 27.3	
	comp=E,92nm,0.5s						
BRLK	**Bradley Lake**	**1.23**	**95**		Pn	15 47 08.5	-1.2
BRLK				IAML		15 47 27.7	
	comp=E,133nm,0.2s						
BRLK				IAML		15 47 28.7	
	comp=N,125nm,0.1s						
BRLK	**Bradley Lake**	**1.23**	**95**		Sn	15 47 27.5	-1.1
SYI	**Shuyak Island**	**1.36**	**159**	Pn	Pn	15 47 10.4	-0.7
SYI				IAML		15 47 31.2	
	comp=E,100nm,0.4s						
SYI				IAML		15 47 31.5	
	comp=N,133nm,0.8s						
SPCR	**Spurr Chakacha**	**1.43**	**22**		Pn	15 47 11.3	-0.6
SPU	**Mount Spurr**	**1.44**	**25**		Pn	15 47 11.2	-0.8
SPU				IAML		15 47 32.9	
	comp=E,23nm,0.7s						
SPU				IAML		15 47 35.6	
	comp=N,19nm,0.3s						
SPU	**Mount Spurr**	**1.44**	**25**		Sn	15 47 32.4	-0.3
N18K	**Kilae Creek**	**1.52**	**303**		Pn	15 47 12.2	-0.7
KAHG	**Katmai Hook Gl**	**1.54**	**205**		Pn	15 47 12.6	-0.5
KAHG					Sn	15 47 34.1	-0.6
SLKM	**Skilak Lake**	**1.66**	**67**	Pn	Pn	15 47 13.7	-0.9
STLK	**Strandline Lak**	**1.77**	**23**		Pn	15 47 15.3	-0.6
STLK				IAML		15 47 43.5	
	comp=E,12nm,0.5s						
STLK				IAML		15 47 43.5	
	comp=N,17nm,0.3s						
STLK	**Strandline Lak**	**1.77**	**23**		Sn	15 47 40.0	+0.4
O22K	**Cooper Landing**	**1.89**	**70**	Pn	Pn	15 47 16.3	-0.9
O17K	**Koliganek Bris**	**1.92**	**268**		Pn	15 47 17.1	-0.4
SEW	**Seward**	**1.95**	**82**		Sn	15 47 40.9	-2.3
SEW	**Seward**	**1.95**	**82**	Pn	Pn	15 47 17.0	-0.9
M20K	**Styx River**	**2.00**	**2**		Pn	15 47 18.2	-0.6
SUA	**Susitna One**	**2.02**	**37**		Pn	15 47 18.4	-0.6
SUA				IAML		15 47 45.6	
	comp=E,52nm,0.6s						
SUA				IAML		15 47 46.5	
	comp=N,39nm,0.7s						
M18K	**Stony River**	**2.03**	**323**		Pn	15 47 17.8	-1.2
M18K					Sn	15 47 43.6	-1.5
ANCK	**Angle Creek**	**2.04**	**215**		Pn	15 47 18.7	-0.4
CNTC	**Contact Creek**	**2.10**	**220**		Pn	15 47 19.2	-0.8
RC01	**Rabbit Creek A**	**2.14**	**54**	Pn	Pn	15 47 19.2	-1.1
KDAK	**Kodiak Island**	**2.14**	**170**		Pn	15 47 18.5	-1.9
KDAK	**Kodiak Island**	**2.14**	**170**	IAML		15 47 46.8	
	comp=N,71nm,0.4s						
SKT	**Skwentna**	**2.27**	**22**		Pn	15 47 21.2	-0.7
SKT				IAML		15 47 53.9	
	comp=N,13nm,0.5s						
SKT				IAML		15 47 58.4	
	comp=E,14nm,1.1s						
R18K	**Karluk**	**2.40**	**195**	IAML		15 47 53.6	
	comp=E,48nm,0.6s						
R18K	**Karluk**	**2.40**	**195**		Pn	15 47 21.8	-1.8
R18K					Sn	15 47 51.7	-1.6
L19K	**White Mountain**	**2.42**	**343**		Pn	15 47 22.8	-1.1
M22K	**Willow**	**2.44**	**38**	Pn	Pn	15 47 23.4	-0.6
O16K	**Kokwok River B**	**2.44**	**265**	Pn	Pn	15 47 23.6	-0.5
P16K	**Nushagak River**	**2.54**	**252**		Pn	15 47 25.0	-0.3
L20K	**Farewell, AK**	**2.62**	**354**		Pn	15 47 25.7	-0.7
PWL	**Port Wells**	**2.65**	**66**	Pn	Pn	15 47 24.9	-1.9
PWL				IAML		15 47 57.6	
	comp=E,40nm,0.5s						
PMR	**Palmer**	**2.67**	**48**	Pn	Pn	15 47 25.1	-1.8
PMR				IAML		15 47 57.3	
	comp=N,20nm,0.1s						
PMR				IAML		15 47 58.6	
	comp=E,19nm,0.4s						
OHAK	**Old Harbor**	**2.67**	**180**	Pn	Pn	15 47 24.8	-2.3
OHAK				IAML		15 47 58.1	
	comp=E,9.7nm,0.1s						
OHAK				IAML		15 48 03.7	
	comp=N,17nm,1.0s						
KNK	**Knik Glacier**	**2.83**	**55**	Pn	Pn	15 47 27.2	-1.9
KNK				IAML		15 48 02.5	
	comp=E,36nm,0.3s						
GHO	**Glory Hole Cre**	**2.86**	**47**	Pn	Pn	15 47 27.6	-2.0
GHO				IAML		15 48 01.9	
	comp=E,22nm,1.1s						
GHO				IAML		15 48 03.4	
	comp=N,23nm,0.3s						
L18K	**Granite Mounta**	**2.86**	**326**		Pn	15 47 28.3	-1.2
P23K	**Montague Islan**	**2.97**	**85**		Pn	15 47 30.3	-0.6
M16K	**Timber Creek**	**3.02**	**295**	Pn	Pn	15 47 30.9	-0.7
M16K				IAML		15 49 34.3	
	comp=E,4.2nm,1.1s						
PPLA	**Purkeypile**	**3.07**	**10**		Pn	15 47 32.6	+0.3
SML	**Sawmill**	**3.10**	**49**		Pn	15 47 30.8	-1.9
SML	**Sawmill**	**3.10**	**49**	IAML		15 48 13.9	
	comp=N,19nm,0.9s						
SML				IAML		15 48 15.8	
	comp=E,18nm,0.8s						
GLI	**Glacier Island**	**3.24**	**69**		Pn	15 47 33.3	-1.1
GLI	**Glacier Island**	**3.24**	**69**	IAML		15 48 11.6	
	comp=N,27nm,1.1s						
TTA	**Tatalina**	**3.32**	**338**		Pn	15 47 34.2	-1.3
M23K	**Glacier View**	**3.33**	**53**		Pn	15 47 33.8	-1.8
HIN	**Hinchinbrook I**	**3.44**	**78**		Pn	15 47 35.9	-1.1
FID	**Port Fidalgo**	**3.50**	**73**		Pn	15 47 35.5	-2.3
SCM	**Sheep Creek Mo**	**3.52**	**54**	IAML		15 48 20.4	
	comp=N,22nm,0.6s						
KTH	**Kantishna Hill**	**3.85**	**16**	IAML		15 48 31.2	
	comp=N,2.9nm,1.2s						
TRF	**Thorofare Moun**	**3.85**	**21**	IAML		15 48 30.5	
	comp=E,3.3nm,1.1s						
TRF				IAML		15 48 33.5	
	comp=N,4.3nm,1.0s						
DIV	**Divide**	**3.93**	**68**		Pn	15 47 42.8	-0.7
KLU	**Klutina**	**3.97**	**63**	IAML		15 48 29.9	
	comp=E,16nm,0.5s						
CHUM	**Lake Minchumin**	**4.04**	**6**		Pn	15 47 44.5	-0.4
RND	**Reindeer**	**4.12**	**29**	IAML		15 48 34.1	
	comp=E,3.7nm,1.2s						
M24K	**Tolsona, Glenn**	**4.12**	**54**		Pn	15 47 45.0	-1.2
M24K	**Tolsona, Glenn**	**4.12**	**54**	IAML		15 48 32.5	
	comp=N,8.0nm,0.3s						
J20K	**Nowinta River**	**4.33**	**355**		Pn	15 47 48.1	-0.6
GOAT	**Goat Mountain**	**4.33**	**77**		Pn	15 47 48.2	-0.8
MCK	**McKinley**	**4.38**	**26**		Pn	15 47 48.6	-0.9
BMRM	**Bremner River**	**4.45**	**72**		Pn	15 47 49.5	-0.9
N25K	**Chitina, Valde**	**4.61**	**64**		Pn	15 47 50.9	-1.7
N25K	**Chitina, Valde**	**4.61**	**64**	IAML		15 48 43.8	
	comp=N,8.2nm,0.4s						
N25K				IAML		15 48 46.7	
	comp=E,7.4nm,0.9s						
HARP	**HAARP**	**4.68**	**54**		Pn	15 47 52.0	-1.5
PAX	**Paxson**	**4.87**	**47**		Pn	15 47 54.1	-2.0
GLB	**Gilahina Butte**	**4.92**	**67**		Pn	15 47 55.8	-1.0
GLB	**Gilahina Butte**	**4.92**	**67**	IAML		15 48 52.0	
	comp=N,4.6nm,0.9s						
GLB				IAML		15 48 55.2	
	comp=E,3.7nm,0.6s						
VRDI	**Verde Repeater**	**5.04**	**70**		Pn	15 47 57.4	-1.1
VRDI	**Verde Repeater**	**5.04**	**70**	IAML		15 48 55.9	
	comp=N,5.1nm,0.8s						
VRDI				IAML		15 49 11.2	
	comp=E,2.2nm,0.8s						
WRH	**Wood River Hil**	**5.21**	**26**	IAML		15 49 21.9	
	comp=N,1.7nm,1.1s						
WRH				IAML		15 50 41.7	
	comp=E,1.9nm,1.1s						
K24K	**Donnelly Dome**	**5.30**	**39**		Pn	15 48 00.6	-1.3
COLA	**College**	**5.61**	**25**		Pn	15 48 04.2	-1.7

---

*IDC **03** 15:48:46.1±1.2, 14°.93N×122°.19E, h0km, mb3.3/6, mbtmp3.3/6, Error ellipse: s-maj=21.4km s-min=16.5km az=124.0*
ISC 03 15:48:48.8±1.3, 14°.9N±0°.1×122°.1E±0°.2, h18km, n10, σ0°31/7, mb3.2/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.39**	**236**	Pg	**Pn**	**15 49 13.3**	**-0.1**
	397nm,0.3s,baz=44,slow=5.2,SNR=65						
TGY				Lg	Lg	15 49 32.6	
	90nm,0.3s,baz=286,slow=23,SNR=5.1						
CMAR	**Chiang Mai Arr**	**22.48**	**282**	P	**P**	**15 53 47.4**	**0.0**
	0.3nm,0.6s,baz=98,slow=11,SNR=4.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**35.34**	**342**	P	**P**	**15 55 42.8**	**-0.4**
	0.2nm,0.6s,baz=142,slow=7.2,SNR=2.2						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**36.64**	**161**	P	**P**	**15 55 54.5**	**+0.1**
	0.4nm,0.9s,baz=342,slow=8.2,SNR=1.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**40.01**	**163**	P	**P**	**15 56 22.9**	**0.0**
	0.3nm,0.8s,baz=342,slow=8.8,SNR=6.2						
	0.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**42.76**	**79**	T	T	16 42 24.4	
	baz=273,slow=74,SNR=59						
H11S1	**WAKE ISLAND Hy**	**42.77**	**79**	T	T	16 42 25.4	
	baz=273,slow=74,SNR=60						
H11S2	**WAKE ISLAND Hy**	**42.78**	**79**	T	T	16 42 24.9	
	baz=273,slow=74,SNR=75						
MKAR	**Makanchi Array**	**45.92**	**322**	P	**P**	**15 57 10.9**	**+0.4**
	0.6nm,0.9s,baz=128,slow=9.2,SNR=4.6						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**49.99**	**325**	P	**P**	**15 57 42.1**	**+0.2**
	0.8nm,0.9s,baz=122,slow=8.6,SNR=5.8						
	0.8nm,0.9s						

---

*TIR **03** 15:55:04.4, 41°.72N×20°.18E, h19km, Md2.2/2, Ml2.3/4*
*BEO **03** 15:55:05.3±0.3, 41°.73N×20°.22E, h16km±5km, ML1.9/8*
*PDG **03** 15:55:06.6±0.1, 41°.73N×20°.04E, h6km, ML2.5/11, Error ellipse: s-maj=0.0km s-min=0.3km az=0.0*
ISC 03 15:55:04.9±0.9, 41°.70N±0°.02×20°.17E±0°.02, h17km±7km, n32, σ0°75/56, 3C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.20**	**95**	P	**Pg**	**15 55 09.6**	**-0.3**
PHP				S	**Sb**	**15 55 13.1**	**-0.6**
PHP				AML	AML	15 55 13.6	
	10nm,0.2s						
PHP				AMd		15 55 33.4	
PUK	**Puka**	**0.40**	**328**	P	**Pg**	**15 55 12.5**	**-0.7**
PUK				S	**Sg**	**15 55 18.8**	**0.0**
PUK				AML	AML	15 55 21.1	
	1.2nm,0.2s						
TIR	**Tirane**	**0.42**	**213**	P	**Pb**	**15 55 13.8**	**-0.1**
TIR				S	**Sb**	**15 55 20.9**	**+1.0**
TIR	**Tirane**	**0.42**	**213**	*e*Pg	**Pb**	**15 55 14.4**	**+0.5**
TIR				*e*Sg	**Sn**	**15 55 22.3**	**-1.2**
BCI	**Bajram Curri**	**0.67**	**353**	P	**Pg**	**15 55 16.1**	**-2.0**
BCI				S	**Sb**	**15 55 27.2**	**+0.1**
BCI				AML	AML	15 55 27.6	
	0.5nm,0.4s						
BCI				AMd		15 55 50.3	
ULC	**Ulcinj**	**0.74**	**291**	P	**Pg**	**15 55 18.9**	**-0.5**
ULC	**Ulcinj**	**0.74**	**291**	⇓*i*Pg	**Pg**	**15 55 18.4**	**-1.0**
ULC				*i* Sg	**Sg**	**15 55 28.5**	**-0.8**
OHR	**Ohrid**	**0.76**	**141**	*e*Pg	**Pb**	**15 55 19.8**	**+0.2**
OHR				*e*Sg	**Sb**	**15 55 30.4**	**+0.8**
DRME	**Dracevica, Mon**	**0.88**	**304**	P	**Pb**	**15 55 21.3**	**-0.4**
DRME	**Dracevica, Mon**	**0.88**	**304**	⇑*i*Pg	**Pb**	**15 55 21.0**	**-0.7**
DRME				*i* Sg	**Sb**	**15 55 33.3**	**+0.1**
PDG	**Podgorica**	**1.00**	**317**	*e*Pg	**Pb**	**15 55 22.7**	**-1.0**
PDG				*e*Sg	**Sn**	**15 55 37.8**	**+0.1**
PDG	**Podgorica**	**1.00**	**317**	⇑*i*Pg	**Pb**	**15 55 22.9**	**-0.8**
PDG				*i* Sg	**Sg**	**15 55 37.3**	**-0.1**
BUM	**Brajici-Budva**	**1.13**	**303**	P	**Pn**	**15 55 26.0**	**+0.1**
BUM	**Brajici-Budva**	**1.13**	**303**	*e*Pg	**Pb**	**15 55 25.5**	**-0.4**
BUM				*i* Sg	**Sn**	**15 55 41.6**	**+0.6**
IVA	**Berane**	**1.19**	**350**	*e*Pg	**Pg**	**15 55 27.7**	**-0.2**
IVA				*i* Sg	**Sg**	**15 55 45.5**	**+2.1**
KOME	**Kolasin**	**1.25**	**337**	*e*Pg	**Pb**	**15 55 28.4**	**+0.4**
KOME				*i* Sg	**Sg**	**15 55 47.0**	**+1.7**
CEME	**Cevo**	**1.26**	**313**	P	**Pn**	**15 55 27.4**	**-0.3**
CEME	**Cevo**	**1.26**	**313**	*e*Pg	**Pb**	**15 55 28.2**	**0.0**
CEME				*i* Sg	**Sg**	**15 55 46.5**	**+0.8**
FNA	**Florina**	**1.29**	**135**	P	**Pg**	**15 55 29.3**	**-0.5**
FNA				S	**Sg**	**15 55 47.6**	**+1.0**
FNA				AML	AML	15 55 50.9	
	0.2nm,0.4s						
FNA	**Florina**	**1.29**	**135**	*e*Pg	**Pb**	**15 55 28.3**	**-0.4**
FNA				*e*Sg	**Sg**	**15 55 46.4**	**-0.2**
NKME	**Niksic**	**1.40**	**320**	P	**Pg**	**15 55 31.6**	**-0.2**
NKME	**Niksic**	**1.40**	**320**	⇑*i*Pg	**Pb**	**15 55 30.8**	**+0.3**
NKME				*i* Sg	**Sg**	**15 55 51.2**	**+1.1**
NEST	**Nestorio**	**1.45**	**152**	P	**Pg**	**15 55 32.1**	**-0.6**
NEST				S	**Sg**	**15 55 52.6**	**+1.0**
HCY	**Herceg Novi**	**1.46**	**301**	*e*Pg	**Pb**	**15 55 31.5**	**0.0**
HCY				*i* Sg	**Sg**	**15 55 52.7**	**+0.8**
SJES	**Sjenica**	**1.56**	**355**	*e*Pg	**Pb**	**15 55 33.5**	**+0.1**
SJES				*e*Sg	**Sb**	**15 55 54.0**	**+1.0**
BARS	**Barje**	**1.65**	**47**	*e*Pg	**Pb**	**15 55 34.4**	**-0.4**
SELS	**Selova**	**1.67**	**24**	*e*Pn	**Pn**	**15 55 33.0**	**-0.4**
SELS				*e*Sn	**Sn**	**15 55 53.8**	**-0.6**
BRY	**Bratogost**	**1.71**	**315**	*e*Pn	**Pb**	**15 55 36.4**	**+0.6**
BRY				*i* Sn	**Sg**	**15 56 00.5**	**+0.6**
UPM	**Unac-Piva**	**1.77**	**328**	P	**Pb**	**15 55 37.1**	**+0.1**
UPM	**Unac-Piva**	**1.77**	**328**	*e*Pn	**Pb**	**15 55 37.6**	**+0.6**
UPM				*i* Sn	**Sg**	**15 56 02.5**	**+0.6**
IVAS	**Ivanjica**	**1.87**	**360**	*e*Pn	**Pn**	**15 55 36.2**	**0.0**
IVAS				*e*Sn	**Sn**	**15 55 59.5**	**+0.1**
GOCS	**Kraljevo Serbi**	**1.93**	**15**	*e*Sn	**Sn**	**15 56 00.9**	**0.0**

IDC 03 15:57:56.9±2.5, 6°.81S×129°.86E, h0km, mb3.0/1, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=142.3km s-min=33.3km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.76**	**162**	Pn	Pn	16 01 12.9	-0.5
	0.3nm,0.3s,baz=345,slow=13,SNR=14						
WRA				Sn	Sn	16 03 34.1	-13
	0.4nm,0.3s,baz=335,slow=22,SNR=7.8						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**17.20**	**167**	P	Pn	16 01 59.2	+0.4
	0.1nm,0.3s,baz=341,slow=9.7,SNR=17						
ASAR				S	Sn	16 04 57.6	-13
	0.5nm,0.8s,baz=350,slow=26,SNR=5.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**68.00**	**327**	P	P	16 08 58.0	0.0
	0.1nm,0.4s,baz=117,slow=5.0,SNR=2.1						
	0.1nm,0.4s						

---

*NEIC **03** 16:26:21.3±2.0, 15°.02S±0°.06×173°.08W±0°.08, h10km±2km, mb4.2/4, Error ellipse: s-maj=13.0km s-min=8.8km az=67.0*
*IDC **03** 16:26:22.4±1.8, 15°.00S×173°.43W, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/6, Error ellipse: s-maj=64.5km s-min=32.5km az=123.0*
**ISC 03 16:26:22.7±0.8, 14°.91S±0°.09×173°.01W±

*IDC **03** 16:58:32.6±0.8, 54.°92N×158.°42E, h266km±12km, mb3.1/9, mbtmp3.7/9, Error ellipse: s-maj=22.8km s-min=17.8km az=132.0*
*KRSC **03** 16:58:32.4±1.7, 54.°75N×158.°98E, h266km±17km, Ml3.8*
ISC 03 16:58:32.2±0.7, 54.°75N±0.°06×158.°86E±0.°09, h270km±6km, n37, σ1°23/44, mb3.5/10, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	**Esso**	**1.18**	**356**	*eP*	**Pn**	**16 59 10.4**	**+0.1**
GNL	**Ganaly**	**1.19**	**207**	*eP*	**Pn**	**16 59 11.6**	**+1.0**
KMNR	**Kamenistaya**	**1.28**	**38**	*eP*	**Pn**	**16 59 11.9**	**+0.9**
KRX	**Arik**	**1.40**	**185**	*eP*	**Pn**	**16 59 13.0**	**+1.0**
KOZ	**Kozyrevsk**	**1.43**	**23**	*eP*	**Pn**	**16 59 12.6**	**+0.7**
KPT	**Kopyto**	**1.44**	**32**	*eP*	**Pn**	**16 59 12.5**	**+0.4**
KOK	**Koryaka**	**1.47**	**185**	*eP*	**Pn**	**16 59 13.7**	**+1.3**
KIRR	**Kirishev**	**1.47**	**35**	*eP*	**Pn**	**16 59 12.9**	**+0.6**
AVH	**Avacha**	**1.49**	**183**	*eP*	**Pn**	**16 59 14.3**	**+1.7**
UGLR	**Uglovaya**	**1.55**	**181**	*eP*	**Pn**	**16 59 14.2**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**1.59**	**41**	*eP*	**Pn**	**16 59 13.9**	**+0.8**
NLC	**Nalytchevo**	**1.61**	**170**	*eP*	**Pn**	**16 59 13.2**	**0.0**
NLC				*eS*	**S**	**16 59 45.1**	**-0.6**
SRDR	**Sredinnyy**	**1.64**	**17**	*eP*	**Pn**	**16 59 13.8**	**+0.3**
DALK	**Dalny**	**1.73**	**182**	*eP*	**Pn**	**16 59 15.1**	**+1.0**
PET	**Petropavlovsk**	**1.74**	**184**	*eP*	**Pn**	**16 59 15.1**	**+0.9**
KRSR	**Krestovskiy**	**1.76**	**33**	*eP*	**Pn**	**16 59 15.0**	**+0.6**
PETK	**Petropavlovsk-** 30nm,0.5s,baz=66,slow=7.2,SNR=97	**1.79**	**203**	P	**Pn**	**16 59 14.7**	**0.0**
PETK	4.4nm,0.8s,baz=94,slow=21,SNR=1.7			S	**S**	**16 59 49.8**	**+1.5**
SPN	**Mys Shipunski**	**1.79**	**157**	*eP*	**Pn**	**16 59 14.2**	**-0.5**
SPN				*eS*	**S**	**16 59 46.1**	**-2.3**
KLY	**Klyuchi**	**1.87**	**32**	*eP*	**Pn**	**16 59 16.1**	**+1.0**
KLY				*eS*	**S**	**16 59 50.2**	**+1.0**
KRMR	**Karymshinskiy**	**1.97**	**193**	*eP*	**Pn**	**16 59 17.1**	**+1.0**
APC	**Apacha**	**2.09**	**210**	*eP*	**Pn**	**16 59 18.4**	**+1.2**
GRL	**Gorelyy**	**2.25**	**192**	*eP*	**Pn**	**16 59 20.0**	**+1.2**
RUS	**Russkaya**	**2.33**	**185**	*eP*	**Pn**	**16 59 19.2**	**-0.1**
KBG	**Krutoberegovo**	**2.66**	**54**	*eP*	**Pn**	**16 59 22.6**	**+0.3**
KBG				*eS*	**S**	**17 00 00.2**	**-2.0**
KBTR	**Krutoberegovo**	**2.68**	**55**	*eP*	**Pn**	**16 59 22.6**	**0.0**
KBTR				*eS*	**S**	**17 00 00.8**	**-1.9**
KDTR	**Khodutka, Kamc**	**2.99**	**189**	*eP*	**Pn**	**16 59 25.5**	**-0.3**
KDTR				*eS*	**S**	**17 00 05.6**	**-2.8**
BKI	**Bering**	**4.12**	**81**	*eS*	**S**	**17 00 30.1**	**-0.8**
ILAR	**Eielson Array** 0.5nm,0.4s,baz=261,slow=7.4,SNR=24 0.5nm,0.4s	**28.20**	**47**	P	**P**	**17 04 00.6**	**+0.9**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=300,slow=8.1,SNR=2.4 0.2nm,0.7s	**42.44**	**43**	P	**P**	**17 06 01.1**	**+0.8**
SPITS	**Spitsbergen Ar** 1.2nm,0.3s,baz=52,slow=9.3,SNR=8.4	**45.37**	**350**	P	**P**	**17 06 22.6**	**-0.7**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=60,slow=6.9,SNR=1.8 0.1nm,0.5s	**46.80**	**294**	P	**P**	**17 06 32.6**	**-2.1**
ARCES	**ARCESS Array B** 6.7nm,1.1s,baz=22,slow=9.7,SNR=2.0 6.7nm,1.1s	**51.48**	**341**	P	**P**	**17 07 09.0**	**-0.6**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=320,slow=7.3,SNR=4.5 0.3nm,0.6s	**57.35**	**61**	P	**P**	**17 07 54.7**	**+2.3**
FINES	**FINESS Array B** 2.5nm,0.9s,baz=22,slow=7.1,SNR=1.8 2.5nm,0.9s	**58.30**	**336**	P	**P**	**17 07 57.4**	**-0.9**
HFS	**Hagfors** 1.6nm,0.7s,baz=4.8,slow=8.7,SNR=1.3 1.6nm,0.7s	**62.14**	**341**	P	**P**	**17 08 22.8**	**-1.5**
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=12,slow=5.9,SNR=2.9 0.9nm,1.0s	**77.30**	**204**	P	**P**	**17 09 57.7**	**+0.9**
ASAR	**Alice Springs** 0.4nm,1.0s,baz=15,slow=5.0,SNR=1.3 0.4nm,1.0s	**80.99**	**203**	P	**P**	**17 10 17.9**	**+1.2**

*IDC **03** 17:11:16.6±0.7, 46.°99N×112.°51W, h0km, mb3.0/1, mbtmp3.2/8, ML3.6/6, MS2.2/1, Error ellipse: s-maj=9.7km s-min=5.6km az=50.0*
*NEIC **03** 17:11:17.3±1.6, 46.°87N±0.°04×112.°68W±0.°05, h5km±2km, mb3.9/5, ML4.1/60, Mwr3.7/17, ML4.3/27(BUT), Error ellipse: s-maj=8.8km s-min=3.0km az=44.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.50; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-0.81; $M_{r\theta}$1.51; $M_{\theta\phi}$-3.43; $M_{\phi r}$-0.41; Fault plane solution: $M_0$3.83000×10^{14} NP1:ϕ_s83.29000°, δ80.47000°, λ156.42000°. NP2:ϕ_s177.43000°, δ66.76000°, λ10.38000°. Principal axes: T 3.8291, Plg23.0000°, Azm38.0000°; N 0.0046, Plg65.0000°, Azm243.0000°; P -3.8337, Plg9.0000°, Azm132.0000°;*
*NEIC **03** 17:11:17.2, 46.°87N×112.°67W, h5km*
*BUT **03** 17:11:18.4±1.2, 46.°89N±0.°04×112.°66W±0.°05, h13km±8km, Error ellipse: s-maj=6.9km s-min=2.7km az=217.0*
ISC 03 17:11:17.2±0.6, 46.°98N±0.°03×112.°60W±0.°03, h10km, n74, σ1°52/78, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.21**	**92**		**Pg**	**17 11 23.9**	**+2.0**
HRY	**Holter Researc**	**0.59**	**116**	Pg	**Pb**	**17 11 29.7**	**-0.1**
BPMT	**Black Pine Rid**	**0.79**	**227**	Pg	**Pg**	**17 11 31.7**	**-0.8**
MSO	**Missoula**	**0.93**	**261**		**Pg**	**17 11 34.8**	**-0.3**
MSO				Sg	**Sg**	**17 11 47.1**	**-0.1**
MSO	7μm,0.5s			IAML		17 11 47.3	
MSO	4μm,0.4s			IAML		17 11 48.2	
LRM	**Limekiln Ridge**	**1.16**	**175**		**Pg**	**17 11 38.7**	**-0.9**
BOZ	**Bozeman (W)**	**1.54**	**154**		**Pn**	**17 11 44.6**	**-0.3**
BOZ					**Sb**	**17 12 05.4**	**-0.1**
BOZ	3μm,0.4s			IAML		17 12 06.6	
BOZ	2μm,0.4s			IAML		17 12 08.4	
DLMT	**Dillon**	**1.61**	**180**		**Pn**	**17 11 45.4**	**-0.5**
DLMT	3μm,0.7s			IAML		17 12 08.4	
DLMT	2μm,0.6s			IAML		17 12 08.9	
MCMT	**McKenzie Canyo**	**2.16**	**185**	Pn	**Pn**	**17 11 53.0**	**-0.4**
EGMT	**Eagleton**	**2.20**	**60**	Pn	**Pn**	**17 11 55.9**	**+2.0**
EGMT	1μm,0.5s			IAML		17 12 30.7	
QLMT	**Earthquake Lak**	**2.30**	**159**		**Pn**	**17 11 55.6**	**+0.2**
YHL	**Hebgen Lake**	**2.35**	**154**		**Pn**	**17 11 56.2**	**+0.1**
GCMT	**Greycliff**	**2.35**	**119**		**Pn**	**17 11 57.5**	**+1.4**
LDM	**Libby Dam**	**2.35**	**310**		**Pb**	**17 11 58.3**	**-1.4**
YMV	**Mammoth Vault**	**2.41**	**146**		**Pn**	**17 11 57.7**	**+0.8**
GCR	**Grayling Creek**	**2.42**	**154**		**Pn**	**17 11 58.0**	**+0.9**
YHB	**Horse Butte**	**2.43**	**156**		**Pn**	**17 11 57.6**	**+0.3**
YHB	comp=N,1μm,0.5s			IAML		17 12 33.3	
YHB	comp=E,2μm,0.6s			IAML		17 12 34.4	
YPDC	**Denny Creek**	**2.46**	**157**		**Pn**	**17 11 58.1**	**+0.5**
YMC	**Maple Creek**	**2.48**	**153**		**Pn**	**17 11 58.4**	**+0.4**
HSPGA	**Hill Springs,**	**2.48**	**344**		**Pb**	**17 12 01.9**	**-0.2**
YHH	**Holmes Hill**	**2.51**	**150**	Pn	**Pn**	**17 11 58.6**	**+0.3**
CMI	**Centennial Mou**	**2.55**	**164**		**Pn**	**17 11 59.1**	**+0.3**
YMR	**Madison River**	**2.58**	**153**		**Pn**	**17 11 59.7**	**+0.5**
YPWB	**West Boundary**	**2.59**	**156**		**Pn**	**17 12 00.8**	**+1.3**
YPM	**Purple Mountai**	**2.62**	**152**		**Pg**	**17 12 06.2**	**-1.3**
YNR	**Norris Junctio**	**2.63**	**149**	Pn	**Pn**	**17 12 01.0**	**+1.0**
YNR	comp=E,612nm,0.5s			IAML		17 12 41.8	
YNR	comp=N,542nm,0.4s			IAML		17 12 45.0	
ICI	**Italian Canyon**	**2.66**	**185**		**Pn**	**17 11 59.9**	**-0.5**
YNE	**Yellowstone No**	**2.67**	**136**	Pn	**Pn**	**17 12 01.6**	**+1.0**
YNE	comp=N,678nm,0.4s			IAML		17 12 44.0	
BCYI	**Bear Canyon**	**2.73**	**192**		**Pn**	**17 12 00.5**	**-0.7**
YFT	**Old Faithful**	**2.81**	**153**	Pn	**Pn**	**17 12 03.6**	**+1.2**
H17A	**Grant Village**	**2.95**	**150**		**Pn**	**17 12 06.4**	**+2.0**
RLMT	**Red Lodge**	**2.97**	**127**	Pn	**Pn**	**17 12 06.1**	**+1.4**
RLMT	comp=N,447nm,0.6s			IAML		17 12 56.7	
RLMT	comp=N,373nm,0.6s			IAML		17 12 56.9	
PLID	**Pearl Lake**	**3.03**	**233**	Pn	**Pn**	**17 12 05.9**	**+0.5**
PLID	comp=N,388nm,0.7s			IAML		17 13 00.3	
FLWY	**Flagg Ranch** comp=N,423nm,0.8s	**3.19**	**154**		IAML	17 12 59.7	
FLWY	comp=N,368nm,0.9s				IAML	17 13 02.2	
NEW	**Newport**	**3.32**	**295**	Pn	**Pn**	**17 12 09.8**	**+0.5**
NEW	comp=N,324nm,0.7s			IAML		17 13 03.8	
NEW	**Newport** comp=N,8.0nm,0.3s,baz=109,slow=11,SNR=92	**3.32**	**295**	Pn	**Pn**	**17 12 10.4**	**+1.1**
NEW	comp=N,28nm,0.3s,baz=106,slow=16,SNR=41			Pg	**Pb**	**17 12 17.6**	**+1.4**
NEW	comp=N,11nm,0.3s,baz=326,slow=4.9,SNR=5.6			Sn	**Sn**	**17 12 52.7**	**+4.0**
NEW	comp=N,42nm,0.3s,baz=188,slow=20,SNR=14 comp=N,31nm,0.6s			Lg	Lg	17 13 00.4	
F10A	**Beach Ranch, E**	**3.35**	**254**	Pn	**Pn**	**17 12 10.5**	**+0.8**
HLID	**Hailey**	**3.65**	**201**	Pn	**Pn**	**17 12 13.3**	**-0.6**
HLID	comp=N,592nm,0.3s			IAML		17 13 12.9	
HLID	comp=N,634nm,0.6s			IAML		17 13 12.0	
TPAW	**Teton Pass** comp=N,519nm,0.8s	**3.68**	**161**	IAML		17 13 13.4	
TPAW	comp=N,294nm,0.8s			IAML		17 13 20.4	
E09A	**Wood Farm, Sta** comp=N,497nm,0.6s	**3.84**	**265**	IAML		17 13 22.0	
E09A	comp=E,411nm,0.8s			IAML		17 13 23.5	
BMO	**Blue Mountains**	**3.91**	**239**	Pn	**Pn**	**17 12 17.0**	**-0.4**
BMO	comp=E,187nm,0.5s			IAML		17 13 25.0	
C09A	**Chrisman Ranch**	**3.94**	**284**	Pn	**Pn**	**17 12 17.6**	**-0.2**
MFID	**Camas Ranch**	**4.23**	**214**	Pn	**Pn**	**17 12 20.8**	**-1.0**
D08A	**Wollman Farm,**	**4.32**	**273**		**Pn**	**17 12 24.3**	**+1.3**
D08A	comp=E,148nm,0.5s			IAML		17 13 41.7	
G08A	**Pilot Rock**	**4.73**	**251**		**Pn**	**17 12 29.6**	**+0.9**
G08A	comp=N,113nm,1.2s			IAML		17 13 48.7	
PDAR	**Pinedale Array**	**4.73**	**152**		Pn	17 12 33.9	+5.0
PDAR	**Pinedale Array** comp=N,0.9nm,0.3s,baz=338,slow=16,SNR=24	**4.73**	**152**	Pn	**Pn**	**17 12 31.4**	**+2.6**
PDAR	comp=N,1.5nm,0.3s,baz=350,slow=18,SNR=18			Pg	**Pb**	**17 12 40.7**	**+0.3**
PDAR	comp=N,1.8nm,0.3s,baz=328,slow=16,SNR=3.6			Sn	**Sn**	**17 13 28.6**	**+4.7**
PDAR	comp=N,2.1nm,0.3s,baz=0.3,slow=33,SNR=6.3			Lg	Lg	17 13 41.9	
PDAR	comp=N,26nm,18.1s,baz=315,slow=37 comp=N,2.5nm,0.6s			LR	LR	17 14 11.3	
B08A	**Colville Reser**	**4.75**	**289**		**Pn**	**17 12 28.4**	**-0.6**
B08A	comp=N,211nm,0.7s			IAML		17 13 51.5	
B08A	comp=E,148nm,0.7s			IAML		17 13 54.4	
HAWA	**Hanford**	**4.80**	**266**		**Pn**	**17 12 30.0**	**+0.4**
HAWA	comp=E,175nm,0.8s			IAML		17 13 54.1	
E07A	**Sunnyside**	**5.00**	**268**		**Pn**	**17 12 32.8**	**+0.4**
MXC	**Moxie City**	**5.30**	**268**		**Pn**	**17 12 37.0**	**+0.6**
CTU	**Camp Tracy**	**6.31**	**174**	Pn	**Pn**	**17 12 50.3**	**-0.2**
LON	**Longmire**	**6.32**	**271**	Pn	**Pn**	**17 12 50.7**	**+0.3**
ELK	**Elko**	**6.51**	**198**	Pn	**Pn**	**17 12 56.7**	**+3.4**
ELK	comp=E,0.2nm,0.3s,baz=16,slow=11,SNR=5.9			Pg	**Pb**	**17 13 11.3**	**+0.6**
ELK	comp=E,1.2nm,0.3s,baz=25,slow=9.1,SNR=16			Sn	**Sn**	**17 14 10.3**	**+2.5**
ELK	comp=E,0.8nm,0.3s,baz=357,slow=14,SNR=3.5			Lg	Lg	17 14 35.1	
BSUT	**Blindstream Ca**	**6.58**	**168**	Pn	**Pn**	**17 12 57.7**	**+3.4**
PINE	**Pine Mountain**	**6.68**	**245**	Pn	**Pn**	**17 12 57.3**	**+1.7**
J05D	**Fort Rock, OR**	**7.13**	**242**	Pn	**Pn**	**17 13 03.1**	**+1.3**
O20A	**White River Ci**	**7.54**	**154**		**Pn**	**17 13 07.7**	**+0.4**
CLRS	**Cowichan Lake**	**7.96**	**288**	Pn	**Pn**	**17 13 15.1**	**+2.1**
SRU	**San Rafael Swe**	**8.01**	**168**	Pn	**Pn**	**17 13 13.9**	**+0.1**
NVAR	**Mina Array Bea** comp=E,0.2nm,0.3s,baz=12,slow=15,SNR=3.8	**9.51**	**208**	Pn	**Pn**	**17 13 37.2**	**+2.8**
NVAR	comp=E,0.2nm,0.3s,baz=30,slow=18,SNR=4.7			Pg		17 14 07.4	
NVAR	comp=E,0.2nm,0.3s,baz=28,slow=30,SNR=2.4 comp=E,0.7nm,0.6s			Lg	Lg	17 16 13.5	
FFC	**Flin Flon**	**10.25**	**37**	Pn	**Pn**	**17 13 43.9**	**-0.4**
SDCO	**Great Sand Dun**	**10.61**	**148**	Pn	**Pn**	**17 13 48.0**	**-1.6**
AGMN	**Agassiz Nation**	**11.38**	**77**	Pn	**Pn**	**17 13 59.2**	**-0.5**
ULM	**Lac du Bonnet** comp=E,0.5nm,0.4s,baz=261,slow=13,SNR=1.2	**11.55**	**67**	Pn	**Pn**	**17 13 58.0**	**-4.0**
ULM	comp=E,0.5nm,0.3s,baz=265,slow=12,SNR=3.4			Pg		17 14 44.4	
ULM	comp=E,0.7nm,0.3s,baz=167,slow=22,SNR=3.0			Lg	Lg	17 17 08.9	
KAN09	**Caldwell North**	**14.83**	**126**	Pn	**Pn**	**17 14 47.4**	**+0.5**
N38A	**Joes South For**	**15.26**	**107**	Pn	**Pn**	**17 14 50.5**	**-2.1**
WRAK	**Wrangell Islan**	**15.41**	**315**	Pn	**Pn**	**17 14 52.9**	**-1.6**
WRAK	comp=Z,15nm,0.9s			IAmb	IAmb	17 15 20.4	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=11	**15.59**	**357**	Pn	**Pn**	**17 14 53.6**	**-3.2**
YKA	comp=Z,0.2nm,0.3s,baz=180,slow=16,SNR=4.3			Pg		17 15 59.8	
YKA	comp=Z,0.1nm,0.3s,baz=178,slow=23,SNR=2.3			Sn	Sn	17 17 37.1	-12
YKA	comp=Z,0.2nm,0.3s,baz=174,slow=27,SNR=3.8 comp=Z,0.4nm,0.5s			Lg	Lg	17 19 17.4	
319A	**Douglas**	**15.79**	**170**	Pn	**Pn**	**17 14 58.0**	**-1.7**
319A	comp=Z,6.6nm,1.1s			IAmb	IAmb	17 15 09.5	
HTMS	**Hat Mesa**	**16.03**	**151**	P	**P**	**17 15 06.8**	**+0.5**
FCC	**Fort Churchill**	**16.18**	**36**	P	**P**	**17 15 09.0**	**+1.4**
P40A	**Paris**	**16.69**	**109**	Pn	**Pn**	**17 15 11.3**	**+0.1**
P40A	comp=Z,7.8nm,1.2s			IAmb	IAmb	17 15 50.9	
TXAR	**Lajitas Array** baz=342,slow=9.8,SNR=2.6 comp=Z,0.2nm,0.8s	**18.94**	**155**	P	**Pn**	**17 15 38.8**	**-0.3**
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=128,slow=7.6,SNR=2.8 comp=Z,0.2nm,0.7s	**25.72**	**326**	P	**P**	**17 16 47.7**	**+0.3**

*IDC **03** 17:14:24.1±1.6, 18.°23S×178.°15W, h592km±12km, mb3.0/7, mbtmp4.0/9, Error ellipse: s-maj=29.6km s-min=19.4km az=122.0*
ISC 03 17:14:23.5±1.0, 18.°3S±0.°2×178.°1W±0.°2, h590km, n12, σ0°79/15, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 111nm,0.6s,baz=126,slow=6.5,SNR=72	**3.68**	**277**	P	**P**	**17 15 46.6**	**+0.4**
MSVF	3.3nm,0.4s,baz=161,slow=21,SNR=6.0			S	**S**	**17 16 55.0**	**+1.4**
DZM	**Mont Dzumac** 11nm,1.1s,baz=99,slow=19,SNR=1.6	**14.99**	**253**	P	**P**	**17 17 31.7**	**-0.3**
URZ	**Urewera** 5.7nm,0.9s,baz=18,slow=3.2,SNR=1.5 5.7nm,0.9s	**20.37**	**191**	P	**P**	**17 18 20.2**	**-0.7**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=97,slow=7.8,SNR=8.4	**44.84**	**260**	P	**P**	**17 21 46.4**	**-0.3**
WRA	0.4nm,0.6s,baz=86,slow=3.1,SNR=1.8 0.8nm,0.8s			PcP	**PcP**	**17 23 16.1**	**+0.5**
ASAR	**Alice Springs** 2.5nm,0.7s,baz=86,slow=9.2,SNR=31	**44.97**	**255**	P	**P**	**17 21 47.9**	**+0.3**
ASAR	0.3nm,0.5s,baz=91,slow=3.4,SNR=6.0 2.5nm,0.7s			PcP	**PcP**	**17 23 16.5**	**+0.5**
MJAR	**Matsushiro Arr** 1.0nm,0.5s,baz=165,slow=5.8,SNR=6.1 1.0nm,0.5s	**68.34**	**323**	P	**P**	**17 24 26.1**	**-1.0**
PETK	**Petropavlovsk-** 1.7nm,0.6s,baz=120,slow=8.8,SNR=4.2 1.7nm,0.6s	**74.08**	**345**	P	**P**	**17 24 59.9**	**-0.2**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=243,slow=4.8,SNR=1.3 0.2nm,0.7s	**85.94**	**57**	P	**P**	**17 26 04.0**	**+1.5**
ILAR	**Eielson Array** 0.5nm,0.4s,baz=220,slow=5.0,SNR=24 0.5nm,0.4s	**86.16**	**13**	P	**P**	**17 26 02.0**	**-0.6**
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=146,slow=3.3,SNR=5.0	**145.22**	**315**	PKPbc	**PKPbc**	**17 32 56.2**	**-0.1**
MMAI	**Mount Meron Ar** 0.9nm,0.5s,baz=46,slow=4.2,SNR=2.2	**146.56**	**303**	PKPbc	**PKPbc**	**17 32 59.9**	**-0.3**
GERES	**GERESS Array B** 0.9nm,0.6s,baz=32,slow=5.3,SNR=4.7	**148.01**	**345**	PKPbc	**PKiKP**	**17 33 04.2**	**-0.6**

*JMA **03** 17:15:02.1±0.2, 24.°N±1.°×125.°2E±0.°5, h40km±3km, MV2.8/10, NEAR MIYAKOJIMA ISLAND*
ISC 03 17:14:58.7±3.1, 24.°1N±0.°1×125.°29E±0.°09, h5km±21km, n17, σ0°87/22, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.60**	**3**	P	**Pb**	**17 15 11.6**	**0.0**
JMJ2				*eS*	**Sg**	**17 15 18.8**	**+0.8**
JOGS	**Gusukube**	**0.63**	**9**	*eP*	**Pb**	**17 15 12.2**	**+0.1**
JMJ	**Miyako jima 2**	**0.67**	**0**	P	**Pg**	**17 15 11.6**	**0.0**
JIRB	**Irabujima**	**0.70**	**351**	P	**Pg**	**17 15 12.6**	**+0.6**
JIRB				*eS*	**Sg**	**17 15 20.4**	**-0.7**
JTJ	**Tarama**	**0.73**	**313**	P	**Pb**	**17 15 13.8**	**-0.2**
JTJ				*eS*	**Sg**	**17 15 21.7**	**-0.7**
JIKM	**Ikemajima**	**0.78**	**357**	P	**Pg**	**17 15 14.1**	**+0.4**
JIKM				*eS*	**Sg**	**17 15 22.5**	**-1.4**
JISG	**Ishigakijimahi**	**1.00**	**297**	P	**Pg**	**17 15 18.0**	**+0.1**
JISG				*eS*	**Sg**	**17 15 30.6**	**-0.3**
JIJ	**Ishigaki jima**	**1.07**	**282**	*eP*	**Pn**	**17 15 20.0**	**-0.3**
JKRS	**Kuro-shima**	**1.18**	**275**	P	**Pg**	**17 15 22.3**	**+1.0**
IRIF	**Iriomote-Funau**	**1.44**	**278**	P	**Pb**	**17 15 25.6**	**-0.3**
YOJ	**Yonaguni jima**	**2.11**	**279**	P	**Pb**	**17 15 37.1**	**-0.2**
NACB	**Ninganchiao**	**3.38**	**271**	P	**Pn**	**17 15 51.8**	**-0.3**
YHNB	**Yeheng**	**3.61**	**279**	P	**Pn**	**17 15 57.2**	**+1.9**
YULB	**Yu-li**	**3.73**	**259**	P	**Pn**	**17 15 55.8**	**-1.2**
SSLB	**Suanglung**	**3.98**	**266**	P	**Pn**	**17 16 01.1**	**+0.7**
TWGBT	**Beinan**	**4.08**	**252**	P	**Pn**	**17 16 00.6**	**-1.2**
TPUB	**Ta-pu**	**4.35**	**260**	P	**Pn**	**17 16 06.6**	**+1.1**

*BUT **03** 17:17:01±1.0, 46.°89N±0.°04×112.°65W±0.°03, h15km±2km, Error ellipse: s-maj=6.2km s-min=2.9km az=161.0*
NEIC 03 17:17:01.2±1.3, 46.°89N±0.°04×112.°63W±0.°03, h5km±2km, ML2.6/11(BUT), Error ellipse: s-maj=7.7km s-min=2.9km az=14.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.25**	**71**	Pg	Pg	17 17 06.7	+0.6
HRY	**Holter Researc**	**0.58**	**108**	Pg	Pg	17 17 12.3	-0.1
BPMT	**Black Pine Rid**	**0.72**	**231**	Pg	Pg	17 17 14.7	-0.3
MSO	**Missoula**	**0.90**	**267**		Pg	17 17 18.0	-0.5
LRM	**Limekiln Ridge**	**1.08**	**173**		Pg	17 17 21.5	-0.3
BOZ	**Bozeman (W)**	**1.47**	**151**		Pn	17 17 28.5	0.0
DLMT	**Dillon**	**1.53**	**179**		Pb	17 17 29.9	-0.2
MCMT	**McKenzie Canyo**	**2.07**	**184**	Pn	Pn	17 17 37.6	+0.7
EGMT	**Eagleton**	**2.26**	**59**		Pb	17 17 41.2	-1.3
GCMT	**Greycliff**	**2.33**	**117**	Pn	Pn	17 17 38.4	-2.0

*BUT **03** 17:19:00.6±1.6, 46.°89N±0.°05×112.°65W±0.°06, h15km±3km, Error ellipse: s-maj=7.3km s-min=5.3km az=212.0*
NEIC 03 17:19:00.5±1.4, 46.°81N±0.°02×112.°62W±0.°08, h5km±2km, ML3.4/52, ML3.6/30(BUT), Error ellipse: s-maj=9.5km s-min=3.0km az=70.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.28**	**55**	Pg	Pg	17 19 06.4	+0.4
HRY	**Holter Researc**	**0.55**	**100**	Pg	Pn	17 19 14.2	-1.0
BPMT	**Black Pine Rid**	**0.68**	**237**	Pg	Pg	17 19 14.0	+0.5
MSO	**Missoula**	**0.91**	**272**		Pg	17 19 17.4	-0.5
MSO	**Missoula** 2μm,0.3s	**0.91**	**272**	IAML		17 19 29.6	
MSO	957nm,0.4s			IAML		17 19 30.4	
LRM	**Limekiln Ridge**	**0.99**	**173**	Pg	Pn	17 19 21.1	-0.2
BOZ	**Bozeman (W)**	**1.40**	**150**		Pb	17 19 27.1	0.0
BOZ	**Bozeman (W)** 436nm,0.4s	**1.40**	**150**	IAML		17 19 48.2	
BOZ	752nm,0.4s			IAML		17 19 48.9	
DLMT	**Dillon**	**1.45**	**179**		Pg	17 19 29.2	+1.0
DLMT	**Dillon** 554nm,0.7s	**1.45**	**179**	IAML		17 19 50.4	
DLMT	467nm,0.3s			IAML		17 19 51.2	
MCMT	**McKenzie Canyo**	**1.99**	**185**		Pb	17 19 36.9	-0.4
QLMT	**Earthquake Lak**	**2.15**	**157**		Pn	17 19 37.6	+0.4
YHL	**Hebgen Lake**	**2.20**	**152**		Pn	17 19 38.6	+0.6
YHL	comp=E,354nm,0.7s			IAML		17 20 19.1	
GCMT	**Greycliff**	**2.29**	**115**		Pn	17 19 40.4	+1.3
YHB	**Horse Butte**	**2.29**	**154**	Pn	Pn	17 19 39.9	+0.8
YHB	comp=N,221nm,0.3s			IAML		17 20 16.2	
YHB	comp=E,290nm,0.6s			IAML		17 20 16.6	
EGMT	**Eagleton**	**2.29**	**57**		Pn	17 19 40.5	+1.4
YHH	**Holmes Hill**	**2.37**	**148**		Pn	17 19 41.1	+0.8
YMR	**Madison River**	**2.44**	**151**		Pn	17 19 42.2	+1.0
YNR	**Norris Junctio**	**2.50**	**146**	Pn	Pn	17 19 43.2	+1.2
YNR	comp=E,125nm,0.5s			IAML		17 20 24.1	
YNE	**Yellowstone No**	**2.56**	**134**	Pn	Pb	17 19 45.9	-1.2
YNE	comp=N,169nm,0.4s			IAML		17 20 28.1	
H17A	**Grant Village**	**2.81**	**149**	Pn	Pn	17 19 48.3	+2.0
RLMT	**Red Lodge**	**2.88**	**125**		Pn	17 19 49.1	+1.8
RLMT	comp=N,78nm,0.3s			IAML		17 20 39.1	
RLMT	comp=N,97nm,0.4s			IAML		17 20 44.4	
PLID	**Pearl Lake**	**2.92**	**235**		Pn	17 19 48.4	+0.6
PLID	comp=N,79nm,0.2s			IAML		17 20 35.0	
FLWY	**Flagg Ranch**	**3.04**	**153**		Pn	17 19 51.0	+1.5
FLWY	comp=N,68nm,0.8s			IAML		17 20 42.0	
F10A	**Beach Ranch, E**	**3.30**	**257**		Pn	17 19 52.9	+0.1
MOOW	**Moose Ponds**	**3.34**	**156**		Pn	17 19 55.5	+1.9
FXWY	**Fox Creek**	**3.37

σ1$95/145, mb4.4/48, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.03**	**302**	Pn	**Pn**	**17 21 16.8**	**-0.6**
SHL	**Shillong**	**2.03**	**302**	*e*P	**Pn**	**17 21 17.2**	**-0.2**
SHL				*e*S	**Sn**	**17 21 41.3**	**-0.7**
SHL				IAML		17 21 42.0	
	comp=N,4μm,0.2s						
SHL				IAML		17 21 42.0	
	comp=E,2μm,0.1s						
BRDH	**Bariadhala**	**2.67**	**228**	P	**Pn**	**17 21 26.4**	**+0.5**
	comp=E,87nm,0.3s,baz=265,slow=12,SNR=2.3						
BRDH				S	**Sn**	**17 21 58.5**	**+1.2**
	comp=E,372nm,0.3s,baz=218,slow=20,SNR=14						
	comp=E,203nm,0.4s						
TNCH	**TengChong**	**4.33**	**82**	P	**Pn**	**17 21 48.9**	**+0.3**
TNCH				S	**Sn**	**17 22 37.5**	**-0.5**
TNCH				LR	LR		
	comp=N,620nm,2.9s						
TNCH				LR	LR		
	comp=E,440nm,2.7s						
SHBG	**Sahibganj**	**5.61**	**279**	*e*P	**Pn**	**17 22 06.0**	**+0.1**
SHBG				*e*S	**Sn**	**17 23 04.2**	**-4.7**
LSA	**Lhasa**	**5.69**	**336**	Pn	**Pn**	**17 22 07.6**	**+0.2**
LSA	**Lhasa**	**5.69**	**336**	Pn	**Pn**	**17 22 08.3**	**+0.9**
LSA				Sn	**Sn**	**17 23 05.6**	**-6.1**
LSA				smax	smax		
	comp=N,120nm,1.0s						
TAPN	**Taplejung**	**6.17**	**299**	Pg	**Pn**	**17 22 13.9**	**+0.1**
	baz=299,slow=0.0						
TAPN				Sg	**Sn**	**17 23 23.8**	**+0.7**
	baz=299,slow=0.0						
RAMN	**Ramite**	**6.93**	**292**	Pg	**Pn**	**17 22 24.2**	**+0.1**
	baz=292,slow=0.0						
RAMN				Sg	**Sn**	**17 23 38.6**	**-3.1**
	comp=N,208nm,0.4s,baz=292,slow=0.0						
BOK	**Bokaro**	**7.25**	**266**	*e*P	**Pn**	**17 22 28.4**	**0.0**
BOK				*e*S	**Sn**	**17 23 44.1**	**-5.1**
BOK				IAML		17 23 48.3	
	comp=N,138nm,1.1s						
BOK				IAML		17 23 48.4	
	comp=E,102nm,0.7s						
CHTO	**Chiang Mai**	**7.41**	**139**	Pn	**Pn**	**17 22 30.9**	**+0.3**
PZH	**PanZhiHua**	**7.46**	**73**	P	**Pn**	**17 22 33.8**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,70nm,5.1s						
CM31	**Chiang Mai Arr**	**7.69**	**140**		**Pn**	**17 22 33.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.69**	**140**	Pn	**Pn**	**17 22 34.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**7.69**	**140**	P	**Pn**	**17 22 33.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=316,slow=14,SNR=25						
CMAR				LR	LR	17 25 13.5	
	comp=Z,16nm,22.0s,baz=330,slow=36						
	comp=Z,1.9nm,0.6s						
GUN	**Gumba**	**7.88**	**297**	Pg	**Pn**	**17 22 36.7**	**-0.5**
	baz=297,slow=0.0						
GUN				Sg	**Sn**	**17 24 02.1**	**-2.9**
	comp=Z,171nm,0.3s,baz=297,slow=0.0						
KNTI	**KHUNTI**	**7.92**	**261**	*e*P	**Pn**	**17 22 37.6**	**+0.1**
KNTI				*e*S	**Sn**	**17 24 02.4**	**-3.2**
KNTI				IAML		17 24 05.1	
	comp=E,224nm,0.3s						
KNTI				IAML		17 24 15.6	
	comp=E,223nm,0.3s						
PKI	**Pulchoki**	**8.14**	**294**	Pg	**Pn**	**17 22 39.7**	**-1.0**
	baz=294,slow=0.0						
PKI				Sg	**Sn**	**17 24 08.7**	**-2.6**
	comp=E,87nm,0.4s,baz=294,slow=0.0						
PKIN	**Phulchoki**	**8.15**	**294**	Pg	**Pn**	**17 22 39.8**	**-1.0**
	baz=294,slow=0.0						
PKIN				Sg	**Sn**	**17 24 08.5**	**-3.0**
	baz=294,slow=0.0						
DMN	**Daman**	**8.40**	**294**	Pg	**Pn**	**17 22 43.2**	**-1.1**
	baz=294,slow=0.0						
DMN				Sg	**Sn**	**17 24 13.6**	**-4.1**
	baz=294,slow=0.0						
PHRA	**Phrae**	**8.46**	**134**	Pn	**Pn**	**17 22 44.0**	**-0.8**
GKN	**Gorkha**	**8.93**	**295**	Pg	**Pn**	**17 22 50.2**	**-1.2**
	baz=295,slow=0.0						
GKN				Sg	**Sn**	**17 24 26.6**	**-3.8**
	comp=E,190nm,0.3s,baz=295,slow=0.0						
JHSG	**JHARSUGUGA**	**9.61**	**256**	*e*S	**Sn**	**17 24 44.8**	**-2.2**
DANN	**Dangsing**	**9.77**	**295**	Pg	**Pn**	**17 23 00.7**	**-2.3**
	baz=295,slow=0.0						
DANN				Sg	**Sn**	**17 24 45.8**	**-5.5**
	comp=E,79nm,0.4s,baz=295,slow=0.0						
PYUN	**Piuthan**	**10.33**	**293**	Pg	**Pn**	**17 23 08.3**	**-2.3**
	baz=293,slow=0.0						
PYUN				Sg	**Sn**	**17 24 57.9**	**-6.9**
	comp=E,84nm,0.4s,baz=293,slow=0.0						
ALBI	**Allahabad**	**10.91**	**277**	*e*P	**Pn**	**17 23 17.0**	**-1.2**
ALBI				*e*S	Sn	17 25 07.9	-11
ALBI				IAML		17 25 15.2	
	comp=E,60nm,0.5s						
ALBI				IAML		17 25 24.8	
	comp=E,66nm,0.5s						
BLSP	**Bilaspur**	**10.97**	**260**	IAmb	IAmb	17 25 16.9	
	comp=Z,31nm,0.4s						
SRDT	**SRDT**	**11.27**	**153**	P	**Pn**	**17 23 23.6**	**+0.3**
GOMU	**GeErMu**	**11.70**	**4**	P	**Pn**	**17 23 27.9**	**-1.4**
GOMU				pP		17 23 32.5	
GOMU				sP		17 23 34.3	
GOMU				pmax	pmax		
	comp=Z,21nm,0.7s						
LGTI	**Lohaghat**	**13.04**	**295**	*e*P	**Pn**	**17 23 45.0**	**-2.3**
LGTI				*e*S	Sn	17 25 58.5	-12
PTH	**Pithoragarh**	**13.10**	**296**	*e*P	**Pn**	**17 23 45.0**	**-3.3**
PTH				*e*S	Sn	17 26 00.4	-12
PTH				IAML		17 26 06.6	
	comp=E,16nm,0.6s						
PTH				IAML		17 26 18.9	
	comp=E,12nm,0.5s						
JHNI	**Jhansi**	**13.87**	**277**	*e*P	**Pn**	**17 23 53.7**	**-4.5**
JHNI				*e*S	Sn	17 26 17.2	-13
UBPT	**Khong Chiam**	**14.30**	**128**	Pn	**Pn**	**17 24 02.1**	**-1.7**
UBPT	**Khong Chiam**	**14.30**	**128**	P	**Pn**	**17 24 05.2**	**+1.4**
LZH	**Lanzhou**	**14.44**	**35**	P	**Pn**	**17 24 03.6**	**-2.1**
LZH				pP	P	17 24 12.2	+1.7
LZH				sP		17 24 18.5	
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
GUNA	**GUNA**	**14.98**	**274**	*e*P	**Pn**	**17 24 10.0**	**-2.6**
GUNA				*e*S	Sn	17 26 45.2	-12
BHPL	**Bhopal**	**15.03**	**269**	*e*P	**Pn**	**17 24 11.3**	**-1.9**
BHPL				IAmb	IAmb	17 24 14.7	
	comp=Z,11nm,0.5s						
BHPL				*e*S	Sn	17 26 45.7	-13
NRDN	**NARMADA NAGAR**	**15.34**	**267**	IAmb	IAmb	17 24 27.8	
	comp=Z,4.6nm,0.5s						
GTA	**Gaotai**	**15.72**	**17**	*e*P	**P**	**17 24 26.0**	**+1.4**
GTA				pP	pP	17 24 37.2	-2.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
QIZ	**Qiongzhong**	**15.87**	**107**	Pn	**Pn**	**17 24 22.9**	**-1.0**
SMLA	**Simla**	**16.11**	**298**	IAmb	IAmb	17 23 51.8	
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**16.25**	**51**	P	**Pn**	**17 24 26.2**	**-2.6**
XAN				pmax	pmax		
	comp=Z,20nm,0.5s						
DHRM	**DHARAMSHALA**	**17.21**	**301**	IAmb	IAmb	17 24 43.9	
	comp=Z,25nm,0.4s						
WMQ	**Urumqi**	**19.91**	**347**	*e*P	**Pn**	**17 25 12.6**	**-0.3**
WMQ				pP	pP	17 25 26.3	+0.1
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NIL	**Nilore**	**20.11**	**302**	P	Pn	17 25 14.0	-1.2
NIL				IAmb	IAmb	17 25 17.4	
	comp=Z,12nm,0.6s						
KULM	**Kulim**	**20.20**	**160**	P	**P**	**17 25 12.7**	**-1.2**
KULM				IAmb	IAmb	17 25 18.2	
	comp=Z,18nm,1.3s						
KULM	**Kulim**	**20.20**	**160**	P	**P**	**17 25 14.3**	**+0.4**
WUS	**Wushi**	**20.62**	**327**	P	**P**	**17 25 19.8**	**+1.4**
WUS				IAmb	IAmb	17 25 23.8	
	comp=Z,25nm,0.6s						
BTO	**Baotou**	**21.05**	**36**	*e*P	**P**	**17 25 22.7**	**-0.2**
BTO				pP	**pP**	**17 25 34.9**	**-3.8**
BTO				sP	**sP**	**17 25 42.4**	**-5.8**
BTO				PP	**PnPn**	**17 25 49.7**	**+4.5**
BTO				S	**S**	**17 29 13.9**	**+0.8**
BTO				SS	**SnSn**	**17 29 39.2**	**-0.9**
BTO				pmax	pmax		
	comp=Z,190nm,0.6s						
BTO				pmax	pmax		
	comp=Z,190nm,3.9s						
BTO				LR	LR		
	comp=N,190nm,7.8s						
BTO				LR	LR		
	comp=E,180nm,5.9s						
BTO				LR	LR		
	comp=Z,130nm,7.1s						
IPM	**Ipoh**	**21.09**	**160**	P	**P**	**17 25 21.7**	**-1.7**
IPM				IAmb	IAmb	17 25 23.0	
	comp=Z,15nm,0.6s						
IPM	**Ipoh**	**21.09**	**160**	P	**P**	**17 25 22.7**	**-0.7**
KSH	**Kashi**	**21.21**	**319**	P	**P**	**17 25 26.6**	**+1.8**
KSH				pP	pP	17 25 37.8	-2.5
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TARG	**Taragay, Kyrgy**	**21.73**	**326**	P	**P**	**17 25 29.7**	**-0.8**
TARG				IAmb	IAmb	17 25 39.0	
	comp=Z,12nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.06**	**38**	*e*P	**P**	**17 25 33.9**	**+0.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,5.2s						
PSI	**Prapat**	**22.13**	**166**	LR	LR	17 35 35.6	
	comp=Z,14nm,20.6s,baz=350,slow=40						
KDJ	**Kajisay**	**22.34**	**326**	P	**P**	**17 25 37.4**	**+0.6**
NJ2	**Nanjing**	**23.29**	**65**	*e*P	**P**	**17 25 45.5**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GSI	**Gunungsitoli**	**23.34**	**170**	P	**P**	**17 25 46.4**	**-0.6**
GSI				IAmb	IAmb	17 26 05.7	
	comp=Z,13nm,0.9s						
MK31	**Makanchi Array**	**24.08**	**340**	P	**P**	**17 25 55.3**	**+1.9**
MAKAR	**Makanchi Array**	**24.08**	**340**	P	**P**	**17 25 55.1**	**+1.7**
	comp=Z,2.6nm,0.6s,baz=146,slow=12,SNR=69						
MKAR				LR	LR	17 36 21.3	
	comp=Z,18nm,19.0s,baz=328,slow=39						
	comp=Z,2.6nm,0.6s						
AAK	**Ala-Archa**	**24.11**	**323**	P	**P**	**17 25 54.6**	**+0.7**
ARSB	**Arslanbob**	**24.13**	**319**	P	**P**	**17 25 54.3**	**+0.3**
MAKZ	**Makanchi**	**24.19**	**340**	P	**P**	**17 25 54.9**	**+0.5**
GAR	**Garm**	**24.55**	**312**	P	**P**	**17 25 57.4**	**-0.5**
GAR				IAmb	IAmb	17 26 17.4	
	comp=Z,21nm,0.9s						
MYKOM	**Kota Tinggi**	**24.58**	**155**	P	**P**	**17 25 57.2**	**-0.9**
MYKOM				IAmb	IAmb	17 25 58.0	
	comp=Z,26nm,1.3s						
SONM	**Songino Array**	**25.35**	**20**	P	**P**	**17 26 06.5**	**+1.4**
SONM	**Songino Array**	**25.35**	**20**	P	**P**	**17 26 06.3**	**+1.2**
	comp=Z,5.1nm,0.7s,baz=201,slow=10,SNR=39						
	comp=Z,5.1nm,0.7s						
ULN	**Ulaanbaatar**	**25.59**	**21**	P	**P**	**17 26 08.0**	**+0.8**
ULN				IAmb	IAmb	17 26 10.8	
	comp=Z,6.9nm,0.6s						
SBUM	**Sibu**	**28.23**	**138**	P	**P**	**17 26 29.4**	**-1.6**
KURBB	**Kurchatov Arra**	**28.63**	**340**	P	**P**	**17 26 35.7**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=158,slow=7.8,SNR=11						
KURBB				ScP	**ScP**	**17 33 21.6**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=165,slow=2.9,SNR=4.1						
	comp=Z,0.8nm,0.4s						
KURK	**Kurchatov**	**28.69**	**340**	P	**P**	**17 26 34.1**	**-0.6**
ZAA0	**Zalsovo Array**	**30.17**	**349**	P	**P**	**17 26 49.4**	**+1.5**
ZALV	**Zalesovo Beam**	**30.17**	**349**	P	**P**	**17 26 49.2**	**+1.3**
ZALV	**Zalesovo Beam**	**30.17**	**349**	P	**P**	**17 26 49.4**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=174,slow=9.2,SNR=13						
	comp=Z,1.7nm,0.5s						
BVAR	**Borovoye Array**	**33.53**	**334**	P	**P**	**17 27 19.0**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=142,slow=10,SNR=9.2						
	comp=Z,2.2nm,0.7s						
BRVK	**Borovoye**	**33.59**	**334**	P	**P**	**17 27 19.2**	**+1.3**
BRVK				IAmb	IAmb	17 27 35.8	
	comp=Z,4.7nm,1.3s						
ABKAR	**Akbulak array**	**36.17**	**322**	P	**P**	**17 27 41.6**	**+1.5**
ABKAR				IAmb	IAmb	17 27 58.6	
	comp=Z,2.3nm,0.7s						
ABKAR	**Akbulak array**	**36.17**	**322**	P	**P**	**17 27 42.1**	**+2.0**
HEH	**HeiHe**	**36.57**	**37**	*e*P	**P**	**17 27 44.8**	**+1.3**
HEH				pmax	pmax		
	comp=Z,17nm,0.9s						
USA0B	**Ussuriysk Arra**	**36.73**	**48**	P	**P**	**17 27 45.0**	**0.0**
USA0B				IAmb	IAmb	17 27 45.6	
	comp=Z,7.4nm,0.8s						
MJAR	**Matsushiro Arr**	**39.78**	**62**	P	**P**	**17 28 09.9**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=272,slow=9.6,SNR=1.6						
	comp=Z,0.6nm,0.6s						
ARTI	**Arti**	**40.92**	**331**	P	**P**	**17 28 20.4**	**+0.6**
ARTI				IAmb	IAmb	17 28 45.1	
	comp=Z,9.4nm,1.5s						
MMRI	**Maumere**	**43.07**	**136**	P	**P**	**17 28 37.1**	**-0.7**
SOEI	**Soe**	**45.21**	**135**	P	**P**	**17 28 53.2**	**-1.8**
SOEI				IAmb	IAmb	17 28 55.3	
	comp=Z,21nm,0.9s						
FAKI	**Fak Fak**	**46.24**	**121**	P	**P**	**17 29 02.1**	**-1.0**
MSEY	**Mahe Island**	**47.22**	**237**	P	**P**	**17 29 11.6**	**+0.8**
TIXI	**Tiksi**	**51.15**	**14**	P	**P**	**17 29 40.9**	**+1.0**
TIXI				IAmb	IAmb	17 29 42.3	
	comp=Z,5.3nm,1.2s						
BRTR	**Keskin Array B**	**52.25**	**302**	P	**P**	**17 29 51.1**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=72,slow=9.3,SNR=1.6						
	comp=Z,0.1nm,0.3s						
PSA00	**Pilbara Seismi**	**52.33**	**149**	P	**P**	**17 29 48.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.50**	**141**	P	**P**	**17 29 50.9**	**+0.2**
FITZ				IAmb	IAmb	17 30 07.2	
	comp=Z,4.5nm,1.4s						
KNRA	**Kununurra**	**52.53**	**136**	P	**P**	**17 29 51.0**	**+0.2**
MORW	**Morawa**	**57.39**	**157**	P	**P**	**17 30 25.7**	**-0.1**
ALN	**Alexandroupoli**	**57.96**	**304**	P	**P**	**17 30 29.4**	**-0.4**
FINES	**FINESS Array B**	**58.16**	**328**	P	**P**	**17 30 32.0**	**+1.3**
	comp=Z,5.4nm,1.2s,baz=96,slow=7.0,SNR=1.3						
	comp=Z,5.4nm,1.2s						
WB0	**Warramunga Arr**	**59.15**	**134**	P	**P**	**17 30 38.6**	**+0.4**
WRA	**Warramunga Arr**	**59.24**	**135**	P	**P**	**17 30 38.4**	**-0.5**
WRA	**Warramunga Arr**	**59.24**	**135**	P	**P**	**17 30 38.8**	**-0.1**
	comp=Z,8.1nm,0.6s,baz=326,slow=7.2,SNR=104						
	comp=Z,8.1nm,0.6s						
WRAB	**Tennant Creek**	**59.24**	**135**	P	**P**	**17 30 39.1**	**+0.2**
WB2	**Warramunga Arr**	**59.25**	**135**	P	**P**	**17 30 39.1**	**+0.2**
WR0	**Warramunga Arr**	**59.38**	**134**	P	**P**	**17 30 40.2**	**+0.3**
ARCES	**ARCESS Array B**	**59.70**	**338**	P	**P**	**17 30 43.1**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=83,slow=5.7,SNR=1.5						
	comp=Z,2.3nm,0.9s						
AS31	**Alice Springs**	**61.69**	**138**	P	**P**	**17 30 56.2**	**+0.7**
AS31				IAmb	IAmb	17 30 56.8	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**61.69**	**138**	P	**P**	**17 30 56.0**	**+0.5**
ASAR	**Alice Springs**	**61.69**	**138**	P	**P**	**17 30 56.1**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=319,slow=6.8,SNR=164						
	comp=Z,4.5nm,0.5s						
SPITS	**Spitsbergen Ar**	**63.62**	**347**	P	**P**	**17 31 09.2**	**+1.6**
	comp=Z,14nm,1.1s,baz=90,slow=5.9,SNR=5.3						
	comp=Z,14nm,1.1s						
VRAC	**Vranov**	**63.65**	**315**	P	**P**	**17 31 10.6**	**+2.3**
	comp=Z,1.6nm,0.4s,baz=340,slow=8.7,SNR=3.9						
	comp=Z,1.6nm,0.4s						
FORT	**Forrest**	**64.02**	**147**	P	**P**	**17 31 11.6**	**+0.8**
HFS	**Hagfors**	**64.19**	**327**	P	**P**	**17 31 13.1**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=110,slow=6.5,SNR=6.5						
	comp=Z,2.1nm,0.7s						
NOA	**NORSAR Array B**	**65.32**	**328**	P	**P**	**17 31 20.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=65,slow=4.4,SNR=3.3						
	comp=Z,0.6nm,0.7s						
GERES	**GERESS Array B**	**65.60**	**314**	P	**P**	**17 31 22.3**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=60,slow=8.0,SNR=4.9						
	comp=Z,1.1nm,0.6s						
BBOO	**Buckleboo**	**69.80**	**143**	P	**P**	**17 31 47.5**	**+0.1**
C16K	**Lisburne Hills**	**71.41**	**23**	P	**P**	**17 31 56.8**	**0.0**
C16K				IAmb	IAmb	17 32 10.3	
	comp=Z,9.0nm,1.4s						
STKA	**Stephens Creek**	**72.31**	**139**	P	**P**	**17 32 03.0**	**+0.3**
STKA	**Stephens Creek**	**72.31**	**139**	P	**P**	**17 32 03.0**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=338,slow=6.7,SNR=7.1						
	comp=Z,1.4nm,0.4s						
E18K	**Tukpahlearik C**	**73.40**	**23**	P	**P**	**17 32 10.2**	**+1.5**
E18K				IAmb	IAmb	17 32 12.0	
	comp=Z,3.0nm,0.9s						
G16K	**Koyuk River**	**73.56**	**25**	P	**P**	**17 32 09.8**	**+0.2**
G16K				IAmb	IAmb	17 32 22.0	
	comp=Z,6.0nm,1.4s						
K13K	**Kusilvak Mount**	**73.92**	**29**	P	**P**	**17 32 12.0**	**+0.2**
K13K				IAmb	IAmb	17 32 48.8	
	comp=Z,14nm,1.4s						
J14K	**Nanvaranak Lak**	**74.09**	**28**	P	**P**	**17 32 13.8**	**+1.1**
J14K				IAmb	IAmb	17 32 26.8	
	comp=Z,18nm,1.5s						
E19K	**Redstone River**	**74.56**	**22**	P	**P**	**17 32 16.4**	**+0.9**
J16K	**Anvik River**	**75.11**	**27**	P	**P**	**17 32 20.1**	**+1.5**
J16K				IAmb	IAmb	17 32 21.4	
	comp=Z,3.9nm,0.8s						
C23K	**Itkillik River**	**75.51**	**19**	IAmb	IAmb	17 32 23.7	
	comp=Z,4.5nm,0.6s						
EUNU	**Eureka**	**75.66**	**0**	P	**P**	**17 32 23.4**	**+1.7**
D23K	**Nanushuk River**	**75.95**	**20**	P	**P**	**17 32 24.8**	**+1.4**
D23K				IAmb	IAmb	17 32 26.4	
	comp=Z,2.6nm,0.7s						
K17K	**Iditarod**	**76.30**	**27**	P	**P**	**17 32 27.1**	**+1.6**
K17K				IAmb	IAmb	17 32 28.6	
	comp=Z,8.3nm,0.9s						
H21K	**Melozitna Rive**	**76.98**	**23**	P	**P**	**17 32 31.2**	**+1.9**
H21K				IAmb	IAmb	17 32 32.3	
	comp=Z,5.4nm,0.9s						
M17K	**Holitna River**	**77.27**	**28**	P	**P**	**17 32 32.4**	**+1.4**
C27K	**Jago River**	**77.60**	**18**	P	**P**	**17 32 34.5**	**+1.9**
CAST	**Castle Rocks**	**78.42**	**25**	P	**P**	**17 32 39.2**	**+1.9**
CAST				IAmb	IAmb	17 33 02.5	
	comp=Z,9.8nm,1.4s						
BMAR	**Burnt Mountain**	**78.70**	**20**	P	**P**	**17 32 41.8**	**+2.9**
ILAR	**Eielson Array**	**79.55**	**22**	P	**P**	**17 32 44.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=298,slow=5.1,SNR=8.9						
	comp=Z,0.7nm,0.8s						

---

*JMA **03** 17:33:12.2±0.1, 34°N±2°×13°7E±°, h394km, MV2.9/35, SE OFF KII PENINSULA*
*IDC **03** 17:33:15.4±1.0, 33°.85N×136°.82E, h347km±16km, mb2.8/4, mbtmp3.6/9, Error ellipse: s-maj=23.1km s-min=19.8km az=53.0*
ISC 03 17:33:15.4±0.9, 33°.9N±0°.1×136°.89E±0°.09, h350km, n22, σ1$61/26, mb3.0/4, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.49**	**342**	*e*P	**Pn**	**17 34 01.8**	**+2.2**
JTNC	**Tanabenakahech**	**1.07**	**265**	*e*P	**Pn**	**17 34 03.1**	**+1.7**
JHMK	**Hamakita**	**1.15**	**39**	*e*P	**Pn**	**17 34 03.7**	**+2.2**
JAO	**Obara**	**1.38**	**13**	*e*P	**Pn**	**17 34 04.9**	**+2.1**
JNY	**Yasuok**	**1.64**	**29**	*e*P	**Pn**	**17 34 06.4**	**+2.0**
JAI	**Aioi**	**2.03**	**267**	*e*P	**Pn**	**17 34 07.9**	**+1.0**
JOD2	**Odawara 2**	**2.25**	**53**	*e*P	**Pn**	**17 34 11.1**	**+2.6**
JMN	**Monobe**	**2.52**	**266**	*e*P	**Pn**	**17 34 11.6**	**+1.0**
JRY	**Ryogami san**	**2.66**	**38**	*e*P	**Pn**	**17 34 13.9**	**+2.1**
MAT	**Matsushiro**	**2.83**	**22**	*e*P	**Pn**	**17 34 14.4**	**+1.3**
MJAR	**Matsushiro Arr**	**2.83**	**22**	P	**Pn**	**17 34 14.2**	**+1.1**
	4.2nm,0.5s,baz=191,slow=10,SNR=27						
MJAR				S	**S**	**17 35 00.5**	**+0.8**
	1.6nm,0.8s,baz=164,slow=15,SNR=1.7						
JAG	**Ashikaga**	**3.26**	**39**	*e*P	**Pn**	**17 34 17.3**	**+0.3**
JAG				*e*S	**S**	**17 35 05.3**	**-1.5**
JHO	**Hitachi**	**4.03**	**47**	*e*P	**Pn**	**17 34 24.7**	**0.0**
JHO				*e*S	**S**	**17 35 18.6**	**-1.9**
JFK	**Kawauchi**	**4.72**	**42**	*e*P	**Pn**	**17 34 31.9**	**0.0**
JFK				*e*S	**S**	**17 35 30.2**	**-3.7**
JNU	**Nakatsue**	**5.08**	**263**	P	**Pn**	**17 34 35.5**	**-0.5**
	11nm,0.9s,baz=333,slow=2.3,SNR=2.1						
KSRS	**Korea Array**	**8.10**	**298**	P	**Pn**	**17 35 11.1**	**+0.4**
	2.3nm,0.7s,baz=109,slow=12,SNR=8.1						
USRK	**Ussuriysk Ar.**	**10.95**	**341**	P	**Pn**	**17 35 45.1**	**+0.7**
	2.4nm,0.5s,baz=156,slow=12,SNR=8.1						
ASAJ	**Asahikawa**	**11.10**	**22**	P	**P**	**17 35 47.8**	**+0.9**
	2.8nm,0.5s,baz=214,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**37.14**	**255**	P	**P**	**17 39 53.4**	**-0.7**
	0.4nm,0.5s,baz=64,slow=8.9,SNR=4.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**42.73**	**304**	P	**P**	**17 40 39.0**	**-0.3**
	0.2nm,0.4s,baz=84,slow=9.3,SNR=5.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**53.62**	**183**	P	**P**	**17 42 01.5**	**-0.4**
	0.7nm,0.9s,baz=2.7,slow=7.2,SNR=9.3						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**57.34**	**183**	P	**P**	**17 42 27.6**	**-0.5**
	0.5nm,0.9s,baz=356,slow=4.6,SNR=5.2						
	0.5nm,0.9s						

---

*AEIC **03** 17:40:30.1±1.8, 69°.50N±0°.02×144°.38W±0°.05, h6km±4km, ML3.8, mb4.2/1(NEIC), ML3.9/106(NEIC), Error ellipse: s-maj=3.2km s-min=2.5km az=149.0*
*IDC **03** 17:40:30.7±0.7, 69°.70N×144°.16W, h0km, mb3.8/14, mbtmp3.8/18, ML3.6/4, MS3.1/6, Error ellipse: s-maj=18.7km s-min=12.9km az=52.0*
*NEIC **03** 17:40:31.9±1.5, 69°.55N±0°.03×144°.35W±0°.06, h10km±1km, Error ellipse: s-maj=5.1km s-min=2.8km az=324.0*
ISC 03 17:40:30.6±1.1, 69°.54N±0°.03×144°.34W±0°.02, h3km±8km, n189, σ0$90/178, mb4.0/15, MS3.1/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.24**	**68**	Pg	**Pg**	**17 40 35.3**	**+0.1**
C27K	**Jago River**	**0.24**	**68**	P	**Pg**	**17 40 35.6**	**+0.4**
	baz=242						
C27K				S	**Sg**	**17 40 38.7**	**+0.4**
	baz=242						
C26K	**Camden Bay**	**0.43**	**333**		**Pg**	**

TOLK	Toolik Lake Re	2.08 247	P	Pn	17 41 07.5	+1.1
	baz=63					
TOLK			S	Sb	17 41 35.6	+0.3
	baz=63					
TOLK			S	Sb	17 41 35.6	+0.3
	baz=63					
BMAR	Burnt Mountain	2.12 182	Pg	Pn	17 41 07.8	+0.8
C23K	Itkillik River	2.21 281		Pn	17 41 08.3	+0.2
C23K	Itkillik River	2.21 281	P	Pn	17 41 08.3	+0.2
	baz=96					
D23K	Nanushuk River	2.33 259	Pn	Pn	17 41 10.2	+0.4
D23K			IAML		17 41 49.7	
	comp=E,652nm,1.2s					
D23K			IAML		17 42 07.7	
	comp=N,488nm,1.1s					
F24K	Squaw Lake	2.41 214		Pn	17 41 11.6	+0.6
F24K	Squaw Lake	2.41 214	IAML		17 41 55.0	
	comp=E,457nm,0.7s					
F24K	Squaw Lake	2.41 214	P	Pn	17 41 11.6	+0.6
	baz=31					
E23K	Chandalar	2.43 235		Pn	17 41 12.1	+0.8
E23K			IAML		17 41 55.8	
	comp=N,627nm,0.8s					
E23K			IAML		17 41 56.8	
	comp=E,602nm,0.6s					
F28M	Old Crow	2.54 138	Pn	Pn	17 41 13.3	+0.6
F28M	Old Crow	2.54 138	P	Pn	17 41 13.3	+0.6
	baz=321					
E29M	Blow River	2.60 113		Pb	17 41 16.6	-1.1
E29M			IAML		17 41 54.4	
	comp=N,374nm,0.8s					
E29M			IAML		17 42 02.6	
	comp=E,479nm,0.8s					
G26K	Porcupine Rive	2.61 175		Pn	17 41 14.3	+0.7
G26K	Porcupine Rive	2.61 175	P	Pn	17 41 14.3	+0.7
	baz=355					
G27K	Doyon Strip	2.92 159		Pn	17 41 18.3	+0.3
FYU	Fort Yukon	3.01 187		Pn	17 41 20.0	+0.9
FYU			IAML		17 42 11.6	
	comp=E,384nm,1.0s					
FYU			IAML		17 42 17.5	
	comp=N,450nm,1.5s					
D22K	Ayikyak River	3.05 261		Pn	17 41 20.1	+0.3
D22K	Ayikyak River	3.05 261	P	Pn	17 41 20.0	+0.3
	baz=74					
E22K	Anaktuvuk Pass	3.06 246		Pn	17 41 20.0	+0.2
E22K			IAML		17 42 10.0	
	comp=N,290nm,0.9s					
E22K	Anaktuvuk Pass	3.06 246	P	Pn	17 41 19.8	0.0
	baz=60					
G24K	Hadweenzic Riv	3.08 204		Pn	17 41 20.4	+0.3
G24K	Hadweenzic Riv	3.08 204	IAML		17 42 13.8	
	comp=E,328nm,0.9s					
G24K			IAML		17 42 15.8	
	comp=N,431nm,0.8s					
G24K	Hadweenzic Riv	3.08 204	P	Pn	17 41 20.4	+0.3
	baz=21					
COLD	Coldfoot	3.18 226		Pn	17 41 21.9	+0.4
COLD	Coldfoot	3.18 226	P	Pn	17 41 22.1	+0.6
	baz=41					
B22K	Teshekpuk Lake	3.23 289		Pn	17 41 22.4	+0.2
B22K	Teshekpuk Lake	3.23 289	P	Pn	17 41 22.4	+0.2
	baz=101					
G29M	Pine Creek	3.54 135		Pn	17 41 27.4	+1.0
G29M	Pine Creek	3.54 135	P	Pn	17 41 27.4	+1.0
	baz=321					
G23K	Bananza Creek	3.55 219	IAML		17 42 28.0	
	comp=E,283nm,1.0s					
G23K			IAML		17 42 28.3	
	comp=N,255nm,0.8s					
B21K	Ikpikpuk River	3.60 276		Pn	17 41 27.7	+0.5
B21K	Ikpikpuk River	3.60 276	IAML		17 42 42.2	
	comp=E,275nm,0.8s					
B21K	Ikpikpuk River	3.60 276	P	Pn	17 41 27.7	+0.5
	baz=87					
E21K	Killik River	3.64 257	IAML		17 42 37.3	
	comp=E,257nm,0.7s					
E21K			IAML		17 42 38.8	
	comp=N,272nm,1.0s					
C21K	Knifeblade Rid	3.72 269		Pn	17 41 29.1	+0.2
C21K	Knifeblade Rid	3.72 269	P	Pn	17 41 29.1	+0.2
	baz=80					
H24K	Noodor Dome	3.96 202	Pn	Pn	17 41 32.5	+0.3
H24K			IAML		17 42 42.8	
	comp=E,130nm,1.4s					
H24K			IAML		17 42 45.4	
	comp=N,156nm,0.9s					
H24K	Noodor Dome	3.96 202	P	Pn	17 41 32.2	0.0
	baz=18					
G30M	tAoh Zraii Nji	3.96 127	Pn	Pn	17 41 33.5	+1.1
G30M			IAML		17 42 44.4	
	comp=N,116nm,0.9s					
G30M	tAoh Zraii Nji	3.96 127	P	Pn	17 41 33.4	+1.1
	baz=314					
H29M	Whitestone	4.03 143		Pn	17 41 34.2	+1.1
H29M	Whitestone	4.03 143	IAML		17 42 43.8	
	comp=N,157nm,0.8s					
H29M			IAML		17 42 51.7	
	comp=E,166nm,0.8s					
H29M	Whitestone	4.03 143	P	Pn	17 41 34.2	+1.1
	baz=328					
PRP	Porcupine Dome	4.07 187		Pn	17 41 34.6	+0.8
PRP			IAML		17 42 24.2	
	comp=E,158nm,0.7s					
PRP			IAML		17 42 25.7	
	comp=N,144nm,0.9s					
PRP	Porcupine Dome	4.07 187	P	Pn	17 41 34.6	+0.8
	baz=5.8					
I27K	Kandik River	4.09 164		Pn	17 41 35.1	+1.0
I27K	Kandik River	4.09 164	P	Pn	17 41 35.1	+1.0
	baz=346					
INK	Inuvik	4.10 102		Pn	17 41 35.0	+1.0
INK	Inuvik	4.10 102	Pn	Pn	17 41 33.6	-0.4
	comp=N,1.7nm,0.3s,baz=1.9,slow=3.7,SNR=33					
INK			Sn	Sn	17 42 20.3	-2.1
	comp=N,3.4nm,0.3s,baz=46,slow=24,SNR=6.5					
	comp=N,5.2nm,0.5s					
INK	Inuvik	4.10 102	P	Pn	17 41 35.0	+1.0
	baz=292					
F21K	Alatna River	4.11 240	Pn	Pn	17 41 34.7	+0.5
F21K			IAML		17 42 43.2	
	comp=N,173nm,0.6s					
F21K	Alatna River	4.11 240	P	Pn	17 41 34.9	+0.7
	baz=52					
I26K	Coal Creek Min	4.28 173		Pn	17 41 37.3	+0.7
I26K	Coal Creek Min	4.28 173	IAML		17 42 49.4	
	comp=N,171nm,1.1s					
I26K			IAML		17 42 53.5	
	comp=E,120nm,0.9s					
I26K	Coal Creek Min	4.28 173	P	Pn	17 41 37.3	+0.7
	baz=354					
F31M	Tsiigehtchic	4.43 113		Pn	17 41 39.4	+0.8
F31M	Tsiigehtchic	4.43 113	IAML		17 43 00.3	
	comp=E,113nm,1.3s					
F31M			IAML		17 43 06.3	
	comp=N,130nm,1.4s					
F31M	Tsiigehtchic	4.43 113	P	Pn	17 41 39.4	+0.8
	baz=303					
I28M	Miner Creek	4.45 156	Pn	Pn	17 41 40.3	+1.4
I28M			IAML		17 42 34.3	
	comp=N,97nm,1.0s					
I28M			IAML		17 42 37.4	
	comp=E,112nm,0.7s					
I28M	Miner Creek	4.45 156	P	Pn	17 41 39.8	+0.8
	baz=339					
D20K	Etivluk River	4.47 265		Pn	17 41 40.3	+1.1
D20K	Etivluk River	4.47 265	P	Pn	17 41 40.3	+1.1
	baz=74					
E20K	Nigu River	4.47 259		Pn	17 41 40.4	+1.1
E20K	Nigu River	4.47 259	P	Pn	17 41 40.4	+1.1
	baz=68					
A21K	Barrow	4.50 299		Pn	17 41 40.4	+0.8
A21K	Barrow	4.50 299	P	Pn	17 41 40.2	+0.7
	baz=108					
H22K	Ishtalitna Cre	4.54 220		Pn	17 41 40.2	+0.1
H22K	Ishtalitna Cre	4.54 220	P	Pn	17 41 40.2	+0.1
	baz=33					
G31M	Satah River	4.58 120		Pn	17 41 41.5	+0.9
G31M	Satah River	4.58 120	IAML		17 43 00.9	
	comp=N,122nm,1.0s					
G31M	Satah River	4.58 120	P	Pn	17 41 41.5	+0.9
	baz=309					
G21K	Allakaket	4.59 233		Pn	17 41 40.9	+0.1
G21K	Allakaket	4.59 233	P	Pn	17 41 40.9	+0.1
	baz=45					
POKR	Poker Plat Res	4.60 197		Pn	17 41 41.1	+0.1
POKR			IAML		17 42 37.2	
	comp=N,89nm,0.4s					
POKR			IAML		17 42 38.3	
	comp=E,137nm,0.6s					
POKR	Poker Plat Res	4.60 197	P	Pn	17 41 41.5	+0.5
	baz=14					
I23K	Minto, Yukon-K	4.82 206		Pn	17 41 44.4	+0.5
I23K			IAML		17 43 19.7	
	comp=E,95nm,1.4s					
I23K			IAML		17 43 20.6	
	comp=N,90nm,0.9s					
I23K	Minto, Yukon-K	4.82 206	P	Pn	17 41 44.3	+0.4
	baz=22					
COLA	College	4.88 198		Pn	17 41 45.4	+0.6
ILAR	Eielson Array	4.89 193		Pn	17 41 45.5	+0.5
ILAR	Eielson Array	4.89 193	Pn	Pn	17 41 45.6	+0.6
	comp=N,2.3nm,0.3s,baz=2.2,slow=12,SNR=74					
ILAR			Sn	Sn	17 42 42.9	+0.8
	comp=N,4.9nm,0.3s,baz=9.7,slow=22,SNR=5.6					
ILAR			Lg	Lg	17 43 03.5	
	comp=N,5.8nm,0.3s,baz=13,slow=25,SNR=5.3					
ILAR			LR	LR	17 44 07.2	
	comp=N,111nm,21.0s,baz=328,slow=43					
	comp=N,9.9nm,0.7s					
F20K	Avaraart Lake	4.91 245		Pn	17 41 45.9	+0.8
F20K	Avaraart Lake	4.91 245	IAML		17 43 09.8	
	comp=E,66nm,0.9s					
F20K			IAML		17 43 09.8	
	comp=N,112nm,1.1s					
F20K	Avaraart Lake	4.91 245	P	Pn	17 41 45.9	+0.8
	baz=54					
EGAK	Eagle	4.94 164		Pn	17 41 46.6	+0.9
EGAK			IAML		17 43 17.5	
	comp=N,79nm,0.9s					
EGAK			IAML		17 43 18.5	
	comp=N,63nm,1.2s					
EGAK	Eagle	4.94 164	P	Pn	17 41 46.6	+0.9
	baz=347					
J25K	Salcha River,	4.97 185		Pn	17 41 46.7	+0.6
J25K	Salcha River,	4.97 185	IAML		17 42 53.3	
	comp=N,59nm,0.8s					
J25K	Salcha River,	4.97 185	P	Pn	17 41 46.7	+0.6
	baz=4.1					
H21K	Melozitna Rive	5.07 224		Pn	17 41 48.1	+0.7
H21K			IAML		17 43 23.2	
	comp=E,107nm,1.1s					
J26L	Joseph Creek	5.07 176	IAML		17 42 51.4	
	comp=E,64nm,0.6s					
CCB	Clear Creek Bu	5.10 197	Pn	Pn	17 41 48.4	+0.7
CCB			IAML		17 43 23.0	
	comp=E,57nm,1.3s					
E19K	Redstone River	5.18 252		Pn	17 41 48.7	-0.3
E19K	Redstone River	5.18 252	P	Pn	17 41 48.7	-0.3
	baz=61					
I21K	Tanana	5.28 218		Pn	17 41 48.6	-1.6
WRH	Wood River Hil	5.30 198	Pn	Pn	17 41 51.6	+1.0
WRH			IAML		17 43 23.6	
	comp=E,55nm,0.8s					
NEA2	Nenana	5.30 203		Pn	17 41 51.2	+0.6
NEA2			IAML		17 42 55.4	
	comp=N,46nm,0.5s					
I30M	Mount Dempster	5.31 141	IAML		17 42 55.7	
	comp=E,72nm,0.6s					
I30M			IAML		17 42 59.0	
	comp=N,55nm,0.5s					
SCRK	Sand Creek	5.59 178		Pn	17 41 56.1	+1.4
SCRK	Sand Creek	5.59 178	P	Pn	17 41 56.1	+1.4
	baz=359					
RIDG	Independent Ri	5.83 182	P	Pn	17 41 59.5	+1.6
	baz=1.6					
DAWY	Dawson	5.83 158		Pn	17 41 59.1	+1.2
DAWY	Dawson	5.83 158	P	Pn	17 41 59.1	+1.2
	baz=342					
J30M	Hart River	5.88 144	P	Pn	17 41 59.6	+0.9
	baz=331					
BPAW	Bear Paw Mtn.	6.06 209	P	Pn	17 42 01.3	+0.3
	baz=23					
MCK	McKinley	6.11 200	P	Pn	17 42 02.7	+1.0
	baz=15					
H19K	Roundabout Mou	6.14 235		Pn	17 42 02.6	+0.6
H19K	Roundabout Mou	6.14 235	P	Pn	17 42 02.6	+0.6
	baz=44					
K29M	Barlow Dome	6.33 151	Pn	Pn	17 42 06.2	+1.4
RND	Reindeer	6.42 198		Pn	17 42 07.0	+1.1
F18K	Selawik	6.44 250	P	Pn	17 42 06.5	+0.3
	baz=56					
TRF	Thorofare Moun	6.56 204	P	Pn	17 42 08.7	+0.7
	baz=19					
BCAR	Beaver Creek A	6.58 170	Pn	Pn	17 42 09.4	+1.2
A36M	Sachs Harbour	6.75 60	Pn	Pn	17 42 09.8	-0.7
CAST	Castle Rocks	6.88 210		Pn	17 42 12.4	+0.1
CAST	Castle Rocks	6.88 210	P	Pn	17 42 12.4	+0.1
	baz=23					
RDOG	Red Dog Mine	6.89 266	Pn	Pn	17 42 11.5	-0.8
C36M	Paulatuk	7.13 82	Pn	Pn	17 42 14.8	-0.8
HARP	HAARP	7.18 183		Pn	17 42 16.9	+0.5
HARP	HAARP	7.18 183	P	Pn	17 42 16.9	+0.5
	baz=2.2					
H17K	Granite Mounta	7.59 240		Pn	17 42 22.5	+0.6
YUK2	White River	7.92 168		Pn	17 42 27.2	+0.7
YUK3	Moose Creek	7.96 167		Pn	17 42 28.5	+1.2
YUK3	Moose Creek	7.96 167	P	Pn	17 42 28.5	+1.2
	baz=350					
TTA	Tatalina	8.12 221		Pn	17 42 28.9	-0.5
SKT	Skwentna	8.14 205	Pn	Pn	17 42 30.7	+1.1
J17K	VABM Dome	8.51 231	Pn	Pn	17 42 34.2	-0.3
SUA	Susitna One	8.53 201	P	Pn	17 42 35.7	+0.7
	baz=15					
YUK4	Talbot Arm	8.56 161	P	Pn	17 42 34.9	-0.6
	baz=346					
F15K	North Star Dit	8.62 253	Pn	Pn	17 42 35.3	-0.8
STLK	Strandline Lak	8.64 205		Pn	17 42 37.3	+0.8
YUK5	Granite Creek	8.86 159		Pn	17 42 40.7	+1.2
YUK6	Outpost Mounta	8.98 161		Pn	17 42 42.5	+1.2
YUK6	Outpost Mounta	8.98 161	P	Pn	17 42 42.5	+1.2
	baz=346					
M17K	Holitna River	9.79 220	Pn	Pn	17 42 52.3	+0.2
M16K	Timber Creek	10.48 223	Pn	Pn	17 43 01.4	-0.1
KDAK	Kodiak Island	12.34 201	LR	LR	17 48 33.5	
	comp=N,114nm,19.7s,baz=208,slow=39					
DLBC	Dease Lake	12.74 144	Pn	Pn	17 43 31.2	-1.2
	comp=N,0.2nm,0.3s,baz=0.4,slow=18,SNR=2.0					
	comp=N,1.0nm,0.5s					
YKA	Yellowknife Ar	13.86 106	Pn	Pn	17 43 44.8	-2.9
YKA	Yellowknife Ar	13.86 106	Pn	Pn	17 43 44.3	-3.3
	comp=N,0.3nm,0.3s,baz=312,slow=13,SNR=11					
YKA			Sn	Sn	17 46 08.7	-13
	comp=N,0.6nm,0.3s,baz=308,slow=24,SNR=7.7					
	comp=N,0.8nm,0.5s					
RES	Resolute Bay	15.58 49	Pn	Pn	17 44 06.5	-4.2
	comp=N,0.6nm,0.3s,baz=272,slow=3.4,SNR=8.8					
RES			Sn	Sn	17 46 47.4	-16
	comp=N,0.7nm,0.3s,baz=342,slow=18,SNR=9.1					
FCC	Fort Churchill	23.63 92	P	P	17 45 43.0	+0.5
FCC			IAmb	IAmb	17 46 22.7	
	comp=Z,9.8nm,1.4s					
FRB	Frobisher Bay	28.74 64	LR	LR	17 59 14.5	
	comp=Z,63nm,19.3s,baz=290,slow=39					
NVAR	Mina Array Bea	34.15 142	P	P	17 47 18.0	+1.2
	comp=Z,0.8nm,0.7s,baz=325,slow=11,SNR=2.9					
	comp=Z,0.8nm,0.7s					
NRIK	Noril'sk	37.04 332	LR	LR	18 03 12.7	
	comp=Z,23nm,19.1s,baz=152,slow=37					
BORG	Borgarnes	40.23 34	LR	LR	18 08 38.6	
	comp=Z,20nm,18.6s,baz=334,slow=42					
ASAJ	Asahikawa	43.68 274	LR	LR	18 09 37.8	
	comp=Z,48nm,18.7s,baz=160,slow=40					
TXAR	Lajitas Array	46.44 128	P	P	17 48 59.5	+1.0
	comp=Z,0.4nm,0.6s,baz=358,slow=6.3,SNR=6.4					
	comp=Z,0.4nm,0.6s					
FINES	FINESS Array B	49.13 6	P	P	17 49 17.4	-1.3
	comp=Z,2.6nm,0.9s,baz=357,slow=8.7,SNR=8.6					
	comp=Z,2.6nm,0.9s					
HFS	Hagfors	49.67 14	P	P	17 49 22.1	-0.8
	comp=Z,3.3nm,0.9s,baz=45,slow=6.7,SNR=2.7					
	comp=Z,3.3nm,0.9s					
ZALV	Zalesovo Beam	51.74 325	P	P	17 49 38.5	-0.2
	comp=Z,0.3nm,0.3s,baz=21,slow=9.3,SNR=3.0					
	comp=Z,0.3nm,0.3s					
MJAR	Matsushiro Arr	51.94 273	P	P	17 49 41.5	+1.1
	comp=Z,1.7nm,0.9s,baz=23,slow=9.2,SNR=2.7					
	comp=Z,1.7nm,0.9s					
SONM	Songino Array	52.15 306	P	P	17 49 42.3	+0.4
	comp=Z,0.4nm,0.7s,baz=36,slow=6.1,SNR=5.1					
	comp=Z,0.4nm,0.7s					
EKA	Eskdalemuir Ar	52.28 27	P	P	17 49 42.0	-0.6
	comp=Z,1.8nm,0.8s,baz=335,slow=6.6,SNR=2.5					
	comp=Z,1.8nm,0.8s					
KSRS	Korea Array	54.69 283	P	P	17 50 01.2	+0.6
	comp=Z,1.7nm,0.9s,baz=26,slow=5.8,SNR=3.0					
	comp=Z,1.7nm,0.9s					
KURBB	Kurchatov Arra	56.12 329	P	P	17 50 10.8	+0.1
	comp=Z,1.2nm,0.8s,baz=12,slow=7.3,SNR=11					
	comp=Z,1.2nm,0.8s					
MKAR	Makanchi Array	59.05 324	P	P	17 50 30.9	-0.6
	comp=Z,0.6nm,0.6s,baz=44,slow=7.0,SNR=9.1					
	comp=Z,0.6nm,0.6s					
AKASG	Malin Array Be	59.98 5	P	P	17 50 37.4	-0.3
	comp=Z,1.3nm,0.5s,baz=359,slow=7.1,SNR=8.3					
	comp=Z,1.3nm,0.5s					
BRTR	Keskin Array B	71.04 2	P	P	17 51 49.0	-0.6
	comp=Z,0.4nm,0.7s,baz=3.7,slow=4.5,SNR=2.4					
	comp=Z,0.4nm,0.7s					
CMAR	Chiang Mai Arr	81.69 301	P	P	17 52 50.4	+0.3
	comp=Z,0.7nm,0.8s,baz=38,slow=5.0,SNR=7.4					
	comp=Z,0.7nm,0.8s					

---

*IDC **03** 17:40:45.6±5.6, 31°.54S×179°.03E, h521km±68km, mb3.2/2, mbtmp4.2/3, Error ellipse: s-maj=86.1km s-min=33.5km az=10.0*

*WEL **03** 17:40:51.1±1.2, 32°.S±10°×17°.9E±2°.1, h544km±14km, M3.7/9, mB4.0/7, ML4.5/4, MLv4.3/9, Mw(mB)3.1/7, Error ellipse: s-maj=27.5km s-min=13.2km az=89.6, confirmed*

ISC 03 17:40:45.2±1.9, 31°.7S±0°.1×179°.5E±0°.2, h550km, n44, σ2§03/52, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	Waipu Caves	6.05	224	P	P	17 42 25.4	+1.3
OUZ	Omahuta	6.08	233	P	P	17 42 25.2	+0.8
HAZ	Te Kaha	6.25	193	P	P	17 42 26.7	+0.8
HAZ				S	S	17 43 45.8	-2.6
WIAZ	Waiheke Island	6.27	214	P	P	17 42 28.7	+2.6
PUZ	Puketiti	6.48	189	P	P	17 42 31.0	+2.9
PUZ				S	S	17 43 51.8	-0.7
AWAZ	Awhitu Peninsu	6.72	215	P	P	17 42 32.4	+2.1
MWZ	Matawai	6.86	193	P	P	17 42 33.0	+1.3
MWZ				S	S	17 43 58.5	-0.5
URZ	Urewera	6.87	196	P	P	17 42 32.1	+0.4
	9.9nm,0.4s,baz=341,slow=4.4,SNR=18						
URZ				S	S	17 43 56.7	-2.4
	7.4nm,0.9s,baz=136,slow=22,SNR=5.7						
URZ	Urewera	6.87	196	P	P	17 42 32.8	+1.1
URZ				S	S	17 43 59.1	-0.1
TOZ	Tahuroa Road	6.90	207	P	P	17 42 34.7	+2.7
TLZ	Tolley Road	7.41	205	P	P	17 42 40.4	+3.4
MTHZ	Maungataniwha	7.50	196	P	P	17 42 39.7	+1.8
MTHZ				S	S	17 44 09.6	-0.7
RATZ	Rangitukua	7.81	202	P	P	17 42 43.7	+2.8
HIZ	Hauiti	7.83	208	P	P	17 42 45.5	+4.5
BKZ	Black Stump Fm	7.88	197	P	P	17 42 41.7	+0.1
BKZ				S	S	17 44 16.8	-0.5
NTVZ	North Tongarir	8.05	202	P	P	17 42 46.1	+2.7
TMVZ	Te Maari	8.06	202	P	P	17 42 45.1	+1.6
ETVZ	East Tongariro	8.08	201	P	P	17 42 45.7	+2.0
TWVZ	Taurewa	8.11	203	P	P	17 42 46.7	+2.8
OTVZ	Oturere	8.12	202	P	P	17 42 46.0	+1.9
SNVZ	South Ngauruho	8.15	202	P	P	17 42 47.0	+2.7
NGZ	Ngauruhoe	8.15	202	P	P	17 42 47.3	+2.9
TUVZ	Tukino	8.22	201	P	P	17 42 47.1	+2.1
FWVZ	Far West T-bar	8.24	202	P	P	17 42 47.4	+2.1
WNVZ	Wahianoa	8.29	201	P	P	17 42 47.3	+1.5
KAHZ	Kahuranaki	8.40	194	P	P	17 42 49.3	+2.6
VRZ	Vera Road	8.40	206	P	P	17 42 50.8	+4.2
NEZ	North Egmont	8.78	209	P	P	17 42 55.5	+4.9
BFZ	Birch Farm	9.38	195	P	P	17 42 57.1	+0.5
MRZ	Mangatainoka R	9.53	198	P	P	17 42 57.9	-0.2
HOWZ	Holdsworth Sta	9.77	198	P	P	17 43 02.2	+1.7
HOWZ				S	S	17 44 49.6	-2.2
OGWZ	Otaki Gorge	9.79	200	P	P	17 43 01.5	+0.8
DUWZ	D'Urville Isla	10.18	205	P	P	17 43 05.6	+0.8
TCW	Tory Channel	10.42	202	P	P	17 43 08.4	+1.2
TUWZ	Tuamarina	10.73	203	P	P	17 43 12.0	+1.7
NNZ	Nelson	10.74	206	P	P	17 43 11.8	+1.4
QRZ	Quartz Range	10.74	210	P	P	17 43 12.4	+1.9
MRNZ	Matariki Terra	11.13	207	P	P	17 43 15.7	+1.2
THZ	Tophouse	11.39	206	P	P	17 43 18.8	+1.6
KHZ	Kahutara	11.74	202	P	P	17 43 22.7	+1.9
DSZ	Denniston Nort	11.81	209	P	P	17 43 24.1	+2.5
ASAR	Alice Springs	40.93	270	P	P	17 47 39.5	-0.9
	0.8nm,0.4s,baz=107,slow=7.4,SNR=35						
ASAR				PcP	PP	17 49 29.4	-0.4
	0.1nm,0.7s,baz=102,slow=4.0,SNR=1.1						
	0.8nm,0.4s						
WRA	Warramunga Arr	42.03	275	P	P	17 47 48.0	-1.1
	1.9nm,0.3s,baz=111,slow=8.0,SNR=69						
	1.9nm,0.3s						
FINES	FINESS Array B	145.54	338	PKPbc	PKPab	17 59 23.1	+0.1
	1.0nm,0.3s,baz=34,slow=4.2,SNR=16						

---

*UPP **03** 17:40:56.6±0.1, 67°.84N×20°.22E, h0km, ML2.5, Confirmed Induced event*

*HEL **03** 17:40:57.0±0.1, 67°.83N×20°.18E, h0km, ML1.7, Explosion*

ISC 03 17:40:57.1±0.8, 67°.85N±0°.02×20°.24E±0°.03, h0km, n28, σ1§02/51, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	20	P	Pg	17 40 59.2	0.0
KUA				S	Sg	17 41 01.0	+0.4
RATU	Laukkuluspa	0.25	264	P	Pg	17 41 01.4	-0.5
RATU				S	Sg	17 41 04.7	-0.3
LANU	Lannavaara	0.69	73	P	Pg	17 41 09.9	-0.5
LANU				S	Sg	17 41 19.2	-0.1
LANU	Lannavaara	0.69	73	PG	Pg	17 41 09.8	-0.6
LANU				SG	Sg	17 41 19.2	-0.1
DUNU	Dundret	0.74	170	P	Pg	17 41 10.5	-0.9
DUNU				S	Sg	17 41 20.6	-0.4
KIF	Kilpisjarvi	1.18	10	eP	Pg	17 41 19.6	-0.1
KIF	Kilpisjarvi	1.18	10	PG	Pg	17 41 19.3	-0.4
	baz=191						
KIF				MSG		17 41 34.6	
	comp=Z,6.5nm,0.2s						
KIF				SG	Sg	17 41 35.0	+0.1
HEF	Hetta	1.40	65	eP	Pn	17 41 23.3	-0.6
HEF	Hetta	1.40	65	PG	Pn	17 41 22.6	-1.3
HEF				MSG		17 41 40.0	
	comp=Z,5.0nm,0.2s						
HEF				SG	Sg	17 41 40.8	-1.3
ERTU	Ertsjaerv	1.51	149	P	Pn	17 41 24.2	-1.2
ERTU				S	Sg	17 41 44.9	-0.7
ERTU	Ertsjaerv	1.51	149	PG	Pn	17 41 24.0	-1.4
ERTU				SN	Sg	17 41 45.0	-0.6
KLF	Kolari	1.56	112	PG	Pn	17 41 25.2	-0.9
KLF				MSG		17 41 44.2	
	comp=Z,4.8nm,0.2s						
KLF				SN	Sg	17 41 47.1	-0.1
KTK1	Kautokeino	1.61	42	PG	Pn	17 41 26.5	-0.3
KTK1				SN	Sg	17 41 50.3	+1.6
HARU	Harads	1.72	170	P	Pn	17 41 27.9	-0.4
HARU				S	Sn	17 41 50.8	-0.1
TRO	Tromso	1.85	346	PG	Pn	17 41 30.5	+0.4
TRO				SG	Sn	17 41 54.3	+0.1
KALU	Kalix	2.35	147	PB	Pn	17 41 37.4

OLKF	**Oulanka, Finla**	**3.90 109**	PN	**Pn**	**17 41 58.7 +0.5**
OLKF			SG	**Sb**	**17 42 56.1 +1.8**
MSF	**Maaselka**	**3.98 115**	PN	**Pn**	**17 42 00.2 +0.9**
KU6	**Riekki**	**4.22 111**	PN	**Pn**	**17 42 03.0 +0.4**
	baz=302				
KU1	**Kurvinen**	**4.36 117**	PN	**Pn**	**17 42 05.8 +1.4**

*BUT **03** 17:45:59.7±1.9, 46°.89N±0°.05×112°.66W±0°.05, h14km±5km, Error ellipse: s-maj=7.2km s-min=4.4km az=194.0*

NEIC 03 17:45:58.8±2.3, 46°.81N±0°.03×112°.77W±0°.05, h5km±1km, ML2.8/26, ML2.9/23(BUT), Error ellipse: s-maj=6.3km s-min=5.8km az=278.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.37**	**64**	Pg	Pg	17 46 05.3	-0.7
BPMT	**Black Pine Rid**	**0.60**	**231**		Pb	17 46 13.0	+1.1
HRY	**Holter Researc**	**0.66**	**99**	Pg	Pg	17 46 11.1	-0.3
MSO	**Missoula**	**0.80**	**272**		Pn	17 46 16.7	-0.2
MSO	**Missoula**	**0.80**	**272**	IAML		17 46 28.6	
	317nm,0.3s						
LRM	**Limekiln Ridge**	**1.01**	**167**		Pn	17 46 20.1	+0.1
BOZ	**Bozeman (W)**	**1.45**	**146**		Pg	17 46 27.1	+0.4
BOZ	**Bozeman (W)**	**1.45**	**146**	IAML		17 46 47.5	
	117nm,0.4s						
BOZ				IAML		17 46 48.1	
	192nm,0.3s						
DLMT	**Dillon**	**1.46**	**175**		Pg	17 46 28.2	+1.5
DLMT	**Dillon**	**1.46**	**175**	IAML		17 46 49.3	
	135nm,0.7s						
DLMT				IAML		17 46 49.5	
	105nm,0.2s						
MCMT	**McKenzie Canyo**	**1.98**	**182**	Pn	Pn	17 46 34.2	+1.0
QLMT	**Earthquake Lak**	**2.19**	**154**	Pn	Pn	17 46 35.8	-0.3
YHL	**Hebgen Lake**	**2.25**	**150**		Pg	17 46 39.0	0.0
EGMT	**Eagleton**	**2.38**	**58**		Pg	17 46 39.7	+1.1
GCMT	**Greycliff**	**2.38**	**114**		Pn	17 46 39.1	+0.5
YHH	**Holmes Hill**	**2.43**	**146**	Pn	Pn	17 46 39.5	+0.1
PLID	**Pearl Lake**	**2.84**	**234**		Pg	17 46 54.2	+1.1
PLID				IAML		17 47 36.1	
	23nm,0.7s						
RLMT	**Red Lodge**	**2.97**	**123**	Pn	Pn	17 46 48.2	+1.4
RLMT				IAML		17 47 37.9	
	20nm,0.6s						
RLMT				IAML		17 47 38.0	
	21nm,0.5s						
FLWY	**Flagg Ranch**	**3.10**	**151**	Pn	Pn	17 46 50.2	+1.7
NEW	**Newport**	**3.29**	**298**	Pn	Pn	17 46 52.0	+1.0
HLID	**Hailey**	**3.45**	**200**		Pn	17 46 55.1	+1.7
HLID				IAML		17 47 53.2	
	25nm,0.4s						
HLID				IAML		17 47 54.0	
	22nm,0.6s						
MFID	**Camas Ranch**	**4.03**	**214**	Pn	Pn	17 47 02.5	+1.3
AHID	**Auburn Hatcher**	**4.22**	**163**	Pn	Pn	17 47 04.4	+0.5
AHID				IAML		17 48 23.4	
	11nm,3.4s						
AHID				IAML		17 48 28.5	
	14nm,4.9s						
G08A	**Pilot Rock**	**4.57**	**253**	Pn	Pn	17 47 09.7	+1.1
G08A				IAML		17 48 11.0	
	comp=E,8.8nm,4.6s						
G08A				IAML		17 49 59.9	
	comp=N,15nm,4.8s						

*BUT **03** 17:48:34.1±1.7, 46°.89N±0°.05×112°.65W±0°.04, h15km±3km, Error ellipse: s-maj=7.8km s-min=3.4km az=178.0*

NEIC 03 17:48:34.3±2.4, 46°.84N±0°.03×112°.66W±0°.02, h5km±2km, ML2.7/16, ML2.8/18(BUT), Error ellipse: s-maj=4.4km s-min=3.0km az=4.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.28**	**62**		Pg	17 48 39.6	-0.3
HRY	**Holter Researc**	**0.58**	**102**		Pg	17 48 45.5	+0.1
BPMT	**Black Pine Rid**	**0.68**	**234**		Pg	17 48 47.6	+0.3
MSO	**Missoula**	**0.88**	**270**		Pg	17 48 51.1	-0.1
MSO	**Missoula**	**0.88**	**270**	IAML		17 49 03.1	
	241nm,0.3s						
MSO				IAML		17 49 06.3	
	172nm,0.3s						
LRM	**Limekiln Ridge**	**1.02**	**172**		Pb	17 48 54.5	-0.1
BOZ	**Bozeman (W)**	**1.43**	**150**		Pb	17 49 01.6	+0.1
BOZ	**Bozeman (W)**	**1.43**	**150**	IAML		17 49 21.9	
	76nm,0.4s						
BOZ				IAML		17 49 22.5	
	118nm,0.3s						
DLMT	**Dillon**	**1.48**	**178**		Pg	17 49 02.7	+0.1
DLMT	**Dillon**	**1.48**	**178**	IAML		17 49 23.7	
	82nm,0.7s						
MCMT	**McKenzie Canyo**	**2.02**	**184**		Pn	17 49 08.7	-0.5
QLMT	**Earthquake Lak**	**2.18**	**156**	Pg	Pg	17 49 16.1	0.0
EGMT	**Eagleton**	**2.30**	**58**		Pn	17 49 14.2	+1.3
GCMT	**Greycliff**	**2.32**	**116**		Pn	17 49 13.2	-0.1
YHB	**Horse Butte**	**2.32**	**153**	Pn	Pn	17 49 12.6	-0.7
YHH	**Holmes Hill**	**2.41**	**148**	Pn	Pn	17 49 12.3	-2.3
PLID	**Pearl Lake**	**2.92**	**234**		Pg	17 49 28.9	-1.2
NEW	**Newport**	**3.35**	**297**	Pn	Pn	17 49 26.1	-1.1
NEW				IAML		17 50 18.7	
	18nm,4.8s						
HLID	**Hailey**	**3.50**	**201**	Pn	Pn	17 49 29.4	-0.1
HLID				IAML		17 50 27.6	
	16nm,0.3s						
HLID				IAML		17 50 28.4	
	16nm,1.1s						

RSNC 03 18:06:30.0±0.0, 6°N±1°×7°4W±°, h105km±2km, M2.3, mb3.5, ML2.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.50**	**66**	P	Pn	18 06 45.9	-0.7
BARC				S	Sn	18 06 58.5	-0.5
RUSC	**La Rusia**	**0.74**	**132**	P	Pn	18 06 47.7	-1.1
RUSC				S	Sn	18 07 02.1	-0.8
PTBC	**PUERTO BERRIO,**	**0.82**	**280**	P	Pn	18 06 46.9	-2.1
PTBC				S	Sn	18 07 02.6	-0.8
SPBC	**San Pablo de B**	**0.85**	**210**	P	Pn	18 06 48.0	-1.4
SPBC				S	Sn	18 07 03.0	-1.0
PAMC	**Pamplona, Colo**	**1.33**	**45**	P	Pn	18 06 54.1	-0.9
PAMC				S	Sn	18 07 13.1	-0.7
NORC	**Norcasia**	**1.47**	**236**	P	Pn	18 06 54.3	-2.0
NORC				S	Sn	18 07 15.4	-0.8
ZARC	**Zaragoza, Cauc**	**1.63**	**312**	P	Pn	18 06 56.9	-1.3
ZARC				S	Sn	18 07 19.1	-0.5
ROSC	**El Rosal**	**1.68**	**204**	P	Pn	18 06 58.4	-0.8
ROSC				S	Sn	18 07 21.2	-0.1
CHIC	**Chingaza**	**1.75**	**183**	P	Pn	18 06 58.8	-1.3
CHIC				S	Sn	18 07 22.7	-0.2
TAMC	**Tame, Arauca**	**1.84**	**88**	P	Pn	18 06 59.8	-1.0
TAMC				S	Sn	18 07 23.8	-0.4
OCAC	**Ocana**	**1.86**	**10**	P	Pn	18 07 00.0	-1.2
OCAC				S	Sn	18 07 24.5	-0.5
GUY2C	**Guyana, Caldas**	**2.07**	**236**	P	Pn	18 07 03.5	-0.7
GUY2C				S	Sn	18 07 29.8	-0.4
VILC	**Villavicencio,**	**2.26**	**181**	P	Pn	18 07 05.1	-1.3
VILC				S	Sn	18 07 34.4	+0.3
UREC	**San Jos de Ur**	**2.31**	**306**	P	Pn	18 07 05.0	-1.9
UREC				S	Sn	18 07 33.9	-1.2
ANIL	**Santa Ana**	**2.58**	**223**	P	Pn	18 07 09.4	-1.2
ANIL				S	Sn	18 07 41.0	-0.7
DBBC	**Dabeiba**	**2.63**	**284**	P	Pn	18 07 10.0	-1.0
DBBC				S	Sn	18 07 41.8	-0.8
PRAC	**Prado**	**2.93**	**205**	P	Pn	18 07 14.5	-0.6
PRAC				S	Sn	18 07 49.6	-0.2
ORTC	**Ortega, Tolima**	**2.94**	**213**	P	Pn	18 07 14.4	-0.7
ORTC				S	Sn	18 07 50.3	+0.4
PLMC	**San Jos del P**	**3.02**	**241**	P	Pn	18 07 14.8	-1.4
PLMC				S	Sn	18 07 51.0	-0.8
URMC	**La Uribe, Meta**	**3.21**	**193**	P	Pn	18 07 18.1	-0.7
URMC				S	Sn	18 07 55.8	-0.6
APAC	**Apartado, Choc**	**3.28**	**297**	P	Pn	18 07 18.9	-0.7
APAC				S	Sn	18 07 57.7	-0.3
SJCC	**San Jacinto, C**	**3.80**	**336**	P	Pn	18 07 25.9	-0.8
SJCC				S	Sn	18 08 07.4	-3.2
CRJC	**Cerrejon, Guaj**	**4.66**	**9**	P	Pn	18 07 37.0	-1.3
CRJC				S	Sn	18 08 28.8	-2.6
URIC	**Uribia, Colomb**	**5.52**	**17**	P	Pn	18 07 47.9	-2.0
URIC				S	Sn	18 08 49.3	-2.8

*JMA **03** 19:17:18.9±0.2, 24°.4N±0°.8×122°.2E±0°.3, h54km±3km, MV2.4/15, TAIWAN REGION*
*TAP **03** 19:17:19.1, 24°.46N×122°.16E, h54km, ML3.0, C*

ISC 03 19:17:19.3±1.2, 24°.46N±0°.02×122°.23E±0°.02, h50km±5km, n127, σ1§16/225, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.04**	**174**	P	Pn	19 17 27.0	+0.2
EOS2				S	Sn	19 17 33.4	+1.4
EOS3	**EOS3**	**0.19**	**154**	*i* P	Pn	19 17 27.8	+0.4
EOS3				S	Sn	19 17 34.6	+1.6
EOS4	**EOS4**	**0.34**	**166**	*eP*	Pn	19 17 28.5	+0.1
EOS4				*eS*	Sn	19 17 36.2	+1.3
ESAO	**Su ao**	**0.37**	**289**	*i* P	Pn	19 17 28.5	-0.6
ESAO				S	Sn	19 17 35.4	-0.6
TWC	**Suao**	**0.38**	**294**	P	Pn	19 17 28.5	-0.6
EWUT	**Wuta**	**0.41**	**268**	*i* P	Pn	19 17 28.9	-0.5
EWUT				S	Sn	19 17 36.0	-0.8
ENA	**Nanau**	**0.45**	**266**	*i* P	Pn	19 17 29.2	-0.7
ENA				*eS*	Sn	19 17 36.6	-0.9
EAHA	**Aohua**	**0.46**	**254**	P	Pn	19 17 29.8	-0.3
EAHA				S	Sn	19 17 38.2	+0.3
EGS		**0.47**	**325**	*eP*	Pn	19 17 30.3	+0.1
EGS				S	Sn	19 17 37.7	-0.2
NDS	**Dongshan**	**0.50**	**291**	P	Pn	19 17 30.5	0.0
NDS				S	Sn	19 17 38.5	0.0
ILA	**Ilan**	**0.53**	**305**	P	Pn	19 17 30.8	-0.2
ILA				S	Sn	19 17 39.5	+0.2
TWE	**Neicheng**	**0.57**	**297**	P	Pn	19 17 31.5	+0.1
TWE				S	Sn	19 17 40.0	-0.1
TWB1	**Santiao Chiao**	**0.59**	**338**	P	Pn	19 17 31.0	-0.7
TWB1				*eS*	Sn	19 17 39.4	-1.1
ETL	**Fush Village**	**0.63**	**242**	P	Pn	19 17 31.6	-0.5
ETL				*eS*	Sn	19 17 41.9	+0.5
ENTT	**Nioudou**	**0.63**	**287**	P	Pn	19 17 32.4	+0.3
ENTT				S	Sn	19 17 42.0	+0.6
TIPB	**Shuangxi**	**0.63**	**325**	P	Pn	19 17 31.7	-0.5
TIPB				S	Sn	19 17 40.6	-0.9
NACB	**Ninganchiao**	**0.64**	**244**	P	Pn	19 17 31.9	-0.4
NACB	**Ninganchiao**	**0.64**	**244**	P	Pn	19 17 31.6	-0.8
NACB				*eS*	Sn	19 17 41.1	-0.6
LATG	**Datong**	**0.64**	**277**	P	Pn	19 17 32.5	+0.1
LATG				*eS*	Sn	19 17 42.1	+0.2
JYNG	**Yonagunijimaku**	**0.65**	**90**	P	Pn	19 17 32.5	+0.1
JYNG				*eS*	Sn	19 17 42.0	0.0
FUSB	**Fushanzhiwuyua**	**0.66**	**297**	P	Pn	19 17 32.8	+0.3
FUSB				S	Sn	19 17 42.5	+0.4
TWD	**Chiawan**	**0.69**	**237**	P	Pn	19 17 32.2	-0.7
TWD				S	Sn	19 17 42.2	-0.5
SXI1	**Grass Mountain**	**0.71**	**333**	*eP*	Pn	19 17 32.6	-0.7
SXI1				*eS*	Sn	19 17 42.3	-1.1
YOJ	**Yonaguni jima**	**0.71**	**89**	⇑P	Pn	19 17 33.1	0.0
YOJ				S	Sn	19 17 43.4	+0.2
YOJ	**Yonaguni jima**	**0.71**	**89**	P	Pn	19 17 33.3	+0.1
YOJ				*eS*	Sn	19 17 43.3	0.0
ETLH	**Xiulin Townshi**	**0.72**	**250**	P	Pn	19 17 32.9	-0.5
ETLH				*eS*	Sn	19 17 44.2	+0.5
NWLT	**Wulai**	**0.73**	**296**	P	Pn	19 17 33.7	+0.2
NWLT				S	Sn	19 17 43.9	+0.1
NWF	**Wu-fen Shan**	**0.73**	**326**	P	Pn	19 17 33.2	-0.4
NWF				S	Sn	19 17 42.5	-1.4
WFSB	**Wu-fen Shan**	**0.73**	**326**	P	Pn	19 17 33.2	-0.2
WFSB				*eS*	Sn	19 17 42.6	-1.2
NNSB	**Datong**	**0.77**	**268**	*i* P	Pn	19 17 33.9	-0.2
NNSB				S	Sn	19 17 44.9	+0.1
NNS	**Nan Shan**	**0.78**	**269**	P	Pn	19 17 34.1	-0.1
NNS				*eS*	Sn	19 17 45.0	0.0
TWA	**Mucha**	**0.78**	**312**	*eP*	Pn	19 17 35.1	+0.9
TWA				*eS*	Sn	19 17 45.6	+0.6
YHNB	**Yeheng**	**0.80**	**285**	P	Pn	19 17 35.0	+0.5
YHNB	**Yeheng**	**0.80**	**285**	P	Pn	19 17 35.0	+0.5
YHNB				S	Sn	19 17 46.0	+0.4
NSK	**Sanguang**	**0.82**	**286**	P	Pn	19 17 35.1	+0.4
NSK				S	Sn	19 17 46.3	+0.3
TEYL	**Yanliau Villag**	**0.82**	**225**	P	Pn	19 17 32.9	-1.8
TEYL				*eS*	Sn	19 17 45.2	-0.6
ETM	**Tongmen**	**0.83**	**234**	P	Pn	19 17 33.9	-0.8
ETM				*eS*	Sn	19 17 44.8	-1.2
TATO	**Taipei**	**0.85**	**308**	P	Pn	19 17 34.8	-0.2
LXIB	**Xiulin Townshi**	**0.86**	**240**	*eP*	Pn	19 17 34.5	-0.8
SHUL	**Shoufeng**	**0.90**	**222**	P	Pn	19 17 35.0	-0.7
SHUL				*eS*	Sn	19 17 47.6	-0.1
YM01	**YM01**	**0.91**	**319**	P	Pn	19 17 35.4	-0.5
YM01				S	Sn	19 17 47.8	-0.3
FUSS	**Fushou**	**0.92**	**257**	*eP*	Pn	19 17 36.1	0.0
YM08	**YM08**	**0.93**	**322**	P	Pn	19 17 35.9	-0.2
YM08				S	Sn	19 17 47.0	-1.5
WHF	**Hehuan Shan**	**0.93**	**251**	P	Pn	19 17 36.2	-0.3
WHF				*eS*	Sn	19 17 48.5	-0.6
ZUZH	**Zhuzihu**	**0.94**	**319**	P	Pn	19 17 35.7	-0.5
ZUZH				S	Sn	19 17 47.8	-0.8
ESL	**Shilin**	**0.97**	**229**	P	Pn	19 17 35.5	-1.1
ESL				*eS*	Sn	19 17 47.8	-1.5
ANP	**Anpu**	**0.97**	**319**	*eP*	Pn	19 17 35.8	-0.9
ANP				*eS*	Sn	19 17 49.6	+0.1
TWS1	**Kuangyinshan**	**0.98**	**311**	P	Pn	19 17 35.6	-1.1
TWS1				*eS*	Sn	19 17 48.8	-0.7
TWT	**Tachien**	**0.98**	**258**	P	Pn	19 17 37.4	+0.5
TWT				*eS*	Sn	19 17 50.0	+0.1
TWY	**Chenhua**	**0.99**	**325**	*eP*	Pn	19 17 35.9	-1.0
TWY				*eS*	Sn	19 17 48.6	-1.4
TDCB	**Techi**	**1.00**	**258**	*eP*	Pn	19 17 37.1	0.0
TDCB				*eS*	Sn	19 17 50.1	-0.1
NTST	**Danshui**	**1.00**	**315**	P	Pn	19 17 36.7	-0.2
NTST				S	Sn	19 17 50.2	+0.1
KSHI	**Guanxi Townshi**	**1.01**	**289**	P	Pn	19 17 38.3	+1.1
KSHI				S	Sn	19 17 52.9	+2.6
NFF	**Wufeng Townshi**	**1.03**	**280**	*eP*	Pn	19 17 38.2	+0.8
NFF				*eS*	Sn	19 17 51.8	+1.0
WARBT	**Fenglin Townsh**	**1.06**	**226**	*i* P	Pn	19 17 36.8	-1.2
WARBT				*eS*	Sn	19 17 50.4	-1.3
NCUH	**Zhongli**	**1.08**	**298**	P	Pn	19 17 38.3	+0.2
NCUH				*eS*	Sn	19 17 54.5	+2.6
OWD	**Renai**	**1.08**	**243**	*eP*	Pn	19 17 37.6	-0.6
OWD				S	Sn	19 17 51.3	-1.0
WUSB	**Renai**	**1.11**	**246**	P	Pn	19 17 38.7	0.0
LIOB	**Emei**	**1.12**	**280**	P	Pn	19 17 39.7	+1.0
LIOB				*eS*	Sn	19 17 54.0	+1.0
SBCB	**Hsinchu**	**1.18**	**287**	*eP*	Pn	19 17 40.4	+0.9
WHP	**Taichung City**	**1.18**	**262**	P	Pn	19 17 40.4	+0.8
WHP				*eS*	Sn	19 17 56.0	+1.4
HGSD	**Ruisui**	**1.21**	**218**	P	Pn	19 17 39.0	-0.9
HGSD				*eS*	Sn	19 17 55.6	+0.5
VWDT	**VWDT**	**1.22**	**235**	P	Pn	19 17 39.8	-0.1
VWDT				*eS*	Sn	19 17 55.0	-0.2
EHY	**Hungye**	**1.26**	**221**	P	Pn	19 17 39.2	-1.3
EHY				*eS*	Sn	19 17 54.4	-1.9
WCS	**Beigang Elemen**	**1.27**	**252**	P	Pn	19 17 41.1	+0.5
WCS				*eS*	Sn	19 17 57.9	+1.4
NMLH	**Miaoli**	**1.31**	**274**	P	Pn	19 17 42.3	+1.0
NMLH				*eS*	Sn	19 17 59.9	+2.3
SMLT	**Sun Moon Lake**	**1.34**	**245**	P	Pn	19 17 41.0	-0.7
SMLT				S	Sn	19 17 59.1	+0.6
SSLB	**Suanglung**	**1.34**	**240**	P	Pn	19 17 41.5	-0.2
SSLB	**Suanglung**	**1.34**	**240**	*eP*	Pn	19 17 41.5	-0.2
YULB	**Yu-li**	**1.36**	**219**	P	Pn	19 17 40.5	-1.4
YULB	**Yu-li**	**1.36**	**219**	P	Pn	19 17 40.6	-1.4
YULB				*eS*	Sn	19 17 56.2	-2.6
TYC	**Yuchr**	**1.37**	**247**	*eP*	Pn	19 17 42.5	+0.5
IRIF	**Iriomote-Funau**	**1.38**	**95**	P	Pn	19 17 41.9	-0.1
IRIF				*eS*	Sn	19 17 59.2	0.0
EYUL	**Yuli**	**1.38**	**217**	P	Pn	19 17 41.1	-1.2
EYUL				*eS*	Sn	19 17 58.8	-0.6
TWF1	**Yuli**	**1.39**	**218**	P	Pn	19 17 41.1	-1.3
TWF1				*eS*	Sn	19 17 57.5	-2.1
TCU	**Taichung**	**1.45**	**258**	*eS*	Sn	19 18 02.6	+1.7
WHYT	**Xinyi Township**	**1.47**	**239**	P	Pn	19 17 43.9	+0.5
WHYT				*eS*	Sn	19 18 01.2	-0.3
WJS	**Zhushan**	**1.51**	**246**	P	Pn	19 17 45.4	+1.5
WJS				*eS*	Sn	19 18 04.4	+1.9
FULB	**Fuli**	**1.52**	**215**	*eP*	Pn	19 17 42.9	-1.2
WNT	**Mingjian**	**1.52**	**248**	P	Pn	19 17 45.4	+1.3
WNT				S	Sn	19 18 05.1	+2.3
WCH1	**Changhua City**	**1.58**	**256**	*eS*	Sn	19 18 05.6	+1.4
ALS	**Alishan**	**1.61**	**234**	P	Pn	19 17 46.0	+0.5
JKRS	**Kuro-shima**	**1.64**	**97**	*eP*	Pn	19 17 46.4	+0.7
JKRS				*eS*	Sn	19 18 06.4	+0.8

CHN5	**Tsauling**	**1.66 239**	P	**Pn**	**19 17 47.0 +0.9**
CHN5			S	**Sn**	**19 18 08.1 +2.0**
ELDTW	**Lidau**	**1.68 222**	*eP*	**Pn**	**19 17 44.5 -1.8**
ELDTW			*eS*	**Sn**	**19 18 05.0 -1.8**
EDH	**Donghe**	**1.70 210**	*eP*	**Pn**	**19 17 44.9 -1.7**
EDH			*eS*	**Sn**	**19 18 04.0 -3.2**
WDLH	**Douliu**	**1.72 244**	P	**Pn**	**19 17 48.5 +1.6**
WDLH			S	**Sn**	**19 18 10.0 +2.3**
JIJ	**Ishigaki jima**	**1.75 93**	*eP*	**Pn**	**19 17 47.3 +0.1**
WRL	**Guolierlin Hig**	**1.78 252**	P	**Pn**	**19 17 48.1 +0.5**
WRL			*eS*	**Sn**	**19 18 09.8 +0.8**
WCKO	**Fanlu**	**1.80 236**	P	**Pn**	**19 17 49.2 +1.3**
WCKO			*eS*	**Sn**	**19 18 11.4 +1.8**
STYH	**Taoyuan**	**1.85 226**	P	**Pn**	**19 17 48.7 +0.2**
STYH			*eS*	**Sn**	**19 18 11.4 +0.7**
WTK	**Tuku**	**1.85 246**	P	**Pn**	**19 17 49.3 +0.8**
WTK			*eS*	**Sn**	**19 18 12.3 +1.6**
TPUB	**Ta-pu**	**1.86 232**	P	**Pn**	**19 17 49.7 +0.9**
TPUB	**Ta-pu**	**1.86 232**	P	**Pn**	**19 17 49.7 +0.9**
TPUB			*eS*	**Sn**	**19 18 12.8 +1.6**
JISG	**Ishigakijimahi**	**1.90 86**	P	**Pn**	**19 17 49.3 +0.1**
JISG			*eS*	**Sn**	**19 18 12.2 +0.1**
CHY	**Chiayi**	**1.91 240**	*eS*	**Sn**	**19 18 14.8 +2.7**
LDUT	**Ludao**	**1.91 202**	*eP*	**Pn**	**19 17 47.2 -2.1**
LDUT			*eS*	**Sn**	**19 18 08.9 -3.3**
WTP	**Ta-pu**	**1.91 231**	P	**Pn**	**19 17 50.4 +1.0**
WTP			*eS*	**Sn**	**19 18 14.1 +1.8**
TWGBT	**Beinan**	**1.94 213**	*eP*	**Pn**	**19 17 48.9 -0.9**
TWGBT			*eS*	**Sn**	**19 18 11.6 -1.5**
TWG	**Pinlang**	**1.94 213**	*eP*	**Pn**	**19 17 48.6 -1.3**
TWG			*eS*	**Sn**	**19 18 12.1 -1.1**
TWK	**Hsinying**	**1.98 234**	P	**Pn**	**19 17 51.4 +0.9**
TWK			*eS*	**Sn**	**19 18 17.5 +3.3**
CHN1	**Nanshi**	**2.01 231**	*eP*	**Pn**	**19 17 51.5 +0.7**
CHN1			*eS*	**Sn**	**19 18 17.1 +2.4**
SNST	**Tainan City**	**2.01 232**	*eP*	**Pn**	**19 17 50.6 -0.1**
SNST			*eS*	**Sn**	**19 18 16.2 +1.5**
WSF	**Szhu**	**2.01 246**	*eP*	**Pn**	**19 17 51.4 +0.7**
SGST	**Jiashian**	**2.04 228**	*eP*	**Pn**	**19 17 51.5 +0.3**
SGST			*eS*	**Sn**	**19 18 16.2 +0.8**
WSL	**Shuilin Townsh**	**2.05 243**	*eP*	**Pn**	**19 17 52.2 +0.8**
WSL			*eS*	**Sn**	**19 18 17.6 +1.8**
ICHU	**Yijhu**	**2.09 239**	*eP*	**Pn**	**19 17 53.5 +1.6**
ICHU			*eS*	**Sn**	**19 18 18.7 +2.0**
ECL	**Taimali**	**2.19 213**	*eP*	**Pn**	**19 17 52.9 -0.4**
ECL			*eS*	**Sn**	**19 18 16.6 -2.5**
SCST	**Cishan**	**2.23 226**	*eP*	**Pn**	**19 17 55.8 +2.0**
SCST			*eS*	**Sn**	**19 18 23.7 +3.5**
TSMG	**Majia**	**2.27 220**	*eP*	**Pn**	**19 17 55.7 +1.3**
TSMG			*eS*	**Sn**	**19 18 23.0 +1.9**
MASBT	**Mashibuluo**	**2.35 219**	*eP*	**Pn**	**19 17 56.7 +1.2**
MASBT			*eS*	**Sn**	**19 18 25.2 +2.1**
TSCK	**Chigu Township**	**2.36 237**	*eP*	**Pn**	**19 17 56.4 +0.9**
TSCK			*eS*	**Sn**	**19 18 24.1 +0.9**
EAST	**Anshuo**	**2.42 212**	*eP*	**Pn**	**19 17 56.1 -0.4**
SCZT	**Fangliau**	**2.55 216**	*eP*	**Pn**	**19 18 00.0 +1.9**
SCZT			*eS*	**Sn**	**19 18 29.5 +1.6**
VWUC	**VWUC**	**2.58 282**	*eP*	**Pn**	**19 17 57.8 -0.9**
PNG	**Penghu**	**2.60 251**	*eP*	**Pn**	**19 17 57.4 -1.5**
PNG			*eS*	**Sn**	**19 18 27.4 -1.8**
PHUB	**P'eng-hu**	**2.60 249**	*eP*	**Pn**	**19 17 58.0 -0.9**
PHUB			*eS*	**Sn**	**19 18 28.1 -1.2**
WDGT	**Dungji**	**2.64 244**	*eP*	**Pn**	**19 17 59.9 +0.6**
WDGT			*eS*	**Sn**	**19 18 29.5 -0.6**
MATB	**Ma-tsu**	**2.67 310**	*eP*	**Pn**	**19 17 59.2 -0.5**
JIRB	**Irabujima**	**2.71 82**	*eP*	**Pn**	**19 18 01.1 +0.8**
JIKM	**Ikemajima**	**2.79 80**	*eP*	**Pn**	**19 18 02.5 +1.1**
VCHM	**Qimei**	**2.85 245**	*eP*	**Pn**	**19 18 02.2 0.0**
VCHM			*eS*	**Sn**	**19 18 35.2 -0.1**
PTMZ	**Houxiangcun**	**2.88 282**	*eP*	**Pn**	**19 18 02.5 -0.2**
PTMZ			*eS*	**Sn**	**19 18 34.1 -2.1**
XPSS	**Dashiqiu**	**3.07 324**	*eP*	**Pn**	**19 18 04.3 -1.0**
KNMB	**Chin-men Tao**	**3.50 271**	*eP*	**Pn**	**19 18 09.7 -1.5**
AXDP	**Jialang**	**3.90 277**	*eP*	**Pn**	**19 18 16.7 +0.1**
ZPLA	**Ao Xicun**	**4.12 264**	*eP*	**Pn**	**19 18 18.9 -0.8**

*IDC **03** 19:27:36.6±1.4, 11°.19S×164°.38E, h0km, mb3.8/5, mbtmp4.0/7, ML4.6/2, MS3.4/7, Error ellipse: s-maj=31.9km s-min=27.8km az=127.0*

**ISC 03 19:27:37.9±1.1, 11°.25S±0°.1×164°.4E±0°.1, h10km, n19, σ0§91/8, mb3.8/5, MS3.4/3, Santa Cruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.15**	**23**	P	**Pb**	**19 37 53.6**	**-0.2**
PPSI				S	**Sb**	**19 37 57.2**	**-0.2**
SISI	**Saibi**	**1.79**	**331**	P	**Pn**	**19 38 17.7**	**+0.2**
PPI	**Padang Panjang**	**2.47**	**10**	P	**Pn**	**19 38 26.8**	**-0.1**
MNAI	**Manna**	**3.33**	**116**	P	**Pn**	**19 38 37.9**	**-0.9**
MDSI	**Maura Dua**	**4.50**	**111**	P	**Pn**	**19 38 55.0**	**+0.1**
GSI	**Gunungsitoli**	**4.80**	**330**	P	**Pn**	**19 38 58.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.25**	**357**	P	**P**	**19 42 31.5**	**-1.1**
	0.3nm,0.3s,baz=192,slow=8.8,SNR=5.6						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**27.73**	**259**	T	T	20 12 40.4	
	baz=81						
H08S3	**Diego Garcia H**	**27.74**	**259**	T	T	20 12 34.5	
	baz=81						
H08S1	**Diego Carcia H**	**27.75**	**259**	T	T	20 12 37.4	
	baz=81						
WRA	**Warramunga Arr**	**37.59**	**119**	P	**P**	**19 45 01.2**	**+0.2**
	0.6nm,0.9s,baz=310,slow=9.0,SNR=5.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**38.77**	**125**	P	**P**	**19 45 11.0**	**0.0**
	0.5nm,0.9s,baz=301,slow=8.4,SNR=5.9						
	0.5nm,0.9s						
SONM	**Songino Array**	**50.84**	**6**	P	**P**	**19 46 47.6**	**+0.7**
	1.5nm,0.8s,baz=188,slow=9.0,SNR=14						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**51.88**	**345**	P	**P**	**19 46 55.5**	**+1.0**
	1.7nm,0.7s,baz=146,slow=7.9,SNR=21						
	1.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.97**	**28**	P	**P**	**19 47 17.2**	**0.0**
	1.1nm,0.6s,baz=183,slow=11,SNR=2.0						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**56.40**	**344**	P	**P**	**19 47 27.5**	**+0.2**
	0.7nm,0.5s,baz=161,slow=7.2,SNR=5.2						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**58.04**	**350**	P	**P**	**19 47 38.6**	**-0.2**
	0.3nm,0.3s,baz=145,slow=5.4,SNR=4.3						
	0.3nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.05**	**217**	T	T	20 53 04.2	
	baz=58						
H04N1	**CROZET ISLANDS**	**60.06**	**217**	T	T	20 53 04.2	
	baz=58						
H04N3	**CROZET ISLANDS**	**60.06**	**217**	T	T	20 53 02.8	
	baz=58						
H04S1	**CROZET ISLANDS**	**60.33**	**216**	T	T	20 53 23.1	
	baz=58						
H04S3	**CROZET ISLANDS**	**60.34**	**216**	T	T	20 53 21.8	
	baz=58						
H04S2	**CROZET ISLANDS**	**60.35**	**216**	T	T	20 53 23.1	
	baz=58						
BVAR	**Borovoye Array**	**61.01**	**340**	P	**P**	**19 47 58.9**	**-0.5**
	0.2nm,0.5s,baz=193,slow=5.8,SNR=1.9						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**145.44**	**38**	PKPbc	**PKPab**	**19 57 25.6**	**+0.6**
	0.9nm,0.8s,baz=213,slow=0.3,SNR=10.0						

*IDC **03** 19:40:29.3±0.7, 3°.79N×126°.99E, h0km, mb4.1/16, mbtmp4.1/17, ML4.5/1, MS3.1/8, Error ellipse: s-maj=47.3km s-min=13.3km az=70.0*
*DJA **03** 19:40:32.7±1.0, 4°.1N±0°.7E±°, h10km, M4.3/8, mb4.6/2, MLv4.2/8*
*NEIC **03** 19:40:34.9±2.3, 3°.71N±0°.02×126°.7E±0°.1, h42km±9km, mb4.5/21, Error ellipse: s-maj=15.9km s-min=2.4km az=88.0*
ISC 03 19:40:34.6±0.5, **3°.75N**±0°.05×**126°.85E**±0°.10, **h36**km, **n56**, σ1°.**54**/52, **mb4.4**/29, **MS3.2**/7, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.32**	**267**	P	**Pn**	**19 40 59.3**	**+2.9**
TNTI	**Ternate**	**3.01**	**170**	Pn	**Pn**	**19 41 18.8**	**-0.9**
TNTI	**Ternate**	**3.01**	**170**	P	**Pn**	**19 41 22.7**	**+3.0**
DAV	**Davao City (W)**	**3.53**	**339**	Pn	**Pn**	**19 41 26.9**	**0.0**
DAV	**Davao City (W)**	**3.53**	**339**	Pn	**Pn**	**19 41 26.2**	**-0.7**
	42nm,0.3s,baz=313,slow=5.0,SNR=2.7						
DAV				Sn	**Sn**	**19 42 09.5**	**+2.1**
	20nm,0.3s,baz=44,slow=17,SNR=3.8						
	83nm,0.4s						
MRSI	**Marisa**	**5.88**	**237**	P	Pn	19 42 04.9	+5.6
TOLI2	**Tolitoli**	**6.60**	**247**	Pn	**Pn**	**19 42 07.8**	**-1.3**
KAPI	**Kappang**	**11.23**	**219**	LR	LR	19 47 51.4	
	comp=Z,67nm,19.4s,baz=60,slow=39						
MTN	**Manton Dam**	**17.03**	**166**	Pn	**Pn**	**19 44 28.3**	**-1.8**
KNRA	**Kununurra**	**19.40**	**174**		**Pn**	**19 44 58.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**19 45 21.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**19 45 22.8**	**-0.2**
	4.5nm,0.8s,baz=348,slow=7.8,SNR=6.1						
	4.5nm,0.8s						
UBPT	**Khong Chiam**	**23.96**	**300**	P	**P**	**19 45 42.2**	**-3.6**
UBPT				IAmb	IAmb	19 45 46.5	
	comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**24.52**	**163**	P	**P**	**19 45 51.8**	**+0.9**
WB0				IAmb	IAmb	19 45 59.6	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**19 45 50.6**	**-1.6**
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**19 45 52.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=343,slow=11,SNR=16						
	comp=Z,2.3nm,0.9s						
WB2	**Warramunga Arr**	**24.68**	**163**	P	**P**	**19 45 48.6**	**-3.7**
WB2				IAmb	IAmb	19 46 01.9	
	comp=Z,7.1nm,0.8s						
KRVT	**Keravat (AS076**	**26.40**	**107**	LR	LR	19 54 22.0	
	comp=Z,70nm,22.0s,baz=12,slow=32						
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**19 46 23.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=344,slow=7.3,SNR=4.8						
	comp=Z,0.3nm,0.6s						
PHRA	**Phrae**	**29.88**	**301**	P	**P**	**19 46 37.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P	**P**	**19 46 49.5**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=106,slow=6.9,SNR=6.4						
CMAR				LR	LR	19 58 27.8	
	comp=Z,14nm,21.3s,baz=165,slow=35						
	comp=Z,0.6nm,0.7s						
CHTO	**Chiang Mai**	**31.11**	**301**	P	**P**	**19 46 45.9**	**-4.0**
KSRS	**Korea Array**	**33.55**	**2**	LR	LR	20 03 57.4	
	comp=Z,11nm,18.8s,baz=130,slow=42						
MJAR	**Matsushiro Arr**	**34.27**	**16**	LR	LR	20 01 27.6	
	comp=Z,34nm,19.2s,baz=162,slow=37						
XAN	**Xi'an**	**34.45**	**333**	P	**P**	**19 47 18.2**	**-0.8**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
BJT	**Baijiatuau**	**37.37**	**346**	P	**P**	**19 47 43.8**	**-0.1**
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**19 47 50.2**	**0.0**
STKA				IAmb	IAmb	19 47 55.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**19 47 50.1**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=332,slow=11,SNR=5.6						
	comp=Z,3.3nm,0.7s						
SHL	**Shillong**	**39.96**	**306**	P	**P**	**19 48 04.1**	**-1.9**
XLT	**XiLinHaoTe**	**41.10**	**348**	*e*P	**P**	**19 48 15.5**	**+0.4**
XLT				pP	pP	19 48 20.6	-4.9
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**47.13**	**342**	P	**P**	**19 49 03.0**	**-0.4**
ULN				IAmb	IAmb	19 49 05.9	
	comp=Z,8.2nm,1.4s						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**19 49 04.0**	**-0.9**
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**19 49 05.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=162,slow=8.0,SNR=10.0						
SONM				PcP	**PcP**	**19 50 36.7**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=164,slow=3.2,SNR=7.7						
	comp=Z,0.8nm,0.5s						
MK31	**Makanchi Array**	**57.60**	**325**	P	**P**	**19 50 19.5**	**-1.5**
MK31				IAmb	IAmb	19 50 22.3	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**19 50 19.5**	**-1.5**
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**19 50 21.1**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=118,slow=7.9,SNR=36						
MKAR				PcP	**PcP**	**19 51 15.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=111,slow=3.5,SNR=4.2						
MKAR				LR	LR	20 17 54.1	
	comp=Z,36nm,18.4s,baz=68,slow=39						
	comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**57.79**	**325**	P	**P**	**19 50 21.4**	**-0.9**
MAKZ				IAmb	IAmb	19 50 24.0	
	comp=Z,3.8nm,1.0s						
KSH	**Kashi**	**58.11**	**315**	P	**P**	**19 50 27.7**	**+2.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**	**19 50 41.4**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=133,slow=8.7,SNR=4.8						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	**P**	**19 50 49.9**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=125,slow=6.2,SNR=12						
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**61.78**	**327**	P	**P**	**19 50 47.7**	**-1.9**
KURK				IAmb	IAmb	19 50 53.5	
	comp=Z,3.1nm,0.7s						
BVAR	**Borovoye Array**	**67.36**	**327**	P	**P**	**19 51 26.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=141,slow=9.1,SNR=11						
	comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**67.44**	**327**	P	**P**	**19 51 25.2**	**-1.3**
BRVK				IAmb	IAmb	19 51 29.5	
	comp=Z,4.9nm,1.1s						
TIXI	**Tiksi**	**67.82**	**1**	LR	LR	20 23 55.4	
	comp=Z,17nm,19.8s,baz=185,slow=38						
NRIK	**Noril'sk**	**70.44**	**346**	P	**P**	**19 51 44.6**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=112,slow=6.3,SNR=5.1						
	comp=Z,2.2nm,0.6s						
G19K	**Purcell Mounta**	**80.96**	**24**	P	**P**	**19 52 46.5**	**+1.3**
B21K	**Ikpikpuk River**	**82.51**	**20**	P	**P**	**19 52 54.3**	**+1.1**
B21K				IAmb	IAmb	19 52 56.2	
	comp=Z,4.6nm,0.8s						
B22K	**Teshekpuk Lake**	**83.03**	**20**	P	**P**	**19 52 57.3**	**+1.4**
B22K				IAmb	IAmb	19 52 58.3	
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**85.03**	**25**	P	**P**	**19 53 05.6**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=208,slow=5.0,SNR=2.7						
	comp=Z,0.4nm,1.0s						
BRTR	**Keskin Array B**	**90.10**	**310**	P	**P**	**19 53 31.8**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=79,slow=7.5,SNR=4.2						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**90.47**	**340**	P	**P**	**19 53 32.5**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=95,slow=1.3,SNR=4.2						
	comp=Z,3.6nm,0.8s						
FINES	**FINESS Array B**	**91.87**	**332**	P	**P**	**19 53 39.4**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=212,slow=15,SNR=2.6						
	comp=Z,2.8nm,0.9s						
AKASG	**Malin Array Be**	**91.95**	**321**	P	**P**	**19 53 39.8**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=73,slow=4.2,SNR=3.8						
	comp=Z,0.9nm,0.7s						
SYO	**Syowa Base**	**92.49**	**201**	‖ *e*PcP	**P**	**19 53 42.5**	**+1.0**
NOA	**NORSAR Array B**	**98.82**	**334**	LR	LR	20 43 16.0	
	comp=Z,17nm,18.9s,baz=85,slow=38						
TORD	**Torodi Ar. Bea**	**123.02**	**288**	PKP	**PKiKP**	**19 59 28.9**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=48,slow=2.1,SNR=4.2						

*CNRM **03** 19:47:33.8, 35°.92N×8°.27W, h10km, ML0.2*
*MDD **03** 19:47:41.9±1.2, 36°.17N×8°.11W, h29km±12km, mb_Lg2.3/8, Error ellipse: s-maj=6.4km s-min=5.1km az=65.0*
*INMG **03** 19:47:42.4±1.1, 36°.13N×8°.05W, h31km±8km, ML1.6, Error ellipse: s-maj=4.2km s-min=2.5km az=81.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Faro*
*SFS **03** 19:47:42.7, 36°.30N×7°.93W, h13km, ML2.6/8, ML2.0/10, MLv1.8/10*
*IGIL **03** 19:47:43.0, 36°.13N×8°.04W, h31km, ML1.7*
ISC 03 19:47:37.7±1.5, **36°.04N**±0°.04×**8°.05W**±0°.05, **h26**km±14km, **n45**, σ1°.**42**/67, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.20**	**5**	*e*P	**Pb**	**19 48 00.4**	**+0.5**
PBDV				*e*S	**Sn**	**19 48 14.0**	**-0.4**
PBDV				*i* AML	AML	19 48 14.8	
PBDV				*i* AML	AML	19 48 15.6	
PBDV				*i* AML	AML	19 48 19.5	
PFVI	**Vila Bisbo**	**1.25**	**330**	*e*P	**Pn**	**19 48 01.0**	**+1.4**
PFVI				*e*S	**Sn**	**19 48 15.0**	**-0.6**
PFVI				*i* AML	AML	19 48 15.2	
PFVI				*i* AML	AML	19 48 17.0	
PFVI				*i* AML	AML	19 48 22.5	
PFVI	**Vila Bisbo**	**1.25**	**330**	Pg	**Pn**	**19 48 01.0**	**+1.4**
MORF	**Marmelete**	**1.35**	**339**	*e*P	**Pb**	**19 48 02.4**	**+0.1**
MORF	**Marmelete**	**1.35**	**339**	*e*P	**Pb**	**19 48 02.5**	**+0.1**
MORF				*e*S	**Sb**	**19 48 18.4**	**-0.8**
MORF				*i* AML	AML	19 48 19.2	
MORF				*i* AML	AML	19 48 20.1	
MORF				*i* AML	AML	19 48 20.2	
PVAQ	**Vaqueiros**	**1.39**	**11**	*e*P	**Pb**	**19 48 03.0**	**0.0**
PVAQ				*e*S	**Sb**	**19 48 18.5**	**-1.7**
PVAQ				*i* AML	AML	19 48 19.7	
PVAQ	**Vaqueiros**	**1.39**	**11**	Pg	**Pb**	**19 48 02.9**	**0.0**
PVAQ	**Vaqueiros**	**1.39**	**11**	P	**Pn**	**19 48 02.1**	**+0.8**
PVAQ	**Vaqueiros**	**1.39**	**11**	S	**Sb**	**19 48 21.1**	**+0.9**
EGRO	**El Granado**	**1.56**	**17**	Pg	**Pb**	**19 48 05.5**	**-0.4**
EGRO				Sg	**Sn**	**19 48 21.9**	**-1.2**
EGRO	**El Granado**	**1.56**	**17**	Pn	**Pb**	**19 48 05.5**	**-0.4**
EGRO				Sn	**Sn**	**19 48 21.1**	**-1.9**
EGRO				*i* Vmb_Lg		19 48 26.1	
PCVE	**Castro Verde**	**1.59**	**0**	*e*P	**Pb**	**19 48 05.9**	**-0.5**
PCVE				*e*S	**Sn**	**19 48 23.4**	**-0.4**
PCVE				*i* AML	AML	19 48 23.9	
PCVE				*i* AML	AML	19 48 23.9	
PCVE				*i* AML	AML	19 48 24.2	
PCVE	**Castro Verde**	**1.59**	**0**	Pn	**Pb**	**19 48 05.9**	**-0.5**
PCVE				Sn	**Sn**	**19 48 22.9**	**-0.8**
PTEO	**Sao Teotonio**	**1.59**	**340**	*e*P	**Pb**	**19 48 06.0**	**-0.5**
PTEO				*e*S	**Sn**	**19 48 23.9**	**-0.1**
PTEO				*i* AML	AML	19 48 24.8	
PTEO				*i* AML	AML	19 48 25.5	
PTEO				*i* AML	AML	19 48 30.5	
MESJ	**Messejana**	**1.80**	**356**	*e*P	**Pn**	**19 48 08.7**	**+1.7**
MESJ				*e*S	**Sn**	**19 48 27.5**	**-1.6**
MESJ				IAML		19 48 29.0	
	comp=N,6.4nm,0.2s						
MESJ	**Messejana**	**1.80**	**356**	*e*P	**Pn**	**19 48 08.8**	**+1.8**
MESJ				*e*S	**Sn**	**19 48 28.5**	**-0.5**
MESJ				*i* AML	AML	19 48 28.8	
MESJ				*i* AML	AML	19 48 29.0	
MESJ				*i* AML	AML	19 48 29.4	
ESPR	**Espera**	**1.95**	**64**	Pn	**Pn**	**19 48 11.6**	**+2.4**
ESPR				Sn	**Sn**	**19 48 33.4**	**+0.6**
ESPR	**Espera**	**1.95**	**64**	Pn	**Pn**	**19 48 11.4**	**+2.3**
ESPR				*i* Vmb_Lg		19 48 38.1	
PBEJ	**Beja**	**1.99**	**4**	*e*S	**Sn**	**19 48 33.0**	**-0.6**
PBEJ				*i* AML	AML	19 48 35.3	
PBEJ				*i* AML	AML	19 48 35.8	
PBEJ				*i* AML	AML	19 48 41.9	
EMIN	**Mina Concepcio**	**2.05**	**32**	Pn	**Pn**	**19 48 11.9**	**+1.5**
EMIN				*i* Vmb_Lg		19 48 34.8	
EMIN				Sn	**Sn**	**19 48 35.4**	**+0.2**
PBAR	**Barrancos**	**2.28**	**21**	*e*P	**Pn**	**19 48 15.3**	**+1.7**
PBAR				*e*S	**Sn**	**19 48 39.5**	**-1.3**
PBAR				*i* AML	AML	19 48 40.0	
PBAR				*i* AML	AML	19 48 41.1	
PBAR				*i* AML	AML	19 48 41.4	
PBAR	**Barrancos**	**2.28**	**21**	Pn	**Pn**	**19 48 15.3**	**+1.7**
PBAR				Sn	**Sn**	**19 48 39.3**	**-1.5**
EVO	**Evora**	**2.48**	**1**	Sn	**Sn**	**19 48 44.8**	**-1.1**
EVO				Pn	**Pn**	**19 48 17.9**	**+1.4**
EBAD	**Badajoz**	**2.83**	**17**	Pn	**Pn**	**19 48 22.6**	**+1.4**
EBAD	**Badajoz**	**2.83**	**17**	Pn	**Pn**	**19 48 22.6**	**+1.4**
EBAD				Sn	**Sn**	**19 48 52.7**	**-1.8**
EBAD				*i* Vmb_Lg		19 48 56.3	
PESTR	**Estremoz**	**2.84**	**7**	*e*P	**Pn**	**19 48 22.9**	**+1.5**
PESTR				*e*S	**Sn**	**19 48 53.2**	**-1.6**
PESTR				*i* AML	AML	19 48 56.2	
ECAB	**El Cabril**	**2.92**	**45**	Sn	**Sn**	**19 48 54.0**	**-2.8**
ECAB				Pn	**Pn**	**19 48 25.1**	**+2.5**
ECAB	**El Cabril**	**2.92**	**45**	Pn	**Pn**	**19 48 24.8**	**+2.3**
ECAB				Sn	**Sn**	**19 48 55.5**	**-1.3**
ECAB				*i* Vmb_Lg		19 49 01.5	
PMTG	**Montargil**	**3.02**	**357**	*e*P	**Pn**	**19 48 25.4**	**+1.5**
PMTG				*e*S	**Sn**	**19 48 57.6**	**-1.6**
PMTG				*i* AML	AML	19 48 58.8	
PMTG				*i* AML	AML	19 48 58.8	
PMTG				*i* AML	AML	19 48 58.8	
PMTG				*i* rx	rx	19 49 24.3	
PMAFR	**Mafra**	**3.07**	**342**	*e*P	**Pn**	**19 48 26.8**	**+2.3**
PMAFR	**Mafra**	**3.07**	**342**	Pn	**Pn**	**19 48 27.0**	**+2.5**
PMRV	**Marv??o**	**3.42**	**9**	*e*P	**Pn**	**19 48 30.8**	**+1.5**
PMRV				*e*S	**Sn**	**19 49 06.9**	**-2.1**
PMRV				*i* rx	rx	19 49 09.0	
PMRV				*i* AML	AML	19 49 13.8	
EADA	**Adamuz**	**3.49**	**52**	Sn	**Sn**	**19 49 10.1**	**-0.8**
EADA				*i* Vmb_Lg		19 49 13.4	
PSBE	**So Bento**	**3.52**	**351**	*e*P	**Pn**	**19 48 32.2**	**+1.6**
PCBR	**Castelo Branco**	**3.82**	**7**	*e*P	**Pn**	**19 48 36.1**	**+1.3**
PCAS	**Casmilo, Conde**	**4.02**	**355**	*e*P	**Pn**	**19 48 38.9**	**+1.4**
MD31	**MD31**	**4.17**	**138**	P	**Pn**	**19 48 39.4**	**-0.4**
MD31	**MD31**	**4.17**	**138**	S	**Sn**	**19 49 29.6**	**+1.8**
MDT	**Midelt**	**4.30**	**138**	P	**Pn**	**19 48 40.8**	**-0.7**
MDT	**Midelt**	**4.30**	**138**	S	**Sn**	**19 49 29.4**	**-1.4**
EPLA	**Plasencia**	**4.31**	**21**	Pn	**Pn**	**19 48 42.4**	**+0.8**
EPLA				Sn	**Sn**	**19 49 29.4**	**-1.6**
EPLA				*i* Vmb_Lg		19 49 37.9	
PSIM	**Granatula de C**	**4.40**	**50**	Sn	**Sn**	**19 49 33.0**	**-0.3**
PAB	**San Pablo**	**4.56**	**39**	Pn	**Pn**	**19 48 46.4**	**+1.3**
PAB				*i* Vmb_Lg		19 49 34.3	
PAB				Sn	**Sn**	**19 49 36.3**	**-1.1**
TTIG	**Tnine Tigouga,**	**5.49**	**184**	P	Pn	19 48 54.7	-3.2
TTIG	**Tnine Tigouga,**	**5.49**	**184**	S	Sn	19 49 56.1	-4.2

*ISN **03** 19:58:38.8±0.6, 34°.28N×45°.65E, h14km±24km, ML2.8*
*TEH **03** 19:58:39.4, 34°.28N×45°.65E, h14km±135km*
ISC 03 19:58:39.7±1.0, **34°.28N**±0°.03×**45°.63E**±0°.05, **h18**km, **n9**, σ0°.**35**/13, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**351**	Pg	**Pb**	**19 58 45.5**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.28**	**126**	Pg	**Pb**	**19 58 46.2**	**-0.1**
IDHR	**Dehrash**	**0.75**	**56**	Pg	**Pg**	**19 58 54.6**	**+0.1**
IDHR				Sg	**Sn**	**19 59 06.3**	**-0.4**
IGHG	**Ghaleghazi**	**0.78**	**86**	Pg	**Pn**	**19 58 55.9**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.81**	**144**	Pg	**Pg**	**19 58 55.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.16**	**90**	Pg	**Pg**	**19 59 02.9**	**+0.6**
IBDR	**Badra**	**1.19**	**168**	*e*Pg	**Pb**	**19 59 02.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**19 59 18.2**	**-0.2**
BHD	**Baghdad**	**1.45**	**226**	*e*Pn	**Pb**	**19 59 06.3**	**+0.1**
BHD				*e*Sn	**Sg**	**19 59 26.8**	**+0.2**
IKRK	**Kirkuk**	**1.54**	**317**	*e*Pn	**Pb**	**19 59 08.0**	**+0.2**
IKRK				*e*Sn	**Sg**	**19 59 29.0**	**-0.6**

*MDD **03** 20:03:57.3±0.7, 35°.67N×4°.62W, h86km±16km, Mb2.7/9, Error ellipse: s-maj=4.7km s-min=4.0km az=138.0*
*CNRM **03** 20:03:57.0, 35°.45N×5°.00W, h5km*
*SFS **03** 20:03:58.5, 35°.67N×4°.70W, h35km, ML2.9/9, ML2.6/9, MLv2.5/9*
ISC 03 20:03:55.6±1.5, **35°.68N**±0°.03×**4°.63W**±0°.05, **h99**km±14km, **n29**, σ1°.**34**/44, **7C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.73**	**129**	P	**Pn**	**20 04 14.3**	**+1.1**
PALE	**Palemas**	**0.73**	**129**	S	**Sn**	**20 04 25.7**	**-0.7**
CHEFC	**Chefchaouen**	**0.82**	**226**	P	Pn	20 04 05.5	-8.7
CHEFC	**Chefchaouen**	**0.82**	**226**	S	Sn	20 04 11.6	-16
EJIF	**Jimena Fronter**	**1.03**	**319**	Pn	**Pn**	**20 04 16.6**	**+0.4**
EJIF				Sn	**Sn**	**20 04 32.4**	**+0.7**
AKLM	**AKL**	**1.33**	**152**	P	**Pn**	**20 04 21.1**	**+1.3**
AKLM	**AKL**	**1.33**	**152**	S	**Sn**	**20 04 36.5**	**-1.6**
ELGU	**Los Guajares,**	**1.43**	**34**	Pn	**Pn**	**20 04 21.4**	**+0.4**
ELGU				Sn	**Sn**	**20 04 39.8**	**-0.5**
ELGU	**Los Guajares,**	**1.43**	**34**	Pn	**Pn**	**20 04 22.0**	**+1.0**
ELGU				⇑*i* Vmb_V		20 04 24.0	
	287nm,SNR=1.9						
ELGU				Sn	**Sn**	**20 04 39.0**	**-1.3**
ESPR	**Espera**	**1.55**	**320**	Pn	**Pn**	**20 04 22.3**	**0.0**
ESPR	**Espera**	**1.55**	**320**	Pn	**Pn**	**20 04 23.0**	**+0.7**
ESPR				Sn	**Sn**	**20 04 42.5**	**-0.2**
IFR	**Ifrane**	**2.20**	**191**	Pn	**Pn**	**20 04 31.9**	**+1.0**
IFR				Sn	**Sn**	**20 04 56.0**	**-1.9**
ECAB	**El Cabril**	**2.47**	**345**	Pn	**Pn**	**20 04 35.1**	**+0.9**
ECAB				Sn	**Sn**	**20 05 02.3**	**-1.7**
ECAB	**El Cabril**	**2.47**	**345**	Pn	**Pn**	**20 04 35.7**	**+1.4**
ECAB				⇑*i* Vmb_V		20 04 43.9	
	119nm,SNR=1.4						
ECAB				Sn	**Sn**	**20 05 02.6**	**-1.4**
EADA	**Adamuz**	**2.48**	**1**	Pn	**Pn**	**20 04 36.5**	**+2.1**
EADA				Sn	**Sn**	**20 05 03.4**	**-0.8**
EADA	**Adamuz**	**2.48**	**1**	Pn	**Pn**	**20 04 35.4**	**+1.0**
EADA				⇑*i* Vmb_V		20 04 38.7	
	138nm,SNR=1.2						
EADA				Sn	**Sn**	**20 05 03.8**	**-0.4**
EMIN	**Mina Concepcio**	**2.65**	**322**	Pn	**Pn**	**20 04 37.3**	**+0.7**
EMIN				Sn	**Sn**	**20 05 07.0**	**-1.2**
EMIN	**Mina Concepcio**	**2.65**	**322**	Pn	**Pn**	**20 04 38.0**	**+1.4**
EMIN				⇑*i* Vmb_V		20 04 39.1	
	186nm,SNR=2.1						
EMIN				Sn	**Sn**	**20 05 06.1**	**-2.1**
MD31	**MD31**	**2.81**	**182**	P	**

SALV Santo Antonio 17.87 92 *eP* **Pn 20 12 43.5 -0.9**
CLDB Colider 18.72 76 *eP* **P 20 12 53.4 -0.6**
CPUP Villa Florida 18.73 125 LR LR 20 21 12.6
comp=Z,47nm,18.7s,baz=226,slow=41
NPGB Novo Progresso 20.62 66 *eP* **P 20 13 13.9 -0.8**
ITTB Itaituba 21.67 59 *eP* **P 20 13 24.5 -1.4**
PTGB Pitanga 22.46 116 *eP* **P 20 13 37.1 +2.7**
LDASE Londrina, Braz 22.93 112 *eP* **P 20 13 41.2 +1.9**
ITRB Iturama 23.02 102 *eP* **P 20 13 42.0 +1.7**
PLTB Pedras Altas 24.38 133 P P 20 13 45.6 -7.3
PLTB IAmb IAmb 20 14 05.8
comp=Z,14nm,1.1s
PLCA Paso Flores 24.68 173 P P 20 13 46.4 -9.2
PLCA IAmb IAmb 20 14 00.6
comp=Z,3.2nm,1.1s
PLCA Paso Flores 24.68 173 P P 20 13 48.1 -7.5
comp=Z,0.6nm,0.4s,baz=335,slow=19,SNR=4.9
comp=Z,0.6nm,0.4s
IPMB Ipameri, GO 24.98 98 *eP* **P 20 13 59.1 +0.6**
SDV Santo Domingo 25.16 8 LR LR 20 24 41.2
comp=Z,28nm,19.6s,baz=10,slow=38
SDV Santo Domingo 25.16 8 *eP* **P 20 14 00.8 +0.5**
BDFB Brasilia 25.26 92 P **P 20 13 59.0 -2.2**
comp=Z,2.1nm,0.8s,baz=270,slow=15,SNR=3.5
BDFB LR LR 20 24 14.9
comp=Z,46nm,19.8s,baz=264,slow=37
comp=Z,2.1nm,0.8s
JTS Las Juntas de 28.34 337 LR LR 20 25 11.1
comp=Z,33nm,19.9s,baz=56,slow=35
JANB Januaria 28.87 92 *eP* **P 20 14 33.8 +0.1**
MDP Montagnes des 30.09 47 LR LR 20 27 31.0
comp=Z,79nm,18.2s,baz=270,slow=37
SJMB Sao Joao De Ma 31.65 99 *eP* **P 20 15 00.0 +2.0**
NBPB Pedra_Branca-C 35.61 77 *eP* **P 20 15 32.4 -0.2**
NBAN Anadia - AL 37.56 85 *eP* **P 20 15 49.0 -0.2**
RCBR Riachuelo 38.98 79 LR LR 20 33 08.2
comp=Z,32nm,19.0s,baz=248,slow=38
TXAR Lajitas Array 53.41 328 P **P 20 17 53.7 -0.7**
comp=Z,0.1nm,0.5s,baz=164,slow=4.8,SNR=2.3
comp=Z,0.1nm,0.5s
DBIC Dimbokro 72.33 77 LR LR 20 51 13.6
comp=Z,35nm,19.2s,baz=210,slow=35
TORD Torodi Ar. Bea 80.55 73 P **P 20 20 46.9 -0.1**
comp=Z,1.2nm,0.7s,baz=265,slow=5.4,SNR=9.5
comp=Z,1.2nm,0.7s
H11N3 WAKE ISLAND Hyl 21.95 283 T T 22 41 00.4
baz=97,slow=74,SNR=3.3
H11N2 WAKE ISLAND Hyl 21.96 283 T T 22 41 02.5
baz=97,slow=74,SNR=9.5
H11N1 WAKE ISLAND Hyl 21.97 283 T T 22 40 49.2
baz=97,slow=74,SNR=3.0
H11S2 WAKE ISLAND Hyl 21.98 282 T T 22 41 03.7
baz=98,slow=75,SNR=13
H11S1 WAKE ISLAND Hyl 21.99 282 T T 22 41 05.1
baz=98,slow=75,SNR=9.8
H11S3 WAKE ISLAND Hyl 22.00 282 T T 22 41 09.0
baz=98,slow=75,SNR=11
SONM Songino Array 148.43 359 PKPbc **PKPbc 20 28 20.2 -0.5**
comp=Z,0.6nm,0.8s,baz=348,slow=2.1,SNR=5.1

*IDC **03** 20:09:59.3±1.1, 35°.98N×27°.42E, h0km, mb3.8/5, mbtmp3.6/9, ML2.9/4, Error ellipse: s-maj=23.9km s-min=17.3km az=156.0*
*ISK **03** 20:10:02.7, 35°.93N×27°.20E, h6km, ML3.1/22*
*GII **03** 20:10:03.2±0.0, 35°.686N±0°.002×27°.227E±0°.001, h40km, Mws3.2, confirmed*
*ATH **03** 20:10:03.1, 35°.92N×27°.24E, h13km±1km, ML3.1/8, Manual Solution by A.Moschou This location: 2020/10/07 07:26:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **03** 20:10:05.0, 35°.86N×27°.33E, h46km±9km, ML3.2/5, Error ellipse: s-maj=9.7km s-min=1.0km az=78.0*
*AFAD **03** 20:10:06.0, 36°.06N×27°.20E, h16km±7km, ML3.0*
ISC 03 20:10:03.4±1.0, 35°.85N±0°.03×27°.31E±0°.02, h33km±6km, n112, σ1§38/152, mb3.6/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.54**	**70**	P	**Pb**	**20 10 14.1**	**-0.5**
RGE1				S	**Sb**	**20 10 22.0**	**-0.3**
ARG	**Arkhangelos**	**0.76**	**61**	Pg	**Pn**	**20 10 18.6**	**+0.7**
ARG				Sg	**Sn**	**20 10 30.4**	**+2.2**
ARG	**Arkhangelos**	**0.76**	**61**	P	**Pb**	**20 10 17.9**	**-0.4**
ARG				S	**Sn**	**20 10 28.7**	**+0.5**
	5μm,0.5s						
ARG	**Arkhangelos**	**0.76**	**61**	P	**Pb**	**20 10 18.1**	**-0.2**
ARG				S	**Sn**	**20 10 28.8**	**+0.5**
NISR	**Nisiros**	**0.78**	**349**	P	**Pn**	**20 10 19.6**	**+1.5**
NISR				S	**Sn**	**20 10 30.1**	**+1.5**
NISR	**Nisiros**	**0.78**	**349**	P	**Pb**	**20 10 16.8**	**-1.7**
NISR				S	**Sb**	**20 10 26.5**	**-2.3**
YAZI	**Mula-Dat§a-**	**0.84**	**8**	P	**Pn**	**20 10 19.1**	**+0.1**
YAZI				S	**Sn**	**20 10 30.4**	**+0.2**
RODB	**Rodos**	**0.95**	**51**	P	**Pb**	**20 10 22.3**	**+0.9**
RODB				S	**Sb**	**20 10 34.0**	**+0.2**
RDI1	**Rhodes Town Ha**	**0.96**	**51**	P	**Pb**	**20 10 22.2**	**+0.7**
RDI1				S	**Sb**	**20 10 34.4**	**+0.5**
ASTA	**Astypalaia**	**1.04**	**312**	P	**Pn**	**20 10 21.9**	**+0.2**
ASTA				S	**Sn**	**20 10 35.0**	**0.0**
MRSB	**Marmaris-Mugla**	**1.13**	**39**	Pn	**Pb**	**20 10 24.7**	**+0.3**
MRSB				Sn	**Sb**	**20 10 40.8**	**+2.0**
KLNA	**Kalymnos**	**1.14**	**346**	P	**Pn**	**20 10 23.3**	**+0.3**
KLNA				S	**Sn**	**20 10 37.1**	**-0.4**
ZKR	**Zakros**	**1.15**	**231**	Pn	**Pb**	**20 10 25.0**	**+0.2**
ZKR				Sn	**Sb**	**20 10 41.1**	**+1.7**
ZKR	**Zakros**	**1.15**	**231**	P	**Pb**	**20 10 25.0**	**+0.2**
ZKR				S	**Sb**	**20 10 39.3**	**-0.1**
	595nm,0.4s						
ZKR	**Zakros**	**1.15**	**231**	P	**Pb**	**20 10 24.9**	**+0.1**
ZKR				S	**Sb**	**20 10 40.8**	**+1.3**
TURN	**Turunc**	**1.20**	**39**	Pn	**Pb**	**20 10 25.9**	**+0.3**
TURN				Sn	**Sb**	**20 10 42.6**	**+1.9**
TURN	**Turunc**	**1.20**	**39**	P	**Pb**	**20 10 25.4**	**-0.2**
TURN				S	**Sb**	**20 10 40.9**	**+0.2**
TURN				*i* AML	AML	20 10 46.0	
	comp=N,491nm,0.3s						
TURN				*i* AML	AML	20 10 46.0	
	comp=E,401nm,0.3s						
BODT	**Bodrum**	**1.21**	**0**	Pn	**Pb**	**20 10 25.1**	**-0.7**
BDRM	**Kayabasi**	**1.22**	**5**	P	**Pn**	**20 10 25.0**	**+0.8**
BDRM				S	**Sn**	**20 10 38.9**	**-0.7**
YKAV	**Yalikavak-Bodr**	**1.27**	**359**	Pn	**Pb**	**20 10 26.0**	**-0.9**
DALY	**Dalyan (Mula)**	**1.46**	**48**	Pn	**Pb**	**20 10 30.2**	**+0.3**
DALY				Sn	**Sb**	**20 10 50.5**	**+2.4**
MLSB	**Milas**	**1.49**	**15**	Pn	**Pb**	**20 10 30.1**	**-0.5**
MLSB				Sn	**Sb**	**20 10 50.1**	**+0.9**
YER	**Yerkesik**	**1.51**	**31**	Pn	**Pb**	**20 10 30.4**	**-0.4**
THR8	**Santorini-Mono**	**1.58**	**291**	P	**Pn**	**20 10 30.1**	**+0.9**
THR8	**Santorini-Mono**	**1.58**	**291**	P	**Pn**	**20 10 30.0**	**+0.9**
DDIM	**Aydin, Didim**	**1.61**	**358**	P	**Pb**	**20 10 33.8**	**+1.3**
MULA	**Mugla, Merkez-**	**1.63**	**30**	P	**Pb**	**20 10 31.5**	**-1.4**
MULA				S	**Sn**	**20 10 49.3**	**-0.4**
MULA				*i* AML	AML	20 11 00.0	
	comp=E,205nm,0.4s						
THR6	**Thira Island,**	**1.63**	**289**	P	**Pb**	**20 10 31.1**	**-1.7**
THR6	**Thira Island,**	**1.63**	**289**	P	**Pb**	**20 10 31.0**	**-1.7**
THR2	**Thira island,**	**1.63**	**292**	P	**Pn**	**20 10 30.6**	**+0.8**
FETY	**Fethiye**	**1.64**	**61**	Pn	**Pb**	**20 10 33.5**	**+0.5**
FETY				Sn	**Sb**	**20 10 55.6**	**+2.2**
FETY	**Fethiye**	**1.64**	**61**	P	**Pb**	**20 10 34.5**	**+1.4**
FETY				S	**Sb**	**20 10 55.4**	**+2.0**
THR3	**Thira Island,**	**1.64**	**291**	P	**Pn**	**20 10 31.2**	**+1.2**
THR3	**Thira Island,**	**1.64**	**291**	P	**Pn**	**20 10 30.9**	**+0.9**
CMBO	**Columbo, Santo**	**1.66**	**293**	P	**Pn**	**20 10 31.5**	**+1.3**
CMBO				S	**Sn**	**20 10 51.0**	**+0.6**
	1μm,0.5s						
SABU	**Mula-Dalaman**	**1.66**	**54**	P	**Pb**	**20 10 33.7**	**+0.3**
SABU				S	**Sb**	**20 10 55.5**	**+1.6**
SABU				*i* AML	AML	20 11 04.0	
	comp=N,163nm,0.4s						
SABU				*i* AML	AML	20 11 07.0	
	comp=E,179nm,0.5s						
IZZE	**Mula-Seydike**	**1.66**	**69**	P	**Pb**	**20 10 33.0**	**-0.5**
GCAM	**G?zelcaml?**	**1.85**	**358**	Pn	**Pn**	**20 10 34.5**	**+1.7**
GCAM	**G?zelcaml?**	**1.85**	**358**	P	**Pn**	**20 10 33.7**	**+0.8**
KSL	**Kastellorizon**	**1.87**	**80**	P	**Pb**	**20 10 35.9**	**-1.1**
APE	**Apeiranthos**	**1.88**	**311**	Pn	**Pn**	**20 10 34.1**	**+0.8**
APE	**Apeiranthos**	**1.88**	**311**	P	**Pn**	**20 10 34.3**	**+1.0**
APE				S	**Sn**	**20 10 55.8**	**-0.1**
	192nm,0.2s						
APE	**Apeiranthos**	**1.88**	**311**	P	**Pn**	**20 10 34.0**	**+0.7**
APE				S	**Sn**	**20 10 57.5**	**+1.6**
APE	**Apeiranthos**	**1.88**	**311**	P	**Pn**	**20 10 33.8**	**+0.5**
SMG	**Samos**	**1.90**	**349**	P	**Pn**	**20 10 34.2**	**+0.7**
SMG	**Samos**	**1.90**	**349**	P	**Pn**	**20 10 34.4**	**+0.9**
SMG				S	**Sn**	**20 10 56.8**	**+0.6**
CAME	**Cameli-Denizli**	**1.95**	**55**	Pn	**Pb**	**20 10 37.7**	**-0.7**
DNZT	**Denizli-Tavas-**	**1.99**	**44**	P	**Pb**	**20 10 38.6**	**-0.5**
DNZT				S	**Sb**	**20 11 02.6**	**-0.8**
DNZT				*i* AML	AML	20 11 11.0	
	comp=E,81nm,0.8s						
IDI	**Anoyia**	**2.05**	**255**	Pn	**Pn**	**20 10 37.2**	**+1.6**
IDI	**Anoyia**	**2.05**	**255**	P	**Pn**	**20 10 36.7**	**+1.1**
IDI				S	**Sn**	**20 11 00.9**	**+0.8**
	148nm,0.3s						
IDI	**Anoyia**	**2.05**	**255**	Pn	**Pn**	**20 10 36.9**	**+1.3**
	19nm,0.3s,baz=68,slow=11,SNR=84						
IDI				Sn	**Sn**	**20 11 01.9**	**+1.8**
	21nm,0.3s,baz=338,slow=19,SNR=9.2						
	46nm,0.3s						
CAEL	**Denizli, Camel**	**2.06**	**51**	P	**Pb**	**20 10 39.8**	**-0.5**
CAEL				S	**Sb**	**20 11 08.4**	**+2.7**
TAVA	**DENIZLI_Tavas**	**2.07**	**38**	P	**Pb**	**20 10 39.4**	**-1.0**
TAVA				S	**Sn**	**20 11 03.3**	**+2.6**
TAVA				*i* AML	AML	20 11 14.0	
	comp=N,150nm,0.4s						
TAVA				*i* AML	AML	20 11 15.0	
	comp=E,131nm,0.3s						
KNIK	**Mula-Seydike**	**2.08**	**61**	P	**Pb**	**20 10 40.0**	**-0.7**
KNIK				S	**Sb**	**20 11 06.2**	**-0.1**
ESEN	**Aydn-Nazilli**	**2.12**	**23**	P	**Pn**	**20 10 38.6**	**+2.1**
ESEN				S	**Sn**	**20 11 01.2**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**12**	Pn	**Pn**	**20 10 39.3**	**+2.2**
DGB	**zmir**	**2.23**	**351**	P	**Pn**	**20 10 39.1**	**+1.1**
DNIZ	**Denizli-Tavas-**	**2.25**	**38**	P	**Pb**	**20 10 41.5**	**-2.0**
DNIZ				S	**Sn**	**20 11 06.2**	**+1.0**
DNIZ				*i* AML	AML	20 11 23.0	
	comp=N,187nm,0.2s						
NAZL	**Nazilli-Aydin**	**2.25**	**20**	Pn	**Pn**	**20 10 40.8**	**+2.3**
APMY	**Acipayam-Deniz**	**2.28**	**44**	Pn	**Pb**	**20 10 42.2**	**-1.8**
ELL	**Elmali**	**2.29**	**66**	Pn	**Pb**	**20 10 42.2**	**-1.9**
ODEM	**Odemis-Izmir**	**2.50**	**14**	Pn	**Pn**	**20 10 44.0**	**+2.1**
KIRA	**zmir-Kiraz**	**2.50**	**20**	P	**Pn**	**20 10 43.8**	**+1.8**
AKUM	**Antalya-Kumluc**	**2.51**	**78**	P	**Pb**	**20 10 45.3**	**-2.4**
BLCB	**Balcova**	**2.54**	**355**	Pn	**Pn**	**20 10 45.1**	**+2.7**
INCE	**Denizli-Bozkur**	**2.60**	**44**	P	**Pb**	**20 10 47.0**	**-2.4**
INCE				S	**Sb**	**20 11 18.8**	**-2.2**
INCE				*i* AML	AML	20 11 26.0	
	comp=E,90nm,0.5s						
INCE				*i* AML	AML	20 11 32.0	
	comp=N,85nm,0.7s						
KORT	**Korkueli**	**2.71**	**64**	Pn	**Pb**	**20 10 48.8**	**-2.5**
KORT	**Korkueli**	**2.71**	**64**	P	**Pb**	**20 10 49.4**	**-2.0**
KORT				*i* AML	AML	20 11 39.0	
	comp=N,64nm,0.5s						
KORT				*i* AML	AML	20 11 39.0	
	comp=E,54nm,0.8s						
MANT	**Manisa**	**2.82**	**20**	P	**Pn**	**20 10 47.8**	**+1.3**
KULA	**Kula-Manisa**	**2.87**	**22**	Pn	**Pn**	**20 10 49.9**	**+2.9**
ANTB	**Antalya**	**2.90**	**68**	Pn	**Pb**	**20 10 51.5**	**-2.9**
BASM	**Basmaki-Afyon**	**3.02**	**46**	Pn	**Pn**	**20 10 52.4**	**+3.4**
BCK	**Bucak**	**3.09**	**58**	Pn	**Pn**	**20 10 54.1**	**+4.1**
GORD	**Gordes-Manisa**	**3.13**	**13**	Pn	**Pn**	**20 10 53.7**	**+3.1**
USAK	**Uak-Merkez**	**3.17**	**25**	P	**Pn**	**20 10 53.2**	**+2.1**
USAK				*i* AML	AML	20 11 28.0	
	comp=E,33nm,1.1s						
CSS	**Mathiatis**	**5.00**	**98**	P	**Pn**	**20 11 16.8**	**+0.6**
CSS	**Mathiatis**	**5.00**	**98**	S	**Sn**	**20 12 14.1**	**+1.2**
BRTR	**Keskin Array B**	**6.33**	**50**	Pn	**Pn**	**20 11 35.0**	**+0.4**
	0.3nm,0.3s,baz=234,slow=16,SNR=10						
BRTR				Sn	**Sn**	**20 12 43.1**	**-2.8**
	baz=236,slow=15						
	0.2nm,0.3s						
MMC7	**Mount Meron ar**	**7.25**	**111**	P	**Pn**	**20 11 47.5**	**+0.4**
MMA0B	**Mount Meron ar**	**7.26**	**111**	P	**Pn**	**20 11 47.6**	**+0.3**
MMA0B	**Mount Meron ar**	**7.26**	**111**	S	**Sn**	**20 13 09.3**	**+0.7**
MMAI	**Mount Meron Ar**	**7.26**	**111**	Pn	**Pn**	**20 11 46.2**	**-1.1**
	0.8nm,0.3s,baz=294,slow=12,SNR=7.4						
MMAI				Sn	**Sn**	**20 13 11.2**	**+2.5**
	1.9nm,0.3s,baz=314,slow=28,SNR=5.7						
	0.5nm,0.3s						
MMA2	**Mount Meron ar**	**7.27**	**111**	P	**Pn**	**20 11 47.7**	**+0.3**
MMA2	**Mount Meron ar**	**7.27**	**111**	S	**Sn**	**20 13 09.5**	**+0.7**
GEM	**Giv'at Ha'Em**	**7.38**	**108**	P	**Pn**	**20 11 49.2**	**+0.4**
GEM	**Giv'at Ha'Em**	**7.38**	**108**	S	**Sn**	**20 13 12.1**	**+0.6**
NATI	**Neve Ativ**	**7.42**	**108**	P	**Pn**	**20 11 49.8**	**+0.4**
NATI	**Neve Ativ**	**7.42**	**108**	S	**Sn**	**20 13 12.5**	**+0.1**
HMDT	**Nahal Hemdat**	**7.71**	**115**	P	**Pn**	**20 11 53.3**	**0.0**
HMDT	**Nahal Hemdat**	**7.71**	**115**	S	**Sn**	**20 13 19.9**	**+0.4**
KZIT	**Kziot**	**7.71**	**128**	P	**Pn**	**20 11 52.9**	**-0.5**
KZIT	**Kziot**	**7.71**	**128**	S	**Sn**	**20 13 18.2**	**-1.4**
YTIR	**Yattir**	**7.90**	**122**	P	**Pn**	**20 11 55.7**	**-0.4**
YTIR	**Yattir**	**7.90**	**122**	S	**Sn**	**20 13 24.6**	**+0.1**
DSI	**Dead Sea**	**7.96**	**120**	P	**Pn**	**20 11 56.7**	**-0.2**
DSI	**Dead Sea**	**7.96**	**120**	S	**Sn**	**20 13 25.6**	**-0.2**
MSBI	**Mazada**	**8.10**	**122**	P	**Pn**	**20 11 58.4**	**-0.3**
MSBI	**Mazada**	**8.10**	**122**	S	**Sn**	**20 13 28.9**	**-0.2**
PRNI	**Paran**	**8.47**	**128**	P	**Pn**	**20 12 03.2**	**-0.6**
PRNI	**Paran**	**8.47**	**128**	S	**Sn**	**20 13 37.7**	**-0.6**
HRFI	**Mount Harif**	**8.70**	**130**	P	**Pn**	**20 12 06.5**	**-0.6**
HRFI	**Mount Harif**	**8.70**	**130**	S	**Sn**	**20 13 42.2**	**-1.8**
MBRI	**Mt Berech**	**8.80**	**131**	P	**Pn**	**20 12 07.9**	**-0.5**
MBRI	**Mt Berech**	**8.80**	**131**	S	**Sn**	**20 13 45.4**	**-1.1**
EIL	**Elat**	**8.91**	**132**	Pn	**Pn**	**20 12 09.3**	**-0.6**
	0.2nm,0.3s,baz=0.0,slow=16,SNR=7.5						
EIL				Sn	**Sn**	**20 13 49.1**	**0.0**
	0.8nm,0.3s,baz=306,slow=10,SNR=6.0						
	1.0nm,0.5s						
EIL	**Elat**	**8.91**	**132**	P	**Pn**	**20 12 09.1**	**-0.7**
EIL	**Elat**	**8.91**	**132**	S	**Sn**	**20 13 47.8**	**-1.3**
FINES	**FINESS Array B**	**25.63**	**359**	P	**P**	**20 15 29.5**	**-0.1**
	4.6nm,1.0s,baz=188,slow=8.2,SNR=4.0						
	4.6nm,1.0s						
HFS	**Hagfors**	**25.84**	**344**	P	**P**	**20 15 30.9**	**-0.7**
	6.4nm,1.1s,baz=129,slow=2.0,SNR=2.8						
	6.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**32.28**	**232**	P	**P**	**20 16 31.3**	**+2.0**
	0.3nm,0.5s,baz=34,slow=8.8,SNR=6.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**39.33**	**52**	P	**P**	**20 17 28.6**	**-0.7**
	0.4nm,0.3s,baz=275,slow=9.5,SNR=2.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.93**	**57**	P	**P**	**20 17 49.9**	**-1.0**
	0.2nm,0.5s,baz=281,slow=7.2,SNR=4.2						
	0.2nm,0.5s						

*IDC **03** 20:34:32.1±0.6, 2°.36S×140°.20E, h0km, mb4.1/13, mbtmp4.1/15, ML4.3/1, MS3.5/15, Error ellipse: s-maj=16.6km s-min=7.2km az=21.0*
*DJA **03** 20:34:33.5±0.8, 2°.5S±8°×140°.0E±°, h10km, M4.4/5, mb4.5/1, MLv4.4/5*
*NEIC **03** 20:34:37.5±2.2, 2°.5S±0°.1×140°.2E±0°.2, h35km±11km, mb4.3/12, Error ellipse: s-maj=22.5km s-min=16.1km az=73.0*
ISC 03 20:34:35.5±0.5, 2°.50S±0°.06×140°.34E±0°.05, h24km, n69, σ1§64/53, mb4.2/15, MS3.5/12, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.20**	**241**	P	**Pb**	**20 34 41.0**	**+0.1**
GENI	**Genyem**	**0.20**	**241**	P	**Pb**	**20 34 41.1**	**+0.1**
JAY	**Jayapura**	**0.37**	**93**	Pg	**Pb**	**20 34 43.0**	**-0.5**
	940nm,0.3s,baz=268,slow=12,SNR=1325						
JAY				Lg	Lg	20 34 49.1	
	798nm,0.3s,baz=112,slow=18,SNR=13						
JAY	**Jayapura**	**0.37**	**93**	P	**Pb**	**20 34 42.8**	**-0.7**
SMPI	**Sarmi**	**1.70**	**287**	P	**Pn**	**20 35 01.8**	**-1.9**
WAMI	**Wamena**	**2.13**	**230**	P	**Pb**	**20 35 13.7**	**+0.3**
TABU	**Tabubil**	**2.89**	**162**	P	**Pb**	**20 35 26.1**	**-0.3**
BAKI	**Biak**	**4.42**	**287**	P	**Pn**	**20 35 40.2**	**-0.9**
FAKI	**Fak Fak**	**8.09**	**267**	P	**Pn**	**20 36 33.0**	**+1.4**
FAKI	**Fak Fak**	**8.09**	**267**	P	**Pn**	**20 36 32.3**	**+0.7**
PMG	**Port Moresby**	**9.65**	**136**	Pn	**Pn**	**20 36 55.3**	**+2.4**
	17nm,1.0s,baz=254,slow=7.9,SNR=3.1						
PMG				LR	LR	20 42 01.1	
	comp=Z,390nm,18.8s,baz=30,slow=46						
COEN	**Coen**	**11.73**	**166**	Pn	**Pn**	**20 37 21.9**	**+0.5**
KRVT	**Keravat (AS076**	**11.80**	**99**	LR	LR	20 41 05.4	
	comp=Z,189nm,20.1s,baz=14,slow=33						
KDU	**Kakadu**	**12.77**	**217**	P	**Pn**	**20 37 36.6**	**+0.9**
DRS	**Darwin Rock St**	**13.59**	**223**	P	**Pn**	**20 37 48.5**	**+1.6**
	44nm,0.9s						
MTN	**Manton Dam**	**13.74**	**221**	Pn	**Pn**	**20 37 48.1**	**-0.8**
MTN	**Manton Dam**	**13.74**	**221**	P	**Pn**	**20 37 49.4**	**+0.5**
GUMO	**Guam**	**16.60**	**16**	LR	LR	20 43 16.4	
	comp=Z,149nm,21.9s,baz=162,slow=32						
KNRA	**Kununurra**	**17.37**	**220**	P	**P**	**20 38 38.5**	**+0.9**
KNRA				IAmb	IAmb	20 38 49.5	
	comp=Z,43nm,1.1s						
SOEI	**Soe**	**17.52**	**245**		**Pn**	**20 38 36.9**	**-1.6**
SOEI	**Soe**	**17.52**	**245**	P	**P**	**20 38 40.8**	**+1.3**
QIS	**Mount Isa**	**17.97**	**182**	P	**P**	**20 38 47.0**	**+2.8**
WB0	**Warramunga Arr**	**18.12**	**198**	Pn	**Pn**	**20 38 43.5**	**-2.3**
WB0				IAmb	IAmb	20 39 22.1	
	comp=Z,29nm,1.3s						
WR0	**Warramunga Arr**	**18.26**	**198**		**P**	**20 38 46.6**	**-0.8**
WR0				IAmb	IAmb	20 39 24.6	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**18.29**	**198**		**Pn**	**20 38 49.5**	**+1.7**
WRAB				IAmb	IAmb	20 39 12.0	
	comp=Z,15nm,1.0s						
WB2	**Warramunga Arr**	**18.30**	**198**	P	**P**	**20 38 48.2**	**+0.3**
WB2				IAmb	IAmb	20 39 12.7	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**18.30**	**198**	P	**P**	**20 38 46.6**	**-1.3**
WRA	**Warramunga Arr**	**18.30**	**198**	P	**P**	**20 38 47.5**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=21,slow=11,SNR=60						
WRA				S	**Sn**	**20 42 05.5**	**-6.3**
	comp=Z,4.0nm,0.9s,baz=16,slow=21,SNR=4.5						
	comp=Z,6.3nm,0.9s						
KAPI	**Kappang**	**20.69**	**262**	P	**P**	**20 39 14.8**	**+0.7**
	comp=Z,5.4nm,0.3s,baz=82,slow=15,SNR=4.2						
	comp=Z,5.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.17**	**222**	P	**P**	**20 39 18.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.17**	**222**	P	**P**	**20 39 19.0**	**-0.2**
	comp=Z,14nm,1.0s,baz=46,slow=6.3,SNR=17						
FITZ				LR	LR	20 47 54.5	
	comp=Z,105nm,18.6s,baz=44,slow=38						
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**21.95**	**196**	P	**P**	**20 39 29.0**	**+1.4**
ASAR	**Alice Springs**	**21.95**	**196**	P	**P**	**20 39 28.4**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=26,slow=10,SNR=49						
ASAR				S	**S**	**20 43 27.9**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=18,slow=17,SNR=7.6						
	comp=Z,4.9nm,0.6s						
EIDS	**Eidsvold**	**24.98**	**156**	P	**P**	**20 39 57.0**	**-0.4**
STKA	**Stephens Creek**	**29.25**	**178**	P	**P**	**20 40 37.0**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=358,slow=9.5,SNR=2.9						
STKA				LR	LR	20 52 58.1	
	comp=Z,86nm,20.2s,baz=17,slow=38						
	comp=Z,1.3nm,0.8s						
DZM	**Mont Dzumac**	**31.97**	**130**	LR	LR	20 53 41.6	
	comp=Z,95nm,18.0s,baz=25,slow=36						
H11S3	**WAKE ISLAND Hy**	**33.28**	**50**	T	T	21 16 15.8	
	baz=232,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**33.30**	**50**	T	T	21 16 14.1	
	baz=232,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**33.30**	**50**	T	T	21 16 23.5	
	baz=232,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**34.16**	**49**	T	T	21 17 22.1	
	baz=228,slow=76,SNR=41						
H11N2	**WAKE ISLAND Hy**	**34.18**	**49**	T	T	21 17 26.4	
	baz=228,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy**	**34.18**	**49**	T	T	21 17 23.9	
	baz=228,slow=76,SNR=25						
JNU	**Nakatsue**	**36.54**	**347**	LR	LR	20 54 13.3	
	comp=Z,86nm,19.5s,baz=154,slow=32						
NWAO	**Narrogin (SRO)**	**37.23**	**213**	LR	LR	20 58 28.4	
	comp=Z,91nm,19.0s,baz=280,slow=38						
KSRS	**Korea Array**	**41.39**	**345**	P	**P**	**20 42 19.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=164,slow=8.9,SNR=4.1						
	comp=Z,0.5nm,0.6s						
GSI	**Gunungsitoli**	**42.92**	**275**	P	**P**	**20 42 29.3**	**-3.5**
GSI				IAmb	IAmb	20 42 30.9	
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.75**	**299**	P	**P**	**20 42 53.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**45.75**	**299**	P	**P**	**20 42 55.0**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=118,slow=6.5,SNR=13						
	comp=Z,1.4nm,0.7s						
ASAJ	**Asahikawa**	**46.45**	**2**	LR	LR	21 03 00.7	
	comp=Z,41nm,18.6s,baz=182,slow=37						
URZ	**Urewera**	**48.95**	**141**	LR	LR	21 04 27.8	
	comp=Z,

*IDC **03** 20:46:35.3±1.0, 2°.31S×100°.81E, h0km, mb3.8/10, mbtmp3.8/11, ML3.2/1, Error ellipse: s-maj=34.4km s-min=17.4km az=62.0*
*DJA **03** 20:46:36.3±0.5, 3°.S±7°.×10°.0E±°, h26km±4km, M4.0/7, MLv4.0/7*
ISC 03 20:46:35.2±0.8, **2°.62S**±0°.06×**100°.29E**±0°.07, **h10**km, **n26**, σ1°**39**/16, **mb4.1**/9, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.31**	**243**	P	**Pg**	**20 46 42.2**	**+0.7**
PPSI				S	**Sg**	**20 46 46.3**	**+0.6**
SISI	**Saibi**	**1.76**	**317**	P	**Pn**	**20 47 05.8**	**0.0**
PPI	**Padang Panjang**	**2.15**	**3**	P	**Pn**	**20 47 14.3**	**+3.1**
MNSI	**Mandailing Nat**	**3.47**	**348**	P	**Pn**	**20 47 30.8**	**+1.5**
LWLI	**Liwa**	**4.45**	**122**	P	**Pn**	**20 47 43.9**	**+0.9**
PSI	**Prapat**	**5.56**	**346**	Pn	Pn	20 47 56.2	-2.0
	0.8nm,0.3s,baz=180,slow=23,SNR=2.6						
PSI				Sn	**Sn**	**20 48 59.7**	**-2.5**
	0.3nm,0.3s,baz=163,slow=13,SNR=4.4						
	3.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.99**	**356**	P	**P**	**20 51 17.7**	**-1.2**
	0.3nm,0.4s,baz=191,slow=10,SNR=5.3						
	0.3nm,0.4s						
H08S2	**Diego Garcia H**	**28.12**	**259**	T	T	21 21 23.1	
	baz=82,slow=76,SNR=216						
H08S3	**Diego Garcia H**	**28.13**	**259**	T	T	21 21 27.8	
	baz=82,slow=76,SNR=334						
H08S1	**Diego Carcia H**	**28.14**	**259**	T	T	21 21 22.7	
	baz=82,slow=76,SNR=167						
H01W3	**Cape Leeuwin H**	**34.59**	**160**	T	T	21 29 30.1	
	baz=335,slow=76,SNR=2.8						
H01W2	**Cape Leeuwin H**	**34.60**	**160**	T	T	21 29 39.6	
	baz=335,slow=76,SNR=3.7						
H01W1	**Cape Leeuwin H**	**34.60**	**160**	T	T	21 29 37.4	
	baz=335,slow=76,SNR=3.4						
WRA	**Warramunga Arr**	**37.43**	**120**	P	**P**	**20 53 48.1**	**-0.9**
	0.3nm,0.3s,baz=304,slow=8.9,SNR=7.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**38.66**	**126**	P	**P**	**20 53 58.1**	**-1.2**
	0.8nm,0.8s,baz=298,slow=8.0,SNR=4.4						
	0.8nm,0.8s						
SONM	**Songino Array**	**50.53**	**5**	P	**P**	**20 55 34.6**	**+0.8**
	1.8nm,0.6s,baz=192,slow=9.5,SNR=16						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**51.70**	**344**	P	**P**	**20 55 42.7**	**+0.1**
	1.9nm,0.7s,baz=152,slow=8.4,SNR=20						
	1.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.57**	**28**	P	P	20 56 02.0	-1.7
	1.3nm,0.6s,baz=224,slow=12,SNR=2.5						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.22**	**343**	P	**P**	**20 56 15.6**	**+0.1**
	1.6nm,0.8s,baz=164,slow=6.9,SNR=13						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**57.83**	**349**	P	**P**	**20 56 26.3**	**-0.5**
	0.5nm,0.3s,baz=189,slow=7.5,SNR=4.9						
	0.5nm,0.3s						
H04S1	**CROZET ISLANDS**	**60.75**	**216**	T	T	22 02 11.0	
	baz=57,slow=75,SNR=27						
H04S3	**CROZET ISLANDS**	**60.77**	**216**	T	T	22 02 10.7	
	baz=57,slow=75,SNR=66						
H04S2	**CROZET ISLANDS**	**60.77**	**216**	T	T	22 02 11.9	
	baz=57,slow=75,SNR=38						
BVAR	**Borovoye Array**	**60.86**	**340**	P	**P**	**20 56 47.1**	**-0.7**
	0.3nm,0.5s,baz=146,slow=7.3,SNR=4.4						
	0.3nm,0.5s						
BOSA	**Boshof**	**75.61**	**241**	P	P	20 58 27.2	+6.2
	3.2nm,0.7s,baz=58,slow=9.5,SNR=5.3						
	3.2nm,0.7s						
TXAR	**Lajitas Array**	**145.01**	**38**	PKP	**PKPbc**	**21 06 13.2**	**+0.2**
	1.0nm,0.6s,baz=237,slow=1.1,SNR=13						

*IDC **03** 21:06:10.1±5.0, 36°.34N×19°.72E, h0km, mb3.7/6, mbtmp3.5/9, ML0.6/1, MS3.5/3, Error ellipse: s-maj=88.5km s-min=27.2km az=36.0*
*ATH **03** 21:06:24.0, 37°.72N×20°.73E, h17km±1km, ML2.4/2, Error ellipse: s-maj=3.1km s-min=1.2km az=40.0*
ISC 03 21:06:21.3±2.9, **37°.6N**±0°.1×**20°.59E**±0°.09, **h5**km±14km, **n27**, σ1°**58**/30, **mb3.6**/6, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.26**	**19**	P	**Pb**	**21 06 27.9**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.29**	**41**	P	**Pg**	**21 06 27.6**	**+0.7**
KYPS				S	**Sg**	**21 06 30.7**	**0.0**
PSDA	**Pessada-Kefalo**	**0.51**	**360**	P	**Pb**	**21 06 32.6**	**-0.3**
PSDA				S	**Sg**	**21 06 37.8**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.52**	**56**	P	**Pg**	**21 06 31.2**	**-0.1**
CLEM				S	**Sg**	**21 06 36.1**	**-2.0**
VLS	**Valsamata**	**0.57**	**0**	P	**Pb**	**21 06 33.4**	**-0.5**
VLS				S	**Sg**	**21 06 40.4**	**+0.5**
VLS				AML	AML	21 06 43.6	
	comp=E,1021μm,0.4s						
VLS				AML	AML	21 06 43.7	
	comp=N,1240μm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**345**	P	**Pn**	**21 06 35.7**	**-1.7**
RLS	**Riolos of Patr**	**0.83**	**57**	P	**Pg**	**21 06 36.9**	**-0.4**
RLS				S	**Sg**	**21 06 46.8**	**-1.3**
RLS				AML	AML	21 06 51.1	
	comp=E,932μm,0.4s						
RLS				AML	AML	21 06 52.9	
	comp=N,902μm,0.4s						
FSK	**Fiskardo**	**0.86**	**359**	P	**Pb**	**21 06 38.2**	**-0.5**
FSK				S	**Sg**	**21 06 48.5**	**-0.4**
AMT	**Artemida-Makis**	**0.89**	**94**	P	**Pb**	**21 06 39.2**	**-0.2**
DRO	**Drossia**	**0.96**	**68**	P	**Pg**	**21 06 39.5**	**-0.1**
EVGI	**Lefkada island**	**1.02**	**3**	P	**Pg**	**21 06 39.7**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.11**	**4**	P	**Pg**	**21 06 41.7**	**-1.0**
ITM	**Ithomi**	**1.15**	**111**	P	**Pb**	**21 06 43.6**	**-0.1**
LKD2	**Lefkada island**	**1.19**	**3**	P	**Pb**	**21 06 43.9**	**-0.5**
KLV	**Kalavryta, Ach**	**1.31**	**70**	P	**Pn**	**21 06 45.4**	**-1.0**
IDI	**Anoyia**	**4.17**	**122**	Pn	Pn	21 07 17.7	-8.0
	comp=N,0.2nm,0.3s,baz=183,slow=10,SNR=2.0						
IDI				Sn	**Sn**	**21 08 09.8**	**-5.0**
	comp=N,0.4nm,0.3s,baz=262,slow=21,SNR=1.3						
	comp=N,13nm,1.1s						
MLR	**Muntele Rosu**	**8.84**	**25**	LR	LR	21 13 09.1	
	comp=N,61nm,21.2s,baz=212,slow=41						
BRTR	**Keskin Array B**	**10.43**	**74**	Pn	**Pn**	**21 08 56.3**	**+4.7**
	comp=N,0.2nm,0.5s,baz=299,slow=9.7,SNR=1.9						
AKASG	**Malin Array Be**	**14.47**	**22**	Pn	**P**	**21 09 54.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=211,slow=8.9,SNR=4.6						
HFS	**Hagfors**	**22.98**	**351**	P	**P**	**21 11 27.9**	**+1.4**
	comp=N,2.1nm,0.6s,baz=148,slow=8.5,SNR=10.0						
	comp=N,2.1nm,0.6s						
FINES	**FINESS Array B**	**24.11**	**6**	P	**P**	**21 11 38.6**	**+0.8**
	comp=N,6.6nm,1.2s,baz=193,slow=7.8,SNR=4.6						
	comp=N,6.6nm,1.2s						
BVAR	**Borovoye Array**	**37.45**	**49**	P	**P**	**21 13 35.8**	**+0.3**
	comp=N,0.3nm,0.5s,baz=269,slow=6.5,SNR=2.7						
	comp=N,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.53**	**53**	P	**P**	**21 14 17.6**	**-0.1**
	comp=N,0.3nm,0.5s,baz=278,slow=8.8,SNR=4.5						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.56**	**58**	P	**P**	**21 14 41.7**	**-0.4**
	comp=N,0.2nm,0.5s,baz=277,slow=6.9,SNR=5.8						
	comp=N,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.04**	**48**	P	**P**	**21 14 45.9**	**+0.2**
	comp=N,0.9nm,0.5s,baz=276,slow=8.6,SNR=6.4						
	comp=N,0.9nm,0.5s						
DLBC	**Dease Lake**	**81.21**	**345**	LR	LR	21 55 55.2	
	comp=N,43nm,18.6s,baz=186,slow=36						
SHEM	**Shemya Is, Ala**	**87.13**	**16**	LR	LR	22 07 12.6	
	comp=N,60nm,18.3s,baz=136,slow=41						

*NOU **03** 21:15:26.7, 39°.77S×173°.98E, h222km, MLv4.0/14, Off W. Coast of N. Island, N.Z.*
*WEL **03** 21:15:29.9±0.8, 40°.S±4°.×17°.4E±°, h196km±6km, M3.5/28, ML2.9/5, MLv3.5/28, Error ellipse: s-maj=6.0km s-min=4.4km az=111.7, confirmed*
ISC 03 21:15:24.7±1.7, **39°.74S**±0°.05×**173°.95E**±0°.05, **h233**km±10km, **n146**, σ1°**58**/161, **Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.33**	**350**	P	**Pn**	**21 15 56.7**	**+1.5**
NMEZ				S	**S**	**21 16 18.2**	**-0.8**
PREZ	**Palmer Road**	**0.43**	**22**	P	**Pn**	**21 15 56.8**	**+1.3**
PREZ				S	**S**	**21 16 18.5**	**-1.0**
KHEZ	**Kahui Hut**	**0.45**	**7**	P	**Pn**	**21 15 56.6**	**+1.0**
KHEZ	**Kahui Hut**	**0.45**	**7**	P	**Pn**	**21 15 57.0**	**+1.3**
KHEZ				S	**S**	**21 16 18.8**	**-1.0**
NBEZ	**Newall Road No**	**0.47**	**352**	P	**Pn**	**21 15 57.0**	**+1.4**
NEZ	**North Egmont**	**0.48**	**14**	P	**Pn**	**21 15 57.1**	**+1.4**
PKE	**Pukeiti**	**0.55**	**3**	P	**Pn**	**21 15 57.4**	**+1.5**
DREZ	**Durham Road**	**0.58**	**20**	P	**Pn**	**21 15 57.3**	**+1.4**
WAZ	**Wanganui**	**0.80**	**91**	P	**Pn**	**21 15 59.1**	**+2.3**
WAZ				S	**S**	**21 16 21.5**	**-0.4**
VRZ	**Vera Road**	**0.88**	**46**	P	**Pn**	**21 15 58.2**	**+0.9**
DUWZ	**D'Urville Isla**	**1.06**	**181**	P	**Pn**	**21 15 59.9**	**+1.7**
DUWZ				S	**S**	**21 16 22.6**	**-2.1**
OHWZ	**Ohakea**	**1.15**	**114**	P	**Pn**	**21 16 01.0**	**+2.3**
OHWZ				S	**S**	**21 16 24.6**	**-0.8**
PKVZ	**Pokaka**	**1.17**	**68**	P	**Pn**	**21 16 00.3**	**+1.3**
PKVZ				S	**S**	**21 16 23.9**	**-2.0**
MTVZ	**Mangateitei**	**1.23**	**74**	P	**Pn**	**21 16 00.9**	**+1.5**
TRVZ	**Turoa**	**1.31**	**71**	P	**Pn**	**21 16 01.7**	**+1.5**
FWVZ	**Far West T-bar**	**1.33**	**69**	P	**Pn**	**21 16 01.7**	**+1.3**
TWVZ	**Taurewa**	**1.33**	**60**	P	**Pn**	**21 16 01.3**	**+1.1**
MAVZ	**Matarangi**	**1.33**	**70**	P	**Pn**	**21 16 01.9**	**+1.4**
KIW	**Kapiti Island**	**1.34**	**147**	P	**Pn**	**21 16 01.6**	**+1.5**
WNVZ	**Wahianoa**	**1.34**	**73**	P	**Pn**	**21 16 02.0**	**+1.6**
COVZ	**Chateau Observ**	**1.35**	**67**	P	**Pn**	**21 16 01.8**	**+1.5**
WHVZ	**Whangaehu Hut**	**1.35**	**71**	P	**Pn**	**21 16 01.9**	**+1.4**
NGZ	**Ngauruhoe**	**1.40**	**67**	P	**Pn**	**21 16 02.2**	**+1.4**
TUVZ	**Tukino**	**1.40**	**71**	P	**Pn**	**21 16 02.5**	**+1.7**
HIZ	**Hauiti**	**1.41**	**30**	P	**Pn**	**21 16 01.5**	**+0.7**
HIZ	**Hauiti**	**1.41**	**30**	P	**Pn**	**21 16 01.8**	**+1.0**
WTVZ	**West Tongariro**	**1.42**	**64**	P	**Pn**	**21 16 02.2**	**+1.3**
SNVZ	**South Ngauruho**	**1.42**	**68**	P	**Pn**	**21 16 02.6**	**+1.6**
OGWZ	**Otaki Gorge**	**1.43**	**139**	P	**Pn**	**21 16 02.5**	**+1.8**
NNVZ	**North Ngauruho**	**1.43**	**65**	P	**Pn**	**21 16 02.4**	**+1.4**
MOVZ	**Moawhango**	**1.43**	**77**	P	**Pn**	**21 16 02.2**	**+1.2**
OTVZ	**Oturere**	**1.45**	**67**	P	**Pn**	**21 16 02.7**	**+1.5**
KRVZ	**Karewarewa**	**1.46**	**64**	P	**Pn**	**21 16 02.6**	**+1.4**
NTVZ	**North Tongarir**	**1.48**	**65**	P	**Pn**	**21 16 02.9**	**+1.5**
ETVZ	**East Tongariro**	**1.49**	**67**	P	**Pn**	**21 16 03.2**	**+1.7**
TMVZ	**Te Maari**	**1.50**	**66**	P	**Pn**	**21 16 03.1**	**+1.6**
TKNZ	**Takaka Hill**	**1.50**	**210**	P	**Pn**	**21 16 02.7**	**+1.4**
QRZ	**Quartz Range**	**1.54**	**225**	P	**Pn**	**21 16 02.7**	**+1.1**
QRZ	**Quartz Range**	**1.54**	**225**	P	**Pn**	**21 16 02.8**	**+1.2**
NNZ	**Nelson**	**1.54**	**196**	P	**Pn**	**21 16 03.3**	**+1.7**
POWZ	**Post Office Ro**	**1.54**	**116**	P	**Pn**	**21 16 03.4**	**+1.7**
MRZ	**Mangatainoka R**	**1.55**	**127**	P	**Pn**	**21 16 03.3**	**+1.6**
KATZ	**Kakaramea**	**1.55**	**61**	P	**Pn**	**21 16 03.5**	**+1.5**
TSZ	**Takapari Road**	**1.58**	**102**	P	**Pn**	**21 16 03.8**	**+1.7**
CAW	**Cannon Point**	**1.61**	**148**	P	**Pn**	**21 16 03.9**	**+1.6**
RATZ	**Rangitukua**	**1.66**	**59**	P	**Pn**	**21 16 04.5**	**+1.7**
WEL	**Wellington**	**1.66**	**158**	P	**Pn**	**21 16 04.1**	**+1.5**
HOWZ	**Holdsworth Sta**	**1.67**	**134**	P	**Pn**	**21 16 04.2**	**+1.5**
RITZ	**Rihia Road**	**1.67**	**63**	P	**Pn**	**21 16 04.7**	**+1.9**
SNZO	**South Karori**	**1.67**	**160**	P	**Pn**	**21 16 03.8**	**+1.1**
TUWZ	**Tuamarina**	**1.69**	**180**	P	**Pn**	**21 16 05.0**	**+2.1**
WATZ	**Wairara**	**1.73**	**54**	P	**Pn**	**21 16 04.9**	**+1.5**
PNHZ	**Pukenui**	**1.74**	**96**	P	**Pn**	**21 16 05.2**	**+1.8**
PRWZ	**Pori Road**	**1.75**	**118**	P	**Pn**	**21 16 05.6**	**+2.1**
DVHZ	**Dannevirke**	**1.79**	**109**	P	**Pn**	**21 16 05.6**	**+1.8**
TIWZ	**Tintock**	**1.81**	**126**	P	**Pn**	**21 16 05.9**	**+1.9**
BHW	**Baring Head**	**1.81**	**157**	P	**Pn**	**21 16 05.2**	**+1.3**
MTW	**Mount Morrison**	**1.85**	**141**	P	**Pn**	**21 16 05.8**	**+1.5**
HATZ	**Hinemaiaia**	**1.87**	**64**	P	**Pn**	**21 16 05.7**	**+1.2**
KRHZ	**Kereru**	**1.87**	**88**	P	**Pn**	**21 16 06.3**	**+1.7**
TLZ	**Tolley Road**	**1.88**	**42**	P	**Pn**	**21 16 05.5**	**+0.8**
MRNZ	**Matariki Terra**	**1.89**	**208**	P	**Pn**	**21 16 06.1**	**+1.4**
WHTZ	**Whakaora**	**1.89**	**56**	P	**Pn**	**21 16 07.1**	**+2.2**
KWHZ	**Kaweka Forest**	**1.94**	**81**	P	**Pn**	**21 16 07.2**	**+2.0**
WPHZ	**Waipukurau**	**1.94**	**100**	P	**Pn**	**21 16 07.2**	**+2.0**
MSWZ	**Moikau Station**	**1.95**	**150**	P	**Pn**	**21 16 06.6**	**+1.5**
BSWZ	**Blackbirch Sta**	**1.97**	**182**	P	**Pn**	**21 16 07.3**	**+1.8**
BSWZ				S	**S**	**21 16 36.1**	**-1.4**
PAWZ	**Paruwai Farm**	**1.99**	**146**	P	**Pn**	**21 16 07.2**	**+1.5**
PAWZ				S	**S**	**21 16 35.4**	**-2.4**
BFZ	**Birch Farm**	**2.00**	**119**	P	**Pn**	**21 16 07.3**	**+1.6**
BFZ	**Birch Farm**	**2.00**	**119**	P	**Pn**	**21 16 07.4**	**+1.8**
BFZ				S	**S**	**21 16 34.5**	**-3.2**
TMWZ	**Te Maipa**	**2.02**	**133**	P	**Pn**	**21 16 07.6**	**+1.7**
TMWZ				S	**S**	**21 16 36.3**	**-1.9**
CMWZ	**Cape Campbell**	**2.02**	**174**	P	**Pn**	**21 16 08.1**	**+2.3**
CMWZ				S	**S**	**21 16 38.2**	**0.0**
BKZ	**Black Stump Fm**	**2.05**	**75**	P	**Pn**	**21 16 07.6**	**+1.3**
BKZ	**Black Stump Fm**	**2.05**	**75**	P	**Pn**	**21 16 07.7**	**+1.4**
BKZ				S	**S**	**21 16 36.1**	**-2.7**
ANWZ	**Angora Road**	**2.07**	**111**	P	**Pn**	**21 16 08.5**	**+2.2**
ANWZ				S	**S**	**21 16 37.7**	**-1.2**
PLWZ	**Palliser**	**2.08**	**152**	P	**Pn**	**21 16 07.8**	**+1.3**
MRHZ	**Matea Rd**	**2.12**	**66**	P	**Pn**	**21 16 07.9**	**+0.9**
MRHZ				S	**S**	**21 16 36.4**	**-3.6**
TRWZ	**Traveller**	**2.12**	**142**	P	**Pn**	**21 16 08.5**	**+1.6**
PRHZ	**Porangahau**	**2.13**	**105**	P	**Pn**	**21 16 09.1**	**+2.1**
MCHZ	**McNeill Hill**	**2.14**	**83**	P	**Pn**	**21 16 09.7**	**+2.5**
THZ	**Tophouse**	**2.17**	**201**	P	**Pn**	**21 16 09.0**	**+1.6**
GRRZ	**Galatos Road**	**2.18**	**51**	P	**Pn**	**21 16 09.7**	**+2.1**
ALRZ	**Allen Road**	**2.20**	**58**	P	**Pn**	**21 16 08.8**	**+1.1**
KAHZ	**Kahuranaki**	**2.26**	**92**	P	**Pn**	**21 16 10.6**	**+2.3**
PXZ	**Pawanui**	**2.26**	**98**	P	**Pn**	**21 16 10.4**	**+2.2**
HRRZ	**Handcock Road**	**2.26**	**54**	P	**Pn**	**21 16 10.2**	**+1.8**
NMHZ	**Naumai**	**2.31**	**75**	P	**Pn**	**21 16 11.1**	**+2.3**
TOZ	**Tahuroa Road**	**2.34**	**32**	P	**Pn**	**21 16 10.4**	**+1.2**
ARHZ	**Aropaoanui**	**2.41**	**80**	P	**Pn**	**21 16 12.0**	**+2.3**
MTHZ	**Maungataniwha**	**2.41**	**69**	P	**Pn**	**21 16 11.1**	**+1.2**
CKHZ	**Cape Kidnapper**	**2.42**	**89**	P	**Pn**	**21 16 12.2**	**+2.4**
KMRZ	**Kaimai**	**2.45**	**40**	P	**Pn**	**21 16 12.0**	**+1.7**
MUGZ	**Murupara**	**2.53**	**61**	P	**Pn**	**21 16 11.8**	**+0.7**
RAHZ	**Arahi**	**2.57**	**72**	P	**Pn**	**21 16 13.3**	**+1.8**
DSZ	**Denniston Nort**	**2.58**	**218**	P	**Pn**	**21 16 13.1**	**+1.5**
RTZ	**Ruatahuna**	**2.61**	**65**	P	**Pn**	**21 16 12.9**	**+0.9**
WHHZ	**Waihua**	**2.63**	**76**	P	**Pn**	**21 16 14.3**	**+2.2**
KHZ	**Kahutara**	**2.69**	**186**	P	**Pn**	**21 16 14.1**	**+1.5**
KHZ	**Kahutara**	**2.69**	**186**	P	**Pn**	**21 16 14.2**	**+1.5**
MKAZ	**Moumakai**	**2.80**	**20**	P	**Pn**	**21 16 16.1**	**+2.1**
SNGZ	**Shannon Statio**	**2.80**	**71**	P	**Pn**	**21 16 15.6**	**+1.7**
URZ	**Urewera**	**2.87**	**60**	P	**Pn**	**21 16 15.2**	**+0.4**
URZ	**Urewera**	**2.87**	**60**	P	**Pn**	**21 16 15.1**	**+0.4**
RAGZ	**Rawiri**	**2.97**	**66**	P	**Pn**	**21 16 17.1**	**+1.2**
KNZ	**Kokohu**	**2.98**	**77**	P	**Pn**	**21 16 17.6**	**+1.8**
MHGZ	**Mahia Peninsul**	**3.12**	**80**	P	**Pn**	**21 16 19.6**	**+2.1**
MWZ	**Matawai**	**3.12**	**64**	P	**Pn**	**21 16 18.6**	**+1.0**
RIGZ	**Rimuhau**	**3.14**	**72**	P	**Pn**	**21 16 19.3**	**+1.6**
PRGZ	**Paritu Road**	**3.16**	**76**	P	**Pn**	**21 16 19.8**	**+1.8**
LTZ	**Lake Taylor**	**3.29**	**202**	P	**Pn**	**21 16 20.9**	**+1.5**
GVZ	**Greta Valley S**	**3.30**	**192**	P	**Pn**	**21 16 20.6**	**+1.1**
TKGZ	**Te Karaka**	**3.30**	**68**	P	**Pn**	**21 16 21.1**	**+1.6**
RUGZ	**Raukumara Rang**	**3.41**	**68**	P	**Pn**	**21 16 21.0**	**+0.1**
TWGZ	**Tauwhareparae**	**3.51**	**65**	P	**Pn**	**21 16 23.1**	**+1.5**
INZ	**Inchbonnie**	**3.53**	**212**	P	**Pn**	**21 16 23.2**	**+1.1**
CNGZ	**Carnagh Statio**	**3.54**	**71**	P	**Pn**	**21 16 24.3**	**+2.0**
AMCZ	**Amberley**	**3.57**	**195**	P	**Pn**	**21 16 23.8**	**+1.2**
HAZ	**Te Kaha**	**3.59**	**58**	P	**Pn**	**21 16 23.0**	**+0.1**
PKGZ	**Pakihiroa**	**3.73**	**61**	P	**Pn**	**21 16 25.3**	**+0.8**
PUZ	**Puketiti**	**3.75**	**65**	P	**Pn**	**21 16 25.7**	**+0.9**
OXZ	**Oxford**	**3.86**	**201**	P	**Pn**	**21 16 26.8**	**+0.8**
WMGZ	**Waiomatatini S**	**3.98**	**63**	P	**Pn**	**21 16 28.2**	**+0.7**
OKCZ	**Okains Bay**	**4.04**	**189**	P	**Pn**	**21 16 28.9**	**+0.8**
MXZ	**Matakaoa Point**	**4.04**	**59**	P	**Pn**	**21 16 29.3**	**+1.0**
MXZ	**Matakaoa Point**	**4.04**	**59**	P	**Pn**	**21 16 29.2**	**+1.0**
MQZ	**McQueen's Vall**	**4.08**	**193**	P	**Pn**	**21 16 28.6**	**0.0**
WVZ	**Waitaha Valley**	**4.12**	**215**	P	**Pn**	**21 16 29.8**	**+0.8**
MHCZ	**Mount Hutt**	**4.19**	**204**	P	**Pn**	**21 16 30.8**	**+0.9**
AKCZ	**Akaroa Harbour**	**4.20**	**190**	P	**Pn**	**21 16 30.7**	**+0.7**
RACZ	**Rakaia**	**4.21**	**198**	P	**Pn**	**21 16 31.0**	**+0.9**
WACZ	**Wakanui South**	**4.49**	**200**	P	**Pn**	**21 16 34.6**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**4.49**	**216**	P	**Pn**	**21 16 34.3**	**+0.8**
OUZ	**Omahuta**	**4.52**	**356**	P	**Pn**	**21 16 37.2**	**+3.1**
RPZ	**Rata Peaks**	**4.52**	**208**	P	**Pn**	**21 16 35.1**	**+1.1**
RPZ	**Rata Peaks**	**4.52**	**208**	P	**Pn**	**21 16 35.1**	**+1.1**
ARCZ	**Arundel**	**4.69**	**205**	P	**Pn**	**21 16 36.9**	**+0.9**
FOZ	**Fox Glacier**	**4.89**	**218**	P	**Pn**	**21 16 39.4**	**+0.9**
TMZ	**Timaru**	**5.13**	**204**	P	**Pn**	**21 16 42.6**	**+1.2**
LBZ	**Lake Benmore**	**5.42**	**210**	P	**Pn**	**21 16 45.7**	**+0.6**
JCZ	**Jackson Bay**	**5.79**	**220**	P	**Pn**	**21 16 50.6**	**+0.7**
JCZ	**Jackson Bay**	**5.79**	**220**	P	**Pn**	**21 16 50.6**	**+0.7**
ODZ	**Otahua Downs**	**5.84**	**204**	P	**Pn**	**21 16 51.8**	**+1.5**
ODZ	**Otahua Downs**	**5.84**	**204**	P	**Pn**	**21 16 51.7**	**+1.5**
WKZ	**Wanaka**	**6.26**	**214**	P	**Pn**	**21 16 55.6**	**-0.1**
EAZ	**Earnscleugh**	**6.47**	**210**	P	**Pn**	**21 16 58.8**	**+0.5**
SYZ	**Scrubby Hill**	**7.65**	**206**	P	**Pn**	**21 17 15.5**	**+2.2**

*RSPR **03** 21:24:55.4, 19°.39N×68°.19W, h99km±5km, MD3.1/9*
*SDD **03** 21:24:57.9±2.4, 18°.93N×68°.15W, h12km±165km, MD3.1, ML2.1, MW2.5*

*NEIC **03** 21:24:59.8±2.1, 19°.12N±0°.06×68°.17W±0°.02, h35km±2km, ML2.2/26, Md3.1/9(RSPR), Error ellipse: s-maj=10.5km s-min=3.1km az=177.0*
ISC 03 21:24:55.1±1.5, **19°.12N**±0°.08×**68°.17W**±0°.03, **h5**km±11km, **n40**, σ1°**27**/46, **7C-8D**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.64**	**199**		**Pn**	**21 25 12.0**	**+1.1**
PCDR					**Sn**	**21 25 21.0**	**-0.4**
PCDR				IAML		21 25 32.1	
	comp=N,105nm,1.9s						
PCDR	**Punta Cana, DR**	**0.64**	**199**	⇓*e*Pg	**Pg**	**21 25 05.8**	**-1.6**
PCDR				IAML		21 27 20.6	
	comp=N,112nm,2.4s						
IDE	**Isla Desecheo**	**0.98**	**138**		**Pn**	**21 25 17.3**	**+1.7**
IDE	**Isla Desecheo**	**0.98**	**138**	⇑*e*P	**Pn**	**21 25 17.3**	**+1.7**
IDE	**Isla Desecheo**	**0.98**	**138**	*e*S	**Sn**	**21 25 31.7**	**+1.7**
AGPR	**Aguadilla, PR**	**1.19**	**123**		**Pg**	**21 25 20.1**	**+2.1**
AGPR	**Aguadilla, PR**	**1.19**	**123**		**Sn**	**21 25 34.7**	**-0.4**
AGPR				IAML		21 26 02.8	
	comp=N,65nm,2.5s						
AGPR	**Aguadilla, PR**	**1.19**	**123**	⇑*e*Pg	**Pn**	**21 25 17.0**	**-1.5**
AGPR				⇑*e*Sg	**Sb**	**21 25 32.5**	**-1.5**
AGPR				IAML		21 26 02.0	
	comp=N,62nm,2.4s						
AGPR	**Aguadilla, PR**	**1.19**	**123**	⇓*e*P	**Pg**	**21 25 20.1**	**+2.1**
AGPR	**Aguadilla, PR**	**1.19**	**123**	*e*S	**Sn**	**21 25 36.6**	**+1.5**
DR12	**Loma Pena Alta**	**1.20**	**254**	Pn	**Pg**	**21 25 18.4**	**+0.3**
DR12					**Sn**	**21 25 36.0**	**+0.7**
DR12				IAML		21 25 37.3	
	comp=N,40nm,0.6s						
HATOM	**Hato Mayor del**	**1.20**	**254**	⇓*e*Pg	**Pg**	**21 25 18.2**	**+0.1**
HATOM				⇑*e*Sg	**Sn**	**21 25 36.3**	**+1.0**
HATOM				IAML		21 25 37.1	
	comp=N,36nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.50**	**138**		**Pg**	**21 25 24.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.50**	**138**	IAML		21 25 34.6	
	comp=E,38nm,2.9s						
CRPR					**Sg**	**21 25 43.2**	**-0.1**
CRPR				IAML		21

comp=N,1308μm,0.6s
DRO Drossia 1.17 49 P **Pn 21 40 26.9 +0.2**
DRO Drossia 1.17 49 P **Pn 21 40 27.0 +0.3**
FSK Fiskardo 1.27 359 P **Pb 21 40 29.0 -0.2**
FSK S **Sb 21 40 48.1 +3.0**
comp=N,2μm,0.1s
FSK Fiskardo 1.27 359 P **Pb 21 40 28.9 -0.3**
FSK S **Sb 21 40 45.7 +0.6**
FSK AML AML 21 40 49.6
comp=N,3386μm,0.2s
FSK AML AML 21 40 49.8
comp=E,5560μm,0.2s
EVGI Lefkada island 1.43 2 P **Pb 21 40 31.8 -0.2**
EVGI S **Sb 21 40 53.1 +3.3**
comp=E,2μm,0.2s
EVGI Lefkada island 1.43 2 P **Pb 21 40 31.7 -0.2**
EVGI S **Sb 21 40 51.3 +1.5**
DRAG Dragano-Lefkad 1.50 359 P **Pb 21 40 32.7 -0.3**
DRAG S **Sb 21 40 51.5 -0.1**
KLV Kalavryta, Ach 1.50 55 P **Pb 21 40 32.6 -0.6**
KLV Kalavryta, Ach 1.50 55 P **Pb 21 40 32.5 -0.6**
NYDR Nydri-Lefkada 1.53 3 P **Pb 21 40 33.5 0.0**
NYDR S **Sb 21 40 55.9 +3.5**
comp=E,520nm,0.5s
NYDR Nydri-Lefkada 1.53 3 P **Pn 21 40 32.7 +1.2**
NYDR S **Sb 21 40 53.2 +0.8**
GUR Goura 1.58 61 P **Pn 21 40 33.2 +0.9**
GUR S **Sb 21 40 56.4 +2.4**
comp=E,915nm,0.5s
LKD2 Lefkada island 1.60 2 P **Pb 21 40 34.5 -0.3**
LKD2 S **Sb 21 40 57.0 +2.4**
comp=E,1μm,0.6s
EFP Efpalio 1.61 40 P **Pb 21 40 34.4 -0.6**
EFP Efpalio 1.61 40 P **Pb 21 40 34.4 -0.6**
TSLK Tsoukalades, L 1.64 2 P **Pb 21 40 34.9 -0.5**
TSLK S **Sb 21 40 57.4 +1.7**
ANX Ano Chora 1.75 36 P **Pb 21 40 37.0 -0.4**
MAKR Makrakomi, Fth 2.19 33 P **Pb 21 40 43.7 -1.1**
AXAR Agios Charalam 2.27 45 P **Pb 21 40 44.7 -1.5**
TYRN Tyrnavos 2.83 27 P **Pn 21 40 51.7 +2.3**
FNA Florina 3.64 9 *e*Pn **Pn 21 41 03.0 +2.3**
FNA *e*Sn **Sn 21 41 42.3 -0.6**
OHR Ohrid 3.92 2 *e*Pn **Pn 21 41 06.7 +2.2**
OHR *e*Sn **Sn 21 41 48.9 -0.9**
VAY Valandovo 4.40 20 *e*Pn **Pn 21 41 13.4 +2.3**
SRS Serrai 4.56 30 *e*Pn **Pn 21 41 14.8 +1.5**
SRS *e*Sn **Sn 21 42 04.6 -0.9**
PDG Podgorica 5.34 349 *e*Sn **Sn 21 42 23.0 -1.5**
BARS Barje 5.70 9 *e*Pn **Pn 21 41 29.6 +0.7**
BARS *e*Sn **Sn 21 42 30.9 -2.6**
VTS Vitosha 5.79 20 *e*Pn **Pn 21 41 31.6 +1.3**
SELS Selova 6.04 4 *e*Pn **Pn 21 41 34.1 +0.5**
SJES Sjenica 6.09 356 *e*Pn **Pn 21 41 35.2 +0.9**
SJES *e*Sn **Sn 21 42 38.8 -4.4**
STON Ston 6.10 340 *e*Pn **Pn 21 41 34.7 +0.4**
STON *e*Sn **Sn 21 42 40.0 -3.2**
ZAPS Zavoj 6.28 14 *e*Pn **Pn 21 41 37.3 +0.4**
IVAS Ivanjica 6.39 357 *e*Pn **Pn 21 41 38.7 +0.2**
GRUS Gruza 6.70 1 *e*Pn **Pn 21 41 44.4 +1.8**
DIVS Divibare 6.92 356 *e*Pn **Pn 21 41 45.9 +0.2**
DIVS *e*Sn **Sn 21 42 59.3 -4.3**
HAPS Han Pijesak,BI 7.00 350 *e*Pn **Pn 21 41 47.5 +0.6**
TRUS Trudelj 7.03 359 *e*Pn **Pn 21 41 48.3 +1.1**
AKASG Malin Array Be 14.86 22 Pn **P 21 43 38.4 -1.2**
comp=E,0.5nm,0.3s,baz=211,slow=9.6,SNR=6.4
comp=E,0.1nm,0.3s
BELG Belogornoye 24.28 43 P **P 21 45 20.8 -0.1**
comp=E,9.8nm,0.9s,baz=305,slow=6.5,SNR=4.4
comp=E,9.8nm,0.9s
FINES FINESS Array B 24.52 6 LR LR 21 54 41.6
comp=E,33nm,19.3s,baz=239,slow=36
NOA NORSAR Array B 24.60 349 P P 21 45 48.1 +24
comp=E,0.8nm,0.9s,baz=159,slow=8.7,SNR=3.3
comp=E,0.8nm,0.9s
KURBB Kurchatov Arra 42.78 53 P **P 21 48 01.2 +0.1**
comp=E,0.4nm,0.6s,baz=279,slow=8.5,SNR=5.3
comp=E,0.4nm,0.6s
MKAR Makanchi Array 45.77 58 P **P 21 48 24.8 -0.4**
comp=E,0.2nm,0.5s,baz=269,slow=7.9,SNR=5.3
comp=E,0.2nm,0.5s
ZALV Zalesovo Beam 46.31 47 P **P 21 48 30.6 +1.3**
comp=E,0.3nm,0.4s,baz=275,slow=9.4,SNR=2.7
ZALV LR LR 22 10 08.2
comp=E,20nm,19.5s,baz=96,slow=40
comp=E,0.3nm,0.4s

---

*HVO **03** 21:47:59.4±1.1, 18°.43N±0°.09×156°.24W±0°.05, h31km±9km, ML2.8/13, ML3.0/43(NEIC), Error ellipse: s-maj=13.2km s-min=6.7km az=190.0*

NEIC 03 21:47:55.6±1.3, 18°.33N±0°.08×156°.29W±0°.05, h35km±2km, Error ellipse: s-maj=13.6km s-min=7.4km az=177.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**1.11**	**35**		Pn	21 48 14.9	0.0
KHU	**Kahuku**	**1.11**	**35**		Sn	21 48 26.8	-2.3
KHU	**Kahuku**	**1.11**	**35**	IAML		21 48 54.7	
	comp=E,384nm,4.2s						
CPH	**Captain Cook**	**1.20**	**17**		Pn	21 48 16.0	0.0
CPH					Sn	21 48 28.7	-2.5
HTC	**Hot Caves**	**1.24**	**43**		Pn	21 48 16.8	+0.3
MWH	**Mokuaweoweo**	**1.32**	**30**		Pn	21 48 17.9	-0.2
MWH					Sn	21 48 31.6	-3.2
MWH	**Mokuaweoweo**	**1.32**	**30**	IAML		21 48 40.7	
	comp=E,355nm,3.5s						
MWH				IAML		21 48 44.1	
	comp=N,260nm,1.2s						
HLP	**Hilina Pali**	**1.34**	**44**		Pn	21 48 18.1	+0.3
HLP				IAML		21 48 39.8	
	comp=E,414nm,1.6s						
HLP	**Hilina Pali**	**1.34**	**44**		Sn	21 48 32.2	-2.2
HLP	**Hilina Pali**	**1.34**	**44**	IAML		21 48 31.2	
	comp=N,467nm,3.9s						
KKH	**Kailua Kona**	**1.34**	**11**		Pn	21 48 18.2	+0.3
KKH					Sn	21 48 31.9	-2.7
ALEP	**Alea Permanent**	**1.35**	**27**		Pn	21 48 18.5	+0.2
ALEP					Sn	21 48 33.0	-2.2
MLOA	**Mauna Loa Obse**	**1.38**	**29**		Pn	21 48 18.6	-0.1
MLOA					Sn	21 48 33.2	-2.8
SDHHI	**Sand Hill**	**1.41**	**42**		Pn	21 48 19.0	0.0
SDHHI					Sn	21 48 33.3	-3.2
HUH	**Hualalai**	**1.41**	**18**		Pn	21 48 19.1	0.0
HUH	**Hualalai**	**1.41**	**18**	IAML		21 48 50.8	
	comp=N,282nm,0.2s						
HUH				IAML		21 49 11.7	
	comp=E,243nm,2.3s						
WRMHI	**West Rim**	**1.42**	**41**		Pn	21 48 19.1	0.0
WRMHI					Sn	21 48 33.8	-2.8
RIM	**Rim**	**1.43**	**42**		Pn	21 48 19.2	0.0
RIM					Sn	21 48 33.8	-3.1
KKO	**Keanakako'i**	**1.44**	**42**		Pn	21 48 19.3	0.0
KKO					Sn	21 48 34.3	-2.7
UWE	**Uwekahuna**	**1.44**	**41**		Pn	21 48 19.4	0.0
UWE					Sn	21 48 34.5	-2.5
UWE	**Uwekahuna**	**1.44**	**41**	IAML		21 48 42.6	
	comp=E,291nm,1.6s						
MLH	**Mauna Loa**	**1.44**	**36**		Pn	21 48 19.5	+0.1
MLH					Sn	21 48 34.4	-2.8
MLH	**Mauna Loa**	**1.44**	**36**	IAML		21 48 35.5	
	comp=E,252nm,4.1s						
MLH				IAML		21 48 55.2	
	comp=N,263nm,4.1s						
OBL	**Observatory Le**	**1.44**	**41**		Pn	21 48 19.4	0.0
OBL					Sn	21 48 34.1	-3.0
UWB	**Uwekahuna Bluf**	**1.45**	**41**		Pn	21 48 19.3	-0.1
UWB					Sn	21 48 34.6	-2.8
BYL	**Byron's Ledge**	**1.45**	**42**		Pn	21 48 19.4	-0.1
BYL	**Byron's Ledge**	**1.45**	**42**		Sn	21 48 34.4	-3.0
BYL	**Byron's Ledge**	**1.45**	**42**	IAML		21 48 30.1	
	comp=E,103nm,1.4s						
PUH	**Pauahi**	**1.45**	**44**		Pn	21 48 19.4	-0.1
PUH					Sn	21 48 34.3	-3.1
PUH	**Pauahi**	**1.45**	**44**	IAML		21 48 53.1	
	comp=N,244nm,3.5s						
PUH				IAML		21 48 55.0	
	comp=E,232nm,4.6s						
SBLHI	**Steaming Bluff**	**1.46**	**41**		Pn	21 48 19.4	-0.1
SBLHI					Sn	21 48 34.2	-3.3
HATHI	**Halema'uma'u T**	**1.46**	**42**		Pn	21 48 19.5	-0.1
HATHI					Sn	21 48 34.5	-3.1
HATHI	**Halema'uma'u T**	**1.46**	**42**	IAML		21 48 50.7	
	comp=N,250nm,3.8s						
HATHI				IAML		21 49 09.4	
	comp=E,205nm,3.6s						
HMH	**Humu'ula Sheep**	**1.48**	**31**		Pn	21 48 20.1	+0.1
HMH					Sn	21 48 35.4	-2.9
HMH	**Humu'ula Sheep**	**1.48**	**31**	IAML		21 48 43.2	
	comp=N,275nm,0.3s						
KNHH	**Kane Nui o Ham**	**1.49**	**45**		Pn	21 48 19.9	-0.1
STCH	**Steam Cracks**	**1.52**	**46**		Pn	21 48 20.3	-0.1
STCH					Sn	21 48 35.8	-3.3
STCH	**Steam Cracks**	**1.52**	**46**	IAML		21 48 59.2	
	comp=E,172nm,4.5s						
JOKA	**Jonika Flow**	**1.64**	**48**		Pn	21 48 21.9	0.0
JOKA					Sn	21 48 38.4	-3.5
JOKA	**Jonika Flow**	**1.64**	**48**	IAML		21 48 56.6	
	comp=N,259nm,3.0s						
JOKA				IAML		21 49 09.3	
	comp=E,145nm,3.3s						
HLK	**Haleakala**	**2.42**	**1**		Pn	21 48 33.1	+0.2
KHLH	**Kahului Airpor**	**2.56**	**357**		Sn	21 49 03.5	-1.0
KHLH	**Kahului Airpor**	**2.56**	**357**	Pn	Pn	21 48 35.0	+0.4
HON	**Honolulu**	**3.39**	**332**		Sn	21 49 22.5	-2.4
HON	**Honolulu**	**3.39**	**332**	Pn	Pn	21 48 44.2	-1.8
KIP	**Kipapa**	**3.48**	**332**		Sn	21 49 25.6	-1.6
KIP	**Kipapa**	**3.48**	**332**	Pn	Pn	21 48 47.9	+0.6

---

*NEIC **03** 21:52:32.0±1.6, 13°.05N±0°.04×144°.9E±0°.1, h46km±7km, mb4.3/24, Error ellipse: s-maj=19.5km s-min=6.2km az=90.0*
*IDC **03** 21:52:32.4±1.3, 13°.28N×145°.05E, h48km±7km, mb3.5/13, mbtmp3.7/13, MS2.9/2, Error ellipse: s-maj=27.7km s-min=16.7km az=88.0*

ISC 03 21:52:32.8±0.6, 13°.12N±0°.09×145°.0E±0°.1, h57km, n55, σ1§14/49, mb4.0/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.48**	**348**	LR	LR	21 52 25.9	
	comp=Z,57nm,19.5s,baz=241,slow=18						
GUMO				P			
	3μm,0.3s,baz=162,slow=4.8,SNR=128						
GUMO				S			
	7μm,0.4s,baz=31,slow=14,SNR=33						
JCJ	**Chichijima**	**14.15**	**350**	LR	LR	22 00 01.3	
	comp=Z,54nm,19.7s,baz=131,slow=32						
H11S3	**WAKE ISLAND Hy**	**21.56**	**73**	T	T	22 19 55.1	
	baz=259,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**21.58**	**73**	T	T	22 19 57.4	
	baz=259,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**21.58**	**73**	T	T	22 19 49.9	
	baz=259,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**22.02**	**70**	T	T	22 20 27.5	
	baz=256,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**22.02**	**70**	T	T	22 20 30.0	
	baz=256,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**22.03**	**70**	T	T	22 20 28.9	
	baz=256,slow=75,SNR=27						
MJAR	**Matsushiro Arr**	**24.10**	**347**	P	**P**	**21 57 41.9**	**-1.3**
	2.4nm,0.9s,baz=181,slow=9.8,SNR=4.9						
MJAR				LR	LR	22 06 45.0	
	comp=Z,23nm,18.4s,baz=154,slow=36						
	2.4nm,0.9s						
TPUB	**Ta-pu**	**25.20**	**297**	P	**P**	**21 57 53.1**	**-0.3**
TPUB				IAmb	IAmb	21 57 58.1	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**26.96**	**184**	P	**P**	**21 58 06.3**	**-3.0**
KSRS	**Korea Array**	**28.62**	**331**	P	**P**	**21 58 23.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=138,slow=9.8,SNR=4.4						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**34.48**	**198**	P	**P**	**21 59 16.2**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=23,slow=9.3,SNR=3.3						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**38.13**	**197**	P	**P**	**21 59 46.9**	**+0.2**
ASAR	**Alice Springs**	**38.13**	**197**	P	**P**	**21 59 48.4**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=22,slow=12,SNR=15						
	4nm=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.52**	**283**	P	**P**	**22 00 40.7**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=84,slow=6.9,SNR=6.1						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**47.17**	**325**	P	**P**	**22 00 59.3**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=140,slow=8.5,SNR=4.3						
	comp=Z,0.4nm,0.8s						
MSWZ	**Moikau Station**	**61.04**	**154**	P	**P**	**22 02 40.0**	**-0.8**
MK31	**Makanchi Array**	**61.89**	**316**	P	**P**	**22 02 46.5**	**0.0**
MKAR	**Makanchi Array**	**61.89**	**316**	P	**P**	**22 02 46.1**	**-0.4**
MKAR	**Makanchi Array**	**61.89**	**316**	P	**P**	**22 02 46.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=89,slow=8.3,SNR=10						
	comp=Z,0.5nm,0.5s						
ZAA0	**Zalesovo Array**	**62.06**	**325**	P	**P**	**22 02 46.2**	**-1.3**
MAKZ	**Makanchi**	**62.11**	**316**	P	**P**	**22 02 48.5**	**+0.5**
MAKZ				IAmb	IAmb	22 02 50.1	
	comp=Z,1.2nm,0.8s						
F15K	**North Star Dit**	**62.46**	**21**	P	**P**	**22 02 50.6**	**+0.6**
J16K	**Anvik River**	**62.79**	**24**	P	**P**	**22 02 53.5**	**+1.4**
J16K				IAmb	IAmb	22 03 02.7	
	comp=Z,7.5nm,1.4s						
P19K	**Oil Pt**	**64.66**	**30**	P	**P**	**22 03 05.2**	**+0.6**
KURK	**Kurchatov**	**65.00**	**320**	P	**P**	**22 03 06.1**	**-0.8**
KURK				IAmb	IAmb	22 03 10.9	
	comp=Z,1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**65.04**	**320**	P	**P**	**22 03 06.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=102,slow=7.1,SNR=11						
	comp=Z,0.9nm,0.5s						
M20K	**Styx River**	**65.42**	**27**	P	**P**	**22 03 10.9**	**+1.4**
BRLK	**Bradley Lake**	**65.83**	**30**	P	**P**	**22 03 12.2**	**+0.1**
SKT	**Skwentna**	**66.17**	**28**	P	**P**	**22 03 15.2**	**+0.9**
SKT				IAmb	IAmb	22 03 22.1	
	comp=Z,9.4nm,1.4s						
SLKM	**Skilak Lake**	**66.35**	**29**	P	**P**	**22 03 14.9**	**-0.6**
B21K	**Ikpikpuk River**	**67.68**	**19**	P	**P**	**22 03 25.1**	**+1.4**
D22K	**Ayikyak River**	**68.03**	**20**	P	**P**	**22 03 27.5**	**+1.5**
D22K				IAmb	IAmb	22 03 28.2	
	comp=Z,6.3nm,1.5s						
I23K	**Minto, Yukon-K**	**68.04**	**25**	P	**P**	**22 03 26.3**	**+0.3**
E22K	**Anaktuvuk Pass**	**68.06**	**21**	P	**P**	**22 03 25.5**	**-0.8**
ILAR	**Eielson Array**	**68.95**	**25**	P	**P**	**22 03 31.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=248,slow=5.4,SNR=13						
	comp=Z,0.3nm,0.4s						
D24K	**Happy Valley**	**69.44**	**20**	P	**P**	**22 03 35.0**	**+0.4**
J25K	**Salcha River,**	**69.55**	**26**	P	**P**	**22 03 35.9**	**+0.3**
J25K				IAmb	IAmb	22 03 43.9	
	comp=Z,3.6nm,1.4s						
BVAR	**Borovoye Array**	**70.35**	**322**	P	**P**	**22 03 40.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=101,slow=8.2,SNR=4.4						
	comp=Z,0.3nm,0.3s						
BMAR	**Burnt Mountain**	**70.50**	**23**	P	**P**	**22 03 42.3**	**+1.0**
BCAR	**Beaver Creek A**	**70.81**	**27**	P	**P**	**22 03 44.7**	**+1.4**
M29M	**Somme Creek**	**72.25**	**28**	P	**P**	**22 03 53.3**	**+1.3**
M29M				IAmb	IAmb	22 04 00.3	
	comp=Z,3.1nm,1.1s						
L29M	**L29M**	**72.47**	**28**	P	**P**	**22 03 53.1**	**-0.1**
L29M				IAmb	IAmb	22 03 55.9	
	comp=Z,4.0nm,1.1s						
K29M	**Barlow Dome**	**72.81**	**27**	P	**P**	**22 03 58.8**	**+3.5**
K29M				IAmb	IAmb	22 04 01.4	
	comp=Z,2.6nm,1.2s						
G31M	**Satah River**	**74.40**	**24**	P	**P**	**22 04 05.8**	**+1.4**
P33M	**Teslin, Yukon**	**74.85**	**31**	P	**P**	**22 04 09.2**	**+1.8**
P33M				IAmb	IAmb	22 04 11.2	
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**76.95**	**318**	P	**P**	**22 04 19.1**	**-0.2**
GNW	**Green Mountain**	**81.92**	**43**	P	**P**	**22 04 46.5**	**+0.1**
YKA	**Yellowknife Ar**	**83.23**	**27**	P	**P**	**22 04 52.2**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=281,slow=5.4,SNR=2.7						
	comp=Z,0.1nm,0.4s						
K04D	**Chiloquin, OR**	**83.62**	**48**	P	**P**	**22 04 55.4**	**-0.2**
RES	**Resolute Bay**	**84.98**	**13**	P	**P**	**22 05 02.9**	**+1.3**
RES				IAmb	IAmb	22 05 08.8	
	comp=Z,1.7nm,1.1s						
FINES	**FINESS Array B**	**91.63**	**335**	P	**P**	**22 05 34.3**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=162,slow=5.8,SNR=4.9						
	comp=Z,1.7nm,0.8s						
PDAR	**Pinedale Array**	**92.22**	**45**	P	**P**	**22 05 37.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=306,slow=6.4,SNR=1.9						
	comp=Z,0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**135.21**	**304**	PKP	**PKPdf**	**22 11 46.6**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=69,slow=3.5,SNR=1.1						

---

*SVSA **03** 22:05:12.3±2.0, 38°.73N×29°.22W, h5km, ML3.6(INMG), Error ellipse: s-maj=11.5km s-min=7.5km az=27.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Faial #FELT: II/III (MM56) at Feteira*

*IDC **03** 22:05:13.4±3.2, 39°.74N×29°.61W, h0km, mb3.5/5, mbtmp3.4/6, ML3.9/1, MS2.9/3, Error ellipse: s-maj=1.22.0km s-min=25.3km az=175.0*

ISC 03 22:05:12.2±1.4, 38°.91N±0°.05×28°.85W±0°.05, h16km±8km, n33, σ1§65/44, mb3.6/5, MS2.8/3, 7C, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.30**	**157⇑**	*e*P	**Pb**	**22 05 19.7**	**+0.6**
PCED				*e*S	**Sb**	**22 05 25.2**	**+1.4**
PCED				*i* AML	AML	22 05 26.2	
	7μm,0.4s						
PCED				*i* AML	AML	22 05 26.2	
	11μm,0.2s						
PCED				*i* AML	AML	22 05 26.4	
	3μm,0.2s						
CALA	**Caldeira**	**0.34**	**160⇑**	*e*P	**Pb**	**22 05 19.8**	**-0.2**
CALA				*e*S	**Sg**	**22 05 25.6**	**+1.3**
CALA				*i* AML	AML	22 05 28.1	
	3μm,0.2s						
CALA				*i* AML	AML	22 05 28.5	
	3μm,0.1s						
CALA				*i* AML	AML	22 05 31.9	
	8μm,0.3s						
PRIB2	**Ribeirinha**	**0.36**	**149**	*e*P	**Pb**	**22 05 20.7**	**+0.5**
PRIB2				*e*S	**Sb**	**22 05 26.7**	**+1.1**
PRIB2				*i* AML	AML	22 05 27.8	
	10μm,0.2s						
PRIB2				*i* AML	AML	22 05 29.0	
	8μm,0.2s						
PRIB2				*i* AML	AML	22 05 29.5	
	3μm,0.2s						
PFCBR	**Castelo Branco**	**0.40**	**165**	*e*P	**Pg**	**22 05 19.9**	**-0.4**
PFCBR				*e*S	**Sg**	**22 05 25.8**	**0.0**
PFCBR				*i* AML	AML	22 05 26.5	
	568nm,0.2s						
PFCBR				*i* AML	AML	22 05 26.6	
	2μm,0.2s						
PFCBR				*i* AML	AML	22 05 33.1	
	2μm,0.3s						
HOR	**Horta**	**0.42**	**156⇑**	*e*P	**Pb**	**22 05 20.9**	**-0.2**
HOR				*e*S	**Sg**	**22 05 27.7**	**+1.3**
HOR				*i* AML	AML	22 05 29.3	
	12μm,0.2s						
HOR				*i* AML	AML	22 05 30.1	
	8μm,0.3s						
HOR				*i* AML	AML	22 05 30.6	
	3μm,0.3s						
ROSA	**Rosais**	**0.51**	**111⇑**	*e*P	**Pn**	**22 05 24.6**	**-0.1**
ROSA				*e*S	**Sn**	**22 05 33.8**	**+0.6**
ROSA				*i* AML	AML	22 05 35.3	
	977nm,0.2s						
ROSA				*i* AML	AML	22 05 35.8	
	4μm,0.4s						
ROSA				*i* AML	AML	22 05 40.9	
	3μm,0.2s						
PICO	**Pico**	**0.52**	**141**	*e*P	**Pb**	**22 05 23.7**	**+0.7**
PICO				*e*S	**Sb**	**22 05 31.7**	**+1.4**
PICO				*i* AML	AML	22 05 33.5	
	12μm,0.4s						
PICO				*i* AML	AML	22 05 33.7	
	7μm,0.2s						
PICO				*i* AML	AML	22 05 34.2	
	7μm,0.3s						
PCAN	**Candelaria**	**0.53**	**147**	*e*P	**Pg**	**22 05 21.9**	**-0.8**
PCAN				*e*S	**Sg**	**22 05 30.1**	**+0.4**
PCAN				*i* AML	AML	22 05 30.5	
	4μm,0.2s						
PCAN				*i* AML	AML	22 05 32.5	
	5μm,0.3s						
PCAN				*i* AML	AML	22 05 33.6	
	2μm,0.2s						
PPNO	**Prainha do Nor**	**0.63**	**133**	*e*P	**Pn**	**22 05 25.6**	**-0.9**
PPNO				*e*S	**Sb**	**22 05 34.9**	**+1.4**
PPNO				*i* AML	AML	22 05 37.7	
	1μm,0.2s						
PPNO				*i* AML	AML	22 05 38.6	
	3μm,0.2s						
PPNO				*i* AML	AML	22 05 39.2	
	149nm,0.2s						
SRBC	**Serra Branca**	**0.64**	**78**	*e*P	**Pn**	**22 05 28.2**	**+1.6**
SRBC				*e*S	**Sn**	**22 05 39.3**	**+2.8**
SRBC				*i* AML	AML	22 05 42.7	
	1μm,0.3s						
SRBC				*i* AML	AML	22 05 47.2	
	1μm,0.2s						
SRBC				*i* AML	AML	22 05 48.4	
	620nm,0.4s						
PMAN	**Manadas**	**0.65**	**114⇑**	*e*P	**Pn**	**22 05 26.3**	**-0.4**
PMAN				*e*S	**Sn**	**22 05 37.3**	**+0.6**
PMAN				*i* AML	AML	22 05 42.7	
	1μm,0.2s						
PMAN				*i* AML	AML	22 05 44.4	
	1μm,0.3s						
PMAN				*i* AML	AML	22 05 44.5	
	2μm,0.2s						
PGRA	**Graciosa**	**0.69**	**79**	*i* AML	AML	22 05 54.8	
	341nm,0.2s						
PID	**Ribeirinha**	**0.74**	**129⇑**	*e*P	**Pn**	**22 05 27.1**	**-0.8**
PID				*e*S	**Sb**	**22 05 38.1**	**+1.7**
PID				*i* AML	AML	22 05 42.1	
	923nm,0.4s						
PID				*i* AML	AML	22 05 48.0	
	2μm,0.5s						
PID				*i* AML	AML	22 05 48.9	
	2μm,0.4s						
ADH	**Angra Heroismo**	**1.29**	**101**	*e*P	Pn	22 05 28.6	-6.9
ADH				*e*S	**Sb**	**22 05 47.0**	**-5.2**
ADH				*i* AML	AML	22 05 47.5	
	701nm,0.4s						
ADH				*i* AML	AML	22 05 48.1	
	224nm,0.3s						
ADH				*i* AML	AML	22 05 49.4	
	58nm,0.3s						
PAGU	**Agualva, Azore**	**1.31**	**96**	*e*P	**Pg**	**22 05 36.4**	**-1.0**
PAGU				*e*S	**Sn**	**22 05 53.8**	**+1.0**
PAGU				*i* AML	AML	22 05 56.7	
	596nm,0.4s						
PAGU				*i* AML	AML	22 05 56.9	
	524nm,0.3s						
PAGU				*i* AML	AML	22 05 57.4	
	283nm,0.2s						
PSCM	**Serra do Cume**	**1.37**	**98**	*e*P	**Pg**	**22 05 37.4**	**-1.2**
PSCM				*e*S	**Sg**	**22 05 55.8**	**-0.6**
PSCM				*i* AML	AML	22 05 58.3	
	1μm,0.2s						
PSCM				*i* AML	AML	22 05 59.5	
	1μm,0.3s						
PSCM				*i* AML	AML	22 06 00.8	
	380nm,0.3s						
PSET	**Sete Cidades**	**2.69**	**113**	*e*P	**Pn**	**22 05 55.3**	**+0.6**
PSET				*e*S	**Sn**	**22 06 26.5**	**-0.4**
PSET				*i* AML	AML	22 06 30.7	
	81nm,0.2s						
PSET				*i* AML	AML	22 06 32.4	
	69nm,0.4s						
PSET				*i* AML	AML	22 06 32.5	
	54nm,0.1s						
PDA	**Ponta Delgada**	**2.76**	**114**	*e*P	**Pn**	**22 05 56.0**	**+0.3**
PDA				*e*S	**Sn**	**22 06 30.0**	**+1.4**
PDA				*i* AML	AML	22 06 31.5	
	130nm,0.2s						

PSMN *i* AML AML 22 06 48.9
34nm,0.2s
PSMN *i* AML AML 22 06 49.5
16nm,0.3s
ESDC Sonseca Array 19.27 80 P Pn 22 09 44.9 +7.9
0.1nm,0.3s,baz=274,slow=9.8,SNR=5.5
0.5nm,0.9s
BORG Borgarnes 26.26 7 LR LR 22 18 22.2
comp=Z,41nm,19.7s,baz=209,slow=31
GERES GERESS Array B 31.87 58 LR LR 22 22 12.9
comp=Z,16nm,21.0s,baz=256,slow=32
NOA NORSAR Array B 33.17 35 LR LR 22 22 59.9
comp=Z,19nm,20.4s,baz=215,slow=32
H10N2 ASCENSION HYDR48.37 161 T T 23 05 03.1
baz=345,slow=74,SNR=9.4
H10N3 ASCENSION HYDR48.38 161 T T 23 05 02.5
baz=345,slow=74,SNR=3.1
H10N1 ASCENSION HYDR48.39 161 T T 23 05 03.9
baz=345,slow=74,SNR=9.1
PDAR Pinedale Array 58.94 302 P **P** **22 15 08.6 -2.2**
0.5nm,0.9s,baz=75,slow=6.9,SNR=3.9
0.5nm,0.9s
TXAR Lajitas Array 61.10 286 P **P** **22 15 23.9 -1.8**
0.9nm,0.9s,baz=78,slow=7.3,SNR=6.4
0.9nm,0.9s
BVAR Borovoye Array 64.99 41 P **P** **22 15 52.9 +1.9**
0.3nm,0.6s,baz=310,slow=5.4,SNR=1.6
0.3nm,0.6s
KURBB Kurchatov Arra 70.50 40 P **P** **22 16 28.4 +2.6**
0.4nm,0.8s,baz=312,slow=6.2,SNR=4.9
0.4nm,0.8s
MKAR Makanchi Array 74.86 42 P **P** **22 16 54.2 +2.4**
0.2nm,0.6s,baz=320,slow=5.3,SNR=4.5
0.2nm,0.6s

*IDC **03** 22:13:34.0±3.0, 25°.79N×144°.83E, h0km, mb3.7/7, mbtmp3.8/8, ML3.1/1, MS2.8/2, Error ellipse: s-maj=124.4km s-min=30.6km az=78.0*
*NEIC **03** 22:13:37.0±1.2, 25°.80N±0°.07×144°.8E±0°.1, h10km±1km, mb4.5/19, Error ellipse: s-maj=19.9km s-min=8.2km az=117.0*
ISC 03 22:13:40.5±1.0, 25°.9N±0°.1×144°.8E±0°.2, h35km, n32, σ0°90/29, mb4.3/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.58**	**298**	Pn	**Pn**	**22 14 21.1**	**+1.3**
JCJ	**Chichijima**	**2.58**	**298**	LR	LR	22 14 56.8	
comp=Z,66nm,18.9s,baz=16,slow=30							
MJAR	**Matsushiro Arr**	**11.97**	**334**	Pn	**Pn**	**22 16 27.3**	**-1.4**
0.1nm,0.3s,baz=158,slow=11,SNR=5.9							
2.7nm,0.8s							
TGY	**Tagaytay City**	**25.23**	**247**	LR	LR	22 27 17.3	
comp=Z,53nm,20.2s,baz=124,slow=33							
WB2	**Warramunga Arr**	**46.70**	**193**	P	**P**	**22 22 06.9**	**+0.9**
WRA	**Warramunga Arr**	**46.70**	**194**	P	**P**	**22 22 03.6**	**-2.5**
1.0nm,0.9s,baz=12,slow=8.0,SNR=2.8							
1.0nm,0.9s							
M14K	**Bethel**	**49.98**	**31**	P	**P**	**22 22 32.1**	**+1.2**
M14K				IAmb	IAmb	22 22 47.1	
comp=Z,8.6nm,1.1s							
ASAR	**Alice Springs**	**50.40**	**193**	P	**P**	**22 22 34.8**	**+0.2**
L16K	**Owhat River**	**51.42**	**30**	P	**P**	**22 22 42.2**	**+0.4**
ZALV	**Zalesovo Beam**	**51.87**	**319**	P	**P**	**22 22 44.4**	**-0.9**
comp=Z,0.3nm,0.4s,baz=104,slow=6.1,SNR=2.1							
comp=Z,0.3nm,0.4s							
K17K	**Iditarod**	**52.25**	**29**	P	**P**	**22 22 48.6**	**+0.6**
K17K				IAmb	IAmb	22 23 01.7	
comp=Z,13nm,1.5s							
MKAR	**Makanchi Array**	**52.99**	**310**	P	**P**	**22 22 53.4**	**-0.4**
comp=Z,0.2nm,0.6s,baz=98,slow=6.1,SNR=2.1							
comp=Z,0.2nm,0.6s							
PSA00	**Pilbara Seismi**	**53.03**	**209**	P	P	22 22 47.2	-7.0
PSA00				IAmb	IAmb	22 22 49.6	
comp=Z,6.0nm,0.9s							
K20K	**Telida**	**54.28**	**29**	P	**P**	**22 23 03.8**	**+0.8**
K20K				IAmb	IAmb	22 23 16.0	
comp=Z,9.4nm,1.4s							
SKT	**Skwentna**	**55.14**	**31**	P	**P**	**22 23 09.2**	**0.0**
SKT				IAmb	IAmb	22 23 27.5	
comp=Z,5.8nm,1.3s							
KURBB	**Kurchatov Arra**	**55.50**	**315**	P	**P**	**22 23 11.7**	**-0.2**
comp=Z,1.0nm,0.8s,baz=90,slow=7.5,SNR=9.4							
comp=Z,1.0nm,0.8s							
F21K	**Alatna River**	**55.51**	**25**	P	**P**	**22 23 11.8**	**+0.1**
F21K				IAmb	IAmb	22 23 23.6	
comp=Z,3.3nm,1.5s							
D22K	**Ayikyak River**	**56.25**	**23**	P	**P**	**22 23 18.4**	**+1.4**
D22K				IAmb	IAmb	22 23 19.5	
comp=Z,3.1nm,1.1s							
E22K	**Anaktuvuk Pass**	**56.36**	**24**	P	**P**	**22 23 18.2**	**+0.3**
E22K				IAmb	IAmb	22 23 20.0	
comp=Z,5.1nm,1.4s							
B22K	**Teshekpuk Lake**	**56.43**	**21**	P	**P**	**22 23 18.6**	**+0.4**
C23K	**Itkillik River**	**57.21**	**22**	P	**P**	**22 23 24.6**	**+0.8**
C23K				IAmb	IAmb	22 23 35.3	
comp=Z,6.8nm,1.5s							
D24K	**Happy Valley**	**57.67**	**23**	P	**P**	**22 23 28.3**	**+1.3**
D24K				IAmb	IAmb	22 23 36.2	
comp=Z,7.4nm,1.5s							
F24K	**Squaw Lake**	**57.68**	**25**	P	**P**	**22 23 27.8**	**+0.6**
KLU	**Klutina**	**57.73**	**32**	P	**P**	**22 23 27.9**	**+0.2**
BMRM	**Bremner River**	**58.33**	**33**	P	**P**	**22 23 32.0**	**+0.2**
FYU	**Fort Yukon**	**58.56**	**26**	P	**P**	**22 23 34.2**	**+0.9**
FYU				IAmb	IAmb	22 23 50.1	
comp=Z,7.8nm,1.4s							
F26K	**Sheenjek River**	**59.13**	**25**	P	**P**	**22 23 37.8**	**+0.5**
BVAR	**Borovoye Array**	**60.45**	**318**	P	**P**	**22 23 46.5**	**-0.1**
comp=Z,0.8nm,0.6s,baz=100,slow=6.9,SNR=4.7							
comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**67.55**	**315**	P	**P**	**22 24 32.6**	**-0.7**
ABKAR	**Akbulak array**	**67.55**	**315**	P	**P**	**22 24 33.7**	**+0.4**
ABKAR				IAmb	IAmb	22 24 33.8	
comp=Z,1.5nm,1.0s							
FINES	**FINESS Array B**	**80.00**	**335**	P	**P**	**22 25 45.7**	**-0.3**
comp=Z,0.9nm,0.5s,baz=77,slow=5.8,SNR=10							
comp=Z,0.9nm,0.5s							
KBZ	**Khabaz**	**80.48**	**314**	P	**P**	**22 25 49.5**	**+0.6**
comp=Z,1.4nm,0.9s,baz=53,slow=5.1,SNR=4.1							
comp=Z,1.4nm,0.9s							

*NEIC **03** 22:18:10.5±1.9, 40°.23N±0°.02×124°.67W±0°.04, h10km±1km, Error ellipse: s-maj=5.0km s-min=3.1km az=86.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.71; M_{tt}=3.84; M_{pp}=-3.14; M_{rt}=1.32; M_{rp}=-6.26; M_{tp}=-2.17; Fault plane solution: M_0=7.63000×10^{15} NP1:φs=74.77000°, δ71.68000°, λ177.76000°. NP2:φs=165.48000°, δ87.87000°, λ18.34000°. Principal axes: T 8.0935, Plg14.0000°, Azm32.0000°; N -1.0415, Plg72.0000°, Azm172.0000°; P -7.0520, Plg11.0000°, Azm299.0000°;*
*IDC **03** 22:18:11.6±0.7, 40°.40N×124°.32W, h0km, mb4.0/17, mbtmp3.9/24, ML3.9/6, MS3.7/63 Error ellipse: s-maj=11.9km s-min=8.6km az=31.0*
*NCEDC **03** 22:18:12.7±2.3, 40°.29N±0°.01×124°.47W±0°.04, h7km±3km, Mwr4.5/4, mb4.5/41(NEIC), ML4.1/116(NEIC), Mwr4.5/45(NEIC), Error ellipse: s-maj=4.1km s-min=2.1km az=84.0*
*NEIC **03** 22:18:13.1, 40°.32N×124°.44W, h8km*
ISC 03 22:18:13.1±1.1, 40°.28N±0°.03×124°.40W±0°.05, h17km±6km, n269, σ1°04/218, mb4.4/32, MS3.8/57, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.20**	**13**		**Pg**	**22 18 17.8**	**-0.3**
KCTM					**Sg**	**22 18 22.7**	**+1.3**
KMPM	**Mount Pierce**	**0.25**	**56**		**Pb**	**22 18 19.5**	**+0.2**
KMPM				Sg	**Sb**	**22 18 24.7**	**+1.3**
KMRM	**Mail Ridge**	**0.53**	**96**		**Pb**	**22 18 25.1**	**+1.1**
KMRM				Sg	**Sn**	**22 18 35.2**	**+0.7**
JCC	**Jacoby Creek,**	**0.61**	**27**		**Pb**	**22 18 25.2**	**-0.1**
JCC				Sg	**Sb**	**22 18 34.0**	**+0.4**
KHMM	**Horse Mountain**	**0.78**	**40**		**Pb**	**22 18 28.2**	**-0.2**
KHMM				Sn	**Sn**	**22 18 40.7**	**-0.3**
KIPM	**Iron Peak**	**0.84**	**123**		**Pb**	**22 18 29.9**	**+0.6**
KCPM	**Cahto Peak**	**0.86**	**133**		**Pb**	**22 18 30.1**	**+0.4**
KCPM				Sg	**Sb**	**22 18 43.2**	**+2.3**
KRPM	**Rodgers**	**0.93**	**18**	Pg	**Pg**	**22 18 29.3**	**-1.8**
KHBM	**Hayfork Bally**	**0.98**	**66**		**Pg**	**22 18 31.5**	**-0.6**
KHBM	**Hayfork Bally**	**0.98**	**66**	IAML		22 18 50.9	
comp=E,9μm,1.2s							
KFPM	**Farley Peak**	**0.98**	**130**		**Pb**	**22 18 31.8**	**+0.1**
KBNM	**Bluenose Ridge**	**1.00**	**112**		**Pb**	**22 18 32.4**	**+0.4**
DCMP	**DeCamp, Califo**	**1.15**	**134**		**Pg**	**22 18 33.6**	**-1.7**
DCMP	**DeCamp, Califo**	**1.15**	**134**	IAML		22 18 56.4	
comp=N,4μm,0.6s							
LBPM	**Beegum Peak**	**1.16**	**87**		**Pg**	**22 18 34.5**	**-1.0**
WEAV	**Weaverville**	**1.17**	**66**		**Pg**	**22 18 34.1**	**-1.7**
KOMM	**Orleans Mounta**	**1.23**	**35**		**Pn**	**22 18 34.5**	**-1.2**
O02D	**Mt. Diablo Mer**	**1.23**	**94**	Pn	**Pn**	**22 18 35.6**	**-0.1**
O02D				IAML		22 19 02.5	
comp=N,5μm,1.7s							
O02D				IAML		22 19 06.1	
comp=E,5μm,1.6s							
KRMB	**Red Mountain**	**1.30**	**16**		**Pn**	**22 18 34.6**	**-2.0**
GWRM	**Wonder Ranch**	**1.36**	**141**		**Pn**	**22 18 36.7**	**-0.7**
GROM	**Round Mountain**	**1.37**	**105**		**Pn**	**22 18 37.9**	**+0.3**
GVV	**Valley View**	**1.41**	**110**		**Pn**	**22 18 38.4**	**+0.2**
N02D	**Trinity Center**	**1.46**	**61**		**Pn**	**22 18 38.4**	**-0.5**
N02D	**Trinity Center**	**1.46**	**61**	IAML		22 19 08.6	
comp=N,3μm,1.2s							
N02D				IAML		22 19 10.2	
comp=E,4μm,0.7s							
LBKM	**Bonanza King**	**1.54**	**58**		**Pn**	**22 18 39.5**	**-0.5**
KSXB	**Camp Six Broad**	**1.60**	**14**		**Pn**	**22 18 39.0**	**-1.7**
KSXB				IAML		22 18 59.7	
comp=E,4μm,0.7s							
SIGP	**Signal Peak, C**	**1.61**	**9**		**Pn**	**22 18 38.7**	**-2.2**
M02C	**Callahan**	**1.62**	**46**		**Pn**	**22 18 40.3**	**-0.7**
M02C	**Callahan**	**1.62**	**46**	IAML		22 19 09.5	
comp=N,2μm,0.6s							
M02C				IAML		22 19 17.3	
comp=E,2μm,1.2s							
HOPS	**Hopland Field**	**1.64**	**141**		**Pn**	**22 18 40.6**	**-0.5**
HOPS	**Hopland Field**	**1.64**	**141**	Pn	**Pn**	**22 18 40.4**	**-0.7**
HOPS	**Hopland Field**	**1.64**	**141**	IAML		22 19 26.2	
comp=E,2μm,1.3s							
HOPS				IAML		22 19 28.1	
comp=N,2μm,1.3s							
GCK	**Clark Valley**	**1.68**	**115**		**Pn**	**22 18 42.5**	**+0.8**
GFC	**Funks Creek**	**1.88**	**120**		**Pn**	**22 18 45.0**	**+0.6**
GRTM	**Round Top Moun**	**1.89**	**135**		**Pn**	**22 18 45.0**	**+0.3**
LAMM	**Antelope Mount**	**1.89**	**45**		**Pn**	**22 18 44.4**	**-0.4**
LCSM	**College of the**	**1.90**	**53**		**Pn**	**22 18 45.0**	**+0.2**
GHCM	**House Creek**	**1.91**	**151**		**Pn**	**22 18 44.5**	**-0.5**
YBH	**Yreka Blue Hor**	**1.93**	**41**	Pn	**Pn**	**22 18 44.7**	**-0.6**
YBH	**Yreka Blue Hor**	**1.93**	**41**	Pn	**Pn**	**22 18 44.7**	**-0.6**
comp=N,194nm,0.3s,baz=255,slow=11,SNR=939							
YBH				Sn	**Sn**	**22 19 10.0**	**+0.7**
comp=N,43nm,0.3s,baz=233,slow=19,SNR=6.8							
KBO	**Bosley Butte**	**1.94**	**4**	Pn	**Pn**	**22 18 43.9**	**-1.5**
KBO				IAML		22 19 33.4	
comp=N,1μm,1.6s							
KBO				IAML		22 19 35.4	
comp=E,1μm,1.6s							
LGBM	**Gray Butte**	**1.98**	**57**		**Pn**	**22 18 47.0**	**+0.8**
O03E	**Paynes Creek**	**1.98**	**89**		**Pn**	**22 18 46.2**	**+0.2**
O03E	**Paynes Creek**	**1.98**	**89**	IAML		22 19 26.4	
comp=N,2μm,1.4s							
O03E				IAML		22 19 30.4	
comp=E,2μm,1.2s							
M03C	**McCloud**	**1.99**	**59**		**Pn**	**22 18 47.0**	**+0.8**
LDBM	**Digger Butte**	**2.00**	**85**		**Pn**	**22 18 46.4**	**+0.2**
MNRC	**McLaughlin Min**	**2.06**	**132**		**Pn**	**22 18 48.0**	**+1.0**
MNRC	**McLaughlin Min**	**2.06**	**132**	IAML		22 19 49.3	
comp=E,1μm,1.6s							
MNRC				IAML		22 20 08.1	
comp=N,1μm,1.8s							
LMPM	**Military Pass**	**2.08**	**54**		**Pn**	**22 18 48.5**	**+1.0**
NMTM	**Middletown**	**2.10**	**134**		**Pn**	**22 18 48.5**	**+0.9**
LMEM	**Manzanita Entr**	**2.17**	**82**		**Pn**	**22 18 49.7**	**+1.0**
LBFM	**Black Fox Moun**	**2.18**	**60**		**Pn**	**22 18 49.5**	**+0.6**
OSUM	**Sutter Buttes**	**2.20**	**116**		**Pn**	**22 18 48.9**	**+0.1**
LRDM	**Redding Peak**	**2.25**	**84**		**Pn**	**22 18 50.6**	**+1.0**
SUTB	**Sutter Butte**	**2.27**	**117**		**Pn**	**22 18 48.8**	**-1.0**
SUTB	**Sutter Butte**	**2.27**	**117**	IAML		22 19 18.2	
comp=E,930nm,0.6s							
SUTB				IAML		22 19 48.1	
comp=N,717nm,1.1s							
HATC	**Hat Creek Radi**	**2.30**	**75**	Pn	**Pn**	**22 18 51.4**	**+1.0**
OSTM	**Stimpson Lane**	**2.34**	**112**		**Pn**	**22 18 50.7**	**-0.1**
ORV	**Oroville**	**2.34**	**107**	Pn	**Pn**	**22 18 51.0**	**+0.2**
LBCM	**Butte Creek Ri**	**2.39**	**75**		**Pn**	**22 18 52.1**	**+0.5**
OAKV	**Oakville Exper**	**2.40**	**140**		**Pn**	**22 18 51.9**	**+0.3**
MCCM	**Marconi Confer**	**2.43**	**151**	Pn	**Pn**	**22 18 51.5**	**-0.5**
MCCM				IAML		22 19 55.2	
comp=N,642nm,1.2s							
CVS	**Carmenet Viney**	**2.44**	**141**		**Pn**	**22 18 52.1**	**-0.1**
M04C	**Macdoel**	**2.45**	**51**		**Pn**	**22 18 52.9**	**+0.4**
K02D	**Willamette Mer**	**2.48**	**13**		**Pn**	**22 18 51.9**	**-0.9**
K02D				IAML		22 19 32.5	
comp=E,954nm,0.8s							
L04D	**Klamath Falls**	**2.50**	**38**	Pn	**Pn**	**22 18 53.9**	**+0.7**
L04D				IAML		22 19 27.3	
comp=N,1μm,1.3s							
L04D				IAML		22 19 45.4	
comp=E,1μm,1.0s							
QRDG	**Quail Ridge Na**	**2.50**	**135**		**Pn**	**22 18 54.0**	**+0.9**
NPRM	**Point Reyes**	**2.52**	**154**		**Pn**	**22 18 52.9**	**-0.3**
NOLM	**Olema**	**2.56**	**150**		**Pn**	**22 18 53.3**	**-0.4**
CSPM	**San Pablo Ridg**	**2.83**	**144**		**Pb**	**22 19 03.1**	**0.0**
J01E	**Myrtle Point**	**2.90**	**7**		**Pn**	**22 18 57.9**	**-0.7**
J01E				IAML		22 19 38.3	
comp=E,463nm,0.8s							
J01E				IAML		22 20 07.6	
comp=N,487nm,0.9s							
CVPM	**Vollmer Peak**	**2.93**	**144**		**Pn**	**22 18 59.2**	**+0.3**
AFDM	**Forest Hills D**	**2.96**	**116**	Pn	**Pn**	**22 18 60.0**	**+0.6**
DBO	**Dodson Butte**	**2.97**	**17**		**Pn**	**22 18 58.9**	**-0.6**
JSBM	**San Bruno Moun**	**3.02**	**148**		**Pn**	**22 18 58.6**	**-1.6**
JSBM					**Pb**	**22 19 05.5**	**-1.0**
CMCM	**Mills College**	**3.03**	**145**		**Pn**	**22 18 56.9**	**-3.4**
K04D	**Chiloquin, OR**	**3.07**	**39**		**Pn**	**22 19 01.5**	**+0.5**
J04A	**Umpqua Nationa**	**3.42**	**29**	Pn	**Pn**	**22 19 06.3**	**+0.4**
JPSM		**3.46**	**152**		**Pn**	**22 19 05.6**	**-0.6**
MPK	**Martis Peak**	**3.50**	**105**		**Pn**	**22 19 07.0**	**0.0**
I04A	**Tendick Farm,**	**3.81**	**22**		**Pn**	**22 19 11.3**	**+0.2**
J05D	**Fort Rock, OR**	**3.82**	**37**	Pn	**Pn**	**22 19 12.2**	**+0.8**
J05D				IAML		22 20 37.2	
comp=N,385nm,2.5s							
J05D				IAML		22 20 37.8	
comp=E,401nm,1.8s							
CMB	**Columbia Colle**	**3.84**	**124**	Pn	**Pn**	**22 19 12.4**	**+1.0**
I02E	**Swisshome, OR**	**3.85**	**6**	Pn	**Pn**	**22 19 11.7**	**+0.1**
I02E				IAML		22 20 45.2	
comp=E,226nm,1.8s							
I02E				IAML		22 21 28.5	
comp=N,200nm,3.8s							
PNTR	**Pine Nut**	**3.89**	**106**		**Pn**	**22 19 13.9**	**+1.6**
PAHR	**Pah Rah Range**	**3.89**	**97**	Pn	**Pn**	**22 19 12.8**	**+0.5**
PAHR				IAML		22 20 32.8	
comp=N,253nm,2.5s							
BUCK	**Buck Mountain**	**4.06**	**14**	Pn	**Pn**	**22 19 15.1**	**+0.7**
BUCK				IAML		22 20 46.1	
comp=E,428nm,1.6s							
BUCK				IAML		22 20 49.4	
comp=N,316nm,1.7s							
YERR	**Yerington**	**4.18**	**106**		**Pn**	**22 19 16.8**	**+0.4**
YERR				IAML		22 19 56.9	
comp=E,218nm,0.9s							
YERR				IAML		22 20 46.6	
comp=N,247nm,1.4s							
SAO	**San Andreas Ge**	**4.20**	**146**	Pn	**Pn**	**22 19 15.2**	**-1.2**
WAKR	**Walker**	**4.23**	**113**		**Pn**	**22 19 17.7**	**+0.7**
WAKR				IAML		22 20 52.5	
comp=E,183nm,1.4s							
PINE	**Pine Mountain**	**4.35**	**35**	Pn	**Pn**	**22 19 19.5**	**+0.8**
PINE				IAML		22 20 55.7	
comp=E,228nm,2.8s							
PINE				IAML		22 20 56.8	
comp=N,191nm,3.0s							
COR	**Corvallis**	**4.38**	**10**	Pn	**Pn**	**22 19 19.0**	**+0.2**
COR				IAML		22 21 05.1	
comp=N,212nm,2.7s							
COR				IAML		22 21 17.0	
comp=N,186nm,1.9s							
HAST	**Hastings Reser**	**4.48**	**149**		**Pn**	**22 19 19.4**	**-0.9**
BBGB	**Big Mountain B**	**4.54**	**143**		**Pn**	**22 19 20.9**	**-0.2**
BBGB				IAML		22 22 12.3	
comp=N,285nm,1.8s							
LUL	**Lundy Lake**	**4.62**	**117**		**Pb**	**22 19 33.1**	**-0.8**
I05D	**Terrebonne, OR**	**4.65**	**28**	Pn	**Pn**	**22 19 22.5**	**-0.1**
I05D				IAML		22 21 24.9	
comp=E,166nm,3.2s							
I05D				IAML		22 21 33.5	
comp=N,198nm,4.4s							
H04A	**Detroit Lake**	**4.70**	**20**	Pn	**Pn**	**22 19 23.3**	**0.0**
H04A				IAML		22 20 19.0	
comp=N,144nm,0.5s							
RYN	**Ryan**	**4.83**	**108**		**Pn**	**22 19 27.0**	**+1.8**
RYN				IAML		22 21 10.0	
comp=N,93nm,2.6s							
RYN				IAML		22 21 21.4	
comp=E,132nm,1.7s							
WVOR	**Wild Horse Val**	**4.84**	**62**		**Pn**	**22 19 24.6**	**-0.7**
WVOR				IAML		22 21 16.6	
comp=E,122nm,2.4s							
WVOR				IAML		22 21 18.1	
comp=E,140nm,2.2s							
LHV	**Little Huntoon**	**5.00**	**112**		**Pn**	**22 19 29.2**	**+1.8**
LHV				IAML		22 21 21.4	
comp=N,188nm,1.4s							
G03D	**McMinnville, O**	**5.00**	**9**	Pn	**Pn**	**22 19 28.6**	**+1.3**
G03D				IAML		22 21 20.1	
comp=E,157nm,1.8s							
G03D				IAML		22 21 24.3	
comp=N,167nm,2.0s							
NVAR	**Mina Array Bea**	**5.07**	**109**		**Pn**	**22 19 30.2**	**+1.6**
NVAR	**Mina Array Bea**	**5.07**	**109**	Pn	**Pn**	**22 19 30.6**	**+2.1**
comp=N,3.0nm,0.3s,baz=291,slow=14,SNR=32							
NVAR				Lg	Lg	22 20 50.2	
baz=312,slow=36							
comp=N,8.4nm,0.5s							
MGNR	**McGee Canyon**	**5.07**	**117**		**Pn**	**22 19 27.3**	**-1.3**
ANTCA	**Antelope Range**	**5.11**	**116**		**Pn**	**22 19 27.1**	**-2.0**
NV11	**Mina Array Sit**	**5.18**	**109**	Pn	**Pn**	**22 19 31.9**	**+2.0**
NV11				IAML		22 21 21.0	
comp=E,114nm,2.2s							
NV11				IAML		22 21 21.4	
comp=N,102nm,1.6s							
I07A	**Izee**	**5.26**	**42**	Pn	**Pn**	**22 19 32.4**	**+1.4**
I07A				IAML		22 21 27.2	
comp=E,73nm,2.4s							
J08A	**Circle Bar Ran**	**5.39**	**53**	Pn	**Pn**	**22 19 32.7**	**-0.1**
G06A	**Carlson Farm,**	**5.68**	**28**	Pn	**Pn**	**22 19 36.4**	**-0.3**
DSP	**Deep Springs**	**5.80**	**118**	Pn	**Pn**	**22 19 38.8**	**+0.6**
G08A	**Pilot Rock**	**6.41**	**37**	Pn	**Pn**	**22 19 48.3**	**+1.5**
F07A	**Phinny Hill Vi**	**6.50**	**29**	Pn	**Pn**	**22 19 48.8**	**+0.9**
ISA	**Isabella, Lake**	**6.56**	**133**	Pn	**Pn**	**22 19 49.3**	**+0.4**
BMO	**Blue Mountains**	**6.95**	**47**		**Pn**	**22 19 56.0**	**+1.8**
ELK	**Elko**	**6.99**	**83**	Pn	**Pn**	**22 19 56.3**	**+1.3**
ELK	**Elko**	**6.99**	**83**	Pn	**Pn**	**22 19 56.1**	**+1.2**
comp=E,3.3nm,0.9s,baz=278,slow=11,SNR=12							
ELK				Lg	Lg	22 21 50.2	
comp=E,0.1nm,0.3s,baz=345,slow=16,SNR=3.0							
ELK				LR	LR	22 22 56.8	
comp=E,592nm,19.4s,baz=265,slow=41							
HAWA	**Hanford**	**7.07**	**28**		**Pn**	**22 19 56.8**	**+1.1**
R11B	**Troy Canyon, C**	**7.10**	**103**	Pn	**Pn**	**22 19 58.5**	**+2.1**
MFID	**Camas Ranch**	**7.12**	**61**	Pn	**Pn**	**22 19 57.5**	**+0.9**
D05A	**Enumclaw**	**7.13**	**13**	Pn	**Pn**	**22 19 55.2**	**-1.3**
CCAC	**Calif City Air**	**7.19**	**133**		**Pn**	**22 19 58.6**	**+1.1**
S11A	**Rachel**	**7.23**	**109**	Pn	**Pn**	**22 19 57.9**	**-0.3**
E08A	**Dider Farm, El**	**7.33**	**30**		**Pn**	**22 19 60.0**	**+0.7**
LTY	**Liberty**	**7.48**	**20**		**Pn**	**22 20 01.9**	**+0.5**
F10A	**Beach Ranch, E**	**7.74**	**40**		**Pn**	**22 20 06.6**	**+1.6**
GSC	**Goldstone, Bar**	**7.79**	**127**		**Pn**	**22 20 06.0**	**+0.1**
PLID	**Pearl Lake**	**7.83**	**49**	Pn	**Pn**	**22 20 06.8**	**+0.3**
PRN	**Pahroc Range**	**7.83**	**108**	Pn	**Pn**	**22 20 06.6**	**+0.2**
D08A	**Wollman Farm,**	**7.85**	**29**	Pn	**Pn**	**22 20 05.8**	**-0.7**
SPR3	**Spring Creek 3**	**7.87**	**96**	Pn	**Pn**	**22 20 08.2**	**+1.1**
HLID	**Hailey**	**8.13**	**63**	Pn	**Pn**	**22 20 11.6**	**+1.0**
BGU	**Big Grassy Mou**	**8.67**	**82**	Pn	**Pn**	**22 20 18.9**	**+0.9**
DUG	**Dugway, Tooele**	**8.86**	**87**	Pn	**Pn**	**22 20 22.1**	**+1.6**
HVU	**Hansel Valley**	**8.91**	**77**	Pn	**Pn**	**22 20 22.4**	**+1.2**
PFO	**Pinyon Flats O**	**9.19**	**134**	Pn	**Pn**	**22 20 24.1**	**-1.0**
PFO	**Pinyon Flats O**	**9.19**	**134**	Pn	**Pn**	**22 20 27.1**	**+2.1**
comp=E,1.3nm,0.3s,baz=320,slow=10,SNR=14							
PFO				LR	LR	22 24 05.1	
comp=E,642nm,21.1s,baz=310,slow=38							
comp=E,8.2nm,0.6s							
NEW	**Newport**	**9.53**	**31**	Pn	**Pn**	**22 20 31.0**	**+1.4**
comp=E,0.2nm,0.3s,baz=166,slow=18,SNR=2.1							
NEW				LR	LR	22 24 42.1	
comp=E,637nm,18.9s,baz=219,slow=42							
comp=E,1.1nm,0.5s							
MVU	**Marysvale**	**9.60**	**97**		**Pn**	**22 20 30.3**	**-0.4**
MCMT	**McKenzie Canyo**	**9.66**	**58**		**Pn**	**22 20 32.8**	**+1.3**
HWUT	**Hardware Ranch**	**9.80**	**78**	Pn	**Pn**	**22 20 35.5**	**+2.0**
MSO	**Missoula**	**10.02**	**46**	Pn	**Pn**	**22 20 36.6**	**+0.3**
DLMT	**Dillon**	**10.05**	**56**	Pn	**Pn**	**22 20 37.7**	**+1.0**
BPMT	**Black Pine Rid**	**10.07**	**49**		**Pn**	**22 20 37.4**	**+0.3**
LRM	**Limekiln Ridge**	**10.35**	**54**		**Pn**	**22 20 40.9**	**0.0**
BSUT	**Blindstream Ca**	**10.40**	**84**	Pn	**Pn**	**22 20 43.3**	**+1.4**
BOZ	**Bozeman (W)**	**10.76**	**56**		**Pn**	**22 20 47.0**	**+0.5**
LYMT	**Lyon Mountain**	**11.03**	**49**		**Pn**	**22 20 51.4**	**+1.2**

comp=Z,11nm,0.9s
ULM Lac du Bonnet 22.29 54 P **P 22 23 08.7 -0.7**
comp=Z,9.0nm,0.8s,baz=258,slow=8.8,SNR=19
comp=Z,9.0nm,0.8s
BRDY Brady 22.41 106 P **P 22 23 09.9 -1.0**
YKA Yellowknife Ar 23.02 12 P **P 22 23 17.1 +0.1**
comp=Z,1.8nm,0.8s,baz=201,slow=12,SNR=18
YKA LR LR 22 33 46.0
comp=Z,321nm,19.1s,baz=287,slow=41
comp=Z,1.8nm,0.8s
HNDO Hondo 23.15 110 P **P 22 23 17.8 -0.8**
HNDO IAmb IAmb 22 23 27.7
comp=Z,11nm,1.2s
435B Jarrell 23.71 105 P **P 22 23 23.9 -0.3**
KDAK Kodiak Island 25.18 324 LR LR 22 31 01.6
comp=Z,407nm,20.4s,baz=355,slow=31
J30M Hart River 25.31 348 P **P 22 23 37.4 -1.3**
J30M IAmb IAmb 22 23 49.1
comp=Z,8.3nm,1.0s
HKT Hockley 25.44 105 P **P 22 23 40.1 +0.3**
G40A Rib Lake 25.47 67 P **P 22 23 39.7 -0.4**
G40A IAmb IAmb 22 23 45.5
comp=Z,10nm,1.2s
WHAR Wooly Hollow 25.78 91 P **P 22 23 43.6 +0.6**
WHAR IAmb IAmb 22 23 47.6
comp=Z,11nm,1.1s
FCC Fort Churchill 26.64 36 P **P 22 23 50.7 +0.1**
FCC IAmb IAmb 22 23 53.9
comp=Z,6.4nm,0.9s
H29M Whitestone 27.17 348 P **P 22 23 55.6 +0.3**
H29M IAmb IAmb 22 24 03.0
comp=Z,7.4nm,0.9s
G29M Pine Creek 27.75 348 P **P 22 24 01.0 +0.5**
G29M IAmb IAmb 22 24 09.8
comp=Z,9.7nm,1.1s
ILAR Eielson Array 27.78 339 P **P 22 24 00.5 -0.3**
comp=Z,0.3nm,0.7s,baz=162,slow=7.1,SNR=1.7
ILAR LR LR 22 33 31.6
comp=Z,123nm,20.1s,baz=132,slow=33
comp=Z,0.3nm,0.7s
TKL Tuckaleechee C 32.15 85 LR LR 22 39 33.3
comp=Z,201nm,18.5s,baz=294,slow=40
TRQ Mont Tremblant 36.29 64 P **P 22 25 15.1 -0.6**
APG El Apazote 38.82 121 LR LR 22 41 30.3
comp=Z,14nm,20.9s,baz=288,slow=36
LMQ La Malbaie 38.94 61 P **P 22 25 38.1 +0.1**
LMQ IAmb IAmb 22 25 40.0
comp=Z,21nm,1.2s
FRB Frobisher Bay 39.85 35 LR LR 22 43 27.4
comp=Z,79nm,21.4s,baz=278,slow=38
SCHQ Schefferville 40.30 49 P **P 22 25 49.5 +0.3**
comp=Z,3.2nm,0.8s,baz=274,slow=8.5,SNR=5.3
SCHQ LR LR 22 43 02.7
comp=Z,187nm,18.6s,baz=321,slow=37
comp=Z,3.2nm,0.8s
SHEM Shemya Is, Ala 42.85 308 LR LR 22 40 15.3
comp=Z,68nm,19.0s,baz=111,slow=31
JTS Las Juntas de 45.91 119 LR LR 22 47 34.4
comp=Z,128nm,20.0s,baz=325,slow=38
SFJD Kangerlussuaq 47.46 31 LR LR 22 46 45.0
comp=Z,165nm,18.8s,baz=266,slow=36
SUMG Summit 50.92 23 P **P 22 27 13.6 +0.2**
PETK Petropavlovsk- 52.38 312 P **P 22 27 26.7 +2.6**
comp=Z,3.3nm,0.8s,baz=90,slow=4.3,SNR=2.3
PETK LR LR 22 45 48.6
comp=Z,33nm,21.1s,baz=62,slow=32
comp=Z,3.3nm,0.8s
MA2 Magadan 53.89 321 LR LR 22 49 05.8
comp=Z,60nm,18.6s,baz=88,slow=34
SJG San Juan 54.41 96 LR LR 22 55 37.1
comp=Z,62nm,18.0s,baz=203,slow=41
SDV Santo Domingo 56.93 108 LR LR 22 53 45.0
comp=Z,69nm,21.7s,baz=272,slow=38
ROSC El Rosal 57.09 114 LR LR 22 57 33.5
comp=Z,54nm,18.9s,baz=358,slow=41
TIXI Tiksi 57.25 339 LR LR 22 53 47.4
comp=Z,62nm,18.1s,baz=13,slow=37
OTAV Otavalo 57.68 122 P **P 22 28 02.2 -1.1**
OTAV IAmb IAmb 22 28 11.7
comp=Z,6.8nm,1.2s
BAUV El Baul 58.78 106 P **P 22 28 09.6 -1.0**
BORG Borgarnes 59.50 29 LR LR 22 55 56.3
comp=Z,157nm,18.3s,baz=307,slow=38
JMIC Jan Mayen 60.07 20 LR LR 22 55 03.2
comp=Z,89nm,18.0s,baz=290,slow=37
PCRV Puerto La Cruz 60.50 102 LR LR 22 56 40.9
comp=Z,85nm,20.2s,slow=38
H11N3 WAKE ISLAND Hy 61.45 272 T T 23 35 08.5
baz=53,slow=75,SNR=288
H11N2 WAKE ISLAND Hy 61.46 272 T T 23 35 10.7
baz=53,slow=75,SNR=203
H11N1 WAKE ISLAND Hy 61.47 272 T T 23 35 09.8
baz=53,slow=75,SNR=197
YAK Yakutsk 62.03 329 LR LR 22 54 01.0
comp=Z,89nm,19.3s,baz=88,slow=35
PPT Papeete 62.14 207 LR LR 22 49 02.0
comp=Z,65nm,21.7s,baz=236,slow=30
PPT2 Papeete2 62.16 207 *e*LR LR 22 46 41.2
comp=Z,168nm,29.2s
PPT2 *e*LR LR 22 46 49.1
comp=Z,132nm,26.5s
ASAJ Asahikawa 65.30 308 LR LR 22 55 17.7
comp=Z,27nm,19.7s,baz=110,slow=34
TBI Tubuai 67.47 205 *e*LR LR 22 49 22.8
comp=Z,784nm,31.8s
NNA Nana 68.14 129 LR LR 22 57 34.1
comp=Z,39nm,18.9s,baz=344,slow=35
NRIK Noril'sk 68.18 348 P **P 22 29 12.8 +0.9**
comp=Z,0.9nm,0.3s,baz=320,slow=3.3,SNR=3.8
NRIK LR LR 23 01 30.4
comp=Z,59nm,18.8s,baz=48,slow=38
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 68.28 11 LR LR 22 59 57.3
comp=Z,52nm,18.7s,baz=350,slow=37
KLR Kul'dur 68.52 317 LR LR 22 59 43.2
comp=Z,31nm,18.0s,baz=336,slow=36
BOAV Boa Vista 68.69 106 P **P 22 29 14.8 -1.1**
RAR Rarotonga 69.49 215 LR LR 22 52 30.4
comp=Z,60nm,21.1s,baz=108,slow=30
NB2 NORSAR Subarra 72.76 21 P **P 22 29 40.8 +0.7**
comp=Z,0.8nm,0.8s,baz=325,slow=6.2
NOA NORSAR Array B 72.76 21 P **P 22 29 39.7 -0.4**
comp=Z,1.5nm,0.8s,baz=325,slow=6.0,SNR=4.0
NOA LR LR 22 59 45.9
comp=Z,67nm,22.0s,baz=330,slow=34
comp=Z,1.5nm,0.8s
MDP Montagnes des 72.81 98 LR LR 23 06 49.2
comp=Z,39nm,18.4s,baz=266,slow=40
HFS Hagfors 74.19 20 P **P 22 29 49.3 +0.9**
comp=Z,4.9nm,0.9s,baz=40,slow=10,SNR=4.0
HFS LR LR 23 02 02.0
comp=Z,141nm,19.9s,baz=321,slow=36
comp=Z,4.9nm,0.9s
JCJ Chichijima 75.46 293 LR LR 22 56 52.3
comp=Z,65nm,19.5s,baz=106,slow=31
FINES FINESS Array B 75.83 14 P **P 22 29 59.1 +1.2**
comp=Z,4.1nm,0.9s,baz=11,slow=7.6,SNR=2.2
FINES LR LR 23 02 30.2
comp=Z,54nm,19.6s,baz=14,slow=35
comp=Z,4.1nm,0.9s
LPAZ La Paz 76.79 125 LR LR 23 04 31.2
comp=Z,34nm,18.3s,baz=320,slow=36
KSRS Korea Array 78.17 309 LR LR 23 00 16.7
comp=Z,20nm,21.4s,baz=135,slow=32
MSVF Nonsavu 78.68 235 LR LR 22 57 30.8
comp=Z,58nm,21.6s,baz=61,slow=30
KIRV Kirov 81.36 3 LR LR 23 11 15.0
comp=Z,54nm,18.8s,baz=343,slow=39
SONM Songino Array 81.37 328 P **P 22 30 30.7 +1.9**
comp=Z,0.7nm,0.9s,baz=94,slow=3.8,SNR=4.8
SONM LR LR 23 06 11.4
comp=Z,99nm,19.5s,baz=43,slow=35
comp=Z,0.7nm,0.9s
CLL Collm 81.50 25 *i*P P 22 30 36.9 +7.6
GUMO Guam 81.91 281 LR LR 22 59 11.8
comp=Z,36nm,19.7s,baz=52,slow=30
ZALV Zalesovo Beam 82.84 343 P **P 22 30 36.6 +0.4**
comp=Z,1.3nm,0.8s,baz=41,slow=4.9,SNR=5.5
ZALV LR LR 23 08 32.5
comp=Z,29nm,21.5s,baz=42,slow=36
comp=Z,1.3nm,0.8s
OBN Obninsk 83.60 11 LR LR 23 10 28.8
comp=Z,78nm,18.4s,baz=356,slow=38
ESDC Sonseca Array 83.66 42 P **P 22 30 41.4 +0.6**
comp=Z,1.0nm,0.9s,baz=337,slow=2.9,SNR=4.1
ESDC LR LR 23 06 23.3
comp=Z,68nm,18.0s,baz=290,slow=35
comp=Z,1.0nm,0.9s

ARTI Arti 83.67 358 LR LR 23 11 06.2
comp=Z,34nm,19.9s,baz=46,slow=38
GERES GERESS Array B 83.84 26 LR LR 23 13 12.7
comp=Z,52nm,18.1s,baz=304,slow=39
VRAC Vranov 84.39 24 LR LR 23 09 33.2
comp=Z,42nm,18.3s,baz=336,slow=37
HHC Hu-ho-hao-te 84.57 321 *e*P **P 22 30 44.9 -0.6**
HHC pmax pmax
comp=Z,2.0nm,0.7s
HHC pmax pmax
comp=Z,52nm,4.4s
BVAR Borovoye Array 86.20 351 P **P 22 30 52.5 -0.8**
comp=Z,1.3nm,1.0s,baz=353,slow=3.7,SNR=3.5
comp=Z,1.3nm,1.0s
AKASG Malin Array Be 86.50 16 P **P 22 30 54.1 -0.7**
comp=Z,0.1nm,0.3s,baz=306,slow=3.3,SNR=4.2
AKASG LR LR 23 07 43.0
comp=Z,48nm,21.2s,baz=352,slow=34
comp=Z,0.1nm,0.3s
KURBB Kurchatov Arra 87.27 346 P **P 22 30 59.2 +0.6**
comp=Z,1.8nm,0.8s,baz=18,slow=4.6,SNR=14
KURBB LR LR 23 15 06.3
comp=Z,35nm,18.3s,baz=180,slow=39
comp=Z,1.8nm,0.8s
AKTO Aktyubinsk 89.64 358 LR LR 23 15 25.9
comp=Z,55nm,19.3s,baz=51,slow=38
BDFB Brasilia 89.94 111 LR LR 23 15 26.1
comp=Z,40nm,20.4s,baz=296,slow=38
MKAR Makanchi Array 90.10 342 P **P 22 31 11.4 -0.7**
comp=Z,0.5nm,0.9s,baz=4.3,slow=4.9,SNR=5.2
MKAR LR LR 23 14 57.9
comp=Z,58nm,18.1s,baz=70,slow=38
comp=Z,0.5nm,0.9s
MAKZ Makanchi 90.16 342 P **P 22 31 11.4 -0.9**
MAKZ IAmb IAmb 22 31 14.3
comp=Z,2.7nm,1.1s
MLR Muntele Rosu 90.57 20 LR LR 23 12 58.6
comp=Z,153nm,19.7s,baz=351,slow=36
ABKAR Akbulak array 90.77 357 P **P 22 31 13.2 -1.8**
WMQ Urumqi 91.42 337 *e*P **P 22 31 19.2 +0.9**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
BBTS Babate 93.74 67 LR LR 23 09 05.2
comp=Z,48nm,21.3s,baz=276,slow=33
VAE Valguarnera 93.89 32 LR LR 23 14 45.0
comp=Z,104nm,18.6s,baz=346,slow=36
AAK Ala-Archa 95.71 346 LR LR 23 19 41.9
comp=Z,39nm,19.9s,baz=26,slow=39
BRTR Keskin Array B 97.89 17 LR LR 23 20 02.5
comp=Z,25nm,18.4s,baz=326,slow=38
GNI Garni 99.34 8 LR LR 23 20 14.7
comp=Z,26nm,18.5s,baz=358,slow=38
PZH PanZhiHua 100.91 319 P **Pdif 22 32 01.2 -0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.6s
QSPA South Pole Qui 130.09 180 PKP **PKiKP 22 37 24.2 +2.4**
comp=Z,2.6nm,0.9s,baz=169,slow=0.7,SNR=5.2

---

*IDC **03** 22:37:06.0±3.8, 19°.64S×177°.87W, h558km±27km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=78.9km s-min=25.0km az=48.0*
ISC 03 22:37:06.2±3.2, 19°.7S±0°.3×177°.9W±0°.4, h550km, n7, σ0°79/7, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.31**	**297**	P	**P**	**22 38 30.9**	**+0.4**
	4.0nm,0.4s,baz=127,slow=20,SNR=2.4						
URZ	**Urewera**	**18.96**	**192**	P	**P**	**22 40 52.6**	**0.0**
	3.7nm,0.3s,baz=12,slow=3.2,SNR=9.6						
STKA	**Stephens Creek**	**38.20**	**243**	P	**P**	**22 43 40.1**	**+0.8**
	1.4nm,0.6s,baz=90,slow=10,SNR=4.0						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**44.78**	**256**	P	**P**	**22 44 31.1**	**-0.4**
	0.6nm,0.4s,baz=91,slow=7.7,SNR=8.5						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.79**	**261**	P	**P**	**22 44 30.5**	**-1.1**
	0.5nm,0.4s,baz=98,slow=7.7,SNR=8.0						
	0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.22**	**262**	P	**P**	**22 45 33.2**	**-0.6**
	3.2nm,0.9s,baz=112,slow=5.4,SNR=1.4						
	3.2nm,0.9s						
QSPA	**South Pole Qui**	**70.33**	**180**	P	**P**	**22 47 24.5**	**0.0**
	2.4nm,1.0s,baz=40,slow=7.9,SNR=2.1						
	2.4nm,1.0s						

---

*DJA **03** 22:44:31.6±1.5, 2°.N±6°.×12°.7E±°, h10km, M3.9/3, MLv3.9/3*
IDC 03 22:44:01.9±2.4, 1°.46N×126°.77E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=199.6km s-min=28.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.92**	**253**	P	Sn	22 45 23.3	-2.2
WRA	**Warramunga Arr**	**22.53**	**161**	P	P	22 49 03.9	+0.3
	1.1nm,0.5s,baz=340,slow=10,SNR=8.0						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**25.92**	**165**	P	P	22 49 35.5	-0.5
	0.1nm,0.3s,baz=351,slow=9.6,SNR=1.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	22 54 06.7	+0.1
	0.3nm,1.0s,baz=118,slow=5.5,SNR=1.7						
	0.3nm,1.0s						

---

*IDC **03** 22:49:38.5±8.2, 23°.95S×179°.97E, h613km±103km, mb2.8/4, mbtmp3.9/5, Error ellipse: s-maj=99.8km s-min=34.1km az=3.0*
ISC 03 22:49:37.9±1.0, 23°.9S±0°.2×180°.0W±0°.2, h600km, n11, σ1°59/10, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.51**	**189**	P	**P**	**22 52 41.2**	**-0.1**
	3.2nm,0.8s,baz=0.0,slow=7.1,SNR=1.7						
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**22 55 39.9**	**+0.3**
	1.1nm,0.5s,baz=104,slow=13,SNR=3.5						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**22 56 38.4**	**-0.3**
	1.0nm,0.7s,baz=96,slow=7.2,SNR=7.2						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**22 56 40.4**	**-1.3**
	1.3nm,0.7s,baz=93,slow=8.6,SNR=10						
	1.3nm,0.7s						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**23 01 35.6**	**-1.2**
	0.3nm,0.8s,baz=209,slow=5.9,SNR=3.9						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**138.47**	**341**	PKP	**PKPdf**	**23 07 54.8**	**-0.8**
	2.8nm,0.9s,baz=358,slow=8.1,SNR=2.1						
HFS	**Hagfors**	**142.57**	**349**	PKhKP	PKPpre	23 07 58.2	
	1.2nm,0.3s,baz=46,slow=4.2,SNR=18						
AKASG	**Malin Array Be**	**145.00**	**327**	PKPbc	**PKPdf**	**23 08 06.2**	**-1.3**
	1.0nm,0.5s,baz=45,slow=4.2,SNR=6.5						
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	**PKPdf**	**23 08 14.8**	**+2.4**
	0.1nm,0.4s,baz=79,slow=3.0,SNR=4.1						
MMAI	**Mount Meron Ar**	**147.73**	**294**	PKPbc	**PKPbc**	**23 08 17.1**	**+0.5**
	1.0nm,0.5s,baz=75,slow=7.0,SNR=4.6						
EKA	**Eskdalemuir Ar**	**148.54**	**3**	PKPbc	**PKPdf**	**23 08 15.7**	**+2.5**
	1.0nm,0.4s,baz=3.7,slow=2.2,SNR=3.0						

---

*DJA **03** 23:00:19.9±1.6, 3°.S±16°.×14°.0E±°, h24km±5km, M3.3/3, MLv3.3/3*
*IDC **03** 23:00:21.7±1.4, 2°.57S×140°.25E, h0km, mb3.4/3, mbtmp3.5/4, ML3.5/1, MS3.0/1, Error ellipse: s-maj=18.6km s-min=9.1km az=165.0*
ISC 03 23:00:23.5±0.9, 2°.5S±0°.1×140°.35E±0°.05, h22km±7km, n9, σ1°59/11, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.19**	**254**	P	**Pb**	**23 00 28.3**	**-0.6**
GENI				S	**Sb**	**23 00 34.1**	**+1.6**
JAY	**Jayapura**	**0.35**	**86**	Pg	**Pb**	**23 00 30.4**	**-0.9**
	134nm,0.3s,baz=268,slow=15,SNR=195						
JAY				Lg	Lg	23 00 36.9	
	165nm,0.3s,baz=342,slow=20,SNR=19						
JAY	**Jayapura**	**0.35**	**86**	P	**Pb**	**23 00 30.3**	**-0.9**
JAY				S	**Sb**	**23 00 37.5**	**+1.1**
SMPI	**Sarmi**	**1.73**	**288**	P	**Pn**	**23 00 49.9**	**-2.4**
SMPI				S	**Sn**	**23 01 13.8**	**+0.1**
WRA	**Warramunga Arr**	**18.27**	**198**	P	**Pn**	**23 04 35.5**	**-0.3**
	0.2nm,0.3s,baz=15,slow=12,SNR=4.7						
	0.8nm,0.6s						
KAPI	**Kappang**	**20.70**	**263**	LR	LR	23 14 24.7	
	comp=Z,46nm,21.3s,baz=110,slow=41						
FITZ	**Fitzroy Crossi**	**21.15**	**222**	P	**P**	**23 05 07.0**	**-0.3**
	2.7nm,0.9s,baz=22,slow=12,SNR=1.3						
	2.7nm,0.9s						
ASAR	**Alice Springs**	**21.91**	**196**	P	**P**	**23 05 15.6**	**+0.2**
	0.9nm,0.7s,baz=30,slow=9.4,SNR=7.1						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**23 11 40.1**	**+2.5**
	0.3nm,0.8s,baz=111,slow=7.9,SNR=2.6						
	0.3nm,0.8s						

---

*IDC **03** 23:10:13.2±2.9, 36°.13N×71°.47E, h68km±26km, mb3.6/17, mbtmp3.9/22, MS3.8/2, Error ellipse: s-maj=21.0km s-min=13.9km az=17.0*
*MOS **03** 23:10:17.3±0.9, 36°.42N×71°.46E, h111km, mb4.0/7, Error ellipse: s-maj=9.8km s-min=4.8km az=86.6*
*NEIC **03** 23:10:18.2±1.7, 36°.44N±0°.06×71°.29E±0°.08, h115km±10km, mb4.1/7, Error ellipse: s-maj=9.9km s-min=8.0km az=110.0*
*NNC **03** 23:10:23.9±9.2, 36°.85N×71°.52E, h152km±121km, mb3.7, mpv4.5, Error ellipse: s-maj=78.1km s-min=50.3km az=10.0*
ISC 03 23:10:18.3±0.5, 36°.39N±0°.04×71°.47E±0°.04, h114km, n100, σ2°05/115, mb3.9/25, 3C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.70**	**228**	Pn	**Pn**	**23 10 59.6**	**-1.1**
KBL				Sn	**Sn**	**23 11 31.8**	**-1.4**
KBL	**Kabul**	**2.70**	**228**	PN	**Pn**	**23 10 59.6**	**-1.1**
GAR	**Garm**	**2.77**	**341**	Pn	**Pn**	**23 11 00.1**	**-1.4**
GAR				Sn	**Sn**	**23 11 31.5**	**-3.1**
CHGR	**Chuyangaron**	**2.92**	**322**	Pn	**Pn**	**23 11 01.1**	**-2.3**
CHGR	**Chuyangaron**	**2.92**	**322**	PN	**Pn**	**23 11 01.1**	**-2.3**
NIL	**Nilore**	**3.10**	**151**		**Pn**	**23 11 07.4**	**+1.7**
NIL	**Nilore**	**3.10**	**151**	PN	**Pn**	**23 11 07.4**	**+1.7**
DRK	**Karamyk**	**3.10**	**5**		**Pn**	**23 11 07.0**	**+1.0**
DRK	**Karamyk**	**3.10**	**5**	PN	**Pn**	**23 11 07.0**	**+1.0**
SRNI	**Srinagar**	**3.59**	**128**	*e*P	**Pn**	**23 11 12.8**	**+0.6**
SRNI				*e*S	**Sn**	**23 11 55.8**	**+1.9**
SRNI				IAML		23 11 56.7	
	comp=E,781nm,0.2s						
BTK	**Batken**	**3.70**	**352**	Pn	**Pn**	**23 11 14.3**	**+0.5**
BTK	**Batken**	**3.70**	**352**	PN	**Pn**	**23 11 14.3**	**+0.5**
JMU	**Jammu**	**4.63**	**141**	*e*P	**Pn**	**23 11 24.6**	**-1.5**
JMU				*e*S	**Sn**	**23 12 16.3**	**-2.5**
JMU				IAML		23 12 20.4	
	comp=N,563nm,0.1s						
JMU				IAML		23 12 20.6	
	comp=E,418nm,0.1s						
KSH	**Kashi**	**4.74**	**47**	Pn	**Pn**	**23 11 24.0**	**-3.7**
KSH				Sn	Sn	23 12 11.9	-10
KSH				smax	smax		
	comp=N,410nm,0.6s						
KSH				smax	smax		
	comp=E,160nm,0.5s						
ARSB	**Arslanbob**	**5.07**	**13**		**Pn**	**23 11 31.8**	**-0.4**
ARSB	**Arslanbob**	**5.07**	**13**	PN	**Pn**	**23 11 31.8**	**-0.4**
DHRM	**DHARAMSHALA**	**5.74**	**134**	*e*P	**Pn**	**23 11 41.8**	**+0.3**
DHRM				*e*S	**Sn**	**23 12 46.0**	**-0.2**
DHRM				IAML		23 12 47.4	
	comp=N,400nm,0.2s						
DHRM				IAML		23 12 47.9	
	comp=E,431nm,0.2s						
BHK	**Bhakra**	**6.44**	**139**	*e*P	**Pn**	**23 11 51.3**	**+0.6**
BHK				IAML		23 13 04.9	
	comp=N,382nm,0.2s						
BHK				IAML		23 13 05.0	
	comp=E,234nm,0.1s						
BHK				*e*S	**Sn**	**23 13 06.0**	**+3.3**
AAK	**Ala-Archa**	**6.67**	**20**	Pn	**Pn**	**23 11 54.5**	**+0.7**
AAK	**Ala-Archa**	**6.67**	**20**	P	**Pn**	**23 11 54.0**	**+0.2**
	comp=E,20nm,0.3s,baz=168,slow=6.4,SNR=209						
AAK	**Ala-Archa**	**6.67**	**20**	PN	**Pn**	**23 11 54.5**	**+0.7**
KK31	**Karatay Array**	**6.75**	**354**	⇓P	**Pn**	**23 11 53.6**	**-1.2**
	comp=E,77nm,0.4s,baz=177,slow=11,SNR=580						
KK31				⇓S	**Sn**	**23 13 05.9**	**-4.3**
	comp=E,8.0nm,0.3s,baz=163,slow=21,SNR=6.7						
KK31	**Karatay Array**	**6.75**	**354**	PN	**Pn**	**23 11 53.6**	**-1.2**
KKAR	**Karatay Array**	**6.75**	**354**	Pn	**Pn**	**23 11 54.0**	**-0.8**
KKAR	**Karatay Array**	**6.75**	**354**	Pn	**Pn**	**23 11 54.0**	**-0.8**
KKAR	**Karatay Array**	**6.75**	**354**	PN	**Pn**	**23 11 54.0**	**-0.8**
SRGN	**SRI GANGA NAGA**	**6.76**	**162**	*e*P	**Pn**	**23 11 54.0**	**-0.9**
SRGN				*e*S	**Sn**	**23 13 06.4**	**-4.1**
FRU1	**Bishkek**	**6.87**	**20**		**Pn**	**23 11 56.1**	**-0.3**
FRU1	**Bishkek**	**6.87**	**20**	PN	**Pn**	**23 11 56.1**	**-0.3**
SMLA	**Simla**	**7.07**	**136**	*e*P	**Pn**	**23 11 58.8**	**-0.3**
SMLA				*e*S	**Sn**	**23 13 14.8**	**-3.2**
SMLA				IAML		23 13 15.5	
	comp=E,160nm,0.2s						
SMLA				IAML		23 13 15.7	
	comp=N,262nm,0.2s						
KDJ	**Kajisay**	**7.25**	**36**	Pn	**Pn**	**23 12 01.5**	**-0.2**
KDJ	**Kajisay**	**7.25**	**36**	PN	**Pn**	**23 12 01.5**	**-0.2**
TKM2	**Tokmak 2**	**7.26**	**25**	⇓P	**Pn**	**23 12 02.3**	**+0.4**
	comp=N,17nm,0.6s						
TKM2				⇓S	**Sn**	**23 13 22.9**	**0.0**
	comp=N,4.5nm,0.4s						
TKM2	**Tokmak 2**	**7.26**	**25**	PN	**Pn**	**23 12 02.3**	**+0.4**
WUS	**Wushi**	**7.73**	**49**	Pn	**Pn**	**23 12 08.1**	**-0.1**
MDOK	**Medeo**	**8.02**	**31**	⇓P	**Pn**	**23 12 12.7**	**+0.6**
	comp=N,4.8nm,0.7s						
MDOK				S	**Sn**	**23 13 32.4**	**-8.7**
	comp=N,3.3nm,0.8s						
MDOK	**Medeo**	**8.02**	**31**	PN	**Pn**	**23 12 12.7**	**+0.6**
PRZ	**Przheval'sk**	**8.11**	**39**	Pn	**Pn**	**23 12 13.1**	**-0.3**
PRZ	**Przheval'sk**	**8.11**	**39**	PN	**Pn**	**23 12 13.1**	**-0.3**
KUDL	**Kundal**	**9.25**	**151**	*e*P	**Pn**	**23 12 26.1**	**-2.5**
KUDL				*e*S	Sn	23 14 02.0	-8.9
KUDL				IAML		23 14 04.8	
	comp=E,33nm,0.4s						
KUDL				IAML		23 14 11.5	
	comp=N,21nm,0.4s						
PTH	**Pithoragarh**	**10.02**	**130**	*e*P	**Pn**	**23 12 35.0**	**-4.3**
PTH				*e*S	Sn	23 14 20.1	-10
LGTI	**Lohaghat**	**10.11**	**131**	*e*P	**Pn**	**23 12 37.0**	**-3.3**
LGTI				*e*P	Sn	23 14 22.6	-9.2
LGTI				IAML		23 14 27.3	
	comp=E,37nm,0.4s						
JHNI	**Jhansi**	**12.46**	**149**	⇑*e*P	**Pn**	**23 13 08.6**	**-3.0**
JHNI				*e*S	Sn	23 15 18.3	-10
MAKZ	**Makanchi**	**13.04**	**34**	Pn	**Pn**	**23 13 18.7**	**-0.4**
MAKZ	**Makanchi**	**13.04**	**34**	P	**Pn**	**23 13 18.7**	**-0.4**
MK31	**Makanchi Array**	**13.17**	**34**	⇓*e*P	**Pn**	**23 13 20.9**	**+0.1**
MKAR	**Makanchi Array**	**13.17**	**34**	Pn	**Pn**	**23 13 19.9**	**-1.0**
MKAR	**Makanchi Array**	**13.17**	**34**	P	**Pn**	**23 13 20.9**	**+0.1**
	comp=E,0.7nm,0.8s,baz=223,slow=15,SNR=7.6						
KURBB	**Kurchatov Arra**	**15.12**	**17**	P	**Pn**	**23 13 45.0**	**-0.6**
	comp=E,1.2nm,0.7s,baz=207,slow=10,SNR=12						
KURK	**Kurchatov**	**15.22**	**18**	Pn	**Pn**	**23 13 46.7**	**-0.3**
KURK	**Kurchatov**	**15.22**	**18**	P	**Pn**	**23 13 46.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AB31	**Akbulak array**	**15.37**	**330**	P	**Pn**	**23 13 45.7**	**-3.1**
	comp=Z,3.5nm,0.3s,baz=137,slow=12,SNR=350						
AB31	**Akbulak array**	**15.37**	**330**	P	**Pn**	**23 13 45.7**	**-3.1**
ABKAR	**Akbulak array**	**15.37**	**330**		**Pn**	**23 13 45.5**	**-3.3**
ABKAR	**Akbulak array**	**15.37**	**330**	Pn	**Pn**	**23 13 45.9**	**-3.0**
ABKAR				IAmb	IAmb	23 13 47.6	
	comp=Z,8.5nm,0.5s						
BVA0	**Borovoye Array**	**16.66**	**358**	P	**Pn**	**23 14 04.0**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=158,slow=12,SNR=18						
BVA0	**Borovoye Array**	**16.66**	**358**	P	**Pn**	**23 14 03.9**	**-0.8**
BVAR	**Borovoye Array**	**16.66**	**358**	P	**Pn**	**23 14 03.8**	**-0.9**
	comp=Z,3.1nm,0.6s,baz=159,slow=9.7,SNR=14						
BRVK	**Borovoye**	**16.69**	**358**	P	**Pn**	**23 14 03.5**	**-1.7**
BRVK				IAmb	IAmb	23 14 09.8	
	comp=Z,3.2nm,0.9s						
BRVK	**Borovoye**	**16.69**	**358**	*de*P	**Pn**	**23 14 04.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKTO	**Aktyubinsk**	**17.07**	**330**	P	**P**	**23 14 08.7**	**-1.0**
	comp=Z,13nm,0.6s,baz=145

ZAA0 IAmb IAmb 23 14 44.1
comp=Z,5.6nm,0.6s
ZALV Zalesovo Beam 19.87 24 P **P** **23 14 40.5 +0.3**
ZALV Zalesovo Beam 19.87 24 P **P** **23 14 40.6 +0.4**
comp=Z,6.0nm,0.3s,baz=205,slow=10.0,SNR=44
comp=Z,6.0nm,0.3s
GNI Garni 21.29 288 P **P** **23 14 53.8 -2.0**
GNI IAmb IAmb 23 15 05.5
comp=Z,11nm,1.1s
GNI Garni 21.29 288 P **P** **23 14 56.4 +0.6**
comp=Z,4.0nm,0.8s,baz=85,slow=12,SNR=5.8
comp=Z,4.0nm,0.8s
GNI Garni 21.29 288⇓ *e*P **P** **23 14 57.8 +2.0**
GNI pmax pmax
comp=Z,20nm,1.4s
ARTI Arti 21.88 340 P **P** **23 15 00.8 -0.9**
ARTI IAmb IAmb 23 15 05.8
comp=Z,9.8nm,1.1s
ARTI Arti 21.88 340 *d i*P **P** **23 15 02.6 +0.9**
ARTI 23 15 31.8
ARTI S **S** **23 18 57.0 +0.9**
ARTI SS **SnSn** **23 19 40.5 +7.6**
ARTI pmax pmax
comp=Z,10.0nm,1.1s
NCK Nalchik 22.45 297⇓ *e*P **P** **23 15 08.0 +0.2**
NCK pmax pmax
comp=Z,11nm,1.0s
GTA Gaotai 22.54 74 *e*P **P** **23 15 11.6 +2.8**
GTA sP sP 23 15 45.3 -1.1
GTA pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 22.99 297 P **P** **23 15 14.0 +1.0**
comp=Z,1.4nm,1.0s,baz=160,slow=12,SNR=2.9
KBZ S **S** **23 19 21.9 +7.4**
comp=Z,0.9nm,0.8s,baz=88,slow=10,SNR=2.4
comp=Z,1.4nm,1.0s
KBZ Khabaz 22.99 297 P **P** **23 15 14.0 +1.0**
KIV Kislovodsk 23.17 298 *e*P **P** **23 15 15.5 +0.6**
KIV pmax pmax
comp=Z,3.0nm,1.1s
BELG Belogornoye 23.21 321⇓ *e*P **P** **23 15 15.2 +0.2**
BELG pmax pmax
comp=Z,1.0nm,0.9s
ANN Anapa 27.02 299 *e*P **P** **23 15 48.7 -0.8**
ANN *e**PP **pP** **23 16 15.4 +0.3**
ANN pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 27.55 102 P **P** **23 15 58.9 +4.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
SONM Songino Array 28.09 55 P **P** **23 16 00.9 +1.7**
comp=Z,0.5nm,0.7s,baz=272,slow=8.1,SNR=5.4
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 29.83 288 P **P** **23 16 15.7 +0.9**
comp=Z,0.3nm,0.6s,baz=120,slow=8.8,SNR=2.4
comp=Z,0.3nm,0.6s
OBN Obninsk 30.27 319 *e*P **P** **23 16 18.3 +0.1**
OBN *e**PP **pP** **23 16 42.2 -1.8**
OBN *e**SP **sP** **23 16 56.2 -1.3**
OBN *e* 23 17 20.6
OBN *e* 23 19 15.9
OBN pmax pmax
comp=Z,2.0nm,0.9s
HHC Hu-ho-hao-te 31.45 69 *e*P **P** **23 16 30.1 +1.1**
HHC pmax pmax
comp=Z,3.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.7s
AKASG Malin Array Be 33.31 309 P **P** **23 16 45.4 +0.5**
comp=Z,0.7nm,0.5s,baz=84,slow=7.2,SNR=7.5
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 33.31 309 *i* P **P** **23 16 46.0 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 37.79 326 P **P** **23 17 24.6 +1.5**
comp=Z,1.3nm,0.3s,baz=120,slow=10.0,SNR=30
comp=Z,1.3nm,0.3s
ARCES ARCESS Array B 41.39 338 P **P** **23 17 54.0 +1.1**
comp=Z,2.9nm,0.8s,baz=114,slow=8.7,SNR=12
comp=Z,2.9nm,0.8s
HFS Hagfors 43.39 322 P **P** **23 18 10.2 +1.1**
comp=Z,1.8nm,0.4s,baz=98,slow=11,SNR=18
comp=Z,1.8nm,0.4s
KSRS Korea Array 44.56 71 P **P** **23 18 19.1 +0.3**
comp=Z,0.8nm,0.7s,baz=295,slow=13,SNR=1.6
comp=Z,0.8nm,0.7s
NB2 NORSAR Subarra 44.70 323 P **P** **23 18 20.3 +0.7**
comp=Z,0.9nm,0.5s,baz=98,slow=7.9
NOA NORSAR Array B 44.70 323 P **P** **23 18 19.9 +0.3**
comp=Z,1.3nm,0.7s,baz=104,slow=7.1,SNR=9.4
comp=Z,1.3nm,0.7s
JOW Kunigami 48.71 84 LR LR 23 40 04.4
comp=Z,75nm,19.4s,baz=57,slow=37
DAV Davao City (W) 57.20 107 LR LR 23 45 22.9
comp=Z,112nm,19.1s,baz=0.0,slow=37
ESDC Sonseca Array 57.84 298 P **P** **23 19 59.0 +1.0**
comp=Z,0.3nm,0.5s,baz=76,slow=7.2,SNR=1.7
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 66.09 269 P **P** **23 20 51.5 -1.9**
comp=Z,0.8nm,0.4s,baz=48,slow=6.1,SNR=20
comp=Z,0.8nm,0.4s
BOSA Boshof 77.90 220 P **P** **23 22 04.0 +0.3**
comp=Z,1.9nm,0.8s,baz=59,slow=5.1,SNR=4.5
comp=Z,1.9nm,0.8s
YKA Yellowknife Ar 81.34 3 P **P** **23 22 22.0 +0.3**
comp=Z,0.5nm,0.7s,baz=349,slow=5.1,SNR=9.7
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 81.34 3 *ce*P **P** **23 22 22.5 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.61 122 P **P** **23 22 23.0 -0.7**
comp=Z,0.6nm,0.7s,baz=316,slow=5.5,SNR=2.2
comp=Z,0.6nm,0.7s
ASAR Alice Springs 83.88 125 P **P** **23 22 35.5 0.0**
comp=Z,0.4nm,0.5s,baz=314,slow=5.2,SNR=2.3
comp=Z,0.4nm,0.5s

NEIC ***03*** *23:13:19.6±2.0, 40.°31N±0.°01×124.°69W±0.°04, h10km±2km, Error ellipse: s-maj=5.2km s-min=2.9km az=83.0*
NCEDC 03 23:13:21.7±2.6, 40.°30N±0.°02×124.°50W±0.°04, h7km±5km, ML3.1/17, **ML3.2**/90(NEIC), **Error ellipse: s-maj=4.8km s-min=2.1km az=77.0, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.21**	**35**		Pg	23 13 26.9	+1.0
KCTM					Sg	23 13 31.3	+2.5
KMPM	**Mount Pierce**	**0.31**	**68**	Pg	Pg	23 13 27.8	0.0
KMPM				Sg	Sg	23 13 32.4	+0.5
FER	**Ferndale**	**0.33**	**33**		Pb	23 13 29.5	-0.3
KMRM	**Mail Ridge**	**0.61**	**97**		Pg	23 13 33.4	0.0
KMRM				Sg	Sg	23 13 41.4	+0.1
KMRM				IAML		23 13 48.3	
	comp=E,1μm,0.6s						
KMRM				IAML		23 13 49.3	
	comp=N,1μm,0.8s						
JCC	**Jacoby Creek,**	**0.62**	**35**		Pg	23 13 33.6	-0.1
JCC				Sg	Sg	23 13 42.5	+0.6
JCC				IAML		23 13 52.6	
	comp=E,1μm,1.3s						
JCC				IAML		23 13 53.0	
	comp=N,1μm,0.9s						
KHMM	**Horse Mountain**	**0.82**	**45**		Pg	23 13 37.4	0.0
KHMM				Sg	Sg	23 13 47.2	-0.8
KHMM				IAML		23 13 57.8	
	comp=N,1μm,0.7s						
KHMM				IAML		23 13 58.4	
	comp=E,1μm,1.3s						
KIPM	**Iron Peak**	**0.92**	**122**		Pg	23 13 39.5	+0.1
KRPM	**Rodgers**	**0.93**	**23**		Pg	23 13 38.9	-0.6
KRPM				Sg	Sg	23 13 49.4	-2.2
KRPM				IAML		23 14 10.6	
	comp=N,415nm,0.9s						
KCPM	**Cahto Peak**	**0.93**	**131**	Pg	Pg	23 13 39.4	-0.2
KCPM				Sg	Sg	23 13 51.9	+0.1
KHBM	**Hayfork Bally**	**1.04**	**69**		Pg	23 13 40.8	-0.8
KHBM				IAML		23 14 00.1	
	comp=N,849nm,0.8s						
KHBM				IAML		23 14 01.1	
	comp=E,426nm,0.8s						
KFPM	**Farley Peak**	**1.06**	**128**		Pg	23 13 41.1	-0.8
KBNM	**Bluenose Ridge**	**1.08**	**112**		Pg	23 13 42.0	-0.4
DCMP	**DeCamp, Califo**	**1.22**	**133**		Pb	23 13 43.0	-2.1
WEAV	**Weaverville**	**1.23**	**69**		Pb	23 13 43.6	-1.7
LBPM	**Beegum Peak**	**1.23**	**89**		Pb	23 13 44.1	-1.3
KOMM	**Orleans Mounta**	**1.26**	**39**		Pn	23 13 43.8	-2.0
KRMB	**Red Mountain**	**1.30**	**20**		Pn	23 13 44.4	-1.9
O02D	**Mt. Diablo Mer**	**1.31**	**95**		Pn	23 13 45.2	-1.2
O02D	**Mt. Diablo Mer**	**1.31**	**95**	Pn	Pn	23 13 44.8	-1.7
GWRM	**Wonder Ranch**	**1.43**	**140**		Pn	23 13 46.2	-1.8
GROM	**Round Mountain**	**1.45**	**105**		Pn	23 13 47.8	-0.6
GVV	**Valley View**	**1.49**	**110**		Pn	23 13 48.4	-0.6
N02D	**Trinity Center**	**1.52**	**63**		Pn	23 13 47.7	-1.6
N02D	**Trinity Center**	**1.52**	**63**	IAML		23 14 19.8	
	comp=E,292nm,0.7s						
N02D				IAML		23 14 19.9	
	comp=N,235nm,0.8s						
KSXB	**Camp Six Broad**	**1.60**	**17**		Pn	23 13 48.5	-1.9
KSXB				IAML		23 14 08.7	
	comp=E,193nm,0.7s						
LBKM	**Bonanza King**	**1.60**	**60**		Pn	23 13 48.9	-1.5
SIGP	**Signal Peak, C**	**1.60**	**12**		Pn	23 13 48.0	-2.4
M02C	**Callahan**	**1.65**	**48**		Pn	23 13 49.5	-1.6
HOPS	**Hopland Field**	**1.71**	**140**		Pn	23 13 50.1	-1.7
HOPS				IAML		23 14 38.2	
	comp=N,165nm,2.5s						
KBO	**Bosley Butte**	**1.92**	**6**	Pn	Pn	23 13 54.0	-0.8
KBO				IAML		23 14 46.3	
	comp=E,225nm,4.0s						
KBO				IAML		23 14 59.2	
	comp=N,169nm,4.6s						
LAMM	**Antelope Mount**	**1.93**	**47**		Pn	23 13 53.6	-1.4
YBH	**Yreka Blue Hor**	**1.96**	**43**		Pn	23 13 54.0	-1.4
YBH	**Yreka Blue Hor**	**1.96**	**43**		Pn	23 13 54.3	-1.2
YBH				IAML		23 14 20.2	
	comp=E,56nm,2.8s						
YBH				IAML		23 14 24.1	
	comp=N,45nm,2.1s						
GHCM	**House Creek**	**1.97**	**149**		Pn	23 13 53.9	-1.6
LGBM	**Gray Butte**	**2.03**	**58**		Pn	23 13 56.3	-0.2
M03C	**McCloud**	**2.05**	**61**		Pn	23 13 56.3	-0.3
M03C				IAML		23 14 29.5	
	comp=E,205nm,0.9s						
M03C				IAML		23 14 45.6	
	comp=N,209nm,1.1s						
O03E	**Paynes Creek**	**2.06**	**89**		Pn	23 13 55.9	-0.8
O03E	**Paynes Creek**	**2.06**	**89**	IAML		23 14 53.8	
	comp=E,123nm,2.3s						
LMPM	**Military Pass**	**2.13**	**55**		Pn	23 13 57.8	0.0
LBFM	**Black Fox Moun**	**2.23**	**61**		Pn	23 13 59.1	-0.2
SUTB	**Sutter Butte**	**2.35**	**116**		Pn	23 13 59.4	-1.2
SUTB	**Sutter Butte**	**2.35**	**116**	IAML		23 15 07.0	
	comp=N,77nm,3.6s						
HATC	**Hat Creek Radi**	**2.37**	**77**		Pn	23 14 00.5	-0.5
HATC	**Hat Creek Radi**	**2.37**	**77**	Pn	Pn	23 14 00.4	-0.6
HATC	**Hat Creek Radi**	**2.37**	**77**	IAML		23 14 52.9	
	comp=N,179nm,2.4s						
HATC				IAML		23 14 58.5	
	comp=E,185nm,2.5s						
ORV	**Oroville**	**2.42**	**107**		Pn	23 14 01.0	-0.6
K02D	**Willamette Mer**	**2.47**	**14**		Pn	23 14 02.1	-0.3
K02D				IAML		23 14 17.8	
	comp=N,67nm,4.2s						
K02D				IAML		23 15 15.2	
	comp=E,70nm,4.1s						
M04C	**Macdoel**	**2.49**	**53**		Pn	23 14 02.2	-0.6
MCCM	**Marconi Confer**	**2.49**	**149**	Pn	Pn	23 14 01.6	-1.0
MCCM				IAML		23 14 36.8	
	comp=E,147nm,2.5s						
MCCM				IAML		23 15 35.7	
	comp=N,164nm,3.0s						
L04D	**Klamath Falls**	**2.53**	**40**		Pn	23 14 03.5	+0.3
L04D				IAML		23 14 37.8	
	comp=N,100nm,4.7s						
L04D				IAML		23 15 03.8	
	comp=E,109nm,4.3s						
J01E	**Myrtle Point**	**2.89**	**8**	Pn	Pn	23 14 09.1	+1.1
J01E				IAML		23 15 24.6	
	comp=N,105nm,5.0s						
J01E				IAML		23 15 29.7	
	comp=E,87nm,4.1s						
DBO	**Dodson Butte**	**2.97**	**18**	Pn	Pn	23 14 09.3	+0.1
DBO				IAML		23 15 06.0	
	comp=E,67nm,4.6s						
DBO				IAML		23 15 55.0	
	comp=N,96nm,4.4s						
AFDM	**Forest Hills D**	**3.04**	**115**		Pn	23 14 09.1	-1.0
K04D	**Chiloquin, OR**	**3.10**	**41**		Pn	23 14 10.7	-0.5
J04A	**Umpqua Nationa**	**3.44**	**31**		Pn	23 14 15.6	-0.2
MPK	**Martis Peak**	**3.58**	**105**	Pn	Pn	23 14 17.9	0.0
MPK				IAML		23 15 30.9	
	comp=E,65nm,1.0s						
MPK				IAML		23 15 35.1	
	comp=N,68nm,1.2s						
I04A	**Tendick Farm,**	**3.82**	**23**	Pn	Pn	23 14 20.9	0.0
I04A				IAML		23 14 57.4	
	comp=N,35nm,4.7s						
I04A				IAML		23 15 32.3	
	comp=E,41nm,4.7s						
I02E	**Swisshome, OR**	**3.83**	**7**	Pn	Pn	23 14 23.1	+2.1
J05D	**Fort Rock, OR**	**3.85**	**38**		Pn	23 14 21.6	+0.2
J05D				IAML		23 15 49.3	
	comp=N,44nm,4.7s						
J05D				IAML		23 15 56.8	
	comp=E,47nm,4.8s						
CMB	**Columbia Colle**	**3.92**	**124**	Pn	Pn	23 14 22.7	+0.5
PNTR	**Pine Nut**	**3.97**	**106**		Pn	23 14 22.6	-0.4
PNTR				IAML		23 15 36.7	
	comp=E,47nm,5.0s						
PNTR				IAML		23 15 59.9	
	comp=N,26nm,1.5s						
BUCK	**Buck Mountain**	**4.05**	**16**	Pn	Pn	23 14 25.4	+1.4
YERR	**Yerington**	**4.26**	**106**		Pn	23 14 27.2	0.0
YERR				IAML		23 16 00.1	
	comp=E,25nm,4.6s						
YERR				IAML		23 17 11.7	
	comp=N,24nm,4.8s						
SAO	**San Andreas Ge**	**4.27**	**145**	Pn	Pn	23 14 25.8	-1.2
WAKR	**Walker**	**4.31**	**113**	Pn	Pn	23 14 28.1	+0.3
WAKR				IAML		23 15 53.8	
	comp=E,24nm,4.8s						
WAKR				IAML		23 16 35.2	
	comp=N,23nm,4.3s						
PINE	**Pine Mountain**	**4.38**	**36**		Pn	23 14 27.2	-1.5
H04A	**Detroit Lake**	**4.70**	**21**	Pn	Pn	23 14 33.2	+0.3
WVOR	**Wild Horse Val**	**4.89**	**62**	Pn	Pn	23 14 33.9	-1.9
WVOR				IAML		23 16 21.0	
	comp=N,14nm,4.5s						
WVOR				IAML		23 16 53.1	
	comp=N,16nm,4.8s						
PMPB	**Monarch Peak**	**5.01**	**143**	Pn	Pn	23 14 36.1	-1.2
I07A	**Izee**	**5.29**	**43**	Pn	Pn	23 14 39.9	-1.3
ISA	**Isabella, Lake**	**6.64**	**132**	Pn	Pn	23 15 00.6	+0.9
PLID	**Pearl Lake**	**7.87**	**50**	Pn	Pn	23 15 16.5	-0.2

MDD ***03*** *23:15:54.3±2.2, 37.°00N×13.°55W, h40km±83km, Mb4.4/14, M_mb3.8/12, Error ellipse: s-maj=15.0km s-min=4.9km az=84.0*
IGIL ***03*** *23:15:55.3, 37.°00N×13.°55W, h31km, ML2.0*
INMG ***03*** *23:15:57.2±0.9, 36.°99N×13.°57W, h23km, ML2.4, Error ellipse: s-maj=4.1km s-min=2.7km az=77.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: Josephine
CNRM ***03*** *23:16:03.6, 36.°81N×12.°52W, h120km, ML1.5*
ISC 03 23:15:55.1±2.9, 37.°06N±0.°06×13.°0W±0.°2, h10km, n74, σ2.8s36/125, 15C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.35**	**87**	⇑ *iP*	**Pn**	**23 16 49.5**	**+2.0**
PFVI				*eS*	**Sn**	**23 17 28.6**	**+1.2**
PFVI				*i* AML	AML	23 17 30.1	
PFVI				*i* AML	AML	23 17 31.0	
PFVI				*i* AML	AML	23 17 31.6	
PFVI	**Vila Bisbo**	**3.35**	**87**	Pn	**Pn**	**23 16 49.5**	**+2.0**
PFVI	**Vila Bisbo**	**3.35**	**87**	P	**Pn**	**23 16 48.6**	**+1.0**
PFVI	**Vila Bisbo**	**3.35**	**87**	S	**Sn**	**23 17 25.2**	**-2.2**
PTEO	**Sao Teotonio**	**3.46**	**81**	*eP*	**Pn**	**23 16 51.2**	**+2.2**
PTEO				*eS*	**Sn**	**23 17 31.2**	**+1.2**
PTEO				*i* AML	AML	23 17 33.3	
PTEO				*i* AML	AML	23 17 35.6	
PTEO				*i* AML	AML	23 17 37.7	
MORF	**Marmelete**	**3.50**	**85**	*eP*	**Pn**	**23 16 51.5**	**+1.9**
MORF	**Marmelete**	**3.50**	**85**	*eP*	**Pn**	**23 16 51.6**	**+2.1**
MORF				*eS*	**Sn**	**23 17 32.4**	**+1.4**
MORF				*i* AML	AML	23 17 36.6	
MORF				*i* AML	AML	23 17 37.2	
MORF				*i* AML	AML	23 17 41.1	
PMAFR	**Mafra**	**3.51**	**56**	*eP*	**Pn**	**23 16 51.6**	**+1.9**
PMAFR				*eS*	**Sn**	**23 17 34.6**	**+3.4**
PMAFR				*i* AML	AML	23 17 36.0	
PMAFR				*i* AML	AML	23 17 36.9	
PMAFR				*i* AML	AML	23 17 37.4	
PMAFR	**Mafra**	**3.51**	**56**	Pn	**Pn**	**23 16 51.5**	**+1.9**
PMAFR				Sn	**Sn**	**23 17 32.1**	**+0.8**
MESJ	**Messejana**	**3.90**	**77**	*eP*	**Pn**	**23 16 56.7**	**+1.6**
MESJ				*eS*	**Sn**	**23 17 41.5**	**+0.6**
MESJ				IAML		23 17 44.0	
	comp=E,2.6nm,0.2s						
PCVE	**Castro Verde**	**4.01**	**80**	*eP*	**Pn**	**23 16 58.8**	**+2.2**
PCVE				*eS*	**Sn**	**23 17 44.4**	**+0.7**
PCVE				*i* AML	AML	23 17 48.7	
PCVE				*i* AML	AML	23 17 52.0	
PCVE				*i* AML	AML	23 17 54.4	
PCVE	**Castro Verde**	**4.01**	**80**	Pn	**Pn**	**23 16 58.8**	**+2.2**
PCVE				Sn	**Sn**	**23 17 43.1**	**-0.5**
PBDV	**Barranco-do-Ve**	**4.07**	**86**	*eP*	**Pn**	**23 16 59.8**	**+2.4**
PBDV				*eS*	**Sn**	**23 17 46.4**	**+1.3**
PBDV				*i* AML	AML	23 17 50.5	
PBDV				*i* AML	AML	23 17 50.9	
PBDV				*i* AML	AML	23 17 53.0	
PSBE	**So Bento**	**4.13**	**52**	*eP*	**Pn**	**23 17 00.0**	**+1.7**
PSBE				*eS*	**Sn**	**23 17 47.2**	**+0.6**
PSBE				*i* AML	AML	23 17 50.1	
PBEJ	**Beja**	**4.21**	**75**	*eP*	**Pn**	**23 17 01.6**	**+2.3**
PBEJ				*eS*	**Sn**	**23 17 50.1**	**+1.6**
PBEJ				*i* AML	AML	23 17 52.8	
PBEJ				*i* AML	AML	23 17 53.3	
EVO	**Evora**	**4.23**	**68**	*eP*	**Pn**	**23 17 01.9**	**+2.3**
EVO				*eS*	**Sn**	**23 17 49.6**	**+0.6**
EVO				*i* AML	AML	23 17 53.8	
EVO				*i* AML	AML	23 17 54.4	
EVO	**Evora**	**4.23**	**68**	Pn	**Pn**	**23 17 01.7**	**+2.1**
EVO				Sn	**Sn**	**23 17 48.8**	**-0.2**
PVAQ	**Vaqueiros**	**4.24**	**84**	*eP*	**Pn**	**23 17 02.1**	**+2.3**
PVAQ				*eS*	**Sn**	**23 17 50.7**	**+1.3**
PVAQ				*i* AML	AML	23 17 53.6	
PVAQ	**Vaqueiros**	**4.24**	**84**	Pn	**Pn**	**23 17 02.0**	**+2.3**
PVAQ	**Vaqueiros**	**4.24**	**84**	P	**Pn**	**23 17 01.6**	**+1.8**
PVAQ	**Vaqueiros**	**4.24**	**84**	S	**Sn**	**23 17 47.6**	**-1.8**
PMTG	**Montargil**	**4.28**	**61**	*eP*	**Pn**	**23 17 01.9**	**+1.6**
PMTG				*eS*	**Sn**	**23 17 51.1**	**+0.8**
PMTG				*i* AML	AML	23 17 56.6	
PMTG				*i* AML	AML	23 17 58.4	
PMTG				*i* AML	AML	23 17 59.0	
EGRO	**El Granado**	**4.44**	**82**	Pn	**Pn**	**23 17 04.8**	**+2.3**
EGRO				Sn	**Sn**	**23 17 54.3**	**+0.1**
EGRO	**El Granado**	**4.44**	**82**	P	**Pn**	**23 17 04.7**	**+2.3**
EGRO				⇑ *i*Vmb_V		23 17 06.4	
	comp=E,157nm,SNR=1.6						
EGRO				S	**Sn**	**23 17 55.8**	**+1.6**
PCAS	**Casmilo, Conde**	**4.64**	**48**	*eP*	**Pn**	**23 17 06.4**	**+1.2**
PCAS				*eS*	**Sn**	**23 17 59.6**	**+0.5**
PCAS				*i* AML	AML	23 18 02.3	
PCAS				*i* AML	AML	23 18 03.0	
PCAS				*i* AML	AML	23 18 04.6	
PESTR	**Estremoz**	**4.65**	**66**	*eP*	**Pn**	**23 17 07.6**	**+2.1**
PESTR				*eS*	**Sn**	**23 17 59.9**	**+0.4**
PESTR				*i* AML	AML	23 18 03.2	
PESTR				*i* AML	AML	23 18 07.4	
PESTR				*i* AML	AML	23 18 10.5	
PESTR	**Estremoz**	**4.65**	**66**	Pn	**Pn**	**23 17 07.7**	**+2.2**
PESTR				Sn	**Sn**	**23 17 59.6**	**+0.1**
PESTR	**Estremoz**	**4.65**	**66**	P	**Pn**	**23 17 07.5**	**+2.1**
PBAR	**Barrancos**	**4.88**	**75**	*eP*	**Pn**	**23 17 10.8**	**+2.3**
PBAR				*eS*	**Sn**	**23 18 05.6**	**+0.6**
PBAR				*i* AML	AML	23 18 09.7	
PBAR				*i* AML	AML	23 18 10.4	
PBAR				*i* AML	AML	23 18 11.7	
PBAR	**Barrancos**	**4.88**	**75**	Pn	**Pn**	**23 17 10.8**	**+2.3**
PBAR				Sn	**Sn**	**23 18 04.7**	**-0.3**
PMRV	**Marv??o**	**5.02**	**60**	*eP*	**Pn**	**23 17 12.0**	**+1.5**
PMRV				*eS*	**Sn**	**23 18 08.4**	**-0.2**
PMRV				*i* AML	AML	23 18 11.0	
PMRV				*i* AML	AML	23 18 11.9	
PMRV				*i* AML	AML	23 18 14.3	
EBAD	**Badajoz**	**5.04**	**69**	Pn	**Pn**	**23 17 12.4**	**+1.6**
EBAD				Sn	**Sn**	**23 18 07.3**	**-1.8**
EBAD	**Badajoz**	**5.04**	**69**	P	**Pn**	**23 17 12.1**	**+1.3**
EBAD				⇑ *i*Vmb_V		23 17 14.0	
	comp=E,216nm,SNR=2.8						
EBAD				S	**Sn**	**23 18 07.9**	**-1.2**
EMIN	**Mina Concepcio**	**5.10**	**80**	Pn	**Pn**	**23 17 13.8**	**+2.2**
EMIN				Sn	**Sn**	**23 18 10.3**	**-0.3**
EMIN	**Mina Concepcio**	**5.10**	**80**	P	**Pn**	**23 17 13.1**	**+1.5**
EMIN				⇑ *i*Vmb_V		23 17 15.2	
	comp=E,104nm,SNR=1.3						
EMIN				S	**Sn**	**23 18 10.2**	**-0.3**
PCBR	**Castelo Branco**	**5.16**	**56**	*eP*	**Pn**	**23 17 14.2**	**+1.8**
PCBR				*eS*	**Sn**	**23 18 12.1**	**+0.1**
PCBR				*i* AML	AML	23 18 18.6	
PCBR				*i* AML	AML	23 18 19.6	
PCBR				*i* AML	AML	23 18 21.7	
PVIS	**Viseu**	**5.41**	**46**	*eP*	**Pn**	**23 17 16.6**	**+0.7**
PVIS				*eS*	**Sn**	**23 18 17.1**	**-1.2**
MTE	**Manteigas**	**5.43**	**50**	*eP*	**Pn**	**23 17 17.1**	**+1.0**
MTE				*eS*	**Sn**	**23 18 18.0**	**-0.6**
MTE				*i* AML	AML	23 18 21.2	
MTE				*i* AML	AML	23 18 21.8	
MTE				*i* AML	AML	23 18 23.1	
ESPR	**Espera**	**5.74**	**90**	Pn	**Pn**	**23 17 22.6**	**+2.3**
ESPR				Sn	**Sn**	**23 18 25.6**	**-0.6**
ESPR	**Espera**	**5.74**	**90**	P	**Pn**	**23 17 22.6**	**+2.3**
ESPR				⇑ *i*Vmb_V		23 17 24.9	
	comp=E,203nm,SNR=2.6						
ESPR				S	**Sn**	**23 18 27.7**	**+1.4**
PVRL	**Vila Real**	**5.89**	**43**	*eS*	**Sn**	**23 18 28.0**	**-2.0**
PVRL				*i* AML	AML	23 18 32.8	
PVRL				*i* AML	AML	23 18 34.3	
PVRL				*i* AML	AML	23 18 35.7	
POLO	**Lamas de Olo**	**5.92**	**42**	*eP*	**Pn**	**23 17 23.2**	**+0.3**
POLO				*eS*	**Sn**	**23 18 28.8**	**-2.0**
POLO				*i* AML	AML	23 18 31.3	
POLO				*i* AML	AML	23 18 37.2	
POLO				*i* AML	AML	23 18 42.3	
AVE	**Averroes**	**5.93**	**128**	Sn	**Sn**	**23 18 27.7**	**-3.2**
PCAB	**Cabril**	**6.04**	**38**	*eP*	**Pn**	**23 17 25.1**	**+0.5**
PCAB				*eS*	**Sn**	**23 18 30.7**	**-3.1**
PCAB				*i* AML	AML	23 18 36.6	
PCAB				*i* AML	AML	23 18 41.1	
ECAB	**El Cabril**	**6.12**	**78**	Pn	**Pn**	**23 17 27.9**	**+2.3**
ECAB				Sn	**Sn**	**23 18 35.0**	**-0.8**
ECAB	**El Cabril**	**6.12**	**78**	P	**Pn**	**23 17 27.8**	**+2.3**
ECAB				⇑ *i*Vmb_V		23 17 28.4	
	comp=E,81nm,SNR=1.1						
ECAB				S	**Sn**	**23 18 35.2**	**-0.5**
PGAV	**Gavieira, Arco**	**6.12**	**35**	*eP*	**Pn**	**23 17 26.0**	**+0.3**
PGAV				*eS*	**Sn**	**23 18 32.8**	**-3.1**
PGAV				*i* AML	AML	23 18 34.4	
PGAV				*i* AML	AML	23 18 36.1	
PGAV				*i* AML	AML	23 18 36.9	
ELOB	**Lobios**	**6.14**	**37**	P	**Pn**	**23 17 25.9**	**-0.2**
ELOB				⇑ *i*Vmb_V		23 17 26.9	
	comp=E,109nm,SNR=0.9						
ELOB				S	**Sn**	**23 18 32.9**	**-3.5**
MVO	**Moncor

EADA	**Adamuz**	**6.79**	**78**	P	**Pn**	**23 17 36.3**	**+1.4**
EADA				⇑*i*Vmb_V		23 17 37.9	
	comp=E,80nm,SNR=0.9						
EADA				S	**Sn**	**23 18 50.8**	**-1.5**
EAGO	**Agolada(Pontev**	**6.87**	**32**	P	**Pn**	**23 17 35.2**	**-0.7**
EAGO				⇑*i*Vmb_V		23 17 36.4	
	comp=E,271nm,SNR=1.8						
EAGO				S	**Sn**	**23 18 47.1**	**-7.1**
PAB	**San Pablo**	**7.26**	**67**	P	**Pn**	**23 17 42.9**	**+1.6**
PAB				⇑*i*Vmb_V		23 17 44.4	
	comp=E,74nm,SNR=0.9						
PAB				S	**Sn**	**23 19 03.4**	**-0.3**
IFR	**Ifrane**	**7.36**	**116**	Sn	**Sn**	**23 18 59.9**	**-6.5**
TTIG	**Tnine Tigouga,**	**7.53**	**148**	P	**Pn**	**23 17 42.9**	**-2.1**
PSIM	**Granatula de C**	**7.53**	**74**	P	**Pn**	**23 17 47.1**	**+2.1**
PSIM				S	**Sn**	**23 19 09.0**	**-1.4**
ESDC	**Sonseca Array**	**7.58**	**67**	P	**Pn**	**23 17 46.8**	**+1.1**
ESDC				⇑*i*Vmb_V		23 17 47.9	
	comp=E,121nm,SNR=1.2						
ESDC				S	**Sn**	**23 19 10.5**	**-1.1**
TISM	**Timmit**	**7.61**	**132**	P	**Pn**	**23 17 43.8**	**-2.2**
EPON	**Pontenova**	**7.70**	**34**	P	**Pn**	**23 17 46.5**	**-0.8**
EPON				⇑*i*Vmb_V		23 17 47.5	
	comp=E,184nm,SNR=0.7						
EPON				S	**Sn**	**23 19 09.8**	**-4.8**
TIO	**Tiouine**	**7.76**	**140**	Pn	**Pn**	**23 17 47.8**	**-0.4**
TIO				Sn	**Sn**	**23 19 10.1**	**-6.2**
TIO	**Tiouine**	**7.76**	**140**	P	**Pn**	**23 17 49.4**	**+1.1**
GUD	**Guadarrama**	**7.79**	**60**	P	**Pn**	**23 17 50.5**	**+1.9**
GUD				S	**Sn**	**23 19 16.8**	**-0.1**
AKLM	**AKL**	**7.86**	**106**	P	**Pn**	**23 17 47.6**	**-2.0**
MD31	**MD31**	**7.96**	**119**	P	**Pn**	**23 17 51.8**	**+0.8**
MD31	**MD31**	**7.96**	**119**	S	**Sn**	**23 19 13.6**	**-7.6**
OUZM	**OUZ**	**8.04**	**138**	P	**Pn**	**23 17 52.9**	**+0.8**
MDT	**Midelt**	**8.10**	**119**	P	**Pn**	**23 17 53.7**	**+0.8**
MDT	**Midelt**	**8.10**	**119**	S	**Sn**	**23 19 16.0**	**-8.5**
ETOR	**Torete**	**9.33**	**63**	P	**Pn**	**23 18 11.0**	**+1.3**
ETOR				⇑*i*Vmb_V		23 18 16.4	
	comp=E,193nm,SNR=1.0						
ETOR				S	**Sn**	**23 19 53.1**	**-1.6**

*IDC **03** 23:19:50.7±6.8, 57°.41S×25°.86W, h94km±62km, mb3.9/4, mbtmp4.2/5, ML3.8/1, Error ellipse: s-maj=37.9km s-min=22.3km az=66.0*
*NEIC **03** 23:19:52.4±1.8, 57°.46S±0°.10×26°.24W±0°.08, h110km±6km, mb4.4/25, Error ellipse: s-maj=14.3km s-min=5.0km az=163.0*

ISC 03 23:19:50.5±0.5, **57°.59S**±0°.09×**26°.1W**±0°.1, **h100**km, **n60,** σ**1**§**83**/52, **mb4.4**/15, **3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.71**	**295**	Pn	**Pn**	**23 21 26.3**	**0.0**
HOPE				Sn	**Sn**	**23 22 40.2**	**-1.0**
VNA3	**Neumayer Olymp**	**15.34**	**160**	P	**Pn**	**23 23 20.4**	**-0.6**
VNA3	**Neumayer Olymp**	**15.34**	**160**	⇑P	**Pn**	**23 23 20.4**	**-0.6**
	comp=Z,1.2nm,0.2s						
VNA2	**Neumayer--Watz**	**15.54**	**157**	P	**P**	**23 23 24.6**	**-1.1**
	baz=330,slow=12						
VNA2	**Neumayer--Watz**	**15.54**	**157**	⇑P	**P**	**23 23 24.6**	**-1.1**
	comp=Z,1.0nm,0.2s,baz=330,slow=12						
SNAA	**Sanae**	**17.09**	**155**	P	**P**	**23 23 44.6**	**+1.6**
SNAA	**Sanae**	**17.09**	**155**	P	**P**	**23 23 45.4**	**+2.4**
SNAA	**Sanae**	**17.09**	**155**	⇑P	**P**	**23 23 44.6**	**+1.6**
	comp=Z,11nm,0.2s						
SNAA	**Sanae**	**17.09**	**155**	P	**P**	**23 23 44.4**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=316,slow=15,SNR=18						
SNAA				S	**Sn**	**23 26 43.6**	**-8.8**
	comp=Z,1.3nm,0.8s,baz=325,slow=16,SNR=1.8						
	comp=Z,1.0nm,0.3s						
EFI	**East Falkland**	**19.30**	**274**	P	**Pn**	**23 24 08.4**	**-0.9**
MG03	**Isla Dawson**	**24.93**	**259**	P	**P**	**23 25 05.2**	**+1.3**
MG03				IAmb	IAmb	23 25 09.7	
	comp=Z,11nm,1.0s						
MG05	**Puerto Natales**	**27.06**	**262**	P	**P**	**23 25 21.5**	**-1.7**
MG05				IAmb	IAmb	23 25 39.1	
	comp=Z,13nm,1.0s						
PLTB	**Pedras Altas**	**31.98**	**312**	P	**P**	**23 26 05.5**	**-1.3**
QSPA	**South Pole Qui**	**32.66**	**180**	P	**P**	**23 26 15.3**	**+2.6**
QSPA				IAmb	IAmb	23 26 15.6	
	comp=Z,4.3nm,0.6s						
QSPA	**South Pole Qui**	**32.66**	**180**	P	**P**	**23 26 15.1**	**+2.4**
	comp=Z,3.4nm,0.5s,baz=210,slow=1.5,SNR=23						
	comp=Z,3.4nm,0.5s						
MT02	**Curacav**	**38.85**	**289**	P	**P**	**23 27 05.5**	**-0.2**
CO01	**Juntas del Tor**	**40.97**	**293**	P	**P**	**23 27 21.7**	**-1.8**
LCO	**Las Campanas**	**42.07**	**293**	P	**P**	**23 27 32.3**	**-0.2**
LCO				IAmb	IAmb	23 27 50.5	
	comp=Z,6.8nm,1.1s						
GO02	**Mina Guanaco**	**44.74**	**298**	P	**P**	**23 27 53.2**	**-0.8**
GO02				IAmb	IAmb	23 27 57.7	
	comp=Z,8.0nm,1.1s						
BDFB	**Brasilia**	**45.00**	**329**	P	**P**	**23 27 56.2**	**+0.3**
BDFB	**Brasilia**	**45.00**	**329**	P	**P**	**23 27 56.0**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=130,slow=7.9,SNR=4.7						
	comp=Z,1.2nm,0.4s						
VNDA	**Vanda**	**45.06**	**182**	P	**P**	**23 27 58.2**	**+2.7**
BOSA	**Boshof**	**45.80**	**73**	P	P	23 28 02.6	+0.5
H04S2	**CROZET ISLANDS**	**46.39**	**112**	T	T	00 18 54.9	
	baz=225						
H04S3	**CROZET ISLANDS**	**46.40**	**112**	T	T	00 18 54.0	
	baz=225						
H04S1	**CROZET ISLANDS**	**46.41**	**112**	T	T	00 19 00.3	
	baz=225						
PTLB	**Pontes e Lacer**	**48.82**	**316**	P	**P**	**23 28 25.5**	**0.0**
PB08	**IPOC Station P**	**48.84**	**302**	P	**P**	**23 28 25.2**	**-0.9**
PB08				IAmb	IAmb	23 28 39.4	
	comp=Z,4.5nm,1.0s						
H10S2	**ASCENSION HYDR**	**49.32**	**15**	T	T	00 22 08.8	
	baz=188,slow=74,SNR=25						
H10S3	**ASCENSION HYDR**	**49.32**	**15**	T	T	00 22 13.3	
	baz=32,slow=74,SNR=27						
H10N1	**ASCENSION HYDR**	**50.44**	**15**	T	T	00 23 33.3	
	baz=181,slow=71,SNR=7.9						
H10N3	**ASCENSION HYDR**	**50.44**	**15**	T	T	00 23 33.3	
	baz=181,slow=71,SNR=28						
H10N2	**ASCENSION HYDR**	**50.45**	**15**	T	T	00 23 34.5	
	baz=181,slow=71,SNR=10						
LPAZ	**La Paz**	**51.76**	**305**	P	**P**	**23 28 48.8**	**+0.5**
LPAZ				IAmb	IAmb	23 28 49.8	
	comp=Z,2.6nm,0.5s						
LPAZ	**La Paz**	**51.76**	**305**	P	**P**	**23 28 48.9**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=156,slow=5.7,SNR=7.4						
	comp=Z,1.8nm,0.4s						
MAL2	**Monte Alegre,**	**59.71**	**327**	P	**P**	**23 29 44.6**	**+0.1**
BOAV	**Boa Vista**	**65.87**	**322**	P	**P**	**23 30 24.5**	**-0.8**
BOAV				IAmb	IAmb	23 30 25.6	
	comp=Z,4.0nm,0.8s						
MCQ	**Macquarie Isla**	**68.20**	**183**	P	P	23 30 42.3	+2.8
TORD	**Torodi Ar. Bea**	**74.11**	**28**	P	**P**	**23 31 15.6**	**0.0**
TORD	**Torodi Ar. Bea**	**74.11**	**28**	P	**P**	**23 31 15.3**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=201,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.6s						
BAUV	**El Baul**	**74.60**	**317**	P	**P**	**23 31 17.3**	**-1.2**
BAUV				IAmb	IAmb	23 31 17.4	
	comp=Z,6.1nm,0.9s						
PTCN	**Pitcairn Islan**	**76.30**	**245**	P	**P**	**23 31 28.4**	**+0.1**
LBZ	**Lake Benmore**	**77.49**	**192**	P	**P**	**23 31 35.6**	**+1.0**
LBZ				IAmb	IAmb	23 31 46.5	
	comp=Z,11nm,1.1s						
DSZ	**Denniston Nort**	**79.90**	**194**	P	**P**	**23 31 48.6**	**+0.6**
DSZ				IAmb	IAmb	23 31 49.1	
	comp=Z,8.2nm,1.1s						
MRNZ	**Matariki Terra**	**80.12**	**194**	P	**P**	**23 31 50.3**	**+1.2**
QRZ	**Quartz Range**	**80.71**	**194**	P	**P**	**23 31 52.2**	**0.0**
QRZ				IAmb	IAmb	23 32 06.6	
	comp=Z,10nm,1.1s						
MXZ	**Matakaoa Point**	**83.01**	**199**	P	**P**	**23 32 05.2**	**+0.9**
MTO3	**Montecristo**	**88.48**	**300**	P	**P**	**23 32 32.0**	**+0.2**
MTO3				IAmb	IAmb	23 32 45.6	
	comp=Z,4.6nm,1.1s						
AGMN	**Agassiz Nation**	**120.19**	**314**	PKPdf	**PKiKP**	**23 38 27.6**	**-1.0**
WCT	**Wildcat Mounta**	**120.43**	**291**	PKPdf	**PKiKP**	**23 38 29.3**	**-0.3**
KKM	**Kota Kinabalu**	**120.80**	**135**	PKPdf	**PKiKP**	**23 38 32.7**	**+1.6**
PDAR	**Pinedale Array**	**121.66**	**301**	PKPdf	**PKiKP**	**23 38 33.2**	**+1.2**
YNE	**Yellowstone No**	**123.60**	**302**	PKPdf	**PKiKP**	**23 38 37.3**	**+1.5**
YHB	**Horse Butte**	**123.95**	**301**	PKPdf	**PKiKP**	**23 38 40.8**	**+4.4**
FINES	**FINESS Array B**	**125.46**	**28**	PKP	**PKiKP**	**23 38 38.3**	**-0.2**
	comp=Z,5.2nm,1.1s,baz=265,slow=3.5,SNR=5.0						
PLID	**Pearl Lake**	**126.45**	**298**	PKPdf	**PKiKP**	**23 38 42.5**	**+1.1**
ABKAR	**Akbulak array**	**127.74**	**56**	PKPdf	**PKiKP**	**23 38 43.2**	**-0.4**
YKA	**Yellowknife Ar**	**137.71**	**316**	PKP	**PKiKP**	**23 39 01.9**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=133,slow=2.3,SNR=9.1						
SONM	**Songino Array**	**150.19**	**88**	PKPbc	**PKiKP**	**23 39 28.8**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=233,slow=3.0,SNR=6.7						
ILAR	**Eielson Array**	**151.58**	**309**	PKPbc	**PKiKP**	**23 39 32.0**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=142,slow=4.6,SNR=50						

*SKO **03** 23:25:01.2, 40°.68N×22°.84E, h9km, ML2.6*
*ATH **03** 23:25:02.4, 40°.67N×22°.85E, h12km±1km, ML2.2/10, Error ellipse: s-maj=2.0km s-min=0.7km az=98.0*
*BEO **03** 23:25:02.9±0.6, 40°.76N×22°.81E, h10km±3km, ML2.2/6*

ISC 03 23:25:01.9±0.8, **40°.70N**±0°.02×**22°.85E**±0°.02, **h14**km±6km, **n43,** σ**0**§**63**/68, **1C-4D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.11**	**129**	⇓*i*Pg	**Pg**	**23 25 05.4**	**+0.3**
THE				*i*Sg	**Sg**	**23 25 07.6**	**+0.3**
THE	**Thessaloniki**	**0.11**	**129**	P	**Pg**	**23 25 05.4**	**+0.3**
THE				S	**Sg**	**23 25 07.1**	**-0.2**
THE				AML	AML	23 25 07.8	
	comp=N,3256μm,0.3s						
THE				AML	AML	23 25 09.2	
	comp=E,2952μm,0.1s						
HORT	**Hortiatis**	**0.22**	**119**	P	**Pg**	**23 25 07.1**	**+0.4**
HORT				S	**Sg**	**23 25 09.4**	**-0.7**
HORT				AML	AML	23 25 11.9	
	comp=E,1327μm,0.2s						
HORT				AML	AML	23 25 12.7	
	comp=N,1334μm,0.2s						
SOH	**Sokhos**	**0.40**	**73**	P	**Pb**	**23 25 10.7**	**-0.1**
SOH				S	**Sb**	**23 25 16.4**	**-0.4**
SOH				AML	AML	23 25 18.4	
	comp=N,2585μm,0.3s						
SOH				AML	AML	23 25 18.6	
	comp=E,2441μm,0.4s						
GRG	**Griva**	**0.43**	**307**	⇓*i*Pg	**Pg**	**23 25 09.7**	**-0.7**
GRG				*i*Sg	**Sg**	**23 25 15.4**	**-0.8**
PLG	**Polygyros**	**0.56**	**126**	P	**Pb**	**23 25 13.2**	**-0.3**
PLG				S	**Sg**	**23 25 19.6**	**-0.7**
PLG				AML	AML	23 25 22.3	
	comp=E,447μm,0.1s						
PLG				AML	AML	23 25 22.8	
	comp=N,572μm,0.1s						
VAY	**Valandovo**	**0.65**	**341**	*i*Pg	**Pb**	**23 25 14.2**	**-0.8**
VAY				*i*Sg	**Sg**	**23 25 22.9**	**-0.5**
VAY				*e*Lg	Lg	23 25 23.1	
	comp=N,194nm,0.3s						
VAY				*e*Lg	Lg	23 25 23.2	
	comp=E,195nm,0.5s						
VAY	**Valandovo**	**0.65**	**341**	*e*Pg	**Pb**	**23 25 14.3**	**-0.8**
VAY				*e*Sg	**Sg**	**23 25 22.5**	**-0.8**
LIT	**Litokhoron**	**0.66**	**205**	⇑*i*Pg	**Pb**	**23 25 14.6**	**-0.6**
SRS	**Serrai**	**0.70**	**53**	⇓*i*Pg	**Pb**	**23 25 15.7**	**-0.2**
SRS				*i*Sg	**Sb**	**23 25 24.1**	**-1.2**
SRS	**Serrai**	**0.70**	**53**	*e*Pg	**Pb**	**23 25 15.3**	**-0.6**
SRS				*e*Sg	**Sg**	**23 25 25.5**	**+0.8**
SRS	**Serrai**	**0.70**	**53**	P	**Pb**	**23 25 15.3**	**-0.6**
SRS				S	**Sg**	**23 25 25.2**	**+0.5**
SRS				AML	AML	23 25 30.8	
	comp=E,408μm,0.2s						
SRS				AML	AML	23 25 31.3	
	comp=N,332μm,0.3s						
KOKK	**Kokkinochori,**	**0.88**	**82**	P	**Pb**	**23 25 18.7**	**-0.2**
KOKK				S	**Sn**	**23 25 31.8**	**-0.7**
KOKK				AML	AML	23 25 34.6	
	comp=N,490μm,0.3s						
KOKK				AML	AML	23 25 35.2	
	comp=E,260μm,0.2s						
KZN	**Kozani**	**0.92**	**245**	P	**Pb**	**23 25 19.7**	**+0.1**
KZN				S	**Sb**	**23 25 30.9**	**-0.8**
KZN				AML	AML	23 25 35.7	
	comp=N,355μm,0.5s						
KZN				AML	AML	23 25 36.0	
	comp=E,607μm,0.4s						
OUR	**Ouranopolis**	**0.94**	**113**	P	**Pn**	**23 25 20.5**	**-0.1**
OUR				S	**Sg**	**23 25 32.0**	**-0.2**
OUR				AML	AML	23 25 34.7	
	comp=N,630μm,0.3s						
OUR				AML	AML	23 25 36.8	
	comp=E,395μm,0.3s						
NVR	**Nevrokopi**	**1.00**	**49**	P	**Pg**	**23 25 22.1**	**+0.9**
PEHC	**Pehcevo**	**1.07**	**2**	*i*Pg	**Pb**	**23 25 22.4**	**0.0**
PEHC				*i*Sg	**Sb**	**23 25 36.9**	**+0.6**
PEHC				*e*Lg	Lg	23 25 37.7	
	comp=N,65nm,0.3s						
MMB	**Musomishta**	**1.08**	**38**	*i*Pg	**Pn**	**23 25 22.8**	**+0.1**
MMB				*i*Sg	**Sg**	**23 25 38.2**	**+1.3**
LRSO	**Larissa Observ**	**1.09**	**199**	P	**Pb**	**23 25 22.3**	**-0.2**
TYRN	**Tyrnavos**	**1.10**	**206**	P	**Pb**	**23 25 22.0**	**-0.6**
TYRN				S	**Sb**	**23 25 36.3**	**-0.5**
TYRN				AML	AML	23 25 38.2	
	comp=E,266μm,0.4s						
TYRN				AML	AML	23 25 43.1	
	comp=N,247μm,0.5s						
FNA	**Florina**	**1.12**	**275**	*i*Pg	**Pn**	**23 25 23.2**	**-0.1**
FNA				*i*Sg	**Sg**	**23 25 39.5**	**+1.2**
FNA	**Florina**	**1.12**	**275**	*e*Pg	**Pn**	**23 25 22.6**	**-0.7**
FNA				*e*Sg	**Sb**	**23 25 37.9**	**+0.2**
FNA	**Florina**	**1.12**	**275**	P	**Pn**	**23 25 22.6**	**-0.7**
FNA				S	**Sb**	**23 25 38.4**	**+0.7**
FNA				AML	AML	23 25 41.1	
	comp=E,208μm,0.3s						
FNA				AML	AML	23 25 41.1	
	comp=N,256μm,0.4s						
KKB	**Krupnik**	**1.16**	**10**	⇓*i*Pg	**Pn**	**23 25 23.8**	**+0.1**
KKB				*i*Sg	**Sn**	**23 25 39.3**	**-0.1**
KAVA	**Kavala**	**1.29**	**76**	P	**Pb**	**23 25 25.8**	**-0.3**
THL	**Klokotos Trika**	**1.31**	**210**	P	**Pn**	**23 25 25.7**	**-0.1**
THL				S	**Sg**	**23 25 44.0**	**0.0**
KPRO	**Kipourio**	**1.36**	**237**	P	**Pb**	**23 25 27.2**	**0.0**
PENT	**Pentalofos**	**1.40**	**249**	P	**Pb**	**23 25 27.9**	**0.0**
NEST	**Nestorio**	**1.40**	**259**	P	**Pn**	**23 25 27.3**	**+0.1**
NEO	**Neokhori**	**1.42**	**168**	P	**Pn**	**23 25 27.1**	**-0.3**
OHR	**Ohrid**	**1.61**	**285**	*i*Pg	**Pb**	**23 25 31.2**	**-0.2**
OHR				*i*Sg	**Sb**	**23 25 52.5**	**+0.9**
OHR	**Ohrid**	**1.61**	**285**	*e*Pg	**Pn**	**23 25 29.9**	**-0.1**
OHR				*e*Sg	**Sb**	**23 25 52.5**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.78**	**198**	P	**Pn**	**23 25 32.7**	**+0.5**
TETR	**Tetrakomo, Epi**	**1.82**	**222**	P	**Pn**	**23 25 33.7**	**+0.8**
VTS	**Vitosha**	**1.94**	**8**	*e*Pn	**Pn**	**23 25 35.4**	**+0.9**
VTS				*e*Sn	**Sn**	**23 25 58.5**	**-0.3**
EVR	**Evrytania**	**1.96**	**205**	P	**Pn**	**23 25 36.1**	**+1.3**
PLD	**Plovdiv**	**2.03**	**44**	*i*Pn	**Pb**	**23 25 37.5**	**-1.0**
PLD	**Plovdiv**	**2.03**	**44**	*e*Pn	**Pn**	**23 25 36.3**	**+0.6**
ANX	**Ano Chora**	**2.23**	**199**	P	**Pn**	**23 25 39.5**	**+1.0**
BARS	**Barje**	**2.25**	**340**	*i*Pn	**Pn**	**23 25 40.0**	**+1.2**
BARS	**Barje**	**2.25**	**340**	*e*Pn	**Pn**	**23 25 38.5**	**-0.2**
ZAPS	**Zavoj**	**2.57**	**356**	*e*Pn	**Pn**	**23 25 43.4**	**+0.2**
SELS	**Selova**	**2.83**	**333**	*e*Pn	**Pn**	**23 25 47.0**	**+0.3**

*SOME **03** 23:26:51.0, 39°.17N×71°.08E, h0km*
*NNC **03** 23:26:55.9±7.7, 38°.80N×70°.43E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=77.4km s-min=30.8km az=172.0*
*IDC **03** 23:27:03.5±8.5, 38°.78N×71°.12E, h90km±75km, mb3.0/3, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=76.1km s-min=37.4km az=171.0*

ISC 03 23:27:00.2±1.4, **38.7N**±0°.1×**70°.62E**±0°.09, **h50**km, **n18,** σ**1**§**82**/21, **mb3.3**/3, **4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.14**	**34**	P	**Pn**	**23 28 00.8**	**-0.4**
	SNR=11						
DZA	**Taraz**	**4.21**	**7**	*e*P	**Pn**	**23 28 01.1**	**-0.7**
	14nm,0.1s						
DZA				*e*S	**Sn**	**23 28 51.7**	**+2.0**
	64nm,0.4s						
BRLS	**Borolday**	**4.35**	**352**	*e*P	Pn	23 28 01.3	-2.5
	2.0nm,0.2s						
BRLS				*e*S	**Sn**	**23 28 52.1**	**-1.2**
	7.7nm,0.4s						
KK31	**Karatay Array**	**4.39**	**359**	⇑Pn	**Pn**	**23 28 02.9**	**-1.4**
	0.7nm,0.2s,baz=186,slow=14,SNR=23						
KK31				⇑Sn	**Sn**	**23 28 54.5**	**+0.4**
	1.3nm,0.2s,baz=180,slow=29,SNR=5.3						
MRKS	**Merke**	**4.49**	**25**	*e*P	**Pn**	**23 28 04.9**	**-0.9**
	1.7nm,0.3s						
MRKS				*e*S	**Sn**	**23 28 58.1**	**+1.4**
	11nm,0.4s						
EKS2	**Erkin-Say**	**4.62**	**30**	P	**Pn**	**23 28 08.7**	**+1.2**
	SNR=5.6						
AAK	**Ala-Archa**	**4.90**	**36**	P	**Pn**	**23 28 13.0**	**+1.6**
	SNR=9.4						
KBK	**Karagaybulak**	**5.13**	**38**	P	**Pn**	**23 28 15.4**	**+0.8**
	SNR=16						
USP	**Ospenovka**	**5.41**	**32**	P	**Pn**	**23 28 17.6**	**-0.7**
	SNR=12						
TKM2	**Tokmak 2**	**5.65**	**40**	P	**Pn**	**23 28 21.4**	**-0.4**
	SNR=6.2						
TKM2	**Tokmak 2**	**5.65**	**40**	⇓Pn	**Pn**	**23 28 21.6**	**-0.2**
	2.0nm,0.4s						
TKM2				⇑Sn	**Sn**	**23 29 28.8**	**+3.4**
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**11.77**	**43**	P	**Pn**	**23 29 44.1**	**-1.2**
	baz=232,slow=13,SNR=4.5						
	0.3nm,0.7s						
AB31	**Akbulak array**	**13.03**	**327**	⇓P	Pn	23 29 56.7	-5.7
	0.8nm,0.4s,baz=162,slow=8.6,SNR=31						
AKTO	**Aktyubinsk**	**14.74**	**327**	⇑P	**Pn**	**23 30 27.2**	**+1.7**
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**18.06**	**28**	P	**Pn**	**23 31 04.1**	**-3.3**
	0.1nm,0.3s,baz=219,slow=13,SNR=3.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**27.39**	**59**	P	**P**	**23 32 37.1**	**-3.8**
	0.1nm,0.4s,baz=278,slow=10.0,SNR=2.0						
	0.1nm,0.4s						
NOA	**NORSAR Array B**	**42.45**	**322**	P	**P**	**23 34 50.7**	**+0.9**
	0.4nm,0.7s,baz=105,slow=7.9,SNR=1.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.49**	**267**	P	**P**	**23 37 39.8**	**+1.3**
	0.3nm,0.8s,baz=69,slow=6.1,SNR=1.8						
	0.3nm,0.8s						

*NEIC **03** 23:43:19.0±1.6, 40°.24N±0°.02×124°.75W±0°.04, h10km±1km, Error ellipse: s-maj=5.3km s-min=3.0km az=84.0*
*IDC **03** 23:43:20.7±0.8, 40°.45N×124°.33W, h0km, mb3.8/14, mbtmp3.8/19, ML3.4/5, MS3.3/17, Error ellipse: s-maj=13.3km s-min=9.6km az=44.0*
*NCEDC **03** 23:43:21.8±2.7, 40°.31N±0°.01×124°.50W±0°.04, h8km±5km, Mwr4.2/3, mb4.1/11(NEIC), ML3.7/106(NEIC), Error ellipse: s-maj=4.5km s-min=2.0km az=82.0*

ISC 03 23:43:21.7±1.2, **40°.30N**±0°.03×**124°.49W**±0°.05, **h14**km±6km, **n140,** σ**0**§**98**/120, **mb4.0**/17, **MS3.3**/11, **Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.21**	**33**		**Pg**	**23 43 27.1**	**+0.7**
KCTM					**Sg**	**23 43 31.4**	**+1.8**
KMPM	**Mount Pierce**	**0.30**	**67**		**Pb**	**23 43 28.8**	**-0.2**
KMPM				Sg	**Sb**	**23 43 33.8**	**-0.2**
FER	**Ferndale**	**0.32**	**32**		**Pb**	**23 43 29.6**	**+0.3**
KMRM	**Mail Ridge**	**0.60**	**97**	Pg	**Pb**	**23 43 34.0**	**-0.1**
KMRM				Sg	**Sg**	**23 43 41.0**	**-0.4**
JCC	**Jacoby Creek,**	**0.62**	**34**		**Pb**	**23 43 34.1**	**-0.3**
JCC				Sg	**Sb**	**23 43 42.0**	**-1.0**
KHMM	**Horse Mountain**	**0.81**	**45**		**Pb**	**23 43 37.7**	**-0.1**
KHMM				Sg	**Sb**	**23 43 48.1**	**-0.6**
KIPM	**Iron Peak**	**0.91**	**122**		**Pb**	**23 43 39.5**	**0.0**
KRPM	**Rodgers**	**0.93**	**22**		**Pb**	**23 43 38.9**	**-0.8**
KRPM	**Rodgers**	**0.93**	**22**	Sg	**Sg**	**23 43 48.0**	**-3.7**
KRPM				IAML		23 44 09.4	
	comp=E,3μm,0.9s						
KCPM	**Cahto Peak**	**0.93**	**131**		**Pg**	**23 43 38.9**	**-0.7**
KCPM				Sg	**Sb**	**23 43 52.4**	**+0.5**
KHBM	**Hayfork Bally**	**1.03**	**69**		**Pg**	**23 43 40.6**	**-1.1**
KHBM				Sg	**Sn**	**23 43 55.9**	**-0.5**
KBNM	**Bluenose Ridge**	**1.07**	**112**		**Pb**	**23 43 41.9**	**-0.2**
DCMP	**DeCamp, Califo**	**1.21**	**133**		**Pb**	**23 43 43.2**	**-1.3**
DCMP	**DeCamp, Califo**	**1.21**	**133**	IAML		23 44 17.4	
	comp=N,1μm,0.9s						
LBPM	**Beegum Peak**	**1.23**	**89**		**Pb**	**23 43 43.9**	**-0.9**
WEAV	**Weaverville**	**1.23**	**68**		**Pb**	**23 43 43.6**	**-1.2**
KOMM	**Orleans Mounta**	**1.25**	**38**		**Pn**	**23 43 43.9**	**-1.1**
KRMB	**Red Mountain**	**1.30**	**20**		**Pn**	**23 43 44.0**	**-1.6**
O02D	**Mt. Diablo Mer**	**1.30**	**95**		**Pn**	**23 43 45.6**	**-0.1**
O02D				Sn	**Sn**	**23 44 05.2**	**+2.2**
O02D				IAML		23 44 15.8	
	comp=N,2μm,1.0s						
O02D				IAML		23 44 16.3	
	comp=E,1μm,1.5s						
GWRM	**Wonder Ranch**	**1.42**	**140**		**Pn**	**23 43 46.2**	**-1.1**
GROM	**Round Mountain**	**1.44**	**105**		**Pb**	**23 43 47.8**	**-0.7**
GVV	**Valley View**	**1.48**	**110**		**Pn**	**23 43 47.5**	**-0.7**
N02D	**Trinity Center**	**1.51**	**63**		**

HOG Hogback Mounta 2.85 46 Pn 23 44 07.3 +0.2
J01E Myrtle Point 2.89 8 Pn 23 44 07.2 -0.1
J01E IAML 23 45 28.5
comp=E,203nm,1.2s
AFDM Forest Hills D 3.03 115 Pn **Pn 23 44 10.3 +1.0**
J04A Umpqua Nationa 3.43 30 Pn 23 44 15.8 +0.7
MPK Martis Peak 3.58 105 Pn 23 44 17.5 +0.4
I04A Tendick Farm, 3.82 23 Pn 23 44 20.4 +0.2
J05D Fort Rock, OR 3.84 38 Pn 23 44 20.8 +0.1
J05D IAML 23 45 42.2
comp=N,144nm,3.9s
J05D IAML 23 45 56.5
comp=E,130nm,2.9s
CMB Columbia Colle 3.91 124 Pn 23 44 22.2 +0.7
PNTR Pine Nut 3.96 106 Pn 23 44 23.1 +0.8
PNTR IAML 23 46 00.0
comp=N,184nm,1.5s
PNTR IAML 23 46 14.6
comp=E,168nm,1.4s
PAHR Pah Rah Range 3.96 97 Pn 23 44 21.6 -0.6
PAHR IAML 23 45 46.1
comp=E,76nm,1.3s
BUCK Buck Mountain 4.05 15 Pn 23 44 25.5 +2.1
BUCK IAML 23 45 58.4
comp=E,141nm,3.8s
BUCK IAML 23 46 12.6
comp=N,105nm,2.6s
YERR Yerington 4.26 106 Pn 23 44 27.2 +0.8
YERR IAML 23 45 55.8
comp=N,90nm,1.3s
YERR IAML 23 46 11.5
comp=E,80nm,3.1s
SAO San Andreas Ge 4.26 145 Pn 23 44 26.0 -0.3
WAKR Walker 4.30 113 Pn 23 44 27.1 +0.1
WAKR IAML 23 46 05.3
comp=E,57nm,2.2s
WAKR IAML 23 46 37.3
comp=N,60nm,4.3s
PINE Pine Mountain 4.37 36 Pn 23 44 29.0 +1.0
PINE IAML 23 44 59.3
comp=N,70nm,3.1s
PINE IAML 23 45 49.7
comp=E,58nm,4.3s
BBGB Big Mountain B 4.60 143 Pn **Pn 23 44 31.7 +0.8**
I05D Terrebonne, OR 4.66 29 Pn 23 44 31.8 0.0
I05D IAML 23 45 05.6
comp=N,81nm,4.7s
I05D IAML 23 46 27.7
comp=E,97nm,4.6s
H04A Detroit Lake 4.70 20 Pn 23 44 33.6 +1.3
H04A IAML 23 45 45.1
comp=E,51nm,3.7s
H04A IAML 23 45 52.8
comp=N,46nm,4.8s
WVOR Wild Horse Val 4.89 62 IAML 23 45 17.8
comp=N,36nm,2.3s
WVOR IAML 23 46 33.2
comp=N,40nm,2.8s
RYN Ryan 4.91 108 Pn 23 44 35.5 +0.3
LHV Little Huntoon 5.07 112 Pn 23 44 38.5 +1.2
LHV IAML 23 46 33.4
comp=E,81nm,1.5s
LHV IAML 23 46 34.8
comp=N,79nm,1.6s
NVAR Mina Array Bea 5.14 109 Pn **Pn 23 44 39.2 +0.6**
NVAR Mina Array Bea 5.14 109 Pn **Pn 23 44 39.9 +1.4**
comp=N,3.0nm,0.3s,baz=292,slow=14,SNR=31
NVAR Lg Lg 23 45 58.9
baz=270,slow=30
NVAR LR LR 23 46 56.4
comp=N,243nm,21.5s,baz=327,slow=42
comp=N,6.3nm,0.5s
NV11 Mina Array Sit 5.25 109 Pn 23 44 40.4 +0.4
NV11 IAML 23 46 27.8
comp=N,52nm,2.1s
NV11 IAML 23 46 58.8
comp=E,41nm,3.8s
I07A Izee 5.29 43 Pn 23 44 41.0 +0.6
I07A IAML 23 45 26.2
comp=E,30nm,3.7s
J08A Circle Bar Ran 5.43 54 Pn 23 44 42.1 -0.3
HOOD Mount Hood Mea 5.43 22 Pn 23 44 42.0 -0.4
ELK Elko 7.06 83 Pn **Pn 23 45 05.5 +0.7**
comp=E,0.1nm,0.3s,baz=286,slow=12,SNR=7.0
ELK Lg Lg 23 46 59.5
comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=3.0
ELK LR LR 23 47 53.9
comp=E,205nm,19.9s,baz=271,slow=39
comp=E,1.7nm,0.9s
HVU Hansel Valley 8.97 77 Pn 23 45 31.5 +0.4
PFO Pinyon Flats O 9.26 134 Pn 23 45 34.9 -0.2
PFO Pinyon Flats O 9.26 134 Pn **Pn 23 45 36.6 +1.6**
comp=E,0.9nm,0.3s,baz=319,slow=11,SNR=9.7
PFO LR LR 23 49 44.5
comp=E,159nm,20.9s,baz=34,slow=41
comp=E,5.1nm,0.6s
NEW Newport 9.55 31 Pn **Pn 23 45 38.8 0.0**
comp=E,0.1nm,0.3s,baz=216,slow=19,SNR=1.8
NEW LR LR 23 49 27.9
comp=E,96nm,18.9s,baz=224,slow=39
comp=E,1.3nm,0.7s
PDAR Pinedale Array 11.46 73 LR LR 23 50 50.0
comp=E,118nm,18.2s,baz=248,slow=40
S22A 4UR Ranch, Cre 13.96 95 Pn 23 46 40.8 +1.3
ANMO Albuquerque 15.25 105 Pn **Pn 23 46 58.4 +1.6**
baz=346,slow=13,SNR=3.8
ANMO LR LR 23 53 25.2
comp=E,82nm,19.7s,baz=100,slow=40
comp=E,1.3nm,0.9s
ALPN Alpine 19.64 114 P **P 23 47 50.3 +0.2**
R32A Long Quarter, 20.00 87 P **P 23 47 53.8 -0.1**
LPIG La Paz 20.08 139 LR LR 23 57 01.2
comp=E,22nm,18.2s,baz=43,slow=41
TX31 Lajitas Ar. Si 20.24 116 P Pn 23 47 58.6 -0.1
TX31 IAmb IAmb 23 48 01.2
comp=Z,6.8nm,1.1s
TXAR Lajitas Array 20.25 116 P Pn 23 47 58.5 -0.2
TXAR Lajitas Array 20.25 116 P Pn 23 47 59.2 +0.5
comp=Z,3.2nm,0.9s,baz=300,slow=7.3,SNR=28
comp=Z,3.2nm,0.9s
FFC Flin Flon 20.83 39 IAmb IAmb 23 48 07.0
comp=Z,5.3nm,0.7s
ECSD EROS Data Cent 20.95 71 P P 23 48 01.5 -2.7
SAND Sanderson 20.95 113 P Pn 23 48 05.9 -1.0
SAND IAmb IAmb 23 48 07.7
comp=Z,7.5nm,1.4s
DRIO Del Rio 22.32 112 IAmb IAmb 23 48 23.4
comp=Z,16nm,1.4s
ULM Lac du Bonnet 22.33 54 IAmb IAmb 23 48 21.2
comp=Z,8.1nm,1.0s
ULM Lac du Bonnet 22.33 54 P **P 23 48 17.2 -1.7**
comp=Z,5.5nm,0.8s,baz=265,slow=9.8,SNR=12
ULM LR LR 23 57 38.9
comp=Z,148nm,19.2s,baz=282,slow=39
comp=Z,5.5nm,0.8s
BRDY Brady 22.48 106 P **P 23 48 21.9 +1.1**
BRDY IAmb IAmb 23 48 25.0
comp=Z,11nm,1.0s
YKA Yellowknife Ar 23.01 12 P **P 23 48 26.8 +0.8**
comp=Z,1.4nm,0.8s,baz=202,slow=11,SNR=13
YKA LR LR 23 58 30.4
comp=Z,114nm,19.0s,baz=325,slow=40
comp=Z,1.4nm,0.8s
KDAK Kodiak Island 25.12 324 LR LR 23 55 44.9
comp=Z,62nm,19.1s,baz=22,slow=30
FCC Fort Churchill 26.66 36 IAmb IAmb 23 49 03.8
comp=Z,13nm,1.4s
ILAR Eielson Array 27.73 339 P **P 23 49 08.6 -0.9**
comp=Z,0.3nm,0.9s,baz=137,slow=8.8,SNR=2.6
comp=Z,0.3nm,0.9s
TKL Tuckaleechee C 32.22 85 LR LR 00 03 46.3
comp=Z,109nm,18.3s,baz=326,slow=38
SADO Sadowa 33.37 67 LR LR 00 04 33.2
comp=Z,84nm,18.4s,baz=263,slow=38
CMIG Matias Romero 34.50 123 LR LR 00 03 15.0
comp=Z,37nm,21.9s,baz=266,slow=35
RES Resolute Bay 37.07 13 LR LR 00 06 34.8
comp=Z,97nm,18.3s,baz=359,slow=38
SCHQ Schefferville 40.34 49 P **P 23 50 58.6 -0.1**
comp=Z,2.2nm,0.8s,baz=283,slow=14,SNR=5.3
SCHQ LR LR 00 08 22.5
comp=Z,79nm,18.3s,baz=332,slow=37
comp=Z,2.2nm,0.8s
SJG San Juan 54.48 96 LR LR 00 20 07.7
comp=Z,20nm,18.4s,baz=148,slow=41
H11N3 WAKE ISLAND Hy 61.39 272 T T 01 00 21.6
baz=53,slow=75,SNR=49
H11N2 WAKE ISLAND Hy 61.39 272 T T 01 00 19.5
baz=53,slow=75,SNR=80
H11N1 WAKE ISLAND Hy 61.40 272 T T 01 00 20.6
baz=53,slow=75,SNR=60
NOA NORSAR Array B 72.76 21 P **P 23 54 48.7 -0.5**
comp=Z,1.1nm,0.8s,baz=325,slow=6.1,SNR=3.6
NOA LR LR 00 27 23.8
comp=Z,9.4nm,19.1s,baz=20,slow=36
comp=Z,1.1nm,0.8s
FINES FINESS Array B 75.82 14 P **P 23 55 07.7 +0.7**
comp=Z,2.3nm,1.0s,baz=343,slow=4.4,SNR=1.3
comp=Z,2.3nm,1.0s
SONM Songino Array 81.32 328 P **P 23 55 39.6 +1.9**
comp=Z,0.5nm,0.9s,baz=52,slow=5.5,SNR=3.6
comp=Z,0.5nm,0.9s
ZALV Zalesovo Beam 82.79 343 P **P 23 55 45.0 -0.2**
comp=Z,0.6nm,0.7s,baz=39,slow=7.8,SNR=4.5
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 83.69 42 P **P 23 55 51.0 +0.8**
comp=Z,1.1nm,0.9s,baz=321,slow=3.8,SNR=4.7
comp=Z,1.1nm,0.9s
HHC Hu-ho-hao-te 84.50 321 *e*P **P 23 55 54.2 -0.2**
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.1s
BVAR Borovoye Array 86.16 351 P **P 23 56 03.0 +0.7**
comp=Z,0.4nm,0.5s,baz=48,slow=2.1,SNR=2.1
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 86.49 16 P **P 23 56 04.2 +0.3**
comp=Z,0.1nm,0.3s,baz=316,slow=6.8,SNR=1.9
comp=Z,0.1nm,0.3s
KURBB Kurchatov Arra 87.23 346 P **P 23 56 08.6 +1.1**
comp=Z,1.7nm,0.8s,baz=17,slow=4.8,SNR=17
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 90.06 342 P **P 23 56 21.9 +0.8**
comp=Z,1.0nm,1.2s,baz=12,slow=6.2,SNR=3.6
comp=Z,1.0nm,1.2s
PZH PanZhiHua 100.84 319 P **Pdif 23 57 11.1 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.2s

TXNET 03 23:54:23.8, 31°.6N±0°.5×104°.3W±0°.5, h5km±2km, ML2.6/11, 4C, Error ellipse: s-maj=0.9km s-min=0.7km az=55.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**33**	⇑P	Pg	23 54 30.6	0.0
TPB11				S	Sg	23 54 35.3	0.0
PECS	**Pecos**	**0.43**	**129**	P	Pg	23 54 32.3	+0.2
PECS				S	Sg	23 54 37.9	+0.2
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	23 54 33.1	-0.2
TPB12				S	Sg	23 54 39.7	-0.1
TPB07	**Mentone**	**0.51**	**97**	P	Pg	23 54 33.8	+0.3
TPB07				S	Sg	23 54 40.7	+0.5
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	23 54 34.8	+0.3
TPB10				S	Sg	23 54 42.4	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	23 54 35.0	+0.3
PCOS	**Crockett Middl**	**0.68**	**110**	P	Pg	23 54 37.0	+0.2
PCOS				S	Sg	23 54 46.1	+0.5
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	23 54 37.0	-0.3
CLNB				S	Sg	23 54 47.1	+0.7
TPB01	**Permian Basin**	**0.80**	**149**	S	Sg	23 54 49.2	-0.4
TPB03	**Saragosa**	**0.84**	**131**	P	Pg	23 54 40.0	0.0
TPB03				S	Sg	23 54 51.4	+0.5
CLN7	**Carlsbad 7**	**0.86**	**26**	⇑P	Pg	23 54 39.8	-0.5
TPB06	**Permian Basin**	**0.89**	**89**	P	Pg	23 54 40.6	-0.2
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	23 54 42.5	+0.3
MNTX				S	Sb	23 54 55.5	-0.5
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	23 54 42.9	+0.2
HTMS				S	Sb	23 54 56.5	-0.3
VHRN	**Van Horn**	**1.05**	**216**	⇑P	Pg	23 54 43.8	-0.2
VHRN				S	Sb	23 54 58.7	0.0
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	23 54 44.1	-0.3
MNHN	**Monahans**	**1.31**	**103**	P	Pn	23 54 47.4	-1.4
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	23 54 50.2	-0.3
ODSA	**Odessa**	**1.53**	**71**	P	Pn	23 54 51.2	-0.7
ODSA				S	Sn	23 55 11.8	-0.4
TMB04	**Seminole**	**1.79**	**56**	P	Pn	23 54 56.0	+0.5
TMB04				S	Sb	23 55 19.9	-0.2
EPT	**El Paso**	**1.92**	**275**	Sg	Sg	23 55 26.6	+1.0
EPT	**El Paso**	**1.92**	**275**	Pg	Pb	23 54 59.3	0.0
TMB02	**Rankin**	**1.95**	**102**	⇑P	Pn	23 54 58.5	+0.9
TMB02				S	Sb	23 55 23.6	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	23 55 06.1	-0.6

---

*IDC **04** 00:05:02.2±3.2, 40°.40N×124°.85W, h0km, mb2.7/2, mbtmp3.0/5, ML3.6/3, MS1.9/1, Error ellipse: s-maj=37.5km s-min=20.2km az=88.0*
*NEIC **04** 00:05:04.5±1.6, 40°.28N±0°.02×124°.67W±0°.02, h10km±1km, Error ellipse: s-maj=3.9km s-min=3.0km az=271.0*
*NCEDC **04** 00:05:06.5±3.0, 40°.30N±0°.02×124°.50W±0°.03, h8km±3km, ML3.3/23, ML3.3/95(NEIC), Error ellipse: s-maj=3.2km s-min=2.9km az=87.0*
ISC 04 00:05:05.4±1.3, 40°.27N±0°.03×124°.57W±0°.06, h21km±2km, n95, σ1.31/92, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.27**	**40**		**Pb**	**00 05 11.8**	**0.0**
KCTM					**Sb**	**00 05 16.0**	**-0.2**
KMPM	**Mount Pierce**	**0.37**	**67**		**Pb**	**00 05 13.2**	**0.0**
KMPM				Sg	**Sb**	**00 05 18.4**	**-0.2**
KMRM	**Mail Ridge**	**0.66**	**94**		**Pb**	**00 05 19.0**	**+0.7**
KMRM				Sg	**Sb**	**00 05 28.1**	**+1.0**
KMRM				IAML		00 05 34.1	
comp=N,2μm,0.8s							
JCC	**Jacoby Creek,**	**0.68**	**37**		**Pb**	**00 05 19.0**	**+0.4**
JCC				Sg	**Sb**	**00 05 27.1**	**-0.5**
JCC				IAML		00 05 30.8	
comp=E,2μm,0.9s							
JCC				IAML		00 05 31.7	
comp=N,2μm,0.9s							
KHMM	**Horse Mountain**	**0.88**	**46**		**Pb**	**00 05 22.4**	**+0.4**
KHMM				Sg	**Sn**	**00 05 34.7**	**-0.1**
KIPM	**Iron Peak**	**0.95**	**119**		**Pn**	**00 05 24.1**	**+0.5**
KCPM	**Cahto Peak**	**0.95**	**127**		**Pn**	**00 05 24.2**	**+0.5**
KCPM					**Sn**	**00 05 37.4**	**+0.7**
KRPM	**Rodgers**	**0.98**	**25**		**Pb**	**00 05 23.6**	**-0.1**
KRPM				Sg	**Sb**	**00 05 35.2**	**-0.9**
KRPM				IAML		00 05 41.5	
comp=E,647nm,0.7s							
KRPM				IAML		00 05 41.8	
comp=N,829nm,0.7s							
KHBM	**Hayfork Bally**	**1.10**	**69**		**Pn**	**00 05 25.7**	**0.0**
KHBM				Sn	**Sn**	**00 05 41.5**	**+1.1**
KHBM				IAML		00 05 45.2	
comp=N,993nm,0.8s							
KHBM				IAML		00 05 45.8	
comp=E,949nm,0.7s							
KBNM	**Bluenose Ridge**	**1.12**	**109**		**Pb**	**00 05 26.8**	**+0.7**
DCMP	**DeCamp, Califo**	**1.24**	**130**		**Pn**	**00 05 27.9**	**+0.4**
DCMP	**DeCamp, Califo**	**1.24**	**130**	IAML		00 05 50.1	
comp=N,326nm,0.5s							
LBPM	**Beegum Peak**	**1.29**	**87**		**Pb**	**00 05 28.9**	**-0.1**
WEAV	**Weaverville**	**1.30**	**68**		**Pn**	**00 05 28.3**	**-0.1**
KOMM	**Orleans Mounta**	**1.31**	**40**		**Pn**	**00 05 28.7**	**0.0**
KRMB	**Red Mountain**	**1.35**	**21**	Pn	**Pn**	**00 05 28.9**	**-0.2**
O02D	**Mt. Diablo Mer**	**1.36**	**93**		**Pb**	**00 05 30.3**	**0.0**
O02D				IAML		00 06 00.3	
comp=N,340nm,1.1s							
GROM	**Round Mountain**	**1.50**	**103**		**Pb**	**00 05 32.3**	**-0.2**
GVV	**Valley View**	**1.53**	**108**		**Pn**	**00 05 32.4**	**+0.8**
N02D	**Trinity Center**	**1.58**	**63**		**Pn**	**00 05 32.6**	**+0.3**
N02D	**Trinity Center**	**1.58**	**63**	IAML		00 05 54.2	
comp=E,508nm,0.3s							
N02D				IAML		00 05 59.1	
comp=N,504nm,0.5s							
KSXB	**Camp Six Broad**	**1.64**	**18**	Pn	**Pn**	**00 05 33.1**	**-0.1**
KSXB				IAML		00 05 53.6	
comp=E,247nm,0.6s							
SIGP	**Signal Peak, C**	**1.64**	**13**		**Pn**	**00 05 32.9**	**-0.2**
LBKM	**Bonanza King**	**1.66**	**60**		**Pn**	**00 05 33.7**	**+0.4**
M02C	**Callahan**	**1.71**	**49**		**Pn**	**00 05 34.4**	**+0.3**
M02C	**Callahan**	**1.71**	**49**	IAML		00 06 04.8	
comp=N,231nm,0.6s							
HOPS	**Hopland Field**	**1.72**	**137**		**Pn**	**00 05 35.0**	**+0.9**
HOPS				IAML		00 06 29.2	
comp=N,186nm,3.3s							
LTCM	**Tuscan Springs**	**1.87**	**91**		**Pn**	**00 05 37.2**	**+1.1**
KBO	**Bosley Butte**	**1.96**	**7**	Pn	**Pn**	**00 05 38.3**	**+0.8**
KBO				IAML		00 05 52.6	
comp=N,174nm,4.5s							
KBO				IAML		00 06 21.2	
comp=E,146nm,3.8s							
GHCM	**House Creek**	**1.97**	**147**		**Pn**	**00 05 38.4**	**+0.9**
LAMM	**Antelope Mount**	**1.99**	**47**		**Pn**	**00 05 38.5**	**+0.6**
GFC	**Funks Creek**	**1.99**	**118**		**Pb**	**00 05 40.6**	**-0.3**
LCSM	**College of the**	**2.01**	**55**		**Pn**	**00 05 39.3**	**+1.2**
YBH	**Yreka Blue Hor**	**2.02**	**43**	Pn	**Pn**	**00 05 38.9**	**+0.5**
YBH	**Yreka Blue Hor**	**2.02**	**43**	Pn	**Pn**	**00 05 38.9**	**+0.5**
comp=E,26nm,0.3s,baz=275,slow=8.8,SNR=610							
YBH				Sn	**Sb**	**00 06 06.1**	**-0.3**
comp=E,11nm,0.3s,baz=55,slow=14,SNR=4.3							
YBH				LR	LR	00 06 17.1	
comp=E,25nm,20.2s,baz=276,slow=36							
comp=E,49nm,0.3s							
LGBM	**Gray Butte**	**2.10**	**58**		**Pn**	**00 05 41.1**	**+1.6**
M03C	**McCloud**	**2.11**	**61**		**Pn**	**00 05 40.7**	**+1.2**
M03C				IAML		00 06 16.3	
comp=E,209nm,0.9s							
M03C				IAML		00 06 19.2	
comp=N,235nm,0.7s							
O03E	**Paynes Creek**	**2.11**	**88**		**Pn**	**00 05 40.0**	**+0.4**
O03E	**Paynes Creek**	**2.11**	**88**	IAML		00 06 42.5	
comp=E,132nm,1.0s							
LMPM	**Military Pass**	**2.19**	**55**		**Pn**	**00 05 42.6**	**+1.9**
LBFM	**Black Fox Moun**	**2.30**	**61**		**Pn**	**00 05 43.8**	**+1.6**
LMEM	**Manzanita Entr**	**2.30**	**82**		**Pn**	**00 05 44.0**	**+1.7**
OSUM	**Sutter Buttes**	**2.32**	**115**		**Pn**	**00 05 43.8**	**+1.5**
LRDM	**Redding Peak**	**2.38**	**84**		**Pn**	**00 05 44.6**	**+1.3**
SUTB	**Sutter Butte**	**2.38**	**115**		**Pn**	**00 05 44.0**	**+0.9**
HATC	**Hat Creek Radi**	**2.43**	**76**		**Pn**	**00 05 44.9**	**+1.0**
HATC				IAML		00 06 39.1	
comp=N,203nm,1.8s							
HATC				IAML		00 06 43.3	
comp=E,193nm,1.7s							
OSTM	**Stimpson Lane**	**2.46**	**111**		**Pn**	**00 05 45.1**	**+0.9**
ORV	**Oroville**	**2.46**	**106**		**Pn**	**00 05 45.0**	**+0.7**
ORV	**Oroville**	**2.46**	**106**		**Pn**	**00 05 45.1**	**+0.8**
ORV				IAML		00 06 36.0	
comp=N,21nm,2.9s							
ORV				IAML		00 06 44.2	
comp=E,21nm,3.6s							
MCCM	**Marconi Confer**	**2.49**	**148**	Pn	**Pn**	**00 05 45.9**	**+1.2**
MCCM				IAML		00 06 37.5	
comp=N,188nm,2.1s							
LBCM	**Butte Creek Ri**	**2.51**	**76**		**Pn**	**00 05 46.3**	**+1.1**
K02D	**Willamette Mer**	**2.52**	**15**	Pn	**Pn**	**00 05 46.5**	**+1.4**
CVS	**Carmenet Viney**	**2.52**	**139**		**Pn**	**00 05 45.8**	**+0.6**
CVS	**Carmenet Viney**	**2.52**	**139**	IAML		00 06 27.9	
comp=E,113nm,4.2s							
CVS				IAML		00 06 49.4	
comp=N,103nm,3.8s							
M04C	**Macdoel**	**2.56**	**53**		**Pn**	**00 05 47.1**	**+1.4**
L04D	**Klamath Falls**	**2.59**	**40**	Pn	**Pn**	**00 05 48.3**	**+2.1**
L04D				IAML		00 06 43.1	
comp=E,98nm,0.9s							
L04D				IAML		00 06 44.3	
comp=N,108nm,4.4s							
J01E	**Myrtle Point**	**2.93**	**9**	Pn	**Pn**	**00 05 53.0**	**+2.4**
J01E				IAML		00 06 14.0	
comp=N,94nm,4.6s							
J01E				IAML		00 07 35.7	
comp=E,104nm,4.6s							
DBO	**Dodson Butte**	**3.01**	**19**		**Pn**	**00 05 53.2**	**+1.2**
DBO				IAML		00 06 14.5	
comp=N,58nm,4.6s							
DBO				IAML		00 06 57.9	
comp=E,68nm,4.0s							
AFDM	**Forest Hills D**	**3.07**	**114**	Pn	**Pn**	**00 05 54.4**	**+1.7**
K04D	**Chiloquin, OR**	**3.16**	**41**	Pn	**Pn**	**00 05 54.9**	**+0.8**
K04D				IAML		00 07 02.1	
comp=N,104nm,1.8s							
SAC	**San Andreas**	**3.16**	**147**		**Pn**	**00 05 54.8**	**+0.8**
J04A	**Umpqua Nationa**	**3.49**	**31**		**Pn**	**00 06 00.4**	**+1.8**
MPK	**Martis Peak**	**3.63**	**104**	Pn	**Pn**	**00 06 03.0**	**+2.4**
MPK				IAML		00 06 36.9	
comp=N,67nm,1.4s							
MPK				IAML		00 08 18.9	
comp=E,76nm,1.3s							
I04A	**Tendick Farm,**	**3.87**	**24**		**Pn**	**00 06 05.3**	**+1.6**
I04A				IAML		00 06 53.5	
comp=E,55nm,4.8s							
I04A				IAML		00 07 21.4	
comp=N,41nm,4.9s							
I02E	**Swisshome, OR**	**3.87**	**8**	Pn	**Pn**	**00 06 05.7**	**+2.1**
J05D	**Fort Rock, OR**	**3.91**	**38**		**Pn**	**00 06 06.0**	**+1.7**
J05D				IAML		00 07 00.9	
comp=N,54nm,5.0s							
J05D				IAML		00 07 53.2	
comp=E,53nm,4.7s							
CMB	**Columbia Colle**	**3.94**	**123**	Pn	**Pn**	**00 06 06.9**	**+2.2**
PNTR	**Pine Nut**	**4.01**	**106**		**Pn**	**00 06 07.2**	**+1.4**
PNTR				IAML		00 07 21.2	
comp=N,42nm,4.7s							
PNTR				IAML		00 08 09.9	
comp=E,40nm,4.7s							
PAHR	**Pah Rah Range**	**4.02**	**96**		**Pn**	**00 06 06.4**	**+0.5**
BUCK	**Buck Mountain**	**4.09**	**16**	Pn	**Pn**	**00 06 09.4**	**+2.5**
HTUM	**Tustin Road**	**4.13**	**145**		**Pn**	**00 06 08.4**	**+1.2**
SAO	**San Andreas Ge**	**4.27**	**144**	Pn	**Pn**	**00 06 09.0**	**-0.2**
YERR	**Yerington**	**4.31**	**106**		**Pn**	**00 06 12.3**	**+2.5**
YERR				IAML		00 06 41.7	
comp=E,26nm,4.8s							
YERR				IAML		00 08 46.2	
comp=N,20nm,4.4s							
WAKR	**Walker**	**4.35**	**112**	Pn	**Pn**	**00 06 12.1**	**+1.7**
WAKR				IAML		00 07 43.1	
comp=N,28nm,5.0s							
WAKR				IAML		00 07 49.8	
comp=E,25nm,4.4s							
BCGM	**Cienega Road**	**4.36**	**144**		**Pn**	**00 06 11.0**	**+0.6**
PINE	**Pine Mountain**	**4.43**	**36**		**Pn**	**00 06 13.5**	**+1.9**
PINE				IAML		00 08 40.7	
comp=N,36nm,5.0s							
BJCM	**Johnson Can.**	**4.47**	**145**		**Pn**	**00 06 12.7**	**+0.8**
HAST	**Hastings Reser**	**4.54**	**148**		**Pn**	**00 06 13.6**	**+0.6**
BBGB	**Big Mountain B**	**4.61**	**142**	Pn	**Pn**	**00 06 14.5**	**+0.5**
I05D	**Terrebonne, OR**	**4.72**	**29**	Pn	**Pn**	**00 06 16.2**	**+0.9**
H04A	**Detroit Lake**	**4.75**	**21**	Pn	**Pn**	**00 06 17.6**	**+1.8**
H04A				IAML		00 08 25.7	
comp=E,33nm,4.8s							
RYN	**Ryan**	**4.96**	**107**	Pn	**Pn**	**00 06 18.0**	**-0.7**
RYN				IAML		00 07 15.5	
comp=E,18nm,4.3s							
RYN				IAML		00 08 00.4	
comp=N,13nm,4.5s							
WVOR	**Wild Horse Val**	**4.96**	**62**		**Pn**	**00 06 19.1**	**+0.3**
WVOR				IAML		00 06 55.4	
comp=N,12nm,4.5s							
WVOR				IAML		00 07 36.8	
comp=N,12nm,4.6s							
PMPB	**Monarch Peak**	**5.02**	**143**	Pn	**Pn**	**00 06 21.1**	**+1.6**
NVAR	**Mina Array Bea**	**5.19**	**109**	Pn	**Pn**	**00 06 23.4**	**+1.4**
NVAR	**Mina Array Bea**	**5.19**	**109**	Pn	**Pn**	**00 06 25.0**	**+3.0**
comp=N,0.8nm,0.3s,baz=292,slow=14,SNR=7.1							
comp=N,1.4nm,0.4s							
PDAR	**Pinedale Array**	**11.53**	**73**	Pn	Pn	00 07 55.1	+6.3
comp=N,0.1nm,0.3s,baz=252,slow=16,SNR=2.5							
comp=N,0.2nm,0.5s							
TXAR	**Lajitas Array**	**20.29**	**116**	P	Pn	00 09 42.9	+1.0
comp=N,0.5nm,0.9s,baz=312,slow=12,SNR=5.4							
TXAR				S	**S**	**00 13 21.1**	**-5.3**
comp=N,0.1nm,0.5s,baz=310,slow=26,SNR=1.4							
comp=N,0.5nm,0.9s							
YKA	**Yellowknife Ar**	**23.05**	**12**	P	**P**	**00 10 07.9**	**-1.0**
comp=N,0.1nm,0.5s,baz=201,slow=12,SNR=2.4							
comp=N,0.1nm,0.5s							
H11N3	**WAKE ISLAND Hy 61.33 272**			T	T	01 22 05.1	
baz=54							
H11N2	**WAKE ISLAND Hy 61.33 272**			T	T	01 22 05.3	
baz=54							
H11N1	**WAKE ISLAND Hy 61.34 272**			T	T	01 22 06.3	
baz=54							
H11S1	**WAKE ISLAND Hy 62.19 271**			T	T	01 23 08.5	
baz=54,slow=75							
H11S2	**WAKE ISLAND Hy 62.20 271**			T	T	01 23 08.2	
baz=54,slow=75							
H11S3	**WAKE ISLAND Hy 62.21 271**			T	T	01 23 09.8	
baz=54,slow=75							

---

*IDC **04** 00:06:17.2±0.9, 24°.30S×175°.26W, h0km, mb4.1/4,*

mbtmp4.1/5, ML3.9/1, MS3.3/2, Error ellipse: s-maj=34.3km s-min=30.9km az=129.0

ISC 04 00:06:20.2±0.9, 24°.3S±0°.2×175°.3W±0°.2, h19km, n14, σ0§47/10, mb4.2/4, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.99**	**315**	Pn	Pn	00 08 33.8	+4.7
	1.6nm,0.3s,baz=122,slow=12,SNR=5.1						
RAR	**Rarotonga**	**14.65**	**81**	Pn	Pn	00 09 37.7	-8.7
	5.3nm,0.3s,baz=267,slow=8.8,SNR=6.5						
RAR				Sn	Sn	00 12 02.5	-26
	1.8nm,0.3s,baz=122,slow=15,SNR=2.2						
URZ	**Urewera**	**15.37**	**203**	Pn	**Pn**	**00 09 56.3**	**+0.2**
	0.5nm,0.3s,baz=260,slow=17,SNR=1.4						
URZ				Sn	Sn	00 12 33.3	-13
	0.6nm,0.3s,baz=354,slow=21,SNR=5.6						
	1.8nm,0.3s						
PPT	**Papeete**	**24.91**	**79**	LR	LR	00 19 27.2	
	comp=Z,54nm,19.2s,baz=230,slow=32						
ASAR	**Alice Springs**	**46.20**	**260**	P	**P**	**00 14 44.9**	**+0.7**
	3.1nm,1.0s,baz=97,slow=8.0,SNR=11						
	3.1nm,1.0s						
WRA	**Warramunga Arr**	**46.66**	**265**	P	**P**	**00 14 47.3**	**-0.5**
	1.3nm,0.6s,baz=104,slow=7.8,SNR=6.2						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**00 17 03.9**	**-0.2**
	4.4nm,0.8s,baz=49,slow=0.9,SNR=8.0						
	4.4nm,0.8s						
NVAR	**Mina Array Bea**	**82.10**	**42**	P	**P**	**00 18 40.2**	**+0.4**
	0.7nm,0.6s,baz=258,slow=8.3,SNR=3.0						
	0.7nm,0.6s						
ATAH	**Atahualpa**	**93.35**	**99**	LR	LR	00 54 34.9	
	comp=Z,14nm,18.9s,baz=355,slow=31						
ZALV	**Zalesovo Beam**	**114.97**	**320**	PKP	**PKiKP**	**00 24 59.6**	**+0.1**
	0.7nm,0.8s,baz=93,slow=6.2,SNR=2.4						
MKAR	**Makanchi Array**	**115.58**	**312**	PKP	**PKPdf**	**00 25 00.3**	**-0.6**
	0.2nm,0.5s,baz=91,slow=3.4,SNR=3.8						
AKASG	**Malin Array Be**	**147.50**	**331**	PKPbc	**PKPbc**	**00 26 02.6**	**-0.2**
	1.3nm,0.6s,baz=44,slow=3.4,SNR=8.3						
BRTR	**Keskin Array B**	**151.18**	**309**	PKPbc	**PKiKP**	**00 26 13.2**	**+0.2**
	0.9nm,0.8s,baz=113,slow=1.9,SNR=7.3						
TORD	**Torodi Ar. Bea**	**168.58**	**165**	PKPab	**PKPab**	**00 27 35.6**	**-0.3**
	0.5nm,0.8s,baz=184,slow=4.6,SNR=3.2						

*SKHL **04** 00:06:43.3±0.9, 47°.60N×147°.30E, h458km±7km, mb4.7/5, msha4.9/4*

*IDC **04** 00:06:45.5±2.8, 48°.08N×147°.01E, h446km±36km, mb2.9/13, mbtmp3.8/16, Error ellipse: s-maj=30.3km s-min=16.5km az=177.0*

ISC 04 00:06:43.6±0.6, 47°.59N±0°.08×147°.23E±0°.08, h450km, n26, σ1§33/31, mb3.3/13, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.40**	**169**	*e*P	**P**	**00 07 46.5**	**0.0**
KUR				AMB	AMB	00 07 49.9	
	40nm,0.5s						
KUR				*e*S	**S**	**00 08 36.0**	**-1.5**
YSS	**Yuzhno-Sakhali**	**3.11**	**260**	*e*P	**P**	**00 07 51.5**	**+0.1**
YSS				AMB	AMB	00 07 53.0	
	50nm,0.3s						
YSS				*e*S	**S**	**00 08 45.2**	**-1.4**
YSS				A	A	00 08 47.8	
	20nm,0.3s						
YSS				A	A	00 08 47.8	
	20nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.68**	**196**	*e*P	**P**	**00 07 55.8**	**-0.2**
YUK				AMB	AMB	00 07 57.3	
	120nm,0.4s						
YUK				*e*S	**S**	**00 08 53.0**	**-1.9**
YUK				A	A	00 08 59.3	
	260nm,0.5s						
YUK				A	A	00 08 59.3	
	330nm,0.5s						
SHO	**Shikotan**	**3.73**	**184**	*i* P	**P**	**00 07 56.7**	**+0.3**
SHO				AMB	AMB	00 07 57.1	
	60nm,0.3s						
SHO				*e*S	**S**	**00 08 53.4**	**-2.2**
SHO				A	A	00 08 55.8	
	80nm,0.3s						
SHO				A	A	00 08 55.8	
	230nm,0.3s						
NMR	**Nemuro--Hokkai**	**4.35**	**195**	*e*P	**P**	**00 08 01.6**	**-0.3**
NMR				*e*S	**S**	**00 09 03.4**	**-2.2**
TYV	**Tymovskoe**	**4.44**	**319**	*e*P	**P**	**00 08 01.1**	**-1.4**
AKK	**Akkeshi**	**4.87**	**201**	*e*P	**P**	**00 08 06.7**	**-0.1**
SKR	**Severo-Kuril's**	**6.60**	**59**	*e*P	**P**	**00 08 23.7**	**-0.2**
PAU	**Pauzhetka**	**7.34**	**55**	*e*P	**P**	**00 08 31.3**	**-0.4**
KLR	**Kul'dur**	**10.43**	**285**	P	**P**	**00 09 05.9**	**+0.7**
	4.6nm,0.5s,baz=86,slow=10,SNR=28						
KLR	**Kul'dur**	**10.43**	**285**	*e*P	**P**	**00 09 06.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**11.15**	**258**	P	**P**	**00 09 13.9**	**+0.7**
	2.1nm,0.5s,baz=61,slow=12,SNR=5.0						
KSRS	**Korea Array**	**17.42**	**242**	P	**P**	**00 10 23.4**	**+3.1**
	3.3nm,0.8s,baz=48,slow=10,SNR=7.2						
SONM	**Songino Array**	**27.26**	**286**	P	**P**	**00 11 49.5**	**-0.4**
	0.3nm,0.8s,baz=86,slow=8.8,SNR=2.7						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**38.41**	**39**	P	**P**	**00 13 23.8**	**-0.7**
	0.3nm,0.8s,baz=278,slow=8.2,SNR=3.3						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**42.96**	**294**	P	**P**	**00 14 01.1**	**-0.2**
	0.9nm,0.6s,baz=62,slow=6.7,SNR=11						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**43.61**	**301**	P	**P**	**00 14 05.4**	**-0.8**
	0.8nm,0.2s,baz=71,slow=8.4,SNR=2.4						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**47.18**	**307**	P	**P**	**00 14 33.0**	**-0.7**
	0.6nm,0.6s,baz=69,slow=8.1,SNR=3.8						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**48.77**	**250**	P	**P**	**00 14 48.1**	**+2.0**
	0.9nm,0.3s,baz=41,slow=8.6,SNR=1.5						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**61.50**	**332**	P	**P**	**00 16 13.2**	**-1.6**
	1.1nm,0.7s,baz=43,slow=5.5,SNR=8.8						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**65.53**	**59**	P	**P**	**00 16 42.6**	**+1.1**
	0.4nm,0.5s,baz=310,slow=5.9,SNR=2.0						
	0.4nm,0.5s						
NOA	**NORSAR Array B**	**66.05**	**338**	P	**P**	**00 16 43.1**	**-1.0**
	0.3nm,0.6s,baz=32,slow=6.3,SNR=1.2						
	0.3nm,0.6s						
HFS	**Hagfors**	**66.18**	**337**	P	**P**	**00 16 43.6**	**-1.3**
	0.5nm,0.4s,baz=15,slow=6.0,SNR=1.2						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**67.42**	**51**	P	**P**	**00 16 54.0**	**+0.9**
	0.4nm,0.6s,baz=294,slow=6.4,SNR=4.8						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**68.54**	**323**	P	**P**	**00 16 58.6**	**-1.0**
	0.4nm,0.5s,baz=35,slow=6.6,SNR=5.0						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**80.48**	**57**	P	**P**	**00 18 09.9**	**+2.2**
	0.6nm,0.5s,baz=288,slow=3.6,SNR=15						
	0.6nm,0.5s						

*IDC **04** 00:11:32.3±1.4, 8°.32S×124°.88E, h0km, mb3.7/2, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=108.3km s-min=24.6km az=66.0*

ISC 04 00:11:34.3±1.1, 8°.41S±0°.09×124°.84E±0°.09, h10km, n14, σ4§19/13, mb3.9/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.45**	**203**	P	**Pg**	**00 12 04.9**	**+2.7**
SOEI	**Soe**	**1.45**	**203**	S	**Sn**	**00 12 19.5**	**-0.4**
MMRI	**Maumere**	**2.59**	**265**	P	**Pb**	**00 12 18.7**	**-2.1**
PLAI	**Plampang**	**7.00**	**266**	P	**Pn**	**00 13 17.7**	**+0.7**
DRS	**Darwin Rock St**	**7.17**	**124**	P	Pb	00 13 31.1	-7.8
FITZ	**Fitzroy Crossi**	**9.66**	**175**	Pn	**Pn**	**00 13 53.0**	**-0.5**
	0.9nm,0.3s,baz=356,slow=12,SNR=23						
FITZ				Sn	Sn	00 15 28.3	-14
	4.5nm,0.3s,baz=182,slow=5.3,SNR=16						
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**14.69**	**142**	Pn	**Pn**	**00 15 04.0**	**+1.7**
	0.6nm,0.3s,baz=322,slow=13,SNR=8.3						
WRA				Sn	Sn	00 17 35.0	-10
	1.5nm,0.3s,baz=22,slow=23,SNR=8.7						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**17.48**	**151**	P	**P**	**00 15 38.6**	**-0.9**
	0.6nm,0.3s,baz=327,slow=12,SNR=14						
ASAR				S	**Sn**	**00 18 43.0**	**-10**
	2.4nm,0.8s,baz=314,slow=20,SNR=7.2						
	1.0nm,0.7s						
AS01	**Alice Springs**	**17.50**	**151**	P	**P**	**00 15 45.0**	**+5.3**
	6.2nm,0.8s						
QIS	**Mount Isa**	**18.69**	**132**	P	Pn	00 15 59.9	+6.7
OOD	**Oodnadatta**	**21.83**	**153**	P	**P**	**00 16 32.1**	**+5.1**
	15nm,1.3s						
MKAR	**Makanchi Array**	**66.72**	**330**	P	**P**	**00 22 25.4**	**-0.3**
	0.6nm,0.6s,baz=136,slow=6.8,SNR=9.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**71.14**	**331**	P	**P**	**00 22 51.8**	**-1.1**
	0.2nm,0.2s,baz=126,slow=6.2,SNR=2.6						
	0.2nm,0.2s						
TORD	**Torodi Ar. Bea**	**124.05**	**280**	PKP	**PKiKP**	**00 30 33.1**	**-1.2**
	0.3nm,0.8s,baz=69,slow=2.3,SNR=2.3						

ATH 04 00:28:04.3, 37°.42N×20°.64E, h11km±4km, ML2.2/3, Error ellipse: s-maj=6.7km s-min=1.9km az=45.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.33**	**29**	P	Pg	00 28 10.5	-0.5
LTHK				S	Sg	00 28 15.2	-0.2
LTHK				AML	AML	00 28 16.3	
	comp=N,2364μm,0.3s						
LTHK				AML	AML	00 28 17.2	
	comp=E,789μm,0.3s						
LTHK	**Lithakia**	**0.33**	**29**	P	Pg	00 28 10.6	-0.4
LTHK				S	Sg	00 28 15.4	0.0
LTHK				AML	AML	00 28 16.3	
	comp=N,2364μm,0.3s						
LTHK				AML	AML	00 28 17.2	
	comp=E,789μm,0.3s						
KYPS	**Kipseli, Zakin**	**0.43**	**20**	P	Pg	00 28 12.7	0.0
KYPS				S	Sg	00 28 19.2	+0.7
KYPS	**Kipseli, Zakin**	**0.43**	**20**	P	Pg	00 28 12.7	0.0
ORTH	**Orthonies,Zaky**	**0.44**	**6**	P	Pg	00 28 12.7	-0.3
ORTH				S	Sg	00 28 18.1	-0.6
ORTH	**Orthonies,Zaky**	**0.44**	**6**	P	Pg	00 28 12.8	-0.1
ORTH				S	Sg	00 28 19.4	+0.7
VLS	**Valsamata**	**0.76**	**357**	P	Pg	00 28 18.2	-0.8
VLS				S	Sg	00 28 28.9	-0.1
VLS	**Valsamata**	**0.76**	**357**	P	Pg	00 28 18.3	-0.7
VLS				AML	AML	00 28 31.4	
	comp=N,218μm,0.3s						
VLS				AML	AML	00 28 36.8	
	comp=E,151μm,0.2s						
AMT	**Artemida-Makis**	**0.86**	**82**	P	Pg	00 28 18.8	-2.1
AMT				S	Sg	00 28 28.2	-3.9
AMT				AML	AML	00 28 38.4	
	comp=E,689μm,0.4s						
AMT				AML	AML	00 28 38.9	
	comp=N,477μm,0.3s						
AMT	**Artemida-Makis**	**0.86**	**82**	P	Pg	00 28 20.1	-0.8
AMT				AML	AML	00 28 38.4	
	comp=E,689μm,0.4s						
AMT				AML	AML	00 28 38.9	
	comp=N,477μm,0.3s						
RLS	**Riolos of Patr**	**0.92**	**46**	P	Pg	00 28 20.5	-1.5
RLS				S	Sg	00 28 32.2	-1.8
DRO	**Drossia**	**1.01**	**58**	P	Pg	00 28 22.7	-0.9
FSK	**Fiskardo**	**1.04**	**357**	P	Pb	00 28 23.2	-1.1
ITM	**Ithomi**	**1.06**	**103**	P	Pb	00 28 24.4	-0.2
EVGI	**Lefkada island**	**1.20**	**1**	P	Pn	00 28 26.8	-0.3

*IDC **04** 00:32:10.6±0.5, 12°.98N×125°.13E, h0km, mb4.3/21, mbtmp4.4/24, ML4.1/2, MS3.5/21, Error ellipse: s-maj=25.4km s-min=11.5km az=75.0*

*BJI **04** 00:32:11.4, 12°.81N×125°.29E, h29km, mB4.9/5, mb4.3/27, Ms4.3/7, Ms7 4.0/8*

*NEIC **04** 00:32:17.3±1.4, 13°.03N±0°.09×125°.0E±0°.1, h35km±2km, mb4.6/23, Error ellipse: s-maj=20.2km s-min=14.8km az=78.0*

ISC 04 00:32:17.1±0.5, 13°.00N±0°.06×125°.03E±0°.08, h41km, n96, σ1§20/86, mb4.5/46, MS3.5/21, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.13**	**286**	Pn	**Pn**	**00 33 16.9**	**-0.8**
	228nm,0.3s,baz=126,slow=14,SNR=0.8						
DAV	**Davao City (W)**	**5.91**	**175**	LR	LR	00 36 31.3	
	comp=Z,2μm,18.4s,baz=352,slow=44						
TWG	**Pinlang**	**10.47**	**339**	Pn	**Pn**	**00 34 42.8**	**-1.9**
YULB	**Yu-li**	**10.93**	**342**		**Pn**	**00 34 48.3**	**-2.7**
KKM	**Kota Kinabalu**	**11.10**	**232**	Pn	**Pn**	**00 34 52.0**	**-1.4**
NACB	**Ninganchiao**	**11.59**	**344**	Pn	**Pn**	**00 34 57.5**	**-2.4**
YHNB	**Yeheng**	**12.12**	**344**	Pn	**Pn**	**00 35 06.3**	**-0.9**
JOW	**Kunigami**	**14.10**	**12**	Pn	**Pn**	**00 35 31.2**	**-3.1**
	1.8nm,0.3s,baz=133,slow=22,SNR=6.2						
JOW				LR	LR	00 40 59.3	
	comp=Z,154nm,19.9s,baz=280,slow=38						
	15nm,0.7s						
QIZ	**Qiongzhong**	**15.78**	**294**	P	**Pn**	**00 35 56.4**	**-0.1**
QIZ				S	**Sn**	**00 38 51.4**	**+1.0**
QIZ				LR	LR		
	comp=N,170nm,12.6s						
QIZ				LR	LR		
	comp=E,220nm,10.6s						
QIZ				LR	LR		
	comp=Z,240nm,15.5s						
KAPI	**Kappang**	**18.64**	**197**	P	**P**	**00 36 30.8**	**-0.7**
	0.5nm,0.3s,baz=357,slow=11,SNR=1.4						
	5.8nm,0.6s						
JNU	**Nakatsue**	**20.74**	**14**	LR	LR	00 44 22.4	
	comp=Z,57nm,20.4s,baz=162,slow=35						
JAY	**Jayapura**	**21.90**	**134**	LR	LR	00 44 20.0	
	comp=Z,180nm,21.2s,baz=213,slow=33						
LYN	**LuoYang**	**24.30**	**334**	P	**P**	**00 37 32.6**	**+1.8**
LYN				pP	pP	00 37 42.5	+1.5
LYN				S	**S**	**00 41 51.3**	**+4.2**
LYN				sS	sS	00 41 58.2	-5.5
LYN				PcS	**PcS**	**00 44 52.0**	**+2.2**
LYN				pmax	pmax		
	comp=Z,26nm,1.4s						
KSAR	**Wonju Array Be**	**24.48**	**5**	P	**P**	**00 37 31.6**	**-0.7**
KSRS	**Korea Array**	**24.50**	**6**	P	**P**	**00 37 32.4**	**-0.1**
	3.8nm,0.5s,baz=186,slow=9.6,SNR=17						
KSRS				LR	LR	00 46 29.3	
	comp=Z,88nm,21.4s,baz=160,slow=35						
	3.8nm,0.5s						
XAN	**Xi'an**	**25.56**	**328**	P	**P**	**00 37 41.4**	**-0.9**
XAN				pP	pP	00 37 50.7	-2.0
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.68**	**286**	P	**P**	**00 37 42.6**	**-0.9**
	1.5nm,0.3s,baz=104,slow=9.3,SNR=6.8						
CMAR				LR	LR	00 49 06.1	
	comp=Z,57nm,18.1s,baz=100,slow=39						
	1.5nm,0.3s						
MJAR	**Matsushiro Arr**	**26.27**	**25**	LR	LR	00 46 28.2	
	comp=Z,92nm,21.3s,baz=208,slow=33						
CD2	**Chengdu**	**26.50**	**316**	P	**P**	**00 37 50.6**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,280nm,9.5s						
CD2				LR	LR		
	comp=E,280nm,15.2s						
CD2				LR	LR		
	comp=Z,340nm,15.9s						
FITZ	**Fitzroy Crossi**	**30.90**	**179**	P	**P**	**00 38 29.2**	**-0.7**
	5.8nm,0.9s,baz=358,slow=13,SNR=6.2						
	5.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**31.66**	**10**	P	**P**	**00 38 35.0**	**-1.5**
	5.3nm,0.7s,baz=119,slow=15,SNR=6.4						
	5.3nm,0.7s						
XLT	**XiLinHaoTe**	**31.74**	**348**	*e*P	**P**	**00 38 34.0**	**-3.3**
XLT				sP	pP	00 38 45.2	-2.5
XLT				pmax	pmax		
	comp=Z,4.0nm,2.1s						
XLT				pmax	pmax		
	comp=Z,120nm,5.5s						
BNX	**BinXian**	**32.70**	**3**	⇓P	**P**	**00 38 46.0**	**+0.5**
BNX				pmax	pmax		
	comp=Z,14nm,1.0s						
BRDH	**Bariadhala**	**33.14**	**292**	LR	LR	00 53 04.8	
	comp=Z,80nm,19.2s,baz=263,slow=38						
WRA	**Warramunga Arr**	**33.99**	**164**	P	**P**	**00 38 54.5**	**-2.6**
	4.3nm,0.6s,baz=340,slow=9.5,SNR=17						
WRA				PcP	**PcP**	**00 41 34.6**	**-0.1**
	0.9nm,0.5s,baz=320,slow=3.5,SNR=5.2						
	4.3nm,0.6s						
ASAJ	**Asahikawa**	**34.48**	**23**	LR	LR	00 52 49.3	
	comp=Z,59nm,19.6s,baz=172,slow=36						
GOMU	**GeErMu**	**35.64**	**316**	P	**P**	**00 39 11.9**	**+0.2**
GOMU				pP	pP	00 39 17.1	-4.9
GOMU				sP	pwP	00 39 19.9	-6.4
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
GOMU				LR	LR		
	comp=N,270nm,11.6s						
GOMU				LR	LR		
	comp=E,290nm,14.8s						
GOMU				LR	LR		
	comp=Z,420nm,14.1s						
HEH	**HeiHe**	**37.20**	**3**	*e*P	**P**	**00 39 24.4**	**+0.1**
HEH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AS31	**Alice Springs**	**37.45**	**167**	P	**P**	**00 39 26.1**	**-0.7**
ASAR	**Alice Springs**	**37.46**	**167**	P	**P**	**00 39 26.7**	**-0.1**
ASAR	**Alice Springs**	**37.46**	**167**	P	**P**	**00 39 26.0**	**-0.8**
	6.3nm,0.7s,baz=347,slow=6.8,SNR=44						
ASAR				PcP	**PcP**	**00 41 45.3**	**+0.5**
	0.8nm,0.5s,baz=338,slow=2.6,SNR=4.2						
ASAR				S	**S**	**00 45 12.6**	**-0.2**
	1.3nm,0.8s,baz=340,slow=16,SNR=6.0						
	6.3nm,0.7s						
SONM	**Songino Array**	**38.06**	**340**	P	**P**	**00 39 31.7**	**-0.1**
SONM	**Songino Array**	**38.06**	**340**	P	**P**	**00 39 32.0**	**+0.2**
	2.4nm,0.7s,baz=160,slow=9.2,SNR=20						
SONM				LR	LR	00 55 22.6	
	comp=Z,55nm,20.9s,baz=150,slow=36						
	2.4nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**40.64**	**75**	T	T	01 23 59.0	
	baz=267,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.65**	**75**	T	T	01 23 56.9	
	baz=267,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.66**	**75**	T	T	01 23 56.1	
	baz=267,slow=74						
HNR	**Honiara**	**41.22**	**121**	LR	LR	00 56 03.1	
	comp=Z,49nm,20.3s,baz=314,slow=35						
NWAO	**Narrogin (SRO)**	**46.27**	**189**	LR	LR	01 00 46.1	
	comp=Z,26nm,20.8s,baz=204,slow=37						
STKA	**Stephens Creek**	**47.36**	**161**	P	**P**	**00 40 46.6**	**-0.6**
	2.5nm,0.6s,baz=333,slow=13,SNR=5.4						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**49.14**	**322**	P	**P**	**00 41 01.2**	**+0.4**
	3.4nm,0.7s,baz=115,slow=8.8,SNR=58						
MKAR				PcP	**PcP**	**00 42 24.1**	**+0.3**
	1.7nm,0.7s,baz=111,slow=3.6,SNR=5.0						
MKAR				LR	LR	01 04 33.4	
	comp=Z,40nm,19.0s,baz=42,slow=40						
	3.4nm,0.7s						
MAKZ	**Makanchi**	**49.34**	**322**	P	**P**	**00 41 03.1**	**+0.8**
MAKZ				IAmb	IAmb	00 41 03.5	
	comp=Z,4.4nm,1.0s						
ARMA	**Armidale**	**50.19**	**150**	P	**P**	**00 41 10.2**	**+1.1**
KSH	**Kashi**	**50.53**	**311**	P	**P**	**00 41 14.2**	**+2.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAA0	**Zalesovo Array**	**51.67**	**331**	P	**P**	**00 41 19.1**	**-0.6**
ZAA0				IAmb	IAmb	00 41 29.3	
	comp=Z,8.2nm,1.0s						
ZALV	**Zalesovo Beam**	**51.67**	**331**	P	**P**	**00 41 19.8**	**+0.1**
ZALV	**Zalesovo Beam**	**51.67**	**331**	P	**P**	**00 41 19.6**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=117,slow=8.3,SNR=35						
ZALV				LR	LR	01 03 25.2	
	comp=Z,42nm,19.2s,baz=75,slow=36						
	comp=Z,5.3nm,0.7s						
MGBR	**Mount Gambier**	**52.52**	**164**	P	**P**	**00 41 27.9**	**+1.6**
AAK	**Ala-Archa**	**52.56**	**314**	LR	LR	01 06 16.2	
	comp=Z,118nm,18.1s,baz=67,slow=39						
KURK	**Kurchatov**	**53.15**	**325**	P	**P**	**00 41 31.2**	**+0.4**
KURBB	**Kurchatov Arra**	**53.16**	**325**	P	**P**	**00 41 31.4**	**+0.5**
	comp=Z,9.6nm,1.0s,baz=120,slow=8.0,SNR=29						
	comp=Z,9.6nm,1.0s						
GAR	**Garm**	**54.63**	**309**	P	**P**	**00 41 42.0**	**-0.1**
KBL	**Kabul**	**54.82**	**303**	P	**P**	**00 41 42.8**	**-0.7**
KBL				IAmb	IAmb	00 41 52.8	
	comp=Z,4.2nm,0.7s						
KKAR	**Karatay Array**	**55.49**	**314**	P	**P**	**00 41 48.3**	**+0.2**
TIXI	**Tiksi**	**58.67**	**1**	LR	LR	01 07 42.1	
	comp=Z,68nm,21.1s,baz=191,slow=36						
BVAR	**Borovoye Array**	**58.75**	**325**	P	**P**	**00 42 11.0**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=122,slow=5.6,SNR=9.9						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**58.82**	**325**	P	**P**	**00 42 11.8**	**+0.5**
NRIK	**Noril'sk**	**61.09**	**346**	P	**P**	**00 42 26.9**	**+0.3**
NRIK				IAmb	IAmb	00 42 27.2	
	comp=Z,3.9nm,0.8s						
NRIK	**Noril'sk**	**61.09**	**346**	P	**P**	**00 42 25.9**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=138,slow=6.2,SNR=8.0						
	comp=Z,4.8nm,0.9s						
ABKAR	**Akbulak array**	**64.03**	**319**	P	**P**	**00 42 46.8**	**+0.1**
ARTI	**Arti**	**66.39**	**326**	LR	LR	01 14 46.6	
	comp=Z,70nm,18.0s,baz=42,slow=38						
C16K	**Lisburne Hills**	**70.51**	**22**	P	**P**	**00 43 27.7**	**+0.4**
C16K				IAmb	IAmb	00 43 38.2	
	comp=Z,5.8nm,1.1s						
O14K	**Tigyukauivet M**	**70.60**	**32**	P	**P**	**00 43 27.8**	**-0.2**
O14K				IAmb	IAmb	00 43 41.4	
	comp=Z,5.8nm,1.1s						
B21K	**Ikpikpuk River**	**74.55**	**21**	P	**P**	**00 43 52.4**	**+1.1**
B21K				IAmb	IAmb	00 44 03.2	
	comp=Z,5.7nm,1.0s						
G21K	**Allakaket**	**74.77**	**24**	P	**P**	**00 43 53.5**	**+0.8**
G21K				IAmb	IAmb	00 44 04.7	
	comp=Z,8.7nm,1.1s						
B22K	**Teshekpuk Lake**	**75.01**	**20**	P	**P**	**00 43 54.2**	**+0.3**
B22K				IAmb	IAmb	00 44 04.8	
	comp=Z,8.8nm,1.1s						
RAYN	**Ar Rayn**	**75.44**	**291**	P	**P**	**00 43 57.9**	**+0.5**
RAYN				IAmb	IAmb	00 44 07.0	
	comp=Z,6.2nm,0.8s						
KBZ	**Khabaz**	**75.48**	**312**	LR	LR	01 19 31.4	
	comp=Z,28nm,20.9s,baz=102,slow=38						
ILAR	**Eielson Array**	**77.53**	**26**	P	**P**	**00 44 08.4**	**0.0**
	comp=Z,0.3nm,0.8s,baz=236,slow=7.5,SNR=2.2						
	comp=Z,0.3nm,0.8s						
C27K	**Jago River**	**78.36**	**21**	P	**P**	**00 44 13.4**	**+0.5**
C27K				I

comp=Z,29nm,18.8s,baz=28,slow=36
PLCA Paso Flores 149.17 157 PKPbc **PKPdf 00 52 00.6 +3.2**
comp=Z,2.6nm,1.1s,baz=204,slow=2.4,SNR=3.4

---

*IDC **04** 00:44:17.9±0.7,52°.00N×174°.04E, h0km, mb4.1/24, mbtmp4.1/28, ML4.7/3, MS3.3/7, Error ellipse: s-maj=16.5km s-min=12.2km az=176.0*
*NEIC **04** 00:44:22.2±2.0,52°.1N±0°.2×173°.9E±0°.1, h14km±7km, mb4.4/104, Error ellipse: s-maj=26.0km s-min=10.7km az=180.0*
ISC 04 00:44:20.4±0.6,52°.05N±0°.08×173°.80E±0°.05, h10km, n379, σ0885/367, mb4.4/67, MS3.4/5, Near Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.70**	**15**	Pn	**Pb**	**00 44 35.7**	**+0.9**
	689nm,0.3s,baz=159,slow=4.9,SNR=367						
SHEM				Sn	**Sb**	**00 44 44.8**	**+0.3**
	1μm,0.3s,baz=322,slow=19,SNR=67						
KIWB	**Kanaga Island**	**5.60**	**88**	Pn	**Pn**	**00 45 45.8**	**+2.1**
ADK	**Adak**	**5.88**	**88**	Pn	**Pn**	**00 45 49.1**	**+1.5**
ATKA	**Atka Island**	**7.39**	**84**	Pn	**Pn**	**00 46 09.3**	**+1.0**
PEA0B	**Petropavlovsk-**	**9.86**	**283**	Pn	**Pn**	**00 46 45.0**	**+2.8**
PETK	**Petropavlovsk-**	**9.86**	**283**	Pn	**Pn**	**00 46 44.8**	**+2.6**
	3.2nm,0.6s,baz=100,slow=20,SNR=9.8						
PETK				Sn	**Sn**	**00 48 29.1**	**-3.7**
	1.1nm,0.3s,baz=1.9,slow=20,SNR=7.0						
PETK				LR	LR	00 51 47.1	
	comp=Z,64nm,18.4s,baz=117,slow=45						
SPIA	**Saint Paul Isl**	**10.57**	**55**	Pn	**Pn**	**00 46 53.4**	**+1.6**
SPIA	**Saint Paul Isl**	**10.57**	**55**	P	**Pn**	**00 46 51.7**	**0.0**
	baz=248						
P08K	**Saint George I**	**10.73**	**58**	Pn	**Pn**	**00 46 54.6**	**+0.6**
P08K	**Saint George I**	**10.73**	**58**	P	**Pn**	**00 46 54.1**	**+0.1**
	baz=252						
UNV	**Unalaska Valle**	**12.01**	**74**	Pn	**Pn**	**00 47 13.0**	**+1.5**
UNV	**Unalaska Valle**	**12.01**	**74**	P	**Pn**	**00 47 11.0**	**-0.5**
	baz=270						
FALS	**False Pass**	**13.85**	**69**	P	**Pn**	**00 47 36.6**	**+0.1**
	baz=268						
M11K	**Mekoryuk**	**13.86**	**45**	Pn	**Pn**	**00 47 38.8**	**+2.2**
M11K	**Mekoryuk**	**13.86**	**45**	P	**Pn**	**00 47 36.4**	**-0.3**
	baz=242						
GAMB	**Gambell**	**14.00**	**27**	P	**Pn**	**00 47 38.4**	**-0.3**
	baz=220						
S12K	**Black Hills**	**14.67**	**66**	Pn	**Pn**	**00 47 49.1**	**+1.3**
S12K	**Black Hills**	**14.67**	**66**	P	**Pn**	**00 47 47.1**	**-0.7**
	baz=266						
MA2	**Magadan**	**14.92**	**309**	Pn	**Pn**	**00 47 52.5**	**+1.4**
	0.7nm,0.3s,baz=114,slow=11,SNR=3.5						
MA2				LR	LR	00 53 22.6	
	comp=Z,53nm,18.9s,baz=95,slow=36						
	2.5nm,0.3s						
M13K	**Dall Lake**	**15.14**	**48**	P	**Pn**	**00 47 53.6**	**-0.5**
	baz=247						
K13K	**Kusilvak Mount**	**15.27**	**41**	P	**Pn**	**00 47 55.1**	**-0.7**
	baz=239						
O14K	**Tigyukauivet M**	**15.74**	**53**	P	**Pn**	**00 48 00.6**	**-1.4**
	baz=254						
N14K	**Kuskokwak Cree**	**15.74**	**50**	P	**Pn**	**00 48 01.8**	**-0.2**
	baz=251						
SEY	**Seymchan**	**15.76**	**322**	Pn	**Pn**	**00 48 02.7**	**+0.5**
	0.4nm,0.3s,baz=109,slow=8.7,SNR=6.6						
	0.7nm,0.3s						
L14K	**Kuka Creek**	**15.83**	**45**	P	**P**	**00 48 06.4**	**-0.4**
L14K	**Kuka Creek**	**15.83**	**45**	P	**Pn**	**00 48 02.2**	**-0.9**
	baz=245						
M14K	**Bethel**	**15.91**	**47**		**P**	**00 48 07.4**	**-0.4**
M14K				IAmb	IAmb	00 48 11.0	
	comp=Z,18nm,1.0s						
M14K	**Bethel**	**15.91**	**47**	P	**Pn**	**00 48 03.4**	**-0.8**
	baz=248						
CHNA	**Chernabura Isl**	**16.06**	**70**	P	**Pn**	**00 48 05.5**	**-0.6**
	baz=271						
J14K	**Nanvaranak Lak**	**16.14**	**40**	P	**Pn**	**00 48 07.6**	**+0.6**
	baz=239						
TNA	**Tin City**	**16.42**	**27**		**P**	**00 48 14.3**	**+0.8**
TNA	**Tin City**	**16.42**	**27**	P	**Pn**	**00 48 11.3**	**+0.6**
	baz=223,SNR=5.5						
O15K	**Ungalikthiuk R**	**16.43**	**54**	P	**Pn**	**00 48 11.3**	**+0.4**
	baz=256						
M15K	**Kasigluk River**	**16.47**	**48**	P	**Pn**	**00 48 11.9**	**+0.6**
	baz=250						
L15K	**Ungalak Mounta**	**16.49**	**45**	P	**Pn**	**00 48 11.9**	**+0.4**
	baz=245						
ANM	**Nome**	**16.53**	**33**		**P**	**00 48 15.4**	**+0.8**
ANM	**Nome**	**16.53**	**33**	P	**Pn**	**00 48 12.7**	**+0.6**
	baz=230,SNR=7.9						
N15K	**Kwethluk River**	**16.58**	**50**	P	**Pn**	**00 48 13.0**	**+0.3**
	baz=252						
K15K	**Wolf Creek Mou**	**16.74**	**43**	P	**Pn**	**00 48 14.6**	**-0.1**
	baz=244						
CHGN	**Chignik**	**16.75**	**64**	P	**Pn**	**00 48 15.2**	**+0.3**
	baz=267						
F14K	**Arctic Creek**	**16.83**	**29**	P	**Pn**	**00 48 16.0**	**+0.1**
	baz=226						
G15K	**Niukluk**	**17.24**	**33**	P	**Pn**	**00 48 21.0**	**0.0**
	baz=232						
N16K	**Nishlik Lake**	**17.30**	**50**	P	**Pn**	**00 48 21.3**	**-0.5**
	baz=253						
R16K	**Pilot Point**	**17.32**	**60**	P	**Pn**	**00 48 22.0**	**0.0**
	baz=264						
P16K	**Nushagak River**	**17.32**	**55**	P	**Pn**	**00 48 21.7**	**-0.3**
	baz=259						
M16K	**Timber Creek**	**17.38**	**48**		**Pn**	**00 48 23.8**	**+1.1**
M16K	**Timber Creek**	**17.38**	**48**	P	**Pn**	**00 48 22.9**	**+0.2**
	baz=251						
L16K	**Owhat River**	**17.38**	**46**		**P**	**00 48 25.2**	**+1.1**
L16K	**Owhat River**	**17.38**	**46**	P	**Pn**	**00 48 23.0**	**+0.2**
	baz=248						
O16K	**Kokwok River B**	**17.39**	**53**	P	**Pn**	**00 48 23.2**	**+0.2**
	baz=257						
F15K	**North Star Dit**	**17.50**	**30**	P	**Pn**	**00 48 24.7**	**+0.4**
	baz=229						
J16K	**Anvik River**	**17.57**	**40**	P	**Pn**	**00 48 25.4**	**+0.2**
	baz=242						
H16K	**Elim**	**17.65**	**35**	P	**Pn**	**00 48 26.7**	**+0.5**
	baz=236						
I17K	**Unalakleet**	**17.83**	**38**	P	**Pn**	**00 48 28.8**	**+0.6**
I17K	**Unalakleet**	**17.83**	**38**	P	**Pn**	**00 48 28.5**	**+0.3**
	baz=240						
O17K	**Koliganek Bris**	**17.93**	**53**	P	**Pn**	**00 48 29.8**	**+0.2**
	baz=257						
Q16K	**King Salmon**	**17.95**	**57**	P	**Pn**	**00 48 29.9**	**+0.1**
	baz=261						
G16K	**Koyuk River**	**18.05**	**33**	P	**Pn**	**00 48 31.6**	**+0.5**
	baz=234						
L17K	**Donlin**	**18.06**	**45**	P	**Pn**	**00 48 31.2**	**+0.1**
	baz=249						
N17K	**Nushagak Hills**	**18.07**	**51**	P	**Pn**	**00 48 31.0**	**-0.3**
	baz=255						
P17K	**Kvichak River**	**18.14**	**55**	P	**Pn**	**00 48 32.3**	**+0.1**
	baz=260						
M17K	**Holitna River**	**18.20**	**48**	P	**Pn**	**00 48 32.7**	**-0.2**
	baz=252						
J17K	**VABM Dome**	**18.24**	**41**		**Pn**	**00 48 33.3**	**0.0**
J17K	**VABM Dome**	**18.24**	**41**	P	**Pn**	**00 48 33.2**	**-0.1**
	baz=244						
K17K	**Iditarod**	**18.28**	**43**	P	**Pn**	**00 48 33.7**	**-0.1**
	baz=247						
Q17K	**Contact Creek**	**18.29**	**58**	P	**Pn**	**00 48 33.4**	**-0.7**
	baz=263,SNR=6.1						
CHIR	**Chirikof Islan**	**18.31**	**66**		**Pn**	**00 48 33.7**	**-0.5**
CHIR	**Chirikof Islan**	**18.31**	**66**	P	**Pn**	**00 48 34.5**	**+0.2**
	baz=271						
ACHA	**Angle Creek He**	**18.58**	**58**	P	**Pn**	**00 48 38.8**	**+1.2**
H17K	**Granite Mounta**	**18.66**	**36**	P	**P**	**00 48 38.5**	**+0.4**
	baz=239						
G17K	**Kiwalik Mounta**	**18.70**	**34**	P	**P**	**00 48 38.9**	**+0.4**
	baz=236						
P18K	**Big Mountain,**	**18.79**	**55**	P	**Pn**	**00 48 40.8**	**+0.7**
P18K	**Big Mountain,**	**18.79**	**55**	P	**P**	**00 48 40.0**	**+0.4**
	baz=261						
L18K	**Granite Mounta**	**18.80**	**46**	P	**P**	**00 48 39.9**	**+0.2**
	baz=251						
O18K	**Koktuh Hills**	**18.88**	**53**	P	**P**	**00 48 41.4**	**+0.7**
O18K				IAmb	IAmb	00 48 50.0	
	comp=Z,16nm,0.8s						
O18K	**Koktuh Hills**	**18.88**	**53**	P	**P**	**00 48 40.2**	**-0.4**
	baz=259						
M18K	**Stony River**	**18.96**	**48**	P	**P**	**00 48 42.1**	**+0.5**
	baz=254						
R18K	**Karluk**	**18.99**	**61**	P	**P**	**00 48 42.4**	**+0.6**
	baz=267						
F17K	**Baldwin Pennin**	**19.05**	**31**	IAmb	IAmb	00 48 48.0	
	comp=Z,21nm,1.1s						
F17K	**Baldwin Pennin**	**19.05**	**31**	P	**P**	**00 48 42.8**	**+0.4**
	baz=233,SNR=8.0						
SII	**Sitkinak Islan**	**19.11**	**64**	P	**P**	**00 48 42.8**	**-0.4**
SII	**Sitkinak Islan**	**19.11**	**64**	P	**P**	**00 48 43.0**	**-0.2**
	baz=270						
C16K	**Lisburne Hills**	**19.12**	**24**	P	**P**	**00 48 43.4**	**+0.3**
	baz=222						
J18K	**Innoko River**	**19.23**	**42**	P	**P**	**00 48 44.2**	**-0.3**
	baz=247						
E17K	**Hotham Inlet**	**19.26**	**29**	P	**P**	**00 48 45.2**	**+0.4**
	baz=230						
D17K	**Noatak River**	**19.31**	**27**	P	**P**	**00 48 45.1**	**-0.1**
	baz=227,SNR=22						
H18K	**Honhosa River**	**19.33**	**37**	P	**P**	**00 48 46.5**	**+0.9**
	baz=240						
TTA	**Tatalina**	**19.33**	**44**	P	**P**	**00 48 45.7**	**+0.1**
TTA	**Tatalina**	**19.33**	**44**	P	**P**	**00 48 45.2**	**-0.5**
	baz=250						
O19K	**Port Alsworth**	**19.38**	**53**	P	**P**	**00 48 45.1**	**-0.9**
	baz=259						
N19K	**Bonanza Creek**	**19.43**	**51**	P	**P**	**00 48 46.9**	**+0.2**
N19K	**Bonanza Creek**	**19.43**	**51**	P	**P**	**00 48 46.4**	**-0.3**
	baz=257						
Q19K	**Cape Douglas,**	**19.53**	**57**	P	**P**	**00 48 47.6**	**-0.2**
Q19K	**Cape Douglas,**	**19.53**	**57**	P	**P**	**00 48 47.7**	**-0.1**
	baz=264						
RDOG	**Red Dog Mine**	**19.60**	**26**	P	**P**	**00 48 48.7**	**+0.2**
RDOG				IAmb	IAmb	00 48 52.9	
	comp=Z,16nm,0.7s						
RDOG	**Red Dog Mine**	**19.60**	**26**	P	**P**	**00 48 48.6**	**+0.2**
	baz=227,SNR=5.7						
L19K	**White Mountain**	**19.60**	**47**	P	**P**	**00 48 48.3**	**-0.2**
	baz=253						
G18K	**Tagagawik**	**19.61**	**34**	P	**P**	**00 48 48.8**	**+0.2**
G18K				IAmb	IAmb	00 48 52.7	
	comp=Z,14nm,0.7s						
G18K	**Tagagawik**	**19.61**	**34**	P	**P**	**00 48 49.2**	**+0.7**
	baz=238,SNR=18						
OHAK	**Old Harbor**	**19.61**	**62**	P	**P**	**00 48 47.8**	**-0.8**
OHAK				IAmb	IAmb	00 48 51.5	
	comp=Z,12nm,0.8s						
OHAK	**Old Harbor**	**19.61**	**62**	P	**P**	**00 48 49.0**	**+0.4**
	baz=269						
F18K	**Selawik**	**19.66**	**32**	P	**P**	**00 48 48.9**	**-0.2**
	baz=235,SNR=9.7						
GCSA	**Galena City Sc**	**19.70**	**39**	P	**P**	**00 48 50.5**	**+1.0**
	baz=244						
C17K	**DeLong Mountai**	**19.82**	**25**	P	**P**	**00 48 51.3**	**+0.4**
	baz=225						
P19K	**Oil Pt**	**19.83**	**55**	P	**P**	**00 48 52.3**	**+1.2**
P19K	**Oil Pt**	**19.83**	**55**	P	**P**	**00 48 51.9**	**+0.8**
	baz=262						
E18K	**Tukpahlearik C**	**19.85**	**29**	P	**P**	**00 48 51.6**	**+0.4**
	baz=232						
J19K	**Poorman**	**19.89**	**41**	P	**P**	**00 48 52.1**	**+0.5**
	baz=247						
ILSW	**Iliamna Southw**	**19.93**	**54**	P	**P**	**00 48 52.1**	**-0.1**
ILSW				IAmb	IAmb	00 49 00.9	
	comp=Z,14nm,0.8s						
KDAK	**Kodiak Island**	**20.00**	**60**	P	**P**	**00 48 53.3**	**+0.4**
KDAK	**Kodiak Island**	**20.00**	**60**	P	**P**	**00 48 51.1**	**-1.8**
	comp=Z,1.9nm,0.3s,baz=115,slow=5.4,SNR=19						
	comp=Z,8.7nm,0.5s						
KDAK	**Kodiak Island**	**20.00**	**60**	P	**P**	**00 48 53.3**	**+0.4**
	baz=268						
L20K	**Farewell, AK**	**20.12**	**46**	P	**P**	**00 48 54.2**	**0.0**
	baz=254						
Q20K	**Shuyak Island**	**20.15**	**58**	P	**P**	**00 48 55.1**	**+0.6**
	baz=266						
SYI	**Shuyak Island**	**20.15**	**58**	P	**P**	**00 48 53.5**	**-1.0**
O20K	**Slope Mountain**	**20.20**	**53**	P	**P**	**00 48 55.4**	**+0.3**
	baz=262						
H19K	**Roundabout Mou**	**20.22**	**37**	P	**P**	**00 48 54.7**	**-0.4**
H19K	**Roundabout Mou**	**20.22**	**37**	P	**P**	**00 48 55.8**	**+0.6**
	baz=242						
G19K	**Purcell Mounta**	**20.28**	**35**	P	**P**	**00 48 55.9**	**0.0**
	baz=240						
M20K	**Styx River**	**20.31**	**48**	P	**P**	**00 48 56.6**	**+0.3**
	baz=256						
K20K	**Telida**	**20.31**	**44**	P	**P**	**00 48 56.1**	**-0.1**
	baz=251						
F19K	**Shaleruckik Mo**	**20.41**	**33**	P	**P**	**00 48 57.3**	**0.0**
	baz=237						
C18K	**Utukok River**	**20.47**	**26**	P	**P**	**00 48 57.9**	**-0.1**
	baz=228						
J20K	**Nowinta River**	**20.56**	**41**	P	**P**	**00 48 58.8**	**0.0**
	baz=249						
SPCR	**Spurr Chakacha**	**20.59**	**50**	P	**P**	**00 48 59.4**	**0.0**
	baz=259						
I20K	**Naaghedeneel**	**20.66**	**40**	P	**P**	**00 48 59.6**	**-0.3**
	baz=247						
SPU	**Mount Spurr**	**20.66**	**50**	P	**P**	**00 49 01.5**	**+1.4**
H20K	**Anotleneega Mo**	**20.79**	**38**	P	**P**	**00 49 01.6**	**+0.2**
	baz=245						
B18K	**Kokolik River**	**20.80**	**24**	P	**P**	**00 49 01.0**	**-0.4**
	baz=226						
STLK	**Strandline Lak**	**20.83**	**50**	P	**P**	**00 49 03.7**	**+1.8**
STLK				IAmb	IAmb	00 49 08.3	
	comp=Z,7.7nm,0.7s						
CNPM	**China Poot**	**20.83**	**55**	P	**P**	**00 49 01.4**	**-0.5**
CNPM				IAmb	IAmb	00 49 09.4	
	comp=Z,25nm,1.0s						
E19K	**Redstone River**	**20.93**	**32**	P	**P**	**00 49 02.9**	**+0.1**
	baz=237						
BRLK	**Bradley Lake**	**21.03**	**55**	P	**P**	**00 49 02.8**	**-1.3**
BRLK				IAmb	IAmb	00 49 10.6	
	comp=Z,30nm,1.2s						
SKT	**Skwentna**	**21.07**	**48**	P	**P**	**00 49 06.0**	**+1.6**
SKT				IAmb	IAmb	00 49 10.4	
	comp=Z,13nm,0.9s						
SKT	**Skwentna**	**21.07**	**48**	P	**P**	**00 49 04.2**	**-0.2**
	baz=258						
F20K	**Avaraart Lake**	**21.21**	**33**	P	**P**	**00 49 05.9**	**0.0**
	baz=240						
D19K	**Kuna River**	**21.25**	**29**	P	**P**	**00 49 07.0**	**+0.6**
	baz=233						
SUA	**Susitna One**	**21.33**	**50**	P	**P**	**00 49 06.8**	**-0.6**
SUA	**Susitna One**	**21.33**	**50**	P	**P**	**00 49 07.3**	**0.0**
	baz=260						
SLKM	**Skilak Lake**	**21.44**	**53**	P	**P**	**00 49 07.7**	**-0.8**
SLKM				IAmb	IAmb	00 49 11.2	
	comp=Z,29nm,1.3s						
H21K	**Melozitna Rive**	**21.64**	**38**	P	**P**	**00 49 11.1**	**+0.5**
	baz=247						
O22K	**Cooper Landing**	**21.68**	**53**	P	**P**	**00 49 10.2**	**-0.8**
O22K				IAmb	IAmb	00 49 14.1	
	comp=Z,26nm,0.9s						
O22K	**Cooper Landing**	**21.68**	**53**	P	**P**	**00 49 11.4**	**+0.4**
	baz=264						
E20K	**Nigu River**	**21.70**	**30**	P	**P**	**00 49 11.0**	**-0.2**
	baz=237						
KTH	**Kantishna Hill**	**21.72**	**44**	P	**P**	**00 49 13.5**	**+2.1**
KTH				IAmb	IAmb	00 49 16.9	
	comp=Z,9.6nm,0.7s						
CUT	**Chulitna**	**21.73**	**48**	P	**P**	**00 49 11.7**	**+0.1**
CUT				IAmb	IAmb	00 49 13.5	
	comp=Z,30nm,1.4s						
CUT	**Chulitna**	**21.73**	**48**	P	**P**	**00 49 11.7**	**+0.1**
	baz=258						
G21K	**Allakaket**	**21.74**	**36**	P	**P**	**00 49 11.0**	**-0.5**
	baz=244						
RC01	**Rabbit Creek A**	**21.75**	**51**	P	**P**	**00 49 11.3**	**-0.5**
RC01				IAmb	IAmb	00 49 17.8	
	comp=Z,22nm,1.3s						
RC01	**Rabbit Creek A**	**21.75**	**51**	P	**P**	**00 49 11.2**	**-0.6**
	baz=262						
SEW	**Seward**	**21.78**	**54**	P	**P**	**00 49 12.5**	**+0.5**
SEW	**Seward**	**21.78**	**54**	P	**P**	**00 49 12.2**	**+0.2**
	baz=265						
D20K	**Etivluk River**	**21.82**	**29**	P	**P**	**00 49 11.3**	**-1.2**
	baz=235						
BPAW	**Bear Paw Mtn.**	**21.84**	**43**		**P**	**00 49 13.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**21.84**	**43**	P	**P**	**00 49 12.2**	**-0.5**
	baz=253,SNR=5.2						
TRF	**Thorofare Moun**	**21.96**	**45**	P	**P**	**00 49 13.6**	**-0.6**
	baz=256						
F21K	**Alatna River**	**22.06**	**34**	P	**P**	**00 49 15.0**	**-0.1**
	baz=243						
PMR	**Palmer**	**22.12**	**50**	P	**P**	**00 49 15.7**	**0.0**
PMR				IAmb	IAmb	00 49 32.1	
	comp=Z,28nm,1.5s						
PMR	**Palmer**	**22.12**	**50**	P	**P**	**00 49 15.6**	**0.0**
	baz=261						
GHO	**Glory Hole Cre**	**22.24**	**50**	P	**P**	**00 49 17.3**	**+0.2**
GHO				IAmb	IAmb	00 49 31.3	
	comp=Z,8.9nm,0.9s						
H22K	**Ishtalitna Cre**	**22.28**	**38**	P	**P**	**00 49 17.2**	**-0.2**
	baz=248						
PWL	**Port Wells**	**22.41**	**52**	P	**P**	**00 49 17.6**	**-1.2**
PWL				IAmb	IAmb	00 49 27.8	
	comp=Z,33nm,1.4s						
PWL	**Port Wells**	**22.41**	**52**	P	**P**	**00 49 18.2**	**-0.6**
	baz=264						
KNK	**Knik Glacier**	**22.41**	**51**	P	**P**	**00 49 18.8**	**-0.1**
KNK	**Knik Glacier**	**22.41**	**51**	P	**P**	**00 49 18.8**	**-0.1**
	baz=262						
BWN	**Browne**	**22.50**	**43**	P	**P**	**00 49 20.7**	**+0.9**
SML	**Sawmill**	**22.52**	**50**	P	**P**	**00 49 21.2**	**+1.0**
SML	**Sawmill**	**22.52**	**50**	P	**P**	**00 49 20.1**	**-0.1**
	baz=262						
RND	**Reindeer**	**22.58**	**45**	P	**P**	**00 49 20.1**	**-0.6**
MCK	**McKinley**	**22.62**	**44**	P	**P**	**00 49 21.4**	**+0.4**
MCK				IAmb	IAmb	00 49 34.2	
	comp=Z,26nm,1.4s						
MCK	**McKinley**	**22.62**	**44**	P	**P**	**00 49 20.4**	**-0.7**
	baz=256						
C21K	**Knifeblade Rid**	**22.62**	**29**	P	**P**	**00 49 20.7**	**-0.4**
	baz=237						
G22K	**Bettles**	**22.63**	**36**	P	**P**	**00 49 20.4**	**-0.7**
	baz=246						
NEA2	**Nenana**	**22.78**	**42**	P	**P**	**00 49 22.8**	**+0.1**
NEA2	**Nenana**	**22.78**	**42**	P	**P**	**00 49 22.0**	**-0.7**
	baz=254,SNR=14						
P23K	**Montague Islan**	**22.80**	**54**	P	**P**	**00 49 21.2**	**-1.7**
	baz=267						
M23K	**Glacier View**	**22.81**	**50**	P	**P**	**00 49 22.3**	**-0.8**
	baz=262						
I23K	**Minto, Yukon-K**	**22.82**	**41**	P	**P**	**00 49 23.1**	**-0.1**
I23K				IAmb	IAmb	00 49 26.8	
	comp=Z,8.6nm,0.7s						
I23K	**Minto, Yukon-K**	**22.82**	**41**	P	**P**	**00 49 23.6**	**+0.5**
	baz=253,SNR=8.9						
B21K	**Ikpikpuk River**	**22.93**	**28**	P	**P**	**00 49 24.0**	**-0.2**
	baz=236						
SCM	**Sheep Creek Mo**	**23.00**	**50**	P	**P**	**00 49 24.8**	**-0.3**
SCM	**Sheep Creek Mo**	**23.00**	**50**	P	**P**	**00 49 24.7**	**-0.5**
	baz=263						
E22K	**Anaktuvuk Pass**	**23.05**	**33**	P	**P**	**00 49 24.5**	**-1.1**
E22K				IAmb	IAmb	00 49 28.1	
	comp=Z,9.4nm,0.8s						
E22K	**Anaktuvuk Pass**	**23.05**	**33**	P	**P**	**00 49 24.7**	**-0.9**
	baz=243,SNR=15						
G23K	**Bananza Creek**	**23.09**	**37**	P	**P**	**00 49 26.2**	**+0.2**
	baz=248						
D22K	**Ayikyak River**	**23.12**	**31**	IAmb	IAmb	00 49 30.0	
	comp=Z,6.3nm,0.8s						
D22K	**Ayikyak River**	**23.12**	**31**	P	**P**	**00 49 26.2**	**0.0**
	baz=240,SNR=5.9						
WRH	**Wood River Hil**	**23.16**	**43**	P	**P**	**00 49 26.8**	**+0.2**
WRH				IAmb	IAmb	00 49 30.1	
	comp=Z,8.7nm,0.6s						
COLD	**Coldfoot**	**23.22**	**35**	P	**P**	**00 49 26.7**	**-0.6**
COLD	**Coldfoot**	**23.22**	**35**	P	**P**	**00 49 27.5**	**+0.2**
	baz=247,SNR=6.7						
FID	**Port Fidalgo**	**23.30**	**52**	P	**P**	**00 49 27.7**	**-0.5**
CCB	**Clear Creek Bu**	**23.32**	**42**	P	**P**	**00 49 28.3**	**+0.1**
CCB				IAmb	IAmb	00 49 31.5	
	comp=Z,9.6nm,0.6s						
COLA	**College**	**23.36**	**42**	P	**P**	**00 49 29.5**	**+0.9**
COLA	**College**	**23.36**	**42**	P	**P**	**00 49 28.7**	**+0.1**
	baz=255						
M24K	**Tolsona, Glenn**	**23.58**	**49**	P	**P**	**00 49 32.0**	**+1.1**
M24K	**Tolsona, Glenn**	**23.58**	**49**	P	**P**	**00 49 30.9**	**0.0**
	baz=263						
POKR	**Poker Plat Res**	**23.59**	**41**	P	**P**	**00 49 31.2**	**+0.1**
POKR				IAmb	IAmb	00 49 34.9	
	comp=Z,21nm,1.1s						
POKR	**Poker Plat Res**	**23.59**	**41**	P	**P**	**00 49 31.1**	**+0.1**
	baz=255,SNR=13						
H24K	**Noodor Dome**	**23.62**	**40**	P	**P**	**00 49 31.4**	**+0.1**
	baz=253						
HDA	**Harding Lake**	**23.63**	**43**	IAmb	IAmb	00 49 35.8	
	comp=Z,5.9nm,0.5s						
HDA	**Harding Lake**	**23.63**	**43**	P	**P**	**00 49 31.3**	**-0.1**
	baz=257						
KLU	**Klutina**	**23.63**	**51**	P	**P**	**00 49 32.1**	**+0.6**
KLU				IAmb	IAmb	00 49 48.6	
	comp=Z,16nm,1.4s						
KLU	**Klutina**	**23.63**	**51**	P	**P**	**00 49 31.6**	**+0.1**
	baz=265						
EYAK	**Cordova Ski Ar**	**23.65**	**53**	P	**P**	**00 49 32.4**	**+0.9**
B22K	**Teshekpuk Lake**	**23.67**	**27**	P	**P**	**00 49 32.3**	**+0.6**
	baz=236						
ILAR	**Eielson Array**	**23.73**	**42**	P	**P**	**00 49 33.3**	**+0.9**
ILAR	**Eielson Array**	**23.73**	**42**	P	**P**	**00 49 30.9**	**-1.5**
	comp=Z,4.1nm,0.7s,baz=246,slow=7.3,SNR=25						
	comp=Z,4.1nm,0.7s						
E23K	**Chandalar**	**23.76**	**34**	P	**P**	**00 49 32.7**	**0.0**
	baz=246						
D23K	**Nanushuk River**	**23.80**	**31**	P	**P**	**00 49 32.8**	**-0.2**
	baz=243						
K24K	**Donnelly Dome**	**24.01**	**45**	P	**P**	**00 49 34.9**	**-0.1**
	baz=260,SNR=5.9						
PAX	**Paxson**	**24.01**	**47**	P	**P**	**00 49 34.2**	**-0.9**
PAX				IAmb	IAmb	00 49 37.0	
	comp=Z,10nm,0.6s						
PAX	**Paxson**	**24.01**	**47**	P	**P**	**00 49 35.1**	**0.0**
	baz=262,SNR=7.3						
TOLK	**Toolik Lake Re**	**24.02**	**32**	P	**P**	**00 49 34.2**	**-0.8**
TOLK	**Toolik Lake Re**	**24.02**	**32**	P	**P**	**00 49 34.9**	**-0.2**
	baz=245,SNR=22						
G24K	**Hadweenzic Riv**	**24.04**	**38**	P	**P**	**00 49 34.8**	**-0.4**
	baz=252						
HARP	**HAARP**	**24.08**	**49**	P	**P**	**00 49 34.8**	**-0.9**
	baz=264						
E24K	**Your Creek**	**24.16**	**34**	P	**P**	**00 49 36.6**	**+0.2**
	baz=247						
F24K	**Squaw Lake**	**24.16**	**36**	P	**P**	**00 49 36.7**	**+0.3**

G26K	Porcupine Rive	25.51	38	P	P	00 49 48.8 +0.3
	baz=255					
F26K	Sheenjek River	25.57	36	P	P	00 49 49.3 +0.1
	baz=253					
M27K	Edge Creek, AK	25.60	49	P	P	00 49 49.0 -0.7
	baz=267					
L27K	Beaver Creek,	25.67	47	IAmb	IAmb	00 49 52.7
	comp=Z,7.5nm,0.7s					
L27K	Beaver Creek,	25.67	47	P	P	00 49 50.0 -0.2
	baz=265,SNR=6.9					
BCAR	Beaver Creek A	25.69	47	P	P	00 49 51.8 +1.5
C26K	Camden Bay	26.05	31	P	P	00 49 54.1 +0.7
	baz=248					
I27K	Kandik River	26.08	42	P	P	00 49 53.5 -0.4
	baz=260					
EGAK	Eagle	26.15	43	P	P	00 49 54.8 +0.3
EGAK				IAmb	IAmb	00 49 58.6
	comp=Z,5.9nm,0.6s					
EGAK	Eagle	26.15	43	P	P	00 49 54.7 +0.3
	baz=262					
H27K	Steamboat Moun	26.23	40	P	P	00 49 55.7 +0.5
	baz=259					
YUK3	Moose Creek	26.25	50	P	P	00 49 55.0 -0.7
	baz=269					
G27K	Doyon Strip	26.29	39	P	P	00 49 55.8 +0.1
	baz=258					
C27K	Jago River	26.34	32	P	P	00 49 56.5 +0.4
	baz=250					
PINM	Pinnacle	26.38	54	P	P	00 49 57.0 +0.3
	baz=273					
O28M	Mount Upton	26.39	53	P	P	00 49 57.3 +0.4
	baz=272					
YUK8	Steele Glacier	26.58	51	P	P	00 49 59.1 +0.4
	baz=271					
I28M	Miner Creek	26.75	42	P	P	00 49 59.5 -0.5
	baz=262					
DAWY	Dawson	26.84	45	IAmb	IAmb	00 50 06.1
	comp=Z,7.3nm,0.6s					
DAWY	Dawson	26.84	45	P	P	00 50 00.8 +0.1
	baz=266,SNR=10					
YUK4	Talbot Arm	27.12	51	P	P	00 50 03.4 0.0
	baz=272					
D27M	Malcolm River	27.14	34	P	P	00 50 03.2 -0.2
	baz=254					
F28M	Old Crow	27.14	37	P	P	00 50 03.3 -0.1
	baz=258					
M29M	Somme Creek	27.19	49	P	P	00 50 04.5 +0.5
	baz=270					
O29M	Mount Kennedy	27.21	54	P	P	00 50 03.6 -0.5
	baz=274					
YUK6	Outpost Mounta	27.27	52	P	P	00 50 03.3 -1.6
	baz=273					
L29M	L29M	27.36	47	IAmb	IAmb	00 50 07.6
	comp=Z,4.5nm,0.7s					
L29M	L29M	27.36	47	P	P	00 50 05.1 -0.3
	baz=269					
J29N	Klondike Camp	27.38	44	P	P	00 50 07.6 +2.0
J29N	Klondike Camp	27.38	44	P	P	00 50 05.9 +0.3
	baz=266					
E28M	Babbage River	27.48	35	P	P	00 50 07.2 +0.8
	baz=257					
H29M	Whitestone	27.49	41	P	P	00 50 07.0 +0.5
	baz=262					
K29M	Barlow Dome	27.65	46	P	P	00 50 07.8 -0.3
	baz=268					
HYT	Haines Junctio	27.70	52	P	P	00 50 08.1 -0.5
HYT				IAmb	IAmb	00 50 18.7
	comp=Z,5.8nm,0.9s					
HYT	Haines Junctio	27.70	52	P	P	00 50 08.9 +0.3
	baz=274					
G29M	Pine Creek	27.72	39	P	P	00 50 08.4 -0.2
	baz=262					
M30M	Minto, Yukon	27.97	49	P	P	00 50 10.8 0.0
M30M				IAmb	IAmb	00 50 14.9
	comp=Z,7.4nm,1.5s					
M30M	Minto, Yukon	27.97	49	P	P	00 50 10.9 0.0
	baz=271					
E29M	Blow River	28.02	36	P	P	00 50 11.3 +0.1
	baz=259					
P30M	Million Dollar	28.03	54	P	P	00 50 09.3 -2.1
	baz=276					
EPYK	Eagle Plains	28.17	40	P	P	00 50 12.2 -0.4
EPYK				IAmb	IAmb	00 50 15.0
	comp=Z,6.5nm,1.0s					
EPYK	Eagle Plains	28.17	40	P	P	00 50 11.4 -1.2
	baz=264					
J30M	Hart River	28.20	44	P	P	00 50 11.8 -1.2
	baz=268					
O30N	Mendenhall	28.40	52	P	P	00 50 13.1 -1.6
	baz=275					
PLBC	Pleasant Camp	28.40	55	P	P	00 50 14.2 -0.4
	baz=277					
G30M	tAoh Zraii Nji	28.44	39	P	P	00 50 15.2 +0.2
	baz=263					
N31M	Braeburn, Yuko	28.49	51	P	P	00 50 15.7 +0.2
	baz=274					
F30M	Barrier River	28.68	38	P	P	00 50 17.7 +0.6
	baz=262					
SKAG	Skagway	28.92	55	P	P	00 50 19.3 0.0
	baz=278					
WHY	Whitehorse	29.00	52	P	P	00 50 21.6 +1.5
WHY	Whitehorse	29.00	52	P	P	00 50 19.2 -0.9
	baz=276					
H31M	Peel River	29.09	42	P	P	00 50 19.9 -0.9
	baz=267					
M31M	Drury Creek, Y	29.10	49	P	P	00 50 21.1 +0.2
M31M	Drury Creek, Y	29.10	49	P	P	00 50 20.5 -0.4
	baz=274					
G31M	Satah River	29.20	40	P	P	00 50 21.4 -0.2
	baz=265					
SIT	Sitka	29.35	60	P	P	00 50 22.1 -1.0
	baz=282					
F31M	Tsiigehtchic	29.45	38	P	P	00 50 25.0 +1.2
F31M	Tsiigehtchic	29.45	38	P	P	00 50 23.1 -0.7
	baz=265					
R32K	Eaglecrest	29.53	57	P	P	00 50 24.3 -0.4
	baz=281					
FARO	Faro, Yukon	29.59	49	P	P	00 50 24.7 -0.6
FARO				IAmb	IAmb	00 50 28.5
	comp=Z,6.2nm,1.2s					
FARO	Faro, Yukon	29.59	49	P	P	00 50 25.0 -0.2
	baz=275					
INK	Inuvik	29.61	37	P	P	00 50 24.6 -0.7
INK	Inuvik	29.61	37	LR	LR	01 02 07.1
	comp=Z,81nm,18.9s,baz=241,slow=36					
INK	Inuvik	29.61	37	P	P	00 50 25.3 0.0
	baz=264					
P32M	Atlin	29.72	54	P	P	00 50 26.1 -0.3
	baz=279					
N32M	Quiet Lake	29.82	51	P	P	00 50 26.5 -0.8
	baz=277					
P33M	Teslin, Yukon	30.07	53	P	P	00 50 29.9 +0.3
P33M				IAmb	IAmb	00 50 32.9
	comp=Z,4.2nm,1.0s					
P33M	Teslin, Yukon	30.07	53	P	P	00 50 29.1 -0.5
	baz=278					
MMPY	Sheldon Lake,	30.52	48	P	P	00 50 33.6 +0.1
MMPY					pP	00 50 36.1 +0.4
MMPY	Sheldon Lake,	30.52	48	P	P	00 50 32.9 -0.5
	baz=276					
Q32M	Nakina River	30.56	55	P	P	00 50 33.7 -0.3
	baz=281					
WRAK	Wrangell Islan	31.09	60	P	P	00 50 38.7 +0.2
	baz=285					
R33M	Jennings River	31.13	54	P	P	00 50 38.0 -1.1
	baz=281					
S34M	Telegraph Cree	31.36	57	P	P	00 50 40.0 -0.9
	baz=284					
V35K	Ketchikan	31.79	62	P	P	00 50 44.5 -0.2
	baz=287					
DLBC	Dease Lake	31.81	56	P	P	00 50 47.5 +2.5
DLBC				IAmb	IAmb	00 51 04.4
	comp=Z,7.5nm,1.2s					
DLBC	Dease Lake	31.81	56	LR	LR	01 05 11.4
	comp=Z,90nm,18.2s,baz=224,slow=40					
H11N2	WAKE ISLAND Hy	32.70	192	T	T	01 25 54.9
	baz=8.3					
H11N3	WAKE ISLAND Hy	32.72	192	T	T	01 25 53.4
	baz=8.3					
H11N1	WAKE ISLAND Hy	32.72	192	T	T	01 25 51.0
	baz=8.3					
A36M	Sachs Harbour	32.78	30	P	P	00 50 52.9 -0.3
	baz=266					
C36M	Paulatuk	33.09	35	P	P	00 50 54.7 -1.1
C36M					pP	00 50 55.6 -3.0
C36M				IAmb	IAmb	00 50 59.1
	comp=Z,5.5nm,1.0s					
C36M	Paulatuk	33.09	35	P	P	00 50 54.6 -1.3
	baz=271					
H11S1	WAKE ISLAND Hy	33.93	192	T	T	01 27 23.9
	baz=8.0					
H11S3	WAKE ISLAND Hy	33.95	192	T	T	01 27 22.8
	baz=8.0,SNR=6.6					
H11S2	WAKE ISLAND Hy	33.95	192	T	T	01 27 26.7
	baz=8.0					
TOAD	Toad River Com	34.13	54	P	P	00 51 04.2 -1.0
	baz=286					
KOTAN	Kotaneelee Air	34.38	52	P	P	00 51 06.4 -0.8
	baz=285					
YKA	Yellowknife Ar	38.08	46	P	P	00 51 37.2 -1.6
	comp=Z,1.2nm,0.6s,baz=287,slow=8.3,SNR=16					
YKA				LR	LR	01 07 01.7
	comp=Z,56nm,19.3s,baz=284,slow=36					
	comp=Z,1.2nm,0.6s					
CLRS	Cowichan Lake	38.61	69	P	P	00 51 46.1 +2.7
NLWA	Neilton Lookou	39.47	71	P	P	00 51 52.9 +2.2
EUNU	Eureka	40.86	15	P	P	00 52 03.2 +1.3
SONM	Songino Array	42.18	292	P	P	00 52 12.9 -0.2
	comp=Z,0.3nm,0.6s,baz=55,slow=8.0,SNR=2.8					
	comp=Z,0.3nm,0.6s					
HHC	Hu-ho-hao-te	43.06	281	*e*P	P	00 52 22.7 +2.4
HHC				pmax	pmax	
	comp=Z,7.0nm,1.0s					
LYMT	Lyon Mountain	46.34	65	P	P	00 52 48.5 +1.9
BOZ	Bozeman (W)	47.51	67	IAmb	IAmb	00 52 58.0
	comp=Z,3.0nm,0.9s					
NVAR	Mina Array Bea	47.98	78	P	P	00 52 59.1 -0.4
	comp=Z,0.7nm,0.5s,baz=308,slow=8.2,SNR=4.4					
	comp=Z,0.7nm,0.5s					
SPITS	Spitsbergen Ar	49.30	354	P	P	00 53 07.9 -1.0
	comp=Z,1.8nm,0.3s,baz=34,slow=6.4,SNR=36					
	comp=Z,1.8nm,0.3s					
R11B	Troy Canyon, C	49.67	77	P	P	00 53 11.8 -0.7
	baz=310					
ZALV	Zalesovo Beam	50.14	310	P	P	00 53 15.7 +0.2
	comp=Z,0.1nm,0.3s,baz=32,slow=5.6,SNR=2.1					
	comp=Z,0.1nm,0.3s					
PD31	Pinedale Array	50.41	68	P	P	00 53 20.4 +2.3
PD31				IAmb	IAmb	00 53 21.1
	comp=Z,2.3nm,0.8s					
PDAR	Pinedale Array	50.41	68	P	P	00 53 20.0 +1.9
PDAR	Pinedale Array	50.41	68	P	P	00 53 15.2 -2.9
	comp=Z,0.4nm,0.6s,baz=304,slow=3.8,SNR=19					
	comp=Z,0.4nm,0.6s					
GTA	Gaotai	51.00	287	*e*P	P	00 53 23.9 +1.5
GTA				sP	sP	00 53 31.0 +5.4
GTA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
TKX	Tecate	52.90	83	P	P	00 53 35.2 -1.3
ULM	Lac du Bonnet	53.07	53	P	P	00 53 36.4 -1.1
	comp=Z,1.3nm,0.6s,baz=311,slow=7.1,SNR=4.4					
	comp=Z,1.3nm,0.6s					
N23A	Red Feather La	53.69	68	P	P	00 53 41.2 -1.3
	baz=311					
KURBB	Kurchatov Arra	55.24	309	P	P	00 53 53.9 +0.6
	comp=Z,1.6nm,0.9s,baz=50,slow=7.1,SNR=11					
	comp=Z,1.6nm,0.9s					
S22A	4UR Ranch, Cre	55.26	71	P	P	00 53 53.2 -0.9
	baz=313					
Q24A	Divide	55.42	69	P	P	00 53 54.1 -1.1
	baz=312					
MKAR	Makanchi Array	55.92	304	P	P	00 53 57.9 -0.5
	comp=Z,0.6nm,0.4s,baz=54,slow=6.7,SNR=17					
	comp=Z,0.6nm,0.4s					
ARCES	ARCESS Array B	56.53	347	P	P	00 54 00.9 -1.3
	comp=Z,5.6nm,0.9s,baz=31,slow=7.1,SNR=11					
ARCES				LR	LR	01 19 45.8
	comp=Z,29nm,18.3s,baz=132,slow=38					
	comp=Z,5.6nm,0.9s					
T25A	Trinidad	57.09	70	P	P	00 54 06.1 -0.9
	baz=313					
BVAR	Borovoye Array	57.30	316	P	P	00 54 07.8 -0.2
	comp=Z,1.8nm,0.4s,baz=49,slow=7.1,SNR=14					
	comp=Z,1.8nm,0.4s					
BRVK	Borovoye	57.32	316	P	P	00 54 08.7 +0.6
BRVK				IAmb	IAmb	00 54 10.2
	comp=Z,2.0nm,0.6s					
Y22D	IRIS PASSCAL I	57.72	75	P	P	00 54 10.9 -0.5
	baz=314					
SCHQ	Schefferville	62.20	35	P	P	00 54 39.9 -1.8
	comp=Z,3.0nm,0.6s,baz=347,slow=6.0,SNR=12					
	comp=Z,3.0nm,0.6s					
TXAR	Lajitas Array	63.03	76	P	P	00 54 46.3 -1.4
	comp=Z,0.6nm,0.4s,baz=306,slow=5.7,SNR=20					
	comp=Z,0.6nm,0.4s					
FINES	FINESS Array B	63.97	343	P	P	00 54 52.2 -1.0
	comp=Z,3.5nm,1.0s,baz=33,slow=7.3,SNR=4.6					
	comp=Z,3.5nm,1.0s					
ABKAR	Akbulak array	64.50	318	P	P	00 54 57.3 +0.4
ABKAR	Akbulak array	64.50	318	P	P	00 54 57.5 +0.5
ABKAR				IAmb	IAmb	00 54 58.9
	comp=Z,1.5nm,0.7s					
FW14	Alvarado	64.63	69	P	P	00 54 57.4 -0.7
O48B	Farmland	65.43	56	P	P	00 55 02.4 -0.7
	baz=318					
435B	Jarrell	65.58	71	P	P	00 55 03.4 -0.8
	baz=318					
CMAR	Chiang Mai Arr	66.38	270	P	P	00 55 09.2 -0.4
	comp=Z,0.9nm,0.3s,baz=29,slow=6.8,SNR=4.9					
	comp=Z,0.9nm,0.3s					
NB2	NORSAR Subarra	66.40	351	P	P	00 55 08.6 -0.5
	comp=Z,0.5nm,0.5s,baz=11,slow=6.5					
NOA	NORSAR Array B	66.40	351	P	P	00 55 08.4 -0.7
	comp=Z,1.2nm,0.7s,baz=2.4,slow=5.7,SNR=8.3					
	comp=Z,1.2nm,0.7s					
HFS	Hagfors	67.03	349	P	P	00 55 11.9 -1.2
	comp=Z,1.1nm,0.5s,baz=2.4,slow=3.6,SNR=7.3					
	comp=Z,1.1nm,0.5s					
AKASG	Malin Array Be	73.32	337	P	P	00 55 51.4 -0.3
	comp=Z,0.7nm,0.4s,baz=25,slow=6.2,SNR=9.5					
	comp=Z,0.7nm,0.4s					
KVAR	Kislovodsk Arr	75.47	326	P	P	00 56 05.3 +0.7
	comp=Z,2.5nm,0.9s,baz=21,slow=4.9,SNR=2.8					
	comp=Z,2.5nm,0.9s					
KBZ	Khabaz	75.60	326	P	P	00 56 05.7 +0.6
	comp=Z,1.5nm,0.9s,baz=108,slow=5.4,SNR=4.3					
	comp=Z,1.5nm,0.9s					
WRA	Warramunga Arr	79.52	217	P	P	00 56 26.2 -1.0
	comp=Z,2.0nm,0.6s,baz=21,slow=5.3,SNR=7.3					
	comp=Z,2.0nm,0.6s					
BRTR	Keskin Array B	82.24	330	P	P	00 56 42.3 +0.4
	comp=Z,0.9nm,0.7s,baz=40,slow=3.3,SNR=7.9					
	comp=Z,0.9nm,0.7s					
ASAR	Alice Springs	83.08	216	P	P	00 56 45.5 -0.5
	comp=Z,1.5nm,0.7s,baz=21,slow=5.3,SNR=10					
	comp=Z,1.5nm,0.7s					
SJG	San Juan	92.93	56	LR	LR	01 41 23.3
	comp=Z,21nm,19.3s,baz=22,slow=37					

IDC ***04*** *00:47:03.0±1.1, 34°.65N×24°.08E, h0km, mb3.7/7, mbtmp3.6/13, MLL3.4/5, Error ellipse: s-maj=22.9km s-min=15.9km az=152.0*
ISK ***04*** *00:47:05.8, 34°.69N×23°.87E, h22km, MLL3.3/11*
ATH ***04*** *00:47:08.0, 34°.76N×24°.03E, h25km±2km, MLL3.4/3, Error ellipse: s-maj=5.3km s-min=2.4km az=192.0*
GII ***04*** *00:47:10.9±0.0, 34°.799N±0°.001×24°.729E±0°.001, h16km, Mws3.2, confirmed*
THE ***04*** *00:47:10.4, 34°.86N×24°.07E, h16km±2km, MLL3.3/1, Error ellipse: s-maj=5.5km s-min=1.5km az=237.0*
AFAD ***04*** *00:47:18.9, 35°.08N×24°.95E, h9km±2km, MLL2.8*
ISC 04 00:47:05.7±0.9, 34°.61N±0°.05×24°.05E±0°.04, h29km±6km, n92, σ2s89/113, mb3.7/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.23	7	Pg	Pb	00 47 12.0	-0.1
GVD				Sg	Sb	00 47 16.4	-0.1
GVD	Gavdhos	0.23	7	P	Pb	00 47 12.5	+0.4
GVD				S	Sb	00 47 16.0	-0.5
GVD	Gavdhos	0.23	7	P	Pb	00 47 12.5	+0.4
GVD				S	Sb	00 47 15.2	-1.3
GVD				AML	AML	00 47 16.7	
GVD				AML	AML	00 47 19.5	
	comp=E,86918μm,0.3s						
IMMV	Iera Moni Meta	0.85	356	Pg	Pb	00 47 21.4	-0.5
IMMV				Sg	Sb	00 47 32.8	-0.2
IMMV	Iera Moni Meta	0.85	356	P	Pb	00 47 21.2	-0.7
IMMV				S	Sb	00 47 31.5	-1.5
	comp=E,3μm,0.5s						
IMMV	Iera Moni Meta	0.85	356	P	Pb	00 47 21.3	-0.5
IMMV				S	Sb	00 47 31.5	-1.5
IMMV				AML	AML	00 47 37.3	
	comp=E,5852μm,0.5s						
IMMV				AML	AML	00 47 37.8	
	comp=N,7055μm,0.5s						
IDI	Anoyia	0.96	45	Pg	Pb	00 47 24.9	+1.1
IDI				Sg	Sn	00 47 39.5	+3.4
IDI	Anoyia	0.96	45	P	Pb	00 47 24.3	+0.4
IDI				S	Sn	00 47 37.0	+0.9
IDI	Anoyia	0.96	45	Pn	Pb	00 47 24.2	+0.4
	comp=N,43nm,0.3s,baz=262,slow=8.7,SNR=157						
IDI				Sn	Sn	00 47 38.6	+2.4
	comp=N,103nm,0.3s,baz=344,slow=18,SNR=16						
IDI	Anoyia	0.96	45	P	Pb	00 47 24.3	+0.4
IDI				S	Sb	00 47 36.4	+0.2
IDI				AML	AML	00 47 41.3	
	comp=N,1954μm,0.5s						
IDI				AML	AML	00 47 47.1	
	comp=E,1904μm,0.5s						
IACM	Heraklion	1.09	50	P	Pb	00 47 27.9	+2.1
IACM	Heraklion	1.09	50	P	Pb	00 47 27.6	+1.8
IACM				S	Sn	00 47 39.5	+0.5
ZKR	Zakros	1.85	74	Pn	Pb	00 47 39.4	+0.6
ZKR	Zakros	1.85	74	P	Pb	00 47 40.2	+1.5
ZKR	Zakros	1.85	74	P	Pb	00 47 40.3	+1.5
THR6	Thira Island,	2.06	32	P	Pb	00 47 42.2	-0.1
THR3	Thira Island,	2.10	31	P	Pb	00 47 42.7	-0.5
THR8	Santorini-Mono	2.14	33	P	Pb	00 47 42.4	-1.3
VLI	Veliai	2.29	337	P	Pb	00 47 44.9	-1.4
VLI	Veliai	2.29	337	P	Pb	00 47 45.5	-0.8
APE	Apeiranthos	2.73	26	Pn	Pn	00 47 49.7	+2.1
APE	Apeiranthos	2.73	26	P	Pn	00 47 48.5	+0.9
YAZI	Mula-Dat§a-	3.45	52	P	Pn	00 47 57.2	-0.3
YAZI				S	Sn	00 48 22.8	-15
BODT	Bodrum	3.60	46	Pn	Pn	00 48 03.0	+3.4
BDRM	Kayabasi	3.69	47	P	Pn	00 48 04.0	+3.2
ARG	Arkhangelos	3.69	63	Pn	Pn	00 48 04.7	+3.9
TURN	Turunc	4.04	56	Pn	Pn	00 48 08.9	+3.4
TURN	Turunc	4.04	56	P	Pn	00 48 08.7	+3.2
TURN				S	Sn	00 48 44.6	-7.2
YER	Yerkesik	4.26	53	Pn	Pn	00 48 13.0	+4.4
DALY	Dalyan (Mula)	4.34	58	Pn	Pn	00 48 13.9	+4.2
MULA	Mugla, Merkez-	4.35	51	P	Pn	00 48 13.6	+3.6
MULA				*i* AML	AML	00 50 09.0	
	comp=E,19nm,0.1s						
SABU	Mula-Dalaman	4.57	60	P	Pn	00 48 16.5	+3.7
SABU				S	Sn	00 48 59.0	-6.0
FETY	Fethiye	4.57	62	Pn	Pn	00 48 15.9	+3.0
FETY	Fethiye	4.57	62	P	Pn	00 48 16.2	+3.3
IZZE	Mula-Seydike	4.59	65	P	Pn	00 48 15.8	+2.5
IZZE				S	Sn	00 48 59.9	-5.7
IZZE				*i* AML	AML	00 49 11.0	
	comp=E,25nm,0.4s						
ESEN	Aydn-Nazilli	4.71	46	P	Pn	00 48 19.1	+4.3
ESEN				S	Sn	00 49 03.1	-5.3
DNZT	Denizli-Tavas-	4.83	55	P	Pn	00 48 20.2	+3.7
DNZT				S	Sn	00 49 07.9	-3.7
TAVA	DENIZLI_Tavas	4.86	53	P	Pn	00 48 20.7	+3.8
TAVA				S	Sn	00 49 09.8	-2.4
CAEL	Denizli, Camel	4.96	58	P	Pn	00 48 22.0	+3.7
CAEL				S	Sn	00 49 09.3	-5.5
CAEL				*i* AML	AML	00 49 26.0	
	comp=E,24nm,0.5s						
KIRA	zmir-Kiraz	5.01	43	P	Pn	00 48 22.2	+3.2
KNIK	Mula-Seydike	5.01	62	P	Pn	00 48 22.2	+3.2
KNIK				S	Sn	00 49 08.6	-7.5
KNIK				*i* AML	AML	00 49 21.0	
	comp=E,14nm,0.6s						
DNIZ	Denizli-Tavas-	5.03	52	P	Pn	00 48 22.8	+3.4
DNIZ				*i* AML	AML	00 50 39.0	
	comp=E,17nm,0.6s						
DNIZ				*i* AML	AML	00 50 42.0	
	comp=E,11nm,0.3s						
INCE	Denizli-Bozkur	5.43	54	P	Pn	00 48 28.1	+3.3
INCE				S	Sn	00 49 21.3	-5.1
INCE				*i* AML	AML	00 51 00.0	
	comp=E,11nm,1.9s						
CSS	Mathiatis	7.64	85	P	Pn	00 48 54.1	-1.0
CSS	Mathiatis	7.64	85	S	Sn	00 50 14.7	-6.0
VAE	Valguarnera	8.32	293	Pn	Pn	00 49 04.4	0.0
	comp=E,7.6nm,1.0s,baz=156,slow=20,SNR=1.5						
VAE				Sn	Sn	00 50 34.6	-2.8
	comp=E,0.3nm,0.3s,baz=15,slow=12,SNR=2.1						
BRTR	Keskin Array B	9.19	53	Pn	Pn	00 49 17.7	+1.3
	comp=E,0.1nm,0.3s,baz=239,slow=17,SNR=3.7						
	comp=E,0.3nm,0.5s						
KZIT	Kziot	9.46	110	P	Pn	00 49 20.6	+0.6
KZIT	Kziot	9.46	110	S	Sn	00 51 02.2	-3.2
MMC7	Mount Meron ar	9.57	96	P	Pn	00 49 21.4	-0.2
MMA0B	Mount Meron ar	9.58	96	P	Pn	00 49 21.9	+0.2
MMA0B	Mount Meron ar	9.58	96	S	Sn	00 51 03.2	-5.2
MMAI	Mount Meron Ar	9.58	96	Pn	Pn	00 49 20.6	-1.1
	comp=E,1.6nm,0.3s,baz=297,slow=13,SNR=14						
	comp=E,0.8nm,0.3s						
AMAZ	Amatzia	9.62	106	P	Pn	00 49 22.8	+0.7
AMAZ	Amatzia	9.62	106	S	Sn	00 51 05.2	-4.1
SALP	Salfit	9.66	102	P	Pn	00 49 23.1	+0.4
SALP	Salfit	9.66	102	S	Sn	00 51 06.0	-4.3
MMLI	Mount Malkishu	9.73	100	P	Pn	00 49 23.4	-0.4
MMLI	Mount Malkishu	9.73	100	S	Sn	00 51 07.0	-5.2
GEM	Giv'at Ha'Em	9.75	95	P	Pn	00 49 23.9	-0.1
YTIR	Yattir	9.84	106	P	Pn	00 49 25.4	+0.1
YTIR	Yattir	9.84	106	S	Sn	00 51 10.7	-4.1
HMDT	Nahal Hemdat	9.87	101	P	Pn	00 49 25.1	-0.5
HMDT	Nahal Hemdat	9.87	101	S	Sn	00 51 10.7	-4.8
UJAP	Al Uja	9.91	102	P	Pn	00 49 26.1	0.0
UJAP	Al Uja	9.91	102	S	Sn	00 51 12.2	-4.2
DSI	Dead Sea	9.97	105	P	Pn	00 49 27.4	+0.3
DSI	Dead Sea	9.97	105	S	Sn	00 51 13.5	-4.5
MSBI	Mazada	10.05	106	P	Pn	00 49 28.4	+0.3
MSBI	Mazada	10.05	106	S	Sn	00 51 15.5	-4.3
PRNI	Paran	10.18	112	P	Pn	00 49 30.7	+0.9
PRNI	Paran	10.18	112	S	Sn	00 51 19.7	-3.3
GHAJ	Ghor Haditha	10.22	106	P	Pn	00 49 30.9	+0.5
GHAJ	Ghor Haditha	10.22	106	S	Sn	00 51 19.7	-4.2
ZFRI	Zfri	10.22	110	P	Pn	00 49 30.9	+0.5
ZFRI	Zfri	10.22	110	S	Sn	00 51 20.2	-3.7
HRFI	Mount Harif	10.35	113	P	Pn	00 49 33.4	+1.2
HRFI	Mount Harif	10.35	113	S	Sn	00 51 24.5	-2.8
MBRI	Mt Berech	10.38	115	P	Pn	00 49 33.8	+1.2
MBRI	Mt Berech	10.38	115	S	Sn	00 51 25.0	-3.0
EIL	Elat	10.47	115	Pn	Pn	00 49 33.3	-0.5
	comp=E,0.3nm,0.3s,baz=338,slow=4.3,SNR=8.0						
	comp=E,1.1nm,0.3s						
EIL	Elat	10.47	115	P	Pn	00 49 35.2	+1.4
EIL	Elat	10.47	115	S	Sn	00 51 27.5	-2.6
ASF	Jabal al Asfar	11.01	99	Pn	Pn	00 49 41.0	-0.3
	comp=E,0.1nm,0.3s,baz=180,slow=1.0,SNR=2.7						
	comp

New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.57**	**56**	Pn	**Pn**	**01 20 17.5**	**-0.2**
TABU	**Tabubil**	**4.37**	**246**	P	**Pn**	**01 20 45.3**	**+2.9**
JAY	**Jayapura**	**4.62**	**282**	Pn	**Pn**	**01 20 43.4**	**-2.5**
	4.5nm,0.3s,baz=222,slow=16,SNR=7.9						
JAY				LR	LR	01 22 24.8	
	comp=Z,841nm,18.7s,baz=338,slow=37						
	12nm,0.4s						
PMG	**Port Moresby**	**6.18**	**162**	Pn	**Pn**	**01 21 06.7**	**-0.7**
	39nm,1.0s,baz=146,slow=18,SNR=3.6						
PMG				Sn	**Sn**	**01 22 17.4**	**0.0**
	1.8nm,0.3s,baz=180,slow=20,SNR=2.1						
PMG				LR	LR	01 23 49.8	
	comp=Z,980nm,19.1s,baz=8.5,slow=42						
KRVT	**Keravat (AS076**	**6.83**	**97**	LR	LR	01 23 29.2	
	comp=Z,355nm,20.8s,baz=5.6,slow=34						
COEN	**Coen**	**10.60**	**191**	Pn	**Pn**	**01 22 12.1**	**+4.1**
COEN	**Coen**	**10.60**	**191**	P	**Pn**	**01 22 12.7**	**+4.7**
HNR	**Honiara**	**15.77**	**113**	Pn	**Pn**	**01 23 19.6**	**+1.5**
HNR	**Honiara**	**15.77**	**113**	Pn	**Pn**	**01 23 18.1**	**-0.1**
	51nm,0.4s,baz=206,slow=13,SNR=4.2						
HNR				LR	LR	01 28 25.6	
	comp=Z,157nm,21.7s,baz=280,slow=34						
MTN	**Manton Dam**	**16.75**	**235**	Pn	**Pn**	**01 23 29.2**	**-1.5**
MTN				IAmb	IAmb	01 23 37.3	
	comp=Z,94nm,1.4s						
QIS	**Mount Isa**	**17.83**	**197**	P	**P**	**01 23 45.8**	**+1.0**
TNTI	**Ternate**	**18.35**	**283**	Pn	**Pn**	**01 23 46.0**	**-4.5**
TNTI				IAmb	IAmb	01 24 05.3	
	comp=Z,33nm,1.0s						
WB0	**Warramunga Arr**	**19.33**	**212**	P	**P**	**01 24 01.0**	**-0.3**
WB0				IAmb	IAmb	01 24 03.6	
	comp=Z,31nm,1.1s						
WR0	**Warramunga Arr**	**19.41**	**212**	P	**P**	**01 24 02.8**	**+0.7**
WR0				IAmb	IAmb	01 24 05.1	
	comp=Z,26nm,1.0s						
WRAB	**Tennant Creek**	**19.49**	**212**	P	**P**	**01 24 02.1**	**-0.9**
WRAB				IAmb	IAmb	01 24 04.7	
	comp=Z,43nm,0.9s						
WB2	**Warramunga Arr**	**19.50**	**212**	P	**P**	**01 24 03.2**	**+0.1**
WB2				IAmb	IAmb	01 24 05.3	
	comp=Z,45nm,0.9s						
WRA	**Warramunga Arr**	**19.50**	**212**	P	**P**	**01 24 02.2**	**-1.0**
WRA	**Warramunga Arr**	**19.50**	**212**	P	**P**	**01 24 02.3**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=35,slow=11,SNR=32						
WRA				S	**S**	**01 27 37.2**	**-5.3**
	comp=Z,4.5nm,1.2s,baz=34,slow=21,SNR=4.6						
WRA				LR	LR	01 32 24.8	
	comp=Z,476nm,20.4s,baz=56,slow=40						
KNRA	**Kununurra**	**20.23**	**232**	P	**P**	**01 24 09.8**	**-1.3**
KNRA				IAmb	IAmb	01 24 11.2	
	comp=Z,28nm,0.5s						
SOEI	**Soe**	**21.72**	**252**	P	**P**	**01 24 26.7**	**-0.7**
AS01	**Alice Springs**	**22.83**	**208**	P	**P**	**01 24 39.3**	**+0.3**
	comp=Z,24nm,0.6s						
AS31	**Alice Springs**	**22.85**	**208**	P	**P**	**01 24 39.0**	**-0.2**
ASAR	**Alice Springs**	**22.85**	**208**	P	**P**	**01 24 39.1**	**-0.2**
	comp=Z,15nm,0.8s,baz=37,slow=8.8,SNR=77						
ASAR				S	**S**	**01 28 46.7**	**-1.0**
	comp=Z,2.1nm,1.1s,baz=35,slow=20,SNR=4.3						
ASAR				LR	LR	01 34 20.3	
	comp=Z,255nm,20.9s,baz=36,slow=39						
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.06**	**231**	P	**P**	**01 24 50.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**24.06**	**231**	LR	LR	01 33 45.5	
	comp=Z,159nm,21.3s,baz=52,slow=36						
TOLI2	**Tolitoli**	**24.86**	**280**	P	**P**	**01 24 57.4**	**-1.2**
TOLI2				IAmb	IAmb	01 25 04.3	
	comp=Z,20nm,0.8s						
OOD	**Oodnadatta**	**25.83**	**200**	P	**P**	**01 25 09.1**	**+1.9**
WRKA	**Warakurna**	**26.92**	**216**	P	**P**	**01 25 17.6**	**+0.5**
LCRK	**Leigh Creek**	**27.62**	**193**	P	**P**	**01 25 25.1**	**+1.8**
DZM	**Mont Dzumac**	**27.66**	**134**	LR	LR	01 35 38.7	
	comp=Z,148nm,18.4s,baz=269,slow=35						
STKA	**Stephens Creek**	**28.45**	**186**	P	**P**	**01 25 30.4**	**-0.2**
STKA				IAmb	IAmb	01 25 33.5	
	comp=Z,5.7nm,0.7s						
STKA	**Stephens Creek**	**28.45**	**186**	P	**P**	**01 25 30.6**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=0.3,slow=9.6,SNR=12						
STKA				LR	LR	01 38 24.8	
	comp=Z,129nm,19.9s,baz=12,slow=40						
	comp=Z,4.6nm,0.6s						
STKA	**Stephens Creek**	**28.45**	**186**	P	**P**	**01 25 33.4**	**+2.7**
HTT	**Hallett**	**30.37**	**190**	P	**P**	**01 25 50.4**	**+2.7**
BBOO	**Buckleboo**	**30.41**	**195**	P	**P**	**01 25 48.9**	**+0.8**
BBOO	**Buckleboo**	**30.41**	**195**	P	**P**	**01 25 50.0**	**+1.9**
PSA00	**Pilbara Seismi**	**30.51**	**232**	P	**P**	**01 25 48.0**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**31.39**	**42**	T	T	01 58 54.2	
	baz=225,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.40**	**42**	T	T	01 58 55.7	
	baz=225,slow=76						
H11N2	**WAKE ISLAND Hy**	**31.40**	**42**	T	T	01 58 55.4	
	baz=225,slow=76						
FORT	**Forrest**	**31.62**	**209**	P	**P**	**01 25 59.1**	**+0.3**
JOW	**Kunigami**	**34.31**	**332**	LR	LR	01 37 12.5	
	comp=Z,161nm,21.3s,baz=354,slow=31						
MORW	**Morawa**	**37.62**	**224**	P	**P**	**01 26 50.1**	**-0.6**
JNU	**Nakatsue**	**38.86**	**341**	LR	LR	01 39 14.3	
	comp=Z,131nm,20.9s,baz=154,slow=30						
NWAO	**Narrogin (SRO)**	**39.29**	**219**	LR	LR	01 44 35.8	
	comp=Z,282nm,19.9s,baz=296,slow=38						
MJAR	**Matsushiro Arr**	**40.36**	**351**	LR	LR	01 42 02.5	
	comp=Z,47nm,18.9s,baz=176,slow=33						
QIZ	**Qiongzhong**	**41.38**	**304**	P	**P**	**01 27 24.4**	**+2.2**
QIZ				S	**S**	**01 33 41.7**	**+5.6**
QIZ				LR	LR		
	comp=Z,110nm,12.7s						
QIZ				LR	LR		
	comp=Z,160nm,10.4s						
QIZ				LR	LR		
	comp=Z,140nm,14.0s						
NJ2	**Nanjing**	**43.33**	**327**	*eP*	**P**	**01 27 37.2**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSRS	**Korea Array**	**43.80**	**340**	LR	LR	01 42 54.6	
	comp=Z,78nm,21.8s,baz=155,slow=32						
URZ	**Urewera**	**45.21**	**144**	LR	LR	01 44 00.8	
	comp=Z,65nm,19.5s,baz=44,slow=32						
GSI	**Gunungsitoli**	**47.87**	**275**	P	**P**	**01 28 12.3**	**-1.8**
USRK	**Ussuriysk Ar.**	**48.94**	**347**	P	**P**	**01 28 22.4**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=170,slow=8.8,SNR=5.1						
	comp=Z,3.0nm,0.8s						
HNS	**HongShan**	**49.59**	**328**	*eP*	P	01 28 32.1	+5.2
CMAR	**Chiang Mai Arr**	**50.52**	**297**	P	**P**	**01 28 33.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=118,slow=6.5,SNR=4.1						
	comp=Z,0.7nm,0.3s						
BNX	**BinXian**	**51.51**	**344**	⇑P	**P**	**01 28 41.1**	**-0.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,2.2s						
HHC	**Hu-ho-hao-te**	**53.78**	**329**	*eP*	**P**	**01 29 00.2**	**+1.8**
HHC				sP	pwP	01 29 08.8	+1.4
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,90nm,4.3s						
HHC				LR	LR		
	comp=Z,79nm,16.8s						
LZH	**Lanzhou**	**55.17**	**319**	*eP*	P	01 29 13.1	+4.5
LZH				sP	pwP	01 29 22.1	+4.4
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
GTA	**Gaotai**	**59.69**	**320**	*eP*	P	01 29 45.2	+4.8
GTA				sP	pwP	01 29 54.5	+4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**61.08**	**20**	LR	LR	01 57 50.9	
	comp=Z,14nm,18.3s,baz=134,slow=38						
SONM	**Songino Array**	**61.37**	**331**	P	**P**	**01 29 53.2**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=106,slow=4.7,SNR=4.8						
SONM				LR	LR	01 55 19.8	
	comp=Z,39nm,20.6s,baz=42,slow=35						
	comp=Z,0.4nm,0.9s						
YAK	**Yakutsk**	**66.42**	**352**	LR	LR	01 58 54.7	
	comp=Z,20nm,18.2s,baz=112,slow=36						
MKAR	**Makanchi Array**	**74.45**	**321**	P	**P**	**01 31 12.6**	**-1.3**
MKAR	**Makanchi Array**	**74.45**	**321**	P	**P**	**01 31 14.7**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=104,slow=7.6,SNR=10						
MKAR				LR	LR	02 04 36.7	
	comp=Z,18nm,19.5s,baz=10.0,slow=36						
	comp=Z,0.9nm,0.9s						
MAKZ	**Makanchi**	**74.65**	**321**	P	**P**	**01 31 15.2**	**+0.1**
MAKZ				IAmb	IAmb	01 31 21.9	
	comp=Z,6.1nm,1.2s						
L14K	**Kuka Creek**	**75.95**	**23**	P	**P**	**01 31 23.1**	**+0.9**
L14K				IAmb	IAmb	01 31 25.4	
	comp=Z,16nm,1.4s						
ZALV	**Zalesovo Beam**	**75.96**	**328**	P	**P**	**01 31 23.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=85,slow=6.1,SNR=1.6						
	comp=Z,0.3nm,0.5s						
KSH	**Kashi**	**76.40**	**312**	P	P	01 31 30.0	+4.6
KSH				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KURK	**Kurchatov**	**78.15**	**323**	P	**P**	**01 31 33.0**	**-1.9**
KURBB	**Kurchatov Arra**	**78.17**	**323**	P	**P**	**01 31 34.2**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=111,slow=5.8,SNR=6.8						
	comp=Z,0.6nm,0.9s						
AAK	**Ala-Archa**	**78.33**	**315**	LR	LR	02 06 29.6	
	comp=Z,33nm,19.9s,baz=92,slow=36						
ARSB	**Arslanbob**	**79.08**	**313**	P	**P**	**01 31 40.7**	**+0.3**
G18K	**Tagagawik**	**80.01**	**20**	P	**P**	**01 31 45.2**	**+0.5**
KKAR	**Karatay Array**	**81.28**	**314**	P	**P**	**01 31 49.6**	**-2.4**
TRF	**Thorofare Moun**	**82.00**	**24**	P	**P**	**01 31 57.4**	**+1.8**
TRF				IAmb	IAmb	01 32 19.3	
	comp=Z,9.8nm,1.4s						
NRIK	**Noril'sk**	**82.36**	**342**	P	**P**	**01 31 58.0**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=96,slow=6.5,SNR=7.1						
NRIK				LR	LR	02 09 39.5	
	comp=Z,32nm,18.4s,baz=147,slow=36						
	comp=Z,0.9nm,0.3s						
RND	**Reindeer**	**82.57**	**24**	P	**P**	**01 31 57.9**	**-0.5**
RND				IAmb	IAmb	01 32 22.5	
	comp=Z,10nm,1.4s						
D22K	**Ayikyak River**	**83.51**	**19**	P	**P**	**01 32 03.8**	**+0.6**
D22K				IAmb	IAmb	01 32 13.2	
	comp=Z,5.7nm,1.5s						
BVAR	**Borovoye Array**	**83.71**	**324**	P	**P**	**01 32 04.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=123,slow=5.5,SNR=9.6						
	comp=Z,1.3nm,0.7s						
BRVK	**Borovoye**	**83.78**	**324**	P	**P**	**01 32 05.4**	**+0.5**
BRVK				IAmb	IAmb	01 32 11.3	
	comp=Z,5.2nm,1.3s						
ILAR	**Eielson Array**	**83.89**	**24**	P	**P**	**01 32 04.3**	**-0.8**
ILAR	**Eielson Array**	**83.89**	**24**	P	**P**	**01 32 04.7**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=258,slow=5.0,SNR=9.4						
ILAR				LR	LR	02 05 27.5	
	comp=Z,21nm,20.3s,baz=254,slow=33						
	comp=Z,0.6nm,1.0s						
J25K	**Salcha River,**	**84.44**	**24**	P	**P**	**01 32 06.7**	**-1.3**
J25K				IAmb	IAmb	01 32 21.0	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**86.46**	**180**	P	**P**	**01 32 17.5**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=357,slow=3.3,SNR=5.3						
QSPA				LR	LR	02 11 14.4	
	comp=Z,38nm,18.3s,baz=32,slow=36						
	comp=Z,1.7nm,0.5s						
YBH	**Yreka Blue Hor**	**93.84**	**49**	LR	LR	02 07 32.6	
	comp=Z,41nm,20.1s,baz=322,slow=31						
NVAR	**Mina Array Bea**	**97.22**	**52**	LR	LR	02 09 04.0	
	comp=Z,43nm,21.6s,baz=247,slow=30						
BELG	**Belogornoye**	**97.39**	**322**	LR	LR	02 17 55.2	
	comp=Z,17nm,21.2s,baz=32,slow=36						
TORD	**Torodi Ar. Bea**	**142.71**	**287**	PKP	**PKPdf**	**01 39 10.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=53,slow=2.7,SNR=1.6						
DBIC	**Dimbokro**	**150.04**	**277**	PKPbc	**PKiKP**	**01 39 27.9**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=0.0,slow=1.0,SNR=1.7						

*IDC **04** 01:35:23.4±1.6,4°.95N×127°.44E,h112km±14km,mb4.0/25, mbtmp4.4/26,MS3.3/4,Error ellipse: s-maj=19.6km s-min=10.3km az=73.0*
*BJI **04** 01:35:23.6,4°.88N×127°.35E,h126km,mB4.9/12,mb4.5/43*
*NEIC **04** 01:35:24.3±1.6,5°.06N±0°.07×127°.42E±0°.06,h109km±6km, mb4.7/97,Error ellipse: s-maj=10.6km s-min=7.7km az=210.0*
*DJA **04** 01:35:24.5±0.4,5°N±3°×12°7E±°,h107km±5km,M4.8/13, mb4.7/12,mB5.2/6,MLv4.9/13,Mw(mB)4.6/6*
ISC 04 01:35:24.4±0.7,4°.97N±0°.04×127°.42E±0°.06,h120km±6km, n161,σ1°.17/167,mb4.6/78,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.27**	**236**	P	**Pn**	**01 36 01.0**	**-0.3**
SGSI				S	**Sn**	**01 36 28.1**	**-1.5**
DAV	**Davao City (W)**	**2.78**	**319**	P	**Pn**	**01 36 05.7**	**-2.1**
	655nm,0.5s,baz=341,slow=2.9,SNR=6.3						
DAV				S	**Sn**	**01 36 41.1**	**-0.2**
	1μm,0.7s,baz=270,slow=18,SNR=14						
DAV				LR	LR	01 37 14.1	
	comp=Z,400nm,21.8s,baz=228,slow=40						
TNTI	**Ternate**	**4.17**	**181**	Pn	**Pn**	**01 36 27.1**	**+0.9**
TNTI	**Ternate**	**4.17**	**181**	P	**Pn**	**01 36 28.5**	**+2.3**
TNTI				S	**Sn**	**01 37 14.8**	**+0.7**
KMSI	**Cibinong**	**5.55**	**218**	P	**Pn**	**01 36 45.6**	**+0.8**
SWI	**Sorong**	**6.95**	**146**	P	**Pn**	**01 37 04.0**	**+0.4**
	0.9nm137nm,0.8s						
SWI				S	**Sn**	**01 38 18.5**	**-2.7**
	0.9nm137nm,0.8s						
MRSI	**Marisa**	**7.06**	**231**	P	**Pn**	**01 37 06.4**	**+1.2**
	0.6nm2μm152nm,0.7s						
SANI	**Sanana**	**7.11**	**192**	P	**Pn**	**01 37 02.0**	**-3.9**
LUWI	**Luwuk**	**7.56**	**218**	Pn	**Pn**	**01 37 13.6**	**+1.6**
LUWI	**Luwuk**	**7.56**	**218**	P	**Pn**	**01 37 12.0**	**0.0**
	0.7nm4μm128nm,0.8s						
TOLI2	**Tolitoli**	**7.66**	**240**	Pn	**Pn**	**01 37 12.8**	**-0.4**
NLAI	**Namlea**	**8.16**	**182**	P	**Pn**	**01 37 19.8**	**-0.2**
	29nm,0.4s						
APSI	**Ampana**	**8.21**	**225**	P	**Pn**	**01 37 21.3**	**+0.6**
	70nm,0.8s						
FAKI	**Fak Fak**	**9.20**	**148**	Pn	**Pn**	**01 37 35.0**	**+0.9**
FAKI	**Fak Fak**	**9.20**	**148**	P	**Pn**	**01 37 35.2**	**+1.1**
	40nm,0.7s						
KDI	**Kendari**	**10.08**	**209**	P	**Pn**	**01 37 45.4**	**-0.6**
	1μm21nm,0.7s						
KAPI	**Kappang**	**12.53**	**218**	LR	LR	01 43 47.7	
	comp=Z,61nm,18.0s,baz=20,slow=40						
SBUM	**Sibu**	**15.37**	**261**	P	**P**	**01 38 56.7**	**-0.3**
KSM	**Kuching**	**17.43**	**259**	P	**P**	**01 39 20.0**	**+0.2**
YULB	**Yu-li**	**19.25**	**343**	P	**P**	**01 39 37.2**	**-2.4**
YULB				IAmb	IAmb	01 39 42.3	
	comp=Z,59nm,1.5s						
TPUB	**Ta-pu**	**19.37**	**341**	P	**P**	**01 39 39.4**	**-1.5**
SSLB	**Suanglung**	**19.72**	**342**	P	**P**	**01 39 43.6**	**-1.2**
SSLB				IAmb	IAmb	01 40 16.3	
	comp=Z,56nm,1.4s						
NACB	**Ninganchiao**	**19.91**	**344**	P	**P**	**01 39 45.1**	**-1.5**
NACB				IAmb	IAmb	01 40 10.4	
	comp=Z,30nm,1.1s						
DLV	**Lat**	**19.96**	**292**	P	**P**	**01 39 46.8**	**-0.7**
DLV				IAmb	IAmb	01 39 52.2	
	comp=Z,33nm,1.1s						
YHNB	**Yeheng**	**20.43**	**344**	P	**P**	**01 39 51.3**	**-1.1**
KNRA	**Kununurra**	**20.55**	**176**	P	**P**	**01 39 54.7**	**+1.1**
KNRA				IAmb	IAmb	01 39 58.6	
	comp=Z,22nm,0.6s						
KNMB	**Chin-men Tao**	**21.24**	**337**	P	**P**	**01 40 00.3**	**-0.7**
QIZ	**Qiongzhong**	**22.12**	**311**	P	**P**	**01 40 09.4**	**-1.0**
QIZ	**Qiongzhong**	**22.12**	**311**	P	**P**	**01 40 10.3**	**-0.1**
QIZ				pP	**pP**	**01 40 31.2**	**-1.2**
QIZ				S	**S**	**01 44 07.8**	**+1.4**
QIZ				sS	**sS**	**01 44 45.4**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.98**	**184**	P	**P**	**01 40 19.4**	**+0.5**
UBPT	**Khong Chiam**	**23.89**	**297**	P	**P**	**01 40 26.2**	**-1.0**
PMG	**Port Moresby**	**24.31**	**126**	LR	LR	01 50 01.6	
	comp=Z,84nm,18.2s,baz=280,slow=36						
WB0	**Warramunga Arr**	**25.52**	**165**	P	**P**	**01 40 41.6**	**-0.3**
WB0				IAmb	IAmb	01 40 45.0	
	comp=Z,31nm,1.3s						
WRA	**Warramunga Arr**	**25.67**	**165**	P	**P**	**01 40 41.1**	**-2.2**
WRA	**Warramunga Arr**	**25.67**	**165**	P	**P**	**01 40 42.6**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=343,slow=10,SNR=28						
WRA				PcP	**PcP**	**01 44 11.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=334,slow=2.5,SNR=1.8						
	comp=Z,4.3nm,0.6s						
WB2	**Warramunga Arr**	**25.67**	**165**	P	**P**	**01 40 43.2**	**-0.2**
WB2				IAmb	IAmb	01 41 12.2	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	**26.13**	**31**	P	**P**	**01 40 45.6**	**-1.8**
KULM	**Kulim**	**26.66**	**272**	P	**P**	**01 40 52.0**	**-0.4**
PSA00	**Pilbara Seismi**	**27.40**	**195**	P	**P**	**01 40 58.1**	**-0.7**
PSA00				IAmb	IAmb	01 41 23.1	
	comp=Z,36nm,1.4s						
SLVN	**Son La**	**28.02**	**308**	P	**P**	**01 41 04.5**	**+0.1**
NJ2	**Nanjing**	**28.12**	**344**	*eP*	**P**	**01 41 07.3**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WHN	**Wuhan**	**28.27**	**336**	P	**P**	**01 41 05.1**	**-1.3**
ASAR	**Alice Springs**	**29.15**	**168**	P	**P**	**01 41 14.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=346,slow=8.5,SNR=11						
ASAR				PcP	**PcP**	**01 44 19.4**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=339,slow=2.7,SNR=6.1						
	comp=Z,1.0nm,0.5s						
PHRA	**Phrae**	**29.76**	**299**	P	**P**	**01 41 20.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.87**	**298**	P	**P**	**01 41 29.6**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=105,slow=7.2,SNR=16						
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**31.01**	**299**	P	**P**	**01 41 31.0**	**+0.2**
CHTO				IAmb	IAmb	01 41 31.6	
	comp=Z,8.9nm,0.8s						
KSRS	**Korea Array**	**32.34**	**1**	P	**P**	**01 41 42.2**	**0.0**
	comp=Z,1.6nm,0.6s,baz=182,slow=9.7,SNR=8.2						
	comp=Z,1.6nm,0.6s						
LYN	**LuoYang**	**32.54**	**337**	P	**P**	**01 41 41.6**	**-2.4**
LYN				pmax	pmax		
	comp=Z,16nm,0.7s						
PZH	**PanZhiHua**	**32.57**	**314**	P	**P**	**01 41 47.4**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
MJAR	**Matsushiro Arr**	**32.95**	**16**	P	**P**	**01 41 46.7**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=185,slow=8.8,SNR=2.3						
	comp=Z,1.6nm,0.4s						
XAN	**Xi'an**	**33.65**	**332**	⇑P	**P**	**01 41 54.6**	**+0.8**
XAN				pP	pwP	01 42 22.8	-2.2
XAN				pmax	pmax		
	comp=Z,43nm,0.6s						
CD2	**Chengdu**	**34.08**	**322**	P	**P**	**01 41 57.4**	**-0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS	**HongShan**	**34.31**	**342**	⇓P	**P**	**01 42 00.6**	**+1.2**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FORT	**Forrest**	**35.55**	**179**	P	**P**	**01 42 10.5**	**+0.4**
MORW	**Morawa**	**35.56**	**197**	P	**P**	**01 42 11.4**	**+1.1**
BJI	**Beijing**	**36.36**	**345**	P	**P**	**01 42 20.9**	**+4.0**
BJI				pP	**pwP**	**01 42 48.6**	**-0.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,35nm,3.8s						
JTM	**Tenmabayashi**	**37.71**	**17**	P	**P**	**01 42 29.3**	**+0.9**
LZH	**Lanzhou**	**37.81**	**328**	*eP*	**P**	**01 42 31.0**	**+1.6**
LZH				pP	pwP	01 42 59.5	-1.5
LZH				sP	sP	01 43 13.5	+5.6
LZH				PcP	**PcP**	**01 44 47.0**	**+3.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
BBOO	**Buckleboo**	**38.45**	**168**	P	**P**	**01 42 35.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**38.46**	**341**	*eP*	**P**	**01 42 38.1**	**+3.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
HHC				LR	LR		
	comp=Z,64nm,8.4s						
NWAO	**Narrogin (SRO)**	**38.91**	**194**	P	**P**	**01 42 40.0**	**+1.5**
STKA	**Stephens Creek**	**39.05**	**161**	P	**P**	**01 42 40.0**	**+0.4**
STKA				IAmb	IAmb	01 43 13.6	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**39.05**	**161**	P	**P**	**01 42 39.4**	**-0.2**
	comp=Z,4.6nm,0.4s,baz=340,slow=8.9,SNR=11						
	comp=Z,4.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**39.28**	**5**	P	**P**	**01 42 41.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**39.28**	**5**	P	**P**	**01 42 41.6**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=193,slow=7.7,SNR=5.0						
	comp=Z,1.7nm,0.5s						
MDJ	**Mudanjiang**	**39.54**	**2**	P	**P**	**01 42 41.5**	**-2.0**
MDJ				pmax	pmax		
	comp=Z,17nm,1.9s						
SHL	**Shillong**	**39.72**	**305**	P	**P**	**01 42 45.4**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**40.62**	**67**	T	T	02 26 26.0	
	baz=253,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.63**	**67**	T	T	02 26 27.7	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.63**	**67**	T	T	02 26 25.2	
	baz=253,slow=74						
ASAJ	**Asahikawa**	**41.22**	**17**	P	**P**	**01 42 57.9**	**+0.5**
	comp=Z,7.7nm,0.4s,baz=218,slow=11,SNR=6.4						
	comp=Z,7.7nm,0.4s						
JKA	**Kamikawa-asahi**	**41.22**	**17**	P	**P**	**01 42 57.7**	**+0.3**
JKA				IAmb	IAmb	01 42 59.7	
	comp=Z,17nm,0.9s						
ARMA	**Armidale**	**42.13**	**148**	P	**P**	**01 43 05.8**	**+0.7**
ARMA				IAmb	IAmb	01 43 18.8	
	comp=Z,16nm,1.4s						
GTA	**Gaotai**	**42.41**	**328**	P	**P**	**01 43 09.5**	**+2.1**
GTA				pP	sP	01 43 42.4	-3.8
GTA				PcP	**PcP**	**01 44 54.6**	**-3.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KLR	**Kul'd

TIXI	Tiksi	66.61	0	P	P	01 46 00.6	-0.9
TIXI				IAmb	IAmb	01 46 02.2	
	comp=Z,9.3nm,1.1s						
BVAR	Borovoye Array	66.67	327	P	P	01 46 02.8	+0.6
	comp=Z,3.4nm,0.7s,baz=59,slow=5.7,SNR=8.5						
	comp=Z,3.4nm,0.7s						
NRIK	Noril'sk	69.40	346	P	P	01 46 18.9	-0.1
	comp=Z,2.0nm,0.6s,baz=143,slow=7.4,SNR=6.0						
	comp=Z,2.0nm,0.6s						
ABKAR	Akbulak array	71.64	320	P	P	01 46 33.5	+0.6
UNV	Unalaska Valle	72.02	35	P	P	01 46 34.8	-0.4
ARTI	Arti	74.35	327	P	P	01 46 47.8	-1.0
K13K	Kusilvak Mount	75.35	27	P	P	01 46 54.2	-0.3
K13K				IAmb	IAmb	01 46 56.3	
	comp=Z,17nm,1.3s						
ANM	Nome	75.86	24	P	P	01 46 55.7	-1.6
L14K	Kuka Creek	76.09	28	P	P	01 46 59.5	+0.8
L14K				IAmb	IAmb	01 47 01.1	
	comp=Z,16nm,1.2s						
M14K	Bethel	76.28	28	P	P	01 46 58.2	-1.5
M14K				IAmb	IAmb	01 47 05.1	
	comp=Z,19nm,1.4s						
MLH	Mauna Loa	76.30	71	P	P	01 47 02.5	+1.6
K15K	Wolf Creek Mou	76.86	27	P	P	01 47 02.6	-0.4
K15K				IAmb	IAmb	01 47 05.1	
	comp=Z,31nm,1.4s						
L16K	Owhat River	77.67	28	P	P	01 47 08.7	+1.2
L16K				IAmb	IAmb	01 47 17.8	
	comp=Z,14nm,1.4s						
K17K	Iditarod	78.42	27	P	P	01 47 12.5	+0.8
K17K				IAmb	IAmb	01 47 14.4	
	comp=Z,12nm,1.1s						
O18K	Koktuh Hills	79.39	30	P	P	01 47 16.8	-0.2
O18K				IAmb	IAmb	01 47 19.2	
	comp=Z,23nm,1.2s						
TTA	Tatalina	79.49	27	P	P	01 47 18.2	+0.6
H19K	Roundabout Mou	79.77	24	P	P	01 47 19.1	+0.2
H19K				IAmb	IAmb	01 47 21.5	
	comp=Z,9.1nm,0.9s						
KDAK	Kodiak Island	80.48	32	P	P	01 47 23.4	+0.5
RAYN	Ar Rayn	80.64	293	P	P	01 47 24.2	-0.4
H21K	Melozitna Rive	81.28	24	P	P	01 47 27.5	+0.4
SKT	Skwentna	81.43	28	P	P	01 47 27.5	-0.5
SKT				IAmb	IAmb	01 47 30.8	
	comp=Z,17nm,1.4s						
SUA	Susitna One	81.76	29	P	P	01 47 29.6	-0.2
SUA				IAmb	IAmb	01 47 30.7	
	comp=Z,13nm,1.1s						
E22K	Anaktuvuk Pass	81.97	22	P	P	01 47 31.4	+0.7
RC01	Rabbit Creek A	82.21	29	P	P	01 47 31.9	-0.2
RC01				IAmb	IAmb	01 47 44.6	
	comp=Z,22nm,1.4s						
COLD	Coldfoot	82.49	23	P	P	01 47 34.1	+0.8
PMR	Palmer	82.54	29	P	P	01 47 33.7	0.0
PMR				IAmb	IAmb	01 47 34.7	
	comp=Z,18nm,1.5s						
KBZ	Khabaz	82.64	313	P	P	01 47 34.5	-0.1
	comp=Z,1.4nm,0.9s,baz=112,slow=5.4,SNR=1.5						
	comp=Z,1.4nm,0.9s						
I23K	Minto, Yukon-K	82.67	25	P	P	01 47 34.8	+0.5
I23K				IAmb	IAmb	01 47 36.2	
	comp=Z,8.0nm,0.9s						
RND	Reindeer	82.77	27	P	P	01 47 34.3	-0.6
RND				IAmb	IAmb	01 47 36.1	
	comp=Z,14nm,1.3s						
KNK	Knik Glacier	82.85	29	P	P	01 47 35.7	+0.4
KNK				IAmb	IAmb	01 47 37.2	
	comp=Z,10.0nm,0.8s						
TOLK	Toolik Lake Re	82.85	21	P	P	01 47 35.9	+0.7
TOLK				IAmb	IAmb	01 47 38.1	
	comp=Z,7.4nm,1.2s						
PWL	Port Wells	82.88	29	P	P	01 47 35.8	+0.2
SML	Sawmill	82.93	28	P	P	01 47 36.2	+0.5
VOI	Vohitsoka	83.18	247	P	P	01 47 38.5	+0.5
VOI				IAmb	IAmb	01 48 03.4	
	comp=Z,19nm,1.4s						
CCB	Clear Creek Bu	83.30	26	P	P	01 47 36.7	-0.9
SCM	Sheep Creek Mo	83.41	28	P	P	01 47 38.7	+0.4
ILAR	Eielson Array	83.70	25	P	P	01 47 38.3	-1.3
ILAR	Eielson Array	83.70	25	P	P	01 47 38.4	-1.2
	comp=Z,1.2nm,0.5s,baz=249,slow=5.3,SNR=30						
	comp=Z,1.2nm,0.5s						
M24K	Tolsona, Glenn	83.96	28	P	P	01 47 42.1	+1.0
KLU	Klutina	84.07	29	P	P	01 47 42.1	+0.4
PAX	Paxson	84.29	27	P	P	01 47 42.8	0.0
E25K	Arctic Village	84.31	22	P	P	01 47 44.0	+1.3
E25K				IAmb	IAmb	01 47 45.5	
	comp=Z,14nm,1.4s						
BMAR	Burnt Mountain	84.68	23	P	P	01 47 45.6	+1.0
N25K	Chitina, Valde	84.70	29	P	P	01 47 45.4	+0.6
N25K				IAmb	IAmb	01 48 09.5	
	comp=Z,29nm,1.5s						
PPT	Papeete	84.84	108	LR	LR	02 22 37.6	
	comp=Z,40nm,19.3s,baz=161,slow=33						
GLB	Gilahina Butte	85.08	29	P	P	01 47 47.5	+0.8
GLB				IAmb	IAmb	01 48 27.8	
	comp=Z,18nm,1.3s						
I28M	Miner Creek	86.62	25	IAmb	IAmb	01 47 55.7	
	comp=Z,6.0nm,1.1s						
MMAI	Mount Meron Ar	89.02	303	P	P	01 48 06.9	+0.6
	comp=Z,1.2nm,0.7s,baz=56,slow=7.7,SNR=1.6						
	comp=Z,1.2nm,0.7s						
SPITS	Spitsbergen Ar	89.41	349	P	P	01 48 07.0	-0.2
	comp=Z,5.8nm,0.9s,baz=58,slow=8.7,SNR=6.0						
	comp=Z,5.8nm,0.9s						
ARCES	ARCESS Array B	89.53	340	P	P	01 48 06.8	-1.1
	comp=Z,2.0nm,0.7s,baz=62,slow=5.6,SNR=5.7						
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	89.77	310	P	P	01 48 08.9	-0.9
	comp=Z,0.8nm,0.8s,baz=111,slow=3.2,SNR=5.5						
	comp=Z,0.8nm,0.8s						
AKASG	Malin Array Be	91.37	321	P	P	01 48 15.0	-1.8
	comp=Z,0.2nm,0.4s,baz=64,slow=5.0,SNR=2.3						
	comp=Z,0.2nm,0.4s						
YKA	Yellowknife Ar	98.10	24	P	P	01 48 46.0	-1.3
	comp=Z,0.3nm,0.7s,baz=286,slow=8.4,SNR=2.9						
	comp=Z,0.3nm,0.7s						
SCHQ	Schefferville	119.25	9	PKP	PKPdf	01 53 59.1	-0.3
	comp=Z,2.0nm,0.9s,baz=304,slow=3.6,SNR=2.4						
TXAR	Lajitas Array	120.30	52	PKP	PKPdf	01 54 02.5	+0.2
	comp=Z,0.3nm,0.6s,baz=310,slow=3.0,SNR=5.3						
TORD	Torodi Ar. Bea	123.18	289	PKP	PKPdf	01 54 07.5	-0.6
	comp=Z,0.6nm,0.7s,baz=95,slow=2.3,SNR=5.7						

NNC ***04*** *01:37:13.1±0.7, 44°.17N×80°.78E, h0km±4km, mb3.6, mpv3.5, Error ellipse: s-maj=5.8km s-min=3.6km az=111.0*
SOME ***04*** *01:37:13.4, 44°.13N×80°.85E, h25km*
ISC 04 01:37:10.3±1.2,**44°.21N**±0°.03×**80°.92E**±0°.04,**h13**km±10km,
n40,σ1$**58**/59,**17C-5D**,**Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.82	279	P	Pn	01 37 28.3	+0.7
DJR	312nm,0.2s			S	Sn	01 37 39.0	-0.7
	212nm,0.1s						
DJR	Jarkent	0.82	279	eP	Pn	01 37 28.3	+0.7
DJR	312nm,0.2s			eS	Sn	01 37 38.8	-0.8
	212nm,0.1s						
KTMS	Ketmen	0.86	208	P	Pn	01 37 28.9	+0.6
KTMS	27nm,0.1s			S	Sn	01 37 40.1	-0.7
	105nm,0.1s						
KTMS	Ketmen	0.86	208	eP	Pn	01 37 28.7	+0.5
KTMS	27nm,0.1s			eS	Sn	01 37 39.9	-0.9
	105nm,0.1s						
PDGK	Podgornoye	1.35	230	⇑P	Pg	01 37 36.8	+0.4
PDGK	3.0nm,0.2s			⇑S	Sg	01 37 54.1	+0.1
	134nm,0.6s						
SHLS	Shalkode	1.49	226	P	Pn	01 37 36.0	-0.8
SHLS	52nm,0.2s			S	Sn	01 37 53.1	-3.1
	285nm,0.3s						
SHLS	Shalkode	1.49	226	eP	Pn	01 37 36.0	-0.8
SHLS	52nm,0.2s			eS	Sn	01 37 53.0	-3.2
	285nm,0.3s						
UZB	Uzynbulak	1.73	233	P	Pb	01 37 42.9	+0.8
UZB	14nm,0.2s			S	Sb	01 38 05.1	+1.3
	245nm,0.4s						
UZB	Uzynbulak	1.73	233	eP	Pb	01 37 42.9	+0.8
UZB	14nm,0.2s			eS	Sb	01 38 05.1	+1.3
	245nm,0.4s						
KPKS	Kokpek	1.78	246	P	Pb	01 37 43.7	+0.9
KPKS	58nm,0.2s			S	Sg	01 38 06.5	-0.9
	350nm,0.3s						
KPKS	Kokpek	1.78	246	eP	Pb	01 37 43.7	+0.9
KPKS	58nm,0.2s			eS	Sb	01 38 06.0	+1.0
	350nm,0.3s						
TDK	Taldyqorghan	1.96	295	P	Pg	01 37 48.1	+0.2
TDK	49nm,0.3s			S	Sg	01 38 13.4	0.0
	273nm,0.5s						
TDK	Taldyqorghan	1.96	295	eP	Pg	01 37 48.1	+0.2
TDK	49nm,0.3s			eS	Sg	01 38 13.4	0.0
	273nm,0.5s						
ZHN	Zhinishke	2.08	241	Pg	Pg	01 37 49.3	-0.8
ZHN	10nm,0.2s			Lg	Lg	01 38 15.4	
	432nm,0.3s						
ZHN	Zhinishke	2.08	241	eP	Pg	01 37 49.4	-0.8
ZHN	10nm,0.2s			eS	Sb	01 38 15.4	+1.8
	432nm,0.3s						
KURS	Kuram	2.11	251	Pg	Pb	01 37 49.5	+1.0
KURS	7.3nm,0.3s			Lg	Lg	01 38 16.0	
	39nm,0.3s						
SATY	Saty	2.15	239	Pg	Pb	01 37 49.9	+0.7
SATY	12nm,0.2s			Lg	Lg	01 38 16.8	
	145nm,0.2s						
SATY	Saty	2.15	239	eP	Pg	01 37 51.9	+0.3
SATY	12nm,0.1s			eS	Sg	01 38 19.7	+0.2
	104nm,0.3s						
ARXS	Arharly	2.22	271	Pg	Pg	01 37 52.3	-0.6
ARXS	12nm,0.1s			Lg	Lg	01 38 20.1	
	104nm,0.3s						
MAKZ	Makanchi	2.71	16	⇓Pg	Pg	01 38 03.8	+1.6
MAKZ	1.2nm,0.3s			⇑Lg	Lg	01 38 35.9	
	3.9nm,0.2s						
MK31	Makanchi Array	2.76	20	⇑Pn	Pb	01 37 59.8	+0.3
	0.4nm,0.1s,baz=209,slow=17,SNR=86						
MK31				⇑Pg	Pg	01 38 04.7	+1.4
	1.5nm,0.3s,baz=197,slow=17,SNR=26						
MK31				⇑Lg	Lg	01 38 39.8	
	1.3nm,0.2s,baz=192,slow=32,SNR=14						
MDOK	Medeo	2.99	251	⇑Pn	Pn	01 38 00.3	+2.7
MDOK	6.9nm,0.4s			Pg	Pb	01 38 04.5	+0.9
	3.6nm,0.3s						
MDOK				Lg	Lg	01 38 41.4	
	18nm,0.6s						
MDOK				⇑Lg	Lg	01 38 41.7	
	11nm,0.6s						
MDOK	Medeo	2.99	251	eP	Pb	01 38 04.5	+0.9
MDOK	3.6nm,0.3s			eS	Sb	01 38 41.4	+1.3
	18nm,0.6s						
KNDC	Almaty	3.03	252	⇓Pn	Pn	01 37 59.7	+1.7
KNDC	9.9nm,0.4s			⇑Lg	Lg	01 38 44.2	
	41nm,0.6s						
KTBS	Karatobe	3.10	262	Pg	Pg	01 38 10.1	+0.4
KTBS	11nm,0.5s			Lg	Lg	01 38 50.8	
	43nm,0.3s						
TNSS	Tian-Shan	3.11	249	Pg	Pb	01 38 07.2	+1.5
TNSS	3.3nm,0.3s			Lg	Lg	01 38 46.1	
	16nm,0.4s						
TNSS	Tian-Shan	3.11	249	eP	Pb	01 38 07.2	+1.5
TNSS	3.3nm,0.3s			eS	Sb	01 38 46.1	+2.4
	16nm,0.4s						
MTBS	Maitube	3.43	253	Pg	Pb	01 38 12.7	+1.8
MTBS	16nm,0.3s			Lg	Lg	01 38 55.4	
	29nm,0.3s						
MTBS	Maitube	3.43	253	eP	Pb	01 38 12.7	+1.8
MTBS	16nm,0.3s			eS	Sb	01 38 55.5	+2.9
	29nm,0.3s						
KST	Kastek	3.78	254	eP	Pg	01 38 20.5	-2.2
KST	9.8nm,0.3s			eS	Sg	01 39 09.3	-2.4
	12nm,0.3s						
KRBS	Karabastau	3.82	264	Pg	Pg	01 38 20.8	-2.7
KRBS	7.5nm,0.4s			Lg	Lg	01 39 09.2	
	9.9nm,0.3s						
DGS	Degeres	3.85	257	Pg	Pg	01 38 23.7	-0.4
DGS	7.1nm,0.4s			Lg	Lg	01 39 13.8	
	25nm,0.5s						
TKM2	Tokmak 2	4.07	253	⇑Pn	Pb	01 38 18.2	-3.8
TKM2	7.7nm,0.6s			⇑Lg	Lg	01 39 18.3	
	5.7nm,0.3s						
ZSN	Zaisan	4.26	39	Pg	Pg	01 38 31.6	-0.3
ZSN	2.2nm,0.2s			Lg	Lg	01 39 27.8	
	20nm,0.6s						
ZSN	Zaisan	4.26	39	eP	Pg	01 38 30.5	-1.4
ZSN	2.2nm,0.2s			eS	Sg	01 39 26.1	-0.9
	20nm,0.6s						
CHMS	Chumysh	4.64	257	⇑Pn	Pb	01 38 26.1	-5.4
CHMS	2.0nm,0.6s			⇓Lg	Lg	01 39 34.1	
	4.5nm,0.4s						
KURBB	Kurchatov Arra	6.62	347	⇓Pg	Pg	01 39 14.2	-2.7
KURBB	0.3nm,0.3s			⇑Lg	Lg	01 40 39.3	
	7.3nm,0.8s						
KURK	Kurchatov	6.70	347	⇓Pg	Pg	01 39 15.2	-3.2
KURK	0.3nm,0.5s			⇑Lg	Lg	01 40 44.5	
	5.3nm,0.9s						
OTUK	Ortayu	7.19	307	⇑Lg	Lg	01 40 58.9	
	4.7nm,1.1s						
KK31	Karatay Array	7.63	265	⇑Pg	Pb	01 39 28.4	+6.0
KK31	0.2nm,0.4s			⇑Lg	Lg	01 41 06.8	
	1.0nm,0.5s,baz=78,slow=28,SNR=4.1						

SKHL ***04*** *01:38:03.4±0.4, 46°.00N×150°.10E, h170km±8km, mb4.9/3, msha5.5/3*
MOS ***04*** *01:38:04.4±1.2, 46°.45N×149°.67E, h186km, mb4.1/17, Error ellipse: s-maj=9.4km s-min=6.2km az=64.8*
JMA ***04*** *01:38:05.9±0.7, 46°.N±4°.×15°.0E±°, h168km, MV3.9/11, KURILE ISLANDS REGION*
IDC ***04*** *01:38:06.5±1.8, 46°.61N×149°.49E, h187km±16km, mb3.6/25, mbtmp4.1/31, Error ellipse: s-maj=14.3km s-min=10.1km az=153.0*
NEIC ***04*** *01:38:07.9±1.3, 46°.6N±0°.2×149°.5E±0°.2, h194km±9km, mb4.1/129, Error ellipse: s-maj=27.6km s-min=12.6km az=151.0*
ISC 04 01:38:02.7±0.4,**46°.35N**±0°.06×**149°.74E**±0°.05,**h158**km,
n424,σ1$**29**/431,**mb4.1**/97,**3C-6D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.72	230	d iPN	Pn	01 38 38.3	+3.1
KUR				i S	Sn	01 39 08.9	+8.8
KUR				pmax	pmax		
	comp=Z,216nm,0.5s						
KUR				smax	smax		
	comp=E,341nm,0.6s						
KUR				smax	smax		
	comp=N,110nm,0.4s						
KUR	Kuril'sk	1.72	230	eP	Pn	01 38 38.7	+3.5
KUR				AMB	AMB	01 38 38.9	
	comp=N,220nm,0.5s						
KUR				i S	Sn	01 39 05.9	+5.8
KUR				A	A	01 39 09.5	
	comp=N,410nm,0.5s						
KUR				A	A	01 39 09.5	
	comp=N,350nm,0.5s						
SHO	Shikotan	3.23	221	⇓iPN	Pn	01 38 54.5	+1.3
SHO				pmax	pmax		
	comp=E,17nm,0.2s						
SHO				pmax	pmax		
	comp=Z,29nm,0.2s						
SHO	Shikotan	3.23	221	i P	Pn	01 38 54.5	+1.3
SHO				AMB	AMB	01 38 57.8	
	comp=Z,30nm,0.2s						
SHO				i S	Sn	01 39 32.1	-0.2
SHO				A	A	01 39 34.7	
	comp=Z,180nm,0.4s						
SHO				A	A	01 39 34.7	
	comp=Z,340nm,0.4s						
YUK	Yuzh-Kuril'sk	3.59	231	ePN	Pn	01 39 01.7	+3.9
YUK				eS	Sn	01 39 43.7	+3.1
YUK				pmax	pmax		
	comp=Z,146nm,0.3s						
YUK				pmax	pmax		
	comp=E,24nm,0.1s						
YUK				smax	smax		
	comp=N,328nm,0.5s						
YUK				smax	smax		
	comp=E,366nm,0.5s						
YUK	Yuzh-Kuril'sk	3.59	231	eP	Pn	01 38 59.7	+1.9
YUK				AMB	AMB	01 39 03.2	
	comp=E,150nm,0.3s						
YUK				eS	Sn	01 39 45.3	+4.7
YUK				A	A	01 39 50.5	
	comp=E,330nm,0.5s						
YUK				A	A	01 39 50.5	
	comp=E,370nm,0.5s						
RUSJ	Misakicho	3.89	236	ePN	Pn	01 39 07.9	+6.3
RUSJ				eS	Sn	01 39 56.7	+9.2
NEM2	Nemuro 2	4.12	225	eP	Pn	01 39 05.4	+0.7
NEM2				eS	Sn	01 39 50.6	-2.3
NMR	Nemuro--Hokkai	4.13	225	ePN	Pn	01 39 05.3	+0.6
NMR	Nemuro--Hokkai	4.13	225	eP	Pn	01 39 05.5	+0.8
JNK	Nakash	4.51	234	P	Pn	01 39 12.4	+2.6
JTKR	Abashiri--Toko	4.76	242	eP	Pn	01 39 16.6	+3.6
AKK	Akkeshi	4.83	228	eP	Pn	01 39 15.3	+1.4
YSS	Yuzhno-Sakhali	4.85	280	ePN	Pn	01 39 16.3	+2.2
YSS				eS	Sn	01 40 12.0	+2.1
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	Yuzhno-Sakhali	4.85	280	eP	Pn	01 39 17.8	+3.7
JAK	Akkeshi	4.92	229	eP	Pn	01 39 15.8	+0.8
JAK				eS	Sn	01 40 10.4	-1.2
JAR	Ashorobuto	5.23	236	P	Pn	01 39 22.6	+3.4
JAR				S	Sn	01 40 21.8	+2.8
JOB	Onbets	5.44	233	P	Pn	01 39 23.7	+1.7
JOB				S	Sn	01 40 23.7	-0.4
JKA	Kamikawa-asahi	5.51	249	Pn	Pn	01 39 27.9	+4.9
JKA	Kamikawa-asahi	5.51	249	eP	Pn	01 39 27.9	+4.9
ASAJ	Asahikawa	5.52	249	P	Pn	01 39 26.7	+3.7
	comp=Z,5.1nm,0.4s,baz=112,slow=19,SNR=8.1						
ASAJ				S	Sn	01 40 25.0	-0.8
	comp=Z,3.7nm,0.3s,baz=124,slow=15,SNR=1.4						
ASAJ	Asahikawa	5.52	249	PN	Pn	01 39 27.9	+4.9
JCH	Churui	5.90	233	P	Pn	01 39 29.2	+1.2
JCH				S	Sn	01 40 32.5	-2.3
SKR	Severo-Kuril's	6.06	42	eP	Pn	01 39 34.5	+4.4
ERM	Erimo	6.42	230	Pn	Pn	01 39 38.3	+3.4
ERM	Erimo	6.42	230	PN	Pn	01 39 38.3	+3.4
JNBK	Urakawa-nobuka	6.46	233	P	Pn	01 39 35.3	-0.2
JNBK				S	Sn	01 40 44.5	-3.7
TYV	Tymovskoe	6.51	316	ePN	Pn	01 39 47.9	+12
TYV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,5.0s						
TYV	Tymovskoe	6.51	316	eP	Pn	01 39 44.0	+7.9
TYV				eS	Sn	01 41 02.7	+13
JTM	Tenmabayashi	8.40	232	Pn	Pn	01 39 58.8	-2.5
PEA0B	Petropavlovsk-	8.50	34	Pn	Pn	01 40 03.9	+1.4
PEA0B	Petropavlovsk-	8.50	34	⇓ePN	Pn	01 40 04.6	+2.1
PETK	Petropavlovsk-	8.50	34	P	Pn	01 40 03.8	+1.3
	comp=Z,2.9nm,0.7s,baz=45,slow=18,SNR=6.8						
KLR	Kul'dur	12.43	290	P	Pn	01 40 54.4	+0.2
	comp=Z,4.5nm,0.9s,baz=108,slow=17,SNR=9.9						
KLR	Kul'dur	12.43	290	⇓ePN	P	01 40 57.0	-2.7
KLR	Kul'dur	12.43	290	eP	P	01 40 57.0	-2.7
USA0B	Ussuriysk Arra	12.69	267	P	Pn	01 40 59.2	+1.7
USA0B	Ussuriysk Arra	12.69	267	PN	Pn	01 40 59.2	+1.7
USRK	Ussuriysk Ar.	12.69	267	Pn	Pn	01 40 55.0	-2.5
USRK	Ussuriysk Ar.	12.69	267	P	Pn	01 40 58.5	+1.0
	comp=Z,2.4nm,0.6s,baz=73,slow=12,SNR=7.4						
MJB9	Matsu-Tunnel	13.06	225	Pn	P	01 41 05.5	-1.2
MAJO	Matsushiro	13.06	225	Pn	P	01 41 05.5	-1.2
MAJO	Matsushiro	13.06	225	PN	P	01 41 05.5	-1.2
VLA	Vladivostok	13.10	262	⇓ePN	Pn	01 41 04.4	+1.7
HEH	HeiHe	15.35	293	eP	P	01 41 33.8	+1.9
HEH				pmax	pmax		
	comp=Z,17nm,1.1s						
ZEA	Zeya	16.18	305	eP	P	01 41 42.9	+1.8
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA	Zeya	16.18	305	eP	P	01 41 44.4	+3.3
SEY	Seymchan	16.68	4	P	Pn	01 41 46.7	-0.2
	comp=Z,4.7nm,0.5s,baz=183,slow=9.1,SNR=23						
SEY	Seymchan	16.68	4	⇑iP	Pn	01 41 47.7	+0.8
SEY				pmax	pmax		
	comp=Z,18nm,1.3s						
SEY	Seymchan	16.68	4	eP	Pn	01 41 47.7	+0.8
KSRS	Korea Array	18.47	249	P	Pn	01 42 08.8	+0.4
	comp=Z,1.1nm,0.6s,baz=55,slow=10,SNR=4.7						
KSRS	Korea Array	18.47	249	eP	Pn	01 42 09.4	+1.1
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	Korea Array	18.47	249	eP	Pn	01 42 09.4	+1.1
YAK	Yakutsk	19.47	331	⇓eP	Pn	01 42 18.6	-1.2
YAK				pmax	pmax		
	comp=Z,25nm,0.6s						
YAK	Yakutsk	19.47	331	eP	Pn	01 42 21.5	+1.7
SPIA	Saint Paul Isl	26.64	51	P	P	01 43 27.3	+1.1
	baz=264						
P08K	Saint George I	26.96	53	P	P	01 43 30.3	+1.1
	baz=266						
TIXI	Tiksi	27.23	346	⇑eP	P	01 43 30.8	-0.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s						
HHC	Hu-ho-hao-te	27.99	273	eP	P	01 43 40.0	+1.4
HHC				pP	pwP	01 44 13.4	-1.6
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,62nm,4.5s						
UNV	Unalaska Valle	28.66	59	P	P	01 43 45.5	+1.3
	baz=274						
M11K	Mekoryuk	29.16	45	P	P	01 43 48.1	-0.5
M11K	Mekoryuk	29.16	45	P	P	01 43 48.7	+0.1
	baz=262						
SONM	Songino Array	29.26	289	PcP	PcP	01 46 52.1	-0.5
	comp=Z,0.4nm,0.8s,baz=90,slow=3.6,SNR=3.0						
TNA	Tin City	29.67	34	P	P	01 43 53.1	+0.1
TNA				IAmb	IAmb	01 43 55.0	
	comp=Z,7.2nm,1.1s						
TNA	Tin City	29.67	34	P	P	01 43 52.5	-0.5
	baz=251						
K13K	Kusilvak Mount	30.15	42	P	P	01 43 57.9	+0.6
	baz=261						
F14K	Arctic Creek	30.27	35	P	P	01 43 58.8	+0.5
	baz=253						
ANM	Nome	30.40	37	P	P	01 44 01.0	+1.5
ANM	Nome	30.40	37	P	P	01 43 59.9	+0.4
	baz=256						
ANM	Nome	30.40	37	P	P	01 44 01.0	+1.5
ANM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
M13K	Dall Lake	30.57	45	P	P	01 44 02.6	+1.6
J14K	Nanvaranak Lak	30.80	41	P	P	01 44 03.8	+0.8
L14K	Kuka Creek	31.00	44	P	P	01 44 06.2	+1.4
L14K	Kuka Creek	31.00	44	P	P	01 44 04.7	-0.1
	baz=264						
F15K	North Star D

baz=274
M14K Bethel 31.29 45 P P 01 44 08.4 +1.2
M14K IAmb IAmb 01 44 26.8
comp=Z,4.7nm,1.1s
M14K Bethel 31.29 45 P P 01 44 07.3 0.0
baz=265
N14K Kuskokwak Cree 31.36 47 P P 01 44 08.7 +0.8
baz=267
O14K Tigyukauivet M 31.54 48 P P 01 44 09.7 +0.1
baz=268
C16K Lisburne Hills 31.57 30 P P 01 44 09.6 -0.1
C16K IAmb IAmb 01 44 10.6
comp=Z,2.3nm,0.7s
C16K Lisburne Hills 31.57 30 P P 01 44 09.7 0.0
baz=250
L15K Ungalak Mounta 31.61 43 P P 01 44 09.8 -0.3
baz=264
K15K Wolf Creek Mou 31.66 42 P P 01 44 10.8 +0.2
baz=263
H16K Elim 31.74 37 P P 01 44 10.5 -0.7
baz=259
G16K Koyuk River 31.85 36 P P 01 44 12.8 +0.6
G16K Koyuk River 31.85 36 P P 01 44 12.2 0.0
baz=257
M15K Kasigluk River 31.90 45 P P 01 44 13.6 +0.9
baz=267
N15K Kwethluk River 32.17 46 P P 01 44 16.1 +1.0
N15K IAmb IAmb 01 44 25.6
comp=Z,6.0nm,1.0s
N15K Kwethluk River 32.17 46 P P 01 44 15.7 +0.6
baz=268
D17K Noatak River 32.18 32 P P 01 44 15.2 +0.1
baz=253,SNR=8.6
J16K Anvik River 32.22 40 P P 01 44 16.4 +1.0
baz=262
I17K Unalakleet 32.26 39 P P 01 44 15.3 -0.5
baz=262
O15K Ungalikthiuk R 32.28 48 P P 01 44 16.4 +0.4
baz=270
C17K DeLong Mountai 32.39 30 P P 01 44 17.2 +0.3
baz=252
E17K Hotham Inlet 32.47 33 P P 01 44 17.8 +0.2
baz=255
F17K Baldwin Pennin 32.53 34 P P 01 44 19.2 +1.1
F17K Baldwin Pennin 32.53 34 P P 01 44 18.7 +0.6
baz=257
L16K Owhat River 32.56 43 P P 01 44 19.4 +1.0
L16K Owhat River 32.56 43 P P 01 44 19.6 +1.1
baz=266
G17K Kiwalik Mounta 32.57 36 P P 01 44 18.6 +0.1
baz=259
CHNA Chernabura Isl 32.62 56 P P 01 44 20.0 +1.0
baz=277
M16K Timber Creek 32.77 45 P P 01 44 21.4 +1.1
M16K Timber Creek 32.77 45 P P 01 44 20.9 +0.6
baz=268
H17K Granite Mounta 32.77 37 P P 01 44 19.9 -0.3
baz=261
N16K Nishlik Lake 32.84 46 P P 01 44 22.0 +1.1
baz=269
E18K Tukpahlearik C 33.02 33 P P 01 44 23.1 +0.8
E18K IAmb IAmb 01 44 24.2
comp=Z,2.3nm,0.4s
E18K Tukpahlearik C 33.02 33 P P 01 44 22.3 -0.1
baz=256
C18K Utukok River 33.14 30 P P 01 44 23.6 +0.1
C18K IAmb IAmb 01 44 25.0
comp=Z,6.5nm,1.1s
C18K Utukok River 33.14 30 P P 01 44 23.3 -0.2
baz=254
CHGN Chignik 33.14 53 P P 01 44 23.6 +0.2
baz=275
B18K Kokolik River 33.15 29 P P 01 44 23.9 +0.5
baz=252,SNR=5.9
L17K Donlin 33.15 43 P P 01 44 25.2 +1.6
baz=266
K17K Iditarod 33.19 42 P P 01 44 24.2 +0.3
baz=266
F18K Selawik 33.20 34 P P 01 44 24.5 +0.6
baz=258
H18K Honhosa River 33.45 37 IAmb IAmb 01 44 28.3
comp=Z,5.1nm,0.7s
H18K Honhosa River 33.45 37 P P 01 44 26.0 -0.2
baz=262
G18K Tagagawik 33.46 36 P P 01 44 27.1 +0.9
G18K Tagagawik 33.46 36 P P 01 44 26.1 -0.1
baz=260,SNR=7.6
M17K Holitna River 33.52 44 P P 01 44 27.6 +0.8
M17K Holitna River 33.52 44 P P 01 44 27.6 +0.8
baz=268
N17K Nushagak Hills 33.62 46 P P 01 44 29.0 +1.3
O17K Koliganek Bris 33.67 47 P P 01 44 27.9 -0.1
baz=271
F19K Shaleruckik Mo 33.97 34 P P 01 44 30.9 +0.3
F19K IAmb IAmb 01 44 32.1
comp=Z,3.9nm,0.7s
F19K Shaleruckik Mo 33.97 34 P P 01 44 30.8 +0.3
baz=260
P17K Kvichak River 34.02 48 P P 01 44 30.8 -0.3
baz=273
G19K Purcell Mounta 34.13 35 IAmb IAmb 01 44 33.5
comp=Z,3.4nm,0.8s
G19K Purcell Mounta 34.13 35 P P 01 44 31.4 -0.6
baz=262
D19K Kuna River 34.19 31 P P 01 44 31.8 -0.7
baz=257
TTA Tatalina 34.26 41 P P 01 44 34.5 +1.3
TTA Tatalina 34.26 41 P P 01 44 33.3 +0.1
baz=267
TTA Tatalina 34.26 41 P P 01 44 34.5 +1.3
N18K Kilae Creek 34.26 45 P P 01 44 35.0 +1.8
N18K Kilae Creek 34.26 45 P P 01 44 33.3 +0.1
baz=271
E19K Redstone River 34.30 33 P P 01 44 33.2 -0.2
baz=260
M18K Stony River 34.30 44 P P 01 44 33.6 +0.2
baz=270
H19K Roundabout Mou 34.30 37 P P 01 44 34.7 +1.3
H19K Roundabout Mou 34.30 37 P P 01 44 33.6 +0.2
baz=263,SNR=14
Q17K Contact Creek 34.36 50 P P 01 44 34.2 0.0
baz=274
J19K Poorman 34.50 39 P P 01 44 35.3 +0.1
J19K Poorman 34.50 39 P P 01 44 35.1 -0.1
baz=266
L19K White Mountain 34.77 43 P P 01 44 36.6 -0.9
baz=270
D20K Etivluk River 34.77 31 P P 01 44 36.9 -0.7
baz=258
F20K Avaraart Lake 34.80 34 P P 01 44 37.8 +0.1
baz=262
E20K Nigu River 34.84 32 P P 01 44 37.8 -0.3
baz=260
H20K Anotleneega Mo 34.95 37 P P 01 44 38.6 -0.5
baz=265
K20K Telida 35.16 41 P P 01 44 40.6 -0.3
baz=269
J20K Nowinta River 35.16 39 P P 01 44 41.6 +0.8
J20K IAmb IAmb 01 44 43.1
comp=Z,2.9nm,0.7s
J20K Nowinta River 35.16 39 P P 01 44 40.8 0.0
baz=267
A21K Barrow 35.40 27 P P 01 44 42.0 -0.7
baz=255,SNR=5.6
SII Sitkinak Islan 35.45 52 P P 01 44 43.4 0.0
baz=278
C21K Knifeblade Rid 35.51 31 P P 01 44 42.9 -0.9
baz=260
M20K Styx River 35.58 43 P P 01 44 45.9 +1.3
M20K Styx River 35.58 43 P P 01 44 44.1 -0.5
baz=272
G21K Allakaket 35.61 35 P P 01 44 44.3 -0.3
baz=265
B21K Ikpikpuk River 35.66 30 P P 01 44 44.3 -0.7
baz=259
F21K Alatna River 35.70 34 IAmb IAmb 01 44 47.7
comp=Z,3.6nm,0.8s
F21K Alatna River 35.70 34 P P 01 44 45.1 -0.3
baz=264
H21K Melozitna Rive 35.82 37 P P 01 44 47.5 +1.0
H21K IAmb IAmb 01 44 48.3
comp=Z,3.2nm,0.8s
H21K Melozitna Rive 35.82 37 P P 01 44 46.4 -0.1
baz=266
SPCR Spurr Chakacha 36.05 44 P P 01 44 48.5 0.0
baz=273
SPU Mount Spurr 36.12 44 P P 01 44 49.9 +0.8

I21K Tanana 36.14 38 P P 01 44 49.1 0.0
baz=268
KDAK Kodiak Island 36.15 50 P P 01 44 50.4 +1.1
baz=278
B22K Teshekpuk Lake 36.20 29 P P 01 44 49.0 -0.6
baz=259
D22K Ayikyak River 36.21 31 P P 01 44 50.2 +0.5
D22K Ayikyak River 36.21 31 P P 01 44 50.1 +0.3
baz=262,SNR=10.0
STLK Strandline Lak 36.21 44 P P 01 44 51.6 +1.7
H22K Ishtalitna Cre 36.42 36 P P 01 44 51.8 +0.2
baz=268
E22K Anaktuvuk Pass 36.44 33 P P 01 44 52.6 +0.9
E22K Anaktuvuk Pass 36.44 33 P P 01 44 52.2 +0.5
baz=264,SNR=18
G22K Bettles 36.44 35 P P 01 44 51.9 +0.2
baz=266
KTH Kantishna Hill 36.57 40 P P 01 44 54.5 +1.5
KTH IAmb IAmb 01 44 59.9
comp=Z,6.6nm,1.1s
SUA Susitna One 36.73 44 P P 01 44 55.2 +0.8
SUA IAmb IAmb 01 45 05.2
comp=Z,4.4nm,1.1s
TRF Thorofare Moun 36.86 40 P P 01 44 55.4 -0.1
baz=272
BRSE Bradley Lake S 36.88 47 P P 01 44 56.0 +0.4
baz=276
D23K Nanushuk River 36.94 31 P P 01 44 56.8 +0.9
D23K Nanushuk River 36.94 31 P P 01 44 56.2 +0.3
baz=264
COLD Coldfoot 36.97 34 P P 01 44 57.0 +0.8
COLD IAmb IAmb 01 44 57.8
comp=Z,4.5nm,0.6s
COLD Coldfoot 36.97 34 P P 01 44 56.2 0.0
baz=267,SNR=6.7
G23K Bananza Creek 37.01 35 P P 01 44 57.6 +1.0
G23K IAmb IAmb 01 44 58.7
comp=Z,6.5nm,1.0s
G23K Bananza Creek 37.01 35 P P 01 44 56.7 +0.1
baz=268
C23K Itkillik River 37.07 30 P P 01 44 57.6 +0.6
C23K Itkillik River 37.07 30 P P 01 44 57.2 +0.3
baz=263
I23K Minto, Yukon-K 37.24 38 P P 01 44 59.5 +1.1
I23K Minto, Yukon-K 37.24 38 P P 01 44 59.0 +0.5
baz=270
E23K Chandalar 37.25 33 P P 01 44 59.5 +0.8
E23K Chandalar 37.25 33 P P 01 44 58.4 -0.2
baz=266
RC01 Rabbit Creek A 37.25 44 P P 01 44 59.5 +0.9
baz=275
TOLK Toolik Lake Re 37.31 32 P P 01 44 59.4 +0.3
TOLK IAmb IAmb 01 45 00.8
comp=Z,4.3nm,0.6s
TOLK Toolik Lake Re 37.31 32 P P 01 44 58.1 -1.0
baz=266
NEA2 Nenana 37.37 39 P P 01 45 00.9 +1.3
NEA2 IAmb IAmb 01 45 01.8
comp=Z,6.9nm,1.1s
NEA2 Nenana 37.37 39 P P 01 44 59.7 0.0
baz=271
MCK McKinley 37.46 40 P P 01 45 00.3 -0.1
baz=273
SEW Seward 37.49 46 P P 01 44 59.3 -1.2
RND Reindeer 37.51 40 P P 01 45 01.0 +0.1
RND IAmb IAmb 01 45 01.7
comp=Z,3.3nm,1.0s
RND Reindeer 37.51 40 P P 01 45 01.0 +0.1
RND pmax pmax
comp=Z,3.0nm,1.0s
GHO Glory Hole Cre 37.58 43 P P 01 45 01.8 +0.3
GHO IAmb IAmb 01 45 13.5
comp=Z,5.4nm,0.9s
D24K Happy Valley 37.62 31 P P 01 45 02.4 +0.8
D24K Happy Valley 37.62 31 P P 01 45 01.1 -0.5
baz=266,SNR=10
E24K Your Creek 37.67 33 P P 01 45 03.2 +1.0
E24K IAmb IAmb 01 45 04.4
comp=Z,7.7nm,0.9s
E24K Your Creek 37.67 33 P P 01 45 01.9 -0.2
baz=267
C24K Franklin Bluff 37.72 30 P P 01 45 02.7 +0.2
C24K Franklin Bluff 37.72 30 P P 01 45 02.3 -0.1
baz=265
H24K Noodor Dome 37.86 36 P P 01 45 05.5 +1.8
H24K Noodor Dome 37.86 36 P P 01 45 03.2 -0.6
baz=271
F24K Squaw Lake 37.88 34 IAmb IAmb 01 45 05.7
comp=Z,3.0nm,0.9s
F24K Squaw Lake 37.88 34 P P 01 45 04.0 +0.1
baz=269
COLA College 37.89 38⇑ eP P 01 45 04.7 +0.8
COLA pmax pmax
comp=Z,9.0nm,0.9s
CCB Clear Creek Bu 37.92 38 P P 01 45 04.5 +0.4
CCB IAmb IAmb 01 45 06.5
comp=Z,1.7nm,0.4s
PWL Port Wells 37.95 45 P P 01 45 04.7 +0.2
baz=277
G24K Hadweenzic Riv 38.02 35 P P 01 45 05.2 +0.1
baz=270
POKR Poker Plat Res 38.06 38 P P 01 45 06.4 +1.0
POKR IAmb IAmb 01 45 08.5
comp=Z,8.6nm,1.1s
POKR Poker Plat Res 38.06 38 P P 01 45 05.0 -0.4
baz=272
M23K Glacier View 38.15 43 P P 01 45 06.6 +0.5
baz=276
HDA Harding Lake 38.30 39 P P 01 45 07.0 -0.3
baz=274
ILAR Eielson Array 38.30 38 P P 01 45 07.6 +0.2
ILAR Eielson Array 38.30 38 P P 01 45 08.0 +0.5
comp=Z,1.8nm,0.8s,baz=270,slow=6.9,SNR=27
ILAR PcP PcP 01 47 16.5 -1.3
comp=Z,0.2nm,0.5s,baz=278,slow=3.6,SNR=2.1
comp=Z,1.8nm,0.8s
ILAR Eielson Array 38.30 38 eP P 01 45 08.3 +0.9
ILAR pmax pmax
comp=Z,1.0nm,0.8s
D25K Kavik River 38.51 31 P P 01 45 09.3 +0.2
D25K Kavik River 38.51 31 P P 01 45 09.0 -0.1
baz=268
F25K Christian Rive 38.74 34 P P 01 45 12.9 +1.8
F25K Christian Rive 38.74 34 P P 01 45 11.3 +0.2
baz=271
E25K Arctic Village 38.77 33 P P 01 45 12.3 +1.0
E25K IAmb IAmb 01 45 13.9
comp=Z,4.5nm,1.0s
E25K Arctic Village 38.77 33 P P 01 45 10.6 -0.7
baz=270
M24K Tolsona, Glenn 38.84 42 P P 01 45 13.0 +1.0
M24K Tolsona, Glenn 38.84 42 P P 01 45 12.2 +0.2
baz=277
FYU Fort Yukon 38.92 35 P P 01 45 14.0 +1.6
J25K Salcha River, 38.97 38 P P 01 45 12.1 -0.9
baz=275
C26K Camden Bay 39.04 30 P P 01 45 12.6 -0.8
baz=268
PAX Paxson 39.07 41 P P 01 45 13.8 -0.1
baz=277
BMAR Burnt Mountain 39.15 34 P P 01 45 16.2 +1.7
RIDG Independent Ri 39.27 40 P P 01 45 15.7 +0.2
baz=276
HARP HAARP 39.28 42 P P 01 45 15.3 -0.3
baz=278
F26K Sheenjek River 39.31 33 IAmb IAmb 01 45 18.1
comp=Z,3.4nm,0.7s
F26K Sheenjek River 39.31 33 P P 01 45 15.9 +0.1
baz=272
C27K Jago River 39.45 30 P P 01 45 17.8 +0.9
C27K IAmb IAmb 01 45 18.9
comp=Z,8.7nm,1.0s
C27K Jago River 39.45 30 P P 01 45 16.3 -0.7
baz=270
G26K Porcupine Rive 39.48 35 P P 01 45 16.3 -0.8
baz=273
SCRK Sand Creek 39.62 39 P P 01 45 18.6 +0.1
SCRK IAmb IAmb 01 45 20.3
comp=Z,2.7nm,0.4s
SCRK Sand Creek 39.62 39 P P 01 45 17.9 -0.7
baz=277
N25K Chitina, Valde 39.65 43 P P 01 45 18.2 -0.5
baz=279
BMRM Bremner River 39.74 44 P P 01 45 20.8 +1.3
BMRM Bremner River 39.74 44 P P 01 45 19.1 -0.4
baz=280

J26L Joseph Creek 39.75 38 P P 01 45 18.9 -0.7
J26L Joseph Creek 39.75 38 P P 01 45 19.5 -0.1
baz=276
KAIM Kayak Island 40.01 46 P P 01 45 21.9 +0.3
baz=281
M26K Nabesna, AK 40.27 42 P P 01 45 25.3 +1.4
M26K Nabesna, AK 40.27 42 P P 01 45 24.2 +0.4
baz=279
G27K Doyon Strip 40.33 35 P P 01 45 24.9 +0.7
G27K Doyon Strip 40.33 35 P P 01 45 24.3 +0.1
baz=275
H27K Steamboat Moun 40.43 36 P P 01 45 25.4 +0.3
baz=276
D27M Malcolm River 40.43 31 IAmb IAmb 01 45 27.0
comp=Z,3.0nm,0.8s
D27M Malcolm River 40.43 31 P P 01 45 24.6 -0.4
baz=273
I27K Kandik River 40.46 37 P P 01 45 25.2 -0.1
baz=277
L27K Beaver Creek, 40.70 41 P P 01 45 29.2 +1.8
L27K Beaver Creek, 40.70 41 P P 01 45 27.2 -0.1
baz=279,SNR=7.7
BCAR Beaver Creek A 40.72 40 P P 01 45 29.1 +1.6
EGAK Eagle 40.75 38 P P 01 45 27.8 +0.2
baz=278
M27K Edge Creek, AK 40.80 42 P P 01 45 29.4 +1.2
M27K IAmb IAmb 01 45 31.1
comp=Z,6.0nm,1.0s
M27K Edge Creek, AK 40.80 42 P P 01 45 28.7 +0.5
baz=280
ZALV Zalesovo Beam 40.95 305 PcP PcP 01 47 26.2 -0.2
comp=Z,0.9nm,0.4s,baz=64,slow=2.5,SNR=5.2
F28M Old Crow 40.95 33 P P 01 45 30.7 +1.5
F28M IAmb IAmb 01 45 31.8
comp=Z,2.9nm,0.7s
F28M Old Crow 40.95 33 P P 01 45 29.9 +0.7
baz=276
E28M Babbage River 40.99 32 P P 01 45 29.9 +0.3
baz=275
I28M Miner Creek 41.17 37 P P 01 45 32.9 +1.7
I28M IAmb IAmb 01 45 33.5
comp=Z,7.5nm,1.1s
I28M Miner Creek 41.17 37 P P 01 45 31.6 +0.4
baz=278
D28M Stokes Point 41.22 31 P P 01 45 30.6 -0.8
baz=275
BVCY Beaver Creek 41.25 41 P P 01 45 31.9 +0.1
baz=281
YUK3 Moose Creek 41.56 42 P P 01 45 34.6 0.0
baz=282
E29M Blow River 41.61 32 P P 01 45 35.7 +1.1
E29M IAmb IAmb 01 45 37.2
comp=Z,4.2nm,0.7s
E29M Blow River 41.61 32 P P 01 45 34.5 -0.1
baz=277
DAWY Dawson 41.62 39 P P 01 45 34.4 -0.3
baz=280
H29M Whitestone 41.70 35 P P 01 45 35.0 -0.4
baz=279
G29M Pine Creek 41.74 34 P P 01 45 35.3 -0.4
baz=278
O28M Mount Upton 41.90 44 P P 01 45 37.0 -0.3
baz=283
YUK8 Steele Glacier 41.99 43 P P 01 45 37.8 -0.2
baz=283
EPYK Eagle Plains 42.34 35 P P 01 45 42.2 +1.6
EPYK IAmb IAmb 01 45 43.0
comp=Z,6.5nm,0.8s
EPYK Eagle Plains 42.34 35 P P 01 45 40.7 +0.1
baz=280
M29M Somme Creek 42.34 41 P P 01 45 42.4 +1.6
M29M Somme Creek 42.34 41 P P 01 45 40.7 0.0
baz=283
L29M L29M 42.35 40 P P 01 45 43.1 +2.4
L29M L29M 42.35 40 P P 01 45 41.5 +0.8
baz=282
G30M tAoh Zraii Nji 42.43 34 P P 01 45 42.3 +0.9
G30M IAmb IAmb 01 45 43.5
comp=Z,8.0nm,0.8s
G30M tAoh Zraii Nji 42.43 34 P P 01 45 41.6 +0.3
baz=280
K29M Barlow Dome 42.47 39 P P 01 45 41.1 -0.7
baz=282
F30M Barrier River 42.50 33 P P 01 45 42.4 +0.5
baz=279
PZH PanZhiHua 42.65 259 P P 01 45 44.4 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,4.8s
I30M Mount Dempster 42.68 37 P P 01 45 44.3 +0.9
I30M IAmb IAmb 01 45 45.4
comp=Z,4.4nm,0.6s
I30M Mount Dempster 42.68 37 P P 01 45 43.6 +0.1
baz=281
YUK6 Outpost Mounta 42.73 43 P P 01 45 43.9 -0.1
baz=284
O29M Mount Kennedy 42.79 44 P P 01 45 44.4 0.0
baz=285
J30M Hart River 42.83 38 P P 01 45 44.1 -0.5
baz=282
M30M Minto, Yukon 43.07 41 P P 01 45 46.2 -0.3
baz=284
HYT Haines Junctio 43.17 43 P P 01 45 49.9 +2.5
HYT IAmb IAmb 01 45 51.1
comp=Z,6.6nm,0.8s
HYT Haines Junctio 43.17 43 P P 01 45 47.4 0.0
baz=285
G31M Satah River 43.20 34 P P 01 45 47.4 0.0
baz=281
INK Inuvik 43.23 32 P P 01 45 48.6 +1.0
INK IAmb IAmb 01 45 49.2
comp=Z,5.0nm,0.5s
INK Inuvik 43.23 32 P P 01 45 47.7 +0.1
baz=280,SNR=10
INK Inuvik 43.23 32 P P 01 45 48.6 +1.0
INK pmax pmax
comp=Z,5.0nm,0.5s
F31M Tsiigehtchic 43.30 33 P P 01 45 49.4 +1.2
F31M Tsiigehtchic 43.30 33 P P 01 45 48.1 -0.1
baz=281,SNR=5.9
H31M Peel River 43.40 36 P P 01 45 50.7 +1.7
H31M IAmb IAmb 01 45 51.5
comp=Z,5.7nm,1.1s
H31M Peel River 43.40 36 P P 01 45 48.9 -0.1
baz=282
P30M Million Dollar 43.61 44 P P 01 45 50.8 -0.1
baz=286
N31M Braeburn, Yuko 43.80 42 P P 01 45 52.0 -0.4
baz=286
O30N Mendenhall 43.85 43 P P 01 45 53.2 +0.4
baz=286
PLBC Pleasant Camp 44.09 45 P P 01 45 55.2 +0.6
baz=287
M31M Drury Creek, Y 44.24 41 P P 01 45 57.1 +1.2
M31M IAmb IAmb 01 45 58.6
comp=Z,3.2nm,0.8s
M31M Drury Creek, Y 44.24 41 P P 01 45 56.2 +0.3
baz=286
WHY Whitehorse 44.45 43 P P 01 45 57.5 -0.2
baz=287
SKAG Skagway 44.59 45 P P 01 45 58.2 -0.4
baz=288
FARO Faro, Yukon 44.71 40 P P 01 46 01.0 +1.4
FARO Faro, Yukon 44.71 40 P P 01 45 59.3 -0.3
baz=287
MKAR Makanchi Array 45.04 296 P P 01 46 01.3 -1.1
comp=Z,0.7nm,0.6s,baz=85,slow=6.4,SNR=1.3
MKAR PcP PcP 01 47 40.6 +0.1
comp=Z,0.6nm,0.5s,baz=73,slow=4.8,SNR=4.6
comp=Z,0.7nm,0.6s
A36M Sachs Harbour 45.23 26 P P 01 46 04.2 +0.7
A36M IAmb IAmb 01 46 05.1
comp=Z,5.9nm,0.7s
A36M Sachs Harbour 45.23 26 P P 01 46 02.5 -1.0
baz=284
P32M Attlin 45.34 44 P P 01 46 04.4 -0.2
baz=289
R32K Eaglecrest 45.37 46 P P 01 46 04.4 -0.4
baz=290
SIT Sitka 45.38 48 P P 01 46 03.7 -1.1
baz=290
MMPY Sheldon Lake, 45.52 40 P P 01 46 08.2 +2.2
MMPY Sheldon Lake, 45.52 40 P P 01 46 05.4 -0.6
baz=288
P33M Teslin, Yukon 45.56 43 P P 01 46 05.7 -0.7
baz=289

S32K	Killisnoo	45.62	47	P	P	01 46 06.8	+0.1
	baz=290						
KURK	Kurchatov	45.63	303	P	P	01 46 06.1	-0.8
KURK						01 47 42.7	
KURK	Kurchatov	45.63	303	eP	P	01 46 06.1	-0.8
KURBB	Kurchatov Arra	45.72	303	P	P	01 46 06.1	-1.6
	comp=Z,2.5nm,0.6s,baz=70,slow=8.3,SNR=7.7						
KURBB				PcP	PcP	01 47 42.7	+0.1
	comp=Z,0.5nm,0.8s,baz=85,slow=3.2,SNR=1.3						
	comp=Z,2.5nm,0.6s						
Q32M	Nakina River	46.25	45	P	P	01 46 11.9	+0.1
	baz=291						
C36M	Paulatuk	46.31	29	P	P	01 46 12.6	+0.6
C36M	Paulatuk	46.31	29	P	P	01 46 11.6	-0.3
	baz=288,SNR=18						
S34M	Telegraph Cree	47.18	46	P	P	01 46 18.3	-0.6
	baz=292						
WTLY	Watson Lake, Y	47.48	42	P	P	01 46 21.0	-0.3
	baz=292						
DLBC	Dease Lake	47.53	45	P	P	01 46 21.7	0.0
	baz=293						
V35K	Ketchikan	47.95	49	P	P	01 46 25.6	+0.8
	baz=294						
LSA	Lhasa	47.96	271	P	P	01 46 24.6	-1.3
LSA				IAmb	IAmb	01 46 28.6	
	comp=Z,5.9nm,0.6s						
LSA	Lhasa	47.96	271	P	P	01 46 24.6	-1.3
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	Borovoye Array	49.30	308	P	P	01 46 32.9	-2.3
	comp=Z,3.8nm,0.8s,baz=102,slow=7.6,SNR=5.7						
BVAR				PcP	PcP	01 47 55.4	0.0
	comp=Z,1.0nm,0.3s,baz=66,slow=3.5,SNR=5.1						
	comp=Z,3.8nm,0.8s						
CMAR	Chiang Mai Arr	50.02	254	P	P	01 46 42.0	+1.0
	comp=Z,1.1nm,0.3s,baz=45,slow=6.6,SNR=5.4						
	comp=Z,1.1nm,0.3s						
CMAR	Chiang Mai Arr	50.02	254	eP	P	01 46 42.9	+1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BOOM	Boomskoye usch	51.07	294	P	P	01 46 49.1	+0.2
BOOM				IAmb	IAmb	01 46 52.1	
	comp=Z,3.9nm,1.0s						
BOOM	Boomskoye usch	51.07	294	P	P	01 46 49.1	+0.2
BOOM				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RES	Resolute Bay	51.94	18	P	P	01 46 54.2	-0.4
RES				IAmb	IAmb	01 46 55.1	
	comp=Z,4.1nm,1.1s						
RES	Resolute Bay	51.94	18	P	P	01 46 54.2	-0.4
RES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SPITS	Spitsbergen Ar	52.58	349	P	P	01 46 57.5	-1.8
	comp=Z,8.5nm,1.1s,baz=90,slow=10,SNR=1.3						
	comp=Z,8.5nm,1.1s						
YKA	Yellowknife Ar	52.62	36	P	P	01 47 00.7	+0.9
	comp=Z,1.5nm,0.6s,baz=300,slow=7.2,SNR=23						
YKA				PcP	PcP	01 48 07.9	+0.3
	comp=Z,0.2nm,0.7s,baz=302,slow=3.5,SNR=2.0						
	comp=Z,1.5nm,0.6s						
KSH	Kashi	52.63	291	P	P	01 47 03.8	+3.4
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	Akbulak array	56.87	309	P	P	01 47 29.5	-1.0
ABKAR				IAmb	IAmb	01 47 30.5	
	comp=Z,2.0nm,0.6s						
ARCES	ARCESS Array B	57.44	340	P	P	01 47 32.6	-1.7
	comp=Z,4.9nm,1.1s,baz=34,slow=7.1,SNR=5.5						
ARCES				PcP	PcP	01 48 26.1	0.0
	comp=Z,2.4nm,0.9s,baz=66,slow=4.4,SNR=5.1						
	comp=Z,4.9nm,1.1s						
CHGR	Chuyangaron	57.49	294		P	01 47 34.7	-0.5
CHGR	Chuyangaron	57.49	294	P	P	01 47 34.7	-0.5
CHGR				pmax	pmax		
	comp=Z,11nm,0.9s						
B08A	Colville Reser	58.00	52	P	P	01 47 39.2	+0.7
KLMR	Klimovskoe	59.22	328	eP	P	01 47 43.4	-3.3
PLID	Pearl Lake	61.80	53	P	P	01 48 05.3	+0.6
PLID				IAmb	IAmb	01 48 07.1	
	comp=Z,3.8nm,1.1s						
FFC	Flin Flon	62.52	38	P	P	01 48 09.4	+0.3
FFC				IAmb	IAmb	01 48 10.8	
	comp=Z,4.2nm,0.8s						
FFC	Flin Flon	62.52	38	P	P	01 48 09.4	+0.3
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LYMT	Lyon Mountain	62.62	50	P	P	01 48 11.6	+1.3
FCC	Fort Churchill	62.85	32	P	P	01 48 11.4	+0.3
FCC				IAmb	IAmb	01 48 11.8	
	comp=Z,2.8nm,0.7s						
FCC	Fort Churchill	62.85	32	P	P	01 48 11.5	+0.3
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LRM	Limekiln Ridge	63.27	51	P	P	01 48 15.4	+0.9
FIA1	FINESS Array S	63.38	333	P	P	01 48 12.6	-2.0
FINES	FINESS Array B	63.38	333	P	P	01 48 12.3	-2.3
FINES	FINESS Array B	63.38	333	P	P	01 48 12.6	-2.0
	comp=Z,1.6nm,0.5s,baz=48,slow=5.1,SNR=20						
	comp=Z,1.6nm,0.5s						
FINES	FINESS Array B	63.38	333	eP	P	01 48 12.8	-1.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOZ	Bozeman (W)	63.86	51	P	P	01 48 19.0	+0.7
BOZ				IAmb	IAmb	01 48 20.3	
	comp=Z,3.0nm,0.7s						
BOZ	Bozeman (W)	63.86	51	P	P	01 48 19.0	+0.7
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NVAR	Mina Array Bea	64.67	60	P	P	01 48 24.6	+0.9
	comp=Z,0.7nm,0.6s,baz=285,slow=6.3,SNR=3.8						
	comp=Z,0.7nm,0.6s						
R11B	Troy Canyon, C	66.34	59	P	P	01 48 34.8	+0.4
	baz=312						
PD31	Pinedale Array	66.84	52	P	P	01 48 38.5	+0.9
PD31				IAmb	IAmb	01 48 38.9	
	comp=Z,1.9nm,0.5s						
PDAR	Pinedale Array	66.84	52	P	P	01 48 38.5	+0.9
	comp=Z,1.2nm,0.5s,baz=325,slow=0.9,SNR=30						
	comp=Z,1.2nm,0.5s						
WRA	Warramunga Arr	67.44	196	P	P	01 48 41.7	+0.5
	comp=Z,1.1nm,0.9s,baz=15,slow=6.7,SNR=3.1						
	comp=Z,1.1nm,0.9s						
NC405	NORSAR Array S	67.64	339	P	P	01 48 40.1	-1.8
NC204	NORSAR Array S	67.72	340	P	P	01 48 41.1	-1.5
NC204				IAmb	IAmb	01 49 08.4	
	comp=Z,6.7nm,1.1s						
NB201	NORSAR Array S	67.79	340	P	P	01 48 41.3	-1.7
NB2	NORSAR Subarra	67.82	340	P	P	01 48 41.6	-1.6
	comp=Z,0.6nm,0.5s,baz=28,slow=6.9						
NOA	NORSAR Array B	67.82	340	P	P	01 48 41.5	-1.7
	comp=Z,3.0nm,0.8s,baz=29,slow=6.7,SNR=15						
	comp=Z,3.0nm,0.8s						
NOA	NORSAR Array B	67.82	340	eP	P	01 48 41.7	-1.5
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	67.98	338	P	P	01 48 41.8	-2.3
	comp=Z,1.8nm,0.5s,baz=57,slow=5.5,SNR=12						
	comp=Z,1.8nm,0.5s						
NC602	NORSAR Array S	68.00	339	P	P	01 48 42.5	-1.8
ULM	Lac du Bonnet	68.32	39	P	P	01 48 45.0	-1.4
	comp=Z,1.5nm,0.6s,baz=293,slow=4.6,SNR=3.6						
	comp=Z,1.5nm,0.6s						
ULM	Lac du Bonnet	68.32	39	eP	P	01 48 46.5	+0.1
ULM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RSSD	Black Hills	68.84	48	P	P	01 48 50.2	+0.2
RSSD	Black Hills	68.84	48	P	P	01 48 50.2	+0.2
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	Kislovodsk	69.38	312	eP	P	01 48 54.7	+1.5
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	Khabaz	69.43	312	P	P	01 48 52.8	-0.5
	comp=Z,1.9nm,0.9s,baz=113,slow=7.7,SNR=3.9						
	comp=Z,1.9nm,0.9s						
PV10	Paradox Valley	70.12	55	P	P	01 48 58.4	+0.4
PV10				IAmb	IAmb	01 49 01.0	
	comp=Z,6.2nm,1.0s						
PV13	Radium Mtn., P	70.40	55	P	P	01 49 00.8	+1.1
PV13				IAmb	IAmb	01 49 22.4	
	comp=Z,2.6nm,0.8s						
AKASG	Malin Array Be	70.55	324	P	P	01 48 58.7	-1.3
AKASG	Malin Array Be	70.55	324	P	P	01 48 58.1	-1.9
	comp=Z,1.0nm,0.4s,baz=39,slow=6.4,SNR=13						
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	70.55	324	eP	P	01 48 58.6	-1.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	71.15	195	P	P	01 49 05.3	+1.4
	comp=Z,0.7nm,0.5s,baz=5.8,slow=5.9,SNR=6.5						
	comp=Z,0.7nm,0.5s						
Q24A	Divide	71.88	52	P	P	01 49 09.1	+0.3
	baz=316						
EYMN	Ely	71.95	38	P	P	01 49 08.2	-0.3
EYMN				IAmb	IAmb	01 49 09.9	
	comp=Z,3.2nm,0.8s						
ECSD	EROS Data Cent	72.81	44	P	P	01 49 13.3	-0.5
ECSD				IAmb	IAmb	01 49 14.8	
	comp=Z,2.1nm,0.8s						
SCHQ	Schefferville	74.55	21	P	P	01 49 23.6	-0.1
SCHQ				IAmb	IAmb	01 49 32.2	
	comp=Z,4.6nm,1.1s						
SCHQ	Schefferville	74.55	21	P	P	01 49 23.6	-0.1
	comp=Z,4.1nm,0.6s,baz=343,slow=5.9,SNR=24						
	comp=Z,4.1nm,0.6s						
BUR08	Bucovina Ar. S	74.58	325	P	P	01 49 23.6	-0.5
CLL	Collm	75.82	334	i P	P	01 49 29.6	-1.4
CLL	Collm	75.82	334	i P	P	01 49 29.6	-1.4
CLL				AMS	AMS	02 31 00.0	
	comp=Z,100nm,19.0s						
MLR	Muntele Rosu	76.01	323	P	P	01 49 31.8	-0.5
	comp=Z,1.9nm,1.0s,baz=60,slow=8.1,SNR=1.6						
	comp=Z,1.9nm,1.0s						
BRTR	Keskin Array B	77.05	315	P	P	01 49 37.7	-0.6
	comp=Z,0.5nm,0.8s,baz=23,slow=7.8,SNR=2.2						
	comp=Z,0.5nm,0.8s						
GERES	GERESS Array B	77.75	332	P	P	01 49 40.8	-1.1
	comp=Z,0.3nm,0.4s,baz=31,slow=5.6,SNR=2.6						
	comp=Z,0.3nm,0.4s						
TX31	Lajitas Ar. Si	79.70	58	P	P	01 49 53.3	+0.4
TXAR	Lajitas Array	79.70	58	P	P	01 49 53.5	+0.5
	comp=Z,1.0nm,0.8s,baz=299,slow=4.2,SNR=12						
	comp=Z,1.0nm,0.8s						
LMQ	La Malbaie	80.13	26	P	P	01 49 54.4	-0.4
LMQ				IAmb	IAmb	01 49 55.8	
	comp=Z,3.2nm,1.0s						
D62A	Allapoint, All	80.93	26	P	P	01 49 59.0	-0.1
D62A				IAmb	IAmb	01 50 11.3	
	comp=Z,5.1nm,1.2s						
FCAR	Ozark Folk Cen	81.04	46	P	P	01 49 59.7	-0.1
FCAR				IAmb	IAmb	01 50 00.4	
	comp=Z,4.1nm,1.2s						
E62A	Clayton Lake	81.20	26	P	P	01 50 00.6	0.0
E62A				IAmb	IAmb	01 50 09.0	
	comp=Z,6.4nm,1.2s						
MMAI	Mount Meron Ar	81.30	309	P	P	01 50 02.3	+0.9
	comp=Z,1.4nm,0.5s,baz=46,slow=6.2,SNR=4.3						
	comp=Z,1.4nm,0.5s						
MIAR	Mount Ida	81.35	48	P	P	01 50 02.1	+0.6
MIAR				IAmb	IAmb	01 50 02.5	
	comp=Z,2.0nm,0.6s						
MIAR	Mount Ida	81.35	48	P	P	01 50 02.1	+0.6
MIAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DRIO	Del Rio	81.41	56	P	P	01 50 02.5	+0.6
DRIO				IAmb	IAmb	01 50 03.5	
	comp=Z,3.1nm,0.8s						
BATG	Bathurst New B	81.62	24	P	P	01 50 03.0	+0.3
BATG				IAmb	IAmb	01 50 03.4	
	comp=Z,4.8nm,1.0s						
F64A	Sherman	82.24	26	P	P	01 50 05.6	-0.4
F64A				IAmb	IAmb	01 50 29.4	
	comp=Z,2.6nm,0.9s						
RAYN	Ar Rayn	82.53	296	P	P	01 50 08.5	+0.6
RAYN	Ar Rayn	82.53	296	P	P	01 50 08.5	+0.6
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ESDC	Sonseca Array	91.18	340	P	P	01 50 47.9	-1.7
	comp=Z,0.2nm,0.4s,baz=16,slow=5.1,SNR=2.4						
	comp=Z,0.2nm,0.4s						
BDFB	Brasilia	145.97	32	PKPab	PKPbc	01 57 23.9	-0.1
BDFB	Brasilia	145.97	32	PKPbc	PKPdf	01 57 23.8	+0.8
	comp=Z,1.6nm,0.4s,baz=251,slow=2.2,SNR=4.8						
BDFB	Brasilia	145.97	32	PKP2	PKPbc	01 57 23.9	-0.1
PLCA	Paso Flores	150.50	94	PKPbc	PKPbc	01 57 35.5	+0.4
	comp=Z,1.1nm,0.9s,baz=218,slow=6.5,SNR=3.4						
CPUP	Villa Florida	150.66	56	PKPbc	PKPbc	01 57 35.5	-0.4
	comp=Z,0.4nm,0.3s,baz=306,slow=3.2,SNR=3.2						
SNAA	Sanae	151.49	198	PKPbc	PKPbc	01 57 36.3	-0.2
	comp=Z,1.8nm,0.9s,baz=180,slow=20,SNR=2.7						

*JMA **04** 01:59:00.6±0.3,25°N±1°×122°1E±0°5,h73km±3km,*
MV2.6/10,TAIWAN REGION
*TAP **04** 01:59:01.2,24°70N×122°06E,h60km,ML3.3,B*
ISC 04 01:59:01.9±1.3,24°73N±0°03×122°08E±0°02,h59km±5km,
n102,σ0°81/183,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.18	311	eP	Pn	01 59 10.7	-0.4
EGS				eS	Sn	01 59 17.3	-0.3
TWC	Suao	0.24	241	i P	Pn	01 59 11.0	-0.4
TWC				S	Sn	01 59 17.6	-0.6
ESAO	Su ao	0.26	236	eP	Pn	01 59 11.1	-0.4
ESAO				eS	Sn	01 59 18.0	-0.5
NTC	Toucheng	0.26	299	eP	Pn	01 59 11.4	-0.2
NTC				eS	Sn	01 59 18.7	+0.2
TWB1	Santiao Chiao	0.29	343	P	Pn	01 59 11.5	-0.3
TWB1				S	Sn	01 59 18.7	-0.3
ILA	Ilan	0.31	278	P	Pn	01 59 11.8	-0.1
ILA				S	Sn	01 59 19.3	+0.2
EOS2	EOS2	0.33	156	eP	Pn	01 59 12.4	+0.5
EOS2				eS	Sn	01 59 21.0	+1.7
TIPB	Shuangxi	0.34	317	⇑i P	Pn	01 59 11.9	-0.3
TIPB				i S	Sn	01 59 19.3	-0.4
NDS	Dongshan	0.34	255	⇑i P	Pn	01 59 12.0	-0.2
NDS				i S	Sn	01 59 19.5	-0.2
TWE	Neicheng	0.38	269	⇑i P	Pn	01 59 12.3	-0.2
TWE				i S	Sn	01 59 20.2	0.0
EWUT	Wuta	0.39	225	P	Pn	01 59 12.4	-0.3
EWUT				S	Sn	01 59 20.2	-0.2
SXI1	Grass Mountain	0.41	333	P	Pn	01 59 12.6	-0.4
SXI1				eS	Sn	01 59 21.3	+0.3
ENA	Nanau	0.43	226	i P	Pn	01 59 12.7	-0.3
ENA				eS	Sn	01 59 21.0	0.0
NWF	Wu-fen Shan	0.44	322	i P	Pn	01 59 12.9	-0.3
NWF				S	Sn	01 59 21.1	-0.3
WFSB	Wu-fen Shan	0.44	322	i P	Pn	01 59 13.0	-0.1
WFSB				S	Sn	01 59 21.1	-0.1
FUSB	Fushanzhiwuyua	0.45	274	i P	Pn	01 59 12.9	-0.3
FUSB				i S	Sn	01 59 21.5	-0.1
ENTT	Nioudou	0.48	260	i P	Pn	01 59 13.3	-0.2
EOS3	EOS3	0.49	154	eP	Pn	01 59 13.8	+0.4
EOS3				eS	Sn	01 59 23.4	+1.6
EAHA	Aohua	0.50	218	P	Pn	01 59 13.7	-0.1
EAHA				S	Sn	01 59 22.9	+0.5
TWA	Mucha	0.52	299	P	Pn	01 59 14.4	+0.4
TWA				eS	Sn	01 59 23.2	+0.5
NWLT	Wulai	0.53	276	i P	Pn	01 59 13.6	-0.5
NWLT				eS	Sn	01 59 22.6	-0.4
LATG	Datong	0.54	250	i P	Pn	01 59 14.4	+0.2
LATG				eS	Sn	01 59 23.8	+0.5
NHY	Taipei	0.56	304	eP	Pn	01 59 14.2	-0.2
NHY				eS	Sn	01 59 23.7	+0.2
TATO	Taipei	0.59	295	P	Pn	01 59 14.1	-0.7
TATO	Taipei	0.59	295	S	Sn	01 59 25.0	+0.8
TATO	Taipei	0.59	295	eP	Pn	01 59 14.1	-0.7
TATO				eS	Sn	01 59 24.5	+0.4
TAP	Taipei	0.61	301	eP	Pn	01 59 14.4	-0.6
YM01	YM01	0.63	312	eP	Pn	01 59 14.7	-0.6
YM01				eS	Sn	01 59 24.8	-0.1
EOS4	EOS4	0.64	160	eP	Pn	01 59 15.7	+0.8
EOS4				eS	Sn	01 59 26.5	+2.0
YM08	YM08	0.64	316	eP	Pn	01 59 14.5	-0.8
YHNB	Yeheng	0.65	265	P	Pn	01 59 15.3	-0.1
YHNB	Yeheng	0.65	265	P	Pn	01 59 15.3	-0.1
YHNB				eS	Sn	01 59 25.4	0.0
ZUZH	Zhuzihu	0.65	312	i P	Pn	01 59 14.8	-0.7
ZUZH				i S	Sn	01 59 24.9	-0.6
NSK	Sanguang	0.66	266	i P	Pn	01 59 15.4	-0.2
NSK				S	Sn	01 59 25.6	-0.1
ANP	Anpu	0.69	312	eP	Pn	01 59 15.2	-0.8
TWY	Chenhua	0.70	322	eP	Pn	01 59 16.0	0.0
TWY				eS	Sn	01 59 26.7	+0.3
NNSB	Datong	0.70	245	P	Pn	01 59 16.2	0.0
NNSB				i S	Sn	01 59 27.1	+0.5
NNSH	Datong	0.70	245	eP	Pn	01 59 16.1	-0.1
NNSH				eS	Sn	01 59 27.0	+0.4
NNS	Nan Shan	0.70	246	P	Pn	01 59 16.2	0.0
NNS				eS	Sn	01 59 27.1	+0.4
NACB	Ninganchiao	0.71	219	P	Pn	01 59 16.9	+0.8
NACB	Ninganchiao	0.71	219	eP	Pn	01 59 15.8	-0.3
NACB				eS	Sn	01 59 26.7	+0.2
TWS1	Kuangyinshan	0.71	302	eP	Pn	01 59 14.8	-1.3
TWS1				eS	Sn	01 59 25.6	-1.0
NTST	Danshui	0.72	307	i P	Pn	01 59 15.9	-0.4
NTST				i S	Sn	01 59 26.6	-0.2
ETLH	Xiulin Townshi	0.75	227	eP	Pn	01 59 16.6	-0.2
ETLH				eS	Sn	01 59 27.8	+0.1
TWD	Chiawan	0.78	215	eP	Pn	01 59 16.8	-0.2
TWD				eS	Sn	01 59 28.1	-0.1
KSHI	Guanxi Townshi	0.82	274	i P	Pn	01 59 17.7	+0.1
KSHI				S	Sn	01 59 29.9	+0.7
JYNG	Yonagunijimaku	0.83	109	P	Pn	01 59 17.0	-0.7
JYNG				S	Sn	01 59 29.4	+0.1
NCU	National Centr	0.85	287	eP	Pn	01 59 17.9	0.0
NCU				eS	Sn	01 59 30.3	+0.6
NCUH	Zhongli	0.85	287	eP	Pn	01 59 17.9	0.0
NCUH				eS	Sn	01 59 30.4	+0.7
NFF	Wufeng Townshi	0.88	264	P	Pn	01 59 18.3	-0.1
NFF				i S	Sn	01 59 30.7	+0.1
YOJ	Yonaguni jima	0.89	107	eP	Pn	01 59 18.2	-0.2
YOJ				S	Sn	01 59 30.7	+0.2
YOJ	Yonaguni jima	0.89	107	eP	Pn	01 59 18.0	-0.3
YOJ				S	Sn	01 59 30.4	-0.1
FUSS	Fushou	0.90	238	P	Pn	01 59 18.9	+0.1
FUSS				eS	Sn	01 59 30.8	-0.4
PCYT	Pengchaiyu	0.90	359	eP	Pn	01 59 19.2	+0.6
LXIB	Xiulin Townshi	0.93	221	eP	Pn	01 59 18.0	-1.1
LXIB				S	Sn	01 59 31.3	-0.4
WHF	Hehuan Shan	0.94	232	eP	Pn	01 59 20.0	+0.5
WHF				eS	Sn	01 59 32.1	+0.2
TWT	Tachien	0.95	241	eP	Pn	01 59 20.6	+1.2
TWT				eS	Sn	01 59 32.6	+0.3
TDCB	Techi	0.96	241	eP	Pn	01 59 20.4	+0.8
TDCB				i S	Sn	01 59 32.7	+0.1
LIOB	Emei	0.97	266	eP	Pn	01 59 19.4	-0.1
LIOB				eS	Sn	01 59 32.8	+0.2
SBCB	Hsinchu	1.00	274	P	Pn	01 59 19.9	+0.1
SBCB				eS	Sn	01 59 33.7	+0.6
HSN	Hsinchu	1.01	275	eP	Pn	01 59 18.8	-1.2
HSN				i S	Sn	01 59 32.7	-0.8
SHUL	Shoufeng	1.05	207	eP	Pn	01 59 20.7	+0.3
SHUL				eS	Sn	01 59 33.9	-0.3
ESL	Shilin	1.08	213	eP	Pn	01 59 19.6	-1.4
WHP	Taichung City	1.13	247	i P	Pn	01 59 22.2	+0.5
WHP				S	Sn	01 59 37.1	+0.8
OWD	Renai	1.13	227	eP	Pn	01 59 21.4	-0.3
OWD				i S	Sn	01 59 35.2	-1.2
WUSB	Renai	1.14	231	eP	Pn	01 59 21.6	-0.2
WUSB				S	Sn	01 59 36.3	-0.5
WARBT	Fenglin Townsh	1.19	212	eP	Pn	01 59 20.6	-1.8
WARBT				eS	Sn	01 59 35.8	-1.9
NMLH	Miaoli	1.19	261	eP	Pn	01 59 22.3	0.0
NMLH				eS	Sn	01 59 38.2	+0.6
EGFH	Guangfu	1.21	210	eS	Sn	01 59 36.4	-1.7
NSY	Sanyi	1.24	256	eP	Pn	01 59 23.3	+0.3
NSY				S	Sn	01 59 39.7	+0.8
TWQ1	Liyutan	1.25	253	eP	Pn	01 59 23.8	+0.7
TWQ1				i S	Sn	01 59 39.7	+0.6
WCS	Beigang Elemen	1.26	238	eP	Pn	01 59 23.6	+0.4
WCS				eS	Sn	01 59 39.4	+0.2
DPDB	Guoxing	1.26	237	eP	Pn	01 59 23.9	+0.6
VWDT	VWDT	1.29	222	eP	Pn	01 59 23.4	-0.4
VWDT				eS	Sn	01 59 39.6	-0.5
SMLT	Sun Moon Lake	1.37	232	eP	Pn	01 59 24.4	-0.5
SMLT				eS	Sn	01 59 43.1	+1.0
HGSD	Ruisui	1.37	206	eP	Pn	01 59 24.5	-0.2
HGSD				eS	Sn	01 59 41.6	-0.3
TYC	Yuchr	1.38	234	eP	Pn	01 59 25.3	+0.3
SSLB	Suanglung	1.39	228	P	Pn	01 59 25.7	+0.6
SSLB	Suanglung	1.39	228	eP	Pn	01 59 25.7	+0.6
SSLB				eS	Sn	01 59 43.4	+0.9
YULB	Yu-li	1.51	209	P	Pn	01 59 26.3	-0.4
YULB	Yu-li	1.51	209	eP	Pn	01 59 24.6	-2.1
YULB				eS	Sn	01 59 42.6	-2.7
WHYT	Xinyi Township	1.52	228	eP	Pn	01 59 27.6	+0.7
WHYT				eS	Sn	01 59 47.0	+1.3
WJS	Zhushan	1.53	234	eP	Pn	01 59 28.0	+1.1
WJS				i S	Sn	01 59 47.7	+2.0
EYUL	Yuli	1.54	207	eP	Pn	01 59 25.5	-1.6
EYUL				eS	Sn	01 59 44.8	-1.3
TWF1	Yuli	1.54	208	eP	Pn	01 59 25.0	-2.1
IRIF	Iriomote-Funau	1.55	104	P	Pn	01 59 26.8	-0.4
IRIF				S	Sn	01 59 46.4	+0.1
YUS	Yu-Shan	1.61	220	eP	Pn	01 59 26.9	-1.5
YUS				eS	Sn	01 59 47.0	-1.4
ALS	Alishan	1.68	224	P	Pn	01 59 30.0	+0.7
ALS				i S	Sn	01 59 51.4	+1.5
FULB	Fuli	1.68	206	eS	Sn	01 59 49.1	-0.5
CHN5	Tsauling	1.71	229	eP	Pn	01 59 29.8	+0.4
CHN5				S	Sn	01 59 52.1	+1.9
WDLH	Douliu	1.75	234	eP	Pn	01 59 30.0	+0.2
WRL	Guolierlin Hig	1.76	243	eP	Pn	01 59 29.4	-0.6
RLNB	Erlin	1.78	243	eP	Pn	01 59 30.9	+0.6
RLNB				eS	Sn	01 59 51.7	-0.1
ELDTW	Lidau	1.81	213	eP	Pn	01 59 30.4	-0.5

*NEIC **04** 02:01:28.1±1.1, 37°.64N±0°.01×118°.79W±0°.01, h5km±2km, Error ellipse: s-maj=2.0km s-min=1.7km az=210.0*

NCEDC 04 02:01:28.5±1.0, 37°.64N±0°.01×118°.81W±0°.01, h3km±3km, Md3.0/41, ML2.2/34(NEIC), Error ellipse: s-maj=2.1km s-min=1.6km az=199.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRNC	**Doe Ridge**	**0.02**	**276**		Pg	02 01 30.7	+1.3
MLAC	**Mammoth, Mammo**	**0.02**	**254**		Pg	02 01 29.7	+0.2
MLHM	**Little Hot Cre**	**0.04**	**356**		Pg	02 01 30.1	+0.5
MCVM	**Convict Lake**	**0.05**	**197**		Pg	02 01 30.0	+0.2
MCBM	**Casa Benchmark**	**0.07**	**277**		Pg	02 01 30.5	+0.4
MCSM	**Casa Diablo Ho**	**0.08**	**284**		Pg	02 01 30.6	+0.4
MLCM	**Laurel Creek C**	**0.09**	**254**		Pg	02 01 30.6	+0.3
MEMM	**East Mammoth H**	**0.11**	**287**		Pg	02 01 31.2	+0.5
MMLB	**Mammoth Lakes**	**0.14**	**280**		Pg	02 01 31.7	+0.5
LMCR	**Lookout Mounta**	**0.14**	**311**		Pg	02 01 32.0	+0.6
MDYM	**Dry Creek**	**0.16**	**278**		Pg	02 01 32.1	+0.4
MLIM	**Lincoln Peak**	**0.16**	**270**		Pg	02 01 32.4	+0.6
MMPM	**Mammoth Pass**	**0.17**	**262**		Pg	02 01 32.2	+0.3
MDCM	**Deadman Creek**	**0.20**	**292**		Pg	02 01 32.7	+0.3
MINS	**Minaret Summit**	**0.20**	**275**		Pg	02 01 32.7	+0.3
MRDM	**Red Cones**	**0.20**	**259**		Pg	02 01 32.7	+0.3
BENR	**Benton**	**0.20**	**67**		Pg	02 01 32.7	+0.2
MDPB	**Devils Postpil**	**0.21**	**269**	Pg	Pg	02 01 32.8	+0.2
MDPB				Sg	Sg	02 01 35.9	+0.4
MCDM	**Chidago Canyon**	**0.30**	**107**		Pg	02 01 35.0	+0.6
MTUM	**Tungsten Hills**	**0.34**	**145**		Pg	02 01 35.4	+0.2
MFBM	**Five Bridges**	**0.37**	**124**		Pg	02 01 36.2	+0.6
BHPR	**Bishop**	**0.42**	**142**		Pg	02 01 36.9	+0.3
LHV	**Little Huntoon**	**0.66**	**21**	Pg	Pg	02 01 41.2	+0.1
LHV				Sg	Sg	02 01 49.2	-0.5
LHV				IAML		02 01 53.0	
	comp=N,260nm,0.5s						
LHV				IAML		02 01 53.1	
	comp=E,153nm,0.6s						
DSP	**Deep Springs**	**0.72**	**111**	Pg	Pg	02 01 41.5	-0.8
DSP				Sg	Sg	02 01 51.4	-0.2
DSP				IAML		02 01 52.4	
	comp=E,62nm,0.7s						
TIN	**Tinemaha, Big**	**0.74**	**141**		Pg	02 01 43.0	+0.3
MMIM	**Miami Mountain**	**0.77**	**254**		Pg	02 01 43.1	-0.2
NVAR	**Mina Array Bea**	**0.89**	**27**	Pg	Pg	02 01 44.7	-0.8
NV11	**Mina Array Sit**	**0.95**	**33**	Pg	Pg	02 01 46.1	-0.6
FRI	**Friant**	**0.96**	**228**		Pg	02 01 46.3	-0.6
WAKR	**Walker**	**1.00**	**331**	Pg	Pg	02 01 47.3	-0.3
WAKR				Sg	Sg	02 01 60.0	-0.6
MHDM	**Hidden Dam**	**1.01**	**239**		Pg	02 01 47.3	-0.4
RYN	**Ryan**	**1.02**	**13**	Pg	Pg	02 01 47.8	-0.2
RYN				Sg	Sg	02 02 01.4	+0.3
RYN				IAML		02 02 03.2	
	comp=N,95nm,0.2s						
MZP	**Montezuma Peak**	**1.14**	**86**	Pg	Pg	02 01 49.7	-0.6
MZP				IAML		02 02 09.8	
	comp=N,51nm,0.7s						
LEGD	**La Grand CA**	**1.15**	**249**		Pg	02 01 49.8	-0.6
KARE	**Kearney REC, C**	**1.18**	**208**		Pg	02 01 50.1	-0.8
MYLM	**Yosemite Lake**	**1.30**	**259**		Pg	02 01 52.8	-0.7
CMB	**Columbia Colle**	**1.31**	**288**	Pg	Pg	02 01 52.5	-1.0
CMB				IAML		02 02 10.2	
	comp=E,54nm,0.2s						
GRAC	**Grapevine Rang**	**1.32**	**119**	Pg	Pg	02 01 52.9	-0.8
GRAC				IAML		02 02 15.9	
	comp=N,93nm,0.9s						
CWC	**Cottonwood Cre**	**1.33**	**154**		Pg	02 01 53.1	-0.8
YERR	**Yerington**	**1.39**	**346**	Pg	Pn	02 01 54.2	-0.8
YERR				IAML		02 02 14.4	
	comp=N,34nm,0.4s						
YERR				IAML		02 02 16.6	
	comp=E,56nm,0.4s						
VOG	**Valley Oaks Go**	**1.39**	**199**		Pn	02 01 54.2	-0.5
SPG2	**Springville 2**	**1.43**	**179**		Pn	02 01 55.0	-0.4
PNTR	**Pine Nut**	**1.58**	**337**		Pn	02 01 57.6	0.0
PNTR				IAML		02 02 24.1	
	comp=E,40nm,2.8s						
PNTR				IAML		02 02 47.3	
	comp=N,32nm,4.8s						
PWMM	**Westland Maint**	**1.64**	**223**		Pb	02 01 59.2	-0.1
Q09A	**Carvers**	**1.75**	**47**		Pn	02 01 58.7	-1.3
Q09A				IAML		02 02 37.3	
	comp=E,52nm,0.7s						
PDRM	**Domengine Ranc**	**1.80**	**224**		Pb	02 02 01.7	-0.4
BMSM	**Mercy Hot Spri**	**1.86**	**239**		Pb	02 02 03.0	-0.1
WASM	**Alta Sierra Ca**	**1.91**	**174**		Pb	02 02 03.7	-0.2
WNMM	**Nine Mile Cany**	**1.93**	**158**		Pb	02 02 03.9	-0.4
WCT	**Wildcat Mounta**	**1.94**	**115**	Pn	Pn	02 02 02.1	-0.3
WCT				IAML		02 02 33.1	
	comp=N,13nm,1.1s						
WCT				IAML		02 02 36.0	
	comp=E,17nm,0.8s						
WORM	**Onyx Ranch**	**1.99**	**167**		Pb	02 02 04.8	-0.6
BBGB	**Big Mountain B**	**2.07**	**240**	Pn	Pn	02 02 03.1	-1.1
BCGM	**Cienega Road**	**2.22**	**246**		Pn	02 02 02.8	-3.4
GWY	**Greenwater Val**	**2.25**	**129**	Pn	Pn	02 02 04.6	-2.1
GWY				IAML		02 02 44.6	
	comp=E,13nm,4.1s						
GWY				IAML		02 03 29.9	
	comp=N,12nm,4.6s						
BAKC	**Calstate**	**2.30**	**186**		Pn	02 02 07.1	-0.1
BSMM	**Soledad Missio**	**2.44**	**240**		Pn	02 02 11.0	+1.7
JBMM	**Black Mountain**	**2.68**	**264**		Pb	02 02 16.3	-0.8
PRN	**Pahroc Range**	**3.00**	**93**	Pn	Pn	02 02 16.4	-0.6
SHPR	**Sheep Range**	**3.13**	**110**	Pn	Pn	02 02 18.2	-0.7
KBNM	**Bluenose Ridge**	**4.10**	**305**		Pn	02 02 35.4	+3.2

*IDC **04** 02:02:08.9±1.3, 10°.54N×63°.09W, h0km, mb3.4/7, mbtmp3.6/9, ML3.2/2, MS3.1/1, Error ellipse: s-maj=32.9km s-min=14.0km az=164.0*
*TRN **04** 02:02:09.3, 10°.63N×63°.28W, h0km, MD4.0, Paria peninsula.*
*FUNV **04** 02:02:10.4, 10°.74N×63°.16W, h9km, MW3.7*

ISC 04 02:02:10.1±1.2, 10°.61N±0°.04×63°.19W±0°.03, h10km±8km, n84, σ1§70/100, mb3.5/7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUMV	**Cumana_UDO**	**1.00**	**259**	*eP*	**Pg**	**02 02 29.3**	**-0.1**
CUMV				*eS*	**Sg**	**02 02 44.3**	**+1.7**
CUMV	**Cumana_UDO**	**1.00**	**259**	*eP*	**Pg**	**02 02 29.3**	**-0.1**
CUMV				*eS*	**Sg**	**02 02 44.2**	**+1.7**
PCRV	**Puerto La Cruz**	**1.49**	**253**	Pg	**Pn**	**02 02 36.6**	**-0.3**
	19nm,0.3s,baz=65,slow=6.1,SNR=113						
PCRV				Lg	Lg	02 02 57.0	
	17nm,0.3s,baz=353,slow=20,SNR=9.7						
PCRV				LR	LR	02 03 01.0	
	comp=Z,47nm,18.5s,slow=34						
PCRV	**Puerto La Cruz**	**1.49**	**253**	*eP*	**Pn**	**02 02 37.7**	**+0.8**
PCRV				*eS*	**Sn**	**02 02 57.2**	**+0.7**
PCRV	**Puerto La Cruz**	**1.49**	**253**	*eP*	**Pn**	**02 02 37.6**	**+0.6**
PCRV				*eS*	**Sn**	**02 02 57.6**	**+1.0**
PSGH	**Port of Spain**	**1.65**	**88**	*eP*	**Pg**	**02 02 41.6**	**-0.2**
PSGH	**Port of Spain**	**1.65**	**88**	*eP*	**Pb**	**02 02 40.9**	**+0.3**
PSGH	**Port of Spain**	**1.65**	**88**	*eP*	**Pg**	**02 02 41.6**	**-0.2**
TRN	**Trinidad (W)**	**1.76**	**89**	*eP*	**Pb**	**02 02 42.4**	**-0.1**
TRN	**Trinidad (W)**	**1.76**	**89**	*eP*	**Pb**	**02 02 42.4**	**-0.1**
GRFF	**Grenada Fort F**	**2.02**	**45**	*eP*	**Pb**	**02 02 45.1**	**-1.8**
GRFF	**Grenada Fort F**	**2.02**	**45**	*eP*	**Pb**	**02 02 45.1**	**-1.8**
TBH	**Brigand Hill**	**2.09**	**93**	*eP*	**Pb**	**02 02 47.9**	**-0.2**
TBH	**Brigand Hill**	**2.09**	**93**	*eP*	**Pb**	**02 02 47.9**	**-0.2**
GRGR	**Grenville**	**2.13**	**45**	*eP*	**Pb**	**02 02 46.7**	**-2.1**
GRGR	**Grenville**	**2.13**	**45**	*eP*	**Pb**	**02 02 46.7**	**-2.1**
GRW	**Mount Saint Ca**	**2.15**	**44**	*eP*	**Pb**	**02 02 47.8**	**-1.4**
GRW	**Mount Saint Ca**	**2.15**	**44**	*eP*	**Pb**	**02 02 47.8**	**-1.4**
GRHS	**Sauteurs**	**2.21**	**43**	*eP*	**Pb**	**02 02 48.9**	**-1.2**
GRHS				*eS*	**Sb**	**02 03 16.1**	**-1.4**
GRHS	**Sauteurs**	**2.21**	**43**	*eP*	**Pb**	**02 02 48.9**	**-1.2**
GRHS				*eS*	**Sb**	**02 03 16.1**	**-1.4**
GRSS	**Sisters**	**2.28**	**43**	*eP*	**Pb**	**02 02 49.6**	**-1.8**
GRSS	**Sisters**	**2.28**	**43**	*eP*	**Pb**	**02 02 49.6**	**-1.8**
GCMP	**Grenada, Carri**	**2.54**	**43**	*eP*	**Pb**	**02 02 52.4**	**-3.4**
GCMP				*eS*	**Sb**	**02 03 25.3**	**-1.8**
GCMP	**Grenada, Carri**	**2.54**	**43**	*eP*	**Pb**	**02 02 52.4**	**-3.4**
GCMP				*eS*	**Sb**	**02 03 25.3**	**-1.8**
TOSP	**Speyside**	**2.69**	**75**	*eP*	**Pn**	**02 02 55.3**	**+1.7**
TOSP	**Speyside**	**2.69**	**75**	*eP*	**Pn**	**02 02 55.3**	**+1.7**
SVT	**Saint Vincent**	**3.18**	**37**	*eP*	**Pn**	**02 03 01.7**	**+1.5**
SVT	**Saint Vincent**	**3.18**	**37**	*eP*	**Pn**	**02 03 01.7**	**+1.5**
SVB	**Belmont**	**3.25**	**35**	*eP*	**Pn**	**02 03 02.9**	**+1.6**
SVB	**Belmont**	**3.25**	**35**	*eP*	**Pn**	**02 03 02.9**	**+1.6**
FUNV	**FUNVISIS**	**3.56**	**268**	*eP*	**Pn**	**02 03 06.7**	**+1.1**
FUNV				*eS*	**Sn**	**02 03 46.1**	**-1.7**
FUNV	**FUNVISIS**	**3.56**	**268**	*eP*	**Pn**	**02 03 05.2**	**-0.4**
FUNV				*eS*	**Sn**	**02 03 45.8**	**-2.1**
TACV	**Tcata**	**3.81**	**263**	*eP*	**Pn**	**02 03 09.6**	**+0.7**
TACV				*eS*	**Sn**	**02 03 52.8**	**-1.0**
TACV	**Tcata**	**3.81**	**263**	*eP*	**Pn**	**02 03 08.9**	**0.0**
TACV				*eS*	**Sn**	**02 03 51.0**	**-2.8**
SLAC	**Saint Lucia, A**	**3.96**	**34**	*eP*	**Pn**	**02 03 12.6**	**+1.7**
SLAC				*eS*	**Sn**	**02 03 59.9**	**+2.3**
SLAC	**Saint Lucia, A**	**3.96**	**34**	*eP*	**Pn**	**02 03 12.6**	**+1.7**
SLBI	**Saint Lucia, B**	**4.02**	**32**	*eP*	**Pn**	**02 03 13.3**	**+1.5**
SLBI	**Saint Lucia, B**	**4.02**	**32**	*eP*	**Pn**	**02 03 13.3**	**+1.5**
SLW	**Petit Monier**	**4.04**	**33**	*eP*	**Pn**	**02 03 14.8**	**+2.8**
SLW	**Petit Monier**	**4.04**	**33**	*eP*	**Pn**	**02 03 14.8**	**+2.8**
BENV	**Beln**	**4.39**	**262**	*eP*	**Pn**	**02 03 17.8**	**+0.9**
BENV				*eS*	**Sn**	**02 04 05.5**	**-2.7**
BENV	**Beln**	**4.39**	**262**	*eP*	**Pn**	**02 03 16.5**	**-0.4**
BIM	**Bigot**	**4.40**	**28**	*eP*	**Pn**	**02 03 18.4**	**+1.4**
BIM	**Bigot**	**4.40**	**28**	*eP*	**Pn**	**02 03 18.4**	**+1.4**
CACV	**CAICARA DEL OR**	**4.49**	**228**	*eP*	Pn	02 03 14.2	-4.0
CACV				*eS*	Sn	02 04 00.1	-10
CACV	**CAICARA DEL OR**	**4.49**	**228**	*eP*	Pn	02 03 14.5	-3.7
CACV				*eS*	Sn	02 04 01.2	-9.3
ILAM	**Ilet Lapin Mar**	**4.71**	**28**	*eP*	**Pn**	**02 03 23.7**	**+2.4**
ILAM	**Ilet Lapin Mar**	**4.71**	**28**	*eP*	**Pn**	**02 03 23.7**	**+2.4**
MDN	**Morne-Daniel**	**4.99**	**20**	*eP*	**Pn**	**02 03 26.9**	**+1.8**
MDN	**Morne-Daniel**	**4.99**	**20**	*eP*	**Pn**	**02 03 26.9**	**+1.8**
LUEV	**Luepa**	**5.04**	**160**	*eP*	**Pn**	**02 03 25.5**	**-0.5**
LUEV	**Luepa**	**5.04**	**160**	*eP*	**Pn**	**02 03 25.9**	**-0.1**
LUEV				*eS*	**Sn**	**02 04 21.7**	**-2.7**
BAUV	**El Baul**	**5.06**	**251**	*eP*	**Pn**	**02 03 25.8**	**-0.3**
BAUV				*eS*	**Sn**	**02 04 21.2**	**-3.5**
BAUV	**El Baul**	**5.06**	**251**	*eP*	**Pn**	**02 03 26.0**	**-0.1**
BAUV				*eS*	**Sn**	**02 04 21.1**	**-3.5**
BAUV	**El Baul**	**5.06**	**251**	*eP*	**Pn**	**02 03 26.3**	**+0.2**
BAUV	**El Baul**	**5.06**	**251**	*eP*	**Pn**	**02 03 26.3**	**+0.2**
DSLB	**Salisbury**	**5.10**	**20**	*eP*	**Pn**	**02 03 28.2**	**+1.6**
DSLB	**Salisbury**	**5.10**	**20**	*eP*	**Pn**	**02 03 28.2**	**+1.6**
TBG	**Guadaloupe-3**	**5.42**	**16**	*eP*	**Pn**	**02 03 32.1**	**+1.0**
TBG	**Guadaloupe-3**	**5.42**	**16**	*eP*	**Pn**	**02 03 32.1**	**+1.0**
TEPV	**Terepaima**	**5.94**	**264**	*eP*	**Pn**	**02 03 37.5**	**-0.8**
TEPV				*eS*	**Sn**	**02 04 41.5**	**-5.0**
H05N1	**Guadeloupe/Mar**	**6.04**	**20**	Pn	Pn	**02 03 41.3**	**+1.7**
MBFL	**Flemmings, Mon**	**6.17**	**9**	*eP*	**Pn**	**02 03 42.8**	**+1.4**
MBFL	**Flemmings, Mon**	**6.17**	**9**	*eP*	**Pn**	**02 03 42.8**	**+1.4**
ANBD	**Bethesda, Anti**	**6.54**	**12**	*eP*	**Pn**	**02 03 47.5**	**+1.1**
ANBD	**Bethesda, Anti**	**6.54**	**12**	*eP*	**Pn**	**02 03 47.5**	**+1.1**
SKI	**Saint Kitts**	**6.70**	**4**	*eP*	**Pn**	**02 03 50.0**	**+1.4**
SKI	**Saint Kitts**	**6.70**	**4**	*eP*	**Pn**	**02 03 50.0**	**+1.4**
ANWB	**Willy Bob**	**7.14**	**11**	*eP*	**Pn**	**02 03 56.3**	**+1.6**
ANWB	**Willy Bob**	**7.14**	**11**	*eP*	**Pn**	**02 03 56.3**	**+1.6**
SDV	**Santo Domingo**	**7.54**	**257**	Pn	**Pn**	**02 04 00.5**	**+0.2**
	1.2nm,0.3s,baz=5.1,slow=12,SNR=9.9						
SDV				Sn	**Sn**	**02 05 26.6**	**+0.7**
	0.5nm,0.3s,baz=320,slow=14,SNR=2.1						
	3.9nm,0.3s						
SOCV	**Socops**	**7.91**	**254**	*eP*	**Pn**	**02 04 04.0**	**-1.2**
SOCV	**Socops**	**7.91**	**254**	*eP*	**Pn**	**02 04 03.9**	**-1.4**
AOPR	**Arecibo Observ**	**8.43**	**336**	*eP*	**Pn**	**02 04 13.2**	**+0.8**
AOPR	**Arecibo Observ**	**8.43**	**336**	*eP*	**Pn**	**02 04 13.2**	**+0.8**
MDP	**Montagnes des**	**11.79**	**117**	Pn	**Pn**	**02 04 55.6**	**-2.9**
	0.5nm,0.3s,baz=310,slow=14,SNR=13						
MDP				Sn	Sn	02 06 59.2	-11
	0.3nm,0.3s,baz=213,slow=14,SNR=1.4						
	16nm,1.1s						
ATAH	**Atahualpa**	**23.24**	**221**	LR	LR	02 18 45.8	
	comp=Z,51nm,19.7s,baz=355,slow=43						
TXAR	**Lajitas Array**	**42.08**	**302**	P	**P**	**02 10 05.3**	**+2.7**
	0.2nm,0.7s,baz=110,slow=9.3,SNR=3.8						
	0.2nm,0.7s						
ULM	**Lac du Bonnet**	**47.82**	**332**	P	**P**	**02 10 49.0**	**+1.2**
	1.6nm,0.8s,baz=157,slow=7.7,SNR=4.0						
	1.6nm,0.8s						
PDAR	**Pinedale Array**	**51.44**	**317**	P	**P**	**02 11 17.0**	**+1.1**
	0.6nm,0.9s,baz=134,slow=6.8,SNR=4.2						
	0.6nm,0.9s						
NVAR	**Mina Array Bea**	**56.30**	**309**	P	**P**	**02 11 53.6**	**+2.1**
	0.2nm,0.3s,baz=83,slow=4.6,SNR=1.8						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**63.39**	**81**	P	**P**	**02 12 41.3**	**+0.9**
	0.4nm,0.6s,baz=286,slow=7.3,SNR=3.0						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**63.47**	**336**	P	**P**	**02 12 39.5**	**-0.5**
	0.2nm,0.6s,baz=120,slow=6.6,SNR=3.9						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**77.78**	**334**	P	**P**	**02 14 07.6**	**+0.2**
	0.1nm,0.5s,baz=90,slow=5.5,SNR=1.5						
	0.1nm,0.5s						

*DJA **04** 02:21:47.6±0.4, 3°.5S±5°.5×13°.1E±°, h10km, M3.3/6, MLv3.3/6*
*IDC **04** 02:21:47.5±2.7, 3°.84S×129°.34E, h0km, mb3.5/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=195.9km s-min=30.8km az=69.0*

ISC 04 02:21:49.8±1.1, 3°.23S±0°.08×130°.78E±0°.07, h35km, n7, σ1§92/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.50**	**78**	P	**Pn**	**02 22 14.5**	**+0.2**
FAKI				S	**Sn**	**02 22 34.9**	**+2.2**
BNDI	**Bandanaira**	**1.55**	**214**	P	**Pn**	**02 22 15.9**	**+1.0**
MSAI	**Masohi**	**1.85**	**266**	P	**Pn**	**02 22 19.3**	**+0.3**
SWI	**Sorong**	**2.40**	**12**	P	**Pn**	**02 22 25.8**	**-0.8**
WRA	**Warramunga Arr**	**16.97**	**168**	Pn	**Pn**	**02 25 41.5**	**-3.2**
	0.2nm,0.3s,baz=346,slow=14,SNR=1.9						
WRA				Sn	Sn	02 28 36.6	-16
	baz=17,slow=25						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**20.54**	**172**	P	**P**	**02 26 24.8**	**-0.6**
	1.7nm,0.4s,baz=352,slow=11,SNR=18						
	1.7nm,0.4s						
MKAR	**Makanchi Array**	**65.54**	**326**	P	**P**	**02 32 31.0**	**+1.1**
	0.2nm,0.5s,baz=127,slow=7.2,SNR=2.9						
	0.2nm,0.5s						

*NEIC **04** 02:43:14.0±0.7, 36°.43N±0°.01×96°.93W±0°.02, h8km±1km, Error ellipse: s-maj=2.6km s-min=1.4km az=49.0*

NEIC 04 02:43:13.6±0.7, 36°.433N±0°.007×96°.92W±0°.02, h5km±1km, mb_Lg2.3/4, ML2.0/52, MLd2.6/22, Error ellipse: s-maj=2.6km s-min=2.4km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.10**	**43**		Pg	02 43 16.9	+1.2
OK051				Sg	Sg	02 43 18.7	+1.5
OK051				IAML		02 43 18.9	
	959nm,0.1s						
QUOK	**Quay**	**0.31**	**147**	Pg	Pg	02 43 20.4	+0.7
QUOK				Sg	Sg	02 43 24.8	+0.9
QUOK				IAML		02 43 25.1	
	comp=E,131nm,0.2s						
BLOK	**Blackwell**	**0.40**	**324**	Pg	Pg	02 43 21.7	+0.3
BLOK				Sg	Sg	02 43 26.8	+0.1
BLOK				IAML		02 43 30.1	
	comp=E,93nm,0.2s						
BLOK				IAML		02 43 30.3	
	comp=N,96nm,0.2s						
OK052	**Battle Ridge R**	**0.45**	**168**	Pg	Pg	02 43 22.8	+0.5
OK052				Sg	Sg	02 43 28.8	+0.7
OK031	**S. Brethren Rd**	**0.48**	**172**		Pg	02 43 23.4	+0.4
OK031					Sg	02 43 30.1	+0.8
OK031				IAML		02 43 30.4	
	comp=N,116nm,0.4s						
DEOK	**Depew**	**0.68**	**150**	Pg	Pg	02 43 27.0	+0.3
DEOK				Sg	Sg	02 43 36.4	+0.8
KAN13	**South Haven SW**	**0.73**	**322**	Pg	Pg	02 43 27.9	+0.1
KAN13				Sg	Sg	02 43 37.4	+0.2
KAN13				IAML		02 43 37.8	
	comp=N,84nm,0.4s						
KAN13				IAML		02 43 45.3	
	comp=E,80nm,2.4s						
OK029	**Liberty Lake**	**0.77**	**214**	Pg	Pg	02 43 28.3	-0.1
OK029				Sg	Sg	02 43 38.4	0.0
OK029				IAML		02 43 41.0	
	comp=E,42nm,0.3s						
OK029				IAML		02 43 41.0	
	comp=E,40nm,0.2s						
CROK	**Carrier**	**0.86**	**275**	Pg	Pg	02 43 29.2	-0.9
CROK				Sg	Sg	02 43 41.3	0.0
CROK				IAML		02 43 43.2	
	comp=E,64nm,0.3s						
KAN09	**Caldwell North**	**0.90**	**322**	IAmb_Lg		02 43 42.2	
	comp=Z,79nm,0.8s						
KAN17	**Caldwell West**	**0.91**	**312**	Pg	Pg	02 43 31.0	-0.1
KAN17				Sg	Sg	02 43 43.2	+0.2
KAN17				IAML		02 43 43.5	
	comp=N,65nm,0.3s						
KAN17				IAML		02 43 44.5	
	comp=E,63nm,0.2s						
KAN01	**Argonia South**	**0.98**	**317**	Pg	Pg	02 43 32.3	-0.2
KAN01				IAmb_Lg		02 43 45.2	
	comp=Z,24nm,1.0s						
KAN01				IAML		02 43 46.5	
	comp=N,61nm,0.1s						
KAN14	**Manchester OK**	**0.99**	**302**	Pg	Pg	02 43 32.6	0.0
KAN05	**Bluff City Nor**	**1.02**	**312**	Pg	Pg	02 43 33.2	0.0
KAN05				IAML		02 43 47.7	
	comp=E,70nm,0.1s						
TUL3	**Leonard**	**1.05**	**119**	Pg	Pg	02 43 33.8	0.0
KAN08	**Anthony NE Sta**	**1.16**	**314**	Pg	Pg	02 43 35.6	-0.3
KAN08				IAML		02 44 06.9	
	comp=N,52nm,2.4s						
KAN12	**Harper NE Stat**	**1.22**	**315**	Pg	Pg	02 43 36.6	-0.4
KAN12				Sg	Sg	02 43 52.5	-0.5
FNO	**Franklin**	**1.24**	**199**		Pg	02 43 36.9	-0.5
FNO				IAML		02 43 56.7	
	comp=E,44nm,0.4s						
FNO				IAML		02 43 57.9	
	comp=N,40nm,0.2s						
W35A	**Tecumseh**	**1.28**	**178**		Pg	02 43 37.1	-1.1
W35A				IAML		02 43 56.5	
	comp=N,22nm,0.3s						
OK038	**West end E0370**	**1.47**	**272**		Pn	02 43 40.7	-0.1
NOKA	**Waynoka**	**1.63**	**278**		Pn	02 43 43.0	-0.1
WMOK	**Wichita Mounta**	**2.27**	**222**		Pn	02 43 51.0	-0.9
WMOK	**Wichita Mounta**	**2.27**	**222**	Pn	Pn	02 43 50.7	-1.2
T47A	**Sharon Grove**	**7.90**	**83**	IAmb_Lg		02 47 26.0	
	comp=Z,1.3nm,1.0s						

*ATH **04** 02:47:49.7, 37°.25N×20°.44E, h31km±3km, ML2.5/4, Manual Solution by A.Moschou This location: 2020/10/07 07:30:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **04** 02:47:50.0, 37°.20N×20°.63E, h0km±6km, ML2.3/1, Error ellipse: s-maj=7.7km s-min=1.4km az=221.0*

ISC 04 02:47:50.9±2.7, 37°.2N±0°.1×20°.57E±0°.10, h26km±13km, n14, σ1§05/27, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.47**	**25**	P	**Pb**	**02 48 00.3**	**-0.3**
KRI1				S	**Sb**	**02 48 07.9**	**+0.6**
LTHK	**Lithakia**	**0.52**	**24**	P	**Pb**	**02 48 01.0**	**-0.5**
LTHK				S	**Sb**	**02 48 08.9**	**+0.2**
LTHK	**Lithakia**	**0.52**	**24**	P	**Pb**	**02 48 01.1**	**-0.3**
LTHK				S	**Sb**	**02 48 09.1**	**+0.4**
KYPS	**Kipseli, Zakin**	**0.62**	**19**	P	**Pb**	**02 48 02.6**	**-0.5**
KYPS				S	**Sb**	**02 48 11.5**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.62**	**9**	P	**Pn**	**02 48 02.6**	**-1.4**
ORTH				S	**Sb**	**02 48 11.3**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.80**	**34**	P	**Pn**	**02 48 05.3**	**-1.1**
CLEM				S	**Sn**	**02 48 16.9**	**-0.5**
VLS	**Valsamata**	**0.94**	**1**	P	**Pb**	**02 48 07.4**	**-1.2**
VLS				S	**Sb**	**02 48 22.7**	**+2.0**
AMT	**Artemida-Makis**	**0.96**	**72**	P	**Pn**	**02 48 08.5**	**-0.1**
AMT				S	**Sn**	**02 48 21.9**	**+0.5**
ITM	**Ithomi**	**1.09**	**92**	P	**Pn**	**02 48 09.8**	**-0.6**
ITM				S	**Sn**	**02 48 24.6**	**0.0**
ITM	**Ithomi**	**1.09**	**92**	P	**Pn**	**02 48 10.4**	**0.0**
ITM				S	**Sn**	**02 48 24.7**	**+0.1**
DRO	**Drossia**	**1.16**	**51**	P	**Pn**	**02 48 10.7**	**-0.7**
DRO				S	**Sb**	**02 48 27.7**	**+0.9**
**DRO

mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=128.9km s-min=30.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.40**	**178**	Pn	Pn	02 54 53.9	+0.4
	0.3nm,0.3s,baz=353,slow=13,SNR=6.4						
WRA				Sn	Sn	02 57 33.5	-12
	0.1nm,0.3s,baz=353,slow=24,SNR=2.4						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.68**	**210**	Pn	Pn	02 54 57.2	+0.2
	1.3nm,0.3s,baz=39,slow=13,SNR=25						
FITZ				Sn	Sn	02 57 41.8	-10
	1.9nm,0.3s,baz=173,slow=20,SNR=10						
	3.3nm,0.3s						
ASAR	**Alice Springs**	**19.10**	**179**	P	P	02 55 39.1	-0.1
	0.3nm,0.3s,baz=5.2,slow=12,SNR=14						
ASAR				S	Sn	02 59 07.0	-7.6
	0.4nm,0.5s,baz=356,slow=26,SNR=4.4						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**68.20**	**325**	P	P	03 02 17.1	0.0
	0.2nm,0.5s,baz=111,slow=6.8,SNR=3.6						
	0.2nm,0.5s						

*TEH **04** 03:02:14.6, 34.°17N×45.°64E, h19km±46km*
*ISN **04** 03:02:14.8±0.4, 34.°17N×45.°64E, h14km±14km, ML3.0*
ISC 04 03:02:15.0±0.9, 34.°18N±0.°04×45.°62E±0.°04, h10km, n9, σ0°80/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**106**	Pg	**Pg**	**03 02 21.0**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.32**	**355**	Pg	**Pb**	**03 02 22.7**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.74**	**139**	Pg	**Pb**	**03 02 29.7**	**-0.3**
IGHG	**Ghaleghazi**	**0.80**	**79**	Pg	**Pn**	**03 02 31.5**	**-1.1**
IDHR	**Dehrash**	**0.82**	**51**	Pg	**Pb**	**03 02 31.4**	**-0.1**
IBDR	**Badra**	**1.10**	**166**	*e*Pg	**Pn**	**03 02 36.0**	**-0.5**
IBDR				*e*Sg	**Sn**	**03 02 51.0**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.18**	**85**	Pg	**Pn**	**03 02 38.0**	**+0.2**
BHD	**Baghdad**	**1.38**	**229**	*e*Pn	**Pg**	**03 02 41.3**	**-0.2**
BHD				*e*Sn	**Sg**	**03 03 01.0**	**+1.6**
IKRK	**Kirkuk**	**1.61**	**319**	*e*Pn	**Pb**	**03 02 45.0**	**+0.2**
IKRK				*e*Sn	**Sg**	**03 03 07.0**	**+0.2**
IKRK				AML	AML	03 03 11.4	
	comp=N,126nm,0.7s						
IKRK				AML	AML	03 03 11.4	
	comp=E,378nm,0.3s						

IDC 04 03:08:26.0±3.5, 5.°73S×149.°50E, h0km, mb3.6/2, mbtmp3.9/3, ML2.5/1, MS2.9/1, Error ellipse: s-maj=132.3km s-min=35.0km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.88**	**61**	LR	LR	03 10 26.3	
	comp=Z,197nm,19.1s,baz=285,slow=42						
PMG	**Port Moresby**	**4.33**	**212**	Pn	Pn	03 09 34.5	+1.5
	19nm,0.3s,baz=329,slow=4.5,SNR=21						
PMG				Sn	Sn	03 10 23.5	-0.8
	10nm,0.3s,baz=281,slow=18,SNR=7.2						
	38nm,0.3s						
WRA	**Warramunga Arr**	**20.42**	**225**	P	P	03 13 05.5	+0.6
	2.4nm,0.4s,baz=52,slow=11,SNR=17						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**23.31**	**219**	P	P	03 13 35.4	-0.5
	0.5nm,0.4s,baz=47,slow=9.8,SNR=8.6						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.43**	**285**	PKPbc	PKPbc	03 28 11.9	-1.0
	0.3nm,0.3s,baz=89,slow=2.2,SNR=10						

*AEIC **04** 03:14:22.6±1.2, 51.°85N±0.°03×167.°25W±0.°04, h20km±8km, Error ellipse: s-maj=4.7km s-min=3.6km az=181.0*
NEIC 04 03:14:22.8±2.0, 51.°97N±0.°03×167.°06W±0.°08, h10km±2km, ML2.5(AEIC), Error ellipse: s-maj=8.2km s-min=5.5km az=99.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.49**	**330**		Pn	03 14 48.5	-1.1
OKFG	**Magazine Ridge**	**1.54**	**340**		Pn	03 14 49.9	-0.4
OKFG					Sb	03 15 11.1	+0.3
OKTU	**Okmok Mt. Tuli**	**1.54**	**337**		Pn	03 14 49.8	-0.5
OKER	**Okmok East Rim**	**1.61**	**338**		Pn	03 14 51.1	-0.2
OKER					Sb	03 15 12.9	-0.1
OKCE	**Okmok Cone E**	**1.61**	**336**		Pn	03 14 51.1	-0.2
MGOD	**Makushin Gods**	**1.83**	**3**		Pn	03 14 55.0	+0.6
MAPS	**Pakushin South**	**1.84**	**2**		Pn	03 14 55.3	+0.8
MAPS					Sb	03 15 20.3	+0.6
UNV	**Unalaska Valle**	**1.91**	**10**		Sb	03 15 21.4	-0.1
UNV	**Unalaska Valle**	**1.91**	**10**	Pn	Pn	03 14 55.3	-0.1
UNV				Sn	Sn	03 15 17.4	-2.0
MSW	**Makushin Switc**	**1.96**	**5**		Pn	03 14 56.8	+0.7
MSW					Sb	03 15 22.8	-0.1
ZRO	**Akutan Zero**	**2.22**	**17**		Pn	03 15 00.5	+0.8
LVA	**Lava Point**	**2.28**	**15**	Pn	Pn	03 14 59.7	-0.8
S12K	**Black Hills**	**4.77**	**36**	Pn	Pn	03 15 36.3	+1.6
GSTR	**Great Sitkin T**	**5.56**	**275**	Pn	Pn	03 15 48.3	+2.8

*IDC **04** 03:16:45.8±1.1, 35.°47N×23.°70E, h0km, mb3.8/10, mbtmp3.6/17, ML3.5/7, MS2.6/3, Error ellipse: s-maj=21.7km s-min=10.2km az=19.0*
*ISK **04** 03:16:47.7, 35.°43N×23.°83E, h5km, ML3.4/7*
*THE **04** 03:16:47.9, 35.°38N×23.°71E, h7km±2km, ML3.3/3, Error ellipse: s-maj=3.0km s-min=1.1km az=110.0*
*ATH **04** 03:16:48.1, 35.°36N×23.°75E, h16km±2km, ML3.3/3, Error ellipse: s-maj=3.5km s-min=1.6km az=79.0*
*AFAD **04** 03:16:53.2, 35.°06N×24.°20E, h6km±2km, ML3.0*
ISC 04 03:16:48.1±1.0, 35.°37N±0.°03×23.°73E±0.°04, h16km±6km, n60, σ2°06/77, mb3.8/10, MS2.8/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.23**	**67**	Pg	**Pg**	**03 16 52.1**	**-1.1**
IMMV	**Iera Moni Meta**	**0.23**	**67**	P	**Pg**	**03 16 52.5**	**-0.7**
IMMV				S	**Sg**	**03 16 57.0**	**+0.4**
IMMV	**Iera Moni Meta**	**0.23**	**67**	P	**Pg**	**03 16 52.7**	**-0.5**
IMMV				S	**Sg**	**03 16 57.0**	**+0.4**
IMMV				AML	AML	03 16 58.2	
	comp=E,14818μm,0.2s						
IMMV				AML	AML	03 16 59.3	
	comp=N,22300μm,0.4s						
GVD	**Gavdhos**	**0.61**	**151**	Pg	**Pb**	**03 17 01.2**	**+0.8**
GVD				Sg	**Sb**	**03 17 10.5**	**+1.8**
GVD	**Gavdhos**	**0.61**	**151**	P	**Pg**	**03 16 59.4**	**-0.6**
GVD				S	**Sb**	**03 17 09.4**	**+0.7**
	comp=N,5μm,0.4s						
GVD	**Gavdhos**	**0.61**	**151**	P	**Pg**	**03 16 59.5**	**-0.5**
GVD				S	**Sg**	**03 17 07.4**	**-0.7**
GVD				AML	AML	03 17 11.7	
	comp=E,9902μm,0.5s						
GVD				AML	AML	03 17 15.8	
	comp=N,9413μm,0.4s						
IDI	**Anoyia**	**0.95**	**95**	Pg	**Pg**	**03 17 05.5**	**-1.1**
IDI				Sg	**Sb**	**03 17 19.3**	**+0.5**
IDI	**Anoyia**	**0.95**	**95**	P	**Pg**	**03 17 05.0**	**-1.6**
IDI				S	**Sb**	**03 17 19.6**	**+0.8**
	comp=N,1μm,0.4s						
IDI	**Anoyia**	**0.95**	**95**	Pg	**Pg**	**03 17 04.8**	**-1.7**
	comp=N,8.6nm,0.3s,baz=262,slow=8.1,SNR=222						
IDI				Lg	Lg	03 17 19.7	
	comp=N,124nm,0.3s,baz=26,slow=18,SNR=22						
IDI				LR	LR	03 17 42.2	
	comp=N,196nm,21.2s,baz=274,slow=57						
IDI	**Anoyia**	**0.95**	**95**	P	**Pg**	**03 17 05.4**	**-1.2**
IDI				S	**Sg**	**03 17 18.2**	**-0.9**
IDI				AML	AML	03 17 23.8	
	comp=N,4073μm,0.4s						
IDI				AML	AML	03 17 31.0	
	comp=E,2828μm,0.5s						
IACM	**Heraklion**	**1.10**	**93**	P	**Pg**	**03 17 08.4**	**-0.9**
IACM				S	**Sn**	**03 17 24.9**	**+1.1**
MNVA	**Monemvasia**	**1.43**	**337**	P	**Pb**	**03 17 14.7**	**+0.4**
VLI	**Veliai**	**1.49**	**335**	P	**Pn**	**03 17 14.3**	**0.0**
VLI				S	**Sn**	**03 17 33.5**	**+0.1**
	comp=E,628nm,0.6s						
VLI	**Veliai**	**1.49**	**335**	P	**Pn**	**03 17 14.3**	**0.0**
ZKR	**Zakros**	**2.05**	**96**	Pn	**Pn**	**03 17 23.9**	**+1.9**
ZKR	**Zakros**	**2.05**	**96**	P	**Pn**	**03 17 22.4**	**+0.4**
ZKR				S	**Sn**	**03 17 49.4**	**+2.1**
APE	**Apeiranthos**	**2.23**	**40**	Pn	**Pn**	**03 17 25.9**	**+1.3**
ITM	**Ithomi**	**2.32**	**322**	Pn	**Pb**	**03 17 28.7**	**-0.9**
ITM	**Ithomi**	**2.32**	**322**	P	**Pn**	**03 17 26.8**	**+1.1**
YAZI	**Mula-Dat§a-**	**3.29**	**66**	P	**Pn**	**03 17 42.2**	**+3.2**
YAZI				*i* AML	AML	03 18 19.0	
	comp=E,44nm,1.5s						
BODT	**Bodrum**	**3.35**	**59**	Pn	**Pn**	**03 17 42.3**	**+2.4**
BDRM	**Kayabasi**	**3.45**	**60**	P	**Pn**	**03 17 45.3**	**+4.1**
TURN	**Turunc**	**3.92**	**68**	P	**Pn**	**03 17 51.1**	**+3.5**
TURN				S	**Sn**	**03 18 34.1**	**+0.8**
TURN				*i* AML	AML	03 18 44.0	
	comp=E,24nm,1.3s						
MULA	**Mugla, Merkez-**	**4.16**	**62**	P	**Pn**	**03 17 53.7**	**+2.6**
ESEN	**Aydn-Nazilli**	**4.44**	**56**	P	**Pn**	**03 17 55.3**	**+0.5**
SABU	**Mula-Dalaman**	**4.48**	**70**	P	**Pn**	**03 17 59.1**	**+3.6**
SABU				S	**Sn**	**03 18 42.9**	**-4.5**
SABU				*i* AML	AML	03 18 58.0	
	comp=E,19nm,0.7s						
SABU				*i* AML	AML	03 19 00.0	
	comp=E,27nm,0.9s						
IZZE	**Mula-Seydike**	**4.59**	**75**	P	**Pn**	**03 17 59.3**	**+2.5**
IZZE				S	**Sn**	**03 18 47.3**	**-2.5**
IZZE				*i* AML	AML	03 19 00.0	
	comp=E,23nm,0.4s						
IZZE				*i* AML	AML	03 19 15.0	
	comp=E,33nm,0.8s						
TAVA	**DENIZLI_Tavas**	**4.67**	**62**	P	**Pn**	**03 18 01.9**	**+3.8**
DNZT	**Denizli-Tavas-**	**4.68**	**64**	P	Pn	03 18 03.7	+5.4
DNZT				S	**Sn**	**03 18 53.8**	**+1.5**
KIRA	**zmir-Kiraz**	**4.69**	**52**	P	**Pn**	**03 18 01.5**	**+3.1**
DNIZ	**Denizli-Tavas-**	**4.83**	**61**	P	**Pn**	**03 18 02.4**	**+2.1**
CAEL	**Denizli, Camel**	**4.84**	**67**	P	**Pn**	**03 18 04.3**	**+3.8**
CAEL				S	**Sn**	**03 18 56.6**	**+0.2**
KNIK	**Mula-Seydike**	**4.96**	**71**	P	**Pn**	**03 18 05.1**	**+3.1**
KNIK				*i* AML	AML	03 19 06.0	
	comp=E,14nm,1.0s						
USAK	**Uak-Merkez**	**5.39**	**50**	P	**Pn**	**03 18 11.2**	**+3.3**
AKUM	**Antalya-Kumluc**	**5.46**	**78**	P	**Pn**	**03 18 12.2**	**+3.4**
AKUM				S	**Sn**	**03 19 09.4**	**-1.9**
AKUM				*i* AML	AML	03 19 22.0	
	comp=E,11nm,0.8s						
AKUM				*i* AML	AML	03 19 32.0	
	comp=E,11nm,0.7s						
KORT	**Korkueli**	**5.60**	**71**	P	**Pn**	**03 18 14.3**	**+3.4**
KORT				S	**Sn**	**03 19 11.9**	**-3.1**
BUCA	**Burdur, Bucak-**	**5.85**	**69**	P	**Pn**	**03 18 17.5**	**+3.2**
BUCA				S	**Sn**	**03 19 19.0**	**-2.1**
BUCA				*i* AML	AML	03 19 30.0	
	comp=E,11nm,0.9s						
KZIL	**AFYON_Kizioren**	**5.90**	**59**	P	**Pn**	**03 18 19.1**	**+4.1**
KZIL				*i* AML	AML	03 20 30.0	
	comp=E,8.2nm,2.4s						
BRTR	**Keskin Array B**	**8.99**	**58**	Pn	**Pn**	**03 18 58.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=14						
	comp=E,1.0nm,0.8s						
MMAI	**Mount Meron Ar**	**9.95**	**100**	Pn	**Pn**	**03 19 10.2**	**-0.3**
	comp=E,0.5nm,0.3s,baz=297,slow=13,SNR=2.4						
MMAI				Sn	**Sn**	**03 21 01.4**	**-0.6**
	comp=E,0.9nm,0.3s,baz=328,slow=24,SNR=1.9						
	comp=E,0.7nm,0.4s						
EIL	**Elat**	**11.04**	**118**	Pn	**Pn**	**03 19 24.9**	**-0.6**
	comp=E,0.4nm,0.3s,baz=298,slow=3.8,SNR=4.0						
EIL				Sn	**Sn**	**03 21 24.9**	**-3.8**
	comp=E,0.3nm,0.3s,baz=273,slow=17,SNR=2.5						
	comp=E,1.6nm,0.6s						
ASF	**Jabal al Asfar**	**11.41**	**102**	Pn	**Pn**	**03 19 28.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=301,slow=12,SNR=1.1						
ASF				Sn	**Sn**	**03 21 35.6**	**-2.2**
	comp=E,0.2nm,0.3s,baz=319,slow=20,SNR=1.5						
	comp=E,0.5nm,0.4s						
VRAC	**Vranov**	**14.88**	**342**	LR	LR	03 27 55.2	
	comp=E,27nm,19.0s,baz=228,slow=45						
GERES	**GERESS Array B**	**15.36**	**334**	Pn	**Pn**	**03 20 22.4**	**-1.9**
	comp=E,0.2nm,0.3s,baz=142,slow=14,SNR=3.2						
	comp=E,0.2nm,0.3s						
AKASG	**Malin Array Be**	**15.83**	**13**	Pn	**Pn**	**03 20 28.5**	**-1.7**
	comp=E,0.1nm,0.3s,baz=207,slow=10,SNR=2.0						
	comp=E,0.4nm,0.6s						
KBZ	**Khabaz**	**16.95**	**55**	Pn	**Pn**	**03 20 44.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=232,slow=8.1,SNR=6.8						
	comp=E,1.1nm,0.9s						
BRG	**Berggiesshubel**	**17.04**	**338**	*e*P	**P**	**03 20 50.7**	**+3.4**
BRG				Amp		03 20 54.4	
	comp=Z,3.5nm,1.1s						
ESDC	**Sonseca Array**	**22.34**	**289**	P	**P**	**03 21 46.1**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=93,slow=8.6,SNR=2.2						
	comp=Z,1.1nm,1.1s						
MDT	**Midelt**	**23.57**	**272**	LR	LR	03 33 21.9	
	comp=Z,29nm,18.2s,baz=266,slow=42						
HFS	**Hagfors**	**25.62**	**348**	P	**P**	**03 22 16.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=148,slow=12,SNR=8.6						
	comp=Z,0.8nm,0.5s						
FINES	**FINESS Array B**	**26.14**	**3**	P	**P**	**03 22 20.0**	**-1.2**
	comp=Z,3.0nm,1.0s,baz=185,slow=11,SNR=3.6						
	comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**26.91**	**347**	LR	LR	03 34 49.9	
	comp=Z,5.3nm,18.8s,baz=285,slow=40						
TORD	**Torodi Ar. Bea**	**29.75**	**227**	P	**P**	**03 22 54.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=28,slow=8.4,SNR=6.8						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**41.90**	**51**	P	**P**	**03 24 36.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=279,slow=8.5,SNR=6.9						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**44.63**	**57**	P	**P**	**03 24 59.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=279,slow=6.8,SNR=13						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**45.70**	**46**	P	**P**	**03 25 07.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=292,slow=7.8,SNR=4.0						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**60.26**	**50**	P	**P**	**03 26 56.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=282,slow=7.6,SNR=5.4						
	comp=Z,0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**77.52**	**44**	P	**P**	**03 28 42.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=299,slow=6.3,SNR=2.1						
	comp=Z,1.1nm,0.6s						
KSRS	**Korea Array**	**79.08**	**52**	P	**P**	**03 28 51.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=309,slow=4.3,SNR=3.4						
	comp=Z,1.0nm,0.6s						
JOW	**Kunigami**	**85.68**	**60**	LR	LR	04 11 41.3	
	comp=Z,106nm,18.3s,baz=130,slow=38						

*IDC **04** 03:18:00.7±1.1, 9.°75S×118.°81E, h0km, mb3.9/6, mbtmp3.9/10, ML3.6/4, MS3.2/4, Error ellipse: s-maj=47.8km s-min=19.3km az=53.0*
*DJA **04** 03:18:04.2±0.3, 10.°5±3.°×11.°9E±.°, h10km, M4.2/12, mb4.6/1, MLv4.1/12*
ISC 04 03:18:05.0±0.7, 9.°83S±0.°06×119.°03E±0.°04, h35km, n31, σ2°17/31, mb3.9/6, MS2.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.40**	**63**	P	**Pn**	**03 18 12.2**	**-2.1**
WBSI				S	**Sn**	**03 18 18.0**	**-2.7**
WSI	**Waingapu**	**1.26**	**83**	P	**Pn**	**03 18 26.5**	**+0.4**
WSI				S	**Sn**	**03 18 44.2**	**+2.4**
BASI	**Baing, Sumba**	**1.57**	**105**	P	**Pn**	**03 18 32.7**	**+2.3**
PLAI	**Plampang**	**1.58**	**309**	P	**Pn**	**03 18 30.0**	**-0.6**
PLAI				S	**Sn**	**03 18 50.4**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.38**	**297**	P	**Pn**	**03 18 41.9**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.93**	**22**	P	**Pn**	**03 19 04.5**	**+1.6**
BSSI				S	**Sn**	**03 19 48.5**	**+0.6**
SRBI	**Singaraja**	**4.15**	**294**	P	**Pn**	**03 19 06.9**	**+1.0**
BATI	**Baumata**	**4.58**	**95**	P	**Pn**	**03 19 13.9**	**+2.1**
BKSI	**Bulukumba**	**4.60**	**14**	P	**Pn**	**03 19 13.7**	**+1.6**
BKSI				S	**Sn**	**03 20 04.7**	**+0.3**
KAPI	**Kappang**	**4.83**	**9**	Pn	**Pn**	**03 19 14.3**	**-1.0**
	3.8nm,0.3s,baz=190,slow=8.1,SNR=9.8						
KAPI				Sn	**Sn**	**03 20 09.7**	**-0.4**
	6.6nm,0.3s,baz=194,slow=20,SNR=9.2						
KAPI				LR	LR	03 20 54.5	
	comp=Z,91nm,20.6s,baz=212,slow=36						
	12nm,0.5s						
JAGI	**Jajag, Banyuwa**	**5.00**	**285**	P	**Pn**	**03 19 17.3**	**-0.3**
SOEI	**Soe**	**5.16**	**90**	P	**Pn**	**03 19 23.3**	**+3.4**
FITZ	**Fitzroy Crossi**	**10.43**	**143**	Pn	**Pn**	**03 20 33.9**	**+1.7**
	0.4nm,0.3s,baz=310,slow=8.8,SNR=6.9						
FITZ				Sn	**Sn**	**03 22 23.9**	**-3.9**
	0.8nm,0.3s,baz=178,slow=17,SNR=7.5						
	4.7nm,0.9s						
WRA	**Warramunga Arr**	**17.88**	**126**	P	**P**	**03 22 13.7**	**+2.3**
	0.2nm,0.3s,baz=301,slow=13,SNR=4.7						
WRA				S	**Sn**	**03 25 22.3**	**-7.2**
	0.6nm,0.6s,baz=292,slow=28,SNR=2.3						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**19.78**	**136**	P	**Pn**	**03 22 35.2**	**+1.2**
	0.1nm,0.3s,baz=320,slow=11,SNR=13						
ASAR				S	**S**	**03 26 11.6**	**-1.9**
	1.2nm,0.9s,baz=315,slow=22,SNR=3.5						
	1.2nm,0.5s						
NWAO	**Narrogin (SRO)**	**23.05**	**184**	LR	LR	03 32 31.5	
	comp=Z,36nm,18.2s,baz=22,slow=38						
PSI	**Prapat**	**23.63**	**301**	P	**P**	**03 23 11.4**	**-2.0**
	2.6nm,0.4s,baz=180,slow=9.1,SNR=4.2						
	2.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**34.39**	**325**	LR	LR	03 39 39.7	
	comp=Z,24nm,19.4s,baz=240,slow=38						
H08S2	**Diego Garcia H**	**46.02**	**269**	T	T	04 15 30.3	
	baz=96,slow=76						
H08S3	**Diego Garcia H**	**46.03**	**269**	T	T	04 15 31.2	
	baz=96,slow=76						
H08S1	**Diego Garcia H**	**46.04**	**269**	T	T	04 15 31.8	
	baz=96,slow=76						
SONM	**Songino Array**	**58.49**	**350**	P	**P**	**03 27 58.3**	**+0.5**
	1.9nm,0.8s,baz=174,slow=8.0,SNR=14						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**65.20**	**333**	P	**P**	**03 28 42.9**	**+0.1**
	0.6nm,0.5s,baz=157,slow=6.5,SNR=13						
	0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**67.23**	**224**	T	T	04 42 30.0	
	baz=83,slow=75						
H04N1	**CROZET ISLANDS**	**67.25**	**224**	T	T	04 42 27.4	
	baz=83,slow=75						
H04N3	**CROZET ISLANDS**	**67.25**	**224**	T	T	04 42 24.5	
	baz=83,slow=75						
KURBB	**Kurchatov Arra**	**69.72**	**334**	P	**P**	**03 29 11.2**	**0.0**
	0.2nm,0.4s,baz=149,slow=5.0,SNR=4.3						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**69.82**	**339**	P	**P**	**03 29 11.8**	**0.0**
	0.7nm,0.6s,baz=139,slow=6.8,SNR=3.6						
	0.7nm,0.6s						
PETK	**Petropavlovsk-**	**70.81**	**24**	LR	LR	03 56 40.3	
	comp=Z,82nm,21.6s,baz=208,slow=33						
BVAR	**Borovoye Array**	**75.03**	**332**	P	**P**	**03 29 42.8**	**-0.1**
	0.7nm,0.8s,baz=125,slow=9.0,SNR=4.0						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**118.63**	**280**	PKP	**PKiKP**	**03 36 51.3**	**+1.0**
	0.3nm,0.6s,baz=104,slow=0.8,SNR=1.8						

*JMA **04** 03:51:34.4±1.1, 47.°N±7.°×15.°3E±.°, h30km, MV5.2/16, KURILE ISLANDS REGION*
*BJI **04** 03:51:36.5, 46.°66N×152.°75E, h57km, mB5.0/21, mb4.7/68, Ms4.4/34, Ms7 4.2/36*
*SKHL **04** 03:51:37.3±0.2, 46.°40N×152.°90E, h74km±3km, mb5.4/8, ms4.3/5*
*MOS **04** 03:51:37.2±0.9, 46.°60N×152.°73E, h59km, mb5.1/51, Error ellipse: s-maj=6.3km s-min=4.6km az=98.5*
*NEIC **04** 03:51:37.2±1.8, 46.°75N±0.°10×152.°6E±0.°1, h35km±1km, mb4.9/210, Error ellipse: s-maj=18.9km s-min=11.3km az=143.0*
*IDC **04** 03:51:38.6±0.6, 46.°74N×152.°60E, h53km±4km, mb4.3/30, mbtmp4.5/36, MS3.8/62, Error ellipse: s-maj=12.4km s-min=9.0km az=153.0*
*GCMT **04** 03:51:40.2±0.5, 46.°62N±0.°04×152.°93E±0.°04, h47km±1km, MW4.8/62, Moment Tensor Solution. s27,c32; s62,c69; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.49±.19; $M_{\theta\theta}$0.80±.16; $M_{\phi\phi}$-2.29±.14; $M_{r\theta}$0.26±.11; $M_{\theta\phi}$-1.75±.12; $M_{r\phi}$0.66±.08; Best double couple: $M_0$2.40600×10^{16} NP1:ϕ_s241.00000°, δ51.00000°, λ147.00000°. NP2: ϕ_s353.00000°, δ65.00000°, λ44.00000°. Principal axes: T 1.6260, Plg48.0000°, Azm214.0000°; N 1.5610, Plg41.0000°, Azm117.0000°; P -3.1870, Plg9.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 03:51:43.3, 47.°17N×150.°79E, h33km, mb5.2*
ISC 04 03:51:37.2±0.4, 46.°54N±0.°04×152.°77E±0.°04, h49km±3km, h49km:pP-P, n855, σ1°18/788, mb4.9/231, MS4.0/77, 46C-62D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.66**	**251**	*c i* PN	**Pn**	**03 52 33.2**	**+2.0**
KUR				*i* S	**Sn**	**03 53 14.0**	**+0.9**
KUR				pmax	pmax		
	comp=E,189nm,0.4s						
KUR				pmax	pmax		
	comp=Z,577nm,0.4s						
KUR				pmax	pmax		
	comp=N,256nm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.7s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR	**Kuril'sk**	**3.66**	**251**	*i* P	**Pn**	**03 52 33.3**	**+2.0**
KUR				AMB	AMB	03 52 34.4	
	comp=N,450nm,0.8s						
KUR				*e*S	**Sn**	**03 53 14.6**	**+1.5**
KUR				A	A	03 53 24.2	
	comp=N,1μm,0.6s						
KUR				A	A	03 53 24.2	
	comp=N,3μm,0.6s						
KUR				AMS	AMS	03 53 45.0	
	comp=N,5μm,14.0s						
KUR				AMS	AMS	03 53 45.0	
	comp=N,4μm,14.0s						
SKR	**Severo-Kuril's**	**4.71**	**27**	*e*PN	**Pn**	**03 52 46.9**	**+1.4**
SKR				*e*S	**Sn**	**03 53 37.1**	**-1.7**
SKR				pmax	pmax		
	comp=Z,173nm,0.9s						
SKR				smax	smax		
	comp=N,792nm,0.5s						
SKR	

comp=E,530nm,0.4s
PAU A A 03 54 04.0
comp=E,560nm,0.4s
RUSJ Misakicho 5.83 248 *e*PN **Pn 03 53 04.8 +3.8**
RUSJ *e*S **Sn 03 54 11.5 +4.9**
NEM2 Nemuro 2 5.91 240 P **Pn 03 53 02.0 0.0**
NEM2 S **Sn 03 54 06.6 -1.8**
NMR Nemuro--Hokkai 5.91 240‖*i*PN **Pn 03 53 02.0 -0.1**
NMR Nemuro--Hokkai 5.91 240 *i* P **Pn 03 53 02.2 +0.1**
NMR *e*S **Sn 03 54 06.7 -1.8**
JRA Rausu 5.99 247 P **Pn 03 53 05.3 +2.1**
JNK Nakash 6.42 246 P **Pn 03 53 11.1 +2.0**
JNK *e*S **Sn 03 54 22.9 +1.9**
AKK Akkeshi 6.65 241 *e*P **Pn 03 53 12.4 +0.2**
JAK Akkeshi 6.75 241 *e*P **Pn 03 53 13.8 +0.3**
JAK *e*S **Sn 03 54 26.9 -2.1**
JTKR Abashiri--Toko 6.76 251 P **Pn 03 53 16.3 +2.6**
YSS Yuzhno-Sakhali 6.89 277 Pn **Pn 03 53 15.6 +0.1**
YSS Yuzhno-Sakhali 6.89 277⇑*e*PN **Pn 03 53 18.9 +3.4**
YSS *e*S **Sn 03 54 36.4 +3.8**
YSS pmax pmax
comp=Z,400nm,3.1s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=N,600nm,12.0s
YSS MLR MLR
comp=E,1μm,15.0s
YSS Yuzhno-Sakhali 6.89 277 *e*P **Pn 03 53 18.9 +3.4**
YSS AMB AMB 03 53 20.9
comp=E,400nm,3.1s
YSS *e*S **Sn 03 54 34.0 +1.4**
YSS AMS AMS 03 55 39.2
comp=E,600nm,16.0s
YSS AMS AMS 03 55 39.2
comp=E,1μm,16.0s
YSS AMS AMS 03 55 39.2
comp=E,1μm,16.0s
JAR Ashorobuto 7.16 246 P **Pn 03 53 21.1 +1.9**
JAR *e*S **Sn 03 54 40.2 +1.0**
PEA0B Petropavlovsk- 7.31 24 Pn **Pn 03 53 20.1 -1.1**
PEA0B Petropavlovsk- 7.31 24‖*i*PN **Pn 03 53 22.8 +1.6**
PETK Petropavlovsk- 7.31 24 Pn **Pn 03 53 20.8 -0.4**
PETK Petropavlovsk- 7.31 24 P **Pn 03 53 21.9 +0.6**
comp=E,18nm,0.8s,baz=196,slow=11,SNR=23
PETK S **Sn 03 54 40.5 -2.2**
comp=E,5.4nm,0.5s,baz=193,slow=14,SNR=0.8
JOB Onbets 7.33 243 *e*P **Pn 03 53 22.5 +1.0**
JOB *e*S **Sn 03 54 42.1 -1.1**
PET Petropavlovsk 7.53 28 Pn **Pn 03 53 22.2 -2.0**
PET Petropavlovsk 7.53 28 *e*PN Pn 03 53 34.7 +11
PET pmax pmax
comp=Z,100nm,8.9s
PET MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 7.53 28 *e*P **Pn 03 53 26.3 +2.1**
PET AMB AMB 03 53 38.5
comp=Z,70nm,9.0s
JKK2 Kamakawa 2 7.56 253 P **Pn 03 53 27.8 +3.1**
JKA Kamikawa-asahi 7.56 255 Pn **Pn 03 53 27.6 +2.9**
JKA Kamikawa-asahi 7.56 255 *e*P **Pn 03 53 27.0 +2.2**
ASAJ Asahikawa 7.57 255 P **Pn 03 53 27.0 +2.2**
comp=Z,94nm,0.8s,baz=103,slow=16,SNR=22
ASAJ S **Sn 03 54 51.4 +2.3**
comp=Z,7.8nm,0.4s,baz=118,slow=11,SNR=0.6
ASAJ LR LR 03 56 14.3
comp=Z,739nm,20.0s,baz=264,slow=37
UGL Uglegorsk 7.64 293 *e*PN Pn 03 53 29.2 +3.4
UGL pmax pmax
comp=Z,200nm,1.2s
UGL MLR MLR
comp=N,1μm,16.0s
UGL Uglegorsk 7.64 293 *e*P Pn 03 53 29.2 +3.4
UGL AMB AMB 03 53 32.2
comp=N,180nm,0.9s
UGL *e*S **Sn 03 54 53.0 +2.1**
UGL AMS AMS 03 56 05.0
comp=N,1μm,21.0s
UGL AMS AMS 03 56 05.0
comp=N,2μm,21.0s
UGL AMS AMS 03 56 05.0
comp=N,2μm,21.0s
JWK2 Keihoku 7.68 265 *e*P Pn 03 53 32.2 +5.9
JCH Churui 7.78 243 P **Pn 03 53 28.0 +0.4**
JCH *e*S **Sn 03 54 51.9 -2.4**
TYV Tymovskoe 7.97 307 *e*PN **Pn 03 53 33.1 +2.8**
TYV *e*S Sn 03 55 05.1 +6.2
TYV pmax pmax
comp=Z,30nm,0.7s
TYV pmax pmax
comp=Z,200nm,3.1s
TYV smax smax
comp=N,13nm,0.8s
TYV smax smax
comp=E,13nm,0.8s
TYV smax smax
comp=N,400nm,4.6s
TYV smax smax
comp=E,200nm,4.6s
TYV Tymovskoe 7.97 307 *e*P **Pn 03 53 33.0 +2.8**
TYV AMB AMB 03 53 33.7
comp=E,200nm,3.1s
TYV *e*S **Sn 03 54 59.9 +1.0**
TYV A A 03 55 09.1
comp=E,400nm,4.9s
TYV A A 03 55 09.1
comp=E,200nm,4.9s
JAB Ashibetsu 8.06 252 P **Pn 03 53 35.2 +3.7**
ERM Erimo 8.24 240 Pn **Pn 03 53 34.9 +0.9**
ERM Erimo 8.24 240 *ce*PN **Pn 03 53 35.4 +1.4**
JNBK Urakawa-nobuka 8.34 243 P **Pn 03 53 35.1 -0.2**
JNBK *e*S **Sn 03 55 06.7 -1.3**
OKH Okha 9.45 322 *e*P Pn 03 53 54.4 +4.0
OKH AMB AMB 03 53 55.3
comp=E,200nm,0.3s
OKH AMS AMS 03 57 58.4
comp=E,400nm,16.0s
OKH AMS AMS 03 57 58.4
comp=E,800nm,16.0s
NKL Nikolayevsk 10.23 315 *e*P Pn 03 54 04.6 +3.5
NKL AMB AMB 03 54 06.6
comp=E,110nm,0.8s
JANG Nango 10.24 237 *e*P **Pn 03 53 59.0 -2.3**
JANG *e*S **Sn 03 55 47.1 -7.6**
TEY Ternei 11.39 268 *e*PN Pn 03 54 24.6 +7.5
MA2 Magadan 13.12 356 Pn **Pn 03 54 40.2 -0.3**
MA2 Magadan 13.12 356 P **Pn 03 54 40.5 0.0**
comp=E,8.6nm,0.4s,baz=163,slow=9.2,SNR=7.1
MA2 LR LR 03 59 20.5
comp=E,311nm,21.7s,baz=126,slow=36
MA2 Magadan 13.12 356⇑*e*PN **Pn 03 54 41.7 +1.1**
MA2 MLR MLR
comp=Z,245nm,15.0s
MA2 Magadan 13.12 356 P **Pn 03 54 38.9 -1.7**
comp=Z,22nm,0.8s
MA2 Magadan 13.12 356 *e*P **Pn 03 54 41.7 +1.1**
KLR Kul'dur 14.35 288 P **Pn 03 54 57.9 +0.5**
comp=Z,3.5nm,0.9s,baz=106,slow=14,SNR=9.5
KLR LR LR 04 00 40.4
comp=Z,548nm,18.9s,baz=60,slow=38
KLR Kul'dur 14.35 288‖*e*P **Pn 03 54 59.2 +1.8**
KLR MLR MLR
comp=Z,540nm,16.0s
MJAR Matsushiro Arr 14.76 233 P **Pn 03 55 01.6 -1.2**
comp=Z,7.5nm,0.8s,baz=27,slow=12,SNR=6.9
MJAR LR LR 04 00 59.0
comp=Z,240nm,21.3s,baz=43,slow=38
MJB9 Matsu-Tunnel 14.76 233 Pn **Pn 03 55 01.2 -1.7**
MAJO Matsushiro 14.76 233 Pn **Pn 03 55 01.1 -1.8**
MAJO Matsushiro 14.76 233 P **Pn 03 55 01.1 -1.8**
USA0B Ussuriysk Arra 14.79 268 *c i*P **Pn 03 55 04.5 +1.4**
USRK Ussuriysk Ar. 14.79 268 Pn **Pn 03 55 02.4 -0.7**
USRK Ussuriysk Ar. 14.79 268 P **Pn 03 55 04.0 +0.9**
comp=Z,23nm,1.0s,baz=79,slow=13,SNR=20
USRK LR LR 04 00 28.3
comp=Z,462nm,20.5s,baz=76,slow=36
SHEM Shemya Is, Ala 15.12 58 LR LR 04 01 24.0
comp=Z,77nm,19.4s,baz=284,slow=39
PSTR Posyet 16.11 264‖*e*P **P 03 55 24.3 +1.6**
JSG Sagara 16.19 228 P **P 03 55 25.1 +1.5**
MDJ Mudanjiang 16.33 272 P **P 03 55 26.6 +1.4**
MDJ Mudanjiang 16.33 272 P **P 03 55 27.9 +2.7**
MDJ pmax pmax
comp=Z,34nm,1.1s
SEY Seymchan 16.43 359 P **Pn 03 55 21.5 -2.6**
comp=Z,0.7nm,0.2s,baz=176,slow=9.2,SNR=19
SEY Seymchan 16.43 359‖*i*P **P 03 55 27.0 +0.8**
SEY pmax pmax
comp=Z,8.0nm,0.8s
SEY MLR MLR
comp=Z,215nm,15.0s
HEH HeiHe 17.21 292 *e*P **P 03 55 35.5 +0.6**
HEH pmax pmax
comp=Z,72nm,1.1s
HEH pmax pmax
comp=Z,230nm,4.9s
HEH LR LR
comp=Z,230nm,17.0s
HEH LR LR
comp=Z,520nm,16.6s
HEH LR LR
comp=Z,700nm,17.7s
BNX BinXian 17.58 277 ⇑P **Pn 03 55 37.1 -1.4**
BNX pmax pmax
comp=Z,10.0nm,1.6s
ZEA Zeya 17.81 303 *e*P **P 03 55 44.5 +3.1**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,18.0s
ZEA Zeya 17.81 303 *e*P **P 03 55 42.5 +1.1**
YAK Yakutsk 20.38 328 P **P 03 56 08.9 -0.4**
YAK IAmb IAmb 03 56 15.3
comp=Z,59nm,0.9s
YAK Yakutsk 20.38 328 P **P 03 56 07.5 -1.8**
comp=Z,35nm,0.5s,baz=92,slow=0.9,SNR=6.3
YAK LR LR 04 03 52.7
comp=Z,284nm,20.1s,baz=114,slow=36
comp=Z,35nm,0.5s
YAK Yakutsk 20.38 328 *e*P Pn 03 56 10.2 -1.6
YAK *e* 03 56 28.9
YAK *e*S **S 03 59 54.0 -0.7**
YAK *e*SS **SnSn 04 00 17.2 +2.0**
YAK pmax pmax
comp=Z,53nm,0.8s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,86nm,1.7s
YAK pmax pmax
comp=N,45nm,1.9s
YAK pmax pmax
comp=E,62nm,1.8s
YAK smax smax
comp=N,115nm,3.3s
YAK smax smax
comp=E,67nm,3.5s
YAK Yakutsk 20.38 328 *e*P Pn 03 56 10.2 -1.6
KSRS Korea Array 20.51 253 P **P 03 56 11.6 +0.6**
comp=E,11nm,0.9s,baz=55,slow=11,SNR=23
comp=E,11nm,0.9s
KS19 Wonju Array Si 20.52 253 P Pn 03 56 12.9 -0.8
KSAR Wonju Array Be 20.54 253 P **P 03 56 12.1 +0.7**
KSAR Wonju Array Be 20.54 253 P **P 03 56 12.1 +0.7**
JCJ Chichijima 21.14 207 LR LR 04 07 45.2
comp=E,28nm,18.0s,baz=96,slow=46
INCN Inchon 21.34 254 P **P 03 56 22.6 +2.6**
INCN IAmb IAmb 03 56 25.0
comp=Z,58nm,1.1s
INCN Inchon 21.34 254 P **P 03 56 22.6 +2.6**
INCN pmax pmax
comp=Z,58nm,1.2s
JNU Nakatsue 21.41 239 P **P 03 56 21.9 +1.1**
JNU IAmb IAmb 03 56 28.1
comp=Z,112nm,1.6s
JNU Nakatsue 21.41 239 P **P 03 56 20.7 -0.1**
comp=Z,22nm,0.9s,baz=47,slow=10,SNR=6.2
JNU LR LR 04 04 40.6
comp=Z,196nm,20.6s,baz=53,slow=36
comp=Z,22nm,0.9s
TJN Taejon 21.49 251‖*e*P **P 03 56 22.5 +0.9**
BILL Bilibino 22.65 13 P **P 03 56 33.6 -0.2**
BILL Bilibino 22.65 13 *de*P **P 03 56 33.3 -0.5**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,183nm,18.0s
BILL Bilibino 22.65 13 *e*P **P 03 56 33.3 -0.5**
DL2 Dalian 24.00 263 *e*P **P 03 56 47.2 +0.1**
DL2 pmax pmax
comp=Z,40nm,1.1s
P08K Saint George I 25.19 53 P **P 03 56 59.1 +1.4**
baz=263
XLT XiLinHaoTe 25.83 278 *e*P **P 03 57 04.1 +0.3**
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,190nm,3.9s
XLT LR LR
comp=Z,31nm,15.4s
XLT LR LR
comp=Z,310nm,15.9s
XLT LR LR
comp=Z,180nm,21.3s
BOD Bodaibo 25.94 310 *e*P **P 03 57 05.2 +0.6**
BOD pmax pmax
comp=Z,17nm,1.5s
UNV Unalaska Valle 26.77 59 P **P 03 57 13.3 +1.2**
baz=271
BJI Beijing 27.24 270 P **P 03 57 19.3 +2.9**
BJI sP **sP 03 57 38.4 +4.6**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,53nm,3.7s
BJI LR LR
comp=Z,110nm,16.9s
BJI LR LR
comp=Z,170nm,19.8s
BJI LR LR
comp=Z,220nm,17.5s
TIXI Tiksi 27.61 344 LR LR 04 08 43.1
comp=Z,280nm,19.7s,baz=182,slow=37
TIXI Tiksi 27.61 344‖*e*P **P 03 57 21.5 +2.1**
TIXI pmax pmax
comp=Z,8.0nm,1.4s
TIXI MLR MLR
comp=Z,274nm,19.0s
TIXI Tiksi 27.61 344 *e*P **P 03 57 21.5 +2.1**
TNA Tin City 28.34 34 P **P 03 57 27.2 +1.2**
baz=248
TIA Tai'an 28.45 262 P **P 03 57 28.6 +1.3**
TIA pmax pmax
comp=Z,6.0nm,0.7s
K13K Kusilvak Mount 28.61 42 P **P 03 57 29.2 +0.8**
baz=258
F14K Arctic Creek 28.93 34 P **P 03 57 31.6 +0.4**
baz=250
M13K Dall Lake 28.95 45 P **P 03 57 32.5 +1.0**
baz=262
ANM Nome 29.00 36 P **P 03 57 33.1 +1.2**
ANM Nome 29.00 36 P **P 03 57 31.8 -0.1**
baz=252,SNR=5.7
ANM Nome 29.00 36 P **P 03 57 33.1 +1.2**
ANM pmax pmax
comp=Z,6.0nm,0.8s
H11N2 WAKE ISLAND Hy 29.14 152 T T 04 29 00.0
baz=340,slow=76
H11N1 WAKE ISLAND Hy 29.15 152 T T 04 28 54.7
baz=340,slow=76
H11N3 WAKE ISLAND Hy 29.16 152 T T 04 29 03.9
baz=340,slow=76
J14K Nanvaranak Lak 29.30 41 P **P 03 57 34.6 +0.2**
baz=257
S12K Black Hills 29.32 55 P **P 03 57 34.4 -0.4**
baz=271
L14K Kuka Creek 29.42 44 P **P 03 57 34.4 -1.1**
baz=261
HNS HongShan 29.49 266 ⇑P **P 03 57 37.6 +1.1**
HNS pmax pmax
comp=Z,11nm,1.0s
HNS LR LR
comp=Z,260nm,15.9s
HNS LR LR
comp=Z,210nm,22.4s
F15K North Star Dit 29.66 34 P **P 03 57 39.1 +1.4**
F15K North Star Dit 29.66 34 P **P 03 57 36.4 -1.3**
baz=251
M14K Bethel 29.68 45 P **P 03 57 39.3 +1.4**
M14K IAmb IAmb 03 58 28.9
comp=Z,36nm,1.6s
M14K Bethel 29.68 45 P **P 03 57 37.6 -0.3**
baz=263
G15K Niukluk 29.68 36 P **P 03 57 37.2 -0.7**
baz=253
NJ2 Nanjing 29.71 253 *e*P **P 03 57 39.5 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
N14K Kuskokwak Cree 29.71 47 P **P 03 57 37.7 -0.5**
baz=264
O14K Tigyukauivet M 29.86 48 P **P 03 57 39.7 +0.2**
O14K IAmb IAmb 03 58 28.6
comp=Z,38nm,1.4s
O14K Tigyukauivet M 29.86 48 P **P 03 57 39.7 +0.2**
baz=266
L15K Ungalak Mounta 30.04 43 P **P 03 57 39.2 -1.9**
baz=261
HHC Hu-ho-hao-te 30.07 274 *e*P **P 03 57 42.2 +0.4**
HHC pP pwP 03 57 53.8 -3.3
HHC sP sP 03 58 05.2 +6.0
HHC *e*S **S 04 02 33.6 -3.2**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,3.9s
HHC LR LR
comp=Z,220nm,14.7s
HHC LR LR
comp=Z,190nm,17.7s
HHC LR LR
comp=Z,280nm,19.0s
K15K Wolf Creek Mou 30.12 42 P **P 03 57 41.4 -0.5**
baz=260
H11S1 WAKE ISLAND Hy 30.22 153 T T 04 30 23.6
baz=341,slow=76
H11S3 WAKE ISLAND Hy 30.23 153 T T 04 30 25.8
baz=341,slow=76
H11S2 WAKE ISLAND Hy 30.24 153 T T 04 30 25.0
baz=341,slow=76
M15K Kasigluk River 30.29 45 P **P 03 57 43.4 +0.1**
baz=264
H16K Elim 30.32 37 P **P 03 57 44.0 +0.5**
baz=256,SNR=5.8
C16K Lisburne Hills 30.36 29 P **P 03 57 43.7 -0.1**
baz=246
G16K Koyuk River 30.48 36 P **P 03 57 44.8 -0.1**
baz=254
N15K Kwethluk River 30.53 46 P **P 03 57 45.1 -0.4**
baz=265
O15K Ungalikthiuk R 30.59 48 P **P 03 57 45.3 -0.8**
baz=267
J16K Anvik River 30.72 40 P **P 03 57 46.0 -1.1**
baz=260
ULN Ulaanbaatar 30.75 289 P **P 03 57 46.2 -1.5**
ULN Ulaanbaatar 30.75 289‖*e*P **P 03 57 46.7 -1.0**
ULN pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 30.75 289 *e*P **P 03 57 46.7 -1.0**
CHNA Chernabura Isl 30.77 57 P **P 03 57 47.4 -0.2**
baz=275
I17K Unalakleet 30.80 39 P **P 03 57 47.2 -0.5**
baz=258
TIY Taiyuan 30.90 268 P **P 03 57 50.7 +1.6**
TIY pP **pwP 03 58 03.3 -1.1**
TIY S **S 04 02 45.0 -4.8**
TIY pmax pmax
comp=Z,9.0nm,1.2s
TIY pmax pmax
comp=Z,130nm,4.9s
TIY LR LR
comp=Z,190nm,15.1s
TIY LR LR
comp=Z,250nm,17.9s
TIY LR LR
comp=Z,220nm,19.9s
D17K Noatak River 30.93 31 P **P 03 57 47.8 -1.1**
baz=250,SNR=6.8
L16K Owhat River 31.00 43 P **P 03 57 48.4 -1.1**
baz=263
RDOG Red Dog Mine 31.12 31 P **P 03 57 49.8 -0.8**
baz=249
M16K Timber Creek 31.17 45 P **P 03 57 51.2 +0.1**
baz=265
SONM Songino Array 31.18 290 P **P 03 57 51.0 -0.5**
SONM Songino Array 31.18 290 P **P 03 57 49.8 -1.7**
comp=Z,1.6nm,0.8s,baz=77,slow=7.6,SNR=10
SONM PcP **PcP 04 00 45.8 +0.6**
comp=Z,1.9nm,0.9s,baz=112,slow=1.6,SNR=6.5
SONM LR LR 04 11 25.3
comp=Z,330nm,18.8s,baz=57,slow=38
comp=Z,1.6nm,0.8s
SONM Songino Array 31.18 290 P **P 03 57 51.0 -0.5**
SONM pmax pmax
comp=Z,6.0nm,1.2s
C17K DeLong Mountai 31.18 30 P **P 03 57 50.2 -0.9**
baz=248
E17K Hotham Inlet 31.18 33 P **P 03 57 50.9 -0.2**
baz=252
G17K Kiwalik Mounta 31.19 36 P **P 03 57 50.8 -0.4**
baz=256
F17K Baldwin Pennin 31.21 34 IAmb IAmb 03 57 53.8
comp=Z,11nm,0.8s
F17K Baldwin Pennin 31.21 34 P **P 03 57 51.2 -0.1**
baz=254,SNR=11
N16K Nishlik Lake 31.21 46 P **P 03 57 50.6 -0.9**
baz=266
BTO Baotou 31.24 275 *e*P **P 03 57 53.9 +1.9**
BTO pP **sP 03 58 07.9 -1.6**
BTO sP pwP 03 58 13.9 +6.5
BTO PP **PP 03 58 59.9 -3.2**
BTO S **S 04 02 58.1 +3.1**
BTO pmax pmax
comp=Z,8.0nm,0.5s
BTO pmax pmax
comp=Z,240nm,4.7s
BTO LR LR
comp=Z,400nm,6.9s
BTO LR LR
comp=Z,260nm,5.8s
BTO LR LR
comp=Z,420nm,14.1s
CHGN Chignik 31.34 54 P **P 03 57 52.4 -0.2**
baz=273
H17K Granite Mounta 31.36 37 P **P 03 57 51.3 -1.4**
baz=258
J17K VABM Dome 31.42 40 P **P 03 57 52.9 -0.3**
baz=261
O16K Kokwok River B 31.50 47 P **P 03 57 53.6 -0.3**
baz=268
P16K Nushagak River 31.54 48 P **P 03 57 54.1 -0.2**
baz=269
L17K Donlin 31.60 43 P **P 03 57 54.8 0.0**
baz=264
K17K Iditarod 31.67 41 P **P 03 57 55.3 -0.2**
baz=263
E18K Tukpahlearik C 31.74 32 P **P 03 57 55.7 -0.3**
baz=253
R16K Pilot Point 31.76 51 P **P 03 57 56.1 -0.1**
baz=272
F18K Selawik 31.87 34 P **P 03 57 56.9 -0.2**
baz=255,SNR=9.3
C18K Utukok River 31.93 30 IAmb IAmb 03 57 59.5
comp=Z,17nm,1.3s
C18K Utukok River 31.93 30 P **P 03 57 57.1 -0.7**
baz=250
M17K Holitna River 31.93 44 P **P 03 57 57.9 +0.1**
baz=266
B18K Kokolik River 31.98 28 P **P 03 57 57.9 -0.1**
baz=248
N17K Nushagak Hills 32.00 46 P **P 03 57 58.1 -0.2**
baz=267
O17K Koliganek Bris 32.01 47 P **P 03 57 58.3 -0.1**
baz=269
H18K Honhosa River 32.05 37 P **P 03 57 58.2 -0.6**
baz=259
G18K Tagagawik 32.09 35 P **P 03 57 58.8 -0.3**
baz=257
Q16K King Salmon 32.23 49 P **P 03 58 00.6 +0.3**
baz=271
L18K Granite Mounta 32.36 43 P **P 03 58 01.5 0.0**
baz=265

J18K	Innoko River	32.48	40	P	P	03 58 03.0	+0.4
	baz=263						
LYN	LuoYang	32.54	263	P	P	03 58 04.6	+1.2
LYN				pP	sP	03 58 19.4	-1.5
LYN				pmax	pmax		
	comp=Z,24nm,0.8s						
ZAK	Zakamensk	32.55	295	*e*P	P	03 58 02.5	-1.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
Q17K	Contact Creek	32.64	50	P	P	03 58 04.3	+0.2
	baz=272						
N18K	Kilae Creek	32.64	45	P	P	03 58 04.6	+0.5
	baz=268						
F19K	Shaleruckik Mo	32.65	34	P	P	03 58 03.7	-0.3
	baz=257						
M18K	Stony River	32.71	44	P	P	03 58 05.0	+0.4
	baz=267						
TTA	Tatalina	32.74	41	P	P	03 58 05.2	+0.3
TTA				IAmb	IAmb	03 58 07.2	
	comp=Z,11nm,1.0s						
TTA	Tatalina	32.74	41	P	P	03 58 04.3	-0.6
	baz=265,SNR=6.1						
TTA	Tatalina	32.74	41	P	P	03 58 05.2	+0.3
TTA				pmax	pmax		
	comp=Z,11nm,1.0s						
G19K	Purcell Mounta	32.77	35	P	P	03 58 05.0	-0.1
	baz=259						
H19K	Roundabout Mou	32.91	36	P	P	03 58 06.0	-0.2
	baz=260						
CHIR	Chirikof Islan	32.94	54	P	P	03 58 06.4	-0.2
	baz=276						
D19K	Kuna River	32.95	31	P	P	03 58 06.6	-0.1
	baz=254						
P18K	Big Mountain,	32.96	48	P	P	03 58 06.5	-0.4
	baz=271						
E19K	Redstone River	33.00	33	P	P	03 58 06.4	-0.7
	baz=256						
J19K	Poorman	33.03	39	P	P	03 58 07.0	-0.3
	baz=263,SNR=6.8						
L19K	White Mountain	33.21	43	P	P	03 58 08.2	-0.9
	baz=267						
N19K	Bonanza Creek	33.34	45	P	P	03 58 09.7	-0.5
	baz=269						
O19K	Port Alsworth	33.41	46	P	P	03 58 10.9	+0.2
	baz=270						
R18K	Karluk	33.44	51	P	P	03 58 10.6	-0.3
	baz=274						
F20K	Avaraart Lake	33.48	34	P	P	03 58 10.7	-0.5
	baz=259						
GUMO	Guam	33.51	194	LR	LR	04 11 55.7	
	comp=Z,87nm,18.6s,baz=72,slow=36						
D20K	Etivluk River	33.54	31	P	P	03 58 11.0	-0.8
	baz=255						
H20K	Anotleneega Mo	33.55	37	P	P	03 58 11.1	-0.8
	baz=262						
E20K	Nigu River	33.58	32	P	P	03 58 11.6	-0.6
	baz=256						
I20K	Naaghedeneel	33.62	38	P	P	03 58 12.3	-0.1
	baz=263						
WHN	Wuhan	33.65	255	⇑P	P	03 58 13.8	+0.7
WHN				pmax	pmax		
	comp=Z,42nm,1.0s						
K20K	Telida	33.65	41	P	P	03 58 12.4	-0.5
	baz=266						
SII	Sitkinak Islan	33.67	53	P	P	03 58 12.7	-0.3
	baz=276						
L20K	Farewell, AK	33.68	42	P	P	03 58 13.0	-0.1
	baz=267						
J20K	Nowinta River	33.69	39	IAmb	IAmb	03 58 31.5	
	comp=Z,41nm,1.9s						
J20K	Nowinta River	33.69	39	P	P	03 58 13.0	-0.1
	baz=265						
Q19K	Cape Douglas,	33.79	49	P	P	03 58 13.1	-0.9
	baz=273						
M20K	Styx River	34.01	43	P	P	03 58 15.6	-0.4
	baz=269						
OHAK	Old Harbor	34.09	52	P	P	03 58 16.0	-0.7
	baz=276						
G21K	Allakaket	34.26	35	P	P	03 58 17.3	-0.7
	baz=262						
O20K	Slope Mountain	34.26	47	P	P	03 58 17.4	-0.8
	baz=272						
C21K	Knifeblade Rid	34.29	30	P	P	03 58 17.8	-0.5
	baz=257						
A21K	Barrow	34.30	26	P	P	03 58 17.2	-1.1
	baz=252,SNR=6.5						
F21K	Alatna River	34.38	34	P	P	03 58 18.4	-0.7
	baz=261						
KDAK	Kodiak Island	34.42	51	P	P	03 58 19.3	-0.2
	baz=276						
KDAK	Kodiak Island	34.42	51	P	P	03 58 19.7	+0.3
E21K	Killik River	34.42	32	P	P	03 58 18.5	-0.9
	baz=258						
H21K	Melozitna Rive	34.42	37	P	P	03 58 18.3	-1.2
	baz=264						
B21K	Ikpikpuk River	34.47	29	P	P	03 58 19.0	-0.7
	baz=256						
I21K	Tanana	34.72	38	P	P	03 58 21.3	-0.6
	baz=265						
SKT	Skwentna	34.77	43	P	P	03 58 22.5	0.0
	baz=270						
CAPN	Captain Cook N	34.97	45	P	P	03 58 24.0	-0.2
	baz=272						
D22K	Ayikyak River	34.97	31	P	P	03 58 23.9	-0.3
	baz=259						
H22K	Ishtalitna Cre	35.03	36	P	P	03 58 24.3	-0.4
	baz=265,SNR=6.0						
B22K	Teshekpuk Lake	35.04	28	P	P	03 58 24.2	-0.5
	baz=256						
KTH	Kantishna Hill	35.08	40	IAmb	IAmb	03 58 27.9	
	comp=Z,24nm,1.0s						
G22K	Bettles	35.10	35	P	P	03 58 24.9	-0.3
	baz=263						
SUA	Susitna One	35.15	44	P	P	03 58 26.0	+0.1
	baz=272						
E22K	Anaktuvuk Pass	35.16	32	P	P	03 58 26.4	+0.6
E22K				IAmb	IAmb	03 58 41.8	
	comp=Z,12nm,0.7s						
E22K	Anaktuvuk Pass	35.16	32	P	P	03 58 25.6	-0.2
	baz=261,SNR=17						
BRSE	Bradley Lake S	35.23	47	P	P	03 58 26.3	-0.1
	baz=274						
XAN	Xi'an	35.26	265	P	P	03 58 27.5	+0.4
XAN				pP	pP	03 58 38.9	-0.2
XAN				pmax	pmax		
	comp=Z,24nm,0.8s						
TRF	Thorofare Moun	35.36	41	P	P	03 58 27.1	-0.6
	baz=269						
COLD	Coldfoot	35.64	34	P	P	03 58 29.7	-0.2
	baz=264,SNR=8.3						
RC01	Rabbit Creek A	35.65	45	P	P	03 58 30.1	0.0
	baz=273						
G23K	Bananza Creek	35.66	35	P	P	03 58 29.6	-0.5
	baz=265						
D23K	Nanushuk River	35.70	31	P	P	03 58 30.0	-0.4
	baz=261						
I23K	Minto, Yukon-K	35.82	38	IAmb	IAmb	03 58 49.4	
	comp=Z,30nm,1.6s						
I23K	Minto, Yukon-K	35.82	38	P	P	03 58 31.2	-0.2
	baz=268,SNR=5.6						
C23K	Itkillik River	35.87	30	P	P	03 58 31.8	0.0
C23K	Itkillik River	35.87	30	P	P	03 58 31.9	0.0
	baz=260,SNR=7.3						
PMR	Palmer	35.92	44	P	P	03 58 31.8	-0.5
	baz=273						
NEA2	Nenana	35.92	39	IAmb	IAmb	03 58 53.2	
	comp=Z,7.6nm,0.8s						
NEA2	Nenana	35.92	39	P	P	03 58 32.1	-0.2
	baz=269						
E23K	Chandalar	35.96	33	P	P	03 58 32.4	-0.4
	baz=263,SNR=14						
MCK	McKinley	35.97	40	IAmb	IAmb	03 58 35.7	
	comp=Z,27nm,1.4s						
MCK	McKinley	35.97	40	P	P	03 58 32.5	-0.2
	baz=270						
TOLK	Toolik Lake Re	36.05	32	P	P	03 58 32.8	-0.7
	baz=263,SNR=6.0						
KNK	Knik Glacier	36.25	44	P	P	03 58 34.9	-0.3
	baz=274						
SML	Sawmill	36.29	43	P	P	03 58 36.2	+0.6
SML	Sawmill	36.29	43	P	P	03 58 35.0	-0.5
	baz=273,SNR=6.7						
SML	Sawmill	36.29	43	P	P	03 58 36.2	+0.6
SML				pmax	pmax		
	comp=Z,17nm,0.8s						
WRH	Wood River Hil	36.34	39	IAmb	IAmb	03 59 04.4	
	comp=Z,32nm,1.7s						
D24K	Happy Valley	36.39	31	P	P	03 58 35.4	-0.9
	baz=263						
COLA	College	36.45	38	P	P	03 58 36.6	-0.2
COLA				IAmb	IAmb	03 58 56.8	
	comp=Z,17nm,0.7s						
COLA	College	36.45	38	P	P	03 58 36.1	-0.7
	baz=270						
COLA	College	36.45	38	*ce*P	P	03 58 38.1	+1.3
COLA				pmax	pmax		
	comp=Z,22nm,0.9s						
COLA	College	36.45	38	P	P	03 58 38.4	+1.6
H24K	Noodor Dome	36.47	37	P	P	03 58 36.5	-0.5
	baz=268						
CCB	Clear Creek Bu	36.47	39	P	P	03 58 37.2	+0.2
CCB				IAmb	IAmb	03 58 57.8	
	comp=Z,38nm,1.8s						
C24K	Franklin Bluff	36.51	30	IAmb	IAmb	03 58 56.9	
	comp=Z,11nm,0.9s						
C24K	Franklin Bluff	36.51	30	P	P	03 58 36.5	-0.7
	baz=262,SNR=6.7						
F24K	Squaw Lake	36.56	34	P	P	03 58 37.4	-0.4
	baz=266						
M23K	Glacier View	36.58	43	P	P	03 58 37.6	-0.4
	baz=274						
POKR	Poker Plat Res	36.63	38	IAmb	IAmb	03 58 41.1	
	comp=Z,21nm,0.8s						
POKR	Poker Plat Res	36.63	38	P	P	03 58 38.7	+0.3
	baz=270,SNR=16						
G24K	Hadweenzic Riv	36.67	35	P	P	03 58 38.9	+0.2
	baz=267						
SCM	Sheep Creek Mo	36.76	43	P	P	03 58 39.8	+0.2
	baz=274						
HDA	Harding Lake	36.84	39	P	P	03 58 40.0	-0.1
	baz=271,SNR=5.2						
ILAR	Eielson Array	36.86	38	P	P	03 58 40.0	-0.3
	comp=Z,5.0nm,1.0s,baz=262,slow=6.7,SNR=29						
ILAR				LR	LR	04 14 11.6	
	comp=Z,80nm,20.0s,baz=272,slow=37						
	comp=Z,5.0nm,1.0s						
D25K	Kavik River	37.28	31	IAmb	IAmb	03 58 49.7	
	comp=Z,13nm,0.8s						
D25K	Kavik River	37.28	31	P	P	03 58 43.7	-0.2
	baz=265						
M24K	Tolsona, Glenn	37.29	43	P	P	03 58 44.1	+0.1
	baz=275						
K24K	Donnelly Dome	37.37	40	P	P	03 58 44.7	0.0
	baz=273,SNR=5.3						
F25K	Christian Rive	37.43	34	P	P	03 58 44.6	-0.6
	baz=268						
PRP	Porcupine Dome	37.44	37	P	P	03 58 45.0	-0.4
	baz=271						
KLU	Klutina	37.46	44	P	P	03 58 45.6	+0.1
	baz=276						
E25K	Arctic Village	37.48	33	P	P	03 58 45.7	+0.1
	baz=267,SNR=5.2						
J25K	Salcha River,	37.52	39	P	P	03 58 45.6	-0.4
	baz=272						
PAX	Paxson	37.55	41	P	P	03 58 46.6	+0.2
	baz=274						
LZH	Lanzhou	37.66	272	*e*P	P	03 58 49.4	+1.8
LZH				pP	sP	03 59 02.1	-3.1
LZH				sP	pwP	03 59 10.7	+7.6
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				LR	LR		
	comp=Z,220nm,15.3s						
LZH				LR	LR		
	comp=Z,300nm,15.1s						
LZH				LR	LR		
	comp=Z,350nm,17.9s						
HARP	HAARP	37.74	42	P	P	03 58 48.3	+0.4
	baz=275						
RIDG	Independent Ri	37.78	40	IAmb	IAmb	03 59 25.3	
	comp=Z,59nm,2.0s						
RIDG	Independent Ri	37.78	40	P	P	03 58 48.4	+0.1
	baz=274						
BMAR	Burnt Mountain	37.83	34	P	P	03 58 49.4	+0.9
C26K	Camden Bay	37.84	30	P	P	03 58 48.5	0.0
	baz=266						
F26K	Sheenjek River	38.00	34	P	P	03 58 50.1	+0.1
	baz=269						
G26K	Porcupine Rive	38.13	35	P	P	03 58 51.1	+0.1
	baz=270						
BMRM	Bremner River	38.15	45	P	P	03 58 51.3	0.0
	baz=277						
SCRK	Sand Creek	38.15	40	P	P	03 58 52.3	+0.9
	baz=274						
C27K	Jago River	38.23	30	P	P	03 58 52.0	+0.1
	baz=267						
J26L	Joseph Creek	38.30	39	P	P	03 58 52.8	+0.1
	baz=274						
KAIM	Kayak Island	38.38	46	P	P	03 58 53.9	+0.7
	baz=279						
I26K	Coal Creek Min	38.43	37	P	P	03 58 54.4	+0.8
	baz=273						
M26K	Nabesna, AK	38.74	42	P	P	03 58 57.0	+0.7
	baz=277						
GTA	Gaotai	38.77	279	*e*P	P	03 58 57.1	+0.2
GTA				pP	sP	03 59 15.7	+1.2
GTA				PcP	PcP	04 01 09.4	+1.9
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				LR	LR		
	comp=Z,68nm,14.3s						
GTA				LR	LR		
	comp=Z,130nm,14.7s						
GTA				LR	LR		
	comp=Z,180nm,15.1s						
NRIK	Noril'sk	38.82	329	LR	LR	04 16 43.8	
	comp=Z,170nm,18.2s,baz=96,slow=39						
G27K	Doyon Strip	38.98	35	P	P	03 58 58.4	+0.2
	baz=272						
H27K	Steamboat Moun	39.06	36	P	P	03 58 59.3	+0.4
	baz=273						
I27K	Kandik River	39.06	37	P	P	03 58 59.0	+0.1
	baz=274						
D27M	Malcolm River	39.19	31	P	P	03 58 60.0	0.0
	baz=270						
L27K	Beaver Creek,	39.20	41	P	P	03 59 00.4	+0.3
	baz=277						
BCAR	Beaver Creek A	39.22	41	P	P	03 59 01.1	+0.8
M27K	Edge Creek, AK	39.26	42	P	P	03 59 00.3	-0.4
	baz=278						
EGAK	Eagle	39.31	38	IAmb	IAmb	03 59 02.6	
	comp=Z,14nm,0.8s						
EGAK	Eagle	39.31	38	P	P	03 59 00.7	-0.2
	baz=276,SNR=5.7						
MESA	MESA	39.56	45	P	P	03 59 03.9	+0.6
	baz=280						
F28M	Old Crow	39.64	34	P	P	03 59 04.5	+0.9
	baz=273,SNR=8.6						
E28M	Babbage River	39.72	32	P	P	03 59 04.0	-0.3
	baz=272						
BVCY	Beaver Creek	39.72	42	P	P	03 59 04.9	+0.5
	baz=279,SNR=6.1						
I28M	Miner Creek	39.77	37	P	P	03 59 05.2	+0.4
	baz=276,SNR=13						
YUK3	Moose Creek	40.01	43	P	P	03 59 07.7	+0.6
	baz=280						
DAWY	Dawson	40.16	39	P	P	03 59 09.2	+1.2
	baz=278						
O28M	Mount Upton	40.31	44	P	P	03 59 08.7	-0.9
	baz=281						
H29M	Whitestone	40.33	36	P	P	03 59 09.4	0.0
	baz=276						
E29M	Blow River	40.34	32	P	P	03 59 09.7	+0.3
	baz=274						
G29M	Pine Creek	40.40	35	P	P	03 59 10.0	0.0
	baz=276						
YUK8	Steele Glacier	40.42	43	P	P	03 59 11.1	+0.6
	baz=281						
I29M	Ogilvie Camp,	40.45	37	P	P	03 59 10.8	+0.4
I29M	Ogilvie Camp,	40.45	37	P	P	03 59 11.0	+0.6
	baz=277,SNR=5.8						
J29N	Klondike Camp	40.61	38	P	P	03 59 12.4	+0.5
	baz=278						
CD2	Chengdu	40.62	265	P	P	03 59 13.4	+1.1
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
M29M	Somme Creek	40.82	42	P	P	03 59 14.3	+0.7
	baz=280						
L29M	L29M	40.86	40	P	P	03 59 14.4	+0.6
	baz=280						
YUK4	Talbot Arm	40.94	43	P	P	03 59 15.5	+0.7
	baz=282						
EPYK	Eagle Plains	40.98	35	P	P	03 59 15.3	+0.5
	baz=277,SNR=8.6						
K29M	Barlow Dome	41.01	39	P	P	03 59 15.6	+0.5
	baz=280						
G30M	tAoh Zraii Nji	41.10	34	P	P	03 59 17.3	+1.5
	baz=277						
YUK6	Outpost Mounta	41.16	44	P	P	03 59 17.8	+1.3
	baz=282						
O29M	Mount Kennedy	41.19	45	P	P	03 59 18.1	+1.4
	baz=283						
F30M	Barrier River	41.20	33	P	P	03 59 17.6	+1.1
	baz=277						
I30M	Mount Dempster	41.28	37	IAmb	IAmb	03 59 19.8	
	comp=Z,18nm,0.8s						
I30M	Mount Dempster	41.28	37	P	P	03 59 17.7	+0.4
	baz=279						
J30M	Hart River	41.40	38	P	P	03 59 18.8	+0.4
	baz=280						
M30M	Minto, Yukon	41.56	41	P	P	03 59 21.2	+1.6
M30M	Minto, Yukon	41.56	41	P	P	03 59 20.3	+0.7
	baz=282						
HYT	Haines Junctio	41.59	44	P	P	03 59 20.3	+0.4
	baz=283						
N30M	Aishikik Lake	41.65	43	P	P	03 59 21.4	+1.0
	baz=283						
MAYO	Mayo, Yukon	41.76	39	IAmb	IAmb	03 59 24.9	
	comp=Z,24nm,1.0s						
MAYO	Mayo, Yukon	41.76	39	P	P	03 59 23.1	+1.9
	baz=281						
G31M	Satah River	41.87	34	P	P	03 59 23.0	+1.0
	baz=279						
INK	Inuvik	41.96	32	P	P	03 59 23.2	+0.5
INK	Inuvik	41.96	32	P	P	03 59 23.5	+0.9
	baz=278,SNR=11						
INK	Inuvik	41.96	32	P	P	03 59 23.2	+0.5
INK				pmax	pmax		
	comp=Z,15nm,1.2s						
F31M	Tsiigehtchic	42.00	34	P	P	03 59 23.7	+0.7
F31M				IAmb	IAmb	03 59 25.4	
	comp=Z,17nm,1.1s						
F31M	Tsiigehtchic	42.00	34	P	P	03 59 23.9	+0.9
	baz=279,SNR=11						
P30M	Million Dollar	42.02	45	P	P	03 59 25.1	+1.7
	baz=284						
H31M	Peel River	42.02	36	P	P	03 59 24.8	+1.5
	baz=280						
N31M	Braeburn, Yuko	42.26	43	IAmb	IAmb	03 59 28.9	
	comp=Z,18nm,0.9s						
N31M	Braeburn, Yuko	42.26	43	P	P	03 59 26.6	+1.3
	baz=284,SNR=5.7						
O30N	Mendenhall	42.28	44	P	P	03 59 26.9	+1.5
	baz=284						
PLBC	Pleasant Camp	42.47	46	P	P	03 59 28.3	+1.2
	baz=285,SNR=5.5						
ZAA0	Zalesovo Array	42.54	306	P	P	03 59 25.7	-1.9
ZALV	Zalesovo Beam	42.54	306	P	P	03 59 26.6	-1.0
ZALV	Zalesovo Beam	42.54	306	P	P	03 59 26.3	-1.3
	comp=Z,2.5nm,0.4s,baz=63,slow=6.5,SNR=17						
ZALV				PcP	PcP	04 01 19.6	+0.4
	comp=Z,5.8nm,0.7s,baz=79,slow=3.1,SNR=18						
ZALV				LR	LR	04 18 15.4	
	comp=Z,495nm,18.8s,baz=72,slow=38						
	comp=Z,2.5nm,0.4s						
M31M	Drury Creek, Y	42.73	41	P	P	03 59 30.0	+0.8
	baz=284,SNR=6.9						
WHY	Whitehorse	42.88	44	P	P	03 59 32.2	+1.7
	baz=285,SNR=5.1						
FARO	Faro, Yukon	43.20	41	P	P	03 59 34.1	+1.2
FARO	Faro, Yukon	43.20	41	P	P	03 59 33.9	+1.0
	baz=285,SNR=5.8						
N32M	Quiet Lake	43.60	43	P	P	03 59 36.8	+0.6
	baz=286						
SIT	Sitka	43.69	49	P	P	03 59 37.8	+1.0
	baz=289						
R32K	Eaglecrest	43.73	47	P	P	03 59 38.1	+0.9
	baz=288						
P32M	Atlin	43.74	45	P	P	03 59 37.9	+0.7
	baz=287						
GOMU	GeErMu	43.81	278	P	P	03 59 37.9	-0.6
GOMU				PcP	PcP	04 01 26.8	+2.4
GOMU				pmax	pmax		
	comp=Z,29nm,1.1s						
GOMU				LR	LR		
	comp=Z,240nm,14.7s						
GOMU				LR	LR		
	comp=Z,190nm,12.9s						
GOMU				LR	LR		
	comp=Z,190nm,14.4s						
P33M	Teslin, Yukon	43.99	44	P	P	03 59 40.3	+1.0
P33M	Teslin, Yukon	43.99	44	P	P	03 59 40.2	+0.8
	baz=287,SNR=9.3						
A36M	Sachs Harbour	44.15	26	P	P	03 59 41.9	+1.6
	baz=281,SNR=12						
QIZ	Qiongzhong	44.55	247	P	P	03 59 45.4	+1.3
QIZ				S	S	04 06 18.4	+2.1
QIZ				LR	LR		
	comp=Z,62nm,8.8s						
QIZ				LR	LR		
	comp=Z,100nm,11.8s						
QIZ				LR	LR		
	comp=Z,120nm,19.6s						
PZH	PanZhiHua	44.75	262	P	P	03 59 46.4	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
WMQ	Urumqi	44.78	291	*e*P	P	03 59 47.7	+1.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,170nm,18.1s						
KMI	Kunming	44.97	259	⇓P	P	03 59 49.3	+1.6
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
T33K	Petersburg	45.00	48	P	P	03 59 46.8	-0.5
	baz=290						
C36M	Paulatuk	45.12	30	P	P	03 59 48.4	+0.3
C36M				IAmb	IAmb	03 59 50.2	
	comp=Z,24nm,1.2s						
C36M	Paulatuk	45.12	30	P	P	03 59 49.3	+1.2
	baz=285,SNR=7.5						
R33M	Jennings River	45.13	45	IAmb	IAmb	03 59 52.2	
	comp=Z,11nm,0.8s						
R33M	Jennings River	45.13	45	P	P	03 59 49.8	+1.3
	baz=289						
S34M	Telegraph Cree	45.55	47	P	P	03 59 52.7	+1.1
	baz=290						
DLBC	Dease Lake	45.91	46	P	P	03 59 56.7	+2.1
DLBC				IAmb	IAmb	03 59 58.5	
	comp=Z,9.6nm,0.9s						
DLBC	Dease Lake	45.91	46	P	P	03 59 55.8	+1.2
	baz=291						
WTLY	Watson Lake, Y	45.93	43	IAmb	IAmb	03 59 57.8	
	comp=Z,11nm,1.0s						
WTLY	Watson Lake, Y	45.93	43	P	P	03 59 56.0	+1.3
	baz=290						
SLVN	Son La	46.76	255	P	P	04 00 02.3	+0.6
MK31	Makanchi Array	46.83	297	*d*⇓P	P	04 00 00.8	-1.1
MKAR	Makanchi Array	46.83	297	P	P	04 00 00.6	-1.4
MKAR	Makanchi Array	46.83	297	P	P	04 00 01.0	-0.9
	comp=Z,3.7nm,0.8s,baz=66,slow=7.6,SNR=33						
MKAR				PcP	PcP	04 01 35.1	+0.9
	comp=Z,4.3nm,0.8s,baz=61,slow=4.2,SNR=9.2						
MKAR				LR	LR	04 20 49.8	
	comp=Z,498nm,19.1s,baz=62,slow=38						
	comp=Z,3.7nm,0.8s						
MAKZ	Makanchi	47.02	298	P	P	04 00 02.0	-1.4
MAKZ	Makanchi	47.02	298	P	P	04 00 02.0	-1.4
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KURK	Kurchatov	47.28	304	P	P	04 00 03.0	-2.4
KURK				IAmb	IAmb	04 00 05.9	
	comp=Z,11nm,1.0s						
KURK	Kurchatov	47.28	304	*de*P	P	04 00 04.3	-1.1
KURK				pmax	pmax		
	comp=Z,15nm,1.3s						
KURK				MLR	MLR		
	comp=Z,277nm,19.0s						
KURK	Kurchatov	47.28	304	*e*P	P	04 00 04.3	-1.1
KURK	Kurchatov	47.28	304	P	P	04 00 04.3	-1.1
KURBB	Kurchatov Arra	47.38	304	P	P	04 00 04.6	-1.5
	comp=Z,7.2nm,0.8s,baz=68,slow=8.2,SNR=26						
KURBB				PcP	PcP	04 01 36.4	+0.4
	comp=Z,1.8nm,0.7s,baz=66,slow=3.4,SNR=6.2						
KURBB				LR	LR	04 21 01.0	
	comp=Z,274nm,19.6s,baz=169,slow=37						
	comp=Z,7.2nm,0.8s						
TNCH	TengChong	47.91	263	*e*P	P	04 00 12.6	+1.8
TNCH				pP	sP	04 00 27.5	-1.1
TNCH				sP	pwP	04 00 32.1	+5.5
TNCH				S	S	04 06 58.9	-5.9

TNCH sS sS 04 07 24.7 -0.9
TNCH pmax pmax
comp=Z,14nm,0.8s
TNCH pmax pmax
comp=Z,53nm,2.9s
TNCH LR LR
comp=Z,220nm,57.7s
TNCH LR LR
comp=Z,330nm,54.6s
TNCH LR LR
comp=Z,91nm,22.1s
TOAD Toad River Com 48.09 44 P **P 04 00 12.7 +1.1**
baz=294,SNR=10.0
KOTAN Kotaneelee Air 48.13 42 P **P 04 00 12.4 +0.6**
baz=293
EUNU Eureka 49.38 11 P **P 04 00 20.9 -0.3**
BBB Bella Bella 49.43 53 LR LR 04 20 21.1
comp=Z,26nm,22.0s,baz=352,slow=35
ALE Alert 49.98 6 P **P 04 00 25.2 -0.5**
KRVT Keravat (AS076 50.63 181 LR LR 04 24 11.5
comp=Z,53nm,18.0s,baz=200,slow=38
BVAR Borovoye Array 50.81 309 P **P 04 00 31.2 -1.1**
comp=Z,3.9nm,0.6s,baz=58,slow=8.9,SNR=12
BVAR PcP **PcP 04 01 49.3 +0.8**
comp=Z,6.3nm,0.7s,baz=81,slow=2.2,SNR=9.1
BVAR pPcP 04 02 03.3
comp=Z,2.3nm,0.5s,baz=66,slow=5.0,SNR=3.7
BVAR LR LR 04 23 52.6
comp=Z,219nm,18.9s,baz=61,slow=38
comp=Z,3.9nm,0.6s
BRVK Borovoye 50.85 310 P **P 04 00 31.9 -0.7**
BRVK Borovoye 50.85 310*d i*P **P 04 00 31.9 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK MLR MLR
comp=Z,209nm,19.0s
BRVK Borovoye 50.85 310 *e*P **P 04 00 31.9 -0.7**
BRVK Borovoye 50.85 310 P **P 04 00 32.4 -0.2**
PHRA Phrae 51.20 255 P **P 04 00 37.5 +1.8**
YKA Yellowknife Ar 51.24 36 P **P 04 00 36.3 +1.0**
comp=Z,1.9nm,0.7s,baz=297,slow=7.3,SNR=22
YKA PcP **PcP 04 01 51.1 +1.2**
comp=Z,1.5nm,0.9s,baz=299,slow=3.6,SNR=7.5
YKA pPcP 04 02 05.5
comp=Z,0.5nm,0.4s,baz=301,slow=4.0,SNR=5.8
comp=Z,1.9nm,0.7s
YKA Yellowknife Ar 51.24 36 *i*P **P 04 00 36.7 +1.4**
YKA pmax pmax
comp=Z,2.0nm,0.7s
WUS Wushi 51.52 292 IAmb IAmb 04 00 40.7
comp=Z,13nm,0.9s
CHTO Chiang Mai 51.84 257 P **P 04 00 41.8 +1.4**
CHTO IAmb IAmb 04 00 43.2
comp=Z,16nm,0.8s
CHTO Chiang Mai 51.84 257 P **P 04 00 41.8 +1.4**
CHTO pmax pmax
comp=Z,16nm,0.9s
NOR Nord 51.99 358 *i*P **P 04 00 38.3 -2.4**
NOR IAmb IAmb 04 00 41.0
comp=Z,3.9nm,1.0s
CMAR Chiang Mai Arr 52.09 256 P **P 04 00 43.2 +1.0**
CMAR Chiang Mai Arr 52.09 256 P **P 04 00 43.4 +1.1**
comp=Z,9.6nm,0.9s,baz=34,slow=7.6,SNR=40
CMAR LR LR 04 25 04.3
comp=Z,76nm,19.0s,baz=60,slow=39
comp=Z,9.6nm,0.9s
CMAR Chiang Mai Arr 52.09 256 *i*P **P 04 00 44.7 +2.4**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
SHL Shillong 52.13 268 IAmb IAmb 04 00 47.6
comp=Z,16nm,0.8s
SPA0 Spitsbergen Ar 52.78 350 *e*P **P 04 00 46.5 -0.2**
SPA0 IAmb IAmb 04 00 47.3
comp=Z,37nm,1.2s
SPITS Spitsbergen Ar 52.78 350 P **P 04 00 45.5 -1.1**
comp=Z,7.3nm,0.8s,baz=56,slow=5.6,SNR=12
SPITS LR LR 04 26 12.9
comp=Z,76nm,18.3s,baz=19,slow=40
comp=Z,7.3nm,0.8s
AAK Ala-Archa 53.72 296 P **P 04 00 54.0 -0.3**
AAK Ala-Archa 53.72 296 LR LR 04 25 01.2
comp=Z,300nm,18.4s,baz=56,slow=37
AAK Ala-Archa 53.72 296*c i*P **P 04 00 54.4 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK MLR MLR
comp=Z,265nm,18.0s
AAK Ala-Archa 53.72 296 *e*P **P 04 00 54.4 +0.2**
BRDH Bariadhala 54.18 266 LR LR 04 25 45.6
comp=Z,74nm,19.6s,baz=268,slow=38
KSH Kashi 54.52 292 P P 04 01 06.3 +6.3
KSH pP sP 04 01 19.9 +1.8
KSH pmax pmax
comp=Z,3.0nm,1.0s
KSH LR LR
comp=Z,330nm,19.6s
KSH LR LR
comp=Z,190nm,18.2s
KSH LR LR
comp=Z,380nm,19.2s
ARTI Arti 55.12 317 LR LR 04 26 47.1
comp=Z,177nm,19.7s,baz=26,slow=38
ARTI Arti 55.12 317*c i*P **P 04 01 03.4 -0.5**
ARTI 04 02 04.1
ARTI S **S 04 08 39.8 -3.1**
ARTI SS **SS 04 12 20.2 -6.3**
ARTI pmax pmax
comp=Z,8.0nm,1.5s
NEEM North Greenlan 55.40 6 *i*P **P 04 01 04.1 -2.0**
NEEM IAmb IAmb 04 01 06.1
comp=Z,26nm,0.9s
KKAR Karatay Array 55.90 299 P **P 04 01 09.2 -0.6**
KKAR Karatay Array 55.90 299 IAmb IAmb 04 02 49.4
comp=Z,4.8nm,0.5s
KKAR Karatay Array 55.90 299 P **P 04 01 09.2 -0.6**
DAG Danmarks Havn 56.85 358 P **P 04 01 15.7 -0.3**
DAG Danmarks Havn 56.85 358 *i*P **P 04 01 14.1 -1.9**
DAG IAmb IAmb 04 01 16.1
comp=Z,12nm,1.1s
DRK Karamyk 57.18 295 P **P 04 01 19.2 -0.1**
DRK Karamyk 57.18 295 P **P 04 01 19.2 -0.1**
DRK pmax pmax
comp=Z,6.0nm,0.9s
KULLO Kullorsuaq 57.51 9 *i*P **P 04 01 20.0 -0.7**
KULLO IAmb IAmb 04 01 21.8
comp=Z,9.9nm,0.8s
KIRV Kirov 57.80 323 LR LR 04 28 52.4
comp=Z,202nm,18.2s,baz=43,slow=39
PINE Pine Mountain 57.91 59 IAmb IAmb 04 01 42.1
comp=Z,14nm,1.0s
ARCES ARCESS Array B 57.98 341 P **P 04 01 23.4 -0.7**
comp=Z,6.2nm,1.0s,baz=34,slow=6.9,SNR=7.0
ARCES LR LR 04 29 29.0
comp=Z,96nm,20.2s,baz=24,slow=39
comp=Z,6.2nm,1.0s
YBH Yreka Blue Hor 58.05 61 LR LR 04 21 15.8
comp=Z,36nm,21.8s,baz=320,slow=31
ABKAR Akbulak array 58.38 310 P **P 04 01 26.1 -1.1**
GAR Garm 58.39 295 IAmb IAmb 04 01 30.3
comp=Z,20nm,1.2s
AKTO Aktyubinsk 58.69 312 LR LR 04 29 11.6
comp=Z,451nm,18.2s,baz=54,slow=38
KTK1 Kautokeino 58.90 341 *e*P **P 04 01 29.8 -0.7**
KTK1 IAmb IAmb 04 01 32.6
comp=Z,0.6nm,0.4s
JETT Jettan, Norway 59.07 342 *e*P **P 04 01 31.6 -0.1**
JETT IAmb IAmb 04 01 32.1
comp=Z,48nm,1.2s
KAPI Kappang 59.08 219 LR LR 04 27 12.3
comp=Z,9.0nm,21.9s,baz=30,slow=36
UPNV Upernavik 59.29 10 *i*P **P 04 01 30.8 -2.3**
UPNV IAmb IAmb 04 01 33.8
comp=Z,10nm,0.9s
TRO Tromso 59.32 343 *e*P **P 04 01 33.0 -0.4**
TRO IAmb IAmb 04 01 35.5
comp=Z,3μm,4.2s
CHGR Chuyangaron 59.32 295 P **P 04 01 34.1 +0.1**
CHGR pmax pmax
comp=Z,27nm,0.8s
DBG Daneborg 59.36 358 *i*P **P 04 01 31.1 -2.4**
DBG IAmb IAmb 04 01 34.1
comp=Z,15nm,1.3s
SIMJ Simiganj 59.41 295 P **P 04 01 34.9 +0.1**
NIL Nilore 59.75 288 P **P 04 01 37.6 +0.6**
NIL Nilore 59.75 288 P **P 04 01 37.6 +0.6**
NIL pmax pmax
comp=Z,40nm,1.0s
NIL Nilore 59.75 288 P **P 04 01 38.5 +1.6**
PLID Pearl Lake 59.99 55 P **P 04 01 39.8 +1.1**
PLID IAmb IAmb 04 01 55.6
comp=Z,14nm,0.9s
WVOR Wild Horse Val 60.07 59 P **P 04 01 40.5 +1.3**
WVOR IAmb IAmb 04 01 56.5
comp=Z,8.9nm,0.9s
WVOR Wild Horse Val 60.07 59 P **P 04 01 40.5 +1.3**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 60.17 329 *e*P **P 04 01 36.4 -2.9**
KLMR pmax pmax
comp=Z,16nm,1.4s
SUMG Summit 60.93 4 P **P 04 01 44.3 -0.5**
SUMG Summit 60.93 4 P **P 04 01 44.3 -0.5**
SUMG pmax pmax
comp=Z,36nm,1.2s
SUMG Summit 60.93 4 *i*P **P 04 01 44.3 -0.5**
SUMG IAmb IAmb 04 01 46.5
comp=Z,35nm,1.2s
FFC Flin Flon 61.05 40 P **P 04 01 45.5 +0.1**
FFC IAmb IAmb 04 01 47.7
comp=Z,16nm,0.9s
FFC Flin Flon 61.05 40 P **P 04 01 45.6 +0.1**
FFC pmax pmax
comp=Z,16nm,1.0s
FFC Flin Flon 61.05 40 P **P 04 01 46.8 +1.3**
JOF Joensuu 61.42 334 *e*P **P 04 01 47.8 0.0**
STEI Steigen 61.48 343 *e*P **P 04 01 47.9 -0.3**
FCC Fort Churchill 61.57 33 P **P 04 01 49.3 +0.4**
FCC Fort Churchill 61.57 33 P **P 04 01 49.3 +0.4**
FCC pmax pmax
comp=Z,14nm,0.8s
LOF Lofoten 61.65 344 IAmb IAmb 04 01 49.1
comp=Z,101nm,1.2s
LOF *e*P **P 04 01 49.3 +0.1**
KBL Kabul 61.92 292 P **P 04 01 51.5 -0.5**
KBL IAmb IAmb 04 01 52.9
comp=Z,12nm,0.9s
KBL Kabul 61.92 292 P **P 04 01 51.5 -0.5**
KBL pmax pmax
comp=Z,12nm,0.9s
FAUS Fauske 61.94 343 *e*P **P 04 01 51.2 0.0**
FAUS IAmb IAmb 04 01 52.3
comp=Z,2μm,4.4s
JMIC Jan Mayen 62.01 353 LR LR 04 25 06.4
comp=Z,22nm,22.0s,baz=16,slow=32
BOZ Bozeman (W) 62.10 52 IAmb IAmb 04 02 09.6
comp=Z,16nm,1.3s
BELG Belogornoye 62.53 318 LR LR 04 31 22.7
comp=Z,146nm,19.2s,baz=56,slow=38
BELG Belogornoye 62.53 318⇓*e*P **P 04 01 55.3 -0.1**
BELG pmax pmax
comp=Z,3.0nm,0.9s
LHV Little Huntoon 62.73 62 IAmb IAmb 04 02 14.4
comp=Z,16nm,1.1s
NVAR Mina Array Bea 62.74 62 P **P 04 01 59.0 +1.6**
comp=Z,1.5nm,0.7s,baz=290,slow=6.8,SNR=10
NVAR pP **sP 04 02 13.5 -2.0**
comp=Z,5.4nm,0.9s,baz=294,slow=6.9,SNR=12
NVAR LR LR 04 30 16.4
comp=Z,22nm,18.0s,baz=290,slow=37
comp=Z,1.5nm,0.7s
GCMT Greycliff 63.04 51 P **P 04 02 00.6 +1.4**
KONS Konsvik 63.14 343 *e*P **P 04 01 59.4 +0.2**
MOR8 Moi Rana 63.15 342 *e*P **P 04 01 58.0 -1.3**
MOR8 IAmb IAmb 04 01 58.7
comp=Z,16nm,0.7s
ILULI Ilulissat 63.23 9 *i*P **P 04 01 58.4 -1.3**
ILULI IAmb IAmb 04 02 00.6
comp=Z,18nm,0.9s
SCO Scoresbysund 63.23 358 *i*P **P 04 01 59.0 -0.8**
SCO IAmb IAmb 04 02 01.4
comp=Z,15nm,1.1s
LEIR Leirfjorden 63.48 343 *e*P **P 04 02 01.4 0.0**
DSP Deep Springs 63.62 63 IAmb IAmb 04 02 20.5
comp=Z,12nm,1.1s
PSI Prapat 63.77 244 LR LR 04 30 53.3
comp=Z,28nm,20.7s,baz=26,slow=37
VAF Ylistaro 63.81 337 *e*P **P 04 02 03.3 -0.4**
TPAW Teton Pass 63.82 54 IAmb IAmb 04 02 21.4
comp=Z,13nm,1.1s
LOHW Long Hollow 63.93 53 IAmb IAmb 04 02 22.4
comp=Z,9.8nm,1.2s
FINES FINESS Array B 64.13 335 P **P 04 02 05.3 -0.5**
comp=Z,13nm,0.7s,baz=33,slow=8.4,SNR=60
FINES LR LR 04 32 48.6
comp=Z,83nm,19.6s,baz=60,slow=39
comp=Z,13nm,0.7s
ICESG Greenland Ices 64.33 5 *i*P **P 04 02 07.0 -0.5**
ICESG IAmb IAmb 04 02 09.6
comp=Z,38nm,1.2s
R11B Troy Canyon, C 64.44 61 IAmb IAmb 04 02 24.9
comp=Z,7.1nm,0.9s
R11B Troy Canyon, C 64.44 61 P **P 04 02 09.2 +0.7**
baz=310
SPR3 Spring Creek 3 64.77 59 P **P 04 02 12.5 +1.7**
SPR3 IAmb IAmb 04 02 27.9
comp=Z,6.8nm,0.9s
PD31 Pinedale Array 65.06 54 IAmb IAmb 04 02 28.8
comp=Z,9.3nm,1.1s
PDAR Pinedale Array 65.06 54 P **P 04 02 12.9 +0.3**
comp=Z,1.5nm,0.8s,baz=306,slow=1.2,SNR=14
PDAR LR LR 04 28 27.6
comp=Z,17nm,21.9s,baz=311,slow=34
comp=Z,1.5nm,0.8s
NSS Namsos 65.10 342 *e*P **P 04 02 11.8 -0.3**
NSS IAmb IAmb 04 02 16.2
comp=Z,284nm,2.5s
FRB Frobisher Bay 65.33 19 LR LR 04 33 13.1
comp=Z,61nm,20.6s,baz=304,slow=38
OBN Obninsk 65.35 325⇓*e*P **P 04 02 11.2 -2.7**
OBN *e* 04 04 44.0
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,109nm,22.0s
SFJD Kangerlussuaq 65.40 10 LR LR 04 32 37.6
comp=Z,47nm,19.6s,baz=352,slow=38
RAF Rauma 65.71 336 *e*P **P 04 02 15.6 -0.5**
ARBE Arbavere 65.75 333 *e*P **P 04 02 16.0 -0.5**
SHPR Sheep Range 65.89 62 P **P 04 02 19.2 +1.3**
VSU Vasula 66.30 332 *e*P **P 04 02 19.4 -0.5**
TBLU Trondheim 66.59 343 *e*P **P 04 02 20.6 -1.1**
TBLU IAmb IAmb 04 02 21.0
comp=Z,22nm,0.9s
LCMT Little Creek M 66.72 60 IAmb IAmb 04 02 40.1
comp=Z,9.4nm,0.9s
ULM Lac du Bonnet 66.84 41 IAmb IAmb 04 02 24.8
comp=Z,5.4nm,0.7s
ULM Lac du Bonnet 66.84 41 P **P 04 02 23.6 +0.1**
comp=Z,5.5nm,0.7s,baz=314,slow=7.2,SNR=15
comp=Z,5.5nm,0.7s
MTSE Matsula 67.00 334 *e*P **P 04 02 25.2 +0.8**
RSSD Black Hills 67.14 50 P **P 04 02 25.9 0.0**
RSSD IAmb IAmb 04 02 41.7
comp=Z,11nm,0.9s
RSSD Black Hills 67.14 50 P **P 04 02 25.9 0.0**
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 67.14 50 P **P 04 02 26.9 +1.0**
U15A North Rim 67.68 60 IAmb IAmb 04 02 46.3
comp=Z,8.0nm,1.0s
DOMB Dombas 67.92 342 *e*P **P 04 02 30.1 -0.1**
DOMB IAmb IAmb 04 02 32.4
comp=Z,657nm,3.3s
AKN Aaknes 68.22 343 *e*P **P 04 02 33.1 +1.0**
AKN IAmb IAmb 04 02 34.8
comp=Z,44nm,1.4s
WRA Warramunga Arr 68.23 199 P **P 04 02 33.5 +0.9**
comp=Z,2.7nm,0.8s,baz=12,slow=6.5,SNR=5.9
WRA LR LR 04 30 37.4
comp=Z,25nm,20.7s,baz=114,slow=34
comp=Z,2.7nm,0.8s
AGMN Agassiz Nation 68.25 42 IAmb IAmb 04 02 33.4
comp=Z,9.5nm,1.1s
N23A Red Feather La 68.32 53 P **P 04 02 33.9 +0.5**
baz=314
NB201 NORSAR Array S 68.33 341 P **P 04 02 32.5 -0.3**
NB2 NORSAR Subarra 68.35 341 P **P 04 02 32.6 -0.4**
comp=Z,5.6nm,0.6s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.35 341 P **P 04 02 32.6 -0.4**
baz=28,slow=6.5
NOA NORSAR Array B 68.35 341 P **P 04 02 32.5 -0.4**
comp=Z,12nm,0.8s,baz=27,slow=6.3,SNR=41
NOA LR LR 04 36 44.2
comp=Z,60nm,18.6s,baz=15,slow=40
comp=Z,12nm,0.8s
NC602 NORSAR Array S 68.55 341 IAmb IAmb 04 02 35.0
comp=Z,18nm,1.0s
NC602 NORSAR Array S 68.55 341 *e*P **P 04 02 33.8 -0.4**
NC602 IAmb IAmb 04 02 35.3
comp=Z,30nm,1.2s
PV13 Radium Mtn., P 68.56 57 IAmb IAmb 04 02 51.2
comp=Z,11nm,0.7s
HFS Hagfors 68.57 339 P **P 04 02 33.8 -0.5**
comp=Z,16nm,0.6s,baz=55,slow=5.6,SNR=78
HFS pP **pwP 04 02 48.6 -2.0**
comp=Z,3.4nm,0.4s,baz=77,slow=5.2,SNR=4.3
HFS LR LR 04 35 06.2
comp=Z,115nm,21.4s,baz=36,slow=38
comp=Z,16nm,0.6s
NAO01 NORSAR Array S 68.60 341 IAmb IAmb 04 02 35.2
comp=Z,18nm,0.9s
IIGN Ignalina 68.95 331 *e*P **P 04 02 37.9 +1.2**
MNK Minsk 69.06 329 *i*P **P 04 02 37.3 -0.1**
MNK *i* *PP **sP 04 02 55.9 0.0**
MNK *i* 04 05 10.2
MNK *i* PPP PPP 04 06 50.9
MNK *i* S **S 04 11 37.1 -1.4**
MNK *i* *SS sS 04 12 09.3 +8.0
MNK *i* SS **SS 04 16 04.9 +0.9**
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=N,20nm,1.0s
MNK pmax pmax
comp=E,23nm,0.8s
MNK MLR MLR
comp=Z,113nm,16.0s
MNK MLR MLR
comp=E,629nm,21.0s
VSVD Vaisvydziai 69.20 332 *e*P **P 04 02 38.6 +0.4**
DZM Mont Dzumac 69.40 166 *e*LR LR 04 23 51.6
comp=E,104nm,28.7s
DZM Mont Dzumac 69.40 166 LR LR 04 27 42.1
comp=E,72nm,21.7s,baz=161,slow=31
OSL Oslo 69.45 341 *e*P **P 04 02 40.2 +0.5**
X16A Lo Mia Camp, P 69.54 61 P **P 04 02 42.5 +1.5**
X16A IAmb IAmb 04 02 58.4
comp=Z,7.4nm,0.9s
PABE Paberze 69.58 332 *e*P **P 04 02 40.3 -0.3**
AKT Akhty 69.95 309 *e*P **P 04 02 43.2 -0.1**
AKT *e**PP **sP 04 03 01.7 +0.1**
AKT *e* 04 03 04.9
AKT *e*S **S 04 11 46.1 -3.6**
AKT *e**SS **SKiKP 04 12 20.3 -4.9**
AKT pmax pmax
comp=Z,14nm,0.7s
S22A 4UR Ranch, Cre 69.99 56 IAmb IAmb 04 03 00.7
comp=Z,8.1nm,1.0s
S22A 4UR Ranch, Cre 69.99 56 P **P 04 02 45.0 +1.2**
baz=314
BER Bergen 70.19 343 *e*P **P 04 02 43.7 -0.5**
ODD1 Odda 70.36 343 *e*P **P 04 02 45.6 +0.3**
ODD1 IAmb IAmb 04 02 46.8
comp=Z,20nm,0.8s
NCK Nalchik 70.66 313⇓*e*P **P 04 02 49.0 +1.5**
NCK pmax pmax
comp=Z,8.0nm,0.3s
KVAR Kislovodsk Arr 70.77 314 LR LR 04 37 59.1
comp=Z,145nm,19.0s,baz=232,slow=39
KIV Kislovodsk 70.78 314 ⇓P **P 04 02 50.1 +1.9**
KIV Kislovodsk 70.78 314 *e*P **P 04 02 49.0 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,117nm,18.0s
KIV Kislovodsk 70.78 314 *e*P **P 04 02 49.0 +0.7**
KBZ Khabaz 70.84 314 P **P 04 02 47.7 -0.7**
comp=Z,6.6nm,0.7s,baz=45,slow=3.7,SNR=18
KBZ LR LR 04 38 33.6
comp=Z,150nm,18.7s,baz=36,slow=40
comp=Z,6.6nm,0.7s
KBZ Khabaz 70.84 314⇑*i*P **P 04 02 49.4 +0.9**
KBZ pmax pmax
comp=Z,7.0nm,0.8s
KBZ MLR MLR
comp=Z,222nm,17.0s
KBZ Khabaz 70.84 314 *e*P **P 04 02 49.4 +0.9**
BLS5 Blasjo 70.84 343 *e*P **P 04 02 48.8 +0.5**
SHA1 Shidzhatmaz 70.95 314⇓*e*P **P 04 02 50.4 +0.9**
ECSD EROS Data Cent 71.20 46 IAmb IAmb 04 03 06.1
comp=Z,22nm,1.2s
AK03 Malin Array Si 71.57 326 P **P 04 02 52.4 -0.4**
AK23 Malin Array Si 71.58 326 P **P 04 02 52.3 -0.6**
AKASG Malin Array Be 71.59 326 P **P 04 02 51.9 -1.0**
AKASG Malin Array Be 71.59 326 P **P 04 02 52.4 -0.6**
comp=Z,11nm,0.5s,baz=35,slow=6.2,SNR=84
AKASG LR LR 04 36 17.7
comp=Z,126nm,19.6s,baz=50,slow=38
comp=Z,11nm,0.5s
AKASG Malin Array Be 71.59 326 P **P 04 02 51.9 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 71.59 326 P **P 04 02 51.9 -1.0**
AKBB Malin Array Si 71.59 326*d i*P **P 04 02 52.5 -0.4**
AKBB pmax pmax
comp=Z,18nm,0.7s
AKBB Malin Array Si 71.59 326 P **P 04 02 52.1 -0.8**
AK21 Malin Array Si 71.60 326 P **P 04 02 52.4 -0.6**
AK22 Malin Array Si 71.60 326 P **P 04 02 52.4 -0.6**
KIEV Kiev 71.60 326 P **P 04 02 52.1 -0.9**
KIEV Kiev 71.60 326 ⇑P **P 04 02 52.6 -0.4**
KIEV Kiev 71.60 326 P **P 04 02 52.1 -0.9**
KIEV pmax pmax
comp=Z,17nm,0.7s
KIEV Kiev 71.60 326 P **P 04 02 52.1 -0.9**
comp=Z,112nm,0.7s
KIEV Kiev 71.60 326 P **P 04 02 52.7 -0.3**
SNART Snartemo 71.68 342 *e*P **P 04 02 54.0 +0.7**
T25A Trinidad 71.79 55 P **P 04 02 55.5 +0.9**
baz=315
ASAR Alice Springs 71.93 198 P **P 04 02 57.0 +1.9**
comp=Z,3.3nm,0.6s,baz=11,slow=5.5,SNR=32
comp=Z,3.3nm,0.6s
MI28 Mi28,Pidlybu 72.00 327 P **P 04 02 54.6 -0.8**
comp=Z,145nm,0.7s
ANMO Albuquerque 72.15 58 LR LR 04 32 37.5
comp=Z,27nm,20.1s,baz=104,slow=34
RNPP9 Sopachiv 72.27 328 P **P 04 02 56.6 -0.3**
RNPP8 Varash 72.34 328 P **P 04 02 57.1 -0.3**
RNPP5 Staryi Chortor 72.42 328 P **P 04 02 57.5 -0.4**
PALK Pallekele 72.43 262 LR LR 04 38 05.6
comp=Z,27nm,18.1s,baz=44,slow=38
PALK Pallekele 72.43 262 P **P 04 02 59.1 +0.6**
GNI Garni 72.49 310 LR LR 04 38 37.3
comp=Z,139nm,18.8s,baz=58,slow=39
I37A Lemond, Waseca 72.56 44 P **P 04 02 59.7 +0.8**
LUBAR Lubar, Ukraine 72.78 326 P **P 04 02 59.5 -0.6**
121A Cookes Peak, D 73.05 61 P **P 04 03 03.2 +1.0**
baz=315
SCHQ Schefferville 73.60 23 P **P 04 03 05.0 +0.2**
comp=Z,2.9nm,0.8s,baz=353,slow=5.8,SNR=4.9
SCHQ LR LR 04 39 36.3
comp=Z,41nm,18.3s,baz=358,slow=39
comp=Z,2.9nm,0.8s
HORU Horodok 73.86 327 P **P 04 03 06.0 -0.4**
HORU Horodok 73.86 327 P **P 04 03 06.0 -0.4**
I40A Norwalk 73.96 42 IAmb IAmb 04 03 08.2
comp=Z,11nm,1.1s
SORM Soroca 73.99 325 ⇓P **P 04 03 07.2 0.0**
SORM Soroca 73.99 325 ⇓P **P 04 03 07.2 0.0**
SORM Soroca 73.99 325 P **P 04 03 06.8 -0.4**
comp=Z,21nm,0.8s
NDNU Novodnistrovsk 74.00 326 P **P 04 03 06.9 -0.4**
KMPD K-Podol'skiy 74.38 326 P **P 04 03 08.7 -0.7**
comp=Z,8μm,0.8s
KOPT Kop Dagi 74.78 313 P **P 04 03 13.1 +0.8**
MILM Milestii Mici 74.78 324 ⇓P **P 04 03 11.8 0.0**
MILM Milestii Mici 74.78 324 ⇓P **P 04 03 11.8 0.0**
MORS Morshin 74.87 328 P **P 04 03 12.3 0.0**
MORS Morshin 74.87 328 P **P 04 03 12.3 0.0**
STNU Starunia 75.00 327 P **P 04 03 12.8 -0.3**
L40A Anamosa 75.08 44 IAmb IAmb 04 03 28.6
comp=Z,20nm,1.1s
OJC Ojcow 75.39 331 IAmb IAmb 04 03 16.4
comp=Z,12nm,0.8s
OJC Ojcow 75.39 331 P **P 04 03 15.3 0.0**
OJC Ojcow 75.39 331 P **P 04 03 15.3 0.0**

comp=Z,19nm,0.9s
PRAR RASCA 75.45 326 ⇑P P 04 03 16.2 +0.5
STHS Stebnicka Huta 75.58 330 *eP* **P 04 03 16.8 +0.4**
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 75.58 330 *eP* **P 04 03 16.8 +0.4**
BUR08 Bucovina Ar. S 75.62 326 P **P 04 03 16.4 -0.4**
BUR08 IAmb IAmb 04 03 18.2
comp=Z,11nm,0.7s
KOLS Kolonicke sedl 75.62 329 *eP* **P 04 03 17.6 +0.9**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 75.62 329 *eP* **P 04 03 17.6 +0.9**
BURAR Bucovina Array 75.64 326 ⇑P **P 04 03 16.9 0.0**
BURAR Bucovina Array 75.64 326 ⇑P **P 04 03 16.9 0.0**
GIRR Girov 75.68 325 ⇑P **P 04 03 17.5 +0.5**
P38A Dawn 75.80 47 IAmb IAmb 04 03 33.2
comp=Z,15nm,0.9s
BRIU Brid 75.86 328 P **P 04 03 17.8 -0.1**
MUKU Mukachevo 75.88 328 P **P 04 03 17.7 -0.4**
NIE Niedzica 75.91 330 P **P 04 03 17.8 -0.5**
comp=Z,7.7nm,2.6s
HOLU Holmets 75.93 329 P **P 04 03 18.0 -0.3**
KSP Ksiaz 75.99 333 P **P 04 03 19.3 +0.6**
KSP pmax pmax
comp=Z,14nm,1.1s
KSP Ksiaz 75.99 333 P **P 04 03 18.6 -0.1**
comp=Z,14nm,1.1s
GHRR 76.05 324 ⇑P **P 04 03 20.3 +1.2**
VLDQ Val d'Or 76.05 32 P **P 04 03 17.2 -1.9**
VLDQ IAmb IAmb 04 03 18.9
comp=Z,12nm,0.7s
TRSU Trosnyk 76.08 328 P **P 04 03 19.8 +0.6**
TRSU Trosnyk 76.08 328 P **P 04 03 19.8 +0.6**
TLCR 76.18 323 ⇑P **P 04 03 20.4 +0.6**
TLCR 76.18 323 ⇑P **P 04 03 20.4 +0.6**
ONER Baraj Valea Uz 76.23 325 ⇑P **P 04 03 20.8 +0.6**
WSAR Wadi Sarin 76.23 289 LR LR 04 40 55.3
comp=Z,90nm,21.0s,baz=54,slow=39
OSTC Ostas 76.26 333 *eP* **P 04 03 21.0 +0.7**
OSTC Ostas 76.26 333 *eP* **P 04 03 21.0 +0.7**
OKC Ostrava-Krasne 76.27 332 *eP* **P 04 03 21.0 +0.7**
OKC Ostrava-Krasne 76.27 332 *eP* **P 04 03 21.0 +0.7**
CHVC Chvalec 76.28 333 *eP* **P 04 03 21.0 +0.6**
CHVC Chvalec 76.28 333 *eP* **P 04 03 21.0 +0.6**
N41A Harden Midland 76.30 45 IAmb IAmb 04 03 21.9
comp=Z,15nm,0.9s
PANC Panciu 76.31 324 ⇓P **P 04 03 21.6 +1.0**
UPC Upice 76.37 333 *eP* **P 04 03 21.5 +0.7**
UPC Upice 76.37 333 *eP* **P 04 03 21.5 +0.7**
ARCR ARCALIA 76.40 327 ⇑P **P 04 03 22.2 +1.1**
DPC Dobruska-Polom 76.41 333 *eP* **P 04 03 21.7 +0.6**
DPC Dobruska-Polom 76.41 333 *eP* **P 04 03 21.7 +0.6**
DPC Dobruska-Polom 76.41 333 P **P 04 03 20.9 -0.2**
comp=Z,13nm,1.1s
LANS Liptovska Anna 76.42 331 *eP* **P 04 03 22.5 +1.3**
LANS pmax pmax
comp=Z,11nm,0.8s
LANS Liptovska Anna 76.42 331 *eP* **P 04 03 22.5 +1.3**
ODBI Odobesti 76.43 324 ⇓P **P 04 03 23.0 +1.7**
CFR Carcaliu 76.47 323 ⇑P **P 04 03 21.6 +0.1**
CFR Carcaliu 76.47 323 ⇑P **P 04 03 21.6 +0.1**
VRI Vrincioaia 76.48 324 ⇓P **P 04 03 22.2 +0.6**
VRI Vrincioaia 76.48 324 ⇓P **P 04 03 22.2 +0.6**
EKA Eskdalemuir Ar 76.49 346 P **P 04 03 20.9 -0.6**
comp=Z,1.0nm,0.4s,baz=19,slow=5.2,SNR=6.3
comp=Z,1.0nm,0.4s
KRLC Kraliky 76.50 333 *eP* **P 04 03 22.2 +0.5**
KRLC Kraliky 76.50 333 *eP* **P 04 03 22.2 +0.5**
MORC Moravsky Berou 76.52 332 IAmb IAmb 04 03 23.7
comp=Z,17nm,1.0s
MORC Moravsky Berou 76.52 332 *eP* **P 04 03 21.9 +0.1**
MORC Moravsky Berou 76.52 332 ⇓P **P 04 03 21.4 -0.4**
MORC Moravsky Berou 76.52 332 ⇓P **P 04 03 21.4 -0.4**
PLOR Plostina 76.53 325 ⇑P **P 04 03 22.4 +0.5**
PLOR Plostina 76.53 325 ⇑P **P 04 03 22.4 +0.5**
CLL Collm 76.56 335 *i P* **P 04 03 22.0 +0.1**
CLL pmax pmax
comp=Z,28nm,0.8s
CLL Collm 76.56 335 P **P 04 03 21.6 -0.3**
comp=Z,35nm,0.9s
CLL Collm 76.56 335 *i P* **P 04 03 22.0 +0.1**
comp=Z,28nm,0.8s
CLL AMS AMS 04 39 00.0
comp=Z,100nm,18.4s
SPBR Spulber 76.57 324 ⇓P **P 04 03 22.8 +0.7**
TPGR Topolog 76.61 323 ⇑P **P 04 03 22.8 +0.5**
P40A Paris 76.62 46 IAmb IAmb 04 03 38.4
comp=Z,9.0nm,0.8s
KECS Kecovo 76.64 330 *eP* **P 04 03 23.0 +0.6**
KECS Kecovo 76.64 330 *eP* **P 04 03 23.0 +0.6**
OZUR 76.67 325 ⇓P **P 04 03 23.9 +1.2**
BRG Berggiesshubel 76.67 335 *eP* **P 04 03 22.4 -0.1**
BRG Amp 04 03 23.5
comp=Z,7.6nm,1.0s
COVR Voineasa-Covas 76.71 325 ⇓P **P 04 03 23.3 +0.4**
PVCC Panska Ves 76.79 334 *eP* **P 04 03 24.2 +1.0**
PVCC Panska Ves 76.79 334 *eP* **P 04 03 24.2 +1.0**
MNHN Monahans 76.89 58 P **P 04 03 24.1 -0.1**
MNHN IAmb IAmb 04 03 40.3
comp=Z,8.9nm,0.8s
RICC Richard 76.92 334 *eP* **P 04 03 25.0 +1.1**
DOPR Dopca 76.93 325 ⇑P **P 04 03 24.8 +0.6**
HARR Harsova 76.95 323 ⇑P **P 04 03 24.1 -0.1**
HARR Harsova 76.95 323 ⇑P **P 04 03 24.1 -0.1**
CBBR Cluj-Babes-Bol 76.97 327 ⇑P **P 04 03 25.4 +1.1**
CJR Cluj-Napoca 77.00 327 ⇓P **P 04 03 25.0 +0.4**
CJR Cluj-Napoca 77.00 327 ⇓P **P 04 03 25.0 +0.4**
TLBR Topalu 77.02 323 ⇓P **P 04 03 25.5 +0.9**
HSKC Hora Svate Kat 77.06 335 *eP* **P 04 03 25.2 +0.4**
J47A Sunmer 77.09 39 IAmb IAmb 04 03 27.0
comp=Z,21nm,1.0s
MLR Muntele Rosu 77.10 325 IAmb IAmb 04 03 27.4
comp=Z,12nm,0.7s
MLR Muntele Rosu 77.10 325 LR LR 04 39 20.3
comp=Z,92nm,21.2s,baz=49,slow=37
MLR Muntele Rosu 77.10 325 ⇓P **P 04 03 25.8 +0.6**
MLR Muntele Rosu 77.10 325 ⇓P **P 04 03 25.8 +0.6**
VYHS Vyhne 77.20 331 *eP* **P 04 03 26.1 +0.5**
VYHS pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 77.20 331 *eP* **P 04 03 26.1 +0.5**
MARR Marisel-Cluj 77.21 327 ⇓P **P 04 03 25.4 -0.4**
VRAC Vranov 77.23 332 LR LR 04 42 43.3
comp=Z,118nm,19.2s,baz=36,slow=40
VRAC Vranov 77.23 332 *eP* **P 04 03 26.2 +0.5**
VRAC Vranov 77.23 332 ⇑P **P 04 03 26.2 +0.5**
VRAC Vranov 77.23 332 ⇑P **P 04 03 26.2 +0.5**
GOPC GO Pecny, Ondr 77.27 334 *eP* **P 04 03 26.9 +1.0**
GOPC GO Pecny, Ondr 77.27 334 *eP* **P 04 03 26.9 +1.0**
DRGR 77.27 327 ⇓P **P 04 03 25.6 -0.5**
DRGR 77.27 327 ⇓P **P 04 03 25.6 -0.5**
JAVC Velka Javorina 77.27 331 *eP* **P 04 03 27.6 +1.6**
PRU Pruhonice 77.28 334 *eP* **P 04 03 26.6 +0.6**
PRU Pruhonice 77.28 334 *eP* **P 04 03 26.6 +0.6**
PSZ Piszkesteto 77.33 330 P **P 04 03 26.6 +0.2**
PSZ IAmb IAmb 04 03 28.1
comp=Z,12nm,0.9s
PSZ Piszkesteto 77.33 330 ⇓P **P 04 03 27.1 +0.7**
PSZ Piszkesteto 77.33 330 P **P 04 03 26.6 +0.2**
PSZ pmax pmax
comp=Z,12nm,0.9s
PSZ Piszkesteto 77.33 330 *eP* **P 04 03 27.0 +0.6**
LPIG La Paz 77.42 68 LR LR 04 31 24.6
comp=Z,28nm,21.6s,baz=272,slow=31
ICOR Ion Corvin 77.47 323 ⇓P **P 04 03 28.4 +1.3**
VOIR 77.50 325 ⇑P **P 04 03 27.8 +0.4**
VOIR 77.50 325 ⇑P **P 04 03 27.8 +0.4**
KRUC Moravsky 77.51 332 *eP* **P 04 03 27.6 +0.3**
MOX Moxa 77.55 336 P **P 04 03 28.1 +0.6**
MOX pmax pmax
comp=Z,15nm,1.0s
TREC Trest 77.59 333 *eP* **P 04 03 26.2 -1.6**
TREC Trest 77.59 333 *eP* **P 04 03 26.2 -1.6**
SMOL Smolenice 77.65 331 *eP* **P 04 03 29.4 +1.3**
SMOL pmax pmax
comp=Z,10.0nm,1.1s
NKC Novy Kostel 77.68 335 *eP* **P 04 03 29.2 +1.0**
NKC Novy Kostel 77.68 335 *eP* **P 04 03 29.2 +1.0**
ARR Arges 77.72 325 ⇑P **P 04 03 30.0 +1.4**
TX31 Lajitas Ar. Si 77.80 60 IAmb IAmb 04 03 45.8
comp=Z,9.4nm,0.7s
TXAR Lajitas Array 77.80 60 P **P 04 03 29.3 -0.1**
TXAR Lajitas Array 77.80 60 P **P 04 03 30.4 +1.0**
comp=Z,1.9nm,0.7s,baz=303,slow=4.1,SNR=20
TXAR pP **pwP 04 03 45.0 -1.2**
comp=Z,6.8nm,0.5s,baz=296,slow=3.4,SNR=29
comp=Z,1.9nm,0.7s
MODS Modra-Piesok 77.82 331 *eP* **P 04 03 30.4 +1.3**
MODS pmax pmax
comp=Z,43nm,1.0s
MODS Modra-Piesok 77.82 331 *eP* **P 04 03 30.4 +1.3**
ZVC Zvikov 77.87 334 *eP* **P 04 03 30.0 +0.7**
DEV Deva 77.96 327 ⇑P **P 04 03 30.1 +0.2**
DEV Deva 77.96 327 P **P 04 03 30.1 +0.2**
SRO Srobarova 77.96 331 *eP* **P 04 03 31.2 +1.4**
SRO pmax pmax
comp=Z,21nm,0.9s
SRO Srobarova 77.96 331 *eP* **P 04 03 31.2 +1.4**
SIRR Siria 78.10 328 ⇓P **P 04 03 31.2 +0.5**
CCM Cathedral Cave 78.15 46 P **P 04 03 30.9 -0.2**
CCM IAmb IAmb 04 03 46.8
comp=Z,8.4nm,1.1s
CCM Cathedral Cave 78.15 46 P **P 04 03 30.9 -0.2**
CCM pmax pmax
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 78.33 334 *eP* **P 04 03 32.6 +0.7**
KHC Kasperske Hory 78.33 334 *eP* **P 04 03 32.6 +0.7**
SURR Surduc 78.36 327 ⇓P **P 04 03 32.7 +0.6**
BR131 Keskin Array S 78.38 317 IAmb IAmb 04 03 34.2
comp=Z,11nm,0.9s
BRTR Keskin Array B 78.38 317 P **P 04 03 32.5 0.0**
BRTR Keskin Array B 78.38 317 P **P 04 03 32.9 +0.4**
comp=Z,7.2nm,0.8s,baz=74,slow=4.3,SNR=48
comp=Z,7.2nm,0.8s
BRTR Keskin Array B 78.38 317 *i P* **P 04 03 33.4 +0.9**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BR106 Keskin Array S 78.39 317 P **P 04 03 32.4 -0.1**
comp=Z,66nmcomp=Z,10nm,0.9s
BR104 Keskin Array S 78.39 317 P **P 04 03 32.4 -0.1**
comp=Z,75nmcomp=Z,11nm,1.0s
BR105 Keskin Array S 78.40 317 P **P 04 03 32.4 -0.2**
comp=Z,81nmcomp=Z,13nm,0.9s
GZR Gura Zlata 78.42 327 ⇑P **P 04 03 32.4 -0.1**
GZR Gura Zlata 78.42 327 ⇑P **P 04 03 32.4 -0.1**
GRF Grafenberg Arr 78.52 336 *eP* **P 04 03 33.4 +0.5**
comp=Z,18nm,0.9s,baz=24,slow=4.8
GRFO Grafenberg 78.52 336 P **P 04 03 33.0 +0.2**
GRFO Grafenberg 78.52 336 P **P 04 03 33.1 +0.2**
GRFO pmax pmax
comp=Z,27nm,0.9s
GEC2 GERESS Array S 78.54 334 P **P 04 03 32.8 -0.4**
GEC2 IAmb IAmb 04 03 34.2
comp=Z,7.0nm,0.7s
GERES GERESS Array B 78.54 334 P **P 04 03 33.2 +0.1**
GERES GERESS Array B 78.54 334 P **P 04 03 33.0 -0.1**
comp=Z,6.0nm,0.7s,baz=33,slow=5.1,SNR=23
GERES LR LR 04 42 25.0
comp=Z,144nm,18.4s,baz=28,slow=39
comp=Z,6.0nm,0.7s
GERES GERESS Array B 78.54 334 P **P 04 03 33.2 +0.1**
BZS Buzias 78.67 327 ⇑P **P 04 03 33.5 -0.2**
BZS Buzias 78.67 327 ⇑P **P 04 03 33.5 -0.2**
CONA Conrad Observa 78.67 332 *i P* **P 04 03 34.7 +0.8**
comp=Z,9.0nm,0.6s,SNR=5.5
TRQ Mont Tremblant 78.71 31 IAmb IAmb 04 03 34.7
comp=Z,8.6nm,0.7s
KIRS Kirsehir-Merke 78.72 316 ⇑P **P 04 03 35.2 +1.0**
RONA Rosalia, Austr 78.73 332 *i P* **P 04 03 35.1 +0.9**
comp=Z,7.7nm,0.6s,SNR=5.2
P46A Rosedale 78.89 43 IAmb IAmb 04 03 36.4
comp=Z,14nm,0.7s
LMQ La Malbaie 79.01 28 IAmb IAmb 04 03 36.6
comp=Z,7.6nm,0.9s
BTNL Ternell 79.05 339 *dP* **P 04 03 36.4 +0.6**
comp=Z,9.2nm,1.0s
MEM Membach 79.06 339 *dP* **P 04 03 36.5 +0.7**
comp=Z,17nm,0.9s
BSTI Sart Tilman 79.19 339 *dP* **P 04 03 37.2 +0.7**
comp=Z,4.0nm,1.0s
MORH Mrgy, Hungar 79.23 330 ⇑P **P 04 03 36.1 -0.7**
ELND Elena 79.25 323 ⇓P **P 04 03 36.8 -0.2**
MOA Molln 79.25 333 *i P* **P 04 03 37.5 +0.5**
comp=Z,9.5nm,0.8s
O48B Farmland 79.33 41 IAmb IAmb 04 03 38.4
comp=Z,13nm,0.8s
O48B Farmland 79.33 41 P **P 04 03 37.9 +0.4**
baz=324
MDVR Moldovita 79.34 327 ⇓P **P 04 03 36.5 -1.0**
M50A Fremont 79.35 39 IAmb IAmb 04 03 39.1
comp=Z,11nm,0.8s
ARSA Arzberg 79.38 332 P **P 04 03 37.8 +0.2**
ARSA IAmb IAmb 04 03 39.3
comp=Z,7.9nm,0.8s
ARSA Arzberg 79.38 332 *i P* **P 04 03 38.1 +0.4**
comp=Z,3.7nm,0.7s
BCLA Clavier 79.41 340 *dP* **P 04 03 38.0 +0.3**
comp=Z,8.7nm,1.0s
BGES Gesves 79.49 340 *dP* **P 04 03 38.9 +0.7**
comp=Z,6.8nm,1.0s
DRIO Del Rio 79.55 58 P **P 04 03 39.8 +0.9**
DRIO IAmb IAmb 04 03 55.0
comp=Z,13nm,0.9s
PBMO Poplar Bluff 79.55 47 IAmb IAmb 04 03 54.4
comp=Z,17nm,1.2s
BIOA Bad Ischl, Aus 79.59 333 *eP* **P 04 03 39.4 +0.6**
comp=Z,2.8nm,0.4s,SNR=6.1
MIAR Mount Ida 79.64 50 P **P 04 03 39.5 +0.2**
MIAR IAmb IAmb 04 03 55.1
comp=Z,8.2nm,0.9s
MIAR Mount Ida 79.64 50 P **P 04 03 39.5 +0.2**
MIAR pmax pmax
comp=Z,8.0nm,0.9s
BMRD Maredsous 79.65 340 *dP* **P 04 03 39.4 +0.4**
comp=Z,13nm,1.0s
RCHB Rochefort 79.67 339 *dP* **P 04 03 39.6 +0.5**
comp=Z,7.5nm,1.0s
RAR Rarotonga 79.91 136 LR LR 04 31 08.2
comp=Z,87nm,21.5s,baz=246,slow=30
M52A Chesterland 79.96 38 IAmb IAmb 04 03 42.3
comp=Z,16nm,0.8s
SOKA Soboth 80.04 332 *i P* **P 04 03 41.8 +0.5**
comp=Z,14nm,0.9s,SNR=6.8
LESA Schwarzleotal 80.12 334 *i P* **P 04 03 42.5 +0.8**
comp=Z,18nm,0.9s,SNR=7.4
KBA Koelnbreinsper 80.22 333 *eP* **P 04 03 43.2 +0.8**
comp=Z,26nm,1.0s,SNR=11
OBKA Obir 80.35 332 *eP* **P 04 03 43.0 -0.1**
comp=Z,11nm,0.8s
ALLY Alegheny Colle 80.39 37 P **P 04 03 43.3 +0.1**
BAND Balkesir-Ban 80.41 320 ⇓P **P 04 03 44.3 +1.0**
WCI Wyandotte Cave 80.42 43 P **P 04 03 43.1 -0.3**
WCI IAmb IAmb 04 03 59.7
comp=Z,15nm,0.9s
WCI Wyandotte Cave 80.42 43 P **P 04 03 43.1 -0.3**
WCI pmax pmax
comp=Z,15nm,1.0s
MYKA Terra Mystica 80.53 333 *eP* **P 04 03 43.7 -0.3**
comp=Z,10.0nm,1.0s
WATA Walderalm 80.53 334 *eP* **P 04 03 44.7 +0.7**
comp=Z,25nm,0.9s,SNR=7.4
BFO Black Forest 80.56 337 P **P 04 03 44.0 +0.1**
BFO IAmb IAmb 04 03 45.2
comp=Z,14nm,0.9s
BFO Black Forest 80.56 337 P **P 04 03 44.1 +0.1**
BFO pmax pmax
comp=Z,14nm,0.9s
WTTA Wattenberg 80.58 334 *eP* **P 04 03 45.2 +0.9**
comp=Z,29nm,0.9s,SNR=8.9
RETA Reutte 80.64 335 *eP* **P 04 03 45.2 +0.7**
comp=Z,8.3nm,0.9s
MOTA Moosalm 80.67 335 *i P* **P 04 03 45.2 +0.5**
comp=Z,20nm,0.9s
SQTA Sankt Quirin 80.75 335 *eP* **P 04 03 45.7 +0.5**
comp=Z,18nm,0.9s,SNR=5.9
ABTA Altafersbach 80.78 334 *eP* **P 04 03 45.2 -0.1**
comp=Z,4.5nm,0.9s
N53A Lisbon 80.79 38 IAmb IAmb 04 03 47.1
comp=Z,17nm,0.9s
CAVK Edirne/Enez-Ca 80.97 322 ⇓P **P 04 03 46.1 -0.2**
ECH Echery 80.97 338 IAmb IAmb 04 03 47.5
comp=Z,14nm,0.9s
L56A Greenwood 81.04 35 IAmb IAmb 04 03 47.5
comp=Z,12nm,0.7s
FETA Feichten 81.07 335 *eP* **P 04 03 47.6 +0.7**
comp=Z,7.8nm,1.0s
DAVA Damuels 81.07 335 *i P* **P 04 03 47.5 +0.6**
comp=Z,15nm,0.9s
TAOE Nuku Hiva Isla 81.08 113 *e*LR LR 04 28 56.4
comp=Z,121nm,25.3s
DAVOX Davos/Dischmat 81.53 335 LR LR 04 44 24.4
comp=Z,65nm,18.3s,baz=38,slow=39
FUORN Ofenpass-Fuorn 81.57 335 P **P 04 03 49.1 -0.6**
FUORN IAmb IAmb 04 03 51.7
comp=Z,7.7nm,0.9s
M57A Sunshine Farm, 81.88 36 IAmb IAmb 04 03 52.3
comp=Z,14nm,0.7s
TUE Stuetta 81.97 335 P **P 04 03 51.2 -0.6**
TUE IAmb IAmb 04 03 56.4
comp=Z,16nm,0.9s
TUE Stuetta 81.97 335 P **P 04 03 51.5 -0.2**
comp=Z,67nm,0.8s
CLTN Cedars of Leba 82.11 45 IAmb IAmb 04 04 08.4
comp=Z,14nm,1.0s
PPT Papeete 82.22 126 LR LR 04 31 35.6
comp=Z,106nm,21.7s,baz=299,slow=29
PPT2 Papeete2 82.24 126 *e*LR LR 04 29 43.7
comp=Z,181nm,23.2s
PPT2 *e*LR LR 04 29 44.8
comp=Z,166nm,24.8s
PDG Podgorica 82.27 327 ⇑P **P 04 03 52.7 -0.4**
N58A Sunbury 82.47 36 IAmb IAmb 04 03 55.7
comp=Z,11nm,0.9s
ELL Elmali 82.52 317 P **P 04 03 54.0 -0.7**
ELL Elmali 82.52 317 P **P 04 03 54.0 -0.7**
ELL pmax pmax
comp=Z,57nm,0.9s
ASF Jabal al Asfar 82.65 310 LR LR 04 44 31.0
comp=Z,86nm,20.5s,baz=59,slow=38
MMAI Mount Meron Ar 82.78 311 P **P 04 03 57.1 +1.1**
comp=Z,13nm,0.6s,baz=34,slow=6.4,SNR=22
MMAI LR LR 04 46 01.7
comp=Z,170nm,18.3s,baz=10,slow=40
comp=Z,13nm,0.6s
FNA Florina 82.87 325 IAmb IAmb 04 03 57.5
comp=Z,15nm,0.9s
TIR Tirane 82.97 326 ⇑P **P 04 03 56.8 0.0**
TIR Tirane 82.97 326 P **P 04 03 56.8 0.0**
SWET Sewanee 83.01 45 IAmb IAmb 04 03 58.5
comp=Z,14nm,0.9s
KBN Korca 83.24 325 P **P 04 03 58.0 -0.2**
KBN Korca 83.24 325 P **P 04 03 58.1 -0.2**
KBN pmax pmax
comp=Z,42nm,1.4s
TKL Tuckaleechee C 83.69 43 LR LR 04 45 29.0
comp=Z,44nm,18.4s,baz=346,slow=39
RAYN Ar Rayn 84.31 298 P **P 04 04 04.2 +0.1**
RAYN IAmb IAmb 04 04 05.9
comp=Z,6.3nm,0.8s
RAYN Ar Rayn 84.31 298 P **P 04 04 04.2 +0.1**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
EIL Elat 85.64 309 LR LR 04 46 46.3
comp=Z,77nm,19.7s,baz=66,slow=39
URZ Urewera 87.19 161 LR LR 04 37 22.5
comp=Z,64nm,21.1s,baz=76,slow=31
ESDC Sonseca Array 91.69 342 P **P 04 04 38.5 -0.7**
comp=Z,2.1nm,0.9s,baz=4.9,slow=3.6,SNR=9.7
ESDC LR LR 04 49 26.3
comp=Z,57nm,21.8s,baz=52,slow=38
comp=Z,2.1nm,0.9s
TORD Torodi Ar. Bea 115.15 329 PKP **PKiKP 04 10 13.1 -0.2**
comp=Z,0.2nm,0.6s,baz=16,slow=2.8,SNR=6.3
TORD pPKP PKPdf 04 10 28.7 +15
comp=Z,0.5nm,0.9s,baz=12,slow=2.2,SNR=2.1
DBIC Dimbokro 123.41 333 PKP **PKPdf 04 10 28.7 -0.5**
comp=Z,2.6nm,0.7s,baz=309,slow=2.6,SNR=3.9
QSPA South Pole Qui 136.27 180 PKP **PKPdf 04 10 53.8 +1.9**
comp=Z,2.8nm,0.8s,baz=269,slow=0.9,SNR=13
QSPA pPKP **sPKPdf 04 11 09.2 -1.6**
comp=Z,1.5nm,0.6s,baz=140,slow=0.3,SNR=2.8
H03N2 Juan Fernandez 138.99 90 T T 06 46 18.3
baz=308,slow=77,SNR=23
H03N1 Juan Fernandez 139.00 90 T T 06 46 18.8
baz=308,slow=77,SNR=44
H03N3 Juan Fernandez 139.00 90 T T 06 46 19.1
baz=308,slow=77,SNR=34
VA03 San Esteban 144.38 83 PKPdf **PKPab 04 11 06.6 +0.7**
BDFB Brasilia 144.65 36 PKP **PKPab 04 11 08.0 +0.6**
comp=Z,6.7nm,1.0s,baz=321,slow=4.7,SNR=8.6
BDFB Brasilia 144.65 36 PKIKP **PKPab 04 11 08.0 +0.6**
ZON Zonda 144.93 80 **PKPab 04 11 08.8 +0.8**
ZON Zonda 144.93 80 PKIKP **PKPab 04 11 08.8 +0.8**
BO04 La Punta 145.03 85 **PKPbc 04 11 06.8 -1.4**
MT08 Bocatoma Ro 145.13 83 PKPbc **PKPdf 04 11 10.5 +1.4**
ELIB Princess Elisa 145.50 205 *d*PKPdf **PKPdf 04 11 08.6 +0.1**
ELIB *dp*PKPdf **sPKPdf 04 11 25.2 -2.3**
BI02 San Fabin de 146.01 89 PKPdf **PKPdf 04 11 11.5 +1.2**
LL01 San Ignacio de 147.82 99 PKPbc **PKPbc 04 11 16.9 +0.9**
BELA Belgrano 2 148.41 177 PKPdf **PKPdf 04 11 16.1 +3.1**
PLCA Paso Flores 148.42 95 PKPbc **PKPbc 04 11 18.9 +1.0**
comp=Z,6.0nm,1.0s,baz=328,slow=1.5,SNR=11
CPUP Villa Florida 148.78 60 PKPbc **PKPbc 04 11 19.8 +0.7**
comp=Z,6.1nm,0.8s,baz=312,slow=3.9,SNR=15
TROLL Troll, Antarti 150.92 199 PKPbc **PKPbc 04 11 24.6 +1.5**
TROLL Troll, Antarti 150.92 199 ⇓PKPbc **PKPbc 04 11 24.6 +1.5**
comp=Z,533nm,1.1s
SNAA Sanae 152.28 196 PKPbc **PKPbc 04 11 26.0 -0.1**
SNAA Sanae 152.28 196 PKPbc **PKPbc 04 11 26.3 +0.2**
SNAA Sanae 152.28 196 ⇓PKPbc **PKPbc 04 11 26.0 -0.1**
comp=Z,82nm,0.8s
SNAA Sanae 152.28 196 PKPbc **PKPbc 04 11 26.8 +0.7**
comp=Z,2.8nm,0.7s,baz=172,slow=6.2,SNR=11
SNAA Sanae 152.28 196 PKIKP **PKPbc 04 11 26.3 +0.2**
VNA2 Neumayer--Watz 153.74 195 PKPbc **PKPbc 04 11 30.2 +0.9**
baz=148,slow=1.1
VNA2 Neumayer--Watz 153.74 195 ⇓PKPbc **PKPbc 04 11 30.2 +0.9**
comp=Z,5.9nm,0.7s,baz=148,slow=1.1
VNA3 Neumayer Olymp 153.83 193 PKPbc **PKPbc 04 11 30.3 +0.8**
VNA3 Neumayer Olymp 153.83 193 ⇓PKPbc **PKPbc 04 11 30.3 +0.8**
comp=Z,5.4nm,0.8s

---

*SJA **04** 04:20:43.8±0.5, 31°.65S×68°.07W, h271km, ML2.8, MW2.9*
GUC 04 04:20:45.8±0.9, **30°.53S**×**71°.23W, h61**km±5km, **ML2.7, 3C,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.51**	**47**	⇑*iP*		Pn	04 20 59.6	+1.3
GO04				*i* S		Sn	04 21 09.7	+2.3
CO03	**El Pedregal**	**0.56**	**124**	⇑*iP*		Pn	04 21 00.0	+1.3
CO03				*e*S		Sn	04 21 10.1	+2.0
CO03				IAML			04 21 12.0	
comp=N,1μm,0.1s								
CO05	**La Serena**	**0.60**	**360**	⇑*iP*		Pn	04 20 59.7	+0.7
CO05				*i* S		Sn	04 21 10.1	+1.5
CO05				IAML			04 21 11.5	
comp=N,426nm,0.2s								
CO01	**Juntas del Tor**	**1.13**	**61**	*eP*		Pn	04 21 08.0	+2.2
CO01				*i* S		Sn	04 21 23.8	+3.1
CO01				IAML			04 21 24.5	
comp=E,324nm,0.3s								
CO04	**Los Peladeros**	**1.53**	**172**	*eP*		Pn	04 21 12.5	+1.3
CO04				*i* S		Sn	04 21 32.1	+1.8
LCO	**Las Campanas**	**1.58**	**17**	IAML			04 21 36.8	
comp=E,271nm,0.4s								
VA06	**Catapilco**	**2.03**	**182**	*eP*		Pn	04 21 18.2	+0.5
VA06				*i* S		Sn	04 21 42.8	+0.8
VA06				IAML			04 21 50.7	
comp=E,63nm,0.5s								
RTLS	**Leoncito**	**2.09**	**128**	*eP*		Pn	04 21 22.2	+3.4
RTLS				*e*S		Sn	04 21 50.5	+6.6
RTLS				IAML			04 21 50.5	
comp=Z,55nm,0.4s								
VA03	**San Esteban**	**2.31**	**166**	*eP*		Pn	04 21 23.4	+1.8
VA03				*i* S		Sn	04 21 51.2	+2.3
VA03				IAML			04 21 57.4	
comp=E,67nm,0.3s								
AGUA	**GUANDACOL**	**2.59**	**67**	*eP*		Pn	04 21 30.3	+4.8
AGUA				*e*S		Sn	04 22 04.1	+8.2
AGUA				IAML			04 22 08.1	
comp=Z,20nm,0.5s								
VCA	**Vinchina**	**3.18**	**57**	*eP*		Pn	04 21 36.8	+3.2
VCA				IAML			04 22 59.1	
comp=Z,12nm,1.9s								

---

*NNC **04** 04:55:22.2±10.0, 37°.34N×71°.09E, h136km±160km, mb2.9, mpv3.6, Error ellipse: s-maj=90.1km s-min=52.3km az=16.0*
*IDC **04** 04:55:27.8±8.2, 37°.58N×71°.70E, h140km±57km, mb3.4/3, mbtmp3.7/8, Error ellipse: s-maj=74.1km s-min=47.7km*

az=170.0

ISC 04 04:55:23.9±1.8, 37°.5N±0°.1×71°.32E±0°.10, h109km, n18, σ1§72/23, mb4.0/3, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.01**	**21**	P	**Pn**	**04 56 38.0**	**+0.8**
	SNR=271						
KK31	**Karatay Array**	**5.67**	**354**	⇓P	**Pn**	**04 56 47.2**	**+1.5**
	2.5nm,0.3s,baz=186,slow=15,SNR=27						
KK31				⇓S	**Sn**	**04 57 52.7**	**+3.2**
	2.4nm,0.4s,baz=177,slow=23,SNR=4.1						
AAK	**Ala-Archa**	**5.71**	**24**	P	**Pn**	**04 56 47.7**	**+1.2**
	6.0nm,0.3s,baz=193,slow=9.5,SNR=27						
AAK				S	**Sn**	**04 57 50.3**	**-0.5**
	3.1nm,0.3s,baz=312,slow=21,SNR=6.1						
AAK	**Ala-Archa**	**5.71**	**24**	P	**Pn**	**04 56 47.9**	**+1.4**
	SNR=8.8						
ULHL	**Ulahol**	**6.09**	**37**	P	**Pn**	**04 56 50.7**	**-1.0**
	SNR=6.8						
CHMS	**Chumysh**	**6.12**	**24**	P	**Pn**	**04 56 53.1**	**+1.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.36**	**30**	P	**Pn**	**04 56 56.0**	**+0.7**
	SNR=8.1						
TKM2	**Tokmak 2**	**6.36**	**30**	P	**Pn**	**04 56 55.3**	**0.0**
	2.8nm,0.5s						
TKM2				S	**Sn**	**04 58 08.7**	**+2.2**
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**12.37**	**38**	P	**Pn**	**04 58 15.2**	**-0.9**
	0.9nm,0.6s,baz=225,slow=14,SNR=13						
KURBB	**Kurchatov Arra**	**14.13**	**19**	P	**P**	**04 58 41.9**	**-1.2**
	0.4nm,0.4s,baz=206,slow=9.7,SNR=4.9						
AB31	**Akbulak array**	**14.38**	**329**	P	**Pn**	**04 58 40.6**	**-1.6**
	0.4nm,0.4s,baz=135,slow=13,SNR=17						
AB31				⇓S	**Sn**	**05 01 17.9**	**-2.7**
	1.2nm,0.7s,baz=152,slow=24,SNR=8.5						
BVAR	**Borovoye Array**	**15.57**	**358**	P	**P**	**04 58 58.8**	**-0.4**
	0.4nm,0.4s,baz=157,slow=12,SNR=2.3						
AKTO	**Aktyubinsk**	**16.09**	**328**	P	**P**	**04 59 06.6**	**+1.7**
	0.7nm,0.3s,baz=131,slow=14,SNR=2.1						
AKTO	**Aktyubinsk**	**16.09**	**328**	⇓P	**Pn**	**04 59 01.2**	**-2.4**
	0.5nm,0.6s						
AKTO				⇑S	**Sn**	**05 01 59.0**	**-2.8**
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**18.93**	**25**	P	**P**	**04 59 35.5**	**-0.6**
	0.9nm,0.3s,baz=210,slow=10,SNR=4.5						
ARCES	**ARCESS Array B**	**40.35**	**337**	P	**P**	**05 02 50.8**	**+0.3**
	5.2nm,1.1s,baz=116,slow=8.6,SNR=1.5						
	5.2nm,1.1s						
HFS	**Hagfors**	**42.47**	**321**	P	**P**	**05 03 08.9**	**+1.1**
	2.5nm,1.0s,baz=90,slow=12,SNR=1.6						
	2.5nm,1.0s						
NOA	**NORSAR Array B**	**43.77**	**322**	P	**P**	**05 03 20.3**	**+2.0**
	0.3nm,0.6s,baz=106,slow=9.7,SNR=1.3						
	0.3nm,0.6s						

IDC 04 05:01:00.1±2.3, 6°.25S×129°.47E, h0km, mb3.7/1, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=153.4km s-min=31.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**161**	Pn	Pn	05 04 25.8	+0.2
	0.2nm,0.3s,baz=341,slow=9.2,SNR=6.2						
WRA				Sn	Sn	05 06 52.1	-14
	0.4nm,0.3s,baz=336,slow=21,SNR=7.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.84**	**167**	P	Pn	05 05 09.8	-0.2
	0.1nm,0.3s,baz=339,slow=9.2,SNR=2.5						
ASAR				S	Sn	05 08 15.6	-14
	0.3nm,0.7s,baz=302,slow=12,SNR=1.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**67.31**	**327**	P	P	05 11 57.0	0.0
	0.4nm,0.6s,baz=123,slow=7.6,SNR=7.6						
	0.4nm,0.6s						

TXNET 04 05:02:58.4, 32°N±1°×103°.2W±0°.8, h5km±2km, ML1.5/4, Error ellipse: s-maj=1.9km s-min=1.1km az=169.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB06	**Permian Basin**	**0.09**	**347**	P	Pg	05 03 00.8	+0.3
TPB06				S	Sg	05 03 02.6	+0.8
PCOS	**Crockett Middl**	**0.31**	**241**	S	Sg	05 03 09.7	+1.2
TPB07	**Mentone**	**0.41**	**273**	P	Pg	05 03 07.0	+0.7
TPB07				S	Sb	05 03 13.4	-1.2
MNHN	**Monahans**	**0.43**	**120**	P	Pg	05 03 07.4	+0.7
MNHN				S	Sb	05 03 14.4	-1.0
TPB03	**Saragosa**	**0.55**	**210**	S	Sb	05 03 17.7	-1.0
TPB10	**Southeast of T**	**0.55**	**240**	S	Sb	05 03 18.4	-0.5
PECS	**Pecos**	**0.60**	**252**	P	Pg	05 03 09.7	-0.4
PECS				S	Sg	05 03 17.3	-0.6
TPB05	**Hovey Rd**	**0.65**	**190**	P	Pg	05 03 10.6	-0.3
TPB05				S	Sg	05 03 19.9	+0.7
TPB08	**Permian Basin**	**0.71**	**160**	S	Sb	05 03 22.4	-1.0
TPB12	**Southwest of T**	**0.74**	**242**	P	Pb	05 03 13.3	-0.5
TPB12				S	Sg	05 03 21.1	-1.1
ODSA	**Odessa**	**0.79**	**44**	S	Sb	05 03 25.5	-0.1
TPB01	**Permian Basin**	**0.79**	**220**	P	Pb	05 03 14.6	-0.2
TPB01				S	Sb	05 03 25.5	-0.3
TPB11	**China Draw**	**0.81**	**298**	S	Sb	05 03 27.6	+1.2
CLNB	**Carlsbad**	**0.91**	**321**	P	Pg	05 03 16.2	+0.2
TMB02	**Rankin**	**1.05**	**110**	P	Pg	05 03 18.4	-0.3
TMB02				S	Sn	05 03 34.2	-0.9
TMB04	**Seminole**	**1.22**	**29**	S	Sn	05 03 39.1	-0.2
ALPN	**Alpine**	**1.24**	**198**	P	Pg	05 03 21.0	-1.2
VHRN	**Van Horn**	**1.72**	**244**	P	Pb	05 03 30.3	-0.3
VHRN				S	Sb	05 03 52.3	-0.3
SGCY	**Sterling City**	**1.80**	**78**	S	Sg	05 03 57.2	+1.0
SAND	**Sanderson**	**1.84**	**150**	P	Pb	05 03 32.0	-0.7
SAND				S	Sg	05 03 57.3	-0.4
MNTX	**Cornudas Mount**	**1.87**	**275**	P	Pn	05 03 31.9	+0.8
MNTX				S	Sb	05 03 57.0	+0.1
OZNA	**Ozona**	**1.88**	**109**	P	Pb	05 03 32.6	-0.7
OZNA				S	Sg	05 03 59.6	+0.7
TX31	**Lajitas Ar. Si**	**2.25**	**191**	P	Pn	05 03 37.3	+0.8
TX31				S	Sb	05 04 07.6	-0.4

IDC 04 05:08:26.4±5.6, 17°.40S×173°.01W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=432.0km s-min=36.4km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.78**	**258**	P	P	05 17 20.9	-0.4
	0.4nm,0.7s,baz=97,slow=8.2,SNR=1.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**49.88**	**253**	P	P	05 17 22.1	+0.1
	0.5nm,0.7s,baz=85,slow=9.1,SNR=6.4						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**83.50**	**42**	P	P	05 20 56.5	0.0
	0.3nm,0.7s,baz=204,slow=3.3,SNR=4.1						
	0.3nm,0.7s						

IDC 04 05:30:56.8±0.9, 10°.54N×126°.11E, h0km, mb3.9/10, mbtmp3.9/10, MS3.2/2, Error ellipse: s-maj=44.6km s-min=19.6km az=68.0

ISC 04 05:31:03.7±0.9, 10°.5N±0°.2×126°.1E±0°.3, h51km, n18, σ0§56/11, mb4.0/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.43**	**188**	LR	LR	05 33 42.9	
	comp=Z,234nm,20.6s,baz=330,slow=48						
CMAR	**Chiang Mai Arr**	**27.40**	**290**	P	**P**	**05 36 45.2**	**+0.5**
	0.9nm,0.3s,baz=104,slow=6.3,SNR=4.1						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**31.32**	**165**	P	**P**	**05 37 18.6**	**-0.8**
	0.4nm,0.3s,baz=344,slow=8.8,SNR=1.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**34.80**	**167**	P	**P**	**05 37 50.2**	**+0.5**
	0.3nm,0.3s,baz=338,slow=7.2,SNR=6.0						
	0.3nm,0.3s						
H11S3	**WAKE ISLAND Hy 40.05**	**74**		T	T	06 21 28.1	
	baz=265,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy 40.07**	**74**		T	T	06 21 20.3	
	baz=265,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy 40.07**	**74**		T	T	06 21 23.5	
	baz=265,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 40.38**	**72**		T	T	06 21 43.9	
	baz=264,slow=74,SNR=63						
H11N2	**WAKE ISLAND Hy 40.39**	**72**		T	T	06 21 45.8	
	baz=264,slow=74,SNR=36						
H11N3	**WAKE ISLAND Hy 40.40**	**72**		T	T	06 21 50.3	
	baz=264,slow=74,SNR=55						
SONM	**Songino Array**	**40.74**	**340**	P	**P**	**05 38 39.3**	**-0.5**
	0.2nm,0.3s,baz=142,slow=7.3,SNR=2.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**51.73**	**323**	P	**P**	**05 40 06.2**	**+0.2**
	2.9nm,0.6s,baz=119,slow=8.1,SNR=44						
MKAR				PcP	**PcP**	**05 41 18.9**	**+0.1**
	0.4nm,0.7s,baz=105,slow=4.5,SNR=1.9						
	2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**54.34**	**331**	P	**P**	**05 40 24.4**	**-0.6**
	0.6nm,0.4s,baz=123,slow=5.5,SNR=4.7						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**55.78**	**325**	P	**P**	**05 40 35.4**	**0.0**
	1.7nm,0.7s,baz=126,slow=6.9,SNR=20						
	1.7nm,0.7s						
NRIK	**Noril'sk**	**63.75**	**346**	P	**P**	**05 41 29.9**	**-0.1**
	3.0nm,0.6s,baz=125,slow=4.8,SNR=4.5						
	3.0nm,0.6s						
ILAR	**Eielson Array**	**79.33**	**26**	P	**P**	**05 43 04.6**	**+0.8**
	0.2nm,0.7s,baz=236,slow=6.1,SNR=5.2						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**85.60**	**332**	P	**P**	**05 43 36.1**	**-0.3**
	0.5nm,0.4s,baz=48,slow=2.8,SNR=5.0						
	0.5nm,0.4s						
VRAC	**Vranov**	**94.46**	**322**	LR	LR	06 27 50.1	
	comp=Z,18nm,19.6s,baz=26,slow=36						

BER 04 05:32:04.4±1.6, 81°.67N×4°.53W, h10km, mb(Pn)3.5, ML2.0(DNK), Confirmed Earthquake
DNK 04 05:32:05.3±3.5, 81°.76N×3°.72W, h36km±29km, ML2.0

ISC 04 05:32:01.5±1.6, 81°.6N±0°.1×4°.36W±0°.05, h10km, n15, σ1§89/24, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.81**	**277**	*i* P	**Pn**	**05 32 33.1**	**+0.5**
NOR				*i* S	**Sn**	**05 32 54.6**	**-1.0**
NOR				IAML		05 32 58.6	
	comp=Z,14nm,0.2s						
NOR	**Nord**	**1.81**	**277**	*i* P	**Pn**	**05 32 33.1**	**+0.5**
NOR				*i* S	**Sn**	**05 32 54.6**	**-1.0**
NOR				IAML		05 32 58.6	
	comp=Z,14nm,0.2s						
KBS	**Kingsbay**	**3.83**	**126**	*e* P	**Pn**	**05 33 02.1**	**+1.7**
KBS				*e* S	**Sn**	**05 33 43.1**	**-2.2**
KBS				IAML		05 33 50.0	
	comp=Z,6.7nm,0.3s						
KBS	**Kingsbay**	**3.83**	**126**	*i* P	**Pn**	**05 33 01.9**	**+1.6**
KBS				*e* S	**Sn**	**05 33 41.8**	**-3.5**
BRBB	**Barentsburg B**	**4.77**	**127**	*e* P	**Pn**	**05 33 16.4**	**+3.1**
BRBB				*e* S	**Sn**	**05 34 06.9**	**-1.7**
SPA0	**Spitsbergen Ar**	**4.97**	**123**	*e* P	**Pn**	**05 33 17.6**	**+1.7**
SPA0				*e* S	**Sn**	**05 34 11.2**	**-2.1**
SPA0				IAML		05 34 36.5	
	comp=Z,4.0nm,0.7s						
DAG	**Danmarks Havn**	**5.51**	**216**	*i* P	**Pn**	**05 33 25.0**	**+1.6**
DAG				*i* S	**Sn**	**05 34 24.7**	**-1.9**
DAG				IAML		05 34 31.0	
	comp=Z,18nm,0.2s						
DAG	**Danmarks Havn**	**5.51**	**216**	*i* P	**Pn**	**05 33 25.0**	**+1.6**
DAG				*i* P	**Pn**	**05 33 25.6**	**+2.3**
DAG				*i* S	**Sn**	**05 34 24.7**	**-1.9**
DAG				IAML		05 34 31.0	
	comp=Z,18nm,0.2s						
HSPB	**Hornsund (broa**	**5.86**	**131**	*e* P	**Pn**	**05 33 30.7**	**+2.5**
DBG	**Daneborg**	**7.98**	**212**	*i* P	**Pn**	**05 33 58.7**	**+1.5**
DBG				*e* S	Sn	05 35 20.5	-6.8
DBG				IAML		05 35 30.7	
	comp=Z,3.8nm,0.2s						
DBG	**Daneborg**	**7.98**	**212**	*i* P	**Pn**	**05 33 58.7**	**+1.5**
DBG				*e* S	Sn	05 35 20.5	-6.8
DBG				IAML		05 35 30.7	
	comp=Z,3.8nm,0.2s						
NEEM	**North Greenlan**	**9.17**	**268**	*i* P	**Pn**	**05 34 13.0**	**-0.7**
NEEM				*e* S	Sn	05 35 47.0	-10
NEEM				IAML		05 35 51.9	
	comp=Z,2.1nm,0.2s						
NEEM	**North Greenlan**	**9.17**	**268**	*i* P	**Pn**	**05 34 13.0**	**-0.7**
NEEM				*e* S	Sn	05 35 47.0	-10
NEEM				IAML		05 35 51.9	
	comp=Z,2.1nm,0.2s						
SUMG	**Summit**	**11.51**	**238**	*i* P	**Pn**	**05 34 45.9**	**0.0**
SUMG				*e* S	Sn	05 36 45.6	-8.8
SUMG				IAML		05 36 57.1	
	comp=Z,1.3nm,0.2s						
SUMG	**Summit**	**11.51**	**238**	*i* P	**Pn**	**05 34 45.9**	**0.0**
SUMG				*e* S	Sn	05 36 45.6	-8.8
SUMG				IAML		05 36 57.1	
	comp=Z,1.3nm,0.2s						

NOU 04 05:42:22.7, 38°.19S×177°.18E, h59km, MLv3.9/9, North Island, New Zealand
WEL 04 05:42:23.2±0.3, 38°.S±3°.×17°.7E±°, h36km±5km, M3.7/75, ML4.1/30, MLv3.7/75, Error ellipse: s-maj=4.1km s-min=3.4km az=174.9, confirmed

ISC 04 05:42:22.5±1.4, 38°.10S±0°.03×177°.21E±0°.03, h62km±7km, n109, σ0§86/116, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.18**	**207**	P	**Pn**	**05 42 32.1**	**+0.1**
URZ	**Urewera**	**0.18**	**207**	P	**Pn**	**05 42 32.1**	**+0.1**
URZ				S	**Sn**	**05 42 39.1**	**+0.2**
WHRZ	**Whale Island**	**0.31**	**323**	P	**Pn**	**05 42 33.0**	**+0.2**
MWZ	**Matawai**	**0.34**	**133**	P	**Pn**	**05 42 33.3**	**+0.2**
MWZ				S	**Sn**	**05 42 41.4**	**+0.4**
EDRZ	**Edgecumbe**	**0.37**	**269**	P	**Pn**	**05 42 33.8**	**+0.4**
RUGZ	**Raukumara Rang**	**0.39**	**70**	P	**Pn**	**05 42 33.2**	**-0.5**
RUGZ				S	**Sn**	**05 42 40.9**	**-0.9**
RAGZ	**Rawiri**	**0.42**	**158**	P	**Pn**	**05 42 34.4**	**+0.5**
RAGZ				S	**Sn**	**05 42 43.3**	**+1.0**
MARZ	**Manawahe**	**0.44**	**285**	P	**Pn**	**05 42 34.0**	**0.0**
MUGZ	**Murupara**	**0.51**	**223**	P	**Pn**	**05 42 35.0**	**+0.3**
RTZ	**Ruatahuna**	**0.54**	**199**	P	**Pn**	**05 42 35.5**	**+0.3**
HAZ	**Te Kaha**	**0.57**	**53**	P	**Pn**	**05 42 35.0**	**-0.3**
HAZ				S	**Sn**	**05 42 43.9**	**-0.7**
WIZ	**White Island**	**0.57**	**358**	P	**Pn**	**05 42 35.0**	**-0.3**
WIZ				S	**Sn**	**05 42 44.6**	**-0.2**
OPRZ	**Ohinepanea**	**0.58**	**296**	P	**Pn**	**05 42 35.4**	**0.0**
OPRZ				S	**Sn**	**05 42 44.8**	**0.0**
WSRZ	**White Island S**	**0.58**	**357**	P	**Pn**	**05 42 35.3**	**-0.2**
MKRZ	**Makatiti**	**0.59**	**266**	P	**Pn**	**05 42 36.6**	**+1.0**
RRRZ	**Republican Roa**	**0.60**	**246**	P	**Pn**	**05 42 36.2**	**+0.5**
TKGZ	**Te Karaka**	**0.60**	**124**	P	**Pn**	**05 42 36.9**	**+1.2**
TWGZ	**Tauwhareparae**	**0.61**	**97**	P	**Pn**	**05 42 37.2**	**+1.4**
LIRZ	**Lichensteins R**	**0.66**	**278**	P	**Pn**	**05 42 36.9**	**+0.5**
OMRZ	**Omania**	**0.66**	**269**	P	**Pn**	**05 42 36.8**	**+0.4**
SNGZ	**Shannon Statio**	**0.69**	**172**	P	**Pn**	**05 42 37.9**	**+1.2**
HLRZ	**Highlands Stat**	**0.69**	**257**	P	**Pn**	**05 42 37.5**	**+0.7**
PKGZ	**Pakihiroa**	**0.73**	**71**	P	**Pn**	**05 42 37.4**	**+0.3**
RIGZ	**Rimuhau**	**0.74**	**144**	P	**Pn**	**05 42 38.7**	**+1.3**
PRRZ	**Plateau Road**	**0.76**	**238**	P	**Pn**	**05 42 38.0**	**+0.5**
KARZ	**Kaharoa**	**0.77**	**276**	P	**Pn**	**05 42 37.9**	**+0.3**
HRRZ	**Handcock Road**	**0.79**	**248**	P	**Pn**	**05 42 38.4**	**+0.5**
HSRZ	**Hossack Road**	**0.79**	**254**	P	**Pn**	**05 42 38.8**	**+0.9**
MTHZ	**Maungataniwha**	**0.80**	**201**	P	**Pn**	**05 42 38.7**	**+0.5**
UTU	**Utuhina**	**0.81**	**264**	P	**Pn**	**05 42 39.2**	**+1.1**
NGRZ	**Ngongotaha**	**0.81**	**270**	P	**Pn**	**05 42 38.9**	**+0.8**
RAHZ	**Arahi**	**0.82**	**187**	P	**Pn**	**05 42 39.5**	**+1.1**
ALRZ	**Allen Road**	**0.82**	**236**	P	**Pn**	**05 42 38.8**	**+0.4**
PUZ	**Puketiti**	**0.83**	**88**	P	**Pn**	**05 42 39.0**	**+0.7**
TGRZ	**Tauranga**	**0.84**	**296**	P	**Pn**	**05 42 38.5**	**0.0**
CNGZ	**Carnagh Statio**	**0.87**	**116**	P	**Pn**	**05 42 40.0**	**+1.1**
GRRZ	**Galatos Road**	**0.90**	**254**	P	**Pn**	**05 42 40.2**	**+0.8**
TBCS	**Tauranga Boys**	**0.92**	**295**	P	**Pn**	**05 42 39.7**	**+0.1**
WPRZ	**Whakapatarin**	**0.92**	**243**	P	**Pn**	**05 42 40.3**	**+0.7**
MRHZ	**Matea Rd**	**0.96**	**220**	P	**Pn**	**05 42 40.6**	**+0.4**
PRGZ	**Paritu Road**	**0.97**	**147**	P	**Pn**	**05 42 40.7**	**+0.4**
WHHZ	**Waihua**	**0.97**	**179**	P	**Pn**	**05 42 41.3**	**+1.1**
KNZ	**Kokohu**	**0.99**	**159**	P	**Pn**	**05 42 40.7**	**+0.3**
WMGZ	**Waiomatatini S**	**0.99**	**74**	P	**Pn**	**05 42 41.3**	**+0.8**
MXZ	**Matakaoa Point**	**1.02**	**58**	P	**Pn**	**05 42 42.1**	**+1.3**
MXZ	**Matakaoa Point**	**1.02**	**58**	P	**Pn**	**05 42 41.8**	**+1.0**
KMRZ	**Kaimai**	**1.03**	**284**	P	**Pn**	**05 42 41.2**	**+0.1**
NMHZ	**Naumai**	**1.04**	**198**	P	**Pn**	**05 42 42.7**	**+1.5**
MYRZ	**Mayor Island**	**1.12**	**317**	P	**Pn**	**05 42 42.3**	**0.0**
KUTZ	**Kaahu Road**	**1.16**	**250**	P	**Pn**	**05 42 43.3**	**+0.7**
ARHZ	**Aropaoanui**	**1.17**	**188**	P	**Pn**	**05 42 43.8**	**+1.0**
HATZ	**Hinemaiaia**	**1.18**	**228**	P	**Pn**	**05 42 43.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.18**	**153**	P	**Pn**	**05 42 43.4**	**+0.4**
BKZ	**Black Stump Fm**	**1.20**	**208**	P	**Pn**	**05 42 44.1**	**+0.8**
BKZ	**Black Stump Fm**	**1.20**	**208**	P	**Pn**	**05 42 43.9**	**+0.6**
WATZ	**Wairara**	**1.31**	**242**	P	**Pn**	**05 42 45.2**	**+0.5**
TLZ	**Tolley Road**	**1.34**	**260**	P	**Pn**	**05 42 45.5**	**+0.4**
RATZ	**Rangitukua**	**1.36**	**235**	P	**Pn**	**05 42 46.2**	**+0.8**
RITZ	**Rihia Road**	**1.37**	**230**	P	**Pn**	**05 42 46.5**	**+1.0**
MCHZ	**McNeill Hill**	**1.40**	**197**	P	**Pn**	**05 42 46.7**	**+0.8**
TOZ	**Tahuroa Road**	**1.40**	**285**	P	**Pn**	**05 42 46.2**	**+0.4**
KWHZ	**Kaweka Forest**	**1.46**	**205**	P	**Pn**	**05 42 47.4**	**+0.7**
KATZ	**Kakaramea**	**1.47**	**233**	P	**Pn**	**05 42 48.1**	**+1.1**
TMVZ	**Te Maari**	**1.56**	**229**	P	**Pn**	**05 42 48.9**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.56**	**184**	P	**Pn**	**05 42 47.8**	**-0.2**
NTVZ	**North Tongarir**	**1.56**	**230**	P	**Pn**	**05 42 49.0**	**+0.8**
ETVZ	**East Tongariro**	**1.56**	**228**	P	**Pn**	**05 42 49.0**	**+0.8**
KRVZ	**Karewarewa**	**1.58**	**231**	P	**Pn**	**05 42 49.3**	**+0.9**
OTVZ	**Oturere**	**1.61**	**228**	P	**Pn**	**05 42 49.7**	**+0.9**
NNVZ	**North Ngauruho**	**1.62**	**230**	P	**Pn**	**05 42 50.0**	**+1.0**
WTVZ	**West Tongariro**	**1.62**	**231**	P	**Pn**	**05 42 49.9**	**+0.9**
SNVZ	**South Ngauruho**	**1.64**	**228**	P	**Pn**	**05 42 50.1**	**+0.9**
NGZ	**Ngauruhoe**	**1.66**	**229**	P	**Pn**	**05 42 50.4**	**+1.0**
KRHZ	**Kereru**	**1.67**	**203**	P	**Pn**	**05 42 49.6**	**0.0**
TUVZ	**Tukino**	**1.69**	**226**	P	**Pn**	**05 42 50.6**	**+0.8**
TWVZ	**Taurewa**	**1.69**	**235**	P	**Pn**	**05 42 50.6**	**+0.7**
COVZ	**Chateau Observ**	**1.71**	**229**	P	**Pn**	**05 42 51.2**	**+1.1**
KAHZ	**Kahuranaki**	**1.71**	**189**	P	**Pn**	**05 42 49.9**	**-0.1**
MOVZ	**Moawhango**	**1.73**	**221**	P	**Pn**	**05 42 50.9**	**+0.5**
WHVZ	**Whangaehu Hut**	**1.73**	**227**	P	**Pn**	**05 42 51.5**	**+1.0**
FWVZ	**Far West T-bar**	**1.73**	**228**	P	**Pn**	**05 42 51.7**	**+1.1**
MAVZ	**Matarangi**	**1.74**	**227**	P	**Pn**	**05 42 51.5**	**+0.8**
WNVZ	**Wahianoa**	**1.76**	**225**	P	**Pn**	**05 42 51.5**	**+0.7**
TRVZ	**Turoa**	**1.77**	**227**	P	**Pn**	**05 42 51.8**	**+0.8**
KUZ	**Kuaotunu**	**1.80**	**318**	P	**Pn**	**05 42 51.0**	**-0.2**
KUZ	**Kuaotunu**	**1.80**	**318**	P	**Pn**	**05 42 51.0**	**-0.2**
MTVZ	**Mangateitei**	**1.87**	**226**	P	**Pn**	**05 42 53.0**	**+0.7**
PKVZ	**Pokaka**	**1.88**	**230**	P	**Pn**	**05 42 53.5**	**+1.1**
HIZ	**Hauiti**	**1.90**	**257**	P	**Pn**	**05 42 53.7**	**+1.1**
HIZ	**Hauiti**	**1.90**	**257**	P	**Pn**	**05 42 53.8**	**+1.3**
MKAZ	**Moumakai**	**1.91**	**301**	P	**Pn**	**05 42 53.1**	**+0.4**
PXZ	**Pawanui**	**1.94**	**188**	P	**Pn**	**05 42 52.2**	**-1.0**
PNHZ	**Pukenui**	**1.97**	**203**	P	**Pn**	**05 42 53.0**	**-0.7**
WPHZ	**Waipukurau**	**2.05**	**197**	P	**Pn**	**05 42 53.7**	**-0.9**
WIAZ	**Waiheke Island**	**2.11**	**308**	P	**Pn**	**05 42 55.9**	**+0.5**
ETAZ	**East Tamaki Re**	**2.15**	**302**	P	**Pn**	**05 42 56.8**	**+0.9**
VRZ	**Vera Road**	**2.18**	**241**	P	**Pn**	**05 42 57.8**	**+1.5**
TSZ	**Takapari Road**	**2.18**	**206**	P	**Pn**	**05 42 55.6**	**-0.8**
PRHZ	**Porangahau**	**2.21**	**192**	P	**Pn**	**05 42 55.4**	**-1.4**
AWAZ	**Awhitu Peninsu**	**2.29**	**296**	P	**Pn**	**05 42 58.8**	**+1.0**
EPAZ	**Eden Park BICE**	**2.31**	**301**	P	**Pn**	**05 42 59.5**	**+1.3**
GRZ	**Great Barrier**	**2.32**	**322**	P	**Pn**	**05 42 58.5**	**+0.2**
DVHZ	**Dannevirke**	**2.34**	**200**	P	**Pn**	**05 42 56.8**	**-1.7**
WTAZ	**Waiatarua**	**2.40**	**298**	P	**Pn**	**05 43 00.5**	**+1.1**
ABAZ	**Army Bay**	**2.42**	**308**	P	**Pn**	**05 43 00.7**	**+1.1**
ANWZ	**Angora Road**	**2.42**	**193**	P	**Pn**	**05 42 58.2**	**-1.5**
OUZ	**Omahuta**	**4.09**	**314**	P	**Pn**	**05 43 23.6**	**+1.1**
QRZ	**Quartz Range**	**4.53**	**232**	P	**Pn**	**05 43 27.0**	**-1.5**
KHZ	**Kahutara**	**5.14**	**212**	P	**Pn**	**05 43 34.1**	**-2.8**

HLW 04 05:45:48.9, 26°.39N×33°.97E, h10km±11km, Ml1.9

SGS 04 05:45:47.1, 27°.16N×34°.76E, h8km, Ml1.4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWLHS	**Almuwaylih**	**0.89**	**49**	S	Sg	05 46 15.9	+0.1
MWLHS	**Almuwaylih**	**0.89**	**49**	P	Pg	05 46 03.5	-0.7
HHRG	**Al Ghardaqah**	**1.06**	**273**	P	Pg	05 46 02.6	-4.9
HHRG				S	Sg	05 46 14.2	-7.1
RSHS		**1.14**	**2**	S

RLS S **Sb** **05 52 37.1 0.0**
RLS AML AML 05 52 39.0
comp=N,18859μm,0.5s
RLS AML AML 05 52 43.4
comp=E,9914μm,0.5s
FSK Fiskardo 0.85 358 P **Pb** **05 52 26.6 -0.2**
FSK S **Sn** **05 52 40.0 0.0**
comp=E,6μm,0.4s
FSK Fiskardo 0.85 358 P **Pb** **05 52 26.4 -0.3**
FSK AML AML 05 52 43.8
comp=N,11770μm,0.6s
FSK AML AML 05 52 44.9
comp=E,14560μm,0.4s
AMT Artemida-Makis 0.88 94 P **Pb** **05 52 27.1 -0.1**
AMT AML AML 05 52 42.8
comp=N,41974μm,0.3s
AMT AML AML 05 52 42.8
comp=E,49017μm,0.3s
DRO Drossia 0.94 68 P **Pb** **05 52 27.6 -0.7**
DRO Drossia 0.94 68 P **Pb** **05 52 28.0 -0.3**
DRO AML AML 05 52 45.2
comp=E,23624μm,0.5s
DRO AML AML 05 52 49.9
comp=N,13882μm,0.4s
EVGI Lefkada island 1.02 2 P **Pb** **05 52 28.9 -0.6**
EVGI S **Sn** **05 52 44.4 +0.4**
comp=N,4μm,0.2s
EVGI Lefkada island 1.02 2 P **Pb** **05 52 29.1 -0.4**
NYDR Nydri-Lefkada 1.11 4 P **Pb** **05 52 30.4 -0.7**
NYDR S **Sn** **05 52 47.6 +1.3**
comp=N,3μm,0.7s
NYDR Nydri-Lefkada 1.11 4 P **Pb** **05 52 30.5 -0.6**
ITM Ithomi 1.14 111 **Pb** **05 52 30.6 -1.0**
ITM Ithomi 1.14 111 P **Pb** **05 52 31.4 -0.2**
ITM Ithomi 1.14 111 P **Pb** **05 52 31.5 -0.1**
ITM AML AML 05 53 01.9
comp=N,4479μm,0.7s
ITM AML AML 05 53 09.5
comp=E,4573μm,1.1s
LKD2 Lefkada island 1.18 2 P **Pn** **05 52 32.4 0.0**
LKD2 S **Sg** **05 52 50.8 +2.3**
LKD2 AML AML 05 53 01.0
comp=E,15nm,0.5s
LKD2 Lefkada island 1.18 2 P **Pn** **05 52 32.3 0.0**
LKD2 S **Sg** **05 52 50.3 +1.8**
comp=E,3μm,0.6s
LKD2 Lefkada island 1.18 2 P **Pn** **05 52 32.1 -0.3**
LKD2 AML AML 05 53 01.1
comp=E,7838μm,0.6s
LKD2 AML AML 05 53 05.2
comp=N,5259μm,0.6s
TSLK Tsoukalades, L 1.22 2 P **Pn** **05 52 33.2 +0.4**
TSLK Tsoukalades, L 1.22 2 P **Pn** **05 52 32.8 +0.1**
TSLK AML AML 05 52 58.8
comp=E,7224μm,0.4s
TSLK AML AML 05 52 59.0
comp=N,10462μm,0.7s
KLV Kalavryta, Ach 1.30 70 P **Pn** **05 52 33.7 -0.3**
KLV AML AML 05 52 58.8
comp=N,4239μm,1.0s
KLV AML AML 05 52 59.5
comp=E,3071μm,0.7s
EFP Efpalio 1.32 51 P **Pn** **05 52 33.8 -0.3**
EFP AML AML 05 53 08.6
comp=E,3332μm,0.6s
EFP AML AML 05 53 11.2
comp=N,4970μm,0.5s
GUR Goura 1.42 76 P **Pn** **05 52 35.7 +0.1**
GUR AML AML 05 53 04.8
comp=N,11500μm,0.6s
GUR AML AML 05 53 05.2
comp=E,6304μm,0.4s
ANX Ano Chora 1.43 46 P **Pn** **05 52 36.2 +0.4**
ANX AML AML 05 53 07.1
comp=N,10440μm,0.7s
ANX AML AML 05 53 08.8
comp=E,10560μm,0.9s
KALE Kalithea 1.45 57 P **Pn** **05 52 36.3 +0.4**
KALE AML AML 05 53 06.6
comp=N,6870μm,0.6s
KALE AML AML 05 53 09.3
comp=E,5550μm,0.5s
TETR Tetrakomo, Epi 1.82 17 P **Pb** **05 52 43.0 -0.2**
TETR AML AML 05 53 18.5
comp=E,5477μm,0.6s
TETR AML AML 05 53 23.0
comp=N,2906μm,0.7s
MAKR Makrakomi, Fth 1.85 40 P **Pb** **05 52 43.5 -0.3**
MAKR AML AML 05 53 18.4
comp=E,7687μm,0.9s
MAKR AML AML 05 53 25.6
comp=N,6010μm,0.8s
LTK Loutraki 1.92 77 P **Pb** **05 52 45.0 +0.1**
LTK AML AML 05 53 25.3
comp=E,319μm,0.7s
LTK AML AML 05 53 26.2
comp=N,418μm,0.6s
IGT Igoumenitsa 1.94 354 P **Pn** **05 52 44.2 +1.6**
IGT S **Sb** **05 53 09.7 +0.4**
IGT AML AML 05 53 26.3
comp=N,2.9nm,0.6s
IGT Igoumenitsa 1.94 354 P **Pn** **05 52 44.2 +1.6**
IGT AML AML 05 53 23.5
comp=E,2355μm,0.6s
IGT AML AML 05 53 28.1
comp=N,1258μm,0.6s
AXAR Agios Charalam 1.99 54 P **Pb** **05 52 45.8 -0.4**
AXAR AML AML 05 53 27.3
comp=N,4717μm,0.9s
AXAR AML AML 05 53 30.4
comp=E,4459μm,0.8s
VLI Velíai 2.06 115 P **Pb** **05 52 47.9 +0.5**
VLI AML AML 05 53 33.3
comp=E,1736μm,1.2s
VLI AML AML 05 53 38.1
comp=N,1776μm,1.0s
VIL2 Platees 2.19 73 P **Pb** **05 52 48.6 -1.0**
VIL2 AML AML 05 53 43.1
comp=E,2647μm,1.1s
VIL2 AML AML 05 53 46.4
comp=N,1334μm,0.6s
KEK Kerkira 2.20 344 Pn **Pn** **05 52 47.6 +1.4**
KEK Kerkira 2.20 344 P **Pb** **05 52 48.8 -0.9**
KEK AML AML 05 53 42.4
comp=E,1960μm,0.6s
KEK AML AML 05 53 48.4
comp=N,1130μm,0.7s
THL Klokotos Trika 2.25 29 P **Pb** **05 52 50.1 -0.5**
THL AML AML 05 53 33.7
comp=E,1092μm,0.7s
THL AML AML 05 53 36.4
comp=N,1006μm,1.2s
SRN Sarande 2.32 348 P **Pn** **05 52 49.5 +1.6**
SRN S **Sg** **05 53 25.2 +0.4**
SRN AML AML 05 53 41.7
comp=N,1.2nm,0.9s
LSK Leskovik 2.54 360 P **Pn** **05 52 53.6 +2.5**
LSK S **Sb** **05 53 26.9 +0.1**
LSK AML AML 05 54 00.7
comp=N,4.2nm,1.2s
NEST Nestorio 2.83 7 P **Pb** **05 52 59.1 -1.4**
NEST S **Sb** **05 53 36.1 +1.1**
NEST AML AML 05 54 01.1
comp=N,0.8nm,0.5s
LIT Litokhoron 2.90 30 Pn **Pn** **05 52 57.6 +1.7**
SCTE Santa Cesarea 2.98 327 Pn **Pn** **05 52 59.1 +2.3**
SCTE Santa Cesarea 2.98 327 P **Pn** **05 52 57.2 +0.3**
SCTE S **Sn** **05 53 32.4 0.0**
SCTE AML AML 05 53 33.1
comp=N,2.1nm,0.6s
KBN Korca 3.02 3 **Pn** **05 52 58.6 +1.0**
KBN Korca 3.02 3 P **Pb** **05 53 02.1 -1.6**
FNA Florina 3.23 10 Pn **Pn** **05 53 01.7 +1.2**
FNA Florina 3.23 10 P **Pn** **05 53 03.9 +3.4**
FNA S **Sb** **05 53 44.5 -2.1**
FNA AML AML 05 54 23.6
comp=N,0.5nm,1.0s
FNA Florina 3.23 10 *e*Pn **Pn** **05 53 03.1 +2.6**
FNA *e*Sn **Sb** **05 53 43.0 -3.6**
TIP Timpagrande 3.41 299 Pn **Pn** **05 53 04.0 +1.1**
TIP Timpagrande 3.41 299 ⇑P **Pn** **05 53 07.1 +4.3**
OHR Ohrid 3.51 2 *i* Pn **Pn** **05 53 08.0 +3.7**
OHR Ohrid 3.51 2 *e*Pn **Pn** **05 53 06.8 +2.5**
OHR *e*Sn **Sn** **05 53 48.8 +3.3**
THE Thessaloniki 3.54 31 P **Pn** **05 53 06.8 +2.2**

CEL Celeste 3.78 281 **Pn** **05 53 08.2 +0.2**
TIR Tirane 3.78 352 Pn **Pn** **05 53 08.8 +0.8**
TIR Tirane 3.78 352 P **Pn** **05 53 10.4 +2.4**
TIR S **Sn** **05 53 54.8 +2.6**
TIR AML AML 05 54 00.2
comp=N,0.4nm,0.8s
TIR AML AML 05 54 02.8
comp=N,0.3nm,0.6s
TIR Tirane 3.78 352 ⇑P **Pn** **05 53 09.7 +1.7**
TIR Tirane 3.78 352 *e*Pn **Pn** **05 53 10.2 +2.2**
TIR *e*Sn **Sn** **05 53 55.0 +2.8**
VAY Valandovo 4.01 22 *i* Pn **Pn** **05 53 13.5 +2.4**
VAY Valandovo 4.01 22 *e*Pn **Pn** **05 53 13.3 +2.2**
PHP Peshkopia 4.08 358 P **Pn** **05 53 14.5 +2.4**
IDI Anoyia 4.16 122 Pn **Pn** **05 53 10.9 -2.3**
IDI Anoyia 4.16 122 P **Pn** **05 53 15.4 +2.2**
comp=N,9.9nm,0.8s,baz=182,slow=14,SNR=11
IDI S **Sn** **05 54 00.6 -1.0**
comp=N,16nm,0.3s,baz=264,slow=9.7,SNR=11
SRS Serrai 4.20 33 *e*Pn **Pn** **05 53 15.9 +2.1**
CUC Castrocucco 4.43 304 Pn **Pn** **05 53 16.4 -0.7**
PUK Puka 4.47 353 **Pn** **05 53 18.9 +1.4**
PUK Puka 4.47 353 P **Pn** **05 53 19.0 +1.6**
PUK S **Sn** **05 54 11.6 +2.4**
PUK AML AML 05 54 13.8
comp=N,0.5nm,0.4s
PUK AML AML 05 54 18.8
comp=N,0.5nm,0.6s
ULC Ulcinj 4.48 347 P **Pn** **05 53 18.5 +0.9**
ULC Ulcinj 4.48 347 ⇑*i*Pn **Pn** **05 53 17.7 +0.1**
ULC *i* Sn **Sn** **05 54 07.2 -2.3**
PEHC Pehcevo 4.53 22 *i* Pn **Pn** **05 53 20.8 +2.5**
MMB Musomishta 4.63 31 *i* P **Pn** **05 53 22.2 +2.5**
KKB Krupnik 4.66 24 *i* P **Pn** **05 53 22.7 +2.6**
DRME Dracevica, Mon 4.71 347 *e*Pn **Pn** **05 53 21.7 +1.0**
DRME Dracevica, Mon 4.71 347 ⇑*i*Pn **Pn** **05 53 20.8 +0.1**
DRME *i* Sn **Sn** **05 54 12.6 -2.4**
BCI Bajram Curri 4.78 355 P **Pn** **05 53 24.7 +3.0**
BCI S **Sn** **05 54 20.1 +3.3**
BCI AML AML 05 54 21.1
comp=N,1.1nm,0.8s
MRVN Minervino Murg 4.86 317 P **Pn** **05 53 25.2 +2.4**
BUM Brajici-Budva 4.87 345 *e*Pn **Pn** **05 53 23.1 +0.1**
BUM *i* Sn **Sn** **05 54 16.6 -2.6**
VAE Valguarnera 4.92 270 P **Pn** **05 53 23.8 +0.1**
comp=N,8.0nm,0.5s,baz=144,slow=8.3,SNR=2.0
VAE S **Sn** **05 54 21.1 +0.7**
comp=N,13nm,0.5s,baz=177,slow=18,SNR=1.6
PDG Podgorica 4.93 348 **Pn** **05 53 24.3 +0.5**
PDG Podgorica 4.93 348 *e*Pn **Pn** **05 53 23.6 -0.1**
PDG Podgorica 4.93 348 ⇓P **Pn** **05 53 24.9 +1.2**
PDG Podgorica 4.93 348 *e*Pn **Pn** **05 53 24.5 +0.8**
PDG *e*Sn **Sn** **05 54 20.4 -0.1**
PDG Podgorica 4.93 348 *e*Pn **Pn** **05 53 23.8 +0.1**
PDG *i* Sn **Sn** **05 54 18.0 -2.5**
RAFF Raffo Rosso 4.98 268 **Pn** **05 53 25.1 +0.6**
PVY Plav 5.01 355 *e*Pn **Pn** **05 53 24.9 -0.1**
PVY *i* Sn **Sn** **05 54 19.7 -3.0**
HCY Herceg Novi 5.10 342 *e*Pn **Pn** **05 53 25.5 -0.6**
HCY Herceg Novi 5.10 342 *e*Pn **Pn** **05 53 26.2 +0.1**
HCY *i* Sn **Sn** **05 54 22.1 -2.7**
CEME Cevo 5.10 346 *e*Pn **Pn** **05 53 26.2 0.0**
CEME *i* Sn **Sn** **05 54 22.0 -2.9**
RZN Rozhen 5.18 37 *i* P **Pn** **05 53 29.8 +2.4**
WDD Wied Dalam 5.19 252 Pn **Pn** **05 53 27.7 +0.3**
RDO Rodhopi 5.21 46 Pn **Pn** **05 53 28.6 +1.0**
BARS Barje 5.29 10 *e*Pn **Pn** **05 53 30.0 +1.3**
KOME Kolasin 5.31 351 *e*Pn **Pn** **05 53 29.0 0.0**
KOME *i* Sn **Sn** **05 54 26.8 -3.2**
NKME Niksic 5.31 347 *e*Pn **Pn** **05 53 29.0 0.0**
NKME *i* Sn **Sn** **05 54 27.0 -3.0**
ALN Alexandroupoli 5.35 50 Pn **Pn** **05 53 29.5 -0.1**
VTS Vitosha 5.40 21 *i* P **Pn** **05 53 32.7 +2.3**
VTS Vitosha 5.40 21 *e*Pn **Pn** **05 53 32.5 +2.1**
BRY Bratogost 5.52 344 *e*Pn **Pn** **05 53 32.4 +0.4**
BRY Bratogost 5.52 344 *e*Pn **Pn** **05 53 32.1 +0.1**
BRY *i* Sn **Sn** **05 54 32.1 -3.2**
SELS Selova 5.62 4 *e*Pn **Pn** **05 53 34.3 +1.0**
SELS *e*Sn **Sn** **05 54 37.7 0.0**
SJES Sjenica 5.67 355 *e*Pn **Pn** **05 53 34.7 +0.6**
SJES Sjenica 5.67 355 *e*Pn **Pn** **05 53 35.4 +1.3**
SJES *e*Sn **Sn** **05 54 39.2 +0.2**
STON Ston 5.71 338 *e*Pn **Pn** **05 53 34.4 0.0**
STON Ston 5.71 338 *e*Pn **Pn** **05 53 34.5 0.0**
STON *e*Sn **Sn** **05 54 37.5 -2.2**
UPM Unac-Piva 5.74 347 *e*Pn **Pn** **05 53 35.6 +0.5**
UPM Unac-Piva 5.74 347 *e*Pn **Pn** **05 53 35.2 +0.1**
UPM *i* Sn **Sn** **05 54 37.2 -3.6**
PLE Pljevlja 5.79 351 *e*Pn **Pn** **05 53 35.7 0.0**
PLE *i* Sn **Sn** **05 54 38.5 -3.5**
ZAPS Zavoj 5.87 15 *e*Pn **Pn** **05 53 38.7 +2.0**
IVAS Ivanjica 5.98 357 *e*Pn **Pn** **05 53 38.2 0.0**
IVAS *e*Sn **Sn** **05 54 46.0 -0.4**
RUDO Rudo 6.08 352 *e*Pn Pn 05 53 32.6 -7.0
MPEP Malo Peshtene 6.22 22 *i* P **Pn** **05 53 44.0 +2.5**
GRUS Gruza 6.28 1 *e*Pn **Pn** **05 53 42.8 +0.5**
GRUS *e*Sn **Sn** **05 54 52.9 -0.9**
BBLS Lazi&#263i 6.32 352 *e*Pn **Pn** **05 53 44.6 +1.7**
BBLS Lazi&#263i 6.32 352 *e*Pn **Pn** **05 53 44.2 +1.3**
BBLS *e*Sn **Sn** **05 54 54.5 -0.4**
ZAGS Zajecar 6.32 11 *e*Pn **Pn** **05 53 43.3 +0.4**
VALD Valchedram 6.45 19 *i* P Pb 05 53 55.9 -6.2
DIVS Divibare 6.50 356 *e*Pn **Pn** **05 53 45.6 +0.1**
DIVS *e*Sn **Sn** **05 54 58.6 -0.9**
HAPS Han Pijesak,Bl 6.59 350 *e*Pn **Pn** **05 53 47.5 +0.9**
HAPS Han Pijesak,Bl 6.59 350 *e*Pn **Pn** **05 53 46.8 +0.1**
TRUS Trudelj 6.62 359 *e*Pn **Pn** **05 53 47.4 +0.5**
INTR Introdacqua 6.78 313 Pn **Pn** **05 53 50.1 +0.9**
KUBS Kucevo 6.85 6 *e*Pn **Pn** **05 53 50.0 -0.1**
TEKS Tekeris 6.99 354 *e*Pn **Pn** **05 53 50.9 -1.1**
TEKS Tekeris 6.99 354 *e*Pn **Pn** **05 53 51.4 -0.6**
MDVR Moldovita 7.22 6 ⇑P **Pn** **05 53 55.9 +0.7**
MDVR Moldovita 7.22 6 *e*Pn **Pn** **05 53 55.9 +0.7**
HERR Herculane 7.40 10 ⇑P **Pn** **05 53 59.2 +1.5**
A050A Klekovaca 7.53 337 *e*Pn **Pn** **05 54 00.6 +1.1**
FRGS Fruska Gora 7.57 356 *e*Pn **Pn** **05 53 57.7 -2.3**
FRGS Fruska Gora 7.57 356 *e*Pn **Pn** **05 54 00.3 +0.3**
BLY Banja Luka 7.59 341 *e*Pn **Pn** **05 54 01.0 +0.7**
NRCA Norcia 7.75 315 Pn **Pn** **05 54 04.8 +2.2**
FDMO Fiordimonte 7.90 316 Pn **Pn** **05 54 04.9 +0.4**
A051A Mrakovica 7.91 341 *e*Pn **Pn** **05 54 04.0 -0.7**
GZR Gura Zlata 7.95 11 ⇑P **Pn** **05 54 07.1 +1.8**
BZS Buzias 8.04 5 *e*Pn **Pn** **05 54 07.8 +1.3**
VOIR 8.51 22 ⇑P **Pn** **05 54 15.1 +2.2**
SIRR Siria 8.69 5 ⇑P **Pn** **05 54 16.9 +1.5**
MLR Muntele Rosu 8.84 25 Pn **Pn** **05 54 18.5 +1.0**
MLR Muntele Rosu 8.84 25 P **Pn** **05 54 19.3 +1.8**
comp=N,0.6nm,0.3s,baz=147,slow=6.5,SNR=18
comp=N,9.5nm,0.8s
MLR Muntele Rosu 8.84 25 ⇓P **Pn** **05 54 21.6 +4.1**
CRES Cresnjevec Ost 9.07 337 *e*Pn **Pn** **05 54 20.5 -0.1**
CEY Cerknica 9.35 332 *e*Pn **Pn** **05 54 24.7 +0.3**
PLOR Plostina 9.39 27 ⇑P **Pn** **05 54 28.5 +3.4**
VRI Vrincioaia 9.44 27 ⇑P **Pn** **05 54 29.6 +4.0**
SOKA Soboth 9.96 337 *e*Pn **Pn** **05 54 33.1 +0.2**
comp=N,1.7nm,0.4s
OBKA Obir 9.97 335 *e*Pn **Pn** **05 54 33.5 +0.6**
comp=N,1.4nm,0.4s
OBKA Obir 9.97 335 *e*Pn **Pn** **05 54 35.4 +2.4**
BRTR Keskin Array B 10.41 74 P **Pn** **05 54 40.1 +1.0**
comp=N,0.1nm,0.3s,baz=262,slow=13,SNR=4.1
BRTR LR LR 05 59 40.6
comp=N,62nm,18.1s,baz=205,slow=43
comp=N,0.3nm,0.6s
BURAR Bucovina Array 10.56 17 Pn **Pn** **05 54 43.4 +2.3**
KBA Koelnbreinsper 10.88 333 *e*Pn **Pn** **05 54 45.8 +0.3**
comp=N,0.8nm,0.3s
VYHS Vyhne 10.96 354 *e*PN **Pn** **05 54 48.9 +2.4**
MODS Modra-Piesok 11.03 348 *e*PN **Pn** **05 54 48.4 +0.9**
MOA Molln 11.24 338 *e*Pn **Pn** **05 54 50.7 +0.3**
comp=N,1.5nm,0.4s
BIOA Bad Ischl, Aus 11.30 335 *e*Pn **Pn** **05 54 52.2 +1.0**
comp=N,0.8nm,0.3s
LESA Schwarzleotal 11.42 332 *e*Pn **Pn** **05 54 54.0 +1.2**
comp=N,3.0nm,0.5s
FUORN Ofenpass-Fuorn 11.83 323 Pn **Pn** **05 55 00.7 +2.1**
VRAC Vranov 12.05 347 LR LR 06 01 01.6
comp=N,44nm,20.5s,baz=195,slow=44
DAVOX Davos/Dischmat 12.13 323 P Pn 05 55 07.6 +5.0
comp=N,0.2nm,0.3s,baz=123,slow=4.1,SNR=1.8
DAVOX S **Sn** **05 57 12.2 -5.4**
comp=N,1.5nm,0.6s,baz=169,slow=16,SNR=1.8
comp=N,1.1nm,0.6s
TUE Stuetta 12.18 320 Pn **Pn** **05 55 05.0 +1.7**
GERES GERESS Array B 12.30 338 P **Pn** **05 55 05.2 +0.2**
comp=N,0.4nm,0.3s,baz=159,slow=17,SNR=2.2
SENIN Lac Senin/Sane 13.20 316 Pn **Pn** **05 55 19.6 +2.4**
KIEV Kiev 14.46 22 Pn **Pn** **05 55 34.4 +0.2**
AKASG Malin Array Be 14.47 22 Pn **Pn** **05 55 34.3 0.0**
AKASG Malin Array Be 14.47 22 P **Pn** **05 55 34.9 +0.6**
comp=N,0.7nm,0.3s,baz=212,slow=9.1,SNR=4.2
comp=N,0.4nm,0.4s
AKBB Malin Array Si 14.47 22 Pn **Pn** **05 55 34.4 +0.1**
SUW Suwalki 16.51 5 Pn **Pn** **05 56 02.0 +1.0**
SUW IAmb IAmb 05 56 02.5
comp=Z,24nm,0.9s
KVAR Kislovodsk Arr 17.87 62 P **P** **05 56 19.0 +0.1**
baz=280,slow=23
comp=Z,1.6nm,0.3s
KBZ Khabaz 17.96 63 P **P** **05 56 19.7 -0.1**
comp=Z,0.1nm,0.3s,baz=100,slow=21,SNR=1.1
comp=Z,0.4nm,0.6s
PABE Paberze 18.05 6 **Pn** **05 56 20.0 -0.3**
ESDC Sonseca Array 19.29 284 P **Pn** **05 56 36.1 +0.5**
comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=5.9
comp=Z,1.6nm,0.9s
HFS Hagfors 22.98 351 P **P** **05 57 14.2 +0.2**
comp=Z,3.2nm,0.5s,baz=147,slow=12,SNR=5.2
comp=Z,3.2nm,0.5s
NC602 NORSAR Array S 23.85 349 P **P** **05 57 23.2 +0.6**
NC602 IAmb IAmb 05 57 46.9
comp=Z,17nm,1.3s
EKA Eskdalemuir Ar 23.93 325 P **P** **05 57 24.8 +1.2**
comp=Z,2.2nm,0.7s,baz=129,slow=9.0,SNR=4.5
comp=Z,2.2nm,0.7s
FINES FINESS Array B 24.11 6 P **P** **05 57 25.3 +0.3**
FINES FINESS Array B 24.11 6 P **P** **05 57 25.0 -0.1**
comp=Z,2.5nm,0.6s,baz=176,slow=10,SNR=18
FINES LR LR 06 08 16.8
comp=Z,37nm,18.4s,baz=68,slow=40
comp=Z,2.5nm,0.6s
FIA1 FINESS Array S 24.11 6 P **P** **05 57 25.2 +0.1**
NC405 NORSAR Array S 24.19 349 P **P** **05 57 27.3 +1.5**
NC405 IAmb IAmb 05 57 32.7
comp=Z,17nm,1.3s
NB2 NORSAR Subarra 24.19 349 P **P** **05 57 26.4 +0.4**
comp=Z,1.0nm,0.7s,baz=162,slow=9.3
NOA NORSAR Array B 24.19 349 P **P** **05 57 26.3 +0.4**
comp=Z,0.7nm,0.6s,baz=162,slow=8.5,SNR=5.4
NOA LR LR 06 08 44.3
comp=Z,15nm,19.1s,baz=170,slow=41
comp=Z,0.7nm,0.6s
NC303 NORSAR Array S 24.35 349 P **P** **05 57 27.6 +0.3**
NC303 IAmb IAmb 05 57 39.1
comp=Z,14nm,1.1s
TORD Torodi Ar. Bea 29.63 220 P **P** **05 58 16.8 +1.7**
comp=Z,1.0nm,0.7s,baz=28,slow=10,SNR=9.3
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 30.52 55 P **P** **05 58 22.0 -0.7**
PMOZ Porto Moniz, M 31.11 273 P **P** **05 58 27.8 -0.4**
ARTI Arti 31.34 41 P **P** **05 58 30.1 +0.2**
ARTI IAmb IAmb 05 58 50.4
comp=Z,8.6nm,1.4s
LVZ Lovozero 31.35 10 P **P** **05 58 30.8 +0.9**
ARCES ARCESS Array B 32.10 3 P **P** **05 58 36.6 +0.2**
comp=Z,3.6nm,0.9s,baz=190,slow=11,SNR=13
comp=Z,3.6nm,0.9s
BVAR Borovoye Array 37.44 49 P **P** **05 59 21.5 -1.2**
comp=Z,0.7nm,0.5s,baz=265,slow=7.2,SNR=6.8
comp=Z,0.7nm,0.5s
KK31 Karatay Array 37.97 66 P **P** **05 59 27.4 0.0**
KK31 IAmb IAmb 05 59 43.0
comp=Z,3.5nm,1.2s
KKAR Karatay Array 37.97 66 P **P** **05 59 27.8 +0.4**
KURBB Kurchatov Arra 42.52 53 P **P** **06 00 04.0 -0.9**
comp=Z,0.9nm,0.6s,baz=281,slow=8.9,SNR=9.4
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 45.55 58 P **P** **06 00 29.2 -0.1**
MKAR Makanchi Array 45.55 58 P **P** **06 00 29.4 0.0**
MKAR Makanchi Array 45.55 58 P **P** **06 00 28.9 -0.5**
comp=Z,0.8nm,0.4s,baz=274,slow=8.1,SNR=12
comp=Z,0.8nm,0.4s
SONM Songino Array 60.77 50 P **P** **06 02 21.6 +0.1**
comp=Z,0.2nm,0.4s,baz=285,slow=7.3,SNR=3.0
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 69.91 82 P **P** **06 03 19.1 -1.9**
comp=Z,0.7nm,0.4s,baz=312,slow=7.8,SNR=4.4
comp=Z,0.7nm,0.4s
SEY Seymchan 72.65 21 P **P** **06 03 36.7 -0.2**
comp=Z,1.4nm,0.2s,baz=17,slow=20,SNR=4.0
comp=Z,1.4nm,0.2s
YKA Yellowknife Ar 73.95 340 P **P** **06 03 44.3 -0.2**
comp=Z,0.3nm,0.7s,baz=46,slow=4.4,SNR=5.6
comp=Z,0.3nm,0.7s
KSRS Korea Array 79.64 51 P **P** **06 04 16.4 -0.7**
comp=Z,0.7nm,0.6s,baz=300,slow=4.7,SNR=4.2
comp=Z,0.7nm,0.6s
MJAR Matsushiro Arr 86.34 46 LR LR 06 45 04.4
comp=Z,141nm,22.0s,baz=216,slow=37
JOW Kunigami 86.71 59 LR LR 06 48 30.6
comp=Z,67nm,20.1s,baz=20,slow=39
CPUP Villa Florida 96.84 242 LR LR 06 49 51.6
comp=Z,29nm,19.1s,baz=66,slow=36

DJA 04 05:56:19.7±0.9, 10°S±9°×11°9E±°, h10km, M4.0/6, mB4.6/1, mb4.7/1, MLv3.6/6, Mw(mB)3.9/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.83**	**49**	P	Pg	05 56 34.6	-1.2
WSI	**Waingapu**	**1.61**	**71**	P	Pn	05 56 47.7	-0.5
WSI				S	Sb	05 57 10.3	+0.4
PLAI	**Plampang**	**1.66**	**325**	P	Pn	05 56 49.5	+0.6
BASI	**Baing, Sumba**	**1.80**	**91**	P	Pn	05 56 50.7	-0.1
TWSI	**Taliwang, Sumb**	**2.34**	**308**	P	Pn	05 56 58.2	-0.1
BSSI	**Bau Bau, Buton**	**4.38**	**23**	P	Pn	05 57 26.1	-0.2
BKSI	**Bulukumba**	**5.02**	**16**	P	Pn	05 57 35.7	+0.5

---

*ASRS **04** 06:00:01.0±1.1, 54°.11N×87°.17E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **04** 06:00:04.1±2.5, 54°.15N×87°.18E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=21.7km s-min=14.2km az=63.0.*

ISC 04 06:00:05.2±3.4, 54°.2N±0°.2×86°.9E±0°.2, h0km, n7, σ1.9 68/9, 2C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**261**	I	I	06 08 00.0	
ZALV	**Zalesovo Beam**	**1.24**	**261**	Pg	**Pb**	**06 00 28.7**	**-0.8**
	5.0nm,0.3s,baz=77,slow=16,SNR=42						
ZALV				Lg	Lg	06 00 48.3	
	1.3nm,0.3s,baz=78,slow=28,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.22**	**239**	Pn	**Pn**	**06 01 39.5**	**+1.2**
	0.1nm,0.3s,baz=54,slow=13,SNR=7.1						
KURBB				Sn	**Sn**	**06 02 51.0**	**+0.9**
	baz=80,slow=38,SNR=1.9						
KURBB				Lg	Lg	06 03 29.6	
	baz=50,slow=31,SNR=2.4						
	0.6nm,0.4s						
MK31	**Makanchi Array**	**7.94**	**203**	⇑Pn	**Pn**	**06 02 02.4**	**+0.6**
	0.1nm,0.3s,baz=26,slow=14,SNR=10.0						
MK31				⇓Lg	Lg	06 02 33.4	
	0.3nm,0.6s,baz=107,slow=34,SNR=4.2						
MKAR	**Makanchi Array**	**7.94**	**203**	Pn	**Pn**	**06 02 02.2**	**+0.3**
	0.1nm,0.3s,baz=26,slow=14,SNR=6.1						
MKAR				Sn	**Sn**	**06 03 33.0**	**+0.7**
	0.1nm,0.3s,baz=27,slow=29,SNR=3.1						
MKAR				Lg	Lg	06 04 18.6	
	0.1nm,0.3s,baz=24,slow=32,SNR=2.4						
	0.2nm,0.3s						
MAKZ	**Makanchi**	**8.00**	**205**	⇓Pn	**Pn**	**06 02 00.3**	**-2.4**
	0.1nm,0.4s						
MAKZ				⇑Lg	Lg	06 02 31.8	
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**9.88**	**270**	Pn	**Pn**	**06 02 30.3**	**+2.0**
	baz=79,slow=10,SNR=1.7						
BVAR				Sn	**Sn**	**06 04 18.0**	**-1.8**
	baz=67,slow=24,SNR=1.9						
	0.5nm,0.3s						

NEIC 04 06:02:10.3±1.0, 36°.161N±0°.010×97°.80W±0°.01, h4km±2km, mb_Lg2.3/20, ML2.6/60, Error ellipse: s-maj=1.5km s-min=1.3km az=217.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.37**	**337**		**Pb**	06 02 18.6	-1.0
CROK				Sg	Sb	06 02 24.3	-1.5
CROK				IAML		06 02 24.6	
	comp=E,502nm,0.2s						
CROK				IAML		06 02 28.8	
	comp=N,512nm,0.3s						
OK029	**Liberty Lake**	**0.46**	**142**		**Pg**	06 02 19.7	+0.5
OK029				Sg	Sg	06 02 26.1	+1.0
OK029				IAML		06 02 26.2	
	comp=N,724nm,0.2s						
OK029				IAML		06 02 26.3	
	comp=N,528nm,0.5s						
ADOK	**Arcadia Dam**	**0.61**	**145**		**Pg**	06 02 22.2	+0.1
BLOK	**Blackwell**	**0.76**	**38**		**Pg**	06 02 25.5	+0.5
BLOK				IAML		06 02 38.8	
	comp=E,421nm,0.2s						
BLOK				IAML		06 02 39.0	
	comp=N,397nm,0.2s						
OK031	**S. Brethren Rd**	**0.81**	**105**		**Pg**	06 02 26.1	+0.4
OK031				IAML		06 02 37.2	
	comp=N,210nm,0.3s						
OK031				IAML		06 02 48.9	
	comp=N,309nm,0.5s						
KAN14	**Manchester OK**	**0.81**	**351**		**Pg**	06 02 26.2	+0.4
KAN14				IAML		06 02 40.6	
	comp=E,218nm,0.1s						
KAN14				IAML		06 02 45.7	
	comp=N,250nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**0.81**	**159**		**Pg**	06 02 25.9	+0.1
OKCSW				IAML		06 02 45.0	
	comp=E,173nm,0.1s						
OK052	**Battle Ridge R**	**0.82**	**101**		**Pg**	06 02 26.5	+0.3
OK052				IAML		06 02 38.7	
	comp=E,206nm,0.1s						
OK038	**West end E0370**	**0.82**	**293**		**Pg**	06 02 26.6	+0.5
KAN17	**Caldwell West**	**0.88**	**2**		**Pg**	06 02 26.9	-0.4
KAN17				IAML		06 02 44.1	
	comp=N,304nm,0.2s						
QUOK	**Quay**	**0.88**	**89**		**Pg**	06 02 27.4	+0.1
QUOK				IAML		06 02 40.4	
	comp=N,182nm,0.2s						
QUOK				IAML		06 02 42.1	
	comp=E,203nm,0.2s						
CSTR	**Hydro, Custer**	**0.89**	**235**	Pg	**Pg**	06 02 26.4	-0.9
KAN13	**South Haven SW**	**0.89**	**17**	Pg	**Pg**	06 02 26.0	-1.4
KAN05	**Bluff City Nor**	**0.95**	**356**		**Pg**	06 02 27.3	-1.2
KAN05				IAML		06 02 42.8	
	comp=E,261nm,0.2s						
KAN05				IAML		06 02 44.0	
	comp=N,218nm,0.2s						
FNO	**Franklin**	**0.96**	**160**		**Pg**	06 02 27.9	-0.8
KAN09	**Caldwell North**	**0.98**	**8**		**Pg**	06 02 28.7	-0.6
KAN01	**Argonia South**	**0.99**	**2**		**Pg**	06 02 29.4	0.0
KAN01				IAML		06 02 44.9	
	comp=E,166nm,0.1s						
KAN01				IAML		06 02 48.4	
	comp=N,131nm,0.1s						
NOKA	**Waynoka**	**1.03**	**298**		**Pg**	06 02 30.3	+0.3
NOKA				IAML		06 02 52.9	
	comp=E,217nm,0.2s						
DEOK	**Depew**	**1.10**	**106**		**Pg**	06 02 31.2	-0.2
DEOK				IAML		06 02 48.3	
	comp=E,170nm,0.2s						
W35A	**Tecumseh**	**1.26**	**143**		**Pg**	06 02 33.5	-0.9
W35A				IAML		06 02 55.2	
	comp=N,131nm,0.4s						
W35A				IAML		06 02 55.5	
	comp=E,112nm,0.3s						
ELIS	**Ellis County**	**1.31**	**266**		**Pn**	06 02 35.3	-0.3
X34A	**Smith Ranch, M**	**1.56**	**181**	Pg	**Pb**	06 02 39.7	-0.1
WMOK	**Wichita Mounta**	**1.63**	**210**		**Pn**	06 02 39.5	-0.3
SMWD	**Samnorwood**	**2.25**	**243**	Pn	**Pn**	06 02 47.3	-1.1
SMWD				IAmb_Lg		06 03 24.8	
	comp=Z,16nm,0.7s						
R32A	**Long Quarter,**	**2.37**	**342**	Pn	**Pn**	06 02 48.1	-2.0
R32A				IAmb_Lg		06 03 25.6	
	comp=Z,6.0nm,0.9s						
WTFS	**Witchita Falls**	**2.45**	**193**	Pn	**Pn**	06 02 51.1	0.0
U38A	**Gravette**	**2.77**	**83**	Pn	**Pn**	06 02 55.3	-0.2
Z35A	**Perchaven, San**	**2.86**	**171**	Pn	**Pn**	06 02 56.8	+0.1
HHAR	**Hobbs**	**3.12**	**87**	Pn	**Pn**	06 02 59.2	-1.2
HHAR				IAmb_Lg		06 03 50.8	
	comp=Z,6.6nm,0.7s						
FW06	**Azle**	**3.19**	**176**	Pn	**Pn**	06 03 00.6	-0.6
DKNS	**Dickens**	**3.58**	**227**	IAmb_Lg		06 04 13.1	
	comp=Z,6.2nm,0.7s						
MIAR	**Mount Ida**	**3.81**	**114**	Pn	**Pn**	06 03 11.3	+1.5
ABTX	**Abilene, Hawle**	**3.84**	**204**	IAmb_Lg		06 04 14.8	
	comp=Z,11nm,1.1s						
SN07	**Snyder 07**	**3.98**	**221**	IAmb_Lg		06 04 24.8	
	comp=Z,7.9nm,0.8s						
X40A	**Basin Creek Fa**	**4.39**	**111**	Pn	**Pn**	06 03 15.9	-1.9
X40A				IAmb_Lg		06 04 32.8	
	comp=Z,9.3nm,0.7s						
WLAR	**White Oak Lake**	**4.57**	**121**	Pn	**Pn**	06 03 19.4	-0.9
FCAR	**Ozark Folk Cen**	**4.61**	**92**	Pn	**Pn**	06 03 19.9	-0.8
JCT	**Junction City**	**5.91**	**197**	IAmb_Lg		06 05 30.0	
	comp=Z,6.0nm,0.8s						
PBMO	**Poplar Bluff**	**5.97**	**82**	IAmb_Lg		06 05 23.9	
	comp=Z,9.1nm,0.7s						

*SOME **04** 06:12:22.5,39.°13N×72.°82E,h5km*
*MOS **04** 06:12:24.1±1.0,38.°43N×73.°95E,h131km,mb4.4/25,Error ellipse: s-maj=6.5km s-min=3.6km az=93.5*
*NNC **04** 06:12:24.9±2.8,38.°53N×73.°71E,h21km±17km,mb4.9, mpv4.2,Error ellipse: s-maj=19.9km s-min=15.4km az=145.0*
*BJI **04** 06:12:24.5,38.°43N×74.°04E,h142km,mB4.8/6,mb4.2/17*
*NEIC **04** 06:12:25.8±2.1,38.°46N±0.°06×73.°96E±0.°08,h125km±3km, mb4.5/33,Error ellipse: s-maj=9.8km s-min=8.3km az=119.0*
*IDC **04** 06:12:26.5±0.6,38.°42N×74.°07E,h140km±4km,mb3.9/22, mbtmp4.4/26,MS2.9/4,Error ellipse: s-maj=10.4km s-min=10.0km az=43.0*
ISC 04 06:12:25.0±0.3,38.°37N±0.°03×73.°94E±0.°04,h129km±2km, h129km:pP-P,n293,σ1°70/333,mb4.4/86,21C-20D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.95**	**54**	P	Pn	06 12 53.2	-5.2
KSH				S	Sn	06 13 13.1	-11
KSH				smax	smax		
	comp=N,23μm,0.6s						
KSH				smax	smax		
	comp=E,15μm,0.5s						
DRK	**Karamyk**	**2.00**	**304**		**Pn**	**06 12 59.7**	**+0.6**
DRK	**Karamyk**	**2.00**	**304**	PN	**Pn**	**06 12 59.1**	**0.0**
DRK				S	**Sn**	**06 13 25.3**	**0.0**
OHH	**Osh**	**2.33**	**338**	PN	**Pn**	**06 13 03.2**	**+0.2**
OHH				S	**Sn**	**06 13 31.2**	**-0.9**
BTK	**Batken**	**2.95**	**306**		**Pn**	**06 13 11.8**	**+0.9**
BTK	**Batken**	**2.95**	**306**	PN	**Pn**	**06 13 11.8**	**+0.9**
ARSB	**Arslanbob**	**3.04**	**346**		**Pn**	**06 13 12.0**	**-0.1**
ARSB	**Arslanbob**	**3.04**	**346**	PN	**Pn**	**06 13 12.0**	**-0.1**
ARLS	**Aral**	**3.50**	**5**	PN	**Pn**	**06 13 17.9**	**-0.2**
ARK	**Arkit**	**3.74**	**337**	PN	**Pn**	**06 13 21.2**	**-0.1**
AML	**Almayashu**	**3.76**	**357**	P	**Pn**	**06 13 21.9**	**0.0**
	SNR=334						
CHGR	**Chuyangaron**	**3.76**	**276**		**Pn**	**06 13 21.0**	**-0.6**
CHGR	**Chuyangaron**	**3.76**	**276**	PN	**Pn**	**06 13 21.0**	**-0.6**
TRKS	**Terek-Say**	**3.82**	**327**	PN	**Pn**	**06 13 21.1**	**-1.3**
UCH	**Uchtor**	**3.87**	**6**	P	**Pn**	**06 13 23.7**	**+0.3**
	SNR=22						
SIMJ	**Simiganj**	**3.88**	**276**		**Pn**	**06 13 22.5**	**-0.7**
ULHL	**Ulahol**	**4.25**	**24**	P	**Pn**	**06 13 27.9**	**-0.2**
	SNR=56						
AAK	**Ala-Archa**	**4.28**	**5**		**Pn**	**06 13 28.6**	**0.0**
AAK	**Ala-Archa**	**4.28**	**5**	P	**Pn**	**06 13 28.8**	**+0.3**
	40nm,0.5s,baz=188,slow=8.4,SNR=42						
AAK				S	**Sn**	**06 14 16.8**	**-1.0**
	277nm,0.7s,baz=308,slow=22,SNR=22						
AAK				LR	LR	06 14 34.8	
	comp=Z,95nm,20.5s,baz=162,slow=30						
AAK	**Ala-Archa**	**4.28**	**5**	P	**Pn**	**06 13 28.9**	**+0.4**
	SNR=51						
EKS2	**Erkin-Say**	**4.28**	**358**	P	**Pn**	**06 13 29.0**	**+0.5**
	SNR=44						
SRNI	**Srinagar**	**4.33**	**170**	*e*S	**Sn**	**06 14 18.5**	**-0.3**
KBK	**Karagaybulak**	**4.35**	**10**	P	**Pn**	**06 13 29.9**	**+0.5**
	SNR=62						
BOOM	**Boomskoye usch**	**4.38**	**20**		**Pn**	**06 13 30.1**	**+0.2**
BOOM	**Boomskoye usch**	**4.38**	**20**	PN	**Pn**	**06 13 30.1**	**+0.2**
MRKS	**Merke**	**4.40**	**353**	*e*P	**Pn**	**06 13 29.6**	**-0.4**
	214nm,0.5s						
MRKS				*e*S	**Sn**	**06 14 18.2**	**-2.4**
	2μm,0.5s						
FRU1	**Bishkek**	**4.46**	**7**	PN	**Pn**	**06 13 29.8**	**-1.0**
TARG	**Taragay, Kyrgy**	**4.47**	**40**		**Pn**	**06 13 30.9**	**-0.4**
TARG	**Taragay, Kyrgy**	**4.47**	**40**	PN	**Pn**	**06 13 30.9**	**-0.4**
KDJ	**Kajisay**	**4.50**	**32**	Pn	**Pn**	**06 13 31.5**	**+0.1**
KDJ	**Kajisay**	**4.50**	**32**	PN	**Pn**	**06 13 31.5**	**+0.1**
CHMS	**Chumysh**	**4.66**	**7**	P	**Pn**	**06 13 34.1**	**+0.6**
	SNR=7.3						
CHMS	**Chumysh**	**4.66**	**7**	⇓Pn	**Pn**	**06 13 33.3**	**-0.2**
	13nm,0.4s						
CHMS				⇓Sn	**Sn**	**06 14 26.1**	**-0.7**
	285nm,0.9s						
CHMS				⇑Lg	Lg	06 14 48.0	
	234nm,0.7s						
CHMS	**Chumysh**	**4.66**	**7**	PN	**Pn**	**06 13 33.3**	**-0.2**
CHMS				SN	**Sn**	**06 14 26.9**	**+0.2**
TKM2	**Tokmak 2**	**4.71**	**15**	P	**Pn**	**06 13 34.6**	**+0.3**
	SNR=34						
TKM2	**Tokmak 2**	**4.71**	**15**	⇓Pn	**Pn**	**06 13 34.4**	**+0.1**
	10nm,0.3s						
TKM2				⇑Sn	**Sn**	**06 14 26.8**	**-1.4**
	241nm,0.6s						
TKM2				⇑Lg	Lg	06 14 48.7	
	184nm,0.8s						
TKM2	**Tokmak 2**	**4.71**	**15**	PN	**Pn**	**06 13 34.4**	**+0.1**
TKM2				SN	**Sn**	**06 14 26.9**	**-1.4**
NIL	**Nilore**	**4.75**	**187**	Pn	**Pn**	**06 13 36.6**	**+1.9**
NIL	**Nilore**	**4.75**	**187**	PN	**Pn**	**06 13 36.6**	**+1.9**
IUG	**Iuzhnay**	**4.81**	**323**	*e*PN	**Pn**	**06 13 34.6**	**-0.9**
WUS	**Wushi**	**4.95**	**54**	Pn	**Pn**	**06 13 37.8**	**+0.4**
PRZ	**Przheval'sk**	**5.33**	**38**	Pn	**Pn**	**06 13 41.7**	**-0.9**
PRZ	**Przheval'sk**	**5.33**	**38**	PN	**Pn**	**06 13 41.7**	**-0.9**
MDOK	**Medeo**	**5.33**	**25**	⇓Pn	**Pn**	**06 13 42.6**	**0.0**
	10nm,0.6s						
MDOK				⇓Lg	Lg	06 15 12.4	
	74nm,0.6s						
MDOK	**Medeo**	**5.33**	**25**	PN	**Pn**	**06 13 42.6**	**0.0**
KNDC	**Almaty**	**5.36**	**24**	⇓Pn	**Pn**	**06 13 44.8**	**+2.0**
	40nm,0.6s						
KNDC				⇑Lg	Lg	06 15 14.0	
	563nm,0.7s						
KNDC	**Almaty**	**5.36**	**24**	PN	**Pn**	**06 13 44.8**	**+2.0**
KK31	**Karatay Array**	**5.39**	**332**	Pn	**Pn**	**06 13 43.1**	**-0.2**
KK31	**Karatay Array**	**5.39**	**332**	⇓Pn	**Pn**	**06 13 43.1**	**-0.2**
	69nm,0.4s,baz=140,slow=13,SNR=875						
KK31				⇑Sn	**Sn**	**06 14 41.0**	**-3.3**
	75nm,0.3s,baz=141,slow=24,SNR=11						
KK31	**Karatay Array**	**5.39**	**332**	PN	**Pn**	**06 13 43.6**	**+0.3**
KKAR	**Karatay Array**	**5.39**	**332**		**Pn**	**06 13 43.1**	**-0.2**
KKAR	**Karatay Array**	**5.39**	**332**	PN	**Pn**	**06 13 43.1**	**-0.2**
KBL	**Kabul**	**5.50**	**227**	Pn	**Pn**	**06 13 45.8**	**+0.9**
KBL	**Kabul**	**5.50**	**227**	PN	**Pn**	**06 13 45.8**	**+0.9**
BRLS	**Borolday**	**5.60**	**327**	*e*PN	**Pn**	**06 13 42.4**	**-3.6**
BRLS	**Borolday**	**5.60**	**327**	*e*P	**Pn**	**06 13 43.1**	**-2.9**
	79nm,0.5s						
BRLS				*e*S	**Sn**	**06 14 41.3**	**-7.9**
	149nm,0.4s						
JMU	**Jammu**	**5.70**	**172**	*e*P	Pn	06 13 43.1	-4.3
JMU				*e*S	**Sn**	**06 14 47.5**	**-4.2**
JMU				IAML		06 14 55.3	
	comp=E,529nm,0.5s						
JMU				IAML		06 14 57.6	
	comp=N,426nm,0.3s						
THN	**Thein Dam**	**6.10**	**166**	*e*P	**Pn**	**06 13 52.0**	**-0.9**
THN				*e*S	**Sn**	**06 14 57.5**	**-3.9**
THN				IAML		06 15 01.6	
	comp=N,643nm,0.4s						
THN				IAML		06 15 03.0	
	comp=E,557nm,0.4s						
KPKS	**Kokpek**	**6.23**	**34**	*e*PN	**Pn**	**06 13 53.3**	**-1.2**
SHLS	**Shalkode**	**6.36**	**40**	*e*PN	**Pn**	**06 13 58.2**	**+1.9**
DHRM	**DHARAMSHALA**	**6.41**	**162**	*e*P	**Pn**	**06 13 55.8**	**-1.4**
DHRM				*e*S	**Sn**	**06 15 03.3**	**-5.9**
DHRM				IAML		06 15 08.8	
	comp=N,502nm,0.3s						
DHRM				IAML		06 15 09.0	
	comp=E,696nm,0.5s						
PDGK	**Podgornoye**	**6.50**	**39**	⇑Pn	**Pn**	**06 13 57.4**	**-0.8**
	comp=E,8.6nm,0.8s						
PDGK				⇑Lg	Lg	06 15 54.4	
	comp=E,284nm,1.1s						
PDGK	**Podgornoye**	**6.50**	**39**	PN	**Pn**	**06 13 57.4**	**-0.8**
BTLS	**Baital**	**6.66**	**1**	*e*PN	**Pn**	**06 13 59.5**	**-0.8**
HNLY	**HANLEY**	**6.93**	**142**	*e*P	**Pn**	**06 14 03.0**	**-1.5**
HNLY				*e*S	Sn	06 15 13.5	-8.6
BHK	**Bhakra**	**7.23**	**163**	*e*P	**Pn**	**06 14 05.6**	**-2.5**
BHK				*e*S	**Sn**	**06 15 22.2**	**-6.6**
BHK				IAML		06 15 30.4	
	comp=E,538nm,0.5s						
BHK				IAML		06 15 30.8	
	comp=N,496nm,0.5s						
KLP	**Kalpa**	**7.69**	**151**	*e*P	**Pn**	**06 14 12.4**	**-2.1**
KLP				*e*S	Sn	06 15 31.4	-8.8
KLP				*e*S		06 15 31.6	
KLP				IAML		06 15 38.3	
	comp=N,540nm,0.4s						
KLP				IAML		06 15 40.0	
	comp=E,445nm,0.6s						
SMLA	**Simla**	**7.70**	**159**	*e*P	**Pn**	**06 14 12.2**	**-2.2**
SMLA				*e*S	Sn	06 15 30.7	-9.3
SMLA				IAML		06 15 40.2	
	comp=E,662nm,0.2s						
SMLA				IAML		06 15 40.2	
	comp=N,590nm,0.4s						
SRGN	**SRI GANGA NAGA**	**8.43**	**180**	*e*P	Pn	06 14 20.6	-3.6
SRGN				*e*S	**Sn**	**06 15 52.8**	**-5.0**
DDI	**Dehra Dun**	**8.72**	**156**	*e*P	**Pn**	**06 14 25.8**	**-2.4**
DDI				*e*S	Sn	06 15 57.0	-7.9
JOSI	**Joshimath**	**9.07**	**148**	*e*P	**Pn**	**06 14 30.9**	**-2.2**
JOSI				*e*S	Sn	06 16 03.0	-11
OTUK	**Ortayu**	**9.94**	**354**	⇑P	**Pn**	**06 14 42.1**	**-2.2**
	comp=N,47nm,0.9s						
OTUK	**Ortayu**	**9.94**	**354**	P	**Pn**	**06 14 42.1**	**-2.2**
PTH	**Pithoragarh**	**10.22**	**148**	*e*P	Pn	06 14 44.5	-4.0
PTH				*e*S	Sn	06 16 28.8	-13
HRA	**Herat**	**10.23**	**251**	Pn	**Pn**	**06 14 48.8**	**+0.2**
MAKZ	**Makanchi**	**10.30**	**32**	Pn	**Pn**	**06 14 48.1**	**-1.1**
MAKZ	**Makanchi**	**10.30**	**32**	⇑P	**Pn**	**06 14 47.3**	**-1.9**
	comp=N,5.3nm,0.6s						
MAKZ	**Makanchi**	**10.30**	**32**	P	**Pn**	**06 14 48.1**	**-1.1**
LGTI	**Lohaghat**	**10.32**	**148**	*e*P	Pn	06 14 44.5	-5.2
LGTI				*e*S	Sn	06 16 30.9	-13
MK31	**Makanchi Array**	**10.42**	**33**	Pn	**Pn**	**06 14 49.6**	**-1.3**
MK31	**Makanchi Array**	**10.42**	**33**	⇑P	**Pn**	**06 14 49.5**	**-1.3**
	comp=N,8.4nm,0.6s,baz=211,slow=12,SNR=88						
MK31	**Makanchi Array**	**10.42**	**33**	P	**Pn**	**06 14 49.6**	**-1.3**
MKAR	**Makanchi Array**	**10.42**	**33**	P	**Pn**	**06 14 49.8**	**-1.1**
	comp=N,8.7nm,0.8s,baz=201,slow=13,SNR=100						
KUDL	**Kundal**	**10.42**	**167**	*e*P	**Pn**	**06 14 50.6**	**-0.3**
KUDL				*e*S	Sn	06 16 37.0	-8.9
SONA	**Sohna**	**10.43**	**165**	*e*P	**Pn**	**06 14 48.6**	**-2.5**
SONA				*e*S	Sn	06 16 35.0	-11
BRZS	**Berezniki**	**11.64**	**356**	*e*P	**Pn**	**06 15 03.6**	**-3.4**
JASL	**Jaisalmer**	**11.70**	**193**	*e*P	Pn	06 15 05.0	-3.0
JASL				*e*S	Sn	06 17 04.6	-12
WMQ	**Urumqi**	**11.71**	**58**	*e*P	**P**	**06 15 13.4**	**-2.6**
WMQ				S	**Sn**	**06 17 13.0**	**-4.1**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
AJM	**Ajmer**	**11.88**	**177**	*e*P	Pn	06 15 05.0	-5.4
AJM				*e*S	Sn	06 17 09.8	-11
KURBB	**Kurchatov Arra**	**12.67**	**13**	P	**Pn**	**06 15 17.4**	**-3.1**
	comp=Z,7.5nm,0.8s,baz=202,slow=12,SNR=43						
KURBB				S	**Sn**	**06 17 44.5**	**+4.4**
	comp=Z,2.6nm,0.9s,baz=195,slow=10,SNR=4.2						
KURBB	**Kurchatov Arra**	**12.67**	**13**	⇓P	**P**	**06 15 24.1**	**-2.5**
	comp=Z,48nm,0.6s						
KURK	**Kurchatov**	**12.78**	**14**	Pn	**Pn**	**06 15 18.7**	**-3.1**
KURK	**Kurchatov**	**12.78**	**14**	⇓P	**Pn**	**06 15 24.4**	**+2.6**
	comp=Z,36nm,0.5s						
KURK	**Kurchatov**	**12.78**	**14**	P	**Pn**	**06 15 18.7**	**-3.1**
JHNI	**Jhansi**	**13.45**	**162**	*e*P	**Pn**	**06 15 29.5**	**-1.2**
JHNI				*e*S	Sn	06 17 46.6	-13
GUNA	**GUNA**	**13.98**	**167**	*e*P	Pn	06 15 34.4	-3.2
GUNA				*e*S	Sn	06 17 57.9	-14
ALBI	**Allahabad**	**14.63**	**151**	*e*P	**Pn**	**06 15 45.9**	**+0.1**
ALBI				*e*S	Sn	06 18 13.2	-14
AB31	**Akbulak array**	**14.82**	**322**	⇑P	**Pn**	**06 15 47.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=135,slow=11,SNR=164						
AB31				⇓S	**Sn**	**06 18 27.9**	**-3.9**
	comp=Z,6.4nm,0.6s,baz=137,slow=21,SNR=12						
AB31	**Akbulak array**	**14.82**	**322**	P	**Pn**	**06 15 47.5**	**-0.4**
AB31				S	**Sn**	**06 18 27.9**	**-3.9**
ABKAR	**Akbulak array**	**14.82**	**322**	Pn	**Pn**	**06 15 46.0**	**-1.9**
BVA0	**Borovoye Array**	**14.86**	**352**	P	**P**	**06 15 52.2**	**+1.3**
	comp=Z,50nm,0.7s,baz=164,slow=12,SNR=315						
BVA0	**Borovoye Array**	**14.86**	**352**	P	**P**	**06 15 52.2**	**+1.3**
BVAR	**Borovoye Array**	**14.86**	**352**	P	**Pn**	**06 15 46.3**	**-2.1**
	comp=Z,10nm,0.8s,baz=163,slow=12,SNR=42						
BVAR				S	**S**	**06 18 37.9**	**-3.9**
	comp=Z,1.7nm,0.6s,baz=175,slow=25,SNR=1.4						
BRVK	**Borovoye**	**14.90**	**351**	Pn	**Pn**	**06 15 47.4**	**-1.5**
BRVK	**Borovoye**	**14.90**	**351**	⇑P	**P**	**06 15 52.2**	**+0.9**
	comp=Z,83nm,0.8s						
BRVK	**Borovoye**	**14.90**	**351**	P	**Pn**	**06 15 47.4**	**-1.5**
BHPL	**Bhopal**	**15.38**	**168**	*e*P	**Pn**	**06 15 51.4**	**-3.8**
BHPL				*e*S	Sn	06 18 31.2	-14
BHPL				IAML		06 18 38.4	
	comp=E,107nm,0.5s						
BHPL				IAML		06 18 41.4	
	comp=N,102nm,0.7s						
AKTO	**Aktyubinsk**	**16.54**	**322**	P	**Pn**	**06 16 08.6**	**-0.6**
	comp=N,34nm,0.8s,baz=121,slow=9.2,SNR=66						
AKTO				S	**Sn**	**06 19 02.7**	**-10**
	comp=N,10nm,0.8s,baz=6.4,slow=15,SNR=5.2						
AKTO	**Aktyubinsk**	**16.54**	**322**	⇑P	**P**	**06 16 10.5**	**+1.1**
	comp=N,20nm,0.8s						
AKTO				⇑S	**Sn**	**06 19 10.6**	**-2.4**
	comp=N,9.3nm,1.1s						
AKTO	**Aktyubinsk**	**16.54**	**322**	P	**P**	**06 16 16.5**	**+7.1**
AKTO				S	**Sn**	**06 19 10.6**	**-2.4**
GOMU	**GeErMu**	**16.75**	**91**	P	**Pn**	**06 16 12.3**	**0.0**
GOMU				pP	P	06 16 17.3	+4.9
GOMU				pmax	pmax		
	comp=N,3.0nm,0.5s						
ZAA0	**Zalesovo Array**	**17.27**	**22**		**P**	**06 16 16.2**	**-1.2**
ZAA0				IAmb	IAmb	06 16 17.4	
	comp=Z,31nm,0.8s						
ZALV	**Zalesovo Beam**	**17.27**	**22**		**P**	**06 16 16.1**	**-1.3**
ZALV	**Zalesovo Beam**	**17.27**	**22**	P	**P**	**06 16 16.6**	**-0.9**
	comp=Z,30nm,0.6s,baz=214,slow=11,SNR=160						
BLSP	**Bilaspur**	**17.66**	**154**	*e*S	S	06 19 23.7	-15
BOK	**Bokaro**	**17.75**	**142**	*e*P	**P**	**06 16 24.2**	**+1.2**
BOK				*e*S	S	06 19 25.1	-16
AKL	**Akola**	**17.81**	**171**	*e*P	**Pn**	**06 16 26.8**	**+2.0**
AKL				*e*S	S	06 19 24.8	-17
WSAR	**Wadi Sarin**	**19.97**	**225**	P	**P**	**06 16 48.6**	**+1.4**
	comp=Z,20nm,0.5s,baz=76,slow=7.9,SNR=24						
	comp=Z,20nm,0.5s						
GTA	**Gaotai**	**20.15**	**79**	*e*P	**P**	**06 16 49.7**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKT	**Akhty**	**20.31**	**287**	*e*P	**P**	**06 16 49.8**	**-1.1**
AKT				*e**PP	**pP**	**06 17 13.4**	**-2.0**
AKT				*e**SP	**sP**	**06 17 29.9**	**-2.4**
AKT				*e*S	**S**	**06 20 30.6**	**-1.0**
AKT				pmax	pmax		
	comp=Z,11nm,0.8s						
SVE	**Sverdlovsk**	**20.46**	**339**	*e*P	**P**	**06 16 52.8**	**+0.7**
SVE				pmax	pmax		
	comp=Z,19nm,0.8s						
ARTI	**Arti**	**20.79**	**335**	P	**P**	**06 16 55.9**	**+0.3**
ARTI				IAmb	IAmb	06 16 57.0	
	comp=Z,30nm,0.8s						
ARTI	**Arti**	**20.79**	**335**	P	**P**	**06 16 55.9**	**+0.3**
	comp=Z,33nm,0.9s,baz=154,slow=5.7,SNR=34						
	comp=Z,33nm,0.9s						
ARTI	**Arti**	**20.79**	**335**	*c i*P	**P**	**06 16 55.8**	**+0.2**
ARTI						06 17 26.5	
ARTI				S	**S**	**06 20 40.9**	**+0.6**
ARTI				pmax	pmax		
	comp=Z,38nm,0.9s						
BELG	**Belogornoye**	**23.03**	**316**	*d i*P	**P**	**06 17 18.9**	**+0.3**
BELG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MOY	**Mondy**	**23.12**	**46**	*e*P	**P**	**06 17 21.0**	**+1.3**
MOY				pmax	pmax		
	comp=Z,14nm,2.7s						
KBZ	**Khabaz**	**23.93**	**293**	P	**P**	**06 17 28.4**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=112,slow=8.2,SNR=7.2						
KBZ				sP	**sP**	**06 18 13.1**	**+2.1**
	comp=Z,5.2nm,0.7s,baz=62,slow=6.1,SNR=6.2						
	comp=Z,2.8nm,0.9s						
KBZ	**Khabaz**	**23.93**	**293**	⇓*e*P	**P**	**06 17 28.8**	**+1.9**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAK	**Zakamensk**	**24.00**	**50**	*e*P	**P**	**06 17 28.0**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KIV	**Kislovodsk**	**24.09**	**293**	*e*P	**P**	**06 17 31.1**	**+2.5**
KIV				*e*S	**S**	**06

NRIK pmax pmax
comp=Z,9.0nm,1.1s
AK09 Malin Array Si 33.62 306 P **P 06 18 52.6 -0.3**
AK08 Malin Array Si 33.64 306 P **P 06 18 52.7 -0.3**
AK10 Malin Array Si 33.64 306 P **P 06 18 52.7 -0.4**
AKASG Malin Array Be 33.66 306 P **P 06 18 53.9 +0.6**
comp=Z,1.1nm,0.4s,baz=78,slow=8.3,SNR=10
AKASG pP **pP 06 19 23.8 +1.1**
comp=Z,1.1nm,0.6s,baz=80,slow=7.3,SNR=1.9
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 33.66 306⇓ *e*P **P 06 18 53.8 +0.5**
AKBB pmax pmax
comp=Z,11nm,1.4s
AKBB Malin Array Si 33.66 306 P **P 06 18 52.9 -0.4**
AK07 Malin Array Si 33.67 306 P **P 06 18 53.2 -0.1**
KIEV Kiev 33.67 306 P **P 06 18 52.9 -0.4**
comp=Z,32nm,1.0s
WHN Wuhan 34.01 91 P P 06 19 01.7 +5.2
WHN pP sP 06 19 34.9 -6.1
SORM Soroca 34.16 302 P **P 06 18 57.4 -0.2**
comp=Z,7.9nm,1.2s
TIA Tai'an 34.20 80 P P 06 18 45.9 -12
TIA pmax pmax
comp=Z,2.0nm,0.4s
LUBAR Lubar, Ukraine 34.57 305 P **P 06 19 00.9 -0.2**
LUBAR pP **pP 06 19 31.8 +1.2**
NDNU Novodnistrovsk 34.81 302 P **P 06 19 02.6 -0.6**
MNK Minsk 34.88 313 *i* P **P 06 19 03.3 -0.5**
comp=E,28nm,0.9s
MNK *i* P **P 06 19 03.3 -0.5**
comp=N,15nm,0.9s
MNK *i* P **P 06 19 03.3 -0.5**
comp=Z,11nm,0.8s,baz=98
MNK *i* pP **pP 06 19 31.7 -1.6**
MNK *i* PP **PP 06 20 24.6 -0.6**
MNK *i* S **S 06 24 25.6 +0.3**
MNK *i* sS **sS 06 25 15.8 -0.5**
MNK *i* SS **SnSn 06 26 56.2 +2.0**
MNK *i* LR LR 06 33 17.6
MNK *i* LRM MLR 06 35 13.9
comp=Z,30nm,17.9s
MNK *i* LRM MLR 06 35 42.9
comp=E,105nm,21.0s
MNK *i* LRM MLR 06 35 51.6
comp=N,147nm,25.1s
MNK Minsk 34.88 313 *i* P **P 06 19 03.2 -0.5**
MNK *i* *PP **pP 06 19 31.6 -1.6**
MNK *i* 06 20 24.5
MNK *i* S **S 06 24 25.5 +0.3**
MNK *i* *SS **sS 06 25 15.8 -0.5**
MNK pmax pmax
comp=E,28nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=Z,30nm,18.0s
MNK MLR MLR
comp=E,105nm,21.0s
MNK MLR MLR
comp=N,147nm,25.0s
KMPD K-Podol'skiy 35.41 302 P **P 06 19 08.1 -0.2**
comp=N,2μm,1.0s
HORU Horodok 35.42 303 P **P 06 19 08.0 -0.5**
HORU Horodok 35.42 303 P **P 06 19 08.0 -0.5**
NACGM Naroch 35.57 313⇑ *i* P **P 06 19 11.0 +1.3**
comp=Z,2μm,0.8s,baz=98
RNPP5 Staryi Chortor 35.80 307 P **P 06 19 11.2 -0.4**
RNPP9 Sopachiv 35.80 307 P **P 06 19 11.5 -0.1**
RNPP8 Varash 35.82 307 P **P 06 19 11.7 -0.1**
MLR Muntele Rosu 35.96 297 P **P 06 19 13.0 -0.2**
MLR IAmb IAmb 06 19 17.2
comp=Z,7.3nm,0.8s
MLR Muntele Rosu 35.96 297 P **P 06 19 13.0 -0.2**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 35.96 297 P **P 06 19 12.6 -0.6**
comp=Z,9.9nm,1.0s
VSU Vasula 36.23 319⇑ *e*P **P 06 19 14.3 -0.9**
VSU pmax pmax
comp=Z,16nm,1.0s
BURAR Bucovina Array 36.29 301 P **P 06 19 16.8 +0.8**
KSV Kosov 36.35 302 P **P 06 19 15.9 -0.5**
VOIR 36.59 297 P **P 06 19 17.9 -0.7**
comp=Z,4.5nm,2.1s
LVZ Lovozero 36.63 336 P **P 06 19 17.8 -0.8**
LVZ Lovozero 36.63 336 P **P 06 19 17.8 -0.8**
LVZ pmax pmax
comp=Z,26nm,0.9s
STNU Starunia 36.71 303 P **P 06 19 19.1 -0.3**
NJ2 Nanjing 36.95 86 *e*P **P 06 19 23.4 +1.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MORS Morshin 37.09 303 P **P 06 19 22.2 -0.4**
MORS Morshin 37.09 303 P **P 06 19 22.2 -0.4**
PABE Paberze 37.25 314 P **P 06 19 22.9 -0.9**
FINES FINESS Array B 37.29 324 P **P 06 19 25.2 +1.1**
FINES FINESS Array B 37.29 324 P **P 06 19 25.0 +0.9**
comp=Z,4.7nm,0.4s,baz=113,slow=9.5,SNR=73
comp=Z,4.7nm,0.4s
FINES FINESS Array B 37.29 324 P **P 06 19 25.2 +1.1**
KOLS Kolonicke sedl 38.16 303 *e*P **P 06 19 31.8 +0.1**
KOLS Kolonicke sedl 38.16 303 *e*P **P 06 19 31.8 +0.1**
ZEA Zeya 39.08 49 *e*P **P 06 19 40.7 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HEH HeiHe 39.25 55 *e*P **P 06 19 41.7 +1.0**
HEH pmax pmax
comp=Z,13nm,0.7s
NIE Niedzica 39.42 304 P **P 06 19 42.0 -0.2**
comp=Z,6.2nm,0.6s
VADS Vadso 39.43 338 *e*P **P 06 19 43.1 +1.3**
VADS IAmb IAmb 06 19 43.3
comp=Z,21nm,0.5s
OJC Ojcow 39.69 305 P **P 06 19 45.0 +0.8**
OJC IAmb IAmb 06 19 46.4
comp=Z,7.8nm,0.6s
OJC Ojcow 39.69 305 P **P 06 19 45.1 +0.8**
OJC pmax pmax
comp=Z,8.0nm,0.6s
OJC Ojcow 39.69 305 P **P 06 19 43.7 -0.6**
comp=Z,13nm,0.7s
LANS Liptovska Anna 39.99 304 *e*P **P 06 19 47.9 +1.0**
LANS Liptovska Anna 39.99 304 *e*P **P 06 19 47.9 +1.0**
ARA0 ARCESS Array S 40.35 336 *e*P **P 06 19 50.6 +1.1**
ARA0 IAmb IAmb 06 19 51.6
comp=Z,22nm,0.9s
ARCES ARCESS Array B 40.35 336 P **P 06 19 50.6 +1.1**
comp=Z,10nm,0.5s,baz=109,slow=8.2,SNR=101
ARCES LR LR 06 36 33.9
comp=Z,29nm,18.1s,baz=345,slow=36
comp=Z,10nm,0.5s
ARCES ARCESS Array B 40.35 336 *e*P **P 06 19 50.7 +1.2**
ARCES pmax pmax
comp=Z,10.0nm,0.5s
KTK1 Kautokeino 40.88 335 *e*P **P 06 19 54.7 +0.8**
KTK1 IAmb IAmb 06 19 55.4
comp=Z,11nm,0.6s
MORH Mrgy, Hungar 40.92 299 P **P 06 19 54.3 -0.2**
comp=Z,4.4nm,2.5s
MORC Moravsky Berou 41.17 305 P **P 06 19 58.0 +1.4**
MORC Moravsky Berou 41.17 305 *e*P **P 06 19 55.7 -0.9**
MORC Moravsky Berou 41.17 305 P **P 06 19 58.0 +1.4**
MORC pmax pmax
comp=Z,3.0nm,0.8s
HAMF Hammerfest 41.37 337 *e*P **P 06 19 59.5 +1.7**
KSP Ksiaz 41.86 307 P **P 06 20 01.8 -0.3**
comp=Z,6.6nm,0.8s
DPC Dobruska-Polom 41.89 306 P **P 06 20 02.1 -0.4**
DPC Dobruska-Polom 41.89 306 P **P 06 20 02.1 -0.4**
comp=Z,8.7nm,0.7s
JETT Jettan, Norway 42.02 335 *e*P **P 06 20 04.4 +1.2**
KLR Kul'dur 42.15 56⇓ *e*P **P 06 20 05.0 +0.5**
KLR pmax pmax
comp=Z,8.0nm,2.0s
RONA Rosalia, Austr 42.27 302 *i* P **P 06 20 07.9 +2.4**
comp=Z,1.7nm,0.5s
CONA Conrad Observa 42.52 302 *i* P **P 06 20 09.5 +1.9**
comp=Z,0.6nm,0.3s
TRO Tromso 42.53 335 *e*P **P 06 20 08.1 +0.8**
HFS Hagfors 43.08 320 P **P 06 20 12.7 +0.9**
comp=Z,12nm,0.5s,baz=98,slow=11,SNR=90
comp=Z,12nm,0.5s
TIXI Tiksi 43.16 22 *i* P **P 06 20 12.4 +0.2**

TIXI Tiksi 43.16 22⇓ *i* P **P 06 20 12.1 -0.2**
TIXI pmax pmax
comp=Z,13nm,0.6s
FAUS Fauske 43.26 331 *e*P **P 06 20 14.1 +1.0**
SOKA Soboth 43.30 301 *e*P **P 06 20 15.6 +1.8**
comp=Z,0.9nm,0.3s
BRG Berggiesshubel 43.34 307 *e*P **P 06 20 15.7 +1.7**
BRG Amp 06 20 16.5
comp=Z,5.6nm,0.8s
MOR8 Moi Rana 43.37 329 *e*P **P 06 20 14.1 0.0**
MOR8 IAmb IAmb 06 20 14.5
comp=Z,14nm,0.5s
STEI Steigen 43.39 332 *e*P **P 06 20 15.1 +0.9**
MOA Molln 43.59 303 *e*P **P 06 20 17.0 +0.9**
comp=Z,0.3nm,0.2s
GERES GERESS Array B 43.79 304 P **P 06 20 19.2 +1.4**
comp=Z,1.1nm,0.6s,baz=64,slow=9.3,SNR=6.7
comp=Z,1.1nm,0.6s
GERES GERESS Array B 43.79 304 *e*P **P 06 20 20.7 +2.9**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 43.82 304 *e*P **P 06 20 19.5 +1.5**
KHC Kasperske Hory 43.82 304⇓ *e*P **P 06 20 19.7 +1.7**
KHC pmax pmax
comp=Z,12nm,0.8s
KHC Kasperske Hory 43.82 304 P **P 06 20 17.5 -0.5**
comp=Z,8.2nm,1.2s
CLL Collm 43.87 308 *i* P **P 06 20 19.6 +1.3**
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 43.87 308 *i* P **P 06 20 19.6 +1.3**
comp=Z,7.0nm,0.6s
KONS Konsvik 43.94 330 *e*P **P 06 20 18.9 +0.3**
STOK Stokkvagen 43.96 329 *e*P **P 06 20 19.4 +0.7**
NC602 NORSAR Array S 44.16 321 P **P 06 20 21.2 +0.7**
NC602 IAmb IAmb 06 21 02.2
comp=Z,17nm,1.3s
NC602 NORSAR Array S 44.16 321 *e*P **P 06 20 20.5 0.0**
BJO1 Bjornoya 44.20 342 *e*P **P 06 20 21.6 +1.0**
NC303 NORSAR Array S 44.26 322 P **P 06 20 22.2 +1.0**
NB2 NORSAR Subarra 44.33 322 P **P 06 20 22.4 +0.6**
comp=Z,3.0nm,0.5s,baz=91,slow=7.9
NB2 NORSAR Subarra 44.33 322 P **P 06 20 22.4 +0.6**
baz=91,slow=7.9
NOA NORSAR Array B 44.33 322 P **P 06 20 22.3 +0.5**
comp=Z,3.7nm,0.6s,baz=91,slow=7.8,SNR=23
NOA LR LR 06 39 37.1
comp=Z,18nm,18.6s,baz=190,slow=37
comp=Z,3.7nm,0.6s
KBA Koelnbreinsper 44.35 302 *i* P **P 06 20 23.3 +0.9**
comp=Z,1.3nm,0.4s
LESA Schwarzleotal 44.73 302 *i* P **P 06 20 26.2 +0.9**
comp=Z,4.4nm,0.6s
DOMB Dombas 45.37 323 *e*P **P 06 20 30.9 +0.8**
WTTA Wattenberg 45.45 302 *e*P **P 06 20 32.1 +1.0**
comp=Z,3.8nm,0.7s
JNU Nakatsue 45.89 78 LR LR 06 41 51.1
comp=Z,298nm,20.1s,baz=164,slow=38
FETA Feichten 46.11 302 *i* P **P 06 20 36.7 +0.5**
comp=Z,1.0nm,0.5s
SPA0 Spitsbergen Ar 46.22 346 *e*P **P 06 20 38.4 +1.8**
SPA0 IAmb IAmb 06 20 40.6
comp=Z,22nm,0.9s
SPITS Spitsbergen Ar 46.22 346 P **P 06 20 37.1 +0.6**
comp=Z,9.9nm,0.7s,baz=108,slow=11,SNR=9.5
comp=Z,9.9nm,0.7s
AKN Aaknes 46.34 323 *e*P **P 06 20 37.1 -0.6**
FUORN Ofenpass-Fuorn 46.52 302 P **P 06 20 40.5 +1.0**
DAVA Damuels 46.61 303 *i* P **P 06 20 40.8 +0.6**
comp=Z,12nm,0.7s
ODD1 Odda 46.62 320 *e*P **P 06 20 41.5 +1.5**
KBS Kingsbay 47.32 347 *e*P **P 06 20 46.7 +1.7**
KBS IAmb IAmb 06 20 47.3
comp=Z,35nm,1.3s
NOR Nord 52.39 349 *i* P **P 06 21 24.0 +0.7**
NOR IAmb IAmb 06 21 25.0
comp=Z,3.6nm,0.7s
EKA Eskdalemuir Ar 52.58 315 P **P 06 21 25.7 +0.7**
comp=Z,2.0nm,0.5s,baz=92,slow=7.9,SNR=8.4
comp=Z,2.0nm,0.5s
DAG Danmarks Havn 53.60 343 P **P 06 21 32.1 -0.2**
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 53.60 343 *i* P **P 06 21 32.0 -0.2**
DAG *i* P **P 06 21 32.0 -0.2**
DAG IAmb IAmb 06 21 33.8
comp=Z,8.7nm,0.6s
DBG Daneborg 54.59 341 *i* P **P 06 21 40.4 +0.9**
DBG IAmb IAmb 06 21 44.1
comp=Z,16nm,1.4s
BILL Bilibino 55.89 27⇓ *e*P **P 06 21 49.8 +1.0**
BILL pmax pmax
comp=Z,2.0nm,0.6s
SCO Scoresbysund 56.28 336 *i* P **P 06 21 53.0 +1.5**
SCO IAmb IAmb 06 21 55.2
comp=Z,11nm,1.4s
ESDC Sonseca Array 58.65 298 P **P 06 22 09.3 +0.6**
comp=Z,0.5nm,0.5s,baz=56,slow=6.9,SNR=4.9
ESDC pP **pP 06 22 43.2 +2.5**
comp=Z,0.3nm,0.3s,baz=68,slow=6.0,SNR=2.9
comp=Z,0.5nm,0.5s
NEEM North Greenlan 59.69 348 *i* P **P 06 22 16.0 +0.4**
NEEM IAmb IAmb 06 22 17.2
comp=Z,10nm,0.3s
SUMG Summit 60.05 341 P **P 06 22 20.0 +1.8**
SUMG IAmb IAmb 06 22 20.6
comp=Z,7.6nm,0.8s
SUMG Summit 60.05 341 P **P 06 22 20.0 +1.8**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 60.05 341 *i* P **P 06 22 18.7 +0.5**
SUMG IAmb IAmb 06 22 21.4
comp=Z,18nm,1.1s
ICESG Greenland Ices 62.35 338 *i* P **P 06 22 34.5 +0.8**
ICESG IAmb IAmb 06 22 36.7
comp=Z,19nm,0.9s
KULLO Kullorsuaq 62.79 347 *i* P **P 06 22 36.3 +0.2**
KULLO IAmb IAmb 06 22 44.0
comp=Z,5.7nm,0.6s
C16K Lisburne Hills 64.89 21 IAmb IAmb 06 22 51.2
comp=Z,3.1nm,0.8s
B21K Ikpikpuk River 66.62 17 IAmb IAmb 06 23 02.2
comp=Z,3.2nm,0.6s
TORD Torodi Ar. Bea 68.09 270 P **P 06 23 11.0 -0.1**
TORD Torodi Ar. Bea 68.09 270 P **P 06 23 11.3 +0.2**
comp=Z,2.3nm,0.5s,baz=44,slow=5.9,SNR=26
TORD pP **pP 06 23 46.6 +2.6**
comp=Z,0.7nm,0.5s,baz=38,slow=6.6,SNR=1.8
comp=Z,2.3nm,0.5s
TOLK Toolik Lake Re 68.50 16 P **P 06 23 13.4 +0.5**
A36M Sachs Harbour 69.11 6 P **P 06 23 16.8 +0.3**
A36M IAmb IAmb 06 23 52.8
comp=Z,5.0nm,0.8s
INK Inuvik 71.66 10 P **P 06 23 32.7 +0.6**
INK IAmb IAmb 06 23 33.2
comp=Z,3.2nm,0.6s
INK Inuvik 71.66 10 P **P 06 23 32.7 +0.6**
INK pmax pmax
comp=Z,3.0nm,0.6s
C36M Paulatuk 71.77 7 P **P 06 23 32.9 +0.2**
POKR Poker Plat Res 71.90 17 P **P 06 23 34.4 +0.8**
POKR IAmb IAmb 06 23 35.3
comp=Z,4.4nm,0.7s
COLA College 72.01 17⇓ *e*P **P 06 23 34.2 0.0**
COLA pmax pmax
comp=Z,14nm,1.9s
ILAR Eielson Array 72.32 17 P **P 06 23 35.9 -0.3**
comp=Z,1.1nm,0.8s,baz=320,slow=4.8,SNR=17
ILAR pP **pP 06 24 10.7 +1.4**
comp=Z,0.7nm,0.9s,baz=318,slow=4.9,SNR=4.2
ILAR sP **sP 06 24 22.6 -1.1**
comp=Z,0.8nm,0.9s,baz=331,slow=5.9,SNR=3.9
comp=Z,1.1nm,0.8s
I30M Mount Dempster 74.06 13 P **P 06 23 46.5 +0.1**
K29M Barlow Dome 75.11 14 IAmb IAmb 06 24 28.3
comp=Z,6.3nm,1.2s
YKA Yellowknife Ar 79.24 4 P **P 06 24 15.9 +0.4**
comp=Z,1.5nm,0.7s,baz=350,slow=5.3,SNR=28
YKA pP **pP 06 24 50.7 +1.4**
comp=Z,1.4nm,0.9s,baz=347,slow=5.0,SNR=6.0
comp=Z,1.5nm,0.7s
BOSA Boshof 80.69 222 P **P 06 24 22.0 -1.8**
comp=Z,2.2nm,0.7s,baz=80,slow=5.2,SNR=4.3
R32K Eaglecrest 80.81 15 P **P 06 24 22.4 -1.6**
WRA Warramunga Arr 81.05 124 P **P 06 24 24.0 -1.8**
comp=Z,1.4nm,0.7s,baz=322,slow=4.8,SNR=5.0

comp=Z,1.4nm,0.7s
ASAR Alice Springs 83.46 127 P **P 06 24 37.4 -0.9**
comp=Z,1.2nm,0.8s,baz=320,slow=3.6,SNR=6.2
ASAR pP **pP 06 25 11.9 -0.3**
comp=Z,0.5nm,0.8s,baz=344,slow=8.2,SNR=2.2
ASAR sP **sP 06 25 25.7 -0.5**
comp=Z,0.6nm,0.7s,baz=318,slow=5.3,SNR=3.3
comp=Z,1.2nm,0.8s
PLCA Paso Flores 152.63 254 PKPbc **PKPbc 06 32 06.1 -0.1**
comp=Z,1.2nm,1.0s,baz=270,slow=24,SNR=3.3

IDC 04 06:27:10.9±3.8,2°.93S×150°.69E,h0km,mb3.4/2,
mbtmp3.4/2,Error ellipse: s-maj=166.4km
s-min=45.7km az=116.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**222**	P	P	06 32 20.5	+0.3
	1.2nm,0.7s,baz=50,slow=10,SNR=8.7						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**26.24**	**217**	P	P	06 32 49.1	+1.2
	0.2nm,0.3s,baz=43,slow=11,SNR=1.5						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**147.71**	**290**	PKPbc	PKPdf	06 46 56.9	+1.0
	0.9nm,0.6s,baz=75,slow=3.7,SNR=6.4						

---

*IDC **04** 06:30:04.6±13.0,52°.65N×135°.03W,h0km,mb2.9/1,*
mbtmp2.8/3,ML3.5/2,Error ellipse: s-maj=227.0km
s-min=38.9km az=92.0
*ANF **04** 06:30:47.9±0.3,58°.81N×136°.17W,h3km±2km,ML3.6/31,*
Error ellipse: s-maj=2.0km s-min=1.1km az=58.0
*AEIC **04** 06:30:48.2±1.1,58°.80N±0°.02×136°.17W±0°.07,h8km±5km,*
ML3.1,ML3.3/75(NEIC),Error ellipse: s-maj=5.3km
s-min=3.0km az=77.0
*PGC **04** 06:30:48.4,58°.80N×136°.27W,h1km,ML3.3/29,ML3.1,*
68km Wsw of Haines, Ak Southeastern Alaska
*NEIC **04** 06:30:48.6±1.2,58°.80N±0°.02×136°.14W±0°.07,h10km±5km,*
Error ellipse: s-maj=5.7km s-min=2.3km az=83.0
ISC 04 06:30:47.6±1.1,58°.83N±0°.02×136°.23W±0°.02,h2km±10km,
n167,σ1$30/245,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R31K	**City Hall, Gus**	**0.49**	**149**		**Pg**	**06 30 57.1**	**+0.2**
R31K					**Sg**	**06 31 04.2**	**+0.8**
R31K	**City Hall, Gus**	**0.49**	**149**	P	**Pg**	**06 30 57.3**	**+0.3**
R31K				S	**Sg**	**06 31 04.1**	**+0.7**
R31K	**City Hall, Gus**	**0.49**	**149**	P	**Pg**	**06 30 57.3**	**+0.3**
	baz=335,SNR=48						
R31K				S	**Sg**	**06 31 04.2**	**+0.8**
	baz=335						
PLBC	**Pleasant Camp**	**0.63**	**354**	P	**Pg**	**06 31 00.4**	**+0.8**
	baz=168,SNR=90						
PLBC				S	**Sg**	**06 31 08.9**	**+1.1**
	baz=168						
BESE	**Bessie Mountai**	**0.76**	**109**		**Pg**	**06 31 02.2**	**+0.1**
BESE	**Bessie Mountai**	**0.76**	**109**		**Sg**	**06 31 12.7**	**+0.8**
BESE	**Bessie Mountai**	**0.76**	**109**	P	**Pg**	**06 31 02.3**	**+0.1**
BESE				S	**Sg**	**06 31 12.6**	**+0.6**
SKAG	**Skagway**	**0.78**	**36**		**Pg**	**06 31 03.2**	**+0.6**
SKAG					**Sg**	**06 31 13.8**	**+1.2**
SKAG				IAML		06 31 14.4	
	comp=E,791nm,0.6s						
SKAG	**Skagway**	**0.78**	**36**	P	**Pg**	**06 31 03.1**	**+0.6**
	baz=211,SNR=60						
SKAG				S	**Sg**	**06 31 13.6**	**+1.0**
	baz=211						
R32K	**Eaglecrest**	**1.06**	**121**		**Pg**	**06 31 07.0**	**-0.7**
R32K					**Sg**	**06 31 21.2**	**-0.2**
R32K				IAML		06 31 25.2	
	comp=E,1μm,0.2s						
R32K	**Eaglecrest**	**1.06**	**121**	P	**Pg**	**06 31 07.2**	**-0.6**
R32K				S	**Sg**	**06 31 20.8**	**-0.6**
R32K	**Eaglecrest**	**1.06**	**121**	P	**Pg**	**06 31 07.1**	**-0.7**
	baz=303,SNR=37						
R32K				S	**Sg**	**06 31 21.0**	**-0.4**
	baz=303						
R32K				S	**Sg**	**06 31 21.0**	**-0.4**
	baz=303						
JIS	**Juneau Island**	**1.12**	**119**		**Pg**	**06 31 08.0**	**-1.0**
JIS					**Sg**	**06 31 23.1**	**-0.3**
P30M	**Million Dollar**	**1.35**	**344**		**Pg**	**06 31 12.8**	**-0.5**
P30M	**Million Dollar**	**1.35**	**344**	P	**Pg**	**06 31 12.8**	**-0.5**
P30M				S	**Sg**	**06 31 31.0**	**+0.2**
P30M	**Million Dollar**	**1.35**	**344**	P	**Pg**	**06 31 12.9**	**-0.5**
	baz=161						
P30M				S	**Sb**	**06 31 31.6**	**+0.4**
	baz=161						
P32M	**Atlin**	**1.50**	**58**		**Pn**	**06 31 15.4**	**-0.1**
P32M					**Sg**	**06 31 35.9**	**+0.3**
P32M	**Atlin**	**1.50**	**58**	Pn	**Pn**	**06 31 15.5**	**0.0**
P32M				Sg	**Sg**	**06 31 35.7**	**+0.1**
P32M	**Atlin**	**1.50**	**58**	P	**Pn**	**06 31 15.4**	**-0.1**
	baz=238,SNR=84						
P32M				S	**Sg**	**06 31 35.8**	**+0.1**
	baz=238						
S32K	**Killisnoo**	**1.62**	**147**		**Pn**	**06 31 15.3**	**-1.9**
S32K					**Sn**	**06 31 36.5**	**-2.0**
S32K				IAML		06 31 38.8	
	comp=E,378nm,0.5s						
S32K				IAML		06 31 39.5	
	comp=N,358nm,0.3s						
S32K	**Killisnoo**	**1.62**	**147**	Pn	**Pn**	**06 31 15.8**	**-1.4**
S32K				Sn	**Sn**	**06 31 36.2**	**-2.4**
S32K				Sg	**Sn**	**06 31 38.1**	**-0.5**
S32K	**Killisnoo**	**1.62**	**147**	P	**Pn**	**06 31 16.5**	**-0.6**
	baz=330,SNR=21						
S32K				S	**Sn**	**06 31 38.0**	**-0.5**
	baz=330						
S32K				S	**Sn**	**06 31 38.0**	**-0.5**
	baz=330						
SIT	**Sitka**	**1.84**	**165**		**Pn**	**06 31 19.6**	**-0.5**
SIT				IAML		06 31 47.3	
	comp=E,221nm,0.5s						
SIT				IAML		06 31 50.8	
	comp=N,291nm,0.7s						
SIT	**Sitka**	**1.84**	**165**	P	**Pn**	**06 31 19.7**	**-0.4**
	baz=347,SNR=16						
SIT				S	**Sn**	**06 31 44.0**	**0.0**
	baz=347						
O29M	**Mount Kennedy**	**1.90**	**322**		**Pn**	**06 31 21.6**	**+0.5**
O29M	**Mount Kennedy**	**1.90**	**322**	Pn	**Pn**	**06 31 21.9**	**+0.8**
O29M				Sg	**Sb**	**06 31 48.1**	**+0.9**
O29M	**Mount Kennedy**	**1.90**	**322**	P	**Pn**	**06 31 21.8**	**+0.8**
	baz=139						
O29M				S	**Sb**	**06 31 47.8**	**+0.7**
	baz=139						
O30N	**Mendenhall**	**1.94**	**2**		**Pn**	**06 31 22.7**	**+1.0**
O30N				IAML		06 31 50.4	
	comp=E,360nm,0.6s						
O30N				IAML		06 31 52.8	
	comp=N,169nm,0.7s						
O30N	**Mendenhall**	**1.94**	**2**	Pn	**Pb**	**06 31 23.3**	**-0.4**
O30N				Sg	**Sb**	**06 31 49.2**	**+0.7**
O30N	**Mendenhall**	**1.94**	**2**	P	**Pn**	**06 31 22.2**	**+0.5**
	baz=180						
O30N				S	**Sb**	**06 31 49.3**	**+0.8**
	baz=180						
WHY	**Whitehorse**	**1.96**	**20**		**Pn**	**06 31 22.4**	**+0.6**
WHY				IAML		06 31 51.3	
	comp=N,313nm,0.5s						
WHY	**Whitehorse**	**1.96**	**20**	Pn	**Pn**	**06 31 22.6**	**+0.8**
WHY				Pg	**Pb**	**06 31 24.2**	**+0.3**
WHY				Sg	**Sg**	**06 31 50.1**	**-0.2**
WHY	**Whitehorse**	**1.96**	**20**	P	**Pn**	**06 31 22.2**	**+0.3**
	baz=198						
WHY				Sb	**Sg**	**06 31 50.5**	**+0.1**
	baz=198						
YUK7	**Dusty Glacier**	**1.96**	**331**		**Pn**	**06 31 22.7**	**+0.7**
YUK7	**Dusty Glacier**	**1.96**	**331**	Pn	**Pn**	**06 31 22.8**	**+0.7**
YUK7				Sg	**Sg**	**06 31 50.2**	**-0.3**
Q32M	**Nakina River**	**2.06**	**85**	Pn	**Pn**	**06 31 23.0**	**-0.3**
Q32M				IAML		06 31 58.3	
	comp=N,191nm,0.9s						
Q32M				IAML		06 32 00.9	
	comp=E,160nm,1.0s						
Q32M	**Nakina River**	**2.06**	**85**	Pn	**Pn**	**06 31 23.5**	**+0.2**
Q32M				Pg	**Pg**	**06 31 26.6**	**-0.4**
Q32M				Sg	**Sg**	**06 31 53.9**	**+0.3**
Q32M	**Nakina River**	**2.06**	**85**	P	**Pn**	**06 31 23.3**	**0.0**
	baz=267						
Q32M				S	**Sn**	**06 31 49.8**	**+0.1**

	baz=267						
HYT	Haines Junctio	2.10	343		Pn	06 31 24.5	+0.6
HYT	Haines Junctio	2.10	343	Pn	Pb	06 31 25.4	-1.0
HYT	Haines Junctio	2.10	343	P	Pn	06 31 24.5	+0.6
	baz=160						
HYT				Sb	Sg	06 31 55.8	+0.8
	baz=160						
P33M	Teslin, Yukon	2.22	50		Pn	06 31 24.8	-0.6
P33M				IAML		06 31 58.9	
	comp=E,121nm,0.6s						
P33M				IAML		06 31 58.9	
	comp=N,167nm,0.5s						
P33M	Teslin, Yukon	2.22	50	Pn	Pn	06 31 25.8	+0.4
P33M				Pg	Pg	06 31 29.3	-0.8
P33M				Sg	Sg	06 31 58.1	-0.8
P33M	Teslin, Yukon	2.22	50	P	Pn	06 31 25.5	+0.1
	baz=231,SNR=60						
P33M				Sb	Sg	06 31 58.3	-0.5
	baz=231						
YUK6	Outpost Mounta	2.38	334		Pn	06 31 28.3	+0.6
YUK6	Outpost Mounta	2.38	334	Pn	Pn	06 31 28.3	+0.6
YUK6				Pg	Pb	06 31 31.2	0.0
YUK6				Sg	Sg	06 32 03.0	-0.8
YUK6	Outpost Mounta	2.38	334	P	Pn	06 31 28.3	+0.6
	baz=151						
YUK6				Sb	Sg	06 32 04.0	+0.1
	baz=151						
PINM	Pinnacle	2.41	303	P	Pn	06 31 28.6	+0.5
	baz=120						
PINM				S	Sn	06 31 59.7	+1.4
	baz=120						
PCA	Pinnacle	2.42	303		Pn	06 31 28.3	+0.2
PCA	Pinnacle	2.42	303	Pn	Pn	06 31 28.0	-0.1
PCA				Sg	Sn	06 31 59.1	+0.8
YUK5	Granite Creek	2.45	341		Pn	06 31 29.4	+0.8
YUK5	Granite Creek	2.45	341	Pn	Pn	06 31 29.4	+0.8
SAMH	Samovar Hills	2.66	301		Pn	06 31 32.6	+1.1
SAMH	Samovar Hills	2.66	301	Pn	Pn	06 31 32.2	+0.7
SAMH				Sg	Sb	06 32 07.6	-1.5
N30M	Aishikik Lake	2.67	351	Pn	Pn	06 31 31.7	0.0
N30M				IAML		06 32 14.8	
	comp=E,128nm,0.7s						
N30M				IAML		06 32 20.2	
	comp=N,133nm,0.6s						
N30M	Aishikik Lake	2.67	351	Pn	Pn	06 31 33.4	+1.8
N30M				Pg	Pb	06 31 36.2	+0.1
N30M				Sg	Sg	06 32 11.7	-1.6
N30M	Aishikik Lake	2.67	351	P	Pn	06 31 32.1	+0.5
	baz=169						
N30M				Sb	Sg	06 32 12.4	-0.9
	baz=169						
N31M	Braeburn, Yuko	2.67	5		Pn	06 31 32.5	+0.9
N31M				IAML		06 32 15.3	
	comp=E,187nm,0.8s						
N31M	Braeburn, Yuko	2.67	5	Pn	Pn	06 31 32.9	+1.2
N31M				Pg	Pb	06 31 36.5	+0.4
N31M				Sg	Sg	06 32 11.8	-1.5
N31M	Braeburn, Yuko	2.67	5	P	Pn	06 31 32.0	+0.4
	baz=183						
N31M				Sb	Sg	06 32 12.1	-1.3
	baz=183						
T33K	Petersburg	2.68	138	Sb	Sb	06 32 10.9	+1.5
	baz=321						
R33M	Jennings River	2.77	76		Pn	06 31 33.0	0.0
R33M				IAML		06 32 16.7	
	comp=N,143nm,0.7s						
R33M				IAML		06 32 17.4	
	comp=E,69nm,0.6s						
R33M	Jennings River	2.77	76	Pn	Pn	06 31 33.0	0.0
R33M				Sn	Sn	06 32 05.7	-1.4
R33M				Sg	Sg	06 32 14.6	-1.8
R33M	Jennings River	2.77	76	P	Pn	06 31 32.8	-0.2
	baz=259,SNR=13						
R33M				S	Sn	06 32 06.4	-0.7
	baz=259						
O28M	Mount Upton	2.79	316		Pn	06 31 33.8	+0.4
O28M	Mount Upton	2.79	316	Pn	Pn	06 31 33.9	+0.4
O28M				Sg	Sb	06 32 13.5	+0.5
O28M	Mount Upton	2.79	316	P	Pn	06 31 33.9	+0.4
	baz=132						
O28M				Sb	Sg	06 32 15.8	-1.4
	baz=132						
YUK4	Talbot Arm	2.80	335	Pn	Pn	06 31 35.8	+2.3
YUK4				Pg	Pg	06 31 40.6	-0.6
YUK4	Talbot Arm	2.80	335	P	Pn	06 31 34.8	+1.3
	baz=154,SNR=29						
YUK4				Sb	Sg	06 32 18.8	+1.4
	baz=154						
N32M	Quiet Lake	2.81	33	Pn	Pn	06 31 32.2	-1.3
N32M				IAML		06 32 26.6	
	comp=E,150nm,0.9s						
N32M	Quiet Lake	2.81	33	Pn	Pn	06 31 34.7	+1.2
N32M				Pg	Pg	06 31 40.2	-1.2
N32M				Sg	Sg	06 32 16.6	-1.3
N32M	Quiet Lake	2.81	33	P	Pn	06 31 32.7	-0.8
	baz=214						
N32M				Sb	Sb	06 32 15.3	+2.0
	baz=214						
S34M	Telegraph Cree	2.84	107	Pn	Pn	06 31 32.8	-1.0
S34M	Telegraph Cree	2.84	107	Pn	Pn	06 31 33.8	-0.1
S34M				Sg	Sg	06 32 17.2	-1.4
S34M	Telegraph Cree	2.84	107	P	Pn	06 31 33.6	-0.2
	baz=291,SNR=16						
BRWY	Burwash Landin	2.91	332	Pn	Pn	06 31 36.0	+1.2
BRWY				Pg	Pb	06 31 40.5	+0.4
YUK8	Steele Glacier	3.03	326		Pn	06 31 37.9	+1.1
YUK8	Steele Glacier	3.03	326	Pn	Pn	06 31 37.9	+1.1
YUK8				Pg	Pb	06 31 42.5	+0.2
YUK8	Steele Glacier	3.03	326	P	Pn	06 31 37.4	+0.6
	baz=142,SNR=26						
YUK8				Sb	Sg	06 32 24.5	-0.4
	baz=142						
WRAK	Wrangell Islan	3.19	138	Pn	Pn	06 31 37.4	-1.4
WRAK	Wrangell Islan	3.19	138	Pn	Pn	06 31 36.7	-2.0
WRAK				Sn	Sn	06 32 14.3	-3.0
WRAK	Wrangell Islan	3.19	138	P	Pn	06 31 37.3	-1.4
	baz=321						
MESA	MESA	3.21	297	Pn	Pn	06 31 40.0	+0.8
MESA				IAML		06 32 31.3	
	comp=N,88nm,1.4s						
MESA				IAML		06 32 44.4	
	comp=E,59nm,0.9s						
MESA	MESA	3.21	297	Pn	Pn	06 31 38.6	-0.6
MESA	MESA	3.21	297	P	Pn	06 31 39.8	+0.6
	baz=112						
DLBC	Dease Lake	3.27	94		Pn	06 31 39.8	0.0
DLBC				IAML		06 32 31.7	
	comp=N,95nm,0.8s						
DLBC				IAML		06 32 38.7	
	comp=E,69nm,0.7s						
DLBC	Dease Lake	3.27	94	Pn	Pn	06 31 39.5	-0.3
DLBC				Sg	Sb	06 32 28.5	+2.1
DLBC	Dease Lake	3.27	94	P	Pn	06 31 39.7	-0.1
	baz=279,SNR=10						
DLBC				Sb	Sb	06 32 28.8	+2.4
	baz=279						
M31M	Drury Creek, Y	3.50	14	Pn	Pn	06 31 43.4	+0.4
M31M				IAML		06 32 43.8	
	comp=E,91nm,0.7s						
M31M				IAML		06 32 46.4	
	comp=N,61nm,0.6s						
M31M	Drury Creek, Y	3.50	14	Pn	Pn	06 31 45.2	+2.2
M31M				Sg	Sb	06 32 36.0	+2.9
M31M	Drury Creek, Y	3.50	14	Sb	Sg	06 32 37.2	-2.7
	baz=194						
YUK3	Moose Creek	3.63	326		Pn	06 31 45.9	+1.0
YUK3	Moose Creek	3.63	326	Pn	Pn	06 31 45.8	+0.9
YUK3				Pg	Pb	06 31 53.2	+0.8
YUK3	Moose Creek	3.63	326	P	Pn	06 31 45.8	+0.9
	baz=142,SNR=9.2						
SNH	Sunshine Point	3.63	295	Pn	Pn	06 31 45.6	+0.9
SNH				IAML		06 32 12.2	
	comp=N,50nm,1.4s						
SNH				IAML		06 32 32.5	
	comp=E,75nm,1.3s						
FARO	Faro, Yukon	3.69	21	Pn	Pn	06 31 46.4	+0.8
FARO				IAML		06 32 50.1	
	comp=N,64nm,0.7s						
FARO	Faro, Yukon	3.69	21	Pn	Pn	06 31 48.0	+2.4
FARO				Pg	Pg	06 31 57.0	-1.3
FARO				Sg	Sb	06 32 42.6	+4.0
FARO	Faro, Yukon	3.69	21	Sb	Sg	06 32 43.0	-3.0
	baz=203						
KIAG	Kiagna River	3.73	307	Pn	Pn	06 31 47.0	+0.7
YUK2	White River	3.75	324	Pn	Pn	06 31 47.5	+1.1

M30M	Minto, Yukon	3.77	356	Pn	Pn	06 31 46.5	-0.1
M30M				IAML		06 32 52.1	
	comp=N,47nm,0.7s						
M30M				IAML		06 32 53.5	
	comp=E,74nm,0.6s						
M30M	Minto, Yukon	3.77	356	Pn	Pn	06 31 48.1	+1.4
M30M				Pg	Pb	06 31 56.7	+2.0
M30M				Sg	Sg	06 32 45.7	-2.7
M30M	Minto, Yukon	3.77	356	Sb	Sg	06 32 45.1	-3.3
	baz=174						
CRAG	Craig	3.77	152	Pn	Pn	06 31 46.2	-0.4
CRAG				IAML		06 32 50.6	
	comp=N,47nm,1.1s						
CRAG				IAML		06 32 53.8	
	comp=E,68nm,1.1s						
CRAG	Craig	3.77	152	P	Pn	06 31 46.3	-0.4
	baz=335						
CRAG				S	Sn	06 32 31.8	+0.3
	baz=335						
M29M	Somme Creek	3.79	344	Pn	Pn	06 31 47.1	+0.1
M29M				IAML		06 32 54.9	
	comp=E,54nm,0.8s						
M29M				IAML		06 32 56.5	
	comp=N,36nm,0.5s						
M29M	Somme Creek	3.79	344	Pn	Pn	06 31 48.3	+1.3
M29M				Sg	Sg	06 32 48.1	-0.9
M29M	Somme Creek	3.79	344	P	Pn	06 31 47.8	+0.8
	baz=161,SNR=8.8						
BALM	Baldy	3.79	308	Pn	Pn	06 31 47.3	+0.3
WTLY	Watson Lake, Y	4.00	68	Sg	Sg	06 32 52.1	-3.9
BERG	Berg Lake	4.11	296	Pn	Pn	06 31 51.1	-0.2
BVCY	Beaver Creek	4.26	330	Pn	Pn	06 31 54.4	+1.0
BVCY				Pg	Pb	06 32 05.0	+2.0
BVCY	Beaver Creek	4.26	330	Pb	Pb	06 32 04.6	+1.6
	baz=145						
V35K	Ketchikan	4.32	142	Pn	Pn	06 31 53.9	-0.3
V35K				IAML		06 32 45.2	
	comp=N,26nm,0.5s						
V35K				IAML		06 32 45.7	
	comp=E,35nm,0.4s						
V35K	Ketchikan	4.32	142	Pn	Pn	06 31 53.7	-0.5
V35K				Sn	Sn	06 32 42.4	-2.7
V35K	Ketchikan	4.32	142	P	Pn	06 31 54.1	-0.1
	baz=327						
V35K				S	Sn	06 32 43.2	-1.8
	baz=327						
V35K				S	Sn	06 32 43.2	-1.8
	baz=327						
VRDI	Verde Repeater	4.35	307	Pn	Pn	06 31 56.0	+1.2
L29M	L29M	4.39	349	Pn	Pn	06 31 56.3	+1.1
L29M	L29M	4.39	349	Pn	Pn	06 31 56.1	+0.9
L29M				Sg	Sg	06 33 05.5	-2.9
L29M	L29M	4.39	349	P	Pn	06 31 55.8	+0.6
	baz=166						
M27K	Edge Creek, AK	4.50	324	Pn	Pn	06 31 58.1	+1.2
M27K				IAML		06 33 12.9	
	comp=N,20nm,1.2s						
M27K	Edge Creek, AK	4.50	324	Pn	Pn	06 31 57.5	+0.7
M27K	Edge Creek, AK	4.50	324	P	Pn	06 31 57.5	+0.7
	baz=139						
RAGM	Ragged Mountai	4.57	294	Pn	Pn	06 31 57.0	-0.6
GLB	Gilahina Butte	4.61	308	Pn	Pn	06 31 58.5	+0.3
BMRM	Bremner River	4.73	300	Pn	Pn	06 32 00.9	+1.0
BMRM	Bremner River	4.73	300	P	Pn	06 32 01.9	+2.0
	baz=113						
MAYO	Mayo, Yukon	4.78	2	Pn	Pn	06 31 59.8	-0.7
M26K	Nabesna, AK	4.89	320		Pn	06 32 03.0	+1.0
M26K	Nabesna, AK	4.89	320	Pn	Pn	06 32 03.1	+1.0
N25K	Chitina, Valde	5.01	307	Pn	Pn	06 32 04.1	+0.3
N25K	Chitina, Valde	5.01	307	Pn	Pn	06 32 05.4	+1.6
BCAR	Beaver Creek A	5.04	330	Pn	Pn	06 32 04.5	+0.4
L27K	Beaver Creek,	5.04	330	Pn	Pn	06 32 04.4	+0.3
L27K	Beaver Creek,	5.04	330	Pn	Pn	06 32 04.5	+0.4
L27K				Pg	Pb	06 32 17.7	+1.2
L27K	Beaver Creek,	5.04	330	P	Pn	06 32 04.9	+0.7
	baz=144						
K29M	Barlow Dome	5.07	353		Pn	06 32 05.8	+1.3
K29M				IAML		06 33 34.5	
	comp=N,22nm,0.9s						
K29M				IAML		06 33 34.0	
	comp=E,26nm,1.0s						
K29M	Barlow Dome	5.07	353	Pn	Pn	06 32 05.8	+1.3
K29M	Barlow Dome	5.07	353	P	Pn	06 32 05.7	+1.1
	baz=172						
EYAK	Cordova Ski Ar	5.12	294	Pn	Pn	06 32 06.1	+0.9
DAWY	Dawson	5.47	345	Pn	Pn	06 32 10.9	+0.9
DAWY	Dawson	5.47	345	Pn	Pn	06 32 10.8	+0.9
DAWY				Sg	Sg	06 33 38.7	-4.2
DAWY	Dawson	5.47	345	P	Pn	06 32 11.1	+1.1
	baz=162						
MENT	Mentasta	5.51	322	Pn	Pn	06 32 12.1	+1.6
FID	Port Fidalgo	5.52	295	Pn	Pn	06 32 09.3	-1.4
KLU	Klutina	5.53	303	Pn	Pn	06 32 12.8	+1.9
J30M	Hart River	5.76	360	Pn	Pn	06 32 14.7	+0.6
J30M				Sg	Sg	06 33 47.5	-5.0
SCRK	Sand Creek	6.36	327	P	Pn	06 32 22.9	+0.6
	baz=140						
EGAK	Eagle	6.41	341	Sg	Sg	06 34 09.1	-3.9
I30M	Mount Dempster	6.41	359	Pn	Pn	06 32 24.9	+1.9
I28M	Miner Creek	6.86	347	Pn	Pn	06 32 29.4	+0.2
I28M				Sg	Sg	06 34 23.2	-4.5
FNSB	Fort Nelson	7.01	84	Pn	Pn	06 32 31.3	+0.2
J25K	Salcha River,	7.24	327	Pn	Pn	06 32 34.4	+0.1
J25K	Salcha River,	7.24	327	P	Pn	06 32 34.9	+0.6
	baz=139						
I26K	Coal Creek Min	7.26	336	Pn	Pn	06 32 35.8	+1.3
I26K	Coal Creek Min	7.26	336	P	Pn	06 32 36.1	+1.6
	baz=150						
NBC5	NorthernBC 5	7.29	95	P	Pn	06 32 35.1	+0.1
H27K	Steamboat Moun	7.82	344	Pn	Pn	06 32 45.0	+2.8
G31M	Satah River	8.17	5	Pn	Pn	06 32 48.9	+1.9
G30M	tAoh Zraii Nji	8.18	0	Pn	Pn	06 32 48.7	+1.5
YKA	Yellowknife Ar	11.20	62	Pn	Pn	06 33 30.1	+1.6
	comp=E,0.1nm,0.3s,baz=240,slow=15,SNR=4.6						
	comp=E,0.1nm,0.5s						
H11N2	WAKE ISLAND Hy	56.33	251	T	T	07 40 10.5	
	baz=31,slow=75,SNR=4.1						
H11N3	WAKE ISLAND Hy	56.34	251	T	T	07 40 06.1	
	baz=31,slow=75,SNR=4.5						
H11N1	WAKE ISLAND Hy	56.35	251	T	T	07 40 14.3	
	baz=31,slow=75,SNR=3.4						
H11S1	WAKE ISLAND Hy	57.47	251	T	T	07 42 07.2	
	baz=31						
H11S2	WAKE ISLAND Hy	57.48	251	T	T	07 41 51.1	
	baz=31						
H11S3	WAKE ISLAND Hy	57.49	251	T	T	07 41 48.7	
	baz=31						

SNET ***04*** *06:31:50.8±0.8, 14°.58N×92°.44W, h76km±7km, ML3.6*
GCG ***04*** *06:31:50.7±1.2, 14°.63N×92°.50W, h70km±11km, MD4.1,*
Hypocentre not reviewed by the ISC
MEX ***04*** *06:31:52.4±0.7, 14°.60N×92°.54W, h57km±18km, MD4.1*
ISC 04 06:31:50.1±1.3, 14°.65N±0°.06×92°.48W±0°.04, h79km±10km, n30, σ1s69/44, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.33	38	eP	Pn	06 32 02.3	-0.2
THIG				eS	Sn	06 32 10.9	-0.7
THIG		0.33	38	eP		06 32 02.2	
THIG				eS		06 32 11.5	
CHUJ	Union Juarez	0.57	39	eP	Pn	06 32 04.2	-0.5
CHUJ				eS	Sn	06 32 14.2	-1.2
RTAL	Retalhuleu	0.77	99	eP	Pn	06 32 06.7	+0.3
RTAL				eS	Sn	06 32 17.3	-1.2
RTAL	Retalhuleu	0.77	99	eP	Pn	06 32 06.7	+0.3
RTAL				eS	Sn	06 32 18.5	0.0
SOKI	Kika Raxquin	1.05	80	eS		06 32 27.1	
HUEH	Huehuetenango	1.16	55	eP	Pn	06 32 12.1	+0.9
HUEH				eS	Sn	06 32 29.0	+2.0
HUEH	Huehuetenango	1.16	55	eP	Pn	06 32 12.4	+1.3
HUEH				eS	Sn	06 32 29.7	+2.7
HUEH	Huehuetenango	1.16	55	eP		06 32 12.2	
HUEH				eS		06 32 29.4	
PCIG		1.27	326	eP	Pn	06 32 12.8	+0.3
PCIG				eS	Sn	06 32 29.0	-0.2
QUIS	Sacapulas	1.48	64	eP		06 32 16.8	
QUIS				eS		06 32 38.3	
CCIG	Comitan	1.66	11	eP	Pn	06 32 19.4	+1.8
CCIG				eS	Sn	06 32 37.5	-1.0
CCIG	Comitan	1.66	11	eP		06 32 19.5	
CARR	Arriaga	2.11	319	eP	Pn	06 32 25.6	+2.2
CARR				eS	Sn	06 32 50.4	+1.5
TGIG		2.21	344	eP	Pn	06 32 24.8	-0.1
TGIG				eS	Sn	06 32 50.6	-0.7
TGIG		2.21	344	eP		06 32 25.2	
NUBE	Las Nubes	2.72	105	eP		06 32 33.1	
NILT	Santiago Nilte	2.81	313	eP	Pn	06 32 34.4	+1.5
NILT				eS	Sn	06 33 05.9	+0.2
CEVE	Cerro Verde	2.88	106	IAML		06 33 23.3	
	comp=Z,328nm,0.4s						
SNJE	San Jose	2.89	105	eP	Pn	06 32 35.5	+1.3
JAYA	Jayaque - finc	3.10	108	eP	Pn	06 32 37.2	+0.3
JAYA				eS	Sn	06 33 13.0	0.0
JAYA	Jayaque - finc	3.10	108	eP		06 32 38.4	
UXUV	UXUV	3.10	329	eP	Pn	06 32 37.6	+0.8
UXUV				eS	Sn	06 33 12.3	-0.5
PMON	Piamonte	3.21	106	eP	Pn	06 32 38.4	+0.1
CMIG	Matias Romero	3.36	317	eP	Pn	06 32 41.3	+1.1
CMIG				eS	Sn	06 33 18.5	-0.6
PETF	Flores	3.38	48	eP	Pn	06 32 41.0	+0.5
PETF				eS	Sn	06 33 16.4	-3.2
PETF	Flores	3.38	48	eP	Pn	06 32 41.6	+1.0
PETF	Flores	3.38	48	eP		06 32 41.5	
PETF				eS		06 33 18.8	
COEG	Centro de Oper	3.63	106	IAML		06 33 42.6	
	comp=Z,58nm,0.5s						
HUIG	Huatulco	3.68	288	eP	Pn	06 32 44.6	0.0
HUIG				eS	Sn	06 33 21.1	-5.8
NEUV	Arroyo Zacate	4.42	314	eP	Pn	06 32 55.7	+1.1
NEUV				eS	Sn	06 33 44.6	-0.2
SCIG	Sabancuy	4.47	16	eP	Pn	06 32 56.1	+0.7
SCIG				eS	Sn	06 33 41.0	-5.2
PEIG	Puerto Escondi	4.70	287	eP	Pn	06 32 58.7	+0.1
PEIG				eS	Sn	06 33 50.5	-1.4
YOIG	Yosondua	5.35	295	eP	Pn	06 33 09.8	+2.1
YOIG				eS	Sn	06 34 08.4	+0.3
TOIG	Toxpalan	5.58	309	eP	Pn	06 33 15.9	+5.2
TOIG				eS	Sn	06 34 16.4	+2.9
TXIG	Tlaxiaco	5.71	298	eP	Pn	06 33 14.9	+2.3
TXIG				eS	Sn	06 34 18.0	+1.0
HLIG	Huajuapan de L	6.02	302	eP	Pn	06 33 21.1	+4.4
HLIG				eS	Sn	06 34 24.7	+0.4
FTIG	Fresnillo de T	6.33	302	eP	Pn	06 33 23.6	+2.7
FTIG				eS	Sn	06 34 30.7	-1.1
TLIG	Tlapa	6.53	297	eP	Pn	06 33 26.6	+2.9
TLIG				eS	Sn	06 34 36.6	-0.2

NEIC ***04*** *06:57:29.3±2.2, 1°.12S±0°.06×100°.68E±0°.07, h97km±4km, mb4.8/47, Error ellipse: s-maj=11.5km s-min=8.0km az=61.0*
IDC ***04*** *06:57:29.8±0.7, 0°.93S×100°.99E, h109km±5km, mb3.9/18, mbtmp4.3/21, MS2.4/1, Error ellipse: s-maj=19.6km s-min=8.2km az=60.0*
DJA ***04*** *06:57:30.0±0.2, 1°S±2°×10°1E±°, h92km±5km, M4.5/17, mb4.7/6, mB5.0/5, MLv4.5/17, Mw(mB)4.3/5*
ISC 04 06:57:29.0±0.6, 1°.16S±0°.04×100°.67E±0°.05, h104km±4km, n137, σ1s27/152, mb4.5/41, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	0.75	338	P	Pn	06 57 47.7	+0.4
PPI				S	Sn	06 58 00.3	-0.7
BKNI	Bangkinang	1.52	14	Pn	Pn	06 57 54.3	-1.5
BKNI	Bangkinang	1.52	14	P	Pn	06 57 57.5	+1.7
BKNI	Bangkinang	1.52	14	P	Pn	06 57 55.1	-0.7
BKNI				S	Sn	06 58 15.1	-1.0
SISI	Saibi	1.59	264	P	Pn	06 57 58.1	+1.5
PPSI	Pulau Pagai	1.72	203	P	Pn	06 57 59.9	+1.7
MNSI	Mandailing Nat	2.23	331	P	Pn	06 58 05.7	+0.9
KSI	Kapahiang	3.13	142	P	Pn	06 58 17.7	+1.0
MNAI	Manna	3.91	144		Pn	06 58 28.9	+1.8
MNAI	Manna	3.91	144	P	Pn	06 58 28.7	+1.6
GSI	Gunungsitoli	3.95	308		Pn	06 58 28.5	+0.9
GSI	Gunungsitoli	3.95	308	P	Pn	06 58 28.5	+0.9
GSI	Gunungsitoli	3.95	308	S	Sn	06 59 12.4	-0.6
GSI	Gunungsitoli	3.95	308	P	Pn	06 58 28.3	+0.7
RPSI	Rantau Prapat	4.21	335		Pn	06 58 32.5	+1.3
RPSI					Sn	06 59 19.7	+0.3
PSI	Prapat	4.31	336	P	Pn	06 58 32.5	-0.1
	16nm,0.3s,baz=153,slow=11,SNR=27						
PSI				S	Sn	06 59 19.7	-2.2
	7.5nm,0.3s,baz=172,slow=15,SNR=3.6						
PSI				LR	LR	07 00 10.5	
	comp=Z,47nm,21.9s,baz=204,slow=39						
MYKOM	Kota Tinggi	4.32	47	Pn	Pn	06 58 33.7	+1.0
MYKOM	Kota Tinggi	4.32	47	P	Pn	06 58 34.0	+1.4
MDSI	Maura Dua	4.81	133	P	Pn	06 58 41.3	+2.1
SNSI	Sinabang, Aceh	5.61	309	P	Pn	06 58 50.8	+0.7
IPM	Ipoh	5.62	4	Pn	Pn	06 58 54.2	+4.0
IPM	Ipoh	5.62	4	P	Pn	06 58 53.2	+3.0
	40nm,0.8s						
KULM	Kulim	6.41	360	Pn	Pn	06 59 03.3	+2.3
KULM	Kulim	6.41	360	P	Pn	06 59 03.0	+2.0
	57nm,0.7s						
MLSI	Meulaboh, Aceh	6.88	322	P	Pn	06 59 07.8	+0.5
	61nm,0.7s						
BSI	Banda Aceh	8.52	321	P	Pn	06 59 28.2	-1.5
BBJI	Bungbulang	9.36	132	P	Pn	06 59 39.2	-1.8
	14nm,0.7s						
BBJI	Bungbulang	9.36	132	S	Sn	07 01 23.4	-1.1
	14nm,0.7s						
KPJI	Karang Pucung	10.26	127	P	Pn	06 59 52.2	-1.1
	28nm,0.5s						
XMIS	Christmas Isla	10.50	152	P	Pn	06 59 54.5	-2.0
	24nm,0.9s						
UGM	Wanagama	11.88	125	Pn	Pn	07 00 15.2	0.0
UGM	Wanagama	11.88	125	P	Pn	07 00 14.5	-0.7
	86nm,1.7s						
JAGI	Jajag, Banyuwa	15.26	119	Pn	Pn	07 00 58.7	-0.3
JAGI				IAmb	IAmb	07 01 10.6	
	comp=Z,51nm,1.3s						
JAGI	Jajag, Banyuwa	15.26	119	P	Pn	07 00 58.5	-0.5
	comp=Z,29nm,1.2s						
PLAI	Plampang	18.65	115	P	Pn	07 01 39.5	-0.9
	comp=Z,13nm,1.3s						
KAPI	Kappang	19.43	102	P	P	07 01 45.3	-2.1
	comp=Z,4.6nm,0.3s,baz=98,slow=21,SNR=6.7						
CMAR	Chiang Mai Arr	19.57	355	P	P	07 01 48.0	-0.9
	comp=Z,1.2nm,0.3s,baz=187,slow=10,SNR=14						
CMAR				S	S	07 05 20.4	-4.0
	comp=Z,1.8nm,0.3s,baz

WR0 IAmb IAmb 07 04 38.8
comp=Z,16nm,1.4s
AS31 Alice Springs 39.21 127 P **P 07 04 46.5 -0.9**
ASAR Alice Springs 39.21 127 P **P 07 04 48.0 +0.6**
ASAR Alice Springs 39.21 127 P **P 07 04 46.6 -0.8**
comp=Z,2.5nm,0.4s,baz=302,slow=7.5,SNR=27
ASAR pP **pP 07 05 10.6 -0.8**
comp=Z,1.3nm,0.7s,baz=302,slow=8.1,SNR=2.7
ASAR PcP **PcP 07 06 55.3 +0.5**
comp=Z,1.0nm,0.6s,baz=307,slow=2.4,SNR=8.3
ASAR ScP **ScP 07 10 32.4 -1.6**
comp=Z,0.8nm,0.6s,baz=306,slow=3.7,SNR=11
comp=Z,2.5nm,0.4s
FORT Forrest 39.26 141 P **P 07 04 48.2 +0.6**
FORT IAmb IAmb 07 04 52.8
comp=Z,24nm,0.9s
HHC Hu-ho-hao-te 42.98 12 *eP* **P 07 05 19.2 +1.1**
HHC pmax pmax
comp=Z,4.0nm,0.9s
BBOO Buckleboo 45.79 137 P **P 07 05 40.9 +0.3**
BBOO IAmb IAmb 07 05 50.6
comp=Z,37nm,1.5s
KSH Kashi 46.38 333 P **P 07 05 44.3 -0.9**
KSH pmax pmax
comp=Z,7.0nm,0.7s
WUS Wushi 46.45 338 P **P 07 05 46.1 +0.3**
WUS IAmb IAmb 07 05 46.9
comp=Z,3.8nm,0.6s
WUS Wushi 46.45 338 P **P 07 05 46.0 +0.3**
TARG Taragay, Kyrgy 47.45 337 P **P 07 05 54.5 +0.7**
DRK Karamyk 48.33 330 P **P 07 06 01.8 +1.2**
JCJ Chichijima 48.83 52 P **P 07 06 03.7 -0.5**
SONM Songino Array 49.05 5 P **P 07 06 05.5 -0.2**
SONM Songino Array 49.05 5 P **P 07 06 04.0 -1.7**
comp=Z,0.8nm,0.7s,baz=185,slow=8.3,SNR=5.9
SONM PcP **PcP 07 07 28.0 0.0**
comp=Z,0.5nm,0.4s,baz=193,slow=4.0,SNR=6.4
SONM ScP **ScP 07 11 10.8 -3.0**
comp=Z,1.4nm,0.8s,baz=183,slow=3.7,SNR=6.8
comp=Z,0.8nm,0.7s
CHGR Chuyangaron 49.10 327 P **P 07 06 05.3 -0.8**
CHGR IAmb IAmb 07 06 07.0
comp=Z,31nm,1.3s
SIMJ Simiganj 49.18 327 P **P 07 06 06.2 -0.6**
SIMJ IAmb IAmb 07 06 07.7
comp=Z,16nm,1.1s
SIMJ Simiganj 49.18 327 P **P 07 06 06.7 -0.1**
ARSB Arslanbob 49.19 332 P **P 07 06 07.1 +0.2**
STKA Stephens Creek 49.21 133 P **P 07 06 07.1 +0.1**
STKA IAmb IAmb 07 06 08.0
comp=Z,6.3nm,0.8s
STKA Stephens Creek 49.21 133 P **P 07 06 06.2 -0.8**
comp=Z,3.7nm,0.5s,baz=317,slow=7.3,SNR=8.8
comp=Z,3.7nm,0.5s
BTK Batken 49.26 330 P **P 07 06 07.3 -0.1**
BTK IAmb IAmb 07 06 09.3
comp=Z,13nm,0.6s
MK31 Makanchi Array 50.41 344 P **P 07 06 15.7 -0.2**
MKAR Makanchi Array 50.41 344 P **P 07 06 15.3 -0.6**
comp=Z,0.7nm,0.3s,baz=156,slow=9.1,SNR=40
MKAR pP **pP 07 06 41.0 +0.2**
comp=Z,0.6nm,0.4s,baz=159,slow=8.5,SNR=3.1
comp=Z,0.7nm,0.3s
MAKZ Makanchi 50.52 343 P **P 07 06 16.1 -0.5**
KKAR Karatay Array 51.73 332 P **P 07 06 25.7 -0.1**
KURBB Kurchatov Arra 54.95 343 P **P 07 06 48.7 -0.4**
comp=Z,0.5nm,0.4s,baz=163,slow=7.0,SNR=7.4
KURBB pP **pP 07 07 15.4 +1.0**
comp=Z,0.2nm,0.5s,baz=160,slow=7.0,SNR=2.1
KURBB PcP **PcP 07 07 50.2 +0.4**
comp=Z,0.3nm,0.5s,baz=160,slow=4.4,SNR=4.6
comp=Z,0.5nm,0.4s
KURK Kurchatov 55.00 343 P **P 07 06 48.7 -0.9**
CAN Canberra 56.27 133 P **P 07 06 59.2 +0.1**
VOI Vohitsoka 56.30 244 P **P 07 06 58.0 -1.6**
VOI IAmb IAmb 07 07 05.1
comp=Z,9.1nm,1.2s
ZAA0 Zalesovo Array 56.48 349 P **P 07 06 59.4 -0.6**
ZAA0 IAmb IAmb 07 07 01.0
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 56.48 349 P **P 07 06 59.1 -1.0**
ZALV Zalesovo Beam 56.48 349 P **P 07 06 59.5 -0.5**
comp=Z,0.8nm,0.2s,baz=161,slow=5.8,SNR=1.2
ZALV pP **pP 07 07 25.7 +0.3**
comp=Z,0.7nm,0.4s,baz=165,slow=6.9,SNR=1.3
comp=Z,0.8nm,0.2s
BVAR Borovoye Array 59.64 339 P **P 07 07 21.4 -0.8**
comp=Z,3.3nm,0.6s,baz=144,slow=9.0,SNR=19
BVAR pP **pP 07 07 47.4 -0.5**
comp=Z,0.8nm,0.6s,baz=154,slow=7.8,SNR=1.7
comp=Z,3.3nm,0.6s
BRVK Borovoye 59.70 339 P **P 07 07 21.8 -0.8**
BRVK IAmb IAmb 07 07 22.4
comp=Z,2.5nm,0.8s
BRVK Borovoye 59.70 339 P **P 07 07 21.6 -1.0**
ABKAR Akbulak array 61.24 331 P **P 07 07 32.6 -0.5**
ARTI Arti 66.76 336 P **P 07 08 08.5 -0.6**
ARTI IAmb IAmb 07 08 11.4
comp=Z,3.1nm,0.6s
ARTI Arti 66.76 336 P **P 07 08 08.1 -1.0**
ARTI PcP **PcP 07 08 36.8 -0.5**
MARD Mardin 67.19 312 P **P 07 08 13.6 +1.2**
MARD IAmb IAmb 07 08 14.0
comp=Z,11nm,0.6s
KBZ Khabaz 68.12 319 P **P 07 08 18.6 +0.6**
comp=Z,3.5nm,0.7s,baz=118,slow=7.4,SNR=12
comp=Z,3.5nm,0.7s
PEA0B Petropavlovsk- 71.82 32 P **P 07 08 41.3 +0.9**
PETK Petropavlovsk- 71.82 32 P **P 07 08 41.0 +0.6**
BR131 Keskin Array S 73.26 312 P **P 07 08 49.3 -0.1**
BRTR Keskin Array B 73.26 312 P **P 07 08 49.4 -0.1**
BRTR Keskin Array B 73.26 312 P **P 07 08 48.7 -0.7**
comp=Z,1.7nm,0.7s,baz=141,slow=7.5,SNR=12
comp=Z,1.7nm,0.7s
BOSA Boshof 76.65 241 P **P 07 09 11.4 +2.2**
comp=Z,2.5nm,0.7s,baz=101,slow=2.9,SNR=6.3
comp=Z,2.5nm,0.7s
BKZ Black Stump Fm 78.28 130 P **P 07 09 18.1 +0.2**
BKZ IAmb IAmb 07 09 32.7
comp=Z,28nm,1.4s
SYO Syowa Base 78.87 199⇓*eP* **P 07 09 23.0 +2.6**
AKASG Malin Array Be 79.24 322 P **P 07 09 22.0 -0.8**
comp=Z,0.2nm,0.3s,baz=90,slow=4.9,SNR=6.9
comp=Z,0.2nm,0.3s
BUR08 Bucovina Ar. S 81.10 319 P **P 07 09 34.5 +1.4**
LIT Litokhoron 81.72 311 P **P 07 09 36.1 -0.2**
LIT IAmb IAmb 07 09 36.6
comp=Z,9.4nm,0.6s
FIA1 FINESS Array S 83.69 332 P **P 07 09 46.6 +0.6**
FIA1 IAmb IAmb 07 10 10.5
comp=Z,22nm,1.2s
FINES FINESS Array B 83.69 332 P **P 07 09 46.2 +0.2**
comp=Z,1.0nm,0.4s,baz=108,slow=4.8,SNR=11
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 85.92 340 P **P 07 09 57.0 -0.1**
comp=Z,5.8nm,0.9s,baz=108,slow=4.1,SNR=29
comp=Z,5.8nm,0.9s
QSPA South Pole Qui 88.79 180 P **P 07 10 11.2 +0.1**
QSPA IAmb IAmb 07 10 31.8
comp=Z,5.8nm,1.5s
QSPA South Pole Qui 88.79 180 P **P 07 10 12.4 +1.3**
comp=Z,1.2nm,0.8s,baz=338,slow=2.7,SNR=3.6
comp=Z,1.2nm,0.8s
GERES GERESS Array B 88.87 319 P **P 07 10 12.1 +0.3**
comp=Z,0.3nm,0.4s,baz=88,slow=3.2,SNR=3.4
comp=Z,0.3nm,0.4s
HFS Hagfors 89.49 330 P **P 07 10 14.1 -0.3**
comp=Z,3.0nm,0.9s,baz=99,slow=4.7,SNR=2.5
comp=Z,3.0nm,0.9s
SPB1 Spitsbergen Ar 89.95 348 P **P 07 10 16.2 0.0**
SPA1 Spitsbergen Ar 89.96 348 P **P 07 10 15.9 -0.4**
SPITS Spitsbergen Ar 89.96 348 P **P 07 10 15.5 -0.7**
comp=Z,12nm,1.0s,baz=96,slow=8.9,SNR=9.1
comp=Z,12nm,1.0s
SPB5 Spitsbergen Ar 89.96 348 P **P 07 10 16.0 -0.2**
PDAR Pinedale Array 130.52 29 PKP **PKPdf 07 16 27.2 -1.1**
comp=Z,0.1nm,0.5s,baz=337,slow=6.5,SNR=2.2
PDAR SKPbc **SKPab 07 19 39.3 -3.4**
comp=Z,0.4nm,0.5s,baz=302,slow=2.6,SNR=5.7
TXAR Lajitas Array 143.63 37 PKP PKPbc 07 16 50.8 +0.5
comp=Z,0.4nm,0.4s,baz=290,slow=0.4,SNR=15
TXAR pPKP pPKPdf 07 17 19.8 -1.9
comp=Z,0.3nm,0.5s,baz=325,slow=2.9,SNR=2.9
TXAR SKPbc **SKPbc 07 20 20.7 -1.3**
comp=Z,0.7nm,0.6s,baz=339,slow=1.6,SNR=8.0
MIAR Mount Ida 144.22 20 PKPbc 07 16 51.7 -0.1
WVT Waverly 144.32 12 PKPdf **PKPab 07 16 51.7 0.0**
MT01 Popeta 144.34 192 PKPdf **PKPdf 07 16 53.3 -0.3**
MT09 Talagante 144.37 192 PKPdf **PKPdf 07 16 53.3 -0.6**
TZTN Tazewell 144.58 6 PKPdf **PKPab 07 16 52.5 -0.2**
U54A Nelsons Funny 144.74 3 PKPdf **PKPab 07 16 52.6 -0.7**
BDFB Brasilia 144.84 240 PKPbc **PKPdf 07 16 56.2 +1.1**
comp=Z,2.6nm,0.4s,baz=111,slow=2.7,SNR=6.2
V48A Smith Brothers 144.90 11 PKPbc **PKPab 07 16 53.4 -0.4**
JCT Junction City 144.96 32 PKPbc **PKPdf 07 16 55.4 +0.5**
U56A King 144.98 1 PKPbc PKPbc 07 16 53.8 -0.3
CPUP Villa Florida 145.39 216 PKPbc **PKPab 07 16 56.8 +0.8**
comp=Z,1.5nm,0.7s,baz=158,slow=3.9,SNR=5.6
TKL Tuckaleechee C 145.43 6 PKPbc **PKPdf 07 16 55.3 -0.2**
V53A Saluda 145.51 5 PKPbc **PKPdf 07 16 55.3 -0.4**
V58A Windy Hill, Pi 145.54 360 PKPbc **PKPbc 07 16 55.7 -0.1**
W50A Signal Mountai 145.68 9 PKPbc **PKPbc 07 16 56.4 0.0**
X48A Hartselle 146.11 11 PKPbc **PKPdf 07 16 56.6 0.0**
BG3 Lake Jocassee 146.18 5 PKPbc **PKPbc 07 16 57.5 -0.4**
Y49A Blount Mountai 146.80 11 PKPbc **PKPbc 07 16 59.4 -0.4**
Y52A Lilburn 147.17 7 PKPbc **PKPbc 07 17 00.7 0.0**
LRAL Lakeview Retre 147.49 12 PKPbc **PKPbc 07 17 00.9 -0.7**
CO01 Juntas del Tor 147.80 195 PKPbc **PKPbc 07 17 03.5 +0.6**
152A Waverly Hall 148.25 9 PKPbc **PKPbc 07 17 03.5 -0.2**

---

*NNC **04** 07:09:39.2±2.7,54°.18N×86°.79E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=25.3km s-min=12.0km az=12.0, Suspected Mining explosion.*
*ASRS **04** 07:09:40.0±0.8,54°.06N×86°.51E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **04** 07:09:44.0±2.2,54°.04N×86°.51E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=18.2km s-min=11.1km az=65.0.*
ISC 04 07:09:43.5±3.9,**54°.1N**±0°.2×**86°.5E**±0°.2,**h0**km,**n10,**
σ1⅊**19**/14,**5C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**264**	I	I	07 15 20.0	
	baz=83,slow=352,SNR=15						
ZAA0	**Zalesovo Array**	**1.00**	**264**	⇑P	**Pg**	**07 10 01.0**	**-1.7**
	0.2nm,0.3s						
ZAA0				⇑S	**Sb**	**07 10 18.1**	**+0.7**
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**1.00**	**264**	Pg	**Pg**	**07 10 01.4**	**-1.3**
	1.7nm,0.3s,baz=88,slow=17,SNR=16						
ZALV				Lg	Lg	07 10 17.1	
	3.1nm,0.3s,baz=82,slow=31,SNR=15						
ZALV				Rg	Rg	07 10 21.5	
	1.5nm,0.3s,baz=87,slow=29,SNR=3.9						
KURK	**Kurchatov**	**5.88**	**238**	⇓Pn	**Pn**	**07 11 12.7**	**+0.9**
	0.5nm,0.4s						
KURK				⇓Lg	Lg	07 12 52.4	
	3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	**Pn**	**07 11 14.6**	**+1.4**
	0.2nm,0.3s,baz=55,slow=14,SNR=9.9						
KURBB				Sn	**Sn**	**07 12 23.6**	**+1.2**
	baz=48,slow=22						
KURBB				Lg	Lg	07 12 55.4	
	baz=53,slow=32,SNR=4.1						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**5.98**	**238**	⇑Pn	**Pn**	**07 11 13.5**	**+0.3**
	1.1nm,0.3s						
KURBB				⇓Lg	Lg	07 12 56.5	
	2.3nm,0.8s						
MK31	**Makanchi Array**	**7.77**	**202**	⇓Pn	**Pn**	**07 11 38.3**	**+0.7**
	0.3nm,0.6s,baz=23,slow=13,SNR=34						
MK31				⇑Sn	**Sn**	**07 13 07.4**	**+1.1**
	0.2nm,0.6s						
MK31				⇓Lg	Lg	07 13 47.5	
	2.2nm,1.0s,baz=23,slow=31						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	**Pn**	**07 11 38.9**	**+1.2**
	0.2nm,0.3s,baz=24,slow=14,SNR=26						
MKAR				Sn	**Sn**	**07 13 05.2**	**-1.1**
	baz=19,slow=28,SNR=3.3						
MKAR				Lg	Lg	07 13 48.0	
	0.1nm,0.3s,baz=26,slow=31,SNR=3.9						
	0.4nm,0.3s						
MAKZ	**Makanchi**	**7.83**	**203**	⇑Pn	**Pn**	**07 11 38.4**	**-0.1**
	0.2nm,0.4s						
MAKZ				⇓Sn	**Sn**	**07 13 06.4**	**-1.4**
	0.3nm,0.6s						
MAKZ				⇓Lg	Lg	07 13 51.9	
	1.5nm,1.1s						
BVAR	**Borovoye Array**	**9.65**	**270**	Pn	**Pn**	**07 12 03.9**	**+0.4**
	baz=80,slow=15,SNR=1.9						
	0.2nm,0.3s						

---

*NNC **04** 07:16:00.8±1.9,49°.66N×81°.86E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=26.3km s-min=4.8km az=54.0, Suspected Mining explosion.*
*IDC **04** 07:16:02.9±1.4,49°.73N×81°.72E, h0km, mbtmp2.6/3, ML2.1/2, Error ellipse: s-maj=18.2km s-min=11.2km az=63.0*
ISC 04 07:15:55.9±1.4,**49°.88N**±0°.05×**82°.13E**±0°.07,**h0**km,**n8,**
σ0⅊**63**/9,**4C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.40**	**292**	⇓Pn	**Pb**	**07 16 40.2**	**+0.2**
	11nm,0.6s						
KURK				⇓Sn	**Sb**	**07 17 10.5**	**+0.4**
	22nm,0.8s						
KURBB	**Kurchatov Arra**	**2.43**	**289**	Pn	**Pg**	**07 16 41.8**	**-0.6**
	0.4nm,0.3s,baz=112,slow=19,SNR=76						
KURBB				Lg	Lg	07 17 11.7	
	0.8nm,0.3s,baz=109,slow=30,SNR=8.7						
KURBB				Rg	Rg	07 17 25.5	
	2.5nm,0.6s,baz=102,slow=40,SNR=2.1						
	3.2nm,0.4s						
KURBB	**Kurchatov Arra**	**2.43**	**289**	⇓Pn	**Pb**	**07 16 40.7**	**+0.3**
	12nm,0.5s						
KURBB				⇑Sn	**Sb**	**07 17 11.2**	**+0.4**
	47nm,0.7s						
MAKZ	**Makanchi**	**3.08**	**182**	⇑Pg	**Pb**	**07 16 51.6**	**0.0**
	1.1nm,0.4s						
MAKZ				⇓Lg	Lg	07 17 30.9	
	3.9nm,0.6s						
MK31	**Makanchi Array**	**3.09**	**178**	⇑Pg	**Pg**	**07 16 54.4**	**-0.7**
	0.9nm,0.3s,baz=352,slow=11,SNR=28						
MK31				⇑Lg	Lg	07 17 34.0	
	7.6nm,0.6s,baz=352,slow=28,SNR=17						
MKAR	**Makanchi Array**	**3.09**	**178**	Pn	**Pb**	**07 16 52.8**	**+1.0**
	0.4nm,0.3s,baz=355,slow=12,SNR=5.1						
MKAR				Lg	Lg	07 17 34.0	
	2.1nm,0.3s,baz=358,slow=27,SNR=19						
	2.0nm,0.4s						
ZALV	**Zalesovo Beam**	**4.40**	**21**	Pn	**Pb**	**07 17 14.3**	**+0.3**
	0.5nm,0.3s,baz=205,slow=12,SNR=1.9						
ZALV				Lg	Lg	07 18 30.8	
	0.5nm,0.3s,baz=204,slow=24,SNR=10.0						
I46RU	**ZALESOVO INFRA**	**4.40**	**21**	I	I	07 45 20.0	
	baz=200,slow=339,SNR=0.5						

---

*HLW **04** 07:24:37.1,26°.29N×33°.41E, h31km±16km, Md2.3, Ml2.2*
SGS 04 07:24:36.0,27°.08N×34°.76E, h15km, Ml1.5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHRG	**Al Ghardaqah**	**1.07**	**278**	P	Pb	07 24 51.4	-4.9
HHRG				S	Sb	07 25 02.5	-7.7
AYUS	**ˆAynunah**	**1.19**	**22**	S	Sb	07 25 11.8	-1.8
AYUS	**ˆAynunah**	**1.19**	**22**	P	Pn	07 24 56.3	-1.9
WTBKS	**WTBKS**	**1.43**	**45**	P	Pn	07 24 59.1	-2.4
WTBKS	**WTBKS**	**1.43**	**45**	S	Sn	07 25 18.4	-1.8
URD07	**Al Anba**	**1.74**	**69**	P	Pn	07 25 05.1	-0.9
URD07	**Al Anba**	**1.74**	**69**	S	Sn	07 25 26.3	-1.7
NADB	**Abo Dabab**	**1.75**	**188**	P	Pn	07 24 59.4	-6.4
URD06	**Shuwaq**	**1.82**	**78**	S	Sn	07 25 26.7	-3.1
URD06	**Shuwaq**	**1.82**	**78**	P	Pn	07 25 05.2	-1.8
JMOS	**Jabal al Moall**	**2.10**	**8**	S	Sn	07 25 36.2	-0.4
JMOS				P	Pn	07 25 10.1	-0.6
GRB	**Gharib**	**2.12**	**305**	P	Pn	07 25 08.8	-2.1
URD12	**Shuwaq**	**2.15**	**71**	P	Pn	07 25 10.1	-1.4
URD12	**Shuwaq**	**2.15**	**71**	S	Sn	07 25 36.6	-1.3
HAGS	**Hagol**	**2.70**	**176**	⇑P	Pn	07 25 12.9	-6.0

---

*SJA **04** 07:25:45.4±0.6, 28°.40S×70°.65W, h76km±4km, ML3.7, MW3.7*
*GUC **04** 07:25:46.9±0.8, 28°.49S×70°.48W, h111km±5km, ML4.0*
*IDC **04** 07:25:47.6±3.3, 28°.50S×70°.16W, h99km±28km, mb3.6/4, mbtmp3.7/8, Error ellipse: s-maj=37.5km s-min=19.5km az=90.0.*
ISC 04 07:25:46.7±0.8,**28°.45S**±0°.03×**70°.54W**±0°.04,**h107**km±6km,
n60,σ1⅊**90**/77,**mb4.3**/5,**4C-5D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.53**	**298**	⇓*i*P	**Pn**	**07 26 04.4**	**+1.0**
AC04				*i* S	**Sn**	**07 26 16.7**	**+0.8**
AC04				IAML		07 26 17.5	
	comp=N,6μm,0.2s						
LCO	**Las Campanas**	**0.57**	**194**	*i* P	**Pn**	**07 26 04.1**	**0.0**
LCO				*i* S	**Sn**	**07 26 17.1**	**0.0**
CO01	**Juntas del Tor**	**1.57**	**166**	⇑*i*P	**Pn**	**07 26 14.7**	**+0.2**
CO01				*i* S	**Sn**	**07 26 35.2**	**-0.3**
CO05	**La Serena**	**1.58**	**202**	*i* P	**Pn**	**07 26 14.6**	**+0.3**
CO05				*i* S	**Sn**	**07 26 35.0**	**-0.3**
CO05				IAML		07 26 39.4	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**1.73**	**187**	*eP*	Pn	07 26 05.0	-11
GO04				*eS*	**Sn**	**07 26 38.5**	**-0.5**
AROD	**Rodeo**	**1.95**	**152**	*eP*	**Pn**	**07 26 20.4**	**+1.1**
AROD				*eS*	**Sn**	**07 26 39.5**	**-4.5**
AC02	**Maricunga**	**2.04**	**38**	*eP*	**Pn**	**07 26 20.5**	**-0.1**
AC02				*eS*	**Sn**	**07 26 45.7**	**-0.7**
AC02				IAML		07 26 47.5	
	comp=Z,910nm,0.1s						
AC02	**Maricunga**	**2.04**	**38**	⇓*i*P	**Pn**	**07 26 20.5**	**-0.1**
AC02				*i* S	**Sn**	**07 26 44.5**	**-1.9**
AGUA	**GUANDACOL**	**2.07**	**120**	*eP*	**Pn**	**07 26 21.7**	**+1.1**
AGUA				*eS*	**Sn**	**07 26 50.6**	**+4.1**
AGUA				IAML		07 26 51.7	
	comp=Z,601nm,0.5s						
VCA	**Vinchina**	**2.08**	**98**	*eP*	**Pn**	**07 26 21.9**	**+1.2**
VCA				*eS*	**Sn**	**07 26 47.9**	**+1.3**
VCA				IAML		07 26 50.0	
	comp=Z,668nm,0.2s						
ACDV	**Cuesta del Vie**	**2.12**	**144**	*eP*	**Pn**	**07 26 18.6**	**-2.6**
ACDV				IAML		07 26 56.4	
	comp=Z,224nm,0.4s						
AC01	**Pan de Azucar**	**2.29**	**359**	⇓*i*P	**Pn**	**07 26 23.2**	**-0.2**
AC01				IAML		07 26 52.0	
	comp=N,1μm,0.1s						
CO03	**El Pedregal**	**2.38**	**183**	*eP*	Pn	07 26 07.3	-17
CO03				*eS*	**Sn**	**07 26 46.5**	**-7.1**
CO03				IAML		07 26 54.3	
	comp=Z,410nm,0.5s						
CO03	**El Pedregal**	**2.38**	**183**	*eP*	**Pn**	**07 26 25.0**	**+0.4**
CO03				IAML		07 26 54.8	
	comp=E,1μm,0.2s						
ACCO	**Cerro Coronel**	**2.49**	**149**	*eP*	**Pn**	**07 26 27.7**	**+1.5**
ACCO				*eS*	**Sn**	**07 26 58.9**	**+2.5**
DOCA	**Reserva Natura**	**2.79**	**153**	*eP*	**Pn**	**07 26 30.9**	**+0.6**
DOCA				*eS*	**Sn**	**07 27 06.1**	**+2.4**
ACLC	**CERRO LA CRUZ**	**3.29**	**108**	*eP*	**Pn**	**07 26 36.4**	**-0.3**
ACLC				*eS*	**Sn**	**07 27 13.8**	**-1.5**
ACLC				IAML		07 27 15.1	
	comp=Z,171nm,0.3s						
GO02	**Mina Guanaco**	**3.38**	**15**	*eP*	**Pn**	**07 26 37.5**	**-0.6**
GO02				*eS*	**Sn**	**07 27 17.2**	**-0.5**
GO02	**Mina Guanaco**	**3.38**	**15**	⇓*i*P	**Pn**	**07 26 37.3**	**-0.8**
ZON	**Zonda**	**3.48**	**153**	*eP*	**Pn**	**07 26 40.2**	**+1.1**
ZON				*eS*	**Sn**	**07 27 20.0**	**+0.4**
ZON				IAML		07 27 26.2	
	comp=Z,98nm,0.3s						
RTLS	**Leoncito**	**3.51**	**162**	*eP*	Pn	07 26 34.4	-5.3
RTLS				*eS*	**Sn**	**07 27 23.3**	**+2.8**
RTLS				IAML		07 27 23.8	
	comp=Z,239nm,0.2s						
PB14	**IPOC Station P**	**3.81**	**2**	*eP*	**Pn**	**07 26 42.2**	**-1.6**
AUSP	**Uspallata**	**3.89**	**165**	*eP*	Pn	07 26 38.2	-6.6
AUSP				*eS*	**Sn**	**07 27 24.5**	**-5.2**
APLL	**PUNTA DE LOS L**	**4.00**	**120**	*eS*	**Sn**	**07 27 30.2**	**-1.9**
APLL				IAML		07 27 30.5	
	comp=Z,42nm,0.3s						
VA06	**Catapilco**	**4.15**	**189**	*eP*	**Pn**	**07 26 46.7**	**-1.2**
CYA	**Choya**	**4.17**	**91**	*eP*	**Pn**	**07 26 47.6**	**-0.8**
CYA				*eS*	**Sn**	**07 27 33.4**	**-2.9**
CYA				IAML		07 27 34.1	
	comp=Z,68nm,0.4s						
VA03	**San Esteban**	**4.30**	**180**	*eP*	**Pn**	**07 26 50.2**	**+0.2**
VA03				*eS*	**Sn**	**07 27 40.0**	**+0.7**
VA03				IAML		07 27 45.0	
	comp=Z,83nm,0.1s						
VA03	**San Esteban**	**4.30**	**180**	⇓*i*P	**Pn**	**07 26 50.3**	**+0.2**
VA03				*eS*	**Sn**	**07 27 38.4**	**-0.9**
ASAL	**Salagasta**	**4.38**	**161**	*eP*	**Pn**	**07 26 52.5**	**+1.3**
ASAL				*eS*	**Sn**	**07 27 43.4**	**+2.1**
ROCH	**El Roble**	**4.52**	**185**	*eP*		07 26 52.0	
ROCH				*eP*	**Pn**	**07 26 52.0**	**-1.3**
ROC1	**El Roble**	**4.53**	**185**	*eP*	**Pn**	**07 26 52.2**	**-1.2**
ROC1				*eS*	**Sn**	**07 27 44.8**	**-0.3**
ARCO	**CERRO ARCO**	**4.59**	**163**	*eP*	**Pn**	**07 26 55.4**	**+1.3**
ARCO				*eS*	**Sn**	**07 27 43.5**	**-3.0**
ARCO				IAML		07 27 53.8	
	comp=Z,85nm,0.4s						
PEL	**Peldehue**	**4.68**	**181**	*eP*	**Pn**	**07 26 55.8**	**+0.6**
PEL				*eS*	Sn	**07 27 48.5**	**+0.1**
FSA	**Cafayete**	**4.68**	**61**	*eP*	**Pn**	**07 26 55.6**	**+0.1**
MT02	**Curacav**	**4.82**	**186**	*eP*	**Pn**	**07 26 55.5**	**-1.6**
AAGR	**Agrelo**	**4.85**	**163**	*eP*	**Pn**	**07 26 58.8**	**+1.2**
AAGR				*eS*	Sn	07 27 32.5	-20
MT05	**Renca**	**4.93**	**182**	*eP*	**Pn**	**07 26 57.7**	**-0.9**
AZAP	**Zapla**	**6.47**	**51**	*eP*	**Pn**	**07 27 19.7**	**0.0**
AZAP				IAML		07 29 05.2	
	comp=Z,11nm,2.6s						
ASTB	**Santa Barbara**	**7.07**	**52**	*eP*	Pn	07 27 22.0	-5.8
H03N1	**Juan Fernandez**	**8.74**	**233**	T	T	07 37 03.4	
	baz=57,slow=72,SNR=99						
H03N2	**Juan Fernandez**	**8.75**	**233**	T	T	07 37 13.6	
	baz=57,slow=72,SNR=44						
H03N3	**Juan Fernandez**	**8.75**	**233**	T	T	07 36 43.4	
	baz=57,slow=72,SNR=78						
CPUP	**Villa Florida**	**11.93**	**83**	P	**Pn**	**07 28 30.1**	**-3.2**
	comp=Z,0.5nm,0.4s,baz=242,slow=12,SNR=3.6						
PLCA	**Paso Flores**	**12.25**	**180**	P	**Pn**	**07 28 38.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=8.1,slow=14,SNR=1.4						
LPAZ	**La Paz**	**12.31**	**11**	P	**Pn**	**07 28 40.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=158,slow=21,SNR=1.9						
SIV	**San Ignacio**	**15.18**	**37**	P	**Pn**	**07 29 14.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=220,slow=11,SNR=5.8						
VNA2	**Neumayer--Watz**	**54.67**	**159**	P	**P**	**07 35 03.0**	**-1.2**
	baz=276,slow=9.3						
VNA2	**Neumayer--Watz**	**54.67**	**159**	⇑P	**P**	**07 35 03.0**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=276,slow=9.3						
SNAA	**Sanae**	**56.27**	**159**	P	**P**	**07 35 12.9**	**-2.9**
SNAA	**Sanae**	**56.27**	**159**	⇑P	**P**	**07 35 12.9**	**-2.9**
	comp=Z,49nm,0.6s						
SNAA	**Sanae**	**56.27**	**159**	P	**P**	**07 35 16.0**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=280,slow=9.0,SNR=11						
	comp=Z,2.4nm,0.7s						
TROLL	**

8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**256**	I	I	07 36 59.7	
	baz=90,slow=354,SNR=11						
ZAA0	**Zalesovo Array**	**1.09**	**256**	⇑P	**Pg**	**07 31 04.9**	**+0.5**
	0.1nm,0.3s						
ZAA0				⇑S	**Sb**	**07 31 21.8**	**+1.7**
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**1.09**	**256**	Pg	**Pg**	**07 31 05.1**	**+0.6**
	0.6nm,0.3s,baz=88,slow=17,SNR=9.4						
ZALV				Lg	Lg	07 31 20.9	
	1.5nm,0.3s,baz=90,slow=30,SNR=13						
ZALV				Rg	Rg	07 31 27.5	
	1.1nm,0.2s,baz=86,slow=28,SNR=9.1						
KURK	**Kurchatov**	**6.02**	**237**	⇓Pn	**Pn**	**07 32 09.9**	**-3.8**
	0.1nm,0.4s						
KURK				⇑Lg	Lg	07 33 56.6	
	2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.12**	**237**	Pn	**Pn**	**07 32 15.2**	**+0.1**
	0.1nm,0.3s,baz=55,slow=13,SNR=6.0						
KURBB				Lg	Lg	07 33 55.1	
	baz=63,slow=32,SNR=4.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**6.12**	**237**	⇓Pn	**Pn**	**07 32 15.4**	**+0.2**
	0.3nm,0.3s						
KURBB				⇑Lg	Lg	07 34 00.2	
	2.5nm,0.8s						
MK31	**Makanchi Array**	**7.94**	**202**	⇓Pn	**Pn**	**07 32 42.5**	**+2.4**
	0.1nm,0.5s,baz=27,slow=14,SNR=6.5						
MK31				⇑Sn	**Sn**	**07 34 09.5**	**-1.1**
	0.1nm,0.5s						
MK31				⇑Lg	Lg	07 34 55.1	
	1.1nm,0.9s,baz=29,slow=20,SNR=4.5						
MKAR	**Makanchi Array**	**7.94**	**202**	Pn	**Pn**	**07 32 39.6**	**-0.6**
	0.1nm,0.3s,baz=25,slow=13,SNR=5.9						
MKAR				Lg	Lg	07 34 49.3	
	baz=22,slow=28,SNR=2.8						
	0.1nm,0.3s						
MAKZ	**Makanchi**	**8.00**	**204**	⇑Pn	**Pn**	**07 34 41.0**	**+0.1**
	0.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**07 34 10.6**	**-1.5**
	0.1nm,0.5s						
MAKZ				⇓Lg	Lg	07 34 57.1	
	0.3nm,0.8s						

TXNET 04 07:36:10.4, 31°.6N±0°.9×104°.3W±0°.8, h5km±2km, ML1.7/7, 1C, Error ellipse: s-maj=1.5km s-min=1.0km az=35.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**33**	⇑P	Pg	07 36 17.2	-0.1
TPB11				S	Sg	07 36 21.9	-0.1
PECS	**Pecos**	**0.43**	**129**	P	Pg	07 36 19.0	+0.2
PECS				S	Sg	07 36 24.7	+0.4
PECS	**Pecos**	**0.43**	**129**	P	Pn	07 36 25.5	+2.2
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	07 36 19.7	-0.3
TPB12				S	Sg	07 36 26.4	0.0
TPB12	**Southwest of T**	**0.50**	**149**	P	Pn	07 36 26.6	+2.4
TPB07	**Mentone**	**0.51**	**97**	S	Sg	07 36 27.2	+0.4
TPB07	**Mentone**	**0.51**	**97**	P	Pb	07 36 22.8	+0.9
TPB07				S	Sg	07 36 27.4	+0.6
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	07 36 21.4	+0.2
TPB10				S	Sg	07 36 29.2	+0.8
TPB10	**Southeast of T**	**0.56**	**129**	P	Pn	07 36 29.8	+4.7
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	07 36 32.7	-0.3
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	07 36 25.4	-0.5
TPB01				S	Sg	07 36 35.8	-0.5
TPB06	**Permian Basin**	**0.89**	**89**	S	Sg	07 36 38.0	-1.0
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	07 36 29.2	+0.3
MNTX				S	Sg	07 36 41.9	+0.5
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	07 36 29.2	+0.3
MNTX				S	Sg	07 36 42.0	+0.6
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	07 36 29.5	+0.2
HTMS				S	Sn	07 36 44.6	-0.8
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	07 36 30.7	0.0
VHRN				S	Sg	07 36 44.1	-0.3
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	07 36 30.6	0.0
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	07 36 30.5	-0.5
TPB05				S	Sg	07 36 44.9	-0.1
MNHN	**Monahans**	**1.31**	**103**	P	Pn	07 36 34.9	-0.6
MNHN				S	Sg	07 36 51.2	-1.5
ALPN	**Alpine**	**1.37**	**157**	P	Pn	07 36 35.3	-1.0
ALPN				S	Sg	07 36 52.6	-1.8
ALPN	**Alpine**	**1.37**	**157**	P	Pn	07 36 35.4	-1.0
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	07 36 37.2	0.0
ODSA	**Odessa**	**1.53**	**71**	S	Sn	07 36 58.9	0.0
TMB02	**Rankin**	**1.95**	**102**	P	Pn	07 36 44.9	+0.7
TMB02				S	Sb	07 37 10.5	-0.6

*UCR **04** 07:36:53.3±1.1, 9°.78N×83°.89W, h6km±1km, MW3.9*
*UPA **04** 07:36:54.1±0.8, 9°.84N×83°.91W, h8km±5km, MW3.5*
ISC 04 07:36:53.6±0.9, 9.77N±0°.02×83°.90W±0°.02, h7km±6km, n83, σ0s86/92, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REPA	**Paraso**	**0.06**	**32**	*e*P	**Pg**	**07 36 55.0**	**-0.4**
REPA				*e*S	**Sg**	**07 36 56.4**	**-0.5**
TAGO	**Cartago**	**0.10**	**348**	*e*P	**Pg**	**07 36 56.0**	**+0.1**
TAGO				*e*S	**Sg**	**07 36 58.2**	**+0.7**
LCR2	**La Lucha 2**	**0.11**	**253**	*e*P	**Pg**	**07 36 56.1**	**+0.1**
TRIO	**Tres Rios**	**0.16**	**326**	*e*P	**Pg**	**07 36 57.1**	**+0.2**
TRIO				*e*S	**Sg**	**07 37 00.0**	**+0.8**
ABE2	**San Pablo**	**0.16**	**245**	*e*P	**Pg**	**07 36 57.3**	**+0.3**
RAZU	**San Marcos de**	**0.16**	**226**	*e*P	**Pg**	**07 36 57.2**	**+0.2**
PCAYA	**Pacayas**	**0.17**	**32**	*e*P	**Pg**	**07 36 57.3**	**+0.2**
VINA	**Juan Vinas**	**0.20**	**52**	*e*P	**Pg**	**07 36 57.6**	**0.0**
AMPA	**Desamparados**	**0.20**	**308**	*e*P	**Pg**	**07 36 57.8**	**+0.2**
VICA	**Volcano Irazu**	**0.22**	**15**	*e*P	**Pg**	**07 36 58.3**	**+0.3**
SJS3	**Mercedes San J**	**0.22**	**318**	*e*P	**Pg**	**07 36 58.7**	**+0.7**
CORON	**Coronado**	**0.22**	**334**	*e*P	**Pg**	**07 36 58.8**	**+0.8**
SJS	**Escuela Geolog**	**0.22**	**318**	*e*P	**Pg**	**07 36 58.5**	**+0.5**
LUJA	**Lujan**	**0.23**	**312**	*e*P	**Pg**	**07 36 59.6**	**+1.5**
LUPE	**Guadalupe**	**0.23**	**319**	*e*P	**Pg**	**07 36 58.8**	**+0.6**
CENT	**San Jose**	**0.23**	**312**	*e*P	**Pg**	**07 36 58.8**	**+0.5**
MEXI	**Barrio Mexico**	**0.25**	**313**	*e*P	**Pg**	**07 36 59.0**	**+0.6**
TIBA	**Tibas**	**0.25**	**318**	*e*P	**Pg**	**07 37 00.3**	**+1.7**
TURIB	**Turrialba**	**0.25**	**58**	*e*P	**Pg**	**07 36 58.3**	**-0.4**
CVIMO	**Finca Echandi**	**0.25**	**351**	*e*P	**Pg**	**07 36 59.0**	**+0.4**
ACOS	**Acosta**	**0.26**	**275**	*e*P	**Pg**	**07 36 59.2**	**+0.5**
PISJ	**San Jernim**	**0.26**	**237**	*e*P	**Pg**	**07 36 59.0**	**+0.2**
VTLA	**Turrialba Volc**	**0.26**	**29**	*e*P	**Pg**	**07 36 59.1**	**+0.3**
CVTQ	**Turrialba Volc**	**0.27**	**30**	*e*P	**Pg**	**07 36 59.3**	**+0.3**
VERB	**Verbena**	**0.27**	**50**	*e*P	**Pg**	**07 36 59.0**	**+0.1**
VTCV	**VTCV, Calle Va**	**0.27**	**40**	*e*P	**Pg**	**07 36 59.2**	**+0.2**
CVTV	**Tajo**	**0.28**	**33**	*e*P	**Pg**	**07 36 59.5**	**+0.4**
DOMI	**Santo Domingo**	**0.28**	**318**	*e*P	**Pb**	**07 36 59.8**	**-1.2**
VTR0	**Volcan Turrial**	**0.28**	**30**	*e*P	**Pg**	**07 36 59.6**	**+0.3**
CVTR	**Volcan Turrial**	**0.28**	**30**	*e*P	**Pg**	**07 36 59.6**	**+0.2**
SANTA	**Santa Ana**	**0.32**	**300**	*e*P	**Pg**	**07 37 00.2**	**+0.4**
PICV	**PH. Pirrs**	**0.32**	**243**	*e*P	**Pg**	**07 36 60.0**	**+0.1**
RVSTA	**Santa Teresita**	**0.32**	**51**	*e*P	**Pg**	**07 37 00.1**	**+0.1**
BELE	**Belen**	**0.35**	**306**	*e*P	**Pb**	**07 37 01.8**	**-0.4**
LLNJ	**Naranjito**	**0.35**	**213**	*e*P	**Pg**	**07 37 01.5**	**+1.0**
VBV1	**V. Barva**	**0.39**	**330**	*e*P	**Pb**	**07 37 01.9**	**-1.2**
ZELE	**Perez Zeledon**	**0.44**	**154**	*e*P	**Pg**	**07 37 01.8**	**-0.3**
RVLA	**Villa Bonita**	**0.46**	**43**	*e*P	**Pg**	**07 37 02.7**	**+0.3**
TCS1	**Tacares**	**0.47**	**304**	*e*P	**Pb**	**07 37 03.4**	**-0.9**
GREC	**Grecia**	**0.50**	**307**	*e*P	**Pb**	**07 37 04.1**	**-0.7**
IRES	**Siquirres**	**0.51**	**51**	*e*P	**Pg**	**07 37 03.6**	**+0.3**
SARCI	**Sarchi**	**0.54**	**306**	*e*P	**Pb**	**07 37 04.8**	**-0.7**
NARAN	**Naranjo de Ala**	**0.57**	**305**	*e*P	**Pb**	**07 37 06.3**	**+0.3**
TAAN	**Batan**	**0.63**	**60**	*e*P	**Pb**	**07 37 07.0**	**+0.1**
ZARE	**Zarcero**	**0.63**	**310**	*e*P	**Pb**	**07 37 06.5**	**-0.6**
RAMO	**San Ramon**	**0.64**	**299**	*e*P	**Pb**	**07 37 06.9**	**-0.2**
SRA1	**San Ramn**	**0.65**	**299**	*e*P	**Pg**	**07 37 06.0**	**-0.1**
SARA	**Sarapiqu**	**0.69**	**350**	*e*P	**Pg**	**07 37 06.7**	**0.0**
EDPE	**Pejibaye, P**	**0.69**	**152**	*e*P	**Pg**	**07 37 06.3**	**-0.6**
ITAL	**Pital**	**0.77**	**332**	*e*P	**Pb**	**07 37 08.4**	**-0.8**
ARZA	**Esparza**	**0.79**	**286**	*e*P	**Pg**	**07 37 08.4**	**-0.3**
BURE	**Buenos Aires**	**0.82**	**137**	*e*P	**Pg**	**07 37 07.9**	**-1.3**
DRK0	**Durika**	**0.82**	**128**	*e*P	**Pg**	**07 37 08.4**	**-1.1**
SOCE	**Pocosol**	**0.93**	**311**	*e*P	**Pg**	**07 37 11.4**	**-0.1**
FORC	**Fortuna**	**1.02**	**312**	*e*P	**Pb**	**07 37 13.3**	**-0.3**
VACR	**Volcan Arenal**	**1.03**	**312**	*e*P	**Pb**	**07 37 13.4**	**-0.4**
EDP2	**Potrero Grande**	**1.04**	**136**	*e*P	**Pg**	**07 37 12.4**	**-1.2**
ARE1	**Arenal 1**	**1.05**	**310**	*e*P	**Pg**	**07 37 13.5**	**-0.3**
MTEVE	**Monteverde**	**1.06**	**301**	*e*P	**Pg**	**07 37 13.4**	**-0.6**
JTS	**Las Juntas de**	**1.16**	**297**	*e*P	**Pg**	**07 37 14.8**	**-1.0**
JTS	**Las Juntas de**	**1.16**	**297**	*e*P	**Pg**	**07 37 14.9**	**-0.8**
JTS				*e*S	**Sg**	**07 37 30.4**	**-0.4**
JUNT	**Juntas**	**1.16**	**296**	*e*P	**Pg**	**07 37 14.9**	**-0.9**
CBL1	**Cabuya**	**1.19**	**261**	*e*P	**Pg**	**07 37 15.6**	**-0.8**
VITO	**San Vito**	**1.32**	**136**	*e*P	**Pn**	**07 37 18.4**	**-0.1**
EDAD	**Golfito**	**1.33**	**147**	*e*P	**Pn**	**07 37 16.7**	**-2.0**
ALCO	**Alturas Coton,**	**1.33**	**128**	*e*P	**Pn**	**07 37 17.1**	**-1.7**
NYURE	**Nandayure**	**1.35**	**280**	*e*P	**Pn**	**07 37 18.9**	**+0.1**
CNI2	**El Empalme, Bo**	**1.45**	**104**	*e*P	**Pn**	**07 37 18.8**	**-1.5**
CNI2				*e*S	**Sn**	**07 37 38.4**	**-1.2**
NELY	**Ciudad Neily**	**1.46**	**140**	*e*P	**Pn**	**07 37 19.9**	**-0.5**
PIRO	**Carate, Puerto**	**1.47**	**158**	*e*P	**Pn**	**07 37 20.7**	**+0.2**
LCHIL	**Los Chiles**	**1.49**	**328**	*e*P	**Pn**	**07 37 20.3**	**-0.5**
BAGA	**Bagaces**	**1.53**	**299**	*e*P	**Pn**	**07 37 21.5**	**+0.1**
PLVR	**Palo Verde**	**1.54**	**292**	*e*P	**Pn**	**07 37 21.3**	**-0.3**
BRU2	**Volcan**	**1.54**	**129**	*e*P	**Pn**	**07 37 21.0**	**-0.6**
BRU2	**Volcan**	**1.54**	**129**	*e*P	**Pn**	**07 37 21.1**	**-0.6**
BRU2				*e*S	**Sb**	**07 37 43.3**	**+0.9**
GPS2	**Hotel Rincn d**	**1.73**	**304**	*e*P	**Pb**	**07 37 25.2**	**-0.5**
LNBQ3	**Los Naranjos,**	**1.74**	**124**	*e*P	**Pn**	**07 37 24.5**	**+0.1**
LNBQ3				*e*S	**Sn**	**07 37 47.2**	**+0.3**
VRLE	**La Escondida,**	**1.76**	**305**	*e*P	**Pb**	**07 37 25.4**	**-0.8**
ALIBA	**Liberia Airpor**	**1.81**	**297**	*e*P	**Pn**	**07 37 26.1**	**+0.9**
CHGR2	**Aguacate**	**1.92**	**115**	*e*P	**Pn**	**07 37 27.3**	**+0.5**
CHGR2				*e*S	**Sn**	**07 37 52.0**	**+0.7**
DVD	**David**	**1.96**	**133**	*e*P	**Pg**	**07 37 35.6**	**+4.5**
DVD				*e*S	**Sn**	**07 37 53.5**	**+1.5**
LOMA3	**Las Lomas, Chi**	**2.00**	**132**	*e*P	**Pb**	**07 37 30.1**	**-0.2**
ACON	**Acoyapa**	**2.51**	**330**	*e*P	**Pn**	**07 37 34.6**	**-0.3**

*ASRS **04** 07:45:14.0±0.7, 54°.59N×86°.61E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 07:45:19.2±3.6, 54°.56N×86°.41E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=26.6km s-min=16.0km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**237**	I	I	07 52 25.0	
	baz=56,slow=352,SNR=7.1						
ZALV	**Zalesovo Beam**	**1.12**	**237**	Pg	Pg	07 45 39.4	-1.2
	0.5nm,0.3s,baz=56,slow=16,SNR=5.1						
ZALV				Lg	Lg	07 45 56.9	
	1.4nm,0.3s,baz=55,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.21**	**234**	Pn	Pn	07 46 53.1	+1.1
	0.1nm,0.3s,baz=53,slow=13,SNR=1.9						
KURBB				Sn	Sn	07 48 02.0	-1.7
	baz=46,slow=22,SNR=1.7						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.20**	**200**	Pn	Pn	07 47 20.3	+0.9
	baz=21,slow=12,SNR=1.3						
	0.1nm,0.3s						

*ASRS **04** 07:54:19.0±0.9, 54°.30N×86°.91E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 07:54:21.5±3.0, 54°.32N×86°.89E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.3km s-min=15.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**254**	I	I	08 01 41.4	
	baz=74,slow=350,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.27**	**254**	Pg	Pg	07 54 44.4	-1.4
	1.8nm,0.3s,baz=74,slow=17,SNR=20						
ZALV				Lg	Lg	07 55 02.7	
	1.5nm,0.3s,baz=71,slow=27,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.30**	**237**	Pn	Pn	07 55 56.2	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=2.2						
KURBB				Lg	Lg	07 57 44.0	
	baz=46,slow=31,SNR=1.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**203**	Pn	Pn	07 56 21.4	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=8.5						
MKAR				Sn	Sn	07 57 51.5	-0.5
	baz=20,slow=20,SNR=1.6						
MKAR				Lg	Lg	07 58 36.3	
	baz=18,slow=37,SNR=2.3						
	0.3nm,0.4s						

*ASRS **04** 07:57:49.0±0.6, 54°.70N×83°.66E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 07:57:51.3±1.8, 54°.62N×83°.70E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=16.5km s-min=10.5km az=12.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**135**	I	I	08 03 35.9	
	0.2nm,2.5s,baz=316,slow=332,SNR=6.6						
ZALV	**Zalesovo Beam**	**0.94**	**135**	Pg	Pg	07 58 08.9	-0.2
	1.9nm,0.3s,baz=322,slow=14,SNR=13						
ZALV				Lg	Lg	07 58 22.9	
	6.9nm,0.3s,baz=317,slow=29,SNR=22						
KURBB	**Kurchatov Arra**	**5.09**	**220**	Pn	Pn	07 59 08.3	-0.4
	baz=42,slow=14,SNR=2.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**187**	Pn	Pn	07 59 47.0	-0.2
	0.1nm,0.3s,baz=4.9,slow=10.0,SNR=2.2						
MKAR				Lg	Lg	08 02 02.5	
	baz=11,slow=27,SNR=2.1						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**8.04**	**264**	Pn	Pn	07 59 48.9	-0.3
	baz=68,slow=14,SNR=3.1						
	0.5nm,0.4s						

TRN 04 07:59:10.6, 9°.32N×61°.91W, h3km, MD3.8, Venezuela., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**2.38**	**34**	*e*P	Pn	07 59 50.4	-0.2
TOSP				*e*S	Sn	08 00 21.0	+0.6
TOSP	**Speyside**	**2.38**	**34**	*e*P	Pn	07 59 50.4	-0.2
TOSP				*e*S	Sn	08 00 21.0	+0.6
GRFF	**Grenada Fort F**	**2.71**	**4**	*e*S	Sn	08 00 28.2	-0.3
GRFF	**Grenada Fort F**	**2.71**	**4**	*e*S	Sn	08 00 28.2	-0.3
GRGR	**Grenville**	**2.80**	**5**	*e*P	Pn	07 59 56.2	-0.2
GRGR				*e*S	Sn	08 00 32.1	+1.4
GRGR	**Grenville**	**2.80**	**5**	*e*P	Pn	07 59 56.2	-0.2
GRGR				*e*S	Sn	08 00 32.1	+1.4
PCRV	**Puerto La Cruz**	**2.82**	**288**	*e*P	Pb	07 59 59.6	-2.1
PCRV				*e*S	Sn	08 00 29.8	-1.4
PCRV	**Puerto La Cruz**	**2.82**	**288**	*e*P	Pb	07 59 59.6	-2.1
PCRV				*e*S	Sn	08 00 29.8	-1.4
GRW	**Mount Saint Ca**	**2.83**	**5**	*e*P	Pn	07 59 56.1	-0.7
GRW				*e*S	Sn	08 00 32.1	+0.6
GRW	**Mount Saint Ca**	**2.83**	**5**	*e*P	Pn	07 59 56.1	-0.7
GRW				*e*S	Sn	08 00 32.1	+0.6
GRHS	**Sauteurs**	**2.89**	**5**	*e*P	Pn	07 59 57.5	-0.1
GRHS				*e*S	Sn	08 00 33.4	+0.4
GRHS	**Sauteurs**	**2.89**	**5**	*e*P	Pn	07 59 57.5	-0.1
GRHS				*e*S	Sn	08 00 33.4	+0.4
GRSS	**Sisters**	**2.97**	**6**	*e*P	Pn	07 59 59.0	+0.3
GRSS				*e*S	Sn	08 00 34.2	-0.7
GRSS	**Sisters**	**2.97**	**6**	*e*P	Pn	07 59 59.0	+0.3
GRSS				*e*S	Sn	08 00 34.2	-0.7
GCMP	**Grenada, Carri**	**3.18**	**9**	*e*P	Pn	08 00 02.7	+1.2
GCMP				*e*S	Sn	08 00 42.3	+2.3
GCMP	**Grenada, Carri**	**3.18**	**9**	*e*P	Pn	08 00 02.7	+1.2
GCMP				*e*S	Sn	08 00 42.3	+2.3
SVB	**Belmont**	**3.98**	**9**	*e*P	Pn	08 00 13.5	+0.9
SVB				*e*S	Sn	08 01 00.9	+1.1
SVB	**Belmont**	**3.98**	**9**	*e*P	Pn	08 00 13.5	+0.9
SLBI	**Saint Lucia, B**	**4.76**	**11**	*e*P	Pn	08 00 25.1	+1.8
SLBI				*e*S	Sn	08 01 16.7	-2.3
SLBI	**Saint Lucia, B**	**4.76**	**11**	*e*P	Pn	08 00 25.1	+1.8
BAUV	**El Baul**	**6.07**	**267**	*e*P	Pn	08 00 32.4	-8.9
BAUV	**El Baul**	**6.07**	**267**	*e*S	Sn	08 01 58.8	+7.5

NNC 04 08:00:53.5±2.3, 41°.75N×78°.15E, h0km, mb3.1, mpv2.9, 1C-1D, Error ellipse: s-maj=17.7km s-min=8.2km az=173.0, Suspected Mining explosion.,

Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.57**	**326**	P	Pn	08 01 20.7	-2.3
	4.1nm,0.2s						
TNSS				S	Sg	08 01 42.0	-1.9
	4.7nm,0.2s						
MDOK	**Medeo**	**1.64**	**330**	Pn	Pn	08 01 23.7	0.0
	0.6nm,0.4s						
MDOK				Sn	Sg	08 01 47.7	+1.6
	3.3nm,0.4s						
KPKS	**Kokpek**	**1.76**	**13**	P	Pn	08 01 24.2	-1.2
	5.8nm,0.1s						
KPKS				S	Sn	08 01 48.2	-0.4
	9.4nm,0.2s						
PDGK	**Podgornoye**	**1.86**	**32**	⇓Pn	Pn	08 01 26.6	-0.3
	0.9nm,0.3s						
PDGK				⇑Sn	Sb	08 01 52.4	-0.1
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**2.23**	**303**	Pn	Pn	08 01 32.6	+0.7
	1.6nm,0.2s						
TKM2				Sn	Sb	08 02 02.3	-0.7
	1.9nm,0.6s						
KTBS	**Karatobe**	**2.24**	**332**	Pg	Pn	08 01 32.6	+0.6
	3.7nm,0.2s						
KTBS				Lg	Lg	08 02 02.6	
	12nm,0.3s						
DGS	**Degeres**	**2.31**	**311**	Pg	Pn	08 01 34.0	+1.0
	6.2nm,0.2s						
DGS				Lg	Lg	08 02 04.7	
	4.6nm,0.3s						
KRBS	**Karabastau**	**2.67**	**318**	Pg	Pb	08 01 40.8	-1.4
KRBS				Lg	Lg	08 02 16.4	

*SOME **04** 08:00:51.0, 41°.80N×78°.08E*
*NNC **04** 08:01:44.1±1.2, 41°.83N×77°.94E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=8.8km s-min=5.2km az=175.0, Suspected Mining explosion.*
ISC 04 08:01:43.7±2.9, 41°.9N±0°.1×77°.99E±0°.08, h0km, n11, σ0s51/17, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.42**	**327**	P	**Pg**	**08 02 10.4**	**-0.5**
	2.4nm,0.1s						
TNSS				S	**Sn**	**08 02 30.3**	**-0.4**
	2.3nm,0.3s						
TNSS	**Tian-Shan**	**1.42**	**327**	*e*P	**Pg**	**08 02 10.1**	**-0.7**
	2.4nm,0.1s						
TNSS				*e*S	**Sb**	**08 02 30.0**	**-0.1**
	2.2nm,0.2s						
MDOK	**Medeo**	**1.49**	**332**	*e*P	**Pn**	**08 02 11.9**	**+0.1**
	1.5nm,0.2s						
MDOK				*e*S	**Sn**	**08 02 32.9**	**+0.8**
	1.4nm,0.2s						
KPKS	**Kokpek**	**1.70**	**17**	P	**Pn**	**08 02 15.0**	**+0.4**
	6.5nm,0.2s						
KPKS				S	**Sb**	**08 02 38.2**	**+0.4**
	6.1nm,0.2s						
KPKS	**Kokpek**	**1.70**	**17**	*e*P	**Pn**	**08 02 14.9**	**+0.2**
	6.5nm,0.2s						
KPKS				*e*S	**Sb**	**08 02 38.1**	**+0.4**
	6.1nm,0.2s						
KPKS	**Kokpek**	**1.70**	**17**	*e*P	Pg	08 02 23.4	+7.2
	4.0nm,0.3s						
KPKS				*e*S	Sg	08 02 52.8	+15
	7.9nm,0.2s						
MTBS	**Maitube**	**1.73**	**318**	*e*P	**Pn**	**08 02 15.5**	**+0.4**
	1.7nm,0.1s						
MTBS				*e*S	**Sg**	**08 02 39.1**	**0.0**
	2.4nm,0.1s						
KST	**Kastek**	**1.92**	**309**	*e*P	**Pb**	**08 02 19.5**	**-0.1**
KST				*e*S	**Sg**	**08 02 46.2**	**+0.9**
KTBS	**Karatobe**	**2.10**	**333**	Pg	**Pb**	**08 02 22.0**	**-0.7**
	4.3nm,0.3s						
KTBS				Lg	Lg	08 02 50.2	
	8.6nm,0.7s						
DGS	**Degeres**	**2.15**	**311**	Pg	**Pb**	**08 02 23.7**	**+0.1**
	4.0nm,0.3s						
DGS				Lg	Lg	08 02 53.1	
	7.9nm,0.2s						
KRBS	**Karabastau**	**2.51**	**318**	Pg	**Pb**	**08 02 29.4**	**-0.3**
	2.3nm,0.6s						
KRBS				Lg	Lg	08 03 03.2	
	4.7nm,0.3s						

*ASRS **04** 08:11:13.0±1.6, 54°.15N×86°.50E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 04 08:11:13.8±2.6, 54°.20N×86°.55E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=20.3km s-min=12.8km az=56.0, Southwestern Siberia

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

WEL 04 08:46:07.4±1.3, 32°S±14°×18°0E±2°2, h438km±28km, M4.1/13, mB4.6/13, MLv4.7/12, Mw(mB)3.9/13, Error ellipse: s-maj=29.0km s-min=17.4km az=74.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.58**	**191**	P	P	08 47 37.5	+0.8
MXZ				S	S	08 48 48.6	-1.2
WMGZ	**Waiomatatini S**	**5.81**	**190**	P	P	08 47 39.8	+0.6
WMGZ				S	S	08 48 54.4	+0.2
WCZ	**Waipu Caves**	**5.84**	**227**	P	P	08 47 39.4	0.0
HAZ	**Te Kaha**	**5.86**	**195**	P	P	08 47 40.5	+0.8
HAZ				S	S	08 48 56.1	+1.0
OUZ	**Omahuta**	**5.93**	**237**	P	P	08 47 40.5	+0.1
PUZ	**Puketiti**	**6.08**	**190**	P	P	08 47 40.3	-1.7
PUZ				S	S	08 48 58.4	-1.0
RUGZ	**Raukumara Rang**	**6.09**	**195**	P	P	08 47 42.4	+0.3
RUGZ				S	S	08 48 59.9	+0.2
TWGZ	**Tauwhareparae**	**6.23**	**192**	P	P	08 47 44.3	+0.8
TWGZ				S	S	08 49 03.3	+1.0
MWZ	**Matawai**	**6.47**	**195**	P	P	08 47 46.9	+0.8
MWZ				S	S	08 49 08.4	+1.4
URZ	**Urewera**	**6.50**	**198**	P	P	08 47 47.0	+0.5
URZ				S	S	08 49 09.1	+1.7
TKGZ	**Te Karaka**	**6.51**	**192**	P	P	08 47 47.1	+0.6
TKGZ				S	S	08 49 08.2	+0.6
RTZ	**Ruatahuna**	**6.87**	**198**	P	P	08 47 49.5	-1.0
ALRZ	**Allen Road**	**7.00**	**202**	P	P	08 47 50.9	-0.9
KNZ	**Kokohu**	**7.11**	**192**	P	P	08 47 53.5	+0.6
MTHZ	**Maungataniwha**	**7.13**	**198**	P	P	08 47 53.7	+0.5
WHHZ	**Waihua**	**7.25**	**195**	P	P	08 47 55.5	+1.0
NMHZ	**Naumai**	**7.37**	**197**	P	P	08 47 56.4	+0.5
RATZ	**Rangitukua**	**7.47**	**204**	P	P	08 47 58.1	+1.3
ARHZ	**Aropaoanui**	**7.48**	**196**	P	P	08 47 57.6	+0.6
BKZ	**Black Stump Fm**	**7.52**	**199**	P	P	08 47 56.3	-1.1
NTVZ	**North Tongarir**	**7.71**	**204**	P	P	08 47 59.8	+0.3
TMVZ	**Te Maari**	**7.71**	**203**	P	P	08 47 59.5	-0.1
ETVZ	**East Tongariro**	**7.73**	**203**	P	P	08 47 59.8	0.0
WTVZ	**West Tongariro**	**7.75**	**204**	P	P	08 48 00.0	0.0
TWVZ	**Taurewa**	**7.77**	**205**	P	P	08 48 00.5	+0.3
OTVZ	**Oturere**	**7.77**	**203**	P	P	08 48 00.2	-0.1
KWHZ	**Kaweka Forest**	**7.78**	**199**	P	P	08 47 58.9	-1.4
NGZ	**Ngauruhoe**	**7.80**	**204**	P	P	08 48 01.0	+0.4
CKHZ	**Cape Kidnapper**	**7.84**	**195**	P	P	08 48 01.3	+0.5
FWVZ	**Far West T-bar**	**7.89**	**204**	P	P	08 48 01.4	-0.2
TRVZ	**Turoa**	**7.93**	**204**	P	P	08 48 02.0	-0.1
WNVZ	**Wahianoa**	**7.94**	**203**	P	P	08 48 01.6	-0.5
MOVZ	**Moawhango**	**7.96**	**202**	P	P	08 48 01.8	-0.5
KRHZ	**Kereru**	**8.00**	**198**	P	P	08 48 01.2	-1.3
KAHZ	**Kahuranaki**	**8.02**	**195**	P	P	08 48 03.0	+0.3
MTVZ	**Mangateitei**	**8.04**	**204**	P	P	08 48 03.4	+0.4
PXZ	**Pawanui**	**8.24**	**195**	P	P	08 48 04.9	-0.3
WPHZ	**Waipukurau**	**8.38**	**197**	P	P	08 48 06.6	0.0
TSZ	**Takapari Road**	**8.50**	**199**	P	P	08 48 07.3	-0.7
PRHZ	**Porangahau**	**8.52**	**196**	P	P	08 48 08.0	-0.1
WAZ	**Wanganui**	**8.54**	**205**	P	P	08 48 08.4	0.0
DVHZ	**Dannevirke**	**8.67**	**198**	P	P	08 48 09.3	-0.5
PRWZ	**Pori Road**	**8.96**	**198**	P	P	08 48 12.9	-0.1
BFZ	**Birch Farm**	**9.01**	**197**	P	P	08 48 13.0	-0.5
MRZ	**Mangatainoka R**	**9.16**	**200**	P	P	08 48 14.3	-1.0
HOWZ	**Holdsworth Sta**	**9.40**	**199**	P	P	08 48 16.9	-1.0
OGWZ	**Otaki Gorge**	**9.43**	**201**	P	P	08 48 16.4	-1.7
TMWZ	**Te Maipa**	**9.50**	**197**	P	P	08 48 19.2	+0.4
KIW	**Kapiti Island**	**9.55**	**202**	P	P	08 48 18.0	-1.5
MTW	**Mount Morrison**	**9.65**	**199**	P	P	08 48 20.4	-0.1
CAW	**Cannon Point**	**9.73**	**201**	P	P	08 48 20.8	-0.5
MSWZ	**Moikau Station**	**9.96**	**199**	P	P	08 48 23.2	-0.7

*NEIC **04** 08:48:59.0±1.5, 7°52S±0°08×127°87E±0°07, h152km±2km, mb4.6/18, Error ellipse: s-maj=11.2km s-min=10.2km az=203.0*
*IDC **04** 08:48:58.7±2.6, 7°65S×127°66E, h156km±25km, mb3.5/8, mbtmp4.2/11, MS3.6/1, Error ellipse: s-maj=43.6km s-min=15.4km az=78.0*
*DJA **04** 08:49:00.6±0.7, 8°S±4°×12°8E±°, h127km±37km, M4.4/9, mB5.1/1, mb4.4/3, MLv4.4/9, Mw(mB)4.4/1*
ISC 04 08:48:57.5±0.4, 7°60S±0°05×127°92E±0°05, h142km, n71, σ2°35/78, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.37**	**97**	Pn	**Pn**	**08 49 51.3**	**+2.1**
SAUI				Sn	**Sn**	**08 50 34.6**	**+5.2**
AAI	**Ambon**	**3.90**	**4**	P	**Pn**	**08 49 59.8**	**+3.6**
SOEI	**Soe**	**4.20**	**239**	Pn	**Pn**	**08 50 04.5**	**+4.2**
SOEI	**Soe**	**4.20**	**239**	P	**Pn**	**08 50 04.4**	**+4.2**
SOEI				S	**Sn**	**08 50 52.2**	**+3.2**
NLAI	**Namlea**	**4.41**	**349**	P	**Pn**	**08 50 05.6**	**+2.6**
BATI	**Baumata**	**4.94**	**238**	P	**Pn**	**08 50 14.1**	**+4.1**
BATI				S	**Sn**	**08 51 07.7**	**+1.2**
DRS	**Darwin Rock St**	**5.62**	**149**	P	**Pn**	**08 50 21.6**	**+2.5**
SANI	**Sanana**	**5.84**	**341**	P	**Pn**	**08 50 26.7**	**+4.7**
	0.1nm18nm,0.5s						
MTN	**Manton Dam**	**6.09**	**149**		**Pn**	**08 50 28.3**	**+2.9**
MTN	**Manton Dam**	**6.09**	**149**	P	**Pn**	**08 50 28.3**	**+2.9**
FAKI	**Fak Fak**	**6.34**	**43**	Pn	**Pn**	**08 50 30.4**	**+1.7**
FAKI	**Fak Fak**	**6.34**	**43**	P	**Pn**	**08 50 30.4**	**+1.7**
FAKI	**Fak Fak**	**6.34**	**43**	P	**Pn**	**08 50 30.8**	**+2.1**
KDU	**Kakadu**	**6.75**	**139**	P	**Pn**	**08 50 36.6**	**+2.4**
SWI	**Sorong**	**7.48**	**27**	P	**Pn**	**08 50 45.3**	**+1.4**
KNRA	**Kununurra**	**8.07**	**174**		**Pn**	**08 50 53.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**10.67**	**192**		**Pn**	**08 51 26.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.67**	**192**	P	**Pn**	**08 51 25.7**	**-0.8**
	9.5nm,0.6s,baz=9.1,slow=10,SNR=21						
FITZ				S	Sn	08 53 16.0	-8.4
	21nm,0.3s,baz=112,slow=14,SNR=10						
TOLI2	**Tolitoli**	**11.21**	**320**	Pn	**Pn**	**08 51 32.9**	**-0.8**
WB0	**Warramunga Arr**	**13.62**	**153**		**Pn**	**08 52 05.7**	**+0.7**
WRA	**Warramunga Arr**	**13.76**	**154**	P	**Pn**	**08 52 06.8**	**+0.1**
	14nm,0.7s,baz=324,slow=13,SNR=45						
WRA				S	**Sn**	**08 54 31.8**	**-7.2**
	35nm,0.9s,baz=323,slow=25,SNR=11						
WB2	**Warramunga Arr**	**13.76**	**154**		**Pn**	**08 52 07.2**	**+0.4**
WR0	**Warramunga Arr**	**13.86**	**153**	Pn	**Pn**	**08 52 08.9**	**+0.9**
PSA00	**Pilbara Seismi**	**15.93**	**208**		**Pn**	**08 52 34.3**	**+0.5**
PSA00	**Pilbara Seismi**	**15.93**	**208**	P	**P**	**08 52 36.5**	**+1.9**
COEN	**Coen**	**16.25**	**114**		**P**	**08 52 39.1**	**+0.8**
COEN				IAmb	IAmb	08 52 42.0	
	comp=Z,46nm,1.5s						
COEN	**Coen**	**16.25**	**114**	P	**P**	**08 52 40.2**	**+1.9**
AS31	**Alice Springs**	**16.97**	**161**	P	**Pn**	**08 52 47.8**	**+1.2**
AS31				IAmb	IAmb	08 52 51.7	
	comp=Z,8.9nm,0.6s						
ASAR	**Alice Springs**	**16.97**	**161**	P	**P**	**08 52 46.2**	**0.0**
ASAR	**Alice Springs**	**16.97**	**161**	P	**Pn**	**08 52 47.5**	**+0.9**
	comp=Z,19nm,0.7s,baz=339,slow=11,SNR=182						
ASAR				S	**S**	**08 55 48.9**	**-7.0**
	comp=Z,4.7nm,0.6s,baz=321,slow=18,SNR=5.7						
ASAR				ScP	**ScP**	**09 00 43.3**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.8,SNR=2.9						
AS01	**Alice Springs**	**16.99**	**161**	P	**Pn**	**08 52 48.4**	**+1.7**
QIS	**Mount Isa**	**17.14**	**140**	P	**Pn**	**08 52 50.6**	**+2.0**
WRKA	**Warakurna**	**17.34**	**179**	P	**Pn**	**08 52 53.3**	**+2.3**
KSM	**Kuching**	**19.75**	**296**	P	**P**	**08 53 14.9**	**-1.6**
KSM				IAmb	IAmb	08 53 26.1	
	comp=Z,18nm,1.0s						
MANU	**Manus Island**	**20.14**	**75**	P	**P**	**08 53 21.3**	**+0.6**
MEEK	**Meekatharra**	**20.90**	**204**	P	Pn	08 53 31.6	-1.3
OOD	**Oodnadatta**	**21.39**	**161**	P	**P**	**08 53 36.7**	**+2.8**
XMI	**Christmas Isla**	**22.14**	**261**	P	**P**	**08 53 44.9**	**+3.0**
FORT	**Forrest**	**23.06**	**180**	P	**P**	**08 53 51.8**	**+1.3**
FORT				IAmb	IAmb	08 54 10.7	
	comp=Z,38nm,1.1s						
FORT	**Forrest**	**23.06**	**180**	P	**P**	**08 53 53.5**	**+3.0**
INKA	**Innaminka**	**23.42**	**150**	P	**P**	**08 53 57.1**	**+3.2**
LCRK	**Leigh Creek**	**24.69**	**158**	P	**P**	**08 54 08.8**	**+3.4**
BBOO	**Buckleboo**	**26.20**	**164**	P	**P**	**08 54 20.4**	**+1.4**
BBOO				IAmb	IAmb	08 54 21.7	
	comp=Z,24nm,1.1s						
BBOO	**Buckleboo**	**26.20**	**164**	P	**P**	**08 54 21.6**	**+2.6**
STKA	**Stephens Creek**	**27.31**	**154**	P	**P**	**08 54 30.5**	**+1.5**
STKA				IAmb	IAmb	08 54 59.9	
	comp=Z,5.5nm,1.1s						
STKA	**Stephens Creek**	**27.31**	**154**	P	**P**	**08 54 30.4**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=325,slow=11,SNR=3.1						
	comp=Z,2.0nm,0.6s						
TPUB	**Ta-pu**	**31.53**	**347**	P	**P**	**08 55 05.9**	**-0.4**
DZM	**Mont Dzumac**	**39.78**	**115**	LR	LR	09 13 32.8	
	comp=Z,66nm,18.0s,baz=31,slow=37						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**44.82**	**0**	P	**P**	**08 56 58.3**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=178,slow=9.4,SNR=12						
	comp=Z,1.7nm,0.6s						
KS19	**Wonju Array Si**	**44.87**	**360**	P	**P**	**08 56 56.7**	**-0.9**
KS19				IAmb	IAmb	08 57 03.2	
	comp=Z,43nm,1.5s						
USRK	**Ussuriysk Ar.**	**51.69**	**4**	P	**P**	**08 57 50.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=182,slow=7.7,SNR=2.1						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**58.38**	**343**	P	**P**	**08 58 36.4**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=152,slow=6.5,SNR=3.8						
	comp=Z,0.3nm,0.5s						
PETK	**Petropavlovsk-**	**65.55**	**19**	P	**P**	**08 59 24.4**	**-1.3**
PETK	**Petropavlovsk-**	**65.55**	**19**	P	**P**	**08 59 25.0**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=161,slow=9.2,SNR=1.9						
	comp=Z,2.6nm,0.9s						
MK31	**Makanchi Array**	**67.62**	**328**	P	**P**	**08 59 38.4**	**-0.6**
MKAR	**Makanchi Array**	**67.62**	**328**	P	**P**	**08 59 38.0**	**-1.0**
MKAR	**Makanchi Array**	**67.62**	**328**	P	**P**	**08 59 38.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=114,slow=8.5,SNR=5.3						
MKAR				PcP	**PcP**	**09 00 03.2**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=135,slow=4.7,SNR=3.9						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.96**	**329**	P	**P**	**09 00 05.2**	**-0.1**
	comp=Z,1.0nm,0.2s,baz=129,slow=4.9,SNR=6.6						
	comp=Z,1.0nm,0.2s						
ABKAR	**Akbulak array**	**81.70**	**322**	P	**P**	**09 00 59.4**	**-0.7**
QSPA	**South Pole Qui**	**82.38**	**180**	P	**P**	**09 01 04.6**	**+1.1**
QSPA	**South Pole Qui**	**82.38**	**180**	P	**P**	**09 01 03.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=118,slow=17,SNR=2.0						
	comp=Z,0.6nm,0.7s						
LVA	**Lava Point**	**82.51**	**33**	P	**P**	**09 01 03.8**	**-0.3**
E18K	**Tukpahlearik C**	**89.98**	**21**	P	**P**	**09 01 40.5**	**+0.1**
L19K	**White Mountain**	**90.76**	**27**	P	**P**	**09 01 43.9**	**-0.3**
L19K				IAmb	IAmb	09 02 09.0	
	comp=Z,4.3nm,1.4s						
B21K	**Ikpikpuk River**	**92.74**	**20**	P	**P**	**09 01 52.8**	**-0.3**
B21K				IAmb	IAmb	09 02 02.9	
	comp=Z,7.8nm,1.4s						
SML	**Sawmill**	**93.69**	**28**	P	**P**	**09 01 57.2**	**-0.6**
C23K	**Itkillik River**	**94.14**	**20**	P	**P**	**09 01 59.1**	**-0.5**
C23K				IAmb	IAmb	09 02 22.5	
	comp=Z,5.6nm,1.4s						
WHY	**Whitehorse**	**100.11**	**30**	Pdif	**Pdif**	**09 02 27.2**	**+0.3**
TA02	**Huaiquique**	**147.10**	**148**	PKPbc	**PKPdf**	**09 08 22.1**	**-0.2**
BANI	**BANI**	**159.23**	**57**	PKPdf	**PKPdf**	**09 08 38.4**	**-1.6**
BANI				PKPab	**pPKPdf**	**09 09 15.0**	**-1.9**
MAGL	**Barre de l'ile**	**167.76**	**47**	PKPdf	**PKPdf**	**09 08 45.2**	**-2.6**
MAGL				PKPab	**PKPab**	**09 09 53.5**	**-1.5**

*NEIC **04** 08:56:59.0±0.8, 61°49N±0°03×149°88W±0°04, h44km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=192.0*
AEIC 04 08:56:59.3±0.8, 61°47N±0°03×149°85W±0°05, h50km±4km, ML2.9, ML3.2/171(NEIC), Error ellipse: s-maj=4.5km s-min=3.7km az=181.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**336**		Pn	08 57 07.1	-1.4
M22K					Sn	08 57 14.1	-1.0
PMR	**Palmer**	**0.37**	**70**		Pn	08 57 08.3	-0.8
PMR					Sn	08 57 15.7	-0.4
PMR				IAML		08 57 16.1	
	comp=N,2μm,0.3s						
PMR				IAML		08 57 16.4	
	comp=E,2μm,0.3s						
FIS	**Fire Island**	**0.37**	**208**		Pn	08 57 09.0	-0.1
FIS				IAML		08 57 18.6	
	comp=N,2μm,0.3s						
FIS				IAML		08 57 19.4	
	comp=E,2μm,0.3s						
RC01	**Rabbit Creek A**	**0.39**	**172**		Pn	08 57 08.8	-0.5
RC01				IAML		08 57 18.0	
	comp=E,2μm,0.2s						
SUA	**Susitna One**	**0.43**	**269**		Pn	08 57 08.9	-1.0
SUA					Sn	08 57 16.8	-0.6
SUA				IAML		08 57 17.6	
	comp=E,2μm,0.5s						
GHO	**Glory Hole Cre**	**0.54**	**55**		Pn	08 57 10.4	-0.7
GHO					Sn	08 57 19.7	+0.1
KNK	**Knik Glacier**	**0.67**	**94**		Pn	08 57 12.7	0.0
KNK					Sn	08 57 23.2	+0.8
SML	**Sawmill**	**0.80**	**64**		Pn	08 57 13.8	-0.6
SML				IAML		08 57 26.8	
	comp=E,702nm,0.6s						
SML				IAML		08 57 28.4	
	comp=N,812nm,0.5s						
CAPN	**Captain Cook N**	**0.95**	**222**		Pn	08 57 17.3	+1.1
SKT	**Skwentna**	**0.95**	**303**		Pn	08 57 14.9	-1.4
SKT				IAML		08 57 29.2	
	comp=E,910nm,0.4s						
STLK	**Strandline Lak**	**0.95**	**273**		Pn	08 57 15.6	-0.8
STLK				IAML		08 57 28.8	
	comp=N,970nm,0.3s						
STLK				IAML		08 57 30.6	
	comp=E,696nm,0.3s						
CUT	**Chulitna**	**0.96**	**348**		Pn	08 57 15.4	-1.0
CUT					Sn	08 57 28.0	-1.0
PWL	**Port Wells**	**0.96**	**129**		Pn	08 57 16.7	+0.2
PWL				IAML		08 57 33.9	
	comp=E,890nm,0.4s						
PWL				IAML		08 57 35.1	
	comp=N,950nm,0.4s						
SLKM	**Skilak Lake**	**0.98**	**191**	Pn	Pn	08 57 16.4	-0.4
SLKM				IAML		08 57 34.0	
	comp=N,890nm,0.2s						
O22K	**Cooper Landing**	**1.00**	**176**		Pn	08 57 16.7	-0.2
SPCG	**Spurr Capps Gl**	**1.06**	**261**		Pn	08 57 17.4	-0.5
M23K	**Glacier View**	**1.07**	**71**		Pn	08 57 17.8	-0.2
SPU	**Mount Spurr**	**1.10**	**256**		Pn	08 57 17.8	-0.6
SPBG	**Spurr Blockage**	**1.23**	**261**		Pn	08 57 19.7	-0.5
SCM	**Sheep Creek Mo**	**1.26**	**72**		Pn	08 57 20.8	+0.2
SEW	**Seward**	**1.39**	**172**		Pn	08 57 21.6	-0.6
GLI	**Glacier Island**	**1.46**	**113**	Pn	Pn	08 57 23.2	-0.1
GLI				IAML		08 57 47.5	
	comp=E,356nm,0.3s						
GLI				IAML		08 57 53.3	
	comp=N,283nm,0.5s						
RDT	**Redoubt**	**1.54**	**235**		Pn	08 57 23.8	-0.5
M20K	**Styx River**	**1.62**	**286**		Pn	08 57 25.0	-0.5
M20K				IAML		08 57 47.5	
	comp=N,174nm,0.8s						
DFR	**Drift River**	**1.64**	**239**		Pn	08 57 25.3	-0.4
RDJH	**Redoubt Jeurge**	**1.69**	**240**		Pn	08 57 26.1	-0.3
NCT	**North Crescent**	**1.75**	**240**		Pn	08 57 27.0	-0.3
RDWB	**Redoubt West**	**1.76**	**237**		Pn	08 57 27.1	-0.4
BRLK	**Bradley Lake**	**1.79**	**197**		Pn	08 57 27.4	-0.3
BRLK				IAML		08 57 56.0	
	comp=N,278nm,0.2s						
BRSE	**Bradley Lake S**	**1.79**	**195**		Pn	08 57 27.1	-0.6
FID	**Port Fidalgo**	**1.79**	**112**		Pn	08 57 26.8	-0.9
FID				IAML		08 57 57.7	
	comp=N,261nm,0.4s						
FID				IAML		08 58 00.1	
	comp=E,367nm,0.4s						
M24K	**Tolsona, Glenn**	**1.86**	**68**		Pn	08 57 29.7	+1.0
M24K				IAML		08 57 57.0	
	comp=N,249nm,0.2s						
KLU	**Klutina**	**1.89**	**88**		Pn	08 57 28.9	-0.2
KLU				IAML		08 58 00.6	
	comp=N,228nm,0.4s						
KLU				IAML		08 58 01.2	
	comp=E,138nm,0.4s						
P23K	**Montague Islan**	**1.91**	**140**		Pn	08 57 28.3	-1.0
O20K	**Slope Mountain**	**1.95**	**225**		Pn	08 57 30.1	+0.2
HIN	**Hinchinbrook I**	**1.96**	**122**		Pn	08 57 30.0	0.0
HIN				IAML		08 58 02.5	
	comp=E,280nm,0.8s						
HIN				IAML		08 58 07.0	
	comp=N,231nm,1.0s						
TRF	**Thorofare Moun**	**2.00**	**354**		Pn	08 57 30.2	-0.5
TRF				IAML		08 57 58.7	
	comp=N,152nm,0.5s						
TRF				IAML		08 58 10.0	
	comp=E,129nm,0.6s						
RND	**Reindeer**	**2.00**	**13**		Pn	08 57 30.2	-0.4
DIV	**Divide**	**2.00**	**98**		Pn	08 57 30.3	-0.4
HOM	**Homer**	**2.02**	**207**		Pn	08 57 30.9	+0.1
CNPM	**China Poot**	**2.07**	**200**		Pn	08 57 31.2	-0.3
CNPM				IAML		08 58 00.8	
	comp=N,131nm,0.4s						
CNPM				IAML		08 58 02.8	
	comp=E,212nm,0.5s						
KTH	**Kantishna Hill**	**2.15**	**347**		Pn	08 57 32.2	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH				IAML		08 57 59.2	
	comp=E,192nm,0.5s						
KTH				IAML		08 58 01.3	
	comp=N,169nm,0.6s						
L20K	**Farewell, AK**	**2.15**	**300**		Pn	08 57 32.0	-0.7
ILS	**Iliamna Low So**	**2.19**	**228**		Pn	08 57 33.3	0.0
ILSW	**Iliamna Southw**	**2.20**	**229**		Pn	08 57 33.4	0.0
EYAK	**Cordova Ski Ar**	**2.20**	**113**	Pn	Pn	08 57 31.5	-1.8
MCK	**McKinley**	**2.31**	**10**		Pn	08 57 35.2	+0.3
N19K	**Bonanza Creek**	**2.34**	**256**		Pn	08 57 35.1	-0.3
P19K	**Oil Pt**	**2.47**	**224**		Pn	08 57 37.3	+0.3
P19K				IAML		08 58 29.2	
	comp=E,141nm,0.7s						
P19K				IAML		08 58 30.1	
	comp=N,109nm,0.5s						
L19K	**White Mountain**	**2.48**	**289**		Pn	08 57 36.7	-0.4
N25K	**Chitina, Valde**	**2.52**	**85**		Pn	08 57 37.9	+0.1
N25K				IAML		08 58 16.4	
	comp=N,115nm,0.4s						
N25K				IAML		08 58 19.2	
	comp=E,89nm,0.5s						
O19K	**Port Alsworth**	**2.53**	**242**		Pn	08 57 37.4	-0.5
O19K				IAML		08 58 13.4	
	comp=E,98nm,0.5s						
O19K				IAML		08 58 26.9	
	comp=N,98nm,0.5s						
PAX	**Paxson**	**2.54**	**52**		Pn	08 57 39.6	+1.5
BMRM	**Bremner River**	**2.59**	**99**		Pn	08 57 38.0	-0.7
GOAT	**Goat Mountain**	**2.65**	**107**		Pn	08 57 38.9	-0.6
WACK	**Wrangell Chich**	**2.68**	**76**		Pn	08 57 40.1	0.0
BPAW	**Bear Paw Mtn.**	**2.69**	**349**		Pn	08 57 39.5	-0.6
BWN	**Browne**	**2.72**	**4**	Pn	Pn	08 57 40.0	-0.4
K20K	**Telida**	**2.73**	**316**		Pn	08 57 39.7	-0.9
K20K				IAML		08 58 33.0	
	comp=E,76nm,0.6s						
RAGM	**Ragged Mountai**	**2.75**	**111**	Pn	Pn	08 57 40.5	-0.5
M18K	**Stony River**	**2.86**	**273**		Pn	08 57 41.7	-0.7
GLB	**Gilahina Butte**	**2.90**	**88**		Pn	08 57 42.3	-0.7
GLB				IAML		08 58 28.6	
	comp=N,92nm,0.7s						
N18K	**Kilae Creek**	**3.04**	**258**		Pn	08 57 44.1	-0.8
VRDI	**Verde Repeater**	**3.09**	**92**	Pn	Pn	08 57 45.1	-0.6
O18K	**Koktuh Hills**	**3.10**	**241**		Pn	08 57 44.6	-1.0
WRH	**Wood River Hil**	**3.12**	**14**		Pn	08 57 45.5	-0.4
WRH				IAML		08 58 37.5	
	comp=E,50nm,0.9s						
WRH				IAML		08 58 41.6	
	comp=N,47nm,1.0s						
SYI	**Shuyak Island**	**3.14**	**205**		Pn	08 57 45.5	-0.6
SYI				IAML		08 58 12.3	
	comp=N,64nm,2.0s						
SYI				IAML		08 59 24.8	
	comp=E,67nm,2.8s						
NEA2	**Nenana**	**3.15**	**6**		Pn	08 57 45.4	-1.0
Q19K	**Cape Douglas,**	**3.18**	**218**		Pn	08 57 46.5	-0.2
BERG	**Berg Lake**	**3.19**	**107**	Pn	Pn	08 57 46.2	-0.8
MENT	**Mentasta**	**3.23**	**60**	Pn	Pn	08 57 47.5	0.0
MENT				IAML		08 58 41.3	
	comp=E,89nm,0.6s						
MENT				IAML		08 58 43.0	
	comp=N,76nm,0.6s						
HDA	**Harding Lake**	**3.23**	**23**		Pn	08 57 48.2	+0.7
HDA				IAML		08 58 33.3	
	comp=E,58nm,0.4s						
HDA				IAML		08 58 43.8	
	comp=N,66nm,0.5s						
TTA	**Tatalina**	**3.23**	**300**	Pn	Pn	08 57 46.8	-0.8
TTA				IAML		08 58 38.7	
	comp=N,40nm,1.2s						
CCB	**Clear Creek Bu**	**3.32**	**15**		Pn	08 57 47.5	-1.1
L18K	**Granite Mounta**	**3.33**	**286**		Pn	08 57 47.9	-0.9
J20K	**Nowinta River**	**3.35**	**326**		Pn	08 57 48.2	-0.9
J20K				IAML		08 58 52.2	
	comp=E,54nm,0.8s						
J20K				IAML		08 58 57.1	
	comp=N,49nm,1.2s						
M26K	**Nabesna, AK**	**3.37**	**71**	Pn	Pn	08 57 49.1	-0.3
M26K				IAML		08 58 53.0	
	comp=N,34nm,0.5s						
P18K	**Big Mountain,**	**3.38**	**234**		Pn	08 57 48.8	-0.8
COLA	**College**	**3.53**	**14**		Pn	08 57 51.9	+0.3
IL31		**3.58**	**21**		Pn	08 57 51.7	-0.4
ILAR	**Eielson Array**	**3.58**	**21**	Pn	Pn	08 57 52.4	+0.2
M17K	**Holitna River**	**3.64**	**272**		Pn	08 57 52.3	-0.

H18K	**Honhosa River**	**5.32 318**		Pn	08 58 15.2	-0.9
H18K	**Honhosa River**	**5.32 318**	IAML		08 59 33.0	
	comp=N,11nm,3.5s					
H18K			IAML		09 00 19.1	
	comp=E,10nm,4.2s					
O15K	**Ungalikthiuk R**	**5.46 249**		Pn	08 58 17.3	-0.7
L15K	**Ungalak Mounta**	**5.56 277**		Pn	08 58 18.5	-0.9
G18K	**Tagagawik**	**5.92 322**		Pn	08 58 23.3	-0.9
O14K	**Tigyukauivet M**	**6.08 254**		Pn	08 58 26.3	-0.2
L14K	**Kuka Creek**	**6.16 274**		Pn	08 58 27.9	+0.3

NNC ***04*** *08:59:52.4±2.3, 54°.39N×87°.56E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=20.3km s-min=11.4km az=13.0, Suspected Mining explosion.*
ASRS ***04*** *08:59:57.0±1.2, 54°.28N×86°.85E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***04*** *08:59:59.4±2.8, 54°.33N×86°.90E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=23.0km s-min=15.1km az=61.0*
ISC 04 08:59:57.3±4.7,**54°.4N**±0°.2×**87°.1E**±0°.2,**h0**km,**n9**,σ1§**63**/12,
5C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**254**	I	I	09 07 17.8	
	0.1nm,0.9s,baz=74,slow=351,SNR=37						
ZAA0	**Zalesovo Array**	**1.38**	**254**	⇓P	**Pg**	**09 00 22.3**	**-1.5**
	0.7nm,0.6s						
ZAA0				⇓S	**Sn**	**09 00 45.2**	**+2.4**
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**1.38**	**254**	Pg	**Pg**	**09 00 22.2**	**-1.6**
	1.7nm,0.3s,baz=73,slow=17,SNR=25						
ZALV				Lg	Lg	09 00 40.7	
	2.1nm,0.3s,baz=71,slow=31,SNR=10						
ZALV				Rg	Rg	09 00 46.5	
	3.1nm,0.4s,baz=72,slow=28,SNR=6.6						
KURK	**Kurchatov**	**6.31**	**238**	⇓Pn	**Pn**	**09 01 32.1**	**+0.6**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	09 03 18.8	
	3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**6.41**	**238**	Pn	**Pn**	**09 01 34.5**	**+1.6**
	0.1nm,0.3s,baz=55,slow=14,SNR=5.8						
KURBB				Sn	**Sn**	**09 02 46.1**	**-0.7**
	baz=45,slow=21,SNR=0.9						
KURBB				Lg	Lg	09 03 19.4	
	baz=55,slow=34,SNR=1.9						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**6.41**	**238**	⇓Pn	**Pn**	**09 01 33.3**	**+0.4**
	2.5nm,0.6s						
KURBB				⇑Lg	Lg	09 03 24.0	
	6.4nm,1.0s						
MK31	**Makanchi Array**	**8.16**	**204**	⇑Pn	**Pn**	**09 01 55.1**	**-1.8**
	0.1nm,0.5s,baz=24,slow=13,SNR=8.6						
MK31				⇓Sn	**Sn**	**09 03 30.2**	**+0.4**
	0.1nm,0.5s						
MK31				⇑Lg	Lg	09 04 20.0	
	2.3nm,1.1s,baz=35,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**8.16**	**204**	Pn	**Pn**	**09 01 59.2**	**+2.3**
	0.1nm,0.3s,baz=26,slow=14,SNR=6.7						
MKAR				Sn	**Sn**	**09 03 30.7**	**+0.9**
	0.1nm,0.3s,baz=22,slow=16,SNR=1.6						
MKAR				Lg	Lg	09 04 15.3	
	0.1nm,0.3s,baz=17,slow=30,SNR=7.0						
	0.2nm,0.4s						
MAKZ	**Makanchi**	**8.22**	**205**	⇓Pn	Pn	09 01 51.5	-6.3
	0.1nm,0.3s						
MAKZ				⇑Sn	**Sn**	**09 03 31.6**	**+0.3**
	0.3nm,0.5s						
MAKZ				⇓Lg	Lg	09 04 16.8	
	0.9nm,1.0s						

TXNET 04 09:02:35.7,31°.6N±0°.7×**104°.3W**±0°.8,**h4**km±2km,**ML1.6/8,**
Error ellipse: s-maj=1.2km s-min=1.1km az=101.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**33**	P	Pg	09 02 42.6	-0.1
TPB11				S	Sg	09 02 47.8	+0.4
PECS	**Pecos**	**0.43**	**128**	P	Pg	09 02 44.4	+0.5
PECS				S	Sg	09 02 50.0	+0.5
TPB12	**Southwest of T**	**0.49**	**148**	P	Pg	09 02 44.9	-0.3
TPB12				S	Sg	09 02 51.7	+0.1
TPB07	**Mentone**	**0.51**	**96**	P	Pg	09 02 45.9	+0.4
TPB07				S	Sg	09 02 52.8	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	09 02 47.2	+0.4
CLNB	**Carlsbad**	**0.71**	**27**	P	Pg	09 02 49.2	-0.1
CLNB				S	Sg	09 02 58.9	+0.3
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	09 02 50.7	-0.4
TPB01				S	Sg	09 03 01.2	-0.3
TPB03	**Saragosa**	**0.84**	**130**	P	Pg	09 02 52.1	+0.3
TPB03				S	Sg	09 03 01.7	-1.1
TPB06	**Permian Basin**	**0.89**	**89**	S	Sg	09 03 03.9	-0.5
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	09 02 54.5	+0.4
MNTX				S	Sb	09 03 07.3	-0.6
HTMS	**Hat Mesa**	**0.99**	**32**	S	Sb	09 03 08.6	-0.4
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	09 02 56.0	+0.2
VHRN				S	Sb	09 03 10.6	0.0
TPB05	**Hovey Rd**	**1.07**	**131**	S	Sg	09 03 09.9	-0.3
MNHN	**Monahans**	**1.31**	**102**	P	Pn	09 03 00.5	-0.4
MNHN				S	Sg	09 03 16.1	-1.8
ALPN	**Alpine**	**1.36**	**157**	P	Pn	09 03 00.4	-1.2
ALPN				S	Sg	09 03 18.3	-1.3
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	09 03 02.6	0.0
ODSA	**Odessa**	**1.54**	**71**	S	Sn	09 03 23.5	-0.9
TMB04	**Seminole**	**1.80**	**56**	P	Pn	09 03 08.0	+0.3
TMB04				S	Sn	09 03 31.5	+0.5
TMB02	**Rankin**	**1.95**	**102**	P	Pn	09 03 10.6	+1.0
TMB02				S	Sn	09 03 35.5	+0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	P	Pb	09 03 18.1	-0.6
TX31				S	Sb	09 03 49.3	+1.2

IDC ***04*** *09:04:55.7±0.8, 3°.75N×128°.13E, h135km±7km, mb3.9/16, mbtmp4.3/17, Error ellipse: s-maj=27.9km s-min=9.7km az=81.0*
DJA ***04*** *09:04:58.1±0.6, 4°.N±5°.×12°.8E±°, h144km±5km, M4.6/13, mB5.0/6, mb4.7/7, MLv4.7/13, Mw(mB)4.3/6*
NEIC ***04*** *09:04:58.4±1.2, 3°.69N±0°.07×128°.0E±0°.1, h155km±8km, mb4.4/36, Error ellipse: s-maj=21.8km s-min=10.4km az=79.0*
ISC 04 09:04:57.0±0.5,**3°.64N**±0°.05×**127°.93E**±0°.07,**h150**km,**n74,**
σ1§**34**/79,**mb4.4**/32,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.40**	**271**	P	**Pn**	**09 05 38.5**	**+1.6**
SGSI				S	**Sn**	**09 06 09.3**	**+1.7**
TNTI	**Ternate**	**2.90**	**191**		**Pn**	**09 05 45.5**	**+2.3**
TNTI	**Ternate**	**2.90**	**191**	P	**Pn**	**09 05 42.8**	**-0.4**
DAV	**Davao City (W)**	**4.14**	**326**	Pn	**Pn**	**09 06 00.7**	**+1.5**
KMSI	**Cibinong**	**4.98**	**233**	P	**Pn**	**09 06 12.6**	**+2.3**
SWI	**Sorong**	**5.57**	**143**	P	**Pn**	**09 06 21.1**	**+3.1**
SWI				S	**Sn**	**09 07 22.1**	**+0.8**
SANI	**Sanana**	**5.97**	**199**	P	**Pn**	**09 06 22.9**	**-0.5**
SANI				S	**Sn**	**09 07 25.9**	**-5.1**
MRSI	**Marisa**	**6.76**	**242**	P	**Pn**	**09 06 36.8**	**+2.9**
	0.5nm2μm132nm,0.5s						
NLAI	**Namlea**	**6.88**	**187**	P	**Pn**	**09 06 37.2**	**+1.7**
	0.3nm1μm33nm,0.7s						
TOLI2	**Tolitoli**	**7.57**	**251**		**Pn**	**09 06 45.8**	**+1.0**
APSI	**Ampana**	**7.74**	**234**	P	**Pn**	**09 06 49.3**	**+2.4**
	0.5nm2μm160nm,1.1s						
KDI	**Kendari**	**9.22**	**215**	P	**Pn**	**09 07 07.7**	**+0.9**
	3μm38nm,0.7s						
TTSI	**Tana Toraja**	**10.48**	**231**	P	**Pn**	**09 07 24.3**	**+0.9**
KAPI	**Kappang**	**11.86**	**224**	Pn	**Pn**	**09 07 43.3**	**+1.7**
KAPI	**Kappang**	**11.86**	**224**	P	**Pn**	**09 07 43.0**	**+1.4**
	5.0nm,0.4s,baz=145,slow=14,SNR=1.8						
KAPI				S	**Sn**	**09 09 49.7**	**-3.0**
	5.2nm,0.5s,baz=7.4,slow=20,SNR=1.4						
KNRA	**Kununurra**	**19.20**	**178**	P		**09 09 10.8**	**+1.3**
KNRA				IAmb	IAmb	09 09 37.4	
	comp=Z,32nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.71**	**186**	P	**P**	**09 09 35.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.71**	**186**	P	**P**	**09 09 36.2**	**-0.1**
	comp=Z,6.1nm,0.4s,baz=23,slow=9.4,SNR=16						
	comp=Z,6.1nm,0.4s						
WB0	**Warramunga Arr**	**24.11**	**165**	P	**P**	**09 09 59.9**	**+0.9**
WRA	**Warramunga Arr**	**24.26**	**165**	P	**P**	**09 10 00.1**	**-0.3**
WRA	**Warramunga Arr**	**24.26**	**165**	P	**P**	**09 10 01.4**	**+1.0**
	comp=Z,5.0nm,0.4s,baz=340,slow=10,SNR=46						
	comp=Z,5.0nm,0.4s						
WB2	**Warramunga Arr**	**24.26**	**165**	P	**P**	**09 10 00.9**	**+0.5**
WB2				IAmb	IAmb	09 10 02.6	
	comp=Z,9.1nm,0.7s						
PSA00	**Pilbara Seismi**	**26.27**	**197**	P	**P**	**09 10 18.9**	**+0.4**
PSA00				IAmb	IAmb	09 10 26.1	
	comp=Z,12nm,1.0s						
AS31	**Alice Springs**	**27.75**	**168**	P	**P**	**09 10 31.5**	**-0.3**
AS31				IAmb	IAmb	09 10 33.5	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**27.75**	**168**	P	**P**	**09 10 31.6**	**-0.2**
ASAR	**Alice Springs**	**27.75**	**168**	P	**P**	**09 10 32.8**	**+1.0**
	comp=Z,6.3nm,0.5s,baz=358,slow=8.5,SNR=129						
	comp=Z,6.3nm,0.5s						
PHRA	**Phrae**	**30.86**	**301**	P	**P**	**09 10 59.5**	**+0.1**
KSRS	**Korea Array**	**33.66**	**360**	P	**P**	**09 11 22.9**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=175,slow=9.7,SNR=12						
	comp=Z,3.0nm,0.7s						
KS19	**Wonju Array Si**	**33.71**	**360**	P	**P**	**09 11 23.0**	**-0.9**
KS19				IAmb	IAmb	09 11 41.5	
	comp=Z,13nm,1.1s						
MJAR	**Matsushiro Arr**	**34.09**	**15**	P	**P**	**09 11 25.2**	**-2.0**
	comp=Z,2.5nm,0.7s,baz=184,slow=9.2,SNR=5.3						
	comp=Z,2.5nm,0.7s						
FORT	**Forrest**	**34.22**	**180**	P	**P**	**09 11 28.4**	**-0.1**
MORW	**Morawa**	**34.46**	**199**	P	**P**	**09 11 30.9**	**+0.3**
XAN	**Xi'an**	**35.05**	**332**	P	**P**	**09 11 36.6**	**+0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BBOO	**Buckleboo**	**37.06**	**169**	P	**P**	**09 11 53.4**	**+0.7**
STKA	**Stephens Creek**	**37.63**	**161**	P	**P**	**09 11 58.7**	**+1.2**
STKA				IAmb	IAmb	09 12 00.0	
	comp=Z,6.7nm,0.9s						
STKA	**Stephens Creek**	**37.63**	**161**	P	**P**	**09 11 58.5**	**+1.1**
	comp=Z,2.3nm,0.3s,baz=340,slow=8.3,SNR=18						
	comp=Z,2.3nm,0.3s						
NWAO	**Narrogin (SRO)**	**37.75**	**195**	P	**P**	**09 11 59.7**	**+1.2**
BJT	**Baijiatuan**	**37.75**	**345**	P	**P**	**09 11 58.6**	**+0.3**
BJT				IAmb	IAmb	09 11 59.5	
	comp=Z,4.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**40.56**	**4**	P	**P**	**09 12 21.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**40.56**	**4**	P	**P**	**09 12 21.4**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=179,slow=6.8,SNR=5.8						
	comp=Z,2.8nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.67**	**66**	T	T	09 55 54.9	
	baz=252,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.69**	**66**	T	T	09 55 58.4	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**40.69**	**66**	T	T	09 55 59.0	
	baz=252,slow=74						
TOO	**Toolangi**	**44.13**	**160**	P	**P**	**09 12 50.8**	**+0.2**
SONM	**Songino Array**	**47.78**	**340**	P	**P**	**09 13 19.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=154,slow=9.1,SNR=7.8						
	comp=Z,1.2nm,0.7s						
PETK	**Petropavlovsk-**	**55.07**	**21**	P	**P**	**09 14 11.2**	**-2.0**
	comp=Z,3.8nm,0.8s,baz=225,slow=7.8,SNR=3.1						
	comp=Z,3.8nm,0.8s						
MK31	**Makanchi Array**	**58.32**	**325**	P	**P**	**09 14 36.8**	**+0.5**
MKAR	**Makanchi Array**	**58.32**	**325**	P	**P**	**09 14 37.1**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=115,slow=8.1,SNR=28						
MKAR				pP	**pP**	**09 15 08.3**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=114,slow=7.8,SNR=3.4						
	comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**58.51**	**325**	P	**P**	**09 14 36.8**	**-0.8**
KURBB	**Kurchatov Arra**	**62.47**	**327**	P	**P**	**09 15 04.8**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=124,slow=6.5,SNR=7.5						
KURBB				pP	**pP**	**09 15 37.6**	**-1.6**
	comp=Z,1.2nm,0.2s,baz=131,slow=5.7,SNR=1.5						
	comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**62.47**	**327**	P	**P**	**09 15 04.3**	**0.0**
KURK				IAmb	IAmb	09 15 43.4	
	comp=Z,2.5nm,0.7s						
KKAR	**Karatay Array**	**64.12**	**317**	P	**P**	**09 15 15.8**	**+0.4**
TIXI	**Tiksi**	**67.93**	**0**	P	**P**	**09 15 38.5**	**-0.6**
BVAR	**Borovoye Array**	**68.06**	**327**	P	**P**	**09 15 40.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=136,slow=5.0,SNR=2.6						
BVAR				pP	**pP**	**09 16 13.8**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=116,slow=6.7,SNR=2.2						
	comp=Z,1.1nm,0.6s						
NRIK	**Noril'sk**	**70.81**	**346**	P	**P**	**09 15 56.5**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=125,slow=4.9,SNR=7.5						
	comp=Z,2.8nm,0.6s						
K13K	**Kusilvak Mount**	**76.30**	**27**	P	**P**	**09 16 29.0**	**0.0**
K13K				IAmb	IAmb	09 16 30.6	
	comp=Z,4.0nm,0.8s						
ANM	**Nome**	**76.86**	**24**	P	**P**	**09 16 32.8**	**+0.6**
L14K	**Kuka Creek**	**77.02**	**28**	P	**P**	**09 16 34.0**	**+0.9**
L14K				IAmb	IAmb	09 16 37.7	
	comp=Z,10nm,1.2s						
M14K	**Bethel**	**77.19**	**28**	P	**P**	**09 16 34.6**	**+0.5**
M14K				IAmb	IAmb	09 16 35.6	
	comp=Z,7.6nm,0.8s						
K15K	**Wolf Creek Mou**	**77.81**	**27**	P	**P**	**09 16 38.7**	**+1.2**
K15K				IAmb	IAmb	09 16 41.7	
	comp=Z,15nm,1.5s						
J16K	**Anvik River**	**78.49**	**26**	P	**P**	**09 16 42.2**	**+1.0**
J16K				IAmb	IAmb	09 16 43.2	
	comp=Z,6.4nm,1.0s						
F17K	**Baldwin Pennin**	**79.08**	**23**	P	**P**	**09 16 45.4**	**+1.1**
C18K	**Utukok River**	**79.73**	**21**	P	**P**	**09 16 48.6**	**+0.7**
KDAK	**Kodiak Island**	**81.33**	**32**	P	**P**	**09 16 56.3**	**-0.3**
SUA	**Susitna One**	**82.67**	**29**	P	**P**	**09 17 03.6**	**-0.1**
SUA				IAmb	IAmb	09 17 41.3	
	comp=Z,7.9nm,1.2s						
BPAW	**Bear Paw Mtn.**	**82.85**	**26**	P	**P**	**09 17 05.2**	**+0.7**
BPAW				IAmb	IAmb	09 17 08.6	
	comp=Z,9.4nm,1.4s						
RC01	**Rabbit Creek A**	**83.12**	**29**	P	**P**	**09 17 05.8**	**-0.1**
RC01				IAmb	IAmb	09 17 40.4	
	comp=Z,12nm,1.1s						
COLD	**Coldfoot**	**83.51**	**23**	P	**P**	**09 17 09.2**	**+1.4**
COLD				IAmb	IAmb	09 17 09.8	
	comp=Z,5.7nm,0.8s						
RND	**Reindeer**	**83.72**	**27**	P	**P**	**09 17 09.0**	**0.0**
RND				IAmb	IAmb	09 17 09.6	
	comp=Z,7.6nm,1.2s						
KNK	**Knik Glacier**	**83.76**	**29**	P	**P**	**09 17 09.4**	**+0.3**
ILAR	**Eielson Array**	**84.67**	**25**	P	**P**	**09 17 12.4**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=236,slow=5.2,SNR=12						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**93.54**	**180**	P	**P**	**09 17 56.6**	**+0.9**
QSPA	**South Pole Qui**	**93.54**	**180**	P	**P**	**09 17 56.4**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=209,slow=2.6,SNR=6.1						
QSPA				pP	**pP**	**09 18 31.0**	**-1.9**
	comp=Z,1.0nm,1.0s,baz=339,slow=6.5,SNR=1.6						
	comp=Z,1.5nm,0.9s						
YKA	**Yellowknife Ar**	**99.09**	**25**	P	**Pdif**	**09 18 20.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=287,slow=4.7,SNR=4.4						
	comp=Z,0.2nm,0.5s						

SSNC ***04*** *09:11:24.6±4.2, 19°.02N×70°.91W, h5km±59km, MD3.5, ML3.2*
SDD ***04*** *09:11:27.1±2.7, 19°.08N×71°.04W, h12km±23km, MD3.3, ML3.1, MW3.6*
OSPL ***04*** *09:11:27.7±2.0, 19°.07N×71°.06W, h0km±16km, ML2.8, Hypocentre not reviewed by the ISC*
ISC 04 09:11:25.6±1.1,**19°.06N**±0°.03×**71°.01W**±0°.02,**h8**km±9km,
n25,σ1§**45**/46,**25C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.27**	**254**	*i* P	**Pg**	**09 11 30.9**	**-0.2**
SDDR				*e*S	**Sg**	**09 11 34.1**	**-0.6**
SDDR				IAML		09 11 36.6	
	2μm,0.2s						
SDDR				IAML		09 11 37.5	
	comp=Z,3μm,0.4s						
SDDR	**Presa de Saban**	**0.27**	**254**	⇑*e*Pg	**Pg**	**09 11 30.9**	**-0.2**
SDDR				⇑*e*Sg	**Sg**	**09 11 34.3**	**-0.5**
SDDR				IAML		09 11 38.1	
	comp=N,4μm,0.6s						
SDDR	**Presa de Saban**	**0.27**	**254**	*i* P		09 11 30.9	
SDDR				*e*S		09 11 34.6	
SDDR				IAML		09 11 37.5	
	comp=Z,2μm,0.6s						
REDR	**Restauracion**	**0.38**	**286**	⇑*e*Pg	**Pn**	**09 11 38.2**	**+0.8**
REDR				⇓*e*Sg	**Sb**	**09 11 47.0**	**+6.5**
REDR				IAML		09 11 47.2	
	comp=N,3μm,0.2s						
ABDR	**Alto Bandera**	**0.44**	**124**	⇑*e*Pg	**Pb**	**09 11 35.9**	**+0.1**
ABDR				⇑*e*Sg	**Sb**	**09 11 43.4**	**+0.7**
ABDR				IAML		09 11 44.4	
	comp=N,1μm,0.1s						
SC01	**Santiago de Io**	**0.45**	**36**	⇑*e*Pg	**Pb**	**09 11 36.3**	**+0.4**
SC01				⇓*e*Sg	**Sb**	**09 11 43.6**	**+0.8**
SC01				IAML		09 11 43.8	
	comp=N,976nm,0.3s						
SC01	**Santiago de Io**	**0.45**	**36**	*i* P		09 11 36.4	
SC01				*e*S		09 11 43.6	
SC01				IAML		09 11 51.8	
	comp=Z,1μm,0.4s						
LONE3	**El Aguacate, B**	**0.62**	**223**	*i* P		09 11 38.1	
LONE3				*e*S		09 11 46.8	
LONE3				IAML		09 11 51.6	
	comp=Z,428nm,0.4s						
NEDR	**Neiba UASD**	**0.69**	**214**	⇑*e*Pg	**Pg**	**09 11 39.5**	**+0.6**
NEDR				⇑*e*Sg	**Sb**	**09 11 50.3**	**+0.7**
NEDR				IAML		09 11 55.5	
	comp=N,235nm,0.7s						
LODA1	**ITESIL, Dajabo**	**0.81**	**307**	*i* P		09 11 26.8	
LODA1				*e*S		09 11 36.5	
LODA1				IAML		09 11 41.5	
	comp=Z,1μm,0.8s						
LODU1	**El Espartillar**	**0.83**	**212**	*i* P		09 11 42.6	
LODU1				IAML		09 12 02.0	
	comp=Z,497nm,0.3s						
BANI	**BANI**	**0.91**	**137**	⇑*e*Pg	**Pn**	**09 11 45.3**	**+0.5**
BANI				IAML		09 12 02.1	
	comp=N,2μm,0.3s						
PODR	**Polo**	**0.92**	**196**	⇑*e*Pg	**Pb**	**09 11 44.0**	**-0.1**
PODR				⇑*e*Sg	**Sn**	**09 11 58.1**	**-0.5**
PODR				IAML		09 12 08.3	
	comp=N,281nm,0.2s						
PODR	**Polo**	**0.92**	**196**	*i* P		09 11 44.0	
PODR				*e*S		09 11 57.9	
DR08	**Loma La Naviza**	**0.94**	**96**	⇑*e*Pg	**Pn**	**09 11 45.1**	**-0.1**
DR08				⇑*e*Sg	**Sb**	**09 11 57.2**	**+0.3**
DR08				IAML		09 12 00.9	
	comp=N,3μm,0.1s						
JIDR	**Jimani**	**0.97**	**235**	⇑*e*Pg	**Pg**	**09 11 44.7**	**+0.3**
JIDR				⇑*e*Sg	**Sb**	**09 11 58.8**	**+1.0**
JIDR				IAML		09 12 00.9	
	comp=N,690nm,0.3s						
LOBA2	**Hotel Casa Bon**	**0.97**	**185**	⇓*e*Pg	**Pb**	**09 11 45.0**	**+0.2**
LOBA2				⇑*e*Sg	**Sn**	**09 11 59.3**	**-0.3**
MCDR	**Montecristi**	**1.03**	**324**	⇑*e*Pg	**Pg**	**09 11 44.6**	**-0.8**
MCDR				⇑*e*Sg	**Sg**	**09 11 59.6**	**+0.8**
MCDR				IAML		09 12 06.8	
	comp=N,492nm,0.2s						
NADR	**Nagua**	**1.13**	**75**	⇑*e*Pg	**Pn**	**09 11 47.7**	**-0.1**
NADR				⇑*e*Sg	**Sn**	**09 12 04.5**	**+1.1**
NADR				IAML		09 12 07.1	
	comp=N,916nm,0.3s						
SDD	**Santo Domingo**	**1.20**	**120**	⇑*e*Pg	**Pn**	**09 11 48.6**	**-0.1**
SDD				⇑*e*Sg	**Sn**	**09 12 04.6**	**-0.6**
SDD				IAML		09 12 10.7	
	comp=N,45nm,1.2s						
SDD	**Santo Domingo**	**1.20**	**120**	*i* P		09 11 48.8	
LOVI	**El Cajuil, Ovi**	**1.30**	**195**	*i* P		09 11 51.2	
LOVI				IAML		09 12 11.7	
	comp=Z,108nm,0.6s						
LOBH	**Bahia de las A**	**1.33**	**207**	*i* P		09 11 51.1	
LOBH				IAML		09 12 24.3	
	comp=Z,96nm,0.5s						
PAPH	**Port-au-Prince**	**1.33**	**247**	*e*P	**Pn**	**09 11 50.0**	**-0.5**
PAPH				*e*S	**Sb**	**09 12 08.9**	**+0.9**
PAPH				IAML		09 12 13.4	
	comp=N,229nm,0.2s						
PAPH				IAML		09 12 14.7	
	comp=E,270nm,0.4s						
PAPH	**Port-au-Prince**	**1.33**	**247**	*i* P		09 11 50.4	
PAPH				*e*S		09 12 09.1	
PAPH				IAML		09 12 14.5	
	comp=Z,187nm,0.3s						
HATOM	**Hato Mayor del**	**1.57**	**100**	⇑*e*Pg	**Pb**	**09 11 54.5**	**-0.4**
HATOM				IAML		09 12 18.6	
	comp=N,157nm,0.5s						
PCDR	**Punta Cana, DR**	**2.55**	**102**	⇑*e*Pg	**Pb**	**09 12 12.4**	**+0.7**
PCDR				⇑*e*Sg	**Sg**	**09 12 46.7**	**-0.9**
PCDR				IAML		09 13 01.4	
	comp=N,142nm,2.1s						
MASC	**Masc**	**3.23**	**291**	*e*P	**Pn**	**09 12 16.1**	**-0.5**
MASC				*e*S	**Sn**	**09 12 52.1**	**-3.2**
MASC				IAML		09 13 02.7	
	comp=E,44nm,0.6s						
MASC				IAML		09 13 03.5	
	comp=N,49nm,0.3s						
QMBU	**Quimbuelo**	**3.76**	**288**	*e*P	**Pn**	**09 12 22.2**	**-1.7**
QMBU				*e*S	**Sn**	**09 13 08.4**	**+0.1**
QMBU				IAML		09 13 12.7	
	comp=E,47nm,0.5s						
QMBU				IAML		09 13 12.7	
	comp=N,55nm,0.4s						
GTBY	**Guantanamo Bay**	**3.96**	**283**	*e*P	**Pn**	**09 12 26.2**	**-0.5**
GTBY				⇓*e*S	**Sn**	**09 13 11.1**	**-2.2**
NMDO	**Nuevo Mundo**	**4.03**	**292**	*e*P	**Pn**	**09 12 26.3**	**-1.3**
NMDO				*e*S	**Sn**	**09 13 13.3**	**-1.6**
RCC	**Rio Carpintero**	**4.51**	**283**	*e*P	**Pn**	**09 12 33.3**	**-1.0**
RCC				*e*S	**Sn**	**09 13 24.1**	**-2.9**
MARVS	**Santiago de Cu**	**4.70**	**282**	*e*P	**Pn**	**09 12 36.6**	**-0.3**
PINC	**Pinares de May**	**4.72**	**288**	*e*P	**Pn**	**09 12 36.6**

0.1nm,0.3s,baz=12,slow=21,SNR=5.8
MKAR Lg Lg 09 23 45.8
0.1nm,0.3s,baz=12,slow=28,SNR=5.9
0.3nm,0.4s
BVAR Borovoye Array 8.07 264 Pn Pn 09 21 35.2 -1.1
baz=66,slow=14,SNR=2.7
0.5nm,0.3s

---

*AEIC **04** 09:54:39.7±1.2,61°.37N±0°.03×150°.04W±0°.08,h46km±6km, ML2.5,ML2.7/114(NEIC),Error ellipse: s-maj=5.3km s-min=4.6km az=103.0*
*NEIC **04** 09:54:39.1±1.1,61°.38N±0°.03×150°.09W±0°.04,h46km±7km, Error ellipse: s-maj=5.0km s-min=2.2km az=196.0*
ISC 04 09:54:40.0±1.7,61°.36N±0°.03×150°.10W±0°.03,h36km±1km, n108,σ0s94/86,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**195**		**Pn**	**09 54 48.0**	**-0.6**
FIS	**Fire Island**	**0.23**	**195**	IAML		09 54 56.0	
comp=E,2μm,0.4s							
FIS				IAML		09 54 56.5	
comp=N,1μm,0.8s							
RC01	**Rabbit Creek A**	**0.33**	**147**		**Pn**	**09 54 47.7**	**-0.5**
RC01					**Sn**	**09 54 54.9**	**-0.2**
RC01	**Rabbit Creek A**	**0.33**	**147**	IAML		09 54 55.1	
comp=N,707nm,0.2s							
RC01				IAML		09 54 55.4	
comp=E,605nm,0.2s							
SUA	**Susitna One**	**0.33**	**289**		**Pn**	**09 54 47.9**	**-0.5**
SUA					**Sn**	**09 54 55.1**	**-0.3**
SUA	**Susitna One**	**0.33**	**289**	IAML		09 54 55.4	
comp=E,2μm,0.5s							
SUA				IAML		09 54 55.4	
comp=N,670nm,0.3s							
M22K	**Willow**	**0.39**	**359**		**Pn**	**09 54 48.0**	**-0.9**
M22K					**Sn**	**09 54 55.3**	**-0.2**
M22K	**Willow**	**0.39**	**359**	IAML		09 54 56.4	
comp=E,457nm,0.5s							
M22K				IAML		09 54 58.1	
comp=N,409nm,0.3s							
PMR	**Palmer**	**0.52**	**63**		**Pn**	**09 54 49.6**	**-1.3**
PMR					**Sn**	**09 54 57.9**	**-0.6**
PMR	**Palmer**	**0.52**	**63**	IAML		09 54 58.2	
comp=N,576nm,0.4s							
PMR				IAML		09 54 58.4	
comp=E,585nm,0.4s							
PMR	**Palmer**	**0.52**	**63**	P	**Pn**	**09 54 49.5**	**-1.4**
PMR	**Palmer**	**0.52**	**63**	S	**Sn**	**09 54 58.1**	**-0.4**
GHO	**Glory Hole Cre**	**0.70**	**53**		**Pn**	**09 54 52.1**	**-1.3**
CAPN	**Captain Cook N**	**0.79**	**221**		**Pn**	**09 54 55.2**	**+0.8**
KNK	**Knik Glacier**	**0.79**	**85**		**Pn**	**09 54 53.8**	**-0.8**
KNK				IAML		09 55 08.5	
comp=N,324nm,0.2s							
KNK				IAML		09 55 08.8	
comp=E,277nm,0.3s							
STLK	**Strandline Lak**	**0.84**	**280**		**Pn**	**09 54 54.6**	**-0.7**
STLK					**Sn**	**09 55 06.5**	**-0.1**
SLKM	**Skilak Lake**	**0.86**	**184**		**Pn**	**09 54 54.7**	**-0.8**
SLKM				IAML		09 55 09.1	
comp=N,312nm,0.2s							
SLKM				IAML		09 55 09.5	
comp=E,298nm,0.2s							
O22K	**Cooper Landing**	**0.90**	**168**		**Pn**	**09 54 55.5**	**-0.6**
SKT	**Skwentna**	**0.92**	**313**		**Pn**	**09 54 55.2**	**-1.2**
SKT				IAML		09 55 08.8	
comp=E,273nm,0.4s							
SKT	**Skwentna**	**0.92**	**313**		**Sn**	**09 55 07.8**	**-0.6**
SPCG	**Spurr Capps Gl**	**0.93**	**267**		**Pn**	**09 54 55.9**	**-0.7**
SPCG					**Sn**	**09 55 09.1**	**+0.3**
SML	**Sawmill**	**0.96**	**61**		**Pn**	**09 54 55.8**	**-1.1**
SML				IAML		09 55 10.4	
comp=E,156nm,0.7s							
SML				IAML		09 55 12.4	
comp=N,206nm,0.6s							
SML	**Sawmill**	**0.96**	**61**		**Sn**	**09 55 09.1**	**-0.3**
SPU	**Mount Spurr**	**0.96**	**260**		**Pn**	**09 54 55.9**	**-1.0**
SPU				IAML		09 55 10.1	
comp=N,114nm,0.6s							
SPU				IAML		09 55 11.2	
comp=E,109nm,0.3s							
PWL	**Port Wells**	**0.99**	**120**		**Pn**	**09 54 57.0**	**-0.4**
CUT	**Chulitna**	**1.05**	**356**		**Pn**	**09 54 56.9**	**-1.2**
CUT					**Sn**	**09 55 11.1**	**-0.4**
SEW	**Seward**	**1.30**	**166**		**Pn**	**09 55 00.6**	**-0.9**
SCM	**Sheep Creek Mo**	**1.41**	**69**		**Pn**	**09 55 02.5**	**-0.7**
SCM	**Sheep Creek Mo**	**1.41**	**69**	IAML		09 55 22.5	
comp=E,88nm,0.4s							
SCM				IAML		09 55 23.7	
comp=N,139nm,0.8s							
RDJH	**Redoubt Jeurge**	**1.53**	**241**		**Pn**	**09 55 04.2**	**-0.6**
GLI	**Glacier Island**	**1.54**	**107**	IAML		09 55 26.3	
comp=E,120nm,0.3s							
GLI				IAML		09 55 30.1	
comp=N,117nm,0.4s							
M20K	**Styx River**	**1.54**	**291**		**Pn**	**09 55 04.3**	**-0.6**
M20K	**Styx River**	**1.54**	**291**	IAML		09 55 27.3	
comp=N,61nm,0.8s							
M20K				IAML		09 55 27.5	
comp=E,60nm,0.7s							
RDWB	**Redoubt West**	**1.60**	**238**		**Pn**	**09 55 05.3**	**-0.5**
BRLK	**Bradley Lake**	**1.65**	**194**	IAML		09 55 30.3	
comp=N,70nm,0.3s							
BRLK				IAML		09 55 31.7	
comp=E,86nm,0.5s							
O20K	**Slope Mountain**	**1.79**	**225**		**Pn**	**09 55 08.3**	**0.0**
FID	**Port Fidalgo**	**1.86**	**108**		**Pn**	**09 55 07.7**	**-1.6**
FID	**Port Fidalgo**	**1.86**	**108**	IAML		09 55 33.1	
comp=N,82nm,0.7s							
HOM	**Homer**	**1.87**	**205**		**Pn**	**09 55 09.3**	**0.0**
P23K	**Montague Islan**	**1.91**	**135**		**Pn**	**09 55 08.3**	**-1.5**
CNPM	**China Poot**	**1.93**	**197**		**Pn**	**09 55 09.6**	**-0.6**
CNPM	**China Poot**	**1.93**	**197**	IAML		09 55 38.8	
comp=N,79nm,0.4s							
CNPM				IAML		09 55 39.2	
comp=E,54nm,0.5s							
HIN	**Hinchinbrook I**	**2.01**	**117**		**Pn**	**09 55 09.9**	**-1.4**
HIN	**Hinchinbrook I**	**2.01**	**117**	IAML		09 55 44.5	
comp=N,80nm,0.9s							
KLU	**Klutina**	**2.01**	**84**		**Pn**	**09 55 10.4**	**-1.0**
KLU	**Klutina**	**2.01**	**84**	IAML		09 55 43.2	
comp=N,48nm,0.6s							
M24K	**Tolsona, Glenn**	**2.01**	**66**		**Pn**	**09 55 11.5**	**+0.1**
M24K	**Tolsona, Glenn**	**2.01**	**66**	IAML		09 55 43.9	
comp=E,63nm,1.1s							
M24K				IAML		09 55 47.6	
comp=N,49nm,0.5s							
ILSW	**Iliamna Southw**	**2.04**	**229**	Pn	**Pn**	**09 55 11.7**	**-0.1**
TRF	**Thorofare Moun**	**2.10**	**358**		**Pn**	**09 55 12.1**	**-0.5**
DIV	**Divide**	**2.11**	**94**		**Pn**	**09 55 11.7**	**-1.0**
L20K	**Farewell, AK**	**2.11**	**304**		**Pn**	**09 55 12.3**	**-0.4**
RND	**Reindeer**	**2.13**	**15**	Pn	**Pn**	**09 55 13.7**	**+0.6**
N19K	**Bonanza Creek**	**2.20**	**257**		**Pn**	**09 55 13.7**	**-0.3**
KTH	**Kantishna Hill**	**2.23**	**351**		**Pn**	**09 55 14.4**	**0.0**
KTH	**Kantishna Hill**	**2.23**	**351**	IAML		09 55 43.1	
comp=E,40nm,0.7s							
KTH				IAML		09 55 47.6	
comp=N,35nm,1.0s							
EYAK	**Cordova Ski Ar**	**2.27**	**109**	P	**Pn**	**09 55 16.7**	**+1.8**
O19K	**Port Alsworth**	**2.38**	**242**		**Pn**	**09 55 18.3**	**+2.0**
O19K				IAML		09 55 50.9	
comp=N,49nm,0.4s							
L19K	**White Mountain**	**2.41**	**292**		**Pn**	**09 55 16.6**	**-0.2**
MCK	**McKinley**	**2.44**	**12**		**Pn**	**09 55 18.2**	**+1.0**
N25K	**Chitina, Valde**	**2.65**	**82**		**Pn**	**09 55 21.2**	**+1.0**
N25K				IAML		09 56 00.4	
comp=E,22nm,1.3s							
N25K				IAML		09 56 03.4	
comp=N,25nm,1.2s							
BMRM	**Bremner River**	**2.69**	**96**		**Pn**	**09 55 19.2**	**-1.5**
PAX	**Paxson**	**2.71**	**51**		**Pn**	**09 55 23.0**	**+2.1**
K20K	**Telida**	**2.73**	**319**		**Pn**	**09 55 20.6**	**-0.6**
K20K	**Telida**	**2.73**	**319**	IAML		09 56 13.9	
comp=E,18nm,0.7s							
GOAT	**Goat Mountain**	**2.73**	**104**		**Pn**	**09 55 20.1**	**-1.2**
M18K	**Stony River**	**2.75**	**275**		**Pn**	**09 55 21.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**2.78**	**352**	Pn	**Pn**	**09 55 22.1**	**+0.2**
N18K	**Kilae Creek**	**2.90**	**259**		**Pn**	**09 55 22.9**	**-0.7**
N18K	**Kilae Creek**	**2.90**	**259**	IAML		09 55 57.2	
comp=N,19nm,1.2s							
SYI	**Shuyak Island**	**2.99**	**204**		**Pn**	**09 55 24.2**	**-0.5**
SYI	**Shuyak Island**	**2.99**	**204**	IAML		09 56 22.5	
comp=N,26nm,1.5s							
GLB	**Gilahina Butte**	**3.03**	**86**	Pn	**Pn**	**09 55 26.9**	**+1.6**
GLB				IAML		09 56 15.0	
comp=N,22nm,0.9s							
TTA	**Tatalina**	**3.19**	**302**	Pn	**Pn**	**09 55 27.0**	**-0.6**
TTA	**Tatalina**	**3.19**	**302**	P	**Pn**	**09 55 27.0**	**-0.6**
VRDI	**Verde Repeater**	**3.21**	**89**		**Pn**	**09 55 26.9**	**-1.1**
VRDI	**Verde Repeater**	**3.21**	**89**	IAML		09 56 22.8	
comp=N,17nm,1.4s							
L18K	**Granite Mounta**	**3.25**	**288**		**Pn**	**09 55 27.7**	**-0.5**
L18K	**Granite Mounta**	**3.25**	**288**	IAML		09 56 25.2	
comp=E,11nm,1.2s							
BERG	**Berg Lake**	**3.28**	**104**	Pn	**Pn**	**09 55 29.2**	**+0.5**
J20K	**Nowinta River**	**3.38**	**328**		**Pn**	**09 55 29.6**	**-0.5**
J20K	**Nowinta River**	**3.38**	**328**	IAML		09 56 10.6	
comp=E,12nm,0.3s							
J20K				IAML		09 56 23.7	
comp=N,12nm,1.0s							
M17K	**Holitna River**	**3.53**	**274**		**Pn**	**09 55 31.7**	**-0.5**
M17K	**Holitna River**	**3.53**	**274**	IAML		09 56 32.6	
comp=N,16nm,1.5s							
M17K				IAML		09 56 43.7	
comp=E,17nm,1.0s							
N17K	**Nushagak Hills**	**3.56**	**260**		**Pn**	**09 55 32.0**	**-0.5**
N17K	**Nushagak Hills**	**3.56**	**260**	IAML		09 56 13.7	
comp=E,14nm,0.7s							
N17K				IAML		09 56 35.3	
comp=N,11nm,1.5s							
J19K	**Poorman**	**3.67**	**318**		**Pn**	**09 55 33.5**	**-0.6**
J19K	**Poorman**	**3.67**	**318**	IAML		09 56 47.1	
comp=E,8.3nm,1.2s							
J19K				IAML		09 56 49.2	
comp=N,7.9nm,1.0s							
COLA	**College**	**3.67**	**15**	P	**Pn**	**09 55 34.5**	**+0.4**
J18K	**Innoko River**	**3.73**	**307**		**Pn**	**09 55 34.4**	**-0.5**
I23K	**Minto, Yukon-K**	**3.82**	**5**		**Pn**	**09 55 35.6**	**-0.4**
J25K	**Salcha River,**	**3.91**	**31**		**Pn**	**09 55 40.1**	**+2.6**
J25K				IAML		09 56 30.1	
comp=N,6.9nm,0.7s							
J25K				IAML		09 56 42.0	
comp=E,7.7nm,0.8s							
I21K	**Tanana**	**3.93**	**348**		**Pn**	**09 55 37.5**	**-0.1**
I21K	**Tanana**	**3.93**	**348**	IAML		09 56 22.9	
comp=E,7.3nm,1.4s							
L17K	**Donlin**	**3.97**	**285**		**Pn**	**09 55 37.7**	**-0.6**
K17K	**Iditarod**	**4.09**	**293**		**Pn**	**09 55 39.4**	**-0.5**
K17K	**Iditarod**	**4.09**	**293**	IAML		09 56 43.9	
comp=E,5.6nm,1.5s							
K17K				IAML		09 57 02.6	
comp=N,9.1nm,1.4s							
M16K	**Timber Creek**	**4.30**	**269**		**Pn**	**09 55 42.4**	**-0.4**
M16K	**Timber Creek**	**4.30**	**269**	IAML		09 57 21.1	
comp=E,6.2nm,1.5s							
N16K	**Nishlik Lake**	**4.32**	**262**		**Pn**	**09 55 43.0**	**-0.1**
J26L	**Joseph Creek**	**4.34**	**41**		**Pn**	**09 55 45.9**	**+2.5**
J26L				IAML		09 56 39.2	
comp=N,6.2nm,0.8s							
J26L				IAML		09 56 41.5	
comp=E,7.3nm,0.5s							
OHAK	**Old Harbor**	**4.46**	**203**	P	**Pn**	**09 55 46.5**	**+1.6**
L16K	**Owhat River**	**4.50**	**279**		**Pn**	**09 55 44.7**	**-0.7**
L16K	**Owhat River**	**4.50**	**279**	IAML		09 57 14.2	
comp=E,6.7nm,1.5s							
P16K	**Nushagak River**	**4.58**	**243**		**Pn**	**09 55 46.6**	**+0.1**
J16K	**Anvik River**	**5.26**	**296**		**Pn**	**09 55 55.2**	**-0.7**
J16K	**Anvik River**	**5.26**	**296**	IAML		09 57 26.0	
comp=N,2.9nm,1.4s							
K15K	**Wolf Creek Mou**	**5.50**	**285**		**Pn**	**09 55 58.7**	**-0.4**

IDC 04 10:04:33.6±1.7,5°.79S×126°.12E,h0km,mb3.6/1, mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=136.4km s-min=28.2km az=63.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.18**	**151**	Pn	P	10 08 24.2	-1.6
0.3nm,0.3s,baz=330,slow=10,SNR=10							
0.3nm,0.3s							
ASAR	**Alice Springs**	**19.29**	**158**	P	P	10 08 59.4	-0.8
0.2nm,0.3s,baz=332,slow=10,SNR=11							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**65.15**	**328**	P	P	10 15 16.6	0.0
0.4nm,0.6s,baz=126,slow=7.6,SNR=9.5							
0.4nm,0.6s							

---

*GUC **04** 10:10:00.4±0.7,31°.29S×69°.38W,h132km±8km,ML2.9*
*SJA **04** 10:10:00.3±0.6,31°.33S×69°.26W,h107km±3km,ML2.8, MW2.9*
ISC 04 10:10:01.9±1.6,31°.32S±0°.03×69°.21W±0°.06, h103km±11km,n19,σ0s88/35,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOCA	**Reserva Natura**	**0.39**	**16**	*e*P	**Pn**	**10 10 17.1**	**-0.7**
DOCA				*e*S	**Sn**	**10 10 30.1**	**+0.4**
RTLS	**Leoncito**	**0.48**	**189**	*e*P	**Pn**	**10 10 18.0**	**-0.3**
RTLS				*e*S	**Sn**	**10 10 31.3**	**+0.7**
RTLS				IAML		10 10 32.2	
comp=Z,522nm,0.2s							
ZON	**Zonda**	**0.51**	**116**	*e*P	**Pn**	**10 10 17.3**	**-0.9**
ZON				*e*S	**Sn**	**10 10 30.5**	**+0.1**
ZON				IAML		10 10 31.6	
comp=Z,95nm,0.4s							
AUSP	**Uspallata**	**0.91**	**189**	*e*P	**Pn**	**10 10 21.7**	**-0.3**
AUSP				*e*S	**Sn**	**10 10 37.0**	**-0.1**
ACDV	**Cuesta del Vie**	**1.15**	**4**	*e*P	**Pn**	**10 10 24.0**	**-0.4**
ACDV				*e*S	**Sn**	**10 10 42.1**	**+0.7**
ACDV				IAML		10 10 42.6	
comp=Z,61nm,1.2s							
AROD	**Rodeo**	**1.17**	**349**	*e*P	**Pn**	**10 10 24.8**	**-0.1**
AROD				*e*S	**Sn**	**10 10 43.2**	**+1.0**
ASAL	**Salagasta**	**1.30**	**166**	*e*P	**Pn**	**10 10 25.9**	**-0.3**
ASAL				*e*S	**Sn**	**10 10 44.5**	**+0.1**
ASAL				IAML		10 10 46.3	
comp=Z,71nm,0.7s							
CO03	**El Pedregal**	**1.36**	**290**	*e*P	**Pn**	**10 10 25.9**	**-0.9**
CO03				*e*S	**Sn**	**10 10 46.6**	**+1.1**
CO03				IAML		10 10 48.0	
comp=E,328nm,0.3s							
ARCO	**CERRO ARCO**	**1.53**	**171**	*e*P	**Pn**	**10 10 28.6**	**-0.4**
ARCO				*e*S	**Sn**	**10 10 49.6**	**+0.2**
ARCO				IAML		10 10 51.3	
comp=Z,148nm,0.5s							
CO01	**Juntas del Tor**	**1.54**	**330**	*e*P	**Pn**	**10 10 30.0**	**+0.8**
CO01				*e*S	**Sn**	**10 10 51.4**	**+1.6**
CO01				IAML		10 10 53.0	
comp=E,74nm,0.3s							
GO04	**Tololo Observa**	**1.79**	**310**	*e*P	**Pn**	**10 10 31.8**	**-0.4**
GO04				IAML		10 10 58.5	
comp=N,317nm,0.4s							
AAGR	**Agrelo**	**1.79**	**170**	*e*P	**Pn**	**10 10 31.5**	**-0.6**
AAGR				*e*S	**Sn**	**10 10 54.7**	**-0.2**
AAGR				IAML		10 10 56.9	
comp=Z,61nm,0.3s							
AGUA	**GUANDACOL**	**1.93**	**19**	*e*P	**Pn**	**10 10 33.7**	**-0.2**
AGUA				*e*S	**Sn**	**10 10 58.7**	**+0.4**
AGUA				IAML		10 11 00.9	
comp=Z,71nm,0.7s							
VA06	**Catapilco**	**2.16**	**235**	*e*P	**Pn**	**10 10 35.4**	**-1.3**
VA06				IAML		10 11 03.0	
comp=N,58nm,0.3s							
FCH	**Farellones**	**2.20**	**204**	*e*P	**Pn**	**10 10 38.0**	**+0.4**
FCH				*e*S	**Sn**	**10 11 07.3**	**+2.6**
FCH				IAML		10 11 12.5	
comp=E,31nm,0.3s							
PEL	**Peldehue**	**2.21**	**214**	*e*P	**Pn**	**10 10 37.2**	**-0.2**
PEL				*e*S	**Sn**	**10 11 05.0**	**+0.5**
PEL				IAML		10 11 07.5	
comp=N,30nm,0.5s							
CO05	**La Serena**	**2.24**	**308**	*e*P	**Pn**	**10 10 36.6**	**-1.2**
CO05				*e*S	**Sn**	**10 11 03.5**	**-1.6**
CO05				IAML		10 11 04.9	
comp=E,182nm,0.2s							
LCO	**Las Campanas**	**2.64**	**330**	*e*P	**Pn**	**10 10 42.5**	**-0.8**
BO04	**La Punta**	**2.91**	**204**	*e*P	**Pn**	**10 10 46.3**	**-0.3**
BO04				*e*S	**Sn**	**10 11 21.4**	**+0.4**
BO04				IAML		10 11 22.8	
comp=N,22nm,0.1s							

---

*IDC **04** 10:20:46.5±0.5,14°.08N×144°.90E,h184km±4km,mb3.1/8, mbtmp3.6/8,Error ellipse: s-maj=30.5km s-min=18.5km az=99.0*

ISC 04 10:20:47.4±0.8,14°.0N±0°.2×144°.9E±0°.3,h200km,n9, σ1s47/10,mb3.2/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.38**	**191**	P	**Pn**	**10 21 13.1**	**-1.0**
293nm,0.4s,baz=93,slow=0.9,SNR=24							
GUMO				S	**Sn**	**10 21 32.3**	**-2.6**
765nm,0.2s,baz=338,slow=23,SNR=53							
WRA	**Warramunga Arr**	**35.27**	**197**	P	**P**	**10 27 25.0**	**+1.6**
0.2nm,0.4s,baz=12,slow=8.1,SNR=1.6							
0.2nm,0.4s							
ASAR	**Alice Springs**	**38.93**	**196**	P	**P**	**10 27 55.0**	**+0.9**
0.2nm,0.5s,baz=16,slow=8.3,SNR=6.4							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**61.27**	**316**	P	**P**	**10 30 41.8**	**+0.3**
0.3nm,0.6s,baz=94,slow=9.2,SNR=6.0							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**64.39**	**320**	P	**P**	**10 31 01.2**	**-0.7**
0.7nm,0.6s,baz=102,slow=6.8,SNR=7.6							
0.7nm,0.6s							
ILAR	**Eielson Array**	**68.20**	**25**	P	**P**	**10 31 26.0**	**0.0**
0.2nm,0.4s,baz=253,slow=5.7,SNR=9.4							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**69.68**	**322**	P	**P**	**10 31 35.5**	**+0.2**
0.5nm,0.4s,baz=102,slow=11,SNR=2.8							
0.5nm,0.4s							
YKA	**Yellowknife Ar**	**82.49**	**27**	P	**P**	**10 32 49.0**	**+1.7**
0.2nm,0.8s,baz=279,slow=7.6,SNR=2.2							
0.2nm,0.8s							
NVAR	**Mina Array Bea**	**86.63**	**51**	P	**P**	**10 33 08.2**	**-0.7**
0.5nm,0.6s,baz=319,slow=5.1,SNR=2.0							
0.5nm,0.6s							

SJA 04 10:33:41.2±1.0,30°.66S×69°.94W,h120km±6km,ML1.8, MW2.0,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AROD	**Rodeo**	**0.64**	**39**	*e*P	Pn	10 34 01.7	+1.2
AROD	**Rodeo**	**0.64**	**39**	*e*P	Pn	10 34 01.6	+1.1
AROD				*e*S	Sn	10 34 16.3	+1.3
CO03	**El Pedregal**	**0.67**	**255**	*e*P	Pn	10 34 01.1	+0.7
CO03				*e*S	Sn	10 34 16.1	+1.2
CO03				IAML		10 34 18.6	
comp=Z,17nm,0.2s							
CO03	**El Pedregal**	**0.67**	**255**	*e*P	Pn	10 34 01.1	+0.7
CO03				*e*S	Sn	10 34 15.9	+1.0
CO03				IAML		10 34 17.7	
comp=Z,17nm,0.1s							
CO01	**Juntas del Tor**	**0.70**	**349**	*e*P	Pn	10 34 02.7	+1.9
CO01				*e*S	Sn	10 34 18.7	+3.1
ACCO	**Cerro Coronel**	**0.76**	**85**	*e*P	Pn	10 34 02.8	+1.3
ACCO				*e*S	Sn	10 34 18.5	+1.8
ACCO	**Cerro Coronel**	**0.76**	**85**	*e*P	Pn	10 34 02.4	+1.0
ACCO				*e*S	Sn	10 34 18.0	+1.3
DOCA	**Reserva Natura**	**0.79**	**111**	*e*P	Pn	10 34 03.0	+1.3
DOCA				*e*S	Sn	10 34 19.2	+2.0
DOCA	**Reserva Natura**	**0.79**	**111**	*e*P	Pn	10 34 02.8	+1.1
DOCA				*e*S	Sn	10 34 18.8	+1.6
ACDV	**Cuesta del Vie**	**0.86**	**56**	*e*P	Pn	10 34 03.4	+1.3
ACDV				*e*S	Sn	10 34 20.3	+2.4
ACDV	**Cuesta del Vie**	**0.86**	**56**	*e*P	Pn	10 34 02.3	+0.2
ACDV				*e*S	Sn	10 34 19.6	+1.7
ACDV				IAML		10 34 20.0	
comp=Z,9.4nm,0.5s							
GO04	**Tololo Observa**	**0.89**	**303**	*e*P	Pn	10 34 03.1	+0.7
GO04				*e*S	Sn	10 34 12.0	-6.5
GO04	**Tololo Observa**	**0.89**	**303**	*e*P	Pn	10 34 03.0	+0.5
GO04				*e*S	Sn	10 34 19.7	+1.2
RTLS	**Leoncito**	**1.26**	**154**	*e*P	Pn	10 34 07.7	+1.5
RTLS				*e*S	Sn	10 34 26.9	+1.7
RTLS				IAML		10 34 58.4	
comp=Z,21nm,3.7s							
RTLS	**Leoncito**	**1.26**	**154**	*e*P	Pn	10 34 07.5	+1.3
RTLS				*e*S	Sn	10 34 26.7	+1.5
RTLS				IAML		10 34 28.5	
comp=Z,15nm,0.4s							
ZON	**Zonda**	**1.40**	**129**	*e*P	Pn	10 34 15.6	+8.1
AGUA	**GUANDACOL**	**1.72**	**47**	*e*P	Pn	10 34 13.3	+2.0
AGUA				*e*S	Sn	10 34 36.6	+2.4
AGUA				IAML		10 34 36.7	
comp=Z,15nm,2.1s							
AGUA	**GUANDACOL**	**1.72**	**47**	*e*P	Pn	10 34 12.8	+1.4
AGUA				IAML		10 35 15.2	
comp=Z,9.1nm,4.3s							
LCO	**Las Campanas**	**1.77**	**338**	*e*P	Pn	10 34 12.7	+0.5
LCO				*e*S	Sn	10 34 36.5	+0.8
LCO				IAML		10 34 37.1	
comp=Z,32nm,0.2s							
ASAL	**Salagasta**	**2.14**	**154**	*e*P	Pn	10 34 11.0	-5.5
ASAL				*e*S	Sn	10 34 45.9	+2.3
VA03	**San Esteban**	**2.16**	**194**	*e*P	Pn	10 34 18.2	+1.5
VA03				*e*S	Sn	10 34 47.8	+3.9
VCA	**Vinchina**	**2.44**	**39**	*e*P	Pn	10 34 24.1	+3.7
VCA				IAML		10 35 13.1	
comp=Z,11nm,2.5s							
ROC1	**El Roble**	**2.48**	**201**	*e*P	Pn	10 34 21.6	+0.6
ROC1				*e*S	Sn	10 34 52.7	+1.2
AC04	**Llanos de Chal**	**2.64**	**338**	*e*P	Pn	10 34 24.0	+1.1
AC04				*e*S	Sn	10 34 55.4	+0.6
AC04				IAML		10 35 32.4	
comp=Z,14nm,4.9s							
MT04	**Ro Olivares**	**2.74**	**183**	*e*P	Pn	10 34 14.6	-10
MT04				*e*S	Sn	10 35 16.0	+19
MT02	**Curacav**	**2.78**	**201**	*e*P	Pn	10 34 24.3	-0.3
MT02				*e*S	Sn	10 34 57.7	-0.4
MT02				IAML		10 35 08.5	
comp=Z,5.4nm,4.3s							
ACLC	**CERRO LA CRUZ**	**2.87**	**65**	*e*S	Sn	10 35 01.3	+0.9
ACLC				IAML		10 35 01.9	
comp=Z,3.8nm,0.3s							
APLL	**PUNTA DE LOS L**	**2.96**	**86**	*e*P	Pn	10 34 27.7	+0.8
APLL				*e*S	Sn	10 35 01.6	-0.6
MT01	**Popeta**	**3.38**	**199**	*e*P	Pn	10 34 32.2	-0.2
MT01				*e*S	Sn	10 35 11.1	-1.0
MT01				IAML		10 35 26.8	
comp=Z,7.9nm,3.3s							

---

*NEIC **04** 10:37:59.2±3.0,24°.43S

FUTU Fugatoga 10.46 348 Pn **Pn 10 40 26.5 -4.6**
AFI Afiamalu 11.38 21 Pn Pn 10 40 36.0 -7.7
AFI Afiamalu 11.38 21 P Pn 10 40 36.0 -7.7
OUZ Omahuta 13.88 218 P **P 10 41 26.2 +0.6**
WMGZ Waiomatatini S 13.99 199 P Pn 10 41 13.1 -6.1
WMGZ S **Sn 10 43 49.1 -4.3**
HAZ Te Kaha 14.13 201 P Pn 10 41 13.4 -7.7
HAZ S **Sn 10 43 49.6 -7.1**
PKGZ Pakihiroa 14.13 200 P Pn 10 41 16.1 -5.1
PKGZ S Sn 10 43 45.8 -11
PUZ Puketiti 14.27 199 P Pn 10 41 17.4 -5.7
PUZ S **Sn 10 43 52.4 -8.0**
RUGZ Raukumara Rang 14.35 201 P **Pn 10 41 21.5 -2.7**
RUGZ S **Sn 10 43 56.1 -6.4**
MWZ Matawai 14.73 200 P Pn 10 41 23.8 -5.6
MWZ S **Sn 10 44 07.4 -4.3**
URZ Urewera 14.80 202 P **Pn 10 41 31.0 +0.8**
7.1nm,0.3s,baz=58,slow=4.3,SNR=15
URZ S **Sn 10 44 12.1 -1.1**
9.5nm,0.7s,baz=342,slow=20,SNR=3.0
URZ Urewera 14.80 202 P Pn 10 41 23.1 -7.2
URZ S **Sn 10 44 08.7 -4.5**
RIGZ Rimuhau 15.00 199 P **Pn 10 41 29.4 -3.6**
PRGZ Paritu Road 15.17 199 P **Pn 10 41 36.3 +1.1**
RTZ Ruatahuna 15.17 202 Pn **Pn 10 41 35.3 0.0**
SNGZ Shannon Statio 15.20 200 P **P 10 41 39.4 -0.9**
RAR Rarotonga 15.31 80 Pn **Pn 10 41 32.3 -4.9**
RAR Rarotonga 15.31 80 P **Pn 10 41 32.3 -4.9**
200nm,0.7s,baz=240,slow=9.9,SNR=19
RAR S Sn 10 44 08.9 -17
148nm,1.1s,baz=229,slow=12,SNR=3.1
RAR LR LR 10 47 48.7
comp=Z,271nm,18.5s,baz=260,slow=37
RAR Rarotonga 15.31 80 P **Pn 10 41 32.3 -4.9**
RAR pmax pmax
comp=Z,284nm,0.9s
KNZ Kokohu 15.32 199 P **P 10 41 39.9 -1.7**
BKZ Black Stump Fm 15.83 202 **Pn 10 41 44.9 +1.1**
BKZ Black Stump Fm 15.83 202 P **Pn 10 41 45.8 +2.0**
HIZ Hauiti 15.88 207 P **P 10 41 49.1 +1.3**
ETVZ East Tongariro 16.08 204 P **P 10 41 50.5 +0.3**
OTVZ Oturere 16.12 204 P **P 10 41 50.6 -0.1**
NGZ Ngauruhoe 16.16 204 P **P 10 41 50.6 -0.5**
KAHZ Kahuranaki 16.27 200 P **Pn 10 41 51.0 +1.6**
KRHZ Kereru 16.30 201 P **P 10 41 51.7 -0.8**
DZM Mont Dzumac 16.34 275 **P 10 41 51.3 -1.9**
DZM Mont Dzumac 16.34 275 *e*P **Pn 10 41 50.3 -0.2**
comp=Z,257nm,1.4s
DZM *e*LR LR 10 45 33.5
comp=Z,1μm,26.1s
DZM Mont Dzumac 16.34 275 P **Pn 10 41 50.2 -0.2**
comp=Z,22nm,1.0s,baz=92,slow=15,SNR=6.1
DZM LR LR 10 47 00.7
comp=Z,671nm,20.7s,baz=92,slow=33
VRZ Vera Road 16.44 206 P **P 10 41 57.6 +3.6**
TSZ Takapari Road 16.81 202 P **P 10 41 58.5 +0.4**
NEZ North Egmont 16.83 208 P **P 10 42 00.4 +1.9**
WAZ Wanganui 16.89 205 P **P 10 42 00.3 +1.3**
BFZ Birch Farm 17.28 200 P **P 10 42 04.0 +0.7**
QRZ Quartz Range 18.79 208 P **P 10 42 17.8 -2.2**
CTZ Chatham Island 19.07 181 P **P 10 42 20.3 -2.6**
THZ Tophouse 19.42 206 P **Pn 10 42 28.5 +0.3**
KHZ Kahutara 19.75 203 P **P 10 42 28.8 -1.6**
DSZ Denniston Nort 19.86 208 P **Pn 10 42 34.6 +1.2**
INZ Inchbonnie 20.82 207 P **P 10 42 41.2 -0.9**
RPZ Rata Peaks 21.80 206 P **P 10 42 53.3 +0.7**
comp=Z,9.7nm,0.9s,baz=68,slow=18,SNR=2.7
RPZ LR LR 10 51 10.7
comp=Z,3μm,20.9s,baz=22,slow=36
comp=Z,9.7nm,0.9s
TBI Tubuai 24.25 92 *e*P **P 10 43 18.3 +0.7**
TBI *e*LR LR 10 49 06.0
comp=Z,631nm,39.0s
comp=Z,2μm,25.0s
PPT2 Papeete2 25.58 79 *e*P **P 10 43 33.0 +3.2**
PPT2 *e*S **S 10 47 53.1 -2.9**
comp=Z,41nm,22.2s
comp=Z,2μm,23.5s
PPT2 *e*LR LR 10 49 48.5
comp=Z,1μm,24.5s
PPT2 *e*LR LR 10 49 55.1
comp=Z,1μm,22.2s
PPT Papeete 25.59 79 P **P 10 43 32.3 +2.5**
comp=Z,48nm,0.8s,baz=264,slow=8.8,SNR=3.9
PPT LR LR 10 50 44.5
comp=Z,886nm,20.2s,baz=252,slow=29
comp=Z,48nm,0.8s
HNR Honiara 27.46 299 LR LR 10 53 53.5
comp=Z,382nm,18.9s,baz=148,slow=35
ARMA Armidale 29.23 251 P **P 10 44 01.6 -0.9**
EIDS Eidsvold 29.82 262 P **P 10 44 07.9 +0.3**
TOO Toolangi 35.18 239 P **P 10 44 54.6 +0.1**
TOO Toolangi 35.18 239 P **P 10 44 54.6 +0.1**
TOO pmax pmax
comp=Z,14nm,1.4s
KRVT Keravat (AS076 36.81 298 LR LR 10 59 14.7
comp=Z,194nm,19.5s,baz=222,slow=35
TAOE Nuku Hiva Isla 37.58 72 *e*LR LR 10 55 10.0
comp=Z,655nm,24.8s
STKA Stephens Creek 37.88 249 P **P 10 45 17.9 +0.4**
STKA Stephens Creek 37.88 249 P **P 10 45 18.3 +0.8**
comp=Z,2.0nm,0.5s,baz=85,slow=7.6,SNR=8.2
comp=Z,2.0nm,0.5s
STKA Stephens Creek 37.88 249 P **P 10 45 17.9 +0.4**
STKA pmax pmax
comp=Z,13nm,1.2s
PMG Port Moresby 38.21 287 LR LR 10 58 58.8
comp=Z,400nm,18.1s,baz=130,slow=33
COEN Coen 39.85 278 P **P 10 45 33.9 -0.3**
COEN IAmb IAmb 10 46 55.8
comp=Z,181nm,2.0s
BBOO Buckleboo 42.55 248 P **P 10 45 55.2 -1.1**
BBOO IAmb IAmb 10 46 16.2
comp=Z,59nm,1.5s
AS31 Alice Springs 45.53 260 P **P 10 46 18.3 -2.1**
ASAR Alice Springs 45.53 260 P **P 10 46 19.2 -1.1**
ASAR Alice Springs 45.53 260 P **P 10 46 18.5 -1.8**
comp=Z,16nm,0.9s,baz=97,slow=8.2,SNR=66
ASAR S **S 10 52 55.4 -5.3**
comp=Z,0.2nm,0.6s,baz=99,slow=14,SNR=2.7
ASAR LR LR 11 04 55.3
comp=Z,432nm,18.1s,baz=102,slow=36
comp=Z,16nm,0.9s
WR0 Warramunga Arr 45.83 266 P **P 10 46 18.0 -4.6**
WB2 Warramunga Arr 46.00 266 P **P 10 46 22.3 -1.7**
WB2 IAmb IAmb 10 46 31.3
comp=Z,21nm,0.9s
WRAB Tennant Creek 46.01 266 P **P 10 46 22.6 -1.5**
WRAB IAmb IAmb 10 46 31.2
comp=Z,27nm,1.1s
WRAB Tennant Creek 46.01 266 *i*P **P 10 46 23.3 -0.8**
WRAB pmax pmax
comp=Z,34nm,1.4s
WB0 Warramunga Arr 46.01 266 P **P 10 46 22.8 -1.3**
WB0 IAmb IAmb 10 46 38.1
comp=Z,60nm,1.4s
WRA Warramunga Arr 46.01 266 P **P 10 46 22.3 -1.8**
WRA Warramunga Arr 46.01 266 P **P 10 46 21.9 -2.2**
comp=Z,10nm,0.6s,baz=106,slow=8.1,SNR=47
WRA S **S 10 53 02.3 -5.4**
comp=Z,0.9nm,1.0s,baz=68,slow=17,SNR=2.3
WRA LR LR 11 04 56.5
comp=Z,296nm,18.2s,baz=96,slow=35
comp=Z,10nm,0.6s
FORT Forrest 49.50 250 P **P 10 46 50.0 -1.0**
FORT IAmb IAmb 10 47 59.2
comp=Z,52nm,1.2s
KNRA Kununurra 52.35 269 P **P 10 47 11.8 -0.8**
GUMO Guam 53.88 311 LR LR 11 07 16.9
comp=Z,101nm,20.6s,baz=90,slow=33
VNDA Vanda 53.99 186 P **P 10 47 25.4 +1.6**
VNDA Vanda 53.99 186 LR LR 11 08 02.9
comp=Z,175nm,20.3s,baz=23,slow=33
VNDA Vanda 53.99 186 P **P 10 47 25.4 +1.6**
VNDA pmax pmax
comp=Z,119nm,1.9s
FITZ Fitzroy Crossi 54.42 265 P **P 10 47 27.3 -0.6**
FITZ Fitzroy Crossi 54.42 265 LR LR 11 10 31.7
comp=Z,352nm,18.1s,baz=96,slow=36
PSA00 Pilbara Seismi 58.63 259 P **P 10 47 57.5 -0.3**
MBWA Marble Bar 58.85 259 P **P 10 47 58.4 -0.9**
RPN Rapa Nui 59.37 108 LR LR 11 10 00.5
comp=Z,67nm,18.1s,baz=270,slow=32
CASY Casey 61.07 206 P **P 10 48 15.4 +1.6**
CASY IAmb IAmb 10 48 16.1
comp=Z,26nm,0.9s
KAPI Kappang 64.56 276 LR LR 11 15 22.3
comp=Z,79nm,21.2s,baz=100,slow=35
JCJ Chichijima 65.37 319 LR LR 11 11 52.0
comp=Z,239nm,21.9s,baz=122,slow=31
QSPA South Pole Qui 65.46 180 P **P 10 48 46.2 +3.1**
QSPA South Pole Qui 65.46 180 P **P 10 48 45.5 +2.4**
comp=Z,48nm,1.0s,baz=46,slow=2.0,SNR=47
QSPA LR LR 11 14 34.9
comp=Z,317nm,19.2s,baz=38,slow=33
comp=Z,48nm,1.0s
JOW Kunigami 74.24 310 LR LR 11 20 59.4
comp=Z,109nm,18.6s,baz=120,slow=35
MJAR Matsushiro Arr 74.62 323 P **P 10 49 37.5 -1.9**
comp=Z,3.9nm,1.0s,baz=147,slow=6.8,SNR=3.7
MJAR LR LR 11 15 41.9
comp=Z,256nm,21.4s,baz=126,slow=30
comp=Z,3.9nm,1.0s
BELA Belgrano 2 75.24 172 P **P 10 49 45.1 +2.6**
ADK Adak 76.18 360 P **P 10 49 47.8 -0.2**
ADK Adak 76.18 360 P **P 10 49 47.8 -0.2**
ADK pmax pmax
comp=Z,201nm,1.5s
JNU Nakatsue 76.54 316 LR LR 11 17 58.0
comp=Z,117nm,21.9s,baz=134,slow=31
PMSA Palmer Station 76.77 156 LR LR 11 19 38.9
comp=Z,174nm,18.3s,baz=318,slow=32
SHEM Shemya Is, Ala 77.51 354 LR LR 11 20 41.8
comp=Z,728nm,18.8s,baz=115,slow=33
TPUB Ta-pu 77.77 303 P **P 10 49 55.7 -1.9**
ASAJ Asahikawa 78.23 331 LR LR 11 25 17.4
comp=Z,155nm,18.1s,baz=136,slow=36
MAW Mawson 78.32 200 LR LR 11 23 54.3
comp=Z,404nm,18.9s,baz=117,slow=35
UNV Unalaska Valle 78.58 6 P **P 10 50 00.8 -0.6**
UNV Unalaska Valle 78.58 6 P **P 10 50 02.9 +1.5**
baz=189
MDSI Maura Dua 78.92 270 P **P 10 50 03.1 -1.1**
comp=Z,669nmcomp=Z,14nm,0.9s
FALS False Pass 79.89 7 P **P 10 50 09.7 +1.2**
baz=192
LPIG La Paz 79.96 58 LR LR 11 17 18.5
comp=Z,304nm,20.2s,baz=224,slow=29
VTX Valle De La Tr 80.10 49 P **P 10 50 11.1 +0.7**
VTX IAmb IAmb 10 50 13.1
comp=Z,20nm,0.9s
SRIG Santa Rosalia 80.27 54 P **P 10 50 11.7 +0.5**
SRIG IAmb IAmb 10 50 13.9
comp=Z,38nm,1.1s
CHNA Chernabura Isl 80.38 10 P **P 10 50 12.3 +1.2**
baz=195
YSS Yuzhno-Sakhali 80.41 333 *e*P **P 10 50 13.1 +1.6**
YSS *e* 10 53 15.5
YSS *e*S **S 11 00 12.2 -3.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,400nm,16.0s
PET Petropavlovsk 80.42 345 *e*P **P 10 50 15.0 +3.6**
PET *e*S **S 11 00 20.0 +4.8**
PET *e*PS **PnS 11 01 11.2 +7.5**
PET MLR MLR
comp=Z,200nm,19.0s
PEA0B Petropavlovsk- 80.73 344 P **P 10 50 13.1 0.0**
PEA0B Petropavlovsk- 80.73 344 P **P 10 50 13.1 0.0**
PEA0B pmax pmax
comp=Z,72nm,1.1s
PETK Petropavlovsk- 80.73 344 P **P 10 50 12.9 -0.1**
comp=Z,21nm,0.9s,baz=130,slow=6.3,SNR=15
PETK LR LR 11 23 27.3
comp=Z,204nm,18.6s,baz=157,slow=34
comp=Z,21nm,0.9s
PETK Petropavlovsk- 80.73 344 P **P 10 50 13.0 -0.1**
S12K Black Hills 80.89 8 P **P 10 50 14.6 +0.8**
baz=193
PFO Pinyon Flats O 80.97 47 LR LR 11 20 34.7
comp=Z,384nm,18.8s,baz=238,slow=31
P08K Saint George I 81.09 4 P **P 10 50 16.9 +2.0**
baz=186
KSRS Korea Array 81.20 318 P **P 10 50 15.2 -0.7**
comp=Z,5.0nm,1.0s,baz=137,slow=6.5,SNR=10
KSRS LR LR 11 22 03.7
comp=Z,108nm,20.7s,baz=125,slow=33
comp=Z,5.0nm,1.0s
KSAR Wonju Array Be 81.21 318 P **P 10 50 14.5 -1.5**
KSAR Wonju Array Be 81.21 318 P **P 10 50 14.5 -1.5**
SPIA Saint Paul Isl 81.63 3 P **P 10 50 19.0 +1.3**
baz=185
GLA Glamis 81.73 48 P **P 10 50 15.6 -3.4**
GLA IAmb IAmb 10 50 22.3
comp=Z,24nm,1.0s
GLA Glamis 81.73 48 P **P 10 50 15.6 -3.4**
GLA pmax pmax
comp=Z,24nm,1.0s
CHGN Chignik 81.98 10 P **P 10 50 17.7 -1.9**
CHGN IAmb IAmb 10 50 24.1
comp=Z,26nm,0.8s
CHGN Chignik 81.98 10 P **P 10 50 20.7 +1.1**
baz=196
CHIR Chirikof Islan 81.99 11 P **P 10 50 20.8 +1.1**
baz=199
H03S2 Juan Fernandez 82.14 124 T T 12 21 09.4
baz=244,slow=74,SNR=94
H03S1 Juan Fernandez 82.16 124 T T 12 21 10.5
baz=244,slow=74,SNR=112
H03S3 Juan Fernandez 82.16 123 T T 12 21 09.3
baz=244,slow=74,SNR=110
H03N2 Juan Fernandez 82.30 123 T T 12 21 26.5
baz=250,slow=72,SNR=168
H03N3 Juan Fernandez 82.30 123 T T 12 21 17.6
baz=250,slow=72,SNR=448
H03N1 Juan Fernandez 82.32 123 T T 12 21 26.9
baz=250,slow=72,SNR=195
BLYC Blythe 82.35 48 P **P 10 50 19.2 -3.0**
YBH Yreka Blue Hor 82.38 37 P **P 10 50 23.6 +1.4**
comp=Z,6.4nm,1.0s,baz=148,slow=12,SNR=7.6
YBH LR LR 11 21 47.6
comp=Z,159nm,18.2s,baz=229,slow=32
comp=Z,6.4nm,1.0s
MSHR Mys Shultsa 82.74 324 *i*P **P 10 50 24.9 +1.0**
MSHR pmax pmax
comp=Z,31nm,1.1s
ELIB Princess Elisa 82.76 186 *d*P **P 10 50 26.1 +2.2**
NVAR Mina Array Bea 82.78 42 P **P 10 50 26.0 +1.4**
comp=Z,6.7nm,0.9s,baz=224,slow=8.9,SNR=26
comp=Z,6.7nm,0.9s
SII Sitkinak Islan 82.95 12 P **P 10 50 25.1 +0.3**
baz=200
PSTR Posyet 82.98 323 *i*P **P 10 50 25.9 +0.8**
SYO Syowa Base 83.11 192 ⇑*i*pP **P 10 50 27.1 +1.5**
SYO Syowa Base 83.11 192 ⇑*i*PP PP 10 53 35.5 -0.7
V12A Nelson 83.30 46 P **P 10 50 25.4 -1.8**
V12A IAmb IAmb 10 50 30.4
comp=Z,15nm,1.1s
R16K Pilot Point 83.33 10 P **P 10 50 27.7 +1.1**
baz=197
USA0B Ussuriysk Arra 83.41 325 P **P 10 50 28.1 +0.7**
USA0B IAmb IAmb 10 51 03.0
comp=Z,40nm,1.4s
USA0B Ussuriysk Arra 83.41 325 P **P 10 50 28.1 +0.7**
USA0B pmax pmax
comp=Z,40nm,1.4s
USRK Ussuriysk Ar. 83.41 325 P **P 10 50 26.3 -1.0**
USRK Ussuriysk Ar. 83.41 325 P **P 10 50 28.2 +0.8**
comp=Z,13nm,0.9s,baz=142,slow=3.3,SNR=18
USRK LR LR 11 26 13.3
comp=Z,270nm,18.8s,baz=142,slow=35
comp=Z,13nm,0.9s
TYV Tymovskoe 83.55 335 *e*P **P 10 50 28.7 +0.8**
TYV pmax pmax
comp=Z,38nm,1.1s
TYV pmax pmax
comp=Z,300nm,4.0s
SHPR Sheep Range 83.57 45 P **P 10 50 26.3 -2.3**
TROLL Troll, Antarti 83.61 180 P **P 10 50 30.6 +2.3**
TROLL Troll, Antarti 83.61 180 ⇑P **P 10 50 30.6 +2.3**
comp=Z,1μm,0.7s
J04A Umpqua Nationa 83.73 36 P **P 10 50 26.0 -3.3**
OHAK Old Harbor 83.75 12 P **P 10 50 29.3 +0.6**
baz=201
SNAA Sanae 83.84 178 P **P 10 50 31.5 +2.1**
SNAA Sanae 83.84 178 P **P 10 50 31.1 +1.7**
SNAA IAmb IAmb 10 50 48.1
comp=Z,32nm,1.2s
SNAA Sanae 83.84 178 ⇑P **P 10 50 31.5 +2.1**
comp=Z,435nm,1.0s
SNAA Sanae 83.84 178 P **P 10 50 30.7 +1.3**
comp=Z,17nm,0.9s,baz=182,slow=4.7,SNR=22
SNAA LR LR 11 25 21.7
comp=Z,250nm,19.8s,baz=200,slow=34
comp=Z,17nm,0.9s
SNAA Sanae 83.84 178 *ce*P **P 10 50 29.6 +0.2**
SNAA pmax pmax
comp=Z,21nm,1.0s
VNA3 Neumayer Olymp 83.91 176 P **P 10 50 31.6 +1.9**
VNA3 Neumayer Olymp 83.91 176 ⇑P **P 10 50 31.6 +1.9**
comp=Z,28nm,0.8s
NJ2 Nanjing 83.93 309 *e*P **P 10 50 33.2 +2.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
QIZ Qiongzhong 84.24 294 P **P 10 50 33.7 +1.5**
QIZ S **SKSac 11 00 55.1 +1.1**
QIZ LR LR
comp=Z,110nm,7.8s
QIZ LR LR
comp=Z,130nm,8.4s
QIZ LR LR
comp=Z,150nm,9.6s
Q17K Contact Creek 84.26 11 P **P 10 50 32.5 +0.9**
baz=198,SNR=14
VNA2 Neumayer--Watz 84.37 176 P **P 10 50 34.3 +2.2**
baz=178,slow=5.2
VNA2 Neumayer--Watz 84.37 176 ⇑P **P 10 50 34.3 +2.2**
comp=Z,20nm,0.7s,baz=178,slow=5.2
KDAK Kodiak Island 84.41 12 P **P 10 50 32.8 +0.7**
comp=Z,8.2nm,0.8s,baz=142,slow=8.3,SNR=6.0
KDAK LR LR 11 22 20.7
comp=Z,360nm,20.2s,baz=47,slow=32
comp=Z,8.2nm,0.8s
KDAK Kodiak Island 84.41 12 P **P 10 50 33.6 +1.5**
baz=201
R11B Troy Canyon, C 84.41 43 P **P 10 50 33.7 +0.8**
baz=233,SNR=6.7
O14K Tigyukauivet M 84.45 8 P **P 10 50 33.6 +1.4**
baz=194
Q16K King Salmon 84.53 10 P **P 10 50 34.0 +1.3**
baz=198,SNR=9.1
O15K Ungalikthiuk R 84.56 8 P **P 10 50 34.2 +1.3**
baz=195
VNA1 Neumayer--Stat 84.59 176 P **P 10 50 35.2 +2.1**
VNA1 Neumayer--Stat 84.59 176 ⇑P **P 10 50 35.2 +2.1**
comp=Z,29nm,0.9s
P16K Nushagak River 84.67 9 P **P 10 50 34.6 +1.2**
baz=196,SNR=10
NVL N'lazarevskaya 84.71 183 *e*P P 10 50 47.5 +14
NVL pmax pmax
comp=Z,12nm,0.9s
NVL MLR MLR
comp=Z,302nm,18.0s
PINE Pine Mountain 84.73 37 P **P 10 50 31.4 -3.0**
PINE IAmb IAmb 10 50 37.3
comp=Z,24nm,0.9s
MDJ Mudanjiang 84.95 324 IAmb IAmb 10 50 39.4
comp=Z,28nm,1.1s
MDJ Mudanjiang 84.95 324 P **P 10 50 36.1 +0.9**
MDJ pmax pmax
comp=Z,23nm,1.2s
N14K Kuskokwak Cree 85.06 7 P **P 10 50 36.8 +1.5**
baz=193
P17K Kvichak River 85.06 10 P **P 10 50 36.3 +0.9**
baz=198,SNR=9.4
M11K Mekoryuk 85.08 5 P **P 10 50 36.9 +1.5**
baz=189
PLCA Paso Flores 85.10 133 P **P 10 50 37.9 +1.5**
comp=Z,2.2nm,1.0s,baz=269,slow=7.0,SNR=3.9
PLCA LR LR 11 23 30.7
comp=Z,151nm,18.1s,baz=246,slow=32
comp=Z,2.2nm,1.0s
WVOR Wild Horse Val 85.13 39 IAmb IAmb 10 50 44.9
comp=Z,17nm,1.1s
O16K Kokwok River B 85.20 9 IAmb IAmb 10 50 37.0
comp=Z,15nm,0.8s
O16K Kokwok River B 85.20 9 P **P 10 50 37.0 +1.0**
baz=196
Q20K Shuyak Island 85.22 12 P **P 10 50 37.6 +1.4**
baz=202
Q19K Cape Douglas, 85.28 11 P **P 10 50 38.0 +1.5**
baz=200
M13K Dall Lake 85.36 6 P **P 10 50 38.2 +1.3**
baz=192
U15A North Rim 85.39 46 P **P 10 50 36.5 -1.5**
U15A IAmb IAmb 10 50 41.5
comp=Z,19nm,0.9s
P18K Big Mountain, 85.45 10 P **P 10 50 37.6 +0.3**
baz=199,SNR=6.7
N15K Kwethluk River 85.49 8 P **P 10 50 38.2 +0.7**
baz=195
O17K Koliganek Bris 85.52 9 P **P 10 50 39.0 +1.3**
baz=197
SPR3 Spring Creek 3 85.58 43 P **P 10 50 36.0 -3.0**
SPR3 IAmb IAmb 10 50 46.5
comp=Z,20nm,1.5s
I07A Izee 85.70 37 P **P 10 50 35.9 -3.2**
J08A Circle Bar Ran 85.81 38 IAmb IAmb 10 50 42.1
comp=Z,19nm,1.2s
M14K Bethel 85.84 7 IAmb IAmb 10 50 42.8
comp=Z,26nm,1.0s
M14K Bethel 85.84 7 P **P 10 50 40.4 +1.2**
baz=193
G06A Carlson Farm, 85.85 36 P **P 10 50 38.5 -1.2**
G06A IAmb IAmb 10 50 42.0
comp=Z,38nm,1.3s
O18K Koktuh Hills 85.89 10 P **P 10 50 40.0 +0.5**
baz=199,SNR=7.9
M15K Kasigluk River 85.93 7 P **P 10 50 41.2 +1.5**
baz=194,SNR=8.6
N16K Nishlik Lake 85.95 8 P **P 10 50 41.2 +1.4**
baz=196
PKCU Pink Cliffs 85.97 46 IAmb IAmb 10 50 52.6
comp=Z,37nm,1.2s
GRNR Gornyy 86.01 332 ⇓*i*P **P 10 50 40.2 -0.2**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
P19K Oil Pt 86.04 11 P **P 10 50 41.5 +1.2**
baz=201
ELK Elko 86.07 42 P **P 10 50 42.1 +0.9**
comp=Z,3.6nm,1.0s,baz=258,slow=1.9,SNR=9.3
ELK LR LR 11 24 01.8
comp=Z,290nm,18.5s,baz=228,slow=32
comp=Z,3.6nm,1.0s
N17K Nushagak Hills 86.22 9 P **P 10 50 42.3 +1.2**
baz=197
TLIG Tlapa 86.28 69 P P 10 50 38.1 -4.5
TLIG IAmb IAmb 10 50 49.8
comp=Z,56nm,1.9s
L14K Kuka Creek 86.34 6 P **P 10 50 43.2 +1.5**
baz=192
121A Cookes Peak, D 86.35 52 P **P 10 50 39.7 -3.0**
121A IAmb IAmb 10 50 49.0
comp=Z,30nm,1.4s
121A Cookes Peak, D 86.35 52 P **P 10 50 43.1 +0.4**
baz=238
O19K Port Alsworth 86.36 11 P **P 10 50 42.1 +0.3**
baz=200,SNR=15
ILSW Iliamna Southw 86.36 11 P **P 10 50 41.9 -0.1**
WHN Wuhan 86.38 306 P **P 10 50 44.6 +2.0**
WHN pmax pmax
comp=Z,24nm,0.7s
M16K Timber Creek 86.46 8 IAmb IAmb 10 50 46.4
comp=Z,30nm,1.0s
M16K Timber Creek 86.46 8 P **P 10 50 43.2 +0.9**
baz=196,SNR=12
BI02 San Fabin de 86.53 129 P **P 10 50 40.2 -3.4**
O20K Slope Mountain 86.55 11 P **P 10 50 43.1 +0.3**
baz=201
N18K Kilae Creek 86.57 10 IAmb IAmb 10 53 18.0
comp=Z,42nm,1.6s
N18K Kilae Creek 86.57 10 P **P 10 50 43.3 +0.4**
baz=198
BRSE Bradley Lake S 86.59 12 P **P 10 50 43.1 +0.1**
baz=203
PSI Prapat 86.70 275 LR LR 11 30 26.0
comp=Z,70nm,20.1s,baz=131,slow=36
K13K Kusilvak Mount 86.74 5 IAmb IAmb 10 51 03.5
comp=Z,48nm,1.8s
K13K Kusilvak Mount 86.74 5 P **P 10 50 44.1 +0.5**
baz=190
L15K Ungalak Mounta 86.79 7 P **P 10 50 44.7 +0.8**
baz=193
BNX BinXian 86.86 324 ⇑P **P 10 50 45.0 +0.4**
BNX pmax pmax
comp=Z,27nm,1.0s
N19K Bonanza Creek 86.92 10 IAmb IAmb 10 50 46.3
comp=Z,18nm,0.8s
N19K Bonanza Creek 86.92 10 P **P 10 50 45.5 +0.9**

baz=200
KLR Kul'dur 87.01 329 LR LR 11 25 16.3
comp=Z,182nm,19.9s,baz=157,slow=33
KLR Kul'dur 87.01 329 *i* P **P 10 50 46.3 +1.0**
KLR pmax pmax
comp=Z,16nm,1.0s
M17K Holitna River 87.03 9 P **P 10 50 46.0 +0.9**
baz=197
L16K Owhat River 87.06 8 IAmb IAmb 10 50 48.7
comp=Z,16nm,1.0s
L16K Owhat River 87.06 8 P **P 10 50 46.4 +1.2**
baz=195,SNR=9.1
E07A Sunnyside 87.13 35 P **P 10 50 42.8 -3.2**
E07A IAmb IAmb 10 50 51.5
comp=Z,26nm,1.3s
BBB Bella Bella 87.17 27 LR LR 11 25 33.0
comp=Z,268nm,18.2s,baz=208,slow=33
HAWA Hanford 87.19 35 P **P 10 50 45.1 -1.1**
HAWA IAmb IAmb 10 50 48.8
comp=Z,20nm,1.3s
DUG Dugway, Tooele 87.23 43 P **P 10 50 48.8 +2.0**
M18K Stony River 87.35 10 P **P 10 50 48.0 +1.4**
baz=198,SNR=6.2
K15K Wolf Creek Mou 87.39 7 P **P 10 50 48.5 +1.6**
baz=193,SNR=8.0
TIA Tai'an 87.42 312 P **P 10 50 48.3 +0.7**
TIA pmax pmax
comp=Z,26nm,0.8s
P23K Montague Islan 87.52 14 P **P 10 50 48.8 +1.3**
baz=208
L17K Donlin 87.62 8 P **P 10 50 49.2 +1.3**
baz=196
J14K Nanvaranak Lak 87.64 6 P **P 10 50 49.0 +1.1**
baz=191
SPCR Spurr Chakacha 87.67 11 P **P 10 50 48.9 +0.6**
baz=202
TMUT Trail Mountain 87.73 45 P **P 10 50 46.1 -3.3**
TMUT IAmb IAmb 10 50 52.5
comp=Z,18nm,0.8s
TXAR Lajitas Array 87.74 56 P **P 10 50 51.2 +1.8**
comp=Z,12nm,0.9s,baz=211,slow=7.7,SNR=97
TXAR LR LR 11 21 53.9
comp=Z,165nm,20.6s,baz=242,slow=30
comp=Z,12nm,0.9s
MT01 Popeta 87.86 126 P **P 10 50 47.3 -2.7**
MT01 IAmb IAmb 10 50 54.7
comp=Z,15nm,1.1s
L18K Granite Mounta 87.92 9 IAmb IAmb 10 50 52.0
comp=Z,16nm,0.8s
L18K Granite Mounta 87.92 9 P **P 10 50 50.2 +0.8**
baz=198
D08A Wollman Farm, 87.94 35 IAmb IAmb 10 50 52.4
comp=Z,16nm,0.9s
E09A Wood Farm, Sta 88.00 36 IAmb IAmb 10 50 52.2
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 88.03 12 IAmb IAmb 10 50 51.9
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 88.03 12 P **P 10 50 50.7 +0.8**
baz=204
PWL Port Wells 88.10 13 P **P 10 50 50.9 +0.7**
baz=205
M20K Styx River 88.15 11 P **P 10 50 51.6 +1.0**
baz=201
L19K White Mountain 88.15 10 IAmb IAmb 10 51 07.2
comp=Z,23nm,1.1s
L19K White Mountain 88.15 10 P **P 10 50 51.4 +0.9**
baz=199
F10A Beach Ranch, E 88.15 37 IAmb IAmb 10 50 52.8
comp=Z,12nm,1.0s
GAMB Gambell 88.17 2 P **P 10 50 52.0 +1.5**
baz=184
K17K Iditarod 88.18 8 IAmb IAmb 10 50 58.1
comp=Z,17nm,1.1s
K17K Iditarod 88.18 8 P **P 10 50 51.5 +0.9**
baz=196
SUA Susitna One 88.18 12 P **P 10 50 51.1 +0.3**
baz=203,SNR=9.4
HVU Hansel Valley 88.18 42 IAmb IAmb 10 50 59.3
comp=Z,16nm,1.4s
V35K Ketchikan 88.18 24 P **P 10 50 51.6 +0.9**
baz=220
MA2 Magadan 88.25 344 LR LR 11 26 56.1
comp=Z,182nm,19.5s,baz=116,slow=33
MA2 Magadan 88.25 344 *i* P **P 10 50 50.6 -0.4**
MA2 pmax pmax
comp=Z,9.0nm,1.1s
SIT Sitka 88.27 21 P **P 10 50 52.1 +1.1**
baz=216
PLID Pearl Lake 88.28 38 IAmb IAmb 10 51 03.4
comp=Z,32nm,1.9s
GLI Glacier Island 88.38 14 P **P 10 50 52.4 +0.8**
baz=206
EYAK Cordova Ski Ar 88.38 14 P **P 10 50 52.9 +1.4**
baz=207
J16K Anvik River 88.46 7 IAmb IAmb 10 51 07.3
comp=Z,32nm,1.4s
J16K Anvik River 88.46 7 P **P 10 50 52.9 +1.0**
baz=194
SKT Skwentna 88.52 11 IAmb IAmb 10 51 14.9
comp=Z,21nm,1.4s
SKT Skwentna 88.52 11 P **P 10 50 52.8 +0.6**
baz=202
ANMO Albuquerque 88.56 50 P **P 10 50 51.8 -1.5**
ANMO IAmb IAmb 10 50 56.4
comp=Z,15nm,1.1s
ANMO Albuquerque 88.56 50 P **P 10 50 55.0 +1.8**
comp=Z,8.5nm,0.9s,baz=291,slow=8.6,SNR=35
ANMO LR LR 11 23 00.9
comp=Z,464nm,20.4s,baz=46,slow=30
comp=Z,8.5nm,0.9s
ANMO Albuquerque 88.56 50 P **P 10 50 51.8 -1.5**
ANMO pmax pmax
comp=Z,15nm,1.1s
M22K Willow 88.56 12 P **P 10 50 53.4 +1.1**
baz=204
B08A Colville Reser 88.57 34 P **P 10 50 49.4 -3.4**
B08A IAmb IAmb 10 50 54.6
comp=Z,13nm,0.8s
KNK Knik Glacier 88.58 13 P **P 10 50 53.1 +0.5**
baz=205
L20K Farewell, AK 88.59 10 P **P 10 50 53.2 +0.6**
baz=200
PMR Palmer 88.61 12 P **P 10 50 53.4 +0.9**
baz=204
TTA Tatalina 88.69 9 IAmb IAmb 10 50 56.9
comp=Z,18nm,1.1s
TTA Tatalina 88.69 9 P **P 10 50 53.7 +0.6**
baz=198,SNR=13
J17K VABM Dome 88.74 8 IAmb IAmb 10 51 08.6
comp=Z,20nm,1.1s
J17K VABM Dome 88.74 8 P **P 10 50 53.9 +0.7**
baz=196
C09A Chrisman Ranch 88.76 35 IAmb IAmb 10 50 55.9
comp=Z,15nm,0.8s
SML Sawmill 88.96 13 P **P 10 50 55.2 +0.8**
baz=205
MESA MESA 88.97 16 P **P 10 50 55.2 +0.7**
baz=211
BMRM Bremner River 89.01 15 P **P 10 50 55.8 +1.2**
baz=208,SNR=5.7
I17K Unalakleet 89.03 7 P **P 10 50 52.7 -1.8**
I17K IAmb IAmb 10 51 09.9
comp=Z,27nm,1.6s
I17K Unalakleet 89.03 7 P **P 10 50 56.0 +1.5**
baz=194
M23K Glacier View 89.07 13 P **P 10 50 56.3 +1.5**
baz=206
J18K Innoko River 89.11 9 IAmb IAmb 10 50 57.2
comp=Z,18nm,0.8s
J18K Innoko River 89.11 9 P **P 10 50 55.8 +0.9**
baz=198
CUT Chulitna 89.14 12 P **P 10 50 56.9 +1.9**
baz=203
KLU Klutina 89.18 14 P **P 10 50 56.6 +1.1**
baz=207
SCM Sheep Creek Mo 89.19 13 P **P 10 50 56.7 +1.3**
baz=206,SNR=7.5
CMIG Matias Romero 89.22 71 LR LR 11 20 36.4
comp=Z,100nm,21.6s,baz=228,slow=28
ANM Nome 89.28 5 P **P 10 50 57.5 +1.8**
baz=190
PINM Pinnacle 89.34 17 P **P 10 50 58.0 +1.8**
baz=212
K20K Telida 89.39 10 IAmb IAmb 10 50 58.2
comp=Z,15nm,0.9s
K20K Telida 89.39 10 P **P 10 50 57.4 +1.1**
baz=200
N25K Chitina, Valde 89.58 14 P **P 10 50 58.3 +1.0**
baz=208,SNR=7.2
GLB Gilahina Butte 89.61 15 IAmb IAmb 10 50 59.3
comp=Z,15nm,0.9s
H16K Elim 89.62 6 P **P 10 50 58.2 +0.9**
baz=193
NEW Newport 89.65 35 P **P 10 50 58.5 +0.6**
comp=Z,3.0nm,0.8s,baz=286,slow=3.6,SNR=5.4
NEW LR LR 11 27 59.7
comp=Z,372nm,18.0s,baz=217,slow=33
comp=Z,3.0nm,0.8s
M24K Tolsona, Glenn 89.68 14 P **P 10 50 54.9 -2.8**
M24K Tolsona, Glenn 89.68 14 P **P 10 50 58.6 +0.9**
baz=207
HNS HongShan 89.69 312 ⇑P **P 10 50 58.9 +0.6**
HNS pmax pmax
comp=Z,12nm,1.4s
J19K Poorman 89.76 9 P **P 10 50 59.4 +1.4**
baz=199,SNR=6.1
S22A 4UR Ranch, Cre 89.76 48 P **P 10 51 00.3 +1.3**
baz=238
HEH HeiHe 89.78 328 *e*P **P 10 50 58.4 0.0**
HEH pmax pmax
comp=Z,23nm,1.1s
LYN LuoYang 89.79 308 P **P 10 51 00.1 +1.3**
LYN pP sP 10 51 15.1 +4.0
LYN sP pP 10 51 19.2 +11
LYN S **S 11 01 42.0 -6.9**
LYN pmax pmax
comp=Z,37nm,1.2s
LYN pmax pmax
comp=Z,290nm,4.4s
G15K Niukluk 89.81 5 P **P 10 50 59.6 +1.5**
baz=191
PLBC Pleasant Camp 89.90 19 P **P 10 50 59.9 +1.2**
baz=216
MCMT McKenzie Canyo 89.91 39 P **P 10 50 55.6 -3.9**
O28M Mount Upton 89.93 17 P **P 10 51 00.7 +1.5**
baz=212
O29M Mount Kennedy 89.97 18 IAmb IAmb 10 51 03.8
comp=Z,19nm,1.1s
O29M Mount Kennedy 89.97 18 P **P 10 51 00.5 +1.3**
baz=214
KTH Kantishna Hill 90.08 11 IAmb IAmb 10 51 01.0
comp=Z,21nm,0.8s
TRF Thorofare Moun 90.10 11 P **P 10 51 00.5 +0.7**
baz=203,SNR=18
O20A White River Ci 90.10 45 IAmb IAmb 10 52 13.4
comp=Z,41nm,2.0s
TNA Tin City 90.11 3 P **P 10 51 00.7 +1.1**
baz=188
BJI Beijing 90.12 315 P **P 10 51 00.9 +0.7**
BJI pmax pmax
comp=Z,4.0nm,1.3s
BJI pmax pmax
comp=Z,56nm,5.0s
F14K Arctic Creek 90.12 4 P **P 10 51 00.8 +1.2**
baz=189
H17K Granite Mounta 90.14 7 P **P 10 51 01.0 +1.2**
baz=195
J20K Nowinta River 90.15 9 IAmb IAmb 10 51 01.8
comp=Z,13nm,0.8s
J20K Nowinta River 90.15 9 P **P 10 51 00.8 +1.0**
baz=200
HARP HAARP 90.16 14 P **P 10 51 00.6 +0.7**
baz=208
SKAG Skagway 90.21 19 P **P 10 51 01.8 +1.7**
baz=216
TPAW Teton Pass 90.26 41 P **P 10 50 57.5 -3.7**
P30M Million Dollar 90.27 18 P **P 10 51 01.1 +0.6**
baz=215
GYA Guiyang 90.29 299 P **P 10 51 03.3 +1.8**
GYA pmax pmax
comp=Z,9.0nm,1.5s
GCSA Galena City Sc 90.31 8 P **P 10 51 01.8 +1.3**
baz=198,SNR=9.1
G16K Koyuk River 90.35 6 P **P 10 51 02.5 +1.8**
baz=192
S34M Telegraph Cree 90.35 22 P **P 10 51 01.9 +1.1**
baz=220,SNR=7.5
F15K North Star Dit 90.47 5 P **P 10 51 01.8 +0.5**
baz=190
YUK8 Steele Glacier 90.48 17 P **P 10 51 02.2 +0.5**
baz=213,SNR=6.3
MSO Missoula 90.48 37 IAmb IAmb 10 51 04.0
comp=Z,23nm,1.7s
H18K Honhosa River 90.52 7 P **P 10 51 02.7 +1.2**
baz=196
LOHW Long Hollow 90.54 41 IAmb IAmb 10 51 09.4
comp=Z,36nm,1.9s
YUK6 Outpost Mounta 90.56 17 P **P 10 51 02.5 +0.4**
baz=214
BPAW Bear Paw Mtn. 90.58 11 P **P 10 51 02.8 +1.0**
baz=203
PAX Paxson 90.60 13 IAmb IAmb 10 51 05.2
comp=Z,14nm,1.1s
PAX Paxson 90.60 13 P **P 10 51 02.7 +0.6**
baz=208,SNR=9.6
MCK McKinley 90.60 12 IAmb IAmb 10 51 05.1
comp=Z,25nm,1.0s
MCK McKinley 90.60 12 P **P 10 51 02.6 +0.6**
baz=205,SNR=11
G17K Kiwalik Mounta 90.61 6 P **P 10 51 02.3 +0.4**
baz=194
M26K Nabesna, AK 90.64 15 IAmb IAmb 10 51 14.8
comp=Z,18nm,0.9s
M26K Nabesna, AK 90.64 15 P **P 10 51 02.9 +0.7**
baz=210
I20K Naaghedeneel 90.69 9 IAmb IAmb 10 51 17.4
comp=Z,25nm,1.1s
I20K Naaghedeneel 90.69 9 P **P 10 51 03.0 +0.8**
baz=200
HYT Haines Junctio 90.70 18 IAmb IAmb 10 51 05.4
comp=Z,9.9nm,0.9s
HYT Haines Junctio 90.70 18 P **P 10 51 03.6 +1.0**
baz=215
PDAR Pinedale Array 90.71 42 P **P 10 51 00.7 -2.5**
PDAR Pinedale Array 90.71 42 P **P 10 51 04.0 +0.7**
comp=Z,3.9nm,0.9s,baz=221,slow=3.2,SNR=24
PDAR LR LR 11 26 33.3
comp=Z,121nm,18.7s,baz=236,slow=32
comp=Z,3.9nm,0.9s
YUK3 Moose Creek 90.72 16 P **P 10 51 03.7 +0.9**
baz=212,SNR=17
Q32M Nakina River 90.78 21 P **P 10 51 04.1 +1.0**
baz=219
SEY Seymchan 90.81 346 LR LR 11 27 14.4
comp=Z,288nm,19.1s,baz=154,slow=32
SEY Seymchan 90.81 346 *ce*P **P 10 51 03.0 +0.2**
SEY pmax pmax
comp=Z,10.0nm,1.0s
P32M Atlin 90.81 20 P **P 10 51 04.5 +1.5**
baz=218
YUK4 Talbot Arm 90.82 17 P **P 10 51 05.6 +2.3**
baz=214
M27K Edge Creek, AK 90.87 15 P **P 10 51 05.3 +1.9**
baz=211
MENT Mentasta 90.95 14 IAmb IAmb 10 51 06.1
comp=Z,15nm,0.8s
O30N Mendenhall 91.05 18 IAmb IAmb 10 51 09.3
comp=Z,30nm,1.4s
O30N Mendenhall 91.05 18 P **P 10 51 05.6 +1.5**
baz=216
BOZ Bozeman (W) 91.06 39 IAmb IAmb 10 51 07.3
comp=Z,18nm,0.9s
T25A Trinidad 91.10 49 P **P 10 51 05.9 +0.7**
baz=240
H19K Roundabout Mou 91.12 8 IAmb IAmb 10 51 19.4
comp=Z,20nm,1.2s
H19K Roundabout Mou 91.12 8 P **P 10 51 05.4 +1.1**
baz=198,SNR=8.7
DLBC Dease Lake 91.13 22 P **P 10 51 04.7 +0.2**
comp=Z,7.1nm,0.9s,baz=258,slow=7.9,SNR=8.1
comp=Z,7.1nm,0.9s
DLBC Dease Lake 91.13 22 P **P 10 51 05.7 +1.2**
baz=221
BVCY Beaver Creek 91.16 16 P **P 10 51 06.4 +1.8**
baz=212
POST Post 91.18 54 IAmb IAmb 10 51 07.4
comp=Z,16nm,1.0s
G18K Tagagawik 91.21 7 IAmb IAmb 10 51 07.3
comp=Z,14nm,1.1s
G18K Tagagawik 91.21 7 P **P 10 51 05.3 +0.6**
baz=196
JCT Junction City 91.23 57 P **P 10 51 02.3 -3.4**
JCT IAmb IAmb 10 51 10.4
comp=Z,18nm,1.2s
JCT Junction City 91.23 57 P **P 10 51 02.3 -3.4**
JCT pmax pmax
comp=Z,18nm,1.3s
K24K Donnelly Dome 91.28 13 P **P 10 51 06.5 +1.4**
baz=207,SNR=12
H20K Anotleneega Mo 91.29 9 P **P 10 51 05.8 +0.7**
baz=199
WHY Whitehorse 91.31 19 P **P 10 51 06.9 +1.5**
baz=217
N30M Aishikik Lake 91.34 18 P **P 10 51 06.7 +1.2**
baz=215
NEA2 Nenana 91.36 11 P **P 10 51 06.2 +0.7**
baz=204
TIY Taiyuan 91.40 311 P **P 10 51 07.0 +0.6**
TIY pmax pmax
comp=Z,35nm,1.1s
RIDG Independent Ri 91.41 13 P **P 10 51 06.9 +1.2**
baz=208,SNR=7.4
I21K Tanana 91.42 10 IAmb IAmb 10 51 08.8
comp=Z,11nm,1.1s
I21K Tanana 91.42 10 P **P 10 51 06.2 +0.5**
baz=202
F17K Baldwin Pennin 91.47 6 IAmb IAmb 10 51 20.7
comp=Z,16nm,1.1s
F17K Baldwin Pennin 91.47 6 P **P 10 51 06.4 +0.6**
baz=194,SNR=9.5
L27K Beaver Creek, 91.49 15 IAmb IAmb 10 51 08.5
comp=Z,9.0nm,0.8s
L27K Beaver Creek, 91.49 15 P **P 10 51 06.8 +0.7**
baz=211,SNR=9.1
BCAR Beaver Creek A 91.50 15 P **P 10 51 06.4 +0.2**
Q24A Divide 91.52 47 P **P 10 51 06.9 -0.4**
baz=239
R33M Jennings River 91.54 21 IAmb IAmb 10 51 11.3
comp=Z,13nm,1.2s
R33M Jennings River 91.54 21 P **P 10 51 07.2 +0.6**
baz=220
P33M Teslin, Yukon 91.58 20 IAmb IAmb 10 51 14.5
comp=Z,14nm,1.3s
P33M Teslin, Yukon 91.58 20 P **P 10 51 07.1 +0.5**
baz=219
HDA Harding Lake 91.59 12 IAmb IAmb 10 51 08.9
comp=Z,15nm,0.9s
HDA Harding Lake 91.59 12 P **P 10 51 07.2 +0.7**
baz=206,SNR=12
G19K Purcell Mounta 91.63 8 IAmb IAmb 10 51 22.2
comp=Z,17nm,1.1s
G19K Purcell Mounta 91.63 8 P **P 10 51 08.2 +1.5**
baz=197,SNR=13
CCB Clear Creek Bu 91.64 12 IAmb IAmb 10 51 08.1
comp=Z,10nm,0.9s
N31M Braeburn, Yuko 91.72 18 IAmb IAmb 10 51 15.6
comp=Z,22nm,1.1s
N31M Braeburn, Yuko 91.72 18 P **P 10 51 08.6 +1.3**
baz=216
H21K Melozitna Rive 91.74 9 P **P 10 51 08.0 +0.8**
baz=201
F18K Selawik 91.78 6 P **P 10 51 07.7 +0.4**
baz=195,SNR=6.1
M29M Somme Creek 91.79 16 IAmb IAmb 10 51 10.6
comp=Z,15nm,0.8s
M29M Somme Creek 91.79 16 P **P 10 51 07.8 +0.2**
baz=214
SCRK Sand Creek 91.80 14 IAmb IAmb 10 51 11.3
comp=Z,12nm,1.0s
SCRK Sand Creek 91.80 14 P **P 10 51 08.3 +0.6**
baz=209,SNR=9.3
I23K Minto, Yukon-K 91.82 11 P **P 10 51 08.4 +0.9**
baz=204
COLA College 91.84 12 P **P 10 51 07.7 +0.1**
COLA College 91.84 12 P **P 10 51 08.6 +1.0**
baz=206
COLA College 91.84 12 P **P 10 51 07.7 +0.1**
COLA pmax pmax
comp=Z,21nm,1.0s
AMTX Amarillo 91.92 52 IAmb IAmb 10 51 11.2
comp=Z,15nm,1.2s
ILAR Eielson Array 91.93 12 P **P 10 51 07.5 -0.6**
ILAR Eielson Array 91.93 12 P **P 10 51 08.2 +0.1**
comp=Z,5.9nm,0.9s,baz=222,slow=5.5,SNR=37
ILAR LR LR 11 28 56.2
comp=Z,98nm,19.3s,baz=215,slow=33
comp=Z,5.9nm,0.9s
N23A Red Feather La 91.99 45 P **P 10 51 09.6 +0.3**
baz=239
E17K Hotham Inlet 92.05 5 P **P 10 51 09.0 +0.5**
baz=193
J25K Salcha River, 92.08 13 IAmb IAmb 10 51 11.2
comp=Z,12nm,0.8s
J25K Salcha River, 92.08 13 P **P 10 51 09.9 +1.1**
baz=208
XAN Xi'an 92.10 307 ⇑P **P 10 51 10.9 +1.3**
XAN pP sP 10 51 29.3 +7.4
XAN S **S 11 02 09.3 -0.8**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,150nm,3.6s
ZEA Zeya 92.13 330 *e*P **P 10 51 09.9 +0.7**
ZEA *e* 10 51 18.5
ZEA pmax pmax
comp=Z,10.0nm,1.2s
POKR Poker Plat Res 92.14 12 P **P 10 51 10.1 +1.1**
baz=206
H22K Ishtalitna Cre 92.18 10 P **P 10 51 09.9 +0.7**
baz=202
F19K Shaleruckik Mo 92.21 7 IAmb IAmb 10 51 11.1
comp=Z,12nm,0.8s
F19K Shaleruckik Mo 92.21 7 P **P 10 51 10.0 +0.7**
baz=197,SNR=17
BRDY Brady 92.22 57 IAmb IAmb 10 51 12.2
comp=Z,11nm,1.0s
N32M Quiet Lake 92.24 19 P **P 10 51 10.4 +0.7**
baz=218
XLT XiLinHaoTe 92.25 318 *e*P **P 10 51 10.6 +0.4**
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,57nm,3.7s
APMT Aspermont 92.32 54 IAmb IAmb 10 51 12.8
comp=Z,14nm,0.9s
M30M Minto, Yukon 92.33 17 IAmb IAmb 10 51 13.4
comp=Z,12nm,1.1s
M30M Minto, Yukon 92.33 17 P **P 10 51 10.5 +0.4**
baz=215,SNR=7.7
ABTX Abilene, Hawle 92.35 55 P **P 10 51 06.9 -3.9**
J26L Joseph Creek 92.35 13 P **P 10 51 11.1 +0.9**
baz=209
L29M L29M 92.43 16 P **P 10 51 11.7 +1.2**
baz=214,SNR=11
G21K Allakaket 92.45 9 IAmb IAmb 10 51 27.8
comp=Z,32nm,1.9s
G21K Allakaket 92.45 9 P **P 10 51 10.7 +0.3**
baz=200
E18K Tukpahlearik C 92.49 6 IAmb IAmb 10 51 12.7
comp=Z,14nm,0.9s
E18K Tukpahlearik C 92.49 6 P **P 10 51 11.4 +0.8**
baz=194
D17K Noatak River 92.55 5 P **P 10 51 12.0 +1.2**
baz=192,SNR=9.6
M31M Drury Creek, Y 92.69 18 IAmb IAmb 10 51 57.0
comp=Z,31nm,1.8s
M31M Drury Creek, Y 92.69 18 P **P 10 51 12.3 +0.7**
baz=217
H24K Noodor Dome 92.71 11 P **P 10 51 12.9 +1.2**
baz=206
WTLY Watson Lake, Y 92.81 22 P **P 10 51 13.9 +1.6**
baz=222
PRP Porcupine Dome 92.86 12 IAmb IAmb 10 51 15.3
comp=Z,12nm,1.0s
PRP Porcupine Dome 92.86 12 P **P 10 51 12.9 +0.4**
baz=208
E19K Redstone River 92.87 7 IAmb IAmb 10 51 15.0
comp=Z,12nm,0.9s
E19K Redstone River 92.87 7 P **P 10 51 13.2 +0.8**
baz=197
RDOG Red Dog Mine 92.91 5 IAmb IAmb 10 51 38.6
comp=Z,8.5nm,0.5s
RDOG Red Dog Mine 92.91 5 P **P 10 51 13.3 +0.8**
baz=192
DAWY Dawson 92.92 15 P **P 10 51 13.4 +0.7**
DAWY IAmb IAmb 10 51 14.8
comp=Z,8.5nm,1.0s
DAWY Dawson 92.92 15 P **P 10 51 13.8 +1.1**
baz=213,SNR=8.4
C16K Lisburne Hills 92.96 4 P **P 10 51 14.1 +1.4**
baz=190
FARO Faro, Yukon 93.01 19 P **P 10 51 14.4 +1.2**
baz=218
435B Jarrell 93.07 58 P **P 10 51 15.2 +1.1**

baz=243
F21K Alatna River 93.11 9 P P 10 51 15.2 +1.7
baz=201
EGAK Eagle 93.12 14 P P 10 51 15.4 +1.9
baz=212
HIA Hailar 93.12 324 IAmb IAmb 10 51 16.2
comp=Z,19nm,1.5s
TOAD Toad River Com 93.14 24 P P 10 51 14.7 +0.9
baz=225
I26K Coal Creek Min 93.14 13 IAmb IAmb 10 51 28.2
comp=Z,10nm,1.1s
I26K Coal Creek Min 93.14 13 P P 10 51 15.2 +1.5
baz=210
G23K Bananza Creek 93.15 10 P P 10 51 15.0 +1.3
baz=204
K29M Barlow Dome 93.19 16 IAmb IAmb 10 51 16.8
comp=Z,13nm,0.8s
K29M Barlow Dome 93.19 16 P P 10 51 15.3 +1.2
baz=215
NNA Nana 93.20 105 LR LR 11 26 32.8
comp=Z,124nm,18.2s,baz=238,slow=31
CM31 Chiang Mai Arr 93.23 289 P P 10 51 15.9 +0.8
CMAR Chiang Mai Arr 93.23 289 P P 10 51 16.2 +1.1
CMAR Chiang Mai Arr 93.23 289 P P 10 51 16.8 +1.6
comp=Z,17nm,1.1s,baz=131,slow=2.9,SNR=54
CMAR LR LR 11 34 04.1
comp=Z,44nm,19.2s,baz=130,slow=36
CMAR Chiang Mai Arr 93.23 289 *c*eP **P 10 51 17.2 +2.1**
CMAR pmax pmax
comp=Z,17nm,1.1s
C17K DeLong Mountai 93.31 5 P P 10 51 15.2 +0.9
baz=192
BILL Bilibino 93.32 353 P P 10 51 13.1 -1.3
BILL IAmb IAmb 10 51 16.1
comp=Z,12nm,0.9s
BILL Bilibino 93.32 353 *i* P **P 10 51 14.1 -0.3**
BILL pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 93.37 289 P P 10 51 15.8 0.0
CHTO IAmb IAmb 10 51 25.7
comp=Z,18nm,0.9s
CHTO Chiang Mai 93.37 289 P P 10 51 15.8 0.0
CHTO pmax pmax
comp=Z,18nm,1.0s
MAYO Mayo, Yukon 93.41 17 P P 10 51 15.6 +0.7
baz=216
PLPT Palo Pinto 93.43 56 P P 10 51 13.7 -2.1
H25L Birch Creek 93.47 12 P P 10 51 15.6 +0.5
baz=207
J29N Klondike Camp 93.53 15 IAmb IAmb 10 51 20.6
comp=Z,9.6nm,1.0s
J29N Klondike Camp 93.53 15 P P 10 51 16.3 +0.8
baz=214
HHC Hu-ho-hao-te 93.55 314 *e*P **P 10 51 16.4 +0.1**
HHC pP sP 10 51 36.2 +7.5
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,87nm,4.0s
HHC LR LR
comp=Z,180nm,13.5s
HHC LR LR
comp=Z,160nm,15.4s
HHC LR LR
comp=Z,210nm,19.6s
COLD Coldfoot 93.60 10 P P 10 51 16.8 +1.1
baz=204
C18K Utukok River 93.64 5 IAmb IAmb 10 51 31.2
comp=Z,24nm,1.7s
C18K Utukok River 93.64 5 P P 10 51 16.5 +0.6
baz=194
I27K Kandik River 93.73 14 P P 10 51 17.4 +0.9
baz=211
WTFS Witchita Falls 93.75 55 IAmb IAmb 10 51 19.4
comp=Z,13nm,1.0s
E20K Nigu River 93.76 7 P P 10 51 17.4 +0.9
baz=198
D19K Kuna River 93.78 7 IAmb IAmb 10 51 31.4
comp=Z,11nm,1.1s
D19K Kuna River 93.78 7 P P 10 51 17.3 +0.7
baz=196
ATAH Atahualpa 93.90 100 LR LR 11 25 24.4
comp=Z,79nm,19.8s,baz=239,slow=30
I28M Miner Creek 93.96 14 P P 10 51 18.7 +1.1
baz=213
HKT Hockley 94.06 59 *i* P **P 10 51 19.3 +0.7**
HKT pmax pmax
comp=Z,3.0nm,1.1s
J30M Hart River 94.09 16 P P 10 51 19.4 +1.2
baz=216
D20K Etivluk River 94.15 7 P P 10 51 19.0 +0.7
baz=198
E22K Anaktuvuk Pass 94.20 9 P P 10 51 19.9 +1.4
baz=202
F24K Squaw Lake 94.23 10 IAmb IAmb 10 53 27.6
comp=Z,21nm,1.9s
F24K Squaw Lake 94.23 10 P P 10 51 19.6 +0.9
baz=206
I29M Ogilvie Camp, 94.26 15 P P 10 51 19.9 +1.1
baz=214
PZH PanZhiHua 94.27 297 P P 10 51 20.2 +0.3
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,130nm,5.3s
H27K Steamboat Moun 94.28 13 P P 10 51 21.0 +2.1
baz=211
B18K Kokolik River 94.29 5 P P 10 51 19.7 +0.9
baz=193
E23K Chandalar 94.45 10 IAmb IAmb 10 52 55.3
comp=Z,22nm,1.9s
E23K Chandalar 94.45 10 P P 10 51 20.5 +0.8
baz=204
BTO Baotou 94.46 313 *e*P **P 10 51 22.0 +1.6**
BTO pP **sP 10 51 35.5 +2.7**
BTO sP pP 10 51 41.9 +12
BTO PP **PP 10 55 10.4 +1.8**
BTO S **S 11 02 29.2 -1.6**
BTO pmax pmax
comp=Z,24nm,1.3s
BTO pmax pmax
comp=Z,270nm,4.1s
BTO LR LR
comp=Z,270nm,4.9s
BTO LR LR
comp=Z,240nm,4.2s
BTO LR LR
comp=Z,140nm,4.1s
G26K Porcupine Rive 94.46 12 P P 10 51 20.8 +1.1
baz=209
KOTAN Kotaneelee Air 94.47 23 P P 10 51 21.9 +2.1
baz=226
CD2 Chengdu 94.56 302 P P 10 51 22.5 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.9s
X34A Smith Ranch, M 94.59 54 P P 10 51 19.1 -2.0
I30M Mount Dempster 94.61 16 P P 10 51 22.3 +1.7
baz=216
E24K Your Creek 94.64 10 P P 10 51 21.7 +1.1
baz=205
F25K Christian Rive 94.68 11 P P 10 51 22.4 +1.6
baz=208
BMAR Burnt Mountain 94.73 12 P P 10 51 21.8 +0.9
G27K Doyon Strip 94.75 13 P P 10 51 22.4 +1.3
baz=211
C21K Knifeblade Rid 94.78 7 P P 10 51 22.3 +1.2
baz=199
D22K Ayikyak River 94.78 8 P P 10 51 22.2 +1.1
baz=201
RSSD Black Hills 94.84 43 P P 10 51 19.2 -3.0
RSSD IAmb IAmb 10 51 24.2
comp=Z,14nm,0.9s
RSSD Black Hills 94.84 43 P P 10 51 19.2 -3.0
RSSD pmax pmax
comp=Z,15nm,1.0s
H29M Whitestone 94.96 14 P P 10 51 22.8 +0.8
baz=214
TOLK Toolik Lake Re 94.99 9 P P 10 51 22.9 +0.8
baz=204
F26K Sheenjek River 95.04 12 IAmb IAmb 10 51 29.6
comp=Z,22nm,1.9s
F26K Sheenjek River 95.04 12 P P 10 51 23.3 +0.9
baz=209
D23K Nanushuk River 95.13 9 P P 10 51 23.8 +1.1
baz=203
JTS Las Juntas de 95.14 81 LR LR 11 26 52.5
comp=Z,67nm,18.1s,baz=248,slow=31

E25K Arctic Village 95.17 11 P P 10 51 24.3 +1.4
baz=208
FNO Franklin 95.20 54 P P 10 51 20.8 -3.1
EPYK Eagle Plains 95.47 15 P P 10 51 25.2 +0.9
baz=216
W35A Tecumseh 95.54 54 P P 10 51 23.2 -2.2
W35A IAmb IAmb 10 51 33.6
comp=Z,19nm,1.3s
D24K Happy Valley 95.57 9 P P 10 51 25.6 +0.8
baz=205
H31M Peel River 95.58 16 P P 10 51 26.1 +1.2
baz=218
F28M Old Crow 95.81 13 P P 10 51 27.1 +1.2
baz=213
C23K Itkillik River 95.95 9 IAmb IAmb 10 51 43.5
comp=Z,20nm,1.6s
C23K Itkillik River 95.95 9 P P 10 51 27.6 +1.2
baz=203
B22K Teshekpuk Lake 96.06 8 P P 10 51 27.5 +0.6
baz=201
G30M tAoh Zraii Nji 96.08 15 IAmb IAmb 10 51 29.9
comp=Z,12nm,1.1s
G30M tAoh Zraii Nji 96.08 15 P P 10 51 28.0 +0.9
baz=216
D25K Kavik River 96.11 10 P P 10 51 27.8 +0.6
baz=207
C24K Franklin Bluff 96.11 9 P P 10 51 28.1 +1.0
baz=205
G31M Satah River 96.49 15 P P 10 51 29.4 +0.5
baz=218
YAK Yakutsk 96.62 337 LR LR 11 34 11.3
comp=Z,69nm,18.7s,baz=119,slow=35
YAK Yakutsk 96.62 337 *i* P **P 10 51 31.7 +2.1**
YAK pmax pmax
comp=Z,7.0nm,0.8s
F30M Barrier River 96.69 14 P P 10 51 30.8 +1.0
baz=216
E28M Babbage River 96.71 13 IAmb IAmb 10 51 32.2
comp=Z,6.6nm,1.0s
E28M Babbage River 96.71 13 P P 10 51 30.1 +0.2
baz=213
LZH Lanzhou 96.73 307 *e*P **P 10 51 32.4 +1.4**
LZH sP sP 10 51 52.2 +8.9
LZH pmax pmax
comp=Z,17nm,1.2s
C27K Jago River 96.82 11 P P 10 51 30.8 +0.4
baz=209
E29M Blow River 96.87 13 P P 10 51 30.6 0.0
baz=215
C26K Camden Bay 96.87 10 P P 10 51 31.2 +0.6
baz=208
D27M Malcolm River 96.98 12 P P 10 51 31.0 -0.2
baz=212
F31M Tsiigehtchic 97.03 15 P P 10 51 31.4 +0.1
baz=218
D28M Stokes Point 97.48 13 P P 10 51 33.5 +0.2
baz=214
INK Inuvik 97.76 15 P P 10 51 34.6 0.0
INK Inuvik 97.76 15 P P 10 51 34.1 -0.5
comp=Z,2.9nm,0.9s,baz=204,slow=4.4,SNR=11
INK LR LR 11 33 22.2
comp=Z,215nm,18.6s,baz=234,slow=34
comp=Z,2.9nm,0.9s
INK Inuvik 97.76 15 P P 10 51 34.2 -0.4
baz=218
INK Inuvik 97.76 15 P P 10 51 34.6 0.0
INK pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 98.77 112 LR LR 11 29 02.1
comp=Z,103nm,18.9s,baz=231,slow=31
YKA Yellowknife Ar 99.48 24 P Pdif 10 51 42.7 +0.3
comp=Z,0.5nm,0.9s,baz=233,slow=5.1,SNR=5.8
YKA LR LR 11 31 04.9
comp=Z,189nm,20.2s,baz=288,slow=32
comp=Z,0.5nm,0.9s
ULN Ulaanbaatar 99.68 318 *i* P **Pdif 10 51 43.6 -0.4**
ULN pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 100.07 318 P Pdif 10 51 44.9 -0.8
comp=Z,1.5nm,1.0s,baz=94,slow=2.2,SNR=6.8
SONM LR LR 11 32 05.9
comp=Z,64nm,20.8s,baz=120,slow=32
comp=Z,1.5nm,1.0s
C36M Paulatuk 100.85 17 P Pdif 10 51 48.0 -0.4
baz=227
GTA Gaotai 101.00 308 *e*P **Pdif 10 51 51.3 +1.3**
GTA sP 10 52 16.4
GTA pmax pmax
comp=Z,1.0nm,1.0s
GTA LR LR
comp=Z,79nm,14.7s
GTA LR LR
comp=Z,87nm,16.7s
GTA LR LR
comp=Z,99nm,20.3s
A36M Sachs Harbour 102.40 14 P Pdif 10 51 55.4 +0.2
baz=226
WMQ Urumqi 111.01 310 *e*PKP **PKiKP 10 56 34.8 +1.3**
WMQ LR LR
comp=Z,130nm,21.1s
RES Resolute Bay 111.23 16 PKiKP **PKiKP 10 56 32.5 -0.4**
comp=Z,0.9nm,0.9s,baz=251,slow=2.0,SNR=5.3
ZALV Zalesovo Beam 114.85 320 PKP PKPdf 10 56 38.9 -1.5
comp=Z,0.9nm,0.6s,baz=75,slow=2.1,SNR=6.1
NRIK Norril'sk 115.08 337 *c* iPKIKP **PKPdf 10 56 41.1 +0.7**
MK31 Makanchi Array 115.36 312 *c* iPKIKP **PKPdf 10 56 41.7 0.0**
MKAR Makanchi Array 115.36 312 Pdiff **Pdif 10 52 59.0 +5.5**
comp=Z,0.3nm,0.8s,baz=102,slow=5.1,SNR=4.2
MKAR PKP **PKPdf 10 56 40.4 -1.3**
comp=Z,1.6nm,0.9s,baz=91,slow=2.1,SNR=12
MKAR PKKPbc **PKKPbc 11 07 17.1 +0.2**
comp=Z,0.3nm,0.7s,baz=305,slow=2.5,SNR=3.7
MKAR Makanchi Array 115.36 312 *c* iPKIKP **PKPdf 10 56 41.4 -0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 115.57 312 PKPdf 10 56 40.8 -1.3
MAKZ Makanchi 115.57 312 PKIKP **PKPdf 10 56 40.8 -1.3**
KURK Kurchatov 118.27 316 PKPdf **PKPdf 10 56 46.2 -0.9**
KURK Kurchatov 118.27 316 *c* iPKIKP **PKPdf 10 56 46.8 -0.3**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 118.31 316 PKP **PKPdf 10 56 46.7 -0.5**
comp=Z,2.6nm,0.9s,baz=96,slow=2.0,SNR=17
KURBB PKKPbc **PKKPbc 11 07 06.0 -0.4**
comp=Z,0.4nm,0.4s,baz=226,slow=3.4,SNR=7.1
AAK Ala-Archa 120.28 306 *c* iPKIKP **PKiKP 10 56 52.0 +0.4**
AAK pmax pmax
comp=Z,5.0nm,1.7s
NEEM North Greenlan 121.22 12 *i* P **PKPdf 10 56 51.8 -0.7**
KKAR Karatay Array 123.23 307 PKPdf **PKPdf 10 56 55.0 -2.0**
KKAR Karatay Array 123.23 307 PKIKP **PKPdf 10 56 55.0 -2.0**
BVAR Borovoye Array 123.41 318 PKP **PKPdf 10 56 56.0 -0.9**
comp=Z,5.8nm,0.9s,baz=90,slow=3.1,SNR=12
BRVK Borovoye 123.47 319 PKPdf **PKPdf 10 56 55.7 -1.3**
BRVK Borovoye 123.47 319 *c* iPKIKP **PKiKP 10 56 57.8 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
SPITS Spitsbergen Ar 126.08 357 PKP **PKPdf 10 56 59.0 -2.4**
comp=Z,26nm,1.0s,baz=99,slow=5.2,SNR=3.5
SPITS Spitsbergen Ar 126.08 357 PKIKP **PKPdf 10 56 59.0 -2.4**
DAG Danmarks Havn 126.63 6 *i* P **PKPdf 10 57 01.1 -1.4**
SUMG Summit 126.69 15 *i* P **PKPdf 10 57 01.5 -1.7**
DBG Daneborg 128.66 8 *i* P **PKPdf 10 57 05.9 -0.5**
ARTI Arti 129.74 324 PKPdf **PKiKP 10 57 09.7 0.0**
ARTI Arti 129.74 324 *i* PKIKP **PKiKP 10 57 10.1 +0.4**
ARTI 10 59 20.7
ARTI 11 04 15.0
ARTI SS SS 11 16 34.8 -7.0
ABKAR Akbulak array 130.33 315 PKPdf **PKPdf 10 57 09.2 -1.0**
SCO Scoresbysund 131.71 11 *i* P **PKPdf 10 57 12.4 +0.1**
ARCES ARCESS Array B 133.30 350 PKP **PKPdf 10 57 15.1 -0.2**
comp=Z,10.0nm,1.1s,baz=58,slow=3.0,SNR=4.9
KIRV Kirov 133.45 329 *c* iPKIKP **PKPdf 10 57 16.6 +0.8**
FINES FINESS Array B 140.24 344 PKP **PKPdf 10 57 27.3 -1.0**
comp=Z,3.7nm,0.9s,baz=11,slow=1.4,SNR=4.6
FINES FINESS Array B 140.24 344 *c* iPKIKP **PKiKP 10 57 30.8 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 141.26 330 ⇓ *e*PKIKP **PKPdf 10 57 31.0 +0.7**
OBN *e* 11 00 37.2
OBN *e*PPP PPP 11 03 42.0
OBN *e*SS SS 11 19 39.5 +40
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,139nm,20.0s

KBZ Khabaz 143.04 311 PKP **PKPdf 10 57 31.4 -2.5**
comp=Z,1.5nm,0.9s,baz=74,slow=2.5,SNR=3.4
KIV Kislovodsk 143.12 311 *i* PKIKP **PKPdf 10 57 35.4 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
SHA1 Shidzhatmaz 143.21 311 *i* PKIKP PKPbc 10 57 32.8 +1.2
NB2 NORSAR Subarra 143.27 354 PKP PKPab 10 57 30.5 +0.8
comp=Z,1.7nm,0.7s,baz=14,slow=2.9
NOA NORSAR Array B 143.27 354 PKhKP PKPpre 10 57 30.4
comp=Z,2.7nm,1.0s,baz=8.8,slow=4.1,SNR=8.7
HFS Hagfors 143.88 352 PKP PKPab 10 57 32.5 +0.4
comp=Z,14nm,0.8s,baz=11,slow=1.5,SNR=18
ERBR Yeremizino-Bor 143.95 315 *e*PKIKP **PKPdf 10 57 34.7 -0.8**
ERBR pmax pmax
comp=Z,16nm,0.9s
MBAR Mbarara 143.95 230 PKPbc 10 57 35.1 +0.6
MBAR Mbarara 143.95 230 *c* iPKIKP **PKPdf 10 57 38.2 +1.5**
MBAR pmax pmax
comp=Z,12nm,1.3s
BCA Borcka 144.62 308 ⇓ P **PKPab 10 57 35.5 0.0**
STRU Stroemstad 145.25 354 *i* P **PKPbc 10 57 35.5 -1.5**
SOC Sochi 145.26 312 *e*PKP2 **PKPbc 10 57 35.3 -2.3**
SOC *e* 11 00 55.0
SOC *e*SS SS 11 19 42.5 -4.1
SOC *e*SSS SSS 11 25 11.6
SOC pmax pmax
comp=Z,14nm,0.8s
MNK Minsk 145.29 336 *i* PKP2 **PKPbc 10 57 36.4 -0.9**
MNK *i* 11 00 56.6
MNK *i* PPP PPP 11 04 09.7
MNK *i* 11 04 47.1
MNK *i* SSS SSS 11 25 11.5
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=Z,97nm,0.9s
MNK pmax pmax
comp=E,41nm,1.0s
HOMB Homborsund 146.23 356 *i* P **PKPdf 10 57 39.6 +0.6**
SNART Snartemo 146.24 357 *i* P **PKPbc 10 57 40.1 0.0**
BORU Boraas 146.43 351 *i* P **PKPdf 10 57 39.4 +0.1**
ONAU Onsala 146.77 352 *i* P **PKPbc 10 57 41.7 0.0**
FABU Falkenberg 147.05 351 *i* P **PKPbc 10 57 42.6 +0.2**
SUW Suwalki 147.34 339 *e*PKP **PKPdf 10 57 40.9 0.0**
DEL Delary 147.39 350 *i* P **PKPbc 10 57 43.0 -0.4**
DEL *i* P **PKPbc 10 57 43.0 -0.4**
AK03 Malin Array Si 147.49 330 PKP **PKPdf 10 57 41.9 +0.6**
AKASG Malin Array Be 147.51 330 PKPbc 10 57 43.5 -0.5
AKASG Malin Array Be 147.51 330 PKPbc **PKPbc 10 57 43.0 -1.0**
comp=E,12nm,0.8s,baz=41,slow=3.6,SNR=40
AKASG Malin Array Be 147.51 330 PKP2 **PKPbc 10 57 43.0 -1.0**
AKBB Malin Array Si 147.51 330 *i* PKIKP **PKPdf 10 57 42.3 +0.9**
AKBB Malin Array Si 147.51 330 PKP **PKPdf 10 57 42.0 +0.6**
AK04 Malin Array Si 147.52 330 PKP **PKPdf 10 57 42.4 +1.0**
KIEV Kiev 147.52 330 PKPbc 10 57 43.3 -0.7
KIEV Kiev 147.52 330 ⇓ P **PKPbc 10 57 44.0 0.0**
KIEV Kiev 147.52 330 PKP2 **PKPbc 10 57 43.3 -0.7**
KIEV Kiev 147.52 330 PKP **PKPdf 10 57 42.3 +0.9**
AK01 Malin Array Si 147.52 330 PKP **PKPdf 10 57 42.4 +1.0**
BJUU Bjuv 147.90 350 *i* P **PKPbc 10 57 44.9 0.0**
MI28 Mi28,Pidlybu 148.04 331 PKP **PKPdf 10 57 42.9 +0.7**
LUNU Lund 148.26 350 *i* P **PKPbc 10 57 45.6 -0.2**
SIM Simferopol' 148.31 317 *i* PKP2 **PKiKP 10 57 48.6 +0.6**
SIM pmax pmax
comp=Z,88nm,5.3s
RNPP9 Sopachiv 148.43 334 PKP **PKPdf 10 57 43.9 +1.0**
RNPP8 Varash 148.51 333 PKP **PKPdf 10 57 43.4 +0.4**
EKA Eskdalemuir Ar 148.88 8 PKPbc **PKPbc 10 57 47.7 +0.3**
comp=Z,12nm,0.8s,baz=314,slow=2.5,SNR=18
SORM Soroca 149.68 327 ⇑ P **PKPbc 10 57 50.1 +0.5**
SORM Soroca 149.68 327 ⇑ PKP2 **PKPbc 10 57 50.1 +0.5**
ILGA Ilgaz 150.35 311 PKPdf 10 57 49.2 +2.6
BRTR Keskin Array B 150.92 308 PKPdf **PKPdf 10 57 47.3 -0.1**
BRTR Keskin Array B 150.92 308 PKP **PKPdf 10 57 46.1 -1.3**
comp=Z,0.4nm,0.6s,baz=29,slow=3.3,SNR=3.7
BRTR PKPbc **PKPbc 10 57 52.4 -0.7**
comp=Z,5.4nm,0.9s,baz=140,slow=2.4,SNR=10.0
KIRS Kirsehir-Merke 150.94 307 ⇑ P **PKPbc 10 57 53.0 -0.2**
VLDR Vladesti 151.31 324 ⇑ P **PKiKP 10 57 54.7 +0.6**
TLCR 151.32 322 ⇑ P **PKiKP 10 57 54.4 +0.3**
TLCR 151.32 322 ⇑ PKIKP **PKiKP 10 57 54.4 +0.3**
MMAI Mount Meron Ar 151.34 294 PKPbc **PKiKP 10 57 55.3 +0.6**
comp=Z,1.2nm,0.3s,baz=46,slow=4.8,SNR=5.2
SCTR Scanteiesti 151.47 323 ⇑ P **PKiKP 10 57 54.7 +0.3**
GHRR 151.53 325 ⇓ P **PKiKP 10 57 55.6 +1.0**
BURAR Bucovina Array 151.55 329 ⇓ P **PKiKP 10 57 55.0 +0.3**
BURAR Bucovina Array 151.55 329 ⇓ PKIKP **PKiKP 10 57 55.0 +0.3**
OJC Ojcow 151.67 338 *e*PKP **PKiKP 10 57 55.2 +0.4**
CFR Carcaliu 151.70 322 ⇑ P **PKPdf 10 57 50.5 +2.3**
CFR Carcaliu 151.70 322 ⇑ PKIKP **PKPdf 10 57 50.5 +2.3**
TPGR Topolog 151.74 322 ⇓ P **PKPbc 10 57 54.7 0.0**
KOLS Kolonicke sedl 151.82 334 *e*PKIKP **PKiKP 10 57 56.2 +1.1**
KOLS *e* 10 58 04.4
KOLS Kolonicke sedl 151.82 334 *e*PKP **PKiKP 10 57 56.2 +1.1**
KOLS *e* 10 58 04.4
STHS Stebnicka Huta 151.83 336 *e*PKIKP **PKiKP 10 57 56.1 +1.0**
STHS Stebnicka Huta 151.83 336 *e*PKP **PKiKP 10 57 56.1 +1.0**
ONER Baraj Valea Uz 151.88 326 ⇑ P **PKPbc 10 57 55.3 +0.4**
TIRR Tirgusor 151.98 321 ⇑ P **PKiKP 10 57 56.9 +1.4**
TIRR Tirgusor 151.98 321 ⇑ PKIKP **PKiKP 10 57 56.9 +1.4**
VRI Vrincioaia 152.02 325 ⇑ P **PKPbc 10 57 54.7 -0.6**
VRI Vrincioaia 152.02 325 ⇑ PKIKP **PKPbc 10 57 54.7 -0.6**
PLOR Plostina 152.07 325 ⇑ P **PKPbc 10 57 54.2 -1.2**
PLOR Plostina 152.07 325 ⇑ PKIKP **PKPbc 10 57 54.2 -1.2**
HARR Harsova 152.12 322 ⇑ P **PKPbc 10 57 52.6 -2.9**
HARR Harsova 152.12 322 ⇑ PKIKP **PKPbc 10 57 52.6 -2.9**
MFTR Murfatlar 152.15 320 ⇑ P **PKiKP 10 57 56.2 +0.3**
KSP Ksiaz 152.17 343 *e*PKP **PKiKP 10 57 56.6 +0.9**
NIE Niedzica 152.17 337 *e*PKP **PKiKP 10 57 57.6 +1.7**
OZUR 152.35 326 ⇑ P **PKPbc 10 57 55.3 -0.8**
OSTC Ostas 152.45 343 ⇑ *e*PKP **PKiKP 10 57 57.3 +0.9**
OSTC Ostas 152.45 343 *e*PKIKP **PKiKP 10 57 57.3 +0.9**
CHVC Chvalec 152.46 343 ⇑ *e*PKP **PKiKP 10 57 57.6 +1.2**
CHVC Chvalec 152.46 343 *e*PKIKP **PKiKP 10 57 57.6 +1.2**
CLL Collm 152.48 348 *i* PKIKP **PKPbc 10 57 56.5 +0.4**
CLL *i* 10 58 06.4
CLL pmax pmax
comp=Z,25nm,1.0s
CLL pmax pmax
comp=Z,39nm,1.2s
CLL MLR MLR
comp=Z,200nm,28.6s
CLL Collm 152.48 348 *e*PKPdf **PKPdf 10 57 51.0 +1.8**
comp=Z,4.0nm,0.9s
CLL *i* PKPbc **PKPbc 10 57 56.5 +0.4**
comp=Z,25nm,1.0s
CLL *i* PKPab **PKPab 10 58 06.4 0.0**
comp=Z,39nm,1.2s
CLL *e*PP **PP 11 01 38.0 -0.2**
CLL *e*SS SS 11 21 03.0 -2.5
CLL *e*(SSS) 11 27 30.0
OKC Ostrava-Krasne 152.53 340 ⇑ *e*PKP **PKiKP 10 57 57.5 +1.0**
OKC Ostrava-Krasne 152.53 340 *e*PKIKP **PKiKP 10 57 57.5 +1.0**
UPC Upice 152.54 343 ⇑ *e*PKP **PKiKP 10 57 57.8 +1.3**
UPC AMS AMS 11 53 10.0
comp=Z,200nm,15.1s
UPC Upice 152.54 343 *e*PKIKP **PKiKP 10 57 57.8 +1.3**
UPC MLR MLR
comp=Z,200nm,15.1s
DPC Dobruska-Polom 152.61 343 ⇑ *e*PKP **PKiKP 10 57 57.7 +1.0**
DPC AMS AMS 11 53 00.0
comp=Z,300nm,20.4s
DPC Dobruska-Polom 152.61 343 *e*PKIKP **PKiKP 10 57 57.7 +1.0**
DPC MLR MLR
comp=Z,300nm,20.4s
DOPR Dopca 152.64 326 ⇑ P **PKiKP 10 57 57.3 +0.4**
CSS Mathiatis 152.65 299 PKPdf **PKPdf 10 57 48.6 -1.4**
MLR Muntele Rosu 152.68 325 PKPbc 10 57 56.4 -0.5
MLR Muntele Rosu 152.68 325 ⇑ P **PKiKP 10 57 57.6 +0.5**
MLR Muntele Rosu 152.68 325 PKIKP **PKPbc 10 57 56.4 -0.5**
LANS Liptovska Anna 152.69 338 *e*PKIKP **PKiKP 10 57 57.8 +0.9**
LANS *e* 10 58 07.6
LANS Liptovska Anna 152.69 338 *e*PKP **PKiKP 10 57 57.8 +0.9**
LANS *e* 10 58 07.5
BRG Berggiesshubel 152.70 346 *e*PKP **PKiKP 10 57 57.2 +0.4**
BRG Amp 10 57 58.8
comp=Z,16nm,1.0s
KRLC Kraliky 152.73 342 ⇑ *e*PKP **PKiKP 10 57 57.7 +0.7**
KRLC AMS AMS 11 53 40.0
comp=Z,400nm,37.4s
KRLC Kraliky 152.73 342 *e*PKIKP **PKiKP 10 57 57.7 +0.7**
MORC Moravsky Berou 152.77 341 *e*PKP **PKPbc 10 57 57.0 +0.1**

MORC	Moravsky Berou	152.77	341	⇑P	PKPdf	10 57 50.6	+0.9
MORC	Moravsky Berou	152.77	341	⇑PKIKP	PKPdf	10 57 50.6	+0.9
PVCC	Panska Ves	152.88	345	AMS	AMS	11 56 30.0	
	comp=Z,200nm,25.3s						
RICC	Richard	152.98	346	AMS	AMS	11 56 00.0	
	comp=Z,600nm,33.1s						
HSKC	Hora Svate Kat	153.06	347	⇑ePKP	PKiKP	10 57 58.3	+0.7
VOIR		153.18	326	⇓P	PKiKP	10 57 59.5	+1.4
MARR	Marisel-Cluj	153.21	330	⇑P	PKPbc	10 57 58.0	0.0
DRGR		153.31	331	⇑P	PKiKP	10 57 59.0	+0.7
DRGR		153.31	331	⇑PKIKP	PKiKP	10 57 59.0	+0.7
PRA	Prague	153.34	345	AMS	AMS	11 56 40.0	
	comp=Z,300nm,26.1s						
PRU	Pruhonice	153.39	345	⇑ePKP	PKiKP	10 57 58.7	+0.4
PRU				AMS	AMS	11 56 20.0	
	comp=Z,300nm,27.2s						
PRU	Pruhonice	153.39	345	ePKIKP	PKiKP	10 57 58.7	+0.4
PRU				MLR	MLR		
	comp=Z,300nm,27.2s						
GOPC	GO Pecny, Ondr	153.40	344	AMS	AMS	11 56 20.0	
	comp=Z,300nm,22.1s						
ARR	Arges	153.44	326	⇑P	PKiKP	10 58 00.3	+1.7
VYHS	Vyhne	153.47	338	ePKIKP	PKiKP	10 57 59.6	+1.1
VYHS				e		10 58 11.8	
VYHS	Vyhne	153.47	338	ePKP	PKiKP	10 57 59.6	+1.1
VYHS				e		10 58 11.8	
VRAC	Vranov	153.47	341	ePKP	PKiKP	10 57 59.3	+0.8
VRAC				e		10 58 11.2	
JAVC	Velka Javorina	153.54	340	ePKP	PKiKP	10 58 00.1	+1.4
KRUC	Moravsky	153.75	341	ePKP	PKPbc	10 57 59.2	+0.2
KRUC				e		10 58 12.3	
TREC	Trest	153.79	343	AMS	AMS	11 52 50.0	
	comp=Z,500nm,47.6s						
ZVC	Zvikov	153.99	345	AMS	AMS	11 56 40.0	
	comp=Z,400nm,30.9s						
MODS	Modra-Piesok	154.09	340	ePKIKP	PKPdf	10 57 55.1	+3.4
MODS				e		10 58 02.3	
MODS	Modra-Piesok	154.09	340	ePKP	PKPdf	10 57 55.1	+3.4
MODS				e		10 58 02.3	
SIRR	Siria	154.18	331	⇓P	PKiKP	10 58 00.7	+0.6
GZR	Gura Zlata	154.33	328	⇑P	PKiKP	10 58 01.1	+0.6
SURR	Surduc	154.36	330	⇑P	PKPbc	10 57 59.5	-0.9
KHC	Kasperske Hory	154.42	345	ePKPDF	PKPdf	10 57 52.0	-0.1
KHC				AMS	AMS	11 56 00.0	
	comp=Z,300nm,17.2s						
GERES	GERESS Array B	154.66	345	PKP	PKPdf	10 57 51.5	-1.0
	comp=Z,1.2nm,0.7s,baz=318,slow=1.8,SNR=4.0						
GERES				PKPbc	PKiKP	10 58 01.9	+0.8
	comp=Z,1.3nm,0.7s,baz=38,slow=2.4,SNR=3.8						
GERES				PKPab	PKPab	10 58 16.7	+0.9
	comp=Z,1.0nm,0.6s,baz=9.7,slow=4.4,SNR=3.7						
HERR	Herculane	154.88	328	⇑P	PKiKP	10 58 02.1	+0.5
CONA	Conrad Observa	154.92	341	ePKP	PKiKP	10 58 02.6	+1.0
	comp=Z,6.5nm,1.1s						
RONA	Rosalia, Austr	155.00	340	ePKP	PKiKP	10 58 02.8	+1.1
	comp=Z,6.2nm,1.2s						
MOA	Molln	155.44	343	ePKP	PKPab	10 58 20.2	+1.1
	comp=Z,5.5nm,1.1s						
ARSA	Arzberg	155.63	341	ePKP	PKPdf	10 58 02.0	+8.2
	comp=Z,1.6nm,0.5s						
BIOA	Bad Ischl, Aus	155.75	344	ePKP	PKPab	10 58 20.2	-0.3
	comp=Z,12nm,0.9s						
LESA	Schwarzleotal	156.23	345	PKP	PKPab	10 58 22.7	+0.1
	comp=Z,4.3nm,0.9s						
SOKA	Soboth	156.30	341	PKP	PKPab	10 58 24.6	+1.7
	comp=Z,6.8nm,0.9s						
KBA	Koelnbreinsper	156.39	344	PKP	PKPab	10 58 24.2	+0.8
	comp=Z,7.0nm,0.9s						
WATA	Walderalm	156.55	347	ePKP	PKPab	10 58 24.8	+0.8
	comp=Z,9.1nm,0.9s						
WTTA	Wattenberg	156.61	347	ePKP	PKPab	10 58 25.1	+0.7
	comp=Z,12nm,0.8s						
MOTA	Moosalm	156.64	348	ePKP	PKPab	10 58 23.6	-0.8
	comp=Z,12nm,1.1s						
SQTA	Sankt Quirin	156.74	348	ePKP	PKPab	10 58 24.1	-0.6
	comp=Z,15nm,1.7s						
ABTA	Abfaltersbach	156.91	345	ePKP	PKPab	10 58 24.7	-0.8
	comp=Z,13nm,1.3s						
DAVA	Damuels	156.91	350	ePKP	PKPab	10 58 25.8	+0.2
	comp=Z,9.3nm,0.8s						
FETA	Feichten	157.02	348	ePKP	PKPab	10 58 26.5	+0.5
	comp=Z,9.4nm,1.2s						
DBIC	Dimbokro	160.22	153	PKPab	PKPab	10 58 42.7	+2.2
	comp=Z,3.5nm,0.9s,baz=159,slow=6.8,SNR=3.6						
ESDC	Sonseca Array	163.56	22	PKP	PKPdf	10 58 03.7	+0.5
	comp=Z,0.6nm,0.8s,baz=278,slow=6.0,SNR=4.4						
ESDC				PKPab	PKPab	10 58 55.1	+0.5
	comp=Z,3.6nm,1.1s,baz=317,slow=3.3,SNR=7.4						
TORD	Torodi Ar. Bea	168.37	169	PKP	PKPdf	10 58 07.8	+0.2
	comp=Z,2.9nm,1.0s,baz=116,slow=1.3,SNR=11						
TORD				PKPab	PKPab	10 59 18.8	+2.5
	comp=Z,5.2nm,1.0s,baz=186,slow=3.9,SNR=10						

TRN 04 10:56:16.8, 16°.72N×60°.74W, h27km, MD3.6, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	Bethesda, Anti	1.03	289	eP	Pb	10 56 37.2	+1.1
ANBD				eS	Sb	10 56 51.5	+2.3
ANBD	Bethesda, Anti	1.03	289	eP	Pb	10 56 37.2	+1.1
ANBD				eS	Sb	10 56 51.5	+2.3
TBG	Guadaloupe-3	1.23	225	eP	Pb	10 56 40.2	+0.9
TBG				eS	Sb	10 56 57.0	+2.2
TBG	Guadaloupe-3	1.23	225	eP	Pb	10 56 40.2	+0.9
TBG				eS	Sb	10 56 57.0	+2.2
ANWB	Willy Bob	1.37	313	eP	Pb	10 56 41.1	-0.7
ANWB				eS	Sb	10 56 59.1	+0.1
ANWB	Willy Bob	1.37	313	eP	Pb	10 56 41.1	-0.7
ANWB				eS	Sb	10 56 59.1	+0.1
MBWH		1.39	271	eP	Pb	10 56 43.2	+1.0
MBWH				eS	Sb	10 57 01.4	+1.8
MBWH		1.39	271	eP	Pb	10 56 43.2	+1.0
MBWH				eS	Sb	10 57 01.4	+1.8
MBFL	Flemmings, Mon	1.41	271	eP	Pb	10 56 43.2	+0.7
MBFL	Flemmings, Mon	1.41	271	eP	Pb	10 56 43.2	+0.7
DSLB	Salisbury	1.43	207	eP	Pb	10 56 42.7	-0.2
DSLB				eS	Sb	10 57 01.1	+0.4
DSLB	Salisbury	1.43	207	eP	Pb	10 56 42.7	-0.2
DSLB				eS	Sb	10 57 01.1	+0.4
MDN	Morne-Daniel	1.53	204	eP	Pb	10 56 44.0	-0.5
MDN				eS	Sb	10 57 03.8	+0.3
MDN	Morne-Daniel	1.53	204	eP	Pb	10 56 44.0	-0.5
MDN				eS	Sb	10 57 03.8	+0.3

*IDC **04** 11:11:16.0±0.8, 3°.61S×127°.59E, h0km, mb4.0/8, mbtmp4.1/10, ML4.1/2, Error ellipse: s-maj=32.7km s-min=18.2km az=66.0*
*NEIC **04** 11:11:19.6±2.7, 3°.69S±0°.08×127°.38E±0°.05, h10km±1km, mb4.2/9, Error ellipse: s-maj=14.0km s-min=7.9km az=338.0*
*DJA **04** 11:11:20.2±0.3, 4°S±3°×12°7E±°, h10km, M4.3/14, mB5.1/1, mb4.6/5, MLv4.2/14, Mw(mB)4.5/1*
ISC 04 11:11:21.9±0.6, 3°.64S±0°.07×127°.40E±0°.05, h42km, n41, σ1°58/45, mb3.9/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.50	323	P	Pn	11 11 30.2	-2.6
NLAI				S	Sn	11 11 35.0	-5.4
AAI	Ambon	0.79	94	P	Pn	11 11 35.2	-1.5
AAI				S	Sn	11 11 45.2	-2.2
MSAI	Masohi	1.55	79	P	Pn	11 11 50.0	+2.9
SANI	Sanana	2.12	318	P	Pn	11 11 55.5	+0.6
SANI				S	Sn	11 12 20.2	+0.2
BNDI	Bandanaira	2.65	109	P	Pn	11 12 04.7	+2.6
SWI	Sorong	4.74	55	P	Pn	11 12 32.0	+1.1
KDI	Kendari	4.78	266	P	Pn	11 12 30.5	-1.0
FAKI	Fak Fak	4.89	82		Pn	11 12 34.4	+1.4
FAKI	Fak Fak	4.89	82	P	Pn	11 12 33.9	+0.9
BBSI	Bau Bau	5.16	249	P	Pn	11 12 37.2	+0.5
	0.2nm48nm,0.8s						
LUWI	Luwuk	5.30	299	Pn	Pn	11 12 40.2	+1.6
LUWI	Luwuk	5.30	299	P	Pn	11 12 39.8	+1.2
SOEI	Soe	6.83	207	Pn	Pn	11 13 00.1	+0.3
BKSI	Bulukumba	7.45	257	P	Pn	11 13 09.6	+1.5
KAPI	Kappang	7.75	260	Pn	Pn	11 13 14.2	+1.9
	8.1nm,0.3s,baz=108,slow=4.1,SNR=8.6						
	27nm,0.5s						
TOLI2	Tolitoli	8.13	305	Pn	Pn	11 13 18.3	+0.8
KNRA	Kununurra	12.04	174	Pn	Pn	11 14 10.4	-0.7

FITZ	Fitzroy Crossi	14.47	187	Pn	Pn	11 14 42.9	-1.3
WB0	Warramunga Arr	17.42	157	Pn	Pn	11 15 21.0	-1.1
WB0				IAmb	IAmb	11 15 31.0	
	comp=Z,20nm,1.1s						
WRAB	Tennant Creek	17.56	158	P	Pn	11 15 23.9	+0.2
WRAB				IAmb	IAmb	11 15 32.7	
	comp=Z,20nm,1.2s						
WRA	Warramunga Arr	17.56	158	P	Pn	11 15 24.4	+0.6
WRA	Warramunga Arr	17.56	158	P	Pn	11 15 21.9	-1.8
	comp=Z,0.4nm,0.3s,baz=341,slow=11,SNR=8.4						
	comp=Z,4.9nm,1.0s						
WB2	Warramunga Arr	17.57	158	Pn	Pn	11 15 22.2	-1.6
WB2				IAmb	IAmb	11 16 00.8	
	comp=Z,22nm,1.2s						
WR0	Warramunga Arr	17.65	157	Pn	Pn	11 15 23.7	-1.2
COEN	Coen	18.64	124	P	P	11 15 37.0	+0.7
LEM	Lembang	19.95	260	P	P	11 15 51.8	+0.9
	comp=Z,19nm,0.5s,baz=14,slow=7.5,SNR=3.7						
	comp=Z,19nm,0.5s						
AS31	Alice Springs	20.88	163	P	P	11 16 02.3	+1.6
AS31				IAmb	IAmb	11 16 03.5	
	comp=Z,10nm,0.8s						
ASAR	Alice Springs	20.88	163	P	P	11 16 02.7	+2.0
ASAR	Alice Springs	20.88	163	P	P	11 16 01.4	+0.7
	comp=Z,40nm,0.9s,baz=344,slow=11,SNR=145						
ASAR				PcP	PcP	11 20 07.9	-0.1
	comp=Z,0.5nm,0.4s,baz=349,slow=1.7,SNR=8.5						
	comp=Z,40nm,0.9s						
FORT	Forrest	27.00	179	P	P	11 17 00.6	+0.6
STKA	Stephens Creek	31.10	156	P	P	11 17 34.1	-2.3
	comp=Z,2.4nm,0.9s,baz=340,slow=11,SNR=2.9						
	comp=Z,2.4nm,0.9s						
SONM	Songino Array	54.47	343	P	P	11 20 46.7	+1.3
	comp=Z,0.7nm,1.0s,baz=133,slow=3.8,SNR=4.9						
	comp=Z,0.7nm,1.0s						
MKAR	Makanchi Array	64.02	327	P	P	11 21 51.9	+0.6
MKAR	Makanchi Array	64.02	327	P	P	11 21 51.6	+0.3
	comp=Z,1.3nm,0.8s,baz=126,slow=8.0,SNR=13						
	comp=Z,1.3nm,0.8s						
ZALV	Zalesovo Beam	67.45	334	P	P	11 22 12.5	-0.7
	comp=Z,1.0nm,0.8s,baz=132,slow=6.2,SNR=3.6						
	comp=Z,1.0nm,0.8s						
KURBB	Kurchatov Arra	68.31	329	P	P	11 22 19.6	+0.8
	comp=Z,0.9nm,0.7s,baz=130,slow=6.1,SNR=9.4						
	comp=Z,0.9nm,0.7s						
QSPA	South Pole Qui	86.32	180	P	P	11 23 58.9	-0.5
QSPA				IAmb	IAmb	11 24 06.9	
	comp=Z,3.3nm,1.1s						
ILAR	Eielson Array	91.43	25	P	P	11 24 24.2	+0.8
	comp=Z,0.2nm,0.6s,baz=262,slow=5.8,SNR=4.6						
	comp=Z,0.2nm,0.6s						
TXAR	Lajitas Array	125.33	56	PKP	PKPdf	11 30 19.3	+0.2
	comp=Z,0.5nm,1.1s,baz=312,slow=1.8,SNR=4.2						
TORD	Torodi Ar. Bea	125.57	283	PKP	PKPdf	11 30 19.6	-0.2
	comp=Z,0.5nm,0.8s,baz=30,slow=1.4,SNR=2.9						
PLCA	Paso Flores	132.88	161	PKP	PKPdf	11 30 34.1	+0.9
	comp=Z,1.5nm,1.0s,baz=203,slow=2.6,SNR=3.8						

*SJA **04** 11:19:27.7±1.6, 22°.53S×68°.82W, h123km±19km, ML3.5, MW3.7*
*GUC **04** 11:19:29.2±0.8, 22°.36S×68°.60W, h119km±5km, ML3.8*
*IDC **04** 11:19:32.0±3.8, 22°.40S×67°.99W, h111km±35km, mb3.4/2, mbtmp3.8/4, Error ellipse: s-maj=51.8km s-min=29.7km az=127.0*
ISC 04 11:19:29.0±0.9, 22°.41S±0°.04×68°.66W±0°.06, h116km±7km, n23, σ2°11/35, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.69	141	eP	Pn	11 19 48.2	-0.1
AF01	San Pedro de A	0.69	141	⇓iP	Pn	11 19 48.4	+0.2
AF01				i S	Sn	11 20 02.5	-0.2
PB09	IPOC Station P	0.82	318	eP	Pn	11 19 49.8	+0.6
PB09				IAML		11 20 08.4	
	comp=Z,1μm,1.0s						
PB09	IPOC Station P	0.82	318	⇑iP	Pn	11 19 49.6	+0.5
PB09				i S	Sn	11 20 04.3	0.0
PB01	IPOC Station P	1.57	330	eP	Pn	11 19 57.5	+0.4
PB01				eS	Sn	11 20 19.6	+1.2
PB01				IAML		11 20 21.4	
	comp=Z,534nm,0.4s						
PB01	IPOC Station P	1.57	330	⇑iP	Pn	11 19 57.5	+0.4
PB01				i S	Sn	11 20 18.3	-0.1
PB01				IAML		11 20 20.3	
	comp=E,1μm,0.5s						
PATCX	Punta Patache	2.11	318	eP	Pn	11 20 03.6	-0.1
PATCX				eS	Sn	11 20 29.7	-0.6
PATCX				IAML		11 20 31.9	
	comp=Z,476nm,1.2s						
PX03	IPOC Station P	2.20	335	eP	Pn	11 20 04.7	-0.2
PX03				eS	Sn	11 20 32.0	-0.3
PX03				IAML		11 20 34.0	
	comp=N,606nm,0.3s						
PB08	IPOC Station P	2.31	348	⇑iP	Pn	11 20 07.8	+1.3
PB08				i S	Sn	11 20 35.6	+0.3
TA01	Diego Aracena	2.32	322	eP	Pn	11 20 06.0	-0.4
TA01				eS	Sn	11 20 35.4	+0.4
TA01				IAML		11 20 41.2	
	comp=Z,353nm,0.5s						
TA01	Diego Aracena	2.32	322	i P	Pn	11 20 05.9	-0.4
HMBC	Humberstone	2.42	331	eP	Pn	11 20 07.2	-0.6
HMBC				eS	Sn	11 20 38.4	+1.1
HMBC				IAML		11 20 50.6	
	comp=Z,392nm,0.3s						
HMBC	Humberstone	2.42	331	⇑iP	Pn	11 20 07.4	-0.3
HMBC				i S	Sn	11 20 35.9	-1.4
HMBC				IAML		11 20 42.4	
	comp=N,492nm,0.3s						
PB14	IPOC Station P	2.73	216	eP	Pn	11 20 11.1	-0.8
PB14				eS	Sn	11 20 39.9	-4.9
PB14				IAML		11 20 54.5	
	comp=Z,443nm,0.3s						
GO02	Mina Guanaco	2.87	197	⇓iP	Pn	11 20 14.0	+0.2
YJA	Yavi	2.92	86	eP	Pn	11 20 17.5	+3.0
YJA				IAML		11 21 07.5	
	comp=Z,4.7nm,1.1s						
PB12	IPOC Station P	4.09	337	eP	Pn	11 20 28.3	-1.5
LPAZ	La Paz	6.11	5	P	Pn	11 20 59.2	+1.6
	comp=Z,2.4nm,0.5s,baz=173,slow=4.0,SNR=7.4						
SIV	San Ignacio	9.60	50	P	Pn	11 21 42.6	-1.6
	comp=Z,3.4nm,0.4s,baz=241,slow=10.0,SNR=25						
SIV				S	Sn	11 23 21.6	-8.6
	comp=Z,0.9nm,0.4s,baz=252,slow=20,SNR=3.0						
QSPA	South Pole Qui	67.78	180	P	P	11 30 17.8	+3.5
	comp=Z,0.4nm,0.5s,baz=211,slow=2.6,SNR=6.8						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	77.44	70	P	P	11 31 11.8	-0.3
	comp=Z,0.5nm,0.4s,baz=260,slow=5.3,SNR=7.5						
	comp=Z,0.5nm,0.4s						
ZALV	Zalesovo Beam	142.67	26	PKP	PKiKP	11 38 52.0	+0.6
	comp=Z,0.4nm,0.4s,baz=311,slow=5.5,SNR=1.9						
MKAR	Makanchi Array	146.22	37	PKPbc	PKiKP	11 38 58.2	-0.8
	comp=Z,0.7nm,0.7s,baz=319,slow=2.9,SNR=8.9						

IDC 04 11:31:11.7±3.6, 4°.15N×124°.43E, h260km±33km, mb3.1/4, mbtmp3.7/4, Error ellipse: s-maj=116.0km s-min=14.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.84	158	P	P	11 36 19.4	-0.4
	1.0nm,0.8s,baz=329,slow=11,SNR=12						
	1.0nm,0.8s						
ASAR	Alice Springs	29.15	162	P	P	11 36 49.9	+0.7
	0.4nm,0.3s,baz=341,slow=7.0,SNR=27						
ASAR				PcP	PcP	11 39 49.5	-0.4
	0.2nm,0.3s,baz=344,slow=2.4,SNR=6.3						
	0.4nm,0.3s						
MKAR	Makanchi Array	55.92	326	P	P	11 40 23.3	+0.3
	0.5nm,0.4s,baz=118,slow=7.2,SNR=20						
MKAR				ScP	ScP	11 44 52.6	+0.4
	0.1nm,0.7s,baz=127,slow=3.8,SNR=4.0						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	60.17	328	P	P	11 40 51.9	-0.3
	0.4nm,0.6s,baz=131,slow=6.5,SNR=5.9						
	0.4nm,0.6s						
TXAR	Lajitas Array	123.14	51	PKP	PKPdf	11 49 36.3	-1.9
	0.2nm,0.9s,baz=316,slow=4.8,SNR=1.5						

*NIC **04** 11:41:28.4, 35°.05N×33°.16E, h48km±1km, Ml2.5/10*
*ISK **04** 11:41:29.1, 35°.29N×33°.18E, h8km, ML2.7/21*
*AFAD **04** 11:41:29.0, 35°.33N×33°.16E, h18km±8km, ML2.6*

*GII **04** 11:41:29.9±0.0, 35°.02N×33°.40E, h30km, Mws2.7, confirmed*
ISC 04 11:41:29.0±1.2, 35°.00N±0°.03×33°.17E±0°.03, h47km±5km, n59, σ1°17/76, 2C-6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	Mathiatis	0.14	106	Pg	Pn	11 41 35.9	-0.8
CSS				Sg	Sn	11 41 42.0	0.0
CSS	Mathiatis	0.14	106	⇑iP	Pn	11 41 36.1	-0.6
CSS				S	Sn	11 41 42.7	+0.6
CSS				AML	AML	11 41 43.8	
	1.2nm,0.3s						
CSS				AML	AML	11 41 44.8	
	1.5nm,0.4s						
CSS	Mathiatis	0.14	106	P	Pn	11 41 35.9	-0.8
CSS	Mathiatis	0.14	106	P		11 41 36.0	
ASGA	Asgata	0.22	164	P	Pn	11 41 36.6	-0.6
ASGA				S	Sn	11 41 43.7	+0.7
ASGA				AML	AML	11 41 44.3	
	1.2nm,0.2s						
ASGA				AML	AML	11 41 45.7	
	1.5nm,0.3s						
ATHAL	Athalassa	0.23	53	⇑iP	Pn	11 41 36.9	-0.4
ATHAL				S	Sn	11 41 44.1	+1.0
ATHAL				AML	AML	11 41 44.8	
	3.1nm,0.6s						
ATHAL				AML	AML	11 41 45.1	
	4.3nm,0.5s						
AKIN	Akıncılar- Kıb	0.24	86	Pg	Pn	11 41 36.6	-0.7
AKIN				Sg	Sn	11 41 42.2	-1.0
TROD	Troodos	0.26	258	⇓iP	Pn	11 41 36.9	-0.8
TROD				S	Sn	11 41 44.1	+0.2
TROD				AML	AML	11 41 47.8	
	1.4nm,0.4s						
TROD				AML	AML	11 41 49.2	
	2.5nm,0.4s						
LEF	Lefka	0.26	297	Pg	Pn	11 41 36.4	-1.1
LEF	Lefka	0.26	297	P	Pn	11 41 37.0	-0.4
LAR1C	Larnaka City C	0.37	102	P	Pn	11 41 38.7	+0.1
MVOU	Mavrovouni	0.38	88	⇓iP	Pn	11 41 38.1	-0.6
MVOU				S	Sn	11 41 46.1	+0.6
MVOU				AML	AML	11 41 46.2	
	4.7nm,0.4s						
MVOU				AML	AML	11 41 46.5	
	1.4nm,0.5s						
LFK	Lefkose	0.41	47	Pg	Pn	11 41 38.6	-0.4
APOL	The Sanctuary	0.42	218	⇓eP	Pn	11 41 38.7	-0.4
APOL				S	Sn	11 41 47.3	+1.1
APOL				AML	AML	11 41 53.2	
	1.3nm,0.4s						
APOL				AML	AML	11 41 53.3	
	1.3nm,0.3s						
ALFC	Alefka	0.49	288	⇓iP	Pn	11 41 38.7	-1.3
ALFC				S	Sn	11 41 47.4	-0.5
ALFC				AML	AML	11 41 51.2	
	1.9nm,0.5s						
ALFC				AML	AML	11 41 52.6	
	2.2nm,0.5s						
NATA	Nata	0.54	246	⇓iP	Pn	11 41 40.3	-0.3
NATA				S	Sn	11 41 50.1	+1.2
NATA				AML	AML	11 41 53.0	
	1.8nm,0.4s						
NATA				AML	AML	11 41 57.7	
	1.9nm,0.4s						
AKMS	Akamas	0.69	272	⇓iP	Pn	11 41 41.8	-0.7
AKMS				S	Sn	11 41 52.5	+0.3
AKMS				AML	AML	11 41 57.4	
	0.6nm,0.5s						
AKMS				AML	AML	11 42 01.7	
	0.7nm,0.4s						
PARAL	Paralimni	0.71	90	P	Pn	11 41 42.9	+0.1
PARAL				AML	AML	11 41 58.4	
	0.5nm,1.1s						
PARAL				AML	AML	11 42 05.3	
	0.5nm,0.6s						
EREN	Erenkoy	0.97	57	Pg	Pn	11 41 46.4	+0.1
BOZY	Bozyazi-Mersin	1.11	352	Pg	Pn	11 41 45.5	-2.7
AKK1	Akkuyu-Mersin	1.18	15	Pg	Pn	11 41 46.9	-2.2
AKKU	Akkuyu-Mersin	1.20	15	Pg	Pn	11 41 47.2	-2.1
GULN	MERSIN_Gulnar	1.22	14	P	Pn	11 41 48.2	-1.5
OREN	Orenkoy-Mersin	1.23	11	Pg	Pn	11 41 47.6	-2.2
TISA	Tisan-Mersin	1.23	19	Pg	Pn	11 41 48.0	-1.8
YESI	Yesilovacik-Me	1.25	18	Pg	Pn	11 41 48.3	-1.8
TEPK	Tepekoy-MERSIN	1.26	14	Pg	Pn	11 41 48.3	-1.9
KARG	Kargicak-Mersi	1.28	20	Pg	Pn	11 41 48.9	-1.6
IKL	Isikli	1.30	19	Pg	Pn	11 41 49.3	-1.5
BERE	Bereket-Mersin	1.34	2	Pg	Pn	11 41 50.2	-1.3
GAZI	Gazipasa	1.42	331	Pn	Pn	11 41 51.2	-1.2
GAZI	Gazipasa	1.42	331	P	Pn	11 41 51.1	-1.3
GAZI				S	Sn	11 42 07.5	-2.4
GAZI				i AML	AML	11 42 09.0	
	comp=N,268nm,0.5s						
GAZI				i AML	AML	11 42 09.0	
	comp=E,107nm,0.4s						
TEVE	Tevekalti-Mers	1.45	9	Pn	Pn	11 41 51.8	-1.1
SILI	Silifke-Mersin	1.49	24	Pn	Pn	11 41 52.8	-0.6
KIZK	Mersin	1.68	28	Pn	Pn	11 41 55.7	-0.2
KIZK	Mersin	1.68	28	P	Pn	11 41 54.4	-1.5
KIZK				S	Sn	11 42 15.8	-0.3
HDMB	Hadim	2.04	344	Pn	Pn	11 42 00.8	-0.3
KKBE	Karaman, Kazim	2.22	355	P	Pn	11 42 04.1	+0.6
KKBE				S	Sn	11 42 31.2	+1.4
KERG	Konya-Eregli	2.53	17	P	Pn	11 42 08.4	+0.7
KERG				S	Sn	11 42 39.1	+1.7
HNTI	Hanita	2.53	138	P	Pn	11 42 07.4	-0.3
HNTI	Hanita	2.53	138	P		11 42 07.5	
GULE	Gulek	2.62	29	P	Pn	11 42 10.1	+1.1
GULE				S	Sn	11 42 41.3	+1.6
GULE				i AML	A

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.73**	**198**		**Pb**	**12 00 54.7**	**+0.3**
PCDR					**Sn**	**12 01 06.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.73**	**198**	IAML		12 01 11.4	
	comp=N,258nm,0.5s						
PCDR	**Punta Cana, DR**	**0.73**	**198⇑**	*e*Sg	**Sn**	**12 01 06.5**	**-0.2**
PCDR				IAML		12 01 11.2	
	comp=N,236nm,0.6s						
PCDR	**Punta Cana, DR**	**0.73**	**198⇑**	*e*P	**Pb**	**12 00 54.7**	**+0.3**
PCDR	**Punta Cana, DR**	**0.73**	**198**	*e*S	**Sn**	**12 01 06.7**	**0.0**
PCDR	**Punta Cana, DR**	**0.73**	**198**	*i* P		12 00 54.5	
PCDR				*e*S		12 01 04.6	
PCDR				IAML		12 01 10.7	
	comp=Z,204nm,0.5s						
IDE	**Isla Desecheo**	**1.04**	**142**		**Pb**	**12 00 58.9**	**-0.8**
IDE					**Sg**	**12 01 13.5**	**-0.1**
IDE	**Isla Desecheo**	**1.04**	**142⇑**	*e*P	**Pb**	**12 00 58.9**	**-0.8**
IDE	**Isla Desecheo**	**1.04**	**142**	*e*S	**Sg**	**12 01 13.5**	**-0.1**
SADR	**Isla Saona**	**1.18**	**211⇑**	*e*Sg	**Sg**	**12 01 19.5**	**+1.3**
SADR				IAML		12 01 24.8	
	comp=N,135nm,0.6s						
AGPR	**Aguadilla, PR**	**1.23**	**127**		**Pb**	**12 01 02.7**	**-0.1**
AGPR					**Sg**	**12 01 20.6**	**+1.1**
AGPR	**Aguadilla, PR**	**1.23**	**127**	IAML		12 01 22.3	
	comp=N,74nm,0.8s						
AGPR				IAML		12 01 24.3	
	comp=E,91nm,1.1s						
AGPR	**Aguadilla, PR**	**1.23**	**127⇑**	*e*Sg	**Sg**	**12 01 20.1**	**+0.6**
AGPR				IAML		12 01 20.8	
	comp=N,71nm,1.7s						
AGPR	**Aguadilla, PR**	**1.23**	**127⇑**	*e*P	**Pb**	**12 01 02.7**	**-0.1**
AGPR	**Aguadilla, PR**	**1.23**	**127**	*e*S	**Sg**	**12 01 20.6**	**+1.1**
AGPR	**Aguadilla, PR**	**1.23**	**127**	*i* P		12 01 02.9	
AGPR				*e*S		12 01 18.5	
AGPR				IAML		12 01 21.3	
	comp=Z,64nm,1.7s						
DR12	**Loma Pena Alta**	**1.25**	**250**		**Pn**	**12 01 02.9**	**-0.1**
DR12				IAML		12 01 22.4	
	comp=N,74nm,0.6s						
HATOM	**Hato Mayor del**	**1.25**	**250⇑**	*e*Pg	**Pn**	**12 01 02.8**	**-0.1**
HATOM				⇑*e*Sg	**Sg**	**12 01 21.4**	**+1.1**
HATOM				IAML		12 01 22.3	
	comp=N,67nm,0.7s						
PRSN	**Puerto Rico Se**	**1.37**	**136**	Pn	**Pg**	**12 01 06.2**	**-0.1**
LSP	**Las Mesas**	**1.44**	**136**		**Pb**	**12 01 06.3**	**-0.1**
LSP					**Sn**	**12 01 24.1**	**-0.1**
LSP	**Las Mesas**	**1.44**	**136⇑**	*e*P	**Pb**	**12 01 06.3**	**-0.1**
LSP	**Las Mesas**	**1.44**	**136**	*e*S	**Sn**	**12 01 24.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.55**	**141**		**Pn**	**12 01 07.0**	**+0.1**
CRPR					**Sn**	**12 01 26.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.55**	**141⇑**	*e*Pg	**Pg**	**12 01 09.1**	**-0.6**
CRPR				⇑*e*Sg	**Sg**	**12 01 29.6**	**-0.2**
CRPR				IAML		12 01 36.4	
	comp=N,43nm,1.0s						
CRPR	**Cabo Rojo, PR**	**1.55**	**141⇑**	*e*P	**Pn**	**12 01 07.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.55**	**141**	*e*S	**Sn**	**12 01 26.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.55**	**141**	*i* P		12 01 09.0	
CRPR				*e*S		12 01 28.0	
CRPR				IAML		12 01 34.3	
	comp=Z,65nm,0.5s						
AOPR	**Arecibo Observ**	**1.57**	**123**		**Pb**	**12 01 08.4**	**-0.3**
AOPR					**Sn**	**12 01 27.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.57**	**123**	IAML		12 01 34.0	
	comp=N,90nm,0.5s						
AOPR	**Arecibo Observ**	**1.57**	**123⇑**	*e*P	**Pb**	**12 01 08.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.57**	**123**	*e*S	**Sn**	**12 01 27.9**	**+0.5**
MLPR	**Magueyes Islan**	**1.62**	**140⇑**	*e*Pg	**Pg**	**12 01 10.6**	**-0.4**
MLPR				⇑*e*Sg	**Sg**	**12 01 31.4**	**-0.7**
MLPR				IAML		12 01 35.5	
	comp=N,28nm,0.6s						
DR08	**Loma La Naviza**	**1.80**	**262⇑**	*e*Pg	**Pb**	**12 01 12.3**	**-0.3**
DR08				⇑*e*Sg	**Sg**	**12 01 37.0**	**-0.8**
DR08				IAML		12 01 40.3	
	comp=N,778nm,0.1s						
OBIP	**Obispado Ponce**	**1.86**	**128**	Pn	**Pn**	**12 01 11.8**	**+0.4**
OBIP				IAML		12 01 40.3	
	comp=E,31nm,0.6s						
OBIP				IAML		12 01 40.8	
	comp=N,34nm,0.5s						
BANI	**BANI**	**2.25**	**249**	Pn	**Pn**	**12 01 15.3**	**-1.5**
BANI				IAML		12 01 58.2	
	comp=E,46nm,0.3s						
ABDR	**Alto Bandera**	**2.39**	**261⇑**	*e*Pg	**Pn**	**12 01 20.6**	**+1.7**
ABDR				⇑*e*Sg	**Sg**	**12 01 56.0**	**-0.7**
ABDR				IAML		12 01 58.5	
	comp=N,41nm,2.0s						
SDDR	**Presa de Saban**	**2.98**	**266**	Pn	**Pn**	**12 01 27.7**	**+0.9**
SDDR				IAML		12 02 23.5	
	comp=N,24nm,0.9s						
SDDR				IAML		12 02 25.4	
	comp=N,26nm,0.6s						

*OSPL **04** 12:02:35.9±0.9, 19°.25N×68°.11W, h0km±5km, ML2.4, Hypocentre not reviewed by the ISC*
*RSPR **04** 12:02:36.6, 19°.33N×68°.22W, h42km±7km, MD3.2/4*
*NEIC **04** 12:02:37.5±2.2, 19°.23N±0°.06×68°.16W±0°.03, h35km±2km, ML2.5/24, Md3.2/4(RSPR), Error ellipse: s-maj=10.0km s-min=3.1km az=160.0*
*SDD **04** 12:02:39.1±2.5, 19°.34N×68°.10W, h65km±79km, MD3.7, ML2.5, MW3.3*

ISC 04 12:02:34.3±1.5,**19°.27N**±0°.08×**68°.10W**±0°.03,**h19**km±3km, **n35**,σ**1°.24**/39,**15C-1D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.80**	**199**		**Sn**	**12 03 01.8**	**-0.1**
PCDR	**Punta Cana, DR**	**0.80**	**199**	Pn	**Pg**	**12 02 48.7**	**-1.2**
PCDR	**Punta Cana, DR**	**0.80**	**199**	IAML		12 03 08.1	
	comp=N,233nm,1.5s						
PCDR				IAML		12 03 10.3	
	comp=E,83nm,1.1s						
PCDR	**Punta Cana, DR**	**0.80**	**199**	*e*S	**Sn**	**12 03 01.8**	**-0.1**
PCDR	**Punta Cana, DR**	**0.80**	**199**	*i* P		12 02 49.4	
PCDR				*e*S		12 03 00.3	
PCDR				IAML		12 03 05.2	
	comp=Z,166nm,0.6s						
IDE	**Isla Desecheo**	**1.06**	**146**		**Pg**	**12 02 55.2**	**+0.3**
IDE					**Sg**	**12 03 09.2**	**+0.3**
IDE	**Isla Desecheo**	**1.06**	**146⇑**	*e*P	**Pg**	**12 02 55.2**	**+0.3**
IDE	**Isla Desecheo**	**1.06**	**146**	*e*S	**Sg**	**12 03 09.2**	**+0.3**
AGPR	**Aguadilla, PR**	**1.23**	**130**		**Pg**	**12 02 57.7**	**-0.4**
AGPR					**Sg**	**12 03 14.5**	**+0.3**
AGPR	**Aguadilla, PR**	**1.23**	**130**	IAML		12 03 16.3	
	comp=E,96nm,0.7s						
AGPR				IAML		12 03 39.7	
	comp=N,78nm,2.1s						
AGPR	**Aguadilla, PR**	**1.23**	**130⇑**	*e*Pg	**Pg**	**12 03 01.1**	**+3.0**
AGPR				⇑*e*Sg	**Sg**	**12 03 14.0**	**-0.2**
AGPR				IAML		12 03 20.2	
	comp=N,57nm,0.6s						
AGPR	**Aguadilla, PR**	**1.23**	**130⇑**	*e*P	**Pg**	**12 02 57.7**	**-0.4**
AGPR	**Aguadilla, PR**	**1.23**	**130**	*e*S	**Sg**	**12 03 14.5**	**+0.3**
AGPR	**Aguadilla, PR**	**1.23**	**130**	*i* P		12 02 57.6	
AGPR				*e*S		12 03 14.0	
AGPR				IAML		12 03 16.9	
	comp=Z,50nm,0.6s						
SADR	**Isla Saona**	**1.25**	**211⇑**	*e*Sg	**Sg**	**12 03 16.0**	**+1.2**
SADR				⇑*e*Sg	Sg	12 03 16.2	+1.4
SADR				IAML		12 03 18.8	
	comp=N,137nm,2.2s						
DR12	**Loma Pena Alta**	**1.30**	**249**	Pn	**Pn**	**12 02 54.7**	**-2.9**
HATOM	**Hato Mayor del**	**1.30**	**249⇑**	*e*Pg	**Pg**	**12 03 02.5**	**+3.0**
HATOM				⇓*e*Sg	**Sg**	**12 03 16.2**	**-0.3**
HATOM				IAML		12 03 17.8	
	comp=N,28nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	IAML		12 03 32.7	
	comp=N,31nm,1.0s						
CRPR				IAML		12 03 41.9	
	comp=E,34nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.57**	**143**		**Pb**	**12 03 02.5**	**-0.2**
CRPR					**Sb**	**12 03 22.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.57**	**143⇑**	*e*Pg	**Pg**	**12 03 03.5**	**-1.1**
CRPR				⇑*e*Sg	**Sb**	**12 03 24.2**	**+2.0**
CRPR				IAML		12 03 42.5	
	comp=N,34nm,3.5s						
CRPR	**Cabo Rojo, PR**	**1.57**	**143⇑**	*e*P	**Pb**	**12 03 02.5**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	*e*S	**Sb**	**12 03 22.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.57**	**143**	*i* P		12 03 03.5	
CRPR				*e*S		12 03 22.9	
CRPR				IAML		12 03 27.1	
	comp=Z,69nm,1.0s						
AOPR	**Arecibo Observ**	**1.57**	**125**	IAML		12 03 28.8	
	comp=N,84nm,0.5s						
AOPR	**Arecibo Observ**	**1.57**	**125**		**Pg**	**12 03 03.1**	**-1.4**
AOPR					**Sb**	**12 03 23.2**	**+0.9**
AOPR	**Arecibo Observ**	**1.57**	**125⇑**	*e*Pg	**Pg**	**12 03 04.2**	**-0.4**
AOPR				⇑*e*Sg	**Sb**	**12 03 23.6**	**+1.2**
AOPR				IAML		12 03 28.6	
	comp=N,78nm,0.6s						
AOPR	**Arecibo Observ**	**1.57**	**125⇑**	*e*P	**Pg**	**12 03 03.1**	**-1.4**
AOPR	**Arecibo Observ**	**1.57**	**125**	*e*S	**Sb**	**12 03 23.2**	**+0.9**
MLPR	**Magueyes Islan**	**1.64**	**142**		**Pb**	**12 03 03.5**	**-0.3**
MLPR					**Sb**	**12 03 24.4**	**+0.3**
MLPR	**Magueyes Islan**	**1.64**	**142**	IAML		12 03 27.4	
	comp=E,29nm,0.9s						
MLPR	**Magueyes Islan**	**1.64**	**142⇑**	*e*P	**Pb**	**12 03 03.5**	**-0.3**
MLPR	**Magueyes Islan**	**1.64**	**142**	*e*S	**Sb**	**12 03 24.4**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.65**	**127**	Pn	**Pg**	**12 03 05.6**	**-0.5**
IGPR	**InterUniversit**	**2.29**	**124**	Pn	**Pn**	**12 03 12.3**	**+1.2**
IGPR				IAML		12 03 46.7	
	comp=E,32nm,0.3s						
IGPR				IAML		12 03 52.2	
	comp=N,34nm,0.3s						
BANI	**BANI**	**2.31**	**248**	Pn	**Pb**	**12 03 14.2**	**-1.3**
BANI				IAML		12 03 50.0	
	comp=N,46nm,1.1s						
PDPR	**Patillas Dam,**	**2.33**	**122**	Pn	**Pb**	**12 03 14.4**	**-1.3**
SDDR	**Presa de Saban**	**3.03**	**265**	Pn	**Pn**	**12 03 22.7**	**+1.5**
SDDR				IAML		12 04 15.1	
	comp=N,20nm,1.3s						
SDDR				IAML		12 04 20.1	
	comp=N,19nm,0.6s						
REDR	**Restauracion**	**3.11**	**269⇑**	*e*Pg	**Pb**	**12 03 27.4**	**-1.7**
REDR				IAML		12 04 20.4	
	comp=N,9.8nm,1.1s						

*NEIC **04** 12:06:27.9±0.9, 19°.8S±0°.2×177°.4W±0°.1, h560km±11km, mb4.4/22, Error ellipse: s-maj=23.0km s-min=15.3km az=157.0*
*IDC **04** 12:06:28.9±2.0, 19°.74S×177°.53W, h560km±21km, mb3.1/8, mbtmp4.1/10, Error ellipse: s-maj=21.6km s-min=19.4km az=113.0*

ISC 04 12:06:27.5±0.6,**19°.8S**±0°.1×**177°.5W**±0°.1,**h550**km,**n41**, σ**0°.90**/43,**mb4.3**/18,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.71**	**295**	P	**P**	**12 07 57.1**	**+1.9**
MSVF	**Nonsavu**	**4.71**	**295**	P	**P**	**12 07 56.9**	**+1.7**
	11nm,0.4s,baz=144,slow=8.7,SNR=12						
NIUE	**Niue**	**7.16**	**85**	P	**P**	**12 08 17.0**	**-0.1**
AFI	**Afiamalu**	**8.01**	**44**	P	**P**	**12 08 24.4**	**-1.2**
URZ	**Urewera**	**18.98**	**193**	P	**P**	**12 10 14.6**	**+0.5**
	2.3nm,0.3s,baz=347,slow=2.6,SNR=9.0						
RTZ	**Ruatahuna**	**19.35**	**193**	P	**P**	**12 10 15.7**	**-2.0**
BKZ	**Black Stump Fm**	**19.98**	**194**	P	**P**	**12 10 22.5**	**-0.9**
THZ	**Tophouse**	**23.36**	**198**	P	**P**	**12 10 53.8**	**+0.2**
DSZ	**Denniston Nort**	**23.69**	**200**	P	**P**	**12 10 56.5**	**0.0**
EIDS	**Eidsvold**	**29.51**	**253**	P	**P**	**12 11 48.3**	**+0.4**
EIDS				IAmb	IAmb	12 12 03.4	
	comp=Z,9.4nm,1.1s						
ARMA	**Armidale**	**29.81**	**243**	P	**P**	**12 11 50.5**	**-0.1**
ARMA				IAmb	IAmb	12 12 24.3	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**38.04**	**273**	P	**P**	**12 12 59.0**	**-0.6**
STKA	**Stephens Creek**	**38.53**	**243**	P	**P**	**12 13 03.7**	**+0.3**
STKA				IAmb	IAmb	12 13 16.0	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**38.53**	**243**	P	**P**	**12 13 04.2**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=110,slow=13,SNR=4.0						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**43.30**	**243**	P	**P**	**12 13 41.4**	**+0.1**
BBOO				IAmb	IAmb	12 13 42.5	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**45.00**	**261**	P	**P**	**12 13 54.2**	**-0.4**
AS31	**Alice Springs**	**45.16**	**256**	P	**P**	**12 13 55.5**	**-0.3**
ASAR	**Alice Springs**	**45.16**	**256**	P	**P**	**12 13 55.5**	**-0.3**
ASAR				PcP	**PcP**	**12 15 23.2**	**-1.2**
ASAR	**Alice Springs**	**45.16**	**256**	P	**P**	**12 13 56.0**	**+0.2**
	comp=Z,3.7nm,0.5s,baz=88,slow=8.4,SNR=109						
ASAR				PcP	**PcP**	**12 15 24.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=105,slow=4.2,SNR=5.9						
	comp=Z,3.7nm,0.5s						
WB0	**Warramunga Arr**	**45.16**	**262**	P	**P**	**12 13 55.7**	**-0.1**
WB0				IAmb	IAmb	12 14 16.8	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**45.18**	**261**	P	**P**	**12 13 55.9**	**-0.1**
WB2				IAmb	IAmb	12 14 23.4	
	comp=Z,26nm,1.5s						
WRAB	**Tennant Creek**	**45.18**	**261**	P	**P**	**12 13 55.4**	**-0.6**
WRAB				IAmb	IAmb	12 14 12.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**45.19**	**261**	P	**P**	**12 13 55.5**	**-0.5**
WRA	**Warramunga Arr**	**45.19**	**261**	P	**P**	**12 13 55.8**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=98,slow=7.4,SNR=93						
	comp=Z,1.3nm,0.3s						
MTN	**Manton Dam**	**49.65**	**270**	P	**P**	**12 14 28.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**53.61**	**262**	P	**P**	**12 14 57.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.61**	**262**	P	**P**	**12 14 58.5**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=74,slow=2.9,SNR=13						
	comp=Z,2.3nm,0.5s						
PSA00	**Pilbara Seismi**	**58.30**	**256**	P	**P**	**12 15 29.5**	**-1.0**
PSA00				IAmb	IAmb	12 15 51.6	
	comp=Z,38nm,1.4s						
MBWA	**Marble Bar**	**58.49**	**257**	P	**P**	**12 15 31.1**	**-0.6**
MBWA				IAmb	IAmb	12 15 43.0	
	comp=Z,36nm,1.5s						
QSPA	**South Pole Qui**	**70.26**	**180**	P	**P**	**12 16 45.4**	**-0.1**
QSPA	**South Pole Qui**	**70.26**	**180**	P	**P**	**12 16 47.2**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=97,slow=0.6,SNR=6.7						
	comp=Z,0.9nm,0.7s						
M16K	**Timber Creek**	**81.92**	**9**	P	**P**	**12 17 50.0**	**+0.6**
M16K				IAmb	IAmb	12 18 14.8	
	comp=Z,12nm,1.3s						
K15K	**Wolf Creek Mou**	**82.80**	**7**	P	**P**	**12 17 53.2**	**-0.6**
K15K				IAmb	IAmb	12 18 11.8	
	comp=Z,15nm,1.4s						
TXAR	**Lajitas Array**	**86.27**	**57**	P	**P**	**12 18 13.3**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=251,slow=10.0,SNR=2.5						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**87.54**	**13**	P	**P**	**12 18 15.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=228,slow=5.4,SNR=6.7						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.35**	**289**	P	**P**	**12 18 32.6**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=106,slow=6.6,SNR=2.1						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**111.08**	**314**	PKiKP	**PKiKP**	**12 23 57.8**	**-1.0**
	comp=Z,0.4nm,1.0s,baz=60,slow=3.5,SNR=4.2						
BVAR	**Borovoye Array**	**118.87**	**320**	PKP	**PKPdf**	**12 24 12.7**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=75,slow=3.6,SNR=4.2						
ARCES	**ARCESS Array B**	**128.33**	**350**	PKP	**PKPdf**	**12 24 31.1**	**0.0**
	comp=Z,5.6nm,1.0s,baz=0,0,slow=1.3,SNR=4.2						
BRTR	**Keskin Array B**	**146.73**	**313**	PKPbc	**PKPbc**	**12 25 07.8**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=133,slow=5.4,SNR=4.6						
GERES	**GERESS Array B**	**149.67**	**345**	PKPbc	**PKPbc**	**12 25 15.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=57,slow=7.2,SNR=4.3						

*IDC **04** 12:13:27.6±0.7, 21°.11S×169°.72E, h60km±4km, mb4.3/14, mbtmp4.5/15, MS3.5/17, Error ellipse: s-maj=20.1km s-min=10.2km az=157.0*
*NEIC **04** 12:13:28.1±1.7, 20°.93S±0°.10×169°.65E±0°.09, h51km±8km, mb4.9/35, Error ellipse: s-maj=14.7km s-min=11.0km az=148.0*
*BJI **04** 12:13:29.0, 21°.00S×169°.60E, h70km, mB5.2/5, mb4.4/20, Ms4.9/4, Ms7 4.5/3*
*NOU **04** 12:13:30.8, 21°.00S×169°.47E, h64km, mb4.8/30, Vanuatu Islands*

ISC 04 12:13:28.9±0.5,**21°.05S**±0°.05×**169°.64E**±0°.05,**h66**km±4km, **h65**km:**pP-P**,**n176**,σ**1°.27**/175,**mb4.8**/39,**6C-2D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.56**	**254**	P	**Pn**	**12 13 54.2**	**-0.3**
MARNC	**Mare, Loyalty**	**1.56**	**254**	S	**Sn**	**12 14 13.4**	**-0.5**
YATNC	**Mamie plateau,**	**2.75**	**248**	P	**Pn**	**12 14 09.6**	**-1.0**
OUENC	**Ouen Island, N**	**2.94**	**242**	P	**Pn**	**12 14 13.5**	**+0.3**
DZM	**Mont Dzumac**	**3.14**	**251**	Pn	**Pn**	**12 14 16.2**	**+0.2**
DZM				Sn	**Sn**	**12 14 51.5**	**-0.9**
DZM	**Mont Dzumac**	**3.14**	**251**	*e*Pn	**Pn**	**12 14 14.2**	**-1.9**
	887nm,0.7s						
DZM				*e*Sn	**Sn**	**12 14 50.2**	**-2.3**
DZM				*e*LR	LR	12 14 53.9	
	875nm,26.1s						
DZM	**Mont Dzumac**	**3.14**	**251**	P	**Pn**	**12 14 15.6**	**-0.5**
	308nm,0.4s,baz=84,slow=9.1,SNR=891						
DZM				S	**Sn**	**12 14 51.9**	**-0.5**
	669nm,0.3s,baz=126,slow=23,SNR=20						
DZM				LR	LR	12 15 06.8	
	comp=Z,214nm,19.8s,baz=95,slow=31						
DZM	**Mont Dzumac**	**3.14**	**251**	P	**Pn**	**12 14 16.3**	**+0.2**
DZM	**Mont Dzumac**	**3.14**	**251**	S	**Sn**	**12 14 52.0**	**-0.5**
ONTNC	**Ouen Toro**	**3.21**	**247**	Pn	**Pn**	**12 14 17.2**	**+0.3**
ONTNC				Sn	**Sn**	**12 14 52.9**	**-1.3**
ONTNC	**Ouen Toro**	**3.21**	**247**	P	**Pn**	**12 14 17.3**	**+0.3**
ONTNC	**Ouen Toro**	**3.21**	**247**	S	**Sn**	**12 14 53.9**	**-0.2**
DVP	**Devils Point**	**3.58**	**337**	P	**Pn**	**12 14 23.0**	**+1.0**
SANVU	**Saraoutou**	**6.03**	**337**		**Pn**	**12 14 52.2**	**-3.3**
SANVU	**Saraoutou**	**6.03**	**337**	P	**Pn**	**12 14 54.4**	**-1.2**
NFK	**Norfolk Island**	**8.11**	**191**	P	**Pn**	**12 15 23.6**	**-0.3**
NFK				S	**Sn**	**12 16 50.5**	**-3.5**
MSVF	**Nonsavu**	**8.60**	**69**		**Pn**	**12 15 29.1**	**-1.7**
MSVF	**Nonsavu**	**8.60**	**69**	P	**Pn**	**12 15 34.6**	**+3.8**
	95nm,1.1s,baz=234,slow=10,SNR=20						
MSVF				LR	LR	12 18 13.1	
	comp=Z,281nm,20.1s,baz=270,slow=33						
OUZ	**Omahuta**	**14.54**	**167**	P	**Pn**	**12 16 53.8**	**+2.7**
OUZ	**Omahuta**	**14.54**	**167**	P	**Pn**	**12 16 52.6**	**+1.6**
HNR	**Honiara**	**14.85**	**320**	LR	LR	12 22 32.3	
	comp=Z,81nm,18.5s,baz=188,slow=36						
TOZ	**Tahuroa Road**	**17.38**	**164**	P	**Pn**	**12 17 26.8**	**-0.2**
EIDS	**Eidsvold**	**17.59**	**252**		**Pn**	**12 17 29.5**	**0.0**
EIDS	**Eidsvold**	**17.59**	**252**	P	**Pn**	**12 17 29.4**	**-0.2**
HIZ	**Hauiti**	**17.98**	**167**		**Pn**	**12 17 35.8**	**+1.6**
HIZ	**Hauiti**	**17.98**	**167**	P	**Pn**	**12 17 36.5**	**+2.3**
HAZ	**Te Kaha**	**18.08**	**159**	P	**Pn**	**12 17 37.8**	**+2.3**
PKGZ	**Pakihiroa**	**18.28**	**158**	P	**Pn**	**12 17 40.2**	**+2.3**
URZ	**Urewera**	**18.32**	**161**	P	**Pn**	**12 17 40.4**	**+2.0**
	8.5nm,0.7s,baz=33,slow=2.3,SNR=11						
URZ				LR	LR	12 23 37.8	
	comp=Z,169nm,19.1s,baz=65,slow=33						
URZ	**Urewera**	**18.32**	**161**	P	**Pn**	**12 17 41.3**	**+2.9**
URZ	**Urewera**	**18.32**	**161**	P	**Pn**	**12 17 40.6**	**+2.2**
WMGZ	**Waiomatatini S**	**18.36**	**157**	P	**Pn**	**12 17 40.0**	**+1.2**
MWZ	**Matawai**	**18.52**	**160**	P	**Pn**	**12 17 42.8**	**+1.9**
PUZ	**Puketiti**	**18.53**	**158**	P	**Pn**	**12 17 41.5**	**+0.6**
TWGZ	**Tauwhareparae**	**18.53**	**159**	P	**Pn**	**12 17 42.4**	**+1.5**
RTZ	**Ruatahuna**	**18.61**	**162**		**P**	**12 17 42.2**	**+1.1**
ARMA	**Armidale**	**18.69**	**236**		**Pn**	**12 17 43.6**	**+0.6**
CNGZ	**Carnagh Statio**	**18.88**	**159**	P	**P**	**12 17 44.8**	**+1.0**
RIGZ	**Rimuhau**	**18.94**	**160**	P	**P**	**12 17 45.8**	**+1.3**
BKZ	**Black Stump Fm**	**18.99**	**163**	P	**Pn**	**12 17 46.6**	**+0.2**
BKZ	**Black Stump Fm**	**18.99**	**163**	P	**Pn**	**12 17 46.7**	**+0.2**
AFI	**Afiamalu**	**19.09**	**71**	P	**Pn**	**12 17 50.0**	**+2.2**
PXZ	**Pawanui**	**19.90**	**164**	P	**Pn**	**12 17 58.0**	**+0.9**
BFZ	**Birch Farm**	**20.36**	**165**	P	**P**	**12 18 01.4**	**+1.4**
THZ	**Tophouse**	**20.83**	**173**	P	**P**	**12 18 07.4**	**+2.3**
CNB	**Canberra Magne**	**22.77**	**227**	P	**P**	**12 18 28.0**	**+2.1**
CMSA	**Cobar Meteorol**	**23.82**	**239**	P	**P**	**12 18 37.5**	**+1.6**
QLP	**Quilpie**	**23.86**	**252**	P	**P**	**12 18 37.1**	**+0.8**
PMG	**Port Moresby**	**24.55**	**295**	P	**P**	**12 18 43.4**	**+0.8**
	30nm,0.9s,baz=91,slow=9.3,SNR=4.4						
PMG				LR	LR	12 27 26.4	
	comp=Z,156nm,18.1s,baz=118,slow=34						
	30nm,0.9s						
STKA	**Stephens Creek**	**27.25**	**241**	P	**P**	**12 19 07.6**	**+0.7**
	5.1nm,0.6s,baz=88,slow=11,SNR=7.8						
	5.1nm,0.6s						
MOO	**Moorlands**	**28.46**	**216**	P	**P**	**12 19 19.2**	**+1.6**
MOO	**Moorlands**	**28.46**	**216**	P	**P**	**12 19 19.2**	**+1.6**
RAR	**Rarotonga**	**28.51**	**96**	LR	LR	12 28 30.2	
	comp=Z,51nm,20.4s,baz=269,slow=32						
LCRK	**Leigh Creek**	**29.73**	**245**	P	**P**	**12 19 30.1**	**+1.2**
HTT	**Hallett**	**29.85**	**239**	P	**P**	**12 19 31.2**	**+1.1**
WRA	**Warramunga Arr**	**33.04**	**266**	P	**P**	**12 19 58.0**	**-0.3**
	4.0nm

HHC pmax pmax
comp=Z,69nm,4.1s
HHC LR LR
comp=Z,140nm,14.3s
HHC LR LR
comp=Z,120nm,14.3s
SYO Syowa Base 83.31 196 ⇑*iP* **P 12 25 47.6 -0.5**
ELIB Princess Elisa 84.43 190 *dP* **P 12 25 52.3 -1.7**
comp=Z,8.0nm,0.9s
ELIB *dp*P **pP 12 26 12.2 +0.7**
TROLL Troll, Antarti 86.76 184 P **P 12 26 04.7 -0.8**
TROLL Troll, Antarti 86.76 184 ⇑P **P 12 26 04.7 -0.8**
comp=Z,609nm,0.7s
SNAA Sanae 87.38 182 P **P 12 26 07.3 -1.1**
SNAA Sanae 87.38 182 P **P 12 26 07.3 -1.1**
SNAA IAmb IAmb 12 26 07.6
comp=Z,8.2nm,1.0s
SNAA Sanae 87.38 182 ⇑P **P 12 26 07.3 -1.1**
comp=Z,104nm,0.7s
SNAA Sanae 87.38 182 P **P 12 26 06.9 -1.5**
comp=Z,5.9nm,1.0s,baz=220,slow=8.8,SNR=10.0
comp=Z,5.9nm,1.0s
O02D Mt. Diablo Mer 87.50 45 P **P 12 26 10.3 +0.8**
O02D IAmb IAmb 12 26 11.0
comp=Z,9.4nm,0.8s
VNA3 Neumayer Olymp 87.95 180 P **P 12 26 09.8 -1.4**
VNA3 Neumayer Olymp 87.95 180 ⇑P **P 12 26 09.8 -1.4**
comp=Z,16nm,0.7s
AFDM Forest Hills D 88.12 47 P **P 12 26 12.4 0.0**
AFDM IAmb IAmb 12 26 13.9
comp=Z,6.3nm,0.8s
VNA2 Neumayer--Watz 88.25 181 P **P 12 26 11.5 -1.0**
baz=168,slow=6.2
VNA2 Neumayer--Watz 88.25 181 ⇑P **P 12 26 11.5 -1.0**
comp=Z,17nm,0.6s,baz=168,slow=6.2
ULN Ulaanbaatar 88.53 323 P **P 12 26 14.7 +0.4**
ULN IAmb IAmb 12 26 15.1
comp=Z,2.5nm,0.7s
VNA1 Neumayer--Stat 88.54 181 P **P 12 26 12.9 -0.9**
VNA1 Neumayer--Stat 88.54 181 ⇑P **P 12 26 12.9 -0.9**
comp=Z,15nm,1.0s
GTA Gaotai 88.64 313 *e*P **P 12 26 16.0 +1.0**
GTA sP sP 12 26 44.8 +5.3
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=Z,120nm,15.1s
GTA LR LR
comp=Z,65nm,14.7s
GTA LR LR
comp=Z,61nm,18.3s
SONM Songino Array 88.89 323 P **P 12 26 15.7 -0.2**
comp=Z,0.9nm,0.6s,baz=133,slow=3.9,SNR=12
comp=Z,0.9nm,0.6s
DSP Deep Springs 89.47 49 P **P 12 26 18.4 -0.3**
DSP IAmb IAmb 12 26 19.3
comp=Z,6.4nm,0.8s
I04A Tendick Farm, 89.56 42 P **P 12 26 19.0 -0.1**
NVAR Mina Array Bea 89.72 48 P **P 12 26 20.3 +0.2**
NVAR Mina Array Bea 89.72 48 P **P 12 26 20.2 0.0**
comp=Z,5.7nm,0.7s,baz=224,slow=8.4,SNR=17
comp=Z,5.7nm,0.7s
NV11 Mina Array Sit 89.82 48 P **P 12 26 20.4 -0.1**
NV11 IAmb IAmb 12 26 21.2
comp=Z,7.4nm,0.7s
J05D Fort Rock, OR 90.05 43 P **P 12 26 21.5 0.0**
H04A Detroit Lake 90.14 41 P **P 12 26 21.4 -0.4**
H04A IAmb IAmb 12 26 26.4
comp=Z,5.5nm,0.7s
WCT Wildcat Mounta 90.17 50 P **P 12 26 22.4 +0.2**
WCT IAmb IAmb 12 26 22.8
comp=Z,5.7nm,0.8s
PINE Pine Mountain 90.49 43 P **P 12 26 23.4 -0.2**
SHPR Sheep Range 91.11 51 IAmb IAmb 12 26 27.7
comp=Z,3.9nm,1.4s
WVOR Wild Horse Val 91.33 45 IAmb IAmb 12 26 28.2
comp=Z,9.1nm,1.3s
W13A Hualapai Mount 91.45 53 IAmb IAmb 12 26 29.7
comp=Z,5.7nm,1.2s
ILAR Eielson Array 91.84 17 P **P 12 26 27.7 -1.4**
comp=Z,0.4nm,0.8s,baz=240,slow=4.7,SNR=11
ILAR LR LR 13 06 07.5
comp=Z,26nm,19.8s,baz=62,slow=34
comp=Z,0.4nm,0.8s
J08A Circle Bar Ran 91.86 44 P **P 12 26 30.1 +0.2**
G08A Pilot Rock 92.44 42 IAmb IAmb 12 26 33.0
comp=Z,4.6nm,0.7s
LCMT Little Creek M 92.71 51 IAmb IAmb 12 26 38.6
comp=Z,3.8nm,1.3s
ELK Elko 92.86 47 P **P 12 26 34.3 -0.4**
ELK IAmb IAmb 12 26 35.9
comp=Z,2.9nm,1.1s
X16A Lo Mia Camp, P 93.01 54 IAmb IAmb 12 26 36.9
comp=Z,4.8nm,1.0s
PLCA Paso Flores 96.94 138 P **P 12 26 51.5 -1.9**
comp=Z,1.3nm,0.8s,baz=234,slow=6.9,SNR=3.5
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 97.30 62 P **P 12 26 54.4 -0.7**
comp=Z,0.4nm,0.9s,baz=226,slow=4.9,SNR=3.8
comp=Z,0.4nm,0.9s
PDAR Pinedale Array 97.57 47 P **P 12 26 56.0 -0.2**
comp=Z,0.3nm,0.5s,baz=212,slow=5.3,SNR=4.5
comp=Z,0.3nm,0.5s
MKAR Makanchi Array 103.28 315 Pdiff **Pdif 12 27 22.8 +1.5**
comp=Z,0.2nm,0.5s,baz=93,slow=7.5,SNR=3.5
BVAR Borovoye Array 112.04 320 PKiKP **PKiKP 12 31 55.1 -1.2**
comp=Z,1.0nm,0.5s,baz=112,slow=1.6,SNR=5.0
BOSA Boshof 119.83 216 PKP **PKPdf 12 32 11.2 -1.2**
comp=Z,2.4nm,0.9s,baz=191,slow=7.7,SNR=3.8
SPITS Spitsbergen Ar 121.43 354 PKP **PKPdf 12 32 12.5 -1.3**
comp=Z,12nm,0.9s,baz=68,slow=9.1,SNR=4.7
ARCES ARCESS Array B 126.91 345 PKP **PKPdf 12 32 22.6 -1.8**
comp=Z,2.3nm,0.5s,baz=66,slow=2.3,SNR=14
FINES FINESS Array B 132.40 337 PKP **PKPdf 12 32 33.4 -1.6**
comp=Z,2.1nm,0.7s,baz=78,slow=3.1,SNR=9.8
FINES SKPbc **SKPbc 12 35 54.6 -1.6**
comp=Z,4.6nm,0.8s,baz=88,slow=4.8,SNR=10
AKASG Malin Array Be 137.17 323 PKP **PKPdf 12 32 43.0 -1.3**
comp=Z,1.1nm,0.5s,baz=50,slow=2.1,SNR=5.4
AKASG SKPbc **SKPbc 12 36 10.2 -1.6**
comp=Z,3.5nm,0.9s,baz=48,slow=3.4,SNR=9.4
NOA NORSAR Array B 137.28 345 PKP **PKPdf 12 32 41.7 -2.6**
comp=Z,0.9nm,0.8s,baz=34,slow=1.9,SNR=3.2
BRTR Keskin Array B 138.20 307 PKP **PKPdf 12 32 47.4 +0.6**
comp=Z,0.6nm,0.8s,baz=96,slow=10,SNR=3.9
BRTR SKPbc **SKPbc 12 36 15.8 +0.4**
comp=Z,0.3nm,0.5s,baz=162,slow=4.7,SNR=4.2
MORC Moravsky Berou 143.81 329 *e*PKP PKPbc 12 32 54.9 +0.7
DPC Dobruska-Polom 143.98 331 *e*PKP PKPbc 12 32 54.8 +0.1
JAVC Velka Javorina 144.35 328 *e*PKP **PKPdf 12 32 57.2 -0.2**
VRAC Vranov 144.58 329 *e*PKP **PKPab 12 32 56.3 -0.1**
BRG Berggiesshubel 144.65 333 *e*PKP **PKPab 12 32 56.4 -0.2**
BRG Amp 12 32 57.2
comp=Z,10nm,0.8s
CLL Collm 144.71 334 *i* PKPbc **PKPab 12 32 56.3 -0.5**
comp=Z,9.0nm,0.7s
CLL *ep*PKPdf **pPKPdf 12 33 12.0 -4.4**
KRUC Moravsky 144.84 329 *e*PKP **PKPab 12 32 57.0 -0.3**
MODS Modra-Piesok 144.87 327 *e*PKP PKPbc 12 32 58.0 +0.5
EKA Eskdalemuir Ar 145.34 353 PKPbc **PKPbc 12 32 57.5 -1.3**
comp=Z,6.5nm,0.7s,baz=1.2,slow=2.3,SNR=15
EKA pPKPbc pPKPab 12 33 14.6 -2.4
comp=Z,2.9nm,0.7s,baz=352,slow=1.4,SNR=3.0
ZVC Zvikov 145.60 331 *e*PKP **PKPdf 12 32 59.7 +0.2**
RONA Rosalia, Austr 145.81 327 *i* PKP **PKPbc 12 33 00.6 +0.1**
comp=Z,8.0nm,0.6s
CONA Conrad Observa 145.87 328 *e*PKP **PKPdf 12 33 00.4 +0.3**
comp=Z,7.4nm,0.7s
CKRC Cesky Krumlov 145.99 330 *e*PKP **PKPbc 12 33 01.1 0.0**
KHC Kasperske Hory 146.10 331 x x 12 28 50.0
KHC *e*PKP **PKPbc 12 33 01.4 0.0**
GERES GERESS Array B 146.25 331 PKPbc **PKPbc 12 33 01.7 -0.3**
comp=Z,9.1nm,0.6s,baz=33,slow=3.2,SNR=39
GERES pPKPbc **pPKPdf 12 33 18.2 -1.1**
comp=Z,2.0nm,0.7s,baz=69,slow=7.3,SNR=2.9
GERES SKPbc **SKPbc 12 36 34.1 -1.1**
comp=Z,1.8nm,0.9s,baz=104,slow=4.3,SNR=4.0
ARSA Arzberg 146.50 327 *e*PKP **PKPab 12 33 03.5 -0.2**
comp=Z,1.8nm,0.5s
GRF Grafenberg Arr 146.68 334 *e*PKP **PKPbc 12 33 02.8 -0.3**
baz=39,slow=2.6
BIOA Bad Ischl, Aus 147.12 330 *e*PKP **PKPdf 12 33 03.5 +1.4**
comp=Z,5.6nm,0.8s
SOKA Soboth 147.14 327 *e*PKP **PKPbc 12 33 03.8 -0.7**
comp=Z,5.5nm,0.7s
KBA Koelnbreinsper 147.69 329 *i* PKP **PKPdf 12 33 05.0 +1.6**
comp=Z,5.6nm,0.8s,SNR=6.5
LESA Schwarzleotal 147.76 330 *e*PKP **PKPbc 12 33 05.4 -0.8**
comp=Z,10nm,0.5s,SNR=9.8
MYKA Terra Mystica 147.87 328 *i* PKP **PKPbc 12 33 05.3 -1.2**
comp=Z,4.3nm,0.5s,SNR=4.4
ABTA Abfaltersbach 148.33 329 *i* PKP **PKPbc 12 33 06.4 -1.4**
comp=Z,12nm,0.9s
WATA Walderalm 148.33 331 *e*PKP **PKPbc 12 33 06.6 -1.2**
comp=Z,6.8nm,0.8s
WTTA Wattenberg 148.36 331 *i* PKP **PKPbc 12 33 07.0 -0.9**
comp=Z,3.2nm,0.4s
MOTA Moosalm 148.53 332 *i* PKP **PKPbc 12 33 07.2 -1.2**
comp=Z,19nm,1.1s
RETA Reutte 148.58 332 *e*PKP **PKPbc 12 33 07.8 -0.5**
comp=Z,3.8nm,0.6s
SQTA Sankt Quirin 148.58 331 *i* PKP **PKPbc 12 33 07.7 -0.7**
comp=Z,15nm,0.5s,SNR=5.7
FETA Feichten 148.95 331 *i* PKP **PKPbc 12 33 08.9 -0.5**
comp=Z,10nm,0.7s
DAVA Damuels 149.11 333 *e*PKP **PKPbc 12 33 09.3 -0.5**
comp=Z,1.9nm,0.5s
FUORN Ofenpass-Fuorn 149.46 331 PKPbc 12 33 10.6 -0.2
FDMO Fiordimonte 150.59 324 PKPbc **PKPbc 12 33 13.2 -0.1**
NRCA Norcia 150.71 323 PKPbc **PKPbc 12 33 13.1 -0.7**
CAMP Campotosto 150.73 322 PKPbc **PKPbc 12 33 12.8 -1.1**
SENIN Lac Senin/Sane 150.92 334 PKPbc **PKPbc 12 33 13.8 -0.5**
DBIC Dimbokro 164.74 201 PKPab **PKPab 12 34 21.8 0.0**
comp=Z,5.8nm,0.7s,baz=164,slow=4.9,SNR=8.2
TORD Torodi Ar. Bea 166.06 238 PKPab **PKPab 12 34 27.1 -0.7**
comp=Z,1.0nm,1.0s,baz=101,slow=3.8,SNR=3.6

*BUT **04** 12:28:19.8±1.8, 46°.89N±0°.04×112°.50W±0°.06, h11km±6km, Error ellipse: s-maj=7.2km s-min=4.0km az=223.0*
NEIC 04 12:28:20.1±1.1, 46°.92N±0°.03×112°.49W±0°.04, h8km±8km, ML2.5/20, ML2.8/16(BUT), Error ellipse: s-maj=5.4km s-min=2.4km az=218.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.14**	**68**	Pg	Pg	12 28 23.6	+0.2
HRY	**Holter Researc**	**0.49**	**114**	Pg	Pg	12 28 29.4	-0.3
MSO	**Missoula**	**1.00**	**266**		Pg	12 28 38.6	-0.8
LRM	**Limekiln Ridge**	**1.09**	**179**		Pg	12 28 40.1	-1.1
BOZ	**Bozeman (W)**	**1.45**	**155**		Pn	12 28 46.5	-0.3
DLMT	**Dillon**	**1.56**	**183**		Pn	12 28 48.5	+0.3
DLMT	**Dillon**	**1.56**	**183**	IAML		12 29 09.5	
DLMT	59nm,0.5s			IAML		12 29 14.2	
	58nm,0.9s						
MCMT	**McKenzie Canyo**	**2.10**	**187**		Pn	12 28 57.2	+1.4
EGMT	**Eagleton**	**2.16**	**58**		Pn	12 28 57.4	+0.9
QLMT	**Earthquake Lak**	**2.21**	**160**		Pb	12 28 59.0	-1.4
GCMT	**Greycliff**	**2.25**	**119**		Pb	12 29 01.1	0.0
YHL	**Hebgen Lake**	**2.26**	**156**		Pb	12 29 01.2	-0.1
YHL	**Hebgen Lake**	**2.26**	**156**	IAML		12 29 35.0	
	comp=E,33nm,1.0s						
MKRVA	**Milk River, Al**	**2.28**	**12**		Pb	12 29 00.3	-1.2
YHB	**Horse Butte**	**2.35**	**157**		Pn	12 29 00.6	+1.4
YHB				IAML		12 29 38.0	
	comp=N,21nm,0.4s						
YMR	**Madison River**	**2.49**	**154**	Pn	Pn	12 29 01.2	+0.2
YMR				IAML		12 29 42.1	
	comp=E,23nm,1.3s						
YNE	**Yellowstone No**	**2.58**	**137**	IAML		12 29 41.9	
	comp=N,23nm,0.4s						
YNE				IAML		12 29 43.1	
	comp=E,16nm,0.3s						
YMP	**Mirror Lake Pl**	**2.72**	**142**	Pn	Pb	12 29 08.1	-1.0
YMP				IAML		12 29 49.0	
	comp=N,17nm,1.8s						
YMP				IAML		12 29 49.2	
	comp=E,18nm,0.5s						
FXWY	**Fox Creek**	**3.44**	**162**		Pb	12 29 22.2	+0.9
FXWY				IAML		12 30 53.3	
	comp=E,8.2nm,5.0s						

NNC 04 12:30:41.8±8.8, 38°.19N×70°.80E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=64.2km s-min=36.5km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.91**	**358**	Pg	Pb	12 32 12.1	+3.4
	0.9nm,0.2s,baz=184,slow=12,SNR=20						
KK31				Lg	Lg	12 33 19.7	
	6.9nm,0.6s,baz=178,slow=31,SNR=8.4						
CHMS	**Chumysh**	**5.67**	**31**	⇑Pg	Pb	12 32 25.3	+3.7
	1.9nm,0.4s						
CHMS				⇓Lg	Lg	12 33 38.9	
	6.2nm,0.8s						
TKM2	**Tokmak 2**	**5.97**	**36**	⇓Pg	Pb	12 32 30.3	+3.4
	1.7nm,0.4s						
TKM2				⇑Lg	Lg	12 33 49.8	
	1.9nm,0.8s						

*NNC **04** 12:33:38.1±3.2, 37°.50N×70°.36E, h200km±41km, mb3.6, mpv4.7, Error ellipse: s-maj=29.4km s-min=18.5km az=26.0*
*IDC **04** 12:33:39.6±0.9, 38°.26N×70°.59E, h0km, mb4.0/16, mbtmp4.1/22, ML3.8/5, MS3.2/13, Error ellipse: s-maj=16.4km s-min=11.9km az=166.0*
*MOS **04** 12:33:40.0±0.9, 38°.28N×70°.54E, h13km, mb4.5/12, Error ellipse: s-maj=7.3km s-min=4.2km az=75.3*
*NEIC **04** 12:33:43.3±2.6, 38°.52N±0°.04×70°.55E±0°.05, h10km±1km, mb4.4/5, Error ellipse: s-maj=7.0km s-min=6.7km az=137.0*
ISC 04 12:33:44.1±0.4, 38°.40N±0°.03×70°.52E±0°.04, h23km, n139, σ2S26/144, mb4.2/28, MS3.2/9, 11C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.10**	**284**		**Pn**	**12 34 04.0**	**-0.1**
CHGR	**Chuyangaron**	**1.10**	**284**	PG	**Pn**	**12 34 04.0**	**-0.1**
SIMJ	**Simiganj**	**1.21**	**283**		**Pn**	**12 34 06.0**	**+0.3**
DRK	**Karamyk**	**1.47**	**42**		**Pn**	**12 34 07.8**	**-1.7**
DRK	**Karamyk**	**1.47**	**42**	P*	**Pn**	**12 34 07.8**	**-1.7**
BTK	**Batken**	**1.67**	**8**	Pn	**Pn**	**12 34 11.4**	**-0.6**
BTK	**Batken**	**1.67**	**8**	PN	**Pn**	**12 34 11.4**	**-0.6**
ARSB	**Arslanbob**	**3.48**	**32**		**Pn**	**12 34 36.8**	**-0.2**
ARSB	**Arslanbob**	**3.48**	**32**	PN	**Pn**	**12 34 36.8**	**-0.2**
IUG	**Iuzhnay**	**3.76**	**354**	*e*PN	**Pn**	**12 34 42.6**	**+1.8**
IUG				*e*S	**Sn**	**12 35 28.9**	**+4.5**
IUG	**Iuzhnay**	**3.76**	**354**	*e*P	**Pn**	**12 34 42.6**	**+1.8**
IUG				*e*S	**Sn**	**12 35 28.9**	**+4.5**
KBL	**Kabul**	**4.03**	**198**	Pn	**Pb**	**12 34 51.6**	**-2.9**
KBL	**Kabul**	**4.03**	**198**	PN	**Pb**	**12 34 51.6**	**-2.9**
KSH	**Kashi**	**4.39**	**74**	Pn	**Pn**	**12 34 48.6**	**-0.9**
KSH				Sn	**Sn**	**12 35 36.6**	**-3.4**
KSH				smax	smax		
	comp=N,220nm,0.7s						
KSH				smax	smax		
	comp=E,250nm,1.0s						
AML	**Almayashu**	**4.45**	**32**	P	Pb	12 34 56.9	-4.8
	SNR=80						
DZA	**Taraz**	**4.53**	**8**	*e*PN	**Pn**	**12 34 52.7**	**+1.5**
DZA	**Taraz**	**4.53**	**8**	*e*P	**Pn**	**12 34 52.8**	**+1.5**
BRLS	**Borolday**	**4.66**	**354**	*e*PN	**Pn**	**12 34 51.7**	**-1.2**
BRLS	**Borolday**	**4.66**	**354**	*e*P	**Pn**	**12 34 51.8**	**-1.2**
BRLS				*e*S	**Sn**	**12 35 45.3**	**-1.0**
KK31	**Karatay Array**	**4.70**	**360**	Pn	**Pn**	**12 34 54.9**	**+1.3**
KK31	**Karatay Array**	**4.70**	**360**	⇓P	Pn	12 34 58.7	+5.1
	comp=E,13nm,0.3s,baz=183,slow=12,SNR=110						
KK31				⇓S	**Sb**	**12 36 06.2**	**+4.3**
	comp=E,233nm,1.0s,baz=184,slow=24,SNR=7.8						
KK31	**Karatay Array**	**4.70**	**360**	PN	Pn	12 34 58.7	+5.1
KK31				S	**Sb**	**12 36 06.2**	**+4.3**
KKAR	**Karatay Array**	**4.70**	**360**	Pn	**Pn**	**12 34 55.1**	**+1.5**
KKAR	**Karatay Array**	**4.70**	**360**	Pn	**Pn**	**12 34 54.7**	**+1.1**
KKAR	**Karatay Array**	**4.70**	**360**	PN	**Pn**	**12 34 55.1**	**+1.5**
EKS2	**Erkin-Say**	**4.93**	**29**	P	Pn	12 35 01.8	+4.9
	SNR=48						
AAK	**Ala-Archa**	**5.21**	**34**	Pn	**Pn**	**12 35 02.3**	**+1.7**
	comp=E,9.3nm,0.3s,baz=211,slow=11,SNR=54						
AAK				Sn	**Sn**	**12 35 56.9**	**-3.1**
	comp=E,1.3nm,0.3s,baz=252,slow=20,SNR=1.3						
AAK				Lg	Lg	12 36 25.4	
	comp=E,3.2nm,0.3s,baz=0.0,slow=20,SNR=2.2						
AAK				LR	LR	12 37 18.1	
	comp=E,60nm,21.1s,baz=348,slow=41						
	comp=E,32nm,0.6s						
AAK	**Ala-Archa**	**5.21**	**34**	P	**Pn**	**12 35 02.7**	**+2.0**
	SNR=40						
AAK	**Ala-Archa**	**5.21**	**34**	*ce*PN	**Pn**	**12 35 02.5**	**+1.8**
AAK				pmax	pmax		
	comp=Z,60nm,0.7s						
KBK	**Karagaybulak**	**5.43**	**37**	P	Pn	12 35 09.3	+5.5
	SNR=69						
CHMS	**Chumysh**	**5.61**	**34**	P	Pn	12 35 11.7	+5.6
	SNR=25						
CHMS	**Chumysh**	**5.61**	**34**	⇓P	Pn	12 35 11.1	+5.0
CHMS				⇓S	**Sb**	**12 36 24.1**	**-3.9**
	comp=Z,96nm,0.8s						
CHMS	**Chumysh**	**5.61**	**34**	PN	Pn	12 35 11.6	+5.5
BOOM	**Boomskoye usch**	**5.81**	**44**		**Pn**	**12 35 11.3**	**+2.3**
BOOM	**Boomskoye usch**	**5.81**	**44**	PN	**Pn**	**12 35 11.3**	**+2.3**
ULHL	**Ulahol**	**5.82**	**47**	P	Pn	12 35 13.6	+4.4
	SNR=6.8						
SGDS	**Sogindy**	**5.93**	**30**	*e*PN	**Pn**	**12 35 12.1**	**+1.6**
SGDS				*e*S	**Sn**	**12 36 21.0**	**+3.3**
SGDS	**Sogindy**	**5.93**	**30**	*e*P	**Pn**	**12 35 12.2**	**+1.6**
SGDS				*e*S	**Sn**	**12 36 21.1**	**+3.3**
TKM2	**Tokmak 2**	**5.94**	**39**	P	Pn	12 35 15.9	+5.1
	SNR=41						
TKM2	**Tokmak 2**	**5.94**	**39**	⇑P	Pn	12 35 15.3	+4.5
	comp=Z,54nm,0.8s						
TKM2				⇑S	**Sb**	**12 36 32.9**	**-4.9**
	comp=Z,43nm,0.8s						
TKM2	**Tokmak 2**	**5.94**	**39**	PN	Pn	12 35 15.3	+4.5
KDJ	**Kajisay**	**6.31**	**52**	Pn	**Pn**	**12 35 15.9**	**0.0**
KDJ	**Kajisay**	**6.31**	**52**	PN	**Pn**	**12 35 15.9**	**0.0**
TARG	**Taragay, Kyrgy**	**6.50**	**57**		**Pn**	**12 35 19.2**	**+0.5**
TARG	**Taragay, Kyrgy**	**6.50**	**57**	PN	**Pn**	**12 35 19.2**	**+0.5**
JMU	**Jammu**	**6.70**	**146**	*e*S	**Sn**	**12 36 40.1**	**+3.6**
AAA	**Alma-Ata**	**6.83**	**43**	*e*PN	**Pn**	**12 35 23.8**	**+1.0**
AAA	**Alma-Ata**	**6.83**	**43**	*e*P	**Pn**	**12 35 23.8**	**+1.0**
MDOK	**Medeo**	**6.87**	**44**	*e*PN	**Pn**	**12 35 24.2**	**+0.8**
MDOK	**Medeo**	**6.87**	**44**	*e*P	**Pn**	**12 35 24.3**	**+0.8**
BTLS	**Baital**	**7.14**	**21**	*e*P	**Pn**	**12 35 28.7**	**+1.7**
BTLS				*e*S	**Sn**	**12 36 51.1**	**+3.7**
BTLS	**Baital**	**7.14**	**21**	*e*P	**Pn**	**12 35 28.8**	**+1.7**
BTLS				*e*S	**Sn**	**12 36 51.2**	**+3.7**
WUS	**Wushi**	**7.26**	**65**		**Pn**	**12 35 30.1**	**+1.3**
THN	**Thein Dam**	**7.31**	**143**	*e*P	Pn	12 35 35.0	+5.6
THN				*e*S	Sn	12 36 58.8	+7.3
THN				IAML		12 37 02.8	
	comp=E,164nm,0.5s						
THN				IAML		12 37 07.1	
	comp=N,170nm,0.7s						
SATY	**Saty**	**7.58**	**50**	*e*P	**Pn**	**12 35 33.0**	**-0.3**
SATY	**Saty**	**7.58**	**50**	*e*P	**Pn**	**12 35 33.0**	**-0.3**
DHRM	**DHARAMSHALA**	**7.74**	**141**	*e*P	Pn	12 35 40.7	+5.1
DHRM				*e*S	Sn	12 37 09.9	+7.3
DHRM				IAML		12 37 19.6	
	comp=E,125nm,0.7s						
DHRM				IAML		12 37 20.5	
	comp=N,154nm,0.6s						
HRA	**Herat**	**7.78**	**242**		**Pn**	**12 35 38.7**	**+2.6**
KPKS	**Kokpek**	**7.99**	**48**	*e*P	**Pn**	**12 35 38.9**	**+0.2**
KPKS	**Kokpek**	**7.99**	**48**	*e*P	**Pn**	**12 35 39.0**	**+0.2**
SHLS	**Shalkode**	**8.28**	**52**	*e*P	**Pn**	**12 35 46.2**	**+3.4**
SHLS	**Shalkode**	**8.28**	**52**	*e*P	**Pn**	**12 35 46.2**	**+3.4**
SMLA	**Simla**	**9.08**	**141**	*e*P	Pn	12 35 57.1	+3.4
SMLA				*e*S	**Sn**	**12 37 37.4**	**+2.2**
SMLA				IAML		12 37 53.0	
	comp=N,152nm,0.6s						
SMLA				IAML		12 37 53.0	
	comp=E,153nm,0.5s						
KLP	**Kalpa**	**9.33**	**135**	*e*P	Pn	12 36 00.5	+3.0
KLP				*e*S	**Sn**	**12 37 45.9**	**+4.0**
KLP				IAML		12 37 53.5	
	comp=E,152nm,0.6s						
KLP				IAML		12 37 54.8	
	comp=N,164nm,0.9s						
KUDL	**Kundal**	**11.38**	**152**	*e*P	**Pn**	**12 36 27.6**	**+2.4**
KUDL				*e*S	**Sn**	**12 38 30.3**	**-1.3**
KUDL				IAML		12 38 37.7	
	comp=E,139nm,1.6s						
KUDL				IAML		12 38 39.0	
	comp=N,125nm,0.6s						
BRZS	**Berezniki**	**11.68**	**7**	*e*P	**Pn**	**12 36 31.1**	**+1.8**
BRZS	**Berezniki**	**11.68**	**7**	*e*P	**Pn**	**12 36 31.1**	**+1.8**
MAKZ	**Makanchi**	**11.90**	**41**		**Pn**	**12 36 32.6**	**+0.3**
MAKZ	**Makanchi**	**11.90**	**41**	P	**Pn**	**12 36 32.6**	**+0.3**
MK31	**Makanchi Array**	**12.06**	**42**	*ce*P	**Pn**	**12 36 35.1**	**+0.7**
MKAR	**Makanchi Array**	**12.06**	**42**		**Pn**	**12 36 35.2**	**+0.8**
MKAR	**Makanchi Array**	**12.06**	**42**	Pn	**Pn**	**12 36 35.1**	**+0.7**
	comp=N,0.7nm,0.3s,baz=233,slow=12,SNR=44						
MKAR				Lg	Lg	12 40 01.0	
	baz=323,slow=14,SNR=3.6						
MKAR				LR	LR	12 41 33.1	
	comp=N,42nm,20.4s,baz=232,slow=39						
	comp=N,7.7nm,0.7s						
AB31	**Akbulak array**	**13.25**	**328**	⇓P	**Pn**	**12 36 49.3**	**-1.4**
	comp=N,7.2nm,0.7s,baz=142,slow=12,SNR=77						
AB31				S	**Sn**	**12 39 21.8**	**+4.5**
	comp=N,8.0nm,0.8s,baz=152,slow=23,SNR=3.5						
AB31	**Akbulak array**	**13.25**	**328**	P	**Pn**	**12 36 49.3**	**-1.4**
AB31				S	**Sn**	**12 39 21.8**	**+4.5**
ABKAR	**Akbulak array**	**13.25**	**328**		**Pn**	**12 36 48.2**	**-2.5**
ABKAR	**Akbulak array**	**13.25**	**328**	Pn	**Pn**	**12 36 48.3**	**-2.4**
KURBB	**Kurchatov Arra**	**13.48**	**22**	Pn	**Pn**	**12 36 52.1**	**-1.7**
	comp=N,1.4nm,0.8s,baz=215,slow=12,SNR=9.0						
KURBB				Sn	Sn	12 39 15.1	-7.7
	baz=245,slow=14,SNR=1.7						
KURBB				Lg	Lg	12 40 40.6	
	baz=221,slow=32,SNR=5.2						
KURK	**Kurchatov**	**13.59**	**22**	*ce*P	**Pn**	**12 36 56.8**	**+1.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZSN	**Zaisan**	**13.85**	**45**	*e*P	**Pn**	**12 36 59.2**	**+0.4**
ZSN	**Zaisan**	**13.85**	**45**	*e*P	**Pn**	**12 36 59.3**	**+0.4**
SEM	**Semipalatinsk**	**13.86**	**27**	*e*P	**Pn**	**12 37 00.2**	**+1.0**
SEM	**Semipalatinsk**	**13.86**	**27**	*e*P	**Pn**	**12 37 00.3**	**+1.0**
BVAR	**Borovoye Array**	**14.63**	**360**	Pn	**Pn**	**12 37 08.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=16						
BVAR				Sn	**Sn**	**12 39 46.0**	**-4.8**
	baz=195,slow=28,SNR=2.0						
BVAR				Lg	Lg	12 41 17.1	
	baz=192,slow=40,SNR=1.7						
BVAR				LR	LR	12 43 01.2	
	comp=Z,118nm,19.2s,baz=225,slow=38						
BRVK	**Borovoye**	**14.66**	**359**	Pn	**Pn**	**12 37 08.5**	**-1.4**
BRVK	**Borovoye**	**14.66**	**359**	*ce*P	**Pn**	**12 37 11.1**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,11nm,1.7s						
AKTO	**Aktyubinsk**	**14.96**	**328**	Pn	**Pn**	**12 37 13.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=139,slow=12,SNR=13						
AKTO				Sn	**Sn

GOMU pmax pmax
comp=Z,6.0nm,0.8s
ARTI Arti 19.73 340 P P 12 38 10.9 -1.0
comp=Z,0.2nm,0.3s,baz=191,slow=4.7,SNR=4.6
ARTI S S 12 41 45.1 -7.8
comp=Z,1.4nm,0.5s,baz=209,slow=19,SNR=1.7
ARTI LR LR 12 46 42.2
comp=Z,103nm,20.3s,baz=66,slow=39
comp=Z,1.5nm,0.5s
GNI Garni 20.02 283 P P 12 38 14.9 -0.4
comp=Z,4.9nm,0.4s,baz=180,slow=20,SNR=5.0
comp=Z,4.9nm,0.4s
NCK Nalchik 20.92 293 *i* P **P 12 38 26.5 +1.5**
NCK pmax pmax
comp=Z,45nm,1.1s
BELG Belogornoye 21.19 319 P P 12 38 27.1 -0.6
comp=Z,19nm,0.8s,baz=59,slow=0.7,SNR=4.7
BELG LR LR 12 47 56.5
comp=Z,40nm,21.4s,baz=82,slow=40
comp=Z,19nm,0.8s
BELG Belogornoye 21.19 319 *i* P **P 12 38 29.5 +1.8**
BELG pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 21.45 293 P P 12 38 30.8 +0.2
comp=Z,7.2nm,0.7s,baz=117,slow=9.2,SNR=25
comp=Z,7.2nm,0.7s
KIV Kislovodsk 21.62 294 P P 12 38 32.3 -0.2
KIV IAmb IAmb 12 38 34.0
comp=Z,18nm,0.6s
KIV Kislovodsk 21.62 294 *eP* **P 12 38 31.9 -0.6**
KIV *eS* **S 12 42 31.7 +0.8**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,35nm,14.0s
SHA1 Shidzhatmaz 21.62 293 *i* P **P 12 38 32.8 +0.1**
GTA Gaotai 22.78 78 *eP* **P 12 38 47.3 +2.3**
GTA pP pP 12 38 51.9 -0.4
GTA pmax pmax
comp=Z,2.0nm,0.8s
VRH Novokhopyorsk 23.94 312 *eP* **P 12 39 01.2 +5.0**
VRH pmax pmax
comp=Z,9.0nm,0.6s
KIRV Kirov 24.37 333 LR LR 12 49 06.5
comp=Z,72nm,19.6s,baz=225,slow=38
KIRV Kirov 24.37 333 *ceP* **P 12 39 00.7 +0.5**
VORD Divnogorie 25.30 310 *eP* **P 12 39 08.5 -0.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 25.45 310 *eP* **P 12 39 08.5 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 26.05 313 *eP* **P 12 39 14.6 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 26.08 52 *eP* P 12 39 27.4 +12
ZAK pmax pmax
comp=Z,3.0nm,1.3s
LZH Lanzhou 26.55 85 *eP* **P 12 39 26.5 +6.1**
LZH sP sP 12 39 43.0 +12
LZH pmax pmax
comp=Z,19nm,1.6s
SONM Songino Array 27.62 58 P P 12 39 28.8 -1.0
comp=Z,0.3nm,0.6s,baz=261,slow=9.6,SNR=3.6
comp=Z,0.3nm,0.6s
OBN Obninsk 28.27 317⇑ *eP* **P 12 39 35.8 +0.5**
OBN *e* 12 40 27.4
OBN *eS* **S 12 44 12.1 -7.8**
OBN pmax pmax
comp=Z,49nm,2.5s
OBN MLR MLR
comp=Z,30nm,16.0s
BRTR Keskin Array B 28.54 284 P P 12 39 38.3 +0.2
comp=Z,0.4nm,0.4s,baz=95,slow=9.5,SNR=2.6
comp=Z,0.4nm,0.4s
XAN Xi'an 31.13 86 P P 12 40 02.2 +1.2
XAN pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 31.48 307 P P 12 40 04.5 +0.7
comp=Z,0.2nm,0.3s,baz=107,slow=9.1,SNR=6.8
AKASG LR LR 12 55 26.9
comp=Z,55nm,20.0s,baz=63,slow=41
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 31.48 307 *i* P **P 12 40 05.5 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
NRIK Noril'sk 32.34 11 *ceP* **P 12 40 11.7 +0.6**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
FIA1 FINESS Array S 35.70 325 P P 12 40 40.5 +0.1
FINES FINESS Array B 35.71 325 P P 12 40 40.6 +0.2
comp=Z,3.1nm,0.6s,baz=101,slow=9.9,SNR=9.0
comp=Z,3.1nm,0.6s
ARCES ARCESS Array B 39.25 337 P P 12 41 09.8 -0.6
comp=Z,2.1nm,0.7s,baz=116,slow=7.8,SNR=4.3
ARCES LR LR 12 58 38.0
comp=Z,85nm,20.4s,baz=126,slow=38
comp=Z,1nm,0.7s
ARCES ARCESS Array B 39.25 337 P P 12 41 10.0 -0.4
ARCES pmax pmax
comp=Z,19nm,1.5s
VRAC Vranov 39.60 304 LR LR 13 00 36.9
comp=Z,26nm,18.4s,baz=101,slow=41
HFS Hagfors 41.35 321 P P 12 41 27.8 0.0
comp=Z,4.1nm,0.6s,baz=88,slow=10,SNR=7.3
comp=Z,4.1nm,0.6s
NC303 NORSAR Array S 42.58 322 P P 12 41 38.1 +0.1
NB2 NORSAR Subarra 42.65 322 P P 12 41 38.2 -0.3
comp=Z,3.9nm,0.8s,baz=94,slow=7.9
NOA NORSAR Array B 42.65 322 P P 12 41 37.8 -0.6
comp=Z,2.5nm,0.7s,baz=94,slow=8.0,SNR=9.3
comp=Z,2.5nm,0.7s
YAK Yakutsk 42.66 37 *i* P **P 12 41 37.4 -1.1**
YAK pmax pmax
comp=Z,8.0nm,0.7s
TIXI Tiksi 44.17 23 LR LR 13 03 46.2
comp=Z,57nm,19.5s,baz=189,slow=41
TIXI Tiksi 44.17 23 *ceP* **P 12 41 50.4 -0.1**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
ESDC Sonseca Array 56.25 297 P P 12 43 23.0 +0.4
comp=Z,1.4nm,0.8s,baz=60,slow=8.9,SNR=7.3
comp=Z,1.4nm,0.8s
BILL Bilibino 57.08 26 *i* P **P 12 43 27.9 -0.1**
OPO Ambohidratompo 60.75 206 LR LR 13 08 24.5
comp=Z,40nm,20.7s,baz=346,slow=34
TORD Torodi Ar. Bea 65.40 267 P P 12 44 23.8 -1.3
comp=Z,1.3nm,0.5s,baz=42,slow=6.1,SNR=9.0
comp=Z,1.3nm,0.5s
ILAR Eielson Array 73.06 16 P P 12 45 10.6 -1.3
comp=Z,0.9nm,0.8s,baz=328,slow=6.2,SNR=8.0
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 79.37 2 P P 12 45 47.5 -0.1
comp=Z,1.4nm,0.7s,baz=352,slow=5.4,SNR=29
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 83.31 122 P P 12 46 08.9 -0.3
comp=Z,1.0nm,0.9s,baz=324,slow=5.0,SNR=4.9
comp=Z,1.0nm,0.9s
ASAR Alice Springs 85.65 125 P P 12 46 20.5 -0.4
comp=Z,0.4nm,0.7s,baz=324,slow=4.3,SNR=4.2
comp=Z,0.4nm,0.7s

---

*IDC **04** 12:41:11.7±1.3, 13°.75N×120°.81E, h122km±16km, mb3.3/7, mbtmp3.7/7, Error ellipse: s-maj=103.1km s-min=16.5km az=65.0*

ISC 04 12:41:09.6±1.1, 13°.5N±0°.1×120°.2E±0°.2, h100km, n8, σ0°.92/9, mb3.7/7, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.94**	**50**	P		P	**Pn**	**12 41 30.2**	**+0.7**
	432nm,0.3s,baz=200,slow=5.4,SNR=9.9								
TGY				S			**Sn**	**12 41 44.2**	**-0.3**
	741nm,0.3s,baz=123,slow=6.5,SNR=7.9								
WRA	**Warramunga Arr**	**36.03**	**157**	P		P	**P**	**12 48 00.8**	**-0.7**
	0.4nm,0.8s,baz=331,slow=9.8,SNR=1.1								
	0.4nm,0.8s								
SONM	**Songino Array**	**36.12**	**344**	P		P	**P**	**12 48 01.1**	**-0.9**
	0.4nm,0.5s,baz=161,slow=9.1,SNR=4.3								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**39.29**	**160**	P		P	**P**	**12 48 29.3**	**+0.3**
	0.4nm,0.8s,baz=336,slow=7.2,SNR=4.9								
	0.4nm,0.8s								
MKAR	**Makanchi Array**	**45.91**	**324**	P		P	**P**	**12 49 23.4**	**+1.1**
	0.7nm,0.6s,baz=112,slow=8.2,SNR=11								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**49.01**	**333**	P		P	**P**	**12 49 45.3**	**-0.9**
	0.9nm,0.3s,baz=123,slow=7.1,SNR=4.4								
	0.9nm,0.3s								
KURBB	**Kurchatov Arra**	**50.08**	**326**	P		**P**	**P**	**12 49 55.0**	**+0.7**
	1.2nm,0.4s,baz=131,slow=7.7,SNR=14								
	1.2nm,0.4s								
BVAR	**Borovoye Array**	**55.66**	**326**	P		**P**	**P**	**12 50 36.1**	**+0.7**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=1.1								
	0.4nm,0.3s								

---

*IDC **04** 12:43:29.2±1.2, 12°.96N×44°.67W, h0km, mb3.7/5, mbtmp3.7/6, ML3.5/1, MS3.5/48, Error ellipse: s-maj=35.4km s-min=29.4km az=138.0*
*GCMT **04** 12:43:33.0±0.4, 13°.09N±0°.05×44°.83W±0°.03, h20km±1km, MW4.7/73, Moment Tensor Solution. s16,c17; s73,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.56±.13; $M_{\theta\theta}$=0.33±.08; $M_{\phi\phi}$=1.23±.09; $M_{r\theta}$=0.68±.21; $M_{r\phi}$=0.08±.06; $M_{\theta\phi}$=-0.06±.16; Best double couple: M_0=1.51300×10^{16} NP1:ϕ_s=170.00000°, δ=45.00000°, λ=-115.00000°. NP2: ϕ_s=24.00000°, δ=51.00000°, λ=-67.00000°. Principal axes: T 1.2450, Plg3.0000°, Azm98.0000°; N 0.5380, Plg18.0000°, Azm189.0000°; P -1.7810, Plg72.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 04 12:43:30.7±1.1, 12°.9N±0°.2×44°.7W±0°.2, h10km, n56, σ0°.82/6, mb3.7/5, MS3.6/46, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.08**	**226**	Pn		**Pn**	**Pn**	**12 46 09.2**	**-0.1**
	0.3nm,0.3s,baz=38,slow=14,SNR=6.2								
MDP				LR		LR	LR	12 49 48.1	
	comp=Z,305nm,20.3s,baz=80,slow=34								
	2.9nm,0.4s								
PCRV	**Puerto La Cruz**	**19.77**	**264**	LR		LR	LR	12 55 16.7	
	comp=Z,57nm,18.8s,slow=36								
RCBR	**Riachuelo**	**20.56**	**154**	LR		LR	LR	12 54 09.0	
	comp=Z,66nm,21.8s,baz=7.5,slow=31								
SJG	**San Juan**	**21.34**	**287**	LR		LR	LR	12 55 05.2	
	comp=Z,166nm,21.3s,baz=92,slow=33								
SDV	**Santo Domingo**	**25.82**	**264**	LR		LR	LR	12 59 46.5	
	comp=Z,44nm,21.9s,baz=124,slow=38								
BBTS	**Babate**	**27.35**	**83**	LR		LR	LR	12 57 29.9	
	comp=Z,168nm,21.0s,baz=157,slow=31								
BDFB	**Brasília**	**28.58**	**187**	LR		LR	LR	13 00 35.5	
	comp=Z,67nm,19.2s,baz=346,slow=36								
ROSC	**El Rosal**	**30.37**	**257**	LR		LR	LR	13 02 14.3	
	comp=Z,102nm,18.5s,baz=107,slow=37								
SIV	**San Ignacio**	**33.01**	**210**	LR		LR	LR	13 02 53.3	
	comp=Z,74nm,21.2s,baz=18,slow=35								
H10N3	**ASCENSION HYDR**	**36.37**	**123**	T		T	T	13 29 35.6	
	baz=304,slow=75,SNR=12								
H10N2	**ASCENSION HYDR**	**36.38**	**123**	T		T	T	13 29 37.7	
	baz=304,slow=75,SNR=11								
H10N1	**ASCENSION HYDR**	**36.39**	**123**	T		T	T	13 29 32.1	
	baz=304,slow=75,SNR=14								
H10S3	**ASCENSION HYDR**	**36.88**	**125**	T		T	T	13 30 12.3	
	baz=300,slow=74,SNR=11								
H10S2	**ASCENSION HYDR**	**36.89**	**125**	T		T	T	13 30 13.5	
	baz=280,slow=74,SNR=8.9								
LPAZ	**La Paz**	**37.17**	**219**	P		**P**	**P**	**12 50 43.0**	**+0.1**
	0.8nm,0.4s,baz=51,slow=6.5,SNR=2.2								
LPAZ				LR		LR	LR	13 05 48.3	
	comp=Z,145nm,20.9s,baz=37,slow=36								
	0.8nm,0.4s								
ATAH	**Atahualpa**	**39.01**	**241**	LR		LR	LR	13 07 16.8	
	comp=Z,225nm,20.4s,baz=60,slow=37								
JTS	**Las Juntas de**	**39.54**	**271**	LR		LR	LR	13 09 49.8	
	comp=Z,27nm,18.9s,baz=80,slow=40								
DBIC	**Dimbokro**	**39.67**	**95**	LR		LR	LR	13 03 57.1	
	comp=Z,131nm,20.8s,baz=264,slow=31								
MDT	**Midelt**	**41.54**	**55**	LR		LR	LR	13 05 11.9	
	comp=Z,122nm,20.3s,baz=285,slow=31								
TKL	**Tuckaleechee C**	**41.84**	**310**	LR		LR	LR	13 05 36.9	
	comp=Z,79nm,19.5s,baz=141,slow=32								
SADO	**Sadowa**	**43.24**	**324**	LR		LR	LR	13 05 31.6	
	comp=Z,57nm,20.1s,baz=173,slow=31								
ESDC	**Sonseca Array**	**44.61**	**46**	LR		LR	LR	13 07 30.5	
	comp=Z,93nm,18.3s,baz=248,slow=32								
TORD	**Torodi Ar. Bea**	**45.10**	**84**	P		**P**	**P**	**12 51 47.7**	**+0.1**
	0.9nm,0.9s,baz=288,slow=8.7,SNR=4.4								
	0.9nm,0.9s								
CMIG	**Matias Romero**	**48.59**	**281**	LR		LR	LR	13 12 58.2	
	comp=Z,19nm,18.4s,baz=84,slow=36								
ULM	**Lac du Bonnet**	**55.77**	**323**	LR		LR	LR	13 12 56.8	
	comp=Z,64nm,21.9s,baz=101,slow=32								
DAVOX	**Davos/Dischmat**	**56.61**	**42**	LR		LR	LR	13 12 40.6	
	comp=Z,42nm,21.0s,baz=256,slow=31								
TXAR	**Lajitas Array**	**56.87**	**297**	LR		LR	LR	13 16 08.9	
	comp=Z,26nm,21.7s,baz=64,slow=34								
PLCA	**Paso Flores**	**58.54**	**203**	LR		LR	LR	13 21 51.5	
	comp=Z,42nm,18.0s,baz=5.0,slow=39								
ANMO	**Albuquerque**	**59.66**	**303**	LR		LR	LR	13 16 24.9	
	comp=Z,114nm,21.5s,baz=251,slow=33								
NOA	**NORSAR Array B**	**62.58**	**27**	LR		LR	LR	13 15 34.4	
	comp=Z,17nm,21.9s,baz=30,slow=31								
LPIG	**La Paz**	**62.77**	**291**	LR		LR	LR	13 26 24.0	
	comp=Z,14nm,18.1s,baz=44,slow=41								
PDAR	**Pinedale Array**	**62.94**	**312**	P		**P**	**P**	**12 53 58.4**	**+0.6**
	1.4nm,1.1s,baz=97,slow=6.0,SNR=5.2								
PDAR				LR		LR	LR	13 18 34.1	
	comp=Z,31nm,20.2s,baz=90,slow=34								
	1.4nm,1.1s								
ELK	**Elko**	**67.00**	**309**	LR		LR	LR	13 20 58.6	
	comp=Z,45nm,21.1s,baz=116,slow=34								
MLR	**Muntele Rosu**	**67.30**	**46**	LR		LR	LR	13 22 56.7	
	comp=Z,41nm,18.7s,baz=14,slow=35								
PFO	**Pinyon Flats O**	**67.88**	**301**	LR		LR	LR	13 24 30.0	
	comp=Z,54nm,18.1s,baz=218,slow=36								
NEW	**Newport**	**68.80**	**317**	LR		LR	LR	13 22 41.1	
	comp=Z,71nm,19.4s,baz=83,slow=34								
TSUM	**Tsumeb**	**69.11**	**116**	LR		LR	LR	13 19 08.8	
	comp=Z,49nm,19.4s,baz=334,slow=31								
NVAR	**Mina Array Bea**	**69.32**	**306**	LR		LR	LR	13 21 41.0	
	comp=Z,40nm,21.0s,baz=305,slow=33								
YKA	**Yellowknife Ar**	**69.39**	**332**	P		**P**	**P**	**12 54 39.0**	**+0.5**
	0.3nm,0.8s,baz=113,slow=7.3,SNR=3.7								
	0.3nm,0.8s								
AKASG	**Malin Array Be**	**69.89**	**41**	LR		LR	LR	13 23 47.9	
	comp=Z,22nm,19.9s,baz=224,slow=35								
ARCES	**ARCESS Array B**	**71.06**	**20**	LR		LR	LR	13 21 40.2	
	comp=Z,15nm,18.9s,baz=174,slow=32								
YBH	**Yreka Blue Hor**	**72.64**	**310**	LR		LR	LR	13 26 24.2	
	comp=Z,48nm,18.3s,baz=66,slow=36								
RPN	**Rapa Nui**	**74.29**	**237**	LR		LR	LR	13 24 02.6	
	comp=Z,42nm,21.8s,baz=7.0,slow=33								
EIL	**Elat**	**74.77**	**63**	LR		LR	LR	13 28 46.5	
	comp=Z,32nm,19.5s,baz=252,slow=36								
MMAI	**Mount Meron Ar**	**74.81**	**59**	LR		LR	LR	13 29 16.0	
	comp=Z,19nm,21.3s,baz=264,slow=37								
BBB	**Bella Bella**	**75.91**	**321**	LR		LR	LR	13 27 40.6	
	comp=Z,41nm,18.9s,baz=20,slow=35								
SUR	**Sutherland**	**77.05**	**128**	LR		LR	LR	13 20 58.0	
	comp=Z,50nm,19.0s,baz=334,slow=29								
LSZ	**Lusaka**	**77.32**	**109**	LR		LR	LR	13 23 11.2	
	comp=Z,48nm,19.9s,baz=272,slow=31								
LBTB	**Lobatse**	**78.14**	**119**	LR		LR	LR	13 23 39.8	
	comp=Z,46nm,20.7s,baz=292,slow=31								
BOSA	**Boshof**	**79.13**	**123**	LR		LR	LR	13 23 19.6	
	comp=Z,71nm,19.1s,baz=327,slow=30								
KBZ	**Khabaz**	**79.43**	**47**	LR		LR	LR	13 31 47.8	
	comp=Z,16nm,19.0s,baz=11,slow=36								
KIRV	**Kirov**	**81.19**	**32**	LR		LR	LR	13 28 30.1	
	comp=Z,39nm,19.7s,baz=285,slow=33								
ILAR	**Eielson Array**	**83.55**	**335**	P		**P**	**P**	**12 55 57.6**	**-1.2**
	0.5nm,0.9s,baz=75,slow=3.6,SNR=5.7								
	0.5nm,0.9s								
ARTI	**Arti**	**86.42**	**33**	LR		LR	LR	13 32 31.9	
	comp=Z,34nm,19.3s,baz=40,slow=34								
KDAK	**Kodiak Island**	**88.46**	**329**	LR		LR	LR	13 34 36.1	
	comp=Z,40nm,19.0s,baz=287,slow=35								
BVAR	**Borovoye Array**	**94.13**	**33**	LR		LR	LR	13 36 50.2	
	comp=Z,40nm,20.3s,baz=271,slow=34								

UCR 04 12:45:24.4±1.0, 9°.34N×84°.48W, h22km±4km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.40**	**70**	*eP*		Pb		12 45 32.3	-0.5
LLNJ				*eS*		Sb		12 45 39.1	+0.6
PICV	**PH. Pirrs**	**0.40**	**45**	*eP*		Pb		12 45 32.5	-0.4
PICV				*eS*		Sb		12 45 39.4	+0.8
PISJ	**San Jernim**	**0.46**	**51**	*eP*		Pb		12 45 33.4	-0.5
RAZU	**San Marcos de**	**0.55**	**55**	*eP*		Pb		12 45 34.9	-0.7
ABE2	**San Pablo**	**0.56**	**49**	*eP*		Pb		12 45 35.0	-0.7
LCR2	**La Lucha 2**	**0.62**	**50**	*eP*		Pb		12 45 35.7	-1.0
CBL1	**Cabuya**	**0.65**	**292**	*eP*		Pb		12 45 36.8	-0.3
LUJA	**Lujan**	**0.71**	**35**	*eP*		Pb		12 45 38.4	+0.2
CORON	**Coronado**	**0.79**	**37**	*eP*		Pb		12 45 39.1	-0.4
VBV1	**V. Barva**	**0.86**	**26**	*eP*		Pb		12 45 40.3	-0.5
VICA	**Volcano Irazu**	**0.90**	**44**	*eP*		Pb		12 45 40.8	-0.8
EDPE	**Pejibaye, P**	**0.92**	**101**	*eP*		Pb		12 45 40.9	-0.7
CVTV	**Tajo**	**0.98**	**47**	*eP*		Pb		12 45 42.4	-0.5
VTR0	**Volcan Turrial**	**0.98**	**46**	*eP*		Pb		12 45 42.4	-0.5
CVTR	**Volcan Turrial**	**0.98**	**46**	*eP*		Pb		12 45 42.4	-0.6
VTCV	**VTCV, Calle Va**	**0.98**	**49**	*eP*		Pb		12 45 42.3	-0.6
MTEVE	**Monteverde**	**1.03**	**341**	*eP*		Pb		12 45 43.3	-0.4
SOCE	**Pocosol**	**1.04**	**353**	*eP*		Pb		12 45 44.0	+0.2
JUNT	**Juntas**	**1.05**	**333**	*eP*		Pn		12 45 43.3	-0.5
JTS	**Las Juntas de**	**1.05**	**334**	*eP*		Pn		12 45 43.0	-0.9
ARE1	**Arenal 1**	**1.14**	**348**	*eP*		Pb		12 45 45.6	+0.2
VARE2	**V. Arenal**	**1.14**	**348**	*eP*		Pb		12 45 45.6	+0.1
VACR	**Volcan Arenal**	**1.14**	**350**	*eP*		Pb		12 45 46.0	+0.5
DRK0	**Durika**	**1.22**	**93**	*eP*		Pn		12 45 46.5	+0.1
PLVR	**Palo Verde**	**1.32**	**320**	*eP*		Pn		12 45 46.8	-0.9
TENO	**El Achiote**	**1.44**	**340**	*eP*		Pn		12 45 49.6	+0.3
CUI	**Cuipilapa**	**1.47**	**333**	*eP*		Pn		12 45 50.4	+0.7
COLC	**Colonia**	**1.50**	**332**	*eP*		Pn		12 45 50.3	+0.3

NNC 04 12:50:11.7±8.2, 37°.76N×71°.18E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=61.8km s-min=54.2km az=2.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.36**	**355**	⇑Pn			Pn	12 51 29.8	-3.1
	1.7nm,0.3s,baz=183,slow=12,SNR=33								
KK31				⇑Sn			Sn	12 52 37.9	+2.6
	11nm,0.7s,baz=179,slow=29,SNR=7.8								
CHMS	**Chumysh**	**5.90**	**26**	⇓Pn			Pn	12 51 41.4	+1.1
	3.9nm,0.6s								
CHMS				⇑Sn			Sn	12 52 49.5	+0.9
	11nm,1.0s								
TKM2	**Tokmak 2**	**6.16**	**32**	⇓Pn			Pn	12 51 46.6	+2.6
	3.4nm,0.4s								
TKM2				⇓Sn			Sn	12 52 55.0	-0.3
	3.8nm,0.8s								

---

*BGR **04** 12:55:31.5, 16°.80N×120°.44E, h33km, mb4.9*
*BJI **04** 12:55:37.9, 17°.18N×120°.71E, h92km, mB4.9/10, mb4.6/37*
*DJA **04** 12:55:38.6±0.8, 17°.N±4°×12°1E±°, h103km±9km, M4.9/12, mb4.7/12, mB5.5/3, MLv4.9/1, Mw(mB)5.0/3*
*IDC **04** 12:55:39.0±0.6, 17°.07N×120°.67E, h98km±6km, mb4.3/30, mbtmp4.7/32, MS3.3/17, Error ellipse: s-maj=13.8km s-min=7.5km az=75.0*
*NEIC **04** 12:55:39.0±2.1, 17°.14N±0°.07×120°.68E±0°.10, h92km±7km, mb4.7/182, Error ellipse: s-maj=13.8km s-min=9.7km az=84.0*

ISC 04 12:55:39.0±0.6, 17°.04N±0°.04×120°.62E±0°.06, h98km±5km, h99km:pP-P, n536, σ0°.94/490, mb4.7/159, 21C-9D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.94**	**174**	P			**Pn**	**12 56 25.8**	**+1.8**
	1μm,0.5s,baz=345,slow=3.0,SNR=24								
TGY				S			**Sn**	**12 56 58.6**	**0.0**
	2μm,0.6s,baz=349,slow=16,SNR=5.3								
TWGBT	**Beinan**	**5.76**	**4**	P			**Pn**	**12 57 01.0**	**-1.1**
TWG	**Pinlang**	**5.77**	**4**				**Pn**	**12 57 00.4**	**-1.7**
TPUB	**Ta-pu**	**6.23**	**0**	Pn			**Pn**	**12 57 07.3**	**-1.2**
TPUB	**Ta-pu**	**6.23**	**0**	P			**Pn**	**12 57 06.6**	**-1.8**
YULB	**Yu-li**	**6.35**	**6**				**Pn**	**12 57 08.0**	**-2.1**
YULB	**Yu-li**	**6.35**	**6**	P			**Pn**	**12 57 10.0**	**-0.1**
SSLB	**Suanglung**	**6.72**	**3**	Pn			**Pn**	**12 57 14.1**	**-1.1**
SSLB	**Suanglung**	**6.72**	**3**	P			**Pn**	**12 57 14.5**	**-0.6**
NACB	**Ninganchiao**	**7.16**	**7**	Pn			**Pn**	**12 57 20.2**	**-0.9**
YHNB	**Yeheng**	**7.62**	**5**	Pn			**Pn**	**12 57 27.6**	**+0.1**
KNMB	**Chin-men Tao**	**7.68**	**345**	Pn			**Pn**	**12 57 25.7**	**-2.4**
HKPS	**Hong Kong Po S**	**8.03**	**312**	Pn			**Pn**	**12 57 30.7**	**-2.1**
HKPS	**Hong Kong Po S**	**8.03**	**312**	P			**Pn**	**12 57 30.5**	**-2.4**
QIZ	**Qiongzhong**	**10.44**	**283**	Pn			**Pn**	**12 58 03.6**	**-2.2**
QIZ	**Qiongzhong**	**10.44**	**283**	P			**Pn**	**12 58 04.4**	**-1.4**
QIZ				S			**Sn**	**12 59 57.4**	**-3.5**
QIZ				LR			LR		
	comp=N,240nm,11.2s								
QIZ				LR			LR		
	comp=E,220nm,11.5s								
QIZ				LR			LR		
	comp=Z,230nm,11.6s								
QIZ	**Qiongzhong**	**10.44**	**283**	P			**Pn**	**12 58 03.4**	**-2.4**
DLV	**Lat**	**12.79**	**248**				**Pn**	**12 58 39.6**	**+2.1**
WHN	**Wuhan**	**14.61**	**338**	P			**Pn**	**12 59 00.0**	**-0.8**
SLVN	**Son La**	**16.36**	**288**				**P**	**12 59 24.1**	**0.0**
SBUM	**Sibu**	**16.68**	**211**	P			**P**	**12 59 29.5**	**+1.9**
LUWI	**Luwuk**	**18.09**	**173**	P			**P**	**12 59 43.0**	**-0.1**
LUWI				IAmb			IAmb	12 59 49.3	
	comp=Z,46nm,0.9s								
JNU	**Nakatsue**	**18.49**	**28**	P			**P**	**12 59 46.8**	**-0.7**
JNU				IAmb			IAmb	13 00 12.1	
	comp=Z,51nm,1.4s								
JNU	**Nakatsue**	**18.49**	**28**	P			**Pn**	**12 59 47.5**	**-1.2**
	comp=Z,12nm,0.8s,baz=182,slow=2.9,SNR=4.7								
LYN	**LuoYang**	**18.91**	**339**	P			**Pn**	**12 59 53.9**	**+0.3**
LYN				PP			**PnPn**	**13 00 14.6**	**+4.6**
LYN				pmax			pmax		
	comp=Z,28nm,1.1s								
PHRA	**Phrae**	**19.48**	**277**				**Pn**	**13 00 00.2**	**-0.3**
SANI	**Sanana**	**19.69**	**164**	P			**P**	**12 59 59.3**	**-1.3**
	comp=Z,37nm,0.7s								
XAN	**Xi'an**	**19.92**	**330**	P			**P**	**13 00 03.6**	**+0.6**
XAN				S			**Sn**	**13 03 46.6**	**-3.2**
XAN				sS			sS	13 04 04.0	-9.2
XAN				pmax			pmax		
	comp=Z,54nm,0.9s								
XAN				pmax			pmax		
	comp=Z,170nm,4.0s								
XAN				LR			LR		
	comp=Z,130nm,14.3s								
XAN	

comp=Z,22nm,0.6s
INU Inuyama 23.37 36 P **P 13 00 38.5 -0.4**
GUMO Guam 23.63 95 LR LR 13 08 58.9
comp=Z,70nm,19.6s,baz=11,slow=34
JGF Kuroka 23.74 36 P **P 13 00 41.4 -0.9**
JGF IAmb IAmb 13 00 43.0
comp=Z,30nm,0.9s
LZH Lanzhou 24.12 325 *e*P **P 13 00 47.1 +1.3**
LZH pmax pmax
comp=Z,26nm,1.1s
MJAR Matsushiro Arr 24.90 35 P **P 13 00 50.7 -2.1**
comp=Z,3.2nm,0.7s,baz=210,slow=8.4,SNR=5.9
comp=Z,3.2nm,0.7s
BKNI Bangkinang 25.45 231 P **P 13 01 00.0 +2.1**
MNSI Mandailing Nat 26.26 234 P **P 13 01 07.3 +2.0**
comp=Z,13nm,0.8s
PPI Padang Panjang 26.45 231 P **P 13 01 09.2 +2.3**
comp=Z,15nm,0.4s
XLT XiLinHaoTe 27.05 353 *e*P **P 13 01 11.6 -0.6**
XLT pP pP 13 01 36.7 +2.5
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,100nm,5.7s
GTA Gaotai 28.73 325 *e*P **P 13 01 28.7 +1.5**
GTA PcP **PcP 13 04 36.3 +1.0**
GTA pmax pmax
comp=Z,7.0nm,0.8s
USA0B Ussuriysk Arra 28.73 17 IAmb IAmb 13 01 29.2
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 28.73 17 P **P 13 01 26.6 -0.3**
USRK Ussuriysk Ar. 28.73 17 P **P 13 01 26.8 -0.2**
comp=Z,11nm,0.8s,baz=211,slow=8.6,SNR=16
comp=Z,11nm,0.8s
BNX BinXian 29.17 10 ⇓P **P 13 01 30.6 -0.3**
BNX pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 29.75 300 P **P 13 01 36.8 0.0**
GOMU GeErMu 29.79 315 P **P 13 01 38.4 +1.5**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 32.70 343 P **P 13 02 02.0 -0.2**
ULN IAmb IAmb 13 02 03.4
comp=Z,9.3nm,0.6s
SONM Songino Array 32.86 342 P **P 13 02 03.4 -0.1**
SONM IAmb IAmb 13 02 04.6
comp=Z,8.6nm,0.6s
SONM Songino Array 32.86 342 P **P 13 02 03.8 +0.3**
comp=Z,8.5nm,0.6s,baz=163,slow=10,SNR=75
SONM PcP **PcP 13 04 46.3 +0.3**
comp=Z,1.1nm,0.5s,baz=156,slow=2.9,SNR=7.1
SONM LR LR 13 16 08.4
comp=Z,74nm,18.6s,baz=123,slow=37
comp=Z,8.5nm,0.6s
KLR Kul'dur 33.36 13 LR LR 13 15 41.5
comp=Z,49nm,18.0s,baz=220,slow=36
HEH HeiHe 33.58 8 *e*P **P 13 02 10.4 +0.9**
FITZ Fitzroy Crossi 35.26 172 P **P 13 02 23.2 -1.1**
KRVT Keravat (AS076 37.58 122 LR LR 13 15 42.5
comp=Z,58nm,20.6s,baz=14,slow=32
PSA00 Pilbara Seismi 38.38 181 P **P 13 02 50.0 -0.8**
WB0 Warramunga Arr 39.00 159 P **P 13 02 54.4 -1.6**
WB0 IAmb IAmb 13 03 21.1
comp=Z,25nm,1.4s
WRA Warramunga Arr 39.14 159 P **P 13 02 55.9 -1.3**
WRA Warramunga Arr 39.14 159 P **P 13 02 55.4 -1.8**
comp=Z,2.4nm,0.5s,baz=340,slow=9.0,SNR=42
WRA pP **pP 13 03 20.5 +0.1**
comp=Z,12nm,1.1s,baz=340,slow=9.3,SNR=9.4
WRA PcP **PcP 13 05 05.9 +0.9**
comp=Z,4.3nm,0.6s,baz=341,slow=3.2,SNR=16
WRA S **S 13 08 43.5 -6.4**
comp=Z,1.6nm,0.8s,baz=343,slow=14,SNR=4.5
comp=Z,2.4nm,0.5s
WB2 Warramunga Arr 39.15 159 P **P 13 02 55.8 -1.5**
WB2 IAmb IAmb 13 03 24.4
comp=Z,11nm,0.9s
WR0 Warramunga Arr 39.23 159 P **P 13 02 56.5 -1.4**
WR0 IAmb IAmb 13 03 09.7
comp=Z,19nm,1.4s
AS31 Alice Springs 42.49 162 P **P 13 03 24.2 -0.5**
ASAR Alice Springs 42.49 162 P **P 13 03 24.0 -0.6**
ASAR Alice Springs 42.49 162 P **P 13 03 23.8 -0.9**
comp=Z,2.0nm,0.3s,baz=338,slow=7.4,SNR=87
ASAR pP **pP 13 03 48.5 +0.4**
comp=Z,2.8nm,0.7s,baz=342,slow=6.5,SNR=5.0
ASAR PcP **PcP 13 05 16.3 +0.5**
comp=Z,2.9nm,0.5s,baz=339,slow=3.1,SNR=15
ASAR S **S 13 09 36.3 -3.3**
comp=Z,0.6nm,0.7s,baz=336,slow=11,SNR=8.6
comp=Z,2.0nm,0.3s
WUS Wushi 42.90 313 IAmb IAmb 13 03 29.4
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 43.35 322 P **P 13 03 32.2 +0.8**
MKAR Makanchi Array 43.35 322 P **P 13 03 31.9 +0.5**
comp=Z,5.1nm,0.7s,baz=117,slow=9.2,SNR=71
MKAR PcP **PcP 13 05 18.6 +0.2**
comp=Z,5.1nm,0.6s,baz=100,slow=4.0,SNR=16
MKAR LR LR 13 24 15.4
comp=Z,28nm,20.3s,baz=140,slow=40
comp=Z,5.1nm,0.7s
MAKZ Makanchi 43.54 321 P **P 13 03 33.5 +0.6**
MAKZ IAmb IAmb 13 03 34.3
comp=Z,17nm,1.4s
KSH Kashi 44.68 309 P **P 13 03 44.9 +2.6**
KSH sP sP 13 04 23.1 +6.6
KSH pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 45.39 6 LR LR 13 26 44.5
comp=Z,27nm,18.8s,baz=123,slow=41
ZAA0 Zalesovo Array 46.09 331 P **P 13 03 52.5 -0.5**
ZALV Zalesovo Beam 46.09 331 P **P 13 03 52.5 -0.5**
ZALV Zalesovo Beam 46.09 331 P **P 13 03 52.4 -0.6**
comp=Z,4.0nm,0.6s,baz=124,slow=7.1,SNR=24
ZALV PcP **PcP 13 05 26.3 -1.4**
comp=Z,2.6nm,0.5s,baz=123,slow=5.0,SNR=8.5
ZALV LR LR 13 24 10.8
comp=Z,35nm,19.8s,baz=113,slow=37
comp=Z,4.0nm,0.6s
PEA0B Petropavlovsk- 46.17 30 P **P 13 03 53.8 +0.1**
PETK Petropavlovsk- 46.17 30 P **P 13 03 53.2 -0.5**
comp=Z,8.2nm,0.7s,baz=248,slow=5.9,SNR=24
PETK PcP **PcP 13 05 27.8 -0.2**
comp=Z,1.8nm,0.6s,baz=299,slow=1.5,SNR=2.0
comp=Z,8.2nm,0.7s
AAK Ala-Archa 46.70 313 LR LR 13 25 19.4
comp=Z,53nm,19.7s,baz=68,slow=38
KURK Kurchatov 47.41 325 P **P 13 04 03.7 +0.3**
KURBB Kurchatov Arra 47.41 325 P **P 13 04 03.6 +0.2**
comp=Z,14nm,0.7s,baz=121,slow=8.4,SNR=142
KURBB pP **pP 13 04 26.0 -0.5**
comp=Z,4.5nm,0.7s,baz=122,slow=8.1,SNR=5.3
KURBB PcP **PcP 13 05 32.0 -0.4**
comp=Z,1.0nm,0.7s,baz=96,slow=3.1,SNR=2.0
comp=Z,14nm,0.7s
MA2 Magadan 47.80 20 P **P 13 04 05.9 -0.3**
comp=Z,12nm,1.0s
KKAR Karatay Array 49.64 312 P **P 13 04 21.0 +0.3**
KKAR Karatay Array 49.64 312 IAmb IAmb 13 04 21.6
comp=Z,4.7nm,0.8s
SIMJ Simiganj 49.74 306 P **P 13 04 21.3 -0.3**
SIMJ IAmb IAmb 13 04 24.3
comp=Z,8.4nm,1.2s
SEY Seymchan 50.87 18 PcP **PcP 13 05 45.2 +0.5**
comp=Z,4.0nm,0.7s,baz=219,slow=6.5,SNR=4.8
BBOO Buckleboo 51.72 163 P **P 13 04 35.8 -0.4**
STKA Stephens Creek 52.63 157 P **P 13 04 43.0 0.0**
STKA IAmb IAmb 13 05 08.7
comp=Z,6.5nm,1.1s
STKA Stephens Creek 52.63 157 P **P 13 04 43.3 +0.3**
comp=Z,5.2nm,0.7s,baz=334,slow=8.1,SNR=8.9
STKA PcP **PcP 13 05 53.0 +1.2**
comp=Z,2.1nm,0.5s,baz=16,slow=7.4,SNR=2.9
comp=Z,5.2nm,0.7s
BVAR Borovoye Array 53.01 324 P **P 13 04 45.6 +0.1**
comp=Z,2.3nm,0.4s,baz=119,slow=8.9,SNR=18
BVAR pP **pP 13 05 09.7 +0.5**
comp=Z,3.2nm,0.8s,baz=111,slow=8.4,SNR=5.0
BVAR PcP **PcP 13 05 52.8 -0.2**
comp=Z,1.7nm,0.5s,baz=104,slow=5.0,SNR=4.7
comp=Z,2.3nm,0.4s
BRVK Borovoye 53.08 324 P **P 13 04 46.2 +0.1**
BRVK IAmb IAmb 13 04 47.3
comp=Z,7.6nm,0.9s
TIXI Tiksi 54.82 3 P **P 13 04 57.8 -0.6**
TIXI IAmb IAmb 13 04 58.2
comp=Z,8.3nm,0.8s
TIXI Tiksi 54.82 3 LR LR 13 29 53.0
comp=Z,27nm,18.6s,baz=199,slow=38
NRIK Noril'sk 56.16 347 P **P 13 05 07.9 -0.2**
comp=Z,12nm,0.6s,baz=125,slow=6.1,SNR=22
NRIK PcP **PcP 13 06 05.3 +0.5**
comp=Z,6.1nm,0.5s,baz=134,slow=5.7,SNR=5.9
comp=Z,12nm,0.6s
ABKAR Akbulak array 58.20 318 P **P 13 05 23.0 +0.2**
ABKAR Akbulak array 58.20 318 IAmb IAmb 13 05 23.3
comp=Z,7.6nm,0.6s
BILL Bilibino 58.58 18 P **P 13 05 25.1 0.0**
BILL IAmb IAmb 13 05 26.0
comp=Z,4.0nm,0.8s
TOO Toolangi 59.15 157 P **P 13 05 29.5 0.0**
TOO IAmb IAmb 13 05 54.8
comp=Z,11nm,1.5s
DZM Mont Dzumac 59.36 129 LR LR 13 29 45.3
comp=Z,45nm,19.2s,baz=7.5,slow=34
TNA Tin City 66.96 25 P **P 13 06 20.5 -0.2**
baz=260
F14K Arctic Creek 67.60 26 P **P 13 06 24.6 -0.2**
baz=262
ANM Nome 67.88 27 P **P 13 06 26.2 -0.4**
baz=263
K13K Kusilvak Mount 67.92 29 P **P 13 06 26.7 -0.2**
baz=265
F15K North Star Dit 68.32 25 P **P 13 06 28.8 -0.6**
baz=263
C16K Lisburne Hills 68.39 23 IAmb IAmb 13 06 32.6
comp=Z,5.3nm,0.8s
C16K Lisburne Hills 68.39 23 P **P 13 06 30.4 +0.8**
baz=262
G15K Niukluk 68.50 26 P **P 13 06 30.7 +0.3**
baz=264
J14K Nanvaranak Lak 68.51 29 P **P 13 06 30.9 +0.4**
baz=265
L14K Kuka Creek 68.82 30 IAmb IAmb 13 06 34.8
comp=Z,12nm,0.8s
L14K Kuka Creek 68.82 30 P **P 13 06 32.8 +0.3**
baz=267
M14K Bethel 69.14 31 P **P 13 06 34.5 +0.1**
baz=268
D17K Noatak River 69.16 23 P **P 13 06 34.9 +0.4**
baz=264
C17K DeLong Mountai 69.21 23 P **P 13 06 36.2 +1.3**
baz=264
H16K Elim 69.23 27 P **P 13 06 35.6 +0.6**
baz=266
G16K Koyuk River 69.24 26 P **P 13 06 35.8 +0.8**
baz=266
N14K Kuskokwak Cree 69.25 32 P **P 13 06 35.8 +0.6**
baz=268
L15K Ungalak Mounta 69.41 30 P **P 13 06 36.1 -0.1**
baz=268
K15K Wolf Creek Mou 69.42 29 P **P 13 06 36.7 +0.5**
baz=267
E17K Hotham Inlet 69.59 24 P **P 13 06 37.7 +0.6**
baz=265
KBZ Khabaz 69.63 311 P **P 13 06 37.5 -0.3**
comp=Z,7.7nm,0.9s,baz=118,slow=2.0,SNR=19
comp=Z,7.7nm,0.9s
M15K Kasigluk River 69.77 31 P **P 13 06 38.3 0.0**
baz=269
F17K Baldwin Pennin 69.77 25 P **P 13 06 38.9 +0.7**
baz=266
B18K Kokolik River 69.80 22 P **P 13 06 39.4 +1.0**
baz=264
I17K Unalakleet 69.86 28 IAmb IAmb 13 06 41.6
comp=Z,6.3nm,0.8s
I17K Unalakleet 69.86 28 P **P 13 06 39.8 +0.9**
baz=268
J16K Anvik River 69.88 28 P **P 13 06 40.3 +1.3**
baz=268
C18K Utukok River 69.96 22 IAmb IAmb 13 06 41.1
comp=Z,10nm,1.4s
C18K Utukok River 69.96 22 P **P 13 06 40.0 +0.6**
baz=265
G17K Kiwalik Mounta 69.96 26 P **P 13 06 39.4 0.0**
baz=267
N15K Kwethluk River 70.05 32 P **P 13 06 41.0 +0.9**
baz=270
RAYN Ar Rayn 70.06 289 P **P 13 06 40.2 -0.7**
RAYN IAmb IAmb 13 06 41.9
comp=Z,9.5nm,0.9s
E18K Tukpahlearik C 70.09 24 P **P 13 06 41.2 +1.0**
baz=266
O15K Ungalikthiuk R 70.19 33 P **P 13 06 40.8 -0.2**
baz=270
H17K Granite Mounta 70.25 26 P **P 13 06 42.0 +0.7**
baz=268
L16K Owhat River 70.37 30 P **P 13 06 42.5 +0.5**
baz=270
F18K Selawik 70.42 25 P **P 13 06 42.9 +0.7**
baz=268
J17K VABM Dome 70.57 28 IAmb IAmb 13 06 45.6
comp=Z,11nm,0.8s
J17K VABM Dome 70.57 28 P **P 13 06 43.8 +0.6**
baz=269
M16K Timber Creek 70.61 31 P **P 13 06 44.3 +0.7**
baz=270
N16K Nishlik Lake 70.71 31 P **P 13 06 44.6 +0.5**
baz=270
GURO Guroymak-BITLI 70.78 306 IAmb IAmb 13 06 47.2
comp=Z,12nm,1.0s
G18K Tagagawik 70.80 25 P **P 13 06 45.0 +0.4**
baz=269
H18K Honhosa River 70.91 26 P **P 13 06 45.2 -0.1**
baz=269
K17K Iditarod 70.92 29 IAmb IAmb 13 06 47.4
comp=Z,11nm,0.9s
K17K Iditarod 70.92 29 P **P 13 06 45.9 +0.6**
baz=270
L17K Donlin 70.93 29 P **P 13 06 46.2 +0.8**
baz=270
CHGN Chignik 71.00 36 P **P 13 06 46.4 +0.5**
baz=272
O16K Kokwok River B 71.07 32 P **P 13 06 47.6 +1.4**
baz=271
D19K Kuna River 71.08 23 IAmb IAmb 13 06 48.7
comp=Z,6.5nm,0.8s
D19K Kuna River 71.08 23 P **P 13 06 47.5 +1.2**
baz=268
F19K Shaleruckik Mo 71.17 24 P **P 13 06 47.7 +1.0**
baz=269
M17K Holitna River 71.35 30 P **P 13 06 48.8 +0.8**
baz=271
E19K Redstone River 71.39 24 P **P 13 06 48.7 +0.6**
baz=270
G19K Purcell Mounta 71.44 25 IAmb IAmb 13 06 50.2
comp=Z,12nm,1.3s
G19K Purcell Mounta 71.44 25 P **P 13 06 49.2 +0.8**
baz=270
N17K Nushagak Hills 71.49 31 P **P 13 06 49.3 +0.5**
baz=272
GCSA Galena City Sc 71.54 27 P **P 13 06 49.9 +0.9**
baz=271
O17K Koliganek Bris 71.57 32 P **P 13 06 49.6 +0.4**
baz=272
D20K Etivluk River 71.63 22 P **P 13 06 50.0 +0.4**
baz=270
J18K Innoko River 71.63 28 P **P 13 06 49.8 +0.2**
baz=271
A21K Barrow 71.67 20 P **P 13 06 50.5 +0.8**
baz=269
L18K Granite Mounta 71.68 29 IAmb IAmb 13 06 52.3
comp=Z,28nm,1.5s
L18K Granite Mounta 71.68 29 P **P 13 06 51.0 +1.1**
baz=272
H19K Roundabout Mou 71.71 26 IAmb IAmb 13 07 11.4
comp=Z,7.7nm,0.9s
H19K Roundabout Mou 71.71 26 P **P 13 06 50.5 +0.4**
baz=271
E20K Nigu River 71.79 23 P **P 13 06 50.9 +0.3**
baz=270
Q16K King Salmon 71.84 33 P **P 13 06 50.7 -0.2**
baz=273
MARD Mardin 71.92 304 P **P 13 06 52.8 +0.7**
P17K Kvichak River 71.93 32 P **P 13 06 51.9 +0.5**
baz=273,SNR=7.5
TTA Tatalina 71.97 29 P **P 13 06 52.8 +1.1**
TTA Tatalina 71.97 29 P **P 13 06 52.1 +0.3**
baz=272
F20K Avaraart Lake 71.98 24 P **P 13 06 52.4 +0.8**
baz=271
J19K Poorman 72.11 27 P **P 13 06 53.2 +0.8**
baz=272
M18K Stony River 72.12 30 P **P 13 06 52.7 +0.1**
baz=273
N18K Kilae Creek 72.13 31 P **P 13 06 52.9 +0.2**
baz=273
Q17K Contact Creek 72.27 33 P **P 13 06 53.6 -0.1**
baz=274
C21K Knifeblade Rid 72.29 22 P **P 13 06 54.3 +0.8**
baz=271
B21K Ikpikpuk River 72.34 21 P **P 13 06 54.3 +0.6**
baz=271
H20K Anotleneega Mo 72.36 26 P **P 13 06 54.0 0.0**
baz=272
O18K Koktuh Hills 72.52 32 P **P 13 06 54.9 -0.1**
baz=274
P18K Big Mountain, 72.53 32 P **P 13 06 55.3 +0.1**
baz=274
L19K White Mountain 72.54 29 IAmb IAmb 13 06 57.3
comp=Z,18nm,1.2s
L19K White Mountain 72.54 29 P **P 13 06 55.4 +0.3**
baz=273
I20K Naaghedeneel 72.57 27 IAmb IAmb 13 06 57.8
comp=Z,18nm,0.9s
I20K Naaghedeneel 72.57 27 P **P 13 06 55.9 +0.7**
baz=273
ACHA Angle Creek He 72.57 33 P **P 13 06 54.1 -1.3**
ACHA IAmb IAmb 13 06 55.6
comp=Z,7.6nm,0.8s
CHIR Chirikof Islan 72.59 36 P **P 13 06 55.9 +0.5**
baz=275
B22K Teshekpuk Lake 72.73 21 P **P 13 06 56.6 +0.6**
baz=272
J20K Nowinta River 72.74 27 IAmb IAmb 13 06 58.6
comp=Z,7.5nm,0.9s
J20K Nowinta River 72.74 27 P **P 13 06 56.5 +0.3**
baz=273
N19K Bonanza Creek 72.81 31 P **P 13 06 56.7 -0.1**
baz=274
K20K Telida 72.83 28 IAmb IAmb 13 06 59.1
comp=Z,11nm,1.2s
K20K Telida 72.83 28 P **P 13 06 57.3 +0.5**
baz=274
F21K Alatna River 72.85 24 P **P 13 06 56.9 +0.1**
baz=273
O19K Port Alsworth 72.94 31 P **P 13 06 58.1 +0.7**
baz=274
L20K Farewell, AK 72.97 29 P **P 13 06 57.1 -0.6**
baz=274
D22K Ayikyak River 73.06 22 P **P 13 06 57.9 -0.2**
baz=273
H21K Melozitna Rive 73.22 26 IAmb IAmb 13 07 02.0
comp=Z,17nm,1.4s
H21K Melozitna Rive 73.22 26 P **P 13 06 59.0 0.0**
baz=274
M20K Styx River 73.37 30 IAmb IAmb 13 07 02.2
comp=Z,7.6nm,0.8s
M20K Styx River 73.37 30 P **P 13 07 00.8 +0.7**
baz=275
Q19K Cape Douglas, 73.39 33 P **P 13 06 59.5 -0.7**
baz=275
E22K Anaktuvuk Pass 73.43 23 P **P 13 07 00.1 -0.2**
baz=274
I21K Tanana 73.60 26 IAmb IAmb 13 07 03.1
comp=Z,8.3nm,1.1s
I21K Tanana 73.60 26 P **P 13 07 00.9 -0.3**
baz=275
C23K Itkillik River 73.72 21 P **P 13 07 01.6 -0.3**
baz=275
OHAK Old Harbor 73.75 34 P **P 13 07 01.1 -1.2**
baz=276
D23K Nanushuk River 73.77 22 IAmb IAmb 13 07 04.4
comp=Z,13nm,1.1s
D23K Nanushuk River 73.77 22 P **P 13 07 02.8 +0.6**
baz=275
H22K Ishtalitna Cre 73.78 25 P **P 13 07 01.9 -0.5**
baz=275
SPCR Spurr Chakacha 73.88 30 P **P 13 07 03.7 +0.7**
baz=276
KDAK Kodiak Island 74.06 34 P **P 13 07 04.5 +0.5**
KDAK Kodiak Island 74.06 34 P **P 13 07 04.3 +0.3**
comp=Z,11nm,0.6s,baz=345,slow=12,SNR=55
comp=Z,11nm,0.6s
KDAK Kodiak Island 74.06 34 P **P 13 07 04.5 +0.5**
baz=277
Q20K Shuyak Island 74.07 33 P **P 13 07 03.3 -0.8**
baz=277
SKT Skwentna 74.12 29 P **P 13 07 04.2 -0.1**
baz=276
COLD Coldfoot 74.12 24 P **P 13 07 05.0 +0.7**
baz=276
BPAW Bear Paw Mtn. 74.13 27 P **P 13 07 04.5 +0.1**
baz=276
TOLK Toolik Lake Re 74.21 22 P **P 13 07 05.3 +0.5**
baz=276
G23K Bananza Creek 74.25 24 P **P 13 07 05.6 +0.5**
baz=276
E23K Chandalar 74.25 23 P **P 13 07 06.0 +0.9**
baz=276
HOM Homer 74.33 32 P **P 13 07 05.9 +0.3**
baz=277
C24K Franklin Bluff 74.39 21 P **P 13 07 06.2 +0.5**
baz=277
D24K Happy Valley 74.42 22 P **P 13 07 06.9 +1.0**
baz=277
CAPN Captain Cook N 74.44 31 P **P 13 07 07.0 +0.8**
baz=277
TRF Thorofare Moun 74.51 28 P **P 13 07 06.7 -0.1**
baz=277
SUA Susitna One 74.55 30 P **P 13 07 06.7 -0.3**
baz=277,SNR=8.4
CUT Chulitna 74.65 29 P **P 13 07 07.0 -0.4**
baz=277
E24K Your Creek 74.67 23 IAmb IAmb 13 07 09.4
comp=Z,8.0nm,1.1s
E24K Your Creek 74.67 23 P **P 13 07 07.7 +0.2**
baz=277
JOF Joensuu 74.68 332 *e*P **P 13 07 07.5 -0.1**
I23K Minto, Yukon-K 74.70 26 IAmb IAmb 13 07 10.2
comp=Z,18nm,1.4s
I23K Minto, Yukon-K 74.70 26 P **P 13 07 07.7 +0.1**
baz=277
BRSE Bradley Lake S 74.77 32 P **P 13 07 08.0 -0.2**
baz=278
M22K Willow 74.81 30 P **P 13 07 07.8 -0.5**
baz=278
NEA2 Nenana 74.90 27 P **P 13 07 08.7 -0.1**
baz=278
F24K Squaw Lake 74.97 23 P **P 13 07 09.5 +0.3**
baz=278
MCK McKinley 75.08 27 P **P 13 07 09.3 -0.6**
baz=278,SNR=8.7
RC01 Rabbit Creek A 75.08 30 P **P 13 07 09.6 -0.3**
baz=278
O22K Cooper Landing 75.17 31 P **P 13 07 10.7 +0.3**
baz=278
H24K Noodor Dome 75.22 25 IAmb IAmb 13 07 12.9
comp=Z,8.2nm,1.1s
H24K Noodor Dome 75.22 25 P **P 13 07 11.2 +0.5**
baz=278
G24K Hadweenzic Riv 75.25 24 IAmb IAmb 13 07 12.9
comp=Z,11nm,1.2s
G24K Hadweenzic Riv 75.25 24 P **P 13 07 11.2 +0.4**
baz=279
D25K Kavik River 75.26 22 IAmb IAmb 13 07 12.4
comp=Z,7.8nm,1.0s
D25K Kavik River 75.26 22 P **P 13 07 11.8 +0.9**
baz=279
PMR Palmer 75.30 30 P **P 13 07 10.6 -0.5**
PMR IAmb IAmb 13 07 11.8
comp=Z,13nm,0.7s
PMR Palmer 75.30 30 P **P 13 07 11.1 0.0**
baz=278
WRH Wood River Hil 75.34 27 IAmb IAmb 13 07 13.2
comp=Z,7.1nm,0.7s
COLA College 75.38 26 P **P 13 07 11.3 -0.2**
baz=279
POKR Poker Plat Res 75.51 26 P **P 13 07 12.9 +0.6**
baz=279
SML Sawmill 75.64 29 P **P 13 07 13.3 +0.1**
SML IAmb IAmb 13 07 15.0
comp=Z,16nm,0.9s
SML Sawmill 75.64 29 P **P 13 07 12.9 -0.3**
baz=279
KNK Knik Glacier 75.64 30 P **P 13 07 12.3 -0.9**
baz=279,SNR=5.7
C26K Camden Bay 75.67 21 P **P 13 07 13.3 +0.2**
baz=280
E25K Arctic Village 75.75 23 P **P 13 07 13.8 +0.1**
baz=280
PWL Port Wells 75.79 30 P **P 13 07 13.7 -0.3**
baz=279

ILAR	Eielson Array	75.80	26	P	P	13 07 12.7	-1.3
	comp=Z,2.0nm,0.9s,baz=260,slow=4.2,SNR=24						
	comp=Z,2.0nm,0.9s						
F25K	Christian Rive	75.81	23	IAmb	IAmb	13 07 48.7	
	comp=Z,9.9nm,1.3s						
F25K	Christian Rive	75.81	23	P	P	13 07 14.3	+0.2
	baz=280						
HDA	Harding Lake	75.83	27	IAmb	IAmb	13 07 14.4	
	comp=Z,6.5nm,0.8s						
HDA	Harding Lake	75.83	27	P	P	13 07 14.1	-0.1
	baz=280						
M23K	Glacier View	75.93	29	P	P	13 07 14.9	+0.1
	baz=280						
ARA0	ARCESS Array S	75.96	339	eP	P	13 07 15.0	+0.2
ARA0				IAmb	IAmb	13 07 16.3	
	comp=Z,298nm,2.5s						
ARCES	ARCESS Array B	75.96	339	P	P	13 07 14.2	-0.6
	comp=Z,3.7nm,0.6s,baz=88,slow=5.5,SNR=20						
ARCES				LR	LR	13 43 11.5	
	comp=Z,23nm,18.6s,baz=254,slow=38						
	comp=Z,3.7nm,0.6s						
H25L	Birch Creek	75.98	25	P	P	13 07 15.5	+0.6
	baz=280						
SCM	Sheep Creek Mo	76.11	29	P	P	13 07 15.8	0.0
	baz=280						
C27K	Jago River	76.13	21	P	P	13 07 16.3	+0.5
	baz=281						
BMAR	Burnt Mountain	76.25	23	P	P	13 07 17.7	+1.2
SPA0	Spitsbergen Ar	76.33	348	eP	P	13 07 16.8	0.0
SPITS	Spitsbergen Ar	76.33	348	P	P	13 07 16.7	0.0
	comp=Z,11nm,0.6s,baz=85,slow=10,SNR=9.9						
	comp=Z,11nm,0.6s						
BZK	Bozkurt	76.34	310	⇑P	P	13 07 17.9	+0.4
F26K	Sheenjek River	76.36	23	P	P	13 07 18.5	+1.3
	baz=281						
GLI	Glacier Island	76.39	30	P	P	13 07 18.0	+0.6
	baz=280						
K24K	Donnelly Dome	76.45	27	P	P	13 07 18.2	+0.5
	baz=281,SNR=6.3						
J25K	Salcha River,	76.47	26	P	P	13 07 17.6	-0.3
	baz=281						
M24K	Tolsona, Glenn	76.59	29	P	P	13 07 18.4	-0.2
	baz=281						
G26K	Porcupine Rive	76.64	24	P	P	13 07 18.8	+0.1
	baz=282						
PAX	Paxson	76.75	28	P	P	13 07 19.6	+0.2
	baz=281						
KLU	Klutina	76.83	29	P	P	13 07 20.1	+0.2
	baz=281						
KTK1	Kautokeino	76.86	338	eP	P	13 07 19.9	+0.1
RIDG	Independent Ri	76.87	27	IAmb	IAmb	13 07 21.0	
	comp=Z,14nm,0.9s						
RIDG	Independent Ri	76.87	27	P	P	13 07 20.1	0.0
	baz=282,SNR=8.4						
KIRS	Kirsehir-Merke	76.95	307	⇑P	P	13 07 21.3	+0.2
DIV	Divide	76.97	30	IAmb	IAmb	13 07 21.9	
	comp=Z,16nm,1.0s						
HARP	HAARP	77.00	28	P	P	13 07 21.7	+0.9
	baz=282						
BRTR	Keskin Array B	77.04	308	P	P	13 07 20.8	-0.9
BRTR	Keskin Array B	77.04	308	P	P	13 07 21.2	-0.5
	comp=Z,2.7nm,0.7s,baz=132,slow=4.4,SNR=18						
	comp=Z,2.7nm,0.7s						
BR104	Keskin Array S	77.05	308	P	P	13 07 20.9	-0.8
	comp=Z,39nmcomp=Z,3.8nm,0.7s						
BR106	Keskin Array S	77.06	308	P	P	13 07 21.2	-0.6
	comp=Z,39nmcomp=Z,3.4nm,0.9s						
BR105	Keskin Array S	77.06	308	P	P	13 07 20.6	-1.2
	comp=Z,55nmcomp=Z,4.4nm,0.7s						
EYAK	Cordova Ski Ar	77.10	30	P	P	13 07 21.4	0.0
	baz=282						
D27M	Malcolm River	77.16	21	IAmb	IAmb	13 07 23.6	
	comp=Z,8.6nm,1.1s						
D27M	Malcolm River	77.16	21	P	P	13 07 22.1	+0.5
	baz=284						
SCRK	Sand Creek	77.19	27	P	P	13 07 22.3	+0.4
	baz=282						
I26K	Coal Creek Min	77.25	25	IAmb	IAmb	13 07 23.3	
	comp=Z,11nm,0.9s						
I26K	Coal Creek Min	77.25	25	P	P	13 07 21.8	-0.3
	baz=283,SNR=7.4						
J26L	Joseph Creek	77.26	26	P	P	13 07 22.6	+0.3
	baz=283						
FINES	FINESS Array B	77.35	331	P	P	13 07 22.6	-0.2
	comp=Z,7.5nm,0.7s,baz=58,slow=5.8,SNR=27						
FINES				LR	LR	13 44 23.3	
	comp=Z,26nm,19.8s,baz=46,slow=38						
	comp=Z,7.5nm,0.7s						
N25K	Chitina, Valde	77.43	29	IAmb	IAmb	13 07 25.0	
	comp=Z,19nm,1.3s						
N25K	Chitina, Valde	77.43	29	P	P	13 07 24.0	+0.7
	baz=282						
G27K	Doyon Strip	77.50	24	P	P	13 07 24.7	+1.1
	baz=284						
MENT	Mentasta	77.53	28	IAmb	IAmb	13 07 26.0	
	comp=Z,6.2nm,0.5s						
BMRM	Bremner River	77.56	30	P	P	13 07 24.2	+0.1
	baz=282						
H27K	Steamboat Moun	77.69	24	P	P	13 07 24.8	+0.2
	baz=284						
JETT	Jettan, Norway	77.70	339	eP	P	13 07 24.7	+0.1
KEF	Keuruu	77.75	331	eP	P	13 07 24.6	-0.4
I27K	Kandik River	77.80	25	P	P	13 07 25.2	-0.1
	baz=284						
E28M	Babbage River	77.82	22	IAmb	IAmb	13 07 26.9	
	comp=Z,9.2nm,1.2s						
E28M	Babbage River	77.82	22	P	P	13 07 26.0	+0.7
	baz=285						
GLB	Gilahina Butte	77.83	29	IAmb	IAmb	13 07 28.7	
	comp=Z,12nm,0.8s						
AK09	Malin Array Si	77.86	319	P	P	13 07 25.3	-0.5
AKASG	Malin Array Be	77.88	319	P	P	13 07 25.5	-0.4
AKASG				IAmb	IAmb	13 07 26.3	
	comp=Z,9.7nm,1.1s						
AKASG	Malin Array Be	77.88	319	P	P	13 07 25.1	-0.9
	comp=Z,7.8nm,0.7s,baz=66,slow=5.4,SNR=26						
	comp=Z,7.8nm,0.7s						
AKBB	Malin Array Si	77.88	319	P	P	13 07 25.1	-0.8
AK10	Malin Array Si	77.89	319	P	P	13 07 25.4	-0.5
KIEV	Kiev	77.89	319	P	P	13 07 25.1	-0.9
KIEV				IAmb	IAmb	13 07 26.0	
	comp=Z,14nm,0.8s						
KIEV	Kiev	77.89	319	P	P	13 07 25.0	-0.9
	comp=Z,73nm,1.2s						
AK02	Malin Array Si	77.90	319	P	P	13 07 25.2	-0.8
D28M	Stokes Point	77.91	21	P	P	13 07 26.3	+0.6
	baz=286						
AK05	Malin Array Si	77.91	319	P	P	13 07 25.1	-1.0
AK07	Malin Array Si	77.93	319	P	P	13 07 25.3	-0.9
AK23	Malin Array Si	77.93	320	P	P	13 07 25.2	-1.0
AK12	Malin Array Si	77.94	319	P	P	13 07 25.4	-0.8
AK15	Malin Array Si	77.95	319	P	P	13 07 25.3	-1.0
AK16	Malin Array Si	77.96	319	P	P	13 07 25.5	-0.9
F28M	Old Crow	77.97	23	IAmb	IAmb	13 07 27.8	
	comp=Z,7.3nm,0.9s						
F28M	Old Crow	77.97	23	P	P	13 07 26.7	+0.5
	baz=285,SNR=8.0						
AK22	Malin Array Si	77.97	320	P	P	13 07 25.3	-1.1
AK18	Malin Array Si	77.98	319	P	P	13 07 25.4	-1.0
AK21	Malin Array Si	77.98	320	P	P	13 07 25.4	-1.1
M26K	Nabesna, AK	77.98	28	P	P	13 07 27.1	+0.7
	baz=284						
AK17	Malin Array Si	77.99	319	P	P	13 07 25.5	-1.0
AK13	Malin Array Si	78.00	319	P	P	13 07 25.7	-0.9
AK19	Malin Array Si	78.01	319	P	P	13 07 25.6	-1.0
VRDI	Verde Repeater	78.05	29	IAmb	IAmb	13 07 32.2	
	comp=Z,23nm,1.3s						
CSS	Mathiatis	78.27	303	P	P	13 07 28.5	+0.1
	comp=Z,43nm,0.8s						
L27K	Beaver Creek,	78.34	27	P	P	13 07 28.5	+0.2
	baz=284						
BCAR	Beaver Creek A	78.36	27	P	P	13 07 29.6	+1.2
MEF	Metsahovi	78.43	330	eP	P	13 07 28.8	+0.1
E29M	Blow River	78.47	22	P	P	13 07 30.1	+1.3
	baz=287						
M27K	Edge Creek, AK	78.50	28	P	P	13 07 30.0	+0.7
	baz=285						
I28M	Miner Creek	78.52	25	IAmb	IAmb	13 07 31.4	
	comp=Z,8.2nm,0.9s						
I28M	Miner Creek	78.52	25	P	P	13 07 29.4	+0.1
	baz=286						
VAF	Ylistaro	78.53	333	eP	P	13 07 29.4	+0.2
MI28	Mi28,Pidlybu	78.80	320	P	P	13 07 30.4	-0.5
	comp=Z,497nm,0.7s						
G29M	Pine Creek	78.85	23	P	P	13 07 31.4	+0.4
	baz=287						
H29M	Whitestone	78.92	24	P	P	13 07 31.6	+0.3
	baz=287						
BVCY	Beaver Creek	78.94	28	P	P	13 07 32.6	+1.0
	baz=285						
LUBAR	Lubar, Ukraine	78.97	319	P	P	13 07 31.3	-0.6
SORM	Soroca	79.00	317	⇑P	P	13 07 31.7	-0.4
SORM	Soroca	79.00	317	P	P	13 07 31.2	-0.9
	comp=Z,16nm,1.1s						
MTSE	Matsula	79.09	328	eP	P	13 07 32.6	+0.3
DAWY	Dawson	79.13	26	P	P	13 07 33.3	+0.7
	baz=286						
I29M	Ogilvie Camp,	79.20	25	P	P	13 07 33.0	+0.1
	baz=287						
YUK3	Moose Creek	79.30	29	P	P	13 07 34.4	+0.6
	baz=286						
TLCR		79.36	314	⇑P	P	13 07 33.9	-0.2
BORA	Eskisehir	79.41	308	IAmb	IAmb	13 07 34.9	
	comp=Z,13nm,0.7s						
F30M	Barrier River	79.46	22	P	P	13 07 35.3	+1.0
	baz=289						
G30M	tAoh Zraii Nji	79.51	23	IAmb	IAmb	13 07 35.4	
	comp=Z,8.5nm,1.1s						
G30M	tAoh Zraii Nji	79.51	23	P	P	13 07 35.4	+0.8
	baz=289						
J29N	Klondike Camp	79.51	26	IAmb	IAmb	13 07 36.4	
	comp=Z,6.3nm,0.8s						
J29N	Klondike Camp	79.51	26	P	P	13 07 35.9	+1.2
	baz=287						
EPYK	Eagle Plains	79.51	24	P	P	13 07 35.1	+0.5
	baz=288						
O28M	Mount Upton	79.70	30	P	P	13 07 37.0	+0.9
	baz=286						
VLDR	Vladesti	79.71	315	⇑P	P	13 07 36.0	0.0
TPGR	Topolog	79.71	314	⇑P	P	13 07 36.4	+0.2
YUK8	Steele Glacier	79.75	29	P	P	13 07 35.7	-0.6
	baz=287						
RNPP9	Sopachiv	79.77	321	P	P	13 07 35.7	-0.5
RNPP8	Varash	79.81	321	P	P	13 07 35.2	-1.2
RNPP5	Staryi Chortor	79.82	320	P	P	13 07 35.9	-0.6
CFR	Carcaliu	79.83	314	⇑P	P	13 07 36.9	+0.2
PABE	Paberze	79.84	325	P	P	13 07 36.8	+0.3
PABE	Paberze	79.84	325	eP	P	13 07 36.7	+0.2
PINM	Pinnacle	79.86	30	P	P	13 07 37.0	+0.3
	baz=286						
L29M	L29M	79.95	27	IAmb	IAmb	13 07 39.7	
	comp=Z,10nm,0.8s						
L29M	L29M	79.95	27	P	P	13 07 38.0	+0.9
	baz=288						
K29M	Barlow Dome	79.98	26	P	P	13 07 37.9	+0.6
	baz=288						
STEI	Steigen	80.00	338	eP	P	13 07 36.8	-0.3
M29M	Somme Creek	80.00	28	IAmb	IAmb	13 07 39.6	
	comp=Z,11nm,0.8s						
M29M	Somme Creek	80.00	28	P	P	13 07 37.6	+0.2
	baz=288						
I30M	Mount Dempster	80.01	25	P	P	13 07 38.0	+0.5
	baz=289						
INK	Inuvik	80.03	21	P	P	13 07 36.2	-1.0
	comp=Z,4.6nm,0.8s,baz=306,slow=5.8,SNR=18						
	comp=Z,4.6nm,0.8s						
INK	Inuvik	80.03	21	P	P	13 07 37.5	+0.3
	baz=291,SNR=6.5						
YLV	Yalova	80.05	309	P	P	13 07 37.4	-0.7
	comp=Z,22nm,0.9s						
HARR	Harsova	80.09	314	⇓P	P	13 07 38.7	+0.6
FAUS	Fauske	80.17	338	eP	P	13 07 37.5	-0.6
FAUS				IAmb	IAmb	13 07 53.7	
	comp=Z,343nm,2.6s						
J30M	Hart River	80.24	25	P	P	13 07 38.4	-0.3
	baz=289						
G31M	Satah River	80.25	23	P	P	13 07 38.4	-0.1
	baz=290						
YUK4	Talbot Arm	80.25	29	P	P	13 07 39.3	+0.4
	baz=288						
F31M	Tsiigehtchic	80.26	22	IAmb	IAmb	13 07 39.3	
	comp=Z,7.8nm,0.8s						
F31M	Tsiigehtchic	80.26	22	P	P	13 07 38.4	-0.2
	baz=291,SNR=7.3						
PANC	Panciu	80.34	315	⇑P	P	13 07 39.8	+0.4
YUK6	Outpost Mounta	80.51	29	P	P	13 07 40.7	+0.3
	baz=288						
ABPO	Ambohimpanom	80.54	247	P	P	13 07 42.2	+1.0
ABPO				IAmb	IAmb	13 07 42.9	
	comp=Z,10.0nm,1.0s						
O29M	Mount Kennedy	80.60	30	P	P	13 07 41.9	+1.2
	baz=288						
H31M	Peel River	80.61	24	IAmb	IAmb	13 07 42.2	
	comp=Z,12nm,1.2s						
H31M	Peel River	80.61	24	P	P	13 07 40.8	+0.3
	baz=291						
VRI	Vrincioaia	80.62	315	⇑P	P	13 07 41.7	+0.6
VRI	Vrincioaia	80.62	315	P	P	13 07 41.6	+0.6
	comp=Z,26nm,1.3s						
SUW	Suwalki	80.68	324	eP	P	13 07 40.9	-0.2
M30M	Minto, Yukon	80.70	27	IAmb	IAmb	13 07 43.5	
	comp=Z,11nm,1.0s						
M30M	Minto, Yukon	80.70	27	P	P	13 07 41.6	+0.5
	baz=289						
ONER	Baraj Valea Uz	80.73	316	⇓P	P	13 07 42.3	+0.7
MAYO	Mayo, Yukon	80.75	26	P	P	13 07 42.8	+1.5
	baz=290						
N30M	Aishikik Lake	80.93	28	IAmb	IAmb	13 07 44.8	
	comp=Z,9.1nm,0.8s						
N30M	Aishikik Lake	80.93	28	P	P	13 07 42.7	+0.3
	baz=289						
HYT	Haines Junctio	80.94	29	P	P	13 07 43.7	+1.1
	baz=289						
NEHR	Nehoiu	81.03	315	⇓P	P	13 07 43.8	+0.6
BAND	Balkesir-Ban	81.05	309	⇑P	P	13 07 43.1	-0.2
A36M	Sachs Harbour	81.08	17	P	P	13 07 43.2	+0.4
	baz=298						
BURAR	Bucovina Array	81.17	317	⇑P	P	13 07 44.4	+0.4
BUR08	Bucovina Ar. S	81.17	317	P	P	13 07 43.6	-0.4
BUR08				IAmb	IAmb	13 07 45.0	
	comp=Z,8.1nm,0.8s						
MLR	Muntele Rosu	81.25	315	⇓P	P	13 07 44.6	+0.2
MLR	Muntele Rosu	81.25	315	P	P	13 07 44.3	-0.2
	comp=Z,24nm,0.7s						
P30M	Million Dollar	81.42	30	P	P	13 07 44.2	-0.8
	baz=289						
LEIR	Leirfjorden	81.44	337	eP	P	13 07 44.4	-0.5
DOPR	Dopca	81.50	315	⇑P	P	13 07 46.2	+0.5
N31M	Braeburn, Yuko	81.51	28	IAmb	IAmb	13 07 49.1	
	comp=Z,8.1nm,0.7s						
N31M	Braeburn, Yuko	81.51	28	P	P	13 07 46.1	+0.7
	baz=290						
O30N	Mendenhall	81.61	29	P	P	13 07 46.9	+0.9
	baz=290						
VOIR		81.87	315	⇑P	P	13 07 47.6	0.0
VOIR		81.87	315	P	P	13 07 47.4	-0.3
	comp=Z,6.5nm,0.6s						
M31M	Drury Creek, Y	81.88	27	IAmb	IAmb	13 07 49.0	
	comp=Z,6.1nm,0.8s						
M31M	Drury Creek, Y	81.88	27	P	P	13 07 47.8	+0.5
	baz=291						
ARCR	ARCALIA	81.88	317	⇓P	P	13 07 48.6	+1.0
PLBC	Pleasant Camp	81.93	30	P	P	13 07 48.4	+0.8
	baz=290						
ARR	Arges	82.17	315	⇓P	P	13 07 49.3	+0.1
WHY	Whitehorse	82.21	29	IAmb	IAmb	13 07 51.0	
	comp=Z,7.0nm,0.7s						
WHY	Whitehorse	82.21	29	P	P	13 07 49.3	+0.1
	baz=291						
FARO	Faro, Yukon	82.32	27	IAmb	IAmb	13 07 51.6	
	comp=Z,9.7nm,0.9s						
FARO	Faro, Yukon	82.32	27	P	P	13 07 49.7	0.0
	baz=292						
ALN	Alexandroupoli	82.41	310	IAmb	IAmb	13 07 50.8	
	comp=Z,8.5nm,0.9s						
SKAG	Skagway	82.43	30	IAmb	IAmb	13 07 52.7	
	comp=Z,17nm,1.0s						
SKAG	Skagway	82.43	30	P	P	13 07 50.2	0.0
	baz=291						
KOLS	Kolonicke sedl	82.69	319	eP	P	13 07 52.2	+0.4
C36M	Paulatuk	82.69	19	P	P	13 07 51.1	-0.3
C36M				IAmb	IAmb	13 07 52.0	
	comp=Z,13nm,1.1s						
C36M	Paulatuk	82.69	19	P	P	13 07 51.2	-0.1
	baz=299						
RDO	Rodhopi	82.71	311	IAmb	IAmb	13 07 52.3	
	comp=Z,9.0nm,0.9s						
MARR	Marisel-Cluj	82.81	317	⇓P	P	13 07 53.3	+0.7
N32M	Quiet Lake	82.85	28	IAmb	IAmb	13 07 54.4	
	comp=Z,17nm,1.1s						
N32M	Quiet Lake	82.85	28	P	P	13 07 53.8	+1.4
	baz=292						
DRGR		83.04	317	⇑P	P	13 07 54.3	+0.5
P32M	Atlin	83.15	30	P	P	13 07 55.2	+1.3
	baz=292						
STHS	Stebnicka Huta	83.18	320	eP	P	13 07 53.6	-0.7
SIT	Sitka	83.28	32	P	P	13 07 55.0	+0.4
	baz=291						
P33M	Teslin, Yukon	83.33	29	P	P	13 07 55.6	+0.6
	baz=293						
GZR	Gura Zlata	83.42	315	⇑P	P	13 07 56.0	+0.3
HFS	Hagfors	83.53	331	P	P	13 07 55.0	-0.8
	comp=Z,10.0nm,0.6s,baz=114,slow=3.6,SNR=43						
	comp=Z,10.0nm,0.6s						
SURR	Surduc	83.75	316	⇓P	P	13 07 57.3	+0.1
OJC	Ojcow	83.81	321	P	P	13 07 57.0	-0.5
OJC	Ojcow	83.81	321	P	P	13 07 57.5	0.0
	comp=Z,26nm,0.9s						
HERR	Herculane	83.82	315	⇑P	P	13 07 57.2	-0.4
SIRR	Siria	83.89	316	⇑P	P	13 07 58.0	-0.1
NC405	NORSAR Array S	84.03	332	P	P	13 07 58.1	-0.3
Q32M	Nakina River	84.07	30	P	P	13 07 59.6	+0.7
	baz=293						
BZS	Buzias	84.13	316	⇑P	P	13 07 59.1	-0.1
NC602	NORSAR Array S	84.26	332	eP	P	13 07 58.9	-0.6
NB2	NORSAR Subarra	84.28	333	P	P	13 07 58.4	-1.3
	comp=Z,8.1nm,0.7s,baz=68,slow=4.8						
NB2	NORSAR Subarra	84.28	333	P	P	13 07 58.4	-1.3
	baz=68,slow=4.8						
NOA	NORSAR Array B	84.28	333	P	P	13 07 58.7	-1.0
	comp=Z,4.8nm,0.6s,baz=66,slow=4.7,SNR=22						
NOA				LR	LR	13 49 02.5	
	comp=Z,20nm,21.8s,baz=35,slow=38						
	comp=Z,4.8nm,0.6s						
MDVR	Moldovita	84.32	315	⇑P	P	13 08 00.6	+0.3
LANS	Liptovska Anna	84.37	320	eP	P	13 08 01.4	+1.0
PSZ	Piszkesteto	84.51	318	IAmb	IAmb	13 08 02.2	
	comp=Z,20nm,1.5s						
R33M	Jennings River	84.51	29	IAmb	IAmb	13 08 03.9	
	comp=Z,9.5nm,1.0s						
R33M	Jennings River	84.51	29	P	P	13 08 02.0	+1.0
	baz=294						
DOMB	Dombas	84.77	334	eP	P	13 08 01.9	-0.3
VYHS	Vyhne	84.98	319	eP	P	13 08 03.7	+0.2
CRAG	Craig	85.01	33	P	P	13 08 04.6	+1.2
	baz=293						
S34M	Telegraph Cree	85.04	31	P	P	13 08 04.3	+0.7
	baz=294						
WTLY	Watson Lake, Y	85.20	28	P	P	13 08 05.1	+0.7
	baz=296						
MAUC	Maruska	85.30	320	eP	P	13 08 05.8	+0.7
MORC	Moravsky Berou	85.33	321	P	P	13 08 04.8	-0.4
MORC				IAmb	IAmb	13 08 06.4	
	comp=Z,9.9nm,1.0s						
MORC	Moravsky Berou	85.33	321	eP	P	13 08 05.3	+0.1
DLBC	Dease Lake	85.36	30	P	P	13 08 06.9	+1.7
DLBC				IAmb	IAmb	13 08 08.0	
	comp=Z,13nm,0.9s						
DLBC	Dease Lake	85.36	30	P	P	13 08 06.4	+1.2
	comp=Z,12nm,1.0s,baz=291,slow=7.5,SNR=14						
	comp=Z,12nm,1.0s						
DLBC	Dease Lake	85.36	30	P	P	13 08 06.1	+0.9
	baz=295						
SRO	Srobarova	85.55	319	eP	P	13 08 06.8	+0.6
AKN	Aaknes	85.57	334	eP	P	13 08 05.9	-0.2
JAVC	Velka Javorina	85.58	320	eP	P	13 08 08.0	+1.5
KRLC	Kraliky	85.68	321	eP	P	13 08 07.5	+0.5
KSP	Ksiaz	85.69	322	P	P	13 08 07.1	+0.2
	comp=Z,41nm,0.7s						
SKAR	Skarslia	85.72	333	eP	P	13 08 06.7	-0.2
RES	Resolute Bay	85.77	9	P	P	13 08 06.7	-0.1
	comp=Z,5.8nm,0.7s,baz=313,slow=5.2,SNR=25						
	comp=Z,5.8nm,0.7s						
DPC	Dobruska-Polom	85.86	322	eP	P	13 08 08.5	+0.7
DPC	Dobruska-Polom	85.86	322	P	P	13 08 08.0	+0.2
	comp=Z,15nm,1.2s						
V35K	Ketchikan	85.86	33	P	P	13 08 08.7	+1.0
	baz=294						
MORH	Mrgy, Hungar	85.89	317	⇑P	P	13 08 08.3	+0.4
MORH	Mrgy, Hungar	85.89	317	P	P	13 08 07.8	-0.2
	comp=Z,12nm,1.1s						
WRGLY	Wrigley	85.97	24	P	P	13 08 09.0	+1.0
	baz=300						
VRAC	Vranov	86.08	320	eP	P	13 08 09.7	+0.8
VRAC	Vranov	86.08	320	⇑P	P	13 08 09.2	+0.3
KRUC	Moravsky	86.29	320	eP	P	13 08 10.4	+0.5
ODD1	Odda	86.82	333	eP	P	13 08 11.9	-0.4
RONA	Rosalia, Austr	86.86	319	ePcP	P	13 08 13.3	+0.6
	comp=Z,12nm,1.6s						
CONA	Conrad Observa	87.04	319	i PcP	P	13 08 13.8	+0.1
	comp=Z,9.6nm,1.2s						
BLS5	Blasjo	87.13	332	eP	P	13 08 13.4	-0.4
KOTAN	Kotaneelee Air	87.29	27	P	P	13 08 15.2	+0.7
	baz=300						
TOAD	Toad River Com	87.40	28	P	P	13 08 15.4	+0.2
	baz=299						
CLL	Collm	87.42	323	i P	P	13 08 15.1	-0.3
	comp=Z,7.0nm,0.8s						
ARSA	Arzberg	87.51	319	i PcP	P	13 08 16.0	+0.1
	comp=Z,3.9nm,0.8s						
CKRC	Cesky Krumlov	87.65	321	eP	P	13 08 16.6	0.0
GEC2	GERESS Array S	88.01	321	IAmb	IAmb	13 08 19.1	
	comp=Z,4.5nm,0.8s						
GERES	GERESS Array B	88.01	321	P	P	13 08 17.9	-0.4
GERES	GERESS Array B	88.01	321	P	P	13 08 18.5	+0.1
	comp=Z,3.4nm,0.7s,baz=60,slow=5.3,SNR=15						
	comp=Z,3.4nm,0.7s						
SOKA	Soboth	88.04	318	eP	P	13 08 17.8	-0.7
	comp=Z,5.4nm,0.8s						
MOA	Molln	88.06	320	i PcP	P	13 08 18.9	+0.3
	comp=Z,6.2nm,0.6s						
BIOA	Bad Ischl, Aus	88.52	320	ePcP	P	13 08 20.9	+0.3
	comp=Z,2.7nm,0.4s						
MYKA	Terra Mystica	88.94	319	eP	P	13 08 21.9	-0.9
	comp=Z,5.4nm,1.0s						
KBA	Koelnbreinsper	88.94	319	i P	P	13 08 22.2	-0.7
	comp=Z,7.7nm,1.0s						
GRF	Grafenberg Arr	89.14	322	eP	P	13 08 23.6	+0.1
	comp=Z,6.7nm,0.8s,baz=67,slow=4.2						
LESA	Schwarzleotal	89.22	320	i PcP	P	13 08 23.8	-0.2
	comp=Z,8.6nm,0.6s,SNR=5.1						
ABTA	Abfaltersbach	89.60	319	i P	P	13 08 24.2	-1

ISC 04 13:18:41.3±1.0, 36°.85N±0°.03×27°.34E±0°.03, h10km±7km, n34, σ0°.59/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.19**	**150**	P	**Pg**	**13 18 45.2**	**-0.2**
YAZI				S	**Sg**	**13 18 47.8**	**-0.4**
YAZI				*i* AML	AML	13 18 49.0	
	comp=E,2μm,0.4s						
YAZI				*i* AML	AML	13 18 49.0	
	comp=N,927nm,0.3s						
BODT	**Bodrum**	**0.21**	**355**	Pg	**Pg**	**13 18 45.7**	**0.0**
BODT				Sg	**Sg**	**13 18 50.0**	**+1.2**
BDRM	**Kayabasi**	**0.23**	**22**	P	**Pg**	**13 18 46.0**	**-0.1**
BDRM				S	**Sg**	**13 18 49.2**	**-0.1**
BDRM				*i* AML	AML	13 18 51.0	
	comp=E,2μm,0.3s						
YKAV	**Yalikavak-Bodr**	**0.28**	**351**	Pg	**Pg**	**13 18 46.8**	**-0.1**
YKAV				Sg	**Sb**	**13 18 52.1**	**-1.1**
DIDI	**Didim-Aydin**	**0.53**	**352**	Pg	**Pg**	**13 18 51.8**	**+0.2**
DIDI				Sg	**Sb**	**13 19 00.2**	**-0.3**
MLSB	**Milas**	**0.57**	**38**	Pg	**Pb**	**13 18 52.9**	**-0.5**
DDIM	**Aydin, Didim**	**0.61**	**353**	P	**Pg**	**13 18 53.1**	**0.0**
DDIM				S	**Sb**	**13 19 02.3**	**-0.5**
DDIM				*i* AML	AML	13 19 07.0	
	comp=N,690nm,0.3s						
DDIM				*i* AML	AML	13 19 08.0	
	comp=E,759nm,0.5s						
MRSB	**Marmaris-Mugla**	**0.70**	**101**	Pg	**Pb**	**13 18 55.5**	**-0.2**
TURN	**Turunc**	**0.73**	**96**	Pg	**Pg**	**13 18 54.9**	**-0.6**
YER	**Yerkesik**	**0.81**	**69**	Pg	**Pb**	**13 18 57.7**	**+0.2**
GCAM	**G?zelcaml?**	**0.85**	**355**	Pg	**Pb**	**13 18 57.9**	**-0.3**
GCAM	**G?zelcaml?**	**0.85**	**355**	P	**Pg**	**13 18 57.2**	**-0.6**
GCAM				S	**Sb**	**13 19 11.0**	**+1.2**
GCAM				*i* AML	AML	13 19 14.0	
	comp=E,185nm,0.2s						
GCAM				*i* AML	AML	13 19 14.0	
	comp=N,249nm,0.3s						
MULA	**Mugla, Merkez-**	**0.89**	**62**	P	**Pb**	**13 18 58.5**	**-0.4**
MULA				S	**Sn**	**13 19 13.9**	**+0.9**
MULA				*i* AML	AML	13 19 15.0	
	comp=E,118nm,0.4s						
MULA				*i* AML	AML	13 19 18.0	
	comp=N,61nm,0.6s						
ARG	**Arkhangelos**	**0.90**	**135**	Pg	**Pb**	**13 18 58.8**	**-0.2**
ARG	**Arkhangelos**	**0.90**	**135**	P	**Pb**	**13 18 58.8**	**-0.2**
ARG				S	**Sb**	**13 19 11.3**	**+0.3**
	610nm,0.4s						
SMG	**Samos**	**0.94**	**335**	P	**Pg**	**13 18 59.1**	**-0.4**
SMG				S	**Sb**	**13 19 12.7**	**+0.3**
	1μm,0.3s						
DALY	**Dalyan (Mula)**	**1.06**	**91**	Pn	**Pn**	**13 19 02.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.18**	**22**	Pn	**Pn**	**13 19 04.3**	**+0.2**
ESEN	**Aydn-Nazilli**	**1.25**	**40**	P	**Pn**	**13 19 04.0**	**-0.7**
ESEN				S	**Sn**	**13 19 22.2**	**+0.6**
ESEN				*i* AML	AML	13 19 27.0	
	comp=E,72nm,0.5s						
ESEN				*i* AML	AML	13 19 28.0	
	comp=N,58nm,0.9s						
DGB	**zmir**	**1.25**	**343**	P	**Pn**	**13 19 04.1**	**-0.8**
DGB				S	**Sb**	**13 19 21.1**	**-0.1**
DGB				*i* AML	AML	13 19 29.0	
	comp=E,41nm,0.5s						
DGB				*i* AML	AML	13 19 29.0	
	comp=N,45nm,0.2s						
NAZL	**Nazilli-Aydin**	**1.35**	**34**	Pn	**Pg**	**13 19 07.4**	**+0.2**
FETY	**Fethiye**	**1.42**	**98**	Pn	**Pg**	**13 19 08.9**	**+0.3**
APE	**Apeiranthos**	**1.46**	**279**	Pn	**Pn**	**13 19 08.1**	**+0.3**
ODEM	**Odemis-Izmir**	**1.54**	**22**	Pn	**Pb**	**13 19 10.1**	**+0.1**
BLCB	**Balcova**	**1.55**	**351**	Pn	**Pb**	**13 19 10.1**	**0.0**
CAME	**Cameli-Denizli**	**1.58**	**86**	Pn	**Pg**	**13 19 10.9**	**-0.7**
KIRA	**zmir-Kiraz**	**1.59**	**32**	P	**Pn**	**13 19 10.1**	**+0.5**
KIRA				S	**Sn**	**13 19 29.8**	**-0.5**
KIRA				*i* AML	AML	13 19 42.0	
	comp=N,68nm,0.9s						
KIRA				*i* AML	AML	13 19 45.0	
	comp=E,44nm,0.7s						
APMY	**Acipayam-Deniz**	**1.69**	**68**	Pn	**Pb**	**13 19 12.4**	**-0.2**
CHOS	**Chios island**	**1.84**	**327**	Pn	**Pn**	**13 19 14.1**	**+1.0**
CHOS	**Chios island**	**1.84**	**327**	P	**Pn**	**13 19 12.3**	**-0.8**
CHOS				S	**Sn**	**13 19 36.0**	**-0.5**
	95nm,0.6s						
ZKR	**Zakros**	**1.95**	**208**	Pn	**Pn**	**13 19 14.8**	**+0.2**
ZKR	**Zakros**	**1.95**	**208**	P	**Pn**	**13 19 15.0**	**+0.4**
KULA	**Kula-Manisa**	**1.97**	**32**	Pn	**Pb**	**13 19 16.4**	**-0.9**
GORD	**Gordes-Manisa**	**2.16**	**18**	Pn	**Pn**	**13 19 18.9**	**+1.4**

*JMA **04** 13:29:19.8±0.3, 34°.N±5°.5×13°.7E±°, h392km, MV3.0/18, SE OFF KII PENINSULA*
*IDC **04** 13:29:22.7±2.0, 33°.64N×137°.08E, h373km±20km, mb2.7/5, mbtmp3.4/8, Error ellipse: s-maj=30.5km s-min=23.6km az=50.0*

ISC 04 13:29:20.6±1.5, 33°.6N±0°.2×137°.31E±0°.09, h400km, n19, σ2°.29/19, mb3.0/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.93**	**328**	P	**Pn**	**13 30 10.3**	**-1.1**
JTNC	**Tanabenakahech**	**1.43**	**279**	P	**Pn**	**13 30 11.9**	**-1.5**
JWY	**Kouya**	**1.55**	**294**	P	**Pn**	**13 30 12.5**	**-1.6**
JYTA	**Yamagatataniai**	**2.04**	**347**	*e*P	**Pn**	**13 30 15.7**	**-1.1**
JOD2	**Odawara 2**	**2.22**	**41**	P	**Pn**	**13 30 18.6**	**+0.6**
JWT	**Wachi**	**2.30**	**317**	P	**Pn**	**13 30 16.7**	**-1.8**
JAI	**Aioi**	**2.39**	**275**	P	**Pn**	**13 30 17.2**	**-1.9**
JRY	**Ryogami san**	**2.75**	**28**	P	**Pn**	**13 30 22.2**	**+0.4**
JMN	**Monobe**	**2.86**	**274**	*e*P	**Pn**	**13 30 21.3**	**-1.5**
MJAR	**Matsushiro Arr**	**3.03**	**14**	P	**Pn**	**13 30 24.7**	**+0.7**
	0.7nm,0.4s,baz=169,slow=8.6,SNR=2.5						
BSO1	**Boso 1**	**3.22**	**70**	P	**Pn**	**13 30 24.5**	**-0.5**
BSO1				*e*S	**S**	**13 31 15.4**	**-1.9**
JAG	**Ashikaga**	**3.33**	**31**	P	**Pn**	**13 30 25.5**	**-0.9**
JAG				S	**S**	**13 31 14.1**	**-5.9**
KSRS	**Korea Array**	**8.56**	**299**	P	**P**	**13 31 20.9**	**-1.2**
	1.3nm,0.7s,baz=117,slow=11,SNR=6.9						
USRK	**Ussuriysk Ar.**	**11.36**	**340**	P	**Pn**	**13 31 54.1**	**-0.1**
	1.3nm,0.5s,baz=148,slow=11,SNR=4.3						
SONM	**Songino Array**	**27.19**	**311**	P	**P**	**13 34 33.0**	**+3.4**
	0.4nm,0.6s,baz=106,slow=11,SNR=3.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**43.20**	**305**	P	**P**	**13 36 46.9**	**+2.8**
	0.2nm,0.4s,baz=86,slow=9.7,SNR=11						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**45.56**	**310**	P	**P**	**13 37 05.0**	**+2.6**
	0.4nm,0.4s,baz=89,slow=8.8,SNR=6.8						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**53.32**	**183**	P	P	13 38 05.0	+4.5
	1.2nm,1.1s,baz=1.4,slow=7.2,SNR=2.9						
	1.2nm,1.1s						
YKA	**Yellowknife Ar**	**68.44**	**28**	P	P	13 39 45.1	+4.7
	0.1nm,0.6s,baz=282,slow=3.5,SNR=3.7						
	0.1nm,0.6s						

*IDC **04** 13:45:40.9±0.6, 2°.30S×140°.30E, h0km, mb4.0/11, mbtmp4.0/12, ML4.4/1, MS3.2/6, Error ellipse: s-maj=19.0km s-min=6.7km az=31.0*
*DJA **04** 13:45:42.7±0.4, 2°.S±4°.×14°.0E±°, h10km, M4.2/6, MLv4.2/6*
*NEIC **04** 13:45:43.5±1.3, 2°.41S±0°.08×140°.3E±0°.1, h15km±4km, mb4.5/27, Error ellipse: s-maj=15.6km s-min=10.8km az=101.0*

ISC 04 13:45:44.1±0.5, 2°.40S±0°.06×140°.31E±0°.04, h24km, n64, σ0°.82/58, mb4.3/22, MS3.1/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.24**	**217**	P	**Pb**	**13 45 49.8**	**-0.4**
GENI				S	**Sb**	**13 45 52.8**	**-1.5**
JAY	**Jayapura**	**0.41**	**106**	Pg	**Pb**	**13 45 51.7**	**-1.1**
	646nm,0.3s,baz=259,slow=9.1,SNR=1533						
JAY				Lg	Lg	13 45 58.3	
	1μm,0.3s,baz=162,slow=20,SNR=21						
JAY	**Jayapura**	**0.41**	**106**	P	**Pb**	**13 45 51.6**	**-1.1**
JAY				S	**Sb**	**13 45 58.3**	**-0.4**
SMPI	**Sarmi**	**1.65**	**284**	P	**Pn**	**13 46 11.5**	**-0.1**
SMPI				S	**Sb**	**13 46 33.2**	**-1.1**
WAMI	**Wamena**	**2.17**	**227**	P	**Pn**	**13 46 20.5**	**+1.7**
SRPI	**Serui, Papua**	**4.10**	**277**	P	**Pn**	**13 46 46.5**	**+1.1**
SRPI				S	**Sn**	**13 47 33.1**	**+0.4**
BAKI	**Biak**	**4.37**	**286**	P	**Pn**	**13 46 49.1**	**+0.1**
BAKI				S	**Sn**	**13 47 39.2**	**-0.1**
FAKI	**Fak Fak**	**8.07**	**266**	Pn	**Pn**	**13 47 40.5**	**+0.6**
PMG	**Port Moresby**	**9.73**	**136**	LR	LR	13 53 01.0	
	comp=Z,259nm,18.2s,baz=338,slow=45						
KRVT	**Keravat (AS076**	**11.85**	**100**	LR	LR	13 52 12.9	
	comp=Z,108nm,20.4s,baz=10,slow=33						
MTN	**Manton Dam**	**13.79**	**221**	Pn	**Pn**	**13 48 56.7**	**-1.5**
KNRA	**Kununurra**	**17.42**	**220**		**Pn**	**13 49 46.1**	**+0.4**
KNRA				IAmb	IAmb	13 49 56.9	
	comp=Z,45nm,1.3s						
SOEI	**Soe**	**17.54**	**245**	P	**P**	**13 49 49.4**	**+1.1**
LUWI	**Luwuk**	**17.58**	**274**		**Pn**	**13 49 47.8**	**+0.1**
LUWI				IAmb	IAmb	13 50 17.4	
	comp=Z,49nm,0.7s						
WB0	**Warramunga Arr**	**18.20**	**198**		**Pn**	**13 49 54.1**	**-1.2**
WR0	**Warramunga Arr**	**18.34**	**197**	P	**P**	**13 49 55.7**	**-1.3**
WRAB	**Tennant Creek**	**18.37**	**198**	P	**P**	**13 49 56.5**	**-0.8**
WB2	**Warramunga Arr**	**18.38**	**198**	P	**P**	**13 49 56.6**	**-0.8**
WB2				IAmb	IAmb	13 50 00.5	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**18.39**	**198**	P	**P**	**13 49 56.9**	**-0.5**
WRA	**Warramunga Arr**	**18.39**	**198**	P	**P**	**13 49 57.4**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=17,slow=12,SNR=45						
	comp=Z,9.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.22**	**222**	P	**P**	**13 50 29.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.22**	**222**	P	**P**	**13 50 28.4**	**0.0**
	comp=Z,15nm,1.0s,baz=37,slow=14,SNR=8.8						
FITZ				LR	LR	13 59 34.9	
	comp=Z,75nm,19.4s,baz=60,slow=39						
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**22.03**	**196**	P	**P**	**13 50 37.7**	**+0.6**
ASAR	**Alice Springs**	**22.03**	**196**	P	**P**	**13 50 37.3**	**+0.2**
	comp=Z,7.7nm,0.8s,baz=30,slow=10.0,SNR=57						
	comp=Z,7.7nm,0.8s						
EIDS	**Eidsvold**	**25.08**	**156**	P	**P**	**13 51 07.8**	**+0.8**
EIDS				IAmb	IAmb	13 51 20.2	
	comp=Z,12nm,1.1s						
MBWA	**Marble Bar**	**27.38**	**226**	P	**P**	**13 51 27.2**	**-0.6**
MBWA				IAmb	IAmb	13 51 40.4	
	comp=Z,18nm,1.0s						
SSLB	**Suanglung**	**32.13**	**325**	P	**P**	**13 52 09.7**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**33.24**	**50**	T	T	14 27 22.7	
	baz=231,slow=75,SNR=34						
H11S2	**WAKE ISLAND Hy**	**33.26**	**50**	T	T	14 27 28.5	
	baz=231,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**33.26**	**50**	T	T	14 27 25.5	
	baz=231,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**34.12**	**49**	T	T	14 28 32.3	
	baz=228,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**34.13**	**49**	T	T	14 28 34.3	
	baz=228,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**34.14**	**49**	T	T	14 28 32.4	
	baz=228,slow=76,SNR=9.4						
KSRS	**Korea Array**	**41.29**	**345**	P	**P**	**13 53 28.2**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=159,slow=9.0,SNR=1.9						
	comp=Z,0.4nm,0.6s						
RPSI	**Rantau Prapat**	**41.68**	**277**	P	**P**	**13 53 30.3**	**-1.0**
RPSI				IAmb	IAmb	13 53 33.8	
	comp=Z,8.8nm,1.2s						
GSI	**Gunungsitoli**	**42.89**	**274**	P	**P**	**13 53 39.5**	**-1.6**
GSI				IAmb	IAmb	13 53 40.4	
	comp=Z,12nm,0.6s						
PHRA	**Phrae**	**44.58**	**299**	P	**P**	**13 53 53.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**45.68**	**299**	P	**P**	**13 54 04.0**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=120,slow=6.4,SNR=12						
	comp=Z,1.3nm,0.6s						
RTZ	**Ruatahuna**	**49.18**	**142**	P	**P**	**13 54 30.9**	**+0.4**
BKZ	**Black Stump Fm**	**49.22**	**143**	P	**P**	**13 54 31.2**	**+0.4**
BKZ				IAmb	IAmb	13 54 56.0	
	comp=Z,11nm,1.1s						
KLR	**Kul'dur**	**51.96**	**353**	P	**P**	**13 54 51.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=215,slow=5.8,SNR=4.0						
	comp=Z,0.9nm,0.6s						
PETK	**Petropavlovsk-**	**57.20**	**12**	LR	LR	14 19 33.1	
	comp=Z,16nm,19.6s,baz=197,slow=36						
SONM	**Songino Array**	**58.14**	**334**	LR	LR	14 19 28.3	
	comp=Z,26nm,21.6s,baz=138,slow=35						
SHEM	**Shemya Is, Ala**	**61.84**	**23**	LR	LR	14 17 27.3	
	comp=Z,16nm,21.1s,baz=314,slow=31						
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**13 56 56.8**	**-0.3**
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**13 56 57.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=98,slow=7.7,SNR=11						
	comp=Z,0.9nm,0.6s						
MAKZ	**Makanchi**	**70.73**	**322**	P	**P**	**13 56 58.4**	**0.0**
MAKZ				IAmb	IAmb	13 57 10.3	
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**72.48**	**329**	P	**P**	**13 57 08.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=88,slow=4.7,SNR=5.1						
	comp=Z,1.0nm,0.7s						
BOOM	**Boomskoye usch**	**73.05**	**316**	P	**P**	**13 57 12.8**	**+0.3**
BOOM				IAmb	IAmb	13 57 19.5	
	comp=Z,2.8nm,1.0s						
KURK	**Kurchatov**	**74.39**	**324**	P	**P**	**13 57 20.6**	**+0.7**
KURK				IAmb	IAmb	13 57 29.1	
	comp=Z,4.8nm,1.4s						
KURBB	**Kurchatov Arra**	**74.41**	**324**	P	**P**	**13 57 19.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=113,slow=5.5,SNR=7.7						
	comp=Z,0.9nm,0.7s						
KKAR	**Karatay Array**	**77.04**	**315**	P	**P**	**13 57 36.0**	**+0.6**
BVAR	**Borovoye Array**	**79.98**	**325**	P	**P**	**13 57 51.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=110,slow=8.1,SNR=8.5						
	comp=Z,1.8nm,0.8s						
J20K	**Nowinta River**	**81.73**	**24**	P	**P**	**13 58 01.2**	**+0.8**
J20K				IAmb	IAmb	13 58 29.4	
	comp=Z,8.5nm,1.5s						
I23K	**Minto, Yukon-K**	**84.01**	**24**	P	**P**	**13 58 13.6**	**+1.4**
I23K				IAmb	IAmb	13 58 31.5	
	comp=Z,5.8nm,1.3s						
CCB	**Clear Creek Bu**	**84.48**	**24**	P	**P**	**13 58 15.3**	**+0.7**
CCB				IAmb	IAmb	13 58 25.9	
	comp=Z,5.2nm,1.3s						
ILAR	**Eielson Array**	**84.89**	**24**	P	**P**	**13 58 15.6**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=267,slow=4.8,SNR=10						
	comp=Z,0.3nm,0.6s						
N25K	**Chitina, Valde**	**85.05**	**28**	P	**P**	**13 58 18.1**	**+0.5**
ABKAR	**Akbulak array**	**85.52**	**320**	P	**P**	**13 58 20.6**	**+0.4**
BMAR	**Burnt Mountain**	**86.52**	**22**	P	**P**	**13 58 26.4**	**+1.6**
BCAR	**Beaver Creek A**	**86.66**	**26**	P	**P**	**13 58 26.8**	**+1.2**
QSPA	**South Pole Qui**	**87.54**	**180**	P	**P**	**13 58 30.0**	**+0.1**
QSPA				IAmb	IAmb	13 58 36.3	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**87.54**	**180**	P	**P**	**13 58 30.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=282,slow=0.9,SNR=9.2						
	comp=Z,1.2nm,0.8s						
DBIC	**Dimbokro**	**145.03**	**278**	PKPbc	**PKPdf**	**14 05 20.5**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=96,slow=3.6,SNR=6.7						

*SCB **04** 13:50:23.8±1.4, 21°.52S×66°.86W, h214km±11km, ML3.0/3, Error ellipse: s-maj=9.5km s-min=6.8km az=0.0*
*SJA **04** 13:50:25.0, 21°.57S×67°.01W, h214km, ML2.9*

ISC 04 13:50:25.1±1.4, 21°.47S±0°.07×66°.89W±0°.06, h207km, n19, σ0°.73/22, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.19**	**79**	Pg	**Pn**	**13 50 57.5**	**+0.1**
MOCB				Sg	**S**	**13 51 21.6**	**-0.6**
MOCB				IAML		13 51 22.5	
	344nm,0.5s						
YJA	**Yavi**	**1.46**	**119**	*i* P	**Pn**	**13 51 00.0**	**+0.5**
PB09	**IPOC Station P**	**2.21**	**261**	*i* P	**Pn**	**13 51 07.3**	**+0.8**
PB09	**IPOC Station P**	**2.21**	**261**	Pg	**Pn**	**13 51 07.1**	**+0.6**
PB01	**IPOC Station P**	**2.46**	**280**	*i* P	**Pn**	**13 51 08.7**	**-0.4**
PB01	**IPOC Station P**	**2.46**	**280**	Pg	**Pn**	**13 51 09.3**	**+0.2**
PB01				Sg	**S**	**13 51 43.2**	**+0.3**
PB01				IAML		13 51 44.5	
	40nm,0.3s						
PB08	**IPOC Station P**	**2.50**	**302**	*i* P	**Pn**	**13 51 10.2**	**+0.4**
PB08	**IPOC Station P**	**2.50**	**302**	Pg	**Pn**	**13 51 10.6**	**+0.8**
PB08				Sg	**S**	**13 51 44.9**	**+0.8**
PB08				IAML		13 51 47.3	
	12nm,0.6s						
SOEO	**Opoqueri**	**3.04**	**342**	Pg	**Pn**	**13 51 16.3**	**+0.2**
HMBC	**Humberstone**	**3.05**	**292**	*i* P	**Pn**	**13 51 14.5**	**-1.2**
HMBC	**Humberstone**	**3.05**	**292**	Pg	**Pn**	**13 51 15.1**	**-0.7**
TA01	**Diego Aracena**	**3.21**	**286**	*i* P	**Pn**	**13 51 16.4**	**-1.1**
TA01	**Diego Aracena**	**3.21**	**286**	Pg	**Pn**	**13 51 16.8**	**-0.7**
AZAP	**Zapla**	**3.21**	**149**	*i* P	**Pn**	**13 51 17.3**	**-0.5**
AOEA	**Aiquile**	**3.63**	**26**	Pg	**Pn**	**13 51 22.6**	**-0.3**
PB12	**IPOC Station P**	**4.31**	**311**	*i* P	**Pn**	**13 51 29.6**	**-1.4**
SOEJ	**Jacaque**	**4.64**	**344**	Pg	**Pn**	**13 51 35.5**	**-0.2**
BBOE	**La Paz, Chanca**	**4.75**	**347**	Pg	**Pn**	**13 51 37.1**	**0.0**
LPAZ	**La Paz**	**5.29**	**347**	Pg	**Pn**	**13 51 44.9**	**+0.9**

*IDC **04** 14:05:43.8±1.1, 34°.43N×80°.53E, h0km, mb3.3/7, mbtmp3.3/11, ML2.9/4, Error ellipse: s-maj=33.1km s-min=20.8km az=63.0*

ISC 04 14:05:49.2±1.0, 34°.5N±0°.1×80°.6E±0°.2, h35km, n11, σ0°.89/11, mb3.4/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.34**	**5**	Pn	**Pn**	**14 08 42.0**	**-0.3**
	0.1nm,0.3s,baz=185,slow=13,SNR=9.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**16.17**	**355**	Pn	**Pn**	**14 09 33.2**	**-0.4**
	baz=179,slow=11,SNR=4.5						
	0.6nm,1.0s						
ZALV	**Zalesovo Beam**	**19.66**	**7**	P	**P**	**14 10 14.3**	**-0.5**
	0.1nm,0.3s,baz=191,slow=15,SNR=4.4						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**19.88**	**342**	P	**P**	**14 10 18.0**	**+0.6**
	0.1nm,0.3s,baz=139,slow=9.5,SNR=3.6						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**22.86**	**130**	P	**P**	**14 10 49.6**	**0.0**
	0.3nm,0.3s,baz=315,slow=9.1,SNR=4.9						
	0.3nm,0.3s						
SONM	**Songino Array**	**23.42**	**48**	P	**P**	**14 10 57.0**	**+1.9**
	0.1nm,0.5s,baz=243,slow=6.3,SNR=1.5						
	0.1nm,0.5s						
FINES	**FINESS Array B**	**43.53**	**325**	P	**P**	**14 13 49.4**	**+0.2**
	1.0nm,0.8s,baz=103,slow=9.7,SNR=3.7						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.59**	**275**	P	**P**	**14 17 19.6**	**+0.3**
	0.3nm,0.5s,baz=30,slow=7.4,SNR=1.4						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**74.32**	**19**	P	**P**	**14 17 21.4**	**-1.3**
	0.2nm,0.9s,baz=304,slow=6.5,SNR=1.8						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**76.87**	**131**	P	**P**	**14 17 37.5**	**-0.3**
	0.3nm,0.8s,baz=312,slow=5.3,SNR=4.3						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**82.56**	**7**	P	**P**	**14 18 08.1**	**0.0**
	0.2nm,0.6s,baz=51,slow=5.5,SNR=4.9						
	0.2nm,0.6s						

*SDD **04** 14:24:56.4±1.9, 19°.37N×68°.27W, h159km±43km, MD3.5, ML2.3, MW2.5*
*NEIC **04** 14:25:01.1±1.5, 19°.30N±0°.08×68°.06W±0°.05, h35km±2km, ML2.2/10, Md3.2/3(RSPR), Error ellipse: s-maj=14.5km s-min=6.1km az=18.0*
*RSPR **04** 14:25:02.5, 18°.53N×68°.24W, h100km, MD3.2/3*
*RSNC **04** 14:25:02.5±0.9, 19°.N±2°.×6°.8W±°, h99km±8km, M5.1, mb5.5, mB5.6, ML4.7, Mw(mB)3.2, MwMwp5.1, Mwp5.4, Hypocentre not reviewed by the ISC*

ISC 04 14:24:58.8±1.8, 19°.3N±0°.1×68°.13W±0°.03, h18km±8km, n18, σ0°.60/23, 5C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.80**	**197**		**Pg**	**14 25 14.2**	**-0.3**
PCDR	**Punta Cana, DR**	**0.80**	**197**		**Sn**	**14 25 26.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.80**	**197**	IAML		14 25 29.6	
	comp=E,82nm,1.9s						
PCDR				IAML		14 25 30.4	
	comp=N,122nm,1.3s						
PCDR	**Punta Cana, DR**	**0.80**	**197**	↑*e*P	**Pn**	**14 25 16.1**	**+0.8**
PCDR	**Punta Cana, DR**	**0.80**	**197**	*e*S	**Sn**	**14 25 26.6**	**-0.1**
IDE	**Isla Desecheo**	**1.09**	**145**		**Pg**	**14 25 19.9**	**0.0**
IDE					**Sb**	**14 25 33.2**	**+0.2**
IDE	**Isla Desecheo**	**1.09**	**145**	↑*e*P	**Pg**	**14 25 19.9**	**0.0**
IDE	**Isla Desecheo**	**1.09**	**145**	*e*S	**Sb**	**14 25 33.2**	**+0.2**
AGPR	**Aguadilla, PR**	**1.26**	**130**	Pn	**Pn**	**14 25 21.4**	**-0.2**
AGPR				IAML		14 25 41.2	
	comp=N,60nm,2.1s						
AGPR				IAML		14 26 03.1	
	comp=E,62nm,2.1s						
DR12	**Loma Pena Alta**	**1.28**	**248**	Pn	**Pg**	**14 25 23.0**	**-0.6**
DR12					**Sg**	**14 25 40.0**	**-0.3**
HATOM	**Hato Mayor del**	**1.28**	**248**	↓↓*e*Pg	**Pg**	**14 25 23.2**	**-0.3**
HATOM				↓↓*e*Sg	**Sg**	**14 25 41.5**	**+1.1**
HATOM				IAML		14 26 08.5	
	comp=N,18nm,2.3s						
AOPR	**Arecibo Observ**	**1.60**	**125**		**Pn**	**14 25 26.7**	**+0.3**
AOPR				IAML		14 25 53.8	
	comp=N,33nm,0.5s						
AOPR	**Arecibo Observ**	**1.60**	**125**	*e*Pg	**Pn**	**14 25 26.6**	**+0.3**
AOPR				*e*Sg	**Sg**	**14 25 52.0**	**+1.4**
AOPR				IAML		14 25 52.5	
	comp=N,27nm,0.2s						
AOPR	**Arecibo Observ**	**1.60**	**125**

BGR 04 14:33:56.7, 19°14N×66°70W, h33km, mb5.4
ISC 04 14:33:48.1±0.3, 18°00N±0°03×68°60W±0°03, h72km±2km,
h72km:pP-P,n1303,σ1°78/850,mb5.3/392,93C-50D,
Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.26**	**318**	⇓		*e*Pg	**Pn**	**14 33 59.3**	**+0.1**
SADR						*e*Pg		14 33 59.4	
SADR						*e*Sg	**Sn**	**14 34 07.3**	**-0.1**
SADR						*e*Sg		14 34 07.5	
SADR					IAML			14 34 08.7	
	comp=N,70nm,1.0s								
PCDR	**Punta Cana, DR**	**0.55**	**22**				**Sn**	**14 34 11.2**	**-0.4**
PCDR	**Punta Cana, DR**	**0.55**	**22**				**Pn**	**14 34 00.9**	**-0.7**
PCDR	**Punta Cana, DR**	**0.55**	**22**		IAML			14 34 12.4	
	comp=E,398µm,0.8s								
PCDR					IAML			14 34 12.8	
	comp=N,965µm,0.8s								
PCDR	**Punta Cana, DR**	**0.55**	**22**	⇑	*e*Pg		**Pn**	**14 34 00.9**	**-0.7**
PCDR					*e*Sg		**Sn**	**14 34 10.4**	**-1.1**
PCDR					IAML			14 34 12.6	
	comp=N,85nm,0.8s								
PCDR	**Punta Cana, DR**	**0.55**	**22**	⇑	*e*P		**Pn**	**14 34 01.1**	**-0.5**
PCDR	**Punta Cana, DR**	**0.55**	**22**		*e*S		**Sn**	**14 34 11.2**	**-0.4**
PCDR	**Punta Cana, DR**	**0.55**	**22**	⇑	*i*P			14 34 01.1	
PCDR					*e*S			14 34 10.4	
PCDR					IAML			14 34 12.4	
	comp=Z,516µm,0.5s								
HIDR	**Higuey Centro**	**0.60**	**349**	⇓	*e*Pg		**Pn**	**14 34 01.3**	**-0.8**
HIDR					*e*Sg		**Sn**	**14 34 10.8**	**-1.7**
HIDR					IAML			14 34 11.6	
	comp=N,41nm,0.3s								
HIDR	**Higuey Centro**	**0.60**	**349**	⇓	*e*P		**Pn**	**14 34 01.4**	**-0.8**
HIDR	**Higuey Centro**	**0.60**	**349**		*e*S		**Sn**	**14 34 10.7**	**-1.7**
SPM1	**San Pedro UASD**	**0.81**	**304**	⇓	*e*Pg		**Pn**	**14 34 04.6**	**+0.2**
DR12	**Loma Pena Alta**	**1.08**	**317**		Pn		**Pn**	**14 34 07.2**	**-0.6**
HATOM	**Hato Mayor del**	**1.08**	**317**	⇓	*e*Pg		**Pn**	**14 34 07.3**	**-0.4**
HATOM					*e*Sg		**Sn**	**14 34 20.8**	**-1.7**
HATOM					IAML			14 34 21.9	
	comp=N,36nm,0.9s								
SDD	**Santo Domingo**	**1.33**	**290**				**Pn**	**14 34 11.6**	**+0.6**
SDD	**Santo Domingo**	**1.33**	**290**				**Sn**	**14 34 29.0**	**+0.9**
SDD	**Santo Domingo**	**1.33**	**290**		IAML			14 34 32.5	
	comp=N,279µm,0.7s								
SDD					IAML			14 34 39.2	
	comp=E,169µm,0.7s								
SDD	**Santo Domingo**	**1.33**	**290**	⇑	*e*Pg		**Pn**	**14 34 11.5**	**+0.6**
SDD					*e*Sg		**Sn**	**14 34 28.3**	**+0.3**
SDD					IAML			14 34 32.3	
	comp=N,27µm,0.7s								
SDD	**Santo Domingo**	**1.33**	**290**	⇑	*e*P		**Pn**	**14 34 11.8**	**+0.9**
SDD	**Santo Domingo**	**1.33**	**290**		*e*S		**Sn**	**14 34 29.0**	**+0.9**
SDD	**Santo Domingo**	**1.33**	**290**	⇑	*i*P			14 34 11.7	
SDD					*e*S			14 34 28.5	
PRSN	**Puerto Rico Se**	**1.40**	**81**				**Sn**	**14 34 28.4**	**-1.2**
PRSN	**Puerto Rico Se**	**1.40**	**81**				**Pn**	**14 34 10.5**	**-1.2**
PRSN	**Puerto Rico Se**	**1.40**	**81**		IAML			14 34 32.5	
	comp=N,21µm,0.3s								
PRSN					IAML			14 34 33.3	
	comp=E,19µm,0.3s								
PRSN	**Puerto Rico Se**	**1.40**	**81**	⇑	*e*P		**Pn**	**14 34 11.3**	**-0.5**
PRSN	**Puerto Rico Se**	**1.40**	**81**		*e*S		**Sn**	**14 34 28.4**	**-1.2**
SMDR	**Samana, DR**	**1.40**	**337**	⇓	*e*Pg		**Pn**	**14 34 11.2**	**-0.6**
SMDR					IAML			14 34 34.1	
	comp=N,96µm,0.9s								
CRPR	**Cabo Rojo, PR**	**1.42**	**89**				**Sn**	**14 34 27.5**	**-2.5**
CRPR	**Cabo Rojo, PR**	**1.42**	**89**				**Pn**	**14 34 11.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.42**	**89**		IAML			14 34 28.7	
	comp=N,13µm,0.5s								
CRPR					IAML			14 34 29.0	
	comp=E,12µm,0.5s								
CRPR	**Cabo Rojo, PR**	**1.42**	**89**	⇑	*e*Pg		**Pn**	**14 34 11.5**	**-0.5**
CRPR					*e*Sg		**Sn**	**14 34 27.8**	**-2.2**
CRPR					IAML			14 34 28.6	
	comp=N,14µm,0.4s								
CRPR	**Cabo Rojo, PR**	**1.42**	**89**	⇑	*e*P		**Pn**	**14 34 11.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.42**	**89**	⇑	*i*P			14 34 11.6	
CRPR					IAML			14 34 50.5	
	comp=Z,15µm,0.9s								
LSP	**Las Mesas**	**1.45**	**83**				**Pn**	**14 34 12.2**	**-0.3**
LSP	**Las Mesas**	**1.45**	**83**	⇑	*e*P		**Pn**	**14 34 12.2**	**-0.3**
MLPR	**Magueyes Islan**	**1.48**	**91**				**Sn**	**14 34 28.7**	**-2.7**
MLPR	**Magueyes Islan**	**1.48**	**91**				**Pn**	**14 34 11.0**	**-1.8**
MLPR	**Magueyes Islan**	**1.48**	**91**		IAML			14 34 30.3	
	comp=E,11µm,0.9s								
MLPR					IAML			14 34 37.5	
	comp=N,8µm,0.6s								
MLPR	**Magueyes Islan**	**1.48**	**91**	⇑	*e*Pg		**Pn**	**14 34 11.2**	**-1.6**
MLPR					IAML			14 34 37.4	
	comp=N,7µm,0.5s								
MLPR	**Magueyes Islan**	**1.48**	**91**	⇑	*e*P		**Pn**	**14 34 11.3**	**-1.5**
AGPR	**Aguadilla, PR**	**1.49**	**71**				**Sn**	**14 34 31.9**	**+0.2**
AGPR	**Aguadilla, PR**	**1.49**	**71**				**Pn**	**14 34 12.2**	**-0.8**
AGPR	**Aguadilla, PR**	**1.49**	**71**		IAML			14 34 33.0	
	comp=N,44µm,0.9s								
AGPR					IAML			14 34 34.3	
	comp=E,46µm,0.7s								
AGPR	**Aguadilla, PR**	**1.49**	**71**	⇑	*e*Pg		**Pn**	**14 34 12.6**	**-0.4**
AGPR					*e*Sg		**Sn**	**14 34 31.6**	**-0.1**
AGPR					IAML			14 34 32.9	
	comp=N,41µm,0.6s								
AGPR	**Aguadilla, PR**	**1.49**	**71**	⇑	*e*P		**Pn**	**14 34 13.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.49**	**71**		*e*S		**Sn**	**14 34 31.9**	**+0.2**
AGPR	**Aguadilla, PR**	**1.49**	**71**	⇑	*i*P			14 34 12.7	
AGPR					IAML			14 34 36.3	
	comp=Z,15µm,1.4s								
GBPR	**Guanica, Bosqu**	**1.64**	**90**				**Pn**	**14 34 14.7**	**-0.1**
GBPR							**Sn**	**14 34 33.4**	**-1.8**
GBPR	**Guanica, Bosqu**	**1.64**	**90**	⇑	*e*P		**Pn**	**14 34 14.7**	**-0.1**
DR08	**Loma La Naviza**	**1.66**	**306**	⇑	*e*Pg		**Pn**	**14 34 14.9**	**-0.3**
DR08					*e*Sg		**Sn**	**14 34 34.9**	**-1.0**
DR08					IAML			14 34 38.0	
	comp=N,65nm,0.2s								
BANI	**BANI**	**1.72**	**284**				**Pn**	**14 34 17.1**	**+1.0**
BANI					IAML			14 34 42.9	
	comp=E,76µm,0.6s								
BANI					IAML			14 34 44.2	
	comp=N,89µm,0.5s								
BANI	**BANI**	**1.72**	**284**	⇑	*e*Pg		**Pn**	**14 34 17.4**	**+1.3**
BANI					*e*Sg		**Sn**	**14 34 39.3**	**+1.9**
BANI					IAML			14 34 44.1	
	comp=N,82µm,0.3s								
AOPR	**Arecibo Observ**	**1.79**	**78**				**Sn**	**14 34 36.8**	**-2.1**
AOPR	**Arecibo Observ**	**1.79**	**78**				**Pn**	**14 34 15.9**	**-1.0**
AOPR	**Arecibo Observ**	**1.79**	**78**		IAML			14 34 44.6	
	comp=E,74µm,0.5s								
AOPR					IAML			14 34 45.2	
	comp=N,47µm,0.4s								
AOPR	**Arecibo Observ**	**1.79**	**78**	*e*P			**Pn**	**14 34 15.7**	**-1.2**
AOPR				*e*S			**Sn**	**14 34 36.7**	**-2.1**
AOPR	**Arecibo Observ**	**1.79**	**78**	*e*Pg			**Pn**	**14 34 16.1**	**-0.9**
AOPR				*e*Sg			**Sn**	**14 34 40.1**	**+1.2**
AOPR				IAML				14 34 45.1	
	comp=N,44µm,0.3s								
AOPR	**Arecibo Observ**	**1.79**	**78**	⇑	*e*P		**Pn**	**14 34 16.6**	**-0.3**
NADR	**Nagua**	**1.80**	**319**	*e*Pg			**Pn**	**14 34 17.8**	**+0.6**
NADR				*e*Sg			**Sn**	**14 34 41.8**	**+2.7**
NADR				IAML				14 34 43.1	
	comp=N,29nm,0.5s								
UUPR	**Utuado, UPR, P**	**1.80**	**82**				**Pn**	**14 34 16.3**	**-0.8**
UUPR					IAML			14 34 50.2	
	comp=N,99µm,0.4s								
UUPR	**Utuado, UPR, P**	**1.80**	**82**				**Sn**	**14 34 36.1**	**-3.1**
UUPR	**Utuado, UPR, P**	**1.80**	**82**	⇑	*e*P		**Pn**	**14 34 16.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.80**	**82**	*e*S			**Sn**	**14 34 36.1**	**-3.1**
LONA1	**Toro Cenizo, N**	**1.83**	**319**	*i*P				14 34 09.5	
LONA1				*e*S				14 34 30.8	
LONA1				IAML				14 34 44.7	
	comp=Z,58µm,0.7s								
OBIP	**Obispado Ponce**	**1.90**	**88**				**Pn**	**14 34 17.5**	**-0.9**
OBIP					IAML			14 34 40.2	
	comp=E,15µm,0.6s								
CELP	**Cerrillos**	**1.92**	**87**				**Sn**	**14 34 40.0**	**-2.0**
CELP	**Cerrillos**	**1.92**	**87**				**Pn**	**14 34 17.7**	**-1.0**
CELP					IAML			14 34 41.1	
	comp=E,17µm,0.6s								
CELP	**Cerrillos**	**1.92**	**87**	⇑	*e*Pg		**Pn**	**14 34 17.8**	**-1.0**
CELP					*e*Sg		**Sn**	**14 34 39.9**	**-2.1**
CELP					IAML			14 35 06.9	
	comp=N,10µm,0.8s								
CELP	**Cerrillos**	**1.92**	**87**	⇑	*e*P		**Pn**	**14 34 18.4**	**-0.3**
CELP	**Cerrillos**	**1.92**	**87**	*e*S			**Sn**	**14 34 40.0**	**-2.0**
BON1	**Bonao**	**1.95**	**299**	*e*P			**Pn**	**14 34 19.6**	**+0.5**
SFDR	**San Fco. de Ma**	**2.02**	**310**	⇑	*e*Pg		**Pn**	**14 34 20.8**	**+0.8**
SFDR					IAML			14 34 52.2	
	comp=N,14nm,0.5s								
EMPR	**Esperanza - Ma**	**2.02**	**76**				**Sn**	**14 34 43.5**	**-1.0**
EMPR	**Esperanza - Ma**	**2.02**	**76**				**Pn**	**14 34 19.7**	**-0.3**
EMPR					IAML			14 34 50.6	
	comp=E,43µm,0.5s								
EMPR					IAML			14 34 51.0	
	comp=N,46µm,0.8s								
EMPR	**Esperanza - Ma**	**2.02**	**76**	⇑	*e*P		**Pn**	**14 34 20.1**	**0.0**
EMPR	**Esperanza - Ma**	**2.02**	**76**	*e*S			**Sn**	**14 34 43.5**	**-1.0**
ABDR	**Alto Bandera**	**2.09**	**293**	⇑	*e*Pg		**Pn**	**14 34 22.2**	**+0.9**
ABDR				*e*Sg			**Sn**	**14 34 47.0**	**+0.4**
ABDR					IAML			14 34 56.8	
	comp=N,37µm,0.8s								
CADR	**Cabrera**	**2.09**	**323**	⇑	*e*Pg		**Pn**	**14 34 22.0**	**+1.0**
CADR				*e*Sg			**Sn**	**14 34 48.6**	**+2.4**
CADR					IAML			14 34 50.4	
	comp=N,20nm,0.5s								
ECPR	**Experimental S**	**2.15**	**81**	⇑	*e*P		**Pn**	**14 34 21.7**	**-0.1**
ECPR	**Experimental S**	**2.15**	**81**	*e*S			**Sn**	**14 34 44.7**	**-2.8**
SJG	**San Juan**	**2.33**	**87**				**Pn**	**14 34 23.3**	**-0.9**
SJG					IAML			14 35 00.5	
	comp=N,12µm,0.6s								
SJG					IAML			14 35 00.6	
	comp=N,12µm,0.8s								
SJG	**San Juan**	**2.33**	**87**	P			**Pn**	**14 34 23.2**	**-1.1**
	comp=N,2µm,0.6s,baz=260,slow=10,SNR=350								
SJG					S		**Sn**	**14 34 49.9**	**-2.0**
	comp=N,3µm,0.4s,baz=310,slow=20,SNR=11								
SJG	**San Juan**	**2.33**	**87**	*e*P			**Pn**	**14 34 23.9**	**-0.3**
SJG	**San Juan**	**2.33**	**87**	⇑	*e*P		**Pn**	**14 34 23.5**	**-0.7**
SJG	**San Juan**	**2.33**	**87**	*e*S			**Sn**	**14 34 48.9**	**-3.0**
IGPR	**InterUniversit**	**2.37**	**90**				**Sn**	**14 34 49.6**	**-3.2**
IGPR	**InterUniversit**	**2.37**	**90**				**Pn**	**14 34 23.7**	**-1.1**
IGPR	**InterUniversit**	**2.37**	**90**		IAML			14 34 53.5	
	comp=N,9µm,0.3s								
IGPR					IAML			14 35 00.3	
	comp=E,9µm,0.4s								
IGPR	**InterUniversit**	**2.37**	**90**	⇑	*e*P		**Pn**	**14 34 23.9**	**-0.9**
GCPR	**Guaynabo City**	**2.41**	**82**				**Sn**	**14 34 51.1**	**-2.7**
GCPR	**Guaynabo City**	**2.41**	**82**				**Pn**	**14 34 24.4**	**-0.9**
GCPR	**Guaynabo City**	**2.41**	**82**		IAML			14 34 58.4	
	comp=E,6µm,0.7s								
GCPR					IAML			14 35 01.0	
	comp=N,9µm,0.7s								
GCPR	**Guaynabo City**	**2.41**	**82**	*e*S			**Sn**	**14 34 51.1**	**-2.7**
PDPR	**Patillas Dam,**	**2.45**	**89**				**Pn**	**14 34 24.6**	**-1.2**
PDPR					IAML			14 35 04.5	
	comp=E,8µm,0.9s								
PDPR	**Patillas Dam,**	**2.45**	**89**	⇑	*e*P		**Pn**	**14 34 24.9**	**-1.0**
SC01	**Santiago de lo**	**2.47**	**306**				**Pn**	**14 34 27.4**	**+1.2**
SC01	**Santiago de lo**	**2.47**	**306**	*e*Pg			**Pn**	**14 34 27.7**	**+1.6**
SC01					IAML			14 35 03.3	
	comp=N,59µm,1.4s								
SC01	**Santiago de lo**	**2.47**	**306**	⇑	*i*P			14 34 28.0	
SC01					IAML			14 35 09.3	
	comp=Z,34µm,1.4s								
PODR	**Polo**	**2.56**	**274**	⇑	*e*Pg		**Pn**	**14 34 28.2**	**+0.7**
PODR					IAML			14 35 00.4	
	comp=N,36µm,0.5s								
PODR	**Polo**	**2.56**	**274**	⇑	*i*P			14 34 28.3	
PODR				*e*S				14 34 56.8	
HUMP	**Col San Antoni**	**2.62**	**86**				**Sn**	**14 34 56.0**	**-2.9**
HUMP	**Col San Antoni**	**2.62**	**86**				**Pn**	**14 34 27.6**	**-0.5**
HUMP	**Col San Antoni**	**2.62**	**86**		IAML			14 35 01.9	
	comp=E,7µm,0.5s								
HUMP					IAML			14 35 03.5	
	comp=N,6µm,0.5s								
HUMP	**Col San Antoni**	**2.62**	**86**	⇑	*e*P		**Pn**	**14 34 27.3**	**-0.8**
HUMP	**Col San Antoni**	**2.62**	**86**	*e*S			**Sn**	**14 34 56.0**	**-2.9**
LOVI	**El Cajuil, Ovi**	**2.65**	**266**	*i*P				14 34 29.5	
LOVI				*e*S				14 34 58.2	
LOVI					IAML			14 35 03.8	
	comp=Z,32µm,0.2s								
NEDR	**Neiba UASD**	**2.73**	**281**	⇑	*e*Pg		**Pn**	**14 34 31.1**	**+1.6**
NEDR					IAML			14 35 24.3	
	comp=N,15µm,0.6s								
SDDR	**Presa de Saban**	**2.74**	**291**	Pn			**Pn**	**14 34 31.7**	**+1.9**
SDDR					IAML			14 35 14.2	
	comp=N,20µm,0.6s								
SDDR					IAML			14 35 24.6	
	comp=N,20µm,0.7s								
SDDR	**Presa de Saban**	**2.74**	**291**	*i*P			**Pn**	**14 34 30.2**	**+0.4**
SDDR				*e*Pg				14 34 33.3	
SDDR				*e*S			**Sn**	**14 35 03.1**	**+1.3**
SDDR	**Presa de Saban**	**2.74**	**291**	⇑	*e*Pg		**Pn**	**14 34 32.3**	**+2.5**
SDDR					IAML			14 35 24.5	
	comp=N,18µm,0.6s								
SDDR	**Presa de Saban**	**2.74**	**291**	*i*P				14 34 30.7	
SDDR					IAML			14 35 26.4	
	comp=Z,8µm,0.5s								
LODU1	**El Espartillar**	**2.76**	**278**	*i*P				14 34 32.5	
LODU1					IAML			14 35 28.9	
	comp=Z,18µm,0.9s								
LONE3	**El Aguacate, B**	**2.79**	**283**	*i*P				14 34 32.0	
LONE3					IAML			14 35 27.2	
	comp=Z,12µm,0.6s								
MADR	**Mao Valverde**	**2.84**	**304**	⇑	*e*Pg		**Pn**	**14 34 33.1**	**+2.0**
MADR					IAML			14 35 28.4	
	comp=N,38µm,0.5s								
REDR	**Restauracion**	**2.90**	**294**	⇑	*e*Pg		Pn	14 34 37.0	+5.1
REDR					IAML			14 35 32.4	
	comp=N,15µm,1.1s								
LOBH	**Bahia de las A**	**2.90**	**268**	⇑	*i*P			14 34 33.3	
LOBH				*e*S				14 35 04.6	
LOBH					IAML			14 35 15.1	
	comp=Z,36µm,0.5s								
LOPP1	**Punta Rusia, P**	**3.08**	**307**	*i*P				14 34 20.0	
LOPP1				*e*S				14 34 55.8	
JIDR	**Jimani**	**3.13**	**280**	⇑	*e*Pg		**Pn**	**14 34 36.2**	**+1.1**
JIDR				*e*Sg			**Sn**	**14 35 12.9**	**+1.5**
JIDR					IAML			14 35 16.7	
	comp=N,16µm,0.5s								
LODA1	**ITESIL, Dajabo**	**3.32**	**298**	*i*P				14 34 28.5	
LODA1				*e*S				14 35 06.8	
LODA1					IAML			14 35 23.6	
	comp=Z,11µm,0.9s								
MCDR	**Montecristi**	**3.46**	**304**	⇑	*e*Pg		**Pn**	**14 34 39.8**	**+0.3**
MCDR					IAML			14 35 38.3	
	comp=N,15µm,0.5s								
PAPH	**Port-au-Prince**	**3.56**	**279**				**Pn**	**14 34 42.6**	**+1.7**
PAPH	**Port-au-Prince**	**3.56**	**279**	*e*P			**Pn**	**14 34 42.5**	**+1.6**
PAPH				*e*S			**Sn**	**14 35 22.7**	**+0.8**
PAPH	**Port-au-Prince**	**3.56**	**279**	*i*P				14 34 43.3	
PAPH					IAML			14 35 31.4	
	comp=Z,8µm,0.5s								
GRTK	**Grand Turk**	**4.24**	**326**				**Pn**	**14 34 48.8**	**-1.4**
GRTK					IAML			14 35 37.5	
	comp=Z,12µm,0.3s								
GRTK					IAML			14 35 38.4	
	comp=Z,13µm,0.8s								
GRTK	**Grand Turk**	**4.24**	**326**	*i*P			**Pn**	**14 34 48.9**	**-1.3**
GRTK				*e*S			**Sn**	**14 35 34.7**	**-3.7**
GRTK	**Grand Turk**	**4.24**	**326**	⇑	*e*Pg		**Pn**	**14 34 48.9**	**-1.3**
GRTK				*e*Sg			**Sn**	**14 35 35.5**	**-2.9**
GRTK					IAML			14 35 37.2	
	comp=N,10µm,0.6s								
GRTK	**Grand Turk**	**4.24**	**326**	⇑	*i*P			14 34 48.9	
GRTK				*e*S				14 35 35.3	
GRTK					IAML			14 35 37.5	
	comp=Z,2µm,0.7s								
SABA	**Saba**	**5.11**	**93**				**Sn**	**14 35 57.1**	**-2.8**
SABA	**Saba**	**5.11**	**93**				**Pn**	**14 35 01.2**	**-1.0**
SABA	**Saba**	**5.11**	**93**		IAML			14 36 02.3	
	comp=N,6µm,0.8s								
SABA					IAML			14 36 03.9	
	comp=E,11µm,0.8s								
SABA	**Saba**	**5.11**	**93**	⇑	*e*P		**Pn**	**14 35 01.8**	**-0.4**
SMRT	**St. Maarten**	**5.25**	**89**				**Pn**	**14 35 02.6**	**-1.5**
SMRT					IAML			14 36 01.1	
	comp=N,2µm,0.6s								
SMRT					IAML			14 36 27.2	
	comp=E,2µm,0.7s								
SMRT	**St. Maarten**	**5.25**	**89**	⇑	*e*P		**Pn**	**14 35 02.9**	**-1.2**
SEUS	**St. Eustatius**	**5.38**	**94**				**Pn**	**14 35 04.6**	**-1.2**
SEUS					IAML			14 36 21.2	
	comp=N,2µm,1.1s								
SEUS					IAML			14 36 28.6	
	comp=E,3µm,0.7s								
SKI	**Saint Kitts**	**5.62**	**96**	*e*P			**Pn**	**14 35 09.4**	**+0.2**
SKI	**Saint Kitts**	**5.62**	**96**	*e*S			**Sn**	**14 36 05.4**	**-7.0**
SKOC	**St. Kitts, UWI**	**5.63**	**96**	*e*P			**Pn**	**14 35 11.4**	**+2.1**
SKOC	**St. Kitts, UWI**	**5.63**	**96**	*e*S			**Sn**	**14 36 05.5**	**-7.2**
MASC	**Masc**	**5.75**	**293**	*e*S			**Sn**	**14 36 13.5**	**-2.1**
MASC	**Masc**	**5.75**	**293**	*i*P				14 35 10.3	
MASC					IAML			14 36 50.0	
	comp=Z,663nm,1.0s								
HATO	**Hato, Curacao**	**5.79**	**184**				**Pn**	**14 35 13.3**	**+1.8**
MBFL	**Flemmings, Mon**	**6.22**	**101**	*e*P			**Pn**	**14 35 16.0**	**-1.3**
QMBU	**Quimbuelo**	**6.27**	**291**	*e*P			Pn	14 35 12.8	-5.2
QMBU				*e*S			**Sn**	**14 36 24.6**	**-3.8**
GTBY	**Guantanamo Bay**	**6.46**	**288**	Pn			**Pn**	**14 35 19.8**	**-0.8**
GTBY	**Guantanamo Bay**	**6.46**	**288**	*e*P			**Pn**	**14 35 18.5**	**-2.0**
GTBY	**Guantanamo Bay**	**6.46**	**288**	*i*P				14 35 19.8	
GTBY					IAML			14 37 57.6	
	comp=Z,425nm,0.9s								
ANWB	**Willy Bob**	**6.50**	**92**				**Pn**	**14 35 19.7**	**-1.4**
ANWB	**Willy Bob**	**6.50**	**92**	*e*P			**Pn**	**14 35 19.8**	**-1.3**
ANWB	**Willy Bob**	**6.50**	**92**	*e*S			**Sn**	**14 36 31.0**	**-2.8**
NMDO	**Nuevo Mundo**	**6.55**	**294**	Pn			**Pn**	**14 35 19.9**	**-1.9**
NMDO	**Nuevo Mundo**	**6.55**	**294**	*e*P			**Pn**	**14 35 18.3**	**-3.5**
NMDO				*e*S			**Sn**	**14 36 32.5**	**-2.6**
MOAC	**Moa**	**6.57**	**295**	*e*P			**Pn**	**14 35 20.1**	**-2.0**
MOAC				*e*S			**Sn**	**14 36 31.1**	**-4.4**
ANBD	**Bethesda, Anti**	**6.59**	**97**	*e*P			**Pn**	**14 35 19.6**	**-2.7**
ANBD	**Bethesda, Anti**	**6.59**	**97**	*e*S			**Sn**	**14 36 31.9**	**-4.1**
GDHS	**Morne Mazeau,**	**6.75**	**104**				**Pn**	**14 35 23.7**	**-1.0**
CBE	**Ff, Capester**	**6.96**	**105**				**Pn**	**14 35 26.4**	**-1.0**
ABD	**La Joyeuse, An**	**6.96**	**101**				**Pn**	**14 35 26.4**	**-1.0**
ABD	**La Joyeuse, An**	**6.96**	**101**	⇑	*e*P		**Pn**	**14 35 27.1**	**-0.4**
TBG	**Guadaloupe-3**	**6.99**	**107**	*e*P			**Pn**	**14 35 27.3**	**-0.5**
TBG	**Guadaloupe-3**	**6.99**	**107**	*e*S			**Sn**	**14 36 42.8**	**-3.0**
TDBA	**Terre de Bas,**	**7.00**	**107**				**Pn**	**14 35 27.3**	**-0.7**
RCC	**Rio Carpintero**	**7.00**	**288**	*e*P			Pn	14 35 23.1	-5.0
RCC				*e*S			**Sn**	**14 36 43.3**	**-2.9**
MARVS	**Santiago de Cu**	**7.19**	**287**	*e*P			**Pn**	**14 35 27.8**	**-2.8**
MARVS				*e*S			**Sn**	**14 36 49.1**	**-1.7**
PINC	**Pinares de May**	**7.23**	**291**	*e*P			**Pn**	**14 35 28.8**	**-2.4**
PINC				*e*S			**Sn**	**14 36 47.8**	**-4.1**
DSLB	**Salisbury**	**7.33**	**109**	*e*P			**Pn**	**14 35 31.9**	**-0.6**
DSLB	**Salisbury**	**7.33**	**109**	*e*S			**Sn**	**14 36 46.1**	**-8.2**
GDSD	**La Dsirade Is**	**7.39**	**102**	Pn			**Pn**	**14 35 31.4**	**-1.9**
H05N1	**Guadeloupe/Mar**	**7.40**	**102**	P			**Pn**	**14 35 32.5**	**-1.0**
	SNR=265								
H05N1				S			**Sn**	**14 36 48.4**	**-7.6**
	SNR=5.0								
CHIV	**Chivirico**	**7.66**	**286**				**Pn**	**14 35 35.0**	**-1.9**
CHIV	**Chivirico**	**7.66**	**286**	*e*P			**Pn**	**14 35 34.7**	**-2.2**
CHIV				*e*S			**Sn**	**14 36 57.5**	**-4.6**
HOJ	**Hope**	**7.76**	**271**	⇓	*i*P		**Pn**	**14 35 39.1**	**+0.8**
STH	**Stony Hill**	**7.81**	**272**	*e*P			**Pn**	**14 35 39.2**	**+0.1**
STH				*e*S			**Sn**	**14 37 00.2**	**-6.0**
STH	**Stony Hill**	**7.81**	**272**	⇓	*i*P		**Pn**	**14 35 39.5**	**+0.3**
FDF	**Fort de France**	**7.85**	**113**				**Pn**	**14

ALIBA Liberia Airpor 17.99 248 *e*P **Pn 14 37 56.0 +2.6**
NYURE Nandayure 18.00 246 *e*P **Pn 14 37 56.4 +2.8**
INDI Punta índio, G 18.28 246 P **Pn 14 37 58.1 +1.2**
NHSC New Hope 18.30 328 P **Pn 14 37 56.8 -0.2**
CHOHN Orocuina 18.42 259 P **Pn 14 38 01.8 +3.0**
CRIN San Cristobal 18.55 256 *e*P **Pn 14 38 02.6 +2.2**
NISHN Nisperales Com 18.59 266 P **Pn 14 38 02.5 +1.8**
TEIG Tepich 18.73 280 P **P 14 38 01.7 +0.5**
TEIG IAmb IAmb 14 38 11.9
comp=Z,87nm,0.6s
TEIG Tepich 18.73 280 S **S 14 41 21.8 -8.7**
baz=53,slow=20,SNR=1.4
553A Crawfordville 18.85 313 Pn 14 38 03.6 0.0
X58A Rowland 19.07 332 IAmb IAmb 14 38 11.6
comp=Z,148nm,1.0s
Y57A Sumter 19.13 329 IAmb IAmb 14 38 12.5
comp=Z,134nm,0.5s
BIRD Birdtown, Kers 19.67 330 IAmb IAmb 14 38 13.3
comp=Z,128nm,0.9s
JSC Jenkinsville 19.77 328 IAmb IAmb 14 38 13.9
comp=Z,186nm,1.1s
W57A Gilead 19.87 332 P **P 14 38 13.4 0.0**
451A Vernon 20.02 312 P **P 14 38 14.9 -0.3**
V58A Windy Hill, Pi 20.03 334 P **P 14 38 14.8 -0.4**
V58A IAmb IAmb 14 38 17.6
comp=Z,148nm,1.2s
OTAV Otavalo 20.13 210 P Pn 14 38 18.9 -0.5
OTAV IAmb IAmb 14 38 34.3
comp=Z,123nm,1.1s
OTAV Otavalo 20.13 210 P Pn 14 38 18.9 -0.5
OTAV pmax pmax
comp=Z,123nm,1.1s
OTAV Otavalo 20.13 210 *e*P Pn 14 38 20.9 +1.5
MDP Montagnes des 20.19 127 P **P 14 38 17.6 +0.5**
comp=Z,45nm,0.5s,baz=309,slow=9.0,SNR=27
MDP S **S 14 41 55.8 -4.1**
comp=Z,15nm,0.7s,baz=232,slow=19,SNR=4.1
MDP LR LR 14 47 00.4
comp=Z,259nm,18.6s,baz=288,slow=39
comp=Z,45nm,0.5s
ESQI Esquipulas 20.20 263 P **P 14 38 18.8 +1.5**
MTO3 Montecristo 20.26 263 P **P 14 38 19.8 +1.7**
MTO3 IAmb IAmb 14 38 28.6
comp=Z,270nm,1.1s
HODGE Hodges 20.26 326 IAmb IAmb 14 38 19.2
comp=Z,132nm,0.9s
PANCS Alcalda de 20.27 261 P Pn 14 38 24.7 +4.1
PETF Flores 20.32 270 IAmb IAmb 14 38 21.1
comp=Z,176nm,0.7s
PAULI Pauline 20.48 327 IAmb IAmb 14 38 21.5
comp=Z,129nm,0.9s
T59A Double "B" Far 20.48 339 P **P 14 38 20.2 +0.1**
KMSC Kings Mountain 20.49 329 IAmb IAmb 14 38 21.5
comp=Z,99nm,0.8s
152A Waverly Hall 20.59 318 IAmb IAmb 14 38 27.5
comp=Z,236nm,1.0s
NUBE Las Nubes 20.77 262 P Pn 14 38 26.4 -0.2
V55A Taylorsville 21.01 330 IAmb IAmb 14 38 27.4
comp=Z,86nm,0.6s
Y52A Lilburn 21.01 322 P **P 14 38 25.7 -0.1**
Y52A IAmb IAmb 14 38 46.8
comp=Z,246nm,1.3s
U56A King 21.04 333 IAmb IAmb 14 38 27.9
comp=Z,140nm,1.1s
R61A Willards 21.10 345 IAmb IAmb 14 38 46.3
comp=Z,179nm,0.7s
BRAL Brewton 21.26 312 P **P 14 38 29.2 +0.7**
R58B Mineral 21.49 340 IAmb IAmb 14 38 47.2
comp=Z,118nm,1.1s
CBN Corbin Frederi 21.55 341 IAmb IAmb 14 38 48.0
comp=Z,148nm,0.6s
V53A Saluda 21.65 327 P **P 14 38 33.1 +0.4**
V53A IAmb IAmb 14 38 34.8
comp=Z,124nm,0.8s
TEFE Tefe 21.72 169 *e*P **P 14 38 36.3 +2.7**
BLA Blacksburg 21.79 334 IAmb IAmb 14 38 53.7
comp=Z,272nm,1.4s
W52A Murphy 21.82 324 IAmb IAmb 14 38 54.9
comp=Z,183nm,1.4s
X51A Calhoun 21.97 322 IAmb IAmb 14 38 53.3
comp=Z,167nm,1.0s
TBTG Tabatinga, AM 22.08 183 *e*P **P 14 38 39.5 +2.1**
TKL Tuckaleechee C 22.15 326 IAmb IAmb 14 38 54.5
comp=Z,87nm,0.6s
TKL Tuckaleechee C 22.15 326 LR LR 14 46 36.8
comp=Z,616nm,21.7s,baz=142,slow=35
LRAL Lakeview Retre 22.31 316 P **P 14 38 39.1 -0.6**
LRAL IAmb IAmb 14 38 57.6
comp=Z,211nm,1.1s
FPAL Fort Paine 22.40 321 IAmb IAmb 14 39 00.4
comp=Z,219nm,1.3s
CPCT Cooper Cave 22.41 324 IAmb IAmb 14 38 59.5
comp=Z,120nm,1.0s
MACA Manacapuru-AM 22.42 159 IAmb IAmb 14 38 46.0
comp=Z,170nm,0.9s
MACA Manacapuru-AM 22.42 159 *e*P **P 14 38 42.8 +1.6**
Y49A Blount Mountai 22.44 318 P **P 14 38 40.3 -0.9**
Y49A IAmb IAmb 14 39 00.8
comp=Z,192nm,1.1s
R55A Marlinton 22.58 336 IAmb IAmb 14 39 01.1
comp=Z,129nm,1.1s
S54A Dingess, Beckl 22.66 333 IAmb IAmb 14 39 04.7
comp=Z,115nm,0.7s
MVL Millersville 22.93 345 IAmb IAmb 14 39 04.7
comp=Z,95nm,0.9s
SWET Sewanee 23.05 321 IAmb IAmb 14 39 05.8
comp=Z,250nm,1.2s
BRNJ Basking Ridge 23.19 348 IAmb IAmb 14 39 07.6
comp=Z,283nm,1.3s
LUPA Lehigh Univers 23.27 347 IAmb IAmb 14 39 09.0
comp=Z,160nm,1.1s
Q54A Coxs Mills 23.47 335 IAmb IAmb 14 39 10.0
comp=Z,97nm,0.9s
S51A Beattyville 23.58 329 IAmb IAmb 14 39 14.6
comp=Z,66nm,0.7s
ODNJ Ogdensburg 23.58 349 IAmb IAmb 14 39 12.9
comp=Z,147nm,1.2s
U49A Red Boiling Sp 23.88 324 IAmb IAmb 14 39 13.8
comp=Z,192nm,1.1s
CLTN Cedars of Leba 23.89 322 IAmb IAmb 14 39 14.2
comp=Z,202nm,1.3s
SSPA Standing Stone 23.94 342 P **P 14 38 54.8 -0.7**
SSPA IAmb IAmb 14 39 15.4
comp=Z,198nm,1.6s
KSCT Kent School, K 24.02 351 IAmb IAmb 14 39 27.5
comp=Z,103nm,1.0s
Q52A Bidwell 24.04 333 IAmb IAmb 14 39 19.4
comp=Z,111nm,0.9s
P53A Whipple 24.12 335 IAmb IAmb 14 39 16.4
comp=Z,265nm,1.8s
SSFO Shawnee State 24.24 331 IAmb IAmb 14 39 24.6
comp=Z,136nm,0.8s
O54A Avella 24.34 338 IAmb IAmb 14 39 21.8
comp=Z,110nm,1.1s
MAL2 Monte Alegre, 24.44 143 P **P 14 39 01.3 +1.0**
R50A Paris 24.44 329 IAmb IAmb 14 39 03.7
comp=Z,218nm,1.3s
HRV Adam Dziewonsk 24.56 355 P **P 14 39 01.6 +0.5**
HRV Adam Dziewonsk 24.56 355 P **P 14 39 01.6 +0.5**
HRV pmax pmax
comp=Z,68nm,1.0s
L61B Northampton 24.62 353 pP pP 14 39 18.2 -0.4
baz=170
O53A New Philadelph 24.71 336 IAmb IAmb 14 39 24.5
comp=Z,162nm,1.2s
WVT Waverly 24.81 321 P **P 14 39 03.2 -0.3**
WVT Waverly 24.81 321 P **P 14 39 03.2 -0.3**
WVT pmax pmax
comp=Z,304nm,1.3s
P51A Williamsport 24.82 333 IAmb IAmb 14 39 22.7
comp=Z,81nm,0.9s
O52A Adamsville 24.84 335 IAmb IAmb 14 39 23.9
comp=Z,130nm,1.0s
R49A Shelbyville 24.87 328 IAmb IAmb 14 39 25.1
comp=Z,171nm,1.5s
T47A Sharon Grove 24.97 323 IAmb IAmb 14 39 30.8
comp=Z,92nm,1.0s
N53A Lisbon 25.06 338 IAmb IAmb 14 39 26.0
comp=Z,140nm,1.0s
L56A Greenwood 25.25 344 IAmb IAmb 14 39 36.8
comp=Z,105nm,1.0s
ACSO Alum Creek Sta 25.41 334 IAmb IAmb 14 39 12.9
comp=Z,109nm,1.1s
WCI Wyandotte Cave 25.41 326 P **P 14 39 09.0 +0.1**
WCI IAmb IAmb 14 39 28.2
comp=Z,85nm,0.9s
WCI Wyandotte Cave 25.41 326 P **P 14 39 09.0 +0.1**
WCI pmax pmax
comp=Z,85nm,1.0s
K57A Scipio Center 25.56 346 IAmb IAmb 14 39 31.5
comp=Z,129nm,1.2s
ITTB Itaituba 25.59 149 *e*P **P 14 39 11.7 +0.9**
P49A Miami Univ. Ec 25.61 330 IAmb IAmb 14 39 14.5
comp=Z,68nm,0.6s
N51A Ashland 25.73 335 IAmb IAmb 14 39 30.8
comp=Z,199nm,1.6s
WVNY West Valley, N 25.78 343 IAmb IAmb 14 39 32.5
comp=Z,78nm,0.9s
CZSB Cruzeiro do Su 25.88 189 IAmb IAmb 14 39 19.1
comp=Z,74nm,0.8s
CZSB Cruzeiro do Su 25.88 189 *e*P **P 14 39 13.7 +0.3**
P48A Milroy 25.90 329 IAmb IAmb 14 39 32.8
comp=Z,151nm,1.4s
O49A Covington 25.96 332 IAmb IAmb 14 39 32.4
comp=Z,88nm,1.0s
BLO Bloomington 26.23 327 IAmb IAmb 14 39 36.1
comp=Z,250nm,1.5s
O48B Farmland 26.39 331 IAmb IAmb 14 39 37.0
comp=Z,164nm,1.4s
O48B Farmland 26.39 331 P **P 14 39 18.3 +0.5**
baz=142
O48B pP **pP 14 39 34.5 -0.1**
baz=142
M50A Fremont 26.41 335 IAmb IAmb 14 39 38.3
comp=Z,110nm,1.1s
CGM3 Cape Girardeau 26.68 320 IAmb IAmb 14 39 39.3
comp=Z,139nm,1.1s
ATAH Atahualpa 26.78 202 LR LR 14 52 15.9
comp=Z,263nm,21.8s,baz=31,slow=41
LCAR Lake Charles 26.87 317 IAmb IAmb 14 39 41.7
comp=Z,193nm,1.2s
N47A Urbana 27.14 331 IAmb IAmb 14 39 42.8
comp=Z,142nm,0.9s
X40A Basin Creek Fa 27.14 312 IAmb IAmb 14 39 45.9
comp=Z,158nm,1.3s
WHAR Wooly Hollow 27.19 314 IAmb IAmb 14 39 47.0
comp=Z,185nm,1.1s
T42A Van Buren 27.40 318 IAmb IAmb 14 39 48.7
comp=Z,92nm,1.0s
L48A N Adams 27.44 334 IAmb IAmb 14 39 45.7
comp=Z,82nm,0.9s
DELO Deloro Mine 27.51 346 IAmb IAmb 14 39 48.7
comp=Z,75nm,1.1s
HKT Hockley 27.51 301 *i* P **P 14 39 28.1 +0.2**
HKT pmax pmax
comp=Z,37nm,1.0s
FVM French Village 27.59 321 IAmb IAmb 14 39 50.9
comp=Z,141nm,1.1s
ETMB Extrema 27.74 175 IAmb IAmb 14 39 32.7
comp=Z,101nm,1.0s
ETMB Extrema 27.74 175 *e*P **P 14 39 31.6 +1.6**
NPGB Novo Progresso 28.11 151 *e*P **P 14 39 34.4 +1.0**
SADO Sadowa 28.12 344 LR LR 14 51 17.1
comp=Z,346nm,19.2s,baz=227,slow=37
CCM Cathedral Cave 28.13 320 P **P 14 39 33.3 -0.1**
CCM Cathedral Cave 28.13 320 P **P 14 39 33.3 -0.1**
CCM pmax pmax
comp=Z,157nm,1.0s
TLIG Tlapa 28.53 274 P **P 14 39 37.6 +0.3**
TMAB Tom-Au,PA,Br 28.59 133 *e*P **P 14 39 39.1 +1.4**
HHAR Hobbs 28.85 314 IAmb IAmb 14 39 59.6
comp=Z,105nm,1.2s
L44A Lake County Fo 29.19 330 P **P 14 39 43.5 +0.8**
baz=140
L44A pP **pP 14 39 59.5 -0.2**
baz=140
435B Jarrell 29.21 301 IAmb IAmb 14 39 44.6
comp=Z,122nm,0.9s
435B Jarrell 29.21 301 P **P 14 39 43.5 +0.4**
baz=109
435B pP **pP 14 40 00.3 +0.6**
baz=109
FW13 Cleburne 29.64 304 IAmb IAmb 14 39 48.5
comp=Z,80nm,1.1s
N41A Harden Midland 29.65 324 IAmb IAmb 14 40 05.1
comp=Z,136nm,1.3s
L42A Oliver, Polo 29.93 328 IAmb IAmb 14 40 07.4
comp=Z,141nm,1.2s
FW07 Weatherford 30.05 305 IAmb IAmb 14 39 52.1
comp=Z,50nm,0.7s
HNDO Hondo 30.25 298 IAmb IAmb 14 39 53.2
comp=Z,51nm,0.8s
W35A Tecumseh 30.37 310 IAmb IAmb 14 40 13.4
comp=Z,79nm,1.2s
FW03 Perrin-Whitt E 30.39 305 IAmb IAmb 14 39 55.4
comp=Z,85nm,1.1s
PLPT Palo Pinto 30.50 305 IAmb IAmb 14 39 56.0
comp=Z,52nm,0.7s
OK052 Battle Ridge R 30.71 311 IAmb IAmb 14 40 15.4
comp=Z,57nm,0.8s
QUOK Quay 30.72 312 IAmb IAmb 14 40 15.5
comp=Z,46nm,0.8s
L40A Anamosa 30.79 326 IAmb IAmb 14 39 57.6
comp=Z,51nm,0.5s
NNA Nana 30.89 196 P **P 14 39 59.3 +1.3**
NNA IAmb IAmb 14 40 01.2
comp=Z,86nm,1.2s
NNA Nana 30.89 196 LR LR 14 56 31.8
comp=Z,165nm,18.3s,baz=356,slow=44
NNA Nana 30.89 196 *c e*P **P 14 39 59.7 +1.7**
NNA pmax pmax
comp=Z,72nm,1.0s
JCT Junction City 30.94 300 IAmb IAmb 14 39 59.3
comp=Z,42nm,0.8s
I42A Draeger Farm, 30.97 331 IAmb IAmb 14 40 17.2
comp=Z,106nm,1.0s
N38A Joes South For 31.06 322 IAmb IAmb 14 40 17.9
comp=Z,79nm,1.1s
OK029 Liberty Lake 31.08 311 IAmb IAmb 14 40 18.6
comp=Z,51nm,0.8s
CLDB Collier 31.35 155 *e*P **P 14 40 03.3 +1.2**
BLOK Blackwell 31.36 312 IAmb IAmb 14 40 21.5
comp=Z,66nm,0.8s
ICQ Pointe Anglais 31.47 2 P **P 14 40 02.4 -0.4**
WMOK Wichita Mounta 31.61 308 IAmb IAmb 14 40 23.1
comp=Z,41nm,0.8s
PDRB Porto dos Gac 31.67 157 *e*P **P 14 40 05.8 +0.9**
CROK Carrier 31.79 311 IAmb IAmb 14 40 26.6
comp=Z,72nm,1.1s
I40A Norwalk 31.79 329 IAmb IAmb 14 40 24.1
comp=Z,83nm,0.9s
VILB Vilhena 31.85 164 P **P 14 40 07.9 +1.4**
VILB Vilhena 31.85 164 *e*P **P 14 40 08.5 +2.0**
APMT Aspermont 32.10 305 IAmb IAmb 14 40 09.7
comp=Z,39nm,0.6s
OZNA Ozona 32.16 300 IAmb IAmb 14 40 10.8
comp=Z,44nm,0.7s
NOKA Waynoka 32.53 311 IAmb IAmb 14 40 31.9
comp=Z,78nm,1.0s
SN05 Snyder 5 32.55 303 IAmb IAmb 14 40 13.6
comp=Z,41nm,0.7s
G40A Rib Lake 32.62 331 IAmb IAmb 14 40 31.7
comp=Z,68nm,1.0s
SN07 Snyder 07 32.63 304 IAmb IAmb 14 40 14.1
comp=Z,131nm,1.4s
COWI Conover 32.79 333 IAmb IAmb 14 40 33.5
comp=Z,93nm,1.1s
MNHN Monahans 33.62 300 IAmb IAmb 14 40 23.1
comp=Z,45nm,0.7s
SMTB Santa Maria do 33.80 140 *e*P **P 14 40 24.2 +0.7**
SPMN Marine on St. 33.83 329 IAmb IAmb 14 40 41.2
comp=Z,80nm,1.3s
AMTX Amarillo 33.86 306 IAmb IAmb 14 40 24.6
comp=Z,36nm,0.8s
TXAR Lajitas Array 33.92 296 P **P 14 40 24.2 -0.4**
TXAR Lajitas Array 33.92 296 P **P 14 40 24.3 -0.3**
comp=Z,9.7nm,0.4s,baz=116,slow=8.3,SNR=169
TXAR ScP **ScP 14 46 39.9 -0.5**
comp=Z,2.9nm,0.7s,baz=111,slow=5.5,SNR=9.4
TXAR LR LR 14 58 27.2
comp=Z,76nm,18.8s,baz=68,slow=44
comp=Z,9.7nm,0.4s
LPAZ La Paz 34.07 179 IAmb IAmb 14 40 33.4
comp=Z,72nm,1.1s
LPAZ La Paz 34.07 179 P **P 14 40 28.0 +1.5**
comp=Z,26nm,0.6s,baz=360,slow=8.1,SNR=55
LPAZ ScP **ScP 14 46 40.8 -0.8**
comp=Z,4.0nm,0.6s,baz=316,slow=1.5,SNR=6.6
LPAZ LR LR 14 55 19.4
comp=Z,216nm,20.4s,baz=357,slow=38
comp=Z,26nm,0.6s
LPAZ La Paz 34.07 179 P **P 14 40 28.0 +1.5**
LPAZ La Paz 34.07 179 *e*P **P 14 40 27.9 +1.5**
LPAZ La Paz 34.07 179 P **P 14 40 27.9 +1.5**
LPAZ ScP **ScP 14 46 40.8 -0.8**
E38A The Farm, Brul 34.25 331 IAmb IAmb 14 40 45.5
comp=Z,34nm,0.9s
SNDB Serra Nova Dou 34.33 149 *e*P **P 14 40 28.9 +0.9**
PTLB Pontes e Lacer 34.52 164 P **P 14 40 30.1 +0.5**
PTLB IAmb IAmb 14 40 32.0
comp=Z,46nm,0.9s
PTLB Pontes e Lacer 34.52 164 *e*P **P 14 40 30.4 +0.8**
PECS Pecos 34.55 299 IAmb IAmb 14 40 30.8
comp=Z,50nm,1.0s
SIV San Ignacio 34.58 167 P **P 14 40 31.2 +1.0**
comp=Z,68nm,0.9s,baz=354,slow=8.6,SNR=186
SIV LR LR 14 55 25.6
comp=Z,292nm,20.3s,baz=11,slow=37
comp=Z,68nm,0.9s
EYMN Ely 35.24 333 IAmb IAmb 14 40 54.1
comp=Z,70nm,1.2s
VHRN Van Horn 35.34 298 IAmb IAmb 14 40 38.5
comp=Z,46nm,0.8s
SALV Santo Antonio 36.00 159 *e*P **P 14 40 43.4 +1.0**
F33A 5 Mile Ranch, 36.04 326 IAmb IAmb 14 41 00.6
comp=Z,67nm,1.2s
T25A Trinidad 36.74 309 IAmb IAmb 14 40 50.5
comp=Z,33nm,0.6s
T25A Trinidad 36.74 309 P **P 14 40 49.2 +0.3**
baz=111
T25A pP **pP 14 41 06.6 +0.5**
baz=111
SCHQ Schefferville 36.79 2 P **P 14 40 49.0 +0.2**
SCHQ Schefferville 36.79 2 P **P 14 40 49.4 +0.6**
comp=Z,48nm,0.6s,baz=185,slow=6.9,SNR=126
SCHQ LR LR 14 56 49.8
comp=Z,92nm,18.6s,baz=190,slow=38
comp=Z,48nm,0.6s
EPT El Paso 36.83 299 IAmb IAmb 14 40 50.0
comp=Z,30nm,1.0s
NBPB Pedra_Branca-C 36.97 127 *e*P **P 14 40 51.4 +0.6**
NBCL Cascavel-CE 37.16 124 *e*P **P 14 40 53.6 +1.3**
AGMN Agassiz Nation 37.49 330 IAmb IAmb 14 40 55.2
comp=Z,28nm,0.5s
ANMO Albuquerque 37.59 304 P **P 14 40 55.9 -0.2**
ANMO Albuquerque 37.59 304 LR LR 14 59 19.0
comp=Z,234nm,19.7s,baz=282,slow=41
ANMO Albuquerque 37.59 304 *i* P **P 14 40 55.9 -0.2**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 37.59 304 P **P 14 40 56.5 +0.3**
ANMO pP **pP 14 41 14.3 +1.1**
ANMO ScP **ScP 14 46 53.7 -0.2**
Y22D IRIS PASSCAL I 37.72 303 P **P 14 40 57.5 +0.4**
baz=105
Y22D pP **pP 14 41 15.2 +1.0**
baz=105
SDCO Great Sand Dun 37.77 309 IAmb IAmb 14 40 59.2
comp=Z,31nm,0.8s
Q24A Divide 37.97 311 IAmb IAmb 14 41 00.7
comp=Z,31nm,0.8s
Q24A Divide 37.97 311 P **P 14 40 59.5 +0.1**
baz=113
Q24A pP **pP 14 41 17.0 +0.4**
baz=113
BRIGG Briggsdale 38.05 314 IAmb IAmb 14 41 19.7
comp=Z,81nm,1.2s
121A Cookes Peak, D 38.05 300 IAmb IAmb 14 41 02.0
comp=Z,28nm,0.8s
121A Cookes Peak, D 38.05 300 P **P 14 41 00.7 +0.7**
baz=102
121A pP **pP 14 41 17.7 +0.6**
baz=102
SDBA SAO DESIDERIO 38.20 141 *e*P **P 14 41 01.9 +0.7**
PANT Pantanal (Braz 38.59 162 *e*P **P 14 41 06.1 +1.8**
ISCO Idaho Springs 38.63 312 IAmb IAmb 14 41 06.7
comp=Z,43nm,1.0s
S22A 4UR Ranch, Cre 38.76 308 P **P 14 41 06.4 +0.4**
baz=110
S22A pP **pP 14 41 23.8 +0.6**
baz=110
NBMA Muriti-CE 38.76 128 *e*P **P 14 41 05.3 -0.6**
ULM Lac du Bonnet 38.88 332 IAmb IAmb 14 41 24.2
comp=Z,48nm,1.1s
ULM Lac du Bonnet 38.88 332 P **P 14 41 05.2 -1.2**
comp=Z,7.0nm,0.5s,baz=141,slow=8.6,SNR=15
ULM pP **pP 14 41 22.6 -1.2**
comp=Z,35nm,1.0s,baz=137,slow=8.2,SNR=15
ULM ScP **ScP 14 46 56.9 -1.2**
comp=Z,2.5nm,0.7s,baz=161,slow=4.2,SNR=3.9
ULM LR LR 14 56 46.4
comp=Z,288nm,20.0s,baz=126,slow=36
comp=Z,7.0nm,0.5s
SLBS Sierra La Lagu 38.96 286 P **P 14 41 08.4 +0.8**
SLBS IAmb IAmb 14 41 10.2
comp=Z,32nm,0.8s
SLBS Sierra La Lagu 38.96 286 P **P 14 41 08.8 +1.2**
319A Douglas 39.07 298 IAmb IAmb 14 41 10.5
comp=Z,51nm,0.9s
BDFB Brasilia 39.10 148 P **P 14 41 09.2 +0.5**
BDFB IAmb IAmb 14 41 10.8
comp=Z,90nm,1.5s
BDFB Brasilia 39.10 148 P **P 14 41 08.7 -0.1**
comp=Z,19nm,0.8s,baz=317,slow=12,SNR=22
BDFB LR LR 14 57 43.2
comp=Z,406nm,21.2s,baz=324,slow=37
comp=Z,19nm,0.8s
BDFB Brasilia 39.10 148 P **P 14 41 09.2 +0.5**
BDFB pmax pmax
comp=Z,90nm,1.5s
LPIG La Paz 39.29 286 LR LR 14 59 04.1
comp=Z,126nm,21.4s,baz=87,slow=38
N23A Red Feather La 39.30 313 pP pP 14 41 28.3 +0.5
baz=114
RSSD Black Hills 39.52 319 P **P 14 41 11.1 -1.0**
RSSD IAmb IAmb 14 41 31.4
comp=Z,91nm,1.9s
RSSD Black Hills 39.52 319 P **P 14 41 11.1 -1.0**
RSSD pmax pmax
comp=Z,91nm,1.9s
C2SB Chapadao do Su 39.68 156 *e*P **P 14 41 15.1 +1.7**
BDQN Bodoquena, MS 39.94 163 *e*P **P 14 41 16.6 +1.1**
RCBR Riachuelo 40.02 123 P **P 14 41 17.3 +0.9**
RCBR IAmb IAmb 14 41 20.0
comp=Z,37nm,0.8s
RCBR Riachuelo 40.02 123 P **P 14 41 17.2 +0.8**
comp=Z,11nm,0.8s,baz=317,slow=15,SNR=20
RCBR LR LR 14 58 55.8
comp=Z,37nm,19.3s,baz=288,slow=38
comp=Z,11nm,0.8s
RCBR Riachuelo 40.02 123 P **P 14 41 17.3 +0.9**
RCBR pmax pmax
comp=Z,37nm,0.9s
RCBR Riachuelo 40.02 123 *e*P **P 14 41 17.6 +1.2**
AQDB Aquidauana 40.27 161 IAmb IAmb 14 41 20.8
comp=Z,52nm,0.7s
AQDB Aquidauana 40.27 161 *e*P **P 14 41 19.8 +1.5**
PV13 Radium Mtn., P 40.38 308 IAmb IAmb 14 41 21.4
comp=Z,95nm,1.3s
K22A Casper 40.44 316 IAmb IAmb 14 41 39.4
comp=Z,42nm,1.0s
TUC Tucson 40.50 299 P **P 14 41 20.4 +0.2**
TUC Tucson 40.50 299 P **P 14 41 20.4 +0.2**
TUC pmax pmax
comp=Z,39nm,1.5s
PV10 Paradox Valley 40.61 308 IAmb IAmb 14 41 22.9
comp=Z,102nm,1.3s
PV23 Carpenter Ridg 40.62 309 IAmb IAmb 14 41 23.0
comp=Z,79nm,1.0s
O20A White River Ci 40.63 311 IAmb IAmb 14 41 24.3
comp=Z,44nm,0.8s
JANB Januaria 40.64 142 *e*P **P 14 41 21.1 -0.4**
MURT Porto Murtinho 40.85 164 *e*P **P 14 41 24.1 +1.0**
NBPV Pedro Velho 40.86 123 *e*P **P 14 41 24.8 +1.5**
RPRD Ribas do Rio P 40.94 158 *e*P **P 14 41 25.0 +1.3**
IPMB Ipameri, GO 40.99 150 *e*P **P 14 41 24.8 +0.5**
SRIG Santa Rosalia 41.16 291 IAmb IAmb 14 41 28.5
comp=Z,72nm,1.2s
NBCA Caruaru-PE 41.40 126 *e*P **P 14 41 29.0 +1.2**
ITRB Iturama 41.52 154 *e*P **P 14 41 29.3 +0.7**
NBLA Lagarto - SE 41.89 131 *e*P **P 14 41 32.0 +0.3**
P18A Preston Nutter 41.90 310 IAmb IAmb 14 41 33.6
comp=Z,34nm,0.7s
DGMT Dagmar 41.91 325 IAmb IAmb 14 41 50.7
comp=Z,77nm,0.9s
SRU San Rafael Swe 41.95 309 IAmb IAmb 14 41 33.7
comp=Z,36nm,0.6s
NBAN Anadia - AL 42.12 128 *e*P **P 14 41 34.3 +0.7**
LAO LASA Array 42.13 321 IAmb IAmb 14 41 52.4

comp=Z,121nm,1.4s
PMNB Patos De Minas 42.34 148 *e*P **P 14 41 35.5 +0.1**
TMUT Trail Mountain 42.51 309 IAmb IAmb 14 41 39.2
comp=Z,109nm,1.2s
PDAR Pinedale Array 42.52 314 P **P 14 41 35.8 -1.1**
PDAR Pinedale Array 42.52 314 P **P 14 41 36.2 -0.7**
comp=Z,1.5nm,0.4s,baz=116,slow=10,SNR=22
PDAR pP **pP 14 41 54.5 0.0**
comp=Z,9.3nm,0.9s,baz=117,slow=8.1,SNR=9.9
PDAR ScP **ScP 14 47 11.5 -1.5**
comp=Z,4.3nm,0.9s,baz=112,slow=6.5,SNR=10
PDAR LR LR 15 00 40.9
comp=Z,182nm,20.0s,baz=102,slow=38
comp=Z,1.5nm,0.4s
BSUT Blindstream Ca 42.57 311 IAmb IAmb 14 41 39.1
comp=Z,48nm,1.1s
Y14A Wickenburg 42.62 301 IAmb IAmb 14 41 39.5
comp=Z,25nm,0.6s
PIX Pinacate 42.63 297 IAmb IAmb 14 41 39.6
comp=Z,51nm,1.1s
PAPY Pozo Azul 43.03 166 *e*P **P 14 41 41.8 +1.0**
MPU Maple Canyon 43.04 310 IAmb IAmb 14 41 42.6
comp=Z,53nm,1.0s
CTU Camp Tracy 43.34 311 IAmb IAmb 14 42 04.9
comp=Z,55nm,1.2s
BB19B Bebedouro 43.52 152 *e*P **P 14 41 45.2 +0.4**
LOHW Long Hollow 43.56 315 IAmb IAmb 14 42 05.2
comp=Z,47nm,1.0s
TPAW Teton Pass 43.74 315 IAmb IAmb 14 42 06.9
comp=Z,78nm,1.6s
FLWY Flagg Ranch 43.80 316 IAmb IAmb 14 42 07.4
comp=Z,169nm,2.0s
CMC01 Camacan, BA 43.82 137 *e*P **P 14 41 48.0 +0.8**
FXWY Fox Creek 43.85 315 IAmb IAmb 14 42 07.6
comp=Z,112nm,1.9s
DUG Dugway, Tooele 43.96 310 P **P 14 41 48.9 +0.6**
DUG pmax pmax
comp=Z,39nm,1.1s
YMR Madison River 44.20 316 IAmb IAmb 14 42 13.5
comp=Z,117nm,2.0s
BGU Big Grassy Mou 44.33 311 IAmb IAmb 14 41 52.8
comp=Z,36nm,0.9s
YHL Hebgen Lake 44.42 317 IAmb IAmb 14 42 14.3
comp=Z,98nm,1.4s
V12A Nelson 44.44 303 IAmb IAmb 14 41 54.6
comp=Z,41nm,0.7s
LDASE Londrina, Braz 44.54 157 *e*P **P 14 41 53.2 +0.3**
GUA01 Guaratinga, BA 44.55 139 *e*P **P 14 41 54.2 +1.1**
AC02 Maricunga 44.57 181 IAmb IAmb 14 41 56.0
comp=Z,63nm,1.1s
VTX Valle De La Tr 44.58 297 IAmb IAmb 14 41 55.6
comp=Z,46nm,1.1s
FFC Flin Flon 44.67 333 P **P 14 41 52.3 -1.3**
FFC Flin Flon 44.67 333 P **P 14 41 52.3 -1.3**
FFC pmax pmax
comp=Z,27nm,1.0s
FFC Flin Flon 44.67 333 P **P 14 41 52.4 -1.3**
FFC pP **pP 14 42 10.2 -1.2**
FFC sP **sP 14 42 19.0 -0.6**
FFC ScP **ScP 14 47 21.0 -0.1**
SPR3 Spring Creek 3 44.76 308 P **P 14 41 56.1 +1.1**
SPR3 Spring Creek 3 44.76 308 IAmb IAmb 14 41 57.4
comp=Z,60nm,0.9s
FCC Fort Churchill 44.78 341 P **P 14 41 53.8 -0.6**
FCC IAmb IAmb 14 42 13.2
comp=Z,45nm,0.8s
FCC Fort Churchill 44.78 341 P **P 14 41 53.8 -0.6**
FCC pmax pmax
comp=Z,45nm,0.8s
EGMT Eagleton 44.88 321 IAmb IAmb 14 42 15.0
comp=Z,102nm,1.1s
FRTB Fartura 45.10 155 *e*P **P 14 41 58.1 +0.7**
BSCB Bom Sucesso 45.24 148 *e*P **P 14 41 58.8 +0.1**
SJMB Sao Joao De Ma 45.34 142 *e*P **P 14 41 59.6 +0.3**
CPUP Villa Florida 45.40 166 P **P 14 41 59.5 -0.2**
comp=Z,83nm,1.0s,baz=350,slow=8.0,SNR=102
CPUP PP **PP 14 43 50.5 +3.2**
comp=Z,26nm,1.2s,baz=355,slow=8.9,SNR=4.5
CPUP LR LR 15 02 01.9
comp=Z,145nm,20.8s,baz=358,slow=37
comp=Z,83nm,1.0s
CPUP Villa Florida 45.40 166 *e*P **P 14 42 00.1 +0.5**
CPUP Villa Florida 45.40 166 P **P 14 41 59.5 -0.2**
PTGB Pitanga 45.41 159 *e*P **P 14 42 00.6 +0.7**
PFO Pinyon Flats O 45.41 300 LR LR 15 03 08.5
comp=Z,157nm,21.9s,baz=72,slow=39
DLMT Dillon 45.54 317 IAmb IAmb 14 42 21.7
comp=Z,56nm,1.1s
R11B Troy Canyon, C 45.56 306 IAmb IAmb 14 42 03.7
comp=Z,34nm,0.9s
R11B Troy Canyon, C 45.56 306 P **P 14 42 02.1 +0.9**
baz=103
R11B pP **pP 14 42 19.7 +1.0**
baz=103
BSFB Barra de Sao F 45.64 142 *e*P **P 14 42 02.5 +0.8**
FRB Frobisher Bay 45.71 0 LR LR 15 00 34.4
comp=Z,92nm,21.8s,baz=174,slow=35
ELK Elko 45.89 310 LR LR 15 02 18.5
comp=Z,299nm,21.2s,baz=104,slow=37
GSC Goldstone, Bar 45.94 302 IAmb IAmb 14 42 06.6
comp=Z,28nm,0.8s
GWY Greenwater Val 45.98 303 IAmb IAmb 14 42 06.7
comp=Z,27nm,0.6s
WCT Wildcat Mounta 46.05 304 P **P 14 42 06.5 +1.6**
WCT Wildcat Mounta 46.05 304 IAmb IAmb 14 42 26.6
comp=Z,58nm,0.9s
NRS Narsarsuaq 46.15 15 P **P 14 42 05.5 +0.4**
NRS Narsarsuaq 46.15 15 P **P 14 42 05.5 +0.4**
NRS pmax pmax
comp=Z,59nm,0.8s
NRS Narsarsuaq 46.15 15 *i* P **P 14 42 05.0 -0.2**
NRS IAmb IAmb 14 42 07.1
comp=Z,65nm,0.9s
RIB01 Linhares ES 46.28 142 *e*P **P 14 42 06.6 -0.1**
GRAC Grapevine Rang 46.67 304 IAmb IAmb 14 42 31.0
comp=Z,57nm,0.9s
LCO Las Campanas 46.78 183 P **P 14 42 11.6 +0.8**
LCO Las Campanas 46.78 183 P **P 14 42 11.6 +0.8**
LCO pmax pmax
comp=Z,128nm,1.1s
LCO Las Campanas 46.78 183 P **P 14 42 11.8 +1.1**
LCO pP **pwP 14 42 30.4 -1.1**
LCO ScP **ScP 14 47 31.3 +0.8**
PARB Paraibuna 46.81 151 *e*P **P 14 42 11.1 +0.2**
MSO Missoula 46.96 318 IAmb IAmb 14 42 31.3
comp=Z,39nm,1.3s
ALF01 Guarapari-ES 47.11 143 *e*P **P 14 42 12.8 -0.3**
DSP Deep Springs 47.21 305 P **P 14 42 15.9 +2.0**
DSP Deep Springs 47.21 305 IAmb IAmb 14 42 16.8
comp=Z,41nm,1.1s
NUUK Nuuk 47.55 10 *i* P **P 14 42 16.2 +0.1**
NUUK IAmb IAmb 14 42 18.1
comp=Z,16nm,0.9s
CAM01 Campos-RJ 47.56 145 *e*P **P 14 42 16.6 0.0**
NVAR Mina Array Bea 47.67 306 P **P 14 42 18.0 +0.3**
NVAR Mina Array Bea 47.67 306 P **P 14 42 18.6 +1.0**
comp=Z,8.5nm,0.4s,baz=100,slow=4.1,SNR=59
NVAR pP **pP 14 42 37.4 +2.1**
comp=Z,57nm,0.9s,baz=93,slow=5.1,SNR=16
NVAR ScP **ScP 14 47 33.1 -1.2**
comp=Z,2.1nm,0.7s,baz=123,slow=5.3,SNR=5.7
NVAR LR LR 15 03 38.2
comp=Z,301nm,21.5s,baz=92,slow=38
comp=Z,8.5nm,0.4s
ITAB Concordia 47.71 160 *e*P **P 14 42 17.4 -0.4**
LHV Little Huntoon 47.79 306 P **P 14 42 20.0 +1.7**
LHV Little Huntoon 47.79 306 IAmb IAmb 14 42 41.1
comp=Z,34nm,0.7s
RYN Ryan 47.87 306 P **P 14 42 20.3 +1.1**
RYN Ryan 47.87 306 IAmb IAmb 14 42 40.5
comp=Z,40nm,0.8s
PMOZ Porto Moniz, M 48.27 62 *i* AMs_20 14 59 25.9
comp=Z,96nm,22.0s
WAKR Walker 48.55 306 IAmb IAmb 14 42 45.9
comp=Z,56nm,1.3s
WVOR Wild Horse Val 48.78 311 IAmb IAmb 14 42 27.5
comp=Z,38nm,1.1s
ZON Zonda 49.26 180 P **P 14 42 31.0 +1.4**
ZON pmax pmax
comp=Z,189nm,0.8s
NEW Newport 49.49 319 LR LR 15 03 41.2
comp=Z,365nm,20.5s,baz=112,slow=36
BBTS Babate 49.95 86 LR LR 14 59 14.0
comp=Z,108nm,20.9s,baz=154,slow=31
CNLB Canela 50.06 160 *e*P **P 14 42 35.9 +0.1**
C09A Chrisman Ranch 50.06 318 IAmb IAmb 14 42 54.6
comp=Z,48nm,1.4s
CPSB Cacapava Do Su 50.29 163 *e*P **P 14 42 37.9 +0.5**
ORV Oroville 50.32 307 IAmb IAmb 14 42 39.3
comp=Z,48nm,1.4s
SFJD Kangerlussuaq 50.35 9 *i* P **P 14 42 36.6 -0.8**
SFJD IAmb IAmb 14 42 38.6
comp=Z,13nm,0.6s
SFJD Kangerlussuaq 50.35 9 P **P 14 42 37.4 0.0**
SFJD pP **pP 14 42 55.3 -0.2**
SFJD sP **sP 14 43 04.0 +0.3**
VA03 San Esteban 50.51 182 IAmb IAmb 14 42 41.5
comp=Z,42nm,0.8s
E07A Sunnyside 50.71 316 IAmb IAmb 14 42 41.8
comp=Z,34nm,1.3s
TBOT Tacuaremb 50.87 166 *e*P **P 14 42 41.6 -0.1**
G06A Carlson Farm, 50.88 314 IAmb IAmb 14 43 03.2
comp=Z,91nm,1.6s
B08A Colville Reser 50.91 318 IAmb IAmb 14 43 00.6
comp=Z,36nm,1.1s
MT02 Curacav 51.02 183 IAmb IAmb 14 42 45.1
comp=Z,28nm,0.7s
I05D Terrebonne, OR 51.15 313 IAmb IAmb 14 42 46.7
comp=Z,40nm,1.3s
LTY Liberty 51.45 317 IAmb IAmb 14 43 05.4
comp=Z,99nm,1.9s
PLTB Pedras Altas 51.52 164 P **P 14 42 46.5 -0.2**
PLTB IAmb IAmb 14 42 48.3
comp=Z,57nm,1.2s
PLTB Pedras Altas 51.52 164 *e*P **P 14 42 46.8 +0.1**
LMEL Las Melosas 51.58 182 IAmb IAmb 14 42 49.7
comp=Z,33nm,0.8s
YBH Yreka Blue Hor 51.60 309 LR LR 15 06 46.0
comp=Z,95nm,20.9s,baz=102,slow=38
HOOD Mount Hood Mea 51.60 314 IAmb IAmb 14 43 09.2
comp=Z,28nm,1.0s
I04A Tendick Farm, 51.78 312 IAmb IAmb 14 42 52.5
comp=Z,43nm,1.1s
ANGG Ammassalik, Gr 51.82 16 *i* P **P 14 42 45.3 -3.1**
ANGG IAmb IAmb 14 42 50.2
comp=Z,22nm,0.8s
H04A Detroit Lake 51.82 313 IAmb IAmb 14 42 50.2
comp=Z,38nm,0.8s
ILULI Ilulissat 52.35 8 *i* P **P 14 42 49.6 -2.7**
ILULI IAmb IAmb 14 42 53.2
comp=Z,51nm,1.4s
LLLB Lillooet 53.19 320 IAmb IAmb 14 43 18.4
comp=Z,28nm,1.0s
ML02 Panimavida 53.53 183 IAmb IAmb 14 43 03.2
comp=Z,40nm,0.8s
ICESG Greenland Ices 54.16 12 *i* P **P 14 43 03.9 -2.1**
ICESG IAmb IAmb 14 43 06.8
comp=Z,59nm,1.1s
NUUG Nuugaatsiaq 54.31 6 *i* P **P 14 43 04.2 -2.5**
NUUG IAmb IAmb 14 43 08.0
comp=Z,26nm,1.0s
BI05 Punta Hualpn 54.62 185 IAmb IAmb 14 43 10.9
comp=Z,36nm,0.8s
YKA Yellowknife Ar 54.63 336 P **P 14 43 08.3 -0.8**
comp=Z,4.2nm,0.5s,baz=102,slow=13,SNR=139
YKA pP **pP 14 43 26.9 -0.5**
comp=Z,1.8nm,0.4s,baz=123,slow=7.0,SNR=4.6
YKA ScP **ScP 14 48 01.7 -1.7**
comp=Z,1.5nm,0.9s,baz=113,slow=5.0,SNR=5.5
YKA LR LR 15 06 25.9
comp=Z,410nm,19.7s,baz=123,slow=36
comp=Z,4.2nm,0.5s
PTEO Sao Teotonio 55.53 57 *e*P **P 14 43 17.4 +1.4**
PTEO *i* Amb 14 43 18.8
comp=Z,46nm,1.7s
MORF Marmelete 55.57 57 *e*P **P 14 43 17.7 +1.3**
MORF IAmb IAmb 14 43 18.7
comp=Z,23nm,1.1s
MORF Marmelete 55.57 57 *e*P **P 14 43 17.6 +1.1**
MORF Marmelete 55.57 57 *e*P **P 14 43 17.7 +1.3**
PSBE So Bento 55.60 54 P **P 14 43 18.7 +2.1**
PCAS Casmilo, Conde 55.88 53 *e*P **P 14 43 19.3 +0.7**
PCAS *i* Amb 14 43 20.4
comp=Z,55nm,1.3s
PTO Porto 55.89 52 *e*P **P 14 43 19.7 +1.1**
MESJ Messejana 55.94 56 IAmb IAmb 14 43 21.0
comp=Z,34nm,1.0s
MESJ Messejana 55.94 56 *e*P **P 14 43 20.2 +1.2**
MESJ IAmb IAmb 14 43 20.8
comp=Z,28nm,0.8s
MESJ Messejana 55.94 56 *e*P **P 14 43 20.2 +1.2**
MESJ *i* Amb 14 43 21.8
comp=Z,56nm,1.3s
MESJ Messejana 55.94 56 *e*P **P 14 43 20.2 +1.2**
COI Coimbra 55.95 53 IAmb IAmb 14 43 21.6
comp=Z,54nm,1.1s
PMTG Montargil 56.01 55 *e*P **P 14 43 20.1 +0.6**
PMTG *i* Amb 14 43 22.6
comp=Z,39nm,1.4s
PCVE Castro Verde 56.08 56 *e*P **P 14 43 21.1 +1.1**
PCVE *i* Amb 14 43 24.0
comp=Z,40nm,2.0s
TRQA Tornquist 56.10 174 P **P 14 43 20.4 +0.4**
TRQA IAmb IAmb 14 43 21.8
comp=Z,70nm,1.9s
TRQA Tornquist 56.10 174 P **P 14 43 20.4 +0.4**
TRQA pmax pmax
comp=Z,70nm,1.9s
PBDV Barranco-do-Ve 56.14 57 *e*P **P 14 43 21.8 +1.3**
PGAV Gavieira, Arco 56.23 51 *e*P **P 14 43 21.8 +0.7**
PBEJ Beja 56.23 56 *e*P **P 14 43 22.6 +1.5**
PBEJ *i* Amb 14 43 23.2
comp=Z,39nm,1.2s
PVAQ Vaqueiros 56.32 57 IAmb IAmb 14 43 24.0
comp=Z,33nm,1.1s
PVAQ Vaqueiros 56.32 57 *e*P **P 14 43 23.1 +1.4**
PVAQ *i* Amb 14 43 24.8
comp=Z,59nm,1.6s
PVAQ *i* AMs_20 15 01 18.7
comp=Z,134nm,24.0s
BORG Borgarnes 56.33 22 LR LR 15 07 40.9
comp=Z,47nm,18.1s,baz=281,slow=36
PVIS Viseu 56.39 53 *e*P **P 14 43 22.6 +0.3**
PESTR Estremoz 56.49 55 P **P 14 43 22.9 -0.1**
PESTR IAmb IAmb 14 43 24.7
comp=Z,39nm,1.1s
PESTR Estremoz 56.49 55 *e*P **P 14 43 23.7 +0.7**
PESTR *i* Amb 14 43 24.9
comp=Z,47nm,1.1s
POLO Lamas de Olo 56.52 52 *e*P **P 14 43 23.9 +0.7**
POLO *i* Amb 14 43 24.8
comp=Z,36nm,1.2s
PVRL Vila Real 56.57 52 *e*P **P 14 43 24.6 +1.1**
PVRL *i* Amb 14 43 25.3
comp=Z,69nm,0.8s
MTE Manteigas 56.63 53 IAmb IAmb 14 43 25.4
comp=Z,29nm,0.7s
MTE Manteigas 56.63 53 *e*P **P 14 43 24.3 +0.3**
MTE *i* Amb 14 43 25.5
comp=Z,47nm,1.1s
MTE *e*S **S 14 51 17.7 +6.8**
MTE *i* AMs_20 15 03 45.1
comp=Z,113nm,20.0s
PCBR Castelo Branco 56.64 54 *e*P **P 14 43 24.3 +0.3**
PCBR *i* Amb 14 43 25.6
comp=Z,36nm,1.1s
PMRV Marv??o 56.68 54 *e*P **P 14 43 25.0 +0.7**
PMRV *i* Amb 14 43 25.9
comp=Z,35nm,1.0s
PMRV *i* AMs_20 15 02 11.0
comp=Z,80nm,22.0s
PBAR Barrancos 56.89 56 *e*P **P 14 43 26.3 +0.5**
PBAR *i* Amb 14 43 29.2
comp=Z,28nm,1.2s
KULLO Kullorsuaq 56.94 4 *i* P **P 14 43 23.7 -1.8**
KULLO IAmb IAmb 14 43 25.9
comp=Z,19nm,0.8s
MVO Moncorvo 57.08 52 *e*P **P 14 43 27.6 +0.4**
MVO *i* Amb 14 43 28.8
comp=Z,81nm,1.1s
MVO *i* AMs_20 15 03 37.1
comp=Z,115nm,18.0s
SUMG Summit 57.27 10 P **P 14 43 28.2 -0.1**
SUMG Summit 57.27 10 P **P 14 43 28.2 -0.1**
SUMG pmax pmax
comp=Z,56nm,0.8s
SUMG Summit 57.27 10 *i* P **P 14 43 28.0 -0.3**
SUMG IAmb IAmb 14 43 29.6
comp=Z,49nm,0.7s
PBRG Braganca 57.35 52 *e*P **P 14 43 29.7 +0.7**
BBB Bella Bella 57.37 321 LR LR 15 08 19.4
comp=Z,191nm,20.9s,baz=124,slow=36
KOTAN Kotaneelee Air 57.59 331 P **P 14 43 31.0 +0.7**
baz=112
KOTAN pP **pP 14 43 48.8 +0.1**
baz=112
TOAD Toad River Com 57.70 329 P **P 14 43 31.1 0.0**
baz=110
TOAD pP **pP 14 43 49.2 -0.3**
baz=110
LR05 Currie 58.01 183 IAmb IAmb 14 43 34.7
comp=Z,37nm,1.1s
PLCA Paso Flores 58.45 182 IAmb IAmb 14 43 38.3
comp=Z,32nm,0.9s
PLCA Paso Flores 58.45 182 P **P 14 43 37.0 +0.4**
comp=Z,23nm,0.9s,baz=360,slow=8.2,SNR=43
PLCA LR LR 15 12 03.1
comp=Z,87nm,19.8s,baz=8.0,slow=39
comp=Z,23nm,0.9s
PLCA Paso Flores 58.45 182 P **P 14 43 37.0 +0.4**
PLCA Paso Flores 58.45 182 *e*P **P 14 43 37.2 +0.6**
PLCA Paso Flores 58.45 182 P **P 14 43 37.3 +0.7**
RES Resolute Bay 58.48 352 LR LR 15 09 38.1
comp=Z,89nm,18.7s,baz=89,slow=37
WRGLY Wrigley 58.55 334 P **P 14 43 37.0 +0.2**
baz=114
WRGLY pP **pP 14 43 55.0 -0.4**
baz=114
LL04 Puerto Octay 58.71 183 IAmb IAmb 14 43 39.3
comp=Z,23nm,0.9s
MDT Midelt 58.87 62 LR LR 15 04 13.2
comp=Z,104nm,21.8s,baz=294,slow=31
PAB San Pablo 59.04 54 P **P 14 43 40.5 -0.4**
PAB IAmb IAmb 14 43 42.5
comp=Z,30nm,0.9s
PAB San Pablo 59.04 54 P **P 14 43 40.5 -0.4**
PAB pmax pmax
comp=Z,30nm,1.0s
PAB San Pablo 59.04 54 P **P 14 43 41.6 +0.7**
PAB pP **pP 14 43 59.8 +0.8**
ESDC Sonseca Array 59.34 54 P **P 14 43 42.8 -0.2**
ESDC Sonseca Array 59.34 54 P **P 14 43 43.3 +0.3**
comp=Z,28nm,0.8s,baz=271,slow=7.3,SNR=154
ESDC LR LR 15 04 41.3
comp=Z,64nm,21.5s,baz=271,slow=31
comp=Z,28nm,0.8s
ESBB Sonseca Array 59.34 54 P **P 14 43 42.4 -0.5**
ESBB IAmb IAmb 14 43 44.7
comp=Z,36nm,0.8s
SCO Scoresbysund 59.42 16 P **P 14 43 42.7 -0.1**
SCO Scoresbysund 59.42 16 P **P 14 43 42.7 -0.1**
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 59.42 16 *i* P **P 14 43 42.1 -0.7**
SCO IAmb IAmb 14 43 45.2
comp=Z,15nm,1.1s
WTLY Watson Lake, Y 59.82 330 P **P 14 43 46.5 +0.6**
baz=107
WTLY pP **pP 14 44 04.3 -0.1**
baz=107
DLBC Dease Lake 59.96 328 P **P 14 43 47.5 +0.6**
baz=105
DLBC pP **pP 14 44 05.7 +0.3**
baz=105
V35K Ketchikan 60.08 324 pP pP 14 44 06.3 +0.1
baz=102
NEEM North Greenlan 60.12 4 *i* P **P 14 43 46.2 -1.8**
NEEM IAmb IAmb 14 43 48.7
comp=Z,22nm,0.7s
LL01 San Ignacio de 60.17 183 IAmb IAmb 14 43 49.5
comp=Z,21nm,1.0s
S34M Telegraph Cree 60.40 327 pP pP 14 44 08.5 +0.2
baz=104
R33M Jennings River 60.68 329 IAmb IAmb 14 44 12.1
comp=Z,57nm,1.2s
R33M Jennings River 60.68 329 pP pP 14 44 10.7 +0.3
baz=105
WRAK Wrangell Islan 60.71 325 pP pP 14 44 10.6 +0.1
baz=102
CRAG Craig 60.95 324 pP pP 14 44 12.3 +0.1
baz=100
LL02 Futaleuf 60.95 183 P **P 14 43 54.2 +0.6**
LL02 IAmb IAmb 14 43 55.1
comp=Z,22nm,0.9s
Q32M Nakina River 61.23 328 pP pP 14 44 14.5 +0.2
baz=103
C36M Paulatuk 61.41 341 pP pP 14 44 15.0 -0.1
baz=117
EKA Eskdalemuir Ar 61.44 36 P **P 14 43 56.1 -0.8**
comp=Z,9.2nm,0.8s,baz=295,slow=5.5,SNR=15
EKA pP **pP 14 44 13.6 -1.6**
comp=Z,13nm,0.9s,baz=262,slow=5.6,SNR=7.2
comp=Z,9.2nm,0.8s
P33M Teslin, Yukon 61.79 329 pP pP 14 44 17.8 0.0
baz=103
P32M Atlin 62.09 329 pP pP 14 44 20.0 +0.1
baz=102
S32K Killisnoo 62.11 326 pP pP 14 44 19.9 0.0
baz=100
DBG Daneborg 62.13 13 *i* P **P 14 44 00.7 -0.5**
DBG IAmb IAmb 14 44 02.6
comp=Z,20nm,1.0s
N32M Quiet Lake 62.14 330 pP pP 14 44 20.0 -0.1
baz=104
AY01 Puyuhuapi 62.22 183 IAmb IAmb 14 44 03.5
comp=Z,38nm,1.0s
R32K Eaglecrest 62.23 327 pP pP 14 44 20.4 -0.4
baz=101
MFF Saint Martin d 62.39 46 P **P 14 44 03.7 +0.3**
MFF pmax pmax
comp=Z,18nm,1.3s
SIT Sitka 62.44 326 pP pP 14 44 21.6 -0.6
baz=99
FARO Faro, Yukon 62.52 331 pP pP 14 44 22.1 -0.6
baz=104
EUNU Eureka 62.62 357 IAmb IAmb 14 44 24.0
comp=Z,32nm,1.3s
SKAG Skagway 62.87 328 pP pP 14 44 24.7 -0.3
baz=101
WHY Whitehorse 62.88 330 pP pP 14 44 24.7 -0.6
baz=102
R31K City Hall, Gus 62.89 327 pP pP 14 44 24.4 -0.8
baz=100
LFF La Frestale 62.95 48 *e*P **P 14 44 06.8 -0.4**
LFF pmax pmax
comp=Z,66nm,1.1s
A36M Sachs Harbour 62.96 343 pP pP 14 44 24.7 -0.8
baz=117
M31M Drury Creek, Y 62.99 331 IAmb IAmb 14 44 27.3
comp=Z,59nm,1.3s
M31M Drury Creek, Y 62.99 331 pP pP 14 44 25.6 -0.2
baz=103
DBIC Dimbokro 63.02 92 P **P 14 44 07.7 -0.4**
DBIC IAmb IAmb 14 44 29.4
comp=Z,34nm,1.3s
DBIC Dimbokro 63.02 92 P **P 14 44 07.2 -0.9**
comp=Z,17nm,1.1s,baz=245,slow=6.5,SNR=9.0
DBIC LR LR 15 06 45.6
comp=Z,339nm,21.8s,baz=236,slow=31
comp=Z,17nm,1.1s
DBIC Dimbokro 63.02 92 P **P 14 44 07.7 -0.4**
DBIC pmax pmax
comp=Z,33nm,1.3s
DBIC Dimbokro 63.02 92 P **P 14 44 07.7 -0.4**
DBIC pP **pP 14 44 26.9 +0.8**
CEST Esterri de Car 63.31 51 P **P 14 44 09.6 -0.2**
CEST IAmb IAmb 14 44 11.9
comp=Z,28nm,1.1s
COYC Coyhaique 63.34 183 P **P 14 44 10.0 +0.5**
COYC IAmb IAmb 14 44 11.4
comp=Z,46nm,1.2s
PLBC Pleasant Camp 63.39 328 pP pP 14 44 28.8 +0.3
baz=100
N31M Braeburn, Yuko 63.48 330 pP pP 14 44 29.4 +0.3
baz=101
O30N Mendenhall 63.49 330 IAmb IAmb 14 44 31.3
comp=Z,70nm,1.3s
O30N Mendenhall 63.49 330 pP pP 14 44 29.4 +0.2
baz=101
JMIC Jan Mayen 63.53 19 LR LR 15 09 41.1
comp=Z,57nm,18.6s,baz=245,slow=34
P30M Million Dollar 63.80 329 pP pP 14 44 31.3 0.0
baz=100
H31M Peel River 63.84 335 IAmb IAmb 14 44 32.2
comp=Z,60nm,1.4s
H31M Peel River 63.84 335 pP pP 14 44 30.8 -0.7
baz=105
CAF Calviac 63.90 48 *e*P **P 14 44 12.9 -0.6**
CAF pmax pmax

comp=Z,38nm,0.8s
DAG Danmarks Havn 63.90 11 P **P 14 44 13.0 +0.1**
DAG pmax pmax
comp=Z,41nm,0.9s
DAG Danmarks Havn 63.90 11 *i* P **P 14 44 12.0 -0.9**
DAG *i* P **P 14 44 12.0 -0.9**
DAG IAmb IAmb 14 44 13.3
comp=Z,30nm,0.9s
MAYO Mayo, Yukon 63.97 333 IAmb IAmb 14 44 34.1
comp=Z,48nm,1.0s
MAYO Mayo, Yukon 63.97 333 pP pP 14 44 32.8 +0.4
baz=102
F31M Tsiigehtchic 64.05 337 IAmb IAmb 14 44 32.8
comp=Z,75nm,1.4s
F31M Tsiigehtchic 64.05 337 pP pP 14 44 31.7 -1.1
baz=106
CLF Chambon-Foret 64.08 45 P **P 14 44 14.8 +0.2**
CLF pP **pP 14 44 34.4 +1.5**
N30M Aishikik Lake 64.09 330 pP pP 14 44 33.2 0.0
baz=100
G31M Satah River 64.10 336 pP pP 14 44 32.2 -1.0
baz=105
M30M Minto, Yukon 64.16 331 IAmb IAmb 14 44 34.7
comp=Z,45nm,1.2s
M30M Minto, Yukon 64.16 331 pP pP 14 44 33.0 -0.6
baz=101
HYT Haines Junctio 64.18 329 pP pP 14 44 34.3 +0.4
baz=99
INK Inuvik 64.22 338 IAmb IAmb 14 44 34.5
comp=Z,97nm,1.5s
INK Inuvik 64.22 338 LR LR 15 12 08.6
comp=Z,249nm,20.3s,baz=82,slow=36
INK Inuvik 64.22 338 pP pP 14 44 32.6 -1.3
baz=107
J30M Hart River 64.36 334 IAmb IAmb 14 44 36.5
comp=Z,42nm,1.2s
J30M Hart River 64.36 334 pP pP 14 44 34.7 -0.4
baz=102
I30M Mount Dempster 64.52 334 pP pP 14 44 35.7 -0.4
baz=102
YUK6 Outpost Mounta 64.62 330 pP pP 14 44 37.2 +0.3
baz=99
ALE Alert 64.62 1 P **P 14 44 16.8 -0.7**
ALE pP **pP 14 44 36.0 -0.3**
O29M Mount Kennedy 64.62 329 pP pP 14 44 37.2 +0.4
baz=98
K29M Barlow Dome 64.72 333 IAmb IAmb 14 44 39.6
comp=Z,54nm,1.1s
K29M Barlow Dome 64.72 333 pP pP 14 44 37.3 -0.2
baz=101
YUK4 Talbot Arm 64.81 330 pP pP 14 44 38.0 -0.1
baz=99
F30M Barrier River 64.85 337 pP pP 14 44 37.3 -0.7
baz=104
G30M tAoh Zraii Nji 64.86 336 IAmb IAmb 14 44 46.7
comp=Z,79nm,1.8s
G30M tAoh Zraii Nji 64.86 336 pP pP 14 44 36.8 -1.4
baz=103
L29M L29M 64.86 332 pP pP 14 44 37.7 -0.6
baz=100
M29M Somme Creek 64.90 331 pP pP 14 44 38.1 -0.5
baz=99
SSF Saint Saulge 64.91 46 *e*P **P 14 44 19.4 -0.6**
SSF pmax pmax
comp=Z,44nm,1.1s
EPYK Eagle Plains 64.91 336 IAmb IAmb 14 44 39.1
comp=Z,46nm,1.3s
EPYK Eagle Plains 64.91 336 pP pP 14 44 37.8 -0.8
baz=103
J29N Klondike Camp 65.14 333 pP pP 14 44 39.9 -0.2
baz=100
YUK8 Steele Glacier 65.34 330 pP pP 14 44 41.5 -0.1
baz=98
I29M Ogilvie Camp, 65.34 334 pP pP 14 44 40.6 -0.8
baz=101
PINM Pinnacle 65.43 328 pP pP 14 44 42.0 0.0
baz=96
O28M Mount Upton 65.48 329 pP pP 14 44 43.0 +0.5
baz=97
H29M Whitestone 65.53 335 pP pP 14 44 41.8 -0.8
baz=101
G29M Pine Creek 65.54 336 pP pP 14 44 41.5 -1.1
baz=102
DAWY Dawson 65.58 333 P **P 14 44 23.9 -0.2**
DAWY IAmb IAmb 14 44 43.9
comp=Z,41nm,1.2s
DAWY Dawson 65.58 333 pP pP 14 44 42.3 -0.6
baz=99
SSB Saint Sauveur 65.65 48 IAmb IAmb 14 44 26.9
comp=Z,35nm,1.2s
DOU Dourbes 65.66 43 *d*P **P 14 44 24.4 -0.4**
DOU *d*pP **pP 14 44 43.8 +0.7**
YUK3 Moose Creek 65.73 330 pP pP 14 44 43.2 -0.9
baz=97
BMRD Maredsous 65.77 42 *d*P **P 14 44 25.6 +0.1**
BMRD *d*pP **pwP 14 44 45.2 -0.8**
comp=Z,12nm,1.0s
E29M Blow River 65.81 338 IAmb IAmb 14 44 44.4
comp=Z,70nm,1.4s
E29M Blow River 65.81 338 pP pP 14 44 43.0 -1.2
baz=102
BGES Gesves 65.98 42 *d*P **P 14 44 26.8 -0.1**
BGES *d*pP **pP 14 44 45.1 0.0**
BVCY Beaver Creek 66.00 331 pP pP 14 44 45.4 -0.3
baz=97
I28M Miner Creek 66.03 334 IAmb IAmb 14 44 47.0
comp=Z,83nm,1.4s
I28M Miner Creek 66.03 334 pP pP 14 44 45.8 -0.1
baz=99
RCHB Rochefort 66.07 43 *d*P **P 14 44 26.2 -1.2**
RCHB *d*pP **pP 14 44 44.8 -1.0**
MESA MESA 66.28 328 pP pP 14 44 48.1 +0.4
baz=95
D28M Stokes Point 66.31 339 pP pP 14 44 46.4 -1.0
baz=102
F28M Old Crow 66.38 337 IAmb IAmb 14 44 49.1
comp=Z,88nm,1.5s
F28M Old Crow 66.38 337 pP pP 14 44 46.9 -1.1
baz=100
E28M Babbage River 66.44 338 pP pP 14 44 46.8 -1.6
baz=101
EGAK Eagle 66.44 334 IAmb IAmb 14 44 50.4
comp=Z,75nm,1.1s
EGAK Eagle 66.44 334 pP pP 14 44 48.3 -0.1
baz=98
M27K Edge Creek, AK 66.46 331 IAmb IAmb 14 44 50.7
comp=Z,63nm,1.1s
M27K Edge Creek, AK 66.46 331 pP pP 14 44 48.6 -0.2
baz=96
BCAR Beaver Creek A 66.50 332 P **P 14 44 29.4 -0.6**
L27K Beaver Creek, 66.52 332 IAmb IAmb 14 44 50.9
comp=Z,63nm,1.1s
L27K Beaver Creek, 66.52 332 pP pP 14 44 48.6 -0.4
baz=96
MEM Membach 66.57 42 *d*P **P 14 44 31.1 +0.5**
MEM *d*pP **pwP 14 44 50.6 -0.5**
comp=Z,20nm,1.1s
BTNL Ternell 66.65 42 *d*P **P 14 44 31.8 +0.6**
WLF Walferdange 66.67 43 *d*P **P 14 44 32.1 +0.8**
I27K Kandik River 66.75 334 pP pP 14 44 50.1 -0.3
baz=98
H27K Steamboat Moun 66.80 335 pP pP 14 44 50.0 -0.8
baz=98
G27K Doyon Strip 66.93 336 pP pP 14 44 50.7 -0.9
baz=98
M26K Nabesna, AK 66.99 331 pP pP 14 44 51.2 -0.8
baz=95
NOR Nord 67.04 7 *i* P **P 14 44 32.6 -0.6**
NOR IAmb IAmb 14 44 33.3
comp=Z,8.5nm,0.8s
D27M Malcolm River 67.07 338 pP pP 14 44 51.2 -1.3
baz=100
BLS5 Blasjo 67.08 32 *e*P **P 14 44 34.9 +1.1**
BLS5 IAmb IAmb 14 44 35.6
comp=Z,47nm,1.2s
LPL La Plagne 67.18 48 *e*P **P 14 44 34.8 -0.1**
LPL pmax pmax
comp=Z,29nm,0.8s
GLB Gilahina Butte 67.29 330 IAmb IAmb 14 44 56.3
comp=Z,62nm,1.1s
I26K Coal Creek Min 67.35 334 pP pP 14 44 53.9 -0.3
baz=96
ECH Echery 67.36 45 IAmb IAmb 14 44 36.8
comp=Z,31nm,0.9s
ECH Echery 67.36 45 P **P 14 44 35.4 -0.3**
ECH pP **pP 14 44 55.0 +0.8**

MENT Mentasta 67.37 331 IAmb IAmb 14 44 56.5
comp=Z,47nm,0.9s
J26L Joseph Creek 67.44 333 pP pP 14 44 54.7 -0.2
baz=95
KAIM Kayak Island 67.50 328 pP pP 14 44 54.5 -0.7
baz=93
AKN Aaknes 67.53 29 *e*P **P 14 44 37.2 +0.8**
AKN IAmb IAmb 14 44 41.2
comp=Z,461nm,2.8s
TORD Torodi Ar. Bea 67.54 83 P **P 14 44 36.8 -0.6**
TORD Torodi Ar. Bea 67.54 83 P **P 14 44 36.2 -1.2**
comp=Z,7.0nm,0.8s,baz=298,slow=7.4,SNR=36
TORD LR LR 15 10 24.0
comp=Z,147nm,20.5s,baz=289,slow=32
comp=Z,7.0nm,0.8s
SCRK Sand Creek 67.57 332 pP pP 14 44 55.8 0.0
baz=95
BMRM Bremner River 67.65 329 pP pP 14 44 55.9 -0.3
baz=93
N25K Chitina, Valde 67.68 330 pP pP 14 44 56.4 -0.1
baz=93
G26K Porcupine Rive 67.79 336 pP pP 14 44 56.3 -0.6
baz=96
RIDG Independent Ri 67.94 332 pP pP 14 44 57.8 -0.2
baz=94
HARP HAARP 67.99 331 pP pP 14 44 58.3 0.0
baz=93
F26K Sheenjek River 68.01 337 pP pP 14 44 58.1 -0.3
baz=96
SKAR Skarslia 68.07 31 *e*P **P 14 44 40.3 +0.3**
SKAR IAmb IAmb 14 44 42.2
comp=Z,88nm,1.9s
C27K Jago River 68.08 339 pP pP 14 44 58.4 -0.5
baz=97
BMAR Burnt Mountain 68.14 336 P **P 14 44 40.3 -0.1**
PAX Paxson 68.17 331 IAmb IAmb 14 45 01.2
comp=Z,69nm,1.2s
PAX Paxson 68.17 331 pP pP 14 44 59.0 -0.6
baz=93
EYAK Cordova Ski Ar 68.19 329 pP pP 14 44 59.6 +0.1
baz=92
J25K Salcha River, 68.23 333 IAmb IAmb 14 45 00.6
comp=Z,63nm,1.5s
J25K Salcha River, 68.23 333 pP pP 14 44 59.1 -0.8
baz=94
KLU Klutina 68.31 330 IAmb IAmb 14 45 02.3
comp=Z,46nm,1.0s
KLU Klutina 68.31 330 pP pP 14 45 00.2 -0.2
baz=92
K24K Donnelly Dome 68.35 332 pP pP 14 45 00.6 -0.1
baz=93
PRP Porcupine Dome 68.36 334 pP pP 14 45 00.3 -0.4
baz=94
M24K Tolsona, Glenn 68.45 330 pP pP 14 45 01.1 -0.2
baz=92
H25L Birch Creek 68.53 335 pP pP 14 45 01.3 -0.3
baz=94
C26K Camden Bay 68.53 339 pP pP 14 45 00.9 -0.7
baz=96
F25K Christian Rive 68.57 336 IAmb IAmb 14 45 03.9
comp=Z,93nm,1.4s
F25K Christian Rive 68.57 336 pP pP 14 45 01.3 -0.7
baz=95
E25K Arctic Village 68.59 337 IAmb IAmb 14 45 02.9
comp=Z,41nm,1.2s
E25K Arctic Village 68.59 337 pP pP 14 45 01.7 -0.3
baz=95
GLI Glacier Island 68.86 329 pP pP 14 45 03.2 -0.5
baz=91
ILAR Eielson Array 68.89 333 P **P 14 44 43.9 -1.0**
ILAR Eielson Array 68.89 333 P **P 14 44 44.3 -0.6**
comp=Z,3.4nm,0.5s,baz=94,slow=4.9,SNR=150
ILAR pP **pP 14 45 03.9 -0.1**
comp=Z,33nm,1.2s,baz=116,slow=2.6,SNR=17
ILAR LR LR 15 15 13.8
comp=Z,374nm,20.1s,baz=88,slow=36
comp=Z,3.4nm,0.5s
HDA Harding Lake 68.90 333 IAmb IAmb 14 45 05.0
comp=Z,69nm,1.4s
HDA Harding Lake 68.90 333 pP pP 14 45 02.8 -1.2
baz=92
TUE Stuetta 68.94 46 P **P 14 44 46.1 +0.2**
comp=Z,102nm,0.7s
D25K Kavik River 68.98 338 pP pP 14 45 03.5 -1.0
baz=95
TAM Tamanrasset 68.99 72 P **P 14 44 48.3 +1.8**
TAM pmax pmax
comp=Z,10.0nm,1.0s
SCM Sheep Creek Mo 68.99 330 pP pP 14 45 04.3 -0.4
baz=91
P23K Montague Islan 69.00 328 pP pP 14 45 04.0 -0.6
baz=90
POKR Poker Plat Res 69.13 334 pP pP 14 45 04.7 -0.8
baz=92
M23K Glacier View 69.18 330 pP pP 14 45 05.3 -0.5
baz=91
G24K Hadweenzic Riv 69.22 335 pP pP 14 45 05.7 -0.3
baz=93
DAVA Damuels 69.25 46 *i* P **P 14 44 48.5 +0.8**
comp=Z,48nm,1.2s,SNR=6.7
CCB Clear Creek Bu 69.28 333 IAmb IAmb 14 45 06.3
comp=Z,42nm,1.4s
DAVOX Davos/Dischmat 69.28 46 LR LR 15 14 16.7
comp=Z,30nm,18.8s,baz=254,slow=35
COLA College 69.30 333 *i* P **P 14 44 47.6 +0.1**
COLA pmax pmax
comp=Z,26nm,2.8s
COLA College 69.30 333 P **P 14 44 47.0 -0.5**
COLA pP **pP 14 45 05.7 -0.8**
NAO01 NORSAR Array S 69.34 31 IAmb IAmb 14 44 49.5
comp=Z,30nm,1.0s
H24K Noodor Dome 69.35 334 pP pP 14 45 06.7 -0.1
baz=92
WRH Wood River Hil 69.39 333 IAmb IAmb 14 45 11.7
comp=Z,34nm,1.2s
F24K Squaw Lake 69.42 336 pP pP 14 45 07.2 0.0
baz=93
SML Sawmill 69.47 330 IAmb IAmb 14 45 09.1
comp=Z,55nm,1.0s
SML Sawmill 69.47 330 pP pP 14 45 06.8 -0.8
baz=90
PWL Port Wells 69.47 329 pP pP 14 45 07.4 -0.2
baz=90
NB2 NORSAR Subarra 69.50 31 P **P 14 44 49.2 +0.4**
comp=Z,21nm,1.0s,baz=272,slow=6.5
NB2 NORSAR Subarra 69.50 31 P **P 14 44 49.2 +0.4**
baz=272,slow=6.5
NOA NORSAR Array B 69.50 31 P **P 14 44 49.2 +0.4**
comp=Z,7.0nm,0.8s,baz=270,slow=6.3,SNR=18
NOA LR LR 15 10 29.9
comp=Z,66nm,21.4s,baz=265,slow=32
comp=Z,7.0nm,0.8s
KNK Knik Glacier 69.53 330 pP pP 14 45 07.7 -0.2
baz=90
FUORN Ofenpass-Fuorn 69.56 46 P **P 14 44 49.9 +0.1**
FUORN IAmb IAmb 14 44 51.4
comp=Z,34nm,0.7s
NC602 NORSAR Array S 69.66 31 *e*P **P 14 44 50.9 +1.1**
E24K Your Creek 69.67 337 pP pP 14 45 08.5 -0.4
baz=92
MCK McKinley 69.75 332 IAmb IAmb 14 45 10.5
comp=Z,63nm,1.1s
MCK McKinley 69.75 332 pP pP 14 45 08.5 -0.8
baz=90
NEA2 Nenana 69.82 333 pP pP 14 45 08.9 -0.8
baz=90
RETA Reutte 69.83 45 *i* P **P 14 44 51.5 +0.3**
comp=Z,36nm,0.8s,SNR=9.1
C24K Franklin Bluff 69.83 339 pP pP 14 45 08.9 -0.7
baz=93
D24K Happy Valley 69.84 338 pP pP 14 45 08.7 -1.1
baz=92
FETA Feichten 69.84 46 *i* P **P 14 44 51.7 +0.3**
comp=Z,39nm,0.6s,SNR=18
PMR Palmer 69.85 330 pP pP 14 45 08.8 -1.1
baz=89
I23K Minto, Yukon-K 69.95 334 pP pP 14 45 09.8 -0.6
baz=90
GRF Grafenberg Arr 69.95 43 *e*P **P 14 44 51.8 0.0**
comp=Z,25nm,1.0s,baz=269,slow=6.6
EFI East Falkland 69.98 173 P **P 14 44 52.8 +1.1**
EFI IAmb IAmb 14 44 54.8
comp=Z,76nm,1.1s
EFI East Falkland 69.98 173 P **P 14 44 52.8 +1.1**
EFI pmax pmax
comp=Z,76nm,1.2s
EFI East Falkland 69.98 173 P **P 14 44 52.8 +1.1**
EFI PcP **PcP 14 45 15.5 +2.0**

SEW Seward 70.03 328 pP pP 14 45 10.4 -0.5
baz=88
MOTA Moosalm 70.07 45 *i* P **P 14 44 52.8 0.0**
comp=Z,26nm,0.8s
TOLK Toolik Lake Re 70.10 337 pP pP 14 45 10.6 -0.9
baz=92
E23K Chandalar 70.10 337 pP pP 14 45 10.9 -0.6
baz=91
KEST Kesra 70.11 58 IAmb IAmb 14 45 27.6
comp=Z,86nm,1.6s
KEST Kesra 70.11 58 P **P 14 44 53.6 +0.5**
comp=Z,16nm,0.8s,baz=321,slow=2.7,SNR=6.6
KEST LR LR 15 12 17.5
comp=Z,64nm,20.6s,baz=296,slow=33
comp=Z,16nm,0.8s
RC01 Rabbit Creek A 70.15 329 pP pP 14 45 11.3 -0.5
baz=89
SQTA Sankt Quirin 70.15 45 *i* P **P 14 44 53.4 +0.1**
comp=Z,31nm,0.6s,SNR=14
O22K Cooper Landing 70.16 329 pP pP 14 45 11.2 -0.5
baz=88
G23K Bananza Creek 70.23 335 IAmb IAmb 14 45 14.2
comp=Z,56nm,1.1s
G23K Bananza Creek 70.23 335 pP pP 14 45 12.0 -0.3
baz=90
STOK Stokkvaagen 70.31 25 *e*P **P 14 44 54.5 +0.9**
STOK IAmb IAmb 14 44 54.7
comp=Z,16nm,0.9s
COLD Coldfoot 70.31 336 IAmb IAmb 14 45 14.6
comp=Z,63nm,1.2s
COLD Coldfoot 70.31 336 pP pP 14 45 12.5 -0.2
baz=90
M22K Willow 70.32 330 pP pP 14 45 12.2 -0.5
baz=88
TRF Thorofare Moun 70.36 332 pP pP 14 45 12.7 -0.6
baz=89
CUT Chulitna 70.37 331 pP pP 14 45 12.2 -0.9
baz=89
WATA Walderalm 70.39 45 *i* P **P 14 44 55.1 +0.3**
comp=Z,15nm,1.0s
WTTA Wattenberg 70.44 45 *i* P **P 14 44 55.5 +0.5**
comp=Z,21nm,1.1s,SNR=5.5
C23K Itkillik River 70.50 339 pP pP 14 45 13.0 -0.8
baz=91
D23K Nanushuk River 70.51 338 pP pP 14 45 13.4 -0.5
baz=91
LOF Lofoten 70.52 23 *e*P **P 14 44 55.3 +0.4**
LOF IAmb IAmb 14 44 58.6
comp=Z,81nm,1.4s
CTI Castel Tesino 70.57 47 P **P 14 44 55.4 -0.4**
CTI Castel Tesino 70.57 47 P **P 14 44 55.4 -0.4**
CTI pmax pmax
comp=Z,18nm,0.7s
SUA Susitna One 70.62 330 IAmb IAmb 14 45 15.8
comp=Z,64nm,1.4s
SUA Susitna One 70.62 330 pP pP 14 45 14.2 -0.6
baz=88
BPAW Bear Paw Mtn. 70.66 333 pP pP 14 45 14.0 -0.9
baz=88
TEOL Teolo 70.66 47 IAmb IAmb 14 44 56.9
comp=Z,40nm,0.9s
BRSE Bradley Lake S 70.69 328 pP pP 14 45 14.9 -0.2
baz=87
NKC Novy Kostel 70.70 42 *e*P **P 14 44 57.0 +0.6**
NKC Novy Kostel 70.70 42 *e*P **P 14 44 57.0 +0.6**
HFS Hagfors 70.75 32 P **P 14 44 55.9 -0.6**
comp=Z,3.2nm,0.6s,baz=230,slow=3.7,SNR=9.0
HFS LR LR 15 15 12.2
comp=Z,114nm,18.3s,baz=264,slow=35
comp=Z,3.2nm,0.6s
H22K Ishtalitna Cre 70.79 334 pP pP 14 45 15.0 -0.6
baz=89
CAPN Captain Cook N 70.85 329 pP pP 14 45 15.5 -0.6
baz=87
MOR8 Moi Rana 70.89 25 *e*P **P 14 44 57.9 +0.7**
MOR8 IAmb IAmb 14 44 59.9
comp=Z,19nm,1.3s
E22K Anaktuvuk Pass 70.92 337 pP pP 14 45 15.6 -0.9
baz=89
CLL Collm 70.95 41 *i* P **P 14 44 58.1 +0.3**
CLL *e*S **S 14 54 16.0 +8.0**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 70.95 41 *i* P **P 14 44 58.1 +0.3**
comp=Z,15nm,1.0s
CLL *e*S **S 14 54 16.0 +8.0**
SKT Skwentna 70.98 330 IAmb IAmb 14 45 17.2
comp=Z,41nm,1.4s
SKT Skwentna 70.98 330 pP pP 14 45 16.1 -0.8
baz=87
I21K Tanana 71.06 334 pP pP 14 45 16.3 -0.9
baz=88
ABTA Abfaltersbach 71.09 46 *i* P **P 14 44 59.2 +0.4**
comp=Z,32nm,1.0s,SNR=8.4
LESA Schwarzleotal 71.13 45 *i* P **P 14 44 58.8 -0.3**
comp=Z,18nm,1.2s
HOM Homer 71.15 328 pP pP 14 45 16.7 -1.1
baz=86
STEI Steigen 71.16 23 *e*P **P 14 44 59.6 +0.9**
STEI IAmb IAmb 14 45 03.8
comp=Z,67nm,1.6s
D22K Ayikyak River 71.23 338 IAmb IAmb 14 45 19.8
comp=Z,89nm,1.3s
D22K Ayikyak River 71.23 338 pP pP 14 45 17.6 -0.8
baz=89
HSKC Hora Svate Kat 71.29 42 *e*P **P 14 45 00.7 +0.7**
SPCR Spurr Chakacha 71.34 329 pP pP 14 45 18.3 -0.9
baz=86
H21K Melozitna Rive 71.38 334 IAmb IAmb 14 45 20.5
comp=Z,80nm,1.1s
H21K Melozitna Rive 71.38 334 pP pP 14 45 18.5 -0.8
baz=88
B22K Teshekpuk Lake 71.46 339 pP pP 14 45 19.1 -0.5
baz=88
SPITS Spitsbergen Ar 71.48 13 LR LR 15 14 06.0
comp=Z,61nm,20.4s,baz=226,slow=34
KHC Kasperske Hory 71.54 43 *e*P **P 14 45 02.2 +0.7**
KHC AMS AMS 15 07 30.0
KHC Kasperske Hory 71.54 43 *ce*P **P 14 45 00.6 -0.9**
KHC pmax pmax
comp=Z,66nm,1.0s
KHC Kasperske Hory 71.54 43 P **P 14 45 01.6 +0.1**
comp=Z,28nm,1.1s
F21K Alatna River 71.59 336 pP pP 14 45 19.6 -0.9
baz=87
BRG Berggiesshubel 71.59 41 *e*P **P 14 45 02.4 +0.7**
BRG Amp 14 45 03.0
comp=Z,22nm,0.9s
Q20K Shuyak Island 71.61 327 pP pP 14 45 20.1 -0.5
baz=85
KBA Koelnbreinsper 71.62 45 *i* P **P 14 45 02.4 +0.2**
comp=Z,33nm,1.4s,SNR=9.6
O20K Slope Mountain 71.62 328 pP pP 14 45 20.4 -0.5
baz=86
CESX Cesi 71.64 50 IAmb IAmb 14 45 03.0
comp=Z,39nm,0.9s
GERES GERESS Array B 71.65 44 P **P 14 45 01.5 -0.8**
GERES GERESS Array B 71.65 44 P **P 14 45 01.7 -0.5**
comp=Z,7.0nm,0.7s,baz=289,slow=4.1,SNR=27
GERES pP **PcP 14 45 21.1 +0.1**
comp=Z,3.9nm,0.8s,baz=242,slow=2.9,SNR=4.4
GERES LR LR 15 13 48.6
comp=Z,31nm,18.7s,baz=272,slow=34
comp=Z,7.0nm,0.7s
E21K Killik River 71.72 337 pP pP 14 45 19.6 -1.7
baz=87
M20K Styx River 71.74 330 pP pP 14 45 20.7 -0.9
baz=86
BIOA Bad Ischl, Aus 71.74 45 *i* P **P 14 45 03.0 +0.3**
comp=Z,8.5nm,0.6s,SNR=5.3
KDAK Kodiak Island 71.78 326 LR LR 15 15 59.8
comp=Z,126nm,21.9s,baz=292,slow=35
KDAK Kodiak Island 71.78 326 pP pP 14 45 20.3 -1.3
baz=85
KDAK Kodiak Island 71.78 326 P **P 14 45 03.2 +0.5**
KDAK pP **pP 14 45 22.4 +0.7**
MYKA Terra Mystica 71.88 46 *i* P **P 14 45 03.9 +0.3**
comp=Z,22nm,0.6s
ILSW Iliamna Southw 71.89 328 IAmb IAmb 14 45 23.8
comp=Z,31nm,1.0s
B21K Ikpikpuk River 71.89 338 pP pP 14 45 21.5 -0.7
baz=87
ZVC Zvikov 71.90 43 *e*P **P 14 45 04.6 +1.0**
P19K Oil Pt 71.96 328 pP pP 14 45 22.4 -0.5
baz=85
C21K Knifeblade Rid 71.98 338 pP pP 14 45 22.1 -0.7
baz=87

CADS	Cadrg	71.99	46	*i* P		**P**	**14 45 04.0**	**-0.2**
PVCC	Panska Ves	72.02	42	*e*P		**P**	**14 45 05.4**	**+1.1**
PVCC	Panska Ves	72.02	42	*e*P		**P**	**14 45 05.4**	**+1.1**
J20K	Nowinta River	72.04	333	IAmb		IAmb	14 45 23.9	
	comp=Z,56nm,1.1s							
J20K	Nowinta River	72.04	333	pP		pP	14 45 22.2	-1.1
	baz=86							
L20K	Farewell, AK	72.04	331	pP		pP	14 45 22.0	-1.3
	baz=85							
CKRC	Cesky Krumlov	72.05	44	*e*P		**P**	**14 45 04.5**	**-0.1**
CKRC				AMS		AMS	15 07 40.0	
CKRC	Cesky Krumlov	72.05	44	*e*P		**P**	**14 45 04.5**	**-0.1**
K20K	Telida	72.06	332	pP		pP	14 45 22.2	-1.2
	baz=86							
PRU	Pruhonice	72.06	42	*e*P		**P**	**14 45 04.7**	**+0.1**
PRU				AMS		AMS	15 07 30.0	
PRU	Pruhonice	72.06	42	*e*P		**P**	**14 45 04.7**	**+0.1**
I20K	Naaghedeneel	72.14	333	pP		pP	14 45 22.9	-0.9
	baz=86							
MOA	Molln	72.14	45	*i* P		**P**	**14 45 03.7**	**-1.5**
	comp=Z,16nm,0.6s							
OHAK	Old Harbor	72.21	325	pP		pP	14 45 23.7	-0.6
	baz=84							
Q19K	Cape Douglas,	72.23	327	pP		pP	14 45 23.2	-1.2
	baz=84							
H20K	Anotleneega Mo	72.25	334	pP		pP	14 45 23.7	-0.8
	baz=86							
JAVS	Javornik	72.26	47	*i* P		**P**	**14 45 05.7**	**-0.3**
TRO	Tromso	72.42	22	*e*P		**P**	**14 45 07.3**	**+1.0**
TRO				IAmb		IAmb	14 45 08.0	
	comp=Z,326nm,2.4s							
O19K	Port Alsworth	72.45	329	IAmb		IAmb	14 45 26.8	
	comp=Z,47nm,0.9s							
O19K	Port Alsworth	72.45	329	pP		pP	14 45 24.9	-0.9
	baz=84							
A21K	Barrow	72.47	340	pP		pP	14 45 25.1	-0.5
	baz=86							
F20K	Avaraart Lake	72.47	336	pP		pP	14 45 25.2	-0.5
	baz=85							
N19K	Bonanza Creek	72.47	329	IAmb		IAmb	14 45 27.0	
	comp=Z,61nm,1.3s							
N19K	Bonanza Creek	72.47	329	pP		pP	14 45 25.0	-1.1
	baz=84							
OBKA	Obir	72.51	46	*i* P		**P**	**14 45 07.5**	**+0.1**
	comp=Z,22nm,0.8s							
OBKA	Obir	72.51	46⇑	*i*P		**P**	**14 45 07.5**	**+0.1**
L19K	White Mountain	72.52	331	pP		pP	14 45 25.0	-1.2
	baz=84							
CEY	Cerknica	72.53	47⇑	*i*P		**P**	**14 45 08.1**	**+0.6**
USHA	Ushuaia	72.53	180	LR		LR	15 20 05.9	
	comp=Z,65nm,18.8s,baz=5.0,slow=38							
E20K	Nigu River	72.55	337	pP		pP	14 45 25.2	-1.1
	baz=85							
D20K	Etivluk River	72.67	338	pP		pP	14 45 25.9	-1.1
	baz=85							
J19K	Poorman	72.70	333	pP		pP	14 45 25.7	-1.5
	baz=84							
TREC	Trest	72.76	43	*e*P		**P**	**14 45 06.4**	**-2.4**
TREC	Trest	72.76	43	*e*P		**P**	**14 45 06.4**	**-2.4**
SII	Sitkinak Islan	72.77	325	pP		pP	14 45 27.2	-0.4
	baz=83							
R18K	Karluk	72.80	326	pP		pP	14 45 27.6	-0.1
	baz=83							
SOKA	Soboth	72.82	46	*i* P		**P**	**14 45 08.8**	**-0.4**
	comp=Z,11nm,0.6s,SNR=5.2							
H19K	Roundabout Mou	72.90	334	pP		pP	14 45 27.3	-1.0
	baz=84							
O18K	Koktuh Hills	72.93	328	IAmb		IAmb	14 45 30.0	
	comp=Z,39nm,0.9s							
O18K	Koktuh Hills	72.93	328	pP		pP	14 45 27.9	-0.8
	baz=84							
UPC	Upice	72.94	42	*e*P		**P**	**14 45 10.5**	**+0.7**
UPC	Upice	72.94	42	*e*P		**P**	**14 45 10.5**	**+0.7**
JETT	Jettan, Norway	72.94	22	*e*P		**P**	**14 45 10.2**	**+0.7**
JETT				IAmb		IAmb	14 45 11.3	
	comp=Z,31nm,0.7s							
CHVC	Chvalec	72.95	42	*e*P		**P**	**14 45 10.2**	**+0.3**
CHVC	Chvalec	72.95	42	*e*P		**P**	**14 45 10.2**	**+0.3**
TTA	Tatalina	72.98	331	IAmb		IAmb	14 45 29.4	
	comp=Z,48nm,1.2s							
TTA	Tatalina	72.98	331	pP		pP	14 45 27.4	-1.6
	baz=84							
P18K	Big Mountain,	73.00	328	pP		pP	14 45 28.2	-0.9
	baz=83							
E19K	Redstone River	73.02	336	IAmb		IAmb	14 45 30.2	
	comp=Z,94nm,1.4s							
E19K	Redstone River	73.02	336	pP		pP	14 45 28.0	-1.1
	baz=84							
M18K	Stony River	73.05	330	pP		pP	14 45 28.6	-0.7
	baz=83							
OSTC	Ostas	73.06	42	*e*P		**P**	**14 45 10.9**	**+0.4**
OSTC	Ostas	73.06	42	*e*P		**P**	**14 45 10.9**	**+0.4**
ARSA	Arzberg	73.07	45	*i* P		**P**	**14 45 10.2**	**-0.5**
	comp=Z,14nm,0.6s,SNR=7.7							
G19K	Purcell Mounta	73.10	335	pP		pP	14 45 28.5	-1.1
	baz=84							
LEGS	Legarje	73.12	46	*i* P		**P**	**14 45 10.9**	**0.0**
DPC	Dobruska-Polom	73.16	42	*e*P		**P**	**14 45 11.5**	**+0.4**
DPC				AMS		AMS	15 08 00.0	
DPC	Dobruska-Polom	73.16	42	*e*P		**P**	**14 45 11.5**	**+0.4**
GCSA	Galena City Sc	73.16	333	pP		pP	14 45 28.9	-1.0
	baz=84							
N18K	Kilae Creek	73.18	329	pP		pP	14 45 29.0	-1.1
	baz=83							
CONA	Conrad Observa	73.20	44	*i* P		**P**	**14 45 11.3**	**-0.2**
	comp=Z,12nm,0.8s,SNR=5.7							
CRES	Cresnjevec Ost	73.23	47⇑	*i*P		**P**	**14 45 12.3**	**+0.7**
D19K	Kuna River	73.24	337	pP		pP	14 45 29.6	-0.8
	baz=84							
J18K	Innoko River	73.24	332	pP		pP	14 45 29.0	-1.4
	baz=83							
F19K	Shaleruckik Mo	73.30	336	IAmb		IAmb	14 45 31.6	
	comp=Z,52nm,1.1s							
F19K	Shaleruckik Mo	73.30	336	pP		pP	14 45 29.6	-1.0
	baz=83							
L18K	Granite Mounta	73.37	331	pP		pP	14 45 30.0	-1.2
	baz=83							
KRUC	Moravsky	73.38	43	*e*P		**P**	**14 45 12.6**	**+0.2**
Q17K	Contact Creek	73.47	327	pP		pP	14 45 31.1	-0.8
	baz=82							
VRAC	Vranov	73.48	43	LR		LR	15 16 24.9	
	comp=Z,45nm,18.2s,baz=258,slow=35							
VRAC	Vranov	73.48	43	*e*P		**P**	**14 45 13.4**	**+0.4**
KRLC	Kraliky	73.49	42	*e*P		**P**	**14 45 14.3**	**+1.2**
KRLC	Kraliky	73.49	42	*e*P		**P**	**14 45 14.3**	**+1.2**
RONA	Rosalia, Austr	73.52	45	*i* P		**P**	**14 45 13.8**	**+0.5**
	comp=Z,24nm,0.9s,SNR=9.0							
P17K	Kvichak River	73.64	328	pP		pP	14 45 32.2	-0.6
	baz=82							
CHIR	Chirikof Islan	73.66	324	pP		pP	14 45 32.4	-0.5
	baz=82							
H18K	Honhosa River	73.74	334	pP		pP	14 45 32.6	-0.8
	baz=82							
G18K	Tagagawik	73.76	335	IAmb		IAmb	14 45 34.6	
	comp=Z,66nm,1.1s							
G18K	Tagagawik	73.76	335	pP		pP	14 45 32.2	-1.3
	baz=82							
N17K	Nushagak Hills	73.83	329	pP		pP	14 45 32.9	-1.1
	baz=82							
M17K	Holitna River	73.83	330	pP		pP	14 45 32.5	-1.5
	baz=82							
VAE	Valguarnera	73.85	55	LR		LR	15 11 18.3	
	comp=Z,158nm,20.4s,baz=278,slow=30							
O17K	Koliganek Bris	73.89	328	pP		pP	14 45 33.4	-0.9
	baz=82							
KTK1	Kautokeino	74.01	22	*e*P		**P**	**14 45 16.5**	**+0.8**
KTK1				IAmb		IAmb	14 45 17.3	
	comp=Z,143nm,1.8s							
MORC	Moravsky Berou	74.02	42	*e*P		**P**	**14 45 16.4**	**+0.2**
K17K	Iditarod	74.05	331	pP		pP	14 45 34.1	-1.1
	baz=82							
F18K	Selawik	74.07	335	pP		pP	14 45 34.0	-1.2
	baz=82							
MODS	Modra-Piesok	74.07	44	*e*P		**P**	**14 45 17.5**	**+1.0**
MODS				pmax		pmax		
	comp=Z,101nm,1.0s							
MODS	Modra-Piesok	74.07	44	*e*P		**P**	**14 45 17.5**	**+1.0**
L17K	Donlin	74.13	331	pP		pP	14 45 35.1	-0.6
	baz=82							
SMOL	Smolenice	74.14	44	*e*P		**P**	**14 45 18.0**	**+1.1**
SMOL				pmax		pmax		
	comp=Z,9.0nm,1.0s							
A050A	Klekovaca	74.20	48⇑	*i*P		**P**	**14 45 18.2**	**+0.8**
JAVC	Velka Javorina	74.25	43	*e*P		**P**	**14 45 19.0**	**+1.5**
MAUC	Maruska	74.27	43	*e*P		**P**	**14 45 19.1**	**+1.5**
J17K	VABM Dome	74.30	332	IAmb		IAmb	14 45 38.1	
	comp=Z,30nm,1.0s							
J17K	VABM Dome	74.30	332	pP		pP	14 45 36.0	-0.7
	baz=81							
E18K	Tukpahlearik C	74.31	336	IAmb		IAmb	14 45 37.6	
	comp=Z,62nm,1.4s							
E18K	Tukpahlearik C	74.31	336	pP		pP	14 45 35.8	-0.9
	baz=81							
C18K	Utukok River	74.34	338	IAmb		IAmb	14 45 37.9	
	comp=Z,54nm,1.1s							
C18K	Utukok River	74.34	338	pP		pP	14 45 35.9	-1.0
	baz=81							
A051A	Mrakovica	74.37	47⇑	*i*P		**P**	**14 45 17.9**	**-0.5**
OKC	Ostrava-Krasne	74.39	42	*e*P		**P**	**14 45 19.3**	**+1.0**
OKC	Ostrava-Krasne	74.39	42	*e*P		**P**	**14 45 19.3**	**+1.0**
O16K	Kokwok River B	74.42	328	pP		pP	14 45 36.5	-0.9
	baz=81							
H17K	Granite Mounta	74.42	334	pP		pP	14 45 36.7	-0.7
	baz=81							
B18K	Kokolik River	74.44	338	pP		pP	14 45 36.8	-0.5
	baz=80							
MPLH	Magyarpolny	74.44	45	P		**P**	**14 45 19.3**	**+0.7**
	comp=Z,1μmcomp=Z,134nm,1.1s							
P16K	Nushagak River	74.45	328	pP		pP	14 45 37.1	-0.5
	baz=81							
R16K	Pilot Point	74.47	326	pP		pP	14 45 37.2	-0.4
	baz=81							
BLY	Banja Luka	74.61	47	*e*P		**P**	**14 45 20.2**	**+0.5**
N16K	Nishlik Lake	74.61	329	pP		pP	14 45 38.0	-0.6
	baz=81							
RAF	Rauma	74.61	30	*e*P		**P**	**14 45 19.6**	**+0.3**
M16K	Timber Creek	74.62	330	pP		pP	14 45 37.7	-0.8
	baz=81							
G17K	Kiwalik Mounta	74.64	334	pP		pP	14 45 38.0	-0.6
	baz=80							
VAF	Ylistaro	74.71	28	*e*P		**P**	**14 45 20.8**	**+1.0**
ARA0	ARCESS Array S	74.72	21	*e*P		**P**	**14 45 19.9**	**0.0**
ARCES	ARCESS Array B	74.72	21	P		**P**	**14 45 19.6**	**-0.2**
	comp=Z,13nm,0.7s,baz=293,slow=3.9,SNR=33							
ARCES				pP		**pP**	**14 45 39.2**	**+0.6**
	comp=Z,10nm,0.7s,baz=288,slow=3.9,SNR=6.5							
	comp=Z,13nm,0.7s							
F17K	Baldwin Pennin	74.72	335	IAmb		IAmb	14 45 40.4	
	comp=Z,42nm,1.2s							
F17K	Baldwin Pennin	74.72	335	pP		pP	14 45 38.3	-0.8
	baz=80							
L16K	Owhat River	74.75	330	pP		pP	14 45 38.4	-0.9
	baz=80							
E17K	Hotham Inlet	74.84	336	pP		pP	14 45 38.7	-1.0
	baz=80							
SRO	Srobarova	74.85	44	*e*P		**P**	**14 45 21.6**	**+0.7**
SRO				pmax		pmax		
	comp=Z,35nm,0.8s							
SRO	Srobarova	74.85	44	*e*P		**P**	**14 45 21.6**	**+0.7**
I17K	Unalakleet	74.93	333	IAmb		IAmb	14 45 42.1	
	comp=Z,39nm,1.1s							
I17K	Unalakleet	74.93	333	pP		pP	14 45 40.3	0.0
	baz=80							
J16K	Anvik River	75.00	332	IAmb		IAmb	14 45 42.1	
	comp=Z,53nm,1.6s							
J16K	Anvik River	75.00	332	pP		pP	14 45 40.4	-0.4
	baz=80							
RDOG	Red Dog Mine	75.07	337	IAmb		IAmb	14 45 41.9	
	comp=Z,80nm,1.4s							
RDOG	Red Dog Mine	75.07	337	pP		pP	14 45 39.9	-1.2
	baz=79							
VYHS	Vyhne	75.07	43	*e*P		**P**	**14 45 23.3**	**+1.0**
VYHS				pmax		pmax		
	comp=Z,32nm,1.2s							
VYHS	Vyhne	75.07	43	*e*P		**P**	**14 45 23.3**	**+1.0**
C17K	DeLong Mountai	75.09	338	pP		pP	14 45 40.2	-1.0
	baz=79							
CHGN	Chignik	75.13	325	pP		pP	14 45 41.3	-0.2
	baz=80							
D17K	Noatak River	75.20	337	pP		pP	14 45 40.6	-1.2
	baz=79							
N15K	Kwethluk River	75.31	329	pP		pP	14 45 42.8	+0.2
	baz=79							
TIP	Timpagrande	75.34	53	P		**P**	**14 45 23.1**	**-1.0**
	comp=Z,21nm,1.3s							
MORH	Mrgy, Hungar	75.36	46	P		**P**	**14 45 23.8**	**-0.1**
	comp=Z,497nmcomp=Z,40nm,1.2s							
G16K	Koyuk River	75.36	334	pP		pP	14 45 42.0	-0.8
	baz=79							
O15K	Ungalikthiuk R	75.36	328	pP		pP	14 45 42.9	0.0
	baz=79							
LANS	Liptovska Anna	75.36	43	*e*P		**P**	**14 45 26.0**	**+2.0**
LANS				pmax		pmax		
	comp=Z,8.0nm,0.7s							
LANS	Liptovska Anna	75.36	43	*e*P		**P**	**14 45 26.0**	**+2.0**
OJC	Ojcow	75.38	42	P		**P**	**14 45 25.2**	**+1.2**
OJC				pmax		pmax		
	comp=Z,25nm,1.0s							
OJC	Ojcow	75.38	42	P		**P**	**14 45 24.5**	**+0.5**
	comp=Z,25nm,1.0s							
H16K	Elim	75.46	334	pP		pP	14 45 43.0	-0.4
	baz=79							
TAOE	Nuku Hiva Isla	75.48	256	*e*LR		LR	15 08 48.8	
	comp=Z,354nm,30.7s							
M15K	Kasigluk River	75.51	329	pP		pP	14 45 44.1	+0.4
	baz=79							
K15K	Wolf Creek Mou	75.60	331	pP		pP	14 45 44.5	+0.3
	baz=79							
L15K	Ungalak Mounta	75.70	331	pP		pP	14 45 44.8	0.0
	baz=79							
KEF	Keuruu	75.87	29	*e*P		**P**	**14 45 27.3**	**+0.8**
PSZ	Piszkesteto	75.87	44	IAmb		IAmb	14 45 29.0	
	comp=Z,50nm,1.5s							
PSZ	Piszkesteto	75.87	44	⇓P		**P**	**14 45 28.1**	**+1.2**
PSZ	Piszkesteto	75.87	44	⇓P		**P**	**14 45 28.1**	**+1.2**
PSZ	Piszkesteto	75.87	44	*e*P		**P**	**14 45 27.1**	**+0.2**
C16K	Lisburne Hills	75.91	338	pP		pP	14 45 45.2	-0.7
	baz=77							
BRY	Bratogost	75.92	49⇑	*i*P		**P**	**14 45 28.0**	**+0.6**
HAPS	Han Pijesak,Bl	75.98	48⇑	*i*P		**P**	**14 45 28.4**	**+0.7**
CHNA	Chernabura Isl	76.06	323	pP		pP	14 45 47.8	+1.0
	baz=78							
O14K	Tigyukauivet M	76.07	328	pP		pP	14 45 47.1	+0.1
	baz=78							
M14K	Bethel	76.11	330	pP		pP	14 45 46.9	-0.3
	baz=78							
UPM	Unac-Piva	76.12	49⇑	*i*P		**P**	**14 45 29.6**	**+1.0**
G15K	Niukluk	76.14	334	pP		pP	14 45 46.9	-0.3
	baz=77							
N14K	Kuskokwak Cree	76.14	329	pP		pP	14 45 47.4	+0.1
	baz=78							
KECS	Kecovo	76.15	43	*e*P		**P**	**14 45 30.0**	**+1.6**
KECS				pmax		pmax		
	comp=Z,19nm,0.6s							
KECS	Kecovo	76.15	43	*e*P		**P**	**14 45 30.0**	**+1.6**
F15K	North Star Dit	76.23	335	IAmb		IAmb	14 45 49.8	
	comp=Z,63nm,1.2s							
F15K	North Star Dit	76.23	335	pP		pP	14 45 47.4	-0.3
	baz=77							
TEKS	Tekeris	76.29	47⇑	*i*P		**P**	**14 45 30.3**	**+1.0**
L14K	Kuka Creek	76.33	330	pP		pP	14 45 48.4	+0.1
	baz=78							
BBLS	Lazi&#263i	76.35	48⇑	*i*P		**P**	**14 45 30.4**	**+0.7**
FRGS	Fruska Gora	76.36	47⇑	*i*P		**P**	**14 45 30.7**	**+1.0**
RUDO	Rudo	76.37	48	*e*P		**P**	**14 45 28.9**	**-0.9**
J14K	Nanvaranak Lak	76.42	332	pP		pP	14 45 49.0	+0.2
	baz=77							
STHS	Stebnicka Huta	76.45	42	*e*P		**P**	**14 45 31.2**	**+1.1**
STHS				pmax		pmax		
	comp=Z,19nm,0.8s							
STHS	Stebnicka Huta	76.45	42	*e*P		**P**	**14 45 31.2**	**+1.1**
DRME	Dracevica, Mon	76.53	50	*e*P		P	14 45 16.6	-14
PDG	Podgorica	76.54	50⇑	*i*P		**P**	**14 45 31.6**	**+0.9**
PDG	Podgorica	76.54	50⇑	P		**P**	**14 45 31.5**	**+0.9**
FINES	FINESS Array B	76.58	29	P		**P**	**14 45 30.6**	**0.0**
FINES	FINESS Array B	76.58	29	P		**P**	**14 45 30.6**	**+0.1**
	comp=Z,16nm,0.7s,baz=272,slow=4.1,SNR=49							
	comp=Z,16nm,0.7s							
SUW	Suwalki	76.67	37	P		**P**	**14 45 31.4**	**+0.2**
SUW				IAmb		IAmb	14 45 32.9	
	comp=Z,43nm,0.9s							
SUW	Suwalki	76.67	37	P		**P**	**14 45 31.4**	**+0.2**
SUW				pmax		pmax		
	comp=Z,43nm,0.9s							
SUW	Suwalki	76.67	37	*e*P		**P**	**14 45 32.2**	**+1.0**
ANM	Nome	76.79	334	pP		pP	14 45 50.8	-0.2
	baz=76							
PABE	Paberze	76.80	36	P		**P**	**14 45 31.2**	**-0.7**
PABE				IAmb		IAmb	14 45 33.3	
	comp=Z,39nm,1.1s							
PABE	Paberze	76.80	36	*e*P		**P**	**14 45 33.0**	**+1.1**
M13K	Dall Lake	76.85	329	pP		pP	14 45 50.8	-0.5
	baz=77							
SJES	Sjenica	76.88	49⇑	*i*P		**P**	**14 45 31.9**	**-0.9**
F14K	Arctic Creek	76.96	335	pP		pP	14 45 51.9	0.0
	baz=75							
K13K	Kusilvak Mount	77.11	331	pP		pP	14 45 52.6	-0.2
	baz=76							
KOLS	Kolonicke sedl	77.21	43	*e*P		**P**	**14 45 36.3**	**+1.9**
KOLS				pmax		pmax		
	comp=Z,16nm,0.8s							
KOLS	Kolonicke sedl	77.21	43	*e*P		**P**	**14 45 36.3**	**+1.9**
S12K	Black Hills	77.26	325	pP		pP	14 45 54.9	+1.3
	baz=77							
SIRR	Siria	77.39	45	⇓P		**P**	**14 45 35.8**	**+0.3**
BZS	Buzias	77.51	46	⇓P		**P**	**14 45 36.9**	**+0.8**
BZS	Buzias	77.51	46	⇓P		**P**	**14 45 36.9**	**+0.8**
TNA	Tin City	77.58	335	IAmb		IAmb	14 45 57.4	
	comp=Z,70nm,1.2s							
TNA	Tin City	77.58	335	pP		pP	14 45 55.3	0.0
	baz=74							
VSU	Vasula	77.60	32	*ce*P		**P**	**14 45 35.5**	**-0.8**
VSU				pmax		pmax		
	comp=Z,50nm,0.9s							
VSU	Vasula	77.60	32	*e*P		**P**	**14 45 36.3**	**0.0**
MDVR	Moldovita	77.77	47	⇓P		**P**	**14 45 37.9**	**+0.3**
SURR	Surduc	77.83	46	⇓P		**P**	**14 45 37.8**	**-0.1**
DRGR		77.98	45	⇓P		**P**	**14 45 39.3**	**+0.5**
DRGR		77.98	45	⇓P		**P**	**14 45 39.3**	**+0.5**
IIGN	Ignalina	78.09	36	*e*P		**P**	**14 45 39.7**	**+0.6**
FALS	False Pass	78.21	324	pP		pP	14 45 59.0	0.0
	baz=76							
M11K	Mekoryuk	78.23	330	pP		pP	14 45 59.2	+0.1
	baz=74							
MARR	Marisel-Cluj	78.28	45	⇑P		**P**	**14 45 41.1**	**+0.5**
BMR	Baia Mare	78.30	44	⇑P		**P**	**14 45 41.3**	**+0.9**
BMR	Baia Mare	78.30	44	⇑P		**P**	**14 45 41.3**	**+0.9**
GZR	Gura Zlata	78.36	46	⇑P		**P**	**14 45 40.8**	**-0.1**
GZR	Gura Zlata	78.36	46	P		**P**	**14 45 41.3**	**+0.4**
LVZ	Lovozero	78.36	22	⇑P		**P**	**14 45 39.3**	**-1.2**
LVZ	Lovozero	78.36	22	P		**P**	**14 45 40.4**	**-0.1**
	comp=Z,47nm,1.4s							
FNA	Florina	78.45	51	IAmb		IAmb	14 46 05.1	
	comp=Z,22nm,0.8s							
NACGM	Naroch	78.51	36⇑	*i*P		**P**	**14 45 42.0**	**+0.6**
	comp=Z,2μm,0.9s,baz=285							
JOF	Joensuu	78.58	27	*e*P		**P**	**14 45 42.4**	**+0.7**
RNPP9	Sopachiv	78.89	40	P		**P**	**14 45 43.8**	**+0.2**
RNPP5	Staryi Chortor	78.93	40	P		**P**	**14 45 44.3**	**+0.5**
ARCR	ARCALIA	79.00	44	⇑P		**P**	**14 45 45.0**	**+0.7**
LOT	Lotru	79.02	46	⇓P		**P**	**14 45 45.0**	**+0.4**
PUL	Pulkovo	79.03	31	*ce*P		**P**	**14 45 45.4**	**+1.2**
PUL				pmax		pmax		
	comp=Z,65nm,0.9s							
MNK	Minsk	79.23	36	*i* LRM		MLR	15 23 01.3	
	comp=E,661nm,19.6s							
MNK	Minsk	79.23	36	*i* P		**P**	**14 45 44.3**	**-1.1**
MNK				*i*			14 45 52.2	
MNK				*i* *PP		**pP**	**14 46 03.3**	**-1.2**
MNK				*i*			14 48 44.1	
MNK				*i* PPP		PPP	14 50 32.9	
MNK				*i* S		**S**	**14 55 38.8**	**-0.9**
MNK				*i*			14 56 00.4	
MNK				*i* SS		**SS**	**15 00 47.1**	**+0.1**
MNK				*i* SSS		SSS	15 04 12.8	
MNK				pmax		pmax		
	comp=E,17nm,0.7s							
MNK				pmax		pmax		
	comp=N,15nm,0.8s							
MNK				pmax		pmax		
	comp=Z,33nm,0.9s							
MNK				MLR		MLR		
	comp=Z,118nm,20.0s							
MNK				MLR		MLR		
	comp=N,807nm,20.0s							
MNK				MLR		MLR		
	comp=E,661nm,20.0s							
MNK	Minsk	79.23	36	*i* P		**P**	**14 45 44.3**	**-1.1**
	comp=E,17nm,0.7s							
MNK	Minsk	79.23	36	*i* P		**P**	**14 45 44.3**	**-1.1**
	comp=Z,33nm,0.9s,baz=286							
MNK	Minsk	79.23	36	*i* P		**P**	**14 45 44.3**	**-1.1**
	comp=N,15nm,0.8s							
MNK	Minsk	79.23	36	*i* pP		pP	14 46 03.3	-1.2
MNK	Minsk	79.23	36	*i* PP		PP	14 48 44.2	-1.3
MNK	Minsk	79.23	36	*i* PPP		PPP	14 50 33.0	
MNK	Minsk	79.23	36	*i* S		**S**	**14 55 38.9**	**-0.9**
MNK	Minsk	79.23	36	*i* sS		sS	14 56 11.7	-0.9
MNK	Minsk	79.23	36	*i* SS		SS	15 00 47.1	+0.1
MNK	Minsk	79.23	36	*i* SSS		SSS	15 04 12.9	
MNK	Minsk	79.23	36	*i* LQ		LQ	15 15 42.0	
MNK	Minsk	79.23	36	*i* LR		LR	15 19 19.4	
MNK	Minsk	79.23	36	*i* LRM		MLR	15 22 14.8	
	comp=Z,118nm,20.2s							
MNK	Minsk	79.23	36	*i* LRM		MLR	15 22 59.4	
	comp=N,807nm,20.1s							
BURAR	Bucovina Array	79.44	43	⇓P		**P**	**14 45 47.7**	**+0.9**
BURAR	Bucovina Array	79.44	43	P		**P**	**14 45 48.2**	**+1.4**
ARR	Arges	79.63	46	⇑P		**P**	**14 45 48.9**	**+1.1**
GAMB	Gambell	79.67	334	pP		pP	14 46 07.5	+0.5
	baz=70							
HORU	Horodok	79.79	42	P		**P**	**14 45 49.4**	**+0.8**
VOIR		79.89	46	⇑P		**P**	**14 45 50.3**	**+1.0**
VOIR		79.89	46	P		**P**	**14 45 50.6**	**+1.3**
VOIR

IDI	**Anoyia**	**82.57**	**55**	IAmb	IAmb	14 46 05.8		
	comp=Z,37nm,0.9s							
PMSA	**Palmer Station**	**82.58**	**178**	LR	LR	15 24 34.8		
	comp=Z,56nm,18.5s,baz=315,slow=37							
MANR	**Mangalia**	**82.78**	**46**	⇑P	**P**	**14 46 05.5**	**+1.0**	
PURM	**Purcari**	**82.80**	**43**	⇓P	**P**	**14 46 05.5**	**+1.0**	
PURM	**Purcari**	**82.80**	**43**	P	**P**	**14 46 04.5**	**0.0**	
	comp=Z,4μmcomp=Z,96nm,1.2s							
KLMR	**Klimovskoe**	**82.94**	**28**	*e*P	**P**	**14 46 04.2**	**-0.8**	
KLMR				pmax	pmax			
	comp=Z,30nm,1.2s							
BAND	**Balkesir-Ban**	**83.50**	**50**	⇑P	**P**	**14 46 07.8**	**-0.5**	
OBN	**Obninsk**	**83.78**	**34**	P	**P**	**14 46 08.5**	**-0.9**	
OBN				IAmb	IAmb	14 46 10.7		
	comp=Z,47nm,0.8s							
OBN	**Obninsk**	**83.78**	**34**	*de*P	**P**	**14 46 09.1**	**-0.3**	
OBN				*i* *PP	**pP**	**14 46 28.6**	**0.0**	
OBN				*e*		14 49 23.5		
OBN				*e*PPP	PPP	14 51 17.1		
OBN				*e*S	**SKSac**	**14 56 21.6**	**-4.3**	
OBN				pmax	pmax			
	comp=Z,85nm,1.3s							
OBN	**Obninsk**	**83.78**	**34**	P	**P**	**14 46 09.1**	**-0.3**	
	comp=Z,64nm,1.1s							
MOS	**Moscow**	**84.09**	**33**	*e*P	**P**	**14 46 10.1**	**-0.9**	
MOS				*e*		14 46 29.8		
MOS				pmax	pmax			
	comp=Z,60nm,0.7s							
YLV	**Yalova**	**84.35**	**49**	P	**P**	**14 46 12.9**	**+0.2**	
	comp=Z,28nm,1.0s							
BILL	**Bilibino**	**85.50**	**342**	P	**P**	**14 46 17.6**	**-0.2**	
BILL	**Bilibino**	**85.50**	**342**	*i* P	**P**	**14 46 18.3**	**+0.5**	
BILL				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LPSR	**Galich'ya Gora**	**86.07**	**36**	*e*P	**P**	**14 46 21.2**	**+0.3**	
LPSR				pmax	pmax			
	comp=Z,60nm,0.7s							
VORR	**Voronezh**	**86.61**	**36**	*e*P	**P**	**14 46 23.8**	**+0.2**	
VORR				pmax	pmax			
	comp=Z,45nm,0.5s							
VSR	**Storozhevoye**	**86.78**	**37**	*e*P	**P**	**14 46 21.8**	**-2.7**	
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VORD	**Divnogorie**	**86.96**	**37**	*e*P	**P**	**14 46 22.4**	**-2.9**	
VORD				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PPT	**Papeete**	**87.12**	**251**	LR	LR	15 18 13.9		
	comp=Z,126nm,19.8s,baz=70,slow=31							
PPT2	**Papeete2**	**87.13**	**251**	*e*S	**SKSac**	**14 56 51.7**	**+3.3**	
	comp=Z,59nm,28.0s							
PPT2	**Papeete2**	**87.13**	**251**	*e*LR	LR	15 14 06.7		
	comp=Z,310nm,28.8s							
PPT2				*e*LR	LR	15 14 13.2		
	comp=Z,188nm,28.2s							
BR106	**Keskin Array S**	**87.69**	**49**	P	**P**	**14 46 29.2**	**-0.1**	
BR131	**Keskin Array S**	**87.71**	**49**	IAmb	IAmb	14 46 30.5		
	comp=Z,14nm,0.8s							
BR131	**Keskin Array S**	**87.71**	**49**	*i* P	**P**	**14 46 29.2**	**-0.2**	
BRTR	**Keskin Array B**	**87.71**	**49**	P	**P**	**14 46 28.4**	**-1.0**	
BRTR	**Keskin Array B**	**87.71**	**49**	P	**P**	**14 46 29.1**	**-0.3**	
	comp=Z,11nm,0.8s,baz=268,slow=3.6,SNR=61							
BRTR				pP	**pwP**	**14 46 50.2**	**+1.3**	
	comp=Z,9.3nm,0.8s,baz=274,slow=3.8,SNR=11							
	comp=Z,11nm,0.8s							
BRTR	**Keskin Array B**	**87.71**	**49**	*i* P	**P**	**14 46 29.7**	**+0.3**	
BRTR				pmax	pmax			
	comp=Z,11nm,0.8s							
KIRS	**Kirsehir-Merke**	**88.13**	**49**	⇑P	**P**	**14 46 31.5**	**+0.2**	
VRH	**Novokhopyorsk**	**88.23**	**36**	*e*P	**P**	**14 46 31.3**	**-0.1**	
VRH				pmax	pmax			
	comp=Z,42nm,0.9s							
KIRV	**Kirov**	**88.43**	**28**	LR	LR	15 22 14.0		
	comp=Z,39nm,20.8s,baz=300,slow=33							
KIRV	**Kirov**	**88.43**	**28**	*ce*P	**P**	**14 46 31.7**	**-0.4**	
TBI	**Tubuai**	**88.98**	**245**	*e*P	**P**	**14 46 34.0**	**-1.4**	
	comp=Z,391nm,35.2s							
TBI	**Tubuai**	**88.98**	**245**	*e*S	**S**	**14 57 15.7**	**-2.5**	
	comp=Z,503nm,36.5s							
TBI	**Tubuai**	**88.98**	**245**	*e*LR	LR	15 15 02.0		
	comp=Z,695nm,30.0s							
TIXI	**Tiksi**	**89.79**	**355**	P	**P**	**14 46 38.1**	**-0.2**	
TIXI				IAmb	IAmb	14 46 58.4		
	comp=Z,18nm,1.1s							
TIXI	**Tiksi**	**89.79**	**355**	LR	LR	15 30 42.1		
	comp=Z,62nm,18.5s,baz=8.5,slow=38							
TIXI	**Tiksi**	**89.79**	**355**	*ce*P	**P**	**14 46 37.5**	**-0.8**	
TIXI				pmax	pmax			
	comp=Z,18nm,2.5s							
SOC	**Sochi**	**90.36**	**44**	*e*P	**P**	**14 46 41.8**	**+0.2**	
SOC				*e*		14 50 15.6		
SOC				*e*S	**SKSac**	**14 57 06.4**	**-0.4**	
SOC				*e*SS	**SS**	**15 03 31.2**	**0.0**	
SOC				*e*SSS	SSS	15 07 13.4		
SOC				pmax	pmax			
	comp=Z,16nm,0.8s							
SOC				MLR	MLR			
	comp=Z,46nm,15.0s							
BELG	**Belogornoye**	**90.86**	**33**	LR	LR	15 23 04.2		
	comp=Z,50nm,21.5s,baz=321,slow=33							
BELG	**Belogornoye**	**90.86**	**33**	*i* P	**P**	**14 46 43.6**	**-0.1**	
BELG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SHEM	**Shemya Is, Ala**	**91.25**	**327**	LR	LR	15 27 25.3		
	comp=Z,104nm,21.7s,baz=81,slow=35							
NRIK	**Noril'sk**	**91.25**	**8**	P	**P**	**14 46 45.5**	**+0.3**	
	comp=Z,6.4nm,0.8s,baz=45,slow=1.8,SNR=12							
NRIK				LR	LR	15 31 00.6		
	comp=Z,52nm,18.2s,baz=340,slow=38							
	comp=Z,6.4nm,0.8s							
NRIK	**Noril'sk**	**91.25**	**8**	*ce*P	**P**	**14 46 45.5**	**+0.3**	
NRIK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MMAI	**Mount Meron Ar**	**91.54**	**55**	LR	LR	15 24 54.1		
	comp=Z,16nm,20.2s,baz=288,slow=34							
KIV	**Kislovodsk**	**92.12**	**42**	*e*P	**P**	**14 46 50.5**	**+0.6**	
KIV				pmax	pmax			
	comp=Z,11nm,1.0s							
KIV				MLR	MLR			
	comp=Z,39nm,20.0s							
SHA1	**Shidzhatmaz**	**92.21**	**43**	*i* P	**P**	**14 46 50.2**	**-0.2**	
TSUM	**Tsumeb**	**92.32**	**109**	LR	LR	15 20 34.8		
	comp=Z,136nm,21.6s,baz=330,slow=30							
KBZ	**Khabaz**	**92.36**	**42**	P	**P**	**14 46 52.1**	**+1.3**	
	comp=Z,9.9nm,0.9s,baz=319,slow=2.6,SNR=26							
KBZ				pP	**pP**	**14 47 12.0**	**+1.6**	
	comp=Z,6.0nm,0.9s,baz=292,slow=5.4,SNR=4.5							
KBZ				LR	LR	15 30 26.5		
	comp=Z,38nm,18.0s,baz=3.5,slow=37							
	comp=Z,9.9nm,0.9s							
KBZ	**Khabaz**	**92.36**	**42**	*ce*P	**P**	**14 46 51.8**	**+1.0**	
KBZ				pmax	pmax			
	comp=Z,12nm,0.9s							
NCK	**Nalchik**	**92.92**	**42**	*i* P	**P**	**14 46 54.7**	**+1.2**	
NCK				pmax	pmax			
	comp=Z,13nm,0.7s							
SEY	**Seymchan**	**93.19**	**343**	*ce*P	**P**	**14 46 55.1**	**+0.9**	
SEY				pmax	pmax			
	comp=Z,16nm,2.5s							
ARTI	**Arti**	**93.62**	**26**	LR	LR	15 26 22.5		
	comp=Z,16nm,20.3s,baz=28,slow=34							
ARTI	**Arti**	**93.62**	**26**	*d* iP	**P**	**14 46 56.6**	**+0.2**	
ARTI						14 50 41.6		
ARTI				S	**SKSac**	**14 57 24.1**	**-0.5**	
ARTI				SS	**SS**	**15 04 12.1**	**-5.0**	
ARTI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GNI	**Garni**	**95.27**	**45**	LR	LR	15 30 55.0		
	comp=Z,29nm,18.1s,baz=293,slow=36							
MA2	**Magadan**	**96.32**	**341**	LR	LR	15 32 59.2		
	comp=Z,140nm,21.1s,baz=67,slow=37							
AKTO	**Aktyubinsk**	**97.29**	**31**	LR	LR	15 31 31.9		
	comp=Z,66nm,18.3s,baz=146,slow=36							
RAR	**Rarotonga**	**97.39**	**250**	LR	LR	15 23 08.6		
	comp=Z,85nm,20.0s,baz=108,slow=30							
PET	**Petropavlovsk**	**98.37**	**333**	*i* P	Pdif	14 47 21.0	+3.0	
PET				pmax	pmax			
	comp=Z,23nm,1.2s							
PETK	**Petropavlovsk-**	**98.71**	**334**	LR	LR	15 33 21.8		
	comp=Z,88nm,22.0s,baz=64,slow=36							
YAK	**Yakutsk**	**98.93**	**351**	LR	LR	15 34 09.4		
	comp=Z,29nm,20.1s,baz=54,slow=37							
YAK	**Yakutsk**	**98.93**	**351**	*i* P	**P**	**14 47 20.3**	**0.0**	
YAK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SUR	**Sutherland**	**98.94**	**121**	LR	LR	15 29 00.7		
	comp=Z,39nm,19.4s,baz=315,slow=34							
SNAA	**Sanae**	**99.65**	**163**	LR	LR	15 30 57.4		
	comp=Z,100nm,21.9s,baz=326,slow=34							
BRVK	**Borovoye**	**100.83**	**24**	*i* P	**Pdif**	**14 47 28.5**	**-0.5**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
MKAR	**Makanchi Array**	**110.37**	**21**	PKiKP	**PKiKP**	**14 52 10.8**	**-1.5**	
	comp=Z,0.4nm,0.8s,baz=309,slow=4.0,SNR=2.3							
MKAR				PKKPbc	**PKKPbc**	**15 03 10.6**	**-3.4**	
	comp=Z,0.8nm,0.9s,baz=131,slow=3.7,SNR=5.5							
SYO	**Syowa Base**	**113.17**	**158**	‖ *i*Pdiff	**Pdif**	**14 48 22.8**	**-0.5**	
KSH	**Kashi**	**113.91**	**29**	PKP	**PKiKP**	**14 52 16.1**	**-3.2**	
SONM	**Songino Array**	**114.32**	**4**	PP	**PP**	**14 53 15.2**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=1.0,slow=2.3,SNR=3.6							
WMQ	**Urumqi**	**114.76**	**19**	*e*PKP	**PKiKP**	**14 52 20.7**	**0.0**	
CN2	**Changchun**	**117.17**	**349**	*e*P	PKPdf	14 52 13.3	-12	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**121.46**	**360**	*e*PKP	**PKPdf**	**14 52 29.6**	**-4.2**	
BTO	**Baotou**	**121.69**	**1**	*e*PKP	**PKPdf**	**14 52 29.0**	**-5.2**	
BTO				sPKP		14 53 03.2		
BTO				LR	LR			
	comp=Z,210nm,5.1s							
BTO				LR	LR			
	comp=Z,220nm,4.0s							
BTO				LR	LR			
	comp=Z,210nm,5.5s							
GTA	**Gaotai**	**121.88**	**11**	PKP	**PKPdf**	**14 52 33.3**	**-1.3**	
GTA				sPKP		14 52 56.8		
KSRS	**Korea Array**	**122.69**	**344**	PKP	**PKPdf**	**14 52 34.0**	**-2.0**	
	comp=Z,0.9nm,0.7s,baz=32,slow=2.8,SNR=4.2							
LZH	**Lanzhou**	**125.74**	**8**	*e*PKP	**PKiKP**	**14 52 48.5**	**+5.9**	
LZH				sPKP		14 53 06.0		
XAN	**Xi'an**	**128.20**	**3**	PKP	**PKPdf**	**14 52 45.7**	**-1.1**	
DZM	**Mont Dzumac**	**128.36**	**256**	*e*LR	LR	15 33 21.3		
	comp=Z,111nm,24.0s							
NJ2	**Nanjing**	**129.73**	**352**	*e*PKP	**PKPdf**	**14 52 49.5**	**-0.2**	
PZH	**PanZhiHua**	**134.78**	**12**	PKP	**PKPdf**	**14 52 59.9**	**+0.4**	
CMAR	**Chiang Mai Arr**	**141.76**	**19**	PKhKP	PKPpre	14 53 06.5		
	comp=Z,0.9nm,0.8s,baz=309,slow=4.3,SNR=6.5							
CMAR				PKP	**PKPdf**	**14 53 12.7**	**+0.3**	
	comp=Z,0.9nm,0.8s,baz=313,slow=4.1,SNR=5.2							
CMAR				SKPbc	**SKPbc**	**14 56 41.7**	**-1.9**	
	comp=Z,5.4nm,1.0s,baz=323,slow=3.8,SNR=11							
QIZ	**Qiongzhong**	**143.17**	**2**	PKP	PKPbc	14 53 13.0	+1.2	
QIZ				PP	**PP**	**14 56 24.6**	**+0.8**	
QIZ				SS	SS	15 14 56.9	0.0	
QIZ				LR	LR			
	comp=Z,100nm,15.6s							
QIZ				LR	LR			
	comp=Z,160nm,14.1s							
QIZ				LR	LR			
	comp=Z,170nm,27.7s							
UBPT	**Khong Chiam**	**146.42**	**10**	PKPbc	**PKPdf**	**14 53 21.1**	**+0.6**	
STKA	**Stephens Creek**	**149.45**	**237**	PKPbc	**PKPbc**	**14 53 29.2**	**-0.4**	
STKA	**Stephens Creek**	**149.45**	**237**	PKPbc	**PKPbc**	**14 53 29.8**	**+0.2**	
	comp=Z,4.3nm,0.7s,baz=111,slow=4.8,SNR=6.7							
WRA	**Warramunga Arr**	**158.22**	**261**	PKP	**PKPdf**	**14 53 35.7**	**-2.2**	
	comp=Z,2.8nm,1.0s,baz=70,slow=1.2,SNR=8.0							
ASAR	**Alice Springs**	**158.24**	**251**	PKP	**PKPdf**	**14 53 36.5**	**-1.3**	
	comp=Z,1.3nm,0.9s,baz=101,slow=2.5,SNR=7.5							
ASAR				pPKP	**pPKPdf**	**14 53 58.8**	**+0.8**	
	comp=Z,1.4nm,0.7s,baz=105,slow=3.1,SNR=4.8							
ASAR				PKPab	**PKPab**	**14 54 11.3**	**-0.8**	
	comp=Z,2.0nm,0.6s,baz=94,slow=3.8,SNR=9.9							

PRU 04 14:44:03.2,50°.24N×18°.80E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**91**	*e*Pg	Pg	14 44 14.6	-0.9
OJC				*e*Sg	Sg	14 44 24.8	+1.0
MORC	**Moravsky Berou**	**0.93**	**241**	*e*PG	Pg	14 44 19.7	-1.4
MORC				*e*SG	Sg	14 44 32.5	-0.7
LANS	**Liptovska Anna**	**1.17**	**158**	*e*PG	Pg	14 44 25.0	-0.7
LANS				*e*SG	Sg	14 44 40.6	-0.3
LANS				*e*LG	Lg	14 44 43.8	
DPC	**Dobruska-Polom**	**1.59**	**275**	*e*PG	Pn	14 44 32.9	+0.2
DPC				*e*SG	Sn	14 44 52.7	-1.3
	comp=Z,3.0nm,0.4s						
VYHS	**Vyhne**	**1.75**	**179**	*e*PN	Pn	14 44 33.1	-1.7
VYHS				*e*SN	Sn	14 44 56.7	-1.1

*TAP **04** 15:02:41.9,24°.94N×122°.58E,h36km±1km,ML2.6,D*
ISC 04 15:02:41.0±1.7,24°.89N±0°.06×122°.57E±0°.05,h8km±13km,
n49,σ0§55/55,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.54**	**282**	*i* P	**Pb**	**15 02 52.9**	**+0.1**
EOS2	**EOS2**	**0.56**	**213**	*e*P	**Pb**	**15 02 53.5**	**+0.4**
EOS2				*e*S	**Sb**	**15 03 01.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.59**	**137**	P	**Pg**	**15 02 51.7**	**-0.6**
EOS3	**EOS3**	**0.65**	**201**	*e*P	**Pb**	**15 02 54.3**	**-0.1**
EOS3				*e*S	**Sg**	**15 03 03.3**	**+1.5**
SXI1	**Grass Mountain**	**0.66**	**288**	*i* P	**Pb**	**15 02 55.1**	**+0.2**
TIPB	**Shuangxi**	**0.68**	**277**	*i* P	**Pb**	**15 02 55.3**	**+0.1**
TWC	**Suao**	**0.72**	**247**	*e*P	**Pb**	**15 02 55.8**	**+0.1**
TWC				*i* S	**Sb**	**15 03 05.3**	**-0.4**
ESAO	**Su ao**	**0.73**	**245**	P	**Pb**	**15 02 55.9**	**-0.1**
EOS4	**EOS4**	**0.80**	**197**	*e*P	**Pb**	**15 02 57.0**	**0.0**
TWE	**Neicheng**	**0.84**	**258**	P	**Pb**	**15 02 57.8**	**-0.1**
EWUT	**Wuta**	**0.85**	**239**	*e*P	**Pb**	**15 02 57.6**	**-0.4**
EWUT				*e*S	**Sg**	**15 03 09.2**	**+0.8**
ENA	**Nanau**	**0.89**	**239**	*e*P	**Pb**	**15 02 58.8**	**+0.2**
ENA				*e*S	**Sg**	**15 03 10.2**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.91**	**262**	P	**Pb**	**15 02 58.9**	**-0.1**
EAHA	**Aohua**	**0.94**	**234**	S	**Sg**	**15 03 12.2**	**+0.8**
ENTT	**Nioudou**	**0.95**	**255**	*e*P	**Pn**	**15 03 00.2**	**-0.4**
NWLT	**Wulai**	**0.98**	**263**	*e*P	**Pb**	**15 03 00.2**	**0.0**
TATO	**Taipei**	**0.99**	**275**	P	**Pn**	**15 03 01.9**	**+0.7**
LATG	**Datong**	**1.02**	**250**	*e*P	**Pb**	**15 03 01.1**	**+0.2**
YHNB	**Yeheng**	**1.11**	**259**	P	**Pn**	**15 03 03.5**	**+0.6**
YHNB	**Yeheng**	**1.11**	**259**	*e*P	**Pb**	**15 03 02.3**	**-0.2**
NSK	**Sanguang**	**1.12**	**259**	*e*P	**Pb**	**15 03 02.6**	**-0.1**
NACB	**Ninganchiao**	**1.14**	**231**	P	**Pg**	**15 03 02.1**	**-0.8**
NACB	**Ninganchiao**	**1.14**	**231**	S	**Sg**	**15 03 18.0**	**+0.2**
NACB	**Ninganchiao**	**1.14**	**231**	*e*P	**Pg**	**15 03 02.3**	**-0.6**
NACB				*e*S	**Sg**	**15 03 18.0**	**+0.2**
NNSB	**Datong**	**1.18**	**247**	*e*P	**Pb**	**15 03 03.4**	**-0.3**
NNS	**Nan Shan**	**1.18**	**248**	*e*P	**Pb**	**15 03 03.5**	**-0.2**
TWD	**Chiawan**	**1.20**	**228**	*e*P	**Pb**	**15 03 03.9**	**-0.2**
ETLH	**Xiulin Townshi**	**1.21**	**236**	*e*P	**Pg**	**15 03 03.7**	**-0.4**
NFF	**Wufeng Townshi**	**1.35**	**259**	*e*P	**Pg**	**15 03 05.8**	**-1.1**
LXIB	**Xiulin Townshi**	**1.37**	**231**	*e*P	**Pn**	**15 03 06.2**	**-0.4**
FUSS	**Fushou**	**1.37**	**242**	*e*P	**Pb**	**15 03 07.5**	**+0.5**
TWT	**Tachien**	**1.42**	**244**	*e*P	**Pg**	**15 03 07.6**	**-0.7**
OWD	**Renai**	**1.58**	**234**	*e*P	**Pn**	**15 03 09.3**	**-0.1**
WARBT	**Fenglin Townsh**	**1.59**	**223**	*e*P	**Pn**	**15 03 09.3**	**-0.2**
WUSB	**Renai**	**1.60**	**236**	*e*P	**Pb**	**15 03 10.4**	**-0.5**
WHP	**Taichung City**	**1.60**	**248**	*e*P	**Pb**	**15 03 10.3**	**-0.6**
WCS	**Beigang Elemen**	**1.73**	**242**	*e*P	**Pb**	**15 03 12.2**	**-0.8**
VWDT	**VWDT**	**1.73**	**229**	*e*P	**Pn**	**15 03 11.6**	**+0.2**
HGSD	**Ruisui**	**1.75**	**217**	*e*P	**Pn**	**15 03 11.0**	**-0.6**
EHY	**Hungye**	**1.79**	**220**	*e*P	**Pn**	**15 03 12.1**	**-0.2**
SSLB	**Suanglung**	**1.84**	**234**	*e*P	**Pn**	**15 03 13.6**	**+0.6**
YULB	**Yu-li**	**1.89**	**218**	P	**Pn**	**15 03 14.1**	**+0.4**
YULB	**Yu-li**	**1.89**	**218**	*e*P	**Pn**	**15 03 13.2**	**-0.5**
EYUL	**Yuli**	**1.92**	**217**	*e*P	**Pn**	**15 03 13.5**	**-0.5**
WHYT	**Xinyi Township**	**1.97**	**233**	*e*P	**Pn**	**15 03 15.2**	**+0.4**
CHN5	**Tsauling**	**2.16**	**234**	*e*P	**Pn**	**15 03 18.2**	**+0.9**
ELDTW	**Lidau**	**2.21**	**220**	*e*P	**Pn**	**15 03 18.0**	**-0.2**
STYH	**Taoyuan**	**2.38**	**224**	*e*P	**Pn**	**15 03 20.7**	**+0.5**
TPUB	**Ta-pu**	**2.38**	**229**	P	**Pn**	**15 03 21.6**	**+1.2**

*BGR **04** 15:18:34.9,19°.43S×177°.68W,h33km*
*NOU **04** 15:19:41.5,18°.13S×177°.85W,h604km,mb4.8/39,Fiji Islands Region*
*NEIC **04** 15:19:43.2±2.7,18°.2S±0°.1×177°.89W±0°.09,h619km±6km, mb4.6/227, Error ellipse: s-maj=17.5km s-min=13.0km az=178.0*
*IDC **04** 15:19:45.3±0.9,18°.11S×177°.97W,h645km±9km,mb3.9/24, mbtmp4.9/25, Error ellipse: s-maj=14.0km s-min=10.4km az=153.0*
ISC 04 15:19:41.4±0.3,18°.22S±0°.06×177°.77W±0°.06,h600km,
n722,σ1§67/643,mb4.6/138,40C-39D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.90**	**355**	P	**P**	**15 21 09.3**	**+3.0**
MSVF	**Nonsavu**	**4.01**	**276**	P	**P**	**15 21 11.1**	**+4.1**
MSVF	**Nonsavu**	**4.01**	**276**	P	**P**	**15 21 11.7**	**+4.7**
	436nm,0.6s,baz=128,slow=5.1,SNR=212						
MSVF				S	**S**	**15 22 25.7**	**+8.9**
	168nm,1.1s,baz=120,slow=22,SNR=26						
MSVF	**Nonsavu**	**4.01**	**276**	P	**P**	**15 21 11.8**	**+4.8**
AFI	**Afiamalu**	**7.18**	**54**	P	**P**	**15 21 36.1**	**+2.9**
AFI	**Afiamalu**	**7.18**	**54**	P	**P**	**15 21 35.6**	**+2.4**
NIUE	**Niue**	**7.49**	**98**	P	**P**	**15 21 40.2**	**+4.3**
NIUE	**Niue**	**7.49**	**98**	P	**P**	**15 21 38.7**	**+2.8**
NIUE				S	S	15 23 28.3	+19
GLKZ	**Green Lake**	**10.99**	**181**	S	**S**	**15 24 11.6**	**-0.4**
DVP	**Devils Point**	**13.37**	**270**	P	**P**	**15 22 36.4**	**+2.3**
DZM	**Mont Dzumac**	**15.31**	**253**	P	**P**	**15 22 52.7**	**+0.1**
DZM				IAmb	IAmb	15 23 20.0	
	comp=Z,34nm,1.4s						
ONTNC	**Ouen Toro**	**15.35**	**252**	P	**P**	**15 22 53.6**	**+0.8**
ONTNC				IAmb	IAmb	15 23 37.8	
	comp=Z,44nm,1.1s						
WCZ	**Waipu Caves**	**18.98**	**200**	P	**P**	**15 23 29.2**	**+3.5**
WCZ				S	**S**	**15 26 27.1**	**-0.5**
KUZ	**Kuaotunu**	**19.33**	**196**	P	**P**	**15 23 30.8**	**+2.0**
ABAZ	**Army Bay**	**19.44**	**198**	P	**P**	**15 23 33.3**	**+3.4**
WIAZ	**Waiheke Island**	**19.53**	**197**	P	**P**	**15 23 33.5**	**+2.8**
MBAZ	**Motutapu North**	**19.58**	**198**	P	**P**	**15 23 34.3**	**+3.1**
MXZ	**Matakaoa Point**	**19.58**	**189**	P	**P**	**15 23 32.7**	**+1.6**
MXZ	**Matakaoa Point**	**19.58**	**189**	P	**P**	**15 23 32.3**	**+1.2**
ETAZ	**East Tamaki Re**	**19.74**	**198**	P	**P**	**15 23 35.7**	**+3.1**
WMGZ	**Waiomatatini S**	**19.81**	**189**	P	**P**	**15 23 34.8**	**+1.5**
MKAZ	**Moumakai**	**19.82**	**197**	P	**P**	**15 23 36.0**	**+2.7**
WTAZ	**Waiatarua**	**19.82**	**198**	P	**P**	**15 23 36.4**	**+3.0**
HAZ	**Te Kaha**	**19.85**	**190**	P	**P**	**15 23 33.7**	**0.0**
AWAZ	**Awhitu Peninsu**	**19.93**	**198**	P	**P**	**15 23 37.0**	**+2.7**
RUGZ	**Raukumara Rang**	**20.07**	**191**	P	**P**	**15 23 36.5**	**+0.7**
PUZ	**Puketiti**	**20.08**	**189**	P	**P**	**15 23 37.1**	**+1.4**
WHRZ	**Whale Island**	**20.10**	**192**	P	**P**	**15 23 34.7**	**-1.2**
TWGZ	**Tauwhareparae**	**20.23**	**190**	P	**P**	**15 23 38.9**	**+1.8**
TOZ	**Tahuroa Road**	**20.32**	**196**	P	**P**	**15 23 39.7**	**+1.9**
TOZ				IAmb	IAmb	15 23 41.1	
	comp=Z,14nm,0.8s						
TOZ	**Tahuroa Road**	**20.32**	**196**	P	**P**	**15 23 39.8**	**+2.0**
MWZ	**Matawai**	**20.46**	**191**	P	**P**	**15 23 38.3**	**-0.9**
MWZ				S	**S**	**15 26 47.3**	**-3.8**
URZ	**Urewera**	**20.46**	**192**	P	**P**	**15 23 37.7**	**-1.4**
	comp=Z,8.3nm,0.3s,baz=0.8,slow=2.3,SNR=36						
URZ				S	**S**	**15 26 44.4**	**-6.6**
	comp=Z,3.3nm,0.6s,baz=283,slow=20,SNR=1.4						
URZ	**Urewera**	**20.46**	**192**	P	**P**	**15 23 39.1**	**0.0**
URZ	**Urewera**	**20.46**	**192**	P	**P**	**15 23 39.1**	**0.0**
URZ	**Urewera**	**20.46**	**192**	P	**P**	**15 23 38.3**	**-0.8**
URZ				S	**S**	**15 26 45.9**	**-5.0**
TLZ	**Tolley Road**	**20.87**	**195**	P	**P**	**15 23 46.2**	**+3.3**
HIZ	**Hauiti**	**21.22**	**196**	P	**P**	**15 23 45.9**	**0.0**
BKZ	**Black Stump Fm**	**21.46**	**192**	P	**P**	**15 23 47.0**	**-1.1**
BKZ	**Black Stump Fm**	**21.46**	**192**	P	**P**	**15 23 46.8**	**-1.4**
BKZ				S	**S**	**15 27 01.7**	**-5.1**
VRZ	**Vera Road**	**21.82**	**196**	P	**P**	**15 23 54.0**	**+2.7**
MRZ	**Mangatainoka R**	**23.09**	**193**	P	**P**	**15 24 02.7**	**+0.2**
SNZO	**South Karori**	**23.90**	**194**	P	**P**	**15 24 09.9**	**+0.2**
QRZ	**Quartz Range**	**24.03**	**198**	P	**P**	**15 24 12.2**	**+1.4**
QRZ	**Quartz Range**	**24.03**	**198**	P	**P**	**15 24 12.1**	**+1.3**
QRZ	**Quartz Range**	**24.03**	**198**	P	**P**	**15 24 11.1**	**+0.3**
QRZ				S	**S**	**15 27 47.0**	**-0.1**
NNZ	**Nelson**	**24.15**	**196**	P	**P**	**15 24

MJB9	Matsu-Tunnel	68.52	323	IAmb	IAmb	15 29 44.9		
	comp=Z,18nm,0.7s							
KKM	Kota Kinabalu	69.41	284	P	P	15 29 50.5	-0.6	
UGM	Wanagama	70.24	268	P	P	15 29 55.2	-0.8	
JNU	Nakatsue	70.78	316	P	P	15 29 57.7	-1.1	
	comp=Z,2.5nm,0.4s,baz=153,slow=2.3,SNR=8.0							
	comp=Z,2.5nm,0.4s							
JNU	Nakatsue	70.78	316	P	P	15 29 57.9	-0.8	
QSPA	South Pole Qui	71.84	180	P	P	15 30 05.5	+1.1	
QSPA	South Pole Qui	71.84	180	P	P	15 30 05.7	+1.3	
	comp=Z,7.6nm,0.7s,baz=79,slow=1.9,SNR=69							
	comp=Z,7.6nm,0.7s							
SBUM	Sibu	71.85	279	P	P	15 30 04.9	-0.5	
SBUM	Sibu	71.85	279	P	P	15 30 05.2	-0.1	
TWGBT	Beinan	72.34	302	P	P	15 30 05.7	-2.2	
UNV	Unalaska Valle	72.42	7	P	P	15 30 06.8	-0.9	
	baz=191							
YULB	Yu-li	72.45	303	P	P	15 30 06.9	-1.6	
NACB	Ninganchiao	72.59	303	P	P	15 30 08.0	-1.4	
SSLB	Suanglung	72.91	303	P	P	15 30 09.3	-1.9	
TPUB	Ta-pu	72.94	302	P	P	15 30 09.4	-2.0	
YHNB	Yeheng	73.01	304	P	P	15 30 11.0	-0.8	
BBJI	Bungbulang	73.10	268	P	P	15 30 11.2	-1.4	
PETK	Petropavlovsk-	74.13	345	P	P	15 30 15.8	-1.7	
PETK	Petropavlovsk-	74.13	345	P	P	15 30 16.2	-1.3	
	comp=Z,20nm,0.6s,baz=106,slow=7.1,SNR=63							
	comp=Z,20nm,0.6s							
CHNA	Chernabura Isl	74.39	11	P	P	15 30 17.7	-1.1	
	baz=198							
S12K	Black Hills	74.82	9	P	P	15 30 20.0	-1.3	
	baz=196							
P08K	Saint George I	74.85	5	P	P	15 30 20.4	-0.9	
	baz=188							
KSRS	Korea Array	75.34	318	P	P	15 30 24.6	+0.2	
	comp=Z,2.0nm,0.6s,baz=130,slow=6.3,SNR=11							
	comp=Z,2.0nm,0.6s							
KSAR	Wonju Array Be	75.35	318	P	P	15 30 23.8	-0.8	
SPIA	Saint Paul Isl	75.37	4	P	P	15 30 23.1	-1.1	
	baz=188							
CHGN	Chignik	76.00	11	P	P	15 30 26.9	-0.8	
	baz=199							
CHIR	Chirikof Islan	76.10	13	P	P	15 30 27.8	-0.5	
	baz=202							
SII	Sitkinak Islan	77.08	13	P	P	15 30 32.8	-0.8	
	baz=203							
SII	Sitkinak Islan	77.08	13	P	P	15 30 33.5	-0.2	
USRK	Ussuriysk Ar.	77.21	325	P	P	15 30 34.8	+0.2	
	comp=Z,3.4nm,0.6s,baz=121,slow=3.2,SNR=9.2							
	comp=Z,3.4nm,0.6s							
R16K	Pilot Point	77.35	11	P	P	15 30 34.3	-0.7	
	baz=200							
ISA	Isabella, Lake	77.59	46	IAmb	IAmb	15 30 39.2		
	comp=Z,12nm,0.8s							
OHAK	Old Harbor	77.89	13	IAmb	IAmb	15 30 38.5		
	comp=Z,22nm,0.9s							
OHAK	Old Harbor	77.89	13	P	P	15 30 37.4	-0.5	
	baz=204							
OHAK	Old Harbor	77.89	13	P	P	15 30 37.8	-0.1	
R18K	Karluk	77.96	13	P	P	15 30 37.8	-0.5	
	baz=203							
Q17K	Contact Creek	78.32	12	P	P	15 30 39.5	-0.9	
	baz=201,SNR=6.4							
YBH	Yreka Blue Hor	78.38	39	P	P	15 30 42.2	+1.0	
	comp=Z,7.4nm,0.6s,baz=184,slow=5.4,SNR=16							
	comp=Z,7.4nm,0.6s							
MNAI	Manna	78.47	269	P	P	15 30 41.9	-0.2	
O15K	Ungalikthiuk R	78.51	9	P	P	15 30 40.1	-1.1	
	baz=198							
WAKR	Walker	78.53	43	IAmb	IAmb	15 30 44.4		
	comp=Z,18nm,0.9s							
KDAK	Kodiak Island	78.56	13	P	P	15 30 40.3	-1.2	
	baz=204							
Q16K	King Salmon	78.57	11	P	P	15 30 40.6	-0.9	
	baz=200							
NJ2	Nanjing	78.60	309	⇓P	P	15 30 42.3	-0.1	
NJ2				pmax	pmax			
	comp=Z,13nm,1.0s							
PNTR	Pine Nut	78.76	42	IAmb	IAmb	15 30 45.5		
	comp=Z,21nm,0.8s							
MDJ	Mudanjiang	78.79	325	P	P	15 30 43.6	+0.5	
MDJ				pmax	pmax			
	comp=Z,35nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,310nm,4.8s							
DSP	Deep Springs	78.87	45	P	P	15 30 44.1	+0.5	
M11K	Mekoryuk	78.88	6	P	P	15 30 43.1	0.0	
	baz=191							
N14K	Kuskokwak Cree	78.96	8	P	P	15 30 43.3	-0.3	
	baz=196							
P17K	Kvichak River	79.09	11	P	P	15 30 43.5	-0.8	
	baz=201,SNR=12							
O16K	Kokwok River B	79.18	10	P	P	15 30 43.3	-1.5	
	baz=199							
M13K	Dall Lake	79.22	7	P	P	15 30 44.4	-0.5	
	baz=194							
NVAR	Mina Array Bea	79.23	44	P	P	15 30 46.8	+1.0	
NVAR	Mina Array Bea	79.23	44	P	P	15 30 47.1	+1.2	
	comp=Z,7.1nm,0.7s,baz=225,slow=8.9,SNR=29							
	comp=Z,7.1nm,0.7s							
NV11	Mina Array Sit	79.33	44	IAmb	IAmb	15 30 48.3		
	comp=Z,16nm,1.1s							
Q19K	Cape Douglas,	79.38	12	P	P	15 30 45.2	-0.8	
	baz=203							
N15K	Kwethluk River	79.42	9	P	P	15 30 45.1	-0.9	
	baz=197							
P18K	Big Mountain,	79.50	12	P	P	15 30 45.1	-1.4	
	baz=202,SNR=9.4							
O17K	Koliganek Bris	79.52	10	P	P	15 30 45.7	-0.8	
	baz=200							
M14K	Bethel	79.72	8	IAmb	IAmb	15 30 49.5		
	comp=Z,18nm,0.8s							
M14K	Bethel	79.72	8	P	P	15 30 46.8	-0.7	
	baz=195							
M15K	Kasigluk River	79.84	8	P	P	15 30 47.7	-0.5	
	baz=197							
N16K	Nishlik Lake	79.91	9	P	P	15 30 47.5	-1.1	
	baz=198							
O18K	Koktuh Hills	79.94	11	P	P	15 30 47.5	-1.2	
	baz=202,SNR=13							
P19K	Oil Pt	80.13	12	P	P	15 30 48.5	-1.3	
	baz=204							
J05D	Fort Rock, OR	80.19	38	IAmb	IAmb	15 30 52.8		
	comp=Z,34nm,0.9s							
L14K	Kuka Creek	80.20	7	P	P	15 30 49.4	-0.6	
	baz=195							
N17K	Nushagak Hills	80.22	10	P	P	15 30 49.6	-0.5	
	baz=200							
M16K	Timber Creek	80.40	9	P	P	15 30 51.0	-0.1	
	baz=198							
O19K	Port Alsworth	80.42	12	P	P	15 30 50.5	-0.8	
	baz=203,SNR=17							
HOM	Homer	80.47	13	P	P	15 30 50.1	-1.4	
	baz=205							
H04A	Detroit Lake	80.48	37	IAmb	IAmb	15 30 52.9		
	comp=Z,13nm,0.7s							
K13K	Kusilvak Mount	80.56	6	P	P	15 30 51.1	-0.8	
	baz=193							
N18K	Kilae Creek	80.58	11	P	P	15 30 51.0	-1.2	
	baz=201							
O20K	Slope Mountain	80.65	12	P	P	15 30 51.5	-1.0	
	baz=204							
PINE	Pine Mountain	80.66	38	IAmb	IAmb	15 30 55.4		
	comp=Z,32nm,0.9s							
L15K	Ungalak Mounta	80.68	8	P	P	15 30 51.3	-1.2	
	baz=196,SNR=8.8							
KLR	Kul'dur	80.69	329	P	P	15 30 52.2	-0.7	
	comp=Z,3.2nm,0.7s,baz=108,slow=3.2,SNR=10.0							
	comp=Z,3.2nm,0.7s							
BNX	BinXian	80.70	325	⇓P	P	15 30 52.1	-0.9	
BNX				pmax	pmax			
	comp=Z,24nm,0.8s							
BRSE	Bradley Lake S	80.75	13	P	P	15 30 51.8	-1.2	
	baz=206							
N19K	Bonanza Creek	80.96	11	P	P	15 30 53.2	-1.0	
	baz=202							
L16K	Owhat River	80.98	9	IAmb	IAmb	15 30 55.4		
	comp=Z,38nm,1.1s							
L16K	Owhat River	80.98	9	P	P	15 30 53.8	-0.3	
	baz=198,SNR=9.8							
R11B	Troy Canyon, C	80.98	45	P	P	15 30 53.2	-1.7	
	baz=238							
M17K	Holitna River	81.00	10	P	P	15 30 54.0	-0.2	
	baz=200							
HOOD	Mount Hood Mea	81.16	36	IAmb	IAmb	15 30 57.2		
	comp=Z,33nm,1.2s							
WVOR	Wild Horse Val	81.25	40	IAmb	IAmb	15 30 58.1		
	comp=Z,25nm,1.1s							
K15K	Wolf Creek Mou	81.27	8	P	P	15 30 55.6	+0.1	
	baz=196							
WHN	Wuhan	81.28	306	P	P	15 30 56.5	+0.2	
M18K	Stony River	81.35	10	P	P	15 30 55.3	-0.7	
	baz=201							
SEW	Seward	81.36	14	P	P	15 30 55.9	-0.1	
	baz=207							
J14K	Nanvaranak Lak	81.47	7	P	P	15 30 56.2	-0.3	
	baz=194							
L17K	Donlin	81.56	9	P	P	15 30 57.3	+0.2	
	baz=199							
CAPN	Captain Cook N	81.58	13	P	P	15 30 57.3	+0.1	
	baz=206							
O22K	Cooper Landing	81.64	14	P	P	15 30 57.1	-0.4	
	baz=207							
MA2	Magadan	81.66	344	P	P	15 30 56.0	-1.6	
MA2				IAmb	IAmb	15 30 57.0		
	comp=Z,18nm,0.9s							
MA2	Magadan	81.66	344	P	P	15 30 55.7	-1.8	
	comp=Z,11nm,0.7s,baz=149,slow=6.3,SNR=10							
	comp=Z,11nm,0.7s							
MA2	Magadan	81.66	344	P	P	15 30 56.1	-1.5	
	comp=Z,24nm,0.9s							
I07A	Izee	81.67	38	IAmb	IAmb	15 31 00.2		
	comp=Z,17nm,0.8s							
BKNI	Bangkinang	81.73	273	P	P	15 30 59.0	-0.1	
P23K	Montague Islan	81.75	15	P	P	15 30 57.7	-0.4	
	baz=209							
SPCR	Spurr Chakacha	81.76	12	P	P	15 30 57.0	-1.2	
	baz=204							
BELA	Belgrano 2	81.78	173	P	P	15 30 58.2	+0.1	
GAMB	Gambell	81.86	3	P	P	15 30 58.5	0.0	
	baz=186							
J08A	Circle Bar Ran	81.87	39	IAmb	IAmb	15 31 01.2		
	comp=Z,30nm,1.2s							
L18K	Granite Mounta	81.89	10	P	P	15 30 58.5	-0.2	
	baz=200							
TIA	Tai'an	81.91	312	P	P	15 30 58.7	-0.7	
TIA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
X16A	Lo Mia Camp, P	81.92	50	IAmb	IAmb	15 31 02.5		
	comp=Z,12nm,1.0s							
STLK	Strandline Lak	82.11	12	IAmb	IAmb	15 30 59.1		
	comp=Z,17nm,0.9s							
K17K	Iditarod	82.11	9	P	P	15 30 59.9	+0.1	
	baz=199							
L19K	White Mountain	82.17	11	P	P	15 30 59.8	-0.4	
	baz=202							
RC01	Rabbit Creek A	82.18	13	IAmb	IAmb	15 30 59.9		
	comp=Z,20nm,1.1s							
RC01	Rabbit Creek A	82.18	13	P	P	15 30 59.1	-1.1	
	baz=207							
KNB	Kanab	82.19	47	IAmb	IAmb	15 31 02.9		
	comp=Z,10nm,0.8s							
M20K	Styx River	82.20	11	P	P	15 30 59.3	-1.1	
	baz=204							
U15A	North Rim	82.27	48	IAmb	IAmb	15 31 04.1		
	comp=Z,19nm,0.8s							
PWL	Port Wells	82.29	14	IAmb	IAmb	15 31 00.8		
	comp=Z,32nm,0.9s							
PWL	Port Wells	82.29	14	P	P	15 31 00.1	-0.7	
	baz=208,SNR=7.1							
SUA	Susitna One	82.30	13	IAmb	IAmb	15 31 00.8		
	comp=Z,24nm,0.7s							
SUA	Susitna One	82.30	13	P	P	15 30 60.0	-1.0	
	baz=206,SNR=9.1							
J16K	Anvik River	82.34	8	P	P	15 31 00.8	-0.2	
	baz=196							
KAIM	Kayak Island	82.45	16	P	P	15 31 01.6	+0.1	
	baz=212							
ELK	Elko	82.47	43	P	P	15 31 03.2	+0.7	
	comp=Z,7.1nm,0.8s,baz=258,slow=5.6,SNR=20							
	comp=Z,7.1nm,0.8s							
CRAG	Craig	82.55	24	P	P	15 31 01.4	-0.7	
	baz=222							
GLI	Glacier Island	82.60	15	P	P	15 31 00.9	-1.5	
	baz=209,SNR=5.3							
SKT	Skwentna	82.61	12	P	P	15 31 01.1	-1.2	
	baz=205							
L20K	Farewell, AK	82.62	11	P	P	15 31 01.9	-0.6	
	baz=203							
EYAK	Cordova Ski Ar	82.64	15	P	P	15 31 02.1	-0.4	
	baz=211							
J17K	VABM Dome	82.65	8	IAmb	IAmb	15 31 03.5		
	comp=Z,13nm,0.7s							
J17K	VABM Dome	82.65	8	P	P	15 31 01.8	-0.7	
	baz=198							
TTA	Tatalina	82.67	10	IAmb	IAmb	15 31 03.6		
	comp=Z,19nm,1.0s							
TTA	Tatalina	82.67	10	P	P	15 31 01.8	-0.9	
	baz=201,SNR=15							
TTA	Tatalina	82.67	10	P	P	15 31 02.6	-0.2	
G08A	Pilot Rock	82.68	38	IAmb	IAmb	15 31 05.0		
	comp=Z,25nm,1.4s							
M22K	Willow	82.69	13	P	P	15 31 01.9	-0.8	
	baz=206,SNR=12							
KNK	Knik Glacier	82.75	14	IAmb	IAmb	15 31 03.3		
	comp=Z,18nm,0.8s							
KNK	Knik Glacier	82.75	14	P	P	15 31 02.2	-0.9	
	baz=208,SNR=5.3							
PKCU	Pink Cliffs	82.76	47	IAmb	IAmb	15 31 07.1		
	comp=Z,18nm,0.9s							
PMR	Palmer	82.76	13	IAmb	IAmb	15 31 03.2		
	comp=Z,44nm,1.4s							
PMR	Palmer	82.76	13	P	P	15 31 02.0	-1.1	
	baz=207,SNR=5.5							
DUN6	Lazy B Ranch	82.79	52	IAmb	IAmb	15 31 07.0		
	comp=Z,36nm,1.1s							
E07A	Sunnyside	82.91	36	IAmb	IAmb	15 31 06.0		
	comp=Z,16nm,0.9s							
I17K	Unalakleet	82.91	8	P	P	15 31 03.2	-0.6	
	baz=196							
SIT	Sitka	82.94	22	P	P	15 31 04.1	0.0	
	baz=220							
HAWA	Hanford	82.99	36	IAmb	IAmb	15 31 06.4		
	comp=Z,16nm,1.0s							
V35K	Ketchikan	83.04	25	P	P	15 31 04.6	0.0	
	baz=224							
IPM	Ipoh	83.06	277	P	P	15 31 05.7	-0.1	
J18K	Innoko River	83.06	9	P	P	15 31 04.3	-0.4	
	baz=200							
ANM	Nome	83.07	5	P	P	15 31 04.2	-0.4	
	baz=192							
SML	Sawmill	83.13	14	P	P	15 31 04.3	-0.8	
	baz=208							
M23K	Glacier View	83.25	14	P	P	15 31 05.0	-0.7	
	baz=209							
BMRM	Bremner River	83.29	16	P	P	15 31 05.0	-0.9	
	baz=212,SNR=6.5							
E08A	Dider Farm, El	83.32	36	IAmb	IAmb	15 31 07.9		
	comp=Z,8.3nm,0.7s							
MESA	MESA	83.33	17	P	P	15 31 05.7	-0.6	
	baz=214							
SCM	Sheep Creek Mo	83.38	14	P	P	15 31 05.2	-1.1	
	baz=209,SNR=12							
K20K	Telida	83.40	11	P	P	15 31 05.8	-0.5	
	baz=203							
KLU	Klutina	83.41	15	P	P	15 31 06.0	-0.5	
	baz=210							
H16K	Elim	83.46	7	P	P	15 31 06.2	-0.3	
	baz=195,SNR=22							
HEH	HeiHe	83.50	328	eP	P	15 31 06.4	-0.6	
HEH				pmax	pmax			
	comp=Z,11nm,0.6s							
S32K	Killisnoo	83.52	22	P	P	15 31 06.8	-0.1	
	baz=221							
WRAK	Wrangell Islan	83.55	23	P	P	15 31 06.8	-0.3	
	baz=223							
G15K	Niukluk	83.62	6	P	P	15 31 06.8	-0.5	
	baz=193							
D08A	Wollman Farm,	83.72	36	IAmb	IAmb	15 31 10.0		
	comp=Z,14nm,1.0s							
J19K	Poorman	83.73	10	P	P	15 31 07.5	-0.4	
	baz=201							
PINM	Pinnacle	83.75	18	P	P	15 31 07.6	-0.6	
	baz=216							
121A	Cookes Peak, D	83.77	53	P	P	15 31 07.7	-1.3	
	baz=244							
VRDI	Verde Repeater	83.81	16	IAmb	IAmb	15 31 08.5		
	comp=Z,17nm,0.8s							
N25K	Chitina, Valde	83.84	15	P	P	15 31 08.0	-0.6	
	baz=212,SNR=13							
E09A	Wood Farm, Sta	83.85	37	IAmb	IAmb	15 31 10.3		
	comp=Z,17nm,1.4s							
TNA	Tin City	83.86	4	IAmb	IAmb	15 31 09.1		
	comp=Z,16nm,1.1s							
TNA	Tin City	83.86	4	P	P	15 31 07.9	-0.5	
	baz=190							
M24K	Tolsona, Glenn	83.89	14	P	P	15 31 08.0	-0.8	
	baz=210,SNR=7.2							
F14K	Arctic Creek	83.89	5	P	P	15 31 08.0	-0.6	
	baz=191							
H17K	Granite Mounta	84.02	8	P	P	15 31 08.7	-0.6	
	baz=197							
J20K	Nowinta River	84.14	10	IAmb	IAmb	15 31 10.4		
	comp=Z,15nm,0.7s							
J20K	Nowinta River	84.14	10	P	P	15 31 09.4	-0.5	
	baz=203,SNR=14							
R32K	Eaglecrest	84.15	21	P	P	15 31 09.1	-1.0	
	baz=221							
KTH	Kantishna Hill	84.15	12	IAmb	IAmb	15 31 10.0		
	comp=Z,18nm,0.8s							
G16K	Koyuk River	84.18	6	P	P	15 31 09.3	-0.7	
	baz=195							
TRF	Thorofare Moun	84.18	12	P	P	15 31 09.1	-1.2	
	baz=206,SNR=26							
SEY	Seymchan	84.21	347	P	P	15 31 09.3	-0.9	
	comp=Z,26nm,0.8s,baz=143,slow=6.1,SNR=129							
	comp=Z,26nm,0.8s							
B08A	Colville Reser	84.24	35	IAmb	IAmb	15 31 11.6		
	comp=Z,16nm,0.9s							
GCSA	Galena City Sc	84.25	9	P	P	15 31 10.0	-0.4	
	baz=200,SNR=5.0							
LLLB	Lillooet	84.25	32	IAmb	IAmb	15 31 11.6		
	comp=Z,10nm,0.8s							
F15K	North Star Dit	84.26	5	P	P	15 31 09.7	-0.8	
	baz=193							
O28M	Mount Upton	84.32	18	P	P	15 31 10.7	-0.6	
	baz=216							
HARP	HAARP	84.38	15	P	P	15 31 10.6	-0.5	
	baz=211,SNR=5.9							
O29M	Mount Kennedy	84.42	18	P	P	15 31 11.0	-0.6	
	baz=217							
H18K	Honhosa River	84.42	8	P	P	15 31 10.6	-0.7	
	baz=199							
BJI	Beijing	84.43	315	P	P	15 31 11.6	-0.3	
BJI				pmax	pmax			
	comp=Z,7.0nm,1.2s							
BJI				pmax	pmax			
	comp=Z,56nm,4.1s							
PLBC	Pleasant Camp	84.44	20	P	P	15 31 10.9	-0.5	
	baz=219							
G17K	Kiwalik Mounta	84.47	7	P	P	15 31 10.1	-1.3	
	baz=196							
LYN	LuoYang	84.49	309	P	P	15 31 12.3	0.0	
LYN				pmax	pmax			
	comp=Z,57nm,0.8s							
C09A	Chrisman Ranch	84.50	36	IAmb	IAmb	15 31 12.9		
	comp=Z,13nm,0.9s							
BPAW	Bear Paw Mtn.	84.64	11	P	P	15 31 11.4	-1.0	
	baz=206							
I20K	Naaghedeneel	84.66	10	P	P	15 31 11.4	-1.0	
	baz=202							
MCK	McKinley	84.71	12	P	P	15 31 11.8	-0.9	
MCK	McKinley	84.71	12	P	P	15 31 11.8	-0.9	
	baz=208,SNR=18							
P30M	Million Dollar	84.77	19	P	P	15 31 13.0	-0.2	
	baz=219							
SKAG	Skagway	84.78	20	IAmb	IAmb	15 31 14.8		
	comp=Z,23nm,1.2s							
SKAG	Skagway	84.78	20	P	P	15 31 13.2	+0.1	
	baz=220							
PAX	Paxson	84.80	14	IAmb	IAmb	15 31 13.1		
	comp=Z,9.8nm,0.9s							
PAX	Paxson	84.80	14	P	P	15 31 12.5	-0.8	
	baz=211,SNR=5.7							
YUK8	Steele Glacier	84.86	17	P	P	15 31 13.3	-0.5	
	baz=216,SNR=6.8							
M26K	Nabesna, AK	84.92	15	P	P	15 31 13.3	-0.5	
	baz=213							
YUK6	Outpost Mounta	84.99	18	P	P	15 31 14.0	-0.5	
	baz=217							
H19K	Roundabout Mou	85.05	9	P	P	15 31 13.2	-1.1	
	baz=200							
YUK3	Moose Creek	85.07	17	P	P	15 31 13.6	-1.1	
	baz=215,SNR=14							
S34M	Telegraph Cree	85.09	23	IAmb	IAmb	15 31 16.2		
	comp=Z,16nm,0.8s							
S34M	Telegraph Cree	85.09	23	P	P	15 31 14.9	+0.3	
	baz=224							
G18K	Tagagawik	85.09	8	P	P	15 31 13.4	-1.1	
	baz=198,SNR=5.8							
HYT	Haines Junctio	85.15	19	IAmb	IAmb	15 31 15.6		
	comp=Z,12nm,1.0s							
HYT	Haines Junctio	85.15	19	P	P	15 31 15.1	0.0	
	baz=218							
M27K	Edge Creek, AK	85.17	16	P	P	15 31 14.4	-0.7	
	baz=214,SNR=10							
MENT	Mentasta	85.19	15	IAmb	IAmb	15 31 15.2		
	comp=Z,8.2nm,0.8s							
YUK4	Talbot Arm	85.23	18	P	P	15 31 15.8	+0.3	
	baz=217							
H20K	Anotleneega Mo	85.25	9	P	P	15 31 14.8	-0.4	
	baz=202							
F17K	Baldwin Pennin	85.31	7	P	P	15 31 14.6	-0.9	
	baz=196							
GSI	Gunungsitoli	85.33	273	P	P	15 31 15.6	-1.3	
NEW	Newport	85.41	36	P	P	15 31 16.5	+0.1	
	comp=Z,3.6nm,0.7s,baz=198,slow=3.2,SNR=4.8							
	comp=Z,3.6nm,0.7s							
P32M	Atlin	85.41	21	P	P	15 31 15.7	-0.5	
	baz=222							
I21K	Tanana	85.44	11	P	P	15 31 15.8	-0.3	
	baz=205							
Q32M	Nakina River	85.44	22	P	P	15 31 15.4	-1.2	
	baz=223							
K24K	Donnelly Dome	85.45	14	P	P	15 31 16.0	-0.3	
	baz=210,SNR=14							
NEA2	Nenana	85.45	12	P	P	15 31 14.7	-1.6	
	baz=207							
BVCY	Beaver Creek	85.48	16	P	P	15 31 16.2	-0.3	
	baz=215,SNR=14							
G19K	Purcell Mounta	85.54	8	P	P	15 31 15.8	-0.9	
	baz=200							
O30N	Mendenhall	85.55	19	IAmb	IAmb	15 31 18.0		
	comp=Z,12nm,0.8s							
O30N	Mendenhall	85.55	19	P	P	15 31 16.6	-0.2	
	baz=219,SNR=5.2							
RIDG	Independent Ri	85.61	14	IAmb	IAmb	15 31 17.4		
	comp=Z,19nm,1.0s							
RIDG	Independent Ri	85.61	14	P	P	15 31 16.4	-0.6	
	baz=211,SNR=7.5							
F18K	Selawik	85.65	7	P	P	15 31 15.9	-1.1	
	baz=197							
TX31	Lajitas Ar. Si	85.65	57	IAmb	IAmb	15 31 21.1		
	comp=Z,16nm,0.9s							
TXAR	Lajitas Array	85.65	57	P	P	15 31 19.0	+0.9	
TXAR	Lajitas Array	85.65	57	P	P	15 31 20.0	+1.8	
	comp=Z,9.1nm,0.7s,baz=220,slow=6.1,SNR=97							
	comp=Z,9.1nm,0.7s							
GYA	Guiyang	85.72	299	P	P	15 31 18.6	0.0	
GYA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
HDA	Harding Lake	85.72	13	IAmb	IAmb	15 31 17.4		
	comp=Z,15nm,0.7s							
HDA	Harding Lake	85.72	13	P	P	15 31 16.6	-1.0	
	baz=209,SNR=15							
SRIT	Nakonsritamara	85.73	280	IAmb	IAmb	15 31 20.5		
	comp=

comp=Z,5.8nm,0.5s,baz=220,slow=4.7,SNR=179
ILAR PP **PP** 15 34 54.2 +3.0
comp=Z,0.4nm,1.0s,baz=218,slow=7.8,SNR=4.6
ILAR PKiKP **PKiKP** 15 36 20.9 -1.6
comp=Z,0.2nm,0.6s,baz=257,slow=3.3,SNR=5.2
comp=Z,5.8nm,0.5s
ALPN Alpine 86.09 56 IAmb IAmb 15 31 22.7
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 86.10 8 P **P** **15 31 18.7 -0.5**
baz=199
M29M Somme Creek 86.16 17 IAmb IAmb 15 31 20.2
comp=Z,9.3nm,0.8s
M29M Somme Creek 86.16 17 P **P** **15 31 19.5 -0.3**
baz=217,SNR=8.0
P33M Teslin, Yukon 86.18 21 P **P** **15 31 19.5 -0.4**
baz=222
H22K Ishtalitna Cre 86.19 11 P **P** **15 31 18.5 -1.2**
baz=205
N31M Braeburn, Yuko 86.19 19 P **P** **15 31 19.3 -0.6**
baz=220
R33M Jennings River 86.22 22 IAmb IAmb 15 31 22.4
comp=Z,11nm,1.1s
R33M Jennings River 86.22 22 P **P** **15 31 19.1 -1.1**
baz=224
J25K Salcha River, 86.24 13 IAmb IAmb 15 31 19.7
comp=Z,8.4nm,0.7s
J25K Salcha River, 86.24 13 P **P** **15 31 19.3 -0.8**
baz=211
POKR Poker Plat Res 86.24 12 IAmb IAmb 15 31 19.4
comp=Z,15nm,0.7s
POKR Poker Plat Res 86.24 12 P **P** **15 31 19.0 -1.0**
baz=209,SNR=5.7
E18K Tukpahlearik C 86.33 7 IAmb IAmb 15 31 20.6
comp=Z,8.9nm,0.8s
E18K Tukpahlearik C 86.33 7 P **P** **15 31 19.4 -1.0**
baz=196
D17K Noatak River 86.35 6 P **P** **15 31 20.2 -0.2**
baz=194
XLT XiLinHaoTe 86.38 319 *e*P **P** **15 31 20.4 -0.9**
XLT pmax pmax
comp=Z,19nm,1.0s
XLT pmax pmax
comp=Z,110nm,4.5s
DLMT Dillon 86.50 40 IAmb IAmb 15 31 23.7
comp=Z,14nm,0.9s
J26L Joseph Creek 86.55 14 IAmb IAmb 15 31 23.2
comp=Z,15nm,0.7s
J26L Joseph Creek 86.55 14 P **P** **15 31 21.4 -0.1**
baz=212,SNR=22
F20K Avaraart Lake 86.58 8 P **P** **15 31 21.0 -0.5**
baz=201
RDOG Red Dog Mine 86.71 6 P **P** **15 31 21.3 -0.8**
baz=194
C16K Lisburne Hills 86.72 5 P **P** **15 31 20.9 -1.2**
baz=192
M30M Minto, Yukon 86.74 18 P **P** **15 31 21.8 -0.7**
baz=219,SNR=15
S22A 4UR Ranch, Cre 86.75 49 P **P** **15 31 22.9 -0.6**
baz=244
E19K Redstone River 86.76 8 P **P** **15 31 21.6 -0.7**
baz=200
L29M L29M 86.79 17 P **P** **15 31 22.1 -0.5**
baz=218
H24K Noodor Dome 86.79 12 P **P** **15 31 20.3 -2.3**
baz=208
N32M Quiet Lake 86.79 20 P **P** **15 31 22.3 -0.4**
baz=222
BILL Bilibino 86.80 354 P **P** **15 31 21.3 -1.2**
BILL IAmb IAmb 15 31 23.6
comp=Z,7.1nm,0.9s
XAN Xi'an 86.93 307 ⇑P **P** **15 31 24.4 +0.4**
XAN pmax pmax
comp=Z,42nm,1.0s
PRP Porcupine Dome 86.99 13 P **P** **15 31 22.9 -0.8**
baz=211
YHB Horse Butte 87.06 41 IAmb IAmb 15 31 27.1
comp=Z,19nm,1.0s
F21K Alatna River 87.07 9 P **P** **15 31 22.8 -1.0**
baz=203
C17K DeLong Mountai 87.10 5 P **P** **15 31 23.1 -0.8**
baz=194
YHL Hebgen Lake 87.12 41 IAmb IAmb 15 31 27.5
comp=Z,20nm,0.9s
SAND Sanderson 87.13 57 IAmb IAmb 15 31 27.1
comp=Z,10nm,1.0s
YFT Old Faithful 87.14 41 IAmb IAmb 15 31 28.1
comp=Z,13nm,1.1s
PD31 Pinedale Array 87.16 43 IAmb IAmb 15 31 26.3
comp=Z,6.3nm,0.8s
PDAR Pinedale Array 87.16 43 P **P** **15 31 24.5 -0.6**
PDAR Pinedale Array 87.16 43 P **P** **15 31 25.2 +0.1**
comp=Z,4.4nm,0.6s,baz=217,slow=3.2,SNR=46
comp=Z,4.4nm,0.6s
YMR Madison River 87.17 41 IAmb IAmb 15 31 27.6
comp=Z,14nm,0.9s
M31M Drury Creek, Y 87.17 19 IAmb IAmb 15 31 24.7
comp=Z,9.4nm,1.1s
M31M Drury Creek, Y 87.17 19 P **P** **15 31 24.1 -0.3**
baz=221,SNR=5.2
G23K Bananza Creek 87.17 11 P **P** **15 31 23.8 -0.5**
baz=206
BOZ Bozeman (W) 87.21 40 IAmb IAmb 15 31 27.1
comp=Z,11nm,1.1s
DAWY Dawson 87.22 16 IAmb IAmb 15 31 25.3
comp=Z,20nm,1.3s
DAWY Dawson 87.22 16 P **P** **15 31 24.4 -0.3**
baz=216,SNR=8.9
H17A Grant Village 87.28 41 IAmb IAmb 15 31 28.7
comp=Z,11nm,0.8s
I26K Coal Creek Min 87.33 14 P **P** **15 31 24.3 -0.8**
baz=213
EGAK Eagle 87.36 15 P **P** **15 31 24.8 -0.4**
baz=215
C18K Utukok River 87.45 6 P **P** **15 31 24.5 -1.2**
baz=196
WTLY Watson Lake, Y 87.51 22 IAmb IAmb 15 31 27.3
comp=Z,21nm,1.5s
WTLY Watson Lake, Y 87.51 22 P **P** **15 31 25.8 -0.3**
baz=226
FARO Faro, Yukon 87.51 19 P **P** **15 31 25.8 -0.3**
baz=222
K29M Barlow Dome 87.54 17 P **P** **15 31 25.5 -0.7**
baz=218
H25L Birch Creek 87.58 12 P **P** **15 31 25.6 -0.6**
baz=210
COLD Coldfoot 87.61 10 IAmb IAmb 15 31 27.1
comp=Z,16nm,0.8s
COLD Coldfoot 87.61 10 P **P** **15 31 26.3 0.0**
baz=206,SNR=22
G24K Hadweenzic Riv 87.63 12 P **P** **15 31 25.4 -1.0**
baz=209
D19K Kuna River 87.64 7 P **P** **15 31 25.8 -0.7**
baz=199
E20K Nigu River 87.65 8 P **P** **15 31 26.0 -0.6**
baz=201
MAYO Mayo, Yukon 87.80 17 P **P** **15 31 27.4 +0.1**
baz=220,SNR=5.3
J29N Klondike Camp 87.84 16 P **P** **15 31 27.8 +0.2**
baz=217,SNR=13
HHC Hu-ho-hao-te 87.92 314 *e*P **P** **15 31 27.6 -1.0**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,61nm,6.9s
YNE Yellowstone No 87.93 41 IAmb IAmb 15 31 30.9
comp=Z,14nm,1.1s
I27K Kandik River 87.93 14 P **P** **15 31 27.5 -0.5**
baz=214
FYU Fort Yukon 87.96 12 IAmb IAmb 15 31 28.2
comp=Z,10nm,0.7s
D20K Etivluk River 88.03 8 P **P** **15 31 27.6 -0.7**
baz=200
B18K Kokolik River 88.09 6 P **P** **15 31 28.2 -0.3**
baz=195
DRIO Del Rio 88.14 58 IAmb IAmb 15 31 32.0
comp=Z,17nm,0.9s
E22K Anaktuvuk Pass 88.17 9 P **P** **15 31 28.6 -0.4**
baz=205,SNR=18
I28M Miner Creek 88.20 15 P **P** **15 31 28.6 -0.7**
baz=216
T25A Trinidad 88.24 50 P **P** **15 31 30.2 -0.1**
baz=246
F24K Squaw Lake 88.28 11 P **P** **15 31 29.6 +0.1**
baz=208
OZNA Ozona 88.29 57 IAmb IAmb 15 31 32.3
comp=Z,9.3nm,0.8s
J30M Hart River 88.44 17 P **P** **15 31 30.2 -0.3**
baz=219

RLMT Red Lodge 88.44 41 IAmb IAmb 15 31 33.0
comp=Z,12nm,1.1s
E23K Chandalar 88.45 10 P **P** **15 31 29.7 -0.7**
baz=207
Q24A Divide 88.47 48 P **P** **15 31 30.8 -0.6**
baz=245
H27K Steamboat Moun 88.47 14 P **P** **15 31 30.0 -0.5**
baz=214
I29M Ogilvie Camp, 88.54 15 IAmb IAmb 15 31 30.9
comp=Z,21nm,1.4s
I29M Ogilvie Camp, 88.54 15 P **P** **15 31 29.8 -0.9**
baz=217,SNR=6.3
G26K Porcupine Rive 88.58 13 P **P** **15 31 30.9 0.0**
baz=212
E24K Your Creek 88.66 11 P **P** **15 31 30.6 -0.7**
baz=208
C21K Knifeblade Rid 88.68 8 P **P** **15 31 31.3 0.0**
baz=202
D22K Ayikyak River 88.72 9 P **P** **15 31 31.3 -0.2**
baz=204
N23A Red Feather La 88.73 46 P **P** **15 31 31.9 -0.6**
baz=245
F25K Christian Rive 88.76 12 IAmb IAmb 15 31 32.8
comp=Z,5.8nm,0.9s
F25K Christian Rive 88.76 12 P **P** **15 31 31.5 -0.3**
baz=210
POST Post 88.81 55 IAmb IAmb 15 31 34.0
comp=Z,11nm,0.8s
BMAR Burnt Mountain 88.83 12 P **P** **15 31 31.7 -0.4**
ELIB Princess Elisa 88.92 186 *d*P **P** **15 31 32.5 -0.2**
G27K Doyon Strip 88.92 14 P **P** **15 31 32.2 -0.4**
baz=214
I30M Mount Dempster 88.93 16 IAmb IAmb 15 31 33.2
comp=Z,16nm,1.1s
I30M Mount Dempster 88.93 16 P **P** **15 31 32.0 -0.7**
baz=219,SNR=12
TOLK Toolik Lake Re 88.98 10 IAmb IAmb 15 31 33.2
comp=Z,5.9nm,0.8s
TOLK Toolik Lake Re 88.98 10 P **P** **15 31 31.9 -0.9**
baz=207,SNR=6.1
D23K Nanushuk River 89.10 9 P **P** **15 31 32.9 -0.4**
baz=206
B21K Ikpikpuk River 89.14 8 P **P** **15 31 33.0 -0.3**
baz=202
F26K Sheenjek River 89.15 12 P **P** **15 31 33.1 -0.4**
baz=212
H29M Whitestone 89.21 15 P **P** **15 31 33.2 -0.7**
baz=217
E25K Arctic Village 89.23 12 IAmb IAmb 15 31 34.8
comp=Z,5.9nm,0.9s
E25K Arctic Village 89.23 12 P **P** **15 31 33.8 -0.1**
baz=210,SNR=8.0
HNDO Hondo 89.26 59 IAmb IAmb 15 31 37.5
comp=Z,12nm,0.9s
KOTAN Kotaneelee Air 89.28 24 P **P** **15 31 33.9 -0.4**
baz=230
CM31 Chiang Mai Arr 89.56 289 IAmb IAmb 15 31 37.8
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 89.56 289 P **P** **15 31 35.4 -1.2**
CMAR Chiang Mai Arr 89.56 289 P **P** **15 31 36.8 +0.2**
comp=Z,6.2nm,0.9s,baz=109,slow=2.8,SNR=50
comp=Z,6.2nm,0.9s
D24K Happy Valley 89.57 10 P **P** **15 31 34.8 -0.6**
baz=208
CHTO Chiang Mai 89.68 290 P **P** **15 31 36.5 -0.6**
CHTO IAmb IAmb 15 31 37.9
comp=Z,8.7nm,0.7s
EPYK Eagle Plains 89.74 15 P **P** **15 31 35.7 -0.7**
baz=219
CD2 Chengdu 89.75 303 P **P** **15 31 37.4 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
PZH PanZhiHua 89.84 298 P **P** **15 31 37.6 -0.2**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,80nm,5.0s
G29M Pine Creek 89.85 15 P **P** **15 31 36.4 -0.4**
baz=218
C23K Itkillik River 89.90 9 P **P** **15 31 36.5 -0.4**
baz=206
H31M Peel River 89.92 16 IAmb IAmb 15 31 37.3
comp=Z,7.2nm,0.8s
H31M Peel River 89.92 16 P **P** **15 31 36.7 -0.5**
baz=221
B22K Teshekpuk Lake 89.96 8 P **P** **15 31 36.4 -0.8**
baz=203
APMT Aspermont 89.98 55 IAmb IAmb 15 31 39.5
comp=Z,9.1nm,0.8s
F28M Old Crow 89.99 14 IAmb IAmb 15 31 37.9
comp=Z,7.6nm,1.1s
F28M Old Crow 89.99 14 P **P** **15 31 36.7 -0.7**
baz=216,SNR=6.2
C24K Franklin Bluff 90.09 10 P **P** **15 31 37.7 -0.1**
baz=208
D25K Kavik River 90.13 11 P **P** **15 31 36.4 -1.7**
baz=210
G30M tAoh Zraii Nji 90.34 15 P **P** **15 31 38.0 -1.1**
baz=219,SNR=19
A21K Barrow 90.49 7 P **P** **15 31 38.8 -0.8**
baz=200
G31M Satah River 90.79 16 P **P** **15 31 40.4 -0.7**
baz=221
E28M Babbage River 90.87 13 P **P** **15 31 40.6 -0.8**
baz=216
C27K Jago River 90.88 11 P **P** **15 31 40.9 -0.6**
baz=212
C26K Camden Bay 90.91 11 P **P** **15 31 41.3 -0.2**
baz=211
F30M Barrier River 90.94 15 P **P** **15 31 41.4 -0.4**
baz=220
D27M Malcolm River 91.09 12 P **P** **15 31 42.1 -0.5**
baz=215
F31M Tsiigehtchic 91.32 16 P **P** **15 31 42.5 -0.9**
baz=221,SNR=24
RSSD Black Hills 91.37 44 P **P** **15 31 44.0 -0.6**
RSSD IAmb IAmb 15 31 45.6
comp=Z,6.1nm,0.8s
LZH Lanzhou 91.56 307 *e*P **P** **15 31 45.7 +0.1**
LZH sP sP 15 34 49.4 -5.3
LZH S **SKKSac** **15 41 37.7 -3.0**
LZH pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 92.02 15 P **P** **15 31 45.8 -0.9**
baz=222,SNR=15
ULN Ulaanbaatar 93.78 319 P **P** **15 31 53.8 -1.7**
ULN IAmb IAmb 15 31 55.5
comp=Z,4.8nm,0.9s
SONM Songino Array 94.18 319 P **P** **15 31 55.5 -1.7**
SONM Songino Array 94.18 319 P **P** **15 31 56.2 -1.1**
comp=Z,1.8nm,1.1s,baz=135,slow=3.7,SNR=7.5
comp=Z,1.8nm,1.1s
YKA Yellowknife Ar 94.36 25 P **P** **15 31 57.0 -0.5**
comp=Z,2.0nm,0.7s,baz=243,slow=4.7,SNR=31
comp=Z,2.0nm,0.7s
C36M Paulatuk 95.22 17 P **P** **15 32 00.5 -0.8**
baz=230
GTA Gaotai 95.70 309 *e*P **P** **15 32 04.1 -0.2**
GTA pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 96.61 345 P **P** **15 32 05.5 -1.9**
TIXI IAmb IAmb 15 32 40.7
comp=Z,5.0nm,0.8s
A36M Sachs Harbour 96.63 14 P **P** **15 32 06.8 -0.7**
baz=230
NRIK Noril'sk 108.54 338 PKiKP **PKiKP** **15 37 00.9 -1.3**
comp=Z,0.7nm,0.5s,baz=271,slow=1.1,SNR=3.9
ZALV Zalesovo Beam 108.85 322 PKiKP **PKiKP** **15 37 01.0 -2.2**
comp=Z,1.6nm,0.6s,baz=135,slow=2.3,SNR=7.7
MKAR Makanchi Array 109.79 314 Pdiff **Pdif** **15 33 06.0 -0.7**
comp=Z,0.2nm,0.6s,baz=89,slow=6.5,SNR=4.7
MKAR PKiKP **PKiKP** **15 37 03.1 -2.1**
comp=Z,1.3nm,0.4s,baz=108,slow=0.6,SNR=39
KURBB Kurchatov Arra 112.52 318 PKiKP **PKiKP** **15 37 08.0 -2.2**
comp=Z,1.5nm,0.5s,baz=90,slow=1.9,SNR=16
BVAR Borovoye Array 117.47 321 PKP **PKPdf** **15 37 18.0 -1.7**
comp=Z,3.9nm,0.4s,baz=114,slow=2.4,SNR=29
BRVK Borovoye 117.53 321 **PKPdf** **15 37 17.9 -1.9**
KKAR Karatay Array 117.98 310 **PKPdf** **15 37 19.3 -1.7**
KBL Kabul 118.97 300 **PKPdf** **15 37 22.2 -1.3**
SIMJ Simiganj 119.13 305 **PKPdf** **15 37 21.8 -1.7**
ARTI Arti 123.55 326 **PKPdf** **15 37 29.9 -1.4**
ABKAR Akbulak array 124.57 318 **PKPdf** **15 37 31.9 -1.6**
ARCES ARCESS Array B 126.72 350 PKP **PKPdf** **15 37 35.9 -1.1**
comp=Z,2.6nm,0.4s,baz=100,slow=1.2,SNR=33
FINES FINESS Array B 133.65 344 PKhKP PKPpre 15 37 41.2
comp=Z,1.5nm,0.7s,baz=177,slow=3.8,SNR=5.9

FINES PKP **PKPdf** **15 37 49.0 -1.3**
comp=Z,5.3nm,0.7s,baz=105,slow=2.4,SNR=13
NB2 NORSAR Subarra 136.75 354 PKP PKPpre 15 37 45.6
comp=Z,1.8nm,0.7s,baz=21,slow=3.7
NOA NORSAR Array B 136.75 354 PKP **PKPdf** **15 37 56.5 +0.4**
comp=Z,1.1nm,0.7s,baz=7.0,slow=4.0,SNR=7.2
HFS Hagfors 137.33 352 PKhKP PKPpre 15 37 43.7
comp=Z,1.9nm,0.4s,baz=36,slow=2.8,SNR=11
KBZ Khabaz 137.45 316 PKP **PKPdf** **15 37 59.1 +1.2**
comp=Z,2.1nm,0.9s,baz=38,slow=2.7,SNR=6.7
AKASG Malin Array Be 141.11 333 PKhKP PKPpre 15 37 57.5
comp=Z,2.6nm,0.4s,baz=43,slow=4.2,SNR=44
AKASG PKP **PKPdf** **15 38 05.5 +1.1**
comp=Z,6.6nm,0.6s,baz=40,slow=3.0,SNR=12
AKBB Malin Array Si 141.11 333 PKP PKPpre 15 37 57.2
KIEV Kiev 141.13 333 PKPpre 15 37 57.1
KIEV Kiev 141.13 333 ⇓P PKPdf 15 37 57.4 -7.0
MI28 Mi28,Pidlybu 141.61 334 PKP **PKPdf** **15 37 59.4 -5.8**
RNPP8 Varash 142.03 336 PKP **PKPdf** **15 38 01.7 -4.2**
RNPP5 Staryi Chortor 142.10 336 PKP **PKPdf** **15 38 01.8 -4.3**
LUBAR Lubar, Ukraine 142.33 333 PKP **PKPdf** **15 38 01.5 -5.0**
EKA Eskdalemuir Ar 142.72 5 PKhKP PKPpre 15 38 03.1
comp=Z,4.8nm,0.6s,baz=324,slow=2.5,SNR=22
GKP Gorka Klasztor 143.12 345 *e*PKP PKPab 15 38 05.4 -0.3
SORM Soroca 143.36 330 ⇓P PKPab 15 38 05.3 -1.5
BEL Belsk 143.40 341 *e*PKP PKPab 15 38 06.7 -0.2
DIKM Dikmen 143.41 317 ⇑P PKPab 15 38 06.3 -1.0
PURM Purcari 143.72 327 ⇑P PKPab 15 38 07.1 -1.2
BSEG Bad Segeberg 143.81 352 *e*PKPbc PKPbc 15 38 07.5 -0.7
baz=15,slow=2.7
KMPD K-Podol'skiy 143.91 332 PKP PKPbc 15 38 06.9 -1.8
MILM Milestii Mici 143.99 329 ⇑P PKPbc 15 38 06.7 -2.4
BZK Bozkurt 144.06 318 ⇓P PKPbc 15 38 09.1 -0.4
DSB Dublin 144.41 9 **PKPdf** **15 38 09.3 -0.8**
GORT1 Trebel 144.58 351 *e*PKPbc **PKPdf** **15 38 10.1 -0.2**
baz=15,slow=2.7
RUE Ruedersdorf 144.63 348 *e*PKPbc **PKPdf** **15 38 10.2 -0.2**
baz=15,slow=2.7
CIDE Kastamonu/Cide 144.77 319 ⇓P **PKPdf** **15 38 11.0 0.0**
VLDR Vladesti 145.10 328 ⇓P **PKPdf** **15 38 12.4 +1.0**
RETH Rethem/Aller, 145.10 352 *e*PKPbc **PKPdf** **15 38 11.8 +0.6**
baz=15,slow=2.7
OJC Ojcow 145.11 340 *e*PKP **PKPdf** **15 38 11.4 0.0**
TLCR 145.17 326 ⇑P **PKPdf** **15 38 12.3 +0.7**
BURAR Bucovina Array 145.17 332 ⇓P **PKPdf** **15 38 12.3 +0.6**
FLTG Flechtingen 145.23 350 *e*PKPbc **PKPdf** **15 38 11.7 +0.2**
baz=15,slow=2.7
NRDL Niedersach Rie 145.24 352 *e*PKPbc **PKPdf** **15 38 12.1 +0.7**
baz=15,slow=2.7
SCTR Scanteiesti 145.26 328 ⇓P **PKPdf** **15 38 12.4 +0.7**
TATR Tatarca 145.28 328 ⇑P **PKPdf** **15 38 11.8 0.0**
STHS Stebnicka Huta 145.31 338 *e*PKP **PKPdf** **15 38 12.0 +0.2**
KOLS Kolonicke sedl 145.33 337 *e*PKP **PKPdf** **15 38 12.9 +1.1**
KOLS *e* 15 38 18.5
JURR Jurilovca 145.41 326 ⇑P **PKPdf** **15 38 12.1 +0.1**
BR131 Keskin Array S 145.43 315 **PKPdf** **15 38 12.5 0.0**
BRTR Keskin Array B 145.43 315 **PKPdf** **15 38 10.6 -1.8**
BRTR Keskin Array B 145.43 315 PKPbc **PKPdf** **15 38 12.6 +0.2**
comp=Z,14nm,0.8s,baz=64,slow=2.9,SNR=71
IZVR Izvoarele 145.47 328 ⇓P **PKPdf** **15 38 13.3 +1.2**
KIRS Kirsehir-Merke 145.53 314 ⇑P **PKPdf** **15 38 13.4 +0.9**
CFR Carcaliu 145.53 327 ⇑P **PKPdf** **15 38 12.8 +0.6**
PANC Panciu 145.55 329 ⇑P **PKPdf** **15 38 13.6 +1.4**
KSP Ksiaz 145.57 344 *e*PKP **PKPdf** **15 38 13.6 +1.5**
ONER Baraj Valea Uz 145.58 330 ⇓P **PKPdf** **15 38 13.3 +1.0**
TPGR Topolog 145.59 326 ⇑P **PKPdf** **15 38 13.3 +0.9**
ODBI Odobesti 145.67 329 ⇓P **PKPdf** **15 38 14.6 +2.2**
VRI Vrincioaia 145.76 329 ⇑P **PKPdf** **15 38 11.5 -1.1**
PLOR Plostina 145.81 329 ⇑P **PKPdf** **15 38 13.2 +0.4**
CLZ Clausthal 145.84 351 *e*PKPbc **PKPdf** **15 38 14.1 +1.5**
baz=15,slow=2.7
OSTC Ostas 145.86 344 *e*PKP **PKPdf** **15 38 14.6 +1.9**
BMR Baia Mare 145.86 334 ⇑P **PKPdf** **15 38 14.2 +1.4**
TIRR Tirgusor 145.86 326 ⇑P **PKPdf** **15 38 13.8 +1.0**
CHVC Chvalec 145.87 344 *e*PKP **PKPdf** **15 38 14.5 +1.8**
CLL Collm 145.90 348 *i* PKPbc **PKPdf** **15 38 14.0 +1.3**
comp=Z,65nm,0.7s
CLL *e*pPKPdf **pPKPdf** **15 40 36.0 +5.2**
CLL Collm 145.90 348 *e*PKPbc **PKPdf** **15 38 14.0 +1.3**
baz=15,slow=2.7
ARCR ARCALIA 145.95 333 ⇑P **PKPdf** **15 38 14.6 +1.7**
UPC Upice 145.95 344 *e*PKP **PKPdf** **15 38 14.7 +1.9**
OKC Ostrava-Krasne 145.96 342 *e*PKP **PKPdf** **15 38 14.5 +1.7**
HARR Harsova 145.96 326 ⇓P **PKPdf** **15 38 14.6 +1.7**
TLBR Topalu 146.00 326 ⇑P **PKPdf** **15 38 14.1 +1.1**
DPC Dobruska-Polom 146.02 344 *e*PKP **PKPdf** **15 38 15.1 +2.1**
COVR Voineasa-Covas 146.03 329 ⇓P **PKPdf** **15 38 14.1 +1.0**
OZUR 146.04 330 ⇑P **PKPdf** **15 38 14.3 +1.2**
MFTR Murfatlar 146.04 325 ⇓P **PKPdf** **15 38 14.5 +1.4**
BRG Berggiesshubel 146.11 347 ⇓*i*PKP **PKPdf** **15 38 14.8 +1.7**
BRG Amp 15 38 15.6
comp=Z,26nm,0.8s
BRG Berggiesshubel 146.11 347 P **PKPbc** **15 38 16.8 +1.6**
BRG Amp 15 38 17.4
comp=Z,15nm,0.8s
BRG Berggiesshubel 146.11 347 *e*PKPbc **PKPdf** **15 38 14.7 +1.7**
baz=15,slow=2.7
KRLC Kraliky 146.14 343 *e*PKP **PKPdf** **15 38 15.2 +2.0**
LANS Liptovska Anna 146.14 340 *e*PKP **PKPdf** **15 38 15.8 +2.6**
GTTG Gottingen 146.19 351 *e*PKPbc **PKPdf** **15 38 15.0 +1.9**
baz=15,slow=2.7
MANR Mangalia 146.19 325 ⇓P **PKPdf** **15 38 15.0 +1.6**
MORC Moravsky Berou 146.19 342 PKPdf **PKPdf** **15 38 12.5 -0.8**
MORC Moravsky Berou 146.19 342 *e*PKP **PKPdf** **15 38 14.8 +1.5**
MORC Moravsky Berou 146.19 342 ⇓P **PKPdf** **15 38 13.2 -0.1**
NEUB Neuenburg 146.22 349 *e*PKPbc **PKPdf** **15 38 15.0 +1.8**
baz=15,slow=2.7
NEHR Nehoiu 146.28 329 ⇑P **PKPdf** **15 38 15.6 +2.0**
PVCC Panska Ves 146.29 346 *e*PKP **PKPdf** **15 38 15.7 +2.4**
DOPR Dopca 146.33 330 ⇓P **PKPdf** **15 38 16.0 +2.4**
AMRR Amara 146.33 327 ⇑P **PKPdf** **15 38 14.6 +1.1**
MLR Muntele Rosu 146.41 329 ⇑P **PKPdf** **15 38 15.6 +1.7**
HSKC Hora Svate Kat 146.47 347 *e*PKP **PKPdf** **15 38 15.9 +2.2**
MESR Meseseni 146.50 334 ⇑P **PKPdf** **15 38 15.7 +1.9**
CJR Cluj-Napoca 146.57 333 ⇑P **PKPdf** **15 38 16.0 +1.9**
KASTN Kahler Asten 146.72 353 *e*PKPbc **PKPdf** **15 38 16.3 +2.2**
baz=15,slow=2.7
KASTN *e*PKPab **PKPbc** **15 38 18.7 +1.8**
baz=15,slow=4.1
PRA Prague 146.75 346 *e*PKP **PKPdf** **15 38 16.7 +2.6**
MOX Moxa 146.79 349 *e*PKPbc **PKPdf** **15 38 16.5 +2.3**
baz=15,slow=2.7
MOX *e*PKPab **PKPbc** **15 38 19.0 +1.9**
baz=15,slow=4.1
PRU Pruhonice 146.80 345 *e*PKP **PKPdf** **15 38 16.8 +2.6**
MARR Marisel-Cluj 146.80 333 ⇓P **PKPdf** **15 38 16.7 +2.2**
GOPC GO Pecny, Ondr 146.81 345 *e*PKP **PKPdf** **15 38 16.8 +2.5**
MMAI Mount Meron Ar 146.82 303 PKPbc **PKPdf** **15 38 17.4 +2.6**
comp=Z,24nm,0.7s,baz=64,slow=5.7,SNR=28
PLN Plauen 146.84 348 *e*PKPbc **PKPdf** **15 38 16.7 +2.4**
baz=15,slow=2.7
PLN *e*PKPab **PKPbc** **15 38 19.4 +2.2**
baz=15,slow=4.1
TANN Tannenbergstha 146.85 348 *e*PKPbc **PKPdf** **15 38 16.8 +2.4**
baz=15,slow=2.7
VOIR 146.88 330 ⇓P **PKPdf** **15 38 15.3 +0.7**
DRGR 146.88 334 ⇓P **PKPdf** **15 38 16.7 +2.1**
VRAC Vranov 146.89 343 *e*PKP **PKPdf** **15 38 17.1 +2.7**
VRAC *e* 15 38 20.4
VRAC Vranov 146.89 343 ⇑P **PKPdf** **15 38 17.0 +2.6**
UBBA Unterbreizbach 146.89 351 *e*PKPbc **PKPdf** **15 38 16.7 +2.5**
baz=15,slow=2.7
UBBA *e*PKPab **PKiKP** **15 38 20.0 +1.0**
baz=15,slow=4.1
VYHS Vyhne 146.92 340 *e*PKP **PKPdf** **15 38 17.3 +2.8**
JAVC Velka Javorina 146.97 341 *e*PKP **PKPbc** **15 38 18.2 +0.5**
JAVC *e* 15 38 21.7
NKC Novy Kostel 147.03 348 *e*PKP **PKPdf** **15 38 17.1 +2.5**
PSZ Piszkesteto 147.05 338 ⇑P **PKPdf** **15 38 16.2 +1.4**
ARR Arges 147.13 330 ⇑P **PKPdf** **15 38 14.7 -0.3**
KRUC Moravsky 147.17 343 *e*PKP **PKPdf** **15 38 17.4 +2.5**
KRUC *e* 15 38 21.4
TREC Trest 147.20 344 *e*PKP **PKPdf** **15 38 15.3 +0.4**
MANZ Manzenberg 147.33 348 *e*PKPbc **PKPdf** **15 38 18.1 +3.0**
baz=15,slow=2.7
ZVC Zvikov 147.39 345 *e*PKP **PKPdf** **15 38 18.4 +3.2**
BORA Eskisehir 147.45 317 **PKPdf** **15 38 17.8 +2.1**
ROTZ Rotzenmuhle 147.52 348 *e*PKPbc **PKPdf** **15 38 18.6 +3.2**
baz=15,slow=2.7
ROTZ *e*PKPab **PKiKP** **15 38 22.5 +2.0**
baz=15,slow=4.1
MODS Modra-Piesok 147.52 341 *e*PKP **PKPbc** **15 38 19.4 +0.3**
MEM Membach 147.54 356 *d*PKP **PKPdf** **15 38 18.0 +2.6**

BTNL Ternell 147.56 355 *d*PKiKP **PKPdf** 15 38 18.6 +3.1
BSTI Sart Tilman 147.60 356 *d*PKiKP **PKPdf** 15 38 18.9 +3.4
TNS Taunus Mts 147.68 353 *e*PKPbc **PKPdf** 15 38 18.9 +3.2
baz=15,slow=2.7
TNS *e*PKPab **PKiKP** 15 38 23.4 +2.5
baz=15,slow=4.1
SIRR Siria 147.74 334 ⇓P **PKPdf** 15 38 18.4 +2.5
CSS Mathiatis 147.75 307 **PKPdf** 15 38 18.4 +2.1
GRF Grafenberg Arr 147.78 349 *e*PKPbc **PKPdf** 15 38 19.1 +3.2
baz=15,slow=2.7
GRF *e*PKPab **PKiKP** 15 38 23.8 +2.7
baz=15,slow=4.1
GRFO Grafenberg 147.78 349 **PKPdf** 15 38 18.6 +2.8
KHC Kasperske Hory 147.83 346 *e*PKP **PKPbc** 15 38 19.7 -0.1
BMRD Maredsous 147.93 357 *d*PKiKP **PKPbc** 15 38 19.9 -0.1
CKRC Cesky Krumlov 147.94 345 *e*PKP **PKPbc** 15 38 19.9 -0.2
GZR Gura Zlata 147.96 332 ⇓P **PKPdf** 15 38 19.4 +3.0
SURR Surduc 147.96 333 ⇓P **PKPdf** 15 38 19.3 +3.0
RCHB Rochefort 148.05 356 *d*PKiKP **PKPdf** 15 38 19.7 +3.4
GEC2 GERESS Array S 148.06 346 *e*PKPbc **PKPdf** 15 38 19.9 +3.4
baz=15,slow=2.7
GERES GERESS Array B 148.06 346 **PKPdf** 15 38 19.4 +2.9
GERES GERESS Array B 148.06 346 PKPbc **PKPdf** 15 38 19.7 +3.2
comp=Z,16nm,0.7s,baz=343,slow=4.2,SNR=4.5
DOU Dourbes 148.14 357 *d*PKiKP **PKPdf** 15 38 19.8 +3.4
VLAD Vladila 148.25 329 ⇑P **PKPdf** 15 38 19.6 +2.9
ELND Elena 148.25 326 ⇓P **PKPdf** 15 38 20.4 +3.5
BZS Buzias 148.28 334 ⇑P **PKPdf** 15 38 20.0 +3.3
SRE Strehaia 148.32 331 ⇑P **PKPbc** 15 38 21.1 -0.1
CONA Conrad Observa 148.34 342 *i* PKP **PKPbc** 15 38 20.8 -0.5
comp=Z,37nm,1.3s,SNR=13
RONA Rosalia, Austr 148.42 342 *i* PKiKP **PKPbc** 15 38 21.1 -0.2
comp=Z,18nm,0.7s,SNR=9.0
WLF Walferdange 148.47 355 *d*PKiKP **PKPbc** 15 38 21.5 +0.2
WLF Walferdange 148.47 355 *e*PKPbc **PKPbc** 15 38 21.4 0.0
baz=15,slow=2.7
WLF *e*PKPab **PKPab** 15 38 26.6 -0.5
baz=15,slow=4.1
HERR Herculane 148.51 332 ⇓P **PKPdf** 15 38 20.9 +3.7
BAND Balkesir-Ban 148.65 320 ⇓P **PKPdf** 15 38 21.1 +3.6
MOA Molln 148.85 344 *i* PKP **PKPdf** 15 38 21.5 +3.9
comp=Z,15nm,1.1s,SNR=5.7
MDVR Moldovita 148.90 333 ⇓P **PKPdf** 15 38 21.6 +3.7
MORH Mrgy, Hungar 148.95 338 ⇑P **PKPdf** 15 38 21.4 +3.6
STU Stuttgart 149.00 351 *e*PKPbc **PKPbc** 15 38 22.2 -0.5
baz=15,slow=2.7
STU *e*PKPab **PKiKP** 15 38 27.8 +4.2
baz=15,slow=4.1
ARSA Arzberg 149.05 342 *i* PKiKP **PKPbc** 15 38 22.7 -0.2
comp=Z,6.6nm,0.8s
BIOA Bad Ischl, Aus 149.16 345 *i* PKP **PKPbc** 15 38 22.4 -0.8
comp=Z,10.0nm,0.8s
FUR Furstenfeldbru 149.23 348 *e*PKPbc **PKPbc** 15 38 22.8 -0.6
baz=15,slow=2.7
FRGS Fruska Gora 149.40 335 ⇑*i*P **PKPdf** 15 38 22.5 +3.9
BFO Black Forest 149.56 352 **PKPdf** 15 38 22.6 +3.8
BFO Black Forest 149.56 352 *e*PKPbc **PKPbc** 15 38 23.5 -0.6
baz=15,slow=2.7
BFO *e*PKPab **PKPab** 15 38 30.5 -1.2
baz=15,slow=4.1
CAVK Edirne/Enez-Ca 149.59 322 ⇑P **PKPdf** 15 38 22.9 +3.9
LESA Schwarzleotal 149.64 346 *i* PKP **PKPbc** 15 38 23.6 -0.7
comp=Z,16nm,0.9s,SNR=5.3
SOKA Soboth 149.72 342 *i* PKP **PKPdf** 15 38 23.1 +3.9
comp=Z,12nm,0.7s
PERS Pernice 149.73 342 *e*PKPbc **PKPdf** 15 38 23.0 +3.9
KBA Koelnbreinsper 149.80 345 *i* PKP **PKPdf** 15 38 23.7 +4.3
comp=Z,16nm,0.6s
BOVS Bovan 149.80 331 ⇓P **PKPdf** 15 38 23.4 +3.0
UBR Ueberruh 149.91 349 *e*PKPbc **PKPbc** 15 38 24.3 -0.7
baz=15,slow=2.7
WATA Walderalm 149.96 347 *i* PKP **PKPbc** 15 38 24.3 -0.9
comp=Z,17nm,0.6s,SNR=6.0
RETA Reutte 149.98 348 *i* PKP **PKPbc** 15 38 24.3 -0.9
comp=Z,8.7nm,0.7s
OBKA Obir 150.01 343 *i* PKP **PKPdf** 15 38 23.5 +3.9
comp=Z,15nm,0.9s
OBKA Obir 150.01 343 ⇑*i*P **PKPdf** 15 38 23.8 +4.2
TEKS Tekeris 150.01 335 *e*P **PKPdf** 15 38 22.9 +3.3
WTTA Wattenberg 150.02 347 *i* PKP **PKPbc** 15 38 24.6 -0.8
comp=Z,35nm,0.6s,SNR=12
MOTA Moosalm 150.05 348 *i* PKP **PKPdf** 15 38 24.2 +4.5
comp=Z,26nm,1.0s
MYKA Terra Mystica 150.14 344 *i* PKP **PKPdf** 15 38 24.1 +4.3
comp=Z,23nm,0.8s
SQTA Sankt Quirin 150.15 348 *i* PKP **PKPbc** 15 38 24.9 -0.8
comp=Z,24nm,0.7s,SNR=9.0
GCIS Gornji Cirnik 150.27 341 *i* PKPbc **PKPbc** 15 38 24.9 -0.9
PDKS Podkum 150.28 342 *e*PKPbc **PKPbc** 15 38 24.8 -1.1
ABTA Abfaltersbach 150.31 346 *i* PKP **PKPbc** 15 38 24.7 -1.3
comp=Z,42nm,0.7s,SNR=10
DAVA Damuels 150.34 349 *i* PKiKP **PKPbc** 15 38 25.7 -0.4
comp=Z,36nm,1.1s,SNR=6.6
CRES Cresnjevec Ost 150.36 341 ⇑*i*P **PKPbc** 15 38 25.3 -0.7
FETA Feichten 150.44 348 *i* PKiKP **PKPbc** 15 38 25.9 -0.5
comp=Z,19nm,0.7s,SNR=5.6
A051A Mrakovica 150.60 339 *e*P **PKPdf** 15 38 24.8 +4.3
BBLS Lazi&#263i 150.62 334 ⇑*i*P **PKPbc** 15 38 25.7 -1.1
HAPS Han Pijesak,Bl 150.63 335 *e*P **PKPbc** 15 38 26.1 -0.7
BLY Banja Luka 150.74 338 ⇑*i*P **PKPbc** 15 38 26.2 -0.7
CEY Cerknica 150.75 342 ⇑*i*P **PKPdf** 15 38 24.8 +4.1
RUDO Rudo 150.84 334 ⇑*i*P **PKPdf** 15 38 25.3 +4.4
SJES Sjenica 150.87 333 ⇑*i*P **PKPbc** 15 38 26.9 -0.5
CTI Castel Tesino 151.17 346 **PKPbc** 15 38 26.6 -1.4
A050A Klekovaca 151.20 338 ⇑*i*P **PKPdf** 15 38 26.0 +4.5
BRY Bratogost 151.77 334 *e*P **PKPdf** 15 38 25.3 +2.8
PDG Podgorica 151.85 333 *e*P **PKPdf** 15 38 27.4 +5.0
PDG Podgorica 151.85 333 ⇓P **PKPbc** 15 38 28.3 -1.1
DRME Dracevica, Mon 152.08 332 *e*P **PKPbc** 15 38 28.2 -1.8
PBRG Braganca 155.27 16 *e*PKPab **PKPab** 15 38 55.8 -0.4
MVO Moncorvo 155.79 17 *e*PKPab **PKPab** 15 38 58.4 -0.1
PVIS Viseu 155.94 19 *e*PKPab **PKPab** 15 38 58.7 -0.4
PCAS Casmilo, Conde 156.35 21 *e*PKPab **PKPab** 15 39 00.4 -0.4
PMRV Marv??o 157.28 20 *e*PKPab **PKPab** 15 39 04.5 -0.4
PESTR Estremoz 157.72 21 *e*PKPab **PKPab** 15 39 06.3 -0.6
ESDC Sonseca Array 157.96 13 **PKPab** 15 39 06.9 -1.0
PCVE Castro Verde 158.67 23 *e*PKPab **PKPab** 15 39 10.8 -0.2
TORD Torodi Ar. Bea 174.93 174 **PKPdf** 15 38 41.9 -2.2
TORD Torodi Ar. Bea 174.93 174 PKP **PKPdf** 15 38 42.1 -2.1
comp=Z,0.6nm,0.7s,baz=343,slow=3.4,SNR=6.7

*GCG **04** 15:23:14.5±2.6, 17°.26N×95°.00W, h141km±63km, MD4.8, Hypocentre not reviewed by the ISC*
*IDC **04** 15:23:16.7±0.7, 17°.30N×94°.81W, h123km±8km, mb3.3/5, mbtmp3.6/6, Error ellipse: s-maj=25.4km s-min=19.1km az=60.0*
*MEX **04** 15:23:17.4±0.6, 17°.03N×94°.89W, h129km±7km, MD4.5*
*NEIC **04** 15:23:17.6±1.4, 17°.13N±0°.06×94°.84W±0°.05, h126km±10km, mb4.4/24, Md4.5/11(MEX), Error ellipse: s-maj=9.2km s-min=6.5km az=198.0*
ISC 04 15:23:17.0±0.6, **17°.16N**±0°.03×**94°.84W**±0°.02, **h134**km±5km, **n118**, σ2°60/185, **mb4.3**/10, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.07**	**210**		**Pn**	**15 23 34.7**	**-0.5**
CMIG					**Sn**	**15 23 47.2**	**-1.5**
CMIG	**Matias Romero**	**0.07**	**210**	P	**Pn**	**15 23 34.4**	**-0.7**
	3µm,0.3s,baz=208,slow=4.1,SNR=8325						
CMIG	**Matias Romero**	**0.07**	**210**	*i* P	**Pn**	**15 23 34.7**	**-0.5**
CMIG				*e*S	**Sn**	**15 23 47.2**	**-1.5**
NILT	**Santiago Nilte**	**0.63**	**160**	*e*P	**Pn**	**15 23 37.1**	**-0.2**
NILT				*e*S	**Sn**	**15 23 51.3**	**-1.3**
TUIG	**Tuzandepetl**	**0.96**	**25**	*e*P	**Pn**	**15 23 39.6**	**-0.3**
TUIG				*i* S	**Sn**	**15 23 53.8**	**-3.6**
NEUV	**Arroyo Zacate**	**1.07**	**301**	*i* P	**Pn**	**15 23 40.2**	**-0.7**
NEUV				*i* S	**Sn**	**15 23 57.1**	**-1.9**
CARR	**Arriaga**	**1.27**	**135**	*e*P	**Pn**	**15 23 43.1**	**+0.2**
CARR				*i* S	**Sn**	**15 24 01.6**	**-1.0**
PMUV	**Sontecomapan**	**1.41**	**349**	*e*P	**Pn**	**15 23 43.6**	**-0.8**
PMUV				*e*S	**Sn**	**15 24 02.2**	**-3.2**
TGIG		**1.69**	**103**		**Pn**	**15 23 47.7**	**+0.1**
TGIG					**Sn**	**15 24 09.0**	**-1.9**
TGIG		**1.69**	**103**	*e*P	**Pn**	**15 23 47.7**	**+0.1**
TGIG				*e*S	**Sn**	**15 24 09.0**	**-1.9**
TGIG		**1.69**	**103**	*e*P		15 23 47.7	
TGIG				*e*S		15 24 09.2	
TGBT	**Tuxtla Gutierr**	**1.72**	**102**		**Pn**	**15 23 47.7**	**-0.1**
TGBT					**Sn**	**15 24 10.3**	**-1.1**
TGBT	**Tuxtla Gutierr**	**1.72**	**102**	*e*P	**Pn**	**15 23 47.7**	**-0.1**
TGBT				*e*S	**Sn**	**15 24 10.3**	**-1.1**
OXBJ	**Oaxaca**	**1.80**	**267**		Pn	15 23 53.2	+4.2
OXBJ					**Sn**	**15 24 17.4**	**+4.0**
OXBJ	**Oaxaca**	**1.80**	**267**	*e*P	Pn	15 23 53.2	+4.2
OXBJ				*e*S	**Sn**	**15 24 17.4**	**+4.0**
OXIG	**Oaxaca**	**1.81**	**268**		**Pn**	**15 23 49.6**	**+0.5**
OXIG					**Sn**	**15 24 14.1**	**+0.5**
VHO	**Vista Hermosa**	**1.81**	**268**	*e*P	**Pn**	**15 23 49.6**	**+0.5**
VHO				*e*S	**Sn**	**15 24 14.1**	**+0.5**
HUIG	**Huatulco**	**1.84**	**221**		**Pn**	**15 23 47.3**	**-2.0**
HUIG					**Sn**	**15 24 12.2**	**-1.7**
HUIG	**Huatulco**	**1.84**	**221**	*e*P	**Pn**	**15 23 47.3**	**-2.0**
HUIG				*i* S	**Sn**	**15 24 12.2**	**-1.7**
HUIG	**Huatulco**	**1.84**	**221**	*e*P		15 23 47.2	
HUIG				*e*S		15 24 11.9	
VHSA	**Villahermosa**	**2.00**	**65**	*e*P	**Pn**	**15 23 50.5**	**-0.6**
VHSA				*i* S	**Sn**	**15 24 16.1**	**-1.2**
PCIG		**2.12**	**133**		**Pn**	**15 23 53.0**	**+0.3**
PCIG					**Sn**	**15 24 18.2**	**-1.8**
PCIG		**2.12**	**133**	*e*P	**Pn**	**15 23 53.0**	**+0.3**
PCIG				*i* S	**Sn**	**15 24 18.2**	**-1.8**
TOIG	**Toxpalan**	**2.31**	**294**		**Pn**	**15 23 55.6**	**+0.4**
TOIG					**Sn**	**15 24 22.0**	**-2.5**
TOIG	**Toxpalan**	**2.31**	**294**	*e*P	**Pn**	**15 23 55.6**	**+0.4**
TOIG				*e*S	**Sn**	**15 24 22.0**	**-2.5**
PEIG	**Puerto Escondi**	**2.49**	**243**		**Pn**	**15 23 55.2**	**-2.0**
PEIG					**Sn**	**15 24 24.6**	**-3.7**
PEIG	**Puerto Escondi**	**2.49**	**243**	*e*P	**Pn**	**15 23 55.2**	**-2.0**
PEIG				*i* S	**Sn**	**15 24 24.6**	**-3.7**
YOIG	**Yosondua**	**2.60**	**264**		**Pn**	**15 23 58.5**	**-0.4**
YOIG					**Sn**	**15 24 28.1**	**-3.1**
YOIG	**Yosondua**	**2.60**	**264**	*e*P	**Pn**	**15 23 58.5**	**-0.4**
YOIG				*e*S	**Sn**	**15 24 28.1**	**-3.1**
TPIG	**Tehuac#an**	**2.71**	**298**		**Pn**	**15 24 00.6**	**+0.5**
TPIG					**Sn**	**15 24 32.2**	**-1.1**
TPIG	**Tehuac#an**	**2.71**	**298**	*e*P	**Pn**	**15 24 00.6**	**+0.5**
TPIG				*i* S	**Sn**	**15 24 32.2**	**-1.1**
CCIG	**Comitan**	**2.74**	**108**		**Pn**	**15 24 01.1**	**+0.6**
CCIG	**Comitan**	**2.74**	**108**	*i* P	**Pn**	**15 24 01.1**	**+0.6**
CCIG				*i* S	**Sn**	**15 24 29.2**	**-4.8**
CCIG	**Comitan**	**2.74**	**108**	*e*P		15 24 01.2	
TXIG	**Tlaxiaco**	**2.80**	**272**		**Pn**	**15 24 01.8**	**+0.4**
TXIG					**Sn**	**15 24 32.2**	**-3.4**
TXIG	**Tlaxiaco**	**2.80**	**272**	*i* P	**Pn**	**15 24 01.8**	**+0.4**
TXIG				*e*S	**Sn**	**15 24 32.2**	**-3.4**
JAUV	**Jalcomulco**	**2.88**	**320**	*e*P	**Pn**	**15 24 00.9**	**-1.3**
JAUV				*e*S	**Sn**	**15 24 33.9**	**-3.3**
HLIG	**Huajuapan de L**	**2.90**	**284**		**Pn**	**15 24 03.5**	**+0.8**
HLIG					**Sn**	**15 24 35.8**	**-2.1**
HLIG	**Huajuapan de L**	**2.90**	**284**	*i* P	**Pn**	**15 24 03.5**	**+0.8**
HLIG				*e*S	**Sn**	**15 24 35.8**	**-2.1**
LVIG	**Laguna Verde**	**2.96**	**330**	*i* P	**Pn**	**15 24 01.3**	**-1.9**
LVIG				*i* S	**Sn**	**15 24 33.7**	**-5.2**
FTIG	**Fresnillo de T**	**3.23**	**284**		**Pn**	**15 24 07.8**	**+1.0**
FTIG					**Sn**	**15 24 42.3**	**-3.0**
FTIG	**Fresnillo de T**	**3.23**	**284**	*e*P	**Pn**	**15 24 07.8**	**+1.0**
FTIG				*e*S	**Sn**	**15 24 42.3**	**-3.0**
PNIG	**Pinotepa**	**3.23**	**257**		**Pn**	**15 24 05.2**	**-1.7**
PNIG					**Sn**	**15 24 43.2**	**-2.1**
PNIG	**Pinotepa**	**3.23**	**257**	*i* P	**Pn**	**15 24 05.2**	**-1.7**
PNIG				*e*S	**Sn**	**15 24 42.1**	**-3.3**
CHUJ	**Union Juarez**	**3.33**	**128**	*e*P	**Pn**	**15 24 08.6**	**+0.2**
CHUJ				*i* S	**Sn**	**15 24 41.3**	**-6.7**
TLIG	**Tlapa**	**3.58**	**277**		**Pn**	**15 24 11.8**	**+0.4**
TLIG	**Tlapa**	**3.58**	**277**	*i* P	**Pn**	**15 24 11.9**	**+0.5**
TLIG				*e*S	Sn	15 24 44.4	-9.1
HMTT	**Tlapaneco**	**3.60**	**281**		**Pn**	**15 24 12.1**	**+0.4**
HMTT					**Sn**	**15 24 47.3**	**-6.8**
HMTT	**Tlapaneco**	**3.60**	**281**	*e*P	**Pn**	**15 24 12.1**	**+0.4**
HMTT				*i* S	**Sn**	**15 24 47.3**	**-6.8**
MGIG	**Malinaltepec**	**3.62**	**272**		**Pn**	**15 24 11.9**	**-0.2**
MGIG					**Sn**	**15 24 49.3**	**-5.3**
MGIG	**Malinaltepec**	**3.62**	**272**	*e*P	**Pn**	**15 24 11.9**	**-0.2**
MGIG				*i* S	**Sn**	**15 24 49.3**	**-5.3**
PHPU	**Puebla**	**3.68**	**301**		**Pn**	**15 24 13.5**	**+0.6**
PHPU					**Sn**	**15 24 58.5**	**+2.5**
PHPU	**Puebla**	**3.68**	**301**	*e*P	**Pn**	**15 24 13.5**	**+0.6**
PHPU				*e*S	**Sn**	**15 24 58.5**	**+2.5**
HUEH	**Huehuetenango**	**3.69**	**119**	*e*P	**Pn**	**15 24 11.8**	**-1.3**
HUEH				*e*S	**Sn**	**15 24 50.3**	**-6.1**
SCIG	**Sabancuy**	**3.92**	**62**	*e*P	**Pn**	**15 24 14.6**	**-1.2**
SCIG				*e*S	**Sn**	**15 24 56.8**	**-4.6**
SCIG	**Sabancuy**	**3.92**	**62**	*e*P		15 24 14.6	
CXUV	**Coxquihui**	**3.97**	**319**	*e*P	**Pn**	**15 24 16.4**	**-0.2**
CXUV				*i* S	Sn	15 24 53.7	-9.0
CXUV				*i* S		15 24 58.3	
PBCV	**Popocatepetl**	**3.97**	**298**	*e*P	**Pn**	**15 24 19.1**	**+2.2**
PBCV				*e*S	**Sn**	**15 25 01.9**	**-1.2**
RTAL	**Retalhuleu**	**4.00**	**130**	Pn	**Pn**	**15 24 16.2**	**-0.7**
RTAL	**Retalhuleu**	**4.00**	**130**	*e*P	**Pn**	**15 24 15.3**	**-1.7**
RTAL				*i* S	**Sn**	**15 24 57.8**	**-5.6**
QUIS	**Sacapulas**	**4.05**	**117**	*e*P		15 24 17.9	
QUIS				*e*S		15 25 03.5	
PBPN	**Popocatepetl**	**4.06**	**298**	*e*P	**Pn**	**15 24 20.6**	**+2.5**
PBPN				*e*P		15 24 21.1	
PBPN				*i* S	**Sn**	**15 24 59.4**	**-6.1**
PBPN				*e*S		15 25 00.2	
PBXN	**Popocatepetl**	**4.07**	**298**	*e*P	**Pn**	**15 24 20.3**	**+2.1**
PBXN				*e*P		15 24 20.9	
PBXN				*i* S	**Sn**	**15 25 00.6**	**-5.0**
PBXN				*i* S		15 25 00.8	
PPM	**Popocatepetl**	**4.07**	**298**	*e*P	**Pn**	**15 24 20.2**	**+2.0**
PPM				*e*S	Sn	15 24 56.2	-9.5
PPIG	**Popocatepetl**	**4.07**	**298**		**Pn**	**15 24 20.2**	**+2.0**
PPIG					Sn	15 24 56.2	-10
CRIG	**Cruz Grande**	**4.12**	**265**		**Pn**	**15 24 17.1**	**-1.4**
CRIG					**Sn**	**15 25 02.5**	**-3.7**
CRIG	**Cruz Grande**	**4.12**	**265**	*e*P	**Pn**	**15 24 17.1**	**-1.4**
CRIG				*e*S	**Sn**	**15 25 02.5**	**-3.7**
YAIG	**Yautepec**	**4.36**	**294**		**Pn**	**15 24 23.4**	**+1.6**
YAIG					**Sn**	**15 25 09.6**	**-2.5**
YAIG	**Yautepec**	**4.36**	**294**	*e*P	**Pn**	**15 24 23.4**	**+1.6**
YAIG				*e*S	**Sn**	**15 25 09.6**	**-2.5**
MPVM	**San Francisco**	**4.45**	**298**	*i* P	Pn	15 24 28.8	+5.7
MPVM				*i* S	**Sn**	**15 25 09.0**	**-5.4**
TLVM	**San Miguel Top**	**4.58**	**297**	*e*P	**Pn**	**15 24 23.1**	**-1.8**
TLVM				*i* S	Sn	15 25 08.9	-8.6
DAIG	**Los Arroyos**	**4.60**	**269**		**Pn**	**15 24 24.1**	**-0.7**
DAIG					**Sn**	**15 25 12.7**	**-4.8**
DAIG	**Los Arroyos**	**4.60**	**269**	*i* P	**Pn**	**15 24 24.1**	**-0.7**
DAIG				*e*S	**Sn**	**15 25 12.7**	**-4.8**
PLIG	**Platanillo**	**4.61**	**286**		**Pn**	**15 24 26.4**	**+1.4**
PLIG					Sn	15 25 07.1	-11
PLIG	**Platanillo**	**4.61**	**286**	*e*P	**Pn**	**15 24 26.4**	**+1.4**
PLIG				*e*S	Sn	15 25 07.1	-11
APG	**El Apazote**	**4.72**	**116**	P	**Pn**	**15 24 26.2**	**-0.5**
AOVM	**Tlapan**	**4.75**	**297**		**Pn**	**15 24 29.0**	**+1.8**
AOVM					**Sn**	**15 25 16.7**	**-5.0**
AOVM	**Tlapan**	**4.75**	**297**	*e*P	**Pn**	**15 24 29.0**	**+1.8**
AOVM				*i* S	**Sn**	**15 25 16.7**	**-5.0**
PETF	**Flores**	**4.77**	**92**		**Pn**	**15 24 27.0**	**-0.1**
PETF	**Flores**	**4.77**	**92**	*e*P	**Pn**	**15 24 25.9**	**-1.1**
PETF				*e*S	**Sn**	**15 25 14.0**	**-7.6**
PETF	**Flores**	**4.77**	**92**	*e*P		15 24 26.5	
MAVM	**Malinalco, Edo**	**4.77**	**293**	*i* P	Pn	15 24 14.4	-13
MAVM				*i* S	Sn	15 24 57.1	-25
DEIG	**Demacu**	**5.05**	**309**	*i* P	**Pn**	**15 24 30.7**	**-0.5**
DEIG				*i* S	Sn	15 25 20.1	-8.7
DHIG	**Demacu**	**5.05**	**309**		**Pn**	**15 24 30.7**	**-0.5**
DHIG					Sn	15 25 20.1	-8.7
CAIG	**El Cayaco**	**5.19**	**270**		**Pn**	**15 24 31.9**	**-0.8**
CAIG					**Sn**	**15 25 27.2**	**-4.4**
CAIG	**El Cayaco**	**5.19**	**270**	*i* P	**Pn**	**15 24 31.9**	**-0.8**
CAIG				*i* S	**Sn**	**15 25 27.2**	**-4.4**
TEJU	**Tejupilco**	**5.35**	**290**	*e*P	**Pn**	**15 24 37.0**	**+2.0**
TEJU				*i* S	**Sn**	**15 25 31.6**	**-4.1**
ARIG	**Puente Sto Nin**	**5.36**	**283**		**Pn**	**15 24 36.7**	**+1.7**
ARIG					**Sn**	**15 25 31.0**	**-4.9**
ARIG	**Puente Sto Nin**	**5.36**	**283**	*i* P	**Pn**	**15 24 36.7**	**+1.7**
ARIG				*i* S	**Sn**	**15 25 31.0**	**-4.9**
CTUV	**Llano Grande**	**5.42**	**323**	*e*P	**Pn**	**15 24 35.2**	**-0.6**
CTUV				*i* S	**Sn**	**15 25 36.1**	**-1.1**
MYIG	**Merida**	**6.13**	**51**	*i* P	**Pn**	**15 24 48.3**	**+3.0**
MYIG				*e*S	**Sn**	**15 25 51.8**	**-2.5**
ZIIG	**Zihuatanejo**	**6.34**	**275**		**Pn**	**15 24 48.6**	**+0.5**
ZIIG					**Sn**	**15 25 52.7**	**-6.6**
ZIIG	**Zihuatanejo**	**6.34**	**275**	*e*P	**Pn**	**15 24 48.6**	**+0.5**
ZIIG				*i* S	**Sn**	**15 25 52.7**	**-6.6**
TEIG	**Tepich**	**6.93**	**63**	Pn	**Pn**	**15 24 54.3**	**-1.8**
TEIG	**Tepich**	**6.93**	**63**	P	**Pn**	**15 24 53.6**	**-2.5**
0.2nm,0.4s,baz=55,slow=24,SNR=18							
PRVC	**Isla de Provid**	**13.54**	**104**	P	**P**	**15 26 28.0**	**-0.2**
TXAR	**Lajitas Array**	**14.57**	**328**	P	**Pn**	**15 26 35.3**	**-1.7**
0.2nm,0.7s,baz=124,slow=9.2,SNR=1.8							
346A	**Big Creek Wild**	**14.99**	**18**	P	**P**	**15 26 46.0**	**+1.8**
MIAR	**Mount Ida**	**17.36**	**4**	P	**P**	**15 27 11.5**	**+1.2**
W35A	**Tecumseh**	**18.02**	**355**	P	**P**	**15 27 19.2**	**+1.7**
W35A				IAmb	IAmb	15 27 20.8	
comp=Z,9.2nm,0.5s							
DEOK	**Depew**	**18.67**	**356**	P	**P**	**15 27 25.8**	**+1.0**
DEOK				IAmb	IAmb	15 27 56.0	
comp=Z,21nm,1.2s							
FCAR	**Ozark Folk Cen**	**18.82**	**7**	P	**P**	**15 27 27.5**	**+1.2**
FCAR				IAmb	IAmb	15 27 43.4	
comp=Z,13nm,1.0s							
QUOK	**Quay**	**19.01**	**355**	P	**P**	**15 27 29.4**	**+1.0**
QUOK				IAmb	IAmb	15 28 05.5	
comp=Z,18nm,0.7s							
LCAR	**Lake Charles**	**19.12**	**9**	P	**P**	**15 27 30.4**	**+0.8**
KAN13	**South Haven SW**	**19.92**	**354**	P	**P**	**15 27 38.6**	**+0.4**
S39A	**Bolivar**	**20.50**	**3**	P	**P**	**15 27 45.0**	**+0.5**
TKL	**Tuckaleechee C**	**20.89**	**26**	P	**P**	**15 27 48.0**	**-0.7**
comp=Z,2.7nm,0.7s,baz=207,slow=6.8,SNR=1.7							
comp=Z,2.7nm,0.7s							
P40A	**Paris**	**22.43**	**6**	P	**P**	**15 28 04.2**	**-0.5**
N38A	**Joes South For**	**23.60**	**3**	P	**P**	**15 28 16.1**	**+0.5**
N38A				IAmb	IAmb	15 28 17.6	
comp=Z,8.6nm,0.5s							
N41A	**Harden Midland**	**23.72**	**8**	P	**P**	**15 28 16.5**	**-0.2**
L40A	**Anamosa**	**25.02**	**6**	P	**P**	**15 28 29.9**	**+1.4**
L40A				IAmb	IAmb	15 28 59.9	
comp=Z,18nm,1.3s							
NVAR	**Mina Array Bea**	**29.51**	**321**	P	**P**	**15 29 07.2**	**-1.8**
comp=Z,0.2nm,0.4s,baz=149,slow=6.9,SNR=4.6							
comp=Z,0.2nm,0.4s							
LYMT	**Lyon Mountain**	**33.04**	**338**	P	**P**	**15 29 39.6**	**-0.3**
YKA	**Yellowknife Ar**	**47.36**	**348**	P	**P**	**15 31 37.9**	**+0.7**
comp=Z,0.5nm,0.6s,baz=158,slow=7.5,SNR=8.3							
comp=Z,0.5nm,0.6s							
INK	**Inuvik**	**56.66**	**344**	P	**P**	**15 32 47.1**	**+1.2**
INK				IAmb	IAmb	15 33 20.1	
comp=Z,3.6nm,0.9s							
ILAR	**Eielson Array**	**58.88**	**337**	P	**P**	**15 33 02.1**	**+0.6**
comp=Z,0.4nm,0.8s,baz=117,slow=6.2,SNR=3.1							
comp=Z,0.4nm,0.8s							
SUA	**Susitna One**	**59.03**	**332**	P	**P**	**15 33 04.7**	**+1.9**
SUA				IAmb	IAmb	15 33 07.0	
comp=Z,5.3nm,1.0s							
SKT	**Skwentna**	**59.58**	**333**	P	**P**	**15 33 08.3**	**+1.9**
M20K	**Styx River**	**60.25**	**332**	P	**P**	**15 33 12.5**	**+1.4**
M20K				IAmb	IAmb	15 33 14.1	
comp=Z,3.5nm,1.1s							
TOLK	**Toolik Lake Re**	**61.64**	**340**	P	**P**	**15 33 21.8**	**+1.5**
TOLK				IAmb	IAmb	15 33 54.8	
comp=Z,2.9nm,0.9s							
PLCA	**Paso Flores**	**61.86**	**159**	P	**P**	**15 33 23.8**	**+1.7**
comp=Z,1.9nm,0.8s,baz=325,slow=8.9,SNR=5.3							
comp=Z,1.9nm,0.8s							
F21K	**Alatna River**	**62.37**	**338**	P	**P**	**15 33 27.1**	**+1.9**
C16K	**Lisburne Hills**	**66.99**	**338**	P	**P**	**15 33 56.5**	**+1.4**
WRA	**Warramunga Arr**	**133.42**	**259**	PKP	**PKPdf**	**15 42 18.7**	**+0.5**
comp=Z,0.6nm,0.9s,baz=89,slow=2.8,SNR=2.0							

PRE 04 15:44:00.3±0.9, **25°.90S**×**29°.38E**, **h0**km, **ML2.5**,
Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.58**	**99**	*e*P	**Pg**	15 44 11.6	+0.1
CRLN				*e*S	Sg	15 44 19.9	+0.8
CRLN				IAML		15 44 28.9	

*IDC **04** 15:49:40.2±0.6,21°.09N×144°.79E,h114km±4km,mb4.3/27, mbtmp4.7/30,MS3.3/30,Error ellipse: s-maj=14.2km s-min=10.2km az=84.0*

ISC 04 15:49:37.1±0.4,21°.18N±0°.04×144°.81E±0°.06,h84km±2km, h84km:pP-P,n520,σ1§26/468,mb4.8/158,9C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.36**	**338**	Pn		**Pn**		**15 51 08.8**	**+0.7**
JCJ	**Chichijima**	**6.36**	**338**	P		**Pn**		**15 51 04.8**	**-3.4**
	24nm,0.3s,baz=284,slow=23,SNR=12								
JCJ				S		**Sn**		**15 52 14.5**	**-4.8**
	117nm,0.3s,baz=112,slow=24,SNR=17								
GUMO	**Guam**	**7.55**	**180**	Pn		**Pn**		**15 51 25.2**	**+0.7**
GUMO	**Guam**	**7.55**	**180**	P		Pn		15 51 30.1	+5.6
	185nm,0.9s,baz=355,slow=20,SNR=3.6								
GUMO				S		**Sn**		**15 52 53.8**	**+5.3**
	34nm,0.6s,baz=332,slow=17,SNR=1.0								
GUMO	**Guam**	**7.55**	**180**	P		**Pn**		**15 51 25.2**	**+0.7**
INU	**Inuyama**	**15.69**	**336**			**P**		**15 53 15.7**	**+0.1**
JGF	**Kuroka**	**15.78**	**337**			**Pn**		**15 53 16.1**	**+1.7**
JMN	**Monobe**	**15.81**	**325**	P		**P**		**15 53 18.2**	**+1.3**
JOW	**Kunigami**	**16.12**	**294**			**P**		**15 53 20.4**	**+0.1**
JOW	**Kunigami**	**16.12**	**294**	P		**Pn**		**15 53 20.1**	**+1.5**
	11nm,0.6s,baz=112,slow=13,SNR=1.8								
JOW				LR		LR		15 57 26.9	
	comp=Z,105nm,20.9s,baz=42,slow=29								
MJAR	**Matsushiro Arr**	**16.35**	**341**	P		**Pn**		**15 53 22.8**	**+1.2**
	4.9nm,0.8s,baz=158,slow=10,SNR=7.9								
MAJO	**Matsushiro**	**16.36**	**341**	Pn		**Pn**		**15 53 22.0**	**+0.5**
MAJO	**Matsushiro**	**16.36**	**341**	P		**Pn**		**15 53 22.0**	**+0.5**
MJB9	**Matsu-Tunnel**	**16.36**	**341**	Pn		**Pn**		**15 53 22.0**	**+0.4**
JMM	**Marumori**	**16.99**	**349**			**Pn**		**15 53 29.4**	**+0.1**
JNU	**Nakatsue**	**17.16**	**317**	P		**P**		**15 53 35.0**	**+3.1**
JNU	**Nakatsue**	**17.16**	**317**	P		**P**		**15 53 34.6**	**+2.8**
	30nm,0.8s,baz=113,slow=4.4,SNR=22								
H11N1	**WAKE ISLAND Hy**	**20.74**	**90**	T		T		16 16 03.0	
	baz=277,slow=74,SNR=11								
H11N2	**WAKE ISLAND Hy**	**20.75**	**90**	T		T		16 16 02.5	
	baz=277,slow=74,SNR=3.6								
H11S3	**WAKE ISLAND Hy**	**20.75**	**94**	T		T		16 16 02.1	
	baz=281,slow=74,SNR=4.1								
H11N3	**WAKE ISLAND Hy**	**20.76**	**90**	T		T		16 16 04.3	
	baz=277,slow=74,SNR=0.9								
H11S1	**WAKE ISLAND Hy**	**20.76**	**94**	T		T		16 16 00.3	
	baz=281,slow=74,SNR=4.2								
H11S2	**WAKE ISLAND Hy**	**20.77**	**94**	T		T		16 15 50.5	
	baz=281,slow=74,SNR=4.4								
TJN	**Taejon**	**21.47**	**319**	P		**P**		**15 54 18.7**	**0.0**
TJN	**Taejon**	**21.47**	**319**	P		**P**		**15 54 18.7**	**0.0**
KSRS	**Korea Array**	**21.85**	**322**	P		**P**		**15 54 25.6**	**+2.9**
	25nm,0.8s,baz=146,slow=8.6,SNR=70								
KSRS				ScP		**ScP**		**16 01 44.0**	**-5.2**
	3.5nm,1.1s,baz=122,slow=4.4,SNR=5.9								
KSRS				LR		LR		16 02 10.8	
	comp=Z,57nm,19.7s,baz=140,slow=34								
	25nm,0.8s								
YHNB	**Yeheng**	**21.85**	**284**	P		**P**		**15 54 23.1**	**+0.1**
KSAR	**Wonju Array Be**	**21.86**	**322**	P		**P**		**15 54 23.2**	**+0.4**
KSAR	**Wonju Array Be**	**21.86**	**322**	P		**P**		**15 54 23.2**	**+0.4**
KS19	**Wonju Array Si**	**21.91**	**322**	P		**P**		**15 54 24.1**	**+0.7**
SSLB	**Suanglung**	**22.19**	**281**	P		**P**		**15 54 27.0**	**+0.4**
INCN	**Inchon**	**22.63**	**320**	P		**P**		**15 54 31.8**	**+0.7**
INCN	**Inchon**	**22.63**	**320**	P		**P**		**15 54 31.8**	**+0.7**
ASAJ	**Asahikawa**	**22.95**	**356**	P		**P**		**15 54 37.2**	**+3.0**
	13nm,0.7s,baz=224,slow=23,SNR=5.9								
ASAJ				LR		LR		16 04 50.7	
	comp=Z,33nm,19.1s,baz=60,slow=40								
	13nm,0.7s								
DAV	**Davao City (W)**	**23.29**	**236**	LR		LR		16 02 42.9	
	comp=Z,38nm,21.7s,baz=334,slow=34								
JAY	**Jayapura**	**23.89**	**190**	LR		LR		16 03 13.1	
	comp=Z,76nm,21.3s,baz=328,slow=34								
USRK	**Ussuriysk Ar.**	**25.30**	**338**	P		**P**		**15 54 57.6**	**+2.0**
	6.5nm,0.6s,baz=166,slow=10,SNR=10								
	6.5nm,0.6s								
NJ2	**Nanjing**	**25.54**	**300**	*e*P		**P**		**15 54 59.6**	**+1.6**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KRVT	**Keravat (AS076**	**26.30**	**164**	LR		LR		16 04 36.8	
	comp=Z,43nm,19.3s,baz=30,slow=34								
MDJ	**Mudanjiang**	**26.55**	**335**	P		**P**		**15 55 08.6**	**+1.7**
MDJ				pmax		pmax			
	comp=Z,15nm,1.6s								
BNX	**BinXian**	**28.35**	**334**	⇑P		**P**		**15 55 23.9**	**+0.9**
BNX				pmax		pmax			
	comp=Z,14nm,0.6s								
TIA	**Tai'an**	**28.40**	**308**	P		**P**		**15 55 23.9**	**+0.2**
TIA				pmax		pmax			
	comp=Z,17nm,1.0s								
WHN	**Wuhan**	**28.88**	**295**	P		**P**		**15 55 29.2**	**+1.3**
KLR	**Kul'dur**	**29.86**	**343**	P		**P**		**15 55 38.0**	**+1.6**
	17nm,0.5s,baz=148,slow=7.1,SNR=74								
KLR				LR		LR		16 08 57.4	
	comp=Z,32nm,18.5s,baz=154,slow=39								
	17nm,0.5s								
KLR	**Kul'dur**	**29.86**	**343**	*ce*P		**P**		**15 55 37.5**	**+1.1**
KLR				pmax		pmax			
	comp=Z,22nm,0.7s								
MRSI	**Marisa**	**30.36**	**230**	P		**P**		**15 55 41.9**	**+0.7**
	comp=Z,660nmcomp=Z,32nm,0.9s								
HNS	**HongShan**	**30.66**	**308**	⇓P		**P**		**15 55 43.6**	**+0.1**
HNS				pmax		pmax			
	comp=Z,15nm,1.3s								
TOLI2	**Tolitoli**	**30.78**	**233**	P		**P**		**15 55 45.5**	**+0.7**
BJI	**Beijing**	**30.79**	**314**	P		**P**		**15 55 46.1**	**+1.4**
BJI				pmax		pmax			
	comp=Z,4.0nm,1.7s								
BJI				pmax		pmax			
	comp=Z,45nm,3.5s								
HEH	**HeiHe**	**32.10**	**339**	*e*P		**P**		**15 55 57.3**	**+1.2**
HEH				pmax		pmax			
	comp=Z,32nm,0.9s								
PCI	**Palu**	**32.83**	**231**	P		**P**		**15 56 02.5**	**-0.4**
	comp=Z,51nm,0.9s								
QIZ	**Qiongzhong**	**32.87**	**273**	P		**P**		**15 56 04.3**	**+1.2**
QIZ				pP		**pwP**		**15 56 23.8**	**-1.7**
QIZ				sP		**sP**		**15 56 34.0**	**+2.6**
XLT	**XiLinHaoTe**	**32.88**	**320**	*e*P		**P**		**15 56 03.8**	**+0.7**
XLT				pmax		pmax			
	comp=Z,8.0nm,0.6s								
XLT				pmax		pmax			
	comp=Z,120nm,4.0s								
PETK	**Petropavlovsk-**	**33.38**	**14**	P		**P**		**15 56 10.0**	**+2.8**
	comp=Z,3.2nm,0.8s,baz=236,slow=7.6,SNR=4.0								
PETK				LR		LR		16 07 42.7	
	comp=Z,53nm,21.9s,baz=202,slow=32								
	comp=Z,3.2nm,0.8s								
PETK	**Petropavlovsk-**	**33.38**	**14**	P		**P**		**15 56 10.0**	**+2.8**
PET	**Petropavlovsk**	**33.53**	**15**	*i* P		**P**		**15 56 08.7**	**+0.2**
PET				pmax		pmax			
	comp=Z,19nm,1.2s								
PET	**Petropavlovsk**	**33.53**	**15**	P		**P**		**15 56 11.0**	**+2.5**
	comp=Z,22nm,1.1s								
HNR	**Honiara**	**33.86**	**152**	LR		LR		16 08 36.1	
	comp=Z,71nm,19.3s,baz=344,slow=34								
XAN	**Xi'an**	**34.11**	**300**	P		**P**		**15 56 14.2**	**+0.3**
XAN				pmax		pmax			
	comp=Z,9.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**34.30**	**312**	*e*P		**P**		**15 56 15.3**	**-0.2**
HHC				pP		pwP		15 56 38.9	+1.6
HHC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,68nm,5.9s								
HHC				LR		LR			
	comp=Z,110nm,11.2s								
TTSI	**Tana Toraja**	**34.33**	**228**	P		**P**		**15 56 17.0**	**+1.1**
	comp=Z,449nmcomp=Z,25nm,0.9s								
HIA	**Hailar**	**34.40**	**331**	P		**P**		**15 56 16.7**	**+0.6**
HIA				IAmb		IAmb		15 56 17.6	
	comp=Z,11nm,0.7s								
HIA	**Hailar**	**34.40**	**331**	P		**P**		**15 56 16.7**	**+0.6**
HIA				pmax		pmax			
	comp=Z,11nm,0.7s								
HIA	**Hailar**	**34.40**	**331**	P		**P**		**15 56 16.8**	**+0.6**
SPSI	**Sidrap Palu**	**35.03**	**227**	P		**P**		**15 56 22.5**	**+0.6**
	comp=Z,58nm,1.0s								
ZEA	**Zeya**	**35.16**	**342**	*e*P		**P**		**15 56 23.8**	**+1.2**
ZEA				pmax		pmax			
	comp=E,10.0nm,0.4s								
ZEA				pmax		pmax			
	comp=N,20nm,0.6s								
ZEA				pmax		pmax			
	comp=Z,40nm,0.5s								
BTO	**Baotou**	**35.27**	**311**	*e*P		**P**		**15 56 25.5**	**+1.6**
BTO				pP		**pwP**		**15 56 47.3**	**+1.5**
BTO				sP		sP		15 57 00.7	+8.3
BTO				PP		**PP**		**15 57 49.6**	**+4.2**
BTO				S		**S**		**16 01 53.3**	**+1.6**
BTO				pmax		pmax			
	comp=Z,9.0nm,0.7s								
BTO				pmax		pmax			
	comp=Z,430nm,4.2s								
BTO				LR		LR			
	comp=Z,250nm,5.1s								
BTO				LR		LR			
	comp=Z,160nm,4.4s								
BTO				LR		LR			
	comp=Z,140nm,6.8s								
SBUM	**Sibu**	**36.79**	**244**	P		**P**		**15 56 37.9**	**+0.9**
CD2	**Chengdu**	**37.95**	**293**	P		**P**		**15 56 47.2**	**+0.5**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
SLVN	**Son La**	**38.05**	**278**	P		**P**		**15 56 48.2**	**+0.6**
SLVN				IAmb		IAmb		15 56 50.7	
	comp=Z,8.7nm,0.7s								
LZH	**Lanzhou**	**38.60**	**302**	*e*P		**P**		**15 56 53.4**	**+1.1**
LZH				pP		pwP		15 57 13.5	-0.7
LZH				sP		sP		15 57 24.2	+3.1
LZH				pmax		pmax			
	comp=Z,21nm,1.1s								
SHEM	**Shemya Is, Ala**	**38.73**	**28**	LR		LR		16 09 46.8	
	comp=Z,80nm,20.3s,baz=138,slow=31								
PZH	**PanZhiHua**	**39.61**	**286**	P		**P**		**15 57 01.6**	**+0.9**
PZH				pmax		pmax			
	comp=Z,20nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,5.0s								
ULN	**Ulaanbaatar**	**40.32**	**320**	P		**P**		**15 57 06.7**	**+0.3**
ULN	**Ulaanbaatar**	**40.32**	**320**	P		**P**		**15 57 06.7**	**+0.3**
ULN				pmax		pmax			
	comp=Z,7.0nm,0.9s								
TWSI	**Taliwang, Sumb**	**40.45**	**226**	P		**P**		**15 57 07.4**	**-0.2**
	comp=Z,37nm,1.6s								
SONM	**Songino Array**	**40.70**	**320**	P		**P**		**15 57 09.7**	**+0.2**
SONM	**Songino Array**	**40.70**	**320**	P		**P**		**15 57 10.2**	**+0.7**
	comp=Z,7.3nm,0.7s,baz=135,slow=7.8,SNR=32								
SONM				ScP		**ScP**		**16 02 47.7**	**-3.9**
	comp=Z,1.0nm,0.7s,baz=152,slow=3.6,SNR=5.9								
SONM				LR		LR		16 13 29.7	
	comp=Z,34nm,21.5s,baz=66,slow=35								
	comp=Z,7.3nm,0.7s								
SONM	**Songino Array**	**40.70**	**320**	P		**P**		**15 57 09.7**	**+0.2**
SONM				pmax		pmax			
	comp=Z,7.0nm,0.7s								
PHRA	**Phrae**	**41.92**	**274**	P		**P**		**15 57 20.2**	**+0.6**
WRAB	**Tennant Creek**	**42.12**	**195**	P		**P**		**15 57 21.2**	**0.0**
WRAB	**Tennant Creek**	**42.12**	**195**	P		**P**		**15 57 21.2**	**0.0**
WRAB				pmax		pmax			
	comp=Z,51nm,1.7s								
WB2	**Warramunga Arr**	**42.13**	**195**	P		**P**		**15 57 21.2**	**0.0**
WRA	**Warramunga Arr**	**42.13**	**195**	P		**P**		**15 57 21.1**	**-0.2**
	comp=Z,5.2nm,0.3s,baz=12,slow=8.5,SNR=92								
WRA				pP		**sP**		**15 57 47.8**	**-2.3**
	comp=Z,9.8nm,1.1s,baz=12,slow=8.7,SNR=3.8								
WRA				ScP		**ScP**		**16 02 54.3**	**-3.1**
	comp=Z,0.9nm,0.8s,baz=12,slow=5.4,SNR=3.5								
	comp=Z,5.2nm,0.3s								
YAK	**Yakutsk**	**42.14**	**349**	P		**P**		**15 57 21.1**	**+0.3**
YAK				IAmb		IAmb		15 57 22.4	
	comp=Z,19nm,0.7s								
YAK	**Yakutsk**	**42.14**	**349**	LR		LR		16 16 01.5	
	comp=Z,12nm,22.0s,baz=140,slow=37								
YAK	**Yakutsk**	**42.14**	**349**	*e*P		**P**		**15 57 21.5**	**+0.7**
YAK				*e**PP		**pwP**		**15 57 43.0**	**-1.4**
YAK				*e*				15 59 13.9	
YAK				*e*S		**S**		**16 03 36.2**	**+2.1**
YAK				*e*				16 07 15.8	
YAK				pmax		pmax			
	comp=Z,18nm,0.9s								
YAK				pmax		pmax			
	comp=N,2.0nm,0.8s								
YAK				pmax		pmax			
	comp=E,1.0nm,0.7s								
YAK				smax		smax			
	comp=N,68nm,2.8s								
YAK				smax		smax			
	comp=E,70nm,3.1s								
YAK	**Yakutsk**	**42.14**	**349**	P		**P**		**15 57 21.5**	**+0.7**
GTA	**Gaotai**	**42.40**	**306**	P		**P**		**15 57 23.9**	**+0.4**
GTA				PcP		**PcP**		**15 59 17.7**	**+2.4**
GTA				ScP		**ScP**		**16 02 55.0**	**-3.6**
GTA				pmax		pmax			
	comp=E,12nm,0.9s								
CHTO	**Chiang Mai**	**43.05**	**275**	P		**P**		**15 57 29.1**	**+0.2**
CHTO	**Chiang Mai**	**43.05**	**275**	P		**P**		**15 57 29.1**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CM31	**Chiang Mai Arr**	**43.12**	**275**	IAmb		IAmb		15 57 32.2	
	comp=Z,9.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**43.12**	**275**	P		**P**		**15 57 29.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**43.12**	**275**	P		**P**		**15 57 30.6**	**+1.1**
	comp=Z,4.1nm,0.6s,baz=87,slow=5.6,SNR=44								
CMAR				ScP		**ScP**		**16 02 57.5**	**-4.1**
	comp=Z,1.1nm,1.1s,baz=92,slow=3.3,SNR=5.7								
	comp=Z,4.1nm,0.6s								
FITZ	**Fitzroy Crossi**	**43.32**	**207**	P		**P**		**15 57 30.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**43.32**	**207**	LR		LR		16 13 09.7	
	comp=Z,80nm,21.5s,baz=240,slow=33								
ZAK	**Zakamensk**	**43.68**	**322**	*e*P		**P**		**15 57 32.5**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KPJI	**Karang Pucung**	**45.21**	**235**	P		**P**		**15 57 45.9**	**-0.2**
	comp=Z,39nm,1.0s								
MOY	**Mondy**	**45.54**	**323**	*e*P		**P**		**15 57 49.2**	**+0.8**
AS31	**Alice Springs**	**45.82**	**194**	P		**P**		**15 57 50.0**	**-0.8**
ASAR	**Alice Springs**	**45.82**	**194**	P		**P**		**15 57 50.0**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=13,slow=7.1,SNR=140								
ASAR				pP		**sP**		**15 58 16.4**	**-3.3**
	comp=Z,1.8nm,0.8s,baz=20,slow=7.3,SNR=3.4								
	comp=Z,2.2nm,0.4s								
GOMU	**GeErMu**	**45.85**	**300**	P		**P**		**15 57 52.9**	**+1.5**
GOMU				pmax		pmax			
	comp=Z,13nm,0.8s								
CGJI	**Cibinong**	**47.29**	**239**	P		**P**		**15 58 00.9**	**-1.5**
	comp=Z,831nmcomp=Z,44nm,1.6s								
MDSI	**Maura Dua**	**47.30**	**242**	P		**P**		**15 58 01.8**	**-0.7**
DZM	**Mont Dzumac**	**47.89**	**153**	*e*LR		LR		16 11 48.0	
	comp=Z,167nm,26.1s								
DZM	**Mont Dzumac**	**47.89**	**153**	LR		LR		16 16 49.5	
	comp=Z,31nm,18.7s,baz=338,slow=34								
KSI	**Kapahiang**	**48.16**	**244**	P		**P**		**15 58 08.8**	**-0.4**
SHL	**Shillong**	**48.52**	**286**	P		**P**		**15 58 12.4**	**+0.3**
SHL				pmax		pmax			
	comp=Z,17nm,0.6s								
P08K	**Saint George I**	**48.69**	**32**	P		**P**		**15 58 12.7**	**+0.1**
	baz=243								
BILL	**Bilibino**	**48.74**	**11**	P		**P**		**15 58 14.5**	**+1.6**
BILL	**Bilibino**	**48.74**	**11**	*i* P		**P**		**15 58 13.7**	**+0.9**
BILL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
BILL	**Bilibino**	**48.74**	**11**	P		**P**		**15 58 15.3**	**+2.5**
BILL				pP		**pwP**		**15 58 37.2**	**+0.5**
LSA	**Lhasa**	**48.83**	**291**	IAmb		IAmb		15 58 18.7	
	comp=Z,8.9nm,0.6s								
LSA	**Lhasa**	**48.83**	**291**	P		**P**		**15 58 16.1**	**+1.3**
LSA				pmax		pmax			
	comp=Z,12nm,0.6s								
UNV	**Unalaska Valle**	**49.12**	**36**	P		**P**		**15 58 16.0**	**0.0**
	baz=248								
TIXI	**Tiksi**	**51.32**	**354**	P		**P**		**15 58 32.9**	**+0.6**
TIXI	**Tiksi**	**51.32**	**354**	P		**P**		**15 58 32.9**	**+0.6**
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.6s								
GAMB	**Gambell**	**51.49**	**23**	P		**P**		**15 58 33.4**	**-0.3**
	baz=235								
WMQ	**Urumqi**	**52.08**	**310**	*e*P		**P**		**15 58 39.8**	**+1.3**
WMQ				pmax		pmax			
	comp=Z,38nm,1.1s								
WMQ	**Urumqi**	**52.08**	**310**	P		**P**		**15 58 39.7**	**+1.2**
S12K	**Black Hills**	**52.19**	**35**	P		**P**		**15 58 38.8**	**-0.2**
	baz=251								
STKA	**Stephens Creek**	**52.84**	**183**	P		**P**		**15 58 42.9**	**-1.2**
	comp=Z,1.3nm,0.4s,baz=341,slow=5.3,SNR=5.6								
	comp=Z,1.3nm,0.4s								
M13K	**Dall Lake**	**53.27**	**29**	P		**P**		**15 58 48.3**	**+1.4**
	baz=246								
K13K	**Kusilvak Mount**	**53.34**	**27**	P		**P**		**15 58 49.2**	**+1.8**
	baz=244								
TNA	**Tin City**	**53.84**	**22**	P		**P**		**15 58 51.9**	**+0.9**
	baz=238								
N14K	**Kuskokwak Cree**	**53.85**	**30**	P		**P**		**15 58 51.4**	**+0.3**
	baz=248								
L14K	**Kuka Creek**	**53.95**	**28**	P		**P**		**15 58 52.2**	**+0.4**
	baz=246								
M14K	**Bethel**	**54.04**	**29**	P		**P**		**15 58 52.9**	**+0.4**
	baz=247								
J14K	**Nanvaranak Lak**	**54.16**	**26**	P		**P**		**15 58 54.3**	**+1.0**
	baz=244								
ANM	**Nome**	**54.27**	**24**	P		**P**		**15 58 55.4**	**+1.3**
ANM	**Nome**	**54.27**	**24**	P		**P**		**15 58 55.2**	**+1.0**
	baz=241								
ANM	**Nome**	**54.27**	**24**	P		**P**		**15 58 55.4**	**+1.3**
ANM				pmax		pmax			
	comp=Z,7.0nm,1.0s								
CHGN	**Chignik**	**54.32**	**35**	P		**P**		**15 58 55.9**	**+1.3**
	baz=254								
F14K	**Arctic Creek**	**54.36**	**23**	P		**P**		**15 58 56.5**	**+1.7**
	baz=240,SNR=9.6								
O15K	**Ungalikthiuk R**	**54.48**	**31**	P		**P**		**15 58 56.8**	**+1.0**
	baz=251								
M15K	**Kasigluk River**	**54.60**	**29**	P		**P**		**15 58 57.9**	**+1.3**
	baz=249								
L15K	**Ungalak Mounta**	**54.61**	**28**	P		**P**		**15 58 57.9**	**+1.2**
	baz=247								
N15K	**Kwethluk River**	**54.69**	**30**	P		**P**		**15 58 58.6**	**+1.3**
	baz=250								
K15K	**Wolf Creek Mou**	**54.83**	**27**	P		**P**		**15 58 59.1**	**+0.8**
	baz=247								
G15K	**Niukluk**	**54.97**	**24**	P		**P**		**15 58 59.8**	**+0.5**
	baz=242								
F15K	**North Star Dit**	**55.08**	**23**	P		**P**		**15 59 00.7**	**+0.7**
	baz=241								
P16K	**Nushagak River**	**55.33**	**32**	P		**P**		**15 59 02.5**	**+0.7**
	baz=252								
N16K	**Nishlik Lake**	**55.41**	**30**	P		**P**		**15 59 03.4**	**+0.9**
	baz=251								
O16K	**Kokwok River B**	**55.45**	**31**	P		**P**		**15 59 03.5**	**+0.8**
	baz=252								
H16K	**Elim**	**55.51**	**25**	P		**P**		**15 59 04.1**	**+1.0**
	baz=245								
M16K	**Timber Creek**	**55.51**	**29**	P		**P**		**15 59 04.2**	**+1.0**
	baz=250								
L16K	**Owhat River**	**55.51**	**29**	P		**P**		**15 59 04.2**	**+1.1**
	baz=249								
ZAA0	**Zalesovo Array**	**55.55**	**322**	IAmb		IAmb		15 59 06.8	
	comp=Z,12nm,0.8s								
ZALV	**Zalesovo Beam**	**55.55**	**322**	P		**P**		**15 59 03.5**	**0.0**
ZALV	**Zalesovo Beam**	**55.55**	**322**	P		**P**		**15 59 03.4**	**-0.2**
	comp=Z,11nm,0.6s,baz=100,slow=6.6,SNR=26								
ZALV				PcP		**PcP**		**16 00 01.7**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=110,slow=3.1,SNR=4.4								
ZALV				ScP		**ScP**		**16 03 49.9**	**-4.0**
	comp=Z,0.8nm,0.7s,baz=121,slow=5.7,SNR=3.6								
	comp=Z,11nm,0.6s								
J16K	**Anvik River**	**55.61**	**27**	IAmb		IAmb		15 59 07.0	
	comp=Z,10.0nm,0.9s								
J16K	**Anvik River**	**55.61**	**27**	P		**P**		**15 59 04.7**	**+0.8**
	baz=247								
I17K	**Unalakleet**	**55.81**	**26**	P		**P**		**15 59 05.7**	**+0.4**
	baz=247								
Q16K	**King Salmon**	**55.89**	**33**	P		**P**		**15 59 06.3**	**+0.4**
	baz=254								
O17K	**Koliganek Bris**	**55.99**	**31**	P		**P**		**15 59 07.5**	**+0.9**
	baz=253,SNR=5.2								
C16K	**Lisburne Hills**	**56.12**	**20**	P		**P**		**15 59 08.8**	**+1.4**
	baz=239								
P17K	**Kvichak River**	**56.14**	**32**	P		**P**		**15 59 08.3**	**+0.6**
	baz=254								
MK31	**Makanchi Array**	**56.16**	**313**	*ce*P		**P**		**15 59 08.6**	**+0.5**
MKAR	**Makanchi Array**	**56.16**	**313**	P		**P**		**15 59 08.1**	**-0.1**
MKAR	**Makanchi Array**	**56.16**	**313**	P		**P**		**15 59 08.4**	**+0.3**
	comp=Z,8.1nm,0.5s,baz=91,slow=9.1,SNR=148								
MKAR				PcP		**PcP**		**16 00 04.9**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=76,slow=3.4,SNR=18								
MKAR				ScP		**ScP**		**16 03 53.3**	**-3.5**
	comp=Z,2.7nm,0.9s,baz=94,slow=5.0,SNR=11								
MKAR				LR		LR		16 22 05.5	
	comp=Z,19nm,21.3s,baz=155,slow=35								
	comp=Z,8.1nm,0.5s								
MKAR	**Makanchi Array**	**56.16**	**313**	*i* P		**P**		**15 59 08.3**	**+0.2**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.5s								
N17K	**Nushagak Hills**	**56.17**	**30**	P		**P**		**15 59 08.2**	**+0.3**
	baz=252								
Q17K	**Contact Creek**	**56.17**	**33**	P		**P**		**15 59 08.3**	**+0.3**
	baz=255								
L17K	**Donlin**	**56.18**	**28**	P		**P**		**15 59 09.1**	**+1.1**
	baz=250								
J17K	**VABM Dome**	**56.29**	**27**	P		**P**		**15 59 09.3**	**+0.

baz=257
J19K Poorman 57.94 27 IAmb IAmb 15 59 23.1
comp=Z,12nm,1.0s
J19K Poorman 57.94 27 P **P 15 59 20.3 -0.1**
baz=252,SNR=7.2
SHLS Shalkode 58.02 308 *e*P **P 15 59 18.3 -3.1**
SHLS pmax pmax
comp=Z,44nm,2.8s
F19K Shaleruckik Mo 58.08 23 P **P 15 59 22.2 +1.0**
baz=248
G19K Purcell Mounta 58.08 24 P **P 15 59 22.4 +1.1**
baz=249
H19K Roundabout Mou 58.11 25 P **P 15 59 22.4 +0.9**
baz=250
O20K Slope Mountain 58.24 32 P **P 15 59 22.9 +0.3**
baz=257
L20K Farewell, AK 58.25 29 P **P 15 59 23.8 +1.2**
baz=254
UZB Uzynbulak 58.34 308 *e*P **P 15 59 23.2 -0.5**
UZB pmax pmax
comp=Z,61nm,3.5s
K20K Telida 58.41 28 P **P 15 59 25.2 +1.6**
baz=254
M20K Styx River 58.43 29 P **P 15 59 24.6 +0.7**
baz=255
E19K Redstone River 58.51 23 P **P 15 59 25.2 +0.9**
baz=248,SNR=7.0
KPKS Kokpek 58.58 309 *e*P **P 15 59 26.0 +0.7**
KPKS pmax pmax
comp=Z,4.0nm,0.5s
D19K Kuna River 58.61 21 IAmb IAmb 15 59 27.5
comp=Z,5.0nm,0.8s
D19K Kuna River 58.61 21 P **P 15 59 26.1 +1.2**
baz=247
J20K Nowinta River 58.61 27 P **P 15 59 26.3 +1.3**
baz=253
I20K Naaghedeneel 58.66 26 P **P 15 59 26.2 +0.9**
baz=252
H20K Anotleneega Mo 58.72 25 P **P 15 59 26.6 +0.8**
baz=252
PRZ Przheval'sk 58.80 308 P **P 15 59 28.8 +1.8**
PRZ pmax pmax
comp=Z,65nm,0.9s
KURK Kurchatov 58.88 317 P **P 15 59 26.8 -0.3**
KURK Kurchatov 58.88 317 *i* P **P 15 59 26.9 -0.2**
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 58.88 317 P **P 15 59 26.8 -0.3**
KURK pP **pwP 15 59 48.7 -1.6**
F20K Avaraart Lake 58.91 23 P **P 15 59 28.7 +1.7**
baz=250
KURBB Kurchatov Arra 58.93 317 P **P 15 59 27.3 -0.1**
comp=Z,19nm,0.5s,baz=93,slow=7.6,SNR=200
comp=Z,19nm,0.5s
NRIK Noril'sk 59.00 340 IAmb IAmb 15 59 28.5
comp=Z,4.6nm,0.8s
NRIK Noril'sk 59.00 340 P **P 15 59 27.9 +0.3**
comp=Z,3.8nm,0.7s,baz=112,slow=8.2,SNR=13
NRIK ScP **ScP 16 04 04.3 -4.5**
comp=Z,3.9nm,1.0s,baz=117,slow=4.6,SNR=5.0
comp=Z,3.8nm,0.7s
NRIK Noril'sk 59.00 340 *ce*P **P 15 59 28.2 +0.6**
BRSE Bradley Lake S 59.10 32 P **P 15 59 28.8 +0.3**
baz=259
CAPN Captain Cook N 59.10 31 P **P 15 59 27.9 -0.5**
baz=258
E20K Nigu River 59.18 22 P **P 15 59 29.5 +0.5**
baz=249,SNR=7.6
SKT Skwentna 59.19 30 IAmb IAmb 15 59 30.2
comp=Z,15nm,1.2s
SKT Skwentna 59.19 30 P **P 15 59 28.4 -0.7**
baz=257,SNR=5.4
D20K Etivluk River 59.20 21 P **P 15 59 29.6 +0.6**
baz=248
TARG Taragay, Kyrgy 59.26 307 P **P 15 59 31.8 +1.4**
TARG pmax pmax
comp=Z,20nm,1.0s
SUA Susitna One 59.44 30 P **P 15 59 31.2 +0.3**
baz=258
H21K Melozitna Rive 59.59 25 P **P 15 59 32.4 +0.7**
baz=254
KDJ Kajisay 59.72 307 P **P 15 59 34.5 +1.2**
KDJ pmax pmax
comp=Z,22nm,1.1s
O22K Cooper Landing 59.74 31 P **P 15 59 33.8 +1.0**
baz=259
I21K Tanana 59.79 26 P **P 15 59 33.5 +0.4**
baz=255
F21K Alatna River 59.80 23 P **P 15 59 34.0 +0.8**
baz=252
M22K Willow 59.80 30 P **P 15 59 33.7 +0.5**
baz=258
SEW Seward 59.80 32 P **P 15 59 34.0 +0.7**
baz=260
RC01 Rabbit Creek A 59.85 31 P **P 15 59 33.9 +0.3**
baz=259
CUT Chulitna 59.86 29 P **P 15 59 34.1 +0.5**
baz=258
NWAO Narrogin (SRO) 59.91 207 LR LR 16 27 18.7
comp=Z,27nm,18.1s,baz=222,slow=38
BPAW Bear Paw Mtn. 59.93 27 IAmb IAmb 15 59 36.5
comp=Z,11nm,0.8s
BPAW Bear Paw Mtn. 59.93 27 P **P 15 59 34.3 +0.2**
baz=256,SNR=8.0
C21K Knifeblade Rid 59.98 21 P **P 15 59 34.4 0.0**
baz=250
E21K Killik River 60.01 22 P **P 15 59 35.9 +1.3**
baz=251
TRF Thorofare Moun 60.08 28 P **P 15 59 34.6 -0.7**
baz=257,SNR=8.0
B21K Ikpikpuk River 60.20 21 P **P 15 59 36.4 +0.7**
baz=250
A21K Barrow 60.21 18 P **P 15 59 36.5 +0.7**
baz=247
H22K Ishtalitna Cre 60.22 25 P **P 15 59 36.6 +0.5**
baz=255
PMR Palmer 60.23 30 P **P 15 59 36.8 +0.7**
baz=259
ULHL Ulahol 60.41 307 P **P 15 59 39.1 +1.1**
SNR=18
PWL Port Wells 60.48 31 P **P 15 59 38.2 +0.3**
baz=260
KNK Knik Glacier 60.51 31 P **P 15 59 39.3 +1.2**
baz=260
D22K Ayikyak River 60.60 22 IAmb IAmb 15 59 41.8
comp=Z,9.6nm,0.8s
D22K Ayikyak River 60.60 22 P **P 15 59 39.2 +0.6**
baz=252
BOOM Boomskoye usch 60.62 308 P **P 15 59 40.5 +1.1**
BOOM pmax pmax
comp=Z,34nm,0.9s
SML Sawmill 60.64 30 P **P 15 59 39.8 +0.7**
SML Sawmill 60.64 30 P **P 15 59 39.8 +0.7**
baz=260,SNR=6.8
SML Sawmill 60.64 30 P **P 15 59 39.8 +0.7**
SML pmax pmax
comp=Z,27nm,0.9s
E22K Anaktuvuk Pass 60.68 23 IAmb IAmb 15 59 42.1
comp=Z,8.4nm,0.9s
E22K Anaktuvuk Pass 60.68 23 P **P 15 59 39.7 +0.5**
baz=253,SNR=7.7
MCK McKinley 60.73 28 P **P 15 59 40.3 +0.6**
baz=258
KSH Kashi 60.77 304 P **P 15 59 43.6 +3.2**
KSH sP sP 16 00 15.6 +5.4
KSH pmax pmax
comp=Z,22nm,0.8s
B22K Teshekpuk Lake 60.83 20 P **P 15 59 40.9 +0.8**
baz=250
TKM2 Tokmak 2 60.85 308 P **P 15 59 41.7 +0.6**
SNR=40
I23K Minto, Yukon-K 60.85 26 P **P 15 59 40.7 +0.4**
baz=257
NEA2 Nenana 60.85 27 P **P 15 59 41.3 +0.9**
baz=258
M23K Glacier View 60.92 30 P **P 15 59 41.6 +0.7**
baz=260
G23K Bananza Creek 60.96 24 P **P 15 59 41.9 +0.8**
baz=256
COLD Coldfoot 61.02 24 IAmb IAmb 15 59 44.5
comp=Z,6.3nm,0.9s
COLD Coldfoot 61.02 24 P **P 15 59 41.6 +0.1**
baz=255,SNR=7.2
SCM Sheep Creek Mo 61.12 30 P **P 15 59 41.8 -0.5**
baz=261
WRH Wood River Hil 61.24 27 IAmb IAmb 15 59 45.0
comp=Z,12nm,1.3s
D23K Nanushuk River 61.32 22 IAmb IAmb 15 59 46.8
comp=Z,6.8nm,0.9s
D23K Nanushuk River 61.32 22 P **P 15 59 44.1 +0.7**
baz=254
KBK Karagaybulak 61.34 308 P **P 15 59 45.7 +1.3**
SNR=18
COLA College 61.42 27 P **P 15 59 44.8 +0.6**
baz=259
E23K Chandalar 61.45 23 P **P 15 59 44.9 +0.4**
baz=255
CHMS Chumysh 61.47 308 P **P 15 59 45.6 +0.6**
SNR=9.9
FRU1 Bishkek 61.57 308 P **P 15 59 47.1 +1.4**
FRU1 pmax pmax
comp=Z,30nm,0.9s
C23K Itkillik River 61.59 21 P **P 15 59 45.9 +0.7**
baz=253
H24K Noodor Dome 61.61 26 P **P 15 59 45.8 +0.3**
baz=258
TOLK Toolik Lake Re 61.62 22 P **P 15 59 46.5 +1.0**
baz=255,SNR=7.6
POKR Poker Plat Res 61.65 26 IAmb IAmb 16 00 44.5
comp=Z,13nm,1.6s
POKR Poker Plat Res 61.65 26 P **P 15 59 47.0 +1.2**
baz=259
AAK Ala-Archa 61.68 308 P **P 15 59 46.6 +0.1**
AAK IAmb IAmb 15 59 48.2
comp=Z,14nm,1.1s
AAK Ala-Archa 61.68 308 P **P 15 59 46.8 +0.3**
SNR=12
AAK Ala-Archa 61.68 308 *ce*P **P 15 59 46.8 +0.3**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 61.68 308 P **P 15 59 47.1 +0.6**
EYAK Cordova Ski Ar 61.69 32 P **P 15 59 46.6 +0.6**
baz=263
UCH Uchtor 61.69 307 P **P 15 59 48.9 +1.9**
SNR=5.5
HDA Harding Lake 61.72 27 IAmb IAmb 15 59 46.6
comp=Z,19nm,1.7s
HDA Harding Lake 61.72 27 P **P 15 59 46.4 +0.1**
baz=260
KLU Klutina 61.73 31 P **P 15 59 47.2 +0.7**
baz=262,SNR=5.4
ILAR Eielson Array 61.81 27 P **P 15 59 46.5 -0.3**
comp=Z,5.1nm,0.9s,baz=259,slow=4.5,SNR=50
ILAR LR LR 16 24 36.9
comp=Z,30nm,21.4s,baz=239,slow=34
comp=Z,5.1nm,0.9s
ARLS Aral 61.86 307 P **P 15 59 49.1 +1.3**
ARLS pmax pmax
comp=Z,34nm,0.9s
E24K Your Creek 61.87 23 P **P 15 59 48.4 +1.2**
baz=256
BTLS Baital 61.88 311 *e*P **P 15 59 47.6 -0.1**
BTLS pmax pmax
comp=Z,7.0nm,0.5s
G24K Hadweenzic Riv 61.95 25 P **P 15 59 48.2 +0.5**
baz=258
F24K Squaw Lake 61.96 24 P **P 15 59 49.6 +1.8**
baz=257
D24K Happy Valley 62.01 22 P **P 15 59 49.4 +1.3**
baz=256
K24K Donnelly Dome 62.13 28 P **P 15 59 50.4 +1.4**
baz=261
PAX Paxson 62.14 29 IAmb IAmb 16 00 06.5
comp=Z,20nm,1.6s
PAX Paxson 62.14 29 P **P 15 59 49.6 +0.4**
baz=262
C24K Franklin Bluff 62.20 21 P **P 15 59 50.5 +1.2**
baz=255
EKS2 Erkin-Say 62.21 308 P **P 15 59 51.0 +0.9**
SNR=14
HARP HAARP 62.21 30 P **P 15 59 51.1 +1.5**
baz=262
KAIM Kayak Island 62.28 32 P **P 15 59 51.7 +1.7**
baz=264
BMRM Bremner River 62.30 31 P **P 15 59 51.6 +1.3**
baz=264
AML Almayashu 62.30 307 P **P 15 59 52.3 +1.3**
SNR=38
N25K Chitina, Valde 62.37 31 P **P 15 59 51.8 +1.0**
baz=263
J25K Salcha River, 62.43 27 P **P 15 59 51.6 +0.6**
baz=261
PRP Porcupine Dome 62.51 26 P **P 15 59 51.9 +0.2**
baz=261
H25L Birch Creek 62.51 25 P **P 15 59 53.0 +1.5**
baz=260
RIDG Independent Ri 62.53 28 IAmb IAmb 15 59 53.9
comp=Z,11nm,0.9s
RIDG Independent Ri 62.53 28 P **P 15 59 52.2 +0.5**
baz=262,SNR=5.2
BRZS Berezniki 62.66 316 *e*P **P 15 59 51.6 -1.2**
BRZS pmax pmax
comp=Z,3.0nm,0.6s
GLB Gilahina Butte 62.73 31 IAmb IAmb 15 59 56.0
comp=Z,16nm,1.1s
F25K Christian Rive 62.82 24 P **P 15 59 54.2 +0.6**
baz=259
D25K Kavik River 62.90 22 P **P 15 59 55.1 +1.0**
baz=258
ARSB Arslanbob 62.90 306 IAmb IAmb 15 59 56.6
comp=Z,7.0nm,0.7s
SCRK Sand Creek 62.94 28 IAmb IAmb 15 59 56.3
comp=Z,10nm,0.8s
SCRK Sand Creek 62.94 28 P **P 15 59 54.6 +0.1**
baz=263,SNR=11
E25K Arctic Village 62.95 23 P **P 15 59 54.7 +0.3**
baz=259,SNR=7.8
OHH Osh 63.12 306 P **P 15 59 57.0 +0.9**
OHH pmax pmax
comp=Z,45nm,1.0s
J26L Joseph Creek 63.18 27 P **P 15 59 55.9 -0.2**
baz=263
M26K Nabesna, AK 63.21 30 P **P 15 59 56.6 +0.3**
baz=264
PALK Pallekele 63.29 268 LR LR 16 23 35.3
comp=Z,20nm,21.5s,baz=76,slow=32
F26K Sheenjek River 63.40 24 P **P 15 59 58.3 +0.9**
baz=261
G26K Porcupine Rive 63.43 25 P **P 15 59 59.1 +1.6**
baz=262
C26K Camden Bay 63.52 21 P **P 15 59 59.6 +1.5**
baz=259
MESA MESA 63.54 32 P **P 15 59 58.6 0.0**
baz=267
NIL Nilore 63.62 298 P **P 15 59 59.4 0.0**
NIL IAmb IAmb 16 00 02.3
comp=Z,14nm,0.8s
NIL Nilore 63.62 298 P **P 15 59 59.4 0.0**
NIL pmax pmax
comp=Z,14nm,0.8s
ARK Arkit 63.62 307 P **P 16 00 00.4 +1.0**
ARK pmax pmax
comp=Z,38nm,0.9s
M27K Edge Creek, AK 63.72 30 P **P 16 00 00.8 +1.0**
baz=266
L27K Beaver Creek, 63.80 29 P **P 15 59 59.8 -0.4**
baz=265
C27K Jago River 63.88 22 P **P 16 00 01.6 +1.1**
baz=260
DRK Karamyk 63.99 305 IAmb IAmb 16 00 03.9
comp=Z,14nm,0.7s
BVAR Borovoye Array 64.05 320 P **P 16 00 02.6 +0.8**
comp=Z,23nm,0.4s,baz=93,slow=7.5,SNR=132
BVAR LR LR 16 28 46.6
comp=Z,26nm,20.7s,baz=77,slow=37
comp=Z,23nm,0.4s
BRVK Borovoye 64.11 320 P **P 16 00 02.6 +0.3**
BRVK IAmb IAmb 16 00 03.5
comp=Z,20nm,0.8s
BRVK Borovoye 64.11 320 P **P 16 00 02.6 +0.3**
BRVK pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 64.11 320 P **P 16 00 02.3 0.0**
BRVK pP **pwP 16 00 24.6 -1.2**
BRVK sP **PcP 16 00 35.1 -1.6**
I27K Kandik River 64.13 26 P **P 16 00 03.2 +0.9**
baz=264
BVCY Beaver Creek 64.20 30 P **P 16 00 03.2 +0.5**
baz=266
H27K Steamboat Moun 64.23 26 P **P 16 00 04.0 +1.1**
baz=264
G27K Doyon Strip 64.24 25 P **P 16 00 03.6 +0.7**
baz=264
EGAK Eagle 64.24 27 P **P 16 00 04.5 +1.6**
baz=265
TRKS Terek-Say 64.26 307 P **P 16 00 04.2 +0.5**
TRKS pmax pmax
comp=Z,26nm,1.1s
YUK3 Moose Creek 64.35 31 P **P 16 00 04.1 +0.1**
baz=267
O28M Mount Upton 64.44 32 P **P 16 00 04.5 -0.2**
baz=268
KKAR Karatay Array 64.56 309 P **P 16 00 05.9 +0.5**
KKAR Karatay Array 64.56 309 IAmb IAmb 16 00 06.8
comp=Z,19nm,0.8s
KKAR Karatay Array 64.56 309 P **P 16 00 05.9 +0.5**
YUK8 Steele Glacier 64.66 31 P **P 16 00 05.9 -0.1**
baz=268
BTK Batken 64.67 305 IAmb IAmb 16 00 07.5
comp=Z,17nm,1.1s
D27M Malcolm River 64.78 22 P **P 16 00 07.4 +0.9**
baz=263
I28M Miner Creek 64.81 27 P **P 16 00 07.8 +1.0**
baz=266
DAWY Dawson 64.96 28 P **P 16 00 08.3 +0.6**
baz=267
F28M Old Crow 65.01 24 P **P 16 00 09.6 +1.7**
baz=265,SNR=5.6
IUG Iuzhnay 65.02 308 *e*P **P 16 00 08.0 -0.5**
BRLS Borolday 65.06 309 *e*P **P 16 00 09.2 +0.5**
BRLS pmax pmax
comp=Z,21nm,3.8s
YUK4 Talbot Arm 65.20 31 P **P 16 00 10.4 +0.9**
baz=269,SNR=5.3
O29M Mount Kennedy 65.22 32 IAmb IAmb 16 00 14.9
comp=Z,22nm,1.1s
O29M Mount Kennedy 65.22 32 P **P 16 00 11.2 +1.7**
baz=269
E28M Babbage River 65.23 23 P **P 16 00 10.5 +1.2**
baz=265
M29M Somme Creek 65.31 30 P **P 16 00 11.0 +1.0**
baz=269
YUK6 Outpost Mounta 65.34 32 P **P 16 00 10.7 +0.3**
baz=269
L29M L29M 65.48 29 IAmb IAmb 16 00 14.2
comp=Z,11nm,0.8s
L29M L29M 65.48 29 P **P 16 00 12.1 +1.0**
baz=269,SNR=7.8
I29M Ogilvie Camp, 65.49 27 P **P 16 00 11.8 +0.8**
baz=267,SNR=5.0
J29N Klondike Camp 65.49 28 P **P 16 00 12.4 +1.3**
baz=268
H29M Whitestone 65.50 26 P **P 16 00 11.5 +0.4**
baz=267
G29M Pine Creek 65.68 25 P **P 16 00 12.7 +0.5**
baz=267
HYT Haines Junctio 65.75 32 IAmb IAmb 16 00 16.0
comp=Z,13nm,0.9s
HYT Haines Junctio 65.75 32 P **P 16 00 12.7 -0.3**
baz=270,SNR=5.3
K29M Barlow Dome 65.78 28 P **P 16 00 13.7 +0.6**
baz=269
N30M Aishikik Lake 65.95 31 P **P 16 00 15.2 +1.0**
baz=270
P30M Million Dollar 66.03 32 P **P 16 00 15.4 +0.7**
baz=271
M30M Minto, Yukon 66.09 30 P **P 16 00 15.2 +0.2**
baz=270
EPYK Eagle Plains 66.18 26 P **P 16 00 16.0 +0.5**
baz=268
SIMJ Simiganj 66.25 304 P **P 16 00 16.8 +0.2**
SIMJ Simiganj 66.25 304 P **P 16 00 17.0 +0.4**
SIMJ PcP **sP 16 00 45.3 -1.2**
I30M Mount Dempster 66.30 27 P **P 16 00 16.7 +0.4**
baz=269
J30M Hart River 66.31 28 P **P 16 00 16.5 +0.1**
baz=270
PLBC Pleasant Camp 66.35 33 P **P 16 00 17.8 +1.2**
baz=272
G30M tAoh Zraii Nji 66.39 25 P **P 16 00 16.8 -0.1**
baz=269
O30N Mendenhall 66.45 32 P **P 16 00 17.3 0.0**
baz=271
F30M Barrier River 66.58 24 P **P 16 00 18.8 +0.8**
baz=269
N31M Braeburn, Yuko 66.58 31 IAmb IAmb 16 00 21.6
comp=Z,22nm,1.2s
N31M Braeburn, Yuko 66.58 31 P **P 16 00 18.7 +0.5**
baz=271
SKAG Skagway 66.88 33 P **P 16 00 21.3 +1.4**
baz=273
KBL Kabul 66.91 300 P **P 16 00 20.6 -0.3**
KBL IAmb IAmb 16 00 22.0
comp=Z,23nm,1.0s
KBL Kabul 66.91 300 P **P 16 00 20.6 -0.3**
KBL pmax pmax
comp=Z,23nm,1.0s
SIT Sitka 67.01 36 P **P 16 00 21.5 +0.7**
baz=274
WHY Whitehorse 67.05 32 P **P 16 00 21.8 +0.6**
baz=272
H31M Peel River 67.14 26 IAmb IAmb 16 00 24.4
comp=Z,10nm,0.9s
H31M Peel River 67.14 26 P **P 16 00 22.8 +1.2**
baz=271,SNR=5.1
G31M Satah River 67.16 25 P **P 16 00 22.3 +0.7**
baz=270
M31M Drury Creek, Y 67.22 30 P **P 16 00 22.4 +0.2**
baz=272
F31M Tsiigehtchic 67.36 24 P **P 16 00 22.7 -0.1**
baz=271
INK Inuvik 67.44 23 P **P 16 00 24.6 +1.2**
baz=270,SNR=8.2
P32M Atlin 67.69 33 P **P 16 00 25.6 +0.4**
baz=274
FARO Faro, Yukon 67.70 30 P **P 16 00 26.5 +1.3**
baz=273
N32M Quiet Lake 67.90 31 P **P 16 00 27.4 +1.0**
baz=274
SNZO South Karori 68.08 156 P **P 16 00 27.2 -0.5**
P33M Teslin, Yukon 68.10 32 P **P 16 00 28.8 +1.0**
baz=274
CRAG Craig 68.37 37 P **P 16 00 30.2 +0.8**
baz=276
R33M Jennings River 69.10 33 P **P 16 00 34.5 +0.3**
baz=276
S34M Telegraph Cree 69.19 35 P **P 16 00 34.0 -0.5**
baz=277
V35K Ketchikan 69.24 37 P **P 16 00 34.9 +0.1**
baz=277
SVE Sverdlovsk 69.38 324 *e*P **P 16 00 35.2 -0.5**
SVE pmax pmax
comp=Z,11nm,1.0s
DLBC Dease Lake 69.70 34 IAmb IAmb 16 00 40.8
comp=Z,9.1nm,0.8s
DLBC Dease Lake 69.70 34 LR LR 16 26 35.2
comp=Z,55nm,21.7s,baz=278,slow=32
DLBC Dease Lake 69.70 34 P **P 16 00 37.7 0.0**
baz=278
A36M Sachs Harbour 70.02 19 P **P 16 00 39.1 -0.2**
baz=277
WTLY Watson Lake, Y 70.11 32 P **P 16 00 39.5 -0.7**
baz=278
ARTI Arti 70.68 324 *c i*P **P 16 00 43.6 0.0**
ARTI *PP **pP 16 01 04.5 -0.2**
ARTI 16 03 19.5
ARTI S **S 16 09 51.8 +0.7**
ARTI SS **SS 16 14 20.5 -3.4**
ARTI pmax pmax
comp=Z,6.0nm,0.9s
C36M Paulatuk 70.77 22 P **P 16 00 44.3 +0.4**
baz=279
ABKAR Akbulak array 70.97 316 P **P 16 00 45.2 -0.3**
ABKAR Akbulak array 70.97 316 IAmb IAmb 16 00 46.1
comp=Z,8.9nm,0.7s
BBB Bella Bella 71.80 40 LR LR 16 26 33.3
comp=Z,44nm,20.4s,baz=26,slow=31
WRGLY Wrigley 72.09 28 P **P 16 00 52.0 0.0**
baz=281
KOTAN Kotaneelee Air 72.44 32 P **P 16 00 53.5 -0.7**
baz=282
KIRV Kirov 74.93 327 *ce*P **P 16 01 09.3 +0.6**
PPT2 Papeete2 74.95 116 *e*LR LR 16 24 00.1
comp=Z,237nm,31.2s
PPT2 *e*LR LR 16 24 10.2
comp=Z,131nm,31.0s
YKA Yellowknife Ar 76.20 28 P **P 16 01 16.5 +0.6**
comp=Z,4.5nm,0.8s,baz=289,slow=5.5,SNR=60
YKA LR LR 16 34 25.7
comp=Z,22nm,20.6s,baz=348,slow=35
comp=Z,4.5nm,0.8s
J05D Fort Rock, OR 78.56 48 P **P 16 01 30.3 +0.6**
J05D IAmb IAmb 16 01 32.3

comp=Z,16nm,0.9s
ORV Oroville 79.55 52 IAmb IAmb 16 01 36.9
comp=Z,22nm,1.5s
NEW Newport 79.65 42 LR LR 16 28 52.5
comp=Z,63nm,20.2s,baz=314,slow=30
ARCES ARCESS Array B 79.89 342 P **P 16 01 36.6 +0.4**
comp=Z,2.3nm,0.6s,baz=77,slow=7.6,SNR=6.8
comp=Z,2.3nm,0.6s
J08A Circle Bar Ran 80.44 47 IAmb IAmb 16 01 42.2
comp=Z,9.8nm,0.9s
CMB Columbia Colle 80.87 53 IAmb IAmb 16 01 44.3
comp=Z,9.4nm,0.8s
PNTR Pine Nut 81.09 52 IAmb IAmb 16 02 10.1
comp=Z,15nm,1.0s
AKT Akhty 81.34 311 *e*P **P 16 01 44.3 -0.4**
AKT *e**PP **pwP 16 02 11.0 +2.1**
AKT *e*S **S 16 11 46.5 -2.5**
AKT pmax pmax
comp=Z,15nm,0.8s
PLID Pearl Lake 81.49 45 P **P 16 01 45.5 -0.1**
VRH Novokhopyorsk 81.59 322 *e*P **P 16 01 43.6 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 81.75 356 P **P 16 01 46.0 0.0**
MFID Camas Ranch 82.22 47 IAmb IAmb 16 01 51.5
comp=Z,11nm,0.9s
NVAR Mina Array Bea 82.27 52 P **P 16 01 49.7 -0.1**
NVAR Mina Array Bea 82.27 52 P **P 16 01 51.4 +1.6**
comp=Z,8.2nm,0.8s,baz=269,slow=5.5,SNR=26
NVAR pP **sP 16 02 18.2 -2.0**
comp=Z,5.4nm,0.9s,baz=259,slow=5.6,SNR=3.9
comp=Z,8.2nm,0.8s
LPSR Galich'ya Gora 82.59 324 *e*P **P 16 01 49.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 82.75 327 *e*P **P 16 01 50.3 -1.3**
OBN *e* 16 05 04.8
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,18nm,14.0s
VORR Voronezh 82.83 323 *e*P **P 16 01 49.2 -2.9**
VORR pmax pmax
comp=Z,10.0nm,0.9s
DSP Deep Springs 82.90 53 P **P 16 01 53.7 +1.0**
VSR Storozhevoye 83.05 322 *e*P **P 16 01 51.3 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 83.08 322 *e*P **P 16 01 51.8 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
ELK Elko 83.63 49 LR LR 16 32 36.0
comp=Z,23nm,21.0s,baz=274,slow=31
ELK Elko 83.63 49 P **P 16 01 58.0 +1.2**
KBZ Khabaz 83.81 314 P **P 16 01 57.8 +0.5**
comp=Z,9.6nm,0.9s,baz=97,slow=3.7,SNR=21
comp=Z,9.6nm,0.9s
KBZ Khabaz 83.81 314 *ce*P **P 16 01 57.6 +0.3**
KBZ pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 83.86 315 P **P 16 01 57.9 +0.1**
KIV IAmb IAmb 16 02 00.2
comp=Z,13nm,1.1s
KIV Kislovodsk 83.86 315 *e*P **P 16 01 59.0 +1.3**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,14nm,19.0s
GNI Garni 83.94 311 P **P 16 01 59.5 +1.2**
GNI pmax pmax
comp=Z,15nm,1.4s
SHA1 Shidzhatmaz 83.97 315 *i* P **P 16 01 58.4 0.0**
WCT Wildcat Mounta 84.11 53 IAmb IAmb 16 02 01.0
comp=Z,6.3nm,0.7s
R11B Troy Canyon, C 84.29 51 P **P 16 01 58.5 -1.6**
baz=292
FINES FINESS Array B 84.29 335 P **P 16 01 58.5 -0.9**
comp=Z,6.7nm,0.4s,baz=68,slow=4.9,SNR=100
FINES pP **sP 16 02 28.9 -0.9**
comp=Z,2.9nm,0.6s,baz=83,slow=6.0,SNR=2.8
comp=Z,6.7nm,0.4s
GWY Greenwater Val 84.30 54 IAmb IAmb 16 02 02.0
comp=Z,8.8nm,0.7s
YHL Hebgen Lake 84.73 44 IAmb IAmb 16 02 05.1
comp=Z,12nm,0.9s
YHB Horse Butte 84.77 44 IAmb IAmb 16 02 05.2
comp=Z,10nm,0.9s
YMR Madison River 84.95 44 IAmb IAmb 16 02 06.8
comp=Z,11nm,0.8s
PRN Pahroc Range 85.04 52 IAmb IAmb 16 02 06.5
comp=Z,33nm,1.8s
YNR Norris Junctio 85.12 44 IAmb IAmb 16 02 36.4
comp=Z,21nm,1.3s
YFT Old Faithful 85.13 44 IAmb IAmb 16 02 08.3
comp=Z,7.9nm,0.9s
KHAM Kharkiv 85.26 322 P **P 16 02 05.4 +0.9**
FFC Flin Flon 85.46 32 P **P 16 02 05.8 +0.4**
FFC IAmb IAmb 16 02 07.8
comp=Z,10nm,0.9s
FFC Flin Flon 85.46 32 P **P 16 02 05.8 +0.4**
FFC pmax pmax
comp=Z,10.0nm,0.9s
PSUT Pine Spring 85.47 50 IAmb IAmb 16 02 13.3
comp=Z,11nm,0.9s
DUG Dugway, Tooele 85.55 49 IAmb IAmb 16 02 08.4
comp=Z,9.3nm,0.8s
DUG Dugway, Tooele 85.55 49 P **P 16 02 07.5 +1.2**
DUG pmax pmax
comp=Z,12nm,1.1s
HWUT Hardware Ranch 85.83 47 IAmb IAmb 16 02 09.8
comp=Z,9.2nm,0.9s
V12A Nelson 85.84 53 IAmb IAmb 16 02 10.0
comp=Z,10nm,1.1s
PDAR Pinedale Array 86.69 45 P **P 16 02 12.6 +0.6**
comp=Z,1.6nm,0.7s,baz=271,slow=1.8,SNR=13
PDAR LR LR 16 33 19.7
comp=Z,22nm,21.1s,baz=309,slow=30
comp=Z,1.6nm,0.7s
FCC Fort Churchill 86.83 27 IAmb IAmb 16 02 17.6
comp=Z,19nm,1.8s
KOPT Kop Dagi 86.97 312 IAmb IAmb 16 02 18.0
comp=Z,12nm,1.3s
LAO LASA Array 87.04 41 IAmb IAmb 16 02 44.8
comp=Z,11nm,1.1s
TMUT Trail Mountain 87.04 49 IAmb IAmb 16 03 02.4
comp=Z,11nm,1.4s
Q16A Castle Valley 87.23 49 IAmb IAmb 16 02 45.1
comp=Z,12nm,1.1s
U15A North Rim 87.46 52 IAmb IAmb 16 02 18.7
comp=Z,7.1nm,0.9s
SRU San Rafael Swe 87.60 49 IAmb IAmb 16 02 46.6
comp=Z,9.3nm,0.9s
MARD Mardin 87.91 309 IAmb IAmb 16 02 19.8
comp=Z,9.3nm,0.7s
Y14A Wickenburg 87.95 54 IAmb IAmb 16 02 20.1
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 88.80 325 P **P 16 02 19.6 -2.0**
comp=Z,2.0nm,0.8s,baz=55,slow=4.1,SNR=9.7
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 88.80 325 *i* P **P 16 02 20.1 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 88.80 325 P **P 16 02 21.0 -0.6**
MI28 Mi28,Pidlybu 89.50 326 P **P 16 02 25.7 +0.8**
comp=Z,89nm,1.2s
RAYN Ar Rayn 89.77 295 P **P 16 02 26.1 -0.7**
RAYN IAmb IAmb 16 02 29.1
comp=Z,7.7nm,0.9s
RAYN Ar Rayn 89.77 295 P **P 16 02 26.1 -0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
HFS Hagfors 89.78 338 P **P 16 02 24.1 -1.9**
comp=Z,1.8nm,0.6s,baz=107,slow=3.6,SNR=6.9
comp=Z,1.8nm,0.6s
N23A Red Feather La 89.94 46 P **P 16 02 26.9 -0.6**
baz=298
NOA NORSAR Array B 89.97 339 P **P 16 02 25.8 -1.1**
comp=Z,0.6nm,0.7s,baz=34,slow=5.4,SNR=3.3
NOA LR LR 16 46 05.9
comp=Z,13nm,19.5s,baz=40,slow=38
comp=Z,0.6nm,0.7s
RNPP5 Staryi Chortor 90.26 327 P **P 16 02 29.3 +0.9**
S22A 4UR Ranch, Cre 90.81 49 IAmb IAmb 16 03 01.6
comp=Z,5.9nm,1.2s
S22A 4UR Ranch, Cre 90.81 49 P **P 16 02 30.8 -0.9**
baz=298
ULM Lac du Bonnet 91.03 34 P **P 16 02 31.6 -0.4**
comp=Z,1.2nm,0.6s,baz=315,slow=5.7,SNR=3.1
ULM LR LR 16 41 26.1
comp=Z,18nm,22.0s,baz=60,slow=34
comp=Z,1.2nm,0.6s
Q24A Divide 91.40 47 P **P 16 02 33.8 -0.6**
baz=299
BR131 Keskin Array S 91.79 314 IAmb IAmb 16 02 37.3
comp=Z,4.1nm,0.9s
BRTR Keskin Array B 91.79 314 P **P 16 02 34.6 -1.4**
BRTR Keskin Array B 91.79 314 P **P 16 02 34.4 -1.6**
comp=Z,1.5nm,0.7s,baz=100,slow=3.8,SNR=11
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 91.79 314 *i* P **P 16 02 34.7 -1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BR104 Keskin Array S 91.80 314 P **P 16 02 34.9 -1.1**
ANMO Albuquerque 92.37 51 LR LR 16 38 04.5
comp=Z,21nm,19.6s,baz=135,slow=31
ANMO Albuquerque 92.37 51 P **P 16 02 41.0 +2.2**
ANMO pmax pmax
comp=Z,4.0nm,1.6s
121A Cookes Peak, D 92.50 54 P **P 16 02 39.0 -0.4**
baz=297
T25A Trinidad 92.79 48 P **P 16 02 40.6 -0.2**
baz=299
MMAI Mount Meron Ar 93.77 307 LR LR 16 49 58.2
comp=Z,30nm,18.3s,baz=234,slow=39
L61B Northampton 107.85 28 P **PKiKP 16 07 54.2 -0.7**
baz=323
TORD Torodi Ar. Bea 130.24 310 PKP **PKPdf 16 08 35.2 -3.2**
comp=Z,0.8nm,0.8s,baz=45,slow=0.2,SNR=4.7
PLCA Paso Flores 144.28 131 PKP **PKPab 16 09 02.3 +0.6**
comp=Z,8.2nm,0.9s,baz=224,slow=5.4,SNR=12
LPAZ La Paz 148.46 87 PKPbc **PKPbc 16 09 15.6 0.0**
comp=Z,5.4nm,0.9s,baz=266,slow=3.1,SNR=14
LPAZ pPKPbc **sPKPbc 16 09 44.6 -2.4**
comp=Z,12nm,1.1s,baz=347,slow=5.7,SNR=6.2

*IDC **04** 15:54:13.1±0.7, 13°.77N×145°.18E, h112km±4km, mb3.7/18, mbtmp4.0/18, Error ellipse: s-maj=22.4km s-min=13.6km az=93.0*
*NEIC **04** 15:54:14.5±1.0, 13°.73N±0°.08×145°.1E±0°.1, h118km±5km, mb4.6/39, Error ellipse: s-maj=20.2km s-min=9.3km az=116.0*
ISC 04 15:54:13.0±0.5, **13°.72N**±0°.07×**145°.2E**±0°.1, **h109**km, **n71**, σ1**90/68**, **mb4.3/38**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**249**		**Pn**	**15 54 31.6**	**+2.7**
GUMO				Sn	**Sn**	**15 54 43.6**	**+2.8**
GUMO	**Guam**	**0.36**	**249**	P	**Pn**	**15 54 31.7**	**+2.7**
	3μm,0.3s,baz=133,slow=2.4,SNR=313						
GUMO				S	**Sn**	**15 54 43.1**	**+2.3**
	6μm,0.3s,baz=283,slow=21,SNR=26						
H11S3	**WAKE ISLAND Hy**	**21.17**	**74**	T	T	16 20 50.6	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**21.18**	**74**	T	T	16 21 03.3	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**21.18**	**74**	T	T	16 20 54.4	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**21.59**	**71**	T	T	16 22 08.4	
	baz=257,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.60**	**71**	T	T	16 22 16.2	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**21.61**	**71**	T	T	16 22 06.3	
	baz=257,slow=75						
MJAR	**Matsushiro Arr**	**23.58**	**346**	P	**P**	**15 59 14.1**	**+0.3**
	0.8nm,0.4s,baz=168,slow=6.2,SNR=1.7						
	0.8nm,0.4s						
MAJO	**Matsushiro**	**23.58**	**346**	P	**P**	**15 59 13.6**	**-0.2**
MAJO				IAmb	IAmb	15 59 26.5	
	comp=Z,19nm,1.4s						
YULB	**Yu-li**	**24.59**	**297**	P	**P**	**15 59 22.6**	**-0.5**
YULB				IAmb	IAmb	15 59 36.7	
	comp=Z,35nm,1.3s						
COEN	**Coen**	**27.57**	**184**	P	**P**	**15 59 48.8**	**-1.2**
COEN				IAmb	IAmb	16 00 16.1	
	comp=Z,21nm,1.2s						
SOEI	**Soe**	**31.24**	**223**	P	**P**	**16 00 20.0**	**-2.6**
WR0	**Warramunga Arr**	**35.08**	**198**	P	**P**	**16 00 56.1**	**+0.3**
WR0				IAmb	IAmb	16 01 10.1	
	comp=Z,14nm,1.3s						
WRAB	**Tennant Creek**	**35.11**	**198**	P	**P**	**16 00 56.4**	**+0.4**
WRAB				IAmb	IAmb	16 00 57.0	
	comp=Z,20nm,1.5s						
WB2	**Warramunga Arr**	**35.12**	**198**	P	**P**	**16 00 56.0**	**-0.2**
WB2				IAmb	IAmb	16 00 57.1	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**35.12**	**198**	P	**P**	**16 00 56.3**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=22,slow=9.4,SNR=8.1						
	comp=Z,2.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**37.04**	**212**	P	**P**	**16 01 12.5**	**-0.1**
KLR	**Kul'dur**	**37.10**	**345**	P	**P**	**16 01 11.9**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=164,slow=9.2,SNR=2.5						
	comp=Z,0.8nm,0.4s						
ASAR	**Alice Springs**	**38.77**	**197**	P	**P**	**16 01 26.7**	**-0.3**
ASAR	**Alice Springs**	**38.77**	**197**	P	**P**	**16 01 27.1**	**0.0**
	comp=Z,0.8nm,0.8s,baz=20,slow=12,SNR=7.6						
	comp=Z,0.8nm,0.8s						
PEA0B	**Petropavlovsk-**	**40.53**	**12**	P	**P**	**16 01 42.1**	**+0.8**
PETK	**Petropavlovsk-**	**40.53**	**12**	P	**P**	**16 01 42.1**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=190,slow=7.4,SNR=1.1						
	comp=Z,1.3nm,0.9s						
ARMA	**Armidale**	**44.32**	**172**	P	**P**	**16 02 12.3**	**0.0**
ARMA				IAmb	IAmb	16 02 19.9	
	comp=Z,25nm,1.5s						
CMAR	**Chiang Mai Arr**	**44.61**	**282**	P	**P**	**16 02 15.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=97,slow=8.2,SNR=2.6						
CMAR				PcP	**PcP**	**16 03 57.0**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=94,slow=2.3,SNR=5.8						
	comp=Z,0.2nm,0.4s						
STKA	**Stephens Creek**	**45.47**	**184**	P	**P**	**16 02 21.2**	**-0.1**
STKA				IAmb	IAmb	16 02 51.8	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**45.47**	**184**	P	**P**	**16 02 21.6**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=2.1,slow=7.5,SNR=5.9						
	comp=Z,1.6nm,0.4s						
SONM	**Songino Array**	**46.82**	**325**	P	**P**	**16 02 31.1**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=126,slow=7.3,SNR=2.7						
	comp=Z,0.4nm,0.6s						
BBOO	**Buckleboo**	**47.09**	**191**	P	**P**	**16 02 34.5**	**+0.6**
BBOO				IAmb	IAmb	16 03 09.3	
	comp=Z,33nm,1.4s						
YAK	**Yakutsk**	**49.51**	**350**		**P**	**16 02 52.3**	**+0.2**
YAK				IAmb	IAmb	16 02 54.2	
	comp=Z,10.0nm,0.7s						
MORW	**Morawa**	**51.03**	**213**	P	**P**	**16 03 03.1**	**-1.0**
MORW				IAmb	IAmb	16 03 38.0	
	comp=Z,18nm,1.2s						
UNV	**Unalaska Valle**	**55.04**	**33**	P	**P**	**16 03 33.5**	**+0.3**
BILL	**Bilibino**	**55.98**	**9**	P	**P**	**16 03 39.2**	**-0.5**
L14K	**Kuka Creek**	**60.38**	**26**	P	**P**	**16 04 11.6**	**+1.1**
L14K				IAmb	IAmb	16 04 34.2	
	comp=Z,14nm,1.4s						
N15K	**Kwethluk River**	**60.99**	**28**	P	**P**	**16 04 15.7**	**+1.0**
K15K	**Wolf Creek Mou**	**61.31**	**25**	P	**P**	**16 04 17.3**	**+0.6**
K15K				IAmb	IAmb	16 04 40.5	
	comp=Z,18nm,1.5s						
MK31	**Makanchi Array**	**61.63**	**316**	P	**P**	**16 04 19.1**	**-0.1**
MKAR	**Makanchi Array**	**61.63**	**316**	P	**P**	**16 04 19.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=91,slow=8.7,SNR=24						
	comp=Z,0.7nm,0.4s						
F15K	**North Star Dit**	**61.82**	**21**	P	**P**	**16 04 20.3**	**+0.2**
F15K				IAmb	IAmb	16 04 41.2	
	comp=Z,5.3nm,1.4s						
MAKZ	**Makanchi**	**61.84**	**316**	P	**P**	**16 04 20.7**	**0.0**
RPZ	**Rata Peaks**	**61.84**	**159**	P	**P**	**16 04 21.1**	**+0.5**
SII	**Sitkinak Islan**	**62.59**	**33**	P	**P**	**16 04 26.3**	**+0.8**
KDAK	**Kodiak Island**	**63.78**	**32**	P	**P**	**16 04 33.9**	**+0.6**
KURK	**Kurchatov**	**64.70**	**320**	P	**P**	**16 04 38.8**	**-0.6**
KURK				IAmb	IAmb	16 05 09.8	
	comp=Z,3.7nm,0.9s						
KURBB	**Kurchatov Arra**	**64.74**	**320**	P	**P**	**16 04 38.9**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=102,slow=6.8,SNR=9.8						
KURBB				PcP	**pwP**	**16 05 08.9**	**+2.8**
	comp=Z,1.7nm,0.7s,baz=102,slow=6.7,SNR=6.3						
	comp=Z,1.1nm,0.5s						
CNPM	**China Poot**	**64.95**	**30**	P	**P**	**16 04 41.1**	**+0.2**
BRLK	**Bradley Lake**	**65.19**	**30**	P	**P**	**16 04 41.9**	**-0.5**
E19K	**Redstone River**	**65.26**	**21**	P	**P**	**16 04 43.2**	**+0.4**
F20K	**Avaraart Lake**	**65.62**	**22**	P	**P**	**16 04 45.5**	**+0.4**
NRIK	**Noril'sk**	**66.12**	**341**	P	**P**	**16 04 47.3**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=80,slow=10,SNR=4.2						
	comp=Z,1.5nm,0.6s						
I21K Tanana 66.35 24 P **P 16 04 50.4 +0.6**
I21K IAmb IAmb 16 04 58.9
comp=Z,7.2nm,1.4s
TRF Thorofare Moun 66.51 26 P **P 16 04 51.0 0.0**
TRF IAmb IAmb 16 05 27.9
comp=Z,6.3nm,1.3s
PWL Port Wells 66.70 29 P **P 16 04 52.4 +0.3**
PWL IAmb IAmb 16 04 53.0
comp=Z,7.3nm,0.6s
E22K Anaktuvuk Pass 67.42 21 P **P 16 04 57.0 +0.4**
E22K IAmb IAmb 16 04 58.0
comp=Z,7.1nm,1.4s
ILAR Eielson Array 68.31 25 P **P 16 05 00.8 -1.3**
comp=Z,1.3nm,0.5s,baz=251,slow=5.9,SNR=44
comp=Z,1.3nm,0.5s
C23K Itkillik River 68.42 20 P **P 16 05 03.0 +0.3**
C23K IAmb IAmb 16 05 18.8
comp=Z,6.2nm,1.4s
SCRK Sand Creek 69.36 26 P **P 16 05 09.0 +0.2**
J26L Joseph Creek 69.64 26 P **P 16 05 10.1 -0.4**
BMAR Burnt Mountain 69.85 23 P **P 16 05 12.3 +0.6**
BVAR Borovoye Array 70.03 322 P **P 16 05 12.3 -0.7**
comp=Z,1.6nm,0.4s,baz=101,slow=7.0,SNR=8.7
comp=Z,1.6nm,0.4s
BRVK Borovoye 70.09 322 P **P 16 05 12.9 -0.5**
BCAR Beaver Creek A 70.17 28 P **P 16 05 14.1 +0.4**
DAWY Dawson 71.37 27 P **P 16 05 21.5 +0.5**
DAWY IAmb IAmb 16 05 53.9
comp=Z,7.1nm,1.5s
ABKAR Akbulak array 76.67 318 P **P 16 05 51.1 -0.9**
YKA Yellowknife Ar 82.59 27 P **P 16 06 23.4 -0.4**
comp=Z,0.5nm,0.5s,baz=284,slow=5.2,SNR=7.6
comp=Z,0.5nm,0.5s
SPITS Spitsbergen Ar 83.98 351 P **P 16 06 31.0 +0.3**
comp=Z,6.6nm,0.9s,baz=88,slow=6.8,SNR=0.8
comp=Z,6.6nm,0.9s
RES Resolute Bay 84.35 13 P **P 16 06 32.9 +0.4**
NVAR Mina Array Bea 86.58 51 P **P 16 06 44.0 -0.7**
comp=Z,1.8nm,0.8s,baz=278,slow=5.2,SNR=5.2
comp=Z,1.8nm,0.8s
FINES FINESS Array B 91.18 335 P **P 16 07 03.9 -1.7**
comp=Z,2.0nm,0.9s,baz=52,slow=3.7,SNR=7.0
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 91.64 45 P **P 16 07 09.0 +0.6**
comp=Z,0.3nm,0.6s,baz=290,slow=3.5,SNR=3.0
comp=Z,0.3nm,0.6s
DBIC Dimbokro 144.03 302 PKP PKPab 16 13 34.6 +0.2
comp=Z,3.3nm,0.5s,baz=33,slow=2.8,SNR=7.3

FUNV 04 16:01:24.1, 10°.25N×68°.16W, h15km, **MW2.2, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPV	**Macapo**	**0.51**	**216**	*e*P	Pg	16 01 33.7	-0.6
MAPV				*e*S	Sg	16 01 41.3	+0.2
MAPV	**Macapo**	**0.51**	**216**	*e*P	Pg	16 01 34.4	+0.1
MAPV				*e*S	Sg	16 01 41.3	+0.2
BENV	**Beln**	**0.62**	**117**	*e*P	Pg	16 01 35.8	-0.5
BENV				*e*S	Sg	16 01 44.1	-0.3
BENV	**Beln**	**0.62**	**117**	*e*P	Pn	16 01 38.0	-0.4
BENV				*e*S	Sb	16 01 46.3	+1.1
TEPV	**Terepaima**	**1.06**	**255**	*e*P	Pb	16 01 43.4	-0.7
TEPV				*e*S	Sb	16 01 58.0	+0.1
TEPV	**Terepaima**	**1.06**	**255**	*e*P	Pn	16 01 44.5	0.0
TEPV				*e*S	Sg	16 01 58.4	-0.1
TACV	**Tcata**	**1.12**	**96**	*e*P	Pb	16 01 44.1	-1.0
TACV				*e*S	Sg	16 02 00.2	-0.1
TACV	**Tcata**	**1.12**	**96**	*e*P	Pg	16 01 47.1	+1.4
TACV				*e*S	Sn	16 02 02.1	+1.7
BAUV	**El Baul**	**1.30**	**175**	*e*P	Pn	16 01 47.8	+0.1
BAUV				*e*S	Sb	16 02 04.5	-0.3
BAUV	**El Baul**	**1.30**	**175**	*e*P	Pn	16 01 47.7	0.0
BAUV				*e*S	Sn	16 02 05.1	+0.2

*NEIC **04** 16:07:29.6±1.6, 17°.39S±0°.10×178°.8W±0°.1, h535km±7km, mb4.6/55, Error ellipse: s-maj=16.3km s-min=13.4km az=62.0*
*NOU **04** 16:07:29.4, 17°.38S×178°.64W, h552km, mb4.5/53, Fiji Islands Region*
*IDC **04** 16:07:31.7±1.0, 17°.37S×178°.94W, h555km±8km, mb3.5/14, mbtmp4.3/16, Error ellipse: s-maj=18.9km s-min=13.7km az=121.0*
ISC 04 16:07:29.4±0.4, **17°.34S**±0°.07×**178°.81W**±0°.07, **h539**km, **n223**, σ1**35/232**, **mb4.5/46**, **4C**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.89**	**181**	P	**P**	**16 08 35.9**	**+1.6**
LKBA	**Tubou, Lakemba**	**0.89**	**181**	S	**S**	**16 09 29.9**	**+2.8**
DGTI	**Dogotuki**	**1.74**	**306**	P	**P**	**16 08 38.2**	**+1.1**
MSVF	**Nonsavu**	**3.02**	**262**	P	**P**	**16 08 45.9**	**+2.1**
MSVF	**Nonsavu**	**3.02**	**262**	P	**P**	**16 08 46.2**	**+2.3**
	334nm,0.8s,baz=100,slow=4.5,SNR=144						
MSVF				S	**S**	**16 09 49.2**	**+4.9**
	11nm,0.6s,baz=141,slow=23,SNR=12						
MSVF	**Nonsavu**	**3.02**	**262**	P	**P**	**16 08 46.1**	**+2.3**
FUTU	**Fugatoga**	**3.09**	**12**	P	**P**	**16 08 45.3**	**+1.1**
FUTU	**Fugatoga**	**3.09**	**12**	P	**P**	**16 08 45.6**	**+1.4**
AFI	**Afiamalu**	**7.58**	**64**	P	**P**	**16 09 21.6**	**-1.3**
AFI	**Afiamalu**	**7.58**	**64**	P	**P**	**16 09 21.5**	**-1.3**
NIUE	**Niue**	**8.61**	**103**	P	**P**	**16 09 34.9**	**+1.9**
NIUE	**Niue**	**8.61**	**103**	P	**P**	**16 09 32.7**	**-0.3**
SANVU	**Saraoutou**	**13.56**	**276**	P	**P**	**16 10 23.6**	**-0.6**
SANVU	**Saraoutou**	**13.56**	**276**	P	**P**	**16 10 25.4**	**+1.2**
DZM	**Mont Dzumac**	**14.66**	**249**	P	**P**	**16 10 35.4**	**-0.3**
	17nm,0.9s,baz=96,slow=11,SNR=13						
DZM	**Mont Dzumac**	**14.66**	**249**	P	**P**	**16 10 37.7**	**+2.0**
KOUNC	**Koumac, New Ca**	**16.31**	**256**	P	**P**	**16 10 53.9**	**+1.6**
OUZ	**Omahuta**	**19.05**	**199**	P	**P**	**16 11 17.8**	**+0.5**
OUZ	**Omahuta**	**19.05**	**199**	P	**P**	**16 11 19.3**	**+2.0**
KUZ	**Kuaotunu**	**19.93**	**193**	P	**P**	**16 11 24.3**	**-0.9**
KUZ	**Kuaotunu**	**19.93**	**193**	P	**P**	**16 11 25.2**	**0.0**
WIAZ	**Waiheke Island**	**20.10**	**194**	P	**P**	**16 11 28.4**	**+1.5**
MBAZ	**Motutapu North**	**20.14**	**195**	P	**P**	**16 11 28.8**	**+1.7**
ETAZ	**East Tamaki Re**	**20.31**	**195**	P	**P**	**16 11 30.1**	**+1.5**
MKAZ	**Moumakai**	**20.39**	**194**	P	**P**	**16 11 30.3**	**+0.8**
AWAZ	**Awhitu Peninsu**	**20.48**	**195**	P	**P**	**16 11 31.3**	**+1.1**
WMGZ	**Waiomatatini S**	**20.55**	**186**	P	**P**	**16 11 30.0**	**-0.8**
HAZ	**Te Kaha**	**20.56**	**188**	P	**P**	**16 11 29.7**	**-1.2**
PUZ	**Puketiti**	**20.81**	**187**	P	**P**	**16 11 29.0**	**-4.2**
TOZ	**Tahuroa Road**	**20.92**	**193**	P	**P**	**16 11 35.4**	**+1.2**
TOZ				IAmb	IAmb	16 11 37.8	
	comp=Z,4.3nm,0.6s						
KMRZ	**Kaimai**	**20.94**	**192**	P	**P**	**16 11 35.5**	**+1.1**
TWGZ	**Tauwhareparae**	**20.95**	**187**	P	**P**	**16 11 33.5**	**-1.0**
URZ	**Urewera**	**21.15**	**189**	P	**P**	**16 11 33.9**	**-2.3**
	comp=Z,5.0nm,0.3s,baz=347,slow=3.0,SNR=20						
URZ				S	**S**	**16 14 53.6**	**-2.2**
	comp=Z,4.3nm,0.6s,baz=176,slow=20,SNR=8.9						
URZ	**Urewera**	**21.15**	**189**	P	**P**	**16 11 34.3**	**-1.9**
URZ	**Urewera**	**21.15**	**189**	P	**P**	**16 11 33.2**	**-3.0**
URZ				S	**S**	**16 14 59.6**	**+3.8**
MWZ	**Matawai**	**21.16**	**188**	P	**P**	**16 11 33.6**	**-2.8**
MWZ				S	**S**	**16 14 57.7**	**+1.5**
CNGZ	**Carnagh Statio**	**21.23**	**186**	P	**P**	**16 11 36.9**	**-0.1**
BKZ	**Black Stump Fm**	**22.13**	**190**	P	**P**	**16 11 44.6**	**-0.5**
BKZ	**Black Stump Fm**	**22.13**	**190**	P	**P**	**16 11 42.4**	**-2.8**
BKZ				S	**S**	**16 15 11.8**	**+0.3**
VRZ	**Vera Road**	**22.42**	**193**	P	**P**	**16 11 48.9**	**+1.3**
PNHZ	**Pukenui**	**22.91**	**190**	P	**P**	**16 11 51.3**	**-0.7**
OGWZ	**Otaki Gorge**	**23.97**	**191**	P	**P**	**16 12 00.3**	**-1.1**
QRZ	**Quartz Range**	**24.57**	**196**	P	**P**	**16 12 06.9**	**+0.2**
QRZ	**Quartz Range**	**24.57**	**196**	P	**P**	**16 12 06.8**	**0.0**
QRZ	**Quartz Range**	**24.57**	**196**	P	**P**	**16 12 06.7**	**0.0**
NNZ	**Nelson**	**24.73**	**194**	P	**P**	**16 12 07.0**	**-1.2**
TUWZ	**Tuamarina**	**24.80**	**193**	P	**P**	**16 12 08.2**	**-0.6**
MRNZ	**Matariki Terra**	**25.05**	**195**	P	**P**	**16 12 09.8**	**-1.2**
MRNZ	**Matariki Terra**	**25.05**	**195**	P	**P**	**16 12 09.7**	**-1.2**
THZ	**Tophouse**	**25.36**	**195**	P	**P**	**16 12 12.5**	**-1.3**
DSZ	**Denniston Nort**	**25.62**	**196**	P	**P**	**16 12 15.2**	**-0.9**
KHZ	**Kahutara**	**25.83**	**193**	P	**P**	**

RPZ IAmb IAmb 16 13 09.7
comp=Z,33nm,1.4s
FOZ Fox Glacier 27.83 198 P **P** **16 12 33.9 -1.6**
LBZ Lake Benmore 28.51 197 P **P** **16 12 38.5 -3.0**
JCZ Jackson Bay 28.64 199 P **P** **16 12 42.0 -0.6**
JCZ Jackson Bay 28.64 199 P **P** **16 12 41.3 -1.3**
ODZ Otahua Downs 29.00 196 P **P** **16 12 44.4 -1.2**
EIDS Eidsvold 29.11 249 P **P** **16 12 46.1 -0.8**
EIDS IAmb IAmb 16 12 46.9
comp=Z,14nm,0.8s
EIDS Eidsvold 29.11 249 P **P** **16 12 46.6 -0.3**
WKZ Wanaka 29.25 198 P **P** **16 12 46.2 -1.6**
EAZ Earnscleugh 29.54 197 P **P** **16 12 48.7 -1.5**
ARMA Armidale 29.90 239 P **P** **16 12 53.3 -0.5**
ARMA IAmb IAmb 16 12 54.9
comp=Z,20nm,0.7s
MLZ Mavora Lakes 30.01 199 P **P** **16 12 54.5 +0.1**
TUZ Tuapeka 30.11 196 P **P** **16 12 54.8 -0.4**
WHZ Wether Hill Ro 30.53 198 P **P** **16 12 58.2 -0.6**
CAN Canberra 33.75 232 P **P** **16 13 26.4 -0.1**
CAN IAmb IAmb 16 13 27.8
comp=Z,36nm,1.4s
CAN Canberra 33.75 232 P **P** **16 13 26.5 0.0**
COEN Coen 36.73 270 P **P** **16 13 51.3 -0.1**
COEN Coen 36.73 270 P **P** **16 13 51.8 +0.4**
TOO Toolangi 37.24 230 **P** **16 13 55.6 +0.2**
TOO IAmb IAmb 16 13 56.6
comp=Z,19nm,1.1s
MOO Moorlands 38.25 222 P **P** **16 14 03.1 -0.4**
MOO Moorlands 38.25 222 P **P** **16 14 02.7 -0.8**
TAU Tasmania Unive 38.41 221 P **P** **16 14 05.0 +0.2**
TAU Tasmania Unive 38.41 221 P **P** **16 14 04.7 -0.1**
STKA Stephens Creek 38.58 240 P **P** **16 14 06.1 -0.2**
STKA Stephens Creek 38.58 240 P **P** **16 14 06.1 -0.2**
comp=Z,14nm,0.7s,baz=91,slow=10,SNR=30
comp=Z,14nm,0.7s
STKA Stephens Creek 38.58 240 P **P** **16 14 06.7 +0.4**
QIS Mount Isa 39.39 259 P **P** **16 14 12.8 -0.3**
ARPS Mount Arapiles 39.69 233 P **P** **16 14 15.0 -0.2**
HTT Hallett 41.11 239 P **P** **16 14 26.7 0.0**
LCRK Leigh Creek 41.16 243 P **P** **16 14 27.0 -0.1**
OOD Oodnadatta 43.08 248 P **P** **16 14 42.6 +0.4**
BBOO Buckleboo 43.35 240 P **P** **16 14 43.9 -0.4**
BBOO IAmb IAmb 16 14 44.8
comp=Z,25nm,0.8s
BBOO Buckleboo 43.35 240 P **P** **16 14 44.0 -0.2**
WR0 Warramunga Arr 44.17 259 P **P** **16 14 49.3 -1.5**
WB0 Warramunga Arr 44.33 259 P **P** **16 14 50.5 -1.6**
WB0 IAmb IAmb 16 14 51.7
comp=Z,20nm,1.1s
WB2 Warramunga Arr 44.35 259 P **P** **16 14 50.8 -1.4**
WB2 IAmb IAmb 16 14 59.3
comp=Z,25nm,1.3s
WRAB Tennant Creek 44.35 259 P **P** **16 14 50.6 -1.6**
WRAB IAmb IAmb 16 14 51.8
comp=Z,12nm,0.9s
WRA Warramunga Arr 44.37 259 P **P** **16 14 50.9 -1.4**
comp=Z,5.6nm,0.5s,baz=92,slow=7.8,SNR=137
WRA PcP **pP** **16 16 25.1 -4.2**
comp=Z,3.0nm,0.8s,baz=90,slow=3.9,SNR=7.1
WRA ScP **ScP** **16 19 26.3 +0.9**
comp=Z,1.3nm,0.8s,baz=89,slow=4.5,SNR=5.0
comp=Z,5.6nm,0.5s
AS01 Alice Springs 44.54 254 P **P** **16 14 53.0 -0.6**
AS31 Alice Springs 44.58 254 P **P** **16 14 53.3 -0.6**
ASAR Alice Springs 44.58 254 P **P** **16 14 53.4 -0.6**
comp=Z,46nm,0.5s,baz=89,slow=7.9,SNR=1373
ASAR PcP **PcP** **16 16 25.6 +0.3**
comp=Z,3.5nm,0.8s,baz=99,slow=3.4,SNR=9.0
ASAR ScP **ScP** **16 19 27.2 +0.9**
comp=Z,2.1nm,0.8s,baz=85,slow=4.2,SNR=8.6
KDU Kakadu 47.19 269 P **P** **16 15 13.7 -0.1**
MTN Manton Dam 48.44 268 P **P** **16 15 22.3 -0.8**
MTN IAmb IAmb 16 15 23.7
comp=Z,30nm,0.8s
MTN Manton Dam 48.44 268 P **P** **16 15 22.9 -0.3**
WRKA Warakurna 49.66 252 P **P** **16 15 32.0 -0.2**
FORT Forrest 49.91 244 P **P** **16 15 33.0 -0.8**
FORT Forrest 49.91 244 P **P** **16 15 33.9 +0.1**
FAKI Fak Fak 50.10 281 P **P** **16 15 35.6 +0.1**
KNRA Kununurra 50.17 264 P **P** **16 15 35.2 -0.7**
FITZ Fitzroy Crossi 52.75 260 P **P** **16 15 54.4 -0.1**
FITZ Fitzroy Crossi 52.75 260 P **P** **16 15 54.6 0.0**
KMBL Kambalda 55.22 244 P **P** **16 16 11.0 -0.8**
SOEI Soe 55.69 270 P **P** **16 16 15.9 +0.4**
SOEI Soe 55.69 270 P **P** **16 16 16.2 +0.7**
PSA00 Pilbara Seismi 57.69 255 P **P** **16 16 28.0 -0.9**
PSA00 IAmb IAmb 16 16 29.2
comp=Z,29nm,0.8s
PSA00 Pilbara Seismi 57.69 255 P **P** **16 16 28.4 -0.5**
MBWA Marble Bar 57.85 256 P **P** **16 16 29.4 -0.7**
MBWA IAmb IAmb 16 16 31.4
comp=Z,15nm,0.9s
MBWA Marble Bar 57.85 256 P **P** **16 16 29.6 -0.4**
MEEK Meekatharra 58.28 249 P **P** **16 16 32.4 -0.5**
KLBR Kellerberrin 58.74 243 P **P** **16 16 35.5 -0.4**
NWAO Narrogin (SRO) 59.14 242 P **P** **16 16 37.9 -0.6**
NWAO IAmb IAmb 16 16 54.4
comp=Z,32nm,1.2s
NWAO Narrogin (SRO) 59.14 242 P **P** **16 16 38.0 -0.6**
BLDU Ballidu 59.68 244 P **P** **16 16 41.8 -0.4**
MORW Morawa 60.36 246 P **P** **16 16 46.0 -0.7**
MORW IAmb IAmb 16 16 46.8
comp=Z,14nm,0.8s
MORW Morawa 60.36 246 P **P** **16 16 46.3 -0.5**
PLAI Plampang 62.12 269 P **P** **16 16 58.4 -0.1**
GIRL Giralia 62.70 253 P **P** **16 17 02.6 +0.5**
GIRL Giralia 62.70 253 P **P** **16 17 01.8 -0.3**
JAGI Jajag, Banyuwa 65.68 268 P **P** **16 17 19.4 -1.8**
JAGI IAmb IAmb 16 17 21.1
comp=Z,28nm,0.8s
JAGI Jajag, Banyuwa 65.68 268 P **P** **16 17 20.1 -1.1**
MJAR Matsushiro Arr 67.23 323 P **P** **16 17 30.4 +0.1**
comp=Z,4.2nm,0.6s,baz=154,slow=6.6,SNR=8.1
comp=Z,4.2nm,0.6s
MAJO Matsushiro 67.23 323 P **P** **16 17 30.7 +0.4**
MAJO IAmb IAmb 16 17 56.0
comp=Z,37nm,1.4s
KKM Kota Kinabalu 68.24 284 P **P** **16 17 37.2 +0.1**
KKM IAmb IAmb 16 17 46.8
comp=Z,38nm,1.4s
KKM Kota Kinabalu 68.24 284 P **P** **16 17 37.9 +0.8**
UGM Wanagama 69.29 268 P **P** **16 17 43.1 -0.2**
UGM Wanagama 69.29 268 P **P** **16 17 43.7 +0.4**
SBUM Sibu 70.74 279 P **P** **16 17 51.2 -0.8**
TWG Pinlang 71.05 302 P **P** **16 17 52.6 -0.9**
TWG IAmb IAmb 16 17 59.7
comp=Z,32nm,1.2s
SSLB Suanglung 71.61 303 P **P** **16 17 57.0 +0.2**
TPUB Ta-pu 71.64 302 P **P** **16 17 56.1 -0.9**
BBJI Bungbulang 72.15 268 P **P** **16 18 00.2 -0.1**
QSPA South Pole Qui 72.71 180 P **P** **16 18 03.4 +0.8**
QSPA South Pole Qui 72.71 180 P **P** **16 18 03.1 +0.6**
comp=Z,4.0nm,0.5s,baz=233,slow=0.8,SNR=62
comp=Z,4.0nm,0.5s
PEA0B Petropavlovsk- 73.04 345 P **P** **16 18 05.0 +0.6**
PETK Petropavlovsk- 73.04 345 P **P** **16 18 04.9 +0.5**
PETK Petropavlovsk- 73.04 345 P **P** **16 18 04.1 -0.3**
comp=Z,5.4nm,0.8s,baz=126,slow=6.8,SNR=7.7
comp=Z,5.4nm,0.8s
KNMB Chin-men Tao 73.99 303 P **P** **16 18 09.8 -0.6**
KNMB IAmb IAmb 16 18 15.2
comp=Z,31nm,0.9s
KSRS Korea Array 74.03 318 P **P** **16 18 11.2 +0.8**
comp=Z,0.9nm,0.7s,baz=114,slow=5.2,SNR=4.5
comp=Z,0.9nm,0.7s
USRK Ussuriysk Ar. 75.94 326 P **P** **16 18 22.0 +1.1**
USRK Ussuriysk Ar. 75.94 326 P **P** **16 18 21.4 +0.6**
comp=Z,1.5nm,0.8s,baz=142,slow=7.1,SNR=4.1
comp=Z,1.5nm,0.8s
MNAI Manna 77.50 269 P **P** **16 18 29.8 -0.3**
O18K Koktuh Hills 79.28 12 P **P** **16 18 39.2 +0.6**
O18K IAmb IAmb 16 18 39.6
comp=Z,9.2nm,0.8s
N18K Kilae Creek 79.91 11 P **P** **16 18 42.2 +0.2**
M17K Holitna River 80.31 10 P **P** **16 18 45.7 +1.7**
L18K Granite Mounta 81.21 10 P **P** **16 18 50.2 +1.6**
UBPT Khong Chiam 81.39 289 P **P** **16 18 50.6 +0.1**
IPM Ipoh 81.97 277 **P** **16 18 54.2 +0.6**
IPM IAmb IAmb 16 18 55.3
comp=Z,17nm,0.7s
KULM Kulim 82.58 278 P **P** **16 18 57.5 +0.8**
KULM IAmb IAmb 16 18 58.5
comp=Z,12nm,0.9s

K20K Telida 82.72 11 P **P** **16 18 57.0 +0.7**
BELA Belgrano 2 82.77 173 P **P** **16 18 56.7 +0.2**
BELA IAmb IAmb 16 18 57.3
comp=Z,5.6nm,0.6s
GSI Gunungsitoli 84.29 273 P **P** **16 19 06.0 +0.8**
GSI IAmb IAmb 16 19 07.3
comp=Z,22nm,0.8s
M27K Edge Creek, AK 84.60 16 P **P** **16 19 06.8 +1.0**
M27K IAmb IAmb 16 19 08.2
comp=Z,15nm,1.5s
Q32M Nakina River 85.00 22 P **P** **16 19 09.1 +1.2**
Q32M IAmb IAmb 16 19 46.0
comp=Z,21nm,1.5s
BCAR Beaver Creek A 85.21 16 P **P** **16 19 10.2 +1.5**
IL31 85.42 13 P **P** **16 19 10.0 +0.5**
ILAR Eielson Array 85.42 13 P **P** **16 19 10.2 +0.6**
ILAR Eielson Array 85.42 13 P **P** **16 19 09.2 -0.3**
comp=Z,0.8nm,0.6s,baz=224,slow=5.3,SNR=19
comp=Z,0.8nm,0.6s
BILL Bilibino 85.83 354 P **P** **16 19 12.1 +0.6**
TXAR Lajitas Array 86.01 58 P **P** **16 19 15.3 +2.0**
comp=Z,0.5nm,0.7s,baz=224,slow=7.0,SNR=6.3
comp=Z,0.5nm,0.7s
K29M Barlow Dome 86.99 17 P **P** **16 19 18.4 +1.3**
PDAR Pinedale Array 87.20 44 P **P** **16 19 20.2 +1.4**
comp=Z,0.4nm,0.5s,baz=221,slow=2.7,SNR=5.3
comp=Z,0.4nm,0.5s
BMAR Burnt Mountain 88.19 13 P **P** **16 19 23.7 +1.0**
CMAR Chiang Mai Arr 88.34 290 P **P** **16 19 25.4 +1.0**
CMAR Chiang Mai Arr 88.34 290 P **P** **16 19 26.1 +1.8**
comp=Z,2.7nm,0.9s,baz=108,slow=2.8,SNR=20
comp=Z,2.7nm,0.9s
D23K Nanushuk River 88.40 10 P **P** **16 19 24.5 +1.0**
D23K IAmb IAmb 16 19 25.4
comp=Z,4.2nm,1.1s
CHTO Chiang Mai 88.45 290 **P** **16 19 25.5 +0.6**
CHTO IAmb IAmb 16 19 26.9
comp=Z,5.9nm,1.1s
TROLL Troll, Antarti 90.87 180 P **P** **16 19 35.5 +0.2**
TROLL Troll, Antarti 90.87 180 ⇑P **P** **16 19 35.5 +0.2**
comp=Z,167nm,0.5s
SNAA Sanae 91.17 179 P **P** **16 19 36.5 -0.1**
SNAA Sanae 91.17 179 ⇑P **P** **16 19 36.5 -0.1**
comp=Z,39nm,0.5s
SNAA Sanae 91.17 179 P **P** **16 19 36.2 -0.4**
comp=Z,1.5nm,0.5s,baz=204,slow=10.0,SNR=6.8
comp=Z,1.5nm,0.5s
VNA3 Neumayer Olymp 91.33 177 P **P** **16 19 37.6 +0.3**
VNA3 Neumayer Olymp 91.33 177 ⇑P **P** **16 19 37.6 +0.3**
comp=Z,9.9nm,0.8s
VNA2 Neumayer--Watz 91.76 177 P **P** **16 19 38.9 -0.3**
baz=167,slow=5.5
VNA2 Neumayer--Watz 91.76 177 ⇑P **P** **16 19 38.9 -0.3**
comp=Z,2.8nm,0.6s,baz=167,slow=5.5
SONM Songino Array 92.88 319 P **P** **16 19 44.4 -0.5**
comp=Z,0.3nm,0.5s,baz=138,slow=7.1,SNR=3.7
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 93.98 25 P **P** **16 19 50.0 +0.6**
comp=Z,0.4nm,0.7s,baz=244,slow=4.5,SNR=7.5
comp=Z,0.4nm,0.7s
AKASG Malin Array Be 139.88 332 PKP **PKiKP** **16 25 58.3 -0.5**
comp=Z,0.3nm,0.5s,baz=48,slow=3.5,SNR=4.1
ILGA Ilgaz 143.41 317 **PKiKP** **16 26 03.1 -3.5**
LODK Lodwar 143.75 251 **PKiKP** **16 26 04.2 -3.7**
BUR08 Bucovina Ar. S 143.92 332 **PKPdf** **16 26 03.0 -0.7**
BRTR Keskin Array B 144.12 315 **PKPdf** **16 26 03.8 -0.4**
BRTR Keskin Array B 144.12 315 PKP **PKPdf** **16 26 04.3 +0.1**
comp=Z,2.4nm,0.7s,baz=80,slow=2.0,SNR=18
ASF Jabal al Asfar 144.56 301 PKP **PKiKP** **16 26 06.2 -3.0**
comp=Z,5.9nm,0.8s,baz=326,slow=7.3,SNR=9.1
OSTC Osates 144.74 343 *e*PKP **PKiKP** **16 26 06.2 -2.6**
CHVC Chvalec 144.76 344 *e*PKP **PKiKP** **16 26 06.2 -2.7**
CLL Collm 144.83 347 PKPbc **PKiKP** **16 26 06.0 -2.9**
UPC Upice 144.84 344 *e*PKP **PKiKP** **16 26 06.8 -2.2**
DPC Dobruska-Polom 144.90 343 *e*PKP **PKiKP** **16 26 06.9 -2.3**
KRLC Kraliky 145.02 342 *e*PKP **PKiKP** **16 26 07.3 -2.2**
PVCC Panska Ves 145.20 345 *e*PKP **PKiKP** **16 26 07.9 -1.8**
HSKC Hora Svate Kat 145.39 346 *e*PKP **PKiKP** **16 26 07.8 -2.4**
MMAI Mount Meron Ar 145.52 303 PKPbc **PKiKP** **16 26 09.2 -1.8**
comp=Z,6.2nm,0.5s,baz=60,slow=5.0,SNR=14
PRU Pruhonice 145.70 345 *e*PKP **PKiKP** **16 26 09.5 -1.3**
NKC Novy Kostel 145.96 347 *e*PKP **PKiKP** **16 26 09.5 -1.9**
ZVC Zvikov 146.30 345 *e*PKP **PKPab** **16 26 11.1 -0.9**
KHC Kasperske Hory 146.73 345 *e*PKP **PKPab** **16 26 12.1 -1.7**
CKRC Cesky Krumlov 146.84 344 *e*PKP **PKPab** **16 26 12.4 -1.8**
GERES GERESS Array B 146.97 345 PKPbc **PKiKP** **16 26 12.3 -1.2**
comp=Z,2.8nm,0.6s,baz=29,slow=3.0,SNR=14
CONA Conrad Observa 147.21 342 *i* PKP **PKPab** **16 26 13.6 -2.2**
comp=Z,6.9nm,0.6s
RONA Rosalia, Austr 147.28 341 *e*PKP **PKiKP** **16 26 13.3 -0.9**
comp=Z,9.5nm,0.9s
BIOA Bad Ischl, Aus 148.05 344 *e*PKP **PKiKP** **16 26 15.3 -0.4**
comp=Z,6.2nm,1.0s
LESA Schwarzleotal 148.54 345 *i* PKP **PKiKP** **16 26 16.2 -0.7**
comp=Z,2.8nm,0.4s
KBA Koelnbreinsper 148.69 344 *i* PKP **PKiKP** **16 26 16.4 -0.9**
comp=Z,3.9nm,0.5s
RETA Reutte 148.92 347 *i* PKP **PKiKP** **16 26 17.0 -0.6**
comp=Z,3.0nm,0.5s
WTTA Wattenberg 148.94 346 *i* PKP **PKiKP** **16 26 17.4 -0.4**
comp=Z,11nm,0.6s
MOTA Moosalm 148.98 347 *i* PKP **PKiKP** **16 26 17.4 -0.4**
comp=Z,7.7nm,0.8s
MYKA Terra Mystica 149.03 343 *i* PKP **PKiKP** **16 26 16.7 -1.2**
comp=Z,4.8nm,0.5s
SQTA Sankt Quirin 149.08 347 *i* PKP **PKiKP** **16 26 17.7 -0.3**
comp=Z,8.0nm,0.6s
ABTA Abfaltersbach 149.22 345 *i* PKP **PKiKP** **16 26 17.6 -0.6**
comp=Z,7.0nm,0.6s
DAVA Damuels 149.29 348 *i* PKP **PKiKP** **16 26 19.1 +0.6**
comp=Z,8.8nm,0.9s
FETA Feichten 149.37 347 *i* PKP **PKiKP** **16 26 18.6 -0.1**
comp=Z,4.3nm,0.7s
TUE Stuetta 150.17 349 **PKiKP** **16 26 20.1 -0.4**
TORD Torodi Ar. Bea 175.80 187 PKP **PKPdf** **16 26 38.1 -0.5**
comp=Z,0.8nm,0.8s,baz=331,slow=2.2,SNR=4.3

*IDC **04** 16:10:16.5±3.0, 37°.33N×72°.49E, h150km±27km, mb3.6/18, mbtmp4.1/21, Error ellipse: s-maj=20.4km s-min=12.0km az=20.0*
*MOS **04** 16:10:19.6±1.0, 37°.59N×72°.37E, h182km, mb4.1/14, Error ellipse: s-maj=8.0km s-min=4.1km az=86.9*
*NEIC **04** 16:10:20.8±1.4, 37°.62N±0°.06×72°.32E±0°.07, h180km±5km, mb4.4/28, Error ellipse: s-maj=8.5km s-min=8.0km az=136.0*
*NNC **04** 16:10:26.9±4.0, 38°.19N×72°.27E, h235km±39km, mb3.4, mpv4.7, Error ellipse: s-maj=38.0km s-min=23.0km az=8.0*
ISC 04 16:10:19.9±0.4,**37°.61N**±0°.04×**72°.37E**±0°.04,**h176**km,**n171,**
α_{2}^{S}**17**/189,**mb4.0**/38,**12C-3D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.92**	**347**		**Pn**	**16 10 58.0**	**+1.8**
DRK	**Karamyk**	**1.92**	**347**	PN	**Pn**	**16 10 58.0**	**+1.8**
SFK	**Sufi-Kurgan**	**2.56**	**20**	PN	**Pn**	**16 11 04.6**	**+1.3**
BTK	**Batken**	**2.73**	**334**		**Pn**	**16 11 06.7**	**+1.5**
BTK	**Batken**	**2.73**	**334**	PN	**Pn**	**16 11 06.7**	**+1.5**
CHGR	**Chuyangaron**	**2.74**	**293**		**Pn**	**16 11 05.7**	**+0.4**
CHGR	**Chuyangaron**	**2.74**	**293**	PN	**Pn**	**16 11 05.7**	**+0.4**
SIMJ	**Simiganj**	**2.85**	**293**		**Pn**	**16 11 07.1**	**+0.4**
OHH	**Osh**	**2.93**	**6**	PN	**Pn**	**16 11 08.8**	**+1.3**
KSH	**Kashi**	**3.40**	**55**	Pn	**Pn**	**16 11 10.5**	**-2.9**
KSH				Sn	**Sn**	**16 11 47.3**	**-7.9**
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,750nm,0.5s						
ARSB	**Arslanbob**	**3.74**	**7**		**Pn**	**16 11 18.6**	**+0.9**
ARSB	**Arslanbob**	**3.74**	**7**	PN	**Pn**	**16 11 18.6**	**+0.9**
NIL	**Nilore**	**4.01**	**169**		**Pn**	**16 11 22.2**	**+1.1**
NIL	**Nilore**	**4.01**	**169**	PN	**Pn**	**16 11 22.2**	**+1.1**
TRKS	**Terek-Say**	**4.03**	**347**	PN	**Pn**	**16 11 21.2**	**-0.2**
SRNI	**Srinagar**	**4.04**	**149**	*e*S	**Sn**	**16 12 09.1**	**-0.3**
KBL	**Kabul**	**4.08**	**222**		**Pn**	**16 11 22.6**	**+0.4**
KBL	**Kabul**	**4.08**	**222**	PN	**Pn**	**16 11 22.6**	**+0.4**
ARK	**Arkit**	**4.20**	**356**	PN	**Pn**	**16 11 23.8**	**+0.3**
AML	**Almayashu**	**4.63**	**12**	P	**Pn**	**16 11 30.6**	**+1.3**
	SNR=471						
IUG	**Iuzhnay**	**4.88**	**339**	*i* PN	**Pn**	**16 11 33.8**	**+1.6**
UCH	**Uchtor**	**4.90**	**19**	P	**Pn**	**16 11 34.6**	**+1.7**
	SNR=20						
EKS2	**Erkin-Say**	**5.16**	**12**	P	**Pn**	**16 11 37.4**	**+1.5**
	SNR=163						
AAK	**Ala-Archa**	**5.28**	**17**	P	**Pn**	**16 11 38.9**	**+1.4**
	comp=E,205nm,0.4s,baz=171,slow=5.9,SNR=734						
AAK				S	**Sn**	**16 12 38.2**	**-0.3**
	comp=E,96nm,0.5s,baz=352,slow=19,SNR=16						
AAK	**Ala-Archa**	**5.28**	**17**	P	**Pn**	**16 11 39.4**	**+1.8**
	SNR=140						
JMU	**Jammu**	**5.30**	**156**	*e*P	**Pn**	**16 11 37.7**	**0.0**
JMU				*e*S	**Sn**	**16 12 35.3**	**-3.5**
JMU				IAML		16 12 38.0	
	comp=E,821nm,0.6s						
JMU				IAML		16 12 38.6	
	comp=N,637nm,0.6s						
KBK	**Karagaybulak**	**5.41**	**21**	P	**Pn**	**16 11 40.9**	**+1.6**
	SNR=72						
FRU1	**Bishkek**	**5.47**	**18**		**Pn**	**16 11 41.4**	**+1.4**
FRU1	**Bishkek**	**5.47**	**18**	PN	**Pn**	**16 11 41.4**	**+1.4**
ULHL	**Ulahol**	**5.50**	**31**	P	**Pn**	**16 11 41.5**	**+1.0**
	SNR=58						
BOOM	**Boomskoye usch**	**5.59**	**28**		**Pn**	**16 11 42.7**	**+1.1**
BOOM	**Boomskoye usch**	**5.59**	**28**	PN	**Pn**	**16 11 42.7**	**+1.1**
KK31	**Karatay Array**	**5.67**	**346**	⇓P	**Pn**	**16 11 43.5**	**+1.0**
	comp=N,31nm,0.3s,baz=156,slow=11,SNR=397						
KK31				⇓S	**Sn**	**16 12 44.6**	**-2.9**
	comp=N,170nm,0.3s,baz=165,slow=23,SNR=33						
KK31	**Karatay Array**	**5.67**	**346**	PN	**Pn**	**16 11 43.5**	**+1.0**
KKAR	**Karatay Array**	**5.67**	**346**		**Pn**	**16 11 43.1**	**+0.7**
KKAR	**Karatay Array**	**5.67**	**346**	PN	**Pn**	**16 11 43.2**	**+0.7**
CHMS	**Chumysh**	**5.68**	**18**	P	**Pn**	**16 11 44.2**	**+1.5**
	SNR=88						
CHMS	**Chumysh**	**5.68**	**18**	P	**Pn**	**16 11 43.5**	**+0.9**
	comp=N,59nm,0.6s						
CHMS				S	**Sn**	**16 12 45.7**	**-2.1**
	comp=N,202nm,0.9s						
CHMS	**Chumysh**	**5.68**	**18**	PN	**Pn**	**16 11 43.5**	**+0.9**
BRLS	**Borolday**	**5.75**	**341**	*i* PN	**Pn**	**16 11 41.6**	**-2.0**
KDJ	**Kajisay**	**5.83**	**38**	Pn	**Pn**	**16 11 45.5**	**+0.7**
KDJ	**Kajisay**	**5.83**	**38**	PN	**Pn**	**16 11 45.5**	**+0.7**
TKM2	**Tokmak 2**	**5.85**	**24**	P	**Pn**	**16 11 46.4**	**+1.4**
	SNR=150						
TKM2	**Tokmak 2**	**5.85**	**24**	⇑P	**Pn**	**16 11 46.1**	**+1.1**
	comp=N,42nm,0.4s						
TKM2				⇑S	**Sn**	**16 12 52.4**	**+0.4**
	comp=N,23nm,0.6s						
TKM2	**Tokmak 2**	**5.85**	**24**	PN	**Pn**	**16 11 46.1**	**+1.1**
TKM2				S	**Sn**	**16 12 52.4**	**+0.4**
TARG	**Taragay, Kyrgy**	**5.87**	**44**		**Pn**	**16 11 46.0**	**+0.5**
TARG	**Taragay, Kyrgy**	**5.87**	**44**	PN	**Pn**	**16 11 46.0**	**+0.5**
DHRM	**DHARAMSHALA**	**6.24**	**148**	*e*P	**Pn**	**16 11 50.4**	**+0.1**
DHRM				*e*S	**Sn**	**16 12 57.0**	**-4.4**
DHRM				IAML		16 12 59.7	
	comp=N,985nm,0.2s						
DHRM				IAML		16 13 00.2	
	comp=E,858nm,0.3s						
WUS	**Wushi**	**6.40**	**54**		**Pn**	**16 11 52.9**	**+0.7**
PRZ	**Przheval'sk**	**6.71**	**42**		**Pn**	**16 11 57.8**	**+1.4**
PRZ	**Przheval'sk**	**6.71**	**42**	PN	**Pn**	**16 11 57.8**	**+1.4**
BHK	**Bhakra**	**7.02**	**150**	*e*P	**Pn**	**16 12 00.2**	**-0.1**
BHK				*e*S	**Sn**	**16 13 16.9**	**-2.6**
BHK				*ex*	x	16 13 25.1	
BHK				IAML		16 13 28.9	
	comp=E,278nm,0.3s						
BTLS	**Baital**	**7.53**	**9**	PN	**Pn**	**16 12 06.9**	**0.0**
KPKS	**Kokpek**	**7.57**	**37**	*i* PN	**Pn**	**16 12 07.5**	**0.0**
SMLA	**Simla**	**7.58**	**147**	*e*P	**Pn**	**16 12 07.2**	**-0.5**
SMLA				*e*S	**Sn**	**16 13 25.6**	**-7.3**
SMLA				IAML		16 13 27.4	
	comp=N,238nm,0.3s						
SMLA				IAML		16 13 28.3	
	comp=E,513nm,0.5s						
SHLS	**Shalkode**	**7.74**	**42**	*i* PN	**Pn**	**16 12 11.2**	**+1.3**
KLP	**Kalpa**	**7.76**	**140**	*e*P	**Pn**	**16 12 09.2**	**-1.1**
KLP				*e*S	**Sn**	**16 13 30.2**	**-7.4**
KLP				IAML		16 13 36.5	
	comp=E,369nm,0.6s						
KLP				IAML		16 13 36.9	
	comp=N,306nm,0.3s						
DDI	**Dehra Dun**	**8.66**	**145**	*e*P	**Pn**	**16 12 21.5**	**-0.5**
DDI				*e*S	**Sn**	**16 13 51.9**	**-6.9**
DDI				IAML		16 13 55.4	
	comp=N,337nm,0.3s						
DDI				IAML		16 13 57.4	
	comp=E,355nm,0.3s						
NDI	**New Delhi**	**9.78**	**154**	*e*S	**Sn**	**16 14 17.3**	**-8.2**
NPLP	**NPLP New Delhi**	**9.80**	**154**	*e*P	**Pn**	**16 12 35.6**	**-1.4**
NPLP				*e*S	Sn	16 14 16.7	-9.4
KUDL	**Kundal**	**10.05**	**159**	*e*P	**Pn**	**16 12 38.4**	**-1.8**
KUDL				*e*S	Sn	16 14 20.8	-11
KUDL				IAML		16 14 24.6	
	comp=E,68nm,0.5s						
KUDL				IAML		16 14 28.7	
	comp=E,36nm,0.6s						
SONA	**Sohna**	**10.13**	**156**	*e*P	**Pn**	**16 12 38.8**	**-2.5**
SONA				*e*S	Sn	16 14 22.9	-11
SONA				IAML		16 14 28.5	
	comp=E,122nm,0.5s						
PTH	**Pithoragarh**	**10.36**	**139**	*e*P	**Pn**	**16 12 42.6**	**-1.8**
PTH				*e*S	Sn	16 14 29.7	-10
PTH				IAML		16 14 37.4	
	comp=E,36nm,0.8s						
PTH				IAML		16 14 40.1	
	comp=E,31nm,0.4s						
LGTI	**Lohaghat**	**10.45**	**139**	*ex*	x	16 12 35.9	
LGTI				*e*S	Sn	16 14 30.3	-11
LGTI				IAML		16 14 35.2	
	comp=E,55nm,0.5s						
LGTI				IAML		16 14 50.4	
	comp=E,54nm,0.4s						
MAKZ	**Makanchi**	**11.62**	**35**		**Pn**	**16 12 60.0**	**-0.4**
MAKZ	**Makanchi**	**11.62**	**35**	P	**Pn**	**16 13 00.0**	**-0.4**
MK31	**Makanchi Array**	**11.75**	**36**	*ce*P	**Pn**	**16 13 02.3**	**+0.2**
MKAR	**Makanchi Array**	**11.75**	**36**	Pn	**Pn**	**16 13 01.7**	**-0.4**
MKAR	**Makanchi Array**	**11.75**	**36**	P	**Pn**	**16 13 01.9**	**-0.2**
	comp=E,6.6nm,0.7s,baz=221,slow=15,SNR=36						
MKAR	**Makanchi Array**	**11.75**	**36**	*i* P	**Pn**	**16 13 01.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ	**Urumqi**	**13.17**	**57**	*e*P	**Pn**	**16 13 18.8**	**-1.5**
WMQ				S	**Sn**	**16 15 44.0**	**-2.5**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
JHNI	**Jhansi**	**13.19**	**155**	*e*P	**Pn**	**16 13 20.7**	**0.0**
JHNI				*e*S	Sn	16 15 35.4	-12
KURBB	**Kurchatov Arra**	**13.73**	**17**	P	**Pn**	**16 13 25.5**	**-1.8**
	comp=Z,35nm,0.7s,baz=205,slow=10,SNR=27						
KURK	**Kurchatov**	**13.84**	**17**	P	**Pn**	**16 13 26.9**	**-1.7**
KURK	**Kurchatov**	**13.84**	**17**	*ce*P	**Pn**	**16 13 27.3**	**-1.3**
KURK				pmax	pmax		
	comp=Z,21nm,0.7s						
ALBI	**Allahabad**	**14.65**	**144**	*e*P	**P**	**16 13 41.3**	**+0.7**
ALBI				*e*S	Sn	16 16 04.8	-17
AB31	**Akbulak array**	**14.71**	**326**	P	**Pn**	**16 13 38.9**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=138,slow=12,SNR=133						
AB31				⇑S	Sn	16 16 12.2	-11
	comp=Z,8.7nm,0.6s,baz=158,slow=19,SNR=21						
AB31

comp=Z,15nm,0.3s
SVE Sverdlovsk 20.76 342 *e*P **P 16 14 48.2 +1.5**
SVE pmax pmax
comp=Z,12nm,0.9s
ARTI Arti 20.99 338 P **P 16 14 49.6 +0.3**
ARTI Arti 20.99 338 P **P 16 14 50.4 +1.1**
comp=Z,11nm,0.5s,baz=150,slow=6.2,SNR=22
comp=Z,11nm,0.5s
ARTI Arti 20.99 338*c i*P **P 16 14 50.3 +1.1**
ARTI *PP **pP 16 15 18.2 -2.3**
ARTI S **S 16 18 35.5 +2.7**
ARTI pmax pmax
comp=Z,13nm,0.6s
GTA Gaotai 21.52 77 *e*P **P 16 14 58.1 +2.9**
GTA pP pP 16 15 32.0 +5.0
GTA pmax pmax
comp=Z,1.0nm,0.9s
KBZ Khabaz 23.11 295 P **P 16 15 10.9 +0.8**
comp=Z,1.9nm,0.7s,baz=134,slow=5.8,SNR=9.2
comp=Z,1.9nm,0.7s
KBZ Khabaz 23.11 295 *i* P **P 16 15 10.5 +0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 23.28 295 P **P 16 15 11.2 -0.6**
KIV IAmb IAmb 16 15 23.2
comp=Z,4.1nm,0.6s
KIV Kislovodsk 23.28 295 *e*P **P 16 15 13.1 +1.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
SHA1 Shidzhatmaz 23.28 295 *i* P **P 16 15 12.4 +0.4**
MOY Mondy 24.55 46 *e*P **P 16 15 25.9 +2.6**
SONM Songino Array 26.80 57 P **P 16 15 44.0 +0.3**
comp=Z,0.4nm,0.7s,baz=262,slow=9.9,SNR=3.7
comp=Z,0.4nm,0.7s
SONM Songino Array 26.80 57 P **P 16 15 44.0 +0.3**
PZH PanZhiHua 27.14 106 P **P 16 15 49.5 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.4s
OBN Obninsk 29.84 318[illegible] *e*P **P 16 16 12.8 +2.5**
OBN *e**PP **pP 16 16 50.7 +2.7**
OBN *e* 16 17 15.6
OBN pmax pmax
comp=Z,27nm,2.1s
CMAR Chiang Mai Arr 30.07 122 P **P 16 16 08.8 -3.9**
comp=Z,0.2nm,0.2s,baz=323,slow=8.9,SNR=2.6
comp=Z,0.2nm,0.2s
BR131 Keskin Array S 30.16 286 P **P 16 16 14.7 +1.2**
BR131 Keskin Array S 30.16 286 P **P 16 16 14.7 +1.2**
BR131 pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 30.16 286 P **P 16 16 14.9 +1.4**
BRTR Keskin Array B 30.16 286 P **P 16 16 15.4 +1.9**
comp=Z,1.0nm,0.4s,baz=100,slow=7.3,SNR=15
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 30.16 286 *i* P **P 16 16 15.3 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BR104 Keskin Array S 30.16 286 P **P 16 16 14.7 +1.2**
comp=Z,2.0nm,0.7s
BR106 Keskin Array S 30.18 286 P **P 16 16 14.7 +1.0**
comp=Z,1.4nm,0.6s
BR105 Keskin Array S 30.18 286 P **P 16 16 14.8 +1.1**
comp=Z,1.8nm,0.6s
HHC Hu-ho-hao-te 30.36 72 *e*P **P 16 16 17.4 +2.2**
HHC pmax pmax
comp=Z,2.0nm,1.0s
HHC pmax pmax
comp=Z,62nm,4.3s
PALK Pallekele 31.13 164 P **P 16 16 22.4 +0.3**
PALK Pallekele 31.13 164 P **P 16 16 22.4 +0.3**
PALK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 32.84 10 P **P 16 16 38.0 +1.5**
comp=Z,1.2nm,0.4s,baz=193,slow=3.9,SNR=4.4
comp=Z,1.2nm,0.4s
NRIK Noril'sk 32.84 10*ce*P **P 16 16 37.8 +1.4**
NRIK pmax pmax
comp=Z,13nm,2.9s
AK07 Malin Array Si 33.13 307 P **P 16 16 40.4 +1.3**
AKASG Malin Array Be 33.13 307 P **P 16 16 40.7 +1.6**
comp=Z,0.2nm,0.3s,baz=113,slow=8.5,SNR=4.2
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 33.13 307 *i* P **P 16 16 41.2 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 33.13 307 P **P 16 16 38.5 -0.6**
AKBB IAmb IAmb 16 17 01.3
comp=Z,12nm,1.4s
AKBB Malin Array Si 33.13 307 P **P 16 16 38.5 -0.6**
AKBB pmax pmax
comp=Z,12nm,1.5s
AKBB Malin Array Si 33.13 307 P **P 16 16 39.7 +0.6**
KIEV Kiev 33.14 307 P **P 16 16 38.6 -0.6**
KIEV IAmb IAmb 16 17 01.3
comp=Z,11nm,1.4s
KIEV Kiev 33.14 307 P **P 16 16 38.6 -0.6**
KIEV pmax pmax
comp=Z,11nm,1.5s
KIEV Kiev 33.14 307 P **P 16 16 39.9 +0.7**
GHRR 34.17 299 P **P 16 16 49.6 +1.4**
RNPP5 Staryi Chortor 35.28 308 P **P 16 16 58.2 +0.6**
VOIR 35.85 298 P **P 16 17 04.3 +1.6**
comp=Z,2.7nm,2.2s
RDO Rodhopi 36.04 291 P **P 16 17 03.5 -0.8**
UBPT Khong Chiam 36.75 118 P **P 16 17 10.2 -0.3**
UBPT IAmb IAmb 16 17 21.4
comp=Z,8.6nm,1.4s
FINES FINESS Array B 37.19 325 P **P 16 17 15.1 +1.3**
comp=Z,1.3nm,0.8s,baz=115,slow=14,SNR=6.0
comp=Z,1.3nm,0.8s
ZEA Zeya 40.51 48 *e*P **P 16 17 44.2 +2.8**
ARCES ARCESS Array B 40.55 337 P **P 16 17 43.2 +1.7**
comp=Z,4.6nm,0.8s,baz=120,slow=8.8,SNR=13
comp=Z,4.6nm,0.8s
YAK Yakutsk 42.43 36*ce*P **P 16 17 58.9 +2.1**
YAK pmax pmax
comp=Z,7.0nm,1.7s
HFS Hagfors 42.88 321 P **P 16 18 01.8 +1.2**
comp=Z,1.7nm,0.4s,baz=98,slow=11,SNR=15
comp=Z,1.7nm,0.4s
GSI Gunungsitoli 42.93 141 P **P 16 18 02.2 +0.8**
GSI IAmb IAmb 16 18 34.8
comp=Z,12nm,1.0s
NB2 NORSAR Subarra 44.17 322 P **P 16 18 11.3 +0.5**
comp=Z,0.4nm,0.3s,baz=93,slow=7.9
NOA NORSAR Array B 44.17 322 P **P 16 18 11.7 +0.8**
comp=Z,0.5nm,0.4s,baz=108,slow=7.1,SNR=4.9
comp=Z,0.5nm,0.4s
TIXI Tiksi 44.34 22 P **P 16 18 12.6 +0.7**
TIXI IAmb IAmb 16 18 13.7
comp=Z,5.3nm,0.8s
TIXI Tiksi 44.34 22*ce*P **P 16 18 13.3 +1.4**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
NC204 NORSAR Array S 44.40 323 P **P 16 18 12.7 0.0**
NC204 IAmb IAmb 16 18 14.1
comp=Z,25nm,1.4s
YOJ Yonaguni jima 44.83 92 P **P 16 18 16.7 +0.2**
YOJ Yonaguni jima 44.83 92 P **P 16 18 16.7 +0.2**
SENIN Lac Senin/Sane 47.92 302 P **P 16 18 41.3 +0.7**
SBUM Sibu 50.58 124 P **P 16 19 01.6 +0.8**
EKA Eskdalemuir Ar 52.26 316 P **P 16 19 13.4 +0.6**
comp=Z,0.5nm,0.4s,baz=79,slow=6.5,SNR=6.0
comp=Z,0.5nm,0.4s
CEST Esterri de Car 53.16 299 P **P 16 19 20.6 +0.8**
CEST IAmb IAmb 16 19 24.0
comp=Z,28nm,1.4s
ESDC Sonseca Array 57.91 298 P **P 16 19 54.1 +0.5**
comp=Z,1.1nm,0.6s,baz=59,slow=7.9,SNR=8.8
comp=Z,1.1nm,0.6s
TORD Torodi Ar. Bea 66.84 269 P **P 16 20 52.1 -1.0**
comp=Z,5.0nm,0.5s,baz=45,slow=5.9,SNR=75
comp=Z,5.0nm,0.5s
BMAR Burnt Mountain 71.60 14 P **P 16 21 23.6 +2.0**
INK Inuvik 72.63 10 P **P 16 21 29.0 +1.4**
INK Inuvik 72.63 10 P **P 16 21 29.0 +1.4**
INK pmax pmax
comp=Z,6.0nm,1.5s
C36M Paulatuk 72.67 6 P **P 16 21 28.2 +0.4**
SUA Susitna One 75.25 20 P **P 16 21 43.2 +0.2**
O18K Koktuh Hills 75.27 23 P **P 16 21 43.8 +0.7**
O18K IAmb IAmb 16 22 00.4
comp=Z,8.5nm,1.0s
DBIC Dimbokro 75.85 268 P **P 16 21 46.2 -0.9**
comp=Z,2.1nm,0.5s,baz=52,slow=8.0,SNR=1.8
comp=Z,2.1nm,0.5s
DBIC Dimbokro 75.85 268 P **P 16 21 46.2 -0.9**
DBIC pmax pmax
comp=Z,21nm,1.5s
YKA Yellowknife Ar 80.08 3 P **P 16 22 10.6 +1.0**
comp=Z,0.5nm,0.4s,baz=347,slow=5.1,SNR=12
comp=Z,0.5nm,0.4s
WB0 Warramunga Arr 81.57 123 P **P 16 22 17.6 -0.6**
WB0 IAmb IAmb 16 22 49.9
comp=Z,15nm,1.4s
WRA Warramunga Arr 81.66 123 P **P 16 22 17.1 -1.5**
comp=Z,0.8nm,0.5s,baz=329,slow=5.1,SNR=22
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 81.66 123 *i* P **P 16 22 17.7 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 81.66 123 P **P 16 22 17.6 -0.9**
WRAB IAmb IAmb 16 22 45.7
comp=Z,9.6nm,1.2s
WRAB Tennant Creek 81.66 123 P **P 16 22 17.6 -0.9**
WRAB pmax pmax
comp=Z,10.0nm,1.2s
WB2 Warramunga Arr 81.66 123 P **P 16 22 17.6 -1.0**
WB2 IAmb IAmb 16 22 25.2
comp=Z,16nm,1.4s
ASAR Alice Springs 84.00 126 P **P 16 22 28.9 -1.6**
comp=Z,0.3nm,0.6s,baz=313,slow=4.7,SNR=6.9
comp=Z,0.3nm,0.6s
ASAR Alice Springs 84.00 126 P **P 16 22 29.0 -1.6**

PRE ***04*** *16:33:58.1±1.0, 26°.90S×26°.72E, h2km, ML3.0*
BGSI ***04*** *16:34:03.3±1.8, 26°.87S×26°.87E, h0km±47km, ML3.2*
ISC 04 16:34:00.7±1.7, 26°.95S±0°.03×26°.79E±0°.03, h19km±4km, n38, σ1°61/75, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**88**	*e*P	**Pb**	**16 34 09.9**	**-1.2**
PRYS				*e*S	**Sg**	**16 34 16.8**	**-1.3**
PRYS				IAML		16 34 19.4	
comp=Z,456nm,0.2s							
WDLM	**Western Deep L**	**0.77**	**47**	*e*P	**Pb**	**16 34 13.5**	**-2.1**
WDLM				*e*S	**Sb**	**16 34 24.4**	**-1.3**
WDLM				IAML		16 34 25.3	
comp=Z,923nm,0.2s							
SWZ	**Schweizer**	**1.32**	**259**	*e*P	**Pn**	**16 34 23.4**	**-0.9**
SWZ				*e*S	**Sn**	**16 34 39.9**	**-1.5**
SWZ				IAML		16 34 46.7	
comp=Z,699nm,0.2s							
HRAO	**HartRAO**	**1.32**	**38**	*e*P	**Pn**	**16 34 24.1**	**-0.2**
HRAO				*e*S	**Sb**	**16 34 42.3**	**+0.6**
HRAO				IAML		16 34 45.6	
comp=Z,182nm,0.1s							
SNKL	**Senekal, Frees**	**1.58**	**147**	*e*P	**Pb**	**16 34 29.8**	**+0.3**
SNKL				*e*S	**Sg**	**16 34 52.2**	**+0.2**
SNKL				IAML		16 34 56.9	
comp=Z,377nm,0.2s							
MAKGR	**Makgori**	**2.11**	**302**	*i* P	**Pb**	**16 34 39.2**	**+0.8**
MAKGR				*i* S	**Sb**	**16 35 05.2**	**+0.9**
MAKGR				IAML		16 35 07.5	
comp=E,1μm,0.4s							
BOSA	**Boshof**	**2.15**	**219**	*e*P	**Pn**	**16 34 34.7**	**-0.9**
BOSA				*e*S	**Sn**	**16 35 02.5**	**+0.8**
BOSA				IAML		16 35 09.8	
comp=Z,76nm,0.3s							
BOSA	**Boshof**	**2.15**	**219**	*i* P	**Pb**	**16 34 38.6**	**-0.4**
BOSA				*i* S	**Sn**	**16 35 02.3**	**+0.5**
LBTB	**Lobatse**	**2.20**	**331**	*e*P	**Pn**	**16 34 36.5**	**+0.1**
LBTB				*e*S	**Sn**	**16 35 03.0**	**-0.1**
LBTB				IAML		16 35 08.6	
comp=Z,313nm,0.5s							
LBTB	**Lobatse**	**2.20**	**331**	*i* P	**Pb**	**16 34 39.4**	**-0.6**
LBTB				*i* S	**Sb**	**16 35 06.7**	**-0.2**
NWCL	**Newcastle**	**2.87**	**107**	*e*P	**Pn**	**16 34 46.5**	**+0.9**
NWCL				*e*S	**Sn**	**16 35 22.5**	**+2.9**
NWCL				IAML		16 35 34.0	
comp=Z,83nm,0.3s							
CRLN	**Carolina, Mapu**	**3.05**	**73**	*e*P	**Pn**	**16 34 48.5**	**+0.5**
CRLN				*e*S	**Sn**	**16 35 26.0**	**+1.9**
CRLN				IAML		16 35 37.6	
comp=Z,36nm,0.6s							
LEPH	**Lephalale, Lim**	**3.21**	**17**	*e*P	**Pn**	**16 34 49.9**	**-0.3**
LEPH				*e*S	**Sn**	**16 35 27.6**	**-0.4**
LEPH				IAML		16 35 43.7	
comp=Z,41nm,0.4s							
SKOMA	**Sekoma**	**3.54**	**313**	*i* P	**Pn**	**16 34 57.0**	**+2.3**
SKOMA				*i* S	**Sn**	**16 35 38.4**	**+2.4**
SKOMA				IAML		16 35 53.6	
comp=E,87nm,0.2s							
LPHEP	**Lephephe**	**3.67**	**347**	*i* P	**Pn**	**16 34 58.4**	**+1.9**
LPHEP				*i* S	**Sn**	**16 35 39.1**	**-0.2**
LPHEP				IAML		16 35 57.3	
comp=E,53nm,0.5s							
PHPEN	**Phepeng**	**3.83**	**292**	*i* P	**Pn**	**16 35 02.5**	**+3.9**
KDWAN	**Kaudwane**	**4.04**	**331**	*i* P	**Pn**	**16 35 04.5**	**+2.9**
KDWAN				*i* S	**Sn**	**16 35 48.9**	**+0.4**
KDWAN				IAML		16 36 09.2	
comp=E,177nm,0.4s							
PILG	**Pilgrimsrest,**	**4.06**	**61**	*e*P	**Pn**	**16 35 02.8**	**+0.8**
PILG				*e*S	**Sn**	**16 35 49.9**	**+0.8**
PILG				IAML		16 36 12.1	
comp=Z,69nm,0.6s							
PMBG	**Pietermaritzbu**	**4.16**	**129**	*e*P	**Pn**	**16 35 04.9**	**+1.7**
PMBG				*e*S	**Sn**	**16 35 53.9**	**+2.6**
PMBG				IAML		16 36 16.0	
comp=Z,36nm,0.3s							
KSTD	**Kokstad**	**4.27**	**149**	*e*P	**Pn**	**16 35 06.4**	**+1.5**
KSTD				*e*S	**Sn**	**16 35 55.8**	**+1.5**
KSTD				IAML		16 36 26.4	
comp=Z,22nm,0.3s							
POGA	**Pongola**	**4.40**	**96**	*e*P	**Pn**	**16 35 08.5**	**+2.0**
POGA				*e*S	**Sn**	**16 35 57.9**	**+0.7**
POGA				IAML		16 36 21.7	
comp=Z,54nm,0.5s							
ALKP	**Alkanpan, Nort**	**4.99**	**232**	*e*P	**Pn**	**16 35 14.7**	**0.0**
ALKP				*e*S	**Sn**	**16 36 10.4**	**-1.5**
ALKP				IAML		16 36 36.4	
comp=Z,39nm,0.4s							
UPI	**Upington**	**5.11**	**253**	*e*P	**Pn**	**16 35 16.9**	**+0.6**
UPI				*e*S	**Sn**	**16 36 12.4**	**-2.4**
UPI				IAML		16 36 41.2	
comp=Z,50nm,0.4s							
MOPA	**Mopani**	**5.39**	**52**	*e*P	**Pn**	**16 35 21.3**	**+1.1**
MOPA				*e*S	**Sn**	**16 36 20.7**	**-1.0**
MOPA				IAML		16 36 53.0	
comp=Z,62nm,0.5s							
MOPA	**Mopani**	**5.39**	**52**	*i* P	**Pn**	**16 35 20.1**	**0.0**
MOPA				*i* S	**Sn**	**16 36 19.0**	**-2.7**
KEIM	**Keimoes**	**5.44**	**250**	*e*P	**Pn**	**16 35 20.2**	**-0.7**
KEIM				*e*S	**Sn**	**16 36 20.3**	**-2.8**
KEIM				IAML		16 36 59.1	
comp=Z,24nm,0.3s							
GRAF	**Camdeboo Natio**	**5.68**	**200**	*e*P	**Pn**	**16 35 25.4**	**+1.3**
GRAF				*e*S	**Sn**	**16 36 27.9**	**-1.0**
GRAF				IAML		16 37 14.1	
comp=Z,15nm,0.4s							
KGCAE	**Kacgae**	**5.82**	**313**	*i* P	**Pn**	**16 35 27.8**	**+1.6**
KGCAE				*i* S	**Sn**	**16 36 31.5**	**-1.0**
KGCAE				IAML		16 37 03.8	
comp=N,57nm,1.1s							
BROLN	**Tlhalogang**	**5.84**	**5**	*i* P	**Pn**	**16 35 28.0**	**+1.6**
BROLN				*i* S	**Sn**	**16 36 31.9**	**-1.1**
BROLN				IAML		16 37 00.4	
comp=E,28nm,0.8s							
AUGR	**Augrabies**	**5.95**	**253**	*e*P	**Pn**	**16 35 27.3**	**-0.5**
AUGR				*e*S	**Sn**	**16 36 33.4**	**-2.1**
AUGR				IAML		16 37 05.6	
comp=Z,34nm,0.3s							
CKGRV	**CKGRV**	**6.17**	**333**	*i* P	**Pn**	**16 35 32.4**	**+1.5**
CKGRV				*i* S	**Sn**	**16 36 38.8**	**-2.2**
CKGRV				IAML		16 37 17.6	
comp=E,169nm,0.7s							
ROOI	**Rooidraai Farm**	**6.20**	**206**	*e*P	**Pn**	**16 35 32.2**	**+0.9**
ROOI				*e*S	**Sn**	**16 36 40.6**	**-1.2**
ROOI				IAML		16 37 25.8	
comp=Z,10nm,0.6s							
GRAN	**Grantham**	**6.68**	**216**	*e*P	**Pn**	**16 35 38.8**	**+0.9**
GRAN				*e*S	**Sn**	**16 36 51.5**	**-2.0**
GRAN				IAML		16 37 40.1	
comp=Z,18nm,0.5s							
FRAZ	**Fraserburg**	**6.83**	**222**	*e*P	**Pn**	**16 35 40.5**	**+0.6**
FRAZ				*e*S	**Sn**	**16 36 54.9**	**-2.4**
FRAZ				IAML		16 37 34.0	
comp=Z,14nm,0.4s							
BLWY	**Bulawayo**	**6.98**	**14**	*i* P	**Pn**	**16 35 42.9**	**+0.9**
BLWY				*i* S	**Sn**	**16 36 58.3**	**-2.7**
MERW	**Merweville**	**7.31**	**217**	*e*P	**Pn**	**16 35 47.2**	**+0.6**
MERW				*e*S	**Sn**	**16 37 06.4**	**-2.7**
MERW				IAML		16 37 12.2	
comp=Z,8.0nm,0.5s							
SUR	**Sutherland**	**7.51**	**222**	*e*P	**Pn**	**16 35 50.3**	**+1.0**
SUR				*e*S	**Sn**	**16 37 11.1**	**-2.9**
SUR				IAML		16 37 53.1	
comp=Z,7.0nm,0.5s							
CVNA	**Calvinia**	**7.62**	**232**	*e*P	**Pn**	**16 35 50.6**	**-0.3**
CVNA				*e*S	**Sn**	**16 37 13.5**	**-3.2**
CVNA				IAML		16 38 14.0	
comp=Z,18nm,0.4s							

SOME ***04*** *16:40:24.7, 44°.05N×81°.45E, h15km*
NNC 04 16:40:25.5±1.9, 44°.08N×81°.37E, h0km, mb3.6, mpv2.9, Error ellipse: s-maj=12.7km s-min=10.6km az=53.0, Suspected Mining explosion., Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.16**	**283**	P	Pg	16 40 47.4	-0.3
0.5nm,0.1s							
DJR				S	Sb	16 41 04.1	0.0
4.1nm,0.2s							
DJR	**Jarkent**	**1.16**	**283**	*e*P	Pg	16 40 47.4	-0.3
0.5nm,0.1s							
DJR				*e*S	Sb	16 41 04.1	0.0
4.1nm,0.2s							
UZB	**Uzynbulak**	**1.94**	**242**	Pg	Pb	16 41 01.8	0.0
3.8nm,0.2s							
UZB				Lg	Lg	16 41 28.3	
3.8nm,0.8s							
UZB	**Uzynbulak**	**1.94**	**242**	*e*P	Pb	16 41 01.1	-0.7
3.8nm,0.2s							
UZB				*e*S	Sb	16 41 27.0	+0.4
3.8nm,0.8s							
KPKS	**Kokpek**	**2.04**	**253**	Pg	Pb	16 41 03.2	-0.2
0.8nm,0.1s							
KPKS				Lg	Lg	16 41 30.8	
4.1nm,0.3s							
KPKS	**Kokpek**	**2.04**	**253**	*e*P	Pb	16 41 03.2	-0.2
0.8nm,0.1s							
KPKS				*e*S	Sg	16 41 30.8	-0.1
4.1nm,0.3s							
BLB	**Baldybastay**	**2.08**	**272**	Pg	Pb	16 41 03.7	-0.5
0.9nm,0.1s							
BLB				Lg	Lg	16 41 31.8	
6.0nm,0.1s							
SATY	**Saty**	**2.38**	**246**	Pg	Pb	16 41 08.2	-1.1
0.5nm,0.1s							
SATY				Lg	Lg	16 41 39.4	
1.9nm,0.2s							
SATY	**Saty**	**2.38**	**246**	*e*P	Pg	16 41 12.5	+1.4
0.4nm,0.1s							
SATY				*e*S	Sg	16 41 46.9	+4.9
2.3nm,0.2s							
ARXS	**Arharly**	**2.55**	**274**	Pg	Pb	16 41 12.5	+0.3
0.4nm,0.1s							
ARXS				Lg	Lg	16 41 46.9	
2.3nm,0.2s							

AFAD ***04*** *16:50:24.2, 39°.51N×29°.04E, h7km±2km, ML1.3*
ISK ***04*** *16:50:24.5, 39°.49N×29°.07E, h5km, ML1.9/15*
ISC 04 16:50:24.7±0.9, 39°.51N±0°.03×29°.06E±0°.03, h13km±10km, n23, σ0°39/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMET	**Ktahya-Emet**	**0.24**	**123**	P	**Pg**	**16 50 29.9**	**0.0**
EMET				S	**Sg**	**16 50 33.5**	**+0.1**
EMET				*i* AML	AML	16 50 34.0	
comp=N,45nm,0.3s							
EMET				*i* AML	AML	16 50 34.0	
comp=E,63nm,0.2s							
TVSB	**Tavsanli**	**0.32**	**100**	Pg	**Pg**	**16 50 31.2**	**0.0**
TVSB				Sg	**Sg**	**16 50 35.8**	**+0.1**
SMAA	**Simav-Kutahya**	**0.41**	**189**	Pg	**Pg**	**16 50 32.9**	**0.0**
SMAA				Sg	**Sg**	**16 50 38.8**	**+0.3**
SIMA	**Simav-Kutahya**	**0.43**	**188**	Pg	**Pg**	**16 50 33.2**	**0.0**
SIMA				Sg	**Sg**	**16 50 39.3**	**+0.3**
DURS	**Dursunbey**	**0.46**	**282**	P	**Pg**	**16 50 33.6**	**-0.2**
DURS				S	**Sg**	**16 50 39.5**	**-0.6**
DURS				*i* AML	AML	16 50 43.0	
comp=N,14nm,0.4s							
DURS				*i* AML	AML	16 50 46.0	
comp=E,12nm,0.6s							
SHAP	**Saphane-Kutahy**	**0.50**	**165**	Pg	**Pg**	**16 50 34.4**	**-0.2**
SHAP				Sg	**Sg**	**16 50 41.1**	**-0.1**
GDZ	**Gediz**	**0.53**	**142**	P	**Pg**	**16 50 35.3**	**+0.2**
GDZ				*i* AML	AML	16 50 44.0	
comp=E,20nm,0.8s							
GDZ				*i* AML	AML	16 50 46.0	
comp=N,15nm,0.3s							
GEDZ	**Gediz**	**0.54**	**149**	Pg	**Pg**	**16 50 35.2**	**-0.1**
DOMA	**Ktahya-Doman**	**0.56**	**60**	P	**Pg**	**16 50 35.4**	**-0.4**
DOMA				S	**Sg**	**16 50 43.7**	**+0.4**
DOMA				*i* AML	AML	16 50 44.0	
comp=N,25nm,0.3s							
DOMA				*i* AML	AML	16 50 45.0	
comp=E,26nm,0.2s							
ULDT	**Uludag**	**0.64**	**5**	P	**Pg**	**16 50 36.6**	**-0.6**
ULDT				S	**Sg**	**16 50 45.6**	**-0.1**
ULDT				*i* AML	AML	16 50 46.0	
comp=N,45nm,0.1s							
ULDT				*i* AML	AML	16 50 46.0	
comp=E,37nm,0.2s							
IGD	**Bursa**	**0.76**	**8**	P	**Pn**	**16 50 41.3**	**+0.2**
IGD				S	**Sb**	**16 50 50.0**	**-0.2**
USAK	**Uak-Merkez**	**0.79**	**182**	P	**Pg**	**16 50 39.6**	**-0.5**
USAK				S	**Sg**	**16 50 50.1**	**-0.4**
USAK				*i* AML	AML	16 50 51.0	
comp=N,24nm,0.9s							
USAK				*i* AML	AML	16 51 10.0	
comp=E,49nm,1.2s							
MDNY	**Mudanya-Bursa**	**0.87**	**351**	Pg	**Pb**	**16 50 42.1**	**+0.4**
SUSR	**Susurluk-Balik**	**0.88**	**301**	Pg	**Pb**	**16 50 41.9**	**+0.1**
GORD	**Gordes-Manisa**	**0.91**	**229**	Pg	**Pg**	**16 50 42.3**	**0.0**
CAVI	**Cavuskoy**	**0.92**	**41**	Pg	**Pb**	**16 50 42.8**	**+0.3**
KCTX	**Karacabey (Bur**	**0.93**	**325**	Pg	**Pb**	**16 50 43.1**	**+0.4**
KULA	**Kula-Manisa**	**1.04**	**198**	Pg	**Pg**	**16 50 44.1**	**-0.6**
ADVT	**Abdulvahap**	**1.06**	**29**	Pg	**Pn**	**16 50 45.7**	**+0.4**
ARMT	**Armutlu**	**1.07**	**352**	Pn	**Pn**	**16 50 45.8**	**+0.4**
YLV	**Yalova**	**1.09**	**13**	Pn	**Pn**	**16 50 45.9**	**+0.2**
BORA	**Eskisehir**	**1.14**	**70**	P	**Pb**	**16 50 45.1**	**-1.1**
BORA				S	**Sg**	**16 51 01.9**	**+0.4**
BORA				*i* AML	AML	16 51 05.0	
comp=E,12nm,0.3s							
BORA				*i* AML	AML	16 51 10.0	
comp=N,5.6nm,0.3s							
GULT	**Gulveren**	**1.45**	**50**	Pn	**Pg**	**16 50 52.5**	**-0.1**

NAO ***04*** *16:50:38.6, 36°.27N×27°.10E, h10km, mb3.8*
MOS ***04*** *16:50:46.4±1.3, 36°.29N×22°.26E, h13km, mb4.4/13, Error ellipse: s-maj=9.7km s-min=4.9km az=78.0*
IDC ***04*** *16:50:47.0±0.9, 36°.45N×22°.30E, h0km, mb4.0/19, mbtmp3.9/27, ML3.5/8, MS3.0/17, Error ellipse: s-maj=19.4km s-min=13.7km az=10.0*
NEIC ***04*** *16:50:48.4±1.8, 36°.37N±0°.07×22°.17E±0°.08, h10km±1km, mb4.4/10, Error ellipse: s-maj=15.5km s-min=4.6km az=224.0*
MED_RC ***04*** *16:50:49.0±1.1, 36°.27N×22°.15E, h10km, MW4.2/8, Moment Tensor Solution. Mantle waves: s8, c8; Duration: 1s0 Moment tensor: Scale 10^15 Nm; M_{rr}=0.06±.19; $M_{\theta\theta}$=-0.32±.12; $M_{\phi\phi}$=0.27±.15; $M_{r\theta}$=2.92±.29; $M_{\theta\phi}$=0.10±.11; $M_{\phi r}$=-0.68±.30; Best double couple: M_0=3.00000×10^15 NP1: ϕ_s=260.00000°, δ2.00000°, λ67.00000°. NP2: ϕ_s=103.00000°, δ88.00000°, λ91.00000°. Principal axes: T 2.8600, Plg47.0000°, Azm14.0000°; N 0.2800, Plg1.0000°, Azm283.0000°; P -3.1400, Plg43.0000°, Azm192.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
ATH ***04*** *16:50:51.0, 36°.28N×22°.13E, h6km±2km, ML3.8/11 Error ellipse: s-maj=2.0km s-min=0.7km az=55.0*

*BEO **04** 16:50:52.5±0.7,36°.59N×21°.92E, h0km,ML3.8/9*
*THE **04** 16:50:52.5,36°.42N×22°.16E, h6km±1km,ML3.7/8,Error ellipse: s-maj=2.6km s-min=1.3km az=42.0*
*MCSM **04** 16:50:55.7±0.6,36°.N±7°×2°.2E±°, h49km±19km,mb4.3, mB5.6,MLv4.2,Mw(mB)5.0*
*TIR **04** 16:51:02.7,37°.18N×20°.89E, h18km±31km,Md3.8/8, Ml3.6/6*
*HLW **04** 16:51:04.5,35°.77N×23°.24E, h33km±44km,Md4.3,Ml3.9*
ISC 04 16:50:51.8±0.6,**36°.39N**±0°.04×**22°.10E**±0°.03,**h39**km±2km, **n215**,σ2§65/243,**mb4.1**/34,**MS2.9**/9,**6C-2D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.75**	**64**	P	**Pn**	**16 51 05.5**	**-0.4**
VLI				S	**Sn**	**16 51 16.4**	**+0.4**
	5μm,0.6s						
VLI	**Veliai**	**0.75**	**64**	P	**Pn**	**16 51 05.7**	**-0.2**
VLI				S	**Sn**	**16 51 16.8**	**+0.8**
VLI				AML	AML	16 51 22.6	
	comp=E,10880μm,0.6s						
VLI				AML	AML	16 51 23.8	
	comp=N,10163μm,0.6s						
ITM	**Ithomi**	**0.80**	**350**		**Pn**	**16 51 07.4**	**+0.7**
ITM				Sn	**Sn**	**16 51 17.9**	**+0.5**
ITM	**Ithomi**	**0.80**	**350**	P	**Pn**	**16 51 07.3**	**+0.6**
ITM				S	**Sn**	**16 51 18.0**	**+0.6**
	comp=N,6μm,0.4s						
ITM	**Ithomi**	**0.80**	**350**	P	**Pn**	**16 51 07.7**	**+1.0**
ITM				S	**Sn**	**16 51 20.7**	**+3.3**
ITM				AML	AML	16 51 23.7	
	comp=E,12760μm,0.3s						
ITM				AML	AML	16 51 25.4	
	comp=N,10405μm,0.4s						
MNVA	**Monemvasia**	**0.81**	**68**	P	**Pn**	**16 51 06.9**	**+0.2**
MNVA				S	**Sn**	**16 51 18.3**	**+0.8**
AMT	**Artemida-Makis**	**1.18**	**345**	P	**Pn**	**16 51 15.1**	**+3.1**
AMT				S	**Sn**	**16 51 32.7**	**+5.9**
AMT				AML	AML	16 51 37.2	
	comp=E,29230μm,0.3s						
AMT				AML	AML	16 51 42.1	
	comp=N,41177μm,0.4s						
KRND	**KRANIDI**	**1.30**	**40**	P	**Pn**	**16 51 15.2**	**+1.7**
KRND				S	**Sn**	**16 51 34.0**	**+4.4**
	comp=N,2μm,0.8s						
KRND	**KRANIDI**	**1.30**	**40**	P	**Pn**	**16 51 16.7**	**+3.2**
KRND				S	**Sn**	**16 51 34.9**	**+5.3**
KRND				AML	AML	16 51 39.5	
	comp=E,4203μm,0.8s						
KRND				AML	AML	16 51 41.3	
	comp=N,3720μm,0.7s						
YDRA	**Hydra**	**1.45**	**48**	P	**Pn**	**16 51 18.2**	**+2.6**
YDRA				S	**Sn**	**16 51 38.8**	**+5.4**
GUR	**Goura**	**1.56**	**7**	P	**Pn**	**16 51 19.8**	**+2.7**
GUR				S	**Sn**	**16 51 39.5**	**+3.4**
	comp=N,4μm,0.5s						
GUR	**Goura**	**1.56**	**7**	P	**Pn**	**16 51 21.7**	**+4.6**
GUR				S	**Sn**	**16 51 43.2**	**+7.2**
GUR				AML	AML	16 51 48.4	
	comp=E,5600μm,0.6s						
GUR				AML	AML	16 51 52.0	
	comp=N,8996μm,0.5s						
DRO	**Drossia**	**1.59**	**349**	P	**Pn**	**16 51 20.5**	**+3.0**
DRO				S	**Sn**	**16 51 43.2**	**+6.4**
	comp=N,5μm,0.7s						
DRO	**Drossia**	**1.59**	**349**	P	**Pn**	**16 51 22.2**	**+4.7**
DRO				S	**Sn**	**16 51 44.4**	**+7.5**
DRO				AML	AML	16 51 55.3	
	comp=E,8597μm,0.4s						
DRO				AML	AML	16 51 56.8	
	comp=N,5213μm,0.6s						
KLV	**Kalavryta, Ach**	**1.65**	**1**	P	Pn	16 51 23.1	+4.8
KLV				S	**Sn**	**16 51 46.9**	**+8.5**
KLV				AML	AML	16 51 57.1	
	comp=E,2605μm,0.7s						
KLV				AML	AML	16 51 58.9	
	comp=N,2262μm,0.8s						
LTHK	**Lithakia**	**1.66**	**323**	P	**Pn**	**16 51 22.8**	**+4.3**
LTHK				S	**Sn**	**16 51 46.5**	**+8.0**
LTHK				AML	AML	16 52 01.0	
	comp=N,2594μm,0.4s						
LTHK				AML	AML	16 52 04.5	
	comp=E,2750μm,0.6s						
CLEM	**Kyllini,Ilia,G**	**1.69**	**333**	P	Pn	16 51 23.9	+5.1
CLEM				S	**Sn**	**16 51 47.0**	**+7.9**
RLS	**Riolos of Patr**	**1.74**	**343**	P	**Pn**	**16 51 22.9**	**+3.4**
RLS				S	**Sn**	**16 51 45.0**	**+4.5**
	comp=E,1μm,0.8s						
RLS	**Riolos of Patr**	**1.74**	**343**	P	**Pn**	**16 51 23.9**	**+4.3**
KYPS	**Kipseli, Zakin**	**1.76**	**325**	P	Pn	16 51 25.0	+5.3
KYPS				S	**Sn**	**16 51 49.5**	**+8.7**
LTK	**Loutraki**	**1.77**	**23**	P	**Pn**	**16 51 24.4**	**+4.5**
IMMV	**Iera Moni Meta**	**1.78**	**121**	P	**Pn**	**16 51 22.6**	**+2.5**
IMMV				S	**Sn**	**16 51 45.7**	**+4.2**
	comp=E,1μm,0.7s						
IMMV	**Iera Moni Meta**	**1.78**	**121**	P	**Pn**	**16 51 21.5**	**+1.4**
IMMV				S	**Sn**	**16 51 45.1**	**+3.5**
IMMV				AML	AML	16 52 03.2	
	comp=E,2704μm,0.7s						
IMMV				AML	AML	16 52 05.2	
	comp=N,2247μm,0.7s						
ORTH	**Orthonies,Zaky**	**1.84**	**323**	P	Pn	16 51 26.0	+5.0
MHLO	**Agia Marina, M**	**1.88**	**80**	P	**Pn**	**16 51 24.0**	**+2.7**
MHLO				S	**Sn**	**16 51 49.3**	**+5.5**
MHLO				AML	AML	16 51 57.9	
	comp=E,7354μm,0.6s						
MHLO				AML	AML	16 52 01.8	
	comp=N,13791μm,1.2s						
KALE	**Kalithea**	**2.00**	**1**	P	Pn	16 51 29.0	+5.8
VILL	**Villia**	**2.02**	**28**	P	**Pn**	**16 51 24.9**	**+1.5**
VILL				S	**Sn**	**16 51 50.1**	**+2.7**
	comp=N,1μm,0.7s						
EFP	**Efpalio**	**2.04**	**356**	P	Pn	16 51 29.4	+5.7
VLS	**Valsamata**	**2.15**	**326**	P	**Pn**	**16 51 28.0**	**+2.8**
ANX	**Ano Chora**	**2.21**	**356**	P	Pn	16 51 31.5	+5.5
DION	**Dionisos Attik**	**2.23**	**40**	P	**Pn**	**16 51 27.8**	**+1.5**
GVD	**Gavdhos**	**2.24**	**133**	P	**Pn**	**16 51 30.1**	**+3.8**
AXAR	**Agios Charalam**	**2.42**	**10**	P	Pn	16 51 35.3	+6.5
IDI	**Anoyia**	**2.52**	**115**		**Pn**	**16 51 29.2**	**-1.0**
IDI	**Anoyia**	**2.52**	**115**	Pn	**Pn**	**16 51 30.9**	**+0.6**
	comp=N,4.4nm,0.3s,baz=327,slow=12,SNR=23						
IDI				Sn	**Sn**	**16 51 55.2**	**-4.5**
	comp=N,18nm,0.3s,baz=116,slow=12,SNR=6.7						
IDI	**Anoyia**	**2.52**	**115**	P	**Pn**	**16 51 34.3**	**+4.0**
IDI				S	**Sn**	**16 52 05.8**	**+6.0**
IDI				AML	AML	16 52 13.5	
	comp=N,714μm,0.5s						
IDI				AML	AML	16 52 14.7	
	comp=E,556μm,0.4s						
EVR	**Evrytania**	**2.53**	**355**	P	Pn	16 51 37.9	+7.3
MAKR	**Makrakomi, Fth**	**2.62**	**1**	P	Pn	16 51 38.6	+7.0
LKD2	**Lefkada island**	**2.66**	**335**	P	**Pn**	**16 51 32.9**	**+0.8**
LKD2				S	**Sn**	**16 51 55.6**	**-7.5**
LKD2				AML	AML	16 52 32.5	
	comp=E,2.5nm,1.3s						
LKD2				AMd		16 53 39.5	
APE	**Apeiranthos**	**2.84**	**75**	*i* P	**Pn**	**16 51 34.2**	**-0.4**
JAN	**Janina**	**3.41**	**344**	P	**Pn**	**16 51 46.5**	**+4.0**
IGT	**Igoumenitsa**	**3.44**	**337**	P	**Pn**	**16 51 44.6**	**+1.8**
IGT				S	**Sn**	**16 52 16.6**	**-5.7**
IGT				AML	AML	16 52 29.0	
	comp=E,0.5nm,0.5s						
IGT				AMd		16 53 54.9	
LIT	**Litokhoron**	**3.72**	**5**		**Pn**	**16 51 49.5**	**+2.8**
LIT	**Litokhoron**	**3.72**	**5**	P	**Pn**	**16 51 49.5**	**+2.8**
KEK	**Kerkira**	**3.78**	**332**		**Pn**	**16 51 50.0**	**+2.4**
SRN	**Sarande**	**3.86**	**335**	P	**Pn**	**16 51 50.8**	**+2.2**
SRN				S	**Sn**	**16 52 27.4**	**-5.3**
SRN				AML	AML	16 52 39.0	
	comp=E,0.2nm,0.3s						
SRN				AMd		16 53 48.4	
KZN	**Kozani**	**3.92**	**356**	P	Pn	16 51 55.4	+5.9
LSK	**Leskovik**	**3.94**	**343**	P	**Pn**	**16 51 52.4**	**+2.6**
LSK				S	**Sn**	**16 52 31.4**	**-3.4**
LSK				AML	AML	16 53 11.7	
	comp=E,1.0nm,0.9s						
NEST	**Nestorio**	**4.10**	**349**	P	**Pn**	**16 51 56.6**	**+4.6**
NEST				S	**Sn**	**16 52 38.2**	**-0.6**
NEST				AML	AML	16 52 49.8	
	comp=E,0.3nm,0.5s						
NEST				AMd		16 53 58.0	
KBN	**Korca**	**4.35**	**347**		**Pn**	**16 51 55.5**	**0.0**
KBN	**Korca**	**4.35**	**347**	P	**Pn**	**16 51 55.5**	**0.0**
FNA	**Florina**	**4.42**	**353**		**Pn**	**16 51 57.4**	**+1.0**
FNA	**Florina**	**4.42**	**353**	P	**Pn**	**16 52 00.7**	**+4.2**
FNA				S	**Sn**	**16 52 48.1**	**+1.4**
FNA				AML	AML	16 52 50.1	
	comp=E,0.4nm,0.8s						
FNA				AMd		16 54 04.7	
FNA	**Florina**	**4.42**	**353**	P	**Pn**	**16 51 57.4**	**+1.0**
FNA	**Florina**	**4.42**	**353**	*e*Pn	**Pn**	**16 51 58.6**	**+2.1**
FNA				*e*Sn	**Sn**	**16 52 47.1**	**+0.4**
SCTE	**Santa Cesarea**	**4.66**	**323**	Pn	**Pn**	**16 51 59.5**	**-0.1**
SCTE	**Santa Cesarea**	**4.66**	**323**	P	**Pn**	**16 52 01.0**	**+1.4**
SCTE				AMd		16 53 37.0	
EZN	**Ezine**	**4.78**	**43**	P	Pn	16 52 08.0	+6.7
OHR	**Ohrid**	**4.83**	**348**	*i* Pn	**Pn**	**16 52 06.2**	**+4.3**
OHR	**Ohrid**	**4.83**	**348**	*e*Pn	**Pn**	**16 52 03.5**	**+1.6**
OHR				*e*Sn	**Sn**	**16 52 56.5**	**-0.1**
VAY	**Valandovo**	**4.94**	**4**	*i* Pn	**Pn**	**16 52 05.5**	**+2.1**
VAY	**Valandovo**	**4.94**	**4**	*e*Pn	**Pn**	**16 52 05.4**	**+2.0**
TIP	**Timpagrande**	**5.07**	**305**		**Pn**	**16 52 07.0**	**+1.8**
TIP	**Timpagrande**	**5.07**	**305**	P	**Pn**	**16 52 07.6**	**+2.3**
TIR	**Tirane**	**5.25**	**341**	Pn	**Pn**	**16 52 09.8**	**+2.1**
TIR	**Tirane**	**5.25**	**341**	P	**Pn**	**16 52 09.8**	**+2.1**
CEL	**Celeste**	**5.29**	**293**		**Pn**	**16 52 10.2**	**+1.9**
CEL	**Celeste**	**5.29**	**293**	P	**Pn**	**16 52 09.9**	**+1.6**
	comp=E,0.5nmcomp=E,2μmcomp=E,39nm,0.6s						
CEL				S	**Sn**	**16 53 07.1**	**-0.9**
	comp=E,0.5nmcomp=E,2μmcomp=E,39nm,0.6s						
PEHC	**Pehcevo**	**5.42**	**6**	*e*Pn	**Pn**	**16 52 12.3**	**+2.2**
RDO	**Rodhopi**	**5.46**	**28**		**Pn**	**16 52 10.2**	**-0.4**
ALN	**Alexandroupoli**	**5.46**	**33**		**Pn**	**16 52 10.8**	**+0.2**
ALN	**Alexandroupoli**	**5.46**	**33**	P	**Pn**	**16 52 10.8**	**+0.2**
SLUM	**Salum**	**5.53**	**151**	P	**Pn**	**16 52 13.3**	**+1.8**
PUK	**Puka**	**5.90**	**344**		**Pn**	**16 52 17.4**	**+0.7**
NOCI	**Noci**	**5.91**	**320**	P	**Pn**	**16 52 18.3**	**+1.5**
NOCI				AMd		16 54 31.5	
CUC	**Castrocucco**	**6.12**	**308**		**Pn**	**16 52 20.3**	**+0.6**
DRME	**Dracevica, Mon**	**6.22**	**340**	*e*Pn	**Pn**	**16 52 21.3**	**+0.3**
VAE	**Valguarnera**	**6.25**	**282**	Pn	**Pn**	**16 52 24.3**	**+2.7**
	comp=E,13nm,0.8s,baz=124,slow=11,SNR=2.3						
VAE				Sn	**Sn**	**16 53 31.4**	**-0.4**
	comp=E,17nm,0.3s,baz=140,slow=6.3,SNR=14						
RAFF	**Raffo Rosso**	**6.27**	**280**	Pn	**Pn**	**16 52 23.5**	**+1.8**
PDG	**Podgorica**	**6.42**	**341**	*e*Pn	**Pn**	**16 52 24.7**	**+0.9**
PDG	**Podgorica**	**6.42**	**341**	*e*Pn	**Pn**	**16 52 24.5**	**+0.7**
BARS	**Barje**	**6.42**	**358**	*e*Pn	**Pn**	**16 52 25.4**	**+1.6**
BARS				*e*Sn	**Sn**	**16 53 33.0**	**-2.9**
MRVN	**Minervino Murg**	**6.56**	**317**	P	**Pn**	**16 52 27.2**	**+1.4**
MRVN				AMd		16 54 48.6	
HCY	**Herceg Novi**	**6.66**	**336**	*e*Pn	**Pn**	**16 52 26.2**	**-0.9**
SELS	**Selova**	**6.86**	**354**	*e*Pn	**Pn**	**16 52 30.0**	**+0.1**
SELS				*e*Sn	**Sn**	**16 53 44.1**	**-2.6**
ZAPS	**Zavoj**	**6.89**	**3**	*e*Pn	**Pn**	**16 52 32.3**	**+2.0**
SJES	**Sjenica**	**7.06**	**347**	*e*Pn	**Pn**	**16 52 32.3**	**-0.3**
SJES	**Sjenica**	**7.06**	**347**	*e*Pn	**Pn**	**16 52 32.9**	**+0.3**
SJES				*e*Sn	**Sn**	**16 53 49.9**	**-1.7**
BRY	**Bratogost**	**7.06**	**338**	*e*Pn	Pn	16 52 37.4	+4.7
UPM	**Unac-Piva**	**7.24**	**341**	*e*Pn	**Pn**	**16 52 37.4**	**+2.2**
KLYT	**Kilyos**	**7.27**	**46**	P	**Pn**	**16 52 39.0**	**+3.5**
	comp=E,0.1nmcomp=E,15nm,0.7s						
STON	**Ston**	**7.31**	**334**	*e*Pn	**Pn**	**16 52 35.5**	**-0.5**
IVAS	**Ivanjica**	**7.33**	**349**	*e*Pn	**Pn**	**16 52 36.0**	**-0.4**
IVAS				*e*Sn	**Sn**	**16 53 54.9**	**-3.4**
PAOL	**Paolisi**	**7.49**	**310**		**Pn**	**16 52 40.2**	**+1.6**
RUDO	**Rudo**	**7.52**	**345**	*e*Pn	**Pn**	**16 52 37.6**	**-1.3**
GRUS	**Gruza**	**7.57**	**352**	*e*Pn	**Pn**	**16 52 38.9**	**-0.6**
DB3	**El Dabaa**	**7.57**	**133**	P	**Pn**	**16 52 38.4**	**-1.2**
DB3				S	Sn	16 53 51.5	-13
SWA2		**7.66**	**157**	P	**Pn**	**16 52 41.2**	**+0.4**
SWA2				S	**Sn**	**16 54 00.4**	**-6.0**
BBLS	**Lazi&#263i**	**7.75**	**345**	*e*Pn	**Pn**	**16 52 41.2**	**-0.9**
BBLS	**Lazi&#263i**	**7.75**	**345**	*e*Pn	**Pn**	**16 52 41.1**	**-1.0**
BBLS				*e*Sn	**Sn**	**16 54 04.6**	**-3.9**
DIVS	**Divibare**	**7.87**	**349**	*e*Pn	**Pn**	**16 52 43.5**	**-0.2**
DIVS				*e*Sn	**Sn**	**16 54 06.9**	**-4.6**
HAPS	**Han Pijesak,Bl**	**8.06**	**344**	*e*Pn	**Pn**	**16 52 44.8**	**-1.5**
TEKS	**Tekeris**	**8.38**	**347**	*e*Pn	**Pn**	**16 52 47.6**	**-3.1**
TEKS	**Tekeris**	**8.38**	**347**	*e*Pn	**Pn**	**16 52 49.9**	**-0.8**
FRGS	**Fruska Gora**	**8.93**	**349**	*e*Pn	**Pn**	**16 52 56.5**	**-1.7**
FRGS	**Fruska Gora**	**8.93**	**349**	*e*Pn	**Pn**	**16 52 57.5**	**-0.7**
A050A	**Klekovaca**	**9.13**	**334**	*e*Pn	**Pn**	**16 53 02.0**	**+1.0**
BLY	**Banja Luka**	**9.15**	**337**	*e*Pn	**Pn**	**16 53 04.2**	**+3.0**
NRCA	**Norcia**	**9.46**	**316**		**Pn**	**16 53 06.3**	**+0.8**
A051A	**Mrakovica**	**9.47**	**337**	*e*Pn	**Pn**	**16 53 05.0**	**-0.7**
MLR	**Muntele Rosu**	**9.54**	**17**	Pn	**Pn**	**16 53 05.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=173,slow=19,SNR=3.7						
MLR				LR	LR	16 57 32.1	
	comp=E,106nm,21.7s,baz=184,slow=43 comp=E,1.1nm,0.5s						
MLR	**Muntele Rosu**	**9.54**	**17**	P	Pn	16 53 11.6	+4.9
	comp=E,8.3nm,1.1s						
BRTR	**Keskin Array B**	**9.69**	**66**	Pn	**Pn**	**16 53 07.3**	**-1.4**
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=4.3						
BRTR				LR	LR	16 57 33.2	
	comp=E,128nm,19.4s,baz=274,slow=43						
RYAN	**Fayoum**	**10.02**	**134**	P	**Pn**	**16 53 12.1**	**-1.0**
CRES	**Cresnjevec Ost**	**10.67**	**334**	*e*Pn	**Pn**	**16 53 21.0**	**-1.1**
NBNS	**Bani Suef**	**10.96**	**132**	P	**Pn**	**16 53 25.4**	**-0.7**
CEY	**Cerknica**	**10.99**	**331**	*e*Pn	**Pn**	**16 53 26.1**	**-0.3**
MMAI	**Mount Meron Ar**	**11.45**	**103**	Pn	**Pn**	**16 53 31.0**	**-1.8**
	comp=E,0.6nm,0.3s,baz=286,slow=10,SNR=1.4 comp=E,0.4nm,0.3s						
SOKA	**Soboth**	**11.56**	**335**	*i* Pn	**Pn**	**16 53 33.7**	**-0.6**
	comp=E,3.5nm,0.5s						
OBKA	**Obir**	**11.58**	**333**	*i* Pn	**Pn**	**16 53 33.1**	**-1.5**
	comp=E,2.1nm,0.5s						
OBKA	**Obir**	**11.58**	**333**	*e*Pn	**Pn**	**16 53 30.9**	**-3.7**
BERU	**Beregovo**	**11.84**	**2**	P	**Pn**	**16 53 40.0**	**+2.0**
ARSA	**Arzberg**	**11.90**	**338**	*i* Pn	**Pn**	**16 53 39.0**	**+0.1**
	comp=E,1.2nm,0.4s						
KBA	**Koelnbreinsper**	**12.51**	**331**	*i* Pn	**Pn**	**16 53 47.1**	**-0.3**
	comp=E,1.2nm,0.4s						
ABTA	**Abfaltersbach**	**12.59**	**328**	*e*Pn	**Pn**	**16 53 45.8**	**-2.4**
	comp=E,0.4nm,0.4s						
EIL	**Elat**	**12.69**	**118**	Pn	**Pn**	**16 53 48.5**	**-1.1**
	comp=E,0.3nm,0.3s,baz=62,slow=15,SNR=1.5						
EIL				Sn	Sn	16 55 59.0	-11
	comp=E,1.1nm,0.3s,baz=171,slow=0.5,SNR=8.3						
EIL				LR	LR	17 00 10.4	
	comp=E,22nm,20.3s,baz=244,slow=45 comp=E,1.0nm,0.5s						
MOA	**Molln**	**12.84**	**336**	*e*Pn	**Pn**	**16 53 52.0**	**+0.4**
	comp=E,0.6nm,0.3s						
LESA	**Schwarzleotal**	**13.06**	**331**	*i* Pn	**Pn**	**16 53 55.0**	**+0.3**
	comp=E,0.9nm,0.3s						
WTTA	**Wattenberg**	**13.36**	**328**	*i* Pn	**Pn**	**16 54 02.8**	**+3.8**
	comp=E,1.6nm,0.4s						
WATA	**Walderalm**	**13.45**	**328**	*e*Pn	**Pn**	**16 54 00.8**	**+0.8**
	comp=E,1.4nm,0.3s						
VRAC	**Vranov**	**13.52**	**344**	LR	LR	17 00 03.6	
	comp=E,69nm,20.8s,baz=177,slow=41						
FETA	**Feichten**	**13.59**	**325**	*e*Pn	**Pn**	**16 54 04.1**	**+2.1**
MOTA	**Moosalm**	**13.66**	**327**	*e*Pn	**Pn**	**16 54 03.8**	**+0.8**
DAVOX	**Davos/Dischmat**	**13.82**	**322**	Pn	**Pn**	**16 54 05.7**	**+0.5**
	comp=E,0.2nm,0.3s,baz=144,slow=19,SNR=1.8						
DAVOX				Sn	**Sn**	**16 56 32.2**	**-5.1**
	comp=E,0.4nm,0.3s,baz=341,slow=23,SNR=4.9						
DAVOX				LR	LR	17 00 24.9	
	comp=E,26nm,21.1s,baz=80,slow=42 comp=E,1.2nm,0.5s						
GERES	**GERESS Array B**	**13.89**	**336**	Pn	**Pn**	**16 54 06.0**	**-0.1**
	comp=E,0.2nm,0.3s,baz=142,slow=14,SNR=4.4						
GERES				LR	LR	17 00 34.4	
	comp=E,192nm,19.0s,baz=116,slow=42 comp=E,0.7nm,0.5s						
GERES	**GERESS Array B**	**13.89**	**336**	P	**Pn**	**16 54 06.0**	**-0.1**
RETA	**Reutte**	**13.92**	**326**	*e*Pn	**Pn**	**16 54 09.3**	**+2.9**
	comp=E,0.9nm,0.3s						
KHC	**Kasperske Hory**	**14.18**	**337**	*e*P	**P**	**16 54 18.5**	**+1.7**
KHC	**Kasperske Hory**	**14.18**	**337**	*e*P	**P**	**16 54 18.5**	**+1.7**
KSP	**Ksiaz**	**15.04**	**346**	P	**Pn**	**16 54 22.9**	**+1.4**
	comp=E,11nm,1.0s						
MI28	**Mi28,Pidlybu**	**15.08**	**14**	P	**P**	**16 54 25.9**	**-0.8**
RNPP5	**Staryi Chortor**	**15.08**	**9**	P	**P**	**16 54 26.2**	**-0.5**
AK18	**Malin Array Si**	**15.18**	**17**	P	**P**	**16 54 26.9**	**-0.9**
RNPP8	**Varash**	**15.18**	**9**	P	**P**	**16 54 27.3**	**-0.5**
AKASG	**Malin Array Be**	**15.20**	**18**	Pn	**Pn**	**16 54 22.2**	**-1.3**
	comp=E,0.7nm,0.3s,baz=215,slow=9.7,SNR=7.1						
AKASG				LR	LR	16 59 52.0	
	comp=E,50nm,20.8s,baz=234,slow=36 comp=E,1.0nm,0.7s						
AKBB	**Malin Array Si**	**15.20**	**18**	*i* P	**Pn**	**16 54 22.6**	**-0.9**
CLL	**Collm**	**16.27**	**339**	*i* P	**P**	**16 54 42.2**	**+2.3**
CLL				pmax	pmax		
	comp=Z,14nm,1.4s						
CLL	**Collm**	**16.27**	**339**	*i* sP	**P**	**16 54 42.2**	**+2.3**
	comp=Z,14nm,1.4s						
SHA1	**Shidzhatmaz**	**17.34**	**59**	*i* P	**Pn**	**16 54 50.4**	**-0.6**
KIV	**Kislovodsk**	**17.43**	**58**	*e*P	**Pn**	**16 54 50.7**	**-1.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,12nm,14.0s						
KBZ	**Khabaz**	**17.50**	**59**	P	**Pn**	**16 54 52.1**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=270,slow=7.3,SNR=11						
KBZ				LR	LR	17 03 46.5	
	comp=Z,24nm,18.1s,baz=230,slow=45 comp=Z,3.6nm,0.9s						
KBZ	**Khabaz**	**17.50**	**59**	*ce*P	**P**	**16 54 53.7**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**18.16**	**71**	LR	LR	17 02 53.7	
	comp=Z,39nm,19.8s,baz=252,slow=40						
MNK	**Minsk**	**18.55**	**11**	*i* P	**P**	**16 55 00.7**	**-4.3**
	comp=E,9.0nm,0.7s						
MNK				*i* P	**P**	**16 55 00.7**	**-4.3**
	comp=N,11nm,0.8s						
MNK				*i* P	**P**	**16 55 00.7**	**-4.3**
	comp=Z,6.0nm,0.7s,baz=195						
MNK				*i* PP	**pP**	**16 55 12.6**	**-1.9**
MNK				*i* PPP	PPP	16 55 20.3	
MNK				*i* S	**Sn**	**16 58 28.3**	**-3.4**
MNK				*i* SS	**SnSn**	**16 58 43.5**	**-2.3**
MNK				*i* SSS	SSS	16 58 56.3	
MNK				*i* LQ	LQ	17 00 31.6	
MNK				*i* LR	LR	17 01 55.9	
MNK				*i* LRM	MLR	17 03 17.2	
	comp=Z,103nm,16.4s						
MNK				*i* LRM	MLR	17 04 08.1	
	comp=N,619nm,23.4s						
MNK				*i* LRM	MLR	17 04 10.9	
	comp=E,660nm,22.0s						
MNK	**Minsk**	**18.55**	**11**	*i* P	**P**	**16 55 00.7**	**-4.3**
MNK				*i* S	**Sn**	**16 58 28.3**	**-3.4**
MNK				pmax	pmax		
	comp=E,9.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,11nm,0.8s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,103nm,16.0s						
MNK				MLR	MLR		
	comp=N,619nm,23.0s						
MNK				MLR	MLR		
	comp=E,660nm,22.0s						
NACGM	**Naroch**	**18.80**	**8**	*e*P	**P**	**16 55 06.2**	**-1.5**
	baz=192						
PABE	**Paberze**	**19.16**	**3**		**P**	**16 55 12.0**	**+0.3**
PABE				IAmb	IAmb	16 55 13.9	
	comp=Z,28nm,0.9s						
LPSR	**Galich'ya Gora**	**20.09**	**31**	*e*P	**P**	**16 55 20.1**	**-1.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRH	**Novokhopyorsk**	**20.40**	**37**	*e*P	**P**	**16 55 22.8**	**-2.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ESDC	**Sonseca Array**	**20.77**	**287**	P	Pn	16 55 32.0	0.0
	comp=Z,0.5nm,0.5s,baz=90,slow=9.5,SNR=4.9 comp=Z,0.5nm,0.5s						
OBN	**Obninsk**	**21.20**	**23**	*de*P	**P**	**16 55 32.6**	**-1.2**
OBN				*e*		16 55 53.9	
OBN				pmax	pmax		
	comp=Z,12nm,0.5s						
OBN				MLR	MLR		
	comp=Z,28nm,14.0s						
VSU	**Vasula**	**22.30**	**6**	*i* P	**P**	**16 55 44.0**	**-1.5**
VSU				pmax	pmax		
	comp=Z,24nm,0.9s						
PUL	**Pulkovo**	**24.00**	**10**	*i* P	**P**	**16 56 02.0**	**-0.6**
PUL				pmax	pmax		
	comp=Z,48nm,0.4s						
BELG	**Belogornoye**	**24.08**	**40**	LR	LR	17 06 01.3	
	comp=Z,27nm,21.9s,baz=1.4,slow=38						
BELG	**Belogornoye**	**24.08**	**40**	*i* P	**P**	**16 56 02.9**	**-0.5**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HFS	**Hagfors**	**24.37**	**350**	P	**P**	**16 56 05.3**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=154,slow=11,SNR=9.8						
HFS				LR	LR	17 06 28.0	
	comp=Z,18nm,18.5s,baz=106,slow=39

comp=Z,1.1nm,0.6s,baz=231,slow=7.2,SNR=5.0
comp=Z,1.1nm,0.6s
LSZ Lusaka 51.70 173 LR LR 17 25 08.0
comp=Z,24nm,20.3s,baz=96,slow=40
EUNU Eureka 57.51 349 P **P 17 00 37.3 +0.7**
GTA Gaotai 59.57 61 *e*P **P 17 00 51.1 -0.6**
GTA pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 60.62 50 P **P 17 00 58.3 -0.5**
comp=Z,1.3nm,1.0s,baz=284,slow=8.7,SNR=6.2
comp=Z,1.3nm,1.0s
SCHQ Schefferville 60.63 318 P **P 17 01 00.2 +1.6**
comp=Z,1.9nm,0.5s,baz=49,slow=5.8,SNR=9.7
comp=Z,1.9nm,0.5s
PZH PanZhiHua 66.91 73 P **P 17 01 40.9 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.6s
HHC Hu-ho-hao-te 67.01 55 *e*P **P 17 01 41.9 +1.0**
CMAR Chiang Mai Arr 68.89 82 P **P 17 01 52.5 -0.4**
comp=Z,0.5nm,0.4s,baz=299,slow=8.4,SNR=6.4
comp=Z,0.5nm,0.4s
BILL Bilibino 72.47 13 *i* P **P 17 02 14.8 +0.9**
BILL pmax pmax
comp=Z,3.0nm,1.3s
KLR Kul'dur 74.44 40 *i* P **P 17 02 25.8 0.0**
KLR pmax pmax
comp=Z,2.0nm,1.1s
F31M Tsiigehtchic 74.88 351 P **P 17 02 28.9 +0.9**
YKA Yellowknife Ar 75.50 341 P **P 17 02 32.6 +1.0**
comp=Z,0.4nm,0.6s,baz=34,slow=4.9,SNR=10.0
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 75.50 341 *i* P **P 17 02 32.0 +0.4**
E19K Redstone River 76.47 360 P **P 17 02 38.6 +1.5**
E19K IAmb IAmb 17 02 39.6
comp=Z,3.6nm,0.7s
F19K Shaleruckik Mo 77.10 360 P **P 17 02 41.5 +0.8**
F19K IAmb IAmb 17 02 42.1
comp=Z,1.8nm,0.8s
ILAR Eielson Array 78.80 355 P **P 17 02 51.4 +1.2**
comp=Z,0.5nm,0.8s,baz=355,slow=3.8,SNR=8.3
comp=Z,0.5nm,0.8s
HDA Harding Lake 79.16 355 P **P 17 02 52.2 +0.1**
HDA IAmb IAmb 17 02 54.7
comp=Z,4.9nm,1.0s
KSRS Korea Array 79.48 51 P **P 17 02 54.4 +0.1**
comp=Z,0.7nm,0.7s,baz=312,slow=3.4,SNR=4.8
comp=Z,0.7nm,0.7s

IDC 04 16:56:56.1±10.0, 16°.97S×173°.25W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=504.7km s-min=65.2km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.64**	**258**	P	P	17 05 49.6	-0.3
	0.9nm,1.0s,baz=84,slow=6.0,SNR=5.8						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**49.78**	**253**	P	P	17 05 51.0	0.0
	1.3nm,0.5s,baz=89,slow=8.2,SNR=36						
	1.3nm,0.5s						
BRTR	**Keskin Array B**	**147.45**	**320**	PKPbc	PKPbc	17 16 41.8	-0.7
	0.3nm,0.5s,baz=44,slow=4.4,SNR=4.0						

*DMN **04** 17:13:35.1±0.0, 29°.70N×87°.91E, h30km, Ml4.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **04** 17:13:39.9±4.9, 30°.12N×89°.53E, h0km, mb3.4/3, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=360.5km s-min=25.0km az=62.0*
ISC 04 17:13:40.4±1.6, 29°.38N±0°.08×87°.7E±0°.1, h35km, n16, σ1§65/18, mb3.7/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**2.03**	**178**	Pg	**Pn**	17 14 10.9	-1.4
	baz=184,slow=0.0						
TAPN				Sg	**Sn**	17 14 36.4	-0.2
	baz=184,slow=0.0						
GUN	**Gumba**	**2.14**	**227**	Pg	**Pn**	17 14 12.2	-1.7
	baz=225,slow=0.0						
RAMN	**Ramite**	**2.59**	**201**	Pg	**Pn**	17 14 19.2	-0.9
	baz=203,slow=0.0						
RAMN				Sg	**Sn**	17 14 51.7	+1.2
	254nm,0.8s,baz=203,slow=0.0						
KKN	**Kakani**	**2.62**	**233**	Pg	**Pn**	17 14 19.3	-1.1
	baz=231,slow=0.0						
KKN	**Kakani**	**2.62**	**233**	Pg	**Pn**	17 14 19.5	-0.9
	baz=231,slow=0.0						
PKI	**Pulchoki**	**2.67**	**228**	Pg	**Pn**	17 14 20.1	-1.2
	baz=226,slow=0.0						
PKI				Sg	**Sn**	17 14 54.8	+2.2
	692nm,0.9s,baz=226,slow=0.0						
PKIN	**Phulchoki**	**2.68**	**228**	Pg	**Pn**	17 14 20.4	-0.9
	baz=227,slow=0.0						
PKIN				Sg	**Sn**	17 14 54.4	+1.8
	438nm,0.7s,baz=227,slow=0.0						
DMN	**Daman**	**2.85**	**232**	Pg	**Pn**	17 14 22.3	-1.4
	baz=230,slow=0.0						
GKN	**Gorkha**	**2.98**	**243**	Pg	**Pn**	17 14 23.4	-2.0
	baz=240,slow=0.0						
DANN	**Dangsing**	**3.56**	**254**	Pg	**Pn**	17 14 31.5	-2.0
	baz=251,slow=0.0						
KOLN	**Koldanda**	**3.91**	**247**	Pg	**Pn**	17 14 35.9	-2.2
	baz=244,slow=0.0						
PYUN	**Piuthan**	**4.29**	**254**	Pg	**Pn**	17 14 41.4	-1.9
	baz=251,slow=0.0						
MKAR	**Makanchi Array**	**17.88**	**348**	P	**P**	17 17 48.1	+1.5
	0.1nm,0.3s,baz=164,slow=12,SNR=6.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**22.30**	**345**	P	**P**	17 18 35.6	+1.0
	0.7nm,0.8s,baz=162,slow=10,SNR=5.9						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**66.57**	**132**	P	P	17 24 27.9	+0.7
	0.4nm,0.6s,baz=327,slow=6.6,SNR=7.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**68.99**	**135**	P	P	17 24 43.2	+0.7
	0.5nm,0.7s,baz=314,slow=5.7,SNR=6.0						
	0.5nm,0.7s						

*ISK **04** 17:21:06.7, 39°.57N×38°.56E, h5km, ML3.7/26*
*AFAD **04** 17:21:07.9, 39°.54N×38°.64E, h7km±2km, MW3.6*
*IDC **04** 17:21:09.8±1.6, 40°.06N×38°.34E, h0km, mb3.5/7, mbtmp3.5/11, ML3.2/4, Error ellipse: s-maj=47.9km s-min=11.5km az=158.0*
ISC 04 17:21:08.0±1.2, 39°.56N±0°.02×38°.63E±0°.02, h2km±9km, n53, σ1§15/72, mb3.6/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.31**	**201**	P	**Pg**	17 21 14.4	+0.6
KEMA				S	**Sg**	17 21 18.7	+0.8
KEMA				*i* AML	AML	17 21 19.0	
	comp=N,2μm,0.2s						
KEMA				*i* AML	AML	17 21 19.0	
	comp=E,2μm,0.4s						
SUSE	**Susehri**	**0.73**	**333**	P	**Pg**	17 21 22.4	+0.4
SUSE				S	**Sb**	17 21 33.6	-0.5
SUSE				*i* AML	AML	17 21 41.0	
	comp=N,1μm,0.5s						
SUSE				*i* AML	AML	17 21 41.0	
	comp=E,1μm,1.0s						
CUZAR	**Zara_SIVAS**	**0.74**	**297**	P	**Pg**	17 21 22.4	+0.2
CUZAR				S	**Sb**	17 21 35.2	+0.8
CUZAR				*i* AML	AML	17 21 39.0	
	comp=E,3μm,0.4s						
CUZAR				*i* AML	AML	17 21 46.0	
	comp=N,1μm,0.4s						
KELT	**Kelkit**	**0.76**	**39**	P	**Pg**	17 21 22.4	-0.2
KELT				*i* AML	AML	17 21 33.0	
	comp=N,831nm,0.7s						
KELT				*i* AML	AML	17 21 33.0	
	comp=E,1μm,0.7s						
TNCL	**Tunceli-Merkez**	**0.83**	**122**	P	**Pg**	17 21 23.5	-0.4
TNCL				S	**Sb**	17 21 35.6	-1.3
TNCL				*i* AML	AML	17 21 41.0	
	comp=N,3μm,0.5s						
TNCL				*i* AML	AML	17 21 44.0	
	comp=E,2μm,0.7s						
EUZM	**Uzumlu**	**0.84**	**79**	P	**Pg**	17 21 23.6	-0.4
EUZM				S	**Sb**	17 21 36.6	-0.5
EUZM				*i* AML	AML	17 21 37.0	
	comp=N,2μm,0.5s						
EUZM				*i* AML	AML	17 21 37.0	
	comp=E,3μm,0.7s						
HEKM	**Malatya_Hekimh**	**0.85**	**218**	P	**Pg**	17 21 24.4	0.0
HEKM				*i* AML	AML	17 21 41.0	
	comp=E,3μm,0.5s						
HEKM				*i* AML	AML	17 21 43.0	
	comp=N,4μm,0.2s						
PTK	**Pertek**	**0.89**	**138**	Pg	**Pg**	17 21 24.5	-0.5
CUKAN	**kangal_SIVAS**	**0.93**	**256**	P	**Pg**	17 21 25.1	-0.8
CUKAN				S	**Sn**	17 21 41.0	-1.3
CUKAN				*i* AML	AML	17 21 46.0	
	comp=N,1μm,0.3s						
CUKAN				*i* AML	AML	17 21 46.0	
	comp=E,1μm,0.4s						
ELZG	**Elazig**	**1.09**	**165**	P	**Pg**	17 21 28.4	-0.5
ELZG				S	**Sn**	17 21 44.4	-1.9
ELZG				*i* AML	AML	17 21 45.0	
	comp=N,5μm,0.3s						
ELZG				*i* AML	AML	17 21 45.0	
	comp=E,8μm,0.4s						
GUMT	**Gumushane**	**1.11**	**36**	Pn	**Pg**	17 21 29.4	+0.1
SCER	**sogukcermik**	**1.20**	**285**	P	**Pg**	17 21 30.4	-0.5
SCER				S	**Sn**	17 21 48.9	0.0
SCER				*i* AML	AML	17 21 56.0	
	comp=N,1μm,0.5s						
SCER				*i* AML	AML	17 21 57.0	
	comp=E,2μm,0.7s						
MAYA	**Malatya/Merkez**	**1.24**	**188**	P	**Pg**	17 21 30.9	-0.8
MAYA				*i* AML	AML	17 21 48.0	
	comp=N,1μm,0.4s						
MAYA				S	**Sn**	17 21 48.3	-1.4
MAYA				*i* AML	AML	17 21 49.0	
	comp=E,1μm,0.3s						
KOVA	**Elazig, Kovanc**	**1.25**	**132**	P	**Pg**	17 21 31.0	-0.9
KOVA				S	**Sn**	17 21 50.4	+0.4
KOVA				*i* AML	AML	17 21 56.0	
	comp=E,781nm,1.1s						
KOVA				*i* AML	AML	17 21 57.0	
	comp=N,753nm,1.2s						
RSDY	**Resadiye-TOKAT**	**1.31**	**310**	Pn	**Pn**	17 21 32.1	-1.2
RSDY				Sn	**Sb**	17 21 50.3	-0.3
SVSK	**Karacayir**	**1.31**	**286**	Pn	**Pn**	17 21 31.9	-1.4
SVSK				Sn	**Sg**	17 21 50.3	+0.2
DARE	**Darende-Malaty**	**1.33**	**223**	Pn	**Pn**	17 21 32.7	-1.0
DARE				Sn	**Sn**	17 21 51.6	-0.4
CUGUR	**Gurin_SVAS**	**1.34**	**232**	P	**Pb**	17 21 33.4	-0.6
CUGUR				S	**Sn**	17 21 53.1	+0.6
CUGUR				*i* AML	AML	17 21 57.0	
	comp=E,3μm,0.3s						
CUGUR				*i* AML	AML	17 21 58.0	
	comp=N,3μm,0.4s						
ESPY	**Espiye-Giresun**	**1.36**	**3**	Pn	**Pn**	17 21 33.0	-1.1
AKCD	**Akcadag**	**1.38**	**204**	P	**Pg**	17 21 34.0	-0.4
AKCD				S	**Sn**	17 21 54.2	+1.0
AKCD				*i* AML	AML	17 21 57.0	
	comp=N,3μm,0.2s						
AKCD				*i* AML	AML	17 21 58.0	
	comp=E,2μm,0.5s						
BAYT	**Aydıntepe-Bayb**	**1.43**	**54**	Pn	**Pn**	17 21 33.6	-1.5
CUAYA	**Sivas-Altinyay**	**1.49**	**259**	P	**Pn**	17 21 35.3	-0.6
CUAYA				S	**Sg**	17 21 59.2	+3.4
CUAYA				*i* AML	AML	17 22 03.0	
	comp=E,908nm,0.5s						
CUAYA				*i* AML	AML	17 22 05.0	
	comp=N,912nm,0.4s						
KTUT	**Trabzon**	**1.67**	**31**	Pn	**Pn**	17 21 37.7	-0.6
BNGB	**Bingl**	**1.69**	**109**	Pn	**Pb**	17 21 39.4	-0.4
BNGB				Sn	**Sg**	17 22 03.2	+1.1
TOKT	**Tokat**	**1.78**	**296**	Pn	**Pn**	17 21 39.1	-0.7
TOKT				Sn	**Sn**	17 22 02.6	-0.4
KARO	**Karliova-Bingo**	**1.89**	**97**	Pn	**Pb**	17 21 42.1	-1.2
KARO				Sn	**Sg**	17 22 08.2	-0.4
SARI	**SarD1z-Kayseri**	**2.07**	**237**	Pn	**Pn**	17 21 43.4	-0.6
URFA	**Urfa**	**2.12**	**176**	Pn	**Pb**	17 21 45.1	-2.0
VRTB	**Varto-Mus**	**2.22**	**99**	Pn	**Pb**	17 21 47.2	-1.8
CHOM	**Cayeli-Rize**	**2.24**	**46**	Pn	**Pn**	17 21 46.9	+0.8
BNN	**Bunyan**	**2.28**	**253**	Pn	**Pn**	17 21 46.5	-0.2
SVAN	**Silvan-Diyarba**	**2.45**	**124**	Pn	**Pb**	17 21 50.2	-2.5
KOPR	**Koprukoy-ERZUR**	**2.52**	**79**	Pn	**Pn**	17 21 51.2	+1.1
MAZI	**Mazidag**	**2.53**	**145**	Pn	**Pn**	17 21 51.3	+1.1
GAZ	**Gaziantep**	**2.63**	**206**	Pn	**Pn**	17 21 51.9	+0.4
GURO	**Guroymak-BITLI**	**2.83**	**110**	Pn	**Pn**	17 21 55.7	+1.3
BCA	**Borcka**	**2.96**	**49**	Pn	**Pn**	17 21 57.2	+1.2
KOZT	**Kozan**	**3.02**	**228**	Pn	**Pn**	17 21 57.2	+0.3
SENK	**Senkaya-Erzuru**	**3.02**	**69**	Pn	**Pn**	17 21 58.3	+1.2
MLAZ	**Malazgirt-MUS**	**3.06**	**97**	Pn	**Pn**	17 21 59.2	+1.6
AGRB	**Hanur-Agry**	**3.37**	**88**	Pn	**Pn**	17 22 03.3	+1.5
SIRT	**Sirnak**	**3.62**	**123**	Pn	**Pn**	17 22 07.0	+1.8
BRTR	**Keskin Array B**	**3.86**	**274**	Pn	**Pn**	17 22 09.2	+0.7
	5.6nm,0.3s,baz=109,slow=15,SNR=131						
	17nm,0.4s						
KBZ	**Khabaz**	**5.25**	**36**	Pn	**Pn**	17 22 28.5	+1.0
	0.5nm,0.3s,baz=233,slow=12,SNR=16						
	1.6nm,0.6s						
KVAR	**Kislovodsk Arr**	**5.34**	**33**	Pn	**Pn**	17 22 28.2	-0.7
	baz=242,slow=15						
	1.9nm,0.7s						
AKTO	**Aktyubinsk**	**17.45**	**45**	P	**P**	17 25 13.9	+0.2
	0.1nm,0.3s,baz=250,slow=12,SNR=5.6						
	1.5nm,0.7s						
ARTI	**Arti**	**21.28**	**31**	P	**P**	17 25 55.6	0.0
	1.7nm,0.3s,baz=238,slow=8.4,SNR=4.9						
	1.7nm,0.3s						
BVAR	**Borovoye Array**	**25.50**	**48**	P	**P**	17 26 38.4	+0.8
	0.5nm,0.6s,baz=224,slow=6.0,SNR=2.8						
	0.5nm,0.6s						
AAK	**Ala-Archa**	**27.07**	**72**	P	**P**	17 26 55.8	+3.7
	0.8nm,0.6s,baz=294,slow=4.8,SNR=3.7						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**29.92**	**55**	P	**P**	17 27 17.6	+0.5
	0.3nm,0.2s,baz=274,slow=9.0,SNR=5.5						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**32.31**	**63**	P	**P**	17 27 39.5	+1.2
	0.1nm,0.5s,baz=267,slow=7.4,SNR=1.9						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**34.11**	**50**	P	**P**	17 27 52.9	-0.9
	0.4nm,0.5s,baz=254,slow=10,SNR=1.6						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**76.04**	**348**	P	**P**	17 32 56.0	-0.4
	0.2nm,0.6s,baz=25,slow=5.4,SNR=4.2						
	0.2nm,0.6s						

*IDC **04** 17:40:36.7±0.8, 43°.66N×146°.94E, h0km, mb3.9/14, mbtmp3.9/16, ML3.0/2, MS4.4/1, Error ellipse: s-maj=24.0km s-min=17.6km az=104.0*
*MOS **04** 17:40:41.5±1.6, 43°.53N×147°.15E, h58km, mb4.1/1, Error ellipse: s-maj=10.5km s-min=8.3km az=96.9*
*NIED **04** 17:40:44.3, 43°.53N×146°.89E, h45km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.35; $M_{\theta\theta}$0.71; $M_{\phi\phi}$-1.07; $M_{r\theta}$0.22; $M_{\theta\phi}$-0.34; $M_{\phi r}$0.27; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s146.00000°, δ67.00000°, λ7.00000°. NP2:ϕ_s53.00000°, δ84.00000°, λ157.00000°.*
*JMA **04** 17:40:44.3±0.2, 43°.5N±0°.9×14°7E±°, h45km±3km, MV4.5/38, E OFF HOKKAIDO*
JMA Felt I J1 at E OFF HOKKAIDO .
*NEIC **04** 17:40:45.7±2.4, 43°.73N±0°.08×146°.9E±0°.2, h60km±11km, mb4.1/18, Error ellipse: s-maj=20.1km s-min=7.8km az=118.0*
*SKHL **04** 17:40:45.1±0.2, 43°.60N×146°.90E, h44km±2km, mb5.1/3*
ISC 04 17:40:43.6±0.8, 43°.58N±0°.05×146°.98E±0°.05, h50km±6km, n98, σ1§43/108, mb4.1/24, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.31**	**340c**	*i* PN	**Pn**	17 40 52.9	+0.1
SHO				*i* S	**Sn**	17 40 59.1	-0.3
SHO				pmax	pmax		
	comp=N,1μm,0.2s						
SHO				pmax	pmax		
	comp=E,1μm,0.2s						
SHO				pmax	pmax		
	comp=Z,8μm,0.2s						
SHO				smax	smax		
	comp=N,16μm,0.4s						
SHO				smax	smax		
	comp=E,12μm,0.4s						
SHO	**Shikotan**	**0.31**	**340**	*i* P	**Pn**	17 40 52.9	+0.1
SHO				AMB	AMB	17 40 53.1	
	comp=E,10μm,0.4s						
SHO				*i* S	**Sn**	17 40 58.8	-0.6
SHO				A	A	17 40 59.4	
	comp=E,22μm,0.6s						
SHO				A	A	17 40 59.4	
	comp=E,14μm,0.6s						
NEM2	**Nemuro 2**	**0.93**	**257**	P	**Pn**	17 41 00.1	-0.2
NEM2				S	**Sn**	17 41 11.4	-1.1
YUK	**Yuzh-Kuril'sk**	**0.93**	**300**	*e*PN	**Pn**	17 41 00.0	-0.3
YUK				*i* S	**Sn**	17 41 11.0	-1.6
YUK				pmax	pmax		
	comp=N,548nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,277nm,0.1s						
YUK				smax	smax		
	comp=N,10μm,0.3s						
YUK				smax	smax		
	comp=E,13μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**300**	*e*P	**Pn**	17 41 00.0	-0.3
YUK				AMB	AMB	17 41 01.3	
	comp=E,480nm,0.2s						
YUK				*i* S	**Sn**	17 41 11.0	-1.6
YUK				A	A	17 41 12.9	
	comp=E,4μm,0.4s						
YUK				A	A	17 41 12.9	
	comp=E,13μm,0.4s						
NMR	**Nemuro--Hokkai**	**0.94**	**257**	‖ *i*PN	**Pn**	17 41 00.0	-0.4
NMR				*i* S	**Sn**	17 41 11.3	-1.4
NMR	**Nemuro--Hokkai**	**0.94**	**257**	*i* P	**Pn**	17 41 00.0	-0.4
NMR				*i* S	**Sn**	17 41 11.3	-1.4
RUSJ	**Misakicho**	**1.36**	**293**	*e*PN	**Pn**	17 41 09.2	+3.1
RUSJ				*i* S	**Sn**	17 41 23.9	+0.9
JRA	**Rausu**	**1.39**	**286**	P	**Pn**	17 41 06.8	+0.3
JRA				*e*S	**Sn**	17 41 23.4	-0.4
JKHN	**Kushirohamanak**	**1.42**	**250**	P	**Pn**	17 41 07.2	+0.3
JKHN				*e*S	**Sn**	17 41 23.8	-0.6
JNSB	**Nemuroshibetsu**	**1.45**	**278**	*e*P	**Pn**	17 41 07.9	+0.6
JNSB				*e*S	**Sn**	17 41 25.0	-0.1
JNK	**Nakash**	**1.64**	**271**	P	**Pn**	17 41 10.0	0.0
AKK	**Akkeshi**	**1.66**	**251**	*e*P	**Pn**	17 41 10.1	-0.1
JAK	**Akkeshi**	**1.77**	**251**	*e*P	**Pn**	17 41 11.7	0.0
JAK				S	**Sn**	17 41 32.1	-0.8
KUR	**Kuril'sk**	**1.77**	**21**	*e*PN	**Pn**	17 41 13.4	+1.7
KUR				*e*S	**Sn**	17 41 33.3	+0.2
KUR				smax	smax		
	comp=E,1μm,0.5s						
KUR				smax	smax		
	comp=N,866nm,0.4s						
KUR	**Kuril'sk**	**1.77**	**21**	*e*P	**Pn**	17 41 12.0	+0.3
KUR				AMB	AMB	17 41 13.9	
	comp=N,190nm,0.3s						
KUR				*e*S	**Sn**	17 41 33.1	0.0
KUR				A	A	17 41 37.6	
	comp=N,2μm,0.3s						
KUR				A	A	17 41 37.6	
	comp=N,980nm,0.3s						
JTKR	**Abashiri--Toko**	**2.26**	**281**	P	**Pn**	17 41 19.5	+1.1
JTKR				*e*S	**Sn**	17 41 47.2	+2.1
JAR	**Ashorobuto**	**2.35**	**264**	P	**Pn**	17 41 20.6	+0.8
JAR				*e*S	**Sn**	17 41 47.6	+0.1
JOB	**Onbets**	**2.40**	**255**	*e*P	**Pn**	17 41 21.1	+0.9
JOB				S	**Sn**	17 41 48.1	-0.3
JCH	**Churui**	**2.82**	**251**	*e*P	**Pn**	17 41 26.3	+0.2
JCH				*e*S	**Sn**	17 41 58.5	-0.3
JKA	**Kamikawa-asahi**	**3.21**	**281**		**Pn**	17 41 33.4	+1.9
JKA	**Kamikawa-asahi**	**3.21**	**281**	*e*P	**Pn**	17 41 33.4	+1.9
ASAJ	**Asahikawa**	**3.21**	**281**	Pn	**Pn**	17 41 31.7	+0.2
	comp=N,6.7nm,0.3s,baz=93,slow=10,SNR=35						
ASAJ				Sn	**Sn**	17 42 08.5	-0.1
	comp=N,9.1nm,0.3s,baz=263,slow=30,SNR=2.3						
ASAJ	**Asahikawa**	**3.21**	**281**	PN	**Pn**	17 41 33.4	+1.9
ERM	**Erimo**	**3.22**	**242**		**Pn**	17 41 34.5	+3.0
ERM	**Erimo**	**3.22**	**242**	PN	**Pn**	17 41 34.5	+3.0
YSS	**Yuzhno-Sakhali**	**4.50**	**320**	Pn	**Pn**	17 41 48.7	-0.5
YSS	**Yuzhno-Sakhali**	**4.50**	**320**	*e*PN	**Pn**	17 41 51.7	+2.5
YSS				*e*S	**Sn**	17 42 41.4	+1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS				smax	smax		
	comp=N,40nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.50**	**320**	*e*P	**Pn**	17 41 51.7	+2.5
YSS				*e*S	**Sn**	17 42 39.1	-1.1
JTM	**Tenmabayashi**	**5.20**	**240**	Pn	**Pn**	17 41 59.1	+0.4
JMM	**Marumori**	**7.39**	**222**	Pn	**Pn**	17 42 27.5	-1.3
TYV	**Tymovskoe**	**7.86**	**340**	*e*P	Pn	17 42 39.1	+4.0
TYV				*e*S	**Sn**	17 44 01.2	-1.4
JSD	**Sado**	**8.62**	**233**	Pn	**Pn**	17 42 45.1	-0.6
SKR	**Severo-Kuril's**	**9.44**	**38**	*e*P	**Pn**	17 43 00.1	+3.3
MJB9	**Matsu-Tunnel**	**9.72**	**227**	Pn	**Pn**	17 43 01.8	+1.0
MAJO	**Matsushiro**	**9.72**	**227**	Pn	**Pn**	17 43 00.8	+0.1
MAJO	**Matsushiro**	**9.72**	**227**	PN	**Pn**	17 43 00.8	+0.1
MJAR	**Matsushiro Arr**	**9.72**	**227**	Pn	**Pn**	17 42 59.1	-1.7
	comp=N,0.1nm,0.3s,baz=30,slow=13,SNR=5.0						
	comp=N,1.2nm,0.5s						
NKL	**Nikolayevsk**	**10.45**	**339**	*e*P	**Pn**	17 43 12.2	+1.7
USRK	**Ussuriysk Ar.**	**10.84**	**278**	Pn	**Pn**	17 43 17.8	+1.8
	baz=88,slow=16,SNR=2.0						
PETK	**Petropavlovsk-**	**11.89**	**33**	Pn	**Pn**	17 43 28.6	-1.7
PETK	**Petropavlovsk-**	**11.89**	**33**	Pn	**Pn**	17 43 30.4	+0.2
	comp=N,0.2nm,0.3s,baz=201,slow=7.9,SNR=8.5						
PETK	**Petropavlovsk-**	**11.89**	**33**	PN	**Pn**	17 43 28.6	-1.7
KLR	**Kul'dur**	**11.93**	**304**	Pn	**Pn**	17 43 34.2	+3.4
	comp=N,0.1nm,0.3s,baz=112,slow=17,SNR=8.3						
KLR				LR	LR	17 47 53.7	
	comp=N,77nm,18.3s,baz=160,slow=37						
KLR	**Kul'dur**	**11.93**	**304**	*e*PN	**Pn**	17 43 33.7	+2.9
KLR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KLR	**Kul'dur**	**11.93**	**304**	*e*P	**Pn**	17 43 33.7	+2.9
KSRS	**Korea Array**	**15.72**	**254**	Pn	**Pn**	17 44 22.7	+1.2
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=2.8						
MA2	**Magadan**	**16.19**	**7**	LR	LR	17 50 07.5	
	comp=Z,38nm,19.0s,baz=36,slow=35						
SEY	**Seymchan**	**19.64**	**7**	P	**P**	17 45 05.8	-1.9
	comp=Z,0.1nm,0.3s,baz=188,slow=8.2,SNR=3.6						
	comp=Z,0.8nm,0.7s						
YAK	**Yakutsk**	**21.11**	**337**	P	**P**	17 45 22.3	-1.2
	comp=Z,3.4nm,0.4s,baz=188,slow=2.2,SNR=2.2						
	comp=Z,3.4nm,0.4s						
SONM	**Songino Array**	**28.42**	**293**	P	**P**	17 46 32.2	-1.2
SONM	**Songino Array**	**28.42**	**293**	P	**P**	17 46 32.6	-0.8
	comp=Z,0.4nm,0.6s,baz=83,slow=8.9,SNR=4.4						
	comp=Z,0.4nm,0.6s						
SONM	**Songino Array**	**28.42**	**293**	P	**P**	17 46 32.2	-1.2
SONM

BCAR	**Beaver Creek A**	**44.11**	**38**	P	**P**	**17 48 47.8**	**+1.3**
MKAR	**Makanchi Array**	**44.55**	**298**	P	**P**	**17 48 50.5**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=84,slow=9.4,SNR=10						
	comp=Z,0.9nm,0.9s						
I28M	**Miner Creek**	**44.57**	**35**	P	**P**	**17 48 49.6**	**-0.6**
H29M	**Whitestone**	**45.10**	**34**	P	**P**	**17 48 50.2**	**-4.1**
H29M				IAmb	IAmb	17 48 57.7	
	comp=Z,6.2nm,1.4s						
G29M	**Pine Creek**	**45.13**	**33**	P	**P**	**17 48 51.6**	**-3.0**
L29M	**L29M**	**45.74**	**38**	P	**P**	**17 48 57.6**	**-1.9**
G30M	**tAoh Zraii Nji**	**45.83**	**32**	P	**P**	**17 49 01.5**	**+1.4**
G30M				IAmb	IAmb	17 49 36.2	
	comp=Z,3.0nm,1.2s						
G31M	**Satah River**	**46.59**	**32**	P	**P**	**17 49 07.0**	**+1.0**
G31M				IAmb	IAmb	17 49 17.7	
	comp=Z,5.3nm,1.4s						
CMAR	**Chiang Mai Arr**	**47.36**	**254**	P	**P**	**17 49 13.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**47.36**	**254**	P	**P**	**17 49 13.2**	**+0.6**
YKA	**Yellowknife Ar**	**56.01**	**34**	P	**P**	**17 50 16.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=300,slow=7.3,SNR=4.2						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**64.27**	**193**	P	**P**	**17 51 13.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=6.7,slow=6.7,SNR=5.6						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**64.97**	**333**	P	**P**	**17 51 16.5**	**-1.1**
	comp=Z,6.9nm,1.1s,baz=43,slow=6.2,SNR=5.9						
	comp=Z,6.9nm,1.1s						
NVAR	**Mina Array Bea**	**67.77**	**58**	LR	LR	18 18 39.5	
	comp=Z,291nm,19.9s,baz=128,slow=34						
ASAR	**Alice Springs**	**67.98**	**193**	P	**P**	**17 51 38.2**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=9.4,slow=6.0,SNR=9.2						
	comp=Z,0.9nm,0.8s						
NB2	**NORSAR Subarra**	**69.72**	**339**	P	**P**	**17 51 46.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.72**	**339**	P	**P**	**17 51 47.0**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=32,slow=6.4,SNR=5.0						
	comp=Z,1.4nm,0.8s						
NOA	**NORSAR Array B**	**69.72**	**339**	P	**P**	**17 51 47.0**	**-0.8**
HFS	**Hagfors**	**69.80**	**337**	P	**P**	**17 51 47.2**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=65,slow=8.4,SNR=6.6						
	comp=Z,1.7nm,0.6s						
KBZ	**Khabaz**	**69.82**	**311**	P	**P**	**17 51 49.0**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=76,slow=4.4,SNR=10.0						
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**70.11**	**50**	P	**P**	**17 51 51.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=335,slow=2.9,SNR=2.7						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**71.64**	**324**	P	**P**	**17 51 58.8**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=40,slow=6.2,SNR=6.7						
	comp=Z,0.9nm,0.6s						
EKA	**Eskdalemuir Ar**	**78.25**	**343**	P	**P**	**17 52 37.6**	**0.0**
	comp=Z,3.2nm,0.9s,baz=11,slow=4.7,SNR=3.0						
	comp=Z,3.2nm,0.9s						
H03N2	**Juan Fernandez**	**143.09**	**90**	T	T	20 39 34.6	
	baz=305,slow=77,SNR=11						
H03N3	**Juan Fernandez**	**143.10**	**90**	T	T	20 39 36.0	
	baz=305,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**143.10**	**90**	T	T	20 39 36.4	
	baz=305,slow=77,SNR=17						

*TIR **04** 17:41:00.5, 37°.33N×20°.96E, h18km±2km, Md3.9/9, Ml4.6/7*
*BEO **04** 17:41:02.7±3.4, 36°.91N×20°.97E, h53km±3km, ML4.1/5*
*MOS **04** 17:41:05.7±1.3, 37°.61N×21°.14E, h11km, mb4.8/20, Error ellipse: s-maj=6.7km s-min=3.5km az=74.0*
*NAO **04** 17:41:06.8, 37°.64N×22°.00E, h10km, mb4.0*
*IDC **04** 17:41:06.3±0.6, 37°.70N×21°.26E, h0km, mb4.2/28, mbtmp4.1/41, ML3.6/12, MS3.5/11, Error ellipse: s-maj=12.8km s-min=11.1km az=176.0*
*NEIC **04** 17:41:07.6±2.0, 37°.65N±0°.05×21°.12E±0°.06, h10km±1km, mb4.5/43, Error ellipse: s-maj=10.2km s-min=5.6km az=216.0*
*PDG **04** 17:41:07.5±0.5, 37°.72N×21°.03E, h10km±4km, ML4.5/13, Error ellipse: s-maj=5.1km s-min=2.2km az=90.0*
*MED_RC **04** 17:41:08.0±0.6, 37°.60N×21°.09E, h16km±3km, MW4.3/8, Moment Tensor Solution. Mantle waves: s8, c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.56±.35; $M_{\theta\theta}$-1.26±.25; $M_{\phi\phi}$0.70±.16; $M_{r\theta}$3.34±.74; $M_{\theta\phi}$-0.02±.24; $M_{\phi r}$-1.89±.59; Best double couple: $M_0$3.99000×10^{15} NP1:ϕ_s231.00000°, δ13.00000°, λ22.00000°. NP2: ϕ_s119.00000°, δ85.00000°, λ102.00000°. Principal axes: T 3.8700, Plg48.0000°, Azm43.0000°; N 0.2300, Plg12.0000°, Azm298.0000°; P -4.1000, Plg39.0000°, Azm198.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*ATH **04** 17:41:09.4, 37°.72N×21°.18E, h26km, Mw4.2, Moment Tensor Solution. s11 Moment tensor: M_{rr}0.01; $M_{\theta\theta}$-0.40; $M_{\phi\phi}$0.39; $M_{r\theta}$1.74; $M_{\theta\phi}$-0.14; $M_{\phi r}$-1.98; Fault plane solution: NP1:ϕ_s222.00000°, δ8.00000°, λ-6.00000°. NP2:ϕ_s318.00000°, δ89.00000°, λ-98.00000°.*
*MCSM **04** 17:41:09.9±0.6, 38°N±8°×2°1E±°, h10km, mb4.4, mB4.3, MLv4.3, Mw(mB)3.5*
*THE **04** 17:41:09.2, 37°.72N×21°.18E, h17km, ML4.2/14, Error ellipse: s-maj=1.0km s-min=0.5km az=199.0*
*UPSL **04** 17:41:09.4, 37°.72N×21°.18E, h26km, Mw4.2, Moment Tensor Solution. s7 Moment tensor: M_{rr}0.31; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$0.44; $M_{r\theta}$1.98; $M_{\theta\phi}$-0.16; $M_{\phi r}$-1.96; Fault plane solution: NP1:ϕ_s231.00000°, δ13.00000°, λ9.00000°. NP2:ϕ_s132.00000°, δ88.00000°, λ102.00000°.*
*HLV **04** 17:41:20.2, 37°.16N×22°.21E, h33km±60km, Md4.6, Ml4.6*

ISC 04 17:41:09.5±0.3, 37°.70N±0°.02×21°.17E±0°.02, h22km±2km, n422, σ1$77/470, mb4.4/60, MS3.6/4, 53C-33D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**273**	P	**Pb**	**17 41 15.1**	**-0.7**
LTHK				S	**Sb**	**17 41 20.2**	**+0.1**
	129μm,0.5s						
LTHK	**Lithakia**	**0.27**	**273**	P	**Pb**	**17 41 15.4**	**-0.4**
LTHK				S	**Sb**	**17 41 20.9**	**+0.8**
LTHK				AML	AML	17 41 25.8	
LTHK				AML	AML	17 41 26.3	
KYPS	**Kipseli, Zakin**	**0.30**	**294**	P	**Pb**	**17 41 16.4**	**+0.1**
KYPS				S	**Sb**	**17 41 21.9**	**+1.0**
ORTH	**Orthonies,Zaky**	**0.41**	**292**	P	**Pb**	**17 41 17.5**	**-0.5**
ORTH				S	**Sb**	**17 41 24.7**	**+1.0**
RLS	**Riolos of Patr**	**0.43**	**33**	P	**Pb**	**17 41 17.0**	**-1.3**
RLS				S	**Sb**	**17 41 23.5**	**-0.8**
	68μm,0.6s						
RLS	**Riolos of Patr**	**0.43**	**33**	P	**Pb**	**17 41 17.2**	**-1.1**
RLS				S	**Sb**	**17 41 23.8**	**-0.5**
AMT	**Artemida-Makis**	**0.46**	**111**	P	**Pb**	**17 41 18.3**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.49**	**320**	P	**Pb**	**17 41 18.6**	**-0.9**
RTZL				S	**Sb**	**17 41 26.7**	**+0.5**
	17μm,0.5s						
DRO	**Drossia**	**0.50**	**59**	P	**Pb**	**17 41 18.7**	**-0.8**
DRO				S	**Sb**	**17 41 26.2**	**-0.1**
	133μm,0.4s						
DRO	**Drossia**	**0.50**	**59**	P	**Pb**	**17 41 19.1**	**-0.4**
DRO				S	**Sb**	**17 41 26.3**	**-0.1**
DRO				AML	AML	17 41 29.0	
DRO				AML	AML	17 41 29.5	
PSDA	**Pessada-Kefalo**	**0.62**	**312**	P	**Pb**	**17 41 20.6**	**-1.1**
PSDA				S	**Sb**	**17 41 30.7**	**+0.6**
	10μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.62**	**312**	P	**Pb**	**17 41 20.9**	**-0.9**
PSDA				S	**Sb**	**17 41 30.2**	**+0.1**
VLS	**Valsamata**	**0.66**	**316**	P	**Pb**	**17 41 21.4**	**-1.1**
VLS				S	**Sb**	**17 41 31.9**	**+0.6**
	5μm,0.4s						
VLS	**Valsamata**	**0.66**	**316**	P	**Pb**	**17 41 21.4**	**-1.1**
VLS				S	**Sb**	**17 41 31.9**	**+0.6**
VLS	**Valsamata**	**0.66**	**316**	P	**Pb**	**17 41 21.3**	**-1.1**
VLS				S	**Sb**	**17 41 31.0**	**-0.2**
VLS				AML	AML	17 41 34.7	
	comp=E,6832μm,0.2s						
VLS				AML	AML	17 41 34.9	
	comp=N,8158μm,0.2s						
SMHA	**Samh**	**0.69**	**323**	P	**Pb**	**17 41 21.4**	**-1.5**
SMHA				S	**Sb**	**17 41 31.3**	**-0.7**
UPR	**University Cam**	**0.76**	**40**	P	**Pb**	**17 41 23.8**	**-0.2**
UPR				S	**Sn**	**17 41 34.7**	**-1.0**
ITM	**Ithomi**	**0.79**	**131**	Pg	**Pb**	**17 41 24.1**	**-0.5**
ITM					**Pb**	**17 41 24.2**	**-0.3**
ITM					**Sn**	**17 41 37.1**	**+0.5**
ITM	**Ithomi**	**0.79**	**131**	P	**Pb**	**17 41 24.3**	**-0.3**
ITM				S	**Sn**	**17 41 36.3**	**-0.2**
	comp=N,27μm,0.6s						
ITM	**Ithomi**	**0.79**	**131**	P	**Pb**	**17 41 24.4**	**-0.2**
ITM				S	**Sb**	**17 41 35.1**	**+0.3**
ITM				AML	AML	17 41 38.5	
	comp=E,50842μm,0.5s						
ITM				AML	AML	17 41 43.4	
	comp=N,55359μm,0.8s						
DMLN	**Damoulianata-K**	**0.83**	**311**	P	**Pb**	**17 41 24.2**	**-1.0**
DMLN				S	**Sb**	**17 41 35.6**	**-0.4**
	comp=N,10μm,0.7s						
DMLN	**Damoulianata-K**	**0.83**	**311**	P	**Pb**	**17 41 24.7**	**-0.5**
DMLN				S	**Sb**	**17 41 36.2**	**+0.2**
KLV	**Kalavryta, Ach**	**0.85**	**66**	P	**Pb**	**17 41 24.6**	**-1.0**
KLV				S	**Sb**	**17 41 36.7**	**+0.2**
	comp=N,16μm,0.5s						
KLV	**Kalavryta, Ach**	**0.85**	**66**	P	**Pb**	**17 41 24.7**	**-0.8**
KLV				S	**Sb**	**17 41 35.7**	**-0.8**
KLV				AML	AML	17 41 43.0	
	comp=E,36601μm,0.6s						
KLV				AML	AML	17 41 43.2	
	comp=N,28608μm,0.5s						
FSK	**Fiskardo**	**0.90**	**328**	P	**Pb**	**17 41 25.4**	**-1.0**
FSK				S	**Sb**	**17 41 38.1**	**+0.2**
	comp=N,6μm,0.9s						
FSK	**Fiskardo**	**0.90**	**328**	P	**Pb**	**17 41 25.5**	**-1.0**
FSK				S	**Sb**	**17 41 37.6**	**-0.4**
FSK				AML	AML	17 41 46.4	
	comp=N,12063μm,0.9s						
FSK				AML	AML	17 41 52.9	
	comp=E,9244μm,0.9s						
EFP	**Efpalio**	**0.93**	**38**	P	**Pb**	**17 41 25.9**	**-1.0**
EFP				S	**Sb**	**17 41 39.1**	**+0.3**
	comp=E,28μm,0.7s						
EFP	**Efpalio**	**0.93**	**38**	P	**Pb**	**17 41 26.6**	**-0.3**
EFP				S	**Sb**	**17 41 38.1**	**-0.7**
EFP				AML	AML	17 41 44.8	
	comp=E,52321μm,0.6s						
EFP				AML	AML	17 41 45.0	
	comp=N,50190μm,0.6s						
GUR	**Goura**	**0.96**	**75**	P	**Pb**	**17 41 26.2**	**-1.2**
GUR				S	**Sn**	**17 41 40.8**	**+0.1**
	comp=N,36μm,0.5s						
GUR	**Goura**	**0.96**	**75**	P	**Pb**	**17 41 26.8**	**-0.7**
GUR				S	**Sb**	**17 41 39.0**	**-0.7**
GUR				AML	AML	17 41 45.6	
	comp=N,71188μm,0.6s						
GUR				AML	AML	17 41 48.5	
	comp=E,68725μm,0.5s						
EVGI	**Lefkada island**	**1.01**	**336**	P	**Pb**	**17 41 26.9**	**-1.3**
EVGI	**Lefkada island**	**1.01**	**336**	P	**Pb**	**17 41 27.7**	**-0.5**
EVGI				S	**Sb**	**17 41 41.2**	**+0.2**
KALE	**Kalithea**	**1.03**	**48**	P	**Pb**	**17 41 28.3**	**-0.4**
KALE				S	**Sb**	**17 41 41.4**	**-0.4**
ANX	**Ano Chora**	**1.07**	**33**	P	**Pn**	**17 41 28.6**	**-0.7**
ANX				S	**Sb**	**17 41 42.6**	**-0.3**
ANX				AML	AML	17 41 53.5	
	comp=N,58553μm,0.6s						
ANX				AML	AML	17 41 55.0	
	comp=E,35767μm,0.9s						
NYDR	**Nydri-Lefkada**	**1.08**	**340**	P	**Pn**	**17 41 28.3**	**-1.0**
NYDR				S	**Sb**	**17 41 42.7**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.09**	**335**	P	**Pn**	**17 41 28.8**	**-0.7**
DRAG				S	**Sb**	**17 41 43.0**	**-0.5**
LKD2	**Lefkada island**	**1.16**	**340**	P	**Pn**	**17 41 28.2**	**-2.3**
LKD2				S	**Sn**	**17 41 47.6**	**+1.9**
LKD2				AML	AML	17 42 02.7	
	comp=E,30nm,0.9s						
LKD2				AMd		17 43 03.0	
LKD2	**Lefkada island**	**1.16**	**340**	P	**Pn**	**17 41 29.7**	**-0.8**
LKD2				S	**Sn**	**17 41 46.6**	**+0.9**
	comp=E,7μm,0.7s						
LKD2	**Lefkada island**	**1.16**	**340**	P	**Pn**	**17 41 29.9**	**-0.6**
LKD2				S	**Sb**	**17 41 45.2**	**-0.3**
LKD2				AML	AML	17 41 55.0	
	comp=E,11754μm,0.5s						
LKD2				AML	AML	17 41 56.8	
	comp=N,12833μm,0.6s						
TSLK	**Tsoukalades, L**	**1.20**	**340**	P	**Pn**	**17 41 30.3**	**-0.6**
TSLK				S	**Sn**	**17 41 46.9**	**+0.4**
	comp=N,6μm,0.7s						
TSLK	**Tsoukalades, L**	**1.20**	**340**	P	**Pn**	**17 41 30.6**	**-0.3**
TSLK				S	**Sn**	**17 41 46.7**	**+0.2**
TSLK				AML	AML	17 41 59.0	
	comp=E,10863μm,0.7s						
TSLK				AML	AML	17 42 04.2	
	comp=N,13448μm,0.7s						
DLFA	**Delphi**	**1.30**	**53**	P	**Pb**	**17 41 33.0**	**-0.3**
DLFA				S	**Sb**	**17 41 49.4**	**-0.2**
LTK	**Loutraki**	**1.46**	**77**	P	**Pb**	**17 41 35.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.51**	**30**	P	**Pb**	**17 41 36.7**	**-0.2**
MAKR				S	**Sb**	**17 41 55.3**	**-0.4**
MAKR				AML	AML	17 42 03.6	
	comp=E,35368μm,0.9s						
MAKR				AML	AML	17 42 05.4	
	comp=N,34064μm,0.9s						
AXAR	**Agios Charalam**	**1.58**	**47**	P	**Pb**	**17 41 37.4**	**-0.6**
AXAR				S	**Sb**	**17 41 56.9**	**-0.8**
AXAR				AML	AML	17 42 08.6	
	comp=E,37834μm,0.5s						
AXAR				AML	AML	17 42 12.5	
	comp=N,45376μm,0.8s						
KRND	**KRANIDI**	**1.60**	**101**	P	**Pb**	**17 41 38.3**	**0.0**
KRND				S	**Sb**	**17 41 58.4**	**+0.3**
KRND				AML	AML	17 42 09.4	
	comp=E,10229μm,0.7s						
KRND				AML	AML	17 42 10.4	
	comp=N,17212μm,0.7s						
TETR	**Tetrakomo, Epi**	**1.65**	**3**	P	**Pb**	**17 41 39.0**	**-0.1**
VLI	**Veliai**	**1.71**	**124**	P	**Pb**	**17 41 40.3**	**0.0**
VLI				S	**Sb**	**17 42 02.2**	**+0.8**
VLI				AML	AML	17 42 15.6	
	comp=N,10599μm,0.8s						
VLI				AML	AML	17 42 16.9	
	comp=E,19926μm,0.8s						
LKR	**Lokris**	**1.73**	**56**	P	**Pb**	**17 41 40.0**	**-0.5**
VIL2	**Platees**	**1.73**	**72**	P	**Pb**	**17 41 40.3**	**-0.3**
IGT	**Igoumenitsa**	**1.95**	**341**	P	**Pn**	**17 41 40.6**	**-0.6**
IGT				S	**Sb**	**17 42 10.7**	**+2.6**
IGT				AMd		17 43 43.2	
IGT	**Igoumenitsa**	**1.95**	**341**	P	**Pb**	**17 41 43.0**	**-1.3**
THL	**Klokotos Trika**	**1.98**	**19**	P	**Pb**	**17 41 44.7**	**0.0**
ATH	**Athens Observa**	**2.03**	**81**	P	**Pb**	**17 41 45.5**	**-0.2**
VLY	**Voula,Athens**	**2.08**	**85**	P	**Pb**	**17 41 45.5**	**-1.1**
KEK	**Kerkira**	**2.28**	**332**	Pn	**Pn**	**17 41 45.6**	**-0.2**
KEK	**Kerkira**	**2.28**	**332**	P	**Pb**	**17 41 48.0**	**-1.9**
SRN	**Sarande**	**2.36**	**338**	P	**Pn**	**17 41 47.0**	**0.0**
SRN				S	**Sb**	**17 42 21.7**	**+1.7**
SRN				AML	AML	17 42 51.0	
	comp=E,1.7nm,1.3s						
SRN				AMd		17 44 04.2	
LSK	**Leskovik**	**2.49**	**350**	P	**Pn**	**17 41 50.9**	**+2.1**
LSK				S	**Sb**	**17 42 25.4**	**+1.6**
LSK				AML	AML	17 42 55.5	
	comp=E,12nm,0.9s						
LIT	**Litokhoron**	**2.61**	**23**		**Pn**	**17 41 50.8**	**+0.4**
LIT	**Litokhoron**	**2.61**	**23**	P	**Pn**	**17 41 50.8**	**+0.4**
NEST	**Nestorio**	**2.71**	**358**	P	**Pn**	**17 41 52.2**	**+0.3**
NEST				S	**Sb**	**17 42 32.0**	**+1.7**
NEST				AML	AML	17 42 58.1	
	comp=E,4.2nm,1.5s						
NEST				AMd		17 44 03.2	
KBN	**Korca**	**2.94**	**354**		**Pn**	**17 41 55.3**	**+0.4**
KBN	**Korca**	**2.94**	**354**	P	**Pn**	**17 41 55.3**	**+0.4**
FNA	**Florina**	**3.09**	**3**		**Pn**	**17 41 57.5**	**+0.5**
FNA	**Florina**	**3.09**	**3**	P	**Pn**	**17 41 58.3**	**+1.4**
FNA				S	**Sb**	**17 42 41.8**	**+0.9**
FNA				AML	AML	17 42 56.9	
	comp=E,3.2nm,0.6s						
FNA				AMd		17 44 20.3	
FNA	**Florina**	**3.09**	**3**	P	**Pn**	**17 41 57.5**	**+0.5**
FNA	**Florina**	**3.09**	**3**	*e*Pn	**Pn**	**17 41 59.1**	**+2.1**
FNA				*e*Sn	**Sb**	**17 42 40.6**	**-0.3**
SCTE	**Santa Cesarea**	**3.17**	**319**	Pn	**Pn**	**17 41 58.9**	**+0.8**
SCTE	**Santa Cesarea**	**3.17**	**319**	P	**Pn**	**17 41 56.8**	**-1.3**
SCTE				S	**Sb**	**17 42 39.2**	**-4.1**
SCTE				AML	AML	17 42 47.1	
	comp=E,1.9nm,0.8s						
SCTE				AMd		17 44 02.6	
THE	**Thessaloniki**	**3.24**	**25**	P	**Pn**	**17 42 01.0**	**+2.0**
THE				AML	AML	17 42 57.5	
	comp=E,0.8nm,0.8s						
THE				AMd		17 43 45.5	
THE	**Thessaloniki**	**3.24**	**25**	P	**Pn**	**17 42 01.0**	**+2.0**
OHR	**Ohrid**	**3.42**	**355**	*i* Pn	**Pn**	**17 42 05.0**	**+3.5**
OHR	**Ohrid**	**3.42**	**355**	P	**Pn**	**17 42 05.3**	**+3.7**
OHR	**Ohrid**	**3.42**	**355**	*e*Pn	**Pn**	**17 42 04.4**	**+2.8**
OHR				*e*Sn	**Sb**	**17 42 49.3**	**-1.3**
APE	**Apeiranthos**	**3.53**	**99**	⇑P	**Pn**	**17 42 05.2**	**+2.2**
APE	**Apeiranthos**	**3.53**	**99**	*i* P	**Pn**	**17 42 04.2**	**+1.2**
TIP	**Timpagrande**	**3.77**	**294**	Pn	**Pn**	**17 42 07.2**	**+0.9**
TIP	**Timpagrande**	**3.77**	**294**	⇓P	**Pn**	**17 42 06.6**	**+0.2**
TIP	**Timpagrande**	**3.77**	**294**	P	**Pn**	**17 42 06.7**	**+0.4**
VAY	**Valandovo**	**3.78**	**16**	*i* Pn	**Pb**	**17 42 11.2**	**-4.3**
VAY	**Valandovo**	**3.78**	**16**	*e*Pn	**Pn**	**17 42 10.2**	**+3.8**
VAY				*e*Sn	**Sb**	**17 42 55.8**	**-4.9**
TIR	**Tirane**	**3.78**	**345**		**Pn**	**17 42 06.2**	**-0.3**
TIR	**Tirane**	**3.78**	**345**	P	**Pn**	**17 42 06.2**	**-0.3**
TIR	**Tirane**	**3.78**	**345**	*e*Pn	**Pn**	**17 42 09.7**	**+3.2**
IDI	**Anoyia**	**3.84**	**128**	Pn	**Pn**	**17 42 07.2**	**-0.2**
IDI	**Anoyia**	**3.84**	**128**	Pn	**Pn**	**17 42 07.5**	**+0.2**
	comp=E,6.7nm,0.3s,baz=246,slow=8.3,SNR=20						
IDI				Sn	**Sn**	**17 42 51.5**	**-0.4**
	comp=E,20nm,0.3s,baz=127,slow=23,SNR=5.5						
IDI				LR	LR	17 43 48.3	
	comp=E,299nm,21.1s,baz=297,slow=43						
SRS	**Serrai**	**3.90**	**28**	*e*Pn	**Pn**	**17 42 10.5**	**+2.5**
SRS				*e*Sn	**Sb**	**17 42 58.7**	**-5.4**
CEL	**Celeste**	**4.21**	**279**	Pn	**Pn**	**17 42 11.7**	**-0.7**
CEL	**Celeste**	**4.21**	**279**	P	**Pn**	**17 42 12.5**	**+0.1**
CEL				S	**Sn**	**17 42 58.9**	**-2.0**
PEHC	**Pehcevo**	**4.29**	**18**	*i* Pn	**Pn**	**17 42 16.3**	**+2.8**
MMB	**Musomishta**	**4.33**	**27**	⇑*i*P	**Pn**	**17 42 16.3**	**+2.3**
KKB	**Krupnik**	**4.40**	**19**	*e*P	**Pn**	**17 42 14.3**	**-0.7**
KKB				*e*S	Sn	17 42 50.0	-16
NOCI	**Noci**	**4.44**	**315**	P	**Pn**	**17 42 15.0**	**-0.5**
NOCI				AMd		17 45 02.4	
PUK	**Puka**	**4.45**	**348**		**Pn**	**17 42 17.0**	**+1.3**
ULC	**Ulcinj**	**4.51**	**341**	⇑*i*Pn	**Pn**	**17 42 16.9**	**+0.4**
ULC				*i* Sn	**Sn**	**17 43 08.7**	**+0.4**
MATE	**Matera**	**4.55**	**312**	⇑P	Pb	17 42 40.9	+12
DRME	**Dracevica, Mon**	**4.74**	**342**	*e*Pn	**Pn**	**17 42 19.2**	**-0.4**
DRME	**Dracevica, Mon**	**4.74**	**342**	⇓*i*Pn	**Pn**	**17 42 20.3**	**+0.7**
DRME				*i* Sn	**Sn**	**17 43 14.1**	**+0.3**
CUC	**Castrocucco**	**4.77**	**300**		**Pn**	**17 42 18.4**	**-1.6**
RDO	**Rodhopi**	**4.83**	**43**		**Pn**	**17 42 22.6**	**+1.9**
RZN	**Rozhen**	**4.85**	**33**	*e*P	**Pn**	**17 42 22.9**	**+1.6**
CAVK	**Edirne/Enez-Ca**	**4.90**	**51**	⇓P	**Pn**	**17 42 25.1**	**+3.3**
BUM	**Brajici-Budva**	**4.92**	**340**	⇓*i*Pn	**Pn**	**17 42 22.2**	**+0.1**
BUM				*i* Sn	**Sn**	**17 43 19.1**	**+0.7**
ALN	**Alexandroupoli**	**4.95**	**48**	Pn	**Pn**	**17 42 24.2**	**+1.7**
ALN	**Alexandroupoli**	**4.95**	**48**	P	**Pn**	**17 42 24.2**	**+1.7**
PDG	**Podgorica**	**4.95**	**343**	Pn	**Pn**	**17 42 21.3**	**-1.2**
PDG	**Podgorica**	**4.95**	**343**	*e*Pn	**Pn**	**17 42 20.5**	**-2.0**
PDG	**Podgorica**	**4.95**	**343**	*e*Pn	**Pn**	**17 42 22.8**	**+0.3**
PDG				*e*Sn	**Sn**	**17 43 22.7**	**+3.7**
PDG	**Podgorica**	**4.95**	**343**	⇓*i*Pn	**Pn**	**17 42 21.8**	**-0.7**
PDG				*i* Sn	**Sn**	**17 43 20.0**	**+1.0**
PVY	**Plav**	**4.98**	**350**	⇑*i*Pn	**Pn**	**17 42 25.7**	**+2.7**
PVY				*i* Sn	**Sn**	**17 43 20.7**	**+0.7**
PLNA	**Plana**	**5.08**	**19**	*e*P	**Pn**	**17 42 28.1**	**+3.8**
MRVN	**Minervino Murg**	**5.11**	**313**	P	**Pn**	**17 42 24.8**	**0.0**
MRVN				AMd		17 44 56.5	
BARS	**Barje**	**5.14**	**5**	*e*Pn	**Pn**	**17 42 26.8**	**+1.7**
CEME	**Cevo**	**5.14**	**341**	⇓*i*Pn	**Pn**	**17 42 25.3**	**+0.1**
CEME				*i* Sn	**Sn**	**17 43 24.4**	**+0.5**
VTS	**Vitosha**	**5.16**	**17**	P	**Pn**	**17 42 28.1**	**+2.5**
HCY	**Herceg Novi**	**5.17**	**337**	*e*Pn	**Pn**	**17 42 22.0**	**-3.5**
HCY	**Herceg Novi**	**5.17**	**337**	⇓*i*Pn	**Pn**	**17 42 25.1**	**-0.4**
HCY				*i* Sn	**Sn**	**17 43 24.7**	**+0.2**
PLD	**Plovdiv**	**5.22**	**31**	*e*P	**Pn**	**17 42 28.1**	**+1.8**
IVA	**Berane**	**5.26**	**350**	⇓*i*Pn	**Pn**	**17 42 27.0**	**+0.2**
IVA				*i* Sn	**Sn**	**17 43 27.2**	**+0.4**
KOME	**Kolasin**	**5.30**	**347**	⇑*i*Pn	**Pn**	**17 42 28.7**	**+1.3**
KOME				*i* Sn	**Sn**	**17 43 28.7**	**+0.9**
PGB	**Panagyurishte**	**5.33**	**25**	*e*P	**Pb**	**17 42 37.9**	**-4.0**
NKME	**Niksic**	**5.34**	**342**	⇓*i*Pn	**Pn**	**17 42 28.1**	**+0.2**
NKME				*i* Sn	**Sn**	**17 43 29.2**	**+0.4**
VAE	**Valguarnera**	**5.37**	**270**	Pn	**Pn**	**17 42 32.1**	**+3.7**
	comp=E,2.6nm,0.3s,baz=150,slow=18,SNR=5.5						
VAE				Sn	**Sn**	**17 43 31.2**	**+1.6**
	comp=E,4.1nm,0.3s,baz=16,slow=22,SNR=1.5						
RAFF	**Raffo Rosso**	**5.44**	**267**		**Pn**	**17 42 28.2**	**-1.0**

comp=E,0.1nm,0.3s,baz=200,slow=23,SNR=6.8
MLR LR LR 17 47 16.2
comp=E,875nm,18.1s,baz=194,slow=43
comp=E,8.1nm,1.1s
MLR Muntele Rosu 8.57 23 ⇑P **Pn 17 43 13.0 +0.7**
MLR Muntele Rosu 8.57 23 P **Pn 17 43 16.1 +3.8**
comp=E,42nm,1.1s
SIRR Siria 8.57 2 ⇑P **Pn 17 43 15.4 +3.2**
TLBR Topalu 8.58 35 ⇓P **Pn 17 43 15.5 +3.2**
NEHR Nehoiu 8.62 25 ⇓P Pn 17 43 07.8 -5.1
TIRR Tirgusor 8.69 37 ⇑P Pn 17 43 22.1 +8.3
TIRR Tirgusor 8.69 37 ⇑P Pn 17 43 22.1 +8.3
MORH Mrgy, Hungar 8.72 348 ⇑P Pn 17 43 19.8 +5.7
DOPR Dopca 8.84 19 ⇑P Pn 17 43 21.1 +5.1
COVR Voineasa-Covas 8.96 23 ⇑P **Pn 17 43 20.8 +3.2**
TPGR Topolog 8.99 35 ⇓P **Pn 17 43 19.6 +1.6**
DB3 El Dabaa 9.01 135 P **Pn 17 43 16.0 -2.3**
DB3 S Sn 17 44 47.0 -12
OZUR 9.07 21 ⇑P **Pn 17 43 16.6 -2.5**
MARR Marisel-Cluj 9.09 9 ⇑P Pn 17 43 27.5 +8.1
PLOR Plostina 9.11 25 ⇑P **Pn 17 43 21.5 +1.8**
PLOR Plostina 9.11 25 ⇑P **Pn 17 43 21.5 +1.8**
PLOR3 Plostina Array 9.12 25 P **Pn 17 43 23.5 +3.8**
comp=E,49nm,1.2s
CFR Carcaliu 9.12 33 ⇑P **Pn 17 43 18.2 -1.4**
CFR Carcaliu 9.12 33 ⇑P **Pn 17 43 18.2 -1.4**
VRI Vrincioaia 9.15 25 ⇑P **Pn 17 43 16.2 -4.0**
VRI Vrincioaia 9.15 25 ⇑P **Pn 17 43 16.2 -4.0**
VRI Vrincioaia 9.15 25 P **Pn 17 43 23.4 +3.2**
comp=E,39nm,1.0s
SWA2 9.16 156 P **Pn 17 43 18.4 -1.9**
DRGR 9.16 7 ⇑P **Pn 17 43 21.1 +0.8**
DRGR 9.16 7 ⇑P **Pn 17 43 21.1 +0.8**
CRES Cresnjevec Ost 9.17 334 *e*Pn **Pn 17 43 18.5 -2.0**
ONER Baraj Valea Uz 9.46 23 ⇑P Pn 17 43 16.5 -7.9
CEY Cerknica 9.48 330 *e*Pn **Pn 17 43 24.1 -0.6**
KEST Kesra 9.70 262 Pn **Pn 17 43 28.2 +0.5**
comp=E,0.3nm,0.3s,baz=96,slow=24,SNR=3.2
KEST LR LR 17 47 51.6
comp=E,214nm,20.0s,baz=161,slow=42
comp=E,5.4nm,0.8s
BR105 Keskin Array S 9.94 74 P **Pn 17 43 34.6 +3.5**
comp=E,81nmcomp=E,8.2nm,0.8s
BR106 Keskin Array S 9.94 74 P **Pn 17 43 35.6 +4.5**
comp=E,68nmcomp=E,8.2nm,0.9s
BR104 Keskin Array S 9.95 75 P **Pn 17 43 35.4 +4.1**
comp=E,76nmcomp=E,7.7nm,0.8s
BR131 Keskin Array S 9.95 74 Pn **Pn 17 43 34.5 +3.2**
BR131 Keskin Array S 9.95 74 P **Pn 17 43 34.5 +3.2**
BRTR Keskin Array B 9.95 74 Pn **Pn 17 43 31.2 -0.1**
BRTR Keskin Array B 9.95 74 Pn **Pn 17 43 35.6 +4.4**
comp=E,0.4nm,0.3s,baz=258,slow=12,SNR=26
BRTR LR LR 17 48 12.5
comp=E,493nm,19.2s,baz=266,slow=43
BRTR Keskin Array B 9.95 74 P **Pn 17 43 31.2 -0.1**
CIDE Kastamonu/Cide 9.98 62 ⇓P Pn 17 43 37.2 +5.7
SOKA Soboth 10.06 335 *i* Pn **Pn 17 43 33.5 +0.8**
comp=E,1.3nm,0.3s
OBKA Obir 10.08 333 *i* Pn **Pn 17 43 34.4 +1.4**
comp=E,0.9nm,0.4s
OBKA Obir 10.08 333 *e*Pn **Pn 17 43 32.1 -0.9**
KIRS Kirsehir-Merke 10.11 78 ⇓P Pn 17 43 40.2 +6.9
BMR Baia Mare 10.12 9 ⇑P Pn 17 43 38.0 +4.7
BMR Baia Mare 10.12 9 ⇑P **Pn 17 43 38.0 +4.7**
PSZ Piszkesteto 10.26 355 ⇑P **Pn 17 43 38.8 +3.4**
PSZ Piszkesteto 10.26 355 ⇑P **Pn 17 43 38.8 +3.4**
ILGA Ilgaz 10.27 67 Pn **Pn 17 43 40.2 +4.5**
BURAR Bucovina Array 10.35 15 ⇑P Pn 17 43 42.4 +5.8
BURAR Bucovina Array 10.35 15 ⇑P Pn 17 43 42.4 +5.8
ARSA Arzberg 10.41 338 Pn **Pn 17 43 36.3 -1.2**
ARSA Arzberg 10.41 338 *i* Pn **Pn 17 43 37.4 -0.1**
comp=E,1.4nm,0.4s
MYKA Terra Mystica 10.53 330 *e*Pn **Pn 17 43 41.5 +2.4**
comp=E,1.9nm,0.4s
RONA Rosalia, Austr 10.62 342 *i* Pn **Pn 17 43 42.6 +2.3**
comp=E,0.9nm,0.3s
CIMO Cimolais 10.78 326 Pn **Pn 17 43 41.1 -1.4**
VYHS Vyhne 10.92 352 *e*P Pn 17 43 56.1 +12
CONA Conrad Observa 10.94 341 *i* Pn **Pn 17 43 46.9 +2.2**
comp=E,0.8nm,0.5s
CTI Castel Tesino 10.95 323 Pn **Pn 17 43 42.6 -2.2**
CTI Castel Tesino 10.95 323 P **Pn 17 43 42.6 -2.2**
KBA Koelnbreinsper 11.01 331 *i* Pn **Pn 17 43 47.2 +1.4**
comp=E,0.4nm,0.3s
MODS Modra-Piesok 11.04 346 *e*P Pn 17 43 52.2 +6.2
MODS Modra-Piesok 11.04 346 *e*PN Pn 17 43 52.2 +6.2
MODS *e* 17 44 06.2
ABTA Abfaltersbach 11.08 327 *e*Pn **Pn 17 43 47.9 +1.2**
comp=E,3.0nm,0.6s
MOA Molln 11.34 336 *i* Pn **Pn 17 43 49.7 -0.4**
comp=E,2.4nm,0.6s
BIOA Bad Ischl, Aus 11.41 333 *i* Pn **Pn 17 43 54.6 +3.4**
comp=E,4.2nm,0.4s
RYAN Fayoum 11.47 136 P **Pn 17 43 49.6 -2.4**
LESA Schwarzleotal 11.55 330 *i* Pn **Pn 17 43 54.4 +1.2**
comp=E,1.5nm,0.3s
WTTA Wattenberg 11.86 327 *i* Pn **Pn 17 43 59.3 +1.9**
comp=E,1.7nm,0.5s
WATA Walderalm 11.94 327 *i* Pn **Pn 17 44 00.0 +1.6**
comp=E,7.4nm,0.7s
VRAC Vranov 12.07 346 LR LR 17 50 16.8
comp=E,118nm,20.9s,baz=183,slow=46
FETA Feichten 12.09 324 *i* Pn **Pn 17 44 02.6 +2.0**
comp=E,3.7nm,1.2s
SIM Simferopol' 12.12 49 *e*P Pn 17 44 06.5 +5.7
SIM pmax pmax
comp=Z,11nm,0.6s
MOTA Moosalm 12.16 326 *i* Pn **Pn 17 44 03.2 +1.7**
comp=Z,1.5nm,0.4s
DAVOX Davos/Dischmat 12.33 321 Pn **Pn 17 44 04.5 +0.6**
comp=Z,0.2nm,0.3s,baz=145,slow=22,SNR=3.8
DAVOX Sn **Sn 17 46 15.1 -5.6**
comp=Z,1.8nm,0.8s
GERES GERESS Array B 12.39 336 Pn **Pn 17 44 05.0 +0.5**
comp=Z,0.1nm,0.3s,baz=166,slow=16,SNR=5.1
GERES Sn **Sn 17 46 15.8 -6.1**
comp=Z,0.1nm,0.3s,baz=169,slow=22,SNR=1.2
GERES LR LR 17 50 11.2
comp=Z,178nm,20.0s,baz=128,slow=44
comp=Z,1.3nm,0.8s
NBNS Bani Suef 12.39 134 P **Pn 17 44 02.8 -1.9**
RETA Reutte 12.42 325 *i* Pn **Pn 17 44 06.4 +1.5**
comp=Z,0.5nm,0.2s
MMAI Mount Meron Ar 12.52 108 Pn **Pn 17 44 04.8 -1.6**
comp=Z,1.0nm,0.3s,baz=298,slow=13,SNR=2.4
MMAI Sn **Sn 17 46 19.6 -5.5**
comp=Z,2.7nm,0.3s,baz=277,slow=17,SNR=5.2
comp=Z,0.6nm,0.3s
KHC Kasperske Hory 12.68 337 *e*P **Pn 17 44 11.0 +2.5**
KHC Kasperske Hory 12.68 337 *e*P **Pn 17 44 11.0 +2.5**
LUBAR Lubar, Ukraine 13.10 19 P **Pn 17 44 15.3 +1.1**
EIL Elat 13.98 121 Pn **Pn 17 44 23.3 -3.0**
comp=Z,0.5nm,0.3s,baz=339,slow=16,SNR=5.0
EIL Sn Sn 17 46 45.7 -15
comp=Z,1.3nm,0.3s,baz=69,slow=21,SNR=6.3
comp=Z,2.4nm,0.5s
ASF Jabal al Asfar 14.02 108 Pn **Pn 17 44 24.2 -2.7**
comp=Z,0.4nm,0.3s,baz=332,slow=19,SNR=1.8
ASF Sn Sn 17 46 49.8 -12
comp=Z,0.3nm,0.3s,baz=298,slow=10,SNR=1.2
comp=Z,1.1nm,0.3s
KIEV Kiev 14.20 21 **Pn 17 44 27.5 -1.7**
KIEV Kiev 14.20 21 ⇑P **Pn 17 44 28.4 -0.8**
KIEV Kiev 14.20 21 ⇑P **Pn 17 44 28.4 -0.8**
AKASG Malin Array Be 14.21 21 Pn **Pn 17 44 28.1 -1.1**
comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=4.7
AKASG LR LR 17 50 30.6
comp=Z,146nm,21.9s,baz=203,slow=40
comp=Z,1.4nm,0.8s
AKASG Malin Array Be 14.21 21 *i* P **Pn 17 44 31.1 +1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 14.21 21 **Pn 17 44 28.1 -1.2**
AKBB Malin Array Si 14.21 21 *i* P **Pn 17 44 29.3 0.0**
KTUT Trabzon 14.76 71 ⇓P **P 17 44 43.6 +0.9**
CLL Collm 14.79 340 *i* P **P 17 44 44.7 +1.8**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL MLR MLR
comp=Z,600nm,13.5s
CLL Collm 14.79 340 *i* PP **P 17 44 44.7 +1.8**
comp=Z,7.0nm,1.1s
KOPT Kop Dagi 15.23 75 **Pn 17 44 42.2 -1.2**
KOPT IAmb IAmb 17 44 57.4
comp=Z,16nm,1.0s

SOC Sochi 15.24 62 *e*P **P 17 44 46.3 -1.8**
SOC *e* 17 47 40.4
SOC pmax pmax
comp=Z,3.0nm,0.4s
SOC MLR MLR
comp=Z,48nm,15.0s
MARD Mardin 15.57 85 Pn **Pn 17 44 47.7 0.0**
SUW Suwalki 16.38 4 **Pn 17 44 55.6 -2.2**
SUW Suwalki 16.38 4 P **Pn 17 44 55.6 -2.2**
SUW pmax pmax
comp=Z,69nm,0.8s
SUW Suwalki 16.38 4 *e*P **P 17 45 01.6 +1.0**
GURO Guroymak-BITLI 16.44 81 **Pn 17 44 58.5 -0.4**
KARS Kars 17.23 73 P **P 17 45 15.9 +5.6**
KARS Kars 17.23 73 P **P 17 45 15.9 +5.6**
KARS pmax pmax
comp=Z,142nm,1.4s
SHA1 Shidzhatmaz 17.35 63 *i* P **P 17 45 12.2 +0.6**
KIV Kislovodsk 17.42 62 P **Pn 17 45 11.3 +0.2**
KIV Kislovodsk 17.42 62 *e*P **P 17 45 12.4 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,37nm,14.0s
KVAR Kislovodsk Arr 17.43 62 P **Pn 17 45 10.4 -0.8**
baz=142,slow=10
comp=Z,0.9nm,0.3s
MNK Minsk 17.43 13 *i* P **Pn 17 45 10.2 -0.8**
comp=E,25nm,1.1s
MNK *i* P **Pn 17 45 10.2 -0.8**
comp=N,12nm,1.0s
MNK *i* P **Pn 17 45 10.2 -0.8**
comp=Z,11nm,0.7s,baz=201
MNK *i* PP **sP 17 45 20.6 -0.4**
MNK *i* PPP PPP 17 45 28.3
MNK *i* S **Sn 17 48 27.4 +3.2**
MNK *i* SS **SnSn 17 48 42.3 +4.6**
MNK *i* SSS SSS 17 48 55.0
MNK *i* LQ LQ 17 50 24.3
MNK *i* LR LR 17 51 44.8
MNK *i* LRM MLR 17 52 17.8
comp=N,567nm,18.3s
MNK *i* LRM MLR 17 52 20.7
comp=E,630nm,19.7s
MNK *i* LRM MLR 17 52 44.6
comp=Z,342nm,19.5s
MNK Minsk 17.43 13 *i* P **Pn 17 45 10.2 -0.8**
MNK *i* S **Sn 17 48 27.3 +3.2**
MNK pmax pmax
comp=N,12nm,1.0s
MNK pmax pmax
comp=E,25nm,1.1s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK MLR MLR
comp=N,567nm,18.0s
MNK MLR MLR
comp=E,630nm,20.0s
MNK MLR MLR
comp=Z,342nm,20.0s
KBZ Khabaz 17.52 63 P **Pn 17 45 12.0 -0.2**
comp=Z,0.1nm,0.3s,baz=260,slow=9.6,SNR=8.3
KBZ LR LR 17 53 19.5
comp=Z,79nm,18.7s,baz=228,slow=42
comp=Z,1.5nm,0.7s
KBZ Khabaz 17.52 63 *i* P **P 17 45 13.9 +0.7**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
NACGM Naroch 17.63 11 *e*P **P 17 45 14.5 +0.2**
PABE Paberze 17.91 5 P **Pn 17 45 16.5 -0.5**
PABE IAmb IAmb 17 45 28.5
comp=Z,29nm,0.7s
PABE Paberze 17.91 5 *e*P **P 17 45 17.6 +0.1**
GNI Garni 18.49 75 P **P 17 45 23.1 -1.1**
comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=4.9
GNI LR LR 17 52 59.7
comp=Z,98nm,20.6s,baz=266,slow=39
comp=Z,5.2nm,0.7s
VSR Storozhevoye 18.58 38 *e*P **Pn 17 45 25.0 -0.1**
VSR pmax pmax
comp=Z,8.0nm,0.9s
VORR Voronezh 18.89 37 *e*P **Pn 17 45 29.5 +0.6**
VORR pmax pmax
comp=Z,29nm,0.4s
LPSR Galich'ya Gora 19.38 34 *e*P **Pn 17 45 35.1 +0.2**
LPSR pmax pmax
comp=Z,23nm,0.8s
ESBB Sonseca Array 19.70 284 P **P 17 45 36.3 -1.1**
ESDC Sonseca Array 19.71 284 P **Pn 17 45 38.3 -0.6**
baz=80,slow=11,SNR=19
comp=Z,4.5nm,0.9s
VRH Novokhopyorsk 19.85 41 *e*P **P 17 45 39.4 +0.7**
VRH pmax pmax
comp=Z,17nm,0.7s
OBN Obninsk 20.32 26 P **P 17 45 43.1 -0.7**
comp=Z,14nm,0.4s,baz=149,slow=17,SNR=4.2
comp=Z,14nm,0.4s
OBN Obninsk 20.32 26 *de*P **P 17 45 43.9 +0.1**
OBN *e* 17 46 04.1
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,136nm,15.0s
MAK Makhachkala 20.71 67 *e*P **P 17 45 48.2 0.0**
MAK *e*S Sn 17 49 41.6 -2.1
MAK pmax pmax
comp=Z,193nm,1.3s
AKT Akhty 20.78 71 *e*P **P 17 45 46.9 -2.2**
AKT *e* 17 46 07.3
AKT *e*S Sn 17 49 44.5 -1.1
AKT pmax pmax
comp=Z,27nm,1.3s
VSU Vasula 21.09 8 *ce*P **P 17 45 51.2 -1.0**
VSU pmax pmax
comp=Z,87nm,1.3s
VSU Vasula 21.09 8 *e*P **P 17 45 52.0 -0.2**
MTSE Matsula 21.10 4 *e*P **P 17 45 53.3 +1.0**
MOS Moscow 21.18 26 *e*P **P 17 45 52.4 -0.8**
MOS *e*S **S 17 49 50.9 +3.4**
MOS pmax pmax
comp=Z,48nm,0.8s
MDT Midelt 21.58 265 P **P 17 45 58.2 +0.5**
comp=Z,6.9nm,0.9s,baz=68,slow=8.1,SNR=8.5
comp=Z,6.9nm,0.9s
ARBE Arbavere 21.98 7 *e*P **P 17 46 03.3 +1.7**
HFS Hagfors 22.96 350 P **P 17 46 11.7 -0.4**
comp=Z,6.9nm,0.8s,baz=141,slow=9.6,SNR=10
comp=Z,6.9nm,0.8s
BELG Belogornoye 23.59 43 LR LR 17 56 39.7
comp=Z,87nm,18.2s,baz=228,slow=40
BELG Belogornoye 23.59 43 *i* P **P 17 46 18.5 0.0**
BELG pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 23.97 6 P **P 17 46 21.1 -0.8**
FINES FINESS Array B 23.97 6 P **P 17 46 21.3 -0.7**
comp=Z,7.6nm,0.8s,baz=178,slow=9.0,SNR=23
FINES LR LR 17 56 44.2
comp=Z,285nm,18.1s,baz=202,slow=39
comp=Z,7.6nm,0.8s
FIA1 FINESS Array S 23.97 6 P **P 17 46 20.4 -1.5**
EKA Eskdalemuir Ar 24.12 325 P **P 17 46 23.4 -0.1**
comp=Z,3.7nm,0.8s,baz=122,slow=7.9,SNR=7.4
comp=Z,3.7nm,0.8s
NC405 NORSAR Array S 24.18 349 P **P 17 46 22.8 -1.2**
NC405 IAmb IAmb 17 47 03.9
comp=Z,26nm,1.2s
NB2 NORSAR Subarra 24.19 348 P **P 17 46 23.8 -0.3**
comp=Z,2.8nm,0.9s,baz=159,slow=9.3
NOA NORSAR Array B 24.19 348 P **P 17 46 23.8 -0.3**
comp=Z,1.3nm,0.8s,baz=166,slow=11,SNR=11
comp=Z,1.3nm,0.8s
KEF Keuruu 24.60 4 *e*P **P 17 46 28.6 +0.8**
RAYN Ar Rayn 25.17 117 P **P 17 46 33.0 -0.3**
RAYN IAmb IAmb 17 46 46.2
comp=Z,6.5nm,0.9s
RAYN Ar Rayn 25.17 117 P **P 17 46 33.0 -0.3**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
VAF Ylistaro 25.39 2 *e*P **P 17 46 35.6 +0.7**
KLMR Klimovskoe 25.90 21 *e*P **P 17 46 39.0 -0.6**
KLMR pmax pmax
comp=Z,32nm,1.2s
JOF Joensuu 26.00 11 *e*P **P 17 46 40.3 -0.2**
KIRV Kirov 27.78 32 *ce*P **P 17 46 56.4 -0.1**
TORD Torodi Ar. Bea 29.99 221 P **P 17 47 15.2 -1.4**
TORD Torodi Ar. Bea 29.99 221 P **P 17 47 17.5 +1.0**

comp=Z,2.2nm,0.6s,baz=27,slow=10.0,SNR=16
comp=Z,2.2nm,0.6s
ABKAR Akbulak array 30.09 55 P **P 17 47 17.1 0.0**
ABKAR Akbulak array 30.09 55 IAmb IAmb 17 47 19.1
comp=Z,4.5nm,0.8s
ARTI Arti 30.97 41 P **P 17 47 24.0 -0.8**
ARTI IAmb IAmb 17 47 35.4
comp=Z,6.9nm,0.8s
ARTI Arti 30.97 41 *c i*P **P 17 47 24.2 -0.7**
ARTI 17 48 21.1
ARTI S **S 17 52 33.0 +4.9**
ARTI SS **SnSn 17 54 15.8 +7.0**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 31.98 3 P **P 17 47 33.8 +0.2**
comp=Z,1.4nm,0.6s,baz=190,slow=10,SNR=15
comp=Z,1.4nm,0.6s
SVE Sverdlovsk 32.30 41 *e*P **P 17 47 36.7 +0.2**
SVE pmax pmax
comp=Z,20nm,1.3s
LODK Lodwar 36.51 156 P **P 17 48 11.4 -2.0**
BRVK Borovoye 36.97 49 P **P 17 48 17.7 +0.8**
BRVK IAmb IAmb 17 48 23.7
comp=Z,8.3nm,0.8s
BRVK Borovoye 36.97 49 *ce*P **P 17 48 17.4 +0.4**
BRVK pmax pmax
comp=Z,27nm,2.5s
BVAR Borovoye Array 37.03 49 P **P 17 48 17.9 +0.4**
comp=Z,6.3nm,0.5s,baz=266,slow=6.2,SNR=48
comp=Z,6.3nm,0.5s
SIMJ Simiganj 37.28 73 P **P 17 48 19.6 -0.3**
SIMJ IAmb IAmb 17 48 20.9
comp=Z,5.8nm,0.8s
KKAR Karatay Array 37.52 66 P **P 17 48 21.8 0.0**
KKAR Karatay Array 37.52 66 IAmb IAmb 17 48 22.7
comp=Z,5.1nm,0.7s
KKAR Karatay Array 37.52 66 P **P 17 48 21.8 0.0**
DBIC Dimbokro 38.90 224 P **P 17 48 34.3 +0.8**
comp=Z,5.9nm,0.7s,baz=22,slow=9.3,SNR=6.2
comp=Z,5.9nm,0.7s
AAK Ala-Archa 40.48 66 P **P 17 48 46.2 -0.5**
AAK IAmb IAmb 17 48 59.9
comp=Z,5.9nm,1.0s
AAK Ala-Archa 40.48 66 P **P 17 48 46.2 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 40.64 358 P **P 17 48 48.7 +1.3**
comp=Z,21nm,1.1s,baz=245,slow=10.0,SNR=1.6
comp=Z,21nm,1.1s
KURBB Kurchatov Arra 42.10 53 P **P 17 48 59.3 -0.4**
comp=Z,3.5nm,0.6s,baz=278,slow=8.6,SNR=40
comp=Z,3.5nm,0.6s
KURK Kurchatov 42.15 53 P **P 17 48 58.1 -1.9**
KURK IAmb IAmb 17 49 06.9
comp=Z,14nm,0.9s
KURK Kurchatov 42.15 53 *ce*P **P 17 49 00.2 +0.1**
KURK pmax pmax
comp=Z,29nm,1.7s
KSH Kashi 42.30 70 P **P 17 49 00.3 -1.4**
KSH pP pP 17 49 04.9 -3.5
KSH pmax pmax
comp=Z,3.0nm,0.6s
WUS Wushi 44.25 67 IAmb IAmb 17 49 28.2
comp=Z,5.3nm,0.8s
MAKZ Makanchi 44.90 58 P **P 17 49 22.1 -0.3**
MAKZ IAmb IAmb 17 49 28.5
comp=Z,3.2nm,0.8s
MAKZ Makanchi 44.90 58 P **P 17 49 22.1 -0.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 45.12 58 *ce*P **P 17 49 23.5 -0.6**
MKAR Makanchi Array 45.12 58 P **P 17 49 23.8 -0.3**
MKAR Makanchi Array 45.12 58 P **P 17 49 24.0 -0.1**
comp=Z,3.0nm,0.5s,baz=272,slow=7.7,SNR=76
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 45.63 48 P **P 17 49 26.5 -1.5**
ZALV Zalesovo Beam 45.63 48 P **P 17 49 27.6 -0.4**
comp=Z,10nm,0.6s,baz=276,slow=8.5,SNR=55
comp=Z,10nm,0.6s
NRIK Noril'sk 46.99 26 P **P 17 49 38.4 -0.2**
comp=Z,1.1nm,0.4s,baz=185,slow=6.2,SNR=3.5
comp=Z,1.1nm,0.4s
NRIK Noril'sk 46.99 26 *ce*P **P 17 49 39.1 +0.6**
NRIK pmax pmax
comp=Z,7.0nm,1.5s
LSA Lhasa 57.56 76 IAmb IAmb 17 51 03.5
comp=Z,4.9nm,1.3s
SCHQ Schefferville 59.16 318 P **P 17 51 08.7 +0.3**
comp=Z,3.3nm,0.8s,baz=92,slow=3.3,SNR=6.2
comp=Z,3.3nm,0.8s
GTA Gaotai 59.60 62 *e*P **P 17 51 10.9 -0.9**
GTA pP pP 17 51 15.8 -2.9
GTA pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 59.92 20 *i* P **P 17 51 14.0 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 60.36 51 P **P 17 51 16.6 -0.3**
comp=Z,0.7nm,0.8s,baz=281,slow=9.0,SNR=7.5
comp=Z,0.7nm,0.8s
RES Resolute Bay 60.37 344 P **P 17 51 16.9 +0.6**
comp=Z,0.8nm,0.7s,baz=50,slow=8.8,SNR=3.5
comp=Z,0.8nm,0.7s
LZH Lanzhou 63.96 63 *e*P P 17 51 36.1 -5.1
LZH sP pP 17 51 41.1 -7.1
LZH pmax pmax
comp=Z,5.0nm,1.1s
YAK Yakutsk 65.27 29 P **P 17 51 48.3 -0.8**
YAK Yakutsk 65.27 29 P **P 17 51 48.6 -0.5**
comp=Z,5.1nm,0.6s,baz=274,slow=1.3,SNR=6.2
comp=Z,5.1nm,0.6s
YAK Yakutsk 65.27 29 *ce*P **P 17 51 48.4 -0.8**
YAK pmax pmax
comp=Z,7.0nm,0.8s
HHC Hu-ho-hao-te 66.88 56 *e*P **P 17 51 59.5 -0.5**
HHC sP pP 17 52 07.2 +0.4
HHC PcP **PcP 17 52 28.3 -0.3**
HHC pmax pmax
comp=Z,2.0nm,0.6s
HHC pmax pmax
comp=Z,67nm,4.4s
PZH PanZhiHua 67.25 73 P **P 17 52 01.6 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.2s
ZEA Zeya 68.94 38 *e*P P 17 52 04.6 -8.0
CHTO Chiang Mai 69.25 82 P **P 17 52 13.9 -1.2**
CHTO IAmb IAmb 17 52 21.5
comp=Z,7.3nm,1.2s
CHTO Chiang Mai 69.25 82 P **P 17 52 13.9 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
CMAR Chiang Mai Arr 69.44 82 P **P 17 52 15.5 -0.8**
CMAR Chiang Mai Arr 69.44 82 P **P 17 52 15.6 -0.7**
comp=Z,2.2nm,0.9s,baz=304,slow=7.7,SNR=22
comp=Z,2.2nm,0.9s
PHRA Phrae 70.43 81 P **P 17 52 21.4 -0.9**
HEH HeiHe 71.06 41 *e*P **P 17 52 25.6 -0.1**
BILL Bilibino 71.37 13 *i* P **P 17 52 27.9 +0.7**
BILL pmax pmax
comp=Z,3.0nm,1.7s
SLVN Son La 71.71 77 P **P 17 52 28.9 -1.2**
SLVN IAmb IAmb 17 52 30.8
comp=Z,2.5nm,0.7s
SEY Seymchan 72.40 21 P **P 17 52 34.2 +0.7**
comp=Z,1.9nm,0.6s,baz=38,slow=20,SNR=11
comp=Z,1.9nm,0.6s
SEY Seymchan 72.40 21 *i* P **P 17 52 34.5 +1.0**
SEY pmax pmax
comp=Z,2.0nm,0.9s
C27K Jago River 72.41 355 IAmb IAmb 17 52 40.4
comp=Z,11nm,1.4s
INK Inuvik 72.62 350 P **P 17 52 34.7 0.0**
comp=Z,0.5nm,0.5s,baz=23,slow=11,SNR=3.5
comp=Z,0.5nm,0.5s
F31M Tsiigehtchic 73.47 350 P **P 17 52 39.1 -0.6**
F31M IAmb IAmb 17 52 54.8
comp=Z,7.5nm,1.1s
KLR Kul'dur 73.91 40 *ce*P **P 17 52 42.4 -0.3**
KLR pmax pmax
comp=Z,19nm,2.5s
YKA Yellowknife Ar 74.02 340 P **P 17 52 44.0 +1.0**
comp=Z,0.6nm,0.7s,baz=34,slow=4.9,SNR=13
comp=Z,0.6nm,0.7s
MA2 Magadan 74.52 24 P **P 17 52 46.6 +0.5**
comp=Z,6.9nm,0.7s,baz=316,slow=9.0,SNR=5.6

comp=Z,6.9nm,0.7s
MA2 Magadan 74.52 24 *ce*P P 17 52 47.6 +1.5
MA2 pmax pmax
comp=Z,6.0nm,0.7s
E19K Redstone River 75.16 359 P P 17 52 50.6 +1.0
E19K IAmb IAmb 17 53 02.9
comp=Z,5.0nm,0.9s
F19K Shaleruckik Mo 75.79 360 P P 17 52 53.1 -0.1
F19K IAmb IAmb 17 53 04.7
comp=Z,3.3nm,0.9s
I30M Mount Dempster 75.92 350 IAmb IAmb 17 53 09.4
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 76.39 324 P P 17 52 57.5 +0.6
comp=Z,1.1nm,0.5s,baz=95,slow=7.7,SNR=3.8
comp=Z,1.1nm,0.5s
J30M Hart River 76.53 350 IAmb IAmb 17 53 14.2
comp=Z,3.7nm,0.9s
USRK Ussuriysk Ar. 77.27 44 P P 17 53 01.0 -1.0
comp=Z,1.9nm,0.7s,baz=299,slow=3.2,SNR=2.9
comp=Z,1.9nm,0.7s
ILAR Eielson Array 77.43 355 P P 17 53 03.0 +0.4
comp=Z,0.4nm,0.9s,baz=338,slow=3.3,SNR=5.8
comp=Z,0.4nm,0.9s
ILAR Eielson Array 77.43 355 P P 17 53 03.0 +0.4
KSRS Korea Array 79.23 51 P P 17 53 12.8 -0.2
comp=Z,1.1nm,0.7s,baz=310,slow=6.3,SNR=4.0
comp=Z,1.1nm,0.7s
DLBC Dease Lake 81.24 345 LR LR 18 30 19.1
comp=Z,760nm,20.7s,baz=114,slow=36
ASAR Alice Springs 121.61 97 PKP PKiKP 18 00 01.8 -0.1
comp=Z,0.4nm,0.6s,baz=306,slow=1.6,SNR=7.2

CATAC ***04*** *17:45:37.0±5.1,3˚S±34˚×8˚0W±5˚7,h10km,M5.6/7, mB6.0/7,mb5.5/7,Mw(mB)5.7/7,MwMwp5.8/3,Mwp5.9/3, rejected*
IDC ***04*** *17:45:38.0±0.4,2˚39S×79˚86W,h0km,mb5.0/29, mbtmp5.0/29,MS4.8/53,Error ellipse: s-maj=19.1km s-min=10.6km az=62.0*
UPA ***04*** *17:45:39.0±4.3,3˚36S×79˚69W,h119km±60km*
MOS ***04*** *17:45:45.1±1.0,2˚46S×79˚84W,h58km,mb5.6/29, MS4.8/4,Error ellipse: s-maj=10.8km s-min=6.0km az=100.9*
BJI ***04*** *17:45:46.3,1˚67S×79˚88W,h64km,mB5.6/40,Ms5.5/46, Ms7 5.4/48*
NEIC ***04*** *17:45:47.9,2˚44S×79˚81W,h64km*
VAO ***04*** *17:45:47.8±0.3,2˚52S×79˚72W,h54km,mb5.5*
IPGP ***04*** *17:45:47.0,2˚44S×79˚81W,h64km,Mw5.8,Fault plane solution: NP1:φs231.00000°,δ69.00000°,λ-33.00000°. NP2:φs334.00000°,δ59.00000°,λ-156.00000°.*
IGQ ***04*** *17:45:47.4±0.2,2˚S±1˚×8˚0W±˚,h30km±1km*
RSNC ***04*** *17:45:47.5±0.3,2˚S±2˚×8˚0W±˚,h70km±4km,M5.5,mb5.5, mB6.0,ML5.1,Mw(mB)5.8,MwMwp5.5,Mwp5.7*
NEIC ***04*** *17:45:48.1,2˚50S×79˚83W,h70km,Moment Tensor Solution. Duration: 4±2 Moment tensor: Scale 10^17Nm; Mrr=1.94; Mθθ=4.82; Mφφ=6.76; Mrθ=2.92; Mφφ=2.35; Mφr=0.47; Fault plane solution: M0=7.10000×10^17 NP1: φs=329.73000°,δ64.32000°,λ=162.67000°. NP2: φs=232.03000°,δ74.43000°,λ=26.74000°. Principal axes: T 7.3386, Plg7.0000°, Azm283.0000°; N -0.4765, Plg59.0000°, Azm24.0000°; P -6.8621, Plg30.0000°, Azm189.0000°;*
NEIC ***04*** *17:45:48.1,2˚40S×79˚83W,h70km*
NEIC ***04*** *17:45:48.1±2.1,2˚41S×0˚06×79˚84W±0˚07,h70km±1km, mb5.6/29,Mwb5.8/59,Mww5.8/61,Error ellipse: s-maj=12.4km s-min=9.7km az=231.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=2.69; Mθθ=2.57; Mφφ=5.27; Mrθ=3.01; Mφφ=1.25; Mφr=0.26; Fault plane solution: M0=5.61000×10^17 NP1:φs=224.37000°, δ64.67000°,λ=39.00000°. NP2:φs=333.48000°,δ55.33000°, λ=148.66000°. Principal axes: T 5.5307, Plg6.0000°, Azm281.0000°; N 0.1536, Plg45.0000°, Azm17.0000°; P -5.6844, Plg45.0000°, Azm185.0000°;*
GCMT ***04*** *17:45:50.1±0.1,2˚51S×80˚08W,h74km,MW5.8/159, Moment Tensor Solution. s149,c301; s159,c473; Duration: 2±0 Moment tensor: Scale 10^17Nm; Mrr=1.44±.04; Mθθ=4.52±.05; Mφφ=5.96±.06; Mrθ=3.36±.04; Mφφ=2.31±.05; Mφr=0.67±.04; Best double couple: M0=6.78700×10^17 NP1:φs=331.00000°,δ61.00000°, λ=165.00000°. NP2:φs=233.00000°,δ77.00000°, λ=30.00000°. Principal axes: T 6.6970, Plg10.0000°, Azm285.0000°; N 0.1800, Plg57.0000°, Azm31.0000°; P -6.8770, Plg31.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 04 17:45:46.8±0.3,2˚46S±0.03×80˚03W±0.03,h68km±2km, h68km:pP-P,n1294,o1153/1072,mb5.5/332,58C-56D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GYE3	**Ecuador-Guayaq**	**0.33**	**24**	↓P	**Pn**	**17 45 56.4**		**-1.5**
GYE3				S	**Sn**	**17 46 04.6**		**-1.4**
PU02	**PU02**	**0.37**	**184**	↓P	**Pn**	**17 45 58.7**		**+0.4**
PU01	**PU01**	**0.40**	**210**	↓P	**Pn**	**17 45 58.3**		**-0.2**
PU01				S	**Sn**	**17 46 07.3**		**+0.2**
PU06	**PU06**	**0.40**	**85**	P	**Pn**	**17 45 57.6**		**-0.9**
PU06				S	**Sn**	**17 46 06.7**		**-0.5**
AGUAY	**Guayaquil**	**0.41**	**11**	↓P	**Pn**	**17 45 57.0**		**-1.6**
PU04	**PU04**	**0.49**	**117**	↑P	**Pn**	**17 45 58.9**		**-0.5**
PU04				S	**Sn**	**17 46 08.8**		**+0.2**
PU03	**PU03**	**0.50**	**154**	↑P	**Pn**	**17 45 58.8**		**-0.7**
PU03				S	**Sn**	**17 46 09.8**		**+1.1**
MILO	**Milagro-Astudi**	**0.51**	**70**	S	**Sn**	**17 46 09.3**		**+0.6**
MILO				P	**Pn**	**17 45 59.2**		**-0.3**
ISPG	**Isla Puna-Puer**	**0.53**	**195**	↓P	**Pn**	**17 46 00.8**		**+1.0**
PU05	**PU05**	**0.54**	**98**	↑P	**Pn**	**17 45 59.6**		**-0.1**
PU07	**PU07**	**0.60**	**80**	↑P	**Pn**	**17 45 57.9**		**-2.5**
COHC	**Cochancay**	**0.77**	**91**	Pn	**Pn**	**17 46 01.2**		**-1.2**
COHC				Sn	**Sn**	**17 46 13.2**		**-0.8**
COHC	**Cochancay**	**0.77**	**91**	P	**Pn**	**17 46 01.3**		**-1.2**
COHC	**Cochancay**	**0.77**	**91**	↑P	**Pn**	**17 46 01.2**		**-1.2**
COHC	**Cochancay**	**0.77**	**91**	P		17 46 01.3		
ABAB	**Ecuador-Univer**	**0.83**	**38**	S	**Sn**	**17 46 13.6**		**-1.6**
ABAB				P	**Pn**	**17 46 01.8**		**-1.4**
ALIBE	**La Libertad**	**0.84**	**284**	↑P	**Pn**	**17 46 02.8**		**-0.5**
SALI	**Salinas**	**1.00**	**286**	↑P	**Pn**	**17 46 04.5**		**-0.7**
SALI				S	**Sn**	**17 46 19.0**		**+0.2**
ARNL	**Arenillas**	**1.09**	**182**	↓P	**Pn**	**17 46 06.0**		**-0.3**
ACUE	**Ecuador-Cuenca**	**1.16**	**113**	↑P	**Pn**	**17 46 08.8**		**+1.2**
PPLP	**Puerto Lpez**	**1.17**	**320**	P	**Pn**	**17 46 05.1**		**-2.3**
PPLP				S	**Sn**	**17 46 20.6**		**-2.3**
PPLP	**Puerto Lpez**	**1.17**	**320**	↓P	**Pn**	**17 46 05.2**		**-2.3**
PPLP	**Puerto Lpez**	**1.17**	**320**	↓P	**Pn**	**17 46 05.2**		**-2.3**
PPLP				S	**Sn**	**17 46 20.0**		**-2.9**
PPLP	**Puerto Lpez**	**1.17**	**320**	P		17 46 05.1		
PPLP				S		17 46 20.6		
JIPI	**JIPIJAPA**	**1.21**	**334**	↓P	**Pn**	**17 46 06.7**		**-1.3**
AZOG	**Ecuador-Azogue**	**1.22**	**104**	↑P	**Pn**	**17 46 08.0**		**-0.3**
JSCH	**Cashca Tororas**	**1.28**	**55**	↑P	**Pn**	**17 46 07.9**		**-1.2**
AGRD	**Ecuador-Guaran**	**1.35**	**49**	P	**Pn**	**17 46 09.0**		**-1.0**
AQUE	**Quevedo**	**1.50**	**21**	P	**Pn**	**17 46 10.7**		**-1.0**
TAMH	**Tambohuasha Ch**	**1.54**	**54**	↑P	**Pn**	**17 46 12.5**		**-0.2**
LAMO	**ALAMOR**	**1.55**	**180**	↓P	**Pn**	**17 46 12.8**		**+0.2**
LAMO				S	**Sn**	**17 46 31.9**		**0.0**
ARIO	**Riobamba**	**1.55**	**59**	P	**Pn**	**17 46 12.5**		**-0.2**
ISPT	**Isla de la Pla**	**1.58**	**319**	↓P	**Pn**	**17 46 11.3**		**-1.5**
PECV	**Mancha de Ca P**	**1.67**	**359**	P	**Pn**	**17 46 14.1**		**+0.1**
BOSC	**San Juan Bosco**	**1.68**	**114**	↑P	**Pn**	**17 46 16.5**		**+2.2**
IGUA	**Igualata**	**1.69**	**55**	↑P	**Pn**	**17 46 14.8**		**0.0**
SANGA	**Volcan Sangay**	**1.71**	**76**	↑P	**Pn**	**17 46 14.9**		**0.0**
ALJ1	**Ecuador-Loja-U**	**1.73**	**151**	P	**Pn**	**17 46 15.4**		**+0.3**
BMAS	**Trigal station**	**1.81**	**59**	↑P	**Pn**	**17 46 15.5**		**-0.8**
BBIL	**Ulba Tungurahu**	**1.84**	**57**	↑P	**Pn**	**17 46 17.0**		**+0.5**
AAM2	**Ambato 2 (Merc**	**1.84**	**50**	P	**Pn**	**17 46 18.2**		**+1.5**
BPAT	**Tungurahua Vol**	**1.85**	**59**	↑P	**Pn**	**17 46 17.2**		**+0.3**
JUI6	**Juive**	**1.87**	**57**	↑P	**Pn**	**17 46 17.5**		**+0.6**
GONZ	**Gonzanam**	**1.88**	**160**	↓P	**Pn**	**17 46 18.0**		**+0.8**
POND	**Pondoa**	**1.88**	**57**	↑P	**Pn**	**17 46 17.9**		**+0.7**
MCRA	**Macar, Loja**	**1.90**	**178**	P	**Pn**	**17 46 16.6**		**-0.5**
MCRA	**Macar, Loja**	**1.90**	**178**	↓P	**Pn**	**17 46 16.7**		**-0.5**
MCRA	**Macar, Loja**	**1.90**	**178**	P		17 46 16.6		
BULB	**Ulba Tungurahu**	**1.91**	**58**	↑P	**Pn**	**17 46 18.1**		**+0.6**
AZAM	**Ecuador-Zamora**	**1.93**	**146**	P	**Pn**	**17 46 19.1**		**+1.5**
ASLC	**Ecuador-Salced**	**2.01**	**46**	P	**Pn**	**17 46 20.6**		**+1.7**
ALAT	**Latacunga**	**2.07**	**43**	P	**Pn**	**17 46 21.9**		**+2.2**
FLF1	**Flavio Alfaro-**	**2.09**	**5**	↓P	**Pn**	**17 46 19.2**		**-0.5**
CAB1	**Cabo Pasado-Ma**	**2.09**	**349**	↓P	**Pn**	**17 46 19.5**		**-0.2**
PIS1	**Pisayambo**	**2.15**	**50**	↑P	**Pn**	**17 46 22.8**		**+1.9**
ILLI	**Illinizas Sur**	**2.16**	**37**	↓P	**Pn**	**17 46 21.8**		**+0.7**
JAMA	**Jama**	**2.19**	**355**	↓P	**Pn**	**17 46 19.7**		**-1.4**
PUYO	**Puyo, Santa Ro**	**2.22**	**65**	↑P	**Pn**	**17 46 23.5**		**+2.0**
PAST	**Pastocalle**	**2.23**	**38**	P	**Pn**	**17 46 23.9**		**+1.9**
SRAM	**San Ramn-Vol**	**2.24**	**41**	↓P	**Pn**	**17 46 23.6**		**+1.6**
BRRN	**Barrancas-Volc**	**2.27**	**43**	P	**Pn**	**17 46 23.8**		**+1.3**
PIAT	**Ana Tenorio**	**2.29**	**51**	P	**Pn**	**17 46 24.3**		**+1.6**
PIAT	**Ana Tenorio**	**2.29**	**51**	↑P	**Pn**	**17 46 24.2**		**+1.6**
PIAT	**Ana Tenorio**	**2.29**	**51**	P		17 46 24.3		
SLOR	**San Lorenzo -**	**2.30**	**42**	↓P	**Pn**	**17 46 24.7**		**+1.8**
VCES	**Cotopaxi**	**2.32**	**45**	↑P	**Pn**	**17 46 24.8**		**+1.6**
BMOR	**Cotopaxi Volca**	**2.32**	**43**	↓P	**Pn**	**17 46 25.0**		**+1.7**
CAMI	**Rancho Maria**	**2.33**	**41**	↑P	**Pn**	**17 46 25.2**		**+1.8**
BNAS	**Cotopaxi Volca**	**2.35**	**41**	↓P	**Pn**	**17 46 26.7**		**+3.0**
ASDO	**Santo Domingo**	**2.36**	**23**	P	**Pn**	**17 46 21.8**		**-1.5**
BREF	**Cotopaxi Volca**	**2.38**	**42**	↑P	**Pn**	**17 46 26.6**		**+2.4**
MAG1	**Magdalena**	**2.38**	**6**	P	**Pn**	**17 46 24.2**		**+0.5**
AMAC	**Ecuador-Machac**	**2.39**	**37**	P	**Pn**	**17 46 25.8**		**+1.7**
BTAM	**Cotopaxi Volca**	**2.41**	**43**	↑P	**Pn**	**17 46 26.3**		**+1.9**
BVC2	**Cotopaxi Volca**	**2.41**	**42**	↑P	**Pn**	**17 46 26.3**		**+1.8**
TAMB	**Tambo**	**2.41**	**44**	↑P	**Pn**	**17 46 26.1**		**+1.6**
VC1	**Cotopaxi 1**	**2.43**	**42**	P	**Pn**	**17 46 26.8**		**+2.1**
PITA	**Cotopaxi Volc**	**2.47**	**40**	↑P	**Pn**	**17 46 27.5**		**+2.3**
ZUMB	**Zumba**	**2.55**	**160**	↓P	**Pn**	**17 46 28.0**		**+2.0**
HPAL	**Hacienda Las P**	**2.62**	**32**	P	**Pn**	**17 46 28.0**		**+0.9**
ANTM	**Antisana-La Mi**	**2.63**	**43**	↑P	**Pn**	**17 46 28.9**		**+1.5**
GGPT	**Toaza - Volcan**	**2.63**	**32**	↓P	**Pn**	**17 46 28.2**		**+0.9**
ANTG	**Antisana-Guama**	**2.63**	**42**	↑P	**Pn**	**17 46 29.1**		**+1.6**
ATEN	**Tena**	**2.64**	**57**	P	**Pn**	**17 46 28.6**		**+1.4**
JUA2	**San Juan 2**	**2.64**	**33**	↑P	**Pn**	**17 46 28.8**		**+1.2**
ARDO	**Archidona, Ten**	**2.66**	**57**	↑P	**Pn**	**17 46 28.7**		**+1.3**
TING	**Casa Alexandra**	**2.67**	**36**	P	**Pn**	**17 46 29.9**		**+2.0**
TERV	**Terraza Guagua**	**2.68**	**32**	↓P	**Pn**	**17 46 29.0**		**+0.8**
GGPC	**Guagua Pichinc**	**2.68**	**32**	↓P	**Pn**	**17 46 29.3**		**+1.2**
PINO	**Pino**	**2.69**	**32**	↑P	**Pn**	**17 46 28.9**		**+0.5**
ANTS	**Antisana-Sarah**	**2.69**	**44**	↑P	**Pn**	**17 46 29.8**		**+1.5**
EPNL	**EPN Laboratori**	**2.71**	**35**	P	**Pn**	**17 46 30.5**		**+2.1**
CIVI	**Edificio de In**	**2.71**	**35**	P	**Pn**	**17 46 31.7**		**+3.3**
APR2	**Miler**	**2.73**	**23**	P	**Pn**	**17 46 28.2**		**-0.2**
ANTI	**Antisana**	**2.73**	**43**	P	**Pn**	**17 46 30.6**		**+1.7**
YANA	**Yana**	**2.74**	**32**	P	**Pn**	**17 46 30.0**		**+1.1**
APR1	**Acelerografo,**	**2.78**	**31**	P	**Pn**	**17 46 30.4**		**+1.1**
AV18	**Acelerografo,**	**2.81**	**11**	P	**Pn**	**17 46 28.6**		**-0.8**
CRPG	**Carapungo - Pi**	**2.82**	**34**	P	**Pn**	**17 46 32.2**		**+2.3**
PUEM	**Granja Avicola**	**2.84**	**36**	P	**Pn**	**17 46 32.3**		**+2.3**
PULU	**Pululahua**	**2.90**	**32**	↓P	**Pn**	**17 46 32.3**		**+1.3**
PAC1	**Pacto, Paraso**	**2.97**	**25**	P	**Pn**	**17 46 30.8**		**-1.0**
PAC1	**Pacto, Paraso**	**2.97**	**25**	↓P	**Pn**	**17 46 31.1**		**-0.7**
PAC1	**Pacto, Paraso**	**2.97**	**25**	P		17 46 30.8		
OTAV	**Otavalo**	**3.11**	**31**	Pn	**Pn**	**17 46 34.5**		**+0.7**
OTAV	**Otavalo**	**3.11**	**31**	P	**Pn**	**17 46 34.5**		**+0.7**
OTAV	**Otavalo**	**3.11**	**31**	↓P	**Pn**	**17 46 34.7**		**+0.8**
OTAV	**Otavalo**	**3.11**	**31**	*e*P	**Pn**	**17 46 34.6**		**+0.7**
AV21	**Acelerografo,**	**3.13**	**9**	P	**Pn**	**17 46 33.6**		**-0.2**
CAYR	**Refugio Cayamb**	**3.18**	**40**	↓P	**Pn**	**17 46 37.5**		**+2.5**
CUSE	**Cuicocha Este**	**3.19**	**31**	P	**Pn**	**17 46 36.1**		**+1.1**
CUSE	**Cuicocha Este**	**3.19**	**31**	↓P	**Pn**	**17 46 36.1**		**+1.1**
CUSE	**Cuicocha Este**	**3.19**	**31**	P		17 46 36.1		
CUSW	**Cuicocha Oeste**	**3.20**	**32**	↓P	**Pn**	**17 46 36.4**		**+1.3**
ANGU	**Angureal**	**3.20**	**39**	↓P	**Pn**	**17 46 37.4**		**+2.1**
CUIC	**Cuicocha-Domo**	**3.21**	**31**	↓P	**Pn**	**17 46 36.4**		**+1.1**
CAYA	**Cayambe**	**3.23**	**39**	↑P	**Pn**	**17 46 37.8**		**+2.1**
ACOT	**Cotacachi (Cas**	**3.25**	**33**	P	**Pn**	**17 46 38.0**		**+2.3**
COTA	**Cotacachi**	**3.25**	**31**	↓P	**Pn**	**17 46 37.2**		**+1.3**
IMBA	**Imbabura, San**	**3.27**	**34**	↓P	**Pn**	**17 46 38.5**		**+2.3**
REVN	**San Rafael**	**3.37**	**46**	↑P	**Pn**	**17 46 38.7**		**+1.3**
URCU	**Urcuqui**	**3.38**	**32**	↓P	**Pn**	**17 46 39.0**		**+1.4**
AMA1	**Acelerografo,**	**3.38**	**5**	P	**Pn**	**17 46 37.9**		**+0.7**
YAHU	**Yahuarcocha**	**3.42**	**35**	P	**Pn**	**17 46 39.5**		**+1.4**
RVRD	**Rio Verde**	**3.56**	**10**	↓P	**Pn**	**17 46 39.6**		**-0.1**
ALIT	**Ecuador-Imbabu**	**3.63**	**27**	P	**Pn**	**17 46 41.6**		**+0.8**
LITE1	**Lita**	**3.63**	**27**	↓P	**Pn**	**17 46 41.1**		**+0.3**
CASC	**Dorado de Casc**	**3.72**	**46**	↑P	**Pn**	**17 46 43.4**		**+1.4**
LNGL	**El Angel-Carch**	**3.77**	**33**	↓P	**Pn**	**17 46 44.9**		**+1.9**
BONI	**La Bonita**	**3.82**	**41**	↑P	**Pn**	**17 46 44.8**		**+1.4**
CHMA	**Chilma**	**3.84**	**31**	↓P	**Pn**	**17 46 45.5**		**+1.7**
CHL1	**Volc¡n Chiles**	**3.84**	**33**	P	**Pn**	**17 46 45.2**		**+1.2**
ECEN	**Cerro Negro**	**3.85**	**32**	P	**Pn**	**17 46 45.6**		**+1.4**
CHL2	**Volc¡n Chiles**	**3.86**	**33**	↓P	**Pn**	**17 46 46.0**		**+1.7**
TULM	**Tulcn-Chalpat**	**3.87**	**35**	P	**Pn**	**17 46 46.7**		**+2.4**
TULM	**Tulcn-Chalpat**	**3.87**	**35**	↓P	**Pn**	**17 46 46.7**		**+2.4**
TULM	**Tulcn-Chalpat**	**3.87**	**35**	P		17 46 46.7		
SNLR	**San Lorenzo-Es**	**3.91**	**18**	↓P	**Pn**	**17 46 44.1**		**-0.3**
ATUL	**Tulcn**	**3.95**	**36**	↓P	**Pn**	**17 46 47.9**		**+2.6**
CMBC	**Cumbal**	**4.03**	**33**	P	**Pn**	**17 46 48.9**		**+2.4**
CMBC	**Cumbal**	**4.03**	**33**	P	**Pn**	**17 46 48.2**		**+1.7**
CMBC	**Cumbal**	**4.03**	**33**	P		17 46 48.9		
GCUF	**Volcan Galeras**	**4.54**	**36**	P	**Pn**	**17 46 55.4**		**+1.9**
GCUF	**Volcan Galeras**	**4.54**	**36**	P		17 46 55.4		
ATAH	**Atahualpa**	**4.93**	**161**	Pn	**Pn**	**17 47 00.7**		**+2.0**
	148nm,0.3s,baz=17,slow=9.3,SNR=262							
ATAH				Sn	Sn	17 47 39.8		-15
	155nm,0.3s,baz=143,slow=16,SNR=6.9							
ATAH				LR	LR	17 49 21.4		
	comp=Z,58μm,21.6s,baz=340,slow=45							
CRUC	**La Cruz**	**5.04**	**38**	P	**Pn**	**17 47 03.0**		**+2.7**
CRUC	**La Cruz**	**5.04**	**38**	P		17 47 03.0		
BBAC	**Balboa, Cauca**	**5.25**	**32**	P	**Pn**	**17 47 02.9**		**0.0**
	34μm37μm2μm,0.5s							
BBAC	**Balboa, Cauca**	**5.25**	**32**	↓P	**Pn**	**17 47 03.2**		**+0.3**
BBAC	**Balboa, Cauca**	**5.25**	**32**	P		17 47 02.9		
	34μm37μm2μm,0.5s							
GR1C	**Gorgona, Isla**	**5.73**	**19**	P	**Pn**	**17 47 07.3**		**-2.1**
GR1C	**Gorgona, Isla**	**5.73**	**19**	P		17 47 07.3		
PTLC	**Puerto Leguiza**	**5.84**	**64**	P	**Pn**	**17 47 08.3**		**-2.6**
	19μm1μm,0.8s							
PTLC	**Puerto Leguiza**	**5.84**	**64**	↑P	**Pn**	**17 47 08.2**		**-2.8**
PTLC	**Puerto Leguiza**	**5.84**	**64**	P		17 47 08.3		
	19μm1μm,0.8s							
FLOC	**Florencia**	**5.94**	**48**		**Pn**	**17 47 11.3**		**-0.9**
FLOC	**Florencia**	**5.94**	**48**	↑P	**Pn**	**17 47 11.3**		**-0.9**
POPC	**Popayan, Colom**	**5.99**	**34**	P		17 47 12.4		
	31μm18μm1μm,1.0s							
POPC	**Popayan, Colom**	**5.99**	**34**	P	**Pn**	**17 47 12.4**		**-0.7**
	31μm18μm1μm,1.0s							
GARC	**Garzon, Huila**	**6.47**	**45**	P	**Pn**	**17 47 19.5**		**-0.2**
	21μm17μm656nm,0.5s							
GARC	**Garzon, Huila**	**6.47**	**45**	P		17 47 19.5		
	21μm17μm656nm,0.5s							
JAMC	**Jamundi, Valle**	**6.55**	**31**	P		17 47 19.2		
	43μm25μm1μm,1.0s							
JAMC	**Jamundi, Valle**	**6.56**	**31**	P	**Pn**	**17 47 19.2**		**-1.7**
	43μm25μm1μm,1.0s							
BETC	**Betania**	**6.86**	**42**	P	**Pn**	**17 47 26.8**		**+1.9**
BETC	**Betania**	**6.86**	**42**	P		17 47 26.8		
MALC	**Bahia Malaga**	**6.97**	**23**	P		17 47 25.7		
MALC	**Bahia Malaga**	**6.97**	**23**	P	**Pn**	**17 47 25.7**		**-0.6**
YOTC	**Yotoco, Valle**	**7.38**	**30**	P	**Pn**	**17 47 29.6**		**-2.5**
	14μm4μm238nm,0.6s							
YOTC	**Yotoco, Valle**	**7.38**	**30**	P		17 47 29.6		
	14μm4μm238nm,0.6s							
MACC	**Macarena, Meta**	**7.69**	**54**	P	**Pn**	**17 47 34.9**		**-1.3**
	8μm15μm563nm,0.8s							
MACC	**Macarena, Meta**	**7.69**	**54**	P		17 47 34.9		
	8μm15μm563nm,0.8s							
ORTC	**Ortega, Tolima**	**7.93**	**37**	P	**Pn**	**17 47 38.6**		**-0.9**
	18μm15μm619nm,1.2s							
ORTC	**Ortega, Tolima**	**7.93**	**37**	P		17 47 38.6		
	18μm15μm619nm,1.2s							
PRAC	**Prado**	**8.00**	**40**	P		17 47 40.3		
	21μm15μm374nm,1.3s							
PRAC	**Prado**	**8.00**	**40**	P	**Pn**	**17 47 40.3**		**-0.1**
	21μm15μm374nm,1.3s							
URMC	**La Uribe, Meta**	**8.00**	**45**	P	**Pn**	**17 47 39.3**		**-1.2**
	16μm10μm627nm,1.3s							
URMC	**La Uribe, Meta**	**8.00**	**45**	P		17 47 39.3		
	16μm10μm627nm,1.3s							
PLMC	**San Jos del P**	**8.21**	**27**	P	**Pn**	**17 47 39.5**		**-3.9**
	25μm8μm371nm,0.8s							
PLMC	**San Jos del P**	**8.21**	**27**	P		17 47 39.5		
	25μm8μm371nm,0.8s							
GUVC	**San Jose del G**	**8.91**	**56**	P	**Pn**	**17 47 53.8**		**+0.9**
GUVC	**San Jose del G**	**8.91**	**56**	P		17 47 53.8		
GUY2C	**Guyana, Caldas**	**8.94**	**31**	P	**Pn**	**17 47 50.1**		**-3.6**
	22μm5μm168nm,0.7s							
GUY2C	**Guyana, Caldas**	**8.94**	**31**	P		17 47 50.1		
	22μm5μm168nm,0.7s							
CZSB	**Cruzeiro do Su**	**8.98**	**126**	Pn	**Pn**	**17 47 52.5**		**-1.3**
CZSB	**Cruzeiro do Su**	**8.98**	**126**	P	**Pn**	**17 47 52.4**		**-1.4**
	36μm79μm9μm,0.7s							
CZSB	**Cruzeiro do Su**	**8.98**	**126**	*e*P	**Pn**	**17 47 52.0**		**-1.9**
CZSB	**Cruzeiro do Su**	**8.98**	**126**	P		17 47 52.4		
	36μm79μm9μm,0.7s							
VILC	**Villavicencio,**	**9.09**	**44**	P	**Pn**	**17 47 55.3**		**-0.2**
	6μm658nm,0.7s							
VILC	**Villavicencio,**	**9.09**	**44**	P		17 47 55.3		
	6μm658nm,0.7s							
ROSC	**El Rosal**	**9.22**	**38**		**Pn**	**17 47 56.5**		**-1.0**
ROSC	**El Rosal**	**9.22**	**38**	Pn	**Pn**	**17 47 56.7**		**-0.8**
	6.7nm,0.3s,baz=190,slow=6.9,SNR=15							
ROSC				Lg	Lg	17 50 21.2		
	3.5nm,0.3s,baz=139,slow=18,SNR=1.5							
ROSC	**El Rosal**	**9.22**	**38**	P	**Pn**	**17 47 56.5**		**-1.0**
CHIC	**Chingaza**	**9.44**	**42**	P	**Pn**	**17 47 59.9**		**-0.6**
	10μm9μm372nm,1.3s							
CHIC	**Chingaza**	**9.44**	**42**	P		17 47 59.9		
	10μm9μm372nm,1.3s							
NORC	**Norcasia**	**9.49**	**33**	P		17 48 02.7		
	16μm3μm109nm,0.6s							
NORC	**Norcasia**	**9.49**	**33**	P	**Pn**	**17 48 02.7**		**+1.9**
	16μm3μm109nm,0.6s							
PTAC	**Punta Ardita,**	**9.79**	**13**	P	**Pn**	**17 48 05.1**		**+0.2**
	5μm193nm,0.5s							
PTAC	**Punta Ardita,**	**9.79**	**13**	P		17 48 05.1		
	5μm193nm,0.5s							
NNA	**Nana**	**9.98**	**162**	Pn	**Pn**	**17 48 06.5**		**-1.1**
NNA	**Nana**	**9.98**	**162**	Pn	**Pn**	**17 48 08.0**		**+0.4**
	65nm,0.3s,baz=321,slow=11,SNR=87							
NNA				Sn	Sn	17 49 47.2		-11
	652nm,0.3s,baz=235,slow=20,SNR=36							
NNA				LR	LR	17 52 47.7		
	comp=Z,5μm,20.9s,baz=331,slow=43							
NNA	**Nana**	**9.98**	**162**	P	**Pn**	**17 48 06.1**		**-1.5**
	13μm10μm803nm,0.7s							
NNA	**Nana**	**9.98**	**162**	*de*P	**Pn**	**17 48 06.5**		**-1.1**
NNA				pmax	pmax			
	comp=Z,611nm,0.7s							
NNA	**Nana**	**9.98**	**162**	P		17 48 06.1		
	comp=Z,13μmcomp=Z,10μmcomp=Z,803nm,0.7s							
DBBC	**Dabeiba**	**10.15**	**22**	P	**Pn**	**17 48 12.4**		**+2.5**
DBBC	**Dabeiba**	**10.15**	**22**	P		17 48 12.4		
AZU	**Azuero**	**10.18**	**359**	P	**Pn**	**17 48 11.9**		**+1.7**
	comp=Z,8μmcom

JTS Las Juntas de 13.58 339 P **Pn 17 48 59.0 +2.5**
JTS Las Juntas de 13.58 339 *e*P **Pn 17 48 57.5 +1.0**
JTS Las Juntas de 13.58 339 ⇑ *i*P **Pn 17 48 57.9 +1.4**
JTS *e*S S 17 51 35.7 -9.3
JTS Las Juntas de 13.58 339 P 17 48 59.4
comp=Z,9μmcomp=Z,5μmcomp=Z,172nm,1.3s
ARE1 Arenal 1 13.65 340 *e*P **Pn 17 48 59.9 +2.5**
VARE2 V. Arenal 13.65 340 *e*P **Pn 17 48 59.8 +2.2**
PLVR Palo Verde 13.78 337 *e*P **Pn 17 49 01.0 +1.7**
VRLE La Escondida, 14.19 338 *e*P **Pn 17 49 05.8 +1.1**
SDV Santo Domingo 14.65 40 Pn **Pn 17 49 07.8 -3.0**
SDV Santo Domingo 14.65 40 Pn **Pn 17 49 09.1 -1.6**
comp=Z,4.1nm,0.3s,baz=254,slow=6.3,SNR=8.6
SDV Lg Lg 17 53 15.6
comp=Z,1.4nm,0.3s,baz=358,slow=17,SNR=2.3
SDV LR LR 17 54 59.2
comp=Z,13μm,21.1s,baz=219,slow=39
SDV Santo Domingo 14.65 40 P **Pn 17 49 11.9 +1.1**
comp=Z,7μmcomp=Z,2μmcomp=Z,142nm,1.0s
SDV Santo Domingo 14.65 40 *e*P **Pn 17 49 11.8 +1.1**
SDV Santo Domingo 14.65 40 P 17 49 11.9
comp=Z,7μmcomp=Z,2μmcomp=Z,142nm,1.0s
BLUN Bluefields 14.84 346 P 17 49 14.3
comp=Z,2μmcomp=Z,74nm,1.6s
BLUN Bluefields 14.84 346 P **Pn 17 49 14.3 +1.3**
comp=Z,2μmcomp=Z,74nm,1.6s
SAIC Isla e San And 14.99 354 P **P 17 49 17.5 -1.3**
comp=Z,11μmcomp=Z,215nm,2.3s
SAIC Isla e San And 14.99 354 P 17 49 17.5
comp=Z,11μmcomp=Z,215nm,2.3s
CRJC Cerrejon, Guaj 15.16 28 P 17 49 16.4
comp=Z,163nm,0.9s
CRJC Cerrejon, Guaj 15.16 28 P **Pn 17 49 16.4 -0.8**
comp=Z,163nm,0.9s
ESPN Las Esperanzas 15.16 344 P **Pn 17 49 18.7 +1.6**
ESPN Las Esperanzas 15.16 344 P **P 17 49 19.1 -1.7**
comp=Z,3μmcomp=Z,209nm,1.7s
ESPN Las Esperanzas 15.16 344 *e*P **Pn 17 49 17.2 +0.1**
ESPN Las Esperanzas 15.16 344 P 17 49 19.1
comp=Z,3μmcomp=Z,209nm,1.7s
ACON Acoyapa 15.21 340 Pn 17 49 17.8 0.0
ACON Acoyapa 15.21 340 P **P 17 49 20.3 -1.1**
comp=Z,5μmcomp=Z,247nm,1.6s
ACON Acoyapa 15.21 340 *e*P **Pn 17 49 19.5 +1.7**
ACON Acoyapa 15.21 340 P 17 49 20.3
comp=Z,5μmcomp=Z,247nm,1.6s
TEFE Tefe 15.41 94 *e*P **Pn 17 49 15.2 -5.2**
ETMB Extrema 15.55 119 Pn **Pn 17 49 16.1 -6.0**
ETMB Extrema 15.55 119 *e*P **Pn 17 49 17.6 -4.5**
MGAN Managua 15.77 337 P **P 17 49 27.1 -0.4**
MGAN Managua 15.77 337 P **P 17 49 28.6 +1.1**
comp=Z,11μmcomp=Z,410nm,2.1s
MGAN Managua 15.77 337 P 17 49 28.6
comp=Z,11μmcomp=Z,410nm,2.1s
PRVC Isla de Provid 15.78 355 P **Pn 17 49 24.4 -0.7**
PRVC Isla de Provid 15.78 355 P **Pn 17 49 25.9 +0.8**
comp=Z,10μmcomp=Z,7μmcomp=Z,216nm,1.7s
PRVC Isla de Provid 15.78 355 *e*P **P 17 49 26.6 -1.1**
PRVC Isla de Provid 15.78 355 P 17 49 25.9
comp=Z,10μmcomp=Z,7μmcomp=Z,216nm,1.7s
BOAB BOACO BROADBAN 16.83 339 P 17 49 27.6 -0.6
BOAB BOACO BROADBAN 16.83 339 P **P 17 49 27.6 -0.6**
BOAB BOACO BROADBAN 16.83 339 P **P 17 49 28.1 -0.1**
COPN Copaltepe 15.94 336 P **P 17 49 31.1 +1.8**
MOM2 El Cardon 16.12 337 P **P 17 49 33.6 +2.2**
URIC Uribia, Colomb 16.18 29 P 17 49 27.9
comp=Z,8μmcomp=Z,2μmcomp=Z,120nm,0.9s
URIC Uribia, Colomb 16.18 29 P **Pn 17 49 27.9 -2.1**
comp=Z,8μmcomp=Z,2μmcomp=Z,120nm,0.9s
BAUV El Baul 16.46 46 Pn 17 49 29.7 -3.9
BAUV El Baul 16.46 46 *e*P **Pn 17 49 31.3 -2.3**
CRIN San Cristobal 16.59 335 P 17 49 37.9
comp=Z,9μmcomp=Z,469nm,1.2s
CRIN San Cristobal 16.59 335 P **P 17 49 37.0 +0.3**
CRIN San Cristobal 16.59 335 P **P 17 49 37.9 +1.2**
comp=Z,9μmcomp=Z,469nm,1.2s
CHOHN Orocuina 17.34 336 P **P 17 49 47.6 +2.5**
CNCH Conchagua 17.44 334 P **P 17 49 50.1 +4.0**
PACA Pacayal 17.83 333 P **Pn 17 49 54.7 +4.1**
TGUH Tegucigalpa,Un 17.91 337 P 17 49 53.7
comp=Z,7μmcomp=Z,394nm,1.5s
TGUH Tegucigalpa,Un 17.91 337 Pn 17 49 53.3 +1.8
TGUH Tegucigalpa,Un 17.91 337 P **Pn 17 49 53.7 +2.2**
comp=Z,7μmcomp=Z,394nm,1.5s
LPAZ La Paz 18.06 140 P 17 49 52.5
comp=Z,17μmcomp=Z,4μmcomp=Z,192nm,1.1s
LPAZ La Paz 18.06 140 P **P 17 49 51.4 -2.1**
LPAZ La Paz 18.06 140 P **Pn 17 49 54.0 +0.2**
comp=Z,78nm,0.7s,baz=327,slow=5.7,SNR=62
LPAZ La Paz 18.06 140 P **P 17 49 52.5 -1.0**
comp=Z,17μmcomp=Z,4μmcomp=Z,192nm,1.1s
LPAZ La Paz 18.06 140 P **P 17 49 51.4 -2.1**
LPAZ La Paz 18.06 140 *e*P **P 17 49 52.9 -0.6**
HATO Hato, Curacao 18.23 37 P **P 17 49 51.1 -3.6**
AP01 Chacalluta 18.45 150 P **P 17 49 55.2 -1.9**
PB12 IPOC Station P 18.66 150 P **P 17 49 59.1 -0.4**
NUBE Las Nubes 18.91 330 P **Pn 17 50 05.2 +1.5**
MTO3 Montecristo 19.13 331 IAmb IAmb 17 50 11.8
comp=Z,545nm,1.6s
MTO3 Montecristo 19.13 331 P **Pn 17 50 06.7 +0.4**
ESQI Esquipulas 19.26 332 P **Pn 17 50 09.4 +1.7**
MACA Manacapuru-AM 19.34 93 P **P 17 50 03.9 -3.0**
MACA Manacapuru-AM 19.34 93 *e*P **P 17 50 05.0 -1.9**
PCRV Puerto La Cruz 19.81 50 P **P 17 50 12.2 +0.1**
comp=Z,69nm,0.4s,baz=290,slow=2.5,SNR=61
PCRV Lg Lg 17 56 04.5
comp=Z,0.5nm,0.3s,baz=44,slow=21,SNR=3.1
PCRV LR LR 17 58 34.0
comp=Z,11μm,21.4s,slow=40
PCRV Puerto La Cruz 19.81 50 *e*P **P 17 50 09.9 -2.2**
BOAV Boa Vista 20.09 76 P **P 17 50 13.1 -2.0**
BOAV Boa Vista 20.09 76 P **P 17 50 13.1 -2.0**
comp=Z,8μmcomp=Z,2μmcomp=Z,72nm,1.1s
BOAV Boa Vista 20.09 76 *e*P **P 17 50 13.9 -1.2**
BOAV Boa Vista 20.09 76 P 17 50 13.1
comp=Z,8μmcomp=Z,2μmcomp=Z,72nm,1.1s
TA02 Huaiquique 20.17 152 P **P 17 50 16.5 +0.6**
TA02 IAmb IAmb 17 50 23.1
comp=Z,457nm,0.9s
APG El Apazote 20.19 330 P **P 17 50 17.6 +1.2**
comp=Z,6.6nm,1.1s,baz=161,slow=10.0,SNR=59
APG S **S 17 53 55.3 -4.3**
comp=Z,0.2nm,0.6s,baz=228,slow=20,SNR=1.1
APG LR LR 17 56 46.5
comp=Z,527nm,19.6s,baz=246,slow=33
MCJ Malvern 20.38 6 *i*P Pn 17 50 20.6 -0.3
TA01 Diego Aracena 20.40 153 IAmb IAmb 17 50 25.4
comp=Z,234nm,0.8s
PB08 IPOC Station P 20.54 150 IAmb IAmb 17 50 25.2
comp=Z,432nm,1.3s
PB08 IPOC Station P 20.54 150 P **P 17 50 17.5 -2.8**
STH Stony Hill 20.65 9 *e*P **P 17 50 20.2 -0.9**
STH Stony Hill 20.65 9 *i*P **P 17 50 22.3 +1.2**
MTDJ Mount Denham 20.70 7 IAmb IAmb 17 50 27.8
comp=Z,468nm,1.4s
MTDJ Mount Denham 20.70 7 *e*P **P 17 50 22.2 +0.5**
MTDJ Mount Denham 20.70 7 P **P 17 50 22.4 +0.7**
comp=Z,12μmcomp=Z,8μmcomp=Z,307nm,2.3s
MTDJ Mount Denham 20.70 7 ⇑ *i*P **P 17 50 22.9 +1.2**
MTDJ Mount Denham 20.70 7 P 17 50 22.4
comp=Z,12μmcomp=Z,8μmcomp=Z,307nm,2.3s
PB01 IPOC Station P 21.14 152 IAmb IAmb 17 50 33.0
comp=Z,395nm,0.8s
PETF Flores 21.56 334 IAmb IAmb 17 50 35.2
comp=Z,569nm,1.7s
PETF Flores 21.56 334 P **P 17 50 33.4 +2.6**
CCIG Comitan 22.13 328 P **P 17 50 35.7 -1.5**
CCIG IAmb IAmb 17 50 41.2
comp=Z,273nm,1.6s
CCIG Comitan 22.13 328 P **P 17 50 38.9 +1.7**
VILB Vilhena 22.22 119 P **P 17 50 37.6 -0.5**
VILB Vilhena 22.22 119 *e*P **P 17 50 37.5 -0.5**
CHIV Chivirico 22.57 9 IAmb IAmb 17 51 05.9
comp=Z,244nm,1.6s
CHIV Chivirico 22.57 9 *e*P **P 17 50 40.1 -1.5**
LMGC Las Mercedes 22.57 7 *e*P **P 17 50 42.1 +0.4**
RCC Rio Carpintero 22.71 11 *e*P **P 17 50 43.5 +0.3**
GTBY Guantanamo Bay 22.76 12 *e*P **P 17 50 44.8 +1.1**
GTBY Guantanamo Bay 22.76 12 P **P 17 50 43.8 +0.1**
comp=Z,11μmcomp=Z,8μmcomp=Z,446nm,1.1s
GTBY Guantanamo Bay 22.76 12 P 17 50 43.8
comp=Z,11μmcomp=Z,8μmcomp=Z,446nm,1.1s
BANI BANI 22.80 24 P **P 17 50 42.7 -1.5**
BANI IAmb IAmb 17 51 05.7
comp=Z,406nm,1.8s

SDDR Presa de Saban 22.97 22 P 17 50 47.3
comp=Z,9μmcomp=Z,3μmcomp=Z,113nm,1.4s
SDDR Presa de Saban 22.97 22 *e*P **P 17 50 44.1 -1.8**
SDDR Presa de Saban 22.97 22 P **P 17 50 47.3 +1.4**
comp=Z,9μmcomp=Z,3μmcomp=Z,113nm,1.4s
SDDR Presa de Saban 22.97 22 *i*P **P 17 50 47.1 +1.2**
SIV San Ignacio 23.01 127 LR LR 18 01 11.6
comp=Z,4μm,18.9s,slow=41
QMBU Quimbuelo 23.09 13 *e*P **P 17 50 45.5 -1.5**
PINC Pinares de May 23.18 10 *e*P **P 17 50 47.5 -0.3**
GRFF Grenada Fort F 23.20 51 *e*P P 17 50 33.1 -15
MASC Masc 23.20 14 *e*P **P 17 50 47.5 -0.5**
GRGR Grenville 23.31 51 *e*P P 17 50 37.3 -12
GRHS Sauteurs 23.38 51 *e*P **P 17 50 47.0 -2.8**
NMDO Nuevo Mundo 23.40 12 IAmb IAmb 17 51 14.3
comp=Z,99nm,1.0s
NMDO Nuevo Mundo 23.40 12 *e*P **P 17 50 47.5 -2.5**
MOAC Moa 23.50 12 *e*P **P 17 50 57.4 +6.6**
HLGC Holguin 23.52 9 *e*P **P 17 50 52.1 +1.0**
DR12 Loma Pena Alta 23.57 26 IAmb IAmb 17 51 15.7
comp=Z,251nm,1.2s
SC01 Santiago de lo 23.59 22 P **P 17 50 51.8 +0.1**
GCMP Grenada, Carri 23.70 51 *e*P **P 17 50 49.7 -3.0**
PB14 IPOC Station P 23.92 158 P **P 17 50 54.8 -0.1**
PB14 IAmb IAmb 17 50 59.1
comp=Z,262nm,1.6s
PB14 IPOC Station P 23.92 158 P **P 17 50 53.5 -1.5**
TEIG Tepich 23.95 341 P **P 17 50 55.4 +0.5**
TEIG IAmb IAmb 17 50 57.2
comp=Z,578nm,1.9s
TEIG Tepich 23.95 341 P **P 17 50 55.5 +0.7**
comp=Z,0.1nm,0.5s,baz=150,slow=24,SNR=15
TEIG S **S 17 55 03.7 -3.1**
comp=Z,0.1nm,0.5s,baz=39,slow=24,SNR=4.3
TEIG Tepich 23.95 341 P **P 17 50 55.1 +0.2**
comp=Z,16μmcomp=Z,15μmcomp=Z,296nm,1.5s
TEIG Tepich 23.95 341 P 17 50 55.1
comp=Z,16μmcomp=Z,15μmcomp=Z,296nm,1.5s
PRSN Puerto Rico Se 24.15 31 IAmb IAmb 17 51 22.7
comp=Z,175nm,1.1s
OBIP Obispado Ponce 24.29 32 IAmb IAmb 17 51 27.2
comp=Z,341nm,1.4s
PTLB Pontes e Lacer 24.30 123 P **P 17 50 58.3 +0.1**
PTLB IAmb IAmb 17 51 17.5
comp=Z,122nm,0.9s
PTLB Pontes e Lacer 24.30 123 *e*P **P 17 50 58.3 +0.1**
SVB Belmont 24.32 50 *e*P **P 17 50 58.6 +0.3**
ITTB Itaituba 24.32 95 *e*P **P 17 50 57.8 -0.6**
CELP Cerrillos 24.33 32 IAmb IAmb 17 51 27.9
comp=Z,138nm,0.9s
CMIG Matias Romero 24.33 323 P **P 17 50 59.1 +0.7**
comp=Z,91nm,1.2s,baz=135,slow=8.0,SNR=63
CMIG LR LR 17 58 57.4
comp=Z,1μm,20.1s,baz=160,slow=33
comp=Z,91nm,1.2s
UUPR Utuado, UPR, P 24.40 32 IAmb IAmb 17 51 27.7
comp=Z,116nm,0.7s
AOPR Arecibo Observ 24.46 32 IAmb IAmb 17 51 17.8
comp=Z,239nm,0.9s
AOPR Arecibo Observ 24.46 32 *e*P **P 17 50 57.8 -1.7**
IGPR InterUniversit 24.50 34 P **P 17 50 59.2 -0.7**
PDPR Patillas Dam, 24.58 34 P **P 17 50 59.3 -1.4**
PDPR IAmb IAmb 17 51 29.1
comp=Z,266nm,1.1s
SJG San Juan 24.59 33 P 17 51 00.4
comp=Z,3μmcomp=Z,2μmcomp=Z,83nm,1.0s
SJG San Juan 24.59 33 P **P 17 51 01.1 +0.4**
SJG IAmb IAmb 17 51 29.3
comp=Z,341nm,1.3s
SJG San Juan 24.59 33 P **P 17 51 00.6 -0.1**
comp=Z,36nm,0.8s,baz=210,slow=8.4,SNR=12
SJG LR LR 18 02 14.8
comp=Z,4μm,21.5s,baz=207,slow=41
comp=Z,36nm,0.8s
SJG San Juan 24.59 33 P **P 17 51 00.4 -0.3**
comp=Z,3μmcomp=Z,2μmcomp=Z,83nm,1.0s
SJG San Juan 24.59 33 P **P 17 51 01.1 +0.4**
SJG pmax pmax
comp=Z,341nm,1.3s
SJG San Juan 24.59 33 *e*P **P 17 50 60.0 -0.7**
GO02 Mina Guanaco 24.72 157 IAmb IAmb 17 51 05.9
comp=Z,219nm,0.9s
HUMP Col San Antoni 24.78 34 IAmb IAmb 17 51 29.1
comp=Z,224nm,1.1s
GCPR Guaynabo City 24.79 33 IAmb IAmb 17 51 32.0
comp=Z,132nm,0.8s
PDRB Porto dos Gac 24.83 113 *e*P **P 17 51 03.2 +0.2**
SLAC Saint Lucia, A 24.98 49 *e*P **P 17 50 58.7 -5.7**
NPGB Novo Progresso 25.00 101 *e*P **P 17 51 03.4 -1.2**
SLBI Saint Lucia, B 25.00 49 *e*P **P 17 51 04.1 -0.4**
AC01 Pan de Azucar 25.24 160 P **P 17 51 06.9 +0.3**
SOR Soroa 25.26 354 P **P 17 51 07.4 +0.6**
SOR Soroa 25.26 354 *e*P P 17 50 59.4 -7.4
SOR Soroa 25.26 354 P **P 17 51 07.4 +0.6**
SOR pmax pmax
comp=Z,194nm,2.0s
CLDB Colider 25.46 110 *e*P **P 17 51 08.0 -0.7**
MDN Morne-Daniel 25.54 46 *e*P **P 17 51 05.9 -3.4**
DSLB Salisbury 25.59 45 *e*P P 17 51 01.8 -8.1
DSLB Salisbury 25.59 45 *e*P **P 17 51 05.1 -4.9**
MAL2 Monte Alegre, 25.83 90 P **P 17 51 10.9 -1.3**
MAL2 IAmb IAmb 17 51 33.7
comp=Z,248nm,1.1s
AC02 Maricunga 26.40 158 IAmb IAmb 17 51 27.0
comp=Z,250nm,1.4s
ANBD Bethesda, Anti 26.47 42 *e*P **P 17 51 20.4 +2.6**
ANBD Bethesda, Anti 26.47 42 *e*P P 17 51 26.3 +8.5
ANWB Willy Bob 26.89 41 P 17 51 19.8
ANWB Willy Bob 26.90 41 P **P 17 51 19.8 -1.8**
ANWB Willy Bob 26.90 41 *e*P **P 17 51 17.6 -4.0**
ANWB Willy Bob 26.90 41 *e*P **P 17 51 22.1 +0.5**
TLIG Tlapa 27.02 318 P **P 17 51 23.8 +0.9**
SALV Santo Antonio 27.44 121 *e*P **P 17 51 26.7 +0.1**
LCO Las Campanas 27.86 162 P **P 17 51 30.7 +0.2**
LCO IAmb IAmb 17 51 33.2
comp=Z,267nm,1.7s
LCO Las Campanas 27.86 162 P **P 17 51 30.7 +0.2**
LCO pmax pmax
comp=Z,267nm,1.7s
MDP Montagnes des 28.37 75 LR LR 18 03 54.3
comp=Z,2μm,21.2s,baz=262,slow=39
CO05 La Serena 28.56 164 IAmb IAmb 17 51 38.8
comp=Z,374nm,1.7s
BDQN Bodoquena, MS 28.91 130 *e*P **P 17 51 39.5 0.0**
GO04 Tololo Observa 28.92 163 IAmb IAmb 17 51 47.8
comp=Z,156nm,1.0s
MURT Porto Murtinho 28.98 133 *e*P **P 17 51 39.8 -0.5**
AROD Rodeo 29.32 161 *i*P **P 17 51 46.6 +3.1**
ACLC CERRO LA CRUZ 29.56 156 *i*P **P 17 51 47.9 +2.4**
AQDB Aquidauana 29.73 129 P **P 17 51 46.3 -0.6**
AQDB IAmb IAmb 17 52 07.0
comp=Z,117nm,0.6s
AQDB Aquidauana 29.73 129 *e*P **P 17 51 46.6 -0.3**
SNDB Serra Nova Dou 30.00 110 *e*P **P 17 51 49.7 +0.3**
PAPY Pozo Azul 30.11 137 *e*P **P 17 51 50.7 +0.6**
ZON Zonda 30.85 161 IAmb IAmb 17 51 59.8
comp=Z,121nm,1.3s
ZON Zonda 30.85 161 P **P 17 51 58.5 +1.8**
ZON pmax pmax
comp=Z,36nm,1.3s
RTLS Leoncito 30.89 162 *i*P **P 17 52 00.0 +2.7**
VA04 Juan Fernndez 31.05 178 IAmb IAmb 17 52 01.0
comp=Z,91nm,0.8s
VA06 Catapilco 31.05 166 P **P 17 51 58.9 +0.5**
VA06 IAmb IAmb 17 52 01.1
comp=Z,142nm,1.0s
C2SB Chapadao do Su 31.17 123 *e*P **P 17 52 00.1 +0.4**
RPRD Ribas do Rio P 31.31 127 *e*P **P 17 52 01.1 +0.2**
PEL Peldehue 31.76 165 P **P 17 52 05.9 +1.2**
ASAL Salagasta 31.77 162 *i*P **P 17 52 07.6 +2.8**
TMAB Tom-Au,PA,Br 31.91 91 *e*P **P 17 52 06.7 +0.5**
VA05 Santo Domingo 32.02 167 IAmb IAmb 17 52 09.2
comp=Z,260nm,1.8s
MT16 CCHEN 32.07 165 IAmb IAmb 17 52 27.3
comp=Z,141nm,1.2s
MT03 Universidad Ad 32.14 165 IAmb IAmb 17 52 15.3
comp=Z,226nm,1.4s
CPUP Villa Florida 32.23 140 P **P 17 52 08.0 -0.8**
comp=Z,6.5nm,0.7s,baz=335,slow=9.4,SNR=15
comp=Z,6.5nm,0.7s
CPUP Villa Florida 32.23 140 *e*P **P 17 52 09.2 +0.4**
CPUP Villa Florida 32.23 140 P **P 17 52 08.5 -0.3**
CPUP pP **pP 17 52 25.2 0.0**
CPUP sP **sP 17 52 33.7 +0.5**
SMTB Santa Maria do 32.88 102 *e*P **P 17 52 15.0 +0.2**

ZAIG Zacatecas 33.35 320 P **P 17 52 20.1 +1.2**
ZAIG IAmb IAmb 17 52 23.2
comp=Z,196nm,1.8s
ITRB Iturama 33.68 123 *e*P **P 17 52 21.4 -0.2**
BDFB Brasilia 34.15 115 P **P 17 52 24.1 -1.8**
BDFB Brasilia 34.15 115 P **P 17 52 25.2 -0.7**
comp=Z,21nm,0.9s,baz=280,slow=9.6,SNR=17
BDFB LR LR 18 07 27.8
comp=Z,7μm,19.9s,baz=294,slow=38
comp=Z,21nm,0.9s
BDFB Brasilia 34.15 115 P **P 17 52 24.1 -1.8**
BDFB pmax pmax
comp=Z,53nm,1.2s
IPMB Ipameri, GO 34.81 118 *e*P **P 17 52 31.0 -0.5**
LDASE Londrina, Braz 34.88 129 *e*P **P 17 52 31.4 -0.6**
PTGB Pitanga 34.89 132 *e*P **P 17 52 31.4 -0.7**
BI02 San Fabin de 34.99 168 IAmb IAmb 17 52 35.4
comp=Z,83nm,0.8s
HKT Hockley 35.59 336 P **P 17 52 38.5 +0.7**
HKT IAmb IAmb 17 52 40.7
comp=Z,250nm,1.6s
HKT Hockley 35.59 336 *i*P **P 17 52 39.7 +1.9**
HKT pmax pmax
comp=Z,167nm,1.6s
BB19B Bebedouro 35.82 124 *e*P **P 17 52 39.3 -0.9**
LRAL Lakeview Retre 35.91 350 IAmb IAmb 17 52 41.6
comp=Z,84nm,1.3s
FRTB Fartura 36.07 128 *e*P **P 17 52 40.9 -1.3**
SDBA SAO DESIDERIO 36.16 108 *e*P **P 17 52 42.4 -0.7**
HNVL Huntsville, TX 36.16 337 IAmb IAmb 17 52 45.4
comp=Z,141nm,1.4s
ITAB Concordia 36.34 135 *e*P **P 17 52 43.6 -0.7**
HODGE Hodges 36.55 357 IAmb IAmb 17 52 47.1
comp=Z,94nm,1.5s
JSC Jenkinsville 36.56 358 IAmb IAmb 17 52 47.1
comp=Z,90nm,1.5s
PMNB Patos De Minas 36.58 118 *e*P **P 17 52 46.3 -0.3**
TBOT Tacuaremb 36.89 145 *e*P **P 17 52 49.6 +0.7**
435B Jarrell 37.05 334 P **P 17 52 51.0 +0.7**
baz=150
PAULI Pauline 37.12 358 IAmb IAmb 17 52 51.9
comp=Z,90nm,1.4s
RPN Rapa Nui 37.27 226 LR LR 18 05 30.8
comp=Z,694nm,19.1s,baz=52,slow=32
JANB Januaria 37.38 112 *e*P **P 17 52 52.6 -0.9**
KMSC Kings Mountain 37.42 358 IAmb IAmb 17 52 54.4
comp=Z,96nm,1.5s
CPSB Cacapava Do Su 37.51 141 *e*P **P 17 52 53.8 -0.5**
Z41A Richland Creek 37.52 342 IAmb IAmb 17 52 56.0
comp=Z,189nm,1.6s
SWET Sewanee 37.88 352 IAmb IAmb 17 52 58.6
comp=Z,108nm,1.6s
SPB Sao Paulo 37.90 126 IAmb IAmb 17 52 57.6
comp=Z,103nm,1.3s
SPB Sao Paulo 37.90 126 *e*P **P 17 52 56.5 -1.1**
CPCT Cooper Cave 37.94 354 IAmb IAmb 17 52 58.8
comp=Z,99nm,1.5s
VAO Valinhos 38.00 125 IAmb IAmb 17 52 58.6
comp=Z,85nm,1.3s
VAO Valinhos 38.00 125 *e*P **P 17 52 57.5 -1.1**
PLAL Pickwick Lake 38.00 349 IAmb IAmb 17 52 59.4
comp=Z,78nm,1.5s
TKL Tuckaleechee C 38.08 355 IAmb IAmb 17 53 00.5
comp=Z,102nm,1.5s
TKL Tuckaleechee C 38.08 355 P **P 17 52 58.1 -0.9**
comp=Z,27nm,1.1s,baz=165,slow=7.5,SNR=9.8
TKL LR LR 18 07 36.1
comp=Z,4μm,21.6s,baz=175,slow=35
comp=Z,27nm,1.1s
BRDY Brady 38.10 333 IAmb IAmb 17 53 01.8
comp=Z,196nm,1.5s
PLTB Pedras Altas 38.33 142 *e*P **P 17 53 01.3 0.0**
CNLB Canela 38.50 137 *e*P **P 17 53 02.3 -0.4**
V48A Smith Brothers 38.52 351 IAmb IAmb 17 53 04.1
comp=Z,164nm,1.6s
SAND Sanderson 38.53 328 IAmb IAmb 17 53 07.9
comp=Z,95nm,1.6s
MAJ01 Sao Joao Batis 38.67 133 *e*P **P 17 53 02.9 -1.2**
UALR University of 38.80 344 IAmb IAmb 17 53 06.2
comp=Z,95nm,1.3s
OZNA Ozona 38.80 330 IAmb IAmb 17 53 08.9
comp=Z,100nm,1.3s
U54A Nelsons Funny 38.81 358 IAmb IAmb 17 53 06.2
comp=Z,112nm,1.6s
TXAR Lajitas Array 38.88 326 P **P 17 53 06.6 +0.6**
TXAR Lajitas Array 38.88 326 P **P 17 53 07.2 +1.2**
comp=Z,32nm,1.2s,baz=155,slow=3.3,SNR=26
TXAR PcP **PcP 17 55 16.8 +1.0**
comp=Z,5.5nm,0.8s,baz=147,slow=6.2,SNR=5.5
TXAR LR LR 18 08 44.0
comp=Z,411nm,20.9s,baz=128,slow=36
comp=Z,32nm,1.2s
TZTN Tazewell 38.94 355 IAmb IAmb 17 53 07.5
comp=Z,81nm,1.4s
MIAR Mount Ida 38.95 342 IAmb IAmb 17 53 07.8
comp=Z,76nm,1.4s
BSCB Bom Sucesso 38.97 121 *e*P **P 17 53 06.0 -0.8**
SLBS Sierra La Lagu 39.02 313 P **P 17 53 09.0 +1.9**
SLBS IAmb IAmb 17 53 10.8
comp=Z,163nm,1.3s
SLBS Sierra La Lagu 39.02 313 P **P 17 53 09.1 +1.9**
SLBS sP **sP 17 53 34.3 +2.4**
PLCA Paso Flores 39.06 169 P **P 17 53 08.0 +0.8**
comp=Z,66nm,0.7s,baz=346,slow=9.7,SNR=192
PLCA PcP **PcP 17 55 17.3 +1.2**
comp=Z,9.6nm,0.5s,baz=348,slow=3.5,SNR=5.7
comp=Z,66nm,0.7s
PLCA Paso Flores 39.06 169 *e*P **P 17 53 08.3 +1.1**
PLCA Paso Flores 39.06 169 P **P 17 53 08.0 +0.8**
PLCA PcP **PcP 17 55 17.1 +1.0**
WVT Waverly 39.07 350 P **P 17 53 05.0 -2.3**
WVT IAmb IAmb 17 53 07.7
comp=Z,95nm,1.8s
WVT Waverly 39.07 350 P **P 17 53 05.0 -2.3**
WVT pmax pmax
comp=Z,95nm,1.8s
TRQA Tornquist 39.10 157 P **P 17 53 07.0 -0.6**
TRQA IAmb IAmb 17 53 09.2
comp=Z,202nm,1.5s
TRQA Tornquist 39.10 157 P **P 17 53 07.0 -0.6**
TRQA pmax pmax
comp=Z,202nm,1.5s
TER01 Tubaro-SC 39.24 134 *e*P **P 17 53 09.2 +0.3**
PARB Paraibuna 39.25 125 *e*P **P 17 53 09.2 +0.1**
WHAR Wooly Hollow 39.27 344 IAmb IAmb 17 53 10.0
comp=Z,126nm,1.5s
BLA Blacksburg 39.47 360 IAmb IAmb 17 53 27.9
comp=Z,196nm,1.9s
LPIG La Paz 39.54 314 P **P 17 53 12.2 +0.8**
comp=Z,12nm,0.3s,baz=349,slow=3.2,SNR=5.9
comp=Z,12nm,0.3s
LCAR Lake Charles 39.71 346 IAmb IAmb 17 53 13.2
comp=Z,102nm,1.2s
FCAR Ozark Folk Cen 39.79 345 IAmb IAmb 17 53 14.0
comp=Z,84nm,1.4s
LL06 Loncomilla 40.00 173 IAmb IAmb 17 53 17.4
comp=Z,96nm,0.7s
S57A Dark Hollow, R 40.03 1 IAmb IAmb 17 53 32.4
comp=Z,126nm,1.9s
S54A Dingess, Beckl 40.07 358 IAmb IAmb 17 53 17.1
comp=Z,167nm,1.7s
PBMO Poplar Bluff 40.22 347 IAmb IAmb 17 53 17.3
comp=Z,103nm,1.6s
R58B Mineral 40.27 3 P **P 17 53 17.1 0.0**
LL01 San Ignacio de 40.33 171 P **P 17 53 17.2 -0.4**
LL01 IAmb IAmb 17 53 20.0
comp=Z,132nm,0.8s
MAN01 Angra dos Reis 40.42 123 *e*P **P 17 53 19.1 +0.3**
NBPB Pedra_Branca-C 40.46 96 *e*P **P 17 53 18.5 -0.7**
ODSA Odessa 40.48 330 IAmb IAmb 17 53 21.4
comp=Z,213nm,1.4s
SN07 Snyder 07 40.48 333 IAmb IAmb 17 53 21.6
comp=Z,247nm,1.6s
R55A Marlinton 40.53 360 IAmb IAmb 17 53 20.7
comp=Z,120nm,1.6s
CGM3 Cape Girardeau 40.55 348 IAmb IAmb 17 53 20.7
comp=Z,169nm,1.6s
PECS Pecos 40.57 328 IAmb IAmb 17 53 23.0
comp=Z,150nm,1.4s
T42A Van Buren 40.61 346 IAmb IAmb 17 53 20.3
comp=Z,97nm,1.5s
HHAR Hobbs 40.67 343 IAmb IAmb 17 53 22.0
comp=Z,162nm,1.5s
POST Post 40.75 332 IAmb IAmb 17 53 23.7
comp=Z,181nm,1.2s
USIN University of 40.84 351 IAmb IAmb 17 53 22.5

comp=Z,208nm,1.6s
SIUC Southern Illin 40.87 349 IAmb IAmb 17 53 23.1
comp=Z,92nm,1.2s
WCI Wyandotte Cave 40.89 352 P **P** **17 53 19.4 -3.0**
WCI Wyandotte Cave 40.89 352 P **P** **17 53 19.4 -3.0**
WCI pmax pmax
comp=Z,68nm,1.3s
WMOK Wichita Mounta 40.98 336 IAmb IAmb 17 53 25.3
comp=Z,144nm,1.3s
MGMO Mountain Grove 41.02 345 IAmb IAmb 17 53 24.5
comp=Z,140nm,1.4s
SSFO Shawnee State 41.05 356 IAmb IAmb 17 53 24.1
comp=Z,125nm,1.7s
LL02 Futaleuf 41.21 171 P **P** **17 53 24.9 0.0**
LL02 IAmb IAmb 17 53 27.6
comp=Z,136nm,0.8s
Q54A Coxs Mills 41.24 359 IAmb IAmb 17 53 25.9
comp=Z,107nm,1.6s
Q56A Snyder Ridge, 41.30 1 P **P** **17 53 25.6 -0.1**
SJMB Sao Joao De Ma 41.31 116 *e*P **P** **17 53 25.3 -0.8**
FVM French Village 41.37 348 IAmb IAmb 17 53 27.4
comp=Z,144nm,1.6s
NBMA Muriti-CE 41.38 98 *e*P **P** **17 53 27.0 +0.1**
DUB01 Friburgo-RJ 41.45 121 *e*P **P** **17 53 27.0 -0.3**
CCM Cathedral Cave 41.62 347 P **P** **17 53 26.8 -1.6**
CCM Cathedral Cave 41.62 347 P **P** **17 53 26.8 -1.6**
CCM pmax pmax
comp=Z,94nm,1.6s
BSFB Barra de Sao F 41.66 116 *e*P **P** **17 53 28.6 -0.3**
NBCL Cascavel-CE 41.70 94 *e*P **P** **17 53 28.2 -1.1**
CSTR Hydro, Custer 41.73 337 IAmb IAmb 17 53 32.0
comp=Z,106nm,1.5s
CMC01 Camacan, BA 41.92 110 *e*P **P** **17 53 30.1 -1.1**
GUA01 Guaratinga, BA 41.96 112 *e*P **P** **17 53 30.9 -0.5**
CAM01 Campos-RJ 41.97 120 *e*P **P** **17 53 30.7 -0.7**
P49A Miami Univ. Ec 42.01 355 IAmb IAmb 17 53 30.8
comp=Z,117nm,1.6s
RIB01 Linhares ES 42.21 116 *e*P **P** **17 53 32.8 -0.7**
AY01 Puyuhuapi 42.30 172 P **P** **17 53 33.8 0.0**
AMTX Amarillo 42.34 333 IAmb IAmb 17 53 36.7
comp=Z,227nm,1.4s
ALF01 Guarapari-ES 42.35 118 *e*P **P** **17 53 34.0 -0.5**
O52A Adamsville 42.40 358 IAmb IAmb 17 53 34.7
comp=Z,106nm,1.5s
O53A New Philadelph 42.51 359 IAmb IAmb 17 53 36.6
comp=Z,86nm,1.4s
KAN17 Caldwell West 42.62 339 IAmb IAmb 17 53 38.5
comp=Z,242nm,1.3s
NBLA Lagarto - SE 42.75 103 *e*P **P** **17 53 37.0 -1.0**
O48B Farmland 42.77 354 IAmb IAmb 17 53 37.1
comp=Z,103nm,1.4s
O48B Farmland 42.77 354 P **P** **17 53 35.9 -1.7**
baz=172,SNR=7.0
SSPA Standing Stone 42.93 2 P **P** **17 53 38.9 -0.1**
SSPA Standing Stone 42.93 2 P **P** **17 53 38.6 -0.3**
SSPA pP **pP** **17 53 55.0 -0.9**
SSPA sP **sP** **17 54 01.8 -2.0**
LUPA Lehigh Univers 43.06 5 IAmb IAmb 17 53 58.7
comp=Z,63nm,0.9s
HSIG 43.10 319 IAmb IAmb 17 53 43.4
comp=Z,135nm,1.8s
NBLV Livramento - P 43.21 98 *e*P **P** **17 53 41.7 0.0**
N51A Ashland 43.22 357 IAmb IAmb 17 53 41.2
comp=Z,142nm,1.6s
N49A Columbus Grove 43.34 355 IAmb IAmb 17 53 42.9
comp=Z,134nm,1.8s
N47A Urbana 43.44 354 IAmb IAmb 17 53 42.4
comp=Z,108nm,1.6s
COYC Coyhaique 43.51 172 P **P** **17 53 44.3 +0.8**
121A Cookes Peak, D 43.61 325 IAmb IAmb 17 53 48.6
comp=Z,238nm,1.5s
121A Cookes Peak, D 43.61 325 P **P** **17 53 46.7 +1.9**
baz=138,SNR=33
HDIL Hopedale 43.64 350 IAmb IAmb 17 54 24.2
comp=Z,43nm,0.7s
319A Douglas 43.65 323 IAmb IAmb 17 53 48.6
comp=Z,281nm,1.6s
M57A Sunshine Farm, 43.67 3 IAmb IAmb 17 53 46.2
comp=Z,109nm,1.4s
M50A Fremont 43.74 357 IAmb IAmb 17 53 46.1
comp=Z,120nm,1.3s
M52A Chesterland 43.80 359 IAmb IAmb 17 53 45.9
comp=Z,122nm,1.8s
KSPA Keystone Colle 43.98 5 IAmb IAmb 17 53 49.6
comp=Z,119nm,1.4s
NBAN Anadia - AL 44.06 101 *e*P **P** **17 53 48.4 -0.1**
N41A Harden Midland 44.08 348 IAmb IAmb 17 53 48.0
comp=Z,97nm,1.5s
KSU1 Kansas State U 44.08 341 IAmb IAmb 17 53 50.0
comp=Z,172nm,0.9s
RCBR Riachuelo 44.13 96 P **P** **17 53 47.5 -1.6**
RCBR Riachuelo 44.13 96 LR LR 18 13 43.1
comp=Z,2µm,18.5s,baz=282,slow=38
RCBR Riachuelo 44.13 96 P **P** **17 53 47.5 -1.6**
RCBR pmax pmax
comp=Z,49nm,1.2s
RCBR Riachuelo 44.13 96 *e*P **P** **17 53 49.2 +0.1**
RCBR Riachuelo 44.13 96 P **P** **17 53 48.9 -0.2**
RCBR sP **sP** **17 54 12.9 -1.0**
RCBR PcP **PP** **17 55 32.7 -0.4**
NBCA Caruaru-PE 44.17 99 *e*P **P** **17 53 49.4 -0.1**
M63A Gales Ferry 44.25 9 IAmb IAmb 17 53 52.1
comp=Z,159nm,1.3s
Y22D IRIS PASSCAL I 44.28 327 P **P** **17 53 52.0 +1.9**
baz=140
L48A N Adams 44.37 355 IAmb IAmb 17 53 50.2
comp=Z,123nm,1.6s
KSCT Kent School, K 44.38 7 IAmb IAmb 17 54 07.8
comp=Z,84nm,0.8s
BINY Binghamton 44.60 4 IAmb IAmb 17 54 10.1
comp=Z,65nm,0.9s
WVNY West Valley, N 44.67 2 IAmb IAmb 17 53 53.6
comp=Z,98nm,1.4s
N38A Joes South For 44.70 346 IAmb IAmb 17 53 54.5
comp=Z,167nm,1.5s
ANMO Albuquerque 44.71 329 P **P** **17 53 54.6 +1.0**
ANMO IAmb IAmb 17 53 56.7
comp=Z,188nm,1.3s
ANMO Albuquerque 44.71 329 P **P** **17 53 54.5 +1.0**
comp=Z,60nm,1.0s,baz=311,slow=9.9,SNR=103
comp=Z,60nm,1.0s
ANMO Albuquerque 44.71 329 *i* P **P** **17 53 55.3 +1.7**
ANMO pmax pmax
comp=Z,51nm,1.2s
ANMO Albuquerque 44.71 329 P **P** **17 53 54.7 +1.2**
ANMO pP **pP** **17 54 12.4 +1.8**
ANMO sP **sP** **17 54 20.0 +1.5**
NBPV Pedro Velho 44.76 97 *e*P **P** **17 53 54.2 +0.1**
K50A Casco 45.08 357 IAmb IAmb 17 54 20.1
comp=Z,52nm,0.9s
K57A Scipio Center 45.09 4 IAmb IAmb 17 54 14.0
comp=Z,103nm,1.1s
L42A Oliver, Polo 45.11 350 IAmb IAmb 17 53 56.0
comp=Z,130nm,1.4s
L61B Northampton 45.19 8 P **P** **17 53 56.7 -0.3**
baz=190,SNR=5.3
TUC Tucson 45.22 322 P **P** **17 53 58.9 +1.4**
TUC IAmb IAmb 17 54 00.6
comp=Z,141nm,1.6s
TUC Tucson 45.22 322 P **P** **17 53 58.9 +1.4**
TUC pmax pmax
comp=Z,141nm,1.6s
TUC Tucson 45.22 322 P **P** **17 53 58.8 +1.2**
TUC sP **sP** **17 54 24.7 +2.2**
TRY Troy 45.34 7 IAmb IAmb 17 54 00.8
comp=Z,177nm,1.4s
HRV Adam Dziewonsk 45.41 9 P **P** **17 53 58.1 -0.5**
HRV IAmb IAmb 17 54 16.8
comp=Z,258nm,2.0s
HRV Adam Dziewonsk 45.41 9 P **P** **17 53 58.2 -0.5**
HRV pmax pmax
comp=Z,258nm,2.0s
HRV Adam Dziewonsk 45.41 9 P **P** **17 53 58.8 +0.1**
HRV pP **pP** **17 54 16.1 +0.3**
HRV sP **sP** **17 54 24.1 +0.5**
N35A Tabor 45.41 343 IAmb IAmb 17 53 59.8
comp=Z,115nm,1.2s
T25A Trinidad 45.44 332 P **P** **17 54 01.1 +1.7**
baz=144,SNR=41
L40A Anamosa 45.46 348 IAmb IAmb 17 53 59.8
comp=Z,160nm,1.4s
K62A Royalston 45.46 8 IAmb IAmb 17 54 01.4
comp=Z,102nm,1.3s
J47A Sunmer 45.69 355 IAmb IAmb 17 54 40.6
comp=Z,58nm,0.8s
J57A Williamstown 45.80 4 IAmb IAmb 17 54 03.2
comp=Z,76nm,1.4s
ACCN Adirondack Com 45.99 6 IAmb IAmb 17 54 05.5
comp=Z,88nm,1.2s
J61A Chester 46.09 8 IAmb IAmb 17 54 06.7
comp=Z,117nm,1.4s
PECO Prince Edward 46.26 3 IAmb IAmb 17 54 05.4
comp=Z,93nm,1.6s
X18A Snowflake 46.30 325 IAmb IAmb 17 54 09.4
comp=Z,160nm,1.6s
PIX Pinacate 46.40 320 IAmb IAmb 17 54 09.7
comp=Z,125nm,1.5s
I62A Tamworth 46.78 9 IAmb IAmb 17 54 27.5
comp=Z,102nm,1.5s
I42A Draeger Farm, 46.82 351 IAmb IAmb 17 54 10.7
comp=Z,178nm,1.6s
SFX San Felipe 46.98 318 IAmb IAmb 17 54 14.4
comp=Z,135nm,1.4s
SADO Sadowa 47.02 1 IAmb IAmb 17 54 10.9
comp=Z,64nm,1.3s
SADO Sadowa 47.02 1 P **P** **17 54 09.6 -1.7**
comp=Z,44nm,1.2s,baz=207,slow=6.8,SNR=8.8
SADO LR LR 18 14 09.8
comp=Z,897nm,21.3s,baz=198,slow=36
comp=Z,44nm,1.2s
VT1 Waterbury 47.03 7 IAmb IAmb 17 54 13.7
comp=Z,84nm,1.2s
LBNH Lisbon 47.05 8 IAmb IAmb 17 54 13.4
comp=Z,78nm,1.2s
I63A Otisfield 47.07 9 IAmb IAmb 17 54 14.9
comp=Z,59nm,1.2s
S22A 4UR Ranch, Cre 47.08 331 IAmb IAmb 17 54 15.3
comp=Z,143nm,1.6s
S22A 4UR Ranch, Cre 47.08 331 P **P** **17 54 13.4 +1.1**
baz=142,SNR=20
I40A Norwalk 47.11 350 IAmb IAmb 17 54 11.9
comp=Z,138nm,1.6s
H43A Windswept, Lux 47.23 352 IAmb IAmb 17 54 38.6
comp=Z,61nm,0.8s
Q24A Divide 47.27 333 IAmb IAmb 17 54 17.3
comp=Z,161nm,1.6s
Q24A Divide 47.27 333 P **P** **17 54 14.7 +1.0**
baz=145,SNR=20
113A Mohawk Valley, 47.38 321 IAmb IAmb 17 54 17.5
comp=Z,169nm,1.6s
FRNY Flat Rock 47.43 6 IAmb IAmb 17 54 32.1
comp=Z,163nm,1.8s
H62A Milan 47.49 9 IAmb IAmb 17 54 16.8
comp=Z,72nm,1.2s
MVCO Mesa Verde 47.50 329 IAmb IAmb 17 54 20.4
comp=Z,165nm,1.6s
I37A Lemond, Waseca 47.79 347 IAmb IAmb 17 54 17.1
comp=Z,61nm,1.3s
VTX Valle De La Tr 47.83 318 IAmb IAmb 17 54 21.2
comp=Z,86nm,1.5s
MNTQ Montreal, Queb 48.09 6 IAmb IAmb 17 54 37.0
comp=Z,52nm,1.0s
ISCO Idaho Springs 48.16 333 IAmb IAmb 17 54 23.3
comp=Z,70nm,1.5s
GLA Glamis 48.25 320 IAmb IAmb 17 54 24.3
comp=Z,194nm,1.7s
ESJX Sierra Juarez 48.32 318 IAmb IAmb 17 54 25.2
comp=Z,162nm,1.9s
ECSD EROS Data Cent 48.34 344 IAmb IAmb 17 54 22.4
comp=Z,166nm,1.4s
G40A Rib Lake 48.37 350 IAmb IAmb 17 54 21.9
comp=Z,71nm,1.5s
BLYC Blythe 48.51 321 IAmb IAmb 17 54 26.3
comp=Z,188nm,1.8s
PV07 Paradox Valley 48.52 330 IAmb IAmb 17 54 26.1
comp=Z,127nm,1.2s
F42A Maple Grove Fa 48.54 352 IAmb IAmb 17 54 24.1
comp=Z,152nm,1.6s
YUH Yuha Desert 48.70 319 P **P** **17 54 25.7 +1.1**
YUH IAmb IAmb 17 54 27.9
comp=Z,161nm,1.8s
G65A Princeton 48.73 12 IAmb IAmb 17 54 27.2
comp=Z,98nm,1.5s
CBX Cerro Bola 48.99 318 P **P** **17 54 26.7 -0.2**
W13A Hualapai Mount 49.01 323 IAmb IAmb 17 54 30.5
comp=Z,180nm,1.9s
TKX Tecate 49.11 318 IAmb IAmb 17 54 30.9
comp=Z,177nm,1.8s
N23A Red Feather La 49.20 334 IAmb IAmb 17 54 30.9
comp=Z,46nm,1.2s
N23A Red Feather La 49.20 334 P **P** **17 54 29.5 +0.9**
baz=145,SNR=5.1
F64A Sherman 49.21 11 IAmb IAmb 17 54 46.4
comp=Z,116nm,1.5s
MG05 Puerto Natales 49.46 174 IAmb IAmb 17 54 32.9
comp=Z,68nm,0.9s
O20A White River Ci 49.64 332 IAmb IAmb 17 54 34.5
comp=Z,122nm,1.4s
PFO Pinyon Flats O 49.66 319 P **P** **17 54 33.0 +0.9**
PFO IAmb IAmb 17 54 35.2
comp=Z,85nm,1.5s
PFO Pinyon Flats O 49.66 319 LR LR 18 13 26.3
comp=Z,1µm,21.9s,baz=118,slow=34
PFO Pinyon Flats O 49.66 319 *i* P **P** **17 54 34.4 +2.4**
PFO pmax pmax
comp=Z,53nm,1.3s
KNB Kanab 49.70 325 IAmb IAmb 17 54 35.9
comp=Z,196nm,1.7s
E62A Clayton Lake 49.74 9 IAmb IAmb 17 54 58.0
comp=Z,60nm,0.8s
LCMT Little Creek M 49.94 325 IAmb IAmb 17 54 37.5
comp=Z,67nm,1.3s
LMN Caledonia Moun 49.96 14 IAmb IAmb 17 54 51.7
comp=Z,140nm,1.6s
SRU San Rafael Swe 49.98 329 IAmb IAmb 17 54 37.0
comp=Z,153nm,1.4s
V12A Nelson 50.01 323 IAmb IAmb 17 54 37.7
comp=Z,109nm,1.4s
MTPU Mount Pierson 50.08 327 IAmb IAmb 17 54 39.4
comp=Z,89nm,1.8s
Q16A Castle Valley 50.17 328 IAmb IAmb 17 54 38.9
comp=Z,226nm,2.0s
F33A 5 Mile Ranch, 50.20 345 IAmb IAmb 17 54 37.1
comp=Z,153nm,1.6s
P18A Preston Nutter 50.23 330 IAmb IAmb 17 54 39.2
comp=Z,144nm,1.7s
D62A Allapoint, All 50.27 10 IAmb IAmb 17 54 38.7
comp=Z,140nm,1.2s
TMUT Trail Mountain 50.47 329 IAmb IAmb 17 54 41.0
comp=Z,100nm,1.6s
LMQ La Malbaie 50.52 9 IAmb IAmb 17 54 39.9
comp=Z,84nm,1.3s
SHPR Sheep Range 50.72 323 IAmb IAmb 17 54 43.4
comp=Z,68nm,1.5s
K22A Casper 50.88 335 IAmb IAmb 17 54 43.4
comp=Z,81nm,1.6s
GSC Goldstone, Bar 50.94 321 IAmb IAmb 17 54 45.0
comp=Z,139nm,1.4s
BATG Bathurst New B 51.02 12 IAmb IAmb 17 54 59.9
comp=Z,44nm,0.8s
RSSD Black Hills 51.11 338 P **P** **17 54 43.6 +0.7**
RSSD IAmb IAmb 17 54 45.4
comp=Z,61nm,1.2s
RSSD Black Hills 51.11 338 P **P** **17 54 43.6 +0.7**
RSSD pmax pmax
comp=Z,61nm,1.3s
RSSD Black Hills 51.11 338 P **P** **17 54 43.9 +0.9**
RSSD pP **pP** **17 55 01.1 +0.7**
BSUT Blindstream Ca 51.17 330 IAmb IAmb 17 54 46.4
comp=Z,126nm,1.3s
EYMN Ely 51.19 350 IAmb IAmb 17 54 43.2
comp=Z,67nm,1.4s
PSUT Pine Spring 51.35 326 IAmb IAmb 17 54 48.1
comp=Z,206nm,1.9s
GWY Greenwater Val 51.42 322 IAmb IAmb 17 54 48.2
comp=Z,96nm,1.6s
JLU Jordanelle 51.57 330 IAmb IAmb 17 54 49.2
comp=Z,151nm,1.5s
CTU Camp Tracy 51.79 329 IAmb IAmb 17 54 50.8
comp=Z,145nm,1.6s
WCT Wildcat Mounta 51.79 322 IAmb IAmb 17 54 51.5
comp=Z,106nm,1.4s
SPR3 Spring Creek 3 51.94 326 IAmb IAmb 17 54 52.0
comp=Z,150nm,1.4s
DUG Dugway, Tooele 51.97 328 P **P** **17 54 51.1 +1.8**
DUG pmax pmax
comp=Z,68nm,1.7s
R11B Troy Canyon, C 52.21 325 IAmb IAmb 17 54 54.6
comp=Z,170nm,1.8s
R11B Troy Canyon, C 52.21 325 P **P** **17 54 52.8 +1.6**
baz=133,SNR=36
ISA Isabella, Lake 52.23 320 P **P** **17 54 53.1 +1.8**
ISA IAmb IAmb 17 54 54.5
comp=Z,126nm,1.5s
ISA Isabella, Lake 52.23 320 P **P** **17 54 53.1 +1.8**
ISA pmax pmax
comp=Z,126nm,1.5s
PD31 Pinedale Array 52.31 333 IAmb IAmb 17 54 53.8
comp=Z,103nm,1.5s
PDAR Pinedale Array 52.31 333 P **P** **17 54 51.4 -0.5**
PDAR Pinedale Array 52.31 333 P **P** **17 54 52.1 +0.2**
comp=Z,20nm,1.1s,baz=139,slow=7.0,SNR=71
comp=Z,20nm,1.1s
HWUT Hardware Ranch 52.38 330 IAmb IAmb 17 54 54.5
comp=Z,134nm,1.2s
EFI East Falkland 52.39 163 P **P** **17 54 52.1 +0.1**
EFI IAmb IAmb 17 54 54.7
comp=Z,107nm,0.9s
EFI East Falkland 52.39 163 *ce*P **P** **17 54 53.5 +1.5**
EFI pmax pmax
comp=Z,57nm,1.2s
AGMN Agassiz Nation 52.40 347 IAmb IAmb 17 54 53.2
comp=Z,126nm,1.4s
GMN Gold Mountain 52.51 323 IAmb IAmb 17 54 56.7
comp=Z,151nm,1.7s
BGU Big Grassy Mou 52.62 329 IAmb IAmb 17 54 56.7
comp=Z,176nm,1.8s
ICQ Pointe Anglais 52.93 10 IAmb IAmb 17 54 56.9
comp=Z,70nm,1.3s
DSP Deep Springs 52.98 322 IAmb IAmb 17 55 00.1
comp=Z,120nm,1.5s
AHID Auburn Hatcher 53.03 332 IAmb IAmb 17 54 59.0
comp=Z,174nm,1.7s
USHA Ushuaia 53.06 172 LR LR 18 14 58.2
comp=Z,2µm,19.1s,baz=354,slow=33
HVU Hansel Valley 53.11 330 IAmb IAmb 17 54 59.9
comp=Z,70nm,1.4s
SNOW Snow King Moun 53.40 332 IAmb IAmb 17 55 02.3
comp=Z,71nm,1.3s
LOHW Long Hollow 53.45 333 IAmb IAmb 17 55 02.4
comp=Z,62nm,1.4s
TPAW Teton Pass 53.52 332 IAmb IAmb 17 55 07.3
comp=Z,96nm,1.4s
ELK Elko 53.66 327 IAmb IAmb 17 55 04.7
comp=Z,141nm,1.7s
FXWY Fox Creek 53.66 332 IAmb IAmb 17 55 09.3
comp=Z,70nm,1.8s
FLWY Flagg Ranch 53.86 333 IAmb IAmb 17 55 05.8
comp=Z,137nm,1.4s
NVAR Mina Array Bea 53.87 323 P **P** **17 55 04.5 +1.1**
comp=Z,18nm,0.8s,baz=134,slow=7.0,SNR=47
comp=Z,18nm,0.8s
LHV Little Huntoon 53.87 323 IAmb IAmb 17 55 06.8
comp=Z,180nm,1.5s
H17A Grant Village 54.05 333 IAmb IAmb 17 55 10.2
comp=Z,70nm,1.5s
LAO LASA Array 54.11 338 IAmb IAmb 17 55 06.7
comp=Z,60nm,1.4s
RYN Ryan 54.12 323 IAmb IAmb 17 55 08.3
comp=Z,161nm,1.8s
YFT Old Faithful 54.20 333 IAmb IAmb 17 55 10.2
comp=Z,114nm,1.6s
ULM Lac du Bonnet 54.24 348 IAmb IAmb 17 55 06.2
comp=Z,119nm,1.5s
ULM Lac du Bonnet 54.24 348 P **P** **17 55 04.5 -1.1**
comp=Z,12nm,0.6s,baz=169,slow=7.7,SNR=24
ULM LR LR 18 20 31.3
comp=Z,358nm,19.0s,baz=159,slow=39
comp=Z,12nm,0.6s
YNR Norris Junctio 54.34 333 IAmb IAmb 17 55 13.8
comp=Z,62nm,1.6s
YMR Madison River 54.43 333 IAmb IAmb 17 55 10.5
comp=Z,112nm,1.5s
WAKR Walker 54.60 322 IAmb IAmb 17 55 12.1
comp=Z,119nm,1.5s
YHB Horse Butte 54.60 333 IAmb IAmb 17 55 11.7
comp=Z,102nm,1.6s
YERR Yerington 54.78 323 IAmb IAmb 17 55 13.2
comp=Z,130nm,1.6s
CMB Columbia Colle 54.90 321 IAmb IAmb 17 55 13.2
comp=Z,97nm,1.9s
DGMT Dagmar 54.91 341 IAmb IAmb 17 55 28.5
comp=Z,145nm,1.9s
DRLN Deer Lake 55.07 18 IAmb IAmb 17 55 29.3
comp=Z,48nm,1.0s
PAHR Pah Rah Range 55.33 324 IAmb IAmb 17 55 17.1
comp=Z,192nm,1.9s
BOZ Bozeman (W) 55.45 333 IAmb IAmb 17 55 17.0
comp=Z,90nm,1.4s
DLMT Dillon 55.71 333 IAmb IAmb 17 55 18.9
comp=Z,70nm,1.6s
AFDM Forest Hills D 55.82 322 IAmb IAmb 17 55 19.9
comp=Z,161nm,1.8s
MFID Camas Ranch 55.85 329 IAmb IAmb 17 55 20.3
comp=Z,139nm,1.2s
EGMT Eagleton 56.57 336 IAmb IAmb 17 56 15.6
comp=Z,63nm,1.4s
WVOR Wild Horse Val 56.68 326 IAmb IAmb 17 55 25.8
comp=Z,119nm,1.2s
PLID Pearl Lake 57.13 330 IAmb IAmb 17 55 28.4
comp=Z,49nm,1.6s
J08A Circle Bar Ran 57.21 327 IAmb IAmb 17 55 29.2
comp=Z,80nm,1.3s
MSO Missoula 57.43 333 IAmb IAmb 17 55 31.7
comp=Z,83nm,1.4s
BMO Blue Mountains 57.62 329 IAmb IAmb 17 55 31.5
comp=Z,41nm,1.4s
SCHQ Schefferville 58.12 9 IAmb IAmb 17 55 33.5
comp=Z,72nm,1.5s
SCHQ Schefferville 58.12 9 P **P** **17 55 32.0 -1.2**
comp=Z,23nm,1.1s,baz=178,slow=6.3,SNR=13
SCHQ LR LR 18 22 19.4
comp=Z,345nm,18.3s,baz=194,slow=38
comp=Z,23nm,1.1s
I07A Izee 58.24 327 IAmb IAmb 17 55 37.0
comp=Z,128nm,1.6s
YBH Yreka Blue Hor 58.57 324 IAmb IAmb 17 55 37.8
comp=Z,34nm,1.1s
YBH Yreka Blue Hor 58.57 324 LR LR 18 20 41.8
comp=Z,508nm,18.0s,baz=138,slow=36
E09A Wood Farm, Sta 59.20 330 IAmb IAmb 17 55 44.9
comp=Z,61nm,1.4s
E08A Dider Farm, El 59.64 330 IAmb IAmb 17 55 48.5
comp=Z,49nm,1.4s
FFC Flin Flon 59.81 345 P **P** **17 55 44.9 0.0**
FFC IAmb IAmb 17 55 46.4
comp=Z,67nm,1.4s
FFC Flin Flon 59.81 345 P **P** **17 55 44.9 0.0**
FFC pmax pmax
comp=Z,67nm,1.5s
NEW Newport 59.95 332 P **P** **17 55 45.9 -0.2**
NEW IAmb IAmb 17 55 48.0
comp=Z,103nm,1.8s
NEW Newport 59.95 332 LR LR 18 22 41.0
comp=Z,1µm,20.7s,baz=134,slow=37
NEW Newport 59.95 332 P **P** **17 55 45.9 -0.2**
NEW pmax pmax
comp=Z,103nm,1.8s
D08A Wollman Farm, 59.96 330 P **P** **17 55 46.1 0.0**
D08A IAmb IAmb 17 56 19.2
comp=Z,104nm,2.0s
E07A Sunnyside 60.09 329 IAmb IAmb 17 55 49.8
comp=Z,184nm,2.0s
H04A Detroit Lake 60.10 326 P **P** **17 55 48.1 +1.0**
H04A IAmb IAmb 17 55 52.2
comp=Z,97nm,1.6s
TAOE Nuku Hiva Isla 60.11 261 *e*P **P** **17 55 48.6 +0.8**
comp=Z,175nm,38.5s
TAOE Nuku Hiva Isla 60.11 261 *e*PP **PP** **17 57 59.4 -1.7**
comp=Z,217nm,29.6s
TAOE *e*S **S** **18 03 56.2 -0.3**
comp=Z,512nm,28.2s
TAOE *e*LQ LQ 18 11 06.1
comp=Z,2µm,24.0s
TAOE *e*LR LR 18 13 39.1
comp=Z,2µm,28.5s
C09A Chrisman Ranch 60.16 331 IAmb IAmb 17 55 50.0
comp=Z,90nm,1.9s
MXC Moxie City 60.32 329 IAmb IAmb 17 55 51.7
comp=Z,114nm,1.8s
LTY Liberty 60.97 330 IAmb IAmb 17 55 56.7
comp=Z,80nm,1.8s
FCC Fort Churchill 62.05 352 IAmb IAmb 17 56 00.4
comp=Z,52nm,1.4s
HOPE Hope Point 62.67 153 P **P** **17 56 05.6 +1.4**
HOPE pP **pP** **17 56 24.4 +2.3**
HOPE sP **sP** **17 56 32.0 +2.3**
HOPE PcP **PcP** **17 56 43.3 +0.8**
PMSA Palmer Station 63.25 172 LR LR 18 20 26.8
comp=Z,490nm,19.7s,baz=338,slow=33
BBTS Babate 65.11 73 LR LR 18 23 41.6
comp=Z,574nm,21.2s,baz=138,slow=35

FRB Frobisher Bay 66.59 6 P P 17 56 28.6 -0.9
comp=Z,6.5nm,0.8s,baz=207,slow=2.9,SNR=5.5
FRB LR LR 18 25 03.8
comp=Z,772nm,21.8s,baz=190,slow=36
comp=Z,6.5nm,0.8s
VAH Vaihoa 67.75 255 *e*P **P 17 56 35.1 -2.8**
comp=Z,5μm,33.1s
VAH Vaihoa 67.75 255 *e*LR LR 18 17 11.5
comp=Z,3μm,23.3s
BBB Bella Bella 67.83 330 LR LR 18 27 55.5
comp=Z,968nm,18.3s,baz=149,slow=37
PMOR Pomariorio Ree 67.99 255 *e*LR LR 18 17 15.9
comp=Z,3μm,24.5s
PMOZ Porto Moniz, M 68.83 53 *e*LR LR 18 19 02.7
PMOZ *i* AMs_20 18 23 53.2
comp=Z,374nm,22.0s
PPT2 Papeete2 69.77 252 *e*P **P 17 56 51.8 +1.3**
comp=Z,209nm,30.0s
PPT2 Papeete2 69.77 252 *e*PP **PP 17 59 21.7 -4.0**
comp=Z,87nm,29.5s
PPT2 *e*S **S 18 05 52.2 -2.8**
comp=Z,688nm,27.2s
PPT2 *e*LQ LQ 18 14 09.1
comp=Z,2μm,29.0s
PPT2 *e*LR LR 18 18 06.2
comp=Z,2μm,30.5s
PPT2 *e*LR LR 18 18 07.6
comp=Z,824nm,25.4s
PPT2 *e*LR LR 18 18 13.5
comp=Z,3μm,28.0s
PAE Paea 69.78 252 *e*LR LR 18 18 08.0
comp=Z,340nm,23.4s
YKA Yellowknife Ar 69.86 344 P **P 17 56 49.8 -0.3**
comp=Z,7.1nm,1.0s,baz=142,slow=6.5,SNR=68
comp=Z,7.1nm,1.0s
TBI Tubuai 70.16 246 *e*P P 17 56 46.6 -6.1
comp=Z,710nm,29.8s
TBI Tubuai 70.16 246 *e*PP **PP 17 59 28.1 -0.7**
comp=Z,360nm,30.2s
TBI *e*S **S 18 06 00.4 +1.1**
comp=Z,2μm,28.5s
TBI *e*SS **SS 18 10 31.6 +1.1**
comp=Z,3μm,35.2s
TBI *e*LQ LQ 18 15 18.5
comp=Z,5μm,27.5s
TBI *e*LR LR 18 18 17.4
comp=Z,5μm,31.0s
TOAD Toad River Com 70.76 337 P **P 17 56 56.4 +0.7**
baz=131,SNR=8.5
KOTAN Kotaneelee Air 71.17 338 P **P 17 56 59.0 +0.9**
baz=133,SNR=8.3
V35K Ketchikan 71.35 332 P **P 17 56 59.5 +0.2**
baz=124
CRAG Craig 72.14 331 P **P 17 57 04.1 +0.1**
baz=123
WRAK Wrangell Islan 72.30 333 P **P 17 57 05.0 +0.1**
baz=124
SFJD Kangerlussuaq 72.37 12 LR LR 18 27 53.8
comp=Z,817nm,21.9s,baz=214,slow=35
DLBC Dease Lake 72.44 335 P **P 17 57 06.7 +0.8**
baz=126,SNR=7.8
S34M Telegraph Cree 72.61 334 P **P 17 57 07.6 +0.8**
baz=125,SNR=6.0
WTLY Watson Lake, Y 72.97 337 P **P 17 57 09.4 +0.5**
baz=128
WRGLY Wrigley 73.10 341 P **P 17 57 10.1 +0.5**
baz=134
R33M Jennings River 73.41 336 P **P 17 57 12.4 +0.7**
baz=126
Q32M Nakina River 73.70 335 P **P 17 57 13.9 +0.4**
baz=124
S32K Killisnoo 73.90 333 P **P 17 57 15.7 +1.3**
baz=122
SIT Sitka 74.03 332 P **P 17 57 15.9 +0.8**
baz=121
R32K Eaglecrest 74.31 333 P **P 17 57 16.8 +0.1**
baz=122
BESE Bessie Mountai 74.62 334 IAmb IAmb 17 57 21.9
comp=Z,98nm,1.6s
P33M Teslin, Yukon 74.64 336 P **P 17 57 18.7 0.0**
baz=124,SNR=7.4
P32M Atlin 74.67 335 P **P 17 57 19.5 +0.6**
baz=123
N32M Quiet Lake 75.28 336 P **P 17 57 23.3 +0.9**
baz=124
SKAG Skagway 75.29 334 P **P 17 57 22.9 +0.5**
baz=122
DBIC Dimbokro 75.58 83 P **P 17 57 24.6 -0.4**
DBIC Dimbokro 75.58 83 P **P 17 57 24.3 -0.7**
comp=Z,27nm,1.0s,baz=248,slow=6.3,SNR=16
DBIC LR LR 18 28 51.7
comp=Z,577nm,20.4s,baz=244,slow=34
comp=Z,27nm,1.0s
DBIC Dimbokro 75.58 83 P **P 17 57 24.6 -0.4**
DBIC pmax pmax
comp=Z,41nm,1.1s
PLBC Pleasant Camp 75.74 334 P **P 17 57 25.9 +0.9**
baz=121
WHY Whitehorse 75.75 335 P **P 17 57 26.6 +1.5**
baz=122
FARO Faro, Yukon 76.00 337 P **P 17 57 27.7 +1.3**
baz=124,SNR=7.3
O30N Mendenhall 76.31 335 P **P 17 57 29.4 +1.1**
baz=121
P30M Million Dollar 76.34 334 P **P 17 57 29.6 +1.1**
baz=120
M31M Drury Creek, Y 76.39 337 P **P 17 57 29.7 +1.0**
baz=123,SNR=6.2
ICESG Greenland Ices 76.50 14 *i* P **P 17 57 27.9 -1.6**
TIO Tiouine 76.55 58 P **P 17 57 29.6 -0.8**
N31M Braeburn, Yuko 76.56 336 P **P 17 57 30.8 +1.1**
baz=122
MORF Marmelete 76.78 51 *ep*P **pP 17 57 49.2 -0.6**
MORF *e*S **S 18 07 12.4 -1.3**
MORF Marmelete 76.78 51 *e*P **P 17 57 33.0 +1.6**
MORF *ep*P **pP 17 57 50.1 +0.3**
MORF *i* Amb 17 57 51.0
comp=Z,108nm,1.6s
PTEO Sao Teotonio 76.78 51 *e*P **P 17 57 32.6 +1.3**
PTEO *ep*P **pP 17 57 50.7 +0.9**
AVE Averroes 76.89 55 IAmb IAmb 17 58 02.5
comp=Z,72nm,1.0s
AVE Averroes 76.89 55 P **P 17 57 32.7 +0.6**
HYT Haines Junctio 76.93 335 P **P 17 57 32.9 +1.0**
baz=120
N30M Aishikik Lake 77.08 336 P **P 17 57 33.7 +1.1**
baz=120
O29M Mount Kennedy 77.13 334 P **P 17 57 33.8 +0.8**
baz=119
MLOA Mauna Loa Obse 77.23 291 pP 17 57 55.8 +2.6
MESJ Messejana 77.24 50 *e*P **P 17 57 33.2 -0.7**
MESJ IAmb IAmb 17 57 36.5
comp=Z,42nm,1.8s
MESJ *ep*P **pP 17 57 51.7 -0.7**
MESJ *e*S **S 18 07 17.2 -1.3**
MESJ Messejana 77.24 50 *e*P **P 17 57 33.2 -0.7**
MESJ *e**PP **pP 17 57 51.7 -0.7**
MESJ *e*S **S 18 07 17.2 -1.3**
PCVE Castro Verde 77.33 51 *e*P **P 17 57 36.0 +1.5**
PCVE *ep*P **pP 17 57 53.5 +0.6**
PCVE *i* Amb 17 57 55.9
comp=Z,50nm,2.0s
PCVE Castro Verde 77.33 51 P **P 17 57 35.1 +0.7**
YUK6 Outpost Mounta 77.36 335 P **P 17 57 35.2 +0.9**
baz=119
PMTG Montargil 77.52 49 *e*P **P 17 57 36.3 +0.9**
PMTG *ep*P **pP 17 57 54.0 +0.1**
PMTG *i* Amb 17 57 56.5
comp=Z,49nm,1.6s
PVAQ Vaqueiros 77.53 51 *e*LR LR 18 19 05.7
PVAQ *i* AMs_20 18 29 59.1
comp=Z,337nm,20.0s
PVAQ Vaqueiros 77.53 51 P **P 17 57 35.4 -0.1**
M30M Minto, Yukon 77.54 337 P **P 17 57 35.3 +0.1**
baz=121,SNR=5.8
PCAS Casmilo, Conde 77.55 48 *e*P **P 17 57 36.6 +1.0**
PCAS *i* Amb 17 57 54.7
comp=Z,68nm,1.6s
RES Resolute Bay 77.55 356 P **P 17 57 33.7 -1.2**
comp=Z,7.8nm,1.1s,baz=179,slow=9.5,SNR=15
RES LR LR 18 31 20.3
comp=Z,2μm,21.8s,baz=169,slow=35
comp=Z,7.8nm,1.1s
PBEJ Beja 77.55 50 *e*P **P 17 57 36.8 +1.1**
PBEJ *ep*P **pP 17 57 54.8 +0.7**
PBEJ *i* Amb 17 57 56.8
comp=Z,42nm,2.2s

C36M Paulatuk 77.58 345 P **P 17 57 36.2 +1.1**
baz=134
YUK4 Talbot Arm 77.67 335 P **P 17 57 36.9 +0.8**
baz=119,SNR=6.3
EGRO El Granado 77.74 51 P **P 17 57 36.4 -0.3**
PINM Pinnacle 77.77 334 P **P 17 57 37.1 +0.6**
baz=117
PESTR Estremoz 77.95 50 *e*P **P 17 57 39.0 +1.1**
PESTR *ep*P **pP 17 57 56.5 +0.1**
PESTR *i* Amb 17 57 58.7
comp=Z,62nm,2.5s
PESTR Estremoz 77.95 50 P **P 17 57 37.8 -0.1**
O28M Mount Upton 78.06 334 P **P 17 57 38.5 +0.1**
baz=118
YUK8 Steele Glacier 78.12 335 P **P 17 57 39.1 +0.4**
baz=118
M29M Somme Creek 78.14 336 P **P 17 57 39.4 +0.8**
baz=119
KULLO Kullorsuaq 78.15 6 *i* P **P 17 57 36.6 -1.6**
PVIS Viseu 78.15 48 *e*P **P 17 57 39.8 +0.7**
PVIS *ep*P **pP 17 57 57.7 +0.2**
PGAV Gavieira, Arco 78.18 46 *e*LR LR 18 22 03.9
PGAV *i* AMs_20 18 26 59.0
comp=Z,703nm,22.0s
PBAR Barrancos 78.22 50 P **P 17 57 38.5 -0.9**
PMRV Marv??o 78.23 49 *e*LR LR 18 19 16.6
PMRV *i* AMs_20 18 26 48.6
comp=Z,343nm,20.0s
PCBR Castelo Branco 78.26 49 *e*P **P 17 57 40.1 +0.5**
PCBR *ep*P **pP 17 57 58.1 +0.1**
PCBR *i* Amb 17 58 00.6
comp=Z,64nm,1.8s
L29M L29M 78.34 337 P **P 17 57 39.9 +0.4**
baz=120,SNR=16
MTE Manteigas 78.34 48 *e*S **SKSac 18 07 55.2 +6.1**
MTE *e*LR LR 18 20 47.6
MTE *i* AMs_20 18 30 33.3
comp=Z,276nm,20.0s
EBAD Badajoz 78.37 50 P **P 17 57 40.2 0.0**
H31M Peel River 78.38 340 P **P 17 57 40.2 +0.4**
baz=124,SNR=7.5
J30M Hart River 78.41 338 P **P 17 57 40.4 +0.4**
baz=122,SNR=12
EMIN Mina Concepcio 78.42 51 P **P 17 57 39.1 -1.4**
K29M Barlow Dome 78.47 338 P **P 17 57 40.7 +0.3**
baz=121,SNR=10
YUK3 Moose Creek 78.64 335 P **P 17 57 42.4 +0.9**
baz=118,SNR=7.4
I30M Mount Dempster 78.77 339 P **P 17 57 42.7 +0.7**
baz=122
IFR Ifrane 78.81 55 P **P 17 57 42.6 -0.3**
ESPR Espera 78.87 52 P **P 17 57 42.8 -0.2**
MVO Moncorvo 78.89 47 *e*P **P 17 57 43.8 +0.7**
MVO *ep*P **pP 17 58 01.9 +0.2**
MVO *i* Amb 17 58 05.1
comp=Z,54nm,1.8s
MVO *e*S **SKSac 18 07 53.1 0.0**
MVO *e*LR LR 18 21 24.6
MVO *i* AMs_20 18 27 34.3
comp=Z,398nm,22.0s
G31M Satah River 78.99 341 P **P 17 57 43.5 +0.5**
baz=124
J29N Klondike Camp 79.05 338 IAmb IAmb 18 00 20.4
comp=Z,33nm,0.3s
J29N Klondike Camp 79.05 338 P **P 17 57 43.9 +0.4**
baz=120
BELA Belgrano 2 79.05 171 P **P 17 57 42.8 -0.5**
BELA IAmb IAmb 17 57 45.2
comp=Z,172nm,1.5s
CEU Ceuta 79.06 53 P **P 17 57 44.8 +0.8**
BVCY Beaver Creek 79.11 336 P **P 17 57 43.7 -0.1**
baz=117
F31M Tsiigehtchic 79.11 342 IAmb IAmb 17 58 31.2
comp=Z,118nm,1.7s
F31M Tsiigehtchic 79.11 342 P **P 17 57 44.1 +0.5**
baz=125,SNR=12
MDT Midelt 79.12 56 P **P 17 57 45.0 +0.4**
comp=Z,7.9nm,1.1s,baz=285,slow=5.9,SNR=7.8
MDT LR LR 18 30 09.4
comp=Z,337nm,21.1s,baz=281,slow=34
comp=Z,7.9nm,1.1s
LIJA Lijar 79.23 52 P **P 17 57 45.5 +0.4**
PBRG Braganca 79.25 47 *e*P **P 17 57 45.7 +0.7**
PBRG *ep*P **pP 17 58 02.9 -0.7**
PBRG *i* Amb 17 58 07.1
comp=Z,64nm,1.7s
DAWY Dawson 79.30 337 P **P 17 57 45.0 +0.2**
baz=119,SNR=5.7
SUMG Summit 79.36 12 P **P 17 57 44.3 -1.1**
SUMG IAmb IAmb 17 57 46.9
comp=Z,66nm,1.4s
SUMG Summit 79.36 12 P **P 17 57 44.3 -1.1**
SUMG pmax pmax
comp=Z,66nm,1.4s
SUMG Summit 79.36 12 *i* P **P 17 57 42.4 -3.0**
BORG Borgarnes 79.39 22 LR LR 18 31 53.1
comp=Z,288nm,19.6s,baz=243,slow=35
ECAB El Cabril 79.45 51 P **P 17 57 44.5 -1.7**
EPYK Eagle Plains 79.50 340 P **P 17 57 45.9 +0.1**
baz=122,SNR=8.7
M27K Edge Creek, AK 79.50 335 P **P 17 57 45.7 -0.4**
baz=116
I29M Ogilvie Camp, 79.54 339 P **P 17 57 46.2 +0.1**
baz=120
INK Inuvik 79.55 342 P **P 17 57 45.6 -0.3**
comp=Z,15nm,1.0s,baz=124,slow=5.9,SNR=30
INK LR LR 18 35 02.9
comp=Z,802nm,20.3s,baz=117,slow=37
comp=Z,15nm,1.0s
INK Inuvik 79.55 342 P **P 17 57 46.3 +0.4**
baz=125,SNR=26
RAR Rarotonga 79.56 249 LR LR 18 26 21.9
comp=Z,737nm,19.4s,baz=94,slow=31
G30M tAoh Zrail Nji 79.66 341 P **P 17 57 46.8 +0.1**
baz=122
A36M Sachs Harbour 79.72 347 IAmb IAmb 17 58 18.6
comp=Z,65nm,0.8s
A36M Sachs Harbour 79.72 347 P **P 17 57 46.3 -0.5**
baz=134,SNR=38
BCAR Beaver Creek A 79.78 336 P **P 17 57 47.7 +0.3**
L27K Beaver Creek, 79.80 336 P **P 17 57 48.5 +0.9**
baz=116
F30M Barrier River 79.86 341 P **P 17 57 48.2 +0.5**
baz=123,SNR=6.1
EMAL Malaga-Limoner 79.97 52 P **P 17 57 50.3 +1.3**
M26K Nabesna, AK 79.99 335 P **P 17 57 48.8 +0.2**
baz=115
H29M Whitestone 79.99 339 IAmb IAmb 17 57 50.3
comp=Z,83nm,1.8s
H29M Whitestone 79.99 339 P **P 17 57 48.6 +0.1**
baz=120,SNR=9.6
BMRM Bremner River 80.09 333 P **P 17 57 49.3 +0.1**
baz=114,SNR=7.3
I28M Miner Creek 80.17 338 IAmb IAmb 17 58 21.8
comp=Z,145nm,1.9s
I28M Miner Creek 80.17 338 P **P 17 57 50.1 +0.5**
baz=118,SNR=9.9
G29M Pine Creek 80.23 340 P **P 17 57 49.9 +0.2**
baz=121
EGOR Sierra Gorda, 80.28 52 P **P 17 57 49.7 -1.1**
EGAK Eagle 80.31 338 P **P 17 57 50.4 +0.2**
baz=117,SNR=9.9
N25K Chitina, Valde 80.35 334 P **P 17 57 51.1 +0.5**
baz=114
EYAK Cordova Ski Ar 80.44 333 P **P 17 57 51.0 0.0**
baz=112
PAB San Pablo 80.56 49 P **P 17 57 51.1 -1.1**
PAB San Pablo 80.56 49 P **P 17 57 51.1 -1.1**
PAB pmax pmax
comp=Z,22nm,1.1s
ELGU Los Guajares, 80.62 52 P **P 17 57 53.3 +0.7**
EQTA Presa de Quent 80.83 52 P **P 17 57 53.3 -0.4**
I27K Kandik River 80.87 338 P **P 17 57 53.7 +0.4**
baz=117
ESDC Sonseca Array 80.87 49 P **P 17 57 54.2 +0.3**
ESDC IAmb IAmb 17 58 28.7
comp=Z,203nm,1.6s
ESDC Sonseca Array 80.87 49 P **P 17 57 54.1 +0.3**
comp=Z,7.2nm,1.1s,baz=272,slow=5.3,SNR=21
ESDC LR LR 18 31 18.3
comp=Z,374nm,21.9s,baz=268,slow=34
comp=Z,7.2nm,1.1s
KLU Klutina 80.88 334 P **P 17 57 53.8 +0.3**
baz=112,SNR=6.2
HARP HAARP 80.91 335 P **P 17 57 54.2 +0.8**
baz=113

E29M Blow River 80.95 341 P **P 17 57 53.7 +0.2**
baz=121
P23K Montague Islan 81.00 332 P **P 17 57 54.7 +0.7**
baz=111
SCRK Sand Creek 81.07 336 P **P 17 57 54.8 +0.4**
baz=114,SNR=8.7
J26L Joseph Creek 81.12 337 P **P 17 57 55.0 +0.4**
baz=115
H27K Steamboat Moun 81.12 339 P **P 17 57 54.9 +0.3**
baz=117
GLI Glacier Island 81.18 333 P **P 17 57 54.9 0.0**
baz=111
F28M Old Crow 81.20 340 P **P 17 57 54.9 0.0**
baz=119,SNR=8.6
EBER Berja 81.21 52 P **P 17 57 55.8 0.0**
M24K Tolsona, Glenn 81.23 334 IAmb IAmb 17 57 57.1
comp=Z,102nm,1.4s
M24K Tolsona, Glenn 81.23 334 P **P 17 57 55.4 +0.1**
baz=112,SNR=7.2
PAX Paxson 81.27 335 P **P 17 57 55.3 -0.2**
baz=113,SNR=12
I26K Coal Creek Min 81.31 338 P **P 17 57 55.7 +0.2**
baz=116
RIDG Independent Ri 81.31 336 P **P 17 57 55.7 +0.1**
baz=114,SNR=5.9
NEEM North Greenlan 81.39 6 *i* P **P 17 57 55.4 -0.8**
G27K Doyon Strip 81.43 339 P **P 17 57 55.7 -0.5**
baz=117
VNA3 Neumayer Olymp 81.44 162 P **P 17 57 56.5 +0.4**
VNA3 Neumayer Olymp 81.44 162 ⇑P **P 17 57 56.5 +0.4**
comp=Z,108nm,0.8s
E28M Babbage River 81.58 341 P **P 17 57 56.8 -0.1**
baz=119
SCM Sheep Creek Mo 81.63 334 P **P 17 57 57.3 -0.1**
baz=111,SNR=5.8
D28M Stokes Point 81.69 342 P **P 17 57 57.7 +0.3**
baz=120
VNA1 Neumayer--Stat 81.70 161 P **P 17 57 58.3 +0.8**
VNA1 Neumayer--Stat 81.70 161 ⇑P **P 17 57 58.3 +0.8**
comp=Z,96nm,1.0s
K24K Donnelly Dome 81.72 336 P **P 17 57 57.9 +0.1**
baz=113
PWL Port Wells 81.74 333 P **P 17 57 57.6 -0.3**
baz=110
M23K Glacier View 81.80 334 P **P 17 57 57.9 -0.3**
baz=111
J25K Salcha River, 81.88 337 IAmb IAmb 17 58 17.0
comp=Z,92nm,1.9s
J25K Salcha River, 81.88 337 P **P 17 57 59.1 +0.5**
baz=113
KNK Knik Glacier 81.99 333 IAmb IAmb 17 58 01.4
comp=Z,157nm,1.9s
KNK Knik Glacier 81.99 333 P **P 17 57 58.9 -0.3**
baz=110,SNR=5.4
SEW Seward 82.01 332 P **P 17 57 59.7 +0.5**
baz=109
VNA2 Neumayer--Watz 82.06 162 P **P 17 57 59.6 +0.2**
baz=293,slow=5.6
VNA2 Neumayer--Watz 82.06 162 ⇑P **P 17 57 59.6 +0.2**
comp=Z,52nm,0.7s,baz=293,slow=5.6
SML Sawmill 82.07 334 IAmb IAmb 17 58 32.9
comp=Z,108nm,1.6s
SML Sawmill 82.07 334 P **P 17 57 59.8 +0.1**
baz=110,SNR=6.1
G26K Porcupine Rive 82.25 339 P **P 17 58 00.4 0.0**
baz=115
O22K Cooper Landing 82.26 332 P **P 17 58 01.2 +0.6**
baz=109
PRP Porcupine Dome 82.30 338 P **P 17 58 01.3 +0.4**
baz=113
D27M Malcolm River 82.34 342 P **P 17 58 01.5 +0.5**
baz=118
PMR Palmer 82.35 333 P **P 17 58 00.8 -0.3**
baz=110
HDA Harding Lake 82.43 336 P **P 17 58 00.9 -0.5**
baz=112,SNR=8.6
RC01 Rabbit Creek A 82.46 333 P **P 17 58 01.8 +0.2**
baz=109,SNR=5.2
EUNU Eureka 82.49 359 IAmb IAmb 17 58 31.5
comp=Z,66nm,0.8s
TORD Torodi Ar. Bea 82.50 76 P **P 17 58 02.4 -0.5**
TORD Torodi Ar. Bea 82.50 76 P **P 17 58 02.6 -0.2**
comp=Z,20nm,1.1s,baz=283,slow=4.5,SNR=50
TORD LR LR 18 34 33.4
comp=Z,336nm,19.7s,baz=253,slow=36
comp=Z,20nm,1.1s
BRSE Bradley Lake S 82.50 331 P **P 17 58 01.8 -0.1**
baz=108
ILAR Eielson Array 82.54 337 P **P 17 58 00.9 -1.1**
ILAR Eielson Array 82.54 337 P **P 17 58 01.5 -0.5**
comp=Z,4.1nm,1.0s,baz=138,slow=3.3,SNR=23
ILAR PP **PP 18 01 13.6 +1.5**
comp=Z,15nm,1.2s,baz=109,slow=6.3,SNR=18
ILAR LR LR 18 36 13.6
comp=Z,627nm,20.5s,baz=102,slow=37
comp=Z,4.1nm,1.0s
FYU Fort Yukon 82.61 339 IAmb IAmb 17 58 29.7
comp=Z,63nm,1.4s
F26K Sheenjek River 82.69 340 P **P 17 58 02.9 +0.1**
baz=115
H25L Birch Creek 82.71 338 P **P 17 58 02.8 +0.1**
baz=113
BMAR Burnt Mountain 82.73 339 P **P 17 58 03.0 0.0**
KDAK Kodiak Island 82.85 329 LR LR 18 35 33.0
comp=Z,509nm,19.7s,baz=318,slow=36
KDAK Kodiak Island 82.85 329 P **P 17 58 04.5 +0.8**
baz=106
RND Reindeer 82.85 335 IAmb IAmb 17 58 05.5
comp=Z,136nm,1.8s
M22K Willow 82.85 333 P **P 17 58 03.7 +0.1**
baz=109
POKR Poker Plat Res 82.89 337 P **P 17 58 03.7 -0.1**
baz=112
COLA College 82.96 337 P **P 17 58 04.1 0.0**
baz=111
COLA College 82.96 337 *i* P **P 17 58 04.7 +0.6**
COLA pmax pmax
comp=Z,21nm,1.6s
Q20K Shuyak Island 82.98 330 P **P 17 58 04.9 +0.5**
baz=106
MCK McKinley 83.00 335 P **P 17 58 04.6 +0.1**
baz=110
CAPN Captain Cook N 83.02 332 P **P 17 58 04.9 +0.4**
baz=108
SUA Susitna One 83.04 333 IAmb IAmb 17 58 38.3
comp=Z,79nm,1.8s
SUA Susitna One 83.04 333 P **P 17 58 05.1 +0.3**
baz=108,SNR=5.9
OHAK Old Harbor 83.06 328 P **P 17 58 05.2 +0.4**
baz=105
CUT Chulitna 83.13 334 P **P 17 58 05.5 +0.4**
baz=109
F25K Christian Rive 83.17 339 P **P 17 58 05.8 +0.5**
baz=114
H24K Noodor Dome 83.32 337 P **P 17 58 06.8 +0.7**
baz=111
NEA2 Nenana 83.35 336 P **P 17 58 06.2 0.0**
baz=110,SNR=17
E25K Arctic Village 83.36 340 P **P 17 58 06.6 +0.3**
baz=114,SNR=15
SII Sitkinak Islan 83.36 328 P **P 17 58 06.8 +0.4**
baz=104
BWN Browne 83.37 336 **pP 17 58 27.6 +2.7**
BWN IAmb IAmb 17 58 56.0
comp=Z,39nm,0.9s
C27K Jago River 83.38 342 P **P 17 58 06.8 +0.5**
baz=116,SNR=22
TRF Thorofare Moun 83.48 335 P **P 17 58 06.9 -0.2**
baz=109
G24K Hadweenzic Riv 83.49 338 P **P 17 58 07.2 +0.4**
baz=112
O20K Slope Mountain 83.51 331 P **P 17 58 07.2 0.0**
baz=106
SKT Skwentna 83.56 333 P **P 17 58 07.3 -0.1**
baz=107,SNR=12
SPCR Spurr Chakacha 83.64 332 P **P 17 58 08.4 +0.6**
baz=107
I23K Minto, Yukon-K 83.66 337 IAmb IAmb 17 58 39.0
comp=Z,118nm,1.8s
I23K Minto, Yukon-K 83.66 337 P **P 17 58 08.0 +0.3**
baz=110,SNR=16
SNAA Sanae 83.66 162 P **P 17 58 08.0 +0.2**
SNAA Sanae 83.66 162 P **P 17 58 07.3 -0.5**
SNAA IAmb IAmb 17 58 09.4
comp=Z,173nm,1.4s
SNAA Sanae 83.66 162 ⇑P **P 17 58 08.0 +0.2**
comp=Z,1μm,1.1s
SNAA Sanae 83.66 162 P **P 17 58 07.8 0.0**

comp=Z,40nm,0.9s,baz=265,slow=7.0,SNR=69
SNAA LR LR 18 37 54.1
comp=Z,299nm,18.0s,baz=296,slow=38
comp=Z,40nm,0.9s
SNAA Sanae 83.66 162 *ce*P **P 17 58 07.7 0.0**
SNAA pmax pmax
comp=Z,135nm,1.4s
P19K Oil Pt 83.69 331 P **P 17 58 07.6 -0.4**
baz=106
Q19K Cape Douglas, 83.70 330 P **P 17 58 07.7 -0.4**
baz=105
C26K Camden Bay 83.88 342 P **P 17 58 09.5 +0.7**
baz=114
F24K Squaw Lake 83.94 339 P **P 17 58 10.2 +1.0**
baz=111
CHIR Chirikof Islan 83.96 327 P **P 17 58 09.1 -0.4**
baz=103
BPAW Bear Paw Mtn. 83.98 335 P **P 17 58 09.5 +0.1**
baz=108,SNR=16
D25K Kavik River 84.11 341 P **P 17 58 10.6 +0.5**
baz=113
M20K Styx River 84.25 333 P **P 17 58 11.0 0.0**
baz=106
E24K Your Creek 84.36 339 P **P 17 58 12.0 +0.6**
baz=111
O19K Port Alsworth 84.36 331 P **P 17 58 11.6 +0.2**
baz=105
G23K Bananza Creek 84.44 338 P **P 17 58 12.6 +0.9**
baz=109
EKA Eskdalemuir Ar 84.56 34 P **P 17 58 12.1 -0.4**
comp=Z,11nm,0.9s,baz=246,slow=4.6,SNR=12
comp=Z,11nm,0.9s
N19K Bonanza Creek 84.60 332 P **P 17 58 13.0 +0.3**
baz=105
P18K Big Mountain, 84.61 330 P **P 17 58 13.5 +0.8**
baz=104
Q17K Contact Creek 84.67 329 P **P 17 58 13.1 -0.1**
baz=103
COLD Coldfoot 84.68 338 P **P 17 58 13.6 +0.8**
baz=109,SNR=12
H22K Ishtalitna Cre 84.70 337 P **P 17 58 12.7 -0.3**
baz=108
O18K Koktuh Hills 84.71 331 P **P 17 58 13.0 -0.2**
baz=104
I21K Tanana 84.72 336 P **P 17 58 13.1 0.0**
baz=107
E23K Chandalar 84.75 339 P **P 17 58 13.8 +0.5**
baz=110
L20K Farewell, AK 84.76 333 P **P 17 58 13.1 -0.3**
baz=105
D24K Happy Valley 84.86 340 P **P 17 58 14.1 +0.4**
baz=111
TOLK Toolik Lake Re 84.93 340 P **P 17 58 14.8 +0.6**
baz=110
C24K Franklin Bluff 85.02 341 P **P 17 58 15.4 +0.9**
baz=111,SNR=12
G22K Bettles 85.07 338 P **P 17 58 15.0 +0.2**
baz=108
K20K Telida 85.07 334 P **P 17 58 15.4 +0.4**
baz=105
L19K White Mountain 85.12 333 P **P 17 58 14.9 -0.3**
baz=104
Q16K King Salmon 85.16 329 P **P 17 58 15.6 +0.2**
baz=103
P17K Kvichak River 85.16 330 P **P 17 58 15.3 -0.2**
baz=103
H21K Melozitna Rive 85.19 337 P **P 17 58 15.2 -0.3**
baz=107
N18K Kilae Creek 85.23 331 P **P 17 58 16.0 +0.1**
baz=103
J20K Nowinta River 85.33 335 P **P 17 58 16.0 -0.2**
baz=105
TROLL Troll, Antarti 85.37 162 P **P 17 58 16.9 +0.4**
TROLL Troll, Antarti 85.37 162 ⇑P **P 17 58 16.9 +0.4**
comp=Z,3μm,0.9s
M18K Stony River 85.39 332 P **P 17 58 16.3 -0.3**
baz=104
R16K Pilot Point 85.40 328 P **P 17 58 17.0 +0.4**
baz=102
D23K Nanushuk River 85.42 340 P **P 17 58 17.2 +0.7**
baz=109
E22K Anaktuvuk Pass 85.55 339 P **P 17 58 17.5 +0.2**
baz=108,SNR=12
CHGN Chignik 85.60 327 P **P 17 58 17.7 0.0**
baz=101
O17K Koliganek Bris 85.62 330 P **P 17 58 17.8 +0.2**
baz=102
I20K Naaghedeneel 85.63 336 P **P 17 58 17.7 +0.1**
baz=105
C23K Itkillik River 85.68 341 P **P 17 58 18.2 +0.3**
baz=109
TTA Tatalina 85.82 334 P **P 17 58 18.9 +0.2**
baz=104
N17K Nushagak Hills 85.82 331 P **P 17 58 19.7 +0.9**
baz=102
F21K Alatna River 85.89 338 P **P 17 58 19.4 +0.4**
baz=106
J19K Poorman 85.91 335 P **P 17 58 19.9 +0.8**
baz=104
P16K Nushagak River 85.91 330 P **P 17 58 19.6 +0.5**
baz=102
H20K Anotleneega Mo 85.97 336 P **P 17 58 19.7 +0.3**
baz=105
CHNA Chernabura Isl 85.98 325 P **P 17 58 19.6 0.0**
baz=100
DAG Danmarks Havn 86.05 12 P **P 17 58 19.6 +0.1**
DAG pmax pmax
comp=Z,23nm,2.6s
O16K Kokwok River B 86.07 330 P **P 17 58 20.5 +0.6**
baz=101
D22K Ayikyak River 86.08 340 P **P 17 58 20.7 +0.8**
baz=107
M17K Holitna River 86.13 332 P **P 17 58 20.5 +0.3**
baz=102
J18K Innoko River 86.25 334 P **P 17 58 21.3 +0.5**
baz=103
JMIC Jan Mayen 86.36 18 LR LR 18 35 11.4
comp=Z,172nm,21.4s,baz=246,slow=34
E21K Killik River 86.41 339 P **P 17 58 22.0 +0.5**
baz=106
GCSA Galena City Sc 86.61 335 P **P 17 58 23.6 +1.1**
baz=103
H19K Roundabout Mou 86.62 336 IAmb IAmb 17 58 25.4
comp=Z,53nm,1.6s
H19K Roundabout Mou 86.62 336 P **P 17 58 23.0 +0.5**
baz=103
L17K Donlin 86.68 333 P **P 17 58 23.2 +0.3**
baz=101
F20K Avaraart Lake 86.69 338 P **P 17 58 23.4 +0.6**
baz=104
B22K Teshekpuk Lake 86.75 341 IAmb IAmb 17 58 25.0
comp=Z,118nm,1.6s
B22K Teshekpuk Lake 86.75 341 P **P 17 58 23.9 +0.8**
baz=106
M16K Timber Creek 86.78 331 P **P 17 58 23.8 +0.4**
baz=101
K17K Iditarod 86.80 333 P **P 17 58 23.8 +0.3**
baz=101
TAM Tamanrasset 86.84 67 P **P 17 58 25.6 +0.8**
TAM pmax pmax
comp=Z,18nm,1.5s
O15K Ungalikthiuk R 86.87 330 P **P 17 58 24.5 +0.6**
baz=100
C21K Knifeblade Rid 86.89 340 P **P 17 58 24.5 +0.7**
baz=105
B21K Ikpikpuk River 86.95 340 P **P 17 58 24.7 +0.6**
baz=105
G19K Purcell Mounta 87.01 337 P **P 17 58 25.1 +0.7**
baz=103
L16K Owhat River 87.15 332 P **P 17 58 25.9 +0.8**
baz=100
E20K Nigu River 87.16 339 P **P 17 58 25.8 +0.6**
baz=104
N15K Kwethluk River 87.17 330 P **P 17 58 25.9 +0.5**
baz=100
J17K VABM Dome 87.28 334 IAmb IAmb 17 58 28.2
comp=Z,75nm,1.9s
J17K VABM Dome 87.28 334 P **P 17 58 26.4 +0.7**
baz=101
H18K Honhosa River 87.32 336 IAmb IAmb 17 58 28.7
comp=Z,72nm,1.6s
H18K Honhosa River 87.32 336 P **P 17 58 26.5 +0.5**
baz=102
E19K Redstone River 87.36 338 P **P 17 58 26.4 +0.3**
baz=103,SNR=10
D20K Etivluk River 87.42 339 P **P 17 58 26.9 +0.5**
baz=103
F19K Shaleruckik Mo 87.43 337 IAmb IAmb 17 58 28.1
comp=Z,57nm,1.8s
F19K Shaleruckik Mo 87.43 337 P **P 17 58 26.9 +0.5**
baz=102
S12K Black Hills 87.52 326 P **P 17 58 27.4 +0.3**
baz=98
M15K Kasigluk River 87.55 331 P **P 17 58 27.6 +0.5**
baz=99
G18K Tagagawik 87.58 336 IAmb IAmb 17 59 15.4
comp=Z,24nm,0.8s
G18K Tagagawik 87.58 336 P **P 17 58 27.9 +0.6**
baz=101
O14K Tigyukauivet M 87.61 329 P **P 17 58 27.7 +0.3**
baz=99
QSPA South Pole Qui 87.61 180 P **P 17 58 28.0 +0.5**
QSPA South Pole Qui 87.61 180 P **P 17 58 28.0 +0.5**
comp=Z,54nm,0.7s,baz=183,slow=0.7,SNR=168
QSPA LR LR 18 31 03.7
comp=Z,576nm,21.8s,baz=164,slow=31
comp=Z,54nm,0.7s
D19K Kuna River 87.91 339 P **P 17 58 29.6 +0.8**
baz=102
N14K Kuskokwak Cree 87.92 330 P **P 17 58 29.4 +0.5**
baz=98
H17K Granite Mounta 87.92 335 P **P 17 58 29.7 +0.9**
baz=100
J16K Anvik River 87.94 334 IAmb IAmb 17 59 02.1
comp=Z,72nm,1.9s
J16K Anvik River 87.94 334 P **P 17 58 29.6 +0.6**
baz=99
A21K Barrow 88.03 342 P **P 17 58 29.9 +0.7**
baz=103
I17K Unalakleet 88.08 334 IAmb IAmb 17 59 07.8
comp=Z,43nm,1.5s
I17K Unalakleet 88.08 334 P **P 17 58 30.9 +1.4**
baz=99,SNR=5.1
L15K Ungalak Mounta 88.09 332 P **P 17 58 30.4 +0.7**
baz=98
F18K Selawik 88.12 337 P **P 17 58 30.6 +0.9**
baz=100,SNR=22
FALS False Pass 88.18 325 P **P 17 58 31.7 +1.5**
baz=97
M14K Bethel 88.18 331 P **P 17 58 31.3 +1.2**
baz=98
K15K Wolf Creek Mou 88.20 332 P **P 17 58 31.7 +1.5**
baz=98
NVL N'lazarevskaya 88.32 161 *e*P **P 17 58 30.4 -0.2**
NVL *e*S **SKSac 18 08 55.4 +2.2**
NVL pmax pmax
comp=Z,98nm,1.3s
NVL MLR MLR
comp=Z,502nm,18.0s
G17K Kiwalik Mounta 88.33 336 P **P 17 58 32.2 +1.4**
baz=99
L14K Kuka Creek 88.61 331 P **P 17 58 33.3 +1.2**
baz=98
E18K Tukpahlearik C 88.63 338 IAmb IAmb 17 58 34.1
comp=Z,39nm,1.4s
E18K Tukpahlearik C 88.63 338 P **P 17 58 32.9 +0.7**
baz=100
F17K Baldwin Pennin 88.72 337 IAmb IAmb 17 59 09.2
comp=Z,27nm,0.8s
F17K Baldwin Pennin 88.72 337 P **P 17 58 33.4 +0.9**
baz=99,SNR=22
M13K Dall Lake 88.81 330 P **P 17 58 34.3 +1.2**
baz=97
H16K Elim 88.86 335 P **P 17 58 34.3 +1.0**
baz=98,SNR=14
G16K Koyuk River 89.01 335 P **P 17 58 35.0 +1.1**
baz=98
E17K Hotham Inlet 89.05 337 P **P 17 58 34.9 +0.8**
baz=98
C18K Utukok River 89.05 339 IAmb IAmb 17 58 53.9
comp=Z,71nm,1.9s
C18K Utukok River 89.05 339 P **P 17 58 34.9 +0.8**
baz=99
J14K Nanvaranak Lak 89.19 333 IAmb IAmb 17 58 37.7
comp=Z,53nm,1.2s
J14K Nanvaranak Lak 89.19 333 P **P 17 58 36.1 +1.3**
baz=97
B18K Kokolik River 89.38 339 P **P 17 58 36.5 +1.0**
baz=98
WLF Walferdange 89.38 40 IAmb IAmb 17 59 13.4
comp=Z,65nm,1.4s
WLF Walferdange 89.38 40 P **P 17 58 38.9 +2.9**
WLF pmax pmax
comp=Z,31nm,1.3s
RDOG Red Dog Mine 89.59 338 P **P 17 58 37.5 +0.9**
baz=97,SNR=7.7
D17K Noatak River 89.61 338 P **P 17 58 37.6 +0.9**
baz=97,SNR=23
K13K Kusilvak Mount 89.61 332 P **P 17 58 38.1 +1.3**
baz=96
G15K Niukluk 89.67 335 P **P 17 58 38.2 +1.2**
baz=96
C17K DeLong Mountai 89.75 339 P **P 17 58 38.0 +0.7**
baz=97
UNV Unalaska Valle 89.88 324 P **P 17 58 39.2 +0.9**
baz=94
F15K North Star Dit 90.00 336 IAmb IAmb 17 59 07.0
comp=Z,23nm,1.0s
F15K North Star Dit 90.00 336 P **P 17 58 39.6 +1.0**
baz=96
ANM Nome 90.19 335 P **P 17 58 40.2 +0.7**
baz=95,SNR=5.5
M11K Mekoryuk 90.22 330 P **P 17 58 40.3 +0.7**
baz=94
C16K Lisburne Hills 90.52 338 P **P 17 58 41.6 +0.7**
baz=95
F14K Arctic Creek 90.67 335 P **P 17 58 42.5 +0.8**
baz=94
TNA Tin City 91.34 335 P **P 17 58 45.3 +0.6**
baz=93
DAVOX Davos/Dischmat 91.71 43 LR LR 18 36 54.5
comp=Z,333nm,20.5s,baz=271,slow=34
DAVA Damuels 91.72 43 *e*PcP **PcP 17 58 48.2 +0.1**
comp=Z,13nm,1.2s
P08K Saint George I 91.77 326 P **P 17 58 47.6 +0.7**
baz=92
ELIB Princess Elisa 91.81 162 *d*P **P 17 58 47.4 +0.2**
comp=Z,29nm,1.4s
ELIB *d*PP **PP 18 02 24.7 -1.8**
SPIA Saint Paul Isl 92.16 327 P **P 17 58 49.0 +0.2**
baz=91
FETA Feichten 92.30 43 *e*PcP **PcP 17 58 50.7 +0.1**
comp=Z,12nm,1.1s
RETA Reutte 92.33 43 *e*P **P 17 58 48.9 -1.0**
comp=Z,6.9nm,1.2s
MOTA Moosalm 92.56 43 *e*P **P 17 58 51.4 +0.3**
comp=Z,9.8nm,1.3s
SQTA Sankt Quirin 92.63 43 *e*PcP **PcP 17 58 52.2 +0.1**
comp=Z,9.7nm,1.3s
GRF Grafenberg Arr 92.67 41 *e*P **P 17 58 52.4 +1.0**
comp=Z,90nm,2.4s,baz=269,slow=5.5
GRF *e*pP **pP 17 59 07.5 -2.7**
comp=Z,90nm,2.4s
GRF *e*L L 18 36 26.6
comp=Z,371nm,21.6s
NOA NORSAR Array B 92.74 29 P **P 17 58 51.0 -0.4**
comp=Z,1.4nm,0.9s,baz=268,slow=4.7,SNR=2.7
NOA LR LR 18 37 08.8
comp=Z,225nm,21.9s,baz=275,slow=33
comp=Z,1.4nm,0.9s
NOA NORSAR Array B 92.74 29 P **P 17 58 51.0 -0.4**
WATA Walderalm 92.88 43 *e*PcP **PcP 17 58 53.4 +0.3**
comp=Z,12nm,0.9s
WTTA Wattenberg 92.92 43 *e*PcP **PcP 17 58 53.7 +0.3**
comp=Z,16nm,1.4s
GAMB Gambell 92.93 334 P **P 17 58 52.6 +0.5**
baz=89
VNDA Vanda 93.49 191 P **P 17 58 55.9 +1.3**
VNDA Vanda 93.49 191 P **P 17 58 55.9 +1.3**
comp=Z,9.2nm,1.1s,baz=103,slow=4.2,SNR=4.2
VNDA LR LR 18 33 14.8
comp=Z,492nm,20.5s,baz=130,slow=30
comp=Z,9.2nm,1.1s
ABTA Abfaltersbach 93.52 43 *e*P **P 17 58 54.3 -1.1**
comp=Z,11nm,1.4s
LESA Schwarzleotal 93.63 43 *e*P **P 17 58 56.4 +0.4**
comp=Z,10nm,0.9s
SPITS Spitsbergen Ar 93.70 12 LR LR 18 39 21.0
comp=Z,476nm,21.8s,baz=236,slow=34
CLL Collm 93.80 39 *i* P **P 17 58 57.6 +1.1**
CLL *i* *PP **pP 17 59 13.8 -1.6**
CLL *e* 18 09 26.0
CLL *e*S **S 18 10 05.0 +4.4**
CLL pmax pmax
comp=Z,30nm,1.6s
HFS Hagfors 93.97 30 LR LR 18 37 54.2
comp=Z,216nm,22.0s,baz=264,slow=33
KBA Koelnbreinsper 94.09 43 *e*P **P 17 58 56.8 -1.3**
comp=Z,14nm,1.8s
KHC Kasperske Hory 94.21 41 *e*P P 17 58 36.5 -22
KHC Kasperske Hory 94.21 41 *ce*P **P 17 58 58.9 +0.4**
KHC pmax pmax
comp=Z,10.0nm,1.2s
BIOA Bad Ischl, Aus 94.28 43 *e*P **P 17 58 58.4 -0.4**
comp=Z,8.1nm,1.2s
GERES GERESS Array B 94.30 41 P **P 17 58 58.5 -0.5**
comp=Z,1.2nm,0.9s,baz=93,slow=5.3,SNR=4.6
GERES LR LR 18 36 20.1
comp=Z,289nm,21.6s,baz=262,slow=32
comp=Z,1.2nm,0.9s
MYKA Terra Mystica 94.30 44 *i* P **P 17 58 59.1 +0.1**
comp=Z,5.9nm,0.7s
BRG Berggiesshubel 94.40 39 ⇑*i* P **P 17 59 00.4 +1.2**
BRG Amp 17 59 01.4
comp=Z,11nm,1.1s
BRG Berggiesshubel 94.40 39 SP SP 18 11 21.0 0.0
MOA Molln 94.69 42 *e*PcP **PcP 17 59 02.5 +1.4**
comp=Z,3.8nm,0.4s
OBKA Obir 94.92 44 *e*P **P 17 59 02.2 +0.3**
comp=Z,29nm,1.9s
VAE Valguarnera 95.01 53 LR LR 18 38 35.5
comp=Z,897nm,20.8s,baz=332,slow=34
SOKA Soboth 95.25 44 *e*P **P 17 59 03.5 +0.1**
comp=Z,9.0nm,1.6s
ARSA Arzberg 95.57 43 *i* P **P 17 59 02.5 -2.3**
comp=Z,5.0nm,1.2s
CONA Conrad Observa 95.77 42 *e*PcP **PcP 17 59 06.7 +0.9**
comp=Z,7.6nm,1.7s
DPC Dobruska-Polom 95.94 40 P **P 17 59 06.4 0.0**
KRUC Moravsky 96.06 41 *e*P **P 17 59 07.4 +0.5**
RONA Rosalia, Austr 96.07 42 *e*P **P 17 59 07.4 +0.4**
comp=Z,5.8nm,1.4s
VRAC Vranov 96.18 41 LR LR 18 37 38.9
comp=Z,212nm,22.0s,baz=273,slow=32
VRAC Vranov 96.18 41 *e*P **P 17 59 07.8 +0.4**
TSUM Tsumeb 96.38 110 LR LR 18 40 43.8
comp=Z,2μm,20.4s,baz=265,slow=34
MODS Modra-Piesok 96.69 42 *i* P **P 17 59 10.8 +1.0**
MODS Modra-Piesok 96.69 42 *e*PDIFF **P 17 59 10.8 +1.0**
MORC Moravsky Berou 96.76 40 **P 17 59 08.5 -1.6**
MORC IAmb IAmb 17 59 47.8
comp=Z,22nm,1.7s
MORC Moravsky Berou 96.76 40 *e*P **P 17 59 09.7 -0.4**
MORC Moravsky Berou 96.76 40 P **P 17 59 08.5 -1.6**
MORC pmax pmax
comp=Z,22nm,1.7s
ARCES ARCESS Array B 97.70 20 LR LR 18 40 03.5
comp=Z,339nm,22.0s,baz=284,slow=34
SUR Sutherland 97.83 123 LR LR 18 41 29.7
comp=Z,1μm,19.1s,baz=255,slow=34
SYO Syowa Base 97.95 162 ⇓*e*PcP Pdif 17 59 15.0 0.0
SYO Syowa Base 97.95 162 ⇓*i*pP pP 17 59 32.0 -1.9
URZ Urewera 98.56 231 LR LR 18 35 50.4
comp=Z,518nm,19.4s,baz=184,slow=30
FINES FINESS Array B 99.82 28 LR LR 18 41 23.3
comp=Z,385nm,21.9s,baz=277,slow=34
BILL Bilibino 100.98 339 *i* P **Pdif 17 59 29.5 +1.0**
BILL pmax pmax
comp=Z,2.0nm,1.1s
MNK Minsk 102.34 35 *i* P **Pdif 17 59 34.2 -0.7**
MNK *i* 18 03 46.8
MNK *i* PPP PPP 18 05 56.5
MNK *i* S **SKSac 18 10 08.3 -0.2**
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=N,610nm,20.0s
MNK MLR MLR
comp=Z,601nm,19.0s
MNK MLR MLR
comp=E,448nm,23.0s
DZM Mont Dzumac 110.73 245 *e*P **Pdif 18 00 13.3 +0.3**
comp=E,28nm,22.6s
DZM Mont Dzumac 110.73 245 *e*PP **PP 18 04 44.5 -6.1**
comp=E,95nm,25.9s
DZM Mont Dzumac 110.73 245 *e*SS SS 18 20 13.1 -3.0
comp=E,1μm,29.4s
DZM Mont Dzumac 110.73 245 *e*LQ LQ 18 32 15.5
comp=E,444nm,28.1s
DZM *e*LR LR 18 37 13.2
comp=E,519nm,26.5s
KIRV Kirov 111.64 26 *i* PKIKP **PKiKP 18 04 14.4 +1.0**
SOC Sochi 112.92 43 *i* PKIKP **PKiKP 18 04 15.4 -1.0**
SOC *e* 18 05 04.0
SOC *e*PPP PPP 18 07 27.8
SOC *e* 18 10 53.7
SOC *e*PS **PS 18 14 40.1 -1.4**
SOC *e*SS SS 18 20 41.5 -2.1
SOC MLR MLR
comp=Z,121nm,19.0s
KIV Kislovodsk 114.80 42 *i* PKIKP PKPdf 18 04 21.8 +1.7
KIV *e* 18 05 20.5
KIV *e*PS **PKKPbc 18 14 53.6 -5.2**
KIV *e*SS SS 18 21 11.3 +2.8
KIV pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 115.03 42 PKP **PKiKP 18 04 19.7 -0.7**
comp=Z,2.1nm,0.9s,baz=282,slow=0.8,SNR=6.9
KBZ PKKPbc **PKKPbc 18 14 57.3 -0.6**
comp=Z,1.5nm,0.8s,baz=233,slow=5.2,SNR=3.6
KBZ Khabaz 115.03 42 *c i* PKIKP **PKPdf 18 04 20.5 +0.1**
LODK Lodwar 115.48 87 **PKPdf 18 04 18.2 -4.0**
ARTI Arti 116.81 24 *i* PKIKP **PKiKP 18 04 26.7 +3.2**
ARTI 18 05 34.3
ARTI 18 11 33.3
MAK Makhachkala 118.41 41 *e*P **Pdif 18 00 47.9 +1.3**
MAK *i* 18 04 27.1
MAK *e* 18 05 45.9
MAK *e*PPP PPP 18 08 13.5
MAK *e*PS PKKPdf 18 15 29.1 +14
MAK *e*SS SS 18 21 58.7 +3.4
MAK *e*SSS SSS 18 26 18.1
MAK pmax pmax
comp=Z,64nm,1.0s
ABKAR Akbulak array 122.24 30 PKPdf **PKPdf 18 04 31.9 -2.2**
RAYN Ar Rayn 123.36 63 PKPdf **PKPdf 18 04 36.9 -0.2**
RAYN Ar Rayn 123.36 63 PKIKP **PKPdf 18 04 36.9 -0.2**
BRVK Borovoye 123.90 21 *c i* PKIKP **PKiKP 18 04 38.0 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 123.97 21 PKP **PKPdf 18 04 37.4 0.0**
comp=Z,1.1nm,0.7s,baz=330,slow=1.4,SNR=6.1
BVAR PKKPbc **PKKPab 18 14 23.4 -0.2**
comp=Z,2.0nm,0.7s,baz=156,slow=5.0,SNR=10.0
KLR Kul'dur 126.08 335 *i* PKIKP **PKPdf 18 04 40.2 -1.3**
KLR pmax pmax
comp=Z,5.0nm,1.5s
HEH HeiHe 127.00 338 PKP **PKPdf 18 04 42.6 -0.6**
ZALV Zalesovo Beam 127.18 11 PKPdf **PKPdf 18 04 42.3 -1.1**
ZALV Zalesovo Beam 127.18 11 PKP **PKPdf 18 04 43.1 -0.3**
comp=Z,6.7nm,0.9s,baz=270,slow=1.5,SNR=31
BRZS Berezniki 127.28 22 *e*PKIKP **PKiKP 18 04 44.3 0.0**
BRZS Berezniki 127.28 22 *e*PKP **PKiKP 18 04 44.4 0.0**
STKA Stephens Creek 127.81 226 PKP **PKiKP 18 04 45.7 -0.2**
comp=Z,4.8nm,0.9s,baz=102,slow=10,SNR=4.7
KURK Kurchatov 128.64 17 PKPdf **PKPdf 18 04 46.0 -0.2**
KURK Kurchatov 128.64 17 *c i* PKIKP **PKPdf 18 04 46.1 -0.2**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 128.69 17 PKP **PKiKP 18 04 46.8 -0.3**
comp=Z,5.1nm,0.9s,baz=326,slow=2.4,SNR=34
SEM Semipalatinsk 129.38 16 *e*PKIKP **PKPdf 18 04 48.4 +0.4**
SEM Semipalatinsk 129.38 16 *e*PKP **PKPdf 18 04 48.5 +0.4**
USRK Ussuriysk Ar. 129.71 330 PKP **PKPdf 18 04 48.3 -0.2**
comp=Z,3.0nm,0.7s,baz=66,slow=7.0,SNR=3.1
BNX BinXian 130.65 335 ⇓PKP **PKPdf 18 04 49.9 -0.4**
BRLS Borolday 131.49 29 *e*PKIKP **PKPdf 18 04 52.2 +0.2**
BRLS Borolday 131.49 29 *e*PKP **PKPdf 18 04 52.2 +0.2**
BTLS Baital 131.84 25 *e*PKIKP **PKPdf 18 04 52.8 +0.2**
BTLS *e* 18 07 13.7
BTLS Baital 131.84 25 *e*PKP **PKPdf 18 04 52.8 +0.2**
BTLS *e*PP **PP 18 07 13.8 +0.9**
ZAK Zakamensk 132.16 357 *e*PKIKP **PKPdf 18 04 52.2 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.9s
IUG Iuzhnay 132.24 30 *e*PKIKP **PKPdf 18 04 54.0 +0.4**
IUG Iuzhnay 132.24 30 *e*PKP **PKPdf 18 04 54.0 +0.4**

DZA	**Taraz**	**132.32**	**28**	*e*PKIKP	**PKPdf**	**18 04 54.0**	**+0.4**
DZA	**Taraz**	**132.32**	**28**	*e*PKP	**PKPdf**	**18 04 54.0**	**+0.4**
CN2	**Changchun**	**133.03**	**335**	PKP	**PKiKP**	**18 04 57.7**	**+1.7**
CN2				AMB	AMB		
	comp=Z,100nm,8.0s						
MAKZ	**Makanchi**	**133.13**	**17**	PKPdf	**PKPdf**	**18 04 52.7**	**-2.3**
MAKZ	**Makanchi**	**133.13**	**17**	PKIKP	**PKPdf**	**18 04 52.7**	**-2.3**
MK31	**Makanchi Array**	**133.23**	**17**	*c i*PKIKP	**PKPdf**	**18 04 55.3**	**+0.1**
MKAR	**Makanchi Array**	**133.23**	**17**	PKPdf	**PKPdf**	**18 04 53.0**	**-2.2**
MKAR	**Makanchi Array**	**133.23**	**17**	PKP	**PKPdf**	**18 04 54.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=307,slow=2.3,SNR=13						
ZSN	**Zaisan**	**133.31**	**14**	*e*PKIKP	**PKPdf**	**18 04 55.7**	**+0.4**
ZSN	**Zaisan**	**133.31**	**14**	*e*PKP	**PKPdf**	**18 04 55.8**	**+0.4**
SGDS	**Sogindy**	**133.37**	**25**	*e*PKIKP	**PKPdf**	**18 04 56.1**	**+0.5**
SGDS	**Sogindy**	**133.37**	**25**	*e*PKP	**PKPdf**	**18 04 56.1**	**+0.5**
AAK	**Ala-Archa**	**133.97**	**26**	*c i*PKIKP	**PKiKP**	**18 04 57.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SIMJ	**Simiganj**	**134.21**	**34**	PKPdf	**PKPdf**	**18 04 56.5**	**-0.9**
ULN	**Ulaanbaatar**	**134.35**	**353**	PKPdf	**PKPdf**	**18 04 55.8**	**-1.6**
ULN	**Ulaanbaatar**	**134.35**	**353**	*i* PKIKP	**PKPdf**	**18 04 57.7**	**+0.2**
SONM	**Songino Array**	**134.46**	**354**	PKP	**PKPdf**	**18 04 57.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=335,slow=1.5,SNR=17						
MDOK	**Medeo**	**134.61**	**24**	*e*PKIKP	**PKPdf**	**18 04 58.0**	**-0.1**
MDOK				*e*		18 07 31.5	
MDOK	**Medeo**	**134.61**	**24**	*e*PKP	**PKPdf**	**18 04 58.0**	**-0.1**
MDOK				*e*PP	**PP**	**18 07 31.6**	**+0.9**
TNSS	**Tian-Shan**	**134.68**	**24**	*e*PKIKP	**PKPdf**	**18 04 58.5**	**0.0**
TNSS	**Tian-Shan**	**134.68**	**24**	*e*PKP	**PKPdf**	**18 04 58.5**	**0.0**
KPKS	**Kokpek**	**134.99**	**22**	*e*PKIKP	**PKPdf**	**18 04 58.9**	**+0.2**
KPKS	**Kokpek**	**134.99**	**22**	*e*PKP	**PKPdf**	**18 04 59.0**	**+0.2**
SATY	**Saty**	**135.23**	**22**	*e*PKIKP	**PKPdf**	**18 04 59.2**	**0.0**
SATY				*e*		18 07 35.5	
SATY	**Saty**	**135.23**	**22**	*e*PKP	**PKPdf**	**18 04 59.2**	**0.0**
SATY				*e*PP	**PP**	**18 07 35.6**	**+1.0**
UZB	**Uzynbulak**	**135.39**	**22**	*e*PKIKP	**PKPdf**	**18 04 59.6**	**+0.1**
UZB	**Uzynbulak**	**135.39**	**22**	*e*PKP	**PKPdf**	**18 04 59.7**	**+0.1**
SHLS	**Shalkode**	**135.54**	**21**	*e*PKIKP	**PKPdf**	**18 05 00.5**	**+0.7**
SHLS	**Shalkode**	**135.54**	**21**	*e*PKP	**PKPdf**	**18 05 00.5**	**+0.7**
XLT	**XiLinHaoTe**	**136.32**	**343**	*e*PKP	**PKPdf**	**18 05 00.7**	**-0.5**
XLT				AMB	AMB		
	comp=Z,200nm,5.7s						
XLT				LR	LR		
	comp=Z,29nm,26.7s						
XLT				LR	LR		
	comp=Z,230nm,23.2s						
XLT				LR	LR		
	comp=Z,450nm,24.4s						
KSRS	**Korea Array**	**136.73**	**327**	PKP	**PKPdf**	**18 05 02.5**	**+0.6**
	comp=Z,5.2nm,0.9s,baz=21,slow=1.6,SNR=13						
KSAR	**Wonju Array Be**	**136.76**	**327**	PKPdf	**PKPdf**	**18 05 01.2**	**-0.8**
KSAR	**Wonju Array Be**	**136.76**	**327**	PKIKP	**PKPdf**	**18 05 01.2**	**-0.8**
KSH	**Kashi**	**137.14**	**28**	PKP	PKPpre	18 04 55.3	
KSH				LR	LR		
	comp=Z,460nm,19.6s						
KSH				LR	LR		
	comp=Z,380nm,20.3s						
KSH				LR	LR		
	comp=Z,850nm,21.0s						
WMQ	**Urumqi**	**137.39**	**13**	*e*PKP	**PKPdf**	**18 05 03.5**	**+0.4**
WMQ				LR	LR		
	comp=Z,460nm,20.7s						
WMQ				LR	LR		
	comp=Z,520nm,20.9s						
ASAR	**Alice Springs**	**137.99**	**230**	PKhKP	PKPpre	18 04 53.4	
	comp=Z,1.3nm,0.9s,baz=121,slow=3.6,SNR=21						
ASAR				PKP	**PKPdf**	**18 05 04.8**	**0.0**
	comp=Z,4.5nm,0.6s,baz=130,slow=2.1,SNR=14						
DL2	**Dalian**	**138.69**	**334**	*e*PKP	**PKiKP**	**18 05 07.6**	**-0.1**
DL2				*e*PP	**PP**	**18 07 57.0**	**+1.0**
DL2				AMB	AMB		
	comp=Z,540nm,7.7s						
DL2				LR	LR		
	comp=Z,390nm,18.8s						
DL2				LR	LR		
	comp=Z,480nm,16.1s						
DL2				LR	LR		
	comp=Z,670nm,32.3s						
WB2	**Warramunga Arr**	**139.58**	**235**		PKPpre	18 04 57.7	
WB2					PKPpre	18 04 57.9	
WRAB	**Tennant Creek**	**139.58**	**235**		**PKPdf**	**18 05 06.2**	**-1.5**
WRAB	**Tennant Creek**	**139.58**	**235**	*i* PKIKP	**PKPdf**	**18 05 08.1**	**+0.4**
WRA	**Warramunga Arr**	**139.59**	**235**	PKhKP	PKPpre	18 04 59.2	
	comp=Z,1.6nm,0.5s,baz=133,slow=2.2,SNR=21						
WRA				PKP	**PKPdf**	**18 05 07.8**	**+0.1**
	comp=Z,12nm,1.0s,baz=127,slow=1.6,SNR=22						
WB0	**Warramunga Arr**	**139.63**	**235**		PKPpre	18 04 58.2	
HHC	**Hu-ho-hao-te**	**140.37**	**346**	*e*PKP	**PKPdf**	**18 05 05.4**	**-3.3**
HHC				AMB	AMB		
	comp=Z,420nm,9.8s						
HHC				LR	LR		
	comp=Z,540nm,22.8s						
HHC				LR	LR		
	comp=Z,260nm,20.0s						
HHC				LR	LR		
	comp=Z,770nm,22.6s						
BTO	**Baotou**	**140.95**	**348**	*e*PKP	**PKiKP**	**18 05 17.0**	**+4.6**
BTO				sPKP		18 05 29.4	
BTO				PP	PP	18 07 13.0	-57
HNS	**HongShan**	**142.68**	**340**	⇓PKP	**PKPdf**	**18 05 12.6**	**-0.2**
HNS				LR	LR		
	comp=Z,400nm,23.5s						
HNS				LR	LR		
	comp=Z,340nm,23.5s						
HNS				LR	LR		
	comp=Z,700nm,23.0s						
TIA	**Tai'an**	**142.85**	**337**	PKP	**PKPdf**	**18 05 13.7**	**+0.5**
TIA				pPKP	PKiKP	18 05 24.2	+7.9
TIA				AMB	AMB		
	comp=Z,160nm,5.1s						
DHRM	**DHARAMSHALA**	**142.94**	**34**	*e*P	**PKPdf**	**18 05 13.9**	**+0.2**
TIY	**Taiyuan**	**143.09**	**343**	PKP	**PKiKP**	**18 05 23.4**	**+6.5**
TIY				PP	PP	18 08 39.9	+17
GTA	**Gaotai**	**143.22**	**0**	PKP	PKPbc	18 05 11.0	+0.1
GTA				PP	**PP**	**18 08 26.5**	**+3.1**
GTA				SS	SS	18 26 53.0	-4.2
GTA				AMB	AMB		
	comp=Z,390nm,10.4s						
GTA				LR	LR		
	comp=Z,190nm,22.3s						
GTA				LR	LR		
	comp=Z,280nm,19.1s						
GTA				LR	LR		
	comp=Z,500nm,23.1s						
SMLA	**Simla**	**144.26**	**35**	*e*P	PKPbc	18 05 14.2	+0.2
SMLA				IAmb	IAmb	18 05 19.6	
	comp=Z,54nm,1.6s						
MORW	**Morawa**	**145.07**	**205**		**PKPbc**	**18 05 16.3**	**-0.5**
RTK	**Rohtak**	**145.34**	**38**	*e*P	**PKPab**	**18 05 17.9**	**+0.1**
DDI	**Dehra Dun**	**145.37**	**35**	*e*P	**PKPab**	**18 05 18.2**	**+0.3**
MTN	**Manton Dam**	**145.53**	**243**	PKPdf	**PKPdf**	**18 05 18.1**	**-0.3**
NJ2	**Nanjing**	**145.61**	**331**	⇓PKPbc	**PKPdf**	**18 05 16.5**	**-1.5**
NJ2				pPKP	**pPKPdf**	**18 05 33.8**	**-3.8**
LYN	**LuoYang**	**146.01**	**341**	PKPbc	**PKPdf**	**18 05 17.6**	**-1.1**
LYN				pPKP	pPKPdf	18 05 32.5	-5.8
LYN				AMB	AMB		
	comp=Z,430nm,7.2s						
LYN				LR	LR		
	comp=Z,780nm,23.5s						
LYN				LR	LR		
	comp=Z,430nm,20.4s						
LYN				LR	LR		
	comp=Z,930nm,25.7s						
KUDL	**Kundal**	**146.01**	**39**	*e*P	**PKPab**	**18 05 20.1**	**-0.2**
KUDL				IAmb	IAmb	18 05 47.4	
	comp=Z,77nm,0.7s						
GOMU	**GeErMu**	**146.09**	**7**	PKPbc	**PKPab**	**18 05 20.5**	**-0.3**
LZH	**Lanzhou**	**146.34**	**354**	⇓PKPbc	**PKPbc**	**18 05 20.5**	**-0.2**
LZH				sPKP		18 05 38.4	
LZH				AMB	AMB		
	comp=Z,370nm,5.3s						
LZH				LR	LR		
	comp=Z,170nm,18.7s						
LZH				LR	LR		
	comp=Z,370nm,18.0s						
LZH				LR	LR		
	comp=Z,630nm,20.4s						
UGON	**Onchagaon**	**146.77**	**37**	*e*P	**PKPdf**	**18 05 20.0**	**-0.2**
PTH	**Pithoragarh**	**147.16**	**33**	*e*P	**PKPdf**	**18 05 21.7**	**+0.7**
PTH				IAmb	IAmb	18 05 26.0	
	comp=Z,35nm,1.0s						
LGTI	**Lohaghat**	**147.26**	**33**	*e*P	**PKPbc**	**18 05 23.1**	**-0.1**
LGTI				IAmb	IAmb	18 05 46.0	
	comp=Z,23nm,1.0s						
XAN	**Xi'an**	**147.49**	**346**	PKPbc	**PKPdf**	**18 05 20.6**	**-0.6**
XAN				sPKP		18 05 41.5	
XAN				SKKS		18 15 33.7	
XAN				AMB	AMB		
	comp=Z,410nm,10.7s						
XAN				LR	LR		
	comp=Z,680nm,20.8s						
XAN				LR	LR		
	comp=Z,570nm,23.7s						
XAN				LR	LR		
	comp=Z,980nm,22.8s						
FRKB	**FARRUKHABAD**	**148.44**	**36**	*e*P	**PKPdf**	**18 05 24.3**	**+1.3**
WHN	**Wuhan**	**148.92**	**335**	⇓PKPbc	**PKPbc**	**18 05 26.6**	**-1.0**
WHN				sPKP		18 05 45.0	
WHN				PP	**PP**	**18 08 56.7**	**-0.7**
WHN				LR	LR		
	comp=Z,2μm,25.8s						
GUNA	**GUNA**	**148.95**	**43**	*e*P	**PKPbc**	**18 05 27.6**	**-0.3**
GUNA				IAmb	IAmb	18 05 55.2	
	comp=Z,37nm,0.9s						
JHNI	**Jhansi**	**149.19**	**40**	*e*P	**PKPbc**	**18 05 27.8**	**-0.7**
PSA00	**Pilbara Seismi**	**149.21**	**218**		**PKPbc**	**18 05 28.8**	**+0.2**
PSA00				PKPab	**PKPab**	**18 05 34.0**	**+0.9**
MBWA	**Marble Bar**	**149.58**	**219**		**PKPbc**	**18 05 28.6**	**-1.0**
POO	**Poona**	**149.83**	**56**	*e*P	**PKPbc**	**18 05 29.8**	**-0.5**
BHPL	**Bhopal**	**149.93**	**45**	*e*P	**PKPbc**	**18 05 30.4**	**+0.1**
NRDN	**NARMADA NAGAR**	**150.08**	**46**	*e*P	**PKPbc**	**18 05 29.6**	**-1.1**
NRDN				IAmb	IAmb	18 05 31.4	
	comp=Z,50nm,1.0s						
SSLB	**Suanglung**	**150.64**	**318**		**PKPbc**	**18 05 31.0**	**-1.1**
KAD	**Karad**	**150.69**	**58**	*e*P	**PKPbc**	**18 05 30.3**	**-2.0**
VLK	**Valmikinagar**	**150.87**	**30**	*e*P	**PKPbc**	**18 05 30.1**	**-2.3**
AKL	**Akola**	**151.19**	**49**	*e*P	**PKPbc**	**18 05 30.5**	**-2.9**
ALBI	**Allahabad**	**151.32**	**36**	*e*P	**PKPdf**	**18 05 27.6**	**+0.1**
ALBI				IAmb	IAmb	18 05 53.4	
	comp=Z,58nm,0.7s						
CD2	**Chengdu**	**151.47**	**353**	PKPbc	**PKPdf**	**18 05 27.1**	**-0.6**
CD2				PKPab	**PKPab**	**18 05 44.0**	**+1.8**
CD2				AMB	AMB		
	comp=Z,550nm,10.8s						
CD2				LR	LR		
	comp=Z,430nm,20.3s						
CD2				LR	LR		
	comp=Z,320nm,15.2s						
CD2				LR	LR		
	comp=Z,650nm,21.6s						
CNSH	**ChangSha**	**151.58**	**335**	P	**PKPbc**	**18 05 33.9**	**-0.2**
LSA	**Lhasa**	**151.64**	**16**	PKPbc	**PKPdf**	**18 05 28.7**	**+0.2**
GTK	**Tadong**	**152.99**	**23**	*e*P	**PKPdf**	**18 05 30.9**	**+0.8**
GTK				IAmb	IAmb	18 06 12.6	
	comp=Z,37nm,1.0s						
TAWA	**Tawang**	**153.83**	**16**	*e*P	**PKPdf**	**18 05 32.9**	**+1.2**
TAWA				IAmb	IAmb	18 06 08.8	
	comp=Z,15nm,1.0s						
HYB	**Hyderabad**	**154.24**	**53**	*e*PKPdf	**PKPdf**	**18 05 31.7**	**-0.4**
HYB				*e*PKPbc	**PKPbc**	**18 05 39.2**	**-1.1**
HYB				*e*pPKPdf	**pPKPdf**	**18 05 49.4**	**-2.3**
ZIRO	**ZIRO**	**154.39**	**13**	*e*P	**PKPdf**	**18 05 31.7**	**-0.5**
ZIRO				IAmb	IAmb	18 05 56.8	
	comp=Z,28nm,1.3s						
BOK	**Bokaro**	**154.79**	**32**	*e*P	**PKPdf**	**18 05 33.9**	**+1.2**
KNTI	**KHUNTI**	**155.06**	**34**	*e*P	**PKPdf**	**18 05 34.0**	**+0.9**
GYA	**Guiyang**	**155.28**	**346**	PKPbc	**PKPdf**	**18 05 33.1**	**-0.3**
GYA				LR	LR		
	comp=Z,950nm,34.9s						
SHL	**Shillong**	**155.74**	**18**	*e*P	**PKPdf**	**18 05 34.8**	**+0.7**
PZH	**PanZhiHua**	**156.03**	**356**	PKP	**PKPdf**	**18 05 30.8**	**-3.6**
PZH				pPKP	**pPKPdf**	**18 05 50.3**	**-3.7**
PZH				PKPab	**sPKPdf**	**18 06 00.9**	**-0.3**
PZH				SKKS		18 16 18.9	
PZH				AMB	AMB		
	comp=Z,190nm,6.1s						
PZH				LR	LR		
	comp=Z,270nm,20.2s						
PZH				LR	LR		
	comp=Z,180nm,18.6s						
PZH				LR	LR		
	comp=Z,380nm,22.1s						
KOHI	**KOHIMA**	**156.19**	**13**	*e*P	**PKPdf**	**18 05 34.6**	**-0.1**
KOHI				IAmb	IAmb	18 06 21.4	
	comp=Z,18nm,0.7s						
IMP	**Imphal**	**157.01**	**14**	*e*P	**PKPdf**	**18 05 35.7**	**+0.1**
IMP				IAmb	IAmb	18 05 57.5	
	comp=Z,71nm,2.3s						
KMI	**Kunming**	**157.31**	**353**	⇓PKP	PKPdf	18 05 27.1	-9.1
KMI				pPKP	pPKPdf	18 05 54.0	-1.9
KMI				PP	**PP**	**18 09 50.9**	**+6.2**
KMI				AMB	AMB		
	comp=Z,240nm,10.2s						
KMI				LR	LR		
	comp=N,270nm,21.5s						
KMI				LR	LR		
	comp=E,340nm,22.8s						
KMI				LR	LR		
	comp=Z,660nm,31.1s						
TNCH	**TengChong**	**157.51**	**3**	PKP	**PKPdf**	**18 05 35.3**	**-1.1**
TNCH				PKPab	**PKPab**	**18 06 10.2**	**+2.1**
TNCH				SKKS		18 16 28.8	
TNCH				AMB	AMB		
	comp=Z,230nm,5.4s						
TNCH				LR	LR		
	comp=Z,180nm,21.1s						
TNCH				LR	LR		
	comp=Z,170nm,20.8s						
TNCH				LR	LR		
	comp=Z,550nm,21.5s						
SLVN	**Son La**	**160.85**	**349**	PKPdf	**PKPdf**	**18 05 36.7**	**-3.5**
QIZ	**Qiongzhong**	**160.90**	**330**	PKP	**PKPdf**	**18 05 38.6**	**-1.6**
QIZ				pPKP	**pPKPdf**	**18 05 58.5**	**-1.4**
QIZ				sPKP		18 06 06.5	
QIZ				PP	**PP**	**18 10 04.7**	**+0.1**
QIZ				LR	LR		
	comp=Z,240nm,19.1s						
QIZ				LR	LR		
	comp=Z,130nm,17.6s						
QIZ				LR	LR		
	comp=Z,420nm,20.6s						
CHTO	**Chiang Mai**	**163.71**	**3**		**PKPdf**	**18 05 39.2**	**-3.9**
CHTO	**Chiang Mai**	**163.71**	**3**	PKIKP	**PKPdf**	**18 05 39.2**	**-3.9**
CMAR	**Chiang Mai Arr**	**164.06**	**4**		**PKPdf**	**18 05 40.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**164.06**	**4**	PKP	**PKPdf**	**18 05 43.5**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=300,slow=1.8,SNR=18						
CMAR				PP	**PP**	**18 10 24.6**	**+3.9**
	comp=Z,0.5nm,0.3s,baz=349,slow=4.9,SNR=4.3						

JMA ***04*** *18:08:17.9±0.3,29°N±1°×14°0E±°, h478km±4km, MV4.4/26, W OFF OGASAWARA*
MOS ***04*** *18:08:18.2±0.8,28°.64N×139°.62E, h460km, mb4.4/38, Error ellipse: s-maj=10.7km s-min=5.2km az=114.0*
NEIC ***04*** *18:08:19.2±1.6,28°.68N±0°.07×139°.7E±0°.1, h456km±9km, mb4.3/85, Error ellipse: s-maj=18.0km s-min=4.9km az=122.0*
IDC ***04*** *18:08:20.0±1.2,28°.64N×139°.63E, h465km±12km, mb3.8/29, mbtmp4.6/33, Error ellipse: s-maj=10.8km s-min=7.8km az=93.0*
ISC 04 18:08:18.5±0.3, 28°.64N±0°.04×139°.70E±0°.05, h448km, n315, σ1$45/322, mb4.3/116, 12C-5D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.69**	**124**	P	**P**	**18 09 24.3**	**+1.1**
CBIJ				*e*S	**S**	**18 10 15.7**	**+0.1**
JCJ	**Chichijima**	**2.69**	**124**	P	**P**	**18 09 23.8**	**+0.6**
JCJ				S	**S**	**18 10 15.0**	**-0.6**
JCJ	**Chichijima**	**2.69**	**124**	P	P	18 09 18.3	-4.9
	1μm,0.3s,baz=301,slow=22,SNR=291						
JCJ				S	**S**	**18 10 09.7**	**-5.9**
	1μm,0.5s,baz=313,slow=21,SNR=25						
JCJ	**Chichijima**	**2.69**	**124**	P	**P**	**18 09 24.2**	**+1.0**
JHH2	**Haha-jima-NKT2**	**2.97**	**132**	P	**P**	**18 09 26.7**	**+1.5**
JHH2				*e*S	**S**	**18 10 21.2**	**+1.9**
JHJ2	**Mitsune**	**4.46**	**1**	P	**P**	**18 09 40.0**	**+2.5**
JHJ2	**Mitsune**	**4.46**	**1**	P	**P**	**18 09 41.7**	**+4.2**
JHJ2	**Mitsune**	**4.46**	**1**	*e*S	**S**	**18 10 43.6**	**+1.6**
BSO1	**Boso 1**	**6.09**	**10**	*e*P	**P**	**18 09 54.4**	**+1.4**
BSO1				*e*S	**S**	**18 11 09.9**	**-0.5**
JTNC	**Tanabenakahech**	**6.24**	**327**	*e*P	**P**	**18 09 58.5**	**+3.4**
JIE	**Ise**	**6.28**	**337**	*e*P	**P**	**18 09 58.4**	**+2.9**
JOD2	**Odawara 2**	**6.62**	**356**	*e*P	**P**	**18 09 59.8**	**+0.7**
JOD2				*e*S	**S**	**18 11 21.3**	**-0.2**
INU	**Inuyama**	**7.06**	**342**	P	**P**	**18 10 04.7**	**+0.9**
INU	**Inuyama**	**7.06**	**342**	P	**P**	**18 10 05.8**	**+2.1**
JMN	**Monobe**	**7.11**	**317**	P	**P**	**18 10 04.0**	**-0.3**
JMN	**Monobe**	**7.11**	**317**	P	**P**	**18 10 07.5**	**+3.2**
JGF	**Kuroka**	**7.22**	**345**	P	**P**	**18 10 05.9**	**+0.5**
JGF	**Kuroka**	**7.22**	**345**	P	**P**	**18 10 06.8**	**+1.4**
JTO	**Tosashimizu**	**7.27**	**307**	*e*P	**P**	**18 10 09.2**	**+3.2**
JRY	**Ryogami san**	**7.38**	**355**	P	**P**	**18 10 07.6**	**+0.4**
MJAR	**Matsushiro Arr**	**7.98**	**351**	P	**P**	**18 10 13.2**	**-0.3**
	17nm,0.5s,baz=173,slow=12,SNR=58						
MJAR				S	**S**	**18 11 49.6**	**+1.7**
	4.9nm,0.5s,baz=130,slow=13,SNR=6.4						
MAJO	**Matsushiro**	**7.98**	**351**	P	**P**	**18 10 13.3**	**-0.3**
MAJO	**Matsushiro**	**7.98**	**351**	*i* P	**P**	**18 10 14.0**	**+0.5**
MJB9	**Matsu-Tunnel**	**7.98**	**351**	P	**P**	**18 10 14.4**	**+0.8**
JMZ	**Minamidaito 2**	**8.05**	**252**	P	**P**	**18 10 16.0**	**+1.5**
JHS	**Saijyo**	**8.46**	**320**	*e*P	**P**	**18 10 21.8**	**+3.1**
JHS				*e*S	**S**	**18 12 00.2**	**+2.7**
JNU	**Nakatsue**	**8.80**	**303**	P	**P**	**18 10 26.4**	**+3.9**
	8.4nm,0.7s,baz=118,slow=1.8,SNR=8.6						
JNU	**Nakatsue**	**8.80**	**303**	P	**P**	**18 10 26.4**	**+3.9**
JSJ	**Shimokoshiki**	**9.16**	**292**	*e*P	**P**	**18 10 28.6**	**+2.2**
JMM	**Marumori**	**9.24**	**5**	P	**P**	**18 10 28.5**	**+1.3**
JMM				S	**S**	**18 12 08.7**	**-4.4**
JMM	**Marumori**	**9.24**	**5**	P	**P**	**18 10 28.7**	**+1.5**
JAMN	**Amaminishikomi**	**9.28**	**270**	*e*P	**P**	**18 10 31.1**	**+3.4**
JSD	**Sado**	**9.45**	**353**	P	**P**	**18 10 28.7**	**-0.7**
JSD	**Sado**	**9.45**	**353**	P	**P**	**18 10 29.9**	**+0.5**
JOW	**Kunigami**	**10.28**	**263**	P	**P**	**18 10 41.9**	**+3.1**
	23nm,0.4s,baz=88,slow=9.8,SNR=9.9						
JOW	**Kunigami**	**10.28**	**263**	P	**P**	**18 10 42.3**	**+3.5**
JOW	**Kunigami**	**10.28**	**263**	*e*P	**P**	**18 10 41.8**	**+3.1**
JMK	**Ichinoseki**	**10.36**	**7**	P	**P**	**18 10 40.8**	**+1.4**
JTU	**Tsushima**	**10.56**	**306**	P	**P**	**18 10 45.3**	**+3.7**
JTU	**Tsushima**	**10.56**	**306**	*e*P	**P**	**18 10 45.3**	**+3.7**
JTM	**Tenmabayashi**	**12.17**	**5**	P	**P**	**18 11 00.6**	**+1.6**
JTM	**Tenmabayashi**	**12.17**	**5**	P	**P**	**18 11 01.1**	**+2.1**
JTM	**Tenmabayashi**	**12.17**	**5**	S	**S**	**18 13 16.5**	**+5.0**
JOT	**Ohata**	**12.76**	**5**	*e*P	**P**	**18 11 07.0**	**+1.6**
TJN	**Taejon**	**12.95**	**310**	P	**P**	**18 11 09.5**	**+2.0**
TJN	**Taejon**	**12.95**	**310**	P	**P**	**18 11 08.0**	**+0.5**
KSRS	**Korea Array**	**13.21**	**315**	P	**P**	**18 11 11.2**	**+0.8**
	3.8nm,0.4s,baz=129,slow=10,SNR=34						
JOSM	**Okushiri--Mats**	**13.41**	**359**	*e*P	**P**	**18 11 14.0**	**+1.6**
ERM	**Erimo**	**13.64**	**11**	P	**P**	**18 11 17.9**	**+3.0**
JEM	**Erimo**	**13.64**	**11**	P	**P**	**18 11 18.1**	**+3.2**
JCH	**Churui**	**14.25**	**11**	*e*P	**P**	**18 11 23.6**	**+2.1**
JHR	**Hokuryu**	**15.16**	**6**	*e*P	**P**	**18 11 33.2**	**+2.0**
ASAJ	**Asahikawa**	**15.62**	**8**	P	**P**	**18 11 37.5**	**+1.5**
	6.5nm,0.3s,baz=213,slow=13,SNR=6.4						
JTKR	**Abashiri--Toko**	**15.66**	**11**	*e*P	**P**	**18 11 38.3**	**+1.8**
USA0B	**Ussuriysk Arra**	**16.71**	**340**	P	**P**	**18 11 47.9**	**+0.3**
USA0B				IAmb	IAmb	18 11 51.3	
	comp=Z,10nm,0.8s						
USA0B	**Ussuriysk Arra**	**16.71**	**340**	P	**P**	**18 11 47.9**	**+0.3**
USA0B				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**16.71**	**340**	P	**P**	**18 11 48.1**	**+0.5**
	comp=Z,9.2nm,0.7s,baz=152,slow=9.0,SNR=17						
NACB	**Ninganchiao**	**16.82**	**259**	P	**P**	**18 11 49.6**	**+0.6**
YHNB	**Yeheng**	**16.85**	**261**	P	**P**	**18 11 48.8**	**-0.6**
YULB	**Yu-li**	**17.34**	**257**	P	**P**	**18 11 54.4**	**-0.2**
YULB	**Yu-li**	**17.34**	**257**	P	**P**	**18 11 55.2**	**+0.6**
SSLB	**Suanglung**	**17.50**	**258**	P	**P**	**18 11 55.3**	**-0.9**
SSLB	**Suanglung**	**17.50**	**258**	P	**P**	**18 11 56.8**	**+0.5**
TWGBT	**Beinan**	**17.74**	**255**	P	**P**	**18 11 59.7**	**+0.9**
TPUB	**Ta-pu**	**17.95**	**257**	P	**P**	**18 12 03.8**	**+2.9**
YSS	**Yuzhno-Sakhali**	**18.44**	**7**	P	**P**	**18 12 06.4**	**+1.1**
YSS	**Yuzhno-Sakhali**	**18.44**	**7**	*i* P	**P**	**18 12 05.6**	**+0.3**
YSS				pmax	pmax		
	comp=Z,12nm,0.8s						
BNX	**BinXian**	**19.64**	**334**	⇓P	**P**	**18 12 17.8**	**+1.3**
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
TIA	**Tai'an**	**20.47**	**297**	P	**P**	**18 12 23.4**	**-0.8**
TIA				pmax	pmax		
	comp=Z,120nm,0.5s						
KLR	**Kul'dur**	**21.45**	**346**	P	**P**	**18 12 33.9**	**+1.0**
	comp=Z,12nm,0.5s,baz=165,slow=8.1,SNR=47						
	comp=Z,12nm,0.5s						
KLR	**Kul'dur**	**21.45**	**346**	*ce*P	**P**	**18 12 33.6**	**+0.7**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WHN	**Wuhan**	**22.11**	**281**	⇑P	**P**	**18 12 40.0**	**+0.8**
WHN				pmax	pmax		
	comp=Z,78nm,0.8s						
TYV	**Tymovskoe**	**22.31**	**5**	*e*P	**P**	**18 12 41.7**	**+1.1**
TYV				*e*S	**S**	**18 16 18.5**	**+5.4**
TYV				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,4.8s						
TYV				smax	smax		
	comp=N,600nm,6.6s						
TYV				smax

comp=Z,8.1nm,0.5s
SONM Songino Array 32.08 316 P **P 18 14 07.3 +0.3**
comp=Z,7.9nm,0.5s,baz=126,slow=8.4,SNR=143
SONM PcP **PcP 18 16 43.5 0.0**
comp=Z,0.8nm,0.4s,baz=129,slow=2.7,SNR=8.3
SONM ScP **ScP 18 19 41.9 -2.0**
comp=Z,0.7nm,0.6s,baz=124,slow=3.9,SNR=4.5
comp=Z,7.9nm,0.5s
SONM Songino Array 32.08 316 P **P 18 14 06.5 -0.5**
SONM pmax pmax
comp=Z,8.0nm,0.5s
FAKI Fak Fak 32.19 194 P **P 18 14 09.2 +1.1**
KMI Kunming 33.07 273 ⇓P **P 18 14 16.5 +0.7**
KMI pmax pmax
comp=Z,17nm,0.9s
SLVN Son La 33.16 266 P **P 18 14 15.0 -1.5**
SLVN IAmb IAmb 18 14 18.1
comp=Z,16nm,1.3s
SLVN Son La 33.16 266 P **P 18 14 17.6 +1.1**
SANI Sanana 33.23 206 P **P 18 14 16.9 -0.1**
PZH PanZhiHua 33.62 276 P **P 18 14 20.5 +0.1**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,150nm,5.9s
YAK Yakutsk 34.04 352 P **P 18 14 21.7 -1.6**
YAK IAmb IAmb 18 14 23.8
comp=Z,8.5nm,0.8s
YAK Yakutsk 34.04 352*ce*P **P 18 14 22.9 -0.4**
YAK pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 34.51 299 P **P 18 14 28.1 +0.3**
GTA S **S 18 19 21.2 -2.4**
GTA pmax pmax
comp=Z,17nm,0.7s
GTA LR LR
comp=N,170nm,14.3s
GTA LR LR
comp=E,120nm,13.9s
GTA LR LR
comp=Z,160nm,15.5s
SHEM Shemya Is, Ala 34.95 37 P **P 18 14 31.8 +0.7**
comp=Z,18nm,0.5s,baz=90,slow=20,SNR=1.4
comp=Z,18nm,0.5s
ZAK Zakamensk 35.00 318 *e*P **P 18 14 31.2 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
SEY Seymchan 35.28 10*ce*P **P 18 14 34.5 +0.8**
SEY pmax pmax
comp=Z,6.0nm,0.9s
PHRA Phrae 37.41 263 P **P 18 14 52.6 +0.5**
GOMU GeErMu 38.36 293 P **P 18 15 01.2 +1.1**
GOMU pmax pmax
comp=Z,42nm,0.9s
CHTO Chiang Mai 38.41 264 P **P 18 15 00.2 -0.1**
CHTO IAmb IAmb 18 15 01.2
comp=Z,9.6nm,0.8s
CHTO Chiang Mai 38.41 264 P **P 18 15 00.2 -0.1**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 38.55 264 P **P 18 15 01.6 +0.2**
comp=Z,3.2nm,0.8s,baz=49,slow=9.5,SNR=24
CMAR PcP **PcP 18 17 02.9 -0.3**
comp=Z,0.6nm,0.4s,baz=67,slow=1.4,SNR=5.3
comp=Z,3.2nm,0.8s
SRDT SRDT 40.14 258 P **P 18 15 15.4 +1.1**
KDU Kakadu 41.68 191 P **P 18 15 27.0 +0.5**
MTN Manton Dam 42.07 193 P **P 18 15 30.5 +0.9**
LSA Lhasa 42.16 284 IAmb IAmb 18 15 32.8
comp=Z,6.4nm,0.7s
SHL Shillong 42.46 277 P **P 18 15 32.4 -0.6**
SHL IAmb IAmb 18 15 33.6
comp=Z,26nm,1.2s
SHL Shillong 42.46 277 P **P 18 15 32.4 -0.6**
SHL pmax pmax
comp=Z,26nm,1.2s
BILL Bilibino 42.48 14 P **P 18 15 32.6 +0.3**
BILL Bilibino 42.48 14 *i* P **P 18 15 33.1 +0.8**
BILL pmax pmax
comp=Z,21nm,0.9s
PLAI Plampang 42.85 213 P **P 18 15 35.8 -0.1**
TIXI Tiksi 43.47 355 P **P 18 15 39.6 -0.3**
TIXI Tiksi 43.47 355*ce*P **P 18 15 40.4 +0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
KULM Kulim 43.66 245 P **P 18 15 42.6 +0.3**
KULM Kulim 43.66 245 P **P 18 15 43.4 +1.0**
IPM Ipoh 43.85 244 P **P 18 15 44.5 +0.7**
WMQ Urumqi 43.89 305 *e*P **P 18 15 43.9 +0.1**
WMQ pmax pmax
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 46.88 319 P **P 18 16 06.2 -0.4**
comp=Z,2.1nm,0.3s,baz=106,slow=6.8,SNR=18
ZALV PcP **PcP 18 17 30.0 -0.8**
comp=Z,3.8nm,0.5s,baz=111,slow=3.5,SNR=12
comp=Z,2.1nm,0.3s
LEM Lembang 46.90 226 P **P 18 16 08.0 +0.5**
LEM pmax pmax
comp=Z,59nm,0.8s
BBJI Bungbulang 47.37 226 P **P 18 16 11.2 +0.3**
MK31 Makanchi Array 47.80 309*ce*P **P 18 16 13.2 -0.5**
MKAR Makanchi Array 47.80 309 P **P 18 16 13.3 -0.4**
MKAR Makanchi Array 47.80 309 P **P 18 16 13.6 -0.1**
comp=Z,5.9nm,0.4s,baz=88,slow=9.9,SNR=202
MKAR PcP **PcP 18 17 33.9 -0.4**
comp=Z,1.9nm,0.5s,baz=101,slow=4.3,SNR=7.0
MKAR ScP **ScP 18 20 42.8 -2.4**
comp=Z,0.9nm,0.5s,baz=76,slow=4.5,SNR=11
comp=Z,5.9nm,0.4s
MAKZ Makanchi 48.01 309 P **P 18 16 15.4 +0.1**
MAKZ IAmb IAmb 18 16 15.7
comp=Z,9.3nm,0.5s
MAKZ Makanchi 48.01 309 P **P 18 16 15.4 +0.1**
MAKZ pmax pmax
comp=Z,9.0nm,0.5s
MNAI Manna 48.22 233 P **P 18 16 17.4 +0.1**
WB0 Warramunga Arr 48.40 187 P **P 18 16 18.0 -0.4**
WRAB Tennant Creek 48.57 187 P **P 18 16 19.5 -0.2**
WRAB IAmb IAmb 18 16 21.1
comp=Z,22nm,1.2s
WRAB Tennant Creek 48.57 187 *i* P **P 18 16 19.6 -0.2**
WRAB pmax pmax
comp=Z,12nm,1.0s
WB2 Warramunga Arr 48.58 187 P **P 18 16 19.2 -0.6**
WB2 IAmb IAmb 18 16 20.3
comp=Z,14nm,0.7s
WRA Warramunga Arr 48.58 187 P **P 18 16 19.9 +0.1**
comp=Z,14nm,0.5s,baz=1.5,slow=7.8,SNR=213
WRA PcP **PcP 18 17 37.0 -0.4**
comp=Z,2.6nm,0.5s,baz=358,slow=3.8,SNR=6.7
WRA ScP **ScP 18 20 47.0 -1.7**
comp=Z,0.9nm,0.9s,baz=0.4,slow=4.7,SNR=4.6
WRA S **S 18 22 46.6 -0.8**
comp=Z,0.8nm,0.6s,baz=6.5,slow=14,SNR=6.3
comp=Z,14nm,0.5s
KURK Kurchatov 50.33 314 P **P 18 16 31.7 -0.8**
KURK IAmb IAmb 18 16 32.9
comp=Z,23nm,1.1s
KURK Kurchatov 50.33 314*ce*P **P 18 16 32.2 -0.3**
KURK pmax pmax
comp=Z,23nm,1.3s
KURBB Kurchatov Arra 50.39 314 P **P 18 16 32.5 -0.3**
comp=Z,18nm,0.5s,baz=92,slow=8.4,SNR=300
comp=Z,18nm,0.5s
NRIK Noril'sk 50.41 339 P **P 18 16 33.0 +0.2**
NRIK Noril'sk 50.41 339 P **P 18 16 33.0 +0.2**
comp=Z,5.0nm,0.5s,baz=112,slow=7.4,SNR=6.6
comp=Z,5.0nm,0.5s
NRIK Noril'sk 50.41 339*ce*P **P 18 16 32.3 -0.5**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
PRZ Przheval'sk 50.72 303 IAmb IAmb 18 16 37.5
comp=Z,19nm,1.0s
PRZ Przheval'sk 50.72 303 P **P 18 16 36.9 +1.2**
PRZ pmax pmax
comp=Z,26nm,1.0s
KDJ Kajisay 51.65 303 P **P 18 16 42.6 0.0**
AS01 Alice Springs 52.30 187 P **P 18 16 47.5 +0.3**
AS31 Alice Springs 52.30 187 IAmb IAmb 18 16 49.0
comp=Z,5.2nm,0.5s
ASAR Alice Springs 52.30 187 P **P 18 16 47.3 +0.1**
comp=Z,4.9nm,0.5s,baz=2.6,slow=6.7,SNR=127
ASAR PcP **PcP 18 17 51.2 0.0**
comp=Z,1.5nm,0.8s,baz=9.8,slow=3.3,SNR=5.4
ASAR S **S 18 23 35.1 -2.9**
comp=Z,0.6nm,0.8s,baz=11,slow=14,SNR=2.8
comp=Z,4.9nm,0.5s
ULHL Ulahol 52.34 303 P **P 18 16 48.0 +0.5**
SNR=5.6
TKM2 Tokmak 2 52.73 304 P **P 18 16 51.0 +0.6**
SNR=9.3
MBWA Marble Bar 53.13 203 P **P 18 16 53.6 +0.5**
KBK Karagaybulak 53.24 304 P **P 18 16 54.5 +0.5**
SNR=8.4
PSA00 Pilbara Seismi 53.47 203 P **P 18 16 56.1 +0.5**
H19K Roundabout Mou 53.50 28 IAmb IAmb 18 16 57.5
comp=Z,10nm,0.7s
SII Sitkinak Islan 53.55 39 P **P 18 16 57.2 +1.5**
AAK Ala-Archa 53.57 304 P **P 18 16 56.1 -0.2**
AAK Ala-Archa 53.57 304 P **P 18 16 56.6 +0.2**
SNR=5.4
AAK Ala-Archa 53.57 304 P **P 18 16 56.1 -0.2**
AAK pmax pmax
comp=Z,5.0nm,0.5s
E19K Redstone River 53.59 25 IAmb IAmb 18 16 58.0
comp=Z,6.6nm,0.7s
ARLS Aral 53.80 303 P **P 18 16 58.9 +0.9**
ARLS pmax pmax
comp=Z,8.0nm,1.0s
OHAK Old Harbor 54.06 38 P **P 18 17 00.0 +0.7**
EKS2 Erkin-Say 54.09 304 P **P 18 17 00.2 +0.2**
SNR=5.1
AML Almayashu 54.23 303 P **P 18 17 02.2 +0.9**
SNR=9.2
J20K Nowinta River 54.24 30 IAmb IAmb 18 17 03.2
comp=Z,9.6nm,0.8s
KDAK Kodiak Island 54.46 38 P **P 18 17 02.6 +0.4**
comp=Z,7.5nm,0.5s,baz=46,slow=0.8,SNR=48
comp=Z,7.5nm,0.5s
WRKA Warakurna 54.49 193 P **P 18 17 03.6 +0.8**
OHH Osh 55.16 301 P **P 18 17 07.7 +0.2**
OHH pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 55.42 317 P **P 18 17 08.8 -0.1**
comp=Z,13nm,0.5s,baz=88,slow=6.8,SNR=104
BVAR PcP **PcP 18 18 02.6 -0.3**
comp=Z,3.2nm,0.6s,baz=88,slow=3.7,SNR=5.1
comp=Z,13nm,0.5s
BRVK Borovoye 55.48 317 P **P 18 17 08.9 -0.5**
BRVK IAmb IAmb 18 17 10.2
comp=Z,14nm,1.1s
BRVK Borovoye 55.48 317 P **P 18 17 08.9 -0.5**
BRVK pmax pmax
comp=Z,14nm,1.1s
ARK Arkit 55.55 303 P **P 18 17 11.0 +0.7**
ARK pmax pmax
comp=Z,19nm,1.0s
INKA Innaminka 56.07 179 P **P 18 17 15.0 +1.2**
DRK Karamyk 56.09 300 IAmb IAmb 18 17 15.5
comp=Z,11nm,0.7s
DRK Karamyk 56.09 300 P **P 18 17 14.6 +0.3**
TRKS Terek-Say 56.21 303 P **P 18 17 15.0 +0.1**
TRKS pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 56.22 293 P **P 18 17 14.9 -0.1**
NIL Nilore 56.22 293 P **P 18 17 14.9 -0.1**
NIL pmax pmax
comp=Z,25nm,0.4s
OOD Oodnadatta 56.25 184 P **P 18 17 15.5 +0.5**
KKAR Karatay Array 56.40 305 P **P 18 17 15.8 -0.3**
KKAR Karatay Array 56.40 305 IAmb IAmb 18 17 16.9
comp=Z,15nm,0.8s
KKAR Karatay Array 56.40 305 P **P 18 17 15.8 -0.3**
NEA2 Nenana 56.48 29 IAmb IAmb 18 17 18.1
comp=Z,6.8nm,0.6s
BTK Batken 56.72 301 IAmb IAmb 18 17 18.6
comp=Z,6.4nm,0.4s
BTK Batken 56.72 301 P **P 18 17 18.4 0.0**
BTK pmax pmax
comp=Z,8.0nm,0.5s
C24K Franklin Bluff 57.07 23 IAmb IAmb 18 17 27.9
comp=Z,7.7nm,0.7s
HDA Harding Lake 57.39 30 IAmb IAmb 18 17 23.1
comp=Z,6.3nm,0.6s
ILAR Eielson Array 57.43 29 P **P 18 17 22.4 -0.3**
comp=Z,1.1nm,0.4s,baz=253,slow=5.7,SNR=41
comp=Z,1.1nm,0.4s
RIDG Independent Ri 58.31 30 P **P 18 17 28.8 -0.1**
RIDG IAmb IAmb 18 17 30.0
comp=Z,5.6nm,0.6s
SIMJ Simiganj 58.38 300 P **P 18 17 29.2 -0.7**
SIMJ IAmb IAmb 18 17 30.7
comp=Z,16nm,0.8s
MEEK Meekatharra 58.57 202 P **P 18 17 31.6 +0.5**
SCRK Sand Creek 58.69 30 P **P 18 17 31.6 +0.1**
SCRK IAmb IAmb 18 17 32.8
comp=Z,6.4nm,0.8s
LCRK Leigh Creek 58.78 181 P **P 18 17 33.9 +1.6**
MENT Mentasta 58.84 31 IAmb IAmb 18 17 34.8
comp=Z,16nm,1.4s
J26L Joseph Creek 58.86 29 IAmb IAmb 18 17 33.9
comp=Z,8.9nm,0.8s
KBL Kabul 59.37 295 P **P 18 17 35.6 -1.1**
KBL IAmb IAmb 18 17 37.3
comp=Z,8.5nm,0.8s
KBL Kabul 59.37 295 P **P 18 17 35.7 -1.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s
FORT Forrest 60.12 192 P **P 18 17 41.8 +0.4**
SVE Sverdlovsk 60.66 322 *e*P **P 18 17 44.5 -0.1**
SVE pmax pmax
comp=Z,11nm,0.7s
G29M Pine Creek 61.00 27 IAmb IAmb 18 17 49.5
comp=Z,11nm,1.1s
EPYK Eagle Plains 61.57 27 P **P 18 17 51.4 +0.8**
EPYK IAmb IAmb 18 17 52.5
comp=Z,5.7nm,0.8s
ARTI Arti 61.96 321 P **P 18 17 52.3 -0.9**
ARTI Arti 61.96 321*d i* P **P 18 17 51.6 -1.6**
ARTI 18 18 25.0
ARTI S **S 18 25 38.7 -2.8**
ARTI SS **SS 18 29 49.1 -4.0**
ARTI pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 62.44 313 P **P 18 17 55.5 -1.0**
ABKAR Akbulak array 62.44 313 IAmb IAmb 18 17 56.8
comp=Z,16nm,0.5s
A36M Sachs Harbour 64.59 20 P **P 18 18 07.4 -2.5**
A36M IAmb IAmb 18 18 10.2
comp=Z,3.7nm,0.7s
NWAO Narrogin (SRO) 64.84 201 P **P 18 18 13.0 +1.0**
KIRV Kirov 66.18 325*ce*P **P 18 18 20.0 -0.1**
SPITS Spitsbergen Ar 68.47 349 P **P 18 18 34.0 0.0**
comp=Z,4.4nm,0.7s,baz=93,slow=5.0,SNR=6.6
comp=Z,4.4nm,0.7s
KBS Kingsbay 68.67 351 *e*P **P 18 18 36.1 +0.9**
BELG Belogornoye 69.06 319 *i* P **P 18 18 37.6 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
VADS Vadso 69.91 340 *e*P **P 18 18 43.0 +0.3**
RES Resolute Bay 71.07 13 P **P 18 18 47.3 -2.4**
RES IAmb IAmb 18 18 48.2
comp=Z,5.2nm,0.5s
RES Resolute Bay 71.07 13 P **P 18 18 47.3 -2.4**
RES pmax pmax
comp=Z,5.0nm,0.5s
ARA0 ARCESS Array S 71.36 340 *e*P **P 18 18 51.8 +0.4**
ARCES ARCESS Array B 71.36 340 P **P 18 18 51.8 +0.3**
comp=Z,6.7nm,0.7s,baz=68,slow=8.4,SNR=28
comp=Z,6.7nm,0.7s
YKA Yellowknife Ar 71.82 28 P **P 18 18 54.9 +0.6**
comp=Z,0.2nm,0.4s,baz=232,slow=5.9,SNR=5.5
KTK1 Kautokeino 72.32 340 *e*P **P 18 18 57.5 +0.4**
JOF Joensuu 72.72 333 *e*P **P 18 18 59.0 -0.5**
JETT Jettan, Norway 72.82 341 *e*P **P 18 19 00.1 +0.1**
VRH Novokhopyorsk 72.91 319 *e*P **P 18 18 57.8 -3.0**
VRH pmax pmax
comp=Z,9.0nm,0.8s
LKRN Lenkeran, Azer 73.39 305 P **P 18 19 04.5 +0.7**
SEKA Sheki 73.50 308 P **P 18 19 04.9 +0.4**
MNGR Mingechevir, A 73.75 308 P **P 18 19 06.4 +0.5**
LPSR Galich'ya Gora 73.88 321 *e*P **P 18 19 03.6 -2.7**
LPSR pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 73.98 355 P **P 18 19 06.2 -0.3**
OBN Obninsk 74.00 324‖ *e*P **P 18 19 06.8 -0.2**
OBN *e*'PP **pwP 18 20 51.4 +3.5**
OBN *e* 18 22 01.4
OBN pmax pmax
comp=Z,8.0nm,1.0s
GANJ Ganja 74.34 308 P **P 18 19 09.7 +0.4**
VSR Storozhevoye 74.36 320 *e*P **P 18 19 06.3 -2.8**
VSR pmax pmax
comp=Z,8.0nm,0.9s
VORD Divnogorie 74.39 320 *e*P **P 18 19 06.8 -2.5**
VORD pmax pmax
comp=Z,7.0nm,1.0s
URZ Urewera 75.19 150 P **P 18 19 14.0 +0.2**
comp=Z,3.5nm,0.3s,baz=264,slow=13,SNR=2.8
comp=Z,3.5nm,0.3s
STEI Steigen 75.31 341 *e*P **P 18 19 14.2 +0.1**
KBZ Khabaz 75.35 312 P **P 18 19 15.0 +0.2**
comp=Z,8.1nm,0.8s,baz=91,slow=3.3,SNR=29
comp=Z,8.1nm,0.8s
KBZ Khabaz 75.35 312*ce*P **P 18 19 14.5 -0.3**
KBZ pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 75.39 312 *e*P **P 18 19 15.3 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
SHA1 Shidzhatmaz 75.50 312 *i* P **P 18 19 15.0 -1.0**
NAX Nakhchivan 75.53 307 P **P 18 19 16.6 +0.5**
FINES FINESS Array B 75.58 333 P **P 18 19 15.3 -0.5**
comp=Z,5.2nm,0.4s,baz=66,slow=5.0,SNR=75
comp=Z,5.2nm,0.4s
KEF Keuruu 75.65 334 *e*P **P 18 19 15.3 -0.9**
FAUS Fauske 75.66 341 *e*P **P 18 19 15.8 -0.4**
VAF Ylistaro 75.97 335 *e*P **P 18 19 17.7 -0.2**
MOR8 Moi Rana 76.73 340 *e*P **P 18 19 21.0 -1.1**
ARBE Arbavere 76.75 331 *e*P **P 18 19 21.5 -0.8**
MEF Metsahovi 76.96 332 *e*P **P 18 19 22.9 -0.6**
RAF Rauma 77.53 334 *e*P **P 18 19 26.0 -0.5**
MTSE Matsula 78.08 331 *e*P **P 18 19 29.1 -0.4**
GURO Guroymak-BITLI 78.23 307 IAmb IAmb 18 19 32.2
comp=Z,4.4nm,0.8s
IIGN Ignalina 78.96 328 *e*P **P 18 19 34.4 0.0**
MARD Mardin 79.68 307 IAmb IAmb 18 19 39.5
comp=Z,8.7nm,0.8s
PABE Paberze 79.92 329 *e*P **P 18 19 39.0 -0.4**
AK03 Malin Array Si 80.06 323 P **P 18 19 39.3 -1.0**
AKASG Malin Array Be 80.07 323 P **P 18 19 39.7 -0.7**
comp=Z,3.0nm,0.5s,baz=51,slow=5.4,SNR=30
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 80.07 323 P **P 18 19 39.2 -1.1**
AKBB IAmb IAmb 18 19 40.4
comp=Z,7.9nm,0.9s
AKBB Malin Array Si 80.07 323 P **P 18 19 39.2 -1.1**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 80.07 323 P **P 18 19 38.9 -1.4**
AK01 Malin Array Si 80.08 323 P **P 18 19 39.3 -1.1**
KIEV Kiev 80.08 323 P **P 18 19 39.2 -1.2**
KIEV IAmb IAmb 18 19 40.4
comp=Z,7.1nm,0.9s
KIEV Kiev 80.08 323 P **P 18 19 39.2 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,0.9s
KIEV Kiev 80.08 323 P **P 18 19 39.1 -1.2**
comp=Z,50nm,1.7s
AK09 Malin Array Si 80.08 323 P **P 18 19 39.4 -1.0**
AK23 Malin Array Si 80.09 323 P **P 18 19 39.6 -0.8**
AK04 Malin Array Si 80.09 323 P **P 18 19 39.5 -0.9**
AK08 Malin Array Si 80.09 323 P **P 18 19 39.5 -0.9**
AK02 Malin Array Si 80.10 323 P **P 18 19 39.5 -1.0**
AK10 Malin Array Si 80.11 323 P **P 18 19 39.5 -1.1**
AK11 Malin Array Si 80.11 323 P **P 18 19 39.4 -1.2**
AK22 Malin Array Si 80.12 323 P **P 18 19 39.4 -1.2**
AK05 Malin Array Si 80.12 323 P **P 18 19 39.5 -1.1**
AK21 Malin Array Si 80.12 323 P **P 18 19 39.5 -1.1**
AK15 Malin Array Si 80.12 323 P **P 18 19 39.4 -1.2**
AK12 Malin Array Si 80.14 323 P **P 18 19 39.6 -1.1**
MI28 Mi28,Pidlybu 80.76 324 P **P 18 19 43.0 -1.0**
comp=Z,132nm,0.8s
HFS Hagfors 81.13 336 P **P 18 19 44.7 -1.0**
comp=Z,3.0nm,0.3s,baz=77,slow=4.4,SNR=41
comp=Z,3.0nm,0.3s
NVAR Mina Array Bea 81.28 51 P **P 18 19 47.3 0.0**
comp=Z,1.4nm,0.6s,baz=289,slow=5.8,SNR=5.4
comp=Z,1.4nm,0.6s
LUBAR Lubar, Ukraine 81.28 323 P **P 18 19 45.2 -1.5**
NB2 NORSAR Subarra 81.35 337 P **P 18 19 46.1 -0.8**
comp=Z,1.4nm,0.5s,baz=49,slow=4.6
NB2 NORSAR Subarra 81.35 337 P **P 18 19 46.1 -0.8**
baz=49,slow=4.6
NOA NORSAR Array B 81.35 337 P **P 18 19 46.1 -0.8**
comp=Z,2.4nm,0.6s,baz=54,slow=6.6,SNR=13
comp=Z,2.4nm,0.6s
RNPP9 Sopachiv 81.40 325 P **P 18 19 46.1 -1.2**
NC602 NORSAR Array S 81.46 337 *e*P **P 18 19 46.6 -0.8**
RNPP8 Varash 81.46 325 P **P 18 19 46.6 -1.0**
RNPP5 Staryi Chortor 81.51 324 P **P 18 19 46.7 -1.2**
SORM Soroca 81.97 321 P **P 18 19 48.9 -1.4**
comp=Z,30nm,0.5s
NDNU Novodnistrovsk 82.25 322 P **P 18 19 51.0 -0.7**
RAYN Ar Rayn 82.52 293 P **P 18 19 53.5 -0.2**
RAYN Ar Rayn 82.52 293 P **P 18 19 53.5 -0.2**
RAYN pmax pmax
comp=Z,24nm,0.8s
KMPD K-Podol'skiy 82.76 322 P **P 18 19 52.3 -2.0**
comp=Z,5μm,0.8s
BR131 Keskin Array S 83.34 312 P **P 18 19 56.6 -0.9**
BR131 IAmb IAmb 18 19 58.1
comp=Z,4.1nm,0.6s
BR131 Keskin Array S 83.34 312 P **P 18 19 56.7 -0.9**
BR131 pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 83.34 312 P **P 18 19 57.0 -0.6**
comp=Z,2.8nm,0.6s,baz=60,slow=5.4,SNR=18
comp=Z,2.8nm,0.6s
BR104 Keskin Array S 83.35 312 P **P 18 19 57.3 -0.3**
comp=Z,3.9nm,0.6s
BR106 Keskin Array S 83.35 312 P **P 18 19 56.8 -0.9**
comp=Z,3.7nm,0.7s
BR105 Keskin Array S 83.36 312 P **P 18 19 57.0 -0.7**
comp=Z,3.8nm,0.6s
BUR08 Bucovina Ar. S 83.98 322 IAmb IAmb 18 20 01.2
comp=Z,6.9nm,1.5s
VRI Vrincioaia 84.18 320 P **P 18 20 01.9 +0.4**
comp=Z,4.8nm,0.6s
PDAR Pinedale Array 84.64 44 P **P 18 20 04.3 +0.2**
comp=Z,0.3nm,0.3s,baz=22,slow=1.6,SNR=4.0
comp=Z,0.3nm,0.3s
MMAI Mount Meron Ar 85.63 305 P **P 18 20 08.9 -0.1**
comp=Z,2.3nm,0.6s,baz=40,slow=5.4,SNR=5.6
comp=Z,2.3nm,0.6s
MORH Mrgy, Hungar 88.38 323 P **P 18 20 20.0 -1.6**
comp=Z,3.2nm,0.7s
KHC Kasperske Hory 88.90 328 P **P 18 20 22.8 -1.2**
comp=Z,4.9nm,2.4s
GERES GERESS Array B 89.04 328 P **P 18 20 23.5 -1.3**
comp=Z,1.1nm,0.5s,baz=51,slow=7.0,SNR=5.5
comp=Z,1.1nm,0.5s
EKA Eskdalemuir Ar 90.52 340 P **P 18 20 30.9 -0.5**
comp=Z,0.4nm,0.3s,baz=50,slow=3.5,SNR=8.9
comp=Z,0.4nm,0.3s
TUE Stuetta 92.79 328 P **P 18 20 40.9 -1.4**
TXAR Lajitas Array 96.41 52 P **P 18 20 59.4 +0.5**
comp=Z,0.3nm,0.6s,baz=316,slow=2.3,SNR=6.3
comp=Z,0.3nm,0.6s
QSPA South Pole Qui 118.41 180 PKP **PKPdf 18 26 13.0 -0.5**
comp=Z,1.5nm,0.5s,baz=294,slow=2.0,SNR=14
TORD Torodi Ar. Bea 121.91 310 PKP **PKPdf 18 26 20.5 -1.1**
comp=Z,1.1nm,0.4s,baz=15,slow=2.7,SNR=13
BOSA Boshof 123.16 253 PKP **PKPdf 18 26 23.4 -0.4**
comp=Z,2.5nm,0.9s,baz=225,slow=13,SNR=1.5
LL02 Futaleuf 150.81 128 **PKPbc 18 27 18.9 -0.4**
LPAZ La Paz 151.57 70 PKPbc **PKiKP 18 27 23.4 +0.5**
comp=Z,3.0nm,0.6s,baz=268,slow=3.7,SNR=8.5
PLCA Paso Flores 152.49 124 PKPbc **PKiKP 18 27 23.4 +0.1**
comp=Z,2.3nm,0.5s,baz=240,slow=2.2,SNR=19

IDC 04 18:14:26.9±1.5,3°53S×154°19E,h0km,mb3.6/4,
mbtmp3.6/4,MS3.4/1,Error ellipse: s-maj=46.4km
s-min=31.1km az=123.0,North of Solomon Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**21.93**	**148**	P	P	P	18 19 22.2	0.0
	4.2nm,0.8s,baz=332,slow=16,SNR=1.4							
	4.2nm,0.8s							
WRA	**Warramunga Arr**	**25.32**	**228**	P	P	P	18 19 54.7	-0.8
	0.9nm,1.0s,baz=54,slow=9.5,SNR=1.4							
WRA				LR	LR	LR	18 29 03.2	
	comp=Z,85nm,20.7s,baz=26,slow=35							
	0.9nm,1.0s							
ASAR	**Alice Springs**	**28.02**	**223**	P	P	P	18 20 20.6	+0.6
	0.6nm,0.7s,baz=56,slow=9.0,SNR=6.2							

0.6nm,0.7s
ILAR Eielson Array 80.47 22 P P 18 26 40.5 0.0
0.3nm,0.7s,baz=235,slow=5.6,SNR=4.5
0.3nm,0.7s

*IDC **04** 18:15:13.9±2.7,51°.17N×177°.13W,h0km,mb3.6/7, mbtmp3.7/8,ML4.3/1,Error ellipse: s-maj=71.9km s-min=23.8km az=175.0*
*AEIC **04** 18:15:19.5±1.1,51°.41N±0°.07×176°.56W±0°.05,h44km±7km, Error ellipse: s-maj=10.4km s-min=3.9km az=162.0*
*NEIC **04** 18:15:19.9±1.0,51°.39N±0°.03×176°.56W±0°.07, h40km±13km,mb3.8/16,ML3.3(AEIC),Error ellipse: s-maj=7.0km s-min=3.5km az=113.0*
ISC 04 18:15:21.0±1.1,51°.5N±0°.1×176°.60W±0°.05,h47km,n46, σ0°98/40,mb3.9/11,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.42**	**353**		**Pn**	**18 15 30.2**	**-0.9**
ADK	**Adak**	**0.42**	**353**		**Sn**	**18 15 38.1**	**-0.2**
KIMD	**Kanaga Island**	**0.49**	**307**		**Pn**	**18 15 30.8**	**-1.2**
KIWB	**Kanaga Island**	**0.52**	**319**		**Pn**	**18 15 31.4**	**-0.8**
KIRH	**Kanaga Island**	**0.53**	**325**		**Pn**	**18 15 32.0**	**-0.5**
KICM	**Kanaga Island**	**0.58**	**321**		**Pn**	**18 15 32.8**	**-0.3**
KICM					**Sn**	**18 15 42.2**	**+0.4**
GSMY	**Great Sitkin M**	**0.67**	**30**		**Pn**	**18 15 34.2**	**0.0**
GSTR	**Great Sitkin T**	**0.71**	**28**		**Pn**	**18 15 34.6**	**-0.2**
TAFP	**Tanaga Falls P**	**0.96**	**297**		**Pn**	**18 15 37.4**	**-0.7**
TASE	**Tanaga Southea**	**0.97**	**293**		**Pn**	**18 15 37.7**	**-0.5**
TANO	**Tanaga North**	**1.05**	**296**		**Pn**	**18 15 39.1**	**-0.1**
GALAA	**Gareloi Lava P**	**1.39**	**283**		**Pn**	**18 15 43.4**	**-0.4**
GANE	**Gareloi Northe**	**1.40**	**285**		**Pn**	**18 15 43.6**	**-0.4**
ATKA	**Atka Island**	**1.67**	**63**		**Pn**	**18 15 46.1**	**-1.5**
ATKA					**Sn**	**18 16 06.0**	**-1.8**
UNV	**Unalaska Valle**	**6.59**	**65**	Pn	**Pn**	**18 16 58.2**	**+3.0**
OHAK	**Old Harbor**	**14.73**	**58**	Pn	**Pn**	**18 18 45.2**	**-0.8**
J17K	**VABM Dome**	**15.16**	**31**	P	**P**	**18 18 56.6**	**+0.7**
J17K				IAmb	IAmb	18 19 04.4	
comp=Z,6.9nm,1.1s							
KDAK	**Kodiak Island**	**15.23**	**56**	Pn	**Pn**	**18 18 52.1**	**-0.5**
KDAK	**Kodiak Island**	**15.23**	**56**	Pn	**P**	**18 18 56.8**	**+0.1**
comp=Z,1.1nm,0.3s,baz=14,slow=2.6,SNR=20							
comp=Z,2.3nm,0.3s							
TTA	**Tatalina**	**15.92**	**36**	P	**P**	**18 19 04.2**	**-0.3**
L19K	**White Mountain**	**15.93**	**39**	P	**P**	**18 19 04.7**	**+0.1**
CNPM	**China Poot**	**16.39**	**51**	P	**P**	**18 19 09.0**	**-0.7**
KTH	**Kantishna Hill**	**18.19**	**38**	IAmb	IAmb	18 19 35.1	
comp=Z,6.8nm,1.0s							
RND	**Reindeer**	**18.94**	**40**	IAmb	IAmb	18 19 42.8	
comp=Z,5.2nm,0.6s							
ILAR	**Eielson Array**	**20.32**	**38**	P	Pn	18 19 56.1	+1.0
comp=Z,0.6nm,0.6s,baz=248,slow=11,SNR=8.2							
comp=Z,0.6nm,0.6s							
SCRK	**Sand Creek**	**21.16**	**41**	P	**P**	**18 20 01.9**	**0.0**
D23K	**Nanushuk River**	**21.46**	**26**	P	**P**	**18 20 04.7**	**-0.3**
J26L	**Joseph Creek**	**21.52**	**40**	P	**P**	**18 20 04.8**	**-0.9**
J26L				IAmb	IAmb	18 20 37.7	
comp=Z,6.3nm,1.2s							
B22K	**Teshekpuk Lake**	**21.76**	**21**	P	**P**	**18 20 07.7**	**-0.4**
B22K				IAmb	IAmb	18 20 12.0	
comp=Z,6.3nm,1.4s							
DAWY	**Dawson**	**23.11**	**43**		**P**	**18 20 22.4**	**0.0**
DAWY				IAmb	IAmb	18 20 59.4	
comp=Z,6.2nm,1.5s							
L29M	**L29M**	**23.43**	**45**	P	**P**	**18 20 25.8**	**+0.2**
L29M				IAmb	IAmb	18 20 59.8	
comp=Z,3.5nm,1.1s							
I29M	**Ogilvie Camp,**	**23.92**	**40**	P	**P**	**18 20 28.6**	**-1.6**
J30M	**Hart River**	**24.52**	**42**	P	**P**	**18 20 36.1**	**+0.3**
J30M				IAmb	IAmb	18 20 41.1	
comp=Z,5.1nm,1.4s							
I30M	**Mount Dempster**	**24.66**	**41**	P	**P**	**18 20 35.2**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**34.23**	**208**	T	T	18 58 26.3	
baz=18,slow=76,SNR=66							
H11N3	**WAKE ISLAND Hy**	**34.23**	**208**	T	T	18 58 27.0	
baz=18,slow=76,SNR=56							
H11N1	**WAKE ISLAND Hy**	**34.24**	**208**	T	T	18 58 27.7	
baz=18,slow=76,SNR=86							
H11S1	**WAKE ISLAND Hy**	**35.44**	**208**	T	T	18 59 54.5	
baz=18,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**35.45**	**208**	T	T	18 59 55.8	
baz=18,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**35.46**	**208**	T	T	19 00 01.3	
baz=18,slow=76,SNR=16							
PDAR	**Pinedale Array**	**44.97**	**74**	P	**P**	**18 23 32.9**	**+1.3**
comp=Z,0.6nm,0.5s,baz=326,slow=7.8,SNR=2.7							
comp=Z,0.6nm,0.5s							
SPITS	**Spitsbergen Ar**	**50.38**	**357**	P	**P**	**18 24 13.0**	**+0.3**
comp=Z,4.9nm,0.8s,baz=352,slow=8.7,SNR=1.1							
comp=Z,4.9nm,0.8s							
ZALV	**Zalesovo Beam**	**54.96**	**314**	P	**P**	**18 24 46.4**	**-0.4**
comp=Z,0.2nm,0.3s,baz=61,slow=6.8,SNR=1.4							
ZALV				PcP	**PcP**	**18 25 49.1**	**+1.1**
comp=Z,0.4nm,0.4s,baz=50,slow=4.5,SNR=4.3							
comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**60.05**	**315**	P	**P**	**18 25 21.9**	**-0.8**
comp=Z,0.4nm,0.4s,baz=41,slow=6.9,SNR=7.1							
comp=Z,0.4nm,0.4s							
MKAR	**Makanchi Array**	**61.05**	**310**	P	**P**	**18 25 27.8**	**-1.7**
comp=Z,0.1nm,0.3s,baz=46,slow=6.6,SNR=4.9							
comp=Z,0.1nm,0.3s							
BVAR	**Borovoye Array**	**61.70**	**321**	P	**P**	**18 25 33.9**	**+0.1**
comp=Z,0.4nm,0.3s,baz=44,slow=6.1,SNR=2.8							
comp=Z,0.4nm,0.3s							

*NEIC **04** 18:19:20.8±1.2,40°.77N±0°.01×124°.14W±0°.03,h16km±3km, Error ellipse: s-maj=3.0km s-min=1.4km az=73.0*
NCEDC 04 18:19:20.9±2.3,40°.73N±0°.02×124°.09W±0°.03,h8km±5km, ML3.1/15,ML3.0/41(NEIC),Error ellipse: s-maj=3.7km s-min=1.8km az=110.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.10**	**28**		Pg	18 19 23.6	+0.3
KHMM	**Horse Mountain**	**0.31**	**62**		Pb	18 19 27.9	-0.8
KHMM				IAML		18 19 34.1	
comp=N,1μm,0.7s							
KHMM				IAML		18 19 35.6	
comp=E,1μm,0.3s							
KMPM	**Mount Pierce**	**0.31**	**184**		Sb	18 19 33.7	-0.4
KCTM	**Capetown**	**0.32**	**216**		Pb	18 19 28.2	-0.6
KRPM	**Rodgers**	**0.43**	**7**		Pg	18 19 30.1	+0.8
KRPM	**Rodgers**	**0.43**	**7**		Sb	18 19 38.5	+1.0
KRPM	**Rodgers**	**0.43**	**7**	IAML		18 19 39.5	
comp=N,4μm,0.4s							
KRPM				IAML		18 19 39.8	
comp=E,2μm,0.5s							
KMRM	**Mail Ridge**	**0.59**	**150**		Pb	18 19 33.6	+0.1
KMRM	**Mail Ridge**	**0.59**	**150**		Sn	18 19 43.7	-1.7
KMRM	**Mail Ridge**	**0.59**	**150**	IAML		18 19 44.9	
comp=E,3μm,0.7s							
KMRM				IAML		18 19 45.3	
comp=N,2μm,0.7s							
KHBM	**Hayfork Bally**	**0.67**	**96**		Pg	18 19 34.2	+0.5
KHBM					Sb	18 19 45.0	+0.6
KOMM	**Orleans Mounta**	**0.73**	**41**		Pg	18 19 35.3	+0.3
KRMB	**Red Mountain**	**0.80**	**10**		Pg	18 19 36.2	-0.2
KRMB	**Red Mountain**	**0.80**	**10**		Sb	18 19 48.2	0.0
KRMB	**Red Mountain**	**0.80**	**10**	IAML		18 19 48.4	
comp=E,402nm,0.5s							
KRMB				IAML		18 19 50.1	
comp=N,431nm,0.6s							
WEAV	**Weaverville**	**0.84**	**89**		Pg	18 19 37.2	+0.1
LBPM	**Beegum Peak**	**1.01**	**114**		Pg	18 19 39.6	-0.7
KIPM	**Iron Peak**	**1.03**	**153**		Pg	18 19 40.2	-0.6
N02D	**Trinity Center**	**1.08**	**77**		Pg	18 19 40.8	-0.8
N02D	**Trinity Center**	**1.08**	**77**	IAML		18 19 59.1	
comp=E,390nm,0.3s							
KBNM	**Bluenose Ridge**	**1.08**	**140**		Pg	18 19 41.1	-0.6
KSXB	**Camp Six Broad**	**1.11**	**8**		Pg	18 19 40.5	-1.8
KCPM	**Cahto Peak**	**1.11**	**159**		Pg	18 19 40.8	-1.5
KCPM				IAML		18 20 09.8	
comp=N,416nm,0.9s							
KCPM				IAML		18 20 12.5	
comp=E,323nm,0.6s							
LBKM	**Bonanza King**	**1.14**	**71**		Pg	18 19 41.6	-1.1
O02D	**Mt. Diablo Mer**	**1.14**	**119**		Pg	18 19 41.2	-1.5
SIGP	**Signal Peak, C**	**1.14**	**1**		Pg	18 19 42.1	-0.7
M02C	**Callahan**	**1.14**	**54**		Pg	18 19 41.9	-1.0
M02C	**Callahan**	**1.14**	**54**	IAML		18 19 59.7	
comp=E,183nm,1.0s							
M02C				IAML		18 20 00.6	
comp=N,208nm,0.6s							
GROM	**Round Mountain**	**1.35**	**126**		Pn	18 19 44.9	-1.3
DCMP	**DeCamp, Califo**	**1.39**	**155**		Pn	18 19 44.2	-2.3
LAMM	**Antelope Mount**	**1.41**	**51**		Pn	18 19 45.8	-1.3
YBH	**Yreka Blue Hor**	**1.44**	**46**		Pn	18 19 46.0	-1.5
KBO	**Bosley Butte**	**1.48**	**356**		Pn	18 19 45.7	-2.3
KBO				IAML		18 20 21.8	
comp=E,212nm,1.6s							
KBO				IAML		18 20 30.6	
comp=N,208nm,4.5s							
M03C	**McCloud**	**1.58**	**69**		Pn	18 19 48.0	-1.4
M03C	**McCloud**	**1.58**	**69**	IAML		18 20 22.2	
comp=N,233nm,0.7s							
M03C				IAML		18 20 27.4	
comp=E,230nm,1.1s							
LTCM	**Tuscan Springs**	**1.59**	**109**		Pg	18 19 51.8	+0.5
LBFM	**Black Fox Moun**	**1.77**	**69**		Pn	18 19 52.2	+0.2
K02D	**Willamette Mer**	**1.99**	**9**		Pn	18 19 53.5	-1.4
HATC	**Hat Creek Radi**	**2.00**	**87**		Pn	18 19 53.1	-1.9
HATC				IAML		18 20 35.8	
comp=N,140nm,2.7s							
HATC				IAML		18 20 57.4	
comp=E,100nm,3.6s							
L04D	**Klamath Falls**	**2.00**	**41**		Pn	18 19 55.5	+0.4
L04D				IAML		18 20 27.2	
comp=E,91nm,2.2s							
J01E	**Myrtle Point**	**2.43**	**3**	Pn	Pn	18 19 59.3	-1.6
J01E				IAML		18 20 29.0	
comp=N,124nm,2.5s							
J01E				IAML		18 21 18.9	
comp=E,114nm,3.8s							
DBO	**Dodson Butte**	**2.47**	**15**		Pn	18 20 00.7	-0.9
DBO				IAML		18 20 25.0	
comp=N,81nm,3.6s							
DBO				IAML		18 21 02.1	
comp=E,62nm,4.9s							
J04A	**Umpqua Nationa**	**2.91**	**30**		Pn	18 20 05.4	-2.3
J05D	**Fort Rock, OR**	**3.32**	**39**		Pn	18 20 12.3	-1.0
PINE	**Pine Mountain**	**3.85**	**36**	Pn	Pn	18 20 20.7	+0.1
LUL	**Lundy Lake**	**4.65**	**124**		Pn	18 20 35.5	+3.9
LUL					Pb	18 20 42.9	+0.1

*JMA **04** 18:27:37.5±0.7,46°.N±4°.×15°.1E±°,h30km,MV5.0/14, KURILE ISLANDS REGION*
*MOS **04** 18:27:38.5±0.8,45°.33N×151°.07E,h45km,mb4.7/34,Error ellipse: s-maj=7.8km s-min=6.3km az=112.6*
*SKHL **04** 18:27:40.9±0.7,45°.20N×151°.00E,h70km±8km,mb5.1/4*
*IDC **04** 18:27:41.6±2.4,45°.46N×151°.02E,h52km±20km,mb3.8/24, mbtmp4.1/32,ML4.0/7,MS3.5/1,Error ellipse: s-maj=18.0km s-min=12.5km az=140.0*
*NEIC **04** 18:27:43.0±1.1,45°.5N±0°.1×150°.9E±0°.1,h59km±9km, mb4.5/53,Error ellipse: s-maj=21.5km s-min=9.5km az=157.0*
ISC 04 18:27:38.3±2.9,45°.21N±0°.06×151°.11E±0°.06,h30km±20km, n241,σ1°44/248,mb4.4/91,MS4.3/7,13C-3D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.29**	**272**	*e*PN	**Pn**	**18 28 15.2**	**+1.2**
KUR				*i* S	**Sn**	**18 28 41.7**	**+0.6**
KUR				pmax	pmax		
comp=N,353nm,0.3s							
KUR				pmax	pmax		
comp=Z,534nm,0.3s							
KUR				smax	smax		
comp=N,746nm,0.4s							
KUR				smax	smax		
comp=E,1μm,0.4s							
KUR	**Kuril'sk**	**2.29**	**272**	*e*P	**Pn**	**18 28 15.1**	**+1.1**
KUR				AMB	AMB	18 28 16.5	
comp=E,710nm,0.7s							
KUR				*i* S	**Sn**	**18 28 40.0**	**-1.1**
KUR				A	A	18 28 42.0	
comp=E,1μm,0.6s							
KUR				A	A	18 28 42.0	
comp=E,900nm,0.6s							
SHO	**Shikotan**	**3.34**	**248**	*c i*PN	**Pn**	**18 28 29.5**	**+1.1**
SHO				*i* S	**Sn**	**18 29 06.0**	**-1.0**
SHO				pmax	pmax		
comp=E,74nm,0.3s							
SHO				pmax	pmax		
comp=Z,235nm,0.3s							
SHO				smax	smax		
comp=N,330nm,0.4s							
SHO				smax	smax		
comp=E,257nm,0.4s							
SHO	**Shikotan**	**3.34**	**248**	*i* P	**Pn**	**18 28 29.3**	**+0.9**
SHO				AMB	AMB	18 28 31.8	
comp=E,240nm,0.4s							
SHO				*i* S	**Sn**	**18 29 05.6**	**-1.4**
SHO				A	A	18 29 09.0	
comp=E,370nm,0.5s							
SHO				A	A	18 29 09.0	
comp=E,440nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.93**	**254**	*e*PN	**Pn**	**18 28 37.6**	**+1.1**
YUK				*e*S	**Sn**	**18 29 22.2**	**+0.7**
YUK				pmax	pmax		
comp=Z,420nm,0.2s							
YUK				pmax	pmax		
comp=N,231nm,0.1s							
YUK				smax	smax		
comp=E,1μm,0.5s							
YUK				smax	smax		
comp=N,295nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.93**	**254**	*e*P	**Pn**	**18 28 37.6**	**+1.1**
YUK				AMB	AMB	18 28 40.5	
comp=N,370nm,0.3s							
YUK				*e*S	**Sn**	**18 29 20.3**	**-1.2**
YUK				A	A	18 29 29.2	
comp=N,300nm,0.7s							
YUK				A	A	18 29 29.2	
comp=N,1μm,0.7s							
NEM2	**Nemuro 2**	**4.27**	**246**	*e*P	**Pn**	**18 28 41.3**	**+0.1**
NEM2				*e*S	**Sn**	**18 29 28.4**	**-1.6**
NMR	**Nemuro--Hokkai**	**4.28**	**246**	*e*PN	**Pn**	**18 28 41.3**	**0.0**
NMR	**Nemuro--Hokkai**	**4.28**	**246**	*e*P	**Pn**	**18 28 42.0**	**+0.7**
NMR				*e*S	**Sn**	**18 29 28.4**	**-1.8**
JRA	**Rausu**	**4.46**	**256**	*e*P	**Pn**	**18 28 46.0**	**+2.2**
JNK	**Nakash**	**4.86**	**253**	*e*P	**Pn**	**18 28 50.8**	**+1.4**
AKK	**Akkeshi**	**5.02**	**246**	*e*P	**Pn**	**18 28 51.6**	**+0.1**
JAK	**Akkeshi**	**5.12**	**247**	*e*P	**Pn**	**18 28 52.9**	**0.0**
JTKR	**Abashiri--Toko**	**5.29**	**259**	*e*P	**Pn**	**18 28 57.5**	**+2.3**
JAR	**Ashorobuto**	**5.61**	**253**	*e*P	**Pn**	**18 29 01.6**	**+2.0**
JAR				*e*S	**Sn**	**18 30 03.6**	**+0.7**
JOB	**Onbets**	**5.73**	**249**	*e*P	**Pn**	**18 29 02.0**	**+0.8**
JOB				*e*S	**Sn**	**18 30 04.6**	**-1.2**
YSS	**Yuzhno-Sakhali**	**6.07**	**290**	Pn	**Pn**	**18 29 06.2**	**+0.3**
YSS	**Yuzhno-Sakhali**	**6.07**	**290**	*e*PN	**Pn**	**18 29 08.2**	**+2.3**
YSS				pmax	pmax		
comp=Z,40nm,0.7s							
YSS	**Yuzhno-Sakhali**	**6.07**	**290**	*e*P	**Pn**	**18 29 08.2**	**+2.3**
YSS				*e*S	**Sn**	**18 30 13.4**	**-0.8**
JKK2	**Kamakawa 2**	**6.12**	**260**	*e*P	**Pn**	**18 29 09.2**	**+2.5**
JKA	**Kamikawa-asahi**	**6.17**	**263**		**Pn**	**18 29 09.8**	**+2.5**
JKA	**Kamikawa-asahi**	**6.17**	**263**	*e*P	**Pn**	**18 29 09.8**	**+2.5**
JCH	**Churui**	**6.17**	**248**	*e*P	**Pn**	**18 29 07.3**	**0.0**
JCH				*e*S	**Sn**	**18 30 13.8**	**-3.0**
ASAJ	**Asahikawa**	**6.17**	**263**	P	**Pn**	**18 29 09.5**	**+2.2**
comp=Z,3.8nm,0.3s,baz=76,slow=22,SNR=9.7							
ASAJ				S	**Sn**	**18 30 20.7**	**+4.0**
comp=Z,10nm,0.5s,baz=285,slow=30,SNR=1.1							
ASAJ				LR	LR	18 31 24.9	
comp=Z,383nm,19.6s,baz=94,slow=36							
comp=Z,38nm,0.8s							
ASAJ	**Asahikawa**	**6.17**	**263**	PN	**Pn**	**18 29 09.8**	**+2.5**
SKR	**Severo-Kuril's**	**6.42**	**30**	*e*P	**Pn**	**18 29 13.7**	**+3.0**
SKR				AMB	AMB	18 29 18.6	
comp=Z,50nm,0.6s							
SKR				*e*S	**Sn**	**18 30 24.4**	**+1.5**
SKR				A	A	18 31 39.3	
comp=Z,50nm,0.5s							
SKR				A	A	18 31 39.3	
comp=Z,40nm,0.5s							
ERM	**Erimo**	**6.60**	**244**	Pn	**Pn**	**18 29 16.6**	**+3.5**
ERM	**Erimo**	**6.60**	**244**	PN	**Pn**	**18 29 16.6**	**+3.5**
JNBK	**Urakawa-nobuka**	**6.72**	**247**	*e*P	**Pn**	**18 29 14.9**	**0.0**
PAU	**Pauzhetka**	**7.32**	**29**	*e*P	**Pn**	**18 29 23.8**	**+0.8**
PAU				*e*S	**Sn**	**18 30 42.5**	**-2.5**
TYV	**Tymovskoe**	**8.00**	**318**	*e*PN	**Pn**	**18 29 34.9**	**+2.5**
TYV				pmax	pmax		
comp=Z,9.0nm,0.7s							
TYV				pmax	pmax		
comp=Z,300nm,4.1s							
TYV	**Tymovskoe**	**8.00**	**318**	*e*P	**Pn**	**18 29 34.9**	**+2.5**
TYV				*e*S	**Sn**	**18 31 01.8**	**+0.1**
JANG	**Nango**	**8.55**	**239**	*e*P	**Pn**	**18 29 38.2**	**-1.8**
JTM	**Tenmabayashi**	**8.58**	**242**	Pn	**Pn**	**18 29 39.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**9.00**	**26**	Pn	**Pn**	**18 29 42.4**	**-3.7**
PEA0B	**Petropavlovsk-**	**9.00**	**26**	PN	**Pn**	**18 29 42.4**	**-3.7**
PETK	**Petropavlovsk-**	**9.00**	**26**	P	**Pn**	**18 29 46.3**	**+0.2**
comp=Z,0.7nm,0.4s,baz=205,slow=13,SNR=9.4							
PETK				S	**Sn**	**18 31 23.1**	**-3.2**
comp=Z,1.8nm,0.7s,baz=211,slow=8.1,SNR=1.3							
OKH	**Okha**	**9.89**	**330**	*e*P	**Pn**	**18 30 00.2**	**+1.9**
OKH				*e*S	**Sn**	**18 31 48.0**	**-0.2**
TEY	**Ternei**	**10.26**	**274**	*e*PN	Pn	18 30 09.4	+6.1
TEY	**Ternei**	**10.26**	**274**	*e*P	Pn	18 30 09.4	+6.1
MAJO	**Matsushiro**	**13.04**	**233**	Pn	**Pn**	**18 30 38.4**	**-3.0**
MAJO	**Matsushiro**	**13.04**	**233**	PN	**Pn**	**18 30 38.4**	**-3.0**
MJAR	**Matsushiro Arr**	**13.04**	**233**	P	**Pn**	**18 30 40.5**	**-0.9**
comp=Z,0.9nm,0.5s,baz=29,slow=14,SNR=2.0							
MJB9	**Matsu-Tunnel**	**13.04**	**233**	Pn	**Pn**	**18 30 39.4**	**-2.0**
USRK	**Ussuriysk Ar.**	**13.64**	**273**	P	**Pn**	**18 30 51.4**	**+1.8**
comp=Z,0.4nm,0.3s,baz=82,slow=14,SNR=8.0							
comp=Z,3.6nm,0.6s							
KLR	**Kul'dur**	**13.75**	**294**	P	**Pn**	**18 30 51.8**	**+0.8**
comp=Z,0.1nm,0.3s,baz=115,slow=16,SNR=7.5							
comp=Z,2.9nm,0.8s							
KLR	**Kul'dur**	**13.75**	**294**	*i* P	**P**	**18 30 55.8**	**-3.4**
KLR				pmax	pmax		
comp=Z,3.0nm,0.9s							
MA2	**Magadan**	**14.39**	**359**	P	**Pn**	**18 30 59.1**	**-0.6**
comp=Z,0.5nm,0.3s,baz=186,slow=12,SNR=4.9							
comp=Z,1.7nm,0.4s							
MDJ	**Mudanjiang**	**15.26**	**275**	Pn	**Pn**	**18 31 12.0**	**+0.6**
MDJ	**Mudanjiang**	**15.26**	**275**	P	**Pn**	**18 31 07.1**	**-4.3**
MDJ				pmax	pmax		
comp=Z,10.0nm,2.4s							
BNX	**BinXian**	**16.63**	**280**	⇑P	**Pn**	**18 31 28.7**	**-0.3**
BNX				pmax	pmax		
comp=Z,6.0nm,1.9s							
HEH	**HeiHe**	**16.69**	**296**	*e*P	**P**	**18 31 32.1**	**+0.3**
HEH				pmax	pmax		
comp=Z,18nm,0.8s							
ZEA	**Zeya**	**17.63**	**307**	*e*P	**P**	**18 31 44.0**	**+1.8**
ZEA				pmax	pmax		
comp=N,10.0nm,1.0s							
ZEA				pmax	pmax		
comp=Z,10.0nm,0.9s							
ZEA				pmax	pmax		
comp=E,10.0nm,1.1s							
ZEA	**Zeya**	**17.63**	**307**	*e*P	**Pn**	**18 31 40.1**	**-1.3**
SEY	**Seymchan**	**17.77**	**2**	P	**Pn**	**18 31 42.1**	**-1.0**
comp=E,0.2nm,0.3s,baz=173,slow=13,SNR=5.3							
comp=E,1.7nm,0.9s							
KSRS	**Korea Array**	**19.02**	**254**	P	**Pn**	**18 31 59.1**	**+0.7**
comp=E,0.2nm,0.3s,baz=59,slow=11,SNR=13							
comp=E,2.3nm,0.6s							
KSAR	**Wonju Array Be**	**19.05**	**254**	P	**Pn**	**18 31 59.4**	**+0.6**
KSAR	**Wonju Array Be**	**19.05**	**254**	P	**Pn**	**18 31 59.4**	**+0.6**
JNU	**Nakatsue**	**19.73**	**239**	P	**Pn**	**18 32 08.5**	**+1.4**
comp=E,0.3nm,0.3s,baz=36,slow=10,SNR=2.4							
comp=E,8.4nm,1.0s							
YAK	**Yakutsk**	**20.93**	**331**	P	**P**	**18 32 16.9**	**-1.3**
YAK				IAmb	IAmb	18 32 24.1	
comp=Z,22nm,0.9s							
YAK	**Yakutsk**	**20.93**	**331**	P	**P**	**18 32 17.2**	**-0.9**
comp=Z,20nm,0.8s,baz=14,slow=0.6,SNR=18							
comp=Z,20nm,0.8s							
YAK	**Yakutsk**	**20.93**	**331**	*c e*P	**P**	**18 32 17.5**	**-0.6**
YAK				pmax	pmax		
comp=Z,21nm,0.8s							
YAK	**Yakutsk**	**20.93**	**331**	*e*P	**P**	**18 32 17.5**	**-0.6**
BILL	**Bilibino**	**24.21**	**14**	*i* P	**P**	**18 32 54.3**	**+2.4**
BILL				pmax	pmax		
comp=Z,10.0nm,2.0s							
BILL	**Bilibino**	**24.21**	**14**	*e*P	**P**	**18 32 54.3**	**+2.4**
XLT	**XiLinHaoTe**	**24.88**	**280**	*e*P	**P**	**18 32 56.9**	**-1.4**
XLT				pmax	pmax		
comp=Z,5.0nm,0.8s							
XLT				pmax	pmax		
comp=Z,100nm,4.9s							
BJI	**Beijing**	**26.08**	**271**	P	**P**	**18 33 09.6**	**+0.5**
BJI				pmax	pmax		
comp=Z,3.0nm,1.1s							
BJI				pmax	pmax		
comp=Z,34nm,4.3s							
BJI				LR	LR		
comp=N,120nm,15.9s							
BJI				LR	LR		
comp=E,130nm,20.6s							
BJI				LR	LR		
comp=Z,100nm,21.6s							
BJT	**Baijiatuau**	**26.10**	**271**	P	**P**	**18 33 10.1**	**+0.9**
BJT	**Baijiatuau**	**26.10**	**271**	P	**P**	**18 33 10.1**	**+0.9**
BJT				pmax	pmax		
comp=Z,8.0nm,1.1s							
TIA	**Tai'an**	**27.12**	**263**	P	**P**	**18 33 21.4**	**+2.9**
TIA				pmax	pmax		
comp=Z,9.0nm,0.4s							
NJ2	**Nanjing**	**28.21**	**253**	*e*P	**P**	**18 33 29.9**	**+1.6**
NJ2				pmax	pmax		
comp=Z,3.0nm,0.7s							
TIK	**Tiksi**	**28.56**	**345**	*e*P	**P**	**18 33 30.9**	**-0.1**
TIXI	**Tiksi**	**28.58**	**345**	*i* P	**P**	**18 33 30.9**	**-0.2**
TIXI				pmax	pmax		
comp=Z,10.0nm,3.0s							
H11N2	**WAKE ISLAND Hy**	**28.58**	**148**	T	T	19 04 20.3	
baz=337,slow=76,SNR=71							
H11N1	**WAKE ISLAND Hy**	**28.60**	**148**

comp=Z,6.6nm,1.2s
TOLK Toolik Lake Re 37.78 31 P P 18 34 51.6 +0.3
TOLK IAmb IAmb 18 35 16.6
comp=Z,9.3nm,1.5s
GTA Gaotai 37.84 280 P **P 18 34 52.3 0.0**
GTA pP pP 18 35 00.9 +0.7
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=N,110nm,13.9s
GTA LR LR
comp=E,97nm,14.7s
GTA LR LR
comp=Z,160nm,18.3s
SML Sawmill 38.05 42 P **P 18 34 53.6 0.0**
SML Sawmill 38.05 42 P **P 18 34 53.7 0.0**
SML pmax pmax
comp=Z,17nm,1.3s
WRH Wood River Hil 38.10 38 P **P 18 34 54.7 +0.7**
WRH IAmb IAmb 18 35 32.1
comp=Z,7.7nm,1.5s
F24K Squaw Lake 38.30 33 P **P 18 34 55.8 +0.1**
F24K IAmb IAmb 18 35 18.2
comp=Z,4.4nm,1.1s
HDA Harding Lake 38.60 38 P **P 18 34 57.1 -1.1**
ILAR Eielson Array 38.62 37 P **P 18 34 58.4 0.0**
comp=Z,0.6nm,0.6s,baz=262,slow=7.5,SNR=8.2
comp=Z,0.6nm,0.6s
D25K Kavik River 39.00 30 P **P 18 35 01.4 -0.2**
D25K IAmb IAmb 18 35 12.8
comp=Z,4.2nm,0.7s
CD2 Chengdu 39.36 265 P **P 18 35 05.0 0.0**
CD2 pmax pmax
comp=Z,20nm,0.7s
NRIK Noril'sk 39.37 330 *i* P **P 18 35 04.1 -0.5**
NRIK pmax pmax
comp=Z,2.0nm,1.0s
BMAR Burnt Mountain 39.57 33 P **P 18 35 07.2 +0.9**
F26K Sheenjek River 39.74 33 P **P 18 35 07.5 -0.3**
SCRK Sand Creek 39.91 39 P **P 18 35 08.3 -1.0**
C27K Jago River 39.96 30 P **P 18 35 09.6 +0.1**
C27K IAmb IAmb 18 35 21.2
comp=Z,3.0nm,0.7s
GYA Guiyang 40.02 257 P **P 18 35 10.6 0.0**
GYA pmax pmax
comp=Z,5.0nm,1.0s
L27K Beaver Creek, 40.96 40 P **P 18 35 18.9 +1.0**
BCAR Beaver Creek A 40.98 40 P **P 18 35 19.4 +1.4**
F28M Old Crow 41.38 33 P **P 18 35 21.7 +0.5**
I28M Miner Creek 41.52 36 P **P 18 35 22.9 +0.4**
ZALV Zalesovo Beam 42.39 307 P **P 18 35 28.1 -1.5**
comp=Z,0.4nm,0.5s,baz=77,slow=8.1,SNR=3.6
ZALV PcP **PcP 18 37 22.6 +0.2**
comp=Z,1.4nm,0.6s,baz=90,slow=3.1,SNR=8.0
comp=Z,0.4nm,0.5s
L29M L29M 42.62 39 P **P 18 35 32.9 +1.5**
GOMU GeErMu 42.84 278 P **P 18 35 32.9 -1.1**
GOMU pP pP 18 35 39.7 -2.0
GOMU sP sP 18 35 42.2 -2.7
GOMU S S 18 41 38.5 -18
GOMU sS pS 18 42 04.8 -1.9
GOMU SS **SnSn 18 45 18.3 -5.8**
GOMU pmax pmax
comp=Z,11nm,0.9s
GOMU LR LR
comp=N,600nm,21.6s
GOMU LR LR
comp=E,270nm,18.0s
GOMU LR LR
comp=Z,320nm,18.4s
G30M tAoh Zraii Nji 42.85 34 P **P 18 35 34.3 +1.0**
I30M Mount Dempster 43.03 36 P **P 18 35 35.1 +0.3**
PZH PanZhiHua 43.41 262 P **P 18 35 37.9 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.3s
WMQ Urumqi 44.19 292 *eP* **P 18 35 45.8 +1.4**
WMQ LR LR
comp=N,430nm,20.7s
WMQ LR LR
comp=Z,520nm,21.5s
MK31 Makanchi Array 46.41 298 *ceP* **P 18 36 01.6 -0.3**
MKAR Makanchi Array 46.41 298 P **P 18 36 01.3 -0.7**
MKAR Makanchi Array 46.41 298 P **P 18 36 01.5 -0.4**
comp=Z,2.0nm,0.7s,baz=75,slow=7.6,SNR=25
MKAR PcP **PcP 18 37 36.2 -0.1**
comp=Z,0.9nm,0.6s,baz=63,slow=2.1,SNR=6.3
comp=Z,2.0nm,0.7s
MAKZ Makanchi 46.60 298 P **P 18 36 02.7 -0.7**
MAKZ Makanchi 46.60 298 P **P 18 36 02.7 -0.7**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
C36M Paulatuk 46.84 29 P **P 18 36 04.7 -0.2**
C36M IAmb IAmb 18 36 09.0
comp=Z,6.1nm,1.2s
KURK Kurchatov 47.06 304 P **P 18 36 05.1 -1.7**
KURK IAmb IAmb 18 36 07.0
comp=Z,5.4nm,1.1s
KURK Kurchatov 47.06 304 *ceP* **P 18 36 06.2 -0.6**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 47.06 304 *eP* **P 18 36 06.2 -0.6**
KURBB Kurchatov Arra 47.15 304 P **P 18 36 06.5 -1.0**
comp=Z,2.1nm,0.7s,baz=70,slow=8.7,SNR=11
KURBB PcP **PcP 18 37 38.0 -0.8**
comp=Z,0.4nm,0.4s,baz=76,slow=3.8,SNR=1.9
comp=Z,2.1nm,0.7s
LSA Lhasa 48.96 273 IAmb IAmb 18 36 24.6
comp=Z,5.4nm,0.8s
PHRA Phrae 49.74 255 P **P 18 36 28.4 +0.5**
CHTO Chiang Mai 50.40 256 P **P 18 36 33.4 +0.5**
CHTO IAmb IAmb 18 36 34.5
comp=Z,2.2nm,0.7s
CHTO Chiang Mai 50.40 256 P **P 18 36 33.4 +0.5**
CHTO pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 50.64 256 P **P 18 36 35.6 +0.9**
comp=Z,0.8nm,0.6s,baz=40,slow=7.0,SNR=11
CMAR PcP **PcP 18 37 53.5 +1.6**
comp=Z,0.6nm,0.7s,baz=351,slow=1.7,SNR=5.1
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 50.76 310 P **P 18 36 34.2 -0.9**
comp=Z,0.6nm,0.5s,baz=51,slow=7.7,SNR=6.1
BVAR PcP **PcP 18 37 51.5 -0.4**
comp=Z,0.4nm,0.4s,baz=72,slow=4.8,SNR=3.6
comp=Z,0.6nm,0.5s
EUNU Eureka 50.91 11 P **P 18 36 34.7 -1.3**
EUNU IAmb IAmb 18 36 36.2
comp=Z,5.1nm,1.1s
SHL Shillong 50.93 268 P **P 18 36 35.3 -1.7**
SHL Shillong 50.93 268 P **P 18 36 35.3 -1.7**
SHL pmax pmax
comp=Z,10.0nm,0.7s
KDJ Kajisay 51.81 295 P **P 18 36 43.7 +0.3**
KDJ pmax pmax
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 52.99 35 P **P 18 36 51.1 -0.6**
comp=Z,0.4nm,0.7s,baz=299,slow=7.0,SNR=5.7
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 52.99 35 *ceP* **P 18 36 51.0 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
AAK Ala-Archa 53.26 296 P **P 18 36 53.6 -0.6**
AAK IAmb IAmb 18 36 55.5
comp=Z,3.4nm,0.8s
AAK Ala-Archa 53.26 296 *ceP* **P 18 36 54.5 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 53.26 296 *eP* **P 18 36 54.5 +0.3**
ARLS Aral 53.77 296 P **P 18 36 58.8 +0.9**
ARLS pmax pmax
comp=Z,5.0nm,0.7s
KSH Kashi 53.95 292 P **P 18 37 03.0 +3.8**
KSH sP pwP 18 37 23.9 +12
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH LR LR
comp=N,380nm,21.6s
KSH LR LR
comp=E,320nm,17.9s
KSH LR LR
comp=Z,710nm,21.3s
ARK Arkit 55.30 297 P **P 18 37 10.0 +1.0**
ARK pmax pmax
comp=Z,6.0nm,0.9s

ARTI Arti 55.31 317 *d iP* **P 18 37 06.7 -1.9**
ARTI pmax pmax
comp=Z,11nm,2.0s
KKAR Karatay Array 55.51 299 P **P 18 37 08.6 -1.8**
KKAR Karatay Array 55.51 299 P **P 18 37 08.6 -1.8**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
TRKS Terek-Say 55.97 297 P **P 18 37 13.9 +0.1**
TRKS pmax pmax
comp=Z,9.0nm,0.9s
DRK Karamyk 56.67 294 IAmb IAmb 18 37 20.5
comp=Z,5.0nm,1.0s
BTK Batken 56.98 296 IAmb IAmb 18 37 22.1
comp=Z,5.4nm,0.9s
BTK Batken 56.98 296 P **P 18 37 21.1 +0.1**
BTK pmax pmax
comp=Z,7.0nm,1.2s
ABKAR Akbulak array 58.33 310 P **P 18 37 29.5 -0.7**
SIMJ Simiganj 58.93 295 P **P 18 37 33.7 -1.0**
NIL Nilore 59.06 288 P **P 18 37 35.7 +0.2**
NIL Nilore 59.06 288 P **P 18 37 35.7 +0.2**
NIL pmax pmax
comp=Z,22nm,0.9s
KBL Kabul 61.33 291 P **P 18 37 49.8 -1.5**
KBL Kabul 61.33 291 P **P 18 37 49.8 -1.5**
KBL pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 62.32 3 P **P 18 37 57.2 -0.4**
SUMG Summit 62.32 3 P **P 18 37 57.2 -0.4**
SUMG pmax pmax
comp=Z,12nm,0.9s
FCC Fort Churchill 63.31 32 P **P 18 38 03.0 -0.8**
FCC IAmb IAmb 18 38 15.5
comp=Z,2.0nm,0.7s
FCC Fort Churchill 63.31 32 P **P 18 38 03.0 -0.8**
FCC pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 64.83 334 P **P 18 38 12.5 -1.3**
comp=Z,2.3nm,0.7s,baz=51,slow=5.9,SNR=12
comp=Z,2.3nm,0.7s
OBN Obninsk 65.78 325 *eP* **P 18 38 18.6 -1.4**
OBN *e**PP **PcP 18 38 57.6 +6.6**
OBN *e* 18 40 45.1
OBN *e*S S 18 47 33.8 +30
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 65.78 325 *eP* **P 18 38 18.6 -1.4**
WRA Warramunga Arr 66.62 197 P **P 18 38 27.0 +1.2**
comp=Z,2.1nm,0.9s,baz=15,slow=6.9,SNR=5.1
comp=Z,2.1nm,0.9s
WRA Warramunga Arr 66.62 197 *ceP* **P 18 38 27.6 +1.8**
WRA pmax pmax
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 66.79 52 P **P 18 38 27.4 +0.4**
comp=Z,1.1nm,0.9s,baz=336,slow=3.3,SNR=5.1
comp=Z,1.1nm,0.9s
NB2 NORSAR Subarra 69.22 340 P **P 18 38 40.6 -1.1**
comp=Z,7.1nm,0.9s,baz=29,slow=6.5
NOA NORSAR Array B 69.22 340 P **P 18 38 40.2 -1.5**
comp=Z,1.8nm,0.6s,baz=29,slow=6.3,SNR=7.9
comp=Z,1.8nm,0.6s
HFS Hagfors 69.39 339 P **P 18 38 40.9 -1.8**
comp=Z,2.5nm,0.7s,baz=44,slow=5.3,SNR=7.2
comp=Z,2.5nm,0.7s
ASAR Alice Springs 70.32 197 P **P 18 38 50.7 +1.8**
comp=Z,1.0nm,0.7s,baz=17,slow=4.9,SNR=5.1
comp=Z,1.0nm,0.7s
KIV Kislovodsk 70.86 314 P **P 18 38 51.7 -0.5**
KIV Kislovodsk 70.86 314 *eP* **P 18 38 51.3 -0.9**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 70.86 314 *eP* **P 18 38 51.3 -0.9**
KBZ Khabaz 70.91 313 P **P 18 38 52.4 +0.1**
comp=Z,8.1nm,0.8s,baz=65,slow=4.3,SNR=27
comp=Z,8.1nm,0.8s
KBZ Khabaz 70.91 313 *ceP* **P 18 38 52.7 +0.4**
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 70.91 313 *eP* **P 18 38 52.7 +0.4**
SHA1 Shidzhatmaz 71.02 313 *i P* **P 18 38 52.3 -1.1**
AKASG Malin Array Be 72.03 325 P **P 18 38 57.6 -1.4**
comp=Z,1.9nm,0.6s,baz=37,slow=6.0,SNR=9.6
comp=Z,1.9nm,0.6s
AKASG Malin Array Be 72.03 325 *ceP* **P 18 38 56.7 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KOPT Kop Dagi 74.81 312 P **P 18 39 15.2 -0.7**
KOPT IAmb IAmb 18 39 18.5
comp=Z,8.5nm,1.3s
GURO Guroymak-BITLI 75.06 310 IAmb IAmb 18 39 19.0
comp=Z,5.6nm,1.0s
SCHQ Schefferville 75.26 22 P **P 18 39 17.6 -0.3**
comp=Z,3.1nm,1.0s,baz=289,slow=7.2,SNR=3.6
comp=Z,3.1nm,1.0s
OJC Ojcow 75.97 330 IAmb IAmb 18 39 22.5
comp=Z,8.5nm,1.0s
OJC Ojcow 75.97 330 P **P 18 39 21.6 -0.5**
OJC pmax pmax
comp=Z,12nm,2.1s
STHS Stebnicka Huta 76.13 329 *eP* **P 18 39 22.6 -0.4**
STHS Stebnicka Huta 76.13 329 *eP* **P 18 39 22.6 -0.4**
KOLS Kolonicke sedl 76.14 328 *eP* **P 18 39 22.6 -0.5**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 76.14 328 *eP* **P 18 39 22.6 -0.5**
MARD Mardin 76.63 310 IAmb IAmb 18 39 27.8
comp=Z,6.9nm,0.8s
LANS Liptovska Anna 76.99 330 *eP* **P 18 39 28.4 +0.5**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 76.99 330 *eP* **P 18 39 28.4 +0.5**
DPC Dobruska-Polom 77.05 332 *eP* **P 18 39 28.2 0.0**
DPC Dobruska-Polom 77.05 332 *eP* **P 18 39 28.2 0.0**
MORC Moravsky Berou 77.13 331 P **P 18 39 27.7 -0.9**
MORC IAmb IAmb 18 39 29.9
comp=Z,11nm,1.1s
MORC Moravsky Berou 77.13 331 *eP* **P 18 39 28.4 -0.3**
MORC Moravsky Berou 77.13 331 P **P 18 39 27.7 -0.9**
MORC pmax pmax
comp=Z,11nm,1.1s
KRLC Kraliky 77.13 332 *eP* **P 18 39 28.5 -0.2**
KRLC Kraliky 77.13 332 *eP* **P 18 39 28.5 -0.2**
CLL Collm 77.27 335 P **P 18 39 27.2 -2.1**
CLL Collm 77.27 335 *i P* **P 18 39 28.3 -1.0**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 77.27 335 *i P* **P 18 39 28.3 -1.0**
comp=Z,11nm,1.0s
EKA Eskdalemuir Ar 77.49 345 P **P 18 39 29.8 -0.6**
comp=Z,1.8nm,0.7s,baz=23,slow=4.7,SNR=4.2
comp=Z,1.8nm,0.7s
MLR Muntele Rosu 77.50 324 P **P 18 39 30.3 -0.6**
MLR IAmb IAmb 18 39 32.2
comp=Z,6.2nm,0.9s
MLR Muntele Rosu 77.50 324 P **P 18 39 30.4 -0.6**
comp=Z,3.9nm,0.8s,baz=111,slow=8.6
comp=Z,3.9nm,0.8s
MLR Muntele Rosu 77.50 324 P **P 18 39 30.3 -0.6**
MLR pmax pmax
comp=Z,6.0nm,0.9s
DRGR 77.74 327 P **P 18 39 31.6 -0.6**
DRGR pmax pmax
comp=Z,4.0nm,0.8s
VYHS Vyhne 77.77 330 *eP* **P 18 39 31.9 -0.3**
VYHS Vyhne 77.77 330 *eP* **P 18 39 31.9 -0.3**
VRAC Vranov 77.85 331 *eP* **P 18 39 32.4 -0.3**
JAVC Velka Javorina 77.87 331 *eP* **P 18 39 33.4 +0.6**
PRU Pruhonice 77.94 333 *eP* **P 18 39 33.3 +0.2**
PRU Pruhonice 77.94 333 *eP* **P 18 39 33.3 +0.2**
KRUC Moravsky 78.13 331 *eP* **P 18 39 33.9 -0.3**
NKC Novy Kostel 78.38 334 *eP* **P 18 39 34.0 -1.6**
NKC Novy Kostel 78.38 334 *eP* **P 18 39 34.0 -1.6**
MODS Modra-Piesok 78.42 331 *eP* **P 18 39 36.7 +0.9**
MODS Modra-Piesok 78.42 331 *eP* **P 18 39 36.7 +0.9**
BRTR Keskin Array B 78.53 316 P **P 18 39 36.5 -0.3**
comp=Z,1.8nm,0.9s,baz=57,slow=4.1,SNR=10
comp=Z,1.8nm,0.9s
BRTR Keskin Array B 78.53 316 *ceP* **P 18 39 36.9 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 79.00 333 *eP* **P 18 39 38.9 -0.1**
KHC Kasperske Hory 79.00 333 *ceP* **P 18 39 39.4 +0.4**
KHC pmax pmax
comp=Z,23nm,1.7s
CKRC Cesky Krumlov 79.03 333 *eP* **P 18 39 38.8 -0.4**

CKRC Cesky Krumlov 79.03 333 *eP* **P 18 39 38.8 -0.4**
GERES GERESS Array B 79.20 333 P **P 18 39 39.8 -0.4**
comp=Z,1.5nm,0.6s,baz=39,slow=5.1,SNR=8.7
comp=Z,1.5nm,0.6s
CONA Conrad Observa 79.29 331 *i P* **P 18 39 40.7 0.0**
comp=Z,3.4nm,0.6s
RONA Rosalia, Austr 79.33 331 *i P* **P 18 39 41.5 +0.7**
comp=Z,3.5nm,0.8s
TXAR Lajitas Array 79.47 59 P **P 18 39 42.4 +0.4**
comp=Z,0.5nm,0.7s,baz=296,slow=4.1,SNR=7.5
comp=Z,0.5nm,0.7s
SOKA Soboth 80.65 331 *eP* **P 18 39 47.8 -0.3**
comp=Z,1.1nm,0.4s
LESA Schwarzleotal 80.78 333 *i P* **P 18 39 48.9 +0.1**
comp=Z,3.3nm,0.7s
KBA Koelnbreinsper 80.87 332 *i P* **P 18 39 49.2 -0.2**
comp=Z,16nm,2.0s
WATA Walderalm 81.21 333 *eP* **P 18 39 50.9 -0.2**
comp=Z,8.1nm,1.0s
WTTA Wattenberg 81.26 333 *eP* **P 18 39 51.4 0.0**
comp=Z,6.5nm,0.8s
MOTA Moosalm 81.35 334 *i P* **P 18 39 51.5 -0.4**
comp=Z,2.8nm,0.7s
SQTA Sankt Quirin 81.43 334 *eP* **P 18 39 52.6 +0.3**
comp=Z,0.2nm,0.1s
MMAI Mount Meron Ar 82.76 310 P **P 18 39 59.4 -0.1**
comp=Z,1.7nm,0.5s,baz=40,slow=6.7,SNR=7.5
comp=Z,1.7nm,0.5s
H03N2 Juan Fernandez 140.14 91 T T 21 24 01.4
baz=307,slow=77,SNR=6.2
H03N3 Juan Fernandez 140.15 91 T T 21 24 03.2
baz=307,slow=77,SNR=7.3
H03N1 Juan Fernandez 140.15 91 T T 21 24 04.2
baz=307,slow=77,SNR=9.9
ELIB Princess Elisa 143.81 205 *d*PKPdf PKPbc 18 47 07.8 +0.9

---

*ISK **04** 18:28:08.6, 39°.64N×39°.74E, h2km, ML3.5/20*
*AFAD **04** 18:28:09.4, 39°.61N×39°.72E, h6km±1km, ML3.3*
*IDC **04** 18:28:13.6±0.9, 40°.11N×39°.19E, h0km, mb3.4/2,*
mbtmp3.3/7, ML2.9/5, Error ellipse: s-maj=18.7km
s-min=7.7km az=171.0
ISC 04 18:28:09.5±0.9, 39°.63N±0°.02×39°.73E±0°.02, h6km±7km,
n43, σ19 11/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EUZM	**Uzumlu**	**0.08**	**341**	P		**Pg**	**Pg**	**18 28 12.0**	**+0.5**
EUZM				S		**Sg**	**Sg**	**18 28 13.5**	**+0.5**
EUZM				*i* AML		AML	AML	18 28 14.0	
	comp=N,5μm,0.2s								
EUZM				*i* AML		AML	AML	18 28 14.0	
	comp=E,6μm,0.3s								
TNCL	**Tunceli-Merkez**	**0.54**	**196**	P		**Pg**	**Pg**	**18 28 20.2**	**+0.4**
TNCL				S		**Sg**	**Sg**	**18 28 27.3**	**+0.5**
TNCL				*i* AML		AML	AML	18 28 28.0	
	comp=N,2μm,0.6s								
TNCL				*i* AML		AML	AML	18 28 29.0	
	comp=E,2μm,0.3s								
KELT	**Kelkit**	**0.63**	**325**	P		**Pg**	**Pg**	**18 28 21.9**	**+0.2**
KELT				*i* AML		AML	AML	18 28 31.0	
	comp=E,879nm,0.4s								
KELT				S		**Sb**	**Sb**	**18 28 31.1**	**-1.1**
KELT				*i* AML		AML	AML	18 28 33.0	
	comp=N,1μm,0.4s								
KOPT	**Kop Dagi**	**0.70**	**57**	P		**Pg**	**Pg**	**18 28 23.3**	**+0.2**
KOPT				*i* AML		AML	AML	18 28 35.0	
	comp=N,991nm,0.5s								
KOPT				*i* AML		AML	AML	18 28 47.0	
	comp=E,807nm,0.5s								
BAYB	**BAYBURT**	**0.74**	**33**	P		**Pg**	**Pg**	**18 28 24.1**	**+0.3**
BAYB				S		**Sg**	**Sg**	**18 28 33.3**	**-0.3**
BAYB				*i* AML		AML	AML	18 28 35.0	
	comp=E,1μm,0.4s								
BAYB				*i* AML		AML	AML	18 28 43.0	
	comp=N,968nm,0.4s								
PTK	**Pertek**	**0.78**	**200**	Pg		**Pg**	**Pg**	**18 28 24.5**	**-0.1**
PTK				Sg		**Sb**	**Sb**	**18 28 36.2**	**-0.3**
BAYT	**Aydıntepe-Bayb**	**0.82**	**22**	Pg		**Pg**	**Pg**	**18 28 25.1**	**-0.2**
BAYT				Sg		**Sg**	**Sg**	**18 28 36.7**	**+0.7**
KOVA	**Elazig, Kovanc**	**0.93**	**176**	P		**Pg**	**Pg**	**18 28 27.3**	**+0.1**
KOVA				S		**Sg**	**Sg**	**18 28 39.0**	**-0.3**
KOVA				*i* AML		AML	AML	18 28 43.0	
	comp=E,350nm,0.5s								
KOVA				*i* AML		AML	AML	18 28 47.0	
	comp=N,602nm,0.5s								
ECAT	**Cat-ERZURUM**	**0.96**	**91**	P		**Pg**	**Pg**	**18 28 27.0**	**-0.9**
ECAT				*i* AML		AML	AML	18 28 49.0	
	comp=N,1μm,0.4s								
ECAT				*i* AML		AML	AML	18 28 55.0	
	comp=E,1μm,0.5s								
BNGB	**Bingl**	**0.97**	**131**	Pg		**Pg**	**Pg**	**18 28 28.2**	**0.0**
BNGB				Sg		**Sb**	**Sb**	**18 28 42.4**	**+0.5**
KEMA	**Kemaliye**	**1.02**	**250**	P		**Pg**	**Pg**	**18 28 28.8**	**-0.4**
KEMA				S		**Sb**	**Sb**	**18 28 43.3**	**0.0**
KEMA				*i* AML		AML	AML	18 28 44.0	
	comp=N,788nm,0.6s								
KEMA				*i* AML		AML	AML	18 28 46.0	
	comp=E,1μm,0.4s								
EMRE	**Erzurum,Aziziy**	**1.04**	**67**	P		**Pb**	**Pb**	**18 28 29.8**	**-0.2**
EMRE				*i* AML		AML	AML	18 28 51.0	
	comp=N,2μm,0.7s								
EMRE				*i* AML		AML	AML	18 28 51.0	
	comp=E,2μm,0.6s								
KARO	**Karliova-Bingo**	**1.07**	**107**	Pg		**Pg**	**Pg**	**18 28 29.5**	**-0.5**
ETEKE	**Tekederesi - E**	**1.10**	**81**	P		**Pg**	**Pg**	**18 28 30.3**	**-0.2**
ETEKE				S		**Sn**	**Sn**	**18 28 48.3**	**+1.2**
ETEKE				*i* AML		AML	AML	18 28 57.0	
	comp=N,1μm,0.6s								
ETEKE				*i* AML		AML	AML	18 28 57.0	
	comp=E,836nm,0.7s								
KRIK	**Erzurum-spir**	**1.16**	**52**	P		**Pb**	**Pb**	**18 28 32.0**	**0.0**
KRIK				*i* AML		AML	AML	18 28 53.0	
	comp=E,377nm,0.4s								
KRIK				*i* AML		AML	AML	18 28 54.0	
	comp=N,353nm,0.5s								
EDAM	**Erzurum-Paland**	**1.22**	**77**	Pn		**Pg**	**Pg**	**18 28 32.4**	**-0.4**
ELZG	**Elazig**	**1.27**	**207**	P		**Pn**	**Pn**	**18 28 33.5**	**-0.5**
ELZG				S		**Sn**	**Sn**	**18 28 52.4**	**+1.0**
ELZG				*i* AML		AML	AML	18 28 54.0	
	comp=E,1μm,0.7s								
ELZG				*i* AML		AML	AML	18 28 55.0	
	comp=N,1μm,0.4s								
SUSE	**Susehri**	**1.31**	**297**	P		**Pg**	**Pg**	**18 28 34.7**	**+0.1**
SUSE				S		**Sn**	**Sn**	**18 28 53.8**	**+1.5**
SUSE				*i* AML		AML	AML	18 28 58.0	
	comp=N,717nm,0.6s								
SUSE				*i* AML		AML	AML	18 29 02.0	
	comp=E,572nm,0.7s								
MACK	**Trabzon**	**1.31**	**1**	P		**Pn**	**Pn**	**18 28 34.2**	**-0.1**
MACK				S		**Sn**	**Sn**	**18 28 53.4**	**+1.3**
MACK				*i* AML		AML	AML	18 28 57.0	
	comp=N,2μm,0.2s								
MACK				*i* AML		AML	AML	18 28 58.0	
	comp=E,2μm,0.2s								
IZDR	**Rize**	**1.32**	**29**	P		**Pn**	**Pn**	**18 28 34.0**	**-0.4**
IZDR				S		**Sb**	**Sb**	**18 28 51.7**	**-0.1**
IZDR				*i* AML		AML	AML	18 28 52.0	
	comp=N,777nm,0.5s								
IZDR				*i* AML		AML	AML	18 28 53.0	
	comp=E,591nm,0.5s								
KTUT	**Trabzon**	**1.35**	**1**	Pn		**Pn**	**Pn**	**18 28 33.9**	**-1.0**
VRTB	**Varto-Mus**	**1.42**	**109**	Pn		**Pn**	**Pn**	**18 28 35.9**	**0.0**
ESPY	**Espiye-Giresun**	**1.50**	**329**	Pn		**Pn**	**Pn**	**18 28 36.9**	**+0.1**
CHOM	**Cayeli-Rize**	**1.66**	**28**	Pn		**Pn**	**Pn**	**18 28 39.6**	**+0.5**
CHOM				Sn		**Sb**	**Sb**	**18 29 02.2**	**+0.6**
KOPR	**Koprukoy-ERZUR**	**1.67**	**77**	Pn		**Pn**	**Pn**	**18 28 39.8**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.00**	**293**	Pn		**Pn**	**Pn**	**18 28 44.7**	**+1.0**
DARE	**Darende-Malaty**	**2.04**	**240**	Pn		**Pn**	**Pn**	**18 28 45.4**	**+0.9**
GURO	**Guroymak-BITLI**	**2.09**	**120**	Pn		**Pn**	**Pn**	**18 28 45.9**	**+0.8**
SVSK	**Karacayir**	**2.13**	**279**	Pn		**Pn**	**Pn**	**18 28 46.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.21**	**64**	Pn		**Pn**	**Pn**	**18 28 47.8**	**+0.9**
MLAZ	**Malazgirt-MUS**	**2.24**	**102**	Pn		**Pn**	**Pn**	**18 28 48.1**	**+0.9**
MAZI	**Mazidag**	**2.24**	**165**	Pn		**Pn**	**Pn**	**18 28 47.9**	**+0.7**
URFA	**Urfa**	**2.30**	**198**	Pn		**Pn**	**Pn**	**18 28 48.8**	**+0.8**
BCA	**Borcka**	**2.31**	**38**	Pn		**Pn**	**Pn**	**18 28 48.8**	**+0.7**
TOKT	**Tokat**	**2.54**	**287**	Pn		**Pn**	**Pn**	**18 28 52.5**	**+1.2**
SARI	**SarD1z-Kayseri**	**2.86**	**246**	Pn		**Pn**	**Pn**	**18 28 57.2**	**+1.5**
GNI	**Garni**	**3.89**	**81**	Pn		**Pg**	**Pg**	**18 29 22.4**	**-1.6**
	1.1nm,0.3s,baz=297,slow=9.0,SNR=9.7								
GNI				Pg			Pg	18 29 29.5	+5.6
	1.4nm,0.3s,baz=307,slow=8.5,SNR=6.3								
GNI				Lg			Lg	18 30 27.8	
	0.1nm,0.3s,baz=286,slow=22,SNR=1.0								
	15nm,0.7s								

BRTR	Keskin Array B	4.70	273	Pn	Pn	18 29 22.7	+1.7
	0.7nm,0.3s,baz=83,slow=15,SNR=22						
BRTR				Pg	Pb	18 29 30.9	-1.5
	0.6nm,0.3s,baz=81,slow=19,SNR=14						
BRTR				Lg	Lg	18 30 30.8	
	0.2nm,0.3s,baz=96,slow=30,SNR=1.0						
	1.8nm,0.3s						
KBZ	Khabaz	4.73	29	Pn	Pn	18 29 26.5	+5.3
	0.3nm,0.3s,baz=44,slow=2.7,SNR=7.7						
KBZ				Lg	Lg	18 30 38.8	
	0.2nm,0.3s,baz=142,slow=1.1,SNR=4.1						
	1.2nm,0.4s						
KVAR	Kislovodsk Arr	4.86	26	Pn	Pn	18 29 26.1	+3.0
	baz=242,slow=18						
	1.4nm,0.4s						
AKASG	Malin Array Be	13.30	330	Pn	Pn	18 31 14.7	-3.9
	0.2nm,0.3s,baz=142,slow=14,SNR=2.1						
	0.2nm,0.4s						
FINES	FINESS Array B	23.40	343	P	P	18 33 18.4	-0.3
	2.5nm,1.0s,baz=158,slow=11,SNR=3.4						
	2.5nm,1.0s						
BVAR	Borovoye Array	24.82	47	P	P	18 33 35.3	+3.1
	0.3nm,0.5s,baz=225,slow=9.8,SNR=2.1						
	0.3nm,0.5s						

IDC 04 18:31:27.5±1.7, 7°.04S×128°.74E, h0km, mb3.5/2, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=79.2km s-min=25.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.40	195	Pn	Pn	18 34 11.4	-0.3
	0.5nm,0.3s,baz=19,slow=13,SNR=8.1						
FITZ				Sn	Sn	18 36 13.1	-6.8
	0.3nm,0.3s,baz=163,slow=10,SNR=2.8						
	2.0nm,0.4s						
WRA	Warramunga Arr	13.93	158	Pn	Pn	18 34 46.1	-0.3
	0.3nm,0.3s,baz=336,slow=13,SNR=12						
WRA				Sn	Sn	18 37 16.9	-5.1
	0.4nm,0.3s,baz=333,slow=24,SNR=6.1						
	0.8nm,0.5s						
ASAR	Alice Springs	17.26	164	P	Pn	18 35 30.7	+0.5
	0.1nm,0.3s,baz=342,slow=12,SNR=12						
ASAR				Sn	Sn	18 38 40.5	-2.5
	0.2nm,0.3s,baz=341,slow=27,SNR=5.2						
	0.3nm,0.4s						
MKAR	Makanchi Array	67.58	327	P	P	18 42 26.0	+0.1
	0.3nm,0.5s,baz=120,slow=7.9,SNR=8.0						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	71.89	329	P	P	18 42 52.3	0.0
	0.2nm,0.5s,baz=134,slow=5.3,SNR=1.6						
	0.2nm,0.5s						

*IDC **04** 19:20:21.4±0.8, 2°.31N×127°.45E, h0km, mb4.0/11, mbtmp4.0/11, Error ellipse: s-maj=50.1km s-min=14.3km az=69.0*
*DJA **04** 19:20:29.2±0.6, 2°N±2°×12°7E±°, h21km±5km, M4.2/17, mB5.2/1, mb4.4/8, MLv4.1/17, Mw(mB)4.5/1*
*NEIC **04** 19:20:31.6±1.6, 2°.2N±0°.1×127°.5E±0°.1, h87km±12km, mb4.2/21, Error ellipse: s-maj=20.7km s-min=16.4km az=83.0*

ISC 04 19:20:29.8±0.6, 2°.40N±0°.06×127°.33E±0°.07, h64km, n57, σ1964/60, mb4.2/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.61	179	Pn	Pn	19 20 55.7	-0.5
TNTI	Ternate	1.61	179	P	Pn	19 20 56.4	+0.2
TNTI	Ternate	1.61	179	P	Pn	19 20 56.4	+0.2
TNTI				S	Sn	19 21 17.3	+1.3
SGSI	Sangihe	2.21	306	P	Pn	19 21 04.0	-0.2
SGSI				S	Sn	19 21 30.1	-0.4
KMSI	Cibinong	3.81	242	P	Pn	19 21 27.1	+1.1
SANI	Sanana	4.62	197	P	Pn	19 21 37.2	+0.1
SANI	Sanana	4.62	197	P	Pn	19 21 37.3	+0.1
SWI	Sorong	5.09	129	P	Pn	19 21 44.6	+1.0
	23nm,0.8s						
SWI				S	Sn	19 22 42.2	+1.1
	23nm,0.8s						
NLAI	Namlea	5.60	182	P	Pn	19 21 52.4	+1.8
	0.2nm34nm,0.6s						
LUWI	Luwuk	5.70	233	Pn	Pn	19 21 53.1	+1.3
LUWI	Luwuk	5.70	233	P	Pn	19 21 52.5	+0.6
LUWI	Luwuk	5.70	233	P	Pn	19 21 53.8	+1.9
	0.2nm2μm29nm,0.8s						
MRSI	Marisa	5.71	251	P	Pn	19 21 53.5	+1.3
	0.1nm25nm,0.5s						
MSAI	Masohi	5.92	164	P	Pn	19 21 57.2	+2.2
AAI	Ambon	6.10	172	P	Pn	19 21 59.3	+1.8
	0.2nm46nm,0.9s						
TOLI2	Tolitoli	6.67	259	Pn	Pn	19 22 04.5	-0.8
TOLI2	Tolitoli	6.67	259	P	Pn	19 22 04.9	-0.3
FAKI	Fak Fak	7.21	137	Pn	Pn	19 22 14.8	+2.1
FAKI	Fak Fak	7.21	137	P	Pn	19 22 14.2	+1.5
FAKI	Fak Fak	7.21	137	P	Pn	19 22 14.2	+1.5
	43nm,1.2s						
KDI	Kendari	7.87	217	P	Pn	19 22 21.9	+0.2
SBUM	Sibu	15.10	271	P	P	19 24 04.5	+1.1
FITZ	Fitzroy Crossi	20.43	185	P	P	19 25 00.6	-1.4
FITZ	Fitzroy Crossi	20.43	185	P	P	19 25 00.1	-2.0
	5.2nm,0.7s,baz=33,slow=8.8,SNR=7.9						
	5.2nm,0.7s						
YHNB	Yeheng	22.88	346	P	P	19 25 29.1	+0.8
WB0	Warramunga Arr	23.09	163	P	P	19 25 27.4	-3.0
WB0				IAmb	IAmb	19 25 30.5	
	comp=Z,15nm,1.4s						
WRAB	Tennant Creek	23.23	163	P	P	19 25 29.2	-2.6
WRAB				IAmb	IAmb	19 25 52.5	
	comp=Z,16nm,1.2s						
WRA	Warramunga Arr	23.24	163	P	P	19 25 27.1	-4.7
WRA	Warramunga Arr	23.24	163	P	P	19 25 29.6	-2.2
	comp=Z,1.4nm,0.4s,baz=337,slow=11,SNR=23						
	comp=Z,1.4nm,0.4s						
WB2	Warramunga Arr	23.24	163	P	P	19 25 27.5	-4.4
WB2				IAmb	IAmb	19 25 52.7	
	comp=Z,21nm,1.2s						
WR0	Warramunga Arr	23.32	163	P	P	19 25 29.7	-2.9
WR0				IAmb	IAmb	19 26 12.0	
	comp=Z,10nm,1.4s						
UBPT	Khong Chiam	25.07	302	P	P	19 25 48.1	-0.4
UBPT				IAmb	IAmb	19 26 30.6	
	comp=Z,9.3nm,1.4s						
AS31	Alice Springs	26.68	166	P	P	19 26 00.6	-2.5
ASAR	Alice Springs	26.68	166	P	P	19 25 59.9	-3.2
ASAR	Alice Springs	26.68	166	P	P	19 26 01.2	-1.9
	comp=Z,0.8nm,0.6s,baz=346,slow=7.6,SNR=27						
	comp=Z,0.8nm,0.6s						
CMAR	Chiang Mai Arr	32.07	302	P	P	19 26 51.1	+0.1
	comp=Z,1.0nm,0.8s,baz=113,slow=7.3,SNR=8.5						
	comp=Z,1.0nm,0.8s						
CHTO	Chiang Mai	32.23	302	P	P	19 26 52.4	+0.1
CHTO				IAmb	IAmb	19 26 52.9	
	comp=Z,5.8nm,1.2s						
STKA	Stephens Creek	36.68	159	P	P	19 27 29.2	-1.4
	comp=Z,2.4nm,0.8s,baz=311,slow=5.9,SNR=4.2						
	comp=Z,2.4nm,0.8s						
JMM	Marumori	37.40	18	P	P	19 27 36.1	-0.5
ULN	Ulaanbaatar	48.56	342	P	P	19 29 08.3	+1.4
ULN				IAmb	IAmb	19 29 09.4	
	comp=Z,3.5nm,0.9s						
SONM	Songino Array	48.75	341	P	P	19 29 09.6	+1.3
SONM				IAmb	IAmb	19 29 10.6	
	comp=Z,1.7nm,0.8s						
SONM	Songino Array	48.75	341	P	P	19 29 09.7	+1.5
	comp=Z,1.3nm,0.6s,baz=156,slow=9.0,SNR=13						
	comp=Z,1.3nm,0.6s						
MK31	Makanchi Array	58.99	325	P	P	19 30 23.6	+0.7
MK31				IAmb	IAmb	19 30 24.9	
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	58.99	325	P	P	19 30 23.7	+0.8
MKAR	Makanchi Array	58.99	325	P	P	19 30 24.0	+1.1
	comp=Z,1.0nm,0.4s,baz=114,slow=7.8,SNR=28						
	comp=Z,1.0nm,0.4s						
MAKZ	Makanchi	59.17	325	P	P	19 30 24.9	+0.7
KDJ	Kajisay	59.74	319	P	P	19 30 29.9	+1.6
ZALV	Zalesovo Beam	62.04	333	P	P	19 30 45.1	+1.6
	comp=Z,0.4nm,0.4s,baz=124,slow=6.8,SNR=2.9						
	comp=Z,0.4nm,0.4s						
ARSB	Arslanbob	62.23	316	P	P	19 30 45.2	-0.1
ARSB				IAmb	IAmb	19 30 46.7	
	comp=Z,3.9nm,1.3s						
KURBB	Kurchatov Arra	63.18	328	P	P	19 30 52.0	+0.8
	comp=Z,7.2nm,0.7s,baz=127,slow=6.0,SNR=56						
	comp=Z,7.2nm,0.7s						
KURK	Kurchatov	63.18	328	P	P	19 30 51.7	+0.5
KK31	Karatay Array	64.61	317	P	P	19 30 59.5	-1.3
KK31				IAmb	IAmb	19 31 02.4	
	comp=Z,2.3nm,0.9s						
KKAR	Karatay Array	64.61	317	P	P	19 30 59.3	-1.5
KKAR	Karatay Array	64.61	317	P	P	19 31 00.0	-0.8
KKAR				IAmb	IAmb	19 31 02.3	
	comp=Z,1.5nm,0.9s						
BVAR	Borovoye Array	68.76	327	P	P	19 31 27.7	+0.7
	comp=Z,1.7nm,0.6s,baz=131,slow=6.8,SNR=9.3						
	comp=Z,1.7nm,0.6s						
ABKAR	Akbulak array	73.56	321	P	P	19 31 55.9	-0.2
ILAR	Eielson Array	86.04	25	P	P	19 33 03.1	-0.1
	comp=Z,0.2nm,0.5s,baz=236,slow=4.3,SNR=4.4						
	comp=Z,0.2nm,0.5s						

*BJI **04** 19:29:49.9, 0°.80S×98°.17E, h21km, mB6.1/71, mb5.9/99, Ms6.2/99, Ms7 6.1/99*
*IDC **04** 19:29:51.6±0.3, 0°.39S×98°.11E, h0km, mb5.3/49, mbtmp5.3/52, ML5.4/3, MS5.5/68, Error ellipse: s-maj=12.0km s-min=8.4km az=63.0*
*IPGP **04** 19:29:52.0, 0°.49S×97°.99E, h10km, Mw6.0, Fault plane solution: NP1:ϕs347.00000°, δ13.00000°, λ127.00000°. NP2:ϕs130.00000°, δ80.00000°, λ82.00000°.*
*MOS **04** 19:29:52.4±1.0, 0°.32S×98°.13E, h17km, mb6.0/73, MS5.6/54, Error ellipse: s-maj=6.7km s-min=3.7km az=113.1*
*NEIC **04** 19:29:54.3, 0°.43S×98°.04E, h18km*
*DJA **04** 19:29:54.6±0.6, 0°S±1°×9°8E±°, h17km±4km, M5.7/134, mb5.8/134, mB6.1/114, MLv6.4/21, Mw(mB)5.8/114, MwMwp5.5/67, Mwp5.7/67*
*NEIC **04** 19:29:54.3, 0°.33S×98°.04E, h18km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^17^Nm; Mrr1.29; Mθθ0.01; Mφφ-1.30; Mrθ1.88; Mθφ1.50; Mφr-2.50; Fault plane solution: M0 3.60000×10^17^ NP1: ϕs336.58000°, δ15.23000°, λ103.69000°. NP2: ϕs142.41000°, δ75.21000°, λ86.31000°. Principal axes: T 3.1101, Plg60.0000°, Azm47.0000°; N 0.9815, Plg4.0000°, Azm143.0000°; P -4.0917, Plg30.0000°, Azm235.0000°;*
*NEIC **04** 19:29:54.4±1.4, 0°.42S±0°.03×98°.04E±0°.05, h19km±1km, mb6.1/206, Ms_20 5.9/680, Mww5.6/25 Error ellipse: s-maj=9.5km s-min=4.1km az=114.0*
*GCMT **04** 19:29:57.3±0.1, 0°.35S±0°.01×98°.00E±0°.01, h12km, MW5.8/132, Moment Tensor Solution. s130,c245; s132,c249; Duration: 2s0 Moment tensor: Scale 10^17^ Nm; Mrr1.67±.03; Mθθ-0.38±.03; Mφφ-1.29±.03; Mrθ4.80±.08; Mφφ1.31±.02; Mφr-4.16±.08; Best double couple: M0 6.65100×10^17^ NP1:ϕs345.00000°, δ10.00000°, λ123.00000°. NP2:ϕs131.00000°, δ82.00000°, λ85.00000°. Principal axes: T 6.4460, Plg53.0000°, Azm35.0000°; N 0.4080, Plg5.0000°, Azm132.0000°; P -6.8560, Plg37.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 19:30:01.0, 0°.19N×97°.65E, h33km, mb5.8, Ms5.5*

ISC 04 19:29:54.7±0.4, 0°.41S±0°.02×98°.12E±0°.02, h19km±1km, h19km:pP-P, n1765, σ1956/1566, mb5.9/381, MS5.9/462, 122C-48D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	Saibi	1.33	133	P	Pn	19 30 19.0	+0.7
SISI				S	Sg	19 30 36.1	-1.7
GSI	Gunungsitoli	1.79	342		Pn	19 30 23.9	-0.6
GSI	Gunungsitoli	1.79	342	P	Pn	19 30 25.0	+0.5
GSI	Gunungsitoli	1.79	342	P	Pn	19 30 24.1	-0.4
GSI	Gunungsitoli	1.79	342	⇑P	Pn	19 30 23.9	-0.6
MNSI	Mandailing Nat	1.88	51	P	Pn	19 30 27.5	+1.6
PPI	Padang Panjang	2.27	91	P	Pn	19 30 32.6	+1.3
PPI				S	Sn	19 31 00.0	+1.2
BKNI	Bangkinang	3.01	76		Pn	19 30 43.1	+1.8
BKNI	Bangkinang	3.01	76	P	Pn	19 30 43.2	+1.8
BKNI	Bangkinang	3.01	76	P	Pn	19 30 42.8	+1.5
BKNI	Bangkinang	3.01	76	⇑P	Pn	19 30 42.9	+1.5
PPSI	Pulau Pagai	3.01	141	P	Pn	19 30 41.2	-0.1
RPSI	Rantau Prapat	3.18	15	Pn	Pn	19 30 43.3	-0.4
RPSI	Rantau Prapat	3.18	15		Pn	19 30 44.6	+0.8
PSI	Prapat	3.29	14	Pn	Pn	19 30 44.6	-0.7
	265nm,0.3s,baz=179,slow=12,SNR=522						
PSI				Sn	Sn	19 31 23.1	-0.9
	160nm,0.3s,baz=233,slow=6.7,SNR=3.9						
PSI				LR	LR	19 32 19.4	
	comp=Z,192μm,18.2s,baz=284,slow=47						
	701nm,0.4s						
PSI	Prapat	3.29	14	P	Pn	19 30 43.3	-2.0
SNSI	Sinabang, Aceh	3.32	327	P	Pn	19 30 44.7	-1.0
TSI	Tuntungan	3.91	6	P	Pn	19 30 54.8	+1.1
KCSI	Kotacane, Aceh	3.92	355	P	Pn	19 30 53.8	-0.1
MLSI	Meulaboh, Aceh	4.95	340	P	Pn	19 31 06.8	-1.3
KSI	Kapahiang	5.51	126	P	Pn	19 31 17.3	+1.5
IPM	Ipoh	5.65	31	P	Pn	19 31 19.8	+2.0
IPM	Ipoh	5.65	31	⇑P	Pn	19 31 20.0	+2.2
LHMI	Lhok Sumawe	5.72	348	Pn	Pn	19 31 17.8	-0.9
LHMI	Lhok Sumawe	5.72	348	P	Pn	19 31 19.0	+0.3
LHMI	Lhok Sumawe	5.72	348	P	Pn	19 31 18.1	-0.6
	42nm56μm38μm2μm,1.3s						
LHMI	Lhok Sumawe	5.72	348	⇑P	Pn	19 31 18.0	-0.7
MYKOM	Kota Tinggi	6.13	69	Pn	Pn	19 31 25.4	+1.1
MYKOM	Kota Tinggi	6.13	69	P	Pn	19 31 25.9	+1.6
MYKOM	Kota Tinggi	6.13	69	⇑P	Pn	19 31 25.5	+1.2
KULM	Kulim	6.20	24	Pn	Pn	19 31 26.1	+1.0
KULM	Kulim	6.20	24	P	Pn	19 31 26.2	+1.0
KULM	Kulim	6.20	24	⇑P	Pn	19 31 26.2	+1.0
MNAI	Manna	6.22	129	Pn	Pn	19 31 25.8	+0.1
MNAI	Manna	6.22	129	P	Pn	19 31 25.9	+0.3
MNAI	Manna	6.22	129	P	Pn	19 31 26.1	+0.5
MNAI	Manna	6.22	129	⇑P	Pn	19 31 26.1	+0.5
BSI	Banda Aceh	6.51	334	P	Pn	19 31 27.7	-1.8
	9.5nm21μm11μm865nm,0.6s						
PMBI	Palembang	7.10	111		Pn	19 31 38.1	+0.4
PMBI	Palembang	7.10	111	P	Pn	19 31 37.4	-0.3
	15nm17μm12μm2μm,1.0s						
MDSI	Maura Dua	7.28	124	P	Pn	19 31 41.0	+0.9
	6.8nm24μm2μm,1.3s						
LWLI	Liwa	7.49	128	P	Pn	19 31 43.4	+0.3
PPBI	Pangkal Pinang	8.20	102	P	Pn	19 31 52.7	0.0
CMBY	CAMPBELL BAY	8.47	330	*e*P	Pn	19 31 55.3	-1.2
CMBY				*e*S	Sn	19 33 28.4	-3.4
BLSI	Bandar Lampung	8.65	125	P	Pn	19 31 59.2	+0.2
	7μm551nm,0.8s						
SRIT	Nakonsritamara	9.06	9	Pn	Pn	19 32 02.6	-2.0
SRIT	Nakonsritamara	9.06	9	P	Pn	19 32 03.7	-0.9
CGJI	Cibinong	9.75	129	P	Pn	19 32 11.3	-2.7
	6μm508nm,0.8s						
SBJI	Serang	9.80	126	P	Pn	19 32 15.3	+0.6
	9μm904nm,1.0s						
TPI	Tanjungpandan	9.81	104	P	Pn	19 32 14.7	-0.1
	14μm7μm372nm,0.9s						
TNG	Tangerang	10.25	124	P	Pn	19 32 21.7	+0.8
TNG				P	Pn	19 32 21.7	+0.8
SKJI	Sukabumi	10.66	128	P	Pn	19 32 26.9	+0.3
CNJI	Cibinong	11.30	128	P	Pn	19 32 35.3	0.0
	3μm355nm,1.1s						
LEM	Lembang	11.42	124	Pn	Pn	19 32 37.3	+0.3
	12nm,0.3s,baz=222,slow=11,SNR=13						
LEM				Sn	Sn	19 34 47.7	+3.4
	4.9nm,0.3s,baz=173,slow=22,SNR=1.0						
LEM				Lg	Lg	19 35 56.5	
	baz=130,slow=12						
LEM				LR	LR	19 37 51.7	
	comp=Z,24μm,19.5s,baz=287,slow=42						
	45nm,0.4s						
LEM	Lembang	11.42	124	P	Pn	19 32 37.5	+0.5
	6μm763nm,1.0s						
COCO	West Island	11.78	186	Pn	Pn	19 32 38.2	-3.6
COCO	West Island	11.78	186	P	Pn	19 32 40.3	-1.5
COCO				P	Pn	19 32 40.3	-1.5
COCO				S	Sn	19 34 54.7	+1.9
COCO				S	Sn	19 34 54.7	+1.9
COCO	West Island	11.78	186	P	Pn	19 32 39.9	-1.9
COCO	West Island	11.78	186	P	Pn	19 32 38.2	-3.6
JCJI	Jatiwangi	11.79	121	P	Pn	19 32 43.9	+1.9
	12μm903nm,1.2s						
KSM	Kuching	12.33	81		Pn	19 32 51.3	+1.9
KSM	Kuching	12.33	81	⇑P	Pn	19 32 52.1	+2.7
XMI	Christmas Isla	12.50	143	P	Pn	19 32 49.8	-1.9
XMI	Christmas Isla	12.50	143	⇓P	Pn	19 32 50.0	-1.7
XMIS	Christmas Isla	12.50	143	Pn	Pn	19 32 45.3	-6.4
CMJI	Cimerak	12.63	126	P	Pn	19 32 53.8	+0.3
	5μm373nm,1.1s						
KPJI	Karang Pucung	12.79	123	P	Pn	19 32 55.1	-0.5
	7μm4μm339nm,0.6s						
PBA	Port Blair	13.12	336	Pn	Pn	19 32 55.7	-4.5
PBA	Port Blair	13.12	336	P	Pn	19 33 04.5	+4.4
PBA	Port Blair	13.12	336	*e*P	Pn	19 33 02.3	+2.1
STKI	Sintang	13.36	88	P	Pn	19 33 06.2	+2.7
	20μm12μm897nm,1.2s						
SMRI	Semarang	13.95	119		Pn	19 33 11.9	+0.4
SMRI	Semarang	13.95	119	P	Pn	19 33 12.0	+0.5
SMRI	Semarang	13.95	119	P	Pn	19 33 11.9	+0.4
	10μm1μm,0.9s						
SMRI	Semarang	13.95	119	⇑P	Pn	19 33 12.6	+1.1
YOGI	Yogyakarta	14.19	122	P	Pn	19 33 15.5	+0.7
	5μm350nm,1.0s						
SBUM	Sibu	14.38	79	Pn	Pn	19 33 19.6	+2.2
SBUM	Sibu	14.38	79	P	Pn	19 33 19.3	+1.9
SBUM	Sibu	14.38	79	⇑P	Pn	19 33 19.7	+2.4
UGM	Wanagama	14.43	121	Pn	Pn	19 33 16.8	-1.3
UGM	Wanagama	14.43	121	P	Pn	19 33 16.9	-1.3
UGM	Wanagama	14.43	121	P	Pn	19 33 18.8	+0.6
	8μm875nm,1.0s						
SRDT	SRDT	14.69	4	P	Pn	19 33 23.2	+1.5
NAYO	Nakonayok	14.97	12	P	Pn	19 33 26.5	+1.1
NGJI	Ngawi	14.99	118	P	Pn	19 33 27.4	+1.7
	7μm732nm,1.1s						
TBJI	Tambak Boyo	15.10	115	P	Pn	19 33 27.7	+0.5
	8μm6μm462nm,1.1s						
PCJI	Pacitan	15.13	121	P	Pn	19 33 25.6	-2.0
	3μm212nm,0.7s						
GRJI	Gresik	15.71	115	P	Pn	19 33 34.4	-0.8
	8μm9μm870nm,1.2s						
DLV	Lat	16.01	40		Pn	19 33 39.1	-0.1
DLV	Lat	16.01	40	P	Pn	19 33 40.2	+0.9
DLV	Lat	16.01	40	⇑P	Pn	19 33 39.3	+0.1
MTKI	Muara Teweh, K	16.78	92	P	Pn	19 33 49.1	+0.2
	21μm12μm892nm,1.4s						
KMMI	Kalianget	17.12	113	P	Pn	19 33 53.3	+0.1
	11μm6μm449nm,0.9s						
GMJI	Gumukmas	17.15	118	P	Pn	19 33 52.8	-0.7
UBPT	Khong Chiam	17.20	25	P	Pn	19 33 52.8	-1.2
UBPT	Khong Chiam	17.20	25	⇑P	Pn	19 33 52.9	-1.1
ABJI	Asem Bagus	17.66	115	P	Pn	19 33 58.4	-1.4
JAGI	Jajag, Banyuwa	17.86	117	Pn	Pn	19 34 00.2	-2.2
JAGI	Jajag, Banyuwa	17.86	117	P	Pn	19 34 01.8	-0.6
JAGI	Jajag, Banyuwa	17.86	117	P	Pn	19 34 01.6	-0.8
	144nm,0.8s						
JAGI	Jajag, Banyuwa	17.86	117	⇑P	Pn	19 34 02.4	0.0
HALK	Hakmana	18.57	291	⇓P	Pn	19 34 11.8	+0.8
SRBI	Singaraja	18.66	115	P	P	19 34 11.4	-0.3
	6μm4μm387nm,1.0s						
CMAR	Chiang Mai Arr	18.76	2	P	P	19 34 11.9	-0.9
CMAR	Chiang Mai Arr	18.76	2	P	P	19 34 12.6	-0.2
	14nm,0.3s,baz=191,slow=9.9,SNR=328						
CMAR				S	Sn	19 37 44.0	+1.1
	1.8nm,0.7s,baz=197,slow=10,SNR=1.3						
CMAR				LR	LR	19 42 20.2	
	comp=Z,32μm,20.1s,baz=190,slow=40						
CMAR				P3KPbc		20 08 49.5	
	0.6nm,0.8s,baz=2.1,slow=4.9,SNR=4.4						
	119nm,0.7s						
BKB	Balikpapan	18.79	93	IAmb	IAmb	19 34 22.9	
	comp=Z,1μm,1.1s						
BKB	Balikpapan	18.79	93	P	P	19 34 14.7	+1.5
BKB	Balikpapan	18.79	93	P	P	19 34 14.9	+1.7
	comp=Z,13μmcomp=Z,1μm,1.3s						
BKB	Balikpapan	18.79	93	⇑P	P	19 34 14.8	+1.7
DNP	Denpasar	18.90	116	P	P	19 34 14.8	+0.5
	comp=Z,16μmcomp=Z,553nm,1.1s						
PALK	Pallekele	18.98	294	P	P	19 34 11.7	-3.6
PALK	Pallekele	18.98	294	P	Pn	19 34 17.1	+1.1
	comp=Z,98nm,0.9s,baz=113,slow=10,SNR=28						
PALK				S	Sn	19 37 31.0	-17
	comp=Z,22nm,0.7s,baz=222,slow=24,SNR=8.5						
PALK				LR	LR	19 40 43.5	
	comp=Z,20μm,19.0s,baz=112,slow=34						
PALK	Pallekele	18.98	294	P	Pn	19 34 17.9	+1.9
PALK				P	Pn	19 34 17.9	+1.9
PALK	Pallekele	18.98	294	*i* P	P	19 34 15.4	+0.1
PALK				pmax	pmax		
	comp=Z,158nm,0.9s						
PALK				MLR	MLR		
	comp=Z,22μm,17.0s						
PALK	Pallekele	18.98	294	⇑P	Pn	19 34 17.0	+1.0
SMKI	Samarinda	19.09	90	P	P	19 34 17.0	+0.6
	comp=Z,15μmcomp=Z,931nm,1.2s						
CHTO	Chiang Mai	19.12	2	P	P	19 34 15.7	-1.0
CHTO	Chiang Mai	19.12	2	P	P	19 34 15.7	-1.0
CHTO				pmax	pmax		
	comp=Z,353nm,1.2s						
KKM	Kota Kinabalu	19.16	70	P	P	19 34 17.6	+0.3
KKM				IAmb	IAmb	19 34 21.4	
	comp=Z,945nm,0.7s						
KKM	Kota Kinabalu	19.16	70	P	P	19 34 18.4	+1.0
KKM	Kota Kinabalu	19.16	70	⇑P	P	19 34 17.9	+0.5
TWSI	Taliwang, Sumb	20.43	114	P	P	19 34 30.2	-0.9
	comp=Z,6μmcomp=Z,213nm,1.1s						
PLAI	Plampang	21.29	114	P	P	19 34 40.1	-0.2
	comp=Z,5μmcomp=Z,196nm,0.8s						
PCI	Palu	21.72	91	P	P	19 34 44.8	-0.2
	comp=Z,13μmcomp=Z,1μm,1.4s						
TTSI	Tana Toraja	21.84	97	P	P	19 34 46.4	+0.1
	comp=Z,13μmcomp=Z,8μmcomp=Z,692nm,1.5s						
SPSI	Sidrap Palu	21.91	100

RAGD IAmb IAmb 19 35 41.3
comp=Z,194nm,1.0s
BASI Baing, Sumba 24.36 114 P **P** **19 35 12.0 +0.1**
comp=Z,7μmcomp=Z,445nm,1.4s
LUWI Luwuk 24.66 92 P **P** **19 35 14.9 +0.4**
LUWI Luwuk 24.66 92 P **P** **19 35 13.8 -0.7**
LUWI Luwuk 24.66 92 ⇑P **P** **19 35 13.0 -1.6**
CAL Calcutta 24.72 338 *e*P **P** **19 35 16.9 +1.9**
CAL *e*S **S** **19 39 35.9 -0.3**
KDI Kendari 24.73 99 P **P** **19 35 15.0 -0.2**
comp=Z,10μmcomp=Z,4μmcomp=Z,276nm,1.3s
BBSI Bau Bau 24.92 102 P **P** **19 35 17.1 +0.1**
TNCH TengChong 25.29 1 ⇑*i*P **P** **19 35 21.0 +0.7**
TNCH pP sP 19 35 26.4 -1.6
TNCH sP pP 19 35 29.6 +3.8
TNCH PP **PnPn** **19 35 59.2 +4.0**
TNCH S **S** **19 39 46.9 +1.3**
TNCH sS sS 19 39 55.1 +0.6
TNCH SS **SnSn** **19 40 46.3 +8.9**
TNCH pmax pmax
comp=Z,2μm,1.4s
TNCH pmax pmax
comp=Z,6μm,3.2s
TNCH LR LR
comp=Z,38μm,12.6s
TNCH LR LR
comp=Z,7μm,12.0s
TNCH LR LR
comp=Z,62μm,14.3s
MMRI Maumere 25.37 109 IAmb IAmb 19 35 49.9
comp=Z,442nm,1.2s
MMRI Maumere 25.37 109 P **P** **19 35 21.4 +0.4**
comp=Z,4μmcomp=Z,4μmcomp=Z,332nm,1.5s
IMP Imphal 25.41 351 *e*P **P** **19 35 21.4 +0.1**
IMP IAmb IAmb 19 35 41.3
comp=Z,621nm,1.4s
IMP *e*S **S** **19 39 50.8 +3.4**
KMI Kunming 25.77 10 ⇑P **P** **19 35 26.1 +1.4**
KMI S **S** **19 39 55.5 +2.2**
KMI ScS **ScS** **19 46 22.6 -0.4**
KMI pmax pmax
comp=Z,360nm,1.2s
KMI pmax pmax
comp=Z,5μm,3.8s
KMI LR LR
comp=Z,54μm,15.0s
KMI LR LR
comp=Z,20μm,14.2s
KMI LR LR
comp=Z,56μm,15.2s
KMSI Cibinong 25.88 88 P **P** **19 35 25.2 -0.4**
JHSG JHARSUGUGA 26.11 328 *e*P **P** **19 35 28.8 +1.2**
JHSG IAmb IAmb 19 35 48.7
comp=Z,267nm,0.8s
HYB Hyderabad 26.18 314 *e*P **P** **19 35 28.8 +0.5**
HYB IVmB_BB 19 35 51.1
comp=Z,2μm,2.2s
HYB *e*S **S** **19 39 59.6 +0.1**
HYB IVMs_BB IVMs_BB 19 45 42.3
comp=Z,3μm,19.4s
KOHI KOHIMA 26.26 352 *e*P **P** **19 35 30.2 +1.1**
KOHI *e*P **sP** **19 35 32.0 -4.8**
KOHI *e*S **S** **19 39 59.0 -2.0**
KNTI KHUNTI 26.46 333 *e*P **P** **19 35 35.8 +5.0**
KNTI IAmb IAmb 19 35 49.7
comp=Z,435nm,1.2s
I52GB DIEGO GARCIA I 26.48 254 I I 22 11 20.0
baz=76,slow=312,SNR=3.0
SHL Shillong 26.52 347 P **P** **19 35 30.4 -1.0**
SHL IAmb IAmb 19 35 46.6
comp=Z,625nm,1.0s
SHL Shillong 26.52 347 P **P** **19 35 31.6 +0.1**
SNR=261
SHL Shillong 26.52 347 *e*P **P** **19 35 31.5 +0.1**
SHL IAmb IAmb 19 35 47.0
comp=Z,767nm,1.2s
SHL Shillong 26.52 347 P **P** **19 35 30.4 -1.0**
SHL pmax pmax
comp=Z,625nm,1.0s
SHL MLR MLR
comp=Z,11μm,22.0s
H08S2 Diego Garcia H 26.54 254 P **P** **19 35 32.2 +0.9**
baz=58,slow=17,SNR=7.2
H08S2 T T 20 03 22.8
baz=75,slow=76
H08S3 Diego Garcia H 26.55 254 P **P** **19 35 30.8 -0.6**
baz=58,slow=17,SNR=6.7
H08S3 T T 20 03 21.5
baz=75,slow=76
H08S1 Diego Carcia H 26.56 254 P **P** **19 35 32.6 +1.1**
baz=58,slow=17,SNR=5.0
H08S1 T T 20 03 14.1
baz=75,slow=76
MNGI Mangalore 26.64 301 *e*P **P** **19 35 34.3 +1.8**
MNGI IAmb IAmb 19 35 53.0
comp=Z,57nm,1.0s
TGY Tagaytay City 26.80 57 P **P** **19 35 36.1 +2.1**
comp=Z,417nm,0.8s,baz=306,slow=5.9,SNR=8.7
TGY LR LR 19 46 12.3
comp=Z,16μm,19.8s,baz=232,slow=37
BOK Bokaro 26.83 335 *e*P **P** **19 35 35.5 +1.4**
BOK IAmb IAmb 19 35 52.1
comp=Z,475nm,0.8s
PZH PanZhiHua 26.98 7 P **P** **19 35 35.5 -0.1**
PZH PP **PnPn** **19 36 27.1 +8.9**
PZH S **S** **19 40 17.2 +5.0**
PZH SS **SnSn** **19 41 27.3 +8.7**
PZH pmax pmax
comp=Z,170nm,0.9s
PZH pmax pmax
comp=Z,3μm,10.0s
PZH LR LR
comp=Z,43μm,16.8s
PZH LR LR
comp=Z,21μm,15.3s
PZH LR LR
comp=Z,54μm,17.2s
BLSP Bilaspur 27.29 326 *e*P **P** **19 35 37.6 -0.7**
BLSP IAmb IAmb 19 35 47.8
comp=Z,212nm,1.1s
SHBG Sahibganj 27.41 339 *e*P **P** **19 35 39.8 +0.6**
HKPS Hong Kong Po S 27.43 34 P **P** **19 35 39.0 -0.5**
SOEI Soe 27.62 110 IAmb IAmb 19 35 57.5
comp=Z,206nm,0.8s
SOEI Soe 27.62 110 P **P** **19 35 41.5 0.0**
SOEI Soe 27.62 110 S **S** **19 40 23.1 +0.5**
SOEI Soe 27.62 110 P **P** **19 35 41.5 0.0**
comp=Z,2μmcomp=Z,281nm,1.5s
SOEI Soe 27.62 110 ⇓P **P** **19 35 44.9 +3.5**
GZH Guangzhou 27.65 31 P **P** **19 35 46.9 +5.4**
GZH S S 19 40 38.2 +16
GZH pmax pmax
comp=Z,240nm,1.8s
GZH LR LR
comp=Z,54μm,13.7s
GZH LR LR
comp=Z,19μm,14.0s
GZH LR LR
comp=Z,57μm,13.9s
SGSI Sangihe 27.69 81 P **P** **19 35 40.7 -1.3**
SANI Sanana 27.91 94 P **P** **19 35 44.3 +0.4**
SANI Sanana 27.91 94 P **P** **19 35 42.0 -1.9**
comp=Z,6μmcomp=Z,2μcomp=Z,128nm,1.3s
SANI Sanana 27.91 94 ⇑P **P** **19 35 42.0 -1.9**
GYA Guiyang 27.95 17 ⇓P **P** **19 35 45.3 +1.0**
GYA S **S** **19 40 36.4 +8.9**
GYA pmax pmax
comp=Z,390nm,1.2s
GYA LR LR
comp=Z,40μm,15.5s
GYA LR LR
comp=Z,21μm,15.6s
GYA LR LR
comp=Z,56μm,18.3s
ZIRO ZIRO 28.07 352 *e*P **P** **19 35 45.6 +0.2**
ZIRO *e*S **S** **19 40 31.6 +2.0**
GULI GuiLin 28.16 24 P **P** **19 35 46.6 +0.6**
GULI S **S** **19 40 27.8 -2.8**
GULI pmax pmax
comp=Z,400nm,1.6s
GULI LR LR
comp=Z,7μm,18.5s
GULI LR LR
comp=Z,4μm,20.4s
GULI LR LR
comp=Z,6μm,22.3s
JPG JALPAIGURI 28.29 342 *e*P **P** **19 35 47.5 +0.4**
DAV Davao City (W) 28.38 74 LR LR 19 48 56.7
comp=Z,16μm,18.7s,baz=236,slow=40
DAV Davao City (W) 28.38 74 P **P** **19 35 47.0 -1.1**
TAWA Tawang 28.48 348 *e*P **P** **19 35 50.4 +1.2**
TAWA IAmb IAmb 19 35 57.9
comp=Z,212nm,1.1s
TAWA *e*S **S** **19 40 36.9 +0.5**
GOA Goa 28.74 304 *e*P **P** **19 35 51.4 +0.1**
GOA IAmb IAmb 19 36 12.0
comp=Z,170nm,1.6s
GTK Tadong 29.05 342 *e*P **P** **19 35 54.8 +0.8**
GTK IAmb IAmb 19 36 23.0
comp=Z,397nm,1.3s
GTK *e*S **S** **19 40 46.5 +1.7**
NLAI Namlea 29.09 96 P **P** **19 35 54.7 +0.2**
comp=Z,7μmcomp=Z,4μmcomp=Z,258nm,0.9s
TNTI Ternate 29.27 88 P **P** **19 35 54.0 -2.0**
KAD Karad 29.43 308 *e*P **P** **19 35 58.5 +1.0**
KAD IAmb IAmb 19 36 32.2
comp=Z,115nm,1.6s
AKL Akola 29.44 317 *e*P **P** **19 35 55.9 -1.5**
VAR Varanasi 29.44 331 *e*P **P** **19 35 57.0 -0.4**
MBWA Marble Bar 29.51 136 P P 19 36 03.1 +5.1
MBWA Marble Bar 29.51 136 P P 19 35 54.6 -3.5
MBWA P P 19 35 54.6 -3.5
MBWA S S 19 40 45.4 -6.6
MBWA S S 19 40 45.4 -6.6
MBWA Marble Bar 29.51 136 P **P** **19 35 58.3 +0.3**
MBWA Marble Bar 29.51 136 ⇑P P 19 36 04.3 +6.2
PSAC1 Pilbara Seismi 29.81 136 P **P** **19 36 03.6 +2.8**
PSA00 Pilbara Seismi 29.86 136 P **P** **19 36 04.2 +3.0**
PSA00 Pilbara Seismi 29.86 136 P **P** **19 36 02.5 +1.3**
ALBI Allahabad 30.04 329 *e*P **P** **19 36 02.2 -0.6**
ALBI IAmb IAmb 19 36 35.7
comp=Z,303nm,1.1s
ALBI *e*S **S** **19 40 59.9 -0.3**
AAI Ambon 30.22 97 P **P** **19 36 03.9 -0.6**
comp=Z,5μmcomp=Z,2μmcomp=Z,137nm,0.8s
POO Poona 30.38 310 *e*P **P** **19 36 07.0 +1.1**
POO IAmb IAmb 19 36 16.9
comp=Z,95nm,1.3s
LSA Lhasa 30.67 348 IAmb IAmb 19 36 20.6
comp=Z,378nm,1.1s
LSA Lhasa 30.67 348 P **P** **19 36 09.3 +0.5**
LSA S **S** **19 41 10.3 -0.6**
LSA pmax pmax
comp=Z,190nm,0.8s
LSA LR LR
comp=Z,11μm,24.9s
LSA LR LR
comp=Z,7μm,24.5s
LSA Lhasa 30.67 348 P **P** **19 36 10.2 +1.5**
LSA P **P** **19 36 10.2 +1.5**
LSA P **P** **19 36 10.2 +1.5**
LSA Lhasa 30.67 348 *i* P **P** **19 36 09.9 +1.1**
SNR=153
NRDN NARMADA NAGAR 30.74 320 *e*P **P** **19 36 09.0 +0.1**
NRDN IAmb IAmb 19 36 29.0
comp=Z,98nm,0.4s
MSAI Masohi 30.92 96 P **P** **19 36 09.2 -1.5**
comp=Z,3μmcomp=Z,260nm,1.1s
BHPL Bhopal 30.95 321 *e*P **P** **19 36 11.6 +0.8**
BHPL IAmb IAmb 19 36 28.8
comp=Z,87nm,1.4s
KNMB Chin-men Tao 31.58 37 P **P** **19 36 15.5 -0.8**
KNMB IAmb IAmb 19 36 17.5
comp=Z,404nm,1.4s
KNMB IAMs_20 IAMs_20 19 50 42.7
comp=Z,18μm,18.0s
CD2 Chengdu 31.60 9 ⇑P **P** **19 36 16.0 -0.5**
CD2 PP **PP** **19 37 25.2 -2.9**
CD2 S **S** **19 41 22.2 -2.4**
CD2 pmax pmax
comp=Z,190nm,1.1s
CD2 pmax pmax
comp=Z,3μm,2.9s
CD2 LR LR
comp=Z,47μm,14.0s
CD2 LR LR
comp=Z,26μm,13.3s
CD2 LR LR
comp=Z,56μm,14.0s
LKN LUCKNOW 31.71 330 *e*P **P** **19 36 16.3 -1.1**
CNSH ChangSha 31.78 25 P **P** **19 36 18.2 +0.2**
CNSH S **S** **19 41 27.6 +0.3**
CNSH pmax pmax
comp=Z,290nm,1.4s
CNSH LR LR
comp=Z,20μm,14.7s
CNSH LR LR
comp=Z,13μm,13.7s
CNSH LR LR
comp=Z,24μm,13.1s
JHNI Jhansi 31.94 325 *e*P **P** **19 36 18.6 -0.9**
JHNI IAmb IAmb 19 36 22.4
comp=Z,123nm,0.9s
GUNA GUNA 32.03 322 *e*P **P** **19 36 20.2 -0.2**
GUNA IAmb IAmb 19 36 24.0
comp=Z,102nm,0.8s
QZH Quanzhou 32.06 37 P **P** **19 36 20.0 -0.5**
QZH PP **PP** **19 37 31.1 -2.0**
QZH S **S** **19 41 34.5 +2.7**
QZH pmax pmax
comp=Z,300nm,1.2s
QZH pmax pmax
comp=Z,2μm,5.5s
QZH LR LR
comp=Z,22μm,12.1s
QZH LR LR
comp=Z,16μm,12.7s
QZH LR LR
comp=Z,30μm,13.5s
TWGBT Beinan 32.13 43 P **P** **19 36 22.4 +1.2**
TPUB Ta-pu 32.16 41 P **P** **19 36 20.9 -0.5**
TPUB Ta-pu 32.16 41 P **P** **19 36 21.2 -0.2**
FITZ Fitzroy Crossi 32.25 125 P **P** **19 36 21.6 -0.7**
comp=Z,37nm,0.9s,baz=288,slow=4.7,SNR=21
FITZ S S 19 41 28.3 -6.8
comp=Z,13nm,1.1s,baz=17,slow=7.0,SNR=3.1
FITZ LR LR 19 51 19.3
comp=Z,17μm,20.1s,baz=306,slow=40
comp=Z,37nm,0.9s
YULB Yu-li 32.66 42 IAmb IAmb 19 36 28.5
comp=Z,378nm,1.1s
YULB Yu-li 32.66 42 P **P** **19 36 26.0 +0.1**
MEEK Meekatharra 32.70 145 P **P** **19 36 27.4 +1.3**
SSLB Suanglung 32.71 41 P **P** **19 36 25.3 -1.0**
SSLB Suanglung 32.71 41 P **P** **19 36 26.5 +0.2**
FRKB FARRUKHABAD 32.90 329 *e*P **P** **19 36 27.1 -0.8**
FRKB IAmb IAmb 19 36 44.4
comp=Z,2μm,1.9s
SWI Sorong 33.14 91 P **P** **19 36 28.4 -1.7**
comp=Z,4μcomp=Z,3μcomp=Z,153nm,1.0s
MORW Morawa 33.24 151 P **P** **19 36 32.2 +1.4**
comp=Z,30nm,0.8s
MORW Morawa 33.24 151 P **P** **19 36 32.6 +1.7**
NACB Ninganchiao 33.40 41 P **P** **19 36 32.6 +0.3**
YHNB Yeheng 33.60 40 IAmb IAmb 19 36 35.8
comp=Z,437nm,1.2s
YHNB Yeheng 33.60 40 P **P** **19 36 34.0 -0.1**
KNRA Kununurra 33.83 118 P **P** **19 36 33.6 -2.5**
KNRA Kununurra 33.83 118 P P 19 36 33.3 -2.9
TATO Taipei 33.88 40 P **P** **19 36 36.4 -0.1**
TATO Taipei 33.88 40 P **P** **19 36 37.0 +0.5**
FAKI Fak Fak 34.20 95 IAmb IAmb 19 36 48.3
comp=Z,164nm,1.0s
FAKI Fak Fak 34.20 95 P **P** **19 36 38.4 -1.0**
FAKI Fak Fak 34.20 95 P **P** **19 36 37.8 -1.7**
comp=Z,5μmcomp=Z,4μmcomp=Z,192nm,1.8s
FAKI Fak Fak 34.20 95 ⇑P **P** **19 36 37.7 -1.7**
LGTI Lohaghat 34.25 332 *e*P **P** **19 36 39.4 -0.2**
LGTI IAmb IAmb 19 36 59.5
comp=Z,416nm,1.3s
PTH Pithoragarh 34.34 332 *e*P **P** **19 36 41.0 +0.3**
PTH IAmb IAmb 19 37 00.6
comp=Z,626nm,1.2s
WHN Wuhan 34.43 25 ⇑P **P** **19 36 41.8 +0.6**
WHN sP **sP** **19 36 46.9 -1.5**
WHN S **S** **19 42 12.5 +3.9**
WHN pmax pmax
comp=Z,1μm,1.1s
WHN pmax pmax
comp=Z,8μm,2.8s
WHN LR LR
comp=Z,33μm,11.7s
WHN LR LR
comp=Z,27μm,11.4s
WHN LR LR
comp=Z,55μm,13.0s
UGON Onchagaon 34.51 327 *e*P **P** **19 36 39.5 -2.3**
YOJ Yonaguni jima 34.54 43 P **P** **19 36 41.8 -0.4**
TKRD Thakurdwara 34.68 330 *e*P **P** **19 36 42.1 -1.3**
BLDU Ballidu 34.85 151 P **P** **19 36 46.0 +1.2**
comp=Z,43nm,1.1s
ASOR Ausora 34.93 328 *e*P **P** **19 36 43.6 -1.9**
ASOR *e*S **S** **19 42 14.0 -2.2**
MTN Manton Dam 34.98 112 P **P** **19 36 50.8 +4.7**
JMIU JAMIA UNIVERSI 35.04 327 *e*P **P** **19 36 44.7 -1.8**
LDR Lodi Road 35.10 327 *e*P **P** **19 36 45.1 -1.8**
KUDL Kundal 35.16 326 *e*P **P** **19 36 46.2 -1.3**
KUDL IAmb IAmb 19 37 08.9
comp=Z,50nm,0.8s
NPLP NPLP New Delhi 35.16 327 *e*P **P** **19 36 45.5 -2.0**
NPLP IAmb IAmb 19 37 05.5
comp=Z,225nm,1.6s
XAN Xi'an 35.73 15 ⇑P **P** **19 36 52.2 -0.2**
XAN pP sP 19 36 58.3 -2.0
XAN sP pP 19 37 00.9 +2.9
XAN PP **PP** **19 38 15.6 +1.8**
XAN S **S** **19 42 26.8 -1.8**
XAN pmax pmax
comp=Z,1μm,1.1s
XAN pmax pmax
comp=Z,8μm,5.0s
XAN LR LR
comp=Z,37μm,17.2s
XAN LR LR
comp=Z,22μm,19.9s
XAN LR LR
comp=Z,71μm,17.2s
MUN Mundaring 35.75 153 P **P** **19 36 55.2 +2.7**
MUN Mundaring 35.75 153 P **P** **19 36 54.3 +1.8**
RTK Rohtak 35.89 326 *e*P **P** **19 36 52.8 -0.9**
RTK IAmb IAmb 19 37 20.2
comp=Z,190nm,1.2s
DDI Dehra Dun 36.04 330 *e*P **P** **19 36 54.8 -0.3**
DDI IAmb IAmb 19 37 25.6
comp=Z,252nm,1.1s
KLBR Kellerberrin 36.16 151 P **P** **19 36 56.9 +0.9**
KDU Kakadu 36.17 111 P **P** **19 36 55.8 -0.6**
JMJ Miyako jima 2 36.34 44 P **P** **19 36 58.0 +0.3**
GOMU GeErMu 36.55 356 P **P** **19 37 00.1 +0.4**
GOMU pP sP 19 37 05.3 -2.2
GOMU sP pP 19 37 08.8 +3.4
GOMU PP **PP** **19 38 26.8 +3.7**
GOMU S **S** **19 42 40.8 -0.9**
GOMU pmax pmax
comp=Z,75nm,1.8s
GOMU LR LR
comp=Z,13μm,18.6s
GOMU LR LR
comp=Z,10μm,16.7s
GOMU LR LR
comp=Z,15μm,17.7s
LZH Lanzhou 36.70 8 ⇑P **P** **19 37 01.1 +0.3**
LZH sP sP 19 37 08.8 +0.2
LZH PP **PP** **19 38 26.9 +2.4**
LZH S **S** **19 42 42.4 -1.1**
LZH sS sS 19 42 54.2 +1.9
LZH SS **SnSn** **19 45 10.4 -4.2**
LZH ScS **ScS** **19 47 15.5 -0.7**
LZH pmax pmax
comp=Z,270nm,1.3s
LZH pmax pmax
comp=Z,3μm,4.1s
LZH LR LR
comp=Z,21μm,14.8s
LZH LR LR
comp=Z,20μm,16.1s
LZH LR LR
comp=Z,23μm,15.1s
BKNR BIKANER 36.97 322 *e*P **P** **19 37 01.4 -1.6**
BKNR IAmb IAmb 19 37 20.6
comp=Z,192nm,0.8s
NWAO Narrogin (SRO) 37.02 153 P **P** **19 37 04.5 +1.2**
SMLA Simla 37.14 329 *e*P **P** **19 37 04.3 -0.1**
SMLA IAmb IAmb 19 37 13.7
comp=Z,254nm,1.2s
LYN LuoYang 37.28 20 ⇑*i*P **P** **19 37 06.3 +0.7**
LYN sP sP 19 37 13.5 0.0
LYN PP **PnPn** **19 38 37.2 +5.8**
LYN S **S** **19 42 52.8 +0.7**
LYN SS **SnSn** **19 45 28.4 -0.2**
LYN pmax pmax
comp=Z,2μm,1.9s
LYN pmax pmax
comp=Z,10μm,4.2s
LYN LR LR
comp=Z,16μm,18.6s
LYN LR LR
comp=Z,36μm,14.6s
LYN LR LR
comp=Z,36μm,13.7s
H01W3 Cape Leeuwin H 37.42 158 T T 20 16 43.7
baz=334,slow=76,SNR=79
H01W2 Cape Leeuwin H 37.43 158 T T 20 16 59.8
baz=334,slow=76,SNR=116
H01W1 Cape Leeuwin H 37.44 158 T T 20 17 00.2
baz=334,slow=76,SNR=94
JASL Jaisalmer 37.74 318 *e*P **P** **19 37 09.7 +0.1**
JASL IAmb IAmb 19 37 27.9
comp=Z,210nm,1.1s
BHK Bhakra 37.75 329 *e*P **P** **19 37 08.8 -0.8**
BHK IAmb IAmb 19 37 28.3
comp=Z,108nm,0.8s
BHK *e*S **S** **19 42 53.9 -5.6**
NJ2 Nanjing 37.77 29 ⇑*i*P **P** **19 37 09.8 +0.1**
NJ2 PP **PnPn** **19 38 42.8 +5.4**
NJ2 S S 19 43 09.4 +10
NJ2 pmax pmax
comp=Z,160nm,1.4s
NJ2 pmax pmax
comp=Z,2μm,4.4s
NJ2 LR LR
comp=Z,15μm,14.7s
NJ2 LR LR
comp=Z,15μm,12.8s
NJ2 LR LR
comp=Z,20μm,14.2s
BAKI Biak 37.99 91 P **P** **19 37 10.6 -1.3**
comp=Z,97nm,1.0s
SRGN SRI GANGA NAGA 37.99 325 *e*P **P** **19 37 10.0 -1.6**
WRKA Warakurna 38.08 132 P **P** **19 37 13.1 +0.6**
comp=Z,145nm,1.7s
WRKA Warakurna 38.08 132 P **P** **19 37 12.6 +0.1**
WRKA Warakurna 38.08 132 ⇓P **P** **19 37 13.4 +0.9**
SRPI Serui, Papua 38.14 92 P **P** **19 37 12.5 -0.6**
comp=Z,2μmcomp=Z,88nm,0.8s
KMBL Kambalda 38.14 146 P **P** **19 37 14.4 +1.5**
comp=Z,139nm,0.9s
KMBL Kambalda 38.14 146 P **P** **19 37 14.4 +1.5**
SSE Sheshan 38.22 33 P **P** **19 37 13.9 +0.4**
SSE S **S** **19 43 10.4 +3.9**
SSE pmax pmax
comp=Z,120nm,1.1s
SSE pmax pmax
comp=Z,1μm,4.8s
SSE LR LR
comp=Z,10μm,15.6s
SSE LR LR
comp=Z,8μm,15.4s
DHRM DHARAMSHALA 38.48 330 *e*P **P** **19 37 15.2 -0.8**
DHRM IAmb IAmb 19 37 46.2
comp=Z,305nm,1.1s
JMU Jammu 39.57 329 *e*P **P** **19 37 24.6 -0.2**
JMU IAmb IAmb 19 37 45.5
comp=Z,205nm,0.8s
GTA Gaotai 39.66 2 P **P** **19 37 26.2 +0.6**
GTA PP **PP** **19 38 59.0 +2.1**
GTA ScP **ScP** **19 43 14.3 -6.2**
GTA S **S** **19 43 26.0 -2.2**
GTA ScS **ScS** **19 47 28.0 -5.0**
GTA pmax pmax
comp=Z,88nm,1.4s
GTA pmax pmax
comp=Z,1μm,7.6s
GTA LR LR
comp=Z,6μm,13.9s

GTA					LR	LR	
	comp=Z,8μm,13.9s						
GTA					LR	LR	
	comp=Z,13μm,14.7s						
JOW	**Kunigami**	**39.69**	**45**		IAmb	IAmb	19 37 27.7
	comp=Z,551nm,1.3s						
JOW	**Kunigami**	**39.69**	**45**		P	**P**	**19 37 26.6 +0.6**
JOW	**Kunigami**	**39.69**	**45**	⇑	P	**P**	**19 37 26.0 0.0**
TIY	**Taiyuan**	**40.17**	**18**		P	**P**	**19 37 30.3 +0.5**
TIY					pP	sP	19 37 40.0 +2.4
TIY					PP	**PnPn**	**19 39 10.0 +3.9**
TIY					S	**S**	**19 43 35.8 0.0**
TIY					pmax	pmax	
	comp=Z,83nm,1.7s						
TIY					pmax	pmax	
	comp=Z,3μm,5.8s						
TIY					LR	LR	
	comp=Z,21μm,15.1s						
TIY					LR	LR	
	comp=Z,15μm,15.8s						
TIY					LR	LR	
	comp=Z,16μm,15.1s						
WB0	**Warramunga Arr**	**40.39**	**121**		P	**P**	**19 37 30.3 -1.6**
WB0					IAmb	IAmb	19 37 40.9
	comp=Z,533nm,1.7s						
WRA	**Warramunga Arr**	**40.41**	**121**		P	**P**	**19 37 31.0 -1.1**
	comp=Z,55nm,0.7s,baz=301,slow=9.1,SNR=111						
WRA					PcP	**PcP**	**19 39 35.4 +0.3**
	comp=Z,11nm,0.9s,baz=307,slow=3.2,SNR=5.6						
WRA					S	S	19 43 30.2 -10
	comp=Z,16nm,1.0s,baz=295,slow=16,SNR=7.2						
WRA					LR	LR	19 57 59.4
	comp=Z,4μm,18.7s,baz=299,slow=42						
	comp=Z,55nm,0.7s						
WRA	**Warramunga Arr**	**40.41**	**121**	*i*	P	**P**	**19 37 31.0 -1.1**
WRA					pmax	pmax	
	comp=Z,65nm,0.7s						
WRAB	**Tennant Creek**	**40.42**	**121**		P	**P**	**19 37 30.6 -1.5**
WRAB					IAmb	IAmb	19 37 41.4
	comp=Z,749nm,1.9s						
WRAB	**Tennant Creek**	**40.42**	**121**	*i*	P	**P**	**19 37 31.5 -0.6**
WRAB					pmax	pmax	
	comp=Z,372nm,1.9s						
WRAB					MLR	MLR	
	comp=Z,5μm,19.0s						
WB2	**Warramunga Arr**	**40.42**	**121**		P	**P**	**19 37 30.8 -1.4**
WB2					IAmb	IAmb	19 37 41.3
	comp=Z,812nm,1.9s						
TIA	**Tai'an**	**40.49**	**24**		P	**P**	**19 37 32.1 -0.4**
TIA					PP	**PnPn**	**19 39 12.3 +2.5**
TIA					S	**S**	**19 43 48.0 +7.5**
TIA					pmax	pmax	
	comp=Z,180nm,1.2s						
TIA					pmax	pmax	
	comp=Z,2μm,3.5s						
TIA					LR	LR	
	comp=Z,8μm,17.9s						
TIA					LR	LR	
	comp=Z,13μm,13.1s						
TIA					LR	LR	
	comp=Z,12μm,17.2s						
SMPI	**Sarmi**	**40.61**	**93**		P	**P**	**19 37 32.7 -1.0**
	comp=Z,3μmcomp=Z,149nm,1.1s						
HNS	**HongShan**	**40.63**	**20**	⇑	P	**P**	**19 37 34.5 +1.0**
HNS					pP	**sP**	**19 37 40.5 -0.7**
HNS					sP	pP	19 37 44.2 +5.0
HNS					PP	**PnPn**	**19 39 14.1 +2.8**
HNS					S	**S**	**19 43 46.4 +4.0**
HNS					sS	sS	19 43 52.9 +2.1
HNS					ScS	**ScS**	**19 47 36.1 -2.4**
HNS					pmax	pmax	
	comp=Z,450nm,1.3s						
HNS					pmax	pmax	
	comp=Z,4μm,5.7s						
HNS					LR	LR	
	comp=Z,16μm,14.3s						
HNS					LR	LR	
	comp=Z,9μm,16.3s						
HNS					LR	LR	
	comp=Z,14μm,15.5s						
SRNI	**Srinagar**	**40.68**	**330**	*eP*		**P**	**19 37 33.2 -0.8**
NIL	**Nilore**	**41.16**	**328**		P	**P**	**19 37 36.8 -1.2**
NIL	**Nilore**	**41.16**	**328**		P	**P**	**19 37 38.0 0.0**
NIL					P	**P**	**19 37 38.0 0.0**
NIL	**Nilore**	**41.16**	**328**		P	**P**	**19 37 36.8 -1.2**
NIL					pmax	pmax	
	comp=Z,134nm,0.8s						
FORT	**Forrest**	**41.46**	**140**		P	P	19 37 46.7 +6.1
FORT	**Forrest**	**41.46**	**140**		P	**P**	**19 37 42.2 +1.7**
FORT	**Forrest**	**41.46**	**140**	⇑	P	P	19 37 46.9 +6.4
ASAR	**Alice Springs**	**41.70**	**126**		P	**P**	**19 37 42.5 -0.2**
	comp=Z,30nm,0.6s,baz=295,slow=8.1,SNR=247						
ASAR					PcP	**PcP**	**19 39 39.1 -0.1**
	comp=Z,7.7nm,0.7s,baz=311,slow=3.2,SNR=1.9						
ASAR					S	**S**	**19 43 56.3 -2.7**
	comp=Z,29nm,1.1s,baz=296,slow=14,SNR=15						
ASAR					LR	LR	19 57 11.1
	comp=Z,11μm,20.9s,baz=308,slow=39						
	comp=Z,30nm,0.6s						
AS31	**Alice Springs**	**41.70**	**126**		P	**P**	**19 37 41.8 -0.9**
	comp=Z,57nm,1.2s						
AS01	**Alice Springs**	**41.74**	**126**		P	**P**	**19 37 42.7 -0.3**
GENI	**Genyem**	**42.08**	**93**		P	**P**	**19 37 46.2 +0.3**
GENI	**Genyem**	**42.08**	**93**		P	P	19 37 43.2 -2.7
	comp=Z,4μmcomp=Z,3μmcomp=Z,259nm,1.2s						
GENI	**Genyem**	**42.08**	**93**	⇑	P	P	19 37 43.5 -2.4
BTO	**Baotou**	**42.23**	**14**	*eP*		**P**	**19 37 48.4 +1.6**
BTO					pP	sP	19 37 57.5 +3.0
BTO					S	**S**	**19 44 07.8 +1.4**
BTO					pmax	pmax	
	comp=Z,230nm,0.8s						
BTO					pmax	pmax	
	comp=Z,2μm,4.4s						
BTO					LR	LR	
	comp=Z,12μm,13.5s						
BTO					LR	LR	
	comp=Z,45μm,14.1s						
BTO					LR	LR	
	comp=Z,22μm,17.6s						
JAY	**Jayapura**	**42.62**	**93**		P	P	19 37 47.1 -3.2
	comp=Z,1μmcomp=Z,62nm,1.2s						
HHC	**Hu-ho-hao-te**	**42.84**	**15**	⇑	*i* P	**P**	**19 37 53.3 +1.5**
HHC					sP	sP	19 38 02.8 +3.3
HHC					PP	**PP**	**19 39 37.0 +5.6**
HHC					S	**S**	**19 44 17.9 +2.4**
HHC					sS	sS	19 44 29.7 +5.3
HHC					SS	**SS**	**19 47 26.3 -0.8**
HHC					ScS	**ScS**	**19 47 51.2 -1.0**
HHC					pmax	pmax	
	comp=Z,420nm,1.6s						
HHC					pmax	pmax	
	comp=Z,4μm,4.7s						
HHC					LR	LR	
	comp=Z,34μm,16.1s						
HHC					LR	LR	
	comp=Z,15μm,15.9s						
HHC					LR	LR	
	comp=Z,37μm,16.2s						
TABU	**Tabubil**	**43.30**	**97**		P	**P**	**19 37 55.5 -0.4**
BJT	**Baijiatuau**	**43.48**	**20**		P	**P**	**19 37 57.6 +0.8**
BJI	**Beijing**	**43.50**	**20**		P	**P**	**19 37 57.4 +0.5**
BJI					ScP	**ScP**	**19 43 35.5 0.0**
BJI					S	**S**	**19 44 22.3 -2.5**
BJI					pmax	pmax	
	comp=Z,300nm,1.2s						
BJI					pmax	pmax	
	comp=Z,2μm,4.6s						
BJI					LR	LR	
	comp=Z,5μm,16.7s						
BJI					LR	LR	
	comp=Z,5μm,15.1s						
BJI					LR	LR	
	comp=Z,5μm,16.2s						
JLN	**Jalan Bani Buh**	**43.88**	**303**		P	**P**	**19 38 04.1 +3.7**
	SNR=8.3						
JLN					P	**P**	**19 38 04.1 +3.7**
	SNR=8.3						
NGCH	**Negor - Chabah**	**43.97**	**308**		P	**P**	**19 38 03.6 +2.6**
KBL	**Kabul**	**44.16**	**325**		P	**P**	**19 38 00.8 -1.8**
KBL	**Kabul**	**44.16**	**325**		P	**P**	**19 38 02.3 -0.3**
	SNR=23						
KBL					P	**P**	**19 38 02.3 -0.3**
	SNR=23						
KBL	**Kabul**	**44.16**	**325**		P	**P**	**19 38 00.8 -1.8**
KBL					pmax	pmax	
	comp=Z,87nm,1.5s						
DQM	**DQM**	**44.59**	**299**		P	P	19 38 11.4 +5.4
DQM					P	P	19 38 11.4 +5.4
KSH	**Kashi**	**44.60**	**335**		P	**P**	**19 38 04.6 -1.4**
KSH					sP	sP	19 38 11.9 -1.7
KSH					PP	**PP**	**19 39 51.6 +1.3**
KSH					S	**S**	**19 44 38.4 -2.9**
KSH					ScS	**SS**	**19 48 02.1 +0.4**
KSH					pmax	pmax	
	comp=Z,40nm,1.1s						
KSH					pmax	pmax	
	comp=Z,1μm,6.5s						
KSH					LR	LR	
	comp=Z,8μm,19.2s						
KSH					LR	LR	
	comp=Z,5μm,20.3s						
KSH					LR	LR	
	comp=Z,7μm,18.6s						
DL2	**Dalian**	**44.68**	**26**		P	**P**	**19 38 06.5 +0.1**
DL2					S	**S**	**19 44 42.9 +0.8**
DL2					pmax	pmax	
	comp=Z,770nm,1.3s						
DL2					pmax	pmax	
	comp=Z,4μm,4.9s						
DL2					LR	LR	
	comp=Z,10μm,15.3s						
DL2					LR	LR	
	comp=Z,11μm,16.4s						
DL2					LR	LR	
	comp=Z,14μm,17.5s						
WUS	**Wushi**	**44.83**	**340**		IAmb	IAmb	19 38 27.8
	comp=Z,327nm,1.4s						
WSAR	**Wadi Sarin**	**45.00**	**304**		LR	LR	19 54 29.0
	comp=Z,3μm,21.0s,baz=131,slow=33						
WMQ	**Urumqi**	**45.01**	**349**	⇑	P	**P**	**19 38 10.1 +1.0**
WMQ					sP	sP	19 38 20.4 +3.7
WMQ					ScP	**ScP**	**19 43 42.1 +0.3**
WMQ					S	**S**	**19 44 46.6 -0.3**
WMQ					ScS	**ScS**	**19 48 05.2 -0.4**
WMQ					pmax	pmax	
	comp=Z,210nm,1.1s						
WMQ					pmax	pmax	
	comp=Z,2μm,4.1s						
WMQ					LR	LR	
	comp=Z,5μm,18.3s						
WMQ					LR	LR	
	comp=Z,4μm,21.1s						
WMQ					LR	LR	
	comp=Z,4μm,21.1s						
JMDO	**Jabal Madar**	**45.07**	**303**		P	**P**	**19 38 13.9 +4.0**
JMDO					P	**P**	**19 38 13.9 +4.0**
OOD	**Oodnadatta**	**45.13**	**130**		P	**P**	**19 38 10.4 +0.2**
QIS	**Mount Isa**	**45.21**	**119**		P	**P**	**19 38 09.8 -1.3**
	comp=Z,79nm,1.2s						
QIS	**Mount Isa**	**45.21**	**119**		P	**P**	**19 38 10.5 -0.5**
SMDO	**Samad**	**45.41**	**304**		P	**P**	**19 38 16.1 +3.5**
	SNR=7.5						
SMDO					P	**P**	**19 38 16.1 +3.5**
	SNR=7.5						
JNU	**Nakatsue**	**45.42**	**40**		P	**P**	**19 38 11.8 -0.7**
JNU	**Nakatsue**	**45.42**	**40**		LR	LR	19 56 48.4
	comp=Z,8μm,21.9s,baz=238,slow=36						
JTU	**Tsushima**	**45.44**	**37**		P	**P**	**19 38 13.0 +0.5**
JTU	**Tsushima**	**45.44**	**37**	⇓	P	**P**	**19 38 12.8 +0.3**
BIDO	**Bidbid**	**45.54**	**304**		P	**P**	**19 38 17.5 +4.0**
	SNR=7.3						
BIDO					P	**P**	**19 38 17.5 +4.0**
	SNR=7.3						
TJN	**Taejon**	**45.57**	**34**		P	**P**	**19 38 13.8 +0.2**
TJN	**Taejon**	**45.57**	**34**	*c i*	P	**P**	**19 38 12.6 -1.0**
HJU	**Haeju**	**45.95**	**31**		P	**P**	**19 38 14.7 -1.8**
HJU					P	**P**	**19 38 14.7 -1.8**
HJU					S	**S**	**19 44 57.1 -3.2**
HJU					S	**S**	**19 44 57.1 -3.2**
HJU					AmB		
	comp=Z,2μm,1.5s						
HJU					AmB		
	comp=Z,2μm,1.5s						
HJU					AMS	AMS	
	comp=Z,28μm,16.1s						
BSY	**Bisya**	**45.99**	**303**		P	P	19 38 21.9 +4.7
	SNR=9.6						
BSY					P	P	19 38 21.9 +4.7
	SNR=9.6						
INCN	**Inchon**	**45.99**	**32**		P	**P**	**19 38 15.1 -1.9**
INCN					IAmb	IAmb	19 38 17.6
	comp=Z,508nm,1.6s						
INCN	**Inchon**	**45.99**	**32**		IAMs_20	IAMs_20	19 58 54.6
	comp=Z,12μm,20.0s						
INCN	**Inchon**	**45.99**	**32**		P	**P**	**19 38 16.1 -0.8**
INCN	**Inchon**	**45.99**	**32**		P	**P**	**19 38 15.1 -1.9**
INCN					pmax	pmax	
	comp=Z,508nm,1.6s						
INCN					MLR	MLR	
	comp=Z,12μm,20.0s						
INCN	**Inchon**	**45.99**	**32**	⇑	P	**P**	**19 38 16.0 -0.9**
DMTO	**DMTO**	**46.14**	**295**		P	**P**	**19 38 21.1 +2.8**
DMTO					P	**P**	**19 38 21.1 +2.8**
RER	**Riviere de l'E**	**46.21**	**241**		P	**P**	**19 38 16.9 -2.1**
RER					IAmb	IAmb	19 38 31.5
	comp=Z,180nm,1.2s						
PRZ	**Przheval'sk**	**46.24**	**340**		IAmb	IAmb	19 38 39.7
	comp=Z,306nm,1.4s						
HOQ	**Hoqain**	**46.25**	**304**		P	P	19 38 23.8 +4.7
	SNR=6.9						
HOQ					P	P	19 38 23.8 +4.7
	SNR=6.9						
KDJ	**Kajisay**	**46.37**	**338**		IAmb	IAmb	19 38 41.0
	comp=Z,441nm,1.4s						
KDJ	**Kajisay**	**46.37**	**338**		P	**P**	**19 38 20.7 +0.7**
DRK	**Karamyk**	**46.43**	**332**		P	**P**	**19 38 20.7 0.0**
SHLS	**Shalkode**	**46.49**	**341**	*eP*		**P**	**19 38 19.2 -1.7**
SHLS					*eS*	**S**	**19 45 07.5 -0.8**
SHLS					pmax	pmax	
	comp=Z,204nm,1.7s						
SHLS	**Shalkode**	**46.49**	**341**	*eP*		**P**	**19 38 19.2 -1.7**
	comp=Z,204nm,1.7s						
SHLS					*eS*	**S**	**19 45 07.6 -0.8**
COEN	**Coen**	**46.56**	**109**		P	**P**	**19 38 20.6 -1.2**
COEN					IAmb	IAmb	19 40 06.4
	comp=Z,332nm,1.9s						
COEN	**Coen**	**46.56**	**109**		P	**P**	**19 38 22.2 +0.4**
COEN	**Coen**	**46.56**	**109**	⇓	P	**P**	**19 38 21.6 -0.2**
UZB	**Uzynbulak**	**46.62**	**341**	*eP*		**P**	**19 38 21.2 -0.7**
UZB					*eS*	**S**	**19 45 11.0 +0.7**
UZB					pmax	pmax	
	comp=Z,120nm,1.4s						
UZB	**Uzynbulak**	**46.62**	**341**	*eP*		**P**	**19 38 21.3 -0.7**
	comp=Z,120nm,1.4s						
UZB					*eS*	**S**	**19 45 11.1 +0.7**
KSAR	**Wonju Array Be**	**46.63**	**33**		P	**P**	**19 38 21.5 -0.4**
KSAR	**Wonju Array Be**	**46.63**	**33**		P	**P**	**19 38 21.5 -0.4**
KSRS	**Korea Array**	**46.66**	**33**		P	**P**	**19 38 21.8 -0.3**
	comp=Z,362nm,1.2s,baz=225,slow=8.5,SNR=210						
KSRS					S	**S**	**19 45 12.4 +1.7**
	comp=Z,3.1nm,1.1s,baz=229,slow=13,SNR=5.5						
KSRS					LR	LR	19 58 50.0
	comp=Z,9μm,19.8s,baz=230,slow=37						
	comp=Z,362nm,1.2s						
PYAG	**Pyongyang**	**46.73**	**30**		P	**P**	**19 38 21.9 -0.8**
PYAG					P	**P**	**19 38 21.9 -0.8**
PYAG					S	**S**	**19 45 08.8 -2.9**
PYAG					S	**S**	**19 45 08.8 -2.9**
PYAG					AmB		
	comp=Z,2μm,1.8s						
PYAG					AmB		
	comp=Z,2μm,1.8s						
PYAG					AMS	AMS	
	comp=Z,28μm,13.2s						
RBK	**Rabkut**	**46.74**	**295**		P	P	19 38 29.2 +6.1
	SNR=11						
RBK					P	P	19 38 29.2 +6.1
	SNR=11						
SATY	**Saty**	**46.75**	**340**	*eP*		**P**	**19 38 22.4 -0.5**
SATY					*eS*	**S**	**19 45 13.2 +1.1**
SATY					pmax	pmax	
	comp=Z,120nm,1.1s						
SATY	**Saty**	**46.75**	**340**	*eP*		**P**	**19 38 22.4 -0.5**
	comp=Z,120nm,1.1s						
SATY					*eS*	**S**	**19 45 13.3 +1.1**
ARQ	**Araqi**	**46.80**	**303**		P	**P**	**19 38 27.7 +4.1**
	SNR=5.4						
ARQ					P	**P**	**19 38 27.7 +4.1**
	SNR=5.4						
ULHL	**Ulahol**	**46.82**	**338**		P	**P**	**19 38 24.2 +0.6**
	SNR=19						
ZHN	**Zhinishke**	**46.84**	**340**	*eP*		**P**	**19 38 22.8 -0.8**
ZHN					pmax	pmax	
	comp=Z,95nm,1.5s						
ZHN	**Zhinishke**	**46.84**	**340**	*eP*		**P**	**19 38 22.9 -0.7**
	comp=Z,95nm,1.5s						
XLT	**XiLinHaoTe**	**46.94**	**18**	*eP*		**P**	**19 38 25.0 +0.7**
XLT					pP	sP	19 38 33.6 +1.5
XLT					PP	**PP**	**19 40 15.5 +0.5**
XLT					S	**S**	**19 45 14.4 -0.3**
XLT					pmax	pmax	
	comp=Z,420nm,1.6s						
XLT					LR	LR	
	comp=Z,2μm,13.8s						
XLT					LR	LR	
	comp=Z,12μm,13.9s						
XLT					LR	LR	
	comp=Z,23μm,13.8s						
SUJ	**Sinuiju**	**46.95**	**28**		P	**P**	**19 38 23.2 -1.2**
SUJ					P	**P**	**19 38 23.2 -1.2**
SUJ					S	**S**	**19 45 11.6 -3.1**
SUJ					S	**S**	**19 45 11.6 -3.1**
SUJ					AmB		
	comp=Z,2μm,2.4s						
SUJ					AmB		
	comp=Z,2μm,2.4s						
SUJ					AMS	AMS	
	comp=Z,9μm,11.5s						
KPKS	**Kokpek**	**47.02**	**341**	*eP*		**P**	**19 38 24.1 -0.9**
KPKS					*eS*	**S**	**19 45 16.7 +0.8**
KPKS					pmax	pmax	
	comp=Z,136nm,1.6s						
KPKS	**Kokpek**	**47.02**	**341**	*eP*		**P**	**19 38 24.2 -0.9**
	comp=Z,136nm,1.6s						
KPKS					*eS*	**S**	**19 45 16.8 +0.8**
CHGR	**Chuyangaron**	**47.11**	**329**		IAMs_20	IAMs_20	20 00 06.3
	comp=Z,11μm,18.0s						
CHGR	**Chuyangaron**	**47.11**	**329**		P	**P**	**19 38 24.5 -1.3**
SOHO	**SOHO**	**47.12**	**304**		P	**P**	**19 38 29.9 +3.9**
SOHO					P	**P**	**19 38 29.9 +3.9**
SOHO	**SOHO**	**47.12**	**304**		P	**P**	**19 38 28.0 +2.0**
DOK	**Doka**	**47.16**	**296**		P	**P**	**19 38 27.9 +1.5**
	SNR=11						
DOK					P	**P**	**19 38 27.9 +1.5**
	SNR=11						
SIMJ	**Simiganj**	**47.19**	**329**		P	**P**	**19 38 24.7 -1.8**
SIMJ					IAmb	IAmb	19 38 46.7
	comp=Z,195nm,1.2s						
TNSS	**Tian-Shan**	**47.24**	**339**	*eP*		**P**	**19 38 25.9 -1.2**
TNSS	**Tian-Shan**	**47.24**	**339**	*eP*		**P**	**19 38 25.9 -1.2**
MDOK	**Medeo**	**47.32**	**339**	*eP*		**P**	**19 38 26.7 -0.7**
MDOK					*eS*	**S**	**19 45 21.2 +0.9**
MDOK					MLR	MLR	
	comp=Z,2μm,14.0s						
MDOK	**Medeo**	**47.32**	**339**	*eP*		**P**	**19 38 26.8 -0.7**
MDOK					*eS*	**S**	**19 45 21.2 +0.9**
MDOK					LR	LR	19 58 31.9
	comp=Z,2μm,13.9s						
AAA	**Alma-Ata**	**47.41**	**339**	*eP*		**P**	**19 38 27.5 -0.4**
AAA					pmax	pmax	
	comp=Z,116nm,1.4s						
AAA	**Alma-Ata**	**47.41**	**339**	*eP*		**P**	**19 38 27.6 -0.4**
	comp=Z,116nm,1.4s						
AAA					LR	LR	19 58 45.9
UCH	**Uchtor**	**47.48**	**336**		P	**P**	**19 38 29.8 +0.8**
	SNR=5.8						
ABTO	**Aybut**	**47.53**	**294**		P	P	19 38 34.7 +5.4
	SNR=6.4						
ABTO					P	P	19 38 34.7 +5.4
	SNR=6.4						
TKM2	**Tokmak 2**	**47.65**	**338**		P	**P**	**19 38 30.6 +0.6**
	SNR=73						
KBK	**Karagaybulak**	**47.67**	**337**		P	**P**	**19 38 31.3 +1.2**
	SNR=41						
AML	**Almayashu**	**47.74**	**335**		P	**P**	**19 38 31.7 +0.7**
	SNR=44						
UOSS	**Minazif**	**47.74**	**305**		P	**P**	**19 38 34.4 +3.6**
UOSS					P	**P**	**19 38 34.4 +3.6**
UOSS					P	**P**	**19 38 34.4 +3.6**
UOSS	**Minazif**	**47.74**	**305**		P	**P**	**19 38 34.0 +3.2**
ALNE	**Al Ain**	**47.74**	**304**		P	**P**	**19 38 33.9 +3.1**
	SNR=6.9						
ALNE					P	**P**	**19 38 33.9 +3.1**
	SNR=6.9						
ALNE	**Al Ain**	**47.74**	**304**	*i*	P	**P**	**19 38 31.3 +0.5**
	SNR=15						
HATD	**Hatta, Dubai**	**47.75**	**305**		P	**P**	**19 38 34.0 +3.1**
	SNR=6.4						
HATD					P	**P**	**19 38 34.0 +3.1**
	SNR=6.4						
HATD	**Hatta, Dubai**	**47.75**	**305**	*i*	P	**P**	**19 38 30.6 -0.2**
	SNR=6.0						
JMN	**Monobe**	**47.75**	**41**		P	**P**	**19 38 30.4 -0.4**
JMN	**Monobe**	**47.75**	**41**		P	**P**	**19 38 31.3 +0.5**
JMN	**Monobe**	**47.75**	**41**	⇑	P	**P**	**19 38 30.8 0.0**
ASHO	**Ashiyiah**	**47.75**	**305**		P	**P**	**19 38 33.7 +2.8**
MDH	**Madha**	**47.81**	**305**		P	**P**	**19 38 34.0 +2.6**
MDH					P	**P**	**19 38 34.0 +2.6**
MDH	**Madha**	**47.81**	**305**		P	**P**	**19 38 33.8 +2.4**
AAK	**Ala-Archa**	**47.83**	**336**		P	**P**	**19 38 30.1 -1.4**
AAK					IAmb	IAmb	19 38 46.4
	comp=Z,407nm,1.9s						
AAK	**Ala-Archa**	**47.83**	**336**		LR	LR	20 01 00.9
	comp=Z,8μm,21.0s,baz=150,slow=39						
AAK	**Ala-Archa**	**47.83**	**336**		P	**P**	**19 38 32.3 +0.9**
	SNR=23						
AAK	**Ala-Archa**	**47.83**	**336**	*ceP*		**P**	**19 38 31.9 +0.4**
AAK					pmax	pmax	
	comp=Z,143nm,2.5s						
AAK					MLR	MLR	
	comp=Z,8μm,22.0s						
AAK	**Ala-Archa**	**47.83**	**336**	*i*	P	**P**	**19 38 31.8 +0.4**
	SNR=43						
AAK	**Ala-Archa**	**47.83**	**336**	⇑	P	**P**	**19 38 32.1 +0.6**
SNY	**Shenyang**	**47.92**	**26**	⇑	P	**P**	**19 38 31.5 -0.4**
SNY					S	S	19 45 22.7 -5.8
SNY					pmax	pmax	
	comp=Z,300nm,1.3s						
SNY					pmax	pmax	
	comp=Z,1μm,4.5s						
SNY					LR	LR	
	comp=Z,7μm,13.7s						
SNY					LR	LR	
	comp=Z,10μm,14.2s						
SNY					LR	LR	
	comp=Z,9μm,14.4s						
FRU1	**Bishkek**	**47.93**	**337**		IAmb	IAmb	19 39 04.3
	comp=Z,178nm,1.2s						
MASF	**Masafi**	**47.96**	**305**		P	**P**	**19 38 35.6 +3.1**
MASF					P	**P**	**19 38 35.6 +3.1**
CHMS	**Chumysh**	**48.04**	**337**		P	**P**	**19 38 33.2 +0.4**
	SNR=22						
BANOM	**Banah**	**48.09**	**306**		P	**P**	**19 38 36.9 +3.4**
BBOO	**Buckleboo**	**48.09**	**136**		IAmb	IAmb	19 38 49.3
	comp=Z,231nm,1.1s						
BBOO	**Buckleboo**	**48.09**	**136**		P	P	19 38 38.3 +4.9
BBOO	**Buckleboo**	**48.09**	**136**		P	**P**	**19 38 34.1 +0.7**
EKS2	**Erkin-Say**	**48.14**	**336**		P	**P**	**19 38 34.8 +1.0**
	SNR=51						
FAQ	**Al Faqa, Dubai**	**48.16**	**304**		P	**P**	**19 38 37.4 +3.4**
	SNR=5.3						
FAQ					P	**P**	**19 38 37.4 +3.4**
	SNR=5.3						
NAZ	**Nazwa, Dubai**	**48.20**	**305**		P	**P**	**19 38 37.6 +3.2**
NAZ					P	**P**	**19 38 37.6 +3.2**
NAZ	**Nazwa, Dubai**	**48.20**	**305**		P	**P**	**19 38 37.3 +2.9**
ASUD	**Al Ashush, Dub**	**48.33**	**304**		P	**P**	**19 38 39.3 +3.9**
ASUD					P	**P**	**19 38 39.3 +3.9**
ASUD	**Al Ashush, Dub**	**48.33**	**304**		P	**P**	**19 38 38.1 +2.8**
GUMO	**Guam**	**48.34**	**71**		LR	LR	19 58 46.6
	comp=Z,2μm,21.9s,baz=237,slow=36						
LCRK	**Leigh Creek**	**48.38**	**132**		P	**P**	**19 38 36.7 +1.0**
SGDS	**Sogindy**	**48.47**	**337**	*eP*		**P**	**19 38 35.5 -0.7**
SGDS					*eS*	**S**	**19 45 37.4 +1.0**
SGDS	**Sogindy**	**48.47**	**337**	*eP*		**P**	**19 38 35.6 -0.7**
SGDS					*eS*	**S**	**19 45 37.5 +1.0**
TDK	**Taldyqorghan**	**48.48**	**341**	*eP*		**P**	**19 38 35.8 -0.4**
TDK					pmax	pmax	
	comp=Z,165nm,1.2s						
TDK					MLR	MLR	
	comp=Z,2μm,18.0s						
TDK	**Taldyqorghan**	**48.48**	**341**	*eP*		**P**	**19 38 35.9 -0.4**
	comp=Z,165nm,1.2s						
TDK					LR	LR	19 59 40.0
	com

SONM Songino Array 48.59 7 P **P 19 38 37.8 +0.7**
comp=Z,91nm,0.6s,baz=192,slow=8.3,SNR=280
SONM S **S 19 45 39.8 +1.8**
comp=Z,1.7nm,0.9s,baz=173,slow=4.1,SNR=1.7
SONM LR LR 20 01 57.2
comp=Z,23μm,18.5s,baz=192,slow=40
SONM PKPPKP P'P'df 20 09 29.3 -12
comp=Z,1.1nm,1.1s,baz=263,slow=2.5,SNR=4.3
comp=Z,91nm,0.6s
SONM Songino Array 48.59 7 P **P 19 38 37.3 +0.2**
SONM pmax pmax
comp=Z,382nm,0.8s
MTSU Mount Surprise 48.67 114 P **P 19 38 36.8 -1.3**
comp=Z,45nm,1.0s
MTSU Mount Surprise 48.67 114 P **P 19 38 38.7 +0.6**
ULN Ulaanbaatar 48.70 8 P **P 19 38 37.9 -0.1**
ULN Ulaanbaatar 48.70 8 P **P 19 38 38.9 +0.8**
ULN P **P 19 38 38.9 +0.8**
ULN Ulaanbaatar 48.70 8 P **P 19 38 37.9 -0.1**
ULN pmax pmax
comp=Z,527nm,1.1s
ULN MLR MLR
comp=Z,21μm,20.0s
ULN Ulaanbaatar 48.70 8 ⇑P **P 19 38 38.6 +0.5**
MK31 Makanchi Array 49.02 346 *ce*P **P 19 38 40.1 -0.2**
MKAR Makanchi Array 49.02 346 P **P 19 38 40.2 -0.1**
MKAR Makanchi Array 49.02 346 P **P 19 38 40.6 +0.2**
comp=Z,114nm,0.7s,baz=155,slow=7.6,SNR=648
MKAR S **S 19 45 42.9 -1.1**
comp=Z,4.6nm,1.2s,baz=164,slow=13,SNR=3.7
MKAR LR LR 20 02 50.5
comp=Z,3μm,20.6s,baz=157,slow=40
MKAR PKPPKP P'P'df 20 09 30.5 -10
comp=Z,0.4nm,0.9s,baz=318,slow=1.9,SNR=3.6
comp=Z,114nm,0.7s
MKAR Makanchi Array 49.02 346 *i* P **P 19 38 40.5 +0.2**
MKAR pmax pmax
comp=Z,113nm,0.7s
INKA Innaminka 49.05 127 P **P 19 38 41.5 +0.7**
ZSN Zaisan 49.05 348 *e*P **P 19 38 40.2 -0.3**
ZSN *e*S **S 19 45 46.0 +1.7**
ZSN pmax pmax
comp=Z,154nm,1.2s
ZSN Zaisan 49.05 348 *e*P **P 19 38 40.3 -0.3**
comp=Z,154nm,1.2s
ZSN *e*S **S 19 45 46.0 +1.7**
MAKZ Makanchi 49.11 345 P **P 19 38 40.6 -0.4**
MAKZ Makanchi 49.11 345 P **P 19 38 40.6 -0.4**
MAKZ pmax pmax
comp=Z,104nm,0.9s
MAKZ MLR MLR
comp=Z,3μm,20.0s
MAKZ Makanchi 49.11 345 ⇑P **P 19 38 41.0 0.0**
MZR Muzera 49.24 301 P **P 19 38 46.4 +4.0**
SNR=6.3
MZR P **P 19 38 46.4 +4.0**
SNR=6.3
MZR Muzera 49.24 301 *i* P **P 19 38 43.8 +1.4**
SNR=6.6
MANU Manus Island 49.26 92 P **P 19 38 41.5 -1.2**
IUG Iuzhnay 49.36 333 *e*P **P 19 38 42.4 -0.7**
IUG Iuzhnay 49.36 333 *e*P **P 19 38 42.5 -0.7**
DZA Taraz 49.37 334 *e*P **P 19 38 42.3 -0.7**
DZA Taraz 49.37 334 *e*P **P 19 38 42.4 -0.7**
PMG Port Moresby 49.61 102 P **P 19 38 45.1 -0.2**
comp=Z,28nm,0.6s,baz=309,slow=5.0,SNR=11
comp=Z,28nm,0.6s
PTPS Port Pirie 49.65 135 P **P 19 38 45.5 +0.2**
CHM Chimkent 49.69 332 *e*P **P 19 38 45.2 -0.3**
CHM pmax pmax
comp=Z,149nm,1.8s
CHM Chimkent 49.69 332 *e*P **P 19 38 45.2 -0.3**
comp=Z,149nm,1.8s
CHM LR LR 20 00 42.9
KKAR Karatay Array 49.90 334 P **P 19 38 46.2 -0.9**
KKAR Karatay Array 49.90 334 P **P 19 38 46.2 -0.9**
KKAR Karatay Array 49.90 334 ⇑P **P 19 38 46.6 -0.4**
BTLS Baital 50.04 338 *i* P **P 19 38 47.4 -0.7**
BTLS pmax pmax
comp=Z,97nm,2.6s
BTLS Baital 50.04 338 *e*P **P 19 38 47.6 -0.4**
GHWR Ruwais 50.12 302 P **P 19 38 52.9 +3.8**
GHWR P **P 19 38 52.9 +3.8**
BRLS Boroldaу 50.14 333 *e*P **P 19 38 47.4 -1.5**
BRLS Boroldaу 50.14 333 *e*P **P 19 38 47.4 -1.5**
CN2 Changchun 50.33 26 ⇑P **P 19 38 50.1 -0.2**
CN2 *es*P sP 19 39 04.4 +6.3
CN2 *e*S **S 19 45 58.8 -3.5**
CN2 pmax pmax
comp=Z,400nm,1.1s
CN2 pmax pmax
comp=Z,2μm,6.0s
CN2 LR LR
comp=Z,7μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,5μm,14.0s
JCJ Chichijima 50.40 54 LR LR 19 59 29.7
comp=Z,3μm,20.9s,baz=244,slow=35
JCJ Chichijima 50.40 54 P **P 19 38 50.9 -0.3**
HTT Hallett 50.44 135 P **P 19 38 50.0 -1.4**
comp=Z,223nm,1.3s
HTT Hallett 50.44 135 P **P 19 38 52.4 +1.0**
HTT Hallett 50.44 135 ⇑P **P 19 38 52.9 +1.4**
INU Inuyama 50.79 41 P **P 19 38 52.6 -1.3**
INU IAmb IAmb 19 38 54.7
comp=Z,272nm,1.5s
INU IAMs_20 IAMs_20 20 03 52.5
comp=Z,8μm,18.0s
INU Inuyama 50.79 41 P **P 19 38 53.9 0.0**
ZAK Zakamensk 50.79 4 *e*P **P 19 38 53.5 -0.3**
ZAK pmax pmax
comp=Z,175nm,1.6s
JGF Kuroka 51.16 41 IAmb IAmb 19 38 57.4
comp=Z,332nm,1.4s
SLWR Sila 51.16 302 P **P 19 39 00.0 +3.1**
SLWR P **P 19 39 00.0 +3.1**
QLP Quilpie 51.40 124 P **P 19 38 58.2 -0.5**
comp=Z,290nm,0.9s
QLP Quilpie 51.40 124 P **P 19 38 59.9 +1.2**
QLP Quilpie 51.40 124 ⇑P **P 19 38 59.4 +0.7**
STKA Stephens Creek 51.60 132 P **P 19 39 00.2 0.0**
comp=Z,47nm,1.2s
STKA Stephens Creek 51.60 132 P **P 19 39 00.9 +0.8**
comp=Z,22nm,0.6s,baz=307,slow=5.7,SNR=28
STKA S **S 19 46 21.9 +1.5**
comp=Z,9.7nm,1.2s,baz=85,slow=19,SNR=2.8
STKA LR LR 20 02 39.0
comp=Z,11μm,21.4s,baz=288,slow=38
comp=Z,22nm,0.6s
STKA Stephens Creek 51.60 132 P **P 19 39 01.0 +0.8**
MOY Mondy 51.94 2 *e*P **P 19 39 02.6 +0.2**
MOY pmax pmax
comp=Z,350nm,2.4s
PSTR Posyet 51.96 30 *i* P **P 19 39 02.0 -0.6**
SMRA Abu-Samra 52.15 302 P **P 19 39 07.0 +2.8**
MJB9 Matsu-Tunnel 52.27 41 IAmb IAmb 19 39 06.5
comp=Z,334nm,1.4s
MAJO Matsushiro 52.27 41 P **P 19 39 03.5 -1.6**
MAJO IAmb IAmb 19 39 05.5
comp=Z,343nm,1.4s
MAJO Matsushiro 52.27 41 P **P 19 39 04.6 -0.4**
MAJO Matsushiro 52.27 41 P **P 19 39 03.5 -1.6**
MAJO pmax pmax
comp=Z,343nm,1.5s
MAJO MLR MLR
comp=Z,5μm,22.0s
MAJO Matsushiro 52.27 41 ⇑P **P 19 39 03.9 -1.2**
MJAR Matsushiro Arr 52.27 41 P **P 19 39 04.0 -1.1**
comp=Z,130nm,1.1s,baz=222,slow=7.0,SNR=91
MJAR LR LR 20 02 14.4
comp=Z,4μm,20.5s,baz=252,slow=37
comp=Z,130nm,1.1s
MJAR Matsushiro Arr 52.27 41 P **P 19 39 04.0 -1.1**
SHMA Al-Shehemyia 52.44 304 P **P 19 39 08.9 +2.5**
BNX BinXian 52.71 26 ⇑P **P 19 39 08.0 -0.1**
BNX pP sP 19 39 18.9 +2.9
BNX PP **PP 19 41 08.2 +0.7**
BNX S **S 19 46 32.5 -2.6**
BNX pmax pmax
comp=Z,210nm,1.1s
BNX pmax pmax
comp=Z,2μm,7.8s
BNX LR LR
comp=Z,6μm,13.6s
BNX LR LR
comp=Z,11μm,15.0s
BNX LR LR
comp=Z,17μm,14.5s
IRK Irkutsk 52.72 5 *e*P **P 19 39 08.0 0.0**
IRK *e*S **S 19 46 38.2 +3.2**
IRK *e* 19 48 56.1
IRK pmax pmax
comp=Z,984nm,1.9s
MDJ Mudanjiang 52.83 28 IAmb IAmb 19 39 11.1
comp=Z,182nm,1.1s
MDJ Mudanjiang 52.83 28 P **P 19 39 09.3 +0.3**
MDJ sP sP 19 39 16.4 -0.5
MDJ PcS **PcS 19 44 16.4 -0.3**
MDJ S **S 19 46 34.6 -2.2**
MDJ SS **SS 19 50 17.9 +2.0**
MDJ pmax pmax
comp=Z,170nm,1.2s
MDJ pmax pmax
comp=Z,3μm,6.1s
MDJ LR LR
comp=Z,11μm,14.9s
MDJ LR LR
comp=Z,9μm,18.1s
MDJ LR LR
comp=Z,12μm,19.0s
MDJ Mudanjiang 52.83 28 P **P 19 39 09.8 +0.8**
SAKB Bahrain 52.84 304 P **P 19 39 13.0 +3.6**
VLA Vladivostok 52.85 31 *d i* P **P 19 39 09.6 +0.4**
VLA pmax pmax
comp=Z,416nm,1.3s
HIA Hailar 52.87 18 IAmb IAmb 19 39 11.3
comp=Z,369nm,1.3s
HIA Hailar 52.87 18 P **P 19 39 10.7 +1.4**
OPO Ambohidratompo 53.13 247 LR LR 19 56 51.9
comp=Z,891nm,20.1s,baz=198,slow=30
JSD Sado 53.18 39 P **P 19 39 11.4 -0.3**
JSD Sado 53.18 39 ⇓P **P 19 39 11.0 -0.7**
ABPO Ambohimpanom 53.20 246 P **P 19 39 12.3 -0.1**
ABPO Ambohimpanom 53.20 246 P **P 19 39 12.3 -0.1**
ABPO pmax pmax
comp=Z,190nm,1.7s
ABPO Ambohimpanom 53.20 246 ⇓P **P 19 39 13.0 +0.6**
KURBB Kurchatov Arra 53.51 345 P **P 19 39 14.0 +0.1**
comp=Z,32nm,0.8s,baz=167,slow=7.2,SNR=186
KURBB S **S 19 46 47.8 +2.0**
comp=Z,7.6nm,1.3s,baz=167,slow=14,SNR=7.1
KURBB LR LR 20 05 10.9
comp=Z,4μm,20.4s,baz=154,slow=40
KURBB PKPPKP **P'P'df 20 09 33.1 -1.6**
comp=Z,2.9nm,0.2s,baz=289,slow=3.8,SNR=4.2
comp=Z,32nm,0.8s
KURK Kurchatov 53.57 345 P **P 19 39 13.9 -0.4**
KURK IAmb IAmb 19 39 40.4
comp=Z,142nm,1.0s
KURK Kurchatov 53.57 345 P **P 19 39 14.2 -0.2**
KURK P **P 19 39 14.2 -0.2**
KURK Kurchatov 53.57 345 P **P 19 39 13.9 -0.4**
KURK pmax pmax
comp=Z,142nm,1.0s
KURK MLR MLR
comp=Z,4μm,19.0s
KURK Kurchatov 53.57 345 ⇑P **P 19 39 14.3 0.0**
USA0B Ussuriysk Arra 53.68 30 *c i* P **P 19 39 15.5 +0.2**
USRK Ussuriysk Ar. 53.68 30 P **P 19 39 15.2 -0.1**
USRK Ussuriysk Ar. 53.68 30 P **P 19 39 15.6 +0.3**
comp=Z,503nm,0.9s,baz=223,slow=7.5,SNR=327
USRK LR LR 20 05 11.3
comp=Z,7μm,18.3s,baz=218,slow=40
CIT Chita 53.84 12 *e*P **P 19 39 17.7 +1.4**
CIT *e* 19 42 22.4
CIT pmax pmax
comp=Z,965nm,2.2s
ARPS Mount Arapiles 54.23 137 P **P 19 39 23.3 +3.9**
ARPS Mount Arapiles 54.23 137 P **P 19 39 20.4 +1.0**
VOI Vohitsoka 54.35 243 P **P 19 39 18.1 -2.6**
VOI IAmb IAmb 19 39 33.3
comp=Z,221nm,1.8s
VOI Vohitsoka 54.35 243 P **P 19 39 20.9 +0.1**
SNR=5.3
VOI Vohitsoka 54.35 243 ⇑P **P 19 39 20.9 +0.1**
CMSA Cobar Meteorol 54.57 129 P **P 19 39 22.4 +0.4**
comp=Z,268nm,1.1s
CMSA Cobar Meteorol 54.57 129 P **P 19 39 23.0 +1.0**
JMM Marumori 54.72 41 IAmb IAmb 19 39 23.8
comp=Z,376nm,1.2s
JMM Marumori 54.72 41 P **P 19 39 22.6 -0.4**
JMM Marumori 54.72 41 ⇑P **P 19 39 22.1 -0.8**
BRZS Berezniki 54.72 340 *e*P **P 19 39 22.2 -0.5**
BRZS Berezniki 54.72 340 *e*P **P 19 39 22.3 -0.5**
ZALV Zalesovo Beam 55.28 350 P **P 19 39 26.8 0.0**
comp=Z,144nm,0.8s,baz=182,slow=5.5,SNR=356
ZALV S **S 19 47 14.9 +5.3**
comp=Z,12nm,1.1s,baz=161,slow=16,SNR=5.3
ZALV LR LR 20 06 52.9
comp=Z,4μm,18.3s,baz=172,slow=40
ZALV PKPPKP **P'P'df 20 09 36.8 +4.9**
comp=Z,0.5nm,0.4s,baz=305,slow=5.2,SNR=5.5
comp=Z,144nm,0.8s
ZALV Zalesovo Beam 55.28 350 *i* P **P 19 39 26.7 0.0**
ZALV pmax pmax
comp=Z,143nm,0.9s
HEH HeiHe 56.33 22 *e*P **P 19 39 34.5 +0.2**
HEH PcP **PcP 19 40 32.0 +0.5**
HEH PP **PP 19 41 39.9 0.0**
HEH S **S 19 47 20.9 -2.8**
HEH ScS **ScS 19 49 18.2 -4.4**
HEH pmax pmax
comp=Z,340nm,1.1s
HEH LR LR
comp=Z,8μm,16.8s
HEH LR LR
comp=Z,7μm,15.6s
HEH LR LR
comp=Z,20μm,17.1s
RAYN Ar Rayn 56.33 299 P **P 19 39 33.7 -1.2**
RAYN Ar Rayn 56.33 299 IAMs_20 IAMs_20 20 03 29.2
comp=Z,7μm,19.0s
RAYN Ar Rayn 56.33 299 P **P 19 39 35.6 +0.7**
RAYN Ar Rayn 56.33 299 P **P 19 39 33.7 -1.2**
RAYN pmax pmax
comp=Z,121nm,1.5s
RAYN MLR MLR
comp=Z,7μm,19.0s
RAYN Ar Rayn 56.33 299 *i* P **P 19 39 35.1 +0.2**
SNR=19
RAYN Ar Rayn 56.33 299 ⇑P **P 19 39 35.2 +0.4**
KBD Kabd 56.38 306 P **P 19 39 35.8 +0.7**
JTM Tenmabayashi 56.55 38 P **P 19 39 35.9 -0.2**
JTM Tenmabayashi 56.55 38 ⇑P **P 19 39 35.8 -0.3**
TEY Ternei 56.63 32 ⇓*e*P **P 19 39 35.7 -0.8**
TEY pmax pmax
comp=E,20nm,1.4s
TEY pmax pmax
comp=N,10.0nm,1.5s
TEY pmax pmax
comp=Z,50nm,1.5s
TEY pmax pmax
comp=N,100nm,6.3s
TEY pmax pmax
comp=Z,200nm,5.6s
TEY MLR MLR
comp=N,200nm,14.0s
TEY MLR MLR
comp=Z,200nm,17.0s
EIDS Eidsvold 56.77 120 IAmb IAmb 19 39 47.8
comp=Z,272nm,1.6s
EIDS Eidsvold 56.77 120 P **P 19 39 37.9 0.0**
comp=Z,103nm,1.5s
EIDS Eidsvold 56.77 120 ⇓P **P 19 39 38.5 +0.6**
KLR Kul'dur 57.28 26 LR LR 20 08 03.4
comp=Z,7μm,19.2s,baz=222,slow=40
KLR Kul'dur 57.28 26 *ce*P **P 19 39 41.6 +0.5**
KLR pmax pmax
comp=Z,1μm,1.3s
KLR MLR MLR
comp=Z,11μm,15.0s
YNG Young 57.79 131 P **P 19 39 47.1 +2.1**
comp=Z,601nm,1.2s
YNG Young 57.79 131 P **P 19 39 46.0 +1.0**
BVAR Borovoye Array 58.06 341 P **P 19 39 45.5 -1.0**
comp=Z,36nm,0.8s,baz=143,slow=8.3,SNR=118
BVAR LR LR 20 08 24.6
comp=Z,6μm,20.3s,baz=147,slow=40
BVAR PKP2bc **P'P'bc 20 09 38.4 -1.1**
comp=Z,0.5nm,0.5s,baz=340,slow=3.5,SNR=3.7
comp=Z,36nm,0.8s
BRVK Borovoye 58.12 341 P **P 19 39 45.7 -1.2**
BRVK Borovoye 58.12 341 P **P 19 39 46.2 -0.7**
BRVK P **P 19 39 46.2 -0.7**
BRVK P **P 19 39 46.2 -0.7**
BRVK Borovoye 58.12 341 *ce*P **P 19 39 45.7 -1.2**
BRVK pmax pmax
comp=Z,68nm,1.7s
BRVK Borovoye 58.12 341 ⇑P **P 19 39 46.0 -1.0**
CAN Canberra 58.66 132 P **P 19 39 53.4 +2.3**
comp=Z,142nm,1.6s
CAN Canberra 58.66 132 P **P 19 39 52.9 +1.7**
CAN Canberra 58.66 132 P **P 19 39 54.6 +3.4**
CAN pmax pmax
comp=Z,216nm,1.6s
ARMA Armidale 58.85 126 IAmb IAmb 19 40 05.0
comp=Z,110nm,0.9s
ARMA Armidale 58.85 126 P **P 19 39 54.3 +1.7**
comp=Z,119nm,1.1s
ARMA Armidale 58.85 126 P **P 19 39 53.6 +1.0**
ARMA Armidale 58.85 126 ⇑P **P 19 39 54.5 +1.8**
ZEA Zeya 59.12 20 *e*P **P 19 39 54.6 +0.7**
ZEA *e* 19 42 03.4
ZEA *e*S **S 19 48 03.4 +3.2**
ZEA *e*SS **SS 19 51 59.7 +5.1**
ZEA pmax pmax
comp=E,300nm,1.5s
ZEA pmax pmax
comp=Z,700nm,1.7s
ZEA pmax pmax
comp=E,110nm,1.4s
ZEA pmax pmax
comp=N,130nm,1.6s
ZEA pmax pmax
comp=Z,250nm,1.5s
ZEA pmax pmax
comp=E,200nm,3.9s
ZEA pmax pmax
comp=Z,700nm,2.9s
ZEA smax smax
comp=N,1μm,6.6s
ZEA MLR MLR
comp=E,4μm,16.0s
ZEA MLR MLR
comp=Z,6μm,18.0s
ABKAR Akbulak array 59.36 332 P **P 19 39 54.3 -1.3**
ABKAR Akbulak array 59.36 332 ⇑P **P 19 39 54.5 -1.2**
ASAJ Asahikawa 59.40 36 LR LR 20 07 06.3
comp=Z,2μm,18.4s,baz=302,slow=38
BOD Bodaibo 59.42 10 *e*P **P 19 39 56.0 +0.1**
BOD pmax pmax
comp=Z,540nm,1.6s
MGCD Mangrove Creek 59.43 129 P **P 19 39 58.0 +1.5**
LKRN Lenkeran, Azer 59.65 317 P **P 19 39 59.5 +1.7**
KIBK Kibwezi 60.09 268 P **P 19 40 02.7 +1.2**
SNR=12
GRNR Gornyy 60.47 27 ⇑*i* P **P 19 40 03.9 +0.6**
GRNR pmax pmax
comp=E,70nm,1.2s
GRNR pmax pmax
comp=Z,230nm,1.2s
GRNR pmax pmax
comp=N,100nm,1.3s
GRNR MLR MLR
comp=N,9μm,16.0s
GRNR MLR MLR
comp=E,4μm,15.0s
GRNR MLR MLR
comp=Z,12μm,15.0s
PATS Pohnpei 60.48 82 P **P 19 40 03.3 -0.7**
KMBO Kilima Mbogo 60.87 269 *i* P **P 19 40 06.3 -0.7**
SNR=11
KMBO Kilima Mbogo 60.87 269 ⇓P **P 19 40 07.9 +1.0**
H04N2 CROZET ISLANDS 60.98 215 T T 20 46 22.1
baz=55,slow=75
H04N1 CROZET ISLANDS 61.00 215 T T 20 46 26.7
baz=55,slow=75
H04N3 CROZET ISLANDS 61.00 215 T T 20 46 25.9
baz=55,slow=75
AKTO Aktyubinsk 61.07 332 P **P 19 40 06.1 -1.3**
comp=Z,18nm,0.9s,baz=134,slow=5.1,SNR=37
comp=Z,18nm,0.9s
YSS Yuzhno-Sakhali 61.16 33 P **P 19 40 07.6 -0.4**
YSS Yuzhno-Sakhali 61.16 33 P **P 19 40 08.8 +0.8**
YSS Yuzhno-Sakhali 61.16 33 *oe*P **P 19 40 08.3 +0.3**
YSS *e* 19 42 24.8
YSS *e*S **S 19 48 27.3 +0.7**
YSS *e*SS **SS 19 52 29.8 +2.9**
YSS pmax pmax
comp=Z,450nm,1.1s
YSS pmax pmax
comp=N,110nm,1.3s
YSS pmax pmax
comp=E,170nm,0.8s
YSS pmax pmax
comp=Z,2μm,4.0s
YSS pmax pmax
comp=N,1μm,4.9s
YSS pmax pmax
comp=E,1μm,5.1s
YSS MLR MLR
comp=E,4μm,15.0s
YSS MLR MLR
comp=Z,5μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS Yuzhno-Sakhali 61.16 33 ⇑P **P 19 40 08.3 +0.3**
H04S1 CROZET ISLANDS 61.30 214 T T 20 46 51.1
baz=54,slow=75,SNR=9554
YUK Yuzh-Kuril'sk 61.30 37 P P 19 40 02.4 -6.6
YUK pmax MLR
comp=Z,4μm,17.0s
YUK MLR MLR
comp=E,4μm,16.0s
H04S3 CROZET ISLANDS 61.32 214 T T 20 46 47.0
baz=54,slow=75,SNR=9312
H04S2 CROZET ISLANDS 61.32 214 T T 20 46 48.4
baz=54,slow=75,SNR=5074
AKT Akhty 61.68 319 *e*P **P 19 40 11.2 -0.6**
AKT *e* 19 40 48.9
AKT *e* 19 42 28.0
AKT *e*S S 19 48 27.0 -6.7
AKT pmax pmax
comp=Z,111nm,1.4s
AKT MLR MLR
comp=Z,2μm,19.0s
MNGR Mingechevir, A 61.77 318 P **P 19 40 13.3 +1.0**
SEKA Sheki 61.90 318 P **P 19 40 14.1 +0.8**
UGL Uglegorsk 62.09 31 *c i* P **P 19 40 15.0 +0.8**
UGL *e* 19 40 22.0
UGL *e*S **S 19 48 37.6 -0.7**
UGL pmax pmax
comp=Z,200nm,1.3s
UGL pmax pmax
comp=Z,2μm,7.7s
UGL smax smax
comp=N,5μm,19.0s
UGL smax smax
comp=E,3μm,19.0s
UGL MLR MLR
comp=E,9μm,14.0s
UGL MLR MLR
comp=N,4μm,18.0s
UGL MLR MLR
comp=Z,8μm,13.0s
NAX Nakhchivan 62.14 316 P **P 19 40 16.3 +1.4**
HNR Honiara 62.16 100 P **P 19 40 13.9 -1.4**
HNR Honiara 62.16 100 LR LR 20 10 46.0
comp=Z,1μm,19.6s,baz=269,slow=40
HNR Honiara 62.16 100 P **P 19 40 13.9 -1.4**
HNR MLR MLR
comp=Z,2μm,19.0s
HNR Honiara 62.16 100 ⇑P **P 19 40 14.8 -0.6**
GANJ Ganja 62.23 317 P **P 19 40 16.1 +0.7**
MAK Makhachkala 62.55 320 *e*P P 19 40 11.3 -6.1
MAK *e* 19 42 35.7
MAK *e*PPP PPP 19 44 02.2
MAK *e*S S 19 48 36.5 -7.8
MAK *e*SS **SS 19 52 46.8 -2.0**
MAK pmax pmax
comp=Z,202nm,1.5s
LODK Lodwar 62.84 274 P **P 19 40 22.6 +2.6**
SNR=20
GNI Garni 63.09 316 P **P 19 40 19.7 -1.6**
GNI IAmb IAmb 19 40 31.2

comp=Z,185nm,1.4s
GNI Garni 63.09 316 P **P** **19 40 21.4 +0.1**
comp=Z,23nm,1.0s,baz=234,slow=1.1,SNR=12
comp=Z,23nm,1.0s
GNI Garni 63.09 316 *i* P **P** **19 40 20.0 -1.3**
GNI pmax pmax
comp=Z,35nm,1.2s
GNI Garni 63.09 316 P **P** **19 40 21.8 +0.5**
GNI Garni 63.09 316 P **P** **19 40 21.3 0.0**
comp=Z,1μmcomp=Z,87nm,1.5s
GNI Garni 63.09 316 ⇑P **P** **19 40 21.5 +0.1**
TYV Tymovskoe 63.49 30 *e*P **P** **19 40 24.7 +1.2**
TYV *e*S **S** **19 48 58.6 +2.7**
TYV pmax pmax
comp=Z,2μm,5.1s
TYV pmax pmax
comp=Z,203nm,1.3s
TYV smax smax
comp=N,12nm,1.5s
TYV smax smax
comp=N,600nm,6.9s
TYV smax smax
comp=E,2μm,6.9s
TYV MLR MLR
comp=E,13μm,15.0s
TYV MLR MLR
comp=Z,13μm,15.0s
NKL Nikolayevsk 64.02 27 *e*P P 19 40 24.1 -2.9
NKL *e*S **S** **19 49 01.9 -0.4**
NKL pmax pmax
comp=E,111nm,1.1s
NKL pmax pmax
comp=N,479nm,1.2s
NKL pmax pmax
comp=Z,2μm,1.3s
NKL smax smax
comp=E,299nm,3.5s
NKL smax smax
comp=N,599nm,5.1s
NKL MLR MLR
comp=E,31μm,15.0s
NKL MLR MLR
comp=N,40μm,14.0s
NKL MLR MLR
comp=Z,55μm,16.0s
TRLG Trialeti 64.13 318 P **P** **19 40 28.0 -0.2**
KARS Kars 64.44 316 P **P** **19 40 31.3 +1.1**
KARS pmax pmax
comp=Z,108nm,1.4s
KARS Kars 64.44 316 ⇑P **P** **19 40 29.6 -0.5**
SVE Sverdlovsk 64.51 338*d* *i*P **P** **19 40 29.6 -0.5**
SVE *e* 19 42 47.3
SVE *e*PPP PPP 19 44 26.5
SVE *e*S **S** **19 49 05.0 -3.3**
SVE *e* 19 50 17.4
SVE pmax pmax
comp=Z,153nm,1.1s
SVE MLR MLR
comp=Z,3μm,20.0s
MARD Mardin 64.79 312 IAmb IAmb 19 40 51.0
comp=Z,90nm,0.9s
ARTI Arti 65.05 337 P **P** **19 40 31.9 -1.8**
ARTI Arti 65.05 337 P **P** **19 40 32.6 -1.0**
comp=Z,35nm,0.8s,baz=144,slow=3.9,SNR=52
ARTI LR LR 20 11 19.5
comp=Z,5μm,19.4s,baz=134,slow=38
comp=Z,35nm,0.8s
ARTI Arti 65.05 337*c* *i*P **P** **19 40 32.5 -1.2**
ARTI 19 41 04.0
ARTI S **S** **19 49 16.2 +1.2**
ARTI SS **SS** **19 53 26.6 -0.8**
ARTI pmax pmax
comp=Z,66nm,1.2s
ARTI MLR MLR
comp=Z,4μm,18.0s
NCK Nalchik 65.33 319 *i* P **P** **19 40 34.1 -1.7**
NCK pmax pmax
comp=Z,70nm,1.1s
BCA Borcka 65.78 317 ⇓P **P** **19 40 38.6 -0.1**
KBZ Khabaz 65.88 319 P **P** **19 40 39.0 -0.3**
comp=Z,20nm,0.9s,baz=104,slow=4.6,SNR=55
KBZ PKP2ab **P'P'bc** **20 09 21.3 +0.4**
comp=Z,1.7nm,1.1s,baz=355,slow=5.4,SNR=4.3
comp=Z,20nm,0.9s
KBZ Khabaz 65.88 319*ce*P **P** **19 40 38.3 -1.0**
KBZ pmax pmax
comp=Z,90nm,1.4s
KBZ MLR MLR
comp=Z,832nm,16.0s
KOPT Kop Dagi 66.00 315 P **P** **19 40 39.3 -1.2**
SHA1 Shidzhatmaz 66.04 319*c* *i*P **P** **19 40 38.8 -1.9**
KVAR Kislovodsk Arr 66.11 319 P **P** **19 40 41.0 0.0**
comp=Z,5.8nm,0.8s,baz=103,slow=24,SNR=5.1
comp=Z,5.8nm,0.8s
KIV Kislovodsk 66.12 319 P **P** **19 40 39.2 -1.8**
KIV IAmb IAmb 19 40 58.6
comp=Z,210nm,1.4s
KIV Kislovodsk 66.12 319 P **P** **19 40 40.4 -0.6**
KIV P **P** **19 40 40.4 -0.6**
KIV Kislovodsk 66.12 319 ⇑P **P** **19 40 40.8 -0.2**
KIV Kislovodsk 66.12 319 *e*P **P** **19 40 40.4 -0.6**
KIV *e* 19 43 05.0
KIV *e*PPP PPP 19 44 40.4
KIV *e*S **S** **19 49 26.9 -1.8**
KIV *e*SS **SS** **19 53 48.5 +3.8**
KIV pmax pmax
comp=Z,102nm,3.1s
KIV pmax pmax
comp=Z,75nm,1.1s
KIV Kislovodsk 66.12 319 *i* P **P** **19 40 40.1 -0.8**
SNR=26
KIV Kislovodsk 66.12 319 P **P** **19 40 39.9 -1.1**
comp=Z,1μmcomp=Z,88nm,1.2s
ASF Jabal al Asfar 66.14 306 P **P** **19 40 41.7 +0.3**
comp=Z,13nm,1.0s,baz=156,slow=1.4,SNR=9.9
ASF LR LR 20 12 32.2
comp=Z,2μm,18.6s,baz=135,slow=39
comp=Z,13nm,1.0s
CASY Casey 66.33 175 IAMs_20 IAMs_20 20 06 21.8
comp=Z,6μm,19.0s
GOF Gofitskoye 66.38 321*ce*P **P** **19 40 41.9 -0.6**
GOF *e*S **S** **19 49 29.0 -2.6**
YAK Yakutsk 66.70 16 P **P** **19 40 43.5 -0.7**
YAK Yakutsk 66.70 16 P **P** **19 40 43.7 -0.5**
comp=Z,422nm,0.9s,baz=215,slow=2.5,SNR=201
YAK LR LR 20 12 12.2
comp=Z,8μm,19.0s,baz=216,slow=38
YAK Yakutsk 66.70 16 *e*P **P** **19 40 43.1 -1.1**
YAK *e**PP **sP** **19 40 51.7 -0.4**
YAK *e* 19 41 12.1
YAK *e* 19 43 09.6
YAK *e*S **S** **19 49 31.8 -3.1**
YAK *e**SS sS 19 49 51.9 +7.9
YAK *e* 19 50 35.0
YAK *e*SS **SS** **19 53 50.8 -2.0**
YAK pmax pmax
comp=Z,165nm,1.4s
YAK pmax pmax
comp=N,258nm,1.6s
YAK pmax pmax
comp=E,340nm,1.6s
YAK pmax pmax
comp=Z,533nm,2.8s
YAK pmax pmax
comp=N,222nm,3.0s
YAK pmax pmax
comp=E,198nm,3.0s
YAK smax smax
comp=N,1μm,3.5s
YAK smax smax
comp=E,817nm,2.3s
YAK MLR MLR
comp=Z,23μm,20.0s
YAK MLR MLR
comp=N,15μm,20.0s
YAK MLR MLR
comp=E,7μm,20.0s
YAK Yakutsk 66.70 16 ⇑P **P** **19 40 43.6 -0.5**
KTUT Trabzon 66.89 316 ⇑P **P** **19 40 46.3 +0.6**
GHAJ Ghor Haditha 66.99 304 IAMs_20 IAMs_20 20 10 16.8
comp=Z,9μm,19.0s
EIL Elat 67.09 303 P **P** **19 40 48.2 +0.9**
comp=Z,16nm,0.9s,baz=159,slow=1.2,SNR=13
EIL LR LR 20 10 08.7
comp=Z,8μm,19.0s,baz=111,slow=36
comp=Z,16nm,0.9s
EIL Elat 67.09 303 ⇑P **P** **19 40 48.2 +0.9**
MBAR Mbarara 67.38 270 P **P** **19 40 51.2 +1.5**
MBAR P **P** **19 40 51.2 +1.5**
MBAR P **P** **19 40 51.2 +1.5**
MBAR Mbarara 67.38 270 *i* P **P** **19 40 48.9 -0.8**
MBAR pmax pmax
comp=Z,88nm,1.4s
BELG Belogornoye 67.40 329 P **P** **19 40 47.5 -1.4**
comp=Z,78nm,0.9s,baz=132,slow=0.4,SNR=27
BELG LR LR 20 14 04.3
comp=Z,2μm,20.4s,baz=125,slow=39
comp=Z,78nm,0.9s
BELG Belogornoye 67.40 329 *i* P **P** **19 40 47.6 -1.2**
BELG pmax pmax
comp=Z,27nm,1.0s
GAZ Gaziantep 67.41 311 IAmb IAmb 19 41 12.0
comp=Z,125nm,1.0s
SALP Salfit 67.50 305 ⇓P **P** **19 40 51.7 +1.7**
MMAI Mount Meron Ar 67.59 306 P **P** **19 40 50.7 +0.2**
comp=Z,9.6nm,0.7s,baz=95,slow=7.6,SNR=13
MMAI LR LR 20 11 55.6
comp=Z,2μm,19.5s,baz=108,slow=37
comp=Z,9.6nm,0.7s
KOUNC Koumac, New Ca 67.59 112 P **P** **19 40 52.1 +1.4**
KOUNC Koumac, New Ca 67.59 112 ⇑P **P** **19 40 51.5 +0.9**
VSLR Vesyoloye 67.66 318 *i* P **P** **19 40 49.1 -1.6**
VSLR pmax pmax
comp=Z,176nm,1.2s
LABN Labinsk 67.69 319 *e*P P 19 40 47.5 -3.3
LABN *e*S **S** **19 49 45.8 -1.6**
LABN *e*SS **SS** **19 54 06.5 -2.3**
KZIT Kziot 67.86 304 ⇓P **P** **19 40 54.7 +2.6**
SOC Sochi 67.92 318 *e*P P 19 40 44.8 -7.5
SOC *e* 19 43 18.7
SOC *e*PPP PPP 19 44 56.7
SOC *e*S S 19 49 40.4 -10
SOC pmax pmax
comp=Z,879nm,16.7s
ERBR Yeremizino-Bor 68.29 320*c* *i*P **P** **19 40 53.6 -1.0**
ERBR *i* S **S** **19 49 52.0 -2.6**
ERBR *e*SS **SS** **19 54 21.2 +3.2**
ERBR pmax pmax
comp=Z,171nm,1.5s
ERBR MLR MLR
comp=Z,2μm,16.0s
BNN Bunyan 68.97 312 IAmb IAmb 19 41 20.5
comp=Z,260nm,1.2s
CSS Mathiatis 69.77 308 ⇑P **P** **19 41 06.4 +2.4**
DZM Mont Dzumac 69.80 113 IAmb IAmb 19 41 14.9
comp=Z,394nm,1.9s
DZM Mont Dzumac 69.80 113 *e*P **P** **19 41 04.0 -0.6**
comp=Z,278nm,1.5s
DZM Mont Dzumac 69.80 113 *e*PP PP 19 43 31.1 -8.0
comp=Z,265nm,24.1s
DZM *e*S **S** **19 50 10.9 -2.6**
comp=Z,5μm,26.4s
DZM *e*SS **SS** **19 54 43.0 +0.5**
comp=Z,856nm,25.1s
DZM *e*LR LR 20 02 12.0
comp=Z,9μm,22.8s
DZM Mont Dzumac 69.80 113 LR LR 20 12 20.2
comp=Z,4μm,21.8s,baz=280,slow=36
DZM Mont Dzumac 69.80 113 P **P** **19 41 06.7 +2.1**
ONTNC Ouen Toro 69.84 114 P **P** **19 41 03.7 -0.9**
ONTNC IAmb IAmb 19 41 15.5
comp=Z,100nm,0.8s
VRH Novokhopyorsk 69.96 326 *e*P **P** **19 41 02.3 -2.5**
VRH pmax pmax
comp=Z,80nm,0.8s
VRH MLR MLR
comp=Z,2μm,23.0s
NRIK Noril'sk 69.98 356 IAmb IAmb 19 41 14.0
comp=Z,138nm,1.1s
NRIK Noril'sk 69.98 356 P **P** **19 41 04.0 -0.6**
comp=Z,46nm,1.0s,baz=168,slow=5.5,SNR=58
NRIK PKPPKP **P'P'df** **20 09 10.2 +2.0**
comp=Z,1.0nm,0.3s,baz=353,slow=4.0,SNR=8.8
NRIK LR LR 20 14 51.1
comp=Z,6μm,18.5s,baz=174,slow=39
comp=Z,46nm,1.0s
NRIK Noril'sk 69.98 356*ce*P **P** **19 41 03.3 -1.3**
NRIK pmax pmax
comp=Z,112nm,1.2s
KIRV Kirov 70.14 335 P **P** **19 41 05.1 -0.6**
comp=Z,43nm,0.8s,baz=123,slow=1.8,SNR=23
KIRV LR LR 20 15 00.8
comp=Z,4μm,19.9s,baz=130,slow=39
comp=Z,43nm,0.8s
KIRV Kirov 70.14 335*ce*P **P** **19 41 04.9 -0.9**
DIKM Dikmen 70.30 315 ⇑P **P** **19 41 06.7 -0.4**
KIRS Kirsehir-Merke 70.49 312 ⇓P **P** **19 41 08.0 -0.4**
LSZ Lusaka 70.55 254 P **P** **19 41 07.8 -1.5**
LSZ Lusaka 70.55 254 LR LR 20 06 53.0
comp=Z,3μm,21.9s,baz=88,slow=32
LSZ Lusaka 70.55 254 P **P** **19 41 10.1 +0.9**
LSZ P **P** **19 41 10.1 +0.9**
LSZ Lusaka 70.55 254 P **P** **19 41 07.8 -1.5**
LSZ pmax pmax
comp=Z,122nm,1.4s
LSZ MLR MLR
comp=Z,4μm,22.0s
SKR Severo-Kuril's 70.63 35 *e*P **P** **19 41 09.2 +0.3**
SKR *e* 19 43 45.0
SKR *e*S **S** **19 50 24.0 +2.1**
SKR pmax pmax
comp=Z,2μm,6.2s
BR131 Keskin Array S 70.87 313 *i* P **P** **19 41 08.9 -1.9**
BRTR Keskin Array B 70.87 313 P **P** **19 41 09.1 -1.7**
BRTR Keskin Array B 70.87 313 P **P** **19 41 09.5 -1.3**
comp=Z,11nm,1.0s,baz=126,slow=6.4,SNR=18
BRTR PKPPKP **P'P'df** **20 09 12.8 +3.8**
comp=Z,0.7nm,1.0s,baz=330,slow=2.3,SNR=3.8
comp=Z,11nm,1.0s
BRTR Keskin Array B 70.87 313 P **P** **19 41 09.1 -1.7**
BR105 Keskin Array S 70.88 313 P **P** **19 41 09.9 -1.0**
comp=Z,396nmcomp=Z,38nm,1.0s
BR106 Keskin Array S 70.89 313 P **P** **19 41 09.7 -1.2**
comp=Z,344nmcomp=Z,34nm,1.4s
VORD Divnogorie 71.23 325 *e*P **P** **19 41 10.3 -2.2**
VORD pmax pmax
comp=Z,50nm,1.0s
BZK Bozkurt 71.29 315 ⇑P **P** **19 41 13.1 0.0**
BZK Bozkurt 71.29 315 P **P** **19 41 12.9 -0.2**
comp=Z,3μmcomp=Z,255nm,0.9s
MAW Mawson 71.37 193 P **P** **19 41 12.8 -0.3**
comp=Z,15nm,0.9s,baz=168,slow=22,SNR=7.7
MAW LR LR 20 05 30.2
comp=Z,5μm,21.8s,baz=32,slow=30
comp=Z,15nm,0.9s
VSR Storozhevoye 71.41 325 *e*P **P** **19 41 11.4 -2.2**
VSR pmax pmax
comp=Z,50nm,0.9s
VSR MLR MLR
comp=Z,4μm,19.0s
VORR Voronezh 71.58 326 *e*P **P** **19 41 13.9 -0.7**
VORR pmax pmax
comp=Z,43nm,0.5s
BROLN Tlhalogang 71.95 248 *i* P **P** **19 41 17.8 +0.1**
CIDE Kastamonu/Cide 72.01 315 ⇑P **P** **19 41 16.1 -1.3**
LPSR Galich'ya Gora 72.14 327 *e*P **P** **19 41 17.0 -1.0**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR MLR MLR
comp=Z,2μm,22.0s
SIM Simferopol' 72.17 318 *e*P **P** **19 41 18.6 +0.2**
SIM *e* 19 43 57.0
SIM *e*PPP PPP 19 45 37.0
SIM *e*S **S** **19 50 36.0 -4.0**
SIM pmax pmax
comp=Z,46nm,1.0s
SIM pmax pmax
comp=Z,100nm,4.7s
SIM MLR MLR
comp=Z,900nm,18.0s
MA2 Magadan 72.38 25 P **P** **19 41 19.0 -0.3**
MA2 IAmb IAmb 19 41 21.4
comp=Z,193nm,0.8s
MA2 IAMs_20 IAMs_20 20 15 14.6
comp=Z,7μm,19.0s
MA2 Magadan 72.38 25 P **P** **19 41 19.6 +0.4**
comp=Z,94nm,0.6s,baz=236,slow=5.6,SNR=96
MA2 LR LR 20 15 26.2
comp=Z,7μm,19.1s,baz=233,slow=38
comp=Z,94nm,0.6s
MA2 Magadan 72.38 25 P **P** **19 41 19.7 +0.4**
MA2 Magadan 72.38 25*ce*P **P** **19 41 19.2 -0.1**
MA2 pmax pmax
comp=Z,480nm,1.7s
MA2 Magadan 72.38 25 P **P** **19 41 19.0 -0.3**
comp=Z,5μmcomp=Z,322nm,1.8s
MA2 Magadan 72.38 25 ⇑P **P** **19 41 19.6 +0.4**
PEA0B Petropavlovsk- 72.56 33 IAmb IAmb 19 41 35.6
comp=Z,184nm,1.2s
PEA0B Petropavlovsk- 72.56 33*ce*P **P** **19 41 20.3 -0.2**
PETK Petropavlovsk- 72.56 33 P **P** **19 41 19.5 -1.0**
PETK Petropavlovsk- 72.56 33 P **P** **19 41 20.8 +0.2**
comp=Z,32nm,0.7s,baz=232,slow=1.7,SNR=36
PETK LR LR 20 16 01.0
comp=Z,2μm,18.9s,baz=234,slow=38
comp=Z,32nm,0.7s
ELL Elmali 72.91 309 IAMs_20 IAMs_20 20 19 06.6
comp=Z,7μm,18.0s
PET Petropavlovsk 73.05 33 P **P** **19 41 22.7 -0.7**
PET Petropavlovsk 73.05 33 P **P** **19 41 24.2 +0.8**
PET Petropavlovsk 73.05 33*o* *i*P **P** **19 41 23.5 +0.1**
PET *e* 19 41 31.0
PET *e* 19 44 04.9
PET *e*S **S** **19 50 50.2 +0.5**
PET *e*PS **PnS** **19 51 25.6 +3.2**
PET pmax pmax
comp=Z,2μm,6.2s
PET pmax pmax
comp=Z,309nm,1.0s
PET pmax pmax
comp=Z,700nm,6.0s
PET pmax pmax
comp=Z,700nm,16.2s
PET Petropavlovsk 73.05 33 P **P** **19 41 21.8 -1.6**
comp=Z,5μmcomp=Z,445nm,1.4s
PET pP **sP** **19 41 31.1 -0.3**
comp=Z,5μmcomp=Z,445nm,1.4s
LPHEP Lephephe 73.58 246 *i* P **P** **19 41 27.8 +0.5**
KSANE Kasane 73.66 252 *i* P **P** **19 41 28.4 +0.6**
LBTB Lobatse 74.02 244 P **P** **19 41 29.1 -0.8**
LBTB Lobatse 74.02 244 LR LR 20 09 58.0
comp=Z,4μm,18.5s,baz=80,slow=32
LBTB Lobatse 74.02 244 P **P** **19 41 29.1 -0.8**
LBTB pmax pmax
comp=Z,97nm,1.1s
MOS Moscow 74.18 329 *e*P **P** **19 41 27.0 -3.0**
MOS *e*S **SKiKP** **19 50 56.5 -0.5**
MOS pmax pmax
comp=Z,700nm,2.2s
MOS pmax pmax
comp=Z,260nm,1.7s
MOS smax smax
comp=N,2μm,4.2s
MOS smax smax
comp=E,1μm,4.0s
MOS MLR MLR
comp=Z,2μm,21.0s
YLV Yalova 74.25 312 P **P** **19 41 29.7 -1.1**
comp=Z,2μmcomp=Z,118nm,1.3s
OBN Obninsk 74.46 328 P **P** **19 41 30.6 -1.0**
OBN IAmb IAmb 19 41 40.7
comp=Z,428nm,1.9s
OBN Obninsk 74.46 328 P **P** **19 41 31.5 -0.1**
comp=Z,12nm,0.4s,baz=15,slow=1.2,SNR=13
OBN LR LR 20 19 21.1
comp=Z,2μm,18.4s,baz=109,slow=40
comp=Z,12nm,0.4s
OBN Obninsk 74.46 328 ⇑P **P** **19 41 30.7 -0.9**
OBN Obninsk 74.46 328*d* *i*P P 19 41 27.8 -3.8
OBN *e* 19 41 46.6
OBN *i* S **SKiKP** **19 50 58.8 +1.4**
OBN *e*SS **SS** **19 55 51.1 -1.1**
OBN *e*SSS SSS 19 59 04.9
OBN pmax pmax
comp=Z,110nm,1.7s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 74.46 328 P **P** **19 41 30.7 -0.9**
comp=Z,2μmcomp=Z,80nm,1.1s
TIXI Tiksi 74.60 10 P **P** **19 41 31.0 -1.2**
TIXI Tiksi 74.60 10 P **P** **19 41 31.5 -0.6**
comp=Z,108nm,1.0s,baz=215,slow=2.6,SNR=136
TIXI S **SKiKP** **19 51 04.2 +7.0**
comp=Z,0.8nm,0.4s,baz=314,slow=24,SNR=14
TIXI LR LR 20 18 15.1
comp=Z,8μm,19.8s,baz=241,slow=39
comp=Z,108nm,1.0s
TIXI Tiksi 74.60 10*ce*P **P** **19 41 30.7 -1.4**
TIXI pmax pmax
comp=Z,357nm,1.7s
TIXI MLR MLR
comp=Z,16μm,15.0s
KDWAN Kaudwane 74.67 246 *i* P **P** **19 41 33.9 +0.2**
BOSA Boshof 74.79 241 P **P** **19 41 32.5 -1.8**
BOSA IAmb IAmb 19 41 46.4
comp=Z,238nm,1.6s
BOSA Boshof 74.79 241 P **P** **19 41 34.6 +0.3**
comp=Z,9.6nm,0.5s,baz=90,slow=5.0,SNR=35
BOSA LR LR 20 07 59.6
comp=Z,2μm,21.8s,baz=84,slow=31
comp=Z,9.6nm,0.5s
BOSA Boshof 74.79 241 P **P** **19 41 32.5 -1.8**
BOSA pmax pmax
comp=Z,238nm,1.7s
MAKGR Makgori 74.83 243 *i* P **P** **19 41 34.6 0.0**
SEY Seymchan 74.87 23 P **P** **19 41 34.2 +0.3**
comp=Z,139nm,0.9s,baz=238,slow=6.5,SNR=233
SEY LR LR 20 19 34.9
comp=Z,6μm,18.5s,baz=244,slow=40
comp=Z,139nm,0.9s
SEY Seymchan 74.87 23*ce*P **P** **19 41 33.9 0.0**
SEY pmax pmax
comp=Z,465nm,1.7s
SEY MLR MLR
comp=Z,5μm,13.0s
BAND Balkesir-Ban 75.14 312 ⇑P **P** **19 41 35.7 -0.2**
CKGRV CKGRV 75.29 248 *i* P **P** **19 41 37.8 +0.4**
SKOMA Sekoma 75.46 245 *i* P **P** **19 41 38.6 +0.4**
PURM Purcari 75.48 319 ⇓P **P** **19 41 37.4 -0.3**
PURM Purcari 75.48 319 P **P** **19 41 36.6 -1.1**
comp=Z,2μmcomp=Z,141nm,1.3s
KLMR Klimovskoe 75.59 334 *e*P **P** **19 41 35.0 -3.0**
KLMR S SKiKP 19 51 11.6 +13
KLMR pmax pmax
comp=Z,124nm,1.4s
MANR Mangalia 75.63 316 ⇓P **P** **19 41 39.4 +0.8**
JURR Jurilovca 75.67 317 ⇑P **P** **19 41 39.4 +0.6**
MLZ Mavora Lakes 75.75 137 IAMs_20 IAMs_20 20 14 34.0
comp=Z,6μm,21.0s
TLCR 75.83 317 ⇓P **P** **19 41 39.9 +0.1**
TLCR 75.83 317 P **P** **19 41 39.8 +0.1**
MFTR Murfatlar 75.83 316 ⇓P **P** **19 41 40.1 +0.3**
JCZ Jackson Bay 75.90 135 P **P** **19 41 40.7 +0.3**
TIRR Tirgusor 75.91 316 ⇓P **P** **19 41 39.6 -0.6**
TIRR Tirgusor 75.91 316 P **P** **19 41 39.6 -0.6**
TIRR Tirgusor 75.91 316 P **P** **19 41 40.0 -0.2**
comp=Z,866nmcomp=Z,47nm,1.6s
TPGR Topolog 76.01 317 ⇓P **P** **19 41 41.0 +0.1**
ICOR Ion Corvin 76.25 316 ⇑P **P** **19 41 41.5 -0.7**
CFR Carcaliu 76.29 317 ⇓P **P** **19 41 42.6 +0.2**
CFR Carcaliu 76.29 317 P **P** **19 41 42.5 +0.2**
MILM Milestii Mici 76.29 319 *e*P **P** **19 41 41.0 -1.3**
comp=Z,430nm,2.0s
MILM Milestii Mici 76.29 319 *e*PP PP 19 44 25.0 -8.8
MILM Milestii Mici 76.29 319 ⇓P **P** **19 41 41.6 -0.7**
MILM Milestii Mici 76.29 319 *e*P **P** **19 41 41.0 -1.3**
MILM *e*PPP PPP 19 46 18.0
MILM *i* S **S** **19 51 21.0 -5.2**
MILM pmax pmax
comp=Z,430nm,2.0s
PRD Provadia 76.30 315 *e*P P 19 41 48.6 +6.1
KIS Kishinev 76.31 319 *i* P **P** **19 41 41.0 -1.4**
comp=Z,230nm,5.4s
KIS Kishinev 76.31 319 *i* PcP P 19 41 48.0 +5.6
KIS *i* S **S** **19 51 21.0 -5.4**
KIS *e*L L 20 16 43.0
KIS LQM 20 20 01.0
comp=Z,500nm,20.0s
KIS LRM MLR 20 25 24.0
comp=Z,500nm,19.0s
KIS Kishinev 76.31 319 *i* P **P** **19 41 41.0 -1.4**
KIS *i* 19 41 48.0
KIS *i* S **S** **19 51 21.0 -5.4**
KIS pmax pmax
comp=Z,230nm,5.4s
EZN Ezine 76.35 311 P P 19 41 47.5 +4.7

NEF NEVSHA 76.42 315 *e*P **P** **19 41 42.3 -0.9**
FOZ Fox Glacier 76.51 135 IAms_20 IAms_20 20 17 28.2
comp=Z,5µm,20.0s
PHPEN Phepeng 76.53 244 *i* P **P** **19 41 44.5 +0.2**
IDI Anoyia 76.59 306 P **P** **19 41 45.0 +0.6**
comp=Z,15nm,0.7s,baz=36,slow=3.7,SNR=8.9
IDI LR LR 20 20 42.0
comp=Z,1µm,18.5s,baz=92,slow=40
comp=Z,15nm,0.7s
CAVK Edirne/Enez-Ca 76.65 312 ⇓P **P** **19 41 43.7 -0.8**
JMB Yambol 76.77 314 *e*P **P** **19 41 45.7 +0.5**
ALN Alexandroupoli 76.78 312 IAmb IAmb 19 42 02.4
comp=Z,244nm,1.9s
KGCAE Kacgae 76.87 247 *i* P **P** **19 41 47.0 +0.7**
SORM Soroca 76.92 320 ⇓P **P** **19 41 45.3 -0.6**
SORM Soroca 76.92 320 P **P** **19 41 45.2 -0.6**
SORM Soroca 76.92 320 P **P** **19 41 44.4 -1.4**
comp=Z,2µmcomp=Z,77nm,1.5s
LBZ Lake Benmore 76.95 136 IAms_20 IAms_20 20 14 34.9
comp=Z,5µm,20.0s
WVZ Waitaha Valley 77.07 134 P **P** **19 41 48.3 +1.5**
AKASG Malin Array Be 77.09 323 P **P** **19 41 45.1 -1.7**
AKASG Malin Array Be 77.09 323 P **P** **19 41 45.5 -1.2**
comp=Z,2.9nm,0.5s,baz=92,slow=4.5,SNR=26
AKASG LR LR 20 20 31.1
comp=Z,1µm,19.2s,baz=110,slow=39
comp=Z,2.9nm,0.5s
AKASG Malin Array Be 77.09 323 P **P** **19 41 45.1 -1.7**
AKASG pmax pmax
comp=Z,159nm,1.9s
AKBB Malin Array Si 77.09 323 *c*e P **P** **19 41 45.5 -1.3**
AKBB Malin Array Si 77.09 323 P **P** **19 41 44.8 -2.0**
KIEV Kiev 77.09 322 P **P** **19 41 44.5 -2.3**
KIEV Kiev 77.09 322 ⇓P **P** **19 41 46.0 -0.7**
KIEV Kiev 77.09 322 P **P** **19 41 44.5 -2.3**
KIEV pmax pmax
comp=Z,43nm,1.1s
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 77.09 322 P **P** **19 41 45.8 -1.0**
KIEV Kiev 77.09 322 P **P** **19 41 44.4 -2.4**
comp=Z,4µmcomp=Z,134nm,1.3s
PANC Panciu 77.13 317 ⇑P **P** **19 41 47.7 +0.6**
ODBI Odobesti 77.17 317 ⇑P **P** **19 41 48.0 +0.7**
ELND Elena 77.34 314 ⇑P **P** **19 41 47.0 -1.4**
SZH Strazhitsa 77.34 315 *e*P **P** **19 41 50.3 +1.9**
VRI Vrincioaia 77.42 317 ⇑P **P** **19 41 49.1 +0.3**
VRI Vrincioaia 77.42 317 P **P** **19 41 49.0 +0.3**
VRI Vrincioaia 77.42 317 P **P** **19 41 47.7 -1.1**
comp=Z,2µmcomp=Z,110nm,1.3s
RPZ Rata Peaks 77.43 135 IAms_20 IAms_20 20 15 29.5
comp=Z,6µm,22.0s
RPZ Rata Peaks 77.43 135 LR LR 20 16 03.0
comp=Z,4µm,21.9s,baz=286,slow=36
RPZ Rata Peaks 77.43 135 P **P** **19 41 49.2 +0.3**
RPZ Rata Peaks 77.43 135 P **P** **19 41 50.5 +1.7**
SULR 77.46 316 ⇑P **P** **19 41 48.7 -0.3**
PLOR Plostina 77.47 317 ⇑P **P** **19 41 48.8 -0.3**
PLOR Plostina 77.47 317 P **P** **19 41 48.8 -0.3**
PLOR3 Plostina Array 77.47 317 P **P** **19 41 49.1 0.0**
comp=Z,2µmcomp=Z,79nm,1.9s
INZ Inchbonnie 77.51 134 P **P** **19 41 49.0 -0.3**
INZ IAmb IAmb 19 42 05.8
comp=Z,122nm,1.0s
QNGWA Qangwa 77.57 250 *i* P **P** **19 41 51.2 +0.9**
DSZ Denniston Nort 77.59 133 P **P** **19 41 51.9 +2.0**
NEHR Nehoiu 77.61 317 ⇓P **P** **19 41 49.6 -0.3**
GRTLG Ghanzi 77.68 248 *i* P **P** **19 41 51.2 +0.4**
MI30 MI30,Zelenitsa 77.73 322 P **P** **19 41 48.4 -2.0**
comp=Z,70nm,1.9s
ONER Baraj Valea Uz 77.75 318 ⇑P **P** **19 41 50.1 -0.5**
COVR Voineasa-Covas 77.77 317 ⇓P **P** **19 41 50.9 +0.2**
LUBAR Lubar, Ukraine 77.77 321 P **P** **19 41 49.2 -1.4**
MLR Muntele Rosu 77.86 317 IAmb IAmb 19 42 10.7
comp=Z,400nm,1.6s
MLR Muntele Rosu 77.86 317 ⇓P **P** **19 41 51.6 +0.2**
MLR Muntele Rosu 77.86 317 P **P** **19 41 51.6 +0.2**
MLR Muntele Rosu 77.86 317 P **P** **19 41 50.3 -1.1**
comp=Z,2µmcomp=Z,136nm,1.4s
RZN Rozhen 77.91 313 *e*P **P** **19 41 54.2 +2.4**
QRZ Quartz Range 77.96 132 P **P** **19 41 52.3 +0.4**
QRZ Quartz Range 77.96 132 P **P** **19 41 54.9 +3.0**
PLD Plovdiv 77.99 313 *e*P P 19 41 58.1 +6.1
OXZ Oxford 78.05 134 IAms_20 IAms_20 20 15 59.1
comp=Z,7µm,22.0s
MI28 Mi28,Pidlybu 78.10 322 P **P** **19 41 51.7 -0.7**
comp=Z,391nm,1.1s
PRAR RASCA 78.11 319 ⇑P **P** **19 41 52.3 -0.3**
OZUR 78.11 317 ⇓P **P** **19 41 53.3 +0.6**
KMPD K-Podol'skiy 78.25 320 P **P** **19 41 51.1 -2.2**
comp=Z,345µmcomp=Z,25µm,1.9s
HUMR Humele 78.32 316 ⇑P **P** **19 41 52.7 -1.1**
DOPR Dopca 78.35 317 ⇓P **P** **19 41 53.2 -0.8**
THZ Tophouse 78.40 133 P **P** **19 41 57.1 +2.7**
MTUR Matau 78.41 316 ⇓P **P** **19 41 53.6 -0.8**
MTUR Matau 78.41 316 P **P** **19 41 53.6 -0.8**
VOIR 78.46 317 ⇓P **P** **19 41 53.8 -0.9**
VOIR 78.46 317 P **P** **19 41 53.8 -0.9**
VOIR 78.46 317 P **P** **19 41 53.2 -1.5**
comp=Z,718nmcomp=Z,24nm,0.8s
PGB Panagyurishte 78.48 314 *e*P **P** **19 41 55.3 +0.5**
MQZ McQueen's Vall 78.56 135 IAms_20 IAms_20 20 16 01.6
comp=Z,6µm,20.0s
MMB Musomishta 78.61 312 *e*P **P** **19 41 53.6 -1.9**
VLAD Vladila 78.61 315 ⇑P **P** **19 41 55.3 -0.1**
GVZ Greta Valley S 78.70 134 IAms_20 IAms_20 20 16 07.5
comp=Z,8µm,22.0s
KOOLE Kule 78.73 247 *i* P **P** **19 41 57.2 +0.5**
ARR Arges 78.74 316 ⇑P **P** **19 41 55.4 -0.8**
SYO Syowa Base 78.77 198 ⇑*e*P **P** **19 41 54.2 -1.6**
SYO Syowa Base 78.77 198 ⇓*i*pP pP 19 42 03.0 +1.4
MPEP Malo Peshtene 78.96 314 *e*P **P** **19 41 57.1 -0.3**
MNK Minsk 78.96 326 *i* P **P** **19 41 54.1 -3.0**
MNK *i* 19 42 02.4
MNK *i* S **S** **19 51 53.7 -1.1**
MNK *i* 19 52 16.2
MNK pmax pmax
comp=Z,24nm,0.7s
KHZ Kahutara 78.98 133 P **P** **19 41 58.8 +1.4**
KHZ Kahutara 78.98 133 P **P** **19 41 58.9 +1.4**
PLNA Plana 79.02 313 *e*P **P** **19 41 57.2 -0.7**
TNR Turnu Rosu 79.04 317 ⇑P **P** **19 41 58.7 +0.9**
TNR Turnu Rosu 79.04 317 P **P** **19 41 58.7 +0.9**
SUR Sutherland 79.07 237 LR LR 20 11 31.9
comp=Z,2µm,19.7s,baz=90,slow=32
SUR Sutherland 79.07 237 P **P** **19 41 59.7 +1.3**
SUR P **P** **19 41 59.7 +1.3**
KKB Krupnik 79.12 313 *e*P **P** **19 41 58.7 +0.4**
VTS Vitosha 79.18 313 *e*P **P** **19 41 58.3 -0.5**
VALD Valchedram 79.24 315 *e*P **P** **19 41 59.0 +0.2**
RNPP5 Staryi Chortor 79.26 322 P **P** **19 41 57.8 -1.0**
PEHC Pehcevo 79.28 313 *i* P **P** **19 41 58.4 -0.9**
ARCR ARCALIA 79.29 318 ⇑P **P** **19 42 00.9 +1.8**
LOT Lotru 79.35 316 ⇑P **P** **19 41 59.4 -0.2**
HIZ Hauiti 79.37 129 IAms_20 IAms_20 20 18 39.7
comp=Z,5µm,20.0s
VAY Valandovo 79.44 312 *i* P **P** **19 42 01.2 +1.2**
CJR Cluj-Napoca 79.72 318 ⇑P **P** **19 42 01.9 +0.4**
CJR Cluj-Napoca 79.72 318 P **P** **19 42 01.9 +0.4**
BHW Baring Head 79.80 132 IAms_20 IAms_20 20 17 53.6
comp=Z,6µm,21.0s
PKVZ Pokaka 79.86 130 P **P** **19 42 03.7 +1.3**
BMR Baia Mare 79.98 319 ⇑P **P** **19 42 03.9 +1.1**
BMR Baia Mare 79.98 319 P **P** **19 42 03.9 +1.1**
JOF Joensuu 79.98 335 *e*P **P** **19 42 02.3 -0.2**
FWVZ Far West T-bar 80.01 130 P **P** **19 42 04.5 +1.0**
TRVZ Turoa 80.02 130 P **P** **19 42 04.9 +1.4**
GZR Gura Zlata 80.02 316 ⇑P **P** **19 42 03.8 +0.6**
GZR Gura Zlata 80.02 316 P **P** **19 42 03.8 +0.6**
WTVZ West Tongariro 80.02 130 P **P** **19 42 04.7 +1.3**
DEV Deva 80.03 317 ⇑P **P** **19 42 02.7 -0.4**
DEV Deva 80.03 317 P **P** **19 42 02.7 -0.4**
MARR Marisel-Cluj 80.03 318 ⇓P **P** **19 42 03.8 +0.5**
NGZ Ngauruhoe 80.04 130 P **P** **19 42 04.4 +0.9**
NNVZ North Ngauruho 80.05 130 P **P** **19 42 04.8 +1.2**
WNVZ Wahianoa 80.06 130 P **P** **19 42 05.3 +1.7**
NTVZ North Tongarir 80.09 130 P **P** **19 42 04.6 +0.8**
TMVZ Te Maari 80.11 130 P **P** **19 42 05.8 +1.9**
IIGN Ignalina 80.12 327 *e*P **P** **19 42 03.9 +0.6**
ETVZ East Tongariro 80.12 130 P **P** **19 42 04.9 +0.9**
HERR Herculane 80.18 316 ⇓P **P** **19 42 03.6 -0.3**
MOVZ Moawhango 80.19 130 P **P** **19 42 04.5 +0.2**
HOWZ Holdsworth Sta 80.21 131 P **P** **19 42 05.0 +0.7**

MESR Meseseni 80.24 318 ⇓P **P** **19 42 04.9 +0.7**
MSVF Nonsavu 80.28 108 LR LR 20 19 52.1
comp=Z,1µm,20.8s,baz=258,slow=37
DRGR 80.33 318 ⇑P **P** **19 42 05.1 +0.3**
DRGR 80.33 318 P **P** **19 42 05.1 +0.3**
SURR Surduc 80.54 316 ⇓P **P** **19 42 05.5 -0.4**
PNHZ Pukenui 80.59 130 P **P** **19 42 07.3 +0.9**
LVZ Lovozero 80.65 340 P **P** **19 42 04.9 -1.1**
LVZ IAms_20 IAms_20 20 20 58.7
comp=Z,5µm,20.0s
LVZ Lovozero 80.65 340 *i* P **P** **19 42 05.2 -0.8**
LVZ pmax pmax
comp=Z,34nm,1.1s
MDVR Moldovita 80.66 315 ⇑P **P** **19 42 05.6 -1.0**
VSU Vasula 80.69 330 *e*P **P** **19 42 06.2 -0.2**
OHR Ohrid 80.72 312 *i* P **P** **19 42 05.6 -1.5**
BKZ Black Stump Fm 80.73 130 P **P** **19 42 06.0 -1.2**
BKZ IAmb IAmb 19 42 18.2
comp=Z,166nm,0.8s
BKZ Black Stump Fm 80.73 130 P **P** **19 42 07.4 +0.3**
BKZ Black Stump Fm 80.73 130 P **P** **19 42 07.6 +0.5**
BFZ Birch Farm 80.73 131 P **P** **19 42 08.4 +1.4**
BZS Buzias 80.87 316 ⇓P **P** **19 42 06.8 -0.8**
BZS Buzias 80.87 316 P **P** **19 42 06.8 -0.8**
TSUM Tsumeb 80.93 251 LR LR 20 15 27.3
comp=Z,3µm,18.1s,baz=74,slow=34
APA Apatity 80.94 339 ⇓*i*P **P** **19 42 07.9 +0.3**
APA *i* 19 45 12.0
APA *i* S **S** **19 52 13.0 -2.3**
APA *i* PS **SKSac** **19 52 22.0 -3.1**
APA *i* SS **SS** **19 57 33.0 +3.5**
APA pmax pmax
comp=Z,23nm,1.0s
SIRR Siria 80.95 317 ⇓P **P** **19 42 07.8 -0.3**
MTHZ Maungataniwha 80.96 129 P **P** **19 42 08.8 +0.5**
KOLS Kolonicke sedl 81.03 320 *e*P **P** **19 42 09.6 +1.1**
KOLS pmax pmax
comp=Z,52nm,0.9s
KOLS Kolonicke sedl 81.03 320 *e*P **P** **19 42 09.6 +1.1**
RTZ Ruatahuna 81.04 129 P **P** **19 42 07.9 -0.9**
RTZ IAmb IAmb 19 42 24.3
comp=Z,253nm,1.0s
RTZ IAms_20 IAms_20 20 19 14.8
comp=Z,6µm,21.0s
RTZ Ruatahuna 81.04 129 P **P** **19 42 08.6 -0.2**
KAHZ Kahuranaki 81.10 130 P **P** **19 42 10.1 +1.0**
URZ Urewera 81.10 129 LR LR 20 19 40.5
comp=Z,4µm,20.4s,baz=6.0,slow=37
URZ Urewera 81.10 129 P **P** **19 42 09.2 +0.2**
URZ Urewera 81.10 129 P **P** **19 42 08.2 -0.8**
PXZ Pawanui 81.11 130 P **P** **19 42 09.6 +0.5**
KEK Kerkira 81.28 310 IAmb IAmb 19 42 29.7
comp=Z,182nm,1.2s
ARBE Arbavere 81.33 331 *e*P **P** **19 42 09.7 0.0**
PABE Paberze 81.40 326 IAmb IAmb 19 42 19.5
comp=Z,231nm,1.4s
PABE Paberze 81.40 326 *e*P **P** **19 42 10.3 +0.1**
MWZ Matawai 81.43 129 P **P** **19 42 10.7 -0.2**
SUW Suwalki 81.51 325 *e*P **P** **19 42 10.1 -0.7**
SUW Suwalki 81.51 325 IAmb IAmb 19 42 19.6
comp=Z,181nm,1.1s
SUW Suwalki 81.51 325 *e*P **P** **19 42 10.8 0.0**
WIN Windhoek 81.55 247 IAms_20 IAms_20 20 13 54.0
comp=Z,5µm,20.0s
HAZ Te Kaha 81.57 128 P **P** **19 42 11.1 -0.4**
STHS Stebnicka Huta 81.78 320 *e*P **P** **19 42 13.6 +1.1**
STHS pmax pmax
comp=Z,37nm,1.2s
STHS Stebnicka Huta 81.78 320 *e*P **P** **19 42 13.6 +1.1**
FINES FINESS Array B 81.84 332 P **P** **19 42 11.2 -1.2**
FINES FINESS Array B 81.84 332 P **P** **19 42 12.2 -0.2**
comp=Z,9.9nm,0.8s,baz=107,slow=5.3,SNR=45
FINES PKKPbc **PKKPbc** **20 00 47.2 +1.0**
comp=Z,2.9nm,1.0s,baz=38,slow=3.4,SNR=3.8
FINES LR LR 20 22 12.2
comp=Z,2µm,19.3s,baz=102,slow=38
comp=Z,9.9nm,0.8s
FINES FINESS Array B 81.84 332 *i* P **P** **19 42 12.1 -0.3**
FINES pmax pmax
comp=Z,10.0nm,0.8s
SHEM Shemya Is, Ala 81.85 37 P **P** **19 42 13.6 +1.0**
comp=Z,68nm,0.9s,baz=86,slow=8.1,SNR=3.9
SHEM LR LR 20 18 34.7
comp=Z,676nm,21.9s,baz=267,slow=36
comp=Z,68nm,0.9s
MXZ Matakaoa Point 81.97 128 IAms_20 IAms_20 20 21 04.5
comp=Z,4µm,20.0s
PDG Podgorica 82.06 313 IAmb IAmb 19 42 22.8
comp=Z,232nm,1.6s
PDG Podgorica 82.06 313 ⇑P **P** **19 42 13.1 -0.9**
MEF Metsahovi 82.31 331 *e*P **P** **19 42 15.8 +0.9**
BILL Bilibino 82.33 21 *i* P **P** **19 42 13.6 -1.3**
BILL pmax pmax
comp=Z,112nm,1.4s
BILL MLR MLR
comp=Z,5µm,14.0s
PSZ Piszkesteto 82.41 318 ⇓P **P** **19 42 15.4 -0.5**
PSZ Piszkesteto 82.41 318 P **P** **19 42 15.3 -0.5**
PSZ Piszkesteto 82.41 318 *e*P **P** **19 42 15.3 -0.5**
BEL Belsk 82.50 322 *e*P P 19 42 23.2 +7.1
KEF Keuruu 82.59 333 *e*P **P** **19 42 16.7 +0.3**
PBUR Paburge 82.64 327 *e*P **P** **19 42 17.5 +0.8**
OJC Ojcow 82.84 321 *e*P **P** **19 42 17.8 -0.2**
OJC Ojcow 82.84 321 P **P** **19 42 17.6 -0.4**
comp=Z,736nmcomp=Z,36nm,1.6s
LANS Liptovska Anna 82.89 320 *e*P **P** **19 42 18.8 +0.5**
LANS *e* 19 42 25.3
LANS Liptovska Anna 82.89 320 *e*P **P** **19 42 18.8 +0.5**
LANS *e* 19 42 25.3
MORH Mrgy, Hungar 83.01 317 ⇓P **P** **19 42 18.4 -0.4**
MORH Mrgy, Hungar 83.01 317 P **P** **19 42 18.4 -0.4**
comp=Z,821nmcomp=Z,37nm,1.9s
VYHS Vyhne 83.20 319 *e*P **P** **19 42 19.5 -0.4**
VYHS *e* 19 42 26.9
VYHS pmax pmax
comp=Z,123nm,1.8s
VYHS Vyhne 83.20 319 *e*P **P** **19 42 19.5 -0.4**
VYHS *e* 19 42 26.9
VADS Vadso 83.27 341 IAmb IAmb 19 42 19.3
comp=Z,114nm,1.3s
VADS *e*P **P** **19 42 19.6 0.0**
MATE Matera 83.75 311 *e*P **P** **19 42 21.1 -1.7**
RAF Rauma 83.76 332 *e*P **P** **19 42 23.0 +0.6**
VAF Ylistaro 83.79 334 *e*P **P** **19 42 22.7 +0.3**
OKC Ostrava-Krasne 83.84 320 *e*P **P** **19 42 24.0 +0.9**
OKC *e*S **SKSac** **19 52 43.4 -1.8**
OKC AMS AMS 20 29 40.0
comp=Z,1µm,17.1s
OKC Ostrava-Krasne 83.84 320 *e*P **P** **19 42 24.0 +0.9**
OKC *e*S **SKSac** **19 52 43.4 -1.8**
OKC MLR MLR
comp=Z,1µm,17.1s
MPLH Magyarpolny 83.89 317 P **P** **19 42 23.0 -0.4**
comp=Z,4µmcomp=Z,205nm,1.4s
KEV Kevo 83.91 341 IAms_20 IAms_20 20 22 52.0
comp=Z,4µm,20.0s
JAVC Velka Javorina 84.02 319 *e*P **P** **19 42 25.3 +1.2**
JAVC Velka Javorina 84.02 319 *e*S **S** **19 52 48.2 +0.6**
VNDA Vanda 84.08 169 P **P** **19 42 24.2 +0.4**
comp=Z,10nm,1.1s,baz=86,slow=0.8,SNR=3.2
VNDA LR LR 20 15 33.6
comp=Z,2µm,19.6s,baz=317,slow=33
comp=Z,10nm,1.1s
MODS Modra-Piesok 84.21 319 *e*P **P** **19 42 24.5 -0.6**
MODS *e* 19 42 32.3
MODS pmax pmax
comp=Z,295nm,1.7s
MODS Modra-Piesok 84.21 319 *e*P **P** **19 42 24.5 -0.6**
MODS *e* 19 42 32.3
MORC Moravsky Berou 84.22 320 IAmb IAmb 19 42 35.1
comp=Z,148nm,1.8s
MORC Moravsky Berou 84.22 320 *e*P **P** **19 42 24.9 -0.2**
MORC *e* 19 42 31.5
MORC Moravsky Berou 84.22 320 *e*S **SKSac** **19 52 47.9 +0.1**
MORC Moravsky Berou 84.22 320 ⇑P **P** **19 42 24.6 -0.6**
MORC Moravsky Berou 84.22 320 P **P** **19 42 24.5 -0.6**
ARA0 ARCESS Array S 84.35 340 *e*P **P** **19 42 25.4 +0.1**
ARA0 IAmb IAmb 19 42 26.9
comp=Z,125nm,1.7s
ARCES ARCESS Array B 84.35 340 P **P** **19 42 25.6 +0.3**
comp=Z,8.2nm,0.8s,baz=102,slow=3.7,SNR=26
ARCES LR LR 20 23 25.5
comp=Z,4µm,20.4s,baz=106,slow=38
comp=Z,8.2nm,0.8s

RAO Raoul Island 84.53 119 LR LR 20 21 47.0
comp=Z,3µm,19.8s,baz=250,slow=37
KRLC Kraliky 84.74 320 *e*P **P** **19 42 27.6 -0.1**
KRLC *e*S **S** **19 52 54.2 -0.6**
KRLC AMS AMS 20 25 10.0
comp=Z,2µm,18.9s
KRLC Kraliky 84.74 320 *e*P **P** **19 42 27.6 -0.1**
KRLC *e*S **S** **19 52 54.2 -0.6**
KRLC MLR MLR
comp=Z,2µm,18.9s
VRAC Vranov 84.77 319 P **P** **19 42 27.9 0.0**
comp=Z,1.5nm,0.4s,baz=20,slow=6.5,SNR=3.8
comp=Z,1.5nm,0.4s
VRAC Vranov 84.77 319 *e*P **P** **19 42 28.0 +0.1**
VRAC *e* 19 42 34.5
VRAC Vranov 84.77 319 *e*S **S** **19 52 53.5 -1.6**
RONA Rosalia, Austr 84.79 318 *e*PcP **P** **19 42 29.8 +1.8**
comp=Z,22nm,1.3s
GKP Gorka Klasztor 84.86 323 *e*P P 19 42 34.8 +6.7
GKP Gorka Klasztor 84.86 323 *e*P **P** **19 42 28.8 +0.7**
KRUC Moravsky 84.88 319 *e*P **P** **19 42 28.2 -0.2**
KRUC *e* 19 42 34.4
KRUC Moravsky 84.88 319 *e*S **S** **19 52 54.7 -1.3**
ELIB Princess Elisa 84.92 198 *d*P **P** **19 42 29.4 +1.1**
comp=Z,26nm,1.0s
KTK1 Kautokeino 84.99 340 *e*P **P** **19 42 29.0 +0.5**
KTK1 IAmb IAmb 19 42 29.9
comp=Z,115nm,1.6s
DPC Dobruska-Polom 85.07 320 *e*P **P** **19 42 29.8 +0.4**
DPC *e*S **S** **19 52 56.6 -1.4**
DPC AMS AMS 20 26 50.0
comp=Z,2µm,16.8s
DPC Dobruska-Polom 85.07 320 *e*P **P** **19 42 29.8 +0.4**
DPC *e*S **S** **19 52 56.6 -1.4**
DPC MLR MLR
comp=Z,2µm,16.8s
DPC Dobruska-Polom 85.07 320 P **P** **19 42 29.6 +0.2**
comp=Z,689nmcomp=Z,30nm,1.9s
CONA Conrad Observa 85.10 318 *i* PcP **P** **19 42 31.2 +1.5**
comp=Z,24nm,1.5s
KSP Ksiaz 85.14 321 *e*P **P** **19 42 29.9 +0.2**
KSP Ksiaz 85.14 321 P **P** **19 42 30.6 +0.9**
comp=Z,35nm,1.8s
OSTC Ostas 85.16 321 *e*P **P** **19 42 32.3 +2.5**
OSTC *e*S **S** **19 52 58.3 -0.6**
OSTC AMS AMS 20 27 00.0
comp=Z,2µm,19.5s
OSTC Ostas 85.16 321 *e*P **P** **19 42 32.3 +2.5**
OSTC *e*S **S** **19 52 58.3 -0.6**
OSTC MLR MLR
comp=Z,2µm,19.5s
ARSA Arzberg 85.26 317 *i* pP pP 19 42 33.9 -2.5
comp=Z,42nm,1.4s
CHVC Chvalec 85.27 321 *e*P **P** **19 42 33.0 +2.7**
CHVC AMS AMS 20 27 00.0
comp=Z,2µm,17.4s
CHVC Chvalec 85.27 321 *e*P **P** **19 42 33.0 +2.7**
CHVC MLR MLR
comp=Z,2µm,17.4s
UPC Upice 85.28 321 *e*P **P** **19 42 30.9 +0.5**
UPC *e*S **S** **19 52 59.2 -0.8**
UPC AMS AMS 20 26 50.0
comp=Z,2µm,19.3s
UPC Upice 85.28 321 *e*P **P** **19 42 30.9 +0.5**
UPC *e*S **S** **19 52 59.2 -0.8**
UPC MLR MLR
comp=Z,2µm,19.3s
TREC Trest 85.49 319 *e*P **P** **19 42 32.1 +0.6**
TREC *e*S **S** **19 52 59.8 -2.4**
TREC AMS AMS 20 30 00.0
comp=Z,2µm,18.2s
TREC Trest 85.49 319 *e*P **P** **19 42 32.1 +0.6**
TREC *e*S **S** **19 52 59.8 -2.4**
TREC MLR MLR
comp=Z,2µm,18.2s
SOKA Soboth 85.54 317 *i* pP pP 19 42 34.8 -3.0
comp=Z,76nm,1.8s
OBKA Obir 85.86 317 *i* pP pP 19 42 36.8 -2.7
comp=Z,39nm,1.6s
GOPC GO Pecny, Ondr 86.01 320 *e*P **P** **19 42 34.3 +0.3**
GOPC *e*S **S** **19 53 06.1 -1.1**
GOPC AMS AMS 20 27 30.0
comp=Z,2µm,20.7s
GOPC GO Pecny, Ondr 86.01 320 *e*P **P** **19 42 34.3 +0.3**
GOPC *e*S **S** **19 53 06.1 -1.1**
GOPC MLR MLR
comp=Z,2µm,20.7s
JETT Jettan, Norway 86.09 340 *e*P **P** **19 42 34.3 +0.2**
JETT IAmb IAmb 19 42 35.6
comp=Z,60nm,1.2s
MOA Molln 86.17 318 *i* pP pP 19 42 36.9 -3.9
comp=Z,24nm,1.4s
PRU Pruhonice 86.17 320 *e*P **P** **19 42 35.1 +0.3**
PRU *e*S **S** **19 53 08.4 -0.4**
PRU AMS AMS 20 27 30.0
comp=Z,2µm,20.2s
PRU Pruhonice 86.17 320 *e*P **P** **19 42 35.1 +0.3**
PRU *e*S **S** **19 53 08.4 -0.4**
PRU MLR MLR
comp=Z,2µm,20.2s
PVCC Panska Ves 86.20 321 *e*P **P** **19 42 37.8 +2.9**
PVCC *e*S **S** **19 53 09.0 0.0**
PVCC AMS AMS 20 27 20.0
comp=Z,2µm,16.6s
PVCC Panska Ves 86.20 321 *e*P **P** **19 42 37.8 +2.9**
PVCC *e*S **S** **19 53 09.0 0.0**
PVCC MLR MLR
comp=Z,2µm,16.6s
CKRC Cesky Krumlov 86.22 319 *e*P **P** **19 42 35.0 -0.1**
CKRC *e*S **S** **19 53 08.6 -0.7**
CKRC Cesky Krumlov 86.22 319 *e*P **P** **19 42 35.0 -0.1**
CKRC *e*S **S** **19 53 08.6 -0.7**
PRA Prague 86.25 320 *e*P **P** **19 42 35.2 0.0**
PRA *e*S **S** **19 53 07.2 -2.3**
PRA AMS AMS 20 27 40.0
comp=Z,2µm,20.4s
PRA Prague 86.25 320 *e*P **P** **19 42 35.2 0.0**
PRA *e*S **S** **19 53 07.2 -2.3**
PRA MLR MLR
comp=Z,2µm,20.4s
ZVC Zvikov 86.35 319 *e*P **P** **19 42 37.6 +1.9**
ZVC *e*S **S** **19 53 09.9 -0.6**
ZVC AMS AMS 20 27 50.0
comp=Z,2µm,20.3s
MYKA Terra Mystica 86.49 317 *i* P **P** **19 42 36.5 -0.1**
comp=Z,47nm,1.7s
RICC Richard 86.50 321 *e*P P 19 42 41.9 +5.5
RICC AMS AMS 20 27 30.0
comp=Z,2µm,16.1s
BIOA Bad Ischl, Aus 86.58 318 *e*PcP **P** **19 42 37.5 +0.6**
comp=Z,33nm,2.0s
TRO Tromso 86.62 340 *e*P **P** **19 42 36.4 -0.1**
TRO IAmb IAmb 19 42 40.6
comp=Z,480nm,2.2s
GEC2 GERESS Array S 86.62 319 IAmb IAmb 19 42 46.2
comp=Z,219nm,2.0s
GEC2 GERESS Array S 86.62 319 *e*P **P** **19 42 37.6 +0.4**
comp=Z,218nm,1.9s,baz=93,slow=4.8
GERES GERESS Array B 86.62 319 P **P** **19 42 35.9 -1.3**
GERES GERESS Array B 86.62 319 P **P** **19 42 37.3 +0.1**
comp=Z,6.6nm,1.0s,baz=100,slow=3.0,SNR=16
comp=Z,6.6nm,1.0s
BRG Berggiesshubel 86.63 321 *e*P **P** **19 42 38.8 +1.8**
BRG Amp 19 42 40.9
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 86.63 321 P P 19 42 43.5 +6.5
BRG Amp 19 42 47.1
comp=Z,70nm,1.6s
BRG Berggiesshubel 86.63 321 S **S** **19 53 14.0 +0.8**
BRG Berggiesshubel 86.63 321 SS SS 19 58 55.0 +0.7
BRG Berggiesshubel 86.63 321 *e*P **P** **19 42 37.6 +0.6**
comp=Z,70nm,1.6s,baz=93,slow=4.8
KHC Kasperske Hory 86.72 319 *e*P P 19 42 30.5 -7.1
KHC PCP pP 19 42 37.5 -6.1
KHC x x 19 42 53.5
KHC *e*S **S** **19 53 13.7 -0.6**
KHC AMS AMS 20 28 00.0
comp=Z,2µm,20.2s
KHC Kasperske Hory 86.72 319 *e*P P 19 42 30.5 -7.1
KHC *e* 19 42 37.5
KHC *e*S **S** **19 53 13.7 -0.6**
KHC MLR MLR
comp=Z,2µm,20.2s
KHC MLR MLR
comp=E,1µm,18.2s

KBA	Koelnbreinsper	86.73 317	*i* pP	pP	19 42 40.2	-3.6
	comp=E,19nm,2.0s					
RUE	Ruedersdorf	86.86 322	*e*P	P	19 42 38.0	-0.1
RUE	Ruedersdorf	86.86 322	*e*P	P	19 42 38.5	+0.4
	comp=E,418nm,1.9s,baz=93,slow=4.8					
HSKC	Hora Svate Kat	86.93 321	*e*S	S	19 53 14.2	-2.0
HSKC			AMS	AMS	20 30 30.0	
	comp=E,2μm,17.3s					
LESA	Schwarzleotal	87.21 317	*i* P	P	19 42 39.2	-0.8
	comp=E,29nm,1.4s					
CLL	Collm	87.25 321	*i* P	P	19 42 40.6	+0.6
CLL			*e*S	S	19 53 17.0	-2.2
CLL			pmax	pmax		
	comp=Z,94nm,1.8s					
CLL			MLR	MLR		
	comp=Z,1μm,20.6s					
CLL	Collm	87.25 321	*e*P	P	19 42 40.2	+0.2
	comp=Z,78nm,1.6s,baz=93,slow=4.8					
ABTA	Abfaltersbach	87.28 317	*i* P	P	19 42 39.6	-0.8
	comp=Z,22nm,1.7s					
CIMO	Cimolais	87.30 316	IAmb	IAmb	19 43 11.3	
	comp=Z,124nm,1.5s					
RGN	Rugen	87.30 324	*e*P	P	19 42 40.8	+0.6
	comp=Z,187nm,1.1s,baz=93,slow=4.8					
NKC	Novy Kostel	87.53 320	*e*P	P	19 42 33.0	-8.5
NKC			*e*S	S	19 53 22.6	+0.6
NKC			AMS	AMS	20 28 10.0	
	comp=Z,2μm,17.7s					
NKC	Novy Kostel	87.53 320	*e*P	P	19 42 33.0	-8.5
NKC			*e*S	S	19 53 22.6	+0.6
NKC			MLR	MLR		
	comp=Z,2μm,17.7s					
TANN	Tannenbergstha	87.54 320	*e*P	P	19 42 41.9	+0.4
	comp=Z,90nm,1.9s,baz=93,slow=4.8					
HFS	Hagfors	87.56 330	P	P	19 42 41.5	+0.1
	comp=Z,12nm,0.8s,baz=145,slow=5.4,SNR=8.7					
HFS			LR	LR	20 25 21.5	
	comp=Z,2μm,21.0s,baz=87,slow=38					
	comp=Z,12nm,0.8s					
FAUS	Fauske	87.61 337	*e*P	P	19 42 41.9	+0.5
FAUS			IAmb	IAmb	19 42 42.8	
	comp=Z,40nm,1.2s					
ROTZ	Rotzenmuhle	87.66 320	*e*P	P	19 42 43.0	+0.9
	comp=Z,11nm,1.5s,baz=93,slow=4.8					
STEI	Steigen	87.69 338	*e*P	P	19 42 42.9	+1.1
STEI			IAmb	IAmb	19 42 43.1	
	comp=Z,32nm,1.0s					
PLN	Plauen	87.73 320	*e*P	P	19 42 42.9	+0.5
	comp=Z,14nm,1.4s,baz=93,slow=4.8					
MANZ	Manzenberg	87.74 320	*e*P	P	19 42 43.4	+0.9
	comp=Z,25nm,1.6s,baz=93,slow=4.8					
MOR8	Moi Rana	87.81 336	*e*P	P	19 42 42.6	+0.2
MOR8			IAmb	IAmb	19 42 58.6	
	comp=Z,52nm,1.2s					
CTI	Castel Tesino	87.83 316	IAmb	IAmb	19 43 14.4	
	comp=Z,119nm,1.5s					
WTTA	Wattenberg	87.90 317	*i* pP	P	19 42 45.4	+1.9
	comp=Z,46nm,1.7s					
WATA	Walderalm	87.95 317	*i* pP	pP	19 42 47.0	-2.6
	comp=Z,32nm,1.4s					
NEUB	Neuenburg	88.02 321	*e*P	P	19 42 44.0	+0.3
	comp=Z,100nm,1.5s,baz=93,slow=4.8					
MOX	Moxa	88.09 321	*e*P	P	19 42 44.7	+0.6
	comp=Z,80nm,1.7s,baz=93,slow=4.8					
MOX			*e*L	L	20 31 23.7	
	comp=Z,2μm,19.8s					
FUR	Furstenfeldbru	88.19 318	*e*P	P	19 42 44.7	0.0
	comp=Z,35nm,1.2s,baz=93,slow=4.8					
SQTA	Sankt Quirin	88.19 317	*i* PcP	P	19 42 45.4	+0.6
	comp=Z,26nm,1.5s					
MOTA	Moosalm	88.27 317	*i* pP	P	19 42 47.1	+1.9
	comp=Z,9.4nm,0.9s					
GRF	Grafenberg Arr	88.30 320	*e*P	P	19 42 46.0	+0.9
	comp=Z,196nm,1.9s,baz=93,slow=4.8					
GRF			*e*L	L	20 30 13.5	
	comp=Z,2μm,20.3s					
LOF	Lofoten	88.35 338	*e*P	P	19 42 46.8	+1.9
LOF			IAmb	IAmb	19 42 47.6	
	comp=Z,42nm,1.3s					
NVL	N'lazarevskaya	88.39 199	*e*P	P	19 42 47.4	+2.3
NVL			*e*		19 46 12.2	
NVL			*e*S	SKSac	19 53 12.2	-0.6
NVL			*e*SS	SS	19 59 20.1	+1.1
NVL			pmax	pmax		
	comp=Z,89nm,1.3s					
NVL			MLR	MLR		
	comp=Z,2μm,16.0s					
GORT1	Trebel	88.40 323	*e*P	P	19 42 45.9	+0.5
	comp=Z,151nm,1.5s,baz=93,slow=4.8					
FLTG	Flechtingen	88.41 322	*e*P	P	19 42 45.4	-0.1
	comp=Z,66nm,1.5s,baz=93,slow=4.8					
RETA	Reutte	88.51 317	*i* pP	pP	19 42 48.3	-3.9
	comp=Z,7.8nm,0.9s					
FETA	Feichten	88.51 317	*e*P	P	19 42 45.7	-0.7
	comp=Z,27nm,1.6s					
NC602	NORSAR Array S	88.67 331	*e*P	P	19 42 47.6	+1.0
NC602			IAmb	IAmb	19 42 47.7	
	comp=Z,138nm,1.9s					
SPA0	Spitsbergen Ar	88.70 348	*e*P	P	19 42 47.0	+0.6
SPA0			IAmb	IAmb	19 42 49.1	
	comp=Z,225nm,1.6s					
SPITS	Spitsbergen Ar	88.70 348	P	P	19 42 46.7	+0.3
	comp=Z,43nm,1.1s,baz=77,slow=4.9,SNR=4.7					
SPITS			LR	LR	20 30 41.9	
	comp=Z,4μm,18.2s,baz=82,slow=41					
	comp=Z,43nm,1.1s					
SPITS	Spitsbergen Ar	88.70 348	P	P	19 42 44.8	-1.7
SPITS			pmax	pmax		
	comp=Z,144nm,1.1s					
NSS	Namsos	88.70 334	*e*P	P	19 42 47.2	+0.6
NSS			IAmb	IAmb	19 42 53.1	
	comp=Z,40nm,1.3s					
FUORN	Ofenpass-Fuorn	88.82 316	IAmb	IAmb	19 42 58.3	
	comp=Z,231nm,2.0s					
NB2	NORSAR Subarra	88.85 331	P	P	19 42 46.8	-0.7
	comp=Z,175nm,2.0s,baz=94,slow=4.8					
NB2	NORSAR Subarra	88.85 331	P	P	19 42 46.8	-0.7
	baz=94,slow=4.8					
NOA	NORSAR Array B	88.85 331	P	P	19 42 47.4	-0.1
	comp=Z,5.0nm,1.1s,baz=95,slow=4.8,SNR=9.0					
NOA			PP	PP	19 46 15.7	-1.0
	comp=Z,3.2nm,1.0s,baz=90,slow=7.9,SNR=4.0					
NOA			LR	LR	20 26 09.8	
	comp=Z,2μm,21.8s,baz=85,slow=38					
	comp=Z,5.0nm,1.1s					
CLZ	Clausthal	88.92 322	*e*P	P	19 42 48.7	+0.6
	comp=Z,194nm,1.8s,baz=93,slow=4.8					
UBR	Ueberruh	88.96 318	*e*P	P	19 42 48.5	+0.2
	comp=Z,25nm,1.3s,baz=93,slow=4.8					
BSEG	Bad Segeberg	89.03 324	*e*P	P	19 42 49.2	+0.8
	comp=Z,133nm,1.5s,baz=93,slow=4.8					
DAVOX	Davos/Dischmat	89.09 317	LR	LR	20 28 35.1	
	comp=Z,826nm,20.3s,baz=80,slow=40					
DAVA	Damuels	89.10 317	*i* pP	P	19 42 50.7	+1.5
	comp=Z,16nm,1.1s					
NRDL	Niedersach Rie	89.11 322	*e*P	P	19 42 49.8	+1.0
	comp=Z,273nm,1.9s,baz=93,slow=4.8					
UBBA	Unterbreizbach	89.12 321	*e*P	P	19 42 49.6	+0.8
	comp=Z,134nm,1.9s,baz=93,slow=4.8					
GTTG	Gottingen	89.17 321	*e*P	P	19 42 49.8	+0.6
	comp=Z,79nm,1.4s,baz=93,slow=4.8					
KEST	Kesra	89.24 306	P	P	19 42 50.6	+0.6
	comp=Z,23nm,1.1s,baz=88,slow=2.5,SNR=5.8					
KEST			LR	LR	20 25 41.0	
	comp=Z,2μm,19.4s,baz=60,slow=38					
	comp=Z,23nm,1.1s					
QSPA	South Pole Qui	89.55 180	P	P	19 42 51.3	+0.6
	comp=Z,8.6nm,0.9s,baz=320,slow=3.1,SNR=12					
QSPA			LR	LR	20 18 01.0	
	comp=Z,3μm,20.3s,baz=307,slow=32					
	comp=Z,8.6nm,0.9s					
RETH	Rethem/Aller,	89.57 323	*e*P	P	19 42 51.6	+0.7
	comp=Z,217nm,1.3s,baz=93,slow=4.8					
STU	Stuttgart	89.59 319	*e*P	P	19 42 51.8	+0.5
	comp=Z,421nm,1.9s,baz=93,slow=4.8					
TNS	Taunus Mts	90.10 320	*e*P	P	19 42 54.4	+0.8
	comp=Z,88nm,1.4s,baz=93,slow=4.8					
KASTN	Kahler Asten	90.13 321	*e*P	P	19 42 54.4	+0.7
	comp=Z,130nm,1.7s,baz=93,slow=4.8					
BFO	Black Forest	90.16 318	P	P	19 42 52.3	-1.6
BFO	Black Forest	90.16 318	P	P	19 42 52.3	-1.6
BFO			pmax	pmax		
	comp=Z,29nm,1.1s					
BFO	Black Forest	90.16 318	*e*P	P	19 42 54.1	+0.1
	comp=Z,30nm,1.1s,baz=93,slow=4.8					
GAMB	Gambell	90.44 26	IAmb	IAmb	19 43 04.0	
	comp=Z,113nm,1.4s					
GAMB	Gambell	90.44 26	P	P	19 42 54.8	0.0
	baz=270					
IBBN	Ibbenburen	90.54 322	*e*P	P	19 42 56.3	+0.8
	comp=Z,173nm,1.5s,baz=93,slow=4.8					
BUG	Bochum--Univer	90.85 321	*e*P	P	19 42 57.7	+0.7
	comp=Z,332nm,2.4s,baz=93,slow=4.8					
AKN	Aaknes	90.89 332	*e*P	P	19 42 56.6	-0.3
AKN			IAmb	IAmb	19 42 58.8	
	comp=Z,117nm,1.8s					
SPIA	Saint Paul Isl	91.23 33	P	P	19 42 58.5	-0.1
	baz=271					
TROLL	Troll, Antarti	91.35 198	P	P	19 43 01.1	+2.0
TROLL	Troll, Antarti	91.35 198	⇑P	P	19 43 01.1	+2.0
	comp=Z,256nm,0.8s					
WLF	Walferdange	91.59 319	*e*P	P	19 43 01.5	+1.0
	comp=Z,248nm,2.2s,baz=93,slow=4.8					
P08K	Saint George I	91.62 34	P	P	19 43 00.2	-0.2
	baz=272					
NIUE	Niue	91.71 109	P	P	19 43 03.4	+1.7
TNA	Tin City	92.01 25	P	P	19 43 02.1	+0.1
	baz=274,SNR=8.7					
F14K	Arctic Creek	92.68 25	P	P	19 43 05.8	+0.6
	baz=275					
C16K	Lisburne Hills	92.80 22	IAms_20	IAms_20	20 29 41.0	
	comp=Z,5μm,19.0s					
C16K	Lisburne Hills	92.80 22	P	P	19 43 06.1	+0.5
	baz=276,SNR=76					
SNAA	Sanae	93.06 198	P	P	19 43 09.2	+2.2
SNAA	Sanae	93.06 198	⇑P	P	19 43 09.2	+2.2
	comp=Z,62nm,1.0s					
SNAA	Sanae	93.06 198	P	P	19 43 07.7	+0.8
	comp=Z,3.9nm,1.1s,baz=151,slow=4.8,SNR=4.0					
SNAA			LR	LR	20 20 59.1	
	comp=Z,1μm,18.4s,baz=98,slow=33					
	comp=Z,3.9nm,1.1s					
SNAA	Sanae	93.06 198	*ce*P	P	19 43 08.0	+1.1
SNAA			pmax	pmax		
	comp=Z,29nm,1.4s					
M11K	Mekoryuk	93.17 30	IAms_20	IAms_20	20 29 39.3	
	comp=Z,3μm,19.0s					
M11K	Mekoryuk	93.17 30	P	P	19 43 07.8	+0.3
	baz=275					
ANM	Nome	93.17 25	IAmb	IAmb	19 43 17.6	
	comp=Z,119nm,1.6s					
ANM			IAms_20	IAms_20	20 31 22.0	
	comp=Z,4μm,18.0s					
ANM	Nome	93.17 25	P	P	19 43 08.0	+0.5
	baz=276,SNR=16					
F15K	North Star Dit	93.35 24	IAmb	IAmb	19 43 18.1	
	comp=Z,81nm,1.1s					
F15K			IAms_20	IAms_20	20 27 52.8	
	comp=Z,4μm,20.0s					
F15K	North Star Dit	93.35 24	P	P	19 43 08.3	0.0
	baz=276					
UNV	Unalaska Valle	93.51 36	P	P	19 43 09.5	+0.3
	baz=274					
C17K	DeLong Mountai	93.58 21	P	P	19 43 09.6	+0.3
	baz=278					
G15K	Niukluk	93.69 25	P	P	19 43 09.8	0.0
	baz=277					
D17K	Noatak River	93.72 22	P	P	19 43 10.4	+0.5
	baz=278,SNR=57					
RDOG	Red Dog Mine	93.73 22	IAmb	IAmb	19 43 19.0	
	comp=Z,91nm,1.4s					
RDOG			IAms_20	IAms_20	20 29 50.7	
	comp=Z,4μm,21.0s					
RDOG	Red Dog Mine	93.73 22	P	P	19 43 10.5	+0.5
	baz=278,SNR=7.5					
K13K	Kusilvak Mount	93.77 28	IAmb	IAmb	19 43 20.5	
	comp=Z,150nm,1.4s					
K13K			IAms_20	IAms_20	20 29 18.0	
	comp=Z,4μm,20.0s					
K13K	Kusilvak Mount	93.77 28	P	P	19 43 10.7	+0.5
	baz=276,SNR=7.9					
B18K	Kokolik River	93.93 20	P	P	19 43 11.6	+0.7
	baz=279					
NOR	Nord	93.94 352	*i* P	P	19 43 10.4	-0.3
NOR			IAmb	IAmb	19 43 28.8	
	comp=Z,66nm,1.3s					
J14K	Nanvaranak Lak	94.18 27	IAmb	IAmb	19 43 22.2	
	comp=Z,118nm,1.4s					
J14K			IAms_20	IAms_20	20 29 58.8	
	comp=Z,4μm,18.0s					
J14K	Nanvaranak Lak	94.18 27	P	P	19 43 12.4	+0.3
	baz=277					
C18K	Utukok River	94.27 21	IAmb	IAmb	19 43 21.7	
	comp=Z,184nm,1.6s					
C18K	Utukok River	94.27 21	P	P	19 43 13.0	+0.4
	baz=280,SNR=39					
E17K	Hotham Inlet	94.29 23	P	P	19 43 13.2	+0.6
	baz=279					
G16K	Koyuk River	94.34 24	IAmb	IAmb	19 43 22.8	
	comp=Z,159nm,1.2s					
G16K			IAms_20	IAms_20	20 31 18.1	
	comp=Z,4μm,18.0s					
G16K	Koyuk River	94.34 24	P	P	19 43 13.2	+0.4
	baz=279					
H16K	Elim	94.50 25	P	P	19 43 13.8	+0.3
	baz=279,SNR=31					
M13K	Dall Lake	94.57 29	P	P	19 43 14.4	+0.5
	baz=277					
F17K	Baldwin Pennin	94.62 23	IAmb	IAmb	19 43 25.5	
	comp=Z,169nm,1.6s					
F17K			IAms_20	IAms_20	20 31 35.3	
	comp=Z,4μm,18.0s					
F17K	Baldwin Pennin	94.62 23	P	P	19 43 14.7	+0.7
	baz=280					
E18K	Tukpahlearik C	94.70 22	IAmb	IAmb	19 43 24.5	
	comp=Z,99nm,1.2s					
E18K	Tukpahlearik C	94.70 22	P	P	19 43 15.1	+0.6
	baz=280,SNR=42					
L14K	Kuka Creek	94.77 29	IAmb	IAmb	19 43 25.0	
	comp=Z,101nm,1.1s					
L14K			IAms_20	IAms_20	20 30 03.9	
	comp=Z,4μm,19.0s					
L14K	Kuka Creek	94.77 29	P	P	19 43 15.5	+0.6
	baz=278					
G17K	Kiwalik Mounta	95.02 24	P	P	19 43 16.2	+0.3
	baz=280					
K15K	Wolf Creek Mou	95.17 27	IAmb	IAmb	19 43 26.4	
	comp=Z,114nm,1.4s					
K15K			IAms_20	IAms_20	20 31 28.3	
	comp=Z,3μm,18.0s					
K15K	Wolf Creek Mou	95.17 27	P	P	19 43 17.5	+0.8
	baz=279					
M14K	Bethel	95.20 29	IAms_20	IAms_20	20 31 46.2	
	comp=Z,3μm,20.0s					
M14K	Bethel	95.20 29	P	P	19 43 17.6	+0.7
	baz=279,SNR=6.0					
FALS	False Pass	95.21 35	P	P	19 43 17.9	+0.9
	baz=277					
F18K	Selawik	95.22 23	P	P	19 43 17.5	+0.7
	baz=281,SNR=96					
A21K	Barrow	95.25 18	P	P	19 43 17.6	+0.8
	baz=284					
I17K	Unalakleet	95.29 26	IAmb	IAmb	19 43 26.8	
	comp=Z,114nm,1.4s					
I17K			IAms_20	IAms_20	20 32 40.0	
	comp=Z,4μm,19.0s					
I17K	Unalakleet	95.29 26	P	P	19 43 18.2	+1.0
	baz=280,SNR=12					
L15K	Ungalak Mounta	95.29 28	P	P	19 43 17.9	+0.7
	baz=279,SNR=10					
D19K	Kuna River	95.41 21	P	P	19 43 18.3	+0.5
	baz=283					
J16K	Anvik River	95.43 26	IAms_20	IAms_20	20 31 19.0	
	comp=Z,3μm,19.0s					
J16K	Anvik River	95.43 26	P	P	19 43 18.9	+1.0
	baz=280					
H17K	Granite Mounta	95.43 25	IAmb	IAmb	19 43 27.9	
	comp=Z,83nm,1.1s					
H17K	Granite Mounta	95.43 25	P	P	19 43 18.3	+0.4
	baz=281					
N14K	Kuskokwak Cree	95.46 30	P	P	19 43 18.7	+0.7
	baz=279					
G18K	Tagagawik	95.76 24	P	P	19 43 19.5	+0.2
	baz=282					
JMIC	Jan Mayen	95.77 342	LR	LR	20 33 07.5	
	comp=Z,689nm,18.6s,baz=61,slow=40					
O14K	Tigyukauivet M	95.78 31	P	P	19 43 19.0	-0.5
	baz=279					
M15K	Kasigluk River	95.83 29	P	P	19 43 20.0	+0.3
	baz=280					
S12K	Black Hills	95.87 34	P	P	19 43 20.6	+0.5
	baz=278					
D20K	Etivluk River	95.89 21	P	P	19 43 20.4	+0.5
	baz=284,SNR=74					
F19K	Shaleruckik Mo	95.91 23	IAmb	IAmb	19 43 29.5	
	comp=Z,149nm,1.3s					
F19K			IAms_20	IAms_20	20 32 44.0	
	comp=Z,5μm,18.0s					
F19K	Shaleruckik Mo	95.91 23	P	P	19 43 20.2	+0.2
	baz=283					
E19K	Redstone River	95.97 22	IAmb	IAmb	19 43 29.5	
	comp=Z,138nm,1.4s					
E19K			IAms_20	IAms_20	20 31 13.8	
	comp=Z,5μm,20.0s					
E19K	Redstone River	95.97 22	P	P	19 43 20.8	+0.5
	baz=284					
H18K	Honhosa River	96.03 24	IAms_20	IAms_20	20 32 21.8	
	comp=Z,4μm,18.0s					
H18K	Honhosa River	96.03 24	P	P	19 43 21.0	+0.4
	baz=282					
J17K	VABM Dome	96.09 26	IAmb	IAmb	19 43 30.3	
	comp=Z,154nm,1.5s					
J17K			IAms_20	IAms_20	20 31 43.4	
	comp=Z,3μm,20.0s					
J17K	VABM Dome	96.09 26	P	P	19 43 21.7	+0.9
	baz=281					
E20K	Nigu River	96.16 21	P	P	19 43 22.0	+0.8
	baz=285					
N15K	Kwethluk River	96.21 29	IAmb	IAmb	19 43 31.6	
	comp=Z,114nm,1.2s					
N15K			IAms_20	IAms_20	20 33 23.6	
	comp=Z,4μm,19.0s					
N15K	Kwethluk River	96.21 29	P	P	19 43 22.1	+0.6
	baz=280					
L16K	Owhat River	96.23 28	IAmb	IAmb	19 43 31.7	
	comp=Z,159nm,1.5s					
L16K	Owhat River	96.23 28	P	P	19 43 22.1	+0.5
	baz=281,SNR=9.5					
G19K	Purcell Mounta	96.33 23	IAmb	IAmb	19 43 31.1	
	comp=Z,131nm,1.4s					
G19K			IAms_20	IAms_20	20 35 14.6	
	comp=Z,3μm,18.0s					
G19K	Purcell Mounta	96.33 23	P	P	19 43 22.4	+0.5
	baz=284					
B21K	Ikpikpuk River	96.35 20	P	P	19 43 22.5	+0.7
	baz=286,SNR=77					
DAG	Danmarks Havn	96.35 348	*i* P	P	19 43 21.0	-0.8
DAG			*i* P	P	19 43 21.0	-0.8
DAG			IAmb	IAmb	19 43 31.7	
	comp=Z,18nm,0.9s					
TORD	Torodi Ar. Bea	96.35 283	P	P	19 43 20.9	-2.3
TORD	Torodi Ar. Bea	96.35 283	P	P	19 43 22.9	-0.2
	comp=Z,2.2nm,0.8s,baz=71,slow=6.1,SNR=15					
TORD			PP	PP	19 47 20.6	+3.6
	comp=Z,1.4nm,1.0s,baz=47,slow=8.8,SNR=3.8					
TORD			LR	LR	20 23 31.5	
	comp=Z,1μm,21.3s,baz=90,slow=33					
	comp=Z,2.2nm,0.8s					
C21K	Knifeblade Rid	96.42 20	P	P	19 43 22.8	+0.6
	baz=286,SNR=85					
O15K	Ungalikthiuk R	96.52 30	P	P	19 43 23.0	+0.1
	baz=280					
B22K	Teshekpuk Lake	96.53 19	P	P	19 43 22.9	+0.3
	baz=287					
K17K	Iditarod	96.57 27	IAms_20	IAms_20	20 30 27.9	
	comp=Z,3μm,19.0s					
K17K	Iditarod	96.57 27	P	P	19 43 23.7	+0.6
	baz=282					
M16K	Timber Creek	96.60 29	IAmb	IAmb	19 43 32.6	
	comp=Z,99nm,1.4s					
M16K			IAms_20	IAms_20	20 31 09.2	
	comp=Z,3μm,19.0s					
M16K	Timber Creek	96.60 29	P	P	19 43 23.6	+0.4
	baz=281					
F20K	Avaraart Lake	96.64 22	IAmb	IAmb	19 43 32.5	
	comp=Z,118nm,1.1s					
F20K	Avaraart Lake	96.64 22	P	P	19 43 23.7	+0.4
	baz=285					
L17K	Donlin	96.69 27	P	P	19 43 24.7	+1.0
	baz=282					
H19K	Roundabout Mou	96.73 24	IAms_20	IAms_20	20 32 44.1	
	comp=Z,4μm,19.0s					
H19K	Roundabout Mou	96.73 24	P	P	19 43 24.5	+0.8
	baz=284,SNR=54					
GCSA	Galena City Sc	96.74 25	P	P	19 43 24.6	+0.9
	baz=284,SNR=11					
EKA	Eskdalemuir Ar	96.75 326	P	P	19 43 23.5	-0.5
	comp=Z,3.0nm,1.0s,baz=26,slow=25,SNR=2.6					
	comp=Z,3.0nm,1.0s					
N16K	Nishlik Lake	96.80 29	P	P	19 43 24.7	+0.5
	baz=281					
E21K	Killik River	96.90 21	IAms_20	IAms_20	20 33 46.4	
	comp=Z,4μm,19.0s					
E21K	Killik River	96.90 21	P	P	19 43 24.6	+0.1
	baz=287					
J18K	Innoko River	97.11 26	IAmb	IAmb	19 43 35.4	
	comp=Z,80nm,1.1s					
J18K			IAms_20	IAms_20	20 33 47.2	
	comp=Z,4μm,19.0s					
J18K	Innoko River	97.11 26	P	P	19 43 26.2	+0.7
	baz=284					
D22K	Ayikyak River	97.22 20	P	P	19 43 26.6	+0.7
	baz=288					
M17K	Holitna River	97.25 28	IAmb	IAmb	19 43 35.9	
	comp=Z,132nm,1.5s					
M17K			IAms_20	IAms_20	20 32 54.1	
	comp=Z,3μm,19.0s					
M17K	Holitna River	97.25 28	P	P	19 43 27.0	+0.9
	baz=283					
O16K	Kokwok River B	97.31 30	IAmb	IAmb	19 43 35.6	
	comp=Z,76nm,1.4s					
O16K			IAms_20	IAms_20	20 32 57.0	
	comp=Z,3μm,19.0s					
O16K	Kokwok River B	97.31 30	P	P	19 43 27.0	+0.5
	baz=282					
H20K	Anotleneega Mo	97.37 24	P	P	19 43 27.4	+0.8
	baz=286					
CHNA	Chernabura Isl	97.41 35	P	P	19 43 27.7	+0.7
	baz=280					
L18K	Granite Mounta	97.41 27	IAmb	IAmb	19 43 37.2	
	comp=Z,112nm,1.4s					
L18K			IAms_20	IAms_20	20 34 10.6	
	comp=Z,4μm,19.0s					
L18K	Granite Mounta	97.41 27	P	P	19 43 27.4	+0.5
	baz=283					
F21K	Alatna River	97.43 22	IAmb	IAmb	19 43 36.6	
	comp=Z,84nm,1.2s					
F21K	Alatna River	97.43 22	P	P	19 43 27.4	+0.5
	baz=287					
J19K	Poorman	97.45 25	IAmb	IAmb	19 43 37.2	
	comp=Z,104nm,1.2s					
J19K			IAms_20	IAms_20	20 33 57.2	
	comp=Z,4μm,18.0s					
J19K	Poorman	97.45 25	P	P	19 43 27.7	+0.6
	baz=285					
P16K	Nushagak River	97.48 30	P	P	19 43 27.7	+0.5
	baz=282					
TTA	Tatalina	97.55 26	IAmb	IAmb	19 43 37.6	
	comp=Z,78nm,1.4s					
TTA			IAms_20	IAms_20	20 34 14.8	
	comp=Z,4μm,18.0s					
TTA	Tatalina	97.55 26	P	P	19 43 28.0	+0.4
	baz=284,SNR=10					
TTA	Tatalina	97.55 26	P	P	19 43 28.2	+0.6
N17K	Nushagak Hills	97.56 29	IAmb	IAmb	19 43 37.2	
	comp=Z,94nm,1.4s					
N17K			IAms_20	IAms_20	20 33 45.5	
	comp=Z,3μm,20.0s					
N17K	Nushagak Hills	97.56 29	P	P	19 43 28.4	+0.8
	baz=283,SNR=5.2					
C23K	Itkillik River	97.61 19	P	P	19 43 28.3	+0.7
	baz=290					
G21K	Allakaket	97.63 23	IAms_20	IAms_20	20 33 39.8	
	comp=Z,4μm,18.0s					
G21K	Allakaket	97.63 23	P	P	19 43 28.0	+0.2
	baz=287					
I20K	Naaghedeneel	97.72 24	IAms_20	IAms_20	20 33 26.4	
	comp=Z,4μm,19.0s					
I20K	Naaghedeneel	97.72 24	P	P	19 43 29.0	+0.8
	baz=286,SNR=15					
E22K	Anaktuvuk Pass	97.76 21	P	P	19 43 28.9	+0.5
	baz=289,SNR=14					
O17K	Koliganek Bris	97.77 30	P	P	19 43 28.8	+0.3
	baz=283					
CHGN	Chignik	97.79 33	P	P	19 43 28.6	-0.1
	baz=281					
D23K	Nanushuk River	97.88 20	P	P	19

baz=286
N18K **Kilae Creek** 98.15 29 P **P** 19 43 28.3 -2.0
N18K **Kilae Creek** 98.15 29 IAmb IAmb 19 43 39.5
comp=Z,70nm,1.6s
N18K IAMs_20 IAMs_20 20 32 08.7
comp=Z,3µm,20.0s
N18K **Kilae Creek** 98.15 29 P **P** 19 43 29.6 -0.6
baz=284
H21K **Melozitna Rive** 98.16 23 P **P** 19 43 30.9 +0.7
baz=287,SNR=27
P17K **Kvichak River** 98.22 30 P **P** 19 43 30.6 0.0
baz=283
Q16K **King Salmon** 98.23 31 P **P** 19 43 29.9 -0.7
baz=283
L19K **White Mountain** 98.25 27 IAMs_20 IAMs_20 20 33 34.8
comp=Z,3µm,18.0s
L19K **White Mountain** 98.25 27 P **P** 19 43 31.2 +0.5
baz=285
G22K **Bettles** 98.26 22 P **P** 19 43 30.7 +0.1
baz=289
C24K **Franklin Bluff** 98.27 19 P **P** 19 43 30.9 +0.3
baz=292
K20K **Telida** 98.29 26 IAMs_20 IAMs_20 20 34 34.4
comp=Z,4µm,18.0s
K20K **Telida** 98.29 26 Pdiff **P** 19 43 31.6 +0.8
baz=286
TOLK **Toolik Lake Re** 98.37 20 Pdiff **P** 19 43 31.1 0.0
baz=291
D24K **Happy Valley** 98.44 19 IAmb IAmb 19 43 41.7
comp=Z,97nm,1.4s
D24K **Happy Valley** 98.44 19 Pdiff **P** 19 43 32.0 +0.6
baz=292
E23K **Chandalar** 98.56 21 IAmb IAmb 19 43 42.4
comp=Z,127nm,1.5s
E23K **Chandalar** 98.56 21 Pdiff **P** 19 43 32.8 +0.7
baz=291
L20K **Farewell, AK** 98.61 27 Pdiff **P** 19 43 32.9 +0.6
baz=286
I21K **Tanana** 98.63 24 Pdiff **P** 19 43 33.0 +0.7
baz=288
H22K **Ishtalitna Cre** 98.64 23 Pdiff **P** 19 43 33.0 +0.7
baz=289
COLD **Coldfoot** 98.64 21 IAmb IAmb 19 43 41.8
comp=Z,83nm,1.6s
COLD **Coldfoot** 98.64 21 Pdiff **P** 19 43 32.9 +0.6
baz=290
O18K **Koktuh Hills** 98.68 29 IAmb IAmb 19 43 42.5
comp=Z,79nm,1.0s
O18K IAMs_20 IAMs_20 20 34 22.0
comp=Z,3µm,18.0s
O18K **Koktuh Hills** 98.68 29 Pdiff **P** 19 43 33.2 +0.6
baz=284
Q17K **Contact Creek** 98.72 31 Pdiff **P** 19 43 33.6 +0.6
baz=284
P18K **Big Mountain,** 98.78 30 IAMs_20 IAMs_20 20 33 31.8
comp=Z,3µm,18.0s
P18K **Big Mountain,** 98.78 30 Pdiff **P** 19 43 33.9 +0.8
baz=284
N19K **Bonanza Creek** 98.78 28 IAMs_20 IAMs_20 20 34 58.8
comp=Z,4µm,18.0s
N19K **Bonanza Creek** 98.78 28 Pdiff **P** 19 43 33.6 +0.4
baz=285
G23K **Bananza Creek** 98.89 22 IAmb IAmb 19 43 43.8
comp=Z,104nm,1.5s
G23K **Bananza Creek** 98.89 22 Pdiff **P** 19 43 34.0 +0.5
baz=290
E24K **Your Creek** 98.95 20 Pdiff **P** 19 43 34.2 +0.4
baz=292
ACHA **Angle Creek He** 99.02 31 IAMs_20 IAMs_20 20 34 36.2
comp=Z,3µm,18.0s
O19K **Port Alsworth** 99.02 29 Pdiff **Pdif** 19 43 34.0 -0.2
baz=285
M20K **Styx River** 99.12 27 IAmb IAmb 19 43 44.1
comp=Z,48nm,1.3s
M20K IAMs_20 IAMs_20 20 34 21.2
comp=Z,3µm,19.0s
M20K **Styx River** 99.12 27 Pdiff **Pdif** 19 43 34.8 +0.2
baz=287
D25K **Kavik River** 99.18 19 Pdiff **Pdif** 19 43 35.1 +0.4
baz=294
F24K **Squaw Lake** 99.37 21 IAmb IAmb 19 43 45.2
comp=Z,58nm,1.4s
F24K **Squaw Lake** 99.37 21 Pdiff **Pdif** 19 43 36.1 +0.5
baz=292
BPAW **Bear Paw Mtn.** 99.38 25 IAMs_20 IAMs_20 20 34 36.0
comp=Z,3µm,18.0s
BPAW **Bear Paw Mtn.** 99.38 25 Pdiff **Pdif** 19 43 36.1 +0.4
baz=289
C26K **Camden Bay** 99.39 18 Pdiff **Pdif** 19 43 36.1 +0.5
baz=296
CHIR **Chirikof Islan** 99.43 33 Pdiff **Pdif** 19 43 35.7 -0.3
baz=283
ESDC **Sonseca Array** 99.56 310 P **Pdif** 19 43 37.1 0.0
comp=Z,0.4nm,0.6s,baz=87,slow=8.0,SNR=5.0
ESDC PP **PP** 19 47 41.5 +0.6
comp=Z,2.0nm,1.0s,baz=81,slow=6.6,SNR=5.1
comp=Z,0.4nm,0.6s
KTH **Kantishna Hill** 99.58 25 IAMs_20 IAMs_20 20 35 07.5
comp=Z,3µm,19.0s
ILSW **Iliamna Southw** 99.65 29 IAMs_20 IAMs_20 20 35 30.6
comp=Z,4µm,19.0s
I23K **Minto, Yukon-K** 99.68 23 IAMs_20 IAMs_20 20 32 19.0
comp=Z,3µm,20.0s
I23K **Minto, Yukon-K** 99.68 23 Pdiff **Pdif** 19 43 37.1 +0.1
baz=291
Q19K **Cape Douglas,** 99.69 30 IAMs_20 IAMs_20 20 34 10.8
comp=Z,4µm,20.0s
Q19K **Cape Douglas,** 99.69 30 Pdiff **Pdif** 19 43 36.9 -0.3
baz=286
P19K **Oil Pt** 99.69 29 Pdiff **Pdif** 19 43 37.0 -0.3
baz=286
SPCR **Spurr Chakacha** 99.74 28 Pdiff **Pdif** 19 43 37.0 -0.4
baz=287
SKT **Skwentna** 99.81 27 IAMs_20 IAMs_20 20 35 45.7
comp=Z,4µm,18.0s
SKT **Skwentna** 99.81 27 Pdiff **Pdif** 19 43 37.0 -0.7
baz=288
G24K **Hadweenzic Riv** 99.83 22 IAMs_20 IAMs_20 20 35 41.8
comp=Z,4µm,19.0s
G24K **Hadweenzic Riv** 99.83 22 Pdiff **Pdif** 19 43 37.9 +0.2
baz=293
O20K **Slope Mountain** 99.87 29 Pdiff **Pdif** 19 43 38.1 0.0
baz=287
TRF **Thorofare Moun** 99.88 25 IAMs_20 IAMs_20 20 35 25.6
comp=Z,4µm,19.0s
TRF **Thorofare Moun** 99.88 25 Pdiff **Pdif** 19 43 37.7 -0.4
baz=289
C27K **Jago River** 99.90 18 Pdiff **Pdif** 19 43 38.0 +0.1
baz=297
E25K **Arctic Village** 99.94 20 Pdiff **Pdif** 19 43 38.3 +0.1
baz=295
BWN **Browne** 99.98 24 IAMs_20 IAMs_20 20 35 04.8
comp=Z,4µm,19.0s
NEA2 **Nenana** 100.00 24 IAMs_20 IAMs_20 20 34 37.3
comp=Z,3µm,19.0s
NEA2 **Nenana** 100.00 24 Pdiff **Pdif** 19 43 38.3 -0.1
baz=291
H24K **Noodor Dome** 100.01 22 IAMs_20 IAMs_20 20 33 50.6
comp=Z,3µm,19.0s
H24K **Noodor Dome** 100.01 22 Pdiff **Pdif** 19 43 38.3 -0.3
baz=292
SII **Sitkinak Islan** 100.03 32 Pdiff **Pdif** 19 43 38.3 -0.4
baz=285
SCO **Scoresbysund** 100.08 343 IAMs_20 IAMs_20 20 32 48.2
comp=Z,3µm,22.0s
F25K **Christian Rive** 100.14 20 Pdiff **Pdif** 19 43 38.9 -0.1
baz=294
CUT **Chulitna** 100.24 26 IAMs_20 IAMs_20 20 36 37.0
comp=Z,3µm,18.0s
CUT **Chulitna** 100.24 26 Pdiff **Pdif** 19 43 39.2 -0.3
baz=289
SUA **Susitna One** 100.33 27 IAMs_20 IAMs_20 20 34 44.4
comp=Z,2µm,18.0s
SUA **Susitna One** 100.33 27 Pdiff **Pdif** 19 43 40.0 -0.1
baz=289
OHAK **Old Harbor** 100.33 32 IAMs_20 IAMs_20 20 37 20.9
comp=Z,3µm,18.0s
OHAK **Old Harbor** 100.33 32 Pdiff **Pdif** 19 43 39.6 -0.4
baz=286
OHAK **Old Harbor** 100.33 32 P **Pdif** 19 43 40.4 +0.4
MCK **McKinley** 100.36 25 Pdiff **Pdif** 19 43 40.0 0.0
baz=291
CAPN **Captain Cook N** 100.36 28 Pdiff **Pdif** 19 43 39.7 -0.4
baz=288
COLA **College** 100.38 23 Pdiff **Pdif** 19 43 39.9 -0.2
baz=292
Q20K **Shuyak Island** 100.40 30 Pdiff **Pdif** 19 43 39.9 -0.4
baz=287
SYI **Shuyak Island** 100.41 30 IAMs_20 IAMs_20 20 34 33.7
comp=Z,3µm,20.0s
WRH **Wood River Hil** 100.44 24 IAMs_20 IAMs_20 20 35 27.9
comp=Z,4µm,19.0s
POKR **Poker Plat Res** 100.45 23 IAMs_20 IAMs_20 20 31 56.4
comp=Z,3µm,20.0s
POKR **Poker Plat Res** 100.45 23 Pdiff **Pdif** 19 43 40.0 -0.5
baz=292
HOM **Homer** 100.47 29 Pdiff **Pdif** 19 43 39.9 -0.6
baz=288
RND **Reindeer** 100.50 25 IAMs_20 IAMs_20 20 36 10.8
comp=Z,3µm,21.0s
M22K **Willow** 100.52 27 IAMs_20 IAMs_20 20 34 10.4
comp=Z,3µm,19.0s
M22K **Willow** 100.52 27 Pdiff **Pdif** 19 43 40.4 -0.3
baz=289
KDAK **Kodiak Island** 100.54 31 IAMs_20 IAMs_20 20 35 45.5
comp=Z,3µm,18.0s
KDAK **Kodiak Island** 100.54 31 Pdiff **Pdif** 19 43 40.5 -0.5
baz=286
F26K **Sheenjek River** 100.61 20 Pdiff **Pdif** 19 43 41.1 0.0
baz=296
H25L **Birch Creek** 100.62 22 Pdiff **Pdif** 19 43 41.0 -0.1
baz=294
CNPM **China Poot** 100.70 29 IAMs_20 IAMs_20 20 36 13.5
comp=Z,3µm,19.0s
BRLK **Bradley Lake** 100.80 29 IAMs_20 IAMs_20 20 36 06.9
comp=Z,3µm,19.0s
ILAR **Eielson Array** 100.80 23 P **Pdif** 19 43 41.7 -0.3
comp=Z,1.1nm,0.8s,baz=273,slow=4.0,SNR=11
ILAR PKKPbc **PKKPbc** 19 59 55.4 -2.3
comp=Z,2.3nm,1.1s,baz=140,slow=1.9,SNR=7.7
BRSE **Bradley Lake S** 100.88 29 Pdiff **Pdif** 19 43 42.0 -0.4
baz=288
RC01 **Rabbit Creek A** 100.91 27 IAMs_20 IAMs_20 20 35 13.8
comp=Z,3µm,19.0s
RC01 **Rabbit Creek A** 100.91 27 Pdiff **Pdif** 19 43 42.4 -0.1
baz=290
HDA **Harding Lake** 100.92 24 IAMs_20 IAMs_20 20 35 52.7
comp=Z,3µm,19.0s
HDA **Harding Lake** 100.92 24 Pdiff **Pdif** 19 43 42.4 -0.1
baz=293
D27M **Malcolm River** 100.94 18 IAMs_20 IAMs_20 20 35 47.8
comp=Z,4µm,20.0s
D27M **Malcolm River** 100.94 18 Pdiff **Pdif** 19 43 42.4 -0.2
baz=299
PMR **Palmer** 101.02 27 IAMs_20 IAMs_20 20 34 26.6
comp=Z,3µm,21.0s
PMR **Palmer** 101.02 27 Pdiff **Pdif** 19 43 42.8 -0.2
baz=290
PMR **Palmer** 101.02 27 P **Pdif** 19 43 43.9 +0.9
PRP **Porcupine Dome** 101.03 22 IAMs_20 IAMs_20 20 38 02.6
comp=Z,3µm,18.0s
PRP **Porcupine Dome** 101.03 22 Pdiff **Pdif** 19 43 42.9 -0.3
baz=294
GHO **Glory Hole Cre** 101.05 26 IAMs_20 IAMs_20 20 35 14.3
comp=Z,3µm,18.0s
G26K **Porcupine Rive** 101.06 21 Pdiff **Pdif** 19 43 42.9 -0.2
baz=296
O22K **Cooper Landing** 101.12 28 IAMs_20 IAMs_20 20 35 58.4
comp=Z,3µm,20.0s
O22K **Cooper Landing** 101.12 28 Pdiff **Pdif** 19 43 43.2 -0.2
baz=289
NEEM **North Greenlan** 101.23 353 *i* P **Pdif** 19 43 46.1 +2.0
NEEM IAmb IAmb 19 43 54.0
comp=Z,81nm,1.7s
SML **Sawmill** 101.30 26 Pdiff **Pdif** 19 43 44.1 -0.2
baz=291
SEW **Seward** 101.37 28 Pdiff **Pdif** 19 43 44.2 -0.4
baz=290
KNK **Knik Glacier** 101.38 27 IAMs_20 IAMs_20 20 36 46.2
comp=Z,4µm,18.0s
KNK **Knik Glacier** 101.38 27 Pdiff **Pdif** 19 43 44.7 0.0
baz=291
J25K **Salcha River,** 101.46 23 Pdiff **Pdif** 19 43 44.5 -0.5
baz=294
M23K **Glacier View** 101.57 26 Pdiff **Pdif** 19 43 45.2 -0.3
baz=292
D28M **Stokes Point** 101.58 18 Pdiff **Pdif** 19 43 45.4 +0.1
baz=301
K24K **Donnelly Dome** 101.63 24 Pdiff **Pdif** 19 43 45.3 -0.4
baz=294
PWL **Port Wells** 101.63 27 IAMs_20 IAMs_20 20 36 58.0
comp=Z,4µm,18.0s
PWL **Port Wells** 101.63 27 Pdiff **Pdif** 19 43 45.5 -0.3
baz=291
MVO **Moncorvo** 101.65 312 *e*S **Sdif** 19 55 27.2 +0.2
MVO *e*LR LR 20 24 49.4
MVO *i* AMs_20 20 36 58.0
comp=Z,735nm,20.0s
E28M **Babbage River** 101.70 18 Pdiff **Pdif** 19 43 45.6 -0.4
baz=300
SCM **Sheep Creek Mo** 101.73 26 IAMs_20 IAMs_20 20 35 02.5
comp=Z,3µm,21.0s
SCM **Sheep Creek Mo** 101.73 26 Pdiff **Pdif** 19 43 45.9 -0.4
baz=292
G27K **Doyon Strip** 101.88 20 Pdiff **Pdif** 19 43 46.6 -0.2
baz=298
I26K **Coal Creek Min** 102.02 22 IAMs_20 IAMs_20 20 38 18.8
comp=Z,3µm,18.0s
I26K **Coal Creek Min** 102.02 22 Pdiff **Pdif** 19 43 47.0 -0.4
baz=296
RIDG **Independent Ri** 102.03 24 IAMs_20 IAMs_20 20 36 38.2
comp=Z,4µm,18.0s
RIDG **Independent Ri** 102.03 24 Pdiff **Pdif** 19 43 47.1 -0.5
baz=294
PAX **Paxson** 102.09 25 Pdiff **Pdif** 19 43 47.6 -0.3
baz=294
F28M **Old Crow** 102.09 19 Pdiff **Pdif** 19 43 47.5 -0.2
baz=300
M24K **Tolsona, Glenn** 102.13 26 Pdiff **Pdif** 19 43 47.5 -0.5
baz=293
MTE **Manteigas** 102.17 311 *e*S **Sdif** 19 55 34.7 +3.4
MTE *e*LR LR 20 25 34.7
MTE *i* AMs_20 20 37 15.2
comp=Z,1µm,18.0s
GLI **Glacier Island** 102.19 27 IAMs_20 IAMs_20 20 36 02.7
comp=Z,4µm,18.0s
GLI **Glacier Island** 102.19 27 Pdiff **Pdif** 19 43 47.7 -0.5
baz=292
H27K **Steamboat Moun** 102.19 21 Pdiff **Pdif** 19 43 47.6 -0.6
baz=298
PMRV **Marv??o** 102.22 310 *e*LR LR 20 24 21.9
PMRV *i* AMs_20 20 36 54.2
comp=Z,733nm,18.0s
J26L **Joseph Creek** 102.22 23 IAMs_20 IAMs_20 20 38 10.8
comp=Z,4µm,18.0s
J26L **Joseph Creek** 102.22 23 Pdiff **Pdif** 19 43 47.7 -0.7
baz=296
SCRK **Sand Creek** 102.28 24 IAMs_20 IAMs_20 20 35 56.6
comp=Z,3µm,18.0s
SCRK **Sand Creek** 102.28 24 Pdiff **Pdif** 19 43 48.0 -0.7
baz=295
E29M **Blow River** 102.33 18 Pdiff **Pdif** 19 43 48.4 -0.4
baz=302
P23K **Montague Islan** 102.37 28 Pdiff **Pdif** 19 43 48.5 -0.6
baz=291
PGAV **Gavieira, Arco** 102.42 313 *e*S **Sdif** 19 55 30.3 -3.2
PGAV *e*LR LR 20 30 12.0
PGAV *i* AMs_20 20 44 19.4
comp=Z,856nm,18.0s
HARP **HAARP** 102.45 25 Pdiff **Pdif** 19 43 49.3 -0.1
baz=294
I27K **Kandik River** 102.46 22 Pdiff **Pdif** 19 43 48.8 -0.6
baz=298
KLU **Klutina** 102.48 26 IAMs_20 IAMs_20 20 37 21.3
comp=Z,3µm,18.0s
KLU **Klutina** 102.48 26 Pdiff **Pdif** 19 43 49.1 -0.5
baz=293
FID **Port Fidalgo** 102.52 27 IAMs_20 IAMs_20 20 36 21.1
comp=Z,4µm,18.0s
HIN **Hinchinbrook I** 102.64 27 IAMs_20 IAMs_20 20 35 31.7
comp=Z,3µm,21.0s
PVAQ **Vaqueiros** 102.81 308 *e*LR LR 20 20 47.5
PVAQ *i* AMs_20 20 36 00.1
comp=Z,940nm,18.0s
EYAK **Cordova Ski Ar** 102.93 27 Pdiff **Pdif** 19 43 51.2 -0.3
baz=293
EGAK **Eagle** 103.02 22 IAMs_20 IAMs_20 20 38 58.0
comp=Z,4µm,18.0s
EGAK **Eagle** 103.02 22 Pdiff **Pdif** 19 43 51.1 -0.7
baz=298
N25K **Chitina, Valde** 103.02 26 IAMs_20 IAMs_20 20 37 27.4
comp=Z,3µm,18.0s
N25K **Chitina, Valde** 103.02 26 Pdiff **Pdif** 19 43 51.1 -0.9
baz=294
G29M **Pine Creek** 103.07 20 Pdiff **Pdif** 19 43 51.6 -0.4
baz=302
I28M **Miner Creek** 103.15 21 Pdiff **Pdif** 19 43 51.9 -0.7
baz=300
BMRM **Bremner River** 103.28 26 Pdiff **Pdif** 19 43 52.5 -0.6
baz=294
H29M **Whitestone** 103.31 20 IAMs_20 IAMs_20 20 36 44.8
comp=Z,4µm,20.0s
H29M **Whitestone** 103.31 20 Pdiff **Pdif** 19 43 52.4 -0.8
baz=301
M26K **Nabesna, AK** 103.37 25 Pdiff **Pdif** 19 43 52.8 -0.7
baz=296
F30M **Barrier River** 103.42 19 Pdiff **Pdif** 19 43 53.2 -0.4
baz=304
GLB **Gilahina Butte** 103.43 26 IAMs_20 IAMs_20 20 37 40.3
comp=Z,3µm,18.0s
A36M **Sachs Harbour** 103.47 13 Pdiff **Pdif** 19 43 53.4 -0.2
baz=315
RAGM **Ragged Mountai** 103.48 27 IAMs_20 IAMs_20 20 36 30.8
comp=Z,5µm,21.0s
L27K **Beaver Creek,** 103.55 24 IAMs_20 IAMs_20 20 36 17.1
comp=Z,3µm,19.0s
L27K **Beaver Creek,** 103.55 24 Pdiff **Pdif** 19 43 54.0 -0.3
baz=297
TULEG **Thule** 103.60 357 IAMs_20 IAMs_20 20 38 14.5
comp=Z,3µm,20.0s
G30M **tAoh Zraii Nji** 103.63 19 Pdiff **Pdif** 19 43 54.1 -0.5
baz=303
VRDI **Verde Repeater** 103.68 26 IAMs_20 IAMs_20 20 37 47.8
comp=Z,2µm,19.0s
INK **Inuvik** 103.72 17 IAMs_20 IAMs_20 20 39 43.2
comp=Z,4µm,18.0s
INK **Inuvik** 103.72 17 Pdiff **Pdif** 19 43 54.7 -0.2
baz=306
I29M **Ogilvie Camp,** 103.78 21 Pdiff **Pdif** 19 43 54.9 -0.3
baz=301
KAIM **Kayak Island** 103.79 27 Pdiff **Pdif** 19 43 55.1 -0.2
baz=294
EPYK **Eagle Plains** 103.80 20 IAMs_20 IAMs_20 20 39 57.5
comp=Z,4µm,18.0s
EPYK **Eagle Plains** 103.80 20 Pdiff **Pdif** 19 43 55.1 -0.3
baz=303
M27K **Edge Creek, AK** 103.85 25 IAMs_20 IAMs_20 20 37 53.1
comp=Z,4µm,18.0s
M27K **Edge Creek, AK** 103.85 25 Pdiff **Pdif** 19 43 55.7 -0.1
baz=297
BERG **Berg Lake** 103.92 27 IAMs_20 IAMs_20 20 36 59.5
comp=Z,4µm,18.0s
SUCK **Suckling Hills** 104.02 27 IAMs_20 IAMs_20 20 37 07.2
comp=Z,4µm,22.0s
DAWY **Dawson** 104.03 22 IAMs_20 IAMs_20 20 40 02.9
comp=Z,4µm,19.0s
DAWY **Dawson** 104.03 22 Pdiff **Pdif** 19 43 56.2 -0.2
baz=300
F31M **Tsiigehtchic** 104.17 18 IAMs_20 IAMs_20 20 36 43.0
comp=Z,4µm,19.0s
F31M **Tsiigehtchic** 104.17 18 Pdiff **Pdif** 19 43 56.9 +0.1
baz=306
BGLC **Bering Glacier** 104.22 27 Pdiff **Pdif** 19 43 57.0 -0.3
baz=295
BVCY **Beaver Creek** 104.25 24 Pdiff **Pdif** 19 43 57.1 -0.3
baz=298
J29N **Klondike Camp** 104.28 22 IAMs_20 IAMs_20 20 38 28.4
comp=Z,3µm,18.0s
J29N **Klondike Camp** 104.28 22 Pdiff **Pdif** 19 43 57.2 -0.3
baz=301
G31M **Satah River** 104.30 19 IAMs_20 IAMs_20 20 34 58.8
comp=Z,3µm,22.0s
G31M **Satah River** 104.30 19 Pdiff **Pdif** 19 43 57.4 -0.1
baz=305
SNH **Sunshine Point** 104.40 27 IAMs_20 IAMs_20 20 37 46.1
comp=Z,4µm,21.0s
I30M **Mount Dempster** 104.54 21 Pdiff **Pdif** 19 43 58.7 -0.1
baz=303
YUK3 **Moose Creek** 104.72 25 Pdiff **Pdif** 19 43 59.5 -0.2
baz=298
MESA **MESA** 104.80 27 IAMs_20 IAMs_20 20 41 13.9
comp=Z,3µm,18.0s
MESA **MESA** 104.80 27 Pdiff **Pdif** 19 44 00.3 +0.2
baz=296
K29M **Barlow Dome** 104.86 22 Pdiff **Pdif** 19 43 59.9 -0.3
baz=302
J30M **Hart River** 104.91 21 Pdiff **Pdif** 19 44 00.4 -0.1
baz=303
H31M **Peel River** 104.92 20 IAMs_20 IAMs_20 20 36 35.2
comp=Z,3µm,20.0s
H31M **Peel River** 104.92 20 Pdiff **Pdif** 19 44 00.7 +0.4
baz=305
L29M **L29M** 105.00 23 PKiKP **PKiKP** 19 48 15.5 0.0
baz=301
M29M **Somme Creek** 105.21 24 PKiKP **PKiKP** 19 48 16.2 +0.3
baz=300
YUK8 **Steele Glacier** 105.24 25 PKiKP **PKiKP** 19 48 16.2 0.0
baz=299
O28M **Mount Upton** 105.30 26 PKiKP **PKiKP** 19 48 16.0 -0.4
baz=298
MLOA **Mauna Loa Obse** 105.49 70 IAMs_20 IAMs_20 20 18 20.8
comp=Z,3µm,21.0s
PINM **Pinnacle** 105.59 26 PKiKP **PKiKP** 19 48 16.7 +0.1
baz=298
MAYO **Mayo, Yukon** 105.61 22 IAMs_20 IAMs_20 20 39 26.4
comp=Z,3µm,18.0s
C36M **Paulatuk** 105.63 14 IAMs_20 IAMs_20 20 39 35.4
comp=Z,3µm,20.0s
C36M **Paulatuk** 105.63 14 PKiKP **PKiKP** 19 48 16.9 +0.6
baz=316
YUK4 **Talbot Arm** 105.68 25 PKiKP **PKiKP** 19 48 16.9 0.0
baz=300
M30M **Minto, Yukon** 105.81 23 PKiKP **PKiKP** 19 48 17.0 +0.1
baz=302
YUK6 **Outpost Mounta** 106.00 25 PKiKP **PKiKP** 19 48 17.1 -0.5
baz=300
O29M **Mount Kennedy** 106.23 26 IAMs_20 IAMs_20 20 36 49.1
comp=Z,3µm,22.0s
O29M **Mount Kennedy** 106.23 26 PKiKP **PKiKP** 19 48 17.1 -0.8
baz=300
N30M **Aishikik Lake** 106.27 24 IAMs_20 IAMs_20 20 41 25.2
comp=Z,3µm,18.0s
N30M **Aishikik Lake** 106.27 24 PKiKP **PKiKP** 19 48 17.3 -0.6
baz=301
HYT **Haines Junctio** 106.42 25 IAMs_20 IAMs_20 20 40 27.3
comp=Z,3µm,18.0s
HYT **Haines Junctio** 106.42 25 PKiKP **PKiKP** 19 48 17.3 -0.9
baz=301
N31M **Braeburn, Yuko** 106.79 24 PKiKP **PKiKP** 19 48 18.0 -0.8
baz=303
M31M **Drury Creek, Y** 106.95 23 IAMs_20 IAMs_20 20 39 31.0
comp=Z,4µm,20.0s
M31M **Drury Creek, Y** 106.95 23 PKiKP **PKiKP** 19 48 18.3 -0.7
baz=304
P30M **Million Dollar** 107.02 25 PKiKP **PKiKP** 19 48 18.9 -0.4
baz=301
O30N **Mendenhall** 107.05 25 IAMs_20 IAMs_20 20 41 50.8
comp=Z,4µm,20.0s
O30N **Mendenhall** 107.05 25 PKiKP **PKiKP** 19 48 18.2 -1.1
baz=302
FARO **Faro, Yukon** 107.34 23 IAMs_20 IAMs_20 20 41 48.2
comp=Z,3µm,19.0s
FARO **Faro, Yukon** 107.34 23 PKiKP **PKiKP** 19 48 18.9 -0.9
baz=305
WHY **Whitehorse** 107.61 24 PKiKP **PKiKP** 19 48 19.3 -1.1
baz=303
PLBC **Pleasant Camp** 107.62 26 PKiKP **PKiKP** 19 48 19.6 -0.7
baz=302
MMPY **Sheldon Lake,** 107.89 22 IAMs_20 IAMs_20 20 39 26.8
comp=Z,2µm,18.0s
MMPY **Sheldon Lake,** 107.89 22 PKiKP **PKiKP** 19 48 19.8 -1.0
baz=307
N32M **Quiet Lake** 108.06 23 IAMs_20 IAMs_20 20 40 07.7
comp=Z,4µm,20.0s
N32M **Quiet Lake** 108.06 23 PKiKP **PKiKP** 19 48 20.1 -1.1
baz=305
SKAG **Skagway** 108.07 26 IAMs_20 IAMs_20 20 42 09.9
comp=Z,4µm,20.0s
SKAG **Skagway** 108.07 26 PKiKP **PKiKP** 19 48 20.2 -1.0
baz=302
ILULI **Ilulissat** 108.26 349 IAMs_20 IAMs_20 20 39 14.4
comp=Z,3µm,18.0s
P32M **Atlin** 108.69 25 IAMs_20 IAMs_20 20 42 29.2
comp=Z,3µm,19.0s
P32M **Atlin** 108.69 25 PKiKP **PKiKP** 19 48 21.3 -1.1
baz=304
P33M **Teslin, Yukon** 108.71 24 IAMs_20 IAMs_20 20 43 02.6
comp=Z,3µm,18.0s
P33M **Teslin, Yukon** 108.71 24 PKiKP **PKiKP** 19 48 21.1 -1.4
baz=305
R32K **Eaglecrest** 109.06 26 PKiKP **PKiKP** 19 48 21.8 -1.3
baz=303
SIT **Sitka** 109.35 28 PKiKP **PKiKP** 19 48 22.7 -0.9
baz=302

S32K	Killisnoo	109.47	27	IAMs_20	IAMs_20	20 43 12.2			
	comp=Z,3µm,20.0s								
S32K	Killisnoo	109.47	27	PKiKP	PKiKP	19 48 23.6	-0.2		
	baz=303								
Q32M	Nakina River	109.66	25	PKiKP	PKiKP	19 48 23.8	-0.6		
	baz=305								
R33M	Jennings River	109.94	24	IAMs_20	IAMs_20	20 40 16.4			
	comp=Z,4µm,19.0s								
R33M	Jennings River	109.94	24	PKiKP	PKiKP	19 48 23.9	-0.9		
	baz=307								
WRGLY	Wrigley	110.18	19	PKiKP	PKiKP	19 48 24.0	-1.0		
	baz=315								
TBI	Tubuai	110.35	115	*e*P	Pdif	19 44 26.3	+1.0		
	comp=Z,277nm,30.0s								
TBI	Tubuai	110.35	115	*e*PKIKP	PKiKP	19 48 23.8	-2.7		
	comp=Z,772nm,28.2s								
TBI				*e*S	SKKSac	19 56 10.6	+6.6		
	comp=Z,3µm,25.5s								
TBI				*e*SS	SS	20 04 26.1	-2.4		
	comp=Z,6µm,26.2s								
TBI	Tubuai	110.35	115	*e*LQ	LQ	20 16 19.9			
	comp=Z,4µm,28.0s								
TBI				*e*LR	LR	20 20 59.6			
	comp=Z,9µm,23.2s								
TBI				*e*LR	LR	20 21 05.5			
	comp=Z,2µm,24.0s								
WTLY	Watson Lake, Y	110.38	23	IAMs_20	IAMs_20	20 42 38.6			
	comp=Z,3µm,18.0s								
WTLY	Watson Lake, Y	110.38	23	PKiKP	PKiKP	19 48 24.7	-0.9		
	baz=309								
S34M	Telegraph Cree	110.75	26	IAMs_20	IAMs_20	20 43 35.9			
	comp=Z,3µm,18.0s								
S34M	Telegraph Cree	110.75	26	PKiKP	PKiKP	19 48 24.9	-1.3		
	baz=306								
DLBC	Dease Lake	110.91	25	PKiKP	PKiKP	19 48 25.3	-1.3		
	baz=307								
WRAK	Wrangell Islan	111.07	27	PKiKP	PKiKP	19 48 25.8	-1.1		
	baz=304								
PPT2	Papeete2	111.09	109	*e*PKIKP	PKiKP	19 48 25.0	-3.1		
	comp=Z,230nm,26.0s								
PPT2				*e*S	SKKSac	19 56 09.8	+0.3		
	comp=Z,1µm,26.0s								
PPT2				*e*SS	SS	20 04 37.4	-1.5		
	comp=Z,1µm,26.0s								
PPT2	Papeete2	111.09	109	*e*LQ	LQ	20 16 40.5			
	comp=Z,3µm,31.5s								
PPT2				*e*LR	LR	20 21 22.0			
	comp=Z,4µm,24.2s								
PPT2				*e*LR	LR	20 21 23.3			
	comp=Z,3µm,24.8s								
CRAG	Craig	111.24	28	PKiKP	PKiKP	19 48 26.1	-1.1		
	baz=303								
PMOZ	Porto Moniz, M	111.34	305	*e*LR	LR	20 30 48.2			
PMOZ				*i* AMs_20		20 37 57.4			
	comp=Z,925nm,20.0s								
V35K	Ketchikan	112.03	28	PKiKP	PKiKP	19 48 27.8	-0.9		
	baz=305								
KOTAN	Kotaneelee Air	112.15	21	PKiKP	PKiKP	19 48 28.1	-0.8		
	baz=314								
TOAD	Toad River Com	112.58	23	PKiKP	PKiKP	19 48 29.3	-0.4		
	baz=312								
YKA	Yellowknife Ar	113.38	16	Pdiff	Pdif	19 44 37.8	-0.1		
	comp=Z,0.3nm,0.6s,baz=312,slow=4.6,SNR=5.7								
YKA				PKiKP	PKiKP	19 48 30.5	-0.6		
	comp=Z,0.5nm,0.9s,baz=347,slow=2.4,SNR=4.2								
YKA				PP	PP	19 49 23.4	+2.0		
	comp=Z,11nm,1.1s,baz=320,slow=6.6,SNR=16								
YKA				PKKPab	PKKPab	19 59 23.8	-0.3		
	comp=Z,1.3nm,0.9s,baz=147,slow=3.9,SNR=11								
OZB	Mount Ozzard	118.85	31	IAMs_20	IAMs_20	20 44 30.5			
	comp=Z,3µm,20.0s								
TAOE	Nuku Hiva Isla	121.24	101	*e*P	PKPdf	19 48 26.0	-22		
	comp=Z,169nm,25.1s								
TAOE	Nuku Hiva Isla	121.24	101	*e*PP	PP	19 50 12.5	-5.8		
	comp=Z,268nm,25.6s								
TAOE				*e*S		19 56 12.2			
	comp=Z,502nm,24.9s								
TAOE	Nuku Hiva Isla	121.24	101	*e*LR	LR	20 26 01.3			
	comp=Z,2µm,23.5s								
FFC	Flin Flon	123.40	14	IAMs_20	IAMs_20	20 52 08.2			
	comp=Z,3µm,19.0s								
K02D	Willamette Mer	123.67	36	IAMs_20	IAMs_20	20 49 21.1			
	comp=Z,2µm,19.0s								
SCHQ	Schefferville	124.37	350	PKP	PKPdf	19 48 52.5	+0.1		
	comp=Z,3.1nm,0.8s,baz=323,slow=1.3,SNR=6.2								
SCHQ				PP	PP	19 50 37.4	+0.2		
	comp=Z,6.0nm,1.0s,baz=331,slow=8.5,SNR=3.1								
G08A	Pilot Rock	124.62	31	IAMs_20	IAMs_20	20 53 11.4			
	comp=Z,2µm,18.0s								
MSO	Missoula	125.94	27	PKPdf	PKPdf	19 48 54.2	-1.7		
WVOR	Wild Horse Val	126.71	34	IAMs_20	IAMs_20	20 54 54.2			
	comp=Z,2µm,19.0s								
DRLN	Deer Lake	127.02	340	IAMs_20	IAMs_20	20 51 28.6			
	comp=Z,2µm,20.0s								
DLMT	Dillon	127.67	27	IAMs_20	IAMs_20	20 53 43.5			
	comp=Z,3µm,18.0s								
HLID	Hailey	128.15	30	IAMs_20	IAMs_20	20 54 58.5			
	comp=Z,2µm,19.0s								
DGMT	Dagmar	128.38	19	IAMs_20	IAMs_20	20 53 11.4			
	comp=Z,3µm,21.0s								
YHL	Hebgen Lake	128.70	26	IAMs_20	IAMs_20	20 52 47.7			
	comp=Z,3µm,20.0s								
YHB	Horse Butte	128.77	27	IAMs_20	IAMs_20	20 53 22.6			
	comp=Z,3µm,18.0s								
ULM	Lac du Bonnet	128.93	12	PKP	PKPdf	19 49 01.2	-0.1		
	comp=Z,6.0nm,0.7s,baz=352,slow=3.8,SNR=11								
ULM				PP	PP	19 51 06.7	-0.7		
	comp=Z,16nm,1.2s,baz=357,slow=6.3,SNR=6.5								
YNM	Yellowstone No	129.01	26	IAMs_20	IAMs_20	20 53 07.9			
	comp=Z,3µm,20.0s								
YNR	Norris Junctio	129.03	26	IAMs_20	IAMs_20	20 53 07.4			
	comp=Z,3µm,20.0s								
YNE	Yellowstone No	129.09	26	IAMs_20	IAMs_20	20 56 06.0			
	comp=Z,3µm,18.0s								
LAO	LASA Array	129.22	21	IAMs_20	IAMs_20	20 54 18.9			
	comp=Z,2µm,18.0s								
YMP	Mirror Lake Pl	129.24	26	IAMs_20	IAMs_20	20 56 12.9			
	comp=Z,3µm,18.0s								
RLMT	Red Lodge	129.31	25	IAMs_20	IAMs_20	20 52 30.8			
	comp=Z,3µm,18.0s								
FLWY	Flagg Ranch	129.51	27	IAMs_20	IAMs_20	20 53 37.4			
	comp=Z,2µm,20.0s								
NVAR	Mina Array Bea	129.52	37	PKPdf	PKPdf	19 48 59.8	-3.3		
NVAR	Mina Array Bea	129.52	37	PKP	PKPdf	19 49 01.9	-1.2		
	comp=Z,0.6nm,0.4s,baz=320,slow=1.4,SNR=3.7								
NVAR				PP	PP	19 51 17.0	+4.7		
	comp=Z,5.5nm,0.9s,baz=312,slow=5.6,SNR=3.5								
FXWY	Fox Creek	129.71	27	IAMs_20	IAMs_20	20 53 27.6			
	comp=Z,2µm,20.0s								
ELK	Elko	129.73	33	PP	PP	19 51 13.0	-0.5		
	comp=Z,5.7nm,1.1s,baz=320,slow=2.3,SNR=3.5								
TPAW	Teton Pass	129.86	27	IAMs_20	IAMs_20	20 53 30.5			
	comp=Z,2µm,20.0s								
LOHW	Long Hollow	129.92	27	IAMs_20	IAMs_20	20 53 43.2			
	comp=Z,3µm,19.0s								
Q09A	Carvers	129.92	36	IAMs_20	IAMs_20	20 57 13.5			
	comp=Z,2µm,20.0s								
MDND	Maddock	130.30	16	IAMs_20	IAMs_20	20 52 35.8			
	comp=Z,3µm,20.0s								
AHID	Auburn Hatcher	130.35	28	IAMs_20	IAMs_20	20 56 47.3			
	comp=Z,2µm,18.0s								
DSP	Deep Springs	130.39	38	IAMs_20	IAMs_20	20 50 34.1			
	comp=Z,2µm,21.0s								
AGMN	Agassiz Nation	130.78	12	IAMs_20	IAMs_20	20 54 45.3			
	comp=Z,2µm,19.0s								
PDAR	Pinedale Array	131.06	27	PKPdf	PKPdf	19 49 04.3	-1.6		
PDAR	Pinedale Array	131.06	27	PKP	PKPdf	19 49 06.0	+0.1		
	comp=Z,0.8nm,0.7s,baz=76,slow=2.1,SNR=6.2								
PDAR				PP	PP	19 51 22.1	+0.1		
	comp=Z,4.2nm,1.0s,baz=355,slow=1.6,SNR=4.7								
PDAR				SKPbc	SKPbc	19 52 30.6	+0.9		
	comp=Z,6.7nm,1.0s,baz=317,slow=6.7,SNR=4.6								
PDAR				SKKPbc	SKKPbc	20 02 00.1	-4.6		
	comp=Z,1.0nm,1.0s,baz=246,slow=0.6,SNR=3.8								
E28A	Huff	131.15	17	IAMs_20	IAMs_20	20 59 40.6			
	comp=Z,2µm,18.0s								
R11B	Troy Canyon, C	131.18	35	PKiKP	PKPdf	19 49 04.6	-1.6		
	baz=313								
BATG	Bathurst New B	131.32	346	IAMs_20	IAMs_20	20 54 17.3			
	comp=Z,3µm,21.0s								
GBN	Guysborough	131.71	341	IAMs_20	IAMs_20	20 53 33.7			
	comp=Z,2µm,21.0s								
EYMN	Ely	131.92	9	IAMs_20	IAMs_20	20 53 58.0			
	comp=Z,3µm,21.0s								
LMQ	La Malbaie	131.98	349	IAMs_20	IAMs_20	20 59 07.7			
	comp=Z,2µm,20.0s								
D62A	Allapoint, All	132.18	348	IAMs_20	IAMs_20	20 54 52.0			
	comp=Z,2µm,20.0s								
RSSD	Black Hills	132.21	22	IAMs_20	IAMs_20	20 54 11.1			
	comp=Z,3µm,20.0s								
LMN	Caledonia Moun	132.31	344	IAMs_20	IAMs_20	20 57 42.4			
	comp=Z,2µm,20.0s								
K22A	Casper	132.48	25	IAMs_20	IAMs_20	21 00 30.5			
	comp=Z,2µm,19.0s								
E62A	Clayton Lake	132.72	348	IAMs_20	IAMs_20	20 52 48.3			
	comp=Z,3µm,21.0s								
HAL	Halifax	133.06	342	IAMs_20	IAMs_20	20 57 55.4			
	comp=Z,3µm,21.0s								
F64A	Sherman	133.19	347	IAMs_20	IAMs_20	20 54 50.7			
	comp=Z,3µm,21.0s								
COYC	Coyhaique	133.40	189	IAMs_20	IAMs_20	20 41 29.4			
	comp=Z,2µm,19.0s								
NBAN	Anadia - AL	133.52	256	*e*P	PKPdf	19 49 13.4	+2.4		
GGN	Saint George	133.53	345	IAMs_20	IAMs_20	20 57 55.7			
	comp=Z,2µm,19.0s								
SUSD	Miller	133.60	17	IAMs_20	IAMs_20	20 57 15.3			
	comp=Z,2µm,20.0s								
RCBR	Riachuelo	133.69	262	*e*P	PKPdf	19 49 11.4	0.0		
O20A	White River Ci	133.74	28	IAMs_20	IAMs_20	20 56 21.5			
	comp=Z,2µm,20.0s								
TRQ	Mont Tremblant	133.92	353	IAMs_20	IAMs_20	20 57 35.3			
	comp=Z,2µm,19.0s								
PKME	Peaks-Kenny Pk	133.97	348	IAMs_20	IAMs_20	20 55 04.2			
	comp=Z,2µm,20.0s								
N23A	Red Feather La	134.17	26	IAMs_20	IAMs_20	20 55 36.4			
	comp=Z,2µm,19.0s								
N23A	Red Feather La	134.17	26	PKiKP	PKPdf	19 49 09.8	-2.1		
	baz=326								
E46A	Sault Ste Mari	134.18	2	IAMs_20	IAMs_20	20 55 26.4			
	comp=Z,3µm,20.0s								
TKX	Tecate	134.24	42	IAMs_20	IAMs_20	20 55 42.7			
	comp=Z,2µm,19.0s								
SPMN	Marine on St.	134.34	11	IAMs_20	IAMs_20	20 55 00.2			
	comp=Z,2µm,20.0s								
F42A	Maple Grove Fa	134.50	6	IAMs_20	IAMs_20	20 56 50.2			
	comp=Z,3µm,20.0s								
NBLV	Livramento - P	134.50	259	*e*P	PKPdf	19 49 13.3	+0.3		
MNTQ	Montreal, Queb	134.51	352	IAMs_20	IAMs_20	20 53 46.6			
	comp=Z,2µm,21.0s								
WVL	Waterville	134.71	348	IAMs_20	IAMs_20	20 55 38.0			
	comp=Z,2µm,20.0s								
H62A	Milan	135.00	349	IAMs_20	IAMs_20	20 56 26.7			
	comp=Z,2µm,20.0s								
K30B	Basset	135.00	19	IAMs_20	IAMs_20	20 57 48.7			
	comp=Z,3µm,20.0s								
FRNY	Flat Rock	135.15	352	IAMs_20	IAMs_20	20 58 18.7			
	comp=Z,2µm,19.0s								
ISCO	Idaho Springs	135.21	26	IAMs_20	IAMs_20	20 57 42.0			
	comp=Z,2µm,20.0s								
WBO	Williamsburg	135.21	353	IAMs_20	IAMs_20	20 56 58.3			
	comp=Z,2µm,19.0s								
GUA01	Guaratinga, BA	135.22	246	*e*P	PKPdf	19 49 14.8	+0.7		
CMC01	Camacan, BA	135.32	248	*e*P	PKPdf	19 49 14.7	+0.4		
I37A	Lemond, Waseca	135.38	12	IAMs_20	IAMs_20	20 53 19.9			
	comp=Z,3µm,20.0s								
I63A	Otisfield	135.39	348	IAMs_20	IAMs_20	20 58 47.1			
	comp=Z,2µm,19.0s								
BSFB	Barra de Sao F	135.41	242	*e*P	PKPdf	19 49 14.9	+0.5		
LBNH	Lisbon	135.47	350	IAMs_20	IAMs_20	20 58 09.0			
	comp=Z,3µm,19.0s								
LONY	Lake Ozonia	135.50	353	IAMs_20	IAMs_20	21 00 18.0			
	comp=Z,2µm,18.0s								
VT1	Waterbury	135.52	351	IAMs_20	IAMs_20	20 56 41.6			
	comp=Z,2µm,19.0s								
OGNE	Ogallala	135.70	22	IAMs_20	IAMs_20	20 58 57.5			
	comp=Z,2µm,20.0s								
I62A	Tamworth	135.71	349	IAMs_20	IAMs_20	20 54 10.4			
	comp=Z,2µm,21.0s								
SJMB	Sao Joao De Ma	135.76	242	*e*P	PKPdf	19 49 15.8	+0.7		
SADO	Sadowa	135.76	357	IAMs_20	IAMs_20	20 53 49.9			
	comp=Z,2µm,21.0s								
SADO	Sadowa	135.76	357	PKP	PKPdf	19 49 14.2	-0.2		
	comp=Z,6.5nm,0.7s,baz=318,slow=5.3,SNR=4.9								
SADO				PP	PP	19 51 51.6	+0.5		
	comp=Z,6.3nm,0.7s,baz=316,slow=7.3,SNR=3.0								
DELO	Deloro Mine	135.92	356	IAMs_20	IAMs_20	20 55 02.0			
	comp=Z,3µm,22.0s								
I40A	Norwalk	136.01	9	IAMs_20	IAMs_20	20 57 25.2			
	comp=Z,3µm,20.0s								
HNH	Hanover	136.05	350	IAMs_20	IAMs_20	20 57 01.4			
	comp=Z,2µm,20.0s								
NCB	Newcomb	136.09	352	IAMs_20	IAMs_20	20 56 48.5			
	comp=Z,2µm,19.0s								
Q24A	Divide	136.10	26	PKiKP	PKPdf	19 49 14.1	-1.6		
	baz=326								
S22A	4UR Ranch, Cre	136.30	29	PKiKP	PKPdf	19 49 13.8	-2.2		
	baz=323								
NBMA	Muriti-CE	136.31	259	*e*P	PKPdf	19 49 16.5	+0.2		
J61A	Chester	136.44	350	IAMs_20	IAMs_20	21 02 55.8			
	comp=Z,2µm,18.0s								
PECO	Prince Edward	136.44	355	IAMs_20	IAMs_20	20 52 50.0			
	comp=Z,2µm,21.0s								
ACCN	Adirondack Com	136.59	351	IAMs_20	IAMs_20	20 59 20.6			
	comp=Z,3µm,21.0s								
BGNE	Belgrade	136.61	18	IAMs_20	IAMs_20	20 58 29.1			
	comp=Z,2µm,20.0s								
J59A	Piesco	136.63	352	IAMs_20	IAMs_20	21 01 03.7			
	comp=Z,2µm,19.0s								
J57A	Williamstown	136.86	354	IAMs_20	IAMs_20	20 54 36.0			
	comp=Z,3µm,22.0s								
JFWS	Jewell Farm	137.02	9	IAMs_20	IAMs_20	20 57 55.0			
	comp=Z,2µm,19.0s								
K62A	Royalston	137.05	350	IAMs_20	IAMs_20	21 03 06.8			
	comp=Z,2µm,20.0s								
HRV	Adam Dziewonsk	137.07	349	IAMs_20	IAMs_20	20 55 30.5			
	comp=Z,3µm,20.0s								
KSCO	Kaye Shedlock'	137.13	24	IAMs_20	IAMs_20	20 58 44.7			
	comp=Z,2µm,18.0s								
WES	Weston	137.14	348	IAMs_20	IAMs_20	20 59 25.4			
	comp=Z,2µm,19.0s								
BCX	Boston College	137.16	348	IAMs_20	IAMs_20	20 59 22.8			
	comp=Z,2µm,19.0s								
J55A	Hilton	137.18	356	IAMs_20	IAMs_20	20 56 33.3			
	comp=Z,2µm,20.0s								
TRY	Troy	137.22	351	IAMs_20	IAMs_20	20 59 39.5			
	comp=Z,2µm,18.0s								
L61B	Northampton	137.34	350	IAMs_20	IAMs_20	21 03 37.4			
	comp=Z,2µm,19.0s								
L61B	Northampton	137.34	350	PKiKP	PKPdf	19 49 15.5	-1.9		
	baz=14								
NBPB	Pedra_Branca-C	137.36	261	*e*P	PKPdf	19 49 18.9	+0.7		
L64A	Middleborough	137.48	348	IAMs_20	IAMs_20	20 59 03.1			
	comp=Z,2µm,20.0s								
TRQA	Tornquist	137.56	203	PKPdf	PKPdf	19 49 15.9	-2.1		
TRQA				IAMs_20	IAMs_20	20 44 58.8			
	comp=Z,2µm,19.0s								
TRQA	Tornquist	137.56	203	PKiKP	PKPdf	19 49 15.9	-2.1		
TRQA				MLR	MLR				
	comp=Z,2µm,19.0s								
K57A	Scipio Center	137.59	354	IAMs_20	IAMs_20	20 56 13.3			
	comp=Z,2µm,20.0s								
L40A	Anamosa	137.68	10	IAMs_20	IAMs_20	20 59 29.7			
	comp=Z,2µm,18.0s								
PLCA	Paso Flores	137.78	193		PKPpre	19 49 03.3			
PLCA	Paso Flores	137.78	193	PKP	PKPdf	19 49 17.6	-0.8		
	comp=Z,2.7nm,0.9s,baz=215,slow=4.2,SNR=5.0								
PLCA	Paso Flores	137.78	193	*e*P	PKiKP	19 49 21.3	+0.9		
M65A	Busby, Falmout	137.79	347	IAMs_20	IAMs_20	21 03 10.5			
	comp=Z,2µm,19.0s								
K50A	Casco	137.81	1	IAMs_20	IAMs_20	20 58 34.5			
	comp=Z,2µm,20.0s								
UCCT	U. Connecticut	137.89	349	IAMs_20	IAMs_20	20 55 44.1			
	comp=Z,2µm,20.0s								
T25A	Trinidad	137.93	27	PKiKP	PKPdf	19 49 16.9	-2.1		
	baz=325								
L42A	Oliver, Polo	138.00	9	IAMs_20	IAMs_20	20 56 24.9			
	comp=Z,3µm,21.0s								
L44A	Lake County Fo	138.06	7	IAMs_20	IAMs_20	20 57 20.4			
	comp=Z,3µm,20.0s								
L44A	Lake County Fo	138.06	7	PKiKP	PKPdf	19 49 17.4	-1.3		
	baz=351								
WVNY	West Valley, N	138.09	356	IAMs_20	IAMs_20	20 57 46.5			
	comp=Z,2µm,20.0s								
M63A	Gales Ferry	138.23	349	IAMs_20	IAMs_20	20 56 04.2			
	comp=Z,2µm,21.0s								
L56A	Greenwood	138.28	355	IAMs_20	IAMs_20	20 59 30.5			
	comp=Z,2µm,20.0s								
CBKS	Cedar Bluff	138.41	21	IAMs_20	IAMs_20	20 56 35.2			
	comp=Z,2µm,20.0s								
ANMO	Albuquerque	138.68	31	IAMs_20	IAMs_20	21 03 00.6			
	comp=Z,2µm,19.0s								
ANMO	Albuquerque	138.68	31	PP	PP	19 52 08.9	-1.4		
	comp=Z,0.7nm,0.4s,baz=255,slow=4.3,SNR=3.1								
WSPT	Westport, CT	138.69	350	IAMs_20	IAMs_20	21 00 37.3			
	comp=Z,2µm,20.0s								
TRNY	Table Rock, Ra	138.86	351	IAMs_20	IAMs_20	20 56 28.8			
	comp=Z,2µm,22.0s								
SPB	Sao Paulo	138.91	232	IAMs_20	IAMs_20	20 43 28.3			
	comp=Z,2µm,19.0s								
PAL	Palisades	138.95	351	IAMs_20	IAMs_20	20 56 11.1			
	comp=Z,3µm,21.0s								
ODNJ	Ogdensburg	138.98	352	IAMs_20	IAMs_20	21 00 32.9			
	comp=Z,2µm,20.0s								
M57A	Sunshine Farm,	139.03	355	IAMs_20	IAMs_20	20 58 17.4			
	comp=Z,2µm,20.0s								
M52A	Chesterland	139.05	359	IAMs_20	IAMs_20	21 00 00.1			
	comp=Z,3µm,19.0s								
N41A	Harden Midland	139.06	10	IAMs_20	IAMs_20	21 00 39.3			
	comp=Z,2µm,20.0s								
Y22D	IRIS PASSCAL I	139.11	32	IAMs_20	IAMs_20	21 01 41.0			
	comp=Z,2µm,19.0s								
Y22D	IRIS PASSCAL I	139.11	32	PKiKP	PKPdf	19 49 20.0	-1.1		
	baz=320								
R32A	Long Quarter,	139.13	20	IAMs_20	IAMs_20	20 58 28.0			
	comp=Z,3µm,21.0s								
KSU1	Kansas State U	139.19	18	IAMs_20	IAMs_20	20 58 01.4			
	comp=Z,2µm,19.0s								
N58A	Sunbury	139.48	354	IAMs_20	IAMs_20	21 00 37.3			
	comp=Z,2µm,19.0s								
LUPA	Lehigh Univers	139.56	352	IAMs_20	IAMs_20	20 57 32.4			
	comp=Z,3µm,21.0s								
TBOT	Tacuaremb	139.72	215	*e*P	PKPdf	19 49 24.4	+2.3		
121A	Cookes Peak, D	139.78	35	IAMs_20	IAMs_20	21 03 36.2			
	comp=Z,2µm,19.0s								
121A	Cookes Peak, D	139.78	35	PKiKP	PKPdf	19 49 21.2	-1.2		
	baz=318								
SSPA	Standing Stone	139.79	355	IAMs_20	IAMs_20	20 55 02.6			
	comp=Z,2µm,22.0s								
JANB	Januaria	139.81	246	*e*P	PKPdf	19 49 23.2	+0.5		
O48B	Farmland	140.22	4	PKiKP	PKPdf	19 49 21.8	-1.0		
	baz=355								
ITAB	Concordia	140.34	224	*e*P	PKPdf	19 49 24.2	+0.9		
P61A	Hammonton	140.39	351	IAMs_20	IAMs_20	20 59 52.2			
	comp=Z,2µm,20.0s								
O52A	Adamsville	140.48	360	IAMs_20	IAMs_20	20 59 59.9			
	comp=Z,2µm,19.0s								
FRTB	Fartura	140.71	231	*e*P	PKPdf	19 49 26.8	+2.7		
P57A	Homestead Farm	140.95	355	IAMs_20	IAMs_20	20 56 54.2			
	comp=Z,2µm,20.0s								
AMTX	Amarillo	141.03	26	IAMs_20	IAMs_20	21 00 25.1			
	comp=Z,2µm,20.0s								
CROK	Carrier	141.10	21	IAMs_20	IAMs_20	21 00 50.3			
	comp=Z,2µm,19.0s								
P53A	Whipple	141.10	359	IAMs_20	IAMs_20	20 58 11.4			
	comp=Z,2µm,20.0s								
BLOK	Blackwell	141.14	20	IAMs_20	IAMs_20	20 39 10.1			
	comp=Z,2µm,22.0s								
SDBA	SAO DESIDERIO	141.17	250	*e*P	PKPdf	19 49 28.1	+2.9		
SLM	Saint Louis	141.19	10	IAMs_20	IAMs_20	21 03 24.5			
	comp=Z,2µm,20.0s								
OLIL	Olney	141.43	8	IAMs_20	IAMs_20	20 59 16.7			
	comp=Z,3µm,20.0s								
OK051	E0350 and S346	141.50	20	IAMs_20	IAMs_20	21 01 40.6			
	comp=Z,3µm,19.0s								
CCM	Cathedral Cave	141.55	12		PKPpre	19 49 17.6			
CCM	Cathedral Cave	141.55	12	IAMs_20	IAMs_20	20 59 06.3			
	comp=Z,3µm,20.0s								
CCM	Cathedral Cave	141.55	12	PKHKP	PKPpre	19 49 17.6			
CCM				MLR	MLR				
	comp=Z,3µm,20.0s								
FVM	French Village	141.79	11	IAMs_20	IAMs_20	21 03 43.2			
	comp=Z,2µm,18.0s	

BDQN	**Bodoquena, MS**	**147.84 228**	*eP*	**PKPdf**	**19 49 38.0 +1.4**		
PANT	**Pantanal (Braz**	**148.59 231**	*eP*	**PKPdf**	**19 49 40.0 +2.2**		
LCO	**Las Campanas**	**148.86 199**		**PKPdf**	**19 49 40.9 +2.5**		
LCO	**Las Campanas**	**148.86 199**	IAMs_20	IAMs_20	20 54 05.8		
	comp=Z,2μm,19.0s						
LCO	**Las Campanas**	**148.86 199**	PKP2	**PKPdf**	**19 49 40.9 +2.5**		
LCO			MLR	MLR			
	comp=Z,2μm,19.0s						
KVTX	**Kingsville**	**148.94 28**	IAMs_20	IAMs_20	21 06 31.8		
	comp=Z,2μm,20.0s						
SALV	**Santo Antonio**	**149.49 237**	*eP*	**PKPdf**	**19 49 39.5 +0.1**		
CLDB	**Colider**	**151.75 246**	*eP*	**PKPdf**	**19 49 43.8 +0.8**		
PDRB	**Porto dos Gac**	**152.31 244**	*eP*	**PKPdf**	**19 49 44.2 +0.4**		
NPGB	**Novo Progresso**	**152.53 254**	*eP*	**PKPdf**	**19 49 44.0 -0.1**		
PTLB	**Pontes e Lacer**	**152.56 234**	*eP*	**PKPdf**	**19 49 44.1 +0.1**		
MOIG	**Morelia**	**153.08 43**	IAMs_20	IAMs_20	21 06 33.4		
	comp=Z,2μm,20.0s						
ITTB	**Itaituba**	**153.45 259**	*eP*	**PKPdf**	**19 49 46.2 +0.8**		
ABD	**La Joyeuse, An**	**154.33 309**	IAMs_20	IAMs_20	21 02 14.3		
	comp=Z,1μm,20.0s						
SMRT	**St. Maarten**	**154.53 315**	IAMs_20	IAMs_20	21 08 07.0		
	comp=Z,2μm,21.0s						
CBE	**Ff, Capester**	**154.66 309**	IAMs_20	IAMs_20	21 10 41.2		
	comp=Z,2μm,21.0s						
GDHS	**Morne Mazeau,**	**154.66 309**	IAMs_20	IAMs_20	21 10 34.8		
	comp=Z,2μm,21.0s						
UNM	**Universidad Na**	**154.68 41**	IAMs_20	IAMs_20	20 55 04.5		
	comp=Z,2μm,20.0s						
VILB	**Vilhena**	**154.74 238**	PKPdf	**PKPdf**	**19 49 44.6 -2.7**		
VILB	**Vilhena**	**154.74 238**	*eP*	**PKPdf**	**19 49 49.6 +2.3**		
TDBA	**Terre de Bas,**	**154.81 309**	IAMs_20	IAMs_20	21 11 08.0		
	comp=Z,1μm,20.0s						
TLIG	**Tlapa**	**156.33 43**	IAMs_20	IAMs_20	21 11 53.6		
	comp=Z,1μm,19.0s						
GCPR	**Guaynabo City**	**156.39 320**	IAMs_20	IAMs_20	21 04 31.1		
	comp=Z,2μm,21.0s						
PCDR	**Punta Cana, DR**	**157.65 324**	IAMs_20	IAMs_20	21 07 21.1		
	comp=Z,2μm,22.0s						
MACA	**Manacapuru-AM**	**158.52 260**	*eP*	**PKPdf**	**19 49 54.5 +2.4**		
BOAV	**Boa Vista**	**158.56 275**	*eP*	**PKPdf**	**19 49 53.7 +1.5**		
LPAZ	**La Paz**	**158.57 219**	*eP*	**PKPdf**	**19 49 54.1 +1.2**		
SDDR	**Presa de Saban**	**158.82 331**	IAMs_20	IAMs_20	21 11 10.6		
	comp=Z,2μm,19.0s						
NMDO	**Nuevo Mundo**	**158.87 342**	IAMs_20	IAMs_20	21 11 31.5		
	comp=Z,2μm,20.0s						
TEIG	**Tepich**	**159.33 17**	IAMs_20	IAMs_20	21 04 56.5		
	comp=Z,2μm,22.0s						
GTBY	**Guantanamo Bay**	**159.50 342**	IAMs_20	IAMs_20	21 16 15.2		
	comp=Z,1μm,20.0s						
ETMB	**Extrema**	**161.39 237**	*eP*	**PKPdf**	**19 49 56.8 +1.4**		
TEFE	**Tefe**	**162.33 257**	*eP*	**PKPdf**	**19 49 57.9 +1.5**		
SDV	**Santo Domingo**	**165.99 307**	*eP*	**PKPdf**	**19 50 01.6 +1.7**		
TBTG	**Tabatinga, AM**	**167.20 249**	*eP*	**PKPdf**	**19 50 00.4 -0.2**		
CZSB	**Cruzeiro do Su**	**167.79 228**	*eP*	**PKPdf**	**19 50 01.1 +0.1**		
HDC	**Heredia**	**170.21 13**	*eP*	**PKPdf**	**19 50 04.9 +2.2**		
ROSC	**El Rosal**	**171.26 300**	PKP	**PKPdf**	**19 50 03.6 +0.1**		
	comp=Z,5.3nm,0.4s,baz=133,slow=1.7,SNR=6.9						
OTAV	**Otavalo**	**176.57 267**	*eP*	**PKPdf**	**19 50 07.0 +1.4**		

IDC 04 19:37:01.4±12.0, 6°.37S×155°.93E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=681.9km s-min=238.9km az=76.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**69.32**	**327**	P	P	19 48 11.0	+0.1
	0.6nm,0.5s,baz=145,slow=5.8,SNR=9.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**83.55**	**318**	P	P	19 49 31.5	-0.1
	0.8nm,0.7s,baz=95,slow=7.1,SNR=9.1						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**84.19**	**326**	P	P	19 49 34.3	-0.3
	0.7nm,0.5s,baz=113,slow=3.3,SNR=2.3						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**86.95**	**322**	P	P	19 49 48.5	+0.1
	0.4nm,0.6s,baz=98,slow=5.7,SNR=6.3						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**92.36**	**323**	P	P	19 50 13.9	+0.1
	1.7nm,0.8s,baz=84,slow=4.5,SNR=3.2						
	1.7nm,0.8s						

SGS 04 19:37:49.6, 25°.19N×37°.80E, h13km, Ml0.2, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY17	**LNY17**	**0.05**	**6**	P	Pg	19 37 52.2	-0.1
LNY17	**LNY17**	**0.05**	**6**	S	Sg	19 37 54.0	-0.1
LNY12	**LNY12**	**0.08**	**344**	S	Sg	19 37 54.4	-0.2
LNY12				P	Pg	19 37 52.4	-0.1
LNY10	**LNY10**	**0.10**	**37**	S	Sg	19 37 54.7	-0.2
LNY10	**LNY10**	**0.10**	**37**	P	Pg	19 37 52.6	-0.1
LNY11	**LNY11**	**0.13**	**350**	P	Pg	19 37 52.9	-0.2
LNY11	**LNY11**	**0.13**	**350**	S	Sg	19 37 55.1	-0.4
LNY13	**LNY13**	**0.15**	**262**	S	Sg	19 37 55.8	-0.1
LNY13	**LNY13**	**0.15**	**262**	P	Pg	19 37 53.3	0.0
LNY01	**LNY01**	**0.15**	**79**	S	Sg	19 37 55.6	-0.4
LNY01				P	Pg	19 37 53.2	-0.2
LNY04	**LNY04**	**0.16**	**300**	P	Pg	19 37 53.3	-0.1
LNY04	**LNY04**	**0.16**	**300**	S	Sg	19 37 55.8	-0.3
LNY08	**LNY08**	**0.17**	**163**	P	Pg	19 37 53.6	-0.1
LNY05	**LNY05**	**0.17**	**212**	S	Sg	19 37 56.4	-0.1
LNY05	**LNY05**	**0.17**	**212**	P	Pg	19 37 53.5	-0.1
LNYS	**LNYS**	**0.17**	**130**	S	Sg	19 37 56.4	-0.1
LNYS	**LNYS**	**0.17**	**130**	P	Pg	19 37 53.5	-0.2
LNY03	**LNY03**	**0.19**	**16**	P	Pg	19 37 53.8	-0.2

*NEIC **04** 19:42:57.3±1.1, 59°.89N±0°.04×152°.24W±0°.07, h77km±6km, Error ellipse: s-maj=6.0km s-min=4.0km az=143.0*

AEIC 04 19:42:58.0±0.9, 59°.91N±0°.04×152°.30W±0°.07, h79km±4km, ML2.5, ML2.9/74(NEIC), **Error ellipse: s-maj=5.7km s-min=4.6km az=157.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.23**	**316**		Pn	19 43 09.6	-0.4
O20K					Sn	19 43 18.4	-0.3
ILS	**Iliamna Low So**	**0.39**	**277**		Pn	19 43 10.4	-0.5
ILS					Sn	19 43 19.9	-0.5
HOM	**Homer**	**0.42**	**127**		Pn	19 43 10.4	-0.6
HOM	**Homer**	**0.42**	**127**	IAML		19 43 22.3	
	comp=N,679nm,0.4s						
ILSW	**Iliamna Southw**	**0.43**	**280**		Pn	19 43 09.0	-2.3
ILSW	**Iliamna Southw**	**0.43**	**280**		Sn	19 43 20.6	-0.4
OPT	**Oil Point**	**0.54**	**241**		Pn	19 43 11.7	-0.4
P19K	**Oil Pt**	**0.54**	**241**		Pn	19 43 10.2	-1.8
P19K				IAML		19 43 23.9	
	comp=N,521nm,0.3s						
RDWB	**Redoubt West**	**0.64**	**335**		Pn	19 43 12.3	-0.8
CNPM	**China Poot**	**0.67**	**125**		Pn	19 43 12.3	-0.9
CNPM	**China Poot**	**0.67**	**125**	IAML		19 43 24.2	
	comp=N,589nm,0.3s						
RDT	**Redoubt**	**0.67**	**356**		Pn	19 43 12.4	-1.0
RDT					Sn	19 43 24.2	-0.5
NCT	**North Crescent**	**0.72**	**335**		Pn	19 43 13.2	-0.7
NCT					Sn	19 43 25.3	-0.5
BRLK	**Bradley Lake**	**0.73**	**101**		Pn	19 43 11.8	-2.1
BRLK				IAML		19 43 25.3	
	comp=E,350nm,0.4s						
BRLK				IAML		19 43 25.4	
	comp=N,386nm,0.1s						
AU22	**Augustine Moun**	**0.76**	**225**		Pn	19 43 13.7	-0.6
AUCH	**Augustine Cone**	**0.80**	**227**		Pn	19 43 14.4	-0.3
CAPN	**Captain Cook N**	**1.03**	**33**		Pn	19 43 18.0	+0.7
CAPN	**Captain Cook N**	**1.03**	**33**	IAML		19 43 35.6	
	comp=E,369nm,0.8s						
CAPN				IAML		19 43 39.0	
	comp=N,328nm,0.3s						
O19K	**Port Alsworth**	**1.05**	**287**		Pn	19 43 16.4	-1.2
O19K				IAML		19 43 32.6	
	comp=N,224nm,0.4s						
O19K	**Port Alsworth**	**1.05**	**287**		Sn	19 43 31.9	-0.3
SLKM	**Skilak Lake**	**1.20**	**59**		Pn	19 43 18.6	-0.9
SLKM				IAML		19 43 34.9	
	comp=N,134nm,0.3s						
SLKM				IAML		19 43 37.1	
	comp=E,110nm,0.2s						
Q19K	**Cape Douglas,**	**1.20**	**215**		Pn	19 43 18.8	-0.7
Q19K	**Cape Douglas,**	**1.20**	**215**	IAML		19 43 42.4	
	comp=E,166nm,1.0s						
SPU	**Mount Spurr**	**1.28**	**5**		Pn	19 43 19.6	-0.9
SPU				IAML		19 43 38.1	
	comp=E,122nm,0.5s						
SYI	**Shuyak Island**	**1.31**	**182**		Pn	19 43 20.1	-0.6
SYI	**Shuyak Island**	**1.31**	**182**	IAML		19 43 41.0	
	comp=N,85nm,0.7s						
SYI				IAML		19 43 41.2	
	comp=E,81nm,0.7s						
O22K	**Cooper Landing**	**1.41**	**65**		Pn	19 43 20.6	-1.4
O22K				IAML		19 43 40.3	
	comp=N,182nm,0.6s						
O22K				IAML		19 43 48.7	
	comp=E,184nm,0.6s						
N19K	**Bonanza Creek**	**1.41**	**311**		Pn	19 43 21.5	-0.7
N19K					Sn	19 43 39.8	-0.7
SEW	**Seward**	**1.44**	**81**		Pn	19 43 20.4	-2.1
O18K	**Koktuh Hills**	**1.47**	**269**		Pn	19 43 21.7	-1.1
O18K				IAML		19 43 41.4	
	comp=N,75nm,0.6s						
SPNN	**North Nagishla**	**1.47**	**353**		Pn	19 43 22.8	-0.3
P18K	**Big Mountain,**	**1.58**	**252**		Pn	19 43 23.1	-1.2
P18K					Sn	19 43 42.9	-1.3
STLK	**Strandline Lak**	**1.61**	**8**		Pn	19 43 24.3	-0.5
RC01	**Rabbit Creek A**	**1.73**	**46**		Pn	19 43 25.3	-1.0
RC01				IAML		19 43 48.1	
	comp=N,90nm,0.3s						
RC01				IAML		19 43 49.5	
	comp=E,114nm,0.1s						
SUA	**Susitna One**	**1.73**	**25**		Pn	19 43 26.2	-0.3
SUA				IAML		19 43 49.5	
	comp=E,70nm,1.1s						
KAHG	**Katmai Hook Gl**	**1.83**	**220**		Pn	19 43 27.1	-0.6
M20K	**Styx River**	**2.02**	**349**		Pn	19 43 29.8	-0.3
SKT	**Skwentna**	**2.11**	**10**		Pn	19 43 30.2	-1.1
KDAK	**Kodiak Island**	**2.14**	**184**		Pn	19 43 29.9	-1.8
KDAK	**Kodiak Island**	**2.14**	**184**	IAML		19 44 16.7	
	comp=E,58nm,3.0s						
KDAK				IAML		19 44 42.0	
	comp=E,38nm,3.1s						
PWL	**Port Wells**	**2.19**	**63**		Pn	19 43 30.4	-2.0
M18K	**Stony River**	**2.35**	**314**		Pn	19 43 33.7	-0.7
O17K	**Koliganek Bris**	**2.42**	**269**		Pn	19 43 34.9	-0.5
P23K	**Montague Islan**	**2.46**	**86**		Pn	19 43 33.7	-2.3
GHO	**Glory Hole Cre**	**2.49**	**40**		Pn	19 43 35.3	-1.2
GHO	**Glory Hole Cre**	**2.49**	**40**	IAML		19 44 05.0	
	comp=E,45nm,0.5s						
GHO				IAML		19 44 05.8	
	comp=N,32nm,0.3s						
N17K	**Nushagak Hills**	**2.52**	**286**		Pn	19 43 36.0	-0.7
L19K	**White Mountain**	**2.59**	**332**		Pn	19 43 37.4	-0.4
L19K	**White Mountain**	**2.59**	**332**	IAML		19 45 21.8	
	comp=E,19nm,4.0s						
GLI	**Glacier Island**	**2.76**	**67**		Pn	19 43 37.4	-2.6
GLI	**Glacier Island**	**2.76**	**67**	IAML		19 44 10.6	
	comp=N,59nm,0.3s						
HIN	**Hinchinbrook I**	**2.94**	**78**		Pn	19 43 40.0	-2.5
FID	**Port Fidalgo**	**3.01**	**71**		Pn	19 43 40.2	-3.3
FID	**Port Fidalgo**	**3.01**	**71**	IAML		19 44 17.4	
	comp=N,57nm,0.5s						
SCM	**Sheep Creek Mo**	**3.10**	**49**		Pn	19 43 43.4	-1.4
SCM	**Sheep Creek Mo**	**3.10**	**49**	IAML		19 44 27.4	
	comp=E,40nm,2.5s						
SCM				IAML		19 45 25.1	
	comp=N,26nm,2.7s						
TRF	**Thorofare Moun**	**3.68**	**14**		Pn	19 43 52.9	+0.3
TRF	**Thorofare Moun**	**3.68**	**14**	IAML		19 44 29.6	
	comp=N,22nm,2.9s						
TRF				IAML		19 44 48.7	
	comp=E,24nm,2.6s						
KTH	**Kantishna Hill**	**3.71**	**10**	IAML		19 44 42.0	
	comp=N,16nm,1.9s						
KTH				IAML		19 44 45.9	
	comp=E,17nm,3.4s						
RND	**Reindeer**	**3.87**	**24**		Pn	19 43 54.6	-0.6
RND	**Reindeer**	**3.87**	**24**	IAML		19 45 21.0	
	comp=N,15nm,3.5s						
RND				IAML		19 45 28.6	
	comp=E,13nm,3.9s						
BMRM	**Bremner River**	**3.96**	**71**		Pn	19 43 53.6	-2.7

*IDC **04** 19:48:14.8±0.7, 54°.28N×169°.13E, h0km, mb4.0/27, mbtmp4.0/30, ML3.8/3, Error ellipse: s-maj=18.4km s-min=10.9km az=3.0*

*KRSC **04** 19:48:16.6±2.6, 54°.04N×168°.99E, h62km±47km, Ml4.6*

*NEIC **04** 19:48:17.1±1.4, 54°.2N±0°.2×169°.0E±0°.2, h10km±2km, mb4.3/40, Error ellipse: s-maj=27.1km s-min=15.4km az=159.0*

*MOS **04** 19:48:18.9±1.0, 54°.17N×169°.01E, h48km, mb4.2/14, Error ellipse: s-maj=6.8km s-min=5.4km az=44.5*

ISC 04 19:48:17.6±0.5, 53°.97N±0°.06×169°.12E±0°.04, h25km, n171, σ1§42/185, mb4.1/49, 3C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.21**	**305**	PN	**Pn**	**19 48 50.5**	**-2.1**
BKI				S	**Sn**	**19 49 18.7**	**-0.4**
BKI	**Bering**	**2.21**	**305**	*eP*	**Pn**	**19 48 50.3**	**-2.3**
BKI				*eS*	**Sn**	**19 49 15.9**	**-3.2**
SHEM	**Shemya Is, Ala**	**3.23**	**111**	Pn	**Pn**	**19 49 07.2**	**+0.6**
	54nm,0.3s,baz=358,slow=3.6,SNR=40						
SHEM				Sn	**Sn**	**19 49 45.2**	**+0.9**
	56nm,0.3s,baz=136,slow=23,SNR=8.8						
	140nm,0.3s						
KBTR	**Krutoberegovo**	**4.26**	**304**	PN	**Pn**	**19 49 19.8**	**-0.9**
KBTR				S	**Sn**	**19 50 12.1**	**+2.5**
KBTR	**Krutoberegovo**	**4.26**	**304**	*eP*	**Pn**	**19 49 20.5**	**-0.2**
KBG	**Krutoberegovo**	**4.34**	**304**	PN	**Pn**	**19 49 22.8**	**+1.0**
KBG				S	**Sn**	**19 50 12.5**	**+1.0**
KBG	**Krutoberegovo**	**4.34**	**304**	*eP*	**Pn**	**19 49 22.5**	**+0.7**
SMKR	**Semkarok**	**5.10**	**304**	PN	**Pn**	**19 49 33.6**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**5.24**	**295**	PN	**Pn**	**19 49 36.3**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**5.24**	**295**	*eP*	**Pn**	**19 49 36.3**	**+1.9**
BZGR				*eS*	**Sn**	**19 50 32.9**	**-1.1**
KLY	**Klyuchi**	**5.39**	**299**	PN	**Pn**	**19 49 36.7**	**+0.4**
KLY				S	**Sn**	**19 50 36.8**	**-0.7**
KLY	**Klyuchi**	**5.39**	**299**	*eS*	**Sn**	**19 50 35.0**	**-2.6**
KRSR	**Krestovskiy**	**5.40**	**298**	PN	**Pn**	**19 49 37.3**	**+0.7**
KRSR				S	**Sn**	**19 50 38.0**	**0.0**
KRSR	**Krestovskiy**	**5.40**	**298**	*eP*	**Pn**	**19 49 38.1**	**+1.5**
KRSR				*eS*	**Sn**	**19 50 38.1**	**+0.1**
KIRR	**Kirishev**	**5.43**	**295**	PN	**Pn**	**19 49 37.8**	**+0.8**
KIRR				S	**Sn**	**19 50 39.1**	**+0.3**
KIRR	**Kirishev**	**5.43**	**295**	*eP*	**Pn**	**19 49 38.5**	**+1.4**
KIRR				*eS*	**Sn**	**19 50 39.0**	**+0.3**
KMNR	**Kamenistaya**	**5.43**	**293**	PN	**Pn**	**19 49 38.1**	**+1.1**
KMNR				S	**Sn**	**19 50 37.8**	**-0.9**
KMNR	**Kamenistaya**	**5.43**	**293**	*eP*	**Pn**	**19 49 38.1**	**+1.1**
SPN	**Mys Shipunski**	**5.50**	**264**	PN	**Pn**	**19 49 38.4**	**+0.6**
SPN	**Mys Shipunski**	**5.50**	**264**	*eP*	**Pn**	**19 49 38.4**	**+0.6**
SPN				*eS*	**Sn**	**19 50 36.5**	**-3.6**
KPT	**Kopyto**	**5.50**	**295**	PN	**Pn**	**19 49 38.7**	**+0.8**
KPT				S	**Sn**	**19 50 41.3**	**+0.9**
KPT	**Kopyto**	**5.50**	**295**	*eP*	**Pn**	**19 49 39.0**	**+1.1**
KPT				*eS*	**Sn**	**19 50 41.2**	**+0.9**
KII	**Karymskiy**	**5.71**	**275**	PN	**Pn**	**19 49 41.3**	**+0.6**
KII	**Karymskiy**	**5.71**	**275**	*eP*	**Pn**	**19 49 41.5**	**+0.8**
KOZ	**Kozyrevsk**	**5.72**	**295**	PN	**Pn**	**19 49 42.6**	**+1.8**
KOZ				S	**Sn**	**19 50 46.7**	**+1.2**
KOZ	**Kozyrevsk**	**5.72**	**295**	*eP*	**Pn**	**19 49 43.1**	**+2.3**
NLC	**Nalytchevo**	**5.88**	**266**	PN	**Pn**	**19 49 43.8**	**+0.8**
NLC	**Nalytchevo**	**5.88**	**266**	*eP*	**Pn**	**19 49 43.9**	**+0.8**
NLC				*eS*	**Sn**	**19 50 45.7**	**-3.8**
SRDR	**Sredinnyy**	**5.88**	**297**	PN	**Pn**	**19 49 45.3**	**+2.2**
UGLR	**Uglovaya**	**6.18**	**267**	PN	**Pn**	**19 49 48.5**	**+1.2**
UGLR	**Uglovaya**	**6.18**	**267**	*eP*	**Pn**	**19 49 48.4**	**+1.2**
UGLR				*eS*	**Sn**	**19 50 55.6**	**-1.5**
AVH	**Avacha**	**6.22**	**268**	PN	**Pn**	**19 49 49.2**	**+1.4**
AVH	**Avacha**	**6.22**	**268**	*eP*	**Pn**	**19 49 49.2**	**+1.4**
AVH				*eS*	**Sn**	**19 50 57.8**	**-0.3**
KRX	**Arik**	**6.26**	**269**	PN	**Pn**	**19 49 49.5**	**+1.2**
KRX	**Arik**	**6.26**	**269**	*eP*	**Pn**	**19 49 49.4**	**+1.0**
KRX				*eS*	**Sn**	**19 50 57.1**	**-2.0**
OSSR	**Ossora**	**6.26**	**330**	PN	**Pn**	**19 49 46.6**	**-1.6**
OSSR	**Ossora**	**6.26**	**330**	*eP*	**Pn**	**19 49 46.8**	**-1.4**
DALK	**Dalny**	**6.26**	**266**	PN	**Pn**	**19 49 49.1**	**+0.9**
DALK	**Dalny**	**6.26**	**266**	*eP*	**Pn**	**19 49 49.5**	**+1.3**
DALK				*eS*	**Sn**	**19 50 57.0**	**-1.9**
KOK	**Koryaka**	**6.28**	**268**	PN	**Pn**	**19 49 49.8**	**+1.2**
KOK	**Koryaka**	**6.28**	**268**	*eP*	**Pn**	**19 49 49.8**	**+1.2**
ESO	**Esso**	**6.32**	**292**	*eP*	**Pn**	**19 49 49.9**	**+0.9**
PET	**Petropavlovsk**	**6.32**	**266**		**Pn**	**19 49 48.1**	**-1.0**
PET	**Petropavlovsk**	**6.32**	**266**	PN	**Pn**	**19 49 50.7**	**+1.6**
PET	**Petropavlovsk**	**6.32**	**266**	*eP*	**Pn**	**19 49 50.7**	**+1.6**
PET				*eS*	**Sn**	**19 50 59.5**	**-0.9**
RUS	**Russkaya**	**6.56**	**261**	PN	**Pn**	**19 49 53.2**	**+0.9**
GNL	**Ganaly**	**6.63**	**272**	PN	**Pn**	**19 49 55.1**	**+1.7**
GNL	**Ganaly**	**6.63**	**272**	*eP*	**Pn**	**19 49 55.2**	**+1.9**
KRMR	**Karymshinskiy**	**6.67**	**265**	PN	**Pn**	**19 49 55.1**	**+1.2**
KRMR	**Karymshinskiy**	**6.67**	**265**	*eP*	**Pn**	**19 49 55.4**	**+1.4**
KRMR				*eS*	**Sn**	**19 51 05.4**	**-3.6**
TILK	**Tilichiki**	**6.69**	**347**	PN	**Pn**	**19 49 52.7**	**-1.3**
TILK	**Tilichiki**	**6.69**	**347**	*eP*	**Pn**	**19 49 52.8**	**-1.3**
GRL	**Gorelyy**	**6.78**	**262**	PN	**Pn**	**19 49 57.3**	**+1.8**
GRL	**Gorelyy**	**6.78**	**262**	*eP*	**Pn**	**19 49 57.4**	**+1.9**
GRL				*eS*	**Sn**	**19 51 11.1**	**-0.8**
PEA0B	**Petropavlovsk-**	**6.87**	**267**	Pn	**Pn**	**19 49 58.0**	**+1.5**
PEA0B	**Petropavlovsk-**	**6.87**	**267**	PN	**Pn**	**19 49 58.7**	**+2.1**
PETK	**Petropavlovsk-**	**6.87**	**267**	Pn	**Pn**	**19 49 57.8**	**+1.3**
	9.0nm,0.3s,baz=72,slow=14,SNR=102						
PETK				Sn	**Sn**	**19 51 13.4**	**-0.4**
	4.2nm,0.3s,baz=73,slow=26,SNR=1.7						
	12nm,0.4s						
KDTR	**Khodutka, Kamc**	**7.03**	**256**	PN	**Pn**	**19 49 59.7**	**+1.0**
KDTR	**Khodutka, Kamc**	**7.03**	**256**	*eP*	**Pn**	**19 49 59.8**	**+1.0**
KDTR				*eS*	**Sn**	**19 51 14.0**	**-3.8**
PALN	**Palana**	**7.20**	**319**	PN	**Pn**	**19 50 04.4**	**+3.3**
APC	**Apacha**	**7.22**	**266**	PN	**Pn**	**19 50 03.4**	**+1.9**
APC	**Apacha**	**7.22**	**266**	*eP*	**Pn**	**19 50 03.7**	**+2.2**
APC				*eS*	**Sn**	**19 51 23.3**	**+0.7**
PAU	**Pauzhetka**	**7.89**	**256**	PN	**Pn**	**19 50 12.9**	**+2.4**
PAU	**Pauzhetka**	**7.89**	**256**	*eP*	**Pn**	**19 50 13.0**	**+2.4**
SKR	**Severo-Kuril's**	**8.62**	**253**	*e*PN	**Pn**	**19 50 22.1**	**+1.5**
SKR				pmax	pmax		
	comp=Z,84nm,0.7s						
SKR				MLR	MLR		
	comp=Z,800nm,16.0s						
SKR	**Severo-Kuril's**	**8.62**	**253**	*eP*	**Pn**	**19 50 22.1**	**+1.5**
SKR				*eS*	**Sn**	**19 51 52.2**	**-4.7**
KMSK	**Kamenskaya**	**8.65**	**351**	PN	**Pn**	**19 50 19.6**	**-1.4**
ATKA	**Atka Island**	**10.19**	**93**	Pn	**Pn**	**19 50 41.4**	**-0.8**
MA2	**Magadan**	**11.51**	**307**	*i* PN	**Pn**	**19 50 58.4**	**-1.7**
SEY	**Seymchan**	**12.51**	**323**	Pn	Pn	19 51 08.5	-5.1
	comp=Z,0.1nm,0.3s,baz=74,slow=17,SNR=9.0						
	comp=Z,2.3nm,1.1s						
SEY	**Seymchan**	**12.51**	**323**	*i* PN	Pn	19 51 08.6	-5.1
SEY				pmax	pmax		
	comp=Z,34nm,2.1s						
BILL	**Bilibino**	**14.18**	**356**	Pn	**Pn**	**19 51 35.9**	**-0.6**
BILL	**Bilibino**	**14.18**	**356**	*i* P	**Pn**	**19 51 35.2**	**-1.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UNV	**Unalaska Valle**	**14.35**	**81**	Pn	Pn	19 51 34.9	-4.0
K13K	**Kusilvak Mount**	**15.94**	**50**	Pn	**Pn**	**19 51 59.2**	**-0.6**
M13K	**Dall Lake**	**16.16**	**55**	Pn	**Pn**	**19 52 01.6**	**-1.2**
ANM	**Nome**	**16.66**	**40**		**Pn**	**19 52 09.3**	**+0.2**
ANM	**Nome**	**16.66**	**40**	P	**Pn**	**19 52 09.3**	**+0.2**
ANM				pmax	pmax		
	comp=Z,11nm,1.2s						
L14K	**Kuka Creek**	**16.68**	**53**	Pn	**Pn**	**19 52 09.7**	**+0.4**
L14K				IAmb	IAmb	19 52 13.0	
	comp=Z,33nm,1.5s						
M14K	**Bethel**	**16.90**	**55**	Pn	**Pn**	**19 52 09.8**	**-2.2**
K15K	**Wolf Creek Mou**	**17.45**	**50**		**P**	**19 52 20.9**	**+0.9**
K15K				IAmb	IAmb	19 52 32.1	
	comp=Z,43nm,1.4s						
YSS	**Yuzhno-Sakhali**	**18.12**	**258**	*i* P	**Pn**	**19 52 28.5**	**+1.2**
YSS				pmax	pmax		
	comp=Z,63nm,1.6s						
L16K	**Owhat River**	**18.26**	**52**	P	**Pn**	**19 52 28.5**	**-0.4**
C16K	**Lisburne Hills**	**18.68**	**30**	P	**P**	**19 52 32.6**	**-0.9**
J17K	**VABM Dome**	**18.83**	**47**	Pn	**Pn**	**19 52 36.6**	**+0.9**
K17K	**Iditarod**	**19.01**	**50**	P	**Pn**	**19 52 37.6**	**-0.3**
K17K				IAmb	IAmb

comp=Z,1.8nm,0.6s
H11N2 WAKE ISLAND Hy 34.22 184 T T 20 31 23.2
baz=2.4,slow=76,SNR=784
H11N3 WAKE ISLAND Hy 34.24 184 T T 20 31 32.7
baz=2.4,slow=76,SNR=758
H11N1 WAKE ISLAND Hy 34.24 184 T T 20 31 33.2
baz=2.4,slow=76,SNR=966
H11S1 WAKE ISLAND Hy 35.45 184 T T 20 32 56.3
baz=2.4,slow=76,SNR=246
H11S3 WAKE ISLAND Hy 35.46 184 T T 20 33 05.0
baz=2.4,slow=76,SNR=104
H11S2 WAKE ISLAND Hy 35.47 184 T T 20 32 57.6
baz=2.4,slow=76,SNR=228
NRIK Noril'sk 38.27 325 *i* P **P** **19 55 34.5 -0.7**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
YKA Yellowknife Ar 38.77 46 P **P** **19 55 39.2 -0.3**
comp=Z,0.8nm,0.6s,baz=293,slow=8.7,SNR=6.3
comp=Z,0.8nm,0.6s
SONM Songino Array 38.87 287 P **P** **19 55 41.8 +1.1**
comp=Z,1.1nm,0.5s,baz=62,slow=7.7,SNR=20
comp=Z,1.1nm,0.5s
HHC Hu-ho-hao-te 39.99 275 *e*P **P** **19 55 49.5 -0.6**
LZH Lanzhou 47.68 276 *e*P **P** **19 56 53.7 +1.7**
LZH pP sP 19 57 04.3 +2.5
LZH pmax pmax
comp=Z,7.0nm,0.9s
NVAR Mina Array Bea 50.33 77 P **P** **19 57 12.3 0.0**
comp=Z,1.3nm,0.6s,baz=292,slow=7.8,SNR=4.3
comp=Z,1.3nm,0.6s
ELK Elko 50.51 73 P **P** **19 57 14.1 +0.5**
comp=Z,0.7nm,0.6s,baz=302,slow=8.7,SNR=3.9
comp=Z,0.7nm,0.6s
WMQ Urumqi 51.65 294 *e*P **P** **19 57 21.9 -0.1**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=N,2μm,12.5s
WMQ LR LR
comp=E,1μm,12.7s
WMQ LR LR
comp=Z,390nm,13.3s
KURK Kurchatov 51.72 306 *i* P **P** **19 57 21.7 -0.6**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 51.82 306 P **P** **19 57 22.4 -0.6**
comp=Z,1.5nm,0.7s,baz=53,slow=7.7,SNR=17
comp=Z,1.5nm,0.7s
PDAR Pinedale Array 52.30 67 P **P** **19 57 27.3 +0.3**
comp=Z,0.4nm,0.4s,baz=344,slow=2.7,SNR=6.3
comp=Z,0.4nm,0.4s
MK31 Makanchi Array 52.51 300 *i* P **P** **19 57 27.3 -0.9**
MKAR Makanchi Array 52.51 300 P **P** **19 57 27.2 -1.0**
comp=Z,0.6nm,0.6s,baz=52,slow=6.6,SNR=9.1
comp=Z,0.6nm,0.6s
BVAR Borovoye Array 53.92 312 P **P** **19 57 38.0 -0.6**
comp=Z,3.4nm,0.5s,baz=53,slow=7.5,SNR=20
comp=Z,3.4nm,0.5s
BVAR Borovoye Array 53.92 312 P **P** **19 57 38.0 -0.6**
BRVK Borovoye 53.95 312 P **P** **19 57 36.9 -1.8**
BRVK Borovoye 53.95 312 *i* P **P** **19 57 38.3 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 53.98 345 P **P** **19 57 37.8 -1.0**
comp=Z,1.5nm,0.6s,baz=32,slow=8.8,SNR=9.0
comp=Z,1.5nm,0.6s
FRB Frobisher Bay 54.40 28 P **P** **19 57 41.4 -0.3**
comp=Z,2.8nm,0.7s,baz=304,slow=11,SNR=3.5
comp=Z,2.8nm,0.7s
PZH PanZhiHua 55.83 269 P **P** **19 57 53.7 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
ARTI Arti 56.34 321 *c i*P **P** **19 57 54.3 -1.6**
ARTI 20 00 02.1
ARTI S **S** **20 05 45.1 +0.8**
ARTI SS **SS** **20 09 29.6 -0.9**
ARTI pmax pmax
comp=Z,6.0nm,3.3s
AAK Ala-Archa 59.38 301 *i* P **P** **19 58 17.2 -0.5**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AKTO Aktyubinsk 61.03 317 P **P** **19 58 28.1 -0.6**
comp=Z,1.4nm,0.6s,baz=294,slow=5.4,SNR=4.7
comp=Z,1.4nm,0.6s
FINES FINESS Array B 61.26 341 P **P** **19 58 29.2 -0.8**
comp=Z,1.7nm,0.9s,baz=46,slow=5.9,SNR=3.5
comp=Z,1.7nm,0.9s
CMAR Chiang Mai Arr 63.64 265 P **P** **19 58 48.2 +1.7**
comp=Z,0.3nm,0.3s,baz=25,slow=7.1,SNR=6.1
comp=Z,0.3nm,0.3s
NOA NORSAR Array B 63.99 348 P **P** **19 58 47.3 -1.0**
comp=Z,0.5nm,0.5s,baz=15,slow=6.4,SNR=4.6
comp=Z,0.5nm,0.5s
OBN Obninsk 64.48 332⇑ *e*P **P** **19 58 49.2 -2.2**
OBN *e* 19 59 28.9
OBN *e* 20 01 17.0
OBN *e*S S 20 07 39.6 +11
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,1μm,17.0s
HFS Hagfors 64.56 347 P **P** **19 58 51.1 -0.8**
comp=Z,1.5nm,0.7s,baz=18,slow=6.6,SNR=5.1
comp=Z,1.5nm,0.7s
TXAR Lajitas Array 65.27 74 P **P** **19 58 57.9 +0.7**
comp=Z,2.5nm,0.5s,baz=303,slow=4.9,SNR=31
comp=Z,2.5nm,0.5s
AKASG Malin Array Be 70.41 334 P **P** **19 59 28.4 -0.6**
comp=Z,0.8nm,0.5s,baz=29,slow=6.1,SNR=3.4
comp=Z,0.8nm,0.5s
KIV Kislovodsk 72.26 322 *i* P **P** **19 59 40.4 -0.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 72.38 322 P **P** **19 59 41.1 +0.1**
comp=Z,1.1nm,0.8s,baz=247,slow=2.8,SNR=4.9
comp=Z,1.1nm,0.8s
KBZ Khabaz 72.38 322 *e*P **P** **19 59 42.2 +1.2**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 79.12 327 P **P** **20 00 20.0 +0.1**
comp=Z,0.9nm,0.7s,baz=41,slow=6.8,SNR=5.1
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 79.12 327 *i* P **P** **20 00 20.8 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 79.46 213 P **P** **20 00 24.1 +2.4**
comp=Z,1.2nm,0.9s,baz=26,slow=6.2,SNR=5.2
comp=Z,1.2nm,0.9s
WRA Warramunga Arr 79.46 213 *e*P **P** **20 00 24.8 +3.2**
WRA pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 83.08 212 P **P** **20 00 43.1 +2.3**
comp=Z,0.9nm,0.7s,baz=22,slow=5.2,SNR=7.2
comp=Z,0.9nm,0.7s

*SDD **04** 20:16:54.8±2.7, 19°.27N×68°.09W, h30km±108km, MD3.7, ML3.3, MW3.7*
*RSPR **04** 20:16:54.3, 19°.50N×68°.16W, h67km±8km, MD3.1/14*
*OSPL **04** 20:16:54.9±3.4, 19°.27N×68°.09W, h0km±15km, ML3.2, Hypocentre not reviewed by the ISC*
*NEIC **04** 20:16:55.9±2.2, 19°.15N±0°.08×68°.22W±0°.05, h34km±12km, ML3.3/40, Md3.1/14(RSPR), Error ellipse: s-maj=12.4km s-min=4.2km az=208.0*
ISC 04 20:16:48.0±1.6, 19°.51N±0°.06×68°.09W±0°.02, h1km±12km, n87, σ1§05/88, 14C-13D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PCDR	**Punta Cana, DR**	**1.03 196**					**Sg**	**20 17 19.9**	**-1.3**
PCDR	**Punta Cana, DR**	**1.03 196**					**Pg**	**20 17 07.6**	**-0.2**
PCDR	**Punta Cana, DR**	**1.03 196**		IAML				20 17 23.2	
	comp=E,344nm,0.6s								
PCDR				IAML				20 17 24.6	
	comp=N,1μm,0.6s								
PCDR	**Punta Cana, DR**	**1.03 196**⇓		*e*Pg			**Pg**	**20 17 07.8**	**0.0**
PCDR				IAML				20 17 22.7	
	comp=E,318nm,0.7s								
PCDR				IAML				20 17 24.6	
	comp=N,1μm,0.5s								
PCDR	**Punta Cana, DR**	**1.03 196**⇑		*e*P			**Pb**	**20 17 08.0**	**-0.7**
PCDR	**Punta Cana, DR**	**1.03 196**		*e*S			**Sg**	**20 17 19.9**	**-1.3**
PCDR	**Punta Cana, DR**	**1.03 196**		ASPG				20 17 07.4	
	comp=Z,400nm,0.5s								
PCDR				*i* P				20 17 07.8	
PCDR				ATPG				20 17 09.2	
	comp=Z,1μm,0.3s								
PCDR				ASSG				20 17 19.0	
	comp=Z,636nm,0.3s								
PCDR				*e*S				20 17 19.4	
PCDR				ATSG				20 17 20.5	
	comp=Z,2μm,0.3s								
PCDR				IAML				20 17 27.4	
	comp=Z,578nm,0.6s								
SMDR	**Samana, DR**	**1.06 258**⇑		*e*Pg			**Pn**	**20 17 11.8**	**+1.7**
SMDR				⇓*e*Sg			**Sn**	**20 17 27.6**	**+2.0**
SMDR				IAML				20 17 28.0	
	comp=E,794nm,0.3s								
SMDR				IAML				20 17 28.4	
	comp=N,958nm,0.8s								
HIDR	**Higuey Centro**	**1.09 213**⇓		*e*Pg			**Pb**	**20 17 09.0**	**-0.8**
HIDR				IAML				20 17 23.6	
	comp=E,1μm,0.2s								
HIDR				IAML				20 17 24.8	
	comp=N,952nm,0.2s								
IDE	**Isla Desecheo**	**1.26 153**					**Pb**	**20 17 12.0**	**-0.6**
IDE							**Sg**	**20 17 30.6**	**+2.0**
IDE	**Isla Desecheo**	**1.26 153**⇑		*e*P			**Pb**	**20 17 12.0**	**-0.6**
IDE	**Isla Desecheo**	**1.26 153**		*e*S			**Sg**	**20 17 30.6**	**+2.0**
AGPR	**Aguadilla, PR**	**1.39 138**					**Pg**	**20 17 16.0**	**+1.3**
AGPR							**Sg**	**20 17 33.5**	**+0.8**
AGPR				IAML				20 17 35.6	
	comp=E,604nm,0.8s								
AGPR				IAML				20 17 38.1	
	comp=N,437nm,0.5s								
AGPR	**Aguadilla, PR**	**1.39 138**		*e*Pg			**Pg**	**20 17 16.6**	**+1.9**
AGPR				IAML				20 17 35.1	
	comp=N,379nm,0.4s								
AGPR				IAML				20 17 35.3	
	comp=E,541nm,0.9s								
AGPR	**Aguadilla, PR**	**1.39 138**⇑		*e*P			**Pg**	**20 17 16.9**	**+2.3**
AGPR	**Aguadilla, PR**	**1.39 138**		*e*S			**Sg**	**20 17 35.0**	**+2.2**
AGPR	**Aguadilla, PR**	**1.39 138**		ASPG				20 17 16.1	
	comp=Z,256nm,0.3s								
AGPR				*i* P				20 17 16.6	
AGPR				ATPG				20 17 18.0	
	comp=Z,770nm,0.3s								
AGPR				ASSG				20 17 33.5	
	comp=Z,1μm,0.3s								
AGPR				*e*S				20 17 33.9	
AGPR				ATSG				20 17 35.6	
	comp=Z,5μm,0.3s								
AGPR				IAML				20 17 40.4	
	comp=Z,211nm,0.6s								
DR12	**Loma Pena Alta**	**1.42 240**					**Pg**	**20 17 16.0**	**+0.7**
DR12				Sn			**Sg**	**20 17 34.2**	**+0.5**
DR12				IAML				20 17 35.8	
	comp=N,762nm,0.5s								
DR12				IAML				20 17 37.1	
	comp=E,452nm,0.7s								
HATOM	**Hato Mayor del**	**1.42 240**⇓		*e*Pg			**Pg**	**20 17 16.3**	**+1.0**
HATOM				⇓*e*Sg			**Sg**	**20 17 34.9**	**+1.2**
HATOM				IAML				20 17 35.7	
	comp=N,677nm,0.4s								
HATOM				IAML				20 17 37.0	
	comp=E,406nm,0.6s								
SADR	**Isla Saona**	**1.47 207**		*e*Pg			**Pb**	**20 17 15.6**	**-0.6**
SADR				IAML				20 17 44.2	
	comp=N,511nm,0.4s								
SADR				IAML				20 17 44.2	
	comp=N,511nm,0.4s								
PRSN	**Puerto Rico Se**	**1.57 145**					**Pg**	**20 17 19.6**	**+1.5**
PRSN				IAML				20 17 43.0	
	comp=E,653nm,0.3s								
PRSN				IAML				20 17 44.3	
	comp=N,594nm,0.3s								
LSP	**Las Mesas**	**1.63 144**					**Pg**	**20 17 20.2**	**+0.9**
LSP	**Las Mesas**	**1.63 144**⇑		*e*P			**Pg**	**20 17 20.2**	**+0.9**
LSP	**Las Mesas**	**1.63 144**		*e*S			**Sg**	**20 17 41.5**	**+1.0**
AOPR	**Arecibo Observ**	**1.71 132**					**Sg**	**20 17 43.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.71 132**					**Pg**	**20 17 20.7**	**-0.2**
AOPR	**Arecibo Observ**	**1.71 132**		IAML				20 17 46.5	
	comp=N,360nm,0.5s								
AOPR				IAML				20 17 50.0	
	comp=E,800nm,0.4s								
AOPR	**Arecibo Observ**	**1.71 132**⇓		*e*Pg			**Pg**	**20 17 21.2**	**+0.3**
AOPR				IAML				20 17 46.4	
	comp=N,338nm,0.4s								
AOPR				IAML				20 17 46.6	
	comp=E,727nm,0.5s								
AOPR	**Arecibo Observ**	**1.71 132**⇓		*e*P			**Pg**	**20 17 21.5**	**+0.6**
AOPR	**Arecibo Observ**	**1.71 132**		*e*S			**Sg**	**20 17 43.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.76 148**					**Pg**	**20 17 22.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.76 148**					**Sg**	**20 17 44.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.76 148**		*e*Pg			**Pg**	**20 17 22.4**	**+0.6**
CRPR				IAML				20 17 51.8	
	comp=N,242nm,1.1s								
CRPR				IAML				20 17 51.8	
	comp=E,235nm,0.7s								
CRPR	**Cabo Rojo, PR**	**1.76 148**⇓		*e*P			**Pg**	**20 17 22.3**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.76 148**		*e*S			**Sg**	**20 17 44.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.76 148**		ASPG				20 17 22.0	
	comp=Z,242nm,0.3s								
CRPR				*i* P				20 17 22.4	
CRPR				ATPG				20 17 24.4	
	comp=Z,746nm,0.2s								
CRPR				ASSG				20 17 42.7	
	comp=Z,199nm,0.3s								
CRPR				*e*S				20 17 43.1	
CRPR				ATSG				20 17 44.6	
	comp=Z,672nm,0.3s								
CRPR				IAML				20 17 51.2	
	comp=Z,387nm,0.6s								
EMPR	**Esperanza - Ma**	**1.80 125**		IAML				20 17 57.2	
	comp=E,388nm,0.5s								
EMPR	**Esperanza - Ma**	**1.80 125**					**Pg**	**20 17 23.2**	**+0.7**
EMPR							**Sg**	**20 17 45.0**	**-0.8**
EMPR	**Esperanza - Ma**	**1.80 125**⇑		*e*P			**Pg**	**20 17 23.2**	**+0.7**
EMPR	**Esperanza - Ma**	**1.80 125**		*e*S			**Sg**	**20 17 45.0**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.80 134**					**Pg**	**20 17 22.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.82 147**					**Sb**	**20 17 45.2**	**-0.4**
MLPR	**Magueyes Islan**	**1.82 147**					**Pb**	**20 17 21.8**	**-0.5**
MLPR	**Magueyes Islan**	**1.82 147**		IAML				20 17 48.0	
	comp=E,210nm,0.5s								
MLPR				IAML				20 17 49.5	
	comp=N,183nm,0.7s								
MLPR	**Magueyes Islan**	**1.82 147**		*e*Pg			**Pb**	**20 17 21.9**	**-0.3**
MLPR				IAML				20 17 47.8	
	comp=E,196nm,0.5s								
MLPR				IAML				20 17 48.0	
	comp=N,168nm,0.5s								
MLPR	**Magueyes Islan**	**1.82 147**⇑		*e*P			**Pb**	**20 17 22.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.82 147**		*e*S			**Sb**	**20 17 45.2**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.91 143**					**Pg**	**20 17 24.9**	**+0.3**
GBPR							**Sg**	**20 17 48.1**	**-1.3**
GBPR	**Guanica, Bosqu**	**1.91 143**⇑		*e*P			**Pg**	**20 17 24.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.91 143**		*e*S			**Sg**	**20 17 48.1**	**-1.3**
DR08	**Loma La Naviza**	**1.91 254**		*e*Pg			**Pg**	**20 17 25.2**	**+0.5**
DR08				IAML				20 17 53.9	
	comp=N,4μm,0.2s								
ECPR	**Experimental S**	**2.02 126**⇑		*e*P			**Pg**	**20 17 25.9**	**-0.8**
ECPR	**Experimental S**	**2.02 126**		*e*S			**Sb**	**20 17 51.3**	**+0.1**
CELP	**Cerrillos**	**2.02 135**					**Sb**	**20 17 50.6**	**-0.6**
CELP	**Cerrillos**	**2.02 135**					**Pb**	**20 17 25.4**	**-0.2**
CELP	**Cerrillos**	**2.02 135**		IAML				20 17 53.0	
	comp=E,187nm,0.7s								
CELP				IAML				20 17 55.3	
	comp=N,220nm,0.5s								
CELP	**Cerrillos**	**2.02 135**		*e*Pg			**Pb**	**20 17 25.4**	**-0.2**
CELP				IAML				20 17 52.9	
	comp=E,175nm,0.5s								
CELP				IAML				20 17 55.2	
	comp=N,209nm,0.5s								
CELP	**Cerrillos**	**2.02 135**⇑		*e*P			**Pg**	**20 17 26.2**	**-0.5**
CELP	**Cerrillos**	**2.02 135**		*e*S			**Sb**	**20 17 50.6**	**-0.6**
SDD	**Santo Domingo**	**2.02 239**		Pn			**Pn**	**20 17 23.1**	**-0.2**
SDD	**Santo Domingo**	**2.02 239**⇓		*e*Pg			**Pg**	**20 17 26.6**	**-0.3**
SDD				IAML				20 18 00.9	
	comp=N,46nm,0.3s								
SDD	**Santo Domingo**	**2.02 239**		ASPG				20 17 26.2	
	comp=Z,134nm,0.3s								
SDD				*i* P				20 17 26.6	
SDD				ATPG				20 17 27.0	
	comp=Z,358nm,0.3s								
SDD				ASSG				20 17 49.0	
	comp=Z,60nm,0.3s								
SDD				ATSG				20 17 49.2	
	comp=Z,137nm,0.3s								
SDD				*e*S				20 17 49.4	
OBIP	**Obispado Ponce**	**2.02 136**					**Pg**	**20 17 26.0**	**-0.9**
OBIP							**Sb**	**20 17 50.8**	**-0.6**
OBIP	**Obispado Ponce**	**2.02 136**		IAML				20 17 53.2	
	comp=N,238nm,0.5s								
OBIP				IAML				20 17 59.2	
	comp=E,166nm,0.6s								
OBIP	**Obispado Ponce**	**2.02 136**⇓		*e*P			**Pg**	**20 17 26.0**	**-0.9**
OBIP	**Obispado Ponce**	**2.02 136**		*e*S			**Sb**	**20 17 50.8**	**-0.6**
GCPR	**Guaynabo City**	**2.24 122**					**Pb**	**20 17 28.7**	**-0.7**
GCPR							**Sb**	**20 17 56.8**	**-0.9**
GCPR	**Guaynabo City**	**2.24 122**⇑		*e*P			**Pb**	**20 17 28.7**	**-0.7**
GCPR	**Guaynabo City**	**2.24 122**		*e*S			**Sb**	**20 17 56.8**	**-0.9**
SJG	**San Juan**	**2.30 127**					**Pb**	**20 17 30.5**	**+0.1**
SJG	**San Juan**	**2.30 127**		IAML				20 18 02.1	
	comp=E,142nm,0.5s								
SJG				IAML				20 18 11.0	
	comp=E,152nm,0.6s								
SJG	**San Juan**	**2.30 127**⇑		*e*P			**Pb**	**20 17 30.5**	**+0.1**
SJG	**San Juan**	**2.30 127**		*e*S			**Sb**	**20 17 57.8**	**-1.6**
BANI	**BANI**	**2.42 243**					**Pb**	**20 17 31.6**	**-0.9**
BANI				IAML				20 18 06.8	
	comp=E,242nm,0.7s								
BANI	**BANI**	**2.42 243**		*e*Pg			**Pg**	**20 17 33.5**	**-1.0**
BANI				IAML				20 18 09.6	
	comp=N,303nm,0.6s								
IGPR	**InterUniversit**	**2.42 129**					**Pb**	**20 17 32.0**	**-0.5**
IGPR							**Sb**	**20 18 01.3**	**-1.6**
IGPR	**InterUniversit**	**2.42 129**		IAML				20 18 08.2	
	comp=N,141nm,0.3s								
IGPR				IAML				20 18 08.2	
	comp=E,143nm,0.3s								
IGPR	**InterUniversit**	**2.42 129**⇓		*e*P			**Pb**	**20 17 32.0**	**-0.5**
IGPR	**InterUniversit**	**2.42 129**		*e*S			**Sb**	**20 18 01.3**	**-1.6**
PDPR	**Patillas Dam,**	**2.46 127**					**Pb**	**20 17 31.4**	**-1.6**
PDPR	**Patillas Dam,**	**2.46 127**⇑		*e*P			**Pb**	**20 17 32.5**	**-0.5**
PDPR	**Patillas Dam,**	**2.46 127**		*e*S			**Sb**	**20 18 01.9**	**-1.9**
ABDR	**Alto Bandera**	**2.50 254**		*e*Pg			**Pb**	**20 17 34.5**	**+0.5**
ABDR				IAML				20 18 12.5	
	comp=N,256nm,0.7s								
ABDR				IAML				20 18 18.9	
	comp=E,279nm,0.3s								
HUMP	**Col San Antoni**	**2.52 122**					**Sb**	**20 18 03.7**	**-1.9**
HUMP	**Col San Antoni**	**2.52 122**					**Pb**	**20 17 32.9**	**-1.2**
HUMP	**Col San Antoni**	**2.52 122**		IAML				20 18 10.8	
	comp=N,64nm,0.4s								
HUMP				IAML				20 18 16.7	
	comp=E,94nm,0.3s								
HUMP	**Col San Antoni**	**2.52 122**⇑		*e*P			**Pb**	**20 17 33.5**	**-0.6**
HUMP	**Col San Antoni**	**2.52 122**		*e*S			**Sb**	**20 18 03.7**	**-1.9**
SDDR	**Presa de Saban**	**3.07 261**					**Pb**	**20 17 41.4**	**-2.2**
SDDR				IAML				20 18 31.1	
	comp=E,124nm,0.9s								
SDDR	**Presa de Saban**	**3.07 261**⇓		*e*Pg			**Pb**	**20 17 42.4**	**-1.2**
SDDR				IAML				20 18 33.6	
	comp=N,95nm,0.3s								
SDDR	**Presa de Saban**	**3.07 261**⇓		*e*P			**Pb**	**20 17 42.4**	**-1.2**
SDDR	**Presa de Saban**	**3.07 261**		*i* P				20 17 42.4	
SDDR				IAML				20 18 34.7	
	comp=Z,93nm,0.9s								
PODR	**Polo**	**3.31 247**		*i* P				20 17 45.8	
PODR				*e*S				20 18 26.8	
LONE3	**El Aguacate, B**	**3.31 255**		*i* P				20 17 45.8	
LONE3				IAML				20 18 32.7	
	comp=Z,41nm,1.0s								
GRTK	**Grand Turk**	**3.48 305**		*i* P				20 17 51.3	
LOVI	**El Cajuil, Ovi**	**3.55 242**		*i* P				20 17 46.7	
LOVI				*e*S				20 18 28.4	
LOVI				IAML				20 18 46.2	
	comp=Z,63nm,1.3s								
LOBH	**Bahia de las A**	**3.75 245**		*i* P				20 17 49.8	
LOBH				IAML				20 19 06.6	
	comp=Z,58nm,0.6s								

*NEIC **04** 20:31:26.2±1.1, 0°.48S±0°.04×98°.02E±0°.10, h10km±2km, mb4.1/2, Error ellipse: s-maj=17.8km s-min=5.4km az=250.0*
*IDC **04** 20:31:26.7±1.2, 0°.13S×97°.84E, h0km, mb3.9/11, mbtmp3.9/13, ML3.5/2, MS4.2/1, Error ellipse: s-maj=35.4km s-min=17.2km az=65.0*
*DJA **04** 20:31:28.1±0.3, 1°.S±2°.×9°.8E±°, h40km±30km, M4.1/15, mb4.2/7, MLv4.1/15*
ISC 04 20:31:28.5±0.7, 0°.37S±0°.04×98°.10E±0°.06, h27km, n49, σ1§42/41, mb4.1/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SISI	**Saibi**	**1.37 134**		P			**Pb**	**20 31 52.3**	**-1.2**
SISI				S			**Sb**	**20 32 10.5**	**-0.1**
GSI	**Gunungsitoli**	**1.75 342**		Pn			**Pb**	**20 31 57.1**	**-2.8**
GSI	**Gunungsitoli**	**1.75 342**		P			**Pb**	**20 31 57.1**	**-2.8**
MNSI	**Mandailing Nat**	**1.88 52**		P			**Pb**	**20 32 00.9**	**-1.2**
MNSI				S			**Sb**	**20 32 27.1**	**+1.9**
PPI	**Padang Panjang**	**2.30 92**		P			**Pn**	**20 32 05.0**	**+0.4**
BKNI	**Bangkinang**	**3.02 77**		Pn			**Pn**	**20 32 15.4**	**+0.9**
BKNI	**Bangkinang**	**3.02 77**		P			**Pn**	**20 32 15.8**	**+1.2**
BKNI				S			**Sb**	**20 32 54.8**	**-3.2**
PPSI	**Pulau Pagai**	**3.05 141**		P			**Pn**	**20 32 14.6**	**-0.3**
PPSI				S			**Sn**	**20 32 48.7**	**-1.8**
RPSI	**Rantau Prapat**	**3.15 15**					**Pn**	**20 32 17.5**	**+1.0**
RPSI							**Sn**	**20 32 54.4**	**+1.2**
RPSI	**Rantau Prapat**	**3.15 15**		Pn			**Pn**	**20 32 16.9**	**+0.5**
PSI	**Prapat**	**3.26 15**		Pn			**Pn**	**20 32 17.5**	**-0.5**
	2.2nm,0.3s,baz=234,slow=5.8,SNR=4.4								
PSI				Sn			**Sn**	**20 32 54.4**	**-1.5**
	1.1nm,0.3s,baz=179,slow=15,SNR=4.5 4.3nm,0.3s								
SNSI	**Sinabang, Aceh**	**3.28 327**		P			**Pn**	**20 32 18.8**	**+0.6**
SNSI				S			**Sn**	**20 32 55.4**	**-1.0**
IPM	**Ipoh**	**5.63 31**		Pn			**Pn**	**20 32 53.4**	**+2.8**
MYKOM	**Kota Tinggi**	**6.13 70**		Pn			**Pn**	**20 32 58.6**	**+1.2**
KULM	**Kulim**	**6.17 24**		Pn			**Pn**	**20 32 55.0**	**-2.9**
MNAI	**Manna**	**6.26 129**		Pn			**Pn**	**20 32 58.4**	**-0.8**
MNAI	**Manna**	**6.26 129**		P			**Pn**	**20 32 59.2**	**0.0**
BSI	**Banda Aceh**	**6.47 334**		P			**Pn**	**20 33 01.5**	**-0.5**
	0.1nm9.0nm,1.3s								
MDSI	**Maura Dua**	**7.32 124**		P			**Pn**	**20 33 14.6**	**+0.9**
	0.1nm16nm,0.7s								
MDSI				S			**Sn**	**20 34 37.6**	**+1.7**
	0.1nm16nm,0.7s								
CGJI	**Cibinong**	**9.79 129**		P			**Pn**	**20 33 46.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**18.73 2**		P			**Pn**	**20 35 46.3**	**+0.5**
	0.1nm,0.3s,baz=198,slow=11,SNR=7.1 0.7nm,0.7s								
H08S2	**Diego Garcia H**	**26.53 254**		T			T	21 04 39.7	
	baz=75,slow=75,SNR=604								
H08S3	**Diego Garcia H**	**26.54 254**		T			T	21 04 44.8	
	baz=75,slow=75,SNR=1144								
H08S1	**Diego Carcia H**	**26.55 254**		T			T	21 04 45.9	
	baz=75,slow

comp=Z,1.9nm,0.7s
ZALV Zalesovo Beam 55.24 350 P **P 20 40 59.8 +0.6**
comp=Z,1.2nm,0.5s,baz=168,slow=7.0,SNR=9.1
comp=Z,1.2nm,0.5s
KLR Kul'dur 57.26 26 P **P 20 41 14.3 +0.7**
comp=Z,2.6nm,0.9s,baz=264,slow=6.1,SNR=5.9
comp=Z,2.6nm,0.9s
ABKAR Akbulak array 59.31 332 P **P 20 41 28.1 +0.1**
H04N2 CROZET ISLANDS 61.00 215 T T 21 47 45.3
baz=55,slow=75,SNR=599
H04N1 CROZET ISLANDS 61.01 215 T T 21 47 46.5
baz=55,slow=75,SNR=601
H04N3 CROZET ISLANDS 61.02 215 T T 21 47 45.2
baz=55,slow=75,SNR=605
H04S1 CROZET ISLANDS 61.32 214 T T 21 48 03.8
baz=54,slow=75,SNR=61
H04S3 CROZET ISLANDS 61.33 214 T T 21 48 09.4
baz=54,slow=75,SNR=63
H04S2 CROZET ISLANDS 61.34 214 T T 21 48 10.6
baz=54,slow=75,SNR=46
KBZ Khabaz 65.84 319 P **P 20 42 11.2 -0.4**
comp=Z,0.7nm,0.7s,baz=134,slow=9.5,SNR=3.7
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 144.49 34 PKP **PKPdf 20 51 03.5 +0.2**
comp=Z,0.4nm,0.8s,baz=276,slow=1.1,SNR=3.5

*IDC **04** 20:38:58.9±6.7, 52°.68N×172°.33W, h90km±54km, mb3.3/5, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=58.1km s-min=23.5km az=2.0*
*NEIC **04** 20:39:04.0±1.6, 52°.7N±0°.2×172°.2W±0°.2, h107km±21km, mb3.7/13, ML3.3(AEIC), Error ellipse: s-maj=36.1km s-min=11.2km az=158.0*
*AEIC **04** 20:39:05.5±1.9, 52°.7N±0°.2×172°.2W±0°.2, h112km±9km, Error ellipse: s-maj=29.6km s-min=6.2km az=151.0*
ISC 04 20:39:00.6±1.0, 52°.5N±0°.1×171°.98W±0°.08, h100km, n48, σ1=92/41, mb3.5/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.39**	**259**	Pn	**Pn**	**20 39 28.5**	**+3.0**
ADK	**Adak**	**2.96**	**260**	Pn	**Pn**	**20 39 47.9**	**+2.2**
UNV	**Unalaska Valle**	**3.56**	**66**	Pn	**Pn**	**20 39 57.2**	**+3.5**
LVA	**Lava Point**	**3.93**	**63**	Pn	**Pn**	**20 40 02.8**	**+4.1**
M14K	**Bethel**	**9.93**	**30**	Pn	**Pn**	**20 41 20.3**	**+0.3**
L14K	**Kuka Creek**	**10.20**	**26**	Pn	**Pn**	**20 41 24.8**	**+1.0**
K15K	**Wolf Creek Mou**	**11.30**	**26**	Pn	**Pn**	**20 41 41.6**	**+2.9**
N17K	**Nushagak Hills**	**11.44**	**40**	Pn	**Pn**	**20 41 43.6**	**+3.1**
L16K	**Owhat River**	**11.44**	**31**	Pn	**Pn**	**20 41 42.8**	**+2.3**
OHAK	**Old Harbor**	**11.75**	**59**	Pn	**Pn**	**20 41 44.5**	**-0.1**
Q19K	**Cape Douglas,**	**12.15**	**51**	Pn	**Pn**	**20 41 51.1**	**+1.1**
KDAK	**Kodiak Island**	**12.27**	**57**	Pn	Pn	20 41 49.7	-1.9
KDAK	**Kodiak Island**	**12.27**	**57**	P	Pn	20 41 50.1	-1.5
	0.6nm,0.3s,baz=312,slow=16,SNR=16						
KDAK				S	**Sn**	**20 44 03.9**	**-2.4**
	2.6nm,0.7s,baz=264,slow=20,SNR=1.2						
	1.5nm,0.3s						
K17K	**Iditarod**	**12.56**	**30**	Pn	**Pn**	**20 41 57.4**	**+2.0**
SYI	**Shuyak Island**	**12.64**	**53**	Pn	**Pn**	**20 41 55.2**	**-1.2**
N19K	**Bonanza Creek**	**12.69**	**42**	Pn	**Pn**	**20 41 59.3**	**+2.2**
J17K	**VABM Dome**	**12.86**	**27**	Pn	**Pn**	**20 42 02.1**	**+2.9**
CNPM	**China Poot**	**13.53**	**51**	Pn	**Pn**	**20 42 07.3**	**-0.8**
J18K	**Innoko River**	**13.60**	**30**	Pn	**Pn**	**20 42 10.3**	**+1.3**
BRLK	**Bradley Lake**	**13.78**	**50**	Pn	**Pn**	**20 42 12.3**	**+0.9**
G16K	**Koyuk River**	**13.82**	**17**	Pn	**Pn**	**20 42 12.9**	**+1.0**
G18K	**Tagagawik**	**15.01**	**21**		**P**	**20 42 30.1**	**0.0**
E19K	**Redstone River**	**16.64**	**20**	P	**P**	**20 42 50.1**	**+2.0**
G21K	**Allakaket**	**16.78**	**26**		**P**	**20 42 51.8**	**+2.1**
G21K				IAmb	IAmb	20 42 52.6	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**17.77**	**37**	P	**P**	**20 43 00.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=240,slow=8.8,SNR=24						
	comp=Z,0.3nm,0.4s						
E21K	**Killik River**	**18.15**	**22**	P	**Pn**	**20 43 06.8**	**+1.1**
J25K	**Salcha River,**	**18.25**	**38**	P	**P**	**20 43 06.2**	**+0.3**
M26K	**Nabesna, AK**	**18.31**	**46**	P	**P**	**20 43 06.9**	**+0.4**
BILL	**Bilibino**	**18.77**	**334**	P	**P**	**20 43 11.0**	**-0.5**
J26L	**Joseph Creek**	**18.89**	**40**	P	**P**	**20 43 13.5**	**+0.6**
TOLK	**Toolik Lake Re**	**19.37**	**25**	P	**P**	**20 43 20.5**	**+2.5**
TOLK				IAmb	IAmb	20 43 24.1	
	comp=Z,5.2nm,0.8s						
I26K	**Coal Creek Min**	**19.41**	**38**	P	**P**	**20 43 18.8**	**+0.4**
C23K	**Itkillik River**	**20.00**	**22**	P	**P**	**20 43 26.3**	**+1.5**
SEY	**Seymchan**	**21.41**	**313**	P	**P**	**20 43 36.4**	**-3.5**
	comp=Z,0.8nm,0.8s,baz=115,slow=12,SNR=6.3						
	comp=Z,0.8nm,0.8s						
F28M	**Old Crow**	**21.66**	**33**	P	**P**	**20 43 42.9**	**+0.2**
F28M				IAmb	IAmb	20 43 46.2	
	comp=Z,1.8nm,0.8s						
G29M	**Pine Creek**	**22.00**	**36**	P	**P**	**20 43 46.6**	**+0.5**
G29M				IAmb	IAmb	20 44 15.2	
	comp=Z,3.9nm,1.1s						
INK	**Inuvik**	**24.13**	**34**	P	**P**	**20 44 06.7**	**+0.1**
INK				IAmb	IAmb	20 44 08.5	
	comp=Z,3.6nm,0.9s						
YKA	**Yellowknife Ar**	**31.36**	**49**	P	**P**	**20 45 09.7**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=278,slow=9.0,SNR=1.8						
	comp=Z,0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.61**	**215**	T	T	21 24 27.7	
	baz=21						
H11N3	**WAKE ISLAND Hy**	**36.61**	**215**	T	T	21 24 34.1	
	baz=21						
H11N1	**WAKE ISLAND Hy**	**36.62**	**215**	T	T	21 24 29.0	
	baz=21						
H11S1	**WAKE ISLAND Hy**	**37.81**	**214**	T	T	21 25 53.7	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**37.82**	**214**	T	T	21 26 01.4	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**37.82**	**214**	T	T	21 26 07.5	
	baz=24						
PDAR	**Pinedale Array**	**41.94**	**78**	P	**P**	**20 46 42.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=318,slow=4.0,SNR=5.0						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**67.63**	**357**	P	**P**	**20 49 44.3**	**-1.8**
	comp=Z,4.7nm,1.0s,baz=18,slow=5.0,SNR=5.3						
	comp=Z,4.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**75.03**	**281**	P	**P**	**20 50 28.9**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=37,slow=7.3,SNR=5.8						
	comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**152.92**	**325**	PKPbc	**PKPbc**	**20 58 45.7**	**-0.2**
	comp=Z,3.0nm,1.1s,baz=0.0,slow=6.1,SNR=2.0						

DJA 04 20:54:39.7±1.1, 2°.N±4°.×12°.2E±°, h28km±10km, M4.0/7, mB5.1/1, mb4.1/2, MLv4.0/7, Mw(mB)4.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.34**	**188**	P	Pn	20 54 59.8	-2.7
KMSI	**Cibinong**	**2.23**	**123**	P	Pn	20 55 15.3	+0.5
KMSI				S	Sn	20 55 41.7	+0.3
LUWI	**Luwuk**	**2.91**	**167**	P	Pn	20 55 24.3	+0.2
LUWI				S	Sn	20 55 59.3	+1.1
PCI	**Palu**	**3.53**	**220**	P	Pn	20 55 33.4	+0.6
PCI				S	Sn	20 56 14.4	+0.7
TTSI	**Tana Toraja**	**5.34**	**206**	P	Pn	20 55 58.7	+1.0
	0.1nm2μm19nm,0.8s						
TTSI				S	Sn	20 56 59.6	+1.3
	0.1nm2μm19nm,0.8s						
KDI	**Kendari**	**5.75**	**175**	P	Pn	20 56 03.3	0.0

*IDC **04** 21:02:07.2±2.2, 43°.45N×105°.24W, h0km, mb4.0/3, mbtmp3.8/6, ML3.6/3, Error ellipse: s-maj=60.7km s-min=8.7km az=148.0*
*NEIC **04** 21:02:08.5±1.0, 43°.77N±0°.05×105°.32W±0°.08, h0km±1km, ML3.3/64, Error ellipse: s-maj=10.4km s-min=9.3km az=81.0*
ISC 04 21:02:09.1±0.8, 43°.78N±0°.06×105°.28W±0°.06, h0km, n58, σ0=90/59, mb4.4/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**69**	Pg	**Pb**	**21 02 28.8**	**0.0**
K22A	**Casper**	**1.45**	**219**	Pg	**Pn**	**21 02 34.9**	**-1.8**
K22A				IAML		21 02 57.0	
	comp=E,528nm,0.4s						
N23A	**Red Feather La**	**2.92**	**190**	Pn	**Pn**	**21 02 57.4**	**+0.4**
N23A				IAML		21 03 39.7	
	comp=N,96nm,0.3s						
N23A				IAML		21 03 41.0	
	comp=E,82nm,0.4s						
LAO	**LASA Array**	**2.99**	**347**	Pn	**Pn**	**21 02 59.1**	**+1.3**
RLMT	**Red Lodge**	**3.16**	**297**	Pn	**Pn**	**21 03 00.9**	**+0.6**
RLMT				IAML		21 03 49.5	
	comp=E,76nm,0.3s						
RLMT				IAML		21 04 01.4	
	comp=E,75nm,0.4s						
PD31	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**21 03 02.7**	**+0.7**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**21 03 02.4**	**+0.4**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**21 03 02.7**	**+0.7**
	comp=E,6.8nm,0.3s,baz=84,slow=14,SNR=31						
PDAR				Sn	**Sn**	**21 03 43.0**	**+1.1**
	comp=E,6.1nm,0.3s,baz=81,slow=19,SNR=5.3						
	comp=E,10nm,0.3s						
YNE	**Yellowstone No**	**3.61**	**292**	Pn	**Pn**	**21 03 06.3**	**-0.2**
YMP	**Mirror Lake PI**	**3.64**	**287**	Pn	**Pn**	**21 03 08.4**	**+1.5**
OGNE	**Ogallala**	**3.71**	**139**	Pn	**Pn**	**21 03 08.9**	**+1.1**
GCMT	**Greycliff**	**3.72**	**304**	Pn	**Pn**	**21 03 08.6**	**+0.7**
LOHW	**Long Hollow**	**3.87**	**269**	Pn	**Pn**	**21 03 10.7**	**+0.7**
H17A	**Grant Village**	**3.87**	**281**	Pn	**Pn**	**21 03 10.4**	**+0.3**
H17A				IAML		21 04 12.6	
	comp=E,40nm,0.4s						
H17A				IAML		21 04 21.9	
	comp=N,27nm,0.9s						
FLWY	**Flagg Ranch**	**3.93**	**276**	Pn	**Pn**	**21 03 11.4**	**+0.6**
FLWY				IAML		21 04 30.3	
	comp=N,35nm,1.2s						
MOOW	**Moose Ponds**	**3.96**	**271**	Pn	**Pn**	**21 03 12.8**	**+1.5**
ISCO	**Idaho Springs**	**3.98**	**184**	Pn	**Pn**	**21 03 12.2**	**+0.6**
SNOW	**Snow King Moun**	**3.99**	**267**	Pn	**Pn**	**21 03 12.4**	**+0.7**
SNOW				IAML		21 04 28.9	
	comp=N,36nm,0.9s						
SNOW				IAML		21 04 52.2	
	comp=N,37nm,2.4s						
YNR	**Norris Junctio**	**4.00**	**285**	Pn	**Pn**	**21 03 12.8**	**+1.1**
TPAW	**Teton Pass**	**4.13**	**268**	Pn	**Pn**	**21 03 13.1**	**-0.6**
TPAW				IAML		21 04 38.8	
	comp=N,22nm,0.8s						
TPAW				IAML		21 04 52.3	
	comp=N,34nm,1.0s						
FXWY	**Fox Creek**	**4.17**	**270**	Pn	**Pn**	**21 03 14.6**	**+0.3**
YMR	**Madison River**	**4.19**	**284**	Pn	**Pn**	**21 03 15.6**	**+1.2**
YMR				IAML		21 04 40.6	
	comp=E,41nm,1.1s						
YMR				IAML		21 04 41.7	
	comp=N,42nm,1.1s						
O20A	**White River Ci**	**4.26**	**212**	Pn	**Pn**	**21 03 16.2**	**+0.8**
O20A				IAML		21 04 45.7	
	comp=E,42nm,1.1s						
E28A	**Huff**	**4.28**	**48**	Pn	**Pn**	**21 03 17.4**	**+1.9**
K30B	**Basset**	**4.28**	**103**	Pn	**Pn**	**21 03 16.8**	**+1.2**
YHL	**Hebgen Lake**	**4.37**	**286**	Pn	**Pn**	**21 03 17.9**	**+0.9**
YHL				IAML		21 04 35.4	
	comp=E,34nm,1.0s						
YHL				IAML		21 04 37.3	
	comp=N,25nm,1.0s						
DGMT	**Dagmar**	**4.75**	**9**	Pn	**Pn**	**21 03 22.6**	**+0.6**
BOZ	**Bozeman (W)**	**4.88**	**294**	Pn	**Pn**	**21 03 24.1**	**+0.2**
BOZ				IAML		21 04 47.0	
	comp=N,14nm,0.9s						
BOZ				IAML		21 04 47.1	
	comp=N,14nm,0.7s						
HWUT	**Hardware Ranch**	**5.12**	**247**	Pn	**Pn**	**21 03 26.6**	**-0.5**
HWUT				IAML		21 04 49.1	
	comp=N,21nm,1.0s						
BSUT	**Blindstream Ca**	**5.21**	**233**	Pn	**Pn**	**21 03 28.6**	**+0.1**
BSUT				IAML		21 05 03.0	
	comp=E,15nm,2.7s						
BSUT				IAML		21 05 06.4	
	comp=N,12nm,2.2s						
TCUT	**Toone Canyon**	**5.26**	**242**	Pn	**Pn**	**21 03 28.2**	**-0.9**
EGMT	**Eagleton**	**5.27**	**325**	Pn	**Pn**	**21 03 30.3**	**+1.1**
HRY	**Holter Researc**	**5.48**	**305**	Pn	**Pn**	**21 03 33.2**	**+1.1**
LRM	**Limekiln Ridge**	**5.50**	**294**	Pn	**Pn**	**21 03 32.3**	**-0.2**
MCMT	**McKenzie Canyo**	**5.54**	**284**	Pn	**Pn**	**21 03 32.6**	**-0.3**
P18A	**Preston Nutter**	**5.57**	**224**	Pn	**Pn**	**21 03 33.1**	**-0.4**
CTU	**Camp Tracy**	**5.71**	**240**	Pn	**Pn**	**21 03 35.0**	**-0.3**
SPUT	**South Promonto**	**5.84**	**247**	Pn	**Pn**	**21 03 37.0**	**-0.1**
HVU	**Hansel Valley**	**5.87**	**253**	Pn	**Pn**	**21 03 36.1**	**-1.4**
PV22	**Blue Mesa, Par**	**5.87**	**208**	Pn	**Pn**	**21 03 37.7**	**+0.2**
LYMT	**Lyon Mountain**	**5.88**	**305**	Pn	**Pn**	**21 03 38.2**	**+0.5**
PV07	**Paradox Valley**	**5.91**	**207**	Pn	**Pn**	**21 03 39.1**	**+1.0**
PV15	**Paradox Valley**	**5.95**	**205**	Pn	**Pn**	**21 03 37.0**	**-1.6**
PV10	**Paradox Valley**	**6.10**	**209**	Pn	**Pn**	**21 03 41.8**	**+1.1**
SRU	**San Rafael Swe**	**6.11**	**222**	Pn	**Pn**	**21 03 40.6**	**-0.1**
PV11	**David Mesa, Pa**	**6.11**	**208**	Pn	**Pn**	**21 03 40.0**	**-0.8**
ECSD	**EROS Data Cent**	**6.27**	**87**	Pn	**Pn**	**21 03 44.3**	**+1.4**
TMUT	**Trail Mountain**	**6.31**	**227**	Pn	**Pn**	**21 03 43.7**	**+0.1**
CBKS	**Cedar Bluff**	**6.48**	**138**	Pn	**Pn**	**21 03 46.2**	**+0.5**
Q16A	**Castle Valley**	**6.58**	**224**	Pn	**Pn**	**21 03 47.4**	**+0.2**
DUG	**Dugway, Tooele**	**6.66**	**240**	Pn	**Pn**	**21 03 48.8**	**+0.6**
MSO	**Missoula**	**6.83**	**300**	Pn	**Pn**	**21 03 51.4**	**+0.9**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**21 04 06.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=65,slow=17,SNR=2.7						
	comp=N,0.5nm,0.3s						
I10CA	**LAC DU BONNET**	**9.01**	**41**	I	I	21 55 10.0	
	baz=225,slow=347,SNR=0.8						
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**21 04 20.2**	**-1.6**
	comp=N,1.8nm,0.3s,baz=224,slow=11,SNR=12						
ULM				Sn	**Sn**	**21 06 03.4**	**-1.6**
	comp=N,0.4nm,0.3s,baz=225,slow=20,SNR=3.4						
ULM				Lg	Lg	21 06 54.6	
	comp=N,0.3nm,0.3s,baz=168,slow=20,SNR=2.9						
	comp=N,2.6nm,0.3s						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**21 12 25.8**	**-0.5**
	comp=N,3.0nm,0.8s,baz=334,slow=8.0,SNR=4.6						
	comp=N,3.0nm,0.8s						
FINES	**FINESS Array B**	**68.00**	**23**	P	**P**	**21 13 09.9**	**+0.4**
	comp=N,2.9nm,1.1s,baz=328,slow=4.9,SNR=3.7						
	comp=N,2.9nm,1.1s						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**21 15 08.2**	**-0.1**
	comp=N,0.2nm,0.8s,baz=8.0,slow=3.8,SNR=2.5						
	comp=N,0.2nm,0.8s						

*SGS **04** 21:02:55.8, 27°.06N×34°.77E, h6km, Ml1.8*
*HLW **04** 21:02:55.8, 26°.86N×34°.62E, h25km±5km, Md2.9, Ml2.8*
ISC 04 21:02:50.9±0.9, 26°.87N±0°.03×34°.79E±0°.03, h12km, n32, σ1=11/34, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSFG	**Safaga**	**0.77**	**262**	P	**Pn**	**21 03 08.6**	**+1.1**
NSFG				S	**Sb**	**21 03 16.9**	**+0.3**
MWLHS	**Almuwaylih**	**1.08**	**36**	S	**Sn**	**21 03 26.3**	**-0.6**
MWLHS				P	**Pn**	**21 03 13.4**	**+1.5**
HHRG	**Al Ghardaqah**	**1.15**	**288**	P	**Pb**	**21 03 12.6**	**0.0**
KRABS	**KRABS**	**1.29**	**18**	S	**Sb**	**21 03 29.9**	**-1.8**
KRABS	**KRABS**	**1.29**	**18**	P	**Pg**	**21 03 16.1**	**+0.3**
TR1	**Tor 1**	**1.36**	**327**	P	**Pg**	**21 03 16.8**	**-0.1**
RSHS		**1.42**	**0**	P	**Pb**	**21 03 17.6**	**+0.2**
RSHS		**1.42**	**0**	S	**Sn**	**21 03 32.5**	**-2.8**
WJHS		**1.44**	**95**	P	**Pg**	**21 03 19.4**	**+0.9**
NADB	**Abo Dabab**	**1.55**	**190**	P	**Pg**	**21 03 20.6**	**0.0**
WTBKS	**WTBKS**	**1.57**	**39**	P	**Pg**	**21 03 21.3**	**+0.3**
BDAS	**Al Bad'**	**1.58**	**10**	P	**Pb**	**21 03 20.4**	**+0.4**
TAYS	**Tayyib Ism**	**1.68**	**2**	P	**Pb**	**21 03 21.2**	**-0.5**
HKAT	**Jabal Katrina**	**1.79**	**337**	P	**Pb**	**21 03 23.8**	**+0.1**
URD07	**Al Anba**	**1.80**	**63**	P	**Pg**	**21 03 25.3**	**-0.2**
URD06	**Shuwaq**	**1.85**	**71**	P	**Pg**	**21 03 26.1**	**-0.2**
BIDS	**Bi'r al Bayda'**	**1.93**	**90**	P	**Pg**	**21 03 27.1**	**-0.8**
TBKS	**Tabuk**	**2.05**	**49**	P	**Pg**	**21 03 29.0**	**+0.9**
HAQS	**Haql**	**2.17**	**3**	P	**Pb**	**21 03 28.7**	**-1.5**
URD12	**Shuwaq**	**2.20**	**66**	P	**Pb**	**21 03 31.1**	**+0.4**
URD04	**Abu Rakah**	**2.21**	**84**	P	**Pb**	**21 03 31.4**	**+0.5**
GRB	**Gharib**	**2.26**	**309**	P	**Pb**	**21 03 30.1**	**-1.6**
URD03	**Al Ula**	**2.38**	**94**	P	**Pb**	**21 03 33.8**	**0.0**
URD15	**Abu Rakah**	**2.40**	**80**	P	**Pb**	**21 03 34.1**	**-0.1**
URD10	**Hayder**	**2.42**	**57**	P	**Pb**	**21 03 33.5**	**-0.9**
HAGS	**Hagol**	**2.49**	**176**	P	**Pb**	**21 03 34.3**	**-1.2**
URD01	**URD01**	**2.56**	**88**	P	**Pb**	**21 03 36.9**	**+0.1**
NEDF	**New Edfo**	**2.58**	**220**	P	**Pn**	**21 03 33.7**	**+1.2**
OLAS	**OLAS**	**2.62**	**103**	P	**Pb**	**21 03 37.1**	**-0.6**
URD14	**Abu Rakah**	**2.69**	**77**	P	**Pb**	**21 03 38.2**	**-0.8**
URD02	**Al Ula**	**2.75**	**95**	P	**Pb**	**21 03 39.5**	**-0.6**
NBNS	**Bani Suef**	**3.56**	**300**	P	**Pn**	**21 03 49.0**	**+3.1**

*IDC **04** 21:06:18.4±0.4, 44°.61N×28°.31W, h0km, mb4.3/32, mbtmp4.3/34, ML4.0/2, MS4.2/57, Error ellipse: s-maj=12.7km s-min=10.7km az=170.0*
*BJI **04** 21:06:18.3, 44°.68N×28°.56W, h13km, mB5.3/10, mb4.9/39, Ms4.8/8, Ms7 4.6/7*
*NEIC **04** 21:06:20.6±1.3, 44°.64N±0°.09×28°.2W±0°.1, h10km±1km, mb4.9/240, Error ellipse: s-maj=15.0km s-min=13.7km az=20.0*
*GCMT **04** 21:06:21.5±0.2, 44°.57N±0°.02×28°.10W±0°.02, h12km, MW5.0/122, Moment Tensor Solution. s42,c49; s122,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.56±.08; $M_{\theta\theta}$0.47±.10; $M_{\phi\phi}$3.09±.07; $M_{r\theta}$0.50±.39; $M_{\theta\phi}$0.51±.07; $M_{r\phi}$-0.97±.29; Best double couple: M_o3.53500×10^{16} NP1:ϕ_s199.00000°, δ38.00000°, λ-76.00000°. NP2:ϕ_s1.00000°, δ53.00000°, λ-101.00000°. Principal axes: T 3.2960, Plg7.0000°, Azm99.0000°; N 0.4780, Plg9.0000°, Azm8.0000°; P -3.7750, Plg79.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **04** 21:06:23.0±6.0, 44°.41N×28°.64W, h26km±10km, mb4.8, Ms4.0 Error ellipse: s-maj=22.2km s-min=12.1km az=81.0, #DIST_RANGE: DISTANT*
*BGR **04** 21:06:35.5, 45°.62N×26°.83W, h33km, mb4.5*
*DNK **04** 21:06:39.7±3.7, 46°.85N×27°.50W, h10km, mb4.8*
ISC 04 21:06:19.9±3.0, 44°.66N±0°.05×28°.23W±0°.04, h8km±19km, n693, σ0=88/575, mb4.9/198, MS4.3/78, 14C-26D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**7.18**	**163**	Pn	**Pn**	**21 08 06.3**	**+1.1**
PMOZ	**Porto Moniz, M**	**14.60**	**140**	Pn	**Pn**	**21 09 44.5**	**-2.3**
PMOZ	**Porto Moniz, M**	**14.60**	**140**	*eP*	**Pn**	**21 09 48.2**	**+1.3**
PMOZ				*eS*	**Sn**	**21 12 32.0**	**+3.1**
PMOZ				*i* AMs_20		21 14 09.3	
	879nm,20.0s						
PMOZ				*eT*	T	21 24 04.8	
PGAV	**Gavieira, Arco**	**14.78**	**93**	*eT*	T	21 23 41.5	
PMPST	**Porto Santo, M**	**14.80**	**137**	*eT*	T	21 24 23.3	
PMAR	**Madeira**	**14.81**	**140**	*eP*	**Pn**	**21 09 48.5**	**-1.3**
PMAR				*eT*	T	21 24 15.4	
PMPS	**Porto Santo**	**14.81**	**137**	*eT*	T	21 23 59.5	
PCAB	**Cabril**	**15.03**	**94**	*eT*	T	21 23 50.8	
PMAFR	**Mafra**	**15.22**	**105**	*eT*	T	21 24 32.9	
COI	**Coimbra**	**15.29**	**100**	*eT*	T	21 24 16.8	
PCAS	**Casmilo, Conde**	**15.29**	**101**	*eT*	T	21 24 18.8	
POLO	**Lamas de Olo**	**15.30**	**95**	*eT*	T	21 24 08.4	
PSBE	**So Bento**	**15.31**	**103**	*eT*	T	21 24 32.8	
PVRL	**Vila Real**	**15.39**	**96**	*eT*	T	21 24 23.6	
PVIS	**Viseu**	**15.46**	**98**	*eP*	**P**	**21 10 03.6**	**+0.7**
PVIS				*eT*	T	21 24 23.2	
MTE	**Manteigas**	**15.82**	**98**	Pn	**Pn**	**21 10 02.9**	**-0.1**
MTE	**Manteigas**	**15.82**	**98**	*eP*	**P**	**21 10 07.5**	**+0.6**
MTE				*i* Amb		21 10 09.1	
	36nm,2.0s						
MTE				*eS*	S	21 13 24.4	+11
MTE				*i* AMs_20		21 15 06.1	
	858nm,18.0s						
MTE				*eT*	T	21 24 37.5	
PMTG	**Montargil**	**15.90**	**104**	*eP*	**P**	**21 10 08.9**	**+1.2**
PMTG				*i* Amb		21 10 18.8	
	49nm,1.3s						
PMTG				*eT*	T	21 24 41.5	
MVO	**Moncorvo**	**15.91**	**95**	*eP*	**P**	**21 10 08.9**	**+1.0**
MVO				*i* Amb		21 10 17.8	
	31nm,1.6s						
MVO				*eS*	S	21 13 26.8	+12
MVO				*i* AMs_20		21 15 00.3	
	1μm,20.0s						
MVO				*eT*	T	21 24 35.7	
PBRG	**Braganca**	**15.91**	**93**	*eP*	**P**	**21 10 09.6**	**+1.7**
PBRG				*eT*	T	21 24 34.6	
PCBR	**Castelo Branco**	**16.09**	**100**	*eP*	**P**	**21 10 10.9**	**+1.1**
PCBR				*i* Amb		21 10 17.4	
	33nm,1.4s						
PCBR				*eT*	T	21 24 43.9	
EVO	**Evora**	**16.30**	**105**	*eP*	**P**	**21 10 16.4**	**+4.3**
EVO				*eT*	T	21 25 05.3	
EVO	**Evora**	**16.30**	**105**	P	**P**	**21 10 15.1**	**+3.0**
PTEO	**Sao Teotonio**	**16.31**	**109**	*eP*	**P**	**21 10 13.2**	**+1.0**
PTEO				*i* Amb		21 10 22.0	
	54nm,2.3s						
PTEO				*eT*	T	21 25 17.5	
PMRV	**Marv??o**	**16.32**	**101**	*eP*	**P**	**21 10 13.2**	**+0.8**
PMRV				*eS*	S	21 13 48.6	+25
PMRV				*i* AMs_20		21 15 20.8	
	1μm,20.0s						
PMRV				*eT*	T	21 24 45.8	
PESTR	**Estremoz**	**16.43**	**103**	*eP*	**P**	**21 10 14.2**	**+0.6**
PESTR				*eT*	T	21 24 56.0	
PESTR	**Estremoz**	**16.43**	**103**	P	**Pn**	**21 10 08.1**	**-2.8**
PFVI	**Vila Bisbo**	**16.46**	**110**	*eP*	**P**	**21 10 16.4**	**+2.5**
PFVI				*eT*	T	21 25 55.7	
MORF	**Marmelete**	**16.48**	**110**	Pn	**Pn**	**21 10 08.0**	**-3.6**
MORF	**Marmelete**	**16.48**	**110**	*eT*	T	21 26 02.6	
MESJ	**Messejana**	**16.50**	**107

SSB Saint Sauveur 23.11 77 P **P 21 11 27.8 +1.6**
RCHB Rochefort 23.18 64 *d*P **P 21 11 27.8 +1.0**
BCLA Clavier 23.23 64 *d*P **P 21 11 28.9 +1.5**
comp=Z,26nm,1.0s
BCLA *d*PP **PnPn 21 11 51.4 -1.2**
BSTI Sart Tilman 23.40 63 *d*P **P 21 11 29.9 +0.8**
MEM Membach 23.68 63 *d*P **P 21 11 32.5 +0.7**
comp=Z,15nm,1.0s
BTNL Ternell 23.76 63 *d*P **P 21 11 33.4 +0.8**
WLF Walferdange 23.77 66 P **P 21 11 29.8 -2.9**
WLF Walferdange 23.77 66 *d*P **P 21 11 33.5 +0.8**
ECH Echery 24.51 69 P **P 21 11 39.6 -0.1**
ECH IAmb IAmb 21 11 47.5
comp=Z,41nm,1.2s
BNI Bardonecchia 24.64 77 P **P 21 11 40.5 -0.5**
BNI IAmb IAmb 21 11 49.6
comp=Z,39nm,1.4s
SENIN Lac Senin/Sane 24.83 73 P **P 21 11 43.4 +0.6**
ICESG Greenland Ices 25.19 350 *i* P **P 21 11 45.3 -0.6**
ICESG IAmb IAmb 21 11 48.8
comp=Z,94nm,1.3s
BFO Black Forest 25.28 69 P **P 21 11 47.5 +0.9**
BFO IAmb IAmb 21 11 53.8
comp=Z,73nm,1.9s
SFJD Kangerlussuaq 25.39 340 LR LR 21 19 40.6
comp=Z,683nm,18.3s,baz=156,slow=32
SFJD Kangerlussuaq 25.39 340 *i* P **P 21 11 51.8 +4.5**
SFJD IAmb IAmb 21 11 54.9
comp=Z,11nm,0.7s
LMN Caledonia Moun 25.64 286 P **P 21 11 48.7 -1.1**
LMN IAmb IAmb 21 11 56.7
comp=Z,26nm,1.0s
SCO Scoresbysund 26.09 5 P **P 21 11 54.3 +0.7**
SCO IAmb IAmb 21 12 11.5
comp=Z,40nm,1.7s
SCO Scoresbysund 26.09 5 *i* P **P 21 11 55.1 +1.4**
SCO IAmb IAmb 21 12 00.9
comp=Z,76nm,2.3s
TUE Stuetta 26.21 73 P **P 21 11 54.5 -0.8**
TUE Stuetta 26.21 73 P **P 21 11 55.7 +0.4**
comp=Z,47nm,1.1s
BATG Bathurst New B 26.26 289 P **P 21 11 54.9 -0.5**
BATG IAmb IAmb 21 11 59.8
comp=Z,24nm,0.9s
DAVA Damuels 26.45 71 *e*pP pP 21 11 59.2 +0.4
comp=Z,14nm,1.4s
DAVOX Davos/Dischmat 26.52 72 LR LR 21 21 20.9
comp=Z,689nm,19.0s,baz=292,slow=34
SCHQ Schefferville 26.62 306 P **P 21 11 58.5 -0.2**
SCHQ Schefferville 26.62 306 P **P 21 11 57.9 -0.8**
comp=Z,8.6nm,0.9s,baz=92,slow=5.2,SNR=13
SCHQ LR LR 21 20 35.6
comp=Z,944nm,20.5s,baz=132,slow=32
comp=Z,8.6nm,0.9s
RETA Reutte 27.01 70 *e*P **P 21 12 02.1 -0.2**
comp=Z,9.7nm,1.6s
FETA Feichten 27.06 71 *i* P **P 21 12 04.4 +1.6**
comp=Z,12nm,1.3s
GRF Grafenberg Arr 27.06 65 *e*P **P 21 12 02.8 +0.1**
comp=Z,19nm,1.4s,baz=274,slow=8.6
MOTA Moosalm 27.26 70 *i* P **P 21 12 06.2 +1.5**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 27.35 70 *i* P **P 21 12 06.6 +1.2**
comp=Z,9.3nm,1.1s
WATA Walderalm 27.58 70 *e*P **P 21 12 08.9 +1.4**
comp=Z,20nm,1.7s
WTTA Wattenberg 27.63 70 *e*P **P 21 12 08.6 +0.6**
comp=Z,19nm,1.2s
NKC Novy Kostel 27.81 64 AMS AMS 21 22 30.0
comp=Z,800nm,18.1s
CTI Castel Tesino 27.86 73 P **P 21 12 10.0 0.0**
CLL Collm 28.09 61 P **P 21 12 12.8 +0.9**
CLL Collm 28.09 61 *i* P **P 21 12 12.5 +0.6**
comp=Z,10.0nm,0.9s
CLL *i* x x 21 12 17.4
CLL AMS AMS 21 21 00.0
comp=Z,500nm,21.4s
CLL AMS AMS 21 22 00.0
comp=N,500nm,18.1s
CLL AMS AMS 21 22 00.0
comp=E,400nm,18.0s
D62A Allapoint, All 28.30 290 P **P 21 12 14.7 +1.0**
LESA Schwarzleotal 28.30 70 *e*P **P 21 12 14.7 +0.8**
comp=E,7.7nm,1.0s
ABTA Abfaltersbach 28.31 71 *i* P **P 21 12 15.2 +1.2**
comp=E,6.8nm,1.0s
NOA NORSAR Array B 28.34 41 P **P 21 12 12.8 -1.3**
comp=E,1.4nm,1.0s,baz=253,slow=9.7,SNR=3.0
NOA LR LR 21 22 41.0
comp=E,153nm,18.4s,baz=260,slow=35
comp=E,1.4nm,1.0s
HSKC Hora Svate Kat 28.41 63 AMS AMS 21 22 20.0
comp=E,700nm,19.2s
SUMG Summit 28.42 354 P **P 21 12 14.9 -0.1**
SUMG IAmb IAmb 21 12 17.0
comp=Z,24nm,1.5s
SUMG Summit 28.42 354 *i* P **P 21 12 14.2 -0.8**
SUMG IAmb IAmb 21 12 16.5
comp=Z,11nm,1.1s
KHC Kasperske Hory 28.65 66 *e*P **P 21 12 17.9 +1.0**
KHC AMS AMS 21 22 10.0
comp=Z,600nm,19.6s
KHC Kasperske Hory 28.65 66 P **P 21 12 16.6 -0.3**
comp=Z,6.9nm,1.2s
BRG Berggiesshubel 28.71 62 *e*P **P 21 12 18.5 +1.1**
BRG Amp 21 12 24.4
comp=Z,6.2nm,1.0s
GERES GERESS Array B 28.77 67 P **P 21 12 17.8 -0.3**
GERES GERESS Array B 28.77 67 P **P 21 12 17.6 -0.4**
comp=Z,2.0nm,0.9s,baz=258,slow=6.7,SNR=7.8
GERES LR LR 21 22 43.3
comp=Z,476nm,20.0s,baz=276,slow=34
comp=Z,2.0nm,0.9s
KBA Koelnbreinsper 28.81 70 *i* pP pP 21 12 20.8 +0.8
comp=Z,15nm,1.3s
RICC Richard 28.84 63 *e*P P 21 12 24.8 +6.3
RICC AMS AMS 21 23 40.0
comp=Z,800nm,19.8s
BIOA Bad Ischl, Aus 28.90 69 *e*P **P 21 12 20.2 +1.1**
comp=Z,14nm,1.4s
ZVC Zvikov 29.01 65 *e*P **P 21 12 20.7 +0.6**
ZVC AMS AMS 21 22 30.0
comp=Z,600nm,18.0s
PRA Prague 29.09 64 AMS AMS 21 23 00.0
comp=Z,700nm,15.6s
PVCC Panska Ves 29.14 63 AMS AMS 21 23 10.0
comp=Z,800nm,15.5s
CKRC Cesky Krumlov 29.17 66 *e*P **P 21 12 22.7 +1.2**
CKRC AMS AMS 21 22 20.0
comp=Z,500nm,16.1s
PRU Pruhonice 29.17 64 AMS AMS 21 23 00.0
comp=Z,600nm,15.8s
HFS Hagfors 29.29 43 P **P 21 12 22.6 +0.2**
comp=Z,2.5nm,0.9s,baz=234,slow=12,SNR=1.6
HFS LR LR 21 22 24.5
comp=Z,202nm,20.9s,baz=249,slow=33
comp=Z,2.5nm,0.9s
GOPC GO Pecny, Ondr 29.34 64 AMS AMS 21 23 00.0
comp=Z,700nm,17.9s
FRB Frobisher Bay 29.61 324 LR LR 21 21 10.2
comp=Z,753nm,21.0s,baz=132,slow=30
OBKA Obir 29.73 71 *i* P **P 21 12 27.2 +0.6**
comp=Z,26nm,0.9s
KEST Kesra 29.84 94 P **P 21 12 27.9 +0.3**
comp=Z,9.2nm,0.9s,baz=274,slow=10.0,SNR=4.8
KEST LR LR 21 24 01.2
comp=Z,303nm,19.0s,baz=279,slow=36
comp=Z,9.2nm,0.9s
TREC Trest 29.87 65 AMS AMS 21 23 20.0
comp=Z,600nm,15.3s
SOKA Soboth 30.02 71 *i* P **P 21 12 29.1 0.0**
comp=Z,5.3nm,1.1s
UPC Upice 30.06 63 *e*P **P 21 12 30.6 +1.3**
UPC AMS AMS 21 23 50.0
comp=Z,700nm,17.5s
CHVC Chvalec 30.07 63 *e*P **P 21 12 30.4 +0.9**
CHVC AMS AMS 21 23 50.0
comp=Z,700nm,17.3s
OSTC Ostas 30.18 63 *e*P **P 21 12 31.9 +1.5**
OSTC AMS AMS 21 24 00.0
comp=Z,600nm,17.2s
KSP Ksiaz 30.20 62 P **P 21 12 30.0 -0.6**
comp=Z,14nm,1.0s
ARSA Arzberg 30.24 69 P **P 21 12 30.2 -0.7**
ARSA IAmb IAmb 21 12 37.8
comp=Z,14nm,0.9s
ARSA Arzberg 30.24 69 *i* P **P 21 12 31.0 0.0**
comp=Z,16nm,1.0s
DPC Dobruska-Polom 30.27 63 *e*P **P 21 12 31.2 -0.1**
DPC AMS AMS 21 23 50.0
comp=Z,600nm,16.0s
DPC Dobruska-Polom 30.27 63 P **P 21 12 31.9 +0.6**
comp=Z,7.2nm,1.8s
CONA Conrad Observa 30.33 68 *i* P **P 21 12 32.7 +0.8**
comp=Z,17nm,1.8s
KRUC Moravsky 30.49 66 *e*P **P 21 12 34.1 +0.9**
VRAC Vranov 30.58 65 LR LR 21 24 11.2
comp=Z,538nm,19.3s,baz=284,slow=35
VRAC Vranov 30.58 65 *e*P **P 21 12 34.0 0.0**
KRLC Kraliky 30.60 64 AMS AMS 21 24 40.0
comp=Z,600nm,14.5s
RONA Rosalia, Austr 30.66 68 *e*P **P 21 12 34.6 -0.1**
comp=Z,14nm,1.8s
MORC Moravsky Berou 31.13 64 P **P 21 12 38.5 -0.3**
MORC Moravsky Berou 31.13 64 *e*P **P 21 12 38.8 0.0**
MORC Moravsky Berou 31.13 64 ⇓P **P 21 12 39.6 +0.8**
MODS Modra-Piesok 31.18 67 *e*P **P 21 12 40.2 +0.9**
OKC Ostrava-Krasne 31.50 64 AMS AMS 21 24 30.0
comp=Z,600nm,14.5s
BBTS Babate 31.51 158 LR LR 21 21 59.9
comp=Z,230nm,21.9s,baz=215,slow=30
L61B Northampton 31.99 282 P **P 21 12 46.0 -0.4**
baz=70
VYHS Vyhne 32.18 66 *e*P **P 21 12 48.9 +0.8**
TRQ Mont Tremblant 32.19 290 P **P 21 12 49.1 +0.8**
DAG Danmarks Havn 32.47 4 *i* P **P 21 12 49.7 -0.5**
DAG IAmb IAmb 21 12 52.1
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 32.47 65 *e*P **P 21 12 52.5 +1.9**
OJC Ojcow 32.50 63 IAmb IAmb 21 12 58.3
comp=Z,14nm,1.0s
OJC Ojcow 32.50 63 P **P 21 12 50.6 -0.2**
comp=Z,14nm,1.1s
MORH Mrgy, Hungar 32.56 70 ⇑P **P 21 12 51.7 +0.3**
MORH Mrgy, Hungar 32.56 70 P **P 21 12 50.9 -0.5**
comp=Z,12nm,1.3s
LONY Lake Ozonia 32.64 287 IAmb IAmb 21 13 01.1
comp=Z,16nm,1.1s
VAE Valguarnera 32.64 88 LR LR 21 23 56.0
comp=Z,625nm,21.8s,baz=306,slow=32
PSZ Piszkesteto 32.99 67 P **P 21 12 53.2 -2.0**
PSZ IAmb IAmb 21 12 57.5
comp=Z,41nm,2.0s
NEEM North Greenlan 34.17 351 *i* P **P 21 13 05.1 -0.4**
NEEM IAmb IAmb 21 13 07.9
comp=Z,191nm,2.4s
KOLS Kolonicke sedl 34.32 64 *e*P **P 21 13 08.2 +1.5**
KOLS *e* 21 13 13.6
HOLU Holmets 34.48 65 P **P 21 13 08.3 +0.2**
SIRR Siria 34.57 69 ⇑P **P 21 13 09.7 +0.8**
MUKU Mukachevo 34.69 65 P **P 21 13 10.4 +0.5**
BERU Beregovo 34.72 66 P **P 21 13 11.2 +1.1**
BZS Buzias 34.72 70 ⇑P **P 21 13 10.9 +0.7**
SURR Surduc 35.02 70 ⇓P **P 21 13 13.5 +0.7**
MDVR Moldovita 35.03 72 ⇓P **P 21 13 13.3 +0.3**
DRGR 35.12 68 ⇑P **P 21 13 14.7 +0.9**
TAM Tamanrasset 35.17 117 P **P 21 13 15.1 +0.6**
MORS Morshin 35.32 64 P **P 21 13 16.3 +1.0**
BOVS Bovan 35.40 74 ⇑P **P 21 13 16.6 +0.6**
MARR Marisel-Cluj 35.42 68 ⇑P **P 21 13 16.3 -0.1**
FINES FINESS Array B 35.48 42 P **P 21 13 15.9 -0.6**
comp=Z,3.2nm,0.8s,baz=262,slow=5.8,SNR=6.4
FINES LR LR 21 27 27.7
comp=Z,248nm,18.6s,baz=278,slow=36
comp=Z,3.2nm,0.8s
HERR Herculane 35.48 71 ⇓P **P 21 13 17.5 +0.7**
GZR Gura Zlata 35.57 70 ⇓P **P 21 13 18.3 +0.7**
SADO Sadowa 35.69 289 LR LR 21 27 20.8
comp=Z,1μm,18.9s,baz=77,slow=35
RAKU Rahkiv 35.76 66 P **P 21 13 18.3 -0.8**
STNU Starunia 35.80 64 P **P 21 13 20.3 +0.8**
KBN Korca 35.85 79 P **P 21 13 19.9 -0.2**
NACGM Naroch 36.08 53 *e*P **P 21 13 18.8 -3.0**
comp=E,869nm,1.2s
RNPP8 Varash 36.09 60 P **P 21 13 22.1 +0.2**
RNPP9 Sopachiv 36.10 59 P **P 21 13 21.6 -0.4**
RNPP5 Staryi Chortor 36.13 60 P **P 21 13 21.1 -1.1**
FNA Florina 36.20 78 P **P 21 13 23.2 +0.1**
LOT Lotru 36.22 70 ⇓P **P 21 13 23.5 +0.3**
KSV Kosov 36.27 65 P **P 21 13 22.3 -1.2**
ARCES ARCESS Array B 36.47 28 P **P 21 13 25.4 +0.4**
comp=E,1.1nm,0.6s,baz=251,slow=7.3,SNR=7.8
ARCES LR LR 21 26 23.3
comp=E,194nm,19.8s,baz=281,slow=33
comp=E,1.1nm,0.6s
BURAR Bucovina Array 36.55 66 ⇓P **P 21 13 27.4 +1.4**
MNK Minsk 36.77 54 *i* P **P 21 13 27.0 -0.7**
comp=E,14nm,1.0s
MNK *i* P **P 21 13 27.0 -0.7**
comp=N,16nm,1.1s
MNK *i* P **P 21 13 27.0 -0.7**
comp=Z,14nm,1.0s,baz=278
MNK *i* PP **PnPn 21 14 50.5 -0.6**
MNK *i* PPP PPP 21 15 05.5
MNK *i* S **S 21 19 11.6 +0.1**
MNK *i* SS **SnSn 21 21 43.8 +1.7**
MNK *i* SSS SSS 21 22 00.4
MNK *i* LQ LQ 21 25 47.1
MNK *i* LR LR 21 29 06.4
MNK *i* LRM MLR 21 29 49.5
comp=E,248nm,25.3s
MNK *i* LRM MLR 21 29 54.2
comp=N,391nm,21.1s
MNK *i* LRM MLR 21 30 01.9
comp=Z,276nm,17.5s
ARR Arges 36.82 70 ⇓P **P 21 13 29.8 +1.5**
VOIR 37.08 69 ⇑P **P 21 13 30.5 0.0**
VOIR 37.08 69 P **P 21 13 30.0 -0.5**
comp=Z,8.5nm,1.2s
KMPD K-Podol'skiy 37.10 64 P **P 21 13 29.6 -0.9**
comp=Z,6μm,1.0s
DOPR Dopca 37.14 68 ⇑P **P 21 13 31.5 +0.5**
NOR Nord 37.28 3 *i* P **P 21 13 31.8 0.0**
NOR IAmb IAmb 21 13 33.7
comp=Z,6.6nm,0.8s
HUMR Humele 37.32 71 ⇑P **P 21 13 32.0 -0.5**
OZUR 37.36 68 ⇓P **P 21 13 33.6 +0.7**
LUBAR Lubar, Ukraine 37.58 61 P **P 21 13 34.5 -0.1**
MLR Muntele Rosu 37.66 69 P **P 21 13 35.2 -0.3**
MLR Muntele Rosu 37.66 69 LR LR 21 28 48.0
comp=Z,357nm,20.2s,baz=294,slow=36
MLR Muntele Rosu 37.66 69 ⇓P **P 21 13 36.2 +0.7**
MLR Muntele Rosu 37.66 69 P **P 21 13 35.3 -0.2**
comp=Z,13nm,1.2s
COVR Voineasa-Covas 37.72 68 ⇑P **P 21 13 36.9 +1.0**
PLOR3 Plostina Array 38.01 68 P **P 21 13 37.6 -0.7**
comp=Z,7.6nm,1.1s
PLOR Plostina 38.01 68 ⇑P **P 21 13 38.5 +0.1**
VRI Vrincioaia 38.06 68 ⇓P **P 21 13 38.2 -0.6**
AK20 Malin Array Si 38.16 60 P **P 21 13 38.7 -0.8**
AK19 Malin Array Si 38.17 60 P **P 21 13 38.5 -1.1**
AK21 Malin Array Si 38.17 60 P **P 21 13 39.0 -0.6**
AK22 Malin Array Si 38.20 60 P **P 21 13 39.2 -0.6**
AK18 Malin Array Si 38.20 60 P **P 21 13 38.7 -1.2**
AK17 Malin Array Si 38.20 60 P **P 21 13 38.8 -1.1**
AK16 Malin Array Si 38.24 60 P **P 21 13 39.6 -0.6**
AK15 Malin Array Si 38.24 60 P **P 21 13 39.1 -1.1**
AK14 Malin Array Si 38.25 60 P **P 21 13 39.1 -1.1**
AK04 Malin Array Si 38.26 60 P **P 21 13 39.5 -0.9**
KIEV Kiev 38.30 60 P **P 21 13 40.1 -0.5**
KIEV Kiev 38.30 60 ⇓P **P 21 13 40.8 +0.1**
AKASG Malin Array Be 38.30 60 P **P 21 13 40.5 -0.2**
comp=Z,4.3nm,0.8s,baz=281,slow=8.7,SNR=23
AKASG LR LR 21 28 06.0
comp=Z,254nm,21.1s,baz=284,slow=34
comp=Z,4.3nm,0.8s
AKBB Malin Array Si 38.30 60 P **P 21 13 39.6 -1.1**
SORM Soroca 38.43 64 ⇑P **P 21 13 41.3 -0.5**
SORM Soroca 38.43 64 P **P 21 13 40.1 -1.7**
comp=Z,13nm,2.1s
ELND Elena 38.49 73 ⇓P **P 21 13 42.9 +0.5**
CFR Carcaliu 39.22 69 ⇑P **P 21 13 47.6 -0.8**
ALN Alexandroupoli 39.40 76 IAmb IAmb 21 13 58.7
comp=Z,47nm,1.4s
H05N1 Guadeloupe/Mar 39.51 235 T T 21 55 18.5
SNR=9.3
Q52A Bidwell 40.05 281 P **P 21 13 57.2 +1.7**
Q52A IAmb IAmb 21 14 55.7
comp=Z,51nm,1.4s
TORD Torodi Ar. Bea 40.46 132 P **P 21 13 58.4 -0.6**
TORD IAmb IAmb 21 14 05.3
comp=Z,20nm,1.0s
TORD Torodi Ar. Bea 40.46 132 P **P 21 13 58.6 -0.5**
comp=Z,14nm,0.7s,baz=329,slow=9.7,SNR=98
TORD LR LR 21 29 36.6
comp=Z,878nm,18.6s,baz=316,slow=34
comp=Z,14nm,0.7s
FCC Fort Churchill 41.41 314 P **P 21 14 06.6 +0.2**
O48B Farmland 41.50 285 P **P 21 14 07.1 -0.4**
baz=64
OBN Obninsk 41.59 52 LR LR 21 30 40.2
comp=Z,264nm,20.9s,baz=339,slow=35
YLV Yalova 41.84 75 P **P 21 14 10.2 -0.1**
comp=Z,16nm,1.2s
TKL Tuckaleechee C 42.66 278 LR LR 21 31 54.2
comp=Z,574nm,18.8s,baz=158,slow=36
DR12 Loma Pena Alta 42.83 246 P **P 21 14 19.8 +1.3**
DBIC Dimbokro 42.98 145 P **P 21 14 19.2 -0.5**
DBIC IAmb IAmb 21 14 20.9
comp=Z,40nm,1.6s
DBIC Dimbokro 42.98 145 P **P 21 14 19.8 +0.1**
comp=Z,5.1nm,0.6s,baz=316,slow=5.7,SNR=6.8
DBIC LR LR 21 31 02.4
comp=Z,204nm,18.6s,baz=321,slow=34
comp=Z,5.1nm,0.6s
MDUB Mudurnu 43.13 74 P **P 21 14 21.4 +0.6**
SDDR Presa de Saban 43.95 249 P **P 21 14 28.6 +1.0**
T47A Sharon Grove 44.35 281 P **P 21 14 32.0 +1.4**
T47A IAmb IAmb 21 14 39.4
comp=Z,20nm,1.2s
ULM Lac du Bonnet 44.66 302 P **P 21 14 33.1 +0.3**
comp=Z,2.4nm,1.0s,baz=117,slow=11,SNR=3.4
ULM PcP **PcP 21 16 13.9 -1.4**
comp=Z,3.1nm,1.0s,baz=76,slow=4.2,SNR=3.9
ULM LR LR 21 31 42.4
comp=Z,725nm,18.5s,baz=118,slow=34
comp=Z,2.4nm,1.0s
BR106 Keskin Array S 45.12 74 P **P 21 14 36.7 -0.1**
comp=Z,53nmcomp=Z,5.7nm,1.0s
BR105 Keskin Array S 45.13 74 P **P 21 14 37.1 +0.2**
comp=Z,59nmcomp=Z,4.2nm,1.3s
BRTR Keskin Array B 45.14 74 P **P 21 14 36.4 -0.6**
BRTR Keskin Array B 45.14 74 P **P 21 14 37.8 +0.8**
comp=Z,3.5nm,1.1s,baz=305,slow=4.4,SNR=12
BRTR PcP **PcP 21 16 15.5 -1.9**
comp=Z,1.5nm,0.9s,baz=251,slow=3.8,SNR=4.5
BRTR LR LR 21 33 44.6
comp=Z,286nm,20.2s,baz=302,slow=36
comp=Z,3.5nm,1.1s
BR104 Keskin Array S 45.15 74 P **P 21 14 37.0 -0.1**
comp=Z,50nmcomp=Z,5.6nm,1.1s
ACRG Accra 45.94 139 P **P 21 14 43.1 -0.2**
FVM French Village 46.18 284 P **P 21 14 45.3 +0.2**
FVM IAmb IAmb 21 14 53.6
comp=Z,17nm,1.1s
FFC Flin Flon 46.65 310 P **P 21 14 48.9 +0.3**
CCM Cathedral Cave 46.71 285 P **P 21 14 49.6 +0.3**
PBMO Poplar Bluff 46.78 283 P **P 21 14 50.2 +0.4**
PBMO IAmb IAmb 21 14 58.2
comp=Z,16nm,1.1s
TOKA Tokat 46.80 72 P **P 21 14 49.9 0.0**
TOKA IAmb IAmb 21 14 57.3
comp=Z,24nm,1.7s
T42A Van Buren 47.11 284 IAmb IAmb 21 15 00.4
comp=Z,16nm,1.2s
R40A Maddies Statio 47.30 286 IAmb IAmb 21 15 02.6
comp=Z,21nm,1.2s
KIRV Kirov 47.42 44 LR LR 21 34 40.7
comp=Z,174nm,18.7s,baz=305,slow=36
ECSD EROS Data Cent 47.69 294 P **P 21 14 57.9 +1.1**
MGMO Mountain Grove 47.87 284 P **P 21 14 58.5 +0.3**
S39A Bolivar 48.32 286 IAmb IAmb 21 15 10.4
comp=Z,18nm,1.0s
BELG Belogornoye 48.67 52 LR LR 21 35 32.7
comp=Z,188nm,19.3s,baz=325,slow=36
KIV Kislovodsk 49.23 64 P **P 21 15 08.1 -0.7**
KIV Kislovodsk 49.23 64 P **P 21 15 08.6 -0.2**
comp=Z,7.1nm,1.1s
BAUV El Baul 49.47 236 P **P 21 15 10.9 +0.1**
KBZ Khabaz 49.47 64 P **P 21 15 10.9 +0.5**
comp=Z,3.4nm,0.9s,baz=299,slow=9.2,SNR=9.7
KBZ LR LR 21 38 10.5
comp=Z,162nm,18.5s,baz=314,slow=39
comp=Z,3.4nm,0.9s
MMAI Mount Meron Ar 49.75 81 P **P 21 15 13.8 +0.9**
comp=Z,1.8nm,0.7s,baz=27,slow=13,SNR=1.4
MMAI LR LR 21 36 33.2
comp=Z,204nm,19.1s,baz=217,slow=36
comp=Z,1.8nm,0.7s
TMAB Tom-Au,PA,Br 50.07 206 *e*P **P 21 15 15.4 +0.2**
YKA Yellowknife Ar 50.11 323 P **P 21 15 15.2 +0.1**
comp=Z,1.5nm,0.7s,baz=71,slow=7.2,SNR=18
YKA PcP **PcP 21 16 33.8 -0.6**
comp=Z,1.7nm,0.8s,baz=70,slow=3.6,SNR=12
YKA LR LR 21 33 49.3
comp=Z,451nm,19.0s,baz=102,slow=33
comp=Z,1.5nm,0.7s
MIAR Mount Ida 50.12 282 IAmb IAmb 21 15 23.6
comp=Z,25nm,1.1s
WLAR White Oak Lake 50.26 281 P **P 21 15 16.3 -0.3**
A36M Sachs Harbour 50.31 336 P **P 21 15 16.5 0.0**
baz=67
T35A Sooner Cattle 50.91 286 P **P 21 15 21.1 -0.4**
T35A IAmb IAmb 21 15 28.8
comp=Z,18nm,1.2s
NBPB Pedra_Branca-C 51.00 195 *e*P **P 21 15 21.2 -1.1**
C36M Paulatuk 51.01 333 P **P 21 15 21.9 +0.1**
baz=66
SDV Santo Domingo 51.08 239 *e*P **P 21 15 23.2 0.0**
MARD Mardin 51.20 73 P **P 21 15 24.1 +0.2**
MARD IAmb IAmb 21 15 33.4
comp=Z,19nm,1.3s
ASF Jabal al Asfar 51.26 81 LR LR 21 40 03.3
comp=Z,102nm,18.1s,baz=47,slow=40
OK052 Battle Ridge R 51.59 286 P **P 21 15 25.7 -1.0**
OK031 S. Brethren Rd 51.64 286 P **P 21 15 26.8 -0.1**
KAN14 Manchester OK 51.88 287 P **P 21 15 28.6 -0.1**
SIRT Sirnak 52.23 72 P **P 21 15 32.1 +0.6**
NBLV Livramento - P 52.36 191 *e*P **P 21 15 32.9 +0.4**
GNI Garni 52.41 68 P **P 21 15 33.0 +0.1**
GNI Garni 52.41 68 LR LR 21 39 39.2
comp=Z,79nm,18.8s,baz=302,slow=38
GNI Garni 52.41 68 P **P 21 15 33.6 +0.7**
comp=Z,8.5nm,1.3s
ARTI Arti 52.73 44 P **P 21 15 34.8 -0.1**
ARTI Arti 52.73 44 LR LR 21 37 30.2
comp=Z,182nm,18.8s,baz=348,slow=35
WRGLY Wrigley 53.48 326 P **P 21 15 39.6 -0.6**
baz=62
WMOK Wichita Mounta 53.63 285 P **P 21 15 41.2 -0.6**
H10N2 ASCENSION HYDR 53.69 163 T T 22 13 16.8
baz=349,slow=75,SNR=7.0
H10N3 ASCENSION HYDR 53.70 163 T T 22 13 18.3
baz=349,slow=75,SNR=8.2
H10N1 ASCENSION HYDR 53.71 163 T T 22 13 18.3
baz=349,slow=75,SNR=6.3
WTFS Witchita Falls 53.94 284 P **P 21 15 43.8 -0.3**
WTFS IAmb IAmb 21 15 52.2
comp=Z,13nm,1.0s
FW07 Weatherford 54.07 283 P **P 21 15 44.0 -1.0**
PLPT Palo Pinto 54.37 283 P **P 21 15 46.8 -0.5**
PLPT IAmb IAmb 21 15 54.9
comp=Z,12nm,1.1s
INK Inuvik 54.53 334 P **P 21 15 47.6 -0.2**
INK Inuvik 54.53 334 P **P 21 15 47.3 -0.5**
baz=58,SNR=5.5
ITTB Itaituba 54.67 214 *e*P **P 21 15 49.0 -0.5**
GCMT Greycliff 54.91 302 P **P 21 15 51.5 +0.4**
F31M Tsiigehtchic 55.07 333 P **P 21 15 51.2 -0.5**
F31M IAmb IAmb 21 15 53.1
comp=Z,17nm,0.9s
F31M Tsiigehtchic 55.07 333 P **P 21 15 51.5 -0.2**
baz=57,SNR=10
N23A Red Feather La 55.11 295 IAmb IAmb 21 16 01.7
comp=Z,24nm,1.2s
N23A Red Feather La 55.11 295 P **P 21 15 52.6 -0.3**
baz=58
KOTAN Kotaneelee Air 55.24 323 P **P 21 15 53.8 +0.7**
baz=60
APMT Aspermont 55.34 285 P **P 21 15 54.7 +0.5**
APMT IAmb IAmb 21 16 01.7
comp=Z,11nm,1.0s
AKTO Aktyubinsk 55.36 51 LR LR 21 39 00.9
comp=Z,188nm,21.1s,baz=147,slow=35
G31M Satah River 55.53 333 IAmb IAmb 21 16 02.7
comp=Z,18nm,1.1s
G31M Satah River 55.53 333 P **P 21 15 55.5 +0.4**
baz=56,SNR=7.2

AMTX	Amarillo	55.53 287	P	P	21 15 56.0	+0.3
Q24A	Divide	55.62 293	P	P	21 15 56.6	+0.1
	baz=57					
F30M	Barrier River	55.63 334	P	P	21 15 56.1	+0.3
	baz=56					
BRDY	Brady	55.72 282	P	P	21 15 55.7	-1.3
MACA	Manacapuru-AM	55.74 220	eP	P	21 15 58.8	+1.7
E29M	Blow River	55.83 335	IAmb	IAmb	21 16 04.9	
	comp=Z,8.7nm,0.9s					
E29M	Blow River	55.83 335	P	P	21 15 57.2	0.0
	baz=54					
NBLA	Lagarto - SE	56.06 191	eP	P	21 15 59.4	0.0
SMTB	Santa Maria do	56.07 203	eP	P	21 15 59.9	+0.4
T25A	Trinidad	56.13 291	P	P	21 16 00.5	+0.4
T25A			IAmb	IAmb	21 16 09.8	
	comp=Z,17nm,1.3s					
T25A	Trinidad	56.13 291	P	P	21 16 00.2	+0.1
	baz=56					
G30M	tAoh Zraii Nji	56.13 333	P	P	21 15 59.2	-0.2
	baz=55					
H31M	Peel River	56.18 332	P	P	21 15 59.2	-0.6
	baz=56					
E28M	Babbage River	56.19 336	P	P	21 15 59.5	-0.3
	baz=53					
D27M	Malcolm River	56.21 337	IAmb	IAmb	21 16 01.8	
	comp=Z,10nm,1.1s					
D27M	Malcolm River	56.21 337	P	P	21 15 59.9	-0.1
	baz=52					
PDAR	Pinedale Array	56.42 299	P	P	21 16 00.1	-2.0
	comp=Z,0.5nm,0.7s,baz=52,slow=8.0,SNR=5.3					
PDAR			LR	LR	21 38 11.5	
	comp=Z,338nm,21.8s,baz=106,slow=34					
	comp=Z,0.5nm,0.7s					
POST	Post	56.43 285	P	P	21 16 01.3	-0.8
POST			IAmb	IAmb	21 16 09.7	
	comp=Z,8.7nm,0.9s					
EPYK	Eagle Plains	56.65 333	P	P	21 16 03.2	+0.1
EPYK	Eagle Plains	56.65 333	P	P	21 16 03.1	-0.1
	baz=54					
C27K	Jago River	56.73 338	P	P	21 16 03.5	-0.1
	baz=50,SNR=11					
G29M	Pine Creek	56.74 334	IAmb	IAmb	21 16 05.1	
	comp=Z,12nm,1.0s					
G29M	Pine Creek	56.74 334	P	P	21 16 03.7	-0.1
	baz=53					
MMPY	Sheldon Lake,	56.86 327	P	P	21 16 05.0	+0.2
	baz=56					
FXWY	Fox Creek	56.86 301	P	P	21 16 04.9	-0.3
FXWY			IAmb	IAmb	21 16 08.9	
	comp=Z,19nm,1.9s					
C26K	Camden Bay	56.86 338	P	P	21 16 04.8	+0.2
	baz=50					
F28M	Old Crow	56.89 335	IAmb	IAmb	21 16 05.9	
	comp=Z,10nm,1.1s					
F28M	Old Crow	56.89 335	P	P	21 16 04.5	-0.3
	baz=52,SNR=10					
NPGB	Novo Progresso	56.97 213	eP	P	21 16 05.3	-0.6
NRIK	Noril'sk	57.00 22	P	P	21 16 06.1	+0.6
NRIK			IAmb	IAmb	21 16 08.8	
	comp=Z,12nm,1.1s					
NRIK	Noril'sk	57.00 22	P	P	21 16 06.5	+1.0
	comp=Z,6.4nm,1.0s,baz=290,slow=5.6,SNR=8.8					
	comp=Z,6.4nm,1.0s					
ABKAR	Akbulak array	57.04 51	P	P	21 16 05.8	-0.3
ABKAR	Akbulak array	57.04 51	IAmb	IAmb	21 16 09.4	
	comp=Z,24nm,1.9s					
I30M	Mount Dempster	57.21 332	P	P	21 16 07.1	-0.2
	baz=54					
WTLY	Watson Lake, Y	57.27 324	P	P	21 16 07.2	-0.4
	baz=56					
H29M	Whitestone	57.27 333	IAmb	IAmb	21 16 08.3	
	comp=Z,9.3nm,0.9s					
H29M	Whitestone	57.27 333	P	P	21 16 07.5	-0.1
	baz=53					
J30M	Hart River	57.58 331	P	P	21 16 09.9	0.0
	baz=53					
D25K	Kavik River	57.64 338	IAmb	IAmb	21 17 05.0	
	comp=Z,9.3nm,0.9s					
D25K	Kavik River	57.64 338	P	P	21 16 09.8	-0.3
	baz=48					
I29M	Ogilvie Camp,	57.78 332	IAmb	IAmb	21 16 12.5	
	comp=Z,11nm,1.0s					
I29M	Ogilvie Camp,	57.78 332	P	P	21 16 11.0	-0.1
	baz=52,SNR=8.5					
FARO	Faro, Yukon	57.88 328	P	P	21 16 11.8	-0.1
	baz=54					
DRIO	Del Rio	57.94 281	P	P	21 16 12.1	-0.7
NEW	Newport	57.97 308	IAmb	IAmb	21 16 21.6	
	comp=Z,17nm,1.2s					
NEW	Newport	57.97 308	LR	LR	21 39 17.1	
	comp=Z,471nm,18.3s,baz=111,slow=34					
C24K	Franklin Bluff	57.97 339	P	P	21 16 12.7	+0.4
	baz=46					
F26K	Sheenjek River	58.11 336	P	P	21 16 13.1	-0.3
	baz=49					
E25K	Arctic Village	58.23 337	IAmb	IAmb	21 16 29.4	
	comp=Z,20nm,1.6s					
E25K	Arctic Village	58.23 337	P	P	21 16 13.9	-0.3
	baz=48,SNR=6.8					
I28M	Miner Creek	58.26 333	IAmb	IAmb	21 16 22.5	
	comp=Z,11nm,0.9s					
I28M	Miner Creek	58.26 333	P	P	21 16 13.9	-0.6
	baz=51					
H27K	Steamboat Moun	58.27 334	P	P	21 16 14.8	+0.2
	baz=50					
M31M	Drury Creek, Y	58.29 328	P	P	21 16 15.5	+0.7
M31M	Drury Creek, Y	58.29 328	P	P	21 16 14.7	-0.1
	baz=54					
J29N	Klondike Camp	58.30 331	P	P	21 16 14.7	-0.1
	baz=52					
C23K	Itkillik River	58.37 340	IAmb	IAmb	21 16 18.7	
	comp=Z,25nm,1.6s					
C23K	Itkillik River	58.37 340	P	P	21 16 15.4	+0.3
	baz=45					
D24K	Happy Valley	58.40 339	IAmb	IAmb	21 16 16.8	
	comp=Z,9.7nm,0.8s					
D24K	Happy Valley	58.40 339	P	P	21 16 14.9	-0.5
	baz=46					
N32M	Quiet Lake	58.41 327	P	P	21 16 15.4	-0.3
	baz=54					
K29M	Barlow Dome	58.44 331	P	P	21 16 16.1	+0.2
	baz=52					
G26K	Porcupine Rive	58.49 335	P	P	21 16 16.3	+0.3
	baz=49					
A22K	Sinclair Lake	58.53 342	P	P	21 16 16.8	+0.6
	baz=42					
P18A	Preston Nutter	58.56 296	P	P	21 16 18.3	+0.9
P18A			IAmb	IAmb	21 18 06.5	
	comp=Z,8.9nm,1.0s					
F25K	Christian Rive	58.60 337	IAmb	IAmb	21 16 20.4	
	comp=Z,32nm,1.9s					
F25K	Christian Rive	58.60 337	P	P	21 16 16.9	0.0
	baz=48					
B22K	Teshekpuk Lake	58.67 341	IAmb	IAmb	21 16 19.6	
	comp=Z,16nm,1.1s					
B22K	Teshekpuk Lake	58.67 341	P	P	21 16 17.6	+0.3
	baz=43					
SAND	Sanderson	58.68 283	IAmb	IAmb	21 16 26.1	
	comp=Z,12nm,0.9s					
I27K	Kandik River	58.70 334	P	P	21 16 17.4	-0.2
	baz=50					
ANMO	Albuquerque	58.73 290	P	P	21 16 18.6	+0.1
ANMO			IAmb	IAmb	21 18 27.4	
	comp=Z,5.2nm,0.5s					
ANMO	Albuquerque	58.73 290	LR	LR	21 41 14.0	
	comp=Z,345nm,20.5s,baz=247,slow=36					
SDBA	SAO DESIDERIO	58.78 199	eP	P	21 16 18.3	-0.4
P33M	Teslin, Yukon	58.86 326	P	P	21 16 18.7	-0.2
	baz=54					
DAWY	Dawson	58.95 331	P	P	21 16 19.2	-0.1
DAWY	Dawson	58.95 331	P	P	21 16 19.7	+0.3
	baz=51,SNR=5.7					
TOLK	Toolik Lake Re	58.95 339	P	P	21 16 19.5	+0.3
TOLK			IAmb	IAmb	21 16 21.1	
	comp=Z,16nm,1.2s					
TOLK	Toolik Lake Re	58.95 339	P	P	21 16 19.6	+0.3
	baz=45,SNR=7.5					
M30M	Minto, Yukon	58.96 329	P	P	21 16 19.4	0.0
M30M			IAmb	IAmb	21 16 28.2	
	comp=Z,8.3nm,1.0s					
M30M	Minto, Yukon	58.96 329	P	P	21 16 19.3	-0.2
	baz=52					
D23K	Nanushuk River	59.01 339	P	P	21 16 20.1	+0.5
	baz=45					
E24K	Your Creek	59.06 338	IAmb	IAmb	21 16 22.0	
	comp=Z,14nm,1.1s					
E24K	Your Creek	59.06 338	P	P	21 16 20.2	+0.1
	baz=46					
EGAK	Eagle	59.09 333	P	P	21 16 20.4	+0.2
	baz=50					
L29M	L29M	59.11 330	P	P	21 16 20.0	-0.4
	baz=51					
FYU	Fort Yukon	59.18 335	P	P	21 16 20.7	-0.1
N31M	Braeburn, Yuko	59.25 328	P	P	21 16 21.0	-0.4
	baz=52					
F24K	Squaw Lake	59.28 337	IAmb	IAmb	21 16 25.4	
	comp=Z,10nm,1.3s					
F24K	Squaw Lake	59.28 337	P	P	21 16 21.6	0.0
	baz=46,SNR=5.1					
BNM	Barren Site	59.31 289	P	P	21 16 23.0	+0.5
JTS	Las Juntas de	59.35 253	LR	LR	21 37 39.7	
	comp=Z,157nm,21.7s,baz=55,slow=32					
TMUT	Trail Mountain	59.37 296	P	P	21 16 23.7	+0.7
TMUT			IAmb	IAmb	21 16 31.6	
	comp=Z,13nm,1.1s					
E23K	Chandalar	59.38 338	P	P	21 16 22.3	0.0
	baz=45					
I26K	Coal Creek Min	59.38 334	P	P	21 16 22.5	+0.3
	baz=49					
WHY	Whitehorse	59.41 327	P	P	21 16 22.3	-0.3
	baz=52					
ALPN	Alpine	59.48 284	P	P	21 16 23.8	+0.1
B21K	Ikpikpuk River	59.48 341	IAmb	IAmb	21 16 25.3	
	comp=Z,15nm,1.0s					
B21K	Ikpikpuk River	59.48 341	P	P	21 16 23.6	+0.8
	baz=42					
S34M	Telegraph Cree	59.52 323	P	P	21 16 23.9	+0.7
	baz=54					
MTO3	Montecristo	59.53 260	P	P	21 16 25.7	+1.5
H25L	Birch Creek	59.55 335	P	P	21 16 24.3	+0.9
	baz=47					
D22K	Ayikyak River	59.57 340	P	P	21 16 23.8	+0.3
	baz=43					
M29M	Somme Creek	59.65 330	IAmb	IAmb	21 16 34.5	
	comp=Z,29nm,1.9s					
M29M	Somme Creek	59.65 330	P	P	21 16 24.5	+0.2
	baz=51					
G24K	Hadweenzic Riv	59.74 336	P	P	21 16 24.9	+0.2
	baz=46					
N30M	Aishikik Lake	59.76 328	P	P	21 16 25.5	+0.4
	baz=51					
O30N	Mendenhall	59.81 327	P	P	21 16 25.6	+0.3
	baz=52					
C21K	Knifeblade Rid	59.87 341	P	P	21 16 25.8	+0.3
	baz=42					
DUG	Dugway, Tooele	59.87 298	IAmb	IAmb	21 16 34.8	
	comp=Z,24nm,1.6s					
E22K	Anaktuvuk Pass	59.90 339	P	P	21 16 26.0	+0.2
	baz=43					
PRP	Porcupine Dome	59.98 335	P	P	21 16 26.3	-0.2
	baz=47					
J26L	Joseph Creek	60.05 333	P	P	21 16 26.8	-0.2
	baz=48					
SNDB	Serra Nova Dou	60.12 206	eP	P	21 16 27.5	-0.3
TX31	Lajitas Ar. Si	60.12 283	IAmb	IAmb	21 16 39.1	
	comp=Z,11nm,1.2s					
TXAR	Lajitas Array	60.12 283	P	P	21 16 28.2	+0.2
	comp=Z,2.0nm,0.9s,baz=74,slow=7.2,SNR=13					
TXAR			LR	LR	21 42 12.5	
	comp=Z,349nm,18.9s,baz=68,slow=36					
	comp=Z,2.0nm,0.9s					
COLD	Coldfoot	60.13 338	P	P	21 16 27.6	+0.3
COLD	Coldfoot	60.13 338	P	P	21 16 27.0	-0.4
	baz=44					
VHRN	Van Horn	60.17 285	P	P	21 16 28.9	+0.5
VHRN			IAmb	IAmb	21 16 37.4	
	comp=Z,11nm,1.2s					
E21K	Killik River	60.21 340	IAmb	IAmb	21 16 43.4	
	comp=Z,18nm,1.7s					
E21K	Killik River	60.21 340	P	P	21 16 27.7	-0.2
	baz=42					
HYT	Haines Junctio	60.32 328	P	P	21 16 28.9	0.0
HYT			IAmb	IAmb	21 16 37.7	
	comp=Z,9.7nm,1.0s					
HYT	Haines Junctio	60.32 328	P	P	21 16 28.5	-0.4
	baz=51					
SKAG	Skagway	60.33 326	P	P	21 16 29.0	+0.2
	baz=52					
BRVK	Borovoye	60.35 43	P	P	21 16 29.5	+0.4
BRVK			IAmb	IAmb	21 16 31.4	
	comp=Z,15nm,1.3s					
YUK4	Talbot Arm	60.42 329	P	P	21 16 28.7	-1.0
	baz=50					
BVAR	Borovoye Array	60.42 43	P	P	21 16 30.2	+0.6
	comp=Z,3.5nm,0.8s,baz=291,slow=4.6,SNR=14					
	comp=Z,3.5nm,0.8s					
L27K	Beaver Creek,	60.43 331	P	P	21 16 28.9	-0.6
	baz=49					
G23K	Bananza Creek	60.45 337	IAmb	IAmb	21 16 33.3	
	comp=Z,26nm,1.8s					
G23K	Bananza Creek	60.45 337	P	P	21 16 29.4	-0.3
	baz=44					
H24K	Noodor Dome	60.46 336	IAmb	IAmb	21 16 32.0	
	comp=Z,14nm,1.4s					
H24K	Noodor Dome	60.46 336	P	P	21 16 29.6	-0.1
	baz=45					
BVCY	Beaver Creek	60.52 330	P	P	21 16 29.2	-0.9
	baz=49					
SCRK	Sand Creek	60.54 333	P	P	21 16 31.1	+0.8
SCRK	Sand Creek	60.54 333	P	P	21 16 30.6	+0.2
	baz=48,SNR=6.2					
J25K	Salcha River,	60.55 334	IAmb	IAmb	21 16 32.2	
	comp=Z,13nm,1.4s					
J25K	Salcha River,	60.55 334	P	P	21 16 30.0	-0.4
	baz=47					
YUK6	Outpost Mounta	60.57 328	P	P	21 16 30.5	-0.3
	baz=50					
CMC01	Camacan, BA	60.60 193	eP	P	21 16 32.2	+1.1
D20K	Etivluk River	60.64 341	P	P	21 16 31.1	+0.2
	baz=40					
G22K	Bettles	60.70 338	P	P	21 16 31.6	+0.3
	baz=43					
R32K	Eaglecrest	60.73 324	P	P	21 16 30.8	-0.8
	baz=52					
PLBC	Pleasant Camp	60.74 326	P	P	21 16 31.7	0.0
	baz=51					
YUK3	Moose Creek	60.80 330	P	P	21 16 32.7	+0.4
	baz=49					
POKR	Poker Plat Res	60.83 335	P	P	21 16 31.9	-0.3
	baz=46					
YUK8	Steele Glacier	60.87 329	P	P	21 16 31.5	-1.3
	baz=49					
E20K	Nigu River	60.89 340	P	P	21 16 32.6	-0.1
	baz=40					
ILAR	Eielson Array	60.91 335	P	P	21 16 33.1	+0.4
	comp=Z,1.0nm,0.7s,baz=39,slow=6.1,SNR=17					
ILAR			PcP	PcP	21 17 16.4	+0.3
	comp=Z,2.7nm,0.8s,baz=22,slow=3.3,SNR=15					
	comp=Z,1.0nm,0.7s					
M27K	Edge Creek, AK	60.92 331	IAmb	IAmb	21 16 41.7	
	comp=Z,8.9nm,1.0s					
M27K	Edge Creek, AK	60.92 331	P	P	21 16 32.6	-0.4
	baz=48					
WRAK	Wrangell Islan	60.95 322	P	P	21 16 33.0	0.0
	baz=52					
RIDG	Independent Ri	60.98 333	P	P	21 16 33.3	0.0
	baz=47					
F21K	Alatna River	61.00 339	IAmb	IAmb	21 16 35.4	
	comp=Z,14nm,1.3s					
F21K	Alatna River	61.00 339	P	P	21 16 33.3	-0.1
	baz=42					
121A	Cookes Peak, D	61.04 288	IAmb	IAmb	21 16 43.6	
	comp=Z,11nm,0.9s					
121A	Cookes Peak, D	61.04 288	P	P	21 16 34.7	+0.4
	baz=53					
O29M	Mount Kennedy	61.06 328	P	P	21 16 34.1	+0.1
	baz=50					
ELK	Elko	61.07 300	P	P	21 16 34.7	+0.2
MENT	Mentasta	61.16 332	IAmb	IAmb	21 16 43.0	
	comp=Z,8.3nm,0.9s					
D19K	Kuna River	61.16 341	IAmb	IAmb	21 16 36.2	
	comp=Z,7.9nm,1.1s					
D19K	Kuna River	61.16 341	P	P	21 16 34.9	+0.4
	baz=39					
HDA	Harding Lake	61.18 334	IAmb	IAmb	21 16 36.4	
	comp=Z,12nm,1.3s					
HDA	Harding Lake	61.18 334	P	P	21 16 35.0	+0.4
	baz=46					
JANB	Januaria	61.20 198	eP	P	21 16 34.9	-0.4
K24K	Donnelly Dome	61.24 333	P	P	21 16 34.9	-0.2
	baz=46					
S32K	Killisnoo	61.26 324	P	P	21 16 35.4	+0.2
	baz=51					
M26K	Nabesna, AK	61.27 331	P	P	21 16 35.5	+0.2
	baz=48					
B18K	Kokolik River	61.28 343	P	P	21 16 35.4	+0.3
	baz=36					
V35K	Ketchikan	61.29 321	P	P	21 16 35.2	-0.2
	baz=52					
O28M	Mount Upton	61.36 329	P	P	21 16 36.1	-0.1
	baz=49					
I23K	Minto, Yukon-K	61.39 336	P	P	21 16 35.9	0.0
	baz=44,SNR=5.4					
H22K	Ishtalitna Cre	61.42 337	P	P	21 16 36.5	+0.3
	baz=43					
WRH	Wood River Hil	61.49 335	IAmb	IAmb	21 16 38.4	
	comp=Z,21nm,1.5s					
J08A	Circle Bar Ran	61.51 304	IAmb	IAmb	21 16 42.4	
	comp=Z,7.8nm,0.9s					
SPR3	Spring Creek 3	61.52 298	P	P	21 16 36.1	-1.6
SPR3			IAmb	IAmb	21 16 38.3	
	comp=Z,6.7nm,1.0s					
G21K	Allakaket	61.54 338	P	P	21 16 37.2	+0.2
	baz=42					
BBB	Bella Bella	61.54 316	LR	LR	21 42 31.1	
	comp=Z,336nm,19.4s,baz=66,slow=35					
CMIG	Matias Romero	61.63 266	LR	LR	21 42 50.7	
	comp=Z,263nm,18.5s,baz=45,slow=36					
PDRB	Porto dos Gac	61.67 212	eP	P	21 16 38.6	+0.1
NEA2	Nenana	61.70 335	P	P	21 16 38.3	+0.2
	baz=44,SNR=6.9					
F20K	Avaraart Lake	61.71 339	IAmb	IAmb	21 16 40.3	
	comp=Z,17nm,1.4s					
F20K	Avaraart Lake	61.71 339	P	P	21 16 38.4	+0.3
	baz=40					
PAX	Paxson	61.72 333	P	P	21 16 38.2	-0.1
	baz=46					
C18K	Utukok River	61.73 342	IAmb	IAmb	21 16 40.3	
	comp=Z,9.7nm,1.1s					
C18K	Utukok River	61.73 342	P	P	21 16 38.0	-0.3
	baz=36					
E19K	Redstone River	61.76 340	IAmb	IAmb	21 16 40.5	
	comp=Z,7.4nm,0.9s					
E19K	Redstone River	61.76 340	P	P	21 16 38.8	+0.3
	baz=39					
PINM	Pinnacle	61.83 328	P	P	21 16 38.8	-0.3
	baz=49					
GUA01	Guaratinga, BA	61.85 193	eP	P	21 16 39.0	-0.5
CRAG	Craig	61.88 321	P	P	21 16 39.0	-0.4
	baz=51					
H21K	Melozitna Rive	61.99 337	IAmb	IAmb	21 16 44.0	
	comp=Z,9.2nm,1.2s					
H21K	Melozitna Rive	61.99 337	P	P	21 16 39.9	-0.1
	baz=42					
HARP	HAARP	62.01 332	P	P	21 16 40.0	-0.2
	baz=46					
I21K	Tanana	62.12 337	IAmb	IAmb	21 16 44.2	
	comp=Z,12nm,1.2s					
I21K	Tanana	62.12 337	P	P	21 16 40.9	0.0
	baz=42					
MCK	McKinley	62.28 334	P	P	21 16 42.0	-0.1
	baz=44					
C17K	DeLong Mountai	62.29 343	P	P	21 16 41.6	-0.4
	baz=35					
N25K	Chitina, Valde	62.37 331	P	P	21 16 42.5	-0.2
	baz=46					
F19K	Shaleruckik Mo	62.38 340	IAmb	IAmb	21 16 44.3	
	comp=Z,9.9nm,1.2s					
F19K	Shaleruckik Mo	62.38 340	P	P	21 16 42.9	+0.3
	baz=38					
MESA	MESA	62.41 329	P	P	21 16 42.3	-0.8
	baz=47					
RAYN	Ar Rayn	62.52 83	P	P	21 16 43.5	-0.7
RAYN			IAmb	IAmb	21 16 50.6	
	comp=Z,11nm,1.3s					
M24K	Tolsona, Glenn	62.56 332	P	P	21 16 44.4	+0.5
	baz=45					
RDOG	Red Dog Mine	62.58 342	P	P	21 16 44.1	+0.2
	baz=35					
E18K	Tukpahlearik C	62.59 341	IAmb	IAmb	21 17 24.4	
	comp=Z,6.6nm,0.8s					
E18K	Tukpahlearik C	62.59 341	P	P	21 16 43.9	0.0
	baz=36					
BPAW	Bear Paw Mtn.	62.63 335	IAmb	IAmb	21 16 45.9	
	comp=Z,16nm,1.4s					
BPAW	Bear Paw Mtn.	62.63 335	P	P	21 16 44.9	+0.5
	baz=42					
OTAV	Otavalo	62.64 240	eP	P	21 16 46.0	+0.4
BDFB	Brasilia	62.66 202	IAmb	IAmb	21 16 45.9	
	comp=Z,10nm,0.8s					
BDFB	Brasilia	62.66 202	P	P	21 16 45.0	-0.1
	comp=Z,7.3nm,0.6s,baz=32,slow=5.4,SNR=14					
	comp=Z,7.3nm,0.6s					
H20K	Anotleneega Mo	62.68 338	P	P	21 16 45.4	+0.7
	baz=40					
R11B	Troy Canyon, C	62.70 298	P	P	21 16 45.7	+0.3
	baz=53					
G19K	Purcell Mounta	62.76 339	IAmb	IAmb	21 16 57.8	
	comp=Z,22nm,1.6s					
G19K	Purcell Mounta	62.76 339	P	P	21 16 45.7	+0.6
	baz=39					
BMRM	Bremner River	62.82 331	P	P	21 16 45.9	+0.2
	baz=46					
TIXI	Tiksi	62.86 8	P	P	21 16 46.1	+0.4
TIXI			IAmb	IAmb	21 16 53.7	
	comp=Z,8.1nm,1.1s					
TRF	Thorofare Moun	62.90 335	P	P	21 16 46.0	-0.4
	baz=43					
KLU	Klutina	62.91 331	P	P	21 16 45.9	-0.4
	baz=45					
C16K	Lisburne Hills	62.91 343	P	P	21 16 46.4	+0.3
	baz=33					
D17K	Noatak River	62.91 342	P	P	21 16 46.0	-0.2
	baz=35					
F18K	Selawik	63.03 340	P	P	21 16 46.9	0.0
	baz=37					
H19K	Roundabout Mou	63.07 338	IAmb	IAmb	21 16 49.3	
	comp=Z,13nm,1.2s					
H19K	Roundabout Mou	63.07 338	P	P	21 16 47.8	+0.5
	baz=39					
I20K	Naaghedeneel	63.11 337	P	P	21 16 47.2	-0.2
	baz=40					
E17K	Hotham Inlet	63.14 341	P	P	21 16 47.6	-0.1
	baz=35					
TUC	Tucson	63.20 290	P	P	21 16 49.1	+0.4
TUC			IAmb	IAmb	21 16 58.4	
	comp=Z,8.3nm,1.1s					
G18K	Tagagawik	63.35 340	IAmb	IAmb	21 16 53.2	
	comp=Z,17nm,1.5s					
G18K	Tagagawik	63.35 340	P	P	21 16 49.5	+0.4
	baz=37					
KAIM	Kayak Island	63.48 330	P	P	21 16 49.7	-0.3
	baz=46					
SML	Sawmill	63.48 333	P	P	21 16 49.9	-0.2
	baz=44					
J20K	Nowinta River	63.49 337	P	P	21 16 49.9	-0.1
	baz=40					
EYAK	Cordova Ski Ar	63.51 331	P	P	21 16 49.7	-0.5
	baz=45					
F17K	Baldwin Pennin	63.53 341	IAmb	IAmb	21 16 51.7	
	comp=Z,7.0nm,0.9s					
F17K	Baldwin Pennin	63.53 341	P	P	21 16 49.8	-0.4
	baz=36					
W13A	Hualapai Mount	63.56 294	P	P	21 16 51.8	+0.6
GLI	Glacier Island	63.74 331	P	P	21 16 51.5	-0.3
	baz=44					
GCSA	Galena City Sc	63.80 338	P	P	21 16 52.0	0.0
	baz=38					
KNK	Knik Glacier	63.81 332	P	P	21 16 52.3	+0.1
	baz=43					
H18K	Honhosa River	63.87 339	P	P	21 16 52.7	+0.2
	baz=37					
PMR	Palmer	63.90 333	P	P	21 16 52.5	-0.3
	baz=43					
J19K	Poorman	64.05 337	P	P	21 16 53.3	-0.4
	baz=39					
K20K	Telida	64.10 336	P	P	21 16 53.3	-0.8
	baz=40					
SJMB	Sao Joao De Ma	64.15 194	eP	P	21 16 54.7	-0.1
G17K	Kiwalik Mounta	64.16 340	P	P	21 16 53.7	-0.7
	baz=36					
ETMB	Extrema	64.17 222	IAmb	IAmb	21 16 54.8	
	comp=Z,12nm,1.4s					
ETMB	Extrema	64.17 222	eP	P	21 16 54.0	-1.1
PWL	Port Wells	64.18 332	P	P	21 16 54.4	-0.3
	baz=43					
BSFB	Barra de Sao F	64.22 193	eP	P	21 16 55.0	-0.3
VILB	Vilhena	64.26 215	eP	P	21 16 56.3	+0.6
NVAR	Mina Array Bea	64.35 299	P	P	21 16 54.4	-2.0
	comp=Z,0.4nm,0.3s,baz=52,slow=5.7,SNR=1.6					
	comp=Z,0.4nm,0.3s					
SKT	Skwentna	64.38 334	P	P	21 16 55.5	-0.5
	baz=41					

H17K	Granite Mounta	64.43	339	P	P	21 16 55.8 -0.5
	baz=36					
RC01	Rabbit Creek A	64.47	333	P	P	21 16 56.0 -0.6
	baz=42					
P23K	Montague Islan	64.48	331	P	P	21 16 56.3 -0.3
	baz=44					
SUA	Susitna One	64.52	333	P	P	21 16 56.1 -0.9
	baz=42					
RIB01	Linhares ES	64.62	193	eP	P	21 16 60.0 +2.1
G16K	Koyuk River	64.66	341	P	P	21 16 57.0 -0.6
	baz=34					
L20K	Farewell, AK	64.72	335	P	P	21 16 57.2 -1.0
	baz=40					
J18K	Innoko River	64.77	337	P	P	21 16 57.6 -0.8
	baz=38					
F15K	North Star Dit	64.92	342	IAmb	IAmb	21 17 01.9
	comp=Z,11nm,1.2s					
F15K	North Star Dit	64.92	342	P	P	21 16 59.1 -0.4
	baz=33					
IPMB	Ipameri, GO	64.95	201	eP	P	21 16 59.9 -0.3
M20K	Styx River	64.95	335	P	P	21 16 58.3 -1.5
	baz=40					
TTA	Tatalina	64.99	336	P	P	21 16 59.0 -0.9
	baz=38					
YBH	Yreka Blue Hor	64.99	305	LR	LR	21 43 00.6
	comp=Z,392nm,20.9s,baz=108,slow=34					
PMNB	Patos De Minas	65.05	199	eP	P	21 17 01.1 +0.3
SEW	Seward	65.11	332	P	P	21 16 60.0 -0.7
	baz=42					
CAPN	Captain Cook N	65.17	333	P	P	21 17 01.1 +0.1
	baz=41					
SPCR	Spurr Chakacha	65.18	334	P	P	21 17 00.3 -1.0
	baz=41					
L19K	White Mountain	65.24	336	P	P	21 17 01.1 -0.4
	baz=39					
H16K	Elim	65.25	340	P	P	21 17 01.6 +0.1
	baz=34					
HSIG		65.34	287	P	P	21 17 03.4 +0.7
HSIG				IAmb	IAmb	21 17 12.4
	comp=Z,11nm,0.9s					
G15K	Niukluk	65.39	341	P	P	21 17 02.3 -0.1
	baz=33					
J17K	VABM Dome	65.46	338	P	P	21 17 02.8 -0.1
	baz=36					
I17K	Unalakleet	65.49	339	P	P	21 17 02.5 -0.5
	baz=35					
F14K	Arctic Creek	65.50	342	P	P	21 17 03.0 -0.1
	baz=32					
CZSB	Cruzeiro do Su	65.72	230	P	P	21 17 03.0 -2.2
CZSB	Cruzeiro do Su	65.72	230	eP	P	21 17 03.4 -1.8
L18K	Granite Mounta	65.74	336	P	P	21 17 04.6 -0.1
	baz=38					
TNA	Tin City	65.76	343	P	P	21 17 04.4 -0.4
	baz=30					
BRSE	Bradley Lake S	65.81	332	P	P	21 17 05.1 -0.2
	baz=41					
KURK	Kurchatov	65.85	42	P	P	21 17 05.4 -0.3
KURBB	Kurchatov Arra	65.87	42	P	P	21 17 06.5 +0.8
	comp=Z,12nm,0.9s,baz=316,slow=6.9,SNR=95					
	comp=Z,12nm,0.9s					
J16K	Anvik River	65.96	339	P	P	21 17 06.0 -0.1
	baz=35					
ANM	Nome	66.06	341	P	P	21 17 06.4 -0.4
	baz=32					
M18K	Stony River	66.07	335	P	P	21 17 06.4 -0.4
	baz=38					
PTLB	Pontes e Lacer	66.10	213	P	P	21 17 06.9 -0.6
PTLB	Pontes e Lacer	66.10	213	eP	P	21 17 07.8 +0.2
PFO	Pinyon Flats O	66.15	294	LR	LR	21 46 24.2
	comp=Z,292nm,18.2s,baz=64,slow=36					
N19K	Bonanza Creek	66.19	334	P	P	21 17 07.1 -0.7
	baz=39					
L17K	Donlin	66.27	337	P	P	21 17 07.8 -0.4
	baz=37					
ZAA0	Zalesovo Array	66.44	36	IAmb	IAmb	21 17 11.1
	comp=Z,8.4nm,1.1s					
ZALV	Zalesovo Beam	66.44	36	P	P	21 17 08.6 -0.7
ZALV	Zalesovo Beam	66.44	36	P	P	21 17 09.7 +0.4
	comp=Z,3.8nm,0.7s,baz=299,slow=8.4,SNR=22					
ZALV				LR	LR	21 45 25.8
	comp=Z,134nm,21.6s,baz=309,slow=35					
	comp=Z,3.8nm,0.7s					
KKAR	Karatay Array	66.58	52	P	P	21 17 11.1 +0.6
KKAR	Karatay Array	66.58	52	P	P	21 17 10.4 -0.1
M17K	Holitna River	66.61	336	P	P	21 17 10.1 -0.3
	baz=37					
N18K	Kilae Creek	66.73	335	P	P	21 17 11.0 -0.1
	baz=38					
TKX	Tecate	66.90	293	P	P	21 17 13.6 +0.8
K15K	Wolf Creek Mou	67.02	338	P	P	21 17 12.6 -0.3
	baz=34					
BILL	Bilibino	67.10	354	P	P	21 17 12.8 -0.6
HRA	Herat	67.11	64	IAmb	IAmb	21 17 16.5
	comp=Z,16nm,1.9s					
J14K	Nanvaranak Lak	67.16	339	P	P	21 17 14.3 +0.5
	baz=33					
ITRB	Iturama	67.16	203	eP	P	21 17 14.4 +0.2
O18K	Koktuh Hills	67.17	334	P	P	21 17 13.3 -0.7
	baz=38					
Q20K	Shuyak Island	67.23	332	P	P	21 17 13.7 -0.6
	baz=40					
N17K	Nushagak Hills	67.24	335	P	P	21 17 13.8 -0.5
	baz=37					
M16K	Timber Creek	67.36	336	P	P	21 17 14.4 -0.7
	baz=36					
Q19K	Cape Douglas,	67.39	333	P	P	21 17 14.8 -0.6
	baz=39					
L15K	Ungalak Mounta	67.52	338	P	P	21 17 15.5 -0.6
	baz=34					
P18K	Big Mountain,	67.54	334	P	P	21 17 16.1 -0.2
	baz=38					
KDAK	Kodiak Island	67.93	331	LR	LR	21 44 52.2
	comp=Z,384nm,18.6s,baz=315,slow=34					
BB19B	Bebedouro	67.98	200	eP	P	21 17 20.2 +0.7
LPIG	La Paz	68.02	283	LR	LR	21 46 41.3
	comp=Z,286nm,19.5s,baz=39,slow=36					
SIMJ	Simiganj	68.57	57	P	P	21 17 23.1 -0.2
SIMJ				IAmb	IAmb	21 17 30.4
	comp=Z,11nm,1.3s					
OHAK	Old Harbor	68.61	331	P	P	21 17 22.6 -0.4
	baz=39					
MBAR	Mbarara	68.86	113	P	P	21 17 24.8 -0.6
MBAR				IAmb	IAmb	21 17 32.8
	comp=Z,11nm,1.2s					
RPRD	Ribas do Rio P	68.87	206	eP	P	21 17 25.6 +0.6
LODK	Lodwar	69.00	107	P	P	21 17 25.1 -1.0
AAK	Ala-Archa	69.10	50	P	P	21 17 26.9 +0.3
AAK				IAmb	IAmb	21 17 29.6
	comp=Z,13nm,1.4s					
AAK	Ala-Archa	69.10	50	LR	LR	21 50 01.9
	comp=Z,224nm,18.1s,baz=331,slow=38					
O15K	Ungalikthiuk R	69.12	336	P	P	21 17 25.9 -0.2
	baz=35					
SII	Sitkinak Islan	69.43	331	P	P	21 17 27.3 -0.8
	baz=38					
AQDB	Aquidauana	69.50	207	eP	P	21 17 29.6 +0.7
BDQN	Bodoquena, MS	69.83	208	eP	P	21 17 31.2 +0.3
MAKZ	Makanchi	70.14	43	P	P	21 17 32.6 -0.1
MAKZ				IAmb	IAmb	21 17 34.6
	comp=Z,21nm,1.5s					
MKAR	Makanchi Array	70.30	43	P	P	21 17 33.9 +0.1
MKAR	Makanchi Array	70.30	43	P	P	21 17 34.2 +0.5
	comp=Z,6.7nm,0.8s,baz=325,slow=5.9,SNR=80					
MKAR				LR	LR	21 49 46.7
	comp=Z,153nm,19.3s,baz=329,slow=37					
	comp=Z,6.7nm,0.8s					
FRTB	Fartura	70.42	201	eP	P	21 17 35.5 +0.9
CHIR	Chirikof Islan	70.51	332	P	P	21 17 34.0 -0.8
	baz=37					
LPAZ	La Paz	70.69	221	P	P	21 17 36.5 -0.6
	comp=Z,4.3nm,1.0s,baz=6.5,slow=6.2,SNR=11					
	comp=Z,4.3nm,1.0s					
LPAZ	La Paz	70.69	221	eP	P	21 17 36.8 -0.2
CHGN	Chignik	71.04	333	P	P	21 17 38.1 +0.1
	baz=35					
WSAR	Wadi Sarin	71.90	75	LR	LR	21 53 33.3
	comp=Z,66nm,19.8s,baz=322,slow=39					
KSH	Kashi	72.03	52	P	P	21 17 45.4 +0.9
KSH				sP	pwP	21 17 51.9 +2.1
KSH				pmax	pmax	
	comp=Z,16nm,1.1s					
KSH				LR	LR	
	comp=Z,210nm,16.0s					
KSH				LR	LR	
	comp=Z,200nm,15.6s					
KSH				LR	LR	
	comp=Z,280nm,16.1s					
YAK	Yakutsk	72.19	11	P	P	21 17 44.4 -0.4
YAK				IAmb	IAmb	21 17 47.1
	comp=Z,15nm,1.0s					
CHNA	Chernabura Isl	72.64	333	P	P	21 17 47.5 -0.1
	baz=34					
WUS	Wushi	72.66	49	IAmb	IAmb	21 17 50.3
	comp=Z,17nm,1.3s					
KMBO	Kilima Mbogo	73.60	109	P	P	21 17 54.4 +0.3
KMBO				IAmb	IAmb	21 18 02.4
	comp=Z,11nm,1.2s					
NIL	Nilore	74.47	58	P	P	21 17 58.3 -0.5
NIL				IAmb	IAmb	21 18 00.4
	comp=Z,15nm,1.1s					
ITAB	Concordia	74.80	202	eP	P	21 18 01.4 +0.9
HMBC	Humberstone	74.97	220	P	P	21 18 00.1 -1.7
WMQ	Urumqi	75.08	42	eP	P	21 18 03.8 +1.5
WMQ				pP	pwP	21 18 09.7 +2.1
WMQ				pmax	pmax	
	comp=Z,18nm,0.9s					
CPUP	Villa Florida	75.48	207	P	P	21 18 03.3 -1.1
CPUP				IAmb	IAmb	21 18 04.1
	comp=Z,11nm,1.1s					
CPUP	Villa Florida	75.48	207	P	P	21 18 03.5 -0.9
	comp=Z,4.5nm,0.9s,baz=2.1,slow=6.2,SNR=8.3					
	comp=Z,4.5nm,0.9s					
CPUP	Villa Florida	75.48	207	eP	P	21 18 03.8 -0.6
TSUM	Tsumeb	76.05	136	LR	LR	21 49 06.9
	comp=Z,266nm,19.1s,baz=312,slow=34					
CPSB	Cacapava Do Su	78.16	202	eP	P	21 18 19.2 -0.2
LSZ	Lusaka	78.61	125	P	P	21 18 22.3 -0.2
LSZ				IAmb	IAmb	21 18 29.5
	comp=Z,16nm,1.2s					
LSZ	Lusaka	78.61	125	LR	LR	21 54 23.0
	comp=Z,180nm,18.1s,baz=314,slow=37					
GO02	Mina Guanaco	79.09	218	IAmb	IAmb	21 18 26.5
	comp=Z,22nm,1.1s					
SONM	Songino Array	79.64	29	P	P	21 18 27.6 -0.2
SONM				IAmb	IAmb	21 18 29.7
	comp=Z,11nm,1.0s					
SONM	Songino Array	79.64	29	P	P	21 18 28.6 +0.8
	comp=Z,6.7nm,0.8s,baz=318,slow=6.0,SNR=60					
	comp=Z,6.7nm,0.8s					
ULN	Ulaanbaatar	79.84	29	P	P	21 18 29.1 +0.1
ULN				IAmb	IAmb	21 18 31.2
	comp=Z,14nm,1.1s					
TBOT	Tacuaremb	80.06	204	eP	P	21 18 29.9 +0.1
AC02	Maricunga	80.36	216	P	P	21 18 31.4 -0.8
AC02				IAmb	IAmb	21 19 12.9
	comp=Z,10nm,0.7s					
SHEM	Shemya Is, Ala	81.11	346	LR	LR	21 54 12.2
	comp=Z,73nm,19.1s,baz=82,slow=35					
PETK	Petropavlovsk-	82.48	356	P	P	21 18 42.9 +0.2
	comp=Z,3.9nm,0.9s,baz=34,slow=8.9,SNR=3.3					
	comp=Z,3.9nm,0.9s					
H09N1	TRISTAN DA CUN	82.61	167	T	T	22 49 35.7
	SNR=6.5					
LCO	Las Campanas	82.92	217	P	P	21 18 44.0 -1.4
HEH	HeiHe	83.12	15	eP	P	21 18 46.8 +0.8
HEH				pmax	pmax	
	comp=Z,13nm,1.3s					
CO01	Juntas del Tor	83.51	216	IAmb	IAmb	21 18 51.3
	comp=Z,7.0nm,0.9s					
GTA	Gaotai	84.14	38	P	P	21 18 51.6 0.0
GTA				pP	pwP	21 18 57.2 +0.2
GTA				pmax	pmax	
	comp=Z,17nm,1.0s					
GTA				LR	LR	
	comp=Z,100nm,13.9s					
GTA				LR	LR	
	comp=Z,61nm,15.1s					
GTA				LR	LR	
	comp=Z,150nm,13.5s					
LBTB	Lobatse	84.97	133	LR	LR	21 55 09.4
	comp=Z,177nm,20.2s,baz=294,slow=34					
XLT	XiLinHaoTe	86.28	25	eP	P	21 19 02.2 0.0
XLT				pmax	pmax	
	comp=Z,9.0nm,2.0s					
XLT				pmax	pmax	
	comp=Z,160nm,3.8s					
HHC	Hu-ho-hao-te	87.54	29	eP	P	21 19 06.0 -2.5
HHC				sP	pwP	21 19 17.4 +3.6
HHC				pmax	pmax	
	comp=Z,5.0nm,1.3s					
HHC				pmax	pmax	
	comp=Z,140nm,5.7s					
HHC				LR	LR	
	comp=Z,85nm,16.0s					
HHC				LR	LR	
	comp=Z,110nm,14.3s					
BOSA	Boshof	87.73	135	P	P	21 19 08.2 -1.0
	comp=Z,6.0nm,0.9s,baz=340,slow=4.8,SNR=6.0					
BOSA				LR	LR	21 57 00.3
	comp=Z,255nm,19.9s,baz=316,slow=35					
	comp=Z,6.0nm,0.9s					
LZH	Lanzhou	88.66	37	eP	P	21 19 15.3 +1.4
LZH				pP	pwP	21 19 20.8 +1.5
LZH				pmax	pmax	
	comp=Z,16nm,1.3s					
SUR	Sutherland	88.71	140	LR	LR	21 55 26.6
	comp=Z,136nm,19.1s,baz=307,slow=33					
USRK	Usuriysk Ar.	89.79	14	P	P	21 19 18.3 -0.6
	comp=Z,1.5nm,0.6s,baz=349,slow=1.5,SNR=2.8					
	comp=Z,1.5nm,0.6s					
HNS	HongShan	91.72	29	⇑P	P	21 19 28.6 +0.7
HNS				pmax	pmax	
	comp=Z,7.0nm,1.5s					
XAN	Xi'an	92.54	34	P	P	21 19 31.5 -0.4
XAN				pmax	pmax	
	comp=Z,7.0nm,1.4s					
OPO	Ambohidratompo	92.94	113	LR	LR	22 01 55.8
	comp=Z,84nm,19.8s,baz=204,slow=36					
BRDH	Bariadhala	93.43	53	LR	LR	22 04 41.2
	comp=Z,77nm,18.6s,baz=328,slow=38					
LYN	LuoYang	93.46	32	P	P	21 19 36.6 +0.6
LYN				pP	pwP	21 19 41.6 +0.2
LYN				sP	sP	21 19 43.0 +4.9
LYN				pmax	pmax	
	comp=Z,12nm,1.1s					
PZH	PanZhiHua	95.74	44	P	P	21 19 46.8 0.0
PZH				pmax	pmax	
	comp=Z,10.0nm,0.9s					
PZH				pmax	pmax	
	comp=Z,130nm,6.9s					
NJ2	Nanjing	97.98	28	eP	Pdif	21 19 59.5 +2.8
NJ2				pmax	pmax	
	comp=Z,18nm,1.0s					
TAOE	Nuku Hiva Isla	111.74	279	eLR	LR	21 58 02.2
	comp=Z,242nm,25.6s					
PPT2	Papeete2	124.37	279	eLR	LR	22 03 52.9
	comp=Z,250nm,23.0s					
PPT2				eLR	LR	22 03 53.8
	comp=Z,249nm,24.2s					
TBI	Tubuai	128.03	274	eLR	LR	22 05 39.3
	comp=Z,636nm,32.8s					
QSPA	South Pole Qui	134.53	180	PKhKP	PKPpre	21 25 34.1
	comp=Z,2.1nm,0.2s,baz=255,slow=2.3,SNR=5.4					
VNDA	Vanda	146.78	184	PKPbc	PKPbc	21 26 01.5 +0.4
	comp=Z,4.3nm,0.9s,baz=189,slow=0.4,SNR=4.1					
WRA	Warramunga Arr	151.41	36	PKPbc	PKPbc	21 26 13.5 -1.0
	comp=Z,0.6nm,0.6s,baz=316,slow=2.8,SNR=8.3					
ASAR	Alice Springs	154.48	41	PKPbc	PKPbc	21 26 20.2 -1.0
	comp=Z,0.3nm,0.5s,baz=348,slow=2.8,SNR=2.0					
ASAR				PKPab	PKPab	21 26 35.1 -0.4
	comp=Z,1.6nm,0.8s,baz=337,slow=4.1,SNR=7.7					

*IDC **04** 21:13:09.2±1.2, 22°.28N×143°.93E, h0km, mb3.6/9, mbtmp3.6/9, Error ellipse: s-maj=37.4km s-min=25.5km az=86.0*

ISC 04 21:13:16.3±1.2, 22°.3N±0°.2×143°.9E±0°.3, h53km, n9, σ0ˢ75/9, mb3.4/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.33	320	P	P	21 20 40.9	+0.4
	0.2nm,0.4s,baz=118,slow=9.1,SNR=1.6						
	0.2nm,0.4s						
WRA	Warramunga Arr	42.96	193	P	P	21 21 10.5	+0.1
	0.3nm,0.4s,baz=10,slow=8.4,SNR=15						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	54.18	321	P	P	21 22 35.9	-0.3
	0.4nm,0.5s,baz=90,slow=7.5,SNR=2.1						
	0.4nm,0.5s						
MKAR	Makanchi Array	54.80	312	P	P	21 22 41.8	+0.9
	0.4nm,1.0s,baz=92,slow=7.3,SNR=2.2						
	0.4nm,1.0s						
KURBB	Kurchatov Arra	57.56	317	P	P	21 23 00.8	+0.3
	0.7nm,0.6s,baz=92,slow=8.0,SNR=5.7						
	0.7nm,0.6s						
ILAR	Eielson Array	61.25	27	P	P	21 23 25.9	+0.2
	0.2nm,0.7s,baz=270,slow=8.2,SNR=1.7						
	0.2nm,0.7s						
BVAR	Borovoye Array	62.67	319	P	P	21 23 35.5	+0.1
	0.6nm,0.3s,baz=102,slow=7.5,SNR=4.5						
	0.6nm,0.3s						
YKA	Yellowknife Ar	75.66	28	P	P	21 24 56.0	+0.4
	0.3nm,0.8s,baz=319,slow=6.5,SNR=6.0						
	0.3nm,0.8s						
FINES	FINESS Array B	82.96	335	P	P	21 25 34.0	-1.4
	1.9nm,0.9s,baz=56,slow=5.4,SNR=1.6						
	1.9nm,0.9s						

RSNC 04 21:15:26.8±0.0, 7°N±1°×7°3W±°, h149km±1km, M2.5, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	183	P	Pn	21 15 46.7	-0.7
BARC				S	Sn	21 16 01.9	-1.1
BRJC	Barrancabermej	0.59	285	P	Pn	21 15 48.3	-0.2
BRJC				S	Sn	21 16 05.4	+0.4
PAMC	Pamplona, Colo	0.70	42	P	Pn	21 15 49.6	-0.2
PAMC				S	Sn	21 16 06.7	-0.5
RUSC	La Rusia	0.93	175	P	Pn	21 15 50.6	-0.9
RUSC				S	Sn	21 16 09.3	-0.9
RUSC	La Rusia	0.93	175	P	Pn	21 15 50.1	-1.3
PTBC	PUERTO BERRIO,	1.31	258	P	Pn	21 15 53.3	-1.0
PTBC				S	Sn	21 16 14.3	-1.1
OCAC	Ocana	1.42	354	P	Pn	21 15 54.8	-0.8
OCAC				S	Sn	21 16 17.2	-0.5
TAMC	Tame, Arauca	1.42	106	P	Pn	21 15 55.2	-0.3
TAMC				S	Sn	21 16 16.9	-0.6
SPBC	San Pablo de B	1.47	218	P	Pn	21 15 55.6	-0.5
SPBC				S	Sn	21 16 17.9	-0.5
ZARC	Zaragoza, Cauc	1.80	292	P	Pn	21 15 59.2	-0.4
ZARC				S	Sn	21 16 25.0	+0.2
NORC	Norcasia	2.10	234	P	Pn	21 16 02.8	-0.3
NORC				S	Sn	21 16 30.3	-0.7
CHIC	Chingaza	2.25	194	P	Pn	21 16 05.0	-0.2
CHIC				S	Sn	21 16 34.6	-0.2
ROSC	El Rosal	2.28	210	P	Pn	21 16 07.0	+1.4
ROSC				S	Sn	21 16 37.7	+2.4
UREC	San Jos de Ur	2.52	292	P	Pn	21 16 07.1	-1.0
UREC				S	Sn	21 16 36.4	-3.6
GUY2C	Guyana, Caldas	2.70	234	P	Pn	21 16 12.2	+1.4
GUY2C				S	Sn	21 16 48.5	+3.8
VILC	Villavicencio,	2.74	191	P	Pn	21 16 10.2	-0.8
VILC				S	Sn	21 16 44.2	-1.0
DBBC	Dabeiba	3.02	274	P	Pn	21 16 14.2	-0.3
DBBC				S	Sn	21 16 50.9	-0.5
ARGC	Ariguani, Magd	3.20	341	P	Pn	21 16 17.0	+0.3
ARGC				S	Sn	21 16 54.6	-0.8
ANIL	Santa Ana	3.21	224	P	Pn	21 16 18.3	+1.2
ANIL				S	Sn	21 16 58.7	+2.7
PRAC	Prado	3.53	209	P	Pn	21 16 20.4	-0.6
PRAC				S	Sn	21 17 02.7	-0.3
ORTC	Ortega, Tolima	3.56	216	P	Pn	21 16 21.5	+0.2
ORTC				S	Sn	21 17 03.9	+0.3
SJCC	San Jacinto, C	3.65	327	P	Pn	21 16 20.7	-1.8
SJCC				S	Sn	21 17 02.5	-3.3
URMC	La Uribe, Meta	3.75	199	P	Pn	21 16 23.9	0.0
URMC				S	Sn	21 17 06.9	-1.3
CRJC	Cerrejon, Guaj	4.18	4	P	Pn	21 16 34.1	+4.5
CRJC				S	Sn	21 17 15.5	-2.9

*IDC **04** 21:31:38.4±1.0, 12°.97S×45°.25E, h0km, mb3.6/9, mbtmp3.6/9, MS4.3/1, Error ellipse: s-maj=33.0km s-min=27.2km az=136.0*

*NEIC **04** 21:31:39.2±0.7, 12°.86S±0°.08×45°.3E±0°.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=19.7km s-min=11.3km az=238.0*

ISC 04 21:31:39.1±0.6, 12°.86S±0°.09×45°.26E±0°.09, h10km, n26, σ1ˢ39/26, mb3.9/14, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	Ambohimpanom	6.41	163	Pn	Pn	21 33 13.5	-0.2
VOI	Vohitsoka	9.11	171	Pn	Pn	21 33 50.7	-0.2
FOMA	Nahampoana Res	12.16	173	Pn	Pn	21 34 32.1	-0.3
KIBK	Kibwezi	12.66	325	Pn	Pn	21 34 39.1	-0.4
RER	Riviere de l'E	12.98	131	Pn	Pn	21 34 41.2	-2.6
LSZ	Lusaka	16.73	260		Pn	21 35 32.5	-1.4
LSZ				IAmb	IAmb	21 35 40.5	
	comp=Z,16nm,0.8s						
LBTB	Lobatse	22.15	234	P	P	21 36 34.9	-0.4
BOSA	Boshof	24.34	227	P	P	21 36 58.0	+0.6
BOSA				IAmb	IAmb	21 37 29.3	
	comp=Z,11nm,1.4s						
BOSA	Boshof	24.34	227	P	P	21 36 58.1	+0.6
	comp=Z,3.0nm,1.0s,baz=52,slow=10,SNR=5.1						
	comp=Z,3.0nm,1.0s						
MNCI	Minicoy	34.70	54	P	P	21 38 28.7	-0.7
TORD	Torodi Ar. Bea	50.33	299	P	P	21 40 35.7	-0.9
TORD	Torodi Ar. Bea	50.33	299	P	P	21 40 38.2	+1.7
	comp=Z,0.5nm,0.9s,baz=140,slow=7.5,SNR=2.5						
TORD				LR	LR	22 03 39.8	
	comp=Z,290nm,18.7s,baz=286,slow=38						
	comp=Z,0.5nm,0.9s						
ARG	Arkhangelos	51.43	342	P	P	21 40 42.4	-2.0
ABKAR	Akbulak array	63.19	11	P	P	21 42 06.8	-0.4
ABKAR				IAmb	IAmb	21 42 15.4	
	comp=Z,2.3nm,0.8s						
PZH	PanZhiHua	67.39	54	P	P	21 42 37.4	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,6.2s						
MKAR	Makanchi Array	68.03	26	P	P	21 42 39.1	+0.5
MKAR	Makanchi Array	68.03	26	P	P	21 42 40.3	+1.6
	comp=Z,0.4nm,0.8s,baz=212,slow=4.3,SNR=4.2						
	comp=Z,0.4nm,0.8s						
BVAR	Borovoye Array	69.08	16	P	P	21 42 45.7	+0.6
	comp=Z,0.2nm,0.3s,baz=235,slow=5.1,SNR=3.8						
	comp=Z,0.2nm,0.3s						
ESDC	Sonseca Array	69.46	321	P	P	21 42 47.8	0.0
	comp=Z,0.4nm,0.8s,baz=122,slow=4.6,SNR=2.3						
	comp=Z,0.4nm,0.8s						
KURBB	Kurchatov Arra	69.58	22	P	P	21 42 50.1	+1.9
	comp=Z,0.2nm,0.4s,baz=232,slow=6.0,SNR=5.7						
	comp=Z,0.2nm,0.4s						
KURK	Kurchatov	69.69	22	P	P	21 42 47.6	-1.2
KURK				IAmb	IAmb	21 43 25.2	
	comp=Z,3.4nm,1.4s						
ARTI	Arti	69.86	8	P	P	21 42 49.4	-0.4
ARTI				IAmb	IAmb	21 43 13.6	
	comp=Z,6.1nm,1.4s						
ZALV	Zalesovo Beam	74.57	23	P	P	21 43 21.6	+3.5
	comp=Z,0.3nm,0.7s,baz=197,slow=9.3,SNR=3.5						
	comp=Z,0.3nm,0.7s						
HHC	Hu-ho-hao-te	81.19	45	eP	P	21 43 55.7	+0.4
HHC				pmax	pmax		
	comp=Z,6.0nm,1.8s						
HHC				pmax	pmax		
	comp=Z,72nm,4.1s						
ASAR	Alice Springs	83.72	113	P	P	21 44 08.9	-0.1
	comp=Z,0.5nm,0.8s,baz=259,slow=5.2,SNR=2.4						
	comp=Z,0.5nm,0.8s						
WRA	Warramunga Arr	84.85	109	P	P	21 44 15.6	+0.9
	comp=Z,1.0nm,1.0s,baz=266,slow=3.6,SNR=3.0						
	comp=Z,1.0nm,1.0s						

**TXNET 04 22:05:32.7, 31°.5N±1°.0×103°.7W±0°.7, h5km±2km, ML1.8/6, Error ellipse: s-maj=1.5km s-min=1.

TPB01	**Permian Basin**	**0.58**	**188**	P	Pg	22 05 43.8	-0.1
TPB01				S	Sg	22 05 52.1	+0.6
TPB05	**Hovey Rd**	**0.67**	**153**	S	Sb	22 05 55.7	-1.1
MNHN	**Monahans**	**0.81**	**103**	P	Pg	22 05 48.0	-0.2
MNHN				S	Sg	22 05 59.0	+0.2
CLN7	**Carlsbad 7**	**0.90**	**353**	P	Pb	22 05 50.7	-0.2
TPB08	**Permian Basin**	**0.92**	**133**	S	Sb	22 06 04.2	+0.6
HTMS	**Hat Mesa**	**0.95**	**3**	S	Sg	22 06 04.0	+0.6
ALPN	**Alpine**	**1.14**	**178**	P	Pg	22 05 54.0	-0.7
ALPN				S	Sg	22 06 09.9	+0.4
VHRN	**Van Horn**	**1.33**	**237**	P	Pn	22 05 57.8	-0.4
VHRN				S	Sb	22 06 15.9	+0.1
TMB02	**Rankin**	**1.45**	**102**	S	Sg	22 06 19.2	0.0
MNTX	**Cornudas Mount**	**1.46**	**277**	P	Pn	22 06 00.0	+0.2
MNTX				S	Sg	22 06 20.0	+0.6
SAND	**Sanderson**	**2.06**	**139**	P	Pb	22 06 09.7	-0.9
SAND				S	Sg	22 06 38.2	-0.8
TX31	**Lajitas Ar. Si**	**2.18**	**180**	P	Pb	22 06 11.4	-1.4
TX31				S	Sg	22 06 41.7	-1.0
SGCY	**Sterling City**	**2.21**	**79**	S	Sb	22 06 41.5	+0.4
OZNA	**Ozona**	**2.27**	**105**	P	Pn	22 06 12.4	+1.4
OZNA				S	Sb	22 06 44.0	+1.3

*IDC **04** 22:15:51.3±6.3, 22°.68S×179°.73W, h360km±67km, mb3.2/2, mbtmp3.9/3, Error ellipse: s-maj=79.9km s-min=29.4km az=178.0*

ISC 04 22:15:52.0±1.3, 22°.9S±0°.1×179°.9E±0°.3, h350km, n9, σ2§30/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.62**	**163**	P	**Pn**	**22 17 31.2**	**+1.3**
	530nm,0.5s,baz=349,slow=19,SNR=4.9						
URZ	**Urewera**	**15.49**	**188**	P	**P**	**22 19 12.8**	**+1.0**
	1.8nm,0.5s,baz=339,slow=5.4,SNR=1.5						
URZ				S	**S**	**22 21 53.9**	**-3.6**
	2.9nm,0.7s,baz=129,slow=20,SNR=1.8						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**22 23 12.1**	**+0.8**
	0.5nm,0.4s,baz=93,slow=7.7,SNR=5.2						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**42.38**	**265**	P	**P**	**22 23 15.0**	**+1.5**
	1.1nm,0.4s,baz=96,slow=8.3,SNR=29						
	1.1nm,0.4s						
HFS	**Hagfors**	**141.55**	**349**	PKhKP	PKPpre	22 34 35.1	
	1.4nm,0.5s,baz=46,slow=4.3,SNR=9.8						
AKASG	**Malin Array Be**	**144.08**	**328**	PKP	**PKPab**	**22 34 41.7**	**-3.1**
	0.9nm,0.6s,baz=48,slow=4.6,SNR=6.2						
BRTR	**Keskin Array B**	**146.89**	**308**	PKPbc	**PKPbc**	**22 34 52.5**	**-1.4**
	0.7nm,0.7s,baz=50,slow=4.2,SNR=3.9						
MMAI	**Mount Meron Ar**	**147.19**	**296**	PKPbc	**PKPdf**	**22 34 53.2**	**+1.1**
	1.1nm,0.4s,baz=77,slow=6.4,SNR=6.7						
EKA	**Eskdalemuir Ar**	**147.53**	**3**	PKPbc	**PKPdf**	**22 34 52.0**	**+0.2**
	0.2nm,0.3s,baz=357,slow=2.5,SNR=3.9						

IDC 04 22:22:10.6±7.5, 17°.73S×178°.13W, h549km±26km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=254.5km s-min=32.4km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.65**	**269**	P	P	22 23 29.9	0.0
	18nm,0.7s,baz=76,slow=14,SNR=11						
WRA	**Warramunga Arr**	**44.93**	**259**	P	P	22 29 37.0	-0.2
	1.0nm,0.5s,baz=95,slow=7.2,SNR=13						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**45.10**	**254**	P	P	22 29 38.4	-0.1
	11nm,0.5s,baz=89,slow=8.3,SNR=150						
	11nm,0.5s						
ILAR	**Eielson Array**	**85.65**	**13**	P	P	22 33 50.9	-0.1
	0.1nm,0.4s,baz=204,slow=5.3,SNR=4.3						
	0.1nm,0.4s						

VIE 04 22:24:58.3±0.7, 44°.61N×12°.41E, h2km, mb2.5/7, ml2.1/12, Error ellipse: s-maj=5.7km s-min=4.0km az=8.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**1.76**	**91**	*e*Pn	Pn	22 25 29.0	-0.6
NVLJ				Sn	Sn	22 25 52.3	-0.3
VIRC	**Vir**	**1.92**	**99**	*e*Pn	Pn	22 25 30.8	-1.1
VIRC				Sn	Sn	22 25 55.8	-0.7
ABTA	**Abfaltersbach**	**2.14**	**2**	*e*Pn	Pn	22 25 35.8	+0.8
	1.8nm,0.3s						
OBKA	**Obir**	**2.42**	**38**	*e*Pn	Pn	22 25 38.5	-0.5
	2.3nm,0.4s						
KBA	**Koelnbreinsper**	**2.55**	**14**	Pn	Pn	22 25 40.5	-0.4
	0.8nm,0.3s						
WTTA	**Wattenberg**	**2.71**	**349**	*e*Pn	Pn	22 25 43.3	+0.3
	0.5nm,0.3s						
SQTA	**Sankt Quirin**	**2.74**	**343**	*e*Pn	Pn	22 25 43.2	-0.2
	0.8nm,0.3s						
SOKA	**Soboth**	**2.77**	**41**	*e*Pn	Pn	22 25 43.7	0.0
	0.4nm,0.3s						
WATA	**Walderalm**	**2.79**	**348**	*e*Pn	Pn	22 25 43.9	-0.1
	0.6nm,0.2s						
LESA	**Schwarzleotal**	**2.82**	**4**	*e*Pn	Pn	22 25 43.4	-1.0
	0.6nm,0.3s						
MOTA	**Moosalm**	**2.88**	**342**	*e*Pn	Pn	22 25 43.9	-1.4
	0.2nm,0.2s						
RETA	**Reutte**	**3.10**	**339**	*i* Pn	Pn	22 25 46.8	-1.4
	1.0nm,0.3s						
MOA	**Molln**	**3.49**	**21**	*i* Pn	Pn	22 25 55.1	+1.6
	0.3nm,0.2s						
RONA	**Rosalia, Austr**	**4.10**	**40**	*e*Pn	Pn	22 26 02.0	0.0
	0.3nm,0.2s						

*IDC **04** 22:27:38.6±0.9, 0°.52S×98°.14E, h0km, mb4.2/14, mbtmp4.2/16, ML4.1/2, MS3.6/9, Error ellipse: s-maj=26.7km s-min=17.0km az=55.0*

*NEIC **04** 22:27:40.4±1.4, 0°.46S±0°.06×97°.92E±0°.08, h10km±1km, mb4.5/29, Error ellipse: s-maj=16.0km s-min=4.2km az=236.0*

*DJA **04** 22:27:42.4±0.4, 0°.5±3°×9°8E±°, h52km±18km, M4.8/14, mB5.2/3, mb5.1/6, MLv4.7/14, Mw(mB)4.6/3*

ISC 04 22:27:42.4±0.6, 0°.49S±0°.05×98°.02E±0°.06, h27km, n109, σ1§69/100, mb4.4/39, MS3.7/12, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.35**	**128**	P	**Pb**	**22 28 06.4**	**-0.8**
SISI				S	**Sn**	**22 28 22.9**	**+0.2**
GSI	**Gunungsitoli**	**1.83**	**346**	Pn	**Pn**	**22 28 10.7**	**-1.5**
GSI	**Gunungsitoli**	**1.83**	**346**	P	**Pn**	**22 28 11.1**	**-1.1**
MNSI	**Mandailing Nat**	**2.01**	**51**	P	**Pn**	**22 28 14.9**	**+0.3**
SBSI	**Sibolga**	**2.20**	**23**	P	**Pn**	**22 28 17.3**	**0.0**
PPI	**Padang Panjang**	**2.38**	**89**	P	**Pn**	**22 28 20.1**	**+0.5**
PPI				S	**Sn**	**22 28 46.4**	**-1.5**
PPSI	**Pulau Pagai**	**3.01**	**139**	P	**Pn**	**22 28 27.8**	**-0.6**
PPSI				S	**Sn**	**22 29 02.4**	**-1.2**
BKNI	**Bangkinang**	**3.12**	**75**	Pn	**Pn**	**22 28 30.3**	**+0.4**
BKNI	**Bangkinang**	**3.12**	**75**	P	**Pn**	**22 28 29.0**	**-0.9**
RPSI	**Rantau Prapat**	**3.29**	**16**		**Pn**	**22 28 31.2**	**-0.9**
RPSI	**Rantau Prapat**	**3.29**	**16**		**Pn**	**22 28 31.7**	**-0.5**
RPSI					**Sb**	**22 29 14.1**	**-5.6**
SNSI	**Sinabang, Aceh**	**3.34**	**329**	P	**Pn**	**22 28 30.6**	**-2.3**
SNSI				S	**Sn**	**22 29 10.1**	**-1.6**
PSI	**Prapat**	**3.39**	**15**	Pn	**Pn**	**22 28 31.7**	**-2.0**
	6.3nm,0.3s,baz=180,slow=12,SNR=13						
PSI				Sn	**Sn**	**22 29 14.1**	**+1.0**
	4.0nm,0.3s,baz=191,slow=14,SNR=4.2						
PSI				LR	LR	22 30 07.7	
	comp=Z,1μm,19.4s,baz=280,slow=45						
	13nm,0.4s						
KSI	**Kapahiang**	**5.54**	**125**	P	**Pn**	**22 29 03.4**	**+0.1**
KSI				S	**Sn**	**22 30 06.2**	**-0.1**
IPM	**Ipoh**	**5.77**	**31**	Pn	**Pn**	**22 29 06.7**	**+0.3**
LHMI	**Lhok Sumawe**	**5.78**	**349**	Pn	**Pn**	**22 29 04.7**	**-1.8**
MYKOM	**Kota Tinggi**	**6.25**	**69**	Pn	**Pn**	**22 29 13.0**	**0.0**
MNAI	**Manna**	**6.25**	**128**	Pn	**Pn**	**22 29 13.4**	**+0.4**
MNAI	**Manna**	**6.25**	**128**	P	**Pn**	**22 29 13.4**	**+0.4**
	4μm180nm,0.6s						
KULM	**Kulim**	**6.31**	**25**	Pn	**Pn**	**22 29 13.4**	**-0.4**
BSI	**Banda Aceh**	**6.54**	**335**	P	**Pn**	**22 29 15.5**	**-1.4**
MDSI	**Maura Dua**	**7.32**	**123**	P	**Pn**	**22 29 28.4**	**+0.7**
	0.2nm470nm56nm,0.8s						
LWLI	**Liwa**	**7.52**	**127**	P	**Pn**	**22 29 30.0**	**-0.6**
SBUM	**Sibu**	**14.49**	**78**	Pn	**Pn**	**22 31 04.9**	**-1.0**
DLV	**Lat**	**16.14**	**40**	Pn	**Pn**	**22 31 27.1**	**-0.7**
DLV				IAmb	IAmb	22 31 47.2	
	comp=Z,41nm,1.4s						
UBPT	**Khong Chiam**	**17.31**	**25**	Pn	**Pn**	**22 31 41.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**18.85**	**3**	P	**Pn**	**22 32 00.2**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=194,slow=10,SNR=18						
CMAR				LR	LR	22 39 58.3	
	comp=Z,150nm,18.6s,baz=195,slow=39						
	comp=Z,1.9nm,0.6s						
BKB	**Balikpapan**	**18.89**	**92**	P	**Pn**	**22 32 01.6**	**-0.1**
PHRA	**Phrae**	**18.99**	**6**	P	**P**	**22 32 01.0**	**-1.1**
CHTO	**Chiang Mai**	**19.20**	**3**	P	**P**	**22 32 04.0**	**-0.4**
KKM	**Kota Kinabalu**	**19.29**	**70**	P	**P**	**22 32 05.2**	**-0.3**
KKM				IAmb	IAmb	22 32 07.5	
	comp=Z,26nm,0.6s						
KAPI	**Kappang**	**22.16**	**102**	LR	LR	22 42 10.3	
	comp=Z,157nm,19.7s,baz=264,slow=40						
SLVN	**Son La**	**22.43**	**14**	P	**P**	**22 32 39.2**	**-0.2**
QIZ	**Qiongzhong**	**22.60**	**30**	P	**P**	**22 32 41.0**	**-0.2**
QIZ	**Qiongzhong**	**22.60**	**30**	P	**P**	**22 32 41.4**	**+0.2**
QIZ				S	**S**	**22 36 49.3**	**+1.9**
QIZ				LR	LR		
	comp=N,210nm,12.6s						
QIZ				LR	LR		
	comp=E,150nm,10.2s						
QIZ				LR	LR		
	comp=Z,210nm,9.1s						
TNCH	**TengChong**	**25.37**	**1**	P	**P**	**22 33 09.5**	**+1.8**
TNCH				pP	sP	22 33 17.3	-1.1
TNCH				sP	pP	22 33 20.3	+5.1
TNCH				PP	**PnPn**	**22 33 49.0**	**+5.8**
TNCH				S	**S**	**22 37 32.4**	**-0.4**
TNCH				sS	pS	22 37 42.1	+0.3
TNCH				SS	**SnSn**	**22 38 36.5**	**+11**
TNCH				pmax	pmax		
	comp=Z,15nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,84nm,2.9s						
TNCH				LR	LR		
	comp=N,270nm,11.3s						
TNCH				LR	LR		
	comp=E,130nm,9.2s						
TNCH				LR	LR		
	comp=Z,380nm,13.9s						
KMI	**Kunming**	**25.86**	**10**	⇓P	**P**	**22 33 13.9**	**+1.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KMI				LR	LR		
	comp=N,360nm,12.9s						
KMI				LR	LR		
	comp=E,97nm,11.1s						
KMI				LR	LR		
	comp=Z,410nm,14.7s						
H08S2	**Diego Garcia H**	**26.42**	**254**	T	T	23 00 55.4	
	baz=75,slow=75,SNR=1533						
H08S3	**Diego Garcia H**	**26.43**	**254**	T	T	23 00 54.1	
	baz=75,slow=75,SNR=1400						
H08S1	**Diego Carcia H**	**26.44**	**254**	T	T	23 00 55.2	
	baz=75,slow=75,SNR=1067						
SHL	**Shillong**	**26.57**	**348**	P	**P**	**22 33 17.8**	**-0.8**
SHL				IAmb	IAmb	22 33 21.1	
	comp=Z,8.9nm,0.8s						
TGY	**Tagaytay City**	**26.92**	**57**	LR	LR	22 45 17.3	
	comp=Z,127nm,18.9s,baz=96,slow=39						
PZH	**PanZhiHua**	**27.07**	**7**	P	**P**	**22 33 25.6**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
LSA	**Lhasa**	**30.73**	**348**	P	**P**	**22 33 55.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**32.29**	**124**	LR	LR	22 48 38.6	
	comp=Z,113nm,20.3s,baz=234,slow=39						
XAN	**Xi'an**	**35.84**	**16**	⇑P	**P**	**22 34 39.6**	**-0.3**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN				LR	LR		
	comp=N,300nm,13.6s						
XAN				LR	LR		
	comp=E,260nm,13.9s						
XAN				LR	LR		
	comp=Z,430nm,17.4s						
LZH	**Lanzhou**	**36.79**	**8**	*e*P	**P**	**22 34 50.9**	**+2.7**
LZH				sP	sP	22 35 02.7	+3.7
LZH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H01W3	**Cape Leeuwin H**	**37.38**	**158**	T	T	23 14 28.2	
	baz=334,slow=76,SNR=7.2						
LYN	**LuoYang**	**37.39**	**20**	P	**P**	**22 34 53.8**	**+0.7**
LYN				pP	pP	22 35 00.3	-0.4
LYN				sP	sP	22 35 06.6	+2.7
LYN				pmax	pmax		
	comp=Z,18nm,0.7s						
H01W2	**Cape Leeuwin H**	**37.40**	**158**	T	T	23 14 29.2	
	baz=334,slow=76,SNR=6.3						
H01W1	**Cape Leeuwin H**	**37.40**	**158**	T	T	23 14 29.4	
	baz=334,slow=76,SNR=7.9						
NJ2	**Nanjing**	**37.89**	**29**	*e*P	**P**	**22 34 58.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA	**Gaotai**	**39.74**	**2**	*e*P	**P**	**22 35 13.5**	**+0.6**
GTA				sP	pwP	22 35 22.2	+1.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**40.46**	**121**	P	**P**	**22 35 18.0**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=299,slow=9.0,SNR=7.8						
	comp=Z,1.8nm,0.7s						
HNS	**HongShan**	**40.73**	**21**	⇑P	**P**	**22 35 22.9**	**+1.9**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NIL	**Nilore**	**41.17**	**328**	P	**P**	**22 35 23.9**	**-0.9**
NIL				IAmb	IAmb	22 35 25.4	
	comp=Z,4.7nm,0.6s						
ASAR	**Alice Springs**	**41.74**	**126**	P	**P**	**22 35 28.9**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=302,slow=7.9,SNR=12						
	comp=Z,1.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**42.95**	**15**	*e*P	**P**	**22 35 41.3**	**+2.1**
HHC				pP	pwP	22 35 47.6	-1.4
HHC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
HHC				LR	LR		
	comp=N,110nm,11.8s						
HHC				LR	LR		
	comp=E,170nm,11.4s						
BJT	**Baijiatuau**	**43.59**	**20**	P	**P**	**22 35 43.5**	**-0.8**
BJT				IAmb	IAmb	22 35 48.1	
	comp=Z,16nm,1.3s						
BJI	**Beijing**	**43.61**	**20**	P	**P**	**22 35 46.4**	**+2.0**
BJI				pP	**pwP**	**22 35 54.0**	**-0.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.4s						
KSH	**Kashi**	**44.63**	**336**	P	**P**	**22 35 51.4**	**-1.5**
KSH				pP	pP	22 35 56.8	-3.7
KSH				pmax	pmax		
	comp=Z,3.0nm,1.9s						
WUS	**Wushi**	**44.86**	**340**	P	**P**	**22 35 53.1**	**-1.6**
WUS				IAmb	IAmb	22 35 56.6	
	comp=Z,3.7nm,0.8s						
WMQ	**Urumqi**	**45.07**	**349**	*e*P	**P**	**22 35 57.3**	**+1.1**
WMQ				pP	pP	22 36 03.2	-0.8
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
JNU	**Nakatsue**	**45.55**	**40**	LR	LR	22 55 49.6	
	comp=Z,53nm,19.4s,baz=284,slow=37						
TARG	**Taragay, Kyrgy**	**45.83**	**339**	P	**P**	**22 36 01.9**	**-0.7**
TARG				IAmb	IAmb	22 36 04.7	
	comp=Z,6.3nm,1.3s						
KSRS	**Korea Array**	**46.78**	**33**	P	**P**	**22 36 09.6**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=229,slow=9.7,SNR=7.5						
	comp=Z,3.0nm,0.8s						
SIMJ	**Simiganj**	**47.20**	**329**	P	**P**	**22 36 12.7**	**-0.5**
SIMJ				IAmb	IAmb	22 36 22.4	
	comp=Z,2.9nm,0.8s						
ARSB	**Arslanbob**	**47.40**	**334**	P	**P**	**22 36 14.3**	**-0.4**
ARSB				IAmb	IAmb	22 36 16.7	
	comp=Z,4.6nm,0.9s						
SONM	**Songino Array**	**48.68**	**8**	P	**P**	**22 36 24.7**	**+0.3**
SONM	**Songino Array**	**48.68**	**8**	P	**P**	**22 36 25.4**	**+1.0**
	comp=Z,6.3nm,0.8s,baz=193,slow=7.5,SNR=41						
	comp=Z,6.3nm,0.8s						
ULN	**Ulaanbaatar**	**48.80**	**8**	P	**P**	**22 36 25.2**	**-0.2**
ULN				IAmb	IAmb	22 36 32.2	
	comp=Z,7.2nm,1.1s						
MKAR	**Makanchi Array**	**49.07**	**346**	P	**P**	**22 36 27.7**	**+0.4**
MKAR	**Makanchi Array**	**49.07**	**346**	P	**P**	**22 36 27.9**	**+0.6**
	comp=Z,4.9nm,0.7s,baz=156,slow=8.0,SNR=68						
	comp=Z,4.9nm,0.7s						
MAKZ	**Makanchi**	**49.16**	**345**	P	**P**	**22 36 27.9**	**-0.1**
MAKZ				IAmb	IAmb	22 36 29.4	
	comp=Z,3.6nm,0.8s						
MJAR	**Matsushiro Arr**	**52.40**	**41**	P	**P**	**22 36 52.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=224,slow=5.1,SNR=4.3						
	comp=Z,1.7nm,0.8s						
BNX	**BinXian**	**52.83**	**26**	⇓P	**P**	**22 36 55.8**	**+0.2**
BNX				pmax	pmax		
	comp=Z,11nm,0.8s						
KURBB	**Kurchatov Arra**	**53.56**	**345**	P	**P**	**22 37 00.8**	**0.0**
	comp=Z,2.1nm,0.9s,baz=165,slow=7.5,SNR=12						
	comp=Z,2.1nm,0.9s						
KURK	**Kurchatov**	**53.62**	**345**	P	**P**	**22 37 01.5**	**+0.2**
KURK				IAmb	IAmb	22 37 02.8	
	comp=Z,3.9nm,0.8s						
USA0B	**Ussuriysk Arra**	**53.80**	**30**	P	**P**	**22 37 02.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**53.80**	**30**	P	**P**	**22 37 02.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**53.80**	**30**	P	**P**	**22 37 03.4**	**+0.6**
	comp=Z,16nm,0.8s,baz=230,slow=5.4,SNR=43						
	comp=Z,16nm,0.8s						
ZAA0	**Zalesovo Array**	**55.34**	**351**	P	**P**	**22 37 13.5**	**-0.2**
ZALV	**Zalesovo Beam**	**55.34**	**351**	P	**P**	**22 37 13.5**	**-0.2**
ZALV	**Zalesovo Beam**	**55.34**	**351**	P	**P**	**22 37 14.1**	**+0.4**
	comp=Z,4.6nm,0.5s,baz=178,slow=5.9,SNR=33						
	comp=Z,4.6nm,0.5s						
BVAR	**Borovoye Array**	**58.10**	**341**	P	**P**	**22 37 33.1**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=147,slow=7.9,SNR=8.8						
	comp=Z,1.9nm,0.7s						
ABKAR	**Akbulak array**	**59.38**	**332**	P	**P**	**22 37 41.7**	**-0.6**
ABKAR				IAmb	IAmb	22 37 51.4	
	comp=Z,4.3nm,1.2s						
H04N2	**CROZET ISLANDS**	**60.86**	**215**	T	T	23 44 00.3	
	baz=55,slow=75,SNR=2369						
H04N1	**CROZET ISLANDS**	**60.87**	**215**	T	T	23 44 00.5	
	baz=55,slow=75,SNR=2624						
H04N3	**CROZET ISLANDS**	**60.88**	**215**	T	T	23 43 59.5	
	baz=55,slow=75,SNR=2453						
H04S1	**CROZET ISLANDS**	**61.18**	**214**	T	T	23 44 21.0	
	baz=54,slow=75,SNR=267						
H04S3	**CROZET ISLANDS**	**61.19**	**214**	T	T	23 44 19.1	
	baz=54,slow=75,SNR=307						
H04S2	**CROZET ISLANDS**	**61.20**	**214**	T	T	23 44 22.0	
	baz=54,slow=75,SNR=187						
KBZ	**Khabaz**	**65.88**	**319**	P	**P**	**22 38 26.5**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=157,slow=4.9,SNR=4.2						
	comp=Z,1.2nm,0.8s						
LSZ	**Lusaka**	**70.43**	**254**	LR	LR	23 04 39.4	
	comp=Z,50nm,21.6s,baz=155,slow=32						
BRTR	**Keskin Array B**	**70.85**	**313**	P	**P**	**22 38 55.7**	**-1.5**
BRTR	**Keskin Array B**	**70.85**	**313**	P	**P**	**22 38 59.7**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=127,slow=7.2,SNR=5.8						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**77.09**	**323**	P	**P**	**22 39 35.7**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=83,slow=4.9,SNR=4.5						
	comp=Z,0.5nm,0.4s						
BUR08	**Bucovina Ar. S**	**78.84**	**319**	P	**P**	**22 39 42.8**	**-0.5**
FINES	**FINESS Array B**	**81.86**	**333**	P	**P**	**22 39 59.4**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=109,slow=8.0,SNR=3.9						
	comp=Z,2.4nm,0.9s						
ARCES	**ARCESS Array B**	**84.39**	**340**	LR	LR	23 21 24.7	
	comp=Z,38nm,21.0s,baz=110,slow=38						
NOA	**NORSAR Array B**	**88.87**	**331**	LR	LR	23 23 43.2	
	comp=Z,24nm,19.1s,baz=190,slow=38						
CPUP	**Villa Florida**	**144.28**	**220**	PKP	**PKPdf**	**22 47 17.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=117,slow=3.0,SNR=3.4						
TX31	**Lajitas Ar. Si**	**144.63**	**34**	PKPdf	**PKPdf**	**22 47 17.0**	**-0.5**
TXAR	**Lajitas Array**	**144.63**	**34**	PKPdf	PKPbc	22 47 16.5	+0.2
TXAR	**Lajitas Array**	**144.63**	**34**	PKP	**PKPdf**	**22 47 17.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=254,slow=2.1,SNR=10						
SAND	**Sanderson**	**144.98**	**31**	PKPdf	PKPbc	22 47 17.2	-0.1
BRDY	**Brady**	**145.38**	**26**		**PKPbc**	**22 47 18.0**	**-0.5**
JCT	**Junction City**	**145.70**	**28**	PKPdf	**PKPbc**	**22 47 19.1**	**-0.4**
DRIO	**Del Rio**	**146.18**	**30**	PKPdf	**PKPbc**	**22 47 20.6**	**-0.4**

*MOS **04** 22:39:22.8±1.1, 82°.20N×6°.63W, h10km, mb4.5/22, Error ellipse: s-maj=49.0km s-min=7.6km az=93.3*

*IDC **04** 22:39:22.9±0.6, 82°.30N×6°.81W, h0km, mb3.8/24, mbtmp3.8/26, ML4.3/3, MS3.4/25, Error ellipse: s-maj=14.8km s-min=11.8km az=33.0*

*DNK **04** 22:39:23.0±2.2, 82°.21N×7°.25W, h10km, ML2.8*

*NEIC **04** 22:39:24.4±1.9, 82°.23N±0°.10×5°.7W±0°.5, h10km±1km, mb4.3/36, Error ellipse: s-maj=17.7km s-min=9.7km az=25.0*

*BER **04** 22:39:25.7±3.0, 82°.34N×6°.76W, h23km±30km, mb(Pn)4.4, ML2.8(DNK), Confirmed Earthquake*

*KOLA **04** 22:39:28.4, 81°.95N×6°.30W, h0km, ML3.0, Arctic Ocean, Knipovich ridge, north*

*FCIAR **04** 22:39:28.0, 82°.30N×4°.36W, h10km, station OMEGA has station magnitude of 4.40 station ZFI2 has station magnitude of 4.30*

ISC 04 22:39:23.9±0.4, 82°.17N±0°.05×6°.65W±0°.04, h10km, n189, σ2§31/186, mb4.2/57, MS3.4/23, 9C-1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.53**	**253**	Pn	**Pn**	**22 39 51.4**	**+0.1**
NOR				Lg	Lg	22 40 09.8	
NOR	**Nord**	**1.53**	**253**	*i* P	**Pn**	**22 39 51.1**	**-0.2**
NOR				*e*S	**Sn**	**22 40 10.3**	**-0.9**
NOR				IAML		22 40 11.3	
	comp=Z,300nm,0.3s						
NOR	**Nord**	**1.53**	**253**	*i* P	**Pn**	**22 39 51.1**	**-0.2**
NOR				IAML		22 40 11.3	
	comp=Z,300nm,0.3s						
KBS	**Kingsbay**	**4.44**	**127**	Pn	**Pn**	**22 40 30.5**	**-0.7**
KBS				Sn	**Sn**	**22 41 17.2**	**-5.6**
KBS	**Kingsbay**	**4.44**	**127**		**Pn**	**22 40 30.4**	**-0.7**

ZFI2 *e*S Sn 22 42 33.3 -14
comp=Z,82nm,0.5s
OMEGA Omega 7.92 72 *e*P **Pn 22 41 14.3 -4.5**
OMEGA *e*S Sn 22 42 33.1 -15
comp=Z,108nm,0.5s
HOPEN Hopen 8.00 118 Pn **Pn 22 41 19.4 -0.5**
HOPEN Sn **Sn 22 42 44.0 -6.1**
HOPEN Hopen 8.00 118 *e*P **Pn 22 41 19.4 -0.5**
HOPEN *e*S **Sn 22 42 44.1 -6.1**
HOPEN IAML 22 42 48.9
comp=Z,14nm,1.0s
HOPEN Hopen 8.00 118 *e*P **Pn 22 41 18.9 -1.0**
HOPEN *e*S Sn 22 42 40.6 -10
DBG Daneborg 8.33 206 Pn **Pn 22 41 24.1 -0.3**
DBG Sn **Sn 22 42 53.5 -4.9**
DBG Daneborg 8.33 206 *i* P **Pn 22 41 24.0 -0.5**
DBG *e*S Sn 22 42 50.2 -8.3
DBG IAML 22 42 58.7
comp=Z,16nm,0.7s
DBG Daneborg 8.33 206 *i* P **Pn 22 41 24.0 -0.5**
DBG IAML 22 42 58.7
comp=Z,16nm,0.7s
NEEM North Greenlan 8.89 262 *i* P **Pn 22 41 29.7 -2.7**
NEEM IAML 22 43 08.3
comp=Z,21nm,0.3s
NEEM North Greenlan 8.89 262 *i* P **Pn 22 41 29.7 -2.7**
NEEM IAML 22 43 08.3
comp=Z,21nm,0.3s
JNW Jan Mayen West 11.21 183 *e*P **Pn 22 42 05.6 +1.7**
JMIC Jan Mayen 11.26 183 *e*P **Pn 22 42 06.9 +2.4**
JMIC Jan Mayen 11.26 183 Pn **Pn 22 42 05.2 +0.7**
comp=Z,5.0nm,0.3s,baz=317,slow=17,SNR=1.9
EUNU Eureka 11.56 301 Pn **Pn 22 42 04.1 -4.6**
SUMG Summit 11.58 232 Pn **Pn 22 42 05.6 -3.7**
SUMG Summit 11.58 232 *i* P **Pn 22 42 06.8 -2.5**
SUMG IAML 22 44 14.3
comp=Z,9.6nm,0.5s
SUMG Summit 11.58 232 P **Pn 22 42 05.6 -3.7**
SUMG Summit 11.58 232 *i* P **Pn 22 42 06.8 -2.5**
SUMG IAML 22 44 14.3
comp=Z,9.6nm,0.5s
TULEG Thule 12.05 277 *i* P Pn 22 42 09.1 -6.1
TULEG Thule 12.05 277 *i* P Pn 22 42 09.1 -6.1
KULLO Kullorsuaq 12.11 260 *i* P Pn 22 42 10.5 -5.7
KULLO Kullorsuaq 12.11 260 *i* P Pn 22 42 10.5 -5.7
SCO Scoresbysund 12.21 205 Pn **Pn 22 42 19.0 +1.6**
SCO Scoresbysund 12.21 205 *i* **Pn 22 42 18.0 +0.5**
SCO Scoresbysund 12.21 205 P **Pn 22 42 19.0 +1.6**
SCO Scoresbysund 12.21 205 *i* **Pn 22 42 18.0 +0.5**
UPNV Upernavik 13.56 255 *i* P Pn 22 42 30.0 -5.9
UPNV Upernavik 13.56 255 *i* P Pn 22 42 30.0 -5.9
NUUG Nuugaatsiaq 14.31 249 *i* P Pn 22 42 41.2 -4.9
NUUG Nuugaatsiaq 14.31 249 *i* P Pn 22 42 41.2 -4.9
VADS Vadso 14.36 126 *e*P **Pn 22 42 45.7 -1.2**
ARCES ARCESS Array B 14.51 132 Pn **Pn 22 42 46.6 -2.3**
ARCES ARCESS Array B 14.51 132 Pn **Pn 22 42 47.5 -1.4**
comp=Z,0.3nm,0.3s,baz=1.3,slow=11,SNR=7.1
ARCES Sn Sn 22 45 20.0 -10
comp=Z,0.1nm,0.3s,baz=8.5,slow=17,SNR=2.1
ARCES LR LR 22 48 06.3
comp=Z,82nm,18.7s,baz=26,slow=36
comp=Z,1.4nm,0.6s
ICESG Greenland Ices 15.03 229 *i* P **Pn 22 42 51.7 -4.5**
ICESG Greenland Ices 15.03 229 *i* P **Pn 22 42 51.7 -4.5**
RES Resolute Bay 17.05 295 Pn **Pn 22 43 16.1 -5.8**
comp=Z,0.3nm,0.3s,baz=319,slow=1.2,SNR=8.9
RES Sn Sn 22 46 15.3 -16
comp=Z,0.1nm,0.3s,baz=72,slow=9.3,SNR=2.1
RES LR LR 22 49 52.7
comp=Z,111nm,20.7s,baz=54,slow=37
SFJD Kangerlussuaq 18.26 241 Pn 22 43 29.7 -7.2
SFJD IAmb IAmb 22 43 39.9
comp=Z,30nm,1.2s
SFJD Kangerlussuaq 18.26 241 P **Pn 22 43 31.0 -5.9**
comp=Z,4.3nm,0.3s,baz=15,slow=13,SNR=8.3
SFJD S Sn 22 46 44.1 -16
comp=Z,4.9nm,0.5s,baz=257,slow=23,SNR=5.0
SFJD LR LR 22 50 19.8
comp=Z,102nm,20.4s,baz=14,slow=36
SFJD Kangerlussuaq 18.26 241 P Pn 22 43 29.7 -7.2
SFJD pmax pmax
comp=Z,30nm,1.3s
NC204 NORSAR Array S 21.48 157 P **P 22 44 09.0 -3.2**
NC204 IAmb IAmb 22 44 35.5
comp=Z,19nm,1.3s
NOA NORSAR Array B 21.74 156 P **P 22 44 17.1 +2.1**
comp=Z,0.4nm,0.5s,baz=349,slow=9.5,SNR=4.2
NOA LR LR 22 51 07.3
comp=Z,22nm,21.2s,baz=350,slow=32
comp=Z,0.4nm,0.5s
FINES FINESS Array B 22.46 137 P **P 22 44 23.5 +0.9**
FINES FINESS Array B 22.46 137 P **P 22 44 24.2 +1.6**
comp=Z,2.1nm,0.7s,baz=358,slow=14,SNR=4.7
comp=Z,2.1nm,0.7s
NRIK Noril'sk 22.71 66 P **P 22 44 24.1 -1.1**
NRIK IAmb IAmb 22 44 35.0
comp=Z,6.3nm,0.8s
NRIK Noril'sk 22.71 66 P **P 22 44 25.3 +0.1**
comp=Z,5.7nm,0.8s,baz=359,slow=7.5,SNR=10
NRIK LR LR 22 53 42.1
comp=Z,72nm,19.2s,baz=3.5,slow=38
comp=Z,5.7nm,0.8s
NRIK Noril'sk 22.71 66 *ce*P **P 22 44 25.3 +0.1**
NRIK pmax pmax
comp=Z,7.0nm,0.8s
HFS Hagfors 22.79 153 P **P 22 44 29.2 +3.1**
comp=Z,1.4nm,0.5s,baz=358,slow=14,SNR=4.1
comp=Z,1.4nm,0.5s
NRS Narsarsuaq 23.34 230 P **P 22 44 33.9 +2.2**
NRS Narsarsuaq 23.34 230 P **P 22 44 33.9 +2.2**
NRS pmax pmax
comp=Z,40nm,1.3s
FRB Frobisher Bay 23.66 258 LR LR 22 53 43.6
comp=Z,72nm,18.1s,baz=8.0,slow=36
KLMR Klimovskoe 24.46 121 *e*P **P 22 44 41.1 -1.3**
KLMR pmax pmax
comp=Z,22nm,1.6s
TIXI Tiksi 24.69 32 *ce*P **P 22 44 45.4 +1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
C36M Paulatuk 25.35 313 P **P 22 44 51.9 +1.5**
C36M IAmb IAmb 22 44 58.3
comp=Z,6.9nm,0.9s
B22K Teshekpuk Lake 26.71 336 P **P 22 45 03.4 +0.7**
B22K IAmb IAmb 22 45 41.7
comp=Z,8.5nm,1.4s
C23K Itkillik River 27.05 333 P **P 22 45 04.4 -1.3**
INK Inuvik 27.26 320 P **P 22 45 08.4 +0.8**
INK Inuvik 27.26 320 P **P 22 45 08.4 +0.8**
INK pmax pmax
comp=Z,2.0nm,0.9s
F26K Sheenjek River 28.73 328 P **P 22 45 21.2 +0.5**
C16K Lisburne Hills 29.34 344 P **P 22 45 25.5 -0.6**
OBN Obninsk 29.75 128↑ *e*P **P 22 45 29.5 -0.4**
OBN *e* 22 46 29.7
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,50nm,14.0s
BILL Bilibino 29.93 5 *i* P **P 22 45 33.1 +1.7**
BILL pmax pmax
comp=Z,7.0nm,2.4s
I28M Miner Creek 30.61 323 P **P 22 45 38.1 +0.6**
H24K Noodor Dome 30.83 330 P **P 22 45 38.3 -1.1**
H24K IAmb IAmb 22 46 01.9
comp=Z,4.6nm,1.3s
YKA Yellowknife Ar 30.94 301 P **P 22 45 39.9 -0.4**
comp=Z,0.2nm,0.4s,baz=11,slow=8.5,SNR=5.3
YKA PcP **PcP 22 48 36.9 +0.7**
comp=Z,0.7nm,0.9s,baz=13,slow=2.0,SNR=5.9
comp=Z,0.2nm,0.4s
J30M Hart River 31.16 320 P **P 22 45 42.9 +0.5**
ARTI Arti 31.19 103 LR LR 22 59 58.8
comp=Z,74nm,19.9s,baz=359,slow=40
ARTI Arti 31.19 103 *d i*P **P 22 45 43.9 +1.3**
ARTI 22 46 45.2
ARTI S **S 22 50 52.5 +4.3**
ARTI SS **SnSn 22 52 35.5 +5.8**
ARTI pmax pmax
comp=Z,6.0nm,1.5s
CLL Collm 31.55 156 *i* P P 22 45 51.5 +5.7
CLL pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 31.81 329 P **P 22 45 47.5 -0.5**
comp=Z,0.6nm,1.0s,baz=6.6,slow=6.0,SNR=5.4
ILAR PcP **PcP 22 48 38.0 -0.4**
comp=Z,0.4nm,0.6s,baz=329,slow=3.7,SNR=5.1
comp=Z,0.6nm,1.0s
FCC Fort Churchill 31.94 280 P **P 22 45 48.2 -0.9**
FCC IAmb IAmb 22 45 56.7
comp=Z,8.4nm,1.4s
FCC Fort Churchill 31.94 280 P **P 22 45 48.2 -0.9**
FCC pmax pmax
comp=Z,8.0nm,1.4s
SCHQ Schefferville 32.07 251 P **P 22 45 52.1 +1.7**
SCHQ Schefferville 32.07 251 P **P 22 45 50.9 +0.5**
comp=Z,1.8nm,0.9s,baz=0.9,slow=6.9,SNR=3.9
SCHQ LR LR 22 57 51.8
comp=Z,58nm,19.1s,baz=322,slow=35
comp=Z,1.8nm,0.9s
MMPY Sheldon Lake, 32.62 315 P **P 22 45 56.4 +1.3**
MMPY IAmb IAmb 22 46 03.9
comp=Z,6.9nm,1.3s
BCAR Beaver Creek A 33.11 324 P **P 22 46 00.7 +1.2**
L27K Beaver Creek, 33.12 324 P **P 22 46 00.6 +1.1**
AKASG Malin Array Be 33.37 137 P **P 22 46 02.4 +0.6**
comp=Z,0.5nm,0.4s,baz=352,slow=9.3,SNR=5.0
AKASG LR LR 22 59 47.6
comp=Z,43nm,19.0s,baz=346,slow=37
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 33.37 137 *ce*P **P 22 46 02.7 +1.0**
BELG Belogornoye 33.71 116 LR LR 22 59 54.8
comp=Z,46nm,20.1s,baz=306,slow=36
STHS Stebnicka Huta 33.97 147 *e*P **P 22 46 09.9 +2.9**
STHS Stebnicka Huta 33.97 147 *e*P **P 22 46 09.9 +2.9**
GERES GERESS Array B 34.05 156 P **P 22 46 07.0 -0.8**
GERES GERESS Array B 34.05 156 P **P 22 46 10.1 +2.4**
comp=Z,1.1nm,0.6s,baz=352,slow=8.6,SNR=6.7
comp=Z,1.1nm,0.6s
LANS Liptovska Anna 34.11 149 *e*P **P 22 46 11.2 +3.0**
LANS Liptovska Anna 34.11 149 *e*P **P 22 46 11.2 +3.0**
J16K Anvik River 34.12 339 P **P 22 46 08.4 +0.3**
J16K IAmb IAmb 22 46 41.8
comp=Z,7.3nm,1.2s
KOLS Kolonicke sedl 34.53 146 *e*P **P 22 46 14.8 +2.9**
KOLS Kolonicke sedl 34.53 146 *e*P **P 22 46 14.8 +2.9**
SCM Sheep Creek Mo 34.76 328 P **P 22 46 13.0 -0.8**
SCM Sheep Creek Mo 34.76 328 P **P 22 46 13.0 -0.8**
SCM pmax pmax
comp=Z,16nm,1.3s
HYT Haines Junctio 34.96 320 P **P 22 46 16.5 +0.9**
HYT IAmb IAmb 22 46 30.9
comp=Z,4.5nm,1.0s
SUA Susitna One 35.36 331 P **P 22 46 19.2 +0.2**
SUA IAmb IAmb 22 46 27.1
comp=Z,7.5nm,1.1s
DAVOX Davos/Dischmat 35.91 161 LR LR 22 59 18.8
comp=Z,22nm,21.7s,baz=62,slow=33
BUR08 Bucovina Ar. S 36.05 143 P **P 22 46 26.2 +1.2**
BRVK Borovoye 36.05 93 *ce*P **P 22 46 25.6 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,2.2s
BURAR Bucovina Array 36.08 143 P **P 22 46 26.6 +1.3**
BVAR Borovoye Array 36.10 92 P **P 22 46 27.0 +1.7**
comp=Z,0.6nm,0.8s,baz=335,slow=6.6,SNR=3.5
comp=Z,0.6nm,0.8s
BVAR Borovoye Array 36.10 92 P **P 22 46 27.0 +1.7**
AKTO Aktyubinsk 36.96 106 LR LR 23 02 55.1
comp=Z,59nm,21.4s,baz=50,slow=38
ZALV Zalesovo Beam 37.16 78 P **P 22 46 34.8 +0.4**
ZALV Zalesovo Beam 37.16 78 P **P 22 46 35.3 +0.9**
comp=Z,1.3nm,0.8s,baz=352,slow=6.3,SNR=7.3
comp=Z,1.3nm,0.8s
MLR Muntele Rosu 38.25 142 P **P 22 46 46.0 +2.3**
comp=Z,1.2nm,0.9s,baz=109,slow=20,SNR=2.0
MLR LR LR 23 02 00.9
comp=Z,33nm,21.7s,baz=6.5,slow=35
comp=Z,1.2nm,0.9s
KURK Kurchatov 39.48 85 *ce*P **P 22 46 54.6 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 39.56 85 P **P 22 46 55.7 +1.2**
comp=Z,1.9nm,0.9s,baz=348,slow=7.7,SNR=9.7
comp=Z,1.9nm,0.9s
ULM Lac du Bonnet 40.48 279 P **P 22 47 03.6 +1.5**
comp=Z,0.6nm,0.4s,baz=17,slow=9.4,SNR=4.6
ULM LR LR 23 03 36.9
comp=Z,78nm,18.6s,baz=30,slow=36
comp=Z,0.6nm,0.4s
CHGN Chignik 40.97 336 P **P 22 47 07.2 +1.1**
KIV Kislovodsk 41.44 124 *e*P **P 22 47 12.2 +2.0**
KIV pmax pmax
comp=Z,2.0nm,1.1s
MOY Mondy 41.49 64 *e*P P 22 47 16.4 +5.8
SHA1 Shidzhatmaz 41.65 124 *i* P **P 22 47 12.4 +0.3**
KBZ Khabaz 41.68 124 P **P 22 47 14.0 +1.9**
comp=Z,1.8nm,0.9s,baz=2.6,slow=5.6,SNR=6.5
comp=Z,1.8nm,0.9s
KBZ Khabaz 41.68 124 *i* P **P 22 47 13.5 +1.4**
FNA Florina 42.57 148 P **P 22 47 20.9 +1.5**
FNA IAmb IAmb 22 47 49.5
comp=Z,12nm,1.2s
FNA Florina 42.57 148 P **P 22 47 21.0 +1.5**
FNA pmax pmax
comp=Z,12nm,1.2s
ESDC Sonseca Array 42.64 177 P **P 22 47 20.9 +0.9**
comp=Z,0.6nm,0.7s,baz=3.8,slow=8.3,SNR=5.8
comp=Z,0.6nm,0.7s
SADO Sadowa 43.56 260 LR LR 23 05 33.4
comp=Z,44nm,18.3s,baz=260,slow=36
MAKZ Makanchi 43.77 83 P **P 22 47 29.1 0.0**
MAKZ IAmb IAmb 22 47 30.6
comp=Z,5.6nm,0.9s
MAKZ Makanchi 43.77 83 P **P 22 47 29.1 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 43.82 83 *ce*P **P 22 47 30.2 +0.7**
MKAR Makanchi Array 43.82 83 P **P 22 47 29.9 +0.5**
MKAR Makanchi Array 43.82 83 P **P 22 47 30.1 +0.7**
comp=Z,1.5nm,0.7s,baz=351,slow=7.2,SNR=22
MKAR LR LR 23 09 21.3
comp=Z,74nm,18.4s,baz=168,slow=41
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 44.66 135 P **P 22 47 36.7 +0.3**
BRTR Keskin Array B 44.66 135 P **P 22 47 38.9 +2.4**
comp=Z,2.0nm,0.8s,baz=358,slow=7.0,SNR=13
comp=Z,2.0nm,0.8s
PEA0B Petropavlovsk- 44.71 13 *ce*P **P 22 47 35.9 -0.6**
NEW Newport 45.18 298 LR LR 23 06 25.0
comp=Z,122nm,18.9s,baz=18,slow=36
KKAR Karatay Array 45.83 95 P **P 22 47 46.5 +1.0**
KKAR Karatay Array 45.83 95 P **P 22 47 46.5 +1.0**
SONM Songino Array 45.91 60 P **P 22 47 46.2 +0.1**
SONM IAmb IAmb 22 47 55.8
comp=Z,3.0nm,1.0s
SONM Songino Array 45.91 60 P **P 22 47 45.9 -0.3**
comp=Z,1.8nm,0.9s,baz=340,slow=7.7,SNR=12
comp=Z,1.8nm,0.9s
SONM Songino Array 45.91 60 P **P 22 47 46.3 +0.1**
SONM pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 45.96 59 *i* P **P 22 47 47.4 +0.8**
ULN pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 46.84 92 P **P 22 47 54.8 +1.2**
AAK Ala-Archa 46.84 92 P **P 22 47 54.8 +1.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 47.47 78 *e*P **P 22 47 59.3 +0.9**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
BTK Batken 48.87 96 P **P 22 48 10.3 +1.0**
BTK Batken 48.87 96 P **P 22 48 10.3 +1.0**
BTK pmax pmax
comp=Z,7.0nm,0.9s
PDAR Pinedale Array 49.64 290 LR LR 23 10 10.6
comp=Z,68nm,19.2s,baz=334,slow=37
CHGR Chuyangaron 50.02 98 P **P 22 48 18.5 +0.4**
CHGR Chuyangaron 50.02 98 P **P 22 48 18.5 +0.4**
CHGR pmax pmax
comp=Z,8.0nm,0.7s
KSH Kashi 50.10 91 P **P 22 48 22.8 +4.1**
KSH sP pwP 22 48 31.7 +6.4
KSH pmax pmax
comp=Z,2.0nm,1.0s
MMAI Mount Meron Ar 51.48 134 P **P 22 48 30.8 +1.7**
comp=Z,1.9nm,0.5s,baz=6.7,slow=7.9,SNR=7.0
MMAI LR LR 23 13 40.6
comp=Z,24nm,18.2s,baz=138,slow=40
comp=Z,1.9nm,0.5s
BSUT Blindstream Ca 51.99 290 P **P 22 48 34.4 +1.2**
BSUT IAmb IAmb 22 48 44.6
comp=Z,4.3nm,1.3s
YBH Yreka Blue Hor 52.28 302 LR LR 23 13 09.4
comp=Z,125nm,21.4s,baz=342,slow=39
TKL Tuckaleechee C 53.15 263 LR LR 23 10 37.2
comp=Z,35nm,18.7s,baz=284,slow=35
HHC Hu-ho-hao-te 53.40 56 *e*P **P 22 48 43.0 -0.3**
HHC pP pwP 22 48 48.4 -1.5
HHC pmax pmax
comp=Z,130nm,5.2s
KBL Kabul 54.05 99 P **P 22 48 48.1 -0.2**
KBL IAmb IAmb 22 48 49.8
comp=Z,3.6nm,0.8s
KBL Kabul 54.05 99 P **P 22 48 48.1 -0.2**
KBL pmax pmax
comp=Z,4.0nm,0.8s
FNO Franklin 55.41 276 P **P 22 48 58.0 +0.1**
ANMO Albuquerque 56.93 285 LR LR 23 14 11.3
comp=Z,111nm,20.5s,baz=184,slow=37
ANMO Albuquerque 56.93 285 *i* P **P 22 49 10.4 +1.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
PFO Pinyon Flats O 59.54 294 LR LR 23 17 55.7
comp=Z,84nm,18.6s,baz=93,slow=39
MJAR Matsushiro Arr 60.20 32 P **P 22 49 31.7 +0.2**
comp=Z,0.8nm,0.4s,baz=328,slow=14,SNR=2.0
comp=Z,0.8nm,0.4s
VHRN Van Horn 60.83 283 P **P 22 49 36.0 0.0**
VHRN IAmb IAmb 22 49 44.5
comp=Z,2.8nm,0.8s
TXAR Lajitas Array 62.09 281 P **P 22 49 45.5 +1.0**
TXAR Lajitas Array 62.09 281 P **P 22 49 44.4 -0.1**
comp=Z,0.3nm,0.5s,baz=353,slow=2.5,SNR=3.6
comp=Z,0.3nm,0.5s
TXAR Lajitas Array 62.09 281 P **P 22 49 45.5 +1.0**
PZH PanZhiHua 66.37 68 P **P 22 50 13.3 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.0s
TORD Torodi Ar. Bea 69.14 171 P **P 22 50 29.7 -0.3**
TORD Torodi Ar. Bea 69.14 171 P **P 22 50 30.5 +0.5**
comp=Z,0.5nm,0.5s,baz=352,slow=6.8,SNR=12
comp=Z,0.5nm,0.5s
SLVN Son La 71.74 67 P **P 22 50 45.1 -0.8**
SLVN IAmb IAmb 22 50 46.6
comp=Z,2.2nm,1.1s
CMAR Chiang Mai Arr 73.94 72 P **P 22 50 57.9 -1.1**
comp=Z,0.8nm,0.3s,baz=345,slow=7.3,SNR=11
comp=Z,0.8nm,0.3s
SDV Santo Domingo 77.79 245 LR LR 23 23 30.3
comp=Z,27nm,21.9s,baz=264,slow=34
PALK Pallekele 82.48 92 LR LR 23 33 41.2
comp=Z,35nm,18.6s,baz=66,slow=40

SSNC 04 22:53:41.6±0.9, 19°.65N×75°.60W, h18km±4km, MD2.1, ML1.1, MW2.0, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.36**	**345**	*i* P		Pg	22 53 48.3	-0.8
RCC				*i* S		Sg	22 53 53.3	-1.0
RCC				IAML			22 53 53.5	
comp=E,4.8nm,0.2s								
RCC				IAML			22 53 53.7	
comp=N,6.3nm,0.2s								
GTBY	**Guantanamo Bay**	**0.54**	**59**	*i* P		Pg	22 53 51.4	-1.1
GTBY				*i* S		Sg	22 53 59.0	-0.7
GTBY				IAML			22 53 59.9	
comp=N,4.1nm,0.3s								
GTBY				IAML			22 54 00.8	
comp=N,5.6nm,0.3s								
CHIV	**Chivirico**	**0.83**	**293**	*i* P		Pb	22 53 52.0	-5.6
CHIV				*i* S		Sn	22 54 38.0	+28
PINC	**Pinares de May**	**0.86**	**348**	*i* P		Pb	22 53 56.4	-1.6
PINC				*i* S		Sb	22 54 07.2	-1.9
PINC				IAML			22 54 10.3	
comp=N,6.3nm,0.1s								
PINC				IAML			22 54 10.4	
comp=E,7.2nm,0.0s								
QMBU	**Quimbuelo**	**0.92**	**53**	*e*P		Pb	22 53 56.9	-2.3
QMBU				*e*S		Sb	22 54 07.9	-3.2
QMBU				*i* S		Sg	22 54 08.7	-3.1
QMBU				IAML			22 54 10.5	
comp=E,6.0nm,0.2s								
QMBU				IAML			22 54 11.1	
comp=N,7.5nm,0.5s								
MOAC	**Moa**	**1.18**	**31**	*i* P		Pn	22 53 53.6	-10
MOAC				*i* S		Sb	22 54 01.2	-17
MOAC				IAML			22 54 03.9	
comp=N,8.7nm,0.1s								
MOAC				IAML			22 54 05.0	
comp=E,10nm,0.0s								

---

*IDC **04** 23:09:03.5±1.9, 7°.81S×118°.98E, h0km, mb3.3/2, mbtmp3.3/4, ML3.5/2, Error ellipse: s-maj=53.4km s-min=23.1km az=69.0*
*DJA **04** 23:09:05.4±0.2, 8°.S±2°.×11°.9E±°, h10km, M3.7/12, MLv3.7/12*
ISC 04 23:09:08.3±1.0, 7°.81S±0°.04×119°.01E±0°.05, h34km, n14, σ0.37/18, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.58**	**230**	P		**Pn**	**23 09 34.0**	**+0.1**
PLAI				S		**Sn**	**23 09 52.7**	**-0.5**
WBSI	**Waikabubak, Su**	**1.86**	**168**	P		**Pn**	**23 09 37.8**	**0.0**
WBSI				S		**Sn**	**23 10 00.6**	**+0.5**
BSSI	**Bau Bau, Buton**	**2.22**	**42**	P		**Pn**	**23 09 42.6**	**-0.1**
BSSI				S		**Sn**	**23 10 09.2**	**+0.2**
WSI	**Waingapu**	**2.25**	**145**	P		**Pn**	**23 09 42.7**	**-0.4**
TWSI	**Taliwang, Sumb**	**2.29**	**246**	P		**Pn**	**23 09 44.0**	**+0.3**
BKSI	**Bulukumba**	**2.71**	**24**	P		**Pn**	**23 09 49.2**	**-0.3**
BASI	**Baing, Sumba**	**2.85**	**147**	P		**Pn**	**23 09 51.4**	**0.0**
KAPI	**Kappang**	**2.88**	**15**	Pn		**Pn**	**23 09 51.5**	**-0.3**
5.4nm,0.3s,baz=210,slow=6.5,SNR=12								
KAPI				Sn		**Sn**	**23 10 25.4**	**+0.2**
8.2nm,0.3s,baz=180,slow=20,SNR=6.2								
9.5nm,0.3s								
MMRI	**Maumere**	**3.30**	**105**	P		**Pn**	**23 09 57.6**	**0.0**
SPSI	**Sidrap Palu**	**3.90**	**11**	P		**Pn**	**23 10 05.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.85**	**262**	P		**Pn**	**23 10 18.6**	**-0.3**
WRA	**Warramunga Arr**	**19.14**	**131**	P		**P**	**23 13 27.9**	**-0.9**
0.2nm,0.3s,baz=303,slow=12,SNR=5.2								
0.4nm,0.8s								
ASAR	**Alice Springs**	**21.28**	**139**	P		**P**	**23 13 52.5**	**+0.4**
0.8nm,0.7s,baz=314,slow=8.6,SNR=6.1								
0.8nm,0.7s								
MKAR	**Makanchi Array**	**63.41**	**333**	P		**P**	**23 19 34.8**	**+0.3**
0.3nm,0.5s,baz=147,slow=6.9,SNR=5.7								
0.3nm,0.5s								

---

*IDC **04** 23:21:01.9±2.5, 51°.05N×159°.79E, h0km, mb4.1/7, mbtmp4.0/9, ML3.1/1, MS2.6/1, Error ellipse: s-maj=48.2km s-min=37.1km az=124.0*
*KRSC **04** 23:21:07.9±1.1, 51°.42N×159°.85E, h42km±19km, Ml3.9*
ISC 04 23:21:08.3±1.3, 51°.34N±0°.09×159°.9E±0°.1, h35km, n25, σ1.43/29, mb4.1/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.25**	**293**	*e*P		**Pn**	**23 21 29.2**	**-0.1**
KDTR				*e*S		**Sn**	**23 21 44.0**	**-0.8**
RUS	**Russkaya**	**1.41**	**322**	*e*P		**Pn**	**23 21 30.7**	**-0.7**
RUS				*e*S		**Sn**	**23 21 47.3**	**-1.4**
GRL	**Gorelyy**	**1.67**	**318**	*e*P		**Pn**	**23 21 35.5**	**+0.3**
GRL				*e*S		**Sn**	**23 21 55.6**	**+0.1**
DALK	**Dalny**	**1.84**	**337**	*e*P		**Pn**	**23 21 37.0**	**-0.5**
KRMR	**Karymshinskiy**	**1.86**	**324**	*e*P		**Pn**	**23 21 37.3**	**-0.4**
PET	**Petropavlovsk**	**1.86**	**336**	*e*P		**Pn**	**23 21 38.0**	**+0.3**
NLC	**Nalytchevo**	**1.87**	**349**	*e*P		**Pn**	**23 21 38.2**	**+0.3**
PAU	**Pauzhetka**	**1.95**	**275**	*e*P		**Pn**	**23 21 40.4**	**+1.4**
UGLR	**Uglovaya**	**2.00**	**341**	*e*P		**Pn**	**23 21 40.7**	**+1.0**
AVH	**Avacha**	**2.07**	**340**	*e*P		**Pn**	**23 21 41.4**	**+0.8**
KOK	**Koryaka**	**2.11**	**339**	*e*P		**Pn**	**23 21 41.8**	**+0.6**
KRX	**Arik**	**2.17**	**339**	*e*P		**Pn**	**23 21 42.4**	**+0.3**
PETK	**Petropavlovsk-**	**2.24**	**323**	Pn		**Pn**	**23 21 43.4**	**+0.5**
23nm,0.3s,baz=141,slow=16,SNR=93								
PETK				Sn		**Sn**	**23 22 14.5**	**+5.1**
14nm,0.3s,baz=138,slow=15,SNR=4.9								
PETK				LR		LR	23 23 08.4	

comp=Z,117nm,18.5s,baz=104,slow=52
99nm,0.6s
APC Apacha 2.33 314 *e*P **Pn 23 21 45.4 +1.2**
SKR Severo-Kuril's 2.49 256 *e*P **Pn 23 21 48.1 +1.8**
GNL Ganaly 2.66 334 *e*P **Pn 23 21 49.3 +0.5**
KII Karymskiy 2.72 354 *e*P **Pn 23 21 50.4 +0.8**
USRK Ussuriysk Ar. 20.00 260 P **P 23 25 35.1 -2.6**
1.2nm,0.8s,baz=97,slow=12,SNR=4.1
KURBB Kurchatov Arra 48.69 303 P **P 23 29 47.7 -1.1**
0.7nm,0.3s,baz=60,slow=8.1,SNR=4.4
0.7nm,0.3s
MKAR Makanchi Array 48.84 297 P **P 23 29 49.4 -0.6**
0.1nm,0.5s,baz=51,slow=6.6,SNR=8.2
0.1nm,0.5s
SPITS Spitsbergen Ar 48.85 351 P **P 23 29 49.9 +0.2**
21nm,1.0s,baz=66,slow=7.1,SNR=4.8
21nm,1.0s
BVAR Borovoye Array 51.41 309 P **P 23 30 08.2 -1.2**
0.9nm,0.5s,baz=65,slow=7.9,SNR=3.9
0.9nm,0.5s
NOA NORSAR Array B 65.20 344 P **P 23 31 46.7 +1.1**
2.3nm,1.2s,baz=22,slow=6.8,SNR=1.8
2.3nm,1.2s
HFS Hagfors 65.59 342 P **P 23 31 49.3 +1.2**
3.4nm,0.9s,baz=84,slow=5.9,SNR=4.8
3.4nm,0.9s
AKASG Malin Array Be 70.07 329 P **P 23 32 16.3 -0.1**
0.9nm,0.5s,baz=34,slow=6.3,SNR=6.2
0.9nm,0.5s

NEIC ***04*** *23:41:16.1±1.8, 44°.32N±0°.06×105°.70W±0°.04, h0km±1km, ML2.5/18, Error ellipse: s-maj=10.0km s-min=4.0km az=342.0*
IDC ***04*** *23:41:21.3±2.1, 44°.18N×105°.94W, h0km, mbtmp2.5/3, ML3.0/3, Error ellipse: s-maj=25.2km s-min=15.7km az=158.0*
ISC 04 23:41:17.1±1.0, 44°.24N±0°.06×105°.65W±0°.04, h0km, n16, σ1§37/18, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.16**	**95**	Pg	**Pn**	**23 41 40.8**	**-0.1**
RSSD	**Black Hills**	**1.16**	**95**	Sg	**Sb**	**23 41 55.4**	**-0.5**
K22A	**Casper**	**1.71**	**202**		**Pn**	**23 41 48.1**	**-0.3**
K22A				IAML		23 42 49.6	
	comp=N,33nm,0.7s						
K22A				IAML		23 42 50.0	
	comp=E,37nm,0.8s						
LAO	**LASA Array**	**2.48**	**351**	Pn	**Pn**	**23 41 57.9**	**-1.0**
LAO				IAML		23 43 12.1	
	comp=E,24nm,3.8s						
LAO				IAML		23 43 14.3	
	comp=E,31nm,4.3s						
RLMT	**Red Lodge**	**2.73**	**290**	Pn	**Pn**	**23 42 02.1**	**-0.3**
RLMT				IAML		23 42 53.4	
	comp=E,15nm,4.7s						
BW06	**Boulder Array**	**3.21**	**244**	Sg	**Sb**	**23 42 55.8**	**+1.0**
PD31	**Pinedale Array**	**3.21**	**244**	Pn	**Pn**	**23 42 09.2**	**+0.2**
PD31				Sg	**Sb**	**23 42 55.3**	**+0.5**
PDAR	**Pinedale Array**	**3.21**	**244**	Pn	**Pn**	**23 42 09.0**	**0.0**
PDAR				Sg	**Sb**	**23 42 55.5**	**+0.8**
PDAR	**Pinedale Array**	**3.21**	**244**	Pn	**Pb**	**23 42 12.8**	**-2.3**
	comp=E,0.2nm,0.3s,baz=72,slow=17,SNR=5.5						
PDAR				Lg	Lg	23 42 54.5	
	comp=E,1.3nm,0.3s,baz=68,slow=30,SNR=17						
	comp=E,0.3nm,0.3s						
YNE	**Yellowstone No**	**3.21**	**285**	Pn	**Pn**	**23 42 08.7**	**-0.4**
YNE				IAML		23 44 00.4	
	comp=N,9.4nm,0.6s						
GCMT	**Greycliff**	**3.25**	**300**	Pn	**Pn**	**23 42 07.9**	**-1.5**
YMP	**Mirror Lake Pl**	**3.27**	**280**	Pn	**Pn**	**23 42 09.0**	**-0.9**
YMP				IAML		23 44 06.8	
	comp=N,14nm,0.9s						
YMP				IAML		23 44 09.2	
	comp=E,15nm,1.1s						
LOHW	**Long Hollow**	**3.64**	**262**	Pn	**Pn**	**23 42 14.5**	**-0.4**
LOHW				IAML		23 44 04.9	
	comp=E,10nm,4.4s						
LOHW				IAML		23 44 06.2	
	comp=E,6.7nm,3.0s						
TPAW	**Teton Pass**	**3.91**	**261**	Pn	**Pn**	**23 42 18.3**	**-0.4**
TXAR	**Lajitas Array**	**14.96**	**173**	Pn	**P**	**23 44 55.5**	**-0.2**
	comp=E,0.1nm,0.3s,baz=10,slow=18,SNR=4.8						
	comp=E,0.1nm,0.3s						
YKA	**Yellowknife Ar**	**19.02**	**347**	P	**Pn**	**23 45 44.9**	**+4.0**
	baz=158,slow=14,SNR=3.5						

IDC ***04*** *23:45:24.7±2.1, 9°.82N×93°.04E, h0km, mb3.7/4, mbtmp3.7/6, ML3.1/1, MS2.5/1, Error ellipse: s-maj=74.7km s-min=20.8km az=64.0*
ISC 04 23:45:30.2±1.8, 9°.8N±0°.1×93°.3E±0°.3, h35km, n6, σ1§83/7, mb3.6/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**8.91**	**141**	Pn	**Pn**	**23 47 37.1**	**+0.5**
	0.2nm,0.3s,baz=328,slow=14,SNR=7.2						
PSI				Sn	**Sn**	**23 49 13.7**	**-2.4**
	0.9nm,0.3s,baz=133,slow=22,SNR=7.7						
PSI				LR	LR	23 51 32.1	
	comp=Z,28nm,20.4s,baz=244,slow=40						
	4.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.18**	**32**	Pn	**Pn**	**23 47 54.1**	**+0.2**
	1.1nm,0.7s,baz=225,slow=16,SNR=5.5						
MKAR	**Makanchi Array**	**38.04**	**348**	P	**P**	**23 52 44.3**	**-0.9**
	0.6nm,0.8s,baz=161,slow=7.7,SNR=7.1						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**44.55**	**353**	P	**P**	**23 53 37.2**	**-1.2**
	0.5nm,0.6s,baz=160,slow=8.8,SNR=3.8						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**50.05**	**126**	P	**P**	**23 54 23.8**	**+2.0**
	1.2nm,0.6s,baz=306,slow=8.7,SNR=13						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**51.78**	**131**	P	**P**	**23 54 36.0**	**+1.1**
	0.7nm,0.7s,baz=314,slow=7.6,SNR=5.2						
	0.7nm,0.7s						

IDC ***04*** *23:46:04.5±0.5, 45°.39N×151°.05E, h0km, mb4.2/26, mbtmp4.2/33, ML3.6/7, MS3.5/28, Error ellipse: s-maj=15.3km s-min=12.1km az=149.0*
MOS ***04*** *23:46:09.4±0.9, 45°.24N×151°.07E, h50km, mb4.8/33, Error ellipse: s-maj=6.6km s-min=5.3km az=109.5*
SKHL ***04*** *23:46:09.0±0.4, 45°.00N×151°.30E, h60km±6km, mb5.1/7*
NEIC ***04*** *23:46:11.6±1.7, 45°.5N±0°.2×151°.0E±0°.1, h35km±2km, mb4.3/119, Error ellipse: s-maj=27.1km s-min=15.7km az=161.0*
ISC 04 23:46:09.1±0.5, 45°.14N±0°.06×151°.17E±0°.05, h35km, n394, σ1§12/394, mb4.4/124, MS3.6/22, 27C-35D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.34**	**273**	*e*PN	**Pn**	**23 46 45.8**	**+0.8**
KUR				*i* S	**Sn**	**23 47 12.2**	**-0.2**
KUR				pmax	pmax		
	comp=Z,550nm,0.4s						
KUR				smax	smax		
	comp=N,542nm,0.6s						
KUR				smax	smax		
	comp=E,911nm,0.6s						
KUR	**Kuril'sk**	**2.34**	**273**	*e*P	**Pn**	**23 46 45.9**	**+0.9**
KUR				AMB	AMB	23 46 46.0	
	comp=E,550nm,0.3s						
KUR				*e*S	**Sn**	**23 47 13.6**	**+1.2**
KUR				A	A	23 47 19.6	
	comp=E,850nm,0.5s						
KUR				A	A	23 47 19.6	
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**3.35**	**249**	*d i* PN	**Pn**	**23 46 59.1**	**+0.1**
SHO				*e*S	**Sn**	**23 47 38.4**	**+0.8**
SHO				pmax	pmax		
	comp=Z,200nm,0.4s						
SHO				pmax	pmax		
	comp=N,70nm,0.3s						
SHO				pmax	pmax		
	comp=E,89nm,0.3s						
SHO				smax	smax		
	comp=N,218nm,0.4s						
SHO				smax	smax		
	comp=E,355nm,0.4s						
SHO	**Shikotan**	**3.35**	**249**	*i* P	**Pn**	**23 46 59.2**	**+0.2**
SHO				AMB	AMB	23 47 02.7	
	comp=E,200nm,0.3s						
SHO				*e*S	**Sn**	**23 47 37.1**	**-0.5**
SHO				A	A	23 47 40.8	
	comp=E,580nm,0.4s						
SHO				A	A	23 47 40.8	
	comp=E,600nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.95**	**256**	*e*PN	**Pn**	**23 47 09.4**	**+2.2**
YUK				*e*S	**Sn**	**23 47 53.9**	**+1.7**
YUK				pmax	pmax		
	comp=Z,380nm,0.2s						
YUK				pmax	pmax		
	comp=N,51nm,0.1s						
YUK				smax	smax		
	comp=N,599nm,0.4s						
YUK				smax	smax		
	comp=E,835nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.95**	**256**	*e*P	**Pn**	**23 47 08.6**	**+1.4**
YUK				AMB	AMB	23 47 10.8	
	comp=E,380nm,0.2s						
YUK				*e*S	**Sn**	**23 47 53.0**	**+0.8**
YUK				A	A	23 47 59.5	
	comp=E,600nm,0.5s						
YUK				A	A	23 47 59.5	
	comp=E,840nm,0.5s						
NMR	**Nemuro--Hokkai**	**4.29**	**248**	*e*PN	**Pn**	**23 47 11.3**	**-0.6**
NMR	**Nemuro--Hokkai**	**4.29**	**248**	*e*P	**Pn**	**23 47 11.3**	**-0.6**
NMR				*e*S	**Sn**	**23 47 58.8**	**-1.9**
AKK	**Akkeshi**	**5.03**	**247**	*e*P	**Pn**	**23 47 22.2**	**+0.2**
YSS	**Yuzhno-Sakhali**	**6.13**	**290**	*e*PN	**Pn**	**23 47 41.0**	**+3.9**
YSS				*e*S	**Sn**	**23 48 50.0**	**+4.1**
YSS				pmax	pmax		
	comp=Z,60nm,0.7s						
YSS				MLR	MLR		
	comp=N,800nm,16.0s						
YSS				MLR	MLR		
	comp=E,800nm,16.0s						
YSS				MLR	MLR		
	comp=Z,900nm,16.0s						
YSS	**Yuzhno-Sakhali**	**6.13**	**290**	*e*P	**Pn**	**23 47 39.2**	**+2.1**
YSS				*e*S	**Sn**	**23 48 47.9**	**+2.0**
JKA	**Kamikawa-asahi**	**6.20**	**263**		**Pn**	**23 47 40.3**	**+2.2**
JKA	**Kamikawa-asahi**	**6.20**	**263**	*e*P	**Pn**	**23 47 40.3**	**+2.2**
ASAJ	**Asahikawa**	**6.20**	**264**	Pn	**Pn**	**23 47 36.4**	**-1.7**
	comp=Z,4.5nm,0.3s,baz=81,slow=20,SNR=8.6						
ASAJ				Sn	**Sn**	**23 48 47.0**	**-0.8**
	baz=135,slow=33						
ASAJ				LR	LR	23 50 08.1	
	comp=Z,412nm,21.8s,baz=359,slow=40						
	comp=Z,15nm,0.4s						
ASAJ	**Asahikawa**	**6.20**	**264**	PN	**Pn**	**23 47 40.3**	**+2.2**
SKR	**Severo-Kuril's**	**6.46**	**29**	*e*PN	**Pn**	**23 47 44.7**	**+3.1**
SKR				pmax	pmax		
	comp=Z,160nm,0.7s						
SKR				MLR	MLR		
	comp=Z,600nm,11.0s						
SKR	**Severo-Kuril's**	**6.46**	**29**	*e*P	**Pn**	**23 47 44.2**	**+2.6**
SKR				AMB	AMB	23 47 46.3	
	comp=Z,160nm,0.7s						
SKR				*e*S	**Sn**	**23 48 54.3**	**+0.2**
SKR				A	A	23 49 00.8	
	comp=Z,130nm,0.6s						
SKR				A	A	23 49 00.8	
	comp=Z,90nm,0.6s						
ERM	**Erimo**	**6.61**	**245**	*ce*PN	**Pn**	**23 47 46.9**	**+3.3**
ERM				pmax	pmax		
	comp=Z,374nm,0.6s						
UGL	**Uglegorsk**	**7.35**	**306**	*e*P	**Pn**	**23 47 57.5**	**+3.7**
PAU	**Pauzhetka**	**7.36**	**29**	*e*P	**Pn**	**23 47 56.5**	**+2.6**
PAU				AMB	AMB	23 47 59.3	
	comp=Z,20nm,0.4s						
PAU				*e*S	**Sn**	**23 49 14.6**	**-1.5**
PAU				A	A	23 49 19.0	
	comp=Z,110nm,0.4s						
PAU				A	A	23 49 19.0	
	comp=Z,150nm,0.4s						
TYV	**Tymovskoe**	**8.08**	**318**	*e*PN	**Pn**	**23 48 05.6**	**+1.8**
TYV				pmax	pmax		
	comp=Z,14nm,1.1s						
TYV				pmax	pmax		
	comp=Z,300nm,4.1s						
TYV	**Tymovskoe**	**8.08**	**318**	*e*P	**Pn**	**23 48 05.6**	**+1.8**
TYV				*e*S	**Sn**	**23 49 35.3**	**+1.4**
PEA0B	**Petropavlovsk-**	**9.04**	**26**	*i* PN	**Pn**	**23 48 17.4**	**+0.3**
PETK	**Petropavlovsk-**	**9.04**	**26**	Pn	**Pn**	**23 48 13.9**	**-3.2**
	comp=Z,0.9nm,0.3s,baz=207,slow=13,SNR=8.2						
PETK				Sn	**Sn**	**23 50 00.8**	**+3.2**
	baz=184,slow=10						
PETK				LR	LR	23 51 55.9	
	comp=Z,163nm,18.4s,baz=223,slow=40						
	comp=Z,3.1nm,0.9s						
OKH	**Okha**	**9.98**	**330**	*e*P	**Pn**	**23 48 33.8**	**+4.0**
NKL	**Nikolayevsk**	**10.55**	**323**	*e*P	**Pn**	**23 48 38.6**	**+1.0**
NKL				AMB	AMB	23 48 41.5	
	comp=Z,50nm,0.8s						
MJAR	**Matsushiro Arr**	**13.03**	**233**	Pn	**Pn**	**23 49 11.7**	**0.0**
	baz=24,slow=15,SNR=4.4						
	comp=Z,1.4nm,0.3s						
USA0B	**Ussuriysk Arra**	**13.69**	**273**	Pn	**Pn**	**23 49 21.3**	**+0.8**
USA0B	**Ussuriysk Arra**	**13.69**	**273**	P	**Pn**	**23 49 21.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**13.69**	**273**	Pn	**Pn**	**23 49 21.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**13.69**	**273**	Pn	**Pn**	**23 49 18.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=83,slow=14,SNR=7.9						
USRK				LR	LR	23 54 54.4	
	comp=Z,201nm,18.0s,baz=53,slow=39						
	comp=Z,4.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**13.69**	**273**	P	**Pn**	**23 49 21.3**	**+0.8**
KLR	**Kul'dur**	**13.82**	**294**	Pn	**Pn**	**23 49 20.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=105,slow=15,SNR=12						
KLR				LR	LR	23 54 44.9	
	comp=Z,209nm,19.5s,baz=118,slow=38						
	comp=Z,1.2nm,0.8s						
KLR	**Kul'dur**	**13.82**	**294**	*ce*P	**Pn**	**23 49 23.4**	**+1.1**
KLR				pmax	pmax		
	comp=Z,14nm,1.6s						
KLR	**Kul'dur**	**13.82**	**294**	*e*P	**Pn**	**23 49 23.0**	**+0.7**
MA2	**Magadan**	**14.46**	**359**	Pn	**Pn**	**23 49 27.9**	**-3.1**
	comp=Z,0.9nm,0.3s,baz=189,slow=12,SNR=4.0						
MA2				LR	LR	23 55 08.5	
	comp=Z,87nm,18.9s,baz=157,slow=38						
MDJ	**Mudanjiang**	**15.30**	**276**		**Pn**	**23 49 41.5**	**-0.9**
MDJ				IAmb	IAmb	23 49 47.5	
	comp=Z,19nm,1.1s						
HEH	**HeiHe**	**16.76**	**296**	*e*P	**P**	**23 50 03.8**	**+1.0**
HEH				pmax	pmax		
	comp=Z,20nm,1.1s						
SHEM	**Shemya Is, Ala**	**16.82**	**55**	Pn	**Pn**	**23 50 00.5**	**-1.2**
	comp=Z,45nm,0.3s,baz=268,slow=4.4,SNR=7.4						
SHEM				LR	LR	23 55 23.4	
	comp=Z,112nm,20.6s,baz=124,slow=33						
ZEA	**Zeya**	**17.70**	**308**	*e*P	**P**	**23 50 14.8**	**+1.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=E,100nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
ZEA	**Zeya**	**17.70**	**308**	*e*P	**Pn**	**23 50 11.9**	**-0.7**
SEY	**Seymchan**	**17.84**	**2**	P	**Pn**	**23 50 11.6**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=5.3						
	comp=Z,1.3nm,0.2s						
SEY	**Seymchan**	**17.84**	**2**	*ce*P	**Pn**	**23 50 15.1**	**+0.9**
SEY				pmax	pmax		
	comp=Z,11nm,2.5s						
KSRS	**Korea Array**	**19.04**	**254**	P	**Pn**	**23 50 28.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=60,slow=11,SNR=13						
KSRS				LR	LR	23 57 50.6	
	comp=Z,95nm,18.6s,baz=40,slow=37						
	comp=Z,3.1nm,0.8s						
KSRS	**Korea Array**	**19.04**	**254**	*e*P	**Pn**	**23 50 29.7**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**19.04**	**254**	*e*P	**Pn**	**23 50 29.7**	**+0.7**
KSAR	**Wonju Array Be**	**19.07**	**254**	P	**Pn**	**23 50 29.5**	**+0.1**
KSAR	**Wonju Array Be**	**19.07**	**254**	P	**Pn**	**23 50 29.5**	**+0.1**
JNU	**Nakatsue**	**19.73**	**240**	LR	LR	23 58 43.7	
	comp=Z,80nm,18.3s,baz=24,slow=38						
YAK	**Yakutsk**	**21.01**	**331**	P	**P**	**23 50 46.8**	**-2.4**
	comp=Z,26nm,0.5s,baz=183,slow=9.6,SNR=5.8						
YAK				LR	LR	23 58 42.4	
	comp=Z,108nm,19.7s,baz=124,slow=36						
	comp=Z,26nm,0.5s						
YAK	**Yakutsk**	**21.01**	**331**	*ce*P	**P**	**23 50 48.8**	**-0.4**
YAK				pmax	pmax		
	comp=Z,36nm,1.0s						
YAK	**Yakutsk**	**21.01**	**331**	*e*P	**P**	**23 50 48.8**	**-0.4**
BILL	**Bilibino**	**24.27**	**14**	*i* P	**P**	**23 51 22.9**	**+0.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.9s						
BILL	**Bilibino**	**24.27**	**14**	*e*P	**P**	**23 51 22.9**	**+0.3**
BJT	**Baijiatuau**	**26.14**	**271**	P	**P**	**23 51 41.0**	**+1.2**
BJT				IAmb	IAmb	23 51 41.6	
	comp=Z,10nm,1.0s						
BJT	**Baijiatuau**	**26.14**	**271**	P	**P**	**23 51 41.0**	**+1.2**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.50**	**148**	T	T	00 22 51.2	
	baz=337,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**28.51**	**148**	T	T	00 22 43.8	
	baz=337,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.52**	**148**	T	T	00 22 49.1	
	baz=337,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**29.55**	**149**	T	T	00 24 09.5	
	baz=338,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**29.55**	**149**	T	T	00 24 06.9	
	baz=338,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**29.56**	**149**	T	T	00 24 12.1	
	baz=338,slow=76,SNR=34						
SONM	**Songino Array**	**30.62**	**291**	P	**P**	**23 52 19.6**	**-0.2**
SONM	**Songino Array**	**30.62**	**291**	P	**P**	**23 52 20.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=75,slow=7.9,SNR=8.1						
SONM				LR	LR	00 05 39.4	
	comp=Z,110nm,18.1s,baz=138,slow=39						
	comp=Z,1.7nm,0.9s						
SONM	**Songino Array**	**30.62**	**291**	P	**P**	**23 52 19.6**	**-0.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
M13K	**Dall Lake**	**30.73**	**44**	P	**P**	**23 52 21.0**	**+0.6**
C16K	**Lisburne Hills**	**32.13**	**29**	P	**P**	**23 52 31.6**	**-1.1**
L16K	**Owhat River**	**32.78**	**42**	P	**P**	**23 52 37.8**	**-0.7**
L16K				IAmb	IAmb	23 52 47.2	
	comp=Z,7.1nm,1.1s						
M16K	**Timber Creek**	**32.95**	**43**	P	**P**	**23 52 40.2**	**+0.2**
M16K				IAmb	IAmb	23 52 45.5	
	comp=Z,3.1nm,0.9s						
F17K	**Baldwin Pennin**	**32.99**	**33**	P	**P**	**23 52 40.8**	**+0.6**
F17K				IAmb	IAmb	23 52 42.7	
	comp=Z,4.8nm,0.9s						
C18K	**Utukok River**	**33.69**	**29**	P	**P**	**23 52 46.4**	**-0.1**
M17K	**Holitna River**	**33.71**	**43**	P	**P**	**23 52 47.8**	**+1.2**
M17K				IAmb	IAmb	23 53 06.9	
	comp=Z,6.1nm,1.1s						
G18K	**Tagagawik**	**33.87**	**34**	P	**P**	**23 52 47.5**	**-0.5**
XAN	**Xi'an**	**34.04**	**266**	⇑P	**P**	**23 52 49.4**	**-0.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
N18K	**Kilae Creek**	**34.42**	**44**	P	**P**	**23 52 52.8**	**0.0**
N18K				IAmb	IAmb	23 53 08.8	
	comp=Z,3.2nm,1.0s						
F19K	**Shaleruckik Mo**	**34.43**	**33**	P	**P**	**23 52 52.4**	**-0.3**
H19K	**Roundabout Mou**	**34.69**	**35**	P	**P**	**23 52 55.4**	**+0.4**
H19K				IAmb	IAmb	23 52 56.9	
	comp=Z,6.0nm,1.0s						
J20K	**Nowinta River**	**35.48**	**38**	P	**P**	**23 53 02.6**	**+0.7**
P19K	**Oil Pt**	**35.74**	**46**	P	**P**	**23 53 05.1**	**+0.9**
M20K	**Styx River**	**35.79**	**42**	P	**P**	**23 53 05.9**	**+1.2**
M20K				IAmb	IAmb	23 53 09.8	
	comp=Z,3.4nm,1.0s						
F21K	**Alatna River**	**36.16**	**33**	P	**P**	**23 53 08.0**	**+0.3**
KDAK	**Kodiak Island**	**36.17**	**49**	P	**P**	**23 53 07.9**	**0.0**
KDAK	**Kodiak Island**	**36.17**	**49**	P	**P**	**23 53 07.9**	**0.0**
KDAK				pmax	pmax		
	comp=Z,11nm,1.0s						
E21K	**Killik River**	**36.19**	**31**	P	**P**	**23 53 07.8**	**-0.2**
H21K	**Melozitna Rive**	**36.21**	**36**	P	**P**	**23 53 08.8**	**+0.7**
LZH	**Lanzhou**	**36.59**	**273**	*e*P	**P**	**23 53 12.9**	**+1.0**
LZH				pP	pP	23 53 22.5	+1.9
LZH				pmax	pmax		
	comp=Z,32nm,1.3s						
D22K	**Ayikyak River**	**36.74**	**30**	P	**P**	**23 53 12.6**	**0.0**
D22K				IAmb	IAmb	23 53 22.2	
	comp=Z,2.9nm,0.9s						
CNPM	**China Poot**	**36.76**	**46**	P	**P**	**23 53 13.2**	**+0.3**
CNPM				IAmb	IAmb	23 53 15.9	
	comp=Z,9.7nm,1.1s						
BPAW	**Bear Paw Mtn.**	**36.86**	**38**	P	**P**	**23 53 14.2**	**+0.5**
KTH	**Kantishna Hill**	**36.86**	**39**	P	**P**	**23 53 14.7**	**+0.9**
KTH				IAmb	IAmb	23 53 33.7	
	comp=Z,6.1nm,1.0s						
BRLK	**Bradley Lake**	**36.92**	**46**	P	**P**	**23 53 13.5**	**-0.8**
E22K	**Anaktuvuk Pass**	**36.93**	**32**	P	**P**	**23 53 14.8**	**+0.5**
E22K				IAmb	IAmb	23 53 15.5	
	comp=Z,3.8nm,0.6s						
SUA	**Susitna One**	**36.93**	**43**	P	**P**	**23 53 14.4**	**0.0**
TRF	**Thorofare Moun**	**37.14**	**39**	P	**P**	**23 53 16.7**	**+0.4**
RC01	**Rabbit Creek A**	**37.43**	**43**	P	**P**	**23 53 18.5**	**0.0**
G23K	**Bananza Creek**	**37.44**	**34**	P	**P**	**23 53 19.4**	**+0.8**
D23K	**Nanushuk River**	**37.47**	**30**	P	**P**	**23 53 19.3**	**+0.5**
I23K	**Minto, Yukon-K**	**37.60**	**37**	P	**P**	**23 53 20.6**	**+0.7**
I23K				IAmb	IAmb	23 53 40.3	
	comp=Z,3.3nm,1.1s						
C23K	**Itkillik River**	**37.63**	**29**	P	**P**	**23 53 20.6**	**+0.5**
C23K				IAmb	IAmb	23 53 23.9	
	comp=Z,5.0nm,1.0s						
NEA2	**Nenana**	**37.71**	**38**	P	**P**	**23 53 21.5**	**+0.6**
E23K	**Chandalar**	**37.74**	**32**	P	**P**	**23 53 21.8**	**+0.7**
E23K				IAmb	IAmb	23 53 32.8	
	comp=Z,2.7nm,0.9s						
GHO	**Glory Hole Cre**	**37.79**	**42**	P	**P**	**23 53 21.4**	**-0.3**
GHO				IAmb	IAmb	23 53 30.6	
	comp=Z,6.6nm,1.1s						
TOLK	**Toolik Lake Re**	**37.82**	**31**	P	**P**	**23 53 22.0**	**+0.2**
TOLK				IAmb	IAmb	23 53 22.7	
	comp=Z,2.1nm,0.7s						
GTA	**Gaotai**	**37.90**	**280**	P	**P**	**23 53 22.9**	**0.0**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				LR	LR		
	comp=N,63nm,14.3s						
GTA				LR	LR		
	comp=E,92nm,17.1s						
GTA				LR	LR		
	comp=Z,91nm,14.7s						
SML	**Sawmill**	**38.07**	**42**	P	**P**	**23 53 25.0**	**+1.0**
SML	**Sawmill**	**38.07**	**42**	P	**P**	**23 53 25.0**	**+1.0**
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PWL	**Port Wells**	**38.12**	**44**	P	**P**	**23 53 25.0**	**+0.6**
PWL				IAmb	IAmb	23 53 40.6	
	comp=Z,6.9nm,1.0s						
WRH	**Wood River Hil**	**38.13**	**38**	P	**P**	**23 53 25.5**	**+1.1**
E24K	**Your Creek**	**38.16**	**32**	P	**P**	**23 53 25.2**	**+0.5**
E24K				IAmb	IAmb	23 53 38.3	
	comp=Z,4.9nm,1.1s						
H24K	**Noodor Dome**	**38.25**	**36**	P	**P**	**23 53 26.5**	**+1.0**
CCB	**Clear Creek Bu**	**38.26**	**37**	P	**P**	**23 53 25.9**	**+0.4**
POKR	**Poker Plat Res**	**38.42**	**37**	P	**P**	**23 53 27.9**	**+1.1**
POKR				IAmb	IAmb	23 53 28.

G27K Doyon Strip 40.76 34 P **P** **23 53 47.8 +1.4**
L27K Beaver Creek, 40.98 40 P **P** **23 53 49.8 +1.6**
L27K IAmb IAmb 23 53 50.7
comp=Z,3.3nm,0.7s
BCAR Beaver Creek A 41.00 40 P **P** **23 53 49.8 +1.4**
M27K Edge Creek, AK 41.05 41 P **P** **23 53 50.0 +1.2**
M27K IAmb IAmb 23 53 51.4
comp=Z,5.5nm,1.1s
F28M Old Crow 41.41 33 P **P** **23 53 52.1 +0.5**
I28M Miner Creek 41.55 36 P **P** **23 53 53.4 +0.4**
ZALV Zalesovo Beam 42.47 307 P **P** **23 53 58.0 -2.4**
comp=Z,0.5nm,0.4s,baz=103,slow=5.8,SNR=4.1
ZALV PcP **PcP** **23 55 53.0 +0.3**
comp=Z,1.7nm,0.7s,baz=73,slow=2.6,SNR=8.5
ZALV LR LR 00 11 36.9
comp=Z,38nm,19.8s,baz=66,slow=36
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 42.47 307 P **P** **23 53 58.0 -2.4**
ZALV 23 55 53.0
M29M Somme Creek 42.61 40 P **P** **23 54 02.8 +1.2**
L29M L29M 42.64 39 P **P** **23 54 03.2 +1.4**
L29M IAmb IAmb 23 54 21.1
comp=Z,3.1nm,0.8s
K29M Barlow Dome 42.79 38 P **P** **23 54 04.2 +1.2**
G30M tAoh Zraii Nji 42.88 33 P **P** **23 54 04.7 +1.0**
GOMU GeErMu 42.90 278 P **P** **23 54 04.3 -0.3**
GOMU GeErMu 42.90 278 pP pP 23 54 10.7 -2.7
GOMU GeErMu 42.90 278 sP sP 23 54 13.6 -3.4
I30M Mount Dempster 43.06 36 P **P** **23 54 06.2 +1.0**
I30M IAmb IAmb 23 54 07.1
comp=Z,4.0nm,0.8s
J30M Hart River 43.19 37 P **P** **23 54 07.5 +1.3**
HYT Haines Junctio 43.37 43 P **P** **23 54 09.9 +2.1**
HYT IAmb IAmb 23 54 10.9
comp=Z,10nm,1.2s
INK Inuvik 43.73 31 P **P** **23 54 11.2 +0.8**
INK IAmb IAmb 23 54 25.0
comp=Z,3.5nm,0.8s
INK Inuvik 43.73 31 P **P** **23 54 11.2 +0.8**
INK pmax pmax
comp=Z,4.0nm,0.9s
F31M Tsiigehtchic 43.77 33 P **P** **23 54 11.4 +0.7**
F31M IAmb IAmb 23 54 12.5
comp=Z,4.9nm,1.1s
H31M Peel River 43.80 35 P **P** **23 54 12.3 +1.2**
H31M IAmb IAmb 23 54 13.1
comp=Z,3.3nm,0.8s
O30N Mendenhall 44.06 42 P **P** **23 54 15.0 +1.8**
O30N IAmb IAmb 23 54 16.6
comp=Z,6.1nm,1.1s
M31M Drury Creek, Y 44.52 40 P **P** **23 54 18.3 +1.5**
M31M IAmb IAmb 23 54 19.0
comp=Z,3.1nm,0.8s
WHY Whitehorse 44.66 42 P **P** **23 54 19.8 +1.7**
WHY IAmb IAmb 23 54 21.5
comp=Z,6.3nm,1.1s
FARO Faro, Yukon 44.98 40 P **P** **23 54 21.2 +0.6**
FARO IAmb IAmb 23 54 25.1
comp=Z,4.6nm,1.2s
SLVN Son La 45.31 254 P **P** **23 54 24.2 +0.5**
SLVN IAmb IAmb 23 54 25.3
comp=Z,2.1nm,0.8s
MMPY Sheldon Lake, 45.82 39 P **P** **23 54 29.0 +1.8**
MMPY IAmb IAmb 23 54 29.6
comp=Z,3.2nm,1.1s
A36M Sachs Harbour 45.89 26 P **P** **23 54 27.7 +0.2**
MK31 Makanchi Array 46.48 298*ce*P **P** **23 54 31.7 -0.9**
MKAR Makanchi Array 46.48 298 P **P** **23 54 31.6 -1.0**
MKAR Makanchi Array 46.48 298 P **P** **23 54 31.4 -1.2**
comp=Z,2.4nm,0.7s,baz=75,slow=7.6,SNR=27
MKAR PcP **PcP** **23 56 07.0 +0.3**
comp=Z,1.1nm,0.6s,baz=46,slow=1.3,SNR=6.6
MKAR LR LR 00 15 02.0
comp=Z,109nm,19.8s,baz=80,slow=38
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 46.48 298 *e*P **P** **23 54 32.0 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 46.67 298 P **P** **23 54 33.7 -0.4**
MAKZ IAmb IAmb 23 54 35.7
comp=Z,3.1nm,0.8s
MAKZ Makanchi 46.67 298 P **P** **23 54 33.7 -0.4**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
R33M Jennings River 46.91 43 P **P** **23 54 37.9 +2.0**
R33M IAmb IAmb 23 54 39.7
comp=Z,5.0nm,1.1s
KURK Kurchatov 47.13 304*ce*P **P** **23 54 37.1 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURK Kurchatov 47.13 304 *e*P **P** **23 54 37.1 -0.5**
KURBB Kurchatov Arra 47.22 304 P **P** **23 54 36.5 -1.8**
comp=Z,1.2nm,0.3s,baz=71,slow=8.5,SNR=7.2
comp=Z,1.2nm,0.3s
LSA Lhasa 49.01 273 P **P** **23 54 53.6 +0.7**
LSA Lhasa 49.01 273 P **P** **23 54 53.6 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.8s
PHRA Phrae 49.76 255 P **P** **23 54 58.9 +0.8**
CHTO Chiang Mai 50.42 256 P **P** **23 55 04.2 +1.0**
CHTO IAmb IAmb 23 55 05.0
comp=Z,3.6nm,0.7s
CHTO Chiang Mai 50.42 256 P **P** **23 55 04.2 +1.0**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 50.67 256 P **P** **23 55 05.7 +0.6**
comp=Z,1.4nm,0.8s,baz=46,slow=7.1,SNR=9.4
CMAR LR LR 00 19 29.0
comp=Z,35nm,18.6s,baz=45,slow=40
comp=Z,1.4nm,0.8s
CMAR Chiang Mai Arr 50.67 256 *e*P **P** **23 55 06.4 +1.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 50.84 310 P **P** **23 55 04.3 -1.6**
comp=Z,0.9nm,0.5s,baz=67,slow=6.3,SNR=5.0
BVAR PcP **PcP** **23 56 22.5 +0.2**
comp=Z,1.4nm,0.7s,baz=29,slow=3.4,SNR=2.3
BVAR LR LR 00 18 05.2
comp=Z,62nm,18.4s,baz=50,slow=38
comp=Z,0.9nm,0.5s
SHL Shillong 50.97 268 P **P** **23 55 07.0 -0.4**
SHL Shillong 50.97 268 P **P** **23 55 07.1 -0.4**
SHL pmax pmax
comp=Z,15nm,0.7s
WUS Wushi 51.02 293 P **P** **23 55 07.6 0.0**
BBB Bella Bella 51.17 51 LR LR 00 13 01.6
comp=Z,27nm,21.6s,baz=349,slow=32
KDJ Kajisay 51.88 295 P **P** **23 55 14.1 0.0**
BOOM Boomskoye usch 52.49 296 P **P** **23 55 18.7 +0.1**
BOOM Boomskoye usch 52.49 296 P **P** **23 55 18.7 +0.1**
RES Resolute Bay 52.78 18 P **P** **23 55 20.3 +0.2**
RES IAmb IAmb 23 55 25.6
comp=Z,2.7nm,0.7s
RES Resolute Bay 52.78 18 P **P** **23 55 20.3 +0.2**
RES pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 53.02 35 P **P** **23 55 22.0 0.0**
comp=Z,0.5nm,0.7s,baz=298,slow=7.0,SNR=8.5
YKA LR LR 00 21 40.2
comp=Z,18nm,18.2s,baz=294,slow=40
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 53.02 35 *e*P **P** **23 55 22.6 +0.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 53.33 296 P **P** **23 55 24.6 -0.3**
AAK IAmb IAmb 23 55 26.0
comp=Z,4.2nm,0.8s
AAK Ala-Archa 53.33 296 P **P** **23 55 24.6 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 53.33 296 *e*P **P** **23 55 24.6 -0.3**
SPITS Spitsbergen Ar 53.95 350 P **P** **23 55 28.2 -0.5**
comp=Z,17nm,1.1s,baz=140,slow=13,SNR=2.6
comp=Z,17nm,1.1s
KSH Kashi 54.01 292 P **P** **23 55 34.0 +4.2**
KSH pmax pmax
comp=Z,5.0nm,1.0s
ARSB Arslanbob 54.98 296 P **P** **23 55 37.0 +0.1**
ARSB IAmb IAmb 23 55 38.7
comp=Z,2.5nm,0.9s
ARSB Arslanbob 54.98 296 P **P** **23 55 37.0 +0.1**
ARSB pmax pmax
comp=Z,3.0nm,0.9s
ARTI Arti 55.39 318 P **P** **23 55 36.5 -2.8**
ARTI IAmb IAmb 23 55 42.4
comp=Z,2.9nm,0.7s
ARTI Arti 55.39 318 LR LR 00 21 23.5
comp=Z,60nm,18.2s,baz=31,slow=38
ARTI Arti 55.39 318*d i*P **P** **23 55 39.4 +0.1**
ARTI 23 56 34.1
ARTI 23 57 39.9
ARTI S **S** **00 03 22.4 +1.3**
ARTI SS **SS** **00 07 04.1 -1.1**
ARTI pmax pmax
comp=Z,10.0nm,1.5s
KK31 Karatay Array 55.59 299 P **P** **23 55 40.2 -0.8**
KK31 IAmb IAmb 23 55 41.3
comp=Z,3.3nm,0.8s
KK31 Karatay Array 55.59 299 P **P** **23 55 40.2 -0.8**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 55.59 299 P **P** **23 55 40.7 -0.3**
KKAR Karatay Array 55.59 299 P **P** **23 55 39.9 -1.1**
KKAR IAmb IAmb 23 55 41.2
comp=Z,2.1nm,0.8s
KKAR Karatay Array 55.59 299 P **P** **23 55 39.9 -1.1**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
DAG Danmarks Havn 58.19 357 P **P** **23 55 57.5 -1.4**
ABKAR Abkulak array 58.41 310 P **P** **23 55 59.3 -1.6**
ABKAR Abkulak array 58.41 310 P **P** **23 56 00.1 -0.8**
ABKAR IAmb IAmb 23 56 01.2
comp=Z,2.4nm,0.5s
AKTO Aktyubinsk 58.78 312 LR LR 00 23 37.9
comp=Z,114nm,18.6s,baz=252,slow=38
CHGR Chuyangaron 58.90 295 P **P** **23 56 03.7 -0.9**
CHGR Chuyangaron 58.90 295 P **P** **23 56 03.7 -0.9**
CHGR pmax pmax
comp=Z,28nm,0.8s
ARCES ARCESS Array B 58.92 341 P **P** **23 56 02.9 -1.3**
comp=Z,4.4nm,1.0s,baz=15,slow=5.0,SNR=1.8
ARCES LR LR 00 26 23.1
comp=Z,28nm,18.6s,baz=60,slow=41
comp=Z,4.4nm,1.0s
SIMJ Simiganj 59.00 295 P **P** **23 56 04.6 -0.7**
NIL Nilore 59.12 288 P **P** **23 56 06.2 +0.1**
NIL Nilore 59.12 288 P **P** **23 56 06.2 +0.1**
NIL pmax pmax
comp=Z,29nm,0.8s
KBL Kabul 61.39 291 P **P** **23 56 20.3 -1.6**
KBL Kabul 61.39 291 P **P** **23 56 20.3 -1.6**
KBL pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 62.39 3 P **P** **23 56 27.6 -0.6**
SUMG Summit 62.39 3 P **P** **23 56 27.6 -0.6**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 62.39 3 *i* P **P** **23 56 27.0 -1.2**
BELG Belogornoye 62.82 318 LR LR 00 24 33.4
comp=Z,27nm,18.0s,baz=355,slow=37
FFC Flin Flon 62.84 39 P **P** **23 56 31.4 +0.5**
FFC IAmb IAmb 23 56 32.7
comp=Z,4.7nm,1.1s
FFC Flin Flon 62.84 39 P **P** **23 56 31.4 +0.5**
FFC pmax pmax
comp=Z,5.0nm,1.1s
FCC Fort Churchill 63.35 32 P **P** **23 56 34.2 0.0**
FCC IAmb IAmb 23 56 34.5
comp=Z,2.6nm,0.6s
FCC Fort Churchill 63.35 32 P **P** **23 56 34.2 0.0**
FCC pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 64.91 334 P **P** **23 56 43.0 -1.4**
comp=Z,3.1nm,0.7s,baz=34,slow=6.8,SNR=16
FINES LR LR 00 27 12.4
comp=Z,52nm,18.3s,baz=29,slow=38
comp=Z,3.1nm,0.7s
FINES FINESS Array B 64.91 334 *e*P **P** **23 56 43.6 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 66.56 197 P **P** **23 56 56.9 +1.3**
comp=Z,3.0nm,0.9s,baz=15,slow=6.8,SNR=10.0
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 66.56 197 *e*P **P** **23 56 57.2 +1.7**
WRA pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 66.80 52 P **P** **23 56 57.1 -0.1**
comp=Z,0.8nm,0.9s,baz=153,slow=0.7,SNR=6.2
comp=Z,0.8nm,0.9s
ULM Lac du Bonnet 68.62 39 P **P** **23 57 08.3 0.0**
comp=Z,1.2nm,0.8s,baz=304,slow=5.7,SNR=1.9
comp=Z,1.2nm,0.8s
NB2 NORSAR Subarra 69.30 340 P **P** **23 57 10.9 -1.5**
comp=Z,5.4nm,0.8s,baz=30,slow=6.2
NOA NORSAR Array B 69.30 340 P **P** **23 57 10.6 -1.8**
comp=Z,2.8nm,0.7s,baz=26,slow=6.5,SNR=9.3
NOA LR LR 00 29 57.2
comp=Z,28nm,19.8s,baz=20,slow=38
comp=Z,2.8nm,0.7s
NOA NORSAR Array B 69.30 340 *e*P **P** **23 57 10.6 -1.8**
NOA pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 69.48 339 P **P** **23 57 11.9 -1.5**
comp=Z,3.6nm,0.7s,baz=64,slow=6.8,SNR=7.2
comp=Z,3.6nm,0.7s
ASAR Alice Springs 70.27 197 P **P** **23 57 21.5 +2.9**
comp=Z,2.1nm,0.8s,baz=10.0,slow=5.7,SNR=14
comp=Z,2.1nm,0.8s
SEKA Sheki 70.44 309 P **P** **23 57 20.2 +0.4**
MNGR Mingechevir, A 70.80 309 P **P** **23 57 22.5 +0.6**
KIV Kislovodsk 70.94 314 P **P** **23 57 23.1 +0.3**
KIV Kislovodsk 70.94 314 ⇓P **P** **23 57 22.5 -0.2**
KIV Kislovodsk 70.94 314 *e*P **P** **23 57 22.3 -0.5**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,50nm,17.0s
KIV Kislovodsk 70.94 314 P **P** **23 57 22.8 0.0**
comp=Z,14nm,0.8s
KIV Kislovodsk 70.94 314 *e*P **P** **23 57 22.3 -0.5**
KBZ Khabaz 70.99 313 P **P** **23 57 23.2 +0.3**
comp=Z,10nm,0.8s,baz=65,slow=4.2,SNR=37
comp=Z,10nm,0.8s
KBZ Khabaz 70.99 313 *e*P **P** **23 57 22.1 -0.8**
KBZ pmax pmax
comp=Z,14nm,0.9s
KBZ Khabaz 70.99 313 *e*P **P** **23 57 22.1 -0.8**
SHA1 Shidzhatmaz 71.10 313 *i* P **P** **23 57 23.8 -0.2**
LKRN Lenkeran, Azer 71.26 306 P **P** **23 57 25.1 +0.4**
GANJ Ganja 71.31 309 P **P** **23 57 25.7 +0.7**
AKASG Malin Array Be 72.11 325 P **P** **23 57 28.3 -1.3**
comp=Z,1.9nm,0.5s,baz=38,slow=6.3,SNR=17
AKASG LR LR 00 31 35.7
comp=Z,73nm,18.1s,baz=46,slow=38
comp=Z,1.9nm,0.5s
AKBB Malin Array Si 72.11 325 P **P** **23 57 28.6 -1.0**
AKBB IAmb IAmb 23 57 29.0
comp=Z,5.5nm,0.8s
AKBB Malin Array Si 72.11 325 P **P** **23 57 28.6 -1.0**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 72.11 325 P **P** **23 57 28.5 -1.1**
KIEV Kiev 72.13 325 P **P** **23 57 28.7 -1.0**
KIEV IAmb IAmb 23 57 29.0
comp=Z,4.9nm,0.8s
KIEV Kiev 72.13 325 ⇓P **P** **23 57 28.3 -1.3**
KIEV Kiev 72.13 325 P **P** **23 57 28.7 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 72.52 310 P **P** **23 57 33.5 +1.1**
GNI Garni 72.52 310 P **P** **23 57 33.6 +1.1**
GNI pmax pmax
comp=Z,8.0nm,1.0s
NAX Nakhchivan 72.79 308 P **P** **23 57 34.2 +0.2**
ECSD EROS Data Cent 72.98 45 P **P** **23 57 35.3 +0.4**
ECSD IAmb IAmb 23 57 51.3
comp=Z,2.7nm,1.1s
RNPP5 Staryi Chortor 73.00 328 P **P** **23 57 32.8 -2.1**
KARS Kars 73.08 311 P **P** **23 57 36.5 +0.7**
KARS Kars 73.08 311 P **P** **23 57 36.5 +0.7**
KARS pmax pmax
comp=Z,21nm,0.8s
LUBAR Lubar, Ukraine 73.31 326 P **P** **23 57 35.0 -1.7**
SORM Soroca 74.48 324 ⇓P **P** **23 57 42.6 -1.0**
SORM Soroca 74.48 324 ⇓P **P** **23 57 42.6 -1.0**
SORM Soroca 74.48 324 P **P** **23 57 42.3 -1.2**
comp=Z,13nm,0.8s
KOPT Kop Dagi 74.89 312 P **P** **23 57 47.7 +1.2**
KOPT IAmb IAmb 23 57 49.1
comp=Z,5.1nm,1.1s
KMPD K-Podol'skiy 74.91 326 P **P** **23 57 44.7 -1.3**
comp=Z,5μm,0.8s
GURO Guroymak-BITLI 75.13 310 P **P** **23 57 48.7 +0.9**
GURO IAmb IAmb 23 57 50.1
comp=Z,8.1nm,1.2s
MILM Milestii Mici 75.24 323 ⇓P **P** **23 57 47.2 -0.8**
MILM Milestii Mici 75.24 323 ⇓P **P** **23 57 47.2 -0.8**
SCHQ Schefferville 75.31 22 P **P** **23 57 47.6 -0.7**
SCHQ Schefferville 75.31 22 P **P** **23 57 48.1 -0.2**
comp=Z,1.4nm,0.6s,baz=320,slow=7.5,SNR=3.8
comp=Z,1.4nm,0.6s
OJC Ojcow 76.06 330 P **P** **23 57 52.2 -0.4**
OJC Ojcow 76.06 330 P **P** **23 57 52.2 -0.4**
OJC pmax pmax
comp=Z,8.0nm,0.8s
OJC Ojcow 76.06 330 P **P** **23 57 52.1 -0.5**
BUR08 Bucovina Ar. S 76.15 326 P **P** **23 57 53.2 -0.2**
BURAR Bucovina Array 76.17 326 ⇑P **P** **23 57 53.0 -0.4**
BURAR Bucovina Array 76.17 326 ⇑P **P** **23 57 53.0 -0.4**
KOLS Kolonicke sedl 76.23 328 *e*P **P** **23 57 53.0 -0.6**
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 76.23 328 *e*P **P** **23 57 53.0 -0.6**
VLDR Vladesti 76.40 323 ⇑P **P** **23 57 54.5 -0.2**
TLCR 76.60 322 ⇓P **P** **23 57 55.6 -0.2**
TLCR 76.60 322 ⇓P **P** **23 57 55.6 -0.2**
MARD Mardin 76.71 310 P **P** **23 57 54.6 -2.1**
ONER Baraj Valea Uz 76.72 324 ⇓P **P** **23 57 56.5 +0.1**
PANC Panciu 76.77 323 ⇓P **P** **23 57 57.5 +0.8**
ODBI Odobesti 76.90 323 ⇓P **P** **23 57 58.5 +1.1**
CFR Carcaliu 76.90 322 ⇑P **P** **23 57 56.7 -0.8**
CFR Carcaliu 76.90 322 ⇑P **P** **23 57 56.7 -0.8**
VRI Vrincioaia 76.95 324 ⇓P **P** **23 57 57.2 -0.6**
VRI Vrincioaia 76.95 324 ⇓P **P** **23 57 57.2 -0.6**
CHVC Chvalec 77.01 333 *e*P **P** **23 57 57.8 -0.3**
CHVC Chvalec 77.01 333 *e*P **P** **23 57 57.8 -0.3**
TPGR Topolog 77.04 322 ⇓P **P** **23 57 57.8 -0.5**
LANS Liptovska Anna 77.07 330 *e*P **P** **23 57 59.0 +0.6**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 77.07 330 *e*P **P** **23 57 59.0 +0.6**
DPC Dobruska-Polom 77.13 332 *e*P **P** **23 57 58.9 +0.1**
DPC Dobruska-Polom 77.13 332 *e*P **P** **23 57 58.9 +0.1**
OZUR 77.16 324 ⇓P **P** **23 57 58.5 -0.5**
COVR Voineasa-Covas 77.19 324 ⇑P **P** **23 57 57.9 -1.3**
MORC Moravsky Berou 77.21 331 P **P** **23 57 58.9 -0.3**
MORC Moravsky Berou 77.21 331 *e*P **P** **23 57 58.7 -0.5**
MORC Moravsky Berou 77.21 331 ⇑P **P** **23 57 58.9 -0.3**
MORC Moravsky Berou 77.21 331 ⇑P **P** **23 57 58.9 -0.3**
KRLC Kraliky 77.21 332 *e*P **P** **23 57 59.1 -0.1**
KRLC Kraliky 77.21 332 *e*P **P** **23 57 59.1 -0.1**
CLL Collm 77.35 335 P **P** **23 57 58.4 -1.5**
CLL Collm 77.35 335 *i* P **P** **23 57 58.8 -1.1**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 77.35 335 *i* P **P** **23 57 58.8 -1.1**
comp=Z,11nm,0.9s
DOPR Dopca 77.43 325 ⇑P **P** **23 58 01.4 +0.9**
MESR Meseseni 77.44 327 ⇓P **P** **23 58 00.2 -0.3**
TLBR Topalu 77.45 322 ⇓P **P** **23 58 00.5 0.0**
CJR Cluj-Napoca 77.54 326 ⇓P **P** **23 58 01.6 +0.4**
CJR Cluj-Napoca 77.54 326 ⇓P **P** **23 58 01.6 +0.4**
ILGA Ilgaz 77.56 317 P **P** **23 58 02.2 +0.6**
EKA Eskdalemuir Ar 77.56 345 P **P** **23 57 60.0 -1.0**
comp=Z,2.0nm,0.6s,baz=25,slow=4.9,SNR=8.0
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 77.56 345 P **P** **23 58 00.0 -1.0**
MLR Muntele Rosu 77.58 324 P **P** **23 58 01.4 -0.1**
MLR Muntele Rosu 77.58 324 LR LR 00 33 44.2
comp=Z,34nm,18.6s,baz=31,slow=37
MLR Muntele Rosu 77.58 324 ⇓P **P** **23 58 01.4 -0.1**
MLR Muntele Rosu 77.58 324 ⇓P **P** **23 58 01.4 -0.1**
ESK Eskdalemuir 77.59 345 P **P** **23 58 00.5 -0.7**
ESK IAmb IAmb 23 58 02.9
comp=Z,2.4nm,0.7s
ESK Eskdalemuir 77.59 345 P **P** **23 58 00.5 -0.7**
ESK pmax pmax
comp=Z,2.0nm,0.7s
DRGR 77.83 327 ⇓P **P** **23 58 01.9 -0.8**
DRGR 77.83 327 ⇓P **P** **23 58 01.9 -0.8**
VYHS Vyhne 77.85 330 *e*P **P** **23 58 02.5 -0.3**
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 77.85 330 *e*P **P** **23 58 02.5 -0.3**
ICOR Ion Corvin 77.89 322 ⇑P **P** **23 58 03.4 +0.4**
VRAC Vranov 77.93 332 *e*P **P** **23 58 02.8 -0.4**
VRAC Vranov 77.93 332 ⇓P **P** **23 58 03.2 0.0**
VRAC Vranov 77.93 332 ⇓P **P** **23 58 03.2 0.0**
JAVC Velka Javorina 77.95 331 *e*P **P** **23 58 04.0 +0.6**
PSZ Piszkesteto 77.95 329 P **P** **23 58 03.1 -0.3**
PSZ IAmb IAmb 23 58 03.9
comp=Z,4.8nm,0.9s
PSZ Piszkesteto 77.95 329 ⇑P **P** **23 58 03.2 -0.2**
PSZ Piszkesteto 77.95 329 P **P** **23 58 03.1 -0.3**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
VOIR 78.00 324 ⇑P **P** **23 58 03.6 -0.1**
VOIR 78.00 324 ⇑P **P** **23 58 03.6 -0.1**
PRU Pruhonice 78.02 333 *e*P **P** **23 58 03.5 -0.2**
PRU Pruhonice 78.02 333 *e*P **P** **23 58 03.5 -0.2**
BNN Bunyan 78.17 314 P **P** **23 58 01.6 -3.2**
KRUC Moravsky 78.21 332 *e*P **P** **23 58 04.4 -0.3**
ARR Arges 78.22 325 ⇓P **P** **23 58 05.2 +0.2**
TREC Trest 78.31 332 *e*P **P** **23 58 02.4 -2.9**
TREC Trest 78.31 332 *e*P **P** **23 58 02.4 -2.9**
SMOL Smolenice 78.33 331 *e*P **P** **23 58 05.9 +0.5**
SMOL pmax pmax
comp=Z,4.0nm,1.0s
MODS Modra-Piesok 78.50 331 *e*P **P** **23 58 06.8 +0.4**
MODS pmax pmax
comp=Z,21nm,1.1s
MODS Modra-Piesok 78.50 331 *e*P **P** **23 58 06.8 +0.4**
LOT Lotru 78.51 325 ⇑P P 23 57 54.2 -12
ZVC Zvikov 78.61 333 *e*P **P** **23 58 06.6 -0.4**
BRTR Keskin Array B 78.61 316 P **P** **23 58 06.1 -1.3**
BRTR Keskin Array B 78.61 316 P **P** **23 58 07.2 -0.2**
comp=Z,2.3nm,0.8s,baz=83,slow=4.0,SNR=13
comp=Z,2.3nm,0.8s
SRO Srobarova 78.61 330 *e*P **P** **23 58 07.6 +0.7**
SRO pmax pmax
comp=Z,9.0nm,1.0s
SRO Srobarova 78.61 330 *e*P **P** **23 58 07.6 +0.7**
SIRR Siria 78.67 327 ⇓P **P** **23 58 07.3 0.0**
SURR Surduc 78.91 326 ⇑P **P** **23 58 08.8 +0.2**
KIRS Kirsehir-Merke 78.93 315 ⇓P **P** **23 58 09.5 +0.5**
GZR Gura Zlata 78.95 326 ⇑P **P** **23 58 08.3 -0.7**
GZR Gura Zlata 78.95 326 ⇑P **P** **23 58 08.3 -0.7**
KHC Kasperske Hory 79.08 333 *e*P **P** **23 58 09.6 0.0**
KHC Kasperske Hory 79.08 333*ce*P **P** **23 58 08.8 -0.8**
KHC pmax pmax
comp=Z,17nm,0.8s
CKRC Cesky Krumlov 79.11 333 *e*P **P** **23 58 09.4 -0.3**
CKRC Cesky Krumlov 79.11 333 *e*P **P** **23 58 09.4 -0.3**
BZS Buzias 79.22 327 ⇑P **P** **23 58 09.8 -0.6**
BZS Buzias 79.22 327 ⇑P **P** **23 58 09.8 -0.6**
GERES GERESS Array B 79.29 333 P **P** **23 58 10.3 -0.5**
comp=Z,2.2nm,0.6s,baz=34,slow=5.5,SNR=12
comp=Z,2.2nm,0.6s
CONA Conrad Observa 79.37 331 *i* P **P** **23 58 11.3 0.0**
comp=Z,4.9nm,0.6s
RONA Rosalia, Austr 79.42 331 *i* P **P** **23 58 11.7 +0.2**
comp=Z,5.9nm,0.8s
TXAR Lajitas Array 79.47 59 P **P** **23 58 13.1 +0.9**
comp=Z,0.6nm,0.6s,baz=280,slow=4.0,SNR=9.2
comp=Z,0.6nm,0.6s
HERR Herculane 79.52 326 ⇓P **P** **23 58 11.0 -1.0**
PUNG Punghina 79.81 325 ⇓P **P** **23 58 13.1 -0.5**
MORH Mrgy, Hungar 79.85 329 ⇓P **P** **23 58 11.8 -2.0**
MDVR Moldovita 79.88 326 ⇓P **P** **23 58 13.1 -1.0**
MOA Molln 79.97 332 *e*P **P** **23 58 14.4 0.0**
comp=Z,3.4nm,0.9s
BIOA Bad Ischl, Aus 80.32 332 *i* P **P** **23 58 16.4 +0.1**
comp=Z,5.5nm,1.1s
SOKA Soboth 80.73 331 *i* P **P** **23 58 17.7 -0.9**
comp=Z,10nm,1.2s
LESA Schwarzleotal 80.86 333 *e*P **P** **23 58 19.0 -0.3**
comp=Z,8.7nm,1.1s
KBA Koelnbreinsper 80.95 332 *i* P **P** **23 58 20.3 +0.4**
comp=Z,6.1nm,0.7s
ALN Alexandroupoli 81.25 321 P **P** **23 58 20.6 -0.8**
ALN IAmb IAmb 23 58 21.9
comp=Z,7.5nm,1.1s
ALN Alexandroupoli 81.25 321 P **P** **23 58 20.6 -0.8**
ALN pmax pmax

comp=Z,8.0nm,1.1s
RDO Rodhopi 81.27 322 P **P 23 58 20.9 -0.5**
WATA Walderalm 81.29 334 *i* P **P 23 58 21.0 -0.6**
comp=Z,7.3nm,1.1s
WTTA Wattenberg 81.34 333 *i* P **P 23 58 21.8 -0.1**
comp=Z,8.6nm,0.9s
RETA Reutte 81.41 334 *eP* **P 23 58 21.8 -0.5**
comp=Z,0.7nm,0.3s
MOTA Moosalm 81.43 334 *i* P **P 23 58 22.2 -0.2**
comp=Z,8.3nm,1.0s
SQTA Sankt Quirin 81.51 334 *eP* **P 23 58 22.8 0.0**
comp=Z,2.8nm,0.7s
PPT Papeete 82.35 124 LR LR 00 26 25.0
comp=Z,44nm,21.8s,baz=178,slow=29
MMAI Mount Meron Ar 82.84 310 P **P 23 58 30.8 +0.8**
comp=Z,2.3nm,0.5s,baz=42,slow=6.7,SNR=11
comp=Z,2.3nm,0.5s
RAYN Ar Rayn 83.97 297 ⇓P **P 23 58 36.2 +0.3**
EIL Elat 85.65 308 LR LR 00 42 44.4
comp=Z,24nm,18.5s,baz=350,slow=40
ESDC Sonseca Array 92.66 341 LR LR 00 44 18.8
comp=Z,19nm,21.3s,baz=336,slow=38
TORD Torodi Ar. Bea 115.73 327 PKP **PKiKP 00 04 47.8 -0.3**
comp=Z,0.3nm,0.9s,baz=11,slow=1.5,SNR=1.8
BDFB Brasilia 146.44 35 PKPbc **PKPbc 00 05 47.4 +0.7**
comp=Z,1.7nm,0.7s,baz=334,slow=10.0,SNR=3.1
PLCA Paso Flores 149.39 97 PKPbc **PKPbc 00 05 55.1 +1.2**
comp=Z,1.3nm,0.8s,baz=323,slow=5.1,SNR=3.8
CPUP Villa Florida 150.44 60 PKPbc **PKPbc 00 05 56.9 +0.1**
comp=Z,1.3nm,0.7s,baz=291,slow=5.7,SNR=3.0
SNAA Sanae 150.63 196 PKPbc **PKPbc 00 05 56.4 +0.4**
comp=Z,1.8nm,0.9s,baz=204,slow=3.5,SNR=8.7

---

*IDC **05** 00:55:35.3±1.3,23°.91S×69°.63W,h0km,mb4.0/4, mbtmp4.0/6,ML4.3/2,Error ellipse: s-maj=40.1km s-min=35.9km az=15.0*
*SJA **05** 00:55:49.9±0.9,22°.92S×69°.56W,h119km±18km,ML4.0, MW3.9*
*NEIC **05** 00:55:50.2±2.7,22°.99S±0°.05×69°.33W±0°.09,h114km±8km, mb4.1/5,Error ellipse: s-maj=11.7km s-min=6.0km az=107.0*
*GUC **05** 00:55:51.9±0.9,23°.00S×69°.36W,h87km±13km,ML4.4*
ISC 05 00:55:50.7±0.6,22°.99S±0°.03×69°.31W±0°.06,h102km±4km, n60,σ1s55/70,mb3.9/5,5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.05**	**88**	Pn	**Pn**	**00 56 12.7**	**+0.6**
AF01	**San Pedro de A**	**1.05**	**88**	⇓*i*P	**Pn**	**00 56 12.8**	**+0.6**
AF01				*i* S	**Sn**	**00 56 28.6**	**+0.4**
AF01				IAML		00 56 29.6	
comp=E,13μm,0.3s							
PB09	**IPOC Station P**	**1.19**	**3**	Pn	**Pn**	**00 56 14.4**	**+0.8**
PB09	**IPOC Station P**	**1.19**	**3**	*eP*	**Pn**	**00 56 14.6**	**+1.0**
PB09				IAML		00 56 40.5	
comp=Z,3μm,1.1s							
PB09	**IPOC Station P**	**1.19**	**3**	⇑*i*P	**Pn**	**00 56 14.6**	**+1.0**
PB09				*i* S	**Sn**	**00 56 31.1**	**+0.3**
PB14	**IPOC Station P**	**1.91**	**211**	Pn	**Pn**	**00 56 23.1**	**+0.5**
PB14	**IPOC Station P**	**1.91**	**211**	*eP*	**Pn**	**00 56 23.2**	**+0.5**
PB14				IAML		00 57 19.2	
comp=Z,283nm,0.4s							
PB14	**IPOC Station P**	**1.91**	**211**	*eP*	**Pn**	**00 56 23.9**	**+1.3**
PB14				*eS*	**Sn**	**00 56 46.8**	**0.0**
PB01	**IPOC Station P**	**1.94**	**355**	Pn	**Pn**	**00 56 23.1**	**+0.4**
PB01	**IPOC Station P**	**1.94**	**355**	*eP*	**Pn**	**00 56 23.4**	**+0.6**
PB01				*eS*	**Sn**	**00 56 46.7**	**-0.4**
PB01				IAML		00 56 50.4	
comp=Z,1μm,0.2s							
PB01	**IPOC Station P**	**1.94**	**355**	⇑*i*P	**Pn**	**00 56 23.3**	**+0.6**
PB01				*i* S	**Sn**	**00 56 47.5**	**+0.4**
PB01				IAML		00 56 48.7	
comp=E,3μm,0.2s							
GO02	**Mina Guanaco**	**2.18**	**187**		**Pn**	**00 56 27.0**	**+1.0**
GO02	**Mina Guanaco**	**2.18**	**187**	*eP*	**Pn**	**00 56 27.2**	**+1.2**
GO02				*eS*	**Sn**	**00 56 55.6**	**+2.6**
GO02	**Mina Guanaco**	**2.18**	**187**	⇑*i*P	**Pn**	**00 56 27.2**	**+1.2**
GO02				*i* S	**Sn**	**00 56 54.0**	**+1.0**
TA01	**Diego Aracena**	**2.54**	**341**	Pn	**Pn**	**00 56 29.9**	**-0.5**
TA01	**Diego Aracena**	**2.54**	**341**	*eP*	**Pn**	**00 56 29.9**	**-0.5**
TA01				IAML		00 57 19.8	
comp=Z,473nm,0.6s							
TA01	**Diego Aracena**	**2.54**	**341**	⇑*i*P	**Pn**	**00 56 29.9**	**-0.5**
TA01				*i* S	**Sn**	**00 57 01.8**	**+0.9**
TA01				IAML		00 57 22.9	
comp=N,1μm,0.4s							
PX03	**IPOC Station P**	**2.59**	**353**	*eP*	**Pn**	**00 56 30.2**	**-1.0**
PX03				*i* S	**Sn**	**00 57 02.2**	**0.0**
PX03				IAML		00 57 22.5	
comp=N,1μm,0.3s							
HMBC	**Humberstone**	**2.75**	**349**		**Pn**	**00 56 33.0**	**-0.3**
HMBC	**Humberstone**	**2.75**	**349**	*eP*	**Pn**	**00 56 32.8**	**-0.5**
HMBC				*eS*	**Sn**	**00 57 03.9**	**-2.1**
HMBC				IAML		00 57 26.4	
comp=Z,895nm,0.4s							
HMBC	**Humberstone**	**2.75**	**349**	*eP*	**Pn**	**00 56 32.8**	**-0.5**
TA02	**Huaiquique**	**2.81**	**344**		**Pn**	**00 56 33.4**	**-0.6**
TA02	**Huaiquique**	**2.81**	**344**	*eP*	**Pn**	**00 56 33.4**	**-0.6**
TA02				*eS*	**Sn**	**00 57 05.8**	**-1.4**
TA02				IAML		00 57 10.6	
comp=N,2μm,0.1s							
PB08	**IPOC Station P**	**2.83**	**3**	Pn	**Pn**	**00 56 35.0**	**+0.3**
PB08	**IPOC Station P**	**2.83**	**3**	*eP*	**Pn**	**00 56 34.7**	**0.0**
PB08				IAML		00 57 34.9	
comp=Z,367nm,0.6s							
PB08	**IPOC Station P**	**2.83**	**3**	⇑*i*P	**Pn**	**00 56 35.1**	**+0.3**
PB08				*i* S	**Sn**	**00 57 09.5**	**+1.0**
AC01	**Pan de Azucar**	**3.36**	**200**		**Pn**	**00 56 41.5**	**+0.2**
AC01	**Pan de Azucar**	**3.36**	**200**	*eP*	**Pn**	**00 56 41.0**	**-0.4**
AC02	**Maricunga**	**3.84**	**178**	Pn	**Pn**	**00 56 49.1**	**+0.9**
PB12	**IPOC Station P**	**4.45**	**348**	Pn	**Pn**	**00 56 54.5**	**-1.7**
PB18	**Visviri**	**5.37**	**358**	Pn	**Pn**	**00 57 10.1**	**+1.0**
AC04	**Llanos de Chal**	**5.43**	**197**		**Pn**	**00 57 07.5**	**-1.9**
LCO	**Las Campanas**	**6.13**	**191**	Pn	**Pn**	**00 57 17.4**	**-1.6**
LPAZ	**La Paz**	**6.76**	**10**	Pn	**Pn**	**00 57 27.0**	**-0.9**
LPAZ	**La Paz**	**6.76**	**10**	Pn	**Pn**	**00 57 29.9**	**+2.0**
comp=Z,2.6nm,0.3s,baz=217,slow=5.3,SNR=34							
comp=Z,6.8nm,0.4s							
LPAZ	**La Paz**	**6.76**	**10**	Pn	**sPn**	**00 58 00.9**	**+7.5**
comp=Z,3.0nm,0.3s,baz=200,slow=6.4,SNR=9.2							
comp=Z,6.9nm,0.4s							
CO01	**Juntas del Tor**	**7.00**	**186**		**Pn**	**00 57 29.9**	**-0.9**
GO04	**Tololo Observa**	**7.28**	**190**	Pn	**Pn**	**00 57 32.8**	**-1.9**
CO03	**El Pedregal**	**7.92**	**189**	Pn	**Pn**	**00 57 40.8**	**-2.4**
ZON	**Zonda**	**8.55**	**176**	Pn	**Pn**	**00 57 51.2**	**-0.5**
SIV	**San Ignacio**	**10.43**	**50**	Pn	**Pn**	**00 58 17.3**	**0.0**
comp=Z,0.2nm,0.3s,baz=244,slow=10,SNR=10.0							
comp=Z,1.2nm,0.4s							
CPUP	**Villa Florida**	**11.40**	**109**	Pn	**Pn**	**00 58 31.4**	**+1.0**
comp=Z,0.2nm,0.3s,baz=265,slow=12,SNR=3.3							
comp=Z,1.0nm,0.5s							
ITAB	**Concordia**	**16.13**	**109**		**Pn**	**00 59 29.8**	**-1.7**
ITAB				IAmb	IAmb	00 59 47.7	
comp=Z,16nm,1.2s							
TRQA	**Tornquist**	**16.29**	**159**	P	**Pn**	**00 59 31.7**	**-1.7**
TRQA				IAmb	IAmb	00 59 37.6	
comp=Z,9.1nm,0.7s							
PLTB	**Pedras Altas**	**16.45**	**125**	Pn	**Pn**	**00 59 33.1**	**-2.4**
PLTB				IAmb	IAmb	00 59 50.5	
comp=Z,15nm,1.4s							
PLCA	**Paso Flores**	**17.73**	**183**		**Pn**	**00 59 51.3**	**+0.3**
VAO	**Valinhos**	**20.57**	**94**	P	**P**	**01 00 20.6**	**-1.0**
TXAR	**Lajitas Array**	**61.64**	**326**	P	**P**	**01 05 59.1**	**+1.1**
comp=Z,0.2nm,0.6s,baz=166,slow=6.4,SNR=4.0							
comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**61.64**	**326**	P	**sP**	**01 06 34.3**	**-0.6**
comp=Z,0.5nm,0.9s,baz=134,slow=7.2,SNR=4.4							
comp=Z,0.5nm,0.9s							
PDAR	**Pinedale Array**	**75.21**	**331**	P	**sP**	**01 07 59.9**	**-0.2**
comp=Z,0.2nm,0.7s,baz=117,slow=8.5,SNR=2.2							
comp=Z,0.2nm,0.7s							
ULM	**Lac du Bonnet**	**76.62**	**343**	P	**P**	**01 07 31.3**	**+1.4**
comp=Z,1.1nm,0.5s,baz=142,slow=8.3,SNR=5.9							
comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**78.21**	**70**	P	**P**	**01 07 40.5**	**+1.0**
comp=Z,1.6nm,0.5s,baz=261,slow=5.3,SNR=26							
comp=Z,1.6nm,0.5s							
TORD	**Torodi Ar. Bea**	**78.21**	**70**	P	**pP**	**01 08 04.7**	**-1.9**
comp=Z,1.1nm,0.5s,baz=226,slow=6.4,SNR=11							
comp=Z,1.1nm,0.5s							
YKA	**Yellowknife Ar**	**92.46**	**341**	P	**P**	**01 08 51.9**	**+2.2**
comp=Z,0.5nm,0.7s,baz=143,slow=4.6,SNR=13							
comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**92.46**	**341**	P	**sP**	**01 09 25.3**	**-2.6**
comp=Z,0.4nm,0.7s,baz=144,slow=4.4,SNR=6.6							
comp=Z,0.4nm,0.7s							
WRA	**Warramunga Arr**	**131.49**	**210**	PKP	**PKPdf**	**01 14 48.7**	**-3.5**
comp=Z,0.3nm,0.2s,baz=151,slow=2.1,SNR=6.9							
ZALV	**Zalesovo Beam**	**143.45**	**26**	PKP	**PKPdf**	**01 15 12.2**	**-0.8**
comp=Z,0.7nm,0.5s,baz=320,slow=1.6,SNR=4.6							
ZALV	**Zalesovo Beam**	**143.45**	**26**	PKP	pPKPdf	01 15 41.8	+0.2
comp=Z,0.3nm,0.5s,baz=321,slow=2.9,SNR=2.3							
MKAR	**Makanchi Array**	**147.05**	**37**	PKPbc	**PKPbc**	**01 15 21.7**	**0.0**
comp=Z,1.3nm,0.8s,baz=312,slow=3.6,SNR=12							
MKAR	**Makanchi Array**	**147.05**	**37**	PKPbc	pPKPdf	01 15 50.5	+2.4
comp=Z,0.6nm,0.8s,baz=308,slow=3.9,SNR=5.4							

---

*MDD **05** 00:56:56.5±0.9,33°.31N×12°.60W,h25km±7km,Mb4.1/8, M_mb3.4/8,Error ellipse: s-maj=5.2km s-min=3.0km az=127.0*
*CNRM **05** 00:56:58.6,33°.34N×12°.46W,h39km,ML2.9*
*IGIL **05** 00:56:58.2,33°.26N×12°.50W,h40km,ML2.0*
*INMG **05** 00:57:01.5±2.7,33°.27N×12°.55W,h32km±31km,ML2.4, Error ellipse: s-maj=6.5km s-min=4.2km az=138.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Madeira Islands, Portugal Regi*
ISC 05 00:56:56.2±1.1,33°.34N±0°.04×12°.48W±0°.05,h35km,n66, σ2s36/105,7C,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAH	**EAH**	**2.97**	**124**	P	**Pn**	**00 57 42.6**	**+1.8**
EAH	**EAH**	**2.97**	**124**	S	**Sn**	**00 58 18.0**	**+2.7**
PMPST	**Porto Santo, M**	**3.24**	**266**	*eP*	**Pn**	**00 57 46.7**	**+2.0**
PMPST				*eS*	**Sn**	**00 58 20.1**	**-2.0**
PMPST				*i* AML	AML	00 58 23.0	
PMPST				*i* AML	AML	00 58 24.8	
PMPST				*i* AML	AML	00 58 26.5	
PMPS	**Porto Santo**	**3.25**	**266**	*eP*	**Pn**	**00 57 46.5**	**+1.9**
PMPS				*eS*	**Sn**	**00 58 18.0**	**-4.1**
PMPS				*i* AML	AML	00 58 20.5	
PMPS				*i* AML	AML	00 58 23.5	
PMPS				*i* AML	AML	00 58 23.9	
PMAR	**Madeira**	**3.78**	**262**	*eP*	**Pn**	**00 57 54.2**	**+2.1**
PMAR				*eS*	**Sn**	**00 58 31.4**	**-4.1**
PMAR				*i* AML	AML	00 58 32.9	
PMAR				*i* AML	AML	00 58 36.0	
PMAR				*i* AML	AML	00 58 39.9	
PMAR	**Madeira**	**3.78**	**262**	P	**Pn**	**00 57 53.9**	**+1.8**
PMAR	**Madeira**	**3.78**	**262**	S	**Sn**	**00 58 39.5**	**+4.0**
PMOZ	**Porto Moniz, M**	**4.00**	**264**	*eP*	**Pn**	**00 57 57.0**	**+2.0**
PMOZ				*eS*	**Sn**	**00 58 36.0**	**-4.7**
PMOZ				*i* AML	AML	00 58 41.6	
PMOZ				*i* AML	AML	00 58 44.5	
PMOZ	**Porto Moniz, M**	**4.00**	**264**	P	**Pn**	**00 57 56.4**	**+1.3**
PMOZ				S	**Sn**	**00 58 39.8**	**-0.9**
AVE	**Averroes**	**4.24**	**89**	S	**Sn**	**00 58 47.3**	**+0.7**
AVE				P	**Pn**	**00 58 01.9**	**+3.5**
AVE	**Averroes**	**4.24**	**89**	S	**Sn**	**00 58 48.9**	**+2.3**
TTIG	**Tnine Tigouga,**	**4.42**	**128**	P	**Pn**	**00 57 59.8**	**-1.1**
TTIG	**Tnine Tigouga,**	**4.42**	**128**	S	**Sn**	**00 58 53.9**	**+2.7**
PFVI	**Vila Bisbo**	**4.82**	**37**	*eP*	**Pn**	**00 58 08.0**	**+1.7**
PFVI				*eS*	**Sn**	**00 59 00.2**	**-0.7**
PFVI				*i* AML	AML	00 59 02.1	
PFVI				*i* AML	AML	00 59 03.5	
PFVI				*i* AML	AML	00 59 04.3	
PFVI	**Vila Bisbo**	**4.82**	**37**	P	**Pn**	**00 58 08.0**	**+1.7**
PFVI				S	**Sn**	**00 58 59.6**	**-1.3**
PFVI	**Vila Bisbo**	**4.82**	**37**	P	**Pn**	**00 58 07.9**	**+1.6**
CFUE	**Fuerteventura**	**4.84**	**195**	P	**Pn**	**00 58 06.5**	**-0.1**
CFUE				S	**Sn**	**00 58 57.1**	**-4.4**
ZHG	**ZHG**	**4.88**	**87**	P	**Pn**	**00 58 10.0**	**+2.8**
ZHG	**ZHG**	**4.88**	**87**	S	**Sn**	**00 59 01.7**	**-0.9**
TIO	**Tiouine**	**5.04**	**117**	P	**Pn**	**00 58 11.1**	**+1.7**
TIO				S	**Sn**	**00 59 05.3**	**-1.1**
TIO	**Tiouine**	**5.04**	**117**	P	**Pn**	**00 58 12.4**	**+3.0**
MORF	**Marmelete**	**5.04**	**37**	*eP*	**Pn**	**00 58 10.7**	**+1.3**
MORF				*eS*	**Sn**	**00 59 04.0**	**-2.4**
MORF				IAML		00 59 06.3	
comp=N,2.3nm,0.1s							
MORF	**Marmelete**	**5.04**	**37**	*eP*	**Pn**	**00 58 11.2**	**+1.8**
MORF				*eS*	**Sn**	**00 59 05.9**	**-0.5**
MORF				*i* AML	AML	00 59 07.3	
MORF				*i* AML	AML	00 59 08.1	
MORF				*i* AML	AML	00 59 12.1	
PTEO	**Sao Teotonio**	**5.20**	**35**	*eP*	**Pn**	**00 58 15.8**	**+4.3**
PTEO				*eS*	**Sn**	**00 59 07.9**	**-2.3**
PTEO				*i* AML	AML	00 59 14.1	
PTEO				*i* AML	AML	00 59 14.5	
PBDV	**Barranco-do-Ve**	**5.38**	**42**	*eP*	**Pn**	**00 58 16.4**	**+2.4**
PBDV				*eS*	**Sn**	**00 59 14.0**	**-0.8**
PBDV				*i* AML	AML	00 59 14.6	
PBDV				*i* AML	AML	00 59 15.6	
PBDV				*i* AML	AML	00 59 18.9	
PCVE	**Castro Verde**	**5.61**	**39**	*eP*	**Pn**	**00 58 19.5**	**+2.4**
PCVE				*eS*	**Sn**	**00 59 20.9**	**+0.6**
PCVE				*i* AML	AML	00 59 21.9	
PCVE				*i* AML	AML	00 59 22.6	
PCVE				*i* AML	AML	00 59 23.9	
PCVE	**Castro Verde**	**5.61**	**39**	P	**Pn**	**00 58 19.2**	**+2.1**
PCVE				S	**Sn**	**00 59 19.6**	**-0.7**
PVAQ	**Vaqueiros**	**5.62**	**42**	*eP*	**Pn**	**00 58 19.6**	**+2.3**
PVAQ				*i* AML	AML	00 59 20.8	
PVAQ	**Vaqueiros**	**5.62**	**42**	P	**Pn**	**00 58 19.3**	**+2.1**
PVAQ	**Vaqueiros**	**5.62**	**42**	P	**Pn**	**00 58 18.3**	**+1.1**
MESJ	**Messejana**	**5.67**	**36**	*eP*	**Pn**	**00 58 20.8**	**+2.7**
MESJ				*eS*	**Sn**	**00 59 21.8**	**-0.2**
MESJ				*i* AML	AML	00 59 23.9	
MESJ				*i* AML	AML	00 59 27.9	
MESJ				*i* AML	AML	00 59 37.4	
EGRO	**El Granado**	**5.84**	**43**	P	**Pn**	**00 58 22.8**	**+2.5**
EGRO				S	**Sn**	**00 59 24.3**	**-1.7**
EGRO	**El Granado**	**5.84**	**43**	P	**Pn**	**00 58 22.0**	**+1.7**
EGRO				⇑*i*Vmb_V		00 58 23.0	
comp=N,112nm,SNR=1.5							
EGRO				S	**Sn**	**00 59 24.5**	**-1.6**
PBEJ	**Beja**	**6.00**	**37**	*eS*	**Sn**	**00 59 28.5**	**-1.3**
PBEJ				*i* AML	AML	00 59 31.0	
PBEJ				*i* AML	AML	00 59 31.5	
PBEJ				*i* AML	AML	00 59 31.9	
SFS	**San Fernando**	**6.02**	**57**	S	**Sn**	**00 59 29.6**	**-0.9**
CLUM	**San Bartolome**	**6.14**	**207**	S	**Sn**	**00 59 27.8**	**-5.9**
IFR	**Ifrane**	**6.15**	**86**	P	**Pn**	**00 58 27.0**	**+2.2**
IFR				S	**Sn**	**00 59 30.4**	**-3.5**
PMAFR	**Mafra**	**6.17**	**24**	*eS*	**Sn**	**00 59 33.3**	**-0.9**
EVO	**Evora**	**6.32**	**34**	*eS*	**Sn**	**00 59 35.8**	**-2.0**
EVO	**Evora**	**6.32**	**34**	S	**Sn**	**00 59 35.6**	**-2.2**
EVO				P	**Pn**	**00 58 28.5**	**+1.6**
TZRR	**Tazzarine**	**6.39**	**112**	P	**Pn**	**00 58 30.7**	**+2.7**
ESPR	**Espera**	**6.47**	**55**	P	**Pn**	**00 58 31.5**	**+2.6**
ESPR				S	**Sn**	**00 59 39.4**	**-2.1**
EMIN	**Mina Concepcio**	**6.47**	**45**	P	**Pn**	**00 58 30.4**	**+1.4**
EMIN				S	**Sn**	**00 59 39.2**	**-2.4**
EMIN	**Mina Concepcio**	**6.47**	**45**	P	**Pn**	**00 58 29.6**	**+0.6**
EMIN				⇑*i*Vmb_V		00 58 32.5	
comp=N,74nm,SNR=1.4							
EMIN				S	**Sn**	**00 59 39.7**	**-1.9**
MD31	**MD31**	**6.49**	**92**	P	**Pn**	**00 58 32.1**	**+2.7**
PBAR	**Barrancos**	**6.54**	**41**	*eP*	**Pn**	**00 58 32.1**	**+2.1**
PBAR				*eS*	**Sn**	**00 59 42.3**	**-1.0**
PBAR				*i* AML	AML	00 59 44.0	
PBAR				*i* AML	AML	00 59 44.4	
PBAR				*i* AML	AML	00 59 45.4	
PBAR	**Barrancos**	**6.54**	**41**	P	**Pn**	**00 58 31.8**	**+1.8**
PBAR				S	**Sn**	**00 59 42.2**	**-1.2**
MDT	**Midelt**	**6.63**	**92**	P	**Pn**	**00 58 34.1**	**+2.9**
ZGR	**Zagora**	**6.66**	**117**	P	**Pn**	**00 58 33.5**	**+1.7**
PMTG	**Montargil**	**6.67**	**30**	*eP*	**Pn**	**00 58 33.8**	**+2.1**
PMTG				*eS*	**Sn**	**00 59 44.2**	**-2.3**
PMTG				*i* AML	AML	00 59 44.4	
PMTG				*i* AML	AML	00 59 48.9	
PMTG				*i* AML	AML	00 59 49.9	
PESTR	**Estremoz**	**6.79**	**34**	*eP*	**Pn**	**00 58 36.4**	**+3.0**
PESTR				*eS*	**Sn**	**00 59 47.9**	**-1.4**
PESTR	**Estremoz**	**6.79**	**34**	P	**Pn**	**00 58 34.4**	**+1.1**
PESTR				S	**Sn**	**00 59 46.5**	**-2.9**
EBAD	**Badajoz**	**6.98**	**38**	P	**Pn**	**00 58 37.3**	**+1.3**
EBAD	**Badajoz**	**6.98**	**38**	P	**Pn**	**00 58 36.7**	**+0.7**
EBAD				⇑*i*Vmb_V		00 58 42.5	
comp=N,75nm,SNR=1.2							
EBAD				S	**Sn**	**00 59 51.6**	**-2.5**
PMRV	**Marv??o**	**7.33**	**33**	*eP*	**Pn**	**00 58 41.9**	**+1.1**
PMRV				*eS*	**Sn**	**01 00 00.1**	**-2.6**
PMRV				*i* AML	AML	01 00 01.2	
PMRV				*i* AML	AML	01 00 02.5	
PMRV				*i* AML	AML	01 00 07.5	
PCAS	**Casmilo, Conde**	**7.42**	**24**	*eS*	**Sn**	**01 00 02.3**	**-2.7**
ECAB	**El Cabril**	**7.43**	**49**	P	**Pn**	**00 58 44.1**	**+1.8**
ECAB				S	**Sn**	**01 00 02.8**	**-2.5**
ECAB	**El Cabril**	**7.43**	**49**	P	**Pn**	**00 58 44.4**	**+2.2**
ECAB				⇑*i*Vmb_V		00 58 54.4	
comp=N,58nm,SNR=1.1							
ECAB				S	**Sn**	**01 00 02.3**	**-3.1**
EGOR	**Sierra Gorda,**	**7.81**	**59**	P	**Pn**	**00 58 50.0**	**+2.5**
EGOR	**Sierra Gorda,**	**7.81**	**59**	P	**Pn**	**00 58 49.5**	**+2.0**
EGOR				⇑*i*Vmb_V		00 58 52.4	
comp=N,51nm,SNR=1.3							
EGOR				S	**Sn**	**01 00 12.7**	**-2.0**
EADA	**Adamuz**	**8.03**	**51**	P	**Pn**	**00 58 52.1**	**+1.8**
EADA				S	**Sn**	**01 00 16.9**	**-3.0**
EADA	**Adamuz**	**8.03**	**51**	P	**Pn**	**00 58 51.8**	**+1.5**
EADA				⇑*i*Vmb_V		00 58 56.1	
comp=N,84nm,SNR=1.5							
EADA				S	**Sn**	**01 00 17.3**	**-2.6**
EQUE	**Quentar**	**8.33**	**60**	P	**Pn**	**00 58 57.5**	**+2.8**
EQUE				S	**Sn**	**01 00 22.9**	**-4.6**
EPLA	**Plasencia**	**8.45**	**36**	S	**Sn**	**01 00 27.7**	**-2.5**
PSIM	**Granatula de C**	**8.93**	**50**	P	**Pn**	**00 59 03.0**	**+0.3**
PSIM				S	**Sn**	**01 00 38.8**	**-3.3**
PAB	**San Pablo**	**9.01**	**44**	⇑*i*Vmb_V		00 59 04.4	
comp=N,67nm,SNR=2.0							
PAB				P	**Pn**	**00 59 04.6**	**+0.8**
PAB				S	**Sn**	**01 00 41.0**	**-3.2**

---

*NNC **05** 00:57:28.5±4.6,36°.84N×70°.99E,h0km,mb4.4,mpv4.2, Error ellipse: s-maj=36.8km s-min=26.8km az=168.0*
*NEIC **05** 00:57:28.7±1.6,36°.40N±0°.05×71°.3E±0°.1,h97km±10km, mb4.1/12,Error ellipse: s-maj=12.5km s-min=7.7km az=89.0*
*IDC **05** 00:57:30.2±3.4,36°.41N×71°.64E,h113km±29km,mb3.5/17, mbtmp3.9/22,MS3.5/1,Error ellipse: s-maj=21.4km s-min=13.3km az=9.0*
ISC 05 00:57:29.0±0.5,36°.37N±0°.05×71°.48E±0°.06,h114km,n89, σ2s28/94,mb4.0/25,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.94**	**322**		**Pn**	**00 58 11.6**	**-2.8**
SIMJ	**Simiganj**	**3.01**	**320**		**Pn**	**00 58 12.6**	**-2.9**
NIL	**Nilore**	**3.08**	**151**	Pn	**Pn**	**00 58 17.3**	**+1.1**
SRNI	**Srinagar**	**3.57**	**128**	*eP*	**Pn**	**00 58 22.6**	**-0.1**
SRNI				*eS*	**Sn**	**00 59 03.3**	**-0.9**
SRNI				IAML		00 59 06.3	
comp=N,1μm,0.3s							
SRNI				IAML		00 59 08.7	
comp=E,833nm,0.2s							
BTK	**Batken**	**3.72**	**352**	Pn	**Pn**	**00 58 24.6**	**-0.1**
JMU	**Jammu**	**4.61**	**141**	*eP*	**Pn**	**00 58 36.2**	**-0.5**
JMU				*eS*	**Sn**	**00 59 22.4**	**-6.7**
JMU				IAML		00 59 29.7	
comp=E,489nm,0.5s							
JMU				IAML		00 59 29.8	
comp=N,818nm,0.8s							
KSH	**Kashi**	**4.74**	**47**	Pn	Pn	00 58 33.7	-4.8
KSH				Sn	Sn	00 59 21.9	-11
KSH				smax	smax		
comp=N,540nm,0.5s							
KSH				smax	smax		
comp=E,390nm,0.4s							
ARSB	**Arslanbob**	**5.08**	**13**		**Pn**	**00 58 42.5**	**-0.6**
DHRM	**DHARAMSHALA**	**5.73**	**134**	*eP*	**Pn**	**00 58 51.2**	**-0.8**
DHRM				*eS*	**Sn**	**00 59 51.9**	**-4.7**
DHRM				IAML		00 59 57.0	
comp=N,679nm,0.2s							
DHRM				IAML		00 59 57.3	
comp=E,971nm,0.4s							
AML	**Almayashu**	**6.01**	**16**	P	**Pn**	**00 58 55.7**	**-0.1**
SNR=58							
BHK	**Bhakra**	**6.42**	**139**	*eP*	Pn	00 58 56.6	-4.6
BHK				*eS*	**Sn**	**01 00 08.6**	**-4.5**
BHK				IAML		01 00 12.4	
comp=N,162nm,0.3s							
BHK				IAML		01 00 13.9	
comp=E,168nm,0.3s							
EKS2	**Erkin-Say**	**6.53**	**15**	P	**Pn**	**00 59 03.0**	**+0.4**
SNR=14							
AAK	**Ala-Archa**	**6.68**	**20**		**Pn**	**00 59 04.8**	**+0.1**
AAK	**Ala-Archa**	**6.68**	**20**	P	**Pn**	**00 59 05.1**	**+0.4**
comp=E,18nm,0.5s,baz=189,slow=6.4,SNR=106

comp=N,0.7nm,0.3s,baz=154,slow=25,SNR=11
ABKAR **Akbulak array** 15.39 330 Pn Pn 01 00 57.1 -2.6
ABKAR **Akbulak array** 15.39 330 Pn Pn 01 00 57.2 -2.6
ABKAR IAmb IAmb 01 01 05.3
comp=Z,4.9nm,1.1s
BVAR **Borovoye Array** 16.67 358 P Pn 01 01 15.5 -0.1
comp=Z,3.4nm,0.7s,baz=176,slow=12,SNR=14
BRVK **Borovoye** 16.71 357 Pn Pn 01 01 14.5 -1.6
AKTO **Aktyubinsk** 17.09 330 P P 01 01 19.6 -1.1
comp=Z,6.2nm,0.4s,baz=149,slow=9.1,SNR=25
AKTO S Sn 01 04 16.1 -15
comp=Z,0.6nm,0.3s,baz=120,slow=20,SNR=1.9
AKTO **Aktyubinsk** 17.09 330 ⇑P P 01 01 19.4 -1.2
comp=Z,3.8nm,0.6s
AKTO ⇑S Sn 01 04 22.9 -7.9
comp=Z,1.9nm,0.6s
UOSS **Minazif** 17.36 233 P 01 01 23.4 -0.5
UOSS IAmb IAmb 01 01 28.1
comp=Z,16nm,1.1s
ZAA0 **Zalesovo Array** 19.88 24 P P 01 01 51.8 +0.7
ZALV **Zalesovo Beam** 19.88 24 P P 01 01 51.4 +0.4
comp=Z,10nm,0.4s,baz=206,slow=9.9,SNR=82
GNI **Garni** 21.30 288 P P 01 02 08.7 +1.9
GNI **Garni** 21.30 288 P P 01 02 10.6 +3.9
comp=Z,6.1nm,0.6s,baz=33,slow=0.2,SNR=9.2
comp=Z,6.1nm,0.6s
ARTI **Arti** 21.89 340 P P 01 02 12.6 -0.1
ARTI IAmb IAmb 01 02 17.4
comp=Z,6.0nm,0.9s
GTA **Gaotai** 22.53 74 *e*P P 01 02 22.0 +2.5
GTA pP pP 01 02 46.0 +3.6
GTA pmax pmax
comp=Z,4.0nm,0.7s
KARS **Kars** 22.58 290 P P 01 02 18.9 -1.2
KARS IAmb IAmb 01 02 31.7
comp=Z,11nm,1.0s
KBZ **Khabaz** 23.00 297 P P 01 02 26.4 +2.5
comp=Z,1.0nm,0.7s,baz=196,slow=11,SNR=3.7
comp=Z,1.0nm,0.7s
KIV **Kislovodsk** 23.19 298 P P 01 02 26.9 +1.1
KIV IAmb IAmb 01 02 42.6
comp=Z,5.0nm,0.7s
PZH **PanZhiHua** 27.54 102 P P 01 03 08.9 +3.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
SONM **Songino Array** 28.09 55 P P 01 03 10.7 +0.7
comp=Z,0.3nm,0.4s,baz=247,slow=9.1,SNR=5.2
comp=Z,0.3nm,0.4s
BRTR **Keskin Array B** 29.84 288 P P 01 03 28.0 +2.4
comp=Z,0.2nm,0.4s,baz=65,slow=10,SNR=2.4
comp=Z,0.2nm,0.4s
HHC **Hu-ho-hao-te** 31.45 69 *e*P P 01 03 40.7 +1.0
HHC pmax pmax
comp=Z,0.2nm,0.6s
HHC pmax pmax
comp=Z,63nm,4.7s
AKASG **Malin Array Be** 33.33 309 P P 01 03 57.3 +1.5
comp=Z,0.3nm,0.4s,baz=82,slow=7.2,SNR=6.4
comp=Z,0.3nm,0.4s
FINES **FINESS Array B** 37.81 326 P P 01 04 35.8 +1.9
comp=Z,1.3nm,0.5s,baz=116,slow=8.3,SNR=16
comp=Z,1.3nm,0.5s
ARA0 **ARCESS Array S** 41.41 338 *e*P P 01 05 05.6 +1.8
ARCES **ARCESS Array B** 41.41 338 P P 01 05 04.8 +1.0
comp=Z,1.5nm,0.6s,baz=123,slow=7.7,SNR=16
comp=Z,1.5nm,0.6s
KTK1 **Kautokeino** 41.89 336 *e*P P 01 05 09.1 +1.5
HAMF **Hammerfest** 42.49 339 *e*P P 01 05 14.5 +2.1
HFS **Hagfors** 43.41 322 P P 01 05 21.8 +1.8
comp=Z,2.6nm,0.6s,baz=96,slow=11,SNR=17
comp=Z,2.6nm,0.6s
FAUS **Fauske** 44.10 332 *e*P P 01 05 27.2 +1.8
MOR8 **Moi Rana** 44.12 331 *e*P P 01 05 26.7 +1.0
STEI **Steigen** 44.26 333 *e*P P 01 05 28.6 +1.9
NC602 **NORSAR Array S** 44.53 323 *e*P P 01 05 29.7 +0.8
KSRS **Korea Array** 44.56 71 P P 01 05 30.0 +0.5
comp=Z,1.2nm,0.8s,baz=286,slow=7.5,SNR=4.1
comp=Z,1.2nm,0.8s
LEIR **Leirfjorden** 44.63 330 *e*P P 01 05 30.7 +1.0
NB2 **NORSAR Subarra** 44.72 323 P P 01 05 31.3 +0.8
comp=Z,1.2nm,0.6s,baz=95,slow=7.9
NB2 **NORSAR Subarra** 44.72 323 P P 01 05 31.3 +0.8
baz=95,slow=7.9
NOA **NORSAR Array B** 44.72 323 P P 01 05 31.3 +0.8
comp=Z,1.3nm,0.5s,baz=101,slow=7.3,SNR=9.9
comp=Z,1.3nm,0.5s
STOK **Stokkvaagen** 44.72 331 *e*P P 01 05 31.9 +1.5
KLR **Kul'dur** 44.91 54 LR LR 01 24 00.6
comp=Z,52nm,18.6s,baz=194,slow=36
NBO00 **NORSAR Array S** 44.93 323 P P 01 05 33.0 +0.8
NC204 **NORSAR Array S** 44.95 323 P P 01 05 33.2 +0.8
NC204 IAmb IAmb 01 05 51.5
comp=Z,4.0nm,1.0s
CTI **Castel Tesino** 45.07 302 P P 01 05 34.9 +1.2
CTI IAmb IAmb 01 05 53.9
comp=Z,5.2nm,1.2s
EKA **Eskdalemuir Ar** 52.65 316 P P 01 06 32.7 +1.6
comp=Z,2.1nm,0.8s,baz=70,slow=7.2,SNR=4.0
comp=Z,2.1nm,0.8s
ESDC **Sonseca Array** 57.86 298 P P 01 07 11.1 +2.2
comp=Z,0.2nm,0.5s,baz=69,slow=7.1,SNR=1.5
comp=Z,0.2nm,0.5s
ILAR **Eielson Array** 74.80 16 P P 01 08 56.8 +0.4
comp=Z,0.7nm,0.8s,baz=338,slow=5.7,SNR=2.6
comp=Z,0.7nm,0.8s
BOSA **Boshof** 77.90 220 P P 01 09 14.9 +0.5
comp=Z,1.5nm,0.6s,baz=9.4,slow=5.9,SNR=5.4
comp=Z,1.5nm,0.6s
YKA **Yellowknife Ar** 81.36 3 P P 01 09 33.6 +1.1
comp=Z,1.1nm,0.8s,baz=349,slow=5.2,SNR=18
comp=Z,1.1nm,0.8s
WRA **Warramunga Arr** 81.59 122 P P 01 09 35.5 +1.1
comp=Z,0.5nm,0.5s,baz=312,slow=5.8,SNR=6.9
comp=Z,0.5nm,0.5s
ASAR **Alice Springs** 83.86 125 P P 01 09 47.1 +1.0
comp=Z,0.5nm,0.5s,baz=306,slow=5.5,SNR=5.0
comp=Z,0.5nm,0.5s

JMA ***05*** *00:57:47.3±0.1,38°.2N±0°.3×141°.7E±0°.6,h50km,MV3.6/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
IDC ***05*** *00:57:48.5±1.2,38°.11N×141°.83E,h72km±7km,mb3.5/10, mbtmp3.8/13,Error ellipse: s-maj=25.9km s-min=19.5km az=74.0*
ISC 05 00:57:46.1±0.9,38°.14N±0°.05×141°.83E±0°.08,h47km±5km, n32,σ0§85/39,mb3.9/10,16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.34	301	⇓*i*P	Pn	00 57 55.9	+0.6
JIKH				⇓S	Sn	00 58 01.7	-0.1
JIO	Ouri	0.49	310	⇓*i*P	Pn	00 57 57.4	+0.3
JIO				⇓S	Sn	00 58 04.2	-0.7
JKMT	Kesennumamotoy	0.73	338	⇓*i*P	Pn	00 58 00.3	+0.3
JKMT				⇓S	Sn	00 58 09.3	-0.9
JMM	Marumori	0.86	252	⇓*i*P	Pn	00 58 01.6	-0.2
JMM				⇓S	Sn	00 58 11.9	-1.5
JMK	Ichinoseki	0.94	330	⇓*i*P	Pn	00 58 03.3	+0.3
JMK				⇓S	Sn	00 58 14.5	-0.9
JOU	Okura	0.95	284	⇓*i*P	Pn	00 58 03.0	-0.1
JOU				⇓S	Sn	00 58 14.4	-1.0
OFUJ	Ofunato	0.95	352	⇓*i*P	Pn	00 58 03.5	+0.4
OFUJ				⇓S	Sn	00 58 14.9	-0.6
JFK	Kawauchi	1.08	225	*i*P	Pn	00 58 05.2	+0.3
JFK				S	Sn	00 58 18.4	-0.3
JOTO	OTAMA OYAMA	1.32	244	P	Pn	00 58 08.6	+0.5
JOTO				S	Sn	00 58 23.9	-0.7
JYK	Kaneyama	1.39	304	P	Pn	00 58 09.1	0.0
JYS	Shirataka	1.39	274	⇓*i*P	Pn	00 58 09.2	+0.1
JOM	Ohasama	1.40	343	*i*P	Pn	00 58 09.8	+0.6
JRG	Rokugo	1.57	324	⇓*i*P	Pn	00 58 12.1	+0.7
MJAR	Matsushiro Arr	3.30	242	P	Pn	00 58 37.0	+1.8
MJAR	6.8nm,0.8s,baz=58,slow=11,SNR=13			S	Sn	00 59 22.8	+10
	3.8nm,0.4s,baz=81,slow=18,SNR=2.3						
USRK	Ussuriysk Ar.	9.57	312	P	Pn	01 00 02.0	+0.8
	1.5nm,0.5s,baz=128,slow=14,SNR=4.3						
KSRS	Korea Array	11.03	271	P	Pn	01 00 23.8	+2.7
	0.7nm,0.7s,baz=80,slow=14,SNR=2.6						
SONM	Songino Array	27.46	302	P	P	01 03 28.9	+1.2
	0.3nm,0.5s,baz=102,slow=9.8,SNR=2.2						
	0.3nm,0.5s						
H11N2	WAKE ISLAND Hy 28.45	123		T	T	01 33 48.4	
	baz=316,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy 28.46	123		T	T	01 33 49.2	
	baz=316,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy 28.47	123		T	T	01 33 49.8	
	baz=316,slow=76,SNR=9.8						
H11S1	WAKE ISLAND Hy 29.20	125		T	T	01 34 50.3	
	baz=318,slow=76,SNR=9.5						
H11S3	WAKE ISLAND Hy 29.20	125		T	T	01 34 47.7	
	baz=318,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy 29.22	125		T	T	01 34 51.6	
	baz=318,slow=76,SNR=9.1						
ZALV	Zalesovo Beam	41.42	311	P	P	01 05 27.8	0.0
	1.1nm,0.4s,baz=80,slow=8.4,SNR=5.0						
ZALV				pP	sP	01 05 45.3	-0.6
	1.4nm,0.6s,baz=93,slow=7.4,SNR=5.0						
	1.1nm,0.4s						
MKAR	Makanchi Array	43.82	301	P	P	01 05 47.7	+0.3
	0.6nm,0.6s,baz=85,slow=9.1,SNR=6.4						
MKAR				pP	sP	01 06 05.2	-0.4
	1.2nm,0.7s,baz=84,slow=9.9,SNR=8.8						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	45.59	307	P	P	01 06 01.1	-0.2
	2.0nm,0.7s,baz=81,slow=8.3,SNR=13						
KURBB				pP	sP	01 06 18.7	-0.8
	4.6nm,0.8s,baz=82,slow=8.1,SNR=14						
	2.0nm,0.7s						
ILAR	Eielson Array	48.39	33	P	P	01 06 23.1	+0.2
	0.3nm,0.8s,baz=269,slow=7.5,SNR=4.2						
	0.3nm,0.8s						
WRA	Warramunga Arr	58.20	188	P	P	01 07 34.4	-1.1
	0.8nm,0.9s,baz=6.9,slow=6.9,SNR=5.0						
WRA				pP	sP	01 07 54.2	+0.4
	0.9nm,0.8s,baz=4.7,slow=7.4,SNR=2.9						
	0.8nm,0.9s						
FINES	FINESS Array B	67.99	332	P	P	01 08 39.1	-0.9
	2.3nm,0.9s,baz=22,slow=7.0,SNR=2.3						
	2.3nm,0.9s						
HFS	Hagfors	73.22	336	P	P	01 09 11.4	-0.4
	7.3nm,1.1s,baz=56,slow=5.4,SNR=6.9						
	7.3nm,1.1s						
NOA	NORSAR Array B	73.30	337	P	P	01 09 11.4	-0.9
	0.7nm,0.7s,baz=32,slow=5.4,SNR=2.6						
	0.7nm,0.7s						
AKASG	Malin Array Be	73.63	322	P	P	01 09 14.3	-0.1
	0.4nm,0.4s,baz=52,slow=5.6,SNR=4.5						
	0.4nm,0.4s						

IDC ***05*** *01:01:39.3±37.0,7°.07S×122°.80E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=880.7km s-min=217.1km az=138.0*
DJA ***05*** *01:02:23.4±0.3,1°.5±2°×12°.0E±°,h10km,M3.7/8,MLv3.7/8*
ISC 05 01:02:22.5±0.8,1°.38S±0°.04×120°.03E±0°.07,h10km,n10, σ1§91/14,mb3.7/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.51	337	P	Pg	01 02 32.6	+0.1
PCI				S	Sg	01 02 36.4	-2.8
TTSI	Tana Toraja	1.67	187	P	Pb	01 02 52.5	-0.9
TTSI				S	Sg	01 03 16.5	+0.1
APSI	Ampana	1.68	74	P	Pb	01 02 52.6	-1.0
SPSI	Sidrap Palu	2.58	186	P	Pb	01 03 07.2	-1.8
SPSI				S	Sb	01 03 39.9	-1.0
MRSI	Marisa	2.65	46	P	Pn	01 03 06.3	+0.9
MRSI				S	Sn	01 03 38.8	+1.2
LUWI	Luwuk	2.76	83	P	Pb	01 03 09.3	-2.7
SONM	Songino Array	50.44	348	P	P	01 11 24.0	+3.5
	0.2nm,0.6s,baz=169,slow=8.7,SNR=2.2						
	0.2nm,0.6s						
MKAR	Makanchi Array	58.28	330	P	P	01 12 18.0	+0.5
	0.3nm,0.5s,baz=134,slow=8.2,SNR=6.3						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	62.38	337	P	P	01 12 43.3	-2.1
	0.4nm,0.5s,baz=151,slow=6.3,SNR=2.1						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	62.71	332	P	P	01 12 47.2	-0.4
	0.3nm,0.4s,baz=134,slow=6.4,SNR=9.7						
	0.3nm,0.4s						

MCSM ***05*** *01:18:16.3±0.8,46°.N±5°×2°.6E±°,h129km±8km,mb3.5, MLv3.5*
BUC ***05*** *01:18:18.0±0.2,45°.63N×26°.49E,h116km±2km,ml3.9/74, Error ellipse: s-maj=1.8km s-min=1.4km az=176.0*
CFUSG ***05*** *01:18:18.7,45°.60N×26°.60E,h100km,mb3.3/6,Romania Magtype MSH 3.4 from 4 stations*
BEO ***05*** *01:18:18.9±1.8,45°.64N×26°.38E,h46km±2km,ML3.5/13*
SOF ***05*** *01:18:18.3,45°.60N±0°.02×26°.41E±0°.01,h112km±6km, MD4.1/9*
ISC 05 01:18:16.6±1.1,45°.64N±0°.02×26°.45E±0°.02,h130km±4km, n225,σ1§19/356,139C-134D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	Bisoca	0.21	118	⇓P	Pn	01 18 34.9	+0.4
BISRR				⇓S	Sn	01 18 47.6	-0.5
BISRR	Bisoca	0.21	118	⇓P	Pn	01 18 34.9	+0.4
BISRR				⇓S	Sn	01 18 47.6	-0.5
BISRR	Bisoca	0.21	118	P	Pn	01 18 35.0	+0.4
SPBR	Spulber	0.23	63	⇑P	Pn	01 18 35.1	+0.6
SPBR				⇓S	Sn	01 18 47.0	-1.1
SPBR	Spulber	0.23	63	⇑P	Pn	01 18 35.1	+0.6
SPBR				⇓S	Sn	01 18 47.0	-1.1
NEHR	Nehoiu	0.24	207	⇑P	Pn	01 18 35.2	+0.6
NEHR				⇑S	Sn	01 18 47.1	-1.0
NEHR	Nehoiu	0.24	207	⇑P	Pn	01 18 35.2	+0.6
NEHR				⇑S	Sn	01 18 47.1	-1.0
PLOR	Plostina	0.25	34	⇑P	Pn	01 18 34.7	+0.1
PLOR				⇓S	Sn	01 18 47.5	-0.8
PLOR	Plostina	0.25	34	⇑P	Pn	01 18 34.7	+0.1
PLOR				⇓S	Sn	01 18 47.5	-0.8
PLOR3	Plostina Array	0.25	33	P	Pn	01 18 34.5	-0.1
COVR	Voineasa-Covas	0.27	320	⇑P	Pn	01 18 34.8	+0.1
COVR				⇓S	Sn	01 18 46.8	-1.6
COVR	Voineasa-Covas	0.27	320	⇑P	Pn	01 18 34.8	+0.1
COVR				⇓S	Sn	01 18 46.8	-1.6
VRI	Vrincioaia	0.29	41	⇑P	Pn	01 18 35.0	+0.3
VRI				⇓S	Sn	01 18 47.1	-1.3
VRI	Vrincioaia	0.29	41	⇑P	Pn	01 18 35.0	+0.3
VRI				⇓S	Sn	01 18 47.1	-1.3
VRI	Vrincioaia	0.29	41	P	Pn	01 18 34.8	+0.1
MLR	Muntele Rosu	0.39	247	⇑P	Pn	01 18 35.8	+0.5
MLR				⇓S	Sn	01 18 48.4	-0.9
MLR	Muntele Rosu	0.39	247	⇑P	Pn	01 18 35.8	+0.5
MLR				⇓S	Sn	01 18 48.4	-0.9
MLR	Muntele Rosu	0.39	247	P	Pn	01 18 35.7	+0.5
ODBI	Odobesti	0.44	74	⇓S	Sn	01 18 49.7	+0.2
ODBI	Odobesti	0.44	74	⇓S	Sn	01 18 49.7	+0.2
ODBI	Odobesti	0.44	74	P	Pn	01 18 36.4	+1.1
GRER		0.45	125	⇑S	Sn	01 18 49.5	0.0
GRER		0.45	125	⇑S	Sn	01 18 49.5	0.0
ISR	Istrita	0.53	173	⇓P	Pn	01 18 36.7	+0.8
ISR	Istrita	0.53	173	⇓P	Pn	01 18 36.7	+0.8
ISR	Istrita	0.53	173	P	Pn	01 18 36.5	+0.6
PANC	Panciu	0.54	65	⇑P	Pn	01 18 36.6	+0.8
PANC				⇑S	Sn	01 18 49.5	-0.9
PANC	Panciu	0.54	65	⇑P	Pn	01 18 36.6	+0.8
PANC				⇑S	Sn	01 18 49.5	-0.9
COSR	Cosmesti PH	0.64	70	⇑P	Pn	01 18 36.9	+0.5
COSR				⇑S	Sn	01 18 50.3	-1.2
COSR	Cosmesti PH	0.64	70	⇑P	Pn	01 18 36.9	+0.5
COSR				⇑S	Sn	01 18 50.3	-1.2
OZUR		0.65	314	⇑P	Pn	01 18 36.8	+0.2
OZUR				⇑S	Sn	01 18 50.5	-1.3
OZUR		0.65	314	⇑P	Pn	01 18 36.8	+0.2
OZUR				⇑S	Sn	01 18 50.5	-1.3
ONER	Baraj Valea Uz	0.69	357	⇑P	Pn	01 18 37.5	+0.6
ONER				⇑S	Sn	01 18 52.3	0.0
ONER	Baraj Valea Uz	0.69	357	⇑P	Pn	01 18 37.5	+0.6
ONER				⇑S	Sn	01 18 52.3	0.0
PLAR	PLOIESTI	0.79	202	⇓P	Pn	01 18 38.7	+1.1
PLAR				⇓S	Sn	01 18 54.6	+1.1
PLAR	PLOIESTI	0.79	202	⇓P	Pn	01 18 38.7	+1.1
PLAR				⇓S	Sn	01 18 54.6	+1.1
GHRR		0.79	58	⇑P	Pn	01 18 38.1	+0.6
GHRR				⇑S	Sn	01 18 53.4	-0.1
GHRR		0.79	58	⇑P	Pn	01 18 38.1	+0.6
GHRR				⇑S	Sn	01 18 53.4	-0.1
GHRR		0.79	58	P	Pn	01 18 38.2	+0.6
DOPR	Dopca	0.81	294	⇑P	Pn	01 18 38.4	+0.6
DOPR				⇑S	Sn	01 18 53.3	-0.6
DOPR	Dopca	0.81	294	⇑P	Pn	01 18 38.4	+0.6
DOPR				⇑S	Sn	01 18 53.3	-0.6
PGOR	Pogoanele	0.83	153	⇑S	Sn	01 18 54.0	-0.1
PGOR	Pogoanele	0.83	153	⇑S	Sn	01 18 54.0	-0.1
TUDR		0.86	93	⇑P	Pn	01 18 38.3	+0.2
TUDR				⇓S	Sn	01 18 53.2	-1.3
TUDR		0.86	93	⇑P	Pn	01 18 38.3	+0.2
TUDR				⇓S	Sn	01 18 53.2	-1.3
SLCR	Slobozia Conac	0.93	93	⇑P	Pn	01 18 39.0	+0.2
SLCR				⇓S	Sn	01 18 53.7	-1.8
SLCR	Slobozia Conac	0.93	93	⇑P	Pn	01 18 39.0	+0.2
SLCR				⇓S	Sn	01 18 53.7	-1.8
IZVR	Izvoarele	0.93	96	⇑P	Pn	01 18 38.8	+0.1
IZVR				⇓S	Sn	01 18 53.8	-1.8
IZVR	Izvoarele	0.93	96	⇑P	Pn	01 18 38.8	+0.1
IZVR				⇓S	Sn	01 18 53.8	-1.8
SULR		0.97	188	⇓P	Pn	01 18 40.3	+1.1
SULR				⇑S	Sn	01 18 56.8	+0.4
SULR		0.97	188	⇓P	Pn	01 18 40.3	+1.1
SULR				⇑S	Sn	01 18 56.8	+0.4
SCHL	Schela	0.98	98	⇑P	Pn	01 18 39.5	+0.2
SCHL				⇑S	Sn	01 18 54.4	-1.9
SCHL	Schela	0.98	98	⇑P	Pn	01 18 39.5	+0.2
SCHL				⇑S	Sn	01 18 54.4	-1.9
SCHLR	Schela	0.99	100	⇑P	Pn	01 18 39.3	+0.1
SCHLR				⇑S	Sn	01 18 54.7	-1.8
SCHLR	Schela	0.99	100	⇑P	Pn	01 18 39.3	+0.1
SCHLR				⇑P	Pn	01 18 39.3	+0.1
VOIR		1.01	259	⇑P	Pn	01 18 40.3	+0.7
VOIR				⇑S	Sn	01 18 56.0	-1.1
VOIR		1.01	259	⇑P	Pn	01 18 40.3	+0.7
VOIR				⇑S	Sn	01 18 56.0	-1.1
VOIR		1.01	259	P	Pn	01 18 40.0	+0.4
NEGRR	Negrea	1.01	96	⇑P	Pn	01 18 40.1	+0.7
NEGRR				⇓S	Sn	01 18 55.8	-1.0
NEGRR	Negrea	1.01	96	⇑P	Pn	01 18 40.1	+0.7
NEGRR				⇓S	Sn	01 18 55.8	-1.0
VARL	Varlezi	1.01	75	⇓P	Pn	01 18 40.2	+0.7
VARL				⇑S	Sn	01 18 56.1	-0.8
VARL	Varlezi	1.01	75	⇓P	Pn	01 18 40.2	+0.7
VARL				⇑S	Sn	01 18 56.1	-0.8
BIR	Birlad	1.03	52	⇓P	Pn	01 18 40.6	+0.9
BIR				⇓S	Sn	01 18 56.0	-1.3
BIR	Birlad	1.03	52	⇓P	Pn	01 18 40.6	+0.9
BIR				⇓S	Sn	01 18 56.0	-1.3
MTUR	Matau	1.06	247	⇑P	Pn	01 18 41.2	+1.1
MTUR	Matau	1.06	247	⇑P	Pn	01 18 41.2	+1.1
SCTR	Scanteiesti	1.08	88	⇑P	Pn	01 18 41.1	+0.9
SCTR				⇑S	Sn	01 18 57.6	-0.6
SCTR	Scanteiesti	1.08	88	⇑P	Pn	01 18 41.1	+0.9
SCTR				⇑S	Sn	01 18 57.6	-0.6
TATR	Tatarca	1.12	92	⇑P	Pn	01 18 41.5	+0.9
TATR				⇑S	Sn	01 18 58.2	-0.7
TATR	Tatarca	1.12	92	⇑P	Pn	01 18 41.5	+0.9
TATR				⇑S	Sn	01 18 58.2	-0.7
GISR	Galati	1.15	100	⇓P	Pn	01 18 41.4	+0.6
GISR				⇑S	Sn	01 18 58.6	-0.7
GISR	Galati	1.15	100	⇓P	Pn	01 18 41.4	+0.6
GISR				⇑S	Sn	01 18 58.6	-0.7
VLDR	Vladesti	1.16	79	⇓P	Pn	01 18 41.9	+0.9
VLDR				⇓S	Sn	01 18 58.6	-0.9
VLDR	Vladesti	1.16	79	⇓P	Pn	01 18 41.9	+0.9
VLDR				⇓S	Sn	01 18 58.6	-0.9
LEHL	Lehliu	1.20	167	⇓P	Pn	01 18 42.6	+1.2
LEHL				⇓S	Sn	01 19 00.6	+0.3
LEHL	Lehliu	1.20	167	⇓P	Pn	01 18 42.6	+1.2
LEHL				⇓S	Sn	01 19 00.6	+0.3
AMRR	Amara	1.21	148	⇑P	Pn	01 18 42.5	+1.0
AMRR				⇓S	Sn	01 19 00.3	-0.1
AMRR	Amara	1.21	148	⇑P	Pn	01 18 42.5	+1.0
AMRR				⇓S	Sn	01 19 00.3	-0.1
INCR	INCERC-Sediu C	1.22	190	⇓S	Sn	01 19 00.5	-0.1
INCR	INCERC-Sediu C	1.22	190	⇓S	Sn	01 19 00.5	-0.1
GIUM	Giurgiulesti	1.25	97	⇑P	Pn	01 18 42.8	+0.9
GIUM				⇓S	Sn	01 19 00.8	-0.2
GIUM	Giurgiulesti	1.25	97	⇑P	Pn	01 18 42.8	+0.9
GIUM				⇓S	Sn	01 19 00.8	-0.2
JOSR	Joseni	1.25	329	⇑P	Pn	01 18 42.5	+0.6
JOSR	Joseni	1.25	329	⇑P	Pn	01 18 42.5	+0.6
CFR	Carcaliu	1.28	111	⇓P	Pn	01 18 42.6	+0.5
CFR				⇑S	Sn	01 18 59.8	-1.8
CFR	Carcaliu	1.28	111	⇓P	Pn	01 18 42.6	+0.5
CFR				⇑S	Sn	01 18 59.8	-1.8
ARR	Arges	1.31	258	⇓P	Pn	01 18 43.8	+1.2
ARR				⇑S	Sn	01 19 01.9	-0.5
ARR	Arges	1.31	258	⇓P	Pn	01 18 43.8	+1.2
ARR				⇑S	Sn	01 19 01.9	-0.5
STFAR	Stefanesti-Arg	1.31	234	⇓P	Pn	01 18 44.0	+1.4
STFAR				⇑S	Sn	01 19 03.1	+0.8
STFAR	Stefanesti-Arg	1.31	234	⇓P	Pn	01 18 44.0	+1.4
STFAR				⇑S	Sn	01 19 03.1	+0.8
BIZ	Bicaz	1.32	350	⇓S	Sn	01 19 03.4	+0.9
BIZ	Bicaz	1.32	350	⇓S	Sn	01 19 03.4	+0.9
BUC1	Bucharest	1.33	193	⇑P	Pn	01 18 43.8	+1.1
BUC1				⇓S	Sn	01 19 02.5	-0.2
BUC1	Bucharest	1.33	193	⇑P	Pn	01 18 43.8	+1.1
BUC1				⇓S	Sn	01 19 02.5	-0.2
SGRR	Singureni	1.46	194	⇑P	Pn	01 18 44.8	+0.7
SGRR				⇓S	Sn	01 19 04.7	-0.5
SGRR	Singureni	1.46	194	⇑P	Pn	01 18 44.8	+0.7
SGRR				⇓S	Sn	01 19 04.7	-0.5
TNR	Turnu Rosu	1.53	271	⇓P	Pn	01 18 45.9	+0.9
TNR				⇓S	Sn	01 19 06.2	-0.3
TNR	Turnu Rosu	1.53	271	⇓P	Pn	01 18 45.9	+0.9
TNR				⇓S	Sn	01 19 06.2	-0.3
MDB	Medias	1.53	290	⇓P	Pn	01 18 46.7	+1.8
MDB	Medias	1.53	290	⇓P	Pn	01 18 46.7	+1.8
TLBR	Topalu	1.58	134	⇑P	Pn	01 18 46.3	+0.9
TLBR				⇓S	Sn	01 19 05.9	-1.6
TLBR	Topalu	1.58	134	⇑P	Pn

KIS	**Kishinev**	**2.13 50**	⇓P		**Pn**	**01 18 53.1**	**+1.1**
KIS			⇑S		**Sn**	**01 19 18.1**	**-1.2**
KIS	**Kishinev**	**2.13 50**	P		**Pn**	**01 18 52.8**	**+0.8**
ZIMR		**2.13 202**	⇓P		**Pn**	**01 18 53.0**	**+0.9**
ZIMR			⇑S		**Sn**	**01 19 18.7**	**-0.7**
ZIMR		**2.13 202**	⇓P		**Pn**	**01 18 53.0**	**+0.9**
ZIMR			⇑S		**Sn**	**01 19 18.7**	**-0.7**
BURAR	**Bucovina Array**	**2.15 337**	⇓P		**Pn**	**01 18 54.7**	**+2.4**
BURAR			⇑S		**Sn**	**01 19 20.6**	**+0.7**
BURAR	**Bucovina Array**	**2.15 337**	⇓P		**Pn**	**01 18 54.7**	**+2.4**
BURAR			⇑S		**Sn**	**01 19 20.6**	**+0.7**
VLAD	**Vladila**	**2.20 222**	⇑P		**Pn**	**01 18 53.5**	**+0.6**
VLAD	**Vladila**	**2.20 222**	⇑P		**Pn**	**01 18 53.5**	**+0.6**
VLAD			⇑S		**Sn**	**01 19 20.0**	**-0.8**
PSN	**Preselentsi**	**2.34 148**	P		**Pn**	**01 18 56.2**	**+1.5**
PSN			S		**Sn**	**01 19 23.6**	**-0.4**
SZH	**Strazhitsa**	**2.40 188**	⇓*i*P		**Pn**	**01 18 56.5**	**+1.0**
SZH			S		**Sn**	**01 19 23.8**	**-1.6**
NEF	**NEVSHA**	**2.45 166**	*e*P		**Pn**	**01 18 57.6**	**+1.5**
DEV	**Deva**	**2.49 277**	⇓P		**Pn**	**01 18 58.7**	**+2.1**
DEV	**Deva**	**2.49 277**	⇓P		**Pn**	**01 18 58.7**	**+2.1**
SRE	**Strehaia**	**2.50 248**	⇓P		**Pn**	**01 18 57.8**	**+1.1**
SRE			⇑S		**Sn**	**01 19 27.3**	**-0.3**
SRE	**Strehaia**	**2.50 248**	⇓P		**Pn**	**01 18 57.8**	**+1.1**
SRE			⇑S		**Sn**	**01 19 27.3**	**-0.3**
MARR	**Marisel-Cluj**	**2.54 295**	⇓P		**Pn**	**01 18 58.9**	**+1.7**
MARR	**Marisel-Cluj**	**2.54 295**	⇓P		**Pn**	**01 18 58.9**	**+1.7**
PURM	**Purcari**	**2.54 68**	⇑P		**Pn**	**01 18 58.1**	**+1.0**
PURM			⇑S		**Sn**	**01 19 27.6**	**-0.8**
PURM	**Purcari**	**2.54 68**	⇑P		**Pn**	**01 18 58.1**	**+1.0**
PURM			⇑S		**Sn**	**01 19 27.6**	**-0.8**
PURM	**Purcari**	**2.54 68**	P		**Pn**	**01 18 58.0**	**+0.8**
PRD	**Provadia**	**2.58 164**	*e*P		**Pn**	**01 18 59.1**	**+1.4**
GZR	**Gura Zlata**	**2.59 266**	⇑P		**Pn**	**01 18 59.7**	**+1.7**
GZR	**Gura Zlata**	**2.59 266**	⇑P		**Pn**	**01 18 59.7**	**+1.7**
PVL	**Pavlikeni**	**2.68 200**	⇓*i*P		**Pn**	**01 19 00.2**	**+1.1**
PVL			S		**Sn**	**01 19 29.2**	**-2.5**
ELND	**Elena**	**2.75 189**	⇓P		**Pn**	**01 19 01.2**	**+1.4**
ELND			⇑S		**Sn**	**01 19 32.9**	**-0.3**
ELND	**Elena**	**2.75 189**	⇓P		**Pn**	**01 19 01.2**	**+1.4**
ELND			⇑S		**Sn**	**01 19 32.9**	**-0.3**
SORM	**Soroca**	**2.81 27**	⇓P		**Pn**	**01 19 01.1**	**+0.5**
SORM	**Soroca**	**2.81 27**	⇓P		**Pn**	**01 19 01.1**	**+0.5**
SORM	**Soroca**	**2.81 27**	P		**Pn**	**01 19 01.0**	**+0.3**
RMGR	**Halanga-Turnu**	**2.83 251**	⇓P		**Pn**	**01 19 01.8**	**+0.9**
RMGR	**Halanga-Turnu**	**2.83 251**	⇓P		**Pn**	**01 19 01.8**	**+0.9**
DRGR		**2.84 295**	⇓P		**Pn**	**01 19 02.0**	**+0.9**
DRGR		**2.84 295**	⇓P		**Pn**	**01 19 02.0**	**+0.9**
DRGR		**2.84 295**	*e*Pn		**Pn**	**01 19 00.4**	**-0.7**
PUNG	**Punghina**	**2.85 243**	⇑P		**Pn**	**01 19 01.6**	**+0.5**
PUNG	**Punghina**	**2.85 243**	⇑P		**Pn**	**01 19 01.6**	**+0.5**
VALD	**Valchedram**	**2.91 229**	P		**Pn**	**01 19 02.7**	**+0.8**
KMPD	**K-Podol'skiy**	**2.92 0**	P		**Pn**	**01 19 02.0**	**0.0**
DJES	**Djerdap**	**2.95 252**	⇑P		**Pn**	**01 19 02.6**	**+0.1**
DJES	**Djerdap**	**2.95 252**	⇑P		**Pn**	**01 19 02.6**	**+0.1**
DJES	**Djerdap**	**2.95 252**	*e*Pn		**Pn**	**01 19 02.4**	**-0.1**
DJES			*e*Sn		**Sn**	**01 19 35.1**	**-2.8**
HERR	**Herculane**	**2.95 256**	⇑P		**Pn**	**01 19 03.3**	**+0.8**
HERR	**Herculane**	**2.95 256**	⇑P		**Pn**	**01 19 03.3**	**+0.8**
MPEP	**Malo Peshtene**	**3.00 221**	⇓*i*P		**Pn**	**01 19 04.1**	**+1.0**
NDNU	**Novodnistrovsk**	**3.02 12**	P		**Pn**	**01 19 03.9**	**+0.6**
SURR	**Surduc**	**3.03 274**	⇓P		**Pn**	**01 19 05.0**	**+1.4**
SURR	**Surduc**	**3.03 274**	⇓P		**Pn**	**01 19 05.0**	**+1.4**
JMB	**Yambol**	**3.15 179**	⇓*i*P		**Pn**	**01 19 06.5**	**+1.4**
JMB			S		**Sn**	**01 19 41.4**	**-1.2**
BAL3X	**Bal3x, Balta**	**3.15 42**	P		**Pn**	**01 19 05.1**	**0.0**
BZS	**Buzias**	**3.39 271**	⇓P		**Pn**	**01 19 09.4**	**+1.2**
BZS	**Buzias**	**3.39 271**	⇓P		**Pn**	**01 19 09.4**	**+1.2**
BZS	**Buzias**	**3.39 271**	*e*Pn		**Pn**	**01 19 08.9**	**+0.7**
SIRR	**Siria**	**3.40 282**	⇑P		**Pn**	**01 19 10.0**	**+1.6**
SIRR	**Siria**	**3.40 282**	⇑P		**Pn**	**01 19 10.0**	**+1.6**
MDVR	**Moldovita**	**3.46 257**	⇓P		**Pn**	**01 19 10.0**	**+0.9**
MDVR	**Moldovita**	**3.46 257**	⇓P		**Pn**	**01 19 10.0**	**+0.9**
MDVR	**Moldovita**	**3.46 257**	*e*Pn		**Pn**	**01 19 09.8**	**+0.6**
MDVR			*e*Sn		**Sn**	**01 19 46.7**	**-3.1**
BORS2	**Bor- Borsko je**	**3.51 245**	*e*Pn		**Pn**	**01 19 08.6**	**-1.3**
BORS2			*e*Sn		**Sn**	**01 19 46.9**	**-4.2**
ZAGS	**Zajecar**	**3.52 240**	*e*Pn		**Pn**	**01 19 09.5**	**-0.4**
ZAGS			*e*Sn		**Sn**	**01 19 47.3**	**-3.9**
PGB	**Panagyurishte**	**3.53 208**	P		**Pn**	**01 19 11.6**	**+1.4**
HORU	**Horodok**	**3.57 360**	P		**Pn**	**01 19 10.6**	**0.0**
KUBS	**Kucevo**	**3.60 252**	*e*Pn		**Pn**	**01 19 10.0**	**-1.0**
KUBS			*e*Sn		**Sn**	**01 19 49.3**	**-3.9**
ZAPS	**Zavoj**	**3.62 230**	*e*Pn		**Pn**	**01 19 11.8**	**+0.5**
ZAPS			*e*Sn		**Sn**	**01 19 50.8**	**-2.8**
VRSS	**Vrsac**	**3.65 264**	*e*Pn		**Pn**	**01 19 12.3**	**+0.7**
SOF	**Sofia**	**3.70 218**	P		**Pn**	**01 19 14.4**	**+2.0**
PLD	**Plovdiv**	**3.71 200**	*e*P		**Pn**	**01 19 13.9**	**+1.5**
VTS	**Vitosha**	**3.81 219**	⇓*i*P		**Pn**	**01 19 15.1**	**+1.2**
PLNA	**Plana**	**3.84 216**	P		**Pn**	**01 19 15.9**	**+1.6**
TRAN	**Tran**	**3.92 226**	*e*P		**Pn**	**01 19 17.1**	**+1.9**
BOVS	**Bovan**	**3.94 241**	⇓P		**Pn**	**01 19 15.7**	**+0.3**
BOVS	**Bovan**	**3.94 241**	⇓P		**Pn**	**01 19 15.7**	**+0.3**
RZN	**Rozhen**	**4.14 198**	⇓*i*P		**Pn**	**01 19 19.7**	**+1.4**
RZN			S		**Sn**	**01 20 05.3**	**-0.9**
TARU	**Tarkhankut**	**4.28 91**	*e*P		**Pn**	**01 19 21.2**	**+1.2**
TARU			Pm			01 19 21.5	
	comp=Z,24nm,0.2s						
TARU			*e*S		**Sn**	**01 20 08.8**	**-0.4**
TARU			Sm			01 20 10.0	
	comp=E,71nm,0.5s						
AVAS	**Avala Beograd**	**4.30 259**	*e*Pn		**Pn**	**01 19 20.6**	**+0.3**
AVAS			*e*Sn		**Sn**	**01 20 07.0**	**-2.8**
BARS	**Barje**	**4.37 231**	*e*Pn		**Pn**	**01 19 22.4**	**+1.2**
BARS			*e*Sn		**Sn**	**01 20 08.6**	**-2.8**
LUBAR	**Lubar, Ukraine**	**4.37 11**	P		**Pn**	**01 19 21.3**	**+0.2**
GRUS	**Gruza**	**4.45 249**	*e*Pn		**Pn**	**01 19 22.8**	**+0.6**
GRUS			*e*Sn		**Sn**	**01 20 10.1**	**-3.1**
GOCS	**Kraljevo Serbi**	**4.49 244**	*e*Pn		**Pn**	**01 19 23.4**	**+0.5**
GOCS			*e*Sn		**Sn**	**01 20 10.2**	**-4.3**
KKB	**Krupnik**	**4.50 214**	⇓*i*P		**Pn**	**01 19 24.5**	**+1.6**
TRUS	**Trudelj**	**4.52 254**	*e*Pn		**Pn**	**01 19 23.8**	**+0.6**
SELS	**Selova**	**4.52 239**	*e*Pn		**Pn**	**01 19 23.9**	**+0.7**
SELS			*e*Sn		**Sn**	**01 20 11.9**	**-3.2**
MMB	**Musomishta**	**4.54 207**	P		**Pn**	**01 19 25.2**	**+1.7**
PEHC	**Pehcevo**	**4.64 215**	*i* Pn		**Pn**	**01 19 26.5**	**+1.6**
DNZ2	**Donuzlav2**	**4.76 91**	⇓*e*P		**Pn**	**01 19 27.1**	**+0.7**
DNZ2			Pm			01 19 27.6	
	comp=Z,57nm,0.4s						
DNZ2			*e*S		**Sn**	**01 20 18.8**	**-1.9**
DNZ2			Sm			01 20 20.5	
	comp=E,42nm,0.4s						
DIVS	**Divibare**	**4.84 254**	*e*Pn		**Pn**	**01 19 28.3**	**+0.7**
DIVS			*e*Sn		**Sn**	**01 20 19.8**	**-3.0**
IVAS	**Ivanjica**	**4.95 248**	*e*Pn		**Pn**	**01 19 29.0**	**0.0**
IVAS			*e*Sn		**Sn**	**01 20 21.7**	**-3.6**
VAY	**Valandovo**	**5.16 215**	*i* Pn		**Pn**	**01 19 33.6**	**+1.9**
SJES	**Sjenica**	**5.21 245**	*e*Pn		**Pn**	**01 19 33.4**	**+0.8**
SJES			*e*Sn		**Sn**	**01 20 28.4**	**-3.3**
SEV	**Sevastopol'**	**5.23 100**	*e*P		**Pn**	**01 19 33.2**	**+0.6**
SEV			Pm			01 19 34.2	
	comp=Z,24nm,0.4s						
SEV			*e*S		**Sn**	**01 20 31.7**	**-0.1**
SEV			Sm			01 20 34.0	
	comp=N,9.0nm,0.3s						
SEV			Sm			01 20 34.0	
	comp=E,12nm,0.5s						
AK07	**Malin Array Si**	**5.25 20**	P		**Pn**	**01 19 32.7**	**-0.1**
AKBB	**Malin Array Si**	**5.39 19**	P		**Pn**	**01 19 34.4**	**-0.3**
SIM	**Simferopol'**	**5.45 95**	*e*P		**Pn**	**01 19 36.9**	**+1.3**
SIM			Pm			01 19 37.6	
	comp=Z,10.0nm,0.4s						
SIM			*e*S		**Sn**	**01 20 36.6**	**-0.7**
SIM			Sm			01 20 39.1	
	comp=N,12nm,0.6s						
SIM			Sm			01 20 39.1	
	comp=E,8.0nm,0.4s						
MORH	**Mrgy, Hungar**	**5.48 279**	⇑P		**Pn**	**01 19 37.7**	**+1.7**
MORH	**Mrgy, Hungar**	**5.48 279**	⇑P		**Pn**	**01 19 37.7**	**+1.7**
YAL	**Yalta**	**5.58 99**	*e*P		**Pn**	**01 19 38.1**	**+0.8**
YAL			Pm			01 19 39.3	
	comp=Z,6.0nm,0.5s						
YAL			*e*S		**Sn**	**01 20 39.6**	**-0.7**
YAL			Sm			01 20 42.9	
	comp=N,4.0nm,0.3s						
YAL			Sm			01 20 42.9	
	comp=E,9.0nm,0.5s						
RNPP9	**Sopachiv**	**5.79 357**	P		**Pn**	**01 19 40.2**	**+0.2**
SUDU	**Sudak**	**6.08 94**	⇓*e*P		**Pn**	**01 19 45.0**	**+0.9**
SUDU			Pm			01 19 45.2	
	comp=Z,16nm,0.6s						
SUDU			*e*S		**Sn**	**01 20 51.8**	**-0.6**
SUDU			Sm			01 20 52.0	
	comp=N,8.0nm,0.5s						
SUDU			Sm			01 20 52.0	
	comp=E,12nm,0.6s						
NACGM	**Naroch**	**9.27 1**	*e*P		**Pn**	**01 20 29.0**	**+2.1**
	comp=Z,11nm,1.4s,baz=180						

*NOU **05** 01:50:29.7, 39°.76S×176°.99E, h29km, MLv3.6/13, North Island, New Zealand*
*WEL **05** 01:50:30.7±0.6, 40°.S±2°.×17°.7E±°, h41km±4km, M3.6/16, ML4.0/16, MLv3.6/16, Error ellipse: s-maj=5.0km s-min=3.0km az=107.2, confirmed*

ISC 05 01:50:30.3±1.3, 39.77S±0°.03×176.99E±0°.04, h53km±6km, n121, σ0.74/138, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.09**	**251**	P	**Pn**	**01 50 38.7**	**+0.2**
KAHZ				S	**Sn**	**01 50 44.7**	**+0.4**
HNPS	**Havelock North**	**0.12**	**319**	P	**Pn**	**01 50 38.4**	**-0.1**
HNPS				S	**Sn**	**01 50 44.5**	**+0.2**
CKHZ	**Cape Kidnapper**	**0.13**	**34**	P	**Pn**	**01 50 38.9**	**+0.4**
CKHZ				S	**Sn**	**01 50 45.2**	**+0.8**
HCDS	**Hastings Civil**	**0.16**	**317**	P	**Pn**	**01 50 37.1**	**-1.5**
HCDS				S	**Sn**	**01 50 43.4**	**-1.3**
NCHS	**Napier Colenso**	**0.27**	**345**	P	**Pn**	**01 50 38.4**	**-1.0**
NCDS	**Napier Civil D**	**0.28**	**342**	P	**Pn**	**01 50 39.5**	**0.0**
NCDS				S	**Sn**	**01 50 46.3**	**+0.3**
NSPS	**Napier St Paul**	**0.28**	**349**	P	**Pn**	**01 50 38.5**	**-1.0**
NSPS				S	**Sn**	**01 50 45.4**	**-0.6**
PXZ	**Pawanui**	**0.28**	**200**	P	**Pn**	**01 50 40.1**	**+0.6**
PXZ				S	**Sn**	**01 50 47.4**	**+1.2**
NGHS	**Napier Girls H**	**0.28**	**349**	P	**Pn**	**01 50 39.6**	**+0.1**
NGHS				S	**Sn**	**01 50 46.5**	**+0.4**
WPWS	**Waipawa Distri**	**0.36**	**240**	P	**Pn**	**01 50 40.4**	**+0.2**
WPWS				S	**Sn**	**01 50 47.6**	**+0.3**
MCHZ	**McNeill Hill**	**0.39**	**325**	P	**Pn**	**01 50 40.6**	**0.0**
MCHZ				S	**Sn**	**01 50 47.8**	**0.0**
KRHZ	**Kereru**	**0.49**	**284**	P	**Pn**	**01 50 41.2**	**-0.4**
KRHZ				S	**Sn**	**01 50 48.9**	**-0.9**
ARHZ	**Aropaoanui**	**0.50**	**1**	P	**Pn**	**01 50 42.2**	**+0.5**
ARHZ				S	**Sn**	**01 50 50.8**	**+0.9**
WPHZ	**Waipukurau**	**0.52**	**234**	P	**Pn**	**01 50 42.4**	**+0.5**
WPHZ				S	**Sn**	**01 50 51.6**	**+1.3**
KWHZ	**Kaweka Forest**	**0.55**	**308**	P	**Pn**	**01 50 42.0**	**-0.4**
KWHZ				S	**Sn**	**01 50 50.3**	**-0.8**
PRHZ	**Porangahau**	**0.57**	**208**	P	**Pn**	**01 50 43.2**	**+0.7**
PRHZ				S	**Sn**	**01 50 52.7**	**+1.4**
PNHZ	**Pukenui**	**0.62**	**256**	P	**Pn**	**01 50 43.1**	**-0.2**
PNHZ				S	**Sn**	**01 50 52.3**	**-0.3**
NMHZ	**Naumai**	**0.68**	**348**	P	**Pn**	**01 50 44.4**	**+0.4**
NMHZ				S	**Sn**	**01 50 54.2**	**+0.3**
BKZ	**Black Stump Fm**	**0.71**	**327**	P	**Pn**	**01 50 44.2**	**-0.2**
BKZ	**Black Stump Fm**	**0.71**	**327**	S	**Sn**	**01 50 53.9**	**-0.6**
BKZ	**Black Stump Fm**	**0.71**	**327**	P	**Pn**	**01 50 44.1**	**-0.2**
WHHZ	**Waihua**	**0.71**	**16**	P	**Pn**	**01 50 44.8**	**+0.4**
ANWZ	**Angora Road**	**0.80**	**209**	P	**Pn**	**01 50 46.1**	**+0.7**
DVHZ	**Dannevirke**	**0.82**	**229**	P	**Pn**	**01 50 46.0**	**+0.2**
TSZ	**Takapari Road**	**0.84**	**249**	P	**Pn**	**01 50 45.9**	**-0.1**
RAHZ	**Arahi**	**0.85**	**5**	P	**Pn**	**01 50 46.5**	**+0.3**
KNZ	**Kokohu**	**0.91**	**35**	P	**Pn**	**01 50 47.2**	**+0.3**
MTHZ	**Maungataniwha**	**0.92**	**353**	P	**Pn**	**01 50 47.1**	**+0.1**
MHGZ	**Mahia Peninsul**	**0.94**	**50**	P	**Pn**	**01 50 48.0**	**+0.7**
MOVZ	**Moawhango**	**1.02**	**290**	P	**Pn**	**01 50 48.7**	**+0.4**
SNGZ	**Shannon Statio**	**1.02**	**16**	P	**Pn**	**01 50 48.7**	**+0.3**
MRHZ	**Matea Rd**	**1.03**	**334**	P	**Pn**	**01 50 48.8**	**+0.3**
BFZ	**Birch Farm**	**1.08**	**211**	P	**Pn**	**01 50 49.4**	**+0.3**
BFZ	**Birch Farm**	**1.08**	**211**	S	**Sn**	**01 51 04.3**	**+1.3**
BFZ	**Birch Farm**	**1.08**	**211**	P	**Pn**	**01 50 49.2**	**+0.1**
PRGZ	**Paritu Road**	**1.09**	**40**	P	**Pn**	**01 50 49.7**	**+0.3**
PRWZ	**Pori Road**	**1.11**	**224**	P	**Pn**	**01 50 50.0**	**+0.5**
HATZ	**Hinemaiaia**	**1.11**	**321**	P	**Pn**	**01 50 50.0**	**+0.4**
TUVZ	**Tukino**	**1.14**	**295**	P	**Pn**	**01 50 50.8**	**+0.7**
RTZ	**Ruatahuna**	**1.15**	**360**	P	**Pn**	**01 50 50.2**	**+0.1**
WNVZ	**Wahianoa**	**1.16**	**292**	P	**Pn**	**01 50 51.0**	**+0.6**
ETVZ	**East Tongariro**	**1.17**	**302**	P	**Pn**	**01 50 51.0**	**+0.6**
RITZ	**Rihia Road**	**1.18**	**312**	P	**Pn**	**01 50 51.1**	**+0.6**
WHVZ	**Whangaehu Hut**	**1.18**	**294**	P	**Pn**	**01 50 51.3**	**+0.6**
OTVZ	**Oturere**	**1.19**	**300**	P	**Pn**	**01 50 51.3**	**+0.6**
TMVZ	**Te Maari**	**1.19**	**303**	P	**Pn**	**01 50 51.2**	**+0.5**
SNVZ	**South Ngauruho**	**1.19**	**299**	P	**Pn**	**01 50 51.3**	**+0.6**
TRVZ	**Turoa**	**1.21**	**292**	P	**Pn**	**01 50 51.6**	**+0.5**
MAVZ	**Matarangi**	**1.21**	**294**	P	**Pn**	**01 50 51.5**	**+0.4**
NTVZ	**North Tongarir**	**1.21**	**303**	P	**Pn**	**01 50 51.5**	**+0.5**
RIGZ	**Rimuhau**	**1.22**	**30**	P	**Pn**	**01 50 51.4**	**+0.3**
FWVZ	**Far West T-bar**	**1.22**	**294**	P	**Pn**	**01 50 51.6**	**+0.4**
NGZ	**Ngauruhoe**	**1.22**	**298**	P	**Pn**	**01 50 51.7**	**+0.5**
MTVZ	**Mangateitei**	**1.23**	**287**	P	**Pn**	**01 50 51.9**	**+0.7**
NNVZ	**North Ngauruho**	**1.23**	**300**	P	**Pn**	**01 50 51.9**	**+0.5**
KRVZ	**Karewarewa**	**1.24**	**302**	P	**Pn**	**01 50 51.9**	**+0.5**
COVZ	**Chateau Observ**	**1.25**	**296**	P	**Pn**	**01 50 52.0**	**+0.5**
WTVZ	**West Tongariro**	**1.26**	**301**	P	**Pn**	**01 50 52.1**	**+0.5**
KATZ	**Kakaramea**	**1.27**	**308**	P	**Pn**	**01 50 52.3**	**+0.4**
CPWZ	**Castlepoint**	**1.29**	**207**	P	**Pn**	**01 50 52.4**	**+0.5**
MUGZ	**Murupara**	**1.30**	**353**	P	**Pn**	**01 50 52.0**	**-0.1**
RATZ	**Rangitukua**	**1.30**	**313**	P	**Pn**	**01 50 52.5**	**+0.4**
ALRZ	**Allen Road**	**1.30**	**337**	P	**Pn**	**01 50 52.3**	**+0.1**
RAGZ	**Rawiri**	**1.31**	**15**	P	**Pn**	**01 50 52.4**	**+0.1**
TIWZ	**Tintock**	**1.31**	**219**	P	**Pn**	**01 50 52.7**	**+0.4**
PRRZ	**Plateau Road**	**1.34**	**340**	P	**Pn**	**01 50 52.9**	**+0.1**
PKVZ	**Pokaka**	**1.35**	**290**	P	**Pn**	**01 50 53.3**	**+0.4**
WHTZ	**Whakaora**	**1.36**	**324**	P	**Pn**	**01 50 53.3**	**+0.4**
TWVZ	**Taurewa**	**1.39**	**300**	P	**Pn**	**01 50 53.3**	**0.0**
WPRZ	**Whakapapatarin**	**1.40**	**333**	P	**Pn**	**01 50 53.5**	**0.0**
MRZ	**Mangatainoka R**	**1.40**	**230**	P	**Pn**	**01 50 53.2**	**-0.2**
WATZ	**Wairara**	**1.44**	**317**	P	**Pn**	**01 50 53.9**	**-0.1**
HRRZ	**Handcock Road**	**1.48**	**338**	P	**Pn**	**01 50 54.9**	**+0.4**
TKGZ	**Te Karaka**	**1.48**	**27**	P	**Pn**	**01 50 54.4**	**-0.1**
MWZ	**Matawai**	**1.49**	**17**	P	**Pn**	**01 50 54.4**	**-0.3**
URZ	**Urewera**	**1.51**	**4**	P	**Pn**	**01 50 54.6**	**-0.3**
URZ	**Urewera**	**1.51**	**4**	S	**Sn**	**01 51 13.1**	**-0.3**
URZ	**Urewera**	**1.51**	**4**	P	**Pn**	**01 50 54.6**	**-0.3**
WAZ	**Wanganui**	**1.54**	**270**	P	**Pn**	**01 50 57.0**	**+1.6**
HSRZ	**Hossack Road**	**1.56**	**338**	P	**Pn**	**01 50 55.7**	**0.0**
KUTZ	**Kaahu Road**	**1.56**	**324**	P	**Pn**	**01 50 55.1**	**-0.6**
TMWZ	**Te Maipa**	**1.58**	**212**	P	**Pn**	**01 50 55.5**	**-0.5**
CNGZ	**Carnagh Statio**	**1.59**	**37**	P	**Pn**	**01 50 56.3**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.59**	**224**	P	**Pn**	**01 50 56.0**	**-0.1**
OMRZ	**Omania**	**1.72**	**344**	P	**Pn**	**01 50 57.9**	**0.0**
OGWZ	**Otaki Gorge**	**1.74**	**232**	P	**Pn**	**01 50 57.6**	**-0.5**
TWGZ	**Tauwhareparae**	**1.77**	**26**	P	**Pn**	**01 50 58.5**	**0.0**
MTW	**Mount Morrison**	**1.79**	**219**	P	**Pn**	**01 50 57.8**	**-1.1**
TLZ	**Tolley Road**	**1.82**	**321**	P	**Pn**	**01 50 58.9**	**-0.4**
VRZ	**Vera Road**	**1.84**	**290**	P	**Pn**	**01 50 59.7**	**+0.3**
RUGZ	**Raukumara Rang**	**1.88**	**17**	P	**Pn**	**01 50 59.9**	**-0.1**
WHRZ	**Whale Island**	**1.91**	**360**	P	**Pn**	**01 51 00.2**	**-0.2**
TRWZ	**Traveller**	**1.91**	**211**	P	**Pn**	**01 50 59.5**	**-0.9**
KIW	**Kapiti Island**	**1.93**	**235**	P	**Pn**	**01 51 00.2**	**-0.4**
PUZ	**Puketiti**	**1.96**	**31**	P	**Pn**	**01 51 00.4**	**-0.7**
CAW	**Cannon Point**	**1.99**	**227**	P	**Pn**	**01 51 00.5**	**-0.9**
PAWZ	**Paruwai Farm**	**2.00**	**216**	P	**Pn**	**01 51 00.7**	**-1.0**
HIZ	**Hauiti**	**2.08**	**306**	P	**Pn**	**01 51 02.7**	**0.0**
HIZ	**Hauiti**	**2.08**	**306**	P	**Pn**	**01 51 02.6**	**0.0**
PKGZ	**Pakihiroa**	**2.08**	**25**	P	**Pn**	**01 51 02.2**	**-0.5**
HAZ	**Te Kaha**	**2.10**	**18**	P	**Pn**	**01 51 03.1**	**+0.1**
MSWZ	**Moikau Station**	**2.11**	**218**	P	**Pn**	**01 51 01.6**	**-1.6**
PREZ	**Palmer Road**	**2.23**	**280**	P	**Pn**	**01 51 06.5**	**+1.8**
PLWZ	**Palliser**	**2.23**	**216**	P	**Pn**	**01 51 03.3**	**-1.6**
WMGZ	**Waiomatatini S**	**2.24**	**30**	P	**Pn**	**01 51 04.4**	**-0.5**
BHW	**Baring Head**	**2.30**	**224**	P	**Pn**	**01 51 04.5**	**-1.2**
SNZO	**South Karori**	**2.32**	**228**	P	**Pn**	**01 51 04.9**	**-1.1**
KHEZ	**Kahui Hut**	**2.34**	**281**	P	**Pn**	**01 51 07.9**	**+1.5**
KHEZ	**Kahui Hut**	**2.34**	**281**	P	**Pn**	**01 51 08.4**	**+2.0**
PKE	**Pukeiti**	**2.39**	**283**	P	**Pn**	**01 51 08.9**	**+1.9**
MXZ	**Matakaoa Point**	**2.43**	**26**	P	**Pn**	**01 51 07.5**	**0.0**
MXZ	**Matakaoa Point**	**2.43**	**26**	P	**Pn**	**01 51 07.5**	**0.0**
NBEZ	**Newall Road No**	**2.46**	**281**	P	**Pn**	**01 51 09.3**	**+1.3**
TCW	**Tory Channel**	**2.52**	**234**	P	**Pn**	**01 51 07.5**	**-1.2**
DUWZ	**D'Urville Isla**	**2.56**	**245**	P	**Pn**	**01 51 08.2**	**-1.1**
TUWZ	**Tuamarina**	**2.85**	**233**	P	**Pn**	**01 51 12.0**	**-1.3**
BSWZ	**Blackbirch Sta**	**3.06**	**229**	P	**Pn**	**01 51 14.3**	**-1.9**
NNZ	**Nelson**	**3.11**	**241**	P	**Pn**	**01 51 15.6**	**-1.2**
QRZ	**Quartz Range**	**3.57**	**251**	P	**Pn**	**01 51 21.7**	**-1.4**
KHZ	**Kahutara**	**3.71**	**223**	P	**Pn**	**01 51 24.1**	**-1.0**
OUZ	**Omahuta**	**5.28**	**328**	P	**Pn**	**01 51 47.3**	**+0.8**

*NEIC **05** 01:54:52.9±0.7, 19°.34N±0°.02×68°.23W±0°.03, h10km±2km, ML2.3/18, Md3.3/10(RSPR), Error ellipse: s-maj=5.7km s-min=3.7km az=237.0*
*OSPL **05** 01:54:53.3±1.1, 19°.37N×68°.30W, h0km±75km, ML2.4, Hypocentre not reviewed by the ISC*
*SDD **05** 01:54:54.9±2.1, 19°.33N×68°.15W, h22km±130km, MD3.6, ML2.3, MW2.7*
*RSPR **05** 01:54:55.8, 19°.36N×68°.33W, h30km±31km, MD3.3/10*

ISC 05 01:54:55.1±2.2, 19.24N±0°.07×68.19W±0°.04, h14km±14km, n50, σ0.86/61, 15C-10D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.75**	**194**		**Pb**	**01 55 08.8**	**-1.1**
PCDR					**Sb**	**01 55 20.2**	**+0.1**
PCDR				IAML		01 55 36.2	
	comp=N,100nm,1.4s						
PCDR	**Punta Cana, DR**	**0.75**	**194**	⇓*e*Pg	**Pb**	**01 55 08.9**	**-1.1**
PCDR				⇓*e*Sg	**Sb**	**01 55 21.2**	**+1.1**
PCDR				IAML		01 55 42.8	
	comp=N,127nm,1.6s						
PCDR	**Punta Cana, DR**	**0.75**	**194**	⇑*e*P	**Pb**	**01 55 09.0**	**-1.0**
PCDR	**Punta Cana, DR**	**0.75**	**194**	*e*S	**Sb**	**01 55 21.2**	**+1.1**
PCDR	**Punta Cana, DR**	**0.75**	**194**	*i* P		01 55 08.9	
PCDR				*e*S		01 55 19.7	
PCDR				IAML		01 55 22.8	
	comp=Z,74nm,1.1s						
HIDR	**Higuey Centro**	**0.82**	**218**	⇑*e*Pg	**Pb**	**01

KDAK Sn **Sn** **02 02 42.5 -1.7**
0.1nm,0.3s,baz=334,slow=18,SNR=1.4
4.2nm,0.8s
PETK Petropavlovsk- 16.15 285 LR LR 02 06 42.1
comp=Z,23nm,18.6s,baz=89,slow=38
KTH Kantishna Hill 17.66 38 P **P** **02 00 42.3 +1.1**
KTH IAmb IAmb 02 01 07.8
comp=Z,14nm,1.4s
RND Reindeer 18.40 40 P **Pn** **02 00 50.4 +0.5**
I23K Minto, Yukon-K 19.07 35 P **Pn** **02 00 58.3 +0.5**
E21K Killik River 19.75 24 P **Pn** **02 01 05.5 -0.4**
E21K IAmb IAmb 02 01 10.3
comp=Z,9.1nm,1.5s
ILAR Eielson Array 19.80 38 P **P** **02 01 03.4 -1.1**
comp=Z,0.4nm,0.3s,baz=236,slow=11,SNR=27
comp=Z,0.5nm,0.5s
H24K Noodor Dome 19.96 34 P **Pn** **02 01 08.3 -0.1**
H24K IAmb IAmb 02 01 09.4
comp=Z,3.9nm,0.7s
J25K Salcha River, 20.31 39 P **P** **02 01 09.9 -0.2**
J25K IAmb IAmb 02 01 12.7
comp=Z,3.0nm,0.7s
B21K Ikpikpuk River 20.49 21 P **P** **02 01 13.1 +1.2**
SCRK Sand Creek 20.62 41 P **P** **02 01 12.7 -0.8**
SCRK IAmb IAmb 02 01 14.9
comp=Z,4.3nm,0.7s
J26L Joseph Creek 20.98 40 P **P** **02 01 18.1 +0.6**
C23K Itkillik River 21.60 24 P **P** **02 01 25.0 +1.2**
F25K Christian Rive 21.64 32 P **P** **02 01 26.1 +1.7**
F25K IAmb IAmb 02 01 44.8
comp=Z,4.0nm,1.0s
BMAR Burnt Mountain 21.90 32 P **P** **02 01 27.8 +0.6**
E25K Arctic Village 21.95 30 P **P** **02 01 28.6 +0.9**
E25K IAmb IAmb 02 01 54.2
comp=Z,5.8nm,1.4s
F26K Sheenjek River 22.18 32 P **P** **02 01 30.2 0.0**
F26K IAmb IAmb 02 02 00.7
comp=Z,5.9nm,1.5s
O29M Mount Kennedy 22.23 53 P **P** **02 01 30.4 -0.5**
D25K Kavik River 22.40 27 P **P** **02 01 33.1 +0.6**
D25K IAmb IAmb 02 01 53.8
comp=Z,4.9nm,1.0s
DAWY Dawson 22.56 43 P **P** **02 01 34.8 +0.4**
DAWY IAmb IAmb 02 01 53.9
comp=Z,5.2nm,1.3s
M29M Somme Creek 22.60 47 P **P** **02 01 35.3 +0.5**
M29M IAmb IAmb 02 01 49.7
comp=Z,5.5nm,1.4s
I28M Miner Creek 22.76 39 P **P** **02 01 36.1 -0.3**
HYT Haines Junctio 22.81 52 P **P** **02 01 36.7 -0.4**
HYT IAmb IAmb 02 02 09.5
comp=Z,8.1nm,1.4s
L29M L29M 22.88 46 P **P** **02 01 37.6 0.0**
K29M Barlow Dome 23.31 44 P **P** **02 01 42.1 +0.1**
K29M IAmb IAmb 02 01 43.4
comp=Z,2.7nm,0.8s
C27K Jago River 23.34 28 P **P** **02 01 43.2 +1.1**
H29M Whitestone 23.63 38 P **P** **02 01 44.0 -0.8**
J30M Hart River 23.98 43 P **P** **02 01 47.8 -0.3**
G29M Pine Creek 24.00 36 P **P** **02 01 48.3 +0.1**
I30M Mount Dempster 24.12 41 P **P** **02 01 49.2 -0.2**
G30M tAoh Zraii Nji 24.69 37 P **P** **02 01 54.7 +0.3**
G30M IAmb IAmb 02 02 32.5
comp=Z,6.6nm,1.4s
YKA Yellowknife Ar 33.62 47 P **P** **02 03 14.2 +0.5**
comp=Z,0.1nm,0.4s,baz=286,slow=8.7,SNR=5.1
YKA PcP **PcP** **02 05 53.5 +0.9**
comp=Z,0.7nm,0.7s,baz=273,slow=3.4,SNR=13
comp=Z,0.1nm,0.4s
H11N2 WAKE ISLAND Hy 34.72 209 T T 02 39 59.7
baz=18,slow=76,SNR=85
H11N3 WAKE ISLAND Hy 34.73 209 T T 02 40 14.0
baz=18,slow=76,SNR=80
H11N1 WAKE ISLAND Hy 34.74 209 T T 02 40 07.2
baz=18,slow=76,SNR=85
H11S1 WAKE ISLAND Hy 35.93 209 T T 02 41 49.1
baz=19,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 35.95 209 T T 02 41 47.4
baz=19,slow=76,SNR=70
H11S3 WAKE ISLAND Hy 35.95 209 T T 02 41 46.3
baz=19,slow=76,SNR=32
KSRS Korea Array 41.47 273 P **P** **02 04 18.9 -1.4**
comp=Z,0.8nm,0.7s,baz=54,slow=7.9,SNR=2.4
comp=Z,0.8nm,0.7s
PDAR Pinedale Array 44.43 74 P **P** **02 04 45.3 +0.8**
comp=Z,0.4nm,0.6s,baz=300,slow=3.3,SNR=4.4
comp=Z,0.4nm,0.6s
SONM Songino Array 48.10 298 P **P** **02 05 14.1 +1.0**
comp=Z,0.1nm,0.3s,baz=61,slow=6.8,SNR=1.5
SONM PcP **PcP** **02 06 39.8 -0.1**
comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=2.7
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 56.78 84 P **P** **02 06 17.8 +0.3**
comp=Z,0.2nm,0.7s,baz=307,slow=6.0,SNR=4.3
comp=Z,0.2nm,0.7s
KURBB Kurchatov Arra 60.17 315 P **P** **02 06 40.3 -0.3**
comp=Z,0.5nm,0.5s,baz=43,slow=6.7,SNR=8.1
comp=Z,0.5nm,0.5s
MKAR Makanchi Array 61.21 310 P **P** **02 06 46.5 -1.3**
comp=Z,0.3nm,0.4s,baz=43,slow=5.7,SNR=11
comp=Z,0.3nm,0.4s
MAKZ Makanchi 61.35 310 P **P** **02 06 48.4 -0.4**
ABKAR Abkulak array 68.71 324 P **P** **02 07 37.0 +0.6**
ABKAR Abkulak array 68.71 324 P **P** **02 07 37.4 +1.0**
ABKAR IAmb IAmb 02 08 14.4
comp=Z,2.0nm,1.4s
CMAR Chiang Mai Arr 72.79 278 P **P** **02 08 02.1 +0.4**
comp=Z,0.7nm,0.3s,baz=22,slow=7.4,SNR=5.9
comp=Z,0.7nm,0.3s
APG El Apazote 75.53 84 LR LR 02 42 24.2
comp=Z,7.4nm,19.0s,baz=344,slow=36
WRA Warramunga Arr 83.59 226 P **P** **02 09 00.4 -0.8**
comp=Z,0.5nm,0.6s,baz=25,slow=5.1,SNR=2.1
comp=Z,0.5nm,0.6s
ASAR Alice Springs 87.04 225 P **P** **02 09 18.9 +0.5**
comp=Z,0.4nm,0.7s,baz=36,slow=4.8,SNR=2.0
comp=Z,0.4nm,0.7s
H03N2 Juan Fernandez 119.50 108 T T 04 26 33.8
baz=317,slow=78,SNR=189
H03N1 Juan Fernandez 119.51 107 T T 04 26 35.1
baz=317,slow=78,SNR=211
H03N3 Juan Fernandez 119.51 108 T T 04 26 34.4
baz=317,slow=78,SNR=239

---

*IDC **05** 02:01:50.4±1.0, 19°.41N×68°.14W, h0km, mb3.5/6, mbtmp3.6/9, ML3.3/3, MS2.7/2, Error ellipse: s-maj=31.7km s-min=19.1km az=40.0*
*SDD **05** 02:01:52.2±2.2, 19°.36N×68°.12W, h23km±84km, MD4.0, ML3.6, MW3.8*
*NEIC **05** 02:01:53.1±1.3, 19°.23N±0°.04×68°.10W±0°.04, h10km±2km, mb4.0/3, ML3.6/38, Md3.8/20(RSPR), Error ellipse: s-maj=6.8km s-min=5.1km az=33.0*
*RSPR **05** 02:01:55.0, 19°.28N×68°.03W, h98km±7km, MD3.8/20*
*OSPL **05** 02:01:54.4±2.2, 19°.25N×68°.07W, h0km±9km, ML3.6, Hypocentre not reviewed by the ISC*
ISC 05 02:01:50.4±1.2, 19°.31N±0°.04×68°.21W±0°.02, h6km±8km, n97, σ1s50/131, mb3.5/6, 19C-20D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.81**	**192**		**Pb**	**02 02 07.0**	**+0.1**
PCDR					**Sb**	**02 02 18.7**	**+0.7**
PCDR				IAML		02 02 23.3	
	comp=E,2μm,0.6s						
PCDR				IAML		02 02 25.9	
	comp=N,3μm,0.6s						
PCDR	**Punta Cana, DR**	**0.81**	**192**	⇓*e*Pg	**Pb**	**02 02 06.9**	**+0.1**
PCDR				⇑*e*Sg	**Sn**	**02 02 20.4**	**-0.3**
PCDR				IAML		02 02 25.8	
	comp=N,3μm,0.5s						
PCDR	**Punta Cana, DR**	**0.81**	**192**	*i* P		02 02 07.0	
PCDR				*e*S		02 02 18.9	
PCDR				IAML		02 02 26.1	
	comp=Z,2μm,0.6s						
HIDR	**Higuey Centro**	**0.86**	**214**	⇓*e*Pg	**Pb**	**02 02 08.1**	**+0.3**
HIDR				⇑*e*Sg	**Sn**	**02 02 21.4**	**-0.6**
HIDR				IAML		02 02 21.8	
	comp=N,2μm,0.2s						
SMDR	**Samana, DR**	**0.93**	**269**	*e*Pg	**Pn**	**02 02 10.9**	**+0.9**
SMDR				IAML		02 02 27.7	
	comp=N,1μm,0.2s						
IDE	**Isla Desecheo**	**1.15**	**143**		**Pg**	**02 02 11.0**	**-1.5**
IDE					**Sn**	**02 02 29.1**	**0.0**
IDE	**Isla Desecheo**	**1.15**	**143**	*e*S	**Sn**	**02 02 29.1**	**0.0**
SADR	**Isla Saona**	**1.23**	**206**	⇓*e*Pg	**Pn**	**02 02 14.0**	**-0.2**
SADR				*e*Pg	**Pb**	**02 02 14.6**	**+0.4**
SADR				⇓*e*Sg	**Sn**	**02 02 32.0**	**+0.8**
SADR				⇑*e*Sg	**Sb**	**02 02 32.7**	**+2.3**
SADR				IAML		02 02 43.7	
	comp=N,1μm,0.8s						
SADR				IAML		02 02 43.8	
	comp=N,1μm,0.8s						
AGPR	**Aguadilla, PR**	**1.33**	**129**		**Pg**	**02 02 14.9**	**-1.1**
AGPR					**Sg**	**02 02 32.0**	**-1.3**
AGPR				IAML		02 02 34.3	
	comp=N,807nm,1.2s						
AGPR				IAML		02 02 35.1	
	comp=E,1μm,0.8s						
AGPR	**Aguadilla, PR**	**1.33**	**129**	⇑*e*Pg	**Pb**	**02 02 15.8**	**0.0**
AGPR				⇑*e*Sg	**Sb**	**02 02 33.3**	**+0.2**
AGPR				IAML		02 02 38.3	
	comp=N,584nm,0.2s						
AGPR	**Aguadilla, PR**	**1.33**	**129**	⇓*e*P	**Pb**	**02 02 16.0**	**+0.2**
AGPR	**Aguadilla, PR**	**1.33**	**129**	*e*S	**Sg**	**02 02 32.8**	**-0.5**
AGPR	**Aguadilla, PR**	**1.33**	**129**	*i* P		02 02 15.2	
AGPR				*e*S		02 02 32.7	
AGPR				IAML		02 02 39.1	
	comp=Z,446nm,0.2s						
PRSN	**Puerto Rico Se**	**1.48**	**137**		**Pn**	**02 02 17.3**	**-0.3**
PRSN					**Sg**	**02 02 37.3**	**-0.7**
PRSN				IAML		02 02 42.1	
	comp=E,924nm,0.6s						
PRSN				IAML		02 02 43.0	
	comp=N,1μm,0.3s						
PRSN	**Puerto Rico Se**	**1.48**	**137**	⇑*e*P	**Pn**	**02 02 17.4**	**-0.3**
PRSN	**Puerto Rico Se**	**1.48**	**137**	*e*S	**Sn**	**02 02 38.5**	**+1.3**
LSP	**Las Mesas**	**1.55**	**137**		**Pb**	**02 02 19.3**	**-0.2**
LSP					**Sn**	**02 02 39.6**	**+0.7**
LSP	**Las Mesas**	**1.55**	**137**	⇑*e*P	**Pb**	**02 02 19.3**	**-0.2**
LSP	**Las Mesas**	**1.55**	**137**	*e*S	**Sn**	**02 02 39.6**	**+0.7**
NADR	**Nagua**	**1.56**	**272**	*e*Pg	**Pg**	**02 02 20.9**	**+0.5**
NADR				IAML		02 02 46.3	
	comp=N,4μm,0.5s						
CRPR	**Cabo Rojo, PR**	**1.66**	**141**		**Pb**	**02 02 21.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.66**	**141**		**Sn**	**02 02 41.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.66**	**141**	IAML		02 02 44.5	
	comp=E,341nm,0.6s						
CRPR				IAML		02 02 55.4	
	comp=N,306nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.66**	**141**	⇓*e*Pg	**Pg**	**02 02 21.5**	**-0.7**
CRPR				⇑*e*Sg	**Sn**	**02 02 42.6**	**+0.9**
CRPR				IAML		02 02 55.1	
	comp=N,391nm,0.9s						
CRPR	**Cabo Rojo, PR**	**1.66**	**141**	⇓*e*P	**Pg**	**02 02 21.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.66**	**141**	*e*S	**Sn**	**02 02 41.2**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.66**	**141**	*i* P		02 02 21.6	
CRPR				*e*S		02 02 41.1	
CRPR				IAML		02 02 44.7	
	comp=Z,895nm,1.1s						
AOPR	**Arecibo Observ**	**1.67**	**125**		**Pn**	**02 02 20.8**	**+0.5**
AOPR					**Sn**	**02 02 40.0**	**-2.1**
AOPR				IAML		02 02 43.4	
	comp=N,772nm,0.6s						
AOPR				IAML		02 02 48.6	
	comp=E,1μm,0.4s						
AOPR	**Arecibo Observ**	**1.67**	**125**	⇓*e*Pg	**Pn**	**02 02 20.0**	**-0.3**
AOPR				⇓*e*Sg	**Sn**	**02 02 42.8**	**+0.6**
AOPR				IAML		02 02 51.8	
	comp=N,656nm,0.5s						
AOPR	**Arecibo Observ**	**1.67**	**125**	⇑*e*P	**Pn**	**02 02 20.2**	**-0.1**
AOPR	**Arecibo Observ**	**1.67**	**125**	*e*S	**Sn**	**02 02 41.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.73**	**140**		**Pn**	**02 02 21.3**	**+0.3**
MLPR					**Sn**	**02 02 41.8**	**-1.5**
MLPR				IAML		02 02 45.5	
	comp=E,589nm,0.8s						
MLPR	**Magueyes Islan**	**1.73**	**140**	⇓*e*Pg	**Pn**	**02 02 21.4**	**+0.3**
MLPR				⇑*e*Sg	**Sn**	**02 02 43.1**	**-0.3**
MLPR				IAML		02 02 48.7	
	comp=N,371nm,0.5s						
MLPR	**Magueyes Islan**	**1.73**	**140**	⇓*e*P	**Pn**	**02 02 21.5**	**+0.5**
MLPR	**Magueyes Islan**	**1.73**	**140**	*e*S	**Sn**	**02 02 43.0**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.75**	**126**		**Pn**	**02 02 21.9**	**+0.5**
UUPR					**Sn**	**02 02 42.7**	**-1.4**
UUPR	**Utuado, UPR, P**	**1.75**	**126**	⇑*e*P	**Pn**	**02 02 21.5**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.75**	**126**	*e*S	**Sn**	**02 02 42.9**	**-1.2**
EMPR	**Esperanza - Ma**	**1.79**	**117**		**Pn**	**02 02 22.3**	**+0.4**
EMPR					**Sn**	**02 02 43.0**	**-1.9**
EMPR				IAML		02 02 52.5	
	comp=E,830nm,0.5s						
EMPR				IAML		02 02 55.1	
	comp=N,679nm,0.8s						
EMPR	**Esperanza - Ma**	**1.79**	**117**	⇓*e*P	**Pn**	**02 02 22.4**	**+0.5**
EMPR	**Esperanza - Ma**	**1.79**	**117**	*e*S	**Sn**	**02 02 44.3**	**-0.6**
SDD	**Santo Domingo**	**1.82**	**243**		**Pg**	**02 02 25.3**	**-0.2**
SDD					**Sg**	**02 02 48.6**	**-0.5**
SDD	**Santo Domingo**	**1.82**	**243**	⇓*e*Pg	**Pg**	**02 02 25.6**	**+0.2**
SDD				⇓*e*Sg	**Sg**	**02 02 50.1**	**+0.9**
SDD				IAML		02 02 56.6	
	comp=N,111nm,0.7s						
SDD	**Santo Domingo**	**1.82**	**243**	⇓*e*P	**Pg**	**02 02 25.6**	**+0.2**
SDD	**Santo Domingo**	**1.82**	**243**	*e*S	**Sg**	**02 02 50.2**	**+1.1**
SDD	**Santo Domingo**	**1.82**	**243**	*i* P		02 02 25.6	
SDD				*e*S		02 02 50.2	
GBPR	**Guanica, Bosqu**	**1.83**	**136**		**Pb**	**02 02 24.2**	**0.0**
GBPR					**Sb**	**02 02 47.7**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.83**	**136**	⇓*e*P	**Pb**	**02 02 24.2**	**0.0**
GBPR	**Guanica, Bosqu**	**1.83**	**136**	*e*S	**Sb**	**02 02 47.7**	**+0.3**
CELP	**Cerrillos**	**1.97**	**128**		**Pn**	**02 02 24.8**	**+0.5**
CELP					**Sn**	**02 02 47.4**	**-2.0**
CELP				IAML		02 02 50.6	
	comp=E,420nm,1.1s						
CELP				IAML		02 02 54.5	
	comp=N,447nm,0.5s						
CELP	**Cerrillos**	**1.97**	**128**	⇓*e*Pg	**Pb**	**02 02 25.5**	**-1.2**
CELP				⇑*e*Sg	**Sn**	**02 02 48.9**	**-0.5**
CELP				IAML		02 02 54.3	
	comp=N,424nm,0.4s						
CELP	**Cerrillos**	**1.97**	**128**	⇓*e*P	**Pn**	**02 02 24.4**	**+0.1**
CELP	**Cerrillos**	**1.97**	**128**	*e*S	**Sn**	**02 02 48.8**	**-0.6**
OBIP	**Obispado Ponce**	**1.97**	**129**		**Pn**	**02 02 24.2**	**-0.2**
OBIP					**Sn**	**02 02 47.6**	**-1.7**
OBIP				IAML		02 02 55.0	
	comp=E,368nm,0.8s						
OBIP				IAML		02 02 56.2	
	comp=N,399nm,0.8s						
OBIP	**Obispado Ponce**	**1.97**	**129**	⇓*e*P	**Pn**	**02 02 24.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.97**	**129**	*e*S	**Sn**	**02 02 47.9**	**-1.5**
ECPR	**Experimental S**	**2.00**	**119**	⇑*e*P	**Pn**	**02 02 24.6**	**-0.2**
ECPR	**Experimental S**	**2.00**	**119**	*e*S	**Sn**	**02 02 48.9**	**-1.3**
BANI	**BANI**	**2.23**	**246**		**Pg**	**02 02 31.9**	**-1.3**
BANI				IAML		02 03 06.4	
	comp=E,550nm,0.7s						
GCPR	**Guaynabo City**	**2.24**	**116**		**Pn**	**02 02 27.9**	**-0.2**
GCPR					**Sn**	**02 02 53.6**	**-2.5**
GCPR	**Guaynabo City**	**2.24**	**116**	⇓*e*P	**Pn**	**02 02 28.0**	**-0.2**
GCPR	**Guaynabo City**	**2.24**	**116**	*e*S	**Sn**	**02 02 53.9**	**-2.2**
SJG	**San Juan**	**2.28**	**121**		**Pn**	**02 02 28.4**	**-0.3**
SJG				IAML		02 03 04.6	
	comp=E,285nm,0.7s						
SJG				IAML		02 03 05.9	
	comp=E,362nm,0.6s						
SJG	**San Juan**	**2.28**	**121**	Pn	**Pn**	**02 02 28.5**	**-0.1**
	comp=E,13nm,0.3s,baz=305,slow=13,SNR=40						
SJG				Sn	**Sn**	**02 02 54.8**	**-2.2**
	comp=E,23nm,0.3s,baz=298,slow=19,SNR=13						
SJG				LR	LR	02 03 40.7	
	comp=E,113nm,19.7s,baz=330,slow=48						
	comp=E,27nm,0.3s						
SJG	**San Juan**	**2.28**	**121**	⇑*e*P	**Pn**	**02 02 28.5**	**-0.1**
SJG	**San Juan**	**2.28**	**121**	*e*S	**Sn**	**02 02 54.2**	**-2.9**
SJG	**San Juan**	**2.28**	**121**	*i* P		02 02 29.4	
SJG				*e*S		02 02 55.4	
SJG				IAML		02 03 10.3	
	comp=Z,173nm,0.5s						
SC01	**Santiago de lo**	**2.38**	**273**		**Pg**	**02 02 35.2**	**-0.9**
SC01					**Sb**	**02 03 04.0**	**+0.4**
SC01	**Santiago de lo**	**2.38**	**273**	⇑*e*P	**Pg**	**02 02 35.5**	**-0.6**
SC01	**Santiago de lo**	**2.38**	**273**	*e*S	**Sg**	**02 03 05.5**	**-1.7**
SC01	**Santiago de lo**	**2.38**	**273**	*i* P		02 02 35.7	
SC01				IAML		02 03 25.4	
	comp=Z,397nm,0.6s						
IGPR	**InterUniversit**	**2.40**	**124**		**Pn**	**02 02 30.4**	**+0.2**
IGPR					**Sn**	**02 02 57.2**	**-2.7**
IGPR				IAML		02 03 05.5	
	comp=E,328nm,0.3s						
IGPR				IAML		02 03 06.1	
	comp=N,308nm,0.2s						
IGPR	**InterUniversit**	**2.40**	**124**	⇑*e*P	**Pn**	**02 02 30.9**	**+0.7**
IGPR	**InterUniversit**	**2.40**	**124**	*e*S	**Sn**	**02 02 57.9**	**-2.0**
PDPR	**Patillas Dam,**	**2.43**	**121**		**Pn**	**02 02 31.0**	**+0.2**
PDPR	**Patillas Dam,**	**2.43**	**121**	⇑*e*P	**Pn**	**02 02 32.0**	**+1.3**
PDPR	**Patillas Dam,**	**2.43**	**121**	*e*S	**Sn**	**02 02 58.8**	**-2.1**
HUMP	**Col San Antoni**	**2.51**	**117**		**Pn**	**02 02 32.2**	**+0.4**
HUMP	**Col San Antoni**	**2.51**	**117**		**Sn**	**02 03 00.4**	**-2.4**
HUMP	**Col San Antoni**	**2.51**	**117**	IAML		02 03 09.3	
	comp=E,180nm,0.6s						
HUMP				IAML		02 03 12.3	
	comp=N,143nm,0.7s						
HUMP	**Col San Antoni**	**2.51**	**117**	⇓*e*P	**Pn**	**02 02 32.3**	**+0.4**
HUMP	**Col San Antoni**	**2.51**	**117**	*e*S	**Sn**	**02 03 00.4**	**-2.4**
SDDR	**Presa de Saban**	**2.93**	**264**		**Pb**	**02 02 41.0**	**-2.1**
SDDR	**Presa de Saban**	**2.93**	**264**	⇓*e*P	**Pb**	**02 02 41.5**	**-1.7**
SDDR	**Presa de Saban**	**2.93**	**264**	*e*S	**Sb**	**02 03 18.4**	**-0.9**
SDDR	**Presa de Saban**	**2.93**	**264**	*i* P		02 02 41.4	
SDDR				IAML		02 03 32.7	
	comp=Z,229nm,1.1s						
PODR	**Polo**	**3.13**	**249**	*i* P		02 02 44.5	
LONE3	**El Aguacate, B**	**3.16**	**258**	*i* P		02 02 44.4	
LONE3				IAML		02 03 36.5	
	comp=Z,133nm,1.0s						
LODU1	**El Espartillar**	**3.24**	**253**	*i* P		02 02 46.5	
LODU1				IAML		02 03 38.2	
	comp=Z,256nm,2.0s						
LOBH	**Bahia de las A**	**3.56**	**247**	*i* P		02 02 50.6	
LOBH				IAML		02 03 52.8	
	comp=Z,105nm,0.7s						
MASC	**Masc**	**5.74**	**280**	*i* P	**Pn**	**02 03 15.0**	**-1.3**
MASC				*i* S	**Sn**	**02 04 21.4**	**-1.1**
MASC				IAML		02 04 54.0	
	comp=N,24nm,0.8s						
MASC				IAML		02 04 55.5	
	comp=E,24nm,0.9s						
QMBU	**Quimbuelo**	**6.29**	**279**	*i* P	**Pn**	**02 03 22.8**	**-0.9**
QMBU				*i* S	**Sn**	**02 04 32.4**	**-3.6**
QMBU				IAML		02 04 43.0	
	comp=N,11nm,1.0s						
QMBU				IAML		02 04 51.5	
	comp=E,13nm,0.5s						
GTBY	**Guantanamo Bay**	**6.54**	**277**	*i* P	**Pn**	**02 03 27.3**	**+0.1**
GTBY				*i* S	**Sn**	**02 04 42.2**	**0.0**
GTBY				*e*S	**Sn**	**02 04 42.2**	**0.0**
RCC	**Rio Carpintero**	**7.09**	**277**	*i* P	**Pn**	**02 03 33.1**	**-1.7**
RCC				*i* S	**Sn**	**02 04 52.6**	**-3.2**
PINC	**Pinares de May**	**7.23**	**281**	*i* P	**Pn**	**02 03 34.6**	**-2.2**
PINC				*i* S	**Sn**	**02 04 55.5**	**-3.8**
PCRV	**Puerto La Cruz**	**9.71**	**159**	Pn	**Pn**	**02 04 12.1**	**+1.3**
	comp=E,0.4nm,0.3s,baz=322,slow=12,SNR=3.6						
PCRV				Sn	**Sn**	**02 05 54.6**	**-5.8**
	comp=E,0.2nm,0.3s,baz=47,slow=9.0,SNR=1.3						
	comp=E,6.6nm,1.0s						
BAUV	**El Baul**	**10.30**	**179**		**Pn**	**02 04 20.3**	**+1.4**
SDV	**Santo Domingo**	**10.62**	**193**	Pn	**Pn**	**02 04 25.2**	**+1.7**
	comp=E,0.7nm,0.3s,baz=87,slow=11,SNR=4.6						
SDV				Sn	**Sn**	**02 06 15.3**	**-7.6**
	comp=E,0.6nm,0.3s,baz=354,slow=21,SNR=1.9						
	comp=E,1.8nm,0.4s						
RUSC	**La Rusia**	**14.15**	**200**		**Pn**	**02 05 13.2**	**+1.1**
BOAV	**Boa Vista**	**18.41**	**155**	P	**Pn**	**02 06 06.3**	**-0.2**
BOAV				IAmb	IAmb	02 06 13.4	
	comp=Z,8.4nm,1.4s						
TEIG	**Tepich**	**18.91**	**276**	P	**Pn**	**02 06 13.9**	**+1.3**
TEIG				IAmb	IAmb	02 06 40.1	
	comp=Z,32nm,1.5s						
T59A	**Double "B" Far**	**19.41**	**337**	P	**Pn**	**02 06 20.6**	**+2.2**
T59A				IAmb	IAmb	02 06 40.2	
	comp=Z,9.5nm,1.1s						
CMIG	**Matias Romero**	**25.43**	**269**	P	**P**	**02 07 21.5**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=35,slow=16,SNR=4.2						
	comp=Z,1.2nm,0.5s						
TXAR	**Lajitas Array**	**33.71**	**294**	P	**P**	**02 08 33.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=108,slow=8.4,SNR=9.3						
TXAR				LR	LR	02 27 18.3	
	comp=Z,15nm,18.1s,baz=226,slow=45						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**41.89**	**313**	P	**P**	**02 09 42.6**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=107,slow=10,SNR=1.9						
	comp=Z,0.1nm,0.5s						
YKA	**Yellowknife Ar**	**53.60**	**335**	P	**P**	**02 11 11.7**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=113,slow=7.1,SNR=5.3						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.02**	**84**	P	**P**	**02 12 46.7**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=295,slow=6.2,SNR=1.7						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**67.89**	**333**	P	**P**	**02 12 49.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=83,slow=6.3,SNR=5.7						
	comp=Z,0.2nm,0.6s						

---

*KRSC **05** 02:12:35.5±1.4, 48°.14N×156°.40E, h36km±28km, Ml3.8*
*IDC **05** 02:12:39.2±4.6, 48°.37N×155°.00E, h57km±38km, mb3.5/6, mbtmp3.7/7, ML2.5/1, MS2.8/4, Error ellipse: s-maj=48.4km s-min=24.9km az=158.0*
ISC 05 02:12:36.4±1.6, 48°.2N±0°.2×155°.2E±0°.2, h35km, n23, σ1s49/19, mb3.9/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.55**	**14**	*e*P	**Pn**	**02 13 16.6**	**+1.4**
PAU	**Pauzhetka**	**3.43**	**17**	*e*P	**Pn**	**02 13 29.4**	**+2.1**
KDTR	**Khodutka, Kamc**	**4.06**	**26**	*e*P	**Pn**	**02 13 36.4**	**+0.5**
KDTR				*e*S	**Sn**	**02 14 21.2**	**-0.9**
GRL	**Gorelyy**	**4.72**	**22**	*e*P	**Pn**	**02 13 45.4**	**+0.2**
RUS	**Russkaya**	**4.74**	**26**	*e*P	**Pn**	**02 13 45.2**	**0.0**
RUS				*e*S	**Sn**	**02 14 37.7**	**-1.2**
PETK	**Petropavlovsk-**	**5.16**	**17**	P	**Pn**	**02 13 52.2**	**+1.2**
	0.9nm,0.3s,baz=203,slow=12,SNR=18						
PETK				S	Sn	02 15 02.0	+13
	1.6nm,0.6s,baz=133,slow=13,SNR=0.9						
PETK				LR	LR	02 16 28.2	
	comp=Z,70nm,19.0s,baz=172,slow=45						
	2.4nm,0.4s						
UGLR	**Uglovaya**	**5.51**	**24**	*e*P	**Pn**	**02 13 57.7**	**+1.7**
KOK	**Koryaka**	**5.54**	**22**	*e*P	**Pn**	**02 13 58.4**	**+2.0**
AVH	**Avacha**	**5.54**	**23**	*e*P	**Pn**	**02 13 58.2**	**+1.8**
KRX	**

mb4.8/21, Error ellipse: s-maj=10.1km s-min=8.1km az=129.0
*IDC **05** 02:20:02.4±2.6, 33°.58N×140°.83E, h72km±22km, mb3.6/13, mbtmp4.0/17, MS2.8/1, Error ellipse: s-maj=21.5km s-min=13.6km az=87.0*
ISC 05 02:19:59.0±1.0, 33°.60N±0°.04×141°.09E±0°.06, h44km±9km, n137, σ1§41/140, mb4.4/43, 9D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.05**	**355**	*i* P	**Pn**	**02 20 19.2**	**+2.4**
JHJ2	**Mitsune**	**1.18**	**246**	Pn	**Pn**	**02 20 19.7**	**+0.7**
JHJ2				Sn	**Sn**	**02 20 33.5**	**-0.3**
JHJ2	**Mitsune**	**1.18**	**246**	P	**Pn**	**02 20 19.8**	**+0.7**
JHJ2	**Mitsune**	**1.18**	**246**	⇓*i* P	**Pn**	**02 20 19.8**	**+0.7**
JHJ2				⇓S	**Sn**	**02 20 33.4**	**-0.5**
JHJ2	**Mitsune**	**1.18**	**246**	A	A	02 20 19.8	
	comp=N,40nm,0.2s,comp=E,38nm,0.5s						
JHCJ	**Hachijojimakas**	**1.21**	**244**	⇓*i* P	**Pn**	**02 20 20.0**	**+0.6**
JHCJ				⇓S	**Sn**	**02 20 33.9**	**-0.7**
JMKN	**Mikurajimanish**	**1.28**	**283**	*i* P	**Pn**	**02 20 20.7**	**+0.2**
JMKN				S	**Sn**	**02 20 36.0**	**-0.5**
BSO3	**Boso 3**	**1.29**	**338**	*i* P	**Pn**	**02 20 22.1**	**+1.7**
BSO3				*e*S	**Sn**	**02 20 38.2**	**+1.9**
JMYK	**Miyake Tsubota**	**1.36**	**290**	P	**Pn**	**02 20 21.8**	**+0.2**
JMYK				*e*S	**Sn**	**02 20 36.9**	**-1.6**
BSO4	**Boso 4**	**1.52**	**336**	*i* P	**Pn**	**02 20 25.3**	**+1.7**
JKO	**Kozu shima**	**1.73**	**290**	⇓P	**Pn**	**02 20 26.9**	**+0.3**
JKO				⇓S	**Sn**	**02 20 46.1**	**-1.3**
JTHY	**Toshimahigashi**	**1.76**	**302**	*i* P	**Pn**	**02 20 27.5**	**+0.5**
JTHY				S	**Sn**	**02 20 46.8**	**-1.4**
JIM2	**Oshima 3**	**1.77**	**309**	*i* P	**Pn**	**02 20 27.4**	**+0.1**
JIM2				S	**Sn**	**02 20 46.7**	**-1.8**
JIM2	**Oshima 3**	**1.77**	**309**	A	A	02 20 27.4	
	comp=N,13nm,0.8s,comp=E,13nm,0.4s						
JYO	**Yokosk**	**2.00**	**324**	A	A	02 20 31.1	
	comp=N,11nm,0.4s,comp=E,13nm,1.4s						
JIZS	**Izushimoda**	**2.15**	**302**	⇓P	**Pn**	**02 20 32.7**	**+0.3**
JIZS				⇓S	**Sn**	**02 20 56.5**	**-1.3**
JIZS	**Izushimoda**	**2.15**	**302**	A	A	02 20 32.7	
	comp=N,11nm,1.1s,comp=E,9.0nm,1.0s						
JHTM	**Izuhatsuma**	**2.19**	**309**	A	A	02 20 33.3	
	comp=N,9.0nm,1.5s,comp=E,11nm,0.7s						
JOD2	**Odawara 2**	**2.34**	**316**	*i* P	**Pn**	**02 20 35.5**	**+0.5**
JOD2				S	**Sn**	**02 21 01.1**	**-1.5**
JOD2	**Odawara 2**	**2.34**	**316**	A	A	02 20 35.5	
	comp=N,3.0nm,0.7s,comp=E,3.0nm,1.0s						
JSG	**Sagara**	**2.64**	**295**	Pn	**Pn**	**02 20 40.3**	**+1.2**
SHZ3	**Shizuoka 3**	**2.80**	**302**	P	**Pn**	**02 20 42.7**	**+1.3**
SHZ3				S	**Sn**	**02 21 16.1**	**+2.2**
JYN	**Shimob**	**2.83**	**313**	P	**Pn**	**02 20 42.9**	**+1.1**
JYN				*e*S	**Sn**	**02 21 14.2**	**-0.4**
JGF	**Kuroka**	**3.67**	**304**		**Pn**	**02 20 55.6**	**+2.2**
JGF	**Kuroka**	**3.67**	**304**	P	**Pn**	**02 20 55.5**	**+2.2**
MJAR	**Matsushiro Arr**	**3.77**	**322**	P	**Pn**	**02 20 56.4**	**+1.8**
	comp=E,56nm,0.3s,baz=155,slow=12,SNR=129						
MJAR				S	**Sn**	**02 21 37.6**	**-0.1**
	comp=E,106nm,0.5s,baz=102,slow=27,SNR=12						
MAJO	**Matsushiro**	**3.77**	**322**	Pn	**Pn**	**02 20 56.7**	**+2.1**
MAJO	**Matsushiro**	**3.77**	**322**	P	**Pn**	**02 20 56.8**	**+2.1**
MAJO	**Matsushiro**	**3.77**	**322**	P	**Pn**	**02 20 56.7**	**+2.1**
MJB9	**Matsu-Tunnel**	**3.77**	**322**	Pn	**Pn**	**02 20 57.5**	**+2.8**
INU	**Inuyama**	**3.79**	**298**		**Pn**	**02 20 56.1**	**+1.2**
INU	**Inuyama**	**3.79**	**298**	P	**Pn**	**02 20 56.8**	**+1.9**
JMM	**Marumori**	**4.26**	**357**		**Pn**	**02 21 02.6**	**+1.2**
JMM	**Marumori**	**4.26**	**357**	P	**Pn**	**02 21 02.4**	**+1.0**
JSD	**Sado**	**4.99**	**333**		**Pn**	**02 21 11.7**	**+0.4**
JSD	**Sado**	**4.99**	**333**	P	**Pn**	**02 21 12.4**	**+1.1**
JMN	**Monobe**	**6.02**	**273**	Pn	**Pn**	**02 21 26.7**	**+1.2**
JMN	**Monobe**	**6.02**	**273**	P	**Pn**	**02 21 27.1**	**+1.6**
JCJ	**Chichijima**	**6.55**	**171**		**Pn**	**02 21 32.2**	**-0.7**
JCJ	**Chichijima**	**6.55**	**171**	P	Pn	02 21 26.3	-6.6
	comp=E,189nm,0.3s,baz=344,slow=6.6,SNR=61						
JCJ				S	Sn	02 22 35.5	-11
	comp=E,80nm,0.3s,baz=298,slow=22,SNR=5.2						
JCJ	**Chichijima**	**6.55**	**171**	P	**Pn**	**02 21 33.2**	**+0.3**
JTM	**Tenmabayashi**	**7.17**	**360**	Pn	**Pn**	**02 21 42.0**	**+0.8**
JTM	**Tenmabayashi**	**7.17**	**360**	P	**Pn**	**02 21 41.8**	**+0.5**
ERM	**Erimo**	**8.55**	**10**	Pn	**Pn**	**02 22 01.2**	**+1.0**
ERM	**Erimo**	**8.55**	**10**	P	**Pn**	**02 22 00.5**	**+0.3**
ERM	**Erimo**	**8.55**	**10**	P	**Pn**	**02 22 01.2**	**+1.0**
JEM	**Erimo**	**8.55**	**10**	P	**Pn**	**02 22 01.4**	**+1.2**
JNU	**Nakatsue**	**8.56**	**270**	Pn	**Pn**	**02 22 00.4**	**0.0**
JNU	**Nakatsue**	**8.56**	**270**	P	**Pn**	**02 22 01.4**	**+1.0**
	comp=E,13nm,0.6s,baz=71,slow=6.5,SNR=12						
JNU	**Nakatsue**	**8.56**	**270**	P	**Pn**	**02 22 02.6**	**+2.2**
JTU	**Tsushima**	**9.75**	**279**	P	**Pn**	**02 22 18.4**	**+1.8**
NMR	**Nemuro--Hokkai**	**10.40**	**19**	*e*P	**Pn**	**02 22 23.3**	**-2.2**
ASAJ	**Asahikawa**	**10.56**	**6**	P	**Pn**	**02 22 26.7**	**-1.0**
	comp=E,12nm,0.4s,baz=231,slow=9.4,SNR=9.2						
ASAJ				S	Sn	02 24 17.1	-7.6
	comp=E,10nm,0.6s,baz=187,slow=33,SNR=2.8						
ASAJ	**Asahikawa**	**10.56**	**6**	P	**Pn**	**02 22 27.1**	**-0.6**
JKA	**Kamikawa-asahi**	**10.56**	**6**	Pn	**Pn**	**02 22 27.1**	**-0.6**
RUSJ	**Misakicho**	**10.97**	**16**	*e*P	**Pn**	**02 22 37.3**	**+4.0**
RUSJ				*e*S	**Sn**	**02 24 29.3**	**-5.3**
YUK	**Yuzh-Kuril'sk**	**11.06**	**18**	P	**Pn**	**02 22 33.0**	**-1.5**
SHO	**Shikotan**	**11.18**	**22**	P	**Pn**	**02 22 36.2**	**0.0**
KSRS	**Korea Array**	**11.40**	**293**	P	**Pn**	**02 22 41.5**	**+2.4**
	comp=E,2.4nm,0.6s,baz=106,slow=14,SNR=14						
USRK	**Ussuriysk Ar.**	**12.73**	**329**	P	**Pn**	**02 22 59.8**	**+2.5**
	comp=E,1.2nm,0.7s,baz=136,slow=13,SNR=2.5						
JOW	**Kunigami**	**12.97**	**242**	LR	LR	02 27 45.0	
	comp=E,39nm,18.1s,baz=62,slow=36						
MDJ	**Mudanjiang**	**14.15**	**324**	P	**Pn**	**02 23 17.2**	**+0.5**
MDJ				S	**Sn**	**02 25 52.2**	**0.0**
MDJ				pmax	pmax		
	comp=E,6.0nm,1.1s						
MDJ				LR	LR		
	comp=E,170nm,5.1s						
MDJ				LR	LR		
	comp=E,250nm,4.7s						
MDJ				LR	LR		
	comp=E,170nm,6.5s						
KLR	**Kul'dur**	**17.09**	**339**	P	**Pn**	**02 23 51.8**	**-2.8**
	comp=E,1.0nm,0.3s,baz=185,slow=6.3,SNR=4.8						
NJ2	**Nanjing**	**18.75**	**271**	⇓P	**P**	**02 24 14.7**	**+0.5**
NJ2				pP	**pP**	**02 24 24.8**	**+0.4**
NJ2				pmax	pmax		
	comp=E,8.0nm,0.5s						
XLT	**XiLinHaoTe**	**21.97**	**305**	*e*P	**P**	**02 24 50.1**	**+1.0**
XLT				pmax	pmax		
	comp=E,11nm,0.8s						
XLT				pmax	pmax		
	comp=E,100nm,4.3s						
HIA	**Hailar**	**22.27**	**321**	P	**P**	**02 24 53.3**	**+1.1**
HIA				pmax	pmax		
	comp=Z,15nm,0.6s						
ZEA	**Zeya**	**22.40**	**338**	*e*P	**P**	**02 24 54.2**	**+0.6**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**22.84**	**270**	P	**P**	**02 24 56.7**	**-1.7**
LYN	**LuoYang**	**23.70**	**280**	P	**P**	**02 25 13.2**	**+6.4**
LYN				pmax	pmax		
	comp=Z,20nm,0.5s						
HHC	**Hu-ho-hao-te**	**24.52**	**296**	*e*P	**P**	**02 25 14.4**	**0.0**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,80nm,4.9s						
XAN	**Xi'an**	**26.68**	**280**	P	**P**	**02 25 31.1**	**-2.8**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.79**	**115**	T	T	02 54 38.4	
	baz=306,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**26.80**	**115**	T	T	02 54 39.8	
	baz=306,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**26.81**	**115**	T	T	02 54 39.7	
	baz=306,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**27.38**	**117**	T	T	02 55 23.0	
	baz=307,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**27.38**	**117**	T	T	02 55 26.5	
	baz=307,slow=75,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**27.39**	**117**	T	T	02 55 32.5	
	baz=307,slow=75,SNR=5.7						
ULN	**Ulaanbaatar**	**29.20**	**309**	P	**P**	**02 25 56.6**	**+0.2**
ULN	**Ulaanbaatar**	**29.20**	**309**	P	**P**	**02 25 56.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**29.61**	**309**	P	**P**	**02 26 00.3**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=108,slow=8.9,SNR=22						
	comp=Z,2.7nm,0.7s						
LZH	**Lanzhou**	**30.55**	**285**	*e*P	P	02 26 17.2	+8.7
LZH				sP	sP	02 26 38.9	+14
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH	**PanZhiHua**	**34.63**	**269**	P	**P**	**02 26 45.2**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,90nm,6.9s						
KIWB	**Kanaga Island**	**35.09**	**46**	P	**P**	**02 26 47.8**	**+0.1**
GOMU	**GeErMu**	**37.77**	**287**	P	P	02 27 06.2	-5.1
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TNCH	**TengChong**	**37.88**	**268**	P	**P**	**02 27 11.7**	**-0.4**
TNCH				pP	pP	02 27 25.3	+1.8
TNCH				pmax	pmax		
	comp=Z,11nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.48**	**259**	P	**P**	**02 27 32.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=61,slow=8.5,SNR=1.1						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**44.09**	**315**	P	**P**	**02 28 01.8**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=106,slow=7.4,SNR=6.0						
ZALV				PcP	**PcP**	**02 29 46.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=89,slow=3.4,SNR=3.7						
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**45.79**	**305**	P	**P**	**02 28 15.6**	**-0.7**
MKAR	**Makanchi Array**	**45.79**	**305**	P	**P**	**02 28 15.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=85,slow=9.9,SNR=31						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**45.79**	**305**	P	**P**	**02 28 15.6**	**-0.7**
MAKZ	**Makanchi**	**46.00**	**305**	P	**P**	**02 28 17.2**	**-0.8**
MAKZ	**Makanchi**	**46.00**	**305**	P	**P**	**02 28 17.2**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MAKZ	**Makanchi**	**46.00**	**305**	P	**P**	**02 28 17.2**	**-0.8**
KURK	**Kurchatov**	**47.90**	**311**	P	**P**	**02 28 32.0**	**-0.5**
KURK	**Kurchatov**	**47.90**	**311**	P	**P**	**02 28 32.1**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**47.90**	**311**	P	**P**	**02 28 31.5**	**-1.1**
KURBB	**Kurchatov Arra**	**47.96**	**310**	P	**P**	**02 28 32.3**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=90,slow=7.7,SNR=46						
	comp=Z,1.7nm,0.6s						
WUS	**Wushi**	**48.83**	**298**	P	**P**	**02 28 39.7**	**-0.4**
WUS				IAmb	IAmb	02 28 40.1	
	comp=Z,15nm,1.6s						
WUS	**Wushi**	**48.83**	**298**	P	**P**	**02 28 39.4**	**-0.7**
TARG	**Taragay, Kyrgy**	**49.75**	**299**	P	**P**	**02 28 47.3**	**-0.2**
TARG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
E22K	**Anaktuvuk Pass**	**50.77**	**26**	P	**P**	**02 28 55.9**	**+1.5**
SUA	**Susitna One**	**50.78**	**35**	P	**P**	**02 28 55.2**	**+0.6**
SUA				IAmb	IAmb	02 28 55.3	
	comp=Z,8.5nm,1.4s						
KSH	**Kashi**	**51.63**	**296**	P	**P**	**02 29 04.0**	**+2.7**
KSH				pP	pwP	02 29 18.7	+2.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AAK	**Ala-Archa**	**51.95**	**301**	P	**P**	**02 29 03.2**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,2.5s						
ARLS	**Aral**	**52.26**	**300**	P	**P**	**02 29 05.7**	**-0.3**
ARLS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ILAR	**Eielson Array**	**52.55**	**31**	P	**P**	**02 29 09.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=274,slow=8.4,SNR=5.9						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**52.73**	**314**	P	**P**	**02 29 07.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=109,slow=7.3,SNR=3.8						
	comp=Z,0.5nm,0.3s						
ARSB	**Arslanbob**	**53.37**	**299**	P	**P**	**02 29 14.3**	**+0.1**
ARSB				IAmb	IAmb	02 29 15.3	
	comp=Z,11nm,1.5s						
ARSB	**Arslanbob**	**53.37**	**299**	P	**P**	**02 29 14.3**	**+0.1**
ARSB				pmax	pmax		
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**53.45**	**188**	P	**P**	**02 29 14.4**	**-0.3**
BMAR	**Burnt Mountain**	**53.47**	**28**	P	**P**	**02 29 15.2**	**+0.7**
WRAB	**Tennant Creek**	**53.62**	**188**	P	**P**	**02 29 15.6**	**-0.4**
WRAB	**Tennant Creek**	**53.62**	**188**	P	**P**	**02 29 15.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s						
WB2	**Warramunga Arr**	**53.63**	**188**	P	**P**	**02 29 15.7**	**-0.4**
WRA	**Warramunga Arr**	**53.63**	**188**	P	**P**	**02 29 15.6**	**-0.5**
	comp=Z,20nm,0.5s,baz=3.7,slow=7.4,SNR=275						
ARK	**Arkit**	**53.98**	**300**	P	**P**	**02 29 17.9**	**-0.7**
ARK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HMT	**Hamilton**	**54.00**	**36**	P	**P**	**02 29 16.6**	**-1.8**
HMT				IAmb	IAmb	02 29 17.3	
	comp=Z,25nm,1.3s						
TRKS	**Terek-Say**	**54.64**	**300**	P	**P**	**02 29 23.5**	**0.0**
TRKS				pmax	pmax		
	comp=Z,5.0nm,1.8s						
KKAR	**Karatay Array**	**54.67**	**302**	P	**P**	**02 29 23.0**	**-0.5**
KKAR	**Karatay Array**	**54.67**	**302**	P	**P**	**02 29 23.1**	**-0.5**
KKAR	**Karatay Array**	**54.67**	**302**	P	**P**	**02 29 23.0**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CHGR	**Chuyangaron**	**56.95**	**297**	P	**P**	**02 29 39.5**	**-0.5**
CHGR				IAmb	IAmb	02 29 39.8	
	comp=Z,14nm,0.7s						
CHGR	**Chuyangaron**	**56.95**	**297**	P	**P**	**02 29 39.5**	**-0.5**
CHGR				pmax	pmax		
	comp=Z,14nm,0.7s						
SIMJ	**Simiganj**	**57.06**	**297**	P	**P**	**02 29 39.8**	**-1.1**
SIMJ				IAmb	IAmb	02 29 40.6	
	comp=Z,5.0nm,0.9s						
SIMJ	**Simiganj**	**57.06**	**297**	P	**P**	**02 29 39.9**	**-1.0**
AS31	**Alice Springs**	**57.36**	**188**	P	**P**	**02 29 42.6**	**-0.2**
AS31				IAmb	IAmb	02 29 44.2	
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**57.36**	**188**	P	**P**	**02 29 42.4**	**-0.4**
	comp=Z,3.2nm,0.4s,baz=4.8,slow=7.1,SNR=79						
ASAR				PcP	**PcP**	**02 30 36.8**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=8.3,slow=5.2,SNR=1.4						
	comp=Z,3.2nm,0.4s						
ARTI	**Arti**	**58.89**	**320**	P	**P**	**02 29 52.3**	**-0.9**
EIDS	**Eidsvold**	**59.41**	**169**	P	**P**	**02 29 57.0**	**0.0**
ABKAR	**Akbulak array**	**59.98**	**312**	P	**P**	**02 29 60.0**	**-0.8**
ABKAR				IAmb	IAmb	02 30 05.4	
	comp=Z,6.0nm,1.6s						
STKA	**Stephens Creek**	**65.13**	**180**	P	**P**	**02 30 35.2**	**0.0**
	comp=Z,2.6nm,0.8s,baz=342,slow=11,SNR=3.8						
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**66.91**	**29**	P	**P**	**02 30 47.3**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=296,slow=6.7,SNR=5.7						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**67.11**	**340**	P	**P**	**02 30 47.4**	**-0.1**
	comp=Z,8.9nm,1.2s,baz=63,slow=5.2,SNR=1.6						
	comp=Z,8.9nm,1.2s						
TOO	**Toolangi**	**70.93**	**176**	P	**P**	**02 31 11.2**	**-0.3**
TOO				IAmb	IAmb	02 31 11.9	
	comp=Z,32nm,1.9s						
TOO	**Toolangi**	**70.93**	**176**	P	**P**	**02 31 11.2**	**-0.3**
TOO				pmax	pmax		
	comp=Z,32nm,2.0s						
PDAR	**Pinedale Array**	**80.27**	**45**	P	**P**	**02 32 07.1**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=310,slow=5.3,SNR=2.0						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**92.42**	**52**	P	**P**	**02 33 06.6**	**+1.1**
	comp=Z,0.2nm,0.8s,baz=289,slow=2.7,SNR=6.4						
	comp=Z,0.2nm,0.8s						

STR 05 02:25:13.9±0.3, 45°N±2°×°±°, h5km, MLv1.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=49.9, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.14**	**149**	Pg	Pg	02 25 17.2	+0.4
PZZ	**Stroppo**	**0.14**	**149**	Sg	Sg	02 25 19.7	+1.0
SURF	**Saint Ours**	**0.21**	**225**	Pg	Pg	02 25 18.2	+0.1
SURF				Sg	Sg	02 25 21.5	+0.7
JAUF	**Jausiers**	**0.27**	**224**	Pg	Pg	02 25 19.4	+0.1
JAUF				Sg	Sg	02 25 23.2	+0.2
BHB	**Bricherasio**	**0.28**	**39**	Pg	Pg	02 25 19.6	+0.3
BHB	**Bricherasio**	**0.28**	**39**	Sg	Sg	02 25 23.5	+0.5
CREF	**Crivoux**	**0.29**	**255**	Pg	Pg	02 25 19.5	-0.1
CREF				Sg	Sg	02 25 23.9	+0.4
RRL	**Rocca Remolon**	**0.33**	**331**	Pg	Pg	02 25 20.5	0.0
RRL	**Rocca Remolon**	**0.33**	**331**	Sg	Sg	02 25 25.3	+0.4
OGAG	**Argentiere**	**0.38**	**243**	Pg	Pg	02 25 21.2	-0.1
OGAG				Sg	Sg	02 25 26.3	0.0
STV	**Sant Anna di V**	**0.44**	**150**	Pg	Pg	02 25 22.4	-0.1
STV	**Sant Anna di V**	**0.44**	**150**	Sg	Sg	02 25 28.4	+0.2
ISO	**Isola**	**0.45**	**177**	Pg	Pg	02 25 22.7	+0.2
ISO				Sg	Sg	02 25 28.4	+0.1
ENR	**Entracque**	**0.49**	**144**	Pg	Pg	02 25 23.4	0.0
RSP	**Reno Superiore**	**0.55**	**19**	Pg	Pg	02 25 25.0	+0.5
RSP	**Reno Superiore**	**0.55**	**19**	Sg	Sg	02 25 31.8	+0.1
SPIF	**crte de Spivo**	**0.59**	**164**	Pg	Pg	02 25 25.5	+0.1
SPIF				Sg	Sg	02 25 33.7	+0.6
PIAF	**les Granges de**	**0.67**	**140**	Pg	Pg	02 25 26.6	-0.2
PIAF				Sg	Sg	02 25 35.1	-0.3
GBOS	**Grotte di Boss**	**0.70**	**123**	Sg	Sg	02 25 36.2	-0.4
GBOS	**Grotte di Boss**	**0.70**	**123**	Pg	Pg	02 25 27.0	-0.4
TURF	**col de Turini**	**0.71**	**157**	Pg	Pg	02 25 27.6	+0.1
TURF				Sg	Sg	02 25 36.9	+0.3
SAOF	**Saorge**	**0.75**	**149**	Pg	Pg	02 25 28.3	0.0
SAOF				Sg	Sg	02 25 37.9	-0.1
ORIF	**Oris-en-Rattie**	**0.86**	**290**	Pg	Pg	02 25 29.7	-0.7

*NAO **05** 02:25:45.8, 37°.10N×23°.83E, h10km, mb5.7*
*BEO **05** 02:26:04.2±0.8, 38°.56N×20°.71E, h11km±9km, ML5.3/4*
*TIR **05** 02:26:05.3, 38°.79N×20°.42E, h31km, Md4.4/3, Ml5.6/14*
*GII **05** 02:26:05.2±0.0, 39°.02N×20°.56E, h10km, Md5.3/1, confirmed*
*BJI **05** 02:26:05.3, 38°.96N×20°.71E, h7km, mB5.2/41, mb4.8/75, Ms5.5/79, Ms7 5.2/76*
*IDC **05** 02:26:06.9±0.4, 39°.03N×20°.72E, h0km, mb4.9/31, mbtmp4.9/42, ML4.7/9, MS5.0/93, Error ellipse: s-maj=9.5km s-min=7.9km az=88.0*
*SKO **05** 02:26:08.0, 38°.85N×20°.55E, h0km, ML5.4*
*PDG **05** 02:26:08.2±0.4, 39°.02N×20°.57E, h8km±1km, MD5.4/12, ML5.3/13, Error ellipse: s-maj=2.0km s-min=1.1km az=90.0*
*MOS **05** 02:26:08.5±1.2, 39°.03N×20°.58E, h19km, mb5.4/62, MS5.2/29, Error ellipse: s-maj=4.0km s-min=2.3km az=75.1*
*THE **05** 02:26:08.9, 38°.97N×20°.57E, h15km, ML5.3/19, Error ellipse: s-maj=1.1km s-min=0.4km az=255.0*
*NEIC **05** 02:26:09.6, 39°.05N×20°.55E, h12km, Moment Tensor Solution. Duration: 2§5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.02; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.13; $M_{r\theta}$0.07; $M_{\theta\phi}$1.36; $M_{\phi r}$0.23; Fault plane solution: $M_0$1.39000×10^{17} NP1:ϕ_s92.87000°, δ80.41000°, λ2.58000°. NP2:ϕ_s2.44000°, δ87.45000°, λ170.40000°. Principal axes: T 1.3905, Plg9.0000°, Azm317.0000°; N -0.0044, Plg80.0000°, Azm168.0000°; P -1.3861, Plg5.0000°, Azm48.0000°;*
*NEIC **05** 02:26:09.8±1.4, 39°.05N±0°.05×20°.59E±0°.06, h8km±3km, mb5.3/436, Mwr5.4/18, Mww5.4/60 Error ellipse: s-maj=7.2km s-min=6.0km az=222.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26; $M_{\theta\theta}$0.90; $M_{\phi\phi}$-0.64; $M_{r\theta}$-0.15; $M_{\theta\phi}$1.20; $M_{\phi r}$0.75; Fault plane solution: $M_0$1.63000×10^{17} NP1:ϕ_s103.00000°, δ65.02000°, λ-14.80000°. NP2:ϕ_s199.37000°, δ76.61000°, λ-154.28000°. Principal axes: T 1.5793, Plg8.0000°, Azm329.0000°; N 0.0949, Plg61.0000°, Azm225.0000°; P -1.6742, Plg28.0000°, Azm63.0000°;*
*MED_RC **05** 02:26:09.0±0.1, 38°.92N×20°.60E, h18km, MW5.5/67, Moment Tensor Solution. Body waves: s6,c6;Mantle waves: s67,c147; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.26±.05; $M_{\theta\theta}$0.09±.04; $M_{\phi\phi}$-0.35±.03; $M_{r\theta}$-0.06±.08; $M_{\theta\phi}$2.10±.04; $M_{\phi r}$-0.17±.08; Best double couple: $M_0$2.12000×10^{17} NP1:ϕ_s273.00000°, δ85.00000°, λ2.00000°. NP2:ϕ_s183.00000°, δ88.00000°, λ175.00000°. Principal axes: T 2.0000, Plg5.0000°, Azm138.0000°; N 0.2500, Plg84.0000°, Azm338.0000°; P -2.2500, Plg2.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*UPSL **05** 02:26:09.4, 38°.98N×20°.59E, h13km, Mw5.2, Moment Tensor Solution. s7 Moment tensor: M_{rr}0.78; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$0.07; $M_{r\theta}$-1.18; $M_{\theta\phi}$7.93; $M_{\phi r}$-0.95; Fault plane solution: NP1:ϕ_s178.00000°, δ81.00000°, λ172.00000°. NP2:ϕ_s269.00000°, δ82.00000°, λ9.00000°.*
*MCSM **05** 02:26:09.5±0.3, 39°N±2°×2°1E±°, h16km±2km, mb5.2, mB5.5, MLv5.6, Mw(mB)4.9*
*ATH **05** 02:26:09.4, 38°.98N×20°.59E, h13km, Mw5.3, Moment Tensor Solution. s10 Moment tensor: M_{rr}0.06; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-0.08; $M_{r\theta

DMLN	**Damoulianata-K**	**0.78 195**	P	**Pg**	**02 26 23.6**	**-0.8**
DMLN			S	**Sg**	**02 26 33.6**	**-1.0**
VLS	**Valsamata**	**0.81 183**	P	**Pg**	**02 26 24.1**	**-1.0**
VLS	**Valsamata**	**0.81 183**	P	**Pg**	**02 26 24.4**	**-0.7**
VLS			S	**Sg**	**02 26 35.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.88 183**	P	**Pg**	**02 26 25.1**	**-1.2**
PSDA			S	**Sg**	**02 26 37.6**	**-0.1**
	365µm,0.6s					
PSDA	**Pessada-Kefalo**	**0.88 183**	P	**Pg**	**02 26 24.9**	**-1.4**
PSDA			S	**Sg**	**02 26 37.1**	**-0.6**
EVR	**Evrytania**	**0.92 94**	P	**Pg**	**02 26 26.5**	**-0.6**
EVR			S	**Sg**	**02 26 39.1**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.92 173**	P	**Pg**	**02 26 25.1**	**-2.0**
RTZL			S	**Sg**	**02 26 39.2**	**+0.1**
KEK	**Kerkira**	**0.97 318**		**Pb**	**02 26 28.3**	**+0.1**
KEK			Sn	**Sb**	**02 26 41.5**	**+0.6**
KEK	**Kerkira**	**0.97 318**	⇑P	**Pg**	**02 26 27.5**	**-0.6**
KEK	**Kerkira**	**0.97 318**	P	**Pg**	**02 26 27.0**	**-1.1**
SRN	**Sarande**	**1.02 331**	P	**Pb**	**02 26 27.2**	**-1.7**
SRN			S	**Sn**	**02 26 43.9**	**+0.3**
SRN			AML	AML	02 27 04.2	
	110nm,0.9s					
SRN			AMd		02 30 24.7	
SRN	**Sarande**	**1.02 331**	P	**Pb**	**02 26 27.4**	**-1.5**
SRN			S	**Sg**	**02 26 42.6**	**+0.3**
	29µm,1.3s					
ANX	**Ano Chora**	**1.08 111**	P	**Pb**	**02 26 28.4**	**-1.7**
ANX			S	**Sg**	**02 26 44.8**	**+0.5**
	165µm,0.5s					
ANX	**Ano Chora**	**1.08 111**	P	**Pb**	**02 26 29.6**	**-0.5**
KPRO	**Kipourio**	**1.12 30**	P	**Pb**	**02 26 29.2**	**-1.5**
KPRO			S	**Sn**	**02 26 47.0**	**+0.7**
	154µm,0.6s					
KPRO	**Kipourio**	**1.12 30**	P	**Pb**	**02 26 29.2**	**-1.5**
KPRO			S	**Sb**	**02 26 45.2**	**-0.1**
RLS	**Riolos of Patr**	**1.14 145**	P	**Pb**	**02 26 30.5**	**-0.4**
ORTH	**Orthonies,Zaky**	**1.14 178**	P	**Pb**	**02 26 30.1**	**-0.9**
ORTH			S	**Sb**	**02 26 45.6**	**-0.1**
EFP	**Efpalio**	**1.14 119**	P	**Pb**	**02 26 29.4**	**-1.7**
EFP			S	**Sb**	**02 26 45.5**	**-0.3**
	213µm,0.7s					
EFP	**Efpalio**	**1.14 119**	P	**Pn**	**02 26 31.3**	**+0.1**
EFP			S	**Sg**	**02 26 46.2**	**0.0**
UPR	**University Cam**	**1.14 128**	P	**Pb**	**02 26 31.2**	**+0.1**
LSK	**Leskovik**	**1.16 359**	P	**Pb**	**02 26 30.4**	**-1.0**
LSK			S	**Sn**	**02 26 50.1**	**+2.8**
LSK			AML	AML	02 26 54.8	
	517nm,0.7s					
CLEM	**Kyllini,Ilia,G**	**1.16 160**	P	**Pb**	**02 26 30.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.17 88**	P	**Pb**	**02 26 30.2**	**-1.3**
MAKR			S	**Sn**	**02 26 47.6**	**+0.2**
	248µm,0.7s					
MAKR	**Makrakomi, Fth**	**1.17 88**	P	**Pb**	**02 26 31.4**	**-0.1**
MAKR			S	**Sb**	**02 26 46.5**	**-0.2**
KYPS	**Kipseli, Zakin**	**1.18 173**	P	**Pn**	**02 26 31.1**	**-0.5**
THL	**Klokotos Trika**	**1.22 61**	P	**Pb**	**02 26 32.5**	**+0.2**
THL			S	**Sb**	**02 26 47.4**	**-0.6**
PENT	**Pentalofos**	**1.27 18**	P	**Pb**	**02 26 33.3**	**0.0**
LTHK	**Lithakia**	**1.29 173**	P	**Pn**	**02 26 31.4**	**-1.8**
LTHK			S	**Sb**	**02 26 49.0**	**-1.0**
	123µm,0.6s					
LTHK	**Lithakia**	**1.29 173**	P	**Pn**	**02 26 32.3**	**-0.8**
LTHK			S	**Sb**	**02 26 49.7**	**-0.4**
KALE	**Kalithea**	**1.32 116**	P	**Pn**	**02 26 32.1**	**-1.6**
KALE			S	**Sb**	**02 26 51.1**	**0.0**
	59µm,0.5s					
KALE	**Kalithea**	**1.32 116**	P	**Pb**	**02 26 34.4**	**+0.2**
DRO	**Drossia**	**1.34 140**	P	**Pn**	**02 26 32.2**	**-1.7**
DRO			S	**Sb**	**02 26 51.3**	**-0.2**
	126µm,0.5s					
DRO	**Drossia**	**1.34 140**	P	**Pn**	**02 26 33.6**	**-0.3**
DRO			S	**Sb**	**02 26 51.2**	**-0.3**
ALIK	**Aliki, Aigiali**	**1.37 122**	P	**Pn**	**02 26 33.3**	**-1.0**
TYRN	**Tyrnavos**	**1.43 59**	P	**Pn**	**02 26 34.2**	**-1.0**
TYRN			S	**Sb**	**02 26 54.9**	**+0.7**
	55µm,0.8s					
NEST	**Nestorio**	**1.46 13**	P	**Pb**	**02 26 36.5**	**-0.1**
NEST			S	**Sg**	**02 26 59.2**	**+2.8**
NEST			AML	AML	02 27 03.8	
	142nm,1.0s					
NEST			AMd		02 30 41.2	
NEST	**Nestorio**	**1.46 13**	P	**Pn**	**02 26 35.3**	**-0.4**
KLV	**Kalavryta, Ach**	**1.52 128**	P	**Pn**	**02 26 37.0**	**+0.6**
LRSO	**Larissa Observ**	**1.52 63**	P	**Pn**	**02 26 35.7**	**-0.7**
LRSO			S	**Sb**	**02 26 56.9**	**+0.1**
	163µm,0.8s					
LRSO	**Larissa Observ**	**1.52 63**	P	**Pb**	**02 26 37.2**	**-0.4**
LRSO			S	**Sb**	**02 26 57.5**	**+0.7**
DLFA	**Delphi**	**1.54 109**	P	**Pn**	**02 26 37.1**	**+0.4**
DLFA			S	**Sg**	**02 26 59.3**	**+0.3**
KZN	**Kozani**	**1.58 33**	P	**Pn**	**02 26 37.7**	**+0.4**
KZN	**Kozani**	**1.58 33**	P	**Pb**	**02 26 38.9**	**+0.3**
AXAR	**Agios Charalam**	**1.59 97**	P	**Pn**	**02 26 36.5**	**-1.0**
AXAR			S	**Sn**	**02 26 58.5**	**+0.5**
	129µm,0.7s					
AXAR	**Agios Charalam**	**1.59 97**	P	**Pb**	**02 26 38.8**	**-0.1**
AXAR			S	**Sb**	**02 26 58.7**	**-0.2**
KBN	**Korca**	**1.64 4**		**Pb**	**02 26 39.1**	**-0.5**
KBN	**Korca**	**1.64 4**	P	**Pn**	**02 26 38.1**	**0.0**
KBN			S	**Sg**	**02 27 02.5**	**+0.4**
KBN			AML	AML	02 27 09.9	
	364nm,0.8s					
KBN	**Korca**	**1.64 4**	P	**Pb**	**02 26 39.1**	**-0.5**
AMT	**Artemida-Makis**	**1.68 149**	P	**Pn**	**02 26 38.8**	**+0.2**
GUR	**Goura**	**1.70 128**	P	**Pn**	**02 26 37.7**	**-1.3**
GUR	**Goura**	**1.70 128**	P	**Pb**	**02 26 40.1**	**-0.6**
GUR			S	**Sb**	**02 27 02.7**	**+0.6**
VLO	**Vlora**	**1.72 330**	P	**Pn**	**02 26 37.1**	**-2.0**
VLO			S	**Sn**	**02 27 01.5**	**+0.5**
VLO			AML	AML	02 27 14.8	
	291nm,0.6s					
LIT	**Litokhoron**	**1.81 52**		**Pb**	**02 26 41.9**	**-0.7**
LIT	**Litokhoron**	**1.81 52**	P	**Pn**	**02 26 40.5**	**0.0**
LIT	**Litokhoron**	**1.81 52**	*i* Pg	**Pb**	**02 26 42.8**	**+0.2**
LIT			*i* Sg	**Sg**	**02 27 09.4**	**+1.6**
LIT	**Litokhoron**	**1.81 52**	P	**Pb**	**02 26 41.9**	**-0.7**
LIT	**Litokhoron**	**1.81 52**	⇓P	**Pn**	**02 26 40.8**	**+0.3**
FNA	**Florina**	**1.88 17**		**Pb**	**02 26 42.9**	**-0.9**
FNA	**Florina**	**1.88 17**	P	**Pb**	**02 26 43.0**	**-0.7**
FNA			S	**Sg**	**02 27 10.4**	**+0.4**
FNA			AML	AML	02 27 18.5	
	143nm,0.5s					
FNA	**Florina**	**1.88 17**	*i* Pn	**Pb**	**02 26 43.6**	**-0.1**
FNA			*i* Sg	**Sg**	**02 27 11.3**	**+1.4**
FNA	**Florina**	**1.88 17**	P	**Pb**	**02 26 42.8**	**-0.9**
FNA			S	**Sb**	**02 27 06.6**	**-0.6**
FNA	**Florina**	**1.88 17**	*e*Pn	**Pb**	**02 26 43.6**	**-0.1**
FNA			*e*Sn	**Sg**	**02 27 09.4**	**-0.5**
FNA	**Florina**	**1.88 17**	⇓P	**Pb**	**02 26 42.6**	**-1.1**
FNA	**Florina**	**1.88 17**	P	**Pn**	**02 26 41.6**	**+0.1**
SCTE	**Santa Cesarea**	**2.00 304**		**Pn**	**02 26 42.3**	**-0.6**
SCTE	**Santa Cesarea**	**2.00 304**	P	**Pn**	**02 26 40.5**	**-2.4**
SCTE			S	**Sn**	**02 27 06.7**	**-1.2**
SCTE			AML	AML	02 27 22.6	
	140nm,0.7s					
SCTE	**Santa Cesarea**	**2.00 304**	P	**Pn**	**02 26 42.6**	**-0.4**
NEO	**Neokhori**	**2.04 80**	P	**Pn**	**02 26 44.5**	**+0.9**
NEO			S	**Sn**	**02 27 10.1**	**+1.2**
LTK	**Loutraki**	**2.07 117**	P	**Pn**	**02 26 45.1**	**+1.1**
ITM	**Ithomi**	**2.07 150**		**Pn**	**02 26 45.3**	**+1.2**
ITM	**Ithomi**	**2.07 150**	⇑P	**Pb**	**02 26 46.0**	**-1.0**
ITM	**Ithomi**	**2.07 150**	P	**Pn**	**02 26 45.0**	**+0.9**
OHR	**Ohrid**	**2.12 3**	*i* Pn	**Pb**	**02 26 47.1**	**-0.8**
OHR			*i* Sg	**Sg**	**02 27 19.8**	**+2.1**
OHR			*e*Lg	Lg	02 27 21.6	
	comp=N,65µm,1.2s					
OHR			*e*Lg	Lg	02 27 21.9	
	comp=E,130µm,1.6s					
OHR	**Ohrid**	**2.12 3**	P	**Pb**	**02 26 47.0**	**-0.8**
OHR	**Ohrid**	**2.12 3**	*e*Pn	**Pb**	**02 26 48.0**	**+0.1**
OHR			*e*Sn	**Sg**	**02 27 16.8**	**-0.9**
VIL2	**Platees**	**2.20 110**	P	**Pn**	**02 26 47.3**	**+1.5**
GRG	**Griva**	**2.39 34**	*i* Pn	**Pb**	**02 26 51.0**	**-1.3**
TIR	**Tirane**	**2.43 346**		**Pn**	**02 26 49.6**	**+0.7**
TIR	**Tirane**	**2.43 346**	P	**Pn**	**02 26 50.1**	**+1.2**
TIR			S	**Sb**	**02 27 22.4**	**-0.5**
TIR			AML	AML	02 27 46.0	
	comp=E,48nm,1.7s					
TIR	**Tirane**	**2.43 346**	P	**Pn**	**02 26 49.6**	**+0.7**
TIR	**Tirane**	**2.43 346**	*e*Pn	**Pn**	**02 26 50.0**	**+1.1**
TIR			*e*Sn	**Sg**	**02 27 25.8**	**-1.7**
TIR	**Tirane**	**2.43 346**	⇑P	**Pn**	**02 26 50.0**	**+1.1**
THE	**Thessaloniki**	**2.43 47**	P	**Pn**	**02 26 50.1**	**+1.2**
THE			S	**Sb**	**02 27 24.7**	**+1.8**
THE			AML	AML	02 27 41.3	
	comp=E,34nm,1.5s					
THE	**Thessaloniki**	**2.43 47**	*i* Pn	**Pn**	**02 26 50.5**	**+1.6**
THE	**Thessaloniki**	**2.43 47**	P	**Pn**	**02 26 50.1**	**+1.2**
THE			S	**Sb**	**02 27 21.2**	**-1.8**
THE	**Thessaloniki**	**2.43 47**	P	**Pn**	**02 26 49.5**	**+0.6**
HORT	**Hortiatis**	**2.49 49**	P	**Pn**	**02 26 50.1**	**+0.3**
KRND	**KRANIDI**	**2.55 128**	P	**Pn**	**02 26 51.2**	**+0.6**
PLG	**Polygyros**	**2.57 57**	P	**Pn**	**02 26 51.2**	**+0.3**
ATH	**Athens Observa**	**2.62 112**	P	**Pn**	**02 26 53.2**	**+1.6**
ATH	**Athens Observa**	**2.62 112**	P	**Pn**	**02 26 52.2**	**+0.7**
PHP	**Peshkopia**	**2.70 357**	P	**Pn**	**02 26 53.4**	**+0.8**
PHP			S	**Sb**	**02 27 29.5**	**-1.2**
PHP			AML	AML	02 27 43.0	
	comp=E,40nm,0.9s					
PTL	**Penteli**	**2.70 109**	P	**Pn**	**02 26 53.3**	**+0.6**
VLY	**Voula,Athens**	**2.73 114**	P	**Pn**	**02 26 53.6**	**+0.6**
KYMI	**Kymi, Euboea I**	**2.73 96**	P	**Pn**	**02 26 53.7**	**+0.6**
VAY	**Valandovo**	**2.76 32**	*i* Pn	**Pn**	**02 26 54.4**	**+1.0**
VAY			*i* Sn	**Sb**	**02 27 32.8**	**+0.3**
VAY			*e*Lg	Lg	02 27 33.2	
	comp=N,8µm,1.1s					
VAY			*e*Lg	Lg	02 27 35.5	
	comp=E,2µm,0.7s					
VAY	**Valandovo**	**2.76 32**	*e*Pn	**Pn**	**02 26 54.5**	**+1.0**
YDRA	**Hydra**	**2.77 125**	P	**Pn**	**02 26 54.7**	**+1.1**
SOH	**Sokhos**	**2.78 48**	P	**Pn**	**02 26 55.6**	**+1.8**
VLI	**Veliai**	**2.91 140**	P	**Pn**	**02 26 57.3**	**+1.8**
OUR	**Ouranopolis**	**2.91 61**	P	**Pn**	**02 26 57.3**	**+1.8**
OUR			S	**Sn**	**02 27 33.4**	**+3.0**
MNVA	**Monemvasia**	**2.98 140**	P	**Pn**	**02 26 56.7**	**+0.2**
TIP	**Timpagrande**	**3.02 275**	Pn	**Pn**	**02 26 57.6**	**+0.4**
TIP	**Timpagrande**	**3.02 275**	⇑P	**Pn**	**02 26 57.3**	**+0.1**
PUK	**Puka**	**3.10 350**	P	**Pn**	**02 26 59.0**	**+0.7**
PUK			S	**Sb**	**02 27 39.6**	**-2.8**
PUK			AML	AML	02 28 19.5	
	comp=E,39nm,1.3s					
SRS	**Serrai**	**3.11 46**	*i* Pn	**Pn**	**02 26 59.0**	**+0.7**
SRS	**Serrai**	**3.11 46**	*e*Pn	**Pn**	**02 26 58.8**	**+0.5**
SRS			*e*Sn	**Sn**	**02 27 34.8**	**-0.6**
ULC	**Ulcinj**	**3.15 341**	P	**Pn**	**02 26 58.4**	**-0.6**
ULC	**Ulcinj**	**3.15 341**	*i* Pn	**Pn**	**02 26 58.3**	**-0.6**
ULC	**Ulcinj**	**3.15 341**	⇑*i*Pn	**Pn**	**02 26 58.3**	**-0.6**
ULC			*i* Sn	**Sn**	**02 27 37.5**	**+1.0**
PEHC	**Pehcevo**	**3.28 31**	*i* Pn	**Pn**	**02 27 01.7**	**+1.0**
PEHC			*i* Sn	**Sb**	**02 27 44.4**	**-3.1**
PEHC			*e*Lg	Lg	02 27 44.8	
	comp=N,3µm,0.8s					
NOCI	**Noci**	**3.28 304**	P	**Pn**	**02 26 59.3**	**-1.4**
DRME	**Dracevica, Mon**	**3.38 341**	P	**Pn**	**02 27 02.0**	**0.0**
DRME	**Dracevica, Mon**	**3.38 341**	*e*Pn	**Pn**	**02 27 02.5**	**+0.5**
DRME	**Dracevica, Mon**	**3.38 341**	⇓*i*Pn	**Pn**	**02 27 02.0**	**0.0**
DRME			*i* Sn	**Sn**	**02 27 43.2**	**+1.2**
BCI	**Bajram Curri**	**3.40 353**	P	**Pn**	**02 27 03.7**	**+1.3**
BCI			S	**Sb**	**02 27 47.5**	**-3.5**
KKB	**Krupnik**	**3.43 33**	*i* Pn	**Pn**	**02 27 03.8**	**+1.1**
MATE	**Matera**	**3.45 300**	⇑P	**Pn**	**02 27 02.9**	**-0.1**
MMB	**Musomishta**	**3.49 42**	*i* Pn	**Pn**	**02 27 04.5**	**+1.0**
BUM	**Brajici-Budva**	**3.56 339**	P	**Pn**	**02 27 04.3**	**-0.2**
BUM	**Brajici-Budva**	**3.56 339**	⇑*i*Pn	**Pn**	**02 27 04.4**	**-0.2**
BUM			*i* Sn	**Sn**	**02 27 47.0**	**+0.4**
PDG	**Podgorica**	**3.59 343**	Pn	**Pn**	**02 27 04.8**	**-0.1**
PDG	**Podgorica**	**3.59 343**	⇑*i*Pn	**Pn**	**02 27 04.1**	**-0.8**
PDG	**Podgorica**	**3.59 343**	*i* Pn	**Pn**	**02 27 05.5**	**+0.6**
PDG	**Podgorica**	**3.59 343**	⇑P	**Pn**	**02 27 04.8**	**-0.1**
PDG	**Podgorica**	**3.59 343**	⇑*i*Pn	**Pn**	**02 27 04.8**	**-0.1**
PDG			*i* Sn	**Sn**	**02 27 48.7**	**+1.4**
PVY	**Plav**	**3.64 352**	P	**Pn**	**02 27 06.8**	**+1.1**
PVY	**Plav**	**3.64 352**	⇑*i*Pn	**Pn**	**02 27 06.7**	**+1.1**
PVY			*i* Sn	**Sn**	**02 27 51.1**	**+2.5**
CEL	**Celeste**	**3.78 260**	Pn	**Pn**	**02 27 08.2**	**+0.6**
CEL	**Celeste**	**3.78 260**	⇑P	**Pn**	**02 27 07.8**	**+0.2**
CEME	**Cevo**	**3.79 340**	P	**Pn**	**02 27 07.1**	**-0.6**
CEME	**Cevo**	**3.79 340**	⇓*i*Pn	**Pn**	**02 27 06.7**	**-0.9**
CEME			*i* Sn	**Sn**	**02 27 52.9**	**+0.8**
HCY	**Herceg Novi**	**3.82 335**	P	**Pn**	**02 27 07.3**	**-0.8**
HCY	**Herceg Novi**	**3.82 335**	*e*Pn	**Pn**	**02 27 06.4**	**-1.6**
HCY	**Herceg Novi**	**3.82 335**	⇑*i*Pn	**Pn**	**02 27 06.9**	**-1.1**
HCY			*i* Sn	**Sn**	**02 27 53.6**	**+0.8**
CUC	**Castrocucco**	**3.86 287**	Pn	**Pn**	**02 27 10.5**	**+1.9**
CUC	**Castrocucco**	**3.86 287**	⇑P	**Pn**	**02 27 10.1**	**+1.4**
BEY	**Berane**	**3.92 352**	P	**Pn**	**02 27 10.7**	**+1.2**
BEY	**Berane**	**3.92 352**	*i* Pn	**Pn**	**02 27 10.5**	**+1.0**
IVA	**Berane**	**3.92 352**	⇓*i*Pn	**Pn**	**02 27 10.4**	**+1.0**
IVA			*i* Sn	**Sn**	**02 27 56.5**	**+1.1**
BARS	**Barje**	**3.93 13**	*i* Pn	**Pn**	**02 27 10.3**	**+0.8**
BARS	**Barje**	**3.93 13**	*e*Pn	**Pn**	**02 27 10.2**	**+0.7**
KOME	**Kolasin**	**3.95 348**	P	**Pn**	**02 27 11.1**	**+1.2**
KOME	**Kolasin**	**3.95 348**	⇑*i*Pn	**Pn**	**02 27 10.4**	**+0.5**
KOME			*i* Sn	**Sn**	**02 27 57.0**	**+0.8**
NKME	**Niksic**	**3.98 342**	P	**Pn**	**02 27 10.3**	**0.0**
NKME	**Niksic**	**3.98 342**	⇑*i*Pn	**Pn**	**02 27 10.0**	**-0.3**
NKME			*i* Sn	**Sn**	**02 27 57.7**	**+0.7**
MRVN	**Minervino Murg**	**3.99 303**	P	**Pn**	**02 27 09.6**	**-0.8**
MRVN	**Minervino Murg**	**3.99 303**	⇑P	**Pn**	**02 27 10.4**	**0.0**
BRY	**Bratogost**	**4.22 339**	P	**Pn**	**02 27 13.2**	**-0.4**
BRY	**Bratogost**	**4.22 339**	⇑*i*Pn	**Pn**	**02 27 12.5**	**-1.1**
BRY	**Bratogost**	**4.22 339**	⇑*i*Pn	**Pn**	**02 27 12.6**	**-1.1**
BRY			*i* Sn	**Sn**	**02 28 03.0**	**+0.1**
SELS	**Selova**	**4.24 5**	*e*Pn	**Pn**	**02 27 14.4**	**+0.5**
SJES	**Sjenica**	**4.30 354**	⇑*i*Pn	**Pn**	**02 27 15.4**	**+0.7**
SJES	**Sjenica**	**4.30 354**	*e*Pn	**Pn**	**02 27 15.8**	**+1.1**
APE	**Apeiranthos**	**4.31 115**	⇓P	**Pn**	**02 27 18.1**	**+3.2**
APE	**Apeiranthos**	**4.31 115**	P	**Pn**	**02 27 18.0**	**+3.2**
APE	**Apeiranthos**	**4.31 115**	⇑P	**Pn**	**02 27 16.2**	**+1.3**
APE	**Apeiranthos**	**4.31 115**	P	**Pn**	**02 27 16.2**	**+1.3**
RDO	**Rodhopi**	**4.33 59**	Pn	**Pn**	**02 27 15.6**	**+0.5**
RDO	**Rodhopi**	**4.33 59**	⇓P	**Pn**	**02 27 15.6**	**+0.5**
UPM	**Unac-Piva**	**4.41 343**	P	**Pn**	**02 27 16.3**	**0.0**
UPM	**Unac-Piva**	**4.41 343**	⇑*i*Pn	**Pn**	**02 27 16.4**	**+0.1**
UPM	**Unac-Piva**	**4.41 343**	⇑*i*Pn	**Pn**	**02 27 16.4**	**+0.1**
UPM			*i* Sn	**Sn**	**02 28 08.0**	**+0.4**
PLE	**Pljevlja**	**4.44 348**	P	**Pn**	**02 27 17.1**	**+0.5**
PLE	**Pljevlja**	**4.44 348**	⇓*i*Pn	**Pn**	**02 27 16.6**	**0.0**
PLE			*i* Sn	**Sn**	**02 28 08.8**	**+0.5**
PLD	**Plovdiv**	**4.45 43**	*i* Pn	**Pn**	**02 27 18.2**	**+1.6**
STON	**Ston**	**4.47 331**	⇑*i*Pn	**Pn**	**02 27 15.4**	**-1.5**
ZAPS	**Zavoj**	**4.54 19**	*e*Pn	**Pn**	**02 27 19.3**	**+1.4**
GOCS	**Kraljevo Serbi**	**4.57 2**	*e*Pn	**Pn**	**02 27 18.4**	**-0.1**
ALN	**Alexandroupoli**	**4.57 64**		**Pn**	**02 27 19.7**	**+1.3**
ALN	**Alexandroupoli**	**4.57 64**	P	**Pn**	**02 27 19.5**	**+1.1**
ALN			S	**Sn**	**02 28 15.2**	**+3.8**
ALN	**Alexandroupoli**	**4.57 64**	⇑P	**Pn**	**02 27 19.3**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**4.59 66**	⇑P	**Pn**	**02 27 21.7**	**+3.1**
IVAS	**Ivanjica**	**4.60 356**	*e*Pn	**Pn**	**02 27 18.5**	**-0.3**
BOVS	**Bovan**	**4.71 10**	⇑P	**Pn**	**02 27 21.1**	**+0.8**
BOVS	**Bovan**	**4.71 10**	*e*Pn	**Pn**	**02 27 20.0**	**-0.3**
RUDO	**Rudo**	**4.72 349**	⇑*i*Pn	**Pn**	**02 27 20.1**	**-0.3**
DKL	**Dikili**	**4.88 87**	⇑P	**Pn**	**02 27 25.4**	**+2.8**
GRUS	**Gruza**	**4.90 1**	*e*Pn	**Pn**	**02 27 22.4**	**-0.4**
BBLS	**Lazi&#263i**	**4.96 350**	⇑*i*Pn	**Pn**	**02 27 23.3**	**-0.5**
BBLS	**Lazi&#263i**	**4.96 350**	*e*Pn	**Pn**	**02 27 23.4**	**-0.4**
ZAGS	**Zajecar**	**4.97 13**	*e*Pn	**Pn**	**02 27 24.0**	**+0.2**
IDI	**Anoyia**	**5.02 136**	Pn	**Pn**	**02 27 24.2**	**-0.3**
IDI	**Anoyia**	**5.02 136**	P	**Pn**	**02 27 24.6**	**0.0**
IDI			S	**Sn**	**02 28 24.1**	**+1.6**
IDI	**Anoyia**	**5.02 136**	Pn	**Pn**	**02 27 24.6**	**0.0**
	comp=N,175nm,0.6s,baz=273,slow=10,SNR=43					
IDI			Sn	**Sn**	**02 28 22.0**	**-0.6**
	comp=N,99nm,0.3s,baz=172,slow=20,SNR=7.1					
IDI			LR	LR	02 29 39.5	
	comp=N,24µm,18.0s,baz=251,slow=42					
VAE	**Valguarnera**	**5.13 255**	Pn	**Pn**	**02 27 26.0**	**0.0**
	comp=N,133nm,0.7s,baz=332,slow=19,SNR=34					
VAE			Sn	**Sn**	**02 28 25.7**	**+0.5**
	comp=N,50nm,0.3s,baz=40,slow=18,SNR=4.3					
VAE			LR	LR	02 30 00.5	
	comp=N,16µm,20.0s,baz=48,slow=44					
DIVS	**Divibare**	**5.13 355**	*e*Pn	**Pn**	**02 27 25.2**	**-0.9**
BORS2	**Bor- Borsko je**	**5.20 11**	*e*Pn	**Pn**	**02 27 25.6**	**-1.4**
TRUS	**Trudelj**	**5.23 358**	*e*Pn	**Pn**	**02 27 27.2**	**-0.2**
RAFF	**Raffo Rosso**	**5.25 252**	Pn	**Pn**	**02 27 27.1**	**-0.6**
SVIS	**Svilajnac**	**5.29 5**	*e*Pn	**Pn**	**02 27 29.2**	**+1.0**
KUBS	**Kucevo**	**5.47 8**	*e*Pn	**Pn**	**02 27 29.2**	**-1.6**
PUNG	**Punghina**	**5.56 17**	⇑P	**Pn**	**02 27 33.4**	**+1.5**
ELND	**Elena**	**5.59 44**	⇓P	**Pn**	**02 27 34.6**	**+2.3**
AVAS	**Avala Beograd**	**5.70 359**	*e*Pn	**Pn**	**02 27 32.9**	**-1.0**
VLAD	**Vladila**	**5.75 28**	⇑P	**Pn**	**02 27 36.6**	**+2.1**
WDD	**Wied Dalam**	**5.79 239**	Pn	**Pn**	**02 27 34.4**	**-0.7**
WDD	**Wied Dalam**	**5.79 239**	⇓P	**Pn**	**02 27 34.1**	**-1.0**
BEO	**Beograd**	**5.82 359**	*e*Pn	**Pn**	**02 27 34.0**	**-1.4**
DJES	**Djerdap**	**5.84 13**	⇓P	**Pn**	**02 27 37.0**	**+1.2**
DJES	**Djerdap**	**5.84 13**	*e*Pn	**Pn**	**02 27 35.6**	**-0.2**
MDVR	**Moldovita**	**5.84 8**	⇑P	**Pn**	**02 27 37.2**	**+1.3**
RMGR	**Halanga-Turnu**	**5.87 14**	⇑P	**Pn**	**02 27 37.4**	**+1.2**
BAND	**Balkesir-Ban**	**5.92 74**	⇓P	**Pn**	**02 27 40.0**	**+3.1**
INTR	**Introdacqua**	**5.95 303**	Pn	**Pn**	**02 27 38.4**	**+1.0**
SRE	**Strehaia**	**5.99 18**	⇑P	**Pn**	**02 27 39.6**	**+1.9**
SRE	**Strehaia**	**5.99 18**	P	**Pn**	**02 27 39.6**	**+1.9**
CLTB	**Caltabellotta**	**6.00 259**	⇑P	**Pn**	**02 27 40.1**	**+2.0**
HERR	**Herculane**	**6.04 12**	⇑P	**Pn**	**02 27 39.6**	**+1.1**
DOB	**Doboj**	**6.04 343**	*e*Pn	**Pn**	**02 27 37.1**	**-1.4**
VRSS	**Vrsac**	**6.15 5**	*e*Pn	**Pn**	**02 27 39.0**	**-1.0**
FRGS	**Fruska Gora**	**6.20 355**	⇑*i*Pn	**Pn**	**02 27 39.5**	**-1.2**
FRGS	**Fruska Gora**	**6.20 355**	*e*Pn	**Pn**	**02 27 39.5**	**-1.2**
MANT	**Manisa**	**6.21 92**		**Pn**	**02 27 43.4**	**+2.3**
BLY	**Banja Luka**	**6.30 337**	⇑*i*Pn	**Pn**	**02 27 41.3**	**-0.8**
BLY	**Banja Luka**	**6.30 337**	⇑P	**Pn**	**02 27 41.3**	**-0.8**
SLATY	**Slatina**	**6.34 338**	*e*Pn	**Pn**	**02 27 40.7**	**-2.0**
BANR	**Banloc**	**6.40 3**	⇑P	**Pn**	**02 27 45.0**	**+1.5**
HUMR	**Humele**	**6.42 29**	⇓P	**Pn**	**02 27 46.0**	**+2.3**
CAMP	**Campotosto**	**6.53 305**		**Pn**	**02 27 45.5**	**+0.1**
ARG	**Arkhangelos**	**6.56 113**	Pn	**Pn**	**02 27 48.6**	**+2.9**
ARG	**Arkhangelos**	**6.56 113**	P	**Pn**	**02 27 48.6**	**+2.9**
SGRR	**Singureni**	**6.58 36**	⇓P	**Pn**	**02 27 48.9**	**+3.0**
GZR	**Gura Zlata**	**6.59 13**	⇑P	**Pn**	**02 27 47.4**	**+1.2**
GZR	**Gura Zlata**	**6.59 13**	P	**Pn**	**02 27 47.4**	**+1.2**
A051A	**Mrakovica**	**6.63 336**	⇑*i*Pn	**Pn**	**02 27 45.6**	**-1.1**
PRIJ	**Prijedor**	**6.66 335**	⇑*i*Pn	**Pn**	**02 27 46.0**	**-1.0**
BZS	**Buzias**	**6.66 6**	⇑P	**Pn**	**02 27 46.9**	**-0.1**
BZS	**Buzias**	**6.66 6**	P	**Pn**	**02 27 46.9**	**-0.1**
BZS	**Buzias**	**6.66 6**	⇑P	**Pn**	**02 27 46.0**	**-1.0**
STFAR	**Stefanesti-Arg**	**6.70 27**	⇑P	**Pn**	**02 27 51.1**	**+3.6**
**BUC1

SRO *e* 02 30 01.8
SRO Srobarova 8.98 350 *e*PN **Pn 02 28 20.3 +1.5**
SRO *e*SN **Sn 02 30 01.8 +2.0**
ARSA Arzberg 9.06 337 *i* Pn **Pn 02 28 18.9 -1.1**
comp=N,29nm,0.5s,SNR=27
ARSA *e*Sn **Sn 02 30 01.9 0.0**
comp=N,29nm,0.5s
ARSA Arzberg 9.06 337 ⇑P **Pn 02 28 18.1 -1.9**
PTCC Patocco-Chiusa 9.14 326 ⇑P **Pn 02 28 20.4 -0.7**
MYKA Terra Mystica 9.20 328 *i* Pn **Pn 02 28 20.8 -1.1**
comp=N,48nm,0.6s,SNR=26
MYKA *i* Sn **Sn 02 30 02.0 -3.4**
comp=N,21nm,0.4s
BURAR Bucovina Array 9.24 20 ⇑P **Pn 02 28 25.0 +2.4**
BURAR Bucovina Array 9.24 20 P **Pn 02 28 24.9 +2.4**
VLC Villacollemand 9.25 307 P **Pn 02 28 21.7 -0.9**
RONA Rosalia, Austr 9.26 341 *i* Pn **Pn 02 28 21.6 -1.1**
comp=N,9.5nm,0.3s,SNR=20
RONA *i* Sn **Sn 02 30 06.3 -0.6**
comp=N,38nm,0.5s
BUR08 Bucovina Ar. S 9.27 20 Pn **Pn 02 28 24.0 +1.1**
PRAR RASCA 9.31 24 ⇑P **Pn 02 28 26.6 +3.2**
BERU Beregovo 9.36 8 P **Pn 02 28 24.5 +0.5**
CIMO Cimolais 9.48 323 Pn **Pn 02 28 24.1 -1.7**
KECS Kecovo 9.49 359 *e*P **Pn 02 28 27.0 +1.1**
KECS Kecovo 9.49 359 *e*PN **Pn 02 28 27.0 +1.1**
KEST Kesra 9.56 254 Pn **Pn 02 28 26.7 -0.1**
KEST Kesra 9.56 254 Pn **Pn 02 28 30.6 +3.7**
comp=N,6.1nm,0.3s,baz=88,slow=8.5,SNR=23
KEST LR LR 02 33 28.2
comp=N,8μm,21.0s,baz=56,slow=46
MUKU Mukachevo 9.58 8 P **Pn 02 28 27.7 +0.7**
CONA Conrad Observa 9.58 340 *i* Pn **Pn 02 28 26.1 -1.1**
comp=N,13nm,0.5s,SNR=13
CONA *e*Sn **Sn 02 30 16.2 +1.4**
comp=N,28nm,0.5s
VYHS Vyhne 9.59 353 *e*P **Pn 02 28 27.4 +0.2**
VYHS Vyhne 9.59 353 *e*PN **Pn 02 28 27.4 +0.2**
NSLU Nyzhne Selyshc 9.61 15 P **Pn 02 28 26.0 -1.5**
HOLU Holmets 9.62 7 P **Pn 02 28 27.3 -0.3**
IASR Iasi 9.63 30 ⇑P **Pn 02 28 30.0 +2.3**
KBA Koelnbreinsper 9.68 329 *i* Pn **Pn 02 28 27.6 -1.0**
comp=N,69nm,0.5s,SNR=43
KBA *i* Sn **Sn 02 30 12.3 -5.0**
comp=N,45nm,0.6s
KBA Koelnbreinsper 9.68 329 ⇓P **Pn 02 28 27.5 -1.1**
MODS Modra-Piesok 9.69 347 *e*P **Pn 02 28 28.2 -0.4**
MODS Modra-Piesok 9.69 347 *e*PN **Pn 02 28 28.2 -0.4**
UZHM Uzhgorod 9.71 7 P **Pn 02 28 29.4 +0.6**
ABTA Abfaltersbach 9.78 325 *i* Pn **Pn 02 28 28.8 -1.1**
comp=N,63nm,0.6s,SNR=20
ABTA *e*Sn **Sn 02 30 19.6 +0.1**
comp=N,146nm,0.7s
SMOL Smolenice 9.80 347 *e*P **Pn 02 28 29.6 -0.5**
CIDE Kastamonu/Cide 9.82 69 ⇑P **Pn 02 28 34.1 +3.8**
MILM Milestii Mici 9.93 34 ⇑*i*P **Pn 02 28 32.8 +0.9**
comp=N,230nm,1.7s
MILM Milestii Mici 9.93 34 *e*PP Pn 02 28 48.0 +16
MILM *e*S Sn 02 30 34.8 +12
MILM *e*Li 02 31 44.5
MILM *i* Lq LQ 02 32 07.0
comp=N,18μm,13.0s
MILM LRM MLR 02 33 31.0
comp=N,9μm,11.5s
MILM Milestii Mici 9.93 34 ⇓P **Pn 02 28 33.5 +1.6**
MILM Milestii Mici 9.93 34 *c i*P **Pn 02 28 32.8 +0.9**
MILM *e*S Sn 02 30 35.0 +12
MILM pmax pmax
comp=Z,230nm,1.7s
MILM MLR MLR
comp=E,11μm,11.5s
MILM MLR MLR
comp=Z,9μm,11.5s
MOA Molln 9.99 334 *i* Pn **Pn 02 28 31.7 -1.0**
comp=Z,43nm,0.9s,SNR=47
MOA *i* Sn **Sn 02 30 23.8 -1.0**
comp=Z,23nm,0.4s
KIS Kishinev 9.99 34 *e*P **Pn 02 28 33.0 +0.3**
KIS Kishinev 9.99 34 *e*PP Pn 02 28 50.0 +17
KIS *e*S Sn 02 30 36.0 +11
KIS *e*Li 02 31 45.0
KIS *e*Lq LQ 02 32 08.0
comp=Z,8μm,13.0s
KIS LRM MLR 02 33 30.0
comp=Z,4μm,11.0s
KIS Kishinev 9.99 34 ⇑P **Pn 02 28 34.8 +2.1**
KIS Kishinev 9.99 34 *e*P **Pn 02 28 33.0 +0.3**
KIS *e*S Sn 02 30 36.0 +11
KIS MLR MLR
comp=Z,4μm,11.0s
KIS Kishinev 9.99 34 P **Pn 02 28 32.1 -0.6**
comp=Z,2μmcomp=Z,109nm,0.8s
KOLS Kolonicke sedl 10.01 6 *e*P **Pn 02 28 34.6 +1.6**
KOLS Kolonicke sedl 10.01 6 *e*PN **Pn 02 28 34.6 +1.6**
BIOA Bad Ischl, Aus 10.08 332 *i* Pn **Pn 02 28 32.7 -1.2**
comp=Z,93nm,0.4s,SNR=48
BIOA *e*Sn **Sn 02 30 21.8 -5.0**
comp=Z,60nm,0.6s
JAVC Velka Javorina 10.10 349 *e*PN **Pn 02 28 33.9 -0.3**
BR131 Keskin Array S 10.10 82 Pn **Pn 02 28 37.9 +3.5**
BR131 Keskin Array S 10.10 82 *i* P **Pn 02 28 37.7 +3.3**
BRTR Keskin Array B 10.10 82 Pn **Pn 02 28 38.2 +3.9**
comp=Z,1.9nm,0.3s,baz=266,slow=12,SNR=75
BRTR Sn **Sn 02 30 24.0 -3.6**
baz=149,slow=39
BRTR Lg Lg 02 31 25.0
comp=Z,0.1nm,0.3s,baz=246,slow=2.9,SNR=1.8
BRTR LR LR 02 32 32.8
comp=Z,7μm,20.5s,baz=268,slow=38
BRTR PKiKP **PKiKP 02 42 43.5 +0.1**
comp=Z,0.5nm,0.7s,baz=240,slow=1.3,SNR=3.7
PURM Purcari 10.14 39 ⇑P **Pn 02 28 36.7 +2.0**
PURM Purcari 10.14 39 P **Pn 02 28 35.2 +0.5**
comp=Z,3μmcomp=Z,314nm,0.9s
DRBR Darabani 10.18 23 ⇓P **Pn 02 28 37.9 +2.6**
LANS Liptovska Anna 10.19 356 *e*P **Pn 02 28 37.6 +2.1**
LANS Liptovska Anna 10.19 356 *e*PN **Pn 02 28 37.6 +2.1**
LESA Schwarzleotal 10.23 328 *i* Pn **Pn 02 28 35.4 -0.7**
comp=Z,41nm,0.5s,SNR=55
LESA *e*Sn **Sn 02 30 26.8 -3.9**
comp=Z,83nm,0.8s
DB3 El Dabaa 10.24 138 ⇑P **Pn 02 28 33.0 -3.2**
ILGA Ilgaz 10.24 74 Pn Pn 02 28 42.2 +5.8
KIRS Kirsehir-Merke 10.33 85 ⇑P Pn 02 28 42.6 +5.1
MORS Morshin 10.41 12 P **Pn 02 28 40.1 +1.7**
MORS Morshin 10.41 12 P **Pn 02 28 40.1 +1.7**
STHS Stebnicka Huta 10.44 2 *e*P **Pn 02 28 38.6 -0.2**
STHS Stebnicka Huta 10.44 2 *e*PN **Pn 02 28 38.6 -0.2**
KMPD K-Podol'skiy 10.45 22 P **Pn 02 28 39.7 +0.7**
comp=Z,279μmcomp=Z,29μm,1.1s
KMPD pP 02 28 44.7
comp=Z,279μmcomp=Z,29μm,1.1s
SWA2 10.51 156 ⇑P **Pn 02 28 37.2 -2.6**
SWA2 S Sn 02 30 22.9 -15
KRUC Moravsky 10.52 345 *e*PN **Pn 02 28 38.7 -1.2**
WTTA Wattenberg 10.56 324 *i* Pn **Pn 02 28 39.6 -1.0**
comp=Z,46nm,0.4s,SNR=44
WTTA *e*Sn **Sn 02 30 37.1 -1.7**
comp=Z,106nm,0.8s
MAUC Maruska 10.57 350 *e*PN **Pn 02 28 40.6 0.0**
BZK Bozkurt 10.61 70 Pn Pn 02 28 47.8 +6.7
BZK Bozkurt 10.61 70 P **Pn 02 28 42.7 +1.6**
comp=Z,1μmcomp=Z,84nm,0.8s
WATA Walderalm 10.64 325 *i* Pn **Pn 02 28 41.4 -0.3**
comp=Z,96nm,0.5s,SNR=68
WATA *i* Sn **Sn 02 30 40.1 -0.7**
comp=Z,66nm,0.6s
SORM Soroca 10.71 29 P **Pn 02 28 43.7 +1.1**
comp=Z,1μmcomp=Z,62nm,1.0s
VRAC Vranov 10.71 346 Pn **Pn 02 28 41.9 -0.7**
comp=Z,1.8nm,0.3s,baz=177,slow=13,SNR=23
VRAC Sn **Sn 02 30 40.3 -2.2**
comp=Z,0.8nm,0.3s,baz=259,slow=14,SNR=1.5
VRAC Lg Lg 02 31 45.9
baz=300,slow=3.5
VRAC LR LR 02 33 12.7
comp=Z,22μm,18.3s,baz=168,slow=40
comp=Z,47nm,0.9s
VRAC Vranov 10.71 346 *e*PN **Pn 02 28 41.3 -1.3**
VRAC Vranov 10.71 346 ⇓P **Pn 02 28 42.3 -0.4**
SQTA Sankt Quirin 10.72 323 *i* Pn **Pn 02 28 42.5 -0.4**
comp=Z,16nm,0.3s,SNR=38
SQTA *i* Sn **Sn 02 30 40.7 -2.2**
comp=Z,72nm,0.5s
NDNU Novodnistrovsk 10.76 25 P **Pn 02 28 44.7 +1.5**

FUORN Ofenpass-Fuorn 10.77 318 Pn **Pn 02 28 43.7 0.0**
FETA Feichten 10.81 321 *e*Pn **Pn 02 28 43.4 -0.6**
comp=Z,62nm,0.5s,SNR=12
FETA *i* Sn **Sn 02 30 44.4 -0.6**
comp=Z,51nm,1.0s
CKRC Cesky Krumlov 10.83 337 *e*PN **Pn 02 28 43.1 -1.1**
CKRC AMS AMS 02 33 50.0
comp=Z,28μm,11.2s
CKRC Cesky Krumlov 10.83 337 *e*P **Pn 02 28 43.1 -1.1**
CKRC MLR MLR
comp=Z,28μm,11.2s
MOTA Moosalm 10.86 323 *i* Pn **Pn 02 28 44.9 +0.1**
comp=Z,132nm,0.6s
MOTA *e*Sn **Sn 02 30 42.2 -4.2**
comp=Z,48nm,0.7s
CSS Mathiatis 10.92 108 Pn **Pn 02 28 46.6 +1.1**
CSS Mathiatis 10.92 108 P **Pn 02 28 47.3 +1.8**
comp=Z,2μmcomp=Z,200nm,0.8s
CSS Mathiatis 10.92 108 ⇑P **Pn 02 28 46.5 +1.1**
CSS Mathiatis 10.92 108 P **Pn 02 28 41.2 -4.3**
TREC Trest 10.94 342 *e*PN **Pn 02 28 45.2 -0.6**
TREC AMS AMS 02 34 10.0
comp=Z,26μm,12.1s
TREC Trest 10.94 342 *e*P **Pn 02 28 45.2 -0.6**
TREC MLR MLR
comp=Z,26μm,12.1s
OKC Ostrava-Krasne 10.99 352 *e*PN **Pn 02 28 46.5 +0.1**
OKC AMS AMS 02 34 40.0
comp=Z,17μm,12.2s
OKC Ostrava-Krasne 10.99 352 *e*P **Pn 02 28 46.5 +0.1**
OKC MLR MLR
comp=Z,17μm,12.2s
MORC Moravsky Berou 11.01 349 Pn **Pn 02 28 45.5 -1.2**
MORC Moravsky Berou 11.01 349 *e*PN **Pn 02 28 45.5 -1.2**
MORC Moravsky Berou 11.01 349 ⇑P **Pn 02 28 47.3 +0.6**
MORC Moravsky Berou 11.01 349 P **Pn 02 28 45.5 -1.2**
MORC Moravsky Berou 11.01 349 ⇑P **Pn 02 28 45.8 -0.9**
GERES GERESS Array B 11.04 335 Pn **Pn 02 28 45.4 -1.8**
comp=Z,4.1nm,0.3s,baz=151,slow=13,SNR=57
GERES Sn **Sn 02 30 48.5 -2.1**
comp=Z,7.0nm,0.3s,baz=147,slow=22,SNR=4.0
GERES Lg Lg 02 31 57.3
baz=181,slow=32
GERES LR LR 02 33 36.8
comp=Z,9μm,19.5s,baz=142,slow=41
comp=Z,16nm,0.5s
BAL3X Bal3x, Balta 11.06 33 P **Pn 02 28 48.3 +1.0**
DAVOX Davos/Dischmat 11.08 318 Pn **Pn 02 28 47.6 -0.2**
comp=Z,3.9nm,0.3s,baz=125,slow=20,SNR=45
DAVOX Sn **Sn 02 30 51.7 +0.1**
comp=Z,4.4nm,0.3s,baz=135,slow=20,SNR=3.8
DAVOX Lg Lg 02 32 00.5
baz=161,slow=23
DAVOX LR LR 02 35 08.6
comp=Z,4μm,20.6s,baz=128,slow=49
comp=Z,20nm,0.5s
RETA Reutte 11.13 323 *i* Pn **Pn 02 28 47.9 -0.4**
comp=Z,24nm,0.5s,SNR=19
RETA *e*Sn **Sn 02 30 52.0 -0.6**
comp=Z,62nm,0.6s
STEB Steborice 11.13 350 *e*PN **Pn 02 28 48.3 0.0**
TUE Stuetta 11.16 316 Pn **Pn 02 28 48.6 -0.3**
TUE Stuetta 11.16 316 P **Pn 02 28 48.3 -0.7**
comp=Z,7μmcomp=Z,392nm,0.6s
TUE Stuetta 11.16 316 ⇓P **Pn 02 28 48.2 -0.7**
MONC Moncucco Torin 11.23 307 ⇑P **Pn 02 28 51.3 +1.5**
OJC Ojcow 11.24 357 *e*P **Pn 02 28 50.2 +0.3**
OJC Ojcow 11.24 357 Pn **Pn 02 28 50.5 +0.6**
OJC Ojcow 11.24 357 P **Pn 02 28 50.5 +0.6**
OJC Ojcow 11.24 357 ⇓P **Pn 02 28 51.7 +1.9**
KHC Kasperske Hory 11.33 336 *e*PN **Pn 02 28 49.3 -1.8**
KHC *ex* x 02 28 58.5
KHC *e*SN **Sn 02 30 53.1 -4.5**
KHC AMS AMS 02 34 00.0
comp=Z,29μm,12.5s
KHC Kasperske Hory 11.33 336 *e*P **Pn 02 28 49.3 -1.8**
KHC *e* 02 30 53.1
KHC MLR MLR
comp=Z,29μm,12.5s
KHC Kasperske Hory 11.33 336 P **Pn 02 28 49.1 -2.0**
comp=Z,1μmcomp=Z,77nm,1.2s
KHC Kasperske Hory 11.33 336 ⇑P **Pn 02 28 48.9 -2.2**
DAVA Damuels 11.41 320 *i* Pn **Pn 02 28 52.8 +0.5**
comp=Z,34nm,0.5s,SNR=9.1
DAVA *i* Sn **Sn 02 30 57.2 -2.6**
comp=Z,68nm,0.5s
DAVA Damuels 11.41 320 ⇓P **Pn 02 28 51.6 -0.7**
KRLC Kraliky 11.42 347 *e*PN **Pn 02 28 52.1 -0.2**
KRLC AMS AMS 02 33 20.0
comp=Z,19μm,14.2s
KRLC Kraliky 11.42 347 *e*P **Pn 02 28 52.1 -0.2**
KRLC MLR MLR
comp=Z,19μm,14.2s
ZVC Zvikov 11.42 338 *e*PN **Pn 02 28 51.8 -0.4**
ZVC AMS AMS 02 34 20.0
comp=Z,27μm,13.3s
SIM Simferopol' 11.66 55 *e*P **Pn 02 28 58.2 +2.6**
SIM *e* 02 31 09.7
SIM pmax pmax
comp=Z,46nm,1.0s
GOPC GO Pecny, Ondr 11.69 341 *e*PN **Pn 02 28 55.9 -0.1**
GOPC AMS AMS 02 34 30.0
comp=Z,25μm,12.4s
GOPC GO Pecny, Ondr 11.69 341 *e*P **Pn 02 28 55.9 -0.1**
GOPC MLR MLR
comp=Z,25μm,12.4s
DPC Dobruska-Polom 11.76 346 *e*PN **Pn 02 28 56.9 -0.1**
DPC AMS AMS 02 34 10.0
comp=Z,31μm,12.2s
DPC Dobruska-Polom 11.76 346 *e*P **Pn 02 28 56.9 -0.1**
DPC MLR MLR
comp=Z,31μm,12.2s
DPC Dobruska-Polom 11.76 346 P **Pn 02 28 55.8 -1.2**
comp=Z,716nmcomp=Z,30nm,1.3s
PRU Pruhonice 11.82 340 *e*PN **Pn 02 28 57.8 +0.1**
PRU AMS AMS 02 34 30.0
comp=Z,33μm,12.2s
PRU Pruhonice 11.82 340 *e*P **Pn 02 28 57.8 +0.1**
PRU MLR MLR
comp=Z,33μm,12.2s
BNN Bunyan 11.85 86 Pn **Pn 02 29 00.9 +2.5**
PRA Prague 11.92 340 *e*PN **Pn 02 28 58.8 -0.3**
PRA AMS AMS 02 34 40.0
comp=Z,34μm,12.6s
PRA Prague 11.92 340 *e*P **Pn 02 28 58.8 -0.3**
PRA MLR MLR
comp=Z,34μm,12.6s
UPC Upice 11.97 346 *e*PN **Pn 02 28 59.7 -0.1**
UPC AMS AMS 02 34 30.0
comp=Z,25μm,15.7s
UPC Upice 11.97 346 *e*P **Pn 02 28 59.7 -0.1**
UPC MLR MLR
comp=Z,25μm,15.7s
OSTC Ostas 11.98 346 *e*PN **Pn 02 28 59.2 -0.7**
OSTC Ostas 11.98 346 *e*P **Pn 02 28 59.2 -0.7**
BNI Bardonecchia 12.01 305 Pn **Pn 02 29 02.2 +1.7**
BNI Bardonecchia 12.01 305 P **Pn 02 29 02.2 +1.7**
BNI Bardonecchia 12.01 305 ⇑P **Pn 02 29 00.3 -0.2**
CHVC Chvalec 12.04 346 AMS AMS 02 34 30.0
comp=Z,24μm,15.3s
LUBAR Lubar, Ukraine 12.05 23 P **Pn 02 29 00.4 -0.4**
KSP Ksiaz 12.24 347 *e*P **Pn 02 29 01.8 -1.7**
SENIN Lac Senin/Sane 12.26 311 Pn **Pn 02 29 04.8 +0.8**
TOKA Tokat 12.29 79 Pn **Pn 02 29 08.0 +3.9**
PVCC Panska Ves 12.31 342 *e*PN **Pn 02 29 03.5 -0.9**
PVCC AMS AMS 02 33 40.0
comp=Z,16μm,15.5s
PVCC Panska Ves 12.31 342 *e*P **Pn 02 29 03.5 -0.9**
PVCC MLR MLR
comp=Z,16μm,15.5s
SET Setif 12.40 262 P P 02 29 12.0 -5.9
HMYD Mayadein 12.42 135 P Pn 02 28 59.3 -6.8
RICC Richard 12.45 340 AMS AMS 02 35 00.0
comp=Z,28μm,11.7s
HNAT Natroun 12.45 136 ⇑P **Pn 02 29 03.5 -3.0**
GRA1 Grafenberg Arr 12.63 331 Pn **Pn 02 29 06.2 -2.6**
GRF Grafenberg Arr 12.63 331 P **Pn 02 29 06.2 -2.6**
GRFO Grafenberg 12.63 331 **Pn 02 29 07.2 -1.6**
GRFO Grafenberg 12.63 331 P **Pn 02 29 07.2 -1.6**
NKC Novy Kostel 12.65 335 AMS AMS 02 35 00.0
comp=Z,30μm,14.1s
HSKC Hora Svate Kat 12.68 339 AMS AMS 02 35 00.0
comp=Z,29μm,12.7s
STU Stuttgart 12.78 324 *e*P **Pn 02 29 12.9 +2.1**
STU Stuttgart 12.78 324 ⇓P **Pn 02 29 08.7 -2.1**

RNPP5 Staryi Chortor 12.78 15 P **Pn 02 29 12.1 +1.2**
BRG Berggiesshubel 12.79 341 Amp 02 29 12.1
comp=Z,11nm,1.1s
BRG Berggiesshubel 12.79 341 Amp 02 29 38.0
comp=Z,49nm,1.1s
BRG Berggiesshubel 12.79 341 *e*P **Pn 02 29 09.9 -1.0**
BRG Berggiesshubel 12.79 341 P P 02 29 35.1 +13
BEL Belsk 12.85 0 *e*P **P 02 29 18.9 -3.7**
RNPP8 Varash 12.88 15 P **Pn 02 29 12.6 +0.4**
BFO Black Forest 12.89 320 Pn **Pn 02 29 09.7 -2.7**
BFO Black Forest 12.89 320 P **Pn 02 29 09.7 -2.7**
BFO Black Forest 12.89 320 ⇑P **Pn 02 29 10.4 -2.0**
KOT Kottamia 12.91 131 ⇑P **Pn 02 29 08.7 -4.1**
DQRL Deir Qamar 13.14 109 *e*P **Pn 02 29 15.0 -0.9**
HNTI Hanita 13.15 112 P **Pn 02 29 14.6 -1.4**
HWQ Hawqa 13.16 106 *e*P **Pn 02 29 15.8 -0.5**
KIEV Kiev 13.18 25 Pn **Pn 02 29 16.7 +0.5**
KIEV Kiev 13.18 25 P **Pn 02 29 16.7 +0.5**
KIEV Kiev 13.18 25 *i* P **Pn 02 29 16.3 +0.1**
SNR=36
KIEV Kiev 13.18 25 P **Pn 02 29 15.7 -0.5**
comp=Z,7μmcomp=Z,324nm,1.8s
KIEV Kiev 13.18 25 ⇓P **Pn 02 29 16.6 +0.4**
GAZ Gaziantep 13.19 93 Pn **Pn 02 29 18.0 +1.5**
AKASG Malin Array Be 13.19 25 **Pn 02 29 16.7 +0.3**
AKASG Malin Array Be 13.19 25 Pn **Pn 02 29 15.1 -1.3**
comp=Z,1.0nm,0.3s,baz=212,slow=12,SNR=38
AKASG Lg Lg 02 33 03.9
baz=93,slow=18
AKASG PcP **PcP 02 34 46.1 -0.8**
comp=Z,1.5nm,0.6s,baz=196,slow=1.7,SNR=5.0
AKASG LR LR 02 35 27.7
comp=Z,8μm,18.2s,baz=208,slow=43
AKASG ScP **ScP 02 38 19.5 -0.4**
comp=Z,2.0nm,0.7s,baz=192,slow=2.1,SNR=5.3
comp=Z,22nm,0.9s
AKBB Malin Array Si 13.19 25 Pn **Pn 02 29 16.6 +0.2**
AKBB Malin Array Si 13.19 25 P **Pn 02 29 16.6 +0.2**
AKBB Malin Array Si 13.19 25 P **Pn 02 29 15.6 -0.8**
BEIL Beino 13.23 105 *e*P **Pn 02 29 17.5 +0.4**
R9F13 Warsaw-Wawer 13.24 1 *e*P **P 02 29 22.3 -4.6**
R9F13 *e*S S 02 31 58.9 -10
QRWL Qaraoun 13.30 109 *e*P **Pn 02 29 16.6 -1.4**
ZAHL Zahle 13.30 108 *e*P **Pn 02 29 16.6 -1.5**
MMAI Mount Meron Ar 13.35 112 Pn **Pn 02 29 16.7 -2.1**
comp=Z,5.7nm,0.3s,baz=309,slow=13,SNR=22
MMAI Sn **Sn 02 31 43.7 -3.5**
comp=Z,8.3nm,0.3s,baz=306,slow=26,SNR=6.6
MMAI LR LR 02 35 29.4
comp=Z,5μm,18.2s,baz=298,slow=42
comp=Z,12nm,0.4s
ECH Echery 13.41 318 P **Pn 02 29 19.1 -0.4**
CLL Collm 13.43 339 *i* P **P 02 29 30.0 +0.9**
CLL pmax pmax
comp=Z,97nm,1.0s
CLL MLR MLR
comp=Z,30μm,13.9s
CLL Collm 13.43 339 *i* P **Pn 02 29 18.6 -1.1**
CLL *i* PP **P 02 29 29.7 +0.6**
comp=Z,58nm,1.4s
CLL *i* x x 02 29 33.3
comp=Z,97nm,1.0s
CLL *e*Plp 02 29 38.0
CLL *e*Pmax 02 29 40.0
CLL *ex* x 02 30 21.0
CLL *e*SS **S 02 32 06.0 -6.7**
CLL *ex* x 02 33 18.0
RCY Rachaya 13.43 109 *e*P **Pn 02 29 18.2 -1.7**
SHBL Chebaa 13.44 110 *e*P **Pn 02 29 19.1 -0.9**
GEM Giv'at Ha'Em 13.45 111 ⇑P **Pn 02 29 18.0 -2.0**
GEM Giv'at Ha'Em 13.45 111 P **Pn 02 29 17.7 -2.3**
NATI Neve Ativ 13.47 110 P **Pn 02 29 18.4 -2.0**
FKH Fakeheh 13.52 106 *e*P **Pn 02 29 20.9 -0.3**
SALP Salfit 13.71 116 P **Pn 02 29 20.5 -3.2**
SALP Salfit 13.71 116 S Sn 02 31 46.2 -10
ANN Anapa 13.79 60 *e*P **Pn 02 29 25.2 +0.7**
ANN *e*S **Sn 02 32 02.3 +4.8**
ANN pmax pmax
comp=Z,57nm,1.3s
ANN MLR MLR
comp=N,2μm,10.0s
ANN MLR MLR
comp=Z,4μm,14.0s
ANN MLR MLR
comp=E,1μm,9.0s
ZAF Zafarana 13.81 131 P **Pn 02 29 21.1 -3.9**
AMAZ Amatzia 13.83 118 P **Pn 02 29 21.8 -3.5**
HMDT Nahal Hemdat 13.84 114 P **Pn 02 29 23.3 -2.2**
HMDT Nahal Hemdat 13.84 114 S **Sn 02 31 56.9 -2.2**
KZIT Kziot 13.86 121 P **Pn 02 29 22.4 -3.3**
KZIT Kziot 13.86 121 S Sn 02 31 50.2 -9.3
ZNM Zenema 13.94 130 P **Pn 02 29 23.2 -3.5**
UJAP Al Uja 13.97 116 P **Pn 02 29 25.1 -2.0**
YTIR Yattir 14.07 118 P **Pn 02 29 25.5 -3.1**
TAMRE El Minia 14.16 140 P **Pn 02 29 26.5 -3.4**
MSBI Mazada 14.26 118 P **Pn 02 29 28.3 -2.8**
RUE Ruedersdorf 14.31 343 *e*P **P 02 29 38.6 -0.2**
GHAJ Ghor Haditha 14.41 118 P **Pn 02 29 30.6 -2.6**
GKP Gorka Klasztor 14.47 352 *e*P **Pn 02 29 33.0 -0.9**
GKP Gorka Klasztor 14.47 352 *e*P **P 02 29 39.9 -0.7**
PLTM Poltava 14.53 39 P **Pn 02 29 36.3 +1.6**
MTLF Montolieu 14.53 293 ⇓P **Pn 02 29 35.6 +0.8**
PRNI Paran 14.62 122 P **Pn 02 29 32.0 -4.0**
HRDS Abu Rudays 14.67 131 P **Pn 02 29 32.8 -4.0**
LOR Lormes 14.76 310 ⇓P **Pn 02 29 36.0 -2.0**
HRFI Mount Harif 14.84 123 P **Pn 02 29 35.2 -3.9**
WLF Walferdange 14.85 321 Pn **Pn 02 29 39.5 +0.5**
WLF Walferdange 14.85 321 P **Pn 02 29 38.6 -0.5**
WLF Walferdange 14.85 321 *dP* **Pn 02 29 39.2 +0.1**
comp=Z,67nm,1.1s
WLF Walferdange 14.85 321 P **Pn 02 29 39.5 +0.5**
WLF Walferdange 14.85 321 ⇑P **Pn 02 29 39.0 -0.1**
ASF Jabal al Asfar 14.87 112 Pn **Pn 02 29 38.9 -0.6**
comp=Z,1.6nm,0.3s,baz=299,slow=4.9,SNR=17
comp=Z,19nm,0.8s
MBRI Mt Berech 14.92 124 P **Pn 02 29 36.9 -3.3**
EIL Elat 15.03 124 Pn **Pn 02 29 37.6 -4.0**
comp=Z,5.4nm,0.3s,baz=330,slow=9.7,SNR=43
EIL Sn Sn 02 32 16.2 -12
comp=Z,6.3nm,0.3s,baz=216,slow=10,SNR=6.7
EIL LR LR 02 37 10.2
comp=Z,2μm,18.5s,baz=306,slow=44
EIL Elat 15.03 124 P **Pn 02 29 37.7 -3.9**
SOC Sochi 15.05 66 *e*P **Pn 02 29 42.5 +0.6**
SOC *e* 02 32 33.3
SOC MLR MLR
comp=Z,2μm,17.0s
SUW Suwalki 15.13 6 *e*P **Pn 02 29 42.7 -0.1**
SUW Suwalki 15.13 6 *e*P **Pn 02 29 44.4 +1.6**
SUW Suwalki 15.13 6 ⇑P **Pn 02 29 42.7 -0.1**
VSLR Vesyoloye 15.26 67 *i* P **Pn 02 29 45.5 +0.9**
KOPT Kop Dagi 15.37 80 P **P 02 29 50.3 -0.7**
BHOU Houvegnez 15.38 322 *dP* **Pn 02 29 45.6 -0.5**
BTNL Ternell 15.47 323 *dP* **Pn 02 29 46.2 -1.2**
comp=Z,31nm,1.0s
MEM Membach 15.54 323 *dP* **Pn 02 29 48.2 0.0**
comp=Z,50nm,1.0s
TR1 Tor 1 15.58 131 P **Pn 02 29 44.5 -4.4**
RCHB Rochefort 15.62 321 *dP* **Pn 02 29 48.3 -1.0**
comp=Z,24nm,1.0s
BSTI Sart Tilman 15.74 322 *dP* **P 02 29 55.2 +0.4**
BCLA Clavier 15.76 321 *dP* **P 02 29 53.3 -1.7**
comp=Z,29nm,1.0s
BGES Gesves 15.84 321 *dP* **Pn 02 29 52.2 +0.1**
comp=Z,28nm,0.9s
DOU Dourbes 15.90 319 *dP* **Pn 02 29 52.5 -0.4**
BMRD Maredsous 15.94 320 *dP* **Pn 02 29 47.9 -5.5**
comp=Z,26nm,1.0s
LABN Labinsk 15.99 63 *e*P **Pn 02 29 53.7 -0.4**
LABN pmax pmax
comp=Z,11nm,0.4s
LABN MLR MLR
comp=N,10μm,14.0s
LABN MLR MLR
comp=E,2μm,11.0s
LABN MLR MLR
comp=Z,3μm,11.0s
CLF Chambon-Foret 16.07 310 IAmb IAmb 02 30 01.5
comp=Z,305nm,1.5s
ERBR Yeremizino-Bor 16.12 59 *e*P **Pn 02 29 54.8 -0.9**
ERBR *e*S **Sn 02 33 00.7 +6.4**
ERBR pmax pmax
comp=E,75nm,1.1s
ERBR pmax pmax

comp=Z,215nm,1.0s
ERBR pmax pmax
comp=N,45nm,1.1s
ERBR MLR MLR
comp=Z,2μm,10.0s
ERBR MLR MLR
comp=N,6μm,11.0s
ERBR MLR MLR
comp=E,5μm,9.0s
OKGL Djebel Kef Gue 16.13 266 P P 02 30 01.0 +1.7
MNK Minsk 16.28 15 *i* P **Pn 02 29 54.3 -3.4**
comp=E,156nm,0.8s
MNK *i* P **Pn 02 29 54.3 -3.4**
comp=N,23nm,0.8s
MNK *i* P **Pn 02 29 54.3 -3.4**
comp=Z,153nm,0.8s,baz=202
MNK *i* PP **pP 02 30 03.0 -1.1**
MNK *i* PPP PPP 02 30 10.6
MNK *i* S **Sn 02 32 55.8 -2.3**
MNK *i* SS **SnSn 02 33 20.7 +10**
MNK *i* LQ LQ 02 34 51.4
MNK *i* LR LR 02 36 16.2
MNK *i* LRM MLR 02 37 54.0
comp=Z,3μm,13.4s
MNK *i* LRM MLR 02 37 57.0
comp=N,2μm,14.1s
MNK *i* LRM MLR 02 37 57.5
comp=E,3μm,13.7s
MNK Minsk 16.28 15 *i* P **Pn 02 29 54.2 -3.4**
MNK *i* S **Sn 02 32 55.7 -2.3**
MNK pmax pmax
comp=Z,153nm,0.8s
MNK pmax pmax
comp=E,156nm,0.8s
MNK pmax pmax
comp=N,23nm,0.8s
MNK MLR MLR
comp=Z,3μm,13.0s
MNK MLR MLR
comp=N,2μm,14.0s
MNK MLR MLR
comp=E,3μm,14.0s
NACGM Naroch 16.45 13 *e*P **Pn 02 29 58.4 -1.5**
UCC Uccle 16.46 321 *d*P **P 02 30 03.4 +0.7**
comp=Z,33nm,1.0s
BSD Bornholm Skovb 16.59 348 *i* P **P 02 30 05.0 +0.9**
BSD IAmb IAmb 02 30 07.1
comp=Z,62nm,0.9s
PABE Paberze 16.68 7 *e*P **Pn 02 30 01.6 -1.1**
ECHE Chera 16.73 279 P **Pn 02 30 02.9 -0.7**
IIGN Ignalina 16.79 11 *e*P **Pn 02 30 04.8 +0.6**
ODJA Bouhanifia 16.96 264 P **P 02 30 14.0 +5.5**
MFF Saint Martin d 17.01 303 P **P 02 30 09.0 +0.1**
MFF Saint Martin d 17.01 303 ⇑P **P 02 30 09.6 +0.7**
PBUR Paburge 17.07 2 *e*P **P 02 30 09.7 +0.3**
VSVD Vaisvydziai 17.14 6 *e*P **Pn 02 30 07.5 -1.1**
EMUR La Murta 17.18 273 P **Pn 02 30 08.8 -0.5**
SIRT Sirnak 17.19 88 IAmb IAmb 02 30 19.8
comp=Z,222nm,0.9s
KIV Kislovodsk 17.24 66 P 02 30 11.1 -0.4
KIV Kislovodsk 17.24 66 P **Pn 02 30 10.6 +0.6**
KIV S **Sn 02 33 25.2 +3.5**
KIV Kislovodsk 17.24 66 *e*P **Pn 02 30 09.6 -0.4**
KIV *e*S **Sn 02 33 22.4 +0.7**
KIV pmax pmax
comp=Z,58nm,1.1s
KIV MLR MLR
comp=Z,1μm,14.0s
KIV Kislovodsk 17.24 66 *i* P **P 02 30 13.1 +1.6**
SNR=16
KIV Kislovodsk 17.24 66 P **P 02 30 11.7 +0.2**
comp=Z,947nmcomp=Z,63nm,1.5s
KIV Kislovodsk 17.24 66 ⇓P **P 02 30 11.1 -0.4**
KARS Kars 17.32 77 P **P 02 30 15.6 +3.1**
KARS Kars 17.32 77 P **P 02 30 15.6 +3.1**
KARS pmax pmax
comp=Z,152nm,1.2s
LUNU Lund 17.33 346 *i* P **P 02 30 12.0 -0.3**
KBZ Khabaz 17.36 67 P **P 02 30 13.8 +1.2**
comp=Z,27nm,1.0s,baz=278,slow=7.9,SNR=39
KBZ LR LR 02 38 35.2
comp=Z,2μm,18.4s,baz=272,slow=43
KBZ Khabaz 17.36 67 *ce*P **Pn 02 30 11.8 +0.5**
KBZ pmax pmax
comp=Z,39nm,1.0s
GEVA Gevas 17.53 85 P **P 02 30 20.5 +5.6**
TLOR Lorca, Murcia 17.57 273 P **P 02 30 15.9 +0.8**
BLEU Blekinge 17.62 351 *i* P **Pn 02 30 12.2 -2.3**
GOF Gofitskoye 17.69 63 *ce*P **P 02 30 16.7 +0.3**
VORD Divnogorie 17.76 42 *e*P **P 02 30 17.1 0.0**
VORD *e*S **Sn 02 33 29.5 -4.5**
VORD pmax pmax
comp=Z,260nm,1.4s
VORD smax smax
comp=E,50nm,3.7s
NCK Nalchik 17.83 68 *i* P **Pn 02 30 17.6 +0.3**
NCK pmax pmax
comp=Z,538nm,9.1s
BJUU Bjuv 17.83 346 *i* P **Pn 02 30 16.6 -0.5**
VSR Storozhevoye 17.84 41 *e*P **Pn 02 30 15.7 -1.6**
VSR *e*S **Sn 02 33 28.6 -7.4**
VSR pmax pmax
comp=Z,140nm,1.7s
VSR smax smax
comp=N,840nm,8.9s
VSR MLR MLR
comp=Z,5μm,13.0s
DEL Delary 18.06 348 *i* P **Pn 02 30 20.0 +0.1**
ENIJ Nijar 18.11 271 P **Pn 02 30 20.8 0.0**
VORR Voronezh 18.14 40 *e*P **Pn 02 30 20.8 -0.1**
VORR *e*S **Sn 02 33 43.8 +0.7**
VORR pmax pmax
comp=Z,240nm,1.1s
VORR smax smax
comp=E,70nm,3.9s
UCM Universidad Co 18.43 282 P **Pn 02 30 24.6 -0.1**
LPSR Galich'ya Gora 18.58 37 *e*P **P 02 30 24.8 -1.3**
LPSR *e*S Sn 02 33 40.0 -14
LPSR pmax pmax
comp=Z,440nm,0.9s
LPSR smax smax
comp=E,860nm,10.3s
LPSR MLR MLR
comp=Z,8μm,13.0s
GNI Garni 18.61 79 Pn 02 30 28.1 +1.0
GNI Garni 18.61 79 P **Pn 02 30 28.4 +1.4**
comp=Z,21nm,0.9s,baz=200,slow=3.5,SNR=16
GNI LR LR 02 37 29.6
comp=Z,4μm,18.8s,baz=274,slow=37
GNI Garni 18.61 79 P **Pn 02 30 28.5 +1.4**
GNI S **S 02 34 02.6 +3.8**
GNI Garni 18.61 79 *i* P **P 02 30 26.8 0.0**
GNI pmax pmax
comp=Z,55nm,0.9s
GNI Garni 18.61 79 P **Pn 02 30 29.3 +2.3**
GNI Garni 18.61 79 ⇑P **Pn 02 30 28.8 +1.7**
EBER Berja 18.66 271 P **P 02 30 27.2 -0.1**
FABU Falkenberg 18.76 346 *i* P **P 02 30 27.9 -0.1**
CHAS Isla Isabel II 18.78 266 P **Pn 02 30 29.1 +0.1**
ESBB Sonseca Array 19.03 280 P **Pn 02 30 32.6 +0.6**
ESDC Sonseca Array 19.03 280 P **Pn 02 30 32.1 +0.1**
comp=Z,0.5nm,0.3s,baz=75,slow=9.3,SNR=62
ESDC PcP **PcP 02 34 55.0 -1.0**
comp=Z,2.3nm,1.2s,baz=90,slow=2.3,SNR=2.7
ESDC LR LR 02 37 29.8
comp=Z,3μm,20.1s,baz=84,slow=36
comp=Z,63nm,1.1s
MUD Monsted U'grnd 19.05 340 *i* P **Pn 02 30 34.3 +2.3**
MUD IAmb IAmb 02 30 35.6
comp=Z,38nm,0.9s
VRH Novokhopyorsk 19.17 44 *e*P **Pn 02 30 33.5 0.0**
VRH *e*S Sn 02 33 56.2 -12
VRH pmax pmax
comp=Z,200nm,1.0s
VRH smax smax
comp=E,2μm,9.4s
VRH MLR MLR
comp=Z,9μm,17.0s
JSA Saint Aubin 19.23 309 ⇑P **P 02 30 32.8 -0.4**
NAX Nakhchivan 19.29 82 P **Pn 02 30 37.7 +2.5**
PAB San Pablo 19.34 280 P **P 02 30 34.4 -0.3**
PAB San Pablo 19.34 280 P **P 02 30 34.4 -0.3**
PAB pmax pmax
comp=Z,117nm,1.1s
PAB San Pablo 19.34 280 ⇑P **Pn 02 30 35.3 -0.5**

BORU Boraas 19.35 347 *i* P **P 02 30 33.5 -1.0**
OBN Obninsk 19.37 28 P **P 02 30 35.1 +0.4**
OBN Obninsk 19.37 28 P **P 02 30 33.7 -1.0**
comp=Z,7.0nm,0.3s,baz=64,slow=2.9,SNR=20
OBN LR LR 02 39 18.2
comp=Z,4μm,18.4s,baz=217,slow=41
comp=Z,63nm,0.6s
OBN Obninsk 19.37 28 *d i*P **P 02 30 33.8 -0.9**
OBN *i* S **Sn 02 34 10.4 -2.3**
OBN pmax pmax
comp=Z,172nm,1.3s
OBN MLR MLR
comp=Z,5μm,18.0s
OBN Obninsk 19.37 28 ⇓P **P 02 30 33.9 -0.8**
ROSF Rostrenen 19.59 306 ⇑P **P 02 30 37.3 +0.1**
MTSE Matsula 19.85 5 *e*P **P 02 30 39.9 0.0**
VSU Vasula 19.88 9 *ce*P **P 02 30 39.2 -1.1**
VSU pmax pmax
comp=Z,432nm,1.3s
VSU Vasula 19.88 9 *e*P **P 02 30 39.0 -1.3**
VSU Vasula 19.88 9 ⇑P **P 02 30 37.8 -2.6**
TJOU Tjoern 19.94 346 *i* P **P 02 30 40.2 -0.6**
SWN1 Swindon 20.06 316 *e*P Pn 02 30 43.3 -0.8
MOS Moscow 20.23 29 *e*P **P 02 30 41.7 -2.5**
MOS *e* 02 30 58.0
MOS *e*S **S 02 34 27.3 -3.5**
MOS *e* 02 34 35.5
MOS *e* 02 42 13.5
MOS pmax pmax
comp=Z,191nm,1.4s
MOS pmax pmax
comp=N,77nm,1.1s
MOS pmax pmax
comp=E,86nm,1.1s
MOS pmax pmax
comp=Z,300nm,1.5s
MOS MLR MLR
comp=Z,4μm,15.0s
CWF Charnwood Fore 20.45 319 *e*P **P 02 30 46.2 -0.3**
OLDB Oldbury-Upon-S 20.54 316 *e*P **P 02 30 47.6 +0.1**
MAK Makhachkala 20.64 70 *e*P **P 02 30 46.8 -1.8**
MAK *e*S **S 02 34 36.6 -2.4**
MAK pmax pmax
comp=Z,460nm,1.2s
TAM Tamanrasset 20.66 223 P **P 02 30 49.6 +0.4**
TAM Tamanrasset 20.66 223 P **P 02 30 49.6 +0.4**
TAM pmax pmax
comp=Z,111nm,1.3s
ARBE Arbavere 20.75 8 *e*P **P 02 30 49.6 -0.1**
MONM Monmouth 20.76 316 *e*P **P 02 30 50.4 +0.4**
DYA Yadsworthy 20.77 311 *e*P **P 02 30 50.5 +0.5**
DYA IAmb IAmb 02 30 57.2
comp=Z,85nm,1.1s
AKT Akhty 20.81 74 *e*P **P 02 30 50.8 +0.1**
AKT *e*PPP PPP 02 31 17.5
AKT *e*S **S 02 34 43.8 +1.2**
AKT *e* 02 34 58.7
AKT *e*SS **SnSn 02 35 05.7 +3.2**
AKT *e*SSS SSS 02 35 18.8
AKT pmax pmax
comp=Z,100nm,1.1s
AKT MLR MLR
comp=Z,4μm,15.0s
HOMB Homborsund 20.83 342 *e*P **P 02 30 50.4 -0.3**
HOMB IAmb IAmb 02 30 53.7
comp=Z,136nm,1.1s
HOMB *e*S **S 02 34 44.3 +1.7**
HOMB IAMs_20 IAMs_20 02 41 02.6
comp=Z,12μm,12.5s
HOMB Homborsund 20.83 342 *i* P **P 02 30 49.0 -1.6**
MCH1 Michaelchurch 20.95 316 *e*P **P 02 30 51.6 -0.3**
MCH1 IAmb IAmb 02 31 01.8
comp=Z,307nm,1.3s
MCH1 Michaelchurch 20.95 316 ⇓P **P 02 30 52.1 +0.2**
STRU Stroemstad 20.96 346 *i* P **P 02 30 50.2 -1.8**
PBRG Braganca 21.01 286 *e*P **P 02 30 53.2 +0.5**
PBRG *i* Amb 02 31 07.8
comp=Z,197nm,1.7s
LBWR Ladybower, Pea 21.02 321 *e*P **P 02 30 52.6 -0.2**
HLM1 Long Mynd 21.14 317 *e*P **P 02 30 54.0 -0.1**
SNART Snartemo 21.22 340 *e*P **P 02 30 55.7 +0.9**
SNART IAmb IAmb 02 30 59.1
comp=Z,114nm,0.9s
SNART *e*S **S 02 34 51.6 +1.3**
SNART IAMs_20 IAMs_20 02 41 20.0
comp=Z,148μm,87.6s
SNART Snartemo 21.22 340 *e*P **P 02 30 53.4 -1.4**
MVO Moncorvo 21.25 285 *e*P **P 02 30 56.1 +0.7**
MVO *i* Amb 02 31 10.2
comp=Z,183nm,1.9s
MVO *e*S **S 02 34 54.0 +2.7**
MVO *i* AMs_20 02 39 03.8
comp=Z,3μm,18.0s
MDT Midelt 21.32 261 P **P 02 31 00.2 +4.0**
comp=Z,52nm,1.1s,baz=75,slow=12,SNR=31
HTL Hartland 21.32 312 *e*P **P 02 30 57.3 +1.3**
HTL IAmb IAmb 02 31 05.3
comp=Z,74nm,0.8s
MEF Metsahovi 21.38 5 *e*P **P 02 30 55.4 -1.2**
FOEL Foel Wylfa 21.50 318 *e*P **P 02 30 58.4 +0.5**
FOEL IAmb IAmb 02 31 03.4
comp=Z,360nm,1.6s
HFS Hagfors 21.61 351 P **P 02 30 57.7 -1.4**
comp=Z,49nm,0.6s,baz=163,slow=11,SNR=88
HFS LR LR 02 39 39.1
comp=Z,6μm,21.6s,baz=167,slow=38
comp=Z,49nm,0.6s
PBAR Barrancos 21.62 277 *e*P **P 02 30 59.0 -0.3**
PBAR *i* Amb 02 31 13.6
comp=Z,340nm,1.7s
PMRV Marv??o 21.69 280 *e*P **P 02 30 59.5 -0.6**
PMRV *i* Amb 02 31 14.5
comp=Z,402nm,1.6s
PMRV *e*S **S 02 34 56.7 -3.3**
PMRV *i* AMs_20 02 44 12.7
comp=Z,4μm,18.0s
PUL Pulkovo 21.69 13 *ce*P **P 02 30 58.5 -1.4**
PUL pmax pmax
comp=Z,431nm,1.3s
MTE Manteigas 21.70 283 P **P 02 31 00.6 +0.4**
MTE Manteigas 21.70 283 *e*P **P 02 30 59.9 -0.3**
MTE *i* Amb 02 31 15.2
comp=Z,216nm,1.7s
MTE *e*S **S 02 34 56.3 -3.8**
MTE *i* AMs_20 02 40 22.3
comp=Z,4μm,16.0s
MTE Manteigas 21.70 283 *e*P **P 02 31 03.4 +3.2**
MTE Manteigas 21.70 283 ⇓P **P 02 31 02.4 +2.2**
PCBR Castelo Branco 21.70 281 *e*P **P 02 31 01.6 +1.4**
PCBR *i* Amb 02 31 14.3
comp=Z,124nm,1.6s
PVRL Vila Real 21.76 285 *e*P **P 02 31 03.8 +2.9**
PVRL *i* Amb 02 31 15.9
comp=Z,76nm,1.7s
POLO Lamas de Olo 21.81 285 *e*P **P 02 31 02.3 +0.9**
POLO *i* Amb 02 31 18.5
comp=Z,52nm,1.7s
KONO Kongsberg 21.84 345 P **P 02 31 00.9 -0.4**
KONO IAmb IAmb 02 31 04.5
comp=Z,128nm,1.0s
KONO Kongsberg 21.84 345 *e*P **P 02 31 01.0 -0.4**
KONO IAmb IAmb 02 31 04.3
comp=Z,132nm,1.0s
KONO *e*S **S 02 35 01.9 -0.5**
KONO IAMs_20 IAMs_20 02 41 16.7
comp=Z,8μm,13.3s
KONO Kongsberg 21.84 345 P **P 02 31 01.0 -0.4**
KONO pmax pmax
comp=Z,128nm,1.0s
KONO Kongsberg 21.84 345 ⇓P **P 02 31 01.0 -0.4**
RSBS Rosebush, Pemb 21.88 315 *e*P **P 02 31 01.8 -0.2**
RSBS IAmb IAmb 02 31 08.1
comp=Z,44nm,1.0s
OSL Oslo 21.89 347 *e*P **P 02 31 00.8 -1.2**
OSL IAmb IAmb 02 31 05.0
comp=Z,96nm,0.8s
OSL *e*S **S 02 35 04.1 +0.8**
OSL IAMs_20 IAMs_20 02 41 34.4
comp=Z,8μm,11.6s
PESTR Estremoz 21.93 279 P **P 02 31 03.1 +0.5**
PESTR Estremoz 21.93 279 *e*P **P 02 31 02.6 0.0**
PESTR *i* Amb 02 31 16.5
comp=Z,266nm,1.8s
PESTR Estremoz 21.93 279 ⇑P **P 02 31 01.2 -1.4**

PVIS Viseu 21.93 284 *e*P **P 02 31 03.4 +0.6**
PCAB Cabril 21.97 286 *e*P **P 02 31 03.8 +0.7**
PCAB *i* Amb 02 31 25.8
comp=Z,131nm,1.8s
EDMD Edmundbyers 21.97 324 *e*P **P 02 31 02.1 -0.9**
EDMD IAmb IAmb 02 31 07.9
comp=Z,67nm,0.8s
RAF Rauma 22.07 1 *e*P **P 02 31 03.0 -0.9**
PGAV Gavieira, Arco 22.14 287 *e*P **P 02 31 05.3 +0.3**
PGAV *i* Amb 02 31 27.6
comp=Z,104nm,1.7s
PGAV *e*S **S 02 35 01.6 -7.1**
PGAV *i* AMs_20 02 43 29.1
comp=Z,4μm,18.0s
PBEJ Beja 22.29 277 *e*P **P 02 31 06.1 -0.5**
PBEJ *i* Amb 02 31 20.1
comp=Z,200nm,1.5s
PVAQ Vaqueiros 22.31 275 P **P 02 31 06.3 -0.4**
PVAQ Vaqueiros 22.31 275 *e*P **P 02 31 07.8 +1.1**
PVAQ *i* Amb 02 31 20.8
comp=Z,127nm,1.6s
PVAQ *i* AMs_20 02 43 34.7
comp=Z,1μm,18.0s
PVAQ Vaqueiros 22.31 275 ⇑P **P 02 31 08.3 +1.7**
EVO Evora 22.31 278 *e*P **P 02 31 09.2 +2.5**
EVO *i* Amb 02 31 29.8
comp=Z,180nm,1.5s
BLS5 Blasjo 22.36 341 *e*P **P 02 31 06.7 -0.4**
BLS5 IAmb IAmb 02 31 11.5
comp=Z,180nm,1.7s
BLS5 *e*S **S 02 35 15.0 +2.6**
BLS5 IAMs_20 IAMs_20 02 41 57.1
comp=Z,12μm,14.3s
KESW Keswick, Cumbr 22.37 322 *e*P **P 02 31 06.8 -0.4**
COI Coimbra 22.38 282 P **P 02 31 08.0 +0.6**
COI IAmb IAmb 02 31 20.5
comp=Z,114nm,1.1s
COI Coimbra 22.38 282 *e*P **P 02 31 08.9 +1.5**
COI *i* Amb 02 31 20.6
comp=Z,149nm,1.1s
COI Coimbra 22.38 282 P **P 02 31 08.0 +0.6**
COI pmax pmax
comp=Z,114nm,1.2s
COI Coimbra 22.38 282 ⇓P **P 02 31 09.7 +2.2**
PMTG Montargil 22.38 279 *e*P **P 02 31 07.0 -0.5**
PMTG *i* Amb 02 31 30.2
comp=Z,151nm,1.6s
PTO Porto 22.44 285 *e*P **P 02 31 10.6 +2.5**
PTO *i* Amb 02 31 13.8
comp=Z,113nm,1.5s
PCAS Casmilo, Conde 22.46 282 *e*P **P 02 31 09.2 +0.9**
PCAS *i* Amb 02 32 10.9
comp=Z,122nm,1.4s
KMY Karmoy 22.50 339 *e*P **P 02 31 07.5 -1.0**
KMY IAmb IAmb 02 31 09.2
comp=Z,62nm,1.1s
KMY *e*S **S 02 35 14.1 -0.8**
KMY IAMs_20 IAMs_20 02 42 52.6
comp=Z,10μm,9.8s
NC602 NORSAR Array S 22.50 348 IAmb IAmb 02 31 14.4
comp=Z,100nm,0.8s
NC602 NORSAR Array S 22.50 348 *e*P **P 02 31 07.0 -1.6**
NC602 IAmb IAmb 02 31 14.1
comp=Z,106nm,0.8s
NC602 *e*S **S 02 35 13.9 -1.1**
NC602 *e*ScP **ScP 02 38 41.7 +2.3**
NC602 IAMs_20 IAMs_20 02 41 50.1
comp=Z,12μm,12.2s
PCVE Castro Verde 22.51 276 *e*P **P 02 31 10.4 +1.6**
PCVE *i* Amb 02 31 22.4
comp=Z,144nm,1.7s
PBDV Barranco-do-Ve 22.51 275 *e*P **P 02 31 11.2 +2.3**
PBDV *i* Amb 02 31 22.5
comp=Z,198nm,1.5s
MESJ Messejana 22.60 276 P **P 02 31 09.8 -0.1**
MESJ IAmb IAmb 02 31 22.7
comp=Z,140nm,1.2s
MESJ Messejana 22.60 276 *e*P **P 02 31 09.4 -0.5**
MESJ IAmb IAmb 02 31 23.2
comp=Z,287nm,1.6s
MESJ Messejana 22.60 276 *e*P **P 02 31 09.6 -0.2**
MESJ *i* Amb 02 31 23.3
comp=Z,204nm,1.5s
MESJ Messejana 22.60 276 P **P 02 31 09.8 -0.1**
MESJ pmax pmax
comp=Z,140nm,1.2s
MESJ Messejana 22.60 276 ⇑P **P 02 31 10.7 +0.9**
NAO01 NORSAR Array S 22.71 348 IAmb IAmb 02 31 15.1
comp=Z,159nm,1.1s
FINES FINESS Array B 22.73 7 P **P 02 31 09.2 -1.8**
FINES FINESS Array B 22.73 7 P **P 02 31 08.5 -2.4**
comp=Z,89nm,0.8s,baz=155,slow=10,SNR=77
FINES PcP **PcP 02 35 02.4 -0.1**
comp=Z,2.3nm,0.3s,baz=183,slow=2.9,SNR=8.3
FINES ScP **ScP 02 38 38.8 -1.2**
comp=Z,4.2nm,0.9s,baz=186,slow=3.4,SNR=3.9
FINES LR LR 02 40 54.5
comp=Z,4μm,20.1s,baz=191,slow=39
comp=Z,89nm,0.8s
FIA1 FINESS Array S 22.73 7 P **P 02 31 09.0 -2.0**
ODD1 Odda 22.74 342 *e*P **P 02 31 11.3 +0.2**
ODD1 IAmb IAmb 02 31 15.9
comp=Z,47nm,0.9s
ODD1 *e*S **S 02 35 20.5 +1.1**
ODD1 *e*ScP **ScP 02 38 41.0 +0.9**
ODD1 IAMs_20 IAMs_20 02 42 10.4
comp=Z,16μm,12.9s
PSBE So Bento 22.76 281 *e*P **P 02 31 13.3 +1.8**
PSBE *i* Amb 02 31 30.4
comp=Z,97nm,1.6s
EKA Eskdalemuir Ar 22.82 324 P **P 02 31 11.4 -0.6**
comp=Z,55nm,0.6s,baz=123,slow=11,SNR=308
EKA PcP **PcP 02 35 01.3 -1.6**
comp=Z,1.4nm,0.8s,baz=124,slow=2.5,SNR=1.9
EKA ScP **ScP 02 38 40.1 -0.2**
comp=Z,2.1nm,1.0s,baz=134,slow=3.1,SNR=4.0
comp=Z,55nm,0.6s
ESK Eskdalemuir 22.84 323 P **P 02 31 11.7 -0.4**
ESK Eskdalemuir 22.84 323 *e*P **P 02 31 11.5 -0.7**
ESK IAmb IAmb 02 31 14.4
comp=Z,161nm,0.9s
ESK Eskdalemuir 22.84 323 P **P 02 31 11.7 -0.4**
ESK pmax pmax
comp=Z,166nm,0.9s
ESK Eskdalemuir 22.84 323 ⇓P **P 02 31 11.2 -0.9**
NB2 NORSAR Subarra 22.84 348 P **P 02 31 11.2 -1.0**
comp=Z,212nm,1.1s,baz=156,slow=9.3
NB2 NORSAR Subarra 22.84 348 P **P 02 31 11.2 -1.0**
baz=156,slow=9.3
NOA NORSAR Array B 22.84 348 P **P 02 31 10.8 -1.4**
comp=Z,27nm,0.7s,baz=158,slow=9.2,SNR=106
NOA ScP **ScP 02 38 41.2 +0.8**
comp=Z,1.1nm,0.9s,baz=159,slow=2.5,SNR=2.0
NOA LR LR 02 41 45.8
comp=Z,6μm,18.1s,baz=165,slow=41
comp=Z,27nm,0.7s
IOMK Kirk Michael 22.91 320 *e*P **P 02 31 12.2 -0.7**
IOMK IAmb IAmb 02 31 16.7
comp=Z,53nm,1.0s
NBO00 NORSAR Array S 22.91 348 IAmb IAmb 02 31 17.1
comp=Z,138nm,0.8s
BELG Belogornoye 22.97 45 LR LR 02 41 07.2
comp=Z,5μm,19.8s,baz=241,slow=39
BELG Belogornoye 22.97 45 *i* P **P 02 31 13.4 -0.1**
BELG pmax pmax
comp=Z,89nm,1.3s
SKAR Skarslia 23.05 344 *e*P **P 02 31 14.6 +0.2**
SKAR IAmb IAmb 02 31 18.8
comp=Z,74nm,1.3s
SKAR *e*S **S 02 35 22.1 -2.7**
SKAR *e*ScP **ScP 02 38 44.3 +3.4**
SKAR IAMs_20 IAMs_20 02 42 02.4
comp=Z,6μm,13.6s
MORF Marmelete 23.05 275 P **P 02 31 17.4 +2.7**
MORF Marmelete 23.05 275 *e*P **P 02 31 14.2 -0.5**
MORF IAmb IAmb 02 31 19.6
comp=Z,27nm,1.0s
MORF Marmelete 23.05 275 *e*P **P 02 31 12.9 -1.8**
MORF *i* Amb 02 32 12.1
comp=Z,72nm,1.8s
MORF Marmelete 23.05 275 P **P 02 31 17.4 +2.7**
MORF pmax pmax
comp=Z,28nm,1.0s
PTEO Sao Teotonio 23.06 276 *e*P **P 02 31 15.9 +1.3**
PTEO *i* Amb 02 31 18.6
comp=Z,147nm,1.3s

NC204	**NORSAR Array S**	23.14	348		IAmb	IAmb	02 31 20.0	
	comp=Z,132nm,1.0s							
LIS	**Lisbon**	23.15	279	*e*P	**P**	**P**	**02 31 15.3**	**-0.3**
LIS					IAmb	IAmb	02 31 28.4	
	comp=Z,396nm,1.8s							
LIS	**Lisbon**	23.15	279	*e*P	**P**	**P**	**02 31 18.8**	**+3.2**
LIS				*i* Amb			02 31 29.4	
	comp=Z,258nm,1.6s							
LIS	**Lisbon**	23.15	279	*e*P	**P**	**P**	**02 31 15.3**	**-0.3**
EDI	**Edinburgh**	23.19	325	*e*P	**P**	**P**	**02 31 14.6**	**-1.2**
EDI					IAmb	IAmb	02 31 17.7	
	comp=Z,203nm,1.5s							
IWEX	**Carrickbyrne,**	23.19	314	P	**P**	**P**	**02 31 14.8**	**-1.0**
NEWG	**New Galloway**	23.20	322	*e*P	**P**	**P**	**02 31 14.9**	**-1.0**
PFVI	**Vila Bisbo**	23.23	275	*e*P	**P**	**P**	**02 31 17.3**	**+0.9**
PFVI				*i* Amb			02 32 05.3	
	comp=Z,115nm,1.6s							
GAL1	**Galloway**	23.30	321	*e*P	**P**	**P**	**02 31 15.7**	**-1.1**
GAL1					IAmb	IAmb	02 31 26.6	
	comp=Z,145nm,1.5s							
DSB	**Dublin**	23.35	316	P	**P**	**P**	**02 31 19.5**	**+2.1**
DSB	**Dublin**	23.35	316	P	**P**	**P**	**02 31 17.2**	**-0.2**
DSB	**Dublin**	23.35	316	⇓P	**P**	**P**	**02 31 20.3**	**+2.9**
KEF	**Keuruu**	23.35	5	*e*P	**P**	**P**	**02 31 16.3**	**-1.0**
BER	**Bergen**	23.48	341	*e*P	**P**	**P**	**02 31 19.0**	**+0.4**
BER				*e*S	**S**	**S**	**02 35 32.3**	**+0.6**
BER				*e*ScP	**ScP**	**ScP**	**02 38 42.4**	**+0.5**
BER				IAMs_20	IAMs_20	02 42 41.0		
	comp=Z,13μm,13.0s							
ASK	**Askoy**	23.60	341	*e*P	**P**	**P**	**02 31 19.6**	**-0.2**
ASK					IAmb	IAmb	02 31 25.4	
	comp=Z,52nm,1.1s							
ASK				*e*S	**S**	**S**	**02 35 36.8**	**+3.2**
ASK				*e*ScP	**ScP**	**ScP**	**02 38 44.0**	**+1.8**
ASK				IAMs_20	IAMs_20	02 42 45.0		
	comp=Z,14μm,12.1s							
ILTH	**Belurgan, Co L**	23.69	318	P	**P**	**P**	**02 31 19.5**	**-1.3**
HYA	**Hoyanger**	23.95	343	*e*P	**P**	**P**	**02 31 22.9**	**-0.2**
HYA				*e*S	**S**	**S**	**02 35 40.4**	**+1.2**
HYA				IAMs_20	IAMs_20	02 42 48.6		
	comp=Z,10μm,13.0s							
CLGH	**Cloghs, Cushen**	24.10	321	*e*P	**P**	**P**	**02 31 23.5**	**-1.2**
CLGH					IAmb	IAmb	02 31 28.2	
	comp=Z,109nm,1.0s							
VAF	**Ylistaro**	24.12	2	*e*P	**P**	**P**	**02 31 24.2**	**-0.5**
DOMB	**Dombas**	24.15	347	*e*P	**P**	**P**	**02 31 24.6**	**-0.5**
DOMB					IAmb	IAmb	02 31 29.5	
	comp=Z,121nm,0.8s							
DOMB				*e*S	**S**	**S**	**02 35 44.2**	**+1.6**
DOMB				*e*ScP	**ScP**	**ScP**	**02 38 45.3**	**+1.5**
DOMB				IAMs_20	IAMs_20	02 43 19.8		
	comp=Z,6μm,11.9s							
SUE	**Sulen**	24.20	341	*e*P	**P**	**P**	**02 31 25.6**	**+0.1**
SUE					IAmb	IAmb	02 31 29.4	
	comp=Z,95nm,1.4s							
SUE				*e*S	**S**	**S**	**02 35 48.4**	**+5.1**
SUE				*e*ScP	**ScP**	**ScP**	**02 38 46.9**	**+3.1**
SUE				IAMs_20	IAMs_20	02 43 10.2		
	comp=Z,16μm,12.1s							
KBD	**Kabd**	24.38	105	P	**P**	**P**	**02 31 29.1**	**+1.6**
KBD				S	**S**	**S**	**02 35 44.2**	**-2.5**
FOO	**Floro**	24.60	342	*e*P	**P**	**P**	**02 31 28.1**	**-1.0**
FOO				*e*S	**S**	**S**	**02 35 54.8**	**+5.2**
FOO				*e*ScP	**ScP**	**ScP**	**02 38 44.2**	**-0.7**
FOO				IAMs_20	IAMs_20	02 43 16.8		
	comp=Z,14μm,12.5s							
AKN	**Aaknes**	24.67	345	*e*P	**P**	**P**	**02 31 29.4**	**-0.5**
AKN					IAmb	IAmb	02 31 33.8	
	comp=Z,55nm,0.9s							
AKN				*e*S	**S**	**S**	**02 35 53.6**	**+2.6**
AKN				*e*ScP	**ScP**	**ScP**	**02 38 44.8**	**-0.4**
AKN				IAMs_20	IAMs_20	02 43 01.9		
	comp=Z,6μm,17.0s							
IDGL	**Inch Island, C**	24.79	320	P	**P**	**P**	**02 31 30.1**	**-0.9**
JOF	**Joensuu**	24.82	12	*e*P	**P**	**P**	**02 31 29.4**	**-1.7**
KLMR	**Klimovskoe**	24.86	22	*e*P	**P**	**P**	**02 31 27.6**	**-3.8**
KLMR				S	**S**	**S**	**02 35 53.2**	**-0.6**
KLMR				pmax	pmax			
	comp=Z,126nm,1.1s							
KLMR				MLR	MLR			
	comp=Z,4μm,13.0s							
MOL	**Molde**	24.92	346	*e*P	**P**	**P**	**02 31 31.9**	**-0.1**
MOL					IAmb	IAmb	02 31 41.1	
	comp=Z,56nm,0.9s							
MOL				*e*S	**S**	**S**	**02 35 58.9**	**+4.0**
MOL				*e*ScP	**ScP**	**ScP**	**02 38 49.3**	**+3.4**
MOL				IAMs_20	IAMs_20	02 42 42.5		
	comp=Z,6μm,17.6s							
VAL	**Valentia**	25.02	311	P	**P**	**P**	**02 31 32.6**	**-0.4**
IGLA	**Glengowla, Co**	25.05	315	P	**P**	**P**	**02 31 34.6**	**+1.3**
TBLU	**Trondheim**	25.09	349	*e*P	**P**	**P**	**02 31 33.6**	**+0.1**
TBLU				*e*S	**S**	**S**	**02 36 00.9**	**+3.4**
TBLU				*e*ScP	**ScP**	**ScP**	**02 38 55.8**	**+9.4**
TBLU				IAMs_20	IAMs_20	02 43 30.1		
	comp=Z,7μm,12.1s							
LRW	**Lerwick**	25.23	334	⇓P	**P**	**P**	**02 31 34.3**	**-0.5**
NSS	**Namsos**	26.09	351	*e*P	**P**	**P**	**02 31 41.0**	**-1.6**
NSS				*e*ScP	**ScP**	**ScP**	**02 38 59.8**	**+11**
NSS				IAMs_20	IAMs_20	02 43 01.2		
	comp=Z,9μm,11.4s							
RAYN	**Ar Rayn**	26.14	119	P	**P**	**P**	**02 31 44.4**	**+0.8**
RAYN					IAmb	IAmb	02 31 54.8	
	comp=Z,54nm,0.9s							
RAYN	**Ar Rayn**	26.14	119	P	**P**	**P**	**02 31 45.6**	**+2.0**
RAYN	**Ar Rayn**	26.14	119	P	**P**	**P**	**02 31 44.4**	**+0.8**
RAYN				pmax	pmax			
	comp=Z,54nm,1.0s							
RAYN	**Ar Rayn**	26.14	119	*i* P	**P**	**P**	**02 31 44.3**	**+0.8**
	SNR=44							
RAYN	**Ar Rayn**	26.14	119	⇑P	**P**	**P**	**02 31 44.4**	**+0.8**
KIRV	**Kirov**	26.93	34	LR	LR	LR	02 42 59.6	
	comp=Z,5μm,20.3s,baz=238,slow=38							
KIRV	**Kirov**	26.93	34	*ce*P	**P**	**P**	**02 31 48.9**	**-1.3**
MSF	**Maaselka**	27.40	7	P	**P**	**P**	**02 31 54.4**	**0.0**
MSF				pmax	pmax			
	comp=Z,171nm,1.1s							
MOR8	**Moi Rana**	27.46	355	*e*P	**P**	**P**	**02 31 54.9**	**-0.1**
MOR8					IAmb	IAmb	02 31 57.9	
	comp=Z,22nm,1.0s							
MOR8				IAMs_20	IAMs_20	02 43 29.3		
	comp=Z,9μm,15.7s							
LEIR	**Leirfjorden**	27.51	353	*e*P	**P**	**P**	**02 31 54.9**	**-0.5**
LEIR					IAmb	IAmb	02 31 58.9	
	comp=Z,38nm,1.0s							
LEIR				*e*S	**S**	**S**	**02 36 37.2**	**+1.5**
LEIR				*e*ScP	**ScP**	**ScP**	**02 38 54.4**	**+1.0**
LEIR				IAMs_20	IAMs_20	02 44 11.5		
	comp=Z,9μm,25.9s							
STOK	**Stokkvaagen**	27.73	353	*e*P	**P**	**P**	**02 31 56.8**	**-0.6**
STOK				*e*S	**S**	**S**	**02 36 39.3**	**+0.1**
STOK				IAMs_20	IAMs_20	02 43 33.3		
	comp=Z,8μm,19.0s							
FAUS	**Fauske**	28.60	356	*e*P	**P**	**P**	**02 32 04.3**	**-0.8**
FAUS					IAmb	IAmb	02 32 07.6	
	comp=Z,34nm,0.9s							
FAUS				*e*S	**S**	**S**	**02 36 53.2**	**+0.3**
FAUS				IAMs_20	IAMs_20	02 44 49.1		
	comp=Z,10μm,12.6s							
SHMA	**Al-Shehemyia**	28.61	108	P	**P**	**P**	**02 32 07.2**	**+1.6**
SHMA				S	**S**	**S**	**02 36 51.5**	**-2.3**
AKTO	**Aktyubinsk**	28.63	54	LR	LR	LR	02 46 10.8	
	comp=Z,2μm,18.2s,baz=262,slow=42							
AKTO	**Aktyubinsk**	28.63	54	P	**P**	**P**	**02 32 03.7**	**-1.9**
STEI	**Steigen**	29.15	356	*e*P	**P**	**P**	**02 32 09.1**	**-0.8**
STEI					IAmb	IAmb	02 32 17.7	
	comp=Z,66nm,1.3s							
STEI				*e*S	**S**	**S**	**02 37 03.9**	**+2.4**
STEI				IAMs_20	IAMs_20	02 45 07.1		
	comp=Z,11μm,12.5s							
SMRA	**Abu-Samra**	29.15	110	P	**P**	**P**	**02 32 12.0**	**+1.6**
TRNA	**Turayna**	29.44	110	P	**P**	**P**	**02 32 13.6**	**+0.7**
TRNA				S	**S**	**S**	**02 37 05.9**	**-1.1**
LOF	**Lofoten**	29.46	355	*e*P	**P**	**P**	**02 32 11.8**	**-0.9**
LOF					IAmb	IAmb	02 32 18.1	
	comp=Z,22nm,0.8s							
LOF				*e*S	**S**	**S**	**02 37 06.9**	**+0.6**
LOF				IAMs_20	IAMs_20	02 44 47.5		
	comp=Z,8μm,14.1s							
AB31	**Akbulak array**	29.72	57	*i* P	**P**	**P**	**02 32 13.5**	**-1.7**
ABKAR	**Akbulak array**	29.72	57	P	**P**	**P**	**02 32 13.6**	**-1.6**
ABKAR	**Akbulak array**	29.72	57	P	**P**	**P**	**02 32 13.7**	**-1.5**
ABKAR					IAmb	IAmb	02 33 12.9	
	comp=Z,22nm,0.9s							
ABKAR	**Akbulak array**	29.72	57	⇑P	**P**	**P**	**02 32 14.2**	**-1.0**
LVZ	**Lovozero**	29.98	11	*i* P	**P**	**P**	**02 32 17.2**	**-0.2**
LVZ				pmax	pmax			
	comp=Z,31nm,1.0s							
LVZ	**Lovozero**	29.98	11	P	**P**	**P**	**02 32 15.6**	**-1.8**
	comp=Z,76nm,1.6s							
KTK1	**Kautokeino**	30.11	2	*e*P	**P**	**P**	**02 32 17.3**	**-1.2**
KTK1					IAmb	IAmb	02 32 21.5	
	comp=Z,170nm,1.8s							
KTK1				*e*S	**S**	**S**	**02 37 16.9**	**+0.2**
KTK1				IAMs_20	IAMs_20	02 46 47.4		
	comp=Z,7μm,14.0s							
ARTI	**Arti**	30.29	42	P	**P**	**P**	**02 32 17.4**	**-2.8**
ARTI	**Arti**	30.29	42	LR	LR	LR	02 44 29.6	
	comp=Z,3μm,18.9s,baz=246,slow=36							
ARTI	**Arti**	30.29	42	*c i* P	**P**	**P**	**02 32 18.1**	**-2.1**
ARTI							02 35 20.7	
ARTI				S	**S**	**S**	**02 37 19.0**	**-0.7**
ARTI				pmax	pmax			
	comp=Z,104nm,1.2s							
ARTI	**Arti**	30.29	42	⇑P	**P**	**P**	**02 32 18.2**	**-2.1**
ARA0	**ARCESS Array S**	30.72	3	*e*P	**P**	**P**	**02 32 22.4**	**-1.5**
ARA0					IAmb	IAmb	02 32 26.1	
	comp=Z,92nm,1.1s							
ARA0				*e*S	**S**	**S**	**02 37 27.6**	**+1.4**
ARA0				IAMs_20	IAMs_20	02 46 50.2		
	comp=Z,7μm,15.4s							
ARCES	**ARCESS Array B**	30.72	3	P	**P**	**P**	**02 32 22.4**	**-1.4**
	comp=Z,23nm,0.8s,baz=188,slow=9.7,SNR=112							
ARCES				PcP	**PcP**	**PcP**	**02 35 20.4**	**-0.8**
	comp=Z,6.1nm,0.9s,baz=180,slow=2.9,SNR=2.0							
ARCES				LR	LR	LR	02 45 06.1	
	comp=Z,1μm,20.1s,baz=185,slow=37							
	comp=Z,23nm,0.8s							
TORD	**Torodi Ar. Bea**	30.72	218	P	**P**	**P**	**02 32 24.1**	**-0.2**
TORD	**Torodi Ar. Bea**	30.72	218	P	**P**	**P**	**02 32 24.0**	**-0.4**
	comp=Z,37nm,0.9s,baz=26,slow=8.6,SNR=154							
TORD				LR	LR	LR	02 45 25.1	
	comp=Z,2μm,21.0s,baz=35,slow=38							
	comp=Z,37nm,0.9s							
TRO	**Tromso**	30.72	359	*e*P	**P**	**P**	**02 32 22.6**	**-1.2**
TRO				*e*S	**S**	**S**	**02 37 28.2**	**+2.1**
TRO				IAMs_20	IAMs_20	02 47 16.8		
	comp=Z,9μm,12.7s							
KEV	**Kevo**	31.02	4	P	**P**	**P**	**02 32 25.3**	**-1.1**
KEV					IAmb	IAmb	02 32 34.7	
	comp=Z,42nm,1.0s							
KEV	**Kevo**	31.02	4	P	**P**	**P**	**02 32 25.3**	**-1.1**
KEV				pmax	pmax			
	comp=Z,42nm,1.0s							
KEV	**Kevo**	31.02	4	⇓P	**P**	**P**	**02 32 25.5**	**-1.0**
PMOZ	**Porto Moniz, M**	31.09	270	*e*S	**S**	**S**	**02 37 26.1**	**-6.8**
PMOZ				*i* AMs_20			02 49 58.3	
	comp=Z,792nm,18.0s							
GHWR	**Ruwais**	31.12	109	P	**P**	**P**	**02 32 28.7**	**+0.9**
GHWR				S	**S**	**S**	**02 37 29.5**	**-3.7**
VADS	**Vadso**	31.54	6	*e*P	**P**	**P**	**02 32 30.5**	**-0.5**
VADS					IAmb	IAmb	02 32 34.0	
	comp=Z,138nm,1.0s							
VADS				*e*S	**S**	**S**	**02 37 39.8**	**+0.9**
VADS				IAMs_20	IAMs_20	02 46 28.7		
	comp=Z,7μm,13.4s							
SVE	**Sverdlovsk**	31.61	42	*ce*P	**P**	**P**	**02 32 30.9**	**-0.9**
SVE				*e*S	**S**	**S**	**02 37 41.7**	**+1.4**
SVE				pmax	pmax			
	comp=Z,123nm,1.3s							
SVE				MLR	MLR			
	comp=Z,3μm,13.0s							
HAMF	**Hammerfest**	31.76	2	*e*P	**P**	**P**	**02 32 31.8**	**-1.2**
HAMF					IAmb	IAmb	02 32 37.7	
	comp=Z,22nm,0.9s							
HAMF				*e*S	**S**	**S**	**02 37 40.0**	**-2.4**
HAMF				IAMs_20	IAMs_20	02 47 47.5		
	comp=Z,10μm,12.0s							
MZWR	**Madinat Zayed**	31.98	108	P	**P**	**P**	**02 32 37.1**	**+1.7**
MZWR				S	**S**	**S**	**02 37 42.7**	**-4.0**
MZR	**Muzera**	32.14	110	P	**P**	**P**	**02 32 37.1**	**+0.3**
MZR	**Muzera**	32.14	110	*i* P	**P**	**P**	**02 32 36.1**	**-0.7**
	SNR=21							
SHME	**Shamm**	32.39	103	P	**P**	**P**	**02 32 40.4**	**+1.4**
ASUD	**Al Ashush, Dub**	32.56	106	P	**P**	**P**	**02 32 42.3**	**+1.8**
ASUD	**Al Ashush, Dub**	32.56	106	P	**P**	**P**	**02 32 40.2**	**-0.3**
BANOM	**Banah**	32.58	103	P	**P**	**P**	**02 32 39.9**	**-0.8**
NAZ	**Nazwa, Dubai**	32.61	105	P	**P**	**P**	**02 32 41.9**	**+1.0**
NAZ	**Nazwa, Dubai**	32.61	105	*i* P	**P**	**P**	**02 32 39.9**	**-1.1**
	SNR=17							
FAQ	**Al Faqa, Dubai**	32.69	105	P	**P**	**P**	**02 32 42.9**	**+1.3**
FAQ				S	**S**	**S**	**02 37 57.7**	**-0.1**
FAQ	**Al Faqa, Dubai**	32.69	105	P	**P**	**P**	**02 32 40.7**	**-1.0**
MASF	**Masafi**	32.77	104	P	**P**	**P**	**02 32 43.1**	**+0.7**
MASF				S	**S**	**S**	**02 38 00.2**	**+1.1**
MSFE	**Esma-Masafi**	32.78	104	P	**P**	**P**	**02 32 41.8**	**-0.7**
UOSS	**Minazif**	33.04	104	P	**P**	**P**	**02 32 43.6**	**-1.1**
UOSS	**Minazif**	33.04	104	P	**P**	**P**	**02 32 44.8**	**+0.1**
UOSS				S	**S**	**S**	**02 37 58.5**	**-4.8**
UOSS	**Minazif**	33.04	104	P	**P**	**P**	**02 32 43.4**	**-1.3**
UOSS	**Minazif**	33.04	104	⇓P	**P**	**P**	**02 32 43.8**	**-0.9**
HATD	**Hatta, Dubai**	33.05	105	P	**P**	**P**	**02 32 45.7**	**+0.9**
HATD				S	**S**	**S**	**02 37 59.1**	**-4.4**
HATD	**Hatta, Dubai**	33.05	105	*i* P	**P**	**P**	**02 32 43.6**	**-1.2**
	SNR=15							
ASHO	**Ashiyiah**	33.08	105	P	**P**	**P**	**02 32 47.0**	**+2.0**
	SNR=6.5							
ASHO	**Ashiyiah**	33.08	105	*i* P	**P**	**P**	**02 32 43.7**	**-1.4**
	SNR=10							
ALNE	**Al Ain**	33.20	106	P	**P**	**P**	**02 32 45.8**	**-0.4**
	SNR=10							
ALNE				S	**S**	**S**	**02 38 04.8**	**-0.9**
ALNE	**Al Ain**	33.20	106	*i* P	**P**	**P**	**02 32 44.9**	**-1.3**
	SNR=20							
SOHO	**SOHO**	33.74	105	P	**P**	**P**	**02 32 49.9**	**-1.0**
SOHO	**SOHO**	33.74	105	*i* P	**P**	**P**	**02 32 49.6**	**-1.3**
	SNR=34							
ARQ	**Araqi**	34.19	107	P	**P**	**P**	**02 32 55.2**	**+0.4**
	SNR=8.4							
ARQ				S	**S**	**S**	**02 38 20.5**	**-0.6**
HOQ	**Hoqain**	34.64	105	P	**P**	**P**	**02 33 00.0**	**+1.4**
BSY	**Bisya**	35.04	107	P	**P**	**P**	**02 33 03.4**	**+1.2**
DOK	**Doka**	35.40	115	P	**P**	**P**	**02 33 06.5**	**+1.3**
JMIC	**Jan Mayen**	35.40	344	LR	LR	LR	02 47 57.3	
	comp=Z,905nm,18.5s,baz=85,slow=37							
BORG	**Borgarnes**	35.45	330	LR	LR	LR	02 49 16.4	
	comp=Z,3μm,20.1s,baz=125,slow=39							
SMDO	**Samad**	35.50	105	P	**P**	**P**	**02 33 06.6**	**+0.4**
ABTO	**Aybut**	35.67	118	P	**P**	**P**	**02 33 09.5**	**+1.8**
WSAR	**Wadi Sarin**	35.83	105	LR	LR	LR	02 49 46.7	
	comp=Z,3μm,20.9s,baz=330,slow=40							
JMDO	**Jabal Madar**	35.94	106	P	**P**	**P**	**02 33 11.1**	**+1.2**
	SNR=5.4							
RBK	**Rabkut**	36.20	117	P	**P**	**P**	**02 33 13.4**	**+1.3**
	SNR=11							
BRVK	**Borovoye**	36.47	51	P	**P**	**P**	**02 33 12.9**	**-1.2**
BRVK					IAmb	IAmb	02 33 15.1	
	comp=Z,74nm,0.9s							
BRVK	**Borovoye**	36.47	51	P	**P**	**P**	**02 33 13.2**	**-0.9**
BRVK	**Borovoye**	36.47	51	*ce*P	**P**	**P**	**02 33 13.1**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,87nm,1.0s							
BRVK	**Borovoye**	36.47	51	⇑P	**P**	**P**	**02 33 12.9**	**-1.2**
BVA0	**Borovoye Array**	36.53	51	*i* P	**P**	**P**	**02 33 13.5**	**-1.1**
BVAR	**Borovoye Array**	36.53	51	P	**P**	**P**	**02 33 13.5**	**-1.1**
	comp=Z,35nm,0.8s,baz=266,slow=8.1,SNR=92							
BVAR				ScP	**ScP**	**ScP**	**02 39 24.3**	**+0.1**
	comp=Z,1.9nm,1.0s,baz=262,slow=4.1,SNR=1.7							
BVAR				LR	LR	LR	02 50 06.6	
	comp=Z,2μm,19.5s,baz=263,slow=40							
	comp=Z,35nm,0.8s							
NGCH	**Negor - Chabah**	36.58	100	P	**P**	**P**	**02 33 15.8**	**+0.6**
CHM	**Chimkent**	36.89	69	*e*P	**P**	**P**	**02 33 16.9**	**-0.9**
CHM				pmax	pmax			
	comp=Z,19nm,0.9s							
CHM	**Chimkent**	36.89	69	*e*P	**P**	**P**	**02 33 16.9**	**-0.9**
	comp=Z,19nm,0.9s							
BRLS	**Borolday**	36.92	68	*e*P	**P**	**P**	**02 33 16.7**	**-1.3**
BRLS				*e*S	**S**	**S**	**02 39 02.0**	**-0.7**
BRLS	**Borolday**	36.92	68	*e*P	**P**	**P**	**02 33 16.8**	**-1.3**
BRLS				*e*S	**S**	**S**	**02 39 02.1**	**-0.7**
IUG	**Iuzhnay**	37.24	69	*e*P	**P**	**P**	**02 33 19.9**	**-1.0**
IUG				*e*S	**S**	**S**	**02 39 07.7**	**0.0**
IUG				pmax	pmax			
	comp=Z,43nm,1.0s							
IUG	**Iuzhnay**	37.24	69	*e*P	**P**	**P**	**02 33 19.9**	**-1.0**
	comp=Z,43nm,1.0s							
IUG				*e*S	**S**	**S**	**02 39 07.7**	**0.0**
SIMJ	**Simiganj**	37.33	75	P	**P**	**P**	**02 33 21.5**	**-0.3**
SIMJ					IAmb	IAmb	02 33 49.2	
	comp=Z,44nm,1.0s							
KK31	**Karatay Array**	37.39	67	*i* P	**P**	**P**	**02 33 20.5**	**-1.6**
KKAR	**Karatay Array**	37.39	67	P	**P**	**P**	**02 33 21.6**	**-0.5**
KKAR					IAmb	IAmb	02 33 27.1	
	comp=Z,40nm,0.7s							
KKAR	**Karatay Array**	37.39	67	P	**P**	**P**	**02 33 20.7**	**-1.3**
KKAR	**Karatay Array**	37.39	67	P	**P**	**P**	**02 33 20.6**	**-1.5**
KKAR				pmax	pmax			
	comp=Z,40nm,0.7s							
KKAR	**Karatay Array**	37.39	67	⇓P	**P**	**P**	**02 33 21.1**	**-1.0**
LODK	**Lodwar**	37.86	156	P	**P**	**P**	**02 33 27.6**	**+1.3**
LODK	**Lodwar**	37.86	156	P	**P**	**P**	**02 33 29.0**	**+2.8**
	SNR=5.7							
OTUK	**Ortayu**	37.92	59	P	**P**	**P**	**02 33 24.9**	**-1.5**
BRZS	**Berezniki**	38.00	56	*e*P	**P**	**P**	**02 33 25.9**	**-1.2**
BRZS				*e*S	**S**	**S**	**02 39 18.9**	**0.0**
BRZS	**Berezniki**	38.00	56	*e*P	**P**	**P**	**02 33 25.9**	**-1.2**
BRZS				*e*S	**S**	**S**	**02 39 18.1**	**-0.8**
DZA	**Taraz**	38.02	67	*e*P	**P**	**P**	**02 33 26.5**	**-0.9**
DZA				pmax	pmax			
	comp=Z,14nm,0.8s							
DZA	**Taraz**	38.02	67	*e*P	**P**	**P**	**02 33 26.6**	**-0.9**
	comp=Z,14nm,0.8s							
ACRG	**Accra**	38.18	215	P	**P**	**P**	**02 33 29.1**	**+0.2**
ACRG					IAmb	IAmb	02 33 33.2	
	comp=Z,65nm,0.7s							
BTK	**Batken**	38.31	72	IAmb	IAmb	IAmb	02 33 37.0	
	comp=Z,42nm,0.8s							
BTK	**Batken**	38.31	72	P	**P**	**P**	**02 33 28.0**	**-1.9**
SCO	**Scoresbysund**	38.46	339	*i* P	**P**	**P**	**02 33 31.0**	**+0.3**
SCO					IAmb	IAmb	02 33 35.7	
	comp=Z,30nm,0.9s							
SCO	**Scoresbysund**	38.46	339	⇓P	**P**	**P**	**02 33 31.9**	**+1.2**
SPA0	**Spitsbergen Ar**	39.34	359	*e*P	**P**	**P**	**02 33 37.9**	**-0.1**
SPA0				*e*S	**S**	**S**	**02 39 41.1**	**+2.6**
SPA0				IAMs_20	IAMs_20	02 49 55.4		
	comp=Z,9μm,19.8s							
SPITS	**Spitsbergen Ar**	39.34	359	P	**P**	**P**	**02 33 37.3**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=150,slow=8.6,SNR=14							
SPITS				LR	LR	LR	02 53 12.4	
	comp=Z,2μm,18.4s,baz=142,slow=41							
	comp=Z,4.1nm,0.5s							
BTLS	**Baital**	39.53	63	*e*P	**P**	**P**	**02 33 39.4**	**-0.6**
BTLS				pmax	pmax			
	comp=Z,14nm,1.4s							
BTLS	**Baital**	39.53	63	*e*P	**P**	**P**	**02 33 39.1**	**-0.9**
DBIC	**Dimbokro**	39.55	222	P	**P**	**P**	**02 33 41.1**	**+0.7**
DBIC					IAmb	IAmb	02 33 45.8	
	comp=Z,94nm,1.1s							
DBIC	**Dimbokro**	39.55	222	P	**P**	**P**	**02 33 41.0**	**+0.6**
	comp=Z,28nm,0.5s,baz=20,slow=9.2,SNR=20							
DBIC				LR	LR	LR	02 51 01.4	
	comp=Z,4μm,20.0s,baz=18,slow=38							
	comp=Z,28nm,0.5s							
DBIC	**Dimbokro**	39.55	222	P	**P**	**P**	**02 33 41.1**	**+0.7**
DBIC				pmax	pmax			
	comp=Z,94nm,1.1s							
DBIC	**Dimbokro**	39.55	222	⇑P	**P**	**P**	**02 33 40.6**	**+0.3**
EKS2	**Erkin-Say**	39.83	67	P	**P**	**P**	**02 33 41.8**	**-0.9**
	SNR=70							
AML	**Almayashu**	39.90	68	P	**P**	**P**	**02 33 43.6**	**+0.1**
	SNR=16							
KBS	**Kingsbay**	40.21	357	*e*P	**P**	**P**	**02 33 45.8**	**+0.6**
KBS				*e*S	**S**	**S**	**02 39 53.1**	**+1.7**
KBS				IAMs_20	IAMs_20	02 49 09.5		
	comp=Z,3μm,26.6s							
USP	**Ospenovka**	40.21	66	P	**P**	**P**	**02 33 44.9**	**-0.9**
	SNR=16							
DBG	**Daneborg**	40.24	344	*i* P	**P**	**P**	**02 33 48.8**	**+3.4**
DBG					IAmb	IAmb	02 33 52.7	
	comp=Z,14nm,1.1s							
AAK	**Ala-Archa**	40.35	67	P	**P**	**P**	**02 33 47.2**	**+0.1**
AAK

SATY	**Saty**	**43.04**	**65**	*e*P	**P**	**02 34 08.1**	**-1.0**
KPKS	**Kokpek**	**43.13**	**65**	*e*P	**P**	**02 34 08.6**	**-1.1**
KPKS	**Kokpek**	**43.13**	**65**	*e*P	**P**	**02 34 08.6**	**-1.1**
PRZ	**Przheval'sk**	**43.19**	**66**	P	**P**	**02 34 11.5**	**+1.2**
UZB	**Uzynbulak**	**43.45**	**65**	*e*P	**P**	**02 34 11.4**	**-0.9**
UZB	**Uzynbulak**	**43.45**	**65**	*e*P	**P**	**02 34 11.4**	**-0.9**
ICESG	**Greenland Ices**	**43.65**	**333**	*i* P	**P**	**02 34 15.6**	**+1.8**
ICESG				IAmb	IAmb	02 34 20.4	
comp=Z,50nm,1.0s							
PDGK	**Podgornoye**	**43.73**	**65**	P	**P**	**02 34 13.3**	**-1.3**
SHLS	**Shalkode**	**43.76**	**65**	*e*P	**P**	**02 34 16.1**	**+1.3**
SHLS				pmax	pmax		
comp=Z,14nm,1.2s							
SHLS	**Shalkode**	**43.76**	**65**	*e*P	**P**	**02 34 16.3**	**+1.5**
SUMG	**Summit**	**44.10**	**338**	P	**P**	**02 34 17.6**	**+0.1**
SUMG	**Summit**	**44.10**	**338**	P	**P**	**02 34 17.6**	**+0.1**
SUMG				pmax	pmax		
comp=Z,24nm,0.9s							
SUMG	**Summit**	**44.10**	**338**	*i* P	**P**	**02 34 17.0**	**-0.5**
SUMG				IAmb	IAmb	02 34 22.3	
comp=Z,25nm,1.0s							
SUMG	**Summit**	**44.10**	**338**	⇓P	**P**	**02 34 17.9**	**+0.4**
WUS	**Wushi**	**44.13**	**68**	IAmb	IAmb	02 34 27.4	
comp=Z,62nm,1.0s							
KIBK	**Kibwezi**	**44.14**	**155**	P	**P**	**02 34 19.0**	**+1.0**
MAKZ	**Makanchi**	**44.59**	**59**	P	**P**	**02 34 19.9**	**-1.4**
MAKZ	**Makanchi**	**44.59**	**59**	P	**P**	**02 34 19.9**	**-1.4**
MAKZ				pmax	pmax		
comp=Z,20nm,0.9s							
NOR	**Nord**	**44.69**	**353**	*i* P	**P**	**02 34 21.0**	**-0.6**
NOR				IAmb	IAmb	02 34 24.9	
comp=Z,29nm,0.9s							
NOR	**Nord**	**44.69**	**353**	⇑P	**P**	**02 34 20.9**	**-0.6**
MK31	**Makanchi Array**	**44.80**	**59**	*ce*P	**P**	**02 34 21.4**	**-1.6**
MKAR	**Makanchi Array**	**44.80**	**59**	P	**P**	**02 34 21.3**	**-1.7**
MKAR	**Makanchi Array**	**44.80**	**59**	P	**P**	**02 34 20.9**	**-2.2**
comp=Z,18nm,0.6s,baz=282,slow=6.7,SNR=106							
MKAR				PcP	**PcP**	**02 36 04.6**	**-0.2**
comp=Z,3.3nm,0.6s,baz=280,slow=3.6,SNR=0.8							
MKAR				ScP	**ScP**	**02 39 56.3**	**-0.6**
comp=Z,2.9nm,0.8s,baz=298,slow=2.6,SNR=5.0							
MKAR				LR	LR	02 56 23.0	
comp=Z,1μm,19.5s,baz=261,slow=41							
comp=Z,18nm,0.6s							
MKAR	**Makanchi Array**	**44.80**	**59**	*ce*P	**P**	**02 34 20.8**	**-2.2**
MKAR				pmax	pmax		
comp=Z,16nm,0.6s							
ZALV	**Zalesovo Beam**	**45.09**	**49**	P	**P**	**02 34 23.3**	**-1.8**
ZALV	**Zalesovo Beam**	**45.09**	**49**	P	**P**	**02 34 23.1**	**-2.0**
comp=Z,56nm,0.7s,baz=279,slow=7.7,SNR=187							
ZALV				S	**S**	**02 40 59.7**	**-4.0**
comp=Z,3.9nm,0.8s,baz=268,slow=10,SNR=5.8							
ZALV				LR	LR	02 55 29.2	
comp=Z,3μm,18.8s,baz=276,slow=39							
comp=Z,56nm,0.7s							
ZALV	**Zalesovo Beam**	**45.09**	**49**	P	**P**	**02 34 23.3**	**-1.8**
NRIK	**Noril'sk**	**46.03**	**27**	P	**P**	**02 34 32.4**	**0.0**
NRIK				IAmb	IAmb	02 34 38.8	
comp=Z,54nm,1.1s							
NRIK	**Noril'sk**	**46.03**	**27**	P	**P**	**02 34 31.9**	**-0.4**
comp=Z,16nm,0.6s,baz=263,slow=5.1,SNR=34							
NRIK				LR	LR	02 56 34.8	
comp=Z,3μm,19.1s,baz=266,slow=40							
comp=Z,16nm,0.6s							
NRIK	**Noril'sk**	**46.03**	**27**	*ce*P	**P**	**02 34 33.1**	**+0.7**
NRIK				pmax	pmax		
comp=Z,64nm,1.1s							
NRIK				MLR	MLR		
comp=Z,3μm,19.0s							
ZSN	**Zaisan**	**46.36**	**58**	*e*P	**P**	**02 34 34.4**	**-0.9**
ZSN				*e*S	**S**	**02 41 22.1**	**-0.2**
ZSN				pmax	pmax		
comp=Z,18nm,1.0s							
ZSN	**Zaisan**	**46.36**	**58**	*e*P	**P**	**02 34 34.5**	**-0.9**
comp=Z,18nm,1.0s							
ZSN				*e*S	**S**	**02 41 22.1**	**-0.2**
SFJD	**Kangerlussuaq**	**47.58**	**330**	LR	LR	02 56 11.7	
comp=Z,2μm,19.4s,baz=86,slow=38							
ILULI	**Ilulissat**	**47.74**	**333**	*i* P	**P**	**02 34 47.6**	**+1.9**
ILULI				IAmb	IAmb	02 34 49.9	
comp=Z,59nm,1.3s							
UMMG	**Uummannaq**	**48.10**	**335**	*i* P	**P**	**02 34 48.8**	**+0.3**
UMMG				IAmb	IAmb	02 34 52.9	
comp=Z,38nm,1.0s							
NEEM	**North Greenlan**	**48.32**	**344**	*i* P	**P**	**02 34 49.4**	**-1.1**
NEEM				IAmb	IAmb	02 34 54.0	
comp=Z,11nm,0.9s							
NUUG	**Nuugaatsiaq**	**48.46**	**336**	*i* P	**P**	**02 34 53.8**	**+2.5**
NUUG				IAmb	IAmb	02 34 58.4	
comp=Z,22nm,1.0s							
WMQ	**Urumqi**	**49.29**	**62**	*e*P	**P**	**02 34 58.5**	**+0.4**
WMQ				pP	sP	02 35 06.3	+2.9
WMQ				S	**S**	**02 42 04.6**	**+0.5**
WMQ				pmax	pmax		
comp=Z,18nm,1.7s							
WMQ				LR	LR		
comp=Z,3μm,18.5s							
WMQ				LR	LR		
comp=Z,3μm,14.9s							
WMQ				LR	LR		
comp=Z,1μm,21.1s							
UPNV	**Upernavik**	**49.36**	**338**	*i* P	**P**	**02 34 59.9**	**+1.8**
UPNV				IAmb	IAmb	02 35 03.2	
comp=Z,32nm,1.1s							
KULLO	**Kullorsuaq**	**49.64**	**340**	*i* P	**P**	**02 34 59.5**	**-0.7**
KULLO				IAmb	IAmb	02 35 03.9	
comp=Z,16nm,0.8s							
HYB	**Hyderabad**	**54.44**	**96**	*e*P	**P**	**02 35 38.9**	**+2.1**
HYB				IVmB_BB		02 35 43.7	
comp=Z,248nm,2.0s							
HYB				IVMs_BB	IVMs_BB	02 59 19.2	
comp=Z,345nm,23.5s							
LSZ	**Lusaka**	**54.44**	**171**	P	**P**	**02 35 37.4**	**+0.7**
LSZ				IAmb	IAmb	02 35 42.3	
comp=Z,28nm,0.8s							
LSZ	**Lusaka**	**54.44**	**171**	LR	LR	03 00 13.1	
comp=Z,2μm,20.9s,baz=1.0,slow=38							
LSZ	**Lusaka**	**54.44**	**171**	P	**P**	**02 35 37.4**	**+0.7**
LSZ				pmax	pmax		
comp=Z,28nm,0.8s							
LSZ	**Lusaka**	**54.44**	**171**	⇑P	**P**	**02 35 37.8**	**+1.1**
DRLN	**Deer Lake**	**54.67**	**308**	P	**P**	**02 35 38.1**	**+0.2**
MOY	**Mondy**	**55.14**	**48**	*e*P	**P**	**02 35 41.6**	**0.0**
MOY				pmax	pmax		
comp=Z,30nm,2.5s							
FRB	**Frobisher Bay**	**55.52**	**327**	LR	LR	03 00 57.1	
comp=Z,3μm,18.6s,baz=69,slow=38							
KSANE	**Kasane**	**56.65**	**175**	*i* P	**P**	**02 35 53.5**	**+1.0**
IRK	**Irkutsk**	**56.82**	**47**	*e*P	**P**	**02 35 51.5**	**-1.9**
IRK				pmax	pmax		
comp=Z,72nm,2.1s							
ZAK	**Zakamensk**	**56.96**	**49**	*e*P	**P**	**02 35 53.5**	**-1.1**
ZAK				pmax	pmax		
comp=Z,11nm,1.1s							
XAUDM	**Khaudum**	**57.23**	**179**	*i* P	**P**	**02 35 57.4**	**+0.7**
GOMU	**GeErMu**	**57.30**	**68**	P	**P**	**02 35 56.5**	**-1.0**
GOMU				pP	sP	02 36 02.7	-0.1
GOMU				sP	pP	02 36 09.9	+8.5
GOMU				pmax	pmax		
comp=Z,10.0nm,1.3s							
GOMU				pmax	pmax		
comp=Z,250nm,5.1s							
GOMU				LR	LR		
comp=Z,2μm,18.4s							
GOMU				LR	LR		
comp=Z,2μm,18.6s							
GOMU				LR	LR		
comp=Z,2μm,19.3s							
LSA	**Lhasa**	**57.65**	**76**	P	**P**	**02 35 59.8**	**-0.4**
LSA				IAmb	IAmb	02 36 04.3	
comp=Z,18nm,0.5s							
LSA	**Lhasa**	**57.65**	**76**	P	**P**	**02 35 59.4**	**-0.8**
LSA				S	**S**	**02 43 51.6**	**-7.2**
LSA				pmax	pmax		
comp=Z,21nm,0.6s							
LSA				LR	LR		
comp=Z,2μm,21.6s							
LSA				LR	LR		
comp=Z,620nm,27.9s							
LSA	**Lhasa**	**57.65**	**76**	P	**P**	**02 35 59.8**	**-0.4**
LSA				pmax	pmax		
comp=Z,18nm,0.5s							
SCHQ	**Schefferville**	**57.93**	**317**	P	**P**	**02 36 01.1**	**-0.1**
SCHQ	**Schefferville**	**57.93**	**317**	P	**P**	**02 36 01.3**	**+0.1**
comp=Z,20nm,1.0s,baz=68,slow=7.8,SNR=18							
SCHQ				LR	LR	03 00 37.3	
comp=Z,1μm,18.7s,baz=78,slow=36							
comp=Z,20nm,1.0s							
TSUM	**Tsumeb**	**57.95**	**183**	LR	LR	03 02 25.0	
comp=Z,2μm,20.4s,baz=2.0,slow=38							
QNGWA	**Qangwa**	**58.21**	**179**	*i* P	**P**	**02 36 03.8**	**+0.2**
RES	**Resolute Bay**	**59.02**	**344**	P	**P**	**02 36 08.8**	**+0.4**
RES	**Resolute Bay**	**59.02**	**344**	LR	LR	03 01 52.9	
comp=Z,1μm,18.8s,baz=44,slow=36							
RES	**Resolute Bay**	**59.02**	**344**	P	**P**	**02 36 08.8**	**+0.4**
RES				pmax	pmax		
comp=Z,9.0nm,0.9s							
GTA	**Gaotai**	**59.37**	**62**	*e*P	**P**	**02 36 08.7**	**-2.9**
GTA				pP	pP	02 36 12.6	-2.9
GTA				S	**S**	**02 44 16.7**	**-3.5**
GTA				pmax	pmax		
comp=Z,7.0nm,1.0s							
GTA				LR	LR		
comp=Z,590nm,18.7s							
GTA				LR	LR		
comp=Z,1μm,18.7s							
GTA				LR	LR		
comp=Z,2μm,19.1s							
BOD	**Bodaibo**	**59.68**	**38**	*e*P	**P**	**02 36 11.1**	**-2.2**
BOD				pmax	pmax		
comp=Z,28nm,1.8s							
SONM	**Songino Array**	**59.88**	**51**	P	**P**	**02 36 14.9**	**-0.1**
SONM				IAmb	IAmb	02 36 40.9	
comp=Z,40nm,1.4s							
SONM	**Songino Array**	**59.88**	**51**	P	**P**	**02 36 13.2**	**-1.8**
comp=Z,12nm,1.1s,baz=292,slow=7.8,SNR=45							
SONM				ScP	**ScP**	**02 41 02.2**	**+0.1**
comp=Z,1.5nm,0.9s,baz=312,slow=6.8,SNR=3.2							
SONM				LR	LR	03 04 33.9	
comp=Z,2μm,19.9s,baz=302,slow=39							
comp=Z,12nm,1.1s							
SONM	**Songino Array**	**59.88**	**51**	P	**P**	**02 36 14.9**	**-0.1**
SONM				pmax	pmax		
comp=Z,40nm,1.4s							
GRTLG	**Ghanzi**	**60.03**	**179**	*i* P	**P**	**02 36 16.9**	**+0.7**
BROLN	**Tlhalogang**	**60.10**	**173**	*i* P	**P**	**02 36 17.4**	**+0.7**
CKGRV	**CKGRV**	**60.15**	**177**	*i* P	**P**	**02 36 17.9**	**+1.0**
ULN	**Ulaanbaatar**	**60.26**	**51**	P	**P**	**02 36 17.9**	**+0.2**
ULN	**Ulaanbaatar**	**60.26**	**51**	P	**P**	**02 36 17.9**	**+0.2**
ULN				pmax	pmax		
comp=Z,15nm,0.9s							
SHL	**Shillong**	**60.31**	**80**	P	**P**	**02 36 17.6**	**-0.8**
SHL	**Shillong**	**60.31**	**80**	P	**P**	**02 36 17.6**	**-0.8**
SHL				pmax	pmax		
comp=Z,145nm,1.9s							
ICQ	**Pointe Anglais**	**60.41**	**312**	P	**P**	**02 36 19.4**	**+1.1**
ICQ				IAmb	IAmb	02 36 31.8	
comp=Z,23nm,1.0s							
LMN	**Caledonia Moun**	**60.56**	**307**	P	**P**	**02 36 20.3**	**+0.7**
BATG	**Bathurst New B**	**60.69**	**309**	P	**P**	**02 36 21.3**	**+0.8**
WIN	**Windhoek**	**61.32**	**184**	P	**P**	**02 36 25.9**	**+0.8**
WIN	**Windhoek**	**61.32**	**184**	P	**P**	**02 36 25.9**	**+0.8**
WIN				pmax	pmax		
comp=Z,45nm,0.8s							
KGCAE	**Kacgae**	**61.53**	**178**	*i* P	**P**	**02 36 27.3**	**+0.9**
KOOLE	**Kule**	**61.66**	**180**	*i* P	**P**	**02 36 28.3**	**+1.0**
BRDH	**Bariadhala**	**61.68**	**83**	LR	LR	03 06 49.6	
comp=Z,2μm,19.4s,baz=328,slow=40							
KDWAN	**Kaudwane**	**62.16**	**176**	*i* P	**P**	**02 36 33.5**	**+3.0**
LPHEP	**Lephephe**	**62.22**	**175**	*i* P	**P**	**02 36 31.8**	**+0.9**
PALK	**Pallekele**	**62.32**	**104**	P	**P**	**02 36 32.0**	**+0.1**
PALK	**Pallekele**	**62.32**	**104**	LR	LR	03 05 43.2	
comp=Z,1μm,18.9s,baz=319,slow=38							
PALK	**Pallekele**	**62.32**	**104**	P	**P**	**02 36 32.0**	**+0.1**
PALK				pmax	pmax		
comp=Z,54nm,1.1s							
OPO	**Ambohidratompo**	**62.42**	**151**	LR	LR	03 04 07.2	
comp=Z,497nm,21.2s,baz=182,slow=36							
D62A	**Allapoint, All**	**62.59**	**310**	P	**P**	**02 36 33.6**	**+0.4**
D62A				IAmb	IAmb	02 36 37.9	
comp=Z,31nm,1.0s							
F64A	**Sherman**	**62.75**	**308**	P	**P**	**02 36 35.0**	**+0.7**
F64A				IAmb	IAmb	02 36 38.7	
comp=Z,29nm,1.2s							
LKGWB	**Lokgwabe**	**62.77**	**179**	*i* P	**P**	**02 36 35.3**	**+0.7**
E62A	**Clayton Lake**	**63.09**	**309**	P	**P**	**02 36 37.0**	**+0.4**
LMQ	**La Malbaie**	**63.12**	**311**	P	**P**	**02 36 37.2**	**+0.4**
LMQ				IAmb	IAmb	02 36 41.1	
comp=Z,27nm,1.2s							
SKOMA	**Sekoma**	**63.25**	**177**	*i* P	**P**	**02 36 38.1**	**+0.3**
LDAQ	**Lac Daran**	**63.46**	**311**	P	**P**	**02 36 40.0**	**+0.9**
LDAQ				IAmb	IAmb	02 36 53.3	
comp=Z,30nm,1.2s							
LZH	**Lanzhou**	**63.76**	**64**	*e*P	**P**	**02 36 41.2**	**-0.2**
LZH				sP	sP	02 36 53.9	+7.2
LZH				S	**S**	**02 45 19.5**	**+3.4**
LZH				pmax	pmax		
comp=Z,37nm,1.1s							
LZH				LR	LR		
comp=Z,1μm,17.0s							
LZH				LR	LR		
comp=Z,2μm,16.5s							
LZH				LR	LR		
comp=Z,3μm,17.2s							
LBTB	**Lobatse**	**63.84**	**175**	P	**P**	**02 36 42.8**	**+1.1**
LBTB	**Lobatse**	**63.84**	**175**	LR	LR	03 05 47.6	
comp=Z,2μm,20.3s,baz=356,slow=37							
LBTB	**Lobatse**	**63.84**	**175**	P	**P**	**02 36 42.8**	**+1.1**
LBTB				pmax	pmax		
comp=Z,46nm,1.1s							
PHPEN	**Phepeng**	**64.16**	**178**	*i* P	**P**	**02 36 44.2**	**+0.4**
WVL	**Waterville**	**64.19**	**307**	IAmb	IAmb	02 37 36.4	
comp=Z,37nm,1.3s							
YAK	**Yakutsk**	**64.36**	**30**	LR	LR	03 05 39.4	
comp=Z,2μm,21.1s,baz=302,slow=37							
YAK	**Yakutsk**	**64.36**	**30**	*e*P	**P**	**02 36 43.2**	**-1.4**
YAK				*e**PP	**pP**	**02 36 47.9**	**-0.6**
YAK				*e*		02 37 15.6	
YAK				*e*		02 39 04.4	
YAK				*e*PPP	PPP	02 40 35.2	
YAK				*e*S	**S**	**02 45 22.1**	**-0.2**
YAK				*e*		02 46 35.8	
YAK				pmax	pmax		
comp=Z,16nm,0.9s							
YAK				pmax	pmax		
comp=N,2.0nm,0.9s							
YAK				pmax	pmax		
comp=E,6.0nm,1.2s							
YAK				pmax	pmax		
comp=Z,269nm,4.3s							
YAK				pmax	pmax		
comp=N,175nm,4.7s							
YAK				pmax	pmax		
comp=E,131nm,4.3s							
YAK				smax	smax		
comp=E,80nm,4.3s							
YAK				smax	smax		
comp=N,71nm,3.3s							
YAK				MLR	MLR		
comp=Z,3μm,25.0s							
YAK				MLR	MLR		
comp=N,2μm,22.0s							
YAK				MLR	MLR		
comp=E,3μm,24.0s							
H62A	**Milan**	**65.11**	**308**	P	**P**	**02 36 49.9**	**0.0**
H62A				IAmb	IAmb	02 37 04.1	
comp=Z,31nm,1.2s							
VOI	**Vohitsoka**	**65.34**	**153**	P	**P**	**02 36 52.9**	**+1.2**
VOI				IAmb	IAmb	02 36 58.1	
comp=Z,41nm,1.2s							
I62A	**Tamworth**	**65.58**	**307**	P	**P**	**02 36 53.7**	**+0.7**
BTO	**Baotou**	**65.63**	**57**	*e*P	**P**	**02 36 52.1**	**-1.3**
BTO				pP	**pP**	**02 36 57.0**	**-0.4**
BTO				sP	**sP**	**02 36 59.9**	**+1.1**
BTO				S	**S**	**02 45 36.2**	**-2.7**
BTO				pmax	pmax		
comp=Z,27nm,0.7s							
BTO				pmax	pmax		
comp=Z,240nm,4.3s							
BTO				LR	LR		
comp=Z,3μm,13.5s							
BTO				LR	LR		
comp=Z,3μm,14.7s							
BTO				LR	LR		
comp=Z,3μm,15.7s							
TNCH	**TengChong**	**65.67**	**77**	P	**P**	**02 36 53.3**	**-0.7**
TNCH				pP	pP	02 36 56.4	-1.5
TNCH				sP	sP	02 36 59.6	+0.3
TNCH				PcP	**PcP**	**02 37 24.9**	**-0.5**
TNCH				S	**S**	**02 45 39.8**	**-0.1**
TNCH				sS	pS	02 45 44.0	-0.8
TNCH				pmax	pmax		
comp=Z,11nm,0.7s							
TNCH				pmax	pmax		
comp=Z,68nm,2.7s							
TNCH				LR	LR		
comp=Z,380nm,18.0s							
TNCH				LR	LR		
comp=Z,230nm,17.6s							
TNCH				LR	LR		
comp=Z,800nm,29.0s							
LBNH	**Lisbon**	**65.75**	**308**	P	**P**	**02 36 54.2**	**+0.1**
LBNH				IAmb	IAmb	02 37 08.1	
comp=Z,28nm,1.1s							
LBNH	**Lisbon**	**65.75**	**308**	P	**P**	**02 36 54.2**	**+0.1**
LBNH				pmax	pmax		
comp=Z,28nm,1.2s							
MNTQ	**Montreal, Queb**	**66.12**	**310**	IAmb	IAmb	02 37 01.9	
comp=Z,45nm,1.3s							
VT1	**Waterbury**	**66.21**	**308**	IAmb	IAmb	02 37 04.2	
comp=Z,18nm,1.1s							
BCX	**Boston College**	**66.28**	**306**	IAmb	IAmb	02 37 03.1	
comp=Z,27nm,1.1s							
TRQ	**Mont Tremblant**	**66.30**	**311**	IAmb	IAmb	02 37 02.1	
comp=Z,29nm,1.2s							
WES	**Weston**	**66.35**	**306**	IAmb	IAmb	02 37 09.4	
comp=Z,26nm,1.0s							
CD2	**Chengdu**	**66.39**	**69**	P	**P**	**02 36 56.5**	**-1.9**
CD2				S	**S**	**02 45 48.7**	**+0.4**
CD2				pmax	pmax		
comp=Z,20nm,1.3s							
CD2				LR	LR		
comp=Z,480nm,14.6s							
CD2				LR	LR		
comp=Z,720nm,16.5s							
CD2				LR	LR		
comp=Z,950nm,16.5s							
HRV	**Adam Dziewonsk**	**66.44**	**306**	P	**P**	**02 36 59.2**	**+0.8**
HRV				IAmb	IAmb	02 37 12.0	
comp=Z,42nm,1.2s							
HRV	**Adam Dziewonsk**	**66.44**	**306**	P	**P**	**02 36 59.2**	**+0.8**
HRV				pmax	pmax		
comp=Z,42nm,1.3s							
HHC	**Hu-ho-hao-te**	**66.50**	**56**	*e*P	**P**	**02 36 58.4**	**-0.7**
HHC				pP	pP	02 37 02.6	-0.4
HHC				S	**S**	**02 45 47.2**	**-2.3**
HHC				sS	sS	02 45 56.5	+0.5
HHC				ScS	**SKSac**	**02 46 49.2**	**-6.4**
HHC				SS	**SS**	**02 50 09.3**	**+3.4**
HHC				pmax	pmax		
comp=Z,12nm,0.8s							
HHC				pmax	pmax		
comp=Z,89nm,4.4s							
HHC				LR	LR		
comp=Z,980nm,16.1s							
HHC				LR	LR		
comp=Z,1μm,17.6s							
HHC				LR	LR		
comp=Z,2μm,16.0s							
J61A	**Chester**	**66.61**	**307**	IAmb	IAmb	02 37 13.8	
comp=Z,20nm,1.1s							
A36M	**Sachs Harbour**	**66.75**	**349**	P	**P**	**02 37 00.2**	**+0.3**
baz=28							
HIA	**Hailar**	**66.88**	**45**	IAmb	IAmb	02 37 34.8	
comp=Z,38nm,1.2s							
HIA	**Hailar**	**66.88**	**45**	*i* P	**P**	**02 37 01.3**	**+0.1**
HIA				pmax	pmax		
comp=Z,16nm,1.1s							
VLDQ	**Val d'Or**	**66.95**	**314**	IAmb	IAmb	02 37 06.9	
comp=Z,34nm,1.2s							
L61B	**Northampton**	**67.17**	**307**	P	**P**	**02 37 04.8**	**+1.7**
baz=58							
ACCN	**Adirondack Com**	**67.28**	**308**	IAmb	IAmb	02 37 09.8	
comp=Z,26nm,0.9s							
PZH	**PanZhiHua**	**67.29**	**74**	P	**P**	**02 37 03.0**	**-1.3**
PZH				S	S	02 45 47.9	-12
PZH				pmax	pmax		
comp=Z,20nm,0.7s							
PZH				pmax	pmax		
comp=Z,110nm,4.3s							
PZH				LR	LR		
comp=Z,590nm,23.5s							
PZH				LR	LR		
comp=Z,420nm,22.1s							
PZH				LR	LR		
comp=Z,740nm,25.0s							
M63A	**Gales Ferry**	**67.33**	**305**	P	**P**	**02 37 04.5**	**+0.4**
M63A				IAmb	IAmb	02 37 09.5	
comp=Z,27nm,1.1s							
BOSA	**Boshof**	**67.39**	**176**	P	**P**	**02 37 05.3**	**+0.7**
BOSA				IAmb	IAmb	02 37 09.9	
comp=Z,21nm,0.8s							
BOSA	**Boshof**	**67.39**	**176**	P	**P**	**02 37 04.1**	**-0.5**
comp=Z,5.5nm,0.9s,baz=354,slow=6.7,SNR=31							
BOSA				PP	**PP**	**02 39 33.0**	**-0.6**
comp=Z,4.1nm,0.7s,baz=23,slow=7.1,SNR=3.1							
BOSA				LR	LR	03 08 46.8	
comp=Z,2μm,19.8s,baz=6.5,slow=38							
comp=Z,5.5nm,0.9s							
BOSA	**Boshof**	**67.39**	**176**	P	**P**	**02 37 05.3**	**+0.7**
BOSA				pmax	pmax		
comp=Z,21nm,0.9s							
XLT	**XiLinHaoTe**	**67.70**	**51**	*e*P	**P**	**02 37 06.6**	**0.0**
XLT				pP	pP	02 37 10.1	-0.4
XLT				PcP	**PcP**	**02 37 26.7**	**-6.7**
XLT				S	**S**	**02 46 05.4**	**+1.6**
XLT				pmax	pmax		
comp=Z,12nm,1.0s							
XLT				pmax	pmax		
comp=Z,120nm,4.7s							
XLT				LR	LR		
comp=Z,2μm,16.5s							
XLT				LR	LR		
comp=Z,1μm,17.9s							
J59A	**Piesco**	**67.75**	**308**	IAmb	IAmb	02 37 12.1	
comp=Z,28nm,1.1s							
XAN	**Xi'an**	**68.38**	**63**	⇑P	**P**	**02 37 09.8**	**-1.2**
XAN				pP	sP	02 37 17.4	+1.1
XAN				S	**S**	**02 46 09.8**	**-2.3**
XAN				SS	**SS**	**02 50 34.4**	**-0.7**
XAN				pmax	pmax		
comp=Z,29nm,1.4s							
XAN				pmax	pmax		
comp=Z,170nm,4.1s							
XAN				LR	LR		
comp=Z,2μm,15.6s							
XAN				LR	LR		
comp=Z,2μm,16.1s							
XAN				LR	LR		
comp=Z,1μm,17.2s							
FCC	**Fort Churchill**	**68.60**	**329**	P	**P**	**02 37 11.9**	**+0.1**
FCC				IAmb	IAmb	02 37 16.6	
comp=Z,22nm,0.9s							
FCC	**Fort Churchill**	**68.60**	**329**	P	**P**	**02 37 11.9**	**+0.1**
FCC				pmax	pmax		
comp=Z,22nm,0.9s							
RCBR	**Riachuelo**	**68.63**	**243**	LR	LR	03 07 07.4	
comp=Z,649nm,20.2s,baz=53,slow=36							
RCBR	**Riachuelo**	**68.63**	**243**	*e*P	P	02 37 17.6	+4.8
J57A	**Williamstown**	**68.69**	**309**	IAmb	IAmb	02 37 17.8	
comp=Z,36nm,1.1s							
PAL	**Palisades**	**68.72**	**306**	IAmb	IAmb	02 37 26.3	
comp=Z,26nm,1.1s							
TIY	**Taiyuan**	**68.76**	**58**	P	**P**	**02 37 16.1**	**+2.8**
TIY				PcP	**PcP**	**02 37 35.3**	**-2.7**
TIY				S	**S**	**02 46 15.8**	**-0.8**
TIY				pmax	pmax		
comp=Z,13nm,0.6s							
TIY				LR	LR		
comp=Z,1μm,22.7s							
TIY				LR	LR		
comp=Z,1μm,19.2s							
TIY				LR	LR		
comp=Z,760nm,21.3s							
KMI	**Kun

TRNY	Table Rock, Ra	68.85	306	IAmb	IAmb	02 37 27.3
	comp=Z,24nm,1.3s					
C36M	Paulatuk	68.89	347	IAmb	IAmb	02 37 17.8
	comp=Z,30nm,0.9s					
C36M	Paulatuk	68.89	347	P	P	02 37 14.5 +1.0
	baz=29					
PECO	Prince Edward	68.99	310	IAmb	IAmb	02 37 20.2
	comp=Z,33nm,1.1s					
DELO	Deloro Mine	69.03	311	IAmb	IAmb	02 37 20.0
	comp=Z,23nm,1.0s					
NBCL	Cascavel-CE	69.19	246	eP	P	02 37 20.5 +4.4
BINY	Binghamton	69.36	308	IAmb	IAmb	02 37 22.1
	comp=Z,41nm,1.2s					
K57A	Scipio Center	69.38	309	IAmb	IAmb	02 37 28.9
	comp=Z,32nm,1.0s					
CHTO	Chiang Mai	69.48	82	P	P	02 37 17.0 -1.0
CHTO	Chiang Mai	69.48	82	P	P	02 37 17.0 -1.0
CHTO				pmax	pmax	
	comp=Z,13nm,0.9s					
CMAR	Chiang Mai Arr	69.69	82	P	P	02 37 18.1 -1.1
CMAR	Chiang Mai Arr	69.69	82	P	P	02 37 17.7 -1.6
	comp=Z,4.2nm,0.6s,baz=302,slow=7.6,SNR=21					
CMAR				LR	LR	03 11 36.2
	comp=Z,513nm,20.8s,baz=295,slow=39					
	comp=Z,4.2nm,0.6s					
CMAR	Chiang Mai Arr	69.69	82	P	P	02 37 18.1 -1.1
SADO	Sadowa	69.78	312	IAmb	IAmb	02 37 24.5
	comp=Z,43nm,1.1s					
SADO	Sadowa	69.78	312	LR	LR	03 05 25.2
	comp=Z,790nm,21.5s,baz=76,slow=34					
J55A	Hilton	69.86	310	IAmb	IAmb	02 37 25.7
	comp=Z,41nm,1.2s					
BJI	Beijing	69.89	54	P	P	02 37 19.5 -0.7
BJI				PcP	PcP	02 37 44.7 +2.1
BJI				S	S	02 46 33.7 +4.0
BJI				SS	SS	02 51 01.8 +3.9
BJI				pmax	pmax	
	comp=Z,4.0nm,1.4s					
BJI				LR	LR	
	comp=Z,920nm,16.3s					
BJI				LR	LR	
	comp=Z,590nm,15.0s					
BJI				LR	LR	
	comp=Z,900nm,18.1s					
A21K	Barrow	69.98	359	P	P	02 37 21.5 +1.3
	baz=2.3					
BILL	Bilibino	70.21	13	P	P	02 37 22.4 +0.8
BILL				IAmb	IAmb	02 37 39.5
	comp=Z,32nm,1.4s					
BILL	Bilibino	70.21	13	i P	P	02 37 21.8 +0.2
BILL				pmax	pmax	
	comp=Z,11nm,0.9s					
BILL				MLR	MLR	
	comp=Z,2μm,20.0s					
HEH	HeiHe	70.36	41	eP	P	02 37 22.7 -0.2
HEH				pmax	pmax	
	comp=Z,10.0nm,1.3s					
HEH				LR	LR	
	comp=Z,3μm,16.3s					
HEH				LR	LR	
	comp=Z,2μm,16.4s					
HEH				LR	LR	
	comp=Z,2μm,17.3s					
NBCA	Caruaru-PE	70.42	241	eP	P	02 37 26.3 +2.5
NBLV	Livramento - P	70.43	243	eP	P	02 37 27.4 +3.6
HNS	HongShan	70.43	57	⇓P	P	02 37 23.0 -0.5
HNS				S	S	02 46 38.4 +2.3
HNS				pmax	pmax	
	comp=Z,10.0nm,1.2s					
HNS				LR	LR	
	comp=Z,1μm,17.5s					
HNS				LR	LR	
	comp=Z,710nm,16.1s					
HNS				LR	LR	
	comp=Z,1μm,21.0s					
LYN	LuoYang	70.54	61	P	P	02 37 23.8 -0.4
LYN				pP	pP	02 37 27.7 -0.5
LYN				sP	sP	02 37 30.8 +1.2
LYN				S	S	02 46 30.5 -7.0
LYN				pmax	pmax	
	comp=Z,13nm,0.7s					
LYN				pmax	pmax	
	comp=Z,200nm,6.2s					
LYN				LR	LR	
	comp=Z,1μm,18.6s					
LYN				LR	LR	
	comp=Z,1μm,17.9s					
LYN				LR	LR	
	comp=Z,1μm,17.9s					
N58A	Sunbury	70.58	307	IAmb	IAmb	02 37 29.4
	comp=Z,48nm,1.4s					
C26K	Camden Bay	70.89	355	P	P	02 37 26.7 +0.9
	baz=12					
B22K	Teshekpuk Lake	70.89	358	IAmb	IAmb	02 37 48.0
	comp=Z,23nm,1.0s					
B22K	Teshekpuk Lake	70.89	358	P	P	02 37 26.4 +0.6
	baz=5.0					
D28M	Stokes Point	70.93	352	P	P	02 37 26.8 +0.8
	baz=17					
SUR	Sutherland	71.01	180	LR	LR	03 10 51.5
	comp=Z,2μm,18.1s,baz=3.5,slow=38					
NBPB	Pedra_Branca-C	71.02	246	eP	P	02 37 30.9 +3.5
C27K	Jago River	71.09	354	IAmb	IAmb	02 37 33.8
	comp=Z,27nm,0.9s					
C27K	Jago River	71.09	354	P	P	02 37 27.6 +0.7
	baz=13					
D27M	Malcolm River	71.23	353	IAmb	IAmb	02 37 35.3
	comp=Z,20nm,1.1s					
D27M	Malcolm River	71.23	353	P	P	02 37 28.5 +0.6
	baz=15					
INK	Inuvik	71.28	350	P	P	02 37 27.5 -0.6
INK	Inuvik	71.28	350	LR	LR	03 10 09.0
	comp=Z,872nm,21.8s,baz=34,slow=37					
INK	Inuvik	71.28	350	P	P	02 37 29.3 +1.1
	baz=21,SNR=11					
INK	Inuvik	71.28	350	P	P	02 37 27.5 -0.6
INK				pmax	pmax	
	comp=Z,15nm,1.1s					
C23K	Itkillik River	71.30	357	IAmb	IAmb	02 37 35.5
	comp=Z,36nm,1.1s					
C23K	Itkillik River	71.30	357	P	P	02 37 29.8 +1.6
	baz=7.2,SNR=21					
C24K	Franklin Bluff	71.32	356	IAmb	IAmb	02 38 10.4
	comp=Z,41nm,1.2s					
C24K	Franklin Bluff	71.32	356	P	P	02 37 29.2 +0.8
	baz=8.8					
SEY	Seymchan	71.35	21	LR	LR	03 14 34.2
	comp=Z,1μm,18.1s,baz=328,slow=41					
SEY	Seymchan	71.35	21	ceP	P	02 37 27.5 -1.1
SEY				pmax	pmax	
	comp=Z,22nm,1.7s					
SSPA	Standing Stone	71.42	307	P	P	02 37 30.1 +0.6
D25K	Kavik River	71.58	355	IAmb	IAmb	02 38 08.5
	comp=Z,19nm,1.0s					
D25K	Kavik River	71.58	355	P	P	02 37 30.4 +0.4
	baz=11					
NBAN	Anadia - AL	71.64	241	eP	P	02 37 36.0 +5.0
B21K	Ikpikpuk River	71.65	358	P	P	02 37 31.6 +1.3
	baz=4.0					
E28M	Babbage River	71.70	352	IAmb	IAmb	02 37 37.5
	comp=Z,19nm,0.9s					
E28M	Babbage River	71.70	352	P	P	02 37 31.5 +0.7
	baz=16					
E29M	Blow River	71.74	352	P	P	02 37 31.1 +0.2
	baz=18					
SLVN	Son La	71.83	77	P	P	02 37 30.9 -1.4
D24K	Happy Valley	71.89	356	P	P	02 37 32.6 +0.8
	baz=8.7					
B18K	Kokolik River	71.95	1	P	P	02 37 33.4 +1.3
	baz=358					
C21K	Knifeblade Rid	72.12	358	P	P	02 37 34.0 +0.8
	baz=3.8					
F31M	Tsiigehtchic	72.12	350	IAmb	IAmb	02 37 37.6
	comp=Z,33nm,0.8s					
F31M	Tsiigehtchic	72.12	350	P	P	02 37 33.4 +0.2
	baz=21,SNR=38					
D23K	Nanushuk River	72.17	357	IAmb	IAmb	02 37 40.6
	comp=Z,23nm,0.9s					
D23K	Nanushuk River	72.17	357	P	P	02 37 34.3 +0.8
	baz=7.2					
ALLY	Alegheny Colle	72.20	309	IAmb	IAmb	02 37 39.1
	comp=Z,54nm,1.3s					
F30M	Barrier River	72.23	351	P	P	02 37 34.6 +0.7
	baz=19					
D22K	Ayikyak River	72.33	357	IAmb	IAmb	02 37 57.5
	comp=Z,21nm,1.1s					
D22K	Ayikyak River	72.33	357	P	P	02 37 35.5 +1.0
	baz=5.5					
TOLK	Toolik Lake Re	72.44	356	P	P	02 37 36.0 +0.8
	baz=8.0					
D20K	Etivluk River	72.60	359	P	P	02 37 37.3 +1.2
	baz=2.3					
YKA	Yellowknife Ar	72.66	340	P	P	02 37 36.0 -0.5
	comp=Z,5.7nm,0.8s,baz=38,slow=4.9,SNR=36					
YKA				LR	LR	03 08 49.6
	comp=Z,2μm,21.9s,baz=46,slow=35					
	comp=Z,5.7nm,0.8s					
YKA	Yellowknife Ar	72.66	340	ceP	P	02 37 36.7 +0.2
YKA				pmax	pmax	
	comp=Z,6.0nm,0.8s					
C18K	Utukok River	72.67	1	IAmb	IAmb	02 37 54.4
	comp=Z,24nm,1.0s					
C18K	Utukok River	72.67	1	P	P	02 37 37.5 +0.9
	baz=359,SNR=16					
G31M	Satah River	72.68	350	IAmb	IAmb	02 37 52.8
	comp=Z,20nm,1.0s					
G31M	Satah River	72.68	350	P	P	02 37 38.0 +1.5
	baz=20					
F28M	Old Crow	72.70	352	IAmb	IAmb	02 37 42.9
	comp=Z,23nm,0.9s					
F28M	Old Crow	72.70	352	P	P	02 37 37.6 +0.9
	baz=16,SNR=18					
TIA	Tai'an	72.70	57	P	P	02 37 36.3 -1.0
TIA				S	S	02 47 04.3 +1.9
TIA				pmax	pmax	
	comp=Z,11nm,1.1s					
TIA				LR	LR	
	comp=Z,640nm,14.7s					
TIA				LR	LR	
	comp=Z,1μm,20.2s					
TIA				LR	LR	
	comp=Z,2μm,18.2s					
E25K	Arctic Village	72.71	355	P	P	02 37 37.9 +1.2
	baz=11,SNR=6.4					
E21K	Killik River	72.81	358	P	P	02 37 38.9 +1.5
	baz=4.5					
C17K	DeLong Mountai	72.82	1	P	P	02 37 38.6 +1.2
	baz=357					
D19K	Kuna River	72.83	360	IAmb	IAmb	02 38 00.2
	comp=Z,30nm,1.1s					
D19K	Kuna River	72.83	360	P	P	02 37 38.7 +1.2
	baz=1.1					
G30M	tAoh Zraii Nji	72.88	351	P	P	02 37 39.0 +1.1
	baz=19					
E24K	Your Creek	72.94	356	IAmb	IAmb	02 38 08.9
	comp=Z,30nm,1.6s					
E24K	Your Creek	72.94	356	P	P	02 37 39.6 +1.4
	baz=8.9					
C16K	Lisburne Hills	72.96	2	IAmb	IAmb	02 38 13.3
	comp=Z,30nm,1.2s					
C16K	Lisburne Hills	72.96	2	P	P	02 37 39.4 +1.2
	baz=355					
F26K	Sheenjek River	73.02	354	P	P	02 37 40.0 +1.4
	baz=12					
E23K	Chandalar	73.02	356	IAmb	IAmb	02 37 51.1
	comp=Z,63nm,1.6s					
E23K	Chandalar	73.02	356	P	P	02 37 39.9 +1.2
	baz=8.0					
E22K	Anaktuvuk Pass	73.05	357	P	P	02 37 39.2 +0.4
	baz=6.2					
E20K	Nigu River	73.05	359	P	P	02 37 39.3 +0.5
	baz=2.6					
BNX	BinXian	73.15	44	⇓P	P	02 37 39.3 -0.4
BNX				S	S	02 47 07.2 0.0
BNX				pmax	pmax	
	comp=Z,10.0nm,1.2s					
BNX				pmax	pmax	
	comp=Z,180nm,4.0s					
BNX				LR	LR	
	comp=Z,2μm,16.9s					
BNX				LR	LR	
	comp=Z,2μm,16.4s					
BNX				LR	LR	
	comp=Z,2μm,13.9s					
G29M	Pine Creek	73.17	351	IAmb	IAmb	02 37 45.7
	comp=Z,38nm,0.9s					
G29M	Pine Creek	73.17	351	P	P	02 37 39.9 +0.4
	baz=17					
KLR	Kul'dur	73.19	40	LR	LR	03 13 36.8
	comp=Z,2μm,19.9s,baz=327,slow=39					
KLR	Kul'dur	73.19	40	ceP	P	02 37 39.3 -0.6
KLR				pmax	pmax	
	comp=Z,13nm,1.7s					
KLR				MLR	MLR	
	comp=Z,2μm,16.0s					
F25K	Christian Rive	73.23	355	P	P	02 37 40.5 +0.6
	baz=11,SNR=6.5					
RDOG	Red Dog Mine	73.25	1	P	P	02 37 40.9 +0.9
RDOG				IAmb	IAmb	02 37 59.1
	comp=Z,23nm,1.1s					
RDOG	Red Dog Mine	73.25	1	P	P	02 37 40.3 +0.3
	baz=357					
CN2	Changchun	73.27	47	eP	P	02 37 39.5 -0.9
CN2				esP	sP	02 37 46.6 +0.8
CN2				eS	S	02 47 08.5 -0.1
CN2				pmax	pmax	
	comp=Z,20nm,1.1s					
CN2				pmax	pmax	
	comp=Z,100nm,3.0s					
CN2				LR	LR	
	comp=Z,2μm,16.0s					
CN2				LR	LR	
	comp=Z,2μm,16.0s					
CN2				LR	LR	
	comp=Z,2μm,16.6s					
BMAR	Burnt Mountain	73.31	354	P	P	02 37 41.4 +1.0
SNY	Shenyang	73.39	49	P	P	02 37 40.3 -0.9
SNY				pmax	pmax	
	comp=Z,18nm,1.8s					
SNY				pmax	pmax	
	comp=Z,210nm,3.5s					
SNY				LR	LR	
	comp=Z,860nm,19.1s					
SNY				LR	LR	
	comp=Z,1μm,14.5s					
SNY				LR	LR	
	comp=Z,2μm,18.6s					
F24K	Squaw Lake	73.46	355	P	P	02 37 41.9 +0.7
	baz=9.4					
MA2	Magadan	73.52	24	P	P	02 37 42.3 +0.7
MA2	Magadan	73.52	24	P	P	02 37 41.1 -0.6
	comp=Z,25nm,0.7s,baz=326,slow=6.4,SNR=15					
MA2				LR	LR	03 13 53.0
	comp=Z,2μm,18.8s,baz=318,slow=39					
	comp=Z,25nm,0.7s					
MA2	Magadan	73.52	24	ceP	P	02 37 42.1 +0.5
MA2				pmax	pmax	
	comp=Z,96nm,1.7s					
MA2	Magadan	73.52	24	P	P	02 37 41.6 0.0
	comp=Z,75nm,0.9s					
EPYK	Eagle Plains	73.53	351	IAmb	IAmb	02 37 55.6
	comp=Z,15nm,0.7s					
EPYK	Eagle Plains	73.53	351	P	P	02 37 42.1 +0.4
	baz=18,SNR=9.6					
D17K	Noatak River	73.60	1	P	P	02 37 42.1 +0.1
	baz=357,SNR=26					
G27K	Doyon Strip	73.66	353	P	P	02 37 43.1 +0.7
	baz=14					
G26K	Porcupine Rive	73.72	354	P	P	02 37 43.6 +0.9
	baz=13					
H31M	Peel River	73.75	350	IAmb	IAmb	02 37 53.5
	comp=Z,27nm,1.2s					
H31M	Peel River	73.75	350	P	P	02 37 43.7 +0.8
	baz=20					
MDP	Montagnes des	73.82	263	LR	LR	03 08 30.3
	comp=Z,358nm,20.9s,baz=58,slow=34					
E19K	Redstone River	73.87	359	IAmb	IAmb	02 37 56.4
	comp=Z,25nm,0.8s					
E19K	Redstone River	73.87	359	P	P	02 37 44.4 +0.8
	baz=1.8					
H29M	Whitestone	73.88	351	IAmb	IAmb	02 37 54.7
	comp=Z,18nm,0.8s					
H29M	Whitestone	73.88	351	P	P	02 37 44.3 +0.6
	baz=17					
COLD	Coldfoot	73.88	356	P	P	02 37 44.3 +0.6
	baz=7.5,SNR=8.5					
E18K	Tukpahlearik C	73.91	0	IAmb	IAmb	02 37 58.6
	comp=Z,18nm,0.8s					
E18K	Tukpahlearik C	73.91	0	P	P	02 37 44.6 +0.8
	baz=359					
DL2	Dalian	73.98	53	eP	P	02 37 48.5 +3.8
DL2				eS	S	02 47 22.5 +5.8
DL2				pmax	pmax	
	comp=Z,74nm,1.2s					
DL2				LR	LR	
	comp=Z,2μm,14.1s					
DL2				LR	LR	
	comp=Z,2μm,13.0s					
DL2				LR	LR	
	comp=Z,2μm,16.0s					
F21K	Alatna River	74.02	358	P	P	02 37 44.9 +0.4
	baz=4.8					
WHN	Wuhan	74.14	64	P	P	02 37 49.0 +3.2
WHN				S	S	02 47 18.2 -0.6
WHN				LR	LR	
	comp=Z,1μm,11.3s					
WHN				LR	LR	
	comp=Z,3μm,11.6s					
WHN				LR	LR	
	comp=Z,2μm,13.6s					
WRGLY	Wrigley	74.17	344	IAmb	IAmb	02 37 50.5
	comp=Z,40nm,1.0s					
WRGLY	Wrigley	74.17	344	P	P	02 37 45.7 +0.4
	baz=28,SNR=10					
R55A	Marlinton	74.21	307	IAmb	IAmb	02 37 57.6
	comp=Z,35nm,0.9s					
H27K	Steamboat Moun	74.21	353	P	P	02 37 46.3 +0.7
	baz=14					
FYU	Fort Yukon	74.21	354	IAmb	IAmb	02 37 59.3
	comp=Z,53nm,1.3s					
Q54A	Coxs Mills	74.23	307	IAmb	IAmb	02 37 51.5
	comp=Z,56nm,1.2s					
E17K	Hotham Inlet	74.24	1	P	P	02 37 46.8 +1.0
	baz=358					
G24K	Hadweenzic Riv	74.24	355	P	P	02 37 46.8 +1.0
	baz=9.7					
F20K	Avaraart Lake	74.25	359	P	P	02 37 46.4 +0.6
	baz=3.0					
G23K	Bananza Creek	74.38	356	P	P	02 37 47.4 +0.7
	baz=7.6					
GRNR	Gornyy	74.41	36	eP	P	02 37 42.1 -4.9
GRNR				MLR	MLR	
	comp=E,1μm,15.0s					
GRNR				MLR	MLR	
	comp=N,750nm,13.0s					
GRNR				MLR	MLR	
	comp=Z,1μm,16.0s					
F19K	Shaleruckik Mo	74.50	359	P	P	02 37 48.0 +0.8
	baz=1.4					
CNSH	ChangSha	74.52	66	P	P	02 37 46.6 -1.5
FFC	Flin Flon	74.53	330	P	P	02 37 48.3 +0.6
FFC				IAmb	IAmb	02 37 52.5
	comp=Z,31nm,1.3s					
FFC	Flin Flon	74.53	330	P	P	02 37 48.3 +0.6
FFC				pmax	pmax	
	comp=Z,31nm,1.3s					
EYMN	Ely	74.54	320	IAmb	IAmb	02 37 59.9
	comp=Z,75nm,1.9s					
H25L	Birch Creek	74.55	354	P	P	02 37 48.0 +0.4
	baz=11					
I30M	Mount Dempster	74.58	350	IAmb	IAmb	02 38 04.7
	comp=Z,23nm,0.9s					
I30M	Mount Dempster	74.58	350	P	P	02 37 47.9 0.0
	baz=18,SNR=22					
P52A	Corning	74.63	309	IAmb	IAmb	02 37 53.7
	comp=Z,55nm,1.2s					
BSI	Banda Aceh	74.64	95	P	P	02 37 49.0 +0.1
	comp=Z,23nm,1.3s					
I29M	Ogilvie Camp,	74.69	351	IAmb	IAmb	02 37 59.6
	comp=Z,45nm,1.1s					
I29M	Ogilvie Camp,	74.69	351	P	P	02 37 48.0 -0.5
	baz=17,SNR=19					
G21K	Allakaket	74.73	358	IAmb	IAmb	02 38 31.0
	comp=Z,39nm,1.3s					
G21K	Allakaket	74.73	358	P	P	02 37 49.3 +0.6
	baz=4.8					
F18K	Selawik	74.74	0	P	P	02 37 49.0 +0.4
	baz=360,SNR=13					
ACSO	Alum Creek Sta	74.77	310	IAmb	IAmb	02 37 54.4
	comp=Z,51nm,1.2s					
I28M	Miner Creek	74.80	352	IAmb	IAmb	02 38 01.6
	comp=Z,38nm,1.3s					
I28M	Miner Creek	74.80	352	P	P	02 37 49.6 +0.5
	baz=16					
I27K	Kandik River	74.83	352	P	P	02 37 50.4 +1.1
	baz=14					
F17K	Baldwin Pennin	74.89	1	P	P	02 37 50.4 +0.9
	baz=358					
ULM	Lac du Bonnet	75.10	324	IAmb	IAmb	02 37 55.6
	comp=Z,29nm,0.8s					
ULM	Lac du Bonnet	75.10	324	P	P	02 37 50.5 -0.5
	comp=Z,23nm,0.8s,baz=44,slow=6.3,SNR=18					
ULM				LR	LR	03 10 36.3
	comp=Z,2μm,21.5s,baz=45,slow=36					
	comp=Z,23nm,0.8s					
Q52A	Bidwell	75.12	308	IAmb	IAmb	02 37 56.0
	comp=Z,51nm,1.2s					
TMAB	Tom-Au,PA,Br	75.12	254	eP	P	02 37 56.9 +5.3
H24K	Noodor Dome	75.12	355	P	P	02 37 51.8 +0.8
	baz=9.3					
G19K	Purcell Mounta	75.18	359	P	P	02 37 51.9 +0.7
	baz=1.9					
J30M	Hart River	75.19	350	IAmb	IAmb	02 38 03.3
	comp=Z,36nm,1.1s					
J30M	Hart River	75.19	350	P	P	02 37 51.8 +0.3
	baz=18					
H22K	Ishtalitna Cre	75.27	357	P	P	02 37 52.6 +0.8
	baz=6.5					
I26K	Coal Creek Min	75.27	353	P	P	02 37 52.6 +0.9
	baz=13					
PRP	Porcupine Dome	75.27	354	P	P	02 37 52.3 +0.3
	baz=11					
P51A	Williamsport	75.28	309	IAmb	IAmb	02 37 56.4
	comp=Z,43nm,1.4s					
G18K	Tagagawik	75.45	360	P	P	02 37 53.3 +0.5
	baz=0.6					
E38A	The Farm, Brul	75.47	319	IAmb	IAmb	02 37 57.9
	comp=Z,58nm,1.5s					
U56A	King	75.55	305	IAmb	IAmb	02 37 58.9
	comp=Z,69nm,1.5s					
J29N	Klondike Camp	75.55	351	P	P	02 37 53.7 +0.2
	baz=17					
F15K	North Star Dit	75.56	2	P	P	02 37 53.7 +0.3
	baz=356					
H21K	Melozitna Rive	75.56	357	IAmb	IAmb	02 38 24.8
	comp=Z,64nm,1.4s					
H21K	Melozitna Rive	75.56	357	P	P	02 37 53.8 +0.4
	baz=5.3,SNR=24					
TNA	Tin City	75.57	4	P	P	02 37 53.6 +0.2
	baz=353					
EGAK	Eagle	75.58	352	P	P	02 37 54.1 +0.5
	baz=15					
F14K	Arctic Creek	75.73	3	P	P	02 37 55.1 +0.7
	baz=354					
H19K	Roundabout Mou	75.79	359	P	P	02 37 55.3 +0.6
	baz=2.4					
H20K	Anotleneega Mo	75.79	358	P	P	02 37 55.3 +0.5
	baz=3.7,SNR=6.6					
POKR	Poker Plat Res	75.81	355	P	P	02 37 55.8 +0.9
	baz=9.6					
G17K	Kiwalik Mounta	75.84	1	P	P	02 37 55.7 +0.7
	baz=359					
SSFO	Shawnee State	75.86	308	IAmb	IAmb	02 38 00.1
	comp=Z,52nm,1.3s					
I23K	Minto, Yukon-K	75.90	356	P	P	02 37 56.1 +0.8
	baz=8.1					
G16K	Koyuk River	75.92	1	IAmb	IAmb	02 38 26.0
	comp=Z,29nm,1.2s					
G16K	Koyuk River	75.92	1	P	P	02 37 56.7 +1.3
	baz=358					
N47A	Urbana	75.97	311	IAmb	IAmb	02 38 00.7
	comp=Z,24nm,0.7s					
I21K	Tanana	76.00	357	P	P	02 37 57.4 +1.5
	baz=6.0					
K29M	Barlow Dome	76.05	350	IAmb	IAmb	02 38 08.5
	comp=Z,50nm,1.6s					
K29M	Barlow Dome	76.05	350	P	P	02 37 57.1 +0.7
	baz=17					
O48B	Farmland	76.05	311	P	P	02 37 57.0 +0.3
	baz=50					
MAYO	Mayo, Yukon	76.06	349	P	P	02 37 57.0 +0.7
	baz=19					
DAWY	Dawson	76.07	351	P	P	02 37 56.3 -0.1
DAWY				IAmb	IAmb	02 38 17.8
	comp=Z,19nm,0.9s					
DAWY	Dawson	76.07	351	P	P	02 37 56.9 +0.4
	baz=16,SNR=15					
J26L	Joseph Creek	76.10	353	P	P	02 37 57.3 +0.7
	baz=13					
ILAR	Eielson Array	76.11	355	P	P	02 37 57.3 +0.7
ILAR	Eielson Array	76.11	355	P	P	02 37 56.2 -0.4
	comp=Z,1.7nm,0.8s,baz=11,slow=5.6,SNR=31					
ILAR				LR	LR	03 11 14.5

comp=Z,680nm,21.9s,baz=4.5,slow=36
comp=Z,1.7nm,0.8s
ILAR Eielson Array 76.11 355 P P 02 37 57.3 +0.7
J25K Salcha River, 76.15 354 P P 02 37 57.9 +1.0
baz=11
H18K Honhosa River 76.19 360 P P 02 37 58.0 +1.0
baz=0.9
P49A Miami Univ. Ec 76.25 310 IAmb IAmb 02 38 01.6
comp=Z,43nm,1.3s
MLSI Meulaboh, Aceh 76.27 96 P P 02 37 57.4 -0.9
G15K Niukluk 76.29 2 P P 02 37 58.4 +0.8
baz=356
PDPR Patillas Dam, 76.36 282 IAmb IAmb 02 38 04.6
comp=Z,51nm,1.5s
SJG San Juan 76.40 282 LR LR 03 06 10.8
comp=Z,405nm,21.5s,baz=64,slow=31
H17K Granite Mounta 76.41 0 P P 02 37 58.8 +0.5
baz=360
NEA2 Nenana 76.44 355 P P 02 37 59.2 +0.7
baz=8.3
IGPR InterUniversit 76.45 282 IAmb IAmb 02 38 06.4
comp=Z,36nm,0.9s
HDA Harding Lake 76.47 354 IAmb IAmb 02 38 39.9
comp=Z,23nm,1.1s
HDA Harding Lake 76.47 354 P P 02 37 59.6 +0.9
baz=10.0,SNR=9.6
WRH Wood River Hil 76.49 355 IAmb IAmb 02 38 09.8
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 76.63 44 P P 02 38 00.2 +0.3
USRK Ussuriysk Ar. 76.63 44 P P 02 37 59.3 -0.6
comp=Z,5.1nm,0.8s,baz=290,slow=5.7,SNR=8.2
USRK LR LR 03 15 12.1
comp=Z,1μm,18.4s,baz=323,slow=38
comp=Z,5.1nm,0.8s
USRK Ussuriysk Ar. 76.63 44 P P 02 38 00.2 +0.3
SCRK Sand Creek 76.65 353 IAmb IAmb 02 38 11.1
comp=Z,74nm,1.9s
SCRK Sand Creek 76.65 353 P P 02 38 00.1 +0.3
baz=12
ANM Nome 76.67 3 P P 02 38 00.1 +0.3
baz=355
H16K Elim 76.69 1 P P 02 38 00.7 +0.9
baz=358,SNR=11
P48A Milroy 76.72 310 IAmb IAmb 02 38 10.3
comp=Z,21nm,0.9s
I40A Norwalk 76.78 316 IAmb IAmb 02 38 16.8
comp=Z,29nm,1.2s
OBIP Obispado Ponce 76.79 283 P P 02 38 01.5 +0.3
R50A Paris 76.81 309 IAmb IAmb 02 38 05.3
comp=Z,31nm,1.3s
L29M L29M 76.83 350 P P 02 38 01.6 +0.9
baz=17
KMSC Kings Mountain 76.90 305 IAmb IAmb 02 38 12.3
comp=Z,29nm,1.1s
FARO Faro, Yukon 76.96 348 IAmb IAmb 02 38 15.2
comp=Z,52nm,1.8s
FARO Faro, Yukon 76.96 348 P P 02 38 02.0 +0.5
baz=21,SNR=6.1
RIDG Independent Ri 76.96 353 P P 02 38 02.0 +0.5
baz=12
K24K Donnelly Dome 76.98 354 P P 02 38 01.2 -0.4
baz=11
BPAW Bear Paw Mtn. 77.04 356 P P 02 38 01.8 -0.1
baz=6.7
SPMN Marine on St. 77.04 318 IAmb IAmb 02 38 07.2
comp=Z,48nm,1.4s
KOTAN Kotaneelee Air 77.05 343 P P 02 38 02.4 +0.4
baz=28
J20K Nowinta River 77.09 358 P P 02 38 02.5 +0.4
baz=4.2
GAMB Gambell 77.11 6 P P 02 38 02.8 +0.6
baz=350
SFIN Lafayette 77.11 312 IAmb IAmb 02 38 06.8
comp=Z,51nm,1.2s
M31M Drury Creek, Y 77.16 348 IAmb IAmb 02 38 15.0
comp=Z,30nm,1.6s
M31M Drury Creek, Y 77.16 348 P P 02 38 03.1 +0.5
baz=20,SNR=6.9
JFWS Jewell Farm 77.23 315 P P 02 38 04.4 +1.1
JFWS IAmb IAmb 02 38 08.6
comp=Z,50nm,1.4s
JFWS Jewell Farm 77.23 315 P P 02 38 04.4 +1.1
JFWS pmax pmax
comp=Z,50nm,1.4s
MCK McKinley 77.28 355 IAmb IAmb 02 38 17.3
comp=Z,22nm,1.0s
MCK McKinley 77.28 355 P P 02 38 03.9 +0.7
baz=8.4
J19K Poorman 77.31 358 IAmb IAmb 02 38 18.5
comp=Z,28nm,1.2s
J19K Poorman 77.31 358 P P 02 38 03.9 +0.5
baz=3.0
BCAR Beaver Creek A 77.32 352 P P 02 38 03.9 +0.4
L27K Beaver Creek, 77.33 352 P P 02 38 04.3 +0.8
baz=14
JSC Jenkinsville 77.39 304 IAmb IAmb 02 39 00.6
comp=Z,23nm,1.1s
PAULI Pauline 77.41 305 IAmb IAmb 02 38 09.3
comp=Z,45nm,1.3s
I17K Unalakleet 77.46 1 P P 02 38 05.2 +1.0
baz=359
L42A Oliver, Polo 77.51 314 IAmb IAmb 02 38 09.1
comp=Z,54nm,1.4s
M29M Somme Creek 77.52 350 P P 02 38 05.2 +0.6
baz=17,SNR=15
TRF Thorofare Moun 77.65 356 P P 02 38 06.3 +0.9
baz=7.3
P46A Rosedale 77.67 311 IAmb IAmb 02 38 11.3
comp=Z,29nm,1.0s
QIZ Qiongzhong 77.69 76 IAmb IAmb 02 38 09.5
comp=Z,60nm,1.8s
QIZ Qiongzhong 77.69 76 P P 02 38 07.3 +1.1
QIZ S S 02 48 00.0 +1.7
QIZ SS SS 02 52 59.6 +1.9
QIZ LR LR
comp=Z,330nm,11.2s
QIZ LR LR
comp=Z,640nm,12.0s
QIZ LR LR
comp=Z,490nm,16.2s
PAX Paxson 77.78 354 P P 02 38 06.6 +0.5
baz=11
BVCY Beaver Creek 77.85 351 P P 02 38 07.8 +1.3
baz=15
J18K Innoko River 77.87 359 IAmb IAmb 02 38 21.6
comp=Z,35nm,1.4s
J18K Innoko River 77.87 359 P P 02 38 07.0 +0.5
baz=2.2
K20K Telida 77.91 358 P P 02 38 07.7 +0.9
baz=4.3
T50A Nancy 77.92 308 P P 02 38 07.6 +0.3
T50A pP 02 38 08.7 -2.6
T50A IAmb IAmb 02 38 12.1
comp=Z,26nm,1.1s
CMC01 Camacan, BA 77.92 239 *e*P P 02 38 12.5 +5.1
N32M Quiet Lake 77.93 347 P P 02 38 08.2 +1.3
baz=21,SNR=5.5
J17K VABM Dome 77.96 360 IAmb IAmb 02 39 17.4
comp=Z,46nm,1.4s
J17K VABM Dome 77.96 360 P P 02 38 08.0 +1.0
baz=0.3
M27K Edge Creek, AK 78.02 352 P P 02 38 07.7 +0.2
baz=14
WCI Wyandotte Cave 78.03 310 P P 02 38 08.4 +0.6
WCI IAmb IAmb 02 38 12.4
comp=Z,44nm,1.1s
WCI Wyandotte Cave 78.03 310 P P 02 38 08.4 +0.6
WCI pmax pmax
comp=Z,44nm,1.1s
N31M Braeburn, Yuko 78.05 349 P P 02 38 07.9 +0.3
baz=19
J16K Anvik River 78.06 1 P P 02 38 08.7 +1.1
baz=359
WTLY Watson Lake, Y 78.09 345 P P 02 38 08.0 +0.2
baz=24
M26K Nabesna, AK 78.10 352 P P 02 38 08.7 +0.8
baz=13
TKL Tuckaleechee C 78.13 306 IAmb IAmb 02 38 18.8
comp=Z,27nm,1.1s
TKL Tuckaleechee C 78.13 306 LR LR 03 14 08.3
comp=Z,1μm,18.6s,baz=54,slow=37
N30M Aishikik Lake 78.27 349 IAmb IAmb 02 38 23.8
comp=Z,43nm,1.8s
N30M Aishikik Lake 78.27 349 P P 02 38 09.3 +0.5
baz=18
HARP HAARP 78.31 353 P P 02 38 10.0 +1.0
baz=11
TTA Tatalina 78.39 358 P P 02 38 10.5 +1.0
baz=2.7
YUK3 Moose Creek 78.42 351 P P 02 38 10.8 +1.0
baz=15
TOAD Toad River Com 78.47 343 P P 02 38 10.9 +0.9
baz=26,SNR=6.2
SSE Sheshan 78.49 59 P P 02 38 08.3 -2.2
SSE S S 02 48 05.2 -1.3
SSE pmax pmax
comp=Z,5.0nm,1.2s
SSE pmax pmax
comp=Z,120nm,3.7s
SSE LR LR
comp=Z,510nm,19.8s
SSE LR LR
comp=Z,290nm,19.6s
J14K Nanvaranak Lak 78.55 2 P P 02 38 11.3 +1.0
baz=357
W52A Murphy 78.58 306 IAmb IAmb 02 38 22.0
comp=Z,21nm,1.0s
YUK4 Talbot Arm 78.60 350 P P 02 38 11.2 +0.3
baz=16
K17K Iditarod 78.64 360 IAmb IAmb 02 38 41.4
comp=Z,40nm,1.2s
K17K Iditarod 78.64 360 P P 02 38 11.5 +0.7
baz=0.9
CUT Chulitna 78.69 356 P P 02 38 11.3 +0.3
baz=7.3
M24K Tolsona, Glenn 78.69 354 P P 02 38 11.6 +0.5
baz=10
WHY Whitehorse 78.69 348 P P 02 38 12.0 +0.8
baz=19
KSAR Wonju Array Be 78.73 51 P P 02 38 11.7 0.0
KSAR Wonju Array Be 78.73 51 P P 02 38 11.7 0.0
KSRS Korea Array 78.75 51 P P 02 38 10.9 -0.8
comp=Z,8.0nm,0.7s,baz=313,slow=5.4,SNR=16
KSRS LR LR 03 16 23.9
comp=Z,967nm,19.4s,baz=310,slow=38
comp=Z,8.0nm,0.7s
KSRS Korea Array 78.75 51 P P 02 38 11.0 -0.8
P33M Teslin, Yukon 78.77 347 P P 02 38 12.6 +1.0
baz=21
OLIL Olney 78.77 311 IAmb IAmb 02 38 16.1
comp=Z,43nm,1.1s
O30N Mendenhall 78.78 349 IAmb IAmb 02 38 30.9
comp=Z,69nm,1.9s
O30N Mendenhall 78.78 349 P P 02 38 13.1 +1.4
baz=18
L20K Farewell, AK 78.78 357 P P 02 38 13.0 +1.4
baz=4.4
YUK8 Steele Glacier 78.81 350 P P 02 38 12.5 +0.5
baz=16
KULM Kulim 78.93 92 IAmb IAmb 02 38 21.0
comp=Z,57nm,1.3s
HYT Haines Junctio 78.94 349 P P 02 38 13.2 +0.6
baz=17
YUK6 Outpost Mounta 78.95 350 P P 02 38 13.5 +0.7
baz=17
GUA01 Guaratinga, BA 78.99 238 *e*P P 02 38 15.4 +2.1
P43A Skaggs, Pawnee 79.00 312 IAmb IAmb 02 38 17.5
comp=Z,30nm,1.1s
GSI Gunungsitoli 79.03 97 IAmb IAmb 02 38 20.6
comp=Z,28nm,0.8s
GSI Gunungsitoli 79.03 97 P P 02 38 13.7 0.0
comp=Z,1μmcomp=Z,44nm,1.7s
N25K Chitina, Valde 79.04 353 P P 02 38 14.0 +0.9
baz=12
N41A Harden Midland 79.04 314 IAmb IAmb 02 38 17.9
comp=Z,36nm,1.0s
K15K Wolf Creek Mou 79.05 1 P P 02 38 13.7 +0.6
baz=358
SCM Sheep Creek Mo 79.05 354 P P 02 38 14.1 +1.0
baz=9.6
SMTB Santa Maria do 79.06 249 *e*P P 02 38 18.2 +4.4
L19K White Mountain 79.11 358 IAmb IAmb 02 38 44.1
comp=Z,30nm,1.1s
L19K White Mountain 79.11 358 P P 02 38 13.4 0.0
baz=3.6
L18K Granite Mounta 79.11 359 P P 02 38 13.2 -0.2
baz=2.2
M23K Glacier View 79.12 354 P P 02 38 12.7 -0.8
baz=9.2
PSI Prapat 79.14 95 LR LR 03 17 19.0
comp=Z,762nm,19.9s,baz=299,slow=39
SML Sawmill 79.15 355 P P 02 38 13.4 -0.3
baz=8.8
SKT Skwentna 79.18 356 P P 02 38 13.5 -0.2
baz=6.2
R33M Jennings River 79.19 346 IAmb IAmb 02 38 27.9
comp=Z,38nm,1.3s
R33M Jennings River 79.19 346 P P 02 38 14.8 +0.8
baz=22
Q44A Meyer Farm, Va 79.20 312 IAmb IAmb 02 38 25.1
comp=Z,28nm,1.1s
L17K Donlin 79.22 359 P P 02 38 14.8 +0.9
baz=0.9
KLU Klutina 79.27 353 P P 02 38 15.0 +0.6
baz=11
M22K Willow 79.33 356 P P 02 38 14.9 +0.4
baz=7.4
K13K Kusilvak Mount 79.33 3 P P 02 38 15.1 +0.6
baz=356
M20K Styx River 79.35 357 IAmb IAmb 02 38 45.1
comp=Z,73nm,1.9s
M20K Styx River 79.35 357 P P 02 38 15.1 +0.3
baz=5.0
O28M Mount Upton 79.36 351 P P 02 38 14.9 -0.3
baz=15
W50A Signal Mountai 79.38 307 IAmb IAmb 02 38 26.2
comp=Z,34nm,0.8s
PMR Palmer 79.42 355 P P 02 38 15.4 +0.4
baz=8.1
CLTN Cedars of Leba 79.44 308 IAmb IAmb 02 38 20.2
comp=Z,28nm,1.1s
Y52A Lilburn 79.45 305 IAmb IAmb 02 38 20.7
comp=Z,62nm,1.3s
X51A Calhoun 79.51 306 IAmb IAmb 02 38 29.5
comp=Z,58nm,1.5s
P32M Atlin 79.51 347 P P 02 38 16.1 +0.5
baz=20
P30M Million Dollar 79.53 349 P P 02 38 16.8 +1.0
baz=18
SDBA SAO DESIDERIO 79.54 245 *e*P P 02 38 17.7 +1.2
KNK Knik Glacier 79.55 355 P P 02 38 15.2 -0.6
baz=8.7
O29M Mount Kennedy 79.59 350 P P 02 38 16.4 +0.2
baz=16
L16K Owhat River 79.65 0 P P 02 38 16.4 +0.1
baz=360
SUA Susitna One 79.65 356 IAmb IAmb 02 39 16.5
comp=Z,60nm,1.4s
SUA Susitna One 79.65 356 P P 02 38 16.7 +0.2
baz=6.9
BMRM Bremner River 79.67 353 P P 02 38 16.0 -0.5
baz=12
L15K Ungalak Mounta 79.67 1 P P 02 38 16.7 +0.3
baz=358
M18K Stony River 79.83 358 P P 02 38 17.7 +0.4
baz=2.9
Q32M Nakina River 79.84 346 P P 02 38 19.0 +1.3
baz=21
DLBC Dease Lake 79.89 345 LR LR 03 15 12.4
comp=Z,515nm,21.0s,baz=29,slow=37
DLBC Dease Lake 79.89 345 P P 02 38 18.7 +0.9
baz=23
M17K Holitna River 79.95 359 P P 02 38 18.9 +0.9
M17K IAmb IAmb 02 38 33.3
comp=Z,44nm,1.1s
M17K Holitna River 79.95 359 P P 02 38 18.9 +0.9
baz=1.6
RC01 Rabbit Creek A 79.96 355 IAmb IAmb 02 38 56.7
comp=Z,53nm,1.4s
RC01 Rabbit Creek A 79.96 355 P P 02 38 18.8 +0.8
baz=7.7
V48A Smith Brothers 79.97 308 IAmb IAmb 02 38 22.9
comp=Z,50nm,1.3s
GLI Glacier Island 79.98 354 P P 02 38 18.8 +0.7
baz=9.7
SPCR Spurr Chakacha 79.99 356 P P 02 38 19.4 +1.2
baz=5.7
PINM Pinnacle 80.02 350 P P 02 38 19.5 +1.0
baz=15
YSS Yuzhno-Sakhali 80.06 36 P P 02 38 19.5 +0.7
YSS IAmb IAmb 02 38 24.5
comp=Z,45nm,1.0s
YSS Yuzhno-Sakhali 80.06 36 *e*P P 02 38 19.0 +0.2
YSS *e*S S 02 48 22.7 0.0
YSS pmax pmax
comp=Z,50nm,1.2s
YSS pmax pmax
comp=Z,300nm,3.2s
YSS MLR MLR
comp=Z,2μm,17.0s
YSS MLR MLR
comp=E,2μm,15.0s
PLBC Pleasant Camp 80.08 348 P P 02 38 19.6 +0.9
baz=18
PWL Port Wells 80.09 355 P P 02 38 19.4 +0.7
baz=8.8
SIUC Southern Illin 80.11 311 IAmb IAmb 02 38 23.5
comp=Z,64nm,1.4s
S44A Carbondale 80.14 311 IAmb IAmb 02 38 24.2
comp=Z,40nm,1.1s
MESA MESA 80.15 351 P P 02 38 20.0 +0.7
baz=14
EYAK Cordova Ski Ar 80.19 353 P P 02 38 20.5 +1.3
baz=11
N38A Joes South For 80.31 315 IAmb IAmb 02 38 25.0
comp=Z,44nm,1.3s
WVT Waverly 80.33 309 P P 02 38 20.7 +0.2
WVT Waverly 80.33 309 P P 02 38 20.7 +0.2
WVT pmax pmax
comp=Z,12nm,0.8s
M16K Timber Creek 80.34 360 P P 02 38 20.4 +0.4
M16K Timber Creek 80.34 360 P P 02 38 21.0 +0.9
baz=0.4
BGLC Bering Glacier 80.36 352 P P 02 38 21.5 +1.4
baz=13
N19K Bonanza Creek 80.47 358 P P 02 38 22.0 +1.2
baz=3.9
O22K Cooper Landing 80.57 355 P P 02 38 22.9 +1.6
baz=7.6
M14K Bethel 80.59 1 P P 02 38 22.5 +1.1
baz=358
S34M Telegraph Cree 80.60 345 P P 02 38 22.7 +1.2
baz=22
FVM French Village 80.63 312 IAmb IAmb 02 38 26.5
comp=Z,41nm,1.2s
152A Waverly Hall 80.64 304 IAmb IAmb 02 38 27.4
comp=Z,43nm,1.3s
N18K Kilae Creek 80.64 358 P P 02 38 22.2 +0.5
baz=2.8
CGM3 Cape Girardeau 80.64 311 IAmb IAmb 02 38 26.9
comp=Z,54nm,1.3s
M15K Kasigluk River 80.66 1 P P 02 38 22.6 +0.9
baz=359
KAIM Kayak Island 80.67 352 P P 02 38 22.4 +0.6
baz=12
M11K Mekoryuk 80.82 3 P P 02 38 22.1 -0.5
baz=355
N17K Nushagak Hills 80.82 359 P P 02 38 22.8 +0.1
baz=1.8
P23K Montague Islan 80.88 354 P P 02 38 22.4 -0.5
baz=9.4
N16K Nishlik Lake 80.89 360 P P 02 38 24.2 +1.1
baz=0.5
R32K Eaglecrest 80.89 347 P P 02 38 24.4 +1.3
baz=19
MNSI Mandailing Nat 80.91 96 P P 02 38 22.5 -1.3
comp=Z,2μmcomp=Z,34nm,0.9s
SEW Seward 80.92 355 P P 02 38 23.8 +0.6
baz=7.8
DLV Lat 80.94 82 IAmb IAmb 02 38 43.5
comp=Z,38nm,1.2s
Y49A Blount Mountai 80.94 306 IAmb IAmb 02 38 34.5
comp=Z,24nm,1.0s
X48A Hartselle 80.95 307 IAmb IAmb 02 38 34.8
comp=Z,35nm,0.8s
JANB Januaria 80.96 242 *e*P P 02 38 28.3 +4.2
PETK Petropavlovsk- 81.03 25 P P 02 38 23.3 -0.6
comp=Z,3.5nm,0.8s,baz=144,slow=1.3,SNR=3.8
PETK LR LR 03 18 28.1
comp=Z,1μm,19.0s,baz=324,slow=39
comp=Z,3.5nm,0.8s
CCM Cathedral Cave 81.06 312 P P 02 38 24.7 +0.4
CCM IAmb IAmb 02 38 28.6
comp=Z,27nm,1.1s
CCM Cathedral Cave 81.06 312 P P 02 38 24.7 +0.4
CCM pmax pmax
comp=Z,27nm,1.1s
N15K Kwethluk River 81.19 0 P P 02 38 24.9 +0.2
baz=360
PLAL Pickwick Lake 81.24 308 IAmb IAmb 02 38 29.9
comp=Z,35nm,1.2s
BSFB Barra de Sao F 81.29 237 *e*P P 02 38 30.0 +4.4
RIB01 Linhares ES 81.34 237 *e*P P 02 38 30.6 +4.7
BRSE Bradley Lake S 81.37 356 P P 02 38 25.8 +0.2
baz=6.8
PET Petropavlovsk 81.41 24 *e*P P 02 38 25.9 0.0
PET *e*S S 02 48 33.2 -3.4
PET *e*PS PnS 02 49 30.5 +7.1
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,17.0s
N14K Kuskokwak Cree 81.42 1 P P 02 38 25.8 0.0
baz=358
SJMB Sao Joao De Ma 81.42 238 *e*P P 02 38 31.2 +4.8
PBMO Poplar Bluff 81.45 311 IAmb IAmb 02 38 30.9
comp=Z,26nm,1.1s
O18K Koktuh Hills 81.45 358 P P 02 38 25.9 -0.1
baz=3.3
O17K Koliganek Bris 81.58 359 P P 02 38 26.6 -0.1
baz=1.8
BOAV Boa Vista 81.62 266 *e*P P 02 38 32.1 +4.4
T42A Van Buren 81.67 311 IAmb IAmb 02 38 32.1
comp=Z,47nm,1.2s
O16K Kokwok River B 81.77 359 P P 02 38 28.6 +0.9
baz=1.1
LRAL Lakeview Retre 81.86 306 IAmb IAmb 02 38 39.8
comp=Z,42nm,1.0s
SISI Saibi 81.86 98 P P 02 38 27.7 -1.2
comp=Z,49nm,1.1s
ASAJ Asahikawa 82.09 38 LR LR 03 20 05.2
comp=Z,2μm,19.1s,baz=351,slow=40
SIT Sitka 82.19 347 P P 02 38 30.0 +0.1
baz=19
O15K Ungalikthiuk R 82.19 0 P P 02 38 30.4 +0.5
baz=360
ITTB Itaituba 82.20 258 *e*P P 02 38 34.1 +3.4
PPI Padang Panjang 82.33 97 P P 02 38 30.6 -0.7
comp=Z,2μmcomp=Z,54nm,1.1s
LCAR Lake Charles 82.36 311 IAmb IAmb 02 38 35.9
comp=Z,29nm,1.2s
Q20K Shuyak Island 82.59 356 P P 02 38 33.0 +1.1
baz=5.5
Q16K King Salmon 82.67 359 P P 02 38 32.3 0.0
baz=2.2
FCAR Ozark Folk Cen 83.06 311 IAmb IAmb 02 38 54.7
comp=Z,22nm,0.9s
KSU1 Kansas State U 83.34 316 IAmb IAmb 02 39 10.1
comp=Z,26nm,0.8s
RSSD Black Hills 83.37 323 P P 02 38 36.6 0.0
RSSD IAmb IAmb 02 38 47.1
comp=Z,27nm,1.4s
RSSD Black Hills 83.37 323 P P 02 38 36.6 0.0
RSSD pmax pmax
comp=Z,27nm,1.4s
BAUV El Baul 83.42 276 P P 02 38 37.4 +0.3
BAUV IAmb IAmb 02 38 43.5
comp=Z,39nm,1.2s
KDAK Kodiak Island 83.42 356 LR LR 03 15 40.8
comp=Z,393nm,21.9s,baz=220,slow=36
JNU Nakatsue 83.43 52 LR LR 03 21 16.0
comp=Z,846nm,18.1s,baz=317,slow=40
NPGB Novo Progresso 83.63 256 *e*P P 02 38 39.5 +1.4
SNDB Serra Nova Dou 83.84 249 *e*P P 02 38 41.9 +2.8
HHAR Hobbs 83.84 312 IAmb IAmb 02 38 44.0
comp=Z,28nm,1.4s
BDFB Brasilia 83.95 244 P P 02 38 40.5 +0.8
comp=Z,5.9nm,1.1s,baz=60,slow=5.6,SNR=11
BDFB LR LR 03 17 36.3
comp=Z,1μm,18.6s,baz=59,slow=37
comp=Z,5.9nm,1.1s
UALR University of 83.95 310 IAmb IAmb 02 38 50.0
comp=Z,20nm,1.0s
CAM01 Campos-RJ 83.97 236 *e*P P 02 38 44.7 +5.2
OHAK Old Harbor 84.02 357 P P 02 38 39.5 +0.1
baz=4.8
X40A Basin Creek Fa 84.44 310 IAmb IAmb 02 38 45.6
comp=Z,18nm,1.1s
PMNB Patos De Minas 84.83 241 *e*P P 02 38 48.2 +4.0
BBB Bella Bella 85.21 341 LR LR 03 19 29.3
comp=Z,818nm,18.3s,baz=32,slow=38
MACA Manacapuru-AM 85.23 262 *e*P P 02 38 51.4 +5.1
MJAR Matsushiro Arr 85.36 46 P P 02 38 45.6 -0.9

comp=Z,2.1nm,0.3s,baz=314,slow=5.7,SNR=10.0
MJAR LR LR 03 19 24.1
comp=Z,836nm,19.4s,baz=322,slow=38
comp=Z,2.1nm,0.3s
NEW Newport 85.37 333 IAmb IAmb 02 38 59.7
comp=Z,52nm,1.8s
NEW Newport 85.37 333 LR LR 03 18 00.1
comp=Z,1μm,20.5s,baz=34,slow=36
MSO Missoula 85.41 331 IAmb IAmb 02 39 05.9
comp=Z,21nm,1.3s
BSCB Bom Sucesso 85.42 238 *e*P P 02 38 52.2 +5.2
SDV Santo Domingo 85.46 278 P **P** **02 38 47.5 -0.1**
SDV IAmb IAmb 02 38 53.1
comp=Z,18nm,0.9s
SDV Santo Domingo 85.46 278 LR LR 03 13 07.9
comp=Z,284nm,21.8s,baz=77,slow=33
SDV Santo Domingo 85.46 278 *e*P **P** **02 38 49.9 +2.3**
BOZ Bozeman (W) 85.52 329 IAmb IAmb 02 38 60.0
comp=Z,62nm,2.0s
YMP Mirror Lake Pl 85.60 327 IAmb IAmb 02 39 28.8
comp=Z,19nm,1.0s
K22A Casper 85.66 324 IAmb IAmb 02 39 03.1
comp=Z,38nm,1.4s
IPMB Ipameri, GO 85.68 243 *e*P **P** **02 38 52.8 +4.5**
SHEM Shemya Is, Ala 85.79 16 LR LR 03 21 18.0
comp=Z,822nm,18.1s,baz=318,slow=39
JOW Kunigami 85.97 59 LR LR 03 24 41.1
comp=Z,859nm,18.4s,baz=162,slow=41
YHB Horse Butte 86.03 328 IAmb IAmb 02 38 57.5
comp=Z,28nm,1.5s
KSI Kapahiang 86.03 98 P **P** **02 38 49.5 -0.8**
N23A Red Feather La 86.76 322 P **P** **02 38 53.8 0.0**
baz=39
PDAR Pinedale Array 86.93 326 P **P** **02 38 54.7 +0.1**
PDAR Pinedale Array 86.93 326 P **P** **02 38 54.3 -0.2**
comp=Z,0.8nm,0.6s,baz=68,slow=5.1,SNR=15
PDAR LR LR 03 20 01.8
comp=Z,882nm,18.3s,baz=22,slow=37
comp=Z,0.8nm,0.6s
WMOK Wichita Mounta 87.69 314 IAmb IAmb 02 39 03.9
comp=Z,23nm,1.2s
MDSI Maura Dua 87.78 98 P **P** **02 38 57.6 -1.1**
comp=Z,34nm,0.8s
Q24A Divide 87.87 321 P **P** **02 39 00.1 +0.9**
baz=39
LWLI Liwa 88.02 98 P **P** **02 39 00.1 +0.1**
ITRB Iturama 88.33 243 *e*P P 02 39 06.6 +5.4
BMO Blue Mountains 88.34 332 IAmb IAmb 02 39 19.4
comp=Z,30nm,1.7s
O20A White River Ci 88.44 323 IAmb IAmb 02 39 19.6
comp=Z,26nm,1.4s
HWUT Hardware Ranch 88.74 326 IAmb IAmb 02 39 14.6
comp=Z,19nm,1.1s
PLPT Palo Pinto 88.84 313 IAmb IAmb 02 39 09.4
comp=Z,32nm,1.1s
T25A Trinidad 88.91 319 P **P** **02 39 05.7 +1.6**
baz=40
MFID Camas Ranch 89.00 330 IAmb IAmb 02 39 37.2
comp=Z,54nm,2.0s
TGY Tagaytay City 89.06 73 LR LR 03 22 49.0
comp=Z,491nm,21.6s,baz=324,slow=38
BSUT Blindstream Ca 89.26 325 IAmb IAmb 02 39 25.3
comp=Z,27nm,1.4s
TPI Tanjungpandan 89.39 94 P **P** **02 39 06.6 +0.3**
comp=Z,805nmcomp=Z,55nm,1.2s
HKT Hockley 89.44 309 P **P** **02 39 06.8 +0.6**
HKT IAmb IAmb 02 39 17.9
comp=Z,13nm,0.8s
HKT Hockley 89.44 309 P **P** **02 39 06.9 +0.6**
HKT pmax pmax
comp=Z,13nm,0.9s
SALV Santo Antonio 89.62 249 *e*P **P** **02 39 09.5 +2.2**
S22A 4UR Ranch, Cre 89.64 321 P **P** **02 39 07.0 -0.6**
baz=38
P18A Preston Nutter 89.76 324 IAmb IAmb 02 39 22.8
comp=Z,34nm,1.6s
PV07 Paradox Valley 89.97 323 IAmb IAmb 02 39 20.6
comp=Z,14nm,0.9s
PV10 Paradox Valley 90.21 323 IAmb IAmb 02 39 22.2
comp=Z,27nm,1.0s
CGJI Cibinong 90.29 98 P **P** **02 39 10.2 -0.3**
comp=Z,55nm,1.2s
SRU San Rafael Swe 90.31 324 IAmb IAmb 02 39 14.6
comp=Z,25nm,1.4s
SBJI Serang 90.31 98 P **P** **02 39 09.1 -1.5**
BRDY Brady 90.35 312 IAmb IAmb 02 39 21.7
comp=Z,14nm,1.0s
STKI Sintang 90.62 89 P **P** **02 39 12.6 +0.5**
comp=Z,32nm,0.5s
Q16A Castle Valley 90.76 324 IAmb IAmb 02 39 27.5
comp=Z,40nm,1.7s
ROSC El Rosal 90.83 277 P **P** **02 39 13.5 -0.1**
comp=Z,5.0nm,0.4s,baz=306,slow=23,SNR=4.0
ROSC LR LR 03 17 07.8
comp=Z,304nm,20.3s,baz=44,slow=34
comp=Z,5.0nm,0.4s
ELK Elko 91.01 328 IAmb IAmb 02 39 29.1
comp=Z,22nm,1.8s
ELK Elko 91.01 328 LR LR 03 20 45.6
comp=Z,1μm,20.7s,baz=35,slow=36
VILB Vilhena 91.06 254 *e*P **P** **02 39 16.8 +2.7**
RPRD Ribas do Rio P 91.19 245 *e*P **P** **02 39 18.2 +3.7**
ANMO Albuquerque 91.65 319 LR LR 03 20 41.0
comp=Z,856nm,20.0s,baz=204,slow=36
OZNA Ozona 91.84 313 IAmb IAmb 02 39 38.3
comp=Z,23nm,1.1s
PTLB Pontes e Lacer 91.86 252 P **P** **02 39 18.7 +1.1**
PTLB IAmb IAmb 02 39 23.5
comp=Z,11nm,0.8s
PTLB Pontes e Lacer 91.86 252 *e*P **P** **02 39 20.5 +2.9**
LEM Lembang 91.91 97 P **P** **02 39 17.3 -0.9**
comp=Z,16nm,0.7s,baz=269,slow=22,SNR=1.2
LEM LR LR 03 26 06.0
comp=Z,262nm,18.6s,baz=346,slow=39
comp=Z,16nm,0.7s
LEM Lembang 91.91 97 P **P** **02 39 18.1 -0.1**
YBH Yreka Blue Hor 93.00 333 LR LR 03 22 40.4
comp=Z,1μm,21.4s,baz=16,slow=36
TBTG Tabatinga, AM 93.03 267 *e*P **P** **02 39 25.9 +2.7**
SAND Sanderson 93.13 313 IAmb IAmb 02 39 51.4
comp=Z,16nm,1.3s
U15A North Rim 93.30 324 IAmb IAmb 02 39 38.9
comp=Z,18nm,1.4s
SIV San Ignacio 93.64 252 LR LR 03 23 33.2
comp=Z,706nm,18.1s,baz=88,slow=37
ALPN Alpine 93.67 314 IAmb IAmb 02 39 38.5
comp=Z,12nm,0.9s
NVAR Mina Array Bea 94.22 329 P **P** **02 39 27.9 -0.8**
comp=Z,0.2nm,0.3s,baz=48,slow=4.6,SNR=3.6
NVAR LR LR 03 24 55.5
comp=Z,2μm,18.6s,baz=31,slow=38
comp=Z,0.2nm,0.3s
121A Cookes Peak, D 94.23 318 P **P** **02 39 26.5 -2.3**
baz=38
TXAR Lajitas Array 94.48 314 P **P** **02 39 29.8 -0.1**
comp=Z,1.1nm,0.7s,baz=71,slow=4.0,SNR=16
TXAR LR LR 03 22 43.2
comp=Z,639nm,19.6s,baz=35,slow=36
comp=Z,1.1nm,0.7s
JTS Las Juntas de 95.44 288 LR LR 03 20 58.8
comp=Z,299nm,18.3s,baz=44,slow=34
OTAV Otavalo 96.92 276 *e*P **P** **02 39 45.6 +3.9**
DAV Davao City (W) 97.06 75 LR LR 03 29 53.2
comp=Z,245nm,19.0s,baz=343,slow=40
CPUP Villa Florida 97.50 242 LR LR 03 25 50.2
comp=Z,1μm,19.0s,baz=52,slow=37
PFO Pinyon Flats O 97.53 325 LR LR 03 25 31.0
comp=Z,1μm,20.2s,baz=38,slow=36
CMIG Matias Romero 97.94 299 LR LR 03 27 33.9
comp=Z,195nm,18.6s,baz=46,slow=38
LPAZ La Paz 99.12 257 LR LR 03 28 01.3
comp=Z,459nm,18.4s,baz=56,slow=37
LPAZ La Paz 99.12 257 *e*P **Pdif** **02 39 54.8 +3.2**
PLCA Paso Flores 114.81 237 PKP PKPdf 02 44 49.3 -0.4
comp=Z,2.3nm,0.8s,baz=71,slow=3.6,SNR=9.3
WRA Warramunga Arr 120.48 92 PKP **PKPdf** **02 44 59.9 -1.2**
comp=Z,6.0nm,0.7s,baz=315,slow=1.7,SNR=15
WB2 Warramunga Arr 120.49 92 **PKiKP** **02 45 02.6 +1.4**
BELA Belgrano 2 121.24 192 PKPdf **PKiKP** **02 45 01.8 +0.8**
AS31 Alice Springs 122.17 96 PKPdf **PKPdf** **02 45 04.0 -0.3**
ASAR Alice Springs 122.17 96 PKP **PKPdf** **02 45 03.9 -0.5**
comp=Z,9.8nm,0.7s,baz=308,slow=1.5,SNR=45
QSPA South Pole Qui 128.84 180 **PKiKP** **02 45 18.1 +1.6**
QSPA South Pole Qui 128.84 180 PKP **PKPdf** **02 45 15.6 -0.1**
comp=Z,6.7nm,0.7s,baz=305,slow=0.9,SNR=12
STKA Stephens Creek 132.10 101 PKPdf **PKiKP** **02 45 25.2 +1.2**
STKA Stephens Creek 132.10 101 PKP **PKPdf** **02 45 22.2 -0.7**
comp=Z,5.3nm,0.7s,baz=356,slow=4.7,SNR=9.3
STKA Stephens Creek 132.10 101 PKIKP **PKiKP** **02 45 25.2 +1.2**
TAOE Nuku Hiva Isla 145.39 325 *e*LR LR 03 33 28.1
comp=Z,635nm,26.8s
DZM Mont Dzumac 146.31 70 *e*LR LR 03 33 57.3
comp=Z,570nm,26.4s
PPT2 Papeete2 157.03 335 *e*SS SS 03 09 56.3 -10
comp=Z,104nm,24.8s
PPT2 Papeete2 157.03 335 *e*LR LR 03 38 53.1
comp=Z,610nm,27.0s
PPT2 *e*LR LR 03 38 53.2
comp=Z,871nm,25.8s
TBI Tubuai 162.28 329 *e*SS SS 03 11 02.4 +0.7
comp=Z,629nm,28.2s
TBI Tubuai 162.28 329 *e*LR LR 03 41 13.6
comp=Z,1μm,27.2s
TBI *e*LR LR 03 41 19.0
comp=Z,3μm,23.5s

STR 05 02:27:16.0±0.8, 45°N±2°×°±°, h13km±8km, MLv0.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=65.4, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.14**	**148**	Pg	Pg	02 27 19.6	-0.1
PZZ	**Stroppo**	**0.14**	**148**	Sg	Sg	02 27 22.2	-0.2
SURF	**Saint Ours**	**0.20**	**224**	Pg	Pg	02 27 20.6	-0.1
SURF				Sg	Sg	02 27 23.8	-0.1
JAUF	**Jausiers**	**0.27**	**223**	Pg	Pg	02 27 21.5	-0.3
JAUF				Sg	Sg	02 27 25.6	-0.2
BHB	**Bricherasio**	**0.28**	**40**	Pg	Pg	02 27 21.5	-0.4
BHB	**Bricherasio**	**0.28**	**40**	Sg	Sg	02 27 25.8	-0.1
CREF	**Crivoux**	**0.29**	**254**	Pg	Pg	02 27 22.1	0.0
CREF				Sg	Sg	02 27 26.5	+0.2
RRL	**Rocca Remolon**	**0.33**	**332**	Pg	Pg	02 27 22.8	-0.2
RRL	**Rocca Remolon**	**0.33**	**332**	Sg	Sg	02 27 27.7	+0.1
ISO	**Isola**	**0.45**	**176**	Pg	Pg	02 27 25.2	+0.3
ISO				Sg	Sg	02 27 31.0	+0.1
SPIF	**crte de Spivo**	**0.59**	**164**	Pg	Pg	02 27 27.7	0.0
SPIF				Sg	Sg	02 27 35.8	+0.2

---

*IDC **05** 02:32:06.5±1.5, 2°.01N×128°.07E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=104.2km s-min=18.0km az=70.0*
*ISC **05** 02:32:21.9±1.6, 1°.8N±0°.3×128°.0E±0°.6, h134km, n6, σ1°.77/6, mb3.8/5, Halmahera*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.93**	**187**	P	**P**	**02 36 42.5**	**-0.9**
2.2nm,1.0s,baz=14,slow=8.1,SNR=7.1							
2.2nm,1.0s							
WRA	**Warramunga Arr**	**22.50**	**164**	P	**P**	**02 37 08.0**	**-2.6**
0.7nm,0.8s,baz=344,slow=11,SNR=2.3							
0.7nm,0.8s							
ASAR	**Alice Springs**	**25.98**	**168**	P	**P**	**02 37 42.9**	**+0.5**
0.9nm,0.5s,baz=350,slow=10,SNR=14							
0.9nm,0.5s							
STKA	**Stephens Creek**	**35.91**	**160**	P	**P**	**02 39 10.6**	**+1.2**
0.9nm,0.4s,baz=343,slow=8.6,SNR=3.7							
0.9nm,0.4s							
MKAR	**Makanchi Array**	**59.83**	**325**	P	**P**	**02 42 13.4**	**+0.1**
0.5nm,0.3s,baz=113,slow=8.1,SNR=15							
0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**64.02**	**327**	P	**P**	**02 42 40.9**	**-0.3**
0.8nm,0.7s,baz=128,slow=6.3,SNR=9.5							
0.8nm,0.7s							

ATH 05 02:35:59.3, 37°.16N×20°.87E, h16km±2km, ML2.7/2, Error ellipse: s-maj=4.9km s-min=1.6km az=234.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.55**	**357**	P	Pg	02 36 10.2	0.0
LTHK				S	Sg	02 36 17.4	-0.1
LTHK				AML	AML	02 36 20.3	
comp=N,3344μm,0.3s							
LTHK				AML	AML	02 36 20.6	
comp=E,1149μm,0.4s							
KYPS	**Kipseli, Zakin**	**0.66**	**357**	P	Pg	02 36 12.2	0.0
KYPS				S	Sg	02 36 21.1	+0.2
ORTH	**Orthonies,Zaky**	**0.70**	**349**	P	Pg	02 36 12.4	-0.6
ORTH				S	Sg	02 36 22.5	+0.1
CLEM	**Kyllini,Ilia,G**	**0.76**	**16**	P	Pg	02 36 13.0	-1.0
CLEM				S	Sg	02 36 23.9	-0.2
AMT	**Artemida-Makis**	**0.76**	**61**	P	Pb	02 36 14.3	+0.1
AMT				AML	AML	02 36 32.8	
comp=E,1170μm,0.4s							
AMT				AML	AML	02 36 38.6	
comp=N,1424μm,0.5s							
ITM	**Ithomi**	**0.84**	**89**	P	Pb	02 36 14.6	-1.0
RLS	**Riolos of Patr**	**1.01**	**28**	P	Pb	02 36 18.1	-0.3
DRO	**Drossia**	**1.03**	**40**	P	Pb	02 36 18.4	-0.4
KLV	**Kalavryta, Ach**	**1.34**	**49**	P	Pn	02 36 23.1	-0.4
EFP	**Efpalio**	**1.50**	**33**	P	Pb	02 36 26.4	-0.5

---

*THE **05** 02:36:27.2, 39°.01N×20°.62E, h13km±1km, ML2.3/6, Error ellipse: s-maj=2.4km s-min=0.4km az=246.0*
ATH 05 02:36:27.5, 39°.00N×20°.65E, h17km±1km, ML2.6/12, Manual Solution by N.Liadopoulou This location: 2020/07/01 08:13:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.17**	**178**	P	Pg	02 36 31.1	-0.8
TSLK	**Tsoukalades, L**	**0.17**	**178**	P	Pg	02 36 31.4	-0.5
TSLK				S	Sg	02 36 35.1	+0.3
LKD2	**Lefkada island**	**0.21**	**178**	P	Pg	02 36 31.7	-0.8
LKD2				S	Sb	02 36 36.2	-0.3
1μm,0.4s							
LKD2	**Lefkada island**	**0.21**	**178**	P	Pg	02 36 31.6	-0.8
LKD2				S	Sg	02 36 36.0	+0.2
NYDR	**Nydri-Lefkada**	**0.29**	**172**	P	Pg	02 36 32.9	-0.8
NYDR				S	Sg	02 36 38.1	+0.2
1μm,0.5s							
NYDR	**Nydri-Lefkada**	**0.29**	**172**	P	Pg	02 36 32.8	-0.8
NYDR				S	Sb	02 36 38.6	-0.1
DRAG	**Dragano-Lefkad**	**0.32**	**190**	P	Pg	02 36 33.6	-0.7
DRAG				S	Sb	02 36 39.4	-0.3
DRAG	**Dragano-Lefkad**	**0.32**	**190**	P	Pg	02 36 33.7	-0.5
DRAG				S	Sg	02 36 39.2	+0.3
EVGI	**Lefkada island**	**0.38**	**179**	P	Pg	02 36 34.8	-0.5
EVGI	**Lefkada island**	**0.38**	**179**	P	Pg	02 36 34.7	-0.6
EVGI				S	Sg	02 36 40.9	+0.3
FSK	**Fiskardo**	**0.54**	**187**	P	Pg	02 36 37.2	-1.1
FSK				S	Sb	02 36 46.2	+0.1
385nm,0.2s							
FSK	**Fiskardo**	**0.54**	**187**	P	Pg	02 36 37.1	-1.2
FSK				S	Sb	02 36 46.3	+0.2
IGT	**Igoumenitsa**	**0.59**	**335**	P	Pg	02 36 37.7	-1.4
IGT				S	Sg	02 36 46.6	-0.4
372nm,0.3s							
IGT	**Igoumenitsa**	**0.59**	**335**	P	Pg	02 36 37.5	-1.6
IGT				S	Sg	02 36 47.1	+0.1
TETR	**Tetrakomo, Epi**	**0.60**	**54**	P	Pg	02 36 37.9	-1.5
TETR				S	Sb	02 36 47.8	0.0
LFKM	**Lefkimmi**	**0.64**	**315**	P	Pg	02 36 39.0	-1.1
LFKM				S	Sg	02 36 48.6	0.0
JAN	**Janina**	**0.68**	**13**	P	Pg	02 36 40.3	-0.5
JAN				S	Sb	02 36 50.2	+0.2
KEK	**Kerkira**	**0.97**	**318**	P	Pb	02 36 46.1	+0.2
SRN	**Sarande**	**1.01**	**331**	P	Pb	02 36 45.1	-1.5
ANX	**Ano Chora**	**1.07**	**112**	P	Pb	02 36 47.1	-0.6
KPRO	**Kipourio**	**1.10**	**30**	P	Pb	02 36 48.0	-0.2
KPRO				S	Sg	02 37 03.6	+0.3
388nm,0.5s							
KPRO	**Kipourio**	**1.10**	**30**	P	Pn	02 36 48.4	+0.1
EFP	**Efpalio**	**1.14**	**120**	P	Pn	02 36 48.1	-0.6
EFP				S	Sg	02 37 05.0	+0.7
EFP	**Efpalio**	**1.14**	**120**	P	Pn	02 36 48.0	-0.7
LSK	**Leskovik**	**1.15**	**358**	P	Pn	02 36 48.2	-0.8
MAKR	**Makrakomi, Fth**	**1.16**	**89**	P	Pn	02 36 48.8	-0.2
MAKR	**Makrakomi, Fth**	**1.16**	**89**	P	Pb	02 36 49.2	+0.1
THL	**Klokotos Trika**	**1.20**	**61**	P	Pn	02 36 49.6	0.0
PENT	**Pentalofos**	**1.25**	**17**	P	Pn	02 36 49.8	-0.7
KALE	**Kalithea**	**1.31**	**117**	P	Pn	02 36 51.5	+0.3
TYRN	**Tyrnavos**	**1.42**	**59**	P	Pn	02 36 52.6	0.0
TYRN				S	Sb	02 37 11.5	+0.1
105nm,0.6s							
TYRN	**Tyrnavos**	**1.42**	**59**	P	Pn	02 36 52.6	+0.1
NEST	**Nestorio**	**1.45**	**12**	P	Pn	02 36 53.3	+0.2
KZN	**Kozani**	**1.57**	**33**	P	Pn	02 36 55.2	+0.5
AXAR	**Agios Charalam**	**1.59**	**98**	P	Pn	02 36 54.7	-0.2

---

*IDC **05** 02:44:39.9±1.6, 1°.57N×126°.51E, h0km, mb3.6/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=120.5km s-min=19.3km az=69.0*
*DJA **05** 02:44:44.6±0.3, 1°N±3°×12°6E±°, h10km, M3.7/10, mb3.7/1, MLv3.7/10*
ISC 05 02:44:46.7±1.0, 1°.47N±0°.08×126°.6E±0°.2, h47km, n8, σ0°67/9, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**131**	P	**Pn**	**02 45 05.7**	**+0.4**
SGSI	**Sangihe**	**2.43**	**335**	P	**Pn**	**02 45 24.4**	**+0.4**
SGSI				S	**Sn**	**02 45 53.2**	**+0.7**
SANI	**Sanana**	**3.54**	**189**	P	**Pn**	**02 45 39.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.47**	**183**	P	**P**	**02 49 10.1**	**+0.4**
0.1nm,0.3s,baz=18,slow=13,SNR=2.2							
4.6nm,1.0s							
WRA	**Warramunga Arr**	**22.61**	**161**	P	**P**	**02 49 43.6**	**0.0**
2.3nm,0.6s,baz=339,slow=11,SNR=14							
2.3nm,0.6s							
ASAR	**Alice Springs**	**25.99**	**164**	P	**P**	**02 50 15.3**	**-0.1**
0.3nm,0.3s,baz=339,slow=8.9,SNR=7.2							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.31**	**326**	P	**P**	**02 54 43.1**	**-0.8**
0.2nm,0.3s,baz=120,slow=7.5,SNR=9.6							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**63.54**	**328**	P	**P**	**02 55 11.3**	**-1.0**
0.5nm,0.5s,baz=129,slow=6.3,SNR=11							
0.5nm,0.5s							

---

*IDC **05** 02:53:44.8±1.3, 6°.76S×130°.63E, h0km, mb3.8/4, mbtmp3.9/7, ML4.0/3, Error ellipse: s-maj=55.5km s-min=24.3km az=85.0*
*NEIC **05** 02:53:50.1±2.1, 6°.80S±0°.03×130°.1E±0°.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=17.2km s-min=5.5km az=85.0*
ISC 05 02:53:54.6±0.7, 6°.97S±0°.06×130°.27E±0°.09, h78km, n26, σ2°40/27, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.44**	**135**	Pn	**Pn**	**02 54 18.6**	**-0.4**
SAUI				Sn	**Sn**	**02 54 40.1**	**+2.6**
FAKI	**Fak Fak**	**4.48**	**26**		**Pn**	**02 54 56.6**	**-3.5**
MTN	**Manton Dam**	**5.90**	**172**		**Pn**	**02 55 20.9**	**+1.4**
SOEI	**Soe**	**6.55**	**245**	Pn	**Pn**	**02 55 27.6**	**-0.9**
KNRA	**Kununurra**	**8.78**	**190**		**Pn**	**02 55 59.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.95**	**202**	Pn	**Pn**	**02 56 42.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.95**	**202**	Pn	**Pn**	**02 56 40.6**	**-1.5**
0.9nm,0.3s,baz=19,slow=10,SNR=31							
FITZ				Sn	**Sn**	**02 58 49.4**	**-4.2**
1.8nm,0.3s,baz=350,slow=23,SNR=7.4							
2.1nm,0.3s							
WB0	**Warramunga Arr**	**13.34**	**163**	Pn	**Pn**	**02 56 56.6**	**-4.3**
WRA	**Warramunga Arr**	**13.49**	**163**	Pn	Pn	02 56 57.8	-5.0
WRA	**Warramunga Arr**	**13.49**	**163**	Pn	**Pn**	**02 56 58.0**	**-4.8**
0.6nm,0.3s,baz=350,slow=13,SNR=13							
WRA				Sn	Sn	02 59 20.4	-11
1.4nm,0.3s,baz=334,slow=23,SNR=14							
2.4nm,0.6s							
WB2	**Warramunga Arr**	**13.49**	**163**	Pn	**Pn**	**02 56 59.1**	**-3.8**
AS31	**Alice Springs**	**16.97**	**169**	Pn	**P**	**02 57 48.0**	**+0.1**
ASAR	**Alice Springs**	**16.97**	**169**	Pn	**Pn**	**02 57 46.1**	**-1.0**
ASAR	**Alice Springs**	**16.97**	**169**	P	**Pn**	**02 57 46.5**	**-0.6**
0.7nm,0.3s,baz=350,slow=12,SNR=28							
ASAR				Sn	Sn	03 00 43.5	-12
0.4nm,0.3s,baz=352,slow=26,SNR=8.7							
1.5nm,0.6s							
MBWA	**Marble Bar**	**17.41**	**215**		**P**	**02 57 53.9**	**+1.2**
MBWA				IAmb	IAmb	02 58 19.6	
comp=Z,33nm,1.4s							
PSA00	**Pilbara Seismi**	**17.67**	**214**		**Pn**	**02 57 57.4**	**+1.7**
PSA00				IAmb	IAmb	02 58 07.4	
comp=Z,30nm,1.4s							
KKM	**Kota Kinabalu**	**19.07**	**312**	P	**P**	**02 58 10.8**	**-0.3**
KKM				IAmb	IAmb	02 58 17.1	
comp=Z,13nm,1.0s							
GUMO	**Guam**	**25.04**	**35**	P	**P**	**02 59 14.7**	**+3.0**
SONM	**Songino Array**	**58.49**	**341**	P	**P**	**03 03 42.3**	**-0.5**
comp=Z,0.3nm,0.4s,baz=155,slow=7.8,SNR=3.7							
comp=Z,0.3nm,0.4s							
PETK	**Petropavlovsk-**	**64.21**	**18**	P	**P**	**03 04 19.7**	**-1.4**
comp=Z,1.9nm,0.8s,baz=209,slow=6.7,SNR=4.4							
comp=Z,1.9nm,0.8s							
MK31	**Makanchi Array**	**68.34**	**327**	P	**P**	**03 04 47.9**	**+0.1**
MK31				IAmb	IAmb	03 04 49.2	
comp=Z,1.3nm,1.3s							
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**03 04 48.0**	**+0.3**
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**03 04 48.2**	**+0.5**
comp=Z,0.7nm,0.6s,baz=119,slow=7.2,SNR=19							
comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**72.62**	**328**	P	**P**	**03 05 14.1**	**+0.5**
comp=Z,0.2nm,0.4s,baz=131,slow=5.4,SNR=2.8							
comp=Z,0.2nm,0.4s							
ABKAR	**Akbulak array**	**82.65**	**322**	P	**P**	**03 06 12.3**	**+2.8**
ABKAR	**Akbulak array**	**82.65**	**322**	P	**P**	**03 06 13.4**	**+3.9**
ABKAR				IAmb	IAmb	03 06 25.5	
comp=Z,1.8nm,1.2s							

---

*NEIC **05** 03:15:37.8±1.3, 61°.38N±0°.02×150°.06W±0°.04, h43km±4km, Error ellipse: s-maj=3.8km s-min=1.8km az=141.0*
*IDC **05** 03:15:37.3±1.5, 61°.32N×150°.63W, h56km±19km, mb3.4/7, mbtmp3.5/11, ML3.2/4, Error ellipse: s-maj=31.8km s-min=10.0km az=113.0*
*AEIC **05** 03:15:38.3±1.3, 61°.39N±0°.03×150°.05W±0°.05, h40km±4km, ML3.5, ML3.7/178(NEIC), Error ellipse: s-maj=4.0km s-min=3.2km az=173.0*
ISC 05 03:15:37.0±0.7, 61°.36N±0°.03×150°.08W±0°.03, h48km±5km, n361, σ0°99/352, mb3.7/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**197**		**Pn**	**03 15 46.1**	**+0.8**
FIS					**Sn**	**03 15 53.3**	**+2.1**
FIS				IAML		03 15 54.1	
comp=E,9μm,0.4s							
RC01	**Rabbit Creek A**	**0.32**	**148**		**Pn**	**03 15 46.0**	**-0.2**
RC01				Sn	**Sn**	**03 15 51.4**	**-1.3**
RC01				IAML		03 15 53.2	
comp=N,8μm,0.3s							
RC01				IAML		03 15 53.3	
comp=E,8μm,0.4s							
RC01	**Rabbit Creek A**	**0.32**	**148**	P	**Pn**	**03 15 45.8**	**-0.4**
baz=333							
RC01				S	**Sn**	**03 15 52.9**	**+0.2**
baz=333							
SUA	**Susitna One**	**0.34**	**288**		**Pn**	**03 15 46.2**	**-0.2**
SUA				Sn	**Sn**	**03 15 51.6**	**-1.6**
SUA				IAML		03 15 55.5	
comp=N,7μm,0.5s							
SUA	**Susitna One**	**0.34**	**288**	P	**Pn**	**03 15 46.1**	**-0.4**
baz=103							
SUA				S	**Sn**	**03 15 53.3**	**+0.1**
baz=103							
M22K	**Willow**	**0.39**	**357**		**Pn**	**03 15 46.0**	**-0.9**
M22K				Sn	**Sn**	**03 15 53.2**	**-0.7**
M22K				IAML		03 15 53.8	
comp=N,9μm,0.3s							
M22K				IAML		03 15 54.6	
comp=E,7μm,0.3s							
M22K	**Willow**	**0.39**	**357**	P	**Pn**	**03 15 45.8**	**-1.0**
baz=175							
M22K				S	**Sn**	**03 15 53.6**	**-0.3**
baz=175							
PMR	**Palmer**	**0.51**	**63**		**Pn**	**03 15 47.6**	**-0.7**
PMR				Sn	**Sn**	**03 15 55.5**	**-0.8**
PMR				IAML		03 15 56.5	
comp=E,7μm,0.5s							
PMR	**Palmer**	**0.51**	**63**

GHO			Sn	Sn	03 16 00.1	-0.3
KNK	**Knik Glacier**	**0.78 86**		**Pn**	**03 15 51.7**	**-0.1**
KNK			Sn	Sn	03 16 02.7	+0.2
KNK	comp=N,4µm,0.5s		IAML		03 16 04.3	
KNK	comp=E,4µm,0.4s		IAML		03 16 05.2	
KNK	**Knik Glacier**	**0.78 86**	P	**Pn**	**03 15 51.7**	**-0.1**
KNK	baz=269		S	**Sn**	**03 16 03.4**	**+0.8**
CAPN	**Captain Cook N**	**0.79 222**		**Pn**	**03 15 53.3**	**+1.5**
CAPN	**Captain Cook N**	**0.79 222**	P	**Pn**	**03 15 53.5**	**+1.7**
STLK	**Strandline Lak**	**0.85 280**		**Pn**	**03 15 53.1**	**+0.3**
STLK	baz=40 comp=E,2µm,0.7s		IAML		03 16 05.6	
STLK	**Strandline Lak**	**0.85 280**		**Sn**	**03 16 05.0**	**+0.7**
SLKM	**Skilak Lake**	**0.86 185**		**Pn**	**03 15 52.9**	**+0.1**
SLKM	comp=E,3µm,0.3s		IAML		03 16 07.7	
SLKM	comp=N,2µm,0.2s		IAML		03 16 08.9	
O22K	**Cooper Landing**	**0.90 169**		**Pn**	**03 15 53.5**	**+0.1**
O22K	**Cooper Landing**	**0.90 169**	P	**Pn**	**03 15 53.6**	**+0.3**
SKT	**Skwentna**	**0.93 313**	Pn	**Pn**	**03 15 53.5**	**-0.2**
SKT	**Skwentna**	**0.93 313**		**Sn**	**03 16 06.0**	**0.0**
SKT	**Skwentna**	**0.93 313**	P	**Pn**	**03 15 53.4**	**-0.4**
SKT	baz=130		S	**Sn**	**03 16 06.0**	**0.0**
SPCG	**Spurr Capps Gl**	**0.94 266**		**Pn**	**03 15 54.2**	**+0.3**
SPCG				**Sn**	**03 16 07.2**	**+0.8**
SML	**Sawmill**	**0.95 61**		**Pn**	**03 15 53.8**	**-0.3**
SML	comp=E,3µm,0.6s		IAML		03 16 08.2	
SML	comp=N,2µm,0.7s		IAML		03 16 10.1	
SML	**Sawmill**	**0.95 61**	P	**Pn**	**03 15 53.7**	**-0.3**
SPU	**Mount Spurr**	**0.97 260**		**Pn**	**03 15 54.2**	**-0.1**
SPU	**Mount Spurr**	**0.97 260**		**Sn**	**03 16 07.7**	**+0.7**
SPU	**Mount Spurr**	**0.97 260**	IAML		03 16 08.3	
SPU	comp=N,2µm,0.5s		IAML		03 16 14.8	
PWL	**Port Wells**	**0.99 120**		**Pn**	**03 15 55.3**	**+0.7**
PWL	**Port Wells**	**0.99 120**	P	**Pn**	**03 15 54.9**	**+0.4**
SPCN	**Chakachatna No**	**1.02 263**		**Pn**	**03 15 55.5**	**+0.5**
SPCR	**Spurr Chakacha**	**1.04 262**		**Pn**	**03 15 55.5**	**+0.3**
SPCR	**Spurr Chakacha**	**1.04 262**	P	**Pn**	**03 15 55.6**	**+0.3**
CUT	**Chulitna**	**1.05 355**		**Pn**	**03 15 55.1**	**-0.2**
CUT	**Chulitna**	**1.05 355**		**Sn**	**03 16 08.7**	**-0.2**
CUT	**Chulitna**	**1.05 355**	P	**Pn**	**03 15 55.1**	**-0.2**
CUT	baz=174		S	**Sn**	**03 16 08.7**	**-0.2**
CKL	**Chakachamna La**	**1.10 262**		**Pn**	**03 15 56.4**	**+0.2**
SPBG	**Spurr Blockage**	**1.11 266**		**Pn**	**03 15 56.6**	**+0.4**
M23K	**Glacier View**	**1.21 68**		**Pn**	**03 15 57.9**	**+0.4**
M23K	**Glacier View**	**1.21 68**	P	**Pn**	**03 15 57.9**	**+0.4**
SPNN	**North Nagishla**	**1.26 271**		**Pn**	**03 15 59.0**	**+0.7**
SEW	**Seward**	**1.30 166**		**Pn**	**03 15 58.3**	**-0.4**
SEW	**Seward**	**1.30 166**	P	**Pn**	**03 15 59.0**	**+0.3**
RDT	**Redoubt**	**1.38 236**		**Pn**	**03 16 00.3**	**+0.4**
SCM	**Sheep Creek Mo**	**1.40 69**		**Pn**	**03 16 00.7**	**+0.5**
SCM			IAML		03 16 20.5	
SCM	comp=E,1µm,0.3s		IAML		03 16 21.2	
SCM	**Sheep Creek Mo**	**1.40 69**	P	**Pn**	**03 16 00.7**	**+0.5**
GLI	**Glacier Island**	**1.53 107**		**Pn**	**03 16 02.0**	**+0.2**
GLI	comp=N,1µm,0.3s		IAML		03 16 25.6	
GLI	comp=E,1µm,0.4s		IAML		03 16 29.3	
GLI	**Glacier Island**	**1.53 107**	P	**Pn**	**03 16 02.0**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.54 241**		**Pn**	**03 16 02.7**	**+0.6**
M20K	**Styx River**	**1.55 291**	Pn	**Pn**	**03 16 03.1**	**+0.9**
M20K	comp=N,1µm,0.8s		IAML		03 16 25.9	
M20K	comp=E,803nm,0.7s		IAML		03 16 26.1	
M20K	**Styx River**	**1.55 291**	P	**Pn**	**03 16 03.4**	**+1.2**
RDWB	**Redoubt West**	**1.61 238**		**Pn**	**03 16 03.7**	**+0.6**
BRLK	**Bradley Lake**	**1.65 194**	Pn	**Pn**	**03 16 04.2**	**+0.6**
BRLK	comp=E,822nm,0.5s		IAML		03 16 28.8	
BRLK	comp=N,849nm,0.4s		IAML		03 16 30.5	
BRSE	**Bradley Lake S**	**1.66 192**		**Pn**	**03 16 03.9**	**+0.2**
BRSE	**Bradley Lake S**	**1.66 192**	P	**Pn**	**03 16 03.9**	**+0.2**
O20K	**Slope Mountain**	**1.79 225**		**Pn**	**03 16 07.1**	**+1.6**
O20K	**Slope Mountain**	**1.79 225**	P	**Pn**	**03 16 07.1**	**+1.6**
FID	**Port Fidalgo**	**1.86 108**		**Pn**	**03 16 05.8**	**-0.6**
FID	comp=N,786nm,0.6s		IAML		03 16 31.1	
FID	comp=E,726nm,0.4s		IAML		03 16 37.0	
HOM	**Homer**	**1.88 205**	Pn	**Pn**	**03 16 07.8**	**+1.2**
HOM	**Homer**	**1.88 205**	P	**Pn**	**03 16 08.1**	**+1.5**
P23K	**Montague Islan**	**1.90 135**		**Pn**	**03 16 06.5**	**-0.4**
P23K	**Montague Islan**	**1.90 135**	P	**Pn**	**03 16 06.5**	**-0.4**
CNPM	**China Poot**	**1.93 198**	Pn	**Pn**	**03 16 08.1**	**+0.8**
CNPM			IAML		03 16 36.6	
CNPM	comp=E,863nm,0.5s		IAML		03 16 38.6	
HIN	**Hinchinbrook I**	**2.00 117**		**Pn**	**03 16 08.8**	**+0.4**
HIN	comp=E,1µm,0.7s		IAML		03 16 40.1	
HIN	comp=N,1µm,0.8s		IAML		03 16 40.6	
KLU	**Klutina**	**2.00 84**		**Pn**	**03 16 08.9**	**+0.4**
KLU	comp=N,495nm,0.5s		IAML		03 16 41.8	
KLU	comp=E,407nm,0.4s		IAML		03 16 45.0	
KLU	**Klutina**	**2.00 84**	P	**Pn**	**03 16 08.5**	**+0.1**
M24K	**Tolsona, Glenn**	**2.00 66**	Pn	**Pn**	**03 16 09.5**	**+1.0**
M24K	comp=N,850nm,1.1s		IAML		03 16 43.6	
M24K	**Tolsona, Glenn**	**2.00 66**	P	**Pn**	**03 16 09.7**	**+1.3**
ILS	**Iliamna Low So**	**2.04 227**		**Pn**	**03 16 10.2**	**+1.3**
ILSW	**Iliamna Southw**	**2.04 229**		**Pn**	**03 16 10.0**	**+0.9**
ILSW	comp=E,382nm,0.8s		IAML		03 16 41.1	
DIV	**Divide**	**2.10 95**		**Pn**	**03 16 09.5**	**-0.2**
TRF	**Thorofare Moun**	**2.10 357**	Pn	**Pn**	**03 16 10.3**	**+0.6**
TRF	comp=N,446nm,0.5s		IAML		03 16 48.4	
TRF	**Thorofare Moun**	**2.10 357**	P	**Pn**	**03 16 10.5**	**+0.7**
L20K	**Farewell, AK**	**2.12 304**		**Pn**	**03 16 10.8**	**+0.8**
L20K	**Farewell, AK**	**2.12 304**	P	**Pn**	**03 16 10.8**	**+0.8**
RND	**Reindeer**	**2.13 15**	Pn	**Pn**	**03 16 11.3**	**+1.1**
N19K	**Bonanza Creek**	**2.21 257**		**Pn**	**03 16 12.3**	**+1.1**
N19K	**Bonanza Creek**	**2.21 257**	P	**Pn**	**03 16 12.3**	**+1.1**
KTH	**Kantishna Hill**	**2.23 350**		**Pn**	**03 16 12.9**	**+1.4**
KTH	comp=N,297nm,0.8s		IAML		03 16 53.0	
EYAK	**Cordova Ski Ar**	**2.27 109**		**Pn**	**03 16 11.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.27 109**	P	**Pn**	**03 16 11.7**	**-0.2**
P19K	**Oil Pt**	**2.32 224**		**Pn**	**03 16 14.2**	**+1.5**
P19K	comp=N,698nm,0.7s		IAML		03 16 46.9	
P19K	**Oil Pt**	**2.32 224**	P	**Pn**	**03 16 14.3**	**+1.7**
L19K	**White Mountain**	**2.41 292**		**Pn**	**03 16 15.1**	**+1.1**
L19K	**White Mountain**	**2.41 292**	IAML		03 16 45.2	
L19K	comp=E,285nm,0.6s		IAML		03 17 00.6	
L19K	**White Mountain**	**2.41 292**	P	**Pn**	**03 16 15.1**	**+1.1**
MCK	**McKinley**	**2.44 12**	Pn	**Pn**	**03 16 15.4**	**+1.1**
MCK	**McKinley**	**2.44 12**	P	**Pn**	**03 16 15.6**	**+1.3**
HARP	**HAARP**	**2.55 64**		**Pn**	**03 16 17.1**	**+1.1**
HARP	**HAARP**	**2.55 64**	P	**Pn**	**03 16 17.1**	**+1.1**
N25K	**Chitina, Valde**	**2.64 82**		**Pn**	**03 16 17.4**	**+0.2**
N25K	comp=N,304nm,0.5s		IAML		03 16 59.2	
N25K	**Chitina, Valde**	**2.64 82**	P	**Pn**	**03 16 18.2**	**+1.0**
BMRM	**Bremner River**	**2.68 96**		**Pn**	**03 16 17.4**	**-0.3**
BMRM	**Bremner River**	**2.68 96**	P	**Pn**	**03 16 17.5**	**-0.3**
PAX	**Paxson**	**2.70 51**		**Pn**	**03 16 19.1**	**+1.2**
PAX	**Paxson**	**2.70 51**	P	**Pn**	**03 16 19.5**	**+1.5**
GOAT	**Goat Mountain**	**2.73 104**		**Pn**	**03 16 18.2**	**-0.1**
K20K	**Telida**	**2.73 319**		**Pn**	**03 16 19.4**	**+1.1**
K20K	**Telida**	**2.73 319**	IAML		03 16 57.5	
K20K	**Telida**	**2.73 319**	P	**Pn**	**03 16 19.4**	**+1.1**
M18K	**Stony River**	**2.76 275**		**Pn**	**03 16 19.6**	**+0.9**
M18K	**Stony River**	**2.76 275**	P	**Pn**	**03 16 19.6**	**+0.9**
BPAW	**Bear Paw Mtn.**	**2.78 352**	Pn	**Pn**	**03 16 20.3**	**+1.3**
BPAW	**Bear Paw Mtn.**	**2.78 352**	P	**Pn**	**03 16 19.7**	**+0.8**
WACK	**Wrangell Chich**	**2.81 75**		**Pn**	**03 16 20.5**	**+0.8**
RAGM	**Ragged Mountai**	**2.82 108**		**Pn**	**03 16 19.9**	**+0.3**
WASW	**Wrangell South**	**2.88 76**		**Pn**	**03 16 21.0**	**+0.5**
N18K	**Kilae Creek**	**2.91 259**		**Pn**	**03 16 21.5**	**+0.7**
N18K	**Kilae Creek**	**2.91 259**	IAML		03 16 55.9	
N18K	comp=N,200nm,0.6s		IAML		03 16 56.2	
N18K	comp=E,194nm,0.6s		IAML		03 16 56.2	
N18K	**Kilae Creek**	**2.91 259**	P	**Pn**	**03 16 21.5**	**+0.7**
WAZA	**Wrangell Mount**	**2.91 73**		**Pn**	**03 16 21.4**	**+0.4**
O18K	**Koktuh Hills**	**2.94 241**		**Pn**	**03 16 22.0**	**+0.7**
O18K	comp=N,202nm,0.9s		IAML		03 17 13.1	
O18K	**Koktuh Hills**	**2.94 241**	P	**Pn**	**03 16 21.9**	**+0.6**
SYI	**Shuyak Island**	**3.00 204**	Pn	**Pn**	**03 16 22.8**	**+0.9**
SYI	comp=N,187nm,0.8s		IAML		03 17 06.5	
SYI	comp=E,236nm,0.6s		IAML		03 17 07.7	
Q20K	**Shuyak Island**	**3.00 204**	P	**Pn**	**03 16 22.6**	**+0.7**
GLB	**Gilahina Butte**	**3.02 86**	Pn	**Pn**	**03 16 22.8**	**+0.5**
GLB	comp=E,146nm,0.5s		IAML		03 17 10.1	
GLB	comp=N,198nm,0.7s		IAML		03 17 11.8	
Q19K	**Cape Douglas,**	**3.02 218**		**Pn**	**03 16 23.5**	**+1.2**
Q19K	**Cape Douglas,**	**3.02 218**	P	**Pn**	**03 16 23.5**	**+1.2**
HMT	**Hamilton**	**3.03 107**		**Pn**	**03 16 22.0**	**-0.5**
K24K	**Donnelly Dome**	**3.16 37**		**Pn**	**03 16 23.8**	**-0.4**
K24K	**Donnelly Dome**	**3.16 37**	P	**Pn**	**03 16 23.8**	**-0.4**
TTA	**Tatalina**	**3.20 302**	Pn	**Pn**	**03 16 25.2**	**+0.5**
TTA	**Tatalina**	**3.20 302**	P	**Pn**	**03 16 25.3**	**+0.5**
VRDI	**Verde Repeater**	**3.20 90**		**Pn**	**03 16 24.5**	**-0.5**
NICHA	**Nichawak Mount**	**3.20 108**		**Pn**	**03 16 24.5**	**-0.3**
P18K	**Big Mountain,**	**3.23 235**		**Pn**	**03 16 25.8**	**+0.6**
P18K	**Big Mountain,**	**3.23 235**	P	**Pn**	**03 16 25.8**	**+0.6**
WRH	**Wood River Hil**	**3.25 15**		**Pn**	**03 16 26.9**	**+1.5**
WRH	**Wood River Hil**	**3.25 15**	IAML		03 17 28.7	
L18K	**Granite Mounta**	**3.25 288**		**Pn**	**03 16 26.2**	**+0.8**
L18K	**Granite Mounta**	**3.25 288**	P	**Pn**	**03 16 26.2**	**+0.8**
NEA2	**Nenana**	**3.28 8**		**Pn**	**03 16 26.6**	**+0.9**
NEA2	comp=N,144nm,0.7s		IAML		03 17 22.0	
NEA2	**Nenana**	**3.28 8**	P	**Pn**	**03 16 26.9**	**+1.2**
HDA	**Harding Lake**	**3.38 24**		**Pn**	**03 16 28.1**	**+1.0**
HDA	comp=N,171nm,0.4s		IAML		03 17 17.3	
HDA	comp=E,118nm,0.9s		IAML		03 17 24.8	
MENT	**Mentasta**	**3.38 59**		**Pn**	**03 16 28.1**	**+0.9**
J20K	**Nowinta River**	**3.39 328**		**Pn**	**03 16 28.0**	**+0.8**
J20K	**Nowinta River**	**3.39 328**	P	**Pn**	**03 16 28.0**	**+0.8**
RIDG	**Independent Ri**	**3.40 43**	Pn	**Pn**	**03 16 28.5**	**+1.0**
RIDG	comp=N,230nm,0.6s		IAML		03 17 17.5	
CCB	**Clear Creek Bu**	**3.46 16**		**Pn**	**03 16 29.4**	**+1.2**
M26K	**Nabesna, AK**	**3.51 70**		**Pn**	**03 16 30.3**	**+1.2**
M26K	**Nabesna, AK**	**3.51 70**	IAML		03 17 28.0	
M26K	comp=E,127nm,0.6s		IAML		03 17 29.8	
M26K	comp=N,139nm,0.7s		IAML		03 17 30.3	
M26K	**Nabesna, AK**	**3.51 70**	P	**Pn**	**03 16 30.3**	**+1.2**
M17K	**Holitna River**	**3.54 274**		**Pn**	**03 16 30.4**	**+1.0**
M17K	**Holitna River**	**3.54 274**	IAML		03 17 12.2	
M17K	comp=N,161nm,0.4s		IAML		03 17 30.3	
M17K	comp=E,201nm,0.8s		IAML		03 17 30.3	
M17K	**Holitna River**	**3.54 274**	P	**Pn**	**03 16 30.4**	**+1.0**
N17K	**Nushagak Hills**	**3.56 260**		**Pn**	**03 16 30.6**	**+0.9**
N17K	**Nushagak Hills**	**3.56 260**	IAML		03 17 12.1	
N17K	comp=N,106nm,0.7s		IAML		03 17 12.8	
N17K	comp=E,156nm,0.9s		IAML		03 17 12.8	
N17K	**Nushagak Hills**	**3.56 260**	P	**Pn**	**03 16 30.6**	**+0.9**
DOT	**Dot Lake**	**3.61 48**		**Pn**	**03 16 31.7**	**+1.3**
KAHG	**Katmai Hook Gl**	**3.65 220**		**Pn**	**03 16 32.2**	**+1.2**
COLA	**College**	**3.67 15**		**Pn**	**03 16 32.1**	**+1.0**
COLA	**College**	**3.67 15**	IAML		03 17 38.2	
J19K	**Poorman**	**3.67 318**		**Pn**	**03 16 31.9**	**+0.7**
J19K	**Poorman**	**3.67 318**	IAML		03 17 31.4	
J19K	**Poorman**	**3.67 318**	P	**Pn**	**03 16 31.9**	**+0.7**
IL31		**3.72 22**		**Pn**	**03 16 33.1**	**+1.4**
ILAR	**Eielson Array**	**3.72 22**		**Pn**	**03 16 32.8**	**+1.0**
ILAR	**Eielson Array**	**3.72 22**	P	**Pn**	**03 16 33.7**	**+1.9**
ILAR	comp=N,2.8nm,0.3s,baz=205,slow=14,SNR=46		S	**Sn**	**03 17 18.9**	**+4.6**
J18K	**Innoko River**	**3.74 307**		**Pn**	**03 16 32.9**	**+0.9**
J18K	**Innoko River**	**3.74 307**	P	**Pn**	**03 16 33.0**	**+0.9**
SNH	**Sunshine Point**	**3.75 105**		**Pn**	**03 16 31.7**	**-0.5**
SNH	**Sunshine Point**	**3.75 105**	IAML		03 17 34.1	
SNH	comp=E,90nm,1.0s		IAML		03 17 44.8	
BALM	**Baldy**	**3.76 92**		**Pn**	**03 16 32.3**	**-0.2**
KIAG	**Kiagna River**	**3.77 93**		**Pn**	**03 16 32.5**	**-0.2**
KDAK	**Kodiak Island**	**3.81 201**	IAML		03 17 39.7	
KDAK	comp=N,98nm,0.8s		IAML		03 17 41.8	
KDAK	**Kodiak Island**	**3.81 201**	P	**Pn**	**03 16 32.4**	**-0.7**
KDAK	comp=N,1.1nm,0.3s,baz=244,slow=3.8,SNR=98		S	**Sn**	**03 17 13.7**	**-2.8**
O17K	**Koliganek Bris**	**3.81 248**		**Pn**	**03 16 34.1**	**+1.0**
O17K	**Koliganek Bris**	**3.81 248**	P	**Pn**	**03 16 34.1**	**+1.0**
I23K	**Minto, Yukon-K**	**3.81 5**		**Pn**	**03 16 33.2**	**+0.1**
I23K	comp=N,80nm,0.9s		IAML		03 17 42.7	
I23K	**Minto, Yukon-K**	**3.81 5**	P	**Pn**	**03 16 34.1**	**+1.0**
P17K	**Kvichak River**	**3.84 238**		**Pn**	**03 16 34.5**	**+1.0**
P17K	**Kvichak River**	**3.84 238**	P	**Pn**	**03 16 34.5**	**+1.0**
SCRK	**Sand Creek**	**3.84 44**		**Pn**	**03 16 34.5**	**+0.9**
SCRK	**Sand Creek**	**3.84 44**	IAML		03 17 37.2	
SCRK	comp=N,115nm,0.6s		IAML		03 17 38.4	
SCRK	**Sand Creek**	**3.84 44**	P	**Pn**	**03 16 34.5**	**+0.9**
J25K	**Salcha River,**	**3.91 31**		**Pn**	**03 16 35.9**	**+1.4**
J25K	**Salcha River,**	**3.91 31**	IAML		03 17 31.7	
J25K	comp=N,83nm,0.4s		IAML		03 17 39.9	
J25K	**Salcha River,**	**3.91 31**	P	**Pn**	**03 16 35.9**	**+1.4**
I21K	**Tanana**	**3.93 348**		**Pn**	**03 16 35.9**	**+1.3**
I21K	**Tanana**	**3.93 348**	P	**Pn**	**03 16 35.9**	**+1.3**
POKR	**Poker Plat Res**	**3.96 16**		**Pn**	**03 16 36.0**	**+0.9**
POKR	**Poker Plat Res**	**3.96 16**	IAML		03 17 52.3	
POKR	**Poker Plat Res**	**3.96 16**	P	**Pn**	**03 16 36.0**	**+0.9**
L17K	**Donlin**	**3.98 285**		**Pn**	**03 16 36.2**	**+0.7**
L17K	**Donlin**	**3.98 285**	P	**Pn**	**03 16 36.2**	**+0.7**
I20K	**Naaghedeneel**	**3.98 332**		**Pn**	**03 16 36.7**	**+1.2**
I20K	**Naaghedeneel**	**3.98 332**	P	**Pn**	**03 16 36.7**	**+1.2**
M27K	**Edge Creek, AK**	**4.01 72**		**Pn**	**03 16 37.1**	**+1.1**
M27K	**Edge Creek, AK**	**4.01 72**	P	**Pn**	**03 16 37.1**	**+1.1**
K17K	**Iditarod**	**4.10 293**		**Pn**	**03 16 37.9**	**+0.8**
K17K	**Iditarod**	**4.10 293**	IAML		03 17 50.9	
K17K	comp=E,92nm,0.7s		IAML		03 17 52.1	
K17K	**Iditarod**	**4.10 293**	P	**Pn**	**03 16 37.9**	**+0.8**
MESA	**MESA**	**4.16 103**		**Pn**	**03 16 38.0**	**-0.1**
MESA	comp=N,117nm,0.4s		IAML		03 17 46.8	
MESA	comp=E,84nm,0.7s		IAML		03 17 54.9	
MESA	**MESA**	**4.16 103**	P	**Pn**	**03 16 38.5**	**+0.4**
ANCK	**Angle Creek**	**4.19 223**		**Pn**	**03 16 39.5**	**+1.2**
BCAR	**Beaver Creek A**	**4.24 63**		**Pn**	**03 16 39.6**	**+0.5**
CNTC	**Contact Creek**	**4.27 226**		**Pn**	**03 16 40.6**	**+1.1**
Q17K	**Contact Creek**	**4.27 226**	P	**Pn**	**03 16 40.6**	**+1.1**
M16K	**Timber Creek**	**4.31 269**		**Pn**	**03 16 40.8**	**+0.9**
M16K	**Timber Creek**	**4.31 269**	IAML		03 18 04.5	
M16K	**Timber Creek**	**4.31 269**	P	**Pn**	**03 16 40.8**	**+0.9**
N16K	**Nishlik Lake**	**4.33 262**		**Pn**	**03 16 41.2**	**+0.9**
N16K	**Nishlik Lake**	**4.33 262**	P	**Pn**	**03 16 41.2**	**+0.9**
O16K	**Kokwok River B**	**4.34 249**		**Pn**	**03 16 41.2**	**+0.8**
O16K	**Kokwok River B**	**4.34 249**	IAML		03 17 50.9	
O16K	**Kokwok River B**	**4.34 249**	P	**Pn**	**03 16 41.2**	**+0.8**
RKAV	**Rock Avalanche**	**4.41 100**		**Pn**	**03 16 41.4**	**0.0**
YUK2	**White River**	**4.44 80**		**Pn**	**03 16 41.9**	**+0.1**
OHAK	**Old Harbor**	**4.47 203**		**Pn**	**03 16 41.3**	**-0.8**
OHAK	**Old Harbor**	**4.47 203**	IAML		03 17 54.4	
OHAK	comp=N,51nm,1.4s		IAML		03 19 21.6	
OHAK	**Old Harbor**	**4.47 203**	P	**Pn**	**03 16 41.3**	**-0.8**
H21K	**Melozitna Rive**	**4.48 345**		**Pn**	**03 16 43.1**	**+0.8**
H21K	**Melozitna Rive**	**4.48 345**	P	**Pn**	**03 16 43.1**	**+0.8**
BVCY	**Beaver Creek**	**4.49 72**		**Pn**	**03 16 42.9**	**+0.4**
BVCY	**Beaver Creek**	**4.49 72**	P	**Pn**	**03 16 42.9**	**+0.4**
L16K	**Owhat River**	**4.51 279**	Pn	**Pn**	**03 16 43.2**	**+0.6**
L16K	**Owhat River**	**4.51 279**	P	**Pn**	**03 16 43.2**	**+0.6**
H22K	**Ishtalitna Cre**	**4.59 353**		**Pn**	**03 16 44.9**	**+1.2**
H22K	**Ishtalitna Cre**	**4.59 353**	P	**Pn**	**03 16 44.9**	**+1.2**
P16K	**Nushagak River**	**4.59 243**		**Pn**	**03 16 45.0**	**+1.3**
P16K	**Nushagak River**	**4.59 243**	P	**Pn**	**03 16 45.0**	**+1.3**
YUK3	**Moose Creek**	**4.62 81**		**Pn**	**03 16 44.6**	**+0.3**
YUK3	**Moose Creek**	**4.62 81**	P	**Pn**	**03 16 44.6**	**+0.3**
PRP	**Porcupine Dome**	**4.64 24**		**Pn**	**03 16 45.5**	**+0.8**
PRP	**Porcupine Dome**	**4.64 24**	IAML		03 18 04.2	
PRP	comp=E,64nm,0.8s		IAML		03 18 07.9	
PRP	**Porcupine Dome**	**4.64 24**	P	**Pn**	**03 16 45.5**	**+0.8**
J17K	**VABM Dome**	**4.66 300**		**Pn**	**03 16 45.2**	**+0.5**
J17K	**VABM Dome**	**4.66 300**	IAML		03 18 08.5	
J17K	**VABM Dome**	**4.66 300**	P	**Pn**	**03 16 45.2**	**+0.5**
H20K	**Anotleneega Mo**	**4.67 335**		**Pn**	**03 16 45.8**	**+0.9**
H20K	**Anotleneega Mo**	**4.67 335**	P	**Pn**	**03 16 45.8**	**+0.9**
O28M	**Mount Upton**	**4.84 93**		**Pn**	**03 16 48.5**	**+1.0**
O28M	**Mount Upton**	**4.84 93**	P	**Pn**	**03 16 48.5**	**+1.0**
PCA	**Pinnacle**	**4.99 100**		**Pn**	**03 16 49.8**	**+0.5**
PINM	**Pinnacle**	**4.99 100**	P	**Pn**	**03 16 49.8**	**+0.5**
I26K	**Coal Creek Min**	**5.04 35**		**Pn**	**03 16 50.4**	**+0.5**
I26K	**Coal Creek Min**	**5.04 35**	IAML		03 18 14.8	
I26K	**Coal Creek Min**	**5.04 35**	P	**Pn**	**03 16 50.4**	**+0.5**
N15K	**Kwethluk River**	**5.05 261**		**Pn**	**03 16 51.2**	**+1.1**
N15K	**Kwethluk River**	**5.05 261**	IAML		03 18 24.3	
N15K	comp=E,79nm,0.8s		IAML		03 18 31.0	
N15K	comp=N,64nm,2.2s		IAML		03 18 31.0	
N15K	**Kwethluk River**	**5.05 261**	P	**Pn**	**03 16 51.2**	**+1.1**
H19K	**Roundabout Mou**	**5.06 328**		**Pn**	**03 16 50.8**	**+0.6**
H19K	**Roundabout Mou**	**5.06 328**	IAML		03 18 30.3	
H19K	comp=N,39nm,1.4s		IAML		03 18 34.3	
H19K	**Roundabout Mou**	**5.06 328**	P	**Pn**	**03 16 50.8**	**+0.6**
M15K	**Kasigluk River**	**5.20 267**		**Pn**	**03 16 52.8**	**+0.7**
M15K	**Kasigluk River**	**5.20 267**	P	**Pn**	**03 16 52.8**	**+0.7**
J16K	**Anvik River**	**5.27 296**		**Pn**	**03 16 53.7**	**+0.6**
J16K	**Anvik River**	**5.27 296**	IAML		03 18 38.2	
J16K	**Anvik River**	**5.27 296**	P	**Pn**	**03 16 53.7**	**+0.6**
O15K	**Ungalikthiuk R**	**5.32 250**		**Pn**	**03 16 55.1**	**+1.3**
O15K	**Ungalikthiuk R**	**5.32 250**	P	**Pn**	**03 16 55.1**	**+1.3**
H18K	**Honhosa River**	**5.33 319**		**Pn**	**03 16 54.9**	**+1.0**
H18K	**Honhosa River**	**5.33 319**	IAML		03 18 41.8	
H18K	**Honhosa River**	**5.33 319**	P	**Pn**	**03 16 54.9**	**+1.0**
G21K	**Allakaket**	**5.39 345**		**Pn**	**03 16 55.5**	**+0.8**
G21K	**Allakaket**	**5.39 345**	IAML		03 17 58.2	
G21K	**Allakaket**	**5.39 345**	P	**Pn**	**03 16 55.5**	**+0.8**
L15K	**Ungalak Mounta**	**5.47 278**		**Pn**	**03 16 56.3**	**+0.5**
L15K	**Ungalak Mounta**	**5.47 278**	P	**Pn**	**03 16 56.3**	**+0.5**
G24K	**Hadweenzic Riv**	**5.48 11**		**Pn**	**03 16 55.3**	**-0.6**
G24K	**Hadweenzic Riv**	**5.48 11**	P	**Pn**	**03 16 55.3**	**-0.6**
K15K	**Wolf Creek Mou**	**5.50 285**		**Pn**	**03 16 57.2**	**+0.9**
K15K	**Wolf Creek Mou**	**5.50 285**	P	**Pn**	**03 16 57.2**	**+0.9**
YUK4	**Talbot Arm**	**5.50 85**	P	**Pn**	**03 16 57.7**	**+1.2**

baz=275
I17K **Unalakleet** 5.51 302 Pn 03 16 57.4 +1.0
I17K **Unalakleet** 5.51 302 P Pn 03 16 57.4 +1.0
baz=112
M29M **Somme Creek** 5.60 74 Pn 03 16 58.5 +0.7
M29M **Somme Creek** 5.60 74 P Pn 03 16 58.5 +0.7
baz=264
DAWY **Dawson** 5.62 56 Pn Pn 03 16 58.8 +0.9
DAWY **Dawson** 5.62 56 P Pn 03 16 58.7 +0.8
baz=246
FYU **Fort Yukon** 5.64 20 Pn Pn 03 16 59.8 +1.6
YUK6 **Outpost Mounta** 5.69 89 Pn 03 16 59.6 +0.5
YUK6 **Outpost Mounta** 5.69 89 P Pn 03 16 59.6 +0.5
baz=280
G19K **Purcell Mounta** 5.71 330 Pn 03 16 59.8 +0.6
G19K **Purcell Mounta** 5.71 330 P Pn 03 16 59.8 +0.6
baz=144
H17K **Granite Mounta** 5.72 313 Pn Pn 03 17 00.3 +1.1
O29M **Mount Kennedy** 5.73 96 Pn 03 16 59.9 +0.4
O29M **Mount Kennedy** 5.73 96 P Pn 03 16 59.9 +0.4
baz=286
M14K **Bethel** 5.80 269 Pn 03 17 01.5 +1.1
M14K **Bethel** 5.80 269 P Pn 03 17 01.5 +1.1
baz=78
L29M **L29M** 5.86 67 Pn 03 17 02.0 +0.8
L29M **L29M** 5.86 67 P Pn 03 17 02.0 +0.8
baz=258
COLD **Coldfoot** 5.89 360 Pn Pn 03 17 03.6 +2.1
YUK5 **Granite Creek** 5.91 87 Pn 03 17 02.4 +0.5
G18K **Tagagawik** 5.94 324 Pn 03 17 03.0 +0.8
G18K **Tagagawik** 5.94 324 P Pn 03 17 03.0 +0.8
baz=136
O14K **Tigyukauivet M** 5.95 254 Pn 03 17 04.0 +1.7
O14K **Tigyukauivet M** 5.95 254 P Pn 03 17 02.7 +0.4
baz=64
L14K **Kuka Creek** 6.06 275 Pn 03 17 04.8 +0.9
L14K **Kuka Creek** 6.06 275 P Pn 03 17 04.8 +0.9
baz=84
F21K **Alatna River** 6.07 347 Pn 03 17 04.8 +0.8
F21K **Alatna River** 6.07 347 P Pn 03 17 04.8 +0.8
baz=164
HYT **Haines Junctio** 6.13 90 Pn 03 17 04.7 -0.3
HYT **Haines Junctio** 6.13 90 P Pn 03 17 04.7 -0.3
baz=281
F20K **Avaraart Lake** 6.21 339 Pn 03 17 07.2 +1.3
F20K **Avaraart Lake** 6.21 339 P Pn 03 17 07.2 +1.3
baz=154
J29N **Klondike Camp** 6.24 55 Pn Pn 03 17 07.3 +0.8
CHIR **Chirikof Islan** 6.26 210 Pn 03 17 07.2 +0.5
CHIR **Chirikof Islan** 6.26 210 P Pn 03 17 07.2 +0.5
baz=25
G17K **Kiwalik Mounta** 6.30 316 Pn 03 17 07.9 +0.8
G17K **Kiwalik Mounta** 6.30 316 P Pn 03 17 07.9 +0.8
baz=126
K29M **Barlow Dome** 6.31 61 Pn 03 17 08.1 +0.6
K29M **Barlow Dome** 6.31 61 P Pn 03 17 08.1 +0.6
baz=253
H16K **Elim** 6.43 306 Pn 03 17 09.6 +0.6
H16K **Elim** 6.43 306 P Pn 03 17 09.6 +0.6
baz=115
F19K **Shaleruckik Mo** 6.44 332 Pn 03 17 09.7 +0.6
F19K **Shaleruckik Mo** 6.44 332 P Pn 03 17 09.7 +0.6
baz=145
J14K **Nanvaranak Lak** 6.48 288 Pn 03 17 09.9 +0.2
J14K **Nanvaranak Lak** 6.48 288 P Pn 03 17 09.9 +0.2
baz=96
BMAR **Burnt Mountain** 6.54 19 Pn Pn 03 17 11.5 +1.0
M13K **Dall Lake** 6.54 267 Pn 03 17 10.4 -0.1
M13K **Dall Lake** 6.54 267 P Pn 03 17 10.5 -0.1
baz=76
P30M **Million Dollar** 6.55 95 Pn 03 17 11.1 +0.4
P30M **Million Dollar** 6.55 95 P Pn 03 17 11.1 +0.4
baz=287
I29M **Ogilvie Camp,** 6.64 48 Pn 03 17 12.5 +0.7
F18K **Selawik** 6.73 325 Pn 03 17 12.8 -0.2
F18K **Selawik** 6.73 325 P Pn 03 17 12.8 -0.2
baz=137
G16K **Koyuk River** 6.83 312 Pn 03 17 14.5 +0.1
G16K **Koyuk River** 6.83 312 P Pn 03 17 14.5 +0.1
baz=120
E22K **Anaktuvuk Pass** 6.84 355 Pn Pn 03 17 16.4 +1.8
E19K **Redstone River** 6.85 336 Pn 03 17 15.5 +0.7
E19K **Redstone River** 6.85 336 P Pn 03 17 15.5 +0.7
baz=150
J30M **Hart River** 7.04 57 Pn 03 17 17.0 -0.5
J30M **Hart River** 7.04 57 P Pn 03 17 17.0 -0.5
baz=249
E25K **Arctic Village** 7.05 14 Pn Pn 03 17 18.0 +0.4
F17K **Baldwin Pennin** 7.08 321 Pn 03 17 17.8 0.0
F17K **Baldwin Pennin** 7.08 321 P Pn 03 17 17.8 0.0
baz=131
G15K **Niukluk** 7.28 306 Pn 03 17 20.1 -0.5
G15K **Niukluk** 7.28 306 P Pn 03 17 20.1 -0.5
baz=113
I30M **Mount Dempster** 7.28 52 Pn Pn 03 17 20.9 +0.1
E21K **Killik River** 7.30 349 Pn 03 17 21.6 +0.7
E21K **Killik River** 7.30 349 P Pn 03 17 21.6 +0.7
baz=165
TOLK **Toolik Lake Re** 7.31 1 Pn Pn 03 17 22.3 +1.2
E18K **Tukpahlearik C** 7.59 328 Pn 03 17 25.8 +1.0
E18K **Tukpahlearik C** 7.59 328 P Pn 03 17 25.8 +1.0
baz=138
D22K **Ayikyak River** 7.63 353 Pn Pn 03 17 27.6 +2.2
F28M **Old Crow** 7.66 31 Pn Pn 03 17 25.9 +0.1
ANM **Nome** 7.67 301 Pn Pn 03 17 27.4 +1.5
EPYK **Eagle Plains** 7.74 44 Pn Pn 03 17 30.4 +3.5
F15K **North Star Dit** 7.82 310 Pn Pn 03 17 29.0 +1.0
G30M **tAoh Zraii Nji** 8.26 41 Pn Pn 03 17 34.8 +0.8
TNA **Tin City** 9.01 306 Pn 03 17 44.8 +0.5
TNA **Tin City** 9.01 306 P Pn 03 17 44.8 +0.5
baz=109
F31M **Tsiigehtchic** 9.31 42 Pn Pn 03 17 48.2 -0.2
R33M **Jennings River** 9.66 93 Pn Pn 03 17 52.4 -1.0
INK **Inuvik** 9.88 38 Pn Pn 03 17 58.9 +2.8
INK **Inuvik** 9.88 38 P Pn 03 17 59.9 +3.8
comp=E,0.2nm,0.3s,baz=245,slow=21,SNR=17
INK S Sn 03 19 49.9 +4.6
comp=E,1.6nm,0.6s,baz=346,slow=14,SNR=3.4
comp=E,0.6nm,0.4s
S34M **Telegraph Cree** 10.19 101 Pn Pn 03 18 00.5 +0.1
YKA **Yellowknife Ar** 16.61 71 P P 03 19 29.3 +1.4
comp=E,0.1nm,0.3s,baz=284,slow=11,SNR=4.5
comp=E,0.2nm,0.5s
NVAR **Mina Array Bea** 30.22 125 P P 03 21 44.1 +1.1
KSRS **Korea Array** 54.26 284 P P 03 24 56.5 -1.2
comp=E,0.9nm,0.8s,baz=37,slow=7.6,SNR=2.3
comp=E,0.9nm,0.8s
SONM **Songino Array** 55.13 307 P P 03 25 02.6 -1.5
comp=E,0.3nm,0.7s,baz=46,slow=7.5,SNR=1.9
comp=E,0.3nm,0.7s
ZALV **Zalesovo Beam** 57.10 325 P P 03 25 16.4 -1.5
comp=E,0.3nm,0.3s,baz=30,slow=5.9,SNR=3.0
comp=E,0.3nm,0.3s
EKA **Eskdalemuir Ar** 60.76 21 P P 03 25 43.0 -0.1
comp=E,0.3nm,0.4s,baz=329,slow=5.4,SNR=3.6
comp=E,0.3nm,0.4s
BVAR **Borovoye Array** 61.51 334 P P 03 25 46.9 -1.3
comp=E,0.6nm,0.4s,baz=23,slow=7.8,SNR=3.3
comp=E,0.6nm,0.4s
KURBB **Kurchatov Arra** 61.79 327 P P 03 25 48.6 -1.6
comp=E,0.5nm,0.5s,baz=29,slow=6.6,SNR=4.8
comp=E,0.5nm,0.5s
MKAR **Makanchi Array** 64.24 323 P P 03 26 04.7 -1.8
MKAR **Makanchi Array** 64.24 323 P P 03 26 04.5 -2.0
comp=E,0.3nm,0.6s,baz=15,slow=5.0,SNR=8.2
comp=E,0.3nm,0.6s
ABKAR **Abkulak array** 67.12 339 P P 03 26 24.7 -0.3
ABKAR **Abkulak array** 67.12 339 P P 03 26 24.4 -0.6
QSPA **South Pole Qui** 151.17 180 PKPbc PKPbc 03 35 22.8 -0.3
comp=E,0.7nm,0.3s,baz=93,slow=1.5,SNR=5.1

*SJA **05** 03:27:14.7±1.0, 31°.37S×70°.19W, h115km±11km, ML2.3, MW2.4*
*GUC **05** 03:27:14.2±0.6, 31°.38S×70°.49W, h119km±3km, ML2.6*
ISC 05 03:27:15.2±1.8, 31°.38S±0°.03×70°.32W±0°.05, h116km±15km, n24, σ0°.68/40, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	0.63	329	eP	Pn	03 27 33.3	-0.5
CO03				eS	Sn	03 27 48.0	+0.4
CO03				IAML		03 27 49.9	
	comp=E,253nm,0.1s						
CO04	**Los Peladeros**	0.86	220	eP	Pn	03 27 35.5	-0.4
RTLS	**Leoncito**	0.96	116	eP	Pn	03 27 36.4	-0.5
RTLS				eS	Sn	03 27 52.9	-0.3
RTLS				IAML		03 27 53.7	
	comp=Z,111nm,0.3s						
AUSP	**Uspallata**	1.15	137	eP	Pn	03 27 38.5	-0.2
AUSP				eS	Sn	03 27 56.2	-0.4
GO04	**Tololo Observa**	1.28	341	eP	Pn	03 27 40.1	0.0
GO04				eS	Sn	03 27 59.5	+0.6
GO04				IAML		03 28 01.9	
	comp=E,241nm,0.3s						
ACCO	**Cerro Coronel**	1.34	54	eP	Pn	03 27 40.4	-0.4
ACCO				eS	Sn	03 27 59.7	-0.5
VA03	**San Esteban**	1.39	188	eP	Pn	03 27 41.1	-0.1
VA03				eS	Sn	03 28 02.5	+1.6
VA03				IAML		03 28 02.9	
	comp=Z,54nm,0.1s						
VA03	**San Esteban**	1.39	188	eP	Pn	03 27 41.5	+0.3
VA03				eS	Sn	03 28 01.8	+0.8
VA03				IAML		03 28 03.0	
	comp=E,187nm,0.1s						
AROD	**Rodeo**	1.41	31	eP	Pn	03 27 42.2	+0.5
AROD				eS	Sn	03 28 01.5	-0.3
CO01	**Juntas del Tor**	1.42	8	eP	Pn	03 27 42.1	+0.5
CO01				eS	Sn	03 28 02.9	+1.2
VA06	**Catapilco**	1.44	215	eP	Pn	03 27 41.0	-0.6
VA06				eS	Sn	03 28 01.0	-0.8
VA06				IAML		03 28 02.2	
	comp=N,54nm,0.3s						
CO05	**La Serena**	1.66	331	eP	Pn	03 27 43.4	-0.8
CO05				IAML		03 28 06.9	
	comp=E,58nm,0.2s						
ROCH	**El Roble**	1.69	200	eP	Pn	03 27 44.4	-0.4
ROCH				eP		03 27 44.6	
ROCH				eS	Sn	03 28 07.5	+0.1
ROCH				eS		03 28 07.8	
ROCH				IAML		03 28 08.8	
	comp=N,84nm,0.2s						
ROCH				IAML		03 28 08.9	
	comp=N,41nm,0.3s						
ASAL	**Salagasta**	1.74	134	eP	Pn	03 27 45.4	+0.1
ASAL				eS	Sn	03 28 07.5	-0.8
ASAL				IAML		03 28 17.6	
	comp=Z,5.2nm,1.3s						
PEL	**Peldehue**	1.78	190	eP	Pn	03 27 45.7	-0.1
PEL				eS	Sn	03 28 09.5	+0.4
PEL				IAML		03 28 10.8	
	comp=E,33nm,0.3s						
MT10	**Hacienda Santa**	1.89	186	eP	Pn	03 27 47.7	+0.4
MT10				eS	Sn	03 28 13.0	+1.2
MT10				IAML		03 28 13.6	
	comp=E,77nm,0.4s						
FCH	**Farellones**	1.94	179	eP	Pn	03 27 48.6	+0.6
FCH				eS	Sn	03 28 14.7	+1.6
FCH				IAML		03 28 15.7	
	comp=E,36nm,0.4s						
MT02	**Curacav**	2.00	200	eP	Pn	03 27 47.8	-0.6
MT02				eS	Sn	03 28 13.3	-0.5
MT02				IAML		03 28 14.8	
	comp=E,26nm,0.4s						
MT03	**Universidad Ad**	2.11	184	eP	Pn	03 27 50.1	+0.2
LCO	**Las Campanas**	2.39	352	eP	Pn	03 27 53.4	-0.2
MT09	**Talagante**	2.45	193	eP	Pn	03 27 54.0	-0.3
MT09				IAML		03 28 26.2	
	comp=N,34nm,0.1s						
MT01	**Popeta**	2.60	197	eP	Pn	03 27 55.2	-0.9
BO04	**La Punta**	2.61	185	eP	Pn	03 27 56.2	-0.1
BO04				IAML		03 28 27.9	
	comp=E,19nm,0.2s						
BO02	**Sierra Bellavi**	3.42	186	eP	Pn	03 28 06.3	-0.7

DJA 05 03:27:59.5±0.8, 4°.5±5°.13°.9E±°, h97km±8km, M3.7/6, mb4.1/1, MLv3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	1.77	357	P	Pn	03 28 29.7	+0.7
SMPI				S	Sn	03 28 51.6	+0.1
GENI	**Genyem**	1.81	50	P	Pn	03 28 29.7	+0.2
GENI				S	Sn	03 28 52.5	+0.2
JAY	**Jayapura**	2.28	57	P	Pn	03 28 35.1	-0.6
BAKI	**Biak**	3.71	314	P	Pn	03 28 56.2	+1.5
FAKI	**Fak Fak**	6.58	277	P	Pn	03 29 32.0	-1.8

*IDC **05** 03:49:29.3±1.8, 3°.14S×146°.81E, h0km, mb3.8/8, mbtmp3.8/8, MS3.4/1, Error ellipse: s-maj=59.1km s-min=23.9km az=104.0*
*NEIC **05** 03:49:33.1±1.9, 2°.98S±0°.05×146°.66E±0°.06, h10km±1km, mb4.5/11, Error ellipse: s-maj=12.0km s-min=4.7km az=233.0*
ISC 05 03:49:35.6±0.6, 3°.02S±0°.07×146°.68E±0°.08, h35km, n24, σ0°.99/24, mb4.2/11, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	1.18	35	Pn	Pn	03 49 55.3	-0.4
MANU				Sn	Sn	03 50 11.9	+1.3
RABL	**Rabaul**	5.59	102	Pn	Pn	03 50 56.6	+0.2
HNR	**Honiara**	14.64	116	Pn	Pn	03 52 59.4	-1.0
MTN	**Manton Dam**	18.22	237	P	Pn	03 53 47.2	+1.3
MTN				IAmb	IAmb	03 53 59.0	
	comp=Z,61nm,1.4s						
WRAB	**Tennant Creek**	20.68	215	P	P	03 54 14.1	+1.3
WRAB				IAmb	IAmb	03 54 15.3	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	20.69	215	P	P	03 54 12.4	-0.5
WRA	**Warramunga Arr**	20.69	215	P	P	03 54 11.2	-1.7
	comp=Z,2.6nm,0.8s,baz=36,slow=12,SNR=10.0						
	comp=Z,2.6nm,0.8s						
KNRA	**Kununurra**	21.67	233	P	P	03 54 21.9	-1.5
KNRA				IAmb	IAmb	03 54 27.2	
	comp=Z,26nm,1.3s						
ASAR	**Alice Springs**	23.96	210	P	P	03 54 45.2	-1.7
	comp=Z,1.5nm,0.8s,baz=40,slow=8.9,SNR=8.4						
	comp=Z,1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	25.49	233	P	P	03 54 59.6	-1.2
TOLI2	**Tolitoli**	26.22	279	P	P	03 55 08.1	+0.6
TOLI2				IAmb	IAmb	03 55 18.3	
	comp=Z,9.1nm,1.3s						
DZM	**Mont Dzumac**	26.96	136	P	P	03 55 13.8	-0.5
TGY	**Tagaytay City**	30.68	304	LR	LR	04 07 58.6	
	comp=Z,69nm,19.8s,baz=284,slow=36						
MBWA	**Marble Bar**	31.83	233	P	P	03 55 57.3	0.0
MGBR	**Mount Gambier**	34.99	188	P	P	03 56 25.8	+1.1
GIRL	**Giralia**	37.01	235	P	P	03 56 42.0	-0.1
INU	**Inuyama**	39.23	347	P	P	03 56 59.8	-0.8
INU				IAmb	IAmb	03 57 19.3	
	comp=Z,24nm,1.2s						
TOZ	**Tahuroa Road**	43.48	146	P	P	03 57 36.5	+1.0
TOZ				IAmb	IAmb	03 57 37.7	
	comp=Z,8.1nm,1.2s						
KSRS	**Korea Array**	43.88	338	P	P	03 57 39.1	+0.4
	comp=Z,1.1nm,0.9s,baz=169,slow=9.0,SNR=4.0						
	comp=Z,1.1nm,0.9s						
CMAR	**Chiang Mai Arr**	51.61	296	P	P	03 58 39.0	-0.1
	comp=Z,0.8nm,0.3s,baz=115,slow=8.2,SNR=4.6						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	75.02	320	P	P	04 01 13.8	+0.1
	comp=Z,3.0nm,1.2s,baz=97,slow=4.5,SNR=3.9						
	comp=Z,3.0nm,1.2s						
KURBB	**Kurchatov Arra**	78.67	323	P	P	04 01 34.6	+0.5
	comp=Z,0.3nm,0.8s,baz=111,slow=4.1,SNR=1.4						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	82.88	23	P	P	04 01 55.8	-0.6
	comp=Z,0.7nm,1.1s,baz=238,slow=5.0,SNR=4.3						
	comp=Z,0.7nm,1.1s						
BVAR	**Borovoye Array**	84.19	324	P	P	04 02 03.5	+0.2
	comp=Z,0.3nm,0.4s,baz=112,slow=5.9,SNR=3.8						
	comp=Z,0.3nm,0.4s						

*NOU **05** 04:04:47.1, 37°.32S×179°.44E, h0km, MLv4.6/9, Off E. Coast of N. Island, N.Z.*
*IDC **05** 04:04:50.0±1.3, 37°.12S×178°.93E, h0km, mb4.2/4, mbtmp4.2/4, MS3.7/3, Error ellipse: s-maj=34.1km s-min=30.0km az=32.0*
*WEL **05** 04:04:53.4±0.9, 37°.S±4°.×17°.9E±°, h12km, M4.5/17, ML4.7/17, MLv4.5/17, Error ellipse: s-maj=8.2km s-min=5.1km az=100.8, confirmed*
*NEIC **05** 04:04:57.2±0.9, 37°.36S±0°.04×178°.7E±0°.1, h35km±2km, mb4.6/13, Error ellipse: s-maj=15.4km s-min=4.4km az=73.0*
ISC 05 04:04:52.2±1.8, 37°.37S±0°.05×179°.03E±0°.06, h14km±9km, n171, σ1.9/44/181, mb4.6/9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDHS	**Te Araroa Dist**	0.59	243	P	Pg	04 05 04.1	+0.3
MXZ	**Matakaoa Point**	0.60	251	Pg	Pb	04 05 04.9	+0.3
MXZ				Sg	Sg	04 05 12.2	+0.1
MXZ	**Matakaoa Point**	0.60	251	P	Pb	04 05 04.8	+0.2
MXZ	**Matakaoa Point**	0.60	251	Pb	Pb	04 05 04.9	+0.3
MXZ				S	Sg	04 05 12.1	+0.1
WMGZ	**Waiomatatini S**	0.66	227	P	Pn	04 05 07.8	+0.6
WMGZ				S	Sb	04 05 17.9	+3.2
PKGZ	**Pakihiroa**	0.90	236	P	Pn	04 05 11.1	+0.5
PKGZ				S	Sb	04 05 23.3	+1.7
PUZ	**Puketiti**	0.93	221	P	Pn	04 05 11.6	+0.6
PUZ				S	Sb	04 05 24.6	+2.2
HAZ	**Te Kaha**	1.06	248	P	Pg	04 05 12.2	-0.5
HAZ				S	Sb	04 05 27.1	+1.0
TWGZ	**Tauwhareparae**	1.16	225	P	Pg	04 05 15.0	+0.4
TWGZ				S	Sb	04 05 30.7	+1.7
RUGZ	**Raukumara Rang**	1.23	240	P	Pg	04 05 16.0	+0.1
CNGZ	**Carnagh Statio**	1.29	210	P	Pb	04 05 17.5	+1.2
TKGZ	**Te Karaka**	1.42	221	P	Pn	04 05 18.2	+0.5
WIZ	**White Island**	1.47	263	P	Pb	04 05 19.0	-0.4
WIZ				S	Sb	04 05 37.5	-0.5
MWZ	**Matawai**	1.53	230	P	Pn	04 05 19.7	+0.5
RIGZ	**Rimuhau**	1.67	216	P	Pn	04 05 21.5	+0.4
RAGZ	**Rawiri**	1.70	228	P	Pn	04 05 22.1	+0.5
WHRZ	**Whale Island**	1.70	253	P	Pb	04 05 22.5	-0.8
URZ	**Urewera**	1.76	239	Pn	Pn	04 05 23.5	+1.1
	127nm,0.3s,baz=117,slow=1.6,SNR=624						
URZ				Sn	Sn	04 05 44.6	+0.1
	366nm,0.3s,baz=216,slow=23,SNR=8.4						
URZ				LR	LR	04 06 23.7	
	comp=Z,2μm,18.9s,baz=126,slow=51						
URZ	**Urewera**	1.76	239	P	Pn	04 05 23.4	+1.1
URZ	**Urewera**	1.76	239	P	Pn	04 05 23.3	+1.1
PRGZ	**Paritu Road**	1.80	210	P	Pn	04 05 23.4	+0.6
SNGZ	**Shannon Statio**	1.94	223	P	Pn	04 05 24.8	-0.1
MARZ	**Manawahe**	1.97	251	P	Pn	04 05 25.7	+0.5
KNZ	**Kokohu**	1.97	212	P	Pn	04 05 24.9	-0.3
MHGZ	**Mahia Peninsul**	1.99	206	P	Pn	04 05 25.9	+0.3
OPRZ	**Ohinepanea**	2.02	256	P	Pn	04 05 26.1	+0.2
RTZ	**Ruatahuna**	2.04	232		Pn	04 05 27.0	+0.7
RTZ	**Ruatahuna**	2.04	232	P	Pn	04 05 27.1	+0.9
MUGZ	**Murupara**	2.10	237	P	Pn	04 05 27.5	+0.4
MKRZ	**Makatiti**	2.17	248	P	Pn	04 05 29.2	+1.2
RAHZ	**Arahi**	2.18	224	P	Pn	04 05 28.6	+0.5
RAHZ				S	Sn	04 05 55.1	+0.2
LIRZ	**Lichensteins R**	2.19	252	P	Pn	04 05 29.3	+1.0
RRRZ	**Republican Roa**	2.21	243	P	Pn	04 05 29.4	+0.8
WHHZ	**Waihua**	2.22	219	P	Pn	04 05 28.9	+0.3
WHHZ				S	Sn	04 05 56.3	+0.5
MYRZ	**Mayor Island**	2.22	271	P	Pn	04 05 28.6	-0.2
TGRZ	**Tauranga**	2.23	260	P	Pn	04 05 29.0	+0.2
OMRZ	**Omania**	2.23	250	P	Pn	04 05 29.8	+0.9
MTHZ	**Maungataniwha**	2.27	229	P	Pn	04 05 30.3	+0.9
MTHZ				S	Sn	04 05 57.0	-0.3
HLRZ	**Highlands Stat**	2.29	247	P	Pn	04 05 30.8	+1.0
KARZ	**Kaharoa**	2.30	253	P	Pn	04 05 30.4	+0.6
NGRZ	**Ngongotaha**	2.37	251	P	Pn	04 05 31.8	+1.1
PRRZ	**Plateau Road**	2.37	241	P	Pn	04 05 31.7	+0.9
UTU	**Utuhina**	2.39	249	P	Pn	04 05 32.4	+1.4
HSRZ	**Hossack Road**	2.40	246	P	Pn	04 05 32.2	+1.1
HRRZ	**Handcock Road**	2.40	244	P	Pn	04 05 32.4	+1.3
ALRZ	**Allen Road**	2.43	240	P	Pn	04 05 32.3	+0.7
ALRZ				S	Sn	04 06 00.4	-0.8
NMHZ	**Naumai**	2.46	225	P	Pn	04 05 33.3	+1.3
NMHZ				S	Sn	04 06 02.1	+0.2
ARHZ	**Aropaoanui**	2.48	220	P	Pn	04 05 32.4	+0.2
ARHZ				S	Sn	04 06 02.0	-0.3
KMRZ	**Kaimai**	2.50	258	P	Pn	04 05 32.7	+0.2
GRRZ	**Galatos Road**	2.51	246	P	Pn	04 05 33.8	+1.2
MRHZ	**Matea Rd**	2.53	234	P	Pn	04 05 33.6	+0.6
WPRZ	**Whakapapatarin**	2.54	242	P	Pn	04 05 34.5	+1.4
BKZ	**Black Stump Fm**	2.68	227	Pn	Pn	04 05 35.5	+0.3
BKZ	**Black Stump Fm**	2.68	227	P	Pn	04 05 35.4	+0.3
BKZ	**Black Stump Fm**	2.68	227	P	Pn	04 05 35.4	+0.3
KUZ	**Kuaotunu**	2.72	282	P	Pn	04 05 35.5	0.0
KUZ	**Kuaotunu**	2.72	282	P	Pn	04 05 34.0	-1.4
WHTZ	**Whakaora**	2.75	241	P	Pb	04 05 38.9	-2.3
CKHZ	**Cape Kidnapper**	2.75	213	P	Pn	04 05 35.6	-0.4
MCHZ	**McNeill Hill**	2.77	221	P	Pn	04 05 36.1	-0.1
TOZ	**Tahuroa Road**	2.83	262		Pn	04 05 36.5	-0.5
TOZ	**Tahuroa Road**	2.83	262	P	Pn	04 05 37.2	+0.2
KWHZ	**Kaweka Forest**	2.90	224	P	Pn	04 05 37.8	+1.3
WATZ	**Wairara**	2.92	242	P	Pn	04 05 39.9	+1.5
KAHZ	**Kahuranaki**	2.95	214	P	Pn	04 05 38.0	-0.8
RITZ	**Rihia Road**	2.97	236	P	Pn	04 05 39.9	+0.9
RATZ	**Rangitukua**	2.97	239	P	Pn	04 05 40.4	+1.3
GRZ	**Great Barrier**	3.07	290	P	Pn	04 05 40.3	-0.1
KATZ	**Kakaramea**	3.08	238	P	Pn	04 05 41.4	+0.8
KRHZ	**Kereru**	3.08	222	P	Pn	04 05 39.8	-0.8
MKAZ	**Moumakai**	3.10	274	P	Pn	04 05 40.0	-0.7
TMVZ	**Te Maari**	3.15	235	P	Pn	04 05 41.7	+0.2
ETVZ	**East Tongariro**	3.15	235	P	Pn	04 05 41.8	+0.1
PXZ	**Pawanui**	3.15	212	P	Pn	04 05 40.1	-1.4
PXZ				S	Sn	04 06 16.0	-2.9
NTVZ	**North Tongarir**	3.15	236	P	Pn	04 05 42.0	+0.4
WIAZ	**Waiheke Island**	3.17	279	P	Pn	04 05 41.0	-0.6
KRVZ	**Karewarewa**	3.18	236	P	Pn	04 05 42.4	+0.4
OTVZ	**Oturere**	3.20	235	P	Pn	04 05 42.3	0.0
NNVZ	**North Ngauruho**	3.21	236	P	Pn	04 05 43.0	+0.5
WTVZ	**West Tongariro**	3.22	236	P	Pn	04 05 43.4	+0.9
SNVZ	**South Ngauruho**	3.23	235	P	Pn	04 05 42.9	+0.2
NGZ	**Ngauruhoe**	3.25	235	P	Pn	04 05 43.3	+0.4
TUVZ	**Tukino**	3.26	233	P	Pn	04 05 43.5	+0.3
MOVZ	**Moawhango**	3.28	231	P	Pn	04 05 43.3	0.0
COVZ	**Chateau Observ**	3.30	235	P	Pn	04 05 43.4	-0.1
TWVZ	**Taurewa**	3.30	238	P	Pn	04 05 44.5	+0.9
ETAZ	**East Tamaki Re**	3.30	276	P	Pn	04 05 43.8	+0.3
WHVZ	**Whangaehu Hut**	3.31	234	P	Pn	04 05 44.0	+0.1
MAVZ	**Matarangi**	3.32	234	P	Pn	04 05 44.3	+0.2
WNVZ	**Wahianoa**	3.33	233	P	Pn	04 05 44.3	+0.2
TRVZ	**Turoa**	3.35	234	P	Pn	04 05 44.6	+0.2
MBAZ	**Motutapu North**	3.35	279	P	Pn	04 05 44.1	-0.2
WPHZ	**Waipukurau**	3.37	216	P	Pn	04 05 43.4	-1.0
PNHZ	**Pukenui**	3.37	220	P	Pn	04 05 43.1	-1.5
ABAZ	**Army Bay**	3.44	282	P	Pn	04 05 46.6	+1.1
MTVZ	**Mangateitei**	3.45	233	P	Pn	04 05 46.1	+0.5
EPAZ	**Eden Park BICE**	3.46	277	P	Pn	04 05 47.3	+1.7
PKVZ	**Pokaka**	3.47	235	P	Pn	04 05 46.5	+0.6
HIZ	**Hauiti**	3.49	250		Pn	04 05 47.4	+1.3
HIZ	**Hauiti**	3.49	250	P	Pn	04 05 47.4	+1.3
HIZ	**Hauiti**	3.49

MRNZ Matariki Terra 6.31 228 Pn 04 06 21.9 -2.9
KHZ Kahutara 6.58 218 Pn 04 06 25.4 -3.0
DSZ Denniston Nort 7.09 230 Pn **Pn 04 06 33.5 -2.1**
CTZ Chatham Island 7.17 154 P **Pn 04 06 38.3 +1.6**
GVZ Greta Valley S 7.23 217 Pn **Pn 04 06 34.9 -2.7**
LTZ Lake Taylor 7.49 222 Pn **Pn 04 06 37.1 -4.0**
INZ Inchbonnie 7.90 225 Pn **Pn 04 06 43.0 -3.7**
OXZ Oxford 7.99 220 Pn Pn 04 06 42.9 -5.0
RPZ Rata Peaks 8.78 221 Pn **Pn 04 06 55.6 -3.1**
MSVF Nonsavu 19.58 357 LR LR 04 15 50.2
comp=Z,252nm,18.1s,baz=139,slow=34
MCQ Macquarie Isla 21.97 212 P **P 04 09 45.7 +0.2**
STKA Stephens Creek 31.14 269 P **P 04 11 10.4 -0.2**
STKA IAmb IAmb 04 11 11.8
comp=Z,5.7nm,1.1s
STKA Stephens Creek 31.14 269 P **P 04 11 10.5 -0.2**
comp=Z,2.6nm,0.7s,baz=321,slow=3.4,SNR=5.0
comp=Z,2.6nm,0.7s
COEN Coen 39.48 297 P **P 04 12 21.5 -1.0**
ASAR Alice Springs 40.83 276 P **P 04 12 32.2 -1.4**
ASAR Alice Springs 40.83 276 P **P 04 12 32.4 -1.3**
comp=Z,3.3nm,0.8s,baz=115,slow=7.3,SNR=22
comp=Z,3.3nm,0.8s
FORT Forrest 42.31 263 P **P 04 12 44.7 -0.9**
FORT IAmb IAmb 04 12 52.4
comp=Z,21nm,0.9s
WB2 Warramunga Arr 42.45 281 P **P 04 12 45.6 -1.3**
WB2 IAmb IAmb 04 12 45.7
comp=Z,23nm,1.4s
WRA Warramunga Arr 42.46 281 P **P 04 12 45.6 -1.3**
comp=Z,2.1nm,0.5s,baz=121,slow=7.7,SNR=14
comp=Z,2.1nm,0.5s
WB0 Warramunga Arr 42.51 282 P **P 04 12 46.1 -1.4**
WB0 IAmb IAmb 04 12 52.5
comp=Z,13nm,1.1s
KNRA Kununurra 49.24 282 P **P 04 13 39.6 -0.9**
FITZ Fitzroy Crossi 50.31 277 P **P 04 13 46.8 -1.9**
QSPA South Pole Qui 52.76 180 P **P 04 14 08.5 +1.9**
QSPA South Pole Qui 52.76 180 P **P 04 14 08.2 +1.6**
comp=Z,3.2nm,1.0s,baz=45,slow=2.3,SNR=5.1
comp=Z,3.2nm,1.0s
GIRL Giralia 56.99 265 P **P 04 14 36.1 -1.5**
KAPI Kappang 62.74 286 LR LR 04 43 43.0
comp=Z,34nm,19.3s,baz=102,slow=37
BELA Belgrano 2 63.23 172 P **P 04 15 21.1 +1.5**
BELA IAmb IAmb 04 15 22.1
comp=Z,3.9nm,0.9s
LEM Lembang 71.12 276 LR LR 04 51 15.4
comp=Z,54nm,18.5s,baz=170,slow=39
MG05 Puerto Natales 71.59 142 P **P 04 16 15.6 +2.7**
MG05 IAmb IAmb 04 16 19.1
comp=Z,11nm,1.1s
H03N3 Juan Fernandez 78.90 124 T T 05 43 41.6
baz=234,slow=72,SNR=66
H03N2 Juan Fernandez 78.90 124 T T 05 43 40.5
baz=234,slow=72,SNR=64
H03N1 Juan Fernandez 78.92 124 T T 05 43 33.9
baz=234,slow=72,SNR=66
PLCA Paso Flores 79.54 134 P **P 04 17 01.6 +2.8**
KURBB Kurchatov Arra 123.94 311 PKP **PKiKP 04 23 49.9 +0.2**
comp=Z,0.1nm,0.4s,baz=108,slow=2.2,SNR=2.2
ARCES ARCESS Array B 144.74 344 PKP **PKPdf 04 24 27.2 -0.4**
comp=Z,2.2nm,0.9s,baz=37,slow=2.0,SNR=1.2
FINES FINESS Array B 150.57 334 PKPbc **PKiKP 04 24 43.0 -0.4**
comp=Z,2.7nm,0.9s,baz=67,slow=1.3,SNR=3.3
BRTR Keskin Array B 152.92 286 PKPbc **PKPbc 04 24 47.7 -1.4**
comp=Z,0.3nm,0.8s,baz=107,slow=2.1,SNR=1.4
BRTR PKPab **PKPab 04 24 58.1 -2.3**
comp=Z,0.7nm,0.8s,baz=85,slow=5.2,SNR=5.0
TORD Torodi Ar. Bea 155.76 186 PKPab **PKPab 04 25 13.1 +0.4**
comp=Z,0.6nm,0.8s,baz=177,slow=2.5,SNR=4.0

IDC ***05*** *04:07:23.2±0.7, 19°.43N×68°.08W, h0km, mb3.9/17, mbtmp4.0/21, ML3.2/3, MS3.4/16, Error ellipse: s-maj=19.9km s-min=12.8km az=38.0*
NEIC ***05*** *04:07:24.9±1.5, 19°.31N±0°.04×68°.08W±0°.02, h10km±1km, mb4.4/35, ML4.4/48, Md4.4/21(RSPR), Error ellipse: s-maj=5.9km s-min=3.6km az=181.0*
SDD ***05*** *04:07:24.0±2.1, 19°.38N×68°.11W, h2km±83km, MD4.2, ML4.4, MW4.2*
RSPR ***05*** *04:07:27.2, 19°.57N×68°.06W, h33km±44km, MD4.4/21*
RSNC ***05*** *04:07:27.3±1.2, 20°N±6°×6°8W±°, h33km±13km, M4.4, mB5.4, mb4.4, Mw(mB)4.8, Hypocentre not reviewed by the ISC*
OSPL ***05*** *04:07:27.0±3.8, 19°.32N×68°.07W, h0km±17km, ML4.0, Hypocentre not reviewed by the ISC*
ISC 05 04:07:26.1±1.2, 19°.30N±0°.04×68°.18W±0°.03, h24km±9km, n189, σ1§68/218, mb4.3/33, MS3.5/13, 20C-25D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.81 194**				**Pb**	**04 07 39.8**	**-1.6**
PCDR						**Sb**	**04 07 52.4**	**+0.6**
PCDR					IAML		04 07 59.0	
comp=N,11μm,0.7s								
PCDR	**Punta Cana, DR**	**0.81 194**		⇓*e*Pg		**Pb**	**04 07 39.8**	**-1.6**
PCDR				⇓*e*Sg		**Sb**	**04 07 52.5**	**+0.6**
PCDR					IAML		04 07 58.7	
comp=N,10μm,0.8s								
PCDR	**Punta Cana, DR**	**0.81 194**		*i* P			04 07 39.9	
PCDR				*e*S			04 07 52.9	
PCDR					IAML		04 08 03.7	
comp=Z,4μm,0.7s								
HIDR	**Higuey Centro**	**0.87 216**		⇑*e*Pg		**Pb**	**04 07 41.1**	**-1.3**
HIDR				⇑*e*Sg		**Sb**	**04 07 54.4**	**+0.7**
HIDR					IAML		04 07 57.1	
comp=N,14μm,0.2s								
SMDR	**Samana, DR**	**0.95 270**		⇑*e*Pg		**Pb**	**04 07 43.7**	**-0.1**
SMDR					IAML		04 08 01.1	
comp=N,5μm,0.4s								
IDE	**Isla Desecheo**	**1.13 144**				**Pn**	**04 07 44.3**	**-2.1**
IDE						**Sb**	**04 07 59.5**	**-1.6**
SADR	**Isla Saona**	**1.24 207**		⇓*e*Pg		**Pn**	**04 07 47.1**	**-0.8**
SADR				⇑*e*Pg		**Pb**	**04 07 47.3**	**-1.4**
SADR				⇓*e*Sg		**Sb**	**04 08 05.8**	**+1.4**
SADR				⇑*e*Sg		**Sn**	**04 08 07.3**	**+3.4**
SADR					IAML		04 08 11.2	
comp=N,8μm,0.5s								
SADR					IAML		04 08 11.2	
comp=N,8μm,0.5s								
DR12	**Loma Pena Alta**	**1.24 246**				**Pn**	**04 07 48.5**	**+0.5**
DR12					IAML		04 08 08.8	
comp=N,6μm,0.8s								
HATOM	**Hato Mayor del**	**1.25 246**		⇑*e*Pg		**Pn**	**04 07 48.5**	**+0.5**
HATOM					IAML		04 08 08.7	
comp=N,5μm,0.7s								
AGPR	**Aguadilla, PR**	**1.31 129**				**Pn**	**04 07 47.1**	**-1.7**
AGPR				Sn		**Sn**	**04 08 05.5**	**-0.1**
AGPR					IAML		04 08 09.9	
comp=N,7μm,0.8s								
AGPR	**Aguadilla, PR**	**1.31 129**		⇓*e*Pg		**Pn**	**04 07 48.8**	**0.0**
AGPR				⇓*e*Sg		**Sn**	**04 08 06.2**	**+0.7**
AGPR					IAML		04 08 09.5	
comp=N,7μm,1.1s								
AGPR	**Aguadilla, PR**	**1.31 129**		⇑*e*P		**Pn**	**04 07 48.7**	**-0.2**
AGPR	**Aguadilla, PR**	**1.31 129**		*e*S		**Sn**	**04 08 06.4**	**+0.8**
AGPR	**Aguadilla, PR**	**1.31 129**		*i* P			04 07 49.1	
AGPR				*e*S			04 08 06.5	
AGPR					IAML		04 08 12.6	
comp=Z,3μm,0.5s								
SPM1	**San Pedro UASD**	**1.36 232**		⇓*e*Pg		**Pb**	**04 07 50.7**	**-0.2**
SPM1				⇑*e*Sg		**Sb**	**04 08 10.6**	**+2.7**
SPM1					IAML		04 08 15.3	
comp=N,3μm,0.9s								
PRSN	**Puerto Rico Se**	**1.46 137**				**Pn**	**04 07 49.2**	**-1.7**
PRSN						**Sn**	**04 08 09.6**	**+0.4**
PRSN					IAML		04 08 13.4	
comp=E,5μm,0.6s								
PRSN					IAML		04 08 15.3	
comp=N,7μm,0.3s								
PRSN	**Puerto Rico Se**	**1.46 137**		*e*Pg		**Pn**	**04 07 49.5**	**-1.4**
PRSN					IAML		04 08 15.3	
comp=N,7μm,0.3s								
PRSN	**Puerto Rico Se**	**1.46 137**		⇓*e*P		**Pn**	**04 07 51.5**	**+0.6**
PRSN	**Puerto Rico Se**	**1.46 137**		*e*S		**Sb**	**04 08 11.7**	**+1.0**
LSP	**Las Mesas**	**1.52 137**				**Pn**	**04 07 52.1**	**+0.2**
LSP						**Sb**	**04 08 13.5**	**+0.9**
LSP	**Las Mesas**	**1.52 137**		⇑*e*P		**Pn**	**04 07 52.1**	**+0.2**
LSP	**Las Mesas**	**1.52 137**		*e*S		**Sb**	**04 08 13.5**	**+0.9**
NADR	**Nagua**	**1.58 272**		⇑*e*Pg		**Pb**	**04 07 54.1**	**-0.6**
NADR					IAML		04 08 27.7	
comp=N,9μm,0.9s								
LONA1	**Toro Cenizo, N**	**1.59 273**		*i* P			04 07 31.9	
LONA1				*e*S			04 07 56.6	
CRPR	**Cabo Rojo, PR**	**1.64 142**				**Pn**	**04 07 52.1**	**-1.3**
CRPR						**Sn**	**04 08 14.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.64 142**		⇓*e*Pg		**Pn**	**04 07 53.8**	**+0.4**
CRPR				⇑*e*Sg		**Sb**	**04 08 16.3**	**+0.5**
CRPR					IAML		04 08 24.5	
comp=N,2μm,0.6s								
CRPR	**Cabo Rojo, PR**	**1.64 142**		⇑*e*P		**Pn**	**04 07 53.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.64 142**		*e*S		**Sb**	**04 08 16.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.64 142**		*i* P			04 07 54.9	
CRPR				*e*S			04 08 15.8	
AOPR	**Arecibo Observ**	**1.65 125**				**Pn**	**04 07 52.2**	**-1.4**
AOPR						**Sn**	**04 08 14.1**	**0.0**
AOPR					IAML		04 08 21.0	
comp=N,4μm,0.7s								
AOPR	**Arecibo Observ**	**1.65 125**		*e*P		**Pn**	**04 07 53.0**	**-0.7**
AOPR				*e*S		**Sb**	**04 08 17.3**	**+1.0**
AOPR	**Arecibo Observ**	**1.65 125**		⇓*e*Pg		**Pn**	**04 07 52.9**	**-0.7**
AOPR				⇓*e*Sg		**Sb**	**04 08 16.5**	**+0.3**
AOPR					IAML		04 08 18.3	
comp=N,3μm,0.6s								
AOPR	**Arecibo Observ**	**1.65 125**		⇓*e*P		**Pn**	**04 07 53.1**	**-0.5**
AOPR	**Arecibo Observ**	**1.65 125**		*e*S		**Sn**	**04 08 15.7**	**+1.6**
CADR	**Cabrera**	**1.70 283**		⇓*e*Pg		**Pb**	**04 07 56.5**	**-0.1**
CADR					IAML		04 08 41.5	
comp=N,2μm,0.8s								
MLPR	**Magueyes Islan**	**1.71 141**				**Pn**	**04 07 53.8**	**-0.6**
MLPR						**Sn**	**04 08 15.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.71 141**		⇓*e*Pg		**Pn**	**04 07 54.1**	**-0.2**
MLPR					IAML		04 08 25.7	
comp=N,2μm,0.5s								
MLPR	**Magueyes Islan**	**1.71 141**		⇓*e*P		**Pn**	**04 07 54.2**	**-0.2**
MLPR	**Magueyes Islan**	**1.71 141**		*e*S		**Sn**	**04 08 16.8**	**+1.4**
UUPR	**Utuado, UPR, P**	**1.73 127**				**Pn**	**04 07 54.5**	**-0.2**
UUPR						**Sn**	**04 08 15.2**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.73 127**		⇓*e*P		**Pn**	**04 07 55.4**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.73 127**		*e*S		**Sn**	**04 08 16.8**	**+0.8**
EMPR	**Esperanza - Ma**	**1.76 117**				**Pn**	**04 07 54.8**	**-0.3**
EMPR						**Sn**	**04 08 16.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.76 117**		⇓*e*P		**Pn**	**04 07 55.4**	**+0.3**
DR08	**Loma La Naviza**	**1.77 259**		*e*Pg		**Pb**	**04 07 57.1**	**-0.8**
DR08				⇑*e*Sg		**Sb**	**04 08 21.8**	**+2.0**
DR08					IAML		04 08 26.2	
comp=N,26μm,0.2s								
GBPR	**Guanica, Bosqu**	**1.81 137**				**Pn**	**04 07 56.8**	**+1.1**
GBPR						**Sb**	**04 08 20.1**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.81 137**		⇓*e*P		**Pn**	**04 07 56.8**	**+1.1**
GBPR	**Guanica, Bosqu**	**1.81 137**		*e*S		**Sb**	**04 08 20.1**	**-0.5**
SDD	**Santo Domingo**	**1.84 243**				**Pb**	**04 07 58.4**	**-0.7**
SDD						**Sb**	**04 08 21.7**	**0.0**
SDD					IAML		04 08 31.9	
comp=E,4μm,0.9s								
SDD	**Santo Domingo**	**1.84 243**		⇑*e*Pg		**Pb**	**04 07 58.3**	**-0.7**
SDD				⇑*e*Sg		**Sb**	**04 08 23.8**	**+2.1**
SDD					IAML		04 08 24.7	
comp=N,541nm,0.4s								
SDD	**Santo Domingo**	**1.84 243**		⇓*i* P		**Pb**	**04 07 58.6**	**-0.5**
SDD	**Santo Domingo**	**1.84 243**		*e*S		**Sb**	**04 08 22.8**	**+1.1**
SDD	**Santo Domingo**	**1.84 243**		*i* P			04 07 58.4	
SDD				*e*S			04 08 24.2	
SDD					IAML		04 08 28.4	
comp=Z,218nm,0.8s								
CELP	**Cerrillos**	**1.95 128**				**Pn**	**04 07 57.4**	**-0.3**
CELP						**Sn**	**04 08 21.1**	**-0.3**
CELP					IAML		04 08 27.8	
comp=N,4μm,0.6s								
CELP					IAML		04 08 28.8	
comp=E,3μm,0.7s								
CELP	**Cerrillos**	**1.95 128**		⇑*e*Pg		**Pn**	**04 07 58.3**	**+0.7**
CELP					IAML		04 08 27.6	
comp=N,4μm,0.6s								
CELP	**Cerrillos**	**1.95 128**		⇑*e*P		**Pn**	**04 07 58.4**	**+0.7**
CELP	**Cerrillos**	**1.95 128**		*e*S		**Sn**	**04 08 22.4**	**+1.0**
OBIP	**Obispado Ponce**	**1.95 130**				**Pn**	**04 07 56.7**	**-0.9**
OBIP						**Sn**	**04 08 21.2**	**-0.2**
OBIP					IAML		04 08 25.5	
comp=E,3μm,0.9s								
OBIP					IAML		04 08 26.8	
comp=N,4μm,0.6s								
OBIP	**Obispado Ponce**	**1.95 130**		⇓*e*P		**Pn**	**04 07 57.2**	**-0.5**
OBIP	**Obispado Ponce**	**1.95 130**		*e*S		**Sn**	**04 08 22.7**	**+1.3**
ECPR	**Experimental S**	**1.98 119**		⇑*e*P		**Pn**	**04 07 57.3**	**-0.8**
ECPR	**Experimental S**	**1.98 119**		*e*S		**Sn**	**04 08 21.6**	**-0.6**
GCPR	**Guaynabo City**	**2.22 116**				**Pn**	**04 08 00.1**	**-1.3**
GCPR						**Sn**	**04 08 27.0**	**-1.0**
GCPR	**Guaynabo City**	**2.22 116**		⇓*e*P		**Pn**	**04 08 00.9**	**-0.5**
GCPR	**Guaynabo City**	**2.22 116**		*e*S		**Sn**	**04 08 28.6**	**+0.6**
BANI	**BANI**	**2.25 247**				**Pb**	**04 08 04.4**	**-1.7**
BANI					IAML		04 08 41.9	
comp=N,3μm,0.5s								
BANI					IAML		04 08 42.9	
comp=E,2μm,0.6s								
SJG	**San Juan**	**2.26 121**			IAML		04 08 37.5	
comp=E,3μm,0.4s								
SJG	**San Juan**	**2.26 121**		Pn		**Pn**	**04 08 01.2**	**-0.7**
comp=E,447nm,0.4s,baz=305,slow=8.7,SNR=165								
SJG				Sn		**Sn**	**04 08 29.9**	**+0.9**
comp=E,69nm,0.3s,baz=75,slow=20,SNR=5.3								
SJG				LR		LR	04 09 26.7	
comp=E,319nm,19.6s,baz=307,slow=55								
SJG	**San Juan**	**2.26 121**		*e*P		**Pn**	**04 08 01.3**	**-0.7**
SJG				*e*S		**Sn**	**04 08 30.7**	**+1.6**
SJG	**San Juan**	**2.26 121**		⇑*e*P		**Pn**	**04 08 01.5**	**-0.5**
SJG	**San Juan**	**2.26 121**		*i* P			04 08 01.4	
SJG				*e*S			04 08 30.7	
SJG					IAML		04 08 39.1	
comp=Z,2μm,0.6s								
IGPR	**InterUniversit**	**2.37 124**				**Pn**	**04 08 02.7**	**-0.8**
IGPR						**Sn**	**04 08 31.4**	**-0.5**
IGPR					IAML		04 08 42.9	
comp=E,2μm,0.6s								
IGPR					IAML		04 08 43.1	
comp=N,2μm,0.3s								
IGPR	**InterUniversit**	**2.37 124**		⇓*e*P		**Pn**	**04 08 03.6**	**+0.1**
IGPR	**InterUniversit**	**2.37 124**		*e*S		**Sn**	**04 08 33.1**	**+1.3**
SC01	**Santiago de lo**	**2.41 273**				**Pn**	**04 08 06.1**	**+2.0**
SC01					IAML		04 09 03.5	
comp=E,2μm,1.1s								
SC01	**Santiago de lo**	**2.41 273**		⇓*e*P		**Pb**	**04 08 07.2**	**-1.6**
PDPR	**Patillas Dam,**	**2.41 122**				**Pn**	**04 08 03.1**	**-0.9**
PDPR					IAML		04 08 42.0	
comp=E,1μm,0.7s								
PDPR	**Patillas Dam,**	**2.41 122**		⇓*e*P		**Pn**	**04 08 04.0**	**-0.1**
PDPR	**Patillas Dam,**	**2.41 122**		*e*S		**Sn**	**04 08 34.5**	**+1.7**
HUMP	**Col San Antoni**	**2.49 117**				**Pn**	**04 08 04.1**	**-1.0**
HUMP	**Col San Antoni**	**2.49 117**		⇑*e*P		**Pn**	**04 08 04.2**	**-0.9**
HUMP	**Col San Antoni**	**2.49 117**		*e*S		**Sn**	**04 08 35.3**	**+0.5**
SDDR	**Presa de Saban**	**2.96 264**				**Pn**	**04 08 13.9**	**+2.3**
SDDR					IAML		04 09 09.3	
comp=E,1μm,1.1s								
SDDR					IAML		04 09 12.7	
comp=E,1μm,0.7s								
SDDR	**Presa de Saban**	**2.96 264**		*i* P		**Pn**	**04 08 14.2**	**+2.6**
SDDR				*i* S		**Sb**	**04 08 51.6**	**-2.2**
SDDR	**Presa de Saban**	**2.96 264**		⇓*i* P		**Pn**	**04 08 14.4**	**+2.8**
LONE3	**El Aguacate, B**	**3.18 258**		*i* P			04 08 17.1	
LODU1	**El Espartillar**	**3.26 254**		*i* P			04 08 19.4	
GRTK	**Grand Turk**	**3.54 309**				**Pn**	**04 08 18.7**	**-0.8**
GRTK					IAML		04 09 20.6	
comp=E,588nm,1.4s								
GRTK					IAML		04 09 29.1	
comp=E,562nm,1.0s								
GRTK	**Grand Turk**	**3.54 309**		*i* P		**Pn**	**04 08 18.4**	**-1.1**
GRTK				*i* S		**Sn**	**04 08 59.5**	**-1.1**
LOBH	**Bahia de las A**	**3.58 247**		*i* P			04 08 23.4	
SABA	**Saba**	**4.97 109**				**Pn**	**04 08 38.6**	**-0.8**
SMRT	**St. Maarten**	**5.00 104**				**Pn**	**04 08 38.0**	**-1.6**
SMRT					IAML		04 09 54.5	
comp=N,224nm,0.9s								
SMRT					IAML		04 09 56.4	
comp=E,248nm,0.6s								
SKI	**Saint Kitts**	**5.53 110**		*e*P		**Pn**	**04 08 46.4**	**-0.6**
SKI	**Saint Kitts**	**5.53 110**		*e*S		**Sn**	**04 09 53.0**	**+3.2**
MASC	**Masc**	**5.76 280**		*e*P		**Pn**	**04 08 48.0**	**-2.2**
MASC				*e*S		**Sn**	**04 09 55.4**	**-0.2**
MBFL	**Flemmings, Mon**	**6.22 113**		*e*P		**Pn**	**04 08 56.4**	**0.0**
MBFL	**Flemmings, Mon**	**6.22 113**		*e*S		**Sn**	**04 10 09.8**	**+3.0**
MBWH		**6.24 113**		*e*S		**Sn**	**04 10 09.3**	**+1.9**
ANWB	**Willy Bob**	**6.28 104**		*e*P		**Pn**	**04 08 56.2**	**-1.1**
ANWB	**Willy Bob**	**6.28 104**		*e*S		**Sn**	**04 10 04.3**	**-4.1**
QMBU	**Quimbuelo**	**6.31 279**		*i* P		**Pn**	**04 08 55.6**	**-2.1**
QMBU				*i* S		**Sn**	**04 10 04.4**	**-4.7**
ANBD	**Bethesda, Anti**	**6.50 109**		*e*P		**Pn**	**04 08 58.3**	**-1.9**
ANBD	**Bethesda, Anti**	**6.50 109**		*e*S		**Sn**	**04 10 10.2**	**-3.4**
MOAC	**Moa**	**6.52 283**		*i* P		**Pn**	**04 08 57.4**	**-3.1**
NMDO	**Nuevo Mundo**	**6.52 282**		*i* P		**Pn**	**04 08 57.3**	**-3.2**
GTBY	**Guantanamo Bay**	**6.56 277**		*i* P		**Pn**	**04 08 59.6**	**-1.5**
GTBY				*i* S		**Sn**	**04 10 11.9**	**-3.4**
GTBY	**Guantanamo Bay**	**6.56 277**		P			04 09 08.0	
comp=E,37nm,1.4s								
TBG	**Guadaloupe-3**	**7.11 118**		*e*P		**Pn**	**04 09 10.5**	**+1.8**
RCC	**Rio Carpintero**	**7.12 277**		*i* P		**Pn**	**04 09 06.4**	**-2.3**
RCC				*i* S		**Sn**	**04 10 24.7**	**-4.2**
DSLB	**Salisbury**	**7.51 120**		*e*P		**Pn**	**04 09 16.0**	**+1.9**
MDN	**Morne-Daniel**	**7.60 120**		*e*P		**Pn**	**04 09 19.4**	**+4.0**
MDN	**Morne-Daniel**	**7.60 120**		*e*S		**Sn**	**04 10 41.3**	**+0.6**
BIM	**Bigot**	**8.30 124**		*e*P		**Pn**	**04 09 26.5**	**+1.5**
BIM	**Bigot**	**8.30 124**		*e*S		**Sn**	**04 10 56.3**	**-1.8**
LMGC	**Las Mercedes**	**8.35 277**		*i* P		**Pn**	**04 09 23.6**	**-2.1**
LMGC				*i* S		**Sn**	**04 10 54.4**	**-4.8**
SLBI	**Saint Lucia, B**	**8.67 126**		*e*P		**Pn**	**04 09 31.7**	**+1.6**
SLBI	**Saint Lucia, B**	**8.67 126**		*e*S		**Sn**	**04 11 04.1**	**-3.1**
SVB	**Belmont**	**8.95 131**		*e*P		**Pn**	**04 09 36.5**	**+2.5**
GCMP	**Grenada, Carri**	**9.38 135**		*e*P		**Pn**	**04 09 43.7**	**+3.8**
GCMP	**Grenada, Carri**	**9.38 135**		*e*S		**Sn**	**04 11 22.5**	**-2.2**
GRGR	**Grenville**	**9.50 138**		*e*P		**Pn**	**04 09 45.7**	**+4.2**
PCRV	**Puerto La Cruz**	**9.70 159**	Pn		Pn	**Pn**	**04 09 46.4**	**+2.2**
comp=E,0.6nm,0.3s,baz=341,slow=3.4,SNR=9.4								
PCRV				Sn		**Sn**	**04 11 27.6**	**-4.8**
baz=7.1,slow=22,SNR=1.2								
comp=E,9.1nm,0.9s								
PCRV	**Puerto La Cruz**	**9.70 159**		*e*P		**Pn**	**04 09 47.8**	**+3.6**
PCRV	**Puerto La Cruz**	**9.70 159**		*e*S		**Sn**	**04 11 36.1**	**+3.6**
BAUV	**El Baul**	**10.30 179**	Pn		Pn	**Pn**	**04 09 53.3**	**+0.9**
BAUV	**El Baul**	**10.30 179**		*e*P		**Pn**	**04 09 54.1**	**+1.7**
BAUV	**El Baul**	**10.30 179**		*e*S		**Sn**	**04 11 42.4**	**-4.8**
SDV	**Santo Domingo**	**10.62 193**	Pn		Pn	**Pn**	**04 09 58.7**	**+1.6**
SDV	**Santo Domingo**	**10.62 193**	Pn		Pn	**Pn**	**04 09 59.8**	**+2.8**
comp=E,1.6nm,0.3s,baz=36,slow=7.4,SNR=9.7								
SDV				Sn		**Sn**	**04 11 50.0**	**-5.4**
comp=E,1.5nm,0.3s,baz=313,slow=20,SNR=6.9								
SDV				LR	LR		04 14 50.6	
comp=E,115nm,18.5s,baz=78,slow=42								
comp=E,5.7nm,0.3s								
TRN	**Trinidad (W)**	**10.81 142**		*e*P		**Pn**	**04 10 01.5**	**+2.1**
TRN	**Trinidad (W)**	**10.81 142**		*e*S		**Sn**	**04 11 56.8**	**-2.9**
TOSP	**Speyside**	**10.85 136**		*e*P		Pn	04 10 05.2	+5.3
RUSC	**La Rusia**	**14.16 200**	Pn		Pn	**Pn**	**04 10 45.3**	**-0.3**
ROSC	**El Rosal**	**15.57 203**	P		P	**Pn**	**04 11 05.5**	**+1.0**
ROSC				IAmb	IAmb		04 11 49.4	
comp=Z,32nm,1.1s								
ROSC	**El Rosal**	**15.57 203**	Pn		P	**04 11 07.4**	**-1.3**
comp=Z,0.8nm,0.3s,baz=6.4,slow=17,SNR=7.8								
ROSC				Sn		**Sn**	**04 13 54.3**	**-2.3**
comp=Z,1.5nm,0.3s,baz=121,slow=24,SNR=2.0								
ROSC				LR	LR		04 17 25.7	
comp=Z,176nm,20.7s,baz=54,slow=38								
comp=Z,5.6nm,0.7s								
BOAV	**Boa Vista**	**18.40 155**				**P**	**04 11 38.5**	**-1.0**
FLOC	**Florencia**	**19.07 203**				**P**	**04 11 47.2**	**+0.3**
FLOC				IAmb	IAmb		04 12 08.1	
comp=Z,27nm,1.0s								
MDP	**Montagnes des**	**20.70 131**		P		**P**	**04 12 06.0**	**+1.3**
comp=Z,10nm,1.0s,baz=303,slow=14,SNR=4.8								
comp=Z,10nm,1.0s								
TKL	**Tuckaleechee C**	**21.33 323**	P		P	**P**	**04 12 11.3**	**0.0**
comp=Z,1.6nm,0.6s,baz=218,slow=12,SNR=1.3								
TKL				S		**S**	**04 16 06.0**	**-1.1**
comp=Z,10.0nm,0.6s,baz=288,slow=11,SNR=8.0								
TKL				LR	LR		04 21 14.1	
comp=Z,80nm,19.2s,baz=94,slow=39								
comp=Z,1.6nm,0.6s								
OTAV	**Otavalo**	**21.45 209**	P		P	**P**	**04 12 13.1**	**-0.3**
OTAV				IAmb	IAmb		04 12 45.2	
comp=Z,24nm,1.4s								
LRAL	**Lakeview Retre**	**21.68 313**	P		P	**P**	**04 12 16.9**	**+1.7**
Y49A	**Blount Mountai**	**21.77 315**	P		P	**P**	**04 12 16.8**	**+0.7**
Y49A				IAmb	IAmb		04 12 20.4	
comp=Z,

I26K	Coal Creek Min	66.36	334	P		P	04 18 14.0	+1.4
MENT	Mentasta	66.42	331	P		P	04 18 14.8	+1.6
MENT				IAmb		IAmb	04 18 33.5	
	comp=Z,1.9nm,0.7s							
J26L	Joseph Creek	66.46	333	P		P	04 18 15.0	+1.5
SCRK	Sand Creek	66.61	332	P		P	04 18 15.3	+0.9
TORD	Torodi Ar. Bea	67.00	84	P		P	04 18 16.5	-1.1
TORD	Torodi Ar. Bea	67.00	84	P		P	04 18 17.6	0.0
	comp=Z,2.3nm,0.7s,baz=297,slow=7.2,SNR=18							
	comp=Z,2.3nm,0.7s							
C27K	Jago River	67.02	338	P		P	04 18 16.9	+0.2
C27K				IAmb		IAmb	04 18 23.4	
	comp=Z,2.7nm,0.7s							
BMAR	Burnt Mountain	67.12	336	P		P	04 18 17.9	+0.4
E25K	Arctic Village	67.55	337	P		P	04 18 20.3	+0.1
E25K				IAmb		IAmb	04 18 21.8	
	comp=Z,5.5nm,1.2s							
ILAR	Eielson Array	67.91	333	P		P	04 18 22.5	+0.1
	comp=Z,0.7nm,0.8s,baz=80,slow=8.3,SNR=13							
	comp=Z,0.7nm,0.8s							
NOA	NORSAR Array B	68.19	31	P		P	04 18 24.1	-0.2
	comp=Z,0.8nm,0.9s,baz=287,slow=6.5,SNR=1.8							
NOA				LR		LR	04 44 47.0	
	comp=Z,14nm,20.1s,baz=265,slow=33							
	comp=Z,0.8nm,0.9s							
GERES	GERESS Array B	70.44	44	LR		LR	04 43 29.6	
	comp=Z,31nm,20.8s,baz=292,slow=31							
VRAC	Vranov	72.26	43	LR		LR	04 46 59.1	
	comp=Z,44nm,20.6s,baz=300,slow=33							
VAE	Valguarnera	72.79	56	LR		LR	04 46 59.1	
	comp=Z,81nm,20.2s,baz=206,slow=33							
ARCES	ARCESS Array B	73.37	21	P		P	04 18 56.0	+0.3
	comp=Z,1.7nm,0.5s,baz=277,slow=5.6,SNR=16							
	comp=Z,1.7nm,0.5s							
FINES	FINESS Array B	75.26	30	P		P	04 19 07.2	+0.4
	comp=Z,1.6nm,0.7s,baz=281,slow=5.4,SNR=1.7							
	comp=Z,1.6nm,0.7s							
OBN	Obninsk	82.49	34	LR		LR	04 56 15.8	
	comp=Z,31nm,18.5s,baz=264,slow=36							
BRTR	Keskin Array B	86.56	49	P		P	04 20 07.9	+0.1
	comp=Z,0.4nm,0.7s,baz=291,slow=6.0,SNR=2.9							
	comp=Z,0.4nm,0.7s							
ASAR	Alice Springs	159.00	254	PKPab		PKPab	04 27 58.9	-0.5
	comp=Z,0.7nm,0.9s,baz=98,slow=3.4,SNR=4.3							

NEIC ***05*** *04:15:43.0±1.3, 19°.36N±0°.04×68°.22W±0°.05, h10km±2km, ML2.4/24, Md3.4/13(RSPR), Error ellipse: s-maj=8.5km s-min=6.5km az=262.0*
SDD ***05*** *04:15:44.9±2.1, 19°.38N×68°.08W, h22km±99km, MD3.5, ML2.5, MW3.0*
OSPL ***05*** *04:15:44.0±1.6, 19°.36N×68°.20W, h0km±59km, ML2.3, Hypocentre not reviewed by the ISC*
RSPR ***05*** *04:15:45.7, 19°.44N×68°.15W, h76km±13km, MD3.4/13*
ISC 05 04:15:43.1±1.6, 19°.36N±0°.06×68°.17W±0°.03, h8km±11km, n66, σ0°84/74, 20C-11D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.87	194		Pg	04 15 59.0	-0.8
PCDR	Punta Cana, DR	0.87	194		Sg	04 16 10.7	-0.4
PCDR	Punta Cana, DR	0.87	194	IAML		04 16 17.5	
	comp=N,144nm,0.7s						
PCDR				IAML		04 16 27.5	
	comp=E,56nm,1.6s						
PCDR	Punta Cana, DR	0.87	194	⇓ePg	Pn	04 16 01.7	+0.1
PCDR				⇑eSg	Sb	04 16 11.4	-0.8
PCDR				IAML		04 16 17.4	
	comp=N,131nm,0.6s						
PCDR	Punta Cana, DR	0.87	194	i P		04 15 59.4	
PCDR				IAML		04 16 15.2	
	comp=Z,76nm,1.0s						
SMDR	Samana, DR	0.97	266	⇓ePg	Pn	04 16 02.9	0.0
SMDR				⇑eSg	Sn	04 16 18.5	+1.6
SMDR				IAML		04 16 20.4	
	comp=N,64nm,0.5s						
IDE	Isla Desecheo	1.17	146		Pb	04 16 03.0	-2.5
IDE					Sg	04 16 21.8	+1.0
IDE	Isla Desecheo	1.17	146	⇓eP	Pb	04 16 03.0	-2.5
IDE	Isla Desecheo	1.17	146	eS	Sg	04 16 21.8	+1.0
DR12	Loma Pena Alta	1.28	244	Pn	Pn	04 16 06.3	-1.0
DR12				IAML		04 16 26.8	
	comp=N,89nm,0.6s						
HATOM	Hato Mayor del	1.28	244	⇑ePg	Pg	04 16 08.0	+0.2
HATOM				⇓eSg	Sn	04 16 26.2	+1.4
HATOM				IAML		04 16 26.6	
	comp=N,81nm,0.5s						
SADR	Isla Saona	1.30	207	⇑ePg	Pg	04 16 09.9	+1.8
SADR				⇓eSg	Sg	04 16 26.0	+1.0
SADR				IAML		04 16 31.4	
	comp=N,102nm,1.1s						
SADR				IAML		04 16 31.4	
	comp=N,102nm,1.1s						
AGPR	Aguadilla, PR	1.34	132		Pn	04 16 07.4	-0.7
AGPR					Sb	04 16 25.9	+0.2
AGPR	Aguadilla, PR	1.34	132	IAML		04 16 27.5	
	comp=E,85nm,0.7s						
AGPR	Aguadilla, PR	1.34	132	⇑ePg	Pn	04 16 07.5	-0.5
AGPR				IAML		04 16 27.0	
	comp=N,82nm,0.8s						
AGPR	Aguadilla, PR	1.34	132	⇓eP	Pn	04 16 07.4	-0.7
AGPR	Aguadilla, PR	1.34	132	eS	Sb	04 16 25.9	+0.2
AGPR	Aguadilla, PR	1.34	132	i P		04 16 07.4	
AGPR				eS		04 16 25.2	
AGPR				IAML		04 16 27.9	
	comp=Z,63nm,1.4s						
LSP	Las Mesas	1.56	139		Pn	04 16 11.4	+0.2
LSP					Sb	04 16 32.5	+0.3
LSP	Las Mesas	1.56	139	⇑eP	Pn	04 16 11.4	+0.2
LSP	Las Mesas	1.56	139	eS	Sb	04 16 32.5	+0.3
NADR	Nagua	1.59	270	⇓ePg	Pg	04 16 13.3	-0.4
NADR				IAML		04 16 39.3	
	comp=N,118nm,0.5s						
AOPR	Arecibo Observ	1.68	127		Pn	04 16 12.7	0.0
AOPR					Sn	04 16 34.4	-0.1
AOPR	Arecibo Observ	1.68	127	⇓ePg	Pn	04 16 12.5	-0.3
AOPR				IAML		04 16 41.4	
	comp=N,56nm,0.2s						
AOPR	Arecibo Observ	1.68	127	⇑eP	Pn	04 16 12.7	0.0
AOPR	Arecibo Observ	1.68	127	eS	Sn	04 16 34.4	-0.1
CRPR	Cabo Rojo, PR	1.68	143		Pb	04 16 13.7	-0.5
CRPR					Sn	04 16 35.0	+0.5
CRPR	Cabo Rojo, PR	1.68	143	⇓ePg	Pn	04 16 13.6	+0.8
CRPR				⇑eSg	Sn	04 16 34.5	0.0
CRPR				IAML		04 16 45.5	
	comp=N,38nm,1.4s						
CRPR	Cabo Rojo, PR	1.68	143	⇓eP	Pb	04 16 13.7	-0.5
CRPR	Cabo Rojo, PR	1.68	143	eS	Sn	04 16 35.0	+0.5
CRPR	Cabo Rojo, PR	1.68	143	i P		04 16 13.5	
CRPR				eS		04 16 34.7	
CRPR				IAML		04 16 39.9	
	comp=Z,52nm,0.4s						
MLPR	Magueyes Islan	1.75	142		Pn	04 16 13.4	-0.3
MLPR					Sn	04 16 36.2	+0.1
MLPR	Magueyes Islan	1.75	142	IAML		04 16 41.8	
	comp=N,28nm,0.4s						
MLPR	Magueyes Islan	1.75	142	⇑ePg	Pn	04 16 13.2	-0.5
MLPR				⇑eSg	Sn	04 16 37.2	+1.0
MLPR				IAML		04 16 41.7	
	comp=N,26nm,0.2s						
MLPR	Magueyes Islan	1.75	142	⇑eP	Pn	04 16 13.4	-0.3
MLPR	Magueyes Islan	1.75	142	eS	Sn	04 16 36.2	+0.1
UUPR	Utuado, UPR, P	1.76	129		Pn	04 16 14.7	+0.8
UUPR	Utuado, UPR, P	1.76	129		Sn	04 16 37.4	+0.9
UUPR	Utuado, UPR, P	1.76	129	IAML		04 16 40.4	
	comp=E,384nm,0.3s						
UUPR				IAML		04 16 40.4	
	comp=N,632nm,0.4s						
UUPR	Utuado, UPR, P	1.76	129	eS	Sn	04 16 37.4	+0.9
GBPR	Guanica, Bosqu	1.84	138		Pn	04 16 15.6	+0.6
GBPR					Sb	04 16 40.9	+0.6
GBPR	Guanica, Bosqu	1.84	138	⇑eP	Pn	04 16 15.6	+0.6
GBPR	Guanica, Bosqu	1.84	138	eS	Sb	04 16 40.9	+0.6
CELP	Cerrillos	1.98	130		Sn	04 16 42.5	+0.6
CELP	Cerrillos	1.98	130		Pn	04 16 16.5	-0.3
CELP				IAML		04 16 47.3	
	comp=E,28nm,0.7s						
CELP	Cerrillos	1.98	130	⇑ePg	Pn	04 16 18.2	+1.3
CELP				⇑eSg	Sn	04 16 43.2	+1.4
CELP				IAML		04 16 46.9	
	comp=N,43nm,0.4s						
CELP	Cerrillos	1.98	130	⇑eP	Pn	04 16 17.8	+1.0
CELP	Cerrillos	1.98	130	eS	Sn	04 16 42.5	+0.6
OBIP	Obispado Ponce	1.98	131		Pn	04 16 16.6	-0.3
OBIP					Sn	04 16 41.6	-0.2
OBIP	Obispado Ponce	1.98	131	IAML		04 16 43.8	
	comp=E,31nm,0.7s						
OBIP				IAML		04 16 45.5	
	comp=N,33nm,0.6s						
OBIP	Obispado Ponce	1.98	131	⇓eP	Pn	04 16 16.6	-0.3
OBIP	Obispado Ponce	1.98	131	eS	Sn	04 16 41.6	-0.2
ECPR	Experimental S	2.00	121	⇑eP	Pn	04 16 17.8	+0.6
ECPR	Experimental S	2.00	121	eS	Sn	04 16 43.3	+0.9
GCPR	Guaynabo City	2.23	118		Pb	04 16 23.2	-0.5
GCPR					Sn	04 16 48.3	+0.1
GCPR	Guaynabo City	2.23	118	IAML		04 17 00.1	
	comp=E,16nm,2.9s						
GCPR	Guaynabo City	2.23	118	⇑eP	Pb	04 16 23.2	-0.5
GCPR	Guaynabo City	2.23	118	eS	Sn	04 16 48.3	+0.1
SJG	San Juan	2.28	123		Sn	04 16 49.4	0.0
SJG	San Juan	2.28	123		Pn	04 16 21.8	+0.8
SJG	San Juan	2.28	123	IAML		04 16 56.2	
	comp=E,23nm,0.5s						
SJG				IAML		04 16 57.1	
	comp=E,18nm,0.5s						
SJG	San Juan	2.28	123	⇑eP	Pn	04 16 21.8	+0.8
SJG	San Juan	2.28	123	eS	Sn	04 16 48.3	-1.1
SJG	San Juan	2.28	123	i P		04 16 21.7	
SJG				eS		04 16 49.7	
SJG				IAML		04 16 58.1	
	comp=Z,12nm,0.6s						
PDPR	Patillas Dam,	2.43	123	⇑eP	Pn	04 16 22.4	-0.8
PDPR	Patillas Dam,	2.43	123	eS	Sn	04 16 51.9	-1.2
HUMP	Col San Antoni	2.51	119		Pn	04 16 25.1	+0.9
HUMP	Col San Antoni	2.51	119	IAML		04 17 03.9	
	comp=E,17nm,0.2s						
HUMP				IAML		04 17 05.2	
	comp=N,11nm,0.5s						
HUMP	Col San Antoni	2.51	119	⇑eP	Pn	04 16 25.1	+0.9
HUMP	Col San Antoni	2.51	119	eS	Sn	04 16 53.8	-1.2

UPP ***05*** *04:25:09.0±1.0, 59°.17N×8°.13E, h0km, ML1.8*
DNK ***05*** *04:25:10.0±0.7, 59°.27N×7°.81E, h0km, ML1.7(UPP), Suspected explosion*
BER 05 04:25:02.1±3.1, 59°.40N×6°.68E, h5km±6km, ML2.0, MW2.2, 1C-1D, Confirmed Earthquake, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLS5	Blasjo	0.12	282	⇓iP	Pg	04 25 04.7	+0.2
BLS5				eS	Sg	04 25 07.0	+0.9
BLS5				IAML		04 25 07.7	
	comp=Z,149nm,0.1s						
ODD1	Odda	0.51	357	⇑iP	Pg	04 25 11.0	-1.0
ODD1				eS	Sg	04 25 17.7	-1.0
ODD1				IAML		04 25 18.2	
	comp=Z,209nm,0.1s						
KMY	Karmoy	0.76	256	eP	Pg	04 25 15.3	-1.3
KMY				eS	Sg	04 25 24.8	-1.6
KMY				IAML		04 25 28.8	
	comp=Z,95nm,0.2s						
SNART	Snartemo	1.10	165	eP	Pg	04 25 21.4	-1.8
SNART				eS	Sg	04 25 35.6	-1.8
SNART				IAML		04 25 35.8	
	comp=Z,167nm,0.4s						
SNART	Snartemo	1.10	165	i P	Pg	04 25 21.3	-1.9
SNART				i S	Sg	04 25 35.6	-1.7
BER	Bergen	1.20	326	eP	Pg	04 25 22.8	-2.3
BER				eS	Sg	04 25 38.3	-2.2
BER				IAML		04 25 39.1	
	comp=Z,44nm,0.4s						
ASK	Askoy	1.32	326	eP	Pn	04 25 24.7	-2.4
ASK				eS	Sg	04 25 41.1	-3.3
ASK				IAML		04 25 42.5	
	comp=Z,28nm,0.1s						
HOMB	Homborsund	1.48	139	eP	Pn	04 25 27.7	-1.6
HOMB				eS	Sn	04 25 46.7	-2.3
HOMB				IAML		04 25 48.3	
	comp=Z,14nm,0.1s						
HOMB	Homborsund	1.48	139	i P	Pn	04 25 27.4	-1.9
HOMB				eS	Sn	04 25 44.9	-4.0
KONO	Kongsberg	1.51	79	eP	Pn	04 25 27.4	-2.3
KONO				eS	Sn	04 25 46.8	-3.0
KONO				IAML		04 25 48.6	
	comp=Z,42nm,0.3s						
SKAR	Skarslia	1.52	32	eP	Pn	04 25 27.8	-2.2
SKAR				eS	Sn	04 25 47.6	-2.6
SKAR				IAML		04 25 49.3	
	comp=Z,26nm,0.2s						
HYA	Hoyanger	1.79	352	eP	Pn	04 25 32.8	-0.8
HYA				eS	Sn	04 25 55.8	-0.9
HYA				IAML		04 25 59.3	
	comp=Z,19nm,0.3s						
SUE	Sulen	1.92	331	eP	Pn	04 25 32.6	-2.7
SUE				eS	Sn	04 25 55.3	-4.5
SUE				IAML		04 26 01.0	
	comp=Z,17nm,0.2s						
STRU	Stroemstad	2.35	97	P	Pn	04 25 38.2	-3.0
STRU				S	Sn	04 25 59.4	-11
STRU	Stroemstad	2.35	97	P	Pn	04 25 42.1	+0.9
STRU				S	Sn	04 26 04.4	-6.0
STRU	Stroemstad	2.35	97	i P	Pn	04 25 38.1	-3.1
STRU				P	Pb	04 25 38.2	-6.6
STRU				S	Sn	04 25 59.4	-11
STRU				i S	Sb	04 26 04.8	-9.2
STRU	Stroemstad	2.35	97	P	Pn	04 25 42.1	+0.9
STRU				S	Sn	04 26 04.4	-6.0
FOO	Floro	2.35	341	eP	Pn	04 25 42.1	+0.8
FOO				IAML		04 26 17.0	
	comp=Z,9.6nm,0.3s						
NAO01	NORSAR Array S	2.56	54	eP	Pn	04 25 42.1	-2.1
NAO01				eS	Sn	04 26 11.4	-4.2
NAO01				IAML		04 26 21.1	
	comp=Z,7.6nm,0.6s						
AKN	Aaknes	2.79	3	eP	Pn	04 25 44.8	-2.6
AKN				eS	Sn	04 26 17.2	-4.2
AKN				IAML		04 26 17.9	
	comp=Z,9.2nm,0.1s						
TJOU	Tjoern	2.92	116	P	Pn	04 25 46.4	-2.7
TJOU				S	Sn	04 26 14.5	-10
TJOU	Tjoern	2.92	116	P	Pn	04 25 50.2	+1.0
TJOU				S	Sn	04 26 19.1	-5.5
TJOU	Tjoern	2.92	116	P	Pn	04 25 46.4	-2.7
TJOU				i P	Pb	04 25 46.9	-7.7
TJOU				S	Sn	04 26 14.5	-10
TJOU				eS	Sb	04 26 19.2	-11
TJOU	Tjoern	2.92	116	P	Pn	04 25 50.2	+1.0
TJOU				S	Sn	04 26 19.1	-5.5
VANU	Vaenersborg	2.94	106	P	Pn	04 25 46.5	-2.9
VANU				S	Sn	04 26 14.2	-11
VANU	Vaenersborg	2.94	106	P	Pn	04 25 50.0	+0.7
VANU				S	Sn	04 26 19.1	-5.9
VANU	Vaenersborg	2.94	106	P	Pn	04 25 46.5	-2.9
VANU				S	Sn	04 26 14.2	-11
VANU	Vaenersborg	2.94	106	P	Pn	04 25 50.0	+0.7
VANU				S	Sn	04 26 19.1	-5.9
FINU	Finntorp	2.97	87	P	Pn	04 25 47.6	-2.2
FINU				S	Sn	04 26 16.5	-9.1
FINU	Finntorp	2.97	87	P	Pn	04 25 50.7	+1.0
FINU				S	Sn	04 26 20.2	-5.5
FINU	Finntorp	2.97	87	P	Pn	04 25 47.6	-2.2
FINU				S	Sn	04 26 16.5	-9.1
FINU	Finntorp	2.97	87	P	Pn	04 25 50.7	+1.0
FINU				S	Sn	04 26 20.2	-5.5
NC303	NORSAR Array S	2.97	50	e	Pg	04 26 47.2	+48
NASU	Vaermlandsnaes	3.38	95	P	Pn	04 25 52.9	-2.6
NASU				S	Sn	04 26 25.2	-11
NASU	Vaermlandsnaes	3.38	95	P	Pn	04 25 56.1	+0.7
NASU				S	Sn	04 26 29.5	-6.4
NASU	Vaermlandsnaes	3.38	95	P	Pn	04 25 52.9	-2.6
NASU				S	Sn	04 26 25.2	-11
NASU	Vaermlandsnaes	3.38	95	P	Pn	04 25 56.1	+0.7
NASU				S	Sn	04 26 29.5	-6.4
ONAU	Onsala	3.41	124	P	Pn	04 25 53.5	-2.4
ONAU	Onsala	3.41	124	S	Sn	04 26 31.7	-4.9
ONAU	Onsala	3.41	124	i P	Pn	04 25 51.6	-4.3
ONAU				P	Pb	04 25 53.5	-9.5
ONAU				i S	Sn	04 26 29.1	-7.6
ONAU	Onsala	3.41	124	S	Sn	04 26 31.7	-4.9
UDD	Uddeholm	3.58	76	P	Pn	04 25 56.7	-1.4
UDD	Uddeholm	3.58	76	S	Sn	04 26 36.3	-4.4
UDD	Uddeholm	3.58	76	P	Pn	04 25 56.7	-1.4
UDD	Uddeholm	3.58	76	S	Sn	04 26 36.3	-4.4
FKPU	Falk	3.87	106	P	Pn	04 25 59.0	-3.2
FKPU	Falk	3.87	106	P	Pn	04 26 02.5	+0.3
FKPU	Falk	3.87	106	P	Pn	04 25 59.0	-3.2
FKPU	Falk	3.87	106	P	Pn	04 26 02.5	+0.3
FABU	Falkenberg	4.00	124	P	Pn	04 26 01.4	-2.6
FABU	Falkenberg	4.00	124	P	Pn	04 26 01.4	-2.6
LRW	Lerwick	4.04	284	eS	Sn	04 26 45.2	-6.9
LRW				IAML		04 27 19.7	
	comp=Z,5.3nm,0.7s						
ASKU	Askersund	4.23	93	P	Pn	04 26 04.5	-2.6
ASKU	Askersund	4.23	93	P	Pn	04 26 07.3	+0.2
ASKU				S	Sn	04 26 50.0	-6.7
ASKU	Askersund	4.23	93	P	Pn	04 26 04.5	-2.6
ASKU	Askersund	4.23	93	P	Pn	04 26 07.3	+0.2
ASKU				S	Sn	04 26 50.0	-6.7
DRUM	Mains of Drumt	5.46	247	eS	Sn	04 27 19.0	-8.0
BIGH	Upper Bighouse	5.56	265	eS	Sn	04 27 20.3	-9.1

DJA ***05*** *04:25:10.8±0.3, 5°.N±3°.×12°.6E±°., h181km±3km, MA4.5/12, mB4.8/6, mb4.5/12, MLv4.7/12, MLv4.7/12, Mw(mB)4.1/6*
IDC ***05*** *04:25:10.9±0.8, 5°.11N×125°.38E, h203km±7km, mb3.5/17, mbtmp4.1/19, MS3.2/1, Error ellipse: s-maj=20.1km s-min=9.1km az=70.0*
NEIC ***05*** *04:25:11.3±2.0, 4°.77N±0°.07×125°.5E±0°.1, h211km±7km, mb4.3/31, Error ellipse: s-maj=15.4km s-min=9.9km az=77.0*
ISC 05 04:25:10.0±0.4, 4°.92N±0°.05×125°.48E±0°.08, h200km, n76, σ1°41/84, mb4.1/37, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.23	178	P	Pn	04 25 40.5	-1.0
SGSI				S	Sn	04 26 04.1	-1.9
DAV	Davao City (W)	2.14	3	Pn	Pn	04 25 53.5	+3.5
DAV	Davao City (W)	2.14	3	P	Pn	04 25 49.5	-0.5
	341nm,0.4s,baz=346,slow=19,SNR=1.9						
DAV				S	Sn	04 26 19.5	-1.8
	754nm,0.4s,baz=133,slow=23,SNR=14						
TNTI	Ternate	4.53	155	Pn	Pn	04 26 18.1	-0.4
TNTI				Sn	Sn	04 27 10.4	-2.0
TNTI	Ternate	4.53	155	P	Pn	04 26 18.5	0.0
TNTI				S	Sn	04 27 10.5	-2.0
MRSI	Marisa	5.65	219	P	Pn	04 26 33.3	+0.4
	0.3nm122nm,0.9s						
TOLI2	Tolitoli	6.03	231	Pn	Pn	04 26 37.6	-0.1
LUWI	Luwuk	6.51	205	P	Pn	04 26 47.1	+3.1
	0.3nm2μm89nm,1.3s						
SANI	Sanana	6.94	176	P	Pn	04 26 48.0	-1.6
	1μm65nm,0.7s						
NLAI	Namlea	8.26	169	P	Pn	04 27 05.3	-1.5
	1μm36nm,1.1s						
AAI	Ambon	8.97	162	P	Pn	04 27 17.6	+1.6
	56nm,0.6s						
KAPI	Kappang	11.41	210	P	Pn	04 27 50.4	+2.9
	6.9nm,0.7s,baz=90,slow=15,SNR=1.3						
SBUM	Sibu	13.46	260		P	04 28 15.7	-0.3
SOEI	Soe	14.63	185	Pn	Pn	04 28 24.7	-3.3
KSM	Kuching	15.53	258	P	P	04 28 40.0	+1.1
JAY	Jayapura	16.91	116	P	Pn	04 28 57.5	+2.1
	20nm,0.7s,baz=204,slow=9.7,SNR=6.3						
JAY	Jayapura	16.91	116	P	Pn	04 28 57.3	+1.9
	28nm,1.3s						
DLV	Lat	18.19	294	P	P	04 29 08.5	+0.2
TPI	Tanjungpandan	19.37	247	P	P	04 29 22.0	+1.1
KNRA	Kununurra	20.72	171	P	P	04 29 34.2	-1.0
KNRA				IAmb	IAmb	04 29 41.8	
	comp=Z,16nm,0.7s						
LEM	Lembang	21.31	237	LR	LR	04 37 59.2	
	comp=Z,63nm,20.5s,baz=30,slow=36						
MYKOM	Kota Tinggi	21.81	263	P	P	04 29 46.2	-0.5
IPM	Ipoh	24.38	270	P	P	04 30 10.4	+0.2
IPM				IAmb	IAmb	04 30 11.5	
	comp=Z,8.2nm,0.7s						
WRA	Warramunga Arr	26.20	161	P	P	04 30 28.5	+2.0
	comp=Z,0.5nm,0.4s,baz=333,slow=11,SNR=8.5						
WRA				PcP	PcP	04 33 48.5	+0.4
	comp=Z,1.0nm,0.9s,baz=336,slow=2.6,SNR=2.6						
	comp=Z,0.5nm,0.4s						
RPSI	Rantau Prapat	26.59	266	P	P	04 30 29.3	-0.8
RPSI				IAmb	IAmb	04 30 32.0	
	comp=Z,10nm,0.8s						
NJ2	Nanjing	27.70	348	eP	P	04 30 40.1	+0.4
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GSI	Gunungsitoli	28.09	264	P	P	04 30 43.4	-0.1
PHRA	Phrae	28.11	301	P	P	04 30 45.0	+1.4
CMAR	Chiang Mai Arr	29.20	300	P	P	04 30 53.0	-0.2
	comp=Z,2.1nm,0.3s,baz=119,slow=7.9,SNR=14						
	comp=Z,2.1nm,0.3s						
ASAR	Alice Springs	29.58	164	P	P	04 30 58.9	+2.4
	comp=Z,0.6nm,0.4s,baz=338,slow=7.1,SNR=15						
ASAR				PcP	PcP	04 33 57.9	+1.5
	comp=Z,0.9nm,0.4s,baz=345,slow=2.4,SNR=10						
	comp=Z,0.6nm,0.4s						
PZH	PanZhiHua	31.23	316	P	P	04 31 12.5	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,70nm,4.8s						
KSRS	Korea Array	32.46	4	P	P	04 31 20.7	-0.8
	comp=Z,0.6nm,0.5s,baz=179,slow=9.4,SNR=5.6						
	comp=Z,0.6nm,0.5s						
LZH	Lanzhou	36.86	330	eP	P	04 31 52.5	-7.0
LZH				pP	pP	04 32 38.8	-2.8
LZH				sP	sP	04 32 59.9	-4.7
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	Hu-ho-hao-te	37.89	343	eP	P	04 32 09.1	+1.1
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,57nm,4.1s						
SHL	Shillong	38.17	306	P	P	04 32 09.0	-1.7
SHL				IAmb	IAmb	04 32 12.4	
	comp=Z,11nm,0.8s						
USRK	Ussuriysk Ar.	39.54	7	P	P	04 32 21.6	+0.1
	comp=Z,1.2nm,0.5s,baz=180,slow=7.6,SNR=2.7						
	comp=Z,1.2nm,0.

RC01	**Rabbit Creek A**	**83.20**	**29**	P	**P**		**04 37 14.4**	**+0.8**
RC01				IAmb	IAmb		04 37 29.6	
comp=Z,13nm,1.4s								
D23K	**Nanushuk River**	**83.22**	**21**	P	**P**		**04 37 15.2**	**+1.5**
C23K	**Itkillik River**	**83.31**	**20**	P	**P**		**04 37 15.2**	**+1.1**
TOLK	**Toolik Lake Re**	**83.60**	**22**	P	**P**		**04 37 17.2**	**+1.6**
MCK	**McKinley**	**83.66**	**27**	P	**P**		**04 37 16.7**	**+0.7**
MCK				IAmb	IAmb		04 37 17.9	
comp=Z,2.5nm,0.6s								
RND	**Reindeer**	**83.69**	**27**	P	**P**		**04 37 16.8**	**+0.6**
PWL	**Port Wells**	**83.87**	**29**	P	**P**		**04 37 17.9**	**+0.8**
PWL				IAmb	IAmb		04 37 28.1	
comp=Z,6.4nm,1.1s								
D24K	**Happy Valley**	**83.90**	**21**	P	**P**		**04 37 19.0**	**+1.9**
D24K				IAmb	IAmb		04 37 20.9	
comp=Z,5.1nm,1.1s								
H24K	**Noodor Dome**	**84.17**	**24**	P	**P**		**04 37 20.3**	**+1.8**
H24K				IAmb	IAmb		04 37 40.2	
comp=Z,5.1nm,1.5s								
CCB	**Clear Creek Bu**	**84.18**	**26**	P	**P**		**04 37 18.8**	**+0.2**
F24K	**Squaw Lake**	**84.19**	**23**	P	**P**		**04 37 20.1**	**+1.4**
G24K	**Hadweenzic Riv**	**84.34**	**24**	P	**P**		**04 37 21.3**	**+2.0**
G24K				IAmb	IAmb		04 37 33.1	
comp=Z,6.0nm,1.4s								
GLI	**Glacier Island**	**84.48**	**29**	P	**P**		**04 37 21.0**	**+0.8**
GLI				IAmb	IAmb		04 37 21.9	
comp=Z,14nm,1.2s								
ILAR	**Eielson Array**	**84.57**	**25**	P	**P**		**04 37 20.3**	**-0.3**
comp=Z,0.4nm,0.7s,baz=254,slow=4.7,SNR=15								
comp=Z,0.4nm,0.7s								
BRTR	**Keskin Array B**	**88.31**	**310**	P	**P**		**04 37 38.1**	**-1.3**
comp=Z,0.4nm,0.6s,baz=87,slow=4.5,SNR=5.2								
comp=Z,0.4nm,0.6s								
ARCES	**ARCESS Array B**	**88.91**	**340**	P	**P**		**04 37 40.1**	**-1.4**
comp=Z,3.5nm,0.9s,baz=72,slow=7.8,SNR=1.8								
comp=Z,3.5nm,0.9s								
FINES	**FINESS Array B**	**90.20**	**332**	P	**P**		**04 37 45.7**	**-1.8**
comp=Z,1.0nm,0.6s,baz=82,slow=4.9,SNR=8.7								
comp=Z,1.0nm,0.6s								
QSPA	**South Pole Qui**	**94.82**	**180**	P	**P**		**04 38 09.9**	**+1.0**
QSPA				IAmb	IAmb		04 38 11.0	
comp=Z,2.2nm,1.4s								
QSPA	**South Pole Qui**	**94.82**	**180**	P	**P**		**04 38 10.0**	**+1.2**
comp=Z,0.3nm,0.3s,baz=180,slow=21,SNR=1.7								
comp=Z,0.3nm,0.3s								
VYHS	**Vyhne**	**97.25**	**320**	*e*PP	**PP**		**04 42 21.4**	**+2.3**
YKA	**Yellowknife Ar**	**98.93**	**24**	P	**P**		**04 38 26.5**	**-0.9**
comp=Z,0.1nm,0.6s,baz=302,slow=4.5,SNR=1.8								
comp=Z,0.1nm,0.6s								
SCHQ	**Scheffervlle**	**119.59**	**8**	PKP	**PKPdf**		**04 43 36.3**	**+0.3**
comp=Z,0.9nm,0.5s,baz=351,slow=1.5,SNR=3.9								
TORD	**Torodi Ar. Bea**	**121.36**	**289**	PKP	**PKPdf**		**04 43 40.3**	**-0.2**
comp=Z,0.5nm,0.5s,baz=70,slow=2.3,SNR=5.3								
TXAR	**Lajitas Array**	**121.84**	**51**	PKP	**PKiKP**		**04 43 42.1**	**+0.8**
comp=Z,0.2nm,0.6s,baz=300,slow=1.4,SNR=4.4								

*SDD **05** 04:25:41.1±2.0, 19°58N×68°04W, h15km±207km, MD3.5, ML2.2, MW4.0*
*NEIC **05** 04:25:42.6±0.9, 19°33N±0°04×68°20W±0°03, h10km±2km, ML2.1/20, Md3.4/9(RSPR), Error ellipse: s-maj=6.9km s-min=4.5km az=351.0*
*OSPL **05** 04:25:43.2±0.9, 19°31N×68°16W, h0km±19km, ML2.0, Hypocentre not reviewed by the ISC*
*RSPR **05** 04:25:44.2, 19°36N×68°16W, h98km±7km, MD3.4/9*

ISC 05 04:25:42.8±1.9, 19°3N±0°1×68°18W±0°04, h13km±11km, n44, σ0°51/50, 10C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.81**	**194**		**Pb**	**04 25 57.5**	**-1.2**
PCDR					**Sb**	**04 26 09.5**	**0.0**
PCDR				IAML		04 26 19.1	
comp=N,87nm,1.6s							
PCDR	**Punta Cana, DR**	**0.81**	**194**	*i* P		04 25 57.7	
PCDR				IAML		04 26 09.8	
comp=Z,44nm,1.6s							
DR12	**Loma Pena Alta**	**1.25**	**246**	Pn	**Pn**	**04 26 06.0**	**0.0**
HATOM	**Hato Mayor del**	**1.25**	**246**	*e*Pg	**Pg**	**04 26 07.4**	**+0.6**
HATOM				IAML		04 26 24.9	
comp=N,15nm,0.6s							
AGPR	**Aguadilla, PR**	**1.31**	**129**		**Pn**	**04 26 06.1**	**-0.7**
AGPR					**Sg**	**04 26 25.2**	**+0.1**
AGPR	**Aguadilla, PR**	**1.31**	**129**	*e*Pg	**Pn**	**04 26 06.3**	**-0.4**
AGPR				*e*Sg	**Sg**	**04 26 25.0**	**-0.1**
AGPR				IAML		04 26 37.9	
comp=N,79nm,1.6s							
AGPR	**Aguadilla, PR**	**1.31**	**129⇑**	*e*P	**Pn**	**04 26 06.1**	**-0.7**
AGPR	**Aguadilla, PR**	**1.31**	**129**	*e*S	**Sg**	**04 26 25.2**	**+0.1**
AGPR	**Aguadilla, PR**	**1.31**	**129**	*i* P		04 26 06.0	
AGPR				*e*S		04 26 23.7	
AGPR				IAML		04 26 29.5	
comp=Z,28nm,1.1s							
LSP	**Las Mesas**	**1.53**	**137**		**Pb**	**04 26 10.8**	**-0.2**
LSP					**Sg**	**04 26 31.8**	**-0.3**
LSP	**Las Mesas**	**1.53**	**137⇑**	*e*P	**Pb**	**04 26 10.8**	**-0.2**
LSP	**Las Mesas**	**1.53**	**137**	*e*S	**Sg**	**04 26 31.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.64**	**142**		**Pb**	**04 26 12.3**	**-0.7**
CRPR					**Sb**	**04 26 34.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.64**	**142**	IAML		04 26 34.6	
comp=N,25nm,2.2s							
CRPR				IAML		04 27 11.3	
comp=E,22nm,1.9s							
CRPR	**Cabo Rojo, PR**	**1.64**	**142**	*e*Pg	**Pn**	**04 26 12.0**	**+0.6**
CRPR				IAML		04 26 34.1	
comp=N,26nm,2.2s							
CRPR				*e*Sg	**Sb**	**04 26 34.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.64**	**142⇑**	*e*P	**Pb**	**04 26 12.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.64**	**142**	*e*S	**Sb**	**04 26 34.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.64**	**142**	*i* P		04 26 11.7	
CRPR				IAML		04 26 34.4	
comp=Z,31nm,1.7s							
AOPR	**Arecibo Observ**	**1.65**	**125**		**Pb**	**04 26 12.4**	**-0.8**
AOPR					**Sb**	**04 26 34.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.65**	**125**	IAML		04 26 39.6	
comp=N,24nm,0.9s							
AOPR	**Arecibo Observ**	**1.65**	**125⇑**	*e*P	**Pb**	**04 26 12.4**	**-0.8**
AOPR	**Arecibo Observ**	**1.65**	**125**	*e*S	**Sb**	**04 26 34.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.71**	**141**		**Pn**	**04 26 12.6**	**+0.3**
MLPR				IAML		04 26 43.6	
comp=E,21nm,3.0s							
MLPR	**Magueyes Islan**	**1.71**	**141**		**Sb**	**04 26 35.2**	**-0.4**
MLPR	**Magueyes Islan**	**1.71**	**141**	IAML		04 26 31.6	
comp=N,16nm,2.9s							
MLPR	**Magueyes Islan**	**1.71**	**141**	*e*Pg	**Pn**	**04 26 12.0**	**-0.3**
MLPR				*e*Sg	**Sb**	**04 26 36.6**	**+1.1**
MLPR				IAML		04 26 37.1	
comp=N,16nm,2.5s							
MLPR	**Magueyes Islan**	**1.71**	**141⇑**	*e*P	**Pn**	**04 26 12.6**	**+0.3**
MLPR	**Magueyes Islan**	**1.71**	**141**	*e*S	**Sb**	**04 26 35.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.73**	**127**		**Pn**	**04 26 13.1**	**+0.4**
UUPR					**Sb**	**04 26 35.7**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.73**	**127⇑**	*e*P	**Pn**	**04 26 13.1**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.73**	**127**	*e*S	**Sb**	**04 26 35.7**	**-0.5**
CELP	**Cerrillos**	**1.95**	**129**		**Pn**	**04 26 15.8**	**+0.2**
CELP	**Cerrillos**	**1.95**	**129**		**Sn**	**04 26 40.0**	**+0.1**
CELP	**Cerrillos**	**1.95**	**129**	IAML		04 26 44.4	
comp=N,16nm,1.3s							
CELP	**Cerrillos**	**1.95**	**129**	*e*Pg	**Pn**	**04 26 15.5**	**-0.1**
CELP				*e*Sg	**Sb**	**04 26 42.3**	**-0.1**
CELP				IAML		04 26 45.0	
comp=N,15nm,0.5s							
CELP	**Cerrillos**	**1.95**	**129⇑**	*e*P	**Pn**	**04 26 15.8**	**+0.2**
CELP	**Cerrillos**	**1.95**	**129**	*e*S	**Sn**	**04 26 40.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.95**	**130**		**Pn**	**04 26 15.4**	**-0.2**
OBIP					**Sn**	**04 26 40.6**	**+0.6**
OBIP	**Obispado Ponce**	**1.95**	**130**	IAML		04 26 53.9	
comp=E,15nm,3.4s							
OBIP				IAML		04 26 57.2	
comp=N,17nm,3.4s							
OBIP	**Obispado Ponce**	**1.95**	**130⇑**	*e*P	**Pn**	**04 26 15.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.95**	**130**	*e*S	**Sn**	**04 26 40.6**	**+0.6**
PDPR	**Patillas Dam,**	**2.41**	**122⇑**	*e*P	**Pn**	**04 26 22.8**	**+0.8**
PDPR	**Patillas Dam,**	**2.41**	**122**	*e*S	**Sn**	**04 26 51.4**	**0.0**
HUMP	**Col San Antoni**	**2.49**	**117**		**Pn**	**04 26 22.9**	**-0.1**
HUMP	**Col San Antoni**	**2.49**	**117**	IAML		04 26 49.9	
comp=N,7.9nm,3.2s							
HUMP					**Sn**	**04 26 54.1**	**+0.7**
HUMP				IAML		04 27 23.9	
comp=E,11nm,2.7s							
HUMP	**Col San Antoni**	**2.49**	**117⇑**	*e*P	**Pn**	**04 26 22.9**	**-0.1**
HUMP	**Col San Antoni**	**2.49**	**117**	*e*S	**Sn**	**04 26 53.1**	**-0.2**

*IDC **05** 04:35:33.3±1.4, 14°93N×145°60E, h125km±12km, mb3.8/16, mbtmp4.2/16, MS3.5/1, Error ellipse: s-maj=23.0km s-min=13.9km az=83.0*
*NEIC **05** 04:35:34.5±1.1, 14°94N±0°03×145°47E±0°07, h124km±5km, mb4.5/61, Error ellipse: s-maj=9.9km s-min=3.0km az=67.0*

ISC 05 04:35:32.0±0.6, 15°01N±0°07×145°6E±0°1, h106km, n93, σ1°00/88, mb4.5/46, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.56**	**206**		**Pn**	**04 36 01.7**	**+2.3**
GUMO				Sn	**Sn**	**04 36 22.2**	**+2.0**
GUMO	**Guam**	**1.56**	**206**	P	**Pn**	**04 36 01.4**	**+2.0**
718nm,0.6s,baz=137,slow=3.3,SNR=27							
GUMO				S	**Sn**	**04 36 22.2**	**+2.0**
624nm,0.4s,baz=189,slow=18,SNR=4.4							
JCJ	**Chichijima**	**12.44**	**346**	Pn	**Pn**	**04 38 27.3**	**+1.9**
H11S3	**WAKE ISLAND Hy**	**20.51**	**77**	T	T	05 01 25.0	
baz=263,slow=75,SNR=7.3							
H11S1	**WAKE ISLAND Hy**	**20.53**	**77**	T	T	05 01 26.3	
baz=263,slow=75,SNR=9.3							
H11S2	**WAKE ISLAND Hy**	**20.53**	**77**	T	T	05 01 26.5	
baz=263,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**20.88**	**74**	T	T	05 01 52.0	
baz=260,slow=75,SNR=7.6							
H11N2	**WAKE ISLAND Hy**	**20.88**	**74**	T	T	05 01 50.2	
baz=260,slow=75,SNR=4.8							
H11N3	**WAKE ISLAND Hy**	**20.89**	**74**	T	T	05 01 53.3	
baz=260,slow=75,SNR=8.4							
FAKI	**Fak Fak**	**22.16**	**218**	P	**P**	**04 40 18.9**	**-0.7**
FAKI				IAmb	IAmb	04 40 20.6	
comp=Z,31nm,0.8s							
KSRS	**Korea Array**	**27.30**	**328**	P	**P**	**04 41 07.3**	**+0.6**
comp=Z,1.3nm,0.8s,baz=143,slow=7.1,SNR=3.6							
comp=Z,1.3nm,0.8s							
MTN	**Manton Dam**	**31.14**	**208**	P	**P**	**04 41 39.4**	**-1.6**
KNRA	**Kununurra**	**34.72**	**209**	P	**P**	**04 42 10.6**	**-1.5**
WB0	**Warramunga Arr**	**36.26**	**198**	P	**P**	**04 42 24.2**	**-1.1**
WB0				IAmb	IAmb	04 42 24.8	
comp=Z,13nm,1.1s							
WB2	**Warramunga Arr**	**36.44**	**198**	P	**P**	**04 42 26.1**	**-0.7**
WB2				IAmb	IAmb	04 42 47.3	
comp=Z,12nm,1.2s							
WRA	**Warramunga Arr**	**36.44**	**198**	P	**P**	**04 42 25.7**	**-1.1**
comp=Z,4.3nm,0.7s,baz=15,slow=9.0,SNR=12							
WRA				PcP	**PcP**	**04 44 47.0**	**-1.9**
comp=Z,0.5nm,0.6s,baz=9.2,slow=3.3,SNR=1.8							
comp=Z,4.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**38.31**	**212**	P	**P**	**04 42 41.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**38.31**	**212**	P	**P**	**04 42 41.4**	**-1.2**
comp=Z,5.4nm,1.0s,baz=54,slow=17,SNR=2.3							
comp=Z,5.4nm,1.0s							
ASAR	**Alice Springs**	**40.09**	**197**	P	**P**	**04 42 56.1**	**-1.3**
comp=Z,1.1nm,0.6s,baz=19,slow=9.5,SNR=12							
comp=Z,1.1nm,0.6s							
DZM	**Mont Dzumac**	**42.15**	**150**	LR	LR	05 00 07.3	
comp=Z,54nm,18.9s,baz=58,slow=35							
CMAR	**Chiang Mai Arr**	**44.69**	**281**	P	**P**	**04 43 35.0**	**+0.1**
comp=Z,0.7nm,0.3s,baz=76,slow=6.0,SNR=5.8							
comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**45.98**	**324**	P	**P**	**04 43 44.9**	**+0.1**
comp=Z,0.5nm,0.5s,baz=123,slow=8.2,SNR=4.0							
comp=Z,0.5nm,0.5s							
BBOO	**Buckleboo**	**48.41**	**191**	P	**P**	**04 44 02.7**	**-0.8**
FORT	**Forrest**	**48.54**	**200**	P	**P**	**04 44 03.9**	**-0.6**
MORW	**Morawa**	**52.29**	**213**	P	**P**	**04 44 31.6**	**-1.3**
MORW				IAmb	IAmb	04 44 31.8	
comp=Z,15nm,1.1s							
N15K	**Kwethluk River**	**59.70**	**28**	P	**P**	**04 45 25.9**	**+0.6**
M16K	**Timber Creek**	**60.56**	**27**	P	**P**	**04 45 32.1**	**+1.0**
ZAA0	**Zalesovo Array**	**60.88**	**324**	P	**P**	**04 45 33.0**	**-0.4**
ZAA0				IAmb	IAmb	04 45 35.3	
comp=Z,1.6nm,0.6s							
ZALV	**Zalesovo Beam**	**60.88**	**324**	P	**P**	**04 45 33.1**	**-0.3**
comp=Z,1.5nm,0.5s,baz=105,slow=7.5,SNR=6.7							
comp=Z,1.5nm,0.5s							
MKAR	**Makanchi Array**	**60.96**	**315**	P	**P**	**04 45 34.3**	**+0.2**
comp=Z,3.5nm,0.5s,baz=100,slow=7.0,SNR=55							
comp=Z,3.5nm,0.5s							
MAKZ	**Makanchi**	**61.17**	**315**	P	**P**	**04 45 35.9**	**+0.4**
MAKZ				IAmb	IAmb	04 45 37.0	
comp=Z,5.5nm,0.6s							
M17K	**Holitna River**	**61.39**	**27**	P	**P**	**04 45 37.9**	**+1.2**
KURK	**Kurchatov**	**63.95**	**319**	P	**P**	**04 45 53.5**	**-0.3**
KURBB	**Kurchatov Arra**	**63.99**	**319**	P	**P**	**04 45 54.0**	**-0.2**
comp=Z,13nm,0.6s,baz=99,slow=7.1,SNR=157							
comp=Z,13nm,0.6s							
SLKM	**Skilak Lake**	**64.43**	**30**	P	**P**	**04 45 57.4**	**+0.5**
NRIK	**Noril'sk**	**65.03**	**341**	P	**P**	**04 45 59.9**	**-0.7**
comp=Z,1.9nm,0.5s,baz=127,slow=6.4,SNR=1.8							
comp=Z,1.9nm,0.5s							
BOOM	**Boomskoye usch**	**65.04**	**310**	P	**P**	**04 46 01.7**	**+0.3**
PWL	**Port Wells**	**65.42**	**29**	P	**P**	**04 46 03.7**	**+0.4**
PWL				IAmb	IAmb	04 46 04.2	
comp=Z,8.3nm,1.0s							
SML	**Sawmill**	**65.65**	**28**	P	**P**	**04 46 05.1**	**+0.4**
SML				IAmb	IAmb	04 46 12.9	
comp=Z,14nm,1.4s							
E22K	**Anaktuvuk Pass**	**66.11**	**21**	P	**P**	**04 46 08.0**	**+0.4**
E22K				IAmb	IAmb	04 46 17.7	
comp=Z,7.8nm,1.5s							
HIN	**Hinchinbrook I**	**66.19**	**30**	P	**P**	**04 46 08.5**	**+0.2**
FID	**Port Fidalgo**	**66.28**	**30**	P	**P**	**04 46 09.0**	**+0.2**
FID				IAmb	IAmb	04 46 40.2	
comp=Z,13nm,1.4s							
EYAK	**Cordova Ski Ar**	**66.59**	**30**	P	**P**	**04 46 11.7**	**+0.9**
KLU	**Klutina**	**66.69**	**29**	P	**P**	**04 46 12.3**	**+0.8**
KLU				IAmb	IAmb	04 46 24.8	
comp=Z,17nm,1.5s							
E23K	**Chandalar**	**66.86**	**22**	P	**P**	**04 46 13.3**	**+0.8**
ILAR	**Eielson Array**	**67.00**	**25**	P	**P**	**04 46 11.6**	**-1.8**
ILAR	**Eielson Array**	**67.00**	**25**	P	**P**	**04 46 11.7**	**-1.6**
comp=Z,0.5nm,0.4s,baz=247,slow=5.9,SNR=2.5							
comp=Z,0.5nm,0.4s							
TOLK	**Toolik Lake Re**	**67.06**	**21**	P	**P**	**04 46 14.2**	**+0.5**
TOLK				IAmb	IAmb	04 46 39.8	
comp=Z,5.2nm,1.2s							
BMRM	**Bremner River**	**67.22**	**30**	P	**P**	**04 46 15.8**	**+1.0**
BMRM				IAmb	IAmb	04 46 53.8	
comp=Z,12nm,1.2s							
N25K	**Chitina, Valde**	**67.34**	**29**	P	**P**	**04 46 16.8**	**+1.1**
N25K				IAmb	IAmb	04 46 33.1	
comp=Z,6.8nm,1.4s							
D24K	**Happy Valley**	**67.47**	**21**	P	**P**	**04 46 16.9**	**+0.8**
GLB	**Gilahina Butte**	**67.68**	**29**	P	**P**	**04 46 18.8**	**+1.1**
GLB				IAmb	IAmb	04 46 54.4	
comp=Z,11nm,1.5s							
VRDI	**Verde Repeater**	**67.82**	**30**	P	**P**	**04 46 18.9**	**+0.1**
E25K	**Arctic Village**	**68.34**	**22**	P	**P**	**04 46 22.5**	**+0.8**
KKAR	**Karatay Array**	**69.04**	**311**	P	**P**	**04 46 26.8**	**+0.2**
BVAR	**Borovoye Array**	**69.25**	**321**	P	**P**	**04 46 27.2**	**-0.4**
comp=Z,3.9nm,0.4s,baz=101,slow=7.8,SNR=34							
comp=Z,3.9nm,0.4s							
BRVK	**Borovoye**	**69.31**	**321**	P	**P**	**04 46 28.5**	**+0.6**
BRVK				IAmb	IAmb	04 46 29.0	
comp=Z,5.0nm,0.8s							
CHGR	**Chuyangaron**	**70.26**	**306**	P	**P**	**04 46 34.0**	**-0.1**
CHGR				IAmb	IAmb	04 46 34.8	
comp=Z,7.2nm,0.8s							
M29M	**Somme Creek**	**70.32**	**29**	P	**P**	**04 46 34.5**	**+0.4**
L29M	**L29M**	**70.53**	**28**	P	**P**	**04 46 36.1**	**+0.8**
L29M				IAmb	IAmb	04 47 08.2	
comp=Z,9.4nm,1.4s							
HYT	**Haines Junctio**	**70.65**	**30**	P	**P**	**04 46 37.1**	**+1.0**
HYT				IAmb	IAmb	04 46 39.4	
comp=Z,11nm,1.4s							
H29M	**Whitestone**	**70.76**	**25**	P	**P**	**04 46 37.0**	**+0.5**
H31M	**Peel River**	**72.36**	**25**	P	**P**	**04 46 47.1**	**+0.9**
H31M				IAmb	IAmb	04 47 17.3	
comp=Z,8.4nm,1.4s							
G31M	**Satah River**	**72.45**	**24**	P	**P**	**04 46 46.9**	**+0.3**
Q32M	**Nakina River**	**73.24**	**32**	P	**P**	**04 46 52.3**	**+0.6**
Q32M				IAmb	IAmb	04 47 24.7	
comp=Z,16nm,1.4s							
R33M	**Jennings River**	**73.90**	**32**	P	**P**	**04 46 56.6**	**+1.1**
R33M				IAmb	IAmb	04 47 35.7	
comp=Z,10nm,1.5s							
ABKAR	**Akbulak array**	**75.96**	**318**	P	**P**	**04 47 06.5**	**-0.9**
ABKAR	**Akbulak array**	**75.96**	**318**	P	**P**	**04 47 06.6**	**-0.8**
NLWA	**Neilton Lookou**	**79.49**	**44**	P	**P**	**04 47 28.3**	**+1.2**
I04A	**Tendick Farm,**	**81.21**	**47**	P	**P**	**04 47 37.4**	**+1.0**
I04A				IAmb	IAmb	04 48 16.6	
comp=Z,17nm,1.5s							

YKA	**Yellowknife Ar**	**81.30**	**28**	P	**P**		**04 47 35.6**	**-0.8**
comp=Z,0.2nm,0.4s,baz=282,slow=5.4,SNR=5.6								
comp=Z,0.2nm,0.4s								
L04D	**Klamath Falls**	**81.62**	**49**	P	**P**		**04 47 39.8**	**+1.0**
LTY	**Liberty**	**81.65**	**43**	P	**P**		**04 47 39.1**	**+0.5**
LTY				IAmb	IAmb		04 47 54.0	
comp=Z,7.5nm,1.3s								
J05D	**Fort Rock, OR**	**82.16**	**47**	P	**P**		**04 47 42.0**	**+0.4**
J05D				IAmb	IAmb		04 47 44.0	
comp=Z,9.4nm,1.3s								
PINE	**Pine Mountain**	**82.25**	**47**	P	**P**		**04 47 43.1**	**+1.1**
PINE				IAmb	IAmb		04 47 43.8	
comp=Z,5.2nm,0.7s								
B08A	**Colville Reser**	**82.27**	**42**	P	**P**		**04 47 41.8**	**0.0**
B08A				IAmb	IAmb		04 47 42.8	
comp=Z,3.2nm,0.7s								
HATC	**Hat Creek Radi**	**82.56**	**50**	P	**P**		**04 47 44.4**	**+0.9**
RES	**Resolute Bay**	**83.02**	**13**	P	**P**		**04 47 44.8**	**-0.4**
NEW	**Newport**	**83.72**	**42**	P	**P**		**04 47 49.8**	**+0.4**
CMB	**Columbia Colle**	**84.03**	**52**	P	**P**		**04 47 52.2**	**+1.0**
CMB				IAmb	IAmb		04 48 00.4	
comp=Z,13nm,1.5s								
WVOR	**Wild Horse Val**	**84.22**	**48**	P	**P**		**04 47 52.4**	**+0.3**
WAKR	**Walker**	**84.63**	**52**	P	**P**		**04 47 55.2**	**+0.8**
WAKR				IAmb	IAmb		04 48 11.2	
comp=Z,9.4nm,1.4s								
PLID	**Pearl Lake**	**85.34**	**45**	P	**P**		**04 47 57.7**	**-0.2**
NVAR	**Mina Array Bea**	**85.51**	**52**	P	**P**		**04 47 59.7**	**+0.9**
NVAR	**Mina Array Bea**	**85.51**	**52**	P	**P**		**04 47 59.1**	**+0.4**
comp=Z,1.2nm,0.6s,baz=262,slow=6.0,SNR=8.8								
comp=Z,1.2nm,0.6s								
ARCES	**ARCESS Array B**	**85.95**	**342**	P	**P**		**04 47 59.7**	**-0.4**
ARCES				IAmb	IAmb		04 48 18.3	
comp=Z,14nm,1.2s								
ARCES	**ARCESS Array B**	**85.95**	**342**	P	**P**		**04 47 59.2**	**-0.8**
comp=Z,2.9nm,0.9s,baz=77,slow=6.8,SNR=6.0								
comp=Z,2.9nm,0.9s								
HLID	**Hailey**	**86.87**	**46**	P	**P**		**04 48 06.1**	**+0.7**
ELK	**Elko**	**87.13**	**49**	P	**P**		**04 48 07.2**	**+0.5**
ELK				IAmb	IAmb		04 48 08.0	
comp=Z,2.4nm,0.8s								
SHPR	**Sheep Range**	**88.45**	**53**	P	**P**		**04 48 13.8**	**+0.8**
FINES	**FINESS Array B**	**90.17**	**335**	P	**P**		**04 48 17.8**	**-2.5**
comp=Z,1.5nm,0.8s,baz=58,slow=7.2,SNR=5.3								
comp=Z,1.5nm,0.8s								
DBIC	**Dimbokro**	**143.62**	**304**	PKP	PKPab		04 54 52.0	-0.3
comp=Z,2.0nm,0.4s,baz=52,slow=4.6,SNR=7.5								
LPAZ	**La Paz**	**147.54**	**97**	PKPbc	**PKPdf**		**04 55 04.9**	**+2.0**
comp=Z,1.3nm,0.5s,baz=313,slow=4.5,SNR=5.2								

*TEH **05** 04:42:32.2, 27°37N×61°44E, h9km*
*OMAN **05** 04:42:40.7±0.7, 26°78N×61°39E, h10km, ml3.0/2, Error ellipse: s-maj=5.6km s-min=3.3km az=57.0*

ISC 05 04:42:35.5±1.2, 27°02N±0°06×61°67E±0°07, h10km, n14, σ1°25/22, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**0.75**	**59**	Pg	**Pg**	**04 42 49.8**	**-0.3**
NGCH	**Negor - Chabah**	**1.72**	**196**	Pn	**Pg**	**04 43 08.7**	**+0.2**
NGCH	**Negor - Chabah**	**1.72**	**196**	P	**Pg**	**04 43 08.9**	**+0.4**
SNR=76							
NGCH				S	**Sn**	**04 43 27.7**	**+0.2**
CHBR	**Chabahar**	**1.77**	**217**	Pn	**Pb**	**04 43 08.7**	**+0.6**
ZHSF	**Zahedan**	**2.70**	**343**	Pn	Pn	04 43 13.4	-5.8
BANOM	**Banah**	**4.94**	**258**	P	**Pn**	**04 43 50.6**	**+0.8**
BANOM				S	**Sn**	**04 44 45.5**	**-1.5**
WBK	**Wadi Bani Khal**	**5.03**	**210**	P	**Pn**	**04 43 52.0**	**+0.9**
SNR=8.2							
WBK				S	**Sn**	**04 44 47.3**	**-2.0**
SHME	**Shamm**	**5.05**	**260**	P	**Pn**	**04 43 52.4**	**+1.2**
SHME				S	**Sn**	**

CRPR	**Cabo Rojo, PR**	**1.62 142**		**Pn**	**04 50 50.1**	**0.0**
CRPR			IAML		04 51 17.7	
	comp=E,18nm,1.6s					
CRPR			IAML		04 51 39.8	
	comp=N,28nm,2.6s					
CRPR	**Cabo Rojo, PR**	**1.62 142**		**Sn**	**04 51 11.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.62 142⇑**	*e*Pg	**Pb**	**04 50 51.6**	**+0.2**
CRPR		⇓	*e*Sg	**Sb**	**04 51 12.5**	**+0.4**
CRPR			IAML		04 51 38.0	
	comp=N,32nm,2.5s					
CRPR	**Cabo Rojo, PR**	**1.62 142⇓**	*e*P	**Pn**	**04 50 51.0**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.62 142**	*e*S	**Sn**	**04 51 11.3**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.62 142**	*i* P		04 50 50.9	
CRPR			*e*S		04 51 11.5	
CRPR			IAML		04 51 16.3	
	comp=Z,30nm,1.1s					
AOPR	**Arecibo Observ**	**1.63 125**		**Pn**	**04 50 50.5**	**+0.2**
AOPR				**Sn**	**04 51 11.8**	**+0.3**
AOPR	**Arecibo Observ**	**1.63 125**	IAML		04 51 14.6	
	comp=N,28nm,0.3s					
AOPR	**Arecibo Observ**	**1.63 125⇑**	*e*Pg	**Pn**	**04 50 50.5**	**+0.2**
AOPR			IAML		04 51 23.4	
	comp=N,22nm,0.5s					
AOPR	**Arecibo Observ**	**1.63 125⇑**	*e*P	**Pn**	**04 50 50.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.63 125**	*e*S	**Sn**	**04 51 11.8**	**+0.3**
MLPR	**Magueyes Islan**	**1.69 141**		**Pn**	**04 50 50.7**	**-0.4**
MLPR				**Sn**	**04 51 12.3**	**-0.6**
MLPR	**Magueyes Islan**	**1.69 141**	IAML		04 51 14.5	
	comp=E,18nm,2.9s					
MLPR	**Magueyes Islan**	**1.69 141⇓**	*e*Pg	**Pn**	**04 50 50.3**	**-0.8**
MLPR		⇓	*e*Sg	**Sn**	**04 51 12.6**	**-0.3**
MLPR			IAML		04 51 21.4	
	comp=N,24nm,2.4s					
MLPR	**Magueyes Islan**	**1.69 141⇓**	*e*P	**Pn**	**04 50 50.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.69 141**	*e*S	**Sn**	**04 51 12.3**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.71 127**		**Pn**	**04 50 51.8**	**+0.4**
UUPR				**Sb**	**04 51 15.2**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.71 127⇑**	*e*P	**Pn**	**04 50 51.8**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.71 127**	*e*S	**Sb**	**04 51 15.2**	**+0.5**
CELP	**Cerrillos**	**1.93 129**		**Pn**	**04 50 55.2**	**+0.8**
CELP				**Sn**	**04 51 19.3**	**+0.5**
CELP	**Cerrillos**	**1.93 129**	IAML		04 51 34.2	
	comp=N,14nm,2.7s					
CELP	**Cerrillos**	**1.93 129⇑**	*e*Pg	**Pn**	**04 50 54.7**	**+0.4**
CELP		⇓	*e*Sg	**Sn**	**04 51 19.1**	**+0.3**
CELP			IAML		04 51 27.7	
	comp=N,10nm,1.7s					
CELP	**Cerrillos**	**1.93 129⇑**	*e*P	**Pn**	**04 50 55.2**	**+0.8**
CELP	**Cerrillos**	**1.93 129**	*e*S	**Sn**	**04 51 19.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.93 130**		**Pn**	**04 50 54.3**	**-0.1**
OBIP				**Sn**	**04 51 18.8**	**0.0**
OBIP	**Obispado Ponce**	**1.93 130**	IAML		04 51 23.3	
	comp=E,14nm,1.6s					
OBIP			IAML		04 51 24.6	
	comp=N,14nm,2.4s					
OBIP	**Obispado Ponce**	**1.93 130⇓**	*e*P	**Pn**	**04 50 54.3**	**-0.1**
OBIP	**Obispado Ponce**	**1.93 130**	*e*S	**Sn**	**04 51 18.8**	**0.0**
ECPR	**Experimental S**	**1.96 119⇓**	*e*P	**Pn**	**04 50 55.3**	**+0.4**
ECPR	**Experimental S**	**1.96 119**	*e*S	**Sn**	**04 51 20.2**	**+0.6**
PDPR	**Patillas Dam,**	**2.39 122⇓**	*e*P	**Pn**	**04 51 01.4**	**+0.7**
PDPR	**Patillas Dam,**	**2.39 122**	*e*S	**Sn**	**04 51 31.4**	**+1.1**
HUMP	**Col San Antoni**	**2.47 117**		**Pb**	**04 51 04.7**	**-1.3**
HUMP	**Col San Antoni**	**2.47 117**	IAML		04 51 28.8	
	comp=E,12nm,0.2s					
HUMP	**Col San Antoni**	**2.47 117⇑**	*e*P	**Pb**	**04 51 04.7**	**-1.3**

NEIC ***05*** *04:57:47.7±1.3, 19°.33N±0°.04×68°.14W±0°.03, h10km±1km, ML2.2/24, Md3.1/14(RSPR), Error ellipse: s-maj=6.7km s-min=4.4km az=5.0*
SDD ***05*** *04:57:47.9±1.6, 19°.33N×68°.08W, h22km±83km, MD3.5, ML2.2, MW2.9*
OSPL ***05*** *04:57:48.5±0.9, 19°.29N×68°.13W, h0km±9km, ML2.2, Hypocentre not reviewed by the ISC*
RSPR ***05*** *04:57:49.2, 19°.55N×68°.09W, h59km±20km, MD3.1/14*
ISC 05 04:57:47.6±1.6, 19°.30N±0°.07×68°.15W±0°.03, h12km±10km, n69, σ0°.74/75, 10C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.82 196**			**Pb**	**04 58 02.6**	**-1.1**
PCDR					**Sg**	**04 58 15.1**	**+1.1**
PCDR	**Punta Cana, DR**	**0.82 196**		IAML		04 58 22.2	
	comp=N,103nm,1.0s						
PCDR	**Punta Cana, DR**	**0.82 196**		*e*Pg	**Pb**	**04 58 02.8**	**-0.9**
PCDR				*e*Sg	**Sg**	**04 58 14.1**	**0.0**
PCDR				IAML		04 58 50.3	
	comp=N,110nm,1.7s						
PCDR	**Punta Cana, DR**	**0.82 196**		*i* P		04 58 02.6	
PCDR				*e*S		04 58 14.0	
PCDR				IAML		04 58 18.5	
	comp=Z,75nm,1.2s						
HIDR	**Higuey Centro**	**0.89 217**		*e*Pg	**Pb**	**04 58 04.6**	**-0.4**
HIDR				*e*Sg	**Sb**	**04 58 17.6**	**+0.8**
HIDR				IAML		04 58 18.9	
	comp=N,95nm,0.2s						
HIDR	**Higuey Centro**	**0.89 217⇑**		*e*P	**Pb**	**04 58 04.7**	**-0.3**
SMDR	**Samana, DR**	**0.98 269**		*e*Pg	**Pg**	**04 58 06.3**	**-0.2**
SMDR				IAML		04 59 05.3	
	comp=N,61nm,0.7s						
IDE	**Isla Desecheo**	**1.11 145**			Pn	04 58 02.6	-6.4
IDE					**Sb**	**04 58 20.8**	**-2.5**
SADR	**Isla Saona**	**1.26 208**		*e*Pg	**Pn**	**04 58 09.5**	**-1.5**
SADR				*e*Sg	**Sn**	**04 58 27.8**	**0.0**
SADR				IAML		04 58 34.8	
	comp=N,92nm,2.7s						
SADR				IAML		04 58 34.9	
	comp=N,92nm,2.7s						
DR12	**Loma Pena Alta**	**1.27 246**		Pn	**Pn**	**04 58 11.0**	**-0.3**
DR12					**Sg**	**04 58 29.7**	**+1.1**
HATOM	**Hato Mayor del**	**1.27 246**		*e*Pg	**Pn**	**04 58 10.9**	**-0.3**
HATOM				*e*Sg	**Sn**	**04 58 29.2**	**+0.9**
HATOM				IAML		04 58 30.4	
	comp=N,22nm,0.6s						
AGPR	**Aguadilla, PR**	**1.29 130**			**Pn**	**04 58 11.1**	**-0.3**
AGPR	**Aguadilla, PR**	**1.29 130**			**Sg**	**04 58 29.3**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29 130**		IAML		04 58 18.4	
	comp=N,60nm,2.3s						
AGPR	**Aguadilla, PR**	**1.29 130**		IAML		04 58 29.7	
	comp=E,70nm,0.7s						
AGPR	**Aguadilla, PR**	**1.29 130**		*e*Pg	**Pn**	**04 58 10.9**	**-0.5**
AGPR				IAML		04 59 01.9	
	comp=N,41nm,3.0s						
AGPR	**Aguadilla, PR**	**1.29 130⇓**		*e*P	**Pn**	**04 58 11.1**	**-0.3**
AGPR	**Aguadilla, PR**	**1.29 130**		*e*S	**Sg**	**04 58 29.3**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29 130**		*i* P		04 58 10.8	
AGPR				*e*S		04 58 27.7	
AGPR				IAML		04 58 34.9	
	comp=Z,62nm,1.4s						
PRSN	**Puerto Rico Se**	**1.44 138**			**Pb**	**04 58 14.0**	**-0.4**
PRSN					**Sb**	**04 58 33.6**	**+1.0**
PRSN	**Puerto Rico Se**	**1.44 138⇓**		*e*P	**Pb**	**04 58 14.0**	**-0.4**
PRSN	**Puerto Rico Se**	**1.44 138**		*e*S	**Sb**	**04 58 33.6**	**+1.0**
LSP	**Las Mesas**	**1.51 138**			**Pn**	**04 58 14.6**	**+0.1**
LSP					**Sg**	**04 58 36.1**	**-0.1**
LSP	**Las Mesas**	**1.51 138⇑**		*e*P	**Pn**	**04 58 14.6**	**+0.1**
LSP	**Las Mesas**	**1.51 138**		*e*S	**Sg**	**04 58 36.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.62 142**			**Sb**	**04 58 38.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.62 142**			**Pn**	**04 58 16.5**	**+0.4**
CRPR				IAML		04 58 40.6	
	comp=E,22nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.62 142**		IAML		04 58 24.9	
	comp=N,21nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.62 142**		*e*Pg	**Pn**	**04 58 16.2**	**+0.2**
CRPR				IAML		04 58 44.0	
	comp=N,19nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.62 142⇓**		*e*P	**Pn**	**04 58 16.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.62 142**		*e*S	**Sb**	**04 58 38.8**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.62 142**		*i* P		04 58 16.5	
CRPR				*e*S		04 58 37.0	
CRPR				IAML		04 58 40.4	
	comp=Z,28nm,1.1s						
AOPR	**Arecibo Observ**	**1.63 126**			**Pn**	**04 58 15.7**	**-0.4**
AOPR					**Sn**	**04 58 37.1**	**0.0**
AOPR	**Arecibo Observ**	**1.63 126**		IAML		04 58 38.5	
	comp=N,39nm,0.5s						
AOPR	**Arecibo Observ**	**1.63 126**		*e*Pg	**Pn**	**04 58 15.8**	**-0.3**
AOPR				IAML		04 58 38.5	
	comp=N,36nm,0.6s						
AOPR	**Arecibo Observ**	**1.63 126⇑**		*e*P	**Pn**	**04 58 15.7**	**-0.4**
AOPR	**Arecibo Observ**	**1.63 126**		*e*S	**Sn**	**04 58 37.1**	**0.0**
MLPR	**Magueyes Islan**	**1.69 142**			**Pn**	**04 58 16.9**	**0.0**
MLPR				IAML		04 58 44.2	
	comp=N,22nm,1.6s						
MLPR	**Magueyes Islan**	**1.69 142**			**Sn**	**04 58 39.5**	**+1.0**
MLPR	**Magueyes Islan**	**1.69 142**	IAML		04 58 39.2		
	comp=E,19nm,1.2s						
MLPR	**Magueyes Islan**	**1.69 142**		*e*Pg	**Pn**	**04 58 16.9**	**0.0**
MLPR				*e*Sg	**Sn**	**04 58 39.1**	**+0.6**
MLPR				IAML		04 58 41.7	
	comp=N,16nm,1.6s						
MLPR	**Magueyes Islan**	**1.69 142⇑**		*e*P	**Pn**	**04 58 16.9**	**0.0**
MLPR	**Magueyes Islan**	**1.69 142**		*e*S	**Sn**	**04 58 39.5**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.71 127**			**Pn**	**04 58 17.3**	**+0.1**
UUPR					**Sn**	**04 58 39.1**	**0.0**
UUPR	**Utuado, UPR, P**	**1.71 127⇑**		*e*P	**Pn**	**04 58 17.3**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.71 127**		*e*S	**Sn**	**04 58 39.1**	**0.0**
GBPR	**Guanica, Bosqu**	**1.79 137**			**Pb**	**04 58 19.6**	**-0.7**
GBPR					**Sb**	**04 58 43.5**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.79 137⇓**		*e*P	**Pb**	**04 58 19.6**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.79 137**		*e*S	**Sb**	**04 58 43.5**	**+0.8**
CELP	**Cerrillos**	**1.93 129**			**Pn**	**04 58 20.5**	**+0.3**
CELP					**Sn**	**04 58 44.5**	**+0.1**
CELP	**Cerrillos**	**1.93 129**	IAML		04 58 48.9		
	comp=N,21nm,0.5s						
CELP			IAML		04 59 21.9		
	comp=E,15nm,2.9s						
CELP	**Cerrillos**	**1.93 129**		*e*Pg	**Pn**	**04 58 20.4**	**+0.3**
CELP				*e*Sg	**Sn**	**04 58 44.0**	**-0.4**
CELP				IAML		04 58 48.8	
	comp=N,22nm,0.2s						
CELP	**Cerrillos**	**1.93 129⇓**		*e*P	**Pn**	**04 58 20.5**	**+0.3**
CELP	**Cerrillos**	**1.93 129**		*e*S	**Sn**	**04 58 44.5**	**+0.1**
OBIP	**Obispado Ponce**	**1.93 130**			**Pn**	**04 58 20.2**	**0.0**
OBIP					**Sn**	**04 58 45.3**	**+0.9**
OBIP	**Obispado Ponce**	**1.93 130**	IAML		04 58 48.2		
	comp=N,16nm,0.6s						
OBIP	**Obispado Ponce**	**1.93 130⇑**		*e*P	**Pn**	**04 58 20.2**	**0.0**
OBIP	**Obispado Ponce**	**1.93 130**		*e*S	**Sn**	**04 58 45.3**	**+0.9**
ECPR	**Experimental S**	**1.96 120⇑**		*e*P	**Pn**	**04 58 20.9**	**+0.2**
ECPR	**Experimental S**	**1.96 120**		*e*S	**Sn**	**04 58 43.6**	**-1.5**
GCPR	**Guaynabo City**	**2.19 116**			**Sn**	**04 58 50.1**	**-0.8**
GCPR	**Guaynabo City**	**2.19 116**		*e*S	**Sn**	**04 58 50.1**	**-0.8**
SJG	**San Juan**	**2.23 122**			**Pn**	**04 58 25.2**	**+0.8**
SJG	**San Juan**	**2.23 122**	IAML		04 58 59.4		
	comp=N,13nm,0.9s						
SJG			IAML		04 58 59.7		
	comp=N,13nm,0.3s						
SJG	**San Juan**	**2.23 122⇑**		*e*P	**Pn**	**04 58 25.2**	**+0.8**
SJG	**San Juan**	**2.23 122**		*e*S	**Sn**	**04 58 52.7**	**+0.7**
SJG	**San Juan**	**2.23 122**		*i* P		04 58 24.9	
SJG			IAML		04 58 58.3		
	comp=Z,12nm,0.9s						
PDPR	**Patillas Dam,**	**2.39 122⇑**		*e*P	**Pn**	**04 58 27.0**	**+0.5**
PDPR	**Patillas Dam,**	**2.39 122**		*e*S	**Sn**	**04 58 56.7**	**+0.9**
HUMP	**Col San Antoni**	**2.47 118**			**Pn**	**04 58 28.9**	**+1.3**
HUMP					**Sn**	**04 58 56.5**	**-1.2**
HUMP	**Col San Antoni**	**2.47 118**	IAML		04 59 02.6		
	comp=N,9.7nm,0.8s						
HUMP			IAML		04 59 39.8		
	comp=E,9.0nm,2.3s						
HUMP	**Col San Antoni**	**2.47 118⇑**		*e*P	**Pn**	**04 58 28.9**	**+1.3**
HUMP	**Col San Antoni**	**2.47 118**		*e*S	**Sn**	**04 58 56.5**	**-1.2**

FCIAR ***05*** *04:59:45.5, 84°.50N×2°.13E, h10km, station ZFI2 has station magnitude of 3.70*
BER ***05*** *04:59:46.6±2.4, 84°.44N×4°.01E, h0km±116km, mb(Pn)3.7, Confirmed Earthquake*
ISC 05 04:59:46.0±2.8, 84°.3N±0°.1×5°.1E±0°.1, h10km, n8, σ1s46/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.79 236**		*e*P	**Pn**	**05 00 42.8**	**-1.5**
KBS	**Kingsbay**	**5.51 166**		*e*P	**Pn**	**05 01 09.0**	**+1.1**
KBS				*e*S	**Sn**	**05 02 10.3**	**-0.9**
KBS				IAML		05 02 15.8	
	comp=Z,3.8nm,0.9s						
KBS	**Kingsbay**	**5.51 166**		*e*P	**Pn**	**05 01 08.7**	**+0.8**
KBS				*e*S	**Sn**	**05 02 10.5**	**-0.8**
ZFI2	**Zemlya Franca-**	**6.34 100**		*e*P	**Pn**	**05 01 20.3**	**+1.0**
ZFI2				*e*S	**Sn**	**05 02 30.7**	**-0.8**
	comp=Z,27nm,4.1s						
OMEGA	**Omega**	**6.37 100**		*e*P	**Pn**	**05 01 20.4**	**+0.8**
OMEGA				S	**Sn**	**05 02 29.5**	**-2.7**
SPA0	**Spitsbergen Ar**	**6.39 159**		*e*P	**Pn**	**05 01 21.4**	**+1.4**
SPA0				*e*S	**Sn**	**05 02 31.9**	**-1.0**
SPA0				IAML		05 02 41.9	
	comp=Z,4.1nm,0.7s						
SPA0	**Spitsbergen Ar**	**6.39 159**		*e*P	**Pn**	**05 01 22.1**	**+2.1**
SPA0				*e*S	**Sn**	**05 02 32.1**	**-0.7**
DAG	**Danmarks Havn**	**8.40 219**		*e*P	**Pn**	**05 01 47.6**	**+0.1**

SDD ***05*** *05:00:55.6±2.3, 19°.38N×68°.10W, h20km±143km, MD3.7, ML2.9, MW3.3*
OSPL ***05*** *05:00:57.7±1.7, 19°.24N×68°.12W, h0km±8km, ML2.6, Hypocentre not reviewed by the ISC*
RSPR ***05*** *05:00:58.8, 19°.36N×68°.08W, h80km±9km, MD3.4/14*
NEIC ***05*** *05:01:00.8±2.8, 19°.03N±0°.03×68°.15W±0°.03, h35km±2km, ML2.8/42, Md3.4/14(RSPR), Error ellipse: s-maj=6.4km s-min=3.7km az=134.0*
ISC 05 05:00:54.3±1.3, 19°.33N±0°.05×68°.10W±0°.02, h8km±10km, n86, σ0°.95/100, 27C-13D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.86 198**			**Pg**	**05 01 10.3**	**-0.5**
PCDR					**Sg**	**05 01 22.6**	**+0.6**
PCDR	**Punta Cana, DR**	**0.86 198**		IAML		05 01 27.0	
	comp=N,470nm,0.7s						
PCDR	**Punta Cana, DR**	**0.86 198⇑**		*e*Pg	**Pg**	**05 01 10.4**	**-0.4**
PCDR		⇓		*e*Sg	**Sb**	**05 01 23.2**	**0.0**
PCDR				IAML		05 01 26.9	
	comp=N,427nm,0.6s						
PCDR	**Punta Cana, DR**	**0.86 198**		*i* P		05 01 10.3	
PCDR				*e*S		05 01 21.6	
PCDR				IAML		05 01 26.1	
	comp=Z,186nm,0.7s						
HIDR	**Higuey Centro**	**0.94 218⇑**		*e*Pg	**Pg**	**05 01 11.5**	**-0.9**
HIDR		⇑		*e*Sg	**Sg**	**05 01 24.7**	**+0.1**
HIDR				IAML		05 01 26.4	
	comp=N,471nm,0.2s						
SMDR	**Samana, DR**	**1.03 268⇓**		*e*Pg	**Pg**	**05 01 14.2**	**+0.2**
SMDR				IAML		05 01 37.2	
	comp=N,112nm,1.1s						
IDE	**Isla Desecheo**	**1.11 148**			**Pb**	**05 01 15.3**	**-0.5**
IDE					**Sb**	**05 01 29.8**	**-0.7**
AGPR	**Aguadilla, PR**	**1.27 132**			**Pg**	**05 01 19.1**	**+0.4**
AGPR					**Sg**	**05 01 36.9**	**+1.7**
AGPR	**Aguadilla, PR**	**1.27 132**	IAML		05 01 39.0		
	comp=E,135nm,0.5s						
AGPR			IAML		05 01 39.1		
	comp=N,177nm,0.3s						
AGPR	**Aguadilla, PR**	**1.27 132**		*e*Pg	**Pg**	**05 01 18.7**	**0.0**
AGPR		⇑		*e*Sg	**Sg**	**05 01 36.9**	**+1.7**
AGPR				IAML		05 01 38.5	
	comp=N,136nm,0.5s						
AGPR	**Aguadilla, PR**	**1.27 132⇑**		*e*P	**Pg**	**05 01 19.1**	**+0.4**
AGPR	**Aguadilla, PR**	**1.27 132**		*e*S	**Sg**	**05 01 36.9**	**+1.7**
AGPR	**Aguadilla, PR**	**1.27 132**		*i* P		05 01 18.8	
AGPR				*e*S		05 01 36.1	
AGPR				IAML		05 01 45.7	
	comp=Z,91nm,0.3s						
SADR	**Isla Saona**	**1.31 210⇑**		*e*Pg	**Pn**	**05 01 17.6**	**-1.3**
SADR		⇑		*e*Sg	**Sg**	**05 01 37.1**	**+0.8**
SADR				IAML		05 01 40.9	
	comp=N,215nm,0.5s						
DR12	**Loma Pena Alta**	**1.33 246**			**Pn**	**05 01 18.9**	**-0.3**
DR12				IAML		05 01 38.2	
	comp=N,171nm,0.7s						
HATOM	**Hato Mayor del**	**1.33 246⇑**		*e*Pg	**Pb**	**05 01 19.2**	**-0.3**
HATOM		⇑		*e*Sg	**Sg**	**05 01 37.5**	**+0.4**
HATOM				IAML		05 01 38.0	
	comp=N,154nm,0.6s						
PRSN	**Puerto Rico Se**	**1.43 141**			**Pg**	**05 01 22.5**	**+0.7**
PRSN					**Sg**	**05 01 41.1**	**+0.7**
PRSN	**Puerto Rico Se**	**1.43 141**	IAML		05 01 48.3		
	comp=E,200nm,0.3s						
PRSN	**Puerto Rico Se**	**1.43 141⇓**		*e*P	**Pg**	**05 01 22.5**	**+0.7**
PRSN	**Puerto Rico Se**	**1.43 141**		*e*S	**Sg**	**05 01 41.1**	**+0.7**
LSP	**Las Mesas**	**1.50 140**			**Pb**	**05 01 22.3**	**-0.1**
LSP					**Sg**	**05 01 44.4**	**+1.9**
LSP	**Las Mesas**	**1.50 140⇓**		*e*P	**Pb**	**05 01 22.3**	**-0.1**
LSP	**Las Mesas**	**1.50 140**		*e*S	**Sg**	**05 01 44.4**	**+1.9**
AOPR	**Arecibo Observ**	**1.61 127**			**Pb**	**05 01 23.8**	**-0.5**
AOPR					**Sg**	**05 01 46.1**	**0.0**
AOPR	**Arecibo Observ**	**1.61 127**	IAML		05 01 49.2		
	comp=N,163nm,0.3s						
AOPR	**Arecibo Observ**	**1.61 127⇓**	*e*Pg	**Pb**	**05 01 23.6**	**-0.7**
AOPR			IAML		05 01 49.2		
	comp=N,158nm,0.2s						
AOPR	**Arecibo Observ**	**1.61 127⇑**	*e*P	**Pb**	**05 01 23.8**	**-0.5**
AOPR	**Arecibo Observ**	**1.61 127**	*e*S	**Sg**	**05 01 46.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.62 144**		**Pg**	**05 01 25.0**	**-0.4**
CRPR				**Sb**	**05 01 45.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.62 144⇓**	*e*Pg	**Pg**	**05 01 25.1**	**-0.4**
CRPR		⇑	*e*Sg	**Sg**	**05 01 46.6**	**+0.2**
CRPR			IAML		05 01 50.2	
	comp=N,44nm,0.7s					
CRPR	**Cabo Rojo, PR**	**1.62 144⇑**	*e*P	**Pg**	**05 01 25.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.62 144**	*e*S	**Sb**	**05 01 45.8**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.62 144**	*i* P		05 01 24.5	
CRPR			*e*S		05 01 45.2	
CRPR			IAML		05 01 55.0	
	comp=Z,105nm,0.4s					
MLPR	**Magueyes Islan**	**1.69 143**		**Pn**	**05 01 24.5**	**+0.4**
MLPR				**Sb**	**05 01 46.7**	**-0.3**
MLPR	**Magueyes Islan**	**1.69 143**	IAML		05 01 51.6	
	comp=E,62nm,0.3s					
MLPR			IAML		05 01 51.8	
	comp=N,76nm,0.6s					
MLPR	**Magueyes Islan**	**1.69 143⇑**	*e*Pg	**Pn**	**05 01 24.4**	**+0.3**
MLPR		⇓	*e*Sg	**Sb**	**05 01 46.6**	**-0.3**
MLPR			IAML		05 01 51.5	
	comp=N,67nm,0.8s					
MLPR	**Magueyes Islan**	**1.69 143⇓**	*e*P	**Pn**	**05 01 24.5**	**+0.4**
MLPR	**Magueyes Islan**	**1.69 143**	*e*S	**Sb**	**05 01 46.7**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.69 129**		**Pb**	**05 01 26.0**	**+0.3**
UUPR				**Sg**	**05 01 48.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.69 129⇓**	*e*P	**Pb**	**05 01 26.0**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.69 129**	*e*S	**Sg**	**05 01 48.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.71 120**		**Pb**	**05 01 26.3**	**+0.2**
EMPR				**Sg**	**05 01 49.8**	**+0.4**
EMPR	**Esperanza - Ma**	**1.71 120**	IAML		05 01 52.0	
	comp=N,135nm,0.4s					
EMPR	**Esperanza - Ma**	**1.71 120⇑**	*e*P	**Pb**	**05 01 26.3**	**+0.2**
EMPR	**Esperanza - Ma**	**1.71 120**	*e*S	**Sg**	**05 01 49.8**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.78 139**		**Pg**	**05 01 27.9**	**-0.5**
GBPR				**Sg**	**05 01 52.6**	**+1.1**
GBPR	**Guanica, Bosqu**	**1.78 139⇓**	*e*P	**Pg**	**05 01 27.9**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.78 139**	*e*S	**Sg**	**05 01 52.6**	**+1.1**
DR08	**Loma La Naviza**	**1.85 259⇓**	*e*Pg	**Pb**	**05 01 27.7**	**-0.8**
DR08		⇑	*e*Sg	**Sb**	**05 01 52.3**	**+0.4**
DR08			IAML		05 01 55.5	
	comp=N,1μm,0.1s					
CELP	**Cerrillos**	**1.91 131**		**Pb**	**05 01 28.8**	**-0.6**
CELP				**Sb**	**05 01 53.1**	**-0.3**
CELP	**Cerrillos**	**1.91 131**	IAML		05 01 56.1	
	comp=E,58nm,0.8s					
CELP			IAML		05 01 57.1	
	comp=N,66nm,0.3s					
CELP	**Cerrillos**	**1.91 131⇑**	*e*Pg	**Pb**	**05 01 28.8**	**-0.6**
CELP		⇑	*e*Sg	**Sb**	**05 01 53.3**	**-0.1**
CELP			IAML		05 01 57.0	
	comp=N,66nm,0.3s					
CELP	**Cerrillos**	**1.91 131⇑**	*e*P	**Pb**	**05 01 28.8**	**-0.6**
CELP	**Cerrillos**	**1.91 131**	*e*S	**Sb**	**05 01 53.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.91 132**		**Pb**	**05 01 28.3**	**-1.1**
OBIP				**Sb**	**05 01 52.9**	**-0.6**
OBIP	**Obispado Ponce**	**1.91 132**	IAML		05 01 55.6	
	comp=N,84nm,0.6s					
OBIP	**Obispado Ponce**	**1.91 132⇓**	*e*P	**Pb**	**05 01 28.3**	**-1.1**
OBIP	**Obispado Ponce**	**1.91 132**	*e*S	**Sb**	**05 01 52.9**	**-0.6**
SDD	**Santo Domingo**	**1.93 243**		**Pb**	**05 01 29.6**	**-0.1**
SDD				**Sb**	**05 01 53.9**	**0.0**
SDD	**Santo Domingo**	**1.93 243⇑**	*e*P	**Pb**	**05 01 29.6**	**-0.1**
SDD	**Santo Domingo**	**1.93 243**	*e*S	**Sb**	**05 01 53.9**	**0.0**
ECPR	**Experimental S**	**1.93 121⇑**	*e*P	**Pb**	**05 01 28.7**	**-1.1**
ECPR	**Experimental S**	**1.93 121**	*e*S	**Sb**	**05 01 53.4**	**-0.7**
GCPR	**Guaynab

ML1.2(INMG), **Error ellipse: s-maj=3.8km s-min=1.2km az=78.0, #DIST_RANGE: LOCAL #IPMA_REGION: Congro (S. Miguel), Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRON	**Lagoa das Cont**	**0.04**	**75**	*eP*	Pg	05 03 36.0	+1.5
PGRON				*eS*	Sg	05 03 37.5	+2.1
PGRON				*i* AML	AML	05 03 37.7	
	147nm,0.2s						
PGRON				*i* AML	AML	05 03 37.8	
	222nm,0.2s						
PGRON				*i* AML	AML	05 03 37.8	
	486nm,0.3s						
PCALD	**Caldeiras da R**	**0.07**	**304**	*eS*	Sg	05 03 36.7	+0.7
CMLA	**Cha da Macela**	**0.08**	**272**	*eP*	Pg	05 03 35.9	+0.7
CMLA				*eS*	Sg	05 03 37.7	+1.3
CMLA				*i* AML	AML	05 03 38.4	
	18nm,0.2s						
CMLA				*i* AML	AML	05 03 38.4	
	44nm,0.3s						
CMLA				*i* AML	AML	05 03 38.7	
	53nm,0.2s						

SVSA 05 05:09:56.4±1.1, 37°.76N×25°.47W, h5km, ML0.8(INMG), **Error ellipse: s-maj=16.8km s-min=3.0km az=83.0, #DIST_RANGE: LOCAL #IPMA_REGION: Macio do Fogo, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRON	**Lagoa das Cont**	**0.07**	**80**	*eP*	Pg	05 09 59.2	+1.1
PGRON				*eS*	Sg	05 10 00.7	+1.4
PGRON				*i* AML	AML	05 10 01.1	
	86nm,0.1s						
PGRON				*i* AML	AML	05 10 01.1	
	33nm,0.2s						
PGRON				*i* AML	AML	05 10 01.3	
	34nm,0.1s						

SVSA 05 05:09:59.9±0.4, 37°.76N×25°.41W, h7km±4km, ML1.3(INMG), **Error ellipse: s-maj=2.8km s-min=2.0km az=102.0, #DIST_RANGE: LOCAL #IPMA_REGION: Congro (S. Miguel), Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRON	**Lagoa das Cont**	**0.03**	**70**	*eP*	Pg	05 10 02.7	+1.3
PGRON				*eS*	Sg	05 10 04.2	+1.8
PGRON				*i* AML	AML	05 10 04.5	
	175nm,0.2s						
PGRON				*i* AML	AML	05 10 04.6	
	267nm,0.2s						
PGRON				*i* AML	AML	05 10 04.7	
	627nm,0.3s						
CMLA	**Cha da Macela**	**0.09**	**272**	*eS*	Sg	05 10 04.4	+0.8
CMLA				*i* AML	AML	05 10 04.7	
	39nm,0.4s						
CMLA				*i* AML	AML	05 10 04.9	
	62nm,0.3s						
CMLA				*i* AML	AML	05 10 05.5	
	18nm,0.1s						

TIR ***05*** *05:14:36.5, 38°.95N×20°.42E, h14km±1km, Md3.8/5, Ml3.6/7*
ATH ***05*** *05:14:37.2, 38°.98N×20°.71E, h15km, ML3.3/16, Manual Solution by F.Xalaris First location: 2019/02/07 08:44:44, This location: 2020/09/06 16:08:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
THE ***05*** *05:14:37.5, 38°.99N×20°.59E, h15km, ML3.3/10, Error ellipse: s-maj=0.8km s-min=0.4km az=264.0*
IDC ***05*** *05:14:44.9±3.1, 38°.72N×20°.80E, h92km±30km, mb3.3/5, mbtmp3.6/7, MS3.1/1, Error ellipse: s-maj=43.7km s-min=20.9km az=54.0*
ISC 05 05:14:37.7±0.8, 38°.98N±0°.01×20°.67E±0°.02, h14km±5km, n91, σ1°18/116, mb3.6/5, 3C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.15**	**185**	P	**Pg**	**05 14 41.5**	**0.0**
TSLK				S	**Sb**	**05 14 45.2**	**-0.3**
	15μm,0.5s						
TSLK	**Tsoukalades, L**	**0.15**	**185**	P	**Pg**	**05 14 41.6**	**0.0**
TSLK				S	**Sg**	**05 14 44.5**	**+0.4**
LKD2	**Lefkada island**	**0.19**	**184**	P	**Pg**	**05 14 41.8**	**-0.3**
LKD2				S	**Sb**	**05 14 46.2**	**-0.3**
LKD2				AML	AML	05 14 49.5	
	31nm,0.4s						
LKD2	**Lefkada island**	**0.19**	**184**	P	**Pg**	**05 14 41.9**	**-0.2**
LKD2				S	**Sb**	**05 14 46.3**	**-0.3**
	9μm,0.5s						
LKD2	**Lefkada island**	**0.19**	**184**	P	**Pg**	**05 14 42.0**	**-0.2**
LKD2				S	**Sg**	**05 14 45.1**	**0.0**
NYDR	**Nydri-Lefkada**	**0.27**	**176**	P	**Pg**	**05 14 43.1**	**-0.2**
NYDR				S	**Sb**	**05 14 48.6**	**-0.1**
	5μm,0.4s						
NYDR	**Nydri-Lefkada**	**0.27**	**176**	P	**Pg**	**05 14 43.1**	**-0.2**
ARTB	**Arta**	**0.30**	**53**	P	**Pg**	**05 14 43.1**	**-0.8**
ARTB				S	**Sg**	**05 14 47.7**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.30**	**195**	P	**Pg**	**05 14 43.6**	**-0.4**
DRAG				S	**Sg**	**05 14 48.8**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.30**	**195**	P	**Pg**	**05 14 43.9**	**-0.2**
DRAG				S	**Sg**	**05 14 48.6**	**+0.3**
EVGI	**Lefkada island**	**0.36**	**182**	P	**Pg**	**05 14 44.6**	**-0.3**
EVGI	**Lefkada island**	**0.36**	**182**	P	**Pg**	**05 14 44.7**	**-0.3**
PRGA	**Parga**	**0.37**	**325**	P	**Pg**	**05 14 45.0**	**-0.2**
FSK	**Fiskardo**	**0.53**	**190**	P	**Pg**	**05 14 47.4**	**-0.7**
FSK	**Fiskardo**	**0.53**	**190**	P	**Pg**	**05 14 47.3**	**-0.7**
FSK				S	**Sg**	**05 14 55.5**	**+0.4**
TETR	**Tetrakomo, Epi**	**0.59**	**52**	P	**Pg**	**05 14 48.6**	**-0.8**
TETR				S	**Sb**	**05 14 57.1**	**-1.2**
IGT	**Igoumenitsa**	**0.61**	**335**	P	**Pg**	**05 14 48.3**	**-1.5**
IGT				S	**Sg**	**05 14 57.0**	**-0.8**
IGT				AML	AML	05 15 00.9	
	6.1nm,0.3s						
IGT				AMd		05 17 53.1	
IGT	**Igoumenitsa**	**0.61**	**335**	P	**Pg**	**05 14 48.4**	**-1.3**
IGT				S	**Sg**	**05 14 57.2**	**-0.7**
	2μm,0.5s						
IGT	**Igoumenitsa**	**0.61**	**335**	P	**Pg**	**05 14 48.2**	**-1.5**
IGT				S	**Sg**	**05 14 58.3**	**+0.4**
LFKM	**Lefkimmi**	**0.67**	**315**	P	**Pg**	**05 14 50.0**	**-0.7**
JAN	**Janina**	**0.69**	**11**	P	**Pg**	**05 14 50.6**	**-0.6**
JAN				S	**Sb**	**05 15 01.1**	**+0.1**
JAN	**Janina**	**0.69**	**11**	P	**Pg**	**05 14 50.9**	**-0.3**
JAN				S	**Sb**	**05 15 00.7**	**-0.4**
DMLN	**Damoulianata-K**	**0.78**	**198**	P	**Pg**	**05 14 52.2**	**-0.6**
DMLN				S	**Sb**	**05 15 04.0**	**+0.6**
DMLN	**Damoulianata-K**	**0.78**	**198**	P	**Pg**	**05 14 52.8**	**0.0**
VLS	**Valsamata**	**0.80**	**185**	P	**Pg**	**05 14 52.2**	**-1.1**
VLS				S	**Sn**	**05 15 05.0**	**-1.5**
	3μm,0.5s						
VLS	**Valsamata**	**0.80**	**185**	P	**Pg**	**05 14 53.0**	**-0.3**
VLS				S	**Sb**	**05 15 04.5**	**+0.3**
EVR	**Evrytania**	**0.89**	**94**	P	**Pn**	**05 14 55.5**	**-0.4**
EVR				S	**Sn**	**05 15 08.8**	**+0.1**
	2μm,0.7s						
RTZL	**Ratzakli, Kefa**	**0.91**	**175**	P	**Pb**	**05 14 54.1**	**-1.1**
RTZL				S	**Sn**	**05 15 07.9**	**-1.0**
AXS	**Araxos**	**0.96**	**145**	P	**Pb**	**05 14 55.4**	**-0.7**
KEK	**Kerkira**	**1.00**	**318**	P	**Pb**	**05 14 55.6**	**-1.2**
KEK	**Kerkira**	**1.00**	**318**	P	**Pb**	**05 14 56.8**	**0.0**
KEK				S	**Sb**	**05 15 09.8**	**0.0**
SRN	**Sarande**	**1.04**	**330**	P	**Pb**	**05 14 55.9**	**-1.6**
SRN				S	**Sb**	**05 15 11.0**	**0.0**
SRN				AML	AML	05 15 17.9	
	1.5nm,0.5s						
SRN				AMd		05 17 12.2	
SRN	**Sarande**	**1.04**	**330**	P	**Pb**	**05 14 55.9**	**-1.6**
ANX	**Ano Chora**	**1.05**	**111**	P	**Pg**	**05 14 57.3**	**-0.7**
ANX				S	**Sn**	**05 15 13.4**	**+0.8**
	3μm,0.7s						
EFP	**Efpalio**	**1.11**	**119**	P	**Pn**	**05 14 58.1**	**-0.8**
EFP	**Efpalio**	**1.11**	**119**	P	**Pb**	**05 14 58.0**	**-0.8**
EFP				S	**Sg**	**05 15 12.8**	**-0.8**
KPRO	**Kipourio**	**1.11**	**29**	P	**Pb**	**05 14 58.1**	**-0.7**
RLS	**Riolos of Patr**	**1.11**	**146**	P	**Pb**	**05 14 57.8**	**-0.9**
RLS	**Riolos of Patr**	**1.11**	**146**	P	**Pb**	**05 14 57.8**	**-0.9**
ORTH	**Orthonies,Zaky**	**1.13**	**179**	P	**Pb**	**05 14 58.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.14**	**88**	P	**Pg**	**05 14 59.0**	**-0.7**
MAKR				S	**Sn**	**05 15 16.3**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.14**	**88**	P	**Pg**	**05 14 59.2**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**1.15**	**161**	P	**Pg**	**05 14 59.3**	**-0.5**
LSK	**Leskovik**	**1.17**	**357**	P	**Pg**	**05 15 00.0**	**-0.3**
LSK				S	**Sg**	**05 15 17.0**	**+1.4**
LSK				AML	AML	05 15 24.0	
	8.3nm,0.8s						
LSK				AMd		05 17 20.1	
THL	**Klokotos Trika**	**1.19**	**60**	P	**Pg**	**05 14 59.8**	**-0.9**
THL				S	**Sg**	**05 15 17.3**	**+1.0**
	815nm,0.6s						
PENT	**Pentalofos**	**1.27**	**16**	P	**Pn**	**05 15 00.4**	**-0.8**
LTHK	**Lithakia**	**1.27**	**174**	P	Pn	05 14 55.2	-6.0
KALE	**Kalithea**	**1.29**	**117**	P	**Pb**	**05 15 01.0**	**-0.8**
DRO	**Drossia**	**1.31**	**141**	P	**Pn**	**05 15 00.9**	**-0.7**
DRO				S	**Sg**	**05 15 19.9**	**-0.1**
	1μm,0.4s						
DRO	**Drossia**	**1.31**	**141**	P	**Pn**	**05 15 00.9**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.34**	**122**	P	**Pb**	**05 15 01.6**	**-1.0**
TYRN	**Tyrnavos**	**1.41**	**58**	P	**Pb**	**05 15 03.1**	**-0.8**
TYRN				S	**Sg**	**05 15 22.3**	**-1.0**
	762nm,0.6s						
NEST	**Nestorio**	**1.46**	**11**	P	**Pg**	**05 15 05.7**	**-0.1**
NEST				S	**Sg**	**05 15 27.6**	**+2.7**
NEST				AML	AML	05 15 33.0	
	2.3nm,0.5s						
NEST				AMd		05 18 20.6	
KLV	**Kalavryta, Ach**	**1.49**	**128**	P	**Pn**	**05 15 03.9**	**-0.3**
KZN	**Kozani**	**1.57**	**32**	P	**Pn**	**05 15 04.8**	**-0.6**
KBN	**Korca**	**1.65**	**3**	P	**Pg**	**05 15 09.8**	**+0.5**
KBN				S	**Sg**	**05 15 31.6**	**+0.9**
KBN				AML	AML	05 15 36.7	
	2.0nm,0.9s						
KBN				AMd		05 17 30.2	
GUR	**Goura**	**1.67**	**128**	P	**Pn**	**05 15 06.7**	**0.0**
FNA	**Florina**	**1.88**	**16**	P	**Pg**	**05 15 13.0**	**-0.8**
FNA				S	**Sg**	**05 15 40.1**	**+1.8**
FNA				AML	AML	05 15 42.9	
	1.7nm,0.5s						
SCTE	**Santa Cesarea**	**2.02**	**303**	P	**Pn**	**05 15 11.7**	**+0.3**
OHR	**Ohrid**	**2.13**	**3**	*i* Pn	**Pb**	**05 15 16.2**	**0.0**
THE	**Thessaloniki**	**2.42**	**46**	P	**Pb**	**05 15 21.3**	**+0.3**
TIR	**Tirane**	**2.44**	**346**	⇓P	**Pg**	**05 15 23.0**	**-1.6**
VAY	**Valandovo**	**2.75**	**31**	*i* Pn	**Pb**	**05 15 23.9**	**-2.9**
PEHC	**Pehcevo**	**3.27**	**31**	*i* Pn	**Pn**	**05 15 30.8**	**+2.0**
IDI	**Anoyia**	**4.99**	**136**	P	**Pn**	**05 15 53.6**	**+1.3**
	12nm,0.8s,baz=31,slow=21,SNR=1.8						
IDI				S	**Sn**	**05 16 48.5**	**-1.4**
	8.3nm,0.7s,baz=106,slow=18,SNR=1.6						
ELND	**Elena**	**5.57**	**43**	⇓P	**Pn**	**05 16 01.5**	**+1.2**
HERR	**Herculane**	**6.04**	**12**	⇑P	Pg	05 16 27.6	-5.7
GZR	**Gura Zlata**	**6.60**	**13**	⇓P	Pn	05 16 21.5	+7.1
BZS	**Buzias**	**6.67**	**6**	⇓P	**Pb**	**05 16 30.5**	**-3.0**
ARR	**Arges**	**7.03**	**23**	⇑P	Pn	05 16 25.9	+5.6
VOIR		**7.22**	**25**	⇓P	**Pn**	**05 16 24.0**	**+1.1**
MLR	**Muntele Rosu**	**7.59**	**29**	P	Pn	05 16 35.4	+7.3
	3.8nm,0.6s,baz=287,slow=16,SNR=5.0						
MLR	**Muntele Rosu**	**7.59**	**29**	⇓P	Pn	05 16 33.7	+5.6
DOPR	**Dopca**	**7.80**	**25**	⇑P	Pb	05 16 42.6	-10
PLOR	**Plostina**	**8.16**	**31**	⇓P	**Pn**	**05 16 39.2**	**+3.4**
VRI	**Vrincioaia**	**8.21**	**31**	⇓P	**Pn**	**05 16 39.6**	**+3.2**
ONER	**Baraj Valea Uz**	**8.47**	**28**	⇓P	Pn	05 16 44.3	+4.3
SOKA	**Soboth**	**8.74**	**334**	*e*Pn	**Pn**	**05 16 41.5**	**-2.2**
	0.3nm,0.2s						
OBKA	**Obir**	**8.77**	**331**	*i* Pn	**Pn**	**05 16 46.9**	**+2.8**
	2.3nm,0.5s						
MYKA	**Terra Mystica**	**9.22**	**328**	*i* Pn	**Pn**	**05 16 47.9**	**-2.5**
	0.9nm,0.4s						
KBA	**Koelnbreinsper**	**9.71**	**329**	*e*Pn	**Pn**	**05 16 59.8**	**+2.7**
	0.7nm,0.4s						
MOA	**Molln**	**10.01**	**334**	*i* Pn	**Pn**	**05 17 01.5**	**+0.4**
	0.6nm,0.3s						
BIOA	**Bad Ischl, Aus**	**10.10**	**332**	*e*Pn	**Pn**	**05 17 02.5**	**+0.2**
	1.1nm,0.2s						
LESA	**Schwarzleotal**	**10.26**	**328**	*i* Pn	**Pn**	**05 17 05.4**	**+0.9**
	0.7nm,0.3s						
MOTA	**Moosalm**	**10.89**	**323**	*i* Pn	**Pn**	**05 17 14.8**	**+1.6**
	1.3nm,0.4s						
FINES	**FINESS Array B**	**22.74**	**7**	P	**P**	**05 19 41.5**	**+2.3**
	2.9nm,1.0s,baz=189,slow=11,SNR=4.1						
	2.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**22.85**	**324**	P	**P**	**05 19 42.6**	**+2.3**
	1.8nm,0.8s,baz=112,slow=8.8,SNR=4.3						
	1.8nm,0.8s						
BELG	**Belogornoye**	**22.95**	**45**	LR	LR	05 29 07.2	
	comp=Z,52nm,21.6s,baz=8.4,slow=37						
KURBB	**Kurchatov Arra**	**41.66**	**54**	P	**P**	**05 22 24.2**	**-1.4**
	0.5nm,0.9s,baz=282,slow=9.4,SNR=3.9						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**44.78**	**59**	P	**P**	**05 22 49.8**	**-1.1**
	0.2nm,0.5s,baz=277,slow=7.4,SNR=5.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.07**	**49**	P	**P**	**05 22 52.1**	**-1.0**
	1.0nm,0.5s,baz=268,slow=8.6,SNR=5.9						
	1.0nm,0.5s						

IDC ***05*** *05:17:58.4±1.5, 38°.45N×38°.03E, h0km, mb3.8/8, mbtmp3.7/14, ML3.4/6, MS3.0/6, Error ellipse: s-maj=28.6km s-min=10.2km az=177.0*
ISK ***05*** *05:17:59.6, 38°.79N×38°.07E, h5km, ML3.9/39*
AFAD ***05*** *05:17:59.2, 38°.76N×38°.15E, h7km±2km, MW3.9*
ISC 05 05:17:59.8±1.1, 38°.74N±0°.02×38°.10E±0°.02, h2km±8km, n79, σ1°47/96, mb3.8/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.18**	**321**	P	**Pg**	**05 18 03.8**	**+0.5**
HEKM				S	**Sg**	**05 18 07.0**	**+1.4**
HEKM				*i* AML	AML	05 18 07.0	
	comp=N,14μm,0.3s						
HEKM				*i* AML	AML	05 18 07.0	
	comp=E,15μm,0.6s						
AKCD	**Akcadag**	**0.47**	**198**	P	**Pb**	**05 18 09.3**	**-1.6**
AKCD				S	**Sb**	**05 18 18.0**	**-0.3**
AKCD				*i* AML	AML	05 18 19.0	
	comp=E,2μm,0.5s						
AKCD				*i* AML	AML	05 18 20.0	
	comp=N,2μm,0.3s						
MAYA	**Malatya/Merkez**	**0.49**	**149**	P	**Pg**	**05 18 09.0**	**-0.2**
MAYA				*i* AML	AML	05 18 16.0	
	comp=N,4μm,0.3s						
MAYA				S	**Sb**	**05 18 16.4**	**-2.4**
MAYA				*i* AML	AML	05 18 17.0	
	comp=E,6μm,0.4s						
DARE	**Darende-Malaty**	**0.51**	**251**	Pg	**Pb**	**05 18 09.9**	**-1.7**
DARE				Sg	**Sb**	**05 18 18.4**	**-1.2**
KEMA	**Kemaliye**	**0.61**	**30**	P	**Pg**	**05 18 10.2**	**-1.3**
KEMA				S	**Sg**	**05 18 19.3**	**-0.1**
KEMA				*i* AML	AML	05 18 20.0	
	comp=N,1μm,0.6s						
KEMA				*i* AML	AML	05 18 20.0	
	comp=E,1μm,0.3s						
CUGUR	**Gurin_SVAS**	**0.65**	**269**	P	**Pb**	**05 18 12.4**	**-1.5**
CUGUR				*i* AML	AML	05 18 23.0	
	comp=N,1μm,0.7s						
CUGUR				S	**Sb**	**05 18 23.3**	**-0.2**
CUGUR				*i* AML	AML	05 18 27.0	
	comp=E,8μm,0.8s						
ELZG	**Elazig**	**0.73**	**109**	P	**Pg**	**05 18 12.9**	**-1.0**
ELZG				S	**Sg**	**05 18 23.3**	**-0.1**
ELZG				*i* AML	AML	05 18 25.0	
	comp=E,1μm,0.6s						
ELZG				*i* AML	AML	05 18 26.0	
	comp=N,1μm,0.4s						
CUKAN	**kangal_SIVAS**	**0.76**	**319**	P	**Pg**	**05 18 13.6**	**-0.7**
CUKAN				S	**Sg**	**05 18 24.5**	**+0.3**
CUKAN				*i* AML	AML	05 18 33.0	
	comp=E,3μm,0.5s						
CUKAN				*i* AML	AML	05 18 38.0	
	comp=N,3μm,0.5s						
ELBS	**KAHRAMANMARAS**	**0.87**	**241**	P	**Pb**	**05 18 16.3**	**-1.4**
ELBS				S	**Sn**	**05 18 30.0**	**-2.5**
ELBS				*i* AML	AML	05 18 32.0	
	comp=E,6μm,0.4s						
ELBS				*i* AML	AML	05 18 35.0	
	comp=N,5μm,0.6s						
AZEY	**Adyaman-Merk**	**0.94**	**173**	P	**Pb**	**05 18 18.0**	**-0.9**
AZEY				S	**Sn**	**05 18 34.6**	**+0.4**
AZEY				*i* AML	AML	05 18 36.0	
	comp=E,2μm,0.4s						
AZEY				*i* AML	AML	05 18 37.0	
	comp=N,2μm,0.4s						
AKCA	**Adyaman/G¶l**	**1.00**	**199**	P	**Pn**	**05 18 19.2**	**-1.8**
AKCA				S	**Sn**	**05 18 35.8**	**0.0**
AKCA				*i* AML	AML	05 18 40.0	
	comp=N,7μm,0.6s						
AKCA				*i* AML	AML	05 18 41.0	
	comp=E,5μm,0.7s						
NARI	**Adyaman-Kaht**	**1.00**	**149**	P	**Pb**	**05 18 18.9**	**-1.1**
NARI				*i* AML	AML	05 18 37.0	
	comp=E,2μm,0.6s						
NARI				*i* AML	AML	05 18 38.0	
	comp=N,1μm,0.6s						
CUZAR	**Zara_SIVAS**	**1.17**	**347**	P	**Pg**	**05 18 21.7**	**-0.6**
CUZAR				S	**Sn**	**05 18 39.5**	**-0.6**
CUZAR				*i* AML	AML	05 18 42.0	
	comp=N,3μm,0.8s						
CUZAR				*i* AML	AML	05 18 45.0	
	comp=E,2μm,0.5s						
CUAYA	**Sivas-Altinyay**	**1.18**	**297**	P	**Pg**	**05 18 21.7**	**-0.7**
CUAYA				S	**Sb**	**05 18 37.9**	**-0.9**
CUAYA				*i* AML	AML	05 18 46.0	
	comp=E,2μm,0.7s						
CUAYA				*i* AML	AML	05 18 48.0	
	comp=N,2μm,0.5s						
TNCL	**Tunceli-Merkez**	**1.18**	**71**	P	**Pg**	**05 18 20.2**	**-2.3**
TNCL				*i* AML	AML	05 18 41.0	
	comp=E,6μm,0.5s						
TNCL				*i* AML	AML	05 18 42.0	
	comp=N,8μm,0.5s						
ATAB	**Bozova**	**1.28**	**173**	P	**Pg**	**05 18 24.3**	**0.0**
ATAB				*i* AML	AML	05 18 46.0	
	comp=N,1μm,0.4s						
ATAB				*i* AML	AML	05 18 54.0	
	comp=E,2μm,0.8s						
SCER	**sogukcermik**	**1.35**	**326**	P	**Pn**	**05 18 24.7**	**-1.2**
SCER				S	**Sn**	**05 18 44.6**	**+0.2**
SCER				*i* AML	AML	05 18 48.0	
	comp=N,4μm,0.4s						
SCER				*i* AML	AML	05 18 52.0	
	comp=E,3μm,0.6s						
SARI	**SarD1z-Kayseri**	**1.36**	**256**	Pn	**Pg**	**05 18 26.4**	**+0.5**
SARI				Sn	**Sn**	**05 18 46.3**	**+1.5**
URFA	**Urfa**	**1.42**	**156**	Pn	**Pg**	**05 18 27.5**	**+0.5**
URFA				Sn	**Sg**	**05 18 47.1**	**+1.7**
SVSK	**Karacayir**	**1.45**	**324**	Pn	**Pb**	**05 18 27.4**	**-0.2**
SVSK				Sn	**Sg**	**05 18 47.6**	**+1.1**
SUSE	**Susehri**	**1.47**	**3**	P	**Pb**	**05 18 26.8**	**-0.7**
SUSE				S	**Sg**	**05 18 48.4**	**+1.4**
SUSE				*i* AML	AML	05 18 50.0	
	comp=N,3μm,0.8s						
SUSE				*i* AML	AML	05 18 50.0	
	comp=E,3μm,0.7s						
KHMN	**Narli-Kahraman**	**1.54**	**209**	Pn	**Pg**	**05 18 30.1**	**+0.7**
KHMN				Sn	**Sg**	**05 18 51.7**	**+2.4**
GAZ	**Gaziantep**	**1.72**	**204**	Pn	**Pg**	**05 18 32.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.76**	**340**	Pn	**Pb**	**05 18 31.9**	**-0.9**
RSDY				Sn	**Sb**	**05 18 55.2**	**-0.2**
BNN	**Bunyan**	**1.77**	**274**	Pn	**Pb**	**05 18 32.3**	**-0.7**
TOKT	**Tokat**	**1.98**	**323**	Pn	**Pn**	**05 18 34.9**	**+0.4**
GUMT	**Gumushane**	**2.02**	**31**	Pn	**Pn**	**05 18 35.8**	**+0.8**
BNGB	**Bingl**	**2.03**	**82**	Pn	**Pb**	**05 18 36.4**	**-1.1**
KOZT	**Kozan**	**2.19**	**236**	Pn	**Pb**	**05 18 38.9**	**-1.3**
ESPY	**Espiye-Giresun**	**2.22**	**12**	Pn	**Pn**	**05 18 38.3**	**+0.5**
MAZI	**Mazidag**	**2.25**	**124**	Pn	**Pb**	**05 18 40.2**	**-1.1**
BAYT	**Aydıntepe-Bayb**	**2.28**	**43**	Pn	**Pn**	**05 18 39.9**	**+1.2**
YOZ	**Yozgat**	**2.34**	**293**	Pn	**Pn**	**05 18 40.1**	**+0.6**
KARO	**Karliova-Bingo**	**2.36**	**75**	Pn	**Pb**	**05 18 41.6**	**-1.7**
SVAN	**Silvan-Diyarba**	**2.50**	**103**	Pn	**Pb**	**05 18 43.4**	**-2.1**
CEYT	**Ceyhan**	**2.54**	**228**	Pn	**Pb**	**05 18 44.1**	**-2.1**
KOZK	**Kozakli-Nevseh**	**2.56**	**281**	Pn	**Pn**	**05 18 43.4**	**+0.9**
KTUT	**Trabzon**	**2.58**	**29**	Pn	**Pn**	**05 18 43.0**	**+0.4**
VRTB	**Varto-Mus**	**2.65**	**80**	Pn	**Pn**	**05 18 45.5**	**+1.8**
CMRD	**Camardi-Nigde**	**2.68**	**247**	Pn	**Pb**	**05 18 45.5**	**-3.1**
KIZO	**Buyukkizoglu-L**	**2.73**	**323**	Pn	**Pn**	**05 18 45.8**	**+1.1**
YARM	**Yarimca-Ladik(**	**2.79**	**322**	Pn	**Pn**	**05 18 46.1**	**+0.4**
TAHT	**Tahtakopru-Hat**	**2.81**	**213**	Pn	**Pb**	**05 18 47.8**	**-3.0**
NIG	**Nigde**	**2.81**	**258**	Pn	**Pn**	**05 18 47.2**	**+1.1**
KVT	**Kavak**	**2.82**	**327**	Pn	**Pn**	**05 18 46.6**	**+0.6**
KARA	**Karaisali**	**2.83**	**239**	Pn	**Pb**	**05 18 47.8**	**-3.2**
CORM	**Corum**	**3.04**	**299**	Pn	**Pn**	**05 18 50.1**	**+0.9**
GULA	**Gulagac**	**3.06**	**264**	Pn	**Pn**	**05 18 50.6**	**+1.3**
GURO	**Guroymak-BITLI**	**3.08**	**92**	Pn	**Pn**	**05 18 51.8**	**+2.1**
CHOM	**Cayeli-Rize**	**3.12**	**40**	Pn	**Pn**	**05 18 50.7**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**3.16**	**66**	Pn	**Pn**	**05 18 52.5**	**+1.7**
KAMT	**Kaman**	**3.47**	**282**	Pn	**Pn**	**05 18 56.5**	**+1.5**
MLAZ	**Malazgirt-MUS**	**3.49**	**82**	Pn	**Pn**	**05 18 57.6**	**+2.3**
BRTR	**Keskin Array B**	**3.60**	**287**	Pn	**Pn**	**05 18 57.5**	**+0.7**
	2.5nm,0.3s,baz=111,slow=12,SNR=97						
BRTR				Lg	Lg	05 19 54.6	
	5.2nm,0.3s,baz=115,slow=28,SNR=8.7						
BRTR				LR	LR	05 20 44.0	
	comp=Z,172nm,20.5s,baz=112,slow=45						
	16nm,0.6s						
DIKM	**Dikmen**	**3.63**	**324**	Pn	**Pn**	**05 18 58.5**	**+1.5**
SIRT	**Sirnak**	**3.64**	**109**	Pn	**Pn**	**05 18 59.8**	**+2.5**
SENK	**Senkaya-Erzuru**	**3.75**	**60**	Pn	**Pn**	**05 19 00.8**	**+1.9**
BCA	**Borcka**	**3.82**	**44**	Pn	**Pn**	**05 19 00.9**	**+1.2**
BEIL	**Beino**	**4.47**	**201**	*e*P	**Pn**	**05 19 09.9**	**+1.2**
FKH	**Fakeheh**	**4.69**	**197**	*e*P	**Pn**	**05 19 12.4**	**+0.6**
HWQ	**Hawqa**	**4.78**	**202

*OSPL **05** 05:18:05.1±0.3, 19°.35N×68°.18W, h1km±5km, ML2.2, Hypocentre not reviewed by the ISC*
*SDD **05** 05:18:07.2±2.5, 19°.29N×68°.08W, h22km±436km, MD3.5, ML2.0, MW2.2*
*RSPR **05** 05:18:08.2, 19°.34N×68°.19W, h39km±19km*
ISC 05 05:18:04.4±2.3, 19°.4N±0°.1×68°.07W±0°.04, h21km, n24, σ1.9 11/28, 11C-7D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.89**	**199**	⇑*e*P*g*	**Pn**	**05 18 21.1**	**-0.6**
PCDR				⇓*e*S*g*	**Sn**	**05 18 33.0**	**-1.0**
PCDR				IAML		05 18 37.2	
	comp=N,88nm,2.5s						
PCDR	**Punta Cana, DR**	**0.89**	**199**	⇓*e*P	**Pn**	**05 18 20.4**	**-1.3**
PCDR	**Punta Cana, DR**	**0.89**	**199**	*e*S	**Sn**	**05 18 32.9**	**-1.1**
PCDR	**Punta Cana, DR**	**0.89**	**199**	*i* P		05 18 20.4	
PCDR				IAML		05 18 36.2	
	comp=Z,45nm,1.4s						
HIDR	**Higuey Centro**	**0.98**	**219**	⇓*e*P	**Pn**	**05 18 23.5**	**+0.6**
HIDR	**Higuey Centro**	**0.98**	**219**	*e*S	**Sn**	**05 18 34.7**	**-1.5**
AGPR	**Aguadilla, PR**	**1.27**	**134**	⇑*e*P	**Pb**	**05 18 28.1**	**+0.4**
AGPR	**Aguadilla, PR**	**1.27**	**134**	*e*S	**Sb**	**05 18 45.9**	**+2.4**
AGPR	**Aguadilla, PR**	**1.27**	**134**	*i* P		05 18 28.9	
AGPR				IAML		05 18 57.5	
	comp=Z,53nm,1.1s						
HATOM	**Hato Mayor del**	**1.36**	**245**	⇑*e*P*g*	**Pb**	**05 18 29.2**	**0.0**
HATOM				⇑*e*S*g*	**Sb**	**05 18 48.1**	**+1.9**
HATOM				IAML		05 18 48.1	
	comp=N,14nm,0.5s						
LSP	**Las Mesas**	**1.50**	**141**	⇑*e*P	**Pb**	**05 18 32.0**	**+0.3**
LSP	**Las Mesas**	**1.50**	**141**	*e*S	**Sb**	**05 18 52.1**	**+1.8**
AOPR	**Arecibo Observ**	**1.61**	**129**	⇓*e*P	**Pb**	**05 18 33.0**	**-0.4**
AOPR	**Arecibo Observ**	**1.61**	**129**	*e*S	**Sb**	**05 18 54.8**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.63**	**146**	⇑*e*P*g*	**Pb**	**05 18 36.1**	**+2.4**
CRPR				⇓*e*S*g*	**Sb**	**05 18 53.3**	**-0.5**
CRPR				IAML		05 19 29.5	
	comp=N,22nm,2.9s						
CRPR	**Cabo Rojo, PR**	**1.63**	**146**	⇓*e*P	**Pb**	**05 18 33.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.63**	**146**	*e*S	**Sb**	**05 18 54.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.63**	**146**	*i* P		05 18 33.7	
CRPR				*e*S		05 18 54.8	
CRPR				IAML		05 18 58.5	
	comp=Z,24nm,1.4s						
MLPR	**Magueyes Islan**	**1.69**	**145**	⇑*e*P*g*	**Pb**	**05 18 35.8**	**+0.9**
MLPR				⇓*e*S*g*	**Sb**	**05 18 56.8**	**+1.1**
MLPR				IAML		05 19 04.2	
	comp=N,17nm,2.9s						
MLPR	**Magueyes Islan**	**1.69**	**145**	⇑*e*P	**Pb**	**05 18 34.7**	**-0.1**
MLPR	**Magueyes Islan**	**1.69**	**145**	*e*S	**Sb**	**05 18 56.0**	**+0.4**
CELP	**Cerrillos**	**1.91**	**132**	⇑*e*P	**Pb**	**05 18 38.5**	**0.0**
CELP	**Cerrillos**	**1.91**	**132**	*e*S	**Sb**	**05 19 01.9**	**0.0**
OBIP	**Obispado Ponce**	**1.91**	**133**	⇑*e*P	**Pb**	**05 18 38.1**	**-0.4**
OBIP	**Obispado Ponce**	**1.91**	**133**	*e*S	**Sb**	**05 19 02.0**	**0.0**
ECPR	**Experimental S**	**1.92**	**122**	⇑*e*P	**Pb**	**05 18 38.6**	**-0.2**
ECPR	**Experimental S**	**1.92**	**122**	*e*S	**Sb**	**05 19 02.8**	**+0.5**

*IDC **05** 05:27:51.6±7.2, 27°.27S×22°.68E, h0km, mbtmp2.2/1, ML2.3/1, Error ellipse: s-maj=53.0km s-min=44.9km az=30.0*
*PRE **05** 05:27:52.6±1.1, 27°.42S×22°.97E, h0km, ML1.7, Suspected explosion*
ISC 05 05:27:53.4±1.6, 27°.46S±0°.10×22°.97E±0°.04, h0km, n9, σ0.6 8/14, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPI	**Upington**	**1.77**	**239**	*e*P	**Pn**	**05 28 25.7**	**+0.4**
UPI				*e*S	**Sg**	**05 28 50.3**	**+0.1**
UPI				IAML		05 28 56.4	
	comp=Z,9.4nm,0.6s						
SWZ	**Schweizer**	**2.12**	**83**	*e*P	**Pn**	**05 28 30.5**	**+0.3**
SWZ				*e*S	**Sn**	**05 28 57.0**	**-0.3**
SWZ				IAML		05 29 03.4	
	comp=Z,8.9nm,0.2s						
KEIM	**Keimoes**	**2.16**	**234**	*e*P	**Pn**	**05 28 30.8**	**+0.1**
KEIM				*e*S	**Sn**	**05 28 58.1**	**-0.2**
KEIM				IAML		05 29 05.1	
	comp=Z,9.0nm,0.7s						
I47ZA	**BOSHOF INFRASO**	**2.32**	**121**	I	I	05 46 10.0	
	comp=Z,0.1nm,1.1s,baz=300,slow=328,SNR=1.6						
BOSA	**Boshof**	**2.33**	**120**	Pn	**Pb**	**05 28 36.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=300,slow=18,SNR=9.2						
BOSA				Sn	**Sg**	**05 29 08.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=216,slow=19,SNR=11						
BOSA				Lg	Lg	05 29 15.8	
	comp=Z,2.0nm,0.3s,baz=205,slow=19,SNR=12						
	comp=Z,2.1nm,0.9s						
BOSA	**Boshof**	**2.33**	**120**	*e*P	**Pn**	**05 28 33.3**	**+0.3**
BOSA				*e*S	**Sn**	**05 29 02.8**	**+0.3**
BOSA				IAML		05 29 17.4	
	comp=Z,4.1nm,0.3s						
ALKP	**Alkanpan, Nort**	**2.56**	**194**	*e*P	**Pn**	**05 28 36.6**	**+0.4**
ALKP				*e*S	**Sn**	**05 29 09.6**	**+1.4**
ALKP				IAML		05 29 19.5	
	comp=Z,5.5nm,0.2s						
FRAZ	**Fraserburg**	**4.66**	**197**	*e*P	**Pn**	**05 29 05.1**	**-0.1**
FRAZ				*e*S	**Sn**	**05 29 58.6**	**-1.5**
FRAZ				IAML		05 30 25.6	
	comp=Z,2.8nm,0.6s						
I35NA	**TSUMEB INFRASO**	**9.60**	**328**	I	I	06 23 27.6	
	baz=152,slow=311,SNR=5.4						

*NEIC **05** 05:40:33.1±0.5, 19°.52N±0°.01×155°.321W±0°.007, h10km±1km, Error ellipse: s-maj=2.1km s-min=1.9km az=209.0*
HVO 05 05:40:33.0±0.5, 19°.52N±0°.01×155°.303W±0°.007, h9km±1km, ML3.0/45, ML3.1/44(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=187.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.06**	**157**	Pg		05 40 35.5	+0.4
RSD				Sg		05 40 37.8	+1.1
RSD				IAML		05 40 38.1	
	comp=N,18μm,0.6s						
RSD				IAML		05 40 38.1	
	comp=E,14μm,0.6s						
MLH	**Mauna Loa**	**0.08**	**253**	Pg		05 40 35.8	+0.3
MLH				IAML		05 40 39.2	
	comp=E,12μm,0.3s						
MLH	**Mauna Loa**	**0.08**	**253**	Sg		05 40 37.8	+0.6
SBLHI	**Steaming Bluff**	**0.10**	**160**	Pg		05 40 35.8	+0.3
SBLHI				Sg		05 40 38.1	+0.7
UWB	**Uwekahuna Bluf**	**0.10**	**166**	Pg		05 40 35.8	+0.3
UWB				Sg		05 40 38.0	+0.6
UWE	**Uwekahuna**	**0.10**	**174**	Pg		05 40 36.0	+0.4
UWE				Sg		05 40 38.2	+0.8
UWE	**Uwekahuna**	**0.10**	**174**	IAML		05 40 38.6	
	comp=N,7μm,0.4s						
UWE				IAML		05 40 38.8	
	comp=E,6μm,0.7s						
OBL	**Observatory Le**	**0.10**	**170**	Pg		05 40 35.9	+0.3
OBL				Sg		05 40 38.1	+0.6
HATHI	**Halema'uma'u T**	**0.10**	**157**	Pg		05 40 35.9	+0.3
HATHI				Sg		05 40 38.1	+0.6
HATHI	**Halema'uma'u T**	**0.10**	**157**	IAML		05 40 38.3	
	comp=E,3μm,0.7s						
HATHI				IAML		05 40 38.5	
	comp=N,3μm,0.9s						
WRMHI	**West Rim**	**0.11**	**178**	Pg		05 40 36.0	+0.3
WRMHI				Sg		05 40 38.3	+0.5
BYL	**Byron's Ledge**	**0.11**	**159**	Pg		05 40 36.0	+0.3
BYL				Sg		05 40 38.5	+0.8
BYL	**Byron's Ledge**	**0.11**	**159**	IAML		05 40 38.6	
	comp=N,3μm,0.9s						
BYL				IAML		05 40 40.0	
	comp=E,2μm,0.7s						
KKO	**Keanakako'i**	**0.12**	**164**	Pg		05 40 36.3	+0.3
KKO				Sg		05 40 39.0	+0.9
RIM	**Rim**	**0.12**	**167**	Pg		05 40 36.3	+0.3
RIM				Sg		05 40 38.9	+0.8
SDHHI	**Sand Hill**	**0.13**	**176**	Pg		05 40 36.2	+0.2
SDHHI				Sg		05 40 38.5	+0.4
PUH	**Pauahi**	**0.17**	**150**	Pg		05 40 36.8	+0.2
PUH				Sg		05 40 39.6	+0.6
PUH	**Pauahi**	**0.17**	**150**	IAML		05 40 40.1	
	comp=N,3μm,0.7s						
PUH				IAML		05 40 42.3	
	comp=E,1μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.19**	**137**	Pg		05 40 37.3	+0.3
HMH	**Humu'ula Sheep**	**0.19**	**296**	Pg		05 40 37.5	+0.4
HMH				Sg		05 40 40.8	+0.8
HMH	**Humu'ula Sheep**	**0.19**	**296**	IAML		05 40 41.1	
	comp=E,7μm,0.7s						
HMH				IAML		05 40 42.3	
	comp=N,3μm,0.4s						
STCH	**Steam Cracks**	**0.21**	**128**	Pg		05 40 37.6	+0.2
STCH	**Steam Cracks**	**0.21**	**128**	IAML		05 40 45.2	
	comp=E,2μm,0.4s						
STCH				IAML		05 40 45.3	
	comp=N,2μm,0.3s						
HLP	**Hilina Pali**	**0.22**	**181**	Pg		05 40 37.7	+0.2
HLP				Sg		05 40 41.3	+0.7
HLP	**Hilina Pali**	**0.22**	**181**	IAML		05 40 43.2	
	comp=N,1μm,0.4s						
HLP				IAML		05 40 43.7	
	comp=E,1μm,0.8s						
NPOC	**North of Pu'u**	**0.22**	**124**	Pg		05 40 37.7	+0.2
NPOC				Sg		05 40 41.4	+0.7
JCUZ	**Jacuzzi**	**0.23**	**125**	Pg		05 40 37.9	+0.2
JCUZ				Sg		05 40 41.6	+0.6
MWH	**Mokuaweoweo**	**0.28**	**263**	Pg		05 40 38.6	-0.1
MWH				Sg		05 40 44.8	-0.6
MWH	**Mokuaweoweo**	**0.28**	**263**	IAML		05 40 45.1	
	comp=N,6μm,0.3s						
MWH				IAML		05 40 45.6	
	comp=E,4μm,0.3s						
HTC	**Hot Caves**	**0.29**	**198**	Pg		05 40 39.0	+0.2
JOKA	**Jonika Flow**	**0.29**	**107**	Pg		05 40 39.0	+0.1
JOKA	**Jonika Flow**	**0.29**	**107**	IAML		05 40 44.4	
	comp=E,2μm,0.3s						
JOKA				IAML		05 40 47.9	
	comp=N,3μm,0.8s						
ALEP	**Alea Permanent**	**0.32**	**274**	Pg		05 40 39.4	-0.1
POHA	**Pohakuloa**	**0.32**	**318**	Pg		05 40 39.2	-0.3
POHA	**Pohakuloa**	**0.32**	**318**	IAML		05 40 44.4	
	comp=N,3μm,0.3s						
POHA				IAML		05 40 45.0	
	comp=N,3μm,0.1s						
PAH	**Pahoa**	**0.34**	**94**	Pg	Pg	05 40 40.3	+0.6
KHU	**Kahuku**	**0.40**	**227**	Pg		05 40 40.8	-0.1
KHU				Sg		05 40 46.8	+0.6
KHU	**Kahuku**	**0.40**	**227**	IAML		05 40 47.4	
	comp=E,2μm,0.5s						
KHU				IAML		05 40 52.4	
	comp=N,775nm,0.5s						
HUH	**Hualalai**	**0.53**	**288**	Pg		05 40 43.1	-0.2
CPH	**Captain Cook**	**0.58**	**267**	Pg		05 40 43.1	-1.1
HPAH	**Hawaii Prepara**	**0.63**	**324**	Pg	Pg	05 40 43.9	-1.3

*SSNC **05** 05:48:07.7±1.0, 17°.89N×73°.56W, h7km±12km, MD3.3, ML2.0, MW1.9*
*OSPL **05** 05:48:07.0±2.5, 17°.89N×73°.65W, h5km±30km, ML2.2, Hypocentre not reviewed by the ISC*
*SDD **05** 05:48:08.1±1.9, 18°.15N×73°.58W, h17km±270km, MD3.6, ML2.1, MW2.5*
ISC 05 05:48:09.5±3.6, 18°.4N±0°.1×73°.45W±0°.06, h4km±20km, n9, σ1.9 14/19, 4C-6D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**1.52**	**86**	⇑*e*P*g*	**Pn**	**05 48 37.8**	**+0.3**
JIDR				⇓*e*S*g*	**Sn**	**05 48 59.1**	**+1.5**
JIDR				IAML		05 49 00.6	
	comp=N,16nm,0.8s						
LOBH	**Bahia de las A**	**1.80**	**107**	*i* P		05 48 38.4	
LOBH				*e*S		05 49 00.9	
LOBH				IAML		05 49 02.8	
	comp=Z,39nm,2.1s						
LODU1	**El Espartillar**	**1.88**	**91**	*i* P		05 48 42.1	
LODU1				*e*S		05 49 06.8	
LODU1				IAML		05 49 10.0	
	comp=Z,40nm,0.4s						
LONE3	**El Aguacate, B**	**1.90**	**83**	*i* P		05 48 43.1	
LONE3				*e*S		05 49 09.1	
LONE3				IAML		05 49 12.4	
	comp=Z,12nm,2.1s						
MASC	**Masc**	**1.92**	**337**	*e*P	**Pb**	**05 48 44.8**	**-0.2**
MASC				*e*S	**Sg**	**05 49 12.0**	**+0.9**
MASC				IAML		05 49 21.4	
	comp=N,5.9nm,1.0s						
MASC				IAML		05 49 23.1	
	comp=E,4.6nm,0.5s						
MASC	**Masc**	**1.92**	**337**	*i* P		05 48 44.3	
MASC				*e*S		05 49 10.0	
MASC				IAML		05 49 14.9	
	comp=Z,7.2nm,1.7s						
PODR	**Polo**	**2.07**	**96**	⇓*e*P*g*	**Pn**	**05 48 44.3**	**-1.0**
PODR				⇑*e*S*g*	**Sn**	**05 49 13.9**	**+2.3**
PODR				IAML		05 49 38.9	
	comp=N,24nm,2.1s						
PODR	**Polo**	**2.07**	**96**	*i* P		05 48 44.5	
PODR				*e*S		05 49 12.6	
REDR	**Restauracion**	**2.09**	**68**	⇑*e*P*g*	**Pn**	**05 48 44.2**	**-1.2**
REDR				⇓*e*S*g*	**Sn**	**05 49 11.0**	**-0.8**
REDR				IAML		05 49 12.1	
	comp=N,9.4nm,0.4s						
GTBY	**Guantanamo Bay**	**2.19**	**314**	⇓*e*P*g*	**Pn**	**05 48 47.4**	**+0.8**
GTBY				⇓*e*S*g*	**Sb**	**05 49 17.1**	**-0.1**
GTBY				IAML		05 49 46.3	
	comp=N,14nm,1.5s						
GTBY	**Guantanamo Bay**	**2.19**	**314**	*i* P		05 48 46.6	
GTBY				*e*S		05 49 15.6	
GTBY				IAML		05 49 22.2	
	comp=Z,12nm,1.2s						
QMBU	**Quimbuelo**	**2.21**	**325**	*e*P	**Pn**	**05 48 47.4**	**+0.4**
QMBU				*e*P*g*	**Pb**	**05 48 49.7**	**-0.3**
QMBU				*e*S	**Sb**	**05 49 16.4**	**-1.3**
QMBU				IAML		05 49 22.1	
	comp=N,4.4nm,0.1s						
QMBU				IAML		05 49 24.3	
	comp=E,7.6nm,0.3s						
QMBU	**Quimbuelo**	**2.21**	**325**	⇓*e*P*g*	**Pn**	**05 48 49.0**	**+2.0**
QMBU				⇑*e*S*g*	**Sb**	**05 49 17.2**	**-0.5**
QMBU				IAML		05 49 31.5	
	comp=N,12nm,1.3s						
RCC	**Rio Carpintero**	**2.65**	**307**	*e*P	**Pn**	**05 48 52.2**	**-0.9**
RCC				*e*S	**Sn**	**05 49 25.2**	**-0.5**
RCC				IAML		05 49 28.0	
	comp=E,3.7nm,1.1s						
RCC				IAML		05 49 28.8	
	comp=N,2.2nm,0.5s						
PINC	**Pinares de May**	**3.04**	**314**	*e*P	**Pn**	**05 48 58.1**	**-0.2**
PINC				*e*S	**Sn**	**05 49 35.4**	**+0.3**
PINC				IAML		05 49 38.8	
	comp=E,4.3nm,1.7s						
PINC				IAML		05 49 41.5	
	comp=N,2.6nm,2.3s						

IDC 05 05:57:31.6±4.5, 7°.00N×134°.91E, h0km, mb4.1/4, mbtmp4.1/4, MS2.8/3, Error ellipse: s-maj=261.3km s-min=27.8km az=76.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**26.26**	**352**	LR	LR	06 12 31.0	
	comp=Z,23nm,19.4s,baz=152,slow=34						
WRA	**Warramunga Arr**	**26.78**	**181**	P	P	06 03 13.5	0.0
	1.5nm,0.8s,baz=0.2,slow=9.5,SNR=5.6						
	1.5nm,0.8s						
MJAR	**Matsushiro Arr**	**29.56**	**5**	LR	LR	06 14 08.8	
	comp=Z,22nm,20.8s,baz=132,slow=34						
KSRS	**Korea Array**	**30.98**	**349**	LR	LR	06 15 30.8	
	comp=Z,11nm,21.4s,baz=190,slow=35						
SONM	**Songino Array**	**47.38**	**334**	P	P	06 06 07.9	+0.1
	0.8nm,0.7s,baz=147,slow=7.4,SNR=5.9						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**59.87**	**321**	P	P	06 07 39.2	-0.1
	0.8nm,0.6s,baz=107,slow=8.3,SNR=5.1						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**63.68**	**324**	P	P	06 08 04.6	-0.3
	2.4nm,0.2s,baz=108,slow=5.9,SNR=1.5						
	2.4nm,0.2s						

*IDC **05** 06:04:01.5±0.7, 6°.70N×72°.90W, h162km±8km, mb3.1/3, mbtmp3.9/7, MS3.2/1, Error ellipse: s-maj=24.8km s-min=7.1km az=133.0*
*RSNC **05** 06:04:02.7±0.0, 7°N±1°×7°3W±°, h145km±2km, M3.6, mb4.0, mB5.0, ML3.2, Mw(mB)4.3*

ISC 05 06:04:01.0±0.8, 6°.84N±0°.03×73°.09W±0°.04, h152km±6km, n54, σ1.9 26/97, mb3.2/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**200**	P	**Pn**	**06 04 22.5**	**+0.5**
BARC				S	**Sn**	**06 04 37.2**	**-0.8**
PAMC	**Pamplona, Colo**	**0.63**	**38**	P	**Pn**	**06 04 25.2**	**+1.3**
PAMC				S	**Sn**	**06 04 41.9**	**+0.6**
BRJC	**Barrancabermej**	**0.66**	**282**	P	**Pn**	**06 04 24.1**	**+0.6**
BRJC				S	**Sn**	**06 04 40.3**	**-0.3**
RUSC	**La Rusia**	**0.94**	**180**	P	**Pn**	**06 04 26.2**	**+0.1**
RUSC				S	**Sn**	**06 04 44.3**	**-0.9**
TAMC	**Tame, Arauca**	**1.35**	**107**	P	**Pn**	**06 04 30.7**	**+1.4**
TAMC				S	**Sn**	**06 04 51.9**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	P	**Pn**	**06 04 29.0**	**-0.6**
PTBC				S	**Sn**	**06 04 49.7**	**-1.7**
OCAC	**Ocana**	**1.41**	**351**	P	**Pn**	**06 04 30.8**	**+0.9**
OCAC				S	**Sn**	**06 04 52.3**	**+0.1**
SPBC	**San Pablo de B**	**1.53**	**220**	P	**Pn**	**06 04 31.4**	**+0.2**
SPBC				S	**Sn**	**06 04 53.3**	**-1.0**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**06 04 35.4**	**+0.7**
ZARC				S	**Sn**	**06 05 00.8**	**+0.1**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**06 04 38.4**	**0.0**
NORC				S	**Sn**	**06 05 06.0**	**-1.1**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**06 04 40.5**	**+0.4**
CHIC				S	**Sn**	**06 05 09.4**	**-0.7**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**06 04 42.5**	**+1.9**
	62nm,0.3s,baz=300,slow=6.6,SNR=36						
ROSC				S	**Sn**	**06 05 12.6**	**+1.5**
	133nm,0.4s,baz=88,slow=12,SNR=16						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**06 04 42.3**	**+1.7**
ROSC				S	**Sn**	**06 05 10.8**	**-0.3**
UREC	**San Jos de Ur**	**2.59**	**291**	P	**Pn**	**06 04 42.9**	**-0.4**
UREC				S	**Sn**	**06 05 13.9**	**-2.0**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**06 04 47.1**	**+1.0**
GUY2C				S	**Sn**	**06 05 21.6**	**+0.8**
VILC	**Villavicencio,**	**2.78**	**193**	P	**Pn**	**06 04 46.2**	**+0.4**
VILC				S	**Sn**	**06 05 19.8**	**-0.6**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P	**Pn**	**06 04 48.8**	**+0.8**
RECRC				S	**Sn**	**06 05 24.1**	**-0.2**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**06 04 50.0**	**+1.8**
NIZA				S	**Sn**	**06 05 25.0**	**+0.4**
CBOC	**Ciudad Bolivar**	**3.06**	**252**	P	**Pn**	**06 04 50.5**	**+1.1**
CBOC				S	**Sn**	**06 05 26.6**	**-0.2**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**06 04 50.7**	**+0.9**
DBBC				S	**Sn**	**06 05 26.4**	**-1.2**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**06 04 52.2**	**+1.4**
	70nm,0.3s,baz=153,slow=2.2,SNR=100						
SDV				S	**Sn**	**06 05 29.5**	**+0.1**
	61nm,0.5s,baz=247,slow=23,SNR=14						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**06 04 52.0**	**+1.2**
SDV				S	**Sn**	**06 05 29.7**	**+0.3**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**06 04 53.0**	**+1.9**
ARGC				S	**Sn**	**06 05 31.5**	**+1.5**
ANIL	**Santa Ana**	**3.28**	**225**	P	**Pn**	**06 04 53.1**	**+0.8**
ANIL				S	**Sn**	**06 05 32.0**	**+0.1**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**06 04 56.2**	**+0.2**
PRAC				S	**Sn**	**06 05 37.7**	**-1.0**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**06 04 56.7**	**+0.4**
APAC				S	**Sn**	**06 05 37.2**	**-2.1**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**06 04 57.1**	**+0.7**
ORTC				S	**Sn**	**06 05 39.7**	**+0.3**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**06 04 56.7**	**-0.4**
SJCC				S	**Sn**	**06 05 37.1**	**-3.6**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**06 04 58.2**	**+0.6**
PLMC				S	**Sn**	**06 05 41.3**	**-0.3**
URMC	**La Uribe, Meta**	**3.79**	**200**	P	**Pn**	**06 04 59.1**	**+0.4**
URMC				S	**Sn**	**06 05 42.6**	**-1.0**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**06 05 02.7**	**-0.8**
CRJC				S	**Sn**	**06 05 49.2**	**-2.9**
GUVC	**San Jose del G**	**4.29**	**174**	P	**Pn**	**06 05 04.2**	**-1.0**
GUVC				S	**Sn**	**06 05 53.0**	**-2.2**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**06 05 05.1**	**-0.4**
YOTC				S	**Sn**	**06 05 55.6**	**0.0**
SMRC	**Santa Marta, M**	**4.44**	**345**	P	**Pn**	**06 05 07.4**	**+0.3**
SMRC				S	**Sn**	**06 05 56.2**	**-2.4**
PIZC	**Pizarro, Choco**	**4.64**	**247**	P	**Pn**	**06 05 10.5**	**+0.8**
PIZC				S	**Sn**	**06 06 03.8**	**+0.6**
MACC	**Macarena, Meta**	**4.72**	**189**	P	**Pn**	**06 05 09.5**	**-1.4**
MACC				S	**Sn**	**06 06 00.8**	**-4.6**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**06 05 13.1**	**-0.7**
URIC				S	**Sn**	**06 06 09.2**	**-1.5**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P	**Pn**	**06 05 15.7**	**+0.1**
	976nm14nm,0.6s						
JAMC				S	**Sn**	**06 06 13.7**	**-0.1**
	976nm14nm,0.6s						
MALC	**Bahia Malaga**	**5.07**	**237**	P	**Pn**	**06 05 17.1**	**+1.7**
MALC				S	**Sn**	**06 06 14.2**	**+0.6**
GARC	**Garzon, Huila**	**5.21**	**207**	P	**Pn**	**06 05 16.5**	**-1.0**
GARC				S	**Sn**	**06 06 14.9**	**-2.2**
POPC	**Popayan, Colom**	**5.57**	**220**	P	**Pn**	**06 05 22.1**	**-0.1**
	10nm,0.4s						
POPC				S	**Sn**	**06 06 25.4**	**-0.3**
	10nm,0.4s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**06 05 24.7**	**-0.6**
	362nm9.7nm,0.8s						
FLOC				S	**Sn**	**06 06 29.4**	**-1.9**
	362nm9.7nm,0.8s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**06 05 32.3**	**-0.1**
BBAC				S	**Sn**	**06 06 42.4**	**-1.5**
CRUC	**La Cruz**	**6.50**	**216**	P	**Pn**	**06 05 36.0**	**+1.2**
GCUF	**Volcan Galeras**	**7.01**	**217**	P	**Pn**	**06 05 42.0**	**+0.3**
	15nm,0.4s						
BCIP	**Isla Barro Col**	**7.07**	**290**	P	**Pn**	**06 05 40.8**	**-1.2**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**06 06 08.1**	**+0.4**
	1.9nm,0.3s,baz=293,slow=2.1,SNR=20						
PCRV				S	**Sn**	**06 07 46.8**	**-0.9**
	6.4nm,0.8s,baz=74,slow=12,

CRPR				Sn	06 12 28.3	+0.1
CRPR	**Cabo Rojo, PR**	**1.80 144**	IAML		06 12 43.8	
	comp=E,29nm,2.5s					
CRPR			IAML		06 12 44.4	
	comp=N,22nm,2.5s					
CRPR	**Cabo Rojo, PR**	**1.80 144**	*e*Pg	Pn	06 12 02.1	-3.8
CRPR			*e*Sg	Sn	06 12 28.9	+0.7
CRPR			IAML		06 12 43.8	
	comp=N,25nm,2.6s					
CRPR	**Cabo Rojo, PR**	**1.80 144⇑**	*e*P	Pn	06 12 06.3	+0.4
CRPR	**Cabo Rojo, PR**	**1.80 144**	*e*S	Sn	06 12 28.3	+0.1
MLPR	**Magueyes Islan**	**1.87 143**		Pn	06 12 05.3	-1.5
MLPR				Sn	06 12 29.0	-0.8
MLPR	**Magueyes Islan**	**1.87 143**	IAML		06 12 35.7	
	comp=E,21nm,2.5s					
MLPR			IAML		06 12 51.8	
	comp=N,21nm,3.1s					
MLPR	**Magueyes Islan**	**1.87 143⇓**	*e*Pg	Pn	06 12 02.1	-4.8
MLPR			*e*Sg	Sn	06 12 29.2	-0.6
MLPR			IAML		06 12 51.1	
	comp=N,20nm,2.4s					
MLPR	**Magueyes Islan**	**1.87 143⇑**	*e*P	Pn	06 12 05.3	-1.5
MLPR	**Magueyes Islan**	**1.87 143**	*e*S	Sn	06 12 29.0	-0.8
UUPR	**Utuado, UPR, P**	**1.87 130**		Pn	06 12 07.7	+0.8
UUPR				Sn	06 12 29.8	-0.2
UUPR	**Utuado, UPR, P**	**1.87 130⇑**	*e*P	Pn	06 12 07.7	+0.8
UUPR	**Utuado, UPR, P**	**1.87 130**	*e*S	Sn	06 12 29.8	-0.2
CELP	**Cerrillos**	**2.09 131**		Pn	06 12 10.1	+0.1
CELP				Sn	06 12 35.7	+0.3
CELP	**Cerrillos**	**2.09 131**	IAML		06 12 39.1	
	comp=N,15nm,2.8s					
CELP	**Cerrillos**	**2.09 131⇑**	*e*Pg	Pn	06 12 09.4	-0.5
CELP			⇓*e*Sg	Sn	06 12 36.6	+1.3
CELP			IAML		06 12 39.6	
	comp=N,9.0nm,1.9s					
CELP	**Cerrillos**	**2.09 131⇑**	*e*P	Pn	06 12 10.1	+0.1
CELP	**Cerrillos**	**2.09 131**	*e*S	Sn	06 12 35.7	+0.3

*IDC **05** 06:22:18.2±1.9, 1°.01N×124°.56E, h0km, mb3.5/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=121.7km s-min=26.6km az=66.0*
*DJA **05** 06:22:19.0±0.5, 1°.N±3°×12°4E±°, h11km±4km, M4.2/11, mB5.3/2, mb4.4/3, MLv4.0/11, Mw(mB)4.7/2, MwMwp5.0/1, Mwp5.2/1*
ISC 05 06:22:22.8±1.4, 1°.02N±0°.10×124°.03E±0°.07, h35km, n12, σ2°37/17, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.45 187**		P	**Pn**	**06 22 29.8**	**-2.9**
KMSI				S	**Sn**	**06 22 37.6**	**-2.0**
MRSI	**Marisa**	**2.16 255**		P	**Pn**	**06 22 53.5**	**-2.8**
MRSI				S	**Sn**	**06 23 19.8**	**-2.1**
LUWI	**Luwuk**	**2.41 212**		P	**Pn**	**06 22 59.1**	**-0.6**
LUWI				S	**Sn**	**06 23 32.8**	**+4.8**
APSI	**Ampana**	**3.06 231**		P	**Pn**	**06 23 08.5**	**-0.2**
SANI	**Sanana**	**3.62 147**		P	**Pn**	**06 23 14.8**	**-1.7**
SANI				S	**Sn**	**06 24 01.1**	**+3.0**
KDI	**Kendari**	**5.14 196**		P	**Pn**	**06 23 37.2**	**-0.2**
	0.1nm3μm23nm,0.7s						
TTSI	**Tana Toraja**	**5.84 226**		P	**Pn**	**06 23 47.1**	**+0.2**
	2μm79nm,0.7s						
TTSI				S	**Sn**	**06 24 53.2**	**+0.6**
	2μm79nm,0.7s						
SPSI	**Sidrap Palu**	**6.53 221**		P	**Pn**	**06 23 56.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.07 175**		P	**P**	**06 26 41.2**	**-1.1**
	0.1nm,0.3s,baz=8.9,slow=12,SNR=1.9 3.6nm,0.9s						
WRA	**Warramunga Arr**	**23.16 155**		P	**P**	**06 27 24.4**	**-2.0**
	2.7nm,0.5s,baz=334,slow=10,SNR=21 2.7nm,0.5s						
ASAR	**Alice Springs**	**26.35 159**		P	**P**	**06 27 54.1**	**-1.8**
	0.3nm,0.4s,baz=351,slow=15,SNR=5.7 0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.30 327**		P	**P**	**06 32 17.3**	**+3.0**
	0.1nm,0.5s,baz=127,slow=8.4,SNR=1.9 0.1nm,0.5s						

*NIED **05** 06:57:52.7, 38°.35N×141°.87E, h63km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.32; Mθθ-0.71; Mφφ0.38; Mrθ-0.57; Mθφ-0.52; Mφr-0.55; Fault plane solution: M0 1.08000×10^15 NP1: φs112.00000°, δ37.00000°, λ162.00000°. NP2: φs217.00000°, δ79.00000°, λ54.00000°.*
*NEIC **05** 06:57:52.1±1.8, 38°.34N±0°.06×141°.98E±0°.08, h51km±11km, mb4.4/19 Error ellipse: s-maj=13.0km s-min=2.9km az=134.0*
*JMA **05** 06:57:52.7±0.1, 38°.3N±0°.3×141°.9E±0°.6, h63km, MD4.1/40, MV4.2/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*IDC **05** 06:57:54.6±2.2, 38°.30N×141°.81E, h86km±21km, mb3.7/14, mbtmp4.0/18, MS2.2/1, Error ellipse: s-maj=17.3km s-min=14.1km az=114.0*
ISC 05 06:57:52.4±0.8, 38°.34N±0°.04×141°.95E±0°.07, h61km±7km, n90, σ0°91/85, mb4.3/25, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.38 266**		*i* P	**Pn**	**06 58 03.3**	**+0.1**
JIKH				S	**Sn**	**06 58 10.8**	**-0.3**
JIKH	**Ishinomakikobu**	**0.38 266**		A	A	06 58 03.3	
	comp=N,30nm,0.3s,comp=E,29nm,0.2s						
JIO	**Ouri**	**0.48 284**		*i* P	**Pn**	**06 58 04.3**	**+0.1**
JIO				S	**Sn**	**06 58 12.4**	**-0.5**
JIO	**Ouri**	**0.48 284**		A	A	06 58 04.3	
	comp=N,18nm,0.3s,comp=E,13nm,0.3s						
JKMT	**Kesennumamotoy**	**0.60 322**		⇓*i*P	**Pn**	**06 58 05.7**	**+0.2**
JKMT				⇓*i*S	**Sn**	**06 58 15.0**	**-0.1**
OFUJ	**Ofunato**	**0.77 344**		⇓*i*P	**Pn**	**06 58 07.8**	**+0.2**
OFUJ				⇓*e*S	**Sn**	**06 58 18.7**	**0.0**
OFUJ	**Ofunato**	**0.77 344**		A	A	06 58 07.8	
	comp=N,9.0nm,0.6s,comp=E,7.0nm,0.3s						
JMK	**Ichinoseki**	**0.84 317**		⇓*i*P	**Pn**	**06 58 08.6**	**+0.2**
JMK				⇓S	**Sn**	**06 58 20.0**	**-0.1**
JMK	**Ichinoseki**	**0.84 317**		A	A	06 58 08.6	
	comp=N,18nm,0.5s,comp=E,18nm,0.7s						
JOFO	**Osakifurukawao**	**0.86 288**		A	A	06 58 08.4	
	comp=N,38nm,0.3s,comp=E,40nm,0.3s						
JOU	**Okura**	**1.01 272**		*i* P	**Pn**	**06 58 10.3**	**-0.2**
JOU				*e*S	**Sn**	**06 58 23.5**	**-0.6**
JOU	**Okura**	**1.01 272**		A	A	06 58 10.3	
	comp=N,19nm,0.5s,comp=E,13nm,0.4s						
JMM	**Marumori**	**1.03 243**		Pn	**Pn**	**06 58 10.4**	**-0.4**
JMM	**Marumori**	**1.03 243**		*i* P	**Pn**	**06 58 10.2**	**-0.6**
JMM				S	**Sn**	**06 58 23.2**	**-1.2**
JMM	**Marumori**	**1.03 243**		A	A	06 58 10.2	
	comp=N,10.0nm,0.3s,comp=E,8.0nm,0.8s						
JMST	**Minamisoumatoc**	**1.04 234**		A	A	06 58 10.9	
	comp=N,8.0nm,0.5s,comp=E,10.0nm,0.3s						
JOM	**Ohasama**	**1.24 336**		⇓*i*P	**Pn**	**06 58 13.8**	**+0.1**
JOM				⇓S	**Sn**	**06 58 29.9**	**+0.4**
JFK	**Kawauchi**	**1.29 222**		*i* P	**Pn**	**06 58 13.9**	**-0.4**
JFK				*e*S	**Sn**	**06 58 30.0**	**-0.7**
JYK	**Kaneyama**	**1.37 295**		⇓*i*P	**Pn**	**06 58 15.2**	**-0.1**
JYK	**Kaneyama**	**1.37 295**		A	A	06 58 15.2	
	comp=N,4.0nm,2.0s,comp=E,3.0nm,2.7s						
JRG	**Rokugo**	**1.47 316**		⇓*i*P	**Pn**	**06 58 16.7**	**0.0**
JYAR	**Yonezawaarcadi**	**1.48 254**		A	A	06 58 16.9	
	comp=N,7.0nm,0.4s,comp=E,6.0nm,1.4s						
JYS	**Shirataka**	**1.49 266**		⇓*i*P	**Pn**	**06 58 16.8**	**-0.1**
JYS	**Shirataka**	**1.49 266**		A	A	06 58 16.8	
	comp=N,9.0nm,0.4s,comp=E,14nm,0.4s						
JOTO	**OTAMA OYAMA**	**1.49 239**		*i* P	**Pn**	**06 58 16.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.54 217**		A	A	06 58 17.9	
	comp=N,9.0nm,0.3s,comp=E,9.0nm,0.4s						
JYA	**Atsumi**	**1.77 279**		A	A	06 58 20.8	
	comp=N,5.0nm,0.8s,comp=E,4.0nm,0.6s						
JTM	**Tenmabayashi**	**2.54 345**			**Pn**	**06 58 31.5**	**+0.4**
JTM				Sn	**Sn**	**06 58 59.7**	**-1.2**
JSD	**Sado**	**2.92 265**		Pn	**Pn**	**06 58 36.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.47 240**		P	**Pn**	**06 58 44.8**	**+0.8**
	comp=E,9.1nm,0.6s,baz=32,slow=13,SNR=28						
MJAR				S	**Sn**	**06 59 23.9**	**0.0**
	comp=E,4.0nm,0.3s,baz=357,slow=11,SNR=4.7						
MAJO	**Matsushiro**	**3.48 240**			**Pn**	**06 58 45.2**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.48 240**			**Pn**	**06 58 45.8**	**+1.8**
ERM	**Erimo**	**3.79 14**		Pn	**Pn**	**06 58 49.0**	**+0.8**
ERM				Sn	**Sn**	**06 59 29.9**	**-1.6**
JGF	**Kuroka**	**4.58 235**		Pn	**Pn**	**06 58 59.4**	**+0.3**
JGF				Sn	**Sn**	**06 59 51.1**	**0.0**
INU	**Inuyama**	**4.95 234**		Pn	**Pn**	**06 59 03.9**	**-0.3**
JHJ2	**Mitsune**	**5.50 199**		Pn	**Pn**	**06 59 11.1**	**-0.6**
ASAJ	**Asahikawa**	**5.79 5**		P	**Pn**	**06 59 14.9**	**-0.8**
	comp=E,9.8nm,0.3s,baz=226,slow=8.8,SNR=9.8						
ASAJ				S	**Sn**	**07 00 17.1**	**-3.7**
	comp=E,11nm,0.4s,baz=101,slow=24,SNR=2.7						
JKA	**Kamikawa-asahi**	**5.79 5**		Pn	**Pn**	**06 59 14.9**	**-0.7**
USA0B	**Ussuriysk Arra**	**9.51 311**		Pn	**Pn**	**07 00 05.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**9.51 311**		P	**Pn**	**07 00 07.4**	**+0.9**
	comp=E,4.2nm,0.3s,baz=119,slow=13,SNR=12						
KSRS	**Korea Array**	**11.12 270**		P	**Pn**	**07 00 30.7**	**+2.1**
	comp=E,0.6nm,0.5s,baz=79,slow=14,SNR=4.4						
KSRS				LR	LR	07 04 47.5	
	comp=E,13nm,19.4s,baz=95,slow=37						
KS19	**Wonju Array Si**	**11.16 270**		Pn	**Pn**	**07 00 29.1**	**+0.1**
MDJ	**Mudanjiang**	**11.19 308**		Pn	**Pn**	**07 00 29.7**	**+0.3**
JCJ	**Chichijima**	**11.21 179**		Pn	**Pn**	**07 00 30.2**	**+0.4**
KLR	**Kul'dur**	**13.13 329**		P	**Pn**	**07 00 54.8**	**-1.1**
	comp=E,1.4nm,0.6s,baz=136,slow=14,SNR=5.4						
PETK	**Petropavlovsk-**	**18.35 31**		P	**P**	**07 02 02.3**	**+0.5**
	comp=E,4.0nm,0.9s,baz=209,slow=6.8,SNR=2.6						
MA2	**Magadan**	**21.99 12**		P	**P**	**07 02 42.0**	**+0.8**
	comp=E,3.1nm,0.5s,baz=177,slow=18,SNR=3.8 comp=E,3.1nm,0.5s						
ULN	**Ulaanbaatar**	**27.00 302**		P	**P**	**07 03 28.7**	**+0.1**
SONM	**Songino Array**	**27.43 302**		P	**P**	**07 03 32.8**	**+0.3**
SONM	**Songino Array**	**27.43 302**		P	**P**	**07 03 31.4**	**-1.1**
	comp=E,1.6nm,0.5s,baz=109,slow=8.7,SNR=14 comp=E,1.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.48 124**		T	T	07 34 00.0	
	baz=316,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**28.49 124**		T	T	07 34 00.8	
	baz=316,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**28.50 124**		T	T	07 33 59.7	
	baz=316,slow=76,SNR=115						
H11S1	**WAKE ISLAND Hy**	**29.24 126**		T	T	07 34 56.8	
	baz=317,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.24 126**		T	T	07 34 56.9	
	baz=317,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**29.26 126**		T	T	07 35 02.7	
	baz=317,slow=76,SNR=38						
ZAA0	**Zalesovo Array**	**41.36 311**		P	**P**	**07 05 32.4**	**+0.2**
ZAA0				IAmb	IAmb	07 05 33.1	
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.36 311**		P	**P**	**07 05 32.0**	**-0.1**
ZALV	**Zalesovo Beam**	**41.36 311**		P	**P**	**07 05 31.3**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=83,slow=8.3,SNR=24 comp=Z,3.9nm,0.5s						
MKAR	**Makanchi Array**	**43.80 301**		P	**P**	**07 05 51.1**	**-1.0**
MKAR	**Makanchi Array**	**43.80 301**		P	**P**	**07 05 50.9**	**-1.2**
	comp=Z,3.0nm,0.7s,baz=86,slow=9.8,SNR=36 comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**44.01 301**		P	**P**	**07 05 53.5**	**-0.2**
KURK	**Kurchatov**	**45.47 307**		P	**P**	**07 06 04.3**	**-1.0**
KURK				IAmb	IAmb	07 06 08.1	
	comp=Z,4.1nm,0.7s						
KURBB	**Kurchatov Arra**	**45.55 307**		P	**P**	**07 06 04.7**	**-1.2**
	comp=Z,3.6nm,0.3s,baz=96,slow=24,SNR=59 comp=Z,3.6nm,0.3s						
GHO	**Glory Hole Cre**	**47.42 37**		P	**P**	**07 06 21.4**	**+0.9**
GHO				IAmb	IAmb	07 06 54.0	
	comp=Z,6.3nm,0.8s						
KNK	**Knik Glacier**	**47.66 38**		P	**P**	**07 06 22.4**	**0.0**
SML	**Sawmill**	**47.70 37**		P	**P**	**07 06 22.6**	**0.0**
SML				IAmb	IAmb	07 06 40.7	
	comp=Z,6.6nm,0.9s						
ILAR	**Eielson Array**	**48.17 33**		P	**P**	**07 06 25.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=265,slow=5.8,SNR=13 comp=Z,0.7nm,0.7s						
M24K	**Tolsona, Glenn**	**48.69 37**		P	**P**	**07 06 31.4**	**+1.2**
BMAR	**Burnt Mountain**	**48.99 29**		P	**P**	**07 06 33.9**	**+1.4**
EYAK	**Cordova Ski Ar**	**49.07 39**		P	**P**	**07 06 31.4**	**-1.6**
F26K	**Sheenjek River**	**49.14 29**		P	**P**	**07 06 34.4**	**+0.7**
F26K				IAmb	IAmb	07 06 36.4	
	comp=Z,5.1nm,1.1s						
C27K	**Jago River**	**49.23 26**		P	**P**	**07 06 35.8**	**+1.5**
C27K				IAmb	IAmb	07 06 43.3	
	comp=Z,4.4nm,1.4s						
BOOM	**Boomskoye usch**	**49.29 297**		P	**P**	**07 06 36.4**	**+1.1**
SCRK	**Sand Creek**	**49.49 34**		P	**P**	**07 06 36.4**	**0.0**
BVAR	**Borovoye Array**	**50.02 312**		P	**P**	**07 06 39.5**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=73,slow=7.1,SNR=8.5 comp=Z,1.2nm,0.5s						
AAK	**Ala-Archa**	**50.25 298**		P	**P**	**07 06 42.7**	**+0.1**
AAK				IAmb	IAmb	07 06 51.4	
	comp=Z,3.9nm,1.4s						
G30M	**tAoh Zraii Nji**	**52.27 29**		P	**P**	**07 06 58.2**	**+1.0**
G30M				IAmb	IAmb	07 06 59.2	
	comp=Z,4.3nm,1.3s						
I30M	**Mount Dempster**	**52.54 32**		P	**P**	**07 07 00.5**	**+1.2**
I30M				IAmb	IAmb	07 07 01.9	
	comp=Z,6.9nm,1.2s						
KKAR	**Karatay Array**	**52.85 299**		P	**P**	**07 07 02.2**	**+0.4**
INK	**Inuvik**	**53.03 28**		P	**P**	**07 07 02.6**	**0.0**
INK				IAmb	IAmb	07 07 20.7	
	comp=Z,4.9nm,1.4s						
FARO	**Faro, Yukon**	**54.56 35**		P	**P**	**07 07 14.8**	**+0.7**
FARO				IAmb	IAmb	07 07 36.1	
	comp=Z,7.0nm,1.5s						
ABKAR	**Akbulak array**	**57.43 310**		P	**P**	**07 07 36.1**	**+1.5**
WRA	**Warramunga Arr**	**58.41 188**		P	**P**	**07 07 40.3**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=7.8,slow=7.7,SNR=7.6 comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**62.14 188**		P	**P**	**07 08 06.0**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=10,slow=8.4,SNR=5.8 comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**62.47 31**		P	**P**	**07 08 08.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=301,slow=6.8,SNR=4.8 comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**67.86 332**		P	**P**	**07 08 43.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=50,slow=7.2,SNR=1.0 comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**73.87 54**		P	**P**	**07 09 21.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=301,slow=6.1,SNR=1.8 comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**76.45 46**		P	**P**	**07 09 36.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=279,slow=5.1,SNR=13 comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**88.99 53**		P	**P**	**07 10 41.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=282,slow=2.5,SNR=12 comp=Z,0.6nm,0.6s						

*IDC **05** 07:08:35.1±3.5, 8°.62S×117°.04E, h147km±29km, mb2.9/4, mbtmp3.6/6, Error ellipse: s-maj=52.4km s-min=14.7km az=53.0*
*DJA **05** 07:08:41.7±0.3, 8°.S±5°×11°8E±°, h187km±4km, M4.1/15, mb4.1/5, MLv4.2/15*
ISC 05 07:08:41.1±0.8, 8°.44S±0°.08×117°.82E±0°.05, h200km, n20, σ1°40/27, mb3.3/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.38 186**		P	**Pn**	**07 09 07.6**	**-0.2**
PLAI				S	**Sn**	**07 09 26.3**	**-2.4**
TWSI	**Taliwang, Sumb**	**0.97 252**		P	**Pn**	**07 09 10.9**	**+0.3**
TWSI				S	**Sn**	**07 09 32.8**	**-0.7**
WBSI	**Waikabubak, Su**	**1.96 128**		P	**Pn**	**07 09 19.1**	**-0.1**
WBSI				S	**Sn**	**07 09 46.0**	**-2.9**
DNP	**Denpasar**	**2.59 265**		P	**Pn**	**07 09 26.7**	**+0.7**
SRBI	**Singaraja**	**2.60 278**		P	**Pn**	**07 09 26.8**	**+0.7**
WSI	**Waingapu**	**2.74 117**		P	**Pn**	**07 09 27.4**	**-0.3**
BASI	**Baing, Sumba**	**3.25 123**		P	**Pn**	**07 09 34.2**	**+0.5**
BASI				S	**Sn**	**07 10 14.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**3.62 269**		P	**Pn**	**07 09 37.6**	**-0.7**
JAGI				S	**Sn**	**07 10 20.3**	**-2.7**
BKSI	**Bulukumba**	**3.86 37**		P	**Pn**	**07 09 41.4**	**+0.3**
KAPI	**Kappang**	**3.91 30**		P	**Pn**	**07 09 41.9**	**+0.1**
	34nm,1.0s,baz=175,slow=8.8,SNR=4.6						
KMMI	**Kalianget**	**4.06 290**		P	**Pn**	**07 09 46.0**	**+2.4**
GMJI	**Gumukmas**	**4.33 272**		P	**Pn**	**07 09 46.3**	**-0.7**
GMJI				S	**Sn**	**07 10 37.6**	**-1.2**
SOEI	**Soe**	**6.50 102**		P	**Pn**	**07 10 14.1**	**-0.9**
	0.3nm31nm,0.8s						
PCJI	**Pacitan**	**6.57 272**		P	**Pn**	**07 10 16.3**	**+0.5**
	37nm,0.9s						
UGM	**Wanagama**	**7.24 274**		P	**Pn**	**07 10 25.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.25 142**		P	**Pn**	**07 11 30.5**	**+1.4**
	4.1nm,0.9s,baz=322,slow=9.0,SNR=15						
FITZ				S	**Sn**	**07 13 45.6**	**-0.2**
	3.1nm,0.7s,baz=311,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**19.66 127**		P	**P**	**07 12 56.6**	**+1.7**
	0.9nm,0.4s,baz=300,slow=12,SNR=6.3						
WRA				S	S	07 16 38.1	+12
	1.3nm,1.0s,baz=312,slow=25,SNR=1.7						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**21.60 136**		P	**P**	**07 13 17.8**	**+2.4**
	0.3nm,0.4s,baz=314,slow=8.4,SNR=12 0.3nm,0.4s						
SONM	**Songino Array**	**56.94 351**		P	**P**	**07 18 05.3**	**-0.3**
	0.4nm,0.7s,baz=165,slow=6.0,SNR=2.4 0.4nm,0.7s						
MKAR	**Makanchi Array**	**63.44 333**		P	**P**	**07 18 48.4**	**-1.2**
	0.2nm,0.4s,baz=141,slow=5.5,SNR=1.9 0.2nm,0.4s						

*IDC **05** 07:11:28.1±0.9, 40°.03S×44°.61E, h0km, mb4.0/5, mbtmp4.0/5, MS3.2/3, Error ellipse: s-maj=38.4km s-min=25.6km az=38.0*
ISC 05 07:11:29.8±0.9, 40°.0S±0°.2×44°.6E±0°.2, h10km, n19, σ1°32/8, mb4.1/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.06 142**		T	T	07 21 52.1	
	baz=317,slow=76,SNR=30						
H04N2	**CROZET ISLANDS**	**8.07 142**		T	T	07 21 53.3	
	baz=317,slow=76,SNR=46						
H04N3	**CROZET ISLANDS**	**8.07 142**		T	T	07 21 48.5	
	baz=317,slow=76,SNR=83						
BOSA	**Boshof**	**19.59 300**		LR	LR	07 22 14.5	
	comp=Z,73nm,18.6s,baz=200,slow=33						
LBTB	**Lobatse**	**21.88 307**		P	**P**	**07 16 24.4**	**+1.4**
	5.7nm,0.7s,baz=136,slow=10,SNR=9.5						
LBTB				LR	LR	07 23 35.6	
	comp=Z,53nm,20.3s,baz=150,slow=33 5.7nm,0.7s						
LSZ	**Lusaka**	**28.53 325**		LR	LR	07 27 29.5	
	comp=Z,70nm,20.8s,baz=170,slow=34						
H08S1	**Diego Carcia H**	**40.73 45**		T	T	08 02 16.8	
	baz=213						
H08S2	**Diego Garcia H**	**40.74 45**		T	T	08 02 17.9	
	baz=213,slow=74						
H08S3	**Diego Garcia H**	**40.75 45**		T	T	08 02 18.4	
	baz=213,slow=74						
QSPA	**South Pole Qui**	**50.18 180**		P	**P**	**07 20 26.1**	**+0.7**
	2.1nm,1.0s,baz=248,slow=6.6,SNR=4.5 2.1nm,1.0s						
H01W2	**Cape Leeuwin H**	**54.14 108**		T	T	08 19 19.0	
	baz=243,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**54.15 108**		T	T	08 19 19.6	
	baz=243,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**54.15 108**		T	T	08 19 20.8	
	baz=243,slow=75,SNR=18						
TORD	**Torodi Ar. Bea**	**66.24 314**		P	**P**	**07 22 18.2**	**+0.1**
	1.2nm,0.9s,baz=141,slow=4.4,SNR=6.4 1.2nm,0.9s						
ASAR	**Alice Springs**	**74.66 108**		P	**P**	**07 23 10.1**	**+0.4**
	0.7nm,0.8s,baz=221,slow=6.0,SNR=4.7 0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**77.07 52**		P	**P**	**07 23 23.8**	**+0.5**
	0.6nm,0.3s,baz=226,slow=6.5,SNR=8.3 0.6nm,0.3s						
ULM	**Lac du Bonnet**	**150.64 304**	PKPbc		**PKPbc**	**07 31 20.1**	**-1.4**
	2.3nm,0.9s,baz=98,slow=7.1,SNR=3.9						
TXAR	**Lajitas Array**	**151.97 258**	PKPbc		**PKPbc**	**07 31 23.9**	**-1.5**
	0.6nm,0.9s,baz=116,slow=2.6,SNR=6.3						
YKA	**Yellowknife Ar**	**154.25 338**	PKPbc		**PKPbc**	**07 31 27.8**	**-1.3**
	0.4nm,1.1s,baz=30,slow=2.1,SNR=3.8						

*NNC **05** 07:14:20.8±1.9, 49°.78N×82°.07E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=25.5km s-min=6.0km az=50.0, Suspected Mining explosion.*
*ASRS **05** 07:14:20.0±1.2, 49°.67N×81°.64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **05** 07:14:24.7±1.7, 49°.65N×81°.46E, h0km, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=28.7km s-min=9.5km az=51.0*
ISC 05 07:14:23.0±1.2, 49°.52N±0°.08×81°.49E±0°.09, h0km, n7, σ0°76/8, 5C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.20 304**		⇑Pn	**Pn**	**07 15 01.7**	**+1.0**
	4.4nm,0.7s						
KURK				⇑Sn	**Sb**	**07 15 32.2**	**+0.7**
	8.7nm,0.7s						
KURBB	**Kurchatov Arra**	**2.21 301**		Pg	**Pb**	**07 15 03.0**	**-0.7**
	0.2nm,0.3s,baz=112,slow=19,SNR=15						
KURBB				Lg	Lg	07 15 31.6	
	0.4nm,0.3s,baz=110,slow=32,SNR=8.7						
KURBB	**Kurchatov Arra**	**2.21 301**		⇓Pn	**Pn**	**07 15 01.3**	**+0.5**
	4.0nm,0.6s						
KURBB				⇑Sn	**Sg**	**07 15 33.4**	**-0.4**
	22nm,0.8s						
MK31	**Makanchi Array**	**2.78 169**		⇑Pg	**Pg**	**07 15 15.6**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**269**	I	I	07 40 10.0	
	baz=88,slow=349,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.05**	**269**	Pg	Pg	07 34 39.0	-1.3
	1.3nm,0.3s,baz=85,slow=17,SNR=9.8						
ZALV				Lg	Lg	07 34 55.5	
	2.6nm,0.3s,baz=90,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**5.97**	**239**	Pn	Pn	07 35 50.8	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=9.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**203**	Pn	Pn	07 36 14.5	+1.0
	0.2nm,0.3s,baz=25,slow=15,SNR=7.9						
	0.2nm,0.3s						

*IDC **05** 07:40:48.4±0.8, 54°.93N×164°.80E, h0km, mb3.6/14, mbtmp3.6/15, ML2.6/1, Error ellipse: s-maj=26.5km s-min=15.4km az=152.0*
*KRSC **05** 07:40:49.7±0.8, 54°.93N×164°.65E, h48km±20km, Ml4.1*
ISC 05 07:40:52.3±0.6, 55°.00N±0°.05×164°.65E±0°.04, h27km, n48, σ1§41/46, mb3.7/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.79**	**75**	*i* P	**Pn**	**07 41 06.1**	**-1.4**
BKI				*e*S	**Sn**	**07 41 17.2**	**-1.2**
KBTR	**Krutoberegovo**	**1.59**	**320**	*e*P	**Pn**	**07 41 16.8**	**-1.9**
KBTR				*e*S	**Sn**	**07 41 37.3**	**-1.0**
KBG	**Krutoberegovo**	**1.67**	**319**	*e*P	**Pn**	**07 41 18.6**	**-1.2**
SMKR	**Semkarok**	**2.40**	**313**	*e*P	**Pb**	**07 41 30.5**	**-4.2**
BZGR	**Bezymyannyi-Gr**	**2.44**	**294**	*e*P	**Pn**	**07 41 30.6**	**+0.2**
KRSR	**Krestovskiy**	**2.62**	**299**	*e*P	**Pn**	**07 41 32.2**	**-0.7**
KLY	**Klyuchi**	**2.62**	**302**	*e*P	**Pn**	**07 41 31.9**	**-0.8**
KLY				*e*S	**Sn**	**07 42 02.8**	**-0.8**
KMNR	**Kamenistaya**	**2.63**	**289**	*e*P	**Pn**	**07 41 33.7**	**+0.7**
KMNR				*e*S	**Sn**	**07 42 03.9**	**-0.2**
KIRR	**Kirishev**	**2.63**	**293**	*e*P	**Pn**	**07 41 33.9**	**+0.8**
KPT	**Kopyto**	**2.70**	**293**	*e*P	**Pb**	**07 41 35.6**	**-4.3**
KOZ	**Kozyrevsk**	**2.92**	**293**	*e*P	**Pn**	**07 41 38.1**	**+1.3**
SRDR	**Sredinnyy**	**3.09**	**297**	*e*P	Pb	07 41 41.5	-5.0
ESO	**Esso**	**3.51**	**288**	*e*P	**Pn**	**07 41 45.2**	**+0.1**
UGLR	**Uglovaya**	**3.87**	**245**	*e*P	**Pn**	**07 41 50.1**	**0.0**
AVH	**Avacha**	**3.89**	**246**	*e*P	**Pn**	**07 41 50.7**	**+0.5**
KRX	**Arik**	**3.89**	**247**	*e*P	**Pn**	**07 41 50.6**	**+0.2**
KOK	**Koryaka**	**3.93**	**247**	*e*P	**Pn**	**07 41 50.9**	**+0.1**
DALK	**Dalny**	**4.00**	**243**	*e*P	**Pn**	**07 41 50.3**	**-1.4**
PET	**Petropavlovsk**	**4.06**	**243**	*e*P	**Pn**	**07 41 52.0**	**-0.5**
GNL	**Ganaly**	**4.14**	**254**	*e*P	**Pn**	**07 41 53.7**	**0.0**
OSSR	**Ossora**	**4.35**	**349**	*e*P	**Pn**	**07 41 57.3**	**+0.9**
KRMR	**Karymshinskiy**	**4.43**	**243**	*e*P	**Pn**	**07 41 57.8**	**+0.2**
RUS	**Russkaya**	**4.46**	**237**	*e*P	**Pn**	**07 41 58.5**	**+0.5**
PETK	**Petropavlovsk-**	**4.51**	**248**	Pn	**Pn**	**07 41 57.8**	**-1.0**
	1.3nm,0.3s,baz=79,slow=17,SNR=15						
PETK				Sn	**Sn**	**07 42 49.4**	**-0.9**
	2.3nm,0.3s,baz=46,slow=5.1,SNR=3.9						
	2.6nm,0.4s						
GRL	**Gorelyy**	**4.61**	**241**	*e*P	**Pn**	**07 42 00.3**	**+0.1**
PALN	**Palana**	**4.83**	**330**	*e*P	**Pn**	**07 42 05.9**	**+2.8**
TILK	**Tilichiki**	**5.52**	**8**	*e*P	**Pn**	**07 42 14.3**	**+1.8**
ILAR	**Eielson Array**	**25.55**	**48**	P	**P**	**07 46 18.4**	**+0.1**
	1.7nm,0.8s,baz=262,slow=8.7,SNR=20						
	1.7nm,0.8s						
MJAR	**Matsushiro Arr**	**25.84**	**235**	P	**P**	**07 46 22.1**	**+0.9**
	1.0nm,0.3s,baz=46,slow=16,SNR=4.1						
	1.0nm,0.3s						
KSRS	**Korea Array**	**30.41**	**250**	P	**P**	**07 47 03.6**	**+1.6**
	1.4nm,0.8s,baz=50,slow=7.5,SNR=4.6						
	1.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.25**	**176**	T	T	08 26 12.5	
	baz=359						
H11N3	**WAKE ISLAND Hy**	**35.27**	**176**	T	T	08 26 15.9	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**35.27**	**176**	T	T	08 26 17.5	
	baz=359						
SONM	**Songino Array**	**36.08**	**283**	P	**P**	**07 47 53.9**	**+2.4**
	0.2nm,0.5s,baz=61,slow=8.4,SNR=2.6						
	0.2nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**36.46**	**177**	T	T	08 27 45.9	
	baz=354						
H11S3	**WAKE ISLAND Hy**	**36.48**	**177**	T	T	08 27 38.8	
	baz=354						
H11S2	**WAKE ISLAND Hy**	**36.48**	**177**	T	T	08 27 51.9	
	baz=354						
YKA	**Yellowknife Ar**	**39.92**	**46**	P	**P**	**07 48 22.5**	**-0.9**
	0.2nm,0.6s,baz=297,slow=8.2,SNR=4.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**49.09**	**303**	P	**P**	**07 49 37.1**	**+0.3**
	0.5nm,0.5s,baz=56,slow=7.4,SNR=3.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**49.72**	**297**	P	**P**	**07 49 42.0**	**+0.2**
	0.4nm,0.7s,baz=52,slow=7.9,SNR=5.0						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**54.26**	**65**	P	**P**	**07 50 16.0**	**+0.1**
	0.2nm,0.7s,baz=299,slow=8.8,SNR=1.9						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**59.39**	**338**	P	**P**	**07 50 53.6**	**+2.1**
	1.8nm,0.8s,baz=15,slow=12,SNR=2.7						
	1.8nm,0.8s						
NOA	**NORSAR Array B**	**62.41**	**346**	P	**P**	**07 51 12.7**	**+0.6**
	0.5nm,0.8s,baz=3.2,slow=7.2,SNR=1.5						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**67.44**	**71**	P	**P**	**07 51 46.4**	**+1.0**
	0.3nm,0.5s,baz=323,slow=6.2,SNR=6.0						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**68.30**	**331**	P	**P**	**07 51 51.0**	**+0.7**
	0.1nm,0.3s,baz=29,slow=6.6,SNR=1.9						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**79.00**	**209**	P	**P**	**07 52 53.4**	**0.0**
	0.3nm,0.5s,baz=23,slow=5.7,SNR=1.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**82.66**	**208**	P	**P**	**07 53 13.2**	**+0.2**
	1.0nm,1.0s,baz=12,slow=6.6,SNR=4.6						
	1.0nm,1.0s						
QSPA	**South Pole Qui**	**144.75**	**180**	PKP	**PKPdf**	**08 00 23.1**	**-1.8**
	1.5nm,0.7s,baz=1.8,slow=3.4,SNR=9.8						

*IDC **05** 07:41:44.0±0.7, 54°.93N×164°.75E, h0km, mb3.9/20, mbtmp4.0/22, ML3.5/2, MS3.1/1, Error ellipse: s-maj=22.1km s-min=12.6km az=151.0*
*NEIC **05** 07:41:45.5±1.3, 54°.84N±0°.04×164°.5E±0°.2, h10km±2km, mb4.2/44, Error ellipse: s-maj=19.1km s-min=5.9km az=99.0*
*MOS **05** 07:41:45.3±0.9, 54°.94N×164°.74E, h19km, mb4.5/2, Error ellipse: s-maj=7.9km s-min=7.4km az=73.0*
*KRSC **05** 07:41:45.1±1.6, 54°.84N×164°.67E, h49km±26km, Ml4.5*
ISC 05 07:41:48.6±3.6, 54°.87N±0°.05×164°.75E±0°.03, h32km±27km, n126, σ1§29/128, mb4.2/38, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.78**	**64**	PN	**Pn**	**07 42 01.8**	**-1.5**
BKI				S	**Sn**	**07 42 12.5**	**-1.4**
BKI	**Bering**	**0.78**	**64**	*e*P	**Pn**	**07 42 01.8**	**-1.5**
BKI				*e*S	**Sn**	**07 42 12.5**	**-1.4**
KBTR	**Krutoberegovo**	**1.73**	**322**	PN	Pn	07 42 13.0	-3.5
KBTR	**Krutoberegovo**	**1.73**	**322**	*e*P	Pn	07 42 13.1	-3.5
KBG	**Krutoberegovo**	**1.81**	**321**	PN	Pn	07 42 14.6	-2.9
KBG				S	**Sn**	**07 42 34.7**	**-4.6**
KBG	**Krutoberegovo**	**1.81**	**321**	*e*P	Pn	07 42 14.7	-2.9
KBG				*e*S	**Sn**	**07 42 34.8**	**-4.6**
BZGR	**Bezymyannyi-Gr**	**2.55**	**297**	PN	**Pn**	**07 42 27.1**	**-0.7**
BZGR				S	**Sn**	**07 42 57.9**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.55**	**297**	*e*P	**Pn**	**07 42 27.1**	**-0.7**
BZGR				*e*S	**Sn**	**07 42 57.9**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.66**	**296**	*e*S	**Sn**	**07 43 00.9**	**+0.2**
KMNR	**Kamenistaya**	**2.73**	**291**	PN	**Pn**	**07 42 30.7**	**+0.5**
KMNR	**Kamenistaya**	**2.73**	**291**	*e*P	**Pn**	**07 42 30.8**	**+0.5**
KRSR	**Krestovskiy**	**2.73**	**301**	PN	**Pn**	**07 42 29.4**	**-1.0**
KRSR	**Krestovskiy**	**2.73**	**301**	*e*P	**Pn**	**07 42 29.4**	**-1.0**
KIRR	**Kirishev**	**2.74**	**295**	PN	**Pn**	**07 42 30.1**	**-0.3**
KIRR				S	**Sn**	**07 43 02.8**	**+0.3**
KIRR	**Kirishev**	**2.74**	**295**	*e*P	**Pn**	**07 42 30.2**	**-0.3**
KIRR				*e*S	**Sn**	**07 43 02.9**	**+0.3**
KLY	**Klyuchi**	**2.74**	**304**	PN	Pn	07 42 27.9	-2.4
KLY				S	**Sn**	**07 42 59.6**	**-2.7**
KLY	**Klyuchi**	**2.74**	**304**	*e*P	Pn	07 42 27.9	-2.4
KLY				*e*S	**Sn**	**07 42 59.7**	**-2.7**
KPT	**Kopyto**	**2.81**	**295**	PN	**Pn**	**07 42 31.3**	**0.0**
KPT	**Kopyto**	**2.81**	**295**	*e*P	**Pn**	**07 42 31.3**	**0.0**
KOZ	**Kozyrevsk**	**3.02**	**295**	PN	**Pn**	**07 42 34.4**	**+0.2**
KOZ				S	**Sn**	**07 43 10.3**	**+1.0**
KOZ	**Kozyrevsk**	**3.02**	**295**	*e*P	**Pn**	**07 42 34.4**	**+0.2**
KOZ				*e*S	**Sn**	**07 43 10.4**	**+1.0**
ESO	**Esso**	**3.61**	**290**	PN	**Pn**	**07 42 41.5**	**-0.8**
ESO	**Esso**	**3.61**	**290**	*e*P	**Pn**	**07 42 41.6**	**-0.8**
NLC	**Nalytchevo**	**3.61**	**244**	PN	**Pn**	**07 42 42.8**	**+0.5**
NLC	**Nalytchevo**	**3.61**	**244**	*e*P	**Pn**	**07 42 42.9**	**+0.5**
NLC				*e*S	**Sn**	**07 43 21.0**	**-2.9**
UGLR	**Uglovaya**	**3.87**	**247**	PN	**Pn**	**07 42 46.6**	**+0.6**
UGLR	**Uglovaya**	**3.87**	**247**	*e*P	**Pn**	**07 42 46.6**	**+0.6**
UGLR				*e*S	**Sn**	**07 43 27.3**	**-3.0**
AVH	**Avacha**	**3.89**	**248**	PN	**Pn**	**07 42 46.4**	**+0.2**
AVH	**Avacha**	**3.89**	**248**	*e*P	**Pn**	**07 42 46.4**	**+0.2**
AVH				*e*S	**Sn**	**07 43 28.3**	**-2.5**
KRX	**Arik**	**3.90**	**250**	PN	**Pn**	**07 42 46.4**	**+0.1**
KRX	**Arik**	**3.90**	**250**	*e*P	**Pn**	**07 42 46.4**	**+0.1**
KRX				*e*S	**Sn**	**07 43 27.3**	**-3.7**
KOK	**Koryaka**	**3.93**	**249**	PN	**Pn**	**07 42 46.8**	**0.0**
KOK	**Koryaka**	**3.93**	**249**	*e*P	**Pn**	**07 42 46.8**	**0.0**
KOK				*e*S	**Sn**	**07 43 29.7**	**-2.2**
DALK	**Dalny**	**3.99**	**245**	PN	**Pn**	**07 42 46.2**	**-1.3**
DALK	**Dalny**	**3.99**	**245**	*e*P	**Pn**	**07 42 46.3**	**-1.3**
DALK				*e*S	**Sn**	**07 43 28.8**	**-4.4**
PET	**Petropavlovsk**	**4.05**	**245**	*e*PN	**Pn**	**07 42 48.6**	**+0.3**
PET				MLR	MLR		
	comp=Z,300nm,8.0s						
PET	**Petropavlovsk**	**4.05**	**245**	*e*P	**Pn**	**07 42 48.0**	**-0.3**
PET				*e*S	**Sn**	**07 43 31.7**	**-2.8**
INSR	**Institute**	**4.05**	**246**	*e*S	**Sn**	**07 43 31.3**	**-3.3**
GNL	**Ganaly**	**4.16**	**256**	PN	**Pn**	**07 42 51.1**	**+1.1**
GNL	**Ganaly**	**4.16**	**256**	*e*P	**Pn**	**07 42 51.1**	**+1.1**
KRMR	**Karymshinskiy**	**4.42**	**245**	PN	**Pn**	**07 42 54.0**	**+0.6**
KRMR	**Karymshinskiy**	**4.42**	**245**	*e*P	**Pn**	**07 42 54.0**	**+0.6**
OSSR	**Ossora**	**4.49**	**349**	PN	**Pn**	**07 42 53.7**	**-0.6**
OSSR	**Ossora**	**4.49**	**349**	*e*P	**Pn**	**07 42 53.8**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.52**	**250**	Pn	Pn	07 42 51.6	-3.2
PEA0B	**Petropavlovsk-**	**4.52**	**250**	PN	**Pn**	**07 42 55.3**	**+0.5**
PETK	**Petropavlovsk-**	**4.52**	**250**	Pn	Pn	07 42 50.1	-4.7
PETK	**Petropavlovsk-**	**4.52**	**250**	Pn	**Pn**	**07 42 54.2**	**-0.6**
	comp=Z,3.9nm,0.3s,baz=76,slow=18,SNR=5.0						
PETK				Sn	**Sn**	**07 43 44.7**	**-1.5**
	comp=Z,5.5nm,0.3s,baz=264,slow=14,SNR=6.4						
	comp=Z,18nm,0.7s						
SHEM	**Shemya Is, Ala**	**5.94**	**107**	LR	LR	07 45 50.4	
	comp=Z,175nm,18.1s,baz=308,slow=41						
M13K	**Dall Lake**	**17.83**	**59**	P	**P**	**07 45 55.4**	**+1.0**
ASAJ	**Asahikawa**	**17.89**	**242**	P	**Pn**	**07 45 54.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=92,slow=18,SNR=4.2						
	comp=Z,11nm,0.8s						
F15K	**North Star Dit**	**18.43**	**42**	P	**Pn**	**07 46 02.9**	**+1.7**
K15K	**Wolf Creek Mou**	**18.89**	**53**	P	**Pn**	**07 46 07.9**	**+1.0**
K15K				IAmb	IAmb	07 46 35.5	
	comp=Z,17nm,1.2s						
C16K	**Lisburne Hills**	**19.28**	**34**	P	**P**	**07 46 11.5**	**+1.2**
N15K	**Kwethluk River**	**19.44**	**60**	P	**Pn**	**07 46 14.1**	**+0.6**
J16K	**Anvik River**	**19.47**	**50**	P	**P**	**07 46 13.6**	**+1.2**
J16K				IAmb	IAmb	07 46 16.2	
	comp=Z,19nm,1.5s						
L16K	**Owhat River**	**19.80**	**55**	P	**P**	**07 46 16.8**	**+0.8**
L16K				IAmb	IAmb	07 46 30.9	
	comp=Z,8.5nm,0.8s						
F17K	**Baldwin Pennin**	**19.98**	**41**	P	**P**	**07 46 18.7**	**+0.8**
M16K	**Timber Creek**	**20.01**	**57**	P	**P**	**07 46 19.7**	**+1.4**
J17K	**VABM Dome**	**20.16**	**50**	P	Pn	07 46 22.0	0.0
M17K	**Holitna River**	**20.76**	**56**	P	**P**	**07 46 27.6**	**+1.2**
M17K				IAmb	IAmb	07 46 38.0	
	comp=Z,17nm,1.1s						
H18K	**Honhosa River**	**20.78**	**46**	P	**P**	**07 46 27.9**	**+1.3**
C18K	**Utukok River**	**20.82**	**35**	P	**P**	**07 46 27.1**	**+0.1**
KLR	**Kul'dur**	**20.93**	**268**	P	**P**	**07 46 28.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=68,slow=8.1,SNR=4.3						
	comp=Z,0.7nm,0.5s						
JTM	**Tenmabayashi**	**21.10**	**238**	P	**P**	**07 46 29.0**	**-1.2**
F19K	**Shaleruckik Mo**	**21.42**	**41**	P	**P**	**07 46 33.3**	**-0.2**
TTA	**Tatalina**	**21.50**	**52**	P	**P**	**07 46 35.5**	**+1.1**
TTA				IAmb	IAmb	07 46 43.1	
	comp=Z,13nm,1.4s						
TTA	**Tatalina**	**21.50**	**52**	P	**P**	**07 46 35.5**	**+1.1**
TTA				pmax	pmax		
	comp=Z,13nm,1.4s						
J19K	**Poorman**	**21.77**	**49**	P	**P**	**07 46 37.0**	**-0.2**
E19K	**Redstone River**	**21.80**	**40**	P	**P**	**07 46 39.5**	**+2.0**
E19K				IAmb	IAmb	07 46 49.9	
	comp=Z,12nm,1.2s						
F20K	**Avaraart Lake**	**22.26**	**41**	P	**P**	**07 46 42.9**	**+0.5**
TIXI	**Tiksi**	**22.73**	**331**	P	**P**	**07 46 46.5**	**-0.9**
TIXI	**Tiksi**	**22.73**	**331**	P	**P**	**07 46 46.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
G21K	**Allakaket**	**23.01**	**43**	P	**P**	**07 46 51.1**	**+0.8**
H21K	**Melozitna Rive**	**23.16**	**45**	P	**P**	**07 46 52.4**	**+0.4**
H21K				IAmb	IAmb	07 46 55.6	
	comp=Z,15nm,1.3s						
B21K	**Ikpikpuk River**	**23.37**	**35**	P	**P**	**07 46 54.3**	**+0.4**
B21K				IAmb	IAmb	07 46 57.0	
	comp=Z,6.2nm,0.8s						
E22K	**Anaktuvuk Pass**	**23.96**	**39**		**P**	**07 46 60.0**	**+0.3**
E22K				IAmb	IAmb	07 47 14.0	
	comp=Z,6.0nm,1.1s						
B22K	**Teshekpuk Lake**	**23.99**	**34**	P	**P**	**07 46 59.2**	**-0.6**
COLD	**Coldfoot**	**24.41**	**42**	P	**P**	**07 47 04.5**	**+0.7**
COLD				IAmb	IAmb	07 47 25.8	
	comp=Z,5.2nm,1.0s						
I23K	**Minto, Yukon-K**	**24.55**	**47**	P	**P**	**07 47 05.5**	**+0.4**
I23K				IAmb	IAmb	07 47 08.2	
	comp=Z,11nm,1.1s						
C23K	**Itkillik River**	**24.77**	**36**	P	**P**	**07 47 07.3**	**+0.3**
C23K				IAmb	IAmb	07 47 09.1	
	comp=Z,4.3nm,0.9s						
TOLK	**Toolik Lake Re**	**24.87**	**39**	P	**P**	**07 47 08.1**	**+0.2**
TOLK				IAmb	IAmb	07 47 18.1	
	comp=Z,5.1nm,0.7s						
WRH	**Wood River Hil**	**25.08**	**49**	P	**P**	**07 47 10.5**	**+0.7**
CCB	**Clear Creek Bu**	**25.20**	**48**	P	**P**	**07 47 10.9**	**0.0**
D24K	**Happy Valley**	**25.23**	**37**	P	**P**	**07 47 12.5**	**+1.3**
D24K				IAmb	IAmb	07 47 22.2	
	comp=Z,4.1nm,0.6s						
C24K	**Franklin Bluff**	**25.39**	**36**	P	**P**	**07 47 13.5**	**+0.9**
C24K				IAmb	IAmb	07 47 22.6	
	comp=Z,5.6nm,0.8s						
ILAR	**Eielson Array**	**25.59**	**48**	P	**P**	**07 47 14.0**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=259,slow=4.9,SNR=17						
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**25.59**	**48**	P	**P**	**07 47 14.0**	**-0.5**
MJAR	**Matsushiro Arr**	**25.82**	**236**	P	**P**	**07 47 17.4**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=24,slow=8.8,SNR=7.1						
	comp=Z,5.7nm,0.9s						
D25K	**Kavik River**	**26.12**	**37**	P	**P**	**07 47 19.2**	**-0.1**
D25K				IAmb	IAmb	07 47 40.3	
	comp=Z,3.1nm,0.8s						
PRP	**Porcupine Dome**	**26.17**	**46**	P	**P**	**07 47 20.3**	**+0.4**
PRP				IAmb	IAmb	07 47 22.4	
	comp=Z,5.8nm,0.8s						
SCRK	**Sand Creek**	**26.89**	**50**	IAmb	IAmb	07 47 27.4	
	comp=Z,7.4nm,1.2s						
L27K	**Beaver Creek,**	**27.95**	**51**	P	**P**	**07 47 36.6**	**+0.8**
L27K				IAmb	IAmb	07 47 39.0	
	comp=Z,6.6nm,1.1s						
DAWY	**Dawson**	**28.89**	**49**	P	**P**	**07 47 44.4**	**+0.3**
DAWY				IAmb	IAmb	07 48 08.1	
	comp=Z,3.2nm,1.1s						
L29M	**L29M**	**29.60**	**51**	P	**P**	**07 47 51.7**	**+1.2**
KSRS	**Korea Array**	**30.42**	**250**	P	**P**	**07 47 59.0**	**+1.2**
	comp=Z,3.0nm,0.7s,baz=41,slow=9.2,SNR=10.0						
	comp=Z,3.0nm,0.7s						
KSRS	**Korea Array**	**30.42**	**250**	P	**P**	**07 47 59.0**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**35.12**	**176**	T	T	08 27 04.7	
	baz=359,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**35.13**	**176**	T	T	08 27 11.2	
	baz=359,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**35.13**	**176**	T	T	08 27 07.0	
	baz=359,slow=76,SNR=31						
SONM	**Songino Array**	**36.16**	**284**	P	**P**	**07 48 47.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=64,slow=6.6,SNR=4.6						
	comp=Z,0.6nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**36.33**	**177**	T	T	08 28 37.2	
	baz=353						
H11S3	**WAKE ISLAND Hy**	**36.34**	**177**	T	T	08 28 37.7	
	baz=353						
H11S2	**WAKE ISLAND Hy**	**36.34**	**177**	T	T	08 28 38.3	
	baz=353						
EUNU	**Eureka**	**39.54**	**15**	IAmb	IAmb	07 49 18.6	
	comp=Z,11nm,1.3s						
YKA	**Yellowknife Ar**	**39.97**	**45**	P	**P**	**07 49 19.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=298,slow=8.3,SNR=11						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**49.10**	**303**	P	**P**	**07 50 32.7**	**+0.1**
KURK	**Kurchatov**	**49.10**	**303**	P	**P**	**07 50 32.7**	**+0.1**
KURBB	**Kurchatov Arra**	**49.21**	**303**	P	**P**	**07 50 33.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=55,slow=8.0,SNR=9.1						
	comp=Z,2.0nm,0.7s						
PLID	**Pearl Lake**	**49.28**	**67**	P	**P**	**07 50 35.7**	**+1.4**
MKAR	**Makanchi Array**	**49.83**	**297**	P	**P**	**07 50 37.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=53,slow=7.2,SNR=6.1						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**07 50 49.6**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=56,slow=8.9,SNR=3.6						
	comp=Z,1.0nm,0.5s						
RLMT	**Red Lodge**	**52.77**	**62**	P	**P**	**07 51 01.4**	**+0.8**
RLMT				IAmb	IAmb	07 51 02.6	
	comp=Z,2.6nm,0.8s						
PDAR	**Pinedale Array**	**54.26**	**65**	P	**P**	**07 51 11.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=308,slow=7.3,SNR=3.7						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**59.53**	**338**	P	**P**	**07 51 48.3**	**0.0**
	comp=Z,2.3nm,0.9s,baz=21,slow=8.1,SNR=3.9						
	comp=Z,2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**61.21**	**261**	P	**P**	**07 52 00.8**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=24,slow=7.8,SNR=5.6						
	comp=Z,0.8nm,0.3s						
NOA	**NORSAR Array B**	**62.55**	**346**	P	**P**	**07 52 08.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=18,slow=6.6,SNR=1.9						
	comp=Z,0.5nm,0.6s						
SCHQ	**Schefferville**	**62.76**	**31**	P	**P**	**07 52 10.0**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=333,slow=7.1,SNR=7.8						
	comp=Z,1.5nm,0.6s						
TXAR	**Lajitas Array**	**67.43**	**71**	P	**P**	**07 52 41.8**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=319,slow=6.5,SNR=12						
	comp=Z,1.1nm,0.7s						
AKASG	**Malin Array Be**	**68.44**	**331**	P	**P**	**07 52 47.3**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=299,slow=27,SNR=1.6						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**76.92**	**323**	P	**P**	**07 53 37.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=18,slow=6.7,SNR=2.1						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**78.91**	**209**	P	**P**	**07 53 49.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=23,slow=5.6,SNR=5.7						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**78.91**	**209**	P	**P**	**07 53 49.0**	**+0.4**
ASAR	**Alice Springs**	**82.57**	**208**	P	**P**	**07 54 08.6**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=16,slow=5.4,SNR=12						
	comp=Z,2.6nm,0.9s						
ESDC	**Sonseca Array**	**85.33**	**351**	P	**P**	**07 54 22.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=7.7,slow=7.0,SNR=4.4						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**144.62**	**180**	PKP	**PKPab**	**08 01 18.6**	**-0.5**
	comp=Z,3.7nm,0.6s,baz=24,slow=1.3,SNR=19						

*IDC **05** 07:47:31.9±0.7, 54°.95N×164°.76E, h0km, mb4.0/20, mbtmp4.0/22, ML3.3/2, MS3.5/38, Error ellipse: s-maj=21.3km s-min=12.5km az=161.0*
*KRSC **05** 07:47:32.5±1.0, 54°.91N×164°.70E, h62km±23km, Ml4.4*
*MOS **05** 07:47:32.5±0.9, 54°.96N×164°.68E, h13km, mb4.5/18, Error ellipse: s-maj=6.6km s-min=5.3km az=84.6*
*NEIC **05** 07:47:33.6±0.7, 54°.9N±0°.1×164°.8E±0°.1, h10km±1km, mb4.2/66, Error ellipse: s-maj=22.6km s-min=5.1km az=328.0*
**ISC 05 07:47:33.8±0.4, 54°.92N±0°.04×164°.74E±0°.04, h10km, n226, σ1§35/199, mb4.2

BILL pmax pmax
comp=Z,2.0nm,1.9s
ANM Nome 17.71 45 P **Pn** **07 51 39.2 -0.9**
ANM Nome 17.71 45 P Pn 07 51 39.3 -0.9
ANM pmax pmax
comp=Z,8.0nm,1.4s
ASAJ Asahikawa 17.91 242 LR LR 07 57 53.9
comp=Z,74nm,19.2s,baz=10,slow=35
J14K Nanvaranak Lak 18.02 51 P **Pn** **07 51 43.1 -0.8**
J14K IAmb IAmb 07 52 05.1
comp=Z,22nm,1.3s
L14K Kuka Creek 18.21 56 P **Pn** **07 51 45.2 -1.2**
L14K IAmb IAmb 07 52 04.9
comp=Z,31nm,1.3s
F15K North Star Dit 18.39 42 P **P** **07 51 47.6 -0.9**
K15K Wolf Creek Mou 18.87 53 P **P** **07 51 53.4 -0.4**
K15K IAmb IAmb 07 51 56.5
comp=Z,25nm,1.4s
C16K Lisburne Hills 19.24 34 P **Pn** **07 51 58.5 -0.3**
YAK Yakutsk 19.46 306 LR LR 07 59 58.2
comp=Z,140nm,19.4s,baz=116,slow=38
YAK Yakutsk 19.46 306 *ceP* **P** **07 51 59.3 -0.9**
YAK pmax pmax
comp=Z,13nm,0.7s
L16K Owhat River 19.77 55 P **P** **07 52 03.3 -0.5**
J17K VABM Dome 20.14 51 P **P** **07 52 07.5 -0.2**
J17K IAmb IAmb 07 52 14.0
comp=Z,8.4nm,0.9s
K17K Iditarod 20.41 53 P **P** **07 52 11.3 +0.8**
E18K Tukpahlearik C 20.52 39 P **P** **07 52 12.5 +0.8**
H18K Honhosa River 20.75 46 P **P** **07 52 15.3 +0.9**
C18K Utukok River 20.78 35 P **P** **07 52 14.7 0.0**
G18K Tagagawik 20.80 44 P **P** **07 52 15.8 +1.0**
G18K IAmb IAmb 07 52 23.6
comp=Z,15nm,1.5s
KLR Kul'dur 20.93 268 LR LR 08 00 21.2
comp=Z,120nm,19.3s,baz=48,slow=37
KLR Kul'dur 20.93 268⇑ *eP* **P** **07 52 17.7 +1.4**
KLR pmax pmax
comp=Z,9.0nm,2.2s
J18K Innoko River 21.20 51 P **P** **07 52 18.3 -0.8**
J18K IAmb IAmb 07 52 26.7
comp=Z,12nm,1.2s
F19K Shaleruckik Mo 21.39 41 P **P** **07 52 20.9 -0.2**
TTA Tatalina 21.47 52 P **P** **07 52 22.0 -0.1**
TTA IAmb IAmb 07 52 38.8
comp=Z,14nm,1.5s
TTA Tatalina 21.47 52 P **P** **07 52 22.0 -0.1**
TTA pmax pmax
comp=Z,14nm,1.5s
H19K Roundabout Mou 21.61 45 P **P** **07 52 23.3 -0.2**
J19K Poorman 21.74 49 P **P** **07 52 25.3 +0.4**
E19K Redstone River 21.76 40 P **P** **07 52 25.0 -0.2**
E19K IAmb IAmb 07 52 37.4
comp=Z,15nm,1.4s
F20K Avaraart Lake 22.22 41 P **P** **07 52 29.1 -0.9**
J20K Nowinta River 22.40 49 P **P** **07 52 31.5 -0.5**
J20K IAmb IAmb 07 52 38.6
comp=Z,6.0nm,0.9s
TIXI Tiksi 22.68 331 LR LR 08 01 30.7
comp=Z,63nm,18.4s,baz=99,slow=37
TIXI Tiksi 22.68 331⇓ *eP* **P** **07 52 34.7 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
G21K Allakaket 22.97 43 P **P** **07 52 38.7 +0.7**
G21K IAmb IAmb 07 53 03.7
comp=Z,8.4nm,1.1s
H21K Melozitna Rive 23.13 45 P **P** **07 52 39.3 -0.4**
H21K IAmb IAmb 07 52 51.0
comp=Z,10nm,1.1s
E21K Killik River 23.21 38 P **P** **07 52 40.5 -0.1**
E21K IAmb IAmb 07 53 03.0
comp=Z,8.8nm,1.1s
B21K Ikpikpuk River 23.33 35 P **P** **07 52 41.5 -0.2**
B21K IAmb IAmb 07 52 44.6
comp=Z,7.0nm,0.8s
I21K Tanana 23.42 47 P **P** **07 52 42.7 +0.1**
SKT Skwentna 23.54 55 P **P** **07 52 43.7 -0.2**
SKT IAmb IAmb 07 53 09.8
comp=Z,11nm,1.3s
USRK Ussuriysk Ar. 23.58 257 LR LR 08 01 53.3
comp=Z,116nm,18.5s,baz=52,slow=36
D22K Ayikyak River 23.78 37 P **P** **07 52 45.8 -0.3**
D22K IAmb IAmb 07 52 51.0
comp=Z,8.7nm,1.3s
E22K Anaktuvuk Pass 23.92 39 P **P** **07 52 47.5 -0.1**
E22K IAmb IAmb 07 52 59.4
comp=Z,8.3nm,1.1s
B22K Teshekpuk Lake 23.95 34 P **P** **07 52 47.3 -0.3**
COLD Coldfoot 24.37 42 P **P** **07 52 51.1 -0.6**
COLD IAmb IAmb 07 53 19.5
comp=Z,5.8nm,0.9s
G23K Bananza Creek 24.38 43 P **P** **07 52 51.3 -0.4**
D23K Nanushuk River 24.50 38 P **P** **07 52 52.5 -0.3**
D23K IAmb IAmb 07 53 02.5
comp=Z,10nm,1.4s
I23K Minto, Yukon-K 24.52 47 P **P** **07 52 52.6 -0.4**
E23K Chandalar 24.72 40 IAmb IAmb 07 53 21.1
comp=Z,8.4nm,1.0s
RND Reindeer 24.73 51 P **P** **07 52 53.7 -1.3**
RND Reindeer 24.73 51 P **P** **07 52 53.7 -1.3**
RND pmax pmax
comp=Z,25nm,1.5s
C23K Itkillik River 24.73 36 P **P** **07 52 54.5 -0.4**
C23K IAmb IAmb 07 53 05.0
comp=Z,6.1nm,1.1s
TOLK Toolik Lake Re 24.84 39 P **P** **07 52 55.7 -0.2**
TOLK IAmb IAmb 07 53 05.7
comp=Z,4.9nm,0.8s
WRH Wood River Hil 25.05 49 P **P** **07 52 57.5 -0.3**
COLA College 25.15 48 *deP* **P** **07 52 58.1 -0.6**
COLA pmax pmax
comp=Z,13nm,1.3s
H24K Noodor Dome 25.17 45 P **P** **07 52 59.1 +0.1**
H24K IAmb IAmb 07 53 00.8
comp=Z,4.2nm,0.9s
CCB Clear Creek Bu 25.17 48 P **P** **07 52 58.6 -0.2**
D24K Happy Valley 25.20 38 P **P** **07 52 59.1 0.0**
D24K IAmb IAmb 07 53 04.2
comp=Z,4.7nm,0.7s
G24K Hadweenzic Riv 25.38 43 IAmb IAmb 07 53 04.0
comp=Z,6.3nm,0.9s
HDA Harding Lake 25.54 49 P **P** **07 53 01.9 -0.4**
HDA IAmb IAmb 07 53 24.6
comp=Z,5.4nm,1.0s
IL31 25.57 48 P **P** **07 53 02.1 -0.3**
IL31 IAmb IAmb 07 53 04.3
comp=Z,5.9nm,0.8s
ILAR Eielson Array 25.57 48 P **P** **07 53 02.5 0.0**
ILAR Eielson Array 25.57 48 P **P** **07 53 01.6 -0.9**
comp=Z,3.3nm,0.8s,baz=260,slow=8.5,SNR=33
comp=Z,3.3nm,0.8s
ILAR Eielson Array 25.57 48 P **P** **07 53 02.5 0.0**
MJA0 Matsu Arr-Jizo 25.82 236 *eP* **P** **07 53 05.6 +0.5**
MJA0 pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 25.84 236 P **P** **07 53 05.3 +0.1**
comp=Z,2.7nm,0.7s,baz=23,slow=8.6,SNR=6.2
comp=Z,2.7nm,0.7s
M24K Tolsona, Glenn 26.05 54 P **P** **07 53 07.2 +0.3**
D25K Kavik River 26.09 37 IAmb IAmb 07 53 15.6
comp=Z,3.2nm,0.8s
PRP Porcupine Dome 26.14 46 P **P** **07 53 07.7 -0.1**
E25K Arctic Village 26.23 40 P **P** **07 53 08.7 +0.1**
E25K IAmb IAmb 07 53 17.8
comp=Z,4.6nm,1.1s
BMAR Burnt Mountain 26.56 42 P **P** **07 53 11.7 +0.2**
SCRK Sand Creek 26.86 50 P **P** **07 53 13.3 -1.1**
SCRK IAmb IAmb 07 53 15.4
comp=Z,5.5nm,1.1s
C27K Jago River 27.06 37 IAmb IAmb 07 53 18.3
comp=Z,9.4nm,1.3s
BCAR Beaver Creek A 27.94 51 P **P** **07 53 24.0 +0.1**
I30M Mount Dempster 29.98 46 P **P** **07 53 42.0 -0.1**
I30M IAmb IAmb 07 54 10.0
comp=Z,6.1nm,1.3s
KSRS Korea Array 30.43 250 P **P** **07 53 47.5 +1.4**
comp=Z,3.6nm,1.0s,baz=48,slow=9.8,SNR=8.4
KSRS LR LR 08 05 41.2
comp=Z,33nm,18.7s,baz=45,slow=36
comp=Z,3.6nm,1.0s
KSRS Korea Array 30.43 250 *eP* **P** **07 53 47.9 +1.7**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 30.72 40 P **P** **07 53 48.5 +0.1**
INK IAmb IAmb 07 53 57.8
comp=Z,7.3nm,1.4s
INK Inuvik 30.72 40 P **P** **07 53 48.5 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.4s
F31M Tsiigehtchic 30.73 42 P **P** **07 53 48.5 -0.1**
F31M IAmb IAmb 07 53 57.6
comp=Z,3.5nm,1.1s
JNU Nakatsue 32.18 241 LR LR 08 07 57.1
comp=Z,27nm,18.0s,baz=52,slow=38
XLT XiLinHaoTe 32.88 271 *eP* **P** **07 54 07.4 -0.3**
XLT pmax pmax
comp=Z,5.0nm,1.9s
XLT pmax pmax
comp=Z,63nm,4.4s
XLT LR LR
comp=E,170nm,11.5s
XLT LR LR
comp=Z,100nm,10.0s
H11N2 WAKE ISLAND Hy 35.17 176 T T 08 32 48.4
baz=359,slow=76,SNR=25
H11N3 WAKE ISLAND Hy 35.18 176 T T 08 32 52.5
baz=359,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 35.19 176 T T 08 32 53.8
baz=359,slow=76,SNR=29
NRIK Noril'sk 36.02 324 LR LR 08 08 56.8
comp=Z,85nm,20.3s,baz=70,slow=36
NRIK Noril'sk 36.02 324⇑ *eP* **P** **07 54 33.7 -0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.4s
SONM Songino Array 36.15 284 P **P** **07 54 37.4 +1.3**
comp=Z,0.3nm,0.5s,baz=46,slow=10,SNR=1.8
SONM LR LR 08 09 38.9
comp=Z,92nm,20.2s,baz=137,slow=37
comp=Z,0.3nm,0.5s
H11S1 WAKE ISLAND Hy 36.38 177 T T 08 34 22.8
baz=359,slow=76,SNR=4.2
H11S3 WAKE ISLAND Hy 36.39 177 T T 08 34 20.8
baz=359,slow=76,SNR=4.0
H11S2 WAKE ISLAND Hy 36.40 177 T T 08 34 31.6
baz=359,slow=76,SNR=3.2
BBB Bella Bella 38.60 65 LR LR 08 09 11.3
comp=Z,52nm,18.1s,baz=8.0,slow=34
EUNU Eureka 39.49 15 P **P** **07 55 04.2 +0.3**
EUNU IAmb IAmb 07 55 05.0
comp=Z,3.6nm,0.8s
YKA Yellowknife Ar 39.94 46 P **P** **07 55 07.2 -0.4**
comp=Z,0.9nm,0.7s,baz=298,slow=8.3,SNR=13
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 39.94 46 *eP* **P** **07 55 07.6 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
RES Resolute Bay 40.57 24 P **P** **07 55 13.1 +0.3**
RES Resolute Bay 40.57 24 P **P** **07 55 13.1 +0.3**
RES pmax pmax
comp=Z,5.0nm,1.4s
ZALV Zalesovo Beam 44.08 303 LR LR 08 15 32.0
comp=Z,67nm,19.1s,baz=53,slow=38
LZH Lanzhou 45.07 271 *eP* P 07 55 59.2 +9.3
LZH pP pwP 07 56 10.4 +12
LZH pmax pmax
comp=Z,21nm,1.3s
LZH LR LR
comp=N,210nm,17.8s
LZH LR LR
comp=E,170nm,14.7s
LZH LR LR
comp=Z,180nm,15.5s
GTA Gaotai 45.10 278 *eP* **P** **07 55 50.3 +0.2**
GTA pP pwP 07 55 58.8 +0.6
GTA pmax pmax
comp=Z,1.0nm,0.9s
GTA LR LR
comp=N,140nm,12.7s
GTA LR LR
comp=E,92nm,13.9s
GTA LR LR
comp=Z,97nm,13.9s
NEW Newport 46.62 64 LR LR 08 14 00.9
comp=Z,60nm,18.9s,baz=299,slow=34
YBH Yreka Blue Hor 47.85 74 LR LR 08 13 48.0
comp=Z,43nm,20.5s,baz=312,slow=33
KURK Kurchatov 49.07 303 *ceP* **P** **07 56 23.0 +2.3**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURBB Kurchatov Arra 49.17 303 P **P** **07 56 20.1 -1.5**
comp=Z,0.9nm,0.6s,baz=51,slow=7.6,SNR=4.6
KURBB LR LR 08 19 02.6
comp=Z,135nm,18.5s,baz=172,slow=38
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 49.80 297⇓ *eP* **P** **07 56 26.6 +0.2**
MKAR Makanchi Array 49.80 297 P **P** **07 56 26.1 -0.3**
MKAR Makanchi Array 49.80 297 P **P** **07 56 25.3 -1.2**
comp=Z,0.3nm,0.4s,baz=49,slow=5.4,SNR=5.2
MKAR LR LR 08 18 30.2
comp=Z,121nm,19.1s,baz=334,slow=37
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 49.80 297 P **P** **07 56 26.1 -0.3**
LYMT Lyon Mountain 49.95 63 P **P** **07 56 27.8 -0.1**
MAKZ Makanchi 49.95 297 P **P** **07 56 26.8 -0.8**
MAKZ Makanchi 49.95 297 P **P** **07 56 26.8 -0.8**
MAKZ pmax pmax
comp=Z,9.0nm,1.5s
GOMU GeErMu 50.18 278 P **P** **07 56 29.7 -0.1**
GOMU pP pwP 07 56 37.6 -0.4
GOMU sP sP 07 56 43.3 +11
GOMU pmax pmax
comp=Z,2.0nm,1.0s
FCC Fort Churchill 50.31 42 P **P** **07 56 29.7 -0.4**
FCC Fort Churchill 50.31 42 P **P** **07 56 29.7 -0.4**
FCC pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 51.37 310 P **P** **07 56 39.3 +1.1**
comp=Z,0.9nm,0.4s,baz=55,slow=7.8,SNR=4.2
BVAR LR LR 08 21 22.8
comp=Z,94nm,18.3s,baz=46,slow=40
comp=Z,0.9nm,0.4s
BRVK Borovoye 51.39 310⇑ *eP* **P** **07 56 39.8 +1.5**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
NVAR Mina Array Bea 52.57 74 P **P** **07 56 48.0 +0.4**
comp=Z,0.5nm,0.6s,baz=287,slow=8.1,SNR=4.9
comp=Z,0.5nm,0.6s
ELK Elko 52.63 70 LR LR 08 15 54.0
comp=Z,50nm,21.4s,baz=301,slow=32
ARTI Arti 53.97 319 LR LR 08 22 41.2
comp=Z,66nm,18.4s,baz=39,slow=39
ARTI Arti 53.97 319 *eiP* **P** **07 56 57.0 -0.3**
ARTI 07 58 55.7
ARTI S **S** **08 04 37.0 +4.4**
ARTI SS **SS** **08 08 15.7 +2.7**
ARTI pmax pmax
comp=Z,8.0nm,1.3s
PDAR Pinedale Array 54.25 65 P **P** **07 56 59.6 -0.2**
comp=Z,0.8nm,0.8s,baz=297,slow=5.2,SNR=6.9
comp=Z,0.8nm,0.8s
KIRV Kirov 55.51 325 LR LR 08 22 26.7
comp=Z,38nm,20.5s,baz=39,slow=38
ULM Lac du Bonnet 55.55 50⇓ *eP* **P** **07 57 07.5 -1.4**
AAK Ala-Archa 56.68 298 LR LR 08 22 28.6
comp=Z,61nm,19.6s,baz=38,slow=37
AAK Ala-Archa 56.68 298 *deP* **P** **07 57 18.6 +1.3**
AAK pmax pmax
comp=Z,2.0nm,1.0s
PFO Pinyon Flats O 57.08 77 LR LR 08 20 10.0
comp=Z,50nm,18.4s,baz=212,slow=34
KSH Kashi 58.19 294 P P 07 57 33.0 +5.1
KSH sP pwP 07 57 39.1 +3.1
KSH pmax pmax
comp=Z,3.0nm,1.1s
AKTO Aktyubinsk 58.56 314 LR LR 08 25 27.8
comp=Z,84nm,18.6s,baz=28,slow=39
FINES FINESS Array B 59.48 338 P **P** **07 57 34.9 -1.5**
comp=Z,1.4nm,0.7s,baz=21,slow=11,SNR=4.2
FINES LR LR 08 27 10.7
comp=Z,34nm,18.5s,baz=54,slow=40
comp=Z,1.4nm,0.7s
FINES FINESS Array B 59.48 338 *eP* **P** **07 57 38.9 +2.6**
FINES pmax pmax
comp=Z,3.0nm,1.0s
BELG Belogornoye 61.05 321 LR LR 08 26 39.2
comp=Z,52nm,18.9s,baz=1.4,slow=38
CMAR Chiang Mai Arr 61.21 261 P **P** **07 57 48.2 -0.5**
comp=Z,0.8nm,0.4s,baz=19,slow=7.8,SNR=7.1
CMAR LR LR 08 26 09.9
comp=Z,23nm,19.9s,baz=35,slow=38
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 61.21 261 *i* P **P** **07 57 49.5 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
BRDH Bariadhala 62.09 270 LR LR 08 26 19.3
comp=Z,34nm,19.1s,baz=202,slow=38
NOA NORSAR Array B 62.50 346 P **P** **07 57 56.0 -0.9**
comp=Z,0.7nm,0.6s,baz=17,slow=6.8,SNR=2.2
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 62.50 346 P **P** **07 57 56.0 -0.9**
SCHQ Schefferville 62.71 31 P **P** **07 57 57.1 -1.3**
comp=Z,1.9nm,0.6s,baz=329,slow=12,SNR=8.8
comp=Z,1.9nm,0.6s
HFS Hagfors 62.99 344 P **P** **07 57 59.3 -0.8**
comp=Z,2.7nm,0.9s,baz=22,slow=5.4,SNR=1.6
comp=Z,2.7nm,0.9s
HNR Honiara 64.24 185 LR LR 08 23 00.0
comp=Z,36nm,19.1s,baz=3.0,slow=33
TXAR Lajitas Array 67.42 71 P **P** **07 58 29.7 +0.2**
comp=Z,1.2nm,0.7s,baz=298,slow=4.5,SNR=18
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 68.39 331 P **P** **07 58 34.2 -0.9**
comp=Z,0.7nm,0.5s,baz=31,slow=6.2,SNR=4.2
AKASG LR LR 08 30 36.2
comp=Z,42nm,18.0s,baz=18,slow=38
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 68.39 331 *eP* **P** **07 58 38.5 +3.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 69.66 353 P **P** **07 58 43.6 +0.6**
comp=Z,1.8nm,0.8s,baz=13,slow=6.6,SNR=2.7
comp=Z,1.8nm,0.8s
AKT Akhty 70.01 315 *eP* **P** **07 58 44.2 -1.3**
AKT pmax pmax
comp=Z,16nm,1.9s
KBZ Khabaz 70.02 319 LR LR 08 33 42.9
comp=Z,44nm,20.4s,baz=26,slow=40
VSLR Vesyoloye 71.32 321⇑ *eP* **P** **07 58 54.1 +0.8**
VSLR pmax pmax
comp=Z,8.0nm,0.8s
GNI Garni 72.35 316 LR LR 08 34 37.2
comp=Z,68nm,20.9s,baz=34,slow=39
GNI Garni 72.35 316⇑ *eP* **P** **07 59 02.8 +3.1**
GNI pmax pmax
comp=Z,4.0nm,1.1s
TKL Tuckaleechee C 72.44 53 LR LR 08 30 48.2
comp=Z,43nm,21.1s,baz=334,slow=36
VRAC Vranov 72.76 339 LR LR 08 34 43.7
comp=Z,18nm,19.5s,baz=346,slow=39
KHC Kasperske Hory 73.53 341⇓ *eP* **P** **07 59 08.4 +2.0**
KHC pmax pmax
comp=Z,14nm,2.5s
MLR Muntele Rosu 74.05 331 LR LR 08 34 25.6
comp=Z,48nm,18.6s,baz=44,slow=38
BR131 Keskin Array S 76.87 323⇓ *eP* **P** **07 59 25.7 -0.3**
PPT Papeete 81.97 136 LR LR 08 27 44.9
comp=Z,32nm,21.0s,baz=77,slow=29
MMAI Mount Meron Ar 82.22 319 LR LR 08 42 50.6
comp=Z,34nm,18.4s,baz=320,slow=40
ASAR Alice Springs 82.61 208 P **P** **07 59 56.2 -0.7**
comp=Z,2.9nm,1.0s,baz=9.6,slow=5.0,SNR=10
comp=Z,2.9nm,1.0s
ESDC Sonseca Array 85.28 351 P **P** **08 00 10.4 -0.2**
comp=Z,1.4nm,0.9s,baz=0.8,slow=3.8,SNR=5.8
comp=Z,1.4nm,0.9s
EIL Elat 85.38 318 LR LR 08 45 10.6
comp=Z,35nm,18.5s,baz=65,slow=40
QSPA South Pole Qui 144.67 180 PKP **PKPab** **08 07 06.1 -1.8**
comp=Z,6.1nm,1.0s,baz=356,slow=1.2,SNR=15

ASRS ***05*** *07:58:04.0± 1.4, 53°.96N × 86°.57E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 07:58:06.1±2.4, 53°.94N × 86°.57E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=20.1km s-min=11.4km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**271**	I	I	08 03 00.0	
	baz=89,slow=342,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.03**	**271**	Pg	Pg	07 58 24.8	-1.1
	1.2nm,0.3s,baz=92,slow=16,SNR=18						
ZALV				Lg	Lg	07 58 40.8	
	1.1nm,0.3s,baz=94,slow=31,SNR=7.8						
KURBB	**Kurchatov Arra**	**5.95**	**239**	Pn	Pn	07 59 36.0	+0.7
	0.1nm,0.3s,baz=57,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 01 15.3	
	baz=55,slow=27,SNR=1.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	07 59 59.6	+0.7
	0.2nm,0.3s,baz=26,slow=14,SNR=10						
MKAR				Sn	Sn	08 01 28.5	+2.1
	0.1nm,0.3s,baz=19,slow=26,SNR=2.6						
MKAR				Lg	Lg	08 02 10.5	
	0.1nm,0.3s,baz=21,slow=28,SNR=3.2						
	0.2nm,0.3s						

LDG ***05*** *08:09:09.2± 0.4, 42°.36N × 13°.47E, h8km, Ml3.5/4, Error ellipse: s-maj=9.0km s-min=5.3km az=87.0*
ROM ***05*** *08:09:11.7± 0.0, 42°.424N ± 0°.002 × 13°.312E ± 0°.002, h9km, ML3.6/162, Mw3.4, Error ellipse: s-maj=0.2km s-min=0.2km az=70.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.02; $M_{\theta\theta}$0.59; $M_{\phi\phi}$0.44; $M_{r\theta}$-0.53; $M_{r\phi}$-0.77; $M_{\theta\phi}$1.22; Fault plane solution: $M_0$1.77683×10^{14} NP1:ϕ_s151.00000°, δ71.00000°, λ-74.00000°. NP2:ϕ_s290.00000°, δ25.00000°, λ-128.00000°.*
BEO ***05*** *08:09:12.9± 3.0, 42°.36N × 12°.90E, h48km, ML3.7/13*
IDC ***05*** *08:09:12.5± 1.1, 42°.53N × 13°.27E, h0km, mb3.5/7, mbtmp3.6/11, ML3.7/4, MS2.7/5, Error ellipse: s-maj=20.1km s-min=14.1km az=89.0*
PRU ***05*** *08:09:14.9, 42°.48N × 13°.56E, h10km*
ISC 05 08:09:13.0±0.8, 42°.43N ± 0°.02 × 13°.31E ± 0°.02, h8km ± 5km, n123, σ1$82/178, mb3.6/6, 11C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.11**	**318**	⇓P	**Pg**	**08 09 15.1**	**-0.5**
RM33				S	**Sg**	**08 09 17.1**	**-0.4**
RM33				AML	AML		
	comp=N,99700μm,1.2s						
RM33				AML	AML		
RM33				AML	AML		
	comp=N,98150μm,0.4s						
RM33				AML	AML		
RM33				AML	AML		
	comp=N,98300μm,0.4s						
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
RM33				AML	AML		
	comp=N,92108μm,0.2s						
RM33				AML	AML		
RM33				AML	AML		
CAMP	**Campotosto**	**0.13**	**34**	⇑P	**Pg**	**08 09 15.5**	**-0.5**
CAMP				S	**Sg**	**08 09 17.7**	**-0.3**
CAMP				AML	AML		
	comp=E,62850μm,0.3s						
CAMP				AML	AML		
CAMP				AML	AML		
	comp=E,62864μm,0.3s						
CAMP				AML	AML		
GIGS	**Gran Sasso**	**0.19**	**84**	⇓P	**Pg**	**08 09 16.5**	**-0.5**
GIGS				S	**Sg**	**08 09 19.6**	**-0.2**
GIGS				AML	AML		
	comp=E,26550μm,0.5s						
GIGS				AML	AML		
	comp=N,29650μm,0.6s						
GIGS				AML	AML		
	comp=E,23351μm,0.6s						
GIGS				AML	AML		
	comp=N,29637μm,0.6s						
GIGS				AML	AML		
	comp=E,23351μm,1.4s						
SMA1	**SAN MARTINO**	**0.20**	**5**	⇑P	**Pg**	**08 09 16.7**	**-0.5**
SMA1				S	**Sg**	**08 09 20.2**	**+0.1**
SMA1				AML	AML		
	comp=E,64850μm,0.5s						
SMA1				AML	AML		
SMA1				AML	AML		
	comp=E,64852μm,0.5s						
SMA1				AML	AML		

SMA1				AML	AML			
SMA1				AML	AML			
	comp=E,64852µm,1.5s							
FIAM	**Fiamignano**	**0.22**	**222**	⇑P	**Pg**	**08 09 17.1**	**-0.3**	
FIAM				S	**Sg**	**08 09 20.9**	**+0.5**	
FIAM				AML	AML			
	comp=N,53650µm,0.8s							
FIAM				AML	AML			
	comp=N,27700µm,0.8s							
FIAM				AML	AML			
	comp=N,27670µm,0.8s							
FIAM				AML	AML			
	comp=N,53678µm,0.8s							
FIAM				AML	AML			
	comp=N,53678µm,1.2s							
FIAM				AML	AML			
	comp=E,15460µm,0.4s							
FIAM				AML	AML			
	comp=N,27670µm,1.2s							
LNSS	**Leonessa**	**0.26**	**311**	⇑P	**Pg**	**08 09 17.9**	**-0.4**	
LNSS				S	**Sg**	**08 09 22.3**	**+0.4**	
LNSS				AML	AML			
	comp=N,31200µm,0.4s							
LNSS				AML	AML			
	comp=N,30551µm,0.4s							
LNSS				AML	AML			
	comp=N,31204µm,0.4s							
LNSS				AML	AML			
	comp=E,26238µm,0.6s							
LNSS				AML	AML			
	comp=N,31204µm,1.6s							
LNSS				AML	AML			
	comp=N,30551µm,1.6s							
TERO	**Teramo**	**0.29**	**48**	P	**Pg**	**08 09 18.0**	**-0.8**	
TERO				S	**Sg**	**08 09 22.3**	**-0.3**	
TERO				AML	AML			
	comp=N,15050µm,0.4s							
TERO				AML	AML			
	comp=E,20100µm,0.4s							
TERO				AML	AML			
	comp=N,29150µm,0.4s							
TERO				AML	AML			
	comp=E,15850µm,0.3s							
TERO				AML	AML			
	comp=E,15879µm,0.3s							
VCEL	**Villa Celiera**	**0.39**	**95**	P	**Pg**	**08 09 19.9**	**-0.8**	
VCEL				S	**Sb**	**08 09 27.0**	**-1.5**	
VCEL				AML	AML			
	comp=E,22100µm,1.2s							
VCEL				AML	AML			
	comp=E,22100µm,0.8s							
VCEL				AML	AML			
	comp=E,20884µm,0.3s							
T0110	**Collepietro**	**0.40**	**120**	⇓P	**Pg**	**08 09 20.1**	**-0.8**	
T0110				S	**Sb**	**08 09 27.4**	**-1.3**	
T0110				AML	AML			
	comp=E,20050µm,0.9s							
T0110				AML	AML			
	comp=N,26100µm,0.5s							
T0110				AML	AML			
	comp=N,26097µm,0.5s							
T0110				AML	AML			
	comp=E,19532µm,0.4s							
GAVE	**Gavelli**	**0.40**	**311**	P	**Pg**	**08 09 20.3**	**-0.7**	
GAVE				S	**Sg**	**08 09 26.9**	**+0.7**	
GAVE				AML	AML			
	comp=E,11255µm,0.6s							
GAVE				AML	AML			
	comp=N,13750µm,0.5s							
GAVE				AML	AML			
	comp=N,4210µm,0.5s							
GAVE				AML	AML			
	comp=E,11250µm,0.6s							
PTQR	**Pietraquaria**	**0.41**	**171**	⇓P	**Pg**	**08 09 20.2**	**-0.9**	
PTQR				S	**Sg**	**08 09 26.5**	**0.0**	
PTQR				AML	AML			
	comp=N,8615µm,0.5s							
PTQR				AML	AML			
	comp=E,9735µm,0.4s							
PTQR				AML	AML			
	comp=E,9754µm,0.4s							
PTQR				AML	AML			
	comp=E,9754µm,1.6s							
NRCA	**Norcia**	**0.43**	**340**	⇑P	**Pg**	**08 09 20.4**	**-0.9**	
NRCA				S	**Sg**	**08 09 27.0**	**-0.1**	
NRCA				AML	AML			
	comp=N,7490µm,0.5s							
NRCA				AML	AML			
	comp=E,13850µm,1.0s							
NRCA				AML	AML			
	comp=E,13450µm,1.0s							
NRCA				AML	AML			
	comp=N,7490µm,0.5s							
NRCA				AML	AML			
	comp=E,13450µm,1.0s							
NRCA				AML	AML			
	comp=N,7495µm,0.5s							
NRCA				AML	AML			
	comp=N,7435µm,0.5s							
NRCA				AML	AML			
	comp=E,11217µm,0.3s							
NRCA				AML	AML			
	comp=E,11006µm,0.3s							
NRCA				AML	AML			
	comp=N,7133µm,0.2s							
NRCA				AML	AML			
	comp=N,7330µm,0.2s							
ARRO	**Arrone**	**0.43**	**291**	⇑P	**Pg**	**08 09 20.6**	**-0.7**	
ARRO				S	**Sg**	**08 09 27.4**	**+0.4**	
ARRO				AML	AML			
	comp=N,6455µm,1.0s							
ARRO				AML	AML			
	comp=E,5720µm,0.5s							
ARRO				AML	AML			
	comp=N,6450µm,1.0s							
ARRO				AML	AML			
	comp=E,5723µm,0.5s							
ARRO				AML	AML			
	comp=N,6039µm,0.3s							
ARRO				AML	AML			
	comp=E,5723µm,1.5s							
MMO1	**Montemonaco**	**0.47**	**1**	⇑P	**Pg**	**08 09 21.3**	**-0.9**	
MMO1				S	**Sg**	**08 09 28.5**	**+0.2**	
MC2	**Monte Cornacci**	**0.49**	**350**	⇑P	**Pg**	**08 09 21.7**	**-0.9**	
MC2				S	**Sg**	**08 09 29.3**	**+0.2**	
CERT	**Cerreto**	**0.54**	**207**	⇑P	**Pg**	**08 09 22.4**	**-1.0**	
CERT				S	**Sg**	**08 09 30.2**	**-0.3**	
CERT				AML	AML			
	comp=E,8420µm,0.4s							
CERT				AML	AML			
	comp=N,5065µm,0.3s							
CERT				AML	AML			
	comp=E,8417µm,0.4s							
CERT				AML	AML			
	comp=N,5064µm,0.3s							
FEMA	**Monte Fema**	**0.57**	**340**	P	**Pg**	**08 09 23.3**	**-0.7**	
FEMA				S	**Sb**	**08 09 32.2**	**-1.3**	
CESX	**Cesi**	**0.57**	**289**	P	**Pg**	**08 09 22.9**	**-1.1**	
CESX				S	**Sg**	**08 09 31.6**	**+0.1**	
CESX				AML	AML			
	comp=N,4805µm,1.1s							
CESX				AML	AML			
	comp=E,4230µm,0.3s							
CESX				AML	AML			
	comp=N,4267µm,0.3s							
CESX				AML	AML			
	comp=E,4233µm,0.3s							
MF5	**Montefalcone A**	**0.57**	**11**	P	**Pg**	**08 09 23.3**	**-0.7**	
MF5				AML	AML			
	comp=E,12500µm,0.9s							
MF5				AML	AML			
	comp=E,12450µm,0.9s							
MF5				AML	AML			
	comp=N,18400µm,0.4s							
MF5				AML	AML			
	comp=E,10720µm,0.7s							
MF5				AML	AML			
	comp=N,18405µm,0.4s							
MF5				AML	AML			
	comp=E,10720µm,1.3s							
OFFI	**Offida**	**0.58**	**29**	P	**Pg**	**08 09 24.2**	**+0.1**	
OFFI				AML	AML			
	comp=N,27240µm,0.6s							
OFFI				AML	AML			
	comp=N,27240µm,1.4s							
TRTR	**Tortoreto Alta**	**0.58**	**49**	P	**Pb**	**08 09 24.5**	**-0.9**	
TRTR				AML	AML			
	comp=E,31400µm,1.1s							
TRTR				AML	AML			
	comp=N,22100µm,0.5s							
TRTR				AML	AML			
	comp=N,22143µm,0.5s							
MTCE	**Montecelio**	**0.59**	**226**	⇑P	**Pg**	**08 09 23.2**	**-1.1**	
MTCE				AML	AML			
	comp=E,3855µm,1.0s							
MTCE				AML	AML			
	comp=N,2960µm,0.5s							
MTCE				AML	AML			
	comp=E,3668µm,0.6s							
MTCE				AML	AML			
	comp=N,2960µm,0.5s							
VVLD	**Villa Vallelon**	**0.60**	**157**	P	**Pg**	**08 09 23.2**	**-1.4**	
VVLD				AML	AML			
	comp=E,3935µm,0.8s							
VVLD				AML	AML			
	comp=N,3435µm,0.5s							
VVLD				AML	AML			
	comp=E,3936µm,0.8s							
VVLD				AML	AML			
	comp=N,3436µm,0.5s							
VVLD				AML	AML			
	comp=E,3936µm,1.2s							
INTR	**Introdacqua**	**0.61**	**133**	⇑P	**Pg**	**08 09 23.5**	**-1.3**	
INTR				AML	AML			
	comp=N,11500µm,0.4s							
INTR				AML	AML			
	comp=E,4555µm,0.4s							
INTR				AML	AML			
	comp=N,11400µm,0.4s							
INTR				AML	AML			
	comp=E,6820µm,0.4s							
INTR				AML	AML			
	comp=N,11507µm,0.4s							
INTR				AML	AML			
	comp=E,4554µm,0.4s							
INTR				AML	AML			
	comp=E,6824µm,0.4s							
SRES	**S.Oreste - Sor**	**0.62**	**252**	P	**Pg**	**08 09 23.8**	**-1.3**	
SRES				AML	AML			
	comp=E,2325µm,0.5s							
SRES				AML	AML			
	comp=N,2925µm,1.2s							
SRES				AML	AML			
	comp=N,2892µm,0.5s							
SRES				AML	AML			
	comp=E,2324µm,0.5s							
FDMO	**Fiordimonte**	**0.63**	**345**	P	**Pg**	**08 09 23.9**	**-1.2**	
FDMO				S	**Sg**	**08 09 33.8**	**+0.4**	
FDMO				AML	AML			
	comp=E,3840µm,0.5s							
FDMO				AML	AML			
	comp=N,3945µm,1.3s							
FDMO				AML	AML			
	comp=E,3842µm,0.5s							
FDMO				AML	AML			
	comp=E,3842µm,1.5s							
GUMA	**Gualdo di Mace**	**0.63**	**2**	P	**Pg**	**08 09 24.5**	**-0.7**	
GUMA				S	**Sb**	**08 09 34.5**	**-0.8**	
GUAR	**Guarcino**	**0.64**	**180**	P	**Pg**	**08 09 24.0**	**-1.2**	
GUAR				AML	AML			
	comp=E,4430µm,0.7s							
GUAR				AML	AML			
	comp=N,4790µm,0.5s							
GUAR				AML	AML			
	comp=E,4425µm,0.7s							
GUAR				AML	AML			
	comp=N,4794µm,0.5s							
GUAR				AML	AML			
	comp=E,4425µm,1.3s							
RCAV	**Rocca di Cave**	**0.64**	**205**	P	**Pg**	**08 09 24.1**	**-1.2**	
CESI	**CESI - Serrava**	**0.65**	**333**	P	**Pg**	**08 09 24.4**	**-1.2**	
CESI				S	**Sg**	**08 09 33.9**	**-0.2**	
CESI				AML	AML			
	comp=E,2825µm,0.3s							
CESI				AML	AML			
	comp=N,6490µm,0.3s							
CESI				AML	AML			
	comp=N,6490µm,0.3s							
CESI				AML	AML			
	comp=E,2827µm,0.3s							
MOMA	**Monte Martano**	**0.66**	**305**	P	**Pg**	**08 09 24.7**	**-1.1**	
MOMA				AML	AML			
	comp=E,4575µm,0.4s							
MOMA				AML	AML			
	comp=N,6025µm,0.2s							
MOMA				AML	AML			
	comp=E,4570µm,0.4s							
MOMA				AML	AML			
	comp=N,5570µm,0.3s							
MOMA				AML	AML			
	comp=E,4645µm,0.4s							
MOMA				AML	AML			
	comp=N,6025µm,0.2s							
MOMA				AML	AML			
	comp=N,5571µm,0.2s							
MOMA				AML	AML			
	comp=N,6025µm,1.8s							
MOMA				AML	AML			
	comp=E,4570µm,0.4s							
MOMA				AML	AML			
	comp=E,4644µm,0.4s							
MOMA				AML	AML			
	comp=N,5571µm,1.8s							
CSP1	**Cessapalombo**	**0.67**	**353**	P	**Pg**	**08 09 24.7**	**-1.2**	
MNTP	**Montappone**	**0.72**	**9**	P	**Pg**	**08 09 25.8**	**-1.0**	
PF6	**Pievefavera**	**0.72**	**353**	P	**Pg**	**08 09 25.5**	**-1.4**	
MML1	**Montelago di S**	**0.73**	**340**	P	**Pg**	**08 09 25.8**	**-1.2**	
LPEL	**Lama dei Pelig**	**0.75**	**120**	P	**Pg**	**08 09 26.1**	**-1.4**	
LPEL				AML	AML			
	comp=E,5850µm,0.7s							
LPEL				AML	AML			
	comp=N,7000µm,0.4s							
LPEL				AML	AML			
	comp=N,6915µm,0.4s							
LPEL				AML	AML			
	comp=E,5855µm,0.7s							
LPEL				AML	AML			
	comp=E,6385µm,0.7s							
LPEL				AML	AML			
	comp=E,5579µm,0.4s							
LPEL				AML	AML			
	comp=N,7000µm,0.4s							
LPEL				AML	AML			
	comp=E,5751µm,0.4s							
LPEL				AML	AML			
	comp=N,6916µm,0.4s							
SEF1	**Sefro**	**0.77**	**340**	P	**Pg**	**08 09 26.5**	**-1.2**	
RMP	**Rome, Mte Porz**	**0.77**	**216**	P	**Pg**	**08 09 26.5**	**-1.2**	
MDAR	**Monte D'Aria**	**0.77**	**351**	P	**Pg**	**08 09 26.6**	**-1.2**	
ASSB	**Assisi San Ben**	**0.78**	**322**	P	**Pg**	**08 09 26.6**	**-1.3**	
ASSB				AML	AML			
	comp=N,3900µm,0.9s							
ASSB				AML	AML			
	comp=E,3640µm,0.4s							
ASSB				AML	AML			
	comp=E,3639µm,0.4s							
ASSB				AML	AML			
	comp=N,3476µm,0.7s							
RDP	**Rocca di Papa**	**0.80**	**214**	P	**Pg**	**08 09 26.7**	**-1.7**	
SSM1	**San Severino M**	**0.81**	**353**	P	**Pg**	**08 09 27.3**	**-1.1**	
LRP	**Arpino**	**0.81**	**165**	P	**Pg**	**08 09 26.8**	**-1.7**	
LRP				AML	AML			
	comp=E,3600µm,0.5s							
LRP				AML	AML			
	comp=N,2245µm,0.6s							
LRP				AML	AML			
	comp=E,3597µm,0.5s							
LRP				AML	AML			
	comp=N,2244µm,0.6s							
MA9	**Marino**	**0.82**	**217**	P	**Pg**	**08 09 27.5**	**-1.2**	
SAMA	**S.Maria delle**	**0.84**	**220**	P	**Pg**	**08 09 27.6**	**-1.6**	
GIUL	**Giuliano Di Ro**	**0.87**	**183**	P	**Pg**	**08 09 28.1**	**-1.7**	
GIUL				AML	AML			
	comp=N,2137µm,0.5s							
GIUL				AML	AML			
	comp=N,2137µm,1.5s							
GIUL				AML	AML			
	comp=E,2143µm,0.6s							
A050A	**Klekovaca**	**3.12**	**48**	*e*Pn	**Pn**	**08 10 03.5**	**+1.1**	
STON	**Ston**	**3.27**	**81**	*e*Pn	**Pn**	**08 10 04.4**	**0.0**	
STON	**Ston**	**3.27**	**81**	*e*Pn	**Pn**	**08 10 05.3**	**+0.9**	
STON				*e*Sn	**Sn**	**08 10 43.5**	**+0.1**	
CEY	**Cerknica**	**3.40**	**13**	*e*Pn	**Pn**	**08 10 05.9**	**-0.5**	
BLY	**Banja Luka**	**3.65**	**49**	*e*Pn	**Pn**	**08 10 09.0**	**-0.6**	
BLY	**Banja Luka**	**3.65**	**49**	*e*Pn	**Pn**	**08 10 10.6**	**+1.0**	
A051A	**Mrakovica**	**3.67**	**44**	*e*Pn	**Pn**	**08 10 10.5**	**+0.5**	
CRES	**Cresnjevec Ost**	**3.73**	**24**	*e*Pn	**Pn**	**08 10 11.7**	**+0.9**	
HCY	**Herceg Novi**	**3.84**	**88**	*e*Pn	**Pn**	**08 10 12.1**	**-0.2**	
BRY	**Bratogost**	**3.88**	**81**	*e*Pn	**Pn**	**08 10 13.0**	**-0.1**	
OBKA	**Obir**	**4.17**	**12**	*i* Pn	**Pn**	**08 10 17.3**	**+0.3**	
	comp=E,4.1nm,0.4s							
OBKA				*i* Sn	**Sn**	**08 11 09.1**	**+3.1**	
	comp=E,16nm,0.6s							
OBKA	**Obir**	**4.17**	**12**	*e*Pn	**Pn**	**08 10 16.2**	**-0.8**	
UPM	**Unac-Piva**	**4.19**	**77**	*e*Pn	**Pn**	**08 10 18.0**	**+0.7**	
MYKA	**Terra Mystica**	**4.21**	**3**	*i* Pn	**Pn**	**08 10 17.5**	**+0.1**	
	comp=E,2.7nm,0.4s							
MYKA				*i* Sn	**Sn**	**08 11 04.8**	**-2.0**	
	comp=E,6.1nm,0.4s							
ABTA	**Abfaltersbach**	**4.35**	**353**	*i* Pn	**Pn**	**08 10 19.9**	**+0.4**	
	comp=E,24nm,0.9s							
ABTA				*e*Sn	**Sn**	**08 11 10.6**	**+0.2**	
	comp=E,30nm,0.6s							
DRME	**Dracevica, Mon**	**4.36**	**91**	*e*Pn	**Pn**	**08 10 20.2**	**+0.7**	
PDG	**Podgorica**	**4.40**	**88**	*e*Pn	**Pn**	**08 10 19.4**	**-0.6**	
PDG	**Podgorica**	**4.40**	**88**	*e*Pn	**Pn**	**08 10 19.9**	**-0.1**	
PDG				*e*Sn	**Sn**	**08 11 11.6**	**+0.2**	
SOKA	**Soboth**	**4.42**	**16**	*i* Pn	**Pn**	**08 10 21.8**	**+1.5**	
	comp=E,6.7nm,0.5s							
SOKA				*e*Sn	**Sn**	**08 11 12.7**	**+0.7**	
	comp=E,5.0nm,0.5s							
HAPS	**Han Pijesak,BI**	**4.44**	**66**	*e*Pn	**Pn**	**08 10 21.6**	**+0.9**	
HAPS				*e*Sn	**Sn**	**08 11 12.7**	**+0.2**	
RUDO	**Rudo**	**4.60**	**73**	*e*Pn	**Pn**	**08 10 26.6**	**+3.9**	
KBA	**Koelnbreinsper**	**4.65**	**0**	*i* Pn	**Pn**	**08 10 24.9**	**+1.4**	
	comp=E,4.0nm,0.4s							
KBA				*i* Sn	**Sn**	**08 11 16.2**	**-1.6**	
	comp=E,12nm,0.5s							
BBLS	**Lazi&#263i**	**4.68**	**70**	*e*Pn	**Pn**	**08 10 25.2**	**+1.2**	
BBLS	**Lazi&#263i**	**4.68**	**70**	*e*Pn	**Pn**	**08 10 25.0**	**+1.0**	
BBLS				*e*Sn	**Sn**	**08 11 18.1**	**-0.4**	
FETA	**Feichten**	**4.95**	**339**	*i* Pn	**Pn**	**08 10 31.2**	**+3.5**	
	comp=E,2.0nm,0.3s,SNR=8.3							
FETA				*e*Sn	**Sn**	**08 11 27.6**	**+2.6**	
	comp=E,8.1nm,0.4s							
SJES	**Sjenica**	**4.97**	**78**	*e*Pn	**Pn**	**08 10 29.7**	**+1.8**	
SJES	**Sjenica**	**4.97**	**78**	*e*Pn	**Pn**	**08 10 28.8**	**+0.9**	
SJES				*e*Sn	**Sn**	**08 11 24.5**	**-1.1**	
WTTA	**Wattenberg**	**4.98**	**347**	*i* Pn	**Pn**	**08 10 30.5**	**+2.4**	
	comp=E,3.4nm,0.3s,SNR=6.0							
WTTA				*i* Sn	**Sn**	**08 11 29.7**	**+3.8**	
	comp=E,27nm,0.6s							
DAVOX	**Davos/Dischmat**	**4.99**	**332**	Pn	**Pn**	**08 10 29.3**	**+1.0**	
	comp=E,1.8nm,0.3s,baz=161,slow=18,SNR=32							
DAVOX				Sn	**Sn**	**08 11 25.0**	**-1.3**	
	comp=E,2.3nm,0.3s,baz=303,slow=23,SNR=5.7							
DAVOX				LR	LR	08 12 24.9		
	comp=E,25nm,18.6s,baz=108,slow=39							
	comp=E,16nm,0.6s							
TEKS	**Tekeris**	**5.00**	**63**	*e*Pn	**Pn**	**08 10 30.1**	**+1.9**	
TEKS	**Tekeris**	**5.00**	**63**	*e*Pn	**Pn**	**08 10 28.8**	**+0.6**	
LESA	**Schwarzleotal**	**5.01**	**355**	*i* Pn	**Pn**	**08 10 30.1**	**+1.6**	
	comp=E,6.8nm,0.4s							
LESA				*i* Sn	**Sn**	**08 11 26.5**	**-0.1**	
	comp=E,11nm,0.6s							
SQTA	**Sankt Quirin**	**5.02**	**343**	*i* Pn	**Pn**	**08 10 30.4**	**+1.8**	
	comp=E,3.0nm,0.3s							
SQTA				*e*Sn	**Sn**	**08 11 28.3**	**+1.5**	
	comp=E,28nm,0.5s							
WATA	**Walderalm**	**5.06**	**346**	*i* Pn	**Pn**	**08 10 31.1**	**+1.9**	
	comp=E,8.8nm,0.4s							
WATA				*i* Sn	**Sn**	**08 11 30.0**	**+2.2**	
	comp=E,13nm,0.5s							
ARSA	**Arzberg**	**5.07**	**17**	*i* Pn	**Pn**	**08 10 30.1**	**+0.9**	
	comp=E,2.5nm,0.3s							
ARSA				*e*Sn	**Sn**	**08 11 29.3**	**+1.4**	
	comp=E,8.2nm,0.6s							
LMR	**La Mourre**	**5.08**	**283**	*e*P	**Pn**	**08 10 29.5**	**+0.2**	
IVAS	**Ivanjica**	**5.15**	**75**	*e*Pn	**Pn**	**08 10 31.1**	**+0.8**	
IVAS				*e*Sn	**Sn**	**08 11 29.4**	**-0.5**	
DIVS	**Divibare**	**5.16**	**69**	*e*Pn	**Pn**	**08 10 30.3**	**-0.2**	
DIVS				*e*Sn	**Sn**	**08 11 28.4**	**-1.8**	
MOTA	**Moosalm**	**5.16**	**343**	*i* Pn	**Pn**	**08 10 32.8**	**+2.2**	
	comp=E,5.6nm,0.6s							
MOTA				*e*Sn	**Sn**	**08 11 32.5**	**+2.2**	
	comp=E,16nm,0.4s							
BIOA	**Bad Ischl, Aus**	**5.27**	**2**	*i* Pn	**Pn**	**08 10 33.5**	**+1.6**	
	comp=E,4.5nm,0.3s							
BIOA				*i* Sn	**Sn**	**08 11 35.1**	**+2.3**	
	comp=E,13nm,0.4s							
MBDF	**Montbardon**	**5.28**	**298**	*e*P	**Pn**	**08 10 32.1**	**-0.1**	
RETA	**Reutte**	**5.37**	**341**	*i* Pn	**Pn**	**08 10 36.8**	**+3.4**	
	comp=E,2.7nm,0.4s							
RETA				*i* Sn	**Sn**	**08 11 38.8**	**+3.4**	
	comp=E,3.1nm,0.2s							
DAVA	**Damuels**	**5.43**	**335**	*i* Pn	**Pn**	**08 10 36.4**	**+2.1**	
	comp=E,3.9nm,0.4s,SNR=5.7							
DAVA				*i* Sn	**Sn**	**08 11 39.6**	**+2.5**	
	comp=E,4.5nm,0.3s							
TRUS	**Trudelj**	**5.48**	**68**	*e*Pn	**Pn**	**08 10 35.0**	**+0.2**	
TRUS				*e*Sn	**Sn**	**08 11 35.0**	**-3.0**	
GRUS	**Gruza**	**5.61**	**72**	*e*Pn	**Pn**	**08 10 37.8**	**+1.2**	
GRUS				*e*Sn	**Sn**	**08 11 40.7**	**-0.5**	
LPG	**La Plagne**	**5.64**	**305**	*e*P	**Pn**	**08 10 38.0**	**+0.7**	
LPG				*e*Sn	**Sn**	**08 11 35.4**	**-7.0**	
	comp=E,7.7nm,0.6s							
GOCS	**Kraljevo Serbi**	**5.66**	**76**	*e*Pn	**Pn**	**08 10 38.2**	**+0.8**	
GOCS				*e*Sn	**Sn**	**08 11 40.3**	**-2.3**	
RONA	**Rosalia, Austr**	**5.68**	**21**	*i* Pn	**Pn**	**08 10 37.7**	**+0.1**	
	comp=E,0.5nm,0.1s							
CONA	**Conrad Observa**	**5.79**	**17**	*i* Pn	**Pn**	**08 10 40.4**	**+1.3**	
	comp=E,1.4nm,0.3s							
CONA				*e*Sn	**Sn**	**08 11 47.1**	**+1.5**	
	comp=E,4.5nm,0.3s							
SELS	**Selova**	**5.80**	**80**	*e*Pn	**Pn**	**08 10 40.1**	**+0.9**	
SELS				*e*Sn	**Sn**	**08 11 45.2**	**-0.7**	
SMRF	**Simiane la Rot**	**5.86**	**288**	*e*P	**Pn**	**08 10 41.1**	**+1.0**	
ORIF	**Oris-en-Rattie**	**5.94**	**297**	*e*P	**Pn**	**08 10 41.6**	**+0.4**	
BARS	**Barje**	**6.29**	**84**	*e*Pn	**Pn**	**08 10 46.8**	**+0.9**	
BARS				*e*Sn	**Sn**	**08 11 54.6**	**-3.3**	
GERES	**GERESS Array B**	**6.42**	**2**	Pn	**Pn**	**08 10 47.3**	**-0.6**	
	comp=E,0.7nm,0.3s,baz=168,slow=13,SNR=7.2							
GERES				Sn	**Sn**	**08 11 59.9**	**-1.5**	
	comp=E,1.5nm,0.3s,baz=176,slow=25,SNR=7.0							
	comp=E,1.3nm,0.4s							
CKRC	**Cesky Krumlov**	**6.43**	**6**	*e*PN	**Pn**	**08 10 46.7**	**-1.2**	
CKRC				*e*SN	**Sn**	**08 11 58.5**	**-2.9**	
BORS2	**Bor- Borsko je**	**6.57**	**72**	*e*Pn	**Pn**	**08 10 48.4**	**-1.4**	
CABF	**La Chapelle**	**6.64**	**311**	*e*P	**Pn**	**08 10 53.0**	**+2.1**	
ZAGS	**Zajecar**	**6.67**	**75**	*e*Pn	**Pn**	**08 10 51.2**	**0.0**	
KHC	**Kasperske Hory**	**6.71**	**2**	*e*PN	**Pn**	**08 10 51.6**	**-0.1**	
KHC				*e*SN	**Sn**	**08 12 04.6**	**-3.6**	
ZAPS	**Zavoj**	**6.90**	**80**	*e*Pn	**Pn**	**08 10 55.1**	**+0.7**	
ZAPS				*e*Sn	**Sn**	**08 12 10.8**	**-2.3**	
ZVC	**Zvikov**	**7.04**	**5**	*e*PN	**Pn**	**08 10 55.3**	**-0.9**	
HINF	**Hinteralfeld**	**7.06**	**322**	*e*P	**Pn**	**08 10 57.4**	**+0.8**	
HINF				*e*Sn	**Sn**	**08 12 09.0**	**-8.0**	
	comp=E,13nm,0.6s							
VRAC	**Vranov**	**7.25**	**17**	LR	LR	08 14 13.6		
	comp=E,33nm,18.5s,baz=190,slow=42							
CDF	**Champ du Feu**	**7.33**	**327**	*e*P	**Pn**	**08 11 00.9**	**+0.5**	
CDF				*e*Sn	**Sn**	**08 12 15.4**	**-8.4**	
	comp=E,7.2nm,0.5s							
KEST	**Kesra**	**7.36**	**206**	Pn	**Pn**	**08 11 04.2**	**+3.4**	
	comp=E,0.9nm,0.3s,baz=314,slow=5.9,SNR=5.3							
	comp=E,8.9nm,0.7s							
HAU	**Haudompre**	**7.43**	**321**	*e*P	**Pn**	**08 11 02.6**	**+1.0**	
HAU				*e*Sn	**Sn**	**08 12 17.9**	**-8.2**	
	comp=E,13nm,0.4s							
GOPC	**GO Pecny, Ondr**	**7.56**	**7**	*e*PN	**Pn**	**08 11 03.7**	**+0.4**	
MLR	**Muntele Rosu**	**9.61**	**67**	Pn	**Pn**	**08 11 33.8**	**+2.2**	
	comp=E,0.2nm,0.3s,baz=170,slow=11,SNR=3.7							
MLR				LR	LR	08 16 05.0		
	comp=E,40nm,19.0s,baz=256,slow=43							
	comp=E,2.4nm,0.8s							
NOA	**NORSAR Array B**	**18.68**	**357**	LR	LR	08 22 18.0		
	comp=E,16nm,18.3s,baz=10.0,slow=42							
FINES	**FINESS Array B**	**20.53**	**18**	P	**P**	**08 13 51.4**	**0.0**	
	comp=E,2.4nm,0.9s,baz=204,slow=9.9,SNR=3.4							

comp=E,44nm,18.3s,baz=30,slow=44
MKAR Makanchi Array 47.86 60 P **P 08 17 51.4 +0.3**
comp=E,0.7nm,0.7s,baz=294,slow=6.0,SNR=10
comp=E,0.7nm,0.7s
SONM Songino Array 61.97 50 P **P 08 19 34.5 +1.1**
comp=E,0.5nm,0.6s,baz=287,slow=6.9,SNR=3.9
comp=E,0.5nm,0.6s
YKA Yellowknife Ar 67.41 337 P **P 08 20 08.2 -0.2**
comp=E,0.1nm,0.7s,baz=37,slow=5.8,SNR=2.6
comp=E,0.1nm,0.7s

---

*SDD **05** 08:17:01.3±0.6, 19°.38N×68°.05W, h12km±241km, MD3.6, ML2.1, MW2.6*
*OSPL **05** 08:17:03.4±1.2, 19°.27N×68°.15W, h0km±12km, ML2.2, Hypocentre not reviewed by the ISC*
*RSPR **05** 08:17:04.0, 19°.19N×68°.32W, h67km±8km, MD3.0/4*
ISC 05 08:17:07.0±1.9, 19°.1N±0°.1×68°.17W±0°.04, h35km, n20, σ1§72/23, 7C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.62**	**199**	↑*e*Pg	**Pn**	**08 17 18.0**	**-1.4**
PCDR				↑*e*Sg	**Sn**	**08 17 29.8**	**+1.7**
PCDR				IAML		08 17 32.2	
	comp=N,81nm,1.9s						
PCDR	**Punta Cana, DR**	**0.62**	**199**	↑*e*P	**Pn**	**08 17 17.3**	**-2.0**
PCDR	**Punta Cana, DR**	**0.62**	**199**	*e*S	**Sn**	**08 17 28.6**	**+0.5**
PCDR	**Punta Cana, DR**	**0.62**	**199**	*i* P		08 17 17.2	
PCDR				*e*S		08 17 27.9	
PCDR				IAML		08 17 30.8	
	comp=Z,63nm,2.6s						
IDE	**Isla Desecheo**	**0.97**	**137**	↓*e*P	**Pn**	**08 17 20.5**	**-3.6**
IDE	**Isla Desecheo**	**0.97**	**137**	*e*S	**Sn**	**08 17 38.4**	**+1.7**
AGPR	**Aguadilla, PR**	**1.18**	**122**	*e*S	**Sn**	**08 17 43.4**	**+1.4**
AGPR	**Aguadilla, PR**	**1.18**	**122**	*i* P		08 17 25.8	
AGPR				*e*S		08 17 42.4	
AGPR				IAML		08 17 45.9	
	comp=Z,41nm,2.5s						
HATOM	**Hato Mayor del**	**1.19**	**255**	↓*e*Pg	**Pn**	**08 17 26.1**	**-1.1**
HATOM				↓*e*Sg	**Sn**	**08 17 44.7**	**+2.5**
HATOM				IAML		08 17 44.9	
	comp=N,17nm,0.7s						
LSP	**Las Mesas**	**1.38**	**132**	↑P	**Pn**	**08 17 29.3**	**-0.5**
LSP	**Las Mesas**	**1.38**	**132**	*e*S	**Sn**	**08 17 47.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.48**	**137**	↓*e*Pg	**Pn**	**08 17 31.0**	**-0.2**
CRPR				IAML		08 18 01.2	
	comp=N,20nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.48**	**137**	↓*e*P	**Pn**	**08 17 31.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.48**	**137**	*e*S	**Sn**	**08 17 50.8**	**+1.4**
CRPR	**Cabo Rojo, PR**	**1.48**	**137**	*i* P		08 17 31.3	
CRPR				*e*S		08 17 52.3	
CRPR				IAML		08 18 00.4	
	comp=Z,40nm,2.0s						
AOPR	**Arecibo Observ**	**1.54**	**119**	*e*S	**Sn**	**08 17 52.4**	**+1.7**
MLPR	**Magueyes Islan**	**1.55**	**137**	↓*e*Pg	**Pn**	**08 17 31.2**	**-0.9**
MLPR				↓*e*Sg	**Sn**	**08 17 54.5**	**+3.4**
MLPR				IAML		08 17 56.3	
	comp=N,16nm,4.0s						
MLPR	**Magueyes Islan**	**1.55**	**137**	↑*e*P	**Pn**	**08 17 31.3**	**-0.9**
MLPR	**Magueyes Islan**	**1.55**	**137**	*e*S	**Sn**	**08 17 51.6**	**+0.6**
CELP	**Cerrillos**	**1.82**	**124**	↓*e*Pg	**Pn**	**08 17 35.7**	**-0.2**
CELP				IAML		08 18 04.9	
	comp=N,16nm,0.8s						
CELP	**Cerrillos**	**1.82**	**124**	↑*e*P	**Pn**	**08 17 34.1**	**-1.7**
CELP	**Cerrillos**	**1.82**	**124**	*e*S	**Sn**	**08 17 58.1**	**+0.4**
ECPR	**Experimental S**	**1.88**	**114**	↑*e*P	**Pn**	**08 17 35.3**	**-1.4**

---

*NNC **05** 08:18:07.8±0.5, 42°.95N×78°.30E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=5.1km s-min=1.7km az=168.0*
*KRNET **05** 08:18:08.5±0.1, 42°.97N×78°.19E, h27km, mb2.8*
*SOME **05** 08:18:08.6, 42°.95N×78°.27E, h10km*
*KNET **05** 08:18:12.2±0.5, 42°.80N×78°.02E, h6km±4km, ml2.6, Error ellipse: s-maj=5.1km s-min=2.6km az=141.0*
ISC 05 08:18:08.2±1.0, 42°.95N±0°.02×78°.24E±0°.02, h6km±8km, n54, σ1§15/99, 30C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.17**	**47**	P	**Pg**	**08 18 11.5**	**-0.1**
SATY	173nm,0.1s			S	**Sg**	**08 18 13.6**	**-0.2**
	3μm,0.1s						
ZHN	**Zhinishke**	**0.26**	**33**	P	**Pg**	**08 18 13.3**	**-0.1**
ZHN	173nm,0.1s			S	**Sg**	**08 18 17.0**	**+0.1**
	5μm,0.2s						
ZHN	**Zhinishke**	**0.26**	**33**	*e*P	**Pg**	**08 18 13.3**	**-0.1**
ZHN	173nm,0.1s			*e*S	**Sg**	**08 18 17.0**	**+0.1**
	5μm,0.2s						
ANVS	**Anan'yevo**	**0.45**	**249**	↓*e*P	**Pg**	**08 18 17.6**	**+0.6**
ANVS				↓*e*S	**Sg**	**08 18 24.2**	**+1.3**
PRZ	**Przheval'sk**	**0.48**	**166**	↑*e*P	**Pb**	**08 18 18.6**	**-0.6**
PRZ				↑*e*S	**Sb**	**08 18 26.0**	**-0.6**
KURS	**Kuram**	**0.54**	**355**	P	**Pg**	**08 18 18.8**	**+0.1**
KURS	12nm,0.1s			S	**Sg**	**08 18 26.2**	**+0.4**
	67nm,0.5s						
UZB	**Uzynbulak**	**0.61**	**70**	P	**Pg**	**08 18 19.2**	**-0.7**
UZB	30nm,0.2s			S	**Sg**	**08 18 27.1**	**-0.7**
	224nm,0.3s						
UZB	**Uzynbulak**	**0.61**	**70**	*e*P	**Pg**	**08 18 19.2**	**-0.7**
UZB	30nm,0.3s			*e*S	**Sg**	**08 18 27.1**	**-0.7**
	226nm,0.3s						
KPKS	**Kokpek**	**0.61**	**32**	P	**Pg**	**08 18 19.7**	**-0.3**
KPKS	30nm,0.2s			S	**Sg**	**08 18 27.8**	**-0.2**
	198nm,0.3s						
KPKS	**Kokpek**	**0.61**	**32**	*e*P	**Pg**	**08 18 19.7**	**-0.3**
KPKS	30nm,0.2s			*e*S	**Sg**	**08 18 27.8**	**-0.2**
	198nm,0.3s						
KOTS	**Kotyrbulak**	**0.88**	**290**	P	**Pg**	**08 18 25.3**	**+0.3**
KOTS	37nm,0.3s			S	**Sb**	**08 18 37.3**	**-0.7**
	76nm,0.4s						
KOTS	**Kotyrbulak**	**0.88**	**290**	*e*P	**Pg**	**08 18 25.4**	**+0.3**
KOTS	24nm,0.2s			*e*S	**Sb**	**08 18 37.3**	**-0.7**
	112nm,0.3s						
MDOK	**Medeo**	**0.90**	**284**	↑P	**Pg**	**08 18 25.6**	**+0.2**
MDOK	4.3nm,0.4s			Pg	**Pg**	**08 18 25.7**	**+0.2**
	18nm,0.2s						
MDOK				Lg	Lg	08 18 38.0	
	42nm,0.2s						
MDOK				↑S	**Sg**	**08 18 38.0**	**+0.8**
	24nm,0.4s						
MDOK	**Medeo**	**0.90**	**284**	*e*P	**Pg**	**08 18 25.7**	**+0.2**
MDOK	18nm,0.2s			*e*S	**Sg**	**08 18 38.0**	**+0.8**
	42nm,0.2s						
SHLS	**Shalkode**	**0.92**	**76**	P	**Pn**	**08 18 30.5**	**+2.7**
SHLS	14nm,0.2s			S	**Sn**	**08 18 46.1**	**+4.5**
	29nm,0.2s						
SHLS	**Shalkode**	**0.92**	**76**	*e*P	**Pn**	**08 18 30.5**	**+2.7**
SHLS	14nm,0.2s			*e*S	**Sn**	**08 18 46.0**	**+4.5**
	29nm,0.2s						
TNSS	**Tian-Shan**	**0.95**	**276**	P	**Pg**	**08 18 26.7**	**+0.1**
TNSS	8.0nm,0.1s			S	**Sg**	**08 18 39.7**	**+0.8**
	30nm,0.4s						
TNSS	**Tian-Shan**	**0.95**	**276**	*e*P	**Pg**	**08 18 26.7**	**+0.1**
TNSS	8.0nm,0.1s			*e*S	**Sg**	**08 18 39.7**	**+0.8**
	30nm,0.4s						
PDGK	**Podgornoye**	**0.99**	**67**	↑P	**Pg**	**08 18 25.9**	**-1.4**
PDGK	15nm,0.4s			↑S	**Sg**	**08 18 38.3**	**-1.8**
	35nm,0.6s						
KDJ	**Kajisay**	**1.13**	**224**	↓*e*P	**Pg**	**08 18 29.1**	**-0.8**
KDJ				↓*e*S	**Sg**	**08 18 44.1**	**-0.5**
BLB	**Baldybastay**	**1.16**	**8**	P	**Pg**	**08 18 30.1**	**-0.4**
BLB	61nm,0.2s			S	**Sg**	**08 18 45.4**	**-0.2**
	86nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.26**	**195**	↓*e*P	**Pg**	**08 18 32.0**	**-0.4**
TARG				↓*e*S	**Sg**	**08 18 49.0**	**+0.3**
ARXS	**Arharly**	**1.30**	**347**	P	**Pn**	**08 18 32.7**	**-0.3**
	2.8nm,0.1s						
ARXS				S	**Sg**	**08 18 49.9**	**-0.1**
	29nm,0.2s						
MTBS	**Maitube**	**1.34**	**278**	P	**Pb**	**08 18 33.8**	**0.0**
MTBS	8.0nm,0.2s			S	**Sn**	**08 18 52.0**	**+0.1**
	35nm,0.3s						
MTBS	**Maitube**	**1.34**	**278**	*e*P	**Pb**	**08 18 33.8**	**0.0**
MTBS	8.0nm,0.2s			*e*S	**Sn**	**08 18 52.0**	**+0.1**
	35nm,0.3s						
KTBS	**Karatobe**	**1.37**	**304**	P	**Pb**	**08 18 34.2**	**-0.1**
KTBS	24nm,0.3s			S	**Sn**	**08 18 52.8**	**+0.3**
	99nm,0.3s						
KNOS	**Konyrlen**	**1.57**	**25**	P	**Pn**	**08 18 37.2**	**+0.3**
KNOS	18nm,0.2s			S	**Sn**	**08 18 57.6**	**0.0**
	42nm,0.4s						
ULHL	**Ulahol**	**1.63**	**245**	↓P	**Pb**	**08 18 39.0**	**+0.1**
ULHL	12nm,0.2s,SNR=62			↑S	**Sg**	**08 19 00.5**	**-0.2**
	35nm,0.2s						
ULHL	**Ulahol**	**1.63**	**245**	↓*e*P	**Pn**	**08 18 37.4**	**-0.4**
ULHL				↓*e*S	**Sn**	**08 18 58.2**	**-1.0**
KST	**Kastek**	**1.67**	**274**	P	**Pb**	**08 18 40.0**	**+0.4**
KST	7.0nm,0.2s			S	**Sg**	**08 19 02.3**	**+0.3**
	26nm,0.6s						
KST	**Kastek**	**1.67**	**274**	*e*P	**Pb**	**08 18 40.0**	**+0.4**
KST	7.0nm,0.2s			*e*S	**Sg**	**08 19 02.3**	**+0.3**
	26nm,0.6s						
BOOM	**Boomskoye usch**	**1.76**	**256**	↓*e*P	**Pn**	**08 18 38.9**	**-0.5**
BOOM				↓*e*S	**Sn**	**08 19 00.9**	**-1.3**
DJR	**Jarkent**	**1.78**	**39**	P	**Pb**	**08 18 40.6**	**-0.8**
DJR	23nm,0.3s			S	**Sb**	**08 19 03.5**	**-0.6**
	49nm,0.2s						
DJR	**Jarkent**	**1.78**	**39**	*e*P	**Pb**	**08 18 40.6**	**-0.8**
DJR	16nm,0.2s			*e*S	**Sb**	**08 19 03.5**	**-0.6**
	41nm,0.2s						
DGS	**Degeres**	**1.83**	**280**	P	**Pb**	**08 18 42.5**	**+0.3**
DGS	13nm,0.3s			S	**Sg**	**08 19 07.0**	**-0.1**
	69nm,0.5s						
TKM2	**Tokmak 2**	**1.94**	**270**	↑P	**Pb**	**08 18 44.9**	**+0.8**
TKM2	6.8nm,0.2s,SNR=13			↑S	**Sg**	**08 19 11.5**	**+0.9**
	26nm,0.1s						
TKM2	**Tokmak 2**	**1.94**	**270**	↑Pn	**Pb**	**08 18 45.0**	**+0.8**
TKM2	2.7nm,0.3s			↑Sn	**Sg**	**08 19 11.9**	**+1.3**
	18nm,0.5s						
KRBS	**Karabastau**	**2.02**	**293**	Pg	**Pb**	**08 18 45.5**	**+0.2**
KRBS	32nm,0.3s			Lg	Lg	08 19 12.1	
	128nm,0.3s						
KBK	**Karagaybulak**	**2.44**	**264**	↑P	**Pb**	**08 18 53.1**	**+0.5**
KBK	18nm,0.3s,SNR=11			↑S	**Sb**	**08 19 24.9**	**+1.8**
	58nm,0.4s						
KBK	**Karagaybulak**	**2.44**	**264**	↑*e*P	**Pn**	**08 18 48.3**	**-0.5**
KBK				↑*e*S	**Sn**	**08 19 17.3**	**-1.8**
CHMS	**Chumysh**	**2.56**	**272**	↑P	**Pb**	**08 18 54.9**	**+0.3**
CHMS	4.6nm,0.2s			↑S	**Sb**	**08 19 28.3**	**+2.0**
	18nm,0.2s						
CHMS	**Chumysh**	**2.56**	**272**	↓Pg	**Pb**	**08 18 54.8**	**+0.1**
CHMS	3.9nm,0.7s			↑Lg	Lg	08 19 29.6	
	12nm,0.5s						
CHMS	**Chumysh**	**2.56**	**272**	↑*e*P	**Pn**	**08 18 49.9**	**-0.5**
CHMS				↑*e*S	**Sn**	**08 19 20.0**	**-1.9**
USP	**Ospenovka**	**2.76**	**278**	↓P	**Pb**	**08 18 57.4**	**-0.6**
USP	5.2nm,0.2s,SNR=16			↑S	**Sb**	**08 19 32.8**	**+0.7**
	18nm,0.3s						
AAK	**Ala-Archa**	**2.77**	**265**	↑P	**Pb**	**08 18 58.1**	**-0.2**
AAK	5.7nm,0.2s,SNR=12						
AAK	**Ala-Archa**	**2.77**	**265**	↓*e*P	**Pn**	**08 18 53.0**	**-0.4**
AAK				↓*i*S	**Sn**	**08 19 25.3**	**-2.0**
UCH	**Uchtor**	**2.84**	**257**	↑*e*P	**Pn**	**08 18 54.1**	**-0.5**
UCH				↑*e*S	**Sn**	**08 19 27.5**	**-2.0**
MRKS	**Merke**	**3.69**	**269**	Pg	**Pb**	**08 19 16.4**	**+2.4**
MRKS	2.4nm,0.5s			Lg	Lg	08 20 05.0	
	8.0nm,0.3s						
MRKS	**Merke**	**3.69**	**269**	*e*P	**Pb**	**08 19 16.4**	**+2.4**
MRKS	2.4nm,0.5s			*e*S	**Sg**	**08 20 05.0**	**-1.8**
	8.0nm,0.3s						
MAKZ	**Makanchi**	**4.69**	**33**	↑Pn	**Pn**	**08 19 17.8**	**-1.8**
MAKZ	2.4nm,1.3s			↑Lg	Lg	08 20 32.2	
	4.8nm,0.9s						
MK31	**Makanchi Array**	**4.80**	**35**	↓Pn	**Pn**	**08 19 21.5**	**+0.3**
MK31	0.6nm,0.3s,baz=213,slow=12,SNR=47			↑Sn	**Sn**	**08 20 17.2**	**0.0**
	1.0nm,0.5s						
MK31				↓Lg	Lg	08 20 37.1	
	0.6nm,0.3s,baz=222,slow=31,SNR=10.0						
KK31	**Karatay Array**	**5.67**	**274**	↑Pg	**Pg**	**08 19 55.7**	**-1.1**
KK31	0.3nm,0.3s,baz=88,slow=16,SNR=4.4			↓Lg	Lg	08 21 06.5	
	1.8nm,0.5s,baz=80,slow=28,SNR=5.8						
KURBB	**Kurchatov Arra**	**7.68**	**1**	↑Lg	Lg	08 22 09.1	
	10nm,0.8s						
KURK	**Kurchatov**	**7.78**	**2**	↑Lg	Lg	08 22 09.2	
	5.6nm,0.8s						

---

*GEN **05** 08:30:58.9, 45°.87N×7°.04E, h6km±1km, MI2.8*
*STR **05** 08:30:59.8±0.2, 46°№1°×±°, h6km±2km, MLv3.2/59, Error ellipse: s-maj=0.0km s-min=0.0km az=105.7, preliminary*
*ROM **05** 08:30:59.8±0.2, 45°.852N±0°.009×7°.08E±0°.02, h10km, ML2.9/41, Error ellipse: s-maj=1.3km s-min=0.9km az=298.0*
*ZUR **05** 08:30:60.0, 45°.87N×7°.01E, h3km±1km, MLh3.2/110, Error ellipse: s-maj=3499.2km s-min=675.7km az=95.0*
*LDG **05** 08:31:00.1±0.1, 45°.85N×7°.06E, h5km, Md3.2/2, Ml3.5/37, Error ellipse: s-maj=1.4km s-min=1.0km az=109.0*
*BGR **05** 08:31:02.0±0.5, 45°.96N×6°.96E, h10km, ML3.3/18, Error ellipse: s-maj=6.7km s-min=5.6km az=146.0*
*PRU **05** 08:31:03.6, 45°.90N×7°.21E, h10km*
ISC 05 08:30:59.6±0.7, 45°.87N±0°.01×7°.02E±0°.01, h10km±3km, n329, σ1§29/465, 81C-24D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLANC	**P.ta Helbronne**	**0.07**	**251**	P	**Pg**	**08 31 01.7**	**-0.5**
BLANC				S	**Sg**	**08 31 02.9**	**-1.1**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	↑Pg	**Pg**	**08 31 02.5**	**0.0**
REMY				Sg	**Sg**	**08 31 04.3**	**-0.1**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	↑Pg	**Pg**	**08 31 02.5**	**0.0**
REMY				Sg	**Sg**	**08 31 04.2**	**-0.3**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	↑Pg	**Pg**	**08 31 02.4**	**0.0**
REMY				Sg	**Sg**	**08 31 04.3**	**-0.1**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	Pg	**Pg**	**08 31 02.4**	**0.0**
REMY				Sg	**Sg**	**08 31 04.1**	**-0.3**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	P	**Pg**	**08 31 02.5**	**0.0**
REMY				S	**Sg**	**08 31 04.0**	**-0.4**
REMY	**Saint-Rhmy-en**	**0.10**	**107**	P	**Pg**	**08 31 02.4**	**0.0**
REMY				S	**Sg**	**08 31 04.2**	**-0.3**
REMY				AML	AML		
	comp=E,16250μm,1.2s						
REMY				AML	AML		
	comp=N,16850μm,0.3s						
REMY				AML	AML		
	comp=E,16250μm,0.8s						
MRGE	**Morge**	**0.10**	**164**	↑Pg	**Pg**	**08 31 02.3**	**-0.1**
MRGE				Sg	**Sg**	**08 31 04.0**	**-0.3**
MRGE	**Morge**	**0.10**	**164**	↑Pg	**Pg**	**08 31 02.3**	**-0.1**
MRGE				Sg	**Sg**	**08 31 04.0**	**-0.3**
MRGE	**Morge**	**0.10**	**164**	↑Pg	**Pg**	**08 31 02.3**	**-0.1**
MRGE				Sg	**Sg**	**08 31 04.0**	**-0.3**
MRGE	**Morge**	**0.10**	**164**	P	**Pg**	**08 31 02.3**	**-0.1**
MRGE				S	**Sg**	**08 31 03.9**	**-0.3**
MRGE	**Morge**	**0.10**	**164**	P	**Pg**	**08 31 02.3**	**-0.1**
MRGE				S	**Sg**	**08 31 04.0**	**-0.3**
MRGE				AML	AML		
	comp=E,32350μm,0.2s						
MRGE				AML	AML		
	comp=N,18250μm,0.3s						
SEMOS	**Emosson Stauma**	**0.21**	**343**	↑Pg	**Pg**	**08 31 04.1**	**0.0**
SEMOS				Sg	**Sg**	**08 31 06.9**	**-0.3**
SEMOS	**Emosson Stauma**	**0.21**	**343**	↑Pg	**Pg**	**08 31 04.1**	**0.0**
SEMOS				Sg	**Sg**	**08 31 06.9**	**-0.3**
SEMOS	**Emosson Stauma**	**0.21**	**343**	↑Pg	**Pg**	**08 31 04.1**	**0.0**
SEMOS				Sg	**Sg**	**08 31 06.9**	**-0.3**
SMAO	**Martigny, Rue**	**0.24**	**9**	↑Pg	**Pg**	**08 31 04.7**	**+0.2**
SMAO	**Martigny, Rue**	**0.24**	**9**	↑Pg	**Pg**	**08 31 04.7**	**+0.2**
SMAO	**Martigny, Rue**	**0.24**	**9**	↑Pg	**Pg**	**08 31 04.7**	**+0.2**
OGSI	**Sixt**	**0.27**	**317**	↑Pg	**Pg**	**08 31 05.1**	**-0.1**
OGSI				Sg	**Sg**	**08 31 08.5**	**-0.4**
OGSI	**Sixt**	**0.27**	**317**	↑Pg	**Pg**	**08 31 05.1**	**-0.1**
OGSI				Sg	**Sg**	**08 31 08.5**	**-0.4**
OGSI	**Sixt**	**0.27**	**317**	↑Pg	**Pg**	**08 31 05.1**	**-0.1**
OGSI				Sg	**Sg**	**08 31 08.5**	**-0.4**
OGSI	**Sixt**	**0.27**	**317**	↑Pg	**Pg**	**08 31 05.1**	**-0.1**
OGSI				Sg	**Sg**	**08 31 08.6**	**-0.4**
SALAN	**Lac Salanfe**	**0.28**	**353**	↑Pg	**Pg**	**08 31 05.4**	**0.0**
SALAN				Sg	**Sg**	**08 31 09.1**	**-0.2**
SALAN	**Lac Salanfe**	**0.28**	**353**	↑Pg	**Pg**	**08 31 05.4**	**0.0**
SALAN				Sg	**Sg**	**08 31 09.1**	**-0.2**
SALAN	**Lac Salanfe**	**0.28**	**353**	↑Pg	**Pg**	**08 31 05.4**	**0.0**
SALAN				Sg	**Sg**	**08 31 09.0**	**-0.2**
FULLY	**Reservoir Maze**	**0.30**	**15**	↑Pg	**Pg**	**08 31 05.8**	**+0.1**
FULLY				Sg	**Sg**	**08 31 09.6**	**-0.2**
SAI01	**Saillon, Rue d**	**0.32**	**21**	↑Pg	**Pg**	**08 31 06.5**	**+0.3**
RSL	**Roselend**	**0.33**	**238**	↓Pg	**Pg**	**08 31 06.2**	**0.0**
RSL				Sg	**Sg**	**08 31 10.4**	**-0.2**
RSL	**Roselend**	**0.33**	**238**	P	**Pg**	**08 31 06.3**	**0.0**
RSL				S	**Sg**	**08 31 10.7**	**0.0**
LAVEY	**Lavey les Bain**	**0.33**	**0**	↑Pg	**Pg**	**08 31 06.3**	**0.0**
DIX	**Grande Dixence**	**0.34**	**51**	↑Pg	**Pg**	**08 31 06.5**	**0.0**
DIX				Sg	**Sg**	**08 31 11.3**	**+0.1**
DIX	**Grande Dixence**	**0.34**	**51**	↑Pg	**Pg**	**08 31 06.5**	**0.0**
DIX				Sg	**Sg**	**08 31 11.3**	**+0.1**
DIX	**Grande Dixence**	**0.34**	**51**	↑Pg	**Pg**	**08 31 06.5**	**0.0**
DIX				Sg	**Sg**	**08 31 11.3**	**+0.1**
DIX	**Grande Dixence**	**0.34**	**51**	↑Pg	**Pg**	**08 31 06.5**	**0.0**
DIX	**Grande Dixence**	**0.34**	**51**	P	**Pg**	**08 31 06.6**	**0.0**
DIX				S	**Sg**	**08 31 11.2**	**+0.1**
DIX	**Grande Dixence**	**0.34**	**51**	P	**Pg**	**08 31 06.6**	**0.0**
DIX				S	**Sg**	**08 31 11.3**	**+0.1**
DIX				AML	AML		
	comp=E,8780μm,1.5s						
DIX				AML	AML		
	comp=N,7340μm,0.8s						
DIX				AML	AML		
	comp=N,7340μm,1.2s						
DIX				AML	AML		
	comp=E,8780μm,0.5s						
ILLEZ	**Chalet Vouargn**	**0.36**	**351**	↑Pg	**Pg**	**08 31 06.8**	**0.0**
ILLEZ				Sg	**Sg**	**08 31 11.4**	**-0.2**
RAW4	**Former Reservo**	**0.36**	**17**	↑Pg	**Pg**	**08 31 07.0**	**+0.2**
RAW4				Sg	**Sg**	**08 31 11.5**	**-0.1**
SARC	**Ardon Commune,**	**0.38**	**25**	Pg	**Pg**	**08 31 07.3**	**+0.1**
GRYON	**Gryon**	**0.39**	**9**	↑Pg	**Pg**	**08 31 07.5**	**+0.1**
GRYON	**Gryon**	**0.39**	**9**	↑Pg	**Pg**	**08 31 07.5**	**+0.1**
GRYON	**Gryon**	**0.39**	**9**	↑Pg	**Pg**	**08 31 07.5**	**+0.1**
VET02	**Vtroz, Route**	**0.39**	**26**	↑Pg	**Pg**	**08 31 07.6**	**+0.2**
VET02				Sg	**Sg**	**08 31 13.1**	**+0.5**
VET01	**Vtroz, Route**	**0.40**	**26**	↑Pg	**Pg**	**08 31 07.5**	**0.0**
LPL	**La Plagne**	**0.40**	**210**	*e*Pg	**Pg**	**08 31 07.7**	**0.0**
LPL				*e*Sg	**Sg**	**08 31 13.4**	**+0.4**
	comp=E,532nm,0.3s						
SHER	**Hrmence, R**	**0.41**	**39**	Pg	**Pg**	**08 31 07.9**	**+0.1**
SHER	**Hrmence, R**	**0.41**	**39**	Pg	**Pg**	**08 31 07.9**	**+0.1**
SHER	**Hrmence, R**	**0.41**	**39**	Pg	**Pg**	**08 31 07.9**	**+0.1**
SHER				↑Pn	**Pg**	**08 31 07.9**	**+0.1**
LPG	**La Plagne**	**0.41**	**207**	*e*Pg	**Pg**	**08 31 07.9**	**0.0**
LPG				*e*Sg	**Sg**	**08 31 13.4**	**+0.1**
	comp=E,438nm,0.2s						
SIOV	**Sion-Valere**	**0.44**	**33**	Pg	**Pg**	**08 31 08.4**	**+0.1**
SIOV	**Sion-Valere**	**0.44**	**33**	Pg	**Pg**	**08 31 08.4**	**+0.1**
CIRO	**Champorcher**	**0.47**	**124**	Sg	**Sg**	**08 31 14.8**	**-0.2**
CIRO	**Champorcher**	**0.47**	**124**	↑Pg	**Pg**	**08 31 08.7**	**-0.1**
CIRO	**Champorcher**	**0.47**	**124**	P	**Pg**	**08 31 08.8**	**0.0**
CIRO				S	**Sg**	**08 31 14.4**	**-0.5**
CIRO	**Champorcher**	**0.47**	**124**	P	**Pg**	**08 31 08.8**	**0.0**
CIRO				S	**Sg**	**08 31 14.7**	**-0.3**
CIRO				AML	AML		
	comp=N,2360μm,1.4s						
CIRO				AML	AML		
	comp=E,1265μm,0.3s						
CIRO				AML	AML		
	comp=N,2360μm,0.6s						
MH38	**Zermatt, Posit**	**0.47**	**75**	↓Pg	**Pg**	**08 31 08.4**	**-0.5**
MH44	**Zermatt, Posit**	**0.47**	**75**	↓Pg	**Pg**	**08 31 08.4**	**-0.5**
AIGLE	**Aigle**	**0.48**	**354**	↑Pg	**Pg**	**08 31 09.0**	**0.0**
AIGLE	**Aigle**	**0.48**	**354**	↑Pg	**Pg**	**08 31 09.0**	**0.0**
AIGLE	**Aigle**	**0.48**	**354**	↑Pg	**Pg**	**08 31 09.0**	**0.0**
AIGLE	**Aigle**	**0.48**	**354**	Sg	**Sg**	**08 31 15.3**	**-0.1**
AIGLE	**Aigle**	**0.48**	**354**	Pg	**Pg**	**08 31 09.0**	**0.0**
RAW2	**Sanetsch, VS**	**0.49**	**24**	↑Pg	**Pg**	**08 31 09.4**	**+0.1**
SAYF2	**Ayent-Fortunoz**	**0.50**	**33**	↑Pg	**Pg**	**08 31 09.5**	**0.0**
SAYF2				Sg	**Sg**	**08 31 16.2**	**+0.1**
RAW3	**Les Diablerets**	**0.51**	**12**	↑Pg	**Pg**	**08 31 09.8**	**+0.2**
SIE01	**Sierre, Farmho**	**0.52**	**39**	↑Pg	**Pg**	**08 31 09.9**	**+0.1**
SIE01				Sg	**Sg**	**08 31 17.0**	**+0.3**
VANNI	**Vissoie, Val d**	**0.53**	**49**	↑Pg	**Pg**	**08 31 10.0**	**+0.1**
VANNI				Sg	**Sg**	**08 31 16.7**	**-0.3**
VANNI	**Vissoie, Val d**	**0.53**	**49**	↑Pg	**Pg**	**08 31 10.0**	**+0.1**
VANNI				Sg	**Sg**	**08 31 16.7**	**-0.3**
VANNI	**Vissoie, Val d**	**0.53**	**49**	Pg	**Pg**	**08 31 10.0**	**+0.1**
VANNI				Sg	**Sg**	**08 31 16.7**

RSP				S	Sg	08 31 23.3	-0.3
RSP	**Reno Superiore**	**0.74**	**167**	P	Pg	08 31 13.6	-0.3
RSP				S	Sg	08 31 23.2	-0.3
RSP				AML	AML		
	comp=E,1860μm,0.2s						
RSP				AML	AML		
	comp=N,1595μm,0.2s						
RSP				AML	AML		
	comp=E,1990μm,0.2s						
LAUCH	**Lauchernalp**	**0.76**	**43**	Pg	Pg	08 31 14.1	-0.2
LAUCH	**Lauchernalp**	**0.76**	**43**	P	Pg	08 31 14.2	-0.2
LAUCH				S	Sg	08 31 24.5	+0.3
SBUL	**Bulle cole,**	**0.76**	**2**	⇑Pg	Pg	08 31 14.6	+0.3
SIMPL	**Simplonpass**	**0.79**	**61**	⇓Pg	Pg	08 31 14.4	-0.5
SIMPL	**Simplonpass**	**0.79**	**61**	⇓Pg	Pg	08 31 14.4	-0.5
SIMPL	**Simplonpass**	**0.79**	**61**	P	Pg	08 31 14.4	-0.5
SIMPL				S	Sg	08 31 24.5	-0.7
OGMY	**Moye**	**0.79**	**272**	⇓Pg	Pg	08 31 15.2	+0.3
OGMY	**Moye**	**0.79**	**272**	⇓Pg	Pg	08 31 15.3	+0.3
OGMY				Sg	Sg	08 31 26.2	+0.9
BNI	**Bardonecchia**	**0.85**	**197**	⇑Pg	Pg	08 31 15.5	-0.5
BNI	**Bardonecchia**	**0.85**	**197**	⇑Pg	Pg	08 31 15.5	-0.5
BNI	**Bardonecchia**	**0.85**	**197**	P	Pg	08 31 15.5	-0.5
BNI				S	Sg	08 31 26.2	-0.9
BNI	**Bardonecchia**	**0.85**	**197**	P	Pg	08 31 15.5	-0.5
BNI				AML	AML		
	comp=N,306μm,1.2s						
BNI				AML	AML		
	comp=N,306μm,1.2s						
BNI				AML	AML		
	comp=N,306μm,0.8s						
BNI				AML	AML		
	comp=N,370μm,0.8s						
GIMEL	**St. Georges /**	**0.85**	**322**	Pg	Pg	08 31 16.3	+0.2
GIMEL	**St. Georges /**	**0.85**	**322**	Sg	Sb	08 31 28.4	+0.3
GIMEL	**St. Georges /**	**0.85**	**322**	⇑Pg	Pg	08 31 16.3	+0.2
GIMEL	**St. Georges /**	**0.85**	**322**	P	Pg	08 31 16.4	+0.4
GIMEL				AML	AML		
	comp=E,412μm,0.2s						
GIMEL				AML	AML		
	comp=N,368μm,1.1s						
GIMEL				AML	AML		
	comp=N,368μm,0.9s						
WIMIS	**Wimmis**	**0.90**	**27**	Pg	Pg	08 31 17.1	+0.1
TORNY	**Torny/Romont**	**0.91**	**357**	Pg	Pg	08 31 17.6	+0.4
TORNY	**Torny/Romont**	**0.91**	**357**	⇑Pg	Pg	08 31 17.3	+0.2
TORNY				PmP		08 31 20.2	
TORNY	**Torny/Romont**	**0.91**	**357**	Sg	Sn	08 31 34.0	+2.2
TORNY	**Torny/Romont**	**0.91**	**357**	⇑Pg	Pg	08 31 17.4	+0.2
FIESA	**Fiescheralp**	**0.95**	**53**	Pg	Pg	08 31 17.5	-0.5
FIESA	**Fiescheralp**	**0.95**	**53**	Pg	Pg	08 31 17.4	-0.5
FIESA	**Fiescheralp**	**0.95**	**53**	P	Pg	08 31 17.5	-0.5
FIESA				S	Sg	08 31 30.1	-0.1
STAF	**Tafers**	**0.95**	**8**	⇑Pg	Pg	08 31 18.2	+0.3
RRL	**Rocca Remolon**	**0.96**	**190**	⇓Pg	Pg	08 31 17.6	-0.4
RRL	**Rocca Remolon**	**0.96**	**190**	P	Pg	08 31 17.7	-0.4
RRL	**Rocca Remolon**	**0.96**	**190**	P	Pg	08 31 17.7	-0.4
OGSM	**Saint Maurice**	**0.96**	**255**	⇑Pg	Pg	08 31 18.5	+0.3
OGSM				Sg	Sg	08 31 31.3	+0.7
CABF	**La Chapelle**	**0.99**	**319**	*e*Pg	Pg	08 31 18.6	-0.1
CABF				*e*Sg	Sg	08 31 32.2	+0.7
	comp=N,291nm,0.3s						
SCOU	**Cournillens**	**0.99**	**3**	Pg	Pg	08 31 19.0	+0.3
MONC	**Moncucco Torin**	**1.02**	**141**	P	Pb	08 31 20.3	+0.9
MONC	**Moncucco Torin**	**1.02**	**141**	P	Pb	08 31 20.3	+0.9
MONC				AML	AML		
	comp=N,1260μm,0.4s						
MONC				AML	AML		
	comp=N,1260μm,1.6s						
MONC				AML	AML		
	comp=E,841μm,0.3s						
OG35	**Corcelles**	**1.03**	**281**	Pg	Pg	08 31 19.6	+0.3
OG35	**Corcelles**	**1.03**	**281**	⇑Pg	Pg	08 31 19.7	+0.3
OG35				Sg	Sg	08 31 33.3	+0.5
BHB	**Bricherasio**	**1.04**	**170**	⇑Pg	Pg	08 31 19.4	-0.2
BHB	**Bricherasio**	**1.04**	**170**	P	Pg	08 31 19.3	-0.2
BHB				S	Sg	08 31 31.2	-1.9
BHB	**Bricherasio**	**1.04**	**170**	P	Pg	08 31 19.4	-0.2
BHB				AML	AML		
	comp=N,704μm,0.9s						
BHB				AML	AML		
	comp=E,668μm,1.4s						
BHB				AML	AML		
	comp=E,668μm,0.6s						
BHB				AML	AML		
	comp=N,705μm,0.9s						
BTNF	**Ladstafel, Nuf**	**1.12**	**56**	Pg	Pg	08 31 20.4	-0.7
BRANT	**Les Verrieres**	**1.14**	**341**	⇑Pg	Pg	08 31 21.7	+0.2
BRANT	**Les Verrieres**	**1.14**	**341**	Pg	Pg	08 31 21.8	+0.2
MBDF	**Montbardon**	**1.15**	**189**	*e*Pg	Pg	08 31 21.1	-0.7
MBDF				*e*Sg	Sg	08 31 36.0	-0.8
	comp=N,233nm,0.4s						
RIVEL	**MONT RIVEL**	**1.17**	**320**	Pg	Pg	08 31 22.0	-0.2
GSF03	**Obergoms, Fort**	**1.19**	**53**	⇓Pg	Pg	08 31 21.8	-0.7
RA43	**Rhonegletscher**	**1.19**	**52**	⇓Pg	Pg	08 31 21.9	-0.6
VARE	**Varese**	**1.22**	**89**	P	Pg	08 31 22.4	-0.6
VARE	**Varese**	**1.22**	**89**	P	Pg	08 31 22.9	-0.2
VARE				AML	AML		
	comp=N,370μm,0.5s						
VARE				AML	AML		
	comp=N,370μm,1.5s						
ORIF	**Oris-en-Rattie**	**1.24**	**221**	*e*Pg	Pg	08 31 22.9	-0.6
ORIF				*e*Sg	Sg	08 31 39.1	-0.5
	comp=N,197nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.24**	**221**	Sg	Sb	08 31 40.5	+1.2
ORIF	**Oris-en-Rattie**	**1.24**	**221**	⇑Pn	Pg	08 31 22.9	-0.6
FUSIO	**Fusio**	**1.28**	**62**	Pg	Pg	08 31 23.4	-0.9
FUSIO	**Fusio**	**1.28**	**62**	P	Pg	08 31 23.5	-0.9
FUSIO	**Fusio**	**1.28**	**62**	P	Pg	08 31 23.6	-0.7
FUSIO				AML	AML		
	comp=N,388μm,0.4s						
STFL	**Fournets-Luisa**	**1.29**	**346**	Pn	Pb	08 31 24.5	+0.5
STFL				Sg	Sn	08 31 43.5	+2.3
A060B	**Romoos, Napf,**	**1.31**	**30**	⇑Pg	Pg	08 31 25.0	+0.2
A060B				Sg	Sn	08 31 42.9	+1.2
CREF	**Crivoux**	**1.35**	**192**	⇓Pn	Pn	08 31 24.8	+0.1
CREF				Sg	Sg	08 31 43.5	+0.5
PZZ	**Stroppo**	**1.36**	**177**	⇓Pg	Pn	08 31 24.8	-0.1
PZZ	**Stroppo**	**1.36**	**177**	⇓Pn	Pn	08 31 24.7	-0.1
PZZ				Pg	Pb	08 31 25.5	+0.2
PZZ	**Stroppo**	**1.36**	**177**	P	Pn	08 31 24.8	-0.1
PZZ	**Stroppo**	**1.36**	**177**	P	Pn	08 31 25.0	+0.1
PZZ				AML	AML		
	comp=E,980μm,0.3s						
PZZ				AML	AML		
	comp=N,856μm,0.6s						
SURF	**Saint Ours**	**1.39**	**186**	⇑Pn	Pn	08 31 25.4	+0.1
SURF	**Saint Ours**	**1.39**	**186**	P	Pn	08 31 25.5	+0.2
BNALP	**Bannalp**	**1.40**	**44**	AML	AML		
	comp=E,548μm,0.4s						
BNALP				AML	AML		
	comp=N,417μm,0.3s						
CHMF	**Charmoille**	**1.41**	**350**	⇑Pg	Pn	08 31 26.2	+0.7
CHMF	**Charmoille**	**1.41**	**350**	⇑Pn	Pn	08 31 26.1	+0.7
CHMF				Sn	Sg	08 31 46.5	+1.6
MUGIO	**Muggio**	**1.41**	**87**	P	Pn	08 31 25.8	+0.3
MUGIO	**Muggio**	**1.41**	**87**	AML	AML		
	comp=N,349μm,0.5s						
MUGIO				AML	AML		
	comp=E,306μm,1.6s						
MUGIO				AML	AML		
	comp=N,349μm,1.5s						
JAUF	**Jausiers**	**1.45**	**188**	⇓Pn	Pn	08 31 26.5	+0.4
OGAG	**Argentiere**	**1.45**	**194**	⇓Pg	Pn	08 31 21.0	-5.1
OGAG	**Argentiere**	**1.45**	**194**	P	Pn	08 31 20.9	-5.2
MTIA3	**Mont Terri MTI**	**1.51**	**3**	Pn	Pn	08 31 27.3	+0.5
MTI02	**Mont Terri, (H**	**1.52**	**4**	⇑Pn	Pn	08 31 27.4	+0.5
MTIA4	**Mont Terri MTI**	**1.52**	**5**	⇑Pn	Pn	08 31 27.6	+0.5
BOURR	**Bourrignon**	**1.54**	**5**	Pn	Pn	08 31 27.7	+0.5
BOURR	**Bourrignon**	**1.54**	**5**	Pg	Pg	08 31 29.2	+0.1
BALST	**Balsthal**	**1.54**	**17**	Pn	Pn	08 31 27.9	+0.6
BALST	**Balsthal**	**1.54**	**17**	*e*Pg	Pg	08 31 29.7	+0.4
BALST				*e*Sg	Sg	08 31 49.9	+0.7
STV	**Sant Anna di V**	**1.63**	**172**	⇓Pn	Pn	08 31 28.6	+0.1
STV	**Sant Anna di V**	**1.63**	**172**	P	Pn	08 31 28.6	+0.1
STV				AML	AML		
	comp=E,120μm,0.5s						
STV				AML	AML		
	comp=N,86μm,0.5s						
ENR	**Entracque**	**1.66**	**170**	⇑Pn	Pn	08 31 28.8	-0.1
ISO	**Isola**	**1.68**	**179**	Pg	Pn	08 31 30.6	+1.4
PCP	**Piancastagn**	**1.71**	**140**	Pg	Pb	08 31 31.0	-0.1
PCP	**Piancastagn**	**1.71**	**140**	AML	AML		
	comp=N,103μm,0.3s						
GBOS	**Grotte di Boss**	**1.72**	**160**	Pg	Pg	08 31 33.9	+1.2
GBOS	**Grotte di Boss**	**1.72**	**160**	Pn	Pn	08 31 30.4	+0.7
GBOS	**Grotte di Boss**	**1.72**	**160**	P	Pn	08 31 30.5	+0.7
GBOS				AML	AML		
	comp=N,258μm,0.4s						
TUE	**Stuetta**	**1.73**	**69**	AML	AML		
	comp=N,180μm,0.5s						
PIAF	**les Granges de**	**1.80**	**166**	⇑Pn	Pn	08 31 31.3	+0.5
SPIF	**crte de Spivo**	**1.82**	**175**	Pn	Pn	08 31 31.7	+0.6
ILLF	**Illfurth**	**1.82**	**5**	⇑Pg	Pg	08 31 34.5	-0.2
SULZ	**Cheisacher**	**1.82**	**24**	Sn	Sn	08 31 54.9	+0.6
SULZ				Sg	Sg	08 31 59.5	+1.2
SULZ	**Cheisacher**	**1.82**	**24**	Pn	Pn	08 31 31.9	+0.8
SULZ	**Cheisacher**	**1.82**	**24**	⇑Pg	Pg	08 31 34.7	+0.1
SULZ	**Cheisacher**	**1.82**	**24**	*e*Pg	Pg	08 31 34.7	+0.1
SULZ				*e*Sg	Sg	08 31 59.2	+0.9
OGDI	**Digne**	**1.83**	**197**	Pg	Pg	08 31 35.3	+0.6
SSB	**Saint Sauveur**	**1.84**	**252**	Pn	Pn	08 31 32.1	+0.8
SSB				Pg	Pg	08 31 35.3	+0.4
SSB				Sg	Sb	08 31 58.2	+1.8
RONF	**Ronchamp**	**1.86**	**352**	⇑Pn	Pn	08 31 32.1	+0.5
RONF	**Ronchamp**	**1.86**	**352**	⇑Pn	Pn	08 31 32.1	+0.5
RONF				⇓Pg	Pg	08 31 35.2	-0.1
CANO	**Canova, Maglio**	**1.87**	**152**	Pg	Pn	08 31 33.2	+1.5
CANO	**Canova, Maglio**	**1.87**	**152**	P	Pn	08 31 33.2	+1.5
CANO				AML	AML		
	comp=E,912μm,1.1s						
CANO				AML	AML		
	comp=N,708μm,1.1s						
RORO	**Rocca Rossa**	**1.90**	**157**	Pg	Pn	08 31 33.5	+1.3
TURF	**col de Turini**	**1.91**	**172**	Pg	Pb	08 31 35.4	+0.7
ENDD	**Endenburg**	**1.91**	**15**	Pn	Pn	08 31 32.2	-0.1
ENDD	**Endenburg**	**1.91**	**15**	⇑Pg	Pg	08 31 36.0	-0.3
PLYF	**Puligny Montra**	**1.92**	**306**	Pn	Pn	08 31 33.7	+1.3
PLYF				⇓Pg	Pg	08 31 36.2	-0.1
SAOF	**Saorge**	**1.92**	**168**	Pn	Pn	08 31 33.0	+0.6
VIVF	**Saint-Julien-l**	**1.94**	**239**	*e*P	Pn	08 31 34.2	+1.5
VIVF	**Saint-Julien-l**	**1.94**	**239**	*e*Pg	Pb	08 31 35.9	+0.8
VIVF				*e*Sg	Sb	08 32 01.3	+1.9
	comp=N,156nm,0.3s						
HINF	**Hinteralfeld**	**1.96**	**357**	*e*Pn	Pn	08 31 32.9	0.0
HINF	**Hinteralfeld**	**1.96**	**357**	*e*Pg	Pg	08 31 36.6	-0.5
HINF				*e*Sg	Sg	08 32 02.0	-0.5
	comp=N,63nm,0.3s						
MVIF	**Mont Vial**	**1.97**	**177**	Pg	Pb	08 31 37.0	+1.3
SALSA	**La sagne**	**2.00**	**187**	Pg	Pg	08 31 37.8	-0.2
PLONS	**Plons/SG**	**2.02**	**53**	*e*Pg	Pg	08 31 39.0	+0.7
PLONS				*e*Sg	Sg	08 32 05.1	+0.7
WILA	**Wila**	**2.02**	**39**	*e*Pg	Pg	08 31 38.8	+0.4
WILA				*e*Sg	Sg	08 32 06.5	+1.8
A121B	**Sulzburg**	**2.03**	**14**	⇑Pn	Pn	08 31 33.8	-0.1
METMA	**Mettma DE**	**2.03**	**24**	*e*Pg	Pg	08 31 38.5	-0.1
METMA				*e*Sg	Sg	08 32 03.9	-1.1
WALT	**Westhalten**	**2.11**	**5**	Pn	Pn	08 31 34.9	-0.1
WALT				Pg	Pg	08 31 39.9	-0.1
SLE	**Schleitheim**	**2.15**	**27**	Pn	Pn	08 31 35.6	0.0
SLE	**Schleitheim**	**2.15**	**27**	*e*Pn	Pn	08 31 35.7	0.0
SLE				*e*Pg	Pg	08 31 40.5	-0.4
SLE				*e*Sg	Sg	08 32 08.7	0.0
SMRF	**Simiane la Rot**	**2.15**	**209**	*e*P	Pn	08 31 37.5	+1.9
SMRF	**Simiane la Rot**	**2.15**	**209**	*e*Pg	Pb	08 31 39.3	+0.6
SMRF				*e*Sg	Sb	08 32 07.7	+2.2
	comp=N,48nm,0.5s						
BERGE	**Lenzkirch (DE)**	**2.16**	**21**	*e*Pn	Pn	08 31 35.6	-0.2
BERGE				*e*Pg	Pg	08 31 40.5	-0.5
BERGE				*e*Sg	Sg	08 32 08.3	-0.7
KIZ	**Kirchzarten**	**2.18**	**16**	⇑Pn	Pn	08 31 35.6	-0.4
KIZ	**Kirchzarten**	**2.18**	**16**	Pg	Pg	08 31 40.7	-0.7
KIZ	**Kirchzarten**	**2.18**	**16**	Pn	Pn	08 31 35.7	-0.3
DAVOX	**Davos/Dischmat**	**2.18**	**64**	AML	AML		
	comp=E,114μm,1.0s						
DAVOX				AML	AML		
	comp=E,114μm,1.0s						
HAU	**Haudompre**	**2.19**	**348**	*e*Pn	Pn	08 31 36.2	0.0
SMF	**Signal de Mont**	**2.34**	**291**	*e*Pn	Pn	08 31 36.1	-2.1
SMF	**Signal de Mont**	**2.34**	**291**	*e*Pg	Pg	08 31 44.4	-0.1
SMF				*e*Sg	Sb	08 32 12.9	+2.0
	comp=E,107nm,0.2s						
ECH	**Echery**	**2.35**	**2**	⇑Pn	Pn	08 31 38.3	-0.1
ECH	**Echery**	**2.35**	**2**	Pn	Pn	08 31 38.2	-0.2
ECH				Pg	Pg	08 31 44.0	-0.8
ECH	**Echery**	**2.35**	**2**	*e*Pn	Pn	08 31 38.4	0.0
ECH				*e*Pg	Pg	08 31 44.1	-0.6
COLF	**Collangettes**	**2.36**	**263**	Pn	Pn	08 31 39.0	+0.6
WALHA	**Wallhausen, DE**	**2.38**	**37**	*e*Pg	Pg	08 31 44.9	-0.2
WALHA				*e*Sg	Sg	08 32 16.4	+0.5
EMING	**Emmingen-Lipti**	**2.38**	**31**	*e*Pg	Pg	08 31 44.8	-0.5
EMING				*e*Sg	Sg	08 32 16.2	+0.1
DAVA	**Damuels**	**2.43**	**53**	*e*Pn	Pg	08 31 46.2	0.0
	comp=E,41nm,0.4s						
DAVA	**Damuels**	**2.43**	**53**	*e*Pg	Pg	08 31 46.2	0.0
DAVA				*e*Sg	Sg	08 32 18.3	+0.6
ETNF	**Estrennes**	**2.49**	**345**	Pn	Pn	08 31 41.0	+0.8
CDF	**Champ du Feu**	**2.55**	**4**	*e*Pn	Pn	08 31 40.9	-0.3
CDF	**Champ du Feu**	**2.55**	**4**	*e*Pg	Pg	08 31 47.8	-0.8
CDF				*e*Sn	Sn	08 32 11.1	-1.3
	comp=E,25nm,0.4s						
XAFF	**Xaffevillers**	**2.56**	**354**	⇑Pn	Pn	08 31 41.6	+0.5
LMR	**La Mourre**	**2.56**	**188**	*e*Pg	Pb	08 31 47.3	+1.7
LMR				*e*Sg	Sg	08 32 20.7	-1.1
	comp=E,30nm,0.4s						
WLS	**Welschbruch**	**2.56**	**5**	Pn	Pn	08 31 41.2	-0.1
LOR	**Lormes**	**2.59**	**304**	*e*Pn	Pn	08 31 41.9	+0.2
LOR	**Lormes**	**2.59**	**304**	*e*Pn	Pn	08 31 42.7	+1.0
LOR	**Lormes**	**2.59**	**304**	*e*Pg	Pg	08 31 48.6	-0.7
	baz=124						
LOR				*e*Sg	Sb	08 32 20.3	+2.1
	comp=E,61nm,0.2s						
LOR	**Lormes**	**2.59**	**304**	Pn	Pn	08 31 42.7	+1.0
BFO	**Black Forest**	**2.62**	**19**	*e*Pn	Pn	08 31 41.5	-0.6
BFO				*e*Pg	Pg	08 31 49.1	-0.8
BFO				*e*Sg	Sg	08 32 22.6	-1.3
AVF	**Avril sur Loir**	**2.71**	**291**	*e*PKP2	Pn	08 31 44.9	+1.7
AVF				*e*Sn	Sn	08 32 13.7	-2.3
	comp=E,65nm,0.3s						
SFTF	**Sexfontaines**	**2.71**	**331**	*e*Pg	Pg	08 31 50.6	-0.9
SFTF				*e*Sn	Sn	08 32 14.3	-1.7
SFTF				*e*Sg	Sg	08 32 25.6	-0.9
	comp=E,688nm,0.5s						
SSF	**Saint Saulge**	**2.71**	**297**	*e*PKP2	Pn	08 31 45.8	+2.6
SSF				*e*Sn	Sn	08 32 14.2	-1.9
	comp=E,111nm,0.3s						
SSF				*e*Sg	Sg	08 32 25.2	-1.4
LBL	**Lubilhac**	**2.73**	**258**	Pn	Pn	08 31 44.6	+1.0
OBER	**Oberstdorf**	**2.73**	**54**	*e*Sg	Sg	08 32 29.0	+1.6
OPP	**Oppenau**	**2.75**	**16**	Pn	Pn	08 31 43.1	-0.7
UBR	**Ueberruh**	**2.79**	**48**	*e*Pg	Pg	08 31 52.7	-0.4
UBR				*e*Sg	Sg	08 32 29.6	+0.3
FETA	**Feichten**	**2.81**	**64**	*e*Pn	Pb	08 31 49.0	-1.1
	comp=E,1.7nm,0.3s						
PAGF	**Fort de Pagny**	**2.83**	**342**	*e*Pn	Pn	08 31 46.1	+1.2
PAGF				*e*Sg	Sg	08 32 29.6	-1.0
	comp=E,44nm,0.5s						
LASF	**Ste Croix**	**2.87**	**233**	*e*PKP2	Pn	08 31 47.6	+2.1
LASF				*e*Sn	Sn	08 32 18.3	-1.8
	comp=E,21nm,0.3s						
MEZF	**Maizieres J'vi**	**2.96**	**334**	*e*Pg	Pg	08 31 56.5	+0.2
	baz=150						
MEZF				*e*Sg	Sg	08 32 36.9	+2.2
	comp=E,74nm,0.4s						
BGF	**Bois d'Agland**	**2.98**	**285**	*e*Pn	Pn	08 31 46.8	-0.2
BGF	**Bois d'Agland**	**2.98**	**285**	*e*Pg	Pg	08 31 57.1	+0.4
BGF				*e*Sg	Sg	08 32 33.8	-1.5
	comp=E,87nm,0.3s						
SAVF	**Savonnieres en**	**3.04**	**336**	*e*Pn	Pn	08 31 47.8	0.0
SAVF	**Savonnieres en**	**3.04**	**336**	*e*Pn	Pn	08 31 49.4	+1.6
SAVF	**Savonnieres en**	**3.04**	**336**	*e*Pg	Pg	08 32 00.0	+2.1
SAVF				*e*Sn	Sn	08 32 22.2	-2.0
	comp=E,47nm,0.5s						
SAVF				*e*Sg	Sg	08 32 37.4	+0.2
RETA	**Reutte**	**3.04**	**56**	*e*Pn	Pb	08 31 55.2	+1.2
	comp=E,2.5nm,0.2s						
VERF	**Verneugheol**	**3.18**	**270**	Pn	Pn	08 31 50.5	+0.7
MOTA	**Moosalm**	**3.18**	**61**	*i* Pn	Pn	08 31 53.3	+3.4
	comp=E,2.6nm,0.4s						
SQTA	**Sankt Quirin**	**3.19**	**63**	*i* Pn	Pn	08 31 53.5	+3.5
	comp=E,0.9nm,0.2s						
STU	**Stuttgart**	**3.26**	**26**	*e*Sg	Sg	08 32 43.6	-0.8
HYF	**Humbligny**	**3.33**	**296**	*e*PKP2	Pn	08 31 53.5	+1.7
HYF				*e*Sg	Sg	08 32 45.2	-1.4
LEUC	**Leucamp**	**3.34**	**252**	Pn	Pn	08 31 53.4	+1.5
TCF	**Toulx Ste Croi**	**3.38**	**279**	*e*PKP2	Pn	08 31 54.9	+2.5
TCF	**Toulx Ste Croi**	**3.38**	**279**	*e*Pg	Pg	08 32 04.2	-0.1
TCF				*e*Sn	Sn	08 32 30.3	-2.3
TCF				*e*Sg	Sg	08 32 45.8	-2.2
	comp=E,45nm,0.4s						
WATA	**Walderalm**	**3.47**	**63**	*i* Pn	Pb	08 31 58.0	-3.2
	comp=E,0.7nm,0.1s						
WTTA	**Wattenberg**	**3.48**	**65**	*i* Pn	Pn	08 31 57.3	+3.3
	comp=E,1.9nm,0.2s						
WTTA	**Wattenberg**	**3.48**	**65**	*e*Pn	Pn	08 31 57.5	+3.5
WTTA				*e*Sg	Sg	08 32 53.1	+1.9
BE1	**Monatshausen**	**3.53**	**53**	*e*Sg	Sg	08 32 51.9	-1.1
CAF	**Calviac**	**3.62**	**257**	*e*Pn	Pn	08 31 55.5	-0.3
CAF				*e*Sg	Sg	08 32 53.1	-2.6
	comp=E,9.8nm,0.2s						
NORI	**Noerdlinger Ri**	**3.76**	**39**	*e*Pg	Pg	08 32 12.6	+0.9
NORI				*e*Sg	Sg	08 33 00.8	+0.4
ABTA	**Abfaltersbach**	**3.91**	**75**	*i* Pn	Pb	08 32 05.2	-3.4
	comp=E,2.8nm,0.4s						
RJF	**Les Rejaudoux**	**3.91**	**264**	*e*PKP2	Pn	08 32 02.3	+2.6
RJF				*e*Sg	Sg	08 33 02.5	-2.5
	comp=E,13nm,0.3s						
LESA	**Schwarzleotal**	**4.20**	**66**	*e*Pn	Pn	08 32 07.1	+3.3
	comp=E,0.3nm,0.1s						
MILB	**Miltenberg**	**4.25**	**20**	*e*Sg	Sg	08 33 15.9	-0.1
MTLF	**Montolieu**	**4.26**	**235**	*e*PKP2	Pn	08 32 07.5	+2.9
MTLF				*e*Sg	Sb	08 33 11.7	+5.6
	comp=E,20nm,0.7s						
TNS	**Taunus Mts**	**4.46**	**12**	*e*Pn	Pn	08 32 09.3	+1.9
TNS				*e*Pg	Pg	08 32 25.8	+0.7
TNS				*e*Sg	Sg	08 33 21.1	-1.8
GIVF	**Givet**	**4.49**	**342**	*e*PKP2	Pn	08 32 09.7	+2.0
LFF	**La Frestale**	**4.52**	**260**	*e*Pg	Pg	08 32 24.8	-1.4
LFF				*e*Sg	Sg	08 33 20.6	-4.1
	comp=E,12nm,0.4s						
KBA	**Koelnbreinsper**	**4.53**	**72**	*i* Pn	Pb	08 32 14.6	-4.8
	comp=E,0.6nm,0.1s						
DOU	**Dourbes**	**4.54**	**340**	Pn	Pn	08 32 09.5	+1.2
BAIF	**Baives**	**4.60**	**337**	*e*PKP2	Pn	08 32 10.8	+1.6
MYKA	**Terra Mystica**	**4.66**	**78**	*i* Pn	Pn	08 32 15.0	+5.0
	comp=E,1.0nm,0.3s						
GRF	**Grafenberg Arr**	**4.76**	**35**	*e*Pg	Pg	08 32 29.2	-1.6
GRF				*e*Sg	Sg	08 33 31.2	-1.2
BIOA	**Bad Ischl, Aus**	**4.90**	**66**	*e*Pn	Pn	08 32 18.5	+5.2
	comp=E,1.7nm,0.2s						
MFF	**Saint Martin d**	**5.03**	**281**	*e*PKP2	Pn	08 32 16.8	+1.7
MFF				*e*Sn	Sn	08 33 09.6	-3.6
MFF				*e*Sg	Sg	08 33 37.3	-3.7
	comp=E,12nm,0.4s						
WET	**Wettzell**	**5.15**	**48**	*e*Pn	Pn	08 32 17.2	+0.4
WET				*e*Sn	Sn	08 33 14.6	-1.7
WET				*e*Sg	Sg	08 33 44.0	-0.8
ROTZ	**Rotzenmuhle**	**5.24**	**40**	*e*Pg	Pg	08 32 39.8	-0.1
ROTZ				*e*Sn	Sn	08 33 16.0	-2.4
ROTZ				*e*Sg	Sg	08 33 46.2	-1.4
OBKA	**Obir**	**5.27**	**80**	*e*Pn	Pn	08 32 20.5	+2.0
	comp=E,0.7nm,0.2s						
MOA	**Molln**	**5.35**	**66**	*i* Pn	Pn	08 32 24.0	+4.4
	comp=E,0.5nm,0.2s						
MANZ	**Manzenberg**	**5.36**	**38**	*e*Sg	Sg	08 33 49.9	-1.6
GEC2	**GERESS Array S**	**5.43**	**54**	*e*Pn	Pn	08 32 21.5	+0.8
GEC2				*e*Sn	Sn	08 33 20.5	-2.8
GEC2				*e*Sg	Sg	08 33 52.1	-1.8
KHC	**Kasperske Hory**	**5.51**	**51**	*e*PN	Pn	08 32 22.8	+1.0
KH

comp=E,22nm,2.5s
CRPR Sn 09 08 01.0 -1.1
CRPR IAML 09 08 18.1
comp=N,19nm,2.0s
CRPR Cabo Rojo, PR 1.69 144⇑ePg Pn 09 07 42.2 +1.1
CRPR ⇑eSg Sn 09 08 03.9 +1.8
CRPR IAML 09 08 17.6
comp=N,21nm,1.8s
CRPR Cabo Rojo, PR 1.69 144⇑eP Pn 09 07 42.3 +1.1
CRPR Cabo Rojo, PR 1.69 144 eS Sn 09 08 01.7 -0.4
CRPR Cabo Rojo, PR 1.69 144 *i* P 09 07 41.9
CRPR *e*S 09 08 03.0
CRPR IAML 09 08 07.8
comp=Z,24nm,1.2s
MLPR Magueyes Islan 1.75 143 Pn 09 07 41.0 -1.0
MLPR **Sn 09 08 02.8 -0.9**
MLPR IAML 09 08 07.5
comp=N,17nm,2.0s
MLPR Magueyes Islan 1.75 143⇑ePg Pn 09 07 42.1 0.0
MLPR ⇓eSg Sn 09 08 04.3 +0.6
MLPR IAML 09 08 48.5
comp=N,15nm,2.2s
MLPR Magueyes Islan 1.75 143⇑eP Pn 09 07 42.0 0.0
MLPR Magueyes Islan 1.75 143 eS Sn 09 08 03.3 -0.4
UUPR Utuado, UPR, P 1.76 130 Pn 09 07 41.7 -0.4
UUPR **Sn 09 08 04.0 +0.1**
UUPR Utuado, UPR, P 1.76 130⇑eP Pn 09 07 42.5 +0.4
UUPR Utuado, UPR, P 1.76 130 eS Sn 09 08 04.5 +0.6
EMPR Esperanza - Ma 1.78 120 Pn Pn 09 07 42.6 +0.3
EMPR IAML 09 07 58.1
comp=N,74nm,1.9s
SDD Santo Domingo 1.91 241 Pn Pn 09 07 42.9 -1.3
CELP Cerrillos 1.98 131 Pn 09 07 44.1 -1.0
CELP **Sn 09 08 08.5 -0.8**
CELP IAML 09 08 14.6
comp=N,17nm,1.5s
CELP Cerrillos 1.98 131⇑ePg Pn 09 07 45.9 +0.8
CELP ⇑eSg Sb 09 08 12.3 0.0
CELP IAML 09 08 15.2
comp=N,14nm,0.5s
CELP Cerrillos 1.98 131⇑eP Pn 09 07 45.3 +0.2
CELP Cerrillos 1.98 131 eS Sn 09 08 08.9 -0.3
OBIP Obispado Ponce 1.98 132 Pn Pn 09 07 44.5 -0.6
OBIP IAML 09 08 08.1
comp=E,13nm,2.4s
OBIP IAML 09 08 29.6
comp=N,14nm,2.4s
GCPR Guaynabo City 2.23 118 Pn Pn 09 07 47.7 -0.9
GCPR IAML 09 08 32.5
comp=E,10nm,3.0s
PDPR Patillas Dam, 2.43 124 Pn Pn 09 07 51.9 +0.6
PDPR IAML 09 08 35.5
comp=E,7.7nm,2.9s

IDC 05 09:09:22.8±4.9, 13°.51S×166°.42E, h52km±33km, mb3.5/3, mbtmp4.0/5, ML4.2/2, MS3.2/2, Error ellipse: s-maj=60.3km s-min=19.2km az=62.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.53**	**302**	P	Pn	09 11 11.0	+0.9
	15nm,0.3s,baz=65,slow=19,SNR=2.4						
HNR				S	Sn	09 12 34.0	-0.1
	62nm,0.7s,baz=184,slow=6.0,SNR=1.2						
HNR				LR	LR	09 13 46.1	
	comp=Z,88nm,19.2s,baz=164,slow=35						
	113nm,0.6s						
DZM	**Mont Dzumac**	**8.51**	**180**	P	Pn	09 11 23.8	+0.2
	0.7nm,0.3s,baz=297,slow=18,SNR=6.0						
DZM				S	Sn	09 12 57.9	-0.3
	baz=331,slow=19						
	8.0nm,0.8s						
WRA	**Warramunga Arr**	**31.34**	**254**	P	P	09 15 38.7	+0.1
	0.7nm,0.7s,baz=83,slow=9.1,SNR=3.3						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**32.36**	**247**	P	P	09 15 47.8	+0.2
	0.6nm,0.8s,baz=73,slow=9.4,SNR=8.5						
	0.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.45**	**258**	LR	LR	09 32 42.1	
	comp=Z,66nm,18.3s,baz=55,slow=36						
MKAR	**Makanchi Array**	**95.76**	**317**	P	P	09 22 42.8	-0.5
	0.2nm,0.7s,baz=98,slow=5.1,SNR=2.5						
	0.2nm,0.7s						

---

*HEL **05** 09:14:12.1±0.3, 61°.10N×29°.92E, h0km, ML1.7, Suspected explosion*
*IDC **05** 09:14:16.0±2.6, 61°.20N×29°.59E, h0km, mbtmp3.6/2, ML2.1/2, Error ellipse: s-maj=21.3km s-min=11.4km az=154.0*
ISC 05 09:14:12.6±1.1, 61°.21N±0°.05×29°.85E±0°.05, h0km, n23, σ1s57/34, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.49**	**297**	PG	**Pg**	**09 14 22.6**	**+0.6**
RUF				SG	**Sg**	**09 14 29.6**	**+1.4**
RUF				MSG		09 14 30.5	
	comp=Z,12nm,0.2s						
VJF	**Virojoki**	**1.31**	**240**	PG	**Pg**	**09 14 35.5**	**-2.2**
VJF				MSG		09 14 51.0	
	comp=Z,9.5nm,0.2s						
VJF				SN	**Sn**	**09 14 57.3**	**+1.0**
FIA0	**FINESS Array S**	**1.84**	**279**	PG	**Pn**	**09 14 45.8**	**+0.4**
FIA0				MSG		09 15 08.3	
	comp=Z,3.6nm,0.2s						
FIA0				SG	**Sb**	**09 15 10.3**	**-0.2**
FINES	**FINESS Array B**	**1.84**	**279**	Pg	**Pn**	**09 14 45.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=99,slow=17,SNR=22						
FINES				Lg	Lg	09 15 10.2	
	comp=Z,1.5nm,0.3s,baz=93,slow=30,SNR=18						
JOF	**Joensuu**	**1.85**	**21**	*e*P	**Pg**	**09 14 47.5**	**-0.6**
JOF	**Joensuu**	**1.85**	**21**	PG	**Pb**	**09 14 47.0**	**-0.3**
JOF				SG	**Sg**	**09 15 11.6**	**-0.4**
KAF	**Kangasniemi**	**1.92**	**300**	PG	**Pb**	**09 14 48.4**	**-0.1**
KAF				MSG		09 15 11.7	
	comp=Z,3.9nm,0.2s						
KAF				SG	**Sg**	**09 15 13.9**	**-0.4**
PVF	**Pernaja**	**2.06**	**253**	PG	**Pn**	**09 14 48.8**	**+0.3**
PVF				MSG		09 15 13.3	
	comp=Z,8.8nm,0.2s						
PVF				SG	**Sb**	**09 15 17.3**	**+0.3**
SUF	**Sumiainen**	**2.32**	**313**	PG	**Pb**	**09 14 55.2**	**0.0**
SUF				MSG		09 15 23.6	
	comp=Z,2.3nm,0.2s						
SUF				SG	**Sg**	**09 15 26.1**	**-0.8**
NIF	**Nilsia**	**2.39**	**337**	PG	**Pb**	**09 14 55.8**	**-0.7**
	baz=151						
NIF				SG	**Sg**	**09 15 27.9**	**-1.5**
KEF	**Keuruu**	**2.56**	**294**	*e*P	**Pb**	**09 14 57.8**	**-1.7**
KEF	**Keuruu**	**2.56**	**294**	PB	**Pb**	**09 14 58.0**	**-1.4**
KEF				MSG		09 15 29.8	
	comp=Z,2.1nm,0.2s						
KEF				SG	**Sb**	**09 15 31.5**	**0.0**
NUR	**Nurmijarvi**	**2.64**	**257**	PG	**Pb**	**09 14 59.8**	**-1.0**
NUR				MSG		09 15 30.1	
	comp=Z,1.9nm,0.2s						
MEF	**Metsahovi**	**2.86**	**252**	*e*P	**Pn**	**09 14 59.8**	**+0.4**
MEF	**Metsahovi**	**2.86**	**252**	PG	**Pb**	**09 15 02.7**	**-1.8**
MEF				MSG		09 15 36.3	
	comp=Z,2.1nm,0.2s						
MEF				SG	**Sb**	**09 15 41.2**	**+1.2**
RMF	**Romuvaara**	**3.02**	**1**	PB	**Pb**	**09 15 05.8**	**-1.4**
	baz=177						
RMF				MSG		09 15 44.1	
	comp=Z,1.2nm,0.2s						
RMF				SB	**Sb**	**09 15 45.8**	**+1.1**
VSU	**Vasula**	**3.17**	**211**	PB	**Pn**	**09 15 04.7**	**+1.0**
VAF	**Ylistaro**	**3.84**	**302**	*e*P	**Pn**	**09 15 15.8**	**+2.9**
RAF	**Rauma**	**3.93**	**271**	*e*P	**Pn**	**09 15 15.8**	**+1.7**
MTSE	**Matsula**	**3.93**	**233**	SB	**Sn**	**09 16 04.9**	**+4.0**
I43RU	**DUBNA INFRASON**	**5.89**	**137**	I	I	09 47 50.0	
	baz=326,slow=317,SNR=3.7						
HFS	**Hagfors**	**8.01**	**269**	Pn	**Pn**	**09 16 09.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=82,slow=11,SNR=1.4						
	comp=Z,2.1nm,0.8s						
ARCES	**ARCESS Array B**	**8.55**	**350**	Pn	**Pn**	**09 16 19.9**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=13,SNR=2.8						
ARCES				Sn	**Sn**	**09 17 50.7**	**-4.0**
	baz=162,slow=25,SNR=1.0						
	comp=Z,4.1nm,0.9s						

---

*ASRS **05** 09:24:10.0±0.8, 55°.67N×86°.33E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 05 09:24:18.0±3.2, 55°.47N×86°.05E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=25.3km s-min=22.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**206**	I	I	09 34 50.0	
	0.1nm,0.7s,baz=23,slow=346,SNR=16						
ZALV	**Zalesovo Beam**	**1.69**	**206**	Pn	Pn	09 24 47.6	-1.2
	1.9nm,0.3s,baz=27,slow=17,SNR=13						
ZALV				Lg	Lg	09 25 12.5	
	7.7nm,0.3s,baz=27,slow=29,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.64**	**226**	Pn	Pn	09 25 56.6	-0.2
	0.1nm,0.3s,baz=44,slow=13,SNR=4.4						
KURBB				Lg	Lg	09 27 48.2	
	baz=37,slow=31						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.01**	**197**	Pn	Pn	09 26 30.1	+0.8
	0.1nm,0.3s,baz=21,slow=14,SNR=4.2						
MKAR				Sn	Sn	09 28 08.6	-2.8
	0.1nm,0.3s,baz=21,slow=22,SNR=4.0						
MKAR				Lg	Lg	09 29 02.6	
	0.1nm,0.3s,baz=17,slow=31,SNR=5.4						
	0.2nm,0.4s						

---

*ATH **05** 09:25:28.2, 38°.98N×20°.67E, h15km±2km, ML3.5/10, Manual Solution by F.Xalaris First location: 2019/02/07 12:19:12, This location: 2019/02/07 12:16:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*THE **05** 09:25:28.8, 38°.95N×20°.59E, h15km, ML3.4/8, Error ellipse: s-maj=1.0km s-min=0.4km az=252.0*
*IDC **05** 09:25:32.3±2.4, 38°.79N×20°.44E, h72km±24km, mb3.3/8, mbtmp3.5/12, MS2.2/1, Error ellipse: s-maj=40.7km s-min=15.2km az=47.0*
ISC 05 09:25:28.5±0.8, 38°.97N±0°.02×20°.65E±0°.03, h15km±6km, n61, σ0s97/81, mb3.5/8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.14**	**177**	P	**Pg**	**09 25 32.3**	**-0.1**
TSLK				S	**Sb**	**09 25 35.6**	**-0.3**
	26μm,0.4s						
TSLK	**Tsoukalades, L**	**0.14**	**177**	P	**Pg**	**09 25 32.4**	**-0.1**
TSLK				S	**Sb**	**09 25 35.3**	**-0.6**
LKD2	**Lefkada island**	**0.18**	**177**	P	**Pg**	**09 25 32.8**	**-0.1**
LKD2				S	**Sb**	**09 25 36.2**	**-0.7**
	15μm,0.3s						
LKD2	**Lefkada island**	**0.18**	**177**	P	**Pg**	**09 25 32.9**	**-0.1**
LKD2				S	**Sg**	**09 25 35.9**	**0.0**
NYDR	**Nydri-Lefkada**	**0.26**	**171**	P	**Pg**	**09 25 33.9**	**-0.3**
NYDR				S	**Sb**	**09 25 39.0**	**-0.1**
	7μm,0.3s						
ARTB	**Arta**	**0.32**	**54**	P	**Pg**	**09 25 34.4**	**-0.8**
EVGI	**Lefkada island**	**0.35**	**179**	P	**Pg**	**09 25 35.5**	**-0.3**
EVGI	**Lefkada island**	**0.35**	**179**	P	**Pg**	**09 25 35.4**	**-0.3**
EVGI				S	**Sb**	**09 25 41.0**	**-0.7**
FSK	**Fiskardo**	**0.51**	**187**	P	**Pg**	**09 25 38.0**	**-0.7**
FSK	**Fiskardo**	**0.51**	**187**	P	**Pg**	**09 25 38.2**	**-0.5**
FSK				S	**Sb**	**09 25 46.2**	**-0.3**
IGT	**Igoumenitsa**	**0.61**	**337**	P	**Pg**	**09 25 39.8**	**-0.8**
IGT				S	**Sb**	**09 25 49.4**	**+0.1**
	2μm,0.5s						
IGT	**Igoumenitsa**	**0.61**	**337**	P	**Pg**	**09 25 39.6**	**-1.0**
IGT				S	**Sb**	**09 25 49.0**	**-0.4**
TETR	**Tetrakomo, Epi**	**0.61**	**52**	P	**Pg**	**09 25 39.8**	**-0.8**
TETR				S	**Sg**	**09 25 48.8**	**-0.1**
LFKM	**Lefkimmi**	**0.66**	**316**	P	**Pg**	**09 25 41.0**	**-0.4**
LFKM				S	**Sb**	**09 25 51.1**	**+0.5**
JAN	**Janina**	**0.70**	**13**	P	**Pb**	**09 25 42.3**	**-0.2**
JAN				S	**Sn**	**09 25 54.0**	**-0.6**
	9μm,0.7s						
JAN	**Janina**	**0.70**	**13**	P	**Pb**	**09 25 42.3**	**-0.2**
JAN				S	**Sb**	**09 25 51.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.76**	**196**	P	**Pg**	**09 25 43.0**	**-0.4**
VLS	**Valsamata**	**0.79**	**183**	P	**Pb**	**09 25 43.2**	**-0.8**
VLS				S	**Sg**	**09 25 54.2**	**-0.2**
	3μm,0.4s						
VLS	**Valsamata**	**0.79**	**183**	P	**Pg**	**09 25 43.9**	**-0.1**
VLS				S	**Sg**	**09 25 54.4**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.86**	**183**	P	**Pb**	**09 25 44.3**	**-0.8**
PSDA				S	**Sn**	**09 25 57.0**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.86**	**183**	P	**Pg**	**09 25 45.1**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.90**	**174**	P	**Pb**	**09 25 44.8**	**-1.0**
RTZL				S	**Sn**	**09 25 58.3**	**-0.9**
EVR	**Evrytania**	**0.91**	**93**	P	**Pn**	**09 25 46.7**	**-0.1**
AXS	**Araxos**	**0.96**	**143**	P	**Pb**	**09 25 46.0**	**-0.9**
AXS				S	**Sb**	**09 25 59.1**	**-0.3**
KEK	**Kerkira**	**0.99**	**319**	P	**Pn**	**09 25 47.4**	**-0.5**
KEK				S	**Sn**	**09 26 01.6**	**0.0**
	2μm,0.5s						
KEK	**Kerkira**	**0.99**	**319**	P	**Pn**	**09 25 47.5**	**-0.3**
SRN	**Sarande**	**1.04**	**331**	P	**Pb**	**09 25 47.5**	**-0.7**
ANX	**Ano Chora**	**1.06**	**110**	P	**Pb**	**09 25 48.1**	**-0.6**
ANX				S	**Sn**	**09 26 04.9**	**+1.4**
	3μm,0.5s						
ANX	**Ano Chora**	**1.06**	**110**	P	**Pb**	**09 25 47.9**	**-0.8**
ANX				S	**Sg**	**09 26 02.8**	**-0.3**
RLS	**Riolos of Patr**	**1.11**	**145**	P	**Pb**	**09 25 48.7**	**-0.8**
RLS	**Riolos of Patr**	**1.11**	**145**	P	**Pb**	**09 25 48.6**	**-0.8**
EFP	**Efpalio**	**1.12**	**118**	P	**Pn**	**09 25 49.5**	**-0.2**
EFP	**Efpalio**	**1.12**	**118**	P	**Pb**	**09 25 49.0**	**-0.6**
KPRO	**Kipourio**	**1.13**	**29**	P	**Pg**	**09 25 49.7**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.16**	**87**	P	**Pg**	**09 25 50.2**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.16**	**87**	P	**Pb**	**09 25 49.9**	**-0.3**
THL	**Klokotos Trika**	**1.22**	**60**	P	**Pb**	**09 25 51.2**	**0.0**
THL				S	**Sg**	**09 26 08.2**	**+0.3**
PENT	**Pentalofos**	**1.28**	**17**	P	**Pb**	**09 25 52.4**	**0.0**
DRO	**Drossia**	**1.32**	**140**	P	**Pn**	**09 25 51.9**	**-0.4**
DRO	**Drossia**	**1.32**	**140**	P	**Pn**	**09 25 51.8**	**-0.5**
TYRN	**Tyrnavos**	**1.44**	**58**	P	**Pb**	**09 25 54.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.50**	**128**	P	**Pn**	**09 25 54.9**	**0.0**
KZN	**Kozani**	**1.59**	**33**	P	**Pb**	**09 25 56.5**	**-1.2**
AMT	**Artemida-Makis**	**1.66**	**149**	P	**Pb**	**09 25 57.6**	**-1.2**
OHR	**Ohrid**	**2.14**	**3**	*i* Pn	**Pb**	**09 26 07.7**	**+0.7**
VAY	**Valandovo**	**2.77**	**32**	*i* Pn	**Pb**	**09 26 14.7**	**-3.1**
PEHC	**Pehcevo**	**3.29**	**31**	*i* Pn	**Pb**	**09 26 23.7**	**-3.0**
IDI	**Anoyia**	**5.00**	**136**	P	**Pn**	**09 26 45.3**	**+2.2**
	16nm,1.1s,baz=105,slow=3.1,SNR=1.7						
IDI				S	**Sn**	**09 27 41.4**	**+0.8**
	15nm,0.9s,baz=17,slow=15,SNR=2.1						
MLR	**Muntele Rosu**	**7.61**	**29**	P	Pn	09 27 24.1	+5.3
	3.5nm,0.6s,baz=192,slow=9.3,SNR=8.3						
MLR				LR	LR	09 31 37.9	
	comp=Z,16nm,19.6s,baz=194,slow=47						
SOKA	**Soboth**	**8.73**	**334**	*e*Pn	Pn	09 27 46.0	+12
	1.2nm,0.3s						
OBKA	**Obir**	**8.77**	**331**	*e*Pn	Pn	09 27 43.4	+8.7
	1.1nm,0.3s						
BRTR	**Keskin Array B**	**10.09**	**82**	P	**Pn**	**09 27 56.3**	**+3.3**
	0.3nm,0.5s,baz=265,slow=13,SNR=1.5						
GERES	**GERESS Array B**	**11.06**	**335**	P	**Pn**	**09 28 09.3**	**+3.1**
	0.4nm,0.5s,baz=143,slow=15,SNR=1.9						
HFS	**Hagfors**	**21.64**	**351**	P	**P**	**09 30 17.5**	**-0.4**
	2.2nm,0.7s,baz=165,slow=12,SNR=4.0						
	2.2nm,0.7s						
FINES	**FINESS Array B**	**22.75**	**7**	P	**P**	**09 30 29.9**	**+0.1**
	4.5nm,1.0s,baz=183,slow=9.7,SNR=3.9						
	4.5nm,1.0s						
EKA	**Eskdalemuir Ar**	**22.84**	**324**	P	**P**	**09 30 29.8**	**-1.1**
	0.5nm,0.5s,baz=132,slow=11,SNR=3.9						
	0.5nm,0.5s						
NOA	**NORSAR Array B**	**22.86**	**348**	P	**P**	**09 30 30.6**	**-0.5**
	0.4nm,0.6s,baz=161,slow=11,SNR=2.1						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**36.54**	**51**	P	**P**	**09 32 32.3**	**-0.9**
	0.6nm,0.6s,baz=253,slow=4.4,SNR=1.9						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**41.68**	**54**	P	**P**	**09 33 15.0**	**-1.2**
	0.2nm,0.5s,baz=270,slow=0.1,SNR=4.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**44.81**	**59**	P	**P**	**09 33 41.1**	**-0.6**
	0.3nm,0.5s,baz=282,slow=6.6,SNR=4.6						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**45.09**	**49**	P	**P**	**09 33 43.0**	**-0.7**
	1.2nm,0.5s,baz=282,slow=8.9,SNR=5.9						
	1.2nm,0.5s						

---

*IDC **05** 09:27:15.8±3.7, 37°.84N×29°.78W, h0km, mb3.5/5, mbtmp3.5/5, MS3.0/5, Error ellipse: s-maj=126.3km s-min=30.8km az=171.0*
*SVSA **05** 09:27:18.6±0.8, 38°.57N×29°.59W, h5km, ML3.4(INMG), Error ellipse: s-maj=12.2km s-min=4.9km az=1.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Faial*
ISC 05 09:27:20.7±1.7, 38°.6N±0°.1×29°.28W±0°.08, h29km±12km, n22, σ1s06/26, mb3.7/5, MS2.9/4, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFCBR	**Castelo Branco**	**0.45**	**98**	*e*P	**Pb**	**09 27 29.8**	**-0.3**
PFCBR				*e*S	**Sn**	**09 27 38.6**	**+0.5**
PFCBR				*i* AML	AML	09 27 39.0	
	3μm,0.4s						
PFCBR				*i* AML	AML	09 27 39.2	
	731nm,0.3s						
PFCBR				*i* AML	AML	09 27 40.0	
	2μm,0.5s						
CALA	**Caldeira**	**0.45**	**90**	*e*P	**Pb**	**09 27 30.1**	**-0.2**
CALA				*e*S	**Sn**	**09 27 38.5**	**0.0**
CALA				*i* AML	AML	09 27 39.1	
	5μm,0.4s						
CALA				*i* AML	AML	09 27 39.7	
	8μm,0.4s						
CALA				*i* AML	AML	09 27 46.7	
	2μm,0.4s						
PCED	**Cedros**	**0.46**	**85**	*e*P	**Pb**	**09 27 30.1**	**-0.2**
PCED				*e*S	**Sn**	**09 27 38.7**	**+0.3**
PCED				*i* AML	AML	09 27 39.4	
	5μm,0.4s						
PCED				*i* AML	AML	09 27 40.1	
	2μm,0.3s						
PCED				*i* AML	AML	09 27 41.4	
	2μm,0.4s						
HOR	**Horta**	**0.51**	**97**	*e*P	**Pb**	**09 27 30.8**	**-0.4**
HOR				*e*S	**Sn**	**09 27 40.2**	**+0.4**
HOR				*i* AML	AML	09 27 41.9	
	2μm,0.3s						
HOR				*i* AML	AML	09 27 42.0	
	9μm,0.3s						
HOR				*i* AML	AML	09 27 45.1	
	10μm,0.4s						
PRIB2	**Ribeirinha**	**0.52**	**89**	*e*P	**Pb**	**09 27 31.1**	**-0.3**
PRIB2				*e*S	**Sn**	**09 27 40.5**	**+0.4**
PRIB2				*i* AML	AML	09 27 40.7	
	2μm,0.3s						
PRIB2				*i* AML	AML	09 27 40.9	
	3μm,0.4s						
PRIB2				*i* AML	AML	09 27 42.1	
	1μm,0.4s						
PCAN	**Candelaria**	**0.64**	**101**	*e*P	**Pb**	**09 27 32.6**	**-0.7**
PCAN				*e*S	**Sn**	**09 27 43.0**	**+0.1**
PCAN				*i* AML	AML	09 27 44.6	
	1μm,0.3s						
PCAN				*i* AML	AML	09 27 45.6	
	1μm,0.3s						
PCAN				*i* AML	AML	09 27 53.5	
	955nm,0.5s						
PICO	**Pico**	**0.68**	**97**	*e*P	**Pb**	**09 27 33.5**	**-0.5**
PICO				*e*S	**Sn**	**09 27 44.5**	**+0.6**
PICO				*i* AML	AML	09 27 45.6	
	1μm,0.3s						
PICO				*i* AML	AML	09 27 46.4	
	2μm,0.3s						
PICO				*i* AML	AML	09 27 46.5	
	1μm,0.2s						
PPNO	**Prainha do Nor**	**0.81**	**98**	*e*P	**Pn**	**09 27 35.2**	**-0.9**
PPNO				*e*S	**Sb**	**09 27 47.7**	**+0.9**
PPNO				*i* AML	AML	09 27 53.0	
	1μm,0.4s						
PPNO				*i* AML	AML	09 27 55.9	
	1μm,0.4s						
PPNO				*i* AML	AML	09 27 56.6	
	63nm,0.4s						
ROSA	**Rosais**	**0.82**	**80**	*e*P	**Pn**	**09 27 35.5**	**-0.8**
ROSA				*e*S	**Sb**	**09 27 48.1**	**+0.9**
ROSA				*i* AML	AML	09 27 49.3	
	1μm,0.4s						
ROSA				*i* AML	AML	09 27 53.6	
	1μm,0.4s						
ROSA				*i* AML	AML	09 27 54.4	
	836nm,0.5s						
PID	**Ribeirinha**	**0.92**	**99**	*e*P	**Pn**	**09 27 36.9**	**-0.7**
PID				*e*S	**Sb**	**09 27 50.5**	**+0.5**
PID				*i* AML	AML	09 27 54.6	
	839nm,0.4s						
PID				*i* AML	AML	09 27 54.7	
	2μm,0.4s						
PID				*i* AML	AML	09 27 54.9	
	782nm,0.5s						
PMAN	**Manadas**	**0.93**	**87**	*e*P	**Pn**	**09 27 37.0**	**-0.8**
PMAN				*e*S	**Sb**	**09 27 50.8**	**+0.4**
PMAN				*i* AML	AML	09 27 53.2	
	480nm,0.5s						
PMAN				*i* AML	AML	09 27 56.6	
	580nm,0.3s						
PMAN				*i* AML	AML	09 27 57.8	
	858nm,0.2s						
PGRA	**Graciosa**	**1.11**	**66**	*e*S	**Sn**	**09 27 52.5**	**-1.9**
PGRA				*i* AML	AML	09 28 01.7	
	142nm,0.3s						
PGRA				*i* AML	AML	09 28 02.1	
	209nm,0.5s						
PGRA				*i* AML	AML	09 28 12.7	
	241nm,0.5s						
PTOPO	**Topo S. Jorge**	**1.20**	**91**	*i* AML	AML	09 26 08.1	
	772nm,0.2s						
PTOPO				*i* AML	AML	09 26 08.4	
	1μm,0.3s						
PTOPO				*i* AML	AML	09 26 08.8	
	854nm,0.1s						
ESDC	**Sonseca Array**	**19.66**	**79**	LR	LR	09 37 44.8	
	comp=Z,31nm,20.6s,baz=224,slow=31						
MDT	**Midelt**	**20.82**	**99**	LR	LR	09 38 32.5	
	comp=Z,33nm,18.7s,baz=301,slow=32						
DAVOX	**Davos/Dischmat**	**29.68**	**61**	LR	LR	09 43 54.5	
	comp=Z,31nm,19.3s,baz=266,slow=33						
NOA	**NORSAR Array B**	**33.63**	**35**	LR	LR	09 45 39.1	
	comp=Z,19nm,21.7s,baz=340,slow=32						
YKA	**Yellowknife Ar**	**54.56**	**325**	P	**P**	**09 36 49.1**	**+3.3**
	0.1nm,0.7s,baz=79,slow=7.7,SNR=2.0						
	0.1nm,0.7s						
PDAR	**Pinedale Array**	**58.82**	**302**	P	**P**	**09 37 15.3**	**-1.3**
	0.6nm,0.8s,baz=67,slow=8.3,SNR=4.6						
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**59.92**	**48**	P	P	09 37 28.6	+4.8
	0.9nm,0.6s,baz=285,slow=7.0,SNR=3.6						
AKTO				LR	LR	10 05 20.9	
	comp=Z,28nm,18.3s,baz=56,slow=38						
	0.9nm,0.6s						
TXAR	**Lajitas Array**	**60.86**	**286**	P	**P**	**09 37 29.6**	**-1.1**
	0.8nm,0.7s,baz=82,slow=7.3,SNR=12						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**75.32**	**41**	P	P	09 39 05.9	+4.9
	0.3nm,0.8s,baz=309,slow=6.9,SNR=2.7						
	0.3nm,0.8s						

---

*NNC **05** 09:37:55.2±2.9, 51°.41N×75°.12E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=54.5km s-min=17.7km az=24.0, Suspected Mining explosion.*
*IDC **05** 09:37:59.8±1.2, 51°.79N×75°.72E, h0km, mbtmp2.4/3, ML1.7/3, Error ellip

baz=107,slow=20,SNR=2.3
BVAR Sn **Sn** **09 39 35.4 -1.3**
0.1nm,0.3s,baz=110,slow=24,SNR=8.0
0.5nm,0.6s
BRVK Borovoye 3.54 295 ⇓Lg Lg 09 39 42.2
4.2nm,1.0s
ZALV Zalesovo Beam 6.01 64 Pn **Pn** **09 39 30.3 +0.6**
0.2nm,0.3s,baz=254,slow=10,SNR=2.0
0.3nm,0.3s
I46RU ZALESOVO INFRA 6.01 64 I I 10 17 00.0
baz=248,slow=337,SNR=5.2
MKAR Makanchi Array 6.57 136 Pn **Pn** **09 39 37.9 +0.5**
baz=325,slow=12,SNR=2.0
MKAR Sn **Sn** **09 40 52.2 -0.7**
baz=328,slow=25,SNR=2.7
MKAR Lg Lg 09 41 28.8
0.1nm,0.3s,baz=324,slow=27,SNR=6.9
0.2nm,0.8s

---

*ASRS **05** 09:40:26.0±0.8, 54.°35N×86.°74E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 09:40:27.8±3.1, 54.°29N×86.°86E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=24.4km s-min=15.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**255**	I	I	09 47 35.0	
0.1nm,1.0s,baz=70,slow=345,SNR=20							
ZALV	**Zalesovo Beam**	**1.25**	**255**	Pg	Pg	09 40 50.4	-1.2
0.8nm,0.3s,baz=73,slow=16,SNR=14							
ZALV				Lg	Lg	09 41 08.7	
1.0nm,0.3s,baz=77,slow=31,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.27**	**238**	Pn	Pn	09 42 02.5	+1.0
baz=54,slow=13,SNR=4.3							
KURBB				Sn	Sn	09 43 13.2	-0.6
baz=54,slow=31,SNR=1.1							
KURBB				Lg	Lg	09 43 47.0	
baz=54,slow=32,SNR=2.4							
1.1nm,0.7s							
MKAR	**Makanchi Array**	**8.04**	**203**	Pn	Pn	09 42 27.4	+1.6
baz=27,slow=11,SNR=1.0							
MKAR				Sn	Sn	09 43 56.1	-1.3
0.1nm,0.3s,baz=24,slow=29,SNR=1.9							
MKAR				Lg	Lg	09 44 42.4	
baz=23,slow=22							
0.1nm,0.4s							

---

*NEIC **05** 09:53:03.3±1.5, 2.°78S±0.°05×78.°57W±0.°06, h86km±6km, mb4.8/250, Error ellipse: s-maj=9.7km s-min=7.2km az=67.0*

*IDC **05** 09:53:03.6±0.4, 2.°81S×78.°65W, h98km±3km, mb4.1/16, mbtmp4.5/21, MS3.5/17, Error ellipse: s-maj=15.9km s-min=8.6km az=78.0*

*IGQ **05** 09:53:04.3±0.2, 3.°S±2.°×7.°9W×.°, h84km±2km, MLv4.6/50*

*RSNC **05** 09:53:04.5±6.1, 3.°S±10.°×7.°9W±1.°0, h89km±22km, M4.5, mb4.6, mB5.1, ML4.3, Mw(mB)4.5, MwMwp4.8, Mwp5.1*

*GCMT **05** 09:53:05.3±0.3, 2.°91S±0.°02×78.°58W±0.°02, h85km±2km, MW5.0/95, Moment Tensor Solution. s44,c46; s95,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.58±.08; $M_{\theta\theta}$-1.00±.09; $M_{\phi\phi}$3.59±.11; $M_{r\theta}$0.44±.05; $M_{\theta\phi}$-1.20±.09; $M_{\phi r}$-1.00±.08; Best double couple: $M_0$3.41700×10^{16} NP1:ϕ_s174.00000°, δ36.00000°, λ-78.00000°. NP2: ϕ_s340.00000°, δ55.00000°, λ-99.00000°. Principal axes: T 4.0580, Plg9.0000°, Azm76.0000°; N -1.2720, Plg7.0000°, Azm345.0000°; P -2.7760, Plg78.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 09:53:03.5±0.3, 2.°87S±0.°03×78.°70W±0.°05, h98km±2km, h98km:pP-P, n615, σ0.°88/561, mb4.8/133, 60C-19D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZOG	**Ecuador-Azogue**	**0.19**	**308**	⇓P	Pn	09 53 16.4	-1.4
AZOG				S	**Sn**	**09 53 26.8**	**-1.7**
ACUE	**Ecuador-Cuenca**	**0.26**	**262**	⇓P	**Pn**	**09 53 17.9**	**-0.1**
ACUE				S	**Sn**	**09 53 29.7**	**+0.8**
BOSC	**San Juan Bosco**	**0.34**	**144**	⇓P	**Pn**	**09 53 18.6**	**+0.3**
BOSC				S	**Sn**	**09 53 30.1**	**+0.8**
COHC	**Cochancay**	**0.69**	**306**		**Pn**	**09 53 19.7**	**-0.8**
COHC				Sn	**Sn**	**09 53 31.9**	**-1.5**
COHC	**Cochancay**	**0.69**	**306**	⇓P	**Pn**	**09 53 19.6**	**-1.0**
COHC				S	**Sn**	**09 53 31.7**	**-1.8**
PU05	**PU05**	**0.87**	**293**	⇑P	**Pn**	**09 53 21.5**	**-0.9**
SANGA	**Volcan Sangay**	**0.88**	**22**	⇓P	**Pn**	**09 53 23.5**	**+0.5**
PU07	**PU07**	**0.91**	**305**	⇑P	Pn	09 53 19.6	-3.2
PU04	**PU04**	**0.91**	**282**	⇑P	Pn	09 53 21.2	-1.6
PU06	**PU06**	**1.03**	**296**	⇑P	Pn	09 53 22.5	-1.6
MILO	**Milagro-Astudi**	**1.04**	**304**	⇑P	**Pn**	**09 53 23.4**	**-0.8**
PU03	**PU03**	**1.11**	**268**	⇑P	Pn	09 53 23.0	-1.9
JSCH	**Cashca Tororas**	**1.18**	**346**	⇓P	**Pn**	**09 53 25.9**	**-0.3**
ARIO	**Riobamba**	**1.21**	**0**	P	**Pn**	**09 53 26.5**	**-0.1**
ALJ1	**Ecuador-Loja-U**	**1.22**	**204**	⇑P	**Pn**	**09 53 25.8**	**-0.7**
AZAM	**Ecuador-Zamora**	**1.22**	**192**	⇑P	**Pn**	**09 53 26.6**	**+0.2**
TAMH	**Tambohuasha Ch**	**1.32**	**356**	⇓P	**Pn**	**09 53 28.1**	**+0.1**
AGRD	**Ecuador-Guaran**	**1.33**	**347**	⇓P	**Pn**	**09 53 27.6**	**-0.4**
ABAB	**Ecuador-Univer**	**1.34**	**323**	P	**Pn**	**09 53 26.1**	**-1.6**
PU02	**PU02**	**1.36**	**272**	⇑P	**Pn**	**09 53 27.2**	**-0.6**
IGUA	**Igualata**	**1.37**	**2**	⇓P	**Pn**	**09 53 28.7**	**0.0**
BMAS	**Trigal station**	**1.38**	**9**	⇑P	**Pn**	**09 53 27.4**	**-1.2**
BPAT	**Tungurahua Vol**	**1.39**	**11**	⇑P	**Pn**	**09 53 28.6**	**-0.1**
GYE3	**Ecuador-Guayaq**	**1.40**	**301**	P	Pn	09 53 26.3	-2.1
PORT	**Chimborazo Vol**	**1.40**	**357**	⇓P	**Pn**	**09 53 29.3**	**+0.3**
BBIL	**Ulba Tungurahu**	**1.43**	**8**	⇑P	**Pn**	**09 53 29.3**	**+0.1**
BULB	**Ulba Tungurahu**	**1.45**	**11**	⇑P	**Pn**	**09 53 29.5**	**0.0**
JUI6	**Juive**	**1.46**	**9**	⇓P	**Pn**	**09 53 29.9**	**+0.4**
POND	**Pondoa**	**1.46**	**10**	⇑P	**Pn**	**09 53 29.5**	**-0.1**
ISPG	**Isla Puna-Puer**	**1.47**	**266**	⇑P	**Pn**	**09 53 28.6**	**-0.7**
AGUAY	**Guayaquil**	**1.49**	**303**	⇑P	Pn	09 53 27.2	-2.3
GONZ	**Gonzanam**	**1.52**	**207**	⇑P	**Pn**	**09 53 30.2**	**-0.1**
PUYO	**Puyo, Santa Ro**	**1.53**	**26**	⇑P	**Pn**	**09 53 30.5**	**+0.4**
LAMO	**ALAMOR**	**1.74**	**229**	⇑P	Pn	09 53 31.2	-1.6
ASLC	**Ecuador-Salced**	**1.82**	**3**	P	**Pn**	**09 53 35.3**	**+1.2**
PIS1	**Pisayambo**	**1.83**	**10**	⇑P	**Pn**	**09 53 34.6**	**+0.3**
PIAT	**Ana Tenorio**	**1.91**	**13**	⇑P	**Pn**	**09 53 35.7**	**+0.5**
MCRA	**Macar, Loja**	**1.95**	**220**	⇑P	Pn	09 53 33.6	-1.7
AQUE	**Quevedo**	**1.98**	**336**	⇓P	**Pn**	**09 53 35.1**	**-0.6**
ZUMB	**Zumba**	**2.03**	**193**	⇑P	**Pn**	**09 53 37.0**	**+0.5**
ATEN	**Tena**	**2.05**	**26**	⇑P	**Pn**	**09 53 36.7**	**-0.1**
ARDO	**Archidona, Ten**	**2.07**	**26**	⇑P	**Pn**	**09 53 36.7**	**-0.3**
VCES	**Cotopaxi**	**2.08**	**8**	⇑P	**Pn**	**09 53 38.3**	**+0.7**
BRRN	**Barrancas-Volc**	**2.09**	**6**	⇑P	**Pn**	**09 53 38.1**	**+0.5**
SRAM	**San Ramn-Vol**	**2.11**	**4**	⇑P	**Pn**	**09 53 38.8**	**+0.9**
SLOR	**San Lorenzo -**	**2.14**	**5**	⇑P	**Pn**	**09 53 38.6**	**+0.3**
BMOR	**Cotopaxi Volca**	**2.14**	**6**	⇑P	**Pn**	**09 53 39.6**	**+1.2**
ILLI	**Illinizas Sur**	**2.14**	**359**	⇓P	**Pn**	**09 53 39.4**	**+1.0**
PAST	**Pastocalle**	**2.16**	**1**	P	**Pn**	**09 53 40.7**	**+2.1**
TAMB	**Tambo**	**2.19**	**9**	⇑P	**Pn**	**09 53 39.7**	**+0.8**
CAMI	**Rancho Maria**	**2.19**	**5**	⇑P	**Pn**	**09 53 40.3**	**+1.4**
BNAS	**Cotopaxi Volca**	**2.20**	**6**	⇑P	**Pn**	**09 53 40.7**	**+1.7**
BREF	**Cotopaxi Volca**	**2.20**	**7**	⇑P	**Pn**	**09 53 40.1**	**+0.8**
BTAM	**Cotopaxi Volca**	**2.20**	**8**	⇑P	**Pn**	**09 53 39.7**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.22**	**7**	⇑P	**Pn**	**09 53 40.1**	**+0.7**
SUCR	**Mariscal Sucre**	**2.23**	**5**	⇑P	**Pn**	**09 53 40.3**	**+0.9**
VC1	**Cotopaxi 1**	**2.23**	**8**	P	**Pn**	**09 53 40.8**	**+1.2**
ALIBE	**La Libertad**	**2.24**	**286**	P	**Pn**	**09 53 38.4**	**-0.6**
PITA	**Cotopaxi Volc**	**2.31**	**7**	⇓P	**Pn**	**09 53 41.7**	**+1.2**
ANTM	**Antisana-La Mi**	**2.37**	**12**	⇑P	**Pn**	**09 53 42.0**	**+0.6**
TOMA	**Boca Toma-Volc**	**2.37**	**6**	P	**Pn**	**09 53 42.0**	**+0.7**
SALI	**Salinas**	**2.39**	**287**	⇑P	Pn	09 53 39.2	-1.9
ANTG	**Antisana-Guama**	**2.39**	**11**	⇑P	**Pn**	**09 53 42.3**	**+0.7**
ANTS	**Antisana-Sarah**	**2.42**	**13**	⇑P	**Pn**	**09 53 42.8**	**+0.8**
PPLP	**Puerto Lpez**	**2.46**	**302**	P	Pn	09 53 40.0	-2.0
PPLP	**Puerto Lpez**	**2.46**	**302**	⇑P	Pn	09 53 39.8	-2.2
ANTI	**Antisana**	**2.47**	**13**	⇑P	**Pn**	**09 53 43.3**	**+0.7**
TING	**Casa Alexandra**	**2.58**	**6**	P	**Pn**	**09 53 44.7**	**+0.8**
ASDO	**Santo Domingo**	**2.63**	**351**	P	**Pn**	**09 53 44.4**	**+0.1**
GGPT	**Toaza - Volcan**	**2.63**	**2**	⇑P	**Pn**	**09 53 45.2**	**+0.5**
HPAL	**Hacienda Las P**	**2.64**	**1**	P	**Pn**	**09 53 45.2**	**+0.5**
JUA2	**San Juan 2**	**2.64**	**2**	⇓P	**Pn**	**09 53 45.6**	**+0.7**
GGPC	**Guagua Pichinc**	**2.68**	**2**	P	**Pn**	**09 53 45.6**	**+0.2**
TERV	**Terraza Guagua**	**2.68**	**2**	P	**Pn**	**09 53 46.0**	**+0.5**
PINO	**Pino**	**2.70**	**2**	P	**Pn**	**09 53 46.5**	**+0.8**
PUEM	**Granja Avicola**	**2.73**	**7**	P	**Pn**	**09 53 47.1**	**+1.1**
YANA	**Yana**	**2.74**	**3**	⇑P	**Pn**	**09 53 46.7**	**+0.5**
ISPT	**Isla de la Pla**	**2.86**	**304**	⇑P	**Pn**	**09 53 45.5**	**-1.9**
PULU	**Pululahua**	**2.88**	**4**	P	**Pn**	**09 53 48.6**	**+0.6**
CAYR	**Refugio Cayamb**	**2.95**	**14**	P	**Pn**	**09 53 50.1**	**+1.0**
REVN	**San Rafael**	**2.98**	**21**	⇑P	**Pn**	**09 53 49.3**	**+0.1**
ANGU	**Angureal**	**2.98**	**13**	⇑P	**Pn**	**09 53 50.3**	**+0.7**
JAMA	**Jama**	**3.00**	**330**	P	**Pn**	**09 53 48.4**	**-0.9**
CAYA	**Cayambe**	**3.01**	**14**	P	**Pn**	**09 53 51.9**	**+2.1**
CAB1	**Cabo Pasado-Ma**	**3.02**	**325**	P	**Pn**	**09 53 48.3**	**-1.1**
OTAV	**Otavalo**	**3.10**	**5**	Pn	**Pn**	**09 53 50.9**	**-0.1**
OTAV	**Otavalo**	**3.10**	**5**	⇑P	**Pn**	**09 53 51.5**	**+0.5**
PAC1	**Pacto, Paraso**	**3.12**	**358**	P	**Pn**	**09 53 51.7**	**+0.7**
IMBA	**Imbabura, San**	**3.17**	**9**	⇑P	**Pn**	**09 53 53.4**	**+1.5**
CUSE	**Cuicocha Este**	**3.17**	**5**	P	**Pn**	**09 53 52.8**	**+0.9**
CUIC	**Cuicocha-Domo**	**3.17**	**6**	P	**Pn**	**09 53 52.9**	**+1.0**
COTA	**Cotacachi**	**3.21**	**6**	P	**Pn**	**09 53 53.7**	**+1.3**
AV18	**Acelerografo,**	**3.26**	**346**	P	**Pn**	**09 53 54.0**	**+1.3**
YAHU	**Yahuarcocha**	**3.28**	**11**	P	**Pn**	**09 53 54.2**	**+0.9**
CASC	**Dorado de Casc**	**3.28**	**24**	⇑P	**Pn**	**09 53 52.9**	**-0.3**
URCU	**Urcuqui**	**3.32**	**8**	⇑P	**Pn**	**09 53 54.8**	**+0.9**
LNGL	**El Angel-Carch**	**3.66**	**11**	P	**Pn**	**09 54 00.0**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.68**	**14**	P	**Pn**	**09 53 59.7**	**+0.9**
CHL1	**Volcn Chiles**	**3.72**	**12**	P	**Pn**	**09 54 00.1**	**+0.8**
CHL2	**Volcn Chiles**	**3.73**	**12**	⇑P	**Pn**	**09 54 00.5**	**+1.0**
ECEN	**Cerro Negro**	**3.74**	**11**	P	**Pn**	**09 54 00.5**	**+0.8**
CHMA	**Chilma**	**3.76**	**10**	⇑P	**Pn**	**09 54 00.3**	**+0.5**
CMBC	**Cumbal**	**3.89**	**13**	P	**Pn**	**09 54 03.1**	**+1.6**
RVRD	**Rio Verde**	**3.97**	**350**	⇓P	**Pn**	**09 54 01.6**	**-0.7**
SNLR	**San Lorenzo-Es**	**4.14**	**358**	P	**Pn**	**09 54 03.9**	**-0.6**
ATAH	**Atahualpa**	**4.25**	**176**	P	**Pn**	**09 54 07.9**	**+1.5**
132nm,0.5s,baz=6.8,slow=9.7,SNR=60							
ATAH				S	**Sn**	**09 54 56.4**	**+1.3**
500nm,0.6s,baz=322,slow=18,SNR=9.1							
BBAC	**Balboa, Cauca**	**5.07**	**17**	P	**Pn**	**09 54 17.7**	**+0.3**
FLOC	**Florencia**	**5.37**	**35**	Pn	**Pn**	**09 54 19.3**	**-1.9**
FLOC	**Florencia**	**5.37**	**35**	P	**Pn**	**09 54 19.5**	**-1.8**
MALC	**Bahia Malaga**	**6.97**	**11**	P	**Pn**	**09 54 43.0**	**-0.1**
CZSB	**Cruzeiro do Su**	**7.67**	**129**	Pn	**Pn**	**09 54 51.5**	**-1.1**
ROSC	**El Rosal**	**8.82**	**30**	P	**Pn**	**09 55 09.2**	**+0.6**
7.7nm,0.4s,baz=101,slow=20,SNR=3.5							
TBTG	**Tabatinga, AM**	**8.87**	**99**	Pn	**Pn**	**09 55 05.7**	**-3.2**
NNA	**Nana**	**9.24**	**169**	Pn	**Pn**	**09 55 14.2**	**+0.2**
NNA	**Nana**	**9.24**	**169**	P	**Pn**	**09 55 13.9**	**0.0**
50nm,0.4s,baz=348,slow=12,SNR=25							
NNA				S	**Sn**	**09 56 50.4**	**-5.8**
181nm,0.5s,baz=254,slow=14,SNR=12							
RUSC	**La Rusia**	**10.36**	**33**	Pn	**Pn**	**09 55 28.4**	**-1.1**
I20EC	**Galapagos**	**11.88**	**281**	I	I	10 56 30.0	
baz=107,slow=312,SNR=0.9							
SDV	**Santo Domingo**	**14.18**	**34**	Pn	**Pn**	**09 56 17.5**	**-2.6**
SDV	**Santo Domingo**	**14.18**	**34**	P	**Pn**	**09 56 18.5**	**-1.6**
3.6nm,0.3s,baz=211,slow=11,SNR=7.0							
SDV				LR	LR	10 02 46.1	
comp=Z,272nm,20.1s,baz=243,slow=41							
JTS	**Las Juntas de**	**14.48**	**335**	Pn	**Pn**	**09 56 24.2**	**+0.3**
JTS	**Las Juntas de**	**14.48**	**335**	P	**P**	**09 56 29.2**	**+1.4**
11nm,0.8s,baz=179,slow=4.6,SNR=8.4							
JTS				LR	LR	10 00 43.9	
comp=Z,149nm,20.8s,baz=144,slow=32							
BAUV	**El Baul**	**15.83**	**42**	Pn	**Pn**	**09 56 38.1**	**-2.7**
BOAB	**BOACO BROADBAN**	**16.72**	**336**	Pn	**Pn**	**09 56 50.4**	**-1.4**
LPAZ	**La Paz**	**16.91**	**143**	Pn	**Pn**	**09 56 53.6**	**-1.1**
LPAZ	**La Paz**	**16.91**	**143**	P	**Pn**	**09 56 52.2**	**-2.6**
5.9nm,0.6s,baz=341,slow=11,SNR=11							
PB18	**Visviri**	**17.20**	**149**		**P**	**09 56 57.7**	**-0.6**
PB12	**IPOC Station P**	**17.66**	**153**		**P**	**09 57 03.2**	**+0.2**
MACA	**Manacapuru-AM**	**17.99**	**91**		**P**	**09 57 04.6**	**-2.0**
TGUH	**Tegucigalpa,Un**	**18.85**	**333**	P	**P**	**09 57 16.7**	**+0.7**
BOAV	**Boa Vista**	**18.91**	**74**	P	**P**	**09 57 15.3**	**-1.3**
PCRV	**Puerto La Cruz**	**19.08**	**47**	P	**Pn**	**09 57 18.8**	**-1.6**
6.1nm,0.4s,baz=319,slow=2.2,SNR=29							
PCRV				LR	LR	10 05 17.8	
comp=Z,177nm,18.9s,slow=39							
TA02	**Huaiquique**	**19.21**	**155**	P	**P**	**09 57 19.3**	**-0.4**
HMBC	**Humberstone**	**19.32**	**154**	P	**P**	**09 57 20.3**	**-0.9**
TA01	**Diego Aracena**	**19.45**	**155**	P	**P**	**09 57 22.4**	**0.0**
PB08	**IPOC Station P**	**19.53**	**152**	P	**P**	**09 57 22.8**	**-0.9**
PATCX	**Punta Patache**	**19.69**	**156**	P	**P**	**09 57 25.3**	**+0.2**
MTO3	**Montecristo**	**20.15**	**329**	P	**P**	**09 57 32.0**	**+1.6**
PB01	**IPOC Station P**	**20.17**	**154**	P	**P**	**09 57 30.7**	**+0.4**
ESQI	**Esquipulas**	**20.28**	**329**	P	**P**	**09 57 32.2**	**+0.6**
VILB	**Vilhena**	**20.86**	**120**	P	**P**	**09 57 36.3**	**-1.5**
PB09	**IPOC Station P**	**20.94**	**155**	P	**P**	**09 57 39.5**	**+0.8**
SIV	**San Ignacio**	**21.70**	**128**	P	**P**	**09 57 46.5**	**-0.2**
4.7nm,0.6s,baz=309,slow=9.0,SNR=15							
SIV				LR	LR	10 07 17.7	
comp=Z,203nm,18.2s,baz=291,slow=39							
4.7nm,0.6s							
HUEH	**Huehuetenango**	**22.07**	**325**	P	**P**	**09 57 51.7**	**+0.8**
AF01	**San Pedro de A**	**22.41**	**154**	P	**P**	**09 57 54.7**	**+0.2**
GTBY	**Guantanamo Bay**	**22.93**	**9**	P	**P**	**09 57 58.7**	**-0.7**
PTLB	**Pontes e Lacer**	**22.97**	**124**	P	**P**	**09 57 59.8**	**0.0**
PB14	**IPOC Station P**	**23.06**	**160**	P	**P**	**09 58 02.2**	**+1.2**
CCIG	**Comitan**	**23.21**	**326**	P	**P**	**09 58 02.5**	**+0.2**
GO02	**Mina Guanaco**	**23.84**	**159**	P	**P**	**09 58 10.0**	**+1.9**
PDPR	**Patillas Dam,**	**24.23**	**31**	P	**P**	**09 58 10.1**	**-1.2**
MAL2	**Monte Alegre,**	**24.51**	**89**	P	**P**	**09 58 15.0**	**+1.0**
TEIG	**Tepich**	**24.80**	**338**	P	**P**	**09 58 16.9**	**+0.4**
CBE	**Ff, Capester**	**25.29**	**41**	P	**P**	**09 58 20.6**	**-0.4**
AC02	**Maricunga**	**25.53**	**160**	P	**P**	**09 58 25.5**	**+1.9**
AC02				IAmb	IAmb	09 59 02.7	
comp=Z,27nm,1.0s							
GDSD	**La Dsirade Is**	**25.83**	**42**	P	**P**	**09 58 25.2**	**-0.7**
GDSD				IAmb	IAmb	09 58 41.4	
comp=Z,48nm,1.2s							
MDP	**Montagnes des**	**27.21**	**73**	LR	LR	10 10 17.6	
comp=Z,180nm,19.7s,baz=302,slow=38							
GO04	**Tololo Observa**	**28.17**	**165**	P	**P**	**09 58 48.4**	**+1.5**
TLIG	**Tlapa**	**28.22**	**317**	P	**P**	**09 58 47.5**	**+0.1**
AQDB	**Aquidauana**	**28.44**	**130**	P	**P**	**09 58 49.2**	**0.0**
AQDB				IAmb	IAmb	09 59 03.0	
comp=Z,21nm,0.7s							
CO03	**El Pedregal**	**28.83**	**166**	P	**P**	**09 58 54.3**	**+1.6**
CPUP	**Villa Florida**	**31.06**	**141**	LR	LR	10 14 39.8	
comp=Z,62nm,18.7s,baz=307,slow=42							
MT08	**Bocatoma Ro**	**31.48**	**166**	IAmb	IAmb	09 59 19.8	
comp=Z,17nm,0.8s							
MT09	**Talagante**	**31.58**	**168**	P	**P**	**09 59 18.4**	**+1.4**
MT09				IAmb	IAmb	09 59 53.6	
comp=Z,25nm,1.4s							
BDFB	**Brasilia**	**32.77**	**115**	P	**P**	**09 59 27.9**	**+0.3**
comp=Z,2.6nm,0.6s,baz=315,slow=2.9,SNR=2.1							
comp=Z,2.6nm,0.6s							
HBVL	**Hebbronville**	**35.46**	**328**	IAmb	IAmb	10 00 28.0	
comp=Z,12nm,1.1s							
PLTB	**Pedras Altas**	**37.20**	**143**	P	**P**	**10 00 05.5**	**+0.2**
PLTB				IAmb	IAmb	10 00 06.5	
comp=Z,15nm,1.0s							
HNDO	**Hondo**	**37.77**	**330**	IAmb	IAmb	10 00 12.1	
comp=Z,11nm,0.8s							
RPN	**Rapa Nui**	**37.96**	**228**	LR	LR	10 11 23.2	
comp=Z,101nm,19.8s,baz=213,slow=29							
435B	**Jarrell**	**38.01**	**333**	IAmb	IAmb	10 00 13.9	
comp=Z,13nm,0.9s							
435B	**Jarrell**	**38.01**	**333**	P	**P**	**10 00 13.0**	**+0.8**
baz=148							
PLCA	**Paso Flores**	**38.40**	**170**	P	**P**	**10 00 16.6**	**+1.2**
PLCA				IAmb	IAmb	10 00 17.8	
comp=Z,26nm,1.5s							
PLCA	**Paso Flores**	**38.40**	**170**	P	**P**	**10 00 16.3**	**+0.9**
comp=Z,5.3nm,1.1s,baz=338,slow=8.1,SNR=9.4							
PLCA				PcP	**PcP**	**10 02 27.4**	**+0.3**
comp=Z,1.2nm,0.6s,baz=354,slow=5.1,SNR=4.2							
comp=Z,5.3nm,1.1s							
PLCA	**Paso Flores**	**38.40**	**170**	P	**P**	**10 00 16.4**	**+1.0**
PLCA				pP	**pP**	**10 00 39.8**	**+1.3**
PLCA				sP	**sP**	**10 00 51.0**	**+1.0**
PLCA				PcP	**PcP**	**10 02 27.7**	**+0.6**
JCT	**Junction City**	**38.81**	**330**	P	**P**	**10 00 19.0**	**+0.1**
JCT				IAmb	IAmb	10 00 46.5	
comp=Z,29nm,1.5s							
BRDY	**Brady**	**39.08**	**332**	P	**P**	**10 00 21.6**	**+0.4**
BRDY				PcP	**PcP**	**10 02 29.9**	**+0.7**
V48A	**Smith Brothers**	**39.16**	**350**	P	**P**	**10 00 20.8**	**-0.9**
V48A				IAmb	IAmb	10 00 21.4	
comp=Z,11nm,0.8s							
FW14	**Alvarado**	**39.22**	**335**	P	**P**	**10 00 22.5**	**+0.3**
FW14				IAmb	IAmb	10 00 23.3	
comp=Z,12nm,0.8s							
FW13	**Cleburne**	**39.28**	**335**	P	**P**	**10 00 23.2**	**+0.4**
FW13				IAmb	IAmb	10 00 24.3	
comp=Z,15nm,0.7s							
HPIG		**39.44**	**320**	P	**P**	**10 00 25.1**	**+0.7**
UALR	**University of**	**39.58**	**342**	P	**P**	**10 00 24.7**	**-0.5**
UALR				IAmb	IAmb	10 00 25.3	
comp=Z,13nm,0.8s							
SAND	**Sanderson**	**39.59**	**327**	P	**P**	**10 00 26.4**	**+1.0**
WVT	**Waverly**	**39.73**	**348**	P	**P**	**10 00 24.1**	**-2.3**
WVT	**Waverly**	**39.73**	**348**	P	**P**	**10 00 24.1**	**-2.3**
WVT				pP	**pP**	**10 00 48.7**	**-1.6**
FW07	**Weatherford**	**39.73**	**334**	P	**P**	**10 00 26.1**	**-0.4**
FW07				IAmb	IAmb	10 00 27.7	
comp=Z,18nm,1.1s							
LL01	**San Ignacio de**	**39.73**	**173**	P	**P**	**10 00 26.8**	**+0.4**
LL01				IAmb	IAmb	10 01 02.4	
comp=Z,18nm,1.1s							
OZNA	**Ozona**	**39.83**	**329**	P	**P**	**10 00 28.0**	**+0.5**
FW06	**Azle**	**39.87**	**335**	P	**P**	**10 00 27.6**	**0.0**
FW06				IAmb	IAmb	10 00 29.5	
comp=Z,22nm,1.0s							
TXAR	**Lajitas Array**	**39.98**	**325**	P	**P**	**10 00 29.1**	**+0.4**
comp=Z,1.4nm,0.8s,baz=151,slow=9.0,SNR=20							
TXAR				PcP	**PcP**	**10 02 32.5**	**+0.2**
comp=Z,2.7nm,0.7s,baz=147,slow=5.8,SNR=14							
comp=Z,1.4nm,0.8s							
WHAR	**Wooly Hollow**	**40.05**	**343**	P	**P**	**10 00 28.4**	**-0.6**
WHAR				IAmb	IAmb	10 00 29.1	
comp=Z,11nm,0.9s							
SLBS	**Sierra La Lagu**	**40.28**	**313**	P	**P**	**10 00 33.1**	**+1.8**
SLBS				pP	**pP**	**10 00 57.5**	**+2.8**
SLBS				sP	**sP**	**10 01 07.8**	**+1.7**
LCAR	**Lake Charles**	**40.45**	**344**	IAmb	IAmb	10 00 56.2	
comp=Z,16nm,1.2s							
LL02	**Futaleuf**	**40.61**	**172**	P	**P**	**10 00 34.1**	**+0.5**
LL02				IAmb	IAmb	10 01 10.0	
comp=Z,20nm,1.0s							
ALPN	**Alpine**	**40.75**	**326**	IAmb	IAmb	10 00 37.0	
comp=Z,14nm,0.9s							
MNHN	**Monahans**	**41.01**	**328**	P	**P**	**10 00 37.6**	**+0.4**
MNHN				IAmb	IAmb	10 01 15.0	
comp=Z,12nm,0.7s							
SN05	**Snyder 5**	**41.30**	**331**	P	**P**	**10 00 40.5**	**+1.0**
SN05				IAmb	IAmb	10 00 42.3	
comp=Z,11nm,0.6s							
APMT	**Aspermont**	**41.30**	**332**	IAmb	IAmb	10 00 41.3	
comp=Z,13nm,0.8s							
T42A	**Van Buren**	**41.34**	**345**	IAmb	IAmb	10 01 03.2	
comp=Z,16nm,1.3s							
X34A	**Smith Ranch, M**	**41.39**	**336**	P	**P**	**10 00 40.5**	**+0.4**
HHAR	**Hobbs**	**41.47**	**341**	P	**P**	**10 00 40.2**	**-0.6**
W35A	**Tecumseh**	**41.49**	**337**	IAmb	IAmb	10 00 41.7	
comp=Z,25nm,0.9s							
POST	**Post**	**41.75**	**331**	IAmb	I

comp=Z,13nm,1.3s
LDAQ Lac Daran 51.04 6 P P 10 01 55.9 +0.3
LDAQ IAmb IAmb 10 01 56.6
comp=Z,12nm,0.8s
V12A Nelson 51.15 322 IAmb IAmb 10 01 58.8
comp=Z,10nm,0.9s
P18A Preston Nutter 51.27 329 P P 10 01 58.4 +0.6
MSU Marysvale 51.49 326 P P 10 02 00.1 +0.7
K22A Casper 51.83 334 P P 10 02 01.3 -0.4
SHPR Sheep Range 51.85 322 P P 10 02 02.5 +0.5
RSSD Black Hills 52.01 337 P P 10 02 03.6 +0.5
RSSD IAmb IAmb 10 02 04.9
comp=Z,9.4nm,0.8s
RSSD Black Hills 52.01 337 P P 10 02 03.8 +0.7
RSSD pP pP 10 02 29.0 +1.0
RSSD PcP PcP 10 03 14.1 -0.1
GSC Goldstone, Bar 52.11 320 IAmb IAmb 10 02 31.8
comp=Z,15nm,1.1s
BSUT Blindstream Ca 52.20 329 P P 10 02 05.7 +0.9
BSUT IAmb IAmb 10 02 06.7
comp=Z,9.4nm,1.0s
CCAC Calif City Air 52.80 319 P P 10 02 10.2 +1.3
CTU Camp Tracy 52.83 329 P P 10 02 10.3 +1.1
WCT Wildcat Mounta 52.94 322 P P 10 02 10.8 +0.8
TCUT Toone Canyon 52.96 329 P P 10 02 10.2 0.0
DUG Dugway, Tooele 53.03 327 IAmb IAmb 10 02 12.8
comp=Z,26nm,1.8s
PD31 Pinedale Array 53.30 332 P P 10 02 12.7 +0.1
PDAR Pinedale Array 53.30 332 P P 10 02 12.2 -0.4
PDAR Pinedale Array 53.30 332 P P 10 02 12.8 +0.1
comp=Z,3.3nm,0.7s,baz=124,slow=8.7,SNR=38
PDAR LR LR 10 25 45.8
comp=Z,29nm,19.3s,baz=50,slow=37
comp=Z,3.3nm,0.7s
R11B Troy Canyon, C 53.32 324 P P 10 02 13.7 +0.9
baz=132
AHID Auburn Hatcher 54.03 331 P P 10 02 17.4 -0.6
AHID IAmb IAmb 10 02 19.0
comp=Z,6.8nm,0.8s
TPAW Teton Pass 54.51 332 IAmb IAmb 10 03 12.3
comp=Z,16nm,1.6s
FLWY Flagg Ranch 54.84 332 IAmb IAmb 10 02 25.6
comp=Z,19nm,1.4s
NV11 Mina Array Sit 54.91 322 P P 10 02 25.4 +1.0
NV11 IAmb IAmb 10 02 26.2
comp=Z,8.6nm,1.1s
ULM Lac du Bonnet 54.94 347 IAmb IAmb 10 02 23.6
comp=Z,11nm,0.9s
ULM Lac du Bonnet 54.94 347 P P 10 02 22.9 -1.3
comp=Z,9.4nm,0.8s,baz=157,slow=7.7,SNR=22
ULM LR LR 10 27 07.4
comp=Z,37nm,18.4s,baz=318,slow=37
comp=Z,9.4nm,0.8s
LAO LASA Array 55.00 337 IAmb IAmb 10 02 26.6
comp=Z,12nm,1.2s
NVAR Mina Array Bea 55.00 322 P P 10 02 26.0 +0.9
NVAR Mina Array Bea 55.00 322 P P 10 02 25.5 +0.4
comp=Z,2.7nm,0.7s,baz=124,slow=5.5,SNR=13
comp=Z,2.7nm,0.7s
DRLN Deer Lake 55.07 17 P P 10 02 25.2 +0.1
YNE Yellowstone No 55.23 333 IAmb IAmb 10 02 27.9
comp=Z,6.0nm,0.8s
YHL Hebgen Lake 55.65 332 P P 10 02 30.3 +0.6
GCMT Greycliff 55.69 334 P P 10 02 30.3 +0.5
DGMT Dagmar 55.75 340 IAmb IAmb 10 02 31.5
comp=Z,10nm,0.8s
BOZ Bozeman (W) 56.42 333 P P 10 02 35.5 +0.5
BOZ IAmb IAmb 10 02 36.6
comp=Z,9.9nm,0.9s
DLMT Dillon 56.69 332 IAmb IAmb 10 02 38.0
comp=Z,6.5nm,0.9s
EGMT Eagleton 57.49 336 P P 10 02 42.5 +0.1
EGMT IAmb IAmb 10 02 43.2
comp=Z,10.0nm,0.9s
LYMT Lyon Mountain 57.76 333 P P 10 02 45.0 +0.4
PLID Pearl Lake 58.15 330 IAmb IAmb 10 03 39.7
comp=Z,25nm,1.9s
SCHQ Schefferville 58.34 8 IAmb IAmb 10 03 03.7
comp=Z,15nm,1.4s
SCHQ Schefferville 58.34 8 P P 10 02 47.4 -0.7
comp=Z,3.7nm,0.7s,baz=210,slow=6.2,SNR=7.7
comp=Z,3.7nm,0.7s
MSO Missoula 58.41 332 IAmb IAmb 10 02 50.5
comp=Z,13nm,1.1s
F10A Beach Ranch, E 59.39 330 P P 10 02 55.8 +0.1
F10A IAmb IAmb 10 02 58.6
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 59.69 323 LR LR 10 29 29.5
comp=Z,45nm,21.4s,baz=45,slow=37
G08A Pilot Rock 59.82 328 IAmb IAmb 10 02 59.9
comp=Z,9.5nm,1.0s
PINE Pine Mountain 59.93 326 IAmb IAmb 10 03 01.8
comp=Z,11nm,0.9s
I05D Terrebonne, OR 60.49 326 IAmb IAmb 10 03 43.5
comp=Z,13nm,1.1s
FFC Flin Flon 60.55 345 P P 10 03 02.8 -0.5
FFC IAmb IAmb 10 03 28.9
comp=Z,25nm,2.0s
NEW Newport 60.94 332 IAmb IAmb 10 03 07.4
comp=Z,9.4nm,0.9s
NEW Newport 60.94 332 LR LR 10 33 17.7
comp=Z,45nm,18.2s,baz=68,slow=40
YKA Yellowknife Ar 70.64 343 P P 10 04 07.6 -0.5
comp=Z,1.8nm,0.8s,baz=144,slow=5.7,SNR=39
YKA pP pP 10 04 32.9 -1.4
comp=Z,1.1nm,0.9s,baz=142,slow=6.4,SNR=4.6
comp=Z,1.8nm,0.8s
PPT2 Papeete2 70.91 252 *e*LR LR 10 25 52.6
comp=Z,128nm,35.8s
PPT2 *e*LR LR 10 25 53.6
comp=Z,205nm,30.5s
TBI Tubuai 71.21 246 *e*LR LR 10 25 58.8
comp=Z,598nm,39.2s
TOAD Toad River Com 71.66 337 P P 10 04 14.5 +0.1
baz=130
KOTAN Kotaneelee Air 72.05 338 P P 10 04 17.1 +0.5
baz=132
V35K Ketchikan 72.34 331 P P 10 04 19.0 +0.6
baz=123
CRAG Craig 73.14 331 P P 10 04 24.0 +0.8
baz=122
WRAK Wrangell Islan 73.29 332 P P 10 04 24.8 +0.8
baz=123
DLBC Dease Lake 73.39 335 P P 10 04 25.7 +1.0
baz=125
S34M Telegraph Cree 73.56 334 P P 10 04 26.8 +1.1
baz=124
WTLY Watson Lake, Y 73.87 336 P P 10 04 28.4 +1.0
baz=127
WRGLY Wrigley 73.93 341 IAmb IAmb 10 04 29.1
comp=Z,20nm,1.1s
WRGLY Wrigley 73.93 341 P P 10 04 28.6 +1.0
baz=133
DBIC Dimbokro 74.31 82 P P 10 04 30.8 -0.1
comp=Z,3.9nm,0.6s,baz=254,slow=7.6,SNR=5.6
DBIC pP pP 10 04 56.0 -0.4
comp=Z,6.0nm,1.1s,baz=268,slow=7.0,SNR=2.6
comp=Z,3.9nm,0.6s
R33M Jennings River 74.34 335 P P 10 04 31.5 +1.2
baz=125
Q32M Nakina River 74.65 334 P P 10 04 33.0 +0.8
baz=124
SIT Sitka 75.02 332 P P 10 04 35.2 +1.1
baz=120
R32K Eaglecrest 75.27 333 P P 10 04 36.4 +0.8
baz=121
P33M Tesin, Yukon 75.57 335 P P 10 04 38.0 +0.6
baz=123
SKAG Skagway 76.25 334 P P 10 04 41.4 +0.4
baz=121
WHY Whitehorse 76.68 335 P P 10 04 44.0 +0.3
baz=121
PLBC Pleasant Camp 76.70 334 P P 10 04 44.2 +0.6
baz=120
FARO Faro, Yukon 76.90 337 P P 10 04 45.6 +0.9
FARO Faro, Yukon 76.90 337 P P 10 04 45.0 +0.2
baz=123
O30N Mendenhall 77.24 335 P P 10 04 47.4 +0.6
baz=120
M31M Drury Creek, Y 77.29 337 P P 10 04 47.5 +0.6
M31M IAmb IAmb 10 05 29.0
comp=Z,21nm,1.9s
M31M Drury Creek, Y 77.29 337 P P 10 04 47.4 +0.4
baz=122
N31M Braeburn, Yuko 77.48 336 P P 10 04 48.7 +0.6
baz=121
HYT Haines Junctio 77.87 335 P P 10 04 51.3 +1.0
baz=119
N30M Aishikik Lake 78.01 335 IAmb IAmb 10 05 29.8
comp=Z,41nm,2.0s
N30M Aishikik Lake 78.01 335 P P 10 04 51.6 +0.6
baz=120
O29M Mount Kennedy 78.09 334 P P 10 04 52.4 +0.8
baz=118
YUK6 Outpost Mounta 78.30 335 P P 10 04 53.3 +0.5
baz=118
C36M Paulatuk 78.32 345 P P 10 04 53.7 +1.3
baz=133
YUK4 Talbot Arm 78.61 335 P P 10 04 55.1 +0.6
baz=118
PINM Pinnacle 78.74 333 P P 10 04 55.4 +0.3
baz=116
O28M Mount Upton 79.01 334 P P 10 04 57.1 +0.3
baz=116
M29M Somme Creek 79.06 336 P P 10 04 57.6 +0.9
baz=118
YUK8 Steele Glacier 79.06 335 P P 10 04 56.8 -0.3
baz=117
H31M Peel River 79.23 340 IAmb IAmb 10 05 29.6
comp=Z,33nm,1.9s
H31M Peel River 79.23 340 P P 10 04 58.5 +1.0
baz=123
L29M L29M 79.24 337 IAmb IAmb 10 04 59.2
comp=Z,10nm,0.9s
L29M L29M 79.24 337 P P 10 04 58.0 +0.2
baz=119
J30M Hart River 79.28 338 P P 10 04 58.3 +0.3
baz=121
K29M Barlow Dome 79.36 337 P P 10 04 58.5 +0.1
baz=120
SUMG Summit 79.50 11 P P 10 04 59.3 0.0
SUMG IAmb IAmb 10 05 27.4
comp=Z,34nm,1.7s
MESA MESA 79.54 333 P P 10 04 59.0 -0.6
baz=115
YUK3 Moose Creek 79.58 335 P P 10 04 59.6 -0.2
baz=116
I30M Mount Dempster 79.64 339 P P 10 05 00.5 +0.6
baz=121
G31M Satah River 79.81 341 P P 10 05 01.1 +0.4
baz=123,SNR=6.5
F31M Tsiigehtchic 79.93 341 P P 10 05 01.6 +0.4
F31M Tsiigehtchic 79.93 341 P P 10 05 01.6 +0.4
baz=124,SNR=6.1
BVCY Beaver Creek 80.03 335 P P 10 05 02.3 +0.3
baz=116
ESDC Sonseca Array 80.14 49 P P 10 05 03.5 +0.4
ESDC Sonseca Array 80.14 49 P P 10 05 03.0 -0.1
comp=Z,2.5nm,0.8s,baz=263,slow=5.9,SNR=14
ESDC pP pP 10 05 28.5 -0.8
comp=Z,1.4nm,0.9s,baz=254,slow=5.6,SNR=2.6
comp=Z,2.5nm,0.8s
DAWY Dawson 80.20 337 P P 10 05 02.5 -0.3
baz=118
INK Inuvik 80.35 342 P P 10 05 03.9 +0.4
INK IAmb IAmb 10 05 04.9
comp=Z,16nm,1.1s
INK Inuvik 80.35 342 P P 10 05 03.3 -0.2
baz=124,SNR=13
EPYK Eagle Plains 80.35 340 P P 10 05 04.1 +0.5
EPYK Eagle Plains 80.35 340 P P 10 05 03.4 -0.2
baz=121
I29M Ogilvie Camp, 80.41 338 P P 10 05 04.0 0.0
baz=119
A36M Sachs Harbour 80.42 347 P P 10 05 03.3 -0.5
baz=133
M27K Edge Creek, AK 80.44 335 P P 10 05 04.1 -0.1
baz=115
G30M tAoh Zraii Nji 80.49 340 P P 10 05 04.5 +0.1
baz=121
KAIM Kayak Island 80.57 332 P P 10 05 05.3 +0.5
baz=112
VNA3 Neumayer Olymp 80.64 162 P P 10 05 05.8 +0.8
VNA3 Neumayer Olymp 80.64 162 ⇑P P 10 05 05.8 +0.8
comp=Z,13nm,0.8s
VNA3 ⇓pP pP 10 05 30.7 -0.6
comp=Z,0.1nm,0.2s
VRDI Verde Repeater 80.65 334 P P 10 05 05.9 +0.4
F30M Barrier River 80.68 341 P P 10 05 04.9 -0.4
baz=122,SNR=5.8
BCAR Beaver Creek A 80.70 336 P P 10 05 06.0 +0.4
L27K Beaver Creek, 80.72 336 P P 10 05 05.8 +0.1
baz=115
H29M Whitestone 80.85 339 P P 10 05 06.5 +0.3
baz=119
VNA1 Neumayer--Stat 80.89 161 P P 10 05 06.5 +0.2
VNA1 Neumayer--Stat 80.89 161 ⇑P P 10 05 06.5 +0.2
comp=Z,4.5nm,0.2s
M26K Nabesna, AK 80.93 335 P P 10 05 06.9 +0.1
baz=114
I28M Miner Creek 81.05 338 P P 10 05 07.8 +0.4
baz=118
BMRM Bremner River 81.06 333 P P 10 05 07.4 -0.1
baz=112
G29M Pine Creek 81.07 340 IAmb IAmb 10 05 08.0
comp=Z,8.8nm,0.8s
G29M Pine Creek 81.07 340 P P 10 05 07.5 0.0
baz=120
EGAK Eagle 81.20 337 IAmb IAmb 10 05 09.3
comp=Z,11nm,0.8s
EGAK Eagle 81.20 337 P P 10 05 07.8 -0.3
baz=116
VNA2 Neumayer--Watz 81.24 162 P P 10 05 08.9 +0.6
baz=290,slow=7.3
VNA2 Neumayer--Watz 81.24 162 ⇑P P 10 05 08.9 +0.6
comp=Z,7.9nm,0.7s,baz=290,slow=7.3
N25K Chitina, Valde 81.30 334 P P 10 05 09.3 +0.5
baz=113
TORD Torodi Ar. Bea 81.31 76 P P 10 05 09.3 -0.4
comp=Z,1.1nm,0.5s,baz=273,slow=5.3,SNR=13
TORD pP pP 10 05 35.4 -0.3
comp=Z,3.5nm,1.3s,baz=272,slow=5.6,SNR=2.2
comp=Z,1.1nm,0.5s
EYAK Cordova Ski Ar 81.42 333 P P 10 05 08.9 -0.4
baz=111
I27K Kandik River 81.74 338 P P 10 05 11.3 +0.3
baz=116
E29M Blow River 81.77 341 P P 10 05 11.1 0.0
E29M IAmb IAmb 10 05 57.6
comp=Z,20nm,1.4s
E29M Blow River 81.77 341 P P 10 05 10.9 -0.2
baz=120
KLU Klutina 81.85 333 P P 10 05 11.6 -0.1
KLU IAmb IAmb 10 05 58.2
comp=Z,20nm,1.3s
KLU Klutina 81.85 333 P P 10 05 11.3 -0.4
baz=111
HARP HAARP 81.85 334 P P 10 05 11.4 -0.3
baz=112
SCRK Sand Creek 81.98 336 P P 10 05 11.7 -0.7
baz=114
H27K Steamboat Moun 81.99 339 P P 10 05 12.3 0.0
baz=116
P23K Montague Islan 82.00 332 P P 10 05 12.5 +0.1
baz=110
J26L Joseph Creek 82.02 337 IAmb IAmb 10 05 13.8
comp=Z,8.6nm,0.8s
J26L Joseph Creek 82.02 337 P P 10 05 12.6 0.0
baz=114
F28M Old Crow 82.04 340 P P 10 05 12.2 -0.3
baz=118,SNR=6.8
GLI Glacier Island 82.16 333 P P 10 05 12.7 -0.5
baz=110
M24K Tolsona, Glenn 82.18 334 P P 10 05 13.1 -0.3
baz=111
I26K Coal Creek Min 82.20 338 P P 10 05 13.1 -0.2
baz=114
PAX Paxson 82.20 335 P P 10 05 12.6 -0.9
baz=112
RIDG Independent Ri 82.24 336 IAmb IAmb 10 05 14.8
comp=Z,10nm,0.9s
RIDG Independent Ri 82.24 336 P P 10 05 13.1 -0.5
baz=113
G27K Doyon Strip 82.29 339 P P 10 05 13.4 -0.4
G27K Doyon Strip 82.29 339 P P 10 05 13.6 -0.3
baz=116
E28M Babbage River 82.40 341 P P 10 05 14.2 -0.2
E28M Babbage River 82.40 341 P P 10 05 13.9 -0.4
baz=118
SCM Sheep Creek Mo 82.59 334 P P 10 05 15.5 -0.1
baz=110
K24K Donnelly Dome 82.64 336 P P 10 05 14.8 -1.0
baz=112
PWL Port Wells 82.72 332 P P 10 05 15.6 -0.5
baz=109
M23K Glacier View 82.76 333 P P 10 05 15.6 -0.8
baz=110
J25K Salcha River, 82.78 336 P P 10 05 16.1 -0.5
baz=112
SNAA Sanae 82.85 162 P P 10 05 17.3 +0.5
SNAA Sanae 82.85 162 ⇑P P 10 05 17.3 +0.5
comp=Z,118nm,1.0s
SNAA Sanae 82.85 162 P P 10 05 17.2 +0.5
comp=Z,3.7nm,0.8s,baz=334,slow=5.0,SNR=5.1
SNAA pP pP 10 05 42.5 -0.6
comp=Z,3.4nm,0.8s,baz=304,slow=7.5,SNR=3.1
comp=Z,3.7nm,0.8s
KNK Knik Glacier 82.96 333 P P 10 05 16.9 -0.6
baz=109
SEW Seward 83.00 332 P P 10 05 17.0 -0.6
baz=108
SML Sawmill 83.03 333 P P 10 05 17.1 -0.7
baz=109
G26K Porcupine Rive 83.11 339 P P 10 05 17.7 -0.3
baz=114
D27M Malcolm River 83.16 341 IAmb IAmb 10 05 19.7
comp=Z,8.3nm,0.9s
D27M Malcolm River 83.16 341 P P 10 05 18.6 +0.3
baz=117,SNR=5.3
PRP Porcupine Dome 83.19 337 P P 10 05 17.8 -0.9
baz=112
PMR Palmer 83.32 333 P P 10 05 19.1 -0.1
baz=108
HDA Harding Lake 83.34 336 IAmb IAmb 10 05 19.9
comp=Z,8.1nm,0.8s
HDA Harding Lake 83.34 336 P P 10 05 18.8 -0.5
baz=111
RC01 Rabbit Creek A 83.44 332 P P 10 05 20.0 +0.1
RC01 Rabbit Creek A 83.44 332 P P 10 05 19.6 -0.3
baz=108
ILAR Eielson Array 83.45 336 P P 10 05 19.6 -0.2
ILAR Eielson Array 83.45 336 P P 10 05 19.2 -0.6
comp=Z,3.4nm,0.9s,baz=124,slow=4.1,SNR=35
ILAR pP pP 10 05 45.0 -1.7
comp=Z,0.5nm,0.8s,baz=97,slow=3.6,SNR=1.6
comp=Z,3.4nm,0.9s
BRSE Bradley Lake S 83.51 331 P P 10 05 20.0 -0.2
baz=107
F26K Sheenjek River 83.55 340 P P 10 05 20.9 +0.6
F26K Sheenjek River 83.55 340 P P 10 05 20.6 +0.3
baz=114
H25L Birch Creek 83.59 338 P P 10 05 21.4 +0.9
baz=112
M22K Willow 83.82 333 P P 10 05 21.4 -0.4
baz=108
MCK McKinley 83.93 335 P P 10 05 22.6 +0.2
baz=109
SUA Susitna One 84.02 333 P P 10 05 22.7 -0.3
baz=107
F25K Christian Rive 84.03 339 P P 10 05 23.1 +0.2
baz=112
OHAK Old Harbor 84.11 328 P P 10 05 22.6 -0.7
baz=104
EKA Eskdalemuir Ar 84.17 34 P P 10 05 22.9 -0.8
comp=Z,3.2nm,1.0s,baz=205,slow=28,SNR=4.0
comp=Z,3.2nm,1.0s
C27K Jago River 84.20 341 IAmb IAmb 10 05 25.1
comp=Z,9.4nm,1.1s
C27K Jago River 84.20 341 P P 10 05 23.0 -0.6
baz=114,SNR=7.3
E25K Arctic Village 84.21 340 P P 10 05 23.5 -0.2
baz=112,SNR=5.1
H24K Noodor Dome 84.22 337 P P 10 05 23.2 -0.6
baz=110
NEA2 Nenana 84.27 336 P P 10 05 23.4 -0.7
baz=109
G24K Hadweenzic Riv 84.37 338 P P 10 05 24.0 -0.5
baz=111
TRF Thorofare Moun 84.42 335 P P 10 05 24.2 -0.8
baz=108
SII Sitkinak Islan 84.43 327 P P 10 05 24.1 -0.9
baz=104
O20K Slope Mountain 84.52 331 P P 10 05 24.9 -0.6
baz=105
SKT Skwentna 84.53 333 IAmb IAmb 10 06 41.5
comp=Z,28nm,1.6s
SKT Skwentna 84.53 333 P P 10 05 25.3 -0.1
baz=106
I23K Minto, Yukon-K 84.57 336 P P 10 05 25.5 0.0
I23K IAmb IAmb 10 05 26.6
comp=Z,7.2nm,0.8s
I23K Minto, Yukon-K 84.57 336 P P 10 05 25.4 0.0
baz=109
TROLL Troll, Antarti 84.57 162 P P 10 05 26.5 +0.9
TROLL Troll, Antarti 84.57 162 ⇑P P 10 05 26.5 +0.9
comp=Z,264nm,0.8s
TROLL ⇑sP sP 10 06 04.6 +1.9
comp=Z,622nm,0.6s
TROLL ⇓x x 10 06 04.9
comp=E,384nm,0.7s
C26K Camden Bay 84.70 341 P P 10 05 25.9 -0.1
baz=113
P19K Oil Pt 84.70 331 P P 10 05 26.3 -0.1
baz=105
KTH Kantishna Hill 84.72 335 P P 10 05 26.3 -0.1
KTH IAmb IAmb 10 05 27.0
comp=Z,8.3nm,0.9s
Q19K Cape Douglas, 84.72 330 P P 10 05 26.3 -0.2
baz=104
F24K Squaw Lake 84.81 339 P P 10 05 27.1 +0.3
baz=110
R18K Karluk 84.81 328 P P 10 05 26.3 -0.5
baz=104
BPAW Bear Paw Mtn. 84.91 335 P P 10 05 26.9 -0.4
baz=107
D25K Kavik River 84.94 341 IAmb IAmb 10 05 28.7
comp=Z,8.1nm,0.8s
D25K Kavik River 84.94 341 P P 10 05 27.0 -0.4
baz=112,SNR=11
CHIR Chirikof Islan 85.04 327 P P 10 05 28.0 -0.1
baz=102
M20K Styx River 85.23 333 P P 10 05 29.0 0.0
baz=105
G23K Bananza Creek 85.33 338 P P 10 05 29.1 -0.3
baz=108
O19K Port Alsworth 85.37 331 P P 10 05 29.4 -0.1
baz=104
COLD Coldfoot 85.56 338 P P 10 05 30.5 +0.1
baz=108
H22K Ishtalitna Cre 85.60 337 P P 10 05 30.6 0.0
baz=107
E23K Chandalar 85.61 339 P P 10 05 30.4 -0.3
baz=109
P18K Big Mountain, 85.63 330 P P 10 05 30.5 -0.5
baz=103
I21K Tanana 85.63 336 P P 10 05 30.1 -0.7
baz=106
D24K Happy Valley 85.69 340 P P 10 05 31.2 +0.2
baz=110
Q17K Contact Creek 85.71 329 P P 10 05 30.7 -0.8
baz=102
O18K Koktuh Hills 85.72 331 P P 10 05 30.7 -0.7
baz=103
L20K Farewell, AK 85.72 333 P P 10 05 30.5 -0.9
baz=104
TOLK Toolik Lake Re 85.78 340 P P 10 05 31.1 -0.5
baz=109
C24K Franklin Bluff 85.85 341 P P 10 05 31.7 0.0
baz=110
G22K Bettles 85.95 338 P P 10 05 32.7 +0.4
baz=107
K20K Telida 86.03 334 P P 10 05 32.1 -0.7
baz=104
L19K White Mountain 86.09 333 P P 10 05 32.6 -0.6
baz=104
H21K Melozitna Rive 86.10 336 P P 10 05 33.0 -0.2
baz=106
P17K Kvichak River 86.19 330 P P 10 05 32.9 -0.7
baz=102
N18K Kilae Creek 86.24 331 P P 10 05 33.2 -0.7
baz=102
J20K Nowinta River 86.26 335 P P 10 05 33.6 -0.4
baz=104
D23K Nanushuk River 86.27 340 IAmb IAmb 10 05 35.9
comp=Z,8.1nm,1.1s
D23K Nanushuk River 86.27 340 P P 10 05 33.6 -0.3
baz=108
M18K Stony River 86.38 332 P P 10 05 35.0 +0.4
baz=103
E22K Anaktuvuk Pass 86.42 339 IAmb IAmb 10 05 36.2
comp=Z,18nm,1.7s
E22K Anaktuvuk Pass 86.42 339 P P 10 05 34.5 -0.2
baz=107

C23K	Itkillik River	86.51 341	P	P	10 05 35.1	0.0
	baz=108					
I20K	Naaghedeneel	86.56 335	P	P	10 05 34.8	-0.6
	baz=104					
G21K	Allakaket	86.60 337	IAmb	IAmb	10 05 36.5	
	comp=Z,6.6nm,0.9s					
G21K	Allakaket	86.60 337	P	P	10 05 35.3	-0.3
	baz=105					
O17K	Koliganek Bris	86.63 330	P	P	10 05 35.6	-0.2
	baz=101					
CHGN	Chignik	86.67 327	P	P	10 05 35.7	-0.3
	baz=100					
TTA	Tatalina	86.78 333	P	P	10 05 36.3	-0.3
	baz=102					
N17K	Nushagak Hills	86.83 331	P	P	10 05 36.5	-0.3
	baz=101					
J19K	Poorman	86.85 335	P	P	10 05 36.7	-0.2
	baz=103					
H20K	Anotleneega Mo	86.89 336	P	P	10 05 37.3	+0.3
	baz=104					
D22K	Ayikyak River	86.93 340	IAmb	IAmb	10 07 57.6	
	comp=Z,25nm,1.9s					
D22K	Ayikyak River	86.93 340	P	P	10 05 37.2	+0.1
	baz=106					
L18K	Granite Mounta	86.94 333	P	P	10 05 37.1	-0.2
	baz=102					
CHNA	Chernabura Isl	87.08 325	P	P	10 05 37.9	-0.3
	baz=99					
O16K	Kokwok River B	87.10 330	P	P	10 05 38.1	0.0
	baz=100					
M17K	Holitna River	87.12 332	P	P	10 05 38.2	0.0
	baz=101					
QSPA	South Pole Qui	87.20 180	P	P	10 05 40.0	+1.4
QSPA	South Pole Qui	87.20 180	P	P	10 05 39.4	+0.7
	comp=Z,9.8nm,0.9s,baz=148,slow=2.1,SNR=30					
QSPA		pP		pP	10 06 05.2	-0.1
	comp=Z,12nm,1.0s,baz=159,slow=3.4,SNR=8.2					
	comp=Z,9.8nm,0.9s					
J18K	Innoko River	87.21 334	P	P	10 05 38.4	-0.2
	baz=102					
E21K	Killik River	87.27 339	IAmb	IAmb	10 05 40.1	
	comp=Z,8.3nm,1.0s					
E21K	Killik River	87.27 339	P	P	10 05 38.7	-0.1
	baz=105					
S14K	Fog Glacier	87.30 327	P	P	10 05 38.5	-0.8
	baz=99					
H19K	Roundabout Mou	87.53 336	P	P	10 05 41.1	+1.0
H19K			IAmb	IAmb	10 05 41.9	
	comp=Z,8.7nm,1.0s					
H19K	Roundabout Mou	87.53 336	P	P	10 05 40.9	+0.9
	baz=102					
GCSA	Galena City Sc	87.55 335	P	P	10 05 40.7	+0.5
	baz=102					
B22K	Teshekpuk Lake	87.58 341	P	P	10 05 40.8	+0.6
B22K	Teshekpuk Lake	87.58 341	P	P	10 05 40.4	+0.2
	baz=105					
F20K	Avaraart Lake	87.58 338	P	P	10 05 40.8	+0.5
F20K	Avaraart Lake	87.58 338	P	P	10 05 40.7	+0.5
	baz=103					
N16K	Nishlik Lake	87.59 331	P	P	10 05 41.0	+0.5
	baz=100					
L17K	Donlin	87.66 332	P	P	10 05 41.8	+1.0
	baz=100					
C21K	Knifeblade Rid	87.74 340	P	P	10 05 41.8	+0.8
	baz=104					
K17K	Iditarod	87.77 333	P	P	10 05 41.7	+0.5
	baz=100					
B21K	Ikpikpuk River	87.79 340	P	P	10 05 41.7	+0.5
B21K	Ikpikpuk River	87.79 340	P	P	10 05 42.0	+0.8
	baz=104					
O15K	Ungalikthiuk R	87.90 329	P	P	10 05 41.9	0.0
	baz=99					
G19K	Purcell Mounta	87.92 337	P	P	10 05 42.6	+0.7
G19K	Purcell Mounta	87.92 337	P	P	10 05 41.9	0.0
	baz=102					
E20K	Nigu River	88.03 339	P	P	10 05 41.9	-0.6
	baz=102					
L16K	Owhat River	88.14 332	P	P	10 05 43.8	+0.8
	baz=99					
J17K	VABM Dome	88.24 334	P	P	10 05 43.9	+0.4
	baz=100					
E19K	Redstone River	88.25 338	IAmb	IAmb	10 05 44.6	
	comp=Z,5.8nm,0.9s					
E19K	Redstone River	88.25 338	P	P	10 05 43.7	+0.2
	baz=102					
H18K	Honhosa River	88.25 335	IAmb	IAmb	10 05 45.9	
	comp=Z,14nm,1.1s					
H18K	Honhosa River	88.25 335	P	P	10 05 43.8	+0.3
	baz=100					
D20K	Etivluk River	88.28 339	P	P	10 05 43.8	+0.2
	baz=102,SNR=8.3					
F19K	Shaleruckik Mo	88.33 337	IAmb	IAmb	10 05 45.1	
	comp=Z,8.8nm,1.1s					
F19K	Shaleruckik Mo	88.33 337	P	P	10 05 43.7	-0.1
	baz=101					
G18K	Tagagawik	88.50 336	P	P	10 05 44.6	-0.1
	baz=100					
M15K	Kasigluk River	88.56 331	P	P	10 05 44.4	-0.6
	baz=98					
S12K	Black Hills	88.61 326	P	P	10 05 44.7	-0.7
	baz=97					
O14K	Tigyukauivet M	88.64 329	P	P	10 05 44.6	-0.8
	baz=98					
D19K	Kuna River	88.78 339	IAmb	IAmb	10 05 47.7	
	comp=Z,9.4nm,0.9s					
D19K	Kuna River	88.78 339	P	P	10 05 46.4	+0.4
	baz=101					
A21K	Barrow	88.84 342	P	P	10 05 46.8	+0.7
	baz=102					
H17K	Granite Mounta	88.86 335	P	P	10 05 46.7	+0.3
	baz=99					
J16K	Anvik River	88.90 333	P	P	10 05 46.9	+0.3
	baz=98					
N14K	Kuskokwak Cree	88.94 330	P	P	10 05 47.6	+0.8
	baz=97					
F18K	Selawik	89.02 337	P	P	10 05 47.2	+0.2
	baz=99,SNR=10					
I17K	Unalakleet	89.03 334	P	P	10 05 47.5	+0.4
	baz=98					
L15K	Ungalak Mounta	89.08 332	P	P	10 05 47.9	+0.4
	baz=98					
K15K	Wolf Creek Mou	89.18 332	P	P	10 05 48.2	+0.3
	baz=98					
G17K	Kiwalik Mounta	89.25 336	P	P	10 05 48.5	+0.3
	baz=98					
E18K	Tukpahlearik C	89.52 338	P	P	10 05 49.8	+0.4
E18K			IAmb	IAmb	10 05 51.0	
	comp=Z,9.0nm,1.1s					
E18K	Tukpahlearik C	89.52 338	P	P	10 05 49.9	+0.5
	baz=98					
L14K	Kuka Creek	89.61 331	P	P	10 05 50.3	+0.4
	baz=96					
F17K	Baldwin Pennin	89.63 337	P	P	10 05 51.0	+1.2
F17K	Baldwin Pennin	89.63 337	P	P	10 05 50.1	+0.3
	baz=98					
H16K	Elim	89.80 335	P	P	10 05 51.1	+0.3
	baz=97					
M13K	Dall Lake	89.83 330	P	P	10 05 51.2	+0.3
	baz=96					
C18K	Utukok River	89.92 339	P	P	10 05 52.1	+0.8
	baz=98					
E17K	Hotham Inlet	89.94 337	P	P	10 05 52.0	+0.7
	baz=97					
G16K	Koyuk River	89.94 335	P	P	10 05 52.7	+1.3
G16K			IAmb	IAmb	10 05 53.6	
	comp=Z,10nm,1.1s					
G16K	Koyuk River	89.94 335	P	P	10 05 51.9	+0.6
	baz=97					
J14K	Nanvaranak Lak	90.17 333	P	P	10 05 53.1	+0.7
	baz=96					
B18K	Kokolik River	90.23 339	P	P	10 05 53.7	+1.0
	baz=97					
RDOG	Red Dog Mine	90.47 338	P	P	10 05 54.3	+0.4
	baz=96					
D17K	Noatak River	90.50 338	P	P	10 05 54.2	+0.2
	baz=96,SNR=5.0					
K13K	Kusilvak Mount	90.61 332	P	P	10 05 54.7	+0.1
	baz=95					
G15K	Niukluk	90.61 335	P	P	10 05 54.9	+0.4
	baz=95					
C17K	DeLong Mountai	90.62 338	P	P	10 05 54.4	-0.2
	baz=96					
F15K	North Star Dit	90.92 336	P	P	10 05 56.5	+0.5
	baz=95					
UNV	Unalaska Valle	91.00 324	P	P	10 05 57.5	+1.0
	baz=93					
ANM	Nome	91.14 334	P	P	10 05 57.7	+0.7
	baz=94					
M11K	Mekoryuk	91.24 330	P	P	10 05 58.2	+0.7
	baz=94					
C16K	Lisburne Hills	91.40 338	P	P	10 05 58.4	+0.3
	baz=94					
F14K	Arctic Creek	91.60 335	P	P	10 06 00.2	+1.0
	baz=93					
SPIA	Saint Paul Isl	93.24 327	P	P	10 06 07.2	+0.4
	baz=90					
VNDA	Vanda	93.34 191	LR	LR	10 38 44.3	
	comp=Z,67nm,20.1s,baz=62,slow=29					
HFS	Hagfors	93.67 30	LR	LR	10 44 59.7	
	comp=Z,20nm,19.0s,baz=274,slow=33					
SPITS	Spitsbergen Ar	93.84 12	LR	LR	10 51 10.7	
	comp=Z,12nm,19.5s,baz=254,slow=37					
GAMB	Gambell	93.89 334	P	P	10 06 10.5	+0.9
	baz=88					
SUR	Sutherland	96.49 123	LR	LR	10 45 55.5	
	comp=Z,32nm,18.7s,baz=232,slow=33					
SYO	Syowa Base	97.13 161	⇓ePcP	Pdif	10 06 26.0	+1.6
STHS	Stebnicka Huta	98.64 41	ePDIFF	Pdif	10 06 40.6	+8.9
KOLS	Kolonicke sedl	99.37 41	ePDIFF	Pdif	10 06 39.6	+4.7
BVAR	Borovoye Array	123.87 22	PKP	PKPdf	10 11 49.6	-0.4
	comp=Z,1.3nm,0.7s,baz=356,slow=4.3,SNR=5.5					
ZALV	Zalesovo Beam	127.32 12	PKP	PKPdf	10 11 56.2	-0.4
	comp=Z,3.6nm,0.7s,baz=329,slow=3.0,SNR=20					
ZALV			pPKP	pPKPdf	10 12 23.5	-1.0
	comp=Z,6.1nm,1.0s,baz=325,slow=2.3,SNR=5.4					
STKA	Stephens Creek	128.46 225	PKP	PKPdf	10 11 59.0	-0.5
	comp=Z,2.9nm,0.8s,baz=132,slow=9.4,SNR=3.6					
KURBB	Kurchatov Arra	128.68 18	PKP	PKPdf	10 11 59.2	-0.1
	comp=Z,3.2nm,0.7s,baz=322,slow=2.4,SNR=28					
KURBB			pPKP	pPKPdf	10 12 25.7	-1.7
	comp=Z,3.1nm,1.1s,baz=327,slow=2.6,SNR=5.6					
MJAR	Matsushiro Arr	132.27 319	PKP	PKiKP	10 12 07.7	0.0
	comp=Z,1.4nm,0.4s,baz=38,slow=6.3,SNR=8.8					
MKAR	Makanchi Array	133.23 18	PKP	PKPdf	10 12 07.8	-0.3
	comp=Z,0.7nm,0.6s,baz=320,slow=2.1,SNR=8.3					
MKAR			pPKP	pPKPdf	10 12 35.5	-0.8
	comp=Z,1.1nm,0.9s,baz=356,slow=1.6,SNR=5.1					
SONM	Songino Array	134.99 355	PKP	PKPdf	10 12 11.4	-0.2
	comp=Z,1.6nm,0.7s,baz=342,slow=1.2,SNR=12					
SONM			pPKP	pPKPdf	10 12 38.7	-0.9
	comp=Z,0.9nm,0.8s,baz=11,slow=1.5,SNR=3.9					
XLT	XiLinHaoTe	137.09 344	ePKP	PKPdf	10 12 15.3	-0.2
XLT			sPKP		10 12 53.2	
KSRS	Korea Array	137.79 328	PKP	PKPdf	10 12 17.1	+0.3
	comp=Z,2.3nm,0.8s,baz=11,slow=1.5,SNR=8.5					
KSRS			pPKP	pPKPdf	10 12 43.5	-1.3
	comp=Z,1.3nm,0.7s,baz=26,slow=1.8,SNR=3.7					
ASAR	Alice Springs	138.73 228	PKhKP	PKPpre	10 12 09.9	
	comp=Z,0.2nm,0.4s,baz=220,slow=39,SNR=2.7					
ASAR			PKP	PKPdf	10 12 18.6	-0.4
	comp=Z,1.4nm,0.7s,baz=112,slow=1.8,SNR=12					
WRA	Warramunga Arr	140.43 234	PKhKP	PKPpre	10 12 13.4	
	comp=Z,1.4nm,0.8s,baz=122,slow=3.2,SNR=9.1					
WRA			PKP	PKPdf	10 12 21.7	-0.5
	comp=Z,2.1nm,0.6s,baz=117,slow=1.9,SNR=12					
WRA			pPKP	pPKPdf	10 12 48.8	-1.4
	comp=Z,1.7nm,0.9s,baz=113,slow=2.4,SNR=3.2					
HHC	Hu-ho-hao-te	141.07 348	eP	PKPdf	10 12 22.4	-0.5
HHC			pmax	pmax		
	comp=Z,4.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,52nm,3.7s					
HNS	HongShan	143.50 342	ePKP	PKPbc	10 12 25.4	+0.8
GTA	Gaotai	143.61 2	PKP	PKPbc	10 12 24.6	-0.4
GTA			pPKP	pPKPdf	10 12 55.0	-0.5
GOMU	GeErMu	146.30 9	P	PKPbc	10 12 33.6	-0.2
GOMU			pP	PKiKP	10 12 39.8	+3.0
GOMU			sP	PKPab	10 12 43.7	+9.1
GOMU			PcP	pPKPdf	10 12 58.7	-1.8
GOMU			pmax	pmax		
	comp=Z,8.0nm,0.7s					
NJ2	Nanjing	146.61 332	eP	PKPbc	10 12 34.8	+0.5
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LZH	Lanzhou	146.87 356	ePKPbc	PKPbc	10 12 35.4	+0.3
LZH			sPKP		10 13 04.2	
XAN	Xi'an	148.19 348	PKPbc	PKPdf	10 12 35.8	+0.5
XAN			PKPab	PKPbc	10 12 38.4	-0.3
WHN	Wuhan	149.84 337	PKPbc	PKPbc	10 12 42.7	-0.1
CD2	Chengdu	152.02 355	PKPbc	PKPdf	10 12 41.6	+0.2
PZH	PanZhiHua	156.50 359	PKP	PKPdf	10 12 48.2	+0.3
CMAR	Chiang Mai Arr	164.34 8	PKP	PKPdf	10 12 56.0	-0.6
	comp=Z,1.7nm,0.7s,baz=330,slow=0.5,SNR=13					
CMAR			pPKP	pPKPdf	10 13 24.1	-0.6
	comp=Z,0.4nm,0.3s,baz=308,slow=2.0,SNR=2.2					
CMAR			PKPab	PKPab	10 13 50.2	-0.7
	comp=Z,0.7nm,0.3s,baz=331,slow=5.4,SNR=4.5					

*HEL **05** 09:59:43.7±0.2, 64°.67N×30°.72E, h0km, ML2.1, Suspected explosion*
*KOLA **05** 09:59:44.8, 64°.57N×30°.77E, h0km, ML2.1, Error ellipse: s-maj=29.8km s-min=12.5km az=110.0, Karelia*
*IDC **05** 09:59:48.8±2.0, 64°.58N×30°.28E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=25.9km s-min=9.5km az=107.0*

ISC 05 09:59:44.6±1.0, 64°.71N±0°.03×30°.44E±0°.05, h0km, n37, σ1.977/49, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.54	204	PG	Pg	09 59 54.3	-0.5
RMF				MSG		10 00 01.9	
	comp=Z,33nm,0.2s						
KU1	Kurvinen	0.94	337	PG	Pg	10 00 02.4	-0.1
	baz=146						
KU1				SN	Sn	10 00 19.2	+0.1
KU6	Riekki	1.34	350	PG	Pg	10 00 09.1	-1.2
	baz=165						
KU6				MSG		10 00 25.9	
	comp=Z,17nm,0.2s						
MSF	Maaselka	1.34	335	PG	Pg	10 00 09.4	-0.9
	baz=152						
MSF				SN	Sn	10 00 32.2	+3.1
KU2	Taivalkoski	1.37	318	PG	Pn	10 00 10.4	-0.5
	baz=136						
OLKF	Oulanka, Finla	1.68	346	PG	Pn	10 00 15.1	0.0
OLKF				MSG		10 00 35.8	
	comp=Z,13nm,0.2s						
NIF	Nilsia	1.76	222	PG	Pn	10 00 16.5	+0.3
	baz=39						
JOF	Joensuu	1.84	167	eP	Pn	10 00 16.7	-0.7
JOF	Joensuu	1.84	167	PG	Pn	10 00 15.4	-1.9
JOF				SN	Sn	10 00 41.2	-0.1
OUL	Oulu	1.97	283	PG	Pb	10 00 21.6	+0.3
RANF	Ranua	2.01	312	PG	Pn	10 00 21.4	+1.6
	baz=124						
RANF				SG	Sg	10 00 49.5	+0.3
KVDA	Kovda	2.23	26	P	Pn	10 00 23.4	+0.6
KVDA				S	Sn	10 00 51.7	+0.8
OBF4	Vikkela, Lumij	2.29	275	PG	Pb	10 00 26.5	-0.2
	baz=91						
OBF4				MSG		10 00 55.0	
	comp=Z,8.6nm,0.2s						
OUF	Merijarvi	2.49	265	PN	Pn	10 00 27.7	+1.4
	baz=78						
OUF				MSG		10 01 00.7	
	comp=Z,12nm,0.2s						
OUF				SG	Sb	10 01 03.7	+2.5
RNF	Rovaniemi	2.65	318	PN	Pn	10 00 29.5	+1.1
RNF				SG	Sg	10 01 10.4	+0.9
OBF0	Syolatti, Pyha	2.68	268	PB	Pn	10 00 31.0	+2.1
	baz=88						
OBF0				MSG		10 01 06.1	
	comp=Z,7.6nm,0.2s						
SUF	Sumiainen	2.76	226	PB	Pn	10 00 31.9	+1.9
SUF				MSG		10 01 06.9	
	comp=Z,3.8nm,0.2s						
TOF	Tornio	2.90	301	MSG		10 01 12.6	
	comp=Z,3.5nm,0.2s						
TOF				SG	Sg	10 01 17.7	-0.1
APA	Apatity	3.12	21	P	Pn	10 00 36.8	+1.9
APA				S	Sn	10 01 13.3	+0.6
KAF	Kangasniemi	3.20	217	PB	Pn	10 00 38.5	+2.4
RUF	Ruokolahti	3.37	192	PB	Pn	10 00 39.3	+1.0
	baz=15						
KEF	Keuruu	3.57	227	eP	Pn	10 00 42.9	+1.7
KEF	Keuruu	3.57	227	PN	Pn	10 00 43.2	+2.0
	baz=39						
LVZ	Lovozero	3.63	26	S	Sn	10 01 26.1	+0.7
VAF	Ylistaro	3.82	248	eP	Pn	10 00 45.6	+1.1
VAF	Ylistaro	3.82	248	PN	Pn	10 00 46.7	+2.2
FINES	FINESS Array B	3.83	213	Pn	Pn	10 00 46.8	+2.2
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=5.1						
FINES				Lg	Lg	10 01 43.5	
	comp=Z,1.2nm,0.3s,baz=33,slow=29,SNR=6.9						
	comp=Z,2.1nm,0.9s						
BURU	Burvik	3.90	272	PN	Pn	10 00 46.3	+0.7
UMAU	Umeaa	4.33	263	PN	Pn	10 00 51.6	0.0
TERR	Teriberka	4.87	20	S	Sn	10 01 55.5	-0.5
PRVG	Vayda Guba	5.11	7	P	Pn	10 01 02.9	+0.7
PRVG				S	Sn	10 02 02.6	+0.9
ARCES	ARCESS Array B	5.21	341	Pn	Pn	10 01 06.9	+3.2
	comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=8.8						
ARCES				Sn	Sn	10 02 05.8	+1.4
	comp=Z,0.1nm,0.3s,baz=151,slow=23,SNR=1.9						
ARCES				Lg	Lg	10 02 27.9	
	comp=Z,0.3nm,0.3s,baz=147,slow=33,SNR=2.6						
	comp=Z,0.6nm,0.2s						
MEF	Metsahovi	5.31	215	eP	Pn	10 01 07.1	+2.1
RAF	Rauma	5.42	231	eP	Pn	10 01 08.4	+1.9
VADS	Vadso	5.45	356	P	Pn	10 01 05.6	-1.4
VADS				S	Sn	10 02 10.2	0.0
HFS	Hagfors	9.01	247	Pn	Pn	10 01 55.9	+0.2
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=0.9						
HFS				Sn	Sn	10 03 30.4	-7.3
	comp=Z,0.2nm,0.3s,baz=62,slow=28,SNR=2.2						
HFS				Lg	Lg	10 04 23.6	
	comp=Z,0.1nm,0.3s,baz=62,slow=28,SNR=1.2						
	comp=Z,1.3nm,0.8s						
NOA	NORSAR Array B	9.50	256	Pn	Pn	10 02 02.5	0.0
	baz=54,slow=12,SNR=4.0						
NOA				Lg	Lg	10 04 42.2	
	baz=47,slow=24,SNR=1.2						
	comp=Z,0.6nm,0.8s						

*BER **05** 09:59:53.9±1.3, 67°.60N×26°.93E, h0km, ML1.3, Suspected explosion*
*UPP **05** 09:59:54.3±0.9, 67°.68N×26°.62E, h0km, ML1.5*

HEL 05 09:59:52.7±0.1, 67°.71N×26°.95E, h0km, ML1.5, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	Raja-Jooseppi	0.92	33	PG	Pg	10 00 09.8	-0.5
RAJF				SB	Sg	10 00 22.8	+0.6
VRF	Varrio	1.01	87	PG	Pg	10 00 11.0	-1.1
VRF				MSG		10 00 23.8	
	comp=Z,3.1nm,0.2s						
VRF				SB	Sg	10 00 24.3	-1.0
RNF	Rovaniemi	1.17	199	PG	Pg	10 00 13.9	-1.2
KLF	Kolari	1.25	249	PG	Pg	10 00 15.0	-1.5
KLF				MSG		10 00 30.3	
	comp=Z,2.6nm,0.2s						
KLF				SN	Sn	10 00 36.0	+1.3
HEF	Hetta	1.42	301	eP	Pn	10 00 18.8	-0.9
HEF				eS	Sb	10 00 38.5	-0.1
HEF	Hetta	1.42	301	PG	Pn	10 00 18.7	-1.0
HEF				MSG		10 00 35.2	
	comp=Z,3.3nm,0.2s						
HEF				SN	Sb	10 00 38.7	+0.1
KMNF	Kaamanen	1.44	1	PN	Pn	10 00 18.9	-1.1
KMNF				SN	Sg	10 00 38.9	-0.1
PAJU	Pajala	1.64	247	P	Pn	10 00 22.1	-0.6
PAJU				S	Sn	10 00 43.5	-1.0
PAJU	Pajala	1.64	247	PG	Pn	10 00 22.2	-0.6
PAJU				SG	Sn	10 00 43.3	-1.2
OLKF	Oulanka, Finla	1.70	144	SB	Sn	10 00 43.0	-3.0
OLKF				MSG		10 00 43.5	
	comp=Z,7.8nm,0.2s						
KTK1	Kautokeino	1.90	315	eP	Pn	10 00 26.8	+0.5
KTK1				eS	Sn	10 00 51.5	+0.7
KTK1				IAML		10 00 55.8	
	comp=Z,3.8nm,0.8s						
KTK1	Kautokeino	1.90	315	PG	Pn	10 00 26.7	+0.4
KTK1				SG	Sb	10 00 51.9	-0.4
ARA0	ARCESS Array S	1.90	345	eP	Pn	10 00 26.7	+0.3
ARA0				eS	Sn	10 00 51.8	+0.7
ARA0				IAML		10 01 04.3	
	comp=Z,3.4nm,1.0s						
LANU	Lannavaara	1.90	282	P	Pn	10 00 26.8	+0.4
LANU				S	Sb	10 00 51.9	-0.6
LANU	Lannavaara	1.90	282	PG	Pn	10 00 27.0	+0.6
LANU				SG	Sg	10 00 53.4	-0.4
MASU	Masugnsbyn	1.91	265	P	Pn	10 00 26.5	-0.1
MASU				S	Sn	10 00 51.4	+0.1
TOF	Tornio	1.94	213	PG	Pn	10 00 27.3	+0.5
	baz=33						
TOF				MSG		10 00 50.5	
	comp=Z,2.5nm,0.2s						
KEV	Kevo	2.05	1	eP	Pn	10 00 29.2	+0.8
KEV				eS	Sn	10 00 55.5	+0.8
KEV	Kevo	2.05	1	PG	Pn	10 00 29.2	+0.9
	baz=178						
KEV				MSG		10 00 53.6	
	comp=Z,2.6nm,0.2s						
KEV				SG	Sb	10 00 55.8	-0.9
KU6	Riekki	2.06	144	PG	Pb	10 00 29.8	-1.0
KU6				MSG		10 00 53.9	
	comp=Z,6.0nm,0.2s						
ERTU	Ertsjaerv	2.19	240	P	Pn	10 00 30.8	+0.5
ERTU				S	Sn	10 00 57.3	-0.8
ERTU	Ertsjaerv	2.19	240	PG	Pn	10 00 31.0	+0.7
ERTU				SG	Sn	10 00 58.7	+0.5
KALU	Kalix	2.34	219	P	Pn	10 00 33.4	+1.0
KALU	Kalix	2.34	219	PG	Pn	10 00 33.4	+1.1
KALU				SG	Sb	10 01 04.8	-0.3
KUA	Kurravaara	2.52	279	P	Pn	10 00 35.1	+0.3
DUNU	Dundret	2.53	259	P	Pn	10 00 34.6	-0.4
VADS	Vadso	2.57	19	eP	Pn	10 00 36.7	+1.2
VADS				IAML		10 01 12.2	
	comp=Z,6.0nm,0.5s						
KIF	Kilpisjarvi	2.62	302	eP	Pn	10 00 37.8	+1.6
KIF	Kilpisjarvi	2.62	302	PB	Pn	10 00 37.6	+1.4
KIF				MSG		10 01 10.4	
	comp=Z,1.2nm,0.2s						
RATU	Laukkuluspa	2.80	276	P	Pn	10 00 39.0	+0.3
HARU	Harads	2.82	239	P	Pn	10 00 38.5	-0.4
SJUU	Sjulsmark	3.07	226	P	Pn	10 00 41.9	-0.6
BURU	Burvik	3.87	218	PB	Pb	10 00 59.2	-2.5
BURU				SG	Sb	10 01 52.6	+3.5
UMAU	Umeaa	4.63	217	SB	Sb	10 02 05.4	-5.4

*SOME **05** 10:10:36.5, 43°.65N×69°.75E*
*NNC **05** 10:10:38.0±0.5, 43°.60N×69°.74E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=4.1km s-min=2.2km az=64.0, Suspected Mining explosion.*
*KRNET **05** 10:10:37.3±0.1, 43°.63N×69°.72E, mb2.8*

ISC 05 10:10:37.1±3.0, 43°.70N±0°.08×69°.9E±0°.2, h0km, n14, σ0.984/19, 12C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.73	144	⇓P	Pb	10 10 52.6	-0.1
	1.2nm,0.3s,baz=324,slow=18,SNR=124						
KK31				⇑S	Sb	10 11 03.0	-0.2
	28nm,0.5s,baz=309,slow=30,SNR=85						
KKAR	Karatay Array	0.73	144	⇑eP	Pb	10 10 52.4	-0.3
KKAR				⇑eS	Sb	10 11 03.4	+0.1
MNAS	Manas	2.24	122	⇑eP	Pb	10 11 19.1	+0.5
MNAS				⇑eS	Sg	10 11 49.5	+0.4
TRKS	Terek-Say	2.34	157	⇑eP	Pb	10 11 20.1	-0.2
TRKS				⇑eS	Sb	10 11 51.4	+1.6
ARK	Arkit	2.42	141	⇑eP	Pb	10 11 20.9	-0.7
ARK				⇑eS	Sb	10 11 52.7

DGS	**Degeres**	4.28	94	Pg	Pg	10 11 59.5	+0.4
	3.5nm,0.4s						
DGS				Lg	Lg	10 12 59.2	
	11nm,0.5s						
KST	**Kastek**	4.45	96	Pg	Pg	10 12 01.7	-0.7
	1.5nm,0.5s						
KST				Lg	Lg	10 13 03.0	
	11nm,1.2s						
KTBS	**Karatobe**	4.90	87	Pg	Pg	10 12 09.4	-1.5
	2.4nm,0.7s						
KTBS				Lg	Lg	10 13 16.2	
	14nm,0.7s						
TNSS	**Tian-Shan**	5.16	95	Pg	Pg	10 12 14.5	-1.5
	1.1nm,0.6s						
TNSS				Lg	Lg	10 13 24.9	
	6.6nm,0.5s						

*IDC **05** 10:24:34.6±1.7, 32°.56N×76°.26E, h0km, mb3.7/8, mbtmp3.7/11, ML3.6/3, MS3.1/2, Error ellipse: s-maj=48.0km s-min=19.4km az=65.0*
*NDI **05** 10:24:37.7±3.0, 32°.34N×76°.41E, h5km, ML3.6, MW3.5*
*NNC **05** 10:24:49.4±4.5, 33°.49N×75°.52E, h0km, mb4.1, Error ellipse: s-maj=51.5km s-min=34.0km az=120.0*
ISC 05 10:24:35.7±1.4, 32°.50N±0°.04×76°.46E±0°.04, h3km±10km, n31, σ2°.05/38, mb3.8/7, 2C-4D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.29**	**208**	*e*P	Pg	10 24 38.6	-2.7
DHRM				*e*S	**Sg**	**10 24 41.5**	**-3.5**
DHRM				IAML		10 24 42.8	
	15μm,0.3s						
DHRM				IAML		10 24 43.0	
	comp=E,23μm,0.2s						
TSSA	**Tissa**	**0.42**	**322**	*e*P	**Pb**	**10 24 45.7**	**-0.2**
TSSA				*e*S	**Sb**	**10 24 52.4**	**-0.5**
THN	**Thein Dam**	**0.63**	**264**	*e*P	**Pg**	**10 24 47.8**	**-0.1**
THN				*e*S	**Sb**	**10 24 56.4**	**-2.2**
THN				IAML		10 24 59.2	
	comp=E,2μm,0.5s						
TLWR	**Talawar**	**0.69**	**218**	*e*P	**Pg**	**10 24 48.8**	**-0.2**
BHK	**Bhakra**	**1.08**	**182**	*e*P	**Pg**	**10 24 56.7**	**+0.2**
BHK				*e*S	**Sg**	**10 25 11.7**	**+1.2**
JMU	**Jammu**	**1.33**	**280**	*e*P	**Pn**	**10 25 04.3**	**+3.1**
JMU				*e*S	**Sn**	**10 25 25.0**	**+5.5**
JMU				IAML		10 25 34.4	
	comp=E,456nm,0.6s						
JMU				IAML		10 25 34.8	
	comp=N,759nm,0.8s						
SMLA	**Simla**	**1.50**	**156**	*e*P	Pn	10 25 02.4	-1.0
SMLA				*e*S	**Sn**	**10 25 23.8**	**+0.3**
SMLA				IAML		10 25 24.8	
	comp=N,962nm,0.2s						
SMLA				IAML		10 25 24.9	
	comp=E,2μm,0.6s						
KLP	**Kalpa**	**1.80**	**122**	*e*P	**Pn**	**10 25 09.2**	**+1.3**
KLP				*e*S	**Sn**	**10 25 32.7**	**+1.3**
KLP				IAML		10 25 36.8	
	comp=E,878nm,0.6s						
KLP				IAML		10 25 40.9	
	comp=E,1μm,0.9s						
SRNI	**Srinagar**	**2.09**	**320**	*e*S	**Sg**	**10 25 43.9**	**+1.1**
SRNI				IAML		10 25 53.7	
	comp=E,2μm,0.5s						
SRNI				IAML		10 25 57.3	
	comp=N,1μm,0.6s						
HNLY	**HANLEY**	**2.14**	**82**	*e*P	**Pn**	**10 25 15.8**	**+3.1**
HNLY				*e*S	**Sn**	**10 25 42.5**	**+2.5**
HNLY				IAML		10 25 47.3	
	comp=N,208nm,0.2s						
HNLY				IAML		10 25 49.1	
	comp=E,167nm,0.3s						
DDI	**Dehra Dun**	**2.57**	**147**	*e*P	**Pn**	**10 25 21.2**	**+3.0**
DDI				*e*S	**Sn**	**10 25 50.2**	**+0.3**
DDI				IAML		10 25 59.1	
	comp=E,315nm,0.3s						
DDI				IAML		10 25 59.5	
	comp=E,363nm,0.4s						
JOSI	**Joshimath**	**3.28**	**125**	*e*P	**Pn**	**10 25 30.8**	**+2.6**
JOSI				*ex*	x	10 26 11.0	
JOSI				IAML		10 26 20.2	
	comp=N,205nm,0.7s						
JOSI				IAML		10 26 24.3	
	comp=E,183nm,0.8s						
KUDL	**Kundal**	**4.34**	**180**	*e*S	Sn	10 26 28.2	-5.5
KSH	**Kashi**	**7.01**	**357**	P	**Pn**	**10 26 19.7**	**+0.4**
KSH				pmax	pmax		
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**10.24**	**352**	Pn	**Pn**	**10 27 05.0**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=192,slow=2.8,SNR=6.0						
AAK				Sn	**Sn**	**10 28 56.3**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=177,slow=21,SNR=1.5						
AAK				LR	LR	10 31 29.8	
	comp=Z,51nm,18.5s,baz=186,slow=41						
	comp=Z,1.7nm,0.4s						
TKM2	**Tokmak 2**	**10.42**	**356**	⇑P	**Pn**	**10 27 08.4**	**+2.2**
	comp=Z,4.2nm,1.0s						
TKM2				⇓S	Sn	10 28 54.6	-9.0
	comp=Z,2.7nm,1.1s						
PDGK	**Podgornoye**	**11.07**	**12**	⇑P	**Pn**	**10 27 17.1**	**+2.1**
	comp=Z,13nm,0.7s						
PDGK				⇓S	**Sn**	**10 29 16.1**	**-3.2**
	comp=Z,10nm,0.9s						
KK31	**Karatay Array**	**11.58**	**338**	⇓P	**Pn**	**10 27 21.1**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=142,slow=11,SNR=20						
KK31				⇓S	Sn	10 29 16.8	-15
	comp=Z,6.2nm,0.7s,baz=166,slow=24,SNR=9.4						
MKAR	**Makanchi Array**	**14.96**	**16**	Pn	**Pn**	**10 28 06.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=196,slow=13,SNR=12						
MKAR				Sn	Sn	10 30 43.1	-11
	comp=Z,0.3nm,0.3s,baz=198,slow=23,SNR=6.0						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**18.17**	**4**	P	**Pn**	**10 28 46.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=196,slow=11,SNR=9.5						
	comp=Z,1.0nm,0.6s						
GTA	**Gaotai**	**20.09**	**63**	*e*P	**P**	**10 29 10.6**	**+0.1**
GTA				sP	Pn	10 29 27.4	+15
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AB31	**Akbulak array**	**20.81**	**328**	P	**P**	**10 29 17.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=145,slow=11,SNR=16						
BVAR	**Borovoye Array**	**20.98**	**350**	P	**P**	**10 29 18.7**	**-1.2**
	comp=Z,4.2nm,0.7s,baz=163,slow=10,SNR=19						
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**22.25**	**13**	P	**P**	**10 29 31.9**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=217,slow=12,SNR=7.9						
	comp=Z,1.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**24.58**	**119**	P	**P**	**10 29 58.6**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=307,slow=7.9,SNR=7.9						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**27.31**	**47**	P	**P**	**10 30 22.2**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=254,slow=9.7,SNR=3.0						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**43.29**	**327**	P	**P**	**10 32 36.8**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=194,slow=31,SNR=1.6						
	comp=Z,1.9nm,0.9s						
MA2	**Magadan**	**54.78**	**37**	LR	LR	10 57 18.8	
	comp=Z,38nm,20.5s,baz=88,slow=36						
ILAR	**Eielson Array**	**77.30**	**18**	P	**P**	**10 36 30.1**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=321,slow=5.6,SNR=4.5						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**78.26**	**128**	P	**P**	**10 36 37.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=317,slow=6.6,SNR=1.5						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**84.92**	**5**	P	**P**	**10 37 10.5**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=341,slow=4.5,SNR=6.1						
	comp=Z,0.4nm,0.6s						

*NEIC **05** 10:32:47.5±1.4, 52°.2N±0°.1×178°.4W±0°.1, h260km±6km, mb4.1/52, ML3.3(AEIC), Error ellipse: s-maj=18.1km s-min=10.2km az=188.0*
*AEIC **05** 10:32:47.2±2.2, 52°.3N±0°.2×178°.4W±0°.1, h262km±6km, Error ellipse: s-maj=23.0km s-min=10.2km az=185.0*
*IDC **05** 10:32:47.5±1.7, 52°.56N×178°.40W, h230km±18km, mb3.2/9, mbtmp3.8/12, Error ellipse: s-maj=22.2km s-min=13.7km az=174.0*
ISC 05 10:32:46.6±0.8, 52°.1N±0°.1×178°.40W±0°.05, h261km±6km, n96, σ0°.92/91, mb4.0/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANO	**Tanaga North**	**0.22**	**128**		**Pn**	**10 33 20.5**	**+0.3**
TAFP	**Tanaga Falls P**	**0.30**	**120**		**Pn**	**10 33 20.3**	**0.0**
TAFP					**S**	**10 33 46.5**	**-0.3**
TASE	**Tanaga Southea**	**0.31**	**134**		**Pn**	**10 33 20.7**	**+0.3**
TASE					**S**	**10 33 46.9**	**0.0**
GANO	**Gareloi North**	**0.34**	**227**		**Pn**	**10 33 20.3**	**-0.1**
GALAA	**Gareloi Lava P**	**0.37**	**218**		**Pn**	**10 33 21.1**	**+0.7**
GASW	**Gareloi Southw**	**0.39**	**226**		**Pn**	**10 33 21.2**	**+0.7**
GASW					**S**	**10 33 47.2**	**+0.1**
KICM	**Kanaga Island**	**0.76**	**100**		**Pn**	**10 33 22.0**	**+0.4**
KIKV	**Kanaga Island**	**0.78**	**102**		**Pn**	**10 33 22.1**	**+0.4**
KINC	**Kanaga Island**	**0.80**	**98**		**Pn**	**10 33 21.9**	**+0.2**
KIWB	**Kanaga Island**	**0.80**	**104**	Pn	**Pn**	**10 33 21.7**	**-0.1**
KIRH	**Kanaga Island**	**0.82**	**100**		**Pn**	**10 33 22.3**	**+0.4**
ADK	**Adak**	**1.08**	**98**	Pn	**Pn**	**10 33 23.0**	**-0.2**
GSCK	**Great Sitkin C**	**1.39**	**91**		**Pn**	**10 33 25.4**	**+0.3**
GSCK					**S**	**10 33 55.0**	**-0.5**
GSTR	**Great Sitkin T**	**1.45**	**87**	Pn	**Pn**	**10 33 25.4**	**-0.2**
ATKA	**Atka Island**	**2.60**	**85**	Pn	**Pn**	**10 33 34.9**	**-0.6**
ATKA	**Atka Island**	**2.60**	**85**		**S**	**10 34 11.3**	**-3.0**
SHEM	**Shemya Is, Ala**	**4.64**	**281**	P	**Pn**	**10 33 57.8**	**-0.5**
	22nm,0.9s,baz=270,slow=20,SNR=0.9						
SHEM				S	**S**	**10 34 53.0**	**-2.6**
	27nm,0.7s,baz=265,slow=12,SNR=6.4						
OKCE	**Okmok Cone E**	**6.37**	**73**		**Pn**	**10 34 18.7**	**-0.7**
P08K	**Saint George I**	**6.90**	**45**		**Pn**	**10 34 24.0**	**-1.9**
M13K	**Dall Lake**	**11.82**	**39**		**P**	**10 35 31.1**	**+0.8**
M14K	**Bethel**	**12.57**	**40**		**P**	**10 35 39.1**	**+0.5**
L14K	**Kuka Creek**	**12.66**	**37**		**P**	**10 35 39.7**	**+0.1**
N15K	**Kwethluk River**	**13.02**	**44**	P	**P**	**10 35 43.6**	**0.0**
K15K	**Wolf Creek Mou**	**13.70**	**35**	P	**P**	**10 35 51.4**	**+0.3**
M16K	**Timber Creek**	**13.94**	**42**	P	**P**	**10 35 54.4**	**+0.7**
L16K	**Owhat River**	**14.11**	**39**	P	**P**	**10 35 56.8**	**+1.1**
N17K	**Nushagak Hills**	**14.46**	**46**	P	**Pn**	**10 36 00.6**	**+0.9**
PETK	**Petropavlovsk-**	**14.55**	**284**	P	**P**	**10 36 02.6**	**+1.9**
	5.1nm,1.0s,baz=84,slow=16,SNR=7.9						
J16K	**Anvik River**	**14.68**	**33**	P	**P**	**10 36 01.8**	**-0.1**
M17K	**Holitna River**	**14.77**	**42**	P	**Pn**	**10 36 04.6**	**+1.4**
O18K	**Koktuh Hills**	**15.09**	**50**	P	**Pn**	**10 36 07.5**	**+0.2**
K17K	**Iditarod**	**15.14**	**37**	P	**P**	**10 36 07.2**	**+0.2**
K17K				IAmb	IAmb	10 36 09.0	
	comp=Z,12nm,1.3s						
F15K	**North Star Dit**	**15.37**	**22**	P	**P**	**10 36 09.8**	**+0.3**
F15K				IAmb	IAmb	10 36 36.1	
	comp=Z,8.7nm,1.5s						
N19K	**Bonanza Creek**	**15.79**	**47**	P	**Pn**	**10 36 15.8**	**+0.3**
KDAK	**Kodiak Island**	**15.86**	**59**	P	**P**	**10 36 14.1**	**-0.8**
	comp=Z,2.4nm,0.4s,baz=55,slow=4.3,SNR=16						
J18K	**Innoko River**	**16.16**	**37**	P	**P**	**10 36 18.3**	**+0.1**
H18K	**Honhosa River**	**16.66**	**30**	P	**P**	**10 36 24.2**	**+0.5**
H18K				IAmb	IAmb	10 36 25.5	
	comp=Z,4.3nm,0.7s						
G18K	**Tagagawik**	**17.09**	**28**	P	**P**	**10 36 27.7**	**-0.6**
STLK	**Strandline Lak**	**17.24**	**46**	P	**Pn**	**10 36 31.6**	**-0.9**
STLK				IAmb	IAmb	10 36 33.1	
	comp=Z,4.9nm,0.6s						
C16K	**Lisburne Hills**	**17.45**	**16**	P	**P**	**10 36 31.4**	**-0.8**
C16K				IAmb	IAmb	10 36 38.1	
	comp=Z,4.8nm,0.7s						
J20K	**Nowinta River**	**17.51**	**37**	P	**P**	**10 36 33.1**	**+0.3**
J20K				IAmb	IAmb	10 36 50.9	
	comp=Z,12nm,1.4s						
SKT	**Skwentna**	**17.55**	**45**	P	**Pn**	**10 36 35.2**	**-0.9**
BILL	**Bilibino**	**17.67**	**341**	P	**P**	**10 36 34.5**	**-0.1**
BILL				IAmb	IAmb	10 36 35.4	
	comp=Z,8.2nm,1.2s						
E18K	**Tukpahlearik C**	**17.71**	**23**	P	**P**	**10 36 34.9**	**-0.2**
E18K				IAmb	IAmb	10 36 36.7	
	comp=Z,6.2nm,1.1s						
G19K	**Purcell Mounta**	**17.72**	**29**	P	**P**	**10 36 35.4**	**+0.2**
G19K				IAmb	IAmb	10 36 37.6	
	comp=Z,9.5nm,1.5s						
F19K	**Shaleruckik Mo**	**18.00**	**27**	P	**P**	**10 36 37.7**	**-0.5**
F19K				IAmb	IAmb	10 36 39.2	
	comp=Z,6.2nm,1.1s						
KTH	**Kantishna Hill**	**18.45**	**41**	P	**P**	**10 36 44.3**	**+1.2**
C18K	**Utukok River**	**18.57**	**20**	P	**P**	**10 36 44.1**	**-0.2**
E19K	**Redstone River**	**18.60**	**26**	P	**P**	**10 36 44.7**	**+0.1**
E19K				IAmb	IAmb	10 36 45.8	
	comp=Z,9.5nm,1.2s						
F20K	**Avaraart Lake**	**18.74**	**28**	P	**P**	**10 36 46.0**	**-0.1**
H21K	**Melozitna Rive**	**18.80**	**34**	P	**P**	**10 36 47.4**	**+0.6**
H21K				IAmb	IAmb	10 36 51.9	
	comp=Z,12nm,1.3s						
G21K	**Allakaket**	**19.07**	**31**	P	**P**	**10 36 49.2**	**-0.5**
G21K				IAmb	IAmb	10 36 51.0	
	comp=Z,5.1nm,0.8s						
D19K	**Kuna River**	**19.14**	**23**	P	**P**	**10 36 49.9**	**-0.6**
KLU	**Klutina**	**19.94**	**49**	P	**P**	**10 37 00.6**	**+1.6**
KLU				IAmb	IAmb	10 37 06.6	
	comp=Z,6.9nm,1.3s						
G23K	**Bananza Creek**	**20.33**	**33**	P	**P**	**10 37 03.7**	**+0.6**
G23K				IAmb	IAmb	10 37 05.6	
	comp=Z,5.3nm,0.9s						
ILAR	**Eielson Array**	**20.57**	**40**	P	**P**	**10 37 03.5**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=245,slow=8.7,SNR=21						
	comp=Z,0.5nm,0.6s						
H24K	**Noodor Dome**	**20.64**	**36**	P	**P**	**10 37 07.0**	**+0.6**
H24K				IAmb	IAmb	10 37 09.1	
	comp=Z,5.5nm,0.8s						
D22K	**Ayikyak River**	**20.82**	**26**	P	**P**	**10 37 07.6**	**-0.6**
D22K				IAmb	IAmb	10 37 10.1	
	comp=Z,7.8nm,1.1s						
G24K	**Hadweenzic Riv**	**21.19**	**34**	P	**P**	**10 37 12.4**	**+0.6**
D23K	**Nanushuk River**	**21.43**	**27**	P	**P**	**10 37 13.7**	**-0.4**
F24K	**Squaw Lake**	**21.46**	**32**	P	**P**	**10 37 15.0**	**+0.6**
SCRK	**Sand Creek**	**21.47**	**43**	P	**P**	**10 37 13.7**	**-0.9**
TOLK	**Toolik Lake Re**	**21.56**	**29**	P	**P**	**10 37 14.6**	**-0.7**
J26L	**Joseph Creek**	**21.81**	**42**	P	**P**	**10 37 17.0**	**-0.7**
C23K	**Itkillik River**	**22.00**	**26**	P	**P**	**10 37 19.4**	**+0.2**
C23K				IAmb	IAmb	10 37 21.3	
	comp=Z,7.4nm,1.0s						
D24K	**Happy Valley**	**22.08**	**28**	IAmb	IAmb	10 37 21.4	
	comp=Z,4.7nm,0.8s						
L27K	**Beaver Creek,**	**22.16**	**46**	P	**P**	**10 37 22.2**	**+1.3**
L27K				IAmb	IAmb	10 37 23.4	
	comp=Z,3.6nm,0.6s						
E25K	**Arctic Village**	**22.53**	**32**	P	**P**	**10 37 24.5**	**+0.4**
E25K				IAmb	IAmb	10 37 26.6	
	comp=Z,3.4nm,0.7s						
D25K	**Kavik River**	**22.89**	**29**	P	**P**	**10 37 27.6**	**+0.2**
DAWY	**Dawson**	**23.45**	**44**	P	**P**	**10 37 35.1**	**+2.6**
DAWY				IAmb	IAmb	10 37 38.3	
	comp=Z,11nm,1.5s						
I28M	**Miner Creek**	**23.56**	**41**	P	**P**	**10 37 33.9**	**+0.3**
I28M				IAmb	IAmb	10 37 36.6	
	comp=Z,4.3nm,0.7s						
L29M	**L29M**	**23.83**	**47**	P	**P**	**10 37 36.5**	**+0.5**
L29M				IAmb	IAmb	10 37 37.1	
	comp=Z,8.4nm,1.4s						
K29M	**Barlow Dome**	**24.22**	**45**	P	**P**	**10 37 39.8**	**+0.2**
F28M	**Old Crow**	**24.27**	**35**	P	**P**	**10 37 40.1**	**+0.2**
F28M				IAmb	IAmb	10 37 44.2	
	comp=Z,6.0nm,0.8s						
J30M	**Hart River**	**24.86**	**43**	P	**P**	**10 37 45.9**	**+0.6**
WHY	**Whitehorse**	**25.17**	**53**	P	**P**	**10 37 48.9**	**+0.7**
WHY				IAmb	IAmb	10 37 59.7	
	comp=Z,10nm,1.5s						
A36M	**Sachs Harbour**	**30.38**	**29**	P	**P**	**10 38 33.7**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**34.24**	**205**	T	T	11 16 35.4	
	baz=13						
H11N3	**WAKE ISLAND Hy**	**34.26**	**205**	T	T	11 16 29.6	
	baz=13						
H11N1	**WAKE ISLAND Hy**	**34.26**	**205**	T	T	11 16 41.0	
	baz=13						
YKA	**Yellowknife Ar**	**34.59**	**47**	P	**P**	**10 39 11.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=280,slow=8.3,SNR=8.2						
	comp=Z,0.6nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**35.47**	**205**	T	T	11 17 31.2	
	baz=17						
H11S2	**WAKE ISLAND Hy**	**35.48**	**205**	T	T	11 17 32.3	
	baz=17						
H11S3	**WAKE ISLAND Hy**	**35.48**	**205**	T	T	11 17 31.1	
	baz=17						
NVAR	**Mina Array Bea**	**43.23**	**84**	P	P	10 40 26.1	+3.6
	comp=Z,0.7nm,0.7s,baz=287,slow=9.4,SNR=4.1						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**45.87**	**73**	P	**P**	**10 40 45.2**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=308,slow=2.7,SNR=9.8						
	comp=Z,0.7nm,0.6s						
SRU	**San Rafael Swe**	**47.54**	**78**	P	**P**	**10 40 56.7**	**+0.6**
HHC	**Hu-ho-hao-te**	**47.74**	**286**	*e*P	**P**	**10 40 55.1**	**-2.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
VTX	**Valle De La Tr**	**49.41**	**89**	P	**P**	**10 41 09.9**	**-0.4**
SPITS	**Spitsbergen Ar**	**49.72**	**356**	P	**P**	**10 41 12.4**	**+0.6**
	comp=Z,1.9nm,0.4s,baz=38,slow=7.3,SNR=11						
	comp=Z,1.9nm,0.4s						
ARCES	**ARCESS Array B**	**57.47**	**350**	P	**P**	**10 42 08.2**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=12,slow=7.4,SNR=5.1						
	comp=Z,3.5nm,1.0s						
TXAR	**Lajitas Array**	**58.31**	**82**	P	P	10 42 18.3	+3.8
	comp=Z,0.6nm,0.6s,baz=308,slow=5.3,SNR=14						
TXAR				PcP	pP	10 43 06.9	-4.7
	comp=Z,0.4nm,0.8s,baz=262,slow=1.7,SNR=3.7						
	comp=Z,0.6nm,0.6s						
BVAR	**Borovoye Array**	**60.53**	**320**	P	**P**	**10 42 29.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=57,slow=5.3,SNR=3.2						
	comp=Z,0.7nm,0.5s						
PZH	**PanZhiHua**	**63.48**	**280**	P	**P**	**10 42 47.4**	**-1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,7.0s						
ASAR	**Alice Springs**	**86.15**	**223**	P	P	10 45 03.8	+5.5
	comp=Z,0.2nm,0.8s,baz=28,slow=4.7,SNR=1.2						
	comp=Z,0.2nm,0.8s						
QSPA	**South Pole Qui**	**141.81**	**180**	PKP	**PKiKP**	**10 51 49.4**	**+0.8**
	comp=Z,2.0nm,1.1s,baz=45,slow=4.3,SNR=3.3						

*NEIC **05** 10:46:25.1±1.9, 19°.57N±0°.09×68°.27W±0°.02, h35km±2km, ML2.6/36, Md3.0/12(RSPR), Error ellipse: s-maj=15.0km s-min=3.1km az=8.0*
*RSPR **05** 10:46:26.9, 19°.42N×68°.27W, h97km±8km, MD3.0/12*
*SDD **05** 10:46:27.8±2.3, 19°.36N×68°.09W, h20km±129km, MD3.6, ML2.4, MW3.0*
*OSPL **05** 10:46:27.3±1.1, 19°.32N×68°.16W, h0km±11km, ML2.4, Hypocentre not reviewed by the ISC*
ISC 05 10:46:25.8±2.2, 19°.38N±0°.07×68°.13W±0°.03, h10km±15km, n52, σ0°.87/70, 18C-9D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.89**	**196**		**Pb**	**10 46 43.6**	**+0.2**
PCDR					**Sb**	**10 46 54.1**	**-1.2**
PCDR				IAML		10 47 02.6	
	comp=N,118nm,0.8s						
PCDR	**Punta Cana, DR**	**0.89**	**196**	*e*Pg	**Pb**	**10 46 42.3**	**-1.1**
PCDR				⇑*e*Sg	**Sb**	**10 46 54.0**	**-1.2**
PCDR				IAML		10 47 02.4	
	comp=N,110nm,0.8s						
PCDR	**Punta Cana, DR**	**0.89**	**196**	⇓*e*P	**Pb**	**10 46 43.6**	**+0.2**
PCDR	**Punta Cana, DR**	**0.89**	**196**	*i* P		10 46 42.1	
PCDR				*e*S		10 46 53.1	
PCDR				IAML		10 46 58.2	
	comp=Z,69nm,0.5s						
SMDR	**Samana, DR**	**1.00**	**265**	⇓*e*Pg	**Pb**	**10 46 45.8**	**+0.5**
SMDR				⇑*e*Sg	**Sn**	**10 47 01.3**	**+1.1**
SMDR				IAML		10 47 01.4	
	comp=N,56nm,0.6s						
DR12	**Loma Pena Alta**	**1.32**	**244**		**Pn**	**10 46 50.0**	**-0.3**
HATOM	**Hato Mayor del**	**1.32**	**244**	*e*Pg	**Pn**	**10 46 50.5**	**+0.2**
HATOM				⇑*e*Sg	**Sb**	**10 47 09.4**	**+1.7**
HATOM				IAML		10 47 09.5	
	comp=N,57nm,0.4s						
AGPR	**Aguadilla, PR**	**1.32**	**133**		**Pn**	**10 46 49.6**	**-0.7**
AGPR					**Sb**	**10 47 07.7**	**-0.1**
AGPR				IAML		10 47 09.5	
	comp=N,97nm,0.5s						
AGPR	**Aguadilla, PR**	**1.32**	**133**	⇑*e*Pg	**Pn**	**10 46 50.5**	**+0.1**
AGPR				⇑*e*Sg	**Sb**	**10 47 07.8**	**+0.1**
AGPR				IAML		10 47 12.3	
	comp=N,63nm,0.3s						
AGPR	**Aguadilla, PR**	**1.32**	**133**	⇑*e*P	**Pn**	**10 46 50.0**	**-0.3**
AGPR	**Aguadilla, PR**	**1.32**	**133**	*e*S	**Sg**	**10 47 08.6**	**+0.2**
AGPR	**Aguadilla, PR**	**1.32**	**133**	*i* P		10 46 50.1	
AGPR				*e*S		10 47 07.7	
AGPR				IAML		10 47 15.7	
	comp=Z,66nm,1.3s						
SADR	**Isla Saona**	**1.33**	**208**	⇑*e*Pg	**Pn**	**10 46 50.6**	**+0.2**
SADR				⇑*e*Sg	**Sb**	**10 47 09.0**	**+1.1**
SADR				IAML		10 47 14.2	
	comp=N,122nm,0.4s						
LSP	**Las Mesas**	**1.55**	**140**		**Pb**	**10 46 54.7**	**0.0**
LSP					**Sg**	**10 47 16.4**	**+0.6**
LSP	**Las Mesas**	**1.55**	**140**	⇑*e*P	**Pb**	**10 46 54.7**	**0.0**
LSP	**Las Mesas**	**1.55**	**140**	*e*S	**Sg**	**10 47 16.4**	**+0.6**
AOPR	**Arecibo Observ**	**1.66**	**128**		**Pn**	**10 46 53.8**	**-1.2**
AOPR					**Sb**	**10 47 17.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.66**	**128**	⇓*e*P	**Pn**	**10 46 55.5**	**+0.5**
AOPR	**Arecibo Observ**	**1.66**	**128**	*e*S	**Sb**	**10 47 18.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.67**	**144**		**Pn**	**10 46 54.9**	**-0.2**
CRPR					**Sb**	**10 47 17.0**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.67**	**144**	⇑*e*Pg	**Pn**	**10 46 56.1**	**+1.0**
CRPR				⇓*e*Sg	**Sb**	**10 47 18.4**	**+0.6**
CRPR				IAML		10 47 27.0	
	comp=N,34nm,1.0s						
CRPR	**Cabo Roj

comp=N,17nm,0.5s
PDPR Patillas Dam, 2.41 124 *eP* **Pn 10 47 06.5 +1.2**
PDPR Patillas Dam, 2.41 124 *eS* **Sb 10 47 38.1 -1.1**
HUMP Col San Antoni 2.49 119 Pn **Pn 10 47 05.8 -0.6**
HUMP IAML 10 47 48.7
comp=E,23nm,0.2s
HUMP IAML 10 47 51.5
comp=N,16nm,0.2s
SDDR Presa de Saban 3.01 263 Pn Pn 10 47 08.8 -4.8
SDDR IAML 10 48 06.5
comp=N,14nm,1.1s
SDDR IAML 10 48 13.4
comp=N,15nm,0.9s

*IDC **05** 10:49:47.9±1.7, 30°.41N×41°.70W, h0km, mb3.5/6, mbtmp3.5/6, MS3.4/14, Error ellipse: s-maj=62.8km s-min=24.9km az=9.0*
ISC 05 10:49:49.3±1.5, 30°.4N±0°.4×41°.7W±0°.2, h10km, n24, σ1§31/6, mb3.6/6, MS3.2/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**27.92**	**118**	LR	LR	11 04 08.6	
	comp=Z,63nm,21.6s,baz=139,slow=31						
SCHQ	**Schefferville**	**30.34**	**331**	LR	LR	11 08 24.0	
	comp=Z,59nm,18.3s,baz=358,slow=37						
SADO	**Sadowa**	**32.66**	**307**	LR	LR	11 07 48.6	
	comp=Z,46nm,21.2s,baz=246,slow=33						
SDV	**Santo Domingo**	**34.45**	**238**	LR	LR	11 11 09.7	
	comp=Z,27nm,18.4s,baz=259,slow=37						
TKL	**Tuckaleechee C**	**35.47**	**290**	LR	LR	11 09 12.2	
	comp=Z,29nm,20.9s,baz=45,slow=33						
TORD	**Torodi Ar. Bea**	**43.50**	**104**	**P**	**P**	**10 57 52.6**	**-0.5**
	0.5nm,0.5s,baz=309,slow=8.9,SNR=3.6						
	0.5nm,0.5s						
JTS	**Las Juntas de**	**44.86**	**253**	LR	LR	11 16 17.4	
	comp=Z,27nm,18.1s,baz=78,slow=35						
H10N2	**ASCENSION HYDR**	**46.10**	**141**	T	T	11 47 02.8	
	baz=327,slow=75,SNR=244						
H10N3	**ASCENSION HYDR**	**46.10**	**141**	T	T	11 47 05.0	
	baz=327,slow=75,SNR=208						
H10N1	**ASCENSION HYDR**	**46.12**	**141**	T	T	11 47 04.3	
	baz=327,slow=75,SNR=260						
NOA	**NORSAR Array B**	**46.13**	**33**	LR	LR	11 14 05.0	
	comp=Z,19nm,18.9s,baz=275,slow=32						
H10S3	**ASCENSION HYDR**	**46.94**	**142**	T	T	11 48 06.4	
	baz=326,slow=74,SNR=292						
H10S2	**ASCENSION HYDR**	**46.95**	**142**	T	T	11 48 07.1	
	baz=254,slow=74,SNR=276						
CMIG	**Matias Romero**	**50.04**	**267**	LR	LR	11 20 02.6	
	comp=Z,22nm,18.3s,baz=36,slow=36						
TXAR	**Lajitas Array**	**53.14**	**286**	P	**P**	**10 59 08.8**	**+1.2**
	0.2nm,0.8s,baz=78,slow=8.1,SNR=5.5						
	0.2nm,0.8s						
ANMO	**Albuquerque**	**53.87**	**293**	LR	LR	11 19 46.6	
	comp=Z,39nm,20.3s,baz=220,slow=33						
PDAR	**Pinedale Array**	**54.53**	**303**	P	**P**	**10 59 16.6**	**-1.3**
	0.5nm,0.6s,baz=83,slow=7.2,SNR=6.2						
PDAR				LR	LR	11 20 58.4	
	comp=Z,34nm,20.7s,baz=52,slow=34						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**55.40**	**47**	P	**P**	**10 59 23.5**	**-0.1**
	0.9nm,0.6s,baz=281,slow=6.5,SNR=6.1						
	0.9nm,0.6s						
YKA	**Yellowknife Ar**	**55.70**	**328**	P	**P**	**10 59 25.1**	**-0.5**
	0.3nm,0.9s,baz=90,slow=8.0,SNR=3.9						
	0.3nm,0.9s						
ELK	**Elko**	**59.12**	**302**	LR	LR	11 25 12.6	
	comp=Z,76nm,19.8s,baz=333,slow=36						
NVAR	**Mina Array Bea**	**62.05**	**300**	LR	LR	11 25 20.9	
	comp=Z,38nm,19.9s,baz=316,slow=34						
BBB	**Bella Bella**	**64.55**	**317**	LR	LR	11 28 39.0	
	comp=Z,48nm,18.4s,baz=23,slow=36						
KDAK	**Kodiak Island**	**74.94**	**329**	LR	LR	11 33 19.2	
	comp=Z,38nm,19.1s,baz=308,slow=35						
KURBB	**Kurchatov Arra**	**83.65**	**34**	P	**P**	**11 02 19.3**	**+1.3**
	0.4nm,0.8s,baz=327,slow=6.3,SNR=4.8						
	0.4nm,0.8s						

*BER **05** 10:50:22.9±1.9, 81°.15N×3°.49W, h10km, mb(Pn)3.3, ML1.7(DNK), Confirmed Earthquake*
*DNK **05** 10:50:24.5±3.2, 81°.16N×2°.99W, h36km±25km, ML1.7*
*FCIAR **05** 10:50:26.0, 80°.91N×2°.01W, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*
ISC 05 10:50:18.3±0.9, 81°.09N±0°.06×3°.62W±0°.04, h10km, n20, σ3§21/37, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.04**	**291**	*i* P	**Pb**	**10 50 56.2**	**+0.9**
NOR				*e*S	**Sn**	**10 51 18.4**	**+0.4**
NOR				IAML		10 51 26.8	
	comp=Z,8.5nm,0.3s						
NOR	**Nord**	**2.04**	**291**	*i* P	**Pb**	**10 50 56.2**	**+0.9**
NOR				*e*S	**Sn**	**10 51 18.4**	**+0.4**
NOR				IAML		10 51 26.8	
	comp=Z,8.5nm,0.3s						
KBS	**Kingsbay**	**3.46**	**121**	*e*P	**Pn**	**10 51 14.6**	**+2.5**
KBS				*e*S	**Sn**	**10 51 51.0**	**-2.1**
KBS				IAML		10 51 56.6	
	comp=Z,10nm,0.3s						
KBS	**Kingsbay**	**3.46**	**121**	*e*P	**Pn**	**10 51 14.4**	**+2.3**
KBS				*e*S	**Sn**	**10 51 50.5**	**-2.6**
KBS	**Kingsbay**	**3.46**	**121**	*e*P	**Pn**	**10 51 14.4**	**+2.3**
KBS				*i* S	**Sn**	**10 51 50.5**	**-2.6**
BRBB	**Barentsburg B**	**4.39**	**124**	*e*P	**Pn**	**10 51 28.4**	**+3.6**
BRBB				*e*S	**Sn**	**10 52 15.2**	**-0.7**
BRBA	**Barentsburg A**	**4.42**	**124**	*e*P	**Pn**	**10 51 29.5**	**+4.3**
BRBA				*e*S	**Sn**	**10 52 16.7**	**0.0**
BRBA				IAML		10 52 23.9	
	comp=Z,7.6nm,1.0s						
SPA0	**Spitsbergen Ar**	**4.62**	**119**	*e*P	**Pn**	**10 51 31.0**	**+3.0**
SPA0				*e*S	**Sn**	**10 52 20.8**	**-0.7**
SPA0				IAML		10 52 37.8	
	comp=Z,3.7nm,0.8s						
SPA0	**Spitsbergen Ar**	**4.62**	**119**	*e*P	**Pn**	**10 51 31.0**	**+3.0**
SPA0				*e*S	**Sn**	**10 52 19.1**	**-2.4**
DAG	**Danmarks Havn**	**5.19**	**221**	*i* P	**Pn**	**10 51 39.0**	**+3.2**
DAG				*e*S	**Sn**	**10 52 32.5**	**-3.2**
DAG				IAML		10 52 48.6	
	comp=Z,5.1nm,0.2s						
DAG	**Danmarks Havn**	**5.19**	**221**	*i* P	**Pn**	**10 51 39.0**	**+3.2**
DAG				*i* P	**Pn**	**10 51 39.2**	**+3.4**
DAG				*e*S	**Sn**	**10 52 32.5**	**-3.2**
DAG				IAML		10 52 48.6	
	comp=Z,5.1nm,0.2s						
HSPB	**Hornsund (broa**	**5.46**	**129**	*e*P	**Pn**	**10 51 43.2**	**+3.8**
DBG	**Daneborg**	**7.63**	**216**	*i* P	**Pn**	**10 52 12.0**	**+2.7**
DBG				*i* S	**Sn**	**10 53 32.5**	**-3.0**
DBG				IAML		10 53 40.4	
	comp=Z,1.0nm,0.2s						
DBG	**Daneborg**	**7.63**	**216**	*i* P	**Pn**	**10 52 12.0**	**+2.7**
DBG				*i* S	**Sn**	**10 53 32.5**	**-3.0**
DBG				IAML		10 53 40.4	
	comp=Z,1.0nm,0.2s						
ZFI2	**Zemlya Franca-**	**7.86**	**67**	*e*P	**Pn**	**10 52 14.5**	**+2.2**
ZFI2				S	**Sn**	**10 53 34.6**	**-6.6**
	comp=Z,13nm,3.0s						
OMEGA	**Omega**	**7.88**	**67**	*e*P	**Pn**	**10 52 15.0**	**+2.3**
OMEGA				*e*S	Sn	10 53 34.9	-6.9
	comp=Z,12nm,1.5s						
NEEM	**North Greenlan**	**9.28**	**272**	*e*P	**Pn**	**10 52 33.8**	**+1.7**
NEEM				*e*S	**Sn**	**10 54 09.8**	**-6.7**
NEEM				IAML		10 54 17.5	
	comp=Z,2.0nm,0.2s						
NEEM	**North Greenlan**	**9.28**	**272**	*e*P	**Pn**	**10 52 33.8**	**+1.7**
NEEM				*e*S	**Sn**	**10 54 09.8**	**-6.7**
NEEM				IAML		10 54 17.5	
	comp=Z,2.0nm,0.2s						
SUMG	**Summit**	**11.35**	**241**	*i* P	**Pn**	**10 53 02.7**	**+2.2**
SUMG				*e*S	Sn	10 54 57.8	-10
SUMG				IAML		10 55 15.2	
	comp=Z,0.9nm,0.2s						
SUMG	**Summit**	**11.35**	**241**	*i* P	**Pn**	**10 53 02.7**	**+2.2**
SUMG				*e*S	Sn	10 54 57.8	-10
SUMG				IAML		10 55 15.2	
	comp=Z,0.9nm,0.2s						

IDC 05 10:53:12.4±1.3, 12°.79S×45°.59E, h0km, mb3.5/3, mbtmp3.5/3, MS3.3/3, Error ellipse: s-maj=58.7km s-min=34.6km az=138.0, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**22.45**	**234**	LR	LR	11 07 05.5	
	comp=Z,48nm,18.3s,baz=68,slow=37						
BOSA	**Boshof**	**24.62**	**227**	P	P	10 58 34.6	-0.2
	0.7nm,0.3s,baz=55,slow=9.4,SNR=5.1						
	0.7nm,0.3s						
GNI	**Garni**	**52.67**	**359**	LR	LR	11 26 02.7	
	comp=Z,16nm,18.4s,baz=300,slow=37						
PSI	**Prapat**	**55.17**	**77**	LR	LR	11 24 48.7	
	comp=Z,67nm,18.5s,baz=158,slow=34						
MKAR	**Makanchi Array**	**67.82**	**26**	P	P	11 04 12.0	-0.3
	0.2nm,0.8s,baz=205,slow=5.7,SNR=2.4						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**83.45**	**113**	P	P	11 05 42.6	+0.1
	0.3nm,0.7s,baz=258,slow=5.2,SNR=6.9						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**147.06**	**305**	PKPbc	PKPbc	11 12 57.8	-0.3
	0.2nm,0.9s,baz=63,slow=2.6,SNR=2.1						

*IDC **05** 11:05:19.8±1.1, 37°.07N×30°.97E, h113km±12km, mb3.5/6, mbtmp3.8/11, Error ellipse: s-maj=16.8km s-min=11.1km az=135.0*
*GII **05** 11:05:20.8±0.0, 37°.040N±0°.004×31°.158E±0°.001, h100km, Mws3.0, confirmed*
*NIC **05** 11:05:20.1, 37°.31N×31°.54E, h12km±4km, Ml3.1/3*
*AFAD **05** 11:05:22.6, 37°.11N×31°.12E, h45km±3km, ML2.8*
*ISK **05** 11:05:22.5, 37°.23N×31°.19E, h103km±1km, ML2.9/27*
ISC 05 11:05:21.2±0.7, 37°.15N±0°.03×31°.20E±0°.02, h120km±5km, n102, σ1§66/147, mb3.9/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.40**	**154**	Pg	**Pn**	**11 05 38.9**	**+0.4**
MNVG				Sg	**Sn**	**11 05 51.8**	**+0.3**
ANTB	**Antalya**	**0.50**	**240**	Pg	**Pn**	**11 05 39.4**	**+0.3**
ANTB				Sg	**Sn**	**11 05 51.9**	**-0.6**
SEDI	**Konya, Seydise**	**0.54**	**56**	P	**Pn**	**11 05 39.7**	**+0.3**
SEDI				S	**Sn**	**11 05 53.0**	**-0.3**
SEDI				*i* AML	AML	11 05 54.0	
	comp=N,409nm,0.5s						
SEDI				*i* AML	AML	11 05 54.0	
	comp=E,422nm,0.6s						
BUCA	**Burdur, Bucak-**	**0.54**	**290**	P	**Pn**	**11 05 39.4**	**0.0**
BUCA				S	**Sn**	**11 05 52.7**	**-0.5**
BUCA				*i* AML	AML	11 05 54.0	
	comp=N,289nm,0.8s						
BUCA				*i* AML	AML	11 05 55.0	
	comp=E,331nm,0.4s						
SEYD	**Seydisehir-KON**	**0.57**	**63**	Pg	**Pn**	**11 05 39.7**	**0.0**
BCK	**Bucak**	**0.58**	**303**	Pg	**Pn**	**11 05 39.4**	**-0.3**
BCK				Sg	**Sn**	**11 05 51.4**	**-2.2**
KORT	**Korkueli**	**0.69**	**258**	Pg	**Pn**	**11 05 41.1**	**+0.5**
KORT	**Korkueli**	**0.69**	**258**	P	**Pn**	**11 05 40.8**	**+0.2**
KORT				S	**Sn**	**11 05 54.7**	**-0.5**
KORT				*i* AML	AML	11 06 00.0	
	comp=E,248nm,0.5s						
KEMT	**Kemer-ANTALYA**	**0.75**	**224**	Pg	**Pn**	**11 05 41.8**	**+0.9**
ISP	**Isparta**	**0.86**	**322**	Pg	**Pn**	**11 05 41.7**	**-0.3**
ISP	**Isparta**	**0.86**	**322**	P	**Pn**	**11 05 40.4**	**-1.5**
ISP				S	**Sn**	**11 05 55.7**	**-2.0**
ALAN	**Alanya-ANTALYA**	**0.89**	**131**	Pg	**Pn**	**11 05 42.4**	**+0.2**
DOGA	**KONYA_Doganhis**	**1.03**	**21**	P	**Pn**	**11 05 44.0**	**+0.4**
DOGA				S	**Sn**	**11 05 59.8**	**-0.8**
DOGA				*i* AML	AML	11 06 01.0	
	comp=N,290nm,0.4s						
DOGA				*i* AML	AML	11 06 01.0	
	comp=E,251nm,0.6s						
HDMB	**Hadim**	**1.05**	**100**	Pg	**Pn**	**11 05 44.7**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.06**	**302**	P	**Pn**	**11 05 43.5**	**-0.3**
BRDR				*i* AML	AML	11 06 00.0	
	comp=N,195nm,0.7s						
BRDR				*i* AML	AML	11 06 00.0	
	comp=E,227nm,0.3s						
BRDR				S	**Sn**	**11 06 00.5**	**-0.5**
AKUM	**Antalya-Kumluc**	**1.07**	**220**	P	**Pn**	**11 05 44.4**	**+0.5**
AKUM				S	**Sn**	**11 06 06.8**	**+5.8**
AKUM				*i* AML	AML	11 06 11.0	
	comp=E,255nm,0.6s						
AKUM				*i* AML	AML	11 06 13.0	
	comp=N,363nm,0.8s						
ELL	**Elmali**	**1.11**	**249**	Pn	**Pn**	**11 05 45.4**	**+1.0**
ELL	**Elmali**	**1.11**	**249**	P	**Pn**	**11 05 46.0**	**+1.6**
ELL				S	**Sn**	**11 06 05.0**	**+3.1**
ELL				AML	AML	11 06 07.4	
	2.9nm,0.5s						
ELL				AML	AML	11 06 10.0	
	3.3nm,0.5s						
YVAC	**Isparta, Yalva**	**1.12**	**2**	P	**Pn**	**11 05 44.7**	**+0.2**
YVAC				S	**Sn**	**11 06 01.8**	**-0.4**
YVAC				*i* AML	AML	11 06 02.0	
	comp=N,292nm,0.6s						
YVAC				*i* AML	AML	11 06 02.0	
	comp=E,132nm,0.4s						
BASM	**Basmaki-Afyon**	**1.19**	**311**	Pn	**Pn**	**11 05 45.7**	**+0.5**
BASM				Sn	**Sn**	**11 06 02.2**	**-1.3**
KONT	**Konya--Tatoy**	**1.22**	**49**	Pn	**Pn**	**11 05 45.9**	**+0.4**
KONT	**Konya--Tatoy**	**1.22**	**49**	P	**Pn**	**11 05 46.7**	**+1.2**
KONT				S	**Sn**	**11 06 03.8**	**-0.2**
AFYN	**Afyon-Dinar-K**	**1.25**	**334**	P	**Pn**	**11 05 45.8**	**-0.1**
AFYN				S	**Sn**	**11 06 04.2**	**-0.5**
AFYN				*i* AML	AML	11 06 07.0	
	comp=E,142nm,0.6s						
GAZI	**Gazipasa**	**1.28**	**135**	Pn	**Pn**	**11 05 46.9**	**+0.8**
GAZI				Sn	**Sn**	**11 06 06.2**	**+1.1**
GAZI	**Gazipasa**	**1.28**	**135**	P	**Pn**	**11 05 47.0**	**+0.9**
GAZI				S	**Sn**	**11 06 06.9**	**+1.9**
GAZI				*i* AML	AML	11 06 07.0	
	comp=E,230nm,0.5s						
GAZI				*i* AML	AML	11 06 08.0	
	comp=N,527nm,0.6s						
KNIK	**Mula-Seydike**	**1.33**	**257**	P	**Pn**	**11 05 47.4**	**+0.6**
KNIK				S	**Sn**	**11 06 07.1**	**+0.8**
KNIK				*i* AML	AML	11 06 11.0	
	comp=N,227nm,0.4s						
KNIK				*i* AML	AML	11 06 12.0	
	comp=E,307nm,0.4s						
KZIL	**AFYON_Kizioren**	**1.39**	**323**	P	**Pn**	**11 05 46.6**	**-0.8**
KZIL				S	**Sn**	**11 06 06.6**	**-0.8**
KKBE	**Karaman, Kazim**	**1.40**	**87**	P	**Pn**	**11 05 48.5**	**+1.1**
KKBE				S	**Sn**	**11 06 08.9**	**+1.5**
KKBE				*i* AML	AML	11 06 11.0	
	comp=N,76nm,0.4s						
KKBE				*i* AML	AML	11 06 11.0	
	comp=E,79nm,0.4s						
LADK	**Ladik-KONYA**	**1.40**	**41**	Pn	**Pn**	**11 05 47.9**	**+0.3**
LADK				Sn	**Sn**	**11 06 06.2**	**-1.4**
INCE	**Denizli-Bozkur**	**1.41**	**294**	P	**Pn**	**11 05 47.1**	**-0.5**
INCE				S	**Sn**	**11 06 07.3**	**-0.4**
INCE				*i* AML	AML	11 06 08.0	
	comp=N,104nm,0.8s						
SHUT	**Suhut-Afyon**	**1.49**	**340**	Pn	**Pn**	**11 05 48.6**	**0.0**
UCKU	**Afyonkarahisar**	**1.50**	**7**	P	**Pn**	**11 05 48.6**	**0.0**
UCKU				S	**Sn**	**11 06 09.8**	**+0.2**
UCKU				*i* AML	AML	11 06 10.0	
	comp=N,75nm,0.8s						
UCKU				*i* AML	AML	11 06 10.0	
	comp=E,70nm,0.9s						
CAEL	**Denizli, Camel**	**1.50**	**270**	P	**Pn**	**11 05 49.7**	**+1.0**
CAEL				S	**Sn**	**11 06 10.6**	**+1.0**
CAME	**Cameli-Denizli**	**1.53**	**263**	Pn	**Pn**	**11 05 50.2**	**+1.1**
APMY	**Acipayam-Deniz**	**1.54**	**283**	Pn	**Pn**	**11 05 49.9**	**+0.7**
KDHN	**Kadinhani**	**1.55**	**28**	P	**Pn**	**11 05 49.4**	**+0.1**
KDHN				S	**Sn**	**11 06 10.4**	**-0.3**
KDHN				*i* AML	AML	11 06 11.0	
	comp=E,70nm,0.8s						
KURO	**Afyon-Bolvadin**	**1.60**	**353**	P	**Pn**	**11 05 49.7**	**-0.1**
KURO				S	**Sn**	**11 06 07.2**	**-4.5**
IZZE	**Mula-Seydike**	**1.73**	**246**	P	**Pn**	**11 05 51.3**	**-0.1**
IZZE				S	**Sn**	**11 06 13.6**	**-0.7**
IZZE				*i* AML	AML	11 06 21.0	
	comp=E,251nm,0.4s						
IZZE				*i* AML	AML	11 06 22.0	
	comp=N,356nm,0.4s						
DNZT	**Denizli-Tavas-**	**1.74**	**275**	P	**Pn**	**11 05 52.8**	**+1.3**
DNZT				S	**Sn**	**11 06 13.2**	**-1.4**
DNZT				*i* AML	AML	11 06 17.0	
	comp=N,159nm,1.3s						
DNZT				*i* AML	AML	11 06 18.0	
	comp=E,165nm,0.7s						
FETY	**Fethiye**	**1.77**	**254**	Pn	**Pn**	**11 05 53.2**	**+1.4**
FETY	**Fethiye**	**1.77**	**254**	P	**Pn**	**11 05 51.5**	**-0.3**
FETY				S	**Sn**	**11 06 16.4**	**+1.3**
PASA	**Karahalli, USA**	**1.81**	**312**	P	**Pn**	**11 05 51.7**	**-0.6**
PASA				S	**Sn**	**11 06 15.7**	**-0.4**
BERE	**Bereket-Mersin**	**1.81**	**116**	Pn	**Pn**	**11 05 54.4**	**+1.9**
SABU	**Mula-Dalaman**	**1.81**	**260**	P	**Pn**	**11 05 52.0**	**-0.3**
SABU				S	**Sn**	**11 06 14.9**	**-1.2**
SABU				*i* AML	AML	11 06 20.0	
	comp=N,168nm,0.3s						
SABU				*i* AML	AML	11 06 26.0	
	comp=E,90nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.85**	**281**	P	**Pn**	**11 05 53.1**	**+0.3**
TAVA				S	**Sn**	**11 06 16.2**	**-0.7**
TAVA				*i* AML	AML	11 06 19.0	
	comp=E,164nm,0.6s						
TAVA				*i* AML	AML	11 06 20.0	
	comp=N,130nm,0.5s						
BNAZ	**Uak-Banaz**	**1.85**	**326**	P	**Pn**	**11 05 51.8**	**-1.1**
BNAZ				S	**Sn**	**11 06 15.6**	**-1.4**
BNAZ				*i* AML	AML	11 06 17.0	
	comp=E,89nm,0.5s						
BNAZ				*i* AML	AML	11 06 20.0	
	comp=N,82nm,0.4s						
CTIK	**Konya-Celtik**	**1.91**	**10**	P	**Pn**	**11 05 53.5**	**-0.1**
CBEY	**Konya-Cihanbey**	**1.98**	**39**	P	**Pn**	**11 05 55.8**	**+1.3**
CBEY				S	**Sn**	**11 06 17.4**	**-2.6**
CBEY				*i* AML	AML	11 06 23.0	
	comp=N,51nm,0.7s						
CBEY				*i* AML	AML	11 06 25.0	
	comp=E,50nm,0.6s						
DALY	**Dalyan (Mula)**	**2.06**	**262**	Pn	**Pn**	**11 05 57.2**	**+1.8**
GULN	**MERSIN_Gulnar**	**2.12**	**116**	P	**Pn**	**11 05 57.6**	**+1.5**
GULN				S	**Sn**	**11 06 23.5**	**+0.7**
GULN				*i* AML	AML	11 06 27.0	
	comp=N,44nm,0.4s						
GULN				*i* AML	AML	11 06 31.0	
	comp=E,57nm,1.5s						
YESI	**Yesilovacik-Me**	**2.18**	**115**	Pn	**Pn**	**11 05 59.4**	**+2.5**
CIFT	**Cifteler, Eski**	**2.21**	**357**	Pn	**Pn**	**11 05 57.3**	**0.0**
ALFC	**Alefka**	**2.29**	**150**	S	**Sn**	**11 06 27.5**	**+0.8**
MULA	**Mugla, Merkez-**	**2.30**	**274**	P	**Pn**	**11 05 59.2**	**+0.8**
MULA				S	**Sn**	**11 06 25.3**	**-1.7**
MULA				*i* AML	AML	11 06 30.0	
	comp=E,128nm,0.7s						
AKMS	**Akamas**	**2.32**	**156**	P	**Pn**	**11 05 58.6**	**-0.1**
AKMS				AML	AML	11 06 34.0	
	0.3nm,0.4s						
AKMS				AML	AML	11 06 45.4	
	0.3nm,1.3s						
USAK	**Uak-Merkez**	**2.33**	**313**	P	**Pn**	**11 05 58.5**	**-0.3**
USAK				S	**Sn**	**11 06 25.4**	**-2.2**
USAK				*i* AML	AML	11 07 25.0	
	comp=E,55nm,3.1s						
YER	**Yerkesik**	**2.33**	**271**	Pn	**Pn**	**11 06 00.5**	**+1.7**
ESEN	**Aydn-Nazilli**	**2.36**	**287**	P	**Pn**	**11 05 58.7**	**-0.4**
ESEN				S	**Sn**	**11 06 25.7**	**-2.5**
KULU	**Kulu**	**2.37**	**36**	Pn	**Pn**	**11 06 00.2**	**+0.9**
TURN	**Turunc**	**2.39**	**262**	Pn	**Pn**	**11 06 01.9**	**+2.4**
NAZL	**Nazilli-Aydin**	**2.45**	**290**	Pn	**Pn**	**11 06 01.9**	**+1.6**
NAZL				Sn	**Sn**	**11 06 30.3**	**0.0**
NATA	**Nata**	**2.61**	**154**	P	**Pn**	**11 06 02.7**	**+0.3**
NATA				AML	AML	11 06 48.1	
	0.9nm,1.0s						
NATA				AML	AML	11 06 59.7	
	0.4nm,0.8s						
TVSB	**Tavsanli**	**2.67**	**330**	Pn	**Pn**	**11 06 03.2**	**-0.1**
CSS	**Mathiatis**	**2.78**	**141**	P	**Pn**	**11 06 04.3**	**-0.4**
CSS	**Mathiatis**	**2.78**	**141**	P	**Pn**	**11 06 02.8**	**-1.9**
CSS				S	**Sn**	**11 06 36.1**	**-2.0**
APOL	**The Sanctuary**	**2.82**	**151**	P	**Pn**	**11 06 05.4**	**+0.3**
ASGA	**Asgata**	**2.89**	**144**	P	**Pn**	**11 06 06.7**	**+0.8**
MVOU	**Mavrovouni**	**2.90**	**136**	P	**Pn**	**11 06 05.2**	**-1.0**
MVOU				S	**Sn**	**11 06 40.5**	**-0.3**
BRTR	**Keskin Array B**	**3.21**	**36**	P	**Pn**	**11 06 11.0**	**+0.7**
	3.6nm,0.5s,baz=224,slow=16,SNR=19						
BRTR				S	**Sn**	**11 06 51.0**	**+2.8**
	4.4nm,0.8s,baz=211,slow=24,SNR=8.5						
MMC7	**Mount Meron ar**	**5.37**	**139**	P	**Pn**	**11 06 38.0**	**-1.1**
GEM	**Giv'at Ha'Em**	**5.37**	**136**	P	**Pn**	**11 06 38.0**	**-1.1**
GEM	**Giv'at Ha'Em**	**5.37**	**136**	S	**Sn**	**11 07 38.2**	**-1.6**
NATI	**Neve Ativ**	**5.37**	**135**	P	**Pn**	**11 06 38.4**	**-0.7**
NATI	**Neve Ativ**	**5.37**	**135**	S	**Sn**	**11 07 38.3**	**-1.5**
MMA0B	**Mount Meron ar**	**5.38**	**139**	P	**Pn**	**11 06 38.4**	**-0.8**
MMA0B	**Mount Meron ar**	**5.38**	**139**	S	**Sn**	**11 07 38.1**	**-2.0**
MMAI	**Mount Meron Ar**	**5.38**	**139**	P	**Pn**	**11 06 39.3**	**0.0**
	9.1nm,0.4s,baz=315,slow=11,SNR=20						
MMAI				S	**Sn**	**11 07 36.4**	**-3.6**
	3.3nm,0.6s,baz=337,slow=30,SNR=1.7						
IDI	**Anoyia**	**5.43**	**252**	P	**Pn**	**11 06 36.7**	**-3.2**
	7.2nm,0.8s,baz=359,slow=20,SNR=1.2						
IDI				S	**Sn**	**11 07 34.7**	**-6.5**
	4.0nm,0.4s,baz=303,slow=13,SNR=1.5						
OFRI	**'Ofer**	**5.49**	**144**	P	**Pn**	**11 06 39.0**	**-1.7**
MMLI	**Mount Malkishu**	**5.84**	**142**	P	**Pn**	**11 06 44.5**	**-1.1**
MMLI	**Mount Malkishu**	**5.84**	**142**	S	**Sn**	**11 07 49.7**	**-1.6**
SALP	**Salfit**	**6.04**	**146**	P	**Pn**	**11 06 47.0**	**-1.3**
SALP	**Salfit**	**6.04**	**146**	S	**Sn**	**11 07 54.3**	**-1.8**
HMDT	**Nahal Hemdat**	**6.05**	**143**	P	**Pn**	**11 06 47.4**	**-0.8**
HMDT	**Nahal Hemdat**	**6.05**	**143**	S	**Sn**	**11 07 52.2**	**-3.9**
DSI	**Dead Sea**	**6.55**	**147**	P	**Pn**	**11 06 53.8**	**-1.2**
DSI	**Dead Sea**	**6.55**	**147**	S	**Sn**	**11 08 06.4**	**-2.0**
ASF	**Jabal al Asfar**	**6.83**	**135**	P	**Pn**	**11 06 58.5**	**-0.5**
	1.7nm,0.3s,baz=138,slow=7.6,SNR=2.2						
PRNI	**Paran**	**7.48**	**154**	P	**Pn**	**11 07 06.6**	**-1.1**
PRNI	**Paran**	**7.48**	**154**	S

PRAC	**Prado**	**3.52 210**	P	Pn	11 10 20.7	-0.8
PRAC			S	Sn	11 11 02.7	-0.6
ORTC	**Ortega, Tolima**	**3.56 216**	P	Pn	11 10 21.8	-0.1
ORTC			S	Sn	11 11 04.7	+0.7
SJCC	**San Jacinto, C**	**3.68 327**	P	Pn	11 10 20.8	-2.7
SJCC			S	Sn	11 11 01.8	-5.1
URMC	**La Uribe, Meta**	**3.74 199**	P	Pn	11 10 23.5	-0.8
URMC			S	Sn	11 11 07.6	-0.8
URIC	**Uribia, Colomb**	**5.00 13**	P	Pn	11 10 37.6	-3.3

IDC 05 11:19:02.8±999.0, 64°.59N×44°.44E, h0km, Error ellipse: s-maj=388.5km s-min=214.1km az=136.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**15.92**	**147**	I	I	12 55 30.0	
baz=338,slow=320,SNR=0.4							
I46RU	**ZALESOVO INFRA**	**22.79**	**99**	I	I	13 38 12.1	
baz=316,slow=330,SNR=2.8							
I34MN	**SONGINO INFRAS**	**36.58**	**87**	I	I	15 01 30.0	
baz=316,slow=346,SNR=0.5							

NIED ***05*** *11:32:31.1, 24°.25N×121°.88E, h47km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.64; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-0.74; $M_{r\theta}$0.80; $M_{\theta\phi}$0.38; $M_{\phi r}$0.33; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s127.00000°, δ55.00000°, λ41.00000°. NP2: ϕ_s11.00000°, δ58.00000°, λ138.00000°.*

JMA ***05*** *11:32:31.1±0.1, 24°.3N±0°.5×121°.9E±0°.4, h47km±1km, MV3.5/14, TAIWAN REGION*

ASIES ***05*** *11:32:31.4, 24°.34N×121°.92E, h36km, ML4.5, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.07; $M_{\theta\theta}$3.50; $M_{\phi\phi}$-5.57; $M_{r\theta}$3.37; $M_{\theta\phi}$2.50; $M_{\phi r}$3.30; Fault plane solution: $M_0$7.23152×10^{21} NP1: ϕ_s127.41000°, δ49.07000°, λ18.08000°. NP2: ϕ_s25.33000°, δ76.44000°, λ137.63000°. Principal axes: T Plg38.9800°, Azm337.5610°; N Plg45.9070°, Azm190.9220°; P Plg17.3050°, Azm82.1640°;*

TAP ***05*** *11:32:31.4, 24°.34N×121°.92E, h36km, ML4.5, B*

IDC ***05*** *11:32:32.4±3.7, 24°.34N×122°.03E, h52km±36km, mb3.5/10, mbtmp3.8/12, ML3.3/2, MS3.1/5, Error ellipse: s-maj=25.6km s-min=23.7km az=53.0*

ISC 05 11:32:31.4±0.7, 24°.32N±0°.01×121°.94E±0°.01, h33km±2km, n186, σ1s03/308, mb3.6/12, MS3.2/3, 21C-42D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.18**	**268**	P	**Pn**	**11 32 38.2**	**+1.2**
EHP				S	**Sb**	**11 32 43.5**	**+1.3**
EAHA	**Aohua**	**0.18**	**274**	⇓iP	**Pn**	**11 32 38.2**	**+1.1**
EAHA				eS	**Sb**	**11 32 43.3**	**+1.1**
EWUT	**Wuta**	**0.19**	**312**	⇓iP	**Pn**	**11 32 38.1**	**+0.8**
EWUT				S	**Sb**	**11 32 43.2**	**+0.7**
ENA	**Nanau**	**0.21**	**302**	⇓iP	**Pn**	**11 32 38.4**	**+0.6**
ENA				S	**Sb**	**11 32 43.3**	**+0.6**
ESAO	**Su ao**	**0.27**	**342**	⇓iP	**Pn**	**11 32 39.0**	**0.0**
ESAO				*i* S	**Sn**	**11 32 44.4**	**+0.9**
EOS2	**EOS2**	**0.29**	**69**	⇓eP	**Pn**	**11 32 40.2**	**+1.0**
EOS2				eS	**Sn**	**11 32 47.2**	**+3.3**
TWC	**Suao**	**0.30**	**345**	⇓iP	**Pn**	**11 32 39.4**	**-0.1**
TWC				*i* S	**Sn**	**11 32 44.9**	**+0.5**
ETL	**Fush Village**	**0.33**	**241**	⇑iP	**Pn**	**11 32 39.8**	**-0.1**
ETL				*i* S	**Sn**	**11 32 46.5**	**+1.3**
NACB	**Ninganchiao**	**0.34**	**246**	P	**Pb**	**11 32 39.9**	**+0.1**
NACB	**Ninganchiao**	**0.34**	**246**	S	**Sb**	**11 32 43.9**	**-1.5**
NACB	**Ninganchiao**	**0.34**	**246**	⇓iP	**Pb**	**11 32 39.7**	**0.0**
NACB				eS	**Sn**	**11 32 46.0**	**+0.3**
EOS3	**EOS3**	**0.35**	**95**	eP	**Pn**	**11 32 41.3**	**+1.2**
EOS3				eS	**Sn**	**11 32 49.1**	**+3.3**
NDS	**Dongshan**	**0.38**	**328**	⇓iP	**Pn**	**11 32 40.3**	**-0.3**
NDS				*i* S	**Sn**	**11 32 46.6**	**0.0**
TWD	**Chiawan**	**0.39**	**233**	⇓iP	**Pb**	**11 32 40.5**	**+0.1**
TWD				S	**Sn**	**11 32 47.6**	**+0.6**
EOS4	**EOS4**	**0.40**	**119**	eP	**Pn**	**11 32 41.4**	**+0.8**
ETLH	**Xiulin Townshi**	**0.43**	**255**	⇓iP	**Pb**	**11 32 41.1**	**0.0**
ETLH				eS	**Sn**	**11 32 48.9**	**+0.8**
LATG	**Datong**	**0.43**	**300**	⇓iP	**Pb**	**11 32 41.1**	**-0.1**
LATG				S	**Sb**	**11 32 47.9**	**+0.1**
HWA	**Hwalien**	**0.45**	**222**	eP	**Pn**	**11 32 42.0**	**+0.4**
HWA				eS	**Sn**	**11 32 50.0**	**+1.4**
ENTT	**Nioudou**	**0.47**	**314**	⇓iP	**Pb**	**11 32 41.5**	**0.0**
ENTT				*i* S	**Sn**	**11 32 48.9**	**-0.1**
TWE	**Neicheng**	**0.47**	**329**	⇓iP	**Pn**	**11 32 41.7**	**-0.2**
TWE				S	**Sn**	**11 32 49.0**	**-0.1**
ILA	**Ilan**	**0.48**	**339**	⇑iP	**Pn**	**11 32 42.1**	**+0.1**
ILA				eS	**Sn**	**11 32 49.7**	**+0.5**
NNSB	**Datong**	**0.52**	**283**	⇓iP	**Pb**	**11 32 42.3**	**-0.1**
NNSB				S	**Sb**	**11 32 49.7**	**-0.3**
NNS	**Nan Shan**	**0.53**	**284**	⇓iP	**Pb**	**11 32 42.5**	**-0.1**
NNS				*i* S	**Sb**	**11 32 50.4**	**+0.1**
ETM	**Tongmen**	**0.54**	**229**	⇓P	**Pb**	**11 32 42.7**	**+0.1**
TEYL	**Yanliau Villag**	**0.54**	**215**	eP	**Pb**	**11 32 42.9**	**+0.2**
TEYL				eS	**Sn**	**11 32 51.4**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.54**	**324**	⇓iP	**Pb**	**11 32 42.8**	**0.0**
FUSB				S	**Sb**	**11 32 50.3**	**-0.3**
NTC	**Toucheng**	**0.55**	**350**	eP	**Pn**	**11 32 43.1**	**+0.2**
NTC				eS	**Sn**	**11 32 51.2**	**+0.4**
LXIB	**Xiulin Townshi**	**0.56**	**239**	⇓iP	**Pb**	**11 32 42.9**	**-0.3**
LXIB				eS	**Sn**	**11 32 51.8**	**+0.4**
NWLT	**Wulai**	**0.61**	**319**	⇓P	**Pb**	**11 32 43.6**	**-0.1**
NWLT				S	**Sn**	**11 32 52.5**	**0.0**
YHNB	**Yeheng**	**0.62**	**305**	P	**Pb**	**11 32 44.0**	**-0.1**
YHNB	**Yeheng**	**0.62**	**305**	⇓iP	**Pb**	**11 32 43.9**	**-0.1**
YHNB				S	**Sb**	**11 32 52.5**	**-0.2**
SHUL	**Shoufeng**	**0.63**	**213**	P	**Pn**	**11 32 44.9**	**+0.9**
SHUL				eS	**Sn**	**11 32 55.1**	**+2.2**
FUSS	**Fushou**	**0.64**	**264**	⇑P	**Pn**	**11 32 44.7**	**+0.3**
FUSS				eS	**Sn**	**11 32 54.1**	**+0.7**
WHF	**Hehuan Shan**	**0.64**	**255**	⇑iP	**Pb**	**11 32 44.5**	**-0.1**
WHF				eS	**Sn**	**11 32 55.3**	**+1.6**
NSK	**Sanguang**	**0.64**	**304**	⇓iP	**Pb**	**11 32 44.0**	**-0.3**
NSK				S	**Sb**	**11 32 53.0**	**-0.1**
TIPB	**Shuangxi**	**0.66**	**351**	⇑iP	**Pn**	**11 32 44.8**	**+0.3**
TIPB				eS	**Sn**	**11 32 53.9**	**+0.1**
ESL	**Shilin**	**0.68**	**223**	⇓P	**Pb**	**11 32 44.4**	**-0.6**
ESL				eS	**Sn**	**11 32 54.6**	**+0.4**
TWB1	**Santiao Chiao**	**0.69**	**4**	⇑iP	**Pn**	**11 32 45.1**	**+0.2**
TWB1				eS	**Sn**	**11 32 55.2**	**+0.7**
TWT	**Tachien**	**0.70**	**265**	⇓iP	**Pn**	**11 32 45.7**	**+0.6**
TWT				eS	**Sn**	**11 32 56.0**	**+1.1**
TDCB	**Techi**	**0.71**	**265**	⇓iP	**Pn**	**11 32 45.7**	**+0.4**
NWF	**Wu-fen Shan**	**0.77**	**349**	⇑iP	**Pn**	**11 32 46.8**	**+0.8**
NWF				*i* S	**Sn**	**11 32 57.8**	**+1.3**
WFSB	**Wu-fen Shan**	**0.77**	**349**	⇑iP	**Pb**	**11 32 46.8**	**+0.4**
WFSB				eS	**Sn**	**11 32 57.4**	**+1.1**
TATO	**Taipei**	**0.77**	**328**	P	**Pb**	**11 32 46.6**	**+0.1**
TATO	**Taipei**	**0.77**	**328**	S	**Sn**	**11 32 57.7**	**+1.2**
SXI1	**Grass Mountain**	**0.78**	**356**	⇑iP	**Pb**	**11 32 46.9**	**+0.2**
SXI1				eS	**Sn**	**11 32 57.1**	**+0.4**
WARBT	**Fenglin Townsh**	**0.78**	**220**	⇓iP	**Pn**	**11 32 45.8**	**-0.4**
WARBT				S	**Sb**	**11 32 57.0**	**+0.1**
OWD	**Renai**	**0.78**	**243**	⇓iP	**Pn**	**11 32 46.5**	**+0.2**
OWD				eS	**Sn**	**11 32 57.4**	**+0.5**
NHY	**Taipei**	**0.79**	**335**	eP	**Pb**	**11 32 47.2**	**+0.4**
NHY				*i* S	**Sn**	**11 32 59.3**	**+2.3**
EGFH	**Guangfu**	**0.80**	**216**	eP	**Pb**	**11 32 47.4**	**+0.5**
EGFH				eS	**Sn**	**11 32 59.0**	**+2.0**
NFF	**Wufeng Townshi**	**0.81**	**293**	⇓iP	**Pb**	**11 32 47.1**	**-0.1**
NFF				S	**Sn**	**11 32 58.6**	**+1.1**
WUSB	**Renai**	**0.81**	**247**	⇓iP	**Pn**	**11 32 47.1**	**+0.4**
WUSB				eS	**Sn**	**11 32 58.3**	**+0.6**
TAP	**Taipei**	**0.82**	**332**	⇑P	**Pb**	**11 32 47.3**	**0.0**
TAP				S	**Sn**	**11 32 59.2**	**+1.5**
KSHI	**Guanxi Townshi**	**0.83**	**304**	⇓P	**Pb**	**11 32 48.0**	**+0.5**
KSHI				eS	**Sn**	**11 33 00.1**	**+2.2**
YM01	**YM01**	**0.89**	**338**	⇑iP	**Pb**	**11 32 48.2**	**-0.4**
YM01				*i* S	**Sb**	**11 33 01.0**	**+0.8**
LIOB	**Emei**	**0.90**	**292**	⇓iP	**Pb**	**11 32 49.0**	**+0.4**
LIOB				*i* S	**Sb**	**11 33 01.6**	**+1.2**
WHP	**Taichung City**	**0.91**	**268**	⇓iP	**Pb**	**11 32 49.0**	**+0.3**
WHP				eS	**Sb**	**11 33 00.9**	**+0.3**
TWS1	**Kuangyinshan**	**0.91**	**329**	⇑iP	**Pn**	**11 32 47.6**	**-0.4**
TWS1				S	**Sb**	**11 33 01.2**	**+0.4**
ZUZH	**Zhuzihu**	**0.92**	**337**	⇑iP	**Pb**	**11 32 48.5**	**-0.5**
ZUZH				*i* S	**Sb**	**11 33 01.3**	**+0.5**
VWDT	**VWDT**	**0.92**	**233**	⇓iP	**Pn**	**11 32 48.5**	**+0.5**
VWDT				eS	**Sb**	**11 33 01.2**	**+0.4**
YM08	**YM08**	**0.92**	**340**	⇑iP	**Pn**	**11 32 48.4**	**+0.2**
YM08				eS	**Sb**	**11 33 01.7**	**+0.7**
JYNG	**Yonagunijimaku**	**0.93**	**81**	*i* P	**Pb**	**11 32 48.9**	**-0.3**
JYNG				S	**Sb**	**11 33 02.4**	**+1.2**
NCUH	**Zhongli**	**0.94**	**314**	⇑iP	**Pb**	**11 32 49.1**	**-0.2**
NCUH				*i* S	**Sb**	**11 33 02.5**	**+0.9**
HGSD	**Ruisui**	**0.94**	**210**	eP	**Pn**	**11 32 49.0**	**+0.7**
HGSD				eS	**Sb**	**11 33 03.2**	**+1.6**
ANP	**Anpu**	**0.95**	**337**	⇑iP	**Pn**	**11 32 48.7**	**+0.1**
ANP				eS	**Sb**	**11 33 01.6**	**-0.1**
NTST	**Danshui**	**0.95**	**332**	eP	**Pb**	**11 32 49.2**	**-0.4**
NTST				S	**Sb**	**11 33 03.0**	**+1.2**
WCS	**Beigang Elemen**	**0.97**	**255**	eP	**Pb**	**11 32 49.6**	**-0.3**
WCS				eS	**Sn**	**11 33 02.1**	**+0.7**
EHYH	**Wanrong**	**0.98**	**214**	eP	**Pn**	**11 32 48.6**	**-0.3**
EHYH				eS	**Sn**	**11 33 02.2**	**+0.5**
EHY	**Hungye**	**0.98**	**215**	eP	**Pn**	**11 32 48.5**	**-0.5**
EHY				eS	**Sb**	**11 33 02.9**	**+0.1**
SBCB	**Hsinchu**	**0.99**	**299**	⇑iP	**Pb**	**11 32 50.1**	**0.0**
SBCB				S	**Sb**	**11 33 04.1**	**+1.2**
YOJ	**Yonaguni jima**	**0.99**	**81**	P	**Pb**	**11 32 49.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.99**	**81**	⇓iP	**Pb**	**11 32 49.8**	**-0.4**
YOJ				eS	**Sb**	**11 33 04.0**	**+1.1**
YOJ	**Yonaguni jima**	**0.99**	**81**	P	**Pb**	**11 32 49.7**	**-0.4**
YOJ				S	**Sb**	**11 33 03.7**	**+0.8**
TWY	**Chenhua**	**1.00**	**342**	⇑P	**Pn**	**11 32 49.1**	**-0.1**
TWY				eS	**Sb**	**11 33 03.1**	**-0.1**
HSN	**Hsinchu**	**1.00**	**299**	⇑P	**Pb**	**11 32 49.9**	**-0.4**
HSN				eS	**Sb**	**11 33 04.2**	**+0.9**
SMLT	**Sun Moon Lake**	**1.04**	**246**	⇓iP	**Pn**	**11 32 49.6**	**-0.2**
SMLT				eS	**Sn**	**11 33 03.1**	**-0.1**
SSLB	**Suanglung**	**1.04**	**240**	P	**Pn**	**11 32 50.2**	**+0.5**
SSLB	**Suanglung**	**1.04**	**240**	⇓iP	**Pn**	**11 32 50.3**	**+0.5**
SSLB				eS	**Sn**	**11 33 03.7**	**+0.5**
TWQ1	**Liyutan**	**1.06**	**272**	⇓iP	**Pb**	**11 32 51.9**	**+0.5**
TWQ1				S	**Sb**	**11 33 06.8**	**+1.8**
NMLH	**Miaoli**	**1.07**	**282**	eP	**Pb**	**11 32 52.0**	**+0.6**
NMLH				S	**Sb**	**11 33 06.9**	**+1.8**
TYC	**Yuchr**	**1.07**	**248**	⇓iP	**Pb**	**11 32 51.0**	**-0.4**
TYC				eS	**Sn**	**11 33 04.3**	**+0.5**
NSY	**Sanyi**	**1.08**	**276**	⇑P	**Pb**	**11 32 52.3**	**+0.7**
NSY				*i* S	**Sb**	**11 33 07.6**	**+2.2**
ECBN	**Changbin**	**1.09**	**204**	eP	**Pn**	**11 32 50.7**	**+0.3**
ECBN				eS	**Sn**	**11 33 05.1**	**+0.7**
YULB	**Yu-li**	**1.09**	**213**	P	**Pn**	**11 32 50.2**	**-0.2**
YULB	**Yu-li**	**1.09**	**213**	eP	**Pn**	**11 32 49.9**	**-0.5**
YULB				eS	**Sn**	**11 33 04.8**	**+0.4**
EYUL	**Yuli**	**1.12**	**210**	eP	**Pn**	**11 32 51.2**	**+0.5**
EYUL				eS	**Sn**	**11 33 06.0**	**+0.9**
TWF1	**Yuli**	**1.12**	**212**	eP	**Pn**	**11 32 50.6**	**-0.2**
TWF1				eS	**Sn**	**11 33 06.1**	**+0.9**
TCU	**Taichung**	**1.16**	**262**	*i* P	**Pb**	**11 32 53.5**	**+0.5**
TCU				eS	**Sb**	**11 33 08.6**	**+0.8**
WHYT	**Xinyi Township**	**1.17**	**238**	⇓eP	**Pb**	**11 32 52.8**	**-0.4**
WHYT				eS	**Sb**	**11 33 08.1**	**+0.1**
WDJ	**Dajia District**	**1.18**	**272**	⇓iP	**Pb**	**11 32 53.5**	**+0.1**
WDJ				eS	**Sb**	**11 33 08.7**	**+0.3**
WJS	**Zhushan**	**1.21**	**246**	*i* P	**Pb**	**11 32 54.3**	**+0.5**
WJS				*i* S	**Sb**	**11 33 12.0**	**+2.8**
CHKH	**Chenggong**	**1.22**	**204**	eP	**Pn**	**11 32 53.3**	**+1.0**
CHKH				eS	**Sn**	**11 33 08.8**	**+1.1**
WNT	**Mingjian**	**1.23**	**249**	eP	**Pb**	**11 32 54.5**	**+0.5**
WNT				*i* S	**Sb**	**11 33 11.9**	**+2.3**
FULB	**Fuli**	**1.26**	**208**	eP	**Pn**	**11 32 53.9**	**+1.1**
FULB				eS	**Sn**	**11 33 09.6**	**+1.1**
WCHH	**Zhanghua**	**1.28**	**260**	eP	**Pb**	**11 32 54.2**	**-0.8**
WCHH				eS	**Sb**	**11 33 11.9**	**+0.7**
WCH1	**Changhua City**	**1.29**	**259**	eP	**Pb**	**11 32 54.9**	**-0.3**
ALS	**Alishan**	**1.31**	**232**	⇓iP	**Pb**	**11 32 55.1**	**-0.6**
ALS				eS	**Sb**	**11 33 12.6**	**+0.3**
PCYT	**Pengchaiyu**	**1.31**	**5**	⇑iP	**Pn**	**11 32 53.8**	**+0.3**
PCYT				S	**Sb**	**11 33 11.8**	**-0.3**
CHKT	**Chengkung**	**1.32**	**203**	eP	**Pn**	**11 32 53.3**	**-0.3**
EHD	**Haiduan**	**1.34**	**210**	eP	**Pn**	**11 32 54.9**	**+1.0**
CHN5	**Tsauling**	**1.35**	**238**	eP	**Pb**	**11 32 56.6**	**+0.3**
ECS	**Chishang**	**1.38**	**209**	eP	**Pb**	**11 32 56.0**	**-0.8**
ELDTW	**Lidau**	**1.40**	**217**	eP	**Pn**	**11 32 55.1**	**+0.3**
ELDTW				eS	**Sn**	**11 33 13.1**	**+0.9**
WGK	**Gukeng**	**1.40**	**244**	eP	**Pb**	**11 32 57.3**	**+0.2**
WGK				eS	**Sb**	**11 33 16.2**	**+1.5**
WDL	**Douliou City**	**1.41**	**245**	eP	**Pn**	**11 32 55.6**	**+0.8**
WDLH	**Douliu**	**1.42**	**244**	eP	**Pb**	**11 32 57.7**	**+0.3**
WDLH				eS	**Sb**	**11 33 18.1**	**+2.8**
EDH	**Donghe**	**1.46**	**204**	eP	**Pn**	**11 32 55.6**	**+0.2**
EDH				*i* S	**Sn**	**11 33 13.7**	**+0.3**
WRL	**Guolierlin Hig**	**1.48**	**254**	eP	**Pb**	**11 32 57.3**	**-1.1**
WRL				S	**Sb**	**11 33 17.1**	**+0.2**
WCKO	**Fanlu**	**1.50**	**235**	eP	**Pb**	**11 32 59.1**	**+0.4**
WCKO				eS	**Sb**	**11 33 18.5**	**+1.0**
WTK	**Tuku**	**1.55**	**246**	P	**Pb**	**11 32 58.9**	**-0.6**
WTK				eS	**Sb**	**11 33 20.4**	**+1.6**
CHN2	**Minshiung**	**1.55**	**240**	*i* P	**Pb**	**11 33 00.1**	**+0.5**
STYH	**Taoyuan**	**1.56**	**223**	eP	**Pb**	**11 32 58.5**	**-1.2**
STYH				eS	**Sb**	**11 33 18.7**	**-0.4**
TPUB	**Ta-pu**	**1.57**	**230**	⇓P	**Pb**	**11 32 58.9**	**-1.0**
TPUB				eS	**Sb**	**11 33 19.1**	**-0.3**
WTCT	**Ta-ch'eng**	**1.58**	**254**	eP	**Pn**	**11 32 58.4**	**+1.3**
WTCT				eS	**Sb**	**11 33 19.4**	**-0.2**
LONT	**Longtian**	**1.59**	**208**	eP	**Pn**	**11 32 57.7**	**+0.4**
LONT				eS	**Sn**	**11 33 17.6**	**+1.0**
CHY	**Chiayi**	**1.61**	**240**	eP	**Pb**	**11 33 00.2**	**-0.3**
WTP	**Ta-pu**	**1.61**	**229**	eP	**Pb**	**11 33 00.3**	**-0.4**
IRIF	**Iriomote-Funau**	**1.64**	**89**	P	**Pn**	**11 32 58.3**	**+0.4**
IRIF				S	**Sb**	**11 33 19.6**	**-1.7**
TWG	**Pinlang**	**1.69**	**208**	eP	**Pn**	**11 32 58.5**	**-0.1**
TWG				eS	**Sn**	**11 33 20.6**	**+1.5**
TWGBT	**Beinan**	**1.69**	**208**	P	**Pn**	**11 32 58.5**	**-0.2**
TWGBT	**Beinan**	**1.69**	**208**	eP	**Pn**	**11 32 58.4**	**-0.2**
TWGBT				eS	**Sn**	**11 33 20.4**	**+1.3**
TWK	**Hsinying**	**1.69**	**232**	eP	**Pb**	**11 33 01.6**	**-0.4**
TWK				eS	**Sb**	**11 33 23.1**	**+0.2**
LDUT	**Ludao**	**1.69**	**195**	eP	**Pn**	**11 32 58.5**	**-0.1**
LDUT				eS	**Sn**	**11 33 18.4**	**-0.8**
SNST	**Tainan City**	**1.71**	**231**	eP	**Pb**	**11 33 01.6**	**-0.8**
SNST				eS	**Sb**	**11 33 23.5**	**0.0**
CHN1	**Nanshi**	**1.71**	**229**	eP	**Pb**	**11 33 01.3**	**-1.0**
CHN1				eS	**Sb**	**11 33 23.9**	**+0.4**
TTN	**Taitung**	**1.71**	**205**	eP	**Pn**	**11 33 00.1**	**+1.1**
TTN				eS	**Sn**	**11 33 21.4**	**+1.6**
HATJ	**Hateruma jima**	**1.73**	**98**	P	**Pn**	**11 32 59.9**	**+0.8**
HATJ				S	**Sn**	**11 33 20.9**	**+0.9**
SGST	**Jiashian**	**1.75**	**226**	⇓eP	**Pn**	**11 33 01.0**	**+1.6**
SGST				eS	**Sb**	**11 33 24.1**	**-0.3**
WSL	**Shuilin Townsh**	**1.75**	**244**	P	**Pb**	**11 33 01.8**	**-1.2**
WSL				S	**Sb**	**11 33 24.8**	**+0.2**
ICHU	**Yijhu**	**1.79**	**238**	eP	**Pb**	**11 33 02.9**	**-0.7**
ICHU				eS	**Sb**	**11 33 26.4**	**+0.7**
CHN8	**Yiju**	**1.85**	**239**	eP	**Pb**	**11 33 03.0**	**-1.7**
CHN8				*i* S	**Sb**	**11 33 28.4**	**+0.9**
JKRS	**Kuro-shima**	**1.89**	**92**	P	**Pn**	**11 33 02.5**	**+1.0**
JKRS				S	**Sn**	**11 33 26.2**	**+2.1**
CHN3	**Shinhua**	**1.90**	**230**	eP	**Pb**	**11 33 05.0**	**-0.4**
ECL	**Taimali**	**1.93**	**208**	eP	**Pn**	**11 33 03.3**	**+1.3**
ECL				eS	**Sn**	**11 33 25.6**	**+0.4**
SCST	**Cishan**	**1.94**	**223**	P	**Pb**	**11 33 05.5**	**-0.7**
SCST				S	**Sb**	**11 33 31.6**	**+1.5**
SHHT	**Tainan City**	**1.94**	**229**	eP	**Pb**	**11 33 05.7**	**-0.6**
SCLT	**Jiali**	**1.96**	**235**	eP	**Pn**	**11 33 03.9**	**+1.6**
SCLT				eS	**Sb**	**11 33 30.6**	**+0.1**
TSMG	**Majia**	**1.99**	**217**	eP	**Pb**	**11 33 06.0**	**-1.1**
JIJ	**Ishigaki jima**	**2.01**	**88**	P	**Pn**	**11 33 03.5**	**+0.4**
JIJ				S	**Sn**	**11 33 28.8**	**+1.6**
TWM1	**Shoushan**	**2.03**	**223**	eP	**Pb**	**11 33 07.5**	**-0.3**
TSCK	**Chigu Township**	**2.06**	**236**	eP	**Pb**	**11 33 06.3**	**-1.9**
TSCK				*i* S	**Sb**	**11 33 32.3**	**-1.0**
MASBT	**Mashibuluo**	**2.08**	**215**	eP	**Pn**	**11 33 05.5**	**+1.5**
MASBT				eS	**Sb**	**11 33 32.3**	**-1.6**
EAST	**Anshuo**	**2.17**	**208**	eP	**Pn**	**11 33 05.5**	**+0.3**
EAST				eS	**Sn**	**11 33 30.7**	**-0.4**
TAW	**Tawu**	**2.17**	**206**	eP	**Pn**	**11 33 06.7**	**+1.4**
JISG	**Ishigakijimahi**	**2.18**	**82**	P	**Pn**	**11 33 05.7**	**+0.3**
TAWH	**Dawu Township**	**2.19**	**206**	eP	**Pn**	**11 33 06.6**	**+1.1**
TAWH				eS	**Sn**	**11 33 31.6**	**+0.1**
WSSB	**Gushan**	**2.27**	**223**	eP	**Pn**	**11 33 08.7**	**+2.1**
SCZT	**Fangliau**	**2.28**	**212**	eP	**Pn**	**11 33 09.6**	**+2.8**
SCZT				eS	**Sb**	**11 33 38.0**	**-1.8**
LAY	**Lan-yu**	**2.29**	**189**	eP	**Pn**	**11 33 07.1**	**+0.1**
LAY				eS	**Sn**	**11 33 33.4**	**-0.7**
PNG	**Penghu**	**2.30**	**252**	P	**Pn**	**11 33 07.9**	**+0.8**
PNG				eS	**Sn**	**11 33 36.0**	**+1.7**
PHUB	**P'eng-hu**	**2.31**	**250**	eP	**Pn**	**11 33 07.7**	**+0.6**
PHUB				eS	**Sn**	**11 33 35.8**	**+1.4**
LYUB	**Lan-yu**	**2.33**	**188**	eP	**Pn**	**11 33 06.6**	**-0.8**
LYUB				eS	**Sn**	**11 33 31.7**	**-3.1**
WDGT	**Dungji**	**2.33**	**244**	eP	**Pn**	**11 33 08.9**	**+1.4**
WDGT				eS	**Sn**	**11 33 38.0**	**+2.9**
SLIU	**Shizi**	**2.34**	**207**	eP	**Pn**	**11 33 09.3**	**+1.7**
VWUC	**VWUC**	**2.36**	**287**	eP	**Pn**	**11 33 07.8**	**0.0**
JTJ	**Tarama**	**2.54**	**82**	P	**Pn**	**11 33 11.5**	**+1.1**
VCHM	**Qimei**	**2.55**	**245**	eP	**Pn**	**11 33 11.2**	**+0.8**
MATB	**Ma-tsu**	**2.57**	**316**	eP	**Pn**	**11 33 10.2**	**-0.5**
TWK1	**Hengchun**	**2.58**	**204**	eP	**Pn**	**11 33 14.2**	**+3.2**
TWKBT	**Hengchun**	**2.58**	**204**	eP	**Pn**	**11 33 13.5**	**+2.6**
PTMZ	**Houxiangcun**	**2.66**	**286**	eP	**Pn**	**11 33 12.0**	**0.0**
XPSS	**Dashiqiu**	**3.04**	**329**	eP	**Pn**	**11 33 16.8**	**-0.5**
MHZQ	**Yeshan**	**3.18**	**305**	eP	**Pn**	**11 33 18.3**	**-0.8**
KNM	**Kinmen**	**3.20**	**273**	eP	**Pn**	**11 33 21.1**	**+1.8**
KNMB	**Chin-men Tao**	**3.24**	**273**	eP	**Pn**	**11 33 19.7**	**-0.3**
AXDP	**Jialang**	**3.66**	**280**	eP	**Pn**	**11 33 26.0**	**+0.3**
ZPLA	**Ao Xicun**	**3.84**	**265**	eP	**Pn**	**11 33 28.6**	**+0.3**
DSXP	**Dongshan**	**4.17**	**263**	eP	**Pn**	**11 33 33.1**	**+0.4**
SXFK	**Yanhouchang**	**4.40**	**299**	eP	**Pn**	**11 33 35.2**	**-0.8**
JOW	**Kunigami**	**6.25**	**65**	P	**Pn**	**11 34 01.2**	**-0.1**
2.2nm,0.3s,baz=150,slow=15,SNR=11							
8.0nm,0.4s							
JOW	**Kunigami**	**6.25**	**65**	P	**Pn**	**11 34 01.5**	**+0.2**
TGY	**Tagaytay City**	**10.20**	**185**	LR	LR	11 39 22.1	
comp=Z,56nm,21.1s,baz=171,slow=40							
KSRS	**Korea Array**	**14.06**	**20**	P	**Pn**	**11 35 48.0**	**-0.3**
0.1nm,0.3s,baz=202,slow=12,SNR=1.6							
KSRS				LR	LR	11 41 51.8	
comp=Z,21nm,18.4s,baz=200,slow=40							
3.0nm,1.3s							
XAN	**Xi'an**	**14.92**	**313**	P	**P**	**11 36 08.7**	**+3.4**
XAN				pmax	pmax		
comp=Z,6.0nm,0.8s							
XAN				LR	LR		
comp=N,330nm,6.0s							
XAN				LR	LR		
comp=E,210nm,6.5s							
XAN				LR	LR		
comp=Z,110nm,8.1s							
CMAR	**Chiang Mai Arr**	**

J17K					IAmb	IAmb	12 12 32.4	
	comp=Z,12nm,1.5s							
J18K	**Innoko River**	**82.85**	**10**	P		**P**	**12 12 09.6**	**0.0**
SCM	**Sheep Creek Mo**	**83.23**	**14**	P		**P**	**12 12 10.7**	**-0.9**
N25K	**Chitina, Valde**	**83.71**	**16**	P		**P**	**12 12 14.3**	**+0.2**
N25K					IAmb	IAmb	12 12 50.6	
	comp=Z,8.1nm,1.4s							
GLB	**Gilahina Butte**	**83.77**	**16**	P		**P**	**12 12 14.8**	**+0.5**
TRF	**Thorofare Moun**	**84.01**	**12**	P		**P**	**12 12 14.8**	**-0.7**
RND	**Reindeer**	**84.27**	**13**	P		**P**	**12 12 16.4**	**-0.3**
RND					IAmb	IAmb	12 12 36.9	
	comp=Z,8.9nm,1.4s							
ILAR	**Eielson Array**	**85.89**	**13**	P		**P**	**12 12 23.4**	**-1.1**
	comp=Z,0.5nm,1.1s,baz=223,slow=5.3,SNR=9.8							
	comp=Z,0.5nm,1.1s							
TXAR	**Lajitas Array**	**86.11**	**58**	P		**P**	**12 12 27.6**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=212,slow=5.5,SNR=6.8							
	comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**87.44**	**43**	P		**P**	**12 12 31.8**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=245,slow=3.7,SNR=4.8							
	comp=Z,0.3nm,0.6s							
ULM	**Lac du Bonnet**	**98.99**	**40**	P		Pdif	12 13 23.0	-1.7
	comp=Z,1.0nm,0.5s,baz=113,slow=8.5,SNR=2.6							

IDC 05 12:10:42.1±2.5, 9°57'S×119°75'E, h0km, mb3.7/4, mbtmp3.6/5, ML3.3/1, MS3.2/1, Error ellipse: s-maj=202.7km s-min=31.5km az=55.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**19.48**	**138**	P	P	12 15 10.8	0.0
	0.1nm,0.3s,baz=309,slow=10,SNR=6.8						
	0.3nm,0.6s						
PALK	**Pallekele**	**42.35**	**292**	LR	LR	12 36 22.1	
	comp=Z,29nm,18.6s,baz=66,slow=36						
H08S2	**Diego Garcia H**	**46.74**	**268**	T	T	13 08 29.5	
	baz=96,slow=74						
H08S3	**Diego Garcia H**	**46.75**	**269**	T	T	13 08 32.6	
	baz=96,slow=74						
H08S1	**Diego Carcia H**	**46.76**	**268**	T	T	13 08 32.3	
	baz=96						
SONM	**Songino Array**	**58.36**	**349**	P	P	12 20 38.9	-0.3
	0.5nm,0.7s,baz=165,slow=6.0,SNR=3.9						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**65.30**	**333**	P	P	12 21 25.9	0.0
	0.7nm,0.7s,baz=148,slow=7.4,SNR=9.0						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**69.80**	**333**	P	P	12 21 54.3	+0.1
	0.1nm,0.3s,baz=144,slow=6.6,SNR=2.1						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**69.83**	**339**	P	P	12 21 54.5	+0.2
	0.5nm,0.3s,baz=127,slow=4.3,SNR=1.8						
	0.5nm,0.3s						

IDC 05 12:10:49.3±8.4, 5°96S×145°78E, h148km±49km, mb3.1/2, mbtmp3.5/4, MS3.5/1, Error ellipse: s-maj=95.0km s-min=57.1km az=34.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**158**	P	Pn	12 11 45.1	-0.3
	4.6nm,0.3s,baz=336,slow=10.0,SNR=6.3						
PMG				S	Sn	12 12 29.5	+0.6
	9.6nm,0.7s,baz=280,slow=14,SNR=1.4						
WRA	**Warramunga Arr**	**17.80**	**218**	P	P	12 14 47.2	+0.6
	1.0nm,0.8s,baz=43,slow=11,SNR=20						
WRA				S	S	12 17 54.3	-10
	0.8nm,1.0s,baz=50,slow=19,SNR=1.8						
ASAR	**Alice Springs**	**20.99**	**212**	P	P	12 15 20.5	-0.6
	0.7nm,0.6s,baz=37,slow=9.7,SNR=6.2						
	0.7nm,0.6s						
STKA	**Stephens Creek**	**26.08**	**188**	P	P	12 16 09.3	+0.2
	0.6nm,0.3s,baz=0.0,slow=8.1,SNR=4.8						
	0.6nm,0.3s						
LEM	**Lembang**	**37.93**	**267**	LR	LR	12 36 10.5	
	comp=Z,65nm,18.2s,baz=258,slow=40						

*MOS **05** 12:21:52.7±1.0, 36°.55N×70°.93E, h179km, mb4.7/37, Error ellipse: s-maj=5.1km s-min=3.3km az=86.9*
*BJI **05** 12:21:53.5, 36°.59N×70°.94E, h182km, mB4.8/15, mb4.6/56*
*NEIC **05** 12:21:54.8±2.1, 36°.54N±0°.05×70°.84E±0°.06, h184km±5km, mb4.5/72, Error ellipse: s-maj=9.3km s-min=5.1km az=218.0*
*IDC **05** 12:21:54.1±0.7, 36°.41N×70°.95E, h185km±5km, mb4.1/33, mbtmp4.6/38, MS2.9/2, Error ellipse: s-maj=10.6km s-min=7.4km az=23.0*
*NNC **05** 12:21:58.0±3.4, 37°.30N×71°.60E, h0km, mb4.9, mpv4.7, Error ellipse: s-maj=29.3km s-min=18.5km az=14.0*

ISC 05 12:21:53.4±0.3, 36°43N±0°.03×70°97E±0°.03, h174km±3km, h174km: pP-P, n460, σ1°91/513, mb4.5/111, 28C-35D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.45**	**220**	Pn	**Pn**	**12 22 36.8**	**+1.4**
KBL	**Kabul**	**2.45**	**220**	P	**Pn**	**12 22 36.5**	**+1.1**
	SNR=82						
KBL				S	**Sn**	**12 23 08.9**	**+0.9**
KBL	**Kabul**	**2.45**	**220**	PN	**Pn**	**12 22 36.8**	**+1.4**
GAR	**Garm**	**2.62**	**349**	Pn	**Pn**	**12 22 36.9**	**-0.3**
SIMJ	**Simiganj**	**2.71**	**326**	Pn	**Pn**	**12 22 37.5**	**-0.9**
DRK	**Karamyk**	**3.12**	**12**		**Pn**	**12 22 43.9**	**+0.4**
DRK	**Karamyk**	**3.12**	**12**	PN	**Pn**	**12 22 43.0**	**-0.4**
DRK				S	**Sn**	**12 23 21.5**	**-1.0**
NIL	**Nilore**	**3.35**	**145**		**Pn**	**12 22 49.1**	**+3.1**
NIL	**Nilore**	**3.35**	**145**	P	**Pn**	**12 22 49.0**	**+2.9**
NIL	**Nilore**	**3.35**	**145**	PN	**Pn**	**12 22 49.2**	**+3.1**
BTK	**Batken**	**3.62**	**358**		**Pn**	**12 22 49.4**	**-0.2**
BTK	**Batken**	**3.62**	**358**	PN	**Pn**	**12 22 49.4**	**-0.2**
SRNI	**Srinagar**	**3.94**	**125**	*e*P	**Pn**	**12 22 54.9**	**+1.4**
SRNI				*e*S	**Sn**	**12 23 39.2**	**-1.2**
SRNI				IAML		12 23 51.8	
	comp=E,539nm,0.8s						
SRNI				IAML		12 23 55.6	
	comp=N,821nm,0.8s						
OHH	**Osh**	**4.33**	**19**	PN	**Pn**	**12 22 58.1**	**-0.5**
JMU	**Jammu**	**4.92**	**138**	*e*P	**Pn**	**12 23 07.1**	**+0.9**
JMU				*e*S	**Sn**	**12 24 03.5**	**+0.2**
JMU				IAML		12 24 06.2	
	comp=E,611nm,0.8s						
JMU				IAML		12 24 16.6	
	comp=E,483nm,0.6s						
KSH	**Kashi**	**5.01**	**51**	P	**Pn**	**12 23 03.4**	**-4.1**
KSH				S	Sn	12 23 54.5	-11
KSH				smax	smax		
	comp=E,2μm,0.5s						
KSH				smax	smax		
	comp=E,840nm,0.6s						
TRKS	**Terek-Say**	**5.09**	**1**	PN	**Pn**	**12 23 06.7**	**-1.9**
ARK	**Arkit**	**5.42**	**8**	PN	**Pn**	**12 23 11.4**	**-1.3**
THN	**Thein Dam**	**5.59**	**134**	*e*P	**Pn**	**12 23 16.7**	**+1.7**
THN				*e*S	**Sn**	**12 24 18.9**	**-0.1**
THN				IAML		12 24 22.4	
	comp=E,619nm,0.7s						
THN				IAML		12 24 23.6	
	comp=N,970nm,0.3s						
IUG	**Iuzhnay**	**5.76**	**353**	*e*PN	**Pn**	**12 23 15.9**	**-1.2**
IUG	**Iuzhnay**	**5.76**	**353**	*e*P	**Pn**	**12 23 15.1**	**-2.0**
CHM	**Chimkent**	**5.98**	**350**	*e*PN	**Pn**	**12 23 19.0**	**-0.9**
CHM	**Chimkent**	**5.98**	**350**	*e*P	**Pn**	**12 23 19.1**	**-0.9**
DHRM	**DHARAMSHALA**	**6.07**	**132**	*e*P	**Pn**	**12 23 23.0**	**+1.5**
DHRM				*e*S	**Sn**	**12 24 31.9**	**+1.2**
DHRM				IAML		12 24 33.8	
	comp=E,923nm,0.6s						
DHRM				IAML		12 24 34.1	
	comp=E,527nm,0.4s						
AML	**Almayashu**	**6.07**	**20**	P	**Pn**	**12 23 20.8**	**-0.8**
	SNR=316						
UCH	**Uchtor**	**6.41**	**24**	P	**Pn**	**12 23 25.7**	**-0.3**
	SNR=9.3						
DZA	**Taraz**	**6.46**	**2**	*e*PN	**Pn**	**12 23 25.2**	**-1.1**
DZA	**Taraz**	**6.46**	**2**	*e*P	**Pn**	**12 23 25.2**	**-1.1**
EKS2	**Erkin-Say**	**6.59**	**18**	P	**Pn**	**12 23 27.5**	**-0.6**
	SNR=23						
BRLS	**Borolday**	**6.65**	**353**	*e*PN	Pn	12 23 23.8	-5.0
BRLS				pmax	pmax		
	comp=Z,11nm,0.2s						
BRLS	**Borolday**	**6.65**	**353**	*e*P	Pn	12 23 24.0	-4.8
KK31	**Karatay Array**	**6.67**	**357**		**Pn**	**12 23 27.5**	**-1.6**
KK31	**Karatay Array**	**6.67**	**357**	P	**Pn**	**12 23 26.2**	**-2.9**
	comp=Z,66nm,0.4s,baz=186,slow=13,SNR=400						
KK31				⇓S	**Sn**	**12 24 37.7**	**-6.9**
	comp=Z,80nm,0.3s,baz=192,slow=21,SNR=13						
KK31	**Karatay Array**	**6.67**	**357**	PN	**Pn**	**12 23 26.2**	**-2.9**
KKAR	**Karatay Array**	**6.67**	**357**		**Pn**	**12 23 27.7**	**-1.5**
KKAR	**Karatay Array**	**6.67**	**357**		**Pn**	**12 23 27.5**	**-1.6**
KKAR	**Karatay Array**	**6.67**	**357**	PN	**Pn**	**12 23 27.5**	**-1.6**
BHK	**Bhakra**	**6.75**	**136**	*e*P	**Pn**	**12 23 33.4**	**+3.2**
BHK				*e*S	**Sn**	**12 24 47.9**	**+1.5**
BHK				IAML		12 24 48.8	
	comp=E,513nm,0.4s						
BHK				IAML		12 24 54.8	
	comp=E,597nm,0.3s						
AAK	**Ala-Archa**	**6.77**	**23**	Pn	**Pn**	**12 23 30.0**	**-0.6**
AAK	**Ala-Archa**	**6.77**	**23**	P	**Pn**	**12 23 30.1**	**-0.4**
	comp=E,25nm,0.4s,baz=206,slow=8.7,SNR=76						
AAK				S	**Sn**	**12 24 43.2**	**-3.9**
	comp=E,100nm,0.6s,baz=331,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.77**	**23**	P	**Pn**	**12 23 30.3**	**-0.3**
AAK				S	**Sn**	**12 24 44.4**	**-2.8**
AAK	**Ala-Archa**	**6.77**	**23**	P	**Pn**	**12 23 30.2**	**-0.3**
	SNR=50						
AAK	**Ala-Archa**	**6.77**	**23**	PN	**Pn**	**12 23 29.0**	**-1.6**
AAK				S	**Sn**	**12 24 48.0**	**+0.8**
AAK	**Ala-Archa**	**6.77**	**23**	*i* P	**Pn**	**12 23 29.9**	**-0.6**
	SNR=65						
KBK	**Karagaybulak**	**6.94**	**25**	P	**Pn**	**12 23 32.6**	**-0.2**
	SNR=20						
FRU1	**Bishkek**	**6.97**	**23**		**Pn**	**12 23 31.9**	**-1.1**
FRU1	**Bishkek**	**6.97**	**23**	PN	**Pn**	**12 23 32.0**	**-1.1**
ULHL	**Ulahol**	**7.10**	**34**	P	**Pn**	**12 23 34.4**	**-0.6**
	SNR=12						
CHMS	**Chumysh**	**7.18**	**23**	P	**Pn**	**12 23 35.0**	**-0.8**
	SNR=24						
USP	**Ospenovka**	**7.35**	**21**	P	**Pn**	**12 23 36.5**	**-1.6**
	SNR=36						
SMLA	**Simla**	**7.39**	**134**	*e*P	**Pn**	**12 23 39.5**	**+0.9**
SMLA				*e*S	**Sn**	**12 25 00.5**	**-1.1**
SMLA				IAML		12 25 05.2	
	comp=E,440nm,0.3s						
SMLA				IAML		12 25 05.3	
	comp=E,651nm,0.4s						
TKM2	**Tokmak 2**	**7.40**	**27**	P	**Pn**	**12 23 38.0**	**-0.9**
	SNR=81						
TKM2	**Tokmak 2**	**7.40**	**27**	⇑P	**Pn**	**12 23 35.1**	**-3.8**
	comp=E,64nm,0.8s						
TKM2	**Tokmak 2**	**7.40**	**27**	PN	**Pn**	**12 23 35.9**	**-3.0**
HRA	**Herat**	**7.41**	**257**	Pn	**Pn**	**12 23 38.5**	**-0.6**
KDJ	**Kajisay**	**7.46**	**38**		**Pn**	**12 23 39.1**	**-0.5**
KDJ	**Kajisay**	**7.46**	**38**	PN	**Pn**	**12 23 39.1**	**-0.5**
TARG	**Taragay, Kyrgy**	**7.50**	**43**		**Pn**	**12 23 39.5**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.50**	**43**	PN	**Pn**	**12 23 39.5**	**-0.9**
SGDS	**Sogindy**	**7.56**	**21**	*e*PN	**Pn**	**12 23 39.4**	**-1.4**
SGDS	**Sogindy**	**7.56**	**21**	*e*P	**Pn**	**12 23 39.5**	**-1.4**
KLP	**Kalpa**	**7.77**	**127**	*e*P	**Pn**	**12 23 44.7**	**+0.6**
KLP				*e*S	**Sn**	**12 25 06.4**	**-4.9**
KLP				IAML		12 25 13.3	
	comp=E,532nm,0.5s						
KLP				IAML		12 25 16.3	
	comp=N,837nm,0.7s						
WUS	**Wushi**	**8.01**	**51**	Pn	**Pn**	**12 23 46.8**	**-0.1**
TNSS	**Tian-Shan**	**8.05**	**33**	*e*PN	**Pn**	**12 23 46.5**	**-1.1**
TNSS	**Tian-Shan**	**8.05**	**33**	*e*P	**Pn**	**12 23 46.5**	**-1.1**
AAA	**Alma-Ata**	**8.17**	**32**	*e*PN	**Pn**	**12 23 48.1**	**-0.8**
AAA	**Alma-Ata**	**8.17**	**32**	*e*P	**Pn**	**12 23 48.2**	**-0.8**
MDOK	**Medeo**	**8.19**	**33**	⇑P	**Pn**	**12 23 46.0**	**-3.2**
	comp=N,18nm,0.7s						
MDOK				S	Sn	12 25 04.7	-16
	comp=N,27nm,0.7s						
MDOK	**Medeo**	**8.19**	**33**	PN	**Pn**	**12 23 46.4**	**-2.9**
MDOK	**Medeo**	**8.19**	**33**	*e*P	**Pn**	**12 23 48.6**	**-0.7**
PRZ	**Przheval'sk**	**8.34**	**41**		**Pn**	**12 23 51.2**	**-0.1**
PRZ	**Przheval'sk**	**8.34**	**41**	PN	**Pn**	**12 23 51.2**	**-0.1**
DDI	**Dehra Dun**	**8.50**	**134**	*e*P	**Pn**	**12 23 54.5**	**+1.1**
DDI				*e*S	**Sn**	**12 25 25.0**	**-3.3**
DDI				IAML		12 25 35.5	
	comp=N,525nm,0.3s						
DDI				IAML		12 25 35.9	
	comp=E,810nm,0.5s						
BKNR	**BIKANER**	**8.61**	**166**	*e*P	**Pn**	**12 23 55.5**	**+0.7**
BKNR				*e*S	**Sn**	**12 25 23.8**	**-7.1**
BKNR				IAML		12 25 30.4	
	comp=N,645nm,0.6s						
BKNR				IAML		12 25 30.9	
	comp=E,672nm,0.6s						
RTK	**Rohtak**	**8.68**	**147**	*e*S	**Sn**	**12 25 28.1**	**-4.6**
SATY	**Saty**	**8.75**	**39**	*e*PN	**Pn**	**12 23 55.9**	**-0.7**
SATY				*e*S	**Sn**	**12 25 33.1**	**-1.2**
SATY	**Saty**	**8.75**	**39**	*e*P	**Pn**	**12 23 56.0**	**-0.7**
SATY				*e*S	**Sn**	**12 25 33.1**	**-1.2**
BTLS	**Baital**	**8.91**	**14**	*e*PN	**Pn**	**12 23 56.1**	**-2.5**
BTLS				pmax	pmax		
	comp=Z,23nm,3.2s						
BTLS	**Baital**	**8.91**	**14**	*e*P	**Pn**	**12 23 56.7**	**-1.9**
UZB	**Uzynbulak**	**9.13**	**40**	*e*P	**Pn**	**12 24 01.1**	**-0.5**
UZB	**Uzynbulak**	**9.13**	**40**	*e*P	**Pn**	**12 24 01.1**	**-0.5**
KPKS	**Kokpek**	**9.19**	**38**	*e*P	**Pn**	**12 24 01.4**	**-0.9**
KPKS	**Kokpek**	**9.19**	**38**	*e*P	**Pn**	**12 24 01.5**	**-0.9**
JOSI	**Joshimath**	**9.26**	**127**	*e*P	**Pn**	**12 24 04.7**	**+1.2**
JOSI				*e*S	**Sn**	**12 25 41.8**	**-5.0**
JOSI				IAML		12 25 48.3	
	comp=N,458nm,0.8s						
JOSI				IAML		12 25 49.4	
	comp=E,569nm,0.5s						
NDI	**New Delhi**	**9.35**	**144**	*e*S	**Sn**	**12 25 43.1**	**-5.6**
NDI				IAML		12 25 45.0	
	comp=E,266nm,0.7s						
NDI				IAML		12 25 48.9	
	comp=N,191nm,0.4s						
NPLP	**NPLP New Delhi**	**9.37**	**144**	*e*P	**Pn**	**12 24 04.7**	**0.0**
NPLP				*e*S	**Sn**	**12 25 42.8**	**-6.3**
NPLP				IAML		12 25 44.5	
	comp=E,342nm,0.7s						
NPLP				IAML		12 25 45.4	
	comp=N,459nm,0.6s						
ARXS	**Arharly**	**9.37**	**32**	*e*P	**Pn**	**12 24 03.5**	**-1.2**
LDR	**Lodi Road**	**9.43**	**144**	*e*S	**Sn**	**12 25 45.4**	**-5.3**
JASL	**Jaisalmer**	**9.48**	**180**	*e*S	**Sn**	**12 25 47.9**	**-3.8**
JASL				IAML		12 25 49.8	
	comp=N,211nm,0.6s						
JASL				IAML		12 25 51.5	
	comp=E,253nm,0.7s						
JMIU	**JAMIA UNIVERSI**	**9.48**	**144**	*e*S	**Sn**	**12 25 46.3**	**-5.5**
KUDL	**Kundal**	**9.49**	**149**	*e*P	**Pn**	**12 24 06.0**	**-0.3**
KUDL				*e*S	**Sn**	**12 25 45.4**	**-6.6**
KUDL				IAML		12 25 46.4	
	comp=E,404nm,0.5s						
KUDL				IAML		12 25 50.0	
	comp=E,189nm,0.6s						
PDGK	**Podgornoye**	**9.50**	**41**	⇑P	**Pn**	**12 24 04.8**	**-1.7**
	comp=E,17nm,0.8s						
PDGK				⇓S	Sn	12 25 41.0	-11
	comp=E,36nm,0.9s						
PDGK	**Podgornoye**	**9.50**	**41**	P	**Pn**	**12 24 04.8**	**-1.7**
PDGK				S	Sn	12 25 41.2	-11
ASOR	**Ausora**	**9.56**	**141**	*e*S	**Sn**	**12 25 50.0**	**-3.8**
SONA	**Sohna**	**9.65**	**146**	*e*P	**Pn**	**12 24 08.6**	**+0.1**
SONA				*e*S	**Sn**	**12 25 48.8**	**-7.2**
SONA				IAML		12 25 52.0	
	comp=N,278nm,0.5s						
SONA				IAML		12 25 52.2	
	comp=E,361nm,0.5s						
TKRD	**Thakurdwara**	**9.84**	**135**	*e*S	**Sn**	**12 25 56.2**	**-4.1**
UGON	**Onchagaon**	**10.00**	**142**	*e*S	**Sn**	**12 25 59.0**	**-5.1**
TDK	**Taldyqorghan**	**10.25**	**31**	*e*P	**Pn**	**12 24 15.1**	**-1.1**
TDK	**Taldyqorghan**	**10.25**	**31**	*e*P	**Pn**	**12 24 15.1**	**-1.1**
PTH	**Pithoragarh**	**10.36**	**129**	*e*P	**Pn**	**12 24 17.1**	**-0.8**
PTH				*e*S	**Sn**	**12 26 06.2**	**-6.9**
PTH				IAML		12 26 10.7	
	comp=E,96nm,0.4s						
PTH				IAML		12 26 12.8	
	comp=E,92nm,0.4s						
AJM	**Ajmer**	**10.40**	**161**	*e*P	**Pn**	**12 24 19.2**	**+0.8**
AJM				*e*S	**Sn**	**12 26 08.7**	**-5.3**
AJM				IAML		12 26 35.6	
	comp=E,76nm,0.4s						
AJM				IAML		12 26 40.2	
	comp=E,106nm,0.7s						
LGTI	**Lohaghat**	**10.45**	**129**	*e*P	**Pn**	**12 24 18.0**	**-0.8**
LGTI				*e*S	Sn	12 26 05.7	-9.2
LGTI				IAML		12 26 14.1	
	comp=E,157nm,1.0s						
LGTI				IAML		12 26 14.8	
	comp=N,188nm,0.7s						
JHNI	**Jhansi**	**12.71**	**147**	*e*P	**Pn**	**12 24 48.0**	**-0.1**
JHNI				*e*S	**Sn**	**12 27 01.7**	**-7.5**
BHUJ	**Bhuj**	**13.18**	**185**	*e*S	Sn	12 27 12.2	-8.3
MAKZ	**Makanchi**	**13.23**	**35**	Pn	**Pn**	**12 24 54.0**	**-0.5**
MAKZ	**Makanchi**	**13.23**	**35**	⇓P	**Pn**	**12 24 52.4**	**-2.1**
	comp=N,26nm,0.6s						
MAKZ	**Makanchi**	**13.23**	**35**	P	**Pn**	**12 24 54.0**	**-0.5**
MK31	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**12 24 55.9**	**-0.3**
	comp=N,6.4nm,0.5s,baz=218,slow=11,SNR=204						
MK31	**Makanchi Array**	**13.36**	**36**	*de*P	**Pn**	**12 24 54.4**	**-1.8**
MKAR	**Makanchi Array**	**13.36**	**36**	Pn	**Pn**	**12 24 55.1**	**-1.1**
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**12 24 55.3**	**-0.9**
	comp=N,10nm,0.7s,baz=60,slow=30,SNR=44						
BRZS	**Berezniki**	**13.60**	**5**	*e*P	**Pn**	**12 24 58.5**	**-0.6**
BRZS	**Berezniki**	**13.60**	**5**	*e*P	**Pn**	**12 24 58.6**	**-0.6**
NGCH	**Negor - Chabah**	**13.88**	**220**	P	**Pn**	**12 25 04.0**	**+1.2**
VLK	**Valmikinagar**	**14.22**	**126**	*e*S	Sn	12 27 36.3	-9.2
BHPL	**Bhopal**	**14.28**	**155**	*e*P	**P**	**12 25 11.9**	**+1.9**
BHPL				IAmb	IAmb	12 25 14.4	
	comp=Z,25nm,1.1s						
BHPL				*e*S	Sn	12 27 37.3	-10
ALBI	**Allahabad**	**14.46**	**137**	*e*P	**Pn**	**12 25 09.5**	**-0.6**
ALBI				*ex*	x	12 27 39.3	
NRDN	**NARMADA NAGAR**	**14.68**	**157**	*e*P	**P**	**12 25 16.5**	**+2.0**
NRDN				*e*S	**Sn**	**12 27 48.4**	**-8.1**
NRDN				IAML		12 27 56.4	
	comp=E,39nm,0.8s						
NRDN				IAML		12 27 58.8	
	comp=N,31nm,0.6s						
WMQ	**Urumqi**	**14.76**	**55**	*e*P	**P**	**12 25 16.6**	**+1.4**
WMQ				S	**S**	**12 28 01.2**	**+0.1**
WMQ				pmax	pmax		
	comp=N,21nm,0.9s						
ZSN	**Zaisan**	**15.08**	**39**	*e*P	**Pn**	**12 25 16.8**	**-0.7**
ZSN	**Zaisan**	**15.08**	**39**	*e*P	**Pn**	**12 25 16.8**	**-0.7**
AB31	**Akbulak array**	**15.13**	**331**	⇓P	**P**	**12 25 23.6**	**+4.4**
	comp=N,7.1nm,0.3s,baz=146,slow=12,SNR=433						
AB31				⇓S	**S**	**12 28 09.7**	**+1.1**
	comp=N,12nm,0.6s,baz=155,slow=23,SNR=8.8						
AB31	**Akbulak array**	**15.13**	**331**	P	**P**	**12 25 23.6**	**+4.4**
ABKAR	**Akbulak array**	**15.13**	**331**	Pn	**Pn**	**12 25 15.4**	**-2.7**
KURBB	**Kurchatov Arra**	**15.20**	**19**	P	**Pn**	**12 25 16.1**	**-2.8**
	comp=N,7.1nm,0.6s,baz=210,slow=10,SNR=40						
KURBB				S	**Sn**	**12 28 07.3**	**-1.0**
	comp=N,1.4nm,0.8s,baz=214,slow=16,SNR=1.9						
KURBB	**Kurchatov Arra**	**15.20**	**19**	⇑P	**Pn**	**12 25 19.1**	**+0.2**
	comp=N,9.2nm,0.6s						
KURBB	**Kurchatov Arra**	**15.20**	**19**	P	**Pn**	**12 25 19.1**	**+0.2**
KURK	**Kurchatov**	**15.31**	**19**	P	**P**	**12 25 20.6**	**-0.5**
KURK	**Kurchatov**	**15.31**	**19**	P	**Pn**	**12 25 19.5**	**-0.7**
KURK	**Kurchatov**	**15.31**	**19**	⇑P	**Pn**	**12 25 19.6**	**-0.7**
	comp=N,12nm,1.4s						
KURK	**Kurchatov**	**15.31**	**19**	P	**P**	**12 25 20.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BANOM	**Banah**	**16.33**	**234**	P	**P**	**12 25 31.8**	**-0.8**
BANOM	**Banah**	**16.33**	**234**	*i* P	**P**	**12 25 32.6**	**0.0**
	SNR=8.0						
SHME	**Shamm**	**16.34**	**235**	P	**P**	**12 25 32.2**	**-0.6**
AKL	**Akola**	**16.54**	**160**	*e*P	**Pn**	**12 25 38.0**	**+2.6**
AKL				*e*S	**S**	**12 28 32.9**	**-5.4**
BVA0	**Borovoye Array**	**16.60**	**359**	P	**Pn**	**12 25 40.7**	**+4.8**
	comp=Z,11nm,0.8s,baz=167,slow=11,SNR=62						
BVA0				⇑S	**S**	**12 28 35.5**	**-3.6**
	comp=Z,11nm,1.0s,baz=165,slow=30,SNR=3.5						
BVA0	**Borovoye Array**	**16.60**	**359**	P	**Pn**	**12 25 40.7**	**+4.8**
BVA0				S	**S**	**12 28 35.5**	**-3.6**
BVAR	**Borovoye Array**	**16.60**	**359**	P	**P**	**12 25 34.0**	**-1.3**
	comp=Z,11nm,0.6s,baz=185,slow=7.4,SNR=60						
BVAR				S	**S**	**12 28 29.0**	**-10**
	comp=Z,4.8nm,0.6s,baz=165,slow=29,SNR=6.1						
BRVK	**Borovoye**	**16.64**	**359**	P	**P**	**12 25 34.6**	**-1.1**
BRVK				IAmb	IAmb	12 25 36.5	
	comp=Z,19nm,0.8s						
BRVK	**Borovoye**	**16.64**	**359**	P	**P**	**12 25 34.6**	**-1.1**
BRVK	**Borovoye**	**16.64**	**359**	⇓P	**Pn**	**12 25 40.3**	**+4.0**
	comp=Z,22nm,0.9s						
BRVK				⇓S	**S**	**12 28 35.9**	**-4.0**
	comp=Z,7.6nm,0.7s						
BRVK	**Borovoye**	**16.64**	**359**	P	**Pn**	**12 25 40.4**	**+4.0**
BRVK				S	**S**	**12 28 35.9**	**-4.0**
MDH	**Madha**	**16.76**	**233**	P	**P**	**12 25 36.3**	**-1.1**
MASF	**Masafi**	**16.80**	**233**	P	**P**	**12 25 37.8**	**0.0**
MSFE	**Esma-Masafi**	**16.81**	**233**	P	**Pn**	**12 25 39.7**	**+1.0**
AKTO	**Aktyubinsk**	**16.83**	**330**	P	**P**	**12 25 37.9**	**0.0**
	comp=Z,59nm,0.6s,baz=146,slow=9.0,SNR=193						
AKTO				S	S	12 28 32.4	-12
	comp=Z,14nm,0.7s,baz=356,slow=22,SNR=4.1			

comp=Z,29nm,0.6s
SHMA Al-Shehemyia 20.07 244 P **P** 12 26 12.1 -1.2
SNR=19
NAX Nakhchivan 20.29 285 P **P** 12 26 16.0 +0.3
RAGD RAYAGADA 20.34 144 *e*P Pn 12 26 29.2 +8.6
RAGD *e*S **S** 12 29 58.7 +4.1
TRNA Turayna 20.57 241 P **P** 12 26 17.1 -1.5
SNR=19
KBD Kabd 20.83 256 P **P** 12 26 21.7 +0.4
SMRA Abu-Samra 20.84 242 P **P** 12 26 20.6 -1.0
SNR=6.3
GNI Garni 20.89 288 P **P** 12 26 22.2 +0.1
GNI Garni 20.89 288 P **P** 12 26 23.4 +1.3
comp=Z,49nm,0.9s,baz=57,slow=0.7,SNR=24
comp=Z,49nm,0.9s
GNI Garni 20.89 288 P **P** 12 26 24.4 +2.3
GNI Garni 20.89 288*d* *i*P **P** 12 26 22.7 +0.6
GNI pmax pmax
comp=Z,69nm,1.1s
GNI Garni 20.89 288 P **P** 12 26 23.1 +1.0
comp=Z,644nmcomp=Z,84nm,1.1s
SHL Shillong 20.90 115 P **P** 12 26 22.3 -0.1
SHL Shillong 20.90 115 P **P** 12 26 23.5 +1.1
SNR=16
SHL Shillong 20.90 115 *ex* x 12 26 23.6
SHL IAmb IAmb 12 26 29.1
comp=Z,26nm,1.1s
SHL Shillong 20.90 115 P **P** 12 26 22.3 -0.1
SHL pmax pmax
comp=Z,65nm,0.9s
ZIRO ZIRO 21.31 108 *ex* **P** 12 26 27.7 +1.0
ZIRO IAmb IAmb 12 26 29.8
comp=Z,28nm,0.8s
SVE Sverdlovsk 21.55 344 *e*P **P** 12 26 28.0 -0.8
SVE *e*S **S** 12 30 22.7 +6.6
SVE pmax pmax
comp=Z,24nm,1.1s
ARTI Arti 21.70 341 P **P** 12 26 28.6 -1.7
ARTI IAmb IAmb 12 26 31.8
comp=Z,30nm,1.0s
ARTI Arti 21.70 341 P **P** 12 26 29.7 -0.6
comp=Z,8.5nm,0.4s,baz=146,slow=7.2,SNR=17
ARTI S **S** 12 30 19.7 +1.2
comp=Z,1.8nm,0.6s,baz=159,slow=23,SNR=1.3
comp=Z,8.5nm,0.4s
ARTI Arti 21.70 341*c* *i*P **P** 12 26 29.8 -0.5
ARTI *PP **pP** 12 27 00.1 -1.1
ARTI S **S** 12 30 19.2 +0.7
ARTI pmax pmax
comp=Z,42nm,1.1s
NCK Nalchik 22.07 297⇓ *e*P **P** 12 26 34.0 -0.2
NCK pmax pmax
comp=Z,45nm,0.9s
KARS Kars 22.17 289 P **P** 12 26 36.6 +1.2
KARS Kars 22.17 289 P **P** 12 26 36.6 +1.2
KARS pmax pmax
comp=Z,46nm,0.8s
GEVA Gevas 22.23 283 P **P** 12 26 36.6 +0.6
KOHI KOHIMA 22.46 112 *ex* **P** 12 26 39.1 +0.9
KOHI IAmb IAmb 12 26 47.1
comp=Z,23nm,1.2s
AZL Aizawl 22.59 118 *ex* **P** 12 26 42.2 +2.8
AZL IAmb IAmb 12 26 43.3
comp=Z,28nm,0.7s
KBZ Khabaz 22.61 297 P **P** 12 26 38.6 -0.6
comp=Z,9.8nm,0.7s,baz=113,slow=7.0,SNR=26
KBZ S **S** 12 30 35.6 +2.1
comp=Z,1.4nm,0.8s,baz=253,slow=10,SNR=1.4
KBZ LR LR 12 38 09.7
comp=Z,33nm,18.3s,baz=48,slow=43
comp=Z,9.8nm,0.7s
GOF Gofitskoye 22.76 301*c* *e*P **P** 12 26 42.1 +1.5
SHA1 Shidzhatmaz 22.78 297*d* *i*P **P** 12 26 40.9 -0.2
KVAR Kislovodsk Arr 22.79 298 P **P** 12 26 41.5 +0.4
comp=Z,2.7nm,0.4s,baz=286,slow=20,SNR=2.2
comp=Z,2.7nm,0.4s
KIV Kislovodsk 22.80 298 P **P** 12 26 40.5 -0.6
KIV IAmb IAmb 12 27 11.4
comp=Z,15nm,0.6s
KIV Kislovodsk 22.80 298 *e*P **P** 12 26 42.0 +0.9
KIV *e*S **S** 12 30 37.8 +1.0
KIV pmax pmax
comp=Z,15nm,1.0s
IMP Imphal 22.84 114 *ex* **P** 12 26 43.9 +2.3
IMP IAmb IAmb 12 26 45.1
comp=Z,16nm,0.5s
GTA Gaotai 22.91 74 *e*P **P** 12 26 42.7 +0.5
GTA pP pP 12 27 19.3 +4.0
GTA PcP **PcP** 12 30 31.4 +4.6
GTA pmax pmax
comp=Z,7.0nm,1.3s
BELG Belogornoye 22.93 321 P **P** 12 26 42.0 +0.1
comp=Z,77nm,0.8s,baz=289,slow=0.5,SNR=22
comp=Z,77nm,0.8s
BELG Belogornoye 22.93 321*d* *i*P **P** 12 26 41.4 -0.6
BELG pmax pmax
comp=Z,11nm,0.9s
DOK Doka 23.13 224 P **P** 12 26 44.8 +0.7
DMTO DMTO 23.41 221 P **P** 12 26 46.2 -0.5
WHFO Wadi Hawf 23.89 224 P **P** 12 26 51.2 +0.1
SNR=7.6
KOPT Kop Dagi 24.14 288 P **P** 12 26 53.8 +0.2
KOPT IAmb IAmb 12 27 01.1
comp=Z,9.2nm,0.8s
ABTO Aybut 24.61 224 P **P** 12 26 58.6 +0.9
SNR=7.1
VSLR Vesyoloye 24.64 296⇑ *e*P **P** 12 26 58.5 +0.8
VSLR pmax pmax
comp=Z,30nm,1.0s
SOC Sochi 24.88 296 *e*P **P** 12 26 58.7 -1.1
SOC *e* 12 27 43.8
SOC *e*S **S** 12 31 08.8 -1.0
SOC pmax pmax
comp=Z,19nm,0.8s
RAYN Ar Rayn 25.45 247 P **P** 12 27 03.5 -1.7
RAYN IAmb IAmb 12 27 06.5
comp=Z,17nm,1.0s
RAYN Ar Rayn 25.45 247 P **P** 12 27 04.9 -0.4
RAYN Ar Rayn 25.45 247 P **P** 12 27 03.5 -1.7
RAYN pmax pmax
comp=Z,17nm,1.0s
VRH Novokhopyorsk 25.54 315 *e*P **P** 12 27 02.6 -3.1
VRH pmax pmax
comp=Z,10.0nm,0.8s
MOY Mondy 26.18 45 *e*P **P** 12 27 13.4 +1.8
MOY pmax pmax
comp=Z,12nm,2.2s
TNCH TengChong 26.18 108 *e*P **P** 12 27 13.9 +1.9
TNCH pP pP 12 27 49.7 +0.8
TNCH sP PP 12 28 14.2 -0.4
TNCH S **S** 12 31 30.7 -0.4
TNCH sS sS 12 32 31.2 -5.1
TNCH pmax pmax
comp=Z,12nm,0.8s
TNCH pmax pmax
comp=Z,60nm,3.3s
TNCH LR LR
comp=Z,90nm,4.8s
TNCH LR LR
comp=Z,110nm,4.8s
TNCH LR LR
comp=Z,93nm,8.6s
KIRV Kirov 26.29 334 P **P** 12 27 12.3 0.0
comp=Z,17nm,0.5s,baz=139,slow=24,SNR=6.8
comp=Z,17nm,0.5s
KIRV Kirov 26.29 334*de*P **P** 12 27 12.3 0.0
KIRV *i* *PP **pP** 12 27 48.6 +0.1
VORD Divnogorie 26.87 313 *e*P **P** 12 27 16.1 -1.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 27.03 313 *e*P **P** 12 27 16.8 -2.3
VSR pmax pmax
comp=Z,20nm,1.0s
ZAK Zakamensk 27.06 49 *e*P **P** 12 27 15.0 -4.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
VORR Voronezh 27.17 314 *e*P **P** 12 27 16.5 -3.8
VORR pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 27.68 316 *e*P **P** 12 27 23.5 -1.4
LPSR pmax pmax
comp=Z,30nm,0.9s
CD2 Chengdu 27.76 92 P **P** 12 27 28.0 +2.1
CD2 pmax pmax
comp=Z,20nm,0.9s

PZH PanZhiHua 27.95 102 P **P** 12 27 29.4 +1.7
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,90nm,4.5s
SONM Songino Array 28.40 55 P **P** 12 27 32.5 +1.0
SONM Songino Array 28.40 55 P **P** 12 27 32.1 +0.7
comp=Z,2.8nm,0.8s,baz=261,slow=9.8,SNR=19
comp=Z,2.8nm,0.8s
SONM Songino Array 28.40 55 P **P** 12 27 32.5 +1.0
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 28.84 55*de*P **P** 12 27 36.3 +0.9
ULN pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 29.43 288⇑ *e*P **P** 12 27 41.9 +1.2
BRTR Keskin Array B 29.43 288 P **P** 12 27 41.0 +0.3
comp=Z,1.1nm,0.5s,baz=108,slow=9.4,SNR=7.4
comp=Z,1.1nm,0.5s
OBN Obninsk 29.97 319 P **P** 12 27 44.6 -0.4
comp=Z,19nm,0.3s,baz=144,slow=23,SNR=4.1
comp=Z,19nm,0.3s
OBN Obninsk 29.97 319*de*P **P** 12 27 44.9 -0.2
OBN *e**PP **pP** 12 28 20.9 -0.7
OBN *e* 12 28 48.7
OBN *e*S **S** 12 32 27.6 -2.0
OBN pmax pmax
comp=Z,33nm,1.3s
CHTO Chiang Mai 30.21 118 P **P** 12 27 48.7 +1.1
CHTO IAmb IAmb 12 27 50.8
comp=Z,5.9nm,0.6s
CHTO Chiang Mai 30.21 118 P **P** 12 27 48.7 +1.1
CHTO pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 30.45 119 P **P** 12 27 50.3 +0.6
CMAR Chiang Mai Arr 30.45 119 P **P** 12 27 50.6 +1.0
comp=Z,7.0nm,0.9s,baz=300,slow=8.3,SNR=52
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 30.45 119 *i* P **P** 12 27 51.2 +1.5
CMAR pmax pmax
comp=Z,7.0nm,0.8s
XAN Xi'an 30.96 83 ⇑P **P** 12 27 54.8 +0.7
XAN pmax pmax
comp=Z,23nm,0.8s
XAN pmax pmax
comp=Z,140nm,5.2s
KLMR Klimovskoe 31.53 331 *e*P **P** 12 27 56.7 -2.0
KLMR pmax pmax
comp=Z,20nm,1.1s
HHC Hu-ho-hao-te 31.81 69 *e*P **P** 12 28 03.8 +2.2
HHC pmax pmax
comp=Z,3.0nm,0.7s
HHC pmax pmax
comp=Z,92nm,5.7s
SLVN Son La 32.34 109 P **P** 12 28 08.2 +1.8
AK09 Malin Array Si 32.92 309 P **P** 12 28 10.1 -0.8
AK08 Malin Array Si 32.94 309 P **P** 12 28 10.4 -0.7
AKASG Malin Array Be 32.97 309 P **P** 12 28 10.8 -0.6
AKASG IAmb IAmb 12 28 11.8
comp=Z,8.9nm,0.9s
AKASG Malin Array Be 32.97 309 P **P** 12 28 10.8 -0.6
comp=Z,7.1nm,0.5s,baz=84,slow=7.0,SNR=56
AKASG PP **PP** 12 29 27.2 -2.2
comp=Z,4.0nm,0.8s,baz=94,slow=9.7,SNR=5.8
comp=Z,7.1nm,0.5s
AKASG Malin Array Be 32.97 309 *i* P **P** 12 28 11.1 -0.3
AKASG pmax pmax
comp=Z,16nm,0.6s
AKBB Malin Array Si 32.97 309 P **P** 12 28 10.2 -1.1
AKBB Malin Array Si 32.97 309 P **P** 12 28 10.2 -1.1
AKBB pmax pmax
comp=Z,22nm,0.7s
AKBB Malin Array Si 32.97 309 P **P** 12 28 10.6 -0.8
KIEV Kiev 32.98 309 P **P** 12 28 09.9 -1.5
KIEV Kiev 32.98 309 ⇓P **P** 12 28 11.1 -0.3
KIEV Kiev 32.98 309 P **P** 12 28 09.9 -1.5
KIEV pmax pmax
comp=Z,20nm,0.7s
KIEV Kiev 32.98 309 *i* P **P** 12 28 11.1 -0.3
SNR=8.3
KIEV Kiev 32.98 309 P **P** 12 28 10.3 -1.1
comp=Z,111nm,0.7s
SORM Soroca 33.22 304 ⇑P **P** 12 28 13.4 -0.2
SORM Soroca 33.22 304 ⇑P **P** 12 28 13.4 -0.2
SORM Soroca 33.22 304 P **P** 12 28 12.9 -0.7
comp=Z,29nm,0.8s
CFR Carcaliu 33.25 299 ⇑P **P** 12 28 14.5 +0.7
CFR Carcaliu 33.25 299 ⇑P **P** 12 28 14.5 +0.7
LYN LuoYang 33.66 81 P **P** 12 28 19.7 +2.1
LYN pmax pmax
comp=Z,25nm,1.2s
LYN pmax pmax
comp=Z,180nm,4.7s
LUBAR Lubar, Ukraine 33.79 307 P **P** 12 28 17.6 -0.9
NDNU Novodnistrovsk 33.91 305 P **P** 12 28 19.1 -0.5
MI28 Mi28,Pidlybu 33.98 309 P **P** 12 28 19.7 -0.4
comp=Z,250nm,0.8s
NRIK Noril'sk 34.20 10 P **P** 12 28 21.9 +0.1
NRIK IAmb IAmb 12 29 02.0
comp=Z,5.9nm,0.8s
NRIK Noril'sk 34.20 10 P **P** 12 28 22.2 +0.4
comp=Z,5.3nm,0.6s,baz=196,slow=5.5,SNR=9.0
comp=Z,5.3nm,0.6s
NRIK Noril'sk 34.20 10*de*P **P** 12 28 22.3 +0.5
NRIK pmax pmax
comp=Z,4.0nm,0.9s
VRI Vrincioaia 34.24 300 ⇓P **P** 12 28 24.0 +1.5
VRI Vrincioaia 34.24 300 ⇓P **P** 12 28 24.0 +1.5
PLOR Plostina 34.29 300 ⇑P **P** 12 28 24.5 +1.6
PLOR Plostina 34.29 300 ⇑P **P** 12 28 24.5 +1.6
GIRR Girov 34.41 302 ⇑P **P** 12 28 24.7 +0.8
KMPD K-Podol'skiy 34.51 305 P **P** 12 28 24.4 -0.3
comp=Z,5μm,0.9s
MNK Minsk 34.53 315 *i* P **P** 12 28 23.5 -1.3
comp=E,12nm,0.7s
MNK *i* P **P** 12 28 23.5 -1.3
comp=N,7.0nm,0.7s
MNK *i* P **P** 12 28 23.5 -1.3
comp=Z,16nm,0.7s,baz=103
MNK *i* pP **pP** 12 29 01.2 -0.8
MNK *i* sP **sP** 12 29 22.1 -0.1
MNK *i* PP **PP** 12 29 45.2 -1.3
MNK *i* S **S** 12 33 39.0 -1.3
MNK *i* sS **sS** 12 34 46.3 -0.3
MNK *i* SS **SS** 12 36 21.2 +6.1
MNK *i* LR LR 12 43 20.3
MNK *i* LRM MLR 12 43 44.7
comp=N,377nm,15.3s
MNK *i* LRM MLR 12 44 27.9
comp=Z,24nm,15.2s
MNK *i* LRM MLR 12 44 38.1
comp=E,131nm,15.9s
MNK Minsk 34.53 315 *i* P **P** 12 28 23.4 -1.3
MNK *i **PP **pP** 12 29 01.2 -0.8
MNK *i **SP **sP** 12 29 22.1 -0.1
MNK *i* 12 29 45.2
MNK *i* 12 30 54.2
MNK *i* S **S** 12 33 39.0 -1.3
MNK *i **SS **sS** 12 34 46.3 -0.3
MNK *i* 12 38 18.7
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK pmax pmax
comp=E,12nm,0.7s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK MLR MLR
comp=N,377nm,15.0s
MNK MLR MLR
comp=Z,24nm,15.0s
MNK MLR MLR
comp=E,131nm,16.0s
HORU Horodok 34.58 306 P **P** 12 28 25.0 -0.3
HORU Horodok 34.58 306 P **P** 12 28 25.0 -0.3
COVR Voineasa-Covas 34.60 300 ⇓P **P** 12 28 27.1 +1.4
HNS HongShan 34.75 75 ⇑P **P** 12 28 29.2 +2.3
HNS pmax pmax
comp=E,7.0nm,1.2s
MLR Muntele Rosu 34.79 299 P **P** 12 28 28.1 +0.8
MLR Muntele Rosu 34.79 299 P **P** 12 28 28.3 +1.0
comp=E,19nm,0.9s,baz=122,slow=2.0,SNR=17
comp=E,19nm,0.9s
MLR Muntele Rosu 34.79 299 ⇑P **P** 12 28 29.2 +1.9
MLR Muntele Rosu 34.79 299 P **P** 12 28 28.1 +0.8
MLR pmax pmax

comp=Z,29nm,1.0s
MLR Muntele Rosu 34.79 299 P **P** 12 28 26.9 -0.4
comp=Z,34nm,1.0s
RNPP5 Staryi Chortor 35.13 309 P **P** 12 28 29.8 -0.2
DOPR Dopca 35.17 300 ⇑P **P** 12 28 31.4 +1.0
NACGM Naroch 35.24 316 *e*P **P** 12 28 31.4 +0.5
BURAR Bucovina Array 35.30 303 ⇓P **P** 12 28 32.3 +0.7
BURAR Bucovina Array 35.30 303 ⇓P **P** 12 28 32.3 +0.7
BUR08 Bucovina Ar. S 35.31 303 P **P** 12 28 30.9 -0.9
VOIR 35.42 299 ⇓P **P** 12 28 33.6 +1.0
VOIR 35.42 299 ⇓P **P** 12 28 33.6 +1.0
IIGN Ignalina 35.66 316 *e*P **P** 12 28 34.3 -0.2
ARR Arges 35.72 299 ⇓P **P** 12 28 35.5 +0.3
STNU Starunia 35.82 305 P **P** 12 28 35.8 -0.1
JOF Joensuu 35.92 330 *e*P **P** 12 28 36.5 0.0
WHN Wuhan 36.42 86 ⇓P **P** 12 28 43.1 +1.9
WHN pmax pmax
comp=Z,38nm,0.7s
MARR Marisel-Cluj 36.73 301 ⇓P **P** 12 28 45.1 +1.3
DRGR 37.01 302 ⇑P **P** 12 28 47.0 +0.9
DRGR 37.01 302 ⇑P **P** 12 28 47.0 +0.9
KWP Kalwaria Pacla 37.03 306 P **P** 12 28 45.4 -0.7
KWP Kalwaria Pacla 37.03 306 P **P** 12 28 45.4 -0.7
KWP Kalwaria Pacla 37.03 306 P **P** 12 28 46.6 +0.5
comp=Z,26nm,1.1s
BERU Beregovo 37.04 304 P **P** 12 28 45.8 -0.4
UBPT Khong Chiam 37.23 115 P **P** 12 28 48.3 +0.2
UBPT IAmb IAmb 12 28 49.3
comp=Z,5.6nm,0.8s
SURR Surduc 37.46 300 ⇑P **P** 12 28 50.9 +1.1
FINES FINESS Array B 37.53 326 P **P** 12 28 49.8 -0.3
comp=Z,8.1nm,0.7s,baz=121,slow=10,SNR=32
comp=Z,8.1nm,0.7s
MTSE Matsula 37.76 321 *e*P **P** 12 28 52.0 -0.1
MDVR Moldovita 37.82 298 ⇓P **P** 12 28 54.1 +1.2
KEF Keuruu 38.32 327 *e*P **P** 12 28 56.5 -0.2
OJC Ojcow 38.92 307 P **P** 12 29 01.0 -1.0
OJC IAmb IAmb 12 29 02.9
comp=Z,18nm,1.0s
OJC Ojcow 38.92 307 P **P** 12 29 01.0 -1.0
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 38.92 307 P **P** 12 29 01.2 -0.8
comp=Z,19nm,1.0s
NJ2 Nanjing 39.51 82⇓ *i*P **P** 12 29 08.7 +1.7
NJ2 pP **pP** 12 29 48.8 +2.9
NJ2 pmax pmax
comp=Z,12nm,0.8s
NJ2 pmax pmax
comp=Z,110nm,4.5s
VAF Ylistaro 39.57 328 *e*P **P** 12 29 06.8 -0.3
VADS Vadso 40.37 339 *e*P **P** 12 29 13.8 +0.2
MORC Moravsky Berou 40.38 307 *e*P **P** 12 29 14.7 +0.6
MORC Moravsky Berou 40.38 307 ⇑P **P** 12 29 14.9 +0.8
MORC Moravsky Berou 40.38 307 ⇑P **P** 12 29 14.9 +0.8
VRAC Vranov 41.02 306 P **P** 12 29 19.6 +0.4
comp=Z,9.4nm,0.8s,baz=84,slow=4.6,SNR=7.2
comp=Z,9.4nm,0.8s
VRAC Vranov 41.02 306 *e*P **P** 12 29 20.1 +0.8
DPC Dobruska-Polom 41.15 307 P **P** 12 29 20.6 +0.2
comp=Z,14nm,2.3s
KRUC Moravsky 41.16 305 *e*P **P** 12 29 20.8 +0.4
SNSI Sinabang, Aceh 41.16 139 P **P** 12 29 20.7 -0.1
comp=Z,109nm,0.8s
ARA0 ARCESS Array S 41.20 338 *e*P **P** 12 29 20.5 +0.1
ARCES ARCESS Array B 41.20 338 P **P** 12 29 20.7 +0.3
comp=Z,12nm,0.7s,baz=113,slow=8.7,SNR=52
ARCES pP **pP** 12 30 00.3 +1.3
comp=Z,8.6nm,0.9s,baz=104,slow=10,SNR=4.0
comp=Z,12nm,0.7s
KTK1 Kautokeino 41.67 336 *e*P **P** 12 29 24.1 -0.2
IPM Ipoh 42.12 132 P **P** 12 29 29.2 +0.6
ZEA Zeya 42.14 47 *e*P **P** 12 29 29.9 +1.7
HAMF Hammerfest 42.28 339 *e*P **P** 12 29 29.8 +0.7
HEH HeiHe 42.31 53 *e*P **P** 12 29 30.5 +0.8
HEH pmax pmax
comp=Z,20nm,0.9s
BRG Berggiesshubel 42.65 308 *i* P **P** 12 29 33.0 +0.6
BRG Amp 12 29 33.7
comp=Z,11nm,0.8s
GSI Gunungsitoli 42.76 139 P **P** 12 29 34.6 +0.9
GSI Gunungsitoli 42.76 139 P **P** 12 29 34.5 +0.9
comp=Z,2μmcomp=Z,89nm,0.8s
JETT Jettan, Norway 42.81 336 *e*P **P** 12 29 33.4 -0.1
GERES GERESS Array B 42.95 305 P **P** 12 29 35.3 +0.3
comp=Z,0.8nm,0.6s,baz=106,slow=8.7,SNR=4.0
comp=Z,0.8nm,0.6s
KHC Kasperske Hory 43.00 306⇑ *e*P **P** 12 29 33.8 -1.5
KHC pmax pmax
comp=Z,13nm,1.7s
HFS Hagfors 43.10 322 P **P** 12 29 35.7 -0.2
comp=Z,21nm,0.5s,baz=98,slow=11,SNR=71
comp=Z,21nm,0.5s
CLL Collm 43.22 309 *i* P **P** 12 29 37.1 +0.2
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 43.22 309 *i* P **P** 12 29 37.1 +0.2
comp=Z,9.0nm,0.8s
TRO Tromso 43.32 336 *e*P **P** 12 29 37.7 +0.2
MSEY Mahe Island 43.38 203 P **P** 12 29 39.3 +0.6
FAUS Fauske 43.85 333 *e*P **P** 12 29 41.9 +0.1
MOR8 Moi Rana 43.87 331 *e*P **P** 12 29 41.0 -0.9
STEI Steigen 44.02 333 *e*P **P** 12 29 43.1 0.0
YAK Yakutsk 44.04 35*de*P **P** 12 29 43.0 -0.3
YAK pmax pmax
comp=Z,9.0nm,0.6s
NC405 NORSAR Array S 44.19 323 P **P** 12 29 43.9 -0.7
NC405 IAmb IAmb 12 29 45.0
comp=Z,20nm,0.8s
NC602 NORSAR Array S 44.23 323 *e*P **P** 12 29 44.1 -0.8
MNSI Mandailing Nat 44.27 137 P **P** 12 29 46.8 +1.1
comp=Z,1μmcomp=Z,53nm,0.9s
NC303 NORSAR Array S 44.36 323 P **P** 12 29 45.9 -0.1
LEIR Leirfjorden 44.38 330 *e*P **P** 12 29 45.7 -0.3
NB2 NORSAR Subarra 44.42 323 P **P** 12 29 45.8 -0.7
comp=Z,13nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.42 323 P **P** 12 29 45.8 -0.7
baz=97,slow=7.9
NOA NORSAR Array B 44.42 323 P **P** 12 29 45.9 -0.5
comp=Z,12nm,0.6s,baz=97,slow=7.8,SNR=55
NOA pP **pP** 12 30 25.6 +0.4
comp=Z,2.1nm,0.7s,baz=97,slow=8.1,SNR=2.5
NOA LR LR 12 51 51.4
comp=Z,12nm,19.5s,baz=275,slow=40
comp=Z,12nm,0.6s
KONS Konsvik 44.46 331 *e*P **P** 12 29 46.3 -0.3
NSS Namsos 44.54 328 *e*P **P** 12 29 46.9 -0.4
SSLB Suanglung 44.59 92 P **P** 12 29 49.8 +1.5
SSLB IAmb IAmb 12 29 51.4
comp=Z,22nm,0.8s
KS19 Wonju Array Si 44.87 71 P **P** 12 29 50.9 +0.5
KS19 IAmb IAmb 12 30 01.2
comp=Z,35nm,1.4s
KSAR Wonju Array Be 44.90 71 P **P** 12 29 51.9 +1.4
KSAR Wonju Array Be 44.90 71 P **P** 12 29 51.9 +1.4
KSRS Korea Array 44.93 71 P **P** 12 29 51.3 +0.5
comp=Z,1.0nm,0.4s,baz=274,slow=7.1,SNR=10.0
comp=Z,1.0nm,0.4s
YULB Yu-li 45.06 92 P **P** 12 29 53.6 +1.6
YULB IAmb IAmb 12 29 55.3
comp=Z,12nm,0.8s
KONO Kongsberg 45.12 321 P **P** 12 29 51.0 -0.9
KONO IAmb IAmb 12 29 55.1
comp=Z,38nm,1.3s
KONO Kongsberg 45.12 321 P **P** 12 29 51.0 -0.9
KONO pmax pmax
comp=Z,38nm,1.3s
TWG Pinlang 45.15 93 P **P** 12 29 54.9 +2.2
KLR Kul'dur 45.21 54⇓ *e*P **P** 12 29 52.3 -0.5
KLR pmax pmax
comp=Z,4.0nm,1.3s
DOMB Dombas 45.53 324 *e*P **P** 12 29 55.0 -0.2
FUORN Ofenpass-Fuorn 45.54 303 P **P** 12 29 55.6 -0.2
HOMB Homborsund 45.65 319 *e*P **P** 12 29 56.0 -0.1
PPI Padang Panjang 45.76 137 P **P** 12 29 57.8 +0.3
comp=Z,51nm,0.8s
DAVOX Davos/Dischmat 45.77 303 P **P** 12 29 55.6 -2.0
comp=Z,2.6nm,0.5s,baz=95,slow=11,SNR=5.3
comp=Z,2.6nm,0.5s
SKAR Skarslia 45.82 322 *e*P **P** 12 29 58.0 +0.5
TIXI Tiksi 45.85 22 P **P** 12 29 56.9 -0.6
TIXI IAmb IAmb 12 29 58.1
comp=Z,7.9nm,0.8s
TIXI Tiksi 45.85 22⇓ *e*P **P** 12 29 57.5 0.0
TIXI pmax pmax

comp=Z,9.0nm,0.9s
MYKOM Kota Tinggi 45.95 131 P **P 12 29 59.9 +0.9**
MYKOM IAmb IAmb 12 30 01.2
comp=Z,15nm,0.7s
USA0B Ussuriysk Arra 46.23 61⇓ *eP* **P 12 30 01.5 +0.6**
LODK Lodwar 46.40 233 P **P 12 30 01.2 -1.5**
BLS5 Blasjo 46.72 321 *eP* **P 12 30 05.2 +0.7**
HYA Hoyanger 46.87 323 *eP* **P 12 30 05.0 -0.5**
ASK Askoy 47.35 322 *eP* **P 12 30 09.2 -0.1**
SPA0 Spitsbergen Ar 47.55 347 *eP* **P 12 30 11.9 +1.2**
SPITS Spitsbergen Ar 47.55 347 P **P 12 30 10.7 0.0**
comp=Z,3.8nm,0.6s,baz=113,slow=10.0,SNR=7.0
comp=Z,3.8nm,0.6s
SENIN Lac Senin/Sane 47.60 303 P **P 12 30 10.9 -0.8**
SENIN IAmb IAmb 12 30 33.0
comp=Z,19nm,1.1s
JNU Nakatsue 48.64 75 P **P 12 30 20.5 +0.9**
JNU IAmb IAmb 12 30 58.3
comp=Z,19nm,1.3s
JOW Kunigami 49.10 84 P **P 12 30 23.2 -0.1**
JOW Kunigami 49.10 84 P **P 12 30 23.1 -0.1**
comp=Z,8.1nm,0.5s,baz=127,slow=23,SNR=6.3
comp=Z,8.1nm,0.5s
KIBK Kibwezi 49.27 226 P **P 12 30 25.4 +0.7**
KIBK Kibwezi 49.27 226 P **P 12 30 26.0 +1.4**
SSB Saint Sauveur 49.73 302 P **P 12 30 26.9 -0.9**
SSB IAmb IAmb 12 31 09.8
comp=Z,14nm,1.4s
SSB Saint Sauveur 49.73 302 P **P 12 30 26.9 -0.9**
SSB pmax pmax
comp=Z,14nm,1.4s
KKM Kota Kinabalu 51.21 115 P **P 12 30 40.1 +0.8**
KKM IAmb IAmb 12 30 42.0
comp=Z,28nm,1.2s
EKA Eskdalemuir Ar 52.32 316 P **P 12 30 46.1 -0.7**
comp=Z,5.7nm,0.9s,baz=84,slow=7.8,SNR=6.3
comp=Z,5.7nm,0.9s
MBAR Mbarara 52.44 235 P **P 12 30 47.0 -1.5**
CEST Esterri de Car 52.76 300 P **P 12 30 49.9 -0.6**
CEST IAmb IAmb 12 31 25.3
comp=Z,16nm,1.4s
YSS Yuzhno-Sakhali 52.89 55 *eP* **P 12 30 52.0 +0.9**
YSS pmax pmax
comp=Z,10.0nm,1.3s
CGJI Cibinong 53.78 135 P **P 12 30 59.9 +1.9**
NOR Nord 53.87 350 *i* P P 12 30 52.1 -5.7
NOR IAmb IAmb 12 30 58.6
comp=Z,5.3nm,1.2s
COCO West Island 54.16 148 P **P 12 30 59.4 -1.3**
SEY Seymchan 54.49 34⇑ *eP* **P 12 31 03.5 +1.0**
SEY pmax pmax
comp=Z,12nm,2.5s
DAG Danmarks Havn 54.79 344 P **P 12 31 04.6 +0.1**
DAG pmax pmax
comp=Z,12nm,2.7s
DAG Danmarks Havn 54.79 344 *i* P **P 12 31 04.0 -0.5**
DAG IAmb IAmb 12 31 05.5
comp=Z,9.5nm,1.1s
ESDC Sonseca Array 57.47 298 P **P 12 31 23.0 -1.1**
comp=Z,0.5nm,0.6s,baz=51,slow=6.9,SNR=4.9
ESDC pP **pP 12 32 05.6 +1.0**
comp=Z,1.5nm,0.9s,baz=61,slow=7.4,SNR=4.5
comp=Z,0.5nm,0.6s
BILL Bilibino 58.68 26 P **P 12 31 31.9 -0.1**
BILL IAmb IAmb 12 31 34.5
comp=Z,11nm,1.5s
BILL Bilibino 58.68 26 P **P 12 31 31.9 -0.1**
BILL pmax pmax
comp=Z,11nm,1.5s
NEEM North Greenlan 61.10 348 *i* P **P 12 31 48.3 -0.4**
NEEM IAmb IAmb 12 31 51.1
comp=Z,6.0nm,0.8s
SUMG Summit 61.12 341 P **P 12 31 49.7 +0.7**
SUMG IAmb IAmb 12 31 59.4
comp=Z,12nm,1.4s
SUMG Summit 61.12 341 P **P 12 31 49.7 +0.7**
SUMG pmax pmax
comp=Z,12nm,1.4s
SUMG Summit 61.12 341 *i* P **P 12 31 47.6 -1.4**
SUMG IAmb IAmb 12 31 50.8
comp=Z,12nm,1.0s
EUNU Eureka 63.08 356 P **P 12 32 02.9 +1.3**
ICESG Greenland Ices 63.26 338 *i* P **P 12 32 03.2 0.0**
TORD Torodi Ar. Bea 65.69 269 P **P 12 32 17.0 -2.4**
TORD Torodi Ar. Bea 65.69 269 P **P 12 32 17.2 -2.2**
comp=Z,4.2nm,0.7s,baz=57,slow=5.3,SNR=29
TORD pP **pP 12 33 02.7 +1.4**
comp=Z,1.4nm,0.7s,baz=44,slow=6.3,SNR=2.6
comp=Z,4.2nm,0.7s
C16K Lisburne Hills 67.53 20 IAmb IAmb 12 32 30.9
comp=Z,3.9nm,0.8s
C18K Utukok River 68.35 18 IAmb IAmb 12 32 36.2
comp=Z,4.9nm,0.8s
RES Resolute Bay 68.77 356 P **P 12 32 38.3 +0.5**
RES Resolute Bay 68.77 356 P **P 12 32 38.3 +0.5**
RES pmax pmax
comp=Z,1.0nm,0.6s
B22K Teshekpuk Lake 68.82 15 IAmb IAmb 12 32 39.4
comp=Z,7.7nm,1.2s
B21K Ikpikpuk River 69.14 16 IAmb IAmb 12 32 41.5
comp=Z,4.1nm,0.7s
D19K Kuna River 69.22 17 IAmb IAmb 12 32 41.6
comp=Z,8.4nm,0.6s
E18K Tukpahlearik C 69.40 19 IAmb IAmb 12 32 42.7
comp=Z,4.2nm,0.6s
ANM Nome 70.11 22 P **P 12 32 46.6 +0.4**
ANM IAmb IAmb 12 33 22.8
comp=Z,11nm,1.4s
ANM Nome 70.11 22 P **P 12 32 46.6 +0.4**
ANM pmax pmax
comp=Z,11nm,1.4s
E22K Anaktuvuk Pass 70.95 16 P **P 12 32 51.3 0.0**
TOLK Toolik Lake Re 71.00 15 IAmb IAmb 12 32 52.6
comp=Z,7.4nm,0.5s
A36M Sachs Harbour 71.28 5 P **P 12 32 53.1 0.0**
INK Inuvik 73.98 9 P **P 12 33 09.3 +0.2**
INK Inuvik 73.98 9 P **P 12 33 09.3 +0.2**
INK pmax pmax
comp=Z,5.0nm,1.3s
ILAR Eielson Array 74.85 16 P **P 12 33 13.6 -0.7**
comp=Z,1.2nm,0.9s,baz=304,slow=4.9,SNR=13
comp=Z,1.2nm,0.9s
J26L Joseph Creek 75.80 15 P **P 12 33 19.4 -0.4**
BOSA Boshof 77.67 220 P **P 12 33 30.6 -0.1**
comp=Z,2.0nm,0.7s,baz=98,slow=3.3,SNR=4.4
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 81.32 3 P **P 12 33 49.5 -0.3**
comp=Z,0.3nm,0.4s,baz=349,slow=5.3,SNR=15
YKA pP **pP 12 34 35.2 +1.6**
comp=Z,1.4nm,0.7s,baz=351,slow=5.3,SNR=7.4
comp=Z,0.3nm,0.4s
WRA Warramunga Arr 81.98 122 P **P 12 33 53.1 -0.8**
comp=Z,6.8nm,0.6s,baz=324,slow=4.9,SNR=143
comp=Z,6.8nm,0.6s
WB2 Warramunga Arr 81.98 122 P **P 12 33 52.8 -1.1**
WB2 IAmb IAmb 12 33 54.2
comp=Z,14nm,1.1s
AS31 Alice Springs 84.24 125 P **P 12 34 04.4 -1.0**
ASAR Alice Springs 84.24 125 P **P 12 34 04.8 -0.7**
comp=Z,6.6nm,0.6s,baz=310,slow=5.0,SNR=143
comp=Z,6.6nm,0.6s
STKA Stephens Creek 94.77 126 P **P 12 34 53.0 -2.0**
comp=Z,1.9nm,0.6s,baz=274,slow=8.6,SNR=3.0
comp=Z,1.9nm,0.6s
QSPA South Pole Qui 126.22 180 PKP **PKPdf 12 40 32.9 -1.2**
comp=Z,1.2nm,1.0s,baz=340,slow=14,SNR=1.9
PLCA Paso Flores 149.78 250 PKPbc **PKPbc 12 41 21.6 -0.9**
comp=Z,1.4nm,1.0s,baz=185,slow=9.4,SNR=2.3

---

*IDC **05** 12:36:01.6±1.7,20°.23S×178°.34W,h583km±19km, mb3.3/16,mbtmp4.2/18,Error ellipse: s-maj=17.6km s-min=14.1km az=104.0*
*NEIC **05** 12:36:03.2±1.2,20°.2S±0°.2×178°.4W±0°.1,h593km±8km, mb4.2/37,Error ellipse: s-maj=22.6km s-min=18.7km az=162.0*
ISC 05 12:36:03.3±0.5,20°.23S±0°.10×178°.39W±0°.09,h602km, n108,σ1$24/109,mb4.1/34,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.19**	**306**	P	**P**	**12 37 29.5**	**-0.9**
	5.5nm,0.4s,baz=264,slow=23,SNR=2.7						
FUTU	**Fugatoga**	**5.89**	**2**	P	**P**	**12 37 42.9**	**-0.9**
NIUE	**Niue**	**8.05**	**83**	P	**P**	**12 38 02.4**	**-0.9**
OUZ	**Omahuta**	**16.52**	**204**	P	**P**	**12 39 27.1**	**+1.8**
WCZ	**Waipu Caves**	**16.91**	**201**	P	**P**	**12 39 30.6**	**+1.9**
KUZ	**Kuaotunu**	**17.25**	**196**	P	**P**	**12 39 33.7**	**+1.9**
WIAZ	**Waiheke Island**	**17.45**	**198**	P	**P**	**12 39 35.1**	**+1.4**
MBAZ	**Motutapu North**	**17.50**	**198**	P	**P**	**12 39 35.7**	**+1.6**
ETAZ	**East Tamaki Re**	**17.66**	**198**	P	**P**	**12 39 37.3**	**+1.7**
MKAZ	**Moumakai**	**17.73**	**197**	P	**P**	**12 39 37.1**	**+0.8**
WTAZ	**Waiatarua**	**17.75**	**199**	P	**P**	**12 39 37.9**	**+1.5**
HAZ	**Te Kaha**	**17.78**	**190**	P	**P**	**12 39 35.8**	**-0.9**
AWAZ	**Awhitu Peninsu**	**17.84**	**198**	P	**P**	**12 39 38.8**	**+1.6**
PUZ	**Puketiti**	**18.02**	**189**	P	**P**	**12 39 38.5**	**-0.4**
TOZ	**Tahuroa Road**	**18.23**	**196**	P	**P**	**12 39 41.7**	**+0.9**
MWZ	**Matawai**	**18.39**	**190**	P	**P**	**12 39 39.8**	**-2.4**
URZ	**Urewera**	**18.39**	**191**	P	**P**	**12 39 39.4**	**-2.8**
	7.4nm,0.3s,baz=360,slow=2.1,SNR=30						
URZ	**Urewera**	**18.39**	**191**	P	**P**	**12 39 39.9**	**-2.2**
RTZ	**Ruatahuna**	**18.76**	**191**	P	**P**	**12 39 44.0**	**-1.6**
BKZ	**Black Stump Fm**	**19.38**	**192**	P	**P**	**12 39 48.5**	**-2.8**
VRZ	**Vera Road**	**19.74**	**196**	P	**P**	**12 39 55.6**	**+1.1**
NEZ	**North Egmont**	**20.05**	**197**	P	**P**	**12 40 01.2**	**+3.8**
TSZ	**Takapari Road**	**20.35**	**193**	P	**P**	**12 39 58.6**	**-1.4**
BFZ	**Birch Farm**	**20.90**	**192**	P	**P**	**12 40 03.3**	**-1.5**
MRZ	**Mangatainoka R**	**21.01**	**193**	P	**P**	**12 40 03.6**	**-2.2**
QRZ	**Quartz Range**	**21.95**	**199**	P	**P**	**12 40 13.7**	**-0.5**
NNZ	**Nelson**	**22.07**	**197**	P	**P**	**12 40 13.3**	**-2.0**
THZ	**Tophouse**	**22.70**	**197**	P	**P**	**12 40 20.1**	**-0.9**
DSZ	**Denniston Nort**	**23.01**	**199**	P	**P**	**12 40 23.2**	**-0.5**
KHZ	**Kahutara**	**23.15**	**195**	P	**P**	**12 40 23.0**	**-1.8**
CTZ	**Chatham Island**	**23.49**	**177**	P	**P**	**12 40 28.9**	**+1.1**
GVZ	**Greta Valley S**	**23.79**	**196**	P	**P**	**12 40 28.9**	**-1.7**
INZ	**Inchbonnie**	**24.01**	**199**	P	**P**	**12 40 30.9**	**-1.6**
WVZ	**Waitaha Valley**	**24.54**	**199**	P	**P**	**12 40 35.6**	**-1.6**
FOZ	**Fox Glacier**	**25.25**	**200**	P	**P**	**12 40 43.2**	**-0.2**
JCZ	**Jackson Bay**	**26.07**	**201**	P	**P**	**12 40 51.0**	**+0.2**
WKZ	**Wanaka**	**26.66**	**200**	P	**P**	**12 40 55.2**	**-0.7**
MLZ	**Mavora Lakes**	**27.44**	**201**	P	**P**	**12 41 03.2**	**+0.6**
TUZ	**Tuapeka**	**27.49**	**198**	P	**P**	**12 41 03.2**	**+0.2**
WHZ	**Wether Hill Ro**	**27.96**	**201**	P	**P**	**12 41 07.8**	**+0.7**
EIDS	**Eidsvold**	**28.57**	**254**	P	**P**	**12 41 13.5**	**+0.7**
COEN	**Coen**	**37.20**	**273**	P	**P**	**12 42 26.1**	**+0.7**
STKA	**Stephens Creek**	**37.58**	**244**	P	**P**	**12 42 28.7**	**+0.4**
STKA				IAmb	IAmb	12 42 45.4	
	comp=Z,8.2nm,1.4s						
STKA	**Stephens Creek**	**37.58**	**244**	P	**P**	**12 42 28.2**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=206,slow=8.6,SNR=3.2						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**42.35**	**243**	P	**P**	**12 43 06.5**	**+0.3**
JAY	**Jayapura**	**43.62**	**288**	P	**P**	**12 43 15.1**	**-1.2**
	comp=Z,15nm,0.7s,baz=147,slow=4.8,SNR=5.5						
	comp=Z,15nm,0.7s						
WR0	**Warramunga Arr**	**44.09**	**262**	P	**P**	**12 43 20.1**	**+0.2**
WR0				IAmb	IAmb	12 43 24.5	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**44.23**	**257**	P	**P**	**12 43 20.7**	**-0.3**
ASAR	**Alice Springs**	**44.23**	**257**	P	**P**	**12 43 20.6**	**-0.3**
ASAR	**Alice Springs**	**44.23**	**257**	P	**P**	**12 43 21.0**	**0.0**
	comp=Z,0.9nm,0.5s,baz=91,slow=7.7,SNR=8.4						
ASAR				PcP	**PcP**	**12 44 51.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=104,slow=4.3,SNR=6.4						
ASAR				ScP	**ScP**	**12 47 50.5**	**+3.1**
	comp=Z,0.3nm,0.9s,baz=95,slow=5.2,SNR=1.8						
ASAR				S	**S**	**12 49 08.9**	**-3.2**
	comp=Z,0.2nm,0.7s,baz=90,slow=12,SNR=2.0						
	comp=Z,0.9nm,0.5s						
WB0	**Warramunga Arr**	**44.26**	**262**	P	**P**	**12 43 20.7**	**-0.5**
WB0				IAmb	IAmb	12 43 42.4	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**44.27**	**262**	P	**P**	**12 43 21.1**	**-0.2**
WB2				IAmb	IAmb	12 44 00.1	
	comp=Z,6.5nm,1.0s						
WRAB	**Tennant Creek**	**44.27**	**262**	P	**P**	**12 43 20.7**	**-0.6**
WRA	**Warramunga Arr**	**44.28**	**262**	P	**P**	**12 43 21.0**	**-0.4**
WRA	**Warramunga Arr**	**44.28**	**262**	P	**P**	**12 43 20.7**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.2,SNR=34						
	comp=Z,1.0nm,0.3s						
KNRA	**Kununurra**	**50.32**	**266**	P	**P**	**12 44 06.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.70**	**262**	P	**P**	**12 44 24.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**52.70**	**262**	P	**P**	**12 44 23.4**	**-0.2**
	comp=Z,5.9nm,1.0s,baz=72,slow=3.2,SNR=2.4						
	comp=Z,5.9nm,1.0s						
MJAR	**Matsushiro Arr**	**69.78**	**324**	P	**P**	**12 46 13.9**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=147,slow=5.9,SNR=7.7						
	comp=Z,1.6nm,0.5s						
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**12 46 15.6**	**+1.0**
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**12 46 15.2**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=312,slow=0.6,SNR=20						
	comp=Z,2.1nm,0.6s						
ASAJ	**Asahikawa**	**73.32**	**332**	P	**P**	**12 46 35.5**	**+0.7**
	comp=Z,12nm,1.1s,baz=264,slow=6.8,SNR=4.8						
	comp=Z,12nm,1.1s						
PETK	**Petropavlovsk-**	**75.92**	**345**	P	**P**	**12 46 48.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=138,slow=7.6,SNR=8.4						
	comp=Z,2.2nm,0.7s						
KSRS	**Korea Array**	**76.44**	**319**	P	**P**	**12 46 53.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=124,slow=5.3,SNR=5.2						
	comp=Z,0.5nm,0.5s						
USRK	**Ussuriysk Ar.**	**78.54**	**326**	P	**P**	**12 47 03.7**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=143,slow=5.0,SNR=4.2						
	comp=Z,2.7nm,0.7s						
NVAR	**Mina Array Bea**	**81.08**	**44**	P	**P**	**12 47 16.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=259,slow=4.6,SNR=2.6						
	comp=Z,0.3nm,0.6s						
GHO	**Glory Hole Cre**	**85.05**	**14**	P	**P**	**12 47 36.1**	**0.0**
SCM	**Sheep Creek Mo**	**85.46**	**14**	P	**P**	**12 47 38.8**	**+0.6**
N25K	**Chitina, Valde**	**85.92**	**15**	P	**P**	**12 47 41.0**	**+0.7**
N25K				IAmb	IAmb	12 48 11.9	
	comp=Z,9.9nm,1.2s						
PLID	**Pearl Lake**	**86.23**	**39**	P	**P**	**12 47 43.8**	**+1.4**
TRF	**Thorofare Moun**	**86.26**	**12**	P	**P**	**12 47 42.3**	**+0.3**
TRF				IAmb	IAmb	12 47 45.9	
	comp=Z,6.3nm,1.2s						
RND	**Reindeer**	**86.51**	**13**	P	**P**	**12 47 43.4**	**+0.3**
MCK	**McKinley**	**86.79**	**13**	P	**P**	**12 47 44.9**	**+0.6**
MCK				IAmb	IAmb	12 47 49.0	
	comp=Z,9.4nm,1.4s						
TXAR	**Lajitas Array**	**87.21**	**57**	P	**P**	**12 47 47.5**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=246,slow=3.6,SNR=4.8						
	comp=Z,0.5nm,0.9s						
I21K	**Tanana**	**87.51**	**11**	P	**P**	**12 47 47.9**	**+0.3**
HDA	**Harding Lake**	**87.80**	**13**	P	**P**	**12 47 49.1**	**+0.1**
HDA				IAmb	IAmb	12 47 50.5	
	comp=Z,5.1nm,1.0s						
BCAR	**Beaver Creek A**	**87.86**	**16**	P	**P**	**12 47 50.0**	**+0.5**
I23K	**Minto, Yukon-K**	**87.97**	**12**	P	**P**	**12 47 49.3**	**-0.4**
I23K				IAmb	IAmb	12 47 49.5	
	comp=Z,3.6nm,1.4s						
ILAR	**Eielson Array**	**88.13**	**13**	P	**P**	**12 47 49.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=215,slow=5.3,SNR=18						
	comp=Z,0.5nm,0.4s						
M29M	**Somme Creek**	**88.24**	**17**	P	**P**	**12 47 51.9**	**+0.6**
M29M				IAmb	IAmb	12 48 02.8	
	comp=Z,3.7nm,1.4s						
J25K	**Salcha River,**	**88.32**	**14**	P	**P**	**12 47 51.8**	**+0.3**
J25K				IAmb	IAmb	12 48 22.7	
	comp=Z,4.1nm,1.4s						
J26L	**Joseph Creek**	**88.63**	**14**	P	**P**	**12 47 54.1**	**+1.1**
J26L				IAmb	IAmb	12 48 29.9	
	comp=Z,5.7nm,1.5s						
F20K	**Avaraart Lake**	**88.64**	**9**	P	**P**	**12 47 53.6**	**+0.7**
E19K	**Redstone River**	**88.82**	**8**	P	**P**	**12 47 54.3**	**+0.6**
L29M	**L29M**	**88.87**	**17**	P	**P**	**12 47 55.2**	**+1.2**
L29M				IAmb	IAmb	12 47 55.8	
	comp=Z,2.7nm,0.9s						
PDAR	**Pinedale Array**	**89.01**	**43**	P	**P**	**12 47 56.1**	**+0.6**
PDAR	**Pinedale Array**	**89.01**	**43**	P	**P**	**12 47 55.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=90,slow=0.1,SNR=4.4						
	comp=Z,0.3nm,0.6s						
DAWY	**Dawson**	**89.30**	**16**	P	**P**	**12 47 56.5**	**+0.4**
DAWY				IAmb	IAmb	12 48 24.6	
	comp=Z,4.4nm,1.5s						
K29M	**Barlow Dome**	**89.62**	**17**	P	**P**	**12 47 58.7**	**+1.0**
K29M				IAmb	IAmb	12 48 09.2	
	comp=Z,5.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**12 48 00.1**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=132,slow=2.2,SNR=7.0						
	comp=Z,1.0nm,0.9s						
D19K	**Kuna River**	**89.69**	**7**	P	**P**	**12 47 58.0**	**+0.2**
D19K				IAmb	IAmb	12 47 58.2	
	comp=Z,4.2nm,1.1s						
E21K	**Killik River**	**90.19**	**9**	P	**P**	**12 48 00.3**	**+0.2**
I28M	**Miner Creek**	**90.29**	**15**	P	**P**	**12 48 00.7**	**+0.1**
I28M				IAmb	IAmb	12 48 39.6	
	comp=Z,2.8nm,1.3s						
F24K	**Squaw Lake**	**90.35**	**11**	P	**P**	**12 48 01.7**	**+0.9**
F24K				IAmb	IAmb	12 48 28.4	
	comp=Z,3.3nm,1.4s						
D22K	**Ayikyak River**	**90.78**	**9**	P	**P**	**12 48 03.6**	**+0.8**
D22K				IAmb	IAmb	12 48 29.3	
	comp=Z,2.7nm,1.2s						
BMAR	**Burnt Mountain**	**90.91**	**12**	P	**P**	**12 48 04.4**	**+1.0**
MKAR	**Makanchi Array**	**110.75**	**314**	Pdif	**Pdif**	**12 49 32.4**	**-0.4**
MKAR	**Makanchi Array**	**110.75**	**314**	PKiKP	**PKiKP**	**12 53 26.5**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=114,slow=1.4,SNR=3.9						
BVAR	**Borovoye Array**	**118.64**	**320**	PKP	**PKPdf**	**12 53 42.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=107,slow=3.1,SNR=2.9						
AKASG	**Malin Array Be**	**142.60**	**331**	PKhKP	PKPpre	12 54 25.1	
	comp=Z,1.6nm,0.5s,baz=44,slow=4.2,SNR=15						
SHEL	**Horse Pasture**	**143.32**	**168**	PKPbc	PKPab	12 54 28.2	-1.1
EKA	**Eskdalemuir Ar**	**144.76**	**5**	PKP	**PKPdf**	**12 54 31.1**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=341,slow=1.7,SNR=2.5						
ESK	**Eskdalemuir**	**144.78**	**5**	PKPdf	**PKPdf**	**12 54 32.0**	**-0.3**
BR131	**Keskin Array S**	**146.39**	**312**	PKPdf	**PKPdf**	**12 54 34.5**	**-1.3**
BRTR	**Keskin Array B**	**146.39**	**312**	PKPbc	**PKPdf**	**12 54 37.5**	**+1.7**
BRTR	**Keskin Array B**	**146.39**	**312**	PKPbc	**PKPdf**	**12 54 38.0**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=141,slow=5.0,SNR=5.6						
BUR08	**Bucovina Ar. S**	**146.63**	**331**	PKPbc	**PKPbc**	**12 54 39.5**	**+0.9**
BURAR	**Bucovina Array**	**146.65**	**330**	PKPbc	**PKPbc**	**12 54 39.5**	**+0.9**

---

*KRNET **05** 12:36:47.9±0.1,42°.17N×80°.71E,mb3.1*
*SOME **05** 12:36:48.6,42°.20N×80°.58E,h15km*
*NNC **05** 12:36:50.9±1.1,42°.28N×80°.46E,h0km,mb3.9,mpv3.7,*
Error ellipse: s-maj=6.8km s-min=5.9km az=142.0
ISC 05 12:36:50.6±2.1,42°.29N±0°.06×80°.44E±0°.06,h2km±11km, n40,σ2$07/65,19C-14D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.13**	**321**	P	**Pn**	**12 37 09.8**	**-3.7**
	68nm,0.1s						
SHLS				S	**Sb**	**12 37 25.1**	**-3.0**
	196nm,0.2s						
SHLS	**Shalkode**	**1.13**	**321**	*eP*	**Pn**	**12 37 09.8**	**-3.7**
	67nm,0.1s						
SHLS				*eS*	**Sb**	**12 37 24.7**	**-3.3**
	934nm,0.3s						
PDGK	**Podgornoye**	**1.25**	**326**	⇑P	**Pb**	**12 37 14.6**	**-0.5**
	13nm,0.8s						
PDGK				⇑S	**Sb**	**12 37 32.1**	**+0.4**
	28nm,0.3s						
UZB	**Uzynbulak**	**1.35**	**310**	P	**Pb**	**12 37 16.6**	**-0.2**
	9.6nm,0.3s						
UZB				S	**Sg**	**12 37 36.3**	**+2.2**
	52nm,0.2s						
UZB	**Uzynbulak**	**1.35**	**310**	*eP*	**Pb**	**12 37 16.6**	**-0.2**
	9.6nm,0.3s						
UZB				*eS*	**Sg**	**12 37 36.3**	**+2.2**
	52nm,0.2s						
PRZ	**Przheval'sk**	**1.52**	**278**	⇑*iP*	**Pg**	**12 37 20.3**	**+0.5**
PRZ				⇑*iS*	**Sg**	**12 37 44.2**	**+4.6**
ZHN	**Zhinishke**	**1.72**	**301**	*eP*	**Pg**	**12 37 23.6**	**+0.1**
	47nm,0.3s						
ZHN				*eS*	**Sg**	**12 37 48.5**	**+2.7**
	156nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.04**	**255**	⇓*iP*	**Pb**	**12 37 28.0**	**-0.7**
TARG				⇓*iS*	**Sg**	**12 37 56.9**	**+0.6**
KURS	**Kuram**	**2.05**	**306**	Pg	**Pg**	**12 37 29.5**	**-0.5**
	41nm,0.5s						
KURS				Lg	Lg	12 37 58.6	
	29nm,0.7s						
DJR	**Jarkent**	**2.10**	**347**	Pg	**Pb**	**12 37 29.0**	**-0.4**
	8.4nm,0.3s						
DJR				Lg	Lg	12 37 58.0	
	113nm,0.5s						
DJR	**Jarkent**	**2.10**	**347**	*eP*	**Pb**	**12 37 29.0**	**-0.4**
	8.4nm,0.3s						
DJR				*eS*	**Sg**	**12 37 58.0**	**0.0**
	113nm,0.5s						
ANVS	**Anan'yevo**	**2.11**	**284**	⇓*iP*	**Pb**	**12 37 29.5**	**-0.2**
ANVS				⇓*iS*	**Sg**	**12 37 59.9**	**+1.6**
KNOS	**Konyrlen**	**2.26**	**336**	Pg	**Pb**	**12 37 32.3**	**0.0**
	33nm,0.3s						
KNOS				Lg	Lg	12 38 03.9	
	77nm,0.3s						
BLB	**Baldybastay**	**2.31**	**322**	Pg	**Pb**	**12 37 33.2**	**+0.2**
	144nm,0.3s						
BLB				Lg	Lg	12 38 05.2	
	97nm,0.3s						
KDJ	**Kajisay**	**2.43**	**267**	⇓*iP*	**Pb**	**12 37 33.4**	**-1.7**
KDJ				⇓*iS*	**Sb**	**12 38 06.4**	**+0.9**
KOTS	**Kotyrbulak**	**2.63**	**292**	Pg	**Pb**	**12 37 39.1**	**+0.6**
	33nm,0.2s						
KOTS				Lg	Lg	12 38 15.2	
	84nm,0.2s						
KOTS	**Kotyrbulak**	**2.63**	**292**	*eP*	**Pb**	**12 37 39.1**	**+0.6**
	33nm,0.2s						
KOTS				*eS*	**Sg**	**12 38 15.2**	**+0.2**
	84nm,0.2s						
MDOK	**Medeo**	**2.65**	**290**	Pn	**Pb**	**12 37 38.6**	**-0.2**
	19nm,0.5s						
MDOK				Pg	**Pb**	**12 37 39.2**	**+0.3**
	29nm,0.5s						
MDOK				Lg	Lg	12 38 15.3	
	34nm,0.5s						
MDOK				Lg	Lg	12 38 15.5	
	30nm,0.6s						
MDOK	**Medeo**	**2.65**	**290**	*eP*	**Pb**	**12 37 39.2**	**+0.3**
	29nm,0.5s						
MDOK				*eS*	**Sg**	**12 38 15.3**	**-0.4**
	34nm,0.5s						
TNSS	**Tian-Shan**	**2.68**	**287**	Pg	**Pb**	**12 37 40.1**	**+0.6**
	20nm,0.3s						
TNSS				Lg	Lg	12 38 17.3	
	24nm,0.5s						
TNSS	**Tian-Shan**	**2.68**	**287**	*eP*	**Pb**	**12 37 40.1**	**+0.6**
	20nm,0.3s						
TNSS				*eS*	**Sg**	**12 38 17.3**	**+0.5**
	24nm,0.5s						
KNDC	**Almaty**	**2.72**	**291**	⇓Pg	**Pb**	**12 37 39.6**	**-0.4**
	54nm,0.7s						
KNDC				⇓Lg	Lg	12 38 19.9	
	54nm,0.7s						
IZV	**Izvestkoviy**	**2.92**	**286**	Pg	**Pb**	**12 37 43.9**	**+0.4**
	12nm,0.2s

ARLS				⇑iS	Sn	12 38 58.0	+3.3
MAKZ	**Makanchi**	**4.65**	**13**	⇑Pn	**Pn**	**12 38 03.7**	**+1.9**
	3.8nm,0.6s						
MAKZ				⇑Sn	**Sn**	**12 38 57.3**	**+1.0**
	4.2nm,1.1s						
MAKZ				⇓Lg	Lg	12 39 16.2	
	2.8nm,0.4s						
MK31	**Makanchi Array**	**4.69**	**16**	**Pn**	**Pn**	**12 38 03.9**	**+1.5**
	1.4nm,0.4s,baz=201,slow=13,SNR=66						
MK31				⇑Sn	**Sn**	**12 38 58.4**	**+1.0**
	0.3nm,0.2s,baz=195,slow=20,SNR=7.5						
MK31				⇑Lg	Lg	12 39 16.7	
	3.5nm,0.5s,baz=193,slow=28,SNR=6.2						

*IDC **05** 12:36:55.9±2.3,2°.48S×128°.67E,h0km,mb3.4/2,*
mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=144.5km
s-min=28.1km az=68.0
*DJA **05** 12:37:00.9±0.5,3°.S±3°×12°.8E±°,h11km±5km,M3.9/11,*
mB5.2/1,mb3.9/2,MLv3.9/11,Mw(mB)4.5/1
ISC 05 12:37:02.8±1.0,2°.88S±0°.08×127°.63E±0°.05,h35km,n11,
σ1§61/14,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.64**	**236**	P	**Pn**	**12 37 15.1**	**-0.2**
NLAI				S	**Sn**	**12 37 26.3**	**+2.0**
AAI	**Ambon**	**0.98**	**145**	P	**Pn**	**12 37 19.1**	**-1.0**
MSAI	**Masohi**	**1.38**	**110**	P	**Pn**	**12 37 26.7**	**+1.1**
MSAI				S	**Sn**	**12 37 44.6**	**+2.0**
SANI	**Sanana**	**1.83**	**297**	P	**Pn**	**12 37 31.7**	**-0.1**
SANI				S	**Sn**	**12 37 54.1**	**+0.3**
BNDI	**Bandanaira**	**2.80**	**126**	P	**Pn**	**12 37 47.0**	**+1.9**
SWI	**Sorong**	**4.14**	**61**	P	**Pn**	**12 38 02.8**	**-0.8**
FAKI	**Fak Fak**	**4.62**	**91**	P	**Pn**	**12 38 08.2**	**-1.9**
KDI	**Kendari**	**5.11**	**258**	P	**Pn**	**12 38 18.9**	**+2.0**
	0.1nm2μm6.1nm,1.0s						
WRA	**Warramunga Arr**	**18.18**	**159**	P	**Pn**	**12 41 10.6**	**-2.1**
	0.3nm,0.3s,baz=342,slow=12,SNR=11						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**21.54**	**164**	P	**P**	**12 41 47.9**	**-1.3**
	1.5nm,0.5s,baz=338,slow=10,SNR=20						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**63.50**	**327**	P	**P**	**12 47 29.9**	**+0.4**
	0.2nm,0.7s,baz=133,slow=6.4,SNR=2.1						
	0.2nm,0.7s						

IDC 05 12:45:05.7±999.0,64°.86N×44°.19E,h0km,Error ellipse:
s-maj=447.4km s-min=228.5km az=132.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**16.21**	**147**	I	I	14 22 30.0	
	baz=338,slow=317,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**22.93**	**99**	I	I	15 05 11.5	
	0.1nm,1.9s,baz=316,slow=323,SNR=3.2						
I34MN	**SONGINO INFRAS**	**36.67**	**87**	I	I	16 29 09.6	
	baz=319,slow=340,SNR=1.4						

WEL 05 12:48:40.7±0.9,35°.S±8°×17°.9E±1°.1,h200km±16km,M3.4/8,
ML3.8/12,MLv3.4/8,Error ellipse: s-maj=14.0km
s-min=10.9km az=85.4,confirmed,Off east coast of
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.33**	**187**	P	Pn	12 49 22.3	-0.3
MXZ				S	Sn	12 49 55.0	-0.5
WMGZ	**Waiomatatini S**	**2.57**	**185**	P	Pn	12 49 26.6	+1.4
WMGZ				S	Sn	12 50 00.6	+0.3
HAZ	**Te Kaha**	**2.60**	**196**	P	Pn	12 49 26.1	+0.5
HAZ				S	Sn	12 50 01.4	+0.5
PKGZ	**Pakihiroa**	**2.66**	**190**	P	Pn	12 49 27.5	+1.2
PKGZ				S	Sn	12 50 02.5	+0.5
RUGZ	**Raukumara Rang**	**2.83**	**196**	P	Pn	12 49 28.2	-0.2
PUZ	**Puketiti**	**2.84**	**187**	P	Pn	12 49 28.0	-0.3
PUZ				S	Sn	12 50 05.1	-0.7
TWGZ	**Tauwhareparae**	**2.98**	**191**	P	Pn	12 49 30.4	+0.4
TWGZ				S	Sn	12 50 10.1	+1.4
MWZ	**Matawai**	**3.22**	**196**	P	Pn	12 49 32.6	-0.2
MWZ				S	Sn	12 50 14.5	+0.7
CNGZ	**Carnagh Statio**	**3.25**	**187**	P	Pn	12 49 32.6	-0.6
TKGZ	**Te Karaka**	**3.25**	**192**	P	Pn	12 49 32.4	-0.8
TKGZ				S	Sn	12 50 14.5	0.0
URZ	**Urewera**	**3.26**	**202**	P	Pn	12 49 32.9	-0.4
URZ				S	Sn	12 50 14.7	+0.1
RIGZ	**Rimuhau**	**3.53**	**192**	P	Pn	12 49 36.8	+0.2
RIGZ				S	Sn	12 50 20.4	-0.2
MUGZ	**Murupara**	**3.57**	**205**	P	Pn	12 49 37.0	0.0
WCZ	**Waipu Caves**	**3.60**	**258**	P	Pn	12 49 37.0	-0.5
RTZ	**Ruatahuna**	**3.63**	**202**	P	Pn	12 49 37.5	-0.3
RAHZ	**Arahi**	**3.88**	**199**	P	Pn	12 49 41.1	+0.3
RAHZ				S	Sn	12 50 28.4	+0.1
MTHZ	**Maungataniwha**	**3.89**	**202**	P	Pn	12 49 41.2	+0.2
MHGZ	**Mahia Peninsul**	**3.94**	**189**	P	Pn	12 49 42.0	+0.4
MHGZ				S	Sn	12 50 28.9	-0.8
NMHZ	**Naumai**	**4.12**	**201**	P	Pn	12 49 43.9	-0.1
NMHZ				S	Sn	12 50 33.9	+0.1
OUZ	**Omahuta**	**4.17**	**269**	P	Pn	12 49 44.5	+0.1
ARHZ	**Aropaoanui**	**4.23**	**198**	P	Pn	12 49 44.8	-0.4
ARHZ				S	Sn	12 50 37.2	+1.2
BKZ	**Black Stump Fm**	**4.28**	**203**	P	Pn	12 49 45.3	-0.6
BKZ				S	Sn	12 50 38.3	+0.9

*IDC **05** 12:58:02.9±1.5,0°.57N×126°.79E,h0km,mb3.4/6,*
mbtmp3.4/6,MS3.0/1,Error ellipse: s-maj=183.1km
s-min=20.7km az=68.0
*DJA **05** 12:58:10.0±0.2,0°.S±2°×12°.5E±°,h10km,M4.0/13,mb4.1/3,*
MLv3.9/13
ISC 05 12:58:10.5±1.0,0°.29S±0°.08×125°.17E±0°.08,h35km,n16,
σ1§99/16,mb3.6/6,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47**	**306**	P	**Pn**	**12 58 34.9**	**+0.5**
KMSI				S	**Sn**	**12 58 52.5**	**+0.1**
SANI	**Sanana**	**1.93**	**155**	P	**Pn**	**12 58 40.8**	**0.0**
TNTI	**Ternate**	**2.44**	**64**	P	**Pn**	**12 58 52.2**	**+4.4**
LUWI	**Luwuk**	**2.51**	**253**	P	**Pn**	**12 58 52.4**	**+3.6**
MRSI	**Marisa**	**3.32**	**283**	P	**Pn**	**12 59 00.2**	**+0.3**
NLAI	**Namlea**	**3.51**	**147**	P	**Pn**	**12 59 03.8**	**+1.3**
APSI	**Ampana**	**3.57**	**260**	P	**Pn**	**12 59 05.5**	**+2.1**
KDI	**Kendari**	**4.44**	**215**	P	**Pn**	**12 59 15.3**	**-0.1**
BKSI	**Bulukumba**	**7.10**	**225**	P	**Pn**	**12 59 53.6**	**+1.7**
	0.1nm13nm,1.4s						
FAKI	**Fak Fak**	**7.54**	**110**	P	**Pn**	**12 59 59.2**	**+1.1**
WRA	**Warramunga Arr**	**21.50**	**156**	P	**P**	**13 02 56.2**	**-0.2**
	0.3nm,0.8s,baz=337,slow=9.7,SNR=5.4						
WRA				LR	LR	13 12 25.3	
	comp=Z,38nm,18.0s,baz=294,slow=40						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.74**	**161**	P	**P**	**13 03 28.5**	**-0.3**
	0.5nm,0.9s,baz=340,slow=10.0,SNR=4.0						
	0.5nm,0.9s						
SONM	**Songino Array**	**50.64**	**344**	P	P	13 07 00.3	-6.0
	0.2nm,0.4s,baz=154,slow=8.7,SNR=4.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.01**	**327**	P	**P**	**13 08 12.8**	**-0.9**
	0.6nm,0.4s,baz=126,slow=8.0,SNR=26						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**63.49**	**335**	P	**P**	**13 08 34.3**	**-2.6**
	0.4nm,0.5s,baz=147,slow=8.6,SNR=1.8						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.31**	**329**	P	**P**	**13 08 41.5**	**-0.9**
	0.8nm,0.8s,baz=138,slow=5.8,SNR=5.8						
	0.8nm,0.8s						

*KRNET **05** 13:18:07.0±0.1,39°.42N×73°.40E,h16km,mb3.1*
*SOME **05** 13:18:08.1,39°.53N×73°.37E,h0km*
*NNC **05** 13:18:12.4±1.9,39°.62N×73°.47E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=14.1km s-min=7.4km az=175.0
ISC 05 13:18:05.2±1.2,39°.39N±0°.06×73°.34E±0°.03,h10km,n36,
σ2§27/60,28C-18D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.64**	**11**	⇑eP	**Pb**	**13 18 18.4**	**-0.2**
SFK				⇑eS	**Sg**	**13 18 26.9**	**+0.8**
DRK	**Karamyk**	**1.19**	**275**	⇑iP	**Pn**	**13 18 30.4**	**+2.1**
DRK				eS	**Sn**	**13 18 47.2**	**+2.5**
OHH	**Osh**	**1.21**	**340**	⇓iP	**Pg**	**13 18 29.3**	**+0.8**
OHH				⇓iS	**Sn**	**13 18 46.1**	**+1.2**
SALK	**Salom-Alik**	**1.54**	**14**	⇑eP	**Pg**	**13 18 34.8**	**0.0**
SALK				⇑eS	**Sg**	**13 18 54.9**	**+0.1**
ARSB	**Arslanbob**	**1.96**	**352**	⇑eP	**Pg**	**13 18 42.4**	**-0.3**
ARSB				⇑eS	**Sg**	**13 19 08.0**	**-0.1**
BTK	**Batken**	**2.06**	**290**	⇑iP	**Pg**	**13 18 44.6**	**0.0**
BTK				⇑iS	**Sg**	**13 19 12.0**	**+0.7**
GAR	**Garm**	**2.38**	**262**	⇑iP	**Pg**	**13 18 49.5**	**-1.3**
GAR				⇑iS	**Sg**	**13 19 20.2**	**-1.4**
ARLS	**Aral**	**2.58**	**17**	⇑iP	**Pb**	**13 18 50.7**	**-1.0**
ARLS				⇑iS	**Sb**	**13 19 22.8**	**-0.8**
ARK	**Arkit**	**2.63**	**337**	⇓iP	**Pb**	**13 18 51.9**	**-0.5**
ARK				⇓iS	**Sb**	**13 19 24.7**	**-0.1**
TRKS	**Terek-Say**	**2.72**	**323**	⇑eP	**Pb**	**13 18 52.2**	**-1.9**
TRKS				⇑eS	**Sb**	**13 19 25.8**	**-1.7**
AML	**Almayashu**	**2.76**	**6**	⇓iP	**Pb**	**13 18 53.5**	**-1.3**
AML				⇓iS	**Sb**	**13 19 27.2**	**-1.6**
UCH	**Uchtor**	**2.98**	**17**	⇓iP	**Pb**	**13 18 56.3**	**-2.3**
UCH				⇓iS	**Sb**	**13 19 32.4**	**-2.8**
MNAS	**Manas**	**3.16**	**349**	⇑iP	**Pb**	**13 18 59.1**	**-2.5**
MNAS				⇑iS	**Sb**	**13 19 37.1**	**-3.1**
MRKS	**Merke**	**3.36**	**359**	Pg	**Pg**	**13 19 07.6**	**-2.0**
	2.7nm,0.4s						
MRKS				Lg	Lg	13 19 50.9	
	23nm,0.6s						
MRKS	**Merke**	**3.36**	**359**	eP	**Pg**	**13 19 07.6**	**-2.0**
	2.7nm,0.4s						
MRKS				eS	**Sg**	**13 19 50.9**	**-2.1**
	23nm,0.6s						
AAK	**Ala-Archa**	**3.37**	**15**	⇓iP	**Pb**	**13 19 01.7**	**-3.3**
AAK				⇓iS	**Sn**	**13 19 41.3**	**+3.2**
KBK	**Karagaybulak**	**3.49**	**20**	⇓iP	**Pn**	**13 19 03.1**	**+3.4**
KBK				⇓iS	**Sn**	**13 19 44.6**	**+3.5**
ULHL	**Ulahol**	**3.61**	**37**	⇑iP	**Pn**	**13 19 04.9**	**+3.5**
ULHL				⇑eS	**Sn**	**13 19 47.0**	**+2.9**
BOOM	**Boomskoye usch**	**3.67**	**32**	⇑eP	**Pn**	**13 19 05.8**	**+3.5**
BOOM				⇑eS	**Sn**	**13 19 48.8**	**+3.1**
CHMS	**Chumysh**	**3.76**	**16**	⇑Pg	**Pg**	**13 19 14.7**	**-2.6**
	2.1nm,0.3s						
CHMS				⇓Lg	Lg	13 20 02.8	
	6.0nm,0.5s						
TKM2	**Tokmak 2**	**3.92**	**25**	Pg	**Pg**	**13 19 21.3**	**+1.0**
	2.2nm,0.6s						
TKM2				Lg	Lg	13 20 08.9	
	4.8nm,0.5s						
TKM2	**Tokmak 2**	**3.92**	**25**	⇓iP	**Pn**	**13 19 09.4**	**+3.7**
TKM2				⇓eS	**Sn**	**13 19 54.7**	**+2.8**
KDJ	**Kajisay**	**4.00**	**46**	⇑iP	**Pn**	**13 19 10.3**	**+3.5**
KDJ				⇑iS	**Sn**	**13 19 56.9**	**+3.0**
KST	**Kastek**	**4.16**	**28**	Pg	**Pg**	**13 19 23.8**	**-1.0**
	1.2nm,0.3s						
KST				Lg	Lg	13 20 18.4	
	18nm,0.6s						
KST	**Kastek**	**4.16**	**28**	eP	**Pg**	**13 19 23.8**	**-1.0**
	1.2nm,0.3s						
KST				eS	**Sg**	**13 20 18.4**	**-0.3**
	18nm,0.6s						
DGS	**Degeres**	**4.27**	**25**	Pg	**Pg**	**13 19 25.8**	**-1.1**
	4.0nm,0.4s						
DGS				Lg	Lg	13 20 22.2	
	12nm,0.9s						
KK31	**Karatay Array**	**4.28**	**331**	⇓Pn	**Pb**	**13 19 18.1**	**-2.5**
	0.3nm,0.2s,baz=0.0,slow=0.1,SNR=5.6						
KK31				⇓Pg	**Pg**	**13 19 26.4**	**-0.8**
	2.0nm,0.6s,baz=147,slow=14,SNR=8.5						
KK31				⇑Sn	**Sb**	**13 20 07.6**	**-4.7**
	5.4nm,0.6s						
KK31				⇑Lg	Lg	13 20 21.0	
	3.8nm,0.4s,baz=145,slow=30,SNR=3.6						
MTBS	**Maitube**	**4.41**	**31**	Pg	**Pg**	**13 19 28.3**	**-1.4**
	3.2nm,0.3s						
MTBS				Lg	Lg	13 20 26.6	
	9.8nm,0.6s						
MTBS	**Maitube**	**4.41**	**31**	eP	**Pg**	**13 19 28.2**	**-1.4**
	3.2nm,0.3s						
MTBS				eS	**Sg**	**13 20 26.6**	**-0.1**
	9.8nm,0.6s						
TNSS	**Tian-Shan**	**4.55**	**36**	Pg	**Pg**	**13 19 30.4**	**-2.0**
	3.1nm,0.3s						
TNSS				Lg	Lg	13 20 30.1	
	6.0nm,1.3s						
TNSS	**Tian-Shan**	**4.55**	**36**	eP	**Pg**	**13 19 30.4**	**-2.0**
	3.1nm,0.3s						
TNSS				eS	**Sg**	**13 20 30.1**	**-1.2**
	6.0nm,1.3s						
KRBS	**Karabastau**	**4.65**	**21**	Pg	**Pg**	**13 19 32.1**	**-2.2**
	2.6nm,0.6s						
KRBS				Lg	Lg	13 20 32.6	
	5.8nm,0.5s						
KTBS	**Karatobe**	**5.00**	**29**	Pg	**Pg**	**13 19 38.5**	**-2.4**
	2.4nm,0.3s						
KTBS				Lg	Lg	13 20 43.6	
	12nm,0.6s						
KPKS	**Kokpek**	**5.72**	**43**	eP	Pn	13 19 24.6	-5.7
	1.4nm,0.4s						
KPKS				eS	Sn	13 20 19.6	-17
	12nm,0.7s						
BLB	**Baldybastay**	**6.08**	**38**	Pg	**Pg**	**13 19 58.5**	**-3.0**
	4.6nm,0.5s						
BLB				Lg	Lg	13 21 17.9	
	4.3nm,0.7s						
PDGK	**Podgornoye**	**6.08**	**48**	⇓Pg	**Pg**	**13 19 57.4**	**-4.2**
	3.2nm,0.8s						
PDGK				⇑Lg	Lg	13 21 15.8	
	3.6nm,0.7s						

*IDC **05** 13:24:46.9±2.8,38°.44N×48°.59E,h0km,mb3.7/6,*
mbtmp3.6/8,ML3.0/2,MS2.9/2,Error ellipse: s-maj=53.8km
s-min=16.0km az=23.0
*AZER **05** 13:24:51.6,38°.89N×48°.52E,h21km,ml3.7*
*TEH **05** 13:24:52.2,38°.90N×48°.58E,h28km±25km*
*NNC **05** 13:25:01.2±6.5,39°.45N×49°.88E,h0km,mb3.7,Error*
ellipse: s-maj=133.4km s-min=64.7km az=110.0
ISC 05 13:24:52.7±0.8,38°.85N±0°.02×48°.52E±0°.03,h29km±5km,
n78,σ1§33/108,mb3.8/5,1C-1D,Iran-Armenia-Azerbaijan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRD	**Yardimli**	**0.23**	**287**	Pg	**Pb**	**13 24 58.9**	**-0.4**
YRD	**Yardimli**	**0.23**	**287**	P	**Pb**	**13 24 59.0**	**-0.4**
YRD				S	**Sb**	**13 25 03.9**	**0.0**
LKRN	**Lenkeran, Azer**	**0.25**	**125**	Pg	**Pb**	**13 24 59.5**	**+0.1**
LKRN	**Lenkeran, Azer**	**0.25**	**125**	P	**Pb**	**13 24 59.5**	**+0.1**
LKRN				S	**Sb**	**13 25 04.8**	**+0.9**
LRK	**Lerik**	**0.25**	**214**	Pg	**Pn**	**13 25 00.1**	**-0.5**
LRK	**Lerik**	**0.25**	**214**	P	**Pn**	**13 25 00.1**	**-0.5**
LRK				S	**Sn**	**13 25 05.9**	**+0.3**
ASTR	**Astara**	**0.36**	**144**	Pg	**Pn**	**13 25 01.2**	**-0.7**
ASTR	**Astara**	**0.36**	**144**	P	**Pn**	**13 25 01.3**	**-0.7**
ASTR				S	**Sn**	**13 25 07.9**	**-0.2**
GLBA	**Clilabad**	**0.40**	**346**	Pg	**Pb**	**13 25 00.7**	**-0.9**
GLBA	**Clilabad**	**0.40**	**346**	P	**Pb**	**13 25 00.7**	**-0.9**
GLBA				S	**Sb**	**13 25 07.4**	**-0.2**
GRMI	**Germi**	**0.49**	**265**	Pg	**Pb**	**13 25 02.9**	**-0.1**
GAS1	**Astara - Iran**	**0.53**	**151**	Pg	**Pb**	**13 25 03.7**	**+0.1**
GAS1				Sg	**Sn**	**13 25 12.7**	**+0.5**
SAAT	**Saatly**	**1.01**	**356**	Pg	**Pn**	**13 25 11.0**	**+0.1**
SAAT	**Saatly**	**1.01**	**356**	P	**Pb**	**13 25 10.8**	**-0.8**
SAAT				S	**Sn**	**13 25 25.0**	**+0.9**
QRD	**Qoradiz**	**1.11**	**304**	P	**Pn**	**13 25 11.6**	**-0.7**
QRD				S	**Sb**	**13 25 26.2**	**-1.2**
BLQ	**Beylaqan**	**1.14**	**320**	P	**Pn**	**13 25 11.9**	**-0.8**
BLQ				S	**Sb**	**13 25 27.2**	**-1.1**
ALIB	**&Aumlli-Bayram**	**1.17**	**19**	P	**Pb**	**13 25 14.9**	**+0.6**
ALIB				S	**Sn**	**13 25 29.7**	**+1.7**
ISRB	**Sarab**	**1.22**	**213**	Pg	**Pb**	**13 25 16.0**	**+0.7**
IHRS	**Heris**	**1.27**	**246**	Pg	**Pb**	**13 25 15.9**	**-0.3**
CSN1	**Caspian**	**1.36**	**160**	Pg	**Pb**	**13 25 16.6**	**-1.0**
KDMR	**Kurdemir**	**1.54**	**350**	Pn	**Pn**	**13 25 18.2**	**0.0**
KDMR				Sn	**Sb**	**13 25 39.8**	**0.0**
ZRD	**Zardab**	**1.56**	**336**	Pn	**Pb**	**13 25 19.6**	**-1.4**
ZRD				Sn	**Sb**	**13 25 41.4**	**+1.0**
AGDM	**Agdam**	**1.66**	**319**	Pn	**Pn**	**13 25 20.4**	**+0.5**
AGDM				Sn	**Sb**	**13 25 42.1**	**-1.2**
GBS	**Qobustan**	**1.71**	**11**	Pn	**Pb**	**13 25 22.9**	**-0.6**
GBS				Sn	**Sb**	**13 25 45.7**	**+0.9**
BRDA	**Brd**	**1.75**	**324**	Pn	**Pn**	**13 25 22.4**	**+1.4**
BRDA				Sn	**Sb**	**13 25 46.8**	**+1.1**
IHSH	**Hashtrud**	**1.83**	**213**	Pn	**Pb**	**13 25 24.7**	**-1.1**
PQL	**Pirkuli**	**1.94**	**2**	Pn	**Pn**	**13 25 24.3**	**+0.5**
PQL				Sn	**Sn**	**13 25 48.8**	**+1.6**
IML	**Ismayilli**	**1.96**	**352**	Pn	**Pn**	**13 25 24.6**	**+0.6**
IML				Sn	**Sb**	**13 25 51.2**	**-0.5**
ITBZ	**Tabriz**	**1.96**	**252**	Pn	**Pn**	**13 25 25.5**	**+1.4**
ORD	**Ordubad**	**1.97**	**273**	Pn	**Pn**	**13 25 25.7**	**+1.5**
ORD				Sn	**Sb**	**13 25 52.4**	**+0.3**
ATGJ	**Altiaghaj**	**2.03**	**9**	Pn	**Pb**	**13 25 26.9**	**-2.1**
ATGJ				Sn	**Sb**	**13 25 52.2**	**-1.7**
LHJ2	**Lahijan - Gila**	**2.08**	**144**	Pn	**Pn**	**13 25 25.3**	**-0.3**
QBL	**Gabala**	**2.16**	**346**	Pn	**Pn**	**13 25 28.0**	**+1.3**
QBL				Sn	**Sb**	**13 25 55.0**	**-2.4**
MNGR	**Mingechevir, A**	**2.21**	**331**	Pn	**Pn**	**13 25 28.9**	**+1.5**
MNGR				Sn	**Sn**	**13 25 54.8**	**+1.0**
SIZA	**Siyzn**	**2.24**	**7**	Pg	**Pb**	**13 25 31.4**	**-1.1**
SIZA				Sg	**Sb**	**13 26 03.4**	**+3.5**
IAZR	**Azarshahr**	**2.32**	**240**	Pn	**Pn**	**13 25 31.6**	**+2.5**
XNQ	**Khinaliq**	**2.34**	**353**	Pn	**Pn**	**13 25 30.0**	**+0.7**
XNQ				Sn	**Sn**	**13 25 59.4**	**+2.2**
ISHB	**Shabestar**	**2.34**	**257**	Pn	**Pn**	**13 25 30.6**	**+1.1**
JIR1	**Jirandeh**	**2.37**	**154**	Pn	**Pn**	**13 25 30.0**	**+0.3**
SBZ	**Shahbuz**	**2.37**	**284**	Pn	**Pn**	**13 25 31.3**	**+1.6**
SBZ				Sn	**Sb**	**13 26 01.7**	**-1.9**
NAX	**Nakhchivan**	**2.38**	**279**	Pn	**Pb**	**13 25 33.3**	**-1.6**
NAX				Sn	**Sb**	**13 26 02.4**	**-1.4**
GANJ	**Ganja**	**2.46**	**317**	Pn	**Pn**	**13 25 31.6**	**+0.7**
GANJ				Sn	**Sn**	**13 26 01.0**	**+0.9**
QUBA	**Quba, Azerbaij**	**2.50**	**360**	Pg	**Pb**	**13 25 36.0**	**-0.9**
QUBA				Sg	**Sb**	**13 26 09.8**	**+2.5**
SEKA	**Sheki**	**2.56**	**337**	Pn	**Pn**	**13 25 34.0**	**+1.6**
SEKA				Sn	**Sn**	**13 26 04.3**	**+1.7**
QSAR	**Qusar**	**2.67**	**356**	Pn	**Pn**	**13 25 35.0**	**+1.3**
QSAR				Sn	**Sn**	**13 26 07.4**	**+2.4**
IGZV	**Ghazvin**	**2.81**	**151**	Pn	**Pn**	**13 25 36.4**	**+0.5**
GDB	**GEDABAY**	**2.83**	**312**	Pn	**Pn**	**13 25 37.0**	**+0.9**
GDB				Sn	**Sn**	**13 26 11.4**	**+2.0**
HYR	**Heyderabad**	**2.97**	**288**	Pn	**Pn**	**13 25 39.7**	**+1.8**
HYR				Sn	**Sn**	**13 26 14.7**	**+2.0**
MAKU	**Maku**	**3.03**	**281**	Pn	**Pn**	**13 25 40.2**	**+1.4**
KLST	**Kelardasht - M**	**3.08**	**138**	Pn	**Pn**	**13 25 39.2**	**-0.4**
ZKTA	**Zakatala**	**3.14**	**333**	Pn	**Pn**	**13 25 41.5**	**+1.3**
ZKTA				Sn	**Sn**	**13 26 18.4**	**+1.7**
GNI	**Garni**	**3.20**	**295**	LR	LR	13 27 05.2	
	comp=Z,100nm,18.3s,baz=76,slow=40						
QABG	**Abgarm-Qazvin**	**3.25**	**165**	Pn	**Pn**	**13 25 43.0**	**+1.1**
QZX	**Qazax, Azerbai**	**3.27**	**313**	Pn	**Pn**	**13 25 43.7**	**+1.7**
QZX				Sn	**Sn**	**13 26 24.0**	**+4.1**
MZPU	**Pul - Mazandar**	**3.41**	**134**	Pn	**Pn**	**13 25 44.1**	**0.0**
IMHD	**Mahdasht**	**3.60**	**151**	Pn	**Pn**	**13 25 47.8**	**+1.3**
IPRN	**Peran**	**4.00**	**129**	Pn	**Pn**	**13 25 52.2**	**+0.1**
IVRN	**Varamin**	**4.63**	**145**	Pn	**Pn**	**13 26 01.5**	**+0.8**
ISFB	**Sefidab**	**5.40**	**145**	Pn	**Pn**	**13 26 12.3**	**+1.0**
MRVT	**Maraveh tapeh**	**6.08**	**99**	Pn	**Pn**	**13 26 19.4**	**-1.2**
KBZ	**Khabaz**	**6.45**	**321**	Pn	Pn	13 26 30.9	+5.3
	0.1nm,0.3s,baz=129,slow=4.1,SNR=1.9						
KBZ				Sn	Sn	13 27 48.2	+10
	0.1nm,0.3s,baz=285,slow=3.8,SNR=1.3						
	1.1nm,0.9s						
SBZV	**Sabzevar**	**7.62**	**106**	Pn	**Pn**	**13 26 41.8**	**-0.2**
ISFR	**Sfrayin**	**7.70**	**101**	Pn	**Pn**	**13 26 42.5**	**-0.6**
TAPT	**Tabas- Tapeh t**	**7.98**	**117**	Pn	**Pn**	**13 26 46.9**	**+0.1**
IPAY	**Payeh**	**8.65**	**103**	Pn	**Pn**	**13 26 55.5**	**-0.5**
IMOG	**Moghan**	**9.03**	**104**	Pn	**Pn**	**13 27 00.4**	**-0.9**
AB31	**Akbulak array**	**13.24**	**35**	P	**Pn**	**13 27 54.6**	**-3.9**
	0.7nm,0.5s,baz=208,slow=14,SNR=9.7						
AB31				⇓S	Sn	13 30 13.2	-11
	0.3nm,0.3s,baz=211,slow=26,SNR=6.1						
KK31	**Karatay Array**	**17.13**	**69**	P	**Pn**	**13 28 47.6**	**-2.3**
	2.7nm,0.8s,baz=268,slow=13,SNR=7.9						
AKASG	**Malin Array Be**	**18.05**	**317**	P	**P**	**13 29 03.3**	**+2.0**
	0.2nm,0.3s,baz=124,slow=11,SNR=1.7						
	0.2nm,0.4s						
BRVK	**Borovoye**	**20.64**	**39**	⇑P	**P**	**13 29 29.6**	**-0.1**
	1.7nm,0.6s						
BVA0	**Borovoye Array**	**20.67**	**40**	P	**P**	**13 29 30.4**	**+0.4**
	3.9nm,1.2s,baz=237,slow=13,SNR=8.5						
BVAR	**Borovoye Array**	**20.67**	**40**	P	**P**	**13 29 30.6**	**+0.5**
	1.4nm,0.6s,baz=228,slow=12,SNR=9.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR				IAML		13 38 00.7	
	comp=N,104nm,0.2s						
AOPR	**Arecibo Observ**	**1.29**	**135⇓**	*eP*	**Pn**	**13 37 40.1**	**+0.2**
AOPR	**Arecibo Observ**	**1.29**	**135**	*eS*	**Sb**	**13 37 58.3**	**+1.3**
EMPR	**Esperanza - Ma**	**1.37**	**125**		**Pb**	**13 37 41.3**	**+0.2**
EMPR					**Sb**	**13 38 00.0**	**+0.9**
EMPR	**Esperanza - Ma**	**1.37**	**125**	IAML		13 38 08.0	
	comp=E,146nm,0.4s						
EMPR				IAML		13 38 11.0	
	comp=N,94nm,0.4s						
EMPR	**Esperanza - Ma**	**1.37**	**125⇑**	*eP*	**Pb**	**13 37 41.3**	**+0.2**
EMPR	**Esperanza - Ma**	**1.37**	**125**	*eS*	**Sb**	**13 38 00.0**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.39**	**137**	Pn	**Pn**	**13 37 39.8**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.39**	**156**		**Pn**	**13 37 40.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.39**	**156**	*e*Pg	**Pb**	**13 37 42.2**	**+0.7**
CRPR				*e*Sg	**Sn**	**13 38 00.6**	**+0.7**
CRPR				IAML		13 38 04.1	
	comp=N,59nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.39**	**156⇓**	*e*P	**Pn**	**13 37 41.3**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.39**	**156**	*e*S	**Sn**	**13 38 00.4**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.39**	**156**	*i* P		13 37 40.8	
CRPR				IAML		13 38 02.1	
	comp=Z,86nm,0.7s						
SMDR	**Samana, DR**	**1.40**	**271**	*e*Pg	**Pn**	**13 37 40.7**	**-0.5**
SMDR				*e*Sg	**Sn**	**13 37 58.9**	**-1.2**
SMDR				IAML		13 38 20.6	
	comp=N,76nm,0.7s						
MLPR	**Magueyes Islan**	**1.45**	**154**		**Pn**	**13 37 40.0**	**-1.9**
MLPR				IAML		13 38 04.1	
	comp=N,59nm,0.4s						
MLPR	**Magueyes Islan**	**1.45**	**154**	*e*Pg	**Pn**	**13 37 41.2**	**-0.7**
MLPR				*e*Sg	**Sn**	**13 38 01.7**	**+0.3**
MLPR				IAML		13 38 04.0	
	comp=N,54nm,0.5s						
MLPR	**Magueyes Islan**	**1.45**	**154⇓**	*e*P	**Pn**	**13 37 41.5**	**-0.4**
MLPR	**Magueyes Islan**	**1.45**	**154**	*e*S	**Sn**	**13 38 01.5**	**+0.1**
SADR	**Isla Saona**	**1.48**	**223**	*e*Pg	**Pn**	**13 37 43.0**	**+0.6**
SADR				*e*Sg	**Sb**	**13 38 04.9**	**+2.7**
SADR				IAML		13 38 05.5	
	comp=N,127nm,0.7s						
GBPR	**Guanica, Bosqu**	**1.52**	**149**		**Pn**	**13 37 43.7**	**+0.8**
GBPR					**Sn**	**13 38 03.8**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.52**	**149⇓**	*e*P	**Pn**	**13 37 43.7**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.52**	**149**	*e*S	**Sn**	**13 38 03.8**	**+0.7**
CELP	**Cerrillos**	**1.61**	**138**		**Pn**	**13 37 43.1**	**-1.0**
CELP				IAML		13 38 06.5	
	comp=E,46nm,0.6s						
CELP				IAML		13 38 07.8	
	comp=N,82nm,0.5s						
CELP	**Cerrillos**	**1.61**	**138⇑**	*e*Pg	**Pn**	**13 37 43.6**	**-0.5**
CELP				*e*Sg	**Sn**	**13 38 05.5**	**+0.1**
CELP				IAML		13 38 07.8	
	comp=N,82nm,0.2s						
CELP	**Cerrillos**	**1.61**	**138⇑**	*e*P	**Pn**	**13 37 44.4**	**+0.3**
CELP	**Cerrillos**	**1.61**	**138**	*e*S	**Sn**	**13 38 05.1**	**-0.3**
OBIP	**Obispado Ponce**	**1.61**	**139**		**Pn**	**13 37 44.1**	**-0.1**
OBIP				IAML		13 38 06.8	
	comp=E,46nm,0.5s						
OBIP				IAML		13 38 08.5	
	comp=N,47nm,0.3s						
OBIP	**Obispado Ponce**	**1.61**	**139⇑**	*e*P	**Pn**	**13 37 44.7**	**+0.5**
OBIP	**Obispado Ponce**	**1.61**	**139**	*e*S	**Sn**	**13 38 05.8**	**+0.2**
DR12	**Loma Pena Alta**	**1.65**	**253**		**Pn**	**13 37 44.2**	**-0.6**
DR12				IAML		13 38 13.6	
	comp=N,55nm,0.6s						
HATOM	**Hato Mayor del**	**1.65**	**253**	*e*Pg	**Pn**	**13 37 45.3**	**+0.5**
HATOM				*e*Sg	**Sn**	**13 38 07.7**	**+1.1**
HATOM				IAML		13 38 13.5	
	comp=N,50nm,0.3s						
SJG	**San Juan**	**1.88**	**128**	*e*Pg	**Pn**	**13 37 48.1**	**+0.2**
SJG				*e*Sg	**Sn**	**13 38 12.3**	**+0.3**
SJG	**San Juan**	**1.88**	**128**	*i* P		13 37 48.1	
SJG				*e*S		13 38 11.0	
SJG				IAML		13 38 18.6	
	comp=Z,29nm,0.2s						
IGPR	**InterUniversit**	**2.00**	**130**	Pn	**Pn**	**13 37 49.7**	**+0.1**
IGPR				IAML		13 38 21.3	
	comp=N,61nm,0.2s						
IGPR				IAML		13 38 23.8	
	comp=E,70nm,0.3s						
PDPR	**Patillas Dam,**	**2.03**	**128**	Pn	**Pn**	**13 37 50.3**	**+0.3**
PDPR	**Patillas Dam,**	**2.03**	**128⇑**	*e*P	**Pn**	**13 37 49.5**	**-0.5**
PDPR	**Patillas Dam,**	**2.03**	**128**	*e*S	**Sb**	**13 38 16.9**	**-1.2**
DR08	**Loma La Naviza**	**2.21**	**262**	*e*Pg	**Pb**	**13 37 54.6**	**-0.9**
DR08				*e*Sg	**Sb**	**13 38 23.0**	**-0.2**
DR08				IAML		13 38 33.6	
	comp=N,670nm,0.2s						
BANI	**BANI**	**2.66**	**251**	Pn	**Pn**	**13 37 58.1**	**-0.6**
BANI	**BANI**	**2.66**	**251**	*e*Pg	**Pn**	**13 38 01.2**	**+2.5**
BANI				*e*Sg	**Sb**	**13 38 38.6**	**+2.3**
BANI				IAML		13 38 44.3	
	comp=N,51nm,0.2s						
ABDR	**Alto Bandera**	**2.80**	**261**	*e*Pg	**Pb**	**13 38 04.3**	**-1.4**
ABDR				*e*Sg	**Sb**	**13 38 40.3**	**-0.3**
ABDR				IAML		13 38 48.2	
	comp=N,58nm,0.8s						
SDDR	**Presa de Saban**	**3.40**	**266**	*e*Pg	**Pb**	**13 38 13.7**	**-2.0**
SDDR				*e*Sg	**Sb**	**13 38 58.0**	**+0.5**
SDDR				IAML		13 39 09.7	
	comp=N,24nm,0.7s						
REDR	**Restauracion**	**3.48**	**269**	*e*Pg	**Pg**	**13 38 21.7**	**0.0**
REDR				*e*Sg	**Sg**	**13 39 08.0**	**+1.1**
REDR				IAML		13 39 23.9	
	comp=N,16nm,0.7s						

*IDC **05** 13:38:27.6±0.5, 34°.95N×74°.10E, h0km, mb4.1/22, mbtmp4.1/26, ML3.6/5, MS3.3/12, Error ellipse: s-maj=14.4km s-min=10.9km az=65.0*
*MOS **05** 13:38:32.6±1.0, 35°.07N×74°.00E, h41km, mb4.4/24, Error ellipse: s-maj=7.7km s-min=4.0km az=93.4*
*NEIC **05** 13:38:33.0±1.6, 35°.11N±0°.03×74°.04E±0°.09, h30km±5km, mb4.5/37, Error ellipse: s-maj=10.6km s-min=4.7km az=86.0*
*NNC **05** 13:38:35.4±3.1, 35°.48N×73°.58E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=29.6km s-min=14.0km az=20.0*
ISC 05 13:38:33.3±0.3, 35°.05N±0°.04×74°.02E±0°.04, h34km, n201, σ1§91/223, mb4.3/59, MS3.2/9, 17C-9D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.17**	**144**	*e*P	**Pn**	**13 38 52.0**	**-1.1**
SRNI				IAML		13 39 09.1	
	comp=E,2μm,0.2s						
SRNI				*e*S	**Sn**	**13 39 09.2**	**+1.3**
SRNI				IAML		13 39 12.2	
	comp=N,1μm,0.3s						
NIL	**Nilore**	**1.53**	**205**	Pn	**Pn**	**13 38 59.4**	**+1.1**
NIL	**Nilore**	**1.53**	**205**	PN	**Pn**	**13 38 59.4**	**+1.1**
JMU	**Jammu**	**2.44**	**162**	*e*P	**Pn**	**13 39 11.4**	**+0.8**
JMU				*e*S	**Sn**	**13 39 41.0**	**+1.8**
JMU				IAML		13 39 48.4	
	comp=E,2μm,0.4s						
JMU				IAML		13 39 49.0	
	comp=N,2μm,0.4s						
DHRM	**DHARAMSHALA**	**3.38**	**145**	*e*P	**Pn**	**13 39 25.4**	**+1.6**
DHRM				*e*S	**Sn**	**13 40 05.3**	**+2.5**
DHRM				IAML		13 40 07.5	
	comp=N,2μm,0.5s						
DHRM				IAML		13 40 08.1	
	comp=E,2μm,0.6s						
KBL	**Kabul**	**4.13**	**264**	Pn	**Pn**	**13 39 34.4**	**+0.3**
KBL	**Kabul**	**4.13**	**264**	PN	**Pn**	**13 39 34.4**	**+0.3**
BHK	**Bhakra**	**4.14**	**150**	*e*P	**Pn**	**13 39 36.0**	**+1.8**
BHK				*e*S	**Sn**	**13 40 23.9**	**+2.5**
BHK				IAML		13 40 26.5	
	comp=E,870nm,0.4s						
BHK				IAML		13 40 26.5	
	comp=N,777nm,0.4s						
SMLA	**Simla**	**4.72**	**145**	*e*P	**Pn**	**13 39 39.9**	**-2.1**
SMLA				*e*S	**Sn**	**13 40 35.8**	**+0.3**
SMLA				IAML		13 40 39.8	
	comp=E,809nm,0.3s						
SMLA				IAML		13 40 39.8	
	comp=N,724nm,0.3s						
KSH	**Kashi**	**4.72**	**19**	Pn	**Pn**	**13 39 40.4**	**-1.8**
KSH				Sn	**Sn**	**13 40 27.8**	**-8.1**
KSH				smax	smax		
	comp=N,80nm,0.7s						
KSH				smax	smax		
	comp=E,96nm,1.1s						
GAR	**Garm**	**4.93**	**324**	Pn	**Pn**	**13 39 44.9**	**-0.2**
KLP	**Kalpa**	**4.98**	**134**	*e*P	**Pn**	**13 39 46.8**	**+0.8**
KLP				*e*S	**Sn**	**13 40 41.1**	**-1.4**
KLP				IAML		13 40 46.7	
	comp=N,406nm,0.2s						
KLP				IAML		13 40 47.3	
	comp=E,421nm,0.6s						
SIMJ	**Simiganj**	**5.40**	**313**		**Pn**	**13 39 51.4**	**-0.1**
OHH	**Osh**	**5.55**	**350**	PN	**Pn**	**13 39 57.5**	**+3.9**
BTK	**Batken**	**5.61**	**334**	Pn	**Pn**	**13 39 54.2**	**-0.2**
BTK	**Batken**	**5.61**	**334**	PN	**Pn**	**13 39 54.2**	**-0.2**
DDI	**Dehra Dun**	**5.81**	**143**	IAML		13 41 06.3	
	comp=N,289nm,0.5s						
DDI				IAML		13 41 08.3	
	comp=E,132nm,0.5s						
ARSB	**Arslanbob**	**6.32**	**353**		**Pn**	**13 40 04.5**	**+0.3**
ARSB	**Arslanbob**	**6.32**	**353**	PN	**Pn**	**13 40 04.5**	**+0.3**
RTK	**Rohtak**	**6.33**	**161**	*e*S	**Sn**	**13 41 14.3**	**-1.0**
NRN	**Naryn**	**6.56**	**13**	Pn	**Pn**	**13 40 06.4**	**-1.2**
NRN	**Naryn**	**6.56**	**13**	PN	**Pn**	**13 40 06.4**	**-1.2**
ARLS	**Aral**	**6.81**	**2**	PN	**Pn**	**13 40 12.6**	**+1.8**
BHGR	**Bahadurgarh**	**6.81**	**158**	*e*S	**Sn**	**13 41 25.6**	**-1.5**
TRKS	**Terek-Say**	**6.86**	**342**	PN	**Pn**	**13 40 12.9**	**+1.4**
NDI	**New Delhi**	**6.90**	**156**	*e*P	**Pn**	**13 40 12.3**	**+0.3**
NDI				*e*S	**Sn**	**13 41 25.9**	**-3.5**
NDI				IAML		13 41 32.3	
	comp=N,145nm,0.5s						
NDI				IAML		13 41 32.5	
	comp=E,183nm,0.2s						
NPLP	**NPLP New Delhi**	**6.93**	**156**	*e*P	**Pn**	**13 40 13.0**	**+0.6**
NPLP				*e*S	**Sn**	**13 41 26.3**	**-3.7**
ARK	**Arkit**	**6.93**	**347**	PN	**Pn**	**13 40 14.5**	**+2.0**
ASOR	**Ausora**	**7.04**	**152**	*e*S	**Sn**	**13 41 30.5**	**-2.2**
KUDL	**Kundal**	**7.20**	**162**	*e*P	**Pn**	**13 40 15.4**	**-0.7**
KUDL				*e*S	**Sn**	**13 41 33.5**	**-3.1**
KUDL				IAML		13 41 36.5	
	comp=N,103nm,0.6s						
KUDL				IAML		13 41 36.9	
	comp=E,184nm,0.2s						
SONA	**Sohna**	**7.26**	**158**	*e*P	**Pn**	**13 40 16.9**	**0.0**
SONA				*e*S	**Sn**	**13 41 34.7**	**-3.5**
SONA				IAML		13 41 38.5	
	comp=E,173nm,0.3s						
SONA				IAML		13 41 40.3	
	comp=N,175nm,0.5s						
TARG	**Taragay, Kyrgy**	**7.30**	**23**	Pn	**Pn**	**13 40 17.9**	**0.0**
TARG	**Taragay, Kyrgy**	**7.30**	**23**	P	**Pn**	**13 40 17.9**	**0.0**
UGON	**Onchagaon**	**7.49**	**153**	*e*S	**Sn**	**13 41 37.8**	**-6.1**
KDJ	**Kajisay**	**7.49**	**18**	P	**Pn**	**13 40 21.5**	**+1.3**
PTH	**Pithoragarh**	**7.58**	**135**	*e*P	**Pn**	**13 40 19.7**	**-1.9**
PTH				*e*S	**Sn**	**13 41 41.3**	**-5.2**
PTH				IAML		13 41 48.9	
	comp=N,163nm,0.4s						
PTH				IAML		13 41 49.9	
	comp=E,168nm,0.3s						
AAK	**Ala-Archa**	**7.59**	**3**	Pn	**Pn**	**13 40 21.7**	**+0.1**
AAK	**Ala-Archa**	**7.59**	**3**	Pn	**Pn**	**13 40 25.1**	**+3.6**
	comp=E,0.7nm,0.3s,baz=169,slow=13,SNR=9.5						
AAK				Sn	**Sn**	**13 41 48.9**	**+2.5**
	comp=E,0.8nm,0.3s,baz=343,slow=24,SNR=1.3						
AAK				Lg	Lg	13 42 27.7	
	baz=161,slow=17						
AAK				LR	LR	13 43 38.2	
	comp=E,104nm,19.9s,baz=202,slow=40						
	comp=E,2.3nm,0.4s						
AAK	**Ala-Archa**	**7.59**	**3⇑**	*e*P	**Pn**	**13 40 24.6**	**+3.0**
LGTI	**Lohaghat**	**7.67**	**135**	*e*P	**Pn**	**13 40 24.0**	**+1.3**
LGTI				*e*S	**Sn**	**13 41 41.9**	**-6.5**
LGTI				IAML		13 41 46.8	
	comp=N,201nm,0.1s						
LGTI				IAML		13 41 46.9	
	comp=E,175nm,0.8s						
PRZ	**Przheval'sk**	**8.17**	**23**	P	**Pn**	**13 40 32.9**	**+3.3**
KK31	**Karatay Array**	**8.49**	**342**		**Pn**	**13 40 33.7**	**-0.2**
KK31	**Karatay Array**	**8.49**	**342**	⇑P	**Pn**	**13 40 34.7**	**+0.8**
	comp=E,8.9nm,0.6s,baz=157,slow=12,SNR=73						
KK31				⇑S	**Sn**	**13 42 07.2**	**-1.3**
	comp=E,15nm,0.6s,baz=168,slow=23,SNR=6.0						
KK31	**Karatay Array**	**8.49**	**342**	P	**Pn**	**13 40 34.7**	**+0.8**
KK31				S	**Sn**	**13 42 07.2**	**-1.3**
KKAR	**Karatay Array**	**8.49**	**342**		**Pn**	**13 40 33.9**	**+0.1**
KKAR	**Karatay Array**	**8.49**	**342**		**Pn**	**13 40 34.1**	**+0.3**
KKAR	**Karatay Array**	**8.49**	**342**	P	**Pn**	**13 40 34.1**	**+0.3**
JASL	**Jaisalmer**	**8.53**	**199**	*e*P	**Pn**	**13 40 34.9**	**+0.5**
JASL				*e*S	**Sn**	**13 42 08.2**	**-1.2**
AJM	**Ajmer**	**8.56**	**176**	*e*P	**Pn**	**13 40 34.5**	**-0.3**
AJM				*e*S	**Sn**	**13 42 09.4**	**-0.8**
PDGK	**Podgornoye**	**9.29**	**26**	⇓P	**Pn**	**13 40 45.9**	**+1.0**
	comp=E,6.5nm,0.9s						
PDGK				⇓S	**Sn**	**13 42 31.7**	**+3.4**
	comp=E,8.5nm,0.9s						
PDGK	**Podgornoye**	**9.29**	**26**	P	**Pn**	**13 40 45.9**	**+1.0**
PDGK				S	**Sn**	**13 42 31.7**	**+3.4**
	comp=N,2.6nm,0.7s,baz=214,slow=14,SNR=27						
JHNI	**Jhansi**	**10.32**	**157**	*e*P	**Pn**	**13 40 57.1**	**-1.8**
JHNI				*e*S	**Sn**	**13 42 45.9**	**-7.4**
JHNI				IAML		13 42 50.2	
	comp=N,144nm,0.2s						
GUNA	**GUNA**	**10.75**	**164**	*e*P	**Pn**	**13 41 02.7**	**-2.2**
GUNA				*e*S	Sn	13 42 56.3	-7.8
ALBI	**Allahabad**	**11.81**	**143**	*e*P	**Pn**	**13 41 16.8**	**-2.5**
ALBI				*e*S	Sn	13 43 20.4	-9.5
BHPL	**Bhopal**	**12.13**	**165**	*e*P	**Pn**	**13 41 20.9**	**-2.9**
BHPL				*e*S	Sn	13 43 30.2	-7.7
MAKZ	**Makanchi**	**13.19**	**25**	Pn	**Pn**	**13 41 38.0**	**-0.1**
MAKZ	**Makanchi**	**13.19**	**25**	⇑P	**Pn**	**13 41 39.8**	**+1.8**
	comp=N,2.0nm,0.6s						
MAKZ	**Makanchi**	**13.19**	**25**	P	**Pn**	**13 41 38.0**	**-0.1**
MK31	**Makanchi Array**	**13.28**	**25**	P	**P**	**13 41 45.4**	**-3.3**
	comp=N,2.6nm,0.7s,baz=214,slow=14,SNR=27						
MK31	**Makanchi Array**	**13.28**	**25⇑**	*e*P	**Pn**	**13 41 42.2**	**+2.8**
MKAR	**Makanchi Array**	**13.28**	**25**	Pn	**Pn**	**13 41 39.4**	**0.0**
MKAR	**Makanchi Array**	**13.28**	**25**	Pn	**Pn**	**13 41 39.7**	**+0.4**
	comp=N,0.1nm,0.3s,baz=220,slow=15,SNR=8.1						
MKAR				LR	LR	13 47 07.2	
	comp=N,114nm,20.4s,baz=210,slow=39						
MKAR	**Makanchi Array**	**13.28**	**25**	P	**Pn**	**13 41 39.4**	**0.0**
WMQ	**Urumqi**	**13.71**	**46**	*e*P	**Pn**	**13 41 46.8**	**+1.5**
WMQ				LR	LR		
	comp=Z,170nm,17.7s						
AKL	**Akola**	**14.53**	**169**	*e*P	**Pn**	**13 41 54.0**	**-2.5**
AKL				*e*S	Sn	13 44 24.9	-12
BLSP	**Bilaspur**	**14.70**	**149**	*e*S	Sn	13 44 29.2	-11
LSA	**Lhasa**	**15.42**	**105**		**Pn**	**13 42 07.4**	**-1.3**
LSA	**Lhasa**	**15.42**	**105**	P	**Pn**	**13 42 07.4**	**-1.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURBB	**Kurchatov Arra**	**15.91**	**11**	Pn	**Pn**	**13 42 11.9**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=199,slow=11,SNR=17						
KURBB				Lg	Lg	13 46 51.5	
	baz=209,slow=29,SNR=1.5						
KURBB				LR	LR	13 49 22.5	
	comp=Z,35nm,20.0s,baz=170,slow=41						
	comp=Z,1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**15.91**	**11**	⇑P	**Pn**	**13 42 15.4**	**+1.0**
	comp=Z,6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**15.91**	**11**	P	**Pn**	**13 42 15.4**	**+1.0**
KURK	**Kurchatov**	**16.01**	**11**		**P**	**13 42 17.5**	**-1.4**
KURK	**Kurchatov**	**16.01**	**11**	⇓P	**Pn**	**13 42 15.3**	**-0.4**
	comp=Z,4.8nm,0.8s						
KURK	**Kurchatov**	**16.01**	**11**	P	**Pn**	**13 42 11.9**	**-3.8**
GOMU	**GeErMu**	**16.95**	**80**	P	**Pn**	**13 42 27.9**	**-0.2**
GOMU				pP	P	13 42 33.6	+3.8
GOMU				sP	pP	13 42 36.8	-3.0
GOMU				S	Sn	13 44 51.4	-44
GOMU				sS	S	13 45 06.5	-38
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GOMU				LR	LR		
	comp=N,320nm,14.3s						
GOMU				LR	LR		
	comp=E,170nm,14.1s						
GOMU				LR	LR		
	comp=Z,170nm,14.5s						
AB31	**Akbulak array**	**17.58**	**328**	⇓P	**P**	**13 42 36.4**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=136,slow=11,SNR=50						
AB31				⇓S	**Sn**	**13 45 45.5**	**-4.6**
	comp=Z,7.5nm,1.1s,baz=140,slow=23,SNR=3.8						
AB31	**Akbulak array**	**17.58**	**328**	P	**P**	**13 42 36.4**	**+0.2**
AB31				S	**Sn**	**13 45 45.5**	**-4.6**
ABKAR	**Akbulak array**	**17.58**	**328**		**Pn**	**13 42 34.3**	**-1.2**
ABKAR	**Akbulak array**	**17.58**	**328**		**Pn**	**13 42 34.8**	**-0.7**
KAD	**Karad**	**17.67**	**179**	*e*P	**Pn**	**13 42 36.0**	**-0.8**
HYB	**Hyderabad**	**18.02**	**166**	*e*P	**Pn**	**13 42 41.9**	**+0.7**
SHL	**Shillong**	**18.06**	**117**	P	**Pn**	**13 42 41.9**	**+0.1**
BVA0	**Borovoye Array**	**18.16**	**353**	P	**P**	**13 42 42.8**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=157,slow=9.6,SNR=40						
BVA0	**Borovoye Array**	**18.16**	**353**	P	**P**	**13 42 42.8**	**+0.2**
BVAR	**Borovoye Array**	**18.16**	**353**	P	**P**	**13 42 43.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=155,slow=9.7,SNR=23						
BVAR				S	**S**	**13 46 09.0**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=165,slow=22,SNR=3.0						
	comp=Z,4.1nm,0.6s						
BRVK	**Borovoye**	**18.20**	**353**	P	**Pn**	**13 42 41.9**	**-1.2**
BRVK	**Borovoye**	**18.20**	**353**	⇑P	**P**	**13 42 42.8**	**-0.3**
	comp=Z,5.4nm,0.6s						
BRVK	**Borovoye**	**18.20**	**353**	P	**Pn**	**13 42 41.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKTO	**Aktyubinsk**	**19.29**	**328**	P	**Pn**	**13 42 55.6**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=125,slow=9.5,SNR=31						
AKTO				S	**Sn**	**13 46 25.8**	**-5.6**
	comp=Z,1.2nm,0.6s,baz=337,slow=22,SNR=1.7						
	comp=Z,9.7nm,0.6s						
AKTO	**Aktyubinsk**	**19.29**	**328**	⇑P	**Pn**	**13 42 55.5**	**-0.7**
	comp=Z,15nm,1.1s						
AKTO				⇑S	**Sn**	**13 46 26.5**	**-4.9**
	comp=Z,5.7nm,1.4s						
AKTO	**Aktyubinsk**	**19.29**	**328**	P	**Pn**	**13 42 55.5**	**-0.7**
AKTO				S	**Sn**	**13 46 26.5**	**-4.9**
ZAA0	**Zalesovo Array**	**20.36**	**19**	P	**P**	**13 43 04.2**	**-2.5**
ZALV	**Zalesovo Beam**	**20.36**	**19**	P	**P**	**13 43 04.0**	**-2.7**
ZALV	**Zalesovo Beam**	**20.36**	**19**	P	**P**	**13 43 04.7**	**-2.0**
	comp=Z,7.9nm,0.5s,baz=208,slow=10.0,SNR=25						
ZALV				LR	LR	13 51 32.8	
	comp=Z,80nm,19.9s,baz=218,slow=38						
	comp=Z,7.9nm,0.5s						
ZALV	**Zalesovo Beam**	**20.36**	**19**	*i* P	**P**	**13 43 05.9**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GTA	**Gaotai**	**20.97**	**70**	*e*P	**P**	**13 43 12.7**	**-0.8**
GTA				pP	Pn	13 43 19.0	+2.8
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKT	**Akhty**	**21.57**	**295**	*e*P	**P**	**13 43 21.7**	**+1.7**
AKT				*e**SP	**sP**	**13 43 40.0**	**+5.4**
AKT				*e*		13 43 43.7	
AKT				pmax	pmax		
	comp=Z,14nm,1.1s						
TNCH	**TengChong**	**23.39**	**109**	P	**P**	**13 43 39.1**	**-0.1**
TNCH				pP	pP	13 43 47.8	-2.0
TNCH				sP	sP	13 43 51.9	-2.6
TNCH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,55nm,5.0s						
GNI	**Garni**	**23.70**	**291**	P	**P**	**13 43 42.3**	**+0.2**
GNI				IAmb	IAmb	13 44 24.7	
	comp=Z,16nm,1.0s						
GNI	**Garni**	**23.70**	**291**	*ce*P	**P**	**13 43 44.3**	**+2.2**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARTI	**Arti**	**23.86**	**338**	*d i*P	**P**	**13 43 43.2**	**-0.1**
ARTI						13 44 12.6	
ARTI				S	**S**	**13 47 55.9**	**-1.0**
ARTI				pmax	pmax		
	comp=Z,18nm,3.8s						
LZH	**Lanzhou**	**24.24**	**79**	*e*P	**P**	**13 43 44.5**	**-2.7**
LZH				pP	pP	13 43 51.3	-6.8
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	**Khabaz**	**25.45**	**299**	P	**P**	**13 43 58.2**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=59,slow=5.9,SNR=1.9						
	comp=Z,1.2nm,0.8s						
NEUR	**Neytrino**	**25.52**	**298**	*e*P	**P**	**13 43 57.5**	**-1.3**
BELG	**Belogornoye**	**25.56**	**321⇑**	*e*P	**P**	**13 43 58.2**	**-0.6**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**25.64**	**300**	*e*P	**P**	**13 44 01.3**	**+1.6**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAK	**Zakamensk**	**26.18**	**45**	*e*P	**P**	**13 44 04.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOPT	**Kop Dagi**	**26.95**	**291**	P	**P**	**13 44 10.4**	**-1.4**
KOPT				IAmb	IAmb	13 44 28.8	
	comp=Z,5.6nm,0.8s						
SONM	**Songino Array**	**27.21**	**52**	P	**P**	**13 44 13.3**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=258,slow=9.8,SNR=12						
SONM				LR	LR	13 54 44.6	
	comp=Z,38nm,21.5s,baz=331,slow=36						
	comp=Z,1.7nm,0.7s						
RAYN	**Ar Rayn**	**27.30**	**253**	P	**P**	**13 44 18.4**	**+3.5**
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**27.37**	**120**	P	**P**	**13 44 16.4**	**+1.0**
CHTO	**Chiang Mai**	**27.37**	**120**	P	**P**	**13 44

YAK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KLR	**Kul'dur**	**44.04**	**53⇑**	*e*P	**P**	**13 46 40.0**	**+2.5**	
KLR				pmax	pmax			
	comp=Z,10.0nm,1.7s							
HFS	**Hagfors**	**45.72**	**323**	P	**P**	**13 46 51.5**	**+0.7**	
	comp=Z,4.3nm,0.6s,baz=98,slow=11,SNR=12							
	comp=Z,4.3nm,0.6s							
CLL	**Collm**	**46.01**	**310**	*i* P	**P**	**13 46 52.7**	**-0.5**	
CLL	**Collm**	**46.01**	**310**	*i* P	**P**	**13 46 52.7**	**-0.5**	
TIXI	**Tiksi**	**46.22**	**21**	*i* P	**P**	**13 46 56.4**	**+1.9**	
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NB201	**NORSAR Array S**	**46.97**	**324**	P	**P**	**13 47 00.5**	**-0.2**	
TGY	**Tagaytay City**	**46.98**	**104**	LR	LR	14 07 14.5		
	comp=Z,134nm,21.6s,baz=184,slow=37							
NB2	**NORSAR Subarra**	**47.01**	**324**	P	**P**	**13 47 00.8**	**-0.1**	
	comp=Z,1.0nm,0.5s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**47.01**	**324**	P	**P**	**13 47 01.4**	**+0.5**	
	comp=Z,1.2nm,0.6s,baz=96,slow=7.6,SNR=7.7							
	comp=Z,1.2nm,0.6s							
SPITS	**Spitsbergen Ar**	**49.47**	**347**	P	**P**	**13 47 20.2**	**+0.6**	
	comp=Z,7.7nm,1.0s,baz=126,slow=7.3,SNR=1.4							
	comp=Z,7.7nm,1.0s							
MJAR	**Matsushiro Arr**	**51.20**	**68**	P	**P**	**13 47 32.9**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=270,slow=5.7,SNR=2.0							
	comp=Z,0.9nm,0.7s							
KEST	**Kesra**	**51.84**	**291**	P	**P**	**13 47 38.0**	**-0.2**	
KEST	**Kesra**	**51.84**	**291**	P	**P**	**13 47 38.3**	**+0.1**	
	comp=Z,5.1nm,0.7s,baz=58,slow=9.5,SNR=2.3							
	comp=Z,5.1nm,0.7s							
SEY	**Seymchan**	**54.26**	**34⇑**	*e*P	**P**	**13 47 58.0**	**+2.5**	
SEY				pmax	pmax			
	comp=Z,7.0nm,1.7s							
EKA	**Eskdalemuir Ar**	**55.03**	**317**	P	**P**	**13 48 00.9**	**-0.3**	
	comp=Z,1.5nm,0.6s,baz=94,slow=6.9,SNR=4.5							
	comp=Z,1.5nm,0.6s							
BILL	**Bilibino**	**58.83**	**26⇑**	*e*P	**P**	**13 48 30.7**	**+2.8**	
BILL				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ESDC	**Sonseca Array**	**60.31**	**300**	P	**P**	**13 48 38.3**	**-0.3**	
	comp=Z,1.6nm,0.8s,baz=52,slow=7.0,SNR=14							
	comp=Z,1.6nm,0.8s							
VOI	**Vohitsoka**	**62.26**	**209**	P	**P**	**13 48 52.8**	**+0.9**	
PVAQ	**Vaqueiros**	**63.92**	**299**	P	**P**	**13 49 02.8**	**-0.1**	
C16K	**Lisburne Hills**	**67.98**	**20**	P	**P**	**13 49 28.2**	**-0.2**	
C16K				IAmb	IAmb	13 49 28.6		
	comp=Z,2.5nm,1.0s							
TORD	**Torodi Ar. Bea**	**68.17**	**271**	P	**P**	**13 49 29.6**	**-0.9**	
TORD	**Torodi Ar. Bea**	**68.17**	**271**	P	**P**	**13 49 29.9**	**-0.6**	
	comp=Z,3.1nm,0.6s,baz=43,slow=5.9,SNR=27							
	comp=Z,3.1nm,0.6s							
C18K	**Utukok River**	**68.87**	**19**	P	**P**	**13 49 33.7**	**-0.3**	
C18K				IAmb	IAmb	13 49 59.0		
	comp=Z,6.4nm,1.4s							
D19K	**Kuna River**	**69.78**	**18**	P	**P**	**13 49 39.4**	**-0.3**	
D19K				IAmb	IAmb	13 49 43.1		
	comp=Z,2.7nm,0.8s							
E18K	**Tukpahlearik C**	**69.88**	**20**	P	**P**	**13 49 40.0**	**-0.2**	
E18K				IAmb	IAmb	13 49 47.5		
	comp=Z,5.1nm,1.1s							
ANM	**Nome**	**70.41**	**23**	P	**P**	**13 49 44.3**	**+0.8**	
ANM				IAmb	IAmb	13 49 47.9		
	comp=Z,6.0nm,1.0s							
ANM	**Nome**	**70.41**	**23**	P	**P**	**13 49 44.3**	**+0.8**	
ANM				pmax	pmax			
	comp=Z,6.0nm,1.0s							
G19K	**Purcell Mounta**	**71.78**	**19**	P	**P**	**13 49 51.6**	**-0.2**	
G19K				IAmb	IAmb	13 49 57.8		
	comp=Z,3.1nm,0.9s							
KNRA	**Kununurra**	**72.38**	**124**	P	**P**	**13 49 55.9**	**-0.2**	
BMAR	**Burnt Mountain**	**73.75**	**15**	P	**P**	**13 50 03.7**	**+0.2**	
J18K	**Innoko River**	**73.89**	**21**	P	**P**	**13 50 04.0**	**-0.4**	
J18K				IAmb	IAmb	13 50 45.8		
	comp=Z,11nm,1.4s							
J20K	**Nowinta River**	**74.08**	**20**	P	**P**	**13 50 05.6**	**+0.2**	
J20K				IAmb	IAmb	13 50 32.0		
	comp=Z,6.2nm,1.3s							
INK	**Inuvik**	**74.92**	**10**	P	**P**	**13 50 10.1**	**-0.1**	
INK				IAmb	IAmb	13 50 44.8		
	comp=Z,5.5nm,1.5s							
INK	**Inuvik**	**74.92**	**10**	LR	LR	14 28 31.0		
	comp=Z,35nm,18.1s,baz=245,slow=40							
INK	**Inuvik**	**74.92**	**10**	P	**P**	**13 50 10.1**	**-0.1**	
INK				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BPAW	**Bear Paw Mtn.**	**75.00**	**19**	P	**P**	**13 50 10.2**	**-0.6**	
BPAW				IAmb	IAmb	13 50 21.6		
	comp=Z,3.3nm,1.0s							
C36M	**Paulatuk**	**75.06**	**7**	P	**P**	**13 50 10.3**	**-0.7**	
C36M				IAmb	IAmb	13 50 11.3		
	comp=Z,2.8nm,0.5s							
KTH	**Kantishna Hill**	**75.46**	**19**	P	**P**	**13 50 12.9**	**-0.6**	
KTH				IAmb	IAmb	13 50 17.0		
	comp=Z,13nm,1.3s							
ILAR	**Eielson Array**	**75.48**	**17**	P	**P**	**13 50 12.7**	**-0.8**	
	comp=Z,0.8nm,0.8s,baz=296,slow=5.0,SNR=9.8							
	comp=Z,0.8nm,0.8s							
MCK	**McKinley**	**75.83**	**18**	P	**P**	**13 50 14.6**	**-1.0**	
MCK	**McKinley**	**75.83**	**18**	P	**P**	**13 50 14.6**	**-1.0**	
MCK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
RND	**Reindeer**	**76.12**	**18**	P	**P**	**13 50 16.5**	**-0.8**	
RND				IAmb	IAmb	13 50 19.8		
	comp=Z,3.5nm,1.0s							
RND	**Reindeer**	**76.12**	**18**	P	**P**	**13 50 16.5**	**-0.8**	
RND				pmax	pmax			
	comp=Z,3.0nm,1.0s							
O18K	**Koktuh Hills**	**77.11**	**23**	P	**P**	**13 50 23.0**	**+0.1**	
BOSA	**Boshof**	**78.28**	**222**	P	**P**	**13 50 29.7**	**-0.2**	
BOSA				IAmb	IAmb	13 51 01.9		
	comp=Z,8.7nm,1.4s							
BOSA	**Boshof**	**78.28**	**222**	P	**P**	**13 50 29.8**	**-0.2**	
	comp=Z,1.9nm,0.6s,baz=14,slow=7.4,SNR=3.3							
	comp=Z,1.9nm,0.6s							
BOSA	**Boshof**	**78.28**	**222**	P	**P**	**13 50 29.7**	**-0.2**	
BOSA				pmax	pmax			
	comp=Z,9.0nm,1.4s							
WB0	**Warramunga Arr**	**79.06**	**124**	P	**P**	**13 50 33.3**	**-0.9**	
WB0				IAmb	IAmb	13 50 46.9		
	comp=Z,13nm,1.3s							
WRA	**Warramunga Arr**	**79.14**	**124**	P	**P**	**13 50 34.2**	**-0.5**	
	comp=Z,2.6nm,0.8s,baz=326,slow=5.6,SNR=22							
	comp=Z,2.6nm,0.8s							
WRAB	**Tennant Creek**	**79.14**	**124**	P	**P**	**13 50 34.1**	**-0.6**	
WRAB				IAmb	IAmb	13 50 45.7		
	comp=Z,15nm,1.4s							
WRAB	**Tennant Creek**	**79.14**	**124**	P	**P**	**13 50 34.1**	**-0.6**	
WRAB				pmax	pmax			
	comp=Z,15nm,1.4s							
WB2	**Warramunga Arr**	**79.15**	**124**	P	**P**	**13 50 34.4**	**-0.4**	
AS31	**Alice Springs**	**81.41**	**127**	P	**P**	**13 50 46.1**	**-0.8**	
ASAR	**Alice Springs**	**81.41**	**127**	P	**P**	**13 50 46.5**	**-0.4**	
	comp=Z,2.1nm,0.6s,baz=306,slow=5.2,SNR=42							
	comp=Z,2.1nm,0.6s							
YKA	**Yellowknife Ar**	**82.55**	**4**	P	**P**	**13 50 51.8**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=345,slow=4.9,SNR=13							
	comp=Z,0.7nm,0.7s							
YKA	**Yellowknife Ar**	**82.55**	**4**	*cei*P	**P**	**13 50 52.2**	**-0.1**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FORT	**Forrest**	**82.90**	**135**	P	**P**	**13 50 54.0**	**-0.5**	
MAW	**Mawson**	**102.68**	**184**	P	**Pdif**	**13 52 26.0**	**+0.1**	
	comp=Z,36nm,1.1s,baz=307,slow=19,SNR=4.6							
MAW	**Mawson**	**102.68**	**184**	P	**Pdif**	**13 52 26.0**	**+0.1**	
QSPA	**South Pole Qui**	**124.84**	**180**	PKP	**PKPdf**	**13 57 28.3**	**-0.3**	
	comp=Z,0.3nm,0.2s,baz=311,slow=8.8,SNR=1.4							
PLCA	**Paso Flores**	**151.60**	**248**	PKPbc	**PKPbc**	**13 58 24.2**	**+0.3**	
	comp=Z,1.2nm,0.8s,baz=326,slow=5.4,SNR=4.5							

*OSPL **05** 13:42:52.4±0.8, 19°.54N×68°.34W, h0km±30km, ML2.3, Hypocentre not reviewed by the ISC*
*SDD **05** 13:42:58.6±2.7, 19°.35N×68°.08W, h20km±105km, MD3.5, ML2.4, MW3.1*
*RSPR **05** 13:42:59.2, 19°.60N×68°.08W, h41km±23km, MD3.0/6*
*NEIC **05** 13:43:00.8±2.4, 19°.26N±0°.06×68°.20W±0°.04, h35km±2km, ML2.4/24, Md3.0/6(RSPR), Error ellipse: s-maj=10.8km s-min=6.1km az=176.0*
ISC 05 13:42:59.9±1.4, 19°.23N±0°.05×68°.11W±0°.02, h16km±10km, n47, σ1°.08/63, 5C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.76**	**200**		**Sb**	**13 43 25.1**	**+0.2**
PCDR	**Punta Cana, DR**	**0.76**	**200**	Pn	**Pn**	**13 43 15.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.76**	**200**	IAML		13 43 30.6	
	comp=E,54nm,1.7s						
PCDR				IAML		13 43 35.5	
	comp=N,122nm,1.6s						
PCDR	**Punta Cana, DR**	**0.76**	**200**	*e*Pg	**Pg**	**13 43 15.2**	**+0.4**
PCDR				*e*Sg	**Sg**	**13 43 25.7**	**+0.9**
PCDR				IAML		13 43 35.1	
	comp=N,115nm,2.4s						
PCDR	**Punta Cana, DR**	**0.76**	**200⇓**	*e*P	**Pb**	**13 43 13.3**	**-1.4**
PCDR	**Punta Cana, DR**	**0.76**	**200**	*e*S	**Sb**	**13 43 25.1**	**+0.2**
PCDR	**Punta Cana, DR**	**0.76**	**200**	*i* P		13 43 10.5	
PCDR				*e*S		13 43 24.2	
PCDR				IAML		13 43 32.5	
	comp=Z,87nm,0.7s						
HIDR	**Higuey Centro**	**0.86**	**222**	*e*Pg	**Pb**	**13 43 14.4**	**-2.0**
HIDR				*e*Sg	**Sb**	**13 43 26.2**	**-1.5**
HIDR				IAML		13 43 28.8	
	comp=N,173nm,0.2s						
SMDR	**Samana, DR**	**1.02**	**273**	*e*Pg	**Pb**	**13 43 17.9**	**-1.3**
SMDR				*e*Sg	**Sg**	**13 43 32.9**	**-0.2**
SMDR				IAML		13 43 33.4	
	comp=N,67nm,0.5s						
IDE	**Isla Desecheo**	**1.03**	**144**		**Pn**	**13 43 19.9**	**+0.2**
IDE					**Sn**	**13 43 35.8**	**+1.9**
IDE	**Isla Desecheo**	**1.03**	**144⇑**	*e*P	**Pn**	**13 43 19.9**	**+0.2**
IDE	**Isla Desecheo**	**1.03**	**144**	*e*S	**Sn**	**13 43 35.8**	**+1.9**
AGPR	**Aguadilla, PR**	**1.21**	**129**		**Pn**	**13 43 21.2**	**-1.0**
AGPR				IAML		13 43 45.0	
	comp=E,72nm,0.3s						
AGPR				IAML		13 43 46.5	
	comp=N,62nm,0.2s						
AGPR	**Aguadilla, PR**	**1.21**	**129**		**Sg**	**13 43 39.9**	**+0.7**
AGPR	**Aguadilla, PR**	**1.21**	**129**	*e*Pg	**Pn**	**13 43 19.7**	**-2.5**
AGPR				*e*Sg	**Sb**	**13 43 36.0**	**-2.0**
AGPR				IAML		13 43 44.8	
	comp=N,56nm,0.1s						
AGPR	**Aguadilla, PR**	**1.21**	**129⇑**	*e*P	**Pn**	**13 43 21.8**	**-0.5**
AGPR	**Aguadilla, PR**	**1.21**	**129**	*e*S	**Sg**	**13 43 39.9**	**+0.7**
AGPR	**Aguadilla, PR**	**1.21**	**129**	*i* P		13 43 19.5	
AGPR				*e*S		13 43 39.4	
AGPR				IAML		13 43 41.8	
	comp=Z,37nm,0.2s						
SADR	**Isla Saona**	**1.22**	**212**	*e*Pg	**Pn**	**13 43 21.6**	**-0.6**
SADR				*e*Sg	**Sn**	**13 43 38.9**	**+0.5**
SADR				IAML		13 43 47.1	
	comp=N,92nm,2.1s						
DR12	**Loma Pena Alta**	**1.28**	**250**	Pn	**Pn**	**13 43 21.4**	**-1.9**
HATOM	**Hato Mayor del**	**1.28**	**250**	*e*Pg	**Pn**	**13 43 21.4**	**-1.8**
HATOM				*e*Sg	**Sb**	**13 43 40.0**	**+0.1**
HATOM				IAML		13 43 42.1	
	comp=N,26nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.54**	**142**		**Sg**	**13 43 49.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.54**	**142**		**Pn**	**13 43 26.7**	**-0.1**
CRPR				IAML		13 43 50.2	
	comp=E,27nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.54**	**142**	*e*Pg	**Pb**	**13 43 27.7**	**-0.4**
CRPR				*e*Sg	**Sb**	**13 43 48.6**	**+1.1**
CRPR				IAML		13 43 52.8	
	comp=N,22nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.54**	**142⇑**	*e*P	**Pb**	**13 43 27.5**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.54**	**142**	*e*S	**Sg**	**13 43 49.4**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.54**	**142**	*i* P		13 43 24.7	
CRPR				*e*S		13 43 48.4	
CRPR				IAML		13 43 50.2	
	comp=Z,49nm,0.5s						
AOPR	**Arecibo Observ**	**1.56**	**124**	Pn	**Pn**	**13 43 25.8**	**-1.2**
AOPR				IAML		13 43 55.8	
	comp=N,55nm,0.4s						
AOPR	**Arecibo Observ**	**1.56**	**124**	*e*Pg	**Pn**	**13 43 26.1**	**-0.9**
AOPR				*e*Sg	**Sb**	**13 43 47.5**	**-0.3**
AOPR				IAML		13 43 55.7	
	comp=N,51nm,0.3s						
MLPR	**Magueyes Islan**	**1.61**	**141**		**Pn**	**13 43 27.0**	**-0.7**
MLPR					**Sb**	**13 43 49.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.61**	**141**	*e*Pg	**Pn**	**13 43 27.2**	**-0.5**
MLPR				*e*Sg	**Sb**	**13 43 49.5**	**+0.1**
MLPR				IAML		13 43 54.5	
	comp=N,22nm,0.5s						
MLPR	**Magueyes Islan**	**1.61**	**141⇓**	*e*P	**Pn**	**13 43 27.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.61**	**141**	*e*S	**Sb**	**13 43 50.5**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.64**	**126**		**Sb**	**13 43 49.6**	**-0.5**
EMPR	**Esperanza - Ma**	**1.67**	**116**	Pn	**Pn**	**13 43 28.4**	**-0.1**
DR08	**Loma La Naviza**	**1.83**	**262**	*e*Pg	**Pn**	**13 43 30.3**	**-0.4**
DR08				*e*Sg	**Sn**	**13 43 54.0**	**+0.4**
DR08				IAML		13 43 58.9	
	comp=N,522nm,0.1s						
CELP	**Cerrillos**	**1.85**	**128**		**Pn**	**13 43 30.9**	**-0.1**
CELP					**Sb**	**13 43 55.6**	**-0.7**
CELP	**Cerrillos**	**1.85**	**128**	IAML		13 44 00.4	
	comp=N,32nm,0.3s						
CELP				IAML		13 44 04.8	
	comp=E,22nm,0.5s						
CELP	**Cerrillos**	**1.85**	**128**	*e*Pg	**Pn**	**13 43 30.8**	**-0.3**
CELP				*e*Sg	**Sb**	**13 43 56.2**	**-0.2**
CELP				IAML		13 44 00.3	
	comp=N,33nm,0.3s						
CELP	**Cerrillos**	**1.85**	**128⇑**	*e*P	**Pn**	**13 43 30.9**	**-0.1**
CELP	**Cerrillos**	**1.85**	**128**	*e*S	**Sb**	**13 43 55.6**	**-0.7**
OBIP	**Obispado Ponce**	**1.85**	**130**	Pn	**Pn**	**13 43 31.1**	**+0.1**
OBIP				IAML		13 43 57.1	
	comp=N,20nm,0.6s						
OBIP				IAML		13 43 58.7	
	comp=E,20nm,1.1s						
BANI	**BANI**	**2.29**	**249**	Pn	**Pn**	**13 43 36.7**	**-0.4**
BANI				IAML		13 44 10.8	
	comp=N,32nm,0.6s						
BANI	**BANI**	**2.29**	**249**	*e*Pg	**Pb**	**13 43 41.2**	**+0.3**
BANI				*e*Sg	**Sb**	**13 44 10.3**	**+1.3**
PDPR	**Patillas Dam,**	**2.32**	**121⇑**	*e*P	**Pn**	**13 43 37.1**	**-0.4**
PDPR	**Patillas Dam,**	**2.32**	**121**	*e*S	**Sn**	**13 44 05.8**	**+0.2**
HUMP	**Col San Antoni**	**2.40**	**117**	Pn	**Pn**	**13 43 37.9**	**-0.7**
HUMP				IAML		13 44 20.1	
	comp=N,14nm,0.2s						
HUMP				IAML		13 45 13.6	
	comp=E,26nm,0.2s						
ABDR	**Alto Bandera**	**2.42**	**260**	*e*Pg	**Pb**	**13 43 41.4**	**-1.9**
ABDR				*e*Sg	**Sb**	**13 44 13.0**	**0.0**
ABDR				IAML		13 44 27.6	
	comp=N,20nm,1.1s						
SDDR	**Presa de Saban**	**3.02**	**266**	*e*Pg	**Pn**	**13 43 50.0**	**+2.9**
SDDR				*e*Sg	**Sb**	**13 44 28.3**	**-1.6**
SDDR				IAML		13 44 49.4	
	comp=N,9.5nm,1.1s						
REDR	**Restauracion**	**3.11**	**269**	*e*Pg	**Pb**	**13 43 56.8**	**+2.0**
REDR				*e*Sg	**Sg**	**13 44 39.6**	**-0.2**
REDR				IAML		13 44 46.2	
	comp=N,12nm,0.7s						

DJA 05 13:44:44.3±0.5, 5°.N±3°×9°.5E±°, h62km±5km, M3.7/10, mB5.5/1, mb4.0/4, MLv3.5/10, Mw(mB)5.0/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.80**	**350**	P	Pn	13 45 00.5	+0.5
BSI				S	Sn	13 45 12.4	+0.9
MLSI	**Meulaboh, Aceh**	**1.06**	**114**	P	Pn	13 45 03.8	+0.6
MLSI				S	Sn	13 45 18.1	+0.8
LHMI	**Lhok Sumawe**	**1.60**	**71**	P	Pn	13 45 11.5	+1.1
LHMI				S	Sn	13 45 31.5	+1.4
SNSI	**Sinabang, Aceh**	**2.45**	**159**	P	Pn	13 45 21.2	-0.7
SNSI				S	Sn	13 45 50.4	-0.3
PBSI	**Pulau Batu**	**5.51**	**149**	P	Pn	13 46 04.2	+0.3
	42nm,0.8s						
SISI	**Saibi**	**7.01**	**148**	P	Pn	13 46 24.7	+0.3

*BER **05** 13:47:27.4±1.3, 76°.08N×7°.03E, h24km±41km, mb(Pn)3.5, Confirmed Earthquake*
*NAO **05** 13:47:28.6±10.0, 76°.18N×7°.87E, h22km±132km, ML2.3*
ISC 05 13:47:25.5±3.0, 76°.10N±0°.08×7°.7E±0°.2, h10km, n13, σ1°.44/23, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.03**	**60**	Pn	**Pn**	**13 48 00.2**	**+0.5**
HSPB				Sn	**Sn**	**13 48 24.8**	**-0.3**
HSPB	**Hornsund (broa**	**2.03**	**60**	*e*P	**Pn**	**13 48 00.8**	**+1.1**
HSPB				*e*S	**Sn**	**13 48 24.9**	**-0.3**
HSPB				IAML		13 48 28.0	
	comp=Z,4.8nm,0.8s						
BRBA	**Barentsburg A**	**2.45**	**33**	Pn	**Pn**	**13 48 05.7**	**+0.2**
BRBA	**Barentsburg A**	**2.45**	**33**	*e*P	**Pn**	**13 48 06.1**	**+0.6**
BRBA				*e*S	**Sn**	**13 48 35.3**	**0.0**
BRBA				IAML		13 48 45.0	
	comp=Z,6.0nm,0.8s						
BRBB	**Barentsburg B**	**2.47**	**33**	Pn	**Pn**	**13 48 06.1**	**+0.3**
BRBB				Sn	**Sn**	**13 48 35.7**	**-0.3**
BRBB	**Barentsburg B**	**2.47**	**33**	*e*P	**Pn**	**13 48 06.0**	**+0.3**
BRBB				*e*S	**Sn**	**13 48 35.3**	**-0.6**
SPA0	**Spitsbergen Ar**	**2.84**	**39**	Pn	**Pn**	**13 48 11.9**	**+1.1**
	baz=223,slow=14						
SPA0				Sn	**Sn**	**13 48 44.2**	**-0.8**
	baz=218,slow=18						
SPA0	**Spitsbergen Ar**	**2.84**	**39**	*e*P	**Pn**	**13 48 11.8**	**+1.0**
SPA0				*e*S	**Sn**	**13 48 44.1**	**-1.0**
SPA0				IAML		13 48 44.5	
	comp=Z,4.3nm,0.9s						
KBS	**Kingsbay**	**2.98**	**16**	Pn	**Pn**	**13 48 13.0**	**+0.2**
KBS	**Kingsbay**	**2.98**	**16**	*e*P	**Pn**	**13 48 13.0**	**+0.2**
KBS				*e*S	**Sn**	**13 48 45.2**	**-3.3**
KBS				IAML		13 48 48.6	
	comp=Z,2.8nm,0.8s						
BJO1	**Bjornoya**	**3.29**	**114**	*e*S	**Sn**	**13 48 55.6**	**-0.4**
BJO1				IAML		13 49 00.6	
	comp=Z,9.5nm,0.5s						
HOPEN	**Hopen**	**4.12**	**76**	*e*P	**Pn**	**13 48 29.2**	**+0.8**
HOPEN				*e*S	**Sn**	**13 49 16.8**	**+0.3**
HOPEN				IAML		13 49 24.0	
	comp=Z,9.4nm,0.1s						
ARA0	**ARCESS Array S**	**8.38**	**133**	Pn	**Pn**	**13 49 29.0**	**+2.1**
	baz=333,slow=12						
ARA0				Sn	**Sn**	**13 50 57.1**	**-4.4**
	baz=331,slow=22						

*NEIC **05** 13:55:30±1.1, 58°.95N±0°.03×153°.17W±0°.07, h16km±6km, Error ellipse: s-maj=5.4km s-min=3.9km az=111.0*
AEIC 05 13:55:30.0±1.1, 58°.96N±0°.02×153°.17W±0°.06, h15km±4km, ML2.9, MLM3.2/118(NEIC), Error ellipse: s-maj=5.2km s-min=2.5km az=113.0, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q19K	**Cape Douglas,**	**0.25**	**263**	Pg	Pg	13 55 35.2	-0.2
Q19K				IAML		13 55 40.1	
	comp=N,3μm,0.5s						
Q19K				IAML		13 55 41.2	
	comp=E,3μm,0.7s						
AU22	**Augustine Moun**	**0.42**	**347**		Pg	13 55 38.5	+0.1
AU22					Sb	13 55 44.8	-0.5
AUCH	**Augustine Cone**	**0.43**	**341**		Pg	13 55 38.8	+0.2
AUL	**Augustine Lava**	**0.44**	**342**		Pg	13 55 39.0	+0.1
SYI	**Shuyak Island**	**0.54**	**131**	Pg	Pg	13 55 39.5	-1.1
SYI				IAML		13 55 47.5	
	comp=E,1μm,0.5s						
SYI				IAML		13 55 47.5	
	comp=N,1μm,0.5s						
P19K	**Oil Pt**	**0.69**	**357**	Pg	Pg	13 55 43.2	-0.4
P19K				IAML		13 55 54.3	
	comp=E,991nm,0.3s						
P19K	**Oil Pt**	**0.69**	**357**		Sb	13 55 53.4	+0.1
KAHG	**Katmai Hook Gl**	**0.86**	**237**		Pg	13 55 46.4	-0.3
KAHG					Sb	13 55 58.2	+0.2
ILS	**Iliamna Low So**	**1.00**	**3**		Pb	13 55 48.0	-1.1
KAHC	**Katmai Hardscr**	**1.01**	**253**		Pb	13 55 48.5	-0.7
ILSW	**Iliamna Southw**	**1.02**	**1**		Pb	13 55 48.1	-1.4
HOM	**Homer**	**1.05**	**48**		Pb	13 55 48.5	-1.3
CNPM	**China Poot**	**1.14**	**60**	Pn	Pb	13 55 50.1	-1.4
CNPM				IAML		13 56 12.6	
	comp=N,353nm,0.6s						
P18K	**Big Mountain,**	**1.15**	**293**		Pb	13 55 50.0	-1.6
P18K				IAML		13 56 05.7	
	comp=N,458nm,0.5s						
P18K				IAML		13 56 06.3	
	comp=E,396nm,0.4s						
O20K	**Slope Mountain**	**1.16**	**14**		Sb	13 56 06.8	+0.2
KDAK	**Kodiak Island**	**1.22**	**165**		Pn	13 55 51.8	-0.7
KDAK				IAML		13 56 13.6	
	comp=E,296nm,0.5s						
KCE	**Katmai Mt Cerb**	**1.28**	**237**		Pn	13 55 53.0	-0.4
ACHA	**Angle Creek He**	**1.36**	**237**	Pn	Pn	13 55 54.8	+0.3
O19K	**Port Alsworth**	**1.37**	**335**		Pn	13 55 54.5	-0.1
O19K	**Port Alsworth**	**1.37**	**335**		Sn	13 56 12.2	-0.2
O18K	**Koktuh Hills**	**1.37**	**312**	Pn	Pn	13 55 54.3	-0.4
BRLK	**Bradley Lake**	**1.42**	**54**		Pn	13 55 54.1	-1.2
BRLK				IAML		13 56 16.7	
	comp=E,269nm,0.4s						
BRLK				IAML		13 56 17.0	
	comp=N,357nm,0.4s						
ANCK	**Angle Creek**	**1.44**	**239**		Sn	13 56 14.2	0.0
KELA	**Mount Kelaz**	**1.44**	**250**		Pn	13 55 55.5	-0.2
RDWB	**Redoubt West**	**1.54**	**6**		Sn	13 56 16.5	-0.4
CNTC	**Contact Creek**	**1.58**	**245**		Pn	13 55 57.3	-0.4
RDJH	**Redoubt Jeurge**	**1.65**	**6**		Pn	13 55 58.0	-0.5
RDT	**Redoubt**	**1.

comp=N,43nm,0.8s
HIN Hinchinbrook I 3.67 64 Pn 13 56 27.6 +1.3
HIN Hinchinbrook I 3.67 64 IAML 13 57 18.1
comp=N,33nm,1.1s
HIN IAML 13 57 18.6
comp=E,30nm,1.1s
L18K Granite Mounta 3.70 334 Pn 13 56 27.7 +1.1
L18K Granite Mounta 3.70 334 IAML 13 57 31.0
comp=N,44nm,0.8s
L18K IAML 13 57 36.0
comp=E,27nm,1.1s
N15K Kwethluk River 3.72 292 Pn 13 56 28.2 +1.3
N15K Kwethluk River 3.72 292 IAML 13 57 33.5
comp=E,55nm,0.9s
SML Sawmill 3.73 38 Pn 13 56 28.7 +1.6
SML Sawmill 3.73 38 IAML 13 57 29.7
comp=N,46nm,1.0s
SML IAML 13 57 30.3
comp=E,48nm,0.9s
FID Port Fidalgo 3.82 59 Pn 13 56 28.1 -0.2
FID Port Fidalgo 3.82 59 IAML 13 57 25.4
comp=N,37nm,1.2s
FID IAML 13 57 26.7
comp=E,29nm,1.1s
EYAK Cordova Ski Ar 4.08 64 Pn 13 56 32.6 +0.8
SCM Sheep Creek Mo 4.08 43 Pn 13 56 33.5 +1.5
SCM Sheep Creek Mo 4.08 43 IAML 13 57 40.6
comp=N,31nm,1.2s
SCM IAML 13 57 41.4
comp=E,41nm,1.1s
L16K Owhat River 4.17 314 Pn 13 56 33.7 +0.6
L16K Owhat River 4.17 314 IAML 13 57 45.6
comp=E,32nm,0.8s
L16K IAML 13 57 47.3
comp=N,32nm,0.8s
O14K Tigyukauivet M 4.18 277 Pn 13 56 34.2 +1.0
O14K Tigyukauivet M 4.18 277 IAML 13 57 54.9
comp=N,24nm,1.1s
TTA Tatalina 4.22 342 IAML 13 57 49.1
comp=N,19nm,1.1s
TTA IAML 13 57 50.0
comp=E,18nm,0.8s
KLU Klutina 4.42 52 Pn 13 56 37.7 +1.2
KLU Klutina 4.42 52 IAML 13 57 48.8
comp=N,22nm,1.1s
K20K Telida 4.43 355 Pn 13 56 37.9 +1.2
N14K Kuskokwak Cree 4.45 286 Pn 13 56 38.1 +1.2
GOAT Goat Mountain 4.57 66 Pn 13 56 39.5 +0.9
M24K Tolsona, Glenn 4.68 45 Pn 13 56 41.7 +1.6
M24K Tolsona, Glenn 4.68 45 IAML 13 58 09.7
comp=E,27nm,0.9s
TRF Thorofare Moun 4.71 16 Pn 13 56 42.0 +1.3
TRF Thorofare Moun 4.71 16 IAML 13 58 10.5
comp=E,13nm,1.1s
TRF IAML 13 58 11.3
comp=N,16nm,1.0s
KTH Kantishna Hill 4.73 12 Pn 13 56 42.5 +1.6
KTH Kantishna Hill 4.73 12 IAML 13 58 11.3
comp=E,20nm,1.2s
KTH IAML 13 58 27.7
comp=N,20nm,1.2s
BMRM Bremner River 4.75 61 Pn 13 56 42.4 +1.3
RND Reindeer 4.92 23 Pn 13 56 45.5 +2.0
RND Reindeer 4.92 23 IAML 13 58 12.0
comp=E,12nm,0.9s
RND IAML 13 58 16.6
comp=N,14nm,1.1s
N25K Chitina, Valde 5.02 54 Pn 13 56 45.9 +1.0
J19K Poorman 5.18 348 Pn 13 56 48.1 +1.1
J19K Poorman 5.18 348 IAML 13 58 22.2
comp=E,12nm,0.9s
J19K IAML 13 58 38.6
comp=N,11nm,1.1s
J20K Nowinta River 5.25 355 Pn 13 56 49.1 +1.2
J20K Nowinta River 5.25 355 IAML 13 58 26.1
comp=E,10nm,1.0s
GLB Gilahina Butte 5.29 58 Pn 13 56 49.8 +1.3
GLB Gilahina Butte 5.29 58 IAML 13 58 13.9
comp=N,11nm,1.2s
L14K Kuka Creek 5.32 301 Pn 13 56 50.2 +1.4
WACK Wrangell Chich 5.32 51 Pn 13 56 50.2 +1.2
VRDI Verde Repeater 5.37 61 Pn 13 56 50.3 +0.6
PAX Paxson 5.50 40 Pn 13 56 52.7 +1.4
BARK Barkley Ridge 5.60 70 Pn 13 56 54.1 +1.3
KIAG Kiagna River 5.78 65 Pn 13 56 56.3 +1.0
BALM Baldy 5.82 64 Pn 13 56 56.4 +0.6
K24K Donnelly Dome 6.01 33 Pn 13 56 59.3 +0.9
IL31 6.54 24 Pn 13 57 06.4 +0.9
YUK2 White River 6.74 60 Pn 13 57 09.3 +1.0
J25K Salcha River, 6.76 30 Pn 13 57 10.0 +1.3
YUK8 Steele Glacier 7.09 65 Pn 13 57 15.1 +1.8

*IDC **05** 13:55:37.1±1.9,38°.05N×38°.14E,h0km,mb3.8/1, mbtmp3.5/3,ML2.6/2,MS2.7/4,Error ellipse: s-maj=21.3km s-min=16.1km az=156.0*
*ISK **05** 13:55:41.8,38°.74N×38°.10E,h1km,ML3.4/24*
*AFAD **05** 13:55:41.2,38°.75N×38°.15E,h7km±2km,ML3.4*
ISC 05 13:55:41.6±1.1,38°.76N±0°.02×38°.16E±0°.02,h4km±9km, n52,σ1°45/71,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.19**	**307**	P	**Pg**	**13 55 45.8**	**+0.3**
HEKM				S	**Sg**	**13 55 49.0**	**+1.1**
HEKM				*i* AML	AML	13 55 50.0	
	comp=Z,8μm,0.4s						
MAYA	**Malatya/Merkez**	**0.49**	**154**	P	**Pg**	**13 55 50.8**	**-0.2**
MAYA				S	**Sb**	**13 55 58.1**	**-2.2**
AKCD	**Akcadag**	**0.50**	**201**	P	**Pg**	**13 55 51.2**	**0.0**
AKCD				S	**Sb**	**13 56 00.2**	**-0.5**
AKCD				*i* AML	AML	13 56 01.0	
	comp=Z,4μm,0.5s						
DARE	**Darende-Malaty**	**0.56**	**250**	Pg	**Pg**	**13 55 52.2**	**-0.2**
DARE				Sg	**Sb**	**13 56 00.4**	**-2.0**
KEMA	**Kemaliye**	**0.57**	**27**	P	**Pg**	**13 55 51.7**	**-0.9**
KEMA				S	**Sb**	**13 56 01.7**	**-1.0**
CUGUR	**Gurin_SVAS**	**0.69**	**267**	P	**Pg**	**13 55 54.1**	**-0.8**
CUGUR				S	**Sb**	**13 56 05.0**	**-1.2**
CUGUR				*i* AML	AML	13 56 09.0	
	comp=Z,2μm,0.3s						
ELZG	**Elazig**	**0.70**	**112**	P	**Pg**	**13 55 54.9**	**-0.2**
ELZG				S	**Sb**	**13 56 05.1**	**-1.4**
ELZG				*i* AML	AML	13 56 06.0	
	comp=Z,3μm,0.8s						
CUKAN	**kangal_SIVAS**	**0.77**	**316**	P	**Pg**	**13 55 55.7**	**-0.7**
CUKAN				S	**Sg**	**13 56 07.1**	**+0.7**
ELBS	**KAHRAMANMARAS**	**0.91**	**242**	P	**Pb**	**13 55 58.8**	**-1.2**
ELBS				S	**Sb**	**13 56 12.2**	**-0.4**
ELBS				*i* AML	AML	13 56 15.0	
	comp=Z,2μm,0.9s						
AZEY	**Adyaman-Merk**	**0.95**	**176**	P	**Pb**	**13 55 59.6**	**-1.1**
PTK	**Pertek**	**0.97**	**82**	Pg	**Pg**	**13 55 59.5**	**-0.8**
AKCA	**Adyaman/G¶l**	**1.03**	**201**	S	**Sn**	**13 56 17.3**	**-0.6**
TNCL	**Tunceli-Merkez**	**1.14**	**72**	P	**Pg**	**13 56 01.9**	**-1.5**
TNCL				S	**Sg**	**13 56 18.3**	**+0.2**
TNCL				*i* AML	AML	13 56 24.0	
	comp=Z,1μm,0.5s						
CUZAR	**Zara_SIVAS**	**1.16**	**345**	P	**Pb**	**13 56 04.1**	**-0.2**
CUZAR				S	**Sn**	**13 56 20.7**	**-0.4**
CUAYA	**Sivas-Altinyay**	**1.21**	**295**	P	**Pg**	**13 56 03.5**	**-1.2**
CUAYA				S	**Sn**	**13 56 22.4**	**+0.2**
ATAB	**Bozova**	**1.30**	**175**	P	**Pg**	**13 56 06.0**	**-0.4**
ATAB				S	**Sn**	**13 56 25.1**	**+0.8**
KOVA	**Elazig, Kovanc**	**1.30**	**92**	P	**Pn**	**13 56 04.7**	**-1.9**
KOVA				S	**Sn**	**13 56 26.5**	**+2.1**
SCER	**sogukcermik**	**1.35**	**324**	P	**Pn**	**13 56 06.4**	**-1.0**
SCER				S	**Sn**	**13 56 26.2**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.41**	**256**	Pn	**Pg**	**13 56 08.5**	**-0.1**
SARI				Sn	**Sg**	**13 56 28.5**	**+1.7**
URFA	**Urfa**	**1.42**	**158**	Pn	**Pg**	**13 56 09.1**	**+0.3**
URFA				Sn	**Sg**	**13 56 29.8**	**+2.5**
SUSE	**Susehri**	**1.44**	**1**	P	**Pn**	**13 56 08.4**	**-0.2**
SUSE				S	**Sg**	**13 56 30.6**	**+2.6**
SVSK	**Karacayir**	**1.46**	**322**	Pn	**Pg**	**13 56 09.7**	**+0.1**
GZT	**Gaziantep**	**1.48**	**199**	P	**Pg**	**13 56 09.2**	**-0.8**
GZT				S	**Sg**	**13 56 31.4**	**+2.3**
GZT				*i* AML	AML	13 56 35.0	
	comp=Z,526nm,0.3s						
EUZM	**Uzumlu**	**1.52**	**51**	P	**Pg**	**13 56 10.7**	**-0.1**
EUZM				S	**Sg**	**13 56 32.5**	**+1.9**
CUSAR	**Sarkisla-SIVAS**	**1.62**	**294**	P	**Pb**	**13 56 11.3**	**-0.9**
CUSAR				S	**Sg**	**13 56 35.4**	**+1.6**
RSDY	**Resadiye-TOKAT**	**1.75**	**339**	Pn	**Pg**	**13 56 14.7**	**-0.5**
RSDY				Sn	**Sg**	**13 56 38.1**	**+0.2**
GAZ	**Gaziantep**	**1.75**	**205**	Pn	**Pg**	**13 56 14.2**	**-1.0**
BNN	**Bunyan**	**1.81**	**274**	Pn	**Pb**	**13 56 14.5**	**-0.8**
BNGB	**Bingl**	**1.98**	**83**	Pn	**Pb**	**13 56 18.3**	**0.0**
TOKT	**Tokat**	**1.99**	**322**	Pn	**Pb**	**13 56 17.6**	**-0.8**
ESPY	**Espiye-Giresun**	**2.19**	**11**	Pn	**Pb**	**13 56 21.2**	**-0.7**
MAZI	**Mazidag**	**2.23**	**125**	Pn	**Pb**	**13 56 21.7**	**-0.8**
BAYT	**Aydıntepe-Bayb**	**2.24**	**43**	Pn	**Pb**	**13 56 21.9**	**-0.8**
KOZT	**Kozan**	**2.24**	**236**	Pn	**Pb**	**13 56 20.7**	**-1.9**
KARO	**Karliova-Bingo**	**2.32**	**76**	Pn	**Pb**	**13 56 22.9**	**-1.2**
YOZ	**Yozgat**	**2.37**	**293**	Pn	**Pn**	**13 56 22.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**2.47**	**103**	Pn	**Pb**	**13 56 25.1**	**-1.4**
KTUT	**Trabzon**	**2.54**	**29**	Pn	**Pb**	**13 56 26.0**	**-1.8**
CEYT	**Ceyhan**	**2.59**	**228**	Pn	**Pb**	**13 56 25.7**	**-2.8**
CMRD	**Camardi-Nigde**	**2.72**	**247**	Pn	**Pb**	**13 56 27.7**	**-3.2**
KVT	**Kavak**	**2.83**	**326**	Pn	**Pb**	**13 56 30.1**	**-2.5**
TAHT	**Tahtakopru-Hat**	**2.85**	**214**	Pn	**Pb**	**13 56 29.9**	**-3.1**
KARA	**Karaisali**	**2.87**	**239**	Pn	**Pn**	**13 56 29.8**	**+1.7**
CORM	**Corum**	**3.07**	**298**	Pn	**Pn**	**13 56 33.0**	**+2.0**
GULA	**Gulagac**	**3.10**	**263**	Pn	**Pn**	**13 56 33.5**	**+2.1**
KAMT	**Kaman**	**3.51**	**281**	Pn	**Pn**	**13 56 38.4**	**+1.4**
BRTR	**Keskin Array B**	**3.63**	**287**	Pn	**Pn**	**13 56 39.6**	**+0.9**
	0.8nm,0.3s,baz=113,slow=17,SNR=30						
BRTR				Pg	**Pg**	**13 56 48.9**	**-2.4**
	1.2nm,0.3s,baz=119,slow=16,SNR=14						
BRTR				Lg	Lg	13 57 41.1	
	1.2nm,0.3s,baz=118,slow=29,SNR=7.4						
BRTR				LR	LR	13 58 36.2	
	comp=Z,63nm,19.3s,baz=117,slow=46						
	5.3nm,0.7s						
KBZ	**Khabaz**	**6.11**	**34**	Pn	Pn	13 57 19.9	+7.3
	0.1nm,0.3s,baz=211,slow=18,SNR=2.5						
	1.2nm,0.7s						
MMAI	**Mount Meron Ar**	**6.16**	**202**	Pg	Pn	13 57 18.0	+4.6
	1.7nm,0.3s,baz=24,slow=15,SNR=2.4						
MMAI				Lg	Lg	13 58 32.5	
	0.9nm,0.3s,baz=29,slow=21,SNR=1.0						
MMAI				LR	LR	13 59 40.3	
	comp=Z,45nm,20.1s,baz=126,slow=44						
FINES	**FINESS Array B**	**23.91**	**346**	P	**P**	**14 00 58.8**	**+2.7**
	2.1nm,0.8s,baz=153,slow=9.4,SNR=1.2						
	2.1nm,0.8s						
NOA	**NORSAR Array B**	**27.88**	**332**	LR	LR	14 14 54.2	
	comp=Z,19nm,19.6s,baz=275,slow=41						
KURBB	**Kurchatov Arra**	**30.68**	**54**	LR	LR	14 16 10.8	
	comp=Z,21nm,19.6s,baz=159,slow=40						

*IDC **05** 14:03:29.4±1.2,32°.31N×76°.23E,h0km,mb3.7/10, mbtmp3.7/13,ML3.5/3,MS2.8/1,Error ellipse: s-maj=36.5km s-min=16.9km az=62.0*
*NDI **05** 14:03:35.8±1.7,32°.26N×76°.38E,h5km,ML3.6,MW3.6*
ISC 05 14:03:31.9±0.6,32°.38N±0°.04×76°.38E±0°.05,h14km,n26, σ2°06/34,mb3.7/11,Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.14**	**207**	*e*P	**Pb**	**14 03 37.2**	**+0.7**
DHRM				*e*S	**Sg**	**14 03 37.9**	**-0.4**
DHRM				IAML		14 03 40.1	
	comp=N,26μm,0.2s						
DHRM				IAML		14 03 40.3	
	comp=E,33μm,0.2s						
SMLA	**Simla**	**1.42**	**151**	*e*P	**Pg**	**14 03 59.5**	**+0.4**
SMLA				*e*S	**Sg**	**14 04 20.1**	**+2.6**
SMLA				IAML		14 04 22.2	
	comp=E,9μm,0.5s						
SMLA				IAML		14 04 22.3	
	comp=N,3μm,0.2s						
KLP	**Kalpa**	**1.80**	**117**	*e*P	**Pg**	**14 04 06.2**	**-0.3**
KLP				*e*S	**Sg**	**14 04 29.9**	**0.0**
KLP				IAML		14 04 32.1	
	comp=E,1μm,0.3s						
KLP				IAML		14 04 33.0	
	comp=N,2μm,0.2s						
SRNI	**Srinagar**	**2.14**	**324**	*e*S	**Sg**	**14 04 42.5**	**+1.7**
DDI	**Dehra Dun**	**2.50**	**145**	*e*P	**Pb**	**14 04 17.0**	**+0.4**
DDI				*e*S	**Sb**	**14 04 46.3**	**-1.0**
DDI				IAML		14 04 56.3	
	comp=N,703nm,0.4s						
DDI				IAML		14 04 56.7	
	comp=E,1μm,0.3s						
NDI	**New Delhi**	**3.75**	**169**	*e*x	**Pb**	**14 04 39.0**	**+1.0**
NDI				IAML		14 05 16.2	
	comp=E,96nm,0.5s						
NPLP	**NPLP New Delhi**	**3.79**	**169**	*e*x	**Pn**	**14 04 29.3**	**-0.6**
NPLP				*e*S	**Sn**	**14 05 16.1**	**+1.9**
NPLP				IAML		14 05 18.3	
	comp=E,115nm,0.2s						
NPLP				IAML		14 05 20.4	
	comp=N,180nm,0.2s						
PTH	**Pithoragarh**	**4.34**	**130**	*e*S	**Sn**	**14 05 28.2**	**+0.2**
PTH				IAML		14 05 30.1	
	comp=E,44nm,0.3s						
PTH				IAML		14 05 30.5	
	comp=N,35nm,0.2s						
KSH	**Kashi**	**7.13**	**357**	Pn	**Pn**	**14 05 17.0**	**+1.1**
KSH				Sn	**Sn**	**14 06 31.6**	**-5.2**
KSH				smax	smax		
	comp=N,26nm,0.8s						
KSH				smax	smax		
	comp=E,30nm,0.7s						
GUNA	**GUNA**	**7.75**	**174**	*e*S	**Sn**	**14 06 48.3**	**-3.5**
BHPL	**Bhopal**	**9.15**	**174**	*e*S	**Sn**	**14 07 21.2**	**-5.1**
AAK	**Ala-Archa**	**10.35**	**352**	Pn	**Pn**	**14 06 02.3**	**+2.3**
	comp=E,0.3nm,0.3s,baz=138,slow=2.2,SNR=7.4						
AAK				Sn	**Sn**	**14 07 56.4**	**+0.5**
	comp=E,0.2nm,0.3s,baz=324,slow=18,SNR=1.6						
AAK				LR	LR	14 10 18.8	
	comp=E,57nm,20.0s,baz=189,slow=39						
	comp=E,1.2nm,0.4s						
MKAR	**Makanchi Array**	**15.10**	**16**	Pn	**Pn**	**14 07 05.0**	**+0.4**
	comp=E,0.3nm,0.3s,baz=195,slow=12,SNR=22						
MKAR				Sn	**Sn**	**14 09 46.3**	**-5.3**
	comp=E,0.2nm,0.3s,baz=203,slow=24,SNR=5.2						
	comp=E,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**18.30**	**4**	P	**Pn**	**14 07 44.2**	**-1.0**
	comp=E,0.1nm,0.3s,baz=193,slow=11,SNR=7.0						
	comp=E,1.4nm,0.7s						
GTA	**Gaotai**	**20.21**	**63**	*e*P	**P**	**14 08 07.1**	**+0.6**
GTA				pP	pP	14 08 11.0	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**21.09**	**350**	P	**P**	**14 08 16.7**	**+1.0**
	comp=Z,5.1nm,0.8s,baz=164,slow=11,SNR=26						
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**22.39**	**13**	P	**P**	**14 08 29.2**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=192,slow=11,SNR=11						
	comp=Z,1.8nm,0.5s						
LZH	**Lanzhou**	**22.98**	**73**	*e*P	**P**	**14 08 38.8**	**+2.6**
LZH				pP	sP	14 08 48.6	+5.3
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
CMAR	**Chiang Mai Arr**	**24.58**	**119**	P	**P**	**14 08 52.8**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=303,slow=9.5,SNR=10						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**27.45**	**47**	P	**P**	**14 09 18.7**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=248,slow=7.6,SNR=4.3						
	comp=Z,0.4nm,0.6s						
AKASG	**Malin Array Be**	**38.99**	**312**	P	**P**	**14 10 57.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=10,SNR=1.8						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**43.36**	**327**	P	**P**	**14 11 33.2**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=102,slow=10,SNR=2.4						
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**76.02**	**125**	P	**P**	**14 15 19.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=323,slow=6.0,SNR=5.8						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**77.44**	**18**	P	**P**	**14 15 26.8**	**+0.5**
	comp=Z,0.7nm,1.1s,baz=299,slow=5.8,SNR=4.3						
	comp=Z,0.7nm,1.1s						
ASAR	**Alice Springs**	**78.24**	**128**	P	**P**	**14 15 30.6**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=320,slow=5.9,SNR=1.7						
	comp=Z,0.3nm,0.9s						
YKA	**Yellowknife Ar**	**85.05**	**5**	P	**P**	**14 16 06.4**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=344,slow=4.7,SNR=6.6						
	comp=Z,0.4nm,0.8s						

*BER **05** 14:20:44.1±2.3,80°.45N×2°.29W,h10km,mb(Pn)2.8, ML1.3(DNK),Confirmed Earthquake*
*DNK **05** 14:20:45.5±1.2,80°.48N×1°.87W,h36km±11km,ML1.3*
ISC 05 14:20:43.7±1.2,80°.38N±0°.06×2°.40W±0°.04,h35km,n16, σ2°05/31,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.55**	**306**	*e*P	**Pn**	**14 21 23.9**	**+1.4**
NOR				*i* S	**Sn**	**14 21 51.5**	**-0.7**
NOR				IAML		14 22 00.6	
	comp=Z,1.5nm,0.2s						
NOR	**Nord**	**2.55**	**306**	*e*P	**Pn**	**14 21 23.9**	**+1.4**
NOR				*i* S	**Sn**	**14 21 51.5**	**-0.7**
NOR				IAML		14 22 00.6	
	comp=Z,1.5nm,0.2s						
NOR	**Nord**	**2.55**	**306**	*i* P	**Pn**	**14 21 23.0**	**+0.5**
NOR				*i* S	**Sn**	**14 21 50.9**	**-1.4**
NOR				IAML		14 22 00.5	
	comp=Z,1.5nm,0.2s						
KBS	**Kingsbay**	**2.97**	**112**	*e*P	**Pn**	**14 21 28.8**	**+0.7**
KBS				*e*S	**Sn**	**14 21 59.8**	**-2.6**
KBS				IAML		14 22 02.6	
	comp=Z,2.6nm,0.2s						
KBS	**Kingsbay**	**2.97**	**112**	*e*P	**Pn**	**14 21 28.1**	**0.0**
KBS				*i* S	**Sn**	**14 22 00.1**	**-2.4**
KBS	**Kingsbay**	**2.97**	**112**	*i* P	**Pn**	**14 21 28.2**	**0.0**
KBS				*i* S	**Sn**	**14 21 59.6**	**-2.8**
BRBB	**Barentsburg B**	**3.86**	**118**	*e*P	**Pn**	**14 21 43.1**	**+2.8**
BRBB				*e*S	**Sn**	**14 22 25.1**	**+0.8**
BRBA	**Barentsburg A**	**3.88**	**118**	*e*P	**Pn**	**14 21 43.6**	**+2.9**
BRBA				IAML		14 22 24.7	
	comp=Z,5.1nm,0.7s						
BRBA				*e*S	**Sn**	**14 22 24.8**	**-0.2**
SPA0	**Spitsbergen Ar**	**4.13**	**113**	*e*P	**Pn**	**14 21 45.6**	**+1.5**
SPA0				*e*S	**Sn**	**14 22 28.6**	**-2.5**
SPA0				IAML		14 22 44.3	
	comp=Z,3.3nm,0.9s						
DAG	**Danmarks Havn**	**4.83**	**230**	*i* P	**Pn**	**14 21 55.6**	**+1.8**
DAG				*i* S	**Sn**	**14 22 47.5**	**-0.9**
DAG				IAML		14 22 52.7	
	comp=Z,2.1nm,0.2s						
DAG	**Danmarks Havn**	**4.83**	**230**	*i* P	**Pn**	**14 21 55.6**	**+1.8**
DAG				*i* S	**Sn**	**14 22 47.5**	**-0.9**
DAG				IAML		14 22 52.7	
	comp=Z,2.1nm,0.2s						
DAG	**Danmarks Havn**	**4.83**	**230**	*i* P	**Pn**	**14 21 55.2**	**+1.5**
DAG				*i* S	**Sn**	**14 22 46.0**	**-2.4**
DAG				IAML		14 22 52.7	
	comp=Z,2.1nm,0.2s						
DBG	**Daneborg**	**7.20**	**222**	*i* P	**Pn**	**14 22 28.3**	**+2.1**
DBG				*i* S	**Sn**	**14 23 43.2**	**-3.3**
DBG				IAML		14 23 47.0	
	comp=Z,0.7nm,0.3s						
DBG	**Daneborg**	**7.20**	**222**	*i* P	**Pn**	**14 22 28.3**	**+2.1**
DBG				*i* S	**Sn**	**14 23 43.2**	**-3.3**
DBG				IAML		14 23 47.0	
	comp=Z,0.7nm,0.3s						
DBG	**Daneborg**	**7.20**	**222**	*i* P	**Pn**	**14 22 28.7**	**+2.5**
DBG				*i* S	**Sn**	**14 23 43.2**	**-3.3**
DBG				IAML		14 23 46.9	
	comp=Z,0.7nm,0.3s						
NEEM	**North Greenlan**	**9.54**	**278**	*i* P	**Pn**	**14 22 58.9**	**+0.4**
NEEM				*i* S	Sn	14 24 37.7	-6.7
NEEM				IAML		14 24 41.9	
	comp=Z,1.3nm,0.2s						

*NEIC **05** 14:59:19.7±0.9,8°.3S±0°.1×149°.1E±0°.2,h60km±6km, mb4.4/15,Error ellipse: s-maj=30.2km s-min=11.8km az=122.0*
*IDC **05** 14:59:21.1±3.8,8°.30S×148°.96E,h74km±31km,mb3.6/12, mbtmp3.9/14,MS2.8/2,Error ellipse: s-maj=35.6km s-min=17.5km az=95.0*
ISC 05 14:59:17.1±0.7,8°.2S±0°.1×149°.0E±0°.1,h35km,n38, σ1°62/39,mb4.0/16,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.17**	**237**	P	**Pn**	**14 59 53.4**	**+2.7**
	100nm,0.5s,baz=66,slow=5.4,SNR=79						
PMG				S	**Sn**	**15 00 20.2**	**+3.9**
	143nm,0.5s,baz=45,slow=16,SNR=6.9						
PMG				LR	LR	15 00 58.6	
	comp=Z,189nm,19.2s,baz=20,slow=46						
RABL	**Rabaul**	**5.10**	**38**	Pn	**Pn**	**15 00 33.2**	**+2.1**
COEN	**Coen**	**8.07**	**225**	Pn	**Pn**	**15 01 14.5**	**+2.6**
JAY	**Jayapura**	**10.03**	**304**	LR	LR	15 05 38.0	
	comp=Z,74nm,20.5s,baz=104,slow=38						
WB0	**Warramunga Arr**	**18.21**	**229**	P	**Pn**	**15 03 27.4**	**+0.1**
WB0				IAmb	IAmb	15 03 28.8	
	comp=Z,20nm,1.5s						
WR0	**Warramunga Arr**	**18.22**	**229**	P	**Pn**	**15 03 27.4**	**0.0**
WR0				IAmb	IAmb	15 03 32.6	
	comp=Z,19nm,1.4s						
WRAB	**Tennant Creek**	**18.35**	**229**	P	**P**	**15 03 28.8**	**0.0**
WRAB				IAmb	IAmb	15 03 31.1	
	comp=Z,33nm,1.4s						
WB2	**Warramunga Arr**	**18.35**	**229**	P	**P**	**15 03 28.9**	**+0.1**
WB2				IAmb	IAmb	15 03 32.9	
	comp=Z,21nm,1.4s						
WRA	**Warramunga Arr**	**18.36**	**229**	P	**P**	**15 03 28.5**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=46,slow=9.9,SNR=194						
WRA				S	**Sn**	**15 06 47.0**	**-6.2**
	comp=Z,0.8nm,0.9s,baz=58,slow=29,SNR=2.0						
AS31	**Alice Springs**	**21.09**	**222**	P	**P**	**15 03 58.6**	**0.0**
ASAR	**Alice Springs**	**21.09**	**222**	P	**P**	**15 03 58.7**	**0.0**
ASAR	**Alice Springs**	**21.09**	**222**	P	**P**	**15 03 58.8**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=51,slow=8.9,SNR=53						
	comp=Z,4.1nm,0.6s						
KNRA	**Kununurra**	**21.13**	**248**	P	**P**	**15 03 59.1**	**+0.1**
STKA	**Stephens Creek**	**24.51**	**195**	P	**P**	**15 04 33.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=21,slow=13,SNR=3.3						
	comp=Z,1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.74**	**244**	P	**P**	**15 04 34.4**	**-1.2**
FORT	**Forrest**	**29.77**	**218**	P	**P**	**15 05 19.8**	**-0.7**
MJAR	**Matsushiro Arr**	**45.68**	**348**	P	**P**	**15 07 35.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=144,slow=7.2,SNR=1.8						
	comp=Z,0.6nm,0.3s						
KSRS	**Korea Array**	**49.55**	**338**	P	**P**	**15 08 04.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=157,slow=7.9,SNR=12						
	comp=Z,1.9nm,0.7s						
KSAR	**Wonju Array Be**	**49.55**	**338**	P	**P**	**15 08 05.4**	**+0.8**
USA0B	**Ussuriysk Arra**	**54.42**	**345**	P	**P**	**15 08 39.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**56.06**	**299**	P	**P**	**15 08 52.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=109,slow=5.8,SNR=4.9						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**61.55**	**6**	P	**P**	**15 09 31.0**	**+0.4**
PETK	**Petropavlovsk-**	**61.55**	**6**	P	**P**	**15 09 31.2**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=163,slow=6.0,SNR=14

IDC 05 15:06:05.2±1.9, 6°49S×129°46E, h0km, mb3.4/2, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=125.6km s-min=30.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.19**	**161**	Pn	Pn	15 09 27.6	0.0
	0.2nm,0.3s,baz=340,slow=12,SNR=6.9						
WRA				Sn	Sn	15 11 50.2	-16
	0.3nm,0.3s,baz=340,slow=22,SNR=7.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.60**	**166**	P	Pn	15 10 12.1	0.0
	0.1nm,0.3s,baz=340,slow=11,SNR=5.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	15 17 03.8	+0.5
	0.2nm,0.5s,baz=125,slow=7.6,SNR=4.5						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**77.35**	**328**	P	P	15 18 01.2	-0.5
	0.2nm,0.5s,baz=101,slow=6.2,SNR=1.4						
	0.2nm,0.5s						

MOS ***05*** *15:11:49.6±1.0, 36°.52N×30°.16E, h13km, mb4.7/22, Error ellipse: s-maj=6.5km s-min=3.6km az=85.2*
IDC ***05*** *15:11:49.7±0.5, 36°.60N×30°.20E, h0km, mb4.3/22, mbtmp4.3/35, ML4.0/11, MS3.5/46, Error ellipse: s-maj=12.1km s-min=10.5km az=143.0*
NEIC ***05*** *15:11:51.9±1.3, 36°.61N±0°.05×30°.18E±0°.06, h10km±1km, mb4.5/25, Error ellipse: s-maj=8.4km s-min=7.6km az=129.0*
ISK ***05*** *15:11:51.9, 36°.60N×30°.09E, h8km, ML4.1/23*
MED_RC ***05*** *15:11:52.0±0.6, 36°.71N×29°.95E, h10km, MW4.5/8, Moment Tensor Solution. Mantle waves: s8,c10; Duration: 1*10^0 *Moment tensor: Scale* 10^{15}*Nm; Mrr-0.17±.34; Mθθ-0.55±.26; Mφφ0.72±.23; Mrθ-5.91±.59; Mrφ-0.36±.21; Mθφ6.14±.51; Best double couple: M0*8.55000×10^{15} *NP1:*ϕ_s*136.00000°, δ89.00000°, λ-94.00000°. NP2: φs136.00000°, δ89.00000°, λ-94.00000°. Principal axes: T 8.7000, Plg44.0000°, Azm230.0000°; N -0.3000, Plg4.0000°, Azm136.0000°; P -8.4000, Plg46.0000°, Azm42.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
AFAD ***05*** *15:11:52.5, 36°.61N×30°.11E, h20km±2km, MW4.2*
MCSM ***05*** *15:11:52.7±0.5, 37°.N±3°×3°.0E±°, h10km, mb4.1, MLv4.2*
NIC ***05*** *15:11:53.4, 36°.62N×30°.04E, h6km±1km, Ml4.2/6*
GII ***05*** *15:11:55.2±0.0, 36°.53N±0°.02×30°.17E±0°.008, h40km, Mws4.5/14, confirmed*
HLW ***05*** *15:12:04.6, 35°.87N×29°.84E, h33km±32km, Md4.1, Ml4.6*
NAO ***05*** *15:12:15.5, 38°.94N×29°.61E, h10km, mb4.1*

ISC 05 15:11:51.8±0.7, 36°.59N±0°.02×30°.15E±0°.02, h14km±4km, n394, σ1°.81/445, mb4.5/59, MS3.5/35, 19C-25D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.25**	**309**	Pg	**Pg**	**15 11 55.9**	**-1.3**
ELL				Sg	**Sg**	**15 12 00.3**	**-0.6**
ELL	**Elmali**	**0.25**	**309**		**Pg**	**15 11 56.5**	**-0.8**
ELL	**Elmali**	**0.25**	**309**	P	**Pg**	**15 11 56.0**	**-1.3**
ELL				S	**Sg**	**15 12 01.5**	**+0.6**
ELL	**Elmali**	**0.25**	**309**	P	**Pg**	**15 11 56.7**	**-0.6**
ELL				S	**Sg**	**15 12 00.5**	**-0.4**
AKUM	**Antalya-Kumluc**	**0.31**	**150**	P	**Pb**	**15 11 59.9**	**+0.8**
AKUM				S	**Sb**	**15 12 06.1**	**+2.0**
KEMT	**Kemer-ANTALYA**	**0.33**	**88**	Pg	**Pb**	**15 11 59.9**	**+0.4**
KEMT				Sg	**Sb**	**15 12 05.5**	**+0.9**
DEMR	**Demre-Antalya**	**0.41**	**209**	Pg	**Pg**	**15 12 00.2**	**+0.2**
KORT	**Korkueli**	**0.44**	**22**	Pg	**Pg**	**15 12 00.1**	**-0.5**
KORT				Sg	**Sb**	**15 12 08.2**	**+0.2**
KORT	**Korkueli**	**0.44**	**22**	P	**Pg**	**15 12 00.1**	**-0.5**
KORT				S	**Sb**	**15 12 08.1**	**+0.2**
ANTB	**Antalya**	**0.51**	**53**	Pg	**Pb**	**15 12 03.0**	**+0.5**
KNIK	**Mula-Seydike**	**0.53**	**299**	P	**Pg**	**15 12 02.2**	**0.0**
KNIK				S	**Sg**	**15 12 09.6**	**+0.3**
KSL	**Kastellorizon**	**0.64**	**226**	P	**Pg**	**15 12 03.6**	**-0.6**
KSL				S	**Sb**	**15 12 14.8**	**+1.4**
KSL	**Kastellorizon**	**0.64**	**226**	P	**Pg**	**15 12 05.3**	**+1.1**
KSL				S	**Sb**	**15 12 14.4**	**+0.9**
IZZE	**Mula-Seydike**	**0.76**	**258**	P	**Pg**	**15 12 07.2**	**+0.6**
CAME	**Cameli-Denizli**	**0.76**	**298**	Pg	**Pg**	**15 12 06.4**	**-0.3**
BUCA	**Burdur, Bucak-**	**0.80**	**24**	P	**Pg**	**15 12 07.1**	**-0.4**
BUCA				S	**Sb**	**15 12 20.2**	**+1.8**
CAEL	**Denizli, Camel**	**0.85**	**309**	P	**Pg**	**15 12 08.5**	**+0.2**
CAEL				S	**Sb**	**15 12 21.8**	**+2.0**
FETY	**Fethiye**	**0.86**	**273**	Pg	**Pg**	**15 12 07.8**	**-0.7**
FETY	**Fethiye**	**0.86**	**273**	P	**Pb**	**15 12 09.5**	**+0.9**
BCK	**Bucak**	**0.94**	**22**	Pg	**Pb**	**15 12 10.8**	**+0.9**
SABU	**Mula-Dalaman**	**0.98**	**284**	P	**Pg**	**15 12 09.9**	**-0.7**
SABU				S	**Sb**	**15 12 25.3**	**+2.0**
MNVG	**Manavgat-Antal**	**1.04**	**78**	Pn	**Pn**	**15 12 13.1**	**+1.1**
BRDR	**BURDUR-Merkez**	**1.10**	**356**	P	**Pg**	**15 12 13.1**	**0.0**
APMY	**Acipayam-Deniz**	**1.11**	**323**	Pg	**Pg**	**15 12 13.1**	**-0.1**
DNZT	**Denizli-Tavas-**	**1.13**	**308**	P	**Pb**	**15 12 12.6**	**-0.7**
DNZT				P	**Pg**	**15 12 13.3**	**-0.3**
DNZT				S	**Sn**	**15 12 30.4**	**+1.7**
INCE	**Denizli-Bozkur**	**1.21**	**338**	P	**Pg**	**15 12 15.6**	**+0.5**
INCE				S	**Sn**	**15 12 32.5**	**+1.9**
DALY	**Dalyan (Mula)**	**1.22**	**281**	Pn	**Pn**	**15 12 15.1**	**+0.6**
ISP	**Isparta**	**1.26**	**14**	Pn	**Pg**	**15 12 16.7**	**+0.5**
ISP	**Isparta**	**1.26**	**14**	Pn	**Pn**	**15 12 15.8**	**+0.7**
ISP	**Isparta**	**1.26**	**14**	d*i*P	**Pn**	**15 12 15.9**	**+0.7**
ISP	**Isparta**	**1.26**	**14**	P	**Pg**	**15 12 16.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.32**	**312**	P	**Pn**	**15 12 16.9**	**+1.0**
TAVA				S	**Sg**	**15 12 36.3**	**+1.9**
BASM	**Basmaki-Afyon**	**1.33**	**357**	Pn	**Pb**	**15 12 17.5**	**+0.9**
DNIZ	**Denizli-Tavas-**	**1.36**	**320**	P	**Pn**	**15 12 17.3**	**+0.8**
DNIZ				S	**Sb**	**15 12 35.6**	**+1.2**
ALAN	**Alanya-ANTALYA**	**1.52**	**91**	Pn	**Pb**	**15 12 20.4**	**+0.6**
TURN	**Turunc**	**1.54**	**277**	Pn	**Pn**	**15 12 19.8**	**+0.9**
TURN	**Turunc**	**1.54**	**277**	P	**Pn**	**15 12 20.7**	**+1.8**
TURN				S	**Sb**	**15 12 41.4**	**+1.9**
SEDI	**Konya, Seydise**	**1.54**	**56**	P	**Pn**	**15 12 20.5**	**+1.4**
SEDI				S	**Sg**	**15 12 44.0**	**+2.3**
MRSB	**Marmaris-Mugla**	**1.57**	**275**	Pn	**Pn**	**15 12 20.4**	**+1.0**
SEYD	**Seydisehir-KON**	**1.58**	**59**	Pn	**Pb**	**15 12 21.1**	**+0.2**
YER	**Yerkesik**	**1.59**	**290**	Pn	**Pn**	**15 12 20.4**	**+0.8**
YER	**Yerkesik**	**1.59**	**290**	P	**Pn**	**15 12 20.4**	**+0.8**
MULA	**Mugla, Merkez-**	**1.61**	**295**	P	**Pb**	**15 12 22.2**	**+0.8**
MULA				S	**Sn**	**15 12 42.2**	**+1.7**
KZIL	**AFYON_Kizioren**	**1.66**	**360**	P	**Pn**	**15 12 22.2**	**+1.5**
KZIL				S	**Sg**	**15 12 45.3**	**0.0**
ARG	**Arkhangelos**	**1.67**	**258**	Pn	**Pn**	**15 12 21.9**	**+1.2**
ARG	**Arkhangelos**	**1.67**	**258**		**Pn**	**15 12 21.6**	**+0.9**
ARG	**Arkhangelos**	**1.67**	**258**	P	**Pn**	**15 12 21.6**	**+0.9**
ARG	**Arkhangelos**	**1.67**	**258**	P	**Pn**	**15 12 21.6**	**+0.9**
ARG	**Arkhangelos**	**1.67**	**258**	P	**Pn**	**15 12 22.3**	**+1.6**
ARG				S	**Sn**	**15 12 43.8**	**+1.8**
AFYN	**Afyon-Dinar-K**	**1.70**	**9**	P	**Pb**	**15 12 23.0**	**0.0**
AFYN				P	**Pn**	**15 12 23.3**	**+2.1**
AFYN				S	**Sb**	**15 12 45.8**	**+1.5**
GAZI	**Gazipasa**	**1.78**	**101**	P	**Pb**	**15 12 24.7**	**+0.3**
KHL	**Karahalli**	**1.80**	**344**	Pn	**Pn**	**15 12 23.9**	**+1.4**
PASA	**Karahalli, USA**	**1.83**	**344**	P	**Pn**	**15 12 24.4**	**+1.4**
PASA				S	**Sn**	**15 12 47.9**	**+2.0**
YVAC	**Isparta, Yalva**	**1.89**	**27**	P	**Pb**	**15 12 26.5**	**+0.4**
YVAC				S	**Sb**	**15 12 51.4**	**+1.8**
DOGA	**KONYA_Doganhis**	**1.94**	**38**	P	**Pb**	**15 12 27.2**	**+0.2**
DOGA				S	**Sg**	**15 12 54.8**	**+0.7**
NAZL	**Nazilli-Aydin**	**2.02**	**313**	Pn	**Pn**	**15 12 26.8**	**+1.3**
MLSB	**Milas**	**2.02**	**291**	Pn	**Pn**	**15 12 26.9**	**+1.3**
BNAZ	**Uak-Banaz**	**2.09**	**354**	P	**Pn**	**15 12 28.4**	**+1.8**
BNAZ				S	**Sn**	**15 12 52.5**	**0.0**
YAZI	**Mula-Datş̧a-**	**2.17**	**273**	P	**Pn**	**15 12 29.4**	**+1.8**
YAZI				S	**Sb**	**15 12 59.8**	**+2.2**
AFYO	**Afyonkarahisar**	**2.19**	**3**	P	**Pn**	**15 12 30.4**	**+2.5**
BDRM	**Kayabasi**	**2.22**	**283**	P	**Pn**	**15 12 30.0**	**+1.7**
BDRM				S	**Sb**	**15 12 59.1**	**0.0**
KONT	**Konya--Tatoy**	**2.22**	**52**	P	**Pb**	**15 12 31.3**	**-0.5**
KONT				S	**Sb**	**15 13 01.1**	**+1.9**
KURO	**Afyon-Bolvadin**	**2.23**	**16**	P	**Pn**	**15 12 31.0**	**+2.5**
KURO				S	**Sb**	**15 13 00.6**	**+1.1**
MANT	**Manisa**	**2.28**	**327**		**Pn**	**15 12 30.0**	**+0.8**
UCKU	**Afyonkarahisar**	**2.28**	**26**	P	**Pn**	**15 12 31.5**	**+2.4**
UCKU				S	**Sb**	**15 13 01.4**	**+0.5**
USAK	**Uak-Merkez**	**2.30**	**337**	P	**Pn**	**15 12 30.9**	**+1.5**
USAK				S	**Sn**	**15 12 59.1**	**+1.5**
KKBE	**Karaman, Kazim**	**2.32**	**74**	P	**Pb**	**15 12 33.2**	**-0.4**
KKBE				S	**Sb**	**15 13 03.2**	**+1.0**
AKMS	**Akamas**	**2.37**	**131**	P	**Pb**	**15 12 34.1**	**-0.2**
AKMS				S	**Sb**	**15 13 04.2**	**+0.7**
AKMS				AML	AML	15 13 21.6	
	3.7nm,0.8s						
AKMS				AML	AML	15 13 23.0	
	2.1nm,0.6s						
BYAT	**Afyon-Bayat**	**2.44**	**15**	P	**Pn**	**15 12 33.3**	**+1.9**
ALFC	**Alefka**	**2.45**	**125**	P	**Pn**	**15 12 34.5**	**+3.0**
KDHN	**Kadinhani**	**2.48**	**39**	P	**Pn**	**15 12 34.1**	**+2.2**
DDIM	**Aydin, Didim**	**2.48**	**291**	P	**Pb**	**15 12 36.4**	**+0.2**
GDZ	**Gediz**	**2.55**	**348**	P	**Pn**	**15 12 33.8**	**+1.0**
KARP	**Karpathos**	**2.63**	**248**		**Pn**	**15 12 34.6**	**+0.6**
KARP	**Karpathos**	**2.63**	**248**	P	**Pn**	**15 12 36.0**	**+2.0**
KARP	**Karpathos**	**2.63**	**248**	P	**Pn**	**15 12 36.0**	**+2.0**
KARP	**Karpathos**	**2.63**	**248**	P	**Pn**	**15 12 36.2**	**+2.2**
NATA	**Nata**	**2.68**	**132**	P	**Pb**	**15 12 38.3**	**-1.2**
NATA				S	**Sg**	**15 13 25.1**	**+7.3**
NATA				AML	AML	15 13 38.6	
	14nm,0.9s						
NATA				AML	AML	15 13 41.7	
	19nm,0.8s						
CTIK	**Konya-Celtik**	**2.70**	**25**	P	**Pn**	**15 12 37.6**	**+2.6**
ALIN	**Konya, Altinte**	**2.76**	**51**	P	**Pn**	**15 12 38.7**	**+2.9**
EMET	**Ktahya-Emet**	**2.85**	**347**	P	**Pn**	**15 12 38.7**	**+1.6**
SMG	**Samos**	**2.87**	**294**	P	**Pn**	**15 12 38.3**	**+1.1**
ATHAL	**Athalassa**	**3.01**	**118**	P	**Pb**	**15 12 43.4**	**-1.8**
ATHAL				S	**Sb**	**15 13 23.7**	**+1.9**
ATHAL				AML	AML	15 13 45.3	
	4.3nm,1.5s						
ATHAL				AML	AML	15 13 46.6	
	6.2nm,0.9s						
CSS	**Mathiatis**	**3.06**	**121**		**Pn**	**15 12 40.8**	**+1.0**
CSS	**Mathiatis**	**3.06**	**121**	P	**Pn**	**15 12 41.3**	**+1.5**
CSS	**Mathiatis**	**3.06**	**121**	P	**Pn**	**15 12 43.4**	**+3.6**
CSS				S	**Sb**	**15 13 22.8**	**-0.3**
CSS				AML	AML	15 13 41.6	
	1.7nm,0.8s						
CSS				AML	AML	15 13 48.0	
	1.4nm,0.9s						
CSS	**Mathiatis**	**3.06**	**121**	P	**Pn**	**15 12 40.2**	**+0.5**
ASGA	**Asgata**	**3.10**	**125**	P	**Pn**	**15 12 44.3**	**+4.0**
ASGA				S	**Sb**	**15 13 24.2**	**-0.2**
ASGA				AML	AML	15 13 43.0	
	4.4nm,0.9s						
ASGA				AML	AML	15 13 47.6	
	2.1nm,1.2s						
MVOU	**Mavrovouni**	**3.24**	**118**	P	**Pn**	**15 12 43.1**	**+0.8**
MVOU				S	**Sb**	**15 13 26.3**	**-2.1**
MVOU				AML	AML	15 13 42.0	
	1.2nm,0.9s						
MVOU				AML	AML	15 13 47.2	
	2.2nm,0.8s						
BORA	**Eskisehir**	**3.29**	**4**	Pn	**Pn**	**15 12 43.1**	**0.0**
AUKUT	**KUTAHYA**	**3.36**	**358**	P	Pn	15 12 38.4	-5.6
ZKR	**Zakros**	**3.52**	**246**	P	**Pn**	**15 12 43.5**	**-2.6**
ZKR	**Zakros**	**3.52**	**246**	P	**Pn**	**15 12 48.1**	**+2.0**
ZKR				S	**Sn**	**15 13 28.9**	**+1.4**
ANTO	**Ankara**	**3.88**	**32**		**Pn**	**15 12 53.0**	**+1.9**
ANTO	**Ankara**	**3.88**	**32**	P	**Pn**	**15 12 53.0**	**+1.9**
MDUB	**Mudurnu**	**3.96**	**12**		**Pn**	**15 12 52.1**	**-0.1**
YLV	**Yalova**	**4.01**	**352**	P	**Pn**	**15 12 56.0**	**+3.0**
BR104	**Keskin Array S**	**4.15**	**40**	P	**Pn**	**15 12 57.3**	**+2.4**
BR106	**Keskin Array S**	**4.16**	**40**	P	**Pn**	**15 12 57.2**	**+2.2**
BR131	**Keskin Array S**	**4.17**	**40**	Pn	**Pn**	**15 12 55.4**	**+0.3**
BR131	**Keskin Array S**	**4.17**	**40c**	*i*P	**Pn**	**15 12 57.4**	**+2.3**
BRTR	**Keskin Array B**	**4.17**	**40**		**Pn**	**15 12 55.1**	**0.0**
BRTR	**Keskin Array B**	**4.17**	**40**	Pn	**Pn**	**15 12 57.7**	**+2.6**
	4.0nm,0.3s,baz=219,slow=14,SNR=162						
BRTR				Sn	**Sn**	**15 13 45.1**	**+1.4**
	5.4nm,0.3s,baz=214,slow=24,SNR=8.5						
BRTR				LR	LR	15 15 01.8	
	comp=Z,1μm,18.4s,baz=231,slow=46						
	59nm,0.8s						
IDI	**Anoyia**	**4.46**	**255**	Pn	**Pn**	**15 12 59.5**	**+0.4**
IDI	**Anoyia**	**4.46**	**255**	P	**Pn**	**15 12 57.9**	**-1.2**
IDI	**Anoyia**	**4.46**	**255**	Pn	**Pn**	**15 12 59.7**	**+0.6**
	38nm,0.4s,baz=62,slow=13,SNR=23						
IDI				Sn	**Sn**	**15 13 50.0**	**-0.9**
	4.9nm,0.3s,baz=91,slow=16,SNR=3.6						
KLYT	**Kilyos**	**4.73**	**350**	P	**Pn**	**15 13 05.3**	**+2.6**
BNN	**Bunyan**	**5.05**	**62**		**Pn**	**15 13 08.3**	**+1.0**
CAVK	**Edirne/Enez-Ca**	**5.14**	**324**	⇑P	**Pn**	**15 13 11.6**	**+3.2**
HWQ	**Hawqa**	**5.27**	**114**	*e*P	**Pn**	**15 13 12.5**	**+2.3**
BEIL	**Beino**	**5.33**	**111**	*e*P	**Pn**	**15 13 13.2**	**+2.1**
ALN	**Alexandroupoli**	**5.36**	**325**		**Pn**	**15 13 12.5**	**+1.1**
ALN	**Alexandroupoli**	**5.36**	**325**	P	**Pn**	**15 13 13.3**	**+1.9**
ALN	**Alexandroupoli**	**5.36**	**325**	P	**Pn**	**15 13 12.5**	**+1.1**
HNTI	**Hanita**	**5.42**	**129**	P	**Pn**	**15 13 13.1**	**+1.0**
HNTI	**Hanita**	**5.42**	**129**	S	**Sn**	**15 14 13.5**	**-0.9**
QRWL	**Qaraoun**	**5.46**	**122**	*e*P	**Pn**	**15 13 13.8**	**+0.9**
MMC7	**Mount Meron ar**	**5.59**	**128**	P	**Pn**	**15 13 15.3**	**+0.6**
RCY	**Rachaya**	**5.59**	**122**	*e*P	**Pn**	**15 13 16.0**	**+1.3**
MMA0B	**Mount Meron ar**	**5.61**	**128**	P	**Pn**	**15 13 15.8**	**+1.0**
MMA0B	**Mount Meron ar**	**5.61**	**128**	S	**Sn**	**15 14 18.7**	**-0.4**
MMAI	**Mount Meron Ar**	**5.61**	**128**	Pn	**Pn**	**15 13 16.2**	**+1.3**
	24nm,0.3s,baz=314,slow=12,SNR=92						
MMAI				Sn	**Sn**	**15 14 19.9**	**+0.8**
	44nm,0.3s,baz=304,slow=25,SNR=14						
MMAI				LR	LR	15 15 45.8	
	comp=Z,380nm,20.2s,baz=298,slow=42						
	16nm,0.3s						
SHBL	**Chebaa**	**5.62**	**124**	*e*P	**Pn**	**15 13 17.0**	**+1.9**
OFRI	**`Ofer**	**5.62**	**133**	P	**Pn**	**15 13 15.7**	**+0.7**
OFRI	**`Ofer**	**5.62**	**133**	S	**Sn**	**15 14 18.9**	**-0.6**
FKH	**Fakeheh**	**5.62**	**113**	*e*P	**Pn**	**15 13 17.8**	**+2.7**
GEM	**Giv'at Ha'Em**	**5.65**	**125**	P	**Pn**	**15 13 16.5**	**+1.1**
GEM	**Giv'at Ha'Em**	**5.65**	**125**	S	**Sn**	**15 14 19.5**	**-0.6**
BLGI	**Bet Lehem HaGe**	**5.66**	**131**	P	**Pn**	**15 13 16.3**	**+0.7**
BLGI	**Bet Lehem HaGe**	**5.66**	**131**	S	**Sn**	**15 14 19.9**	**-0.5**
NATI	**Neve Ativ**	**5.67**	**124**	P	**Pn**	**15 13 16.8**	**+1.2**
NATI	**Neve Ativ**	**5.67**	**124**	S	**Sn**	**15 14 20.1**	**-0.3**
GAZ	**Gaziantep**	**5.69**	**82**		**Pn**	**15 13 19.4**	**+3.4**
GAZ	**Gaziantep**	**5.69**	**82**	P	**Pn**	**15 13 20.0**	**+3.9**
GAZ				S	**Sn**	**15 14 25.4**	**+4.2**
DB3	**El Dabaa**	**5.70**	**194**	P	**Pn**	**15 13 16.9**	**+0.9**
MATC	**Matruh**	**5.77**	**206**	P	**Pn**	**15 13 18.5**	**+1.5**
KSHT	**Keshet**	**5.89**	**126**	P	**Pn**	**15 13 19.5**	**+0.7**
SLTI	**Sal'it**	**5.93**	**136**	P	**Pn**	**15 13 19.9**	**+0.6**
SLTI	**Sal'it**	**5.93**	**136**	S	**Sn**	**15 14 26.4**	**-0.7**
MMLI	**Mount Malkishu**	**6.01**	**132**	P	**Pn**	**15 13 21.4**	**+1.0**
MMLI	**Mount Malkishu**	**6.01**	**132**	S	**Sn**	**15 14 28.5**	**-0.5**
BZK	**Bozkurt**	**6.14**	**28**	⇓P	**Pn**	**15 13 25.2**	**+3.1**
SALP	**Salfit**	**6.14**	**136**	P	**Pn**	**15 13 23.0**	**+0.8**
SALP	**Salfit**	**6.14**	**136**	S	**Sn**	**15 14 32.0**	**-0.3**
HMDT	**Nahal Hemdat**	**6.20**	**133**	P	**Pn**	**15 13 25.0**	**+2.0**
HMDT	**Nahal Hemdat**	**6.20**	**133**	S	**Sn**	**15 14 32.8**	**-0.9**
AMAZ	**Amatzia**	**6.41**	**141**	P	**Pn**	**15 13 26.4**	**+0.5**
AMAZ	**Amatzia**	**6.41**	**141**	S	**Sn**	**15 14 38.1**	**-0.8**
SLUM	**Salum**	**6.53**	**220**	P	**Pn**	**15 13 29.0**	**+1.5**
SLUM				S	**Sn**	**15 14 36.9**	**-4.9**
ITM	**Ithomi**	**6.62**	**278**		**Pn**	**15 13 31.1**	**+2.4**
DSI	**Dead Sea**	**6.63**	**138**	P	**Pn**	**15 13 30.2**	**+1.3**
DSI	**Dead Sea**	**6.63**	**138**	S	**Sn**	**15 14 43.1**	**-1.1**
YTIR	**Yattir**	**6.65**	**140**	P	**Pn**	**15 13 29.9**	**+0.7**
YTIR	**Yattir**	**6.65**	**140**	S	**Sn**	**15 14 44.3**	**-0.5**
KZIT	**Kziot**	**6.68**	**147**	P	**Pn**	**15 13 30.2**	**+0.6**
KZIT	**Kziot**	**6.68**	**147**	S	**Sn**	**15 14 44.9**	**-0.6**
KOT	**Kottamia**	**6.79**	**168**	P	**Pn**	**15 13 34.3**	**+3.1**
MSBI	**Mazada**	**6.82**	**139**	P	**Pn**	**15 13 32.4**	**+1.0**
MSBI	**Mazada**	**6.82**	**139**	S	**Sn**	**15 14 47.7**	**-1.1**
GHAJ	**Ghor Haditha**	**6.93**	**138**	P	**Pn**	**15 13 33.4**	**+0.4**
GHAJ	**Ghor Haditha**	**6.93**	**138**	S	**Sn**	**15 14 51.2**	**-0.5**
HNAT	**Natroun**	**6.95**	**177**	P	**Pn**	**15 13 34.8**	**+1.5**
LIT	**Litokhoron**	**6.96**	**303**		**Pn**	**15 13 35.6**	**+2.2**
LIT	**Litokhoron**	**6.96**	**303**	P	**Pn**	**15 13 35.6**	**+2.2**
ASF	**Jabal al Asfar**	**7.11**	**126**	Pn	**Pn**	**15 13 38.1**	**+2.6**
	2.4nm,0.3s,baz=311,slow=9.6,SNR=7.3						
ASF				Sn	**Sn**	**15 14 57.0**	**+0.8**
	1.1nm,0.3s,baz=318,slow=22,SNR=1.4						
ASF				LR	LR	15 16 43.8	
	comp=Z,283nm,19.9s,baz=270,slow=42						
ELND	**Elena**	**7.13**	**334**	⇑P	**Pn**	**15 13 38.2**	**+2.5**
PRNI	**Paran**	**7.43**	**146**	P	**Pn**	**15 13 40.5**	**+0.7**
PRNI	**Paran**	**7.43**	**146**	S	**Sn**	**15 15 02.2**	**-1.7**
RYAN	**Fayoum**	**7.49**	**179**	P	**Pn**	**15 13 41.9**	**+1.2**
RYAN				S	**Sn**	**15 15 00.2**	**-5.3**
HRFI	**Mount Harif**	**7.71**	**147**	P	**Pn**	**15 13 44.3**	**+0.5**
HRFI	**Mount Harif**	**7.71**	**147**	S	**Sn**	**15 15 10.2**	**-0.7**
MBRI	**Mt Berech**	**7.87**	**148**	P	**Pn**	**15 13 46.6**	**+0.6**
MBRI	**Mt Berech**	**7.87**	**148**	S	**Sn**	**15 15 14.8**	**-0.1**
TIRR	**Tirgusor**	**7.97**	**351**		**Pn**	**15 13 48.7**	**+1.5**
TIRR	**Tirgusor**	**7.97**	**351**	⇓P	**Pn**	**15 13 49.4**	**+2.3**
TIRR	**Tirgusor**	**7.97**	**351**	P	**Pn**	**15 13 49.4**	**+2.3**
TIRR	**Tirgusor**	**7.97**	**351**	P	**Pn**	**15 13 49.9**	**+2.8**
	28nm,0.8s						
EIL	**Elat**	**7.99**	**148**	Pn	**Pn**	**15 13 48.4**	**+0.8**
	4.5nm,0.3s,baz=314,slow=2.6,SNR=40						
EIL				Sn	**Sn**	**15 15 15.2**	**-2.5**
	4.6nm,0.3s,baz=1.4,slow=19,SNR=6.8						
EIL				LR	LR	15 17 53.5	
	comp=Z,79nm,19.2s,baz=56,slow=46						
	15nm,0.4s						
EIL	**Elat**	**7.99**	**148**	P	**Pn**	**15 13 48.1**	**+0.6**
EIL	**Elat**	**7.99**	**148**	S	**Sn**	**15 15 16.8**	**-0.9**
FNA	**Florina**	**8.03**	**304**		**Pn**	**15 13 49.7**	**+1.5**
FNA	**Florina**	**8.03**	**304**	P	**Pn**	**15 13 49.7**	**+1.5**
SWA2		**8.32**	**210**	P	**Pn**	**15 13 52.9**	**+0.8**
TPGR	**Topolog**	**8.36**	**352**	⇓P	**Pn**	**15 13 55.0**	**+2.5**
SEV	**Sevastopol'**	**8.38**	**18**	*e*P	**Pn**	**15 13 54.7**	**+1.9**
SEV				*e*S	**Sn**	**15 15 30.7**	**+3.5**
SEV	**Sevastopol'**	**8.38**	**18**	*e*P	**Pn**	**15 13 54.7**	**+1.9**
SEV				Pm		15 13 56.8	
	comp=Z,77nm,1.2s						
SEV				*e*S	**Sn**	**15 15 30.7**	**+3.5**
SEV				Sm		15 15 32.4	
	comp=N,6.0nm,0.6s						
SEV				Sm		15 15 32.4	
	comp=E,8.0nm,0.7s						
MARD	**Mardin**	**8.54**	**82**		**Pn**	**15 13 57.6**	**+2.4**
TLCR		**8.64**	**354**	⇓P	**Pn**	**15 13 58.4**	**+1.9**
TLCR		**8.64**	**354**	P	**Pn**	**15 13 58.3**	**+1.9**
CFR	**Carcaliu**	**8.71**	**351**	⇑P	**Pn**	**15 13 59.3**	**+2.0**
CFR	**Carcaliu**	**8.71**	**351**	P	**Pn**	**15 13 59.3**	**+2.0**
SIM	**Simferopol'**	**8.87**	**19**	*e*P	**Pn**	**15 14 02.5**	**+2.9**
SIM				*e*		15 15 45.0	
SIM				pmax	pmax		
	comp=Z,69nm,1.2s						
SIM				smax	smax		
	comp=N,40nm,1.0s						
SIM				smax	smax		
	comp=E,59nm,1.0s						
SIM	**Simferopol'**	**8.87**	**19**	*e*P	**Pn**	**15 14 04.1**	**+4.5**
SIM				Pm		15 14 04.6	
	comp=Z,36nm,0.3s						
SIM				*e*S	**Sn**	**15 15 45.6**	**+6.3**
SIM				Sm		15 15 51.5	
	comp=N,33nm,0.6s						
SIM				Sm		15 15 51.5	
	comp=E,46nm,0.6s						
SUDU	**Sudak**	**9.07**	**22**	*e*P	**Pn**	**15 14 04.2**	**+2.0**
SUDU				*e*S	**Sn**	**15 15 47.4**	**+3.3**
SUDU	**Sudak**	**9.07**	**22**	*e*P	**Pn**	**15 14 04.2**	**+2.0**
SUDU				Pm		15 14 13.4

VSR pmax pmax
comp=Z,8.0nm,1.0s
KRUC Moravsky 16.00 325 *e*P **P 15 15 40.9 +1.1**
MORC Moravsky Berou 16.04 329 *e*P **P 15 15 41.4 +1.1**
VRAC Vranov 16.09 326 Pn **Pn 15 15 37.8 +0.3**
comp=Z,0.1nm,0.3s,baz=138,slow=8.2,SNR=4.0
VRAC LR LR 15 22 02.9
comp=Z,84nm,21.7s,baz=136,slow=38
comp=Z,1.4nm,0.2s
MOA Molln 16.24 319 *e*pP pP 15 15 45.7 -1.3
comp=Z,5.0nm,1.0s
KBA Koelnbreinsper 16.29 315 *e*pP **P 15 15 45.8 +2.5**
comp=Z,4.7nm,0.7s
VORR Voronezh 16.40 20 *e*P **Pn 15 15 43.2 +1.8**
VORR pmax pmax
comp=Z,93nm,0.5s
VRH Novokhopyorsk 16.79 26 *e*P **Pn 15 15 43.8 -2.5**
VRH pmax pmax
comp=Z,30nm,1.1s
LESA Schwarzleotal 16.86 315 *e*pP pP 15 15 53.9 0.0
comp=Z,2.7nm,0.7s
GEC2 GERESS Array S 17.16 321 P **Pn 15 15 53.0 +1.8**
GERES GERESS Array B 17.16 321 P **Pn 15 15 51.1 -0.1**
comp=Z,0.1nm,0.3s,baz=125,slow=12,SNR=11
GERES LR LR 15 23 08.9
comp=Z,105nm,18.2s,baz=156,slow=40
comp=Z,3.3nm,0.8s
LPSR Galich'ya Gora 17.16 18 *e*P **Pn 15 15 51.6 +0.6**
LPSR pmax pmax
comp=Z,23nm,0.7s
WTTA Wattenberg 17.38 314 *e*P **P 15 15 57.1 +1.8**
comp=Z,2.5nm,0.5s
KHC Kasperske Hory 17.40 321⇑ *e*P **Pn 15 15 48.3 -5.9**
KHC pmax pmax
comp=Z,3.0nm,1.1s
WATA Walderalm 17.45 314 *e*P **P 15 15 57.6 +1.6**
comp=Z,4.1nm,0.8s
MOTA Moosalm 17.73 313 *e*Pn **Pn 15 15 58.1 -0.3**
comp=Z,6.9nm,1.6s
FETA Feichten 17.79 312 P **P 15 16 01.9 +2.1**
comp=Z,5.2nm,1.1s
MNK Minsk 17.98 356 *i* P **Pn 15 15 59.9 -1.3**
comp=E,20nm,0.9s
MNK *i* P **Pn 15 15 59.9 -1.3**
comp=N,16nm,0.8s
MNK *i* P **Pn 15 15 59.9 -1.3**
comp=Z,13nm,0.8s,baz=174
MNK *i* PP **PnPn 15 16 10.5 -1.6**
MNK *i* S **Sn 15 19 19.6 -1.8**
MNK *i* SS **SnSn 15 19 34.6 -0.4**
MNK *i* LQ LQ 15 21 03.3
MNK *i* LR LR 15 22 21.8
MNK *i* LR LR 15 22 39.7
MNK *i* LRM MLR 15 23 42.8
comp=Z,118nm,14.2s
MNK *i* LRM MLR 15 23 46.7
comp=E,147nm,15.9s
MNK *i* LRM MLR 15 23 55.5
comp=N,19nm,10.2s
MNK Minsk 17.98 356 *i* P **Pn 15 15 59.8 -1.3**
MNK *i* S **Sn 15 19 19.6 -1.8**
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=Z,118nm,14.0s
MNK MLR MLR
comp=E,147nm,16.0s
MNK MLR MLR
comp=N,19nm,10.0s
RETA Reutte 18.00 313 *e*P **P 15 16 03.3 +1.2**
comp=N,3.6nm,0.6s
DAVOX Davos/Dischmat 18.19 310 P **Pn 15 16 05.0 +0.9**
comp=N,0.2nm,0.3s,baz=163,slow=12,SNR=1.7
DAVOX LR LR 15 24 17.7
comp=N,164nm,19.4s,baz=82,slow=41
comp=N,0.9nm,0.5s
DAVOX Davos/Dischmat 18.19 310 P **Pn 15 16 05.0 +0.9**
BRG Berggiesshubel 18.40 326 *e*P **Pn 15 16 08.3 +1.9**
BRG Amp 15 16 11.3
comp=Z,5.1nm,1.0s
DAVA Damuels 18.43 312 *e*Pn **P 15 16 07.8 +0.9**
comp=Z,7.5nm,1.1s
NACGM Naroch 18.46 354 *e*P **P 15 16 07.7 +0.8**
baz=172
RAYN Ar Rayn 18.58 130 P **Pn 15 16 11.1 +2.3**
GRF Grafenberg Arr 18.96 320 *e*P **P 15 16 14.0 +1.5**
comp=Z,10nm,1.0s,baz=126,slow=11
OBN Obninsk 19.04 11 P **P 15 16 13.0 -0.3**
comp=Z,3.1nm,0.3s,baz=142,slow=22,SNR=1.5
OBN LR LR 15 23 21.9
comp=Z,68nm,18.4s,baz=198,slow=36
comp=Z,9.1nm,0.4s
OBN Obninsk 19.04 11⇓ *e*P **Pn 15 16 15.0 +0.9**
OBN *e*S **Sn 15 19 40.8 -6.1**
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,82nm,16.0s
CLL Collm 19.13 326 *i* P **Pn 15 16 16.8 +1.6**
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL Collm 19.13 326 *i* P **Pn 15 16 16.8 +1.6**
comp=Z,7.0nm,1.0s
SENIN Lac Senin/Sane 19.65 307 P **P 15 16 20.3 0.0**
MOS Moscow 19.82 13 *e*P **P 15 16 21.2 -0.6**
BFO Black Forest 19.84 313 P **P 15 16 22.4 +0.2**
BFO IAmb IAmb 15 16 34.1
comp=Z,28nm,1.4s
BFO Black Forest 19.84 313 P **P 15 16 22.4 +0.2**
BFO pmax pmax
comp=Z,28nm,1.4s
BELG Belogornoye 20.04 32 P **P 15 16 24.2 0.0**
comp=Z,48nm,0.9s,baz=217,slow=1.9,SNR=32
BELG LR LR 15 26 02.3
comp=Z,146nm,18.4s,baz=235,slow=43
comp=Z,48nm,0.9s
BELG Belogornoye 20.04 32 *c e*P **P 15 16 24.9 +0.7**
BELG pmax pmax
comp=Z,9.0nm,0.9s
ECH Echery 20.48 312 P **P 15 16 29.5 +0.3**
ECH Echery 20.48 312 P **P 15 16 29.5 +0.3**
ECH pmax pmax
comp=Z,13nm,1.1s
VSU Vasula 22.00 355 *i* P **P 15 16 43.6 -1.7**
BCLA Clavier 22.57 316 *d*P **P 15 16 55.6 +4.0**
BCLA *d*PP **PnPn 15 17 18.2 +3.2**
BGES Gesves 22.68 315 *d*P **P 15 16 55.0 +2.3**
comp=Z,9.2nm,1.1s
DOU Dourbes 22.83 314 *d*P **P 15 16 55.4 +1.1**
comp=Z,7.4nm,0.9s
KLMR Klimovskoe 25.00 11 *e*P **P 15 17 13.6 -1.3**
KLMR pmax pmax
comp=Z,44nm,1.0s
FINES FINESS Array B 25.01 355 P **P 15 17 14.8 -0.2**
comp=Z,3.2nm,0.7s,baz=145,slow=7.0,SNR=8.2
FINES LR LR 15 28 02.7
comp=Z,153nm,19.7s,baz=198,slow=39
comp=Z,3.2nm,0.7s
FINES FINESS Array B 25.01 355 *e*P **P 15 17 15.6 +0.7**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 25.04 50 P **P 15 17 15.4 -0.1**
UOSS Minazif 25.14 110 P **P 15 17 16.7 +0.2**
UOSS IAmb IAmb 15 17 34.9
comp=Z,13nm,0.8s
TAM Tamanrasset 25.34 244 P **P 15 17 22.6 +4.1**
TAM pmax pmax
comp=Z,6.0nm,0.9s
KIRV Kirov 25.37 24 LR LR 15 29 47.3
comp=Z,95nm,18.5s,baz=252,slow=42
KIRV Kirov 25.37 24⇑ *e*P **P 15 17 20.1 +1.8**
HFS Hagfors 25.82 341 P **P 15 17 22.1 -0.3**
comp=Z,4.6nm,0.8s,baz=131,slow=15,SNR=5.4
HFS LR LR 15 28 39.8
comp=Z,136nm,20.5s,baz=148,slow=39
comp=Z,4.6nm,0.8s
HRA Herat 26.16 85 P **P 15 17 26.4 +0.3**
ESDC Sonseca Array 26.91 287 P **P 15 17 32.5 -0.1**
comp=Z,1.5nm,0.7s,baz=77,slow=9.5,SNR=10
ESDC LR LR 15 29 11.2
comp=Z,104nm,18.2s,baz=79,slow=39
comp=Z,1.5nm,0.7s
NB2 NORSAR Subarra 27.25 340 P **P 15 17 37.6 +2.3**
comp=Z,5.1nm,1.0s,baz=144,slow=10
NOA NORSAR Array B 27.25 340 P **P 15 17 35.0 -0.4**
comp=Z,2.1nm,0.9s,baz=153,slow=9.2,SNR=4.0
NOA LR LR 15 29 43.7
comp=Z,110nm,18.1s,baz=140,slow=39
comp=Z,2.1nm,0.9s
NOA NORSAR Array B 27.25 340 P **P 15 17 35.0 -0.4**
ARTI Arti 27.43 35 P **P 15 17 36.2 -0.7**
ARTI IAmb IAmb 15 17 43.5
comp=Z,12nm,0.9s
ARTI Arti 27.43 35 LR LR 15 31 59.1
comp=Z,99nm,19.8s,baz=207,slow=44
ARTI Arti 27.43 35 P **P 15 17 36.2 -0.7**
ARTI pmax pmax
comp=Z,12nm,0.9s
SVE Sverdlovsk 28.71 35 *e*P **P 15 17 48.0 -0.3**
MDT Midelt 28.73 273 LR LR 15 31 35.2
comp=Z,89nm,19.4s,baz=86,slow=41
EKA Eskdalemuir Ar 29.38 320 P **P 15 17 56.3 +2.1**
comp=Z,0.2nm,0.3s,baz=122,slow=9.3,SNR=2.3
comp=Z,0.2nm,0.3s
SIMJ Simiganj 30.70 74 P **P 15 18 06.9 +0.5**
SIMJ IAmb IAmb 15 18 09.3
comp=Z,6.4nm,0.9s
KKAR Karatay Array 31.43 65 P **P 15 18 12.2 -0.4**
KKAR Karatay Array 31.43 65 P **P 15 18 12.3 -0.4**
GAR Garm 31.66 73 P **P 15 18 14.3 -0.4**
GAR IAmb IAmb 15 18 19.8
comp=Z,8.9nm,1.0s
BRVK Borovoye 32.37 47 P **P 15 18 20.9 +0.2**
BRVK IAmb IAmb 15 18 23.8
comp=Z,4.2nm,0.9s
BRVK Borovoye 32.37 47 *d e*P **P 15 18 20.5 -0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BVAR Borovoye Array 32.42 47 P **P 15 18 21.6 +0.4**
comp=Z,2.9nm,0.8s,baz=248,slow=5.9,SNR=11
BVAR LR LR 15 34 33.3
comp=Z,60nm,20.5s,baz=256,slow=42
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 33.10 357 P **P 15 18 27.3 +0.4**
comp=Z,5.5nm,1.0s,baz=169,slow=8.3,SNR=7.0
ARCES LR LR 15 32 54.2
comp=Z,95nm,20.5s,baz=181,slow=38
comp=Z,5.5nm,1.0s
AAK Ala-Archa 34.38 66 P **P 15 18 39.6 +1.0**
AAK Ala-Archa 34.38 66 LR LR 15 35 02.7
comp=Z,90nm,18.5s,baz=292,slow=41
AAK Ala-Archa 34.38 66 *d e*P **P 15 18 41.8 +3.2**
AAK pmax pmax
comp=Z,5.0nm,1.0s
TORD Torodi Ar. Bea 34.57 235 P **P 15 18 40.3 0.0**
TORD IAmb IAmb 15 18 46.9
comp=Z,5.1nm,1.1s
TORD Torodi Ar. Bea 34.57 235 P **P 15 18 41.0 +0.8**
comp=Z,5.8nm,0.9s,baz=31,slow=10,SNR=20
TORD LR LR 15 33 50.7
comp=Z,64nm,21.2s,baz=32,slow=38
comp=Z,5.8nm,0.9s
KSH Kashi 35.91 71 P **P 15 18 51.8 +0.1**
KSH pmax pmax
comp=Z,2.0nm,1.2s
KURBB Kurchatov Arra 37.06 52 P **P 15 19 01.3 +0.1**
comp=Z,8.8nm,0.6s,baz=274,slow=8.8,SNR=29
KURBB PP **PP 15 20 25.9 +0.3**
comp=Z,1.7nm,0.7s,baz=275,slow=11,SNR=5.7
KURBB PcP **PcP 15 21 21.9 +0.3**
comp=Z,0.5nm,0.3s,baz=265,slow=4.0,SNR=1.6
KURBB LR LR 15 38 01.8
comp=Z,65nm,20.0s,baz=173,slow=42
comp=Z,8.8nm,0.6s
KURK Kurchatov 37.12 52⇑ *e*P **P 15 19 02.0 +0.2**
KURK pmax pmax
comp=Z,15nm,1.0s
MAKZ Makanchi 39.38 58 P **P 15 19 20.6 -0.2**
MAKZ Makanchi 39.38 58 P **P 15 19 20.6 -0.2**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 39.59 58 *c i*P **P 15 19 22.8 +0.1**
MKAR Makanchi Array 39.59 58 P **P 15 19 22.5 -0.1**
MKAR Makanchi Array 39.59 58 P **P 15 19 22.9 +0.2**
comp=Z,7.2nm,0.7s,baz=278,slow=6.3,SNR=78
MKAR PP **PP 15 20 54.7 +1.2**
comp=Z,2.2nm,1.0s,baz=273,slow=9.6,SNR=3.6
MKAR ScP **ScP 15 25 18.2 +0.2**
comp=Z,0.7nm,0.7s,baz=274,slow=4.3,SNR=5.8
MKAR LR LR 15 40 21.4
comp=Z,47nm,18.2s,baz=288,slow=43
comp=Z,7.2nm,0.7s
ZAA0 Zalesovo Array 41.08 47 P **P 15 19 34.0 -0.7**
ZAA0 IAmb IAmb 15 19 39.5
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 41.08 47 P **P 15 19 34.1 -0.6**
comp=Z,5.1nm,0.7s,baz=265,slow=9.0,SNR=21
ZALV LR LR 15 39 45.4
comp=Z,69nm,19.8s,baz=309,slow=41
comp=Z,5.1nm,0.7s
BORG Borgarnes 41.31 329 LR LR 15 37 29.4
comp=Z,74nm,19.8s,baz=113,slow=37
SPITS Spitsbergen Ar 42.10 356 P **P 15 19 43.1 +0.2**
comp=Z,9.6nm,1.1s,baz=189,slow=8.2,SNR=1.1
comp=Z,9.6nm,1.1s
DBIC Dimbokro 43.67 236 P **P 15 19 56.7 +0.3**
comp=Z,2.7nm,0.7s,baz=37,slow=7.2,SNR=4.2
DBIC LR LR 15 40 02.6
comp=Z,69nm,19.0s,baz=73,slow=39
comp=Z,2.7nm,0.7s
WMQ Urumqi 43.77 62 *e*P **P 15 20 00.3 +3.3**
WMQ S **S 15 26 27.5 +0.5**
WMQ pmax pmax
comp=Z,13nm,1.1s
NRIK Noril'sk 44.87 25 P **P 15 20 05.3 0.0**
comp=Z,1.1nm,0.5s,baz=252,slow=4.9,SNR=3.9
NRIK PP **PP 15 21 50.8 +0.9**
comp=Z,1.6nm,0.5s,baz=238,slow=11,SNR=4.4
NRIK LR LR 15 41 21.4
comp=Z,60nm,19.3s,baz=330,slow=40
comp=Z,1.1nm,0.5s
NRIK Noril'sk 44.87 25 *e*P **P 15 20 07.5 +2.2**
NRIK pmax pmax
comp=Z,1.0nm,0.3s
LSA Lhasa 50.80 79 P **P 15 20 52.0 -0.4**
LSA IAmb IAmb 15 20 53.5
comp=Z,13nm,1.4s
LSA Lhasa 50.80 79 P **P 15 20 52.6 +0.2**
LSA Lhasa 50.80 79 P **P 15 20 52.0 -0.4**
LSA pmax pmax
comp=Z,13nm,1.4s
MOY Mondy 51.03 49 *e*P **P 15 20 54.4 +0.9**
MOY pmax pmax
comp=Z,14nm,1.5s
LSZ Lusaka 51.62 182 LR LR 15 46 46.9
comp=Z,32nm,19.4s,baz=124,slow=41
ZAK Zakamensk 52.74 50 *e*P **P 15 21 04.8 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
GTA Gaotai 53.70 64 *e*P **P 15 21 12.8 -0.7**
GTA sP sP 15 21 24.8 +4.4
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA LR LR
comp=N,98nm,14.7s
GTA LR LR
comp=E,78nm,15.5s
GTA LR LR
comp=Z,78nm,15.1s
PALK Pallekele 54.41 110 LR LR 15 45 36.3
comp=Z,37nm,19.5s,baz=321,slow=37
SONM Songino Array 55.42 53 P **P 15 21 25.5 -0.4**
SONM IAmb IAmb 15 21 26.6
comp=Z,2.9nm,0.8s
SONM Songino Array 55.42 53 P **P 15 21 25.9 +0.1**
comp=Z,3.7nm,0.7s,baz=290,slow=7.9,SNR=35
SONM LR LR 15 48 10.0
comp=Z,66nm,20.0s,baz=12,slow=39
comp=Z,3.7nm,0.7s
ULN Ulaanbaatar 55.83 52 P **P 15 21 28.4 -0.4**
ULN IAmb IAmb 15 21 29.6
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 55.83 52⇑ *e*P **P 15 21 28.8 0.0**
ULN pmax pmax
comp=Z,8.0nm,1.0s
TSUM Tsumeb 56.75 194 LR LR 15 47 34.7
comp=Z,43nm,19.5s,baz=64,slow=38
LZH Lanzhou 57.92 67 *e*P P 15 21 37.0 -6.8
LZH sP pP 15 21 43.7 -5.2
LZH pmax pmax
comp=Z,5.0nm,1.1s
TIXI Tiksi 58.38 22 LR LR 15 51 08.9
TIXI
comp=Z,87nm,20.7s,baz=6.0,slow=40
TIXI Tiksi 58.38 22⇑ *e*P **P 15 21 45.6 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
CD2 Chengdu 60.09 72 P **P 15 21 58.1 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
PZH PanZhiHua 60.58 77 P **P 15 22 01.7 -0.6**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,90nm,4.8s
HHC Hu-ho-hao-te 61.45 59 *e*P **P 15 22 08.2 +0.2**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.4s
FRB Frobisher Bay 61.48 330 LR LR 15 49 07.3
comp=Z,46nm,19.2s,baz=80,slow=36
CHTO Chiang Mai 62.23 86 P **P 15 22 12.2 -1.1**
CHTO Chiang Mai 62.23 86 P **P 15 22 12.2 -1.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 62.41 87 P **P 15 22 13.9 -0.7**
CMAR Chiang Mai Arr 62.41 87 P **P 15 22 13.7 -0.9**
CMAR Chiang Mai Arr 62.41 87 P **P 15 22 14.2 -0.4**
comp=Z,6.3nm,0.8s,baz=298,slow=8.3,SNR=57
CMAR PP **PP 15 24 31.7 -0.2**
comp=Z,0.6nm,0.4s,baz=297,slow=8.7,SNR=2.5
CMAR LR LR 15 54 12.9
comp=Z,14nm,18.3s,baz=280,slow=41
comp=Z,6.3nm,0.8s
XAN Xi'an 62.56 67 P **P 15 22 14.7 -0.8**
XAN pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 62.57 32 LR LR 15 52 55.5
comp=Z,68nm,18.1s,baz=277,slow=39
XLT XiLinHaoTe 63.17 54 *e*P **P 15 22 19.5 +0.1**
XLT pP pP 15 22 24.6 +0.1
XLT PcP **PcP 15 22 50.6 -6.3**
XLT pmax pmax
comp=Z,4.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.7s
RES Resolute Bay 63.30 346 LR LR 15 51 10.3
comp=Z,44nm,18.9s,baz=357,slow=37
GYA Guiyang 64.45 75 P **P 15 22 27.4 -0.8**
GYA pmax pmax
comp=Z,7.0nm,0.9s
SCHQ Schefferville 64.69 321 P **P 15 22 26.2 -2.9**
comp=Z,1.8nm,1.0s,baz=56,slow=3.1,SNR=2.1
SLVN Son La 64.88 81 P **P 15 22 29.8 -1.2**
SLVN IAmb IAmb 15 22 31.0
comp=Z,2.9nm,0.8s
BJI Beijing 64.97 58 P **P 15 22 31.0 -0.1**
BJI S **S 15 31 12.4 -0.1**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJT Baijiatuau 64.97 58 P **P 15 22 30.8 -0.4**
BJT Baijiatuau 64.97 58 P **P 15 22 30.8 -0.4**
BJT pmax pmax
comp=Z,6.0nm,1.0s
BOSA Boshof 65.02 185 P **P 15 22 31.8 +0.2**
comp=Z,1.6nm,0.9s,baz=358,slow=6.9,SNR=8.1
comp=Z,1.6nm,0.9s
HEH HeiHe 67.06 44 *e*P **P 15 22 43.9 -0.5**
HEH pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 69.99 43 LR LR 16 00 57.2
comp=Z,47nm,18.8s,baz=332,slow=42
BILL Bilibino 70.62 16⇓ *e*P **P 15 23 05.6 -0.7**
BILL pmax pmax
comp=Z,2.0nm,1.2s
SEY Seymchan 70.64 24⇑ *e*P **P 15 23 06.1 -0.4**
SEY pmax pmax
comp=Z,12nm,2.5s
NJ2 Nanjing 70.80 64 *e*P **P 15 23 07.8 -0.2**
NJ2 pP **pP 15 23 10.9 -2.2**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
MA2 Magadan 72.40 27 LR LR 16 00 56.5
comp=Z,57nm,19.0s,baz=341,slow=41
MA2 Magadan 72.40 27⇓ *e*P **P 15 23 16.4 -0.8**
MA2 pmax pmax
comp=Z,12nm,1.7s
USA0B Ussuriysk Arra 72.93 47⇓ *e*P **P 15 23 20.3 -0.3**
USRK Ussuriysk Ar. 72.93 47 P **P 15 23 19.9 -0.7**
comp=Z,7.6nm,0.7s,baz=285,slow=6.0,SNR=17
comp=Z,7.6nm,0.7s
KSAR Wonju Array Be 74.15 55 P **P 15 23 26.7 -1.2**
KSAR Wonju Array Be 74.15 55 P **P 15 23 26.7 -1.2**
KSRS Korea Array 74.17 55 P **P 15 23 27.1 -1.0**
comp=Z,4.3nm,0.7s,baz=304,slow=4.4,SNR=23
KSRS LR LR 16 00 33.5
comp=Z,19nm,18.9s,baz=105,slow=40
comp=Z,4.3nm,0.7s
YKA Yellowknife Ar 77.26 344 P **P 15 23 42.8 -2.4**
comp=Z,0.2nm,0.6s,baz=38,slow=5.2,SNR=4.2
JNU Nakatsue 78.64 57 LR LR 16 01 01.8
comp=Z,34nm,20.8s,baz=184,slow=38
ILAR Eielson Array 78.94 359 LR LR 16 00 55.0
comp=Z,24nm,18.3s,baz=52,slow=37
ASAJ Asahikawa 79.02 43 LR LR 16 02 16.0
comp=Z,49nm,19.9s,baz=114,slow=38
MJAR Matsushiro Arr 81.32 51 P **P 15 24 06.8 -1.1**
comp=Z,4.5nm,0.8s,baz=307,slow=3.5,SNR=12
comp=Z,4.5nm,0.8s
MJA0 Matsu Arr-Jizo 81.34 51 *e*P **P 15 24 07.5 -0.6**
MJA0 pmax pmax
comp=Z,5.0nm,0.8s
JCJ Chichijima 90.02 56 LR LR 16 09 06.6
comp=Z,39nm,18.5s,baz=114,slow=38
PDAR Pinedale Array 92.89 332 P **P 15 25 04.6 0.0**
comp=Z,0.3nm,0.8s,baz=338,slow=8.4,SNR=1.5
comp=Z,0.3nm,0.8s
ASAR Alice Springs 114.35 102 PKP PKPdf 15 30 30.4 -1.1
comp=Z,0.5nm,1.0s,baz=324,slow=1.4,SNR=2.9
QSPA South Pole Qui 126.44 180 PKP **PKPdf 15 30 52.9 -0.5**
comp=Z,0.8nm,0.7s,baz=153,slow=1.3,SNR=5.9

DJA 05 15:13:45.3±0.4, 8°S±3°×10°8E±°, h28km±4km, M4.0/18, mb4.3/6, MLv3.8/18, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.63**	**60**	P	Pn	15 13 59.2	+0.9
CMJI				S	Sn	15 14 07.4	-0.1
CNJI	**Cibinong**	**1.10**	**316**	P	Pn	15 14 04.8	0.0
CNJI				S	Sn	15 14 18.0	-1.0
KPJI	**Karang Pucung**	**1.27**	**53**	P	Pn	15 14 07.5	+0.2
KPJI				S	Sb	15 14 24.6	-0.1
LEM	**Lembang**	**1.30**	**347**	P	Pb	15 14 08.6	-0.5
SKJI	**Sukabumi**	**1.72**	**309**	P	Pn	15 14 13.8	+0.4
SKJI				S	Sn	15 14 34.9	+0.4
UGM	**Wanagama**	**2.60**	**86**	P	Pn	15 14 25.2	-0.4
UGM				S	Sn	15 14 55.4	-1.0
CGJI	**Cibinong**	**2.64**	**304**	P	Pn	15 14 26.7	+0.6
SMRI	**Semarang**	**2.73**	**68**	P	Pn	15 14 28.3	+1.0
SMRI				S	Sn	15 15 01.7	+2.4
PCJI	**Pacitan**	**3.25**	**92**	P	Pn	15 14 34.4	0.0
PCJI				S	Sn	15 15 09.9	-2.2
GMJI	**Gumukmas**	**5.49**	**92**	P	Pn	15 15 06.0	+0.7
	0.2nm40nm,1.4s						
KMMI	**Kalianget**	**6.10**	**81**	P	Pn	15 15 13.1	-0.6
MNAI	**Manna**	**6.16**	**307**	P	Pn	15 15 15.4	+0.9

TXNET 05 15:19:10.2, 31°6N±0°5×104°3W±0°6, h5km±2km, ML1.3/5, Error ellipse: s-maj=1.0km s-min=0.8km az=63.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**34**	P	Pg	15 19 17.0	-0.2
TPB11				S	Sg	15 19 22.2	+0.2
PECS	**Pecos**	**0.43**	**128**	P	Pg	15 19 18.9	+0.2
PECS	**Pecos**	**0.43**	**128**	P	Pg	15 19 18.8	+0.2
PECS				S	Sg	15 19 24.6	+0.3
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg	15 19 19.9	0.0
TPB12				S	Sg	15 19 26.7	+0.4
TPB07	**Mentone**	**0.52**	**96**	S	Sg	15 19 27.3	+0.4
TPB10	**Southeast of T**	**0.56**	**128**	S	Sg	15 19 29.3	+0.9
GDL2	**Guadalupe Moun**	**0.57**	**352**	P	Pg	15 19 21.4	+0.2

CLNB	**Carlsbad**	**0.71**	**28**	S	Sg	15 19 33.7	+0.6
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	15 19 28.8	+0.3
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	15 19 28.8	+0.3
MNTX				S	Sb	15 19 41.7	-0.5
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	15 19 30.4	+0.1
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	15 19 30.3	0.0
VHRN				S	Sb	15 19 44.5	-0.5
TPB05	**Hovey Rd**	**1.08**	**131**	P	Pg	15 19 30.5	-0.4
TPB05				S	Sg	15 19 44.6	-0.3
ALPN	**Alpine**	**1.37**	**157**	P	Pn	15 19 35.0	-1.2
ALPN	**Alpine**	**1.37**	**157**	P	Pn	15 19 34.9	-1.3
ALPN				S	Sg	15 19 52.8	-1.5
CPRX	**Cap Rock**	**1.43**	**14**	P	Pn	15 19 36.8	-0.2
TMB04	**Seminole**	**1.81**	**56**	P	Pn	15 19 42.3	+0.2
TMB04				S	Sb	15 20 07.2	+0.4
TMB02	**Rankin**	**1.96**	**102**	P	Pn	15 19 44.9	+0.7
TMB02				S	Sn	15 20 10.2	+1.0
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	15 19 52.8	-0.4

*IDC **05** 15:57:07.9±2.4, 21°.81S×130°.88E, h0km, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=21.4km s-min=17.5km az=54.0*
*NOU **05** 15:57:08.3, 21°.75S×130°.89E, h0km, MLv4.3/13, Northern Territory, Australia*
*AUST **05** 15:57:08.2±0.2, 22°S±2°×13°1E±°, h10km, ML3.5/11, Error ellipse: s-maj=5.3km s-min=4.3km az=147.8*
ISC 05 15:57:08.0±0.8, 21°.81S±0°.05×130°.78E±0°.05, h10km, n42, σ1§79/47, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**3.43**	**123**	Pn	**Pn**	**15 58 03.1**	**+1.5**
	1.3nm,0.3s,baz=302,slow=14,SNR=83						
ASAR				Sn	**Sn**	**15 58 42.9**	**+0.6**
	8.4nm,0.3s,baz=303,slow=26,SNR=12						
ASAR				Lg	Lg	15 58 53.0	
	20nm,0.3s,baz=299,slow=25,SNR=9.5 4.7nm,0.3s						
AS31	**Alice Springs**	**3.43**	**123**	P	**Pn**	**15 58 03.1**	**+1.5**
AS01	**Alice Springs**	**3.46**	**123**	P	**Pn**	**15 58 04.0**	**+1.9**
WRA	**Warramunga Arr**	**3.81**	**61**	Pn	**Pn**	**15 58 06.6**	**-0.3**
	2.2nm,0.3s,baz=244,slow=14,SNR=138						
WRA				Pg	**Pb**	**15 58 16.8**	**+1.3**
	7.2nm,0.3s,baz=242,slow=15,SNR=29						
WRA				Sn	**Sn**	**15 58 53.9**	**+2.1**
	4.9nm,0.3s,baz=242,slow=16,SNR=5.0						
WRA				Lg	Lg	15 59 04.7	
	16nm,0.3s,baz=239,slow=28,SNR=13 2.6nm,0.3s						
WRAB	**Tennant Creek**	**3.83**	**61**	P	**Pn**	**15 58 06.9**	**-0.1**
WRAB				S	**Sn**	**15 58 51.5**	**-0.7**
WRKA	**Warakurna**	**3.94**	**215**	P	**Pn**	**15 58 10.7**	**+2.1**
WRKA	**Warakurna**	**3.94**	**215**	S	**Sn**	**15 58 56.4**	**+1.5**
WRKA	**Warakurna**	**3.94**	**215**	P	**Pn**	**15 58 10.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**6.08**	**306**	P	**Pn**	**15 58 40.4**	**+2.3**
FITZ	**Fitzroy Crossi**	**6.08**	**306**	Pn	**Pn**	**15 58 40.3**	**+2.3**
	0.9nm,0.3s,baz=126,slow=9.2,SNR=33						
FITZ				Sn	**Sn**	**15 59 45.1**	**-2.6**
	4.3nm,0.3s,baz=267,slow=13,SNR=8.3						
FITZ				Lg	Lg	16 00 16.9	
	4.7nm,0.3s,baz=233,slow=13,SNR=9.2 2.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**6.08**	**306**	P	**Pn**	**15 58 40.3**	**+2.3**
KNRA	**Kununurra**	**6.39**	**342**	P	**Pn**	**15 58 43.9**	**+1.6**
KNRA				S	**Sn**	**15 59 51.5**	**-3.9**
OOD	**Oodnadatta**	**7.44**	**144**	P	**Pn**	**15 58 58.2**	**+1.5**
OOD	**Oodnadatta**	**7.44**	**144**	S	**Sn**	**16 00 18.1**	**-3.1**
OOD	**Oodnadatta**	**7.44**	**144**	P	**Pn**	**15 58 58.9**	**+2.2**
BOXOZ	**Borroloola**	**7.75**	**43**	P	**Pn**	**15 59 00.6**	**-0.4**
QIS	**Mount Isa**	**8.33**	**83**	P	**Pn**	**15 59 08.8**	**-0.1**
QIS	**Mount Isa**	**8.33**	**83**	P	**Pn**	**15 59 08.9**	**-0.1**
MTN	**Manton Dam**	**8.92**	**2**	P	**Pn**	**15 59 15.9**	**-1.2**
MTN	**Manton Dam**	**8.92**	**2**	P	**Pn**	**15 59 16.4**	**-0.7**
KDU	**Kakadu**	**9.22**	**10**	P	**Pn**	**15 59 20.1**	**-1.0**
KDU	**Kakadu**	**9.22**	**10**	P	**Pn**	**15 59 20.4**	**-0.7**
FORT	**Forrest**	**9.26**	**195**	P	**Pn**	**15 59 21.6**	**0.0**
FORT	**Forrest**	**9.26**	**195**	P	**Pn**	**15 59 22.6**	**+1.0**
DRS	**Darwin Rock St**	**9.33**	**1**	P	**Pn**	**15 59 24.2**	**+1.6**
PSA00	**Pilbara Seismi**	**10.17**	**269**	P	**Pn**	**15 59 36.9**	**+2.7**
PSA00	**Pilbara Seismi**	**10.17**	**269**	P	**Pn**	**15 59 37.4**	**+3.2**
PSAC1	**Pilbara Seismi**	**10.20**	**270**	P	**Pn**	**15 59 36.9**	**+2.2**
MBWA	**Marble Bar**	**10.31**	**272**	P	**Pn**	**15 59 39.8**	**+3.7**
NTN0Z	**Mutton Hole St**	**10.65**	**69**	P	Pn	15 59 33.4	-7.3
INKA	**Innaminka**	**10.81**	**125**	P	**Pn**	**15 59 42.9**	**0.0**
INKA	**Innaminka**	**10.81**	**125**	P	**Pn**	**15 59 42.8**	**-0.1**
LCRK	**Leigh Creek**	**10.89**	**144**	P	**Pn**	**15 59 43.7**	**-0.3**
LCRK	**Leigh Creek**	**10.89**	**144**	P	**Pn**	**15 59 44.6**	**+0.6**
BBOO	**Buckleboo**	**11.92**	**158**	P	**Pn**	**15 59 56.5**	**-1.6**
YAPP	**Yappala Statio**	**12.06**	**148**	P	**Pn**	**15 59 59.1**	**-0.9**
MEEK	**Meekatharra**	**12.09**	**244**	P	**Pn**	**15 59 59.6**	**-1.0**
STKA	**Stephens Creek**	**13.91**	**138**	Pn	**Pn**	**16 00 24.3**	**-1.0**
	0.1nm,0.3s,baz=317,slow=14,SNR=1.7						
STKA				Sn	Sn	16 02 49.3	-11
	0.4nm,0.3s,baz=357,slow=3.8,SNR=4.4						
STKA				Lg	Lg	16 04 24.1	
	baz=239,slow=11 0.8nm,0.4s						
MORW	**Morawa**	**15.14**	**239**	P	**Pn**	**16 00 41.0**	**-1.1**
KLBR	**Kellerberrin**	**15.16**	**227**	P	**Pn**	**16 00 40.8**	**-1.6**
GIRL	**Giralia**	**15.34**	**264**	P	**Pn**	**16 00 46.2**	**+1.4**
CMSA	**Cobar Meteorol**	**16.46**	**129**	P	**Pn**	**16 00 57.8**	**-1.4**

*IDC **05** 16:00:30.7±1.1, 12°.07S×14°.54W, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/15, Error ellipse: s-maj=42.3km s-min=21.4km az=92.0*
ISC 05 16:00:32.0±1.0, 12°.1S±0°.1×14°.6W±0°.2, h10km, n26, σ1§06/14, mb3.9/7, MS3.6/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.12**	**358**	Pn	**Pn**	**16 01 21.6**	**+0.5**
H10S3	**ASCENSION HYDR**	**3.13**	**358**	Pn	**Pn**	**16 01 21.9**	**+0.7**
H10N1	**ASCENSION HYDR**	**4.23**	**1**	Pn	**Pn**	**16 01 37.1**	**+0.8**
	baz=172,slow=20						
H10N1				T	T	16 06 14.4	
	baz=181,slow=72,SNR=33						
H10N3	**ASCENSION HYDR**	**4.23**	**1**	Pn	**Pn**	**16 01 37.1**	**+0.8**
	baz=172,slow=20						
H10N3				T	T	16 06 11.8	
	baz=181,slow=72,SNR=80						
H10N2	**ASCENSION HYDR**	**4.25**	**1**	Pn	**Pn**	**16 01 37.3**	**+0.8**
	baz=172,slow=20						
H10N2				T	T	16 06 08.1	
	baz=181,slow=72,SNR=43						
DBIC	**Dimbokro**	**21.00**	**28**	P	**P**	**16 05 14.0**	**-1.8**
	1.1nm,0.4s,baz=195,slow=5.9,SNR=3.9						
DBIC				LR	LR	16 11 43.0	
	comp=Z,132nm,20.2s,baz=187,slow=32 1.1nm,0.4s						
RCBR	**Riachuelo**	**21.98**	**285**	LR	LR	16 11 47.5	
	comp=Z,62nm,20.0s,baz=86,slow=31						
BBTS	**Babate**	**26.66**	**356**	LR	LR	16 15 25.5	
	comp=Z,92nm,19.2s,baz=98,slow=34						
TORD	**Torodi Ar. Bea**	**29.82**	**33**	P	**P**	**16 06 39.1**	**-0.4**
	0.3nm,0.7s,baz=223,slow=9.6,SNR=6.2						
TORD				LR	LR	16 17 07.9	
	comp=Z,115nm,19.6s,baz=218,slow=34 0.3nm,0.7s						
BDFB	**Brasilia**	**32.65**	**260**	LR	LR	16 17 34.8	
	comp=Z,145nm,21.0s,baz=49,slow=31						
SUR	**Sutherland**	**38.20**	**128**	LR	LR	16 20 00.1	
	comp=Z,85nm,18.2s,baz=310,slow=31						
BOSA	**Boshof**	**40.55**	**120**	P	**P**	**16 08 11.5**	**-0.5**
	1.4nm,0.8s,baz=243,slow=2.3,SNR=1.5						
BOSA				LR	LR	16 21 33.7	
	comp=Z,92nm,21.9s,baz=277,slow=31 1.4nm,0.8s						
LSZ	**Lusaka**	**41.60**	**99**	LR	LR	16 23 02.0	
	comp=Z,96nm,21.6s,baz=314,slow=32						
CPUP	**Villa Florida**	**42.59**	**244**	LR	LR	16 23 15.4	
	comp=Z,121nm,21.0s,baz=62,slow=32						
MDT	**Midelt**	**45.66**	**12**	LR	LR	16 27 07.7	
	comp=Z,41nm,18.1s,baz=355,slow=35						
LPAZ	**La Paz**	**51.99**	**259**	LR	LR	16 32 06.2	
	comp=Z,40nm,18.9s,baz=50,slow=36						
PLCA	**Paso Flores**	**56.56**	**229**	LR	LR	16 30 57.1	
	comp=Z,49nm,20.5s,baz=103,slow=32						
NNA	**Nana**	**60.79**	**263**	LR	LR	16 35 31.8	
	comp=Z,104nm,19.5s,baz=118,slow=35						
ATAH	**Atahualpa**	**63.02**	**268**	LR	LR	16 36 56.7	
	comp=Z,83nm,21.3s,baz=103,slow=35						

BRTR	**Keskin Array B**	**68.27**	**38**	P	**P**	**16 11 34.4**	**+0.9**
	0.4nm,0.6s,baz=232,slow=4.7,SNR=2.4 0.4nm,0.6s						
AKASG	**Malin Array Be**	**73.24**	**27**	P	**P**	**16 12 03.1**	**-0.2**
	1.4nm,0.9s,baz=225,slow=6.6,SNR=7.1 1.4nm,0.9s						
QSPA	**South Pole Qui**	**78.05**	**180**	P	**P**	**16 12 32.0**	**+1.2**
	2.0nm,0.9s,baz=211,slow=6.6,SNR=5.4 2.0nm,0.9s						
FINES	**FINESS Array B**	**79.98**	**19**	P	**P**	**16 12 42.2**	**+1.0**
	2.4nm,0.8s,baz=198,slow=4.1,SNR=6.6 2.4nm,0.8s						
CMIG	**Matias Romero**	**84.47**	**289**	LR	LR	16 51 52.1	
	comp=Z,18nm,19.0s,baz=151,slow=36						
TXAR	**Lajitas Array**	**95.06**	**299**	P	**P**	**16 13 54.1**	**-1.7**
	0.2nm,0.4s,baz=104,slow=6.1,SNR=2.4 0.2nm,0.4s						
ASAR	**Alice Springs**	**132.93**	**139**	PKP	**PKiKP**	**16 19 49.4**	**-0.3**
	0.3nm,0.9s,baz=232,slow=1.8,SNR=2.1						

*UCR **05** 16:15:30.5±0.6, 15°.66N×92°.46W, h164km, MB4.9(NEIC)*
*GCG **05** 16:15:32.3±1.5, 15°.65N×92°.51W, h168km±8km, MD5.0, ML4.7, MW4.5, Hypocentre not reviewed by the ISC*
*RSNC **05** 16:15:34.0±1.5, 16°N±5°×9°2W±1°0, h167km±7km, M4.4, mb4.9, mB5.0, mBc5.8, ML4.5, MLv5.0, Mw(mB)4.9, MwMwp5.1, Mwp5.4, Hypocentre not reviewed by the ISC*
*NEIC **05** 16:15:34.1±1.8, 15°.66N±0°.05×92°.46W±0°.04, h164km±4km, mb4.9/278, Md4.9/125(MEX), Error ellipse: s-maj=7.0km s-min=4.8km az=201.0*
*IDC **05** 16:15:34.7±0.5, 15°.88N×91°.94W, h174km±3km, mb4.1/30, mbtmp4.6/31, MS3.5/5, Error ellipse: s-maj=13.4km s-min=7.2km az=53.0*
*MEX **05** 16:15:35.3±0.9, 15°.67N×92°.51W, h163km±7km, MD4.9, ML4.9*
*GCMT **05** 16:15:35.1±0.4, 15°.74N±0°.02×92°.45W±0°.02, h180km±2km, MW5.0/114, Moment Tensor Solution. s40,c43; s114,c148; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.37±.11; $M_{\theta\theta}$-0.66±.16; $M_{\phi\phi}$-0.71±.18; $M_{r\theta}$1.78±.09; $M_{\theta\phi}$0.06±.15; $M_{\phi r}$-3.03±.10; Best double couple: M_o3.67100×10^16^ NP1:ϕ_s329.00000°, δ8.00000°, λ89.00000°. NP2:ϕ_s150.00000°, δ82.00000°, λ90.00000°. Principal axes: T 3.9790, Plg53.0000°, Azm60.0000°; N -0.6190, Plg0.0000°, Azm330.0000°; P -3.3630, Plg37.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SNET **05** 16:15:37.2±0.8, 15°.66N×92°.15W, h142km±6km, ML4.8*
ISC 05 16:15:33.3±0.3, 15°.62N±0°.03×92°.47W±0°.03, h170km±2km, h171km: pP-P, n732, σ2§31/759, mb4.9/164, 2C-6D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.73**	**26**		**Pn**	**16 15 58.7**	**+0.3**
CCIG				Sn	**Sn**	**16 16 17.0**	**-0.8**
CCIG	**Comitan**	**0.73**	**26**	*i* P	**Pn**	**16 15 58.8**	**+0.4**
CCIG				*e*S	**Sn**	**16 16 15.1**	**-2.7**
CCIG	**Comitan**	**0.73**	**26**	*e*P		16 15 58.8	
	comp=Z,9μm,1.1s						
CCIG				*e*S		16 16 17.3	
CCIG				IAML		16 16 21.7	
	comp=Z,9μm,1.1s						
PCIG		**0.73**	**277**		**Pn**	**16 15 57.4**	**-0.7**
PCIG					**Sn**	**16 16 15.7**	**-1.5**
PCIG		**0.73**	**277**	*e*P	**Pn**	**16 15 57.4**	**-0.7**
PCIG				*i* S	**Sn**	**16 16 15.7**	**-1.5**
THIG		**0.73**	**165**		**Pn**	**16 15 58.1**	**-0.1**
THIG					**Sn**	**16 16 16.8**	**-0.6**
THIG		**0.73**	**165**	*i* P	**Pn**	**16 15 58.1**	**-0.1**
THIG				*e*S	**Sn**	**16 16 16.8**	**-0.6**
THIG		**0.73**	**165**	*i* P		16 15 58.1	
	comp=Z,15μm,0.5s						
THIG				*i* S		16 16 17.1	
THIG				IAML		16 16 31.6	
	comp=Z,15μm,0.5s						
HUEH	**Huehuetenango**	**0.98**	**108**		**Pn**	**16 16 00.0**	**0.0**
HUEH	**Huehuetenango**	**0.98**	**108**	*e*P	**Pn**	**16 16 00.1**	**0.0**
HUEH	**Huehuetenango**	**0.98**	**108**	*i* P		16 16 00.2	
	comp=Z,3μm,0.5s						
QUEO	**Labor Ovalle**	**1.18**	**129**	*e*P		16 16 02.2	
QUEO				IAML		16 16 31.8	
	comp=Z,10μm,0.9s						
SOKI	**Kika Raxquin**	**1.30**	**128**	*e*P		16 16 03.3	
	comp=Z,4μm,0.8s						
SOKI				IAML		16 16 36.3	
	comp=Z,4μm,0.8s						
TGBT	**Tuxtla Gutierr**	**1.30**	**333**		**Pn**	**16 16 02.4**	**-0.1**
TGBT					**Sn**	**16 16 23.4**	**-1.8**
TGBT	**Tuxtla Gutierr**	**1.30**	**333**	*e*P	**Pn**	**16 16 02.4**	**-0.1**
TGBT				*e*S	**Sn**	**16 16 23.4**	**-1.8**
TGIG		**1.31**	**331**		**Pn**	**16 16 02.6**	**-0.1**
TGIG					**Sn**	**16 16 23.6**	**-2.0**
TGIG		**1.31**	**331**	*i* P	**Pn**	**16 16 02.6**	**-0.1**
TGIG				*i* S	**Sn**	**16 16 23.6**	**-2.0**
TGIG		**1.31**	**331**	*i* P		16 16 02.4	
TGIG				*i* S		16 16 23.7	
RTAL	**Retalhuleu**	**1.32**	**146**	Pn	**Pn**	**16 16 02.9**	**+0.1**
RTAL				Sn	**Sn**	**16 16 25.1**	**-0.4**
RTAL	**Retalhuleu**	**1.32**	**146**	*e*P	**Pn**	**16 16 03.1**	**+0.3**
RTAL				*i* S	**Sn**	**16 16 25.2**	**-0.3**
RTAL	**Retalhuleu**	**1.32**	**146**	*e*P	**Pn**	**16 16 03.1**	**+0.3**
RTAL				*e*S	**Sn**	**16 16 24.1**	**-1.4**
QUIS	**Sacapulas**	**1.36**	**104**	*e*P		16 16 03.2	
	comp=Z,5μm,0.7s						
QUIS				*e*S		16 16 25.7	
QUIS				IAML		16 16 30.2	
	comp=Z,5μm,0.7s						
CARR	**Arriaga**	**1.53**	**294**	*e*P	**Pn**	**16 16 04.3**	**-0.4**
CARR				*e*S	**Sn**	**16 16 26.6**	**-2.3**
AVCB	**Coban**	**1.99**	**94**	*i* P		16 16 09.5	
GCG4	**OSOP**	**2.13**	**119**	*i* P		16 16 12.0	
NILT	**Santiago Nilte**	**2.27**	**295**	*e*P	**Pn**	**16 16 12.0**	**-0.8**
NILT				*e*S	**Sn**	**16 16 39.8**	**-3.6**
UXUV	**UXUV**	**2.33**	**317**	*i* P	**Pn**	**16 16 12.9**	**-0.6**
UXUV				*i* S	**Sn**	**16 16 41.1**	**-3.7**
VHSA	**Villahermosa**	**2.39**	**349**	*e*P	**Pn**	**16 16 14.4**	**+0.2**
VHSA				*e*S	**Sn**	**16 16 45.9**	**-0.1**
CMIG	**Matias Romero**	**2.74**	**303**	P	**Pn**	**16 16 17.6**	**-0.8**
	comp=Z,1μm,0.3s,baz=108,slow=8.3,SNR=3084						
CMIG				S	**Sn**	**16 16 49.9**	**-3.6**
	comp=Z,10μm,0.6s,baz=157,slow=9.3,SNR=6.1						
CMIG	**Matias Romero**	**2.74**	**303**	*e*P	**Pn**	**16 16 17.6**	**-0.8**
CMIG				*i* S	**Sn**	**16 16 49.8**	**-3.6**
PETF	**Flores**	**2.81**	**62**		**Pn**	**16 16 18.8**	**-0.3**
PETF	**Flores**	**2.81**	**62**	*i* P	**Pn**	**16 16 18.9**	**-0.3**
PETF	**Flores**	**2.81**	**62**	*e*P	**Pn**	**16 16 18.9**	**-0.3**
PETF	**Flores**	**2.81**	**62**	*e*P		16 16 19.0	
	comp=Z,1μm,0.4s						
PETF				*e*P		16 16 19.2	
PETF				IAML		16 17 14.6	
	comp=Z,1μm,0.4s						
JUAM	**Asuncion Mita**	**2.96**	**115**	*e*P		16 16 21.5	
SLOZ	**Alcaldia de Sa**	**3.04**	**121**	*e*P	**Pn**	**16 16 22.5**	**+0.5**
SLOZ				*e*S	**Sn**	**16 16 58.5**	**-1.4**
TUIG	**Tuzandepetl**	**3.05**	**322**	*e*P	**Pn**	**16 16 19.8**	**-2.3**
TUIG				*e*S	**Sn**	**16 16 55.7**	**-4.4**
LOAL	**Lomas de Alarc**	**3.06**	**121**	*e*P	**Pn**	**16 16 23.4**	**+1.1**
LOAL				*e*S	**Sn**	**16 16 58.8**	**-1.5**
NUBE	**Las Nubes**	**3.11**	**123**	*e*P	**Pn**	**16 16 23.6**	**+0.6**
NUBE				*e*S	**Sn**	**16 16 59.2**	**-2.5**
NUBE	**Las Nubes**	**3.11**	**123**	*e*P		16 16 23.6	
ESQI	**Esquipulas**	**3.20**	**109**		**Pn**	**16 16 24.3**	**+0.2**
ESQI	**Esquipulas**	**3.20**	**109**	*e*P	**Pn**	**16 16 24.6**	**+0.5**
ESQI				*e*S	**Sn**	**16 17 00.4**	**-3.1**
RTR	**El Retiro**	**3.22**	**122**	*e*P	**Pn**	**16 16 25.6**	**+1.2**
MTO3	**Montecristo**	**3.24**	**112**		**Pn**	**16 16 24.8**	**+0.2**
MTO3	**Montecristo**	**3.24**	**112**	*e*P	**Pn**	**16 16 24.9**	**+0.2**
MTO3	**Montecristo**	**3.24**	**112**	*e*P		16 16 25.2	
SNJE	**San Jose**	**3.27**	**122**	*e*P	**Pn**	**16 16 26.0**	**+0.9**
SBLS	**San Blas**	**3.27**	**122**	*e*P	**Pn**	**16 16 25.6**	**+0.4**
CEVE	**Cerro Verde**	**3.28**	**123**	*e*P	**Pn**	**16 16 26.3**	**+1.1**
CEVE				*e*S	**Sn**	**16 17 05.0**	**-0.6**
CEVE				IAML		16 17 14.8	
	comp=Z,2μm,0.3s						
CEDA	**San Andres**	**3.48**	**121**	*e*P	**Pn**	**16 16 28.6**	**+1.1**
HUIG	**Huatulco**	**3.51**	**273**		**Pn**	**16 16 25.9**	**-2.0**
HUIG					**Sn**	**16 17 03.2**	**-7.2**
HUIG	**Huatulco**	**3.51**	**273**	*e*P	**Pn**	**16 16 25.9**	**-2.0**
HUIG				*e*S	**Sn**	**16 17 03.2**	**-7.2**
HUIG	**Huatulco**	**3.51**	**273**	*i* P		16 16 25.8	
JAYA	**Jayaque - finc**	**3.51**	**123**	*e*P	**Pn**	**16 16 28.6**	**+0.5**
SCIG	**Sabancuy**	**3.55**	**20**	*i* P	**Pn**	**16 16 27.8**	**-0.5**
SCIG				*i* S	**Sn**	**16 17 10.8**	**-0.5**
SCIG	**Sabancuy**	**3.55**	**20**	*i* P		16 16 27.9	
	comp=Z,715nm,0.9s						
SCIG				IAML		16 17 17.8	
	comp=Z,715nm,0.9s						
PMON	**Piamonte**	**3.59**	**121**	*e*P	**Pn**	**16 16 30.3**	**+1.3**
BOQS	**Boqueron**	**3.61**	**121**	*e*P	**Pn**	**16 16 30.5**	**+1.1**
LLGN	**La Laguna**	**3.70**	**113**	*e*P	**Pn**	**16 16 31.2**	**+0.8**
LFU	**La Fuente**	**3.74**	**119**	*e*P	**Pn**	**16 16 32.1**	**+1.2**
LOMA	**Loma Larga**	**3.75**	**121**	*e*P	**Pn**	**16 16 32.6**	**+1.6**
NEUV	**Arroyo Zacate**	**3.81**	**304**	*i* P	**Pn**	**16 16 30.5**	**-1.2**
NEUV				*e*S	**Sn**	**16 17 12.4**	**-5.0**
LFRS	**El Faro**	**3.85**	**121**	*e*P	**Pn**	**16 16 33.2**	**+0.9**
PMUV	**Sontecomapan**	**3.86**	**319**	*e*P	**Pn**	**16 16 28.6**	**-3.8**
PMUV				*e*S	**Sn**	**16 17 10.5**	**-8.1**
PAVA	**Las Pavas**	**3.91**	**119**	*e*P	**Pn**	**16 16 33.7**	**+0.7**
SCLA	**Alcaldia de Sa**	**4.09**	**117**	*e*P	**Pn**	**16 16 36.7**	**+1.4**
OXBJ	**Oaxaca**	**4.33**	**290**		**Pn**	**16 16 43.0**	**+4.3**
OXBJ					**Sn**	**16 17 28.1**	**-1.5**
OXBJ	**Oaxaca**	**4.33**	**290**	*e*P	**Pn**	**16 16 43.0**	**+4.3**
OXBJ				*e*S	**Sn**	**16 17 28.1**	**-1.5**
OXIG	**Oaxaca**	**4.34**	**290**		**Pn**	**16 16 39.5**	**+0.8**
OXIG					**Sn**	**16 17 24.2**	**-5.7**
VHO	**Vista Hermosa**	**4.34**	**290**	*e*P	**Pn**	**16 16 39.5**	**+0.8**
VHO				*e*S	**Sn**	**16 17 24.2**	**-5.7**
CAHU	**Cacacuatique**	**4.51**	**114**	*e*P	**Pn**	**16 16 42.1**	**+1.2**
PEIG	**Puerto Escondi**	**4.52**	**275**		**Pn**	**16 16 39.5**	**-1.4**
PEIG					**Sn**	**16 17 27.2**	**-6.6**
PEIG	**Puerto Escondi**	**4.52**	**275**	*i* P	**Pn**	**16 16 39.5**	**-1.4**
PEIG				*e*S	**Sn**	**16 17 27.2**	**-6.6**
PACA	**Pacayal**	**4.54**	**118**	*e*P	**Pn**	**16 16 42.6**	**+1.3**
RANC	**El Ranchito**	**4.59**	**118**	*e*P	**Pn**	**16 16 43.5**	**+1.6**
LCY	**Lacayo**	**4.59**	**118**	*e*P	**Pn**	**16 16 43.4**	**+1.5**
BLLM	**Bellamira**	**4.63**	**117**	*e*P	**Pn**	**16 16 44.1**	**+1.7**
YOIG	**Yosondua**	**5.03**	**285**		**Pn**	**16 16 47.9**	**+0.2**
YOIG					**Sn**	**16 17 37.4**	**-8.7**
YOIG	**Yosondua**	**5.03**	**285**	*e*P	**Pn**	**16 16 47.9**	**+0.2**
YOIG				*e*S	**Sn**	**16 17 37.4**	**-8.7**
TOIG	**Toxpalan**	**5.04**	**300**		**Pn**	**16 16 47.6**	**-0.1**
TOIG					**Sn**	**16 17 39.0**	**-7.1**
TOIG	**Toxpalan**	**5.04**	**300**	*e*P	**Pn**	**16 16 47.6**	**-0.1**
TOIG				*e*S	**Sn**	**16 17 39.0**	**-7.1**
CNCH	**Conchagua**	**5.06**	**117**	IAML		16 17 59.0	
	comp=Z,667nm,0.4s						
TGUH	**Tegucigalpa,Un**	**5.26**	**107**	Pn	**Pn**	**16 16 51.5**	**+1.0**
TGUH	**Tegucigalpa,Un**	**5.26**	**107**	P		16 16 50.8	
	comp=Z,1.4nmcomp=Z,5μmcomp=Z,589nm,0.9s						
TXIG	**Tlaxiaco**	**5.34**	**288**		**Pn**	**16 16 52.7**	**+0.9**
TXIG					**Sn**	**16 17 44.7**	**-8.6**
TXIG	**Tlaxiaco**	**5.34**	**288**	*e*P	**Pn**	**16 16 52.7**	**+0.9**
TXIG				*e*S	**Sn**	**16 17 44.7**	**-8.6**
TPIG	**Tehuac#an**	**5.45**	**301**		**Pn**	**16 16 52.8**	**-0.3**
TPIG					**Sn**	**16 17 46.9**	**-8.8**
TPIG	**Tehuac#an**	**5.45**	**301**	*e*P	**Pn**	**16 16 52.8**	**-0.3**
TPIG				*e*S	**Sn**	**16 17 46.9**	**-8.8**
PNIG	**Pinotepa**	**5.50**	**279**		**Pn**	**16 16 53.2**	**-0.5**
PNIG					**Sn**	**16 17 49.2**	**-7.5**
PNIG	**Pinotepa**	**5.50**	**279**	*e*P	**Pn**	**16 16 53.2**	**-0.5**
PNIG				*e*S	**Sn**	**16 17 49.2**	**-7.5**
LVIG	**Laguna Verde**	**5.55**	**318**	*e*P	**Pn**	**16 16 53.1**	**-1.2**
LVIG				*e*S	**Sn**	**16 17 51.4**	**-6.6**
HLIG	**Huajuapan de L**	**5.57**	**294**		**Pn**	**16 16 55.8**	**+1.1**
HLIG					**Sn**	**16 17 50.5**	**-8.0**
HLIG	**Huajuapan de L**	**5.57**	**294**	*i* P	**Pn**	**16 16 55.8**	**+1.1**
HLIG				*i* S	**Sn**	**16 17 50.5**	**-8.0**
JAUV	**Jalcomulco**	**5.57**	**313**	*e*P	**Pn**	**16 16 53.1**	**-1.5**
JAUV				*e*S	**Sn**	**16 17 51.7**	**-6.7**
POHV	**Veracru

ALIBA Liberia Airpor 8.39 126 eP Pn 16 17 34.2 +2.4
GPS2 Hotel Rincn d 8.45 124 eP Pn 16 17 34.6 +1.9
ESPN Las Esperanzas 8.63 112 Pn 16 17 35.8 +0.9
ESPN Las Esperanzas 8.63 112 P 16 17 35.1
comp=Z,2µmcomp=Z,204nm,1.1s
PLVR Palo Verde 8.69 126 eP Pn 16 17 37.0 +1.1
VERA Finca Concepci 8.78 122 eP Pn 16 17 37.6 +0.6
ZIIG Zihuatanejo 8.85 284 Pn 16 17 39.7 +1.9
ZIIG Sn 16 19 07.7 -8.9
ZIIG Zihuatanejo 8.85 284 eP Pn 16 17 39.7 +1.9
ZIIG eS Sn 16 19 07.7 -8.9
JTS Las Juntas de 9.04 125 Pn Pn 16 17 40.9 +0.5
JTS Las Juntas de 9.04 125 P Pn 16 17 41.1 +0.7
comp=Z,41nm,0.3s,baz=304,slow=14,SNR=25
JTS S Sn 16 19 17.7 -3.5
comp=Z,23nm,0.3s,baz=288,slow=20,SNR=5.8
JTS Las Juntas de 9.04 125 eP Pn 16 17 41.1 +0.7
JTS Las Juntas de 9.04 125 P 16 17 40.7
comp=Z,1µmcomp=Z,67nm,0.7s
ARE1 Arenal 1 9.12 123 eP Pn 16 17 42.5 +0.9
VARE2 V. Arenal 9.12 123 eP Pn 16 17 42.3 +0.7
BLUN Bluefields 9.17 112 P 16 17 43.7
comp=Z,803nmcomp=Z,63nm,1.3s
MOIG Morelia 9.24 297 Pn 16 17 46.1 +2.8
MOIG Morelia 9.24 297 eP Pn 16 17 43.0 -0.3
SOCE Pocosol 9.25 123 Pn 16 17 44.0 +0.8
PICV PH. Pirrs 10.03 125 eP Pn 16 17 54.8 +1.3
VICA Volcano Irazu 10.10 123 eP Pn 16 17 53.6 -1.2
LCR2 La Lucha 2 10.11 124 i P Pn 16 17 55.0 +0.3
CVTQ Turrialba Volc 10.15 122 eP Pn 16 17 56.4 +1.0
MMIG Aquila 10.74 286 Pn 16 18 06.0 +3.3
MMIG Sn 16 19 58.9 -3.2
MMIG Aquila 10.74 286 i P Pn 16 18 06.0 +3.3
MMIG eS Sn 16 19 58.9 -3.2
PRVC Isla de Provid 10.98 100 P 16 18 10.1
comp=Z,65nm,0.9s
DRK0 Durika 11.00 124 eP Pn 16 18 07.9 +1.6
EZ5V 11.29 291 Pn 16 18 13.2 +3.0
EZ5V 11.29 291 eP Pn 16 18 13.2 +3.0
EZ5V eS Sn 16 20 19.5 +3.9
MNGA Volcan de Coli 11.30 291 eP Pn 16 18 13.4 +3.1
MNGA i S Sn 16 20 16.1 +0.2
INCO Volcan de Coli 11.31 292 eP Pn 16 18 13.2 +2.7
INCO eS Sn 16 20 16.3 +0.1
LNIG Linares 11.33 326 eP Pn 16 18 12.3 +2.0
SOMAC Volcano de Col 11.33 292 eP Pn 16 18 13.0 +2.3
SOMAC eS Sn 16 20 19.8 +3.1
SOR Soroa 11.43 50 Pn 16 18 11.4 -0.2
CEGR Campo Tres 11.50 291 eP P 16 18 17.3 -2.1
CEGR eS Sn 16 20 22.1 +1.8
CDAR Ciudad de Arme 11.51 288 eP P 16 18 16.7 -2.7
CDAR eS Sn 16 20 18.6 -1.8
PBC Punta Burica 11.63 127 P 16 18 20.3 -0.5
BRU2 Volcan 11.71 124 Pn 16 18 15.9 +0.4
ZAIG Zacatecas 11.90 308 Pn 16 18 18.9 +0.9
CJM Chamela 12.60 290 eP P 16 18 31.6 +0.1
HBVL Hebbronville 12.77 334 P 16 18 35.9 +2.6
GMAL Guarumal, Vera 13.48 124 P 16 18 40.4
AZU Azuero 14.24 122 P 16 18 49.8
comp=Z,9µmcomp=Z,67nm,0.8s
MTDJ Mount Denham 14.52 78 P 16 18 54.0 +1.0
MTDJ Mount Denham 14.52 78 eP P 16 18 53.7 +0.7
061Z Ochoppi 14.85 45 Pn Pn 16 18 55.0 +0.1
HNDO Hondo 15.20 337 P 16 19 00.8 +0.4
LMGC Las Mercedes 15.37 71 eP Pn 16 19 01.5 +0.1
DRIO Del Rio 15.66 333 P 16 19 06.8 +1.5
435B Jarrell 15.80 344 P P 16 19 09.2 +2.2
baz=161
DWPF Disney Wildern 16.09 38 P 16 19 10.9 +0.7
RCC Rio Carpintero 16.55 72 eP P 16 19 15.3 0.0
PINC Pinares de May 16.57 71 eP P 16 19 15.4 -0.1
GTBY Guantanamo Bay 17.07 73 eP P 16 19 20.8 -0.2
GTBY Guantanamo Bay 17.07 73 P 16 19 20.3
comp=Z,3µmcomp=Z,158nm,0.7s
TXAR Lajitas Array 17.11 325 P Pn 16 19 24.2 +1.7
TXAR Lajitas Array 17.11 325 P Pn 16 19 25.1 +2.6
comp=Z,11nm,0.9s,baz=143,slow=7.3,SNR=63
TXAR pP pP 16 19 52.2 +2.1
comp=Z,1.2nm,0.7s,baz=143,slow=9.8,SNR=3.4
TXAR PcP PcP 16 23 58.2 +1.3
comp=Z,2.8nm,0.7s,baz=110,slow=1.5,SNR=9.5
TXAR ScP ScP 16 27 18.4 +2.5
comp=Z,2.1nm,1.1s,baz=120,slow=2.6,SNR=5.9
NMDO Nuevo Mundo 17.33 71 eP Pn 16 19 25.2 +0.1
QMBU Quimbuelo 17.40 72 eP P 16 19 25.4 +0.6
SJCC San Jacinto, C 17.79 107 P 16 19 28.9
comp=Z,65nm,0.7s
MASC Masc 17.93 73 eP P 16 19 31.0 +0.6
LRAL Lakeview Retre 18.03 15 Pn 16 19 33.5 +0.2
DBBC Dabeiba 18.07 116 P 16 19 32.9
SMRC Santa Marta, M 18.29 102 P P 16 19 33.8 -0.6
SLBS Sierra La Lagu 18.30 299 Pn 16 19 38.8 +2.2
UREC San Jos de Ur 18.32 113 P 16 19 34.3
comp=Z,832nmcomp=Z,102nm,0.8s
LPIG La Paz 18.77 300 LR LR 16 27 04.2
comp=Z,90nm,20.6s,baz=138,slow=36
Y49A Blount Mountai 18.96 16 Pn 16 19 43.8 -0.4
UALR University of 19.07 0 P P 16 19 43.2 +0.5
PLMC San Jos del P 19.14 122 P 16 19 43.9
comp=Z,543nmcomp=Z,51nm,0.8s
YOTC Yotoco, Valle 19.62 124 P 16 19 50.8
comp=Z,386nmcomp=Z,45nm,0.7s
GUY2C Guyana, Caldas 19.72 120 P 16 19 51.5
comp=Z,828nmcomp=Z,106nm,0.7s
JAMC Jamundi, Valle 19.84 127 P 16 19 53.0
comp=Z,991nmcomp=Z,119nm,1.0s
BBAC Balboa, Cauca 20.19 131 P 16 19 57.6
comp=Z,1µmcomp=Z,156nm,0.9s
POPC Popayan, Colom 20.27 128 P 16 19 58.0
comp=Z,739nmcomp=Z,29nm,0.8s
ORTC Ortega, Tolima 20.55 123 P 16 20 00.4
comp=Z,2µmcomp=Z,228nm,0.9s
CUSE Cuicocha Este 20.60 136 P 16 20 02.7
comp=Z,2µmcomp=Z,86nm,0.7s
OTAV Otavalo 20.62 137 P P 16 20 01.0 +1.0
OTAV Otavalo 20.62 137 eP P 16 20 02.3 +2.3
OTAV Otavalo 20.62 137 P 16 20 02.5
comp=Z,662nmcomp=Z,55nm,1.4s
ROSC El Rosal 20.80 119 P P 16 20 00.7 -1.2
comp=Z,20nm,0.5s,baz=342,slow=20,SNR=9.0
comp=Z,20nm,0.5s
WVT Waverly 20.84 11 P P 16 20 01.9 +0.2
PRAC Prado 20.96 123 P 16 20 04.2
comp=Z,73nm,1.0s
PAMC Pamplona, Colo 21.03 111 P 16 20 03.2
GRTK Grand Turk 21.05 71 P P 16 20 04.9 +0.9
BANI BANI 21.32 79 P P 16 20 09.0 +1.9
TKL Tuckaleechee C 21.42 20 P P 16 20 05.6 -2.3
comp=Z,22nm,0.7s,baz=200,slow=12,SNR=30
TKL LR LR 16 28 25.2
comp=Z,104nm,18.8s,baz=184,slow=37
comp=Z,22nm,0.7s
FLOC Florencia 21.67 128 P P 16 20 11.5 +0.7
PIAT Ana Tenorio 21.67 138 P 16 20 14.6
comp=Z,11nm,1.2s
KAN14 Manchester OK 21.81 348 IAmb IAmb 16 20 12.8
comp=Z,34nm,1.0s
T47A Sharon Grove 21.81 12 IAmb IAmb 16 20 15.7
comp=Z,60nm,0.9s
121A Cookes Peak, D 21.84 323 P P 16 20 15.9 +3.3
baz=137,SNR=8.0
KAN09 Caldwell North 21.91 349 IAmb IAmb 16 20 13.4
comp=Z,65nm,0.8s
KAN01 Argonia South 21.96 349 IAmb IAmb 16 20 13.9
comp=Z,59nm,0.8s
KAN08 Anthony NE Sta 22.07 348 IAmb IAmb 16 20 15.3
comp=Z,108nm,1.5s
COHC Cochancay 22.22 143 P 16 20 17.7
comp=Z,8.5nm,1.1s
TAMC Tame, Arauca 22.23 112 P 16 20 15.3
comp=Z,1µmcomp=Z,96nm,0.5s
DR12 Loma Pena Alta 22.27 79 P P 16 20 16.4 -0.4
DR12 IAmb IAmb 16 20 18.6
comp=Z,98nm,1.4s
SDV Santo Domingo 22.35 105 P P 16 20 15.4 -2.3
SDV IAmb IAmb 16 20 27.1
comp=Z,42nm,0.7s
SDV Santo Domingo 22.35 105 P P 16 20 15.8 -1.9
comp=Z,19nm,0.5s,baz=293,slow=7.0,SNR=30
SDV PcP PcP 16 24 06.9 +0.1
comp=Z,3.6nm,0.5s,baz=309,slow=5.0,SNR=3.7
SDV ScP ScP 16 27 29.0 +0.6
comp=Z,7.8nm,0.9s,baz=307,slow=5.1,SNR=6.2
comp=Z,19nm,0.5s

SDV Santo Domingo 22.35 105 eP P 16 20 16.3 -1.4
SDV Santo Domingo 22.35 105 P 16 20 16.5
comp=Z,476nmcomp=Z,66nm,0.8s
T50A Nancy 22.37 16 IAmb IAmb 16 20 18.6
comp=Z,37nm,0.9s
CCM Cathedral Cave 22.38 3 P P 16 20 16.2 -1.2
CCM IAmb IAmb 16 20 17.5
comp=Z,38nm,0.9s
Y22D IRIS PASSCAL I 22.53 327 P P 16 20 22.1 +3.0
baz=141
MACC Macarena, Meta 22.72 124 P 16 20 22.3
comp=Z,1µmcomp=Z,113nm,0.7s
ANMO Albuquerque 22.98 329 P P 16 20 24.8 +1.6
ANMO Albuquerque 22.98 329 P P 16 20 24.6 +1.4
comp=Z,7.2nm,0.8s,baz=106,slow=5.4,SNR=18
ANMO pP pP 16 20 56.4 +1.5
comp=Z,13nm,0.7s,baz=252,slow=3.2,SNR=11
comp=Z,7.2nm,0.8s
WCI Wyandotte Cave 23.17 12 P P 16 20 24.1 -0.6
PTLC Puerto Leguiza 23.24 130 P 16 20 30.1
comp=Z,703nmcomp=Z,90nm,0.9s
S51A Beattyville 23.30 18 IAmb IAmb 16 21 03.9
comp=Z,40nm,1.0s
Q44A Meyer Farm, Va 23.39 7 IAmb IAmb 16 20 30.4
comp=Z,62nm,0.9s
MCRA Macar, Loja 23.41 147 P 16 20 29.0
comp=Z,4.8nm,1.1s
R49A Shelbyville 23.48 15 IAmb IAmb 16 20 29.8
comp=Z,31nm,0.9s
R50A Paris 23.69 16 IAmb IAmb 16 20 31.7
comp=Z,38nm,0.6s
T25A Trinidad 23.91 336 IAmb IAmb 16 20 36.9
comp=Z,23nm,0.8s
T25A Trinidad 23.91 336 P P 16 20 33.8 +2.1
baz=150,SNR=8.0
CBKS Cedar Bluff 23.97 346 IAmb IAmb 16 20 34.6
comp=Z,50nm,0.9s
BLO Bloomington 24.04 11 IAmb IAmb 16 20 35.2
comp=Z,36nm,0.6s
P43A Skaggs, Pawnee 24.07 6 IAmb IAmb 16 21 10.6
comp=Z,31nm,0.9s
S54A Dingess, Beckl 24.20 22 IAmb IAmb 16 20 35.9
comp=Z,44nm,1.0s
T57A Hurt 24.31 26 IAmb IAmb 16 20 38.4
comp=Z,35nm,1.0s
PRSN Puerto Rico Se 24.36 80 IAmb IAmb 16 20 40.3
comp=Z,51nm,1.1s
CRPR Cabo Rojo, PR 24.38 81 IAmb IAmb 16 20 39.7
comp=Z,54nm,1.1s
MLPR Magueyes Islan 24.44 81 P P 16 20 37.0 +0.5
P48A Milroy 24.54 13 IAmb IAmb 16 20 41.0
comp=Z,28nm,0.7s
AOPR Arecibo Observ 24.73 80 P P 16 20 37.3 -1.8
AOPR IAmb IAmb 16 20 42.1
comp=Z,42nm,0.8s
BAUV El Baul 24.75 103 IAmb IAmb 16 20 38.0
comp=Z,47nm,0.9s
P49A Miami Univ. Ec 24.77 14 IAmb IAmb 16 21 19.1
comp=Z,42nm,0.9s
OBIP Obispado Ponce 24.86 81 IAmb IAmb 16 20 43.4
comp=Z,36nm,0.8s
CELP Cerrillos 24.89 81 P P 16 20 39.1 -1.5
CELP IAmb IAmb 16 20 44.6
comp=Z,44nm,0.8s
HDIL Hopedale 25.00 6 IAmb IAmb 16 21 22.7
comp=Z,49nm,0.9s
S57A Dark Hollow, R 25.08 26 IAmb IAmb 16 21 24.9
comp=Z,30nm,1.1s
SFIN Lafayette 25.11 10 IAmb IAmb 16 20 45.3
comp=Z,37nm,0.7s
P51A Williamsport 25.16 17 IAmb IAmb 16 21 21.0
comp=Z,43nm,0.9s
SJG San Juan 25.30 81 P 16 20 43.5
comp=Z,17nm,0.7s
N35A Tabor 25.30 354 IAmb IAmb 16 21 21.4
comp=Z,49nm,1.0s
IGPR InterUniversit 25.34 81 IAmb IAmb 16 20 49.2
comp=Z,35nm,0.8s
O48B Farmland 25.36 13 IAmb IAmb 16 21 21.2
comp=Z,49nm,1.1s
O48B Farmland 25.36 13 P P 16 20 45.7 +1.1
baz=196
GCPR Guaynabo City 25.37 80 IAmb IAmb 16 20 55.3
comp=Z,43nm,0.9s
Q54A Coxs Mills 25.42 21 IAmb IAmb 16 20 47.4
comp=Z,39nm,0.7s
O49A Covington 25.48 15 IAmb IAmb 16 21 24.6
comp=Z,94nm,1.6s
P52A Corning 25.58 19 IAmb IAmb 16 20 49.5
comp=Z,36nm,0.8s
HUMP Col San Antoni 25.58 81 IAmb IAmb 16 20 49.5
comp=Z,29nm,0.9s
R58B Mineral 25.72 27 IAmb IAmb 16 21 25.0
comp=Z,34nm,1.1s
113A Mohawk Valley, 25.78 315 P P 16 20 49.8 +1.3
MVCO Mesa Verde 25.78 330 IAmb IAmb 16 21 32.4
comp=Z,34nm,1.0s
Q56A Snyder Ridge, 26.08 24 IAmb IAmb 16 20 59.1
comp=Z,61nm,1.5s
L42A Oliver, Polo 26.40 5 IAmb IAmb 16 21 34.8
comp=Z,39nm,0.9s
O53A New Philadelph 26.43 20 IAmb IAmb 16 21 33.0
comp=Z,44nm,1.0s
O54A Avella 26.65 21 IAmb IAmb 16 21 35.8
comp=Z,28nm,0.8s
PV07 Paradox Valley 26.83 331 IAmb IAmb 16 21 42.5
comp=Z,27nm,0.9s
P57A Homestead Farm 26.93 25 IAmb IAmb 16 21 37.2
comp=Z,36nm,1.1s
PV10 Paradox Valley 26.96 330 IAmb IAmb 16 21 44.3
comp=Z,38nm,1.0s
N53A Lisbon 27.05 20 IAmb IAmb 16 21 39.7
comp=Z,41nm,1.1s
JFWS Jewell Farm 27.27 4 IAmb IAmb 16 21 43.7
comp=Z,33nm,0.8s
PFO Pinyon Flats O 28.11 314 P P 16 21 12.9 +3.5
comp=Z,3.6nm,0.8s,baz=163,slow=14,SNR=2.2
PFO pP pP 16 21 47.6 +2.7
comp=Z,11nm,1.1s,baz=184,slow=15,SNR=2.8
comp=Z,3.6nm,0.8s
ECSD EROS Data Cent 28.24 354 IAmb IAmb 16 22 03.5
comp=Z,22nm,1.1s
V12A Nelson 28.30 319 P P 16 21 13.2 +2.1
V12A IAmb IAmb 16 21 53.9
comp=Z,26nm,1.1s
Q16A Castle Valley 28.43 328 IAmb IAmb 16 21 56.3
comp=Z,23nm,1.1s
LUPA Lehigh Univers 28.99 28 IAmb IAmb 16 21 19.8
comp=Z,18nm,0.6s
SHPR Sheep Range 28.99 320 P P 16 21 18.9 +1.7
BRNJ Basking Ridge 29.42 28 IAmb IAmb 16 21 22.7
comp=Z,41nm,0.9s
SPMN Mane on St. 29.51 360 IAmb IAmb 16 21 23.9
comp=Z,28nm,1.1s
ODNJ Ogdensburg 29.72 28 IAmb IAmb 16 21 25.8
comp=Z,27nm,1.1s
TRNY Table Rock, Ra 29.94 28 IAmb IAmb 16 21 27.1
comp=Z,29nm,1.2s
PAL Palisades 29.98 29 IAmb IAmb 16 21 27.2
comp=Z,41nm,1.1s
BINY Binghamton 30.05 25 IAmb IAmb 16 22 04.3
comp=Z,25nm,1.1s
RSSD Black Hills 30.06 343 P P 16 21 27.2 +0.6
RSSD Black Hills 30.06 343 P P 16 21 27.6 +0.9
RSSD PcP PcP 16 24 24.9 +0.6
BBSR BB Station 30.23 52 P P 16 21 28.0 0.0
BBSR BB Station 30.23 52 P P 16 21 28.4 +0.5
K57A Scipio Center 30.29 24 IAmb IAmb 16 21 30.9
comp=Z,28nm,1.1s
CZSB Cruzeiro do Su 30.36 138 P P 16 21 30.9 +1.6
CZSB Cruzeiro do Su 30.36 138 eP P 16 21 31.6 +2.3
CZSB Cruzeiro do Su 30.36 138 P 16 21 32.4
L59A Walton 30.43 26 IAmb IAmb 16 21 32.8
comp=Z,21nm,0.7s
R11B Troy Canyon, C 30.45 322 P P 16 21 32.5 +2.4
baz=132,SNR=7.4
PDAR Pinedale Array 30.77 335 P P 16 21 34.2 +1.2
comp=Z,0.6nm,0.6s,baz=152,slow=6.5,SNR=6.8
PDAR pP pP 16 22 10.8 +1.9
comp=Z,2.0nm,1.0s,baz=134,slow=4.3,SNR=4.0
PDAR PcP PcP 16 24 26.6 +0.5
comp=Z,1.7nm,0.4s,baz=149,slow=2.5,SNR=21
PDAR ScP ScP 16 27 54.2 +1.3
comp=Z,0.6nm,0.8s,baz=154,slow=0.9,SNR=3.6
PDAR PKiKP PKiKP 16 31 56.1 -0.6
comp=Z,0.3nm,0.6s,baz=134,slow=1.8,SNR=4.4
comp=Z,0.6nm,0.6s
HVU Hansel Valley 31.41 330 IAmb IAmb 16 22 22.7

comp=Z,15nm,0.9s
DELO Deloro Mine 31.43 21 IAmb IAmb 16 21 38.9
comp=Z,16nm,0.7s
L61B Northampton 31.68 28 P P 16 21 41.7 +1.0
baz=218
J59A Piesco 31.70 25 IAmb IAmb 16 21 43.2
comp=Z,16nm,0.8s
LOHW Long Hollow 31.90 335 IAmb IAmb 16 22 27.6
comp=Z,25nm,1.1s
ELK Elko 31.90 326 P P 16 21 44.8 +2.0
comp=Z,4.3nm,0.8s,baz=129,slow=10,SNR=19
ELK pP pP 16 22 21.9 +3.1
comp=Z,8.4nm,0.8s,baz=130,slow=16,SNR=8.4
ELK PcP PcP 16 24 30.9 +1.6
comp=Z,4.8nm,0.5s,baz=126,slow=2.8,SNR=16
ELK LR LR 16 35 34.1
comp=Z,97nm,18.3s,baz=73,slow=38
comp=Z,4.3nm,0.8s
TPAW Teton Pass 31.94 334 IAmb IAmb 16 22 28.2
comp=Z,22nm,1.0s
NVAR Mina Array Bea 32.14 320 P P 16 21 48.0 +3.0
NVAR Mina Array Bea 32.14 320 P P 16 21 48.6 +3.7
comp=Z,16nm,0.6s,baz=131,slow=7.5,SNR=109
NVAR pP pP 16 22 24.1 +3.1
comp=Z,31nm,0.9s,baz=131,slow=6.7,SNR=11
NVAR sP sP 16 22 42.9 +2.1
comp=Z,6.0nm,0.7s,baz=118,slow=6.5,SNR=3.0
NVAR PcP PcP 16 24 31.7 +1.7
comp=Z,8.6nm,0.8s,baz=86,slow=2.1,SNR=13
NVAR ScP ScP 16 27 59.6 +2.0
comp=Z,0.5nm,0.7s,baz=141,slow=3.9,SNR=2.8
comp=Z,16nm,0.6s
LHV Little Huntoon 32.16 320 IAmb IAmb 16 21 49.8
comp=Z,19nm,0.6s
NCB Newcomb 32.24 25 IAmb IAmb 16 22 22.9
comp=Z,21nm,0.9s
HRV Adam Dziewonsk 32.25 30 P P 16 21 45.8 +0.2
HRV IAmb IAmb 16 21 47.7
comp=Z,34nm,1.1s
HRV Adam Dziewonsk 32.25 30 P P 16 21 46.8 +1.2
WES Weston 32.27 30 IAmb IAmb 16 21 48.1
comp=Z,61nm,1.5s
WBO Williamsburg 32.69 23 IAmb IAmb 16 22 27.3
comp=Z,17nm,1.0s
YERR Yerington 33.06 320 IAmb IAmb 16 22 36.5
comp=Z,18nm,0.8s
PNTR Pine Nut 33.35 320 P P 16 21 58.4 +2.9
PNTR IAmb IAmb 16 22 39.2
comp=Z,26nm,0.9s
TEFE Tefe 33.46 122 eP P 16 21 55.2 -1.2
BOAV Boa Vista 34.10 109 eP P 16 21 59.2 -2.8
DGMT Dagmar 34.15 346 IAmb IAmb 16 22 03.4
comp=Z,15nm,0.8s
ULM Lac du Bonnet 34.65 356 P P 16 22 04.3 -1.9
comp=Z,5.8nm,0.6s,baz=176,slow=12,SNR=15
ULM pP pP 16 22 42.4 -0.4
comp=Z,10nm,0.8s,baz=175,slow=12,SNR=8.7
ULM ScP ScP 16 28 05.8 -0.1
comp=Z,2.8nm,0.8s,baz=164,slow=3.6,SNR=5.8
ULM LR LR 16 37 34.6
comp=Z,73nm,18.5s,baz=120,slow=38
comp=Z,5.8nm,0.6s
WVOR Wild Horse Val 34.91 325 IAmb IAmb 16 22 52.6
comp=Z,31nm,1.1s
EGMT Eagleton 35.32 340 IAmb IAmb 16 22 57.1
comp=Z,22nm,1.1s
PLID Pearl Lake 35.45 331 IAmb IAmb 16 22 57.8
comp=Z,19nm,0.8s
ETMB Extrema 36.26 133 eP P 16 22 19.8 -0.6
F10A Beach Ranch, E 36.68 331 IAmb IAmb 16 23 08.8
comp=Z,32nm,0.8s
LDAQ Lac Daran 36.70 24 IAmb IAmb 16 23 08.2
comp=Z,64nm,1.9s
YBH Yreka Blue Hor 36.83 321 P P 16 22 25.3 +0.3
comp=Z,2.6nm,0.7s,baz=125,slow=10,SNR=4.4
YBH pP pP 16 23 05.0 +3.4
comp=Z,5.3nm,0.8s,baz=135,slow=2.9,SNR=6.3
YBH PcP PcP 16 24 44.1 +0.8
comp=Z,2.9nm,0.8s,baz=90,slow=6.1,SNR=3.7
comp=Z,2.6nm,0.7s
HAL Halifax 37.84 34 IAmb IAmb 16 22 35.9
comp=Z,23nm,0.9s
LMN Caledonia Moun 38.02 32 IAmb IAmb 16 22 36.8
comp=Z,24nm,1.0s
H04A Detroit Lake 38.33 325 IAmb IAmb 16 22 40.3
comp=Z,30nm,0.8s
NEW Newport 38.35 333 PcP PcP 16 24 47.9 +0.1
comp=Z,7.1nm,0.8s,baz=98,slow=3.7,SNR=5.3
BATG Bathurst New B 38.41 29 IAmb IAmb 16 23 15.8
comp=Z,27nm,1.5s
C09A Chrisman Ranch 38.52 332 IAmb IAmb 16 23 23.6
comp=Z,20nm,0.9s
GBN Guysborough 39.47 35 IAmb IAmb 16 22 47.3
comp=Z,27nm,0.6s
FFC Flin Flon 39.72 351 P P 16 22 48.5 -0.4
FFC Flin Flon 39.72 351 P P 16 22 48.6 -0.2
FFC pP pP 16 23 25.4 -1.0
LPAZ La Paz 39.78 142 IAmb IAmb 16 22 53.2
comp=Z,14nm,0.7s
LPAZ La Paz 39.78 142 P P 16 22 51.1 +0.6
comp=Z,14nm,0.7s,baz=318,slow=9.3,SNR=34
LPAZ PcP PcP 16 24 54.2 +0.7
comp=Z,4.0nm,0.4s,baz=340,slow=4.7,SNR=8.8
LPAZ ScP ScP 16 28 25.5 -0.9
comp=Z,0.7nm,0.3s,baz=351,slow=5.6,SNR=3.2
comp=Z,14nm,0.7s
LPAZ La Paz 39.78 142 eP P 16 22 51.4 +0.9
LPAZ La Paz 39.78 142 P P 16 22 51.4 +0.9
LPAZ PcP PcP 16 24 54.6 +1.1
PB18 Visviri 40.03 145 IAmb IAmb 16 22 56.0
comp=Z,25nm,1.1s
ITTB Itaituba 41.43 116 eP P 16 23 01.3 -2.2
TA01 Diego Aracena 42.10 148 IAmb IAmb 16 23 11.6
comp=Z,85nm,1.8s
VILB Vilhena 42.72 130 eP P 16 23 13.2 -0.7
PB09 IPOC Station P 43.60 148 IAmb IAmb 16 23 24.3
comp=Z,45nm,1.4s
SCHQ Schefferville 43.88 21 P P 16 23 20.4 -2.2
SCHQ Schefferville 43.88 21 P P 16 23 18.3 -4.3
comp=Z,2.2nm,0.7s,baz=217,slow=9.2,SNR=9.6
SCHQ pP pP 16 23 59.4 -1.1
comp=Z,9.0nm,1.0s,baz=203,slow=6.7,SNR=5.6
SCHQ PcP PcP 16 25 04.3 -1.5
comp=Z,3.0nm,0.8s,baz=235,slow=4.9,SNR=3.8
SCHQ ScP ScP 16 28 39.8 -1.6
comp=Z,2.6nm,0.9s,baz=211,slow=5.9,SNR=2.7
comp=Z,2.2nm,0.7s
DRLN Deer Lake 43.98 33 P P 16 23 22.6 -1.0
DRLN IAmb IAmb 16 23 23.3
comp=Z,22nm,0.7s
SIV San Ignacio 44.13 134 LR LR 16 40 04.0
comp=Z,113nm,19.6s,baz=288,slow=33
PDRB Porto dos Gac 44.54 125 eP P 16 23 26.0 -2.4
CLDB Colider 44.85 124 eP P 16 23 28.2 -2.6
PTLB Pontes e Lacer 45.13 132 P P 16 23 31.8 -1.2
PTLB Pontes e Lacer 45.13 132 eP P 16 23 31.8 -1.2
GO02 Mina Guanaco 46.26 151 IAmb IAmb 16 23 46.1
comp=Z,16nm,0.7s
SALV Santo Antonio 47.95 129 eP P 16 23 53.2 -1.7
LCO Las Campanas 49.10 155 P P 16 24 05.6 +1.7
LCO Las Campanas 49.10 155 P P 16 24 05.4 +1.5
LCO pP pP 16 24 44.0 +1.9
SNDB Serra Nova Dou 49.11 122 eP P 16 24 02.4 -1.6
PANT Pantanal (Braz 49.27 133 eP P 16 24 04.5 -0.5
YKA Yellowknife Ar 49.35 347 P P 16 24 05.1 +0.1
comp=Z,14nm,0.7s,baz=153,slow=7.9,SNR=212
YKA pP pP 16 24 42.2 -1.5
comp=Z,5.0nm,0.8s,baz=154,slow=7.8,SNR=5.9
YKA ScP ScP 16 29 04.7 +0.6
comp=Z,0.4nm,0.8s,baz=151,slow=3.8,SNR=3.6
comp=Z,14nm,0.7s
V35K Ketchikan 49.72 332 P P 16 24 10.3 +2.4
baz=127
KOTAN Kotaneelee Air 50.02 340 P P 16 24 11.6 +1.5
baz=139,SNR=8.1
BDQN Bodoquena, MS 50.16 135 eP P 16 24 10.9 -0.8
MURT Porto Murtinho 50.41 136 eP P 16 24 12.5 -1.1
CRAG Craig 50.49 331 P P 16 24 16.1 +2.4
baz=126
SMTB Santa Maria do 50.67 116 eP P 16 24 14.1 -1.6
WRAK Wrangell Islan 50.70 333 P P 16 24 17.8 +2.5
baz=127
CO03 El Pedregal 50.72 156 IAmb IAmb 16 24 18.4
comp=Z,18nm,0.9s
ARAG Araguaiana, MT 50.80 126 eP P 16 24 14.9 -1.7
AQDB Aquidauana 50.90 134 eP P 16 24 16.9 -0.4
DLBC Dease Lake 51.00 336 IAmb IAmb 16 25 04.8

comp=Z,25nm,1.0s
DLBC Dease Lake 51.00 336 P P 16 24 20.1 +2.5
baz=131,SNR=7.3
S34M Telegraph Cree 51.11 335 P P 16 24 20.9 +2.6
baz=129
WTLY Watson Lake, Y 51.66 338 IAmb IAmb 16 24 25.2
comp=Z,31nm,1.3s
WTLY Watson Lake, Y 51.66 338 P P 16 24 24.5 +2.1
baz=133
PAPY Pozo Azul 51.73 139 *eP* **P 16 24 23.0 -0.3**
R33M Jennings River 52.00 336 P P 16 24 27.1 +2.1
baz=130
VA06 Catapilco 52.02 157 IAmb IAmb 16 24 27.6
comp=Z,12nm,0.7s
ZON Zonda 52.16 154 IAmb IAmb 16 25 39.0
comp=Z,52nm,1.9s
WRGLY Wrigley 52.22 343 P P 16 24 27.7 +1.3
baz=141
Q32M Nakina River 52.23 335 P P 16 24 29.3 +2.4
baz=129
S32K Killisnoo 52.31 333 P P 16 24 28.6 +1.4
baz=125
RPRD Ribas do Rio P 52.32 132 *eP* **P 16 24 27.8 0.0**
SIT Sitka 52.41 332 P P 16 24 30.8 +2.9
baz=124
VA03 San Esteban 52.48 157 IAmb IAmb 16 24 31.5
comp=Z,15nm,0.8s
R32K Eaglecrest 52.76 334 P P 16 24 33.0 +2.5
baz=126
P32M Atlin 53.21 335 P P 16 24 35.6 +1.8
baz=127
MT09 Talagante 53.22 158 IAmb IAmb 16 24 36.7
comp=Z,15nm,0.6s
P33M Teslin, Yukon 53.24 336 P P 16 24 35.1 +1.0
P33M IAmb IAmb 16 24 37.2
comp=Z,30nm,1.6s
P33M Teslin, Yukon 53.24 336 P P 16 24 36.3 +2.2
baz=129,SNR=6.5
MT08 Bocatoma Ro 53.29 157 IAmb IAmb 16 24 38.6
comp=Z,16nm,0.8s
BO01 Tunca 53.73 158 IAmb IAmb 16 24 40.5
comp=Z,18nm,1.0s
BDFB Brasilia 53.77 123 IAmb IAmb 16 24 38.5
comp=Z,20nm,0.7s
BDFB Brasilia 53.77 123 P P 16 24 37.6 -1.1
comp=Z,21nm,0.6s,baz=291,slow=9.3,SNR=23
comp=Z,21nm,0.6s
CPUP Villa Florida 53.91 140 P P 16 24 38.9 -0.4
CPUP Villa Florida 53.91 140 P P 16 24 38.7 -0.6
comp=Z,33nm,0.8s,baz=327,slow=10,SNR=63
CPUP PcP **PcP 16 25 43.4 +0.8**
comp=Z,6.1nm,0.6s,baz=320,slow=4.5,SNR=4.7
comp=Z,33nm,0.8s
CPUP Villa Florida 53.91 140 *eP* **P 16 24 38.7 -0.6**
CPUP Villa Florida 53.91 140 P P 16 24 38.6 -0.6
CPUP PcP **PcP 16 25 43.6 +1.0**
N32M Quiet Lake 53.93 337 P P 16 24 41.0 +1.9
baz=129
PLBC Pleasant Camp 54.22 334 P P 16 24 43.6 +2.5
baz=124
ITRB Iturama 54.28 129 *eP* **P 16 24 41.1 -1.1**
WHY Whitehorse 54.32 336 P P 16 24 43.4 +1.4
baz=127
SDBA SAO DESIDERIO 54.69 118 *eP* **P 16 24 43.5 -1.8**
FARO Faro, Yukon 54.72 338 P P 16 24 46.2 +1.5
baz=129
P30M Million Dollar 54.85 335 P P 16 24 47.5 +1.8
baz=124
O30N Mendenhall 54.87 336 IAmb IAmb 16 24 48.9
comp=Z,19nm,1.2s
O30N Mendenhall 54.87 336 P P 16 24 47.8 +2.0
baz=126,SNR=5.3
IPMB Ipameri, GO 54.92 126 *eP* **P 16 24 45.6 -1.2**
M31M Drury Creek, Y 55.08 338 P P 16 24 49.1 +1.8
baz=128,SNR=6.2
N31M Braeburn, Yuko 55.17 336 IAmb IAmb 16 24 50.8
comp=Z,46nm,1.6s
N31M Braeburn, Yuko 55.17 336 P P 16 24 50.0 +2.0
baz=126
HYT Haines Junctio 55.47 335 P P 16 24 52.5 +2.3
baz=124
O29M Mount Kennedy 55.62 334 P P 16 24 53.0 +1.7
baz=123
N30M Aishikik Lake 55.66 336 P P 16 24 53.4 +1.9
baz=125
BI02 San Fabin de 55.72 159 IAmb IAmb 16 24 55.0
comp=Z,18nm,1.2s
YUK6 Outpost Mounta 55.88 335 P P 16 24 55.0 +1.7
baz=123
LDASE Londrina, Braz 56.02 133 *eP* **P 16 24 53.8 -0.8**
M30M Minto, Yukon 56.20 337 P P 16 24 56.6 +1.3
baz=126
PTGB Pitanga 56.22 135 *eP* **P 16 24 55.2 -0.8**
YUK4 Talbot Arm 56.22 335 P P 16 24 57.4 +1.7
baz=123
PINM Pinnacle 56.22 333 P P 16 24 57.7 +2.2
baz=121
NBPB Pedra_Branca-C 56.42 108 *eP* **P 16 24 55.2 -2.4**
JANB Januaria 56.50 120 *eP* **P 16 24 57.0 -1.1**
O28M Mount Upton 56.55 334 P P 16 24 59.4 +1.4
baz=121
PMNB Patos De Minas 56.62 125 *eP* **P 16 24 58.3 -0.7**
YUK8 Steele Glacier 56.64 335 P P 16 25 01.0 +2.3
baz=122
M29M Somme Creek 56.76 336 P P 16 25 01.1 +1.8
baz=124
MESA MESA 57.00 333 P P 16 25 02.7 +1.6
baz=119
L29M L29M 57.01 337 P P 16 25 02.2 +1.2
baz=125
FRTB Fartura 57.09 132 *eP* **P 16 25 02.1 -0.1**
YUK3 Moose Creek 57.18 335 P P 16 25 04.0 +1.6
baz=122
K29M Barlow Dome 57.21 338 P P 16 25 03.9 +1.4
baz=126
C36M Paulatuk 57.23 347 P P 16 25 02.9 +0.6
baz=143
J30M Hart River 57.23 339 P P 16 25 04.8 +2.1
baz=127
H31M Peel River 57.35 341 P P 16 25 04.9 +1.6
baz=130
I30M Mount Dempster 57.64 340 IAmb IAmb 16 25 07.7
comp=Z,25nm,1.4s
I30M Mount Dempster 57.64 340 P P 16 25 06.6 +1.1
baz=128
BVCY Beaver Creek 57.68 336 P P 16 25 07.1 +1.4
baz=121
J29N Klondike Camp 57.81 338 P P 16 25 07.8 +1.1
baz=125
ITAB Concordia 57.85 137 *eP* **P 16 25 07.0 -0.3**
KAIM Kayak Island 57.98 332 P P 16 25 08.7 +1.0
baz=116
DAWY Dawson 58.02 338 P P 16 25 09.1 +1.1
baz=124
M27K Edge Creek, AK 58.06 335 P P 16 25 10.3 +1.9
baz=120
G31M Satah River 58.06 342 P P 16 25 09.1 +1.0
baz=131
F31M Tsiigehtchic 58.25 343 IAmb IAmb 16 25 11.2
comp=Z,20nm,1.2s
F31M Tsiigehtchic 58.25 343 P P 16 25 10.1 +0.7
baz=132,SNR=8.4
I29M Ogilvie Camp, 58.38 339 IAmb IAmb 16 25 12.2
comp=Z,18nm,1.4s
I29M Ogilvie Camp, 58.38 339 P P 16 25 11.1 +0.7
baz=126
BCAR Beaver Creek A 58.38 336 P P 16 25 12.2 +1.6
L27K Beaver Creek, 58.40 336 P P 16 25 12.2 +1.5
baz=121
GLB Gilahina Butte 58.41 334 IAmb IAmb 16 25 57.5
comp=Z,29nm,1.4s
EPYK Eagle Plains 58.46 341 P P 16 25 12.0 +1.0
baz=128
BMRM Bremner River 58.53 333 P P 16 25 13.6 +2.0
baz=117
M26K Nabesna, AK 58.53 335 P P 16 25 13.2 +1.6
baz=119
TBOT Tacuaremb 58.65 144 *eP* **P 16 25 13.4 +0.6**
G30M tAoh Zraii Nji 58.69 341 P P 16 25 13.1 +0.5
baz=129
INK Inuvik 58.77 343 IAmb IAmb 16 25 14.9
comp=Z,30nm,1.3s
INK Inuvik 58.77 343 P P 16 25 13.6 +0.6
baz=132,SNR=17
VAO Valinhos 58.78 130 IAmb IAmb 16 25 13.9
comp=Z,19nm,0.7s
VAO Valinhos 58.78 130 *eP* **P 16 25 13.7 -0.3**

SPB Sao Paulo 58.79 131 *eP* **P 16 25 13.6 -0.3**
N25K Chitina, Valde 58.82 334 P P 16 25 15.8 +2.1
baz=117
EYAK Cordova Ski Ar 58.85 332 P P 16 25 15.2 +1.4
baz=115
H29M Whitestone 58.90 340 P P 16 25 14.8 +0.7
baz=126
F30M Barrier River 58.95 342 P P 16 25 15.4 +1.0
baz=129
I28M Miner Creek 58.99 339 P P 16 25 15.2 +0.4
baz=124
EGAK Eagle 59.05 338 P P 16 25 15.6 +0.6
baz=122
G29M Pine Creek 59.20 341 P P 16 25 16.9 +0.8
baz=127
CPSB Cacapava Do Su 59.21 141 *eP* **P 16 25 16.4 -0.3**
BSCB Bom Sucesso 59.29 127 *eP* **P 16 25 17.4 -0.2**
KLU Klutina 59.34 333 P P 16 25 19.1 +1.9
baz=116,SNR=6.9
P23K Montague Islan 59.37 331 P P 16 25 19.7 +2.4
baz=114
HARP HAARP 59.42 335 P P 16 25 19.8 +2.1
baz=117
A36M Sachs Harbour 59.58 349 P P 16 25 18.5 -0.1
baz=143,SNR=5.0
PLCA Paso Flores 59.64 161 P P 16 25 21.1 +1.6
PLCA IAmb IAmb 16 25 22.2
comp=Z,16nm,0.9s
PLCA Paso Flores 59.64 161 P P 16 25 21.2 +1.6
comp=Z,12nm,1.0s,baz=334,slow=8.0,SNR=18
PLCA PcP **PcP 16 26 06.1 +1.2**
comp=Z,3.2nm,0.9s,baz=327,slow=6.3,SNR=4.4
comp=Z,12nm,1.0s
PLCA Paso Flores 59.64 161 *eP* **P 16 25 21.6 +2.1**
PLCA Paso Flores 59.64 161 P P 16 25 21.2 +1.6
PLCA PcP **PcP 16 26 06.0 +1.2**
PLCA sP **sP 16 26 17.0 -0.7**
I27K Kandik River 59.66 339 P P 16 25 21.0 +1.7
baz=122
SCRK Sand Creek 59.70 336 P P 16 25 21.2 +1.5
baz=119
M24K Tolsona, Glenn 59.71 334 P P 16 25 21.2 +1.5
baz=116
J26L Joseph Creek 59.79 337 P P 16 25 21.7 +1.4
baz=120
PAX Paxson 59.81 335 P P 16 25 21.4 +1.0
PAX Paxson 59.81 335 P P 16 25 21.2 +0.8
baz=117,SNR=7.6
RIDG Independent Ri 59.91 336 P P 16 25 22.7 +1.6
baz=118
RCBR Riachuelo 59.92 106 *eP* **P 16 25 20.7 -1.2**
RCBR Riachuelo 59.92 106 P P 16 25 20.7 -1.2
RCBR PcP **pP 16 26 03.8 +1.5**
H27K Steamboat Moun 59.97 339 P P 16 25 22.6 +1.2
baz=123,SNR=7.0
MAJ01 Sao Joao Batis 60.04 135 *eP* **P 16 25 22.4 0.0**
I26K Coal Creek Min 60.05 338 P P 16 25 23.1 +1.2
baz=120
E29M Blow River 60.06 342 P P 16 25 23.2 +1.3
baz=128
PLTB Pedras Altas 60.07 142 P P 16 25 22.4 -0.1
PLTB Pedras Altas 60.07 142 *eP* **P 16 25 22.7 +0.1**
CNLB Canela 60.08 138 *eP* **P 16 25 22.6 -0.1**
SCM Sheep Creek Mo 60.09 333 P P 16 25 23.9 +1.6
baz=114
F28M Old Crow 60.20 341 P P 16 25 24.2 +1.3
baz=125,SNR=21
M23K Glacier View 60.24 333 P P 16 25 24.8 +1.5
baz=114
NBLA Lagarto - SE 60.24 113 *eP* **P 16 25 21.8 -2.2**
K24K Donnelly Dome 60.31 336 P P 16 25 25.2 +1.4
baz=117
G27K Doyon Strip 60.32 340 P P 16 25 24.8 +1.0
baz=123
SEW Seward 60.36 331 P P 16 25 25.4 +1.3
baz=112
KNK Knik Glacier 60.41 333 P P 16 25 25.9 +1.4
baz=113
SML Sawmill 60.51 333 P P 16 25 26.3 +1.1
baz=114
J25K Salcha River, 60.53 337 P P 16 25 26.7 +1.5
baz=118
TRQA Tornquist 60.58 153 P P 16 25 26.1 +0.2
TRQA IAmb IAmb 16 25 27.6
comp=Z,18nm,1.4s
O22K Cooper Landing 60.62 331 P P 16 25 27.1 +1.3
baz=112
E28M Babbage River 60.68 342 P P 16 25 27.0 +0.9
baz=126
CMC01 Camacan, BA 60.68 118 *eP* **P 16 25 25.8 -1.2**
TER01 Tubaro-SC 60.69 136 *eP* **P 16 25 27.0 +0.1**
NBCA Caruaru-PE 60.72 109 *eP* **P 16 25 26.2 -1.2**
GHO Glory Hole Cre 60.76 333 IAmb IAmb 16 25 29.3
comp=Z,26nm,0.9s
PMR Palmer 60.78 333 IAmb IAmb 16 25 37.5
comp=Z,48nm,1.6s
PMR Palmer 60.78 333 P P 16 25 28.4 +1.5
baz=113
BRSE Bradley Lake S 60.84 330 P P 16 25 28.6 +1.3
baz=114
RC01 Rabbit Creek A 60.86 332 IAmb IAmb 16 25 29.9
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 60.86 332 P P 16 25 29.0 +1.5
baz=112
D28M Stokes Point 60.88 343 P P 16 25 28.8 +1.3
baz=127,SNR=9.8
SJMB Sao Joao De Ma 60.92 122 *eP* **P 16 25 27.9 -0.7**
PRP Porcupine Dome 61.02 338 P P 16 25 29.3 +0.7
PRP IAmb IAmb 16 25 30.8
comp=Z,49nm,1.8s
PRP Porcupine Dome 61.02 338 P P 16 25 29.6 +1.0
baz=118,SNR=8.3
GUA01 Guaratinga, BA 61.02 119 *eP* **P 16 25 28.2 -1.1**
HDA Harding Lake 61.04 336 IAmb IAmb 16 25 30.6
comp=Z,51nm,1.8s
HDA Harding Lake 61.04 336 P P 16 25 29.4 +0.7
baz=116,SNR=6.6
NBAN Anadia - AL 61.05 111 *eP* **P 16 25 27.6 -2.0**
KDAK Kodiak Island 61.11 328 P P 16 25 30.6 +1.4
baz=107
G26K Porcupine Rive 61.11 339 P P 16 25 30.3 +1.3
baz=121
ILAR Eielson Array 61.18 337 P P 16 25 30.4 +0.8
ILAR Eielson Array 61.18 337 P P 16 25 30.2 +0.7
comp=Z,4.6nm,0.9s,baz=114,slow=6.8,SNR=44
ILAR pP **pP 16 26 09.2 -0.4**
comp=Z,3.7nm,0.9s,baz=118,slow=6.6,SNR=6.9
ILAR PKPPKP **P'P'df 16 54 43.5 -0.5**
comp=Z,0.2nm,1.0s,baz=305,slow=4.0,SNR=5.4
comp=Z,4.6nm,0.9s
HOM Homer 61.24 330 P P 16 25 31.6 +1.6
baz=109
BSFB Barra de Sao F 61.26 122 *eP* **P 16 25 30.2 -0.6**
Q20K Shuyak Island 61.27 329 P P 16 25 31.4 +1.1
baz=108
M22K Willow 61.27 333 P P 16 25 31.7 +1.5
baz=112
OHAK Old Harbor 61.31 327 P P 16 25 32.5 +2.0
baz=106
RND Reindeer 61.38 335 IAmb IAmb 16 25 33.6
comp=Z,33nm,1.1s
SUA Susitna One 61.45 332 IAmb IAmb 16 25 35.4
comp=Z,18nm,1.0s
SUA Susitna One 61.45 332 P P 16 25 33.0 +1.4
baz=111,SNR=6.7
D27M Malcolm River 61.47 342 P P 16 25 32.8 +1.2
baz=125
H25L Birch Creek 61.48 338 P P 16 25 33.0 +1.5
baz=118
CCB Clear Creek Bu 61.48 336 IAmb IAmb 16 26 14.1
comp=Z,21nm,1.7s
POKR Poker Plat Res 61.55 337 IAmb IAmb 16 26 14.9
comp=Z,32nm,1.6s
POKR Poker Plat Res 61.55 337 P P 16 25 33.0 +1.0
baz=116,SNR=8.1
MCK McKinley 61.55 335 P P 16 25 33.3 +1.2
baz=114
CUT Chulitna 61.58 333 P P 16 25 33.6 +1.3
baz=112
COLA College 61.60 336 P P 16 25 32.9 +0.6
COLA PcP **PcP 16 26 12.9 +0.7**
SII Sitkinak Islan 61.60 326 P P 16 25 34.3 +1.7
baz=105
F26K Sheenjek River 61.62 340 P P 16 25 33.8 +1.3
baz=121
BMAR Burnt Mountain 61.62 340 P P 16 25 34.0 +1.5
O20K Slope Mountain 61.84 330 P P 16 25 35.8 +1.6

baz=108
RIB01 Linhares ES 61.88 122 *eP* **P 16 25 34.1 -0.8**
NEA2 Nenana 61.95 336 P P 16 25 35.9 +1.2
baz=114
SKT Skwentna 61.98 333 IAmb IAmb 16 25 36.8
comp=Z,17nm,0.8s
SKT Skwentna 61.98 333 P P 16 25 36.1 +1.1
baz=110,SNR=6.1
Q19K Cape Douglas, 61.99 329 P P 16 25 36.7 +1.6
baz=107
TRF Thorofare Moun 61.99 334 P P 16 25 36.4 +1.2
baz=112
P19K Oil Pt 62.00 330 P P 16 25 36.8 +1.6
baz=108
SPCR Spurr Chakacha 62.02 332 P P 16 25 36.6 +1.3
baz=109
H24K Noodor Dome 62.03 337 P P 16 25 36.3 +1.0
baz=116
F25K Christian Rive 62.06 340 P P 16 25 37.1 +1.6
baz=119
CAM01 Campos-RJ 62.17 125 *eP* **P 16 25 36.9 +0.1**
G24K Hadweenzic Riv 62.27 338 P P 16 25 37.9 +1.1
baz=117
ALF01 Guarapari-ES 62.27 124 *eP* **P 16 25 37.1 -0.4**
KTH Kantishna Hill 62.29 334 IAmb IAmb 16 26 22.3
comp=Z,12nm,0.8s
I23K Minto, Yukon-K 62.30 336 P P 16 25 38.2 +1.2
baz=114,SNR=9.8
E25K Arctic Village 62.30 340 IAmb IAmb 16 25 39.9
comp=Z,16nm,1.2s
E25K Arctic Village 62.30 340 P P 16 25 38.3 +1.3
baz=119,SNR=8.5
C27K Jago River 62.49 342 P P 16 25 39.8 +1.5
baz=122
BPAW Bear Paw Mtn. 62.52 335 P P 16 25 39.4 +0.8
baz=112
ABR01 Abrolhos, BA 62.61 120 *eP* **P 16 25 39.2 -0.6**
M20K Styx River 62.66 332 P P 16 25 40.4 +0.8
baz=109
O19K Port Alsworth 62.69 330 P P 16 25 40.2 +0.6
baz=107
F24K Squaw Lake 62.79 339 P P 16 25 41.8 +1.5
baz=117
P18K Big Mountain, 62.90 329 P P 16 25 41.9 +0.8
baz=106
Q17K Contact Creek 62.93 328 P P 16 25 42.7 +1.2
baz=104
N19K Bonanza Creek 62.95 331 P P 16 25 42.5 +1.0
baz=107
C26K Camden Bay 63.00 342 P P 16 25 43.3 +1.7
baz=121
O18K Koktuh Hills 63.02 330 P P 16 25 42.8 +0.9
baz=106,SNR=5.9
D25K Kavik River 63.15 341 P P 16 25 43.9 +1.2
baz=119
L20K Farewell, AK 63.19 333 P P 16 25 43.7 +0.7
baz=108,SNR=9.7
G23K Bananza Creek 63.19 338 P P 16 25 43.9 +0.9
baz=114
E24K Your Creek 63.24 340 P P 16 25 44.6 +1.3
baz=116
I21K Tanana 63.33 336 IAmb IAmb 16 25 46.8
comp=Z,22nm,1.4s
I21K Tanana 63.33 336 P P 16 25 44.5 +0.7
baz=112
H22K Ishtalitna Cre 63.36 337 P P 16 25 44.7 +0.6
baz=112
Q16K King Salmon 63.43 328 P P 16 25 45.8 +1.3
baz=104
P17K Kvichak River 63.45 329 P P 16 25 45.8 +1.1
baz=104
COLD Coldfoot 63.47 338 P P 16 25 46.3 +1.6
baz=114,SNR=5.7
L19K White Mountain 63.52 332 P P 16 25 46.2 +1.0
baz=107
K20K Telida 63.55 334 P P 16 25 45.8 +0.5
baz=109
N18K Kilae Creek 63.57 331 P P 16 25 46.4 +0.9
baz=106
E23K Chandalar 63.62 339 P P 16 25 47.2 +1.4
baz=115
R16K Pilot Point 63.64 327 P P 16 25 46.8 +0.8
baz=103
M18K Stony River 63.76 331 P P 16 25 47.7 +0.9
baz=106
G22K Bettles 63.81 338 P P 16 25 48.4 +1.4
baz=113
H21K Melozitna Rive 63.82 336 P P 16 25 47.7 +0.6
baz=111
CHGN Chignik 63.83 325 P P 16 25 48.0 +0.8
baz=101
D24K Happy Valley 63.84 341 P P 16 25 48.6 +1.5
baz=116
J20K Nowinta River 63.85 335 P P 16 25 47.7 +0.4
baz=109
TOLK Toolik Lake Re 63.85 340 P P 16 25 48.2 +0.9
baz=116,SNR=6.1
O17K Koliganek Bris 63.92 329 P P 16 25 48.9 +1.1
baz=104
C24K Franklin Bluff 64.06 341 P P 16 25 49.9 +1.5
baz=117
N17K Nushagak Hills 64.15 330 P P 16 25 50.5 +1.2
baz=104
I20K Naaghedeneel 64.19 335 P P 16 25 50.4 +1.0
baz=109
TTA Tatalina 64.26 333 IAmb IAmb 16 25 51.4
comp=Z,20nm,1.2s
TTA Tatalina 64.26 333 P P 16 25 50.6 +0.5
baz=107,SNR=5.4
D23K Nanushuk River 64.36 340 P P 16 25 52.2 +1.7
baz=115
L18K Granite Mounta 64.36 332 P P 16 25 51.8 +1.1
baz=106
O16K Kokwok River B 64.36 329 P P 16 25 51.6 +0.9
baz=103
E22K Anaktuvuk Pass 64.40 339 IAmb IAmb 16 26 34.4
comp=Z,13nm,1.1s
E22K Anaktuvuk Pass 64.40 339 P P 16 25 51.9 +1.1
baz=113,SNR=8.3
J19K Poorman 64.41 334 P P 16 25 51.3 +0.4
baz=108
M17K Holitna River 64.49 331 P P 16 25 52.6 +1.1
baz=105
EUNU Eureka 64.53 1 P P 16 25 51.6 0.0
EUNU IAmb IAmb 16 26 34.4
comp=Z,48nm,1.7s
H20K Anotleneega Mo 64.58 336 P P 16 25 53.1 +1.1
baz=109
F21K Alatna River 64.64 338 P P 16 25 53.9 +1.5
baz=111
C23K Itkillik River 64.70 341 P P 16 25 54.1 +1.4
baz=115
J18K Innoko River 64.72 333 P P 16 25 53.8 +0.9
baz=106
N16K Nishlik Lake 64.90 330 P P 16 25 55.3 +1.2
baz=103
D22K Ayikyak River 64.98 340 P P 16 25 56.1 +1.5
baz=112
L17K Donlin 65.07 332 P P 16 25 55.9 +0.7
baz=104
M16K Timber Creek 65.11 331 P P 16 25 55.9 +0.4
baz=103
GCSA Galena City Sc 65.15 335 P P 16 25 56.4 +0.7
baz=107
H19K Roundabout Mou 65.21 336 P P 16 25 56.9 +0.9
baz=107
K17K Iditarod 65.21 332 P P 16 25 57.1 +1.0
baz=104
E21K Killik River 65.26 339 P P 16 25 57.8 +1.4
baz=111
F20K Avaraart Lake 65.41 337 P P 16 25 58.6 +1.3
baz=109
L16K Owhat River 65.51 331 P P 16 25 58.8 +0.8
baz=103
G19K Purcell Mounta 65.64 336 P P 16 25 59.8 +0.9
baz=107
J17K VABM Dome 65.72 333 P P 16 26 00.2 +0.8
baz=104
B22K Teshekpuk Lake 65.79 341 P P 16 26 01.0 +1.3
baz=112
C21K Knifeblade Rid 65.79 340 P P 16 26 01.0 +1.3
baz=111
M15K Kasigluk River 65.87 330 P P 16 26 01.4 +1.0
baz=101
H18K Honhosa River 65.87 335 P P 16 26 01.5 +1.1
baz=105
B21K Ikpikpuk River 65.90 340 P P 16 26 01.6 +1.2
baz=111

E20K	Nigu River	65.97	339	P	P	16 26 02.2 +1.3
baz=109						
E19K	Redstone River	66.09	338	P	P	16 26 02.7 +1.0
baz=108						
F19K	Shaleruckik Mo	66.11	337	IAmb	IAmb	16 26 44.7
comp=Z,14nm,1.1s						
F19K	Shaleruckik Mo	66.11	337	P	P	16 26 02.9 +1.1
baz=107						
G18K	Tagagawik	66.19	336	P	P	16 26 03.7 +1.3
baz=105						
D20K	Etivluk River	66.26	339	P	P	16 26 04.2 +1.4
baz=109						
J16K	Anvik River	66.37	333	IAmb	IAmb	16 26 06.2
comp=Z,16nm,0.8s						
J16K	Anvik River	66.37	333	P	P	16 26 05.2 +1.7
baz=102						
L15K	Ungalak Mounta	66.44	331	P	P	16 26 05.5 +1.5
baz=101						
H17K	Granite Mounta	66.45	335	IAmb	IAmb	16 26 06.7
comp=Z,19nm,1.3s						
H17K	Granite Mounta	66.45	335	P	P	16 26 05.5 +1.4
baz=104,SNR=5.7						
M14K	Bethel	66.49	330	P	P	16 26 05.9 +1.6
baz=100,SNR=5.5						
I17K	Unalakleet	66.54	333	P	P	16 26 06.3 +1.7
baz=103						
K15K	Wolf Creek Mou	66.58	332	P	P	16 26 06.5 +1.6
baz=101						
D19K	Kuna River	66.72	339	P	P	16 26 07.1 +1.4
baz=107						
F18K	Selawik	66.76	336	P	P	16 26 07.2 +1.3
baz=105						
G17K	Kiwalik Mounta	66.89	335	P	P	16 26 08.2 +1.4
baz=103,SNR=8.7						
L14K	Kuka Creek	66.94	330	P	P	16 26 08.3 +1.1
baz=100						
M13K	Dall Lake	67.11	329	P	P	16 26 09.6 +1.3
baz=99						
A21K	Barrow	67.13	342	P	P	16 26 09.3 +1.2
baz=110						
E18K	Tukpahlearik C	67.33	337	P	P	16 26 10.5 +1.0
baz=104						
F17K	Baldwin Pennin	67.35	336	P	P	16 26 11.0 +1.4
baz=103						
H16K	Elim	67.36	334	P	P	16 26 11.2 +1.5
baz=102,SNR=8.6						
G16K	Koyuk River	67.56	335	P	P	16 26 12.2 +1.2
baz=102						
J14K	Nanvaranak Lak	67.59	332	P	P	16 26 13.1 +1.9
baz=100						
E17K	Hotham Inlet	67.72	337	P	P	16 26 13.0 +1.1
baz=103						
C18K	Utukok River	67.85	338	P	P	16 26 13.8 +0.9
baz=104						
K13K	Kusilvak Mount	67.97	331	P	P	16 26 14.8 +1.2
baz=98						
UNV	Unalaska Valle	68.13	322	P	P	16 26 15.8 +1.1
baz=93						
G15K	Niukluk	68.18	334	P	P	16 26 16.3 +1.4
baz=100						
B18K	Kokolik River	68.24	339	P	P	16 26 16.4 +1.3
baz=104						
D17K	Noatak River	68.32	337	P	P	16 26 16.5 +0.8
baz=102,SNR=5.3						
RDOG	Red Dog Mine	68.33	338	P	P	16 26 16.8 +1.0
baz=102						
C17K	DeLong Mountai	68.52	338	P	P	16 26 18.0 +1.0
baz=102						
F15K	North Star Dit	68.56	335	P	P	16 26 18.9 +1.7
baz=100						
ANM	Nome	68.68	334	P	P	16 26 19.2 +1.2
baz=98						
F14K	Arctic Creek	69.21	335	P	P	16 26 22.7 +1.4
baz=98						
C16K	Lisburne Hills	69.27	338	P	P	16 26 23.1 +1.5
baz=100						
TNA	Tin City	69.88	335	P	P	16 26 26.6 +1.3
baz=96,SNR=5.1						
P08K	Saint George I	70.00	325	P	P	16 26 28.1 +1.9
baz=92						
SPIA	Saint Paul Isl	70.40	326	P	P	16 26 29.8 +1.2
baz=91						
GAMB	Gambell	71.36	333	P	P	16 26 36.1 +1.8
baz=92						
PCAS	Casmilo, Conde	75.57	52	eP	P	16 26 58.1 -1.3
PCAS				epP	pP	16 27 40.6 -0.5
MORF	Marmelete	75.86	55	eP	P	16 26 59.8 -1.4
POLO	Lamas de Olo	75.90	51	eP	P	16 26 59.6 -1.8
PMTG	Montargil	75.92	53	eP	P	16 26 59.6 -1.8
PMTG				epP	pP	16 27 41.7 -1.5
PMTG				etx	tx	16 27 58.9
PVIS	Viseu	75.93	51	eP	P	16 26 59.7 -1.8
PVIS				epP	pP	16 27 42.2 -1.1
PVIS				etx	tx	16 27 59.8
MTE	Manteigas	76.24	52	eP	P	16 27 01.4 -1.8
MTE				i Amb		16 27 06.9
comp=Z,26nm,1.6s						
MTE				epP	pP	16 27 44.3 -0.8
PCBR	Castelo Branco	76.38	52	eP	P	16 27 02.6 -1.4
PCBR				epP	pP	16 27 44.5 -1.4
PCBR				etx	tx	16 28 04.7
PBDV	Barranco-do-Ve	76.44	55	eP	P	16 27 03.3 -1.1
MVO	Moncorvo	76.51	51	eP	P	16 27 03.0 -1.7
MVO				i Amb		16 27 05.9
comp=Z,9.7nm,1.3s						
PMRV	Marv??o	76.51	53	eP	P	16 27 02.8 -1.9
PVAQ	Vaqueiros	76.58	55	eP	P	16 27 04.0 -1.2
PVAQ				i Amb		16 27 07.0
comp=Z,19nm,1.9s						
PBRG	Braganca	76.62	50	eP	P	16 27 03.6 -1.8
PBRG				epP	pP	16 27 46.4 -0.8
PBRG				etx	tx	16 28 06.7
EKA	Eskdalemuir Ar	76.92	36	P	P	16 27 05.3 -1.4
comp=Z,12nm,0.6s,baz=281,slow=5.7,SNR=44						
EKA				pP	pP	16 27 47.1 -1.6
comp=Z,4.7nm,0.6s,baz=278,slow=5.7,SNR=4.1						
comp=Z,12nm,0.6s						
PBAR	Barrancos	76.98	54	eP	P	16 27 05.9 -1.5
PBAR				epP	pP	16 27 48.4 -1.0
SPA0	Spitsbergen Ar	78.60	11	eP	P	16 27 15.6 -0.1
SPITS	Spitsbergen Ar	78.60	11	P	P	16 27 15.0 -0.6
comp=Z,9.5nm,0.9s,baz=308,slow=3.5,SNR=11						
comp=Z,9.5nm,0.9s						
ESDC	Sonseca Array	79.07	52	P	P	16 27 17.9 -1.0
ESDC				IAmb	IAmb	16 28 18.4
comp=Z,63nm,1.8s						
ESDC	Sonseca Array	79.07	52	P	P	16 27 16.9 -2.1
comp=Z,1.6nm,0.5s,baz=276,slow=5.4,SNR=15						
ESDC				pP	pP	16 27 59.5 -1.6
comp=Z,4.2nm,0.9s,baz=281,slow=6.1,SNR=9.5						
comp=Z,1.6nm,0.5s						
BILL	Bilibino	79.80	338	P	P	16 27 23.1 +0.9
BILL				IAmb	IAmb	16 27 24.6
comp=Z,21nm,1.1s						
KMY	Karmoy	80.62	31	eP	P	16 27 25.9 -0.8
AKN	Aaknes	80.68	28	eP	P	16 27 27.1 0.0
ODD1	Odda	81.12	30	eP	P	16 27 29.3 -0.2
BLS5	Blasjo	81.17	31	eP	P	16 27 29.8 +0.1
DOMB	Dombas	81.65	28	eP	P	16 27 32.0 -0.2
SKAR	Skarslia	81.70	29	eP	P	16 27 32.5 -0.1
SNART	Snartemo	81.84	32	eP	P	16 27 33.0 -0.2
STEI	Steigen	82.13	21	eP	P	16 27 33.7 -0.8
HOMB	Homborsund	82.52	32	eP	P	16 27 37.0 +0.2
BGES	Gesves	82.85	40	dP	P	16 27 37.5 -1.1
comp=Z,7.9nm,0.9s						
NB2	NORSAR Subarra	82.94	28	P	P	16 27 38.7 -0.3
comp=Z,2.9nm,0.6s,baz=289,slow=5.1						
NB2	NORSAR Subarra	82.94	28	P	P	16 27 38.7 -0.3
baz=289,slow=5.1						
NOA	NORSAR Array B	82.94	28	P	P	16 27 38.3 -0.7
comp=Z,3.2nm,0.6s,baz=289,slow=5.2,SNR=18						
NOA				pP	pP	16 28 21.4 -0.1
comp=Z,1.6nm,0.8s,baz=288,slow=5.1,SNR=3.1						
comp=Z,3.2nm,0.6s						
BCLA	Clavier	82.97	40	dP	P	16 27 37.8 -1.5
NB201	NORSAR Array S	82.98	28	P	P	16 27 39.1 -0.1
JETT	Jettan, Norway	83.17	19	eP	P	16 27 40.4 +0.4
NC602	NORSAR Array S	83.20	29	eP	P	16 27 40.8 +0.6
BTNL	Ternell	83.43	39	dP	P	16 27 40.1 -1.6
KTK1	Kautokeino	84.31	19	eP	P	16 27 46.9 +1.2
HFS	Hagfors	84.41	29	P	P	16 27 45.2 -1.2
comp=Z,6.8nm,0.5s,baz=278,slow=4.2,SNR=35						
comp=Z,6.8nm,0.5s						
ARA0	ARCESS Array S	84.75	18	eP	P	16 27 48.4 +0.5
ARCES	ARCESS Array B	84.75	18	P	P	16 27 47.1 -0.8
comp=Z,3.1nm,0.7s,baz=297,slow=4.0,SNR=12						
ARCES				pP	pP	16 28 30.0 -0.5
comp=Z,3.6nm,0.9s,baz=284,slow=4.5,SNR=1.8						
comp=Z,3.1nm,0.7s						
DBIC	Dimbokro	85.94	84	P	P	16 27 52.7 -2.2
comp=Z,2.3nm,0.6s,baz=254,slow=6.2,SNR=3.9						
comp=Z,2.3nm,0.6s						
CLL	Collm	87.31	37	eP	P	16 28 01.0 +0.2
CLL				epP	pP	16 28 45.0 +1.5
FETA	Feichten	87.44	42	eP	P	16 27 59.5 -2.2
comp=Z,2.7nm,0.6s						
GERES	GERESS Array B	88.64	39	P	P	16 28 05.9 -1.4
comp=Z,0.7nm,0.6s,baz=305,slow=3.5,SNR=4.1						
GERES				pP	pP	16 28 50.1 -0.1
comp=Z,2.8nm,1.0s,baz=321,slow=7.5,SNR=3.3						
comp=Z,0.7nm,0.6s						
PETK	Petropavlovsk-	89.06	325	P	P	16 28 09.8 +0.7
comp=Z,2.5nm,0.7s,baz=60,slow=8.9,SNR=9.6						
comp=Z,2.5nm,0.7s						
FINES	FINESS Array B	89.23	25	P	P	16 28 08.4 -1.2
comp=Z,1.4nm,0.5s,baz=318,slow=1.9,SNR=18						
FINES				pP	pP	16 28 52.1 -0.5
comp=Z,3.2nm,0.8s,baz=308,slow=6.8,SNR=2.5						
comp=Z,1.4nm,0.5s						
MA2	Magadan	89.46	333	P	P	16 28 11.6 +0.9
MA2				IAmb	IAmb	16 28 12.9
comp=Z,14nm,1.0s						
KEST	Kesra	90.28	53	P	P	16 28 12.4 -2.8
comp=Z,5.2nm,0.9s,baz=317,slow=14,SNR=1.5						
comp=Z,5.2nm,0.9s						
CONA	Conrad Observa	90.33	40	eP	P	16 28 13.9 -1.3
comp=Z,1.8nm,0.5s						
TORD	Torodi Ar. Bea	90.44	76	P	P	16 28 13.5 -2.6
comp=Z,0.6nm,0.5s,baz=282,slow=3.9,SNR=4.7						
comp=Z,0.6nm,0.5s						
RONA	Rosalia, Austr	90.69	40	eP	P	16 28 15.7 -1.1
comp=Z,1.3nm,0.3s						
AKASG	Malin Array Be	96.62	33	P	P	16 28 41.3 -2.6
comp=Z,0.5nm,0.5s,baz=291,slow=4.2,SNR=5.8						
comp=Z,0.5nm,0.5s						
BVAR	Borovoye Array	110.05	11	PKiKP	PKiKP	16 33 43.6 -0.9
comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=4.1						
ZALV	Zalesovo Beam	110.68	2	PKiKP	PKiKP	16 33 45.5 -0.2
comp=Z,0.3nm,0.4s,baz=338,slow=1.6,SNR=2.0						
KURBB	Kurchatov Arra	113.57	6	PKiKP	PKiKP	16 33 48.6 -2.6
comp=Z,0.3nm,0.3s,baz=320,slow=2.4,SNR=1.2						
SONM	Songino Array	114.62	346	PKP	PKiKP	16 33 53.0 -0.5
comp=Z,0.9nm,0.6s,baz=7.0,slow=1.3,SNR=7.5						
SONM				PKKPbc	PKKPbc	16 44 31.4 -2.3
comp=Z,0.3nm,0.3s,baz=204,slow=3.2,SNR=5.6						
KSRS	Korea Array	114.96	325	PKP	PKiKP	16 33 54.3 0.0
comp=Z,2.7nm,0.7s,baz=17,slow=1.5,SNR=15						
MKAR	Makanchi Array	117.70	4	PKP	PKPdf	16 33 58.5 -0.9
comp=Z,0.4nm,0.6s,baz=352,slow=2.0,SNR=6.8						
MKAR				pPKP	pPKPdf	16 34 45.3 +0.9
comp=Z,0.9nm,0.8s,baz=352,slow=2.0,SNR=3.5						
HHC	Hu-ho-hao-te	119.55	339	eP	PKiKP	16 34 04.1 +0.8
HHC				pmax	pmax	
comp=Z,4.0nm,0.8s						
HHC				pmax	pmax	
comp=Z,85nm,4.6s						
HNS	HongShan	121.39	335	⇓PKP	PKiKP	16 34 07.7 +0.9
BOSA	Boshof	121.44	114	PKPdf	PKPdf	16 34 07.0 -0.1
BOSA	Boshof	121.44	114	PKP	PKPdf	16 34 06.8 -0.4
comp=Z,8.0nm,0.7s,baz=276,slow=2.5,SNR=15						
TIY	Taiyuan	122.01	337	PKP	PKPdf	16 34 08.0 0.0
NJ2	Nanjing	123.89	328	⇓iP	PKPdf	16 34 12.0 +0.4
NJ2				pmax	pmax	
comp=Z,9.0nm,0.7s						
GTA	Gaotai	124.07	349	eP	PKPdf	16 34 12.0 0.0
GTA				sP	pPKPdf	16 34 55.6 -1.5
GTA				pmax	pmax	
comp=Z,4.0nm,0.6s						
KSH	Kashi	124.10	11	PKP	PKiKP	16 34 13.2 +0.9
LZH	Lanzhou	126.31	344	PKP	PKiKP	16 34 17.1 +0.2
LZH				sPKP		16 35 21.3
XAN	Xi'an	126.58	338	⇓P	PKiKP	16 34 17.6 +0.3
XAN				pmax	pmax	
comp=Z,21nm,0.9s						
WHN	Wuhan	127.34	331	PKPbc	PKiKP	16 34 19.0 +0.2
STKA	Stephens Creek	128.44	242	PKP	PKiKP	16 34 21.5 +0.6
comp=Z,4.7nm,0.7s,baz=72,slow=2.7,SNR=7.0						
GYA	Guiyang	134.22	336	PKP	PKiKP	16 34 33.4 +0.4
WRA	Warramunga Arr	135.33	257	PKhKP	PKPpre	16 34 23.6
comp=Z,1.2nm,0.7s,baz=91,slow=3.0,SNR=14						
WRA				PKP	PKPdf	16 34 34.7 +1.1
comp=Z,3.8nm,0.8s,baz=83,slow=2.0,SNR=23						
WRA				pPKP	pPKPdf	16 35 20.0 +1.1
comp=Z,1.1nm,0.8s,baz=80,slow=2.1,SNR=1.8						
WRA				SKPbc	SKPbc	16 37 49.6 +0.7
comp=Z,2.7nm,1.0s,baz=89,slow=3.3,SNR=6.8						
ASAR	Alice Springs	135.76	252	PKhKP	PKPpre	16 34 20.0
comp=Z,1.3nm,0.5s,baz=96,slow=4.2,SNR=51						
ASAR				PKP	PKPdf	16 34 35.1 +0.7
comp=Z,2.0nm,0.7s,baz=96,slow=1.9,SNR=13						
ASAR				SKPbc	SKPbc	16 37 51.3 +1.2
comp=Z,2.0nm,0.9s,baz=87,slow=3.1,SNR=9.6						
ASAR				PKKP	PKKPdf	16 44 13.6 -1.7
comp=Z,0.3nm,0.9s,baz=297,slow=2.4,SNR=4.2						
PZH	PanZhiHua	135.91	342	PKP	PKPdf	16 34 34.8 0.0
CMAR	Chiang Mai Arr	144.32	341	PKPdf	PKPbc	16 34 49.3 +0.7
CMAR	Chiang Mai Arr	144.32	341	PKP	PKPab	16 34 48.7 +0.4
comp=Z,9.4nm,0.6s,baz=18,slow=2.4,SNR=83						
CMAR				pPKP	pPKPdf	16 35 35.4 +0.3
comp=Z,2.1nm,0.8s,baz=15,slow=2.9,SNR=2.4						
CMAR				SKPbc	SKiKP	16 38 14.6 +0.7
comp=Z,1.9nm,0.8s,baz=20,slow=2.3,SNR=9.2						
UBPT	Khong Chiam	144.55	329	PKPdf	PKPbc	16 34 49.7 +0.3
SBUM	Sibu	149.69	304		PKiKP	16 35 04.9 +0.1
KSM	Kuching	151.80	305		PKPbc	16 35 08.8 0.0
IPM	Ipoh	155.97	325	PKPdf	PKPdf	16 35 08.7 +0.4

TAP 05 16:16:49.6, 23°.86N×121°.55E, h22km±1km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEYL	Yanliau Villag	0.04	81	eP	Pb	16 16 53.5	0.0
SHUL	Shoufeng	0.07	171	eP	Pb	16 16 53.2	-0.4
SHUL				eS	Sb	16 16 57.2	+0.9
ETM	Tongmen	0.12	333	eP	Pb	16 16 54.2	-0.4
ESL	Shilin	0.12	246	i P	Pb	16 16 54.5	-0.1
ESL				i S	Sb	16 16 57.7	-0.3
LXIB	Xiulin Townshi	0.20	322	P	Pb	16 16 55.5	+0.1
LXIB				S	Sb	16 16 59.9	+0.7
WARBT	Fenglin Townsh	0.21	226	eP	Pb	16 16 55.6	+0.4
WARBT				S	Sb	16 16 59.8	+0.7
EGFH	Guangfu	0.22	210	eP	Pb	16 16 55.7	+0.3
TWD	Chiawan	0.22	11	P	Pb	16 16 57.2	+1.8
TWD				S	Sb	16 17 00.1	+0.8
ETLH	Xiulin Townshi	0.35	350	eP	Pb	16 16 57.0	-0.2
OWD	Renai	0.35	285	eP	Pb	16 16 57.2	-0.1
OWD				i S	Sb	16 17 03.6	+1.0
WUSB	Renai	0.42	288	eP	Pn	16 16 59.5	-0.9
WUSB				eS	Sb	16 17 05.8	+1.5
FUSS	Fushou	0.48	324	eP	Pb	16 16 59.9	+0.4

JMA 05 16:17:31.4±0.3, 25°N±1°×123°.4E±0°.4, h19km, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	Iriomote-Funau	0.67	151	P	Pb	16 17 44.0	-0.3
IRIF				eS	Sb	16 17 53.2	0.0
JIJ	Ishigaki jima	0.89	128	eS	Sb	16 17 58.5	-1.2
JKRS	Kuro-shima	0.89	140	P	Pb	16 17 48.2	-0.1
JKRS				S	Sb	16 17 59.8	+0.1

WEL 05 16:20:34.8±0.6, 40°S±4°×17°7E±°, h37km±6km, M0.9/4, ML3.1/8, MLv0.9/4, Error ellipse: s-maj=6.6km s-min=3.9km az=120.2, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WPWS	Waipawa Distri	0.03	82	P	Pn	16 20 41.2	+0.4
WPHZ	Waipukurau	0.14	215	P	Pn	16 20 43.0	-3.3
WPHZ				S	Sn	16 20 48.7	-8.9
PNHZ	Pukenui	0.27	277	P	Pn	16 20 44.2	+1.0
PNHZ				S	Sn	16 20 50.8	+0.1
KAHZ	Kahuranaki	0.30	59	P	Pn	16 20 44.0	+0.9
KAHZ				S	Sn	16 20 51.1	+0.8
KRHZ	Kereru	0.33	336	P	Pn	16 20 44.7	+1.5
KRHZ				S	Sn	16 20 51.6	+1.5
DVHZ	Dannevirke	0.46	220	P	Pn	16 20 45.8	+1.1
DVHZ				S	Sn	16 20 53.9	+2.0
TSZ	Takapari Road	0.46	256	P	Pn	16 20 46.3	+1.5
TSZ				S	Sn	16 20 54.4	+2.4
MCHZ	McNeill Hill	0.52	13	P	Pn	16 20 46.6	+0.9
MCHZ				S	Sn	16 20 56.0	+2.7
PRWZ	Pori Road	0.75	216	P	Pn	16 20 50.0	+1.1
BFZ	Birch Farm	0.77	197	P	Pn	16 20 49.4	+0.3
BFZ				S	Sn	16 21 00.9	+1.5
BKZ	Black Stump Fm	0.78	357	P	Pn	16 20 50.6	+1.2
BKZ				S	Sn	16 21 01.5	+1.5
MRZ	Mangatainoka R	1.03	226	P	Pn	16 20 53.1	+0.4
TMWZ	Te Maipa	1.26	203	P	Pn	16 20 55.6	-0.4
MWZ	Matawai	1.78	26	P	Pn	16 21 02.9	-0.2
TLZ	Tolley Road	1.80	334	P	Pn	16 21 07.4	+4.1
MXZ	Matakaoa Point	2.75	31	P	Pn	16 21 22.4	+6.0

*IDC **05** 16:21:13.1±3.7, 40°.03S×176°.24E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=79.1km s-min=16.0km az=127.0*
*NOU **05** 16:21:13.4, 40°.41S×176°.84E, h30km, ML3.9/11, North Island, New Zealand*
*WEL **05** 16:21:15.3±0.5, 40°S±2°×17°7E±°, h14km±3km, M4.0/12, ML4.3/12, MLv4.0/12, Error ellipse: s-maj=3.3km s-min=2.6km az=112.4, confirmed*
*WEL **05** 16:21:15.1, 40°.26S×176°.52E, h17km, ML3.9, Mw3.8, Moment Tensor Solution. s4 Moment tensor: Scale 10^{14} Nm; M_{rr}=2.54; $M_{\theta\theta}$1.42; $M_{\phi\phi}$1.12; $M_{r\theta}$1.73; $M_{\theta\phi}$1.60; $M_{\phi r}$6.39; Fault plane solution: $M_0$7.15000×10^{14} NP1: ϕ_s198.00000°, δ80.00000°, λ-101.00000°. NP2: ϕ_s68.00000°, δ15.00000°, λ-41.00000°. Principal axes: T 6.9190, Plg34.0000°, Azm298.0000°; N 0.4640, Plg11.0000°, Azm200.0000°; P -7.3830, Plg54.0000°, Azm94.0000°; Stations used: BFZ TSZ MRZ OTVZ OBLIQUE FAULTING*

ISC 05 16:21:14.3±0.9, 40°.33S±0°.03×176°.65E±0°.04, h27km±5km, n88, σ0.69/101, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGFS	Porangahau Fir	0.04	313	P	Pb	16 21 18.7	-0.2
PGFS				S	Sb	16 21 22.1	+0.1
PRHZ	Porangahau	0.06	352	P	Pb	16 21 18.8	-0.3
PRHZ				S	Sb	16 21 22.1	-0.2
ANWZ	Angora Road	0.19	225	P	Pb	16 21 20.6	+0.5
ANWZ				S	Sb	16 21 25.8	+1.8
WPHZ	Waipukurau	0.31	329	P	Pb	16 21 20.9	-0.8
WPHZ				S	Sb	16 21 25.6	-1.0
PXZ	Pawanui	0.34	29	P	Pn	16 21 23.4	-0.1
DVHZ	Dannevirke	0.37	274	P	Pb	16 21 21.8	-0.8
DVHZ				S	Sb	16 21 27.0	-1.2
WPWS	Waipawa Distri	0.39	353	P	Pb	16 21 22.7	-0.1
WPWS				S	Sb	16 21 28.8	+0.2
BFZ	Birch Farm	0.47	221	P	Pn	16 21 25.1	-0.1
BFZ	Birch Farm	0.47	221	S	Sn	16 21 34.0	+1.4
BFZ	Birch Farm	0.47	221	P	Pn	16 21 25.2	-0.1
BFZ				S	Sn	16 21 33.3	+0.6
PNHZ	Pukenui	0.54	320	P	Pb	16 21 24.5	-0.7
PNHZ				S	Sb	16 21 31.9	-0.9
KAHZ	Kahuranaki	0.56	18	P	Pn	16 21 27.0	+0.4
PRWZ	Pori Road	0.56	246	P	Pn	16 21 26.5	-0.1
TSZ	Takapari Road	0.59	297	P	Pb	16 21 25.4	-0.8
TSZ				S	Sb	16 21 33.0	-1.1
CPWZ	Castlepoint	0.67	210	P	Pn	16 21 29.0	+1.0
HNPS	Havelock North	0.68	15	P	Pn	16 21 28.8	+0.6
KRHZ	Kereru	0.72	343	P	Pb	16 21 28.2	0.0
TIWZ	Tintock	0.73	232	P	Pb	16 21 29.3	+0.7
CKHZ	Cape Kidnapper	0.75	26	P	Pn	16 21 29.6	+0.6
MRZ	Mangatainoka R	0.88	247	P	Pn	16 21 30.9	0.0
MCHZ	McNeill Hill	0.88	2	P	Pb	16 21 31.7	+0.7
KWHZ	Kaweka Forest	0.92	349	P	Pb	16 21 32.0	+0.4
TMWZ	Te Maipa	0.97	216	P	Pb	16 21 32.4	-0.1
OHWZ	Ohakea	1.03	276	P	Pb	16 21 34.2	+0.8
HOWZ	Holdsworth Sta	1.03	236	P	Pn	16 21 33.0	-0.1
ARHZ	Aropaoanui	1.10	14	P	Pb	16 21 34.7	+0.1
ARHZ				S	Sb	16 21 50.9	+2.4
MOVZ	Moawhango	1.15	323	P	Pb	16 21 35.2	-0.4
MOVZ				S	Sb	16 21 50.2	+0.1
BKZ	Black Stump Fm	1.17	354	P	Pn	16 21 35.0	+0.1
BKZ	Black Stump Fm	1.17	354	S	Sb	16 21 51.0	+0.4
BKZ	Black Stump Fm	1.17	354	P	Pb	16 21 35.2	-0.7
BKZ				S	Sb	16 21 50.6	0.0
MTW	Mount Morrison	1.20	226	P	Pn	16 21 35.0	-0.4
OGWZ	Otaki Gorge	1.23	246	P	Pn	16 21 35.9	+0.2
OGWZ				S	Sn	16 21 52.1	+0.7
NMHZ	Naumai	1.23	6	P	Pb	16 21 36.7	-0.4
WNVZ	Wahianoa	1.28	321	P	Pb	16 21 37.7	-0.3
TRWZ	Traveller	1.29	214	P	Pn	16 21 36.2	-0.4
TUVZ	Tukino	1.31	324	P	Pb	16 21 38.1	-0.2
MTVZ	Mangateitei	1.31	316	P	Pb	16 21 38.1	-0.1
WHVZ	Whangaehu Hut	1.32	322	P	Pb	16 21 38.3	-0.3
WHHZ	Waihua	1.33	20	P	Pb	16 21 37.5	-1.0
TRVZ	Turoa	1.33	320	P	Pb	16 21 38.4	-0.3
MAVZ	Matarangi	1.35	321	P	Pb	16 21 39.1	-0.1
FWVZ	Far West T-bar	1.36	321	P	Pb	16 21 38.8	-0.5
SNVZ	South Ngauruho	1.38	325	P	Pb	16 21 39.1	-0.4
OTVZ	Oturere	1.39	327	P	Pb	16 21 39.0	-0.6
ETVZ	East Tongariro	1.39	328	P	Pb	16 21 39.3	-0.4
WAZ	Wanganui	1.40	294	P	Pb	16 21 39.5	-0.3
PAWZ	Paruwai Farm	1.40	221	P	Pn	16 21 37.7	-0.4
NGZ	Ngauruhoe	1.41	325	P	Pb	16 21 39.4	-0.6
COVZ	Chateau Observ	1.41	323	P	Pb	16 21 39.3	-0.8
TMVZ	Te Maari	1.41	329	P	Pb	16 21 39.6	-0.5

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.53**	**252**	Pn	**Pn**	**16 28 32.9**	**0.0**
	0.7nm,0.3s,baz=70,slow=18,SNR=19						
PETK				Sn	**Sn**	**16 29 24.2**	**-0.1**
	0.4nm,0.3s,baz=70,slow=34,SNR=2.8						
	2.6nm,0.6s						
ILAR	**Eielson Array**	**25.64**	**48**	P	**P**	**16 32 52.0**	**-0.8**
	0.7nm,0.6s,baz=268,slow=8.9,SNR=15						
	0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.98**	**177**	T	T	17 12 45.6	
	baz=359,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**34.99**	**177**	T	T	17 12 43.8	
	baz=359,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**35.00**	**177**	T	T	17 12 44.0	
	baz=359,slow=76,SNR=13						
YKA	**Yellowknife Ar**	**40.03**	**45**	P	**P**	**16 34 58.7**	**+0.7**
	0.2nm,0.4s,baz=301,slow=7.8,SNR=2.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**44.23**	**303**	P	**P**	**16 35 34.0**	**+1.6**
	0.3nm,0.3s,baz=48,slow=8.7,SNR=2.0						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**49.33**	**303**	P	**P**	**16 36 11.9**	**-0.3**
	0.4nm,0.4s,baz=53,slow=9.4,SNR=1.5						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**51.53**	**310**	P	**P**	**16 36 27.3**	**-1.5**
	0.2nm,0.4s,baz=57,slow=10,SNR=1.7						
	0.2nm,0.4s						
ELK	**Elko**	**52.64**	**70**	LR	LR	16 57 47.4	
	comp=Z,37nm,18.3s,baz=58,slow=35						

BGR ***05*** *16:47:02.4, 34.°37N×74.°42E, h33km, mb5.4, Ms4.5*
IDC ***05*** *16:47:02.7±0.3, 35.°03N×74.°14E, h0km, mb5.5/38, mbtmp5.5/45, ML4.4/5, MS4.5/69, Error ellipse: s-maj=10.5km s-min=8.3km az=28.0*
GCMT ***05*** *16:47:03.8±0.1, 35.°11N±0.°01×74.°20E±0.°01, h19km, MW5.3/114, Moment Tensor Solution. s93,c139; s114,c199; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.45±.02; Mθθ0.23±.02; Mφφ-0.68±.01; Mrθ-0.37±.04; Mθφ-0.60±.01; Mφr0.53±.03; Best double couple: M0:1.06800×10^17 NP1:φs242.00000°, δ49.00000°, λ154.00000°. NP2:φs350.00000°, δ71.00000°, λ44.00000°. Principal axes: T 1.0830, Plg44.0000°, Azm215.0000°; N -0.0290, Plg43.0000°, Azm9.0000°; P -1.0530, Plg13.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***05*** *16:47:06.2±1.1, 35.°10N×74.°19E, h33km, mb5.9/83, MS4.7/31 Error ellipse: s-maj=4.3km s-min=2.6km az=99.7*
NEIC ***05*** *16:47:06.8±1.7, 35.°10N±0.°05×74.°17E±0.°08, h21km±3km, mb5.7/397, Mww5.2/28, Error ellipse: s-maj=9.9km s-min=7.5km az=107.0*
BJI ***05*** *16:47:06.0, 35.°10N×74.°20E, h20km, mB5.4/51, mb5.3/89, ML5.2/3, Ms5.2/95, Ms7 5.0/91*
NEIC ***05*** *16:47:07.8, 34.°97N×74.°17E, h24km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16 Nm; Mrr8.83; Mθθ-1.21; Mφφ-7.62; Mrθ-1.66; Mθφ-3.52; Mφr1.62; Fault plane solution: M0 9.30000×10^16 NP1: φs216.99000°, δ44.00000°, λ109.59000°. NP2: φs10.67000°, δ49.12000°, λ72.06000°. Principal axes: T 9.3886, Plg76.0000°, Azm214.0000°; N -0.1713, Plg13.0000°, Azm23.0000°; P -9.2173, Plg3.0000°, Azm113.0000°;*
NEIC ***05*** *16:47:07.8, 35.°07N×74.°17E, h24km*
NNC ***05*** *16:47:11.0±2.6, 35.°67N×73.°67E, h0km, mb5.8, mpv5.5, Error ellipse: s-maj=23.0km s-min=11.9km az=14.0*

ISC 05 16:47:06.4±0.3, 35.°06N±0.°02×74.°17E±0.°02, h24km±2km, h24km:pP-P, n1591, σ1.9s85/1680, mb5.7/495, MS4.8/146, 155C-53D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.11**	**149**	*e*P	**Pb**	**16 47 28.4**	**+1.5**
SRNI				*e*S	**Sn**	**16 47 44.7**	**+3.8**
NIL	**Nilore**	**1.60**	**209**	Pn	**Pb**	**16 47 35.4**	**+0.2**
NIL	**Nilore**	**1.60**	**209**	P	**Pb**	**16 47 36.3**	**+1.0**
NIL	**Nilore**	**1.60**	**209**	P	**Pb**	**16 47 35.4**	**+0.2**
JMU	**Jammu**	**2.41**	**165**	*e*P	**Pn**	**16 47 45.7**	**+1.3**
JMU				*e*S	**Sn**	**16 48 15.0**	**+1.9**
JMU				IAML		16 48 23.6	
	comp=E,109μm,0.8s						
JMU				IAML		16 48 38.1	
	comp=E,108μm,0.4s						
DHRM	**DHARAMSHALA**	**3.31**	**147**	*e*P	**Pn**	**16 48 00.4**	**+3.3**
DHRM				*e*S	**Sn**	**16 48 38.3**	**+2.5**
BHK	**Bhakra**	**4.09**	**152**	*e*P	**Pn**	**16 48 10.2**	**+2.7**
BHK				*e*S	**Sn**	**16 48 58.5**	**+3.9**
BHK				IAML		16 49 18.6	
	comp=E,24μm,0.3s						
BHK				IAML		16 49 29.7	
	comp=E,28μm,0.6s						
KBL	**Kabul**	**4.25**	**265**		**Pn**	**16 48 12.3**	**+2.4**
KBL	**Kabul**	**4.25**	**265**	P	**Pn**	**16 48 12.4**	**+2.6**
	SNR=1342						
KBL				S	**Sb**	**16 49 08.2**	**-3.4**
KBL	**Kabul**	**4.25**	**265**	P	**Pn**	**16 48 12.3**	**+2.4**
SMLA	**Simla**	**4.66**	**146**	*e*P	**Pn**	**16 48 17.6**	**+2.4**
SMLA				*e*S	**Sn**	**16 49 09.0**	**+0.5**
KSH	**Kashi**	**4.68**	**17**	Pn	**Pn**	**16 48 13.3**	**-2.4**
KSH				Sn	**Sn**	**16 49 07.6**	**-1.7**
KSH				smax	smax		
	comp=E,3μm,1.3s						
KSH				smax	smax		
	comp=E,3μm,1.4s						
DRK	**Karamyk**	**4.80**	**338**	Pn	**Pn**	**16 48 18.3**	**+0.8**
DRK	**Karamyk**	**4.80**	**338**	P	**Pn**	**16 48 18.3**	**+0.8**
KLP	**Kalpa**	**4.90**	**135**	*e*P	**Pn**	**16 48 19.4**	**+0.5**
KLP				*e*S	**Sn**	**16 49 12.4**	**-2.6**
KLP				IAML		16 49 45.1	
	comp=E,21μm,0.5s						
KLP				IAML		16 49 45.9	
	comp=N,13μm,0.8s						
GAR	**Garm**	**5.00**	**323**		**Pn**	**16 48 21.9**	**+1.8**
SRGN	**SRI GANGA NAGA**	**5.13**	**183**	*e*P	**Pn**	**16 48 21.4**	**-0.3**
SRGN				*e*S	**Sn**	**16 49 18.6**	**-1.6**
CHGR	**Chuyangaron**	**5.39**	**313**		**Pn**	**16 48 26.6**	**+1.1**
CHGR	**Chuyangaron**	**5.39**	**313**	P	**Pn**	**16 48 26.6**	**+1.1**
SIMJ	**Simiganj**	**5.48**	**312**		**Pn**	**16 48 27.7**	**+1.0**
OHH	**Osh**	**5.57**	**349**	P	**Pn**	**16 48 31.1**	**+3.2**
BTK	**Batken**	**5.66**	**333**		**Pn**	**16 48 32.0**	**+2.9**
BTK	**Batken**	**5.66**	**333**	P	**Pn**	**16 48 32.0**	**+2.9**
DDI	**Dehra Dun**	**5.75**	**144**	*e*P	**Pn**	**16 48 31.8**	**+1.5**
DDI				*e*S	**Sn**	**16 49 32.5**	**-3.0**
RTK	**Rohtak**	**6.30**	**162**	*e*P	**Pn**	**16 48 37.8**	**-0.1**
RTK				*e*S	**Sn**	**16 49 47.1**	**-1.9**
RTK				IAML		16 50 06.5	
	comp=N,7μm,0.7s						
RTK				IAML		16 50 07.7	
	comp=E,10μm,0.4s						
ARSB	**Arslanbob**	**6.33**	**352**		**Pn**	**16 48 40.1**	**+1.8**
ARSB	**Arslanbob**	**6.33**	**352**	P	**Pn**	**16 48 40.1**	**+1.8**
GNR	**GANAUR**	**6.38**	**157**	*e*P	**Pn**	**16 48 41.8**	**+2.9**
GNR				*e*S	**Sn**	**16 49 47.1**	**-4.0**
NRN	**Naryn**	**6.53**	**12**	Pn	**Pn**	**16 48 41.8**	**+0.5**
NRN	**Naryn**	**6.53**	**12**	P	**Pn**	**16 48 43.6**	**+2.3**
MERT	**Meerut**	**6.78**	**153**	*e*P	**Pn**	**16 48 47.1**	**+2.7**
MERT				*e*S	**Sn**	**16 49 56.7**	**-4.2**
ARLS	**Aral**	**6.79**	**1**	P	**Pn**	**16 48 47.1**	**+2.3**
NDI	**New Delhi**	**6.86**	**157**	*ex*	**Pb**	**16 49 01.9**	**-3.0**
NDI				*e*S	**Sn**	**16 50 00.8**	**-2.2**
NDI				IAML		16 50 05.5	
	comp=E,3μm,0.5s						
NDI				IAML		16 50 22.2	
	comp=E,3μm,0.5s						
NPLP	**NPLP New Delhi**	**6.89**	**157**	*e*P	**Pn**	**16 48 45.9**	**0.0**
NPLP				*e*S	**Sn**	**16 49 59.4**	**-4.3**
NPLP				IAML		16 50 04.8	
	comp=E,5μm,0.3s						
NPLP				IAML		16 50 05.7	
	comp=N,4μm,0.5s						
LDR	**Lodi Road**	**6.96**	**157**	*e*P	**Pn**	**16 48 45.9**	**-0.9**
LDR				*e*S	**Sn**	**16 50 01.4**	**-3.8**
ASOR	**Ausora**	**6.99**	**153**	*e*P	**Pn**	**16 48 47.1**	**-0.2**
ASOR				*e*S	**Sn**	**16 50 05.0**	**-1.0**
ASOR				*e*S	Sb	16 50 16.3	-14
JMIU	**JAMIA UNIVERSI**	**6.99**	**157**	*e*P	**Pn**	**16 48 50.0**	**+2.6**
JMIU				*e*S	**Sn**	**16 50 01.4**	**-4.7**
BKNR	**BIKANER**	**7.06**	**186**	*e*P	**Pn**	**16 48 45.9**	**-2.3**
BKNR				*e*S	**Sn**	**16 49 59.4**	**-8.4**
BKNR				IAML		16 50 58.9	
	comp=E,9μm,0.8s						
BKNR				IAML		16 51 00.2	
	comp=N,8μm,0.8s						
AML	**Almayashu**	**7.07**	**357**	P	**Pn**	**16 48 51.1**	**+2.2**
	SNR=401						
TKRD	**Thakurdwara**	**7.11**	**145**	*e*P	**Pn**	**16 48 50.0**	**+1.1**
TKRD				*e*S	**Sn**	**16 50 03.5**	**-5.5**
UCH	**Uchtor**	**7.17**	**2**	P	**Pn**	**16 48 52.9**	**+2.7**
	SNR=35						
KUDL	**Kundal**	**7.17**	**163**	*e*P	**Pn**	**16 48 49.1**	**-0.6**
KUDL				*e*S	**Sn**	**16 50 08.3**	**-2.2**
KUDL				IAML		16 50 11.8	
	comp=E,2μm,0.3s						
KUDL				IAML		16 50 38.0	
	comp=E,2μm,0.5s						
SONA	**Sohna**	**7.23**	**159**	*e*P	**Pn**	**16 48 51.2**	**+0.6**
SONA				*e*S	**Sn**	**16 50 09.6**	**-2.3**
TARG	**Taragay, Kyrgy**	**7.25**	**22**	Pn	**Pn**	**16 48 54.1**	**+2.9**
TARG	**Taragay, Kyrgy**	**7.25**	**22**	P	**Pn**	**16 48 54.1**	**+2.9**
WUS	**Wushi**	**7.31**	**31**	Pn	**Pn**	**16 48 53.2**	**+1.4**
ULHL	**Ulahol**	**7.36**	**12**	P	**Pn**	**16 48 56.8**	**+4.3**
	SNR=22						
UGON	**Onchagaon**	**7.44**	**154**	*e*P	**Pn**	**16 48 52.0**	**-1.5**
UGON				*e*S	**Sn**	**16 50 11.6**	**-5.6**
KDJ	**Kajisay**	**7.45**	**18**		**Pn**	**16 48 55.5**	**+1.8**
KDJ	**Kajisay**	**7.45**	**18**	P	**Pn**	**16 48 55.5**	**+1.8**
PTH	**Pithoragarh**	**7.50**	**135**	*e*P	**Pn**	**16 48 55.3**	**+0.7**
PTH				*e*S	**Sn**	**16 50 15.1**	**-3.9**
PTH				IAML		16 50 34.8	
	comp=E,1μm,0.6s						
AAK	**Ala-Archa**	**7.57**	**2**	Pn	**Pn**	**16 48 55.6**	**+0.1**
AAK	**Ala-Archa**	**7.57**	**2**	Pn	**Pn**	**16 48 58.4**	**+2.9**
	comp=E,7.1nm,0.3s,baz=183,slow=15,SNR=100						
AAK				Sn	**Sn**	**16 50 21.4**	**+0.8**
	comp=E,17nm,0.3s,baz=126,slow=19,SNR=3.6						
AAK				Lg	Lg	16 50 54.7	
	comp=E,4.9nm,0.3s,baz=143,slow=20,SNR=1.9						
AAK				LR	LR	16 52 05.0	
	comp=E,6μm,18.6s,baz=190,slow=40						
	comp=E,35nm,0.5s						
AAK	**Ala-Archa**	**7.57**	**2**	P	**Pn**	**16 48 58.3**	**+2.9**
AAK				S	**Sn**	**16 50 21.0**	**+0.4**
AAK	**Ala-Archa**	**7.57**	**2**	P	**Pn**	**16 48 58.5**	**+2.9**
	SNR=65						
AAK	**Ala-Archa**	**7.57**	**2**	*i* P	**Pn**	**16 48 58.4**	**+2.9**
	SNR=155						
LGTI	**Lohaghat**	**7.60**	**136**	*e*P	**Pn**	**16 48 55.3**	**-0.4**
LGTI				*e*S	**Sn**	**16 50 15.5**	**-5.5**
EKS2	**Erkin-Say**	**7.60**	**358**	P	**Pn**	**16 48 58.7**	**+2.9**
	SNR=116						
KBK	**Karagaybulak**	**7.61**	**4**	P	**Pn**	**16 48 59.2**	**+3.2**
	SNR=107						
FRU1	**Bishkek**	**7.75**	**3**	Pn	**Pn**	**16 48 57.7**	**-0.1**
FRU1	**Bishkek**	**7.75**	**3**	P	**Pn**	**16 48 57.7**	**-0.1**
IUG	**Iuzhnay**	**7.78**	**337**	*e*P	**Pn**	**16 48 59.3**	**+1.0**
IUG				*e*S	**Sn**	**16 50 26.5**	**+0.8**
IUG	**Iuzhnay**	**7.78**	**337**	*e*P	**Pn**	**16 48 59.3**	**+1.0**
IUG				*e*S	**Sn**	**16 50 26.6**	**+0.8**
CHM	**Chimkent**	**8.08**	**335**	*e*P	**Pn**	**16 49 03.4**	**+1.1**
CHM				pmax	pmax		
	comp=Z,54nm,0.7s						
CHM	**Chimkent**	**8.08**	**335**	*e*P	**Pn**	**16 49 03.4**	**+1.1**
	comp=Z,54nm,0.7s						
PRZ	**Przheval'sk**	**8.12**	**23**	P	**Pn**	**16 49 06.3**	**+3.4**
DZA	**Taraz**	**8.13**	**345**	*e*P	**Pn**	**16 49 03.7**	**+0.8**
DZA	**Taraz**	**8.13**	**345**	*e*P	**Pn**	**16 49 03.8**	**+0.8**
USP	**Ospenovka**	**8.20**	**2**	P	**Pn**	**16 49 06.3**	**+2.3**
	SNR=26						
TNSS	**Tian-Shan**	**8.26**	**14**	*e*P	**Pn**	**16 49 05.4**	**+0.4**
TNSS	**Tian-Shan**	**8.26**	**14**	*e*P	**Pn**	**16 49 05.4**	**+0.4**
MDOK	**Medeo**	**8.40**	**15**	P	**Pn**	**16 49 08.5**	**+1.8**
	comp=Z,243nm,1.3s						
MDOK	**Medeo**	**8.40**	**15**	*e*P	**Pn**	**16 49 07.4**	**+0.7**
MDOK				*e*S	**Sn**	**16 50 41.3**	**+0.4**
MDOK	**Medeo**	**8.40**	**15**	*e*P	**Pn**	**16 49 07.5**	**+0.7**
MDOK				*e*S	**Sn**	**16 50 41.3**	**+0.4**
AAA	**Alma-Ata**	**8.41**	**14**	*e*P	**Pn**	**16 49 07.6**	**+0.7**
AAA				pmax	pmax		
	comp=Z,73nm,1.2s						
AAA	**Alma-Ata**	**8.41**	**14**	*e*P	**Pn**	**16 49 07.7**	**+0.7**
	comp=Z,73nm,1.2s						
KNDC	**Almaty**	**8.43**	**14**	⇑P	**Pn**	**16 49 10.6**	**+3.4**
	comp=Z,250nm,1.0s						
KNDC				⇓S	**Sn**	**16 50 38.1**	**-3.5**
	comp=Z,1μm,1.1s						
KNDC	**Almaty**	**8.43**	**14**	P	**Pn**	**16 49 10.6**	**+3.4**
KNDC				S	**Sn**	**16 50 38.9**	**-2.7**
KK31	**Karatay Array**	**8.52**	**342**		**Pn**	**16 49 09.3**	**+0.9**
KK31	**Karatay Array**	**8.52**	**342**	⇑P	**Pn**	**16 49 07.6**	**-0.8**
	comp=Z,160nm,0.5s,baz=160,slow=12,SNR=1194						
KK31				⇑S	**Sn**	**16 50 37.7**	**-6.0**
	comp=Z,443nm,0.6s,baz=165,slow=22,SNR=8.4						
KK31	**Karatay Array**	**8.52**	**342**	P	**Pn**	**16 49 07.9**	**-0.5**
KK31				S	**Sn**	**16 50 37.7**	**-6.0**
KKAR	**Karatay Array**	**8.52**	**342**	Pn	**Pn**	**16 49 09.3**	**+0.9**
KKAR	**Karatay Array**	**8.52**	**342**	Pn	**Pn**	**16 49 09.2**	**+0.9**
KKAR	**Karatay Array**	**8.52**	**342**	P	**Pn**	**16 49 09.2**	**+0.8**
AJM	**Ajmer**	**8.56**	**177**	*e*P	**Pn**	**16 49 09.6**	**+0.7**
AJM				*e*S	**Sn**	**16 50 43.2**	**-1.6**
AJM				IAML		16 51 44.4	
	comp=E,2μm,1.6s						
AJM				IAML		16 52 06.5	
	comp=E,1μm,1.1s						
JASL	**Jaisalmer**	**8.58**	**200**	*e*P	**Pn**	**16 49 07.6**	**-1.6**
JASL				*e*S	**Sn**	**16 50 37.6**	**-7.5**
JASL				IAML		16 50 49.5	
	comp=E,2μm,0.5s						
SATY	**Saty**	**8.64**	**21**	*e*P	**Pn**	**16 49 10.6**	**+0.5**
SATY				pmax	pmax		
	comp=Z,55nm,1.1s						
SATY	**Saty**	**8.64**	**21**	*e*P	**Pn**	**16 49 10.6**	**+0.5**
	comp=Z,55nm,1.1s						
BRLS	**Borolday**	**8.64**	**338**	*e*P	**Pn**	**16 49 08.1**	**-1.9**
BRLS				*e*S	**Sn**	**16 50 42.8**	**-3.9**
BRLS	**Borolday**	**8.64**	**338**	*e*P	**Pn**	**16 49 08.1**	**-1.9**
BRLS				*e*S	**Sn**	**16 50 42.9**	**-3.9**
ZHN	**Zhinishke**	**8.75**	**21**	*e*P	**Pn**	**16 49 12.1**	**+0.6**
ZHN	**Zhinishke**	**8.75**	**21**	*e*P	**Pn**	**16 49 12.2**	**+0.6**
UZB	**Uzynbulak**	**8.91**	**24**	*e*P	**Pn**	**16 49 14.5**	**+0.7**
UZB				pmax	pmax		
	comp=Z,63nm,1.1s						
UZB	**Uzynbulak**	**8.91**	**24**	*e*P	**Pn**	**16 49 14.5**	**+0.7**
	comp=Z,63nm,1.1s						
FRKB	**FARRUKHABAD**	**8.93**	**147**	*e*P	**Pn**	**16 49 14.5**	**+0.6**
FRKB				*e*S	**Sn**	**16 50 48.3**	**-5.4**
FRKB				IAML		16 50 55.2	
	comp=N,6μm,0.5s						
FRKB				IAML		16 50 58.3	
	comp=E,5μm,0.6s						
SHLS	**Shalkode**	**9.07**	**25**	*e*P	**Pn**	**16 49 18.5**	**+2.6**
SHLS				pmax	pmax		
	comp=Z,65nm,1.6s						
SHLS	**Shalkode**	**9.07**	**25**	*e*P	**Pn**	**16 49 18.6**	**+2.6**
	comp=Z,65nm,1.6s						
KPKS	**Kokpek**	**9.10**	**21**	*e*P	**Pn**	**16 49 16.7**	**+0.4**
KPKS				pmax	pmax		
	comp=Z,53nm,1.5s						
KPKS	**Kokpek**	**9.10**	**21**	*e*P	**Pn**	**16 49 16.7**	**+0.4**
	comp=Z,53nm,1.5s						
PDGK	**Podgornoye**	**9.23**	**25**	⇑P	**Pn**	**16 49 20.2**	**+2.0**
	comp=Z,227nm,0.9s						
PDGK				⇓S	**Sn**	**16 51 03.8**	**+2.4**
	comp=Z,282nm,0.9s						
PDGK	**Podgornoye**	**9.23**	**25**	P	**Pn**	**16 49 20.2**	**+2.0**
PDGK				S	**Sn**	**16 51 03.8**	**+2.4**
HRA	**Herat**	**9.84**	**270**	Pn	**Pn**	**16 49 27.0**	**+0.4**
BTLS	**Baital**	**9.97**	**359**	*e*P	**Pn**	**16 49 29.0**	**+0.8**
BTLS	**Baital**	**9.97**	**359**	*e*P	**Pn**	**16 49 29.1**	**+0.8**
LKN	**LUCKNOW**	**10.07**	**143**	*e*P	**Pn**	**16 49 30.9**	**+1.2**
LKN				*e*S	**Sn**	**16 51 16.9**	**-5.0**
PYUN	**Piuthan**	**10.23**	**130**	Pn	**Pn**	**16 49 30.7**	**-1.2**
	baz=131,slow=0.0						
PYUN				Sn	**Sn**	**16 51 20.6**	**-5.4**
	comp=Z,4μm,0.7s,baz=131,slow=0.0						
JHNI	**Jhansi**	**10.28**	**157**	*e*P	**Pn**	**16 49 34.2**	**+1.8**
JHNI				*e*S	**Sn**	**16 51 20.6**	**-6.3**
TDK	**Taldyqorghan**	**10.45**	**17**	*e*P	**Pn**	**16 49 35.3**	**+0.6**
TDK	**Taldyqorghan**	**10.45**	**17**	*e*P	**Pn**	**16 49 35.3**	**+0.6**
DANN	**Dangsing**	**10.55**	**127**	Pn	**Pn**	**16 49 35.5**	**-1.0**
	baz=127,slow=0.0						
DANN				Sn	**Sn**	**16 51 28.8**	**-5.2**
	comp=Z,2μm,0.6s,baz=127,slow=0.0						
GUNA	**GUNA**	**10.73**	**164**	*e*P	**Pn**	**16 49 36.9**	**-1.7**
GUNA				*e*S	**Sn**	**16 51 31.2**	**-6.9**
KOLN	**Koldanda**	**10.84**	**129**	Pg	**Pn**	**16 49 38.5**	**-1.9**
	baz=130,slow=0.0						
VLK	**Valmikinagar**	**11.33**	**130**	*e*P	**Pn**	**16 49 45.1**	**-1.7**
VLK				*e*S	Sn	16 51 41.1	-12
GKN	**Gorkha**	**11.36**	**125**	Pn	**Pn**	**16 49 46.1**	**-1.3**
	baz=126,slow=0.0						
GKN				Sn	**Sn**	**16 51 48.4**	**-5.3**
	comp=Z,3μm,0.7s,baz=126,slow=0.0						
ALBI	**Allahabad**	**11.74**	**144**	*e*P	**Pn**	**16 49 50.6**	**-1.9**
ALBI				*e*S	**Sn**	**16 51 54.3**	**-8.6**
ALBI				IAML		16 52 00.1	
	comp=E,2μm,0.9s						
ALBI				IAML		16 52 16.9	
	comp=E,1μm,0.7s						
KKN	**Kakani**	**11.93**	**124**	Pg	**Pn**	**16 49 53.7**	**-1.6**
	baz=125,slow=0.0						
DMN	**Daman**	**11.93**	**125**	Pn	**Pn**	**16 49 53.4**	**-1.9**
	baz=126,slow=0.0						
DMN				Sn	**Sn**	**16 52 03.9**	**-3.9**
	comp=E,4μm,0.7s,baz=126,slow=0.0						
BHPL	**Bhopal**	**12.11**	**166**	*e*P	**Pn**	**16 49 56.8**	**-0.8**
BHPL				*e*S	Sn	16 52 02.2	-10
PKIN	**Phulchoki**	**12.15**	**125**	Pn	**Pn**	**16 49 56.9**	**-1.4**
	baz=125,slow=0.0						
PKIN				Sn	**Sn**	**16 52 07.3**	**-5.8**
	baz=125,slow=0.0						
PKI	**Pulchoki**	**12.16**	**125**	Pn	**Pn**	**16 49 55.9**	**-2.6**
	baz=125,slow=0.0						
PKI				Sn	**Sn**	**16 52 07.4**	**-6.1**
	baz=125,slow=0.0						
GUN	**Gumba**	**12.27**	**122**	Pn	**Pn**	**16 49 57.6**	**-2.4**
	baz=123,slow=0.0						
GUN				Sn	**Sn**	**16 52 11.3**	**-4.8**
	comp=E,2μm,0.7s,baz=123,slow=0.0						
VAR	**Varanasi**	**12.37**	**139**	*e*P	**Pn**	**16 49 59.4**	**-1.7**
VAR				*e*S	Sn	16 52 07.9	-10
BHUJ	**Bhuj**	**12.40**	**200**	*e*P	**Pn**	**16 50 00.8**	**-0.7**
BHUJ				*e*S	**Sn**	**16 52 10.3**	**-8.7**
NRDN	**NARMADA NAGAR**	**12.57**	**167**	*e*P	**Pn**	**16 50 05.5**	**+1.7**
NRDN				*e*S	Sn	16 52 12.0	-11
MAKZ	**Makanchi**	**13.13**	**24**		**Pn**	**16 50 11.2**	**-0.2**
MAKZ	**Makanchi**	**13.13**	**24**	⇑P	**Pn**	**16 50 11.4**	**0.0**
	comp=E,145nm,1.2s						
MAKZ	**Makanchi**	**13.13**	**24**	P	**Pn**	**16 50 11.2**	**-0.2**
MK31	**Makanchi Array**	**13.22**	**25**	P	**Pn**	**16 50 12.3**	**-0.4**
	comp=E,68nm,0.8s,baz=202,slow=11,SNR=722						
MK31	**Makanchi Array**	**13.22**	**25**	*c*eP	**Pn**	**16 50 11.5**	**-1.2**
MKAR	**Makanchi Array**	**13.22**	**25**	Pn	**Pn**	**16 50 12.6**	**-0.1**
	comp=E,0.9nm,0.3s,baz=208,slow=12,SNR=86						
MKAR				Lg	Lg	16 53 54.5	
	comp=E,0.5nm,0.3s,baz=205,slow=24,SNR=2.1						
MKAR				LR	LR	16 55 43.3	
	comp=E,5μm,18.6s,baz=201,slow=39						
MKAR				P3KP		17 26 44.9	
	comp=E,0.3nm,0.8s,baz=33,slow=4.0,SNR=3.7						
	comp=E,18nm,0.9s						
OTUK	**Ortayu**	**13.25**	**355**	⇓P	**Pn**	**16 50 11.8**	**-1.2**
	comp=E,156nm,0.9s						
OTUK	**Ortayu**	**13.25**	**355**	P	**Pn**	**16 50 11.8**	**-1.2**
RAMN	**Ramite**	**13.37**	**124**	Pn	**Pn**	**16 50 12.2**	**-2.7**
	baz=124,slow=0.0						
RAMN				Sn	**Sn**	**16 52 37.3**	**-5.6**
	comp=E,2μm,0.5s,baz=124,slow=0.0						
WMQ	**Urumqi**	**13.62**	**46**	*e*P	**Pn**	**16 50 17.5**	**-0.6**
WMQ				sP	P	16 50 31.0	+4.2
WMQ				S	**Sn**	**16 52 45.7**	**-2.9**
WMQ				pmax	pmax		
	comp=E,52nm,0.9s						
WMQ				pmax	pmax		
	comp=E,150nm,3.8s						
WMQ				LR	LR		
	comp=E,11μm,15.5s						
WMQ				LR	LR		
	comp=E,8μm,10.3s						
WMQ				LR	LR		
	comp=E,7μm,15.5s						
TAPN	**Taplejung**	**13.89**	**120**	Pn	**Pn**	**16 50 18.5**	**-3.7**
	baz=120,slow=0.0						
TAPN				Sn	**Sn**	**16 52 49.7**	**-6.1**
	baz=120,slow=0.0						
AKL	**Akola**	**14.52**	**169**	*e*P	**Pn**	**16 50 27.4**	**-3.0**
AKL				*e*S	Sn	16 53 01.5	-9.2
AKL				IAML		16 53 09.5	
	comp=E,495nm,0.7s						
AKL				IAML		16 53 21.4	
	comp=E,536nm,0.8s						
GTK	**Tadong**	**14.55**	**118**	*e*P	**Pn**	**16 50 26.7**	**-4.3**
GTK				IAmb	IAmb	16 50 48.3	
	comp=Z,161nm,1.0s						
GTK				*e*S	Sn	16 53 01.7	-10
BLSP	**Bilaspur**	**14.65**	**149**	*e*P	**Pn**	**16 50 30.0**	**-2.2**
BLSP				*e*S	**Sn**	**16 53 05.0**	**-8.8**
ZSN	**Zaisan**	**14.75**	**30**	*e*P	**Pn**	**16 50 33.9**	**+0.5**
ZSN	**Zaisan**	**14.75**	**30**	*e*P	**P

KAD			*e*S	Sn	16 54 14.7	-13
RAGD	**RAYAGADA**	**17.77 150**	*e*P	**Pn**	**16 51 12.5**	**+0.2**
RAGD			*e*S	Sn	16 54 15.8	-14
BANOM	**Banah**	**17.87 244**	P	**P**	**16 51 15.7**	**+1.7**
BANOM			S	**S**	**16 54 39.1**	**+0.8**
BANOM	**Banah**	**17.87 244**	*i* P	**P**	**16 51 14.7**	**+0.6**
	SNR=24					
SHME	**Shamm**	**17.91 245**	P	**P**	**16 51 15.4**	**+0.9**
SHME			S	**S**	**16 54 37.8**	**-1.4**
SHME	**Shamm**	**17.91 245**	*i* P	**P**	**16 51 15.1**	**+0.6**
	SNR=8.4					
WSAR	**Wadi Sarin**	**17.94 233**	P	**Pn**	**16 51 12.9**	**-1.4**
	comp=Z,3.6nm,0.3s,baz=56,slow=7.9,SNR=41					
WSAR			S	Sn	16 54 21.7	-12
	comp=Z,16nm,0.7s,baz=334,slow=16,SNR=2.0					
WSAR			LR	LR	16 59 40.9	
	comp=Z,1μm,21.2s,baz=72,slow=42					
	comp=Z,181nm,1.0s					
SHL	**Shillong**	**17.96 117**	P	**Pn**	**16 51 08.4**	**-6.4**
SHL	**Shillong**	**17.96 117**	P	**Pn**	**16 51 09.3**	**-5.4**
	SNR=116					
SHL	**Shillong**	**17.96 117**	*e*P	**P**	**16 51 15.7**	**+0.5**
SHL			*e*S	Sn	16 54 17.7	-17
SHL	**Shillong**	**17.96 117**	P	**Pn**	**16 51 08.4**	**-6.4**
SHL			pmax	pmax		
	comp=Z,387nm,1.1s					
HYB	**Hyderabad**	**18.00 166**	*e*P	**Pn**	**16 51 10.1**	**-5.1**
BIDO	**Bidbid**	**18.08 235**	P	**P**	**16 51 21.0**	**+4.6**
	SNR=5.7					
BIDO			P	**P**	**16 51 21.0**	**+4.6**
	SNR=5.7					
BVA0	**Borovoye Array**	**18.16 353**	P	**Pn**	**16 51 14.8**	**-2.1**
	comp=Z,232nm,0.8s,baz=154,slow=12,SNR=1268					
BVA0	**Borovoye Array**	**18.16 353**	P	**Pn**	**16 51 14.8**	**-2.1**
BVAR	**Borovoye Array**	**18.16 353**	P	**Pn**	**16 51 14.7**	**-2.2**
	comp=Z,2.3nm,0.3s,baz=157,slow=12,SNR=208					
BVAR			S	**Sn**	**16 54 30.7**	**-8.1**
	comp=Z,21nm,0.9s,baz=166,slow=19,SNR=1.8					
BVAR			Lg	Lg	16 56 40.2	
	baz=164,slow=33					
BVAR			LR	LR	16 58 33.6	
	comp=Z,2μm,20.2s,baz=168,slow=38					
BVAR			PKiKP	**PKiKP**	**17 03 40.4**	**0.0**
	comp=Z,2.6nm,0.9s,baz=234,slow=1.2,SNR=3.7					
	comp=Z,118nm,0.6s					
WBK	**Wadi Bani Khal**	**18.17 231**	P	**P**	**16 51 19.5**	**+2.2**
	SNR=6.2					
BRVK	**Borovoye**	**18.21 352**	P	**Pn**	**16 51 15.5**	**-1.9**
BRVK	**Borovoye**	**18.21 352**	P	**Pn**	**16 51 16.9**	**-0.5**
BRVK			P	**Pn**	**16 51 16.9**	**-0.5**
BRVK			S	**Sn**	**16 54 41.7**	**+1.9**
BRVK			S	**Sn**	**16 54 41.7**	**+1.9**
BRVK	**Borovoye**	**18.21 352**	⇓P	**Pn**	**16 51 16.2**	**-1.2**
	comp=Z,255nm,0.8s					
BRVK	**Borovoye**	**18.21 352**	*c i* P	**Pn**	**16 51 15.2**	**-2.2**
BRVK			pmax	pmax		
	comp=Z,407nm,1.3s					
BRVK			MLR	MLR		
	comp=Z,3μm,12.0s					
JLN	**Jalan Bani Buh**	**18.23 229**	P	**P**	**16 51 19.2**	**+1.3**
	SNR=12					
MDH	**Madha**	**18.23 243**	P	**P**	**16 51 19.6**	**+1.6**
	SNR=5.5					
MDH			P	**P**	**16 51 19.6**	**+1.6**
	SNR=5.5					
MASF	**Masafi**	**18.29 243**	P	**P**	**16 51 20.5**	**+1.8**
	SNR=13					
MASF			P	**P**	**16 51 20.5**	**+1.8**
	SNR=13					
MASF			P	**P**	**16 51 20.5**	**+1.8**
	SNR=13					
MASF			S	**S**	**16 54 50.2**	**+3.5**
MASF			S	**S**	**16 54 50.2**	**+3.5**
MASF			S	**S**	**16 54 50.2**	**+3.5**
MSFE	**Esma-Masafi**	**18.30 243**	*i* P	**Pn**	**16 51 19.6**	**+0.9**
	SNR=39					
ZIRO	**ZIRO**	**18.40 109**	*e*P	**P**	**16 51 19.4**	**-0.7**
ZIRO			IAmb	IAmb	16 51 25.2	
	comp=Z,306nm,1.7s					
ZIRO			*e*S	Sn	16 54 27.1	-18
SMDO	**Samad**	**18.45 234**	P	**Pn**	**16 51 24.0**	**+3.3**
	SNR=15					
UOSS	**Minazif**	**18.51 242**	P	**P**	**16 51 20.5**	**-0.6**
UOSS	**Minazif**	**18.51 242**	P	**Pn**	**16 51 23.9**	**+2.5**
UOSS			P	**Pn**	**16 51 23.9**	**+2.5**
UOSS	**Minazif**	**18.51 242**	P	**Pn**	**16 51 21.8**	**+0.4**
UMQ	**Umm Al-Quwin**	**18.57 244**	P	**Pn**	**16 51 25.5**	**+3.6**
UMQ			P	**Pn**	**16 51 25.5**	**+3.6**
HOQ	**Hoqain**	**18.59 237**	P	**Pn**	**16 51 25.5**	**+3.2**
	SNR=8.8					
HOQ			P	**Pn**	**16 51 25.5**	**+3.2**
	SNR=8.8					
HOQ			P	**Pn**	**16 51 25.5**	**+3.2**
	SNR=8.8					
HATD	**Hatta, Dubai**	**18.64 242**	P	**Pn**	**16 51 25.7**	**+2.8**
	SNR=10					
HATD			P	**Pn**	**16 51 25.7**	**+2.8**
	SNR=10					
HATD			S	**S**	**16 54 59.3**	**+5.9**
HATD			S	**S**	**16 54 59.3**	**+5.9**
HATD	**Hatta, Dubai**	**18.64 242**	*i* P	**Pn**	**16 51 24.7**	**+1.8**
	SNR=14					
ASHO	**Ashiyiah**	**18.77 241**	P	**Pn**	**16 51 27.1**	**+2.5**
	SNR=19					
ASHO			P	**Pn**	**16 51 27.1**	**+2.5**
	SNR=19					
ASHO	**Ashiyiah**	**18.77 241**	*i* P	**Pn**	**16 51 25.8**	**+1.2**
	SNR=44					
SOHO	**SOHO**	**18.78 239**	S	**S**	**16 55 04.2**	**+8.1**
SOHO	**SOHO**	**18.78 239**	*i* P	**Pn**	**16 51 26.0**	**+1.4**
	SNR=31					
NAZ	**Nazwa, Dubai**	**18.88 243**	P	**Pn**	**16 51 28.0**	**+2.2**
	SNR=12					
NAZ			P	**Pn**	**16 51 28.0**	**+2.2**
	SNR=12					
NAZ			S	**S**	**16 55 05.1**	**+6.9**
NAZ			S	**S**	**16 55 05.1**	**+6.9**
NAZ	**Nazwa, Dubai**	**18.88 243**	*i* P	**Pn**	**16 51 27.0**	**+1.2**
	SNR=17					
JMDO	**Jabal Madar**	**18.90 232**	P	**Pn**	**16 51 28.2**	**+2.2**
	SNR=20					
JMDO			P	**Pn**	**16 51 28.2**	**+2.2**
	SNR=20					
JMDO			P	**Pn**	**16 51 28.2**	**+2.2**
	SNR=20					
FAQ	**Al Faqa, Dubai**	**19.07 242**	P	**Pn**	**16 51 29.8**	**+1.6**
	SNR=11					
FAQ			P	**Pn**	**16 51 29.8**	**+1.6**
	SNR=11					
FAQ	**Al Faqa, Dubai**	**19.07 242**	P	**Pn**	**16 51 29.3**	**+1.2**
VIS	**Vishakhapatnam**	**19.10 152**	*e*P	**Pn**	**16 51 29.8**	**+1.4**
VIS			*e*S	Sn	16 54 46.0	-16
BSY	**Bisya**	**19.23 235**	P	**Pn**	**16 51 32.1**	**+2.0**
	SNR=15					
BSY			P	**Pn**	**16 51 32.1**	**+2.0**
	SNR=15					
ARQ	**Araqi**	**19.30 237**	P	**Pn**	**16 51 33.0**	**+2.1**
	SNR=40					
ARQ			P	**Pn**	**16 51 33.0**	**+2.1**
	SNR=40					
ARQ			S	**S**	**16 55 16.6**	**+10**
ARQ			S	**S**	**16 55 16.6**	**+10**
ASUD	**Al Ashush, Dub**	**19.34 243**	P	**Pn**	**16 51 37.0**	**+5.7**
	SNR=8.4					
ASUD			P	**Pn**	**16 51 37.0**	**+5.7**
	SNR=8.4					
ASUD	**Al Ashush, Dub**	**19.34 243**	*i* P	**Pn**	**16 51 32.3**	**+1.0**
	SNR=7.0					
AKTO	**Aktyubinsk**	**19.35 328**	P	**P**	**16 51 30.0**	**-0.1**
	comp=Z,296nm,0.6s,baz=128,slow=12,SNR=415					
AKTO			S	**S**	**16 54 59.0**	**-8.4**
	comp=Z,56nm,0.9s,baz=238,slow=19,SNR=3.0					
AKTO			Lg	Lg	16 57 16.7	
	baz=204,slow=19					
AKTO			LR	LR	16 59 32.3	
	comp=Z,2μm,18.6s,baz=142,slow=39					
AKTO	**Aktyubinsk**	**19.35 328**	⇑P	**P**	**16 51 29.8**	**-0.3**
	comp=Z,258nm,0.8s					
AKTO			⇓S	**S**	**16 54 59.8**	**-7.6**
	comp=Z,143nm,1.2s					
AKTO	**Aktyubinsk**	**19.35 328**	P	**P**	**16 51 29.8**	**-0.3**
AKTO			S	**S**	**16 54 59.8**	**-7.6**
ALNE	**Al Ain**	**19.38 241**	P	**Pn**	**16 51 33.4**	**+1.5**
	SNR=28					
ALNE			P	**Pn**	**16 51 33.4**	**+1.5**
	SNR=28					
ALNE	**Al Ain**	**19.38 241**	*i* P	**Pn**	**16 51 32.6**	**+0.7**
	SNR=41					
KOHI	**KOHIMA**	**19.53 113**	*ex*	**P**	**16 51 29.9**	**-2.5**
KOHI			IAmb	IAmb	16 51 48.5	
	comp=Z,480nm,0.6s					
KOHI			*e*S	S	16 54 53.6	-18
BRDH	**Bariadhala**	**19.62 124**	P	**P**	**16 51 33.7**	**+0.5**
	comp=Z,182nm,0.3s,baz=252,slow=18,SNR=12					
AJN	**Ajban**	**19.63 243**	P	**Pn**	**16 51 35.3**	**+0.6**
	SNR=11					
AJN	**Ajban**	**19.63 243**	*i* P	**Pn**	**16 51 34.8**	**0.0**
	SNR=6.2					
AZL	**Aizawl**	**19.65 120**	*e*P	**Pn**	**16 51 36.2**	**+1.1**
AZL			IAmb	IAmb	16 51 41.1	
	comp=Z,492nm,1.0s					
AZL			*e*S	S	16 54 55.6	-19
IMP	**Imphal**	**19.91 115**	*ex*	**P**	**16 51 35.4**	**-1.0**
IMP			IAmb	IAmb	16 51 46.0	
	comp=Z,160nm,0.7s					
IMP			*e*S	S	16 55 03.8	-16
ZAA0	**Zalesovo Array**	**20.32 18**		**P**	**16 51 39.7**	**-0.9**
ZAA0			IAmb	IAmb	16 51 50.0	
	comp=Z,268nm,0.8s					
ZALV	**Zalesovo Beam**	**20.32 18**		**P**	**16 51 39.5**	**-1.1**
ZALV	**Zalesovo Beam**	**20.32 18**	P	**P**	**16 51 39.7**	**-0.8**
	comp=Z,174nm,0.7s,baz=208,slow=9.8,SNR=395					
ZALV			S	**S**	**16 55 25.8**	**-1.3**
	comp=Z,24nm,0.8s,baz=213,slow=10,SNR=2.7					
ZALV			Lg	Lg	16 57 47.6	
	baz=197,slow=20					
ZALV			LR	LR	17 00 07.5	
	comp=Z,3μm,18.6s,baz=207,slow=39					
	comp=Z,174nm,0.7s					
ZALV	**Zalesovo Beam**	**20.32 18**	P	**P**	**16 51 39.5**	**-1.1**
GTA	**Gaotai**	**20.85 70**	P	**P**	**16 51 47.0**	**+0.4**
GTA			S	**S**	**16 55 38.8**	**+0.7**
GTA			pmax	pmax		
	comp=Z,200nm,1.0s					
GTA			pmax	pmax		
	comp=Z,550nm,4.2s					
GTA			LR	LR		
	comp=Z,3μm,11.2s					
GTA			LR	LR		
	comp=Z,2μm,10.0s					
GTA			LR	LR		
	comp=Z,2μm,15.1s					
MZWR	**Madinat Zayed**	**20.91 243**	P	Pn	16 51 48.9	-1.0
JRN	**Qarnain Island**	**21.00 247**	P	**P**	**16 51 48.4**	**+0.3**
	SNR=8.3					
DQM	**DQM**	**21.04 229**	P	**P**	**16 51 51.2**	**+2.5**
	SNR=76					
DQM			P	**P**	**16 51 51.2**	**+2.5**
	SNR=76					
GHWR	**Ruwais**	**21.53 245**	P	**P**	**16 51 53.7**	**-0.2**
MZR	**Muzera**	**21.67 242**	P	**P**	**16 51 57.6**	**+2.2**
	SNR=45					
MZR	**Muzera**	**21.67 242**	*i* P	**P**	**16 51 56.7**	**+1.3**
	SNR=28					
AKT	**Akhty**	**21.68 295**	*c i* P	**P**	**16 51 55.1**	**-0.4**
AKT			*e**PP	**sP**	**16 52 06.5**	**-0.3**
AKT			*e*		16 52 18.2	
AKT			*e*S	**S**	**16 55 52.8**	**-1.6**
AKT			MLR	MLR		
	comp=Z,1μm,11.0s					
SHMA	**Al-Shehemyia**	**21.96 252**	P	**P**	**16 52 02.0**	**+3.4**
	SNR=12					
MAK	**Makhachkala**	**22.11 299**	*e*P	**P**	**16 51 58.2**	**-1.8**
MAK			*e*		16 52 22.4	
MAK			*e*S	**S**	**16 55 59.9**	**-2.5**
MAK			pmax	pmax		
	comp=Z,265nm,1.1s					
SAKB	**Bahrain**	**22.24 252**	P	**P**	**16 52 00.2**	**-1.3**
TRNA	**Turayna**	**22.36 249**	P	**P**	**16 52 05.0**	**+2.2**
	SNR=5.7					
SLWR	**Sila**	**22.36 247**	P	**P**	**16 52 03.4**	**+0.6**
SMRA	**Abu-Samra**	**22.65 249**	P	**P**	**16 52 08.0**	**+2.1**
	SNR=9.3					
KBD	**Kabd**	**23.14 263**	P	**P**	**16 52 10.5**	**-0.5**
TNCH	**TengChong**	**23.27 109**	⇑*i* P	**P**	**16 52 12.5**	**-0.1**
TNCH			PcP	**PcP**	**16 56 01.6**	**+1.9**
TNCH			S	**S**	**16 56 19.1**	**-4.6**
TNCH			pmax	pmax		
	comp=Z,170nm,1.1s					
TNCH			LR	LR		
	comp=Z,1μm,10.5s					
TNCH			LR	LR		
	comp=Z,840nm,8.7s					
TNCH			LR	LR		
	comp=Z,1μm,12.4s					
SVE	**Sverdlovsk**	**23.63 341**	*d i* P	**P**	**16 52 15.7**	**+0.1**
SVE			*e*S	**S**	**16 56 30.0**	**+1.4**
SVE			pmax	pmax		
	comp=Z,249nm,1.2s					
SVE			MLR	MLR		
	comp=Z,8μm,11.0s					
GNI	**Garni**	**23.80 291**	P	**P**	**16 52 19.3**	**+1.8**
GNI	**Garni**	**23.80 291**	P	**P**	**16 52 19.7**	**+2.1**
GNI			P	**P**	**16 52 19.7**	**+2.1**
GNI			P	**P**	**16 52 19.7**	**+2.1**
GNI	**Garni**	**23.80 291**	*c i* P	**P**	**16 52 19.4**	**+1.8**
GNI			pmax	pmax		
	comp=Z,291nm,1.0s					
GNI			MLR	MLR		
	comp=Z,848nm,18.0s					
GNI	**Garni**	**23.80 291**	P	**P**	**16 52 19.7**	**+2.1**
GNI	**Garni**	**23.80 291**	P	**P**	**16 52 19.5**	**+1.9**
	comp=Z,7μmcomp=Z,678nm,1.2s					
ARTI	**Arti**	**23.90 338**	P	**P**	**16 52 18.1**	**0.0**
ARTI			IAmb	IAmb	16 52 19.7	
	comp=Z,152nm,0.9s					
ARTI	**Arti**	**23.90 338**	LR	LR	17 03 02.8	
	comp=Z,411nm,21.7s,baz=148,slow=40					
ARTI	**Arti**	**23.90 338**	*c i* P	**P**	**16 52 18.5**	**+0.4**
ARTI					16 52 46.7	
ARTI			PPP	PPP	16 52 56.6	
ARTI			S	**S**	**16 56 34.6**	**+1.7**
ARTI			SS	**SnSn**	**16 57 19.2**	**+6.2**
ARTI			pmax	pmax		
	comp=Z,185nm,1.0s					
ARTI			MLR	MLR		
	comp=Z,2μm,11.0s					
LZH	**Lanzhou**	**24.12 79**	⇑P	**P**	**16 52 21.0**	**+0.4**
LZH			pP	pP	16 52 29.7	+0.9
LZH			PP	**PnPn**	**16 52 55.6**	**+5.6**
LZH			S	**S**	**16 56 36.3**	**-0.8**
LZH			SS	**SnSn**	**16 57 22.4**	**+3.4**
LZH			pmax	pmax		
	comp=Z,170nm,1.3s					
LZH			pmax	pmax		
	comp=Z,1μm,4.0s					
LZH			LR	LR		
	comp=Z,3μm,13.6s					
LZH			LR	LR		
	comp=Z,1μm,12.7s					
LZH			LR	LR		
	comp=Z,2μm,13.6s					
DOK	**Doka**	**24.17 233**	P	**P**	**16 52 23.0**	**+2.0**
	SNR=46					
DMTO	**DMTO**	**24.31 230**	P	**P**	**16 52 25.0**	**+2.7**
	SNR=17					
DMTO			P	**P**	**16 52 25.0**	**+2.7**
	SNR=17					
DMTO			P	**P**	**16 52 25.0**	**+2.7**
	SNR=17					
TRLG	**Trialeti**	**24.39 294**	P	**P**	**16 52 24.1**	**+1.1**
KRAR	**Krasnoyarsk**	**24.56 26**	⇓*e*P	**P**	**16 52 25.1**	**+0.9**
RBK	**Rabkut**	**24.94 231**	P	**P**	**16 52 30.0**	**+2.0**
	SNR=12					
RBK			P	**P**	**16 52 30.0**	**+2.0**
	SNR=12					
NCK	**Nalchik**	**25.02 299**	*de*P	**P**	**16 52 28.8**	**+0.3**
NCK			pmax	pmax		
	comp=Z,76nm,0.7s					
NCK			MLR	MLR		
	comp=Z,1μm,18.0s					
CD2	**Chengdu**	**25.12 91**	P	**P**	**16 52 29.9**	**+0.3**
CD2			pP	pP	16 52 39.4	+1.6
CD2			sP	sP	16 52 42.8	+1.6
CD2			PP	**PnPn**	**16 53 08.8**	**+5.2**
CD2			S	**S**	**16 56 54.2**	**+1.2**
CD2			sS	pS	16 57 03.1	+0.8
CD2			pmax	pmax		
	comp=Z,50nm,1.1s					
CD2			pmax	pmax		
	comp=Z,620nm,3.7s					
CD2			LR	LR		
	comp=Z,3μm,10.8s					
CD2			LR	LR		
	comp=Z,2μm,14.6s					
CD2			LR	LR		
	comp=Z,2μm,15.2s					
PZH	**PanZhiHua**	**25.12 102**	P	**P**	**16 52 29.3**	**-0.4**
PZH			PcP	**PcP**	**16 56 04.6**	**+1.0**
PZH			S	**S**	**16 56 50.9**	**-2.3**
PZH			SS	**SnSn**	**16 57 46.3**	**+2.8**
PZH			ScP	**ScP**	**16 59 43.4**	**+2.2**
PZH			ScS	**ScS**	**17 03 30.1**	**+0.2**
PZH			pmax	pmax		
	comp=Z,100nm,1.1s					
PZH			pmax	pmax		
	comp=Z,480nm,5.2s					
PZH			LR	LR		
	comp=Z,720nm,12.4s					
PZH			LR	LR		
	comp=Z,610nm,12.4s					
PZH			LR	LR		
	comp=Z,610nm,8.8s					
MOY	**Mondy**	**25.40 41**	*e*P	**P**	**16 52 33.3**	**+1.3**
MOY			pmax	pmax		
	comp=Z,174nm,1.9s					
KBZ	**Khabaz**	**25.55 299**	P	**P**	**16 52 32.9**	**-0.4**
	comp=Z,17nm,0.8s,baz=112,slow=11,SNR=34					
KBZ			S	S	16 57 10.9	+11
	comp=Z,9.1nm,1.0s,baz=93,slow=18,SNR=1.2					
KBZ			LR	LR	17 04 51.2	
	comp=Z,1μm,18.3s,baz=96,slow=42					
	comp=Z,17nm,0.8s					
ABTO	**Aybut**	**25.63 232**	P	**P**	**16 52 36.0**	**+1.7**
	SNR=26					
ABTO			P	**P**	**16 52 36.0**	**+1.7**
	SNR=26					
ABTO			S	**S**	**16 57 06.9**	**+5.6**
ABTO			S	**S**	**16 57 06.9**	**+5.6**
BELG	**Belogornoye**	**25.63 321**	*c i* P	**P**	**16 52 33.8**	**-0.1**
BELG			pmax	pmax		
	comp=Z,88nm,1.1s					
GOF	**Gofitskoye**	**25.69 302**	*c i* P	**P**	**16 52 37.0**	**+2.4**
SHA1	**Shidzhatmaz**	**25.73 299**	*c i* P	**P**	**16 52 34.7**	**-0.5**
KVAR	**Kislovodsk Arr**	**25.73 300**	LR	LR	17 04 51.0	
	comp=Z,1μm,18.1s,baz=218,slow=42					
KIV	**Kislovodsk**	**25.74 300**	P	**P**	**16 52 34.8**	**-0.3**
KIV			IAmb	IAmb	16 53 12.6	
	comp=Z,227nm,1.0s					
KIV	**Kislovodsk**	**25.74 300**	P	**P**	**16 52 38.8**	**+3.7**
KIV			P	**P**	**16 52 38.8**	**+3.7**
KIV	**Kislovodsk**	**25.74 300**	⇑P	**P**	**16 52 35.8**	**+0.7**
KIV	**Kislovodsk**	**25.74 300**	*e*P	**P**	**16 52 34.9**	**-0.3**
KIV			*e*S	**S**	**16 57 01.8**	**-1.0**
KIV			pmax	pmax		
	comp=Z,36nm,1.0s					
KIV			MLR	MLR		
	comp=Z,1μm,15.0s					
KIV	**Kislovodsk**	**25.74 300**	*i* P	**P**	**16 52 35.5**	**+0.3**
	SNR=9.0					
KIV	**Kislovodsk**	**25.74 300**	P	**P**	**16 52 35.3**	**+0.1**
	comp=Z,2μmcomp=Z,133nm,0.8s					
GURO	**Guroymak-BITLI**	**25.90 287**	IAmb	IAmb	16 52 43.8	
	comp=Z,267nm,1.7s					
ZAK	**Zakamensk**	**26.09 45**	*e*P	**P**	**16 52 38.9**	**+0.7**
ZAK			pmax	pmax		
	comp=Z,144nm,1.1s					
BCA	**Borcka**	**26.24 294**	⇑P	**P**	**16 52 41.6**	**+2.0**
KMI	**Kunming**	**26.55 104**	⇑P	**P**	**16 52 42.3**	**-0.5**
KMI			sP	sP	16 52 57.5	+3.0
KMI			PP	**PnPn**	**16 53 26.8**	**+3.4**
KMI			S	**S**	**16 57 15.8**	**-0.3**
KMI			SS	**SnSn**	**16 58 23.3**	**+4.6**
KMI			pmax	pmax		
	comp=Z,120nm,0.8s					
KMI			pmax	pmax		
	comp=Z,270nm,6.2s					
KMI			LR	LR		
	comp=Z,2μm,11.6s					
KMI			LR	LR		
	comp=Z,840nm,9.3s					
KMI			LR	LR		
	comp=Z,2μm,10.6s					
KOPT	**Kop Dagi**	**27.06 291**	IAmb	IAmb	16 53 03.4	
	comp=Z,277nm,1.2s					
SONM	**Songino Array**	**27.11 52**	P	**P**	**16 52 48.5**	**+0.9**
SONM	**Songino Array**	**27.11 52**	P	**P**	**16 52 48.7**	**+1.2**
	comp=Z,42nm,0.8s,baz=254,slow=9.4,SNR=265					
SONM			PcP	**PcP**	**16 56 09.5**	**+1.6**
	comp=Z,6.7nm,0.9s,baz=231,slow=3.5,SNR=1.7					
SONM			Lg	Lg	17 01 23.9	
	baz=258,slow=31					
SONM			LR	LR	17 04 04.6	
	comp=Z,1μm,19.3s,baz=252,slow=38					
SONM			P3KPbc		17 25 22.3	
	comp=Z,0.6nm,0.7s,baz=90,slow=5.9,SNR=4.2					
SONM			P3KP		17 26 20.1	
	comp=Z,0.8nm,0.9s,baz=105,slow=5.1,SNR=2.6					
	comp=Z,42nm,0.8s					
SONM	**Songino Array**	**27.11 52**	P	**P**	**16 52 48.5**	**+0.9**
SONM			pmax	pmax		
	comp=Z,85nm,0.9s					
LABN	**Labinsk**	**27.24 301**	*e*P	**P**	**16 52 53.8**	**+5.2**
LABN			*e**PP	**sP**	**16 53 05.1**	**+4.8**
LABN			*e*		16 53 30.5	
LABN			pmax	pmax		
	comp=Z,97nm,0.9s					
LABN			MLR	MLR		
	comp=E,2μm,7.0s					
LABN			MLR	MLR		
	comp=Z,2μm,13.0s					
LABN			MLR	MLR		
	comp=N,5μm,12.0s					
CHTO	**Chiang Mai**	**27.27 120**	P	**P**	**16 52 48.6**	**-0.4**
CHTO			IAmb	IAmb	16 52 53.4	
	comp=Z,229nm,0.9s					
CHTO	**Chiang Mai**	**27.27 120**	P	**P**	**16 52 48.6**	**-0.4**
CHTO			pmax	pmax		
	comp=Z,229nm,1.0s					
RAYN	**Ar Rayn**	**27.42 253**	P	**P**	**16 52 50.0**	**-0.4**
RAYN			IAmb	IAmb	16 52 54.5	
	comp=Z,102nm,0.8s					
RAYN	**Ar Rayn**	**27.42 253**	P	**P**	**16 52 51.5**	**+1.1**
RAYN			S	**S**	**16 57 34.2**	**+4.6**
RAYN	**Ar Rayn**	**27.42 253**	P	**P**	**16 52 50.1**	**-0.4**
RAYN			pmax	pmax		
	comp=Z,102nm,0.8s					
RAYN	**Ar Rayn**	**27.42 253**	*i* P	**P**	**16 52 50.9**	**+0.4**
	SNR=24					
IRK	**Irkutsk**	**27.46 42**	*e*P	**P**	**16 52 51.2**	**+0.7**
IRK			pmax	pmax		
	comp=Z,221nm,1.6s					
CMAR	**Chiang Mai Arr**	**27.50 121**	P	**P**	**16 52 50.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.50 121**	P	**P**	**16 52 50.8**	**-0.4**
	comp=Z,109nm,0.9s,baz=310,slow=8.4,SNR=281					
CMAR			PcP	**PcP**	**16 56 10.0**	**+0.9**
	comp=Z,28nm,0.8s,baz=315,slow=2.8,SNR=7.4					
CMAR			S	**S**	**16 57 31.0**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=314,slow=8.8,SNR=1.4					
CMAR			ScP	**ScP**	**16 59 50.3**	**+2.2**
	comp=Z,3.6nm,1.0s,baz=308,slow=2.7,SNR=4.9					
CMAR			PKiKP	**PKiKP**	**17 03 46.3**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=5.1,slow=0.4,SNR=9.1					
	comp=Z,109nm,0.9s					
CMAR	**Chiang Mai Arr**	**27.50 121**	*i* P	**P**	**16 52 50.7**	**-0.4**
CMAR			pmax	pmax		
	comp=Z,116nm,0.9s					
ULN	**Ulaanbaatar**	**27.55 52**	P	**P**	**16 52 52.0**	**+0.6**
ULN	**Ulaanbaatar**	**27.55 52**	*c i* P	**P**	**16 52 52.1**	**+0.6**
ULN			pmax	pmax		
	comp=Z,82nm,1.0s					
ULN			MLR	MLR		
	comp=Z,9μm,16.0s					
VSLR	**Vesyoloye**	**27.58 298**	⇑*e*P	**P**	**16 52 49.8**	**-1.8**
ERBR	**Yeremizino-Bor**	**27.59 303**	*e*P	**P**	**16 52 51.6**	**-0.1**
ERBR			*e**PP	**sP**	**16 53 02.9**	**-0.5**
ERBR			*e*		16 53 33.9	
ERBR			*e*S	**S**	**16 57 30.6**	**-1.2**
ERBR			pmax	pmax		
	comp=Z,95nm,1.3s					
ERBR			MLR	MLR		
	comp=E,2μm,7.0s					
ERBR			MLR	MLR		
	comp=Z,2μm,5.0s					
ERBR			MLR	MLR		
	comp=N,2μm,6.0s					
KTUT	**Trabzon**	**27.62 293**	⇓P	**P**	**16 52 52.8**	**+0.8**

SOC	**Sochi**	**27.82 298**	*e*P	**P**	**16 52 51.9 -1.9**
SOC			*e*PPP	PPP	16 53 45.9
SOC			*e*S	**S**	**16 57 32.8 -2.6**
SOC			*e*SS	**SnSn**	**16 58 48.7 -0.3**
SOC			*e*SSS	SSS	16 59 04.9
SOC			MLR	MLR	
	comp=Z,745nm,17.0s				
PALK	**Pallekele**	**28.30 166**	P	**P**	**16 52 59.0 +0.7**
PALK	**Pallekele**	**28.30 166**	P	**P**	**16 52 59.5 +1.2**
	comp=Z,53nm,0.8s,baz=351,slow=10,SNR=30				
PALK			LR	LR	17 04 54.1
	comp=Z,2μm,21.2s,baz=356,slow=38				
	comp=Z,53nm,0.8s				
PALK	**Pallekele**	**28.30 166***c*	*i*P	**P**	**16 52 59.3 +1.0**
PALK			pmax	pmax	
	comp=Z,65nm,0.9s				
PALK			MLR	MLR	
	comp=Z,3μm,16.0s				
VRH	**Novokhopyorsk**	**28.36 315**	*e*P	**P**	**16 52 56.6 -1.8**
VRH			*e*S	**S**	**16 57 40.0 -3.6**
VRH			pmax	pmax	
	comp=Z,160nm,0.8s				
VRH			smax	smax	
	comp=E,1μm,8.4s				
VRH			MLR	MLR	
	comp=Z,800nm,10.0s				
XAN	**Xi'an**	**28.56 82**	⇑P	**P**	**16 53 00.5 0.0**
XAN			PP	**PnPn**	**16 53 51.1 +0.6**
XAN			S	**S**	**16 57 48.8 +1.5**
XAN			sS	pS	16 57 58.3 +1.5
XAN			SS	**SnSn**	**16 59 14.4 +7.1**
XAN			pmax	pmax	
	comp=Z,110nm,1.0s				
XAN			pmax	pmax	
	comp=Z,520nm,4.5s				
XAN			LR	LR	
	comp=Z,2μm,10.5s				
XAN			LR	LR	
	comp=Z,2μm,10.7s				
XAN			LR	LR	
	comp=Z,3μm,12.5s				
KIRV	**Kirov**	**28.68 333**	LR	LR	17 05 28.5
	comp=Z,837nm,21.9s,baz=135,slow=38				
KIRV	**Kirov**	**28.68 333***c*	*i*P	**P**	**16 53 01.7 +0.5**
BTO	**Baotou**	**28.72 68**	⇑*i*P	**P**	**16 53 02.3 +0.4**
BTO			pP	**sP**	**16 53 14.7 +1.0**
BTO			PP	**PnPn**	**16 53 58.3 +5.6**
BTO			S	**S**	**16 57 48.5 -1.3**
BTO			SS	**SnSn**	**16 59 13.7 +2.6**
BTO			pmax	pmax	
	comp=Z,73nm,0.9s				
BTO			pmax	pmax	
	comp=Z,190nm,4.9s				
BTO			LR	LR	
	comp=Z,3μm,7.2s				
BTO			LR	LR	
	comp=Z,5μm,14.1s				
BTO			LR	LR	
	comp=Z,7μm,13.1s				
GYA	**Guiyang**	**29.11 98**	⇑P	**P**	**16 53 05.0 -0.6**
GYA			S	**S**	**16 57 55.6 -0.6**
GYA			pmax	pmax	
	comp=Z,19nm,1.1s				
GYA			LR	LR	
	comp=Z,2μm,10.9s				
GYA			LR	LR	
	comp=Z,2μm,13.0s				
GYA			LR	LR	
	comp=Z,3μm,12.2s				
SLVN	**Son La**	**29.43 110**	P	**P**	**16 53 08.4 0.0**
SLVN	**Son La**	**29.43 110**	P	**P**	**16 53 08.9 +0.5**
ANN	**Anapa**	**29.59 300**	*e*P	**P**	**16 53 12.8 +3.4**
ANN			*e**PP	**sP**	**16 53 22.1 +0.9**
ANN			*e*		16 54 07.4
ANN			*e*S	**S**	**16 58 08.0 +4.9**
ANN			pmax	pmax	
	comp=Z,54nm,0.7s				
ANN			pmax	pmax	
	comp=E,14nm,0.6s				
ANN			pmax	pmax	
	comp=N,29nm,0.8s				
ANN			MLR	MLR	
	comp=E,1μm,11.0s				
ANN			MLR	MLR	
	comp=N,552nm,14.0s				
ANN			MLR	MLR	
	comp=Z,1μm,18.0s				
VORD	**Divnogorie**	**29.71 313**	*e*P	**P**	**16 53 08.0 -2.4**
VORD			*e*S	**S**	**16 57 58.1 -6.8**
VORD			pmax	pmax	
	comp=Z,110nm,1.2s				
VORD			smax	smax	
	comp=E,70nm,4.2s				
VSR	**Storozhevoye**	**29.87 314**	*e*P	**P**	**16 53 09.3 -2.5**
VSR			*e*S	**S**	**16 58 00.0 -7.4**
VSR			pmax	pmax	
	comp=Z,160nm,1.1s				
VSR			smax	smax	
	comp=E,800nm,17.8s				
VSR			MLR	MLR	
	comp=Z,830nm,10.0s				
HHC	**Hu-ho-hao-te**	**29.89 68**	*e*P	**P**	**16 53 13.2 +0.9**
HHC			S	**S**	**16 58 05.4 -2.8**
HHC			sS	sS	16 58 23.8 +1.6
HHC			SS	**SnSn**	**16 59 44.0 +4.4**
HHC			pmax	pmax	
	comp=Z,30nm,1.3s				
HHC			pmax	pmax	
	comp=Z,100nm,4.8s				
HHC			LR	LR	
	comp=Z,2μm,13.8s				
HHC			LR	LR	
	comp=Z,1μm,14.5s				
HHC			LR	LR	
	comp=Z,2μm,13.2s				
VORR	**Voronezh**	**29.99 314**	*e*P	**P**	**16 53 11.6 -1.4**
VORR			*e*S	**S**	**16 58 09.5 +0.1**
VORR			pmax	pmax	
	comp=Z,270nm,1.1s				
VORR			smax	smax	
	comp=E,10.0nm,1.6s				
TOKA	**Tokat**	**30.13 291**	IAmb	IAmb	16 53 20.7
	comp=Z,122nm,1.2s				
LPSR	**Galich'ya Gora**	**30.48 316**	*e*P	**P**	**16 53 15.4 -1.9**
LPSR			*e*S	**S**	**16 58 13.3 -3.7**
LPSR			pmax	pmax	
	comp=Z,330nm,0.8s				
LPSR			smax	smax	
	comp=E,330nm,1.6s				
LPSR			MLR	MLR	
	comp=Z,1μm,12.0s				
SRDT	**SRDT**	**30.49 126**	P	**P**	**16 53 18.0 +0.3**
BNN	**Bunyan**	**30.71 289**	IAmb	IAmb	16 53 25.9
	comp=Z,182nm,1.0s				
TIY	**Taiyuan**	**30.78 74**	⇑P	**P**	**16 53 20.6 +0.4**
TIY			sP	**sP**	**16 53 31.1 -0.8**
TIY			S	**S**	**16 58 14.4 -7.8**
TIY			SS	**SnSn**	**17 00 05.7 +4.4**
TIY			pmax	pmax	
	comp=Z,65nm,1.0s				
TIY			LR	LR	
	comp=Z,1μm,14.4s				
TIY			LR	LR	
	comp=Z,1μm,11.0s				
TIY			LR	LR	
	comp=Z,1μm,11.0s				
NONG	**Nongkai**	**30.80 116**	P	**P**	**16 53 19.5 -0.9**
DIKM	**Dikmen**	**31.02 294**	⇑P	**P**	**16 53 24.1 +2.0**
DIKM	**Dikmen**	**31.02 294**	P	**P**	**16 53 23.1 +0.9**
	comp=Z,43nm,0.8s				
ASF	**Jabal al Asfar**	**31.06 275**	LR	LR	17 07 57.7
	comp=Z,1μm,18.6s,baz=66,slow=40				
LYN	**LuoYang**	**31.32 80**	P	**P**	**16 53 26.2 +1.3**
LYN			sP	sP	16 53 42.5 +5.9
LYN			S	**S**	**16 58 30.8 +0.2**
LYN			pmax	pmax	
	comp=Z,210nm,0.7s				
LYN			pmax	pmax	
	comp=Z,530nm,4.8s				
LYN			LR	LR	
	comp=Z,3μm,20.6s				
LYN			LR	LR	
	comp=Z,2μm,18.2s				
LYN			LR	LR	
	comp=Z,3μm,11.7s				
SIM	**Simferopol'**	**31.95 300**	*e*P	**P**	**16 53 30.4 +0.1**
SIM					16 54 37.0
SIM			pmax	pmax	
	comp=Z,39nm,1.2s				
SIM			MLR	MLR	
	comp=Z,500nm,18.0s				
BZK	**Bozkurt**	**31.95 295**	⇓P	**P**	**16 53 32.1 +1.7**
BZK	**Bozkurt**	**31.95 295**	P	**P**	**16 53 31.1 +0.7**
	comp=Z,2μmcomp=Z,152nm,1.3s				
MMAI	**Mount Meron Ar**	**32.06 278**	P	**P**	**16 53 32.7 +1.2**
	comp=Z,12nm,0.7s,baz=72,slow=9.4,SNR=11				
MMAI			PcP	**PcP**	**16 56 22.1 +1.4**
	comp=Z,23nm,0.9s,baz=72,slow=4.7,SNR=6.2				
MMAI			LR	LR	17 07 42.4
	comp=Z,717nm,20.9s,baz=67,slow=39				
	comp=Z,12nm,0.7s				
BALJ	**Balqa**	**32.11 276**	P	**P**	**16 53 32.5 +0.7**
KIRS	**Kirsehir-Merke**	**32.18 289**	⇑P	**P**	**16 53 33.5 +1.0**
BR104	**Keskin Array S**	**32.34 290**	P	**P**	**16 53 34.6 +0.6**
	comp=Z,806nmcomp=Z,99nm,0.9s				
BR131	**Keskin Array S**	**32.34 290**	IAmb	IAmb	16 53 39.5
	comp=Z,125nm,0.8s				
BR131	**Keskin Array S**	**32.34 290***c*	*i*P	**P**	**16 53 34.2 +0.2**
BRTR	**Keskin Array B**	**32.34 290**	P	**P**	**16 53 34.4 +0.4**
	comp=Z,74nm,0.7s,baz=99,slow=8.6,SNR=396				
BRTR			PcP	**PcP**	**16 56 21.8 +0.3**
	comp=Z,11nm,0.8s,baz=117,slow=5.0,SNR=6.9				
	comp=Z,74nm,0.7s				
BRTR	**Keskin Array B**	**32.34 290**	*i* P	**P**	**16 53 34.5 +0.5**
BRTR			pmax	pmax	
	comp=Z,74nm,0.7s				
BR106	**Keskin Array S**	**32.36 290**	P	**P**	**16 53 34.5 +0.4**
	comp=Z,997nmcomp=Z,129nm,0.9s				
MOS	**Moscow**	**32.40 321**	*e*P	**P**	**16 53 31.5 -2.6**
MOS			*e*		16 54 35.6
MOS			*e*		16 54 54.4
MOS			pmax	pmax	
	comp=Z,400nm,1.4s				
MOS			pmax	pmax	
	comp=Z,309nm,1.2s				
MOS			MLR	MLR	
	comp=Z,2μm,13.0s				
HNS	**HongShan**	**32.61 74**	⇑P	**P**	**16 53 37.2 +1.0**
HNS			S	**S**	**16 58 53.5 +2.9**
HNS			pmax	pmax	
	comp=Z,110nm,1.1s				
HNS			LR	LR	
	comp=Z,870nm,12.5s				
HNS			LR	LR	
	comp=Z,1μm,9.3s				
HNS			LR	LR	
	comp=Z,2μm,18.0s				
GULI	**GuiLin**	**32.62 97**	P	**P**	**16 53 35.3 -1.1**
GULI			S	**S**	**16 58 47.9 -3.1**
GULI			pmax	pmax	
	comp=Z,30nm,1.1s				
GULI			LR	LR	
	comp=Z,2μm,20.8s				
GULI			LR	LR	
	comp=Z,620nm,14.2s				
GULI			LR	LR	
	comp=Z,2μm,15.6s				
OBN	**Obninsk**	**32.71 320**	P	**P**	**16 53 36.8 +0.1**
OBN	**Obninsk**	**32.71 320**	⇑P	**P**	**16 53 37.3 +0.6**
OBN	**Obninsk**	**32.71 320***c*	*i*P	**P**	**16 53 36.9 +0.1**
OBN			*e*		16 54 44.3
OBN			*e*S	**S**	**16 58 47.1 -4.6**
OBN			pmax	pmax	
	comp=Z,259nm,1.1s				
OBN			MLR	MLR	
	comp=Z,847nm,14.0s				
OBN	**Obninsk**	**32.71 320**	P	**P**	**16 53 37.2 +0.4**
	comp=Z,3μmcomp=Z,331nm,1.0s				
CIT	**Chita**	**32.71 47**	*e*P	**P**	**16 53 37.0 0.0**
CIT			*e*		16 53 53.7
CIT			*e*		16 54 43.3
CIT			*e*		16 54 57.6
CIT			*e*		16 56 15.7
CIT			*e*		17 01 06.2
CIT			pmax	pmax	
	comp=Z,197nm,2.3s				
ANTO	**Ankara**	**32.98 291**	P	**P**	**16 53 39.8 +0.3**
ANTO			IAmb	IAmb	16 53 45.3
	comp=Z,104nm,0.8s				
ANTO	**Ankara**	**32.98 291**	⇓P	**P**	**16 53 40.9 +1.5**
ANTO	**Ankara**	**32.98 291**	P	**P**	**16 53 39.8 +0.3**
ANTO			pmax	pmax	
	comp=Z,105nm,0.9s				
ANTO	**Ankara**	**32.98 291**	P	**P**	**16 53 40.2 +0.7**
	comp=Z,653nmcomp=Z,70nm,1.0s				
XLT	**XiLinHaoTe**	**33.23 62**	*e*P	**P**	**16 53 43.1 +1.4**
XLT			pP	sP	16 53 53.5 0.0
XLT			S	**S**	**16 59 02.6 +2.2**
XLT			SS	**SnSn**	**17 00 58.5 -2.4**
XLT			pmax	pmax	
	comp=Z,40nm,1.4s				
XLT			LR	LR	
	comp=Z,290nm,11.6s				
XLT			LR	LR	
	comp=Z,2μm,16.5s				
XLT			LR	LR	
	comp=Z,3μm,15.3s				
EIL	**Elat**	**33.41 272**	LR	LR	17 09 50.1
	comp=Z,645nm,18.2s,baz=84,slow=41				
BJT	**Baijiatuau**	**33.44 69**	P	**P**	**16 53 45.0 +1.6**
BJI	**Beijing**	**33.44 69**	P	**P**	**16 53 44.9 +1.5**
BJI			PcP	**PcP**	**16 56 25.4 +1.1**
BJI			S	**S**	**16 59 06.3 +2.8**
BJI			pmax	pmax	
	comp=Z,21nm,0.8s				
BJI			LR	LR	
	comp=Z,430nm,10.5s				
BJI			LR	LR	
	comp=Z,600nm,9.2s				
BJI			LR	LR	
	comp=Z,1μm,11.9s				
CNSH	**ChangSha**	**33.55 91**	P	**P**	**16 53 44.4 -0.1**
CNSH			S	**S**	**16 59 05.6 +0.2**
CNSH			pmax	pmax	
	comp=Z,58nm,1.1s				
CNSH			LR	LR	
	comp=Z,2μm,17.8s				
CNSH			LR	LR	
	comp=Z,1μm,19.7s				
CNSH			LR	LR	
	comp=Z,1μm,11.8s				
WHN	**Wuhan**	**33.91 86**	⇑P	**P**	**16 53 48.6 +1.0**
WHN			S	**S**	**16 59 14.0 +3.1**
WHN			pmax	pmax	
	comp=Z,350nm,0.8s				
WHN			LR	LR	
	comp=Z,1μm,7.6s				
WHN			LR	LR	
	comp=Z,3μm,12.0s				
WHN			LR	LR	
	comp=Z,4μm,14.5s				
KLMR	**Klimovskoe**	**34.01 330**	*e*P	**P**	**16 53 47.4 -0.7**
KLMR			*e*		16 56 23.3
KLMR			pmax	pmax	
	comp=Z,223nm,1.0s				
KLMR			MLR	MLR	
	comp=Z,1μm,10.0s				
UBPT	**Khong Chiam**	**34.28 117**	P	**P**	**16 53 50.0 -0.9**
TIA	**Tai'an**	**34.72 75**	P	**P**	**16 53 55.3 +0.7**
TIA			S	**S**	**16 59 23.9 +0.5**
TIA			pmax	pmax	
	comp=Z,42nm,1.4s				
TIA			pmax	pmax	
	comp=Z,470nm,4.3s				
TIA			LR	LR	
	comp=Z,1μm,13.7s				
TIA			LR	LR	
	comp=Z,600nm,12.8s				
TIA			LR	LR	
	comp=Z,1μm,14.7s				
BORA	**Eskisehir**	**34.77 291**	IAmb	IAmb	16 54 00.2
	comp=Z,173nm,1.1s				
BOD	**Bodaibo**	**34.90 37**	*e*P	**P**	**16 53 55.8 0.0**
BOD			*e*		16 55 09.5
BOD			pmax	pmax	
	comp=Z,120nm,1.4s				
ISP	**Isparta**	**34.99 288**	⇑*e*P	**P**	**16 53 56.9 -0.1**
ISP			pmax	pmax	
	comp=Z,40nm,0.9s				
PURM	**Purcari**	**35.01 303**	⇑P	**P**	**16 53 57.9 +1.0**
PURM	**Purcari**	**35.01 303**	P	**P**	**16 53 57.5 +0.6**
	comp=Z,2μmcomp=Z,149nm,0.9s				
NRIK	**Noril'sk**	**35.13 8**	P	**P**	**16 53 58.3 +0.6**
NRIK	**Noril'sk**	**35.13 8**	P	**P**	**16 53 58.4 +0.7**
	comp=Z,130nm,1.0s,baz=197,slow=8.8,SNR=243				
NRIK			S	**S**	**16 59 32.3 +3.4**
	comp=Z,2.7nm,0.8s,baz=180,slow=14,SNR=1.2				
NRIK			LR	LR	17 10 25.3
	comp=Z,1μm,18.3s,baz=198,slow=40				
	comp=Z,130nm,1.0s				
NRIK	**Noril'sk**	**35.13 8**	P	**P**	**16 53 58.3 +0.6**
NRIK			pmax	pmax	
	comp=Z,209nm,1.1s				
BAL3X	**Bal3x, Balta**	**35.29 305**	P	**P**	**16 53 59.5 +0.2**
BSI	**Banda Aceh**	**35.30 142**	P	**P**	**16 53 57.7 -2.0**
	comp=Z,876nmcomp=Z,109nm,0.8s				
QIZ	**Qiongzhong**	**35.33 107**	P	**P**	**16 54 00.3 +0.3**
QIZ			S	**S**	**16 59 27.9 -5.1**
QIZ			sS	**sS**	**16 59 48.5 +1.7**
QIZ			pmax	pmax	
	comp=Z,10.0nm,1.2s				
QIZ			pmax	pmax	
	comp=Z,150nm,3.5s				
QIZ			LR	LR	
	comp=Z,420nm,11.2s				
QIZ			LR	LR	
	comp=Z,720nm,11.4s				
QIZ			LR	LR	
	comp=Z,1μm,10.4s				
QIZ	**Qiongzhong**	**35.33 107**	P	**P**	**16 53 59.9 -0.1**
	comp=Z,17nm,0.9s				
YLV	**Yalova**	**35.52 293**	P	**P**	**16 54 01.9 +0.4**
	comp=Z,3μmcomp=Z,284nm,1.2s				
TLCR		**35.71 300**	⇑P	**P**	**16 54 03.4 +0.4**
TLCR		**35.71 300**	P	**P**	**16 54 03.4 +0.4**
MILM	**Milestii Mici**	**35.76 303**	⇑*i*P	**P**	**16 54 03.0 -0.4**
	comp=Z,86nm,1.0s				
MILM			*e*L	L	17 11 11.0
MILM			LRM	MLR	17 12 06.0
	comp=Z,800nm,11.5s				
MILM	**Milestii Mici**	**35.76 303**	⇑P	**P**	**16 54 03.8 +0.5**
MILM	**Milestii Mici**	**35.76 303**	P	**P**	**16 54 03.8 +0.5**
AK09	**Malin Array Si**	**35.80 310**	P	**P**	**16 54 03.5 -0.2**
AK10	**Malin Array Si**	**35.82 310**	P	**P**	**16 54 03.5 -0.3**
AK08	**Malin Array Si**	**35.82 310**	P	**P**	**16 54 03.3 -0.6**
AK07	**Malin Array Si**	**35.84 310**	P	**P**	**16 54 03.9 -0.1**
AK06	**Malin Array Si**	**35.85 310**	P	**P**	**16 54 03.6 -0.5**
AKASG	**Malin Array Be**	**35.85 310**	P	**P**	**16 54 03.0 -1.1**
AKASG			IAmb	IAmb	16 54 05.0
	comp=Z,119nm,1.2s				
AKASG	**Malin Array Be**	**35.85 310**	P	**P**	**16 54 03.6 -0.6**
	comp=Z,14nm,0.6s,baz=86,slow=6.7,SNR=110				
AKASG			PP	**PnPn**	**16 55 23.1 -1.4**
	comp=Z,29nm,1.1s,baz=99,slow=12,SNR=4.4				
AKASG			PcP	**PcP**	**16 56 30.8 -0.3**
	comp=Z,6.3nm,0.7s,baz=92,slow=3.7,SNR=2.2				
AKASG			S	**S**	**16 59 40.7 +0.3**
	comp=Z,2.3nm,0.9s,baz=100,slow=13,SNR=2.1				
AKASG			LR	LR	17 11 48.7
	comp=Z,573nm,18.0s,baz=76,slow=41				
	comp=Z,14nm,0.6s				
AKASG	**Malin Array Be**	**35.85 310**	*i* P	**P**	**16 54 03.5 -0.6**
AKASG			pmax	pmax	
	comp=Z,42nm,0.8s				
AKBB	**Malin Array Si**	**35.85 310***c*	*i*P	**P**	**16 54 03.4 -0.7**
AKBB	**Malin Array Si**	**35.85 310**	P	**P**	**16 54 03.5 -0.7**
AK05	**Malin Array Si**	**35.85 310**	P	**P**	**16 54 03.6 -0.5**
AK03	**Malin Array Si**	**35.86 310**	P	**P**	**16 54 03.5 -0.7**
AK01	**Malin Array Si**	**35.86 310**	P	**P**	**16 54 03.4 -0.8**
AK02	**Malin Array Si**	**35.86 310**	P	**P**	**16 54 03.4 -0.8**
KIEV	**Kiev**	**35.86 310**	P	**P**	**16 54 03.4 -0.8**
KIEV	**Kiev**	**35.86 310**	⇓P	**P**	**16 54 04.3 +0.1**
KIEV	**Kiev**	**35.86 310**	P	**P**	**16 54 03.4 -0.8**
KIEV			pmax	pmax	
	comp=Z,45nm,0.8s				
KIEV	**Kiev**	**35.86 310**	*i* P	**P**	**16 54 03.7 -0.5**
	SNR=36				
KIEV	**Kiev**	**35.86 310**	P	**P**	**16 54 03.5 -0.7**
	comp=Z,4μmcomp=Z,270nm,1.2s				
AK11	**Malin Array Si**	**35.88 310**	P	**P**	**16 54 03.6 -0.8**
AK20	**Malin Array Si**	**35.99 310**	P	**P**	**16 54 04.7 -0.6**
TPGR	**Topolog**	**35.99 300**	⇑P	**P**	**16 54 06.3 +0.8**
HIA	**Hailar**	**36.08 53**	IAmb	IAmb	16 54 11.1
	comp=Z,65nm,0.8s				
HIA	**Hailar**	**36.08 53**	P	**P**	**16 54 07.6 +1.5**
SORM	**Soroca**	**36.14 305**	⇑P	**P**	**16 54 06.8 +0.2**
SORM	**Soroca**	**36.14 305**	P	**P**	**16 54 06.8 +0.2**
CFR	**Carcaliu**	**36.19 300**	⇓P	**P**	**16 54 07.6 +0.5**
CFR	**Carcaliu**	**36.19 300**	P	**P**	**16 54 07.6 +0.5**
VLDR	**Vladesti**	**36.23 302**	⇑P	**P**	**16 54 09.1 +1.6**
CTYL	**Yalikoy Yolu**	**36.25 294**	P	**P**	**16 54 08.4 +0.8**
	comp=Z,111nm,1.1s				
TATR	**Tatarca**	**36.25 301**	⇑P	**P**	**16 54 08.8 +1.2**
SCTR	**Scanteiesti**	**36.29 301**	⇑P	**P**	**16 54 09.0 +1.1**
VARL	**Varlezi**	**36.40 302**	⇓P	**P**	**16 54 10.5 +1.7**
ICOR	**Ion Corvin**	**36.45 299**	⇓P	**P**	**16 54 09.8 +0.5**
BAND	**Balkesir-Ban**	**36.51 292**	⇑P	**P**	**16 54 11.1 +1.2**
LUBAR	**Lubar, Ukraine**	**36.69 308**	P	**P**	**16 54 11.1 -0.2**
GHRR		**36.70 302**	⇑P	**P**	**16 54 12.2 +0.7**
NDNU	**Novodnistrovsk**	**36.83 306**	P	**P**	**16 54 12.7 +0.2**
MI28	**Mi28,Pidlybu**	**36.86 310**	P	**P**	**16 54 12.0 -0.7**
	comp=Z,786nm,0.9s				
MLSI	**Meulaboh, Aceh**	**36.91 141**	P	**P**	**16 54 13.6 +0.1**
	comp=Z,128nm,1.1s				
ODBI	**Odobesti**	**36.95 301**	⇑P	**P**	**16 54 15.4 +1.9**
ODBI	**Odobesti**	**36.95 301**	P	**P**	**16 54 14.6 +1.0**
NJ2	**Nanjing**	**37.13 82**	⇑P	**P**	**16 54 16.2 +1.0**
NJ2			pP	**sP**	**16 54 26.9 -0.1**
NJ2			sP	pP	16 54 33.0 +9.4
NJ2			PcP	**PcP**	**16 56 35.5 +0.3**
NJ2			S	**S**	**17 00 01.2 +1.0**
NJ2			pmax	pmax	
	comp=Z,66nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,370nm,3.8s				
NJ2			LR	LR	
	comp=Z,2μm,15.2s				
NJ2			LR	LR	
	comp=Z,850nm,17.1s				
NJ2			LR	LR	
	comp=Z,1μm,10.4s				
VRI	**Vrincioaia**	**37.18 302**	⇑P	**P**	**16 54 17.3 +1.7**
VRI	**Vrincioaia**	**37.18 302**	P	**P**	**16 54 17.2 +1.7**
VRI	**Vrincioaia**	**37.18 302**	P	**P**	**16 54 16.6 +1.1**
	comp=Z,42nm,1.0s				
PLOR	**Plostina**	**37.23 302**	⇓P	**P**	**16 54 17.7 +1.6**
PLOR	**Plostina**	**37.23 302**	P	**P**	**16 54 17.6 +1.6**
TESR	**Tescani**	**37.23 303**	⇓P	**P**	**16 54 16.5 +0.6**
TESR	**Tescani**	**37.23 303**	P	**P**	**16 54 16.6 +0.6**
	comp=Z,34nm,0.9s				
PLOR3	**Plostina Array**	**37.24 302**	P	**P**	**16 54 17.3 +1.2**
	comp=Z,1μmcomp=Z,61nm,1.1s				
ISR	**Istrita**	**37.32 300**	⇓P	**P**	**16 54 18.6 +1.8**
ISR	**Istrita**	**37.32 300**	P	**P**	**16 54 18.5 +1.8**
MNK	**Minsk**	**37.33 316**	*i* P	**P**	**16 54 16.8 +0.1**
MNK			*i* P	**P**	**16 54 16.8 +0.1**
	comp=N,118nm,0.8s				
MNK			*i* P	**P**	**16 54 16.8 +0.1**
	comp=Z,175nm,0.8s,baz=102				
MNK			*i* PP	**PP**	**16 55 42.4 +0.5**
MNK			*i* PPP	PPP	16 55 59.0
MNK			*i* S	**S**	**17 00 06.2 +3.4**
MNK			*i* SS	**SS**	**17 02 44.8 -1.8**
MNK			*i* LQ	LQ	17 06 53.6
MNK			*i* LR	LR	17 08 36.4
MNK			*i* LRM	MLR	17 09 25.8
	comp=E,1μm,15.5s				
MNK			*i* LRM	MLR	17 10 47.5
	comp=Z,815nm,13.9s				
MNK			*i* LRM	MLR	17 10 51.2
	comp=N,614nm,15.3s				
MNK	**Minsk**	**37.33 316**	*i* P	**P**	**16 54 16.7 +0.1**
MNK			*i*		16 55 42.3
MNK			*i* PPP	PPP	16 55 59.0
MNK			*i*		16 56 34.9
MNK			*i* S	**S**	**17 00 06.2 +3.4**
MNK			pmax	pmax	
	comp=N,118nm,0.8s				
MNK			pmax	pmax	
	comp=Z,175nm,0.8s				
MNK			MLR	MLR	
	comp=E,1μm,15.0s				
MNK			MLR	MLR	
	comp=Z,815nm,14.0s				
MNK			MLR	MLR	
	comp=N,614nm,15.0s				

GIRR	Girov	37.34 303	⇓P	P	16 54 17.8 +0.9
ONER	Baraj Valea Uz	37.41 302	⇑P	P	16 54 19.3 +1.8
KMPD	K-Podol'skiy	37.43 306	P	P	16 54 16.6 -1.0
	comp=N,129μmcomp=N,10μm,0.8s				
NEHR	Nehoiu	37.49 301	⇑P	P	16 54 19.7 +1.5
HORU	Horodok	37.49 307	P	P	16 54 18.2 +0.1
COVR	Voineasa-Covas	37.55 302	⇓P	P	16 54 19.6 +1.0
PUL	Pulkovo	37.57 325	*ce*P	P	16 54 19.0 +0.4
PUL			pmax	pmax	
	comp=Z,297nm,1.1s				
PUL			MLR	MLR	
	comp=Z,1μm,14.0s				
MLR	Muntele Rosu	37.73 301	IAmb	IAmb	16 54 30.6
	comp=Z,94nm,0.8s				
MLR	Muntele Rosu	37.73 301	LR	LR	17 14 14.5
	comp=Z,955nm,18.4s,baz=50,slow=43				
MLR	Muntele Rosu	37.73 301	⇑P	P	16 54 21.6 +1.2
MLR	Muntele Rosu	37.73 301	P	P	16 54 21.6 +1.2
MLR	Muntele Rosu	37.73 301	P	P	16 54 21.6 +1.2
	comp=Z,1μmcomp=Z,136nm,0.9s				
DL2	Dalian	37.77 70	P	P	16 54 21.9 +1.3
DL2			S	S	17 00 15.0 +5.1
DL2			pmax	pmax	
	comp=Z,170nm,0.9s				
DL2			pmax	pmax	
	comp=Z,590nm,5.9s				
DL2			LR	LR	
	comp=Z,1μm,18.0s				
DL2			LR	LR	
	comp=Z,2μm,15.6s				
DL2			LR	LR	
	comp=Z,2μm,16.2s				
OZUR		37.83 302	⇓P	P	16 54 22.2 +1.1
SMG	Samos	37.88 288	P	P	16 54 21.9 +0.3
ELND	Elena	37.91 297	⇑P	P	16 54 22.9 +1.1
EZN	Ezine	37.93 292	P	P	16 54 20.6 -1.3
EZN	Ezine	37.93 292	P	P	16 54 20.7 -1.2
	comp=Z,3μmcomp=Z,254nm,1.2s				
ALN	Alexandroupoli	38.00 294	IAmb	IAmb	16 54 28.1
	comp=Z,244nm,1.5s				
ALN	Alexandroupoli	38.00 294	P	P	16 54 22.3 -0.2
RNPP5	Staryi Chortor	38.01 310	P	P	16 54 22.4 -0.1
RNPP2	Kostyukhnivka	38.02 311	P	P	16 54 23.0 +0.4
RNPP9	Sopachiv	38.03 311	P	P	16 54 22.6 0.0
NACGM	Naroch	38.04 316	⇑*i*P	P	16 54 22.8 +0.1
	baz=102				
RNPP8	Varash	38.04 311	P	P	16 54 22.8 +0.1
PRK	Paraskevi	38.06 291	P	P	16 54 23.1 +0.1
KARP	Karpathos	38.08 285	*e*P	P	16 54 24.2 +0.9
KARP	Karpathos	38.08 285	P	P	16 54 23.9 +0.6
	comp=Z,818nm,0.9s				
DOPR	Dopca	38.11 302	⇓P	P	16 54 24.5 +1.1
BURAR	Bucovina Array	38.23 304	⇓P	P	16 54 25.4 +0.8
BURAR	Bucovina Array	38.23 304	P	P	16 54 25.3 +0.8
KSV	Kosov	38.34 306	P	P	16 54 25.5 +0.1
RDO	Rodhopi	38.35 294	P	P	16 54 25.7 +0.3
MTUR	Matau	38.36 301	⇑P	P	16 54 26.8 +1.2
MTUR	Matau	38.36 301	P	P	16 54 26.8 +1.2
VOIR		38.36 301	⇑P	P	16 54 26.6 +0.9
VOIR		38.36 301	P	P	16 54 26.5 +0.9
VOIR		38.36 301	P	P	16 54 26.1 +0.5
	comp=Z,489nmcomp=Z,21nm,0.8s				
JOF	Joensuu	38.41 330	*e*P	P	16 54 27.0 +1.4
KULM	Kulim	38.41 134	P	P	16 54 26.0 -0.2
KULM	Kulim	38.41 134	P	P	16 54 25.8 -0.4
SMTH	Samothraki Isl	38.44 293	P	P	16 54 26.4 +0.1
IIGN	Ignalina	38.44 317	*e*P	P	16 54 26.7 +0.6
SNSI	Sinabang, Aceh	38.46 143	P	P	16 54 26.7 +0.1
	comp=Z,240nm,0.9s				
ARR	Arges	38.66 301	⇓P	P	16 54 29.2 +1.1
TSI	Tuntungan	38.70 139	P	P	16 54 27.4 -1.2
	comp=Z,69nm,0.9s				
STNU	Starunia	38.73 306	P	P	16 54 29.1 +0.5
ARCR	ARCALIA	38.81 304	⇓P	P	16 54 30.9 +1.6
SNY	Shenyang	38.84 65	⇑P	P	16 54 29.9 +0.3
SNY			pP	pP	16 54 33.9 -4.1
SNY			sP	sP	16 54 40.7 -0.7
SNY			S	S	17 00 22.9 -3.1
SNY			pmax	pmax	
	comp=Z,41nm,0.9s				
SNY			pmax	pmax	
	comp=Z,100nm,4.3s				
SNY			LR	LR	
	comp=Z,1μm,9.6s				
SNY			LR	LR	
	comp=Z,2μm,14.8s				
SNY			LR	LR	
	comp=Z,2μm,15.8s				
TNR	Turnu Rosu	38.90 301	⇑P	P	16 54 31.6 +1.5
TNR	Turnu Rosu	38.90 301	P	P	16 54 31.5 +1.5
VSU	Vasula	38.91 322	*c i*P	P	16 54 28.9 -1.0
VSU			pmax	pmax	
	comp=Z,163nm,0.7s				
VSU			MLR	MLR	
	comp=Z,909nm,14.0s				
VSU	Vasula	38.91 322	*e*P	P	16 54 28.9 -1.0
APE	Apeiranthos	39.03 288	⇓P	P	16 54 31.8 +0.5
APE	Apeiranthos	39.03 288	*de*P	P	16 54 31.8 +0.5
APE			pmax	pmax	
	comp=Z,134nm,1.0s				
LVV	L'vov	39.08 308	P	P	16 54 32.3 +0.8
KAVA	Kavala	39.13 294	P	P	16 54 31.9 -0.1
MORS	Morshin	39.15 307	P	P	16 54 33.0 +1.0
LOT	Lotru	39.26 301	⇑P	P	16 54 33.6 +0.4
IPM	Ipoh	39.28 135	P	P	16 54 33.0 -0.5
SSE	Sheshan	39.31 82	P	P	16 54 33.2 -0.4
SSE			S	S	17 00 30.8 -2.5
SSE			pmax	pmax	
	comp=Z,84nm,0.9s				
SSE			pmax	pmax	
	comp=Z,200nm,3.5s				
SSE			LR	LR	
	comp=Z,740nm,20.6s				
SSE			LR	LR	
	comp=Z,290nm,20.6s				
BMR	Baia Mare	39.39 305	⇑P	P	16 54 35.7 +1.6
BMR	Baia Mare	39.39 305	P	P	16 54 35.7 +1.6
PSI	Prapat	39.48 139	P	P	16 54 34.0 -1.2
	comp=Z,47nm,0.9s,baz=320,slow=10,SNR=29				
PSI			LR	LR	17 12 16.8
	comp=Z,798nm,20.1s,baz=334,slow=38				
	comp=Z,47nm,0.9s				
QZH	Quanzhou	39.49 92	P	P	16 54 35.0 -0.2
QZH			PP	PnPn	16 56 11.7 +2.7
QZH			PcP	PcP	16 56 43.4 +0.7
QZH			S	S	17 00 38.7 +2.6
QZH			pmax	pmax	
	comp=Z,27nm,0.9s				
QZH			LR	LR	
	comp=Z,2μm,15.5s				
QZH			LR	LR	
	comp=Z,1μm,15.5s				
QZH			LR	LR	
	comp=Z,2μm,14.8s				
SHIU	Shidnytsya	39.50 307	P	P	16 54 35.8 +0.8
KOKK	Kokkinochori,	39.55 294	P	P	16 54 35.5 0.0
ARBE	Arbavere	39.55 323	*e*P	P	16 54 36.1 +0.8
RPSI	Rantau Prapat	39.56 139	P	P	16 54 34.0 -1.8
NVR	Nevrokopi	39.57 295	P	P	16 54 36.9 +1.1
MARR	Marisel-Cluj	39.67 303	⇑P	P	16 54 38.1 +1.5
KARY	Karystos	39.69 289	P	P	16 54 37.3 +0.6
PABE	Paberze	39.74 317	*e*P	P	16 54 37.0 +0.2
LVZ	Lovozero	39.76 338	P	P	16 54 37.0 0.0
LVZ			IAmb	IAmb	16 54 44.4
	comp=Z,152nm,0.9s				
LVZ	Lovozero	39.76 338	*de*P	P	16 54 37.4 +0.5
LVZ			pmax	pmax	
	comp=Z,126nm,1.0s				
LVZ			MLR	MLR	
	comp=Z,1μm,16.0s				
LVZ	Lovozero	39.76 338	P	P	16 54 37.6 +0.7
	comp=Z,232nm,1.1s				
SRS	Serrai	39.81 294	P	P	16 54 37.1 -0.6
VSVD	Vaisvydziai	39.84 318	*e*P	P	16 54 37.6 0.0
MUKU	Mukachevo	39.93 306	P	P	16 54 39.5 +0.9
KWP	Kalwaria Pacla	39.94 308	P	P	16 54 39.4 +0.8
	comp=Z,86nm,1.7s				
PUNG	Punghina	39.94 299	⇓P	P	16 54 38.9 +0.2
DRGR		39.94 303	⇑P	P	16 54 40.3 +1.4
DRGR		39.94 303	P	P	16 54 40.2 +1.4
IDI	Anoyia	39.94 285	LR	LR	17 14 09.1
	comp=Z,137nm,20.9s,baz=82,slow=41				
APA	Apatity	39.96 337	⇓*i*P	P	16 54 37.3 -1.3
APA			*i*		16 56 12.0
APA			*i*		16 56 50.0
APA			*i* S	S	17 00 38.0 -4.2
APA			*i* SS	SS	17 03 33.0 -6.1
APA			pmax	pmax	
	comp=Z,28nm,1.1s				
BERU	Beregovo	39.96 305	P	P	16 54 39.3 +0.5
GZR	Gura Zlata	39.97 301	⇑P	P	16 54 39.6 +0.5
GZR	Gura Zlata	39.97 301	P	P	16 54 39.5 +0.5
SUW	Suwalki	39.97 314	*e*P	P	16 54 38.5 -0.3
SUW	Suwalki	39.97 314	IAmb	IAmb	16 54 39.6
	comp=Z,197nm,0.9s				
SUW	Suwalki	39.97 314	*e*P	P	16 54 39.2 +0.4
CN2	Changchun	40.01 61	pmax	pmax	
	comp=Z,10.0nm,1.0s				
CN2			pmax	pmax	
	comp=Z,100nm,4.0s				
CN2			LR	LR	
	comp=N,1μm,16.0s				
CN2			LR	LR	
	comp=E,2μm,16.0s				
CN2			LR	LR	
	comp=Z,2μm,18.6s				
CN2	Changchun	40.01 61	*e*P	P	16 54 39.4 +0.1
CN2			PP	PnPn	16 56 15.6 +0.8
CN2			*e*S	S	17 00 42.3 -1.2
CN2			pmax	pmax	
	comp=Z,20nm,1.2s				
CN2			pmax	pmax	
	comp=Z,300nm,3.0s				
CN2			LR	LR	
	comp=Z,1μm,14.5s				
CN2			LR	LR	
	comp=Z,2μm,14.5s				
CN2			LR	LR	
	comp=Z,2μm,14.6s				
PLG	Polygyros	40.03 293	P	P	16 54 39.9 +0.3
GSI	Gunungsitoli	40.04 142	P	P	16 54 40.2 +0.3
GSI			IAmb	IAmb	16 54 41.8
	comp=Z,166nm,0.8s				
GSI	Gunungsitoli	40.04 142	P	P	16 54 40.1 +0.3
	comp=Z,3μmcomp=Z,297nm,1.0s				
DION	Dionisos Attik	40.07 290	P	P	16 54 39.9 0.0
FIA1	FINESS Array S	40.11 326	IAmb	IAmb	16 54 45.2
	comp=Z,222nm,0.8s				
FINES	FINESS Array B	40.11 326	P	P	16 54 40.1 +0.2
	comp=Z,79nm,0.8s,baz=109,slow=8.5,SNR=118				
FINES			LR	LR	17 12 34.5
	comp=Z,577nm,18.1s,baz=104,slow=38				
	comp=Z,79nm,0.8s				
PTL	Penteli	40.13 290	P	P	16 54 40.4 0.0
HOLU	Holmets	40.13 306	P	P	16 54 41.1 +0.8
KOLS	Kolonicke sedl	40.21 307	*e*P	P	16 54 41.9 +1.0
KOLS			pmax	pmax	
	comp=Z,19nm,0.8s				
KOLS	Kolonicke sedl	40.21 307	*e*P	P	16 54 41.9 +1.0
KOLS			*e*PP	PnPn	16 56 22.5 +5.4
VLY	Voula,Athens	40.22 289	P	P	16 54 40.9 -0.2
PEHC	Pehcevo	40.23 295	*i* P	P	16 54 41.1 -0.2
HERR	Herculane	40.26 300	⇑P	P	16 54 41.5 +0.1
ATH	Athens Observa	40.26 289	P	P	16 54 41.6 +0.2
XOR	Xorichti	40.39 292	P	P	16 54 42.0 -0.6
SURR	Surduc	40.40 302	⇑P	P	16 54 43.5 +1.0
MTSE	Matsula	40.45 322	*e*P	P	16 54 43.6 +0.9
MEF	Metsahovi	40.54 324	*e*P	P	16 54 44.2 +0.8
VAY	Valandovo	40.54 295	*i* P	P	16 54 43.2 -0.6
IMMV	Iera Moni Meta	40.62 286	P	P	16 54 44.3 -0.2
SIRR	Siria	40.69 302	⇓P	P	16 54 46.3 +1.4
MDVR	Moldovita	40.76 300	⇑P	P	16 54 46.7 +1.1
BZS	Buzias	40.76 301	⇓P	P	16 54 46.3 +0.8
BZS	Buzias	40.76 301	P	P	16 54 46.3 +0.8
LIT	Litokhoron	40.80 293	IAmb	IAmb	16 54 46.8
	comp=Z,206nm,1.7s				
LIT	Litokhoron	40.80 293	P	P	16 54 44.7 -1.2
STHS	Stebnicka Huta	40.89 307	*e*P	P	16 54 46.7 +0.2
STHS			pmax	pmax	
	comp=Z,13nm,0.7s				
STHS	Stebnicka Huta	40.89 307	*e*P	P	16 54 46.7 +0.2
STHS			*e*PP	PnPn	16 56 25.0 -0.1
KEF	Keuruu	40.89 327	*e*P	P	16 54 46.7 +0.4
AXAR	Agios Charalam	40.91 291	P	P	16 54 46.2 -0.7
PBUR	Paburge	40.95 317	*e*P	P	16 54 47.0 +0.1
R9F13	Warsaw-Wawer	41.03 312	*e*P	P	16 54 48.0 +0.4
R9F13			*e*		16 58 26.9
R9F13			*e*S	S	17 01 02.6 +4.1
TYRN	Tyrnavos	41.06 292	P	P	16 54 47.7 -0.3
HEH	HeiHe	41.10 51	*e*P	P	16 54 49.1 +0.9
HEH			pP	pP	16 54 57.2 +0.5
HEH			S	S	17 00 59.0 -0.6
HEH			pmax	pmax	
	comp=Z,110nm,1.4s				
HEH			LR	LR	
	comp=Z,2μm,13.7s				
HEH			LR	LR	
	comp=Z,5μm,15.2s				
HEH			LR	LR	
	comp=Z,7μm,16.9s				
ZEA	Zeya	41.17 46	*e*P	P	16 54 50.7 +1.9
ZEA			pmax	pmax	
	comp=Z,200nm,2.1s				
ZEA			MLR	MLR	
	comp=E,1μm,17.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,14.0s				
BEL	Belsk	41.23 311	*e*P	P	16 54 50.4 +1.1
BNX	BinXian	41.23 58	⇑P	P	16 54 50.0 +0.6
BNX			pP	pP	16 54 57.6 -0.3
BNX			S	S	17 01 02.5 +0.8
BNX			pmax	pmax	
	comp=Z,80nm,1.0s				
BNX			pmax	pmax	
	comp=Z,260nm,5.2s				
BNX			LR	LR	
	comp=Z,760nm,10.2s				
BNX			LR	LR	
	comp=Z,3μm,14.1s				
BNX			LR	LR	
	comp=Z,3μm,14.5s				
THL	Klokotos Trika	41.25 292	P	P	16 54 48.9 -0.7
KECS	Kecovo	41.40 306	*e*P	P	16 54 51.9 +1.2
KECS			pmax	pmax	
	comp=Z,22nm,0.9s				
KECS	Kecovo	41.40 306	*e*P	P	16 54 51.9 +1.2
KECS			*e*PP	PP	16 56 28.6 +2.3
NIE	Niedzica	41.50 307	*e*P	P	16 54 52.5 +0.9
MNSI	Mandailing Nat	41.51 140	P	P	16 54 51.6 -0.3
	comp=Z,1μmcomp=Z,142nm,0.9s				
FNA	Florina	41.52 294	P	P	16 54 51.4 -0.5
EVR	Evrytania	41.53 291	P	P	16 54 52.5 +0.4
PBSI	Pulau Batu	41.56 142	P	P	16 54 53.5 +1.2
PENT	Pentalofos	41.80 293	P	P	16 54 53.9 -0.3
PSZ	Piszkesteto	41.81 305	P	P	16 54 54.2 0.0
PSZ	Piszkesteto	41.81 305	⇑P	P	16 54 55.6 +1.4
PSZ	Piszkesteto	41.81 305	P	P	16 54 54.2 0.0
PSZ			pmax	pmax	
	comp=Z,35nm,1.2s				
PSZ	Piszkesteto	41.81 305	*e*P	P	16 54 55.5 +1.3
OJC	Ojcow	41.82 308	*e*P	P	16 54 53.9 -0.3
OJC	Ojcow	41.82 308	P	P	16 54 54.0 -0.2
	comp=Z,702nmcomp=Z,38nm,1.1s				
TPUB	Ta-pu	41.88 93	P	P	16 54 56.0 +1.0
YHNB	Yeheng	41.89 91	P	P	16 54 56.3 +1.1
INCN	Inchon	41.92 71	P	P	16 54 55.1 0.0
INCN	Inchon	41.92 71	P	P	16 54 55.2 0.0
INCN			pmax	pmax	
	comp=Z,106nm,1.3s				
SSLB	Suanglung	41.93 93	P	P	16 54 56.4 +0.9
RAF	Rauma	42.00 325	*e*P	P	16 54 55.8 +0.4
LANS	Liptovska Anna	42.05 307	*e*P	P	16 54 56.7 +0.6
LANS	Liptovska Anna	42.05 307	*e*P	P	16 54 56.7 +0.6
LANS			*e*PP	PcP	16 56 42.6 -8.1
FRGS	Fruska Gora	42.07 301	⇑*i*P	P	16 54 56.2 -0.1
VAF	Ylistaro	42.12 328	*e*P	P	16 54 57.0 +0.7
SJES	Sjenica	42.18 298	⇑*i*P	P	16 54 56.7 -0.6
LSK	Leskovik	42.21 293	P	P	16 54 56.2 -1.4
DGAR	Diego Garcia	42.27 183	P	P	16 54 57.8 -0.3
DGAR			IAmb	IAmb	16 54 59.3
	comp=Z,132nm,1.1s				
DGAR	Diego Garcia	42.27 183	⇑*e*P	P	16 54 58.3 +0.2
DGAR			pmax	pmax	
	comp=Z,143nm,1.7s				
TEKS	Tekeris	42.34 300	*e*P	P	16 54 58.5 0.0
PUK	Puka	42.41 296	IAmb	IAmb	16 55 03.5
	comp=Z,220nm,1.8s				
TWG	Pinlang	42.47 94	IAmb	IAmb	16 55 07.1
	comp=Z,90nm,0.8s				
VYHS	Vyhne	42.49 306	*e*P	P	16 55 00.2 +0.5
VYHS			pmax	pmax	
	comp=Z,31nm,1.3s				
VYHS	Vyhne	42.49 306	*e*P	P	16 55 00.2 +0.5
VYHS			*e*PP	PcP	16 56 45.8 -6.3
BBLS	Lazi&#263i	42.51 299	⇑*i*P	P	16 54 57.0 -2.9
RUDO	Rudo	42.56 299	*e*P	P	16 54 59.7 -0.6
VADS	Vadso	42.57 339	*e*P	P	16 55 00.8 +0.8
VADS			IAmb	IAmb	16 55 07.0
	comp=Z,108nm,0.9s				
VADS			*e*S	S	17 01 22.0 +1.1
VADS			*e*SS	SS	17 04 35.4 +4.6
VADS			IAMs_20	IAMs_20	17 13 11.1
	comp=Z,4μm,11.0s				
BKNI	Bangkinang	42.69 138	P	P	16 55 00.5 -1.0
BKNI	Bangkinang	42.69 138	P	P	16 55 01.4 -0.2
	comp=Z,2μmcomp=Z,203nm,1.3s				
TJN	Taejon	42.75 72	P	P	16 55 00.9 -1.0
TJN			IAmb	IAmb	16 55 16.1
	comp=Z,314nm,1.5s				
TJN	Taejon	42.75 72	P	P	16 55 00.9 -1.0
TJN			pmax	pmax	
	comp=Z,314nm,1.5s				
MORH	Mrgy, Hungar	42.78 303	⇑P	P	16 55 02.4 +0.4
PDG	Podgorica	42.82 297	⇑*i*P	P	16 55 01.2 -1.2
PDG	Podgorica	42.82 297	⇓P	P	16 55 02.1 -0.3
KS19	Wonju Array Si	42.87 70	P	P	16 55 03.1 +0.2
MDJ	Mudanjiang	42.88 60	P	P	16 55 03.5 +0.6
MDJ			S	S	17 01 24.2 -1.9
MDJ			sS	pS	17 01 37.8 +1.7
MDJ			pmax	pmax	
	comp=Z,88nm,1.4s				
MDJ			pmax	pmax	
	comp=Z,500nm,3.8s				
MDJ			LR	LR	
	comp=Z,2μm,12.0s				
MDJ			LR	LR	
	comp=Z,4μm,13.7s				
MDJ			LR	LR	
	comp=Z,5μm,14.3s				
MDJ	Mudanjiang	42.88 60	P	P	16 55 05.0 +2.1
KSAR	Wonju Array Be	42.90 70	P	P	16 55 03.0 0.0
KSAR	Wonju Array Be	42.90 70	P	P	16 55 03.0 0.0
DRME	Dracevica, Mon	42.91 297	*e*P	P	16 55 02.9 -0.2
KSRS	Korea Array	42.92 70	P	P	16 55 03.1 -0.1
	comp=Z,22nm,0.9s,baz=284,slow=9.8,SNR=59				
KSRS			PcP	PcP	16 56 54.3 +0.7
	comp=Z,10.0nm,0.9s,baz=285,slow=2.7,SNR=4.6				
KSRS			LR	LR	17 14 33.4
	comp=Z,656nm,19.5s,baz=305,slow=38				
	comp=Z,22nm,0.9s				
PPI	Padang Panjang	43.00 140	P	P	16 55 04.3 +0.3
	comp=Z,1μmcomp=Z,122nm,1.2s				
SISI	Saibi	43.06 142	P	P	16 55 04.6 +0.1
	comp=Z,2μmcomp=Z,151nm,1.2s				
KEV	Kevo	43.10 338	P	P	16 55 04.7 +0.5
KEV	Kevo	43.10 338	P	P	16 55 04.7 +0.5
KEV			pmax	pmax	
	comp=Z,59nm,0.9s				
MAUC	Maruska	43.12 307	*e*P	P	16 55 05.5 +0.7
STEB	Steborice	43.13 308	*e*P	P	16 55 05.4 +0.6
JAVC	Velka Javorina	43.25 307	*e*P	P	16 55 06.7 +0.9
BRY	Bratogost	43.27 298	*e*P	P	16 55 05.6 -0.6
MORC	Moravsky Berou	43.29 308	*e*P	P	16 55 06.3 +0.2
MORC			*e*PP	PP	16 56 43.6 -3.1
MORC	Moravsky Berou	43.29 308	⇑P	P	16 55 06.8 +0.7
MORC	Moravsky Berou	43.29 308	P	P	16 55 06.8 +0.7
GKP	Gorka Klasztor	43.45 313	*e*P	P	16 55 07.1 -0.2
GKP	Gorka Klasztor	43.45 313	*e*P	P	16 55 07.7 +0.4
MPLH	Magyarpolny	43.45 304	P	P	16 55 08.0 +0.5
	comp=Z,72nm,2.0s				
ARA0	ARCESS Array S	43.46 337	⇑*i*P	P	16 55 08.0 +0.7
ARA0			IAmb	IAmb	16 55 12.7
	comp=Z,125nm,0.9s				
ARA0			*e*S	S	17 01 34.8 +0.8
ARA0			*e*SS	SS	17 04 50.4 +2.2
ARA0			IAMs_20	IAMs_20	17 12 10.5
	comp=Z,3μm,12.2s				
ARCES	ARCESS Array B	43.46 337	P	P	16 55 07.9 +0.7
	comp=Z,99nm,0.9s,baz=118,slow=8.5,SNR=173				
ARCES			LR	LR	17 14 26.8
	comp=Z,2μm,18.2s,baz=116,slow=38				
	comp=Z,99nm,0.9s				
MODS	Modra-Piesok	43.54 306	*e*P	P	16 55 07.9 -0.2
MODS			pmax	pmax	
	comp=Z,51nm,1.2s				
MODS	Modra-Piesok	43.54 306	*e*P	P	16 55 07.9 -0.2
MODS			*e*PP	PP	16 56 51.5 +2.1
YAK	Yakutsk	43.67 34	P	P	16 55 08.5 -0.4
YAK	Yakutsk	43.67 34	LR	LR	17 14 55.9
	comp=Z,688nm,18.1s,baz=252,slow=38				
YAK	Yakutsk	43.67 34	*c i*P	P	16 55 08.4 -0.6
YAK			*e*PP	sP	16 55 22.1 +1.2
YAK			*e*		16 56 54.9
YAK			*e*PPP	PPP	16 57 26.1
YAK			*e*S	S	17 01 35.0 -2.2
YAK			*e*		17 05 03.3
YAK			*e*SSS	SSS	17 05 32.9
YAK			pmax	pmax	
	comp=Z,200nm,1.2s				
YAK			pmax	pmax	
	comp=N,25nm,1.4s				
YAK			pmax	pmax	
	comp=E,93nm,1.3s				
YAK			smax	smax	
	comp=N,169nm,3.4s				
YAK			smax	smax	
	comp=E,164nm,3.4s				
YAK			MLR	MLR	
	comp=Z,864nm,22.0s				
YAK			MLR	MLR	
	comp=N,297nm,13.0s				
YAK			MLR	MLR	
	comp=E,383nm,11.0s				
KRLC	Kraliky	43.77 308	*e*P	P	16 55 10.5 +0.5
KRLC			AMS	AMS	17 14 30.0
	comp=E,600nm,18.0s				
KRLC	Kraliky	43.77 308	*e*P	P	16 55 10.5 +0.5
KRLC			MLR	MLR	
	comp=Z,600nm,18.0s				
STON	Ston	43.88 298	⇑*i*P	P	16 55 09.3 -1.6
VRAC	Vranov	43.93 307	LR	LR	17 14 51.2
	comp=Z,598nm,21.6s,baz=80,slow=38				
VRAC	Vranov	43.93 307	*e*P	P	16 55 11.8 +0.6
VRAC			*e*PP	PP	16 56 53.8 +0.2
VRAC	Vranov	43.93 307	⇑P	P	16 55 11.9 +0.6
VRAC	Vranov	43.93 307	P	P	16 55 11.8 +0.6
KLR	Kul'dur	43.94 53	P	P	16 55 12.1 +0.8
	comp=Z,52nm,0.9s,baz=277,slow=11,SNR=57				
KLR			LR	LR	17 14 28.7
	comp=Z,804nm,20.3s,baz=274,slow=37				
	comp=Z,52nm,0.9s				
KLR	Kul'dur	43.94 53	*c i*P	P	16 55 11.7 +0.4
KLR			pmax	pmax	
	comp=Z,154nm,1.7s				
KLR			MLR	MLR	
	comp=Z,4μm,17.0s				
BLY	Banja Luka	43.97 301	*e*P	P	16 55 10.6 -1.0
KTK1	Kautokeino	43.97 336	⇑*i*P	P	16 55 11.7 +0.4
KTK1			IAmb	IAmb	16 55 11.9
	comp=Z,68nm,0.8s				
KTK1			*e*S	S	17 01 42.0 +0.5
KTK1			*e*SS	SS	17 05 01.6 +3.5
KTK1			IAMs_20	IAMs_20	17 13 58.1
	comp=Z,2μm,13.5s				
PSTR	Posyet	44.04 62	*c i*P	P	16 55 13.7 +1.5
KSP	Ksiaz	44.05 309	*e*P	P	16 55 13.2 +1.0
KSP	Ksiaz	44.05 309	P	P	16 55 12.5 +0.3
	comp=Z,27nm,1.5s				
DPC	Dobruska-Polom	44.05 309	*e*P	P	16 55 13.2 +0.9
DPC			AMS	AMS	17 16 20.0
	comp=Z,600nm,15.4s				
DPC	Dobruska-Polom	44.05 309	*e*P	P	16 55 13.2 +0.9
DPC			MLR	MLR	
	comp=Z,600nm,15.4s				
DPC	Dobruska-Polom	44.05 309	P	P	16 55 13.1 +0.8
	comp=Z,730nmcomp=Z,53nm,1.1s				
KRUC	Moravsky	44.07 307	*e*P	P	16 55 12.6 +0.2
KRUC			*e*PP	PP	16 56 53.2 -1.9
OSTC	Ostas	44.11 309	*e*P	P	16 55 13.3 +0.6
OSTC	Ostas	44.11 309	*e*P	P	16 55 13.3 +0.6
A051A	Mrakovica	44.13 301	⇑*i*P	P	16 55 12.4 -0.6
CHVC	Chvalec	44.21 309	*e*P	P	16 55 14.1 +0.6
CHVC	Chvalec	44.21 309	*e*P	P	16 55 14.1 +0.6

UPC Upice 44.24 309 *e*P **P 16 55 14.5 +0.8**
UPC AMS AMS 17 15 50.0
comp=Z,900nm,11.1s
UPC Upice 44.24 309 *e*P **P 16 55 14.5 +0.8**
UPC MLR MLR
comp=Z,900nm,11.1s
RONA Rosalia, Austr 44.25 305 *e*P **P 16 55 13.8 -0.1**
comp=Z,12nm,0.8s,SNR=12
BLEU Blekinge 44.39 317 *i* P **P 16 55 13.5 -1.2**
KOGS Kog 44.41 303 *e*P **P 16 55 15.1 0.0**
A050A Klekovaca 44.47 300⇑*i*P **P 16 55 15.3 -0.4**
HAMF Hammerfest 44.51 338⇑*i*P **P 16 55 16.6 +1.0**
HAMF IAmb IAmb 16 55 23.3
comp=Z,3μm,2.9s
HAMF *e*S **S 17 01 51.5 +2.3**
HAMF *e*SS **ScS 17 05 10.3 -1.2**
HAMF IAMs_20 IAMs_20 17 14 13.6
comp=Z,5μm,11.8s
CONA Conrad Observa 44.52 305 *e*P **P 16 55 16.3 +0.2**
comp=Z,29nm,0.9s,SNR=34
USA0B Ussuriysk Arra 44.64 60*c e*P **P 16 55 17.0 0.0**
USRK Ussuriysk Ar. 44.64 60 P **P 16 55 16.9 -0.1**
USRK Ussuriysk Ar. 44.64 60 P **P 16 55 17.2 +0.2**
comp=Z,11nm,0.8s,baz=280,slow=6.4,SNR=20
USRK LR LR 17 15 34.5
comp=Z,2μm,18.7s,baz=275,slow=38
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 44.64 60 P **P 16 55 16.9 -0.1**
VLA Vladivostok 44.74 62*d i*P **P 16 55 18.7 +0.9**
VLA pmax pmax
comp=Z,125nm,0.9s
PPSI Pulau Pagai 44.75 142 P **P 16 55 19.8 +1.7**
comp=Z,3μmcomp=Z,269nm,1.2s
ARSA Arzberg 44.81 304 *e*P **P 16 55 18.5 +0.1**
comp=Z,6.8nm,0.7s,SNR=9.1
BSD Bornholm Skovb 44.85 316 *e*P **P 16 55 18.0 -0.5**
BSD Bornholm Skovb 44.85 316 *i* P **P 16 55 16.6 -1.9**
BSD IAmb IAmb 16 55 18.3
comp=Z,98nm,0.9s
JTU Tsushima 44.85 74 P **P 16 55 19.1 +0.3**
comp=Z,35nm,1.0s
MATE Matera 45.03 295 *e*P **P 16 55 17.0 -3.1**
CRES Cresnjevec Ost 45.03 302⇑*i*P **P 16 55 19.7 -0.4**
JMJ Miyako jima 2 45.04 89 P **P 16 55 22.2 +1.8**
GOPC GO Pecny, Ondr 45.06 308 *e*P **P 16 55 21.0 +0.7**
GOPC GO Pecny, Ondr 45.06 308 *e*P **P 16 55 21.0 +0.7**
JETT Jettan, Norway 45.11 336⇑*i*P **P 16 55 21.1 +0.6**
JETT *e*S **S 17 02 00.2 +2.2**
PERS Pernice 45.16 304 *i* P **P 16 55 21.4 +0.2**
PRU Pruhonice 45.21 308 *e*P **P 16 55 22.2 +0.7**
PRU *e*S **S 17 01 57.9 -2.0**
PRU AMS AMS 17 17 00.0
comp=Z,700nm,10.5s
PRU Pruhonice 45.21 308 *e*P **P 16 55 22.2 +0.7**
PRU *e*S **S 17 01 57.9 -2.0**
PRU MLR MLR
comp=Z,700nm,10.5s
SOKA Soboth 45.22 304 *e*P **P 16 55 22.0 +0.3**
comp=Z,50nm,0.8s,SNR=18
BOJS Bojanci 45.22 302⇑*i*P **P 16 55 21.4 -0.2**
PRA Prague 45.28 308 AMS AMS 17 17 00.0
comp=Z,700nm,10.3s
TIP Timpagrande 45.31 293⇓*i*P **P 16 55 22.5 0.0**
TIP Timpagrande 45.31 293 P **P 16 55 22.3 -0.2**
comp=Z,130nm,1.3s
CKRC Cesky Krumlov 45.46 307 *e*P **P 16 55 24.0 +0.5**
CKRC AMS AMS 17 17 40.0
comp=Z,600nm,9.5s
CKRC Cesky Krumlov 45.46 307 *e*P **P 16 55 24.0 +0.5**
CKRC MLR MLR
comp=Z,600nm,9.5s
DEL Delary 45.47 317 *i* P **P 16 55 22.1 -1.3**
BRG Berggiesshubel 45.53 310⇑*i*P **P 16 55 24.5 +0.5**
BRG Amp 16 55 25.6
comp=Z,43nm,0.8s
BRG PP **PP 16 57 14.3 +3.7**
BRG Amp 16 57 17.1
comp=Z,35nm,1.2s
BRG Berggiesshubel 45.53 310 S **S 17 02 06.0 +1.5**
BRG Berggiesshubel 45.53 310 SS SS 17 05 30.0 +1.9
BRG Berggiesshubel 45.53 310 *e*P **P 16 55 24.2 +0.2**
comp=Z,32nm,0.7s,baz=85,slow=7.7
RUE Ruedersdorf 45.55 312 *e*P **P 16 55 23.6 -0.4**
RUE Ruedersdorf 45.55 312 *e*P **P 16 55 23.7 -0.3**
comp=Z,37nm,0.6s,baz=85,slow=7.7
OBKA Obir 45.57 303 *e*P **P 16 55 24.7 +0.3**
comp=Z,27nm,0.9s
OBKA Obir 45.57 303⇑*i*P **P 16 55 24.8 +0.3**
MOA Molln 45.59 305 *e*P **P 16 55 24.5 -0.1**
comp=Z,24nm,0.8s,SNR=18
TRO Tromso 45.62 336 *e*P **P 16 55 24.9 +0.5**
TRO IAmb IAmb 16 55 28.9
comp=Z,142nm,1.3s
TRO *e*S **S 17 02 07.4 +2.1**
TRO *e*ScS **ScS 17 05 18.2 -0.4**
TRO IAMs_20 IAMs_20 17 15 04.8
comp=Z,2μm,23.3s
LJU Ljubljana 45.65 303 *e*P **P 16 55 25.5 +0.5**
LUNU Lund 45.70 316 *i* P **P 16 55 24.4 -0.8**
CEY Cerknica 45.76 302⇑*i*P **P 16 55 25.5 -0.4**
RGN Rugen 45.77 315 *e*P **P 16 55 27.4 +1.6**
comp=Z,223nm,1.0s,baz=85,slow=7.7
HFS Hagfors 45.78 323 P **P 16 55 25.6 -0.2**
comp=Z,119nm,0.7s,baz=96,slow=10,SNR=141
HFS PP **PP 16 57 12.1 -0.9**
comp=Z,34nm,0.8s,baz=94,slow=13,SNR=2.6
HFS LR LR 17 15 41.3
comp=Z,932nm,18.9s,baz=90,slow=38
comp=Z,119nm,0.7s
CUC Castrocucco 45.84 294 IAmb IAmb 16 55 28.5
comp=Z,106nm,0.9s
GEC2 GERESS Array S 45.86 307 *e*P **P 16 55 26.5 -0.3**
comp=Z,12nm,0.9s,baz=85,slow=7.7
GERES GERESS Array B 45.86 307 P **P 16 55 26.0 -0.7**
GERES GERESS Array B 45.86 307 P **P 16 55 26.4 -0.3**
comp=Z,12nm,1.0s,baz=89,slow=7.6,SNR=28
GERES PP **PP 16 57 14.0 -0.2**
comp=Z,9.3nm,0.9s,baz=64,slow=9.0,SNR=4.8
GERES LR LR 17 15 60.0
comp=Z,557nm,20.2s,baz=81,slow=38
comp=Z,12nm,1.0s
HSKC Hora Svate Kat 45.88 309 *e*P **P 16 55 27.5 +0.7**
HSKC AMS AMS 17 16 30.0
comp=Z,1μm,15.8s
KHC Kasperske Hory 45.91 307 *e*P **P 16 55 27.2 +0.1**
KHC *e*PP **PP 16 57 14.0 -0.7**
KHC *e*S **S 17 02 05.8 -4.3**
KHC AMS AMS 17 17 40.0
comp=Z,800nm,15.6s
KHC Kasperske Hory 45.91 307 *e*P **P 16 55 27.2 +0.1**
KHC *e* 16 57 14.0
KHC *e*S **S 17 02 05.8 -4.3**
KHC MLR MLR
comp=Z,800nm,15.6s
KHC Kasperske Hory 45.91 307 P **P 16 55 27.5 +0.4**
comp=Z,24nm,1.5s
BJUU Bjuv 45.94 317 *i* P **P 16 55 26.6 -0.5**
BIOA Bad Ischl, Aus 46.03 305 *e*P **P 16 55 27.5 -0.6**
comp=Z,7.1nm,0.6s,SNR=7.2
CLL Collm 46.09 310 IAmb IAmb 16 55 29.5
comp=Z,123nm,1.7s
CLL Collm 46.09 310 *i* P **P 16 55 28.0 -0.4**
CLL *i* *PP **pP 16 55 36.2 -0.8**
CLL *e*S **S 17 02 10.0 -2.6**
CLL pmax pmax
comp=Z,119nm,1.8s
CLL MLR MLR
comp=Z,1μm,17.6s
CLL Collm 46.09 310 P **P 16 55 28.4 0.0**
comp=Z,43nm,1.3s
CLL Collm 46.09 310 *i* P **P 16 55 28.0 -0.4**
comp=Z,119nm,1.8s
CLL *i* pP **pP 16 55 36.2 -0.8**
comp=Z,20nm,0.9s
CLL *e*PP **PP 16 57 19.0 +2.5**
comp=Z,59nm,1.3s
CLL *e*PPP PPP 16 58 00.0
CLL *e*S **S 17 02 10.0 -2.6**
CLL *e*x x 17 02 46.0
CLL *e*SS **SS 17 05 42.0 +4.5**
CLL Collm 46.09 310 *e*P **P 16 55 28.1 -0.4**
comp=Z,19nm,0.7s,baz=85,slow=7.7
BORU Boraas 46.11 319 *i* P **P 16 55 27.6 -0.9**
FABU Falkenberg 46.12 318 *i* P **P 16 55 27.3 -1.2**
CADS Cadrg 46.16 303 *i* P **P 16 55 28.8 -0.3**

TIXI Tiksi 46.17 21 P **P 16 55 28.2 -0.5**
TIXI IAmb IAmb 16 55 32.5
comp=Z,115nm,0.8s
TIXI Tiksi 46.17 21*c i*P **P 16 55 28.7 0.0**
TIXI pmax pmax
comp=Z,110nm,0.9s
TIXI MLR MLR
comp=Z,3μm,17.0s
MYKA Terra Mystica 46.17 304 *i* P **P 16 55 29.0 -0.2**
comp=Z,14nm,0.9s
CEL Celeste 46.20 292 IAmb IAmb 16 55 34.5
comp=Z,149nm,1.2s
CEL Celeste 46.20 292 P **P 16 55 30.0 +0.5**
comp=Z,106nm,1.3s
FAUS Fauske 46.27 333⇑*i*P **P 16 55 30.0 +0.4**
FAUS IAmb IAmb 16 55 34.8
comp=Z,159nm,0.9s
FAUS *e*S **S 17 02 17.7 +3.1**
FAUS *e*SS **SS 17 05 45.2 +5.4**
FAUS IAMs_20 IAMs_20 17 13 20.6
comp=Z,1μm,11.9s
COP Copenhagen 46.27 316 *i* P **P 16 55 29.8 +0.1**
COP IAmb IAmb 16 55 31.2
comp=Z,287nm,0.9s
SABO M.te Sabotino 46.30 303 IAmb IAmb 16 55 31.2
comp=Z,110nm,1.0s
KBA Koelnbreinsper 46.31 304 *e*P **P 16 55 30.4 0.0**
comp=Z,28nm,1.0s,SNR=12
MOR8 Moi Rana 46.33 331⇑*i*P **P 16 55 29.7 -0.4**
MOR8 IAmb IAmb 16 55 30.5
comp=Z,203nm,0.8s
MOR8 *e*S **S 17 02 17.3 +1.7**
MOR8 *e*SS **SS 17 05 43.8 +2.9**
MOR8 IAMs_20 IAMs_20 17 15 16.6
comp=Z,2μm,12.7s
STEI Steigen 46.42 333⇑*i*P **P 16 55 31.2 +0.5**
STEI IAmb IAmb 16 55 35.9
comp=Z,78nm,0.9s
STEI *e*S **S 17 02 18.7 +2.0**
STEI *e*SS **SS 17 05 46.3 +4.2**
STEI IAMs_20 IAMs_20 17 16 01.3
comp=Z,2μm,9.5s
JNU Nakatsue 46.46 75 IAmb IAmb 16 55 36.2
comp=Z,77nm,0.9s
JNU Nakatsue 46.46 75 P **P 16 55 32.3 +0.7**
comp=Z,64nm,0.8s,baz=271,slow=2.9,SNR=19
JNU LR LR 17 18 38.0
comp=Z,584nm,18.5s,baz=294,slow=41
comp=Z,64nm,0.8s
JNU Nakatsue 46.46 75 P **P 16 55 32.8 +1.2**
TANN Tannenbergstha 46.51 309 *e*P **P 16 55 31.9 +0.1**
comp=Z,19nm,0.9s,baz=85,slow=7.7
PAOL Paolisi 46.53 296 IAmb IAmb 16 55 36.7
comp=Z,153nm,1.6s
NKC Novy Kostel 46.53 309 AMS AMS 17 17 20.0
comp=Z,1μm,10.7s
JOW Kunigami 46.65 85 P **P 16 55 33.5 +0.4**
comp=Z,39nm,0.4s,baz=281,slow=16,SNR=5.6
comp=Z,39nm,0.4s
PLN Plauen 46.70 309 *e*P **P 16 55 33.2 0.0**
baz=85,slow=7.7
LESA Schwarzleotal 46.71 305 *e*P **P 16 55 33.0 -0.5**
comp=Z,36nm,0.9s,SNR=14
TJOU Tjoern 46.73 320 *i* P **P 16 55 31.6 -1.7**
ROTZ Rotzenmuhle 46.74 308 *e*P **P 16 55 34.1 +0.6**
comp=Z,6.0nm,0.9s,baz=85,slow=7.7
MANZ Manzenberg 46.78 309 *e*P **P 16 55 34.4 +0.5**
comp=Z,6.0nm,0.8s,baz=85,slow=7.7
INTR Introdacqua 46.80 297 P **P 16 55 33.5 -0.7**
GRNR Gornyy 46.82 50⇑*i*P **P 16 55 35.3 +1.1**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR MLR MLR
comp=N,780nm,13.0s
GRNR MLR MLR
comp=E,3μm,13.0s
GRNR MLR MLR
comp=Z,4μm,13.0s
NC405 NORSAR Array S 46.84 324 IAmb IAmb 16 55 35.2
comp=Z,119nm,0.9s
LEIR Leirfjorden 46.85 331⇑*i*P **P 16 55 34.1 0.0**
LEIR IAmb IAmb 16 55 34.5
comp=Z,53nm,0.9s
LEIR *e*S **S 17 02 23.3 +0.4**
LEIR *e*SS **SS 17 05 50.7 +1.5**
LEIR IAMs_20 IAMs_20 17 15 43.5
comp=Z,2μm,13.8s
KSI Kapahiang 46.85 139 P **P 16 55 34.8 0.0**
NEUB Neuenburg 46.87 310 *e*P **P 16 55 34.4 -0.1**
comp=Z,47nm,0.7s,baz=85,slow=7.7
NC602 NORSAR Array S 46.89 323 IAmb IAmb 16 55 45.1
comp=Z,78nm,1.1s
NC602 NORSAR Array S 46.89 323⇑*i*P **P 16 55 34.1 -0.4**
NC602 IAmb IAmb 16 55 34.9
comp=Z,56nm,1.0s
NC602 *e*S **S 17 02 25.9 +2.1**
NC602 *e*SS **SS 17 05 51.8 +1.6**
NC602 IAMs_20 IAMs_20 17 15 52.2
comp=Z,2μm,16.7s
KONS Konsvik 46.92 331 *e*P **P 16 55 35.1 +0.5**
ABTA Abfaltersbach 46.92 304 *i* P **P 16 55 34.1 -1.0**
comp=Z,17nm,0.9s,SNR=6.7
STOK Stokkvaagen 46.93 331 *e*P **P 16 55 35.1 +0.4**
STRU Stroemstad 46.99 321 *i* P **P 16 55 33.7 -1.6**
HOPEN Hopen 47.02 346 *e*P **P 16 55 37.0 +1.7**
GORT1 Trebel 47.02 313 *e*P **P 16 55 35.3 -0.3**
baz=85,slow=7.7
MOX Moxa 47.02 309 *e*P **P 16 55 35.9 +0.1**
comp=Z,21nm,0.7s,baz=85,slow=7.7
MOX *e*L L 17 17 47.0
comp=Z,536nm,21.0s
NB201 NORSAR Array S 47.04 324 IAmb IAmb 16 55 41.5
comp=Z,65nm,0.8s
CIMO Cimolais 47.04 303 IAmb IAmb 16 55 40.4
comp=Z,89nm,1.1s
CAMP Campotosto 47.05 298 IAmb IAmb 16 55 39.8
comp=Z,79nm,1.4s
NB2 NORSAR Subarra 47.07 324 P **P 16 55 35.3 -0.7**
comp=Z,99nm,1.0s,baz=94,slow=7.9
NB2 NORSAR Subarra 47.07 324 P **P 16 55 35.3 -0.7**
baz=94,slow=7.9
NOA NORSAR Array B 47.07 324 P **P 16 55 35.3 -0.7**
comp=Z,39nm,0.7s,baz=94,slow=7.8,SNR=127
NOA PP **PP 16 57 23.4 -3.2**
comp=Z,15nm,0.9s,baz=93,slow=9.6,SNR=3.6
NOA LR LR 17 17 27.5
comp=Z,445nm,19.6s,baz=90,slow=39
comp=Z,39nm,0.7s
NSS Namsos 47.08 329 *e*P **P 16 55 36.2 +0.3**
LOF Lofoten 47.09 334 *e*P **P 16 55 35.9 -0.1**
LOF IAmb IAmb 16 55 42.0
comp=Z,125nm,1.3s
LOF *e*S **S 17 02 25.6 -0.7**
LOF *e*SS **SS 17 05 55.2 +2.3**
LOF IAMs_20 IAMs_20 17 15 29.5
comp=Z,1μm,11.1s
FLTG Flechtingen 47.11 312 *e*P **P 16 55 35.9 -0.5**
comp=Z,73nm,0.6s,baz=85,slow=7.7
FDMO Fiordimonte 47.18 299 IAmb IAmb 16 55 38.5
comp=Z,194nm,1.7s
NAO01 NORSAR Array S 47.22 323 IAmb IAmb 16 55 37.7
comp=Z,62nm,1.0s
OSL Oslo 47.26 322 *e*P **P 16 55 37.5 +0.2**
NBO00 NORSAR Array S 47.28 324 IAmb IAmb 16 55 38.2
comp=Z,67nm,0.9s
GRA1 Grafenberg Arr 47.38 308 IAmb IAmb 16 55 40.9
comp=Z,158nm,1.5s
GRF Grafenberg Arr 47.38 308 *e*P **P 16 55 39.3 +0.7**
comp=Z,26nm,0.8s,baz=85,slow=7.7
GRFO Grafenberg 47.38 308 P **P 16 55 39.0 +0.4**
GRFO IAmb IAmb 16 55 40.8
comp=Z,169nm,1.6s
GRFO Grafenberg 47.38 308 P **P 16 55 39.0 +0.4**
GRFO pmax pmax
comp=Z,169nm,1.6s
GRFO Grafenberg 47.38 308 *e*L L 17 16 32.4
comp=Z,662nm,20.8s
KSM Kuching 47.40 127 IAmb IAmb 16 55 40.9
comp=Z,88nm,0.8s
KSM Kuching 47.40 127 P **P 16 55 40.1 +1.1**
BJO1 Bjornoya 47.41 343⇑*i*P **P 16 55 39.1 +0.7**
BJO1 IAmb IAmb 16 55 39.7
comp=Z,178nm,1.1s
BJO1 *e*S **S 17 02 32.8 +2.0**

BJO1 *e*SS **SS 17 06 04.8 +6.7**
BJO1 IAMs_20 IAMs_20 17 16 50.3
comp=Z,2μm,15.6s
WTTA Wattenberg 47.44 305 *e*P **P 16 55 38.2 -1.0**
comp=Z,34nm,1.0s,SNR=12
PMBI Palembang 47.45 136 P **P 16 55 40.4 +1.0**
WATA Walderalm 47.47 305 *e*P **P 16 55 38.3 -1.1**
comp=Z,38nm,0.9s,SNR=17
OVD Ostervraa, Den 47.49 319 *i* P **P 16 55 38.8 -0.4**
OVD IAmb IAmb 16 55 45.0
comp=Z,329nm,1.0s
FUR Furstenfeldbru 47.55 306 *e*P **P 16 55 40.0 +0.2**
comp=Z,45nm,0.7s,baz=85,slow=7.7
BSEG Bad Segeberg 47.55 314 *e*P **P 16 55 40.1 +0.4**
comp=Z,67nm,0.7s,baz=85,slow=7.7
CTI Castel Tesino 47.62 303 P **P 16 55 39.3 -1.3**
CTI Castel Tesino 47.62 303 P **P 16 55 39.3 -1.3**
CTI pmax pmax
comp=Z,30nm,0.7s
CESX Cesi 47.63 298 IAmb IAmb 16 55 41.4
comp=Z,129nm,1.4s
MNAI Manna 47.64 139 P **P 16 55 41.4 +0.5**
CLZ Clausthal 47.69 311 *e*P **P 16 55 41.1 +0.2**
comp=Z,46nm,0.8s,baz=85,slow=7.7
SQTA Sankt Quirin 47.73 305 *e*P **P 16 55 40.2 -1.2**
comp=Z,23nm,0.9s,SNR=12
TEOL Teolo 47.73 302 IAmb IAmb 16 55 42.1
comp=Z,61nm,0.9s
TEY Ternei 47.75 58 *e*P **P 16 55 41.2 -0.2**
LODK Lodwar 47.77 238 P **P 16 55 44.1 +2.1**
SNR=21
MOTA Moosalm 47.78 305 *e*P **P 16 55 40.6 -1.3**
comp=Z,34nm,0.9s
NRDL Niedersach Rie 47.79 312 *e*P **P 16 55 42.0 +0.5**
comp=Z,38nm,0.8s,baz=85,slow=7.7
KONO Kongsberg 47.82 322 P **P 16 55 41.2 -0.6**
KONO IAmb IAmb 16 55 48.8
comp=Z,64nm,0.8s
KONO Kongsberg 47.82 322 *e*P **P 16 55 41.5 -0.3**
KONO *e*S **S 17 02 36.6 -0.3**
KONO *e*SS **SS 17 06 08.8 +3.7**
KONO IAMs_20 IAMs_20 17 16 31.2
comp=Z,2μm,12.9s
KONO Kongsberg 47.82 322 P **P 16 55 41.2 -0.6**
KONO pmax pmax
comp=Z,64nm,0.9s
GTTG Gottingen 47.97 311 *e*P **P 16 55 43.3 +0.3**
comp=Z,55nm,0.7s,baz=85,slow=7.7
RETA Reutte 47.99 305 *e*P **P 16 55 42.4 -1.0**
comp=Z,20nm,1.0s,SNR=6.9
UBBA Unterbreizbach 48.03 310 *e*P **P 16 55 43.5 +0.1**
comp=Z,16nm,0.7s,baz=85,slow=7.7
GOET G??ttrup 48.03 318 *i* P **P 16 55 43.0 -0.4**
GOET IAmb IAmb 16 55 49.8
comp=Z,271nm,1.1s
MUD Monsted U'grnd 48.08 317 *i* P **P 16 55 43.5 -0.3**
MUD IAmb IAmb 16 55 48.5
comp=Z,108nm,1.2s
FETA Feichten 48.09 305 *e*P **P 16 55 43.1 -1.2**
comp=Z,27nm,0.9s,SNR=10
DOMB Dombas 48.16 325 *e*P **P 16 55 44.4 0.0**
DOMB *e*S **S 17 02 45.1 +3.3**
DOMB *e*SS **SS 17 06 14.0 +3.3**
DOMB IAMs_20 IAMs_20 17 16 22.7
comp=Z,2μm,13.5s
RETH Rethem/Aller, 48.22 312 *e*P **P 16 55 45.1 +0.2**
baz=85,slow=7.7
HOMB Homborsund 48.39 320 *e*P **P 16 55 45.9 -0.2**
HOMB Homborsund 48.39 320 *i* P **P 16 55 45.1 -1.1**
OSSC Osservatorio P 48.39 300 IAmb IAmb 16 55 47.8
comp=Z,53nm,1.0s
UBR Ueberruh 48.40 306 *e*P **P 16 55 45.7 -0.8**
comp=Z,27nm,0.7s,baz=85,slow=7.7
MDSI Maura Dua 48.41 138 P **P 16 55 43.6 -3.2**
ZCCA Zocca 48.41 301 IAmb IAmb 16 57 01.3
comp=Z,128nm,1.5s
SKAR Skarslia 48.48 323 *e*P **P 16 55 47.6 +0.7**
SKAR IAmb IAmb 16 55 48.2
comp=Z,30nm,1.0s
SKAR *e*S **S 17 02 48.6 +2.2**
SKAR IAMs_20 IAMs_20 17 16 43.9
comp=Z,2μm,14.8s
DAVA Damuels 48.61 305 *e*P **P 16 55 47.5 -0.8**
comp=Z,104nm,0.8s,SNR=41
JMN Monobe 48.63 74 IAmb IAmb 16 55 53.2
comp=Z,77nm,0.9s
DAVOX Davos/Dischmat 48.70 304 LR LR 17 19 20.5
comp=Z,385nm,19.6s,baz=66,slow=40
LWLI Liwa 48.78 139 P **P 16 55 47.4 -2.4**
comp=Z,2μmcomp=Z,244nm,0.7s
STU Stuttgart 48.82 307 IAmb IAmb 16 55 51.0
comp=Z,40nm,0.7s
STU Stuttgart 48.82 307 *e*P **P 16 55 50.2 +0.5**
STU Stuttgart 48.82 307 *e*P **P 16 55 49.6 -0.1**
comp=Z,49nm,0.4s,baz=85,slow=7.7
MOL Molde 48.89 326 *e*P **P 16 55 50.6 +0.7**
KASTN Kahler Asten 48.97 311 *e*P **P 16 55 50.7 -0.1**
comp=Z,9.4nm,0.7s,baz=85,slow=7.7
TPI Tanjungpandan 48.99 133 P **P 16 55 51.8 +0.5**
comp=Z,1μmcomp=Z,93nm,1.1s
SNART Snartemo 49.07 320 *e*P **P 16 55 51.9 +0.5**
SNART Snartemo 49.07 320 *i* P **P 16 55 51.4 0.0**
TNS Taunus Mts 49.09 309 *e*P **P 16 55 51.7 0.0**
comp=Z,17nm,0.8s,baz=85,slow=7.7
TUE Stuetta 49.12 304 P **P 16 55 51.4 -0.9**
comp=Z,111nm,0.8s
AKN Aaknes 49.13 325 *e*P **P 16 55 52.2 +0.3**
AKN IAmb IAmb 16 56 03.9
comp=Z,38nm,0.9s
AKN *e*S **S 17 02 54.0 -1.5**
AKN *e*SS **SS 17 06 29.8 +3.4**
AKN IAMs_20 IAMs_20 17 17 13.4
comp=Z,2μm,13.0s
HSPB Hornsund (broa 49.19 345 *e*P **P 16 55 52.5 +0.5**
HSPB Hornsund (broa 49.19 345 *e*P **P 16 55 53.4 +1.3**
NKL Nikolayevsk 49.20 47 *e*P **P 16 55 50.6 -1.9**
NKL *e*S **S 17 03 02.4 +5.8**
NKL pmax pmax
comp=E,114nm,0.7s
NKL pmax pmax
comp=N,156nm,0.9s
NKL pmax pmax
comp=Z,469nm,1.1s
NKL smax smax
comp=E,127nm,2.6s
NKL smax smax
comp=N,270nm,4.4s
STKI Sintang 49.22 127 P **P 16 55 53.7 +0.6**
comp=N,4μmcomp=N,226nm,1.1s
IBBN Ibbenburen 49.24 312 *e*P **P 16 55 52.9 +0.1**
comp=N,68nm,0.7s,baz=85,slow=7.7
ODD1 Odda 49.32 322 *e*P **P 16 55 53.9 +0.5**
ODD1 IAmb IAmb 16 55 54.6
comp=Z,42nm,1.0s
BLS5 Blasjo 49.42 321 *e*P **P 16 55 54.5 +0.4**
BLS5 IAmb IAmb 16 55 59.5
comp=Z,114nm,1.1s
BLS5 IAMs_20 IAMs_20 17 17 31.5
comp=Z,2μm,12.4s
BFO Black Forest 49.46 307 P **P 16 55 53.8 -0.8**
BFO Black Forest 49.46 307 P **P 16 55 53.8 -0.8**
BFO pmax pmax
comp=Z,28nm,1.0s
BFO Black Forest 49.46 307 *e*P **P 16 55 53.8 -0.8**
comp=Z,16nm,0.8s,baz=85,slow=7.7
SPA0 Spitsbergen Ar 49.48 347⇑*i*P **P 16 55 55.4 +1.1**
SPA0 IAmb IAmb 16 55 56.3
comp=Z,102nm,1.1s
SPA0 *e*S **S 17 03 00.2 +0.1**
SPA0 *e*SS **SS 17 06 34.1 +2.6**
SPA0 IAMs_20 IAMs_20 17 19 06.8
comp=Z,2μm,13.6s
SPITS Spitsbergen Ar 49.48 347 P **P 16 55 55.5 +1.1**
comp=Z,50nm,0.7s,baz=108,slow=9.4,SNR=39
SPITS PcP **PcP 16 57 16.4 +0.4**
comp=Z,29nm,0.8s,baz=102,slow=3.4,SNR=3.0
SPITS LR LR 17 19 13.3
comp=Z,718nm,18.5s,baz=76,slow=39
comp=Z,50nm,0.7s
SPITS Spitsbergen Ar 49.48 347 P **P 16 55 55.2 +0.8**
SPITS pmax pmax
comp=Z,88nm,1.0s
HYA Hoyanger 49.52 324 *e*P **P 16 55 55.4 +0.6**
HYA IAmb IAmb 16 55 58.0
comp=Z,1μm,3.4s
HYA *e*S **S 17 03 00.6 -0.2**

HYA IAMs_20 IAMs_20 17 17 32.9
comp=Z,2μm,13.3s
BUG Bochum--Univer 49.65 311 *e*P **P 16 55 56.0 0.0**
comp=Z,59nm,0.9s,baz=85,slow=7.7
KMBO Kilima Mbogo 49.86 232 P **P 16 55 58.9 +0.6**
KMBO IAmb IAmb 16 56 01.3
comp=Z,72nm,0.9s
KMBO Kilima Mbogo 49.86 232 P **P 16 55 58.9 +0.6**
KMBO pmax pmax
comp=Z,73nm,0.9s
KMBO Kilima Mbogo 49.86 232 *i* P **P 16 56 00.3 +2.0**
SNR=51
BER Bergen 49.95 323 *e*P **P 16 55 58.2 +0.1**
ASK Askoy 50.02 323 *e*P **P 16 55 58.9 +0.3**
KMY Karmoy 50.05 321 *e*P **P 16 56 00.1 +1.2**
FOO Floro 50.06 324 *e*P **P 16 55 59.2 +0.3**
FOO IAmb IAmb 16 55 59.3
comp=Z,43nm,1.0s
KIBK Kibwezi 50.29 230 IAmb IAmb 16 56 04.3
comp=Z,96nm,0.9s
KIBK Kibwezi 50.29 230 P **P 16 56 03.5 +2.2**
SNR=20
BTNL Ternell 50.50 310 *d*P **P 16 56 02.6 +0.1**
comp=Z,31nm,0.9s
MEM Membach 50.57 310 *d*P **P 16 56 02.7 -0.2**
comp=Z,33nm,0.9s
KBS Kingsbay 50.59 347 P **P 16 56 03.4 +0.7**
KBS IAmb IAmb 16 56 04.6
comp=Z,89nm,0.9s
KBS Kingsbay 50.59 347⇑ *i*P **P 16 56 03.4 +0.7**
KBS IAmb IAmb 16 56 04.4
comp=Z,85nm,0.9s
KBS *e*S **S 17 03 18.5 +3.1**
KBS IAMs_20 IAMs_20 17 20 18.6
comp=Z,2μm,12.4s
KBS Kingsbay 50.59 347*c i*P **P 16 56 03.3 +0.7**
KBS pmax pmax
comp=Z,73nm,0.9s
KBS Kingsbay 50.59 347 *i* P **P 16 56 03.5 +0.7**
WLF Walferdange 50.64 309 IAmb IAmb 16 56 05.2
comp=Z,69nm,0.9s
WLF Walferdange 50.64 309 *d*P **P 16 56 03.6 +0.1**
comp=Z,46nm,0.9s
WLF Walferdange 50.64 309 *e*P **P 16 56 03.8 +0.3**
comp=Z,41nm,0.7s,baz=85,slow=7.7
UGL Uglegorsk 50.67 52 *e*P **P 16 56 03.7 0.0**
UGL *e*S **S 17 03 10.6 -6.6**
UGL pmax pmax
comp=Z,200nm,0.9s
UGL MLR MLR
comp=E,3μm,18.0s
UGL MLR MLR
comp=N,1μm,17.0s
UGL MLR MLR
comp=Z,3μm,15.0s
TYV Tymovskoe 50.73 50 *e*P **P 16 56 05.5 +1.4**
TYV *e*S **S 17 03 20.5 +2.5**
TYV pmax pmax
comp=Z,700nm,3.5s
TYV pmax pmax
comp=Z,44nm,1.2s
TYV smax smax
comp=N,800nm,5.7s
TYV smax smax
comp=E,800nm,5.7s
TYV MLR MLR
comp=N,4μm,15.0s
TYV MLR MLR
comp=Z,6μm,15.0s
VSL Villasalto 50.76 295 IAmb IAmb 16 56 08.7
comp=Z,90nm,1.0s
CGJI Cibinong 51.00 138 P **P 16 56 07.5 +1.0**
comp=Z,919nmcomp=Z,103nm,0.9s
BCLA Clavier 51.05 310 *d*P **P 16 56 05.1 -1.4**
comp=Z,11nm,1.1s
MJB9 Matsu-Tunnel 51.08 69 IAmb IAmb 16 56 11.6
comp=Z,78nm,0.8s
MAJO Matsushiro 51.08 69 P **P 16 56 06.5 -0.5**
MAJO IAmb IAmb 16 56 10.6
comp=Z,82nm,0.8s
MAJO Matsushiro 51.08 69 P **P 16 56 06.5 -0.5**
MAJO pmax pmax
comp=Z,82nm,0.8s
MJAR Matsushiro Arr 51.08 69 P **P 16 56 07.1 +0.1**
comp=Z,38nm,0.8s,baz=290,slow=9.7,SNR=9.4
comp=Z,38nm,0.8s
LPL La Plagne 51.10 303 *e*P **P 16 56 06.5 -0.8**
LPL pmax pmax
comp=Z,116nm,1.1s
RCHB Rochefort 51.14 310 *d*P **P 16 56 07.1 -0.1**
comp=Z,18nm,1.1s
BGES Gesves 51.19 310 *d*P **P 16 56 06.5 -1.1**
BMRD Maredsous 51.40 310 *d*P **P 16 56 09.1 -0.1**
comp=Z,50nm,1.1s
DOU Dourbes 51.55 310 *d*P **P 16 56 10.3 0.0**
comp=Z,40nm,1.1s
YSS Yuzhno-Sakhali 51.55 55 P **P 16 56 10.4 +0.1**
YSS IAmb IAmb 16 56 12.4
comp=Z,134nm,1.0s
YSS Yuzhno-Sakhali 51.55 55*oe*P **P 16 56 10.8 +0.4**
YSS *e*S **S 17 03 27.8 -1.7**
YSS pmax pmax
comp=Z,130nm,1.2s
YSS pmax pmax
comp=Z,300nm,2.9s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=E,2μm,17.0s
UCC Uccle 51.57 311 *d*P **P 16 56 10.1 -0.3**
COCO West Island 51.67 151 P **P 16 56 11.1 -0.4**
COCO IAmb IAmb 16 56 13.9
comp=Z,103nm,0.8s
COCO West Island 51.67 151 P **P 16 56 11.1 -0.4**
COCO pmax pmax
comp=Z,103nm,0.8s
KEST Kesra 51.95 291 P **P 16 56 14.2 +0.6**
comp=Z,137nm,0.7s,baz=78,slow=3.6,SNR=74
comp=Z,137nm,0.7s
ASAJ Asahikawa 52.13 58 P **P 16 56 14.7 0.0**
comp=Z,31nm,0.7s,baz=297,slow=6.8,SNR=11
comp=Z,31nm,0.7s
MTKI Muara Teweh, K 52.24 124 P **P 16 56 16.5 +0.6**
comp=Z,113nm,1.4s
LEM Lembang 52.25 136 P P 16 56 10.6 -5.4
comp=Z,14nm,0.7s,baz=321,slow=16,SNR=4.3
LEM LR LR 17 20 41.8
comp=Z,766nm,19.5s,baz=319,slow=39
BBJI Bungbulang 52.79 137 P **P 16 56 18.5 -1.5**
SSF Saint Saulge 52.91 306 *e*P **P 16 56 19.2 -1.3**
SSF pmax pmax
comp=Z,53nm,1.0s
LRW Lerwick 53.21 323⇑ *e*P **P 16 56 22.1 -0.3**
LRW IAmb IAmb 16 56 23.0
comp=Z,90nm,1.1s
ELMS Elmsett, Ipswi 53.38 313 *e*P **P 16 56 23.6 -0.2**
ELMS IAmb IAmb 16 56 24.3
comp=Z,156nm,0.9s
KPJI Karang Pucung 53.41 135 P **P 16 56 25.3 +0.8**
comp=Z,54nm,1.1s
SBV Sambava 53.45 210 P **P 16 56 24.7 0.0**
WACR West Acre 53.47 313⇑ *e*P **P 16 56 24.2 -0.2**
WACR IAmb IAmb 16 56 25.0
comp=Z,310nm,0.8s
CLF Chambon-Foret 53.50 307 IAmb IAmb 16 56 29.5
comp=Z,121nm,1.3s
MBAR Mbarara 53.86 238 P **P 16 56 28.1 +0.1**
MBAR IAmb IAmb 16 56 29.6
comp=Z,47nm,0.7s
MBAR Mbarara 53.86 238 P **P 16 56 29.1 +1.1**
MBAR Mbarara 53.86 238*ce*P **P 16 56 28.8 +0.8**
MBAR pmax pmax
comp=Z,71nm,1.0s
MA2 Magadan 53.91 38 P **P 16 56 27.7 0.0**
MA2 Magadan 53.91 38 LR LR 17 19 22.6
comp=Z,302nm,20.1s,baz=270,slow=36
MA2 Magadan 53.91 38*c i*P **P 16 56 27.9 +0.2**
MA2 pmax pmax
comp=Z,168nm,1.3s
MA2 MLR MLR
comp=Z,814nm,15.0s
MA2 Magadan 53.91 38 P **P 16 56 28.2 +0.5**
comp=Z,1μmcomp=Z,137nm,1.2s
SEY Seymchan 54.19 34 LR LR 17 21 25.8
comp=Z,542nm,18.2s,baz=312,slow=38
SEY Seymchan 54.19 34*ce*P **P 16 56 30.3 +0.7**

SEY pmax pmax
comp=Z,146nm,1.3s
SEY MLR MLR
comp=Z,750nm,15.0s
CAF Calviac 54.44 304 *e*P **P 16 56 31.1 -0.7**
CAF pmax pmax
comp=Z,49nm,1.0s
HPK Haverah Park 54.53 315⇑ *e*P **P 16 56 31.7 -0.5**
HPK IAmb IAmb 16 56 32.7
comp=Z,162nm,0.6s
EDMD Edmundbyers 54.54 316⇑ *e*P **P 16 56 31.8 -0.5**
EDMD IAmb IAmb 16 56 32.4
comp=Z,100nm,0.7s
ESY Stoneypath 54.68 318⇑ *e*P **P 16 56 32.7 -0.6**
MCD Coleburn Disti 54.69 320⇑ *e*P **P 16 56 33.0 -0.4**
MCD IAmb IAmb 16 56 34.0
comp=Z,120nm,0.8s
DAV Davao City (W) 54.70 108 LR LR 17 23 20.3
comp=Z,515nm,18.3s,baz=320,slow=40
LBWR Ladybower, Pea 54.71 315 *e*P **P 16 56 32.7 -0.8**
LBWR IAmb IAmb 16 56 33.8
comp=Z,67nm,0.9s
SET Setif 54.79 293 P **P 16 56 35.0 +0.5**
WOL Wolverton 54.90 312⇑ *e*P **P 16 56 34.2 -0.7**
WOL IAmb IAmb 16 56 35.5
comp=Z,206nm,1.1s
JMIC Jan Mayen 54.94 337 LR LR 17 18 04.1
comp=Z,462nm,21.5s,baz=60,slow=34
TOLI2 Tolitoli 54.94 117 P **P 16 56 36.4 +0.7**
EDI Edinburgh 54.99 318⇑ *e*P **P 16 56 35.3 -0.2**
EDI IAmb IAmb 16 56 35.9
comp=Z,101nm,0.8s
EKA Eskdalemuir Ar 55.10 317 P **P 16 56 35.7 -0.6**
comp=Z,39nm,0.7s,baz=79,slow=7.1,SNR=113
comp=Z,39nm,0.7s
ESK Eskdalemuir 55.13 317 P **P 16 56 35.9 -0.6**
ESK IAmb IAmb 16 56 41.1
comp=Z,59nm,0.9s
ESK Eskdalemuir 55.13 317⇑ *e*P **P 16 56 35.9 -0.6**
ESK Eskdalemuir 55.13 317 P **P 16 56 35.9 -0.6**
ESK pmax pmax
comp=Z,59nm,1.0s
KESW Keswick, Cumbr 55.24 316⇑ *e*P **P 16 56 36.9 -0.4**
KESW IAmb IAmb 16 56 37.9
comp=Z,80nm,0.7s
LFF La Frestale 55.34 304 *e*P **P 16 56 37.4 -0.8**
LFF pmax pmax
comp=Z,65nm,1.0s
INVG Invergeldie, C 55.35 319⇑ *e*P **P 16 56 37.6 -0.5**
LINV Loch Inver, As 55.59 321⇑ *e*P **P 16 56 39.8 0.0**
LINV IAmb IAmb 16 56 40.6
comp=Z,77nm,0.9s
HLM1 Long Mynd 55.60 314⇑ *e*P **P 16 56 39.4 -0.6**
HLM1 IAmb IAmb 16 56 40.4
comp=Z,105nm,1.2s
PCI Palu 55.65 120 P **P 16 56 41.1 +0.3**
comp=Z,2μmcomp=Z,108nm,0.9s
NOR Nord 55.68 350 *i* P **P 16 56 39.3 -0.9**
NOR IAmb IAmb 16 56 42.3
comp=Z,73nm,1.4s
CEST Esterri de Car 55.70 301 IAmb IAmb 16 56 45.5
comp=Z,141nm,1.2s
FOEL Foel Wylfa 55.70 314⇑ *e*P **P 16 56 40.5 -0.2**
FOEL IAmb IAmb 16 56 41.3
comp=Z,59nm,0.8s
PGBU Glenifferbraes 55.73 318 *e*P **P 16 56 40.5 -0.4**
PGBU IAmb IAmb 16 56 42.2
comp=Z,143nm,0.8s
NEWG New Galloway 55.75 317⇑ *e*P **P 16 56 40.7 -0.3**
NEWG IAmb IAmb 16 56 41.7
comp=Z,125nm,0.7s
MCH1 Michaelchurch 55.80 313⇑ *e*P **P 16 56 40.6 -0.8**
LLW Llanuwychllyn 55.98 314 *e*P **P 16 56 42.1 -0.5**
LLW IAmb IAmb 16 56 43.1
comp=Z,25nm,0.6s
KPL Plockton 56.01 320⇑ *e*P **P 16 56 42.2 -0.6**
GAL1 Galloway 56.08 317⇑ *e*P **P 16 56 43.0 -0.3**
GAL1 IAmb IAmb 16 56 43.8
comp=Z,60nm,0.8s
LAWE Loch Awe, Argy 56.12 319⇑ *e*P **P 16 56 43.5 -0.2**
LAWE IAmb IAmb 16 56 44.3
comp=Z,81nm,0.7s
IOMK Kirk Michael 56.15 316⇑ *e*P **P 16 56 43.8 0.0**
IOMK IAmb IAmb 16 56 44.5
comp=Z,60nm,0.7s
YLL Llanberis 56.20 315 *e*P **P 16 56 43.5 -0.8**
MRSI Marisa 56.21 117 P **P 16 56 45.7 +0.9**
comp=Z,2μmcomp=Z,227nm,1.1s
WIM Isle of Man 56.24 316 *e*P **P 16 56 44.3 -0.2**
WLF1 Llynfaes 56.30 315 *e*P **P 16 56 44.6 -0.3**
WLF1 IAmb IAmb 16 56 45.4
comp=Z,127nm,0.8s
WPS Cemaes, Angles 56.33 315 *e*P **P 16 56 42.5 -2.6**
LEWI Lewis, Hebride 56.46 321 *e*P **P 16 56 45.8 -0.2**
DAG Danmarks Havn 56.83 344 P **P 16 56 48.6 +0.2**
DAG pmax pmax
comp=Z,85nm,1.3s
DAG Danmarks Havn 56.83 344 *i* P **P 16 56 48.0 -0.4**
DAG IAmb IAmb 16 56 49.7
comp=Z,158nm,1.5s
APSI Ampana 56.95 118 P **P 16 56 51.2 +1.1**
comp=Z,2μmcomp=Z,285nm,1.1s
ABJI Asem Bagus 56.97 130 P **P 16 56 49.8 -0.3**
comp=Z,183nm,0.9s
TTSI Tana Toraja 57.14 122 P **P 16 56 51.7 +0.3**
comp=Z,6μmcomp=Z,1μmcomp=Z,98nm,1.0s
ILTH Belurgan, Co L 57.21 316 *e*P **P 16 56 50.7 -0.7**
ILTH Belurgan, Co L 57.21 316 P **P 16 56 50.2 -1.2**
JAGI Jajag, Banyuwa 57.44 131 IAmb IAmb 16 56 52.6
comp=Z,67nm,0.8s
JAGI Jajag, Banyuwa 57.44 131 P **P 16 56 51.9 -1.6**
comp=Z,97nm,0.9s
DSB Dublin 57.45 315 P **P 16 56 52.8 -0.3**
IDGL Inch Island, C 57.59 318 *e*P **P 16 56 54.2 +0.2**
IDGL IAmb IAmb 16 56 55.2
comp=Z,95nm,0.9s
IDGL Inch Island, C 57.59 318 P **P 16 56 54.4 +0.4**
KMSI Cibinong 57.65 115 P **P 16 56 56.2 +1.2**
comp=Z,3μmcomp=Z,206nm,1.3s
SPSI Sidrap Palu 57.77 123 P **P 16 56 56.7 +0.9**
comp=Z,48nm,1.1s
DBG Daneborg 57.78 341 *i* P **P 16 56 54.9 -0.3**
DBG IAmb IAmb 16 57 00.5
comp=Z,47nm,1.1s
JCJ Chichijima 57.80 78 LR LR 17 23 14.4
comp=Z,202nm,18.7s,baz=298,slow=38
SRBI Singaraja 57.80 130 P **P 16 56 56.4 +0.4**
comp=Z,2μmcomp=Z,135nm,0.9s
LUWI Luwuk 57.85 118 P **P 16 56 57.2 +0.8**
LUWI Luwuk 57.85 118 P **P 16 56 57.7 +1.3**
comp=Z,1μmcomp=Z,120nm,1.0s
IWEX Carrickbyrne, 57.93 314 *e*P **P 16 56 56.3 -0.2**
IWEX IAmb IAmb 16 56 57.0
comp=Z,104nm,0.9s
IWEX Carrickbyrne, 57.93 314 P **P 16 56 56.5 0.0**
KAPI Kappang 58.51 123 P **P 16 56 59.7 -1.3**
KAPI IAmb IAmb 16 57 01.7
comp=Z,69nm,1.0s
KAPI Kappang 58.51 123 P **P 16 56 59.5 -1.5**
comp=Z,47nm,0.9s,baz=304,slow=7.3,SNR=7.3
comp=Z,47nm,0.9s
KAPI Kappang 58.51 123⇑ *e*P **P 16 57 00.3 -0.7**
KAPI pmax pmax
comp=Z,72nm,1.0s
BILL Bilibino 58.77 26 P **P 16 57 02.9 +0.8**
BILL IAmb IAmb 16 57 07.1
comp=Z,103nm,1.0s
BILL Bilibino 58.77 26*c i*P **P 16 57 03.0 +0.8**
BILL pmax pmax
comp=Z,91nm,1.0s
BILL MLR MLR
comp=Z,627nm,16.0s
BKSI Bulukumba 58.98 123 P **P 16 57 04.9 +0.6**
comp=Z,58nm,0.8s
IGLA Glengowla, Co 59.12 316 P **P 16 57 04.6 -0.1**
OPO Ambohidratompo 59.17 210 LR LR 17 19 14.4
comp=Z,235nm,21.0s,baz=186,slow=33
PEA0B Petropavlovsk- 59.21 44 IAmb IAmb 16 57 08.9
comp=Z,115nm,1.4s
PEA0B Petropavlovsk- 59.21 44*ce*P **P 16 57 04.3 -1.1**
PETK Petropavlovsk- 59.21 44 P **P 16 57 04.6 -0.8**
PETK Petropavlovsk- 59.21 44 P **P 16 57 04.1 -1.3**
comp=Z,22nm,1.1s,baz=271,slow=8.1,SNR=7.6
PETK LR LR 17 24 26.2
comp=Z,1μm,19.2s,baz=283,slow=38
comp=Z,22nm,1.1s

SCO Scoresbysund 59.39 337 *i* P **P 16 57 06.6 +0.2**
SCO IAmb IAmb 16 57 08.8
comp=Z,32nm,0.8s
ABPO Ambohimpanom 59.55 210 P **P 16 57 08.7 +0.4**
ABPO IAmb IAmb 16 57 10.2
comp=Z,96nm,1.0s
ABPO Ambohimpanom 59.55 210 P **P 16 57 08.7 +0.4**
ABPO pmax pmax
comp=Z,96nm,1.0s
KDI Kendari 59.76 120 P **P 16 57 09.5 -0.2**
comp=Z,922nmcomp=Z,101nm,0.9s
PET Petropavlovsk 59.78 44⇑ *e*P **P 16 57 08.7 -0.6**
PET pmax pmax
comp=Z,60nm,1.3s
PET MLR MLR
comp=Z,1μm,18.0s
TNTI Ternate 60.06 112 P **P 16 57 11.4 -0.4**
TNTI IAmb IAmb 16 57 13.2
comp=Z,98nm,1.0s
TNTI Ternate 60.06 112 P **P 16 57 12.0 +0.2**
comp=Z,1μmcomp=Z,85nm,0.9s
VAL Valentia 60.10 315 P **P 16 57 11.7 +0.2**
TAM Tamanrasset 60.27 278 P **P 16 57 12.3 -1.1**
TAM Tamanrasset 60.27 278 P **P 16 57 12.3 -1.1**
TAM pmax pmax
comp=Z,18nm,1.0s
ESBB Sonseca Array 60.41 300 P **P 16 57 13.1 -0.8**
ESBB IAmb IAmb 16 57 14.6
comp=Z,72nm,0.9s
ESDC Sonseca Array 60.41 300 P **P 16 57 13.1 -0.9**
ESDC Sonseca Array 60.41 300 P **P 16 57 13.3 -0.7**
comp=Z,59nm,0.8s,baz=67,slow=7.0,SNR=361
ESDC PKP2bc 17 26 41.2
comp=Z,4.4nm,1.1s,baz=270,slow=3.8,SNR=13
ESDC LR LR 17 27 58.7
comp=Z,220nm,18.5s,baz=48,slow=41
comp=Z,59nm,0.8s
PAB San Pablo 60.73 300 P **P 16 57 15.6 -0.6**
PAB San Pablo 60.73 300 P **P 16 57 15.6 -0.6**
PAB pmax pmax
comp=Z,154nm,1.3s
BBSI Bau Bau 60.80 121 P P 16 57 25.8 +9.0
SANI Sanana 60.89 116 P **P 16 57 17.6 +0.2**
SANI Sanana 60.89 116 P **P 16 57 17.1 -0.3**
comp=Z,2μmcomp=Z,160nm,1.3s
PBRG Braganca 61.53 303 *e*P **P 16 57 21.0 -0.6**
PBRG *i* Amb 16 57 25.9
comp=Z,58nm,1.4s
WBSI Waikabubak, Su 61.66 127 P **P 16 57 20.3 -2.4**
comp=Z,163nm,1.2s
MVO Moncorvo 61.98 302⇑ *i*P **P 16 57 23.9 -0.8**
MVO *i* Amb 16 57 25.5
comp=Z,100nm,1.2s
WSI Waingapu 62.28 127 P **P 16 57 27.0 +0.3**
VOI Vohitsoka 62.33 209 P **P 16 57 27.2 +0.1**
PVRL Vila Real 62.42 303 *e*P **P 16 57 27.3 -0.2**
PVRL *i* Amb 16 57 32.3
comp=Z,69nm,1.2s
POLO Lamas de Olo 62.43 303 *e*P **P 16 57 27.1 -0.6**
POLO *i* Amb 16 57 28.3
comp=Z,20nm,1.4s
PCAB Cabril 62.46 303⇑ *e*P **P 16 57 27.4 -0.3**
PCAB *i* Amb 16 57 32.2
comp=Z,129nm,1.3s
NLAI Namlea 62.51 116 P **P 16 57 29.4 +1.1**
comp=Z,948nmcomp=Z,93nm,0.9s
PGAV Gavieira, Arco 62.52 304⇑ *i*P **P 16 57 28.2 -0.1**
PGAV *i* Amb 16 57 32.0
comp=Z,114nm,1.3s
MTE Manteigas 62.65 302⇑ *i*P **P 16 57 29.1 0.0**
MTE *i* Amb 16 57 34.5
comp=Z,199nm,1.3s
MTE Manteigas 62.65 302 *e*P **P 16 57 30.2 +1.1**
PVIS Viseu 62.77 302⇑ *i*P **P 16 57 29.8 -0.1**
PCBR Castelo Branco 62.83 301 *e*P **P 16 57 29.8 -0.4**
PCBR *i* Amb 16 57 34.0
comp=Z,71nm,1.4s
BASI Baing, Sumba 62.87 127 P **P 16 57 30.5 -0.2**
PMRV Marv??o 62.94 301 *e*P **P 16 57 30.5 -0.5**
PMRV *i* Amb 16 57 35.9
comp=Z,96nm,1.5s
NEEM North Greenlan 62.97 348 *i* P **P 16 57 30.5 -0.5**
NEEM IAmb IAmb 16 57 32.5
comp=Z,78nm,0.8s
PTO Porto 63.08 303 *e*P **P 16 57 31.5 -0.4**
PTO *i* Amb 16 57 35.6
comp=Z,66nm,1.1s
PBAR Barrancos 63.21 299 *e*P **P 16 57 32.5 -0.3**
PBAR *i* Amb 16 57 37.2
comp=Z,209nm,1.3s
SUMG Summit 63.25 342 P **P 16 57 33.4 +0.5**
SUMG Summit 63.25 342 P **P 16 57 33.4 +0.5**
SUMG pmax pmax
comp=Z,143nm,0.9s
SUMG Summit 63.25 342 *i* P **P 16 57 33.0 +0.1**
SUMG IAmb IAmb 16 57 35.1
comp=Z,143nm,0.9s
PESTR Estremoz 63.31 300 IAmb IAmb 16 57 37.4
comp=Z,83nm,1.2s
PESTR Estremoz 63.31 300⇑ *e*P **P 16 57 32.9 -0.6**
PESTR *i* Amb 16 57 37.5
comp=Z,101nm,1.4s
COI Coimbra 63.33 302 *e*P **P 16 57 34.2 +0.7**
COI *i* Amb 16 57 38.9
comp=Z,170nm,1.6s
PCAS Casmilo, Conde 63.46 302 *e*P **P 16 57 34.3 -0.1**
PCAS *i* Amb 16 57 38.9
comp=Z,69nm,1.3s
AAI Ambon 63.61 116 P **P 16 57 39.4 +3.7**
PMTG Montargil 63.68 301 *e*P **P 16 57 35.5 -0.4**
PMTG *i* Amb 16 57 40.7
comp=Z,67nm,1.2s
EVO Evora 63.75 300⇑ *i*P P 16 57 46.1 +10
EVO *i* Amb 16 57 51.7
comp=Z,150nm,1.4s
PBEJ Beja 63.86 299⇑ *e*P **P 16 57 36.7 -0.4**
PBEJ *i* Amb 16 57 42.2
comp=Z,128nm,1.3s
PSBE So Bento 63.89 301⇑ *i*P **P 16 57 37.2 -0.1**
PSBE *i* Amb 16 57 42.7
comp=Z,243nm,1.4s
MSAI Masohi 63.93 115 P **P 16 57 38.9 +1.1**
comp=Z,1μmcomp=Z,130nm,1.2s
PVAQ Vaqueiros 64.02 299 IAmb IAmb 16 57 38.9
comp=Z,66nm,1.1s
PVAQ Vaqueiros 64.02 299⇑ *i*P **P 16 57 37.7 -0.4**
PVAQ *i* Amb 16 57 42.4
comp=Z,146nm,1.4s
SWI Sorong 64.08 111 P **P 16 57 38.6 -0.2**
comp=Z,1μmcomp=Z,86nm,1.3s
PCVE Castro Verde 64.15 299⇑ *i*P **P 16 57 37.8 -1.2**
PCVE *i* Amb 16 57 43.4
comp=Z,71nm,1.5s
MESJ Messejana 64.19 299 IAmb IAmb 16 57 40.3
comp=Z,77nm,0.9s
MESJ Messejana 64.19 299 *e*P **P 16 57 39.0 -0.3**
MESJ IAmb IAmb 16 57 40.5
comp=Z,89nm,1.0s
MESJ Messejana 64.19 299⇑ *i*P **P 16 57 38.9 -0.3**
MESJ *i* Amb 16 57 43.7
comp=Z,130nm,1.3s
MESJ Messejana 64.19 299 *e*P **P 16 57 39.0 -0.3**
PBDV Barranco-do-Ve 64.24 299⇑ *i*P **P 16 57 39.5 -0.1**
PBDV *i* Amb 16 57 44.2
comp=Z,184nm,1.3s
LIS Lisbon 64.48 301 *e*P **P 16 57 40.7 -0.4**
LIS IAmb IAmb 16 57 42.1
comp=Z,98nm,0.9s
LIS Lisbon 64.48 301 *e*P **P 16 57 40.7 -0.4**
EUNU Eureka 64.62 356 P **P 16 57 42.0 +0.5**
PTEO Sao Teotonio 64.68 299⇑ *e*P **P 16 57 42.4 0.0**
PTEO *i* Amb 16 57 48.4
comp=Z,126nm,1.2s
MORF Marmelete 64.73 299 IAmb IAmb 16 57 48.0
comp=Z,79nm,1.5s
MORF Marmelete 64.73 299 *e*P **P 16 57 42.5 -0.4**
MORF IAmb IAmb 16 57 48.4
comp=Z,98nm,1.6s
MORF Marmelete 64.73 299 *e*P **P 16 57 41.5 -1.4**
MORF *i* Amb 16 57 47.4
comp=Z,72nm,1.4s
MORF Marmelete 64.73 299 *e*P **P 16 57 42.5 -0.4**
PFVI Vila Bisbo 64.94 299⇑ *i*P **P 16 57 44.0 -0.1**
PFVI *i* Amb 16 57 49.4
comp=Z,148nm,1.4s

SOEI Soe 65.01 123 P **P** **16 57 43.2 -1.7**
SOEI Soe 65.01 123 P **P** **16 57 43.8 -1.1**
SOEI Soe 65.01 123 P **P** **16 57 45.0 +0.1**
FOMA Nahampoana Res 65.03 207 P **P** **16 57 45.0 +0.4**
ICESG Greenland Ices 65.50 339 *i* P **P** **16 57 47.1 -0.6**
ICESG IAmb IAmb 16 57 49.7
comp=Z,195nm,1.0s
KULLO Kullorsuaq 66.06 347 *i* P **P** **16 57 50.7 0.0**
KULLO IAmb IAmb 16 57 53.7
comp=Z,77nm,1.4s
FAKI Fak Fak 66.15 112 P **P** **16 57 52.2 -0.1**
FAKI Fak Fak 66.15 112 P **P** **16 57 52.3 0.0**
FAKI Fak Fak 66.15 112 P **P** **16 57 53.3 +1.0**
comp=Z,2µmcomp=Z,137nm,1.4s
TULEG Thule 66.27 351 IAmb IAmb 16 59 38.9
comp=Z,33nm,0.8s
LSZ Lusaka 66.39 229 P **P** **16 57 53.8 0.0**
LSZ Lusaka 66.39 229 LR LR 17 28 26.6
comp=Z,337nm,20.0s,baz=18,slow=37
LSZ Lusaka 66.39 229 P **P** **16 57 53.5 -0.3**
LSZ Lusaka 66.39 229 P **P** **16 57 53.8 0.0**
LSZ pmax pmax
comp=Z,98nm,1.0s
GUMO Guam 66.60 90 LR LR 17 26 30.0
comp=Z,132nm,21.1s,baz=334,slow=36
RKPI Ransiki, Papua 66.73 110 P **P** **16 57 57.1 +1.1**
comp=Z,1µmcomp=Z,137nm,1.4s
ANGG Ammassalik, Gr 66.82 335 *i* P **P** **16 57 55.7 0.0**
ANGG IAmb IAmb 16 57 57.4
comp=Z,110nm,0.9s
UPNV Upernavik 67.18 346 *i* P **P** **16 57 57.5 -0.5**
UPNV IAmb IAmb 16 57 59.8
comp=Z,77nm,1.0s
ISOG Isortoq, Green 67.31 335 *i* P **P** **16 57 58.5 -0.4**
ISOG IAmb IAmb 16 57 59.8
comp=Z,101nm,1.0s
NUUG Nuugaatsiaq 67.46 344 *i* P **P** **16 58 00.1 +0.4**
NUUG IAmb IAmb 16 58 01.9
comp=Z,50nm,1.1s
UMMG Uummannaq 67.82 343 *i* P **P** **16 58 01.6 -0.3**
UMMG IAmb IAmb 16 58 03.1
comp=Z,122nm,1.3s
C16K Lisburne Hills 67.93 20 IAmb IAmb 16 58 04.2
comp=Z,83nm,0.9s
C16K Lisburne Hills 67.93 20 P **P** **16 58 03.1 +0.4**
baz=310,SNR=72
A21K Barrow 68.02 16 P **P** **16 58 03.7 +0.5**
baz=317
BAKI Biak 68.03 108 P **P** **16 58 06.2 +2.0**
comp=Z,222nm,1.0s
B18K Kokolik River 68.17 18 P **P** **16 58 05.4 +1.2**
baz=313
TORD Torodi Ar. Bea 68.29 271 P **P** **16 58 04.9 -1.0**
TORD Torodi Ar. Bea 68.29 271 P **P** **16 58 04.7 -1.2**
comp=Z,87nm,0.7s,baz=50,slow=5.8,SNR=542
TORD PKiKP **PKiKP** **17 04 27.2 -0.1**
comp=Z,0.6nm,0.7s,baz=62,slow=3.4,SNR=1.7
TORD PKPPKP **P'P'df** **17 26 22.4 -2.8**
comp=Z,2.6nm,1.2s,baz=298,slow=3.1,SNR=4.4
TORD LR LR 17 31 29.4
comp=Z,445nm,18.3s,baz=60,slow=39
comp=Z,87nm,0.7s
C17K DeLong Mountai 68.40 20 P **P** **16 58 06.5 +0.7**
baz=312
SHEM Shemya Is, Ala 68.42 40 LR LR 17 28 58.3
comp=Z,416nm,19.5s,baz=285,slow=37
SRPI Serui, Papua 68.56 108 P **P** **16 58 08.4 +0.9**
comp=Z,1µmcomp=Z,135nm,1.0s
ILULI Ilulissat 68.59 342 *i* P **P** **16 58 06.8 -0.1**
ILULI IAmb IAmb 16 58 08.5
comp=Z,179nm,0.9s
GAMB Gambell 68.70 26 P **P** **16 58 08.1 +0.5**
GAMB IAmb IAmb 16 58 12.5
comp=Z,60nm,1.1s
GAMB Gambell 68.70 26 P **P** **16 58 08.4 +0.8**
baz=307,SNR=8.7
RDOG Red Dog Mine 68.76 20 P **P** **16 58 07.9 -0.1**
RDOG IAmb IAmb 16 58 12.9
comp=Z,67nm,1.1s
RDOG Red Dog Mine 68.76 20 P **P** **16 58 08.2 +0.2**
baz=312,SNR=15
SAUI Saumlaki 68.77 117 P **P** **16 58 10.5 +1.7**
C18K Utukok River 68.82 19 P **P** **16 58 08.9 +0.5**
baz=314
TNA Tin City 68.89 23 P **P** **16 58 09.2 +0.5**
TNA IAmb IAmb 16 58 13.9
comp=Z,93nm,1.0s
TNA Tin City 68.89 23 P **P** **16 58 09.8 +1.1**
baz=309,SNR=44
D17K Noatak River 68.95 20 P **P** **16 58 09.8 +0.7**
baz=312,SNR=116
F14K Arctic Creek 69.45 23 P **P** **16 58 13.7 +1.4**
baz=310
B22K Teshekpuk Lake 69.46 15 P **P** **16 58 12.8 +0.5**
baz=320
D19K Kuna River 69.73 18 P **P** **16 58 14.5 +0.5**
baz=316
E17K Hotham Inlet 69.73 20 P **P** **16 58 14.6 +0.6**
baz=314
B21K Ikpikpuk River 69.74 16 P **P** **16 58 14.8 +0.8**
baz=319
F15K North Star Dit 69.83 22 P **P** **16 58 15.8 +1.2**
baz=312
E18K Tukpahlearik C 69.84 20 P **P** **16 58 15.2 +0.6**
baz=314
D20K Etivluk River 69.95 18 P **P** **16 58 15.7 +0.4**
baz=317
SFJD Kangerlussuaq 70.01 340 P **P** **16 58 15.8 +0.1**
SFJD Kangerlussuaq 70.01 340 LR LR 17 29 25.9
comp=Z,287nm,20.3s,baz=42,slow=36
SFJD Kangerlussuaq 70.01 340 P **P** **16 58 15.8 +0.1**
SFJD pmax pmax
comp=Z,127nm,1.1s
SFJD Kangerlussuaq 70.01 340 *i* P **P** **16 58 14.9 -0.7**
SFJD IAmb IAmb 16 58 16.9
comp=Z,124nm,1.1s
C21K Knifeblade Rid 70.06 17 P **P** **16 58 16.7 +0.7**
baz=319
KSANE Kasane 70.19 230 *i* P **P** **16 58 18.4 +0.9**
F17K Baldwin Pennin 70.34 21 P **P** **16 58 18.9 +1.2**
baz=314,SNR=106
ANM Nome 70.36 23 P **P** **16 58 19.3 +1.5**
baz=311,SNR=50
E20K Nigu River 70.39 18 P **P** **16 58 18.5 +0.4**
baz=318
C23K Itkillik River 70.46 15 P **P** **16 58 19.2 +0.8**
baz=322,SNR=61
G15K Niukluk 70.50 23 P **P** **16 58 19.7 +1.0**
baz=312
SMPI Sarmi 70.56 107 P **P** **16 58 20.6 +0.7**
comp=Z,2µmcomp=Z,215nm,0.9s
MBWA Marble Bar 70.67 135 P **P** **16 58 19.8 -0.5**
MBWA IAmb IAmb 16 58 21.3
comp=Z,62nm,1.0s
MBWA Marble Bar 70.67 135 P **P** **16 58 19.4 -0.9**
comp=Z,65nm,1.0s
MBWA Marble Bar 70.67 135 P **P** **16 58 20.3 0.0**
F18K Selawik 70.68 20 P **P** **16 58 20.4 +0.7**
baz=316,SNR=77
E19K Redstone River 70.72 19 P **P** **16 58 20.2 +0.2**
baz=317
G16K Koyuk River 70.74 22 P **P** **16 58 21.4 +1.2**
baz=314
D22K Ayikyak River 70.76 16 IAmb IAmb 16 58 21.4
comp=Z,35nm,0.8s
D22K Ayikyak River 70.76 16 P **P** **16 58 21.0 +0.7**
baz=321
E21K Killik River 70.79 17 P **P** **16 58 20.8 +0.3**
baz=320
C24K Franklin Bluff 70.96 15 P **P** **16 58 22.1 +0.7**
baz=324
PSAC1 Pilbara Seismi 71.01 135 P **P** **16 58 21.4 -1.0**
comp=Z,117nm,0.9s
F19K Shaleruckik Mo 71.03 19 P **P** **16 58 21.7 -0.2**
baz=317
PSA00 Pilbara Seismi 71.06 135 IAmb IAmb 16 58 23.5
comp=Z,97nm,1.1s
PSA00 Pilbara Seismi 71.06 135 P **P** **16 58 21.3 -1.4**
comp=Z,101nm,1.1s
PSA00 Pilbara Seismi 71.06 135 P **P** **16 58 22.3 -0.4**
D23K Nanushuk River 71.14 16 P **P** **16 58 23.0 +0.5**
baz=322
G17K Kiwalik Mounta 71.18 21 P **P** **16 58 23.8 +0.9**
baz=315
H16K Elim 71.30 22 P **P** **16 58 24.6 +1.0**
baz=314,SNR=55
BROLN Tlhalogang 71.37 226 *i* P **P** **16 58 24.3 -0.4**

D24K Happy Valley 71.39 15 P **P** **16 58 24.5 +0.5**
baz=324
F20K Avaraart Lake 71.41 18 P **P** **16 58 24.1 -0.1**
baz=319
G18K Tagagawik 71.47 20 P **P** **16 58 24.8 +0.2**
baz=316
DRS Darwin Rock St 71.50 121 P **P** **16 58 26.3 +0.9**
C26K Camden Bay 71.54 13 P **P** **16 58 26.2 +1.2**
baz=322
E22K Anaktuvuk Pass 71.54 16 IAmb IAmb 16 58 32.2
comp=Z,52nm,1.1s
E22K Anaktuvuk Pass 71.54 16 P **P** **16 58 25.4 +0.3**
baz=322,SNR=43
TOLK Toolik Lake Re 71.64 15 P **P** **16 58 26.2 +0.5**
baz=323
G19K Purcell Mounta 71.73 20 IAmb IAmb 16 58 30.5
comp=Z,80nm,0.9s
G19K Purcell Mounta 71.73 20 P **P** **16 58 26.6 +0.4**
baz=318,SNR=90
D25K Kavik River 71.75 14 P **P** **16 58 27.0 +0.7**
baz=326
H17K Granite Mounta 71.80 21 P **P** **16 58 27.5 +0.9**
baz=316
F21K Alatna River 71.85 18 P **P** **16 58 27.2 +0.3**
baz=320
MTN Manton Dam 71.95 121 IAmb IAmb 16 58 32.0
comp=Z,48nm,0.9s
MTN Manton Dam 71.95 121 P **P** **16 58 26.9 -1.2**
comp=Z,70nm,1.5s
MTN Manton Dam 71.95 121 P **P** **16 58 29.0 +0.9**
FITZ Fitzroy Crossi 71.97 129 P **P** **16 58 27.2 -1.0**
comp=Z,13nm,1.1s
FITZ Fitzroy Crossi 71.97 129 LR LR 17 33 05.9
comp=Z,300nm,20.9s,baz=304,slow=38
FITZ Fitzroy Crossi 71.97 129 P **P** **16 58 28.0 -0.2**
C27K Jago River 72.01 13 IAmb IAmb 16 58 32.9
comp=Z,170nm,1.6s
C27K Jago River 72.01 13 P **P** **16 58 28.8 +1.0**
baz=328,SNR=75
H18K Honhosa River 72.10 21 IAmb IAmb 16 58 33.8
comp=Z,200nm,1.8s
H18K Honhosa River 72.10 21 P **P** **16 58 29.1 +0.7**
baz=317
E23K Chandalar 72.10 16 P **P** **16 58 29.0 +0.5**
baz=323
J14K Nanvaranak Lak 72.18 24 P **P** **16 58 30.4 +1.5**
baz=313
PMPST Porto Santo, M 72.27 298 *e*P **P** **16 58 29.7 -0.3**
PMPS Porto Santo 72.28 298 *e*P **P** **16 58 29.1 -0.9**
KNRA Kununurra 72.28 124 P **P** **16 58 29.7 -0.5**
comp=Z,306nm,1.1s
I17K Unalakleet 72.31 22 IAmb IAmb 16 58 35.0
comp=Z,160nm,1.4s
I17K Unalakleet 72.31 22 P **P** **16 58 31.0 +1.3**
baz=315,SNR=18
NRS Narsarsuaq 72.32 334 *i* P **P** **16 58 29.5 -0.3**
NRS IAmb IAmb 16 58 34.2
comp=Z,75nm,0.9s
NUUK Nuuk 72.34 338 *i* P **P** **16 58 28.7 -1.1**
NUUK IAmb IAmb 16 58 31.1
comp=Z,111nm,0.9s
E24K Your Creek 72.34 15 P **P** **16 58 30.5 +0.6**
baz=324
H19K Roundabout Mou 72.36 20 IAmb IAmb 16 58 31.7
comp=Z,59nm,1.1s
H19K Roundabout Mou 72.36 20 P **P** **16 58 30.7 +0.8**
baz=318,SNR=30
K13K Kusilvak Mount 72.36 25 IAmb IAmb 16 58 32.3
comp=Z,76nm,0.8s
K13K Kusilvak Mount 72.36 25 P **P** **16 58 31.3 +1.3**
baz=313,SNR=12
A36M Sachs Harbour 72.38 6 IAmb IAmb 16 58 34.4
comp=Z,91nm,0.9s
A36M Sachs Harbour 72.38 6 P **P** **16 58 30.4 +0.5**
baz=343,SNR=79
JAY Jayapura 72.46 106 LR LR 17 30 40.4
comp=Z,147nm,21.8s,baz=300,slow=36
AIS Amsterdam Isla 72.56 177 P **P** **16 58 31.3 +0.1**
G22K Bettles 72.57 17 P **P** **16 58 31.5 +0.3**
baz=322
COLD Coldfoot 72.64 17 IAmb IAmb 16 58 33.2
comp=Z,70nm,0.9s
COLD Coldfoot 72.64 17 P **P** **16 58 32.2 +0.6**
baz=323,SNR=77
J16K Anvik River 72.77 23 P **P** **16 58 33.9 +1.5**
baz=316
KDU Kakadu 72.79 120 P **P** **16 58 31.8 -1.4**
comp=Z,137nm,0.9s
KDU Kakadu 72.79 120 P **P** **16 58 33.4 +0.2**
H20K Anotleneega Mo 72.82 19 P **P** **16 58 33.2 +0.5**
baz=320
GCSA Galena City Sc 72.83 20 P **P** **16 58 33.5 +0.8**
baz=318,SNR=15
D27M Malcolm River 72.84 12 P **P** **16 58 33.8 +0.9**
baz=330
M11K Mekoryuk 72.85 27 P **P** **16 58 33.6 +0.7**
baz=312
PMAR Madeira 72.87 298 *e*P **P** **16 58 34.1 +0.3**
PMAR *i* Amb 16 58 38.1
comp=Z,284nm,1.4s
E25K Arctic Village 72.92 15 IAmb IAmb 16 58 37.6
comp=Z,118nm,1.7s
E25K Arctic Village 72.92 15 P **P** **16 58 33.7 +0.4**
baz=327,SNR=36
F24K Squaw Lake 72.93 16 P **P** **16 58 33.9 +0.5**
baz=325
PMOZ Porto Moniz, M 73.02 298 *e*P **P** **16 58 35.0 +0.4**
PMOZ *i* Amb 16 58 35.2
comp=Z,113nm,1.2s
G23K Bananza Creek 73.10 17 P **P** **16 58 34.8 +0.4**
baz=323
D28M Stokes Point 73.14 12 P **P** **16 58 35.7 +1.2**
baz=332
J17K VABM Dome 73.17 22 P **P** **16 58 35.7 +0.9**
baz=317
K15K Wolf Creek Mou 73.18 24 P **P** **16 58 36.6 +1.7**
baz=315,SNR=12
H21K Melozitna Rive 73.24 18 P **P** **16 58 35.6 +0.4**
baz=321
F25K Christian Rive 73.35 15 P **P** **16 58 36.9 +1.0**
baz=327
H22K Ishtalitna Cre 73.42 18 P **P** **16 58 36.9 +0.7**
baz=322
L14K Kuka Creek 73.46 25 P **P** **16 58 38.2 +1.8**
baz=314
I20K Naaghedeneel 73.46 20 P **P** **16 58 37.4 +0.9**
baz=320
F26K Sheenjek River 73.57 14 P **P** **16 58 37.8 +0.6**
baz=328
L15K Ungalak Mounta 73.63 24 P **P** **16 58 38.9 +1.4**
baz=315,SNR=10
E28M Babbage River 73.65 12 P **P** **16 58 38.4 +0.8**
baz=332
G24K Hadweenzic Riv 73.69 16 P **P** **16 58 38.6 +0.8**
baz=325
BMAR Burnt Mountain 73.71 15 P **P** **16 58 39.0 +1.0**
CKGRV CKGRV 73.75 228 *i* P **P** **16 58 39.3 +0.4**
J19K Poorman 73.75 21 P **P** **16 58 39.3 +1.1**
baz=319
I21K Tanana 73.83 18 IAmb IAmb 16 58 43.3
comp=Z,54nm,0.9s
I21K Tanana 73.83 18 P **P** **16 58 39.4 +0.7**
baz=322,SNR=25
J18K Innoko River 73.83 21 P **P** **16 58 39.5 +0.8**
baz=318
M13K Dall Lake 73.87 26 P **P** **16 58 41.0 +2.1**
baz=314
K17K Iditarod 73.91 22 P **P** **16 58 40.5 +1.3**
baz=317
LPHEP Lephephe 73.98 226 *i* P **P** **16 58 40.5 +0.3**
QNGWA Qangwa 74.00 232 *i* P **P** **16 58 40.8 +0.4**
P08K Saint George I 74.01 31 P **P** **16 58 41.2 +1.4**
baz=310
J20K Nowinta River 74.03 20 P **P** **16 58 40.9 +1.1**
baz=320
E29M Blow River 74.12 12 P **P** **16 58 41.2 +0.9**
baz=333
M14K Bethel 74.12 25 P **P** **16 58 42.0 +1.7**
baz=315,SNR=19
L16K Owhat River 74.27 23 P **P** **16 58 42.9 +1.6**
baz=317,SNR=36
G26K Porcupine Rive 74.28 15 P **P** **16 58 42.2 +1.0**
baz=328
H24K Noodor Dome 74.31 17 P **P** **16 58 42.5 +0.9**
baz=325
L17K Donlin 74.34 23 P **P** **16 58 43.2 +1.5**
baz=318
MEEK Meekatharra 74.38 139 P **P** **16 58 41.2 -1.1**

comp=Z,73nm,1.3s
MEEK Meekatharra 74.38 139 P **P** **16 58 42.0 -0.3**
H25L Birch Creek 74.43 16 P **P** **16 58 43.2 +1.1**
baz=327
TTA Tatalina 74.45 21 IAmb IAmb 16 58 47.3
comp=Z,110nm,1.4s
TTA Tatalina 74.45 21 P **P** **16 58 43.1 +0.8**
baz=319,SNR=24
TTA Tatalina 74.45 21 P **P** **16 58 43.3 +0.9**
F28M Old Crow 74.47 13 P **P** **16 58 43.1 +0.8**
baz=332,SNR=30
I23K Minto, Yukon-K 74.52 18 IAmb IAmb 16 58 44.5
comp=Z,56nm,0.9s
I23K Minto, Yukon-K 74.52 18 P **P** **16 58 43.5 +0.8**
baz=324,SNR=41
M15K Kasigluk River 74.60 25 P **P** **16 58 44.9 +1.7**
baz=316,SNR=21
K20K Telida 74.69 20 P **P** **16 58 44.8 +1.1**
baz=321
KDWAN Kaudwane 74.70 226 *i* P **P** **16 58 44.4 0.0**
L18K Granite Mounta 74.78 22 P **P** **16 58 45.4 +1.1**
baz=319
N14K Kuskokwak Cree 74.81 26 P **P** **16 58 45.9 +1.5**
baz=315
G27K Doyon Strip 74.83 14 P **P** **16 58 45.4 +0.9**
baz=330
INK Inuvik 74.89 10 IAmb IAmb 16 58 49.3
comp=Z,130nm,1.4s
INK Inuvik 74.89 10 P **P** **16 58 45.1 +0.4**
baz=337,SNR=83
M16K Timber Creek 74.95 24 P **P** **16 58 47.1 +1.9**
baz=317
BPAW Bear Paw Mtn. 74.95 19 IAmb IAmb 16 58 46.4
comp=Z,64nm,0.9s
BPAW Bear Paw Mtn. 74.95 19 P **P** **16 58 45.5 +0.3**
baz=323,SNR=47
POKR Poker Plat Res 75.02 17 P **P** **16 58 46.4 +0.8**
baz=326,SNR=114
MORW Morawa 75.02 143 IAmb IAmb 16 58 47.9
comp=Z,90nm,1.1s
MORW Morawa 75.02 143 P **P** **16 58 45.2 -0.8**
comp=Z,77nm,1.1s
MORW Morawa 75.02 143 P **P** **16 58 45.7 -0.3**
C36M Paulatuk 75.04 7 P **P** **16 58 45.4 -0.1**
baz=345,SNR=124
NEA2 Nenana 75.05 18 IAmb IAmb 16 58 49.9
comp=Z,121nm,1.0s
NEA2 Nenana 75.05 18 P **P** **16 58 46.0 +0.2**
baz=324,SNR=112
COLA College 75.12 17 P **P** **16 58 46.6 +0.5**
COLA College 75.12 17 P **P** **16 58 46.5 +0.5**
baz=325
COLA College 75.12 17 P **P** **16 58 46.4 +0.3**
COLA College 75.12 17 *c i*P **P** **16 58 46.3 +0.2**
COLA pmax pmax
comp=Z,113nm,0.9s
PRP Porcupine Dome 75.12 16 P **P** **16 58 47.1 +0.7**
baz=327,SNR=16
M17K Holitna River 75.16 23 P **P** **16 58 48.5 +2.0**
baz=318
F30M Barrier River 75.17 11 P **P** **16 58 47.0 +0.6**
baz=335,SNR=41
N15K Kwethluk River 75.19 25 P **P** **16 58 48.5 +1.9**
baz=316
GRTLG Ghanzi 75.31 230 *i* P **P** **16 58 48.7 +0.8**
CCB Clear Creek Bu 75.32 17 IAmb IAmb 16 58 52.0
comp=Z,101nm,1.4s
H27K Steamboat Moun 75.36 14 P **P** **16 58 48.4 +0.8**
baz=330
L19K White Mountain 75.37 21 P **P** **16 58 48.7 +1.1**
baz=320
WRH Wood River Hil 75.39 18 IAmb IAmb 16 58 51.4
comp=Z,101nm,1.4s
LBTB Lobatse 75.40 225 LR LR 17 35 28.6
comp=Z,183nm,18.1s,baz=28,slow=39
KTH Kantishna Hill 75.41 19 IAmb IAmb 16 58 49.2
comp=Z,98nm,0.9s
N16K Nishlik Lake 75.41 24 P **P** **16 58 49.9 +2.0**
baz=318,SNR=20
G29M Pine Creek 75.42 13 P **P** **16 58 48.5 +0.7**
baz=333
L20K Farewell, AK 75.43 21 P **P** **16 58 48.8 +0.8**
baz=321
ILAR Eielson Array 75.43 17 P **P** **16 58 47.6 -0.3**
ILAR Eielson Array 75.43 17 P **P** **16 58 47.5 -0.5**
comp=Z,42nm,1.0s,baz=325,slow=5.9,SNR=326
ILAR PP **PP** **17 01 36.1 -0.2**
comp=Z,4.9nm,0.9s,baz=321,slow=8.7,SNR=3.1
comp=Z,42nm,1.0s
O14K Tigyukauivet M 75.44 26 P **P** **16 58 49.4 +1.4**
baz=316
M18K Stony River 75.60 22 P **P** **16 58 50.1 +1.2**
baz=320
F31M Tsiigehtchic 75.65 11 P **P** **16 58 49.5 +0.4**
baz=337,SNR=32
TRF Thorofare Moun 75.66 19 P **P** **16 58 49.1 -0.4**
baz=324,SNR=14
G30M tAoh Zraii Nji 75.67 12 P **P** **16 58 49.4 +0.1**
baz=335
HDA Harding Lake 75.72 17 IAmb IAmb 16 58 52.8
comp=Z,76nm,1.2s
HDA Harding Lake 75.72 17 P **P** **16 58 48.8 -0.8**
baz=326,SNR=28
MCK McKinley 75.78 18 P **P** **16 58 50.3 +0.3**
baz=325,SNR=33
KGCAE Kacgae 75.79 229 *i* P **P** **16 58 51.3 +0.7**
I26K Coal Creek Min 75.83 15 P **P** **16 58 50.9 +0.7**
baz=329
I27K Kandik River 75.89 15 P **P** **16 58 51.2 +0.6**
baz=330,SNR=40
N17K Nushagak Hills 75.90 23 P **P** **16 58 52.7 +2.0**
baz=319,SNR=15
J25K Salcha River, 75.92 16 IAmb IAmb 16 58 54.5
comp=Z,52nm,1.0s
J25K Salcha River, 75.92 16 P **P** **16 58 50.6 -0.2**
baz=328,SNR=43
H29M Whitestone 75.98 13 P **P** **16 58 51.8 +0.7**
baz=333
SKOMA Sekoma 75.99 226 *i* P **P** **16 58 51.9 +0.2**
O15K Ungalikthiuk R 76.01 25 P **P** **16 58 52.6 +1.3**
baz=317
G31M Satah River 76.05 11 P **P** **16 58 51.4 0.0**
baz=336
RND Reindeer 76.07 18 IAmb IAmb 16 58 55.1
comp=Z,51nm,0.8s
TSUM Tsumeb 76.11 234 LR LR 17 35 33.5
comp=Z,421nm,19.2s,baz=40,slow=38
M20K Styx River 76.11 21 P **P** **16 58 52.4 +0.4**
baz=322
EPYK Eagle Plains 76.14 12 IAmb IAmb 16 58 56.0
comp=Z,63nm,1.2s
EPYK Eagle Plains 76.14 12 P **P** **16 58 51.9 -0.1**
baz=334,SNR=9.4
N18K Kilae Creek 76.20 23 P **P** **16 58 54.0 +1.5**
baz=320
O16K Kokwok River B 76.30 24 P **P** **16 58 54.7 +1.8**
baz=318
I28M Miner Creek 76.37 14 IAmb IAmb 16 58 57.4
comp=Z,57nm,0.8s
I28M Miner Creek 76.37 14 P **P** **16 58 53.5 +0.1**
baz=332
J26L Joseph Creek 76.43 16 P **P** **16 58 54.0 +0.3**
baz=329
MAKGR Makgori 76.47 225 *i* P **P** **16 58 54.8 +0.3**
O17K Koliganek Bris 76.50 24 P **P** **16 58 55.3 +1.3**
baz=319,SNR=13
SKT Skwentna 76.50 20 IAmb IAmb 16 58 57.8
comp=Z,85nm,0.8s
SKT Skwentna 76.50 20 P **P** **16 58 54.0 -0.1**
baz=323,SNR=57
CUT Chulitna 76.51 20 IAmb IAmb 16 59 04.5
comp=Z,78nm,1.0s
CUT Chulitna 76.51 20 P **P** **16 58 53.7 -0.4**
baz=324,SNR=12
K24K Donnelly Dome 76.51 17 P **P** **16 58 54.0 -0.2**
baz=327,SNR=59
N19K Bonanza Creek 76.54 22 IAmb IAmb 16 59 05.2
comp=Z,59nm,0.9s
N19K Bonanza Creek 76.54 22 P **P** **16 58 55.6 +1.1**
baz=321,SNR=15
BLDU Ballidu 76.62 143 P **P** **16 58 53.7 -1.4**
comp=Z,70nm,1.2s
BLDU Ballidu 76.62 143 P **P** **16 58 54.2 -0.9**
EGAK Eagle 76.71 15 IAmb IAmb 16 59 04.5
comp=Z,73nm,1.4s
EGAK Eagle 76.71 15 P **P** **16 58 55.4 +0.2**
baz=331,SNR=16
P16K Nushagak River 76.75 25 P **P** **16 58 57.1 +1.6**

baz=318,SNR=6.6
I29M Ogilvie Camp, 76.76 13 IAmb IAmb 16 58 59.4
comp=Z,83nm,1.2s
I29M Ogilvie Camp, 76.76 13 P **P 16 58 55.3 -0.2**
baz=333,SNR=68
SCRK Sand Creek 76.78 16 IAmb IAmb 16 59 00.2
comp=Z,189nm,1.6s
SCRK Sand Creek 76.78 16 P **P 16 58 56.2 +0.3**
baz=329,SNR=57
RIDG Independent Ri 76.79 17 P **P 16 58 55.4 -0.4**
baz=328,SNR=45
SPCR Spurr Chakacha 76.92 21 P **P 16 58 56.7 +0.1**
baz=322,SNR=11
O18K Koktuh Hills 77.05 23 P **P 16 58 58.9 +1.6**
baz=320,SNR=47
H31M Peel River 77.06 12 IAmb IAmb 16 59 01.3
comp=Z,77nm,1.3s
H31M Peel River 77.06 12 P **P 16 58 57.2 0.0**
baz=336,SNR=32
O19K Port Alsworth 77.07 23 IAmb IAmb 16 59 02.4
comp=Z,79nm,1.2s
O19K Port Alsworth 77.07 23 P **P 16 58 58.3 +1.0**
baz=321,SNR=10
M22K Willow 77.08 20 P **P 16 58 57.1 -0.2**
baz=324,SNR=9.6
SUA Susitna One 77.14 20 IAmb IAmb 16 59 01.6
comp=Z,61nm,1.0s
SUA Susitna One 77.14 20 P **P 16 58 57.8 0.0**
baz=324,SNR=16
KOOLE Kule 77.14 230 *i* P **P 16 58 59.1 +0.7**
UNV Unalaska Valle 77.14 32 P **P 16 58 57.5 -0.3**
baz=313
P17K Kvichak River 77.16 24 P **P 16 58 59.5 +1.8**
baz=320,SNR=15
FRB Frobisher Bay 77.18 344 LR LR 17 37 25.7
comp=Z,252nm,19.1s,baz=76,slow=39
DBIC Dimbokro 77.23 269 P **P 16 58 58.0 -0.9**
DBIC IAmb IAmb 16 58 59.9
comp=Z,83nm,0.9s
DBIC Dimbokro 77.23 269 P **P 16 58 58.1 -0.9**
comp=Z,63nm,0.8s,baz=48,slow=7.2,SNR=63
DBIC LR LR 17 36 31.9
comp=Z,626nm,18.5s,baz=42,slow=38
comp=Z,63nm,0.8s
DBIC Dimbokro 77.23 269 P **P 16 58 58.0 -0.9**
DBIC pmax pmax
comp=Z,83nm,1.0s
I30M Mount Dempster 77.24 13 P **P 16 58 58.5 +0.1**
baz=335
PAX Paxson 77.29 17 IAmb IAmb 16 59 03.4
comp=Z,69nm,0.9s
PAX Paxson 77.29 17 P **P 16 58 58.6 0.0**
baz=328,SNR=48
GHO Glory Hole Cre 77.40 19 IAmb IAmb 16 59 14.3
comp=Z,59nm,0.8s
P18K Big Mountain, 77.40 23 IAmb IAmb 16 59 01.4
comp=Z,85nm,0.9s
P18K Big Mountain, 77.40 23 P **P 16 59 00.2 +1.0**
baz=320,SNR=17
Q16K King Salmon 77.48 25 P **P 16 59 00.9 +1.3**
baz=319,SNR=18
PMR Palmer 77.49 20 P **P 16 58 59.6 0.0**
baz=325,SNR=13
MUN Mundaring 77.50 144 P **P 16 58 57.8 -2.2**
comp=Z,120nm,1.3s
MUN Mundaring 77.50 144 P **P 16 58 59.2 -0.8**
SML Sawmill 77.53 19 P **P 16 59 00.1 +0.2**
baz=326,SNR=45
J29N Klondike Camp 77.59 14 P **P 16 59 00.9 +0.6**
baz=333
ILSW Iliamna Southw 77.61 22 IAmb IAmb 16 59 05.6
comp=Z,214nm,2.0s
S12K Black Hills 77.69 29 P **P 16 59 01.4 +0.6**
baz=316
O20K Slope Mountain 77.69 22 P **P 16 59 00.7 -0.1**
baz=322
M23K Glacier View 77.70 19 P **P 16 59 01.1 +0.2**
baz=326,SNR=36
DAWY Dawson 77.70 14 IAmb IAmb 16 59 02.1
comp=Z,62nm,1.1s
DAWY Dawson 77.70 14 P **P 16 59 01.1 +0.3**
baz=332,SNR=44
RC01 Rabbit Creek A 77.73 20 IAmb IAmb 16 59 05.6
comp=Z,54nm,0.8s
RC01 Rabbit Creek A 77.73 20 P **P 16 59 00.8 -0.2**
baz=324,SNR=14
SCM Sheep Creek Mo 77.77 19 IAmb IAmb 16 59 02.5
comp=Z,67nm,0.7s
SCM Sheep Creek Mo 77.77 19 P **P 16 59 01.5 +0.2**
baz=326,SNR=15
KNK Knik Glacier 77.82 19 IAmb IAmb 16 59 05.9
comp=Z,112nm,1.2s
KNK Knik Glacier 77.82 19 P **P 16 59 01.8 +0.3**
baz=325,SNR=16
J30M Hart River 77.84 13 P **P 16 59 01.9 +0.2**
baz=335,SNR=42
P19K Oil Pt 77.84 22 IAmb IAmb 16 59 05.7
comp=Z,53nm,0.8s
P19K Oil Pt 77.84 22 P **P 16 59 02.5 +0.8**
baz=322
M24K Tolsona, Glenn 77.84 18 P **P 16 59 02.6 +0.9**
baz=327,SNR=25
HARP HAARP 77.85 18 P **P 16 59 02.9 +1.2**
baz=328,SNR=68
KLBR Kellerberrin 77.93 143 P **P 16 59 01.2 -1.2**
comp=Z,97nm,0.8s
KLBR Kellerberrin 77.93 143 P **P 16 59 01.8 -0.6**
R16K Pilot Point 78.00 26 P **P 16 59 02.8 +0.3**
baz=319
Q17K Contact Creek 78.05 24 P **P 16 59 02.9 -0.1**
baz=320,SNR=8.4
SLKM Skilak Lake 78.06 21 IAmb IAmb 16 59 03.6
comp=Z,92nm,1.2s
L27K Beaver Creek, 78.07 16 IAmb IAmb 16 59 07.9
comp=Z,70nm,1.4s
L27K Beaver Creek, 78.07 16 P **P 16 59 03.8 +0.9**
baz=330,SNR=24
BCAR Beaver Creek A 78.07 16 P **P 16 59 03.8 +0.8**
O22K Cooper Landing 78.23 21 IAmb IAmb 16 59 08.3
comp=Z,82nm,0.8s
O22K Cooper Landing 78.23 21 P **P 16 59 03.6 -0.2**
baz=324,SNR=8.7
K29M Barlow Dome 78.28 14 IAmb IAmb 16 59 05.8
comp=Z,61nm,0.9s
K29M Barlow Dome 78.28 14 P **P 16 59 04.7 +0.6**
baz=334,SNR=64
Q19K Cape Douglas, 78.28 23 P **P 16 59 04.8 +0.7**
baz=322
PWL Port Wells 78.31 20 IAmb IAmb 16 59 11.3
comp=Z,48nm,0.8s
PWL Port Wells 78.31 20 P **P 16 59 04.1 -0.2**
baz=326,SNR=12
HOM Homer 78.33 22 P **P 16 59 04.2 -0.1**
baz=323
BOSA Boshof 78.37 223 IAmb IAmb 16 59 06.0
comp=Z,98nm,1.0s
BOSA Boshof 78.37 223 P **P 16 59 05.0 -0.1**
comp=Z,84nm,1.0s,baz=39,slow=6.4,SNR=92
BOSA LR LR 17 33 07.5
comp=Z,246nm,21.1s,baz=33,slow=35
comp=Z,84nm,1.0s
BOSA Boshof 78.37 223 P **P 16 59 05.0 -0.1**
M26K Nabesna, AK 78.37 17 P **P 16 59 05.2 +0.6**
baz=330
KLU Klutina 78.43 18 IAmb IAmb 16 59 09.5
comp=Z,50nm,1.0s
KLU Klutina 78.43 18 P **P 16 59 05.3 +0.3**
baz=327,SNR=16
BRLK Bradley Lake 78.47 21 IAmb IAmb 16 59 05.7
comp=Z,70nm,0.8s
BRSE Bradley Lake S 78.53 21 P **P 16 59 04.8 -0.7**
baz=324,SNR=7.5
SEW Seward 78.62 21 IAmb IAmb 16 59 10.5
comp=Z,54nm,0.9s
SEW Seward 78.62 21 P **P 16 59 05.8 0.0**
baz=325,SNR=7.1
GLI Glacier Island 78.63 19 IAmb IAmb 16 59 07.1
comp=Z,48nm,0.8s
GLI Glacier Island 78.63 19 P **P 16 59 06.2 +0.2**
baz=327
CHGN Chignik 78.64 27 P **P 16 59 05.6 -0.5**
baz=318
N25K Chitina, Valde 78.67 18 IAmb IAmb 16 59 11.4
comp=Z,84nm,1.1s
N25K Chitina, Valde 78.67 18 P **P 16 59 06.8 +0.5**
baz=328,SNR=28
M27K Edge Creek, AK 78.67 16 P **P 16 59 07.3 +0.9**
baz=330

WRKA Warakurna 78.73 131 P **P 16 59 07.2 +0.2**
comp=Z,258nm,1.1s
WRKA Warakurna 78.73 131 P **P 16 59 07.8 +0.8**
NWAO Narrogin (SRO) 78.77 144 P **P 16 59 06.5 -0.5**
NWAO IAmb IAmb 16 59 07.7
comp=Z,154nm,1.3s
NWAO Narrogin (SRO) 78.77 144 P **P 16 59 05.2 -1.8**
comp=Z,167nm,1.2s
NWAO Narrogin (SRO) 78.77 144 LR LR 17 32 40.1
comp=Z,110nm,21.5s,baz=298,slow=35
NWAO Narrogin (SRO) 78.77 144 P **P 16 59 06.0 -1.0**
NWAO Narrogin (SRO) 78.77 144 P **P 16 59 06.2 -0.8**
NWAO Narrogin (SRO) 78.77 144 P **P 16 59 06.5 -0.5**
NWAO pmax pmax
comp=Z,154nm,1.3s
DIV Divide 78.77 19 IAmb IAmb 16 59 11.3
comp=Z,125nm,1.6s
WIN Windhoek 78.81 232 IAmb IAmb 16 59 09.7
comp=Z,104nm,1.8s
MAYO Mayo, Yukon 78.81 13 IAmb IAmb 16 59 12.1
comp=Z,102nm,1.0s
MAYO Mayo, Yukon 78.81 13 P **P 16 59 07.3 +0.3**
baz=335,SNR=8.9
L29M L29M 78.82 14 IAmb IAmb 16 59 11.8
comp=Z,89nm,1.1s
L29M L29M 78.82 14 P **P 16 59 07.8 +0.8**
baz=334,SNR=50
BVCY Beaver Creek 78.85 16 P **P 16 59 08.1 +0.9**
baz=331,SNR=15
Q20K Shuyak Island 78.93 23 P **P 16 59 07.8 +0.2**
baz=323
WRA Warramunga Arr 79.04 124 P **P 16 59 09.4 +0.6**
comp=Z,93nm,0.8s,baz=327,slow=5.7,SNR=417
WRA S **S 17 09 08.0 +1.3**
comp=Z,1.7nm,1.0s,baz=311,slow=9.8,SNR=5.0
WRA PKKPbc **PKKPbc 17 18 01.5 +0.7**
comp=Z,2.2nm,0.6s,baz=134,slow=2.0,SNR=7.9
WRA PKPPKP **P'P'df 17 26 01.4 -0.5**
comp=Z,2.9nm,1.0s,baz=131,slow=2.1,SNR=5.5
WRA LR LR 17 39 06.4
comp=Z,151nm,18.7s,baz=316,slow=40
comp=Z,93nm,0.8s
WRAB Tennant Creek 79.05 124 P **P 16 59 09.2 +0.4**
WRAB Tennant Creek 79.05 124 P **P 16 59 09.2 +0.4**
WRAB pmax pmax
comp=Z,151nm,0.9s
BMRM Bremner River 79.21 18 IAmb IAmb 16 59 14.0
comp=Z,177nm,1.5s
BMRM Bremner River 79.21 18 P **P 16 59 09.9 +0.7**
baz=328,SNR=13
EYAK Cordova Ski Ar 79.27 19 IAmb IAmb 16 59 14.3
comp=Z,64nm,0.9s
EYAK Cordova Ski Ar 79.27 19 P **P 16 59 10.4 +1.0**
baz=328,SNR=9.0
EYAK Cordova Ski Ar 79.27 19 P **P 16 59 10.5 +1.0**
VRDI Verde Repeater 79.28 17 IAmb IAmb 16 59 14.3
comp=Z,69nm,1.1s
P23K Montague Islan 79.29 20 P **P 16 59 10.4 +0.8**
baz=326
CHNA Chernabura Isl 79.29 28 P **P 16 59 09.6 -0.1**
baz=318
CNBA Chernabura Isl 79.30 28 IAmb IAmb 16 59 10.2
comp=Z,72nm,0.9s
M29M Somme Creek 79.34 15 P **P 16 59 11.0 +1.0**
baz=333
YUK3 Moose Creek 79.51 16 P **P 16 59 11.6 +0.5**
baz=332,SNR=34
KDAK Kodiak Island 79.53 23 P **P 16 59 11.5 +0.5**
KDAK Kodiak Island 79.53 23 LR LR 17 40 08.9
comp=Z,520nm,18.6s,baz=176,slow=40
KDAK Kodiak Island 79.53 23 P **P 16 59 11.6 +0.7**
baz=323
KDAK Kodiak Island 79.53 23 *c i* P **P 16 59 11.3 +0.4**
KDAK pmax pmax
comp=Z,139nm,1.0s
M30M Minto, Yukon 79.57 14 P **P 16 59 11.5 +0.4**
baz=335
RAGM Ragged Mountai 79.69 18 IAmb IAmb 16 59 16.7
comp=Z,179nm,1.5s
OHAK Old Harbor 79.74 24 IAmb IAmb 16 59 17.6
comp=Z,101nm,1.1s
OHAK Old Harbor 79.74 24 P **P 16 59 12.8 +0.7**
baz=322
OHAK Old Harbor 79.74 24 P **P 16 59 12.5 +0.4**
KMBL Kambalda 79.86 140 P **P 16 59 12.0 -1.0**
comp=Z,105nm,1.2s
KMBL Kambalda 79.86 140 P **P 16 59 13.1 +0.1**
SII Sitkinak Islan 79.96 25 P **P 16 59 14.1 +0.7**
baz=322
SII Sitkinak Islan 79.96 25 P **P 16 59 14.8 +1.5**
CHIR Chirikof Islan 80.03 26 P **P 16 59 13.9 +0.2**
baz=321
RKGY Rocky Gully 80.03 145 P **P 16 59 14.5 +0.7**
comp=Z,136nm,1.1s
YUK8 Steele Glacier 80.10 16 P **P 16 59 14.7 +0.3**
baz=332,SNR=18
KAIM Kayak Island 80.15 19 P **P 16 59 15.4 +1.1**
baz=329
BGLC Bering Glacier 80.28 18 P **P 16 59 15.8 +0.9**
baz=330
YUK4 Talbot Arm 80.29 15 P **P 16 59 15.7 +0.4**
baz=333,SNR=39
M31M Drury Creek, Y 80.37 13 P **P 16 59 15.8 +0.3**
baz=337,SNR=31
O28M Mount Upton 80.45 16 P **P 16 59 17.0 +0.7**
baz=332
N30M Aishikik Lake 80.52 15 P **P 16 59 17.3 +1.0**
baz=334
FARO Faro, Yukon 80.54 13 P **P 16 59 16.9 +0.5**
baz=337,SNR=20
MESA MESA 80.56 17 IAmb IAmb 16 59 21.8
comp=Z,154nm,1.5s
MESA MESA 80.56 17 P **P 16 59 17.7 +1.0**
baz=331,SNR=7.4
YUK6 Outpost Mounta 80.71 15 P **P 16 59 18.1 +0.5**
baz=334,SNR=14
N31M Braeburn, Yuko 80.76 14 IAmb IAmb 16 59 25.6
comp=Z,78nm,0.9s
N31M Braeburn, Yuko 80.76 14 P **P 16 59 17.9 +0.3**
baz=336,SNR=32
HYT Haines Junctio 81.00 15 IAmb IAmb 16 59 21.1
comp=Z,79nm,1.0s
HYT Haines Junctio 81.00 15 P **P 16 59 19.9 +0.8**
baz=334,SNR=48
PCA Pinnacle 81.04 17 IAmb IAmb 16 59 24.1
comp=Z,99nm,1.0s
PINM Pinnacle 81.04 17 P **P 16 59 20.0 +0.8**
baz=332,SNR=16
WRGLY Wrigley 81.04 8 IAmb IAmb 16 59 21.0
comp=Z,84nm,0.9s
WRGLY Wrigley 81.04 8 P **P 16 59 19.8 +0.8**
baz=345
O29M Mount Kennedy 81.24 16 P **P 16 59 20.8 +0.5**
baz=333
AS31 Alice Springs 81.32 127 P **P 16 59 21.7 +0.6**
comp=Z,37nm,1.0s
ASAR Alice Springs 81.32 127 P **P 16 59 21.4 +0.4**
comp=Z,91nm,0.8s,baz=316,slow=5.5,SNR=855
ASAR S **S 17 09 31.6 +1.0**
comp=Z,1.1nm,0.5s,baz=313,slow=10,SNR=11
ASAR PKKPbc **PKKPbc 17 17 56.6 +0.8**
comp=Z,2.2nm,0.9s,baz=130,slow=2.3,SNR=7.2
ASAR PKP2ab 17 25 47.0
comp=Z,0.9nm,0.9s,baz=153,slow=4.8,SNR=4.9
ASAR PKPPKP **P'P'df 17 25 56.2 -1.3**
comp=Z,2.5nm,1.1s,baz=121,slow=2.2,SNR=6.7
ASAR LR LR 17 38 52.1
comp=Z,183nm,21.1s,baz=305,slow=38
comp=Z,91nm,0.8s
O30N Mendenhall 81.35 14 P **P 16 59 21.3 +0.5**
baz=335,SNR=22
AS01 Alice Springs 81.35 127 P **P 16 59 21.7 +0.5**
SOE Somerset East 81.39 220 IAmb IAmb 16 59 22.9
comp=Z,111nm,1.4s
GRHM Grahamstown, E 81.41 219 IAmb IAmb 16 59 22.9
comp=Z,119nm,1.1s
COEN Coen 81.47 114 P **P 16 59 21.6 -0.4**
COEN IAmb IAmb 16 59 26.4
comp=Z,83nm,1.0s
COEN Coen 81.47 114 P **P 16 59 23.0 +1.0**
COEN Coen 81.47 114 P **P 16 59 22.7 +0.7**
N32M Quiet Lake 81.58 13 P **P 16 59 21.9 -0.1**
baz=338
WHY Whitehorse 81.69 14 P **P 16 59 22.5 -0.2**
baz=336,SNR=13
PMG Port Moresby 81.72 108 LR LR 17 37 46.4
comp=Z,70nm,21.4s,baz=305,slow=37
P30M Million Dollar 81.76 15 P **P 16 59 23.8 +0.8**
baz=335
BBTS Babate 82.30 282 LR LR 17 41 32.8
comp=Z,123nm,18.8s,baz=303,slow=40
PLBC Pleasant Camp 82.49 15 P **P 16 59 27.4 +0.7**
baz=335,SNR=25
P33M Teslin, Yukon 82.51 13 IAmb IAmb 16 59 28.1
comp=Z,89nm,1.0s
P33M Teslin, Yukon 82.51 13 P **P 16 59 27.0 +0.1**
baz=338,SNR=54
YKA Yellowknife Ar 82.53 4 P **P 16 59 26.8 0.0**
comp=Z,32nm,0.8s,baz=350,slow=4.9,SNR=390
YKA PP **PP 17 02 35.7 +0.3**
comp=Z,6.0nm,0.9s,baz=354,slow=7.7,SNR=5.4
YKA PKKPbc **PKKPbc 17 17 51.2 -1.3**
comp=Z,0.9nm,0.7s,baz=174,slow=2.5,SNR=17
YKA PKPPKP P'P'df 17 25 54.0 -9.3
comp=Z,0.5nm,0.9s,baz=133,slow=3.5,SNR=4.4
YKA LR LR 17 39 57.2
comp=Z,370nm,18.9s,baz=304,slow=38
comp=Z,32nm,0.8s
KRVT Keravat (AS076 82.56 101 LR LR 17 35 38.8
comp=Z,240nm,20.3s,baz=13,slow=35
SKAG Skagway 82.70 15 P **P 16 59 28.9 +1.1**
baz=336,SNR=28
FORT Forrest 82.82 136 P **P 16 59 29.5 +0.8**
comp=Z,360nm,0.8s
FORT Forrest 82.82 136 P **P 16 59 29.2 +0.5**
P32M Atlin 82.91 14 P **P 16 59 29.4 +0.5**
baz=337,SNR=11
QIS Mount Isa 83.11 121 P **P 16 59 31.1 +0.6**
comp=Z,106nm,1.1s
QIS Mount Isa 83.11 121 P **P 16 59 30.6 +0.1**
R33M Jennings River 83.61 13 P **P 16 59 33.1 +0.4**
baz=340
BESE Bessie Mountai 83.61 15 IAmb IAmb 16 59 34.8
comp=Z,42nm,1.0s
SUR Sutherland 83.71 223 P **P 16 59 33.8 +0.3**
SUR IAmb IAmb 16 59 35.5
comp=Z,63nm,1.2s
SUR Sutherland 83.71 223 LR LR 17 39 54.9
comp=Z,230nm,18.1s,baz=32,slow=38
Q32M Nakina River 83.78 13 IAmb IAmb 16 59 38.2
comp=Z,127nm,1.7s
Q32M Nakina River 83.78 13 P **P 16 59 34.2 +0.5**
baz=338,SNR=10
R32K Eaglecrest 83.96 15 IAmb IAmb 16 59 40.4
comp=Z,45nm,1.1s
R32K Eaglecrest 83.96 15 P **P 16 59 34.9 +0.6**
baz=337
KOTAN Kotaneelee Air 83.97 9 P **P 16 59 34.7 +0.3**
baz=345,SNR=12
SCHQ Schefferville 84.41 339 P **P 16 59 37.0 +0.3**
comp=Z,62nm,0.8s,baz=33,slow=7.9,SNR=98
SCHQ PKKPbc **PKKPbc 17 17 46.8 -1.4**
comp=Z,2.8nm,0.7s,baz=194,slow=4.2,SNR=8.8
SCHQ LR LR 17 36 46.4
comp=Z,161nm,19.3s,baz=22,slow=35
comp=Z,62nm,0.8s
DLBC Dease Lake 84.68 13 IAmb IAmb 16 59 39.9
comp=Z,32nm,0.9s
DLBC Dease Lake 84.68 13 LR LR 17 43 10.2
comp=Z,302nm,19.0s,baz=330,slow=40
DLBC Dease Lake 84.68 13 P **P 16 59 38.8 +0.8**
baz=340,SNR=15
S32K Killisnoo 84.69 15 IAmb IAmb 16 59 43.0
comp=Z,62nm,1.3s
S32K Killisnoo 84.69 15 P **P 16 59 38.8 +0.8**
baz=337,SNR=5.9
SIT Sitka 84.91 16 IAmb IAmb 16 59 41.5
comp=Z,65nm,1.1s
SIT Sitka 84.91 16 P **P 16 59 40.2 +1.2**
baz=336
MTSU Mount Surprise 84.95 116 P **P 16 59 41.0 +1.1**
comp=Z,30nm,0.9s
MTSU Mount Surprise 84.95 116 P **P 16 59 40.4 +0.5**
S34M Telegraph Cree 84.97 13 IAmb IAmb 16 59 44.5
comp=Z,68nm,0.9s
S34M Telegraph Cree 84.97 13 P **P 16 59 40.6 +1.2**
baz=339,SNR=32
TOAD Toad River Com 85.05 10 P **P 16 59 40.2 +0.3**
baz=344,SNR=32
OOD Oodnadatta 85.33 129 P **P 16 59 41.3 -0.3**
FCC Fort Churchill 86.02 354 IAmb IAmb 16 59 46.4
comp=Z,52nm,0.9s
WRAK Wrangell Islan 86.13 14 IAmb IAmb 16 59 50.1
comp=Z,57nm,1.1s
WRAK Wrangell Islan 86.13 14 P **P 16 59 45.8 +0.6**
baz=338
CRAG Craig 86.85 15 P **P 16 59 49.6 +0.9**
baz=338
V35K Ketchikan 87.30 14 P **P 16 59 51.1 +0.2**
baz=339
INKA Innaminka 88.61 126 P **P 16 59 57.9 +0.4**
LCRK Leigh Creek 88.75 129 P **P 16 59 58.1 0.0**
BBOO Buckleboo 89.02 132 P **P 16 59 59.0 -0.3**
GRNB Grenville Isla 89.03 14 IAmb IAmb 17 00 01.1
comp=Z,28nm,1.0s
QLP Quilpie 90.23 123 P **P 17 00 05.5 +0.4**
GBN Guysborough 90.44 331 IAmb IAmb 17 00 11.7
comp=Z,47nm,1.1s
FFC Flin Flon 90.52 358 P **P 17 00 06.0 -0.2**
FFC IAmb IAmb 17 00 07.7
comp=Z,54nm,1.0s
FFC Flin Flon 90.52 358 P **P 17 00 06.0 -0.2**
FFC pmax pmax
comp=Z,55nm,1.0s
BBB Bella Bella 90.96 14 LR LR 17 44 46.9
comp=Z,286nm,20.7s,baz=15,slow=38
HTT Hallett 91.20 131 P **P 17 00 10.1 +0.5**
LDAQ Lac Daran 91.75 338 IAmb IAmb 17 00 14.1
comp=Z,49nm,1.1s
LMQ La Malbaie 91.82 337 IAmb IAmb 17 00 14.3
comp=Z,50nm,1.0s
STKA Stephens Creek 91.87 128 P **P 17 00 11.8 -0.8**
comp=Z,12nm,0.8s,baz=310,slow=5.6,SNR=17
STKA LR LR 17 49 36.7
comp=Z,109nm,18.1s,baz=298,slow=41
comp=Z,12nm,0.8s
STKA Stephens Creek 91.87 128 P **P 17 00 12.7 +0.1**
PKME Peaks-Kenny Pk 93.48 335 IAmb IAmb 17 00 25.0
comp=Z,60nm,1.6s
CBB Campbell River 93.53 12 IAmb IAmb 17 00 25.5
comp=Z,40nm,1.2s
LLLB Lillooet 93.53 10 IAmb IAmb 17 00 25.2
comp=Z,23nm,1.0s
TRQ Mont Tremblant 94.32 339 IAmb IAmb 17 00 25.6
comp=Z,41nm,1.0s
EIDS Eidsvold 94.33 118 IAmb IAmb 17 00 28.6
comp=Z,46nm,1.4s
CMSA Cobar Meteorol 94.34 126 P **P 17 00 23.8 -0.2**
ULM Lac du Bonnet 94.61 354 IAmb IAmb 17 00 25.9
comp=Z,28nm,1.1s
ULM Lac du Bonnet 94.61 354 P **P 17 00 24.7 -0.4**
comp=Z,19nm,1.0s,baz=7.4,slow=6.7,SNR=30
ULM PP **PP 17 04 11.6 -0.5**
comp=Z,12nm,1.2s,baz=6.3,slow=9.6,SNR=3.9
ULM PKKP **PKKPdf 17 17 20.3 -0.5**
comp=Z,2.7nm,0.8s,baz=142,slow=1.8,SNR=4.7
ULM LR LR 17 46 48.7
comp=Z,288nm,18.5s,baz=13,slow=38
comp=Z,19nm,1.0s
WBO Williamsburg 95.64 339 IAmb IAmb 17 00 31.1
comp=Z,22nm,1.0s
LONY Lake Ozonia 95.78 338 IAmb IAmb 17 00 32.3
comp=Z,33nm,0.9s
J61A Chester 96.27 336 IAmb IAmb 17 00 34.9
comp=Z,30nm,0.9s
EYMN Ely 96.38 350 IAmb IAmb 17 00 34.6
comp=Z,25nm,1.1s
AGMN Agassiz Nation 96.54 353 IAmb IAmb 17 00 38.8
comp=Z,23nm,1.1s
E46A Sault Ste Mari 96.66 345 IAmb IAmb 17 00 38.7
comp=Z,58nm,1.5s
DELO Deloro Mine 96.76 340 IAmb IAmb 17 00 36.6
comp=Z,27nm,0.9s
C09A Chrisman Ranch 96.77 8 IAmb IAmb 17 00 39.5
comp=Z,60nm,1.9s
K62A Royalston 96.77 336 IAmb IAmb 17 00 37.1
comp=Z,18nm,1.0s
J59A Piesco 96.79 338 IAmb IAmb 17 00 37.0
comp=Z,19nm,1.0s
L61B Northampton 97.11 336 IAmb IAmb 17 03 19.0
comp=Z,53nm,1.8s
L61B Northampton 97.11 336 P Pdif 17 00 37.0 +0.2
baz=27
EGMT Eagleton 97.22 3 IAmb IAmb 17 00 38.5
comp=Z,32nm,1.5s
ARMA Armidale 97.71 122 P Pdif 17 00 39.8 +0.2

BINY	Binghamton	98.40	338	IAmb	IAmb	17 00 44.1
	comp=Z,16nm,0.8s					
LAO	LASA Array	98.63	0	IAmb	IAmb	17 00 49.0
	comp=Z,18nm,0.9s					
L56A	Greenwood	98.93	339	IAmb	IAmb	17 00 46.1
	comp=Z,25nm,0.9s					
F33A	5 Mile Ranch,	99.02	353	IAmb	IAmb	17 00 46.7
	comp=Z,31nm,1.5s					
M57A	Sunshine Farm,	99.53	338	IAmb	IAmb	17 00 49.4
	comp=Z,25nm,1.2s					
PDAR	Pinedale Array	102.47	3	P	Pdif	17 01 00.3 -0.7
	comp=Z,0.7nm,0.5s,baz=349,slow=2.7,SNR=4.3					
PDAR				PKKPbc	PKKPbc	17 16 57.9 -3.5
	comp=Z,0.9nm,0.8s,baz=190,slow=3.0,SNR=5.1					
DZM	Mont Dzumac	104.11	107	eLR	LR	17 35 17.4
	comp=Z,184nm,24.9s					
NVAR	Mina Array Bea	105.97	10	Pdiff	Pdif	17 01 17.6 +1.0
	comp=Z,1.1nm,0.8s,baz=348,slow=8.9,SNR=4.6					
NVAR				PKiKP	PKiKP	17 05 29.8 +1.1
	comp=Z,0.9nm,0.7s,baz=306,slow=3.4,SNR=4.0					
SYO	Syowa Base	106.86	192	‖ ePdiff	Pdif	17 01 20.6 +1.5
SYO	Syowa Base	106.86	192	‖ ePKiKP	PKiKP	17 05 32.0 +3.2
ELIB	Princess Elisa	112.44	195	dPKiKP	PKiKP	17 05 40.4 +0.8
TXAR	Lajitas Array	115.92	358	PKP	PKPdf	17 05 48.3 +0.7
	comp=Z,1.0nm,0.7s,baz=350,slow=3.1,SNR=7.9					
TXAR				PKKPbc	PKKPbc	17 16 17.8 -0.5
	comp=Z,2.3nm,0.8s,baz=194,slow=4.3,SNR=7.2					
FOZ	Fox Glacier	116.82	126		PKPdf	17 05 48.3 -0.2
TROLL	Troll, Antarti	117.59	199	PKPdf	PKiKP	17 05 49.6 +0.1
TROLL	Troll, Antarti	117.59	199	‖ PKPdf	PKiKP	17 05 49.6 +0.1
	comp=Z,1μm,0.7s					
TOZ	Tahuroa Road	118.44	118		PKPdf	17 05 51.7 -0.2
SNAA	Sanae	118.95	201	PKPdf	PKPdf	17 05 51.8 -0.1
SNAA	Sanae	118.95	201		PKPdf	17 05 51.7 -0.2
SNAA	Sanae	118.95	201	‖ PKPdf	PKPdf	17 05 51.8 -0.1
	comp=Z,359nm,1.0s					
SNAA	Sanae	118.95	201	PKP	PKPdf	17 05 51.6 -0.3
	comp=Z,14nm,0.9s,baz=76,slow=5.3,SNR=19					
VNA2	Neumayer--Watz	120.03	202	PKPdf	PKiKP	17 05 54.3 +0.2
	baz=17,slow=2.5					
VNA2	Neumayer--Watz	120.03	202	‖ PKPdf	PKiKP	17 05 54.3 +0.2
	comp=Z,56nm,0.6s,baz=17,slow=2.5					
VNA1	Neumayer--Stat	120.20	202	PKPdf	PKPdf	17 05 53.6 -0.6
VNA1	Neumayer--Stat	120.20	202	‖ PKPdf	PKPdf	17 05 53.6 -0.6
	comp=Z,44nm,1.0s					
VNA3	Neumayer Olymp	120.83	202	PKPdf	PKPdf	17 05 55.5 0.0
VNA3	Neumayer Olymp	120.83	202	‖ PKPdf	PKPdf	17 05 55.5 0.0
	comp=Z,53nm,0.8s					
VNDA	Vanda	123.43	165	PKP	PKPdf	17 06 00.1 -0.2
	comp=Z,14nm,1.1s,baz=316,slow=4.0,SNR=8.4					
BOAV	Boa Vista	123.56	302	PKPdf	PKiKP	17 06 02.7 -0.1
QSPA	South Pole Qui	124.85	180	PKP	PKPdf	17 06 02.9 -0.5
	comp=Z,22nm,0.8s,baz=265,slow=1.8,SNR=59					
BDFB	Brasilia	125.04	275	PKP	PKPdf	17 06 05.5 +0.2
	comp=Z,5.6nm,0.9s,baz=32,slow=3.1,SNR=4.8					
BSCB	Bom Sucesso	125.08	268	eP	PKiKP	17 06 05.7 +0.1
SDV	Santo Domingo	125.08	316	PKP	PKPdf	17 06 05.5 -0.1
	comp=Z,26nm,0.9s,baz=43,slow=3.4,SNR=24					
SDV	Santo Domingo	125.08	316	eP	PKiKP	17 06 06.7 +0.7
CMIG	Matias Romero	127.11	347	PKP	PKPdf	17 06 08.4 -0.8
	comp=Z,7.1nm,0.9s,baz=345,slow=2.3,SNR=8.4					
BELA	Belgrano 2	127.94	195	PKPdf	PKPdf	17 06 08.7 -0.3
CLDB	Colider	128.67	285	eP	PKiKP	17 06 13.3 +0.4
ACON	Acoyapa	129.30	334		PKPdf	17 06 12.8 -0.6
PDRB	Porto dos Gac	129.84	285	eP	PKPdf	17 06 14.8 +0.3
ROSC	El Rosal	130.47	317	PKP	PKiKP	17 06 17.2 +0.2
	comp=Z,74nm,0.9s,baz=63,slow=2.3,SNR=21					
ROSC				SKPbc	SKPbc	17 09 41.1 +2.9
	comp=Z,11nm,0.5s,baz=56,slow=16,SNR=3.9					
ROSC				SKP		17 09 51.3
	comp=Z,8.8nm,0.5s,baz=21,slow=17,SNR=4.0					
SALV	Santo Antonio	131.43	280	eP	PKiKP	17 06 17.9 -0.4
VILB	Vilhena	133.36	287	eP	PKPdf	17 06 21.4 +0.4
PTLB	Pontes e Lacer	133.95	283	eP	PKiKP	17 06 23.0 -0.4
PPT2	Papeete2	137.48	77	eLR	LR	17 50 45.2
	comp=Z,146nm,22.5s					
PPT2				eLR	LR	17 50 51.5
	comp=Z,171nm,24.0s					
CPUP	Villa Florida	137.74	268		PKPdf	17 06 28.4 -0.4
CPUP	Villa Florida	137.74	268	PKP	PKPdf	17 06 28.7 -0.2
	comp=Z,6.0nm,0.7s,baz=69,slow=2.7,SNR=8.7					
TAOE	Nuku Hiva Isla	139.21	59	eLR	LR	17 51 34.9
	comp=Z,319nm,23.2s					
TBI	Tubuai	140.45	85	eLR	LR	17 52 03.6
	comp=Z,662nm,35.8s					
LPAZ	La Paz	141.51	289	PKhKP	PKPpre	17 06 31.1
	comp=Z,2.2nm,0.6s,baz=29,slow=6.0,SNR=6.5					
LPAZ				PKP	PKPdf	17 06 36.2 -0.6
	comp=Z,11nm,0.8s,baz=34,slow=3.6,SNR=20					
LPAZ	La Paz	141.51	289	eP	PKPdf	17 06 36.8 0.0
TRQA	Tornquist	144.89	252		PKPbc	17 06 40.8 +0.2
TRQA	Tornquist	144.89	252	PKIKP	PKPbc	17 06 40.8 +0.2
NNA	Nana	145.10	304		PKPbc	17 06 40.7 -1.3
NNA	Nana	145.10	304	PKIKP	PKPbc	17 06 40.7 -1.3
PLCA	Paso Flores	151.72	248	PKP	PKPdf	17 06 52.2 -0.3
	comp=Z,5.1nm,1.0s,baz=115,slow=2.3,SNR=8.7					
PLCA				PKPbc	PKPbc	17 06 59.0 +0.2
	comp=Z,37nm,0.9s,baz=103,slow=5.2,SNR=46					
PLCA	Paso Flores	151.72	248	eP	PKPdf	17 06 52.5 0.0
COYC	Coyhaique	152.39	237		PKPbc	17 06 59.8 -0.3

*IDC **05** 16:47:41.7±7.1, 0.°51S×98.°07E, h0km, mb3.4/2, mbtmp3.3/4, ML3.3/2, MS3.4/3, Error ellipse: s-maj=190.8km s-min=27.6km az=74.0*
*DJA **05** 16:47:43.2±0.6, 0.°S×2.°×9.°8E±.°, h15km±3km, M4.1/10, mb4.5/5, MLv3.9/10*

ISC 05 16:47:45.5±1.4, 0.°49S±0.°05×98.°13E±0.°08, h26km±12km, n24, σ2§17/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.46	19	P	Pb	16 47 54.5	-0.6
PBSI				S	Sb	16 48 00.2	-1.4
SISI	Saibi	1.27	131	P	Pb	16 48 08.7	-0.1
SISI				S	Sb	16 48 27.1	+2.4
GSI	Gunungsitoli	1.86	343	P	Pb	16 48 20.7	+1.8
GSI				S	Sb	16 48 48.5	+6.7
MNSI	Mandailing Nat	1.93	49	P	Pn	16 48 17.3	+0.6
SBSI	Sibolga	2.16	21	P	Pb	16 48 22.7	-1.3
SBSI				S	Sb	16 48 51.2	+0.8
PPI	Padang Panjang	2.27	89	P	Pn	16 48 21.5	+0.2
PPI				S	Sn	16 48 50.5	+2.1
PPSI	Pulau Pagai	2.94	140	P	Pn	16 48 29.1	-1.4
PPSI				S	Sn	16 49 04.9	-0.1
PSI	Prapat	3.36	14	Pn	Pn	16 48 34.9	-1.6
	0.8nm,0.3s,baz=209,slow=19,SNR=4.9						
PSI				LR	LR	16 49 37.2	
	comp=Z,64nm,18.3s,baz=246,slow=35 2.4nm,0.5s						
MNAI	Manna	6.17	129	P	Pn	16 49 15.8	+0.8
	198nm,1.2s						
BSI	Banda Aceh	6.58	335	P	Pn	16 49 18.0	-2.7
SKJI	Sukabumi	10.61	128	P	Pn	16 50 15.5	-0.4
CMAR	Chiang Mai Arr	18.84	2	P	P	16 52 03.5	-0.1
	0.1nm,0.3s,baz=183,slow=12,SNR=5.7						
CMAR				LR	LR	17 00 24.2	
	comp=Z,132nm,19.9s,baz=305,slow=40 0.4nm,0.5s						
H08S2	Diego Garcia H	26.53	254	T	T	17 20 58.2	
	baz=75,slow=75,SNR=287						
H08S3	Diego Garcia H	26.53	254	T	T	17 20 52.2	
	baz=75,slow=75,SNR=558						
H08S1	Diego Garcia H	26.54	254	T	T	17 20 55.1	
	baz=75,slow=75,SNR=452						
WRA	Warramunga Arr	40.37	121	P	P	16 55 21.7	+0.2
	1.1nm,1.1s,baz=293,slow=8.2,SNR=3.1 1.1nm,1.1s						
ASAR	Alice Springs	41.65	126	P	P	16 55 32.5	+0.5
	0.3nm,0.8s,baz=299,slow=8.4,SNR=7.2 0.3nm,0.8s						
MJAR	Matsushiro Arr	52.33	41	LR	LR	17 18 52.8	
	comp=Z,214nm,20.2s,baz=286,slow=36						
H04N2	CROZET ISLANDS	60.92	215	T	T	18 03 57.0	
	baz=55,slow=75,SNR=256						
H04N1	CROZET ISLANDS	60.93	215	T	T	18 03 57.6	
	baz=55,slow=75,SNR=329						
H04N3	CROZET ISLANDS	60.94	215	T	T	18 04 02.1	
	baz=55,slow=75,SNR=216						
H04S1	CROZET ISLANDS	61.24	214	T	T	18 04 26.6	
	baz=54,slow=76,SNR=24						
H04S3	CROZET ISLANDS	61.25	214	T	T	18 04 26.4	
	baz=54,slow=76,SNR=26						
H04S2	CROZET ISLANDS	61.26	214	T	T	18 04 27.7	
	baz=54,slow=76,SNR=19						

YARS 05 16:52:45.9, 57.°15N×124.°67E, h28km, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNS	Chul'man	0.34	158	ePg	Pb	16 52 53.8	0.0
	111nm,0.3s						
CLNS				eSg	Sb	16 52 58.8	-0.3
	789nm,0.4s						
CLNS				eSg	Sb	16 52 58.8	-0.3
	1μm,0.7s						
ALDR	Aldan	1.52	15	ePg	Pb	16 53 14.4	+1.0
	106nm,0.1s						
ALDR				eSg	Sb	16 53 33.6	+1.3
	511nm,0.2s						
ALDR				eSg	Sb	16 53 33.6	+1.3
	696nm,0.1s						
YKLR	Yuktali	1.75	253	ePg	Pb	16 53 17.7	+0.5
	26nm,0.5s						
YKLR				iSg	Sb	16 53 40.6	+1.9
	89nm,0.5s						
YKLR				iSg	Sb	16 53 40.6	+1.9
	61nm,0.5s						
TNDR	Tynda	2.01	179	ePn	Pn	16 53 19.6	+1.6
	5.6nm,0.2s						
TNDR				ePg	Pb	16 53 22.0	+0.3
	14nm,0.5s						
TNDR				eSn	Sn	16 53 43.3	+1.2
	68nm,0.5s						
TNDR				eSn	Sn	16 53 43.3	+1.2
	128nm,0.5s						
TNDR				iSg	Sb	16 53 49.4	+3.1
	166nm,0.7s						
TNDR				iSg	Sb	16 53 49.4	+3.1
	204nm,0.5s						
KHN	Khani	2.67	267	iPg	Pb	16 53 31.6	-1.5
	14nm,0.4s						
KHN				eSg	Sb	16 54 06.7	+1.3
	50nm,0.5s						
KHN				eSg	Sb	16 54 06.7	+1.3
	64nm,0.5s						
ZEA	Zeya	3.72	156	ePg	Pb	16 53 52.7	+1.8
	50nm,0.5s						
ZEA				eSg	Sb	16 54 40.8	+5.3
	80nm,0.6s						
TUP	Tupik	3.81	226	ePg	Pb	16 53 55.1	+2.7
	63nm,0.6s						
TUP				eSg	Sb	16 54 45.6	+7.5
	76nm,0.4s						
OLMR	Olekminsk	3.91	328	iPn	Pn	16 53 45.2	+1.2
	1.3nm,0.6s						
OLMR				iPg	Pb	16 53 56.4	+2.4
	5.7nm,0.7s						
OLMR				iSn	Sn	16 54 29.9	+1.1
	7.8nm,0.7s						
OLMR				iSn	Sn	16 54 29.9	+1.1
	6.6nm,0.9s						
OLMR				iSg	Sb	16 54 48.0	+7.3
	9.0nm,0.6s						
OLMR				iSg	Sb	16 54 48.0	+7.3
	6.8nm,0.4s						
YAK	Yakutsk	5.52	25	iPn	Pn	16 54 07.1	+1.0
	7.7nm,0.5s						
YAK				iPg	Pb	16 54 25.5	+4.1
	8.8nm,0.5s						
YAK				iSg	Sb	16 55 38.4	+11
	51nm,0.5s						
YAK				iSg	Sb	16 55 38.4	+11
	143nm,0.7s						
VTMR	Vitim	6.79	295	iPn	Pn	16 54 25.1	+1.6
	3.2nm,1.0s						
VTMR				iPg	Pb	16 54 48.2	+5.3
	2.9nm,0.7s						
VTMR				iSn	Sn	16 55 40.1	+0.4
	11nm,0.5s						
VTMR				iSn	Sn	16 55 40.1	+0.4
	10nm,0.6s						
VTMR				iSg	Sb	16 56 17.7	+14
	22nm,0.5s						
VTMR				iSg	Sb	16 56 17.7	+14
	29nm,0.5s						

*IDC **05** 16:52:39.9±1.1, 35.°55N×141.°42E, h0km, mb4.2/13, mbtmp4.2/16, ML3.5/3, MS3.6/3, Error ellipse: s-maj=30.1km s-min=21.2km az=73.0*
*NEIC **05** 16:52:45.2±0.7, 35.°47N±0.°05×141.°34E±0.°05, h37km±9km, mb4.7/13, Error ellipse: s-maj=9.5km s-min=1.2km az=215.0*
*NIED **05** 16:52:46.0, 35.°56N×141.°05E, h37km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}=1.48; $M_{\theta\theta}$=-0.31; $M_{\phi\phi}$=-1.17; $M_{r\theta}$=0.33; $M_{\theta\phi}$=0.02; $M_{\phi r}$=1.49; Fault plane solution: M_0=2.02000×10^15 NP1: ϕ_s=175.00000°, δ=21.00000°, λ=77.00000°. NP2: ϕ_s=9.00000°, δ=70.00000°, λ=95.00000°.*
*JMA **05** 16:52:46.0±0.2, 35.°6N±0.°6×14.°1E±.°, h37km±1km, MD4.0/39, MV3.7/39, NEAR CHOSHI CITY*
JMA Felt I J1 at NEAR CHOSHI CITY .

ISC 05 16:52:45.4±0.7, 35.°53N±0.°05×141.°29E±0.°08, h35km, n81, σ1§11/69, mb4.3/18, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	Sammumatsuo	0.70	280	‖ P	Pn	16 52 56.9	-1.9
JSMT	Sammumatsuo	0.70	280	A	A	16 52 56.9	
	comp=N,24nm,1.2s,comp=E,27nm,1.2s						
JIHU	Itakohorinouch	0.76	305	‖ P	Pn	16 52 58.3	-1.3
KTR	Katsuura	0.89	245	P	Pn	16 52 59.8	-1.5
JCN	Nagara	0.90	263	‖ P	Pn	16 53 00.5	-1.1
BSO1	Boso 1	0.91	197	P	Pn	16 53 01.6	+0.4
BSO1				S	Sn	16 53 14.2	+1.3
BSO4	Boso 4	0.95	236	‖ P	Pn	16 53 01.1	-1.0
BSO3	Boso 3	0.97	222	‖ P	Pn	16 53 01.6	-0.6
JYT	Yasato	1.13	308	‖ P	Pn	16 53 03.1	-1.7
JYT	Yasato	1.13	308	A	A	16 53 03.1	
	comp=N,7.0nm,0.4s,comp=E,7.0nm,0.3s						
JIM2	Oshima 3	1.73	243	P	Pn	16 53 10.3	-2.7
JAG	Ashikaga	1.74	301	P	Pn	16 53 11.8	-1.4
JMM	Marumori	2.37	350		Pn	16 53 22.4	+0.7
JMM	Marumori	2.37	350	P	Pn	16 53 22.6	+0.9
JSG	Sagara	2.69	252	Pn	Pn	16 53 24.8	-1.4
JSG	Sagara	2.69	252	P	Pn	16 53 26.8	+0.7
MJAR	Matsushiro Arr	2.70	293	Pn	Pn	16 53 26.0	-0.3
	comp=E,3.6nm,0.3s,baz=96,slow=13,SNR=238						
MJAR				Sn	Sn	16 54 02.0	+4.3
	comp=E,1.5nm,0.3s,baz=135,slow=13,SNR=5.6						
MJAR				LR	LR	16 54 34.2	
	comp=E,434nm,20.1s,baz=139,slow=41 comp=E,16nm,0.3s						
MAJO	Matsushiro	2.70	293		Pn	16 53 26.5	+0.2
MAJO	Matsushiro	2.70	293	P	Pn	16 53 26.3	0.0
MJB9	Matsu-Tunnel	2.70	293		Pn	16 53 27.3	+0.9
JHJ2	Mitsune	2.70	207	Pn	Pn	16 53 26.0	-0.4
JHJ2	Mitsune	2.70	207	P	Pn	16 53 27.8	+1.4
JGF	Kuroka	3.21	272		Pn	16 53 33.7	+0.3
JGF	Kuroka	3.21	272	P	Pn	16 53 34.2	+0.8
JSD	Sado	3.49	317		Pn	16 53 37.9	+0.7
JSD	Sado	3.49	317	P	Pn	16 53 38.1	+0.9
INU	Inuyama	3.50	268		Pn	16 53 37.3	0.0
INU	Inuyama	3.50	268	P	Pn	16 53 37.7	+0.4
JTM	Tenmabayashi	5.25	358		Pn	16 54 03.0	+1.6
JTM	Tenmabayashi	5.25	358	P	Pn	16 54 03.3	+1.9
JMN	Monobe	6.37	256	P	Pn	16 54 17.9	+1.1
ERM	Erimo	6.64	12	Pn	Pn	16 54 20.7	+0.3
ERM	Erimo	6.64	12	P	Pn	16 54 21.4	+1.0
JEM	Erimo	6.64	12	P	Pn	16 54 21.5	+1.1
JCJ	Chichijima	8.44	175	Pn	Pn	16 54 39.2	-6.1
	comp=E,12nm,0.3s,baz=15,slow=20,SNR=6.6						
JCJ				Sn	Sn	16 56 07.7	-12
	comp=E,4.4nm,0.3s,baz=2.8,slow=17,SNR=2.0						
JCJ	Chichijima	8.44	175	P	Pn	16 54 46.5	+1.2
ASAJ	Asahikawa	8.63	6	Pn	Pn	16 54 46.9	-1.0
	comp=E,1.8nm,0.3s,baz=206,slow=11,SNR=17 comp=E,3.5nm,0.4s						
JKA	Kamikawa-asahi	8.63	6	Pn	Pn	16 54 47.0	-0.9
JNU	Nakatsue	8.94	257	Pn	Pn	16 54 53.2	+1.1
	comp=E,0.3nm,0.3s,baz=116,slow=8.5,SNR=3.8 comp=E,8.6nm,0.9s						
USRK	Ussuriysk Ar.	11.22	323	LR	LR	16 59 30.0	
	comp=E,93nm,18.3s,baz=126,slow=36						
H11N2	WAKE ISLAND Hy	27.49	118	T	T	17 27 33.6	
	baz=311,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	27.50	118	T	T	17 27 35.9	
	baz=311,slow=75,SNR=35						
H11N3	WAKE ISLAND Hy	27.51	118	T	T	17 27 39.9	
	baz=311,slow=75,SNR=37						
ULN	Ulaanbaatar	28.14	307	P	P	16 58 32.9	-1.4
H11S1	WAKE ISLAND Hy	28.16	120	T	T	17 28 24.5	
	baz=312,slow=75,SNR=179						
H11S3	WAKE ISLAND Hy	28.16	120	T	T	17 28 18.7	
	baz=312,slow=75,SNR=145						
H11S2	WAKE ISLAND Hy	28.17	120	T	T	17 28 27.0	
	baz=312,slow=75,SNR=138						
SONM	Songino Array	28.57	306	P	P	16 58 35.8	-2.3
SONM	Songino Array	28.57	306	P	P	16 58 37.5	-0.6
	comp=E,1.2nm,0.6s,baz=106,slow=8.9,SNR=1.9 comp=E,1.2nm,0.6s						
ZAA0	Zalesovo Array	42.87	314	P	P	17 00 39.6	-0.4
ZAA0				IAmb	IAmb	17 00 55.8	
	comp=Z,20nm,1.3s						
ZALV	Zalesovo Beam	42.87	314	P	P	17 00 39.9	-0.1
ZALV	Zalesovo Beam	42.87	314	P	P	17 00 40.1	+0.1
	comp=Z,2.2nm,0.5s,baz=97,slow=7.3,SNR=7.3 comp=Z,2.2nm,0.5s						
MK31	Makanchi Array	44.85	303	P	P	17 00 55.5	-0.6
MK31				IAmb	IAmb	17 02 19.5	
	comp=Z,15nm,1.4s						
MKAR	Makanchi Array	44.85	303	P	P	17 00 55.4	-0.7
	comp=Z,1.1nm,0.6s,baz=86,slow=9.4,SNR=8.7 comp=Z,1.1nm,0.6s						
MAKZ	Makanchi	45.06	303	P	P	17 00 57.2	-0.6
MAKZ				IAmb	IAmb	17 01 06.1	
	comp=Z,24nm,1.6s						
KURK	Kurchatov	46.79	309	P	P	17 01 10.7	-0.7
KURBB	Kurchatov Arra	46.86	309	P	P	17 01 11.4	-0.5
	comp=Z,2.9nm,0.6s,baz=81,slow=7.7,SNR=14 comp=Z,2.9nm,0.6s						
BVAR	Borovoye Array	51.52	313	P	P	17 01 47.5	0.0
	comp=Z,0.7nm,0.3s,baz=89,slow=7.8,SNR=7.1 comp=Z,0.7nm,0.3s						
BRVK	Borovoye	51.58	313	P	P	17 01 47.5	-0.4
L27K	Beaver Creek,	53.17	34	P	P	17 01 59.1	-0.6
BCAR	Beaver Creek A	53.19	34	P	P	17 01 59.0	-0.8
WRA	Warramunga Arr	55.56	188	P	P	17 02 16.8	-0.5
	comp=Z,2.6nm,0.9s,baz=8.1,slow=7.8,SNR=2.7 comp=Z,2.6nm,0.9s						
ARTI	Arti	57.53	319	P	P	17 02 31.1	0.0
ABKAR	Akbulak array	58.84	311	P	P	17 02 39.8	-0.6
ABKAR	Akbulak array	58.84	311	P	P	17 02 39.7	-0.6
ABKAR				IAmb	IAmb	17 03 02.3	
	comp=Z,9.2nm,1.4s						
ASAR	Alice Springs	59.29	188	P	P	17 02 44.1	+0.5
	comp=Z,1.1nm,0.7s,baz=9.6,slow=7.8,SNR=0.9 comp=Z,1.1nm,0.7s						
ARCES	ARCESS Array B	65.37	340	P	P	17 03 24.4	+0.6
	comp=Z,12nm,1.1s,baz=61,slow=5.4,SNR=3.7 comp=Z,12nm,1.1s						
FINES	FINESS Array B	70.10	332	P	P	17 03 54.2	+0.6
FINES	FINESS Array B	70.10	332	P	P	17 03 54.0	+0.3
	comp=Z,3.7nm,1.0s,baz=50,slow=5.7,SNR=7.2 comp=Z,3.7nm,1.0s						
KBZ	Khabaz	71.81	311	P	P	17 04 05.4	+1.1
	comp=Z,2.5nm,0.9s,baz=45,slow=10.0,SNR=2.4 comp=Z,2.5nm,0.9s						
NC405	NORSAR Array S	75.32	337	P	P	17 04 25.6	+0.8
HFS	Hagfors	75.42	336	P	P	17 04 24.7	-0.6
	comp=Z,3.7nm,0.9s,baz=66,slow=4.9,SNR=1.8 comp=Z,3.7nm,0.9s						
AKASG	Malin Array Be	75.43	322	P	P	17 04 25.5	0.0
	comp=Z,0.8nm,0.4s,baz=48,slow=5.5,SNR=10 comp=Z,0.8nm,0.4s						
KIEV	Kiev	75.44	322	P	P	17 04 25.2	-0.4
KIEV				IAmb	IAmb	17 04 30.0	
	comp=Z,19nm,1.6s						
NC204	NORSAR Array S	75.49	338	P	P	17 04 26.2	+0.4
NB2	NORSAR Subarra	75.53	337	P	P	17 04 26.8	+0.8
	comp=Z,3.8nm,0.9s,baz=41,slow=5.9						
NOA	NORSAR Array B	75.53	337	P	P	17 04 26.6	+0.6
	comp=Z,1.2nm,0.6s,baz=40,slow=5.8,SNR=4.5 comp=Z,1.2nm,0.6s						
TKL	Tuckaleechee C	97.67	36	LR	LR	17 52 32.0	
	comp=Z,164nm,21.0s,baz=20,slow=37						
H03N2	Juan Fernandez	146.94	98	T	T	19 57 01.3	
	baz=289,slow=76,SNR=21						
H03N3	Juan Fernandez	146.95	98	T	T	19 57 02.5	
	baz=289,slow=76,SNR=27						
H03N1	Juan Fernandez	146.95	98	T	T	19 57 00.2	
	baz=289,slow=76,SNR=22						

ATH 05 16:53:49.9, 37.°44N×20.°47E, h8km±2km, ML2.9/6, Manual Solution by M.Papanikolaou This location: 2020/10/04 20:46:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.40	47	P	Pg	16 53 57.7	0.0
LTHK				S	Sg	16 54 02.8	-0.2
ORTH	Orthonies,Zaky	0.45	24	P	Pg	16 53 59.0	+0.3
ORTH				S	Sg	16 54 04.8	+0.2
KYPS	Kipseli, Zakin	0.48	37	P	Pg	16 53 59.5	+0.4
KYPS				S	Sg	16 54 06.1	+0.7
CLEM	Kyllini,Ilia,G	0.70	49	P	Pg	16 54 03.5	+0.1
CLEM				S	Sg	16 54 12.7	+0.3
VLS	Valsamata	0.75	8	P	Pg	16 54 04.4	+0.2
VLS				S	Sg	16 54 14.3	+0.4
AMT	Artemida-Makis	0.99	84	P	Pg	16 54 08.4	-0.5
RLS	Riolos of Patr	1.01	52	P	Pg	16 54 08.4	-0.9
FSK	Fiskardo	1.02	4	P	Pg	16 54 09.4	-0.2
FSK				S	Sg	16 54 22.9	0.0
DRO	Drossia	1.11	62	P	Pg	16 54 10.8	-0.5
ITM	Ithomi	1.19	102	P	Pn	16 54 13.0	0.0
LKD2	Lefk

comp=N,9.0nm,1.9s,comp=E,10.0nm,1.8s
JTZ Takazaki 1.10 328 *i* P **Pn 17 00 09.6 -1.0**
JTZ *e*S **Sn 17 00 23.5 -1.1**
JTZ Takazaki 1.10 328 A A 17 00 09.6
comp=N,8.0nm,0.9s,comp=E,14nm,0.8s
JSU Suzuyama 1.25 296 *i* P **Pn 17 00 11.9 -0.7**
JSU Suzuyama 1.25 296 A A 17 00 11.9
comp=N,5.0nm,0.6s,comp=E,6.0nm,2.6s
JTSN Tsuno 1.30 350 *i* P **Pn 17 00 12.1 -1.2**
JTSN *e*S **Sn 17 00 28.0 -1.5**
JTSN Tsuno 1.30 350 A A 17 00 12.1
comp=N,4.0nm,1.4s,comp=E,20nm,1.3s
JYAK Yakushimahirau 1.30 237 *i* P **Pn 17 00 12.7 -0.5**
JYAK *e*S **Sn 17 00 29.7 +0.2**
JYAK Yakushimahirau 1.30 237 A A 17 00 12.7
comp=N,4.0nm,2.5s,comp=E,6.0nm,0.7s
JKC Kuchinoerabu 1.44 250 *i* P **Pn 17 00 14.7 -0.5**
JKC *e*S **Sn 17 00 33.1 +0.2**
JZO Okuchi 1.54 320 *e*P **Pn 17 00 15.9 -0.8**
JZO Okuchi 1.54 320 A A 17 00 15.9
comp=N,5.0nm,1.5s,comp=E,5.0nm,3.1s
JKIT Kitakata 1.68 351 A A 17 00 17.8
comp=N,7.0nm,0.4s,comp=E,7.0nm,0.7s
JIU3 Izumi3 1.78 333 *i* P **Pn 17 00 19.3 -0.6**
JSJ Shimokoshiki 1.90 293 *i* P **Pn 17 00 19.9 -1.6**
JNU Nakatsue 2.28 341 P **Pn 17 00 26.0 -0.8**
comp=E,41nm,0.3s,baz=212,slow=5.2,SNR=181
JNU S **Sn 17 00 53.3 -0.5**
comp=E,328nm,0.3s,baz=144,slow=19,SNR=19
comp=E,92nm,0.3s
JNU Nakatsue 2.28 341 P **Pn 17 00 26.3 -0.5**
JMN Monobe 3.29 32 **Pn 17 00 39.1 -1.6**
JMN Monobe 3.29 32 P **Pn 17 00 39.7 -0.9**
JTU Tsushima 4.08 331 P **Pn 17 00 50.1 -1.3**
JOW Kunigami 5.13 218 Pn **Pn 17 01 05.1 -0.8**
JOW Kunigami 5.13 218 P **Pn 17 01 05.7 -0.2**
comp=E,7.3nm,0.3s,baz=94,slow=17,SNR=13
JOW S **Sn 17 02 00.9 -2.9**
comp=E,31nm,0.3s,baz=120,slow=20,SNR=5.9
comp=E,26nm,0.3s
JOW Kunigami 5.13 218 P **Pn 17 01 05.3 -0.6**
JMZ Minamidaito 2 5.14 185 Pn **Pn 17 01 04.5 -1.5**
INU Inuyama 6.21 44 **Pn 17 01 20.5 -0.2**
INU Inuyama 6.21 44 P **Pn 17 01 21.0 +0.3**
TJN Taejon 6.53 327 Pn **Pn 17 01 25.2 +0.1**
TJN Taejon 6.53 327 P **Pn 17 01 25.9 +0.8**
TJN Taejon 6.53 327 *d i* P **Pn 17 01 25.6 +0.5**
JGF Kuroka 6.58 44 Pn **Pn 17 01 25.3 -0.5**
JGF Kuroka 6.58 44 P **Pn 17 01 25.5 -0.4**
KSRS Korea Array 7.22 335 P **Pn 17 01 33.9 -0.6**
comp=E,0.6nm,0.3s,baz=156,slow=14,SNR=18
KSRS S **Sn 17 02 52.8 -2.3**
comp=E,1.8nm,0.6s,baz=151,slow=28,SNR=2.9
comp=E,4.2nm,0.8s
MAJO Matsushiro 7.73 42 Pn **Pn 17 01 41.1 -0.5**
MAJO Matsushiro 7.73 42 P **Pn 17 01 41.3 -0.3**
MAJO Matsushiro 7.73 42 P **Pn 17 01 41.1 -0.5**
MJAR Matsushiro Arr 7.73 42 P **Pn 17 01 41.5 -0.1**
comp=E,0.4nm,0.3s,baz=237,slow=14,SNR=28
MJAR S **Sn 17 03 05.5 -2.4**
comp=E,2.3nm,0.6s,baz=228,slow=40,SNR=2.1
MJAR LR LR 17 05 13.9
comp=E,490nm,18.6s,baz=206,slow=41
comp=E,3.9nm,0.5s
MJB9 Matsu-Tunnel 7.73 42 Pn **Pn 17 01 42.0 +0.5**
INCN Inchon 7.77 328 Pn **Pn 17 01 41.8 -0.3**
INCN Inchon 7.77 328 P **Pn 17 01 42.2 +0.1**
INCN Inchon 7.77 328 P **Pn 17 01 41.8 -0.3**
JCJ Chichijima 9.90 110 LR LR 17 05 21.0
comp=E,447nm,19.2s,baz=270,slow=33
NJ2 Nanjing 11.08 279 ⇑P **Pn 17 02 28.4 +1.0**
NJ2 pmax pmax
comp=E,10.0nm,1.0s
NJ2 pmax pmax
comp=E,170nm,3.8s
SSLB Suanglung 11.97 236 P **Pn 17 02 39.0 -0.7**
TWGBT Beinan 12.51 232 P **Pn 17 02 47.3 +0.2**
QZH Quanzhou 13.09 246 *e*P **Pn 17 02 55.3 +0.3**
USRK Ussuriysk Ar. 13.22 1 P **P 17 03 02.7 -2.9**
comp=E,2.0nm,0.5s,baz=176,slow=9.5,SNR=7.5
TIA Tai'an 13.28 297 P **Pn 17 02 59.1 +1.6**
TIA pmax pmax
comp=E,17nm,1.2s
BNX BinXian 15.14 348 ⇑P **Pn 17 03 24.0 +1.5**
BNX pmax pmax
comp=E,7.0nm,1.2s
HNS HongShan 15.50 299 ⇓P **Pn 17 03 27.3 +0.1**
HNS pmax pmax
comp=E,51nm,1.1s
BJT Baijiatuau 15.57 310 P **P 17 03 32.2 +0.4**
BJT Baijiatuau 15.57 310 P **P 17 03 32.2 +0.4**
BJT pmax pmax
comp=Z,30nm,0.8s
BJI Beijing 15.58 310 P **P 17 03 32.5 +0.7**
BJI pmax pmax
comp=Z,21nm,0.8s
ASAJ Asahikawa 15.67 30 P **Pn 17 03 26.7 -2.6**
comp=Z,4.3nm,0.7s,baz=162,slow=19,SNR=4.1
ASAJ LR LR 17 10 22.6
comp=Z,382nm,19.8s,baz=242,slow=40
LYN LuoYang 16.62 288 P **P 17 03 43.7 +0.2**
LYN pmax pmax
comp=Z,41nm,0.8s
TIY Taiyuan 17.32 298 P **P 17 03 52.6 +1.4**
TIY S **Sn 17 07 00.8 -1.1**
TIY pmax pmax
comp=Z,55nm,0.8s
TIY pmax pmax
comp=Z,770nm,7.5s
TIY LR LR
comp=Z,1μm,10.0s
TIY LR LR
comp=Z,1μm,11.2s
TIY LR LR
comp=Z,2μm,11.9s
XLT XiLinHaoTe 17.91 321 *e*P **P 17 03 59.0 +1.3**
XLT pP pP 17 04 07.4 -0.4
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,310nm,6.1s
XLT LR LR
comp=Z,180nm,10.4s
XLT LR LR
comp=Z,2μm,10.2s
XLT LR LR
comp=Z,2μm,10.4s
YSS Yuzhno-Sakhali 18.08 25 *ce*P **Pn 17 03 59.1 -0.4**
YSS pmax pmax
comp=Z,13nm,1.1s
KLR Kul'dur 18.25 360 P **P 17 04 00.9 -0.4**
comp=Z,0.6nm,0.3s,baz=183,slow=10,SNR=22
comp=Z,4.4nm,0.6s
KLR Kul'dur 18.25 360 *de*P **Pn 17 04 01.8 +0.3**
KLR pmax pmax
comp=Z,22nm,2.5s
HHC Hu-ho-hao-te 19.07 307 *e*P **Pn 17 04 12.2 +0.6**
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,410nm,4.4s
XAN Xi'an 19.51 285 P **P 17 04 14.9 -0.4**
XAN pP pP 17 04 21.0 -4.5
XAN pmax pmax
comp=Z,51nm,1.0s
HEH HeiHe 19.55 352 *e*P **P 17 04 15.7 +0.2**
BTO Baotou 20.05 305 *e*P Pn 17 04 22.5 -0.8
BTO pP pP 17 04 32.1 +0.6
BTO PP **PnPn 17 04 47.2 +8.8**
BTO S Sn 17 08 07.8 -0.2
BTO pmax pmax
comp=Z,15nm,1.0s
BTO pmax pmax
comp=Z,3μm,9.3s
BTO LR LR
comp=Z,2μm,9.1s
BTO LR LR
comp=Z,1μm,8.1s
BTO LR LR
comp=Z,1μm,9.4s
TYV Tymovskoe 21.48 19 *e*P **P 17 04 40.2 +3.9**
TYV *e*S Sn 17 08 44.6 +2.9
TYV pmax pmax
comp=Z,8.0nm,0.7s
TYV pmax pmax

comp=Z,400nm,4.3s
GYA Guiyang 22.45 265 ⇑P **P 17 04 47.5 +0.3**
GYA pmax pmax
comp=Z,38nm,0.8s
ZEA Zeya 23.00 353 *e*P **P 17 04 55.4 +2.9**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
LZH Lanzhou 23.79 290 *e*P **P 17 05 00.0 -0.6**
LZH sP pP 17 05 10.2 -1.5
LZH pmax pmax
comp=Z,33nm,1.0s
CD2 Chengdu 24.00 277 P **P 17 05 01.6 -0.9**
CD2 pmax pmax
comp=Z,40nm,0.9s
ULN Ulaanbaatar 25.32 319 P **P 17 05 13.4 -1.0**
ULN IAmb IAmb 17 05 31.1
comp=Z,31nm,1.4s
ULN Ulaanbaatar 25.32 319 ⇑ *i* P **P 17 05 14.0 -0.4**
ULN pmax pmax
comp=Z,12nm,1.0s
SONM Songino Array 25.68 318 P **P 17 05 15.9 -1.7**
comp=Z,3.1nm,0.8s,baz=133,slow=8.8,SNR=8.9
SONM LR LR 17 16 54.9
comp=Z,527nm,20.0s,baz=140,slow=40
comp=Z,3.1nm,0.8s
KMI Kunming 26.23 264 ⇑P **P 17 05 23.9 +1.0**
KMI pmax pmax
comp=Z,9.0nm,1.0s
PZH PanZhiHua 26.66 268 P **P 17 05 25.1 -1.6**
PZH pmax pmax
comp=Z,10.0nm,0.9s
SLVN Son La 26.72 256 P **P 17 05 26.5 -0.7**
GTA Gaotai 27.33 297 *e*P **P 17 05 32.1 -0.5**
GTA pmax pmax
comp=Z,7.0nm,0.6s
PETK Petropavlovsk- 29.05 33 P **P 17 05 47.5 -0.1**
comp=Z,4.9nm,0.9s,baz=232,slow=8.5,SNR=2.0
comp=Z,4.9nm,0.9s
TNCH TengChong 29.87 267 *e*P **P 17 05 54.8 -0.6**
TNCH pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 31.35 19 P **P 17 06 07.5 -0.4**
MA2 IAmb IAmb 17 06 09.4
comp=Z,13nm,0.9s
MA2 Magadan 31.35 19 ⇓ *e*P **P 17 06 08.3 +0.5**
MA2 pmax pmax
comp=Z,33nm,2.5s
CHTO Chiang Mai 32.02 256 P **P 17 06 12.8 -1.4**
CHTO IAmb IAmb 17 06 15.2
comp=Z,20nm,1.4s
CHTO Chiang Mai 32.02 256 P **P 17 06 12.8 -1.4**
CHTO pmax pmax
comp=Z,20nm,1.4s
CM31 Chiang Mai Arr 32.19 255 P **P 17 06 14.2 -1.5**
CMAR Chiang Mai Arr 32.19 255 P **P 17 06 14.2 -1.5**
CMAR Chiang Mai Arr 32.19 255 P **P 17 06 15.1 -0.6**
comp=Z,2.4nm,0.7s,baz=62,slow=9.3,SNR=28
CMAR LR LR 17 21 22.0
comp=Z,190nm,18.3s,baz=55,slow=40
comp=Z,2.4nm,0.7s
H11N2 WAKE ISLAND Hy 33.53 101 T T 17 42 02.1
baz=297,slow=75,SNR=7.9
H11N1 WAKE ISLAND Hy 33.53 101 T T 17 41 53.3
baz=297,slow=75,SNR=5.2
H11N3 WAKE ISLAND Hy 33.53 101 T T 17 41 53.9
baz=297,slow=75,SNR=5.8
JAY Jayapura 34.36 164 P **P 17 06 35.7 +1.1**
comp=Z,15nm,0.9s,baz=6.7,slow=17,SNR=2.0
comp=Z,15nm,0.9s
SEY Seymchan 34.61 16 ⇓ *e*P **P 17 06 37.4 +1.1**
SEY pmax pmax
comp=Z,18nm,2.5s
KULM Kulim 38.81 235 P **P 17 07 10.4 -2.1**
IPM Ipoh 39.12 234 P **P 17 07 14.6 -0.6**
ZALV Zalesovo Beam 40.58 318 P **P 17 07 25.3 -1.5**
comp=Z,0.8nm,0.6s,baz=99,slow=8.9,SNR=2.7
ZALV PcP **PcP 17 09 27.9 -0.4**
comp=Z,0.5nm,0.5s,baz=92,slow=4.9,SNR=1.9
ZALV LR LR 17 25 57.2
comp=Z,315nm,18.4s,baz=148,slow=39
comp=Z,0.8nm,0.6s
MK31 Makanchi Array 40.94 307 *de*P **P 17 07 28.7 -1.2**
MKAR Makanchi Array 40.94 307 P **P 17 07 29.0 -0.9**
MKAR Makanchi Array 40.94 307 P **P 17 07 28.9 -1.0**
comp=Z,3.3nm,0.9s,baz=95,slow=10,SNR=15
MKAR PcP **PcP 17 09 29.1 -0.6**
comp=Z,0.8nm,0.7s,baz=91,slow=2.0,SNR=3.3
MKAR LR LR 17 26 14.5
comp=Z,228nm,19.1s,baz=138,slow=39
comp=Z,3.3nm,0.9s
MKAR Makanchi Array 40.94 307 *ce*P **P 17 07 33.2 +3.3**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BILL Bilibino 42.22 18 *ce*P **P 17 07 41.5 +1.4**
BILL pmax pmax
comp=Z,8.0nm,1.0s
KURK Kurchatov 43.72 313 P **P 17 07 51.3 -1.2**
KURK Kurchatov 43.72 313 P **P 17 07 51.3 -1.2**
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURBB Kurchatov Arra 43.77 312 P **P 17 07 51.5 -1.4**
comp=Z,4.4nm,0.8s,baz=98,slow=8.9,SNR=29
KURBB PcP **PcP 17 09 37.7 -1.3**
comp=Z,0.4nm,0.6s,baz=93,slow=3.8,SNR=2.8
KURBB LR LR 17 28 22.3
comp=Z,354nm,18.2s,baz=174,slow=39
comp=Z,4.4nm,0.8s
GSI Gunungsitoli 43.78 234 P **P 17 07 52.4 -1.0**
GSI IAmb IAmb 17 07 55.6
comp=Z,40nm,1.4s
KSH Kashi 45.73 297 P **P 17 08 12.1 +3.3**
KSH pmax pmax
comp=Z,4.0nm,0.7s
NRIK Noril'sk 45.80 340 P **P 17 08 07.7 -1.1**
comp=Z,0.6nm,0.3s,baz=118,slow=14,SNR=1.6
comp=Z,0.6nm,0.3s
AAK Ala-Archa 46.51 301 *de*P **P 17 08 14.7 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 48.96 315 P **P 17 08 32.5 -1.1**
comp=Z,5.4nm,0.6s,baz=94,slow=8.4,SNR=36
BVAR PcP **PcP 17 09 56.7 -0.5**
comp=Z,1.9nm,0.7s,baz=92,slow=4.3,SNR=4.2
BVAR LR LR 17 31 11.6
comp=Z,231nm,19.4s,baz=154,slow=38
comp=Z,5.4nm,0.6s
BRVK Borovoye 49.03 315 P **P 17 08 33.1 -1.0**
BRVK Borovoye 49.03 315 *de*P **P 17 08 33.3 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
UNV Unalaska Valle 49.20 44 P **P 17 08 36.4 +1.1**
baz=268
KK31 Karatay Array 49.37 302 IAmb IAmb 17 08 37.2
comp=Z,8.9nm,0.9s
KKAR Karatay Array 49.37 302 P **P 17 08 35.4 -1.5**
KKAR Karatay Array 49.37 302 IAmb IAmb 17 08 37.1
comp=Z,6.2nm,0.9s
KKAR Karatay Array 49.37 302 P **P 17 08 35.4 -1.5**
M11K Mekoryuk 49.88 35 P **P 17 08 41.8 +1.4**
baz=263
TNA Tin City 50.02 28 P **P 17 08 43.1 +1.6**
baz=257
F14K Arctic Creek 50.65 28 P **P 17 08 47.8 +1.6**
baz=258
WRA Warramunga Arr 50.67 177 P **P 17 08 47.2 +0.4**
comp=Z,3.6nm,0.9s,baz=359,slow=7.7,SNR=9.1
comp=Z,3.6nm,0.9s
WRA Warramunga Arr 50.67 177 *i* P **P 17 08 47.4 +0.6**
WRA pmax pmax
comp=Z,4.0nm,0.9s
ANM Nome 50.88 30 P **P 17 08 49.8 +1.9**
baz=260
F15K North Star Dit 51.38 28 P **P 17 08 53.6 +1.9**
baz=260
G15K Niukluk 51.52 29 P **P 17 08 53.9 +1.2**
baz=261
C16K Lisburne Hills 51.62 25 P **P 17 08 55.9 +2.5**
baz=257
H16K Elim 52.23 30 P **P 17 08 59.5 +1.5**
baz=263
G16K Koyuk River 52.28 29 P **P 17 09 00.5 +2.2**
baz=262
D17K Noatak River 52.34 26 P **P 17 09 00.5 +1.7**
baz=260,SNR=7.3
C17K DeLong Mountai 52.45 25 P **P 17 09 01.7 +2.1**
baz=259
RDOG Red Dog Mine 52.47 26 P **P 17 09 01.5 +1.7**
baz=260
E17K Hotham Inlet 52.72 27 P **P 17 09 04.2 +2.5**
baz=262
I17K Unalakleet 52.82 31 P **P 17 09 04.2 +1.8**
baz=265
F17K Baldwin Pennin 52.86 28 P **P 17 09 04.7 +2.1**
baz=263
G17K Kiwalik Mounta 53.00 29 P **P 17 09 05.5 +1.8**
baz=264
B18K Kokolik River 53.10 24 P **P 17 09 06.4 +2.0**
baz=260
C18K Utukok River 53.20 25 P **P 17 09 07.0 +1.8**
baz=261
E18K Tukpahlearik C 53.24 26 P **P 17 09 07.1 +1.6**
baz=262
H17K Granite Mounta 53.25 30 P **P 17 09 07.3 +1.7**
baz=265
J17K VABM Dome 53.51 32 P **P 17 09 09.1 +1.6**
baz=267
F18K Selawik 53.52 28 P **P 17 09 08.7 +1.3**
baz=264,SNR=10.0
L17K Donlin 53.82 33 P **P 17 09 11.3 +1.5**
baz=268
K17K Iditarod 53.83 32 P **P 17 09 11.4 +1.6**
baz=268
G18K Tagagawik 53.85 28 IAmb IAmb 17 09 12.4
comp=Z,19nm,1.2s
G18K Tagagawik 53.85 28 P **P 17 09 11.5 +1.5**
baz=265
O16K Kokwok River B 53.90 36 P **P 17 09 11.9 +1.5**
baz=271
H18K Honhosa River 53.92 29 P **P 17 09 12.0 +1.4**
baz=266
M17K Holitna River 54.22 34 P **P 17 09 14.7 +2.0**
baz=270
F19K Shaleruckik Mo 54.28 27 P **P 17 09 14.5 +1.5**
baz=266
D19K Kuna River 54.30 25 IAmb IAmb 17 09 15.6
comp=Z,13nm,0.9s
D19K Kuna River 54.30 25 P **P 17 09 14.7 +1.5**
baz=264,SNR=9.0
ASAR Alice Springs 54.35 178 P **P 17 09 14.1 0.0**
comp=Z,2.3nm,0.7s,baz=3.0,slow=7.3,SNR=25
comp=Z,2.3nm,0.7s
G19K Purcell Mounta 54.51 28 P **P 17 09 16.2 +1.4**
baz=267
E19K Redstone River 54.54 27 IAmb IAmb 17 09 17.4
comp=Z,11nm,0.8s
E19K Redstone River 54.54 27 P **P 17 09 16.2 +1.2**
baz=266
L18K Granite Mounta 54.57 33 P **P 17 09 17.5 +2.3**
baz=270
H19K Roundabout Mou 54.74 29 P **P 17 09 18.1 +1.7**
baz=268
P17K Kvichak River 54.76 37 P **P 17 09 18.3 +1.6**
baz=272
D20K Etivluk River 54.87 25 P **P 17 09 18.8 +1.4**
baz=265
TTA Tatalina 54.89 32 P **P 17 09 19.1 +1.5**
baz=270
N18K Kilae Creek 54.98 35 P **P 17 09 19.8 +1.5**
baz=272
E20K Nigu River 54.99 26 P **P 17 09 20.0 +1.7**
baz=266
M18K Stony River 54.99 34 P **P 17 09 19.7 +1.4**
baz=271
J19K Poorman 55.06 31 IAmb IAmb 17 09 21.2
comp=Z,8.6nm,0.8s
J19K Poorman 55.06 31 P **P 17 09 20.4 +1.6**
baz=270,SNR=5.8
F20K Avaraart Lake 55.10 27 P **P 17 09 20.8 +1.8**
baz=267
A21K Barrow 55.12 22 P **P 17 09 20.4 +1.4**
baz=264
O18K Koktuh Hills 55.35 36 P **P 17 09 22.6 +1.6**
baz=273
P18K Big Mountain, 55.37 36 P **P 17 09 22.7 +1.6**
baz=273
H20K Anotleneega Mo 55.40 29 P **P 17 09 23.5 +2.3**
baz=269
L19K White Mountain 55.44 33 P **P 17 09 23.4 +1.8**
baz=272
C21K Knifeblade Rid 55.56 25 P **P 17 09 24.1 +1.8**
baz=267
I20K Naaghedeneel 55.56 30 P **P 17 09 24.0 +1.7**
baz=270
B21K Ikpikpuk River 55.65 24 P **P 17 09 24.6 +1.8**
baz=267
N19K Bonanza Creek 55.67 35 P **P 17 09 25.1 +1.9**
baz=273
J20K Nowinta River 55.71 31 P **P 17 09 25.0 +1.6**
baz=271
K20K Telida 55.76 32 P **P 17 09 25.5 +1.7**
baz=271
O19K Port Alsworth 55.78 35 P **P 17 09 25.7 +1.7**
baz=273
ARTI Arti 55.80 320 P **P 17 09 22.5 -1.7**
ARTI IAmb IAmb 17 09 38.3
comp=Z,6.6nm,0.7s
ARTI Arti 55.80 320 LR LR 17 36 00.1
comp=Z,249nm,18.1s,baz=106,slow=39
ARTI Arti 55.80 320 *c i* P **P 17 09 22.9 -1.3**
ARTI 17 10 23.3
ARTI S **S 17 17 10.0 +1.9**
ARTI SS **SS 17 20 55.3 +1.7**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
E21K Killik River 55.82 25 P **P 17 09 26.4 +2.2**
baz=268
L20K Farewell, AK 55.88 33 P **P 17 09 26.9 +2.2**
baz=272
F21K Alatna River 55.98 27 P **P 17 09 26.8 +1.4**
baz=269
B22K Teshekpuk Lake 56.09 23 P **P 17 09 28.2 +2.1**
baz=267
H21K Melozitna Rive 56.26 29 P **P 17 09 29.2 +1.8**
baz=271
M20K Styx River 56.26 33 P **P 17 09 29.7 +2.2**
baz=273
D22K Ayikyak River 56.30 25 IAmb IAmb 17 09 30.3
comp=Z,7.8nm,0.8s
D22K Ayikyak River 56.30 25 P **P 17 09 29.2 +1.6**
baz=269,SNR=7.3
P19K Oil Pt 56.37 36 P **P 17 09 29.8 +1.6**
baz=275
OHAK Old Harbor 56.57 39 P **P 17 09 30.5 +0.8**
baz=276
I21K Tanana 56.62 29 IAmb IAmb 17 09 33.0
comp=Z,13nm,0.8s
I21K Tanana 56.62 29 P **P 17 09 31.3 +1.4**
baz=272,SNR=8.9
E22K Anaktuvuk Pass 56.62 26 IAmb IAmb 17 09 32.5
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 56.62 26 P **P 17 09 31.1 +1.1**
baz=270,SNR=8.2
O20K Slope Mountain 56.64 36 P **P 17 09 31.2 +1.0**
baz=275
SPCR Spurr Chakacha 56.75 34 P **P 17 09 32.1 +1.1**
baz=274
G22K Bettles 56.76 27 P **P 17 09 32.7 +1.9**
baz=271
AKTO Aktyubinsk 56.82 313 LR LR 17 36 15.4
comp=Z,369nm,19.2s,baz=68,slow=38
H22K Ishtalitna Cre 56.84 29 P **P 17 09 33.1 +1.6**
baz=272,SNR=10.0
KDAK Kodiak Island 56.89 38 P **P 17 09 32.8 +0.9**
baz=276
SKT Skwentna 57.01 33 P **P 17 09 33.7 +0.9**
baz=275
D23K Nanushuk River 57.03 25 P **P 17 09 34.9 +2.1**
baz=271
C23K Itkillik River 57.04 24 P **P 17 09 35.1 +2.3**
baz=270
BPAW Bear Paw Mtn. 57.10 31 IAmb IAmb 17 09 36.0
comp=Z,6.8nm,0.8s
BPAW Bear Paw Mtn. 57.10 31 P **P 17 09 34.8 +1.4**
baz=274
COLD Coldfoot 57.26 27 P **P 17 09 36.3 +1.9**
baz=272
G23K Bananza Creek 57.35 28 P **P 17 09 37.0 +1.9**
baz=273
SUA Susitna One 57.43 34 P **P 17 09 37.0 +1.1**
baz=276,SNR=6.3
TOLK Toolik Lake Re 57.44 25 P **P 17 09 37.2 +1.5**
baz=272
E23K Chandalar 57.45 26 P **P 17 09 37.5 +1.7**
baz=272
TRF Thorofare Moun 57.46 31 P **P 17 09 37.8 +1.7**

baz=275
CUT Chulitna 57.56 33 P P 17 09 37.8 +1.3
baz=275
D24K Happy Valley 57.69 25 P P 17 09 39.0 +1.6
baz=272
M22K Willow 57.69 33 P P 17 09 39.1 +1.6
baz=276
C24K Franklin Bluff 57.71 24 P P 17 09 38.7 +1.2
baz=272
I23K Minto, Yukon-K 57.72 29 P P 17 09 39.5 +1.9
baz=274
E24K Your Creek 57.87 26 P P 17 09 40.7 +1.9
baz=273
NEA2 Nenana 57.89 30 P P 17 09 40.3 +1.4
baz=275,SNR=15
RC01 Rabbit Creek A 57.95 34 P P 17 09 40.1 +0.7
baz=277
O22K Cooper Landing 58.03 35 P P 17 09 40.9 +1.0
baz=277
MCK McKinley 58.03 31 P P 17 09 40.1 +0.2
MCK IAmb IAmb 17 09 43.0
comp=Z,9.3nm,0.9s
MCK McKinley 58.03 31 P P 17 09 40.8 +0.9
baz=276,SNR=5.3
MCK McKinley 58.03 31 P P 17 09 40.2 +0.2
MCK pmax pmax
comp=Z,9.0nm,0.9s
RND Reindeer 58.10 31 P P 17 09 41.0 +0.5
RND Reindeer 58.10 31 P P 17 09 41.0 +0.5
RND pmax pmax
comp=Z,18nm,0.8s
F24K Squaw Lake 58.13 27 P P 17 09 42.8 +2.1
baz=274
PMR Palmer 58.18 34 P P 17 09 41.7 +0.8
baz=277
SEW Seward 58.21 35 P P 17 09 42.2 +1.0
baz=278
H24K Noodor Dome 58.28 28 P P 17 09 43.5 +1.9
baz=275
WRH Wood River Hil 58.33 30 P P 17 09 41.7 -0.2
WRH IAmb IAmb 17 09 45.6
comp=Z,7.3nm,0.8s
G24K Hadweenzic Riv 58.36 27 P P 17 09 43.3 +1.1
baz=275
COLA College 58.39 30 P P 17 09 43.6 +1.3
baz=276
COLA College 58.39 30⇑ eP P 17 09 42.5 +0.2
COLA pmax pmax
comp=Z,4.0nm,0.8s
CCB Clear Creek Bu 58.43 30 IAmb IAmb 17 11 34.4
comp=Z,20nm,1.9s
KNK Knik Glacier 58.52 34 P P 17 09 44.1 +0.7
baz=278
SML Sawmill 58.53 33 P P 17 09 44.3 +0.8
baz=277
POKR Poker Plat Res 58.54 29 P P 17 09 44.4 +1.0
baz=276,SNR=7.4
D25K Kavik River 58.55 24 P P 17 09 45.2 +1.7
baz=274
PWL Port Wells 58.66 34 P P 17 09 44.9 +0.6
baz=278
ILAR Eielson Array 58.81 30 P P 17 09 45.6 +0.3
comp=Z,2.8nm,0.7s,baz=276,slow=7.4,SNR=38
comp=Z,2.8nm,0.7s
M23K Glacier View 58.82 33 P P 17 09 46.1 +0.6
baz=278
HDA Harding Lake 58.83 30 IAmb IAmb 17 09 46.6
comp=Z,12nm,0.8s
HDA Harding Lake 58.83 30 P P 17 09 46.0 +0.5
baz=277
E25K Arctic Village 58.96 26 P P 17 09 48.4 +2.1
baz=276
F25K Christian Rive 58.99 26 P P 17 09 48.6 +2.0
baz=276
SCM Sheep Creek Mo 59.00 33 P P 17 09 47.8 +1.0
baz=278
C26K Camden Bay 59.01 24 P P 17 09 49.1 +2.5
baz=276
H25L Birch Creek 59.07 28 P P 17 09 48.8 +1.8
baz=277
PRP Porcupine Dome 59.28 29 P P 17 09 50.0 +1.3
baz=278,SNR=6.0
K24K Donnelly Dome 59.42 31 P P 17 09 51.0 +1.4
baz=278
C27K Jago River 59.46 24 P P 17 09 51.0 +1.3
baz=277
M24K Tolsona, Glenn 59.50 33 P P 17 09 51.6 +1.4
baz=279
F26K Sheenjek River 59.54 26 P P 17 09 51.9 +1.6
baz=278
PAX Paxson 59.68 32 P P 17 09 53.0 +1.5
baz=279
KLU Klutina 59.72 33 P P 17 09 53.7 +2.0
baz=280
G26K Porcupine Rive 59.78 27 P P 17 09 54.2 +2.2
baz=278
HARP HAARP 59.92 32 P P 17 09 54.5 +1.5
baz=280
SCRK Sand Creek 60.17 30 P P 17 09 55.6 +0.7
baz=280
J26L Joseph Creek 60.27 30 P P 17 09 56.4 +1.0
baz=280
I26K Coal Creek Min 60.30 29 P P 17 09 57.7 +2.2
baz=280
N25K Chitina, Valde 60.32 33 P P 17 09 57.1 +1.3
baz=281
BMRM Bremner River 60.44 34 P P 17 09 57.9 +1.3
baz=281
D27M Malcolm River 60.47 24 P P 17 09 59.5 +2.7
baz=280
G27K Doyon Strip 60.64 27 P P 17 09 59.8 +1.9
baz=280
KAIM Kayak Island 60.73 35 P P 17 09 60.0 +1.4
baz=282
H27K Steamboat Moun 60.79 28 P P 17 10 00.4 +1.4
baz=281
I27K Kandik River 60.88 28 P P 17 10 01.1 +1.5
baz=281,SNR=11
M26K Nabesna, AK 60.91 32 P P 17 10 01.7 +1.9
baz=282
E28M Babbage River 61.10 25 P P 17 10 03.0 +2.1
baz=281
F28M Old Crow 61.17 26 IAmb IAmb 17 10 04.4
comp=Z,7.1nm,1.1s
F28M Old Crow 61.17 26 P P 17 10 03.1 +1.7
baz=281,SNR=8.3
EGAK Eagle 61.23 29 P P 17 10 03.0 +1.1
baz=282
D28M Stokes Point 61.23 24 P P 17 10 02.8 +1.0
baz=281
L27K Beaver Creek, 61.30 31 P P 17 10 03.8 +1.4
baz=282
M27K Edge Creek, AK 61.43 32 P P 17 10 04.4 +1.0
baz=282
I28M Miner Creek 61.59 28 IAmb IAmb 17 10 07.2
comp=Z,11nm,0.9s
I28M Miner Creek 61.59 28 P P 17 10 05.8 +1.3
baz=282,SNR=10
E29M Blow River 61.73 25 P P 17 10 06.6 +1.4
baz=283
BVCY Beaver Creek 61.88 32 P P 17 10 07.6 +1.3
baz=283
G29M Pine Creek 62.02 27 P P 17 10 08.7 +1.5
baz=283
H29M Whitestone 62.05 27 P P 17 10 09.2 +1.8
baz=283
DAWY Dawson 62.14 30 P P 17 10 09.3 +1.2
baz=284
YUK3 Moose Creek 62.21 32 P P 17 10 09.8 +1.0
baz=284
I29M Ogilvie Camp, 62.28 28 P P 17 10 10.6 +1.7
baz=284
DZM Mont Dzumac 62.35 143 eLR LR 17 28 41.5
comp=Z,128nm,25.2s
J29N Klondike Camp 62.54 29 P P 17 10 12.6 +1.8
baz=284,SNR=6.1
O28M Mount Upton 62.59 34 P P 17 10 12.9 +1.4
baz=285
YUK8 Steele Glacier 62.66 33 P P 17 10 13.5 +1.6
baz=285
EPYK Eagle Plains 62.66 27 P P 17 10 12.5 +1.0
baz=285,SNR=5.0
F30M Barrier River 62.69 26 P P 17 10 13.3 +1.6
baz=285
G30M tAoh Zraii Nji 62.69 26 P P 17 10 12.8 +1.1
baz=285
BELG Belogornoye 62.73 317 LR LR 17 40 03.4
comp=Z,214nm,18.1s,baz=95,slow=38

PINM Pinnacle 62.73 34 P P 17 10 13.4 +1.3
baz=285
L29M LZ9M 62.92 31 P P 17 10 15.2 +1.8
baz=285,SNR=8.5
M29M Somme Creek 62.95 31 P P 17 10 15.5 +1.9
baz=285
K29M Barlow Dome 62.99 30 P P 17 10 15.7 +1.8
baz=285
I30M Mount Dempster 63.10 28 IAmb IAmb 17 10 17.0
comp=Z,6.5nm,0.8s
I30M Mount Dempster 63.10 28 P P 17 10 16.2 +1.6
baz=286
YUK4 Talbot Arm 63.16 33 P P 17 10 16.3 +1.2
baz=286
STKA Stephens Creek 63.19 171 P P 17 10 14.5 -0.8
comp=Z,5.8nm,0.8s,baz=349,slow=16,SNR=7.9
comp=Z,5.8nm,0.8s
STKA Stephens Creek 63.19 171⇑ eP P 17 10 14.6 -0.7
J30M Hart River 63.29 29 P P 17 10 17.9 +2.1
baz=286
INK Inuvik 63.32 24 P P 17 10 16.8 +1.0
baz=287
YUK6 Outpost Mounta 63.40 33 P P 17 10 18.1 +1.3
baz=286
G31M Satah River 63.45 26 P P 17 10 18.9 +2.3
baz=287
O29M Mount Kennedy 63.48 34 P P 17 10 18.7 +1.5
baz=286
F31M Tsiigehtchic 63.49 25 P P 17 10 18.1 +1.2
baz=287
M30M Minto, Yukon 63.66 31 IAmb IAmb 17 11 25.7
comp=Z,22nm,2.0s
M30M Minto, Yukon 63.66 31 P P 17 10 19.8 +1.6
baz=287
H31M Peel River 63.74 27 P P 17 10 19.7 +1.0
H31M IAmb IAmb 17 10 20.7
comp=Z,9.1nm,0.8s
H31M Peel River 63.74 27 P P 17 10 19.7 +1.0
baz=287,SNR=6.2
HYT Haines Junctio 63.84 33 P P 17 10 20.7 +1.2
baz=287
N30M Aishikik Lake 63.85 32 P P 17 10 21.0 +1.5
baz=287
P30M Million Dollar 64.31 34 P P 17 10 23.9 +1.4
baz=288
N31M Braeburn, Yuko 64.44 32 P P 17 10 24.6 +1.2
baz=288
O30N Mendenhall 64.52 33 P P 17 10 25.3 +1.4
baz=288
A36M Sachs Harbour 64.76 20 P P 17 10 26.5 +1.3
baz=292,SNR=7.6
PLBC Pleasant Camp 64.80 34 P P 17 10 26.4 +0.8
baz=288
M31M Drury Creek, Y 64.84 31 P P 17 10 27.0 +1.1
baz=289
WHY Whitehorse 65.12 33 P P 17 10 29.2 +1.3
baz=289
FARO Faro, Yukon 65.29 31 P P 17 10 29.7 +0.9
baz=290,SNR=10
SKAG Skagway 65.30 34 P P 17 10 29.5 +0.6
baz=289
P32M Atlin 66.03 34 P P 17 10 34.6 +0.9
baz=290
AKT Akhty 66.12 305 eP P 17 10 34.4 -0.3
AKT pmax pmax
comp=Z,11nm,0.7s
C36M Paulatuk 66.17 22 IAmb IAmb 17 10 36.0
comp=Z,7.8nm,0.8s
C36M Paulatuk 66.17 22 P P 17 10 34.8 +0.5
baz=294,SNR=6.6
P33M Teslin, Yukon 66.23 33 P P 17 10 35.4 +0.4
P33M IAmb IAmb 17 10 37.5
comp=Z,5.9nm,1.0s
P33M Teslin, Yukon 66.23 33 P P 17 10 35.4 +0.4
baz=291
ARCES ARCESS Array B 66.76 338 P P 17 10 36.1 -2.0
comp=Z,4.3nm,0.9s,baz=59,slow=6.6,SNR=3.6
comp=Z,4.3nm,0.9s
Q32M Nakina River 66.95 34 P P 17 10 41.2 +1.4
baz=292
R33M Jennings River 67.41 33 P P 17 10 43.8 +1.3
baz=293
S34M Telegraph Cree 67.90 35 P P 17 10 47.0 +1.4
baz=293
DLBC Dease Lake 68.23 34 P P 17 10 47.1 -0.6
DLBC Dease Lake 68.23 34 P P 17 10 47.9 +0.2
baz=294
KBZ Khabaz 68.60 309 P P 17 10 49.4 -0.7
comp=Z,1.7nm,0.7s,baz=86,slow=6.4,SNR=6.5
KBZ LR LR 17 44 50.9
comp=Z,104nm,19.4s,baz=32,slow=39
comp=Z,1.7nm,0.7s
KIV Kislovodsk 68.65 309 eP P 17 10 49.6 -1.0
KIV pmax pmax
comp=Z,4.0nm,1.1s
WRGLY Wrigley 69.07 28 P P 17 10 54.2 +1.4
baz=297
FINES FINESS Array B 70.29 331 P P 17 10 59.0 -1.2
comp=Z,1.1nm,0.4s,baz=62,slow=5.5,SNR=10
FINES LR LR 17 45 25.0
comp=Z,146nm,18.8s,baz=65,slow=39
comp=Z,1.1nm,0.4s
FINES FINESS Array B 70.29 331 iP P 17 11 03.0 +2.8
FINES pmax pmax
comp=Z,3.0nm,0.8s
TOAD Toad River Com 70.31 33 P P 17 11 01.5 +0.9
baz=297
YKA Yellowknife Ar 72.93 26 P P 17 11 16.8 +0.7
comp=Z,1.4nm,0.8s,baz=299,slow=5.7,SNR=13
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 72.93 26 iP P 17 11 17.0 +0.9
YKA pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 73.95 320 P P 17 11 21.0 -1.4
comp=Z,1.4nm,0.6s,baz=58,slow=6.3,SNR=8.3
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 73.95 320 iP P 17 11 25.2 +2.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
RAYN Ar Rayn 75.25 289 P P 17 11 29.9 -0.5
RAYN IAmb IAmb 17 11 33.5
comp=Z,9.7nm,1.1s
RAYN Ar Rayn 75.25 289 P P 17 11 29.9 -0.5
RAYN pmax pmax
comp=Z,10.0nm,1.1s
HFS Hagfors 76.06 333 P P 17 11 33.2 -1.1
comp=Z,2.7nm,0.7s,baz=52,slow=5.7,SNR=4.8
comp=Z,2.7nm,0.7s
NB2 NORSAR Subarra 76.43 334 P P 17 11 35.3 -1.2
comp=Z,1.2nm,0.6s,baz=50,slow=5.9
NOA NORSAR Array B 76.43 334 P P 17 11 34.9 -1.6
comp=Z,1.0nm,0.7s,baz=48,slow=5.8,SNR=5.5
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 76.57 308 P P 17 11 37.1 -0.7
BR131 Keskin Array S 76.57 308 P P 17 11 37.1 -0.7
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 76.57 308 P P 17 11 37.2 -0.6
comp=Z,1.4nm,0.8s,baz=83,slow=5.1,SNR=8.4
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 76.57 308 iP P 17 11 38.4 +0.6
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 78.52 316 LR LR 17 49 52.3
comp=Z,235nm,19.0s,baz=50,slow=38
CLL Collm 82.01 326 iP P 17 12 05.1 -1.9
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 82.01 326 iPx Px 17 12 11.6
CLL ix x 17 12 21.8
comp=Z,12nm,1.1s
FCC Fort Churchill 82.81 22 IAmb IAmb 17 12 12.5
comp=Z,6.0nm,1.0s
GRF Grafenberg Arr 83.93 326 eP P 17 12 30.8 +14
comp=Z,12nm,1.3s,baz=56,slow=5.0
NVAR Mina Array Bea 85.02 48 P P 17 12 23.6 +0.6
comp=Z,3.6nm,1.0s,baz=312,slow=7.4,SNR=9.2
comp=Z,3.6nm,1.0s
EKA Eskdalemuir Ar 85.79 336 P P 17 12 25.4 -0.8
comp=Z,1.8nm,0.7s,baz=35,slow=3.9,SNR=2.3
comp=Z,1.8nm,0.7s
DAVOX Davos/Dischmat 86.56 324 LR LR 17 54 19.1
comp=Z,161nm,19.8s,baz=32,slow=38
R11B Troy Canyon, C 86.78 47 P P 17 12 32.4 +0.7
baz=308
PDAR Pinedale Array 87.55 40 P P 17 12 35.6 +0.1
comp=Z,1.3nm,0.9s,baz=318,slow=6.7,SNR=5.9
comp=Z,1.3nm,0.9s

ULM Lac du Bonnet 88.80 28 IAmb IAmb 17 12 58.3
comp=Z,8.6nm,1.1s
ULM Lac du Bonnet 88.80 28 P P 17 12 41.0 +0.1
comp=Z,4.3nm,0.9s,baz=329,slow=5.9,SNR=5.9
comp=Z,4.3nm,0.9s
PPT2 Papeete2 89.58 111 eLR LR 17 41 07.1
comp=Z,106nm,25.8s
TBI Tubual 92.75 116 eLR LR 17 42 39.9
comp=Z,489nm,27.0s
ANMO Albuquerque 94.57 44 LR LR 17 54 06.1
comp=Z,156nm,21.4s,baz=172,slow=34
TXAR Lajitas Array 100.14 47 P Pdif 17 13 31.0 -2.3
comp=Z,0.3nm,0.4s,baz=322,slow=3.7,SNR=4.6

---

*IDC **05** 17:13:09.6±1.9, 13°.57S×167°.57E, h0km, mb3.6/3, mbtmp3.9/4, ML4.9/1, Error ellipse: s-maj=67.5km s-min=31.9km az=149.0*
*NOU **05** 17:13:27.1, 13°.52S×166°.37E, h26km, MLv4.7/15, Vanuatu Islands*
ISC 05 17:13:27.5±1.3, 13°.53S±0°.07×166°.4E±0°.1, h35km, n18, σ1§33/16, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**2.88**	**351**	P	**Pn**	**17 14 11.3**	**+0.3**
LUES	**Luesalemba Tem**	**2.88**	**351**	S	**Sn**	**17 14 45.4**	**+0.9**
DVP	**Devils Point**	**4.52**	**158**	P	**Pn**	**17 14 35.0**	**+1.5**
HURO	**Huro Makira**	**5.33**	**304**	P	**Pn**	**17 14 44.2**	**-0.5**
HURO	**Huro Makira**	**5.33**	**304**	S	**Sn**	**17 15 45.8**	**+0.9**
KOUNC	**Koumac, New Ca**	**7.27**	**196**	P	**Pn**	**17 15 12.0**	**+0.8**
KOUNC	**Koumac, New Ca**	**7.27**	**196**	S	**Sn**	**17 16 34.4**	**+1.9**
HNR	**Honiara**	**7.50**	**302**	Pn	**Pn**	**17 15 14.7**	**+0.2**
16nm,0.3s,baz=165,slow=12,SNR=15							
HNR				Sn	**Sn**	**17 16 39.4**	**+1.0**
12nm,0.3s,baz=128,slow=12,SNR=4.2							
48nm,0.4s							
HNR	**Honiara**	**7.50**	**302**	P	**Pn**	**17 15 15.6**	**+1.1**
HNR	**Honiara**	**7.50**	**302**	S	**Sn**	**17 16 39.8**	**+1.4**
TATA	**Tatamba Isabel**	**8.23**	**308**	P	**Pn**	**17 15 24.6**	**+0.1**
DZM	**Mont Dzumac**	**8.50**	**180**	P	**Pn**	**17 15 27.7**	**-0.5**
ONTNC	**Ouen Toro**	**8.73**	**180**	P	**Pn**	**17 15 31.7**	**+0.3**
OUENC	**Ouen Island, N**	**8.86**	**177**	P	**Pn**	**17 15 33.0**	**0.0**
WRA	**Warramunga Arr**	**31.30**	**254**	P	**P**	**17 19 41.5**	**-3.2**
0.9nm,1.0s,baz=76,slow=7.1,SNR=6.3							
0.9nm,1.0s							
ASAR	**Alice Springs**	**32.32**	**247**	P	P	17 19 49.3	-4.3
0.4nm,0.7s,baz=78,slow=9.0,SNR=6.2							
0.4nm,0.7s							
ILAR	**Eielson Array**	**85.66**	**18**	P	P	17 25 47.1	-15
0.4nm,0.7s,baz=224,slow=3.3,SNR=5.9							
0.4nm,0.7s							
ARCES	**ARCESS Array B**	**118.88**	**345**	PKP	PKPdf	17 32 01.7	-10
6.3nm,1.1s,baz=58,slow=2.1,SNR=7.4							

---

*IDC **05** 17:14:05.3±1.2, 35°.05N×73°.97E, h0km, mb3.6/5, mbtmp3.4/9, ML3.1/4, Error ellipse: s-maj=33.8km s-min=18.5km az=70.0*
ISC 05 17:14:10.2±1.0, 34°.99N±0°.10×74°.3E±0°.1, h34km, n17, σ1§69/21, mb3.6/4, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.63**	**1**	Pn	**Pn**	**17 16 00.2**	**+1.1**
0.2nm,0.3s,baz=180,slow=10,SNR=2.4							
AAK				Sn	**Sn**	**17 17 24.9**	**+0.4**
0.1nm,0.3s,baz=130,slow=21,SNR=1.2							
0.3nm,0.3s							
PYUN	**Piuthan**	**10.12**	**130**	Pn	**Pn**	**17 16 35.1**	**+1.8**
baz=133,slow=0.0							
PYUN				Sn	**Sn**	**17 18 23.7**	**-2.0**
13nm,0.4s,baz=133,slow=0.0							
DANN	**Dangsing**	**10.44**	**127**	Pn	**Pn**	**17 16 39.1**	**+1.3**
baz=129,slow=0.0							
GKN	**Gorkha**	**11.25**	**125**	Pn	**Pn**	**17 16 49.5**	**+0.7**
baz=128,slow=0.0							
GKN				Sn	**Sn**	**17 18 50.8**	**-2.6**
8.1nm,0.4s,baz=128,slow=0.0							
DMN	**Daman**	**11.82**	**126**	Pn	**Pn**	**17 16 58.1**	**+1.4**
baz=128,slow=0.0							
PKI	**Pulchoki**	**12.05**	**125**	Pn	**Pn**	**17 17 01.1**	**+1.2**
baz=127,slow=0.0							
PKI				Sn	**Sn**	**17 19 10.6**	**-2.6**
5.0nm,0.4s,baz=127,slow=0.0							
GUN	**Gumba**	**12.16**	**122**	Pn	**Pn**	**17 17 01.5**	**+0.2**
baz=124,slow=0.0							
RAMN	**Ramite**	**13.26**	**124**	Pn	**Pn**	**17 17 17.2**	**+0.9**
baz=126,slow=0.0							
TAPN	**Taplejung**	**13.79**	**120**	Pn	**Pn**	**17 17 23.6**	**+0.1**
baz=122,slow=0.0							
KURBB	**Kurchatov Arra**	**15.93**	**10**	Pn	**Pn**	**17 17 49.3**	**-2.3**
baz=200,slow=10,SNR=5.1							
0.1nm,0.5s							
BVAR	**Borovoye Array**	**18.24**	**352**	P	**P**	**17 18 19.8**	**-0.6**
baz=159,slow=8.6,SNR=5.7							
0.4nm,0.5s							
AKTO	**Aktyubinsk**	**19.45**	**327**	P	**P**	**17 18 32.8**	**-0.9**
0.2nm,0.3s,baz=138,slow=11,SNR=4.4							
0.7nm,0.4s							
ZALV	**Zalesovo Beam**	**20.35**	**18**	P	**P**	**17 18 43.1**	**-0.4**
0.9nm,0.4s,baz=210,slow=10.0,SNR=5.3							
0.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**27.39**	**121**	P	**P**	**17 19 54.4**	**+1.8**
0.4nm,0.3s,baz=314,slow=9.5,SNR=5.7							
0.4nm,0.3s							
TORD	**Torodi Ar. Bea**	**68.38**	**271**	P	**P**	**17 25 06.6**	**-2.1**
0.2nm,0.4s,baz=39,slow=7.4,SNR=1.7							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**78.94**	**124**	P	**P**	**17 26 12.5**	**+2.0**
0.8nm,1.0s,baz=316,slow=6.4,SNR=5.1							
0.8nm,1.0s							
ASAR	**Alice Springs**	**81.21**	**127**	P	**P**	**17 26 24.8**	**+2.0**
0.3nm,0.9s,baz=328,slow=5.3,SNR=4.5							
0.3nm,0.9s							

---

*NEIC **05** 17:16:47.5±0.4, 19°.459N±0°.009×155°.481W±0°.008, h16km, Error ellipse: s-maj=1.3km s-min=1.1km az=173.0*
HVO 05 17:16:48.1±0.8, 19°.455N±0°.007×155°.470W±0°.002, h8km±3km, ML2.7/42, ML2.6/42(NEIC), Error ellipse: s-maj=1.0km s-min=0.3km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.09**	**64**		Pg	17 16 50.9	+0.3
MLH				Sg	Sg	17 16 53.0	+0.6
MLH				IAML		17 16 53.5	
comp=E,4μm,0.2s							
MWH	**Mokuaweoweo**	**0.12**	**284**		Pg	17 16 51.4	+0.2
MWH				IAML		17 16 54.7	
comp=N,2μm,0.4s							
MLOA	**Mauna Loa Obse**	**0.13**	**309**		Pg	17 16 51.6	+0.4
MLOA	**Mauna Loa Obse**	**0.13**	**309**		Sg	17 16 54.1	+0.6
HMH	**Humu'ula Sheep**	**0.15**	**355**		Pg	17 16 51.9	+0.4
HMH				Sg	Sg	17 16 54.6	+0.7
WRMHI	**West Rim**	**0.17**	**107**		Pg	17 16 52.1	+0.4
WRMHI					Sg	17 16 55.1	+0.9
UWE	**Uwekahuna**	**0.17**	**101**		Pg	17 16 52.2	+0.5
UWE				Sg	Sg	17 16 55.4	+1.1
SDHHI	**Sand Hill**	**0.18**	**111**		Pg	17 16 52.3	+0.4
SDHHI					Sg	17 16 55.4	+0.9
OBL	**Observatory Le**	**0.18**	**102**		Pg	17 16 52.3	+0.4
OBL					Sg	17 16 55.5	+1.0
RSD	**Rainshed**	**0.18**	**88**		Pg	17 16 52.4	+0.4
RSD				Sg	Sg	17 16 55.5	+1.0
UWB	**Uwekahuna Bluf**	**0.18**	**99**		Pg	17 16 52.3	+0.3
UWB					Sg	17 16 55.5	+0.9
ALEP	**Alea Permanent**	**0.18**	**298**		Pg	17 16 52.3	+0.2
ALEP					Sg	17 16 55.5	+0.6
SBLHI	**Steaming Bluff**	**0.19**	**98**		Pg	17 16 52.4	+0.3
SBLHI					Sg	17 16 55.5	+0.7
RIM	**Rim**	**0.20**	**108**		Pg	17 16 52.5	+0.3
RIM					Sg	17 16 55.9	+1.0
HATHI	**Halema'uma'u T**	**0.20**	**99**		Pg	17 16 52.5	+0.2
HATHI				Sg	Sg	17 16 55.5	+0.4
HATHI				IAML		17 16 59.0	
comp=N,2μm,0.5s							
HATHI				IAML		17 16 59.5	
comp=E,2μm,0.5s							
KKO	**Keanakako'i**	**0.20**	**106**		Pg	17 16 52.6	+0.4
KKO					Sg	17 16 55.9	+0.8
BYL	**Byron's Ledge**	**0.20**	**102**		Pg	17 16 52.6	+0.3
BYL				Sg	Sg	17 16 55.8	+0.6
BYL				IAML		17 16 59.7	

comp=E,1μm,0.4s
HLP Hilina Pali 0.22 136 Pg 17 16 53.0 +0.4
HLP Sg Sg 17 16 56.7 +1.0
HLP IAML 17 16 57.1
comp=N,1μm,0.3s
HLP IAML 17 16 58.5
comp=E,2μm,0.5s
HTC Hot Caves 0.23 162 Pg 17 16 53.1 +0.3
KHU Kahuku 0.25 213 Pg Pg 17 16 53.2 0.0
KHU Sg Sg 17 16 57.0 +0.4
PUH Pauahi 0.25 109 Pg 17 16 53.2 -0.1
PUH Sg Sg 17 16 56.9 +0.2
PUH IAML 17 17 00.0
comp=N,695nm,0.3s
KNHH Kane Nui o Ham 0.29 105 Pg 17 16 53.9 -0.1
POHA Pohakuloa 0.31 349 Pg Pg 17 16 54.3 -0.1
POHA IAML 17 17 03.6
comp=N,714nm,0.6s
POHA IAML 17 17 04.7
comp=N,647nm,0.5s
STCH Steam Cracks 0.33 102 Pg 17 16 54.5 -0.3
STCH IAML 17 16 59.8
comp=N,555nm,0.4s
STCH IAML 17 17 00.1
comp=E,546nm,0.2s
NPOC North of Pu'u 0.35 100 Pg 17 16 54.8 -0.1
NPOC Sg 17 16 59.7 +0.2
JCUZ Jacuzzi 0.35 101 Pg 17 16 55.2 +0.1
JCUZ Sg 17 17 00.5 +0.7
HUH Hualalai 0.41 304 Pg 17 16 56.5 +0.2
CPH Captain Cook 0.42 275 Pg 17 16 56.2 -0.2
JOKA Jonika Flow 0.44 93 Pg 17 16 56.3 -0.4
JOKA Sg 17 17 02.8 +0.2
JOKA IAML 17 17 06.5
comp=N,454nm,0.3s
PAH Pahoa 0.49 85 Pg Pg 17 16 57.3 -0.4
PAH Pahoa 0.49 85 Sb 17 17 05.8 -0.7
HPAH Hawaii Prepara 0.61 340 Pg Pg 17 16 58.8 -1.2
MHA Mahukona 0.83 331 Pg Pg 17 17 02.1 -2.1
HLK Haleakala 1.49 331 Pn Pn 17 17 14.4 -1.0

WEL 05 17:17:41.9±1.1, 33°S±12°×18°0E±2°1, h356km±27km, mB4.5/5, mL4.2/5, MLv3.9/4, Mw(mB)3.6/5, Error ellipse: s-maj=28.3km s-min=12.7km az=109.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.02**	**191**	P	Pn	17 19 01.8	-0.2
WMGZ				S	S	17 20 08.0	+1.3
HAZ	**Te Kaha**	**5.09**	**197**	P	Pn	17 19 02.6	-0.1
HAZ				S	S	17 20 08.0	0.0
PUZ	**Puketiti**	**5.30**	**192**	P	Pn	17 19 05.8	+0.8
WCZ	**Waipu Caves**	**5.31**	**233**	P	Pn	17 19 06.2	+1.0
RUGZ	**Raukumara Rang**	**5.31**	**197**	P	Pn	17 19 05.2	-0.1
RUGZ				S	S	17 20 12.0	-0.8
TWGZ	**Tauwhareparae**	**5.45**	**194**	P	Pn	17 19 08.3	+1.6
TWGZ				S	S	17 20 16.4	+0.9
MWZ	**Matawai**	**5.70**	**197**	P	Pn	17 19 09.3	-0.2
MWZ				S	S	17 20 21.8	+1.3
TKGZ	**Te Karaka**	**5.73**	**194**	P	Pn	17 19 09.1	-0.6
TKGZ				S	S	17 20 21.8	+0.8
URZ	**Urewera**	**5.74**	**200**	P	Pn	17 19 09.0	-0.9
URZ				S	S	17 20 20.5	-0.7
RIGZ	**Rimuhau**	**6.00**	**194**	P	Pn	17 19 12.8	-0.1
RIGZ				S	S	17 20 22.4	-4.4
MUGZ	**Murupara**	**6.04**	**202**	P	Pn	17 19 14.5	+1.1
MUGZ				S	S	17 20 26.2	-1.4
RTZ	**Ruatahuna**	**6.11**	**200**	P	Pn	17 19 14.8	+0.6
RTZ				S	S	17 20 26.4	-2.7
SNGZ	**Shannon Statio**	**6.17**	**197**	P	Pn	17 19 16.2	+1.4
SNGZ				S	S	17 20 32.2	+2.0
KNZ	**Kokohu**	**6.33**	**194**	P	Pn	17 19 15.4	-1.2
KNZ				S	S	17 20 32.2	-1.2
RAHZ	**Arahi**	**6.36**	**198**	P	Pn	17 19 17.1	+0.1
RAHZ				S	S	17 20 36.5	+2.2
MTHZ	**Maungataniwha**	**6.37**	**200**	P	Pn	17 19 18.0	+0.9
MTHZ				S	S	17 20 35.3	+0.9
WHHZ	**Waihua**	**6.48**	**197**	P	Pn	17 19 20.1	+1.8
WHHZ				S	S	17 20 38.3	+1.7
MRHZ	**Matea Rd**	**6.48**	**203**	P	Pn	17 19 17.3	-1.1
NMHZ	**Naumai**	**6.61**	**199**	P	Pn	17 19 19.7	-0.1
NMHZ				S	S	17 20 40.8	+1.4
ARHZ	**Aropaoanui**	**6.71**	**198**	P	Pn	17 19 21.6	+0.6
BKZ	**Black Stump Fm**	**6.76**	**201**	P	Pn	17 19 21.1	-0.6
BKZ				S	S	17 20 42.6	-0.1
MCHZ	**McNeill Hill**	**6.96**	**199**	P	Pn	17 19 22.9	-1.0
MCHZ				S	S	17 20 47.2	+0.3
KWHZ	**Kaweka Forest**	**7.02**	**201**	P	Pn	17 19 25.0	+0.4
KWHZ				S	S	17 20 46.7	-1.5
OTVZ	**Oturere**	**7.04**	**206**	P	Pn	17 19 24.9	-0.1
SNVZ	**South Ngauruho**	**7.07**	**206**	P	Pn	17 19 25.3	0.0
NGZ	**Ngauruhoe**	**7.07**	**206**	P	P	17 19 26.0	-0.6
KRHZ	**Kereru**	**7.24**	**200**	P	Pn	17 19 26.8	-0.3
KRHZ				S	S	17 20 52.0	-0.8
KAHZ	**Kahuranaki**	**7.24**	**197**	P	Pn	17 19 27.1	-0.1
KAHZ				S	S	17 20 54.7	+1.7
VRZ	**Vera Road**	**7.37**	**211**	P	P	17 19 30.3	+0.5
PXZ	**Pawanui**	**7.47**	**196**	P	Pn	17 19 29.9	+0.1
PNHZ	**Pukenui**	**7.54**	**200**	P	Pn	17 19 29.4	-1.2
TSZ	**Takapari Road**	**7.74**	**201**	P	Pn	17 19 32.2	-0.8
DVHZ	**Dannevirke**	**7.90**	**199**	P	Pn	17 19 33.9	-1.0
BFZ	**Birch Farm**	**8.24**	**198**	P	Pn	17 19 37.2	-1.7
MRZ	**Mangatainoka R**	**8.41**	**201**	P	Pn	17 19 38.3	-2.5
NNZ	**Nelson**	**9.69**	**209**	P	Pn	17 19 54.1	-2.0
NNZ				S	S	17 21 42.2	-3.9
THZ	**Tophouse**	**10.34**	**209**	P	Pn	17 20 01.3	-2.6
THZ				S	S	17 21 56.9	-3.4
KHZ	**Kahutara**	**10.66**	**205**	P	Pn	17 20 05.2	-2.4
DSZ	**Denniston Nort**	**10.81**	**213**	P	Pn	17 20 06.4	-2.9
GVZ	**Greta Valley S**	**11.32**	**205**	P	Pn	17 20 13.3	-2.1

AUST 05 17:25:14.7±0.2, 23°S±2°×12°1E±°, h10km, mb4.1/6, ML3.0/8, Error ellipse: s-maj=5.5km s-min=4.0km az=56.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSAB3	**Pilbara Seismi**	**1.38**	**326**	P	Pn	17 25 39.6	-0.5
PSAD3	**Pilbara Seismi**	**1.38**	**323**	P	Pn	17 25 39.9	-0.1
PSAD3				S	Sb	17 25 56.1	-2.2
PSAC2	**Pilbara Seismi**	**1.38**	**329**	P	Pn	17 25 39.7	-0.4
PSAA3	**Pilbara Seismi**	**1.39**	**327**	P	Pn	17 25 40.1	-0.1
PSA00	**Pilbara Seismi**	**1.40**	**327**	P	Pn	17 25 40.1	-0.2
PSA00				S	Sn	17 25 56.7	-2.2
PSAA1	**Pilbara Seismi**	**1.41**	**326**	P	Pn	17 25 40.0	-0.4
PSAB2	**Pilbara Seismi**	**1.41**	**327**	P	Pn	17 25 40.4	0.0
PSAA2	**Pilbara Seismi**	**1.41**	**327**	P	Pn	17 25 40.3	-0.2
PSAC1	**Pilbara Seismi**	**1.46**	**326**	P	Pn	17 25 41.3	+0.2
PSAD1	**Pilbara Seismi**	**1.51**	**328**	P	Pn	17 25 41.4	-0.5
MBWA	**Marble Bar**	**1.81**	**331**	P	Pn	17 25 45.4	-0.6
MBWA				S	Sg	17 26 12.0	-0.9
MEEK	**Meekatharra**	**4.30**	**205**	P	Pn	17 26 21.6	+1.3
MEEK	**Meekatharra**	**4.30**	**205**	P	Sn	17 27 10.3	-0.2
GIRL	**Giralia**	**5.95**	**270**	P	Pn	17 26 44.3	+1.4
comp=Z,0.4nmcomp=Z,177nm,1.7s							
WRKA	**Warakurna**	**7.33**	**110**	P	Pn	17 27 03.1	+1.1
WRKA	**Warakurna**	**7.33**	**110**	P	Sn	17 28 25.9	+0.6
MORW	**Morawa**	**7.55**	**213**	P	Pn	17 27 04.7	-0.2
comp=Z,0.1nmcomp=Z,14nm,1.5s							
BLDU	**Ballidu**	**8.60**	**204**	P	Pn	17 27 19.2	0.0
comp=Z,0.1nmcomp=Z,14nm,2.7s							
BLDU	**Ballidu**	**8.60**	**204**	S	Sn	17 28 49.5	-6.9
KMBL	**Kambalda**	**8.65**	**173**	P	Pn	17 27 19.6	-0.3
KLBR	**Kellerberrin**	**9.18**	**196**	P	Pn	17 27 26.6	-0.7
comp=Z,0.0nmcomp=Z,14nm,1.0s							
KLBR	**Kellerberrin**	**9.18**	**196**	S	Sn	17 29 04.5	-6.2
MUN	**Mundaring**	**10.01**	**202**	P	Pn	17 27 38.5	-0.1
comp=Z,0.1nmcomp=Z,14nm,1.8s							
MUN	**Mundaring**	**10.01**	**202**	S	Sn	17 29 22.6	-8.4
FORT	**Forrest**	**10.36**	**142**	P	Pn	17 27 44.7	+1.3
comp=Z,0.1nmcomp=Z,20nm,1.7s							
FORT	**Forrest**	**10.36**	**142**	S	Sn	17 29 38.0	-1.7
NWAO	**Narrogin (SRO)**	**10.59**	**196**	P	Pn	17 27 47.6	+1.1
NWAO	**Narrogin (SRO)**	**10.59**	**196**	S	Sn	17 29 38.6	-6.5
WB2	**Warramunga Arr**	**13.04**	**80**	P	Pn	17 28 21.4	+1.2
WB5	**Warramunga Arr**	**13.07**	**80**	P	Pn	17 28 21.1	+0.5
WB6	**Warramunga Arr**	**13.08**	**80**	P	Pn	17 28 21.1	+0.4
WB7	**Warramunga Arr**	**13.10**	**80**	P	Pn	17 28 21.8	+0.9
WB10	**Warramunga Arr**	**13.13**	**79**	P	Pn	17 28 21.1	-0.2

IDC 05 17:36:18.7±3.5, 7°70S×132°01E, h0km, mb3.1/1, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=215.5km s-min=34.7km az=73.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.38**	**170**	Pn	Pn	17 39 16.4	+0.1
baz=354,slow=13,SNR=2.7							
0.7nm,0.9s							
ASAR	**Alice Springs**	**15.98**	**174**	Pn	Pn	17 40 05.0	-0.1
baz=356,slow=9.0,SNR=6.1							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**69.91**	**326**	P	P	17 47 31.7	0.0
0.1nm,0.6s,baz=121,slow=6.1,SNR=1.3							
0.1nm,0.6s							

DJA 05 17:38:22.4±0.7, 5°N±5°×12°6E±°, h196km±5km, M4.1/12, mB5.0/3, mb4.0/6, MLv4.1/12, Mw(mB)4.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.54**	**183**	P	Pn	17 38 55.7	-0.4
SGSI				S	Sn	17 39 23.7	+1.3
TNTI	**Ternate**	**4.76**	**158**	P	Pn	17 39 33.9	+0.2
TNTI				S	Sn	17 40 31.3	+1.4
LUWI	**Luwuk**	**6.85**	**205**	P	Pn	17 39 59.6	-1.1
SANI	**Sanana**	**7.24**	**177**	P	Pn	17 40 04.7	-1.1
0.2nm912nm29nm,0.8s							
SANI				S	Sn	17 41 26.3	-1.6
0.2nm912nm29nm,0.8s							
NLAI	**Namlea**	**8.54**	**170**	P	Pn	17 40 23.1	+0.3
NLAI				S	Sn	17 41 59.2	+0.4

IDC 05 17:45:04.1±1.8, 5°64S×148°03E, h0km, mb3.3/2, mbtmp3.4/4, ML3.3/1, MS3.5/1, Error ellipse: s-maj=101.6km s-min=27.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.84**	**193**	Pn	Pn	17 46 05.0	+0.5
18nm,0.7s,baz=9.7,slow=6.1,SNR=14							
PMG				Sn	Sn	17 46 42.7	-7.7
8.5nm,0.3s,baz=1.1,slow=17,SNR=11							
WRA	**Warramunga Arr**	**19.48**	**222**	P	P	17 49 32.9	+0.1
0.1nm,0.3s,baz=47,slow=11,SNR=4.8							
0.4nm,0.6s							
ASAR	**Alice Springs**	**22.50**	**216**	P	P	17 50 05.2	-0.3
0.5nm,0.6s,baz=42,slow=10,SNR=12							
0.5nm,0.6s							
JOW	**Kunigami**	**37.52**	**330**	LR	LR	18 09 02.2	
comp=Z,59nm,18.2s,baz=314,slow=38							
ILAR	**Eielson Array**	**84.75**	**23**	P	P	17 57 40.0	+0.1
0.3nm,0.6s,baz=251,slow=4.8,SNR=5.9							
0.3nm,0.6s							

*IDC **05** 17:47:41.8±1.0, 27°.99S×178°.13W, h316km±11km, mb2.8/3, mbtmp3.6/4, Error ellipse: s-maj=32.9km s-min=22.8km az=146.0*

ISC 05 17:47:42.2±1.0, 27°9S±0°.1×178°4W±0°.2, h300km, n12, σ1°65/14, mb2.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.45**	**164**	P	Pn	17 48 27.0	+2.0
445nm,0.2s,baz=39,slow=19,SNR=7.0							
RAO				S	S	17 48 59.0	-0.1
503nm,0.3s,baz=48,slow=18,SNR=3.1							
URZ	**Urewera**	**11.04**	**199**	P	Pn	17 50 13.0	+0.1
3.1nm,0.9s,baz=150,slow=22,SNR=0.9							
URZ				S	S	17 52 15.5	-0.9
4.4nm,0.4s,baz=120,slow=23,SNR=11							
HNR	**Honiara**	**27.43**	**308**	P	P	17 53 03.6	+2.4
57nm,0.9s,baz=92,slow=18,SNR=1.2							
STKA	**Stephens Creek**	**34.80**	**253**	P	P	17 54 06.3	+1.1
0.6nm,0.6s,baz=107,slow=11,SNR=1.1							
0.6nm,0.6s							
ASAR	**Alice Springs**	**42.96**	**264**	P	P	17 55 11.4	-1.3
0.4nm,0.8s,baz=98,slow=7.2,SNR=9.2							
0.4nm,0.8s							
WRA	**Warramunga Arr**	**43.72**	**270**	P	P	17 55 17.3	-1.4
0.4nm,0.7s,baz=105,slow=7.0,SNR=6.3							
0.4nm,0.7s							
ARCES	**ARCESS Array B**	**136.04**	**348**	PKP	PKPdf	18 06 25.7	-1.2
6.2nm,1.1s,baz=52,slow=1.5,SNR=1.9							
NOA	**NORSAR Array B**	**146.19**	**352**	PKPbc	PKPdf	18 06 43.7	-1.6
1.2nm,0.9s,baz=15,slow=2.5,SNR=2.6							
HFS	**Hagfors**	**146.69**	**349**	PKPbc	PKPdf	18 06 45.2	-0.9
1.4nm,0.6s,baz=57,slow=5.3,SNR=5.3							
AKASG	**Malin Array Be**	**149.05**	**325**	PKPbc	PKPdf	18 06 52.1	+1.9
0.9nm,0.4s,baz=47,slow=4.0,SNR=4.8							
MMAI	**Mount Meron Ar**	**150.49**	**288**	PKPbc	PKPbc	18 06 58.3	-0.6
1.8nm,0.5s,baz=90,slow=5.8,SNR=3.8							
EKA	**Eskdalemuir Ar**	**152.33**	**6**	PKPbc	PKPbc	18 06 59.8	-2.4
0.3nm,0.4s,baz=355,slow=2.6,SNR=1.3							

*IDC **05** 17:48:57.0±5.6, 38°.49N×14°.47E, h214km±65km, mb3.1/2, mbtmp3.4/5, Error ellipse: s-maj=63.3km s-min=35.1km az=4.0*

*ROM **05** 17:49:00.1±0.4, 38°.64N±0°.03×15°.07E±0°.03, h246km±3km, ML3.1/16, Error ellipse: s-maj=3.2km s-min=1.6km az=137.0*

ISC 05 17:49:02.1±1.1, 38°7N±0°.1×15°0E±0°.1, h231km±8km, n25, σ0°53/29, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.28**	**187**	P	Pn	17 49 32.7	+0.4
MPNC	**Port Mandanici**	**0.57**	**154**	P	Pn	17 49 32.9	-0.2
MPNC				S	S	17 49 57.6	+0.2
MUCR	**Ucria**	**0.63**	**191**	P	Pn	17 49 33.9	+0.4
NOV	**Novara**	**0.64**	**172**	P	Pn	17 49 33.6	+0.1
NOV				AML	AML		
comp=E,656μm,1.3s							
NOV				AML	AML		
comp=N,698μm,0.6s							
NOV				AML	AML		
comp=E,783μm,0.6s							
NOV				AML	AML		
comp=N,702μm,0.8s							
SICLA	**Scilla**	**0.67**	**127**	P	Pn	17 49 33.4	0.0
SICLA				S	S	17 49 58.0	+0.1
AIO	**Antillo**	**0.71**	**167**	P	Pn	17 49 33.8	+0.1
AIO				AML	AML		
comp=E,214μm,1.6s							
AIO				AML	AML		
comp=N,163μm,0.4s							
AIO				AML	AML		
comp=E,214μm,0.4s							
CEL	**Celeste**	**0.79**	**120**	P	Pn	17 49 33.8	-0.2
CEL				AML	AML		
comp=E,162μm,1.1s							
CEL				AML	AML		
comp=E,162μm,1.1s							
CEL				AML	AML		
comp=N,174μm,1.3s							
CEL				AML	AML		
comp=E,191μm,1.1s							
CEL				AML	AML		
comp=N,226μm,1.4s							
CEL				AML	AML		
comp=E,191μm,0.9s							
CEL				AML	AML		
comp=E,162μm,0.9s							
CEL				AML	AML		
comp=N,174μm,0.7s							
MTTG	**Motta San Giov**	**0.84**	**141**	P	Pn	17 49 34.4	+0.1
MTTG				S	S	17 49 59.5	0.0
MTTG				AML	AML		
comp=E,269μm,0.5s							
EPZF	**Pizzo Felice**	**0.84**	**189**	P	Pn	17 49 35.0	+0.5
SOI	**Samo**	**1.00**	**126**	P	Pn	17 49 35.1	-0.1
SOI				AML	AML		
comp=N,125μm,0.8s							
SOI				AML	AML		
comp=N,125μm,1.2s							
SOI				AML	AML		
comp=E,170μm,0.5s							
CSLB	**Castelbuono**	**1.05**	**227**	P	Pn	17 49 34.8	-0.7
CAR1	**CAROLEI**	**1.10**	**57**	P	Pn	17 49 34.9	-0.8
CAR1				AML	AML		
comp=E,170μm,1.5s							
CAR1				AML	AML		
comp=N,141μm,1.6s							
CAR1				AML	AML		
comp=N,141μm,0.4s							
CAR1				AML	AML		
comp=E,170μm,0.5s							
GRI	**Girifalco**	**1.10**	**81**	P	Pn	17 49 36.4	+0.7
GRI				S	S	17 50 02.1	+0.1
PLAC	**Placanica**	**1.13**	**100**	P	Pn	17 49 35.7	-0.2
PLAC				S	S	17 50 01.2	-1.1
PLAC				AML	AML		
comp=E,181μm,0.3s							
ALJA	**Alia**	**1.35**	**228**	P	Pn	17 49 37.9	+0.3
CELI	**Celico**	**1.37**	**57**	P	Pn	17 49 37.9	+0.2
TDS	**Terranova Siba**	**1.43**	**45**	P	Pn	17 49 38.1	+0.1
TIP	**Timpagrande**	**1.45**	**68**	P	Pn	17 49 38.3	0.0
MGR	**Morigerati**	**1.53**	**15**	P	Pn	17 49 39.4	+0.6
CMPR	**Campora**	**1.67**	**7**	P	Pn	17 49 40.4	+0.4
BRTR	**Keskin Array B**	**14.48**	**80**	P	P	17 52 18.5	+1.2
comp=E,0.5nm,0.8s,baz=276,slow=6.5,SNR=2.4							
ESDC	**Sonseca Array**	**14.77**	**280**	P	Pn	17 52 10.7	-9.5
comp=E,0.2nm,0.3s,baz=116,slow=13,SNR=2.3							
AKASG	**Malin Array Be**	**15.68**	**35**	P	P	17 52 29.7	-0.5
comp=E,0.2nm,0.4s,baz=225,slow=8.5,SNR=5.6							
FINES	**FINESS Array B**	**23.82**	**13**	P	P	17 53 52.9	-0.9
comp=E,4.3nm,1.0s,baz=189,slow=8.3,SNR=4.1							
comp=E,4.3nm,1.0s							
MKAR	**Makanchi Array**	**48.70**	**58**	P	P	17 57 22.9	-0.2
comp=E,0.2nm,0.4s,baz=280,slow=6.6,SNR=7.4							
comp=E,0.2nm,0.4s							

*NEIC **05** 18:14:15.4±1.7, 16°.30S±0°.08×174°.7W±0°.1, h206km±6km, mb4.4/48, Error ellipse: s-maj=16.1km s-min=12.0km az=96.0*

*IDC **05** 18:14:19.6±3.7, 16°.38S×174°.82W, h243km±32km, mb3.5/11, mbtmp4.1/12, Error ellipse: s-maj=25.7km s-min=17.6km az=123.0*

ISC 05 18:14:14.5±0.4, 16°29S±0°.07×174°80W±0°.07, h200km, n78, σ0°96/84, mb4.3/31, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.76**	**51**		Pn	18 15 15.6	+2.2
AFI				Sn	Sn	18 15 57.8	-1.8
FUTU	**Fugatoga**	**3.77**	**301**		Pn	18 15 21.1	+7.7
NIUE	**Niue**	**5.41**	**122**	Pn	Pn	18 15 36.4	+2.3
NIUE				Sn	Sn	18 16 35.6	-1.3
MSVF	**Nonsavu**	**6.99**	**257**	P	Pn	18 16 01.6	+6.9
2.6nm,0.4s,baz=114,slow=18,SNR=4.4							
DZM	**Mont Dzumac**	**18.62**	**249**	P	P	18 18 18.0	+0.7
DZM				IAmb	IAmb	18 18 49.3	
comp=Z,21nm,1.1s							
RTZ	**Ruatahuna**	**23.38**	**196**	P	P	18 19 04.4	-0.9
BKZ	**Black Stump Fm**	**24.03**	**197**	P	P	18 19 11.4	+0.2
BKZ				IAmb	IAmb	18 19 32.9	
comp=Z,16nm,1.4s							
INZ	**Inchbonnie**	**28.86**	**201**	P	P	18 19 53.5	-0.8
PATS	**Pohnpei**	**35.16**	**309**	P	P	18 20 49.8	+0.3
COEN	**Coen**	**40.59**	**267**	P	P	18 21 36.5	+1.5
TOO	**Toolangi**	**40.86**	**231**	P	P	18 21 37.6	+0.6
TOO				IAmb	IAmb	18 21 38.7	
comp=Z,9.3nm,1.2s							
STKA	**Stephens Creek**	**42.43**	**240**	P	P	18 21 49.7	-0.1
STKA				IAmb	IAmb	18 21 50.4	
comp=Z,6.2nm,0.8s							
STKA	**Stephens Creek**	**42.43**	**240**	P	P	18 21 50.1	+0.4
comp=Z,4.2nm,0.5s,baz=76,slow=8.3,SNR=7.4							
comp=Z,4.2nm,0.5s							
BBOO	**Buckleboo**	**47.20**	**240**	P	P	18 22 27.0	-0.4
BBOO				IAmb	IAmb	18 22 31.4	
comp=Z,32nm,1.5s							
WB0	**Warramunga Arr**	**48.30**	**258**	P	P	18 22 35.3	-0.7
WB0				IAmb	IAmb	18 23 16.9	
comp=Z,17nm,1.5s							
WB0				PcP	PcP	18 23 59.9	+0.1
WB2	**Warramunga Arr**	**48.32**	**258**	P	P	18 22 34.0	-2.2
WB2				IAmb	IAmb	18 23 05.4	
comp=Z,16nm,1.3s							
WB2				PcP	PcP	18 23 59.7	-0.1
WRAB	**Tennant Creek**	**48.33**	**258**	P	P	18 22 34.7	-1.5
WRAB				IAmb	IAmb	18 22 35.4	
comp=Z,16nm,1.4s							
WRA	**Warramunga Arr**	**48.34**	**258**	P	P	18 22 35.4	-0.9
comp=Z,1.0nm,0.5s,baz=94,slow=7.7,SNR=19							
WRA				PcP	PcP	18 24 00.0	+0.2
comp=Z,1.9nm,1.0s,baz=95,slow=3.1,SNR=5.6							
comp=Z,1.0nm,0.5s							
AS31	**Alice Springs**	**48.56**	**253**	P	P	18 22 37.1	-0.9
ASAR	**Alice Springs**	**48.56**	**253**	P	P	18 22 37.4	-0.6
comp=Z,6.5nm,0.5s,baz=92,slow=7.6,SNR=167							
ASAR				PcP	PcP	18 24 00.7	0.0
comp=Z,1.1nm,0.8s,baz=86,slow=4.0,SNR=5.1							
comp=Z,6.5nm,0.5s							
FORT	**Forrest**	**53.81**	**244**	P	P	18 23 16.1	-0.8
KNRA	**Kununurra**	**54.11**	**262**	P	P	18 23 18.8	-0.4
FITZ	**Fitzroy Crossi**	**56.71**	**259**	P	P	18 23 38.0	+0.2
PSA00	**Pilbara Seismi**	**61.66**	**254**	P	P	18 24 11.6	-0.1
PSA00				IAmb	IAmb	18 24 39.1	
comp=Z,9.4nm,1.1s							
PSA00	**Pilbara Seismi**	**61.66**	**254**	P	P	18 24 11.6	-0.1
PSA00				IAmb	IAmb	18 24 52.0	
comp=Z,26nm,1.4s							
MBWA	**Marble Bar**	**61.82**	**254**	P	P	18 24 12.1	-0.6
MORW	**Morawa**	**64.29**	**245**	P	P	18 24 29.0	+0.1
MJAR	**Matsushiro Art**	**68.76**	**321**	P	P	18 24 57.4	+0.4
comp=Z,0.9nm,0.6s,baz=152,slow=6.5,SNR=2.9							
comp=Z,0.9nm,0.6s							
CASY	**Casey**	**69.04**	**205**	P	P	18 24 57.6	-0.6
JNU	**Nakatsue**	**71.44**	**314**	P	P	18 25 12.5	-0.8
KKM	**Kota Kinabalu**	**71.74**	**282**	P	P	18 25 16.0	+0.3
KKM				IAmb	IAmb	18 25 54.0	
comp=Z,18nm,1.1s							
PEA0B	**Petropavlovsk-**	**73.08**	**343**	P	P	18 25 22.3	-0.2
PETK	**Petropavlovsk-**	**73.08**	**343**	P	P	18 25 22.9	+0.4
comp=Z,4.3nm,0.9s,baz=151,slow=5.4,SNR=7.3							
comp=Z,4.3nm,0.9s							
QSPA	**South Pole Qui**	**73.75**	**180**	P	P	18 25 27.0	+0.4
comp=Z,1.6nm,0.6s,baz=60,slow=0.7,SNR=8.5							
comp=Z,1.6nm,0.6s							
SSLB	**Suanglung**	**74.31**	**301**	P	P	18 25 29.3	-1.1
SSLB				IAmb	IAmb	18 25 38.6	
comp=Z,24nm,1.4s							
TPUB	**Ta-pu**	**74.37**	**300**	P	P	18 25 29.7	-1.0
TPUB				IAmb	IAmb	18 25 36.8	
comp=Z,24nm,1.3s							
KSRS	**Korea Array**	**75.86**	**316**	P	P	18 25 41.3	+2.4
comp=Z,1.4nm,0.9s,baz=111,slow=3.7,SNR=4.2							
comp=Z,1

PDAR	**Pinedale Array**	**83.83**	**42**	P	**P**	**18 26 21.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=267,slow=6.7,SNR=1.8						
	comp=Z,0.2nm,0.5s						
F19K	**Shaleruckik Mo**	**83.84**	**7**	P	**P**	**18 26 21.3**	**+0.3**
L29M	**L29M**	**84.15**	**16**	P	**P**	**18 26 23.1**	**+0.3**
F20K	**Avaraart Lake**	**84.29**	**7**	P	**P**	**18 26 23.8**	**+0.5**
E19K	**Redstone River**	**84.50**	**7**	P	**P**	**18 26 25.0**	**+0.6**
D19K	**Kuna River**	**85.41**	**6**	P	**P**	**18 26 29.4**	**+0.5**
IPM	**Ipoh**	**85.67**	**276**	P	**P**	**18 26 31.2**	**-0.3**
IPM				IAmb	IAmb	18 26 33.3	
	comp=Z,7.6nm,1.0s						
BMAR	**Burnt Mountain**	**86.38**	**11**	P	**P**	**18 26 33.0**	**-0.7**
D23K	**Nanushuk River**	**86.76**	**8**	P	**P**	**18 26 35.6**	**+0.1**
SLVN	**Son La**	**88.02**	**293**	P	**P**	**18 26 43.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**91.62**	**289**	P	**P**	**18 26 59.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**91.62**	**289**	P	**P**	**18 27 01.2**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=100,slow=4.0,SNR=12						
	comp=Z,1.5nm,0.8s						
CHTO	**Chiang Mai**	**91.72**	**289**	P	**P**	**18 26 59.0**	**-0.9**
CHTO				IAmb	IAmb	18 27 02.1	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**110.49**	**314**	PKiKP	**PKiKP**	**18 32 21.9**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=48,slow=2.1,SNR=4.6						
BVAR	**Borovoye Array**	**117.75**	**322**	PKP	**PKPdf**	**18 32 36.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=91,slow=2.8,SNR=4.3						
BUR08	**Bucovina Ar. S**	**144.65**	**336**		**PKPab**	**18 33 26.0**	**-0.7**
BURAR	**Bucovina Array**	**144.67**	**336**	PKPdf	**PKPab**	**18 33 26.4**	**-0.3**
BR131	**Keskin Array S**	**145.97**	**319**		**PKPdf**	**18 33 29.3**	**-0.7**
BRTR	**Keskin Array B**	**145.97**	**319**	PKPdf	**PKPdf**	**18 33 28.8**	**-1.2**
BRTR				PKPbc	**PKPbc**	**18 33 31.1**	**0.0**
BRTR	**Keskin Array B**	**145.97**	**319**	PKPbc	**PKPdf**	**18 33 31.3**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=90,slow=2.9,SNR=8.1						
MLR	**Muntele Rosu**	**146.09**	**333**	PKPbc	**PKPdf**	**18 33 31.6**	**+1.6**
GERES	**GERESS Array B**	**146.80**	**350**	PKPbc	**PKPbc**	**18 33 33.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=11,slow=6.1,SNR=2.5						
MMAI	**Mount Meron Ar**	**148.06**	**307**	PKPbc	**PKPbc**	**18 33 38.3**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=69,slow=7.9,SNR=4.9						
FUORN	**Ofenpass-Fuorn**	**149.47**	**353**		**PKPdf**	**18 33 34.0**	**-1.7**
FUORN				PKPbc	**PKPbc**	**18 33 39.3**	**-1.0**
ESDC	**Sonseca Array**	**155.37**	**17**	PKPab	**PKPab**	**18 34 10.0**	**-0.6**
	comp=Z,1.3nm,1.3s,baz=299,slow=2.2,SNR=2.2						

NAO ***05*** *18:21:17.2±7.3, 79°.45N×2°.24E, ML3.2*
KOLA ***05*** *18:21:21.7, 79°.71N×4°.41E, h0km, ML2.3, Error ellipse: s-maj=86.2km s-min=24.3km az=20.0, Greenland sea, Knipovich ridge, north*
BER ***05*** *18:21:21.0±2.5, 79°.26N×2°.52E, h10km, mb(Pn)3.6, ML1.7(DNK), Confirmed Earthquake*
DNK ***05*** *18:21:23.7±3.6, 79°.18N×2°.91E, h36km±28km, ML1.7*
ISC 05 18:21:17.9±1.1, 79°.3N±0°.1×2°.38E±0°.04, h10km, n27, σ2°29/46, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.85**	**96**	Pn	**Pn**	**18 21 50.7**	**+1.1**
KBS				Sn	**Sn**	**18 22 10.1**	**-2.8**
KBS	**Kingsbay**	**1.85**	**96**	⇑*i*P	**Pn**	**18 21 50.8**	**+1.1**
KBS				*e*S	**Sn**	**18 22 10.2**	**-2.8**
KBS				IAML		18 22 14.1	
	comp=Z,39nm,0.3s						
KBS	**Kingsbay**	**1.85**	**96**	P	**Pn**	**18 21 50.4**	**+0.8**
KBS				S	**Sn**	**18 22 10.3**	**-2.7**
KBS	**Kingsbay**	**1.85**	**96**	*i* P	**Pn**	**18 21 50.7**	**+1.1**
KBS				*i* S	**Sn**	**18 22 10.3**	**-2.7**
BRBB	**Barentsburg B**	**2.61**	**111**	Pn	**Pn**	**18 22 02.2**	**+2.2**
BRBB				Sn	**Sn**	**18 22 30.9**	**-0.9**
BRBB	**Barentsburg B**	**2.61**	**111**	*e*P	**Pn**	**18 22 01.7**	**+1.6**
BRBB				*e*S	**Sn**	**18 22 30.5**	**-1.2**
BRBB	**Barentsburg B**	**2.61**	**111**	P	**Pn**	**18 22 01.3**	**+1.3**
BRBB				S	**Sn**	**18 22 31.1**	**-0.7**
BRBA	**Barentsburg A**	**2.63**	**112**	Pn	**Pn**	**18 22 02.0**	**+1.7**
BRBA				Sn	**Sn**	**18 22 31.6**	**-0.6**
BRBA	**Barentsburg A**	**2.63**	**112**	*e*P	**Pn**	**18 22 02.4**	**+2.0**
BRBA				*e*S	**Sn**	**18 22 31.6**	**-0.6**
BRBA				IAML		18 22 35.7	
	comp=Z,29nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.96**	**105**	Pn	**Pn**	**18 22 07.1**	**+2.3**
	baz=291,slow=7.9						
SPA0				Sn	**Sn**	**18 22 38.8**	**-1.4**
	baz=307,slow=14						
SPA0	**Spitsbergen Ar**	**2.96**	**105**	*e*P	**Pn**	**18 22 06.9**	**+2.2**
SPA0				IAML		18 22 44.9	
	comp=Z,25nm,0.5s						
SPITS	**Spitsbergen Ar**	**2.96**	**105**	P	**Pn**	**18 22 06.7**	**+1.9**
SPITS				S	**Sn**	**18 22 40.2**	**-0.1**
HSPB	**Hornsund (broa**	**3.54**	**123**	Pn	**Pn**	**18 22 15.0**	**+2.2**
HSPB				Sn	**Sn**	**18 22 54.6**	**+0.1**
HSPB	**Hornsund (broa**	**3.54**	**123**	*e*P	**Pn**	**18 22 14.7**	**+2.0**
HSPB				*e*S	**Sn**	**18 22 51.0**	**-3.5**
HSPB				IAML		18 22 57.3	
	comp=Z,9.7nm,0.4s						
NOR	**Nord**	**3.93**	**316**	*i* P	**Pn**	**18 22 19.8**	**+1.6**
NOR	**Nord**	**3.93**	**316**	*i* P	**Pn**	**18 22 19.8**	**+1.6**
DAG	**Danmarks Havn**	**5.02**	**251**	*i* P	**Pn**	**18 22 35.0**	**+1.9**
DAG				*i* S	**Sn**	**18 23 27.2**	**-3.9**
DAG				IAML		18 23 31.2	
	comp=Z,8.1nm,0.2s						
DAG	**Danmarks Havn**	**5.02**	**251**	*i* P	**Pn**	**18 22 35.0**	**+1.9**
DAG				*i* P	**Pn**	**18 22 35.0**	**+1.9**
DAG				*i* S	**Sn**	**18 23 27.2**	**-3.9**
DAG				IAML		18 23 31.2	
	comp=Z,8.1nm,0.2s						
HOPEN	**Hopen**	**5.47**	**109**	Pn	**Pn**	**18 22 40.6**	**+1.3**
HOPEN				Sn	**Sn**	**18 23 38.9**	**-3.3**
HOPEN	**Hopen**	**5.47**	**109**	*e*S	**Sn**	**18 23 39.0**	**-3.1**
DBG	**Daneborg**	**7.12**	**238**	Pn	**Pn**	**18 23 03.5**	**+1.7**
DBG				Sn	Sn	18 24 17.1	-5.5
DBG	**Daneborg**	**7.12**	**238**	*i* P	**Pn**	**18 23 03.8**	**+1.9**
DBG				*i* S	**Sn**	**18 24 17.6**	**-5.0**
DBG				IAML		18 24 22.0	
	comp=Z,1.5nm,0.4s						
DBG	**Daneborg**	**7.12**	**238**	*i* P	**Pn**	**18 23 03.8**	**+1.9**
DBG				*i* S	**Sn**	**18 24 17.6**	**-5.0**
DBG				IAML		18 24 22.0	
	comp=Z,1.5nm,0.4s						
NEEM	**North Greenlan**	**10.61**	**287**	*i* P	**Pn**	**18 23 50.6**	**+0.6**
NEEM				*i* S	Sn	18 25 40.9	-7.8
NEEM				IAML		18 25 43.4	
	comp=Z,1.7nm,0.2s						
NEEM	**North Greenlan**	**10.61**	**287**	*i* P	**Pn**	**18 23 50.6**	**+0.6**
NEEM				*i* S	Sn	18 25 40.9	-7.8
NEEM				IAML		18 25 43.4	
	comp=Z,1.7nm,0.2s						
SUMG	**Summit**	**11.66**	**257**	*i* P	**Pn**	**18 24 06.0**	**+1.6**
SUMG				*i* S	Sn	18 26 01.1	-14
SUMG				IAML		18 26 16.8	
	comp=Z,0.5nm,0.2s						
SUMG	**Summit**	**11.66**	**257**	*i* P	**Pn**	**18 24 06.0**	**+1.6**
SUMG				*i* S	Sn	18 26 01.1	-14
SUMG				IAML		18 26 16.8	
	comp=Z,0.5nm,0.2s						

IDC 05 18:42:50.2±2.1, 6°.04S×127°.66E, h0km, mb3.5/1, mbtmp3.3/3, ML2.8/2, Error ellipse: s-maj=319.9km s-min=31.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.27**	**155**	Pn	Pn	18 46 27.3	-0.1
	baz=333,slow=13,SNR=2.2						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**18.53**	**162**	P	P	18 47 08.4	-0.1
	baz=341,slow=12,SNR=5.5						
	0.4nm,0.9s						
SONM	**Songino Array**	**56.82**	**343**	P	P	18 52 36.5	-0.1
	0.5nm,0.8s,baz=145,slow=5.3,SNR=3.4						
	0.5nm,0.8s						

IDC ***05*** *18:57:11.6±3.4, 25°.35N×141°.05E, h48km±37km, mb3.6/6, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=48.9km s-min=16.4km az=92.0*
ISC 05 18:57:11.8±0.9, 25°.3N±0°.1×141°.0E±0°.2, h50km, n8, σ0°40/9, mb4.2/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.03**	**30**	P	**Pn**	**18 57 43.7**	**+0.1**
	29nm,0.3s,baz=273,slow=17,SNR=22						
JCJ				S	**Sn**	**18 58 07.6**	**-0.2**
	303nm,0.3s,baz=270,slow=20,SNR=7.3						
	83nm,0.3s						
WRA	**Warramunga Arr**	**45.48**	**189**	P	**P**	**19 05 26.8**	**+0.6**
	7.4nm,0.5s,baz=7.7,slow=8.1,SNR=79						
ASAR	**Alice Springs**	**49.20**	**189**	P	**P**	**19 05 54.5**	**-0.7**
	0.5nm,0.8s,baz=7.1,slow=5.9,SNR=12						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**53.54**	**315**	P	**P**	**19 06 27.2**	**-0.2**
	0.2nm,0.6s,baz=90,slow=7.6,SNR=5.1						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**56.90**	**179**	P	**P**	**19 06 51.6**	**0.0**
	2.9nm,1.0s,baz=9.5,slow=6.1,SNR=5.0						
	2.9nm,1.0s						
YKA	**Yellowknife Ar**	**74.17**	**28**	P	**P**	**19 08 42.9**	**+0.1**
	0.2nm,0.6s,baz=292,slow=6.4,SNR=2.3						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**79.06**	**334**	P	**P**	**19 09 10.7**	**+0.3**
	2.5nm,0.9s,baz=58,slow=5.0,SNR=12						
	2.5nm,0.9s						
HFS	**Hagfors**	**84.62**	**336**	P	**P**	**19 09 39.6**	**-0.1**
	3.6nm,1.0s,baz=49,slow=4.4,SNR=2.1						
	3.6nm,1.0s						

IDC ***05*** *19:11:16.7±2.6, 0°.34S×98°.36E, h0km, mb3.4/5, mbtmp3.3/6, ML2.5/1, Error ellipse: s-maj=95.1km s-min=22.7km az=61.0*
DJA ***05*** *19:11:22.7±1.0, 1°.5±3°.×9°.8E±°, h16km±9km, M3.4/7, MLv3.4/7*
ISC 05 19:11:22.0±0.9, 0°.36S±0°.05×98°.40E±0°.07, h32km, n21, σ2°02/16, mb3.4/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.18**	**144**	P	**Pn**	**19 11 42.2**	**-0.1**
SISI				S	**Sb**	**19 12 00.0**	**+1.2**
MNSI	**Mandailing Nat**	**1.65**	**46**	P	**Pb**	**19 11 52.0**	**+0.2**
MNSI				S	**Sb**	**19 12 17.3**	**+5.1**
GSI	**Gunungsitoli**	**1.85**	**334**	P	**Pb**	**19 11 56.1**	**+0.9**
GSI				S	**Sb**	**19 12 21.1**	**+3.2**
SBSI	**Sibolga**	**1.96**	**14**	P	**Pb**	**19 11 57.1**	**0.0**
PPI	**Padang Panjang**	**2.00**	**93**	P	**Pb**	**19 11 56.4**	**-1.3**
PPSI	**Pulau Pagai**	**2.88**	**146**	P	**Pn**	**19 12 06.6**	**+1.0**
PPSI				S	**Sn**	**19 12 39.6**	**+0.5**
PSI	**Prapat**	**3.19**	**9**	Pn	**Pn**	**19 12 07.0**	**-3.1**
	0.7nm,0.3s,baz=183,slow=15,SNR=1.6						
	1.6nm,0.3s						
H08S2	**Diego Garcia H**	**26.82**	**254**	T	T	19 44 33.2	
	baz=75,slow=75,SNR=96						
H08S3	**Diego Garcia H**	**26.82**	**254**	T	T	19 44 28.7	
	baz=75,slow=75,SNR=138						
H08S1	**Diego Carcia H**	**26.84**	**254**	T	T	19 44 29.8	
	baz=75,slow=75,SNR=78						
WRA	**Warramunga Arr**	**40.20**	**121**	P	**P**	**19 18 55.2**	**-0.6**
	0.4nm,0.8s,baz=298,slow=7.4,SNR=1.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**41.51**	**127**	P	**P**	**19 19 06.5**	**0.0**
	0.6nm,0.9s,baz=297,slow=7.5,SNR=5.4						
	0.6nm,0.9s						
SONM	**Songino Array**	**48.51**	**7**	P	**P**	**19 20 01.1**	**-0.9**
	0.2nm,0.5s,baz=191,slow=8.5,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**49.04**	**345**	P	**P**	**19 20 05.5**	**-0.5**
	0.5nm,0.8s,baz=155,slow=8.6,SNR=5.7						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**55.29**	**350**	P	**P**	**19 20 51.2**	**-1.0**
	0.2nm,0.3s,baz=175,slow=6.8,SNR=4.4						
	0.2nm,0.3s						
H04N2	**CROZET ISLANDS**	**61.18**	**215**	T	T	20 27 46.4	
	baz=55,slow=75,SNR=51						
H04N1	**CROZET ISLANDS**	**61.19**	**215**	T	T	20 27 42.8	
	baz=55,slow=75,SNR=64						
H04N3	**CROZET ISLANDS**	**61.20**	**215**	T	T	20 27 41.7	
	baz=55,slow=75,SNR=21						
H04S1	**CROZET ISLANDS**	**61.49**	**215**	T	T	20 28 05.1	
	baz=54,slow=74						
H04S3	**CROZET ISLANDS**	**61.51**	**215**	T	T	20 28 03.3	
	baz=54,slow=74						
H04S2	**CROZET ISLANDS**	**61.51**	**215**	T	T	20 28 04.1	
	baz=54						

IDC ***05*** *19:19:51.7±0.6, 40°.69N×48°.48E, h0km, mb4.2/24, mbtmp4.2/37, ML3.8/10, MS3.7/7, Error ellipse: s-maj=12.2km s-min=7.4km az=175.0*
MOS ***05*** *19:19:51.5±1.3, 40°.60N×48°.72E, h10km, mb4.6/23, Error ellipse: s-maj=4.9km s-min=2.8km az=133.2*
NEIC ***05*** *19:19:53.8±2.0, 40°.90N±0°.07×48°.59E±0°.08, h10km±1km, mb4.6/113, Error ellipse: s-maj=12.2km s-min=10.3km az=164.0*
AZER ***05*** *19:19:54.6, 40°.77N×48°.50E, h11km, ml4.4, Mw4.6*
NNC ***05*** *19:19:55.3±3.2, 41°.00N×48°.76E, h0km, mb4.4, Error ellipse: s-maj=55.2km s-min=20.3km az=100.0*
TEH ***05*** *19:19:55.2, 40°.75N×48°.50E, h20km±64km*
TIF ***05*** *19:19:55.2, 40°.76N×48°.48E, h19km±1km*
DRS ***05*** *19:19:55.7, 40°.73N×48°.56E, h60km*
ISC 05 19:19:54.0±0.3, 40°.77N±0°.01×48°.50E±0°.02, h15km, n593, σ1°84/670, mb4.5/100, 51C-37D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.08**	**75**	Pg	**Pg**	**19 19 58.5**	**+1.3**
PQL	**Pirkuli**	**0.08**	**75**	P	**Pg**	**19 19 58.6**	**+1.3**
PQL				S	**Sg**	**19 20 01.6**	**+2.3**
IML	**Ismayilli**	**0.24**	**276**	Pg	**Pb**	**19 20 01.2**	**+1.2**
IML	**Ismayilli**	**0.24**	**276**	P	**Pb**	**19 20 01.2**	**+1.2**
IML				S	**Sb**	**19 20 06.8**	**+2.7**
ATGJ	**Altiaghaj**	**0.35**	**74**	Pg	**Pb**	**19 20 03.2**	**+1.3**
ATGJ	**Altiaghaj**	**0.35**	**74**	P	**Pb**	**19 20 03.3**	**+1.3**
ATGJ				S	**Sn**	**19 20 09.3**	**-2.1**
GBS	**Qobustan**	**0.41**	**124**	Pg	**Pn**	**19 20 04.6**	**-0.8**
GBS	**Qobustan**	**0.41**	**124**	P	**Pn**	**19 20 04.7**	**-0.7**
GBS				S	**Sn**	**19 20 12.7**	**-0.2**
SIZA	**Siyzn**	**0.43**	**45**	Pg	**Pn**	**19 20 05.1**	**-0.6**
SIZA	**Siyzn**	**0.43**	**45**	P	**Pn**	**19 20 05.2**	**-0.6**
SIZA				S	**Sn**	**19 20 13.3**	**-0.1**
KDMR	**Kurdemir**	**0.46**	**211**	Pg	**Pn**	**19 20 05.1**	**-0.8**
KDMR	**Kurdemir**	**0.46**	**211**	P	**Pn**	**19 20 05.2**	**-0.8**
KDMR				S	**Sn**	**19 20 14.2**	**+0.3**
XNQ	**Khinaliq**	**0.48**	**326**	Pg	**Pb**	**19 20 05.5**	**+1.2**
XNQ	**Khinaliq**	**0.48**	**326**	P	**Pb**	**19 20 05.5**	**+1.2**
XNQ				S	**Sb**	**19 20 13.3**	**+1.9**
QBL	**Gabala**	**0.53**	**290**	Pg	**Pb**	**19 20 06.2**	**+1.2**
QBL	**Gabala**	**0.53**	**290**	P	**Pb**	**19 20 06.2**	**+1.2**
QBL				S	**Sn**	**19 20 15.3**	**-0.5**
QUBA	**Quba, Azerbaij**	**0.59**	**360**	P	**Pn**	**19 20 08.6**	**+0.8**
QUBA				S	**Sn**	**19 20 18.6**	**+1.4**
QSAR	**Qusar**	**0.77**	**347**	P	**Pn**	**19 20 11.4**	**+1.1**
QSAR				S	**Sn**	**19 20 23.0**	**+1.4**
ZRD	**Zardab**	**0.79**	**232**	P	**Pn**	**19 20 11.4**	**+0.9**
ZRD				S	**Sn**	**19 20 25.0**	**+3.0**
KSMR	**Kasumkent**	**0.88**	**342**	*i* Pg	**Pn**	**19 20 13.3**	**+1.4**
	3μm,0.8s						
KSMR				*e*Sg	**Sn**	**19 20 27.4**	**+3.0**
	33μm,0.3s						
KSMR	**Kasumkent**	**0.88**	**342**	⇓*i*PG	**Pn**	**19 20 13.3**	**+1.4**
KSMR				*e*S	**Sn**	**19 20 27.4**	**+3.0**
KSMR				pmax	pmax		
	comp=Z,3μm,0.8s						
ALIB	**&Aumlli-Bayram**	**0.90**	**154**	P	**Pn**	**19 20 14.3**	**+2.3**
ALIB				S	**Sn**	**19 20 28.3**	**+3.5**
SAAT	**Saatly**	**0.91**	**184**	P	**Pn**	**19 20 12.6**	**+0.5**
SAAT				S	**Sn**	**19 20 27.5**	**+2.5**
AKT	**Akhty**	**0.92**	**321**	*i* Pg	**Pn**	**19 20 13.5**	**+1.1**
	comp=Z,2μm,0.4s						
AKT				*e*Sg	**Sn**	**19 20 27.7**	**+2.2**
	comp=Z,11μm,0.3s						
AKT	**Akhty**	**0.92**	**321**	⇓*i*PG	**Pn**	**19 20 13.5**	**+1.1**
AKT				*e*S	**Sn**	**19 20 27.6**	**+2.2**
AKT				pmax	pmax		
	comp=Z,2μm,0.4s						
GOBA	**Gobu**	**1.01**	**111**	P	**Pn**	**19 20 17.3**	**+3.7**
GOBA				S	**Sn**	**19 20 30.6**	**+3.1**
MNGR	**Mingechevir, A**	**1.07**	**271**	P	**Pg**	**19 20 16.1**	**+1.5**
MNGR				S	**Sn**	**19 20 33.0**	**+4.0**
MNGR	**Mingechevir, A**	**1.07**	**271**	PG	**Pg**	**19 20 16.1**	**+1.5**
SEKA	**Sheki**	**1.08**	**295**	P	**Pn**	**19 20 15.1**	**+0.4**
SEKA				S	**Sn**	**19 20 31.5**	**+2.2**
SEKA	**Sheki**	**1.08**	**295**	PG	**Pn**	**19 20 15.0**	**+0.4**
BRDA	**Brd**	**1.12**	**244**	P	**Pg**	**19 20 17.4**	**+1.8**
BRDA				S	**Sg**	**19 20 35.7**	**+5.4**
NDR	**Nardaran**	**1.15**	**99**	P	**Pg**	**19 20 19.2**	**+3.0**
NDR				S	**Sg**	**19 20 36.2**	**+5.1**
AGDM	**Agdam**	**1.25**	**239**	P	**Pg**	**19 20 18.5**	**+0.5**
AGDM				S	**Sg**	**19 20 37.2**	**+3.0**
DRN	**Derbent**	**1.27**	**354**	*i* Pg	**Pg**	**19 20 20.0**	**+1.6**
	comp=Z,3μm,0.2s						
DRN				*e*Sg	**Sg**	**19 20 38.0**	**+3.1**
	comp=Z,8μm,0.3s						
DRN	**Derbent**	**1.27**	**354**	⇑*i*PG	**Pg**	**19 20 20.0**	**+1.6**
DRN				*e*S	**Sg**	**19 20 37.9**	**+3.1**
DRN				pmax	pmax		
	comp=Z,3μm,0.2s						
BLQ	**Beylaqan**	**1.27**	**215**	P	**Pb**	**19 20 18.1**	**+0.5**
BLQ				S	**Sg**	**19 20 36.1**	**+1.2**
GLBA	**Clilabad**	**1.53**	**183**	Pg	**Pb**	**19 20 21.8**	**-0.2**
GLBA				Sn	**Sg**	**19 20 42.7**	**-0.4**
URKR	**Urkarakh**	**1.54**	**335**	*e*Pg	**Pg**	**19 20 24.8**	**+1.2**
	comp=Z,1μm,0.4s						
URKR				*e*Sg	**Sg**	**19 20 47.0**	**+3.3**
	comp=Z,2μm,0.3s						
URKR	**Urkarakh**	**1.54**	**335**	*e*PN	**Pg**	**19 20 24.7**	**+1.2**
URKR				*e*S	**Sg**	**19 20 46.9**	**+3.3**
URKR				pmax	pmax		
	comp=Z,1μm,0.4s						
QRD	**Qoradiz**	**1.59**	**215**	Pg	**Pb**	**19 20 22.5**	**-0.5**
QRD				Sn	**Sg**	**19 20 44.6**	**-0.4**
VSHL	**Vashlovani**	**1.65**	**287**	P	**Pg**	**19 20 25.6**	**-0.1**
VSHL				S	**Sg**	**19 20 50.9**	**+3.7**
GANJ	**Ganja**	**1.66**	**266**	Pn	**Pn**	**19 20 23.3**	**+0.8**
GANJ				Sn	**Sb**	**19 20 46.2**	**+1.3**
GANJ	**Ganja**	**1.66**	**266**	PN	**Pn**	**19 20 23.3**	**+0.8**
ZKTA	**Zakatala**	**1.66**	**302**	Pn	**Pb**	**19 20 25.2**	**+1.0**
ZKTA				Sn	**Sg**	**19 20 49.5**	**+2.1**
KMKR	**Kumukh**	**1.72**	**323**	*i* Pg	**Pg**	**19 20 28.4**	**+1.4**
	comp=Z,1μm,0.5s						
KMKR				*e*Sg	**Sg**	**19 20 53.3**	**+3.9**
	comp=Z,3μm,0.7s						
KMKR	**Kumukh**	**1.72**	**323**	⇑*i*PN	**Pg**	**19 20 28.4**	**+1.4**
KMKR				*e*S	**Sg**	**19 20 53.2**	**+3.9**
KMKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SGKR	**Sergokala**	**1.80**	**340**	*e*Pg	**Pg**	**19 20 28.8**	**+0.2**
	comp=Z,827nm,0.4s						
SGKR				*e*Sg	**Sg**	**19 20 54.6**	**+2.6**
	comp=Z,2μm,0.7s						
SGKR	**Sergokala**	**1.80**	**340**	*e*PN	**Pg**	**19 20 28.7**	**+0.2**
SGKR				pmax	pmax		
	comp=Z,827nm,0.4s						
YRD	**Yardimli**	**1.86**	**186**	Pn	**Pn**	**19 20 26.4**	**+0.9**
YRD				Sn	**Sb**	**19 20 51.3**	**+0.3**
GNBR	**Gunib**	**1.98**	**325**	*i* Pg	**Pg**	**19 20 32.0**	**-0.1**
	comp=Z,899nm,0.8s						
GNBR				*e*Sg	**Sg**	**19 20 59.5**	**+1.6**
	comp=Z,2μm,0.8s						
GNBR	**Gunib**	**1.98**	**325**	⇑*i*PN	**Pg**	**19 20 31.9**	**-0.1**
GNBR				*e*S	**Sg**	**19 20 59.4**	**+1.6**
GNBR				pmax	pmax		
	comp=Z,899nm,0.8s						
LGD	**Lagodekhi**	**2.00**	**303**	P	**Pb**	**19 20 30.8**	**+0.7**
LGD				S	**Sg**	**19 21 01.6**	**+3.1**
LGD	**Lagodekhi**	**2.00**	**303**	PN	**Pb**	**19 20 30.8**	**+0.7**
LGD				S	**Sg**	**19 21 01.6**	**+3.1**
GRMI	**Germi**	**2.01**	**194**	Pn	**Pn**	**19 20 28.7**	**+1.2**
LKRN	**Lenkeran, Azer**	**2.07**	**174**	Pn	**Pn**	**19 20 29.0**	**+0.9**
LKRN				Sn	**Sb**	**19 20 57.6**	**+1.0**
LKRN	**Lenkeran, Azer**	**2.07**	**174**	PN	**Pn**	**19 20 29.0**	**+0.9**
GDB	**GEDABAY**	**2.08**	**270**	Pg	**Pn**	**19 20 29.4**	**+0.9**
GDB				Sn	**Sb**	**19 20 57.4**	**+0.1**
LRK	**Lerik**	**2.13**	**183**	Pg	**Pn**	**19 20 30.1**	**+1.0**
LRK				Sn	**Sb**	**19 20 58.6**	**0.0**
ARKR	**Arakani**	**2.15**	**329**	*i* Pg	**Pb**	**19 20 34.3**	**+1.7**
	comp=Z,513nm,0.6s						
ARKR				*e*Sg	**Sg**	**19 21 03.7**	**+0.6**
	comp=Z,919nm,0.6s						
ARKR	**Arakani**	**2.15**	**329**	⇑*i*PN	**Pb**	**19 20 34.3**	**+1.7**
ARKR				*e*S	**Sg**	**19 21 03.7**	**+0.6**
ARKR				pmax	pmax		
	comp=Z,513nm,0.6s						
ASTR	**Astara**	**2.22**	**174**	Pn	**Pn**	**19 20 31.0**	**+0.8**
ASTR				Sn	**Sb**	**19 21 01.5**	**+0.5**
XNZR	**Khunzakh**	**2.22**	**323**	*i* Pn	**Pb**	**19 20 35.4**	**+1.5**
	comp=Z,461nm,0.6s						
XNZR				*e*Sn	**Sg**	**19 21 06.5**	**+1.1**
	comp=Z,507nm,0.9s						
HNZR	**Khunzah**	**2.23**	**324**	⇑*i*PN	**Pb**	**19 20 35.4**	**+1.3**
HNZR				*e*S	**Sg**	**19 21 06.5**	**+0.8**
HNZR				pmax	pmax		
	comp=Z,461nm,0.6s						
BUJR	**Buynaksk**	**2.30**	**334**	PN	**Pb**	**19 20 36.5**	**+1.3**
BUJR				S	**Sg**	**19 21 09.3

GNI Garni 2.93 259 Pn **Pn** 19 20 42.2 +2.1
GNI Sn **Sb** 19 21 21.2 -0.5
GNI Garni 2.93 259 Pn **Pn** 19 20 42.8 +2.6
comp=Z,7.6nm,0.3s,baz=91,slow=4.4,SNR=33
GNI Lg Lg 19 21 23.7
comp=Z,22nm,0.3s,baz=145,slow=23,SNR=3.0
GNI LR LR 19 22 12.3
comp=Z,998nm,19.0s,baz=70,slow=48
comp=Z,26nm,0.4s
GNI Garni 2.93 259 P **Pb** 19 20 48.1 +2.1
GNI S **Sg** 19 21 26.4 -1.7
GNI Garni 2.93 259 PN **Pn** 19 20 42.2 +2.1
GNI 19 21 21.2
GNI Garni 2.93 259 P **Pn** 19 20 42.2 +2.1
BTNK Botanikuri 2.93 289 PN **Pn** 19 20 43.2 +3.1
BTNK S **Sg** 19 21 25.9 -2.3
SEAG Tbilisi Sea 2.96 291 P **Pb** 19 20 44.0 -2.4
SEAG Tbilisi Sea 2.96 291 PN **Pb** 19 20 44.0 -2.4
IMRD Marand 2.98 227 Pn **Pn** 19 20 43.2 +2.4
HYR Heyderabad 2.98 251 Pn **Pn** 19 20 44.1 +3.4
HYR Sn **Sb** 19 21 20.8 -2.2
TBLG Delisi 2.99 290 P **Pn** 19 20 44.1 +3.2
TBLG Delisi 2.99 290 PN **Pn** 19 20 44.1 +3.2
ISRB Sarab 3.01 193 Pn **Pn** 19 20 43.2 +2.0
CHRG Chargali 3.10 301 P **Pn** 19 20 45.7 +3.3
ITBZ Tabriz 3.12 216 Pn **Pn** 19 20 44.3 +1.6
GROC Groznyy 3.16 321 *i* Pn **Pb** 19 20 48.0 -1.8
comp=Z,328nm,0.9s
GROC Groznyy 3.16 321 PN **Pb** 19 20 47.9 -1.8
GROC S **Sb** 19 21 28.3 +0.3
KZRT Kazreti 3.16 283 P **Pn** 19 20 45.5 +2.4
KZRT Kazreti 3.16 283 PN **Pn** 19 20 45.6 +2.4
MAKU Maku 3.25 245 Pn **Pn** 19 20 47.2 +2.7
ISHB Shabestar 3.33 223 Pn **Pn** 19 20 47.3 +1.6
TRLG Trialeti 3.41 284 P **Pn** 19 20 49.1 +2.4
TRLG Trialeti 3.41 284 PN **Pn** 19 20 49.1 +2.4
MTEO Meteo 3.53 304 P **Pn** 19 20 52.8 +4.2
MTEO Meteo 3.53 304 PN **Pn** 19 20 52.8 +4.2
IHSH Hashtrud 3.59 196 Pn **Pn** 19 20 51.1 +1.8
IAZR Azarshahr 3.65 213 Pn **Pn** 19 20 52.2 +2.0
LHJ2 Lahijan - Gila 3.80 161 Pn **Pn** 19 20 51.4 -0.6
ALIG Mtskhetisjvari 3.88 292 PN **Pn** 19 20 55.9 +2.8
KARS Kars 4.12 270 Pn **Pn** 19 20 57.0 +0.5
KARS Sn **Sn** 19 21 47.0 +2.6
KARS Kars 4.12 270 PN **Pn** 19 20 58.0 +1.5
GARIG Gari 4.19 298 P **Pn** 19 21 01.1 +3.7
DIGR Digorskoe uzhe 4.25 302 PN Pn 19 21 03.5 +5.2
DIGR S **Sb** 19 21 58.2 -1.3
TKB Tkibuli 4.42 293 P **Pn** 19 21 03.7 +3.2
TKB Tkibuli 4.42 293 PN **Pn** 19 21 03.7 +3.2
NCK Nalchik 4.55 308 *i* PN **Pn** 19 21 03.3 +1.0
MAHB Mahabad 4.55 210 Pn **Pn** 19 21 03.9 +1.5
IGZV Ghazvin 4.58 162 Pn **Pn** 19 21 04.0 +1.1
KLST Kelardasht - M 4.69 154 Pn **Pn** 19 21 04.0 -0.5
GEVA Gevas 4.87 241 **Pn** 19 21 08.4 +1.6
MZPU Pul - Mazandar 4.95 150 Pn **Pn** 19 21 07.9 0.0
NEUR Neytrino 4.98 302 *e*PN **Pn** 19 21 06.7 -1.7
KBZ Khabaz 5.10 307 Pn **Pn** 19 21 13.1 +3.3
comp=Z,4.9nm,0.8s,baz=128,slow=12,SNR=4.3
KBZ Lg Lg 19 22 33.1
comp=Z,1.0nm,0.3s,baz=61,slow=4.5,SNR=4.1
KBZ LR LR 19 23 54.8
comp=Z,752nm,18.6s,baz=125,slow=47
KBZ Khabaz 5.10 307⇓*e*PN **Pn** 19 21 11.7 +1.9
QABG Abgarm-Qazvin 5.12 170 Pn **Pn** 19 21 10.9 +0.5
BCA Borcka 5.24 280 ⇑P Pb 19 21 19.5 -5.7
SHA1 Shidzhatmaz 5.25 306⇓*e*P **Pn** 19 21 15.5 +3.4
HGHA Hamedan- Ghaye 5.28 177 Pn **Pn** 19 21 14.5 +1.9
KVAR Kislovodsk Arr 5.35 308 Pn **Pn** 19 21 16.7 +3.4
baz=48,slow=23
KVAR Sn **Sn** 19 22 19.9 +5.3
baz=242,slow=22
comp=Z,2.3nm,0.4s
KIV Kislovodsk 5.35 308 Pn **Pn** 19 21 13.2 -0.2
KIV Kislovodsk 5.35 308 P Pb 19 21 22.2 -5.0
KIV Kislovodsk 5.35 308 ⇑P **Pn** 19 21 16.7 +3.4
KIV Kislovodsk 5.35 308 *e*P **Pn** 19 21 16.1 +2.7
KIV *e*S **Sn** 19 22 17.7 +2.9
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,224nm,10.0s
KIV Kislovodsk 5.35 308 P **Pn** 19 21 14.5 +1.1
IMHD Mahdasht 5.36 161 Pn **Pn** 19 21 14.2 +0.7
IPRN Peran 5.43 145 Pn **Pn** 19 21 14.5 0.0
GURO Guroymak-BITLI 5.46 248 **Pn** 19 21 17.1 +2.2
IRAZ Razeghan 5.47 168 Pn **Pn** 19 21 16.0 +0.9
SIRT Sirnak 5.73 237 Pn **Pn** 19 21 21.2 +2.7
IHSB Hasanabad 5.75 157 Pn **Pn** 19 21 21.0 +2.1
GOF Gofitskoye 5.87 319 *ce*P **Pn** 19 21 22.5 +2.2
GOF *e*S **Sn** 19 22 31.5 +4.3
IDMV Damavand 5.88 151 Pn **Pn** 19 21 22.9 +2.0
HAGD Aghdareh 5.96 175 Pn **Pn** 19 21 23.9 +2.0
IFIR Firoozkooh 6.12 145 Pn **Pn** 19 21 25.8 +1.7
KOPT Kop Dagi 6.15 266 **Pn** 19 21 26.6 +2.0
IQOM Qom 6.26 160 Pn **Pn** 19 21 27.4 +1.4
IVRN Varamin 6.30 155 Pn **Pn** 19 21 28.4 +2.0
VSLR Vesyoloye 6.84 296 *ce*P Pn 19 21 39.7 +5.9
VSLR pmax pmax
comp=Z,11nm,0.9s
LABN Labinsk 6.91 307 *e*P **Pn** 19 21 31.1 -3.5
LABN pmax pmax
comp=Z,8.0nm,0.3s
MARD Mardin 6.93 243 Pn **Pn** 19 21 38.8 +3.7
ISFB Sefidab 7.06 154 Pn **Pn** 19 21 38.5 +1.6
SOC Sochi 7.10 296 *e*P **Pn** 19 21 38.3 +1.0
SOC *e* 19 23 01.0
SOC MLR MLR
comp=Z,204nm,14.0s
ERBR Yeremizino-Bor 7.66 313 *e*P **Pn** 19 21 43.3 -1.6
ERBR *e*S **Sn** 19 23 10.9 -0.4
ERBR pmax pmax
comp=Z,10.0nm,0.9s
ERBR MLR MLR
comp=Z,358nm,9.0s
ANN Anapa 9.08 300 *e*P **Pn** 19 22 07.9 +3.6
ANN pmax pmax
comp=Z,25nm,1.2s
TOKA Tokat 9.16 271 Pn **Pn** 19 22 08.8 +3.2
GAZ Gaziantep 9.49 251 Pn **Pn** 19 22 14.4 +4.2
BNN Bunyan 9.92 263 Pn **Pn** 19 22 19.2 +3.1
BZK Bozkurt 10.96 281 Pn **Pn** 19 22 32.4 +2.2
ILGA Ilgaz 11.19 276 Pn **Pn** 19 22 35.5 +2.0
BR131 Keskin Array S 11.40 270 Pn **Pn** 19 22 38.6 +2.2
BR131 Keskin Array S 11.40 270 P **Pn** 19 22 38.6 +2.2
BRTR Keskin Array B 11.40 270 **Pn** 19 22 38.9 +2.5
BRTR Keskin Array B 11.40 270 Pn Pn 19 22 41.5 +5.1
comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=15
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 11.40 270 P **Pn** 19 22 38.9 +2.5
BR104 Keskin Array S 11.41 269 P Pn 19 22 41.3 +4.9
comp=Z,5.8nm,1.1s
BR106 Keskin Array S 11.42 270 P Pn 19 22 41.5 +4.9
comp=Z,3.9nm,0.9s
BR105 Keskin Array S 11.42 270 P Pn 19 22 42.1 +5.4
comp=Z,4.8nm,1.1s
VRH Novokhopyorsk 11.44 338 *e*P **Pn** 19 22 35.2 -1.5
VRH pmax pmax
comp=Z,10.0nm,0.9s
BELG Belogornoye 11.64 357 Pn **Pn** 19 22 38.7 -0.7
comp=Z,13nm,0.4s,baz=176,slow=2.6,SNR=24
BELG Sn **Sn** 19 24 40.9 -8.2
comp=Z,0.3nm,0.3s,baz=140,slow=16,SNR=2.0
BELG LR LR 19 29 17.8
comp=Z,396nm,18.3s,baz=158,slow=48
AB31 Akbulak array 11.72 40 P **Pn** 19 22 38.5 -2.0
comp=Z,3.2nm,0.5s,baz=220,slow=12,SNR=69
AB31 ⇑S **Sn** 19 24 49.4 -1.6
comp=Z,13nm,0.9s,baz=218,slow=23,SNR=4.4
AB31 Akbulak array 11.72 40 P **Pn** 19 22 38.6 -2.0
AB31 S **Sn** 19 24 49.4 -1.6
ABKAR Akbulak array 11.72 40 Pn **Pn** 19 22 38.8 -1.7
ABKAR Akbulak array 11.72 40 **Pn** 19 22 38.6 -1.9
AKTO Aktyubinsk 11.73 31 Pn **Pn** 19 22 40.2 -0.5
comp=Z,0.6nm,0.3s,baz=208,slow=10,SNR=14
AKTO Sn **Sn** 19 24 43.1 -8.2
comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=1.2
AKTO LR LR 19 28 23.6
comp=Z,383nm,18.7s,baz=246,slow=43
comp=Z,3.1nm,0.5s
AKTO Aktyubinsk 11.73 31 ⇓P **Pn** 19 22 41.7 +1.0
comp=Z,4.9nm,0.5s
AKTO ⇑S **Sn** 19 24 47.8 -3.5
comp=Z,24nm,1.2s
AKTO Aktyubinsk 11.73 31 P **Pn** 19 22 41.7 +1.0
AKTO S **Sn** 19 24 49.4 -1.9
ANTO Ankara 12.02 271 Pn **Pn** 19 22 45.0 +0.2
ANTO Ankara 12.02 271 P **Pn** 19 22 45.0 +0.2
VSR Storozhevoye 12.29 331 *e*P **Pn** 19 22 47.4 -0.8
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORR Voronezh 12.65 333 *e*P **Pn** 19 22 50.2 -3.0
VORR pmax pmax
comp=Z,20nm,1.0s
ASF Jabal al Asfar 12.67 231 Sn **Sn** 19 25 15.8 +1.3
comp=Z,0.2nm,0.3s,baz=334,slow=19,SNR=1.3
ASF LR LR 19 28 17.6
comp=Z,121nm,20.6s,baz=63,slow=40
MMAI Mount Meron Ar 13.02 238 LR LR 19 28 53.3
comp=Z,273nm,18.3s,baz=22,slow=42
LPSR Galich'ya Gora 13.52 334 *e*P **Pn** 19 23 03.0 -2.1
LPSR pmax pmax
comp=Z,60nm,0.8s
GHAJ Ghor Haditha 14.08 232 **Pn** 19 23 14.7 +1.9
ELL Elmali 15.04 261 **Pn** 19 23 27.8 +1.7
ELL Elmali 15.04 261 P **Pn** 19 23 27.8 +1.7
ELL pmax pmax
comp=Z,108nm,1.3s
TLCR 15.06 294 ⇑P **P** 19 23 30.3 -1.1
TLCR 15.06 294 ⇑P **P** 19 23 30.3 -1.1
TIRR Tirgusor 15.23 291 Pn **Pn** 19 23 30.0 +1.6
TIRR IAmb IAmb 19 23 46.0
comp=Z,36nm,1.2s
TIRR Tirgusor 15.23 291 ⇓P **P** 19 23 34.4 +1.1
TIRR Tirgusor 15.23 291 P **Pn** 19 23 30.0 +1.6
TIRR pmax pmax
comp=Z,36nm,1.2s
TPGR Topolog 15.28 292 ⇑P **P** 19 23 34.7 +0.8
MILM Milestii Mici 15.46 300 ⇓P **P** 19 23 35.3 -0.5
MILM Milestii Mici 15.46 300 ⇓P **P** 19 23 35.3 -0.5
TLBR Topalu 15.51 291 ⇓P **P** 19 23 38.4 +2.1
CFR Carcaliu 15.53 293 ⇑P **P** 19 23 37.4 +0.8
CFR Carcaliu 15.53 293 ⇑P **P** 19 23 37.4 +0.8
HARR Harsova 15.61 291 ⇓P **P** 19 23 39.0 +1.6
HARR Harsova 15.61 291 ⇓P **P** 19 23 39.0 +1.6
SIMJ Simiganj 15.93 91 **Pn** 19 23 37.9 +0.3
SHME Shamm 16.00 154 P **Pn** 19 23 38.3 -0.1
SORM Soroca 16.13 304 ⇓P **P** 19 23 43.2 0.0
SORM Soroca 16.13 304 ⇓P **P** 19 23 43.2 0.0
TRNA Turayna 16.15 171 P **P** 19 23 42.9 -0.6
BANOM Banah 16.16 154 P **Pn** 19 23 40.7 0.0
GHRR 16.19 296 P **P** 19 23 43.2 -0.7
JRN Qarnain Island 16.20 166 P **P** 19 23 42.9 -1.2
OBN Obninsk 16.39 335 **Pn** 19 23 40.2 -3.0
OBN IAmb IAmb 19 23 55.6
comp=Z,25nm,0.8s
OBN Obninsk 16.39 335 Pn **Pn** 19 23 40.9 -2.4
comp=Z,0.9nm,0.3s,baz=310,slow=17,SNR=4.7
OBN LR LR 19 30 56.8
comp=Z,365nm,18.9s,baz=157,slow=40
comp=Z,19nm,0.8s
OBN Obninsk 16.39 335 ⇑P **Pn** 19 23 41.4 -1.9
OBN Obninsk 16.39 335 *de*P **Pn** 19 23 41.0 -2.3
OBN *e*S **Sn** 19 26 40.2 -4.5
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,353nm,18.0s
KK31 Karatay Array 16.54 75 **Pn** 19 23 42.4 -3.0
KK31 Karatay Array 16.54 75 ⇑P **P** 19 23 48.3 +0.4
comp=Z,8.1nm,0.6s,baz=269,slow=12,SNR=15
KK31 Karatay Array 16.54 75 P **Pn** 19 23 42.4 -3.0
KK31 pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 16.54 75 **Pn** 19 23 42.4 -3.0
KKAR Karatay Array 16.54 75 **Pn** 19 23 42.3 -3.0
KKAR Karatay Array 16.54 75 P **Pn** 19 23 42.3 -3.0
KKAR pmax pmax
comp=Z,11nm,1.0s
BISRR Bisoca 16.58 294 ⇑P **P** 19 23 50.5 +2.1
BISRR Bisoca 16.58 294 P **P** 19 23 48.2 -0.2
comp=Z,111nm,1.1s
SPBR Spulber 16.59 295 ⇑P **P** 19 23 49.0 +0.6
AK09 Malin Array Si 16.60 313 P **Pn** 19 23 44.5 -1.5
MOS Moscow 16.60 338 *e*P **Pn** 19 23 43.2 -2.8
MOS *e*S **Sn** 19 26 47.9 -2.0
MOS pmax pmax
comp=Z,110nm,1.0s
MOS pmax pmax
comp=Z,200nm,1.1s
AK10 Malin Array Si 16.61 313 P **Pn** 19 23 45.1 -1.0
AK07 Malin Array Si 16.61 313 P **Pn** 19 23 45.1 -1.0
VRI Vrincioaia 16.62 295 ⇑P **P** 19 23 49.0 +0.2
VRI Vrincioaia 16.62 295 ⇑P **P** 19 23 49.0 +0.2
AK08 Malin Array Si 16.63 313 P **Pn** 19 23 44.9 -1.4
MASF Masafi 16.63 155 P **P** 19 23 48.4 -0.6
ISR Istrita 16.64 292 ⇓P **P** 19 23 50.9 +2.0
ISR Istrita 16.64 292 ⇓P **P** 19 23 50.9 +2.0
MSFE Esma-Masafi 16.64 155 *i* P **Pn** 19 23 47.4 +0.7
SNR=7.6
PLOR Plostina 16.68 295 ⇓P **P** 19 23 51.2 +1.9
PLOR Plostina 16.68 295 ⇓P **P** 19 23 51.2 +1.9
AKASG Malin Array Be 16.68 313 **Pn** 19 23 45.2 -1.7
AKASG Malin Array Be 16.68 313 Pn **Pn** 19 23 45.0 -1.9
comp=Z,0.6nm,0.3s,baz=118,slow=13,SNR=12
comp=Z,4.8nm,0.8s
AKASG Malin Array Be 16.68 313 P **Pn** 19 23 45.2 -1.7
AKASG pmax pmax
comp=Z,5.0nm,1.2s
AKBB Malin Array Si 16.68 313 Pn **Pn** 19 23 45.2 -1.8
AKBB Malin Array Si 16.68 313 P **Pn** 19 23 45.2 -1.8
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 16.68 313 P **Pn** 19 23 46.0 -0.9
KIEV Kiev 16.68 313 **Pn** 19 23 44.9 -2.1
KIEV Kiev 16.68 313 ⇑P **Pn** 19 23 46.6 -0.4
KIEV Kiev 16.68 313 P **Pn** 19 23 44.9 -2.1
KIEV pmax pmax
comp=Z,13nm,0.8s
KIEV Kiev 16.68 313 P **Pn** 19 23 45.9 -1.1
comp=Z,77nm,0.9s
AK13 Malin Array Si 16.72 313 P **Pn** 19 23 46.8 -0.7
MDH Madha 16.74 155 P **P** 19 23 49.8 -0.4
MDH Madha 16.74 155 *i* P **Pn** 19 23 48.4 +0.5
SNR=6.0
TESR Tescani 16.80 297 ⇓P **P** 19 23 52.7 +2.0
TESR Tescani 16.80 297 P **Pn** 19 23 49.7 +1.1
comp=Z,37nm,1.4s
AK20 Malin Array Si 16.82 313 P **Pn** 19 23 47.5 -1.2
NAZ Nazwa, Dubai 16.84 157 P **P** 19 23 50.8 -0.4
NAZ Nazwa, Dubai 16.84 157 *i* P **P** 19 23 50.2 -1.0
SNR=7.5
GAR Garm 16.84 89 P **Pn** 19 23 48.8 -0.4
GAR IAmb IAmb 19 23 59.6
comp=Z,31nm,0.8s
ARTI Arti 16.91 19 **Pn** 19 23 46.9 -3.1
ARTI Arti 16.91 19 Pn **Pn** 19 23 47.8 -2.2
comp=Z,1.6nm,0.3s,baz=204,slow=8.1,SNR=14
ARTI Sn **Sn** 19 26 47.9 -10
comp=Z,0.4nm,0.3s,baz=193,slow=21,SNR=2.0
ARTI Arti 16.91 19 P **Pn** 19 23 46.8 -3.1
ARTI S **Sn** 19 26 52.8 -4.7
ONER Baraj Valea Uz 16.94 297 ⇓P **P** 19 23 53.6 +1.4
COVR Voineasa-Covas 16.98 295 ⇑P **P** 19 23 55.5 +2.8
GIRR Girov 17.00 299 ⇑P **P** 19 23 53.4 +0.5
BTK Batken 17.01 85 **Pn** 19 23 49.3 -2.1
BTK Batken 17.01 85 P **Pn** 19 23 49.3 -2.1
BTK pmax pmax
comp=Z,16nm,1.1s
UOSS Minazif 17.04 155 **Pn** 19 23 50.9 -0.9
UOSS IAmb IAmb 19 24 00.6
comp=Z,23nm,0.8s
UOSS Minazif 17.04 155 P **P** 19 23 52.9 -0.6
FAQ Al Faqa, Dubai 17.05 157 P **P** 19 23 53.5 0.0
AJN Ajban 17.05 159 P **P** 19 23 53.7 +0.1
AJN Ajban 17.05 159 *i* P **P** 19 23 54.1 +0.6
SNR=8.5
ASUD Al Ashush, Dub 17.08 158 P **P** 19 23 53.8 -0.1
ASUD Al Ashush, Dub 17.08 158 *i* P **P** 19 23 54.3 +0.4
SNR=7.4
MLR Muntele Rosu 17.11 293 P **Pn** 19 23 51.8 -0.7
MLR Muntele Rosu 17.11 293 P **Pn** 19 23 52.7 +0.1
comp=Z,0.2nm,0.3s,baz=196,slow=3.5,SNR=8.4
comp=Z,2.2nm,0.8s
MLR Muntele Rosu 17.11 293 ⇑P **P** 19 23 57.3 +3.0
HATD Hatta, Dubai 17.13 156 P **P** 19 23 54.3 -0.3
HATD Hatta, Dubai 17.13 156 P **P** 19 23 54.2 -0.3
GHWR Ruwais 17.16 166 P **P** 19 23 55.3 +0.5
LUBAR Lubar, Ukraine 17.16 309 P **Pn** 19 23 52.4 -0.7
ASHO Ashiyiah 17.24 156 P **P** 19 23 55.4 -0.3
ASHO Ashiyiah 17.24 156 *i* P **Pn** 19 23 54.8 +0.5
SNR=11
MI30 MI30,Zelenitsa 17.28 312 P **P** 19 23 56.1 +0.2
comp=Z,26nm,1.3s
RAYN Ar Rayn 17.38 189 **Pn** 19 23 54.2 -1.8
RAYN Ar Rayn 17.38 189 P **P** 19 23 58.8 +1.5
RAYN Ar Rayn 17.38 189 P **Pn** 19 23 54.2 -1.8
RAYN pmax pmax
comp=Z,23nm,1.1s
RAYN Ar Rayn 17.38 189 *i* P **P** 19 23 57.7 +0.5
SNR=12
KBL Kabul 17.40 104 P **Pn** 19 23 54.5 -1.9
KBL Kabul 17.40 104 P **Pn** 19 23 55.9 -0.5
SNR=7.7
KBL Kabul 17.40 104 P **Pn** 19 23 54.5 -1.9
KBL pmax pmax
comp=Z,24nm,1.4s
KMPD K-Podol'skiy 17.46 304 P **Pn** 19 23 57.2 +0.4
comp=Z,6μm,0.9s
DOPR Dopca 17.56 295 ⇓P **P** 19 24 01.8 +2.7
MI28 Mi28,Pidlybu 17.65 312 P **Pn** 19 23 58.9 -0.3
comp=Z,117nm,0.7s
HORU Horodok 17.70 306 P **Pn** 19 24 00.3 +0.5
HORU Horodok 17.70 306 P **Pn** 19 24 00.3 +0.5
VOIR 17.72 293 ⇓P **P** 19 24 03.5 +2.5
VOIR 17.72 293 ⇓P **P** 19 24 03.5 +2.5
VOIR 17.72 293 P **P** 19 24 03.4 +2.5
comp=Z,42nm,1.1s
ALNE Al Ain 17.74 158 P **P** 19 24 02.0 +0.8
KIRV Kirov 17.84 2 P **Pn** 19 23 59.2 -2.2
comp=Z,50nm,0.8s,baz=300,slow=1.4,SNR=13
KIRV S **Sn** 19 27 09.9 -10
comp=Z,3.7nm,0.6s,baz=4.7,slow=20,SNR=1.4
KIRV Kirov 17.84 2 *de*P **Pn** 19 23 58.3 -3.1
SVE Sverdlovsk 17.90 22 *e*P **P** 19 24 04.9 +2.1
SVE *e*S **Sn** 19 27 15.5 -5.9
SVE pmax pmax
comp=Z,60nm,1.1s
SOHO SOHO 17.91 155 P **P** 19 24 02.8 -0.2
SOHO SOHO 17.91 155 *i* P **Pn** 19 24 02.0 -0.4
SNR=6.3
BURAR Bucovina Array 18.00 300 ⇑P **P** 19 24 05.6 +1.5
BURAR Bucovina Array 18.00 300 ⇑P **P** 19 24 05.6 +1.5
ARR Arges 18.01 293 ⇑P **P** 19 24 06.2 +2.1
BUR08 Bucovina Ar. S 18.02 300 P **Pn** 19 24 03.0 -0.8
MZR Muzera 18.21 165 P **P** 19 24 07.4 +1.1
MZR Muzera 18.21 165 *i* P **P** 19 24 06.6 +0.3
SNR=10
KSV Kosov 18.28 302 P **P** 19 24 07.7 +0.7
ARCR ARCALIA 18.46 298 ⇓P **Pn** 19 24 11.4 +2.3
ARSB Arslanbob 18.47 80 P **P** 19 24 07.8 -1.5
ARSB Arslanbob 18.47 80 P **P** 19 24 07.8 -1.5
ARSB pmax pmax
comp=Z,4.0nm,1.0s
OTUK Ortayu 18.53 58 ⇑P **P** 19 24 08.4 -1.4
comp=Z,18nm,1.0s
OTUK Ortayu 18.53 58 P **P** 19 24 08.4 -1.4
LOT Lotru 18.62 293 ⇓P **Pn** 19 24 13.0 +1.7
ARQ Araqi 18.65 156 P **Pn** 19 24 12.2 +0.7
HOQ Hoqain 18.67 154 P **Pn** 19 24 11.8 0.0
STNU Starunia 18.75 303 P **Pn** 19 24 12.9 +0.3
RAKU Rahkiv 18.79 301 P **Pn** 19 24 13.9 +0.8
RNPP5 Staryi Chortor 18.80 311 P **P** 19 24 12.9 +0.3
RNPP8 Varash 18.86 312 P **P** 19 24 13.3 0.0
CJR Cluj-Napoca 18.91 297 ⇑P **Pn** 19 24 16.6 +2.0
CJR Cluj-Napoca 18.91 297 ⇑P **Pn** 19 24 16.6 +2.0
BRVK Borovoye 19.21 43 P **P** 19 24 15.5 -1.6
BRVK IAmb IAmb 19 24 27.3
comp=Z,16nm,0.8s
BRVK Borovoye 19.21 43 P **Pn** 19 24 18.1 -0.1
BRVK Borovoye 19.21 43 ⇑P **P** 19 24 17.0 -0.1
comp=Z,16nm,0.9s
BRVK Borovoye 19.21 43 *de*P **P** 19 24 16.6 -0.6
BRVK pmax pmax
comp=Z,12nm,1.0s
MARR Marisel-Cluj 19.23 296 ⇓P **Pn** 19 24 19.9 +1.4
BVA0 Borovoye Array 19.25 43 P **P** 19 24 17.2 -0.3
comp=Z,12nm,0.8s,baz=237,slow=9.5,SNR=34
BVA0 Borovoye Array 19.25 43 P **P** 19 24 17.3 -0.3
BVAR Borovoye Array 19.25 43 P **P** 19 24 17.9 +0.3
comp=Z,0.1nm,0.3s,baz=226,slow=11,SNR=41
BVAR S **Sn** 19 27 46.5 -7.4
comp=Z,2.7nm,0.9s,baz=230,slow=25,SNR=2.7
comp=Z,7.3nm,0.7s
MORS Morshin 19.25 304 P **Pn** 19 24 19.5 +0.8
MORS Morshin 19.25 304 P **Pn** 19 24 19.5 +0.8
DEV Deva 19.27 294 ⇑P **Pn** 19 24 20.6 +1.7
DEV Deva 19.27 294 ⇑P **Pn** 19 24 20.6 +1.7
GZR Gura Zlata 19.31 292 P **Pn** 19 24 21.0 +1.5
IDI Anoyia 19.36 261 P **P** 19 24 18.6 -0.4
comp=Z,14nm,0.9s,baz=253,slow=22,SNR=1.4
SMDO Samad 19.41 153 P **Pn** 19 24 20.5 -0.3
BSY Bisya 19.41 155 P **Pn** 19 24 20.6 -0.2
MNK Minsk 19.43 322 *i* P **P** 19 24 19.9 +0.3
comp=E,9.0nm,0.8s
MNK *i* P **P** 19 24 19.9 +0.3
comp=N,26nm,0.8s
MNK *i* P **P** 19 24 19.9 +0.3
comp=Z,34nm,1.0s,baz=125
MNK *i* PP **PnPn** 19 24 36.0 +2.1
MNK *i* PPP PPP 19 24 41.9
MNK *i* S **Sn** 19 27 59.0 +0.5
MNK *i* SS **SnSn** 19 28 14.8 +2.3
MNK *i* SSS SSS 19 28 41.8
MNK *i* LQ LQ 19 30 49.5
MNK *i* LR LR 19 31 23.5
MNK *i* LRM MLR 19 32 07.2
comp=E,168nm,14.4s
MNK *i* LRM MLR 19 32 42.6
comp=N,122nm,10.8s
MNK *i* LRM MLR 19 32 47.1
comp=Z,181nm,12.9s
MNK Minsk 19.43 322 *i* P **P** 19 24 19.9 +0.3
MNK *i* S **Sn** 19 27 58.9 +0.5
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=N,26nm,0.8s
MNK pmax pmax
comp=Z,34nm,1.0s
MNK MLR MLR
comp=E,168nm,14.0s
MNK MLR MLR
comp=N,122nm,11.0s
MNK MLR MLR
comp=Z,181nm,13.0s
WSAR Wadi Sarin 19.45 151 P **P** 19 24 20.1 +0.1
comp=Z,0.3nm,0.3s,baz=352,slow=12,SNR=4.8
comp=Z,10nm,0.9s
AAK Ala-Archa 19.48 76 **P** 19 24 18.6 -1.8
AAK Ala-Archa 19.48 76 P **Pn** 19 24 21.3 -0.3
comp=Z,0.4nm,0.3s,baz=260,slow=8.7,SNR=18
comp=Z,4.5nm,0.7s
AAK Ala-Archa 19.48 76 P **Pn** 19 24 21.2 -0.5
AAK Ala-Archa 19.48 76 *de*P **Pn** 19 24 21.8 +0.1
AAK pmax pmax
comp=Z,17nm,1.7s
DRGR 19.52 297 ⇓P **Pn** 19 24 22.8 +0.8
DRGR 19.52 297 ⇓P **Pn** 19 24 22.8 +0.8
HERR Herculane 19.53 291 ⇓P **Pn** 19 24 21.9 -0.2
FRU1 Bishkek 19.57 75 P **P** 19 24 19.2 -2.1
FRU1 IAmb IAmb 19 24 31.3
comp=Z,17nm,0.8s
FRU1 Bishkek 19.57 75 P **P** 19 24 19.2 -2.1
TRSU Trosnyk 19.59 300 P **Pn** 19 24 25.6 +2.8
SHIU Shidnytsya 19.61 304 P **Pn** 19 24 23.1 +0.1
SURR Surduc 19.80 293 ⇓P **Pn** 19 24 25.6 +0.4
BOVS Bovan 20.02 287 ⇓P Pn 19 24 29.4 +1.5
MDVR Moldovita 20.03 290 ⇑P Pn 19 24 28.0 0.0
JMDO Jabal Madar 20.06 153 P Pn 19 24 27.9 -0.6
KWP Kalwaria Pacla 20.14 305 P **P** 19 24 27.5 +0.1
KWP Kalwaria Pacla 20.14 305 P **P** 19 24 27.5 +0.1
KWP Kalwaria Pacla 20.14 305 P Pn 19 24 29.1 -0.1
comp=Z,116nm,1.2s
BZS Buzias 20.14 293 ⇑P Pn 19 24 28.9 -0.4
BZS Buzias 20.14 293 ⇑P Pn 19 24 28.9 -0.4
WBK Wadi Bani Khal 20.15 151 P **P** 19 24 27.7 +0.1
SIRR Siria 20.17 295 ⇑P Pn 19 24 29.9 +0.2
NACGM Naroch 20.19 322 *e*P **P** 19 24 28.0 +0.1
KOLS Kolonicke sedl 20.23 303 *e*P Pn 19 24 32.2 +1.9
KOLS pmax pmax

comp=Z,12nm,0.7s
KOLS Kolonicke sedl 20.23 303 *e*P Pn 19 24 32.2 +1.9
IIGN Ignalina 20.71 322 *e*P Pn 19 24 35.3 -0.6
JLN Jalan Bani Buh 20.73 150 P **P 19 24 33.5 -0.4**
KLMR Klimovskoe 20.86 348 *e*P **P 19 24 32.3 -2.7**
KLMR 19 28 23.2
KLMR pmax pmax
comp=Z,72nm,1.6s
NIL Nilore 20.92 102 **P 19 24 35.8 -0.2**
NIL IAmb IAmb 19 24 45.8
comp=Z,34nm,1.2s
NIL Nilore 20.92 102 P **P 19 24 35.8 -0.2**
NIL pmax pmax
comp=Z,34nm,1.2s
KSH Kashi 21.02 84 P **P 19 24 35.9 -1.2**
KSH pP sP 19 24 46.7 +2.8
KSH pmax pmax
comp=Z,6.0nm,0.7s
KECS Kecovo 21.29 301 P **P 19 24 42.5 +2.7**
KECS pmax pmax
comp=Z,13nm,1.2s
KDJ Kajisay 21.50 77 P **P 19 24 41.7 -0.7**
KDJ IAmb IAmb 19 24 54.0
comp=Z,22nm,0.9s
KDJ Kajisay 21.50 77 P **P 19 24 41.7 -0.7**
KDJ pmax pmax
comp=Z,22nm,0.9s
SUW Suwalki 21.51 317 P **P 19 24 40.5 -1.6**
SUW Suwalki 21.51 317 P **P 19 24 40.5 -1.6**
SUW pmax pmax
comp=Z,91nm,1.1s
PSZ Piszkesteto 21.58 299 P **P 19 24 42.2 -0.9**
PSZ IAmb IAmb 19 24 59.2
comp=Z,56nm,1.3s
PSZ Piszkesteto 21.58 299 ⇑P **P 19 24 44.9 +1.9**
PSZ Piszkesteto 21.58 299 P **P 19 24 42.2 -0.9**
PSZ pmax pmax
comp=Z,56nm,1.3s
PSZ Piszkesteto 21.58 299 *e*P **P 19 24 45.0 +1.9**
PABE Paberze 21.86 321 P **P 19 24 44.5 -1.4**
PABE IAmb IAmb 19 24 47.1
comp=Z,38nm,0.8s
PABE Paberze 21.86 321 *e*P **P 19 24 46.4 +0.5**
TARG Taragay, Kyrgy 22.02 78 P **P 19 24 47.2 -0.9**
TARG Taragay, Kyrgy 22.02 78 P **P 19 24 47.2 -0.9**
TARG pmax pmax
comp=Z,12nm,1.0s
LANS Liptovska Anna 22.08 302 *e*P **P 19 24 55.0 +6.7**
LANS Liptovska Anna 22.08 302 *e*PN **P 19 24 55.0 +6.7**
OJC Ojcow 22.11 305 P **P 19 24 48.6 0.0**
OJC IAmb IAmb 19 24 55.4
comp=Z,15nm,1.0s
OJC Ojcow 22.11 305 P **P 19 24 48.6 0.0**
OJC pmax pmax
comp=Z,15nm,1.0s
OJC Ojcow 22.11 305 P **P 19 24 49.8 +1.3**
DQM DQM 22.16 157 P **P 19 24 49.8 +0.5**
MORH Mrgy, Hungar 22.25 294 ⇑P **P 19 24 51.8 +1.6**
PRZ Przheval'sk 22.37 76 P **P 19 24 49.3 -2.4**
PRZ IAmb IAmb 19 25 11.5
comp=Z,12nm,0.9s
PRZ Przheval'sk 22.37 76 P **P 19 24 49.3 -2.4**
PRZ pmax pmax
comp=Z,12nm,0.9s
VYHS Vyhne 22.37 300 *e*P **P 19 24 54.2 +2.8**
VYHS *e* 19 25 00.3
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 22.37 300 *e*P **P 19 24 54.2 +2.8**
VYHS Vyhne 22.37 300 *e*PN P 19 25 00.3 +8.9
VSU Vasula 22.46 329 P **P 19 24 51.7 -0.5**
VSU Vasula 22.46 329 *e*P **P 19 24 50.9 -1.4**
DOK Doka 22.60 166 P **P 19 24 54.0 -0.1**
SNR=9.5
KURBB Kurchatov Arra 23.03 55 P **P 19 24 58.3 0.0**
comp=Z,5.3nm,0.9s,baz=261,slow=11,SNR=37
comp=Z,5.3nm,0.9s
KURBB Kurchatov Arra 23.03 55 ⇓P **P 19 24 59.1 +0.8**
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 23.03 55 P **P 19 24 59.1 +0.8**
MPLH Magyarpolny 23.08 296 P **P 19 25 00.5 +1.6**
comp=Z,30nm,1.3s
PDGK Podgornoye 23.09 73 ⇑P **P 19 25 00.0 +0.8**
comp=Z,5.5nm,0.9s
KURK Kurchatov 23.11 54 P **P 19 24 57.4 -1.7**
KURK IAmb IAmb 19 25 06.3
comp=Z,13nm,0.9s
KURK Kurchatov 23.11 54 P **P 19 25 00.0 +0.9**
KURK Kurchatov 23.11 54 ⇓P **P 19 24 59.7 +0.6**
comp=Z,16nm,1.0s
KURK Kurchatov 23.11 54 P **P 19 24 57.4 -1.7**
KURK pmax pmax
comp=Z,13nm,0.9s
WUS Wushi 23.14 79 P **P 19 24 57.9 -1.8**
JAVC Velka Javorina 23.19 301 *e*P **P 19 25 00.8 +0.7**
SMOL Smolenice 23.30 300 *e*P **P 19 25 03.2 +2.1**
SMOL *e* 19 25 10.5
SMOL pmax pmax
comp=Z,3.0nm,0.7s
MODS Modra-Piesok 23.38 299 *e*P **P 19 25 03.0 +1.0**
MODS *e* 19 25 10.8
MODS pmax pmax
comp=Z,22nm,1.1s
MODS Modra-Piesok 23.38 299 *e*P **P 19 25 03.0 +1.0**
MODS Modra-Piesok 23.38 299 *e*PN P 19 25 10.8 +8.8
ARBE Arbavere 23.41 330 *e*P **P 19 25 03.2 +1.1**
MORC Moravsky Berou 23.43 303 P **P 19 25 02.1 -0.3**
MORC Moravsky Berou 23.43 303 *e*P **P 19 25 02.8 +0.3**
MORC Moravsky Berou 23.43 303 P **P 19 25 02.1 -0.3**
MORC pmax pmax
comp=Z,8.0nm,1.0s
DMTO DMTO 23.64 165 P **P 19 25 04.2 -0.4**
ABTO Aybut 23.70 169 P **P 19 25 05.3 0.0**
SNR=6.7
RBK Rabkut 23.70 166 P **P 19 25 05.0 -0.3**
MTSE Matsula 23.79 327 *e*P **P 19 25 06.5 +0.8**
VRAC Vranov 23.96 302 P **P 19 25 06.9 -0.6**
comp=Z,1.7nm,0.4s,baz=160,slow=6.9,SNR=3.9
comp=Z,1.7nm,0.4s
VRAC Vranov 23.96 302 *e*P **P 19 25 08.7 +1.2**
RONA Rosalia, Austr 23.97 298 *e*P **P 19 25 09.6 +2.0**
comp=Z,3.5nm,0.7s
KRLC Kraliky 23.97 304 *e*P **P 19 25 08.5 +0.8**
KRLC Kraliky 23.97 304 *e*P **P 19 25 08.5 +0.8**
KRUC Moravsky 24.05 301 *e*P **P 19 25 09.8 +1.4**
DPC Dobruska-Polom 24.31 304 *e*P **P 19 25 11.1 +0.3**
DPC Dobruska-Polom 24.31 304 *e*P **P 19 25 11.1 +0.3**
DPC Dobruska-Polom 24.31 304 P **P 19 25 11.5 +0.7**
comp=Z,11nm,1.0s
KSP Ksiaz 24.43 305 P **P 19 25 13.1 +1.3**
KSP Ksiaz 24.43 305 P **P 19 25 13.1 +1.3**
JOF Joensuu 24.43 341 *e*P **P 19 25 12.3 +0.6**
ARSA Arzberg 24.46 296 *e*P **P 19 25 13.9 +1.8**
comp=Z,3.2nm,0.7s
ARSA Arzberg 24.46 296 P **P 19 25 12.6 +0.4**
CHVC Chvalec 24.52 305 *e*P **P 19 25 13.0 +0.3**
CHVC Chvalec 24.52 305 *e*P **P 19 25 13.0 +0.3**
MEF Metsahovi 24.53 331 *e*P **P 19 25 13.4 +0.8**
SOKA Soboth 24.77 295 *e*P **P 19 25 16.4 +1.4**
comp=Z,14nm,0.8s
MAKZ Makanchi 24.79 65 P **P 19 25 14.8 -0.3**
MAKZ IAmb IAmb 19 25 17.4
comp=Z,8.3nm,0.8s
MAKZ Makanchi 24.79 65 ⇑P **P 19 25 15.9 +0.8**
comp=Z,6.6nm,0.8s
MAKZ Makanchi 24.79 65 P **P 19 25 14.9 -0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
FIA1 FINESS Array S 24.79 334 P **P 19 25 14.7 -0.2**
FINES FINESS Array B 24.79 334 P **P 19 25 14.5 -0.5**
FINES FINESS Array B 24.79 334 P **P 19 25 15.2 +0.3**
comp=Z,16nm,0.6s,baz=138,slow=12,SNR=59
comp=Z,16nm,0.6s
FINES FINESS Array B 24.79 334 P **P 19 25 14.5 -0.5**
MK31 Makanchi Array 25.00 65 P **P 19 25 17.2 +0.1**
MK31 IAmb IAmb 19 25 19.6
comp=Z,7.5nm,0.8s
MK31 Makanchi Array 25.00 65 ⇑P **P 19 25 17.8 +0.8**
comp=Z,7.8nm,0.7s,baz=267,slow=6.9,SNR=108
MK31 Makanchi Array 25.00 65 P **P 19 25 17.2 +0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 25.00 65 P **P 19 25 17.3 +0.2**
MKAR Makanchi Array 25.00 65 P **P 19 25 18.2 +1.2**
comp=Z,8.8nm,0.7s,baz=270,slow=7.2,SNR=118
comp=Z,8.8nm,0.7s
MKAR Makanchi Array 25.00 65 P **P 19 25 17.3 +0.2**
ZVC Zvikov 25.53 301 *e*P **P 19 25 22.0 +0.2**
KEF Keuruu 25.71 334 *e*P **P 19 25 24.2 +0.9**
GEC2 GERESS Array S 25.79 300 P **P 19 25 24.3 0.0**
GERES GERESS Array B 25.79 300 P **P 19 25 23.3 -1.0**
GERES GERESS Array B 25.79 300 P **P 19 25 23.7 -0.6**
comp=Z,1.2nm,0.6s,baz=90,slow=8.0,SNR=6.7
comp=Z,1.2nm,0.6s
GERES GERESS Array B 25.79 300 P **P 19 25 27.2 +2.9**
KHC Kasperske Hory 25.90 301 *e*P **P 19 25 26.9 +1.7**
KHC Kasperske Hory 25.90 301 ⇓*e*P **P 19 25 27.5 +2.3**
KHC pmax pmax
comp=Z,4.0nm,1.0s
RAF Rauma 26.04 330 *e*P **P 19 25 27.0 +0.7**
FDMO Fiordimonte 26.34 287 P **P 19 25 29.4 +0.2**
FDMO IAmb IAmb 19 26 07.2
comp=Z,27nm,1.4s
NRCA Norcia 26.34 286 P **P 19 25 29.0 -0.4**
NRCA IAmb IAmb 19 25 32.2
comp=Z,20nm,1.3s
LESA Schwarzleotal 26.40 297 *e*P **P 19 25 29.0 -0.8**
comp=Z,9.7nm,1.5s
CLL Collm 26.55 305 *i* P **P 19 25 34.5 +3.5**
CLL Collm 26.55 305 *e*P **P 19 25 32.0 +1.0**
CLL *ex* x 19 25 46.0
VAF Ylistaro 27.05 334 *e*P **P 19 25 35.6 +0.3**
WTTA Wattenberg 27.10 296 *e*P **P 19 25 35.8 -0.5**
comp=Z,7.3nm,1.4s
SQTA Sankt Quirin 27.39 296 *e*P **P 19 25 37.8 -1.0**
comp=Z,3.5nm,0.9s
ZAA0 Zalesovo Array 27.58 49 P **P 19 25 38.8 -1.4**
ZALV Zalesovo Beam 27.58 49 P **P 19 25 38.6 -1.6**
ZALV Zalesovo Beam 27.58 49 P **P 19 25 40.3 +0.1**
comp=Z,0.6nm,0.4s,baz=258,slow=9.8,SNR=5.3
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 27.58 49 P **P 19 25 38.6 -1.6**
OSSC Osservatorio P 27.61 288 P **P 19 25 38.8 -1.8**
OSSC IAmb IAmb 19 25 43.1
comp=Z,12nm,1.0s
LVZ Lovozero 28.21 349 P **P 19 25 42.4 -3.4**
LVZ Lovozero 28.21 349 P **P 19 25 42.4 -3.4**
LVZ pmax pmax
comp=Z,65nm,1.4s
MSSA Maissana 28.75 290 P **P 19 25 50.2 -0.7**
HFS Hagfors 28.92 324 P **P 19 25 52.5 +0.4**
comp=Z,19nm,0.7s,baz=116,slow=10,SNR=23
comp=Z,19nm,0.7s
WMQ Urumqi 28.97 71 *e*P **P 19 25 54.1 +1.2**
WMQ pmax pmax
comp=Z,15nm,1.3s
NC602 NORSAR Array S 30.14 324 P **P 19 26 02.8 -0.2**
NC405 NORSAR Array S 30.23 325 P **P 19 26 03.5 -0.2**
NB201 NORSAR Array S 30.39 324 P **P 19 26 04.6 -0.5**
NB2 NORSAR Subarra 30.42 324 P **P 19 26 05.0 -0.4**
comp=Z,18nm,0.9s,baz=116,slow=8.6
NOA NORSAR Array B 30.42 324 P **P 19 26 05.2 -0.3**
comp=Z,6.3nm,0.8s,baz=118,slow=8.3,SNR=47
comp=Z,6.3nm,0.8s
NC303 NORSAR Array S 30.43 325 P **P 19 26 05.0 -0.4**
NAO01 NORSAR Array S 30.48 324 P **P 19 26 04.5 -1.4**
NC204 NORSAR Array S 30.71 325 P **P 19 26 07.7 -0.4**
NC204 IAmb IAmb 19 26 10.9
comp=Z,16nm,1.0s
KEV Kevo 31.15 346 P **P 19 26 12.6 +0.9**
KEV Kevo 31.15 346 P **P 19 26 12.6 +0.9**
KEV pmax pmax
comp=Z,51nm,1.5s
ARCES ARCESS Array B 31.26 345 P **P 19 26 13.5 +0.8**
comp=Z,4.5nm,0.8s,baz=151,slow=9.7,SNR=19
comp=Z,4.5nm,0.8s
SSB Saint Sauveur 32.15 293 P **P 19 26 19.4 -1.4**
SSB IAmb IAmb 19 26 42.9
comp=Z,8.0nm,1.3s
SSB Saint Sauveur 32.15 293 P **P 19 26 19.4 -1.4**
SSB pmax pmax
comp=Z,8.0nm,1.3s
CEST Esterri de Car 34.97 289 P **P 19 26 45.9 +0.3**
CEST IAmb IAmb 19 27 07.9
comp=Z,11nm,1.2s
NRIK Noril'sk 35.17 23 P **P 19 26 47.9 +1.1**
comp=Z,1.0nm,0.3s,baz=186,slow=9.7,SNR=1.4
comp=Z,1.0nm,0.3s
LSA Lhasa 36.23 94 P **P 19 26 56.1 -0.8**
LSA Lhasa 36.23 94 P **P 19 26 56.1 -0.8**
LSA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 36.58 311 P **P 19 26 58.4 -0.6**
comp=Z,4.7nm,0.8s,baz=101,slow=7.9,SNR=11
comp=Z,4.7nm,0.8s
EKB Eskdalemuir 36.59 311 P **P 19 26 58.1 -1.0**
ESK Eskdalemuir 36.60 311 P **P 19 26 58.3 -0.9**
ESK Eskdalemuir 36.60 311 P **P 19 26 59.2 0.0**
ESK pmax pmax
comp=Z,74nm,1.4s
GTA Gaotai 38.83 75 P **P 19 27 19.4 +1.0**
GTA pP sP 19 27 26.7 +1.1
GTA pmax pmax
comp=Z,3.0nm,0.9s
ESDC Sonseca Array 39.57 286 P **P 19 27 23.7 -0.8**
comp=Z,1.8nm,0.9s,baz=66,slow=8.0,SNR=16
comp=Z,1.8nm,0.9s
SPA2 Spitsbergen Ar 39.72 350 P **P 19 27 24.6 -0.7**
SPA0 Spitsbergen Ar 39.72 350 **P 19 27 24.7 -0.6**
SPITS Spitsbergen Ar 39.72 350 P **P 19 27 26.4 +1.2**
comp=Z,7.6nm,0.8s,baz=139,slow=12,SNR=14
comp=Z,7.6nm,0.8s
SPB5 Spitsbergen Ar 39.73 350 P **P 19 27 24.4 -0.9**
TAM Tamanrasset 40.23 257 P **P 19 27 30.8 +0.5**
TAM Tamanrasset 40.23 257 P **P 19 27 30.8 +0.5**
TAM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 41.18 60 P **P 19 27 36.9 -1.0**
SONM Songino Array 41.18 60 P **P 19 27 38.9 +1.0**
comp=Z,0.9nm,0.7s,baz=272,slow=9.5,SNR=8.9
comp=Z,0.9nm,0.7s
SONM Songino Array 41.18 60 P **P 19 27 36.9 -1.0**
SONM pmax pmax
comp=Z,2.0nm,1.3s
ULN Ulaanbaatar 41.61 60 P **P 19 27 40.8 -0.6**
ULN IAmb IAmb 19 27 44.0
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 41.61 60 P **P 19 27 40.8 -0.6**
ULN pmax pmax
comp=Z,6.0nm,0.7s
LZH Lanzhou 43.01 78 *e*P **P 19 27 54.4 +1.5**
LZH sP sP 19 28 00.9 +0.7
LZH pmax pmax
comp=Z,6.0nm,1.0s
PVAQ Vaqueiros 43.13 285 P **P 19 27 53.1 -0.6**
PVAQ IAmb IAmb 19 27 55.2
comp=Z,11nm,1.4s
PFVI Vila Bisbo 44.05 285 P **P 19 28 00.1 -1.0**
PZH PanZhiHua 45.90 91 P **P 19 28 16.6 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,150nm,6.7s
HHC Hu-ho-hao-te 46.78 68 *e*P **P 19 28 22.8 -0.1**
HHC pmax pmax
comp=Z,3.0nm,0.6s
HHC pmax pmax
comp=Z,72nm,4.3s
KMI Kunming 47.39 92 ⇑P **P 19 28 29.7 +1.7**
KMI pmax pmax
comp=Z,6.0nm,0.7s
XAN Xi'an 47.65 78 P **P 19 28 31.1 +1.5**
XAN pP sP 19 28 36.9 0.0
XAN pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 48.41 102 P **P 19 28 35.1 -0.5**
comp=Z,0.5nm,0.7s,baz=300,slow=3.2,SNR=5.4
comp=Z,0.5nm,0.7s
TORD Torodi Ar. Bea 49.20 250 P **P 19 28 40.6 -1.0**
TORD Torodi Ar. Bea 49.20 250 P **P 19 28 40.3 -1.4**
comp=Z,1.1nm,0.7s,baz=37,slow=9.0,SNR=7.2
comp=Z,1.1nm,0.7s
PHRA Phrae 49.34 101 P **P 19 28 41.3 -1.5**
PMOZ Porto Moniz, M 52.11 284 P **P 19 29 02.6 -1.1**
HEH HeiHe 53.67 51 *e*P **P 19 29 16.2 +1.5**
HEH pmax pmax
comp=Z,12nm,0.9s
KSRS Korea Array 59.68 65 P **P 19 29 58.4 +0.7**
comp=Z,1.3nm,0.7s,baz=300,slow=7.0,SNR=7.8
comp=Z,1.3nm,0.7s
SEY Seymchan 60.33 31 *e*P **P 19 30 02.7 +1.0**
SEY pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 67.13 61 P **P 19 30 47.4 +0.4**
comp=Z,0.9nm,0.6s,baz=319,slow=8.2,SNR=1.1
comp=Z,0.9nm,0.6s
A36M Sachs Harbour 67.46 358 P **P 19 30 48.7 +0.2**
A36M IAmb IAmb 19 31 10.9
comp=Z,4.7nm,1.1s
B22K Teshekpuk Lake 68.06 8 P **P 19 30 53.2 +0.9**
B22K IAmb IAmb 19 31 02.1
comp=Z,9.0nm,1.1s
C16K Lisburne Hills 68.36 13 P **P 19 30 54.3 +0.1**
C16K IAmb IAmb 19 31 02.7
comp=Z,6.8nm,1.3s
B21K Ikpikpuk River 68.62 8 P **P 19 30 56.5 +0.7**
B21K IAmb IAmb 19 30 58.5
comp=Z,6.5nm,1.1s
C18K Utukok River 68.67 11 P **P 19 30 56.8 +0.5**
C18K IAmb IAmb 19 30 58.7
comp=Z,7.1nm,1.1s
LBTB Lobatse 68.82 202 P **P 19 30 57.6 -0.1**
LBTB IAmb IAmb 19 31 07.0
comp=Z,9.0nm,1.2s
LBTB Lobatse 68.82 202 P **P 19 30 57.6 -0.1**
LBTB pmax pmax
comp=Z,9.0nm,1.3s
D19K Kuna River 69.25 10 **P 19 31 00.9 +1.0**
DRLN Deer Lake 69.25 318 P **P 19 30 59.3 -0.8**
D22K Ayikyak River 69.54 8 P **P 19 31 01.5 -0.1**
D22K IAmb IAmb 19 31 10.8
comp=Z,3.7nm,0.9s
POGA Pongola 69.54 196 P **P 19 31 02.9 +0.9**
C27K Jago River 69.55 5 P **P 19 31 02.1 +0.5**
C27K IAmb IAmb 19 31 36.3
comp=Z,4.0nm,1.2s
D25K Kavik River 69.68 6 P **P 19 31 02.3 -0.2**
D25K IAmb IAmb 19 31 04.9
comp=Z,5.8nm,1.0s
SCHQ Schefferville 69.97 326 P **P 19 31 05.3 +0.9**
SCHQ IAmb IAmb 19 31 06.3
comp=Z,5.3nm,0.9s
SCHQ Schefferville 69.97 326 P **P 19 31 04.8 +0.4**
comp=Z,2.8nm,0.7s,baz=32,slow=4.8,SNR=7.5
comp=Z,2.8nm,0.7s
TOLK Toolik Lake Re 70.08 7 P **P 19 31 06.0 +1.0**
TOLK IAmb IAmb 19 31 07.5
comp=Z,5.8nm,1.0s
F21K Alatna River 71.04 9 P **P 19 31 10.8 0.0**
F21K IAmb IAmb 19 31 13.3
comp=Z,5.5nm,1.1s
BMAR Burnt Mountain 71.67 5 P **P 19 31 15.8 +1.2**
F28M Old Crow 71.76 3 P **P 19 31 15.0 -0.2**
F28M IAmb IAmb 19 31 19.0
comp=Z,4.5nm,1.1s
BOSA Boshof 72.32 201 P **P 19 31 19.0 0.0**
BOSA Boshof 72.32 201 P **P 19 31 19.1 0.0**
comp=Z,1.9nm,0.7s,baz=124,slow=2.8,SNR=5.1
comp=Z,1.9nm,0.7s
BOSA Boshof 72.32 201 P **P 19 31 19.0 0.0**
BOSA pmax pmax
comp=Z,18nm,1.5s
G31M Satah River 72.62 1 P **P 19 31 18.6 -1.6**
G31M IAmb IAmb 19 31 21.8
comp=Z,5.3nm,0.9s
H29M Whitestone 73.21 3 P **P 19 31 22.3 -1.5**
H29M IAmb IAmb 19 31 25.9
comp=Z,4.1nm,0.9s
H31M Peel River 73.74 1 P **P 19 31 25.0 -1.9**
H31M IAmb IAmb 19 31 28.0
comp=Z,8.8nm,1.2s
I28M Miner Creek 73.92 4 P **P 19 31 27.4 -0.7**
I28M IAmb IAmb 19 31 29.7
comp=Z,4.9nm,0.9s
ILAR Eielson Array 74.11 7 P **P 19 31 29.6 +0.6**
comp=Z,0.6nm,0.8s,baz=334,slow=5.2,SNR=8.6
comp=Z,0.6nm,0.8s
I30M Mount Dempster 74.28 2 P **P 19 31 28.2 -2.0**
I30M IAmb IAmb 19 31 32.1
comp=Z,4.9nm,0.8s
J26L Joseph Creek 74.64 5 P **P 19 31 31.5 -0.8**
BATG Bathurst New B 74.84 320 **P 19 31 34.4 +0.7**
J30M Hart River 74.93 2 P **P 19 31 35.1 +1.1**
J30M IAmb IAmb 19 31 47.2
comp=Z,6.5nm,1.1s
LMN Caledonia Moun 75.21 318 P **P 19 31 36.7 +0.9**
RND Reindeer 75.25 8 P **P 19 31 35.6 -0.1**
RND IAmb IAmb 19 31 36.9
comp=Z,6.0nm,0.9s
RND Reindeer 75.25 8 P **P 19 31 35.7 -0.1**
DAWY Dawson 75.32 4 P **P 19 31 36.1 -0.1**
DAWY IAmb IAmb 19 31 38.0
comp=Z,4.3nm,1.0s
HAL Halifax 75.43 317 P **P 19 31 36.7 -0.3**
HAL Halifax 75.43 317 P **P 19 31 36.7 -0.3**
HAL pmax pmax
comp=Z,25nm,0.7s
SHEL Horse Pasture 75.57 234 P **P 19 31 39.0 +0.8**
SHEL Horse Pasture 75.57 234 P **P 19 31 39.0 +0.8**
K29M Barlow Dome 75.62 3 P **P 19 31 37.9 -0.1**
K29M IAmb IAmb 19 31 40.2
comp=Z,3.0nm,0.8s
FCC Fort Churchill 76.07 341 **P 19 31 40.5 +0.1**
FCC IAmb IAmb 19 31 43.1
comp=Z,5.1nm,0.9s
FCC Fort Churchill 76.07 341 P **P 19 31 40.5 +0.1**
FCC pmax pmax
comp=Z,5.0nm,1.0s
WRGLY Wrigley 76.15 356 P **P 19 31 41.3 +0.4**
WRGLY IAmb IAmb 19 31 45.5
comp=Z,9.0nm,1.2s
MENT Mentasta 76.18 6 P **P 19 31 41.8 +0.8**
MENT IAmb IAmb 19 31 54.4
comp=Z,5.5nm,0.9s
BCAR Beaver Creek A 76.18 5 P **P 19 31 41.6 +0.5**
YKA Yellowknife Ar 76.19 352 P **P 19 31 41.8 +0.7**
comp=Z,1.4nm,0.9s,baz=8.3,slow=6.0,SNR=19
comp=Z,1.4nm,0.9s
YKAB2 New Yellowknif 76.26 352 P **P 19 31 42.7 +1.2**
SKT Skwentna 76.33 10 P **P 19 31 41.2 -0.7**
LMQ La Malbaie 76.68 322 P **P 19 31 44.2 +0.1**
LMQ IAmb IAmb 19 31 46.8
comp=Z,8.0nm,0.8s
SML Sawmill 76.87 8 P **P 19 31 44.4 -0.6**
SUA Susitna One 76.92 9 P **P 19 31 42.9 -2.5**
SUA IAmb IAmb 19 31 47.4
comp=Z,7.6nm,0.8s
SCM Sheep Creek Mo 76.95 8 P **P 19 31 44.0 -1.5**
SCM Sheep Creek Mo 76.95 8 P **P 19 31 44.0 -1.5**
SCM pmax pmax
comp=Z,22nm,1.3s
F64A Sherman 76.96 320 P **P 19 31 44.9 -0.9**
N19K Bonanza Creek 77.04 11 P **P 19 31 44.7 -1.4**
R33M Jennings River 80.19 360 P **P 19 32 04.5 +0.9**
ULM Lac du Bonnet 84.12 338 P **P 19 32 24.8 +0.7**
comp=Z,2.6nm,0.9s,baz=14,slow=8.4,SNR=4.4
comp=Z,2.6nm,0.9s
NEW Newport 90.44 350 P **P 19 32 55.3 +0.6**
comp=Z,4.8nm,1.0s,baz=329,slow=5.3,SNR=5.4
comp=Z,4.8nm,1.0s

AFAD 05 19:20:59.1, 37°.02N×27°.72E, h7km±2km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.23**	**283**		P	Pg	19 21 04.0	+0.4
BDRM					S	Sg	19 21 08.1	+1.4
MULA	**Mugla, Merkez-**	**0.53**	**63**		P	Pg	19 21 10.0	+0.5
MULA					S	Sg	19 21 15.9	-0.5
MULA				*i*	AML	AML	19 21 17.0	
comp=N,99nm,2.6s								
MULA				*i*	AML	AML	19 21 29.0	
comp=E,58nm,1.0s								
GCAM	**G?zelcaml?**	**0.79**	**330**		P	Pb	19 21 15.2	+0.1
GCAM					S	Sb	19 21 26.0	0.0
GCAM				*i*	AML	AML	19 21 27.0	
comp=E,41nm,0.5s								
GCAM				*i*	AML	AML	19 21 35.0	
comp=N,23nm,0.5s								
ESEN	**Aydn-Nazilli**	**0.93**	**32**		P	Pg	19 21 16.1	-0.7
ESEN				*i*	AML	AML	19 21 27.0	
comp=N,43nm,1.5s								
ESEN					S	Sg	19 21 28.2	-0.7
ESEN				*i*	AML	AML	19 21 32.0	
comp=E,13nm,0.3s								

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**1.05**	**64**	P	Pb	19 21 19.9	+0.2
TAVA				S	Sb	19 21 33.9	+0.2
KIRA	**zmir-Kiraz**	**1.30**	**24**	P	Pn	19 21 23.3	-0.4
KIRA				S	Sg	19 21 40.9	+0.1
KIRA				*i* AML	AML	19 21 46.0	
	comp=N,20nm,1.0s						
KIRA				*i* AML	AML	19 22 09.0	
	comp=E,39nm,2.2s						

*ISN **05** 19:21:29.1±0.6, 34°.23N×45°.44E, h19km±4km, ML3.1*
*TEH **05** 19:21:29.2, 34°.21N×45°.55E, h7km±139km*
ISC 05 19:21:29.0±0.9, 34°.21N±0°.03×45°.51E±0°.05, h10km, n14, σ0.90/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.31**	**13**	Pg	**Pg**	**19 21 35.3**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.35**	**105**	Pg	**Pg**	**19 21 36.1**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.82**	**135**	Pg	**Pg**	**19 21 44.3**	**-0.6**
IDHR	**Dehrash**	**0.88**	**56**	Pg	**Pg**	**19 21 45.0**	**-0.9**
IGHG	**Ghaleghazi**	**0.89**	**82**	Pg	**Pb**	**19 21 46.4**	**-0.2**
IBDR	**Badra**	**1.15**	**162**	*e*Pg	**Pg**	**19 21 51.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**19 22 06.5**	**-0.4**
IBDR				AML	AML	19 22 13.9	
	comp=N,290nm,0.5s						
IBDR				AML	AML	19 22 15.1	
	comp=E,455nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.27**	**86**	Pg	**Pg**	**19 21 53.8**	**+0.3**
BHD	**Baghdad**	**1.32**	**225**	*e*Pg	**Pn**	**19 21 53.0**	**-0.5**
BHD				*e*Sg	**Sb**	**19 22 09.5**	**-1.4**
ILIN	**Lien**	**1.40**	**59**	Pg	**Pg**	**19 21 55.6**	**-0.2**
IKRK	**Kirkuk**	**1.53**	**322**	*e*Pn	**Pn**	**19 21 56.5**	**+0.1**
IKRK				*e*Sn	**Sn**	**19 22 17.0**	**+0.7**
SNQR	**Sonqor, Kerman**	**1.87**	**69**	Pn	**Pg**	**19 22 03.8**	**-1.0**
SDS1	**Sardasht. Az.**	**1.94**	**360**	Pn	**Pb**	**19 22 05.0**	**+0.5**
IKFM	**Kafar-mosalman**	**2.06**	**109**	Pn	**Pb**	**19 22 05.9**	**-0.6**
RAFI	**Al-Rafai**	**2.53**	**168**	*e*Pn	**Pn**	**19 22 15.5**	**+1.4**
RAFI				*e*Sn	**Sn**	**19 22 43.0**	**+2.1**
RAFI				AML	AML	19 22 47.2	
	comp=E,158nm,0.4s						
RAFI				AML	AML	19 23 00.3	
	comp=N,206nm,0.1s						

*NEIC **05** 19:21:40.9±1.8, 18°.0N±0°.1×68°.25W±0°.04, h76km±12km, ML3.0/38, Md3.1/14(RSPR), Error ellipse: s-maj=18.0km s-min=4.9km az=189.0*
*RSPR **05** 19:21:41.5, 18°.02N×68°.28W, h74km±4km, MD3.1/14*
*OSPL **05** 19:21:42.7±1.4, 17°.85N×68°.27W, h28km±12km, ML2.7, Hypocentre not reviewed by the ISC*
*SDD **05** 19:21:43.3±2.7, 18°.22N×68°.21W, h81km±12km, MD3.5, ML3.1, MW3.4*
ISC 05 19:21:41.3±1.3, 18°.12N±0°.08×68°.24W±0°.03, h82km±8km, n72, σ0.88/91, 31C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.42**	**341**		**Pn**	**19 21 54.2**	**-0.4**
PCDR					**Sn**	**19 22 03.8**	**-0.6**
PCDR				IAML		19 22 05.8	
	comp=E,418nm,0.2s						
PCDR				IAML		19 22 05.9	
	comp=N,942nm,0.6s						
PCDR	**Punta Cana, DR**	**0.42**	**341**	⇓*e*Pg	**Pn**	**19 21 54.2**	**-0.4**
PCDR				⇑*e*Sg	**Sn**	**19 22 04.5**	**+0.1**
PCDR				IAML		19 22 05.8	
	comp=N,853nm,0.5s						
PCDR	**Punta Cana, DR**	**0.42**	**341**	⇓*e*P	**Pn**	**19 21 54.3**	**-0.4**
PCDR	**Punta Cana, DR**	**0.42**	**341**	*e*S	**Sn**	**19 22 04.5**	**+0.1**
PCDR	**Punta Cana, DR**	**0.42**	**341**	*i* P		19 21 54.3	
PCDR				*e*S		19 22 04.1	
PCDR				IAML		19 22 06.6	
	comp=Z,412nm,0.4s						
SADR	**Isla Saona**	**0.52**	**278**	⇑*e*Pg	**Pn**	**19 21 56.2**	**+0.8**
SADR				⇑*e*Sg	**Sn**	**19 22 08.2**	**+2.3**
SADR				IAML		19 22 10.8	
	comp=N,541nm,0.4s						
HIDR	**Higuey Centro**	**0.66**	**316**	⇑*e*Pg	**Pn**	**19 21 55.9**	**-0.8**
HIDR				⇑*e*Sg	**Sn**	**19 22 07.7**	**-0.4**
HIDR				IAML		19 22 07.9	
	comp=N,1μm,0.3s						
HIDR	**Higuey Centro**	**0.66**	**316**	⇑*e*P	**Pn**	**19 21 55.8**	**-0.9**
HIDR	**Higuey Centro**	**0.66**	**316**	*e*S	**Sn**	**19 22 07.1**	**-1.0**
IDE	**Isla Desecheo**	**0.77**	**70**		**Pn**	**19 21 57.6**	**-0.3**
IDE					**Sn**	**19 22 10.7**	**+0.4**
IDE	**Isla Desecheo**	**0.77**	**70**	⇑*e*P	**Pn**	**19 21 57.6**	**-0.3**
IDE	**Isla Desecheo**	**0.77**	**70**	*e*S	**Sn**	**19 22 10.7**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.08**	**96**		**Pn**	**19 22 01.4**	**0.0**
CRPR					**Sn**	**19 22 16.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.08**	**96**	*e*Pg	**Pn**	**19 22 01.3**	**0.0**
CRPR				⇑*e*Sg	**Sn**	**19 22 16.5**	**+0.1**
CRPR				IAML		19 22 18.1	
	comp=N,95nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.08**	**96**	⇑*e*P	**Pn**	**19 22 01.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.08**	**96**	*e*S	**Sn**	**19 22 16.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.08**	**96**	*i* P		19 22 01.4	
CRPR				IAML		19 22 17.7	
	comp=Z,113nm,0.2s						
LSP	**Las Mesas**	**1.10**	**87**		**Pn**	**19 22 01.6**	**0.0**
LSP					**Sn**	**19 22 18.3**	**+1.4**
LSP	**Las Mesas**	**1.10**	**87**	⇓*e*P	**Pn**	**19 22 01.6**	**0.0**
LSP	**Las Mesas**	**1.10**	**87**	*e*S	**Sn**	**19 22 18.3**	**+1.4**
AGPR	**Aguadilla, PR**	**1.12**	**72**		**Pn**	**19 22 02.2**	**+0.3**
AGPR					**Sn**	**19 22 18.6**	**+1.2**
AGPR				IAML		19 22 19.6	
	comp=E,308nm,0.5s						
AGPR				IAML		19 22 20.0	
	comp=N,195nm,0.2s						
AGPR	**Aguadilla, PR**	**1.12**	**72**	⇑*e*Pg	**Pn**	**19 22 02.2**	**+0.3**
AGPR				IAML		19 22 19.6	
	comp=N,183nm,0.2s						
AGPR	**Aguadilla, PR**	**1.12**	**72**	⇓*e*P	**Pn**	**19 22 02.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.12**	**72**	*e*S	**Sn**	**19 22 18.9**	**+1.4**
AGPR	**Aguadilla, PR**	**1.12**	**72**	*i* P		19 22 02.2	
AGPR				*e*S		19 22 18.7	
AGPR				IAML		19 22 20.4	
	comp=Z,133nm,0.2s						
MLPR	**Magueyes Islan**	**1.14**	**97**		**Pn**	**19 22 01.1**	**-1.1**
MLPR					**Sn**	**19 22 16.6**	**-1.2**
MLPR	**Magueyes Islan**	**1.14**	**97**	⇑*e*P	**Pn**	**19 22 01.1**	**-1.1**
MLPR	**Magueyes Islan**	**1.14**	**97**	*e*S	**Sn**	**19 22 16.6**	**-1.2**
DR12	**Loma Pena Alta**	**1.27**	**302**		**Pn**	**19 22 03.1**	**-0.8**
DR12				Sn	**Sn**	**19 22 19.4**	**-1.5**
DR12				IAML		19 22 20.6	
	comp=E,166nm,0.2s						
DR12				IAML		19 22 27.0	
	comp=N,179nm,0.2s						
HATOM	**Hato Mayor del**	**1.28**	**302**	⇓*e*Pg	**Pn**	**19 22 03.2**	**-0.7**
HATOM				⇑*e*Sg	**Sn**	**19 22 19.7**	**-1.2**
HATOM				IAML		19 22 26.9	
	comp=N,178nm,0.2s						
GBPR	**Guanica, Bosqu**	**1.30**	**96**		**Pn**	**19 22 04.7**	**+0.6**
GBPR					**Sn**	**19 22 21.9**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.30**	**96**	⇑*e*P	**Pn**	**19 22 04.7**	**+0.6**
GBPR	**Guanica, Bosqu**	**1.30**	**96**	*e*S	**Sn**	**19 22 21.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.43**	**81**		**Pn**	**19 22 06.0**	**+0.2**
AOPR					**Sn**	**19 22 24.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.43**	**81**	⇑*e*Pg	**Pn**	**19 22 06.1**	**+0.3**
AOPR				⇑*e*Sg	**Sn**	**19 22 24.6**	**+0.4**
AOPR				IAML		19 22 26.5	
	comp=N,392nm,0.2s						
AOPR	**Arecibo Observ**	**1.43**	**81**	⇓*e*P	**Pn**	**19 22 06.3**	**+0.5**
AOPR	**Arecibo Observ**	**1.43**	**81**	*e*S	**Sn**	**19 22 24.6**	**+0.4**
OBIP	**Obispado Ponce**	**1.55**	**92**		**Pn**	**19 22 06.2**	**-1.2**
OBIP					**Sn**	**19 22 24.9**	**-2.2**
OBIP	**Obispado Ponce**	**1.55**	**92**	⇑*e*P	**Pn**	**19 22 06.2**	**-1.2**
OBIP	**Obispado Ponce**	**1.55**	**92**	*e*S	**Sn**	**19 22 26.1**	**-1.0**
CELP	**Cerrillos**	**1.58**	**91**		**Pn**	**19 22 07.3**	**-0.4**
CELP					**Sn**	**19 22 27.0**	**-0.7**
CELP				IAML		19 22 32.8	
	comp=N,96nm,0.3s						
CELP	**Cerrillos**	**1.58**	**91**	⇑*e*Sg	**Sn**	**19 22 27.8**	**+0.1**
CELP				IAML		19 22 32.8	
	comp=N,96nm,0.2s						
CELP	**Cerrillos**	**1.58**	**91**	⇑*e*P	**Pn**	**19 22 07.6**	**0.0**
CELP	**Cerrillos**	**1.58**	**91**	*e*S	**Sn**	**19 22 27.5**	**-0.2**
EMPR	**Esperanza - Ma**	**1.66**	**77**		**Sn**	**19 22 30.1**	**+0.5**
EMPR	**Esperanza - Ma**	**1.66**	**77**		**Pn**	**19 22 08.2**	**-0.6**
EMPR	**Esperanza - Ma**	**1.66**	**77**	IAML		19 22 31.4	
	comp=N,167nm,0.6s						
EMPR				IAML		19 22 32.4	
	comp=E,190nm,0.4s						
EMPR	**Esperanza - Ma**	**1.66**	**77**	⇑*e*P	**Pn**	**19 22 09.0**	**+0.2**
EMPR	**Esperanza - Ma**	**1.66**	**77**	*e*S	**Sn**	**19 22 30.1**	**+0.5**
ECPR	**Experimental S**	**1.79**	**83**	⇑*e*P	**Pn**	**19 22 10.6**	**+0.1**
ECPR	**Experimental S**	**1.79**	**83**	*e*S	**Sn**	**19 22 32.5**	**-0.2**
DR08	**Loma La Naviza**	**1.89**	**297**	⇑*e*Pg	**Pn**	**19 22 11.6**	**-0.3**
DR08				⇑*e*Sg	**Sn**	**19 22 34.7**	**-0.5**
DR08				IAML		19 22 43.1	
	comp=N,3μm,0.1s						
SJG	**San Juan**	**1.98**	**90**		**Pn**	**19 22 12.1**	**-0.9**
SJG				IAML		19 22 38.7	
	comp=N,130nm,0.6s						
SJG				IAML		19 22 38.8	
	comp=N,99nm,0.4s						
SJG	**San Juan**	**1.98**	**90**	⇑*e*P	**Pn**	**19 22 14.1**	**+1.1**
SJG	**San Juan**	**1.98**	**90**	*e*S	**Sn**	**19 22 37.6**	**+0.4**
SJG	**San Juan**	**1.98**	**90**	*i* P		19 22 13.8	
SJG				*e*S		19 22 36.7	
SJG				IAML		19 22 39.8	
	comp=Z,40nm,0.5s						
IGPR	**InterUniversit**	**2.03**	**94**	Pn	**Pn**	**19 22 12.0**	**-1.6**
IGPR				IAML		19 22 43.2	
	comp=E,130nm,0.3s						
IGPR				IAML		19 22 44.9	
	comp=N,130nm,0.3s						
BANI	**BANI**	**2.04**	**278**	Pn	**Pn**	**19 22 14.4**	**+0.6**
BANI					**Sn**	**19 22 39.5**	**+0.9**
BANI				IAML		19 22 47.9	
	comp=E,144nm,0.4s						
GCPR	**Guaynabo City**	**2.06**	**84**		**Sn**	**19 22 37.9**	**-1.0**
GCPR	**Guaynabo City**	**2.06**	**84**		**Pn**	**19 22 13.4**	**-0.6**
GCPR	**Guaynabo City**	**2.06**	**84**	IAML		19 22 39.2	
	comp=E,58nm,0.4s						
GCPR				IAML		19 22 39.6	
	comp=N,72nm,0.5s						
GCPR	**Guaynabo City**	**2.06**	**84**	⇑*e*P	**Pn**	**19 22 15.8**	**+1.8**
GCPR	**Guaynabo City**	**2.06**	**84**	*e*S	**Sn**	**19 22 37.9**	**-1.0**
PDPR	**Patillas Dam,**	**2.11**	**92**		**Pn**	**19 22 13.2**	**-1.5**
PDPR				IAML		19 22 45.2	
	comp=N,80nm,0.1s						
PDPR	**Patillas Dam,**	**2.11**	**92**	⇑*e*P	**Pn**	**19 22 15.2**	**+0.6**
PDPR	**Patillas Dam,**	**2.11**	**92**	*e*S	**Sn**	**19 22 39.8**	**-0.3**
HUMP	**Col San Antoni**	**2.27**	**89**		**Pn**	**19 22 17.5**	**+0.7**
HUMP					**Sn**	**19 22 43.4**	**-0.7**
HUMP	**Col San Antoni**	**2.27**	**89**	IAML		19 22 45.9	
	comp=N,89nm,0.3s						
HUMP				IAML		19 22 46.7	
	comp=E,122nm,0.3s						
HUMP	**Col San Antoni**	**2.27**	**89**	⇑*e*P	**Pn**	**19 22 17.5**	**+0.7**
HUMP	**Col San Antoni**	**2.27**	**89**	*e*S	**Sn**	**19 22 43.4**	**-0.7**
ABDR	**Alto Bandera**	**2.37**	**287**	⇑*e*Pg	**Pn**	**19 22 19.2**	**+0.7**
ABDR				⇑*e*Sg	**Sn**	**19 22 47.6**	**+0.6**
ABDR				IAML		19 22 55.2	
	comp=N,86nm,0.4s						
SC01	**Santiago de lo**	**2.70**	**299**	Pn	**Pn**	**19 22 21.4**	**-1.1**
PODR	**Polo**	**2.90**	**271**	⇑*e*Pg	**Pn**	**19 22 25.3**	**-0.1**
PODR				⇑*e*Sg	**Sn**	**19 22 57.9**	**-1.5**
PODR				IAML		19 23 19.9	
	comp=N,25nm,1.1s						
LOVI	**El Cajuil, Ovi**	**3.00**	**264**	*i* P		19 22 26.7	
LOVI				*e*S		19 22 58.7	
LOVI				IAML		19 23 05.8	
	comp=Z,44nm,0.1s						
SDDR	**Presa de Saban**	**3.02**	**287**		**Pn**	**19 22 27.3**	**+0.3**
SDDR				IAML		19 23 11.8	
	comp=Z,45nm,0.8s						
SDDR				IAML		19 23 15.1	
	comp=Z,48nm,0.7s						
SDDR	**Presa de Saban**	**3.02**	**287**	⇑*e*Pg	**Pn**	**19 22 29.3**	**+2.3**
SDDR				IAML		19 23 15.0	
	comp=N,42nm,0.5s						
SDDR	**Presa de Saban**	**3.02**	**287**	*i* P		19 22 28.3	
SDDR				IAML		19 23 13.2	
	comp=Z,20nm,0.7s						
LONE3	**El Aguacate, B**	**3.10**	**280**	*i* P		19 22 29.6	
LONE3				IAML		19 23 17.3	
	comp=Z,12nm,0.6s						
LOBH	**Bahia de las A**	**3.25**	**266**	*i* P		19 22 30.5	
LOBH				*e*S		19 23 05.6	
LOBH				IAML		19 23 07.5	
	comp=Z,51nm,1.3s						
GRTK	**Grand Turk**	**4.34**	**322**	Pn	**Pn**	**19 22 46.1**	**+1.2**

*SCB **05** 19:22:14.8±1.2, 17°.20S×69°.58W, h166km±13km, ML2.7/2, MW3.4, Error ellipse: s-maj=9.4km s-min=8.9km az=2.0*
*IDC **05** 19:22:17.4±5.0, 15°.06S×69°.18W, h148km±49km, mb3.6/3, mbtmp3.9/4, MS3.2/1, Error ellipse: s-maj=98.4km s-min=36.7km az=173.0*
ISC 05 19:22:15.3±1.3, 17°.27S±0°.08×69°.4W±0°.1, h150km, n17, σ2.74/20, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**1.02**	**52**	Pg	**Pn**	**19 22 43.4**	**+2.5**
SOEJ	**Jacaque**	**1.22**	**76**	Pg	**Pn**	**19 22 45.8**	**+3.1**
SOEJ				Sg	**Sn**	**19 23 08.2**	**+4.7**
SOEJ				IAML		19 23 08.7	
	52nm,1.3s						
BBOE	**La Paz, Chanca**	**1.46**	**72**	Pg	**Pn**	**19 22 48.4**	**+3.3**
LPAZ	**La Paz**	**1.58**	**52**	P	**Pn**	**19 22 48.2**	**+1.7**
	270nm,0.3s,baz=243,slow=2.6,SNR=1020						
LPAZ				S	**Sn**	**19 23 12.2**	**+2.0**
	27nm,0.5s,baz=143,slow=25,SNR=7.9						
LPAZ	**La Paz**	**1.58**	**52**	Pg	**Pn**	**19 22 48.5**	**+2.0**
LPAZ				Sg	**Sn**	**19 23 13.0**	**+2.8**
LPAZ				IAML		19 23 13.1	
	46nm,0.5s						
PB12	**IPOC Station P**	**1.58**	**212**	Pg	**Pn**	**19 22 46.8**	**+0.9**
SOEO	**Opoqueri**	**1.95**	**131**	Pg	**Pn**	**19 22 53.8**	**+3.4**
PB08	**IPOC Station P**	**2.87**	**175**	Pg	**Pn**	**19 23 03.6**	**+2.2**
SOET	**ToroToro**	**3.55**	**104**	Pg	**Pn**	**19 23 12.2**	**+2.1**
PB01	**IPOC Station P**	**3.75**	**181**	Pg	**Pn**	**19 23 13.5**	**+1.0**
AOEA	**Aiguile**	**4.10**	**103**	Pg	**Pn**	**19 23 19.4**	**+2.2**
PB09	**IPOC Station P**	**4.50**	**178**	Pg	**Pn**	**19 23 23.6**	**+1.2**
SIV	**San Ignacio**	**8.11**	**82**	P	**Pn**	**19 24 09.2**	**-1.1**
	1.3nm,0.3s,baz=264,slow=13,SNR=6.2						
SIV				S	**Sn**	**19 25 37.2**	**-3.5**
	1.1nm,0.6s,baz=200,slow=6.1,SNR=3.7						
BDFB	**Brasilia**	**20.60**	**89**	P	**P**	**19 26 43.6**	**+0.6**
	1.6nm,0.5s,baz=240,slow=8.1,SNR=3.4						
	1.6nm,0.5s						
SJG	**San Juan**	**35.31**	**5**	LR	LR	19 43 01.0	
	comp=Z,39nm,18.6s,baz=24,slow=38						
DBIC	**Dimbokro**	**68.07**	**75**	P	**P**	**19 32 56.5**	**-2.8**
	1.8nm,0.6s,baz=248,slow=7.9,SNR=2.0						
	1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.44**	**71**	P	**P**	**19 33 46.3**	**-2.7**
	0.7nm,0.4s,baz=257,slow=5.9,SNR=10						
	0.7nm,0.4s						

*NEIC **05** 19:28:14.1±2.0, 9°.50S×0°.05×106°.81E±0°.05, h10km±1km, mb4.6/32, Error ellipse: s-maj=10.2km s-min=6.6km az=137.0*
*IDC **05** 19:28:14.7±1.1, 9°.32S×106°.79E, h0km, mb4.3/11, mbtmp4.3/12, ML3.9/1, MS3.2/4, Error ellipse: s-maj=37.9km s-min=15.7km az=62.0*
*DJA **05** 19:28:18.2±1.4, 9°.S±3°×10°.7E±°, h33km±25km, M4.8/24, mB5.5/6, mb5.1/13, MLv4.6/24, Mw(mB)5.0/6*
ISC 05 19:28:16.2±0.4, 9°.44S±0°.04×106°.81E±0°.04, h22km, n111, σ1.61/107, mb4.6/34, MS4.2/6, 4C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.49**	**228**	P	**Pn**	**19 28 42.6**	**+0.8**
XMI	**Christmas Isla**	**1.49**	**228**	S	**Sn**	**19 29 00.5**	**-0.1**
XMIS	**Christmas Isla**	**1.54**	**228**	Pn	**Pn**	**19 28 42.8**	**+0.4**
XMIS				Sn	**Sn**	**19 28 59.1**	**-2.7**
XMIS	**Christmas Isla**	**1.54**	**228**	P	**Pn**	**19 28 42.9**	**+0.5**
XMIS	**Christmas Isla**	**1.54**	**228**	S	**Sn**	**19 29 02.2**	**+0.4**
BBJI	**Bungbulang**	**2.13**	**23**	P	**Pn**	**19 28 49.9**	**-0.7**
CNJI	**Cibinong**	**2.14**	**8**	P	**Pn**	**19 28 49.8**	**-0.9**
CMJI	**Cimerak**	**2.31**	**45**	P	**Pn**	**19 28 52.9**	**0.0**
SKJI	**Sukabumi**	**2.43**	**354**	P	**Pn**	**19 28 54.7**	**0.0**
LEM	**Lembang**	**2.72**	**17**	Pn	**Pn**	**19 28 59.7**	**+1.0**
	22nm,0.3s,baz=50,slow=11,SNR=44						
LEM				Sn	**Sb**	**19 29 35.5**	**-1.7**
	36nm,0.3s,baz=152,slow=23,SNR=6.2						
LEM				LR	LR	19 30 03.0	
	comp=Z,606nm,18.0s,baz=230,slow=42						
	288nm,0.7s						
LEM	**Lembang**	**2.72**	**17**	P	**Pn**	**19 28 59.9**	**+1.2**
KPJI	**Karang Pucung**	**2.96**	**45**	P	**Pn**	**19 29 03.6**	**+1.6**
CGJI	**Cibinong**	**3.02**	**338**	P	**Pn**	**19 29 02.2**	**-0.6**
CGJI				S	**Sn**	**19 29 37.4**	**-0.9**
SBJI	**Serang**	**3.37**	**348**	P	**Pn**	**19 29 08.1**	**+0.5**
UGM	**Wanagama**	**3.97**	**68**		**Pn**	**19 29 15.8**	**0.0**
UGM				Sn	**Sn**	**19 30 00.1**	**-1.7**
UGM	**Wanagama**	**3.97**	**68**	P	**Pn**	**19 29 16.7**	**+0.8**
UGM	**Wanagama**	**3.97**	**68**	P	**Pn**	**19 29 16.2**	**+0.3**
SMRI	**Semarang**	**4.31**	**57**		**Pn**	**19 29 19.6**	**-0.8**
SMRI	**Semarang**	**4.31**	**57**	P	**Pn**	**19 29 22.9**	**+2.4**
PCJI	**Pacitan**	**4.49**	**74**	P	**Pn**	**19 29 24.7**	**+1.8**
LWLI	**Liwa**	**5.17**	**328**	P	**Pn**	**19 29 31.9**	**-0.6**
	1.5nm3μm251nm,0.7s						
MDSI	**Maura Dua**	**5.58**	**332**	P	**Pn**	**19 29 37.5**	**-0.4**
GRJI	**Gresik**	**6.14**	**66**	P	**Pn**	**19 29 47.8**	**+2.1**
	267nm,1.9s						
MNAI	**Manna**	**6.34**	**323**	Pn	**Pn**	**19 29 47.0**	**-1.4**
MNAI				Sn	**Sn**	**19 30 57.1**	**-3.1**
MNAI	**Manna**	**6.34**	**323**	P	**Pn**	**19 29 47.5**	**-0.9**
	0.8nm191nm,0.8s						
GMJI	**Gumukmas**	**6.66**	**80**	P	**Pn**	**19 29 54.8**	**+2.1**
	0.3nm80nm,0.7s						
TPI	**Tanjungpandan**	**6.69**	**7**	P	**Pn**	**19 29 53.4**	**+0.1**
	0.1nm43nm,0.9s						
KSI	**Kapahiang**	**7.12**	**324**	P	**Pn**	**19 29 58.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**7.31**	**83**	Pn	**Pn**	**19 30 02.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**7.31**	**83**	P	**Pn**	**19 30 04.0**	**+2.2**
JAGI	**Jajag, Banyuwa**	**7.31**	**83**	P	**Pn**	**19 30 03.5**	**+1.7**
ABJI	**Asem Bagus**	**7.52**	**78**	P	**Pn**	**19 30 07.4**	**+2.8**
	0.4nm109nm,1.1s						
SRBI	**Singaraja**	**8.41**	**81**	P	**Pn**	**19 30 19.3**	**+2.4**
COCO	**West Island**	**10.18**	**254**	Pn	**Pn**	**19 30 40.7**	**-0.3**
PLAI	**Plampang**	**10.84**	**88**	P	**Pn**	**19 30 52.4**	**+2.2**
SBUM	**Sibu**	**12.98**	**25**	Pn	**Pn**	**19 31 18.9**	**-0.6**
KAPI	**Kappang**	**13.57**	**72**	LR	LR	19 37 19.3	
	comp=Z,59nm,21.4s,baz=219,slow=40						
GSI	**Gunungsitoli**	**14.09**	**319**		Pn	19 31 28.4	-6.3
GSI	**Gunungsitoli**	**14.09**	**319**	P	**Pn**	**19 31 30.6**	**-4.1**
GIRL	**Giralia**	**14.93**	**152**	Pn	**Pn**	**19 31 44.5**	**-1.6**
GIRL	**Giralia**	**14.93**	**152**	P	**Pn**	**19 31 47.4**	**+1.3**
	183nm,1.5s						
KULM	**Kulim**	**15.87**	**337**	Pn	**Pn**	**19 31 57.7**	**-0.7**
MBWA	**Marble Bar**	**17.04**	**135**	Pn	**Pn**	**19 32 10.1**	**-3.2**
SOEI	**Soe**	**17.21**	**92**		**Pn**	**19 32 13.4**	**-2.2**
TOLI2	**Tolitoli**	**17.42**	**54**	P	**Pn**	**19 32 16.9**	**-1.1**
KKM	**Kota Kinabalu**	**18.01**	**32**		**Pn**	**19 32 24.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.19**	**117**	P	**P**	**19 32 47.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**20.19**	**117**	P	Pn	19 32 52.1	+0.5
	11nm,0.8s,baz=259,slow=3.1,SNR=8.9						
	11nm,0.8s						
KNRA	**Kununurra**	**22.29**	**108**	P	**P**	**19 33 11.3**	**-0.9**
KNRA				IAmb	IAmb	19 33 31.2	
	comp=Z,37nm,1.3s						
TNTI	**Ternate**	**22.84**	**65**	P	**P**	**19 33 16.6**	**-1.5**
UBPT	**Khong Chiam**	**24.60**	**357**	P	**P**	**19 33 35.0**	**0.0**
DAV	**Davao City (W)**	**24.87**	**49**	LR	LR	19 45 57.6	
	comp=Z,86nm,18.2s,baz=314,slow=43						
TGY	**Tagaytay City**	**27.27**	**31**	LR	LR	19 46 31.5	
	comp=Z,48nm,20.5s,baz=274,slow=40						
QIZ	**Qiongzhong**	**28.45**	**6**	P	**P**	**19 34 10.7**	**+1.0**
QIZ				S	**S**	**19 38 58.8**	**+2.8**
QIZ				LR	LR		
	comp=N,170nm,12.2s						
QIZ				LR	LR		
	comp=E,170nm,15.5s						
QIZ				LR	LR		
	comp=Z,170nm,12.7s						
PHRA	**Phrae**	**28.51**	**347**	P	**P**	**19 34 09.5**	**-0.8**
WB0	**Warramunga Arr**	**28.55**	**114**	P	**P**	**19 34 09.8**	**-0.9**
WB0				IAmb	IAmb	19 34 46.8	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**28.55**	**115**	P	**P**	**19 34 12.5**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=278,slow=7.0,SNR=2.5						
	comp=Z,1.0nm,0.9s						
WRAB	**Tennant Creek**	**28.56**	**115**	P	**P**	**19 34 07.8**	**-3.0**
WRAB				IAmb	IAmb	19 34 25.8	
	comp=Z,20nm,1.5s						
CM31	**Chiang Mai Arr**	**28.79**	**344**	P	**P**	**19 34 11.6**	**-1.2**
CM31

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**49.03**	**353**	*e*P	**P**	**19 37 04.1**	**+2.4**
GTA				pP	pwP	19 37 14.4	-0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**50.23**	**5**	*e*P	**P**	**19 37 11.6**	**+0.8**
HHC				pP	pwP	19 37 22.2	-1.9
HHC				S	**S**	**19 44 20.4**	**-1.5**
HHC				sS	sS	19 44 43.9	+13
HHC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,26nm,3.8s						
HHC				LR	LR		
	comp=N,1μm,17.7s						
HHC				LR	LR		
	comp=E,700nm,16.8s						
HHC				LR	LR		
	comp=Z,710nm,18.3s						
KSRS	**Korea Array**	**50.67**	**22**	P	**P**	**19 37 14.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=228,slow=5.7,SNR=2.9						
	comp=Z,0.8nm,0.8s						
WMQ	**Urumqi**	**55.78**	**343**	*e*P	**P**	**19 37 53.7**	**+2.1**
WMQ				LR	LR		
	comp=N,2μm,14.7s						
WMQ				LR	LR		
	comp=E,2μm,17.9s						
WMQ				LR	LR		
	comp=Z,900nm,17.9s						
KBL	**Kabul**	**56.51**	**323**	P	**P**	**19 37 57.0**	**-0.2**
SONM	**Songino Array**	**57.02**	**360**	P	**P**	**19 38 00.9**	**+0.4**
SONM				IAmb	IAmb	19 38 16.6	
	comp=Z,6.1nm,1.3s						
SONM	**Songino Array**	**57.02**	**360**	P	**P**	**19 38 02.2**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=176,slow=6.7,SNR=13						
	comp=Z,1.4nm,0.7s						
ULN	**Ulaanbaatar**	**57.05**	**0**	P	**P**	**19 37 59.9**	**-0.8**
ULN				IAmb	IAmb	19 38 25.3	
	comp=Z,3.9nm,0.9s						
BNX	**BinXian**	**57.96**	**17**	⇓P	**P**	**19 38 07.3**	**+0.4**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.9s						
H04N2	**CROZET ISLANDS**	**59.31**	**221**	T	T	20 42 57.9	
	baz=68						
H04N1	**CROZET ISLANDS**	**59.33**	**221**	T	T	20 42 53.5	
	baz=68,slow=74						
H04N3	**CROZET ISLANDS**	**59.33**	**221**	T	T	20 42 56.5	
	baz=68,slow=74						
SIMJ	**Simiganj**	**59.41**	**326**	P	**P**	**19 38 16.3**	**-1.1**
MKAR	**Makanchi Array**	**60.11**	**341**	P	**P**	**19 38 21.5**	**-0.4**
MKAR	**Makanchi Array**	**60.11**	**341**	P	**P**	**19 38 22.7**	**+0.8**
	comp=Z,10nm,0.7s,baz=155,slow=7.4,SNR=1.8						
	comp=Z,10nm,0.7s						
KURBB	**Kurchatov Arra**	**64.67**	**340**	P	**P**	**19 38 53.7**	**+1.4**
	comp=Z,12nm,0.9s,baz=161,slow=6.4,SNR=4.1						
	comp=Z,12nm,0.9s						
BFZ	**Birch Farm**	**68.32**	**130**	P	**P**	**19 39 14.2**	**-1.7**
BKZ	**Black Stump Fm**	**68.35**	**128**	P	**P**	**19 39 13.0**	**-3.3**
SYO	**Syowa Base**	**73.16**	**200**	⇑*e*sP	sP	19 39 50.2	-1.5
YAK	**Yakutsk**	**73.45**	**11**	P	**P**	**19 39 45.8**	**-0.7**
YAK				IAmb	IAmb	19 40 01.1	
	comp=Z,9.0nm,0.8s						
PETK	**Petropavlovsk-**	**75.80**	**29**	P	**P**	**19 40 01.3**	**+0.8**
PETK	**Petropavlovsk-**	**75.80**	**29**	P	**P**	**19 40 01.8**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=230,slow=8.2,SNR=2.0						
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**80.56**	**180**	P	**P**	**19 40 30.0**	**+3.2**
	comp=Z,2.6nm,0.9s,baz=284,slow=1.8,SNR=5.9						
	comp=Z,2.6nm,0.9s						
BRG	**Berggiesshubel**	**99.06**	**320**	S	**Pdif**	**19 41 54.0**	**-1.5**
TXAR	**Lajitas Array**	**145.27**	**51**	PKPbc	**PKPdf**	**19 47 55.1**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=283,slow=1.4,SNR=8.7						

AFAD ***05*** *19:31:24.0, 40.°98N×50.°21E, h17km, MW5.1*
BJI ***05*** *19:31:29.9, 40.°76N×47.°76E, h8km, mB5.3/57, mb5.0/87, Ms5.2/80, Ms7 5.0/78*
IDC ***05*** *19:31:34.5±0.4, 40.°73N×48.°52E, h0km, mb4.7/32, mbtmp4.6/47, ML4.0/13, MS4.6/76, Error ellipse: s-maj=8.6km s-min=5.5km az=179.0*
MOS ***05*** *19:31:34.7±1.5, 40.°70N×48.°67E, h10km, mb5.3/66, MS4.6/16, Error ellipse: s-maj=3.6km s-min=2.6km az=42.3*
NEIC ***05*** *19:31:36.3, 40.°90N×48.°61E, h12km*
NEIC ***05*** *19:31:36.3±2.0, 40.°90N±0.°06×48.°61E±0.°08, h10km±1km, mb5.3/393, Mww5.0/13, Error ellipse: s-maj=11.1km s-min=9.7km az=159.0*
AZER ***05*** *19:31:37.0, 40.°78N×48.°46E, h8km, ml5.2, Mw5.2*
NEIC ***05*** *19:31:36.3, 40.°80N×49.°00E, h12km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16 Nm; Mrr3.23; Mθθ-3.97; Mφφ0.73; Mrθ-1.18; Mθφ2.06; Mφr0.75; Fault plane solution: M0 4.24000×10^16 NP1: φs101.45000°, δ36.18000°, λ76.55000°. NP2: φs297.96000°, δ54.96000°, λ99.65000°. Principal axes: T 3.5032, Plg78.0000°, Azm242.0000°; N 1.4715, Plg8.0000°, Azm112.0000°; P -4.9746, Plg9.0000°, Azm21.0000°;*
DRS ***05*** *19:31:37.0, 40.°67N×48.°55E, h60km*
GCMT ***05*** *19:31:38.3±0.1, 40.°70N±0.°01×48.°52E±0.°01, h18km, MW5.2/114, Moment Tensor Solution. s95, c138; s114, c207; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.53±.01; Mθθ-0.64±.01; Mφφ0.11±.01; Mrθ0.36±.03; Mθφ0.24±.01; Mφr0.36±.03; Best double couple: M0 0.81900×10^17 NP1: φs314.00000°, δ42.00000°, λ141.00000°. NP2: φs76.00000°, δ65.00000°, λ55.00000°. Principal axes: T 0.8660, Plg56.0000°, Azm299.0000°; N -0.0940, Plg31.0000°, Azm92.0000°; P -0.7720, Plg13.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
TIF ***05*** *19:31:38.0, 40.°77N×48.°48E, h18km±1km*
GII ***05*** *19:31:40.5±0.0, 40.°78N×48.°46E, h8km, confirmed*
NNC ***05*** *19:31:42.5±4.1, 40.°98N×49.°49E, h0km, mb5.2, Error ellipse: s-maj=57.8km s-min=32.2km az=91.0*
BGR ***05*** *19:32:04.0, 41.°75N×45.°01E, h33km, mb4.5*
ISC 05 19:31:36.9±0.4, 40.°77N±0.°01×48.°50E±0.°01, h14km±2km, h13km: pP-P, n1441, σ1s77/1523, mb5.2/327, MS4.8/133, 113C-48D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.08**	**75**	P	**Pg**	**19 31 41.4**	**+1.5**
PQL				S	**Sg**	**19 31 44.3**	**+2.4**
IML	**Ismayilli**	**0.24**	**276**	P	**Pb**	**19 31 44.0**	**+0.9**
IML				S	**Sb**	**19 31 49.5**	**+2.3**
ATGJ	**Altiaghaj**	**0.35**	**75**	P	**Pb**	**19 31 46.0**	**+1.0**
ATGJ				S	**Sb**	**19 31 52.3**	**+1.9**
GBS	**Qobustan**	**0.41**	**124**	P	**Pb**	**19 31 47.4**	**+1.4**
GBS				S	**Sb**	**19 31 54.7**	**+2.5**
SIZA	**Siyzn**	**0.43**	**45**	P	**Pn**	**19 31 48.0**	**-0.9**
SIZA				S	**Sb**	**19 31 56.3**	**+3.4**
KDMR	**Kurdemir**	**0.46**	**211**	P	**Pb**	**19 31 47.9**	**+1.2**
KDMR				S	**Sb**	**19 31 57.1**	**+3.7**
XNQ	**Khinaliq**	**0.48**	**326**	P	**Pb**	**19 31 48.4**	**+1.0**
XNQ				S	**Sb**	**19 31 56.1**	**+1.7**
QBL	**Gabala**	**0.53**	**290**	P	**Pb**	**19 31 49.0**	**+1.0**
QBL				S	**Sn**	**19 31 58.6**	**-0.3**
QUBA	**Quba, Azerbaij**	**0.58**	**360**	P	**Pn**	**19 31 51.5**	**+0.6**
QUBA				S	**Sn**	**19 32 01.3**	**+1.0**
QSAR	**Qusar**	**0.77**	**347**	P	**Pn**	**19 31 54.2**	**+0.9**
QSAR				S	**Sn**	**19 32 05.8**	**+1.0**
ZRD	**Zardab**	**0.79**	**232**	P	**Pn**	**19 31 54.0**	**+0.5**
ZRD				S	**Sn**	**19 32 07.8**	**+2.6**
KSMR	**Kasumkent**	**0.88**	**342**	*i* Pg	**Pn**	**19 31 56.2**	**+1.2**
	10μm,0.4s						
KSMR				*e*Sg	**Sn**	**19 32 10.7**	**+3.1**
	96μm,0.3s						
KSMR	**Kasumkent**	**0.88**	**342**	⇑*i*PG	**Pn**	**19 31 56.1**	**+1.2**
KSMR				*e*S	**Sn**	**19 32 10.7**	**+3.1**
KSMR				pmax	pmax		
	comp=Z,10μm,0.4s						
ALIB	**&Aumlli-Bayram**	**0.90**	**154**	P	**Pn**	**19 31 57.3**	**+2.2**
ALIB				S	**Sn**	**19 32 13.3**	**+5.4**
SAAT	**Saatly**	**0.91**	**183**	P	**Pb**	**19 31 55.3**	**+0.9**
SAAT				S	**Sn**	**19 32 09.9**	**+1.7**
AKT	**Akhty**	**0.92**	**321**	*i* Pg	**Pn**	**19 31 56.2**	**+0.7**
	comp=Z,6μm,0.6s						
AKT				*e*Sg	**Sn**	**19 32 10.9**	**+2.3**
	comp=Z,20μm,0.3s						
AKT	**Akhty**	**0.92**	**321**	⇑*i*PG	**Pn**	**19 31 56.1**	**+0.7**
AKT				*e*S	**Sn**	**19 32 10.8**	**+2.3**
GOBA	**Gobu**	**1.01**	**111**	P	**Pn**	**19 32 00.2**	**+3.5**
GOBA				S	**Sn**	**19 32 16.0**	**+5.2**
MNGR	**Mingechevir, A**	**1.07**	**271**	P	**Pn**	**19 31 59.0**	**+1.4**
MNGR				S	**Sn**	**19 32 15.3**	**+3.1**
MNGR	**Mingechevir, A**	**1.07**	**271**	PG	**Pn**	**19 31 58.9**	**+1.4**
SEKA	**Sheki**	**1.07**	**295**	P	**Pg**	**19 31 58.0**	**+0.3**
SEKA				S	**Sn**	**19 32 14.8**	**+2.4**
SEKA	**Sheki**	**1.07**	**295**	PG	**Pg**	**19 31 57.9**	**+0.3**
BRDA	**Brd**	**1.12**	**244**	P	**Pn**	**19 32 00.2**	**+2.0**
BRDA				S	**Sn**	**19 32 18.4**	**+4.9**
NDR	**Nardaran**	**1.15**	**99**	P	**Pn**	**19 32 02.0**	**+3.4**
NDR				S	**Sn**	**19 32 20.1**	**+5.9**
AGDM	**Agdam**	**1.25**	**238**	P	**Pb**	**19 32 01.1**	**+0.8**
AGDM				S	**Sn**	**19 32 20.0**	**+3.4**
DRN	**Derbent**	**1.27**	**354**	*e*Pg	**Pg**	**19 32 02.1**	**+0.9**
	comp=Z,5μm,0.4s						
DRN				*e*Sg	**Sn**	**19 32 21.2**	**+4.2**
	comp=Z,16μm,0.4s						
DRN	**Derbent**	**1.27**	**354**	*e*PG	**Pg**	**19 32 02.1**	**+0.9**
DRN				*e*S	**Sn**	**19 32 21.2**	**+4.2**
DRN				pmax	pmax		
	comp=Z,5μm,0.4s						
BLQ	**Beylaqan**	**1.27**	**215**	P	**Pn**	**19 32 01.0**	**+0.7**
BLQ				S	**Sg**	**19 32 19.0**	**+1.2**
GALA	**Gala**	**1.31**	**105**	Pn	**Pg**	**19 32 04.5**	**+2.4**
GLBA	**Clilabad**	**1.53**	**183**	Pg	**Pn**	**19 32 04.5**	**+0.7**
GLBA				Sn	**Sg**	**19 32 26.6**	**+0.5**
URKR	**Urkarakh**	**1.54**	**335**	*i* Pg	**Pg**	**19 32 08.0**	**+1.6**
	comp=Z,4μm,0.4s						
URKR				*e*Sg	**Sg**	**19 32 31.1**	**+4.7**
	comp=Z,6μm,0.3s						
URKR	**Urkarakh**	**1.54**	**335**	⇑*i*PN	**Pg**	**19 32 08.0**	**+1.6**
URKR				*e*S	**Sg**	**19 32 31.1**	**+4.7**
URKR				pmax	pmax		
	comp=Z,4μm,0.4s						
QRD	**Qoradiz**	**1.59**	**215**	Pg	**Pn**	**19 32 05.2**	**+0.6**
QRD				Sg	**Sb**	**19 32 27.1**	**+1.2**
VSHL	**Vashlovani**	**1.65**	**287**	P	**Pb**	**19 32 08.4**	**+1.2**
VSHL				S	**Sg**	**19 32 31.0**	**+1.0**
GANJ	**Ganja**	**1.66**	**266**	Pg	**Pn**	**19 32 06.2**	**+0.5**
GANJ				Sg	**Sb**	**19 32 28.7**	**+0.7**
GANJ	**Ganja**	**1.66**	**266**	PN	**Pn**	**19 32 06.1**	**+0.5**
ZKTA	**Zakatala**	**1.66**	**302**	Pg	**Pb**	**19 32 08.0**	**+0.8**
ZKTA				Sn	**Sg**	**19 32 32.0**	**+1.8**
KMKR	**Kumukh**	**1.72**	**323**	*i* Pg	**Pg**	**19 32 11.0**	**+1.1**
	comp=Z,3μm,0.6s						
KMKR				*e*Sg	**Sg**	**19 32 36.1**	**+3.9**
	comp=Z,7μm,0.5s						
KMKR	**Kumukh**	**1.72**	**323**	⇑*i*PN	**Pg**	**19 32 10.9**	**+1.1**
KMKR				*e*S	**Sg**	**19 32 36.1**	**+3.9**
KMKR				pmax	pmax		
	comp=Z,3μm,0.6s						
SGKR	**Sergokala**	**1.80**	**340**	*i* Pg	**Pg**	**19 32 11.5**	**0.0**
	comp=Z,3μm,0.6s						
SGKR				*e*Sg	**Sg**	**19 32 37.9**	**+3.0**
	comp=Z,9μm,0.4s						
SGKR	**Sergokala**	**1.80**	**340**	⇑*i*PN	**Pg**	**19 32 11.4**	**0.0**
SGKR				*e*S	**Sg**	**19 32 37.8**	**+3.0**
SGKR				pmax	pmax		
	comp=Z,3μm,0.6s						
YRD	**Yardimli**	**1.86**	**186**	Pg	**Pn**	**19 32 09.1**	**+0.6**
YRD				Sg	**Sb**	**19 32 34.4**	**+0.4**
GNBR	**Gunib**	**1.98**	**325**	*i* Pg	**Pg**	**19 32 14.8**	**-0.2**
	comp=Z,2μm,0.6s						
GNBR				*e*Sg	**Sg**	**19 32 42.2**	**+1.5**
	comp=Z,4μm,0.8s						
GNBR	**Gunib**	**1.98**	**325**	⇑*i*PN	**Pg**	**19 32 14.7**	**-0.2**
GNBR				*e*S	**Sg**	**19 32 42.2**	**+1.5**
GNBR				pmax	pmax		
	comp=Z,2μm,0.6s						
LGD	**Lagodekhi**	**2.00**	**303**	P	**Pb**	**19 32 13.6**	**+0.5**
LGD				S	**Sg**	**19 32 42.4**	**+1.1**
LGD	**Lagodekhi**	**2.00**	**303**	PN	**Pb**	**19 32 13.6**	**+0.5**
LGD				S	**Sg**	**19 32 42.4**	**+1.1**
LKRN	**Lenkeran, Azer**	**2.07**	**174**	Pg	**Pn**	**19 32 11.8**	**+0.5**
LKRN				Sn	**Sb**	**19 32 41.0**	**+1.3**
LKRN	**Lenkeran, Azer**	**2.07**	**174**	PN	**Pn**	**19 32 11.7**	**+0.5**
GDB	**GEDABAY**	**2.08**	**270**	Pg	**Pn**	**19 32 12.2**	**+0.6**
GDB				Sn	**Sn**	**19 32 40.0**	**+2.6**
LRK	**Lerik**	**2.13**	**183**	Pn	**Pn**	**19 32 13.0**	**+0.8**
LRK				Sn	**Sb**	**19 32 41.5**	**-0.2**
ARKR	**Arakani**	**2.15**	**329**	*i* Pn	**Pb**	**19 32 17.0**	**+1.4**
	comp=Z,2μm,0.9s						
ARKR				*e*Sn	**Sg**	**19 32 47.2**	**+1.3**
	comp=Z,2μm,0.4s						
ARKR	**Arakani**	**2.15**	**329**	⇑*i*PN	**Pb**	**19 32 17.0**	**+1.4**
ARKR				*e*S	**Sg**	**19 32 47.2**	**+1.3**
ARKR				pmax	pmax		
	comp=Z,2μm,0.9s						
ASTR	**Astara**	**2.22**	**174**	Pn	**Pn**	**19 32 13.7**	**+0.4**
ASTR				Sn	**Sn**	**19 32 41.8**	**+1.3**
XNZR	**Khunzakh**	**2.22**	**323**	*i* Pn	**Pb**	**19 32 18.2**	**+1.3**
	comp=Z,1μm,0.6s						
XNZR				*e*Sn	**Sg**	**19 32 48.8**	**+0.5**
	comp=Z,2μm,1.5s						
HNZR	**Khunzah**	**2.23**	**324**	⇑*i*PN	**Pb**	**19 32 18.2**	**+1.1**
HNZR				*e*S	**Sg**	**19 32 48.7**	**+0.2**
HNZR				pmax	pmax		
	comp=Z,1μm,0.6s						
BUJR	**Buynaksk**	**2.30**	**334**	*i* Pn	**Pb**	**19 32 19.1**	**+0.9**
	comp=Z,819nm,0.4s						
BUJR				*e*Sn	**Sg**	**19 32 50.2**	**-0.7**
	comp=Z,3μm,0.4s						
BUJR	**Buynaksk**	**2.30**	**334**	⇑*i*PN	**Pb**	**19 32 19.1**	**+0.9**
BUJR				*e*S	**Sg**	**19 32 50.1**	**-0.7**
BUJR				pmax	pmax		
	comp=Z,819nm,0.4s						
MAK	**Makhachkala**	**2.31**	**342**	⇑*i*PN	**Pb**	**19 32 19.5**	**+1.2**
MAK				*e*		19 32 25.7	
MAK				*e*S	**Sg**	**19 32 52.1**	**+1.0**
MAK				*e*		19 32 55.5	
MAK				pmax	pmax		
	comp=Z,2μm,0.4s						
MAK				smax	smax		
	comp=E,9μm,0.5s						
MAK				smax	smax		
	comp=E,9μm,1.5s						
UNCR	**Uncukul**	**2.32**	**327**	*i* Pn	**Pb**	**19 32 19.3**	**+0.7**
	comp=E,2μm,1.0s						
UNCR				*e*Sn	**Sg**	**19 32 51.1**	**-0.4**
	comp=E,3μm,0.6s						
UNCR	**Uncukul**	**2.32**	**327**	⇑*i*PN	**Pb**	**19 32 19.2**	**+0.7**
UNCR				*e*S	**Sg**	**19 32 51.1**	**-0.4**
UNCR				pmax	pmax		
	comp=Z,2μm,1.0s						
KRNR	**Karanay**	**2.37**	**331**	*i* Pn	**Pb**	**19 32 20.1**	**+0.6**
	comp=Z,1μm,0.5s						
KRNR				*e*Sn	**Sg**	**19 32 52.5**	**-0.7**
	comp=Z,907nm,0.4s						
KRNR	**Karanay**	**2.37**	**331**	⇑*i*PN	**Pb**	**19 32 20.1**	**+0.6**
KRNR				*e*S	**Sg**	**19 32 52.5**	**-0.7**
KRNR				pmax	pmax		
	comp=Z,1μm,0.5s						
QZX	**Qazax, Azerbai**	**2.38**	**278**	Pn	**Pn**	**19 32 17.1**	**+1.5**
QZX				Sn	**Sn**	**19 32 47.2**	**+2.5**
DGRG	**David-gareji**	**2.46**	**287**	P	**Pb**	**19 32 19.6**	**-1.2**
DGRG	**David-gareji**	**2.46**	**287**	PN	**Pb**	**19 32 19.6**	**-1.2**
KANR	**Karaman**	**2.54**	**343**	*i* Pn	**Pb**	**19 32 22.4**	**+0.2**
	comp=Z,1μm,0.7s						
KANR	**Karaman**	**2.54**	**343**	PN	**Pb**	**19 32 22.4**	**+0.2**
KANR				S	**Sg**	**19 32 56.8**	**-1.6**
BTLR	**Botlikh**	**2.54**	**319**	*i* Pn	**Pb**	**19 32 22.3**	**-0.1**
	comp=Z,881nm,0.5s						
BTLR				*e*Sn	**Sb**	**19 32 56.4**	**+2.8**
	comp=Z,785nm,0.9s						
BTLR	**Botlikh**	**2.54**	**319**	PN	**Pb**	**19 32 22.2**	**-0.1**
BTLR				*e*S	**Sb**	**19 32 56.4**	**+2.8**
DBC	**Dubki**	**2.57**	**332**	*i* Pn	**Pb**	**19 32 22.3**	**-0.5**
	comp=Z,556nm,0.4s						
DBC				*e*Sn	**Sb**	**19 32 56.6**	**+2.3**
	comp=Z,2μm,0.6s						
DBC	**Dubki**	**2.57**	**332**	⇑*i*PN	**Pb**	**19 32 22.3**	**-0.5**
DBC				*e*S	**Sb**	**19 32 56.6**	**+2.3**
DBC				pmax	pmax		
	comp=Z,556nm,0.4s						
SBZ	**Shahbuz**	**2.64**	**240**	Pn	**Pn**	**19 32 22.0**	**+2.8**
SBZ				Sn	**Sb**	**19 32 55.7**	**-0.7**
ORD	**Ordubad**	**2.66**	**227**	Pn	**Pn**	**19 32 21.1**	**+1.6**
ORD				Sn	**Sn**	**19 32 55.0**	**+3.3**
DLMR	**Dylym**	**2.69**	**329**	*i* Pn	**Pb**	**19 32 24.6**	**-0.1**
	comp=Z,2μm,0.3s						
DLMR				*e*Sn	**Sb**	**19 33 00.8**	**+3.2**
	comp=Z,5μm,0.4s						
DLMR	**Dylym**	**2.69**	**329**	⇑*i*PN	**Pb**	**19 32 24.6**	**-0.1**
DLMR				*e*S	**Sb**	**19 33 00.8**	**+3.2**
DLMR				pmax	pmax		
	comp=Z,2μm,0.3s						
NAX	**Nakhchivan**	**2.80**	**236**	Pn	**Pn**	**19 32 24.0**	**+2.5**
NAX				Sn	**Sb**	**19 33 01.1**	**+0.1**
NAX	**Nakhchivan**	**2.80**	**236**	PN	**Pn**	**19 32 23.9**	**+2.5**
DVE	**Vedeno**	**2.81**	**322**	*i* Pn	**Pb**	**19 32 25.7**	**-1.2**
	comp=Z,1μm,0.5s						
DVE				*e*Sn	**Sb**	**19 33 02.7**	**+1.4**
	comp=Z,2μm,0.8s						
DVE	**Vedeno**	**2.81**	**322**	⇑*i*PN	**Pb**	**19 32 25.7**	**-1.2**
DVE				*e*S	**Sb**	**19 33 02.6**	**+1.4**
DVE				pmax	pmax		
	comp=Z,1μm,0.5s						
GNI	**Garni**	**2.93**	**259**		**Pn**	**19 32 25.4**	**+2.1**
GNI	**Garni**	**2.93**	**259**	Pn	**Pn**	**19 32 25.1**	**+1.9**
	comp=Z,12nm,0.3s,baz=294,slow=4.3,SNR=49						
GNI				Lg	Lg	19 33 08.0	
	comp=Z,164nm,0.3s,baz=181,slow=20,SNR=6.8						
GNI				LR	LR	19 33 55.7	
	comp=Z,16μm,19.1s,baz=67,slow=48						
	comp=Z,69nm,0.4s						
GNI	**Garni**	**2.93**	**259**	P	**Pn**	**19 32 25.7**	**+2.5**
GNI				S	**Sn**	**19 33 01.9**	**+3.6**
GNI	**Garni**	**2.93**	**259**	*c i* PN	**Pn**	**19 32 25.3**	**+2.1**
GNI	**Garni**	**2.93**	**259**	P	**Pn**	**19 32 26.6**	**+3.4**
GNI	**Garni**	**2.93**	**259**	P	**Pn**	**19 32 25.8**	**+2.5**
BTNK	**Botanikuri**	**2.93**	**289**	PN	**Pn**	**19 32 25.8**	**+2.6**
SEAG	**Tbilisi Sea**	**2.96**	**291**	P	**Pn**	**19 32 26.7**	**+3.3**
SEAG	**Tbilisi Sea**	**2.96**	**291**	PN	**Pn**	**19 32 26.7**	**+3.3**
HYR	**Heyderabad**	**2.98**	**251**	Pn	**Pn**	**19 32 26.6**	**+2.8**
HYR				Sn	**Sn**	**19 33 03.1**	**+3.7**
TBLG	**Delisi**	**2.99**	**290**	P	**Pn**	**19 32 26.7**	**+2.8**
TBLG	**Delisi**	**2.99**	**290**	PN	**Pn**	**19 32 26.7**	**+2.8**
CHRG	**Chargali**	**3.10**	**301**	P	**Pn**	**19 32 28.6**	**+3.0**
GROC	**Groznyy**	**3.15**	**321**	*i* Pn	**Pb**	**19 32 30.9**	**-1.9**
	comp=Z,897nm,0.5s						
GROC	**Groznyy**	**3.15**	**321**	PN	**Pb**	**19 32 30.8**	**-1.9**
GROC				S	**Sb**	**19 33 11.4**	**+0.3**
KZRT	**Kazreti**	**3.16**	**283**	P	**Pn**	**19 32 29.4**	**+3.1**
KZRT	**Kazreti**	**3.16**	**283**	PN	**Pn**	**19 32 29.4**	**+3.1**
TRLG	**Trialeti**	**3.41**	**284**	P	**Pn**	**19 32 31.4**	**+1.6**
TRLG	**Trialeti**	**3.41**	**284**	PN	**Pn**	**19 32 31.4**	**+1.6**
GUDG	**Gudauri**	**3.46**	**301**	P	**Pb**	**19 32 35.0**	**-3.0**
GUDG	**Gudauri**	**3.46**	**301**	PN	**Pb**	**19 32 35.0**	**-3.0**
IGDI	**IGDIR**	**3.50**	**257**	P	**Pn**	**19 32 33.6**	**+2.7**
MTEO	**Meteo**	**3.53**	**304**	P	**Pn**	**19 32 35.1**	**+3.4**
MTEO	**Meteo**	**3.53**	**304**	PN	**Pn**	**19 32 35.1**	**+3.4**
EAK	**Akyaka**	**3.71**	**270**	P	**Pb**	**19 32 39.6**	**-2.8**
EAK				S	Sg	19 33 49.0	+13
DYDN	**Diyadin**	**3.88**	**253**	P	**Pb**	**19 32 44.8**	**-0.5**
OZAP	**Van, Ozalp-Mer**	**4.06**	**240**	P	**Pn**	**19 32 43.1**	**+4.2**
OZAP				S	**Sg**	**19 33 45.8**	**-1.5**
KARS	**Kars**	**4.12**	**270**		**Pn**	**19 32 41.8**	**+2.2**
KARS	**Kars**	**4.12**	**270**	PN	**Pn**	**19 32 41.8**	**+2.2**
KOTA	**Agri, Merkez-K**	**4.16**	**258**	P	**Pb**	**19 32 48.3**	**-1.6**
VMUR	**Van-Muradiye**	**4.18**	**246**	P	**Pn**	**19 32 43.5**	**+3.1**
VMUR				S	**Sg**	**19 33 48.5**	**-2.8**
GARIG	**Gari**	**4.19**	**298**	P	**Pn**	**19 32 44.0**	**+3.5**
BOZK	**Kars-Merkez-Bo**	**4.20**	**269**	P	Pn	19 32 45.7	+5.0
DIGR	**Digorskoe uzhe**	**4.24**	**302**	PN	**Pn**	**19 32 44.8**	**+3.5**
DIGR				S	**Sb**	**19 33 39.2**	**-3.4**
EPOS	**Posof**	**4.42**	**281**	P	**Pn**	**19 32 46.8**	**+3.2**
TKB	**Tkibuli**	**4.42**	**293**	PN	**Pn**	**19 32 48.0**	**+4.4**
AHAN	**Ardahan-Merkez**	**4.46**	**277**	P	**Pn**	**19 32 48.9**	**+4.5**
GOLE	**Ardahan-G¶le**	**4.48**	**273**	P	**Pn**	**19 32 45.5**	**+1.0**
TVAN	**Van**	**4.52**	**242**	P	**Pn**	**19 32 48.5**	**+3.4**
TVAN				S	**Sg**	**19 34 00.2**	**-1.8**
NCK	**Nalchik**	**4.55**	**308**	*ce*PN	**Pn**	**19 32 47.9**	**+2.6**
DORK	**Agr/Tutak/Do**	**4.60**	**254**	P	**Pn**	**19 32 49.8**	**+3.7**
EATA	**Eleskirt**	**4.68**	**261**	P	Pb	19 32 54.3	-4.6
ADCV	**BITLIS_Adilcev**	**4.86**	**248**	P	Pn	19 32 55.2	+5.5
GEVA	**Gevas**	**4.87**	**241**	Pn	**Pn**	**19 32 52.1**	**+2.3**
NEUR	**Neytrino**	**4.98**	**302**	*i* PN	**Pn**	**19 32 48.7**	**-2.8**
DAGI	**Agillar**	**5.00**	**276**	P	**Pn**	**19 32 53.5**	**+1.9**
HOMI	**Horasan**	**5.08**	**264**	P	**Pb**	**19 33 01.8**	**-3.9**
KBZ	**Khabaz**	**5.10**	**307**	Pn	**Pn**	**19 32 55.5**	**+2.6**
	comp=Z,0.7nm,0.3s,baz=76,slow=2.9,SNR=20						
KBZ				Lg	Lg	19 34 17.4	
	comp=Z,5.2nm,0.3s,baz=153,slow=13,SNR=3.6						
KBZ				LR	LR	19 35 38.0	
	comp=Z,9μm,18.6s,baz=126,slow=47						

comp=Z,14nm,1.1s,baz=93,slow=11,SNR=54
BRTR LR LR 19 39 05.4
comp=Z,3µm,18.4s,baz=82,slow=40
BRTR Keskin Array B 11.40 270 P **Pn 19 34 21.6 +2.1**
BR104 Keskin Array S 11.41 269 P Pn 19 34 24.7 +5.2
comp=Z,22nm,1.1s
BR106 Keskin Array S 11.42 270 P **Pn 19 34 24.3 +4.6**
comp=Z,18nm,1.7s
BR105 Keskin Array S 11.42 270 P **Pn 19 34 24.3 +4.6**
comp=Z,24nm,1.1s
VRH Novokhopyorsk 11.44 338 *e*P **Pn 19 34 17.1 -2.7**
VRH pmax pmax
comp=Z,20nm,0.6s
VRH MLR MLR
comp=Z,5µm,15.0s
KBD Kabd 11.59 183 P **Pn 19 34 22.7 +0.8**
KBD S **Sn 19 36 30.5 -0.6**
BELG Belogornoye 11.64 357 Pn **Pn 19 34 21.1 -1.4**
comp=Z,44nm,0.4s,baz=278,slow=1.3,SNR=45
BELG Sn **Sn 19 36 24.6 -7.7**
comp=Z,0.7nm,0.3s,baz=144,slow=5.0,SNR=1.8
BELG LR LR 19 41 00.3
comp=Z,5µm,18.2s,baz=166,slow=48
BELG Belogornoye 11.64 357 *ce*P **Pn 19 34 20.3 -2.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
I31KZ AKTYUBINSK INF 11.72 31 I I 20 48 40.0
baz=212,slow=320,SNR=1.0
AB31 Akbulak array 11.72 40 ⇑P **Pn 19 34 21.4 -2.2**
comp=Z,7.0nm,0.3s,baz=219,slow=12,SNR=287
AB31 ⇑S **Sn 19 36 29.9 -4.2**
comp=Z,92nm,0.9s,baz=218,slow=23
AB31 Akbulak array 11.72 40 P **Pn 19 34 21.4 -2.2**
AB31 S **Sn 19 36 36.3 +2.1**
ABKAR Akbulak array 11.72 40 Pn **Pn 19 34 20.4 -3.2**
ABKAR Akbulak array 11.72 40 Pn **Pn 19 34 20.3 -3.3**
AKTO Aktyubinsk 11.73 31 Pn **Pn 19 34 22.4 -1.4**
comp=Z,1.9nm,0.3s,baz=198,slow=8.6,SNR=34
AKTO Sn **Sn 19 36 26.8 -7.7**
comp=Z,2.1nm,0.3s,baz=118,slow=18,SNR=1.3
AKTO LR LR 19 40 05.9
comp=Z,5µm,18.8s,baz=242,slow=44
comp=Z,9.0nm,0.3s
AKTO Aktyubinsk 11.73 31 ⇑P **Pn 19 34 23.1 -0.7**
comp=Z,61nm,1.2s
AKTO ⇑S **Sn 19 36 28.9 -5.6**
comp=Z,194nm,1.5s
AKTO Aktyubinsk 11.73 31 P **Pn 19 34 23.6 -0.2**
AKTO S **Sn 19 36 28.9 -5.6**
ANTO Ankara 12.02 271 Pn **Pn 19 34 29.1 +1.2**
ANTO Ankara 12.02 271 P Pn 19 34 33.3 +5.4
comp=Z,32nm,1.9s
VORD Divnogorie 12.04 331 *e*P **Pn 19 34 28.4 +0.5**
VSR Storozhevoye 12.29 331 *e*P **Pn 19 34 31.3 0.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR MLR MLR
comp=Z,7µm,17.0s
HRA Herat 12.62 116 Pn **Pn 19 34 34.5 -1.7**
VORR Voronezh 12.64 333 *e*P **Pn 19 34 36.4 +0.2**
VORR pmax pmax
comp=Z,50nm,0.4s
ASF Jabal al Asfar 12.67 231 Pn **Pn 19 34 35.0 -1.8**
comp=Z,0.2nm,0.3s,baz=20,slow=4.5,SNR=7.2
ASF Sn **Sn 19 36 58.8 +1.1**
comp=Z,0.1nm,0.3s,baz=117,slow=18,SNR=1.0
ASF Lg Lg 19 38 17.2
comp=Z,0.1nm,0.3s,baz=229,slow=18,SNR=1.6
ASF LR LR 19 40 01.2
comp=Z,2µm,18.9s,baz=65,slow=40
comp=Z,2.9nm,0.9s
GEM Giv'at Ha'Em 12.72 238 P **Pn 19 34 41.9 +4.5**
MMA0B Mount Meron ar 13.02 238 P **Pn 19 34 45.0 +3.5**
MMAI Mount Meron Ar 13.02 238 Pn **Pn 19 34 42.3 +0.8**
comp=Z,0.4nm,0.3s,baz=84,slow=11,SNR=7.3
MMAI Lg Lg 19 38 28.2
comp=Z,0.7nm,0.3s,baz=103,slow=29,SNR=1.1
MMAI LR LR 19 40 37.4
comp=Z,6µm,18.2s,baz=30,slow=42
MMC7 Mount Meron ar 13.02 238 P **Pn 19 34 45.8 +4.3**
MDUB Mudurnu 13.15 274 **Pn 19 34 44.3 +1.1**
CSS Mathiatis 13.30 249 Pn **Pn 19 34 47.7 +2.3**
BLGI Bet Lehem HaGe 13.34 237 P **Pn 19 34 49.9 +4.1**
MMLI Mount Malkishu 13.38 236 P **Pn 19 34 50.9 +4.4**
HMDT Nahal Hemdat 13.44 235 P **Pn 19 34 51.6 +4.3**
BALJ Balqa 13.49 234 **Pn 19 34 50.7 +2.9**
LPSR Galich'ya Gora 13.52 334 *e*P **Pn 19 34 46.2 -1.9**
LPSR pmax pmax
comp=Z,120nm,0.7s
LPSR MLR MLR
comp=Z,5µm,17.0s
SLTI Sal'it 13.76 236 P **Pn 19 34 55.7 +4.2**
BORA Eskisehir 13.80 272 **Pn 19 34 54.3 +2.2**
DSI Dead Sea 14.00 230 P **Pn 19 34 59.0 +4.1**
GHAJ Ghor Haditha 14.08 232 **Pn 19 34 55.7 -0.2**
ISP Isparta 14.23 264 Pn **Pn 19 34 59.2 +1.1**
ISP Isparta 14.23 264 ⇓*e*P **Pn 19 35 01.1 +3.1**
ISP pmax pmax
comp=Z,37nm,1.3s
YTIR Yattir 14.31 233 P **Pn 19 35 03.6 +4.5**
YLV Yalova 14.52 275 P **Pn 19 35 04.6 +2.6**
comp=Z,28nm,1.0s
SAKB Bahrain 14.85 173 P **Pn 19 35 03.8 -2.7**
SAKB S **Sn 19 37 49.8 -1.0**
ZFRI Zfri 14.85 231 P **P 19 35 10.4 -1.8**
JURR Jurilovca 14.95 292 ⇑P **P 19 35 13.8 +0.6**
SHMA Al-Shehemyia 15.02 171 P **Pn 19 35 07.7 -0.9**
SNR=8.4
ELL Elmali 15.04 261 **Pn 19 35 08.6 -0.6**
ELL Elmali 15.04 261 P **Pn 19 35 08.6 -0.6**
ELL pmax pmax
comp=Z,542nm,2.0s
TLCR 15.06 294 ⇓P **P 19 35 15.5 +1.1**
TLCR 15.06 294 ⇓P **P 19 35 15.5 +1.1**
KZIT Kziot 15.07 234 P **P 19 35 13.4 -1.3**
PRNI Paran 15.10 231 P **P 19 35 14.4 -0.7**
MFTR Murfatlar 15.20 290 ⇓P **P 19 35 17.6 +1.7**
TIRR Tirgusor 15.23 291 **Pn 19 35 11.6 +0.1**
TIRR Tirgusor 15.23 291 ⇓P **P 19 35 17.9 +1.5**
TIRR Tirgusor 15.23 291 P **Pn 19 35 11.6 +0.1**
TIRR pmax pmax
comp=Z,107nm,1.1s
BAL3X Bal3x, Balta 15.27 304 P **Pn 19 35 13.8 +1.8**
TPGR Topolog 15.28 292 ⇑P **P 19 35 18.0 +1.0**
HRFI Mount Harif 15.31 230 P **Pn 19 35 15.8 +3.2**
MILM Milestii Mici 15.46 300 ⇑*i*P **Pn 19 35 14.5 +0.1**
comp=Z,840nm,2.4s
MILM *e*S **Sn 19 38 01.0 -4.3**
MILM *e*L L 19 40 18.0
MILM LRM MLR 19 42 30.0
comp=Z,2µm,16.0s
MILM Milestii Mici 15.46 300 ⇑P **Pn 19 35 14.7 +0.3**
MILM Milestii Mici 15.46 300 *c i*P **Pn 19 35 14.5 +0.1**
MILM *e*S **Sn 19 38 01.0 -4.3**
MILM pmax pmax
comp=Z,800nm,2.4s
MILM MLR MLR
comp=Z,2µm,16.0s
TLBR Topalu 15.50 291 ⇓P **P 19 35 20.9 +1.5**
CFR Carcaliu 15.53 293 ⇓P **P 19 35 20.3 +0.6**
CFR Carcaliu 15.53 293 ⇓P **P 19 35 20.3 +0.6**
MANT Manisa 15.53 268 Pn **Pn 19 35 15.6 0.0**
MBRI Mt Berech 15.56 230 P **P 19 35 20.2 0.0**
HARR Harsova 15.60 291 ⇓P **P 19 35 22.0 +1.5**
HARR Harsova 15.60 291 ⇓P **P 19 35 22.0 +1.5**
ICOR Ion Corvin 15.63 289 ⇑P **P 19 35 22.6 +1.8**
EIL Elat 15.63 229 Pn **Pn 19 35 16.2 -0.6**
comp=Z,0.4nm,0.3s,baz=60,slow=3.8,SNR=5.7
EIL LR LR 19 41 53.8
comp=Z,2µm,18.0s,baz=40,slow=40
comp=Z,13nm,1.1s
EIL Elat 15.63 229 P **P 19 35 19.9 -1.1**
TATR Tatarca 15.66 295 ⇑P **P 19 35 21.9 +0.7**
VLDR Vladesti 15.69 296 ⇓P **P 19 35 20.9 -0.6**
SCTR Scanteiesti 15.71 295 ⇑P **Pn 19 35 19.6 +1.8**
VARL Varlezi 15.86 296 ⇑P **P 19 35 24.0 +0.6**
SIMJ Simiganj 15.93 91 **Pn 19 35 16.9 -3.8**
NEF NEVSHA 15.96 286 P **P 19 35 27.5 +1.2**
SHME Shamm 16.00 154 P **Pn 19 35 20.9 -0.7**
SHME P **Pn 19 35 20.9 -0.7**
SHME S **Sn 19 38 17.7 -1.0**
SHME S **Sn 19 38 17.7 -1.0**
SHME Shamm 16.00 154 *i* P **Pn 19 35 21.5 0.0**
SNR=10
BRLS Borolday 16.05 75 *e*P **Pn 19 35 20.0 -2.1**
BRLS Borolday 16.05 75 *e*P **Pn 19 35 20.0 -2.1**
SMRA Abu-Samra 16.10 172 P **Pn 19 35 21.4 -1.4**
SNR=7.5
SMRA S **Sn 19 38 20.4 -0.8**
SORM Soroca 16.13 304 ⇑P **Pn 19 35 23.2 +0.1**
SORM Soroca 16.13 304 ⇑P **Pn 19 35 23.2 +0.1**
SORM Soroca 16.13 304 P **Pn 19 35 22.6 -0.5**
comp=Z,113nm,1.6s
TRNA Turayna 16.15 171 P **Pn 19 35 22.0 -1.5**
SNR=10
BANOM Banah 16.17 154 P **Pn 19 35 23.0 -0.7**
BANOM P **Pn 19 35 23.0 -0.7**
BANOM Banah 16.17 154 *i* P **Pn 19 35 23.7 0.0**
SNR=22
GHRR 16.19 296 ⇑P **P 19 35 26.3 -0.8**
GHRR 16.19 296 P **Pn 19 35 25.7 +1.8**
JRN Qarnain Island 16.20 166 P **Pn 19 35 23.1 -1.0**
SNR=5.2
JRN S **Sn 19 38 22.6 -1.0**
IUG Iuzhnay 16.20 78 *e*P **Pn 19 35 23.5 -0.7**
IUG Iuzhnay 16.20 78 *e*P **Pn 19 35 23.6 -0.7**
UMQ Umm Al-Quwin 16.33 156 P **Pn 19 35 27.1 +1.3**
SNR=7.1
UMQ Umm Al-Quwin 16.33 156 P **Pn 19 35 27.5 +1.6**
ODBI Odobesti 16.38 295 ⇑P **P 19 35 30.3 +1.2**
ODBI Odobesti 16.38 295 P **P 19 35 29.5 +0.4**
comp=Z,56nm,1.0s
OBN Obninsk 16.39 335 **Pn 19 35 22.9 -3.4**
OBN Obninsk 16.39 335 Pn **Pn 19 35 24.1 -2.2**
comp=Z,7.0nm,0.3s,baz=141,slow=9.6,SNR=15
OBN Sn Sn 19 38 14.9 -13
comp=Z,3.2nm,0.3s,baz=305,slow=23,SNR=2.2
OBN Lg Lg 19 40 19.1
comp=Z,1.2nm,0.3s,baz=131,slow=23,SNR=1.3
OBN LR LR 19 42 39.8
comp=Z,5µm,18.2s,baz=145,slow=40
comp=Z,41nm,0.7s
OBN Obninsk 16.39 335 *c i*P **Pn 19 35 22.9 -3.4**
OBN *e*S **Sn 19 38 23.1 -4.8**
OBN pmax pmax
comp=Z,123nm,1.7s
OBN MLR MLR
comp=Z,4µm,17.0s
OBN Obninsk 16.39 335 P **Pn 19 35 23.4 -2.9**
comp=Z,163nm,1.8s
KK31 Karatay Array 16.54 75 **Pn 19 35 24.9 -3.5**
KK31 Karatay Array 16.54 75 P **Pn 19 35 26.0 -2.5**
comp=Z,77nm,0.8s,baz=272,slow=14,SNR=266
KK31 ⇑S **Sn 19 38 24.3 -7.6**
comp=Z,59nm,0.9s,baz=312,slow=26,SNR=5.5
KK31 Karatay Array 16.54 75 *i* P **Pn 19 35 25.9 -2.5**
KK31 S **Sn 19 38 24.3 -7.6**
KKAR Karatay Array 16.54 75 **Pn 19 35 25.3 -3.2**
KKAR Karatay Array 16.54 75 Pn **Pn 19 35 25.1 -3.4**
KKAR Karatay Array 16.54 75 P **Pn 19 35 25.1 -3.4**
KKAR pmax pmax
comp=Z,163nm,1.8s
BISRR Bisoca 16.58 294 ⇓P **P 19 35 32.1 +0.6**
AK09 Malin Array Si 16.60 313 P **Pn 19 35 27.4 -1.7**
MOS Moscow 16.60 338 *e*P **Pn 19 35 25.3 -3.7**
MOS *e*S **Sn 19 38 27.5 -5.5**
MOS pmax pmax
comp=N,500nm,2.0s
MOS pmax pmax
comp=E,400nm,2.0s
MOS pmax pmax
comp=Z,345nm,1.4s
MOS pmax pmax
comp=Z,900nm,2.0s
MOS pmax pmax
comp=N,226nm,1.2s
MOS pmax pmax
comp=E,131nm,1.1s
MOS MLR MLR
comp=N,4µm,16.0s
MOS MLR MLR
comp=E,2µm,16.0s
MOS MLR MLR
comp=Z,4µm,16.0s
AK10 Malin Array Si 16.61 313 P **Pn 19 35 27.5 -1.7**
VRI Vrincioaia 16.62 295 ⇑P **P 19 35 32.1 +0.2**
VRI Vrincioaia 16.62 295 ⇑P **P 19 35 32.1 +0.2**
VRI Vrincioaia 16.62 295 P **Pn 19 35 30.7 +1.3**
comp=Z,72nm,1.1s
AK08 Malin Array Si 16.62 313 P **Pn 19 35 27.4 -2.0**
AK06 Malin Array Si 16.63 313 P **Pn 19 35 27.5 -2.0**
MASF Masafi 16.63 155 P **Pn 19 35 29.4 -0.3**
SNR=14
MASF P **Pn 19 35 29.4 -0.3**
SNR=14
MASF S **Sn 19 38 32.9 -1.3**
MASF S **Sn 19 38 32.9 -1.3**
ISR Istrita 16.64 292 ⇓P **P 19 35 33.4 +1.3**
ISR Istrita 16.64 292 ⇓P **P 19 35 33.4 +1.3**
ISR Istrita 16.64 292 P **P 19 35 32.7 +0.6**
comp=Z,241nm,1.4s
MSFE Esma-Masafi 16.64 155 *i* P **Pn 19 35 29.1 -0.7**
SNR=64
AK05 Malin Array Si 16.65 313 P **Pn 19 35 27.9 -1.8**
AK02 Malin Array Si 16.66 313 P **Pn 19 35 28.2 -1.7**
PLOR Plostina 16.67 295 ⇑P **Pn 19 35 31.4 +1.3**
PLOR Plostina 16.67 295 ⇑P **Pn 19 35 31.4 +1.3**
AKASG Malin Array Be 16.68 313 **Pn 19 35 27.3 -2.7**
AKASG Malin Array Be 16.68 313 Pn **Pn 19 35 27.6 -2.5**
comp=Z,1.6nm,0.3s,baz=118,slow=13,SNR=46
AKASG Sn **Sn 19 38 25.2 -10**
baz=200,slow=33
AKASG Lg Lg 19 40 26.4
comp=Z,0.5nm,0.3s,baz=73,slow=31,SNR=4.4
AKASG LR LR 19 43 39.9
comp=Z,4µm,18.1s,baz=122,slow=43
comp=Z,11nm,0.9s
AKBB Malin Array Si 16.68 313 **Pn 19 35 27.5 -2.5**
AKBB Malin Array Si 16.68 313 P **Pn 19 35 27.5 -2.5**
AKBB pmax pmax
comp=Z,175nm,1.5s
AKBB Malin Array Si 16.68 313 P **Pn 19 35 27.9 -2.1**
AK01 Malin Array Si 16.68 313 P **Pn 19 35 28.7 -1.3**
PLOR3 Plostina Array 16.68 295 P **Pn 19 35 31.6 +1.5**
comp=Z,148nm,1.7s
KIEV Kiev 16.68 313 Pn **Pn 19 35 27.8 -2.3**
KIEV Kiev 16.68 313 P **Pn 19 35 27.8 -2.3**
KIEV pmax pmax
comp=Z,144nm,1.5s
KIEV Kiev 16.68 313 *i* P **Pn 19 35 28.6 -1.5**
SNR=32
KIEV Kiev 16.68 313 P **Pn 19 35 28.3 -1.8**
comp=Z,330nm,1.6s
AK04 Malin Array Si 16.72 313 P **Pn 19 35 28.8 -1.8**
AK13 Malin Array Si 16.72 313 P **Pn 19 35 29.1 -1.5**
AK16 Malin Array Si 16.73 313 P **Pn 19 35 28.9 -1.8**
MDH Madha 16.75 155 P **Pn 19 35 29.9 -1.1**
SNR=12
MDH P **Pn 19 35 29.9 -1.1**
SNR=12
MDH S **Sn 19 38 36.5 -0.4**
MDH S **Sn 19 38 36.5 -0.4**
MDH Madha 16.75 155 *i* P **Pn 19 35 30.3 -0.7**
SNR=39
AK17 Malin Array Si 16.76 313 P **Pn 19 35 29.1 -2.0**
AK18 Malin Array Si 16.77 313 P **Pn 19 35 30.1 -1.1**
AK22 Malin Array Si 16.79 313 P **Pn 19 35 30.0 -1.4**
TESR Tescani 16.80 297 ⇑P **Pn 19 35 32.6 +0.9**
TESR Tescani 16.80 297 P **Pn 19 35 32.0 +0.3**
comp=Z,181nm,1.2s
AK19 Malin Array Si 16.80 313 P **Pn 19 35 30.2 -1.4**
AK21 Malin Array Si 16.81 313 P **Pn 19 35 30.6 -1.2**
AK20 Malin Array Si 16.81 313 P **Pn 19 35 30.4 -1.4**
NAZ Nazwa, Dubai 16.84 157 P **Pn 19 35 32.5 +0.3**
SNR=23
NAZ P **Pn 19 35 32.5 +0.3**
SNR=23
NAZ S **Sn 19 38 38.0 -1.1**
NAZ S **Sn 19 38 38.0 -1.1**
NAZ Nazwa, Dubai 16.84 157 *i* P **Pn 19 35 32.5 +0.3**
SNR=61
GAR Garm 16.84 89 **Pn 19 35 29.5 -2.9**
GAR IAmb IAmb 19 35 38.4
comp=Z,599nm,1.5s
NEHR Nehoiu 16.85 293 ⇑P **Pn 19 35 34.1 +1.8**
NDNU Novodnistrovsk 16.90 305 P **Pn 19 35 33.3 +0.4**
SZH Strazhitsa 16.91 286 P **Pn 19 35 34.6 +1.5**
ARTI Arti 16.91 19 **Pn 19 35 28.3 -4.7**
ARTI Arti 16.91 19 Pn **Pn 19 35 29.1 -3.9**
comp=Z,3.1nm,0.3s,baz=206,slow=7.8,SNR=31
ARTI Sn Sn 19 38 29.0 -12
comp=Z,1.4nm,0.3s,baz=349,slow=24,SNR=2.0
ARTI LR LR 19 44 02.8
comp=Z,4µm,18.8s,baz=212,slow=44
ARTI Arti 16.91 19 *d i*P **Pn 19 35 29.2 -3.8**
ARTI S **Sn 19 38 34.8 -5.8**
ARTI pmax pmax
comp=Z,38nm,1.8s
ARTI MLR MLR
comp=Z,4µm,15.0s
ONER Baraj Valea Uz 16.94 297 ⇓P **Pn 19 35 34.8 +1.4**
COVR Voineasa-Covas 16.98 295 ⇑P **P 19 35 36.8 +1.0**
ELND Elena 16.98 285 ⇓P **P 19 35 35.9 +0.1**
ALN Alexandroupoli 16.99 278 P **Pn 19 35 34.2 +0.2**
ALN Alexandroupoli 16.99 278 P **Pn 19 35 34.2 +0.2**
ALN pmax pmax
comp=Z,142nm,1.5s
BTK Batken 17.01 85 **Pn 19 35 30.9 -3.6**
BTK Batken 17.01 85 P **Pn 19 35 30.9 -3.6**
BTK pmax pmax
comp=Z,109nm,1.2s
UOSS Minazif 17.05 155 **Pn 19 35 34.0 -0.9**
UOSS Minazif 17.05 155 P **Pn 19 35 33.9 -0.9**
UOSS P **Pn 19 35 33.9 -0.9**
UOSS S **Sn 19 38 43.8 -0.4**
UOSS S **Sn 19 38 43.8 -0.4**
UOSS Minazif 17.05 155 *i* P **Pn 19 35 33.6 -1.2**
SNR=32
FAQ Al Faqa, Dubai 17.05 157 P **Pn 19 35 36.1 +1.2**
SNR=15
FAQ P **Pn 19 35 36.1 +1.2**
SNR=15
FAQ Al Faqa, Dubai 17.05 157 *i* P **Pn 19 35 34.5 -0.3**
SNR=24
AJN Ajban 17.05 159 P **Pn 19 35 35.9 +1.0**
SNR=33
AJN S **Sn 19 38 44.6 +0.4**
AJN Ajban 17.05 159 *i* P **Pn 19 35 36.4 +1.5**
SNR=71
ASUD Al Ashush, Dub 17.08 158 P **P 19 35 37.1 +0.1**
SNR=20
ASUD P **P 19 35 37.1 +0.1**
SNR=20
ASUD Al Ashush, Dub 17.08 158 *i* P **Pn 19 35 36.5 +1.1**
SNR=34
MLR Muntele Rosu 17.11 293 **Pn 19 35 36.6 +1.0**
MLR Muntele Rosu 17.11 293 P **Pn 19 35 36.9 +1.3**
comp=Z,14nm,0.7s,baz=110,slow=6.8
MLR S **Sn 19 38 47.3 +1.7**
comp=Z,4.6nm,0.9s,baz=258,slow=22,SNR=1.1
MLR LR LR 19 44 27.9
comp=Z,1µm,20.2s,baz=84,slow=45
MLR Muntele Rosu 17.11 293 ⇑P **P 19 35 37.3 0.0**
MLR Muntele Rosu 17.11 293 P **P 19 35 37.9 +0.6**
comp=Z,103nm,1.2s
HATD Hatta, Dubai 17.13 156 P **Pn 19 35 36.0 0.0**
SNR=19
HATD P **Pn 19 35 36.0 0.0**
SNR=19
HATD P **Pn 19 35 36.0 0.0**
SNR=19
HATD S **Sn 19 38 45.6 -0.7**
HATD S **Sn 19 38 45.6 -0.7**
HATD S **Sn 19 38 45.6 -0.7**
HATD Hatta, Dubai 17.13 156 *i* P **Pn 19 35 35.4 -0.6**
SNR=52
DZA Taraz 17.14 75 *e*P **Pn 19 35 35.1 -0.9**
DZA Taraz 17.14 75 *e*P **Pn 19 35 35.1 -0.9**
GHWR Ruwais 17.16 166 P **Pn 19 35 35.4 -0.9**
GHWR S **Sn 19 38 43.9 -2.9**
LUBAR Lubar, Ukraine 17.16 309 P **Pn 19 35 34.6 -1.6**
ASHO Ashiyiah 17.24 156 P **Pn 19 35 37.0 -0.4**
SNR=31
ASHO P **Pn 19 35 37.0 -0.4**
SNR=31
ASHO Ashiyiah 17.24 156 *i* P **Pn 19 35 36.8 -0.6**
SNR=201
MI30 MI30,Zelenitsa 17.28 312 P **Pn 19 35 37.1 -0.5**
comp=Z,81nm,0.9s
OZUR 17.31 295 ⇑P **P 19 35 40.5 +1.0**
RDO Rodhopi 17.34 279 P **Pn 19 35 39.3 +0.8**
RAYN Ar Rayn 17.38 189 **Pn 19 35 36.8 -2.3**
RAYN Ar Rayn 17.38 189 P **Pn 19 35 36.6 -2.5**
RAYN S **Sn 19 38 52.7 +0.3**
RAYN Ar Rayn 17.38 189 P **Pn 19 35 36.8 -2.3**
RAYN pmax pmax
comp=Z,153nm,1.1s
RAYN Ar Rayn 17.38 189 *i* P **Pn 19 35 37.1 -2.0**
SNR=32
KBL Kabul 17.40 104 P **Pn 19 35 39.1 -0.4**
KBL Kabul 17.40 104 P **P 19 35 42.1 +1.3**
SNR=102
KBL S **S 19 38 58.5 -3.0**
KBL Kabul 17.40 104 P **Pn 19 35 39.1 -0.4**
KBL pmax pmax
comp=Z,131nm,1.3s
KMPD K-Podol'skiy 17.46 304 P **Pn 19 35 39.2 -0.7**
comp=Z,22µm,1.4s
KBU Kabul Universi 17.48 104 P **P 19 35 43.1 +1.4**
PVL Pavlikeni 17.50 285 P **P 19 35 43.7 +2.2**
MZWR Madinat Zayed 17.55 163 P **Pn 19 35 40.5 -0.7**
MZWR P **Pn 19 35 40.5 -0.7**
MZWR S **Sn 19 38 54.8 -1.6**
MZWR S **Sn 19 38 54.8 -1.6**
KARP Karpathos 17.56 260 P **P 19 35 45.2 +2.9**
comp=Z,317nm,0.9s
DOPR Dopca 17.56 295 ⇑P **P 19 35 42.7 +0.5**
MI28 Mi28,Pidlybu 17.65 312 P **Pn 19 35 40.2 -2.0**
comp=Z,422nm,0.5s
ARK Arkit 17.66 79 P **Pn 19 35 41.4 -1.2**
HORU Horodok 17.70 306 P **Pn 19 35 42.8 0.0**
HORU Horodok 17.70 306 P **Pn 19 35 42.8 0.0**
VOIR 17.72 293 ⇑P **P 19 35 46.4 +2.3**
VOIR 17.72 293 ⇑P **P 19 35 46.4 +2.3**
ALNE Al Ain 17.74 158 P **Pn 19 35 43.3 -0.3**
SNR=30
ALNE P **Pn 19 35 43.3 -0.3**
SNR=30
ALNE S **Sn 19 39 00.3 -0.8**
ALNE S **Sn 19 39 00.3 -0.8**
ALNE Al Ain 17.74 158 *i* P **Pn 19 35 43.5 0.0**
SNR=71
KIRV Kirov 17.84 2 P **Pn 19 35 41.0 -3.5**
comp=Z,124nm,0.6s,baz=323,slow=2.3,SNR=24
KIRV S **Sn 19 38 53.0 -10**
comp=Z,15nm,0.6s,baz=323,slow=23,SNR=1.8
KIRV LR LR 19 44 33.6
comp=Z,3µm,18.7s,baz=183,slow=44
KIRV Kirov 17.84 2 *c i*P **Pn 19 35 40.2 -4.3**
DRK Karamyk 17.86 87 P **Pn 19 35 43.9 -1.4**
DRK IAmb IAmb 19 35 50.7
comp=Z,440nm,1.9s
DRK Karamyk 17.86 87 P **Pn 19 35 43.9 -1.4**
DRK pmax pmax
comp=Z,440nm,1.9s
SVE Sverdlovsk 17.90 22 *ce*P **Pn 19 35 43.0 -2.3**
SVE *e*S **Sn 19 38 57.5 -7.1**
SVE pmax pmax
comp=Z,542nm,2.0s
SVE MLR MLR
comp=Z,3µm,18.0s
SOHO SOHO 17.91 155 P **Pn 19 35 44.8 -0.7**
SOHO P **Pn 19 35 44.8 -0.7**
SOHO SOHO 17.91 155 *i* P **Pn 19 35 44.3 -1.3**
SNR=61
BURAR Bucovina Array 18.00 300 ⇑P **P 19 35 48.2 +1.0**
BURAR Bucovina Array 18.00 300 ⇑P **P 19 35 48.2 +1.0**
ARR Arges 18.01 293 ⇑P **P 19 35 49.4 +2.2**
BUR08 Bucovina Ar. S 18.02 300 P **Pn 19 35 46.2 -0.7**
MZR Muzera 18.21 165 P **Pn 19 35 48.6 -0.7**
SNR=26
MZR S **Sn 19 39 10.0 -2.3**
MZR Muzera 18.21 165 *i* P **Pn 19 35 49.1 -0.2**
SNR=13
TGMR Targu Mures 18.25 296 ⇑P **P 19 35 51.9 +2.2**
PGB Panagyurishte 18.25 283 P **P 19 35 51.7 +1.8**
KSV Kosov 18.28 302 P **Pn 19 35 49.8 -0.2**
OHH Osh 18.43 83 P **P 19 35 50.6 -1.3**
ARCR ARCALIA 18.46 298 ⇓P **Pn 19 35 53.8 +1.5**
ARSB Arslanbob 18.47 80 P **P 19 35 50.4 -2.0**
ARSB Arslanbob 18.47 80 P **P 19 35 50.4 -2.0**
ARSB pmax pmax
comp=Z,267nm,1.7s
OTUK Ortayu 18.53 58 ⇓P **P 19 35 50.4 -2.5**

comp=Z,109nm,1.3s
OTUK Ortayu 18.53 58 P P 19 35 50.3 -2.5
MPEP Malo Peshtene 18.55 286 P Pn 19 35 54.2 +0.9
LOT Lotru 18.62 293 ⇓P Pn 19 35 55.8 +1.5
NGCH Negor - Chabah 18.63 142 P Pn 19 35 55.6 +1.1
NGCH S Sn 19 39 20.7 -1.9
ARQ Araqi 18.65 156 P P 19 35 53.8 -0.5
SNR=22
ARQ P **P 19 35 53.8 -0.5**
SNR=22
ARQ S **Sn 19 39 24.9 +1.8**
ARQ S **Sn 19 39 24.9 +1.8**
HOQ Hoqain 18.67 154 P Pn 19 35 55.7 +0.8
SNR=8.4
HOQ P **Pn 19 35 55.7 +0.8**
SNR=8.4
HOQ P **Pn 19 35 55.7 +0.8**
SNR=8.4
HOQ S **Sn 19 39 24.4 +0.8**
HOQ S **Sn 19 39 24.4 +0.8**
HOQ S **Sn 19 39 24.4 +0.8**
STNU Starunia 18.75 303 P P 19 35 55.7 +0.4
RAKU Rahkiv 18.79 301 P P 19 35 55.9 +0.2
RNPP5 Staryi Chortor 18.80 311 P P 19 35 55.2 -0.5
PLNA Plana 18.80 283 P Pn 19 35 58.5 +1.9
RNPP8 Varash 18.86 312 P P 19 35 55.9 -0.5
RNPP9 Sopachiv 18.87 312 P P 19 35 56.0 -0.6
CJR Cluj-Napoca 18.90 297 ⇓P Pn 19 35 59.3 +1.6
CJR Cluj-Napoca 18.90 297 ⇓P Pn 19 35 59.3 +1.6
AML Almayashu 18.92 78 P P 19 35 57.9 +0.2
SNR=17
VTS Vitosha 18.94 284 P Pn 19 36 00.2 +2.0
CBBR Cluj-Babes-Bol 18.95 297 ⇑P Pn 19 36 01.1 +3.0
EKS2 Erkin-Say 18.95 76 P Pn 19 35 58.9 +0.5
SNR=144
BIDO Bidbid 19.01 152 P Pn 19 36 00.3 +1.3
BIDO P **Pn 19 36 00.3 +1.3**
BMR Baia Mare 19.15 299 ⇑P Pn 19 36 01.5 +0.9
BMR Baia Mare 19.15 299 ⇑P Pn 19 36 01.5 +0.9
BTLS Baital 19.17 69 *eP* **P 19 35 58.9 -1.0**
BTLS Baital 19.17 69 *eP* **P 19 35 59.0 -1.0**
BRVK Borovoye 19.21 43 P 19 35 58.0 -2.2
BRVK Borovoye 19.21 43 P P 19 36 00.5 +0.2
BRVK P **P 19 36 00.5 +0.2**
BRVK S **S 19 39 39.4 +1.9**
BRVK S **S 19 39 39.4 +1.9**
BRVK Borovoye 19.21 43 ⇓P P 19 35 59.3 -1.0
comp=Z,60nm,0.8s
BRVK Borovoye 19.21 43 *ceP* **P 19 35 58.6 -1.7**
BRVK pmax pmax
comp=Z,68nm,0.8s
MARR Marisel-Cluj 19.22 296 ⇓P Pn 19 36 02.5 +0.9
BVA0 Borovoye Array 19.25 43 ⇓P P 19 35 59.9 -0.8
comp=Z,75nm,0.8s,baz=242,slow=8.0,SNR=405
BVA0 Borovoye Array 19.25 43 P P 19 35 59.9 -0.8
BVAR Borovoye Array 19.25 43 P P 19 35 59.9 -0.8
comp=Z,0.7nm,0.3s,baz=217,slow=9.6,SNR=134
BVAR S Sn 19 39 26.0 -11
comp=Z,4.2nm,0.7s,baz=124,slow=14,SNR=1.3
BVAR LR LR 19 44 43.9
comp=Z,4μm,18.9s,baz=240,slow=41
comp=Z,28nm,0.7s
PEHC Pehcevo 19.25 281 *i* P **Pn 19 36 04.4 +2.5**
MORS Morshin 19.25 304 P Pn 19 36 02.1 +0.3
MORS Morshin 19.25 304 P Pn 19 36 02.1 +0.3
BRZS Berezniki 19.25 53 *eP* **P 19 35 59.4 -1.4**
BRZS Berezniki 19.25 53 *eP* **P 19 35 59.5 -1.4**
DEV Deva 19.27 294 ⇓P Pn 19 36 03.1 +1.1
GZR Gura Zlata 19.31 292 ⇑P Pn 19 36 03.4 +0.8
GZR Gura Zlata 19.31 292 ⇑P Pn 19 36 03.4 +0.8
IDI Anoyia 19.36 261 P P 19 36 02.4 +0.2
IDI Anoyia 19.36 261 P P 19 36 02.3 +0.2
comp=Z,2.4nm,0.3s,baz=49,slow=11,SNR=8.9
IDI LR LR 19 45 05.5
comp=Z,2μm,19.1s,baz=67,slow=42
comp=Z,21nm,0.8s
LVV L'vov 19.37 306 P Pn 19 36 03.9 +0.7
LVV L'vov 19.37 306 P Pn 19 36 03.9 +0.7
SMDO Samad 19.41 153 P Pn 19 36 04.4 +0.5
SNR=13
SMDO P **Pn 19 36 04.4 +0.5**
SNR=13
SMDO P **Pn 19 36 04.4 +0.5**
SNR=13
SMDO S **Sn 19 39 39.9 -1.6**
SMDO S **Sn 19 39 39.9 -1.6**
SMDO S **Sn 19 39 39.9 -1.6**
ARLS Aral 19.41 78 P P 19 36 03.6 +0.8
BSY Bisya 19.41 155 P Pn 19 36 04.3 +0.4
SNR=16
BSY S **Sn 19 39 40.7 -0.8**
MESR Meseseni 19.41 298 ⇓P Pn 19 36 04.8 +1.1
MNK Minsk 19.43 322 *i* P **P 19 36 00.9 -1.9**
comp=E,43nm,0.9s
MNK *i* P **P 19 36 00.9 -1.9**
comp=N,33nm,0.6s
MNK *i* P **P 19 36 00.9 -1.9**
comp=Z,25nm,0.6s,baz=125
MNK *i* PP **PnPn 19 36 18.7 +1.7**
MNK *i* PPP PPP 19 36 29.7
MNK *i* S **Sn 19 39 40.3 -1.3**
MNK *i* SS **SnSn 19 39 59.9 +4.3**
MNK *i* SSS SSS 19 40 08.6
MNK *i* LQ LQ 19 42 32.3
MNK *i* LR LR 19 43 03.9
MNK *i* LRM MLR 19 43 25.5
comp=E,870nm,13.1s
MNK *i* LRM MLR 19 44 25.9
comp=N,1μm,11.7s
MNK *i* LRM MLR 19 44 30.2
comp=Z,2μm,11.6s
MNK Minsk 19.43 322 *i* P **P 19 36 00.8 -1.9**
MNK *i* S **Sn 19 39 40.2 -1.3**
MNK pmax pmax
comp=Z,25nm,0.6s
MNK pmax pmax
comp=N,33nm,0.6s
MNK pmax pmax
comp=E,43nm,0.9s
MNK MLR MLR
comp=E,870nm,13.0s
MNK MLR MLR
comp=N,1μm,12.0s
MNK MLR MLR
comp=Z,2μm,12.0s
WSAR Wadi Sarin 19.45 151 P P 19 36 03.5 +0.3
comp=Z,0.9nm,0.3s,baz=338,slow=9.1,SNR=12
WSAR S **Sn 19 39 39.2 -3.2**
comp=Z,15nm,1.1s,baz=339,slow=20,SNR=1.7
WSAR LR LR 19 45 57.1
comp=Z,1μm,21.3s,baz=4.5,slow=44
comp=Z,36nm,0.9s
AAK Ala-Archa 19.48 76 P 19 36 02.8 -0.8
AAK lAmb lAmb 19 36 12.5
comp=Z,505nm,1.8s
AAK Ala-Archa 19.48 76 P P 19 36 04.3 +0.8
comp=Z,3.2nm,0.3s,baz=233,slow=4.2,SNR=53
AAK S **Sn 19 39 42.7 -0.5**
comp=Z,6.6nm,0.8s,baz=233,slow=21,SNR=1.4
AAK LR LR 19 44 26.3
comp=Z,1μm,18.8s,baz=285,slow=40
comp=Z,20nm,0.6s
AAK Ala-Archa 19.48 76 P P 19 36 04.2 +0.7
SNR=22
AAK Ala-Archa 19.48 76 *i* P **P 19 36 04.4 +0.8**
SNR=79
KORU Korolevo 19.49 301 P Pn 19 36 05.7 +1.1
DRGR 19.52 297 ⇑P Pn 19 36 05.3 +0.2
DRGR 19.52 297 ⇑P Pn 19 36 05.3 +0.2
HERR Herculane 19.53 291 ⇓P P 19 36 04.2 +0.3
VAY Valandovo 19.54 280 *i* P **Pn 19 36 06.2 +0.9**
SGDS Sogindy 19.55 73 *eP* **P 19 36 03.5 -0.6**
SGDS Sogindy 19.55 73 *eP* **P 19 36 03.6 -0.6**
FRU1 Bishkek 19.57 75 P P 19 36 03.4 -1.0
FRU1 Bishkek 19.57 75 P P 19 36 03.4 -1.0
FRU1 pmax pmax
comp=Z,638nm,1.8s
TRSU Trosnyk 19.59 300 P Pn 19 36 07.7 +1.9
SHIU Shidnytsya 19.61 304 P Pn 19 36 06.2 +0.1
LIT Litokhoron 19.79 277 P P 19 36 07.4 +0.7
LIT Litokhoron 19.79 277 P P 19 36 07.4 +0.7
LIT pmax pmax
comp=Z,160nm,1.9s
SURR Surduc 19.80 293 ⇑P P 19 36 08.0 +1.2

KBK Karagaybulak 19.81 76 P P 19 36 08.2 +1.0
SNR=18
BOVS Bovan 20.02 287 ⇑P Pn 19 36 11.7 +0.7
MDVR Moldovita 20.03 290 ⇓P P 19 36 10.5 +1.1
HOLU Holmets 20.06 301 P P 19 36 10.9 +1.3
JMDO Jabal Madar 20.06 153 P Pn 19 36 11.5 -0.1
SNR=11
KWP Kalwaria Pacla 20.14 305 P P 19 36 10.6 +0.2
KWP Kalwaria Pacla 20.14 305 P P 19 36 10.6 +0.2
KWP Kalwaria Pacla 20.14 305 P P 19 36 11.1 +0.7
comp=Z,468nm,1.8s
KWP pP **pP 19 36 14.5 -0.1**
comp=Z,468nm,1.8s
BZS Buzias 20.14 293 ⇑P P 19 36 11.1 +0.6
BZS Buzias 20.14 293 ⇑P P 19 36 11.1 +0.6
WBK Wadi Bani Khal 20.15 151 P Pn 19 36 12.8 +0.1
SIRR Siria 20.17 295 ⇑P Pn 19 36 12.8 0.0
NACGM Naroch 20.19 322 ⇑ *i* P **P 19 36 09.6 -1.3**
baz=124
KOLS Kolonicke sedl 20.23 303 *eP* **P 19 36 12.9 +1.5**
KOLS pmax pmax
comp=Z,35nm,0.8s
KOLS Kolonicke sedl 20.23 303 *eP* **P 19 36 12.9 +1.5**
KOLS *e* 19 37 08.1
TKM2 Tokmak 2 20.28 75 P Pn 19 36 14.7 +0.4
SNR=28
TKM2 Tokmak 2 20.28 75 ⇑P P 19 36 12.7 +0.5
comp=Z,183nm,1.4s
TKM2 Tokmak 2 20.28 75 P P 19 36 12.7 +0.5
BANR Banloc 20.46 292 ⇑P P 19 36 15.3 +1.3
FNA Florina 20.51 279 P P 19 36 15.3 +0.6
FNA Florina 20.51 279 P P 19 36 15.3 +0.6
FNA pmax pmax
comp=Z,54nm,1.1s
IIGN Ignalina 20.71 322 *eP* **P 19 36 18.4 +1.9**
JLN Jalan Bani Buh 20.73 150 P P 19 36 18.5 +1.5
SNR=9.2
JLN S **S 19 40 10.6 +2.3**
ULHL Ulahol 20.80 77 P P 19 36 19.5 +1.5
SNR=12
KLMR Klimovskoe 20.86 348 *eP* **P 19 36 16.2 -1.9**
KLMR 19 40 03.7
KLMR pmax pmax
comp=Z,264nm,1.4s
OHR Ohrid 20.90 280 *i* P Pn 19 36 21.6 +0.3
OHR Ohrid 20.90 280 P Pn 19 36 22.3 +1.0
OHR pmax pmax
comp=Z,87nm,1.1s
NIL Nilore 20.92 102 P 19 36 18.9 -0.2
NIL lAmb lAmb 19 36 28.8
comp=Z,239nm,1.1s
NIL Nilore 20.92 102 P Pn 19 36 20.9 -0.7
NIL Nilore 20.92 102 P P 19 36 18.9 -0.2
NIL pmax pmax
comp=Z,239nm,1.2s
ITM Ithomi 20.93 269 P P 19 36 20.2 +1.0
ITM lAmb lAmb 19 36 29.0
comp=Z,257nm,1.7s
KBN Korca 20.98 279 P P 19 36 20.8 +1.0
KBN lAmb lAmb 19 36 27.5
comp=Z,109nm,1.0s
KBN Korca 20.98 279 P P 19 36 20.8 +1.0
KBN pmax pmax
comp=Z,109nm,1.0s
STHS Stebnicka Huta 21.00 303 *eP* **P 19 36 21.9 +2.1**
STHS pmax pmax
comp=Z,17nm,0.9s
STHS Stebnicka Huta 21.00 303 *eP* **P 19 36 21.9 +2.1**
STHS *e* 19 37 15.3
KSH Kashi 21.02 84 P P 19 36 18.3 -1.9
KSH sP pP 19 36 24.0 -0.4
KSH S **S 19 40 08.8 -5.2**
KSH pmax pmax
comp=Z,15nm,0.6s
KSH LR LR
comp=Z,1μm,15.1s
KSH LR LR
comp=Z,2μm,11.7s
KSH LR LR
comp=Z,2μm,13.7s
AAA Alma-Ata 21.23 74 *eP* **P 19 36 21.8 -0.5**
AAA Alma-Ata 21.23 74 *eP* **P 19 36 21.9 -0.5**
TNSS Tian-Shan 21.26 74 *eP* **P 19 36 22.1 -1.0**
TNSS Tian-Shan 21.26 74 *eP* **P 19 36 22.1 -1.0**
KECS Kecovo 21.29 301 *eP* **P 19 36 26.7 +3.8**
KECS pmax pmax
comp=Z,79nm,1.1s
KECS Kecovo 21.29 301 *eP* **P 19 36 26.7 +3.8**
SJES Sjenica 21.30 286 ⇑ *i* P **P 19 36 24.4 +1.2**
MDOK Medeo 21.32 74 ⇓P P 19 36 23.1 -0.5
comp=Z,158nm,1.4s
MDOK Medeo 21.32 74 P P 19 36 23.5 0.0
MDOK Medeo 21.32 74 *eP* **P 19 36 23.1 -0.5**
FRGS Fruska Gora 21.39 291 ⇑ *i* P **P 19 36 25.1 +1.1**
PUK Puka 21.45 283 P P 19 36 25.5 +0.7
KDJ Kajisay 21.51 77 P P 19 36 25.1 -0.4
KDJ lAmb lAmb 19 36 36.4
comp=Z,184nm,1.2s
KDJ Kajisay 21.51 77 P P 19 36 25.1 -0.4
KDJ pmax pmax
comp=Z,184nm,1.2s
SUW Suwalki 21.51 317 *eP* **P 19 36 24.4 -0.8**
SUW Suwalki 21.51 317 P P 19 36 23.9 -1.3
SUW Suwalki 21.51 317 P P 19 36 23.9 -1.3
SUW pmax pmax
comp=Z,288nm,1.2s
SUW Suwalki 21.51 317 *eP* **P 19 36 25.1 -0.1**
TEKS Tekeris 21.58 290 *eP* **P 19 36 26.2 +0.1**
PSZ Piszkesteto 21.58 299 P P 19 36 26.4 +0.3
PSZ lAmb lAmb 19 36 33.5
comp=Z,267nm,1.4s
PSZ Piszkesteto 21.58 299 ⇓P P 19 36 27.5 +1.3
PSZ Piszkesteto 21.58 299 P P 19 36 26.4 +0.3
PSZ pmax pmax
comp=Z,267nm,1.4s
PSZ Piszkesteto 21.58 299 *eP* **P 19 36 28.0 +1.8**
NIE Niedzica 21.60 303 *eP* **P 19 36 27.1 +0.9**
NIE Niedzica 21.60 303 P P 19 36 27.3 +1.0
comp=Z,33nm,1.9s
BBLS Lazi&#263i 21.68 288 ⇑ *i* P **P 19 36 29.0 +1.8**
RUDO Rudo 21.72 287 *eP* **P 19 36 27.9 +0.3**
PABE Paberze 21.86 321 P P 19 36 28.2 -0.7
PABE lAmb lAmb 19 36 29.6
comp=Z,171nm,1.1s
PABE Paberze 21.86 321 *eP* **P 19 36 29.2 +0.2**
PDG Podgorica 21.89 284 P P 19 36 30.7 +1.4
PDG Podgorica 21.89 284 ⇑ *i* P **P 19 36 32.4 +3.1**
KEK Kerkira 21.89 277 P P 19 36 28.8 -0.7
KEK lAmb lAmb 19 36 33.9
comp=Z,242nm,1.4s
R9F13 Warsaw-Wawer 21.90 311 *eP* **P 19 36 29.7 +0.3**
BEL Belsk 21.97 310 *eP* **P 19 36 30.7 +0.6**
HAPS Han Pijesak,Bl 22.00 288 ⇑ *i* P **P 19 36 31.1 +0.4**
TARG Taragay, Kyrgy 22.02 78 P P 19 36 30.2 -1.0
TARG Taragay, Kyrgy 22.02 78 P P 19 36 30.2 -1.0
TARG pmax pmax
comp=Z,91nm,1.1s
LANS Liptovska Anna 22.08 302 *eP* **P 19 36 36.7 +5.3**
LANS pmax pmax
comp=Z,38nm,1.4s
LANS Liptovska Anna 22.08 302 *eP* **P 19 36 36.7 +5.3**
LANS *e* 19 37 24.4
UPM Unac-Piva 22.08 286 *eP* **P 19 36 33.9 +2.3**
OJC Ojcow 22.10 305 *eP* **P 19 36 31.5 -0.2**
OJC Ojcow 22.10 305 P P 19 36 30.2 -1.5
OJC lAmb lAmb 19 36 38.0
comp=Z,141nm,1.5s
OJC Ojcow 22.10 305 P P 19 36 30.2 -1.5
OJC pmax pmax
comp=Z,141nm,1.5s
OJC Ojcow 22.10 305 P P 19 36 31.4 -0.2
comp=Z,64nm,1.5s
OJC pP **pP 19 36 35.4 -0.4**
comp=Z,64nm,1.5s
VSVD Vaisvydziai 22.14 322 *eP* **P 19 36 32.1 +0.1**
PUL Pulkovo 22.15 335 *deP* **P 19 36 32.6 +0.6**
PUL pmax pmax
comp=Z,191nm,0.9s
DQM DQM 22.16 157 P P 19 36 32.4 -0.1
SNR=12
DQM S **S 19 40 34.6 -1.7**
MORH Mrgy, Hungar 22.25 294 ⇓P P 19 36 34.4 +1.1
MORH Mrgy, Hungar 22.25 294 P P 19 36 34.5 +1.2
comp=Z,33nm,1.4s

TDK Taldyqorghan 22.26 69 *eP* **P 19 36 32.3 -1.0**
TDK pmax pmax
comp=Z,95nm,1.3s
TDK Taldyqorghan 22.26 69 *eP* **P 19 36 32.4 -1.0**
comp=Z,94nm,1.3s
SATY Saty 22.32 74 *eP* **P 19 36 33.8 -0.4**
SATY Saty 22.32 74 *eP* **P 19 36 33.8 -0.4**
ZHN Zhinishke 22.34 74 *eP* **P 19 36 34.6 +0.2**
ZHN pmax pmax
comp=Z,27nm,2.0s
ZHN Zhinishke 22.34 74 *eP* **P 19 36 33.6 -0.7**
BRY Bratogost 22.37 285 *eP* **P 19 36 35.8 +1.1**
PRZ Przheval'sk 22.37 76 P P 19 36 33.4 -1.4
PRZ lAmb lAmb 19 36 51.3
comp=Z,252nm,1.5s
PRZ Przheval'sk 22.37 76 P P 19 36 33.4 -1.4
PRZ pmax pmax
comp=Z,252nm,1.5s
VYHS Vyhne 22.37 300 *eP* **P 19 36 35.8 +1.3**
VYHS pmax pmax
comp=Z,118nm,1.9s
VYHS Vyhne 22.37 300 *eP* **P 19 36 35.8 +1.3**
VYHS *e* 19 37 31.3
HCY Herceg Novi 22.44 284 *eP* **P 19 36 36.0 +0.6**
VSU Vasula 22.46 329 *ceP* **P 19 36 33.5 -1.8**
VSU pmax pmax
comp=Z,204nm,0.9s
VSU Vasula 22.46 329 *eP* **P 19 36 34.5 -0.8**
KPKS Kokpek 22.50 73 *eP* **P 19 36 34.3 -1.8**
KPKS pmax pmax
comp=Z,46nm,1.9s
KPKS Kokpek 22.50 73 *eP* **P 19 36 35.5 -0.6**
comp=Z,38nm,1.4s
DOK Doka 22.60 166 P P 19 36 36.6 -0.5
SNR=24
DOK S **S 19 40 42.9 -1.6**
UZB Uzynbulak 22.77 74 *eP* **P 19 36 38.7 -0.3**
UZB pmax pmax
comp=Z,23nm,1.5s
UZB Uzynbulak 22.77 74 *eP* **P 19 36 38.4 -0.6**
SCTE Santa Cesarea 22.82 278 P P 19 36 39.1 -0.3
STON Ston 22.99 285 *eP* **P 19 36 41.2 +0.2**
KURBB Kurchatov Arra 23.03 55 P P 19 36 41.4 -0.1
comp=Z,11nm,0.5s,baz=262,slow=8.9,SNR=84
KURBB S **S 19 40 53.2 +1.6**
comp=Z,1.3nm,0.7s,baz=222,slow=9.9,SNR=1.7
KURBB LR LR 19 47 06.4
comp=Z,2μm,18.4s,baz=239,slow=40
comp=Z,11nm,0.5s
KURBB Kurchatov Arra 23.03 55 ⇓P P 19 36 41.2 -0.3
comp=Z,188nm,1.4s
KURBB Kurchatov Arra 23.03 55 P P 19 36 41.2 -0.3
OKC Ostrava-Krasne 23.06 303 AMS AMS 19 46 40.0
comp=Z,2μm,24.7s
MPLH Magyarpolny 23.08 296 P P 19 36 43.1 +1.1
comp=Z,128nm,2.0s
SHLS Shalkode 23.09 74 *eP* **P 19 36 45.3 +3.0**
SHLS pmax pmax
comp=Z,41nm,1.2s
SHLS Shalkode 23.09 74 *eP* **P 19 36 44.9 +2.7**
PDGK Podgornoye 23.09 73 ⇓P P 19 36 41.9 -0.4
comp=Z,43nm,0.9s
PDGK Podgornoye 23.09 73 P P 19 36 41.9 -0.4
KURK Kurchatov 23.11 54 P P 19 36 40.3 -2.0
KURK lAmb lAmb 19 37 01.2
comp=Z,229nm,1.4s
KURK Kurchatov 23.11 54 P P 19 36 43.0 +0.7
KURK P **P 19 36 43.0 +0.7**
KURK S **S 19 40 55.0 +2.0**
KURK S **S 19 40 55.0 +2.0**
KURK Kurchatov 23.11 54 ⇑P P 19 36 41.9 -0.4
comp=Z,130nm,1.3s
KURK Kurchatov 23.11 54 P P 19 36 41.4 -0.9
KURK S **S 19 40 53.3 +0.3**
WUS Wushi 23.14 79 P P 19 36 40.9 -2.0
WUS lAmb lAmb 19 36 51.6
comp=Z,87nm,1.1s
JAVC Velka Javorina 23.19 301 *eP* **P 19 36 43.5 +0.3**
BLY Banja Luka 23.25 290 ⇑ *i* P **P 19 36 44.9 +1.1**
MODS Modra-Piesok 23.38 299 *eP* **P 19 36 46.6 +1.5**
MODS *e* 19 37 30.2
MODS pmax pmax
comp=Z,319nm,1.5s
MODS Modra-Piesok 23.38 299 *eP* **P 19 36 46.6 +1.5**
MODS *e* 19 37 30.2
ARBE Arbavere 23.41 330 *eP* **P 19 36 46.1 +1.0**
MORC Moravsky Berou 23.43 303 P P 19 36 44.8 -0.8
MORC lAmb lAmb 19 36 54.7
comp=Z,154nm,1.7s
MORC Moravsky Berou 23.43 303 *eP* **P 19 36 45.0 -0.6**
MORC Moravsky Berou 23.43 303 ⇓P P 19 36 46.0 +0.5
MORC Moravsky Berou 23.43 303 P P 19 36 44.8 -0.8
MORC pmax pmax
comp=Z,154nm,1.7s
A051A Mrakovica 23.45 291 ⇑ *i* P **P 19 36 45.4 -0.4**
BEHE Becsehely 23.56 295 P P 19 36 47.6 +0.8
BEHE lAmb lAmb 19 36 49.3
comp=Z,131nm,1.9s
DMTO DMTO 23.64 165 P P 19 36 47.0 -0.8
SNR=13
DMTO P **P 19 36 47.0 -0.8**
SNR=13
DMTO S **S 19 41 02.2 +0.2**
DMTO S **S 19 41 02.2 +0.2**
ABTO Aybut 23.70 169 P P 19 36 47.8 -0.6
SNR=18
ABTO S **S 19 41 01.8 -1.4**
RBK Rabkut 23.70 166 P P 19 36 47.7 -0.8
SNR=18
RBK P **P 19 36 47.7 -0.8**
SNR=18
RBK S **S 19 41 02.5 -0.7**
RBK S **S 19 41 02.5 -0.7**
A050A Klekovaca 23.73 290 ⇑ *i* P **P 19 36 48.9 +0.3**
MTSE Matsula 23.79 327 *eP* **P 19 36 50.2 +1.4**
SLIT Slitere, Latvi 23.80 324 *eP* **P 19 36 49.0 0.0**
KOGS Kog 23.92 295 *i* P **P 19 36 50.8 +0.5**
VRAC Vranov 23.96 302 P P 19 36 50.9 +0.3
comp=Z,1.6nm,0.3s,baz=88,slow=11,SNR=8.8
VRAC LR LR 19 48 00.2
comp=Z,2μm,19.0s,baz=87,slow=41
comp=Z,1.6nm,0.3s
VRAC Vranov 23.96 302 *eP* **P 19 36 50.9 +0.3**
VRAC Vranov 23.96 302 ⇓P P 19 36 52.1 +1.4
RONA Rosalia, Austr 23.96 298 *eP* **P 19 36 50.5 -0.2**
comp=Z,29nm,1.1s,SNR=18
KRLC Kraliky 23.97 304 *eP* **P 19 36 50.8 0.0**
KRLC AMS AMS 19 46 50.0
comp=Z,1μm,18.8s
KRLC Kraliky 23.97 304 *eP* **P 19 36 50.8 0.0**
KRLC MLR MLR
comp=Z,1μm,18.8s
KRUC Moravsky 24.05 301 *eP* **P 19 36 51.0 -0.5**
CONA Conrad Observa 24.28 298 *eP* **P 19 36 53.8 +0.1**
comp=Z,46nm,1.7s,SNR=10
DPC Dobruska-Polom 24.31 304 *eP* **P 19 36 54.4 +0.5**
DPC *e*S S 19 41 29.1 +17
DPC AMS AMS 19 49 00.0
comp=Z,1μm,13.7s
DPC Dobruska-Polom 24.31 304 *eP* **P 19 36 54.4 +0.5**
DPC MLR MLR
comp=Z,1μm,13.7s
DPC Dobruska-Polom 24.31 304 P P 19 36 54.5 +0.5
comp=Z,51nm,1.3s
OSTC Ostas 24.41 305 AMS AMS 19 47 30.0
comp=Z,1μm,15.5s
KSP Ksiaz 24.42 305 *eP* **P 19 36 54.8 -0.1**
KSP Ksiaz 24.42 305 P P 19 36 55.3 +0.4
comp=Z,25nm,1.4s
JOF Joensuu 24.43 341 *eP* **P 19 36 55.3 +0.5**
DOBS Dobrina 24.45 294 *eP* **P 19 36 55.6 +0.4**
ARSA Arzberg 24.46 296 *eP* **P 19 36 55.5 +0.2**
comp=Z,29nm,1.3s,SNR=9.7
ARSA Arzberg 24.46 296 P P 19 36 54.2 -1.0
CRES Cresnjevec Ost 24.46 293 ⇑ *i* P **P 19 36 55.2 -0.1**
CHVC Chvalec 24.52 305 *eP* **P 19 36 56.5 +0.7**
CHVC AMS AMS 19 47 30.0
comp=Z,2μm,13.8s
CHVC Chvalec 24.52 305 *eP* **P 19 36 56.5 +0.7**
CHVC MLR MLR
comp=Z,2μm,13.8s
MEF Metsahovi 24.53 331 *eP* **P 19 36 56.8 +1.1**
UPC Upice 24.53 304 *e*S **S 19 41 26.7 +11**
UPC AMS AMS 19 47 40.0

comp=Z,2µm,12.6s
BOJS Bojanci 24.61 292⇑ *i*P **P 19 36 55.3 -1.3**
TREC Trest 24.67 301 AMS AMS 19 48 20.0
comp=Z,2µm,15.0s
SOKA Soboth 24.77 295 *e*P **P 19 36 58.0 -0.1**
comp=Z,44nm,1.4s,SNR=11
SOKA *e*PcP **PcP 19 40 35.4 +1.0**
MAKZ Makanchi 24.79 65 P **P 19 36 57.3 -0.9**
MAKZ IAmb IAmb 19 37 06.0
comp=Z,103nm,1.2s
MAKZ Makanchi 24.79 65 P **P 19 36 57.3 -0.9**
MAKZ pmax pmax
comp=Z,103nm,1.3s
FIA1 FINESS Array S 24.79 334 P **P 19 36 57.0 -1.1**
FINES FINESS Array B 24.79 334 P **P 19 36 57.0 -1.1**
FINES FINESS Array B 24.79 334 P **P 19 36 58.0 -0.1**
comp=Z,35nm,0.5s,baz=139,slow=11,SNR=244
FINES S **S 19 41 22.6 +2.7**
comp=Z,7.1nm,0.9s,baz=62,slow=24,SNR=1.9
FINES LR LR 19 47 33.7
comp=Z,3µm,19.4s,baz=134,slow=39
comp=Z,35nm,0.5s
CUC Castrocucco 24.83 279 P **P 19 37 00.1 +1.3**
MK31 Makanchi Array 25.00 65 P **P 19 37 00.4 +0.2**
MK31 IAmb IAmb 19 37 08.3
comp=Z,50nm,0.7s
MK31 Makanchi Array 25.00 65⇑P **P 19 37 00.4 +0.2**
comp=Z,55nm,0.7s
MK31 Makanchi Array 25.00 65 P **P 19 37 00.4 +0.2**
MK31 pmax pmax
comp=Z,50nm,0.7s
MKAR Makanchi Array 25.00 65 P **P 19 36 59.2 -1.0**
MKAR Makanchi Array 25.00 65 P **P 19 37 01.0 +0.8**
comp=Z,31nm,0.7s,baz=270,slow=7.5,SNR=329
MKAR S **S 19 41 24.0 +0.3**
comp=Z,2.0nm,0.9s,baz=250,slow=14,SNR=1.2
MKAR LR LR 19 48 16.3
comp=Z,1µm,18.3s,baz=260,slow=40
comp=Z,31nm,0.7s
OBKA Obir 25.10 295 *e*P **P 19 37 01.4 +0.2**
comp=Z,18nm,1.2s
OBKA Obir 25.10 295⇑*i*P **P 19 37 01.3 +0.2**
CEY Cerknica 25.18 293⇑*i*P **P 19 37 02.0 +0.1**
GOPC GO Pecny, Ondr 25.21 303 AMS AMS 19 48 40.0
comp=Z,2µm,15.9s
CRNS Crni Vrh 25.30 294 *i* P **P 19 37 03.3 +0.4**
PRU Pruhonice 25.38 303 *e*S S 19 41 45.5 +16
PRU AMS AMS 19 48 40.0
comp=Z,2µm,15.9s
CKRC Cesky Krumlov 25.39 300 *e*P **P 19 37 03.8 +0.1**
CKRC AMS AMS 19 48 50.0
comp=Z,2µm,13.4s
CKRC Cesky Krumlov 25.39 300 *e*P **P 19 37 03.8 +0.1**
CKRC MLR MLR
comp=Z,2µm,13.4s
PRA Prague 25.46 303 AMS AMS 19 48 50.0
comp=Z,2µm,18.9s
SKDS Skadanscina 25.48 292⇑*i*P **P 19 37 03.8 -0.7**
ZVC Zvikov 25.53 301 *e*P **P 19 37 05.1 +0.1**
ZVC AMS AMS 19 48 50.0
comp=Z,2µm,15.4s
PAOL Paolisi 25.56 282 P **P 19 37 05.9 +0.6**
KEF Keuruu 25.71 334 *e*P **P 19 37 07.1 +0.7**
MYKA Terra Mystica 25.73 295 *e*P **P 19 37 06.8 0.0**
comp=Z,16nm,1.2s
SABO M.te Sabotino 25.76 293 P **P 19 37 07.2 +0.1**
GERES GERESS Array B 25.79 300 P **P 19 37 06.9 -0.6**
GERES GERESS Array B 25.79 300 P **P 19 37 07.5 0.0**
comp=Z,3.3nm,0.4s,baz=95,slow=10.0,SNR=15
GERES PcP **PcP 19 40 36.8 +0.1**
comp=Z,4.7nm,1.1s,baz=53,slow=3.8,SNR=3.7
GERES LR LR 19 49 09.3
comp=Z,1µm,19.2s,baz=98,slow=41
comp=Z,3.3nm,0.4s
INTR Introdacqua 25.88 284 P **P 19 37 08.4 +0.1**
BRG Berggiesshubel 25.89 305 *e*P **P 19 37 08.8 +0.6**
BRG Amp 19 37 10.3
comp=Z,22nm,1.2s
KHC Kasperske Hory 25.90 301 *e*P **P 19 37 07.5 -0.8**
KHC *e*x x 19 37 23.5
KHC *e*S S 19 41 51.6 +14
KHC AMS AMS 19 49 10.0
comp=Z,2µm,15.5s
KHC Kasperske Hory 25.90 301 *e*P **P 19 37 10.9 +2.6**
KHC MLR MLR
comp=Z,2µm,15.5s
KBA Koelnbreinsper 25.93 296 *e*P **P 19 37 09.2 +0.3**
comp=Z,24nm,1.1s,SNR=7.4
KBA *i* PcP **PcP 19 40 36.5 -0.7**
comp=Z,0.6nm,0.4s
RAF Rauma 26.04 330 *e*P **P 19 37 10.2 +0.8**
CAMP Campotosto 26.17 286 P **P 19 37 10.0 -0.9**
CAMP IAmb IAmb 19 37 47.8
comp=Z,79nm,1.4s
HSKC Hora Svate Kat 26.17 304 AMS AMS 19 48 40.0
comp=Z,1µm,14.7s
RUE Ruedersdorf 26.30 308 *e*P **P 19 37 11.6 -0.3**
BLEU Blekinge 26.31 317 *i*P **P 19 37 11.3 -0.6**
FDMO Fiordimonte 26.33 287 P **P 19 37 12.2 -0.1**
FDMO IAmb IAmb 19 37 17.0
comp=Z,53nm,1.1s
NRCA Norcia 26.34 286 P **P 19 37 11.9 -0.5**
NRCA IAmb IAmb 19 37 24.6
comp=Z,113nm,1.7s
BSD Bornholm Skovb 26.37 314 *i*P **P 19 37 10.0 -2.4**
BSD IAmb IAmb 19 37 48.2
comp=Z,26nm,0.8s
LESA Schwarzleotal 26.40 297 *e*P **P 19 37 12.8 -0.2**
comp=Z,11nm,0.5s,SNR=9.8
ABTA Abfaltersbach 26.50 295 *e*P **P 19 37 13.2 -0.7**
comp=Z,18nm,1.7s
ABTA *i* PcP **PcP 19 40 38.7 +0.2**
comp=Z,2.2nm,0.6s
CLL Collm 26.55 305 P **P 19 37 13.2 -0.9**
CLL Collm 26.55 305 *i*P **P 19 37 17.6 +3.5**
CLL pmax pmax
comp=Z,68nm,1.8s
CLL MLR MLR
comp=Z,2µm,17.2s
CLL Collm 26.55 305 *e*P **P 19 37 13.0 -1.1**
CLL *i* sP **pP 19 37 17.3 -1.3**
comp=Z,68nm,1.8s
CLL *i* x x 19 37 30.3
CLL *i* x x 19 37 42.6
CLL *e*PP **PnPn 19 37 54.0 -0.4**
CLL *e*Sx Sx 19 41 58.0
CLL *e*Sx Sx 19 41 58.0
CLL *e*SS **SnSn 19 42 53.0 +3.1**
CLL *e*SSS SSS 19 43 14.0
RAFF Raffo Rosso 26.66 274 P **P 19 37 15.3 0.0**
NKC Novy Kostel 26.75 303 AMS AMS 19 48 30.0
comp=Z,2µm,15.0s
CESX Cesi 26.76 286 P **P 19 37 15.6 -0.6**
CESX IAmb IAmb 19 37 36.7
comp=Z,110nm,1.7s
ZSN Zaisan 26.77 63 *e*P **P 19 37 15.7 -0.5**
ZSN pmax pmax
comp=Z,28nm,1.3s
ZSN Zaisan 26.77 63 *e*P **P 19 37 15.8 -0.5**
comp=Z,28nm,1.3s
VAF Ylistaro 27.05 334 *e*P **P 19 37 18.9 +0.4**
WTTA Wattenberg 27.10 296 *e*P **P 19 37 18.8 -0.6**
comp=Z,63nm,1.8s,SNR=9.6
WTTA *i* PcP **PcP 19 40 40.6 +0.7**
comp=Z,8.3nm,0.6s
CTI Castel Tesino 27.11 294 P **P 19 37 18.6 -0.8**
CTI Castel Tesino 27.11 294 P **P 19 37 18.6 -0.8**
CTI pmax pmax
comp=Z,21nm,1.2s
TEOL Teolo 27.13 292 P **P 19 37 18.8 -0.7**
WATA Walderalm 27.14 296 *e*P **P 19 37 18.8 -0.9**
comp=Z,27nm,1.4s,SNR=9.9
WATA *e*PcP **PcP 19 40 40.7 +0.7**
comp=Z,3.4nm,0.5s
LUNU Lund 27.33 315 *i*P **P 19 37 20.0 -1.1**
DEL Delary 27.38 317 *i*P **P 19 37 20.4 -1.1**
SQTA Sankt Quirin 27.39 296 *e*P **P 19 37 20.9 -1.0**
comp=Z,38nm,1.5s,SNR=9.2
SQTA *i* PcP **PcP 19 40 41.7 +1.1**
comp=Z,4.7nm,0.6s
MOTA Moosalm 27.46 296 *e*P **P 19 37 21.8 -0.8**
comp=Z,17nm,1.2s
MOTA *e*PcP **PcP 19 40 41.6 +0.8**
comp=Z,9.3nm,1.0s
GRA1 Grafenberg Arr 27.48 302 P **P 19 37 21.3 -1.3**

GRF Grafenberg Arr 27.48 302 P **P 19 37 21.3 -1.3**
GRF pmax pmax
comp=Z,43nm,1.5s
GRF Grafenberg Arr 27.48 302 *e*P **P 19 37 22.1 -0.5**
comp=Z,13nm,1.2s,baz=101,slow=8.9
GRFO Grafenberg 27.48 302 P **P 19 37 21.9 -0.6**
GRFO Grafenberg 27.48 302 P **P 19 37 21.9 -0.6**
GRFO pmax pmax
comp=Z,36nm,1.4s
ZAA0 Zalesovo Array 27.58 49 P **P 19 37 20.6 -2.7**
ZAA0 IAmb IAmb 19 38 05.2
comp=Z,92nm,2.0s
ZALV Zalesovo Beam 27.58 49 P **P 19 37 20.6 -2.7**
ZALV Zalesovo Beam 27.58 49 P **P 19 37 23.0 -0.3**
comp=Z,2.9nm,0.4s,baz=255,slow=10,SNR=22
ZALV LR LR 19 50 03.5
comp=Z,3µm,18.2s,baz=252,slow=40
comp=Z,2.9nm,0.4s
OSSC Osservatorio P 27.61 288 P **P 19 37 22.3 -1.5**
OSSC IAmb IAmb 19 37 25.7
comp=Z,49nm,1.1s
BJUU Bjuv 27.69 316 *i*P **P 19 37 23.7 -0.7**
RETA Reutte 27.70 297 *e*P **P 19 37 25.2 +0.6**
comp=Z,5.4nm,1.0s
FETA Feichten 27.72 296 *e*P **P 19 37 24.1 -0.9**
comp=Z,15nm,1.3s
FETA *e*PcP **PcP 19 40 42.3 +0.9**
comp=Z,1.5nm,0.4s
FUORN Ofenpass-Fuorn 28.05 295 P **P 19 37 26.7 -1.3**
APA Apatity 28.10 348⇓*i*P **P 19 37 32.6 +4.7**
APA *i* 19 38 13.4
APA *i* S **S 19 42 20.0 +7.9**
APA *i* SS SS 19 43 53.0 -18
APA pmax pmax
APA comp=Z,34nm,0.8s MLR MLR
APA comp=Z,5µm,13.0s
PRMA PARMA 28.14 291 P **P 19 37 27.6 -0.8**
PRMA IAmb IAmb 19 38 29.4
comp=Z,40nm,0.9s
LVZ Lovozero 28.21 349 P **P 19 37 33.3 +4.4**
DAVA Damuels 28.30 296 *e*P **P 19 37 28.9 -1.1**
comp=Z,3.5nm,0.5s
DAVA *e*PcP **PcP 19 40 43.7 +0.9**
comp=Z,6.3nm,0.6s
DAVOX Davos/Dischmat 28.31 295 P **P 19 37 29.8 -0.4**
comp=Z,2.5nm,0.4s,baz=122,slow=4.9,SNR=12
DAVOX PcP **PcP 19 40 43.3 +0.4**
comp=Z,3.9nm,0.7s,baz=53,slow=5.1,SNR=4.5
comp=Z,2.5nm,0.4s
BORU Boraas 28.35 319 *i*P **P 19 37 29.8 -0.4**
TUE Stuetta 28.69 295 P **P 19 37 32.0 -1.6**
TUE Stuetta 28.69 295 P **P 19 37 33.4 -0.2**
comp=Z,50nm,1.7s
ONAU Onsala 28.70 318 *i*P **P 19 37 32.4 -0.9**
MSSA Maissana 28.75 290 P **P 19 37 33.0 -1.0**
MSSA IAmb IAmb 19 38 00.4
comp=Z,44nm,1.1s
STU Stuttgart 28.76 299 P **P 19 37 32.5 -1.5**
STU Stuttgart 28.76 299 P **P 19 37 32.5 -1.5**
STU pmax pmax
comp=Z,12nm,0.7s
HFS Hagfors 28.92 324 P **P 19 37 35.0 -0.2**
comp=Z,34nm,0.5s,baz=116,slow=10,SNR=32
HFS LR LR 19 49 39.4
comp=Z,487nm,21.9s,baz=117,slow=38
comp=Z,34nm,0.5s
WMQ Urumqi 28.97 71⇑P **P 19 37 37.2 +1.2**
WMQ pmax pmax
comp=Z,35nm,1.1s
WMQ pmax pmax
comp=Z,150nm,3.9s
WMQ LR LR
comp=Z,2µm,12.1s
WMQ LR LR
comp=Z,2µm,14.5s
WMQ LR LR
comp=Z,970nm,15.5s
TJOU Tjoern 29.07 319 *i*P **P 19 37 35.7 -0.9**
ATD Arta Tunnel 29.55 191 P **P 19 37 41.9 +0.6**
STRU Stroemstad 29.64 321 *i*P **P 19 37 41.5 -0.1**
SENIN Lac Senin/Sane 30.11 295 P **P 19 37 44.4 -1.9**
SENIN IAmb IAmb 19 38 05.0
comp=Z,43nm,1.1s
NC602 NORSAR Array S 30.14 324 P **P 19 37 44.2 -1.9**
NC602 IAmb IAmb 19 37 46.8
comp=Z,30nm,0.7s
NC602 NORSAR Array S 30.14 324 *e*P **P 19 37 45.8 -0.2**
NC602 IAmb IAmb 19 37 46.5
comp=Z,30nm,0.7s
NC602 *e*S **S 19 42 45.9 +1.5**
NC602 IAMs_20 IAMs_20 19 50 50.3
comp=Z,4µm,15.2s
OSL Oslo 30.20 322 *e*P **P 19 37 46.5 0.0**
OSL IAMs_20 IAMs_20 19 50 36.6
comp=Z,14µm,45.1s
NC405 NORSAR Array S 30.23 325 P **P 19 37 44.9 -1.9**
NB201 NORSAR Array S 30.38 324 P **P 19 37 46.7 -1.6**
NB201 IAmb IAmb 19 37 48.6
comp=Z,38nm,0.6s
NB2 NORSAR Subarra 30.41 324 P **P 19 37 48.0 -0.5**
comp=Z,39nm,0.7s,baz=115,slow=8.6
NB2 NORSAR Subarra 30.41 324 P **P 19 37 48.0 -0.5**
baz=115,slow=8.6
NOA NORSAR Array B 30.41 324 P **P 19 37 48.0 -0.5**
comp=Z,12nm,0.7s,baz=112,slow=9.6,SNR=142
NOA PcP **PcP 19 40 48.0 +0.3**
comp=Z,1.6nm,0.8s,baz=109,slow=2.8,SNR=1.5
comp=Z,12nm,0.7s
NC303 NORSAR Array S 30.43 325 P **P 19 37 47.8 -0.8**
NC303 IAmb IAmb 19 37 49.6
comp=Z,97nm,1.4s
NAO01 NORSAR Array S 30.48 324 IAmb IAmb 19 37 49.7
comp=Z,38nm,0.8s
NBO00 NORSAR Array S 30.61 324 P **P 19 37 49.2 -0.9**
NBO00 IAmb IAmb 19 37 50.7
comp=Z,44nm,0.6s
KONO Kongsberg 30.62 321 *e*P **P 19 37 50.3 +0.1**
KONO *e*S **S 19 42 53.6 +1.8**
KONO IAMs_20 IAMs_20 19 51 26.8
comp=Z,3µm,15.1s
BNI Bardonecchia 30.67 292 P **P 19 37 50.1 -1.0**
BNI Bardonecchia 30.67 292 P **P 19 37 50.1 -1.0**
HOMB Homborsund 30.71 318 *i*P **P 19 37 50.9 -0.1**
NC204 NORSAR Array S 30.71 325 P **P 19 37 49.9 -1.3**
NC204 IAmb IAmb 19 37 51.9
comp=Z,38nm,1.0s
MEM Membach 30.88 303 *d*P **P 19 37 53.7 +1.0**
comp=Z,11nm,1.3s
KEST Kesra 30.97 273 LR LR 19 53 25.9
comp=Z,372nm,20.1s,baz=51,slow=42
VADS Vadso 31.05 347 *e*P **P 19 37 53.3 -0.7**
VADS IAMs_20 IAMs_20 19 53 35.5
comp=Z,4µm,11.8s
ARA0 ARCESS Array S 31.26 345 *e*P **P 19 37 56.7 +0.9**
ARA0 IAmb IAmb 19 37 57.3
comp=Z,169nm,1.9s
ARA0 *e*S **S 19 43 04.3 +2.7**
ARA0 *e*ScS **ScS 19 48 30.1 +0.9**
ARA0 IAMs_20 IAMs_20 19 52 12.9
comp=Z,5µm,14.5s
ARCES ARCESS Array B 31.26 345 P **P 19 37 56.4 +0.5**
comp=Z,2.9nm,0.4s,baz=149,slow=9.0,SNR=59
ARCES LR LR 19 52 11.5
comp=Z,4µm,18.7s,baz=142,slow=40
comp=Z,2.9nm,0.4s
KTK1 Kautokeino 31.32 343 *e*P **P 19 37 56.4 0.0**
KTK1 IAmb IAmb 19 37 57.5
comp=Z,97nm,1.4s
KTK1 *e*ScS ScS 19 48 27.3 -2.2
KTK1 IAMs_20 IAMs_20 19 52 06.6
comp=Z,4µm,15.9s
SNART Snartemo 31.39 318 *e*P **P 19 37 57.2 +0.2**
SKAR Skarslia 31.59 323 *e*P **P 19 37 59.4 +0.4**
NSS Namsos 31.74 331 *e*P **P 19 38 00.4 +0.3**
DOMB Dombas 31.77 325 *e*P **P 19 38 00.4 0.0**
MOR8 Moi Rana 31.78 334 *e*P **P 19 38 00.3 -0.1**
TBLU Trondheim 31.78 328 *e*P **P 19 38 00.8 +0.3**
BLS5 Blasjo 32.06 320 *e*P **P 19 38 03.5 +0.4**
BLS5 IAmb IAmb 19 38 08.1
comp=Z,45nm,1.4s
BLS5 IAMs_20 IAMs_20 19 51 54.6
comp=Z,6µm,17.2s
ODD1 Odda 32.13 321 *e*P **P 19 38 04.7 +1.1**
SSB Saint Sauveur 32.14 293 P **P 19 38 02.8 -1.2**
SSB Saint Sauveur 32.14 293 P **P 19 38 02.8 -1.2**

SSB pmax pmax
comp=Z,32nm,1.4s
LEIR Leirfjorden 32.19 334 *e*P **P 19 38 04.2 +0.2**
LEIR IAmb IAmb 19 38 14.1
comp=Z,36nm,1.0s
LEIR IAMs_20 IAMs_20 19 51 56.5
comp=Z,3µm,15.6s
FAUS Fauske 32.26 337 *e*P **P 19 38 04.7 +0.2**
FAUS IAmb IAmb 19 38 11.0
comp=Z,68nm,1.2s
FAUS *e*S **S 19 43 17.8 +0.6**
FAUS *e*ScS **ScS 19 48 35.6 +1.4**
FAUS IAMs_20 IAMs_20 19 51 49.9
comp=Z,3µm,19.7s
STOK Stokkvaagen 32.35 334 *e*P **P 19 38 04.7 -0.6**
STOK IAmb IAmb 19 38 06.5
comp=Z,94nm,1.3s
STOK IAMs_20 IAMs_20 19 51 54.1
comp=Z,3µm,13.8s
JETT Jettan, Norway 32.39 342 *e*P **P 19 38 04.7 -1.0**
JETT IAmb IAmb 19 38 13.9
comp=Z,223nm,1.8s
JETT IAMs_20 IAMs_20 19 52 29.6
comp=Z,4µm,18.7s
KONS Konsvik 32.41 334 *e*P **P 19 38 06.5 +0.6**
HAMF Hammerfest 32.53 345 *e*P **P 19 38 07.6 +0.7**
HAMF *e*ScS ScS 19 48 36.2 +0.7
HAMF IAMs_20 IAMs_20 19 53 09.3
comp=Z,5µm,17.5s
STEI Steigen 32.62 337 *e*P **P 19 38 07.9 +0.2**
STEI IAmb IAmb 19 38 08.9
comp=Z,31nm,1.0s
STEI *e*S **S 19 43 26.7 +3.9**
STEI IAMs_20 IAMs_20 19 52 11.8
comp=Z,4µm,13.5s
MOL Molde 32.63 326 *e*P **P 19 38 07.8 0.0**
MOL IAMs_20 IAMs_20 19 52 09.6
comp=Z,4µm,16.5s
AKN Aaknes 32.72 325 *e*P **P 19 38 09.3 +0.6**
AKN IAmb IAmb 19 38 10.4
comp=Z,74nm,0.7s
AKN IAMs_20 IAMs_20 19 52 20.3
comp=Z,4µm,11.9s
HYA Hoyanger 32.73 323 *e*P **P 19 38 09.9 +1.1**
HYA IAmb IAmb 19 38 10.4
comp=Z,344nm,2.0s
HYA IAMs_20 IAMs_20 19 52 34.6
comp=Z,3µm,13.4s
TRO Tromso 32.80 341 *e*P **P 19 38 09.1 -0.2**
TRO IAMs_20 IAMs_20 19 52 44.1
comp=Z,4µm,18.6s
BER Bergen 32.88 321 *e*P **P 19 38 10.2 +0.1**
BER IAMs_20 IAMs_20 19 52 21.3
comp=Z,4µm,20.6s
ASK Askoy 32.98 321 *e*P **P 19 38 11.3 +0.4**
ASK IAmb IAmb 19 38 13.3
comp=Z,74nm,1.3s
ASK IAMs_20 IAMs_20 19 52 22.0
comp=Z,4µm,20.5s
LOF Lofoten 33.24 337 *e*P **P 19 38 12.8 -0.4**
LOF IAmb IAmb 19 38 15.6
comp=Z,32nm,1.3s
LOF IAMs_20 IAMs_20 19 52 30.3
comp=Z,3µm,21.1s
SUE Sulen 33.35 322 *e*P **P 19 38 14.6 +0.4**
SUE *e*ScS ScS 19 48 38.9 -1.1
SUE IAMs_20 IAMs_20 19 52 26.5
comp=Z,3µm,19.1s
FOO Floro 33.39 323 *e*P **P 19 38 14.5 0.0**
FOO IAmb IAmb 19 38 15.8
comp=Z,569nm,3.0s
FOO *e*ScS ScS 19 48 44.8 +4.6
FOO IAMs_20 IAMs_20 19 52 56.3
comp=Z,4µm,13.5s
ETOS Mallorca 34.57 284 P **P 19 38 24.0 -1.1**
HYB Hyderabad 34.80 123 *e*P **P 19 38 28.2 +0.9**
CEST Esterri de Car 34.97 289 P **P 19 38 28.1 -0.6**
CEST IAmb IAmb 19 38 30.1
comp=Z,100nm,1.7s
NRIK Noril'sk 35.17 23 P **P 19 38 27.7 -2.2**
NRIK Noril'sk 35.17 23 P **P 19 38 30.4 +0.5**
comp=Z,5.0nm,0.9s,baz=228,slow=8.5,SNR=10.0
NRIK LR LR 19 56 15.1
comp=Z,2µm,19.7s,baz=230,slow=42
comp=Z,5.0nm,0.9s
NRIK Noril'sk 35.17 23 P **P 19 38 27.7 -2.2**
NRIK pmax pmax
comp=Z,24nm,1.3s
GOMU GeErMu 36.22 82 P **P 19 38 41.4 +1.6**
GOMU pP sP 19 38 47.6 +1.3
GOMU sP pP 19 38 51.4 +7.0
GOMU S **S 19 44 27.2 +7.4**
GOMU pmax pmax
comp=Z,19nm,1.2s
GOMU LR LR
comp=Z,720nm,14.6s
GOMU LR LR
comp=Z,1µm,13.5s
GOMU LR LR
comp=Z,1µm,14.7s
LSA Lhasa 36.23 94 P **P 19 38 38.2 -1.8**
LSA Lhasa 36.23 94 P **P 19 38 41.3 +1.3**
LSA P **P 19 38 41.3 +1.3**
LSA Lhasa 36.23 94 P **P 19 38 38.2 -1.8**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 36.23 94 P **P 19 38 41.3 +1.3**
EKA Eskdalemuir Ar 36.57 311 P **P 19 38 41.5 -0.6**
comp=Z,3.9nm,0.5s,baz=102,slow=9.1,SNR=20
EKA PcP **PcP 19 41 05.5 +0.3**
comp=Z,3.2nm,0.7s,baz=76,slow=3.0,SNR=3.3
comp=Z,3.9nm,0.5s
MOY Mondy 37.16 55 *e*P **P 19 38 49.2 +1.9**
MOY pmax pmax
comp=Z,38nm,2.2s
ECHE Chera 37.41 285 P **P 19 38 50.3 +0.9**
EMUR La Murta 38.18 282 P **P 19 38 56.1 0.0**
ZAK Zakamensk 38.73 57 *e*P **P 19 39 00.5 -0.1**
ZAK *e* 19 49 09.0
ZAK pmax pmax
comp=Z,17nm,1.5s
GTA Gaotai 38.83 75 P **P 19 39 02.3 +0.8**
GTA pP sP 19 39 06.7 -1.3
GTA PP **PnPn 19 40 38.4 +5.8**
GTA S **S 19 45 06.3 +7.4**
GTA pmax pmax
comp=Z,19nm,1.2s
GTA LR LR
comp=Z,840nm,20.7s
GTA LR LR
comp=Z,660nm,19.5s
GTA LR LR
comp=Z,770nm,20.3s
SHL Shillong 38.95 99 P **P 19 39 00.1 -2.6**
SHL Shillong 38.95 99 P **P 19 39 03.1 +0.4**
SNR=18
SHL Shillong 38.95 99 P **P 19 39 00.1 -2.6**
SHL pmax pmax
comp=Z,53nm,1.2s
LODK Lodwar 39.02 201 P **P 19 39 04.2 +0.9**
IRK Irkutsk 39.14 54 *e*P **P 19 39 04.1 +0.3**
IRK *e* 19 40 31.5
IRK *e* 19 45 02.0
IRK pmax pmax
comp=Z,90nm,2.1s
ESDC Sonseca Array 39.57 286 P **P 19 39 06.2 -1.5**
ESDC IAmb IAmb 19 39 08.0
comp=Z,190nm,1.7s
ESDC Sonseca Array 39.57 286 P **P 19 39 07.0 -0.6**
comp=Z,6.9nm,1.0s,baz=62,slow=8.4,SNR=38
ESDC PcP **PcP 19 41 15.4 +0.6**
comp=Z,7.3nm,1.2s,baz=64,slow=3.7,SNR=6.5
ESDC LR LR 20 00 01.0
comp=Z,533nm,18.4s,baz=46,slow=43
comp=Z,6.9nm,1.0s
SPB2 Spitsbergen Ar 39.72 350 IAmb IAmb 19 39 28.0
comp=Z,78nm,1.2s
SPA0 Spitsbergen Ar 39.72 350 *e*P **P 19 39 08.7 +0.3**
SPA0 IAMs_20 IAMs_20 19 58 51.8
comp=Z,3µm,17.4s
SPITS Spitsbergen Ar 39.72 350 P **P 19 39 09.2 +0.8**
comp=Z,6.4nm,0.5s,baz=140,slow=12,SNR=35
SPITS LR LR 19 57 03.9
comp=Z,835nm,21.2s,baz=116,slow=38
comp=Z,6.4nm,0.5s
SPITS Spitsbergen Ar 39.72 350 P **P 19 39 08.3 -0.1**

SPITS pmax pmax
comp=Z,72nm,1.2s
EBER Berja 39.75 282 P **P 19 39 09.6 +0.2**
PAB San Pablo 39.90 286 P **P 19 39 08.9 -1.5**
PAB San Pablo 39.90 286 P **P 19 39 08.9 -1.5**
PAB pmax pmax
comp=Z,53nm,1.6s
EQTA Presa de Quent 40.05 282 P **P 19 39 11.6 0.0**
TAM Tamanrasset 40.23 257 P **P 19 39 14.3 +0.9**
TAM Tamanrasset 40.23 257 P **P 19 39 14.4 +0.9**
TAM pmax pmax
comp=Z,59nm,1.3s
ELGU Los Guajares, 40.31 282 P **P 19 39 12.3 -1.5**
BRDH Bariadhala 40.43 103 LR LR 19 58 10.8
comp=Z,333nm,20.3s,baz=298,slow=40
EADA Adamuz 40.54 284 P **P 19 39 15.5 -0.1**
EGOR Sierra Gorda, 40.58 282 P **P 19 39 15.4 -0.7**
KBS Kingsbay 40.87 350 *e*P **P 19 39 17.4 -0.5**
KBS IAMs_20 IAMs_20 19 59 24.2
comp=Z,5μm,12.9s
PBRG Braganca 40.91 290 *e*P **P 19 39 18.8 +0.1**
PBRG *i* Amb 19 39 20.6
comp=Z,22nm,1.4s
EMAL Malaga-Limoner 40.94 282 P **P 19 39 17.7 -1.3**
SONM Songino Array 41.18 60 P **P 19 39 20.3 -0.7**
SONM Songino Array 41.18 60 P **P 19 39 21.8 +0.8**
comp=Z,4.4nm,0.6s,baz=288,slow=8.6,SNR=30
SONM PcP **PcP 19 41 20.0 0.0**
comp=Z,4.2nm,1.1s,baz=270,slow=3.3,SNR=3.9
SONM ScP **ScP 19 45 09.1 -0.3**
comp=Z,0.7nm,0.8s,baz=274,slow=2.4,SNR=3.2
SONM LR LR 19 59 06.2
comp=Z,494nm,19.6s,baz=286,slow=40
comp=Z,4.4nm,0.6s
SONM Songino Array 41.18 60 P **P 19 39 20.3 -0.7**
SONM pmax pmax
comp=Z,11nm,1.0s
ECAB El Cabril 41.19 284 P **P 19 39 20.7 -0.3**
MVO Moncorvo 41.31 289 *e*LR LR 19 56 05.2
MVO *i* AMs_20 20 00 41.0
comp=Z,405nm,16.0s
JMIC Jan Mayen 41.40 335 LR LR 19 57 51.4
comp=Z,986nm,18.8s,baz=70,slow=38
ULN Ulaanbaatar 41.61 60 P **P 19 39 23.6 -0.9**
ULN IAmb IAmb 19 39 33.4
comp=Z,75nm,1.1s
ULN Ulaanbaatar 41.61 60 P **P 19 39 25.1 +0.6**
ULN Ulaanbaatar 41.61 60 *de*P **P 19 39 24.9 +0.4**
ULN pmax pmax
comp=Z,45nm,1.4s
LIJA Lijar 41.61 283 P **P 19 39 23.4 -1.2**
PCAB Cabril 41.85 291 *e*P **P 19 39 26.7 +0.3**
PCAB *i* Amb 19 39 39.5
comp=Z,51nm,1.6s
MTE Manteigas 41.93 289 *e*P **P 19 39 27.5 +0.3**
MTE *i* Amb 19 39 29.5
comp=Z,69nm,1.5s
MTE *e*LR LR 19 56 48.5
MTE *i* AMs_20 19 59 46.5
comp=Z,317nm,18.0s
PGAV Gavieira, Arco 41.94 291 *e*LR LR 20 00 05.4
PGAV *i* AMs_20 20 00 51.1
comp=Z,245nm,16.0s
ESPR Espera 41.96 283 P **P 19 39 26.7 -0.7**
ECEU Ceuta 41.98 281 P **P 19 39 26.8 -0.8**
PCBR Castelo Branco 42.07 288 *e*P **P 19 39 28.5 +0.3**
PCBR *i* Amb 19 39 31.4
comp=Z,58nm,1.8s
EBAD Badajoz 42.11 286 P **P 19 39 28.4 -0.1**
PMRV Marv??o 42.15 287 *e*P **P 19 39 29.1 +0.2**
PMRV *i* Amb 19 39 31.9
comp=Z,66nm,1.7s
PMRV *e*LR LR 19 59 04.3
PMRV *i* AMs_20 20 01 45.1
comp=Z,280nm,18.0s
EMIN Mina Concepcio 42.22 285 P **P 19 39 29.6 +0.1**
PBAR Barrancos 42.34 285 *e*P **P 19 39 30.2 -0.2**
PBAR *i* Amb 19 39 33.2
comp=Z,30nm,2.1s
PBAR Barrancos 42.34 285 P **P 19 39 30.0 -0.5**
PESTR Estremoz 42.49 286 P **P 19 39 30.5 -1.2**
PESTR IAmb IAmb 19 39 32.7
comp=Z,73nm,1.4s
PESTR Estremoz 42.49 286 *e*P **P 19 39 31.9 +0.2**
PESTR *i* Amb 19 39 34.4
comp=Z,71nm,1.6s
PESTR Estremoz 42.49 286 P **P 19 39 31.3 -0.3**
COI Coimbra 42.62 289 P **P 19 39 31.3 -1.4**
COI IAmb IAmb 19 39 34.8
comp=Z,144nm,1.8s
COI Coimbra 42.62 289 P **P 19 39 31.3 -1.4**
COI pmax pmax
comp=Z,144nm,1.8s
IFR Ifrane 42.79 278 P **P 19 39 35.1 +0.7**
PMTG Montargil 42.88 287 *e*P **P 19 39 34.3 -0.5**
PMTG *i* Amb 19 39 36.8
comp=Z,56nm,1.6s
EGRO El Granado 42.91 285 P **P 19 39 35.0 0.0**
KMBO Kilima Mbogo 42.94 197 P **P 19 39 35.6 -0.1**
KMBO Kilima Mbogo 42.94 197 P **P 19 39 35.6 -0.1**
KMBO pmax pmax
comp=Z,21nm,1.5s
LZH Lanzhou 43.01 78 ⇑P **P 19 39 37.8 +1.7**
LZH sP sP 19 39 43.9 +1.3
LZH ScP **ScP 19 45 20.0 +3.1**
LZH S **S 19 46 01.6 +0.3**
LZH pmax pmax
comp=Z,58nm,1.0s
LZH pmax pmax
comp=Z,330nm,4.0s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,1μm,13.2s
LZH LR LR
comp=Z,2μm,15.8s
PVAQ Vaqueiros 43.13 285 P **P 19 39 35.2 -1.7**
PVAQ Vaqueiros 43.13 285 *e*P **P 19 39 36.6 -0.2**
PVAQ *i* Amb 19 39 39.5
comp=Z,30nm,1.5s
PVAQ *e*LR LR 19 57 02.7
PVAQ *i* AMs_20 20 02 18.6
comp=Z,417nm,18.0s
PVAQ Vaqueiros 43.13 285 P **P 19 39 36.5 -0.3**
PCVE Castro Verde 43.28 285 P **P 19 39 38.1 0.0**
MESJ Messejana 43.33 285 *e*P **P 19 39 38.9 +0.4**
MESJ IAMs_20 IAMs_20 20 00 32.0
comp=Z,624nm,26.5s
MESJ Messejana 43.33 285 *e*P **P 19 39 38.9 +0.4**
MORF Marmelete 43.85 285 *e*P **P 19 39 43.2 +0.4**
MORF IAMs_20 IAMs_20 20 02 35.4
comp=Z,662nm,19.4s
MORF Marmelete 43.85 285 *e*P **P 19 39 43.2 +0.4**
KIBK Kibwezi 43.95 195 P **P 19 39 44.3 +0.6**
BOD Bodaibo 44.11 44 *e*P **P 19 39 43.8 -0.6**
BOD pmax pmax
comp=Z,56nm,1.8s
TNCH TengChong 44.25 95 ⇑*i*P **P 19 39 47.6 +1.4**
TNCH pP pP 19 39 49.7 -1.2
TNCH sP sP 19 39 51.9 -0.9
TNCH PP **PcP 19 41 31.5 +0.9**
TNCH S **S 19 46 16.9 -2.7**
TNCH pmax pmax
comp=Z,23nm,1.4s
TNCH pmax pmax
comp=Z,170nm,3.5s
TNCH LR LR
comp=Z,180nm,12.5s
TNCH LR LR
comp=Z,200nm,12.5s
TNCH LR LR
comp=Z,410nm,24.2s
CIT Chita 44.82 53 *e*P **P 19 39 50.8 +0.5**
CIT *e* 19 41 33.4
CIT *e* 19 42 09.9
CIT *e* 19 46 46.9
CIT pmax pmax
comp=Z,88nm,2.2s
CD2 Chengdu 45.21 84 P **P 19 39 54.9 +1.2**
CD2 S **S 19 46 34.6 +1.3**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 LR LR
comp=Z,790nm,13.3s
CD2 LR LR
comp=Z,380nm,12.1s
CD2 LR LR
comp=Z,880nm,13.3s
DAG Danmarks Havn 45.50 343 P **P 19 39 56.9 +1.6**
DAG Danmarks Havn 45.50 343 *i* P **P 19 39 55.0 -0.3**
DAG *i* P **P 19 39 55.0 -0.3**
DAG IAmb IAmb 19 39 57.6
comp=Z,18nm,1.2s
BORG Borgarnes 45.57 326 LR LR 20 00 22.7
comp=Z,1μm,18.3s,baz=90,slow=38
TIO Tiouine 45.58 276 P **P 19 39 57.4 +0.7**
BTO Baotou 45.78 69 *e*P **P 19 39 58.3 +0.2**
BTO sP **sP 19 40 04.8 +0.1**
BTO PP **PP 19 41 41.5 -3.7**
BTO S **S 19 46 43.3 +1.9**
BTO pmax pmax
comp=Z,53nm,0.6s
BTO pmax pmax
comp=Z,290nm,5.9s
BTO LR LR
comp=Z,3μm,17.6s
BTO LR LR
comp=Z,2μm,17.3s
BTO LR LR
comp=Z,900nm,20.8s
PZH PanZhiHua 45.90 91 P **P 19 39 59.7 +0.5**
PZH PcP **PcP 19 41 36.6 +0.4**
PZH PcS **PcS 19 45 29.4 -1.4**
PZH S **S 19 46 41.4 -2.0**
PZH ScS **ScS 19 49 52.0 -3.1**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,110nm,5.5s
PZH LR LR
comp=Z,380nm,13.9s
PZH LR LR
comp=Z,330nm,14.5s
PZH LR LR
comp=Z,450nm,14.7s
NOR Nord 46.34 349 *i* P **P 19 40 01.2 -0.7**
NOR IAmb IAmb 19 40 03.7
comp=Z,95nm,2.1s
HHC Hu-ho-hao-te 46.78 68 *e*P **P 19 40 07.5 +1.5**
HHC S **S 19 46 52.9 -2.9**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,190nm,3.9s
HHC LR LR
comp=Z,1μm,16.0s
HHC LR LR
comp=Z,880nm,16.8s
HHC LR LR
comp=Z,630nm,15.3s
KMI Kunming 47.39 92 ⇑P **P 19 40 11.8 +0.7**
KMI sP sP 19 40 16.8 -0.9
KMI S **S 19 47 03.7 -1.3**
KMI pmax pmax
comp=Z,45nm,1.2s
KMI pmax pmax
comp=Z,210nm,5.0s
KMI LR LR
comp=Z,320nm,15.1s
KMI LR LR
comp=Z,200nm,15.1s
KMI LR LR
comp=Z,510nm,16.5s
XAN Xi'an 47.65 78 ⇑P **P 19 40 13.4 +0.6**
XAN pP sP 19 40 17.8 -1.5
XAN PP **PP 19 42 07.4 +3.2**
XAN S **S 19 47 10.7 +2.6**
XAN sS sS 19 47 19.6 +3.8
XAN pmax pmax
comp=Z,47nm,1.1s
XAN pmax pmax
comp=Z,250nm,3.8s
XAN LR LR
comp=Z,2μm,12.7s
XAN LR LR
comp=Z,2μm,15.3s
XAN LR LR
comp=Z,3μm,15.1s
CHTO Chiang Mai 48.19 102 P **P 19 40 15.2 -1.9**
CHTO IAmb IAmb 19 40 18.6
comp=Z,27nm,1.2s
CHTO Chiang Mai 48.19 102 P **P 19 40 15.2 -1.9**
CHTO pmax pmax
comp=Z,27nm,1.3s
CM31 Chiang Mai Arr 48.41 102 P **P 19 40 17.3 -1.5**
CM31 IAmb IAmb 19 40 31.3
comp=Z,30nm,1.1s
CMAR Chiang Mai Arr 48.41 102 P **P 19 40 18.1 -0.6**
CMAR PcP **PcP 19 41 44.8 -0.3**
CMAR Chiang Mai Arr 48.41 102 P **P 19 40 19.0 +0.2**
comp=Z,6.4nm,1.0s,baz=299,slow=8.0,SNR=46
CMAR PcP **PcP 19 41 44.4 -0.7**
comp=Z,2.8nm,0.7s,baz=307,slow=6.1,SNR=2.2
CMAR ScP **ScP 19 45 38.7 -0.6**
comp=Z,0.2nm,0.3s,baz=326,slow=3.4,SNR=2.5
comp=Z,6.4nm,1.0s
TIY Taiyuan 48.63 72 ⇑P **P 19 40 21.5 +1.1**
TIY S **S 19 47 26.2 +4.1**
TIY pmax pmax
comp=Z,14nm,1.4s
TIY pmax pmax
comp=Z,160nm,4.1s
TIY LR LR
comp=Z,620nm,15.8s
TIY LR LR
comp=Z,740nm,13.7s
TIY LR LR
comp=Z,1μm,13.7s
XLT XiLinHaoTe 48.79 63 *e*P **P 19 40 22.7 +1.2**
XLT sP sP 19 40 29.3 +1.2
XLT S **S 19 47 23.9 -0.2**
XLT pmax pmax
comp=Z,17nm,1.3s
XLT pmax pmax
comp=Z,350nm,4.1s
XLT LR LR
comp=Z,1μm,14.8s
XLT LR LR
comp=Z,2μm,16.0s
TIXI Tiksi 48.91 24 P **P 19 40 20.1 -1.8**
TIXI IAmb IAmb 19 40 37.3
comp=Z,34nm,1.4s
TIXI PcP **PcP 19 41 46.3 +0.3**
TIXI Tiksi 48.91 24 LR LR 20 04 48.5
comp=Z,685nm,19.0s,baz=326,slow=41
TIXI Tiksi 48.91 24 ⇑*i*P **P 19 40 21.9 0.0**
TIXI pmax pmax
comp=Z,22nm,1.3s
TORD Torodi Ar. Bea 49.20 250 P **P 19 40 23.5 -1.3**
TORD IAmb IAmb 19 40 25.8
comp=Z,44nm,1.5s
TORD Torodi Ar. Bea 49.20 250 P **P 19 40 23.5 -1.3**
comp=Z,22nm,1.2s,baz=26,slow=8.5,SNR=50
TORD LR LR 20 05 47.6
comp=Z,232nm,18.3s,baz=34,slow=42
comp=Z,22nm,1.2s
PHRA Phrae 49.34 101 P **P 19 40 25.4 -0.5**
PHRA PcP **PcP 19 41 48.1 -0.4**
HIA Hailar 49.35 55 P **P 19 40 24.9 -0.8**
HIA IAmb IAmb 19 40 27.5
comp=Z,19nm,0.6s
HIA Hailar 49.35 55 P **P 19 40 24.9 -0.8**
HIA pmax pmax
comp=Z,19nm,0.6s
GYA Guiyang 49.66 88 ⇑P **P 19 40 28.6 +0.2**
GYA pP pP 19 40 31.6 -1.6
GYA S **S 19 47 35.2 -1.6**
GYA pmax pmax
comp=Z,22nm,0.6s
GYA LR LR
comp=Z,590nm,15.4s
GYA LR LR
comp=Z,520nm,16.6s
GYA LR LR
comp=Z,730nm,17.3s
LYN LuoYang 50.03 75 P **P 19 40 32.4 +1.4**
LYN S S 19 47 53.7 +12
LYN pmax pmax
comp=Z,20nm,1.3s
LYN pmax pmax
comp=Z,380nm,4.2s
LYN LR LR
comp=Z,3μm,15.5s
LYN LR LR
comp=Z,2μm,13.7s
LYN LR LR
comp=Z,4μm,14.8s
BJI Beijing 50.34 67 P **P 19 40 34.7 +1.5**
BJI S **S 19 47 43.3 -2.3**
BJI pmax pmax
comp=Z,8.0nm,1.5s
BJI LR LR
comp=Z,590nm,18.8s
BJI LR LR
comp=Z,290nm,20.3s
BJI LR LR
comp=Z,360nm,14.2s
BJT Baijiatuau 50.34 67 P **P 19 40 31.2 -2.0**
BJT Baijiatuau 50.34 67 P **P 19 40 31.2 -2.0**
BJT pmax pmax
comp=Z,36nm,1.6s
HNS HongShan 50.40 71 ⇑P **P 19 40 34.8 +1.1**
HNS *e*S **S 19 47 51.0 +4.4**
HNS pmax pmax
comp=Z,36nm,1.1s
HNS pmax pmax
comp=Z,290nm,6.7s
HNS LR LR
comp=Z,560nm,15.5s
HNS LR LR
comp=Z,940nm,15.9s
HNS LR LR
comp=Z,1μm,12.6s
SLVN Son La 50.41 95 P **P 19 40 32.7 -1.4**
SLVN IAmb IAmb 19 40 42.3
comp=Z,48nm,1.3s
SUMG Summit 50.77 337 P **P 19 40 35.3 -1.2**
SUMG Summit 50.77 337 P **P 19 40 35.3 -1.2**
SUMG pmax pmax
comp=Z,17nm,1.2s
SUMG Summit 50.77 337 *i* P **P 19 40 37.0 +0.5**
SUMG IAmb IAmb 19 40 40.0
comp=Z,39nm,1.3s
YAK Yakutsk 51.06 37 P **P 19 40 35.3 -3.0**
YAK IAmb IAmb 19 40 58.3
comp=Z,34nm,0.8s
YAK Yakutsk 51.06 37 LR LR 20 05 26.6
comp=Z,1μm,20.2s,baz=278,slow=40
YAK Yakutsk 51.06 37 *e*P **P 19 40 38.3 0.0**
YAK *e**PP **pP 19 40 42.3 -0.7**
YAK *e* 19 41 54.5
YAK *e* 19 42 34.7
YAK *e*PPP PPP 19 43 29.0
YAK *e*S **S 19 47 54.2 -0.9**
YAK *e**SS **sS 19 48 04.7 +1.6**
YAK *e*SS **SS 19 51 28.6 -1.0**
YAK *e*SSS SSS 19 52 59.8
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,275nm,5.2s
YAK pmax pmax
comp=N,148nm,4.7s
YAK pmax pmax
comp=E,190nm,4.8s
YAK smax smax
comp=E,169nm,3.8s
YAK smax smax
comp=N,151nm,3.7s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK MLR MLR
comp=N,557nm,22.0s
ICESG Greenland Ices 51.98 333 *i* P **P 19 40 46.8 +1.2**
ICESG IAmb IAmb 19 40 48.3
comp=Z,31nm,0.8s
ZEA Zeya 52.32 47 *e*P **P 19 40 49.4 +1.5**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,2μm,15.0s
ZEA MLR MLR
comp=N,800nm,12.0s
ZEA MLR MLR
comp=Z,3μm,16.0s
NEEM North Greenlan 52.62 344 *i* P **P 19 40 49.9 -0.2**
NEEM IAmb IAmb 19 40 51.2
comp=Z,12nm,0.5s
TIA Tai'an 52.67 71 P **P 19 40 51.4 +0.6**
TIA pmax pmax
comp=Z,12nm,1.0s
TIA pmax pmax
comp=Z,210nm,3.9s
TIA LR LR
comp=Z,870nm,17.7s
TIA LR LR
comp=Z,1μm,12.9s
TIA LR LR
comp=Z,2μm,13.4s
WHN Wuhan 53.35 79 ⇑P **P 19 40 56.6 +0.8**
WHN sP **sP 19 41 01.9 -0.5**
WHN S **S 19 48 28.2 +0.9**
WHN pmax pmax
comp=Z,140nm,1.3s
WHN LR LR
comp=Z,2μm,13.3s
WHN LR LR
comp=Z,2μm,13.0s
WHN LR LR
comp=Z,5μm,15.3s
HEH HeiHe 53.67 51 *e*P **P 19 40 58.6 +0.7**
HEH pmax pmax
comp=Z,53nm,0.8s
HEH LR LR
comp=Z,1μm,15.2s
HEH LR LR
comp=Z,2μm,14.7s
HEH LR LR
comp=Z,3μm,16.4s
DL2 Dalian 54.63 66 P **P 19 41 06.0 +0.9**
DL2 *e*S **S 19 48 45.3 +0.8**
DL2 pmax pmax
comp=Z,70nm,1.1s
DL2 pmax pmax
comp=Z,610nm,6.8s
DL2 LR LR
comp=Z,780nm,15.2s
DL2 LR LR
comp=Z,1μm,13.5s
DL2 LR LR
comp=Z,1μm,14.7s
SNY Shenyang 54.67 62 ⇑P P 19 40 50.0 -15
SNY S S 19 48 31.6 -13
SNY pmax pmax
comp=Z,140nm,6.1s
SNY LR LR
comp=N,810nm,18.0s
SNY LR LR
comp=E,900nm,17.4s
SNY LR LR
comp=Z,1μm,19.4s
CN2 Changchun 55.05 59 *e*P **P 19 41 07.3 -0.8**
CN2 *es*P sP 19 41 15.0 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,3μm,16.6s
UBPT Khong Chiam 55.26 100 P **P 19 41 08.6 -1.3**
BNX BinXian 55.48 57 ⇑P **P 19 41 11.2 +0.1**
BNX S **S 19 48 56.7 +1.0**
BNX pmax pmax
comp=Z,14nm,1.0s
BNX pmax pmax
comp=Z,180nm,4.7s
BNX LR LR
comp=Z,1μm,12.7s

BNX LR LR
comp=Z,2µm,14.7s
BNX LR LR
comp=Z,2µm,13.8s
NJ2 Nanjing 55.92 75 ⇑P **P 19 41 15.0 +0.5**
NJ2 sP **sP 19 41 21.1 0.0**
NJ2 S **S 19 49 01.9 0.0**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 LR LR
comp=Z,880nm,14.2s
NJ2 LR LR
comp=Z,780nm,16.1s
NJ2 LR LR
comp=Z,1µm,18.0s
QIZ Qiongzhong 56.27 93 P **P 19 41 16.2 -0.9**
QIZ S **S 19 49 05.8 -1.0**
QIZ pmax pmax
comp=Z,13nm,1.0s
QIZ LR LR
comp=Z,230nm,13.3s
QIZ LR LR
comp=Z,250nm,13.1s
QIZ LR LR
comp=Z,350nm,14.2s
GZH Guangzhou 56.57 87 P **P 19 41 19.4 +0.2**
SFJD Kangerlussuaq 56.57 332 LR LR 20 05 29.8
comp=Z,804nm,19.4s,baz=64,slow=36
KLR Kul'dur 56.65 51 *de*P **P 19 41 18.6 -0.9**
KLR pmax pmax
comp=Z,35nm,1.7s
EUNU Eureka 56.81 352 P **P 19 41 19.5 -0.7**
SSE Sheshan 58.12 75 P **P 19 41 28.8 -1.3**
SSE S **S 19 49 27.8 -3.1**
SSE pmax pmax
comp=Z,14nm,1.1s
SSE pmax pmax
comp=Z,110nm,4.2s
SSE LR LR
comp=Z,100nm,15.8s
SSE LR LR
comp=Z,340nm,15.5s
DBIC Dimbokro 58.31 249 P **P 19 41 30.0 -1.5**
DBIC Dimbokro 58.31 249 P **P 19 41 31.1 -0.4**
comp=Z,13nm,1.1s,baz=48,slow=8.2,SNR=8.7
DBIC LR LR 20 12 03.8
comp=Z,136nm,18.4s,baz=56,slow=42
comp=Z,13nm,1.1s
DBIC Dimbokro 58.31 249 P **P 19 41 30.0 -1.5**
DBIC pmax pmax
comp=Z,89nm,1.8s
GRNR Gornyy 58.67 48⇑ *i*P **P 19 41 34.3 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,1.1s
GRNR MLR MLR
comp=E,2µm,16.0s
GRNR MLR MLR
comp=N,1µm,15.0s
GRNR MLR MLR
comp=Z,3µm,15.0s
LSZ Lusaka 58.86 203 P **P 19 41 36.8 +1.4**
LSZ Lusaka 58.86 203 P **P 19 41 36.8 +1.4**
LSZ pmax pmax
comp=Z,21nm,1.5s
PSI Prapat 59.01 116 P **P 19 41 35.5 -1.2**
comp=Z,5.8nm,0.5s,baz=294,slow=7.4,SNR=17
PSI LR LR 20 09 35.7
comp=Z,634nm,21.6s,baz=338,slow=39
comp=Z,5.8nm,0.5s
PSI Prapat 59.01 116 P **P 19 41 34.9 -1.7**
PSI pmax pmax
comp=Z,135nm,2.0s
OPO Ambohidratompo 59.05 181 LR LR 20 08 10.3
comp=Z,189nm,20.0s,baz=181,slow=37
USA0B Ussuriysk Arra 59.08 56 P **P 19 41 35.3 -1.3**
USA0B IAmb IAmb 19 41 43.8
comp=Z,35nm,1.2s
USA0B Ussuriysk Arra 59.08 56 P **P 19 41 35.3 -1.3**
USA0B pmax pmax
comp=Z,35nm,1.2s
USRK Ussuriysk Ar. 59.08 56 P **P 19 41 35.2 -1.4**
USRK Ussuriysk Ar. 59.08 56 P **P 19 41 36.8 +0.2**
comp=Z,5.2nm,0.6s,baz=285,slow=7.3,SNR=18
USRK LR LR 20 11 15.7
comp=Z,548nm,18.3s,baz=297,slow=40
comp=Z,5.2nm,0.6s
USRK Ussuriysk Ar. 59.08 56 P **P 19 41 35.2 -1.4**
RPSI Rantau Prapat 59.09 116 P **P 19 41 34.9 -2.1**
GSI Gunungsitoli 59.20 118 P **P 19 41 38.0 +0.3**
comp=Z,14nm,0.8s
IPM Ipoh 59.26 113 P **P 19 41 36.5 -1.7**
IPM IAmb IAmb 19 41 38.6
comp=Z,25nm,1.2s
ABPO Ambohimpanom 59.49 181 P **P 19 41 40.5 +0.8**
ABPO IAmb IAmb 19 41 52.6
comp=Z,19nm,1.1s
ABPO Ambohimpanom 59.49 181 P **P 19 41 40.5 +0.8**
ABPO pmax pmax
comp=Z,19nm,1.1s
KS19 Wonju Array Si 59.62 65 P **P 19 41 39.4 -1.0**
KS19 IAmb IAmb 19 41 52.2
comp=Z,41nm,1.2s
KSAR Wonju Array Be 59.66 65 P **P 19 41 39.3 -1.4**
KSAR Wonju Array Be 59.66 65 P **P 19 41 39.3 -1.4**
KSRS Korea Array 59.68 65 P **P 19 41 40.3 -0.6**
comp=Z,6.5nm,0.6s,baz=295,slow=6.8,SNR=58
KSRS LR LR 20 10 49.5
comp=Z,661nm,20.3s,baz=315,slow=40
comp=Z,6.5nm,0.6s
SEY Seymchan 60.33 31 LR LR 20 12 22.1
comp=Z,581nm,18.1s,baz=318,slow=41
SEY Seymchan 60.33 31⇑ *e*P **P 19 41 46.2 +1.4**
SEY pmax pmax
comp=Z,36nm,1.4s
MA2 Magadan 61.46 34 P **P 19 41 51.5 -1.1**
MA2 IAmb IAmb 19 42 01.3
comp=Z,26nm,1.1s
MA2 Magadan 61.46 34 LR LR 20 11 54.8
comp=Z,1µm,18.3s,baz=300,slow=39
MA2 Magadan 61.46 34⇑ *e*P **P 19 41 53.0 +0.4**
MA2 pmax pmax
comp=Z,24nm,1.3s
BBTS Babate 61.71 265 LR LR 20 12 18.2
comp=Z,188nm,19.2s,baz=306,slow=40
YHNB Yeheng 61.74 81 P **P 19 41 54.5 -0.6**
SSLB Suanglung 61.93 82 P **P 19 41 56.6 +0.3**
TPUB Ta-pu 61.96 82 P **P 19 41 56.8 +0.2**
BILL Bilibino 61.99 22 P **P 19 41 55.9 -0.1**
BILL IAmb IAmb 19 41 58.4
comp=Z,38nm,1.5s
BILL Bilibino 61.99 22 *ce*P **P 19 41 56.7 +0.6**
BILL pmax pmax
comp=Z,13nm,1.4s
TYV Tymovskoe 62.08 46 *e*P **P 19 41 58.0 +1.1**
TYV *e*S **S 19 50 24.8 +3.6**
TYV pmax pmax
comp=Z,300nm,5.0s
TYV pmax pmax
comp=Z,20nm,1.3s
TYV smax smax
comp=N,500nm,5.8s
TYV MLR MLR
comp=Z,5µm,15.0s
TYV MLR MLR
comp=E,3µm,15.0s
RES Resolute Bay 62.28 350 P **P 19 41 58.4 +0.5**
RES IAmb IAmb 19 42 00.8
comp=Z,36nm,1.9s
RES Resolute Bay 62.28 350 LR LR 20 11 35.5
comp=Z,790nm,18.7s,baz=16,slow=38
RES Resolute Bay 62.28 350 P **P 19 41 58.4 +0.5**
RES pmax pmax
comp=Z,36nm,1.9s
YULB Yu-li 62.41 82 P **P 19 41 59.1 -0.5**
TWG Pinlang 62.57 83 P **P 19 42 00.1 -0.5**
JNU Nakatsue 64.01 68 IAmb IAmb 19 42 17.8
comp=Z,36nm,1.0s
JNU Nakatsue 64.01 68 P **P 19 42 10.4 +0.3**
comp=Z,11nm,0.9s,baz=40,slow=2.6,SNR=4.8
JNU LR LR 20 13 03.7
comp=Z,420nm,18.5s,baz=308,slow=39
comp=Z,11nm,0.9s
YSS Yuzhno-Sakhali 64.20 49 *e*P **P 19 42 11.9 +0.9**
YSS *e*S **S 19 50 48.4 +0.6**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=E,2µm,16.0s
FRB Frobisher Bay 64.59 334 LR LR 20 10 41.1
comp=E,1µm,19.8s,baz=42,slow=36
BROLN Tlhalogang 64.62 202 *i*P **P 19 42 14.4 +0.3**
ASAJ Asahikawa 65.66 52 LR LR 20 13 42.6
comp=E,771nm,19.6s,baz=306,slow=38
CKGRV CKGRV 65.99 205 *i*P **P 19 42 23.4 +0.4**
TSUM Tsumeb 66.22 212 LR LR 20 12 52.9
comp=E,521nm,18.0s,baz=34,slow=37
A21K Barrow 66.78 9 P **P 19 42 28.4 +1.1**
baz=339
GRTLG Ghanzi 66.82 208 *i*P **P 19 42 28.9 +0.6**
MJB9 Matsu-Tunnel 67.12 61 IAmb IAmb 19 42 33.2
comp=Z,64nm,1.8s
MAJO Matsushiro 67.13 61 P **P 19 42 29.1 -1.1**
MAJO IAmb IAmb 19 42 32.2
comp=Z,65nm,1.8s
MAJO Matsushiro 67.13 61 P **P 19 42 29.1 -1.1**
MAJO pmax pmax
comp=Z,65nm,1.8s
MJAR Matsushiro Arr 67.13 61 P **P 19 42 30.4 +0.2**
comp=Z,3.0nm,0.7s,baz=309,slow=8.8,SNR=12
MJAR LR LR 20 14 12.8
comp=Z,973nm,19.0s,baz=314,slow=38
comp=Z,3.0nm,0.7s
LPHEP Lephephe 67.19 203 *i*P **P 19 42 31.6 +1.0**
A36M Sachs Harbour 67.46 358 IAmb IAmb 19 42 39.0
comp=Z,19nm,0.9s
A36M Sachs Harbour 67.46 358 P **P 19 42 32.5 +0.8**
baz=5.0
KDWAN Kaudwane 67.56 204 *i*P **P 19 42 34.0 +1.1**
TGY Tagaytay City 67.68 90 LR LR 20 15 13.7
comp=Z,184nm,20.0s,baz=295,slow=39
KGCAE Kacgae 67.86 206 *i*P **P 19 42 35.8 +0.9**
B18K Kokolik River 67.93 11 P **P 19 42 36.3 +1.6**
baz=336
B22K Teshekpuk Lake 68.06 8 IAmb IAmb 19 42 49.8
comp=Z,40nm,1.1s
B22K Teshekpuk Lake 68.06 8 P **P 19 42 36.7 +1.2**
baz=342
JMM Marumori 68.07 58 P **P 19 42 34.2 -1.9**
LWLI Liwa 68.20 118 P **P 19 42 35.7 -1.6**
C16K Lisburne Hills 68.36 13 P **P 19 42 37.9 +0.6**
baz=333
PETK Petropavlovsk- 68.39 38 P **P 19 42 37.6 -0.2**
comp=Z,2.0nm,0.7s,baz=88,slow=5.0,SNR=1.7
comp=Z,2.0nm,0.7s
C17K DeLong Mountai 68.53 12 P **P 19 42 39.8 +1.3**
baz=335
B21K Ikpikpuk River 68.62 8 IAmb IAmb 19 42 54.4
comp=Z,23nm,0.9s
B21K Ikpikpuk River 68.62 8 P **P 19 42 40.3 +1.4**
baz=341
C18K Utukok River 68.67 11 IAmb IAmb 19 42 54.4
comp=Z,21nm,0.8s
C18K Utukok River 68.67 11 P **P 19 42 40.4 +1.0**
baz=336
KOOLE Kule 68.68 208 *i*P **P 19 42 41.0 +1.0**
SBUM Sibu 68.68 106 P **P 19 42 39.5 -0.7**
C23K Itkillik River 68.82 7 P **P 19 42 41.5 +1.3**
baz=344
LBTB Lobatse 68.82 202 P **P 19 42 41.7 +0.8**
LBTB IAmb IAmb 19 42 43.2
comp=Z,43nm,1.4s
LBTB Lobatse 68.82 202 LR LR 20 14 41.0
comp=Z,614nm,18.3s,baz=26,slow=38
LBTB Lobatse 68.82 202 P **P 19 42 41.7 +0.8**
LBTB pmax pmax
comp=Z,43nm,1.4s
RDOG Red Dog Mine 68.95 12 P **P 19 42 41.8 +0.7**
baz=335
C21K Knifeblade Rid 69.04 9 P **P 19 42 43.2 +1.6**
baz=341
C24K Franklin Bluff 69.10 6 P **P 19 42 43.5 +1.5**
baz=346
C26K Camden Bay 69.19 5 P **P 19 42 44.0 +1.5**
baz=349
D20K Etivluk River 69.24 10 P **P 19 42 43.9 +1.0**
baz=340
D17K Noatak River 69.25 12 P **P 19 42 43.5 +0.5**
baz=335,SNR=25
D19K Kuna River 69.25 10 IAmb IAmb 19 42 54.4
comp=Z,40nm,1.1s
D19K Kuna River 69.25 10 P **P 19 42 44.0 +1.1**
baz=339
DRLN Deer Lake 69.25 318 P **P 19 42 42.6 -0.6**
D22K Ayikyak River 69.54 8 IAmb IAmb 19 43 03.9
comp=Z,17nm,0.8s
D22K Ayikyak River 69.54 8 P **P 19 42 45.9 +1.1**
baz=343
POGA Pongola 69.54 196 P **P 19 42 45.3 +0.2**
C27K Jago River 69.55 5 IAmb IAmb 19 43 04.1
comp=Z,19nm,0.9s
C27K Jago River 69.55 5 P **P 19 42 46.2 +1.4**
baz=350
D24K Happy Valley 69.64 7 IAmb IAmb 19 43 00.6
comp=Z,58nm,1.6s
D24K Happy Valley 69.64 7 P **P 19 42 46.4 +1.0**
baz=346
D23K Nanushuk River 69.66 7 P **P 19 42 46.7 +1.3**
baz=344
D25K Kavik River 69.67 6 IAmb IAmb 19 43 04.5
comp=Z,30nm,0.9s
D25K Kavik River 69.67 6 P **P 19 42 46.7 +1.1**
baz=348
E20K Nigu River 69.72 10 P **P 19 42 46.9 +1.0**
baz=340
MAKGR Makgori 69.81 203 *i*P **P 19 42 47.6 +0.7**
E21K Killik River 69.82 9 P **P 19 42 47.1 +0.6**
baz=342
E18K Tukpahlearik C 69.89 12 P **P 19 42 46.2 -0.7**
E18K Tukpahlearik C 69.89 12 P **P 19 42 47.1 +0.2**
baz=337,SNR=10
SCHQ Schefferville 69.97 326 P **P 19 42 46.6 -0.9**
SCHQ Schefferville 69.97 326 P **P 19 42 47.8 +0.2**
comp=Z,9.5nm,0.8s,baz=46,slow=7.4,SNR=27
SCHQ LR LR 20 12 29.1
comp=Z,584nm,21.5s,baz=56,slow=35
comp=Z,9.5nm,0.8s
E17K Hotham Inlet 70.02 12 P **P 19 42 48.1 +0.5**
baz=336
C36M Paulatuk 70.06 357 P **P 19 42 47.8 -0.1**
baz=5.9,SNR=14
TOLK Toolik Lake Re 70.08 7 IAmb IAmb 19 42 55.8
comp=Z,30nm,1.0s
TOLK Toolik Lake Re 70.08 7 P **P 19 42 48.9 +0.8**
baz=345,SNR=20
D27M Malcolm River 70.08 4 IAmb IAmb 19 42 50.7
comp=Z,59nm,1.8s
D27M Malcolm River 70.08 4 P **P 19 42 49.1 +1.0**
baz=352
D28M Stokes Point 70.09 3 P **P 19 42 49.0 +1.0**
baz=354
TNA Tin City 70.29 15 P **P 19 42 50.0 +0.6**
baz=331
E19K Redstone River 70.34 10 P **P 19 42 50.7 +1.0**
baz=340
E22K Anaktuvuk Pass 70.35 8 IAmb IAmb 19 43 04.2
comp=Z,20nm,1.0s
E22K Anaktuvuk Pass 70.35 8 P **P 19 42 50.5 +0.8**
baz=344,SNR=14
E23K Chandalar 70.64 7 IAmb IAmb 19 43 03.2
comp=Z,33nm,1.6s
E23K Chandalar 70.64 7 P **P 19 42 52.6 +1.0**
baz=345
F14K Arctic Creek 70.68 15 P **P 19 42 52.7 +0.9**
baz=333
F17K Baldwin Pennin 70.69 12 P **P 19 42 51.8 0.0**
F17K Baldwin Pennin 70.69 12 P **P 19 42 52.5 +0.8**
baz=336
E24K Your Creek 70.73 7 P **P 19 42 53.2 +1.1**
baz=346
E28M Babbage River 70.78 3 IAmb IAmb 19 42 54.9
comp=Z,83nm,1.9s
E28M Babbage River 70.78 3 P **P 19 42 53.5 +1.1**
baz=354
F15K North Star Dit 70.78 14 P **P 19 42 53.1 +0.7**
baz=334,SNR=6.7
F18K Selawik 70.80 12 P **P 19 42 52.9 +0.4**
baz=338,SNR=14
F19K Shaleruckik Mo 70.86 11 IAmb IAmb 19 42 54.3
comp=Z,36nm,1.4s
F19K Shaleruckik Mo 70.86 11 P **P 19 42 52.1 -0.7**
baz=339,SNR=7.9
E25K Arctic Village 70.92 6 P **P 19 42 54.2 +1.0**
baz=349,SNR=12
F20K Avaraart Lake 70.93 10 IAmb IAmb 19 42 55.4
comp=Z,35nm,1.6s
F20K Avaraart Lake 70.93 10 P **P 19 42 53.7 +0.5**
baz=341
GAMB Gambell 71.03 18 P **P 19 42 54.2 +0.4**
baz=329
F21K Alatna River 71.04 9 IAmb IAmb 19 43 01.6
comp=Z,18nm,1.0s
F21K Alatna River 71.04 9 P **P 19 42 55.1 +1.1**
baz=342
E29M Blow River 71.06 2 P **P 19 42 55.0 +1.0**
baz=355
INK Inuvik 71.24 1 P **P 19 42 54.1 -0.9**
INK Inuvik 71.24 1 LR LR 20 21 38.4
comp=Z,483nm,18.2s,baz=26,slow=42
INK Inuvik 71.24 1 P **P 19 42 55.0 -0.1**
baz=358
INK Inuvik 71.24 1 P **P 19 42 54.1 -0.9**
INK pmax pmax
comp=Z,9.0nm,1.2s
F24K Squaw Lake 71.32 7 IAmb IAmb 19 43 08.3
comp=Z,37nm,1.5s
F24K Squaw Lake 71.32 7 P **P 19 42 56.9 +1.2**
baz=347
COLD Coldfoot 71.39 8 IAmb IAmb 19 43 05.0
comp=Z,19nm,1.0s
COLD Coldfoot 71.39 8 P **P 19 42 57.1 +1.1**
baz=345,SNR=13
F25K Christian Rive 71.43 6 P **P 19 42 57.6 +1.3**
baz=349,SNR=14
F26K Sheenjek River 71.44 5 IAmb IAmb 19 43 08.9
comp=Z,22nm,1.1s
F26K Sheenjek River 71.44 5 P **P 19 42 57.5 +1.2**
baz=350
G16K Koyuk River 71.47 13 IAmb IAmb 19 42 58.8
comp=Z,63nm,1.7s
G16K Koyuk River 71.47 13 P **P 19 42 57.3 +0.8**
baz=336
G15K Niukluk 71.54 14 P **P 19 42 56.9 -0.1**
baz=334,SNR=6.5
G22K Bettles 71.55 8 P **P 19 42 57.9 +0.9**
baz=344
G19K Purcell Mounta 71.60 11 P **P 19 42 58.1 +0.8**
baz=340
G18K Tagagawik 71.61 11 IAmb IAmb 19 42 59.2
comp=Z,48nm,1.6s
G18K Tagagawik 71.61 11 P **P 19 42 57.7 +0.3**
baz=338
G17K Kiwalik Mounta 71.66 12 P **P 19 42 58.2 +0.5**
baz=337
BMAR Burnt Mountain 71.67 5 P **P 19 42 57.2 -0.6**
ANM Nome 71.68 15 IAmb IAmb 19 43 00.2
comp=Z,44nm,1.5s
ANM Nome 71.68 15 P **P 19 42 58.7 +0.9**
baz=334
G21K Allakaket 71.71 9 IAmb IAmb 19 43 11.8
comp=Z,23nm,1.1s
G21K Allakaket 71.71 9 P **P 19 42 58.9 +0.8**
baz=342
F28M Old Crow 71.76 3 IAmb IAmb 19 43 09.5
comp=Z,20nm,0.9s
F28M Old Crow 71.76 3 P **P 19 42 59.0 +0.7**
baz=353,SNR=23
F30M Barrier River 71.90 2 P **P 19 42 59.6 +0.5**
baz=356
G23K Bananza Creek 71.91 8 P **P 19 42 59.9 +0.7**
baz=345
LEM Lembang 71.93 116 LR LR 20 20 18.9
comp=Z,244nm,18.8s,baz=302,slow=41
F31M Tsiigehtchic 72.10 1 IAmb IAmb 19 43 02.0
comp=Z,80nm,1.8s
F31M Tsiigehtchic 72.10 1 P **P 19 43 00.7 +0.4**
baz=358,SNR=12
G24K Hadweenzic Riv 72.16 7 IAmb IAmb 19 43 08.7
comp=Z,25nm,1.0s
G24K Hadweenzic Riv 72.16 7 P **P 19 43 01.9 +1.2**
baz=347
H16K Elim 72.19 13 P **P 19 43 01.5 +0.6**
baz=336,SNR=5.5
G26K Porcupine Rive 72.20 5 P **P 19 43 02.2 +1.3**
baz=350
H19K Roundabout Mou 72.27 11 P **P 19 43 01.9 +0.6**
baz=340
H17K Granite Mounta 72.30 12 P **P 19 43 02.1 +0.6**
baz=338
BOSA Boshof 72.32 201 P **P 19 43 02.6 +0.4**
BOSA IAmb IAmb 19 43 03.9
comp=Z,47nm,1.4s
BOSA Boshof 72.32 201 P **P 19 43 02.8 +0.6**
comp=Z,9.8nm,0.8s,baz=30,slow=4.1,SNR=24
BOSA LR LR 20 16 44.5
comp=Z,521nm,18.3s,baz=22,slow=38
comp=Z,9.8nm,0.8s
BOSA Boshof 72.32 201 P **P 19 43 02.6 +0.4**
BOSA pmax pmax
comp=Z,47nm,1.4s
H18K Honhosa River 72.34 12 IAmb IAmb 19 43 03.9
comp=Z,79nm,1.8s
H18K Honhosa River 72.34 12 P **P 19 43 02.4 +0.6**
baz=339
G27K Doyon Strip 72.47 4 P **P 19 43 03.9 +1.3**
baz=352
FYU Fort Yukon 72.47 6 IAmb IAmb 19 43 10.6
comp=Z,33nm,1.3s
G30M tAoh Zraii Nji 72.52 2 IAmb IAmb 19 43 13.6
comp=Z,33nm,1.2s
G30M tAoh Zraii Nji 72.52 2 P **P 19 43 03.1 +0.3**
baz=356,SNR=11
H20K Anotleneega Mo 72.52 10 P **P 19 43 03.6 +0.8**
baz=342,SNR=11
G29M Pine Creek 72.53 3 IAmb IAmb 19 43 16.6
comp=Z,28nm,1.1s
G29M Pine Creek 72.53 3 P **P 19 43 03.7 +0.7**
baz=355
H22K Ishtalitna Cre 72.56 8 P **P 19 43 04.7 +1.6**
baz=344
G31M Satah River 72.62 1 IAmb IAmb 19 43 10.1
comp=Z,28nm,0.9s
G31M Satah River 72.62 1 P **P 19 43 03.6 +0.3**
baz=358
H21K Melozitna Rive 72.62 9 P **P 19 43 02.3 -1.2**
H21K IAmb IAmb 19 43 17.9
comp=Z,24nm,1.0s
H21K Melozitna Rive 72.62 9 P **P 19 43 04.5 +1.0**
baz=343,SNR=12
H25L Birch Creek 72.72 6 P **P 19 43 05.4 +1.4**
baz=349
GCSA Galena City Sc 72.95 11 P **P 19 43 06.1 +0.8**
baz=340
H24K Noodor Dome 72.97 7 P **P 19 43 07.0 +1.4**
baz=347
H27K Steamboat Moun 73.05 4 P **P 19 43 07.3 +1.2**
baz=352
EPYK Eagle Plains 73.12 2 P **P 19 43 06.7 +0.3**
baz=356,SNR=14
I17K Unalakleet 73.15 13 P **P 19 43 07.4 +0.8**
baz=337
I21K Tanana 73.18 9 IAmb IAmb 19 43 16.1
comp=Z,29nm,1.1s
I21K Tanana 73.18 9 P **P 19 43 07.9 +1.1**
baz=344,SNR=10
H29M Whitestone 73.21 3 IAmb IAmb 19 43 14.2
comp=Z,27nm,1.0s
H29M Whitestone 73.21 3 P **P 19 43 07.7 +0.7**
baz=354
I20K Naaghedeneel 73.24 10 IAmb IAmb 19 43 15.0
comp=Z,56nm,1.2s
I20K Naaghedeneel 73.24 10 P **P 19 43 08.4 +1.4**
baz=342
PRP Porcupine Dome 73.49 6 P **P 19 43 07.7 -1.1**
PRP Porcupine Dome 73.49 6 P **P 19 43 09.6 +0.8**
baz=349
I23K Minto, Yukon-K 73.50 8 IAmb IAmb 19 43 20.5
comp=Z,26nm,1.2s
I23K Minto, Yukon-K 73.50 8 P **P 19 43 09.9 +1.3**
baz=346,SNR=9.8
I27K Kandik River 73.67 4 P **P 19 43 10.7 +0.9**
baz=352
J14K Nanvaranak Lak 73.67 15 P **P 19 43 10.5 +0.9**
baz=335
POKR Poker Plat Res 73.72 7 IAmb IAmb 19 43 19.3
comp=Z,26nm,1.1s
POKR Poker Plat Res 73.72 7 P **P 19 43 11.3 +1.4**
baz=347,SNR=7.1
J16K Anvik River 73.72 13 IAmb IAmb 19 43 18.9
comp=Z,27nm,1.1s

J16K	Anvik River	73.72	13	P	P	19 43 10.8 +0.8
	baz=337					
H31M	Peel River	73.74	1	P	P	19 43 10.3 +0.3
	baz=358					
GBN	Guysborough	73.82	316	P	P	19 43 09.9 -1.0
J19K	Poorman	73.84	11	IAmb	IAmb	19 43 13.2
	comp=Z,91nm,1.9s					
J19K	Poorman	73.84	11	P	P	19 43 11.8 +1.1
	baz=341					
ICQ	Pointe Anglais	73.84	322	P	P	19 43 10.4 -0.5
I26K	Coal Creek Min	73.87	5	P	P	19 43 11.6 +0.8
	baz=351					
J20K	Nowinta River	73.87	10	IAmb	IAmb	19 43 13.5
	comp=Z,97nm,1.9s					
J20K	Nowinta River	73.87	10	P	P	19 43 11.9 +1.1
	baz=342,SNR=7.2					
J17K	VABM Dome	73.88	13	P	P	19 43 11.6 +0.7
	baz=338					
I28M	Miner Creek	73.91	4	P	P	19 43 11.5 +0.3
	baz=353					
COLA	College	73.92	7	P	P	19 43 10.1 -1.0
COLA				IAmb	IAmb	19 43 19.9
	comp=Z,25nm,0.8s					
COLA	College	73.92	7	P	P	19 43 12.1 +1.1
	baz=347					
COLA	College	73.92	7	P	P	19 43 10.1 -1.0
COLA				pmax	pmax	
	comp=Z,25nm,0.8s					
NEA2	Nenana	74.07	8	IAmb	IAmb	19 43 20.6
	comp=Z,24nm,1.1s					
NEA2	Nenana	74.07	8	P	P	19 43 12.7 +0.7
	baz=346,SNR=7.4					
I29M	Ogilvie Camp,	74.07	3	IAmb	IAmb	19 43 13.7
	comp=Z,88nm,1.9s					
I29M	Ogilvie Camp,	74.07	3	P	P	19 43 12.3 +0.3
	baz=355,SNR=10					
ILAR	Eielson Array	74.11	7	P	P	19 43 10.8 -1.4
ILAR	Eielson Array	74.11	7	P	P	19 43 12.8 +0.6
	comp=Z,1.9nm,0.8s,baz=328,slow=3.8,SNR=28					
ILAR				PP	PP	19 45 54.3 -2.6
	comp=Z,0.7nm,0.9s,baz=356,slow=8.6,SNR=2.2					
ILAR				PKPPKP	P'P'df	20 10 47.1 -4.7
	comp=Z,0.4nm,1.1s,baz=228,slow=1.1,SNR=1.8					
ILAR				LR	LR	20 19 40.2
	comp=Z,407nm,18.6s,baz=345,slow=39					
	comp=Z,1.9nm,0.8s					
CCB	Clear Creek Bu	74.14	7	IAmb	IAmb	19 43 14.3
	comp=Z,90nm,2.0s					
J18K	Innoko River	74.18	11	IAmb	IAmb	19 43 21.6
	comp=Z,24nm,1.1s					
J18K	Innoko River	74.18	11	P	P	19 43 13.5 +0.8
	baz=340					
K13K	Kusilvak Mount	74.19	16	P	P	19 43 13.4 +0.6
	baz=334					
I30M	Mount Dempster	74.28	2	IAmb	IAmb	19 43 20.4
	comp=Z,31nm,0.9s					
I30M	Mount Dempster	74.28	2	P	P	19 43 13.8 +0.4
	baz=356,SNR=27					
WRH	Wood River Hil	74.29	7	IAmb	IAmb	19 43 15.0
	comp=Z,53nm,1.8s					
BPAW	Bear Paw Mtn.	74.34	9	IAmb	IAmb	19 43 23.2
	comp=Z,32nm,1.3s					
BPAW	Bear Paw Mtn.	74.34	9	P	P	19 43 14.4 +0.8
	baz=345,SNR=8.2					
J25K	Salcha River,	74.39	6	IAmb	IAmb	19 43 16.2
	comp=Z,61nm,1.9s					
J25K	Salcha River,	74.39	6	P	P	19 43 14.5 +0.5
	baz=349					
HDA	Harding Lake	74.45	7	P	P	19 43 13.4 -0.9
HDA	Harding Lake	74.45	7	P	P	19 43 14.8 +0.6
	baz=348,SNR=7.0					
K15K	Wolf Creek Mou	74.47	14	P	P	19 43 15.6 +1.3
	baz=337					
EGAK	Eagle	74.52	4	IAmb	IAmb	19 43 25.7
	comp=Z,30nm,1.2s					
EGAK	Eagle	74.52	4	P	P	19 43 15.1 +0.5
	baz=352,SNR=9.5					
J26L	Joseph Creek	74.64	5	P	P	19 43 15.9 +0.5
	baz=350					
K17K	Iditarod	74.64	12	IAmb	IAmb	19 43 17.5
	comp=Z,91nm,1.8s					
K17K	Iditarod	74.64	12	P	P	19 43 16.1 +0.7
	baz=339					
K20K	Telida	74.67	10	P	P	19 43 15.6 0.0
K20K				IAmb	IAmb	19 43 17.9
	comp=Z,94nm,1.8s					
K20K	Telida	74.67	10	P	P	19 43 16.5 +0.9
	baz=342					
TTA	Tatalina	74.80	11	IAmb	IAmb	19 43 18.9
	comp=Z,43nm,1.6s					
TTA	Tatalina	74.80	11	P	P	19 43 17.3 +1.0
	baz=341					
KTH	Kantishna Hill	74.88	9	IAmb	IAmb	19 43 18.8
	comp=Z,33nm,1.2s					
MCK	McKinley	74.92	8	P	P	19 43 16.1 -0.9
MCK				IAmb	IAmb	19 43 18.6
	comp=Z,99nm,1.9s					
MCK	McKinley	74.92	8	P	P	19 43 17.4 +0.4
	baz=346,SNR=5.0					
MCK	McKinley	74.92	8	P	P	19 43 16.1 -0.9
MCK				pmax	pmax	
	comp=Z,99nm,1.9s					
J30M	Hart River	74.93	2	IAmb	IAmb	19 43 30.1
	comp=Z,37nm,1.1s					
J30M	Hart River	74.93	2	P	P	19 43 18.0 +0.8
	baz=356					
J29N	Klondike Camp	74.98	3	P	P	19 43 18.2 +0.8
	baz=355,SNR=6.7					
L15K	Ungalak Mounta	75.05	14	P	P	19 43 18.6 +0.9
	baz=337					
TRF	Thorofare Moun	75.05	9	IAmb	IAmb	19 43 28.6
	comp=Z,47nm,1.6s					
TRF	Thorofare Moun	75.05	9	P	P	19 43 18.8 +0.9
	baz=345					
L14K	Kuka Creek	75.13	15	P	P	19 43 19.1 +0.9
	baz=336					
SCRK	Sand Creek	75.13	6	P	P	19 43 18.1 -0.2
SCRK	Sand Creek	75.13	6	P	P	19 43 19.2 +0.8
	baz=350,SNR=11					
K24K	Donnelly Dome	75.15	6	P	P	19 43 18.7 +0.3
	baz=349,SNR=10					
L17K	Donlin	75.19	13	P	P	19 43 19.2 +0.7
	baz=339					
LMN	Caledonia Moun	75.21	318	IAmb	IAmb	19 43 21.1
	comp=Z,34nm,0.9s					
RND	Reindeer	75.25	8	IAmb	IAmb	19 43 26.7
	comp=Z,31nm,1.1s					
M11K	Mekoryuk	75.26	17	P	P	19 43 18.9 0.0
	baz=333					
RIDG	Independent Ri	75.29	6	P	P	19 43 19.7 +0.5
	baz=350,SNR=9.1					
DAWY	Dawson	75.32	4	P	P	19 43 19.0 -0.3
DAWY	Dawson	75.32	4	P	P	19 43 19.9 +0.6
	baz=354,SNR=17					
L18K	Granite Mounta	75.37	12	P	P	19 43 20.4 +0.9
	baz=340					
L16K	Owhat River	75.38	13	P	P	19 43 20.7 +1.1
	baz=338					
JCJ	Chichijima	75.45	67	LR	LR	20 20 04.4
	comp=Z,218nm,18.1s,baz=80,slow=39					
L20K	Farewell, AK	75.53	11	P	P	19 43 21.5 +0.9
	baz=343					
K29M	Barlow Dome	75.62	3	P	P	19 43 21.3 +0.1
K29M	Barlow Dome	75.62	3	P	P	19 43 22.0 +0.8
	baz=355					
DAV	Davao City (W)	75.64	93	LR	LR	20 19 44.9
	comp=Z,191nm,21.8s,baz=346,slow=38					
SHEM	Shemya Is, Ala	75.67	31	LR	LR	20 21 07.7
	comp=Z,371nm,18.4s,baz=301,slow=39					
L19K	White Mountain	75.68	11	IAmb	IAmb	19 43 23.9
	comp=Z,53nm,1.6s					
L19K	White Mountain	75.68	11	P	P	19 43 22.4 +1.1
	baz=342					
M14K	Bethel	75.81	15	P	P	19 43 23.2 +1.1
	baz=337					
M13K	Dall Lake	75.84	16	P	P	19 43 23.8 +1.5
	baz=336					
MAYO	Mayo, Yukon	75.92	2	P	P	19 43 23.4 +0.6
	baz=356					
PAX	Paxson	76.00	7	IAmb	IAmb	19 43 25.0
	comp=Z,56nm,2.0s					
PAX	Paxson	76.00	7	P	P	19 43 23.7 +0.4
	baz=349,SNR=7.1					
M19K	Big River Lodg	76.01	11	P	P	19 43 24.4 +1.1
	baz=342					
M17K	Holitna River	76.02	13	P	P	19 43 22.1 -1.2
M17K				IAmb	IAmb	19 43 38.3
	comp=Z,28nm,1.1s					
M17K	Holitna River	76.02	13	P	P	19 43 23.5 +0.2
	baz=340					
FCC	Fort Churchill	76.06	341	IAmb	IAmb	19 43 26.1
	comp=Z,55nm,1.6s					
CUT	Chulitna	76.07	9	IAmb	IAmb	19 43 37.3
	comp=Z,29nm,0.6s					
CUT	Chulitna	76.07	9	P	P	19 43 23.2 -0.3
	baz=345					
M15K	Kasigluk River	76.11	14	P	P	19 43 24.8 +1.0
	baz=338					
M16K	Timber Creek	76.12	13	P	P	19 43 24.6 +0.8
	baz=339					
SOE	Somerset East	76.12	200	P	P	19 43 24.3 +0.1
SOE				IAmb	IAmb	19 43 27.5
	comp=Z,50nm,1.4s					
WRGLY	Wrigley	76.15	356	P	P	19 43 25.0 +1.0
	baz=6.2,SNR=6.1					
MENT	Mentasta	76.17	6	IAmb	IAmb	19 43 35.6
	comp=Z,33nm,1.0s					
BCAR	Beaver Creek A	76.18	5	P	P	19 43 23.7 -0.6
L27K	Beaver Creek,	76.19	5	P	P	19 43 25.4 +1.1
	baz=352					
YKA	Yellowknife Ar	76.19	352	P	P	19 43 24.8 +0.6
	comp=Z,4.5nm,0.9s,baz=7.5,slow=5.9,SNR=59					
YKA				PP	PP	19 46 13.2 -1.3
	comp=Z,0.2nm,0.3s,baz=14,slow=6.7,SNR=4.8					
YKA				LR	LR	20 20 26.3
	comp=Z,455nm,18.2s,baz=1.0,slow=38					
	comp=Z,4.5nm,0.9s					
YKA	Yellowknife Ar	76.19	352	*ce*P	P	19 43 24.7 +0.5
YKA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
M18K	Stony River	76.19	12	P	P	19 43 24.9 +0.6
	baz=341					
M20K	Styx River	76.21	10	P	P	19 43 24.6 +0.1
	baz=343					
SKT	Skwentna	76.33	10	IAmb	IAmb	19 43 26.6
	comp=Z,47nm,1.2s					
SKT	Skwentna	76.33	10	P	P	19 43 25.2 +0.1
	baz=344,SNR=8.1					
L29M	L29M	76.33	3	IAmb	IAmb	19 43 27.6
	comp=Z,68nm,1.9s					
L29M	L29M	76.33	3	P	P	19 43 26.1 +1.0
	baz=355					
D62A	Allapoint, All	76.42	321	P	P	19 43 25.4 -0.4
PCI	Palu	76.54	103	P	P	19 43 28.7 +1.7
	comp=Z,40nm,1.2s					
HARP	HAARP	76.59	6	P	P	19 43 26.4 -0.2
	baz=349					
N14K	Kuskokwak Cree	76.63	15	P	P	19 43 26.8 +0.1
	baz=337					
N16K	Nishlik Lake	76.66	13	P	P	19 43 28.1 +1.1
	baz=339					
N15K	Kwethluk River	76.71	14	P	P	19 43 28.4 +1.2
	baz=338					
M22K	Willow	76.72	9	P	P	19 43 27.3 +0.1
	baz=346					
GGN	Saint George	76.75	319	P	P	19 43 27.1 -0.6
STLK	Strandline Lak	76.75	10	IAmb	IAmb	19 44 08.9
	comp=Z,47nm,2.0s					
M26K	Nabesna, AK	76.76	5	P	P	19 43 28.4 +0.8
	baz=351					
M24K	Tolsona, Glenn	76.79	7	P	P	19 43 28.7 +1.0
	baz=349,SNR=6.3					
GHO	Glory Hole Cre	76.84	8	IAmb	IAmb	19 43 30.1
	comp=Z,60nm,1.4s					
SML	Sawmill	76.87	8	IAmb	IAmb	19 43 41.0
	comp=Z,22nm,0.8s					
SML	Sawmill	76.87	8	P	P	19 43 28.6 +0.4
	baz=347					
M27K	Edge Creek, AK	76.88	5	IAmb	IAmb	19 43 38.5
	comp=Z,34nm,1.1s					
M27K	Edge Creek, AK	76.88	5	P	P	19 43 29.7 +1.3
	baz=352,SNR=5.4					
N17K	Nushagak Hills	76.89	13	P	P	19 43 29.2 +1.0
	baz=340					
BVCY	Beaver Creek	76.89	4	P	P	19 43 29.6 +1.3
	baz=353					
M30M	Minto, Yukon	76.91	3	P	P	19 43 29.3 +0.9
	baz=356					
SUA	Susitna One	76.92	9	P	P	19 43 29.3 +0.7
	baz=345,SNR=16					
M23K	Glacier View	76.94	8	P	P	19 43 29.1 +0.5
	baz=347					
SCM	Sheep Creek Mo	76.95	8	IAmb	IAmb	19 43 42.5
	comp=Z,27nm,0.8s					
SCM	Sheep Creek Mo	76.95	8	P	P	19 43 29.3 +0.6
	baz=348					
N18K	Kilae Creek	76.95	12	IAmb	IAmb	19 44 42.0
	comp=Z,50nm,1.6s					
N18K	Kilae Creek	76.95	12	P	P	19 43 29.6 +1.0
	baz=341					
F64A	Sherman	76.96	320	IAmb	IAmb	19 43 32.6
	comp=Z,27nm,1.0s					
M29M	Somme Creek	76.98	3	P	P	19 43 29.8 +1.0
	baz=354					
PMR	Palmer	76.99	9	IAmb	IAmb	19 43 30.0
	comp=Z,26nm,1.1s					
PMR	Palmer	76.99	9	P	P	19 43 29.2 +0.4
	baz=346					
SPCR	Spurr Chakacha	76.99	10	P	P	19 43 29.3 +0.4
	baz=344					
N19K	Bonanza Creek	77.04	11	P	P	19 43 28.6 -0.6
N19K	Bonanza Creek	77.04	11	P	P	19 43 30.2 +0.9
	baz=342					
MRSI	Marisa	77.19	101	P	P	19 43 30.2 -0.4
	comp=Z,489nmcomp=Z,30nm,1.1s					
KNK	Knik Glacier	77.24	8	P	P	19 43 30.9 +0.7
	baz=347					
O14K	Tigyukauivet M	77.33	15	P	P	19 43 31.7 +1.0
	baz=337					
FARO	Faro, Yukon	77.34	1	IAmb	IAmb	19 43 33.3
	comp=Z,61nm,1.8s					
FARO	Faro, Yukon	77.34	1	P	P	19 43 31.6 +0.8
	baz=358,SNR=7.8					
M31M	Drury Creek, Y	77.35	1	IAmb	IAmb	19 43 33.2
	comp=Z,72nm,1.9s					
M31M	Drury Creek, Y	77.35	1	P	P	19 43 31.7 +0.8
	baz=358,SNR=7.9					
RC01	Rabbit Creek A	77.41	9	IAmb	IAmb	19 43 39.8
	comp=Z,52nm,1.4s					
RC01	Rabbit Creek A	77.41	9	P	P	19 43 31.9 +0.7
	baz=346,SNR=5.6					
KLU	Klutina	77.42	7	P	P	19 43 31.4 +0.1
KLU				IAmb	IAmb	19 43 40.4
	comp=Z,54nm,1.2s					
KLU	Klutina	77.42	7	P	P	19 43 32.5 +1.3
	baz=349,SNR=8.3					
N25K	Chitina, Valde	77.42	6	P	P	19 43 31.8 +0.5
	baz=350					
YUK3	Moose Creek	77.55	4	P	P	19 43 33.0 +0.8
	baz=353,SNR=12					
O16K	Kokwok River B	77.61	13	P	P	19 43 32.5 +0.2
	baz=340					
O17K	Koliganek Bris	77.61	13	P	P	19 43 33.3 +1.0
	baz=340					
O19K	Port Alsworth	77.66	11	IAmb	IAmb	19 43 42.0
	comp=Z,28nm,1.2s					
O19K	Port Alsworth	77.66	11	P	P	19 43 32.9 +0.4
	baz=342					
O15K	Ungalikthiuk R	77.68	14	P	P	19 43 33.6 +0.9
	baz=338					
DIV	Divide	77.79	7	IAmb	IAmb	19 43 35.0
	comp=Z,22nm,0.9s					
PWL	Port Wells	77.79	8	IAmb	IAmb	19 43 47.5
	comp=Z,26nm,1.0s					
PWL	Port Wells	77.79	8	P	P	19 43 34.1 +0.8
	baz=347					
O18K	Koktuh Hills	77.84	12	P	P	19 43 34.7 +1.1
	baz=342					
PKME	Peaks-Kenny Pk	77.85	320	P	P	19 43 33.7 -0.1
PKME				IAmb	IAmb	19 43 37.0
	comp=Z,55nm,1.4s					
GLI	Glacier Island	77.91	8	P	P	19 43 34.9 +1.0
	baz=348					
O22K	Cooper Landing	78.00	9	P	P	19 43 35.0 +0.6
	baz=346					
O20K	Slope Mountain	78.01	11	P	P	19 43 33.4 -1.2
	baz=344					
N30M	Aishikik Lake	78.02	3	P	P	19 43 35.0 +0.3
	baz=356					
N31M	Braeburn, Yuko	78.04	2	IAmb	IAmb	19 43 37.4
	comp=Z,45nm,1.6s					
N31M	Braeburn, Yuko	78.04	2	P	P	19 43 35.5 +0.8
	baz=357					
BMRM	Bremner River	78.05	6	P	P	19 43 35.3 +0.5
	baz=350					
YUK4	Talbot Arm	78.07	4	P	P	19 43 36.0 +0.9
	baz=354,SNR=11					
YUK8	Steele Glacier	78.08	4	P	P	19 43 35.3 +0.1
	baz=354					
P17K	Kvichak River	78.27	13	P	P	19 43 34.7 -1.2
	baz=341					
P19K	Oil Pt	78.34	11	P	P	19 43 35.5 -0.9
	baz=343					
EYAK	Cordova Ski Ar	78.36	7	P	P	19 43 36.0 -0.5
	baz=349					
SEW	Seward	78.40	9	P	P	19 43 36.8 +0.2
	baz=346					
N32M	Quiet Lake	78.42	1	P	P	19 43 37.1 +0.3
	baz=359					
G62A	West of Eustis	78.48	321	IAmb	IAmb	19 43 40.5
	comp=Z,64nm,1.5s					
YUK6	Outpost Mounta	78.49	3	P	P	19 43 38.4 +1.0
	baz=355					
HOM	Homer	78.56	10	P	P	19 43 38.1 +0.6
	baz=344					
O28M	Mount Upton	78.56	4	P	P	19 43 36.1 -1.8
	baz=353					
BRSE	Bradley Lake S	78.59	10	P	P	19 43 37.5 -0.3
	baz=345					
HYT	Haines Junctio	78.64	3	P	P	19 43 37.5 -0.7
HYT	Haines Junctio	78.64	3	P	P	19 43 38.0 -0.1
	baz=355,SNR=11					
Q16K	King Salmon	78.72	13	P	P	19 43 39.1 +0.7
	baz=341					
O30N	Mendenhall	78.75	2	P	P	19 43 37.9 -0.7
	baz=356					
WHY	Whitehorse	78.89	2	P	P	19 43 38.7 -0.8
	baz=357					
MESA	MESA	79.04	5	P	P	19 43 40.6 +0.2
	baz=352					
O29M	Mount Kennedy	79.12	4	P	P	19 43 40.5 -0.3
	baz=354					
PINM	Pinnacle	79.23	4	P	P	19 43 41.4 +0.1
	baz=353					
KAPI	Kappang	79.24	106	LR	LR	20 26 20.9
	comp=Z,43nm,18.9s,baz=314,slow=42					
Q17K	Contact Creek	79.25	13	P	P	19 43 40.5 -1.0
	baz=341					
KOTAN	Kotaneelee Air	79.27	356	P	P	19 43 41.4 0.0
	baz=5.7,SNR=12					
P30M	Million Dollar	79.36	3	P	P	19 43 42.6 +0.5
	baz=356					
P33M	Teslin, Yukon	79.37	1	IAmb	IAmb	19 43 44.8
	comp=Z,80nm,2.0s					
P33M	Teslin, Yukon	79.37	1	P	P	19 43 42.2 +0.1
	baz=359,SNR=7.5					
WTLY	Watson Lake, Y	79.45	359	P	P	19 43 41.2 -1.2
WTLY				IAmb	IAmb	19 43 45.1
	comp=Z,82nm,1.9s					
WTLY	Watson Lake, Y	79.45	359	P	P	19 43 42.0 -0.5
	baz=2.0					
Q20K	Shuyak Island	79.46	11	P	P	19 43 42.3 -0.2
	baz=344					
TRQ	Mont Tremblant	79.60	324	IAmb	IAmb	19 43 46.4
	comp=Z,102nm,1.8s					
LBNH	Lisbon	79.87	321	IAmb	IAmb	19 43 48.4
	comp=Z,81nm,1.6s					
P32M	Atlin	79.98	1	IAmb	IAmb	19 43 46.9
	comp=Z,58nm,1.9s					
P32M	Atlin	79.98	1	P	P	19 43 44.2 -1.2
	baz=358					
PLBC	Pleasant Camp	80.05	3	P	P	19 43 45.0 -0.7
	baz=356					
SKAG	Skagway	80.08	2	P	P	19 43 45.0 -0.8
	baz=357					
R33M	Jennings River	80.19	360	P	P	19 43 46.2 -0.5
	baz=0.3,SNR=7.2					
VT1	Waterbury	80.20	321	P	P	19 43 45.2 -1.5
VT1				IAmb	IAmb	19 43 50.0
	comp=Z,58nm,1.5s					
FRNY	Flat Rock	80.21	322	IAmb	IAmb	19 43 49.3
	comp=Z,89nm,1.9s					
KDAK	Kodiak Island	80.23	11	LR	LR	20 25 28.7
	comp=Z,309nm,18.2s,baz=196,slow=40					
KDAK	Kodiak Island	80.23	11	P	P	19 43 45.8 -0.9
	baz=344					
S14K	Fog Glacier	80.44	15	P	P	19 43 46.8 -1.1
	baz=339					
S12K	Black Hills	80.44	17	P	P	19 43 46.6 -1.3
	baz=337					
TOAD	Toad River Com	80.60	357	P	P	19 43 48.8 +0.1
	baz=4.7					
Q32M	Nakina River	80.63	0	IAmb	IAmb	19 43 52.4
	comp=Z,43nm,1.6s					
Q32M	Nakina River	80.63	0	P	P	19 43 48.4 -0.7
	baz=359					
KDI	Kendari	80.64	103	P	P	19 43 51.0 +1.5
	comp=Z,30nm,1.4s					
CHGN	Chignik	80.64	15	P	P	19 43 48.7 -0.2
	baz=340					
OHAK	Old Harbor	80.67	12	P	P	19 43 48.0 -1.1
	baz=343					
LONY	Lake Ozonia	80.83	323	IAmb	IAmb	19 43 52.9
	comp=Z,95nm,1.8s					
J61A	Chester	80.84	321	IAmb	IAmb	19 43 53.4
	comp=Z,40nm,1.4s					
WBO	Williamsburg	80.86	323	IAmb	IAmb	19 43 53.3
	comp=Z,77nm,1.8s					
UNV	Unalaska Valle	81.06	20	P	P	19 43 49.1 -2.1
	baz=334					
DLBC	Dease Lake	81.15	359	P	P	19 43 50.7 -1.0
DLBC				IAmb	IAmb	19 43 54.6
	comp=Z,102nm,2.0s					
DLBC	Dease Lake	81.15	359	LR	LR	20 27 23.0
	comp=Z,287nm,18.1s,baz=3.0,slow=41					
DLBC	Dease Lake	81.15	359	P	P	19 43 51.4 -0.3
	baz=1.1,SNR=7.5					
K62A	Royalston	81.20	320	IAmb	IAmb	19 43 55.4
	comp=Z,48nm,1.6s					
R32K	Eaglecrest	81.29	2	P	P	19 43 52.4 +0.1
	baz=358					
ACCN	Adirondack Com	81.35	321	IAmb	IAmb	19 43 56.1
	comp=Z,79nm,1.9s					
FFC	Flin Flon	81.58	343	P	P	19 43 53.2 -0.7
FFC				IAmb	IAmb	19 43 55.8
	comp=Z,80nm,1.8s					
FFC	Flin Flon	81.58	343	P	P	19 43 53.2 -0.7
FFC				pmax	pmax	
	comp=Z,80nm,1.8s					
L61B	Northampton	81.58	320	P	P	19 43 54.9 +0.7
	baz=41					
S34M	Telegraph Cree	81.68	360	IAmb	IAmb	19 43 57.4
	comp=Z,46nm,1.8s					
S34M	Telegraph Cree	81.68	360	P	P	19 43 54.8 +0.4
	baz=0.2					
SANI	Sanana	81.88	100	P	P	19 43 55.2 -0.9
	comp=Z,20nm,1.5s					
SADO	Sadowa	82.75	325	P	P	19 43 59.5 -0.8
	comp=Z,10.0nm,0.9s,baz=57,slow=5.2,SNR=6.9					
SADO				LR	LR	20 20 04.8
	comp=Z,548nm,21.2s,baz=59,slow=35					
	comp=Z,10.0nm,0.9s					
K57A	Scipio Center	83.18	323	P	P	19 44 02.0 -0.6
KSPA	Keystone Colle	83.74	321	P	P	19 44 05.1 -0.4
MMNY	Mt. Morris Dam	83.82	323	IAmb	IAmb	19 44 08.1
	comp=Z,22nm,1.3s					
ULM	Lac du Bonnet	84.12	338	P	P	19 44 06.8 -0.5
	comp=Z,3.1nm,0.4s,baz=30,slow=6.3,SNR=12					
ULM				LR	LR	20 23 20.2
	comp=Z,493nm,18.5s,baz=26,slow=37					
	comp=Z,3.1nm,0.4s					
CRAG	Craig	84.12	1	P	P	19 44 06.9 -0.2
	baz=359					
M57A	Sunshine Farm,	84.55	322	P	P	19 44 09.2 -0.4
SSPA	Standing Stone	85.46	322	P	P	19 44 14.2 0.0
SSPA				IAmb	IAmb	19 44 16.6
	comp=Z,49nm,1.5s					
AGMN	Agassiz Nation	85.87	337	IAmb	IAmb	19 44 17.2
	comp=Z,18nm,1.2s					
GUMO	Guam	85.99	76	LR	LR	20 25 56.3
	comp=Z,89nm,18.1s,baz=35,slow=38					
E38A	The Farm, Brul	86.00	334	IAmb	IAmb	19 44 18.0
	comp=Z,20nm,0.9s					
BBB	Bella Bella	87.38	358	LR	LR	20 26 25.8
	comp=Z,232nm,21.8s,baz=3.0,slow=38					
SPMN	Marine on St.	87.63	334	P	P	19 44 24.7 -0.1
SPMN				IAmb	IAmb	19 44 26.1
	comp=Z,12nm,0.8s					
F33A	5 Mile Ranch,	88.20	336	IAmb	IAmb	19 44 28.8
	comp=Z,17nm,0.9s					
I37A	Lemond, Waseca	88.90	334	P	P	19 44 30.1 -0.7
O48B	Farmland	89.00	326	P	P	19 44 30.8 -0.5
	baz=33					
EGMT	Eagleton	89.51	346	IAmb	IAmb	19 44 36.6

comp=Z,16nm,1.2s
NBCL Cascavel-CE 90.29 265 *e*P **P 19 44 38.7 +1.0**
NEW Newport 90.44 350 P **P 19 44 37.7 -0.2**
NEW IAmb IAmb 19 44 40.6
comp=Z,32nm,1.2s
NEW Newport 90.44 350 LR LR 20 27 31.1
comp=Z,527nm,20.2s,baz=12,slow=37
NEW Newport 90.44 350 P **P 19 44 37.7 -0.2**
NEW pmax pmax
comp=Z,32nm,1.2s
B08A Colville Reser 90.60 352 IAmb IAmb 19 44 40.7
comp=Z,31nm,1.6s
N41A Harden Midland 90.89 330 IAmb IAmb 19 47 54.5
comp=Z,15nm,0.7s
C09A Chrisman Ranch 91.03 351 IAmb IAmb 19 44 43.3
comp=Z,29nm,1.6s
HRY Holter Researc 91.15 347 P **P 19 44 40.8 -0.6**
NBCA Caruaru-PE 91.17 260 *e*P **P 19 44 43.5 +1.6**
MSO Missoula 91.39 348 IAmb IAmb 19 44 44.6
comp=Z,43nm,1.8s
GNW Green Mountain 91.71 354 P **P 19 44 42.6 -1.2**
GNW IAmb IAmb 19 44 46.7
comp=Z,22nm,1.4s
RSSD Black Hills 91.95 341 P **P 19 44 44.0 -1.3**
RSSD Black Hills 91.95 341 P **P 19 44 44.0 -1.3**
RSSD pmax pmax
comp=Z,103nm,2.0s
NBPB Pedra_Branca-C 92.12 265 *e*P **P 19 44 49.4 +3.2**
BOZ Bozeman (W) 92.19 346 IAmb IAmb 19 44 48.6
comp=Z,22nm,1.9s
RLMT Red Lodge 92.19 344 IAmb IAmb 19 44 49.0
comp=Z,21nm,1.6s
TKL Tuckaleechee C 92.21 323 LR LR 20 25 45.6
comp=Z,535nm,21.5s,baz=46,slow=35
E09A Wood Farm, Sta 92.28 351 IAmb IAmb 19 44 48.9
comp=Z,24nm,1.2s
FITZ Fitzroy Crossi 92.30 112 P **P 19 44 47.0 +0.2**
comp=Z,4.5nm,1.9s
FITZ Fitzroy Crossi 92.30 112 LR LR 20 32 32.5
comp=Z,102nm,18.7s,baz=326,slow=40
HAWA Hanford 92.56 352 IAmb IAmb 19 44 50.3
comp=Z,32nm,1.6s
DLMT Dillon 92.59 347 IAmb IAmb 19 44 50.3
comp=Z,25nm,1.6s
F10A Beach Ranch, E 92.70 350 P **P 19 44 48.3 -0.2**
YHL Hebgen Lake 92.83 346 IAmb IAmb 19 44 52.1
comp=Z,13nm,1.4s
PLID Pearl Lake 93.40 349 IAmb IAmb 19 45 05.2
comp=Z,13nm,1.4s
G08A Pilot Rock 93.59 351 IAmb IAmb 19 44 55.3
comp=Z,14nm,1.4s
BMO Blue Mountains 93.81 350 IAmb IAmb 19 44 55.9
comp=Z,15nm,1.5s
TPAW Teton Pass 94.10 345 IAmb IAmb 19 44 57.3
comp=Z,25nm,1.8s
PDAR Pinedale Array 94.51 344 P **P 19 44 56.6 -0.5**
comp=Z,0.2nm,0.5s,baz=72,slow=2.3,SNR=4.0
PDAR LR LR 20 29 39.0
comp=Z,370nm,20.4s,baz=5.0,slow=37
comp=Z,0.2nm,0.5s
MGMO Mountain Grove 94.52 330 IAmb IAmb 19 48 03.5
comp=Z,10nm,0.9s
AHID Auburn Hatcher 94.83 345 P **P 19 44 56.6 -1.9**
AHID IAmb IAmb 19 45 00.8
comp=Z,27nm,1.8s
MFID Camas Ranch 95.01 349 IAmb IAmb 19 45 01.7
comp=Z,21nm,1.4s
J08A Circle Bar Ran 95.43 350 IAmb IAmb 19 45 03.3
comp=Z,29nm,1.8s
N23A Red Feather La 95.46 341 P **P 19 45 00.5 -1.0**
baz=19
CBKS Cedar Bluff 95.65 336 IAmb IAmb 19 48 16.4
comp=Z,14nm,0.7s
SJG San Juan 95.75 300 LR LR 20 30 08.7
comp=Z,84nm,18.6s,baz=68,slow=37
WVOR Wild Horse Val 96.36 350 IAmb IAmb 19 45 12.4
comp=Z,11nm,1.1s
NWAO Narrogin (SRO) 96.91 128 LR LR 20 33 20.6
comp=Z,85nm,18.1s,baz=281,slow=38
Q24A Divide 97.08 340 P **P 19 45 08.7 -0.3**
baz=20
YBH Yreka Blue Hor 97.49 353 LR LR 20 33 27.9
comp=Z,291nm,21.2s,baz=4.0,slow=38
ELK Elko 97.53 348 P **P 19 45 09.8 -1.1**
ELK Elko 97.53 348 P **P 19 45 09.8 -1.1**
ELK pmax pmax
comp=Z,4.0nm,1.0s
T25A Trinidad 98.58 338 P **P 19 45 14.5 -1.1**
baz=20
WMOK Wichita Mounta 99.05 333 IAmb IAmb 19 47 57.1
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 99.72 108 P **Pdif 19 45 18.6 -2.0**
comp=Z,1.1nm,0.7s,baz=317,slow=4.1,SNR=5.0
WRA PP **PP 19 49 26.4 +1.2**
comp=Z,1.2nm,1.1s,baz=304,slow=6.3,SNR=2.1
WRA PKKPbc **PKKPbc 20 01 42.2 +1.8**
comp=Z,0.5nm,0.8s,baz=135,slow=2.5,SNR=4.9
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 99.72 108 *i*P **Pdif 19 45 20.7 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 101.77 111 PKKPbc PKKPbc 20 01 35.0 +0.5
comp=Z,0.7nm,0.8s,baz=121,slow=3.8,SNR=5.1
ITTB Itaituba 103.61 276 *e*P **Pdif 19 45 39.5 +1.4**
SYO Syowa Base 109.66 183⇑ *e*Pdiff **Pdif 19 46 06.2 +2.7**
SYO Syowa Base 109.66 183⇑ *es*Pdiff **Pdif 19 46 10.8 +7.3**
TROLL Troll, Antarti 117.02 195 PKPdf **PKiKP 19 50 21.1 +0.9**
TROLL Troll, Antarti 117.02 195 ⇓PKPdf **PKiKP 19 50 21.1 +0.9**
comp=Z,97nm,0.5s
SNAA Sanae 117.84 196 PKPdf **PKPdf 19 50 22.0 +0.3**
SNAA Sanae 117.84 196 ⇓PKPdf **PKPdf 19 50 22.0 +0.3**
comp=Z,64nm,0.8s
SNAA Sanae 117.84 196 PKP **PKPdf 19 50 21.6 -0.1**
comp=Z,3.5nm,0.9s,baz=15,slow=7.2,SNR=4.1
SNAA Sanae 117.84 196 *c i*PKIKP **PKiKP 19 50 23.4 +1.7**
SNAA pmax pmax
comp=Z,16nm,2.5s
CPUP Villa Florida 118.22 258 PKP **PKPdf 19 50 23.9 +0.2**
comp=Z,3.2nm,0.6s,baz=65,slow=2.4,SNR=8.4
VNA2 Neumayer--Watz 118.31 198 PKPdf **PKPdf 19 50 23.2 +0.6**
baz=6.1,slow=2.8
VNA2 Neumayer--Watz 118.31 198 ⇓PKPdf **PKPdf 19 50 23.2 +0.6**
comp=Z,6.3nm,0.6s,baz=6.1,slow=2.8
VNA1 Neumayer--Stat 118.33 198 PKPdf **PKiKP 19 50 24.2 +1.6**
VNA1 Neumayer--Stat 118.33 198 ⇑PKPdf **PKiKP 19 50 24.2 +1.6**
comp=Z,6.0nm,0.7s
VNA3 Neumayer Olymp 119.07 198 PKPdf **PKiKP 19 50 24.9 +0.8**
VNA3 Neumayer Olymp 119.07 198 ⇓PKPdf **PKiKP 19 50 24.9 +0.8**
comp=Z,7.7nm,0.8s
LPAZ La Paz 120.54 275 PKP **PKPdf 19 50 29.7 +0.4**
comp=Z,1.9nm,0.7s,baz=63,slow=3.5,SNR=5.9
LPAZ PP **PP 19 51 56.9 +0.4**
comp=Z,2.0nm,0.7s,baz=32,slow=9.3,SNR=4.4
LPAZ La Paz 120.54 275 *e*P **PKPdf 19 50 30.1 +0.8**
DZM Mont Dzumac 124.97 90 *e*LR LR 20 29 22.0
comp=Z,198nm,24.9s
AC02 Maricunga 127.36 265 PKPdf **PKPdf 19 50 38.8 -3.1**
TRQA Tornquist 127.52 249 PKPdf **PKPdf 19 50 39.3 -2.0**
TRQA Tornquist 127.52 249 PKIKP **PKPdf 19 50 39.3 -2.0**
BELA Belgrano 2 128.07 195 **PKPdf 19 50 39.7 -1.4**
QSPA South Pole Qui 130.59 180 **PKPdf 19 50 45.4 -0.8**
QSPA South Pole Qui 130.59 180 PKP **PKPdf 19 50 45.8 -0.5**
comp=Z,9.4nm,1.2s,baz=269,slow=2.3,SNR=11
QSPA SKPbc **SKPbc 19 54 09.0 -0.4**
comp=Z,3.2nm,0.9s,baz=291,slow=2.1,SNR=11
BO01 Tunca 132.52 257 PKPdf **PKPdf 19 50 51.1 +0.3**
BI02 San Fabin de 133.63 255 PKPdf **PKPdf 19 50 53.1 +0.1**
PLCA Paso Flores 134.67 249 PKPdf **PKPdf 19 50 55.1 +0.3**
PLCA Paso Flores 134.67 249 PKP **PKPdf 19 50 55.9 +1.1**
comp=Z,3.2nm,0.7s,baz=91,slow=1.0,SNR=11
PLCA Paso Flores 134.67 249 *e*P **PKPdf 19 50 56.1 +1.3**
TAOE Nuku Hiva Isla 147.30 16 *e*LR LR 20 39 41.4
comp=Z,473nm,25.3s
PPT2 Papeete2 152.14 39 *e*LR LR 20 41 55.7
comp=Z,225nm,23.2s
PPT2 *e*LR LR 20 41 58.3
comp=Z,247nm,22.0s
TBI Tubuai 156.98 46 *e*LR LR 20 44 13.6
comp=Z,2μm,26.0s

IDC 05 19:37:11.7±1.9, 9°21S×122°85E, h0km, mb3.6/1, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=145.9km s-min=28.9km az=60.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.24**	**163**	Pn	Pn	19 39 26.9	+0.6
	0.1nm,0.3s,baz=350,slow=11,SNR=1.1						
FITZ				Sn	Sn	19 40 58.9	-12
	0.6nm,0.3s,baz=211,slow=17,SNR=10.0						
	2.2nm,0.9s						
WRA	**Warramunga Arr**	**15.39**	**135**	Pn	Pn	19 40 48.5	-1.9
	0.1nm,0.3s,baz=305,slow=13,SNR=4.6						
WRA				Sn	Sn	19 43 29.0	-13
	0.2nm,0.3s,baz=302,slow=23,SNR=9.8						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**17.84**	**145**	P	P	19 41 22.3	-0.1
	0.1nm,0.3s,baz=322,slow=12,SNR=5.9						
ASAR				S	Sn	19 44 26.8	-14
	0.2nm,0.7s,baz=318,slow=22,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**66.44**	**331**	P	P	19 48 02.8	0.0
	0.5nm,0.7s,baz=133,slow=6.1,SNR=1.8						
	0.5nm,0.7s						

TEH ***05*** *19:46:19.8, 34°24N×45°61E, h10km±239km*
ISN ***05*** *19:46:20.3±0.4, 34°25N×45°62E, h18km±15km, ML2.7*
ISC 05 19:46:20.6±0.9, 34°25N±0°04×45°66E±0°05, h10km, n9, σ0°74/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**124**	Pg	**Pg**	**19 46 26.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.26**	**347**	Pg	**Pg**	**19 46 25.2**	**-0.8**
KGS1				Sg	**Sg**	**19 46 30.4**	**+0.9**
IDHR	**Dehrash**	**0.75**	**53**	Pg	**Pb**	**19 46 34.7**	**-1.2**
IGHG	**Ghaleghazi**	**0.76**	**84**	Pg	**Pb**	**19 46 36.2**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.77**	**144**	Pg	**Pg**	**19 46 35.1**	**-0.5**
IBDR	**Badra**	**1.16**	**169**	*e*Pg	**Pb**	**19 46 42.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**19 46 57.5**	**-0.4**
ILIN	**Lien**	**1.26**	**58**	Pg	**Pn**	**19 46 44.7**	**+0.1**
BHD	**Baghdad**	**1.45**	**228**	*e*Pn	**Pn**	**19 46 47.0**	**+0.2**
BHD				*e*Sn	**Sn**	**19 47 06.5**	**+0.6**
IKRK	**Kirkuk**	**1.58**	**317**	*e*Pn	**Pn**	**19 46 49.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**19 47 10.2**	**+1.0**
IKRK				AML	AML	19 47 13.1	
	comp=N,141nm,0.5s						
IKRK				AML	AML	19 47 13.5	
	comp=E,112nm,0.5s						

ISN ***05*** *19:52:05.9±0.5, 34°25N×45°59E, h15km±3km, ML3.2*
TEH ***05*** *19:52:05.4, 34°23N×45°58E, h8km±26km*
ISC 05 19:52:06.1±0.9, 34°23N±0°03×45°59E±0°04, h10km, n21, σ1°34/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.27**	**0**	Pg	**Pg**	**19 52 11.0**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.29**	**114**	Pg	**Pg**	**19 52 11.7**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.80**	**140**	Pg	**Pg**	**19 52 21.1**	**-0.4**
IDHR	**Dehrash**	**0.81**	**55**	Pg	**Pg**	**19 52 21.0**	**-0.7**
IGHG	**Ghaleghazi**	**0.82**	**83**	Pg	**Pg**	**19 52 21.5**	**-0.4**
IBDR	**Badra**	**1.16**	**166**	*e*Pg	**Pb**	**19 52 27.5**	**-0.6**
IBDR				*e*Sg	**Sn**	**19 52 43.5**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.20**	**88**	Pg	**Pn**	**19 52 28.6**	**-0.6**
ILIN	**Lien**	**1.32**	**59**	Pg	**Pg**	**19 52 31.2**	**-0.4**
BHD	**Baghdad**	**1.39**	**227**	*e*Pn	**Pg**	**19 52 32.5**	**-0.3**
BHD				*e*Sn	**Sg**	**19 52 52.5**	**+1.6**
BHD				AML	AML	19 52 55.2	
	comp=E,688nm,0.7s						
IKRK	**Kirkuk**	**1.55**	**319**	*e*Pn	**Pg**	**19 52 35.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**19 52 56.0**	**0.0**
IKRK				AML	AML	19 52 59.5	
	comp=E,253nm,0.5s						
IKRK				AML	AML	19 53 00.1	
	comp=N,336nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.79**	**69**	Pg	**Pb**	**19 52 39.3**	**0.0**
SDS1	**Sardasht. Az.**	**1.91**	**358**	Pn	**Pb**	**19 52 40.7**	**-0.5**
IKFM	**Kafar-mosalman**	**2.01**	**110**	Pn	**Pb**	**19 52 41.9**	**-0.8**
IDOB	**Doab**	**2.20**	**101**	Pn	**Pb**	**19 52 44.1**	**-1.9**
HSAM	**Samen**	**2.50**	**90**	Pn	**Pn**	**19 52 48.2**	**+1.2**
MAHB	**Mahabad**	**2.53**	**2**	Pn	**Pb**	**19 52 49.4**	**-2.3**
RAFI	**Al-Rafai**	**2.54**	**170**	*e*Pn	**Pb**	**19 52 49.0**	**-2.8**
RAFI				*e*Sn	**Sn**	**19 53 20.0**	**+1.6**
BDRS	**Dareh Seyedi**	**2.75**	**95**	Pn	**Pn**	**19 52 51.8**	**+1.3**
HAGD	**Aghdareh**	**2.99**	**78**	Pn	**Pn**	**19 52 55.6**	**+1.8**
ISHB	**Shabestar**	**4.04**	**0**	Pn	**Pn**	**19 53 10.6**	**+2.3**
IKLH	**Kolahrood**	**5.07**	**99**	Pn	**Pn**	**19 53 23.4**	**+1.0**

SJA ***05*** *19:52:44.0, 21°70S×68°69W, h140km, ML3.2*
GUC ***05*** *19:52:44.1±0.8, 21°69S×68°57W, h131km±5km, ML3.5*
ISC 05 19:52:43.9±1.7, 21°70S±0°05×68°66W±0°08, h146km±12km, n18, σ0°67/25, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.55**	**260**	*i* P	**Pn**	**19 53 05.0**	**-0.3**
PB09	**IPOC Station P**	**0.55**	**260**	*e*P	**Pn**	**19 53 05.1**	**-0.1**
PB09				*i* S	**Sn**	**19 53 20.7**	**-0.7**
PB01	**IPOC Station P**	**1.01**	**310**	*i* P	**Pn**	**19 53 08.3**	**-0.3**
PB01	**IPOC Station P**	**1.01**	**310**	*e*P	**Pn**	**19 53 08.8**	**+0.3**
PB01				*i* S	**Sn**	**19 53 27.1**	**-0.1**
PB01				IAML		19 53 28.5	
	comp=E,625nm,0.3s						
PX03	**IPOC Station P**	**1.58**	**325**	*e*P	**Pn**	**19 53 14.2**	**0.0**
PX03				*e*S	**Sn**	**19 53 37.2**	**-0.1**
PX03				IAML		19 53 38.2	
	comp=N,908nm,0.3s						
PB08	**IPOC Station P**	**1.62**	**343**	*i* P	**Pn**	**19 53 16.1**	**+1.1**
PB08	**IPOC Station P**	**1.62**	**343**	*e*P	**Pn**	**19 53 15.9**	**+1.0**
PB08				*i* S	**Sn**	**19 53 38.6**	**0.0**
PB08				IAML		19 53 40.5	
	comp=E,481nm,0.4s						
TA01	**Diego Aracena**	**1.81**	**308**	*i* P	**Pn**	**19 53 16.8**	**+0.2**
TA01	**Diego Aracena**	**1.81**	**308**	*e*P	**Pn**	**19 53 17.3**	**+0.6**
TA01				*i* S	**Sn**	**19 53 42.2**	**+0.5**
TA01				IAML		19 53 44.3	
	comp=E,379nm,0.4s						
HMBC	**Humberstone**	**1.82**	**321**	*i* P	**Pn**	**19 53 16.7**	**-0.2**
HMBC	**Humberstone**	**1.82**	**321**	*e*P	**Pn**	**19 53 17.3**	**+0.4**
HMBC				*i* S	**Sn**	**19 53 42.2**	**+0.1**
HMBC				IAML		19 53 43.5	
	comp=N,642nm,0.3s						
TA02	**Huaiquique**	**1.98**	**316**	*e*P	**Pn**	**19 53 19.3**	**+0.7**
TA02				IAML		19 53 48.7	
	comp=E,902nm,0.1s						
YJA	**Yavi**	**2.96**	**100**	*i* P	**Pn**	**19 53 31.2**	**+0.1**
PB14	**IPOC Station P**	**3.32**	**209**	*i* P	**Pn**	**19 53 37.1**	**+1.5**
PB12	**IPOC Station P**	**3.45**	**333**	*i* P	**Pn**	**19 53 36.1**	**-1.0**
PB12	**IPOC Station P**	**3.45**	**333**	*e*P	**Pn**	**19 53 36.5**	**-0.6**
PB12				*i* S	**Sn**	**19 54 17.6**	**-0.6**
GO02	**Mina Guanaco**	**3.55**	**194**	*i* P	**Pn**	**19 53 38.8**	**+0.3**
AC01	**Pan de Azucar**	**4.77**	**201**	*i* P	**Pn**	**19 53 53.2**	**-0.9**

IDC ***05*** *19:55:33.0±1.4, 67°82N×21°00E, h0km, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=21.8km s-min=9.7km az=106.0*
ISC 05 19:55:33.0±1.2, 67°86N±0°06×20°8E±0°1, h10km, n5, σ0°64/7, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.15**	**1**	*e*P	**Pb**	**19 55 54.2**	**-0.7**
HEF	**Hetta**	**1.21**	**62**	*e*P	**Pn**	**19 55 56.6**	**+0.6**
ARCES	**ARCESS Array B**	**2.41**	**44**	Pn	**Pn**	**19 56 13.2**	**+0.7**
	0.2nm,0.3s,baz=227,slow=15,SNR=29						
ARCES				Sn	**Sb**	**19 56 45.7**	**-0.5**
	1.5nm,0.3s,baz=226,slow=26,SNR=14						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**6.83**	**158**	Pn	**Pn**	**19 57 13.2**	**+0.1**
	0.1nm,0.3s,baz=346,slow=16,SNR=5.4						
FINES				Sn	**Sn**	**19 58 30.6**	**-0.2**
	0.1nm,0.3s,baz=347,slow=23,SNR=1.5						
FINES				Lg	Lg	19 59 04.2	
	0.4nm,0.3s,baz=341,slow=26,SNR=5.2						
	1.0nm,0.7s						
NOA	**NORSAR Array B**	**7.99**	**216**	Pn	**Pn**	**19 57 29.2**	**+0.1**
	baz=15,slow=13,SNR=1.8						
NOA				Lg	Lg	19 59 37.5	
	baz=353,slow=14,SNR=4.7						
	0.5nm,0.8s						

IDC ***05*** *19:59:56.3±1.3, 31°06S×70°40W, h0km, mb3.6/1, mbtmp3.6/1, MS3.7/1, Error ellipse: s-maj=68.3km s-min=39.7km az=156.0*
SJA ***05*** *20:00:02.2±0.8, 30°26S×71°38W, h14km±3km, ML3.6, MW3.5*
GUC ***05*** *20:00:06.1±0.7, 30°25S×71°25W, h70km±2km, ML3.9*
ISC 05 20:00:05.7±0.9, 30°24S±0°03×71°41W±0°04, h59km±6km, n54, σ1°73/76, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.35**	**25**	*e*P	**Pn**	**20 00 17.0**	**+1.0**
CO05				*i* S	**Sn**	**20 00 25.2**	**+1.7**
CO05				IAML		20 00 26.1	
	comp=E,8μm,0.6s						
CO06	**Fray Jorge**	**0.48**	**204**	*e*P	**Pn**	**20 00 18.9**	**+1.5**
CO06				*i* S	**Sn**	**20 00 28.6**	**+2.8**
CO06				IAML		20 00 31.0	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**0.53**	**83**	*e*P	Pn	20 00 12.4	-5.7
GO04				*e*S	**Sn**	**20 00 27.1**	**-0.1**
GO04	**Tololo Observa**	**0.53**	**83**	*e*P	**Pn**	**20 00 17.6**	**-0.5**
GO04				*i* S	**Sn**	**20 00 26.4**	**-0.7**
CO03	**El Pedregal**	**0.86**	**134**	*e*P	**Pn**	**20 00 18.2**	**-3.8**
CO03				*e*S	**Sn**	**20 00 28.1**	**-5.9**
CO03				IAML		20 00 33.9	
	comp=Z,2μm,0.2s						
CO03	**El Pedregal**	**0.86**	**134**	*e*P	**Pn**	**20 00 21.4**	**-0.6**
CO03				*i* S	**Sn**	**20 00 33.0**	**-1.0**
CO03				IAML		20 00 33.6	
	comp=E,7μm,0.2s						
CO01	**Juntas del Tor**	**1.17**	**78**	*e*P	**Pn**	**20 00 25.1**	**-1.0**
CO01				*e*S	**Sn**	**20 00 40.5**	**-0.8**
CO01				IAML		20 00 41.1	
	comp=Z,3μm,0.3s						
CO01	**Juntas del Tor**	**1.17**	**78⇑**	*i* P	**Pn**	**20 00 25.8**	**-0.3**
CO01				*i* S	**Sn**	**20 00 40.2**	**-1.1**
CO01				IAML		20 00 40.9	
	comp=N,8μm,0.4s						
LCO	**Las Campanas**	**1.36**	**27**	*e*P	**Pn**	**20 00 28.5**	**-0.4**
LCO				*e*S	**Sn**	**20 00 46.1**	**+0.1**
LCO				IAML		20 00 47.6	
	comp=Z,2μm,0.3s						
LCO	**Las Campanas**	**1.36**	**27**	*e*P	**Pn**	**20 00 29.0**	**+0.1**
LCO				*i* S	**Sn**	**20 00 45.9**	**-0.2**
AROD	**Rodeo**	**1.67**	**88**	*e*P	**Pn**	**20 00 33.9**	**+0.9**
CO04	**Los Peladeros**	**1.84**	**169**	*e*P	**Pn**	**20 00 35.8**	**+0.5**
CO04				*i* S	**Sn**	**20 00 57.4**	**-0.2**
CO04				IAML		20 01 04.3	
	comp=N,1μm,0.2s						
ACDV	**Cuesta del Vie**	**1.98**	**89**	*e*P	**Pn**	**20 00 38.9**	**+1.9**
ACDV				IAML		20 01 05.3	
	comp=Z,194nm,0.4s						
AC04	**Llanos de Chal**	**2.04**	**8**	*e*P	**Pn**	**20 00 38.7**	**+0.9**
AC04				*e*S	Sn	20 00 50.4	-12
AC04				IAML		20 01 07.4	
	comp=Z,210nm,0.5s						
AC04	**Llanos de Chal**	**2.04**	**8**	*e*P	**Pn**	**20 00 38.1**	**+0.3**
AC04				IAML		20 01 09.5	
ACCO	**Cerro Coronel**	**2.05**	**100**	*e*P	**Pn**	**20 00 39.5**	**+1.3**
DOCA	**Reserva Natura**	**2.13**	**110**	*e*P	**Pn**	**20 00 40.1**	**+0.9**
DOCA				*e*S	**Sn**	**20 01 05.9**	**+1.2**
VA06	**Catapilco**	**2.32**	**178**	*e*P	**Pn**	**20 00 41.8**	**+0.3**
VA06				IAML		20 01 22.1	
	comp=E,873nm,0.4s						
RTLS	**Leoncito**	**2.39**	**131**	*e*P	**Pn**	**20 00 44.3**	**+1.5**
RTLS				*e*S	**Sn**	**20 01 14.3**	**+3.2**
RTLS				IAML		20 01 16.0	
	comp=Z,880nm,0.3s						
VA03	**San Esteban**	**2.62**	**164**	*e*P	**Pn**	**20 00 46.7**	**+0.9**
VA03				*e*S	**Sn**	**20 01 17.9**	**+1.4**
VA03				IAML		20 01 24.4	
	comp=Z,408nm,0.5s						
VA03	**San Esteban**	**2.62**	**164**	*e*P	**Pn**	**20 00 46.5**	**+0.7**
VA03				IAML		20 01 24.6	
	comp=E,892nm,0.3s						
AGUA	**GUANDACOL**	**2.64**	**74**	*e*P	**Pn**	**20 00 48.2**	**+2.3**
AGUA				*e*S	**Sn**	**20 01 21.6**	**+4.7**
AGUA				IAML		20 01 23.9	
	comp=Z,255nm,0.5s						
ZON	**Zonda**	**2.68**	**120**	*e*P	**Pn**	**20 00 47.5**	**+0.9**
ZON				IAML		20 01 45.4	
	comp=Z,90nm,0.5s						
ROCH	**El Roble**	**2.75**	**173**	*e*P	**Pn**	**20 00 47.8**	**+0.2**
ROCH				IAML		20 01 29.2	
	comp=N,501nm,0.7s						
ROC1	**El Roble**	**2.75**	**173**	*e*P	**Pn**	**20 00 47.8**	**+0.1**
ROC1				*e*S	**Sn**	**20 01 21.6**	**+1.7**
SJA	**San Juan**	**2.76**	**118**	*e*P	**Pn**	**20 00 48.8**	**+1.2**
VA01	**Torpederas**	**2.79**	**184**	*e*P	Pn	20 00 36.6	-11
PEL	**Peldehue**	**2.96**	**168**	*e*P	**Pn**	**20 00 51.0**	**+0.6**
PEL				*e*S	**Sn**	**20 01 26.5**	**+1.7**
PEL	**Peldehue**	**2.96**	**168**	*e*P	**Pn**	**20 00 50.9**	**+0.6**
PEL				IAML		20 01 32.5	
	comp=N,282nm,0.5s						
MT02	**Curacav**	**3.02**	**176**	*e*P	**Pn**	**20 00 51.0**	**-0.2**
MT02				*e*S	**Sn**	**20 01 28.2**	**+2.1**
MT02				IAML		20 01 44.5	
	comp=Z,194nm,0.3s						
VCA	**Vinchina**	**3.17**	**63**	*e*P	**Pn**	**20 00 55.6**	**+2.4**
VCA				*e*S	**Sn**	**20 01 32.9**	**+3.1**
VCA				IAML		20 01 34.6	
	comp=Z,413nm,0.3s						
MT05	**Renca**	**3.20**	**170**	*e*P	**Pn**	**20 00 54.6**	**+1.1**
MT05				*e*S	**Sn**	**20 01 31.8**	**+1.3**
MT05				IAML		20 01 34.3	
	comp=Z,226nm,0.2s						
ASAL	**Salagasta**	**3.22**	**138**	*e*P	**Pn**	**20 00 55.6**	**+1.7**
MT03	**Universidad Ad**	**3.34**	**167**	*e*P	**Pn**	**20 00 56.7**	**+1.2**
MT03				*e*S	**Sn**	**20 01 35.5**	**+1.5**
MT03				IAML		20 01 37.5	
	comp=Z,390nm,0.2s						
MT04	**Ro Olivares**	**3.34**	**161**	*e*P	**Pn**	**20 00 58.2**	**+2.5**
MT04				*e*S	**Sn**	**20 01 36.9**	**+2.6**
MT04				IAML		20 01 38.2	
	comp=Z,123nm,0.9s						
MT08	**Bocatoma Ro**	**3.41**	**160**	*e*P	**Pn**	**20 00 59.2**	**+2.6**
MT08				*e*S	**Sn**	**20 01 36.7**	**+0.7**
MT08				IAML		20 01 47.7	
	comp=Z,93nm,0.8s						
AAGR	**Agrelo**	**3.59**	**143**	*e*P	**Pn**	**20 01 01.0**	**+2.0**
MT01	**Popeta**	**3.62**	**178**	*e*P	**Pn**	**20 00 59.5**	**+0.2**
MT01				*e*S	**Sn**	**20 01 41.0**	**+0.3**
MT01				IAML		20 01 45.4	
	comp=Z,140nm,0.2s						
MT13	**San Alfonso**	**3.62**	**165**	*e*P	**Pn**	**20 01 00.4**	**+0.9**
MT13				IAML		20 02 06.1	
	comp=Z,72nm,0.3s						
LMEL	**Las Melosas**	**3.74**	**164**	*e*P	**Pn**	**20 01 02.8**	**+1.7**
AC02	**Maricunga**	**3.94**	**31**	*e*P	**Pn**	**20 01 06.0**	**+1.9**
AC02				IAML		20 02 08.3	
	comp=Z,82nm,0.3s						
ACLC	**CERRO LA CRUZ**	**3.95**	**79**	*e*S	**Sn**	**20 01 52.8**	**+3.5**
ACLC				IAML		20 01 57.1	
	comp=Z,64nm,0.3s						
BO01	**Tunca**	**4.15**	**176**	*e*P	**

comp=Z,0.7nm,0.6s,baz=294,slow=3.8,SNR=3.0
MKAR Makanchi Array 153.78 44 PKPab **PKPab 20 20 09.7 -1.4**
comp=Z,0.4nm,0.9s,baz=270,slow=5.8,SNR=2.0

---

*IDC **05** 20:00:51.6±3.5, 34°.49N×142°.06E, h0km, mb3.4/3, mbtmp3.4/4, ML2.5/1, Error ellipse: s-maj=116.2km s-min=29.2km az=58.0*
*JMA **05** 20:00:56.7±0.5, 34°N±1°.14°2E±°, h30km±1km, MV3.0/35, FAR SE OFF BOSO PEN*
ISC 05 20:00:55.8±1.5, 34°.40N±0°.08×141°.8E±0°.1, h21km, n11, σ0°.90/12, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.70**	**292**	*eP*	**Pb**	**20 01 08.1**	**-0.9**
BSO3	**Boso 3**	**1.11**	**292**	*eP*	**Pn**	**20 01 14.7**	**-1.2**
JKUC	**kamogawauchiur**	**1.49**	**301**	*eP*	**Pn**	**20 01 21.0**	**-0.4**
JHJ2	**Mitsune**	**2.06**	**232**	*eP*	**Pn**	**20 01 29.8**	**+0.5**
JOD2	**Odawara 2**	**2.36**	**292**	*eP*	**Pn**	**20 01 33.1**	**-0.3**
JAG	**Ashikaga**	**2.77**	**318**	*eP*	**Pn**	**20 01 39.2**	**+0.3**
JFK	**Kawauchi**	**3.05**	**347**	*eP*	**Pn**	**20 01 42.8**	**-0.1**
MJAR	**Matsushiro Arr**	**3.60**	**307**	Pn	**Pn**	**20 01 51.5**	**+1.1**
	0.4nm,0.3s,baz=118,slow=10,SNR=18						
MJAR				Sn	**Sn**	**20 02 34.2**	**+1.9**
	0.2nm,0.3s,baz=133,slow=11,SNR=4.6						
	2.4nm,0.5s						
MKAR	**Makanchi Array**	**45.80**	**304**	P	**P**	**20 09 15.8**	**-0.1**
	0.2nm,0.6s,baz=90,slow=8.8,SNR=2.5						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.88**	**310**	P	**P**	**20 09 32.1**	**0.0**
	0.5nm,0.5s,baz=84,slow=7.6,SNR=6.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**54.50**	**189**	P	**P**	**20 10 22.0**	**-0.1**
	0.6nm,0.9s,baz=5.5,slow=7.4,SNR=2.0						
	0.6nm,0.9s						

---

*IDC **05** 20:24:17.6±2.0, 1°.78S×119°.88E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=469.9km s-min=28.1km az=57.0*
*DJA **05** 20:24:20.6±0.3, 1°S±2°×120°E±°, h10km, M4.1/7, mB4.9/1, mb4.3/1, MLv4.0/7, Mw(mB)4.2/1*
ISC 05 20:24:22.6±1.0, 1°.38S±0°.05×120°.00E±0°.07, h35km, n12, σ2°.24/15, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.50**	**341**	P	**Pn**	**20 24 31.6**	**-1.7**
TTSI	**Tana Toraja**	**1.67**	**186**	P	**Pn**	**20 24 46.9**	**-2.4**
TTSI				S	**Sn**	**20 25 09.3**	**-0.2**
APSI	**Ampana**	**1.71**	**74**	P	**Pn**	**20 24 49.0**	**-0.9**
SPSI	**Sidrap Palu**	**2.58**	**185**	P	**Pn**	**20 25 02.2**	**+0.3**
MRSI	**Marisa**	**2.67**	**46**	P	**Pn**	**20 25 03.2**	**0.0**
MRSI				S	**Sn**	**20 25 37.5**	**+3.1**
LUWI	**Luwuk**	**2.79**	**83**	P	**Pn**	**20 25 03.4**	**-1.4**
BKSI	**Bulukumba**	**3.92**	**178**	P	**Pn**	**20 25 22.7**	**+2.3**
BKSI				S	**Sn**	**20 26 08.7**	**+3.5**
KMSI	**Cibinong**	**4.43**	**64**	P	**Pn**	**20 25 28.4**	**+1.1**
MTKI	**Muara Teweh, K**	**5.12**	**275**	P	**Pn**	**20 25 38.2**	**+1.3**
WRA	**Warramunga Arr**	**23.18**	**144**	P	**P**	**20 29 23.7**	**-2.7**
	1.3nm,0.8s,baz=321,slow=11,SNR=5.4						
	1.3nm,0.8s						
STKA	**Stephens Creek**	**36.55**	**148**	P	**P**	**20 31 22.6**	**-2.5**
	1.3nm,0.7s,baz=315,slow=11,SNR=4.0						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**58.26**	**330**	P	**P**	**20 34 16.0**	**+2.3**
	0.2nm,0.6s,baz=134,slow=6.2,SNR=3.7						
	0.2nm,0.6s						

---

*IDC **05** 20:35:13.9±0.8, 0°.32S×123°.25E, h73km±6km, mb3.7/10, mbtmp4.0/12, MS3.2/4, Error ellipse: s-maj=28.2km s-min=13.2km az=76.0*
*NEIC **05** 20:35:14.3±1.8, 0°.36S±0°.05×122°.98E±0°.06, h72km±7km, mb4.5/34, Error ellipse: s-maj=8.6km s-min=7.6km az=97.0*
*DJA **05** 20:35:14.5±0.2, 0°S±2°×12°3E±°, h45km±10km, M4.7/21, mB5.2/4, mb4.7/12, MLv4.7/21, Mw(mB)4.6/4*
ISC 05 20:35:14.1±0.6, 0°.35S±0°.04×123°.07E±0°.04, h75km±5km, n90, σ1°.17/102, mb4.4/27, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.75**	**204**		**Pn**	**20 35 28.7**	**-1.2**
LUWI				Sn	**Sn**	**20 35 41.4**	**-0.3**
LUWI	**Luwuk**	**0.75**	**204**	P	**Pn**	**20 35 29.4**	**-0.6**
LUWI	**Luwuk**	**0.75**	**204**	P	**Sn**	**20 35 41.1**	**-0.6**
LUWI	**Luwuk**	**0.75**	**204**	P	**Pn**	**20 35 29.2**	**-0.8**
LUWI				S	**Sn**	**20 35 41.0**	**-0.7**
KMSI	**Cibinong**	**1.29**	**45**	P	**Pn**	**20 35 36.0**	**-0.5**
KMSI				S	**Sn**	**20 35 53.7**	**+0.3**
MRSI	**Marisa**	**1.40**	**306**	P	**Pn**	**20 35 35.2**	**-2.7**
MRSI				S	**Sn**	**20 35 53.5**	**-2.4**
APSI	**Ampana**	**1.53**	**249**	P	**Pn**	**20 35 39.1**	**-0.5**
TOLI2	**Tolitoli**	**2.71**	**302**		**Pn**	**20 35 55.0**	**-0.5**
TOLI2				Sn	**Sn**	**20 36 25.4**	**-1.8**
TOLI2	**Tolitoli**	**2.71**	**302**	P	**Pn**	**20 35 55.3**	**-0.2**
TOLI2	**Tolitoli**	**2.71**	**302**	S	**Sn**	**20 36 28.0**	**+0.7**
PCI	**Palu**	**3.28**	**260**	P	**Pn**	**20 36 04.8**	**+1.6**
SANI	**Sanana**	**3.37**	**120**	P	**Pn**	**20 36 02.7**	**-1.7**
SANI	**Sanana**	**3.37**	**120**	S	**Sn**	**20 36 40.1**	**-3.2**
SANI	**Sanana**	**3.37**	**120**	P	**Pn**	**20 36 02.0**	**-2.4**
KDI	**Kendari**	**3.61**	**187**	P	**Pn**	**20 36 07.4**	**-0.3**
TTSI	**Tana Toraja**	**4.21**	**230**	P	**Pn**	**20 36 15.3**	**-0.6**
TNTI	**Ternate**	**4.44**	**75**		**Pn**	**20 36 20.5**	**+1.6**
TNTI				Sn	**Sn**	**20 37 10.6**	**+1.2**
TNTI	**Ternate**	**4.44**	**75**	P	**Pn**	**20 36 20.3**	**+1.4**
SPSI	**Sidrap Palu**	**4.88**	**223**	P	**Pn**	**20 36 25.1**	**+0.1**
NLAI	**Namlea**	**4.94**	**126**	P	**Pn**	**20 36 26.3**	**+0.4**
BBSI	**Bau Bau**	**5.13**	**186**	P	**Pn**	**20 36 29.3**	**+0.9**
	126nm,0.9s						
KAPI	**Kappang**	**5.70**	**216**		**Pn**	**20 36 34.5**	**-1.7**
KAPI				Sn	**Sn**	**20 37 38.0**	**-2.2**
KAPI	**Kappang**	**5.70**	**216**	P	**Pn**	**20 36 36.7**	**+0.5**
	16nm,0.3s,baz=32,slow=2.2,SNR=8.7						
KAPI				S	**Sn**	**20 37 36.9**	**-3.4**
	19nm,0.3s,baz=247,slow=22,SNR=7.3						
KAPI				LR	LR	20 39 21.9	
	comp=Z,117nm,21.1s,baz=28,slow=43						
KAPI	**Kappang**	**5.70**	**216**	P	**Pn**	**20 36 37.0**	**+0.8**
BKSI	**Bulukumba**	**5.75**	**211**	P	**Pn**	**20 36 36.9**	**0.0**
SMKI	**Samarinda**	**5.87**	**269**	P	**Pn**	**20 36 39.5**	**+1.0**
AAI	**Ambon**	**6.10**	**123**	P	**Pn**	**20 36 43.3**	**+1.6**
BSSI	**Bau Bau, Buton**	**6.30**	**204**	P	**Pn**	**20 36 45.2**	**+0.7**
DAV	**Davao City (W)**	**7.78**	**19**	LR	LR	20 40 12.5	
	comp=Z,121nm,19.1s,baz=296,slow=39						
SWI	**Sorong**	**8.20**	**94**	P	**Pn**	**20 37 12.2**	**+1.8**
	38nm,0.7s						
KKM	**Kota Kinabalu**	**9.34**	**313**		**Pn**	**20 37 26.2**	**+0.1**
KKM	**Kota Kinabalu**	**9.34**	**313**	P	**Pn**	**20 37 27.9**	**+1.9**
FAKI	**Fak Fak**	**9.52**	**106**	Pn	**Pn**	**20 37 26.5**	**-1.9**
FAKI	**Fak Fak**	**9.52**	**106**	P	**Pn**	**20 37 26.8**	**-1.7**
FAKI	**Fak Fak**	**9.52**	**106**	P	**Pn**	**20 37 26.6**	**-1.9**
MTN	**Manton Dam**	**14.76**	**148**		**P**	**20 38 42.8**	**-0.3**
KNRA	**Kununurra**	**16.23**	**160**	P	**P**	**20 39 00.5**	**+1.1**
KNRA				IAmb	IAmb	20 39 38.0	
	comp=Z,51nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.82**	**172**	P	**Pn**	**20 39 17.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**17.82**	**172**	P	**P**	**20 39 15.7**	**-1.2**
	comp=Z,5.5nm,0.7s,baz=22,slow=5.5,SNR=9.4						
MBWA	**Marble Bar**	**20.94**	**189**	P	**P**	**20 39 50.9**	**0.0**
MBWA				IAmb	IAmb	20 40 08.0	
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**21.33**	**188**	P	**P**	**20 39 54.9**	**-0.2**
PSA00				IAmb	IAmb	20 39 57.1	
	comp=Z,20nm,1.1s						
WB0	**Warramunga Arr**	**22.26**	**151**	P	**P**	**20 40 04.2**	**-0.9**
WB0				IAmb	IAmb	20 40 18.4	
	comp=Z,22nm,1.4s						
WRAB	**Tennant Creek**	**22.38**	**151**	P	**P**	**20 40 05.6**	**-0.8**
WRAB				IAmb	IAmb	20 40 39.4	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**22.38**	**151**	P	**P**	**20 40 06.5**	**+0.2**
WRA	**Warramunga Arr**	**22.38**	**151**	P	**P**	**20 40 05.3**	**-1.1**
	comp=Z,6.6nm,1.0s,baz=332,slow=11,SNR=25						
WRA				ScP	**ScP**	**20 47 29.7**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=315,slow=2.8,SNR=3.8						
	comp=Z,6.6nm,1.0s						
TWG	**Pinlang**	**23.11**	**355**	P	**P**	**20 40 13.7**	**-0.2**
TWG				IAmb	IAmb	20 40 21.2	
	comp=Z,16nm,0.9s						
TPUB	**Ta-pu**	**23.63**	**354**	P	**P**	**20 40 18.2**	**-0.4**
TPUB				IAmb	IAmb	20 40 22.2	
	comp=Z,42nm,1.0s						
TPUB	**Ta-pu**	**23.63**	**354**	P	**P**	**20 40 20.2**	**+1.6**
YULB	**Yu-li**	**23.66**	**356**	P	**P**	**20 40 19.2**	**+0.3**
YULB				IAmb	IAmb	20 40 21.6	
	comp=Z,29nm,1.4s						
COEN	**Coen**	**24.06**	**125**	P	**P**	**20 40 24.5**	**+2.0**
COEN				IAmb	IAmb	20 41 01.2	
	comp=Z,58nm,1.5s						
SSLB	**Suanglung**	**24.08**	**355**	P	**P**	**20 40 22.4**	**-0.3**
SSLB				IAmb	IAmb	20 40 26.8	
	comp=Z,25nm,0.9s						
YHNB	**Yeheng**	**24.93**	**356**	P	**P**	**20 40 30.7**	**+0.3**
YHNB				IAmb	IAmb	20 41 10.9	
	comp=Z,42nm,1.5s						
WRKA	**Warakurna**	**25.06**	**169**	P	**P**	**20 40 32.3**	**+0.7**
AS31	**Alice Springs**	**25.45**	**156**	P	**P**	**20 40 35.2**	**0.0**
ASAR	**Alice Springs**	**25.45**	**156**	P	**P**	**20 40 35.5**	**+0.4**
ASAR	**Alice Springs**	**25.45**	**156**	P	**P**	**20 40 36.0**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=334,slow=8.6,SNR=25						
ASAR				ScP	**ScP**	**20 47 37.6**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=334,slow=2.5,SNR=9.4						
ASAR				LR	LR	20 51 37.6	
	comp=Z,48nm,19.4s,baz=36,slow=39						
	comp=Z,2.4nm,0.6s						
QIS	**Mount Isa**	**25.78**	**142**	P	**P**	**20 40 39.3**	**+1.1**
OOD	**Oodnadatta**	**29.85**	**157**	P	**P**	**20 41 15.8**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.19**	**310**	P	**P**	**20 41 20.1**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=135,slow=6.8,SNR=6.2						
	comp=Z,0.3nm,0.3s						
CHTO	**Chiang Mai**	**30.40**	**310**	P	**P**	**20 41 18.0**	**-1.4**
FORT	**Forrest**	**30.63**	**172**	P	**P**	**20 41 20.6**	**-0.7**
JCJ	**Chichijima**	**32.90**	**33**	P	**P**	**20 41 39.9**	**-1.4**
BBOO	**Buckleboo**	**34.53**	**160**	P	**P**	**20 41 55.1**	**-0.2**
STKA	**Stephens Creek**	**35.92**	**153**	P	**P**	**20 42 07.5**	**+0.2**
STKA				IAmb	IAmb	20 42 08.8	
	comp=Z,7.7nm,1.2s						
JGF	**Kuroka**	**38.17**	**19**	P	**P**	**20 42 25.3**	**-1.0**
MAJO	**Matsushiro**	**39.30**	**19**	P	**P**	**20 42 34.4**	**-1.5**
MAJO				IAmb	IAmb	20 42 43.7	
	comp=Z,7.4nm,0.9s						
MJAR	**Matsushiro Arr**	**39.30**	**19**	P	**P**	**20 42 34.3**	**-1.6**
	comp=Z,5.7nm,0.8s,baz=194,slow=9.4,SNR=14						
	comp=Z,5.7nm,0.8s						
MJB9	**Matsu-Tunnel**	**39.31**	**19**	P	**P**	**20 42 35.1**	**-0.8**
MJB9				IAmb	IAmb	20 42 44.7	
	comp=Z,7.3nm,0.9s						
JMM	**Marumori**	**41.40**	**21**		**P**	**20 42 52.2**	**-0.8**
JMM				IAmb	IAmb	20 42 57.4	
	comp=Z,15nm,1.0s						
LSA	**Lhasa**	**42.65**	**317**	P	**P**	**20 43 03.5**	**-0.5**
JTM	**Tenmabayashi**	**44.09**	**20**	P	**P**	**20 43 14.6**	**-0.3**
USA0B	**Ussuriysk Arra**	**45.06**	**9**	P	**P**	**20 43 22.8**	**+0.3**
USA0B				IAmb	IAmb	20 43 50.2	
	comp=Z,7.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**45.06**	**9**	P	**P**	**20 43 21.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**45.06**	**9**	P	**P**	**20 43 22.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=218,slow=9.0,SNR=4.2						
	comp=Z,2.2nm,0.6s						
ULN	**Ulaanbaatar**	**50.01**	**346**	P	**P**	**20 44 01.3**	**+0.4**
SONM	**Songino Array**	**50.14**	**345**	P	**P**	**20 44 02.2**	**+0.3**
SONM	**Songino Array**	**50.14**	**345**	P	**P**	**20 44 02.3**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=162,slow=9.1,SNR=16						
SONM				pP	**pP**	**20 44 20.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=162,slow=9.2,SNR=4.7						
	comp=Z,1.5nm,0.7s						
MK31	**Makanchi Array**	**58.95**	**328**	P	**P**	**20 45 05.6**	**-0.1**
MK31				IAmb	IAmb	20 45 28.8	
	comp=Z,2.1nm,0.8s						
MK31				PcP	**PcP**	**20 45 55.2**	**+1.1**
MKAR	**Makanchi Array**	**58.95**	**328**	P	**P**	**20 45 05.1**	**-0.5**
MKAR	**Makanchi Array**	**58.95**	**328**	P	**P**	**20 45 05.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.9,SNR=5.7						
MKAR				pP	**pP**	**20 45 25.4**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=128,slow=8.0,SNR=16						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**59.12**	**328**	P	**P**	**20 45 06.4**	**-0.4**
MAKZ				IAmb	IAmb	20 45 29.9	
	comp=Z,2.0nm,0.8s						
INZ	**Inchbonnie**	**60.42**	**141**	P	**P**	**20 45 17.1**	**+1.3**
PETK	**Petropavlovsk-**	**60.58**	**23**	P	**P**	**20 45 16.7**	**+0.1**
	comp=Z,5.2nm,1.1s,baz=210,slow=8.3,SNR=1.6						
	comp=Z,5.2nm,1.1s						
MRNZ	**Matariki Terra**	**60.61**	**139**	P	**P**	**20 45 18.1**	**+1.0**
BKZ	**Black Stump Fm**	**62.16**	**135**	P	**P**	**20 45 27.2**	**-0.5**
ZALV	**Zalesovo Beam**	**62.66**	**336**	pP	pP	20 45 50.5	+0.9
	comp=Z,0.7nm,0.6s,baz=132,slow=4.3,SNR=3.5						
KURBB	**Kurchatov Arra**	**63.30**	**330**	P	**P**	**20 45 34.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=129,slow=4.9,SNR=5.1						
KURBB				pP	**pP**	**20 45 54.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=136,slow=6.0,SNR=7.2						
	comp=Z,0.3nm,0.6s						
CASY	**Casey**	**66.39**	**185**	P	**P**	**20 45 54.4**	**-0.3**
BVAR	**Borovoye Array**	**68.82**	**329**	P	**P**	**20 46 11.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=126,slow=7.5,SNR=3.6						
BVAR				pP	**pP**	**20 46 29.7**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=146,slow=48,SNR=2.0						
	comp=Z,0.6nm,0.8s						
KDAK	**Kodiak Island**	**87.27**	**32**	LR	LR	21 20 16.2	
	comp=Z,46nm,22.0s,baz=111,slow=31						

---

*IDC **05** 20:58:48.5±13.0, 25°.57S×179°.20E, h441km±142km, mb3.4/3, mbtmp4.4/4, Error ellipse: s-maj=129.4km s-min=34.8km az=12.0*
ISC 05 20:58:57.9±0.9, 26°.28S±0°.09×179°.5E±0°.1, h600km, n29, σ1°.92/34, mb3.9/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.78**	**143**	P	**P**	**21 00 22.8**	**+1.1**
GLKZ				S	**S**	**21 01 32.3**	**+2.1**
OUZ	**Omahuta**	**10.23**	**208**	P	**P**	**21 01 19.3**	**+0.6**
KUZ	**Kuaotunu**	**10.91**	**196**	P	**P**	**21 01 26.3**	**+0.8**
KUZ				P	**S**	**21 03 28.3**	**+1.6**
ABAZ	**Army Bay**	**11.02**	**200**	S	**S**	**21 03 30.7**	**+2.0**
WIAZ	**Waiheke Island**	**11.11**	**198**	P	**P**	**21 01 28.4**	**+1.0**
MKAZ	**Moumakai**	**11.39**	**198**	P	**P**	**21 01 31.3**	**+1.0**
HAZ	**Te Kaha**	**11.53**	**187**	P	**P**	**21 01 32.0**	**+0.3**
WMGZ	**Waiomatatini S**	**11.54**	**184**	P	**P**	**21 01 33.5**	**+1.7**
PKGZ	**Pakihiroa**	**11.61**	**185**	P	**P**	**21 01 31.4**	**-1.2**
RUGZ	**Raukumara Rang**	**11.75**	**187**	P	**P**	**21 01 34.7**	**+0.7**
TOZ	**Tahuroa Road**	**11.90**	**195**	P	**P**	**21 01 36.5**	**+1.1**
TWGZ	**Tauwhareparae**	**11.93**	**186**	P	**P**	**21 01 36.2**	**+0.4**
TWGZ				S	**S**	**21 03 44.6**	**-0.9**
LIRZ	**Lichensteins R**	**11.98**	**192**	P	**P**	**21 01 37.6**	**+1.5**
URZ	**Urewera**	**12.11**	**189**	P	**P**	**21 01 35.9**	**-1.6**
	12nm,0.5s,baz=29,slow=1.8,SNR=14						
URZ				S	**S**	**21 03 44.1**	**-4.6**
	9.3nm,0.9s,baz=140,slow=21,SNR=6.9						
URZ	**Urewera**	**12.11**	**189**	P	**P**	**21 01 35.7**	**-1.8**
URZ				S	**S**	**21 03 45.6**	**-3.1**
MWZ	**Matawai**	**12.13**	**187**	P	**P**	**21 01 37.5**	**-0.3**
MWZ				S	**S**	**21 03 46.4**	**-2.8**
OTVZ	**Oturere**	**13.24**	**193**	P	**P**	**21 01 48.3**	**-0.7**
STKA	**Stephens Creek**	**33.43**	**251**	P	**P**	**21 04 48.9**	**+0.2**
	2.6nm,0.8s,baz=100,slow=13,SNR=5.9						
	2.6nm,0.8s						
ASAR	**Alice Springs**	**41.21**	**263**	P	**P**	**21 05 52.1**	**0.0**
	1.8nm,0.4s,baz=91,slow=7.9,SNR=36						
	1.8nm,0.4s						
WRA	**Warramunga Arr**	**41.80**	**269**	P	**P**	**21 05 56.4**	**-0.4**
	1.5nm,0.4s,baz=102,slow=7.8,SNR=42						
	1.5nm,0.4s						
ARCES	**ARCESS Array B**	**134.10**	**348**	PKP	**PKiKP**	**21 17 12.1**	**+3.4**
	2.2nm,0.8s,baz=349,slow=2.8,SNR=1.3						
FINES	**FINESS Array B**	**140.52**	**340**	PKhKP	PKPpre	21 17 16.3	
	2.2nm,0.8s,baz=48,slow=2.1,SNR=4.7						
NB2	**NORSAR Subarra**	**144.34**	**350**	PKP	**PKiKP**	**21 17 30.2**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=28,slow=3.4						
NOA	**NORSAR Array B**	**144.34**	**350**	PKP	**PKiKP**	**21 17 30.4**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=21,slow=2.5,SNR=10						
HFS	**Hagfors**	**144.76**	**348**	PKP	**PKiKP**	**21 17 31.1**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=64,slow=3.4,SNR=28						
AKASG	**Malin Array Be**	**146.66**	**325**	PKPbc	**PKPab**	**21 17 36.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=39,slow=3.3,SNR=7.3						
MMAI	**Mount Meron Ar**	**148.15**	**291**	PKPbc	**PKPab**	**21 17 43.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=59,slow=4.2,SNR=1.7						
BRTR	**Keskin Array B**	**148.55**	**304**	PKPbc	**PKPab**	**21 17 42.7**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=52,slow=3.2,SNR=2.3						
EKA	**Eskdalemuir Ar**	**150.91**	**3**	PKPbc	**PKPab**	**21 17 48.0**	**-5.4**
	comp=Z,0.4nm,0.4s,baz=348,slow=3.1,SNR=4.7						

IDC 05 21:07:55.8±607.0, 5°.63N×50°.31W, h0km, Error ellipse: s-maj=334.7km s-min=207.1km az=99.0, French Guiana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I09BR	**BRASILIA INFRA**	**21.25**	**174**	I	I	23 16 10.0	
	0.1nm,2.9s,baz=350,slow=315,SNR=2.5						
I42PT	**GRACIOSA ISLAN**	**38.91**	**28**	I	I	01 07 25.0	
	0.1nm,1.4s,baz=220,slow=320,SNR=0.8						
I17CI	**DIMBOKRO INFRA**	**45.20**	**86**	I	I	01 41 50.0	
	baz=273,slow=314,SNR=1.4						

KEA 05 21:08:32.5, 36°.77N×123°.96E, h17km, ML3.5/5, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJU	**Haeju**	**1.90**	**47**	Pg	Pg	21 09 09.0	+0.1
HJU				Sg	Sg	21 09 36.7	+3.1
HJU				AML	AML		
	comp=N,987nm,0.6s						
HJU				AML	AML		
	comp=E,936nm,0.3s						
HJU				AML	AML		
	comp=Z,598nm,0.3s						
SRW	**Sariwon**	**2.24**	**39**	Pg	Pg	21 09 17.2	+1.8
SRW				Sg	Sg	21 09 49.8	+5.3
SRW				AML	AML		
	comp=N,16nm,0.9s						
SRW				AML	AML		
	comp=E,760nm,0.3s						
SRW				AML	AML		
	comp=Z,855nm,0.3s						
PYAG	**Pyongyang**	**2.69**	**31**	Pg	Pg	21 09 25.4	+1.4
PYAG				Sg	Sg	21 10 03.5	+4.7
PYAG				AML	AML		
	comp=N,444nm,0.5s						
PYAG				AML	AML		
	comp=E,421nm,0.3s						
PYAG				AML	AML		
	comp=Z,246nm,0.8s						
PYS	**Pyongsong**	**2.90**	**31**	Pg	Pg	21 09 28.8	+0.8
PYS				Sg	Sg	21 10 09.2	+3.6
PYS				AML	AML		
	comp=N,545nm,0.6s						
PYS				AML	AML		
	comp=E,458nm,0.6s						
PYS				AML	AML		
	comp=Z,278nm,0.3s						
SUJ	**Sinuiju**	**3.36**	**7**	Pg	Pg	21 09 37.0	+0.2
SUJ				Sg	Sg	21 10 23.2	+2.9
SUJ				AML	AML		
	comp=N,117nm,0.4s						
SUJ				AML	AML		
	comp=E,149nm,0.2s						
SUJ				AML	AML		
	comp=Z,108nm,0.4s						
HYSN	**Hyesan**	**5.66**	**34**	Sg	Sg	21 11 40.2	+6.1

---

*IDC **05** 21:11:24.9±0.8, 35°.03N×74°.22E, h0km, mb3.9/18, mbtmp3.9/23, ML3.5/5, MS3.3/3, Error ellipse: s-maj=20.3km s-min=14.6km az=42.0*
*MOS **05** 21:11:27.3±1.5, 35°.05N×74°.29E, h21km, mb4.0/8, Error ellipse: s-maj=9.6km s-min=4.7km az=96.5*
*NEIC **05** 21:11:27.9±2.7, 35°.01N±0°.05×74°.21E±0°.09, h10km±1km, mb4.0/16, Error ellipse: s-maj=13.1km s-min=8.6km az=104.0*
*NNC **05** 21:11:33.5±2.5, 35°.62N×73°.76E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=23.0km s-min=20.8km az=17.0*
ISC 05 21:11:30.1±0.4, 35°.05N±0°.04×74°.17E±0°.05, h34km, n119, σ2°.23/141, mb3.9/21, 7C-7D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**1.10**	**149**	*eP*	**Pn**	**21 11 48.4**	**-0.8**
SRNI				IAML		21 12 04.6	
	comp=N,5μm,0.3s						
SRNI				*eS*	**Sb**	**21 12 05.4**	**+0.6**
SRNI				IAML		21 12 06.4	
	comp=E,8μm,0.2s						
NIL	**Nilore**	**1.59**	**209**	Pn	**Pn**	**21 11 56.0**	**0.0**
NIL				Sn	**Sb**	**21 12 19.5**	**+0.8**
JMU	**Jammu**	**2.41**	**165**	*eP*	**Pn**	**21 12 09.0**	**+2.0**
JMU				IAML		21 12 45.5	
	comp=E,3μm,0.6s						
JMU				IAML		21 12 45.6	
	comp=E,4μm,0.4s						
TSSA	**Tissa**	**2.75**	**143**	*eP*	**Pn**	**21 12 14.5**	**+2.4**
TSSA				*eS*	**Sb**	**21 12 49.0**	**-3.2**
DHRM	**DHARAMSHALA**	**3.31**	**147**	*eP*	**Pn**	**21 12 21.8**	**+2.0**
DHRM				*eS*	**Sn**	**21 13 01.1**	**+3.0**
DHRM				IAML		21 13 19.2	
	com

comp=E,202nm,0.2s
KDJ Kajisay 7.45 18 Pn **Pn 21 13 17.3 +0.7**
KDJ Kajisay 7.45 18 P **Pn 21 13 17.3 +0.7**
PTH Pithoragarh 7.50 135 *e*P **Pn 21 13 16.1 -1.2**
PTH *e*S **Sn 21 14 36.8 -4.5**
PTH IAML 21 14 45.5
comp=E,124nm,0.2s
AAK Ala-Archa 7.58 2 Pn 21 13 19.8 +1.4
AAK Ala-Archa 7.58 2 Pn **Pn 21 13 19.4 +1.1**
comp=E,0.7nm,0.3s,baz=134,slow=7.6,SNR=14
AAK Sn **Sn 21 14 43.8 +0.7**
comp=E,0.5nm,0.3s,baz=152,slow=14,SNR=1.3
comp=E,2.2nm,0.5s
LGTI Lohaghat 7.59 136 *e*P **Pn 21 13 16.9 -1.4**
LGTI *e*S **Sn 21 14 36.6 -6.6**
TKM2 Tokmak 2 7.94 8 ⇑P **Pn 21 13 24.8 +1.5**
comp=E,4.1nm,0.6s
TKM2 ⇑S **Sn 21 14 49.1 -2.9**
comp=E,5.3nm,0.7s
TKM2 Tokmak 2 7.94 8 P **Pn 21 13 24.8 +1.5**
TKM2 S **Sn 21 14 49.5 -2.5**
CHMS Chumysh 7.95 3 ⇑P **Pn 21 13 23.1 -0.2**
comp=E,6.4nm,0.8s
CHMS Chumysh 7.95 3 P **Pn 21 13 23.6 +0.3**
PRZ Przheval'sk 8.12 23 Pn **Pn 21 13 26.9 +1.1**
PRZ Przheval'sk 8.12 23 P **Pn 21 13 26.9 +1.1**
KK31 Karatay Array 8.53 342 Pn 21 13 30.8 -0.4
KK31 Karatay Array 8.53 342 ⇓P **Pn 21 13 31.1 -0.1**
comp=E,1.6nm,0.3s,baz=165,slow=12,SNR=24
KK31 ⇑S **Sn 21 15 01.7 -4.5**
comp=E,7.9nm,0.6s,baz=163,slow=22,SNR=6.5
KK31 Karatay Array 8.53 342 P **Pn 21 13 31.1 -0.1**
KK31 S **Sn 21 15 01.7 -4.5**
KKAR Karatay Array 8.53 342 Pn 21 13 31.0 -0.2
KKAR Karatay Array 8.53 342 P **Pn 21 13 31.0 -0.2**
PDGK Podgornoye 9.24 25 ⇑P **Pn 21 13 41.7 +0.7**
comp=E,14nm,1.1s
PDGK Podgornoye 9.24 25 P Pn 21 13 41.7 +0.7
JHNI Jhansi 10.27 157 *e*P **Pn 21 13 53.4 -1.8**
JHNI *e*S **Sn 21 15 42.5 -6.6**
JHNI IAML 21 15 47.2
comp=E,15nm,0.5s
JHNI IAML 21 15 47.7
comp=E,32nm,0.7s
MAKZ Makanchi 13.14 24 Pn 21 14 35.4 +1.2
MAKZ Makanchi 13.14 24 P **Pn 21 14 35.4 +1.2**
MK31 Makanchi Array 13.23 25 *d*e**P Pn 21 14 36.7 +1.2**
MKAR Makanchi Array 13.23 25 Pn **Pn 21 14 35.7 +0.2**
MKAR Makanchi Array 13.23 25 Pn **Pn 21 14 35.3 -0.2**
comp=E,0.1nm,0.3s,baz=221,slow=16,SNR=5.1
MKAR LR LR 21 20 02.8
comp=E,95nm,18.3s,baz=317,slow=39
comp=E,0.1nm,0.3s
LSA Lhasa 15.30 106 Pn **Pn 21 15 02.9 -1.2**
LSA Lhasa 15.30 106 P **Pn 21 15 02.9 -1.2**
LSA pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 15.88 10 Pn **Pn 21 15 08.5 -2.5**
comp=Z,0.3nm,0.3s,baz=202,slow=10,SNR=11
comp=Z,1.3nm,0.8s
KURK Kurchatov 15.99 10 Pn **Pn 21 15 12.5 +0.2**
KURK IAmb IAmb 21 15 17.5
comp=Z,6.4nm,0.8s
KURK Kurchatov 15.99 10 P **Pn 21 15 08.5 -3.8**
AB31 Akbulak array 17.64 328 P **Pn 21 15 31.3 -1.8**
comp=Z,1.5nm,0.6s,baz=134,slow=12,SNR=23
AB31 ⇓S **Sn 21 18 40.9 -7.5**
comp=Z,2.3nm,0.8s
AB31 Akbulak array 17.64 328 P **Pn 21 15 31.3 -1.8**
AB31 S **Sn 21 18 40.9 -7.5**
ABKAR Akbulak array 17.64 328 Pn 21 15 31.6 -1.5
ABKAR Akbulak array 17.64 328 Pn **Pn 21 15 31.4 -1.7**
ABKAR IAmb IAmb 21 15 46.1
comp=Z,2.6nm,0.8s
SHL Shillong 17.96 117 P **Pn 21 15 35.9 -1.4**
SHL Shillong 17.96 117 P **Pn 21 15 35.9 -1.4**
SHL pmax pmax
comp=Z,6.0nm,0.9s
BVA0 Borovoye Array 18.17 353 P **Pn 21 15 39.0 -0.5**
comp=Z,7.4nm,1.2s,baz=136,slow=10,SNR=40
BVA0 Borovoye Array 18.17 353 P **Pn 21 15 39.2 -0.4**
BVAR Borovoye Array 18.17 353 P **Pn 21 15 37.1 -2.4**
comp=Z,0.1nm,0.3s,baz=155,slow=9.3,SNR=17
comp=Z,1.4nm,0.4s
BRVK Borovoye 18.21 352 P 21 15 39.6 -0.5
BRVK IAmb IAmb 21 15 47.1
comp=Z,4.8nm,0.7s
BRVK Borovoye 18.21 352 ⇓P **P 21 15 39.9 -0.2**
comp=Z,3.9nm,0.7s
BRVK Borovoye 18.21 352 *c*e**P P 21 15 40.5 +0.4**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 19.35 328 P **P 21 15 51.0 -1.6**
comp=Z,0.6nm,0.3s,baz=126,slow=9.4,SNR=15
comp=Z,3.8nm,0.5s
AKTO Aktyubinsk 19.35 328 ⇓P **P 21 15 52.8 +0.2**
comp=Z,3.5nm,0.7s
ZAA0 Zalesovo Array 20.32 18 P **P 21 16 02.0 -1.1**
ZAA0 IAmb IAmb 21 16 05.8
comp=Z,5.7nm,0.6s
ZALV Zalesovo Beam 20.32 18 P **P 21 16 02.4 -0.7**
comp=Z,4.3nm,0.4s,baz=215,slow=11,SNR=30
comp=Z,4.3nm,0.4s
SVE Sverdlovsk 23.64 341 *e*P **P 21 16 41.0 +3.0**
GNI Garni 23.81 291 *i* P **P 21 16 43.8 +3.8**
ARTI Arti 23.90 338 P **P 21 16 39.6 -1.0**
ARTI IAmb IAmb 21 16 44.2
comp=Z,5.5nm,1.2s
ARTI Arti 23.90 338 P **P 21 16 40.9 +0.3**
comp=Z,1.1nm,0.6s,baz=154,slow=9.7,SNR=3.6
comp=Z,1.1nm,0.6s
ARTI Arti 23.90 338 *d i*P **P 21 16 43.4 +2.8**
ARTI 21 17 07.9
ARTI S **S 21 20 58.0 +3.5**
ARTI pmax pmax
comp=Z,5.0nm,1.2s
BELG Belogornoye 25.64 321 P **P 21 16 57.4 +1.1**
comp=Z,7.9nm,0.9s,baz=277,slow=1.6,SNR=3.9
comp=Z,7.9nm,0.9s
BELG Belogornoye 25.64 321 ⇑*e*P **P 21 16 58.8 +2.5**
BELG pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 25.74 300 *e*P **P 21 16 57.0 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 27.11 52 P **P 21 17 09.3 -0.7**
SONM Songino Array 27.11 52 P **P 21 17 09.9 0.0**
comp=Z,0.6nm,0.6s,baz=256,slow=9.1,SNR=7.1
SONM LR LR 21 29 59.7
comp=Z,72nm,18.2s,baz=360,slow=41
comp=Z,0.6nm,0.6s
SONM Songino Array 27.11 52 P **P 21 17 09.3 -0.7**
SONM pmax pmax
comp=Z,3.0nm,1.4s
CHTO Chiang Mai 27.27 120 P **P 21 17 11.3 -0.1**
CHTO IAmb IAmb 21 17 32.6
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 27.27 120 P **P 21 17 11.3 -0.1**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 27.50 121 P **P 21 17 12.7 -0.8**
comp=Z,1.3nm,0.6s,baz=312,slow=9.5,SNR=12
comp=Z,1.3nm,0.6s
PALK Pallekele 28.29 166 LR LR 21 28 40.6
comp=Z,67nm,19.2s,baz=358,slow=37
BR131 Keskin Array S 32.34 290 ⇓*e*P **P 21 17 57.5 +1.1**
BRTR Keskin Array B 32.34 290 P **P 21 17 58.0 +1.7**
comp=Z,1.0nm,0.6s,baz=91,slow=9.3,SNR=6.1
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 32.34 290 *e*P **P 21 17 59.3 +2.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
NRIK Noril'sk 35.14 8 *i* P **P 21 18 23.2 +3.1**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 35.85 310 P **P 21 18 27.4 +0.9**
comp=Z,0.3nm,0.4s,baz=108,slow=9.4,SNR=2.4
comp=Z,0.3nm,0.4s
FINES FINESS Array B 40.12 326 P **P 21 19 02.2 0.0**
comp=Z,4.0nm,1.0s,baz=110,slow=9.0,SNR=6.4
comp=Z,4.0nm,1.0s
FINES FINESS Array B 40.12 326 *e*P **P 21 19 06.6 +4.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 43.47 337 P **P 21 19 30.3 +0.8**
comp=Z,1.3nm,0.6s,baz=92,slow=7.8,SNR=9.3
comp=Z,1.3nm,0.6s
ARCES ARCESS Array B 43.47 337 *e*P **P 21 19 30.0 +0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 45.79 323 P **P 21 19 47.5 -0.7**
comp=Z,1.7nm,0.5s,baz=98,slow=7.4,SNR=9.9
comp=Z,1.7nm,0.5s
NB2 NORSAR Subarra 47.08 324 P **P 21 20 00.4 +2.1**
comp=Z,3.9nm,0.8s,baz=95,slow=7.9
NOA NORSAR Array B 47.08 324 P **P 21 19 57.5 -0.9**
comp=Z,0.7nm,0.6s,baz=95,slow=7.8,SNR=6.3
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 47.08 324 *e*P **P 21 20 00.5 +2.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
SPITS Spitsbergen Ar 49.49 347 P **P 21 20 18.1 +1.4**
comp=Z,10.0nm,1.0s,baz=212,slow=3.0,SNR=1.8
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 60.41 300 P **P 21 21 36.9 +0.7**
comp=Z,0.5nm,0.8s,baz=61,slow=7.1,SNR=4.5
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 68.29 271 P **P 21 22 26.4 -1.7**
comp=Z,2.2nm,0.7s,baz=52,slow=6.8,SNR=5.3
comp=Z,2.2nm,0.7s
F15K North Star Dit 69.83 22 P **P 21 22 39.2 +2.3**
G16K Koyuk River 70.75 22 P **P 21 22 44.3 +1.9**
TOLK Toolik Lake Re 71.65 15 P **P 21 22 49.8 +1.8**
TOLK IAmb IAmb 21 22 59.2
comp=Z,2.6nm,1.1s
E24K Your Creek 72.35 15 P **P 21 22 54.3 +2.1**
ILAR Eielson Array 75.44 17 P **P 21 23 09.9 -0.3**
comp=Z,0.4nm,0.9s,baz=325,slow=5.9,SNR=4.7
comp=Z,0.4nm,0.9s
ILAR Eielson Array 75.44 17 *e*P **P 21 23 13.6 +3.4**
WRA Warramunga Arr 79.04 124 P **P 21 23 32.2 +1.2**
comp=Z,0.6nm,0.8s,baz=315,slow=6.2,SNR=5.2
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 79.04 124 *e*P P 21 23 39.5 +8.5
ASAR Alice Springs 81.32 127 P **P 21 23 42.1 -1.1**
comp=Z,0.4nm,0.6s,baz=308,slow=4.6,SNR=4.5
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 82.54 4 P **P 21 23 48.8 -0.2**
comp=Z,0.3nm,0.5s,baz=342,slow=5.2,SNR=5.4
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 82.54 4 *e*P **P 21 23 53.6 +4.5**
YKA pmax pmax
comp=Z,1.0nm,1.0s

---

*IDC **05** 21:19:18.9±2.9, 17°.18N×120°.54E, h102km±29km, mb3.4/12, mbtmp3.8/13, Error ellipse: s-maj=31.9km s-min=14.8km az=68.0°*
ISC 05 21:19:19.1±0.8, **17°.28N**±0°.09×**120°.6E**±0°.2, **h100**km, **n13,**
σ1°.37/15, **mb3.7**/11, **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.18**	**174**	P	**Pn**	**21 20 05.8**	**-1.6**
	143nm,0.3s,baz=236,slow=5.9,SNR=4.7						
TGY				S	**Sn**	**21 20 48.2**	**+3.7**
	396nm,0.4s,baz=295,slow=17,SNR=4.6						
CMAR	**Chiang Mai Arr**	**20.62**	**277**	P	**P**	**21 23 50.6**	**0.0**
	0.6nm,0.4s,baz=85,slow=10.0,SNR=12						
	0.6nm,0.4s						
KSRS	**Korea Array**	**21.11**	**16**	P	**P**	**21 23 56.8**	**+1.1**
	0.8nm,0.5s,baz=200,slow=11,SNR=6.1						
	0.8nm,0.5s						
SONM	**Songino Array**	**32.62**	**342**	P	**P**	**21 25 42.0**	**+0.7**
	0.7nm,0.7s,baz=162,slow=10,SNR=6.6						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**39.38**	**159**	P	**P**	**21 26 37.6**	**-1.6**
	0.2nm,0.4s,baz=340,slow=7.5,SNR=6.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**42.73**	**162**	P	**P**	**21 27 05.7**	**-0.9**
	0.4nm,0.3s,baz=343,slow=8.0,SNR=5.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.13**	**321**	P	**P**	**21 27 09.7**	**+0.1**
	0.7nm,0.8s,baz=117,slow=7.8,SNR=8.7						
MKAR				PcP	**PcP**	**21 28 58.5**	**+0.9**
	0.3nm,0.6s,baz=100,slow=4.3,SNR=3.6						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**45.86**	**331**	P	**P**	**21 27 30.7**	**-0.4**
	0.6nm,0.5s,baz=119,slow=8.4,SNR=4.4						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**47.19**	**324**	P	**P**	**21 27 41.7**	**+0.1**
	1.6nm,0.7s,baz=131,slow=8.6,SNR=13						
	1.6nm,0.7s						
BVAR	**Borovoye Array**	**52.78**	**324**	P	**P**	**21 28 23.7**	**-0.2**
	0.6nm,0.6s,baz=109,slow=7.8,SNR=4.2						
	0.6nm,0.6s						
NRIK	**Noril'sk**	**55.92**	**346**	P	**P**	**21 28 46.5**	**+0.2**
	2.3nm,0.7s,baz=127,slow=5.1,SNR=5.3						
	2.3nm,0.7s						
AKTO	**Aktyubinsk**	**59.43**	**319**	P	**P**	**21 29 10.6**	**-0.7**
	0.9nm,0.5s,baz=84,slow=8.1,SNR=3.6						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**77.12**	**331**	P	**P**	**21 31 01.1**	**-0.3**
	1.6nm,0.7s,baz=70,slow=8.1,SNR=6.5						
	1.6nm,0.7s						

---

*IDC **05** 21:22:35.6±1.9, 34°.41S×179°.80E, h0km, mb4.4/3, mbtmp4.4/4, ML4.5/1, Error ellipse: s-maj=53.2km s-min=39.1km az=141.0*
*WEL **05** 21:22:48.5±1.2, 35°.S±16°×18°.0E±1°.5, h164km±38km, M4.3/19, ML4.5/12, MLv4.3/19, Error ellipse: s-maj=26.0km s-min=11.6km az=40.2, confirmed*
*NOU **05** 21:22:49.2, 35°.62S×179°.90E, h195km, MLv4.3/12, Off E. Coast of N. Island, N.Z.*
ISC 05 21:22:51.5±1.3, **35°.48S**±0°.08×**179°.8E**±0°.1, **h150**km, **n122,**
σ2°.11/122, **mb4.3**/3, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.40**	**210**	P	**Pn**	**21 23 30.4**	**-1.0**
MXZ	**Matakaoa Point**	**2.40**	**210**	P	**Pn**	**21 23 30.3**	**-1.0**
WMGZ	**Waiomatatini S**	**2.59**	**205**	P	**Pn**	**21 23 33.8**	**+0.1**
PKGZ	**Pakihiroa**	**2.75**	**210**	P	**Pn**	**21 23 35.6**	**-0.2**
PKGZ				S	**Sn**	**21 24 12.4**	**+2.4**
HAZ	**Te Kaha**	**2.79**	**215**	P	**Pn**	**21 23 35.5**	**-0.7**
HAZ				S	**Sn**	**21 24 13.4**	**+2.6**
PUZ	**Puketiti**	**2.87**	**205**	P	**Pn**	**21 23 36.8**	**-0.4**
PUZ				S	**Sn**	**21 24 13.4**	**+0.8**
WIZ	**White Island**	**2.93**	**225**	P	**Pn**	**21 23 37.4**	**-0.6**
WIZ				S	**Sn**	**21 24 14.3**	**+0.4**
WSRZ	**White Island S**	**2.93**	**225**	P	**Pn**	**21 23 38.6**	**+0.6**
WSRZ				S	**Sn**	**21 24 14.5**	**+0.4**
RUGZ	**Raukumara Rang**	**3.01**	**214**	P	**Pn**	**21 23 38.3**	**-0.8**
RUGZ				S	**Sn**	**21 24 18.2**	**+2.2**
TWGZ	**Tauwhareparae**	**3.06**	**208**	P	**Pn**	**21 23 39.4**	**-0.3**
TWGZ				S	**Sn**	**21 24 19.8**	**+2.8**
CNGZ	**Carnagh Statio**	**3.26**	**203**	P	**Pn**	**21 23 42.0**	**-0.2**
WHRZ	**Whale Island**	**3.28**	**223**	P	**Pn**	**21 23 43.3**	**+0.8**
TKGZ	**Te Karaka**	**3.34**	**207**	P	**Pn**	**21 23 42.3**	**-0.8**
MWZ	**Matawai**	**3.38**	**212**	P	**Pn**	**21 23 43.0**	**-0.8**
MWZ				S	**Sn**	**21 24 26.5**	**+2.2**
MYRZ	**Mayor Island**	**3.39**	**237**	P	**Pn**	**21 23 43.1**	**-0.7**
URZ	**Urewera**	**3.51**	**217**	Pn	**Pn**	**21 23 43.9**	**-1.5**
	26nm,0.3s,baz=351,slow=3.6,SNR=122						
URZ				Sn	**Sn**	**21 24 27.3**	**+0.1**
	23nm,0.3s,baz=121,slow=22,SNR=10						
	55nm,0.3s						
URZ	**Urewera**	**3.51**	**217**	P	**Pn**	**21 23 44.1**	**-1.3**
OPRZ	**Ohinepanea**	**3.52**	**227**	P	**Pn**	**21 23 44.7**	**-0.8**
KUZ	**Kuaotunu**	**3.54**	**248**	P	**Pn**	**21 23 43.9**	**-1.8**
KUZ	**Kuaotunu**	**3.54**	**248**	P	**Pn**	**21 23 42.9**	**-2.9**
MARZ	**Manawahe**	**3.54**	**224**	P	**Pn**	**21 23 45.1**	**-0.7**
RIGZ	**Rimuhau**	**3.61**	**206**	P	**Pn**	**21 23 45.6**	**-1.1**
GRZ	**Great Barrier**	**3.61**	**256**	P	**Pn**	**21 23 44.2**	**-2.5**
PRGZ	**Paritu Road**	**3.76**	**203**	P	**Pn**	**21 23 47.5**	**-1.1**
OMRZ	**Omania**	**3.80**	**225**	P	**Pn**	**21 23 48.9**	**-0.3**
SNGZ	**Shannon Statio**	**3.84**	**210**	P	**Pn**	**21 23 48.6**	**-1.0**
MUGZ	**Murupara**	**3.85**	**218**	P	**Pn**	**21 23 48.4**	**-1.4**
RTZ	**Ruatahuna**	**3.86**	**215**	P	**Pn**	**21 23 48.4**	**-1.5**
RRRZ	**Republican Roa**	**3.88**	**222**	P	**Pn**	**21 23 49.8**	**-0.5**
HLRZ	**Highlands Stat**	**3.91**	**224**	P	**Pn**	**21 23 51.3**	**+0.7**
KNZ	**Kokohu**	**3.92**	**205**	P	**Pn**	**21 23 48.9**	**-1.8**
MHGZ	**Mahia Peninsul**	**3.96**	**202**	P	**Pn**	**21 23 50.3**	**-1.0**
WIAZ	**Waiheke Island**	**4.00**	**250**	P	**Pn**	**21 23 50.2**	**-1.5**
HSRZ	**Hossack Road**	**4.01**	**224**	P	**Pn**	**21 23 52.3**	**+0.4**
RAHZ	**Arahi**	**4.06**	**212**	P	**Pn**	**21 23 51.7**	**-0.8**
PRRZ	**Plateau Road**	**4.07**	**221**	P	**Pn**	**21 23 51.4**	**-1.1**
MKAZ	**Moumakai**	**4.08**	**245**	P	**Pn**	**21 23 51.7**	**-1.1**
MTHZ	**Maungataniwha**	**4.11**	**214**	P	**Pn**	**21 23 52.2**	**-1.1**
WHHZ	**Waihua**	**4.13**	**209**	P	**Pn**	**21 23 52.4**	**-1.1**
ALRZ	**Allen Road**	**4.14**	**221**	P	**Pn**	**21 23 52.9**	**-0.7**
MRHZ	**Matea Rd**	**4.30**	**218**	P	**Pn**	**21 23 54.3**	**-1.4**
NMHZ	**Naumai**	**4.33**	**213**	P	**Pn**	**21 23 55.2**	**-0.9**
KUTZ	**Kaahu Road**	**4.38**	**226**	P	**Pn**	**21 23 56.3**	**-0.4**
ARHZ	**Aropaoanui**	**4.39**	**210**	P	**Pn**	**21 23 55.6**	**-1.2**
WHTZ	**Whakaora**	**4.42**	**223**	P	**Pn**	**21 23 56.8**	**-0.5**
WCZ	**Waipu Caves**	**4.46**	**263**	P	**Pn**	**21 23 55.4**	**-2.4**
BKZ	**Black Stump Fm**	**4.53**	**215**	P	**Pn**	**21 23 56.9**	**-1.8**
WATZ	**Wairara**	**4.58**	**224**	P	**Pn**	**21 23 58.8**	**-0.5**
MCHZ	**McNeill Hill**	**4.66**	**211**	P	**Pn**	**21 23 59.3**	**-1.1**
RATZ	**Rangitukua**	**4.67**	**222**	P	**Pn**	**21 23 59.7**	**-0.9**
CKHZ	**Cape Kidnapper**	**4.70**	**207**	P	**Pn**	**21 23 58.7**	**-2.2**
RITZ	**Rihia Road**	**4.70**	**221**	P	**Pn**	**21 23 60.0**	**-1.0**
KWHZ	**Kaweka Forest**	**4.77**	**213**	P	**Pn**	**21 23 59.7**	**-2.1**
TMVZ	**Te Maari**	**4.88**	**221**	P	**Pn**	**21 24 01.6**	**-1.9**
KAHZ	**Kahuranaki**	**4.89**	**207**	P	**Pn**	**21 24 01.6**	**-1.9**
KRVZ	**Karewarewa**	**4.90**	**221**	P	**Pn**	**21 24 02.9**	**-0.8**
OTVZ	**Oturere**	**4.94**	**221**	P	**Pn**	**21 24 02.6**	**-1.7**
NNVZ	**North Ngauruho**	**4.94**	**221**	P	**Pn**	**21 24 03.3**	**-1.0**
WTVZ	**West Tongariro**	**4.94**	**222**	P	**Pn**	**21 24 03.1**	**-1.1**
SNVZ	**South Ngauruho**	**4.97**	**221**	P	**Pn**	**21 24 03.4**	**-1.3**
KRHZ	**Kereru**	**4.97**	**212**	P	**Pn**	**21 24 01.6**	**-2.9**
NGZ	**Ngauruhoe**	**4.98**	**221**	P	**Pn**	**21 24 03.7**	**-1.0**
HIZ	**Hauiti**	**4.98**	**231**	P	**Pn**	**21 24 04.5**	**-0.1**
HIZ	**Hauiti**	**4.98**	**231**	P	**Pn**	**21 24 04.6**	**-0.1**
TWVZ	**Taurewa**	**5.00**	**223**	P	**Pn**	**21 24 03.9**	**-1.0**
TUVZ	**Tukino**	**5.02**	**220**	P	**Pn**	**21 24 04.5**	**-0.7**
FWVZ	**Far West T-bar**	**5.06**	**221**	P	**Pn**	**21 24 04.6**	**-1.4**
MAVZ	**Matarangi**	**5.07**	**221**	P	**Pn**	**21 24 05.5**	**-0.6**
MOVZ	**Moawhango**	**5.07**	**218**	P	**Pn**	**21 24 03.9**	**-2.1**
OUZ	**Omahuta**	**5.08**	**271**	P	**Pn**	**21 24 06.0**	**0.0**
	16nm,2.2s						
OUZ	**Omahuta**	**5.08**	**271**	P	**Pn**	**21 24 02.0**	**-3.9**
WNVZ	**Wahianoa**	**5.09**	**220**	P	**Pn**	**21 24 04.4**	**-1.8**
TRVZ	**Turoa**	**5.10**	**220**	P	**Pn**	**21 24 05.6**	**-0.8**
PXZ	**Pawanui**	**5.11**	**206**	P	**Pn**	**21 24 04.8**	**-1.5**
MTVZ	**Mangateitei**	**5.20**	**220**	P	**Pn**	**21 24 06.7**	**-0.9**
PNHZ	**Pukenui**	**5.27**	**212**	P	**Pn**	**21 24 05.4**	**-3.0**
WPHZ	**Waipukurau**	**5.29**	**209**	P	**Pn**	**21 24 07.1**	**-1.7**
PRHZ	**Porangahau**	**5.39**	**207**	P	**Pn**	**21 24 07.6**	**-2.5**
VRZ	**Vera Road**	**5.42**	**226**	P	**Pn**	**21 24 10.2**	**-0.2**
TSZ	**Takapari Road**	**5.49**	**213**	P	**Pn**	**21 24 08.5**	**-3.0**
DVHZ	**Dannevirke**	**5.60**	**210**	P	**Pn**	**21 24 10.3**	**-2.6**
ANWZ	**Angora Road**	**5.62**	**207**	P	**Pn**	**21 24 11.1**	**-2.0**
POWZ	**Post Office Ro**	**5.85**	**212**	P	**Pn**	**21 24 13.9**	**-2.2**
PRWZ	**Pori Road**	**5.90**	**210**	P	**Pn**	**21 24 14.8**	**-2.1**
BFZ	**Birch Farm**	**5.90**	**207**	P	**Pn**	**21 24 13.8**	**-3.0**
	58nm,2.9s						
BFZ	**Birch Farm**	**5.90**	**207**	P	**Pn**	**21 24 13.7**	**-3.2**
KHEZ	**Kahui Hut**	**5.98**	**229**	P	**Pn**	**21 24 19.6**	**+1.7**
TIWZ	**Tintock**	**6.12**	**209**	P	**Pn**	**21 24 17.8**	**-2.0**
MRZ	**Mangatainoka R**	**6.15**	**212**	P	**Pn**	**21 24 16.5**	**-3.7**
HOWZ	**Holdsworth Sta**	**6.38**	**211**	P	**Pn**	**21 24 18.9**	**-4.3**
TMWZ	**Te Maipa**	**6.40**	**208**	P	**Pn**	**21 24 20.4**	**-3.1**
GLKZ	**Green Lake**	**6.49**	**18**	P	Pn	21 24 13.3	-11
MTW	**Mount Morrison**	**6.60**	**210**	P	**Pn**	**21 24 22.0**	**-4.1**
KIW	**Kapiti Island**	**6.61**	**214**	P	**Pn**	**21 24 21.9**	**-4.4**
TRWZ	**Traveller**	**6.73**	**207**	P	**Pn**	**21 24 24.4**	**-3.5**
CAW	**Cannon Point**	**6.74**	**212**	P	**Pn**	**21 24 24.2**	**-3.8**
PAWZ	**Paruwai Farm**	**6.82**	**209**	P	**Pn**	**21 24 25.6**	**-3.5**
MSWZ	**Moikau Station**	**6.92**	**210**	P	**Pn**	**21 24 27.0**	**-3.5**
PLWZ	**Palliser**	**7.05**	**209**	P	**Pn**	**21 24 28.1**	**-4.0**
SNZO	**South Karori**	**7.06**	**213**	P	**Pn**	**21 24 28.6**	**-3.7**
	64nm,2.1s						
TCW	**Tory Channel**	**7.18**	**216**	P	**Pn**	**21 24 29.5**	**-4.4**
TUWZ	**Tuamarina**	**7.51**	**216**	P	**Pn**	**21 24 34.7**	**-3.5**
BSWZ	**Blackbirch Sta**	**7.76**	**215**	P	**Pn**	**21 24 37.7**	**-4.0**
QRZ	**Quartz Range**	**7.83**	**225**	P	**Pn**	**21 24 38.5**	**-4.0**
	54nm,1.5s						
KHZ	**Kahutara**	**8.47**	**213**	P	**Pn**	**21 24 48.2**	**-2.8**
	43nm,1.7s						
KHZ	**Kahutara**	**8.47**	**213**	P	**Pn**	**21 24 48.1**	**-3.0**
CTZ	**Chatham Island**	**8.69**	**163**	P	**Pn**	**21 24 57.0**	**+3.0**
RPZ	**Rata Peaks**	**10.63**	**217**	P	Pn	21 25 14.9	-4.9
	34nm,1.2s						
ODZ	**Otahua Downs**	**11.83**	**213**	P	**Pn**	**21 25 31.1**	**-4.4**
	33nm,2.5s						
ASAR	**Alice Springs**	**41.29**	**274**	P	**P**	**21 30 22.1**	**-0.2**
	0.8nm,0.3s,baz=116,slow=7.8,SNR=20						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**42.74**	**279**	P	**P**	**21 30 33.1**	**-1.0**
	4.0nm,0.4s,baz=120,slow=8.0,SNR=10						
	4.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.73**	**275**	P	**P**	**21 31 37.6**	**+1.4**
	4.8nm,0.7s,baz=118,slow=10,SNR=7.1						
	4.8nm,0.7s						
H03S2	**Juan Fernandez**	**79.19**	**124**	T	T	23 03 01.9	
	baz=233						
H03S1	**Juan Fernandez**	**79.20**	**124**	T	T	23 03 02.9	
	baz=233						
H03S3	**Juan Fernandez**	**79.21**	**124**	T	T	23 03 05.0	
	baz=233						
H03N3	**Juan Fernandez**	**79.42**	**123**	T	T	23 03 14.8	
	baz=237,slow=72,SNR=8.6						
H03N2	**Juan Fernandez**	**79.42**	**123**	T	T	23 03 11.8	
	baz=237,slow=72,SNR=8.3						
H03N1	**Juan Fernandez**	**79.43**	**123**	T	T	23 03 11.0	
	baz=237,slow=72,SNR=8.6						
ARCES	**ARCESS Array B**	**143.09**	**345**	PKhKP	PKPpre	21 42 05.6	
	3.9nm,1.0s,baz=39,slow=1.8,SNR=1.7						
FINES	**FINESS Array B**	**149.14**	**336**	PKPbc	**PKPab**	**21 42 22.3**	**-3.8**
	3.6nm,0.9s,baz=62,slow=3.3,SNR=9.0						
BRTR	**Keskin Array B**	**152.96**	**289**	PKPbc	**PKiKP**	**21 42 33.4**	**+2.2**
	0.5nm,0.6s,baz=127,slow=4.0,SNR=3.0						
AKASG	**Malin Array Be**	**153.90**	**315**	PKPbc	**PKiKP**	**21 42 34.6**	**+2.0**
	0.4nm,0.5s,baz=45,slow=2.1,SNR=4.7						

---

*STR **05** 21:32:59.8±0.2, 46°.N±1°×°.±°, h2km, MLv3.3/24, Error ellipse: s-maj=0.0km s-min=0.0km az=107.7, preliminary*
*ZUR **05** 21:32:59.7, 46°.04N×5°.67E, h6km±1km, MLh3.2/89

LPG *e*Sg **Sb** **21 33 31.5 +0.6**
524nm,0.6s
MRGE Morge 1.04 106 P **Pb** **21 33 19.3 +0.1**
GRYON Gryon 1.05 79 Pg **Pn** **21 33 19.9 +0.1**
BRANT Les Verrieres 1.05 33 ⇑Pg **Pn** **21 33 20.1 +0.2**
BRANT Les Verrieres 1.05 33 Pg **Pn** **21 33 20.1 +0.2**
BRANT Les Verrieres 1.05 33 Sg **Sn** **21 33 34.9 +0.3**
FULLY Reservoir Maze 1.05 84 ⇓Pg **Pb** **21 33 19.5 +0.1**
PLYF Puligny Montra 1.08 326 Pg **Pn** **21 33 21.4 +1.3**
PLYF Sg **Sn** **21 33 35.9 +0.7**
RAW4 Former Reservo 1.09 82 Pg **Pg** **21 33 20.3 +0.2**
SSB Saint Sauveur 1.09 225 Pg **Pb** **21 33 20.6 +0.6**
SSB Sg **Sb** **21 33 34.6 +0.4**
REMY Saint-Rhmy-en 1.09 101 Pg **Pb** **21 33 20.2 0.0**
REMY Saint-Rhmy-en 1.09 101 Sg **Sg** **21 33 34.7 +0.2**
REMY Saint-Rhmy-en 1.09 101 P **Pb** **21 33 20.1 0.0**
OGMO Fort Saint-Gob 1.13 139 Pg **Pb** **21 33 20.6 0.0**
OGMO Sg **Sb** **21 33 35.0 -0.4**
OGMO Fort Saint-Gob 1.13 139 P **Pb** **21 33 20.7 0.0**
ORIF Oris-en-Rattie 1.16 171 *e*Pg **Pb** **21 33 20.6 -0.5**
ORIF *e*Sg **Sb** **21 33 34.8 -1.3**
340nm,0.3s
ORIF Oris-en-Rattie 1.16 171 Sg **Sb** **21 33 36.7 +0.6**
ORIF Oris-en-Rattie 1.16 171 Pg **Pb** **21 33 20.7 -0.4**
TORNY Torny/Romont 1.17 52 Pg **Pg** **21 33 22.0 +0.5**
TORNY Torny/Romont 1.17 52 Sg **Sn** **21 33 38.0 +0.7**
SENIN Lac Senin/Sane 1.20 75 P **Pg** **21 33 22.4 +0.1**
STFL Fournets-Luisa 1.23 31 Pg **Pg** **21 33 23.3 +0.4**
STFL Sg **Sn** **21 33 40.8 +1.8**
DIX Grande Dixence 1.24 88 Pg **Pb** **21 33 23.0 +0.3**
DIX Grande Dixence 1.24 88 Sg **Sn** **21 33 39.5 +0.1**
DIX Grande Dixence 1.24 88 P **Pb** **21 33 23.1 +0.4**
SMF Signal de Mont 1.37 296 *e*P **Pn** **21 33 24.7 +0.6**
SMF *e*Sg **Sb** **21 33 41.8 -0.3**
500nm,0.4s
VIVF Saint-Julien-I 1.38 209 *e*Pg **Pn** **21 33 23.7 -0.6**
VIVF *e*Sg **Sn** **21 33 42.9 +0.5**
118nm,0.2s
CHMF Charmoille 1.38 30 Pn **Pg** **21 33 26.2 +0.5**
CHMF Sn **Sg** **21 33 45.1 +1.4**
PLDF La Plantade 1.40 267 Pn **Pg** **21 33 26.4 +0.3**
PLDF Sn **Sg** **21 33 45.4 +1.2**
RRL Rocca Remolon 1.40 144 Pn **Pb** **21 33 25.8 +0.3**
RRL Rocca Remolon 1.40 144 Sn **Sn** **21 33 44.0 +0.7**
RRL Rocca Remolon 1.40 144 P **Pb** **21 33 25.7 +0.3**
CIRO Champorcher 1.43 108 Pn **Pb** **21 33 26.2 +0.2**
CIRO Champorcher 1.43 108 Sn **Sg** **21 33 45.4 0.0**
COLF Collangettes 1.46 249 Pn **Pb** **21 33 27.2 +1.0**
COLF Sn **Sg** **21 33 46.9 +0.9**
RSP Reno Superiore 1.47 128 Pn **Pb** **21 33 26.8 +0.3**
RSP Reno Superiore 1.47 128 Sn **Sb** **21 33 46.0 +0.9**
RSP Reno Superiore 1.47 128 P **Pb** **21 33 26.7 +0.3**
LAUCH Lauchernalp 1.53 76 P **Pg** **21 33 28.9 +0.4**
EMBD Embd, Matterta 1.54 83 Pn **Pb** **21 33 28.1 +0.3**
EMBD Embd, Matterta 1.54 83 Sn **Sg** **21 33 48.9 +0.1**
EMBD Embd, Matterta 1.54 83 P **Pb** **21 33 28.3 +0.6**
MBDF Montbardon 1.56 148 *e*Pg **Pb** **21 33 28.2 +0.2**
MBDF *e*Sg **Sn** **21 33 48.1 +1.0**
241nm,0.5s
TRAV Traversella 1.58 110 Pn **Pb** **21 33 28.5 +0.1**
TRAV Traversella 1.58 110 Sn **Sb** **21 33 49.6 +1.2**
CREF Crivoux 1.67 155 Pn **Pb** **21 33 29.9 +0.1**
CREF Sn **Sn** **21 33 50.9 +1.2**
BHB Bricherasio 1.68 136 Pn **Pb** **21 33 29.9 -0.1**
BHB Bricherasio 1.68 136 Sn **Sb** **21 33 51.6 +0.6**
LOR Lormes 1.71 315 *e*P **Pn** **21 33 29.7 +0.8**
baz=132
LOR *e*Sg **Sg** **21 33 54.0 -0.3**
164nm,0.3s
LOR *e*Sn **Sb** **21 33 54.6 +2.5**
LOR Lormes 1.71 315 Pn **Pb** **21 33 31.3 +0.7**
BOURR Bourrignon 1.73 39 Pn **Pb** **21 33 30.8 -0.1**
BOURR Bourrignon 1.73 39 Sn **Sg** **21 33 53.6 -1.2**
OGAG Argentiere 1.73 158 Pn **Pn** **21 33 26.0 -3.2**
OGAG Sn **Sn** **21 33 44.7 -6.6**
OGAG Argentiere 1.73 158 P **Pn** **21 33 25.9 -3.2**
AVF Avril sur Loir 1.73 296 *e*P **Pn** **21 33 29.8 +0.7**
AVF *e*Sg **Sg** **21 33 55.0 +0.1**
46nm,0.3s
AGO Saint Agoulin 1.74 271 Pn **Pb** **21 33 31.4 +0.4**
AGO Sn **Sb** **21 33 54.2 +1.4**
SSF Saint Saulge 1.77 305 *e*P **Pn** **21 33 30.5 +0.9**
SSF *e*Sg **Sg** **21 33 56.6 +0.5**
81nm,0.4s
CFF Clermont-Ferra 1.78 261 Pn **Pb** **21 33 31.8 +0.1**
CFF Sn **Sb** **21 33 55.1 +1.1**
SURF Saint Ours 1.79 152 Pn **Pn** **21 33 31.2 +1.2**
SURF Sn **Sn** **21 33 53.8 +1.0**
RONF Ronchamp 1.79 23 Pn **Pb** **21 33 31.9 -0.1**
RONF Sn **Sg** **21 33 55.7 -1.1**
JAUF Jausiers 1.81 154 Pn **Pn** **21 33 31.8 +1.4**
JAUF Sn **Sn** **21 33 54.3 +0.9**
LBL Lubilhac 1.86 244 Pn **Pb** **21 33 33.4 +0.3**
LBL Sn **Sb** **21 33 56.8 +0.3**
PZZ Stroppo 1.88 145 Pn **Pn** **21 33 32.3 +1.1**
PZZ Stroppo 1.88 145 Sn **Sn** **21 33 55.9 +1.0**
BALST Balsthal 1.91 47 Pn **Pb** **21 33 33.4 -0.6**
BALST Balsthal 1.91 47 Sn **Sb** **21 33 57.8 -0.1**
BALST Balsthal 1.91 47 *e*Pg **Pg** **21 33 36.3 +0.5**
BALST *e*Sg **Sg** **21 33 59.8 -0.9**
HINF Hinteralfeld 1.95 25 *e*P **Pn** **21 33 31.7 -0.4**
HINF Hinteralfeld 1.95 25 *e*Pg **Pg** **21 33 36.1 -0.4**
HINF *e*Sg **Sg** **21 34 01.3 -0.5**
113nm,0.2s
BGF Bois d'Agland 1.99 285 *e*P **Pn** **21 33 33.5 +0.9**
BGF *e*Sg **Sg** **21 34 02.8 -0.3**
124nm,0.3s
HAU Haudompre 2.01 14 *e*P **Pb** **21 33 34.7 -0.9**
HAU Haudompre 2.01 14 *e*Pg **Pg** **21 33 37.6 0.0**
HAU *e*Sg **Sg** **21 34 03.7 0.0**
183nm,0.3s
OGDI Digne 2.01 166 Pn **Pn** **21 33 33.8 +0.8**
MLYF Mely 2.08 177 Pn **Pn** **21 33 34.8 +0.9**
SMRF Simiane la Rot 2.08 181 *e*P **Pn** **21 33 34.1 +0.1**
SMRF Simiane la Rot 2.08 181 *e*Pg **Pg** **21 33 39.2 +0.1**
SMRF *e*Sg **Sg** **21 34 06.2 +0.1**
60nm,0.4s
ISO Isola 2.13 151 Pn **Pn** **21 33 35.6 +0.9**
ISO Sn **Sn** **21 34 01.3 +0.2**
SFTF Sexfontaines 2.18 350 *e*Pg **Pg** **21 33 41.1 +0.1**
SFTF *e*Sg **Sg** **21 34 09.4 +0.1**
870nm,0.3s
SULZ Cheisacher 2.25 48 *e*Pg **Pg** **21 33 42.3 0.0**
LASF Ste Croix 2.35 213 *e*P **Pn** **21 33 37.8 +0.2**
LASF Ste Croix 2.35 213 *e*Pg **Pb** **21 33 42.8 +1.4**
LASF *e*Sg **Sb** **21 34 12.7 +2.4**
62nm,0.4s
TCF Toulx Ste Croi 2.38 277 *e*P **Pn** **21 33 38.8 +0.7**
TCF *e*Sn **Sn** **21 34 04.9 -2.3**
TCF *e*Sg **Sb** **21 34 13.3 +1.9**
62nm,0.4s
HYF Humbligny 2.38 302 *e*P **Pn** **21 33 39.5 +1.4**
HYF *e*Sg **Sg** **21 34 14.1 -1.7**
METMA Mettma DE 2.44 47 *e*Pg **Pg** **21 33 45.6 -0.4**
METMA *e*Sg **Sg** **21 34 15.5 -2.2**
MEZF Maizieres J'vi 2.47 351 *e*Pg **Pg** **21 33 46.5 0.0**
baz=173
MEZF *e*Sg **Sg** **21 34 18.5 -0.1**
99nm,0.3s
PAGF Fort de Pagny 2.50 2 *e*P **Pn** **21 33 40.7 +1.1**
PAGF Fort de Pagny 2.50 2 *e*Pg **Pg** **21 33 45.5 -1.5**
PAGF *e*Sn **Sn** **21 34 08.9 -1.1**
PAGF *e*Sg **Sg** **21 34 19.5 +0.2**
94nm,0.4s
SBF Sospel 2.54 149 *e*Pg **Pb** **21 33 45.5 +0.7**
SBF *e*Sg **Sb** **21 34 18.9 +2.8**
102nm,0.4s
SAVF Savonnieres en 2.58 353 *e*Pg **Pg** **21 33 47.9 -0.7**
baz=171
SAVF *e*Sn **Sn** **21 34 09.2 -2.8**
SAVF *e*Sg **Sg** **21 34 21.3 -0.7**
90nm,0.4s
SAVF *e*Sg **Sb** **21 34 21.4 +4.4**
72nm,0.4s
SLE Schleitheim 2.60 48 *e*Pg **Pg** **21 33 48.5 -0.5**
CDF Champ du Feu 2.61 25 *e*Pn **Pn** **21 33 40.6 -0.6**
CDF Champ du Feu 2.61 25 *e*P **Pn** **21 33 42.5 +1.3**
CDF Champ du Feu 2.61 25 *e*Pg **Pg** **21 33 48.0 -1.1**
CDF *e*Sg **Sg** **21 34 21.5 -1.4**
42nm,0.3s
WILA Wila 2.63 58 *e*Sg **Sg** **21 34 22.9 -0.8**
CAF Calviac 2.75 247 *e*P **Pn** **21 33 43.4 +0.3**

CAF *e*Sg **Sb** **21 34 23.9 +2.0**
88nm,0.5s
PLONS Plons/SG 2.77 68 *e*Sg **Sg** **21 34 26.5 -1.8**
LMR La Mourre 2.80 167 *e*P **Pn** **21 33 44.4 +0.7**
LMR La Mourre 2.80 167 *e*Pg **Pb** **21 33 50.7 +1.6**
LMR *e*Sn **Sn** **21 34 13.1 -4.3**
LMR *e*Sg **Sb** **21 34 24.9 +1.6**
58nm,0.4s
A101B Rottweil, Deis 2.87 43 Pn **Pn** **21 33 46.4 +1.6**
A101B Pg **Pg** **21 33 53.6 -0.5**
A101B Sg **Sg** **21 34 30.6 -0.6**
BFO Black Forest 2.92 38 Pn **Pn** **21 33 44.2 -1.3**
BFO *e*Pg **Pg** **21 33 54.4 -0.8**
BFO Sg **Sg** **21 34 32.6 -0.4**
RJF Les Rejaudoux 2.98 257 *e*P **Pn** **21 33 47.0 +0.8**
RJF *e*Sg **Sb** **21 34 31.6 +3.1**
48nm,0.4s
GUT Gutenstein 3.12 49 Pn **Pn** **21 33 49.9 +1.7**
GUT Gutenstein 3.12 49 Sn **Sn** **21 34 26.1 +0.7**
DAVA Damuels 3.18 66 *e*Pn **Pb** **21 33 56.7 +1.1**
0.4nm,0.1s
DAVA *e*Sn **Sg** **21 34 39.2 -1.9**
13nm,0.2s
A103D Ravensburg, Wa 3.20 56 Pg **Pg** **21 33 59.9 -0.6**
A103D Sg **Sg** **21 34 40.9 -1.1**
A102A Sigmaringen, J 3.21 48 Pn **Pn** **21 33 50.1 +0.7**
A102A Pg **Pg** **21 33 59.7 -0.9**
A102A Sg **Sg** **21 34 42.6 +0.4**
A100A Rottenburg, We 3.28 42 Pn **Pn** **21 33 49.6 -0.8**
A100A Pg **Pg** **21 34 02.8 +0.8**
A100A Sg **Sg** **21 34 44.3 -0.3**
A104A Biberach, Staf 3.44 53 Sg **Sg** **21 34 49.2 -0.3**
A104C Biberach, Ahle 3.44 52 Pg **Pg** **21 34 04.9 -0.2**
A104C Sg **Sg** **21 34 49.3 -0.4**
UBR Ueberruh 3.48 61 *e*Pg **Pg** **21 34 05.9 +0.2**
UBR Sg **Sg** **21 34 50.6 -0.1**
A105A Obersdorf, Sch 3.48 66 Sg **Sg** **21 34 49.6 -1.3**
A109A Bad Urach, See 3.54 46 Sg **Sg** **21 34 52.8 +0.2**
LFF La Frestale 3.61 254 *e*P **Pn** **21 33 56.0 +1.1**
LFF *e*Sg **Sg** **21 34 51.8 -3.3**
101nm,0.8s
MTLF Montolieu 3.65 223 *e*P **Pn** **21 33 55.9 +0.5**
MTLF Montolieu 3.65 223 *e*Pg **Pg** **21 34 07.7 -1.3**
MTLF *e*Sn **Sn** **21 34 33.5 -4.8**
MTLF *e*Sg **Sb** **21 34 51.4 +3.7**
35nm,0.5s
FETA Feichten 3.65 73 *i* Pn **Pn** **21 33 58.1 +2.5**
0.3nm,0.1s
A108A Ulm, Ringingen 3.67 50 Pg **Pg** **21 34 09.7 +0.3**
A108A Sg **Sg** **21 34 57.6 +0.8**
A107C Memmingen - Ei 3.69 56 Pg **Pg** **21 34 10.6 +0.8**
A107C Sg **Sg** **21 34 56.4 -1.2**
RIVT Riveris 3.73 11 *e*Pg **Pg** **21 34 09.4 -1.1**
A106B Goeppingen, Ma 3.87 44 Pn **Pn** **21 33 59.1 +0.6**
A106B Sg **Sg** **21 35 02.8 -0.7**
MOTA Moosalm 3.98 69 *i* Pn **Pn** **21 34 02.2 +2.1**
0.7nm,0.2s
SQTA Sankt Quirin 4.02 71 *e*Pn **Pn** **21 34 02.6 +1.9**
1.7nm,0.3s
MFF Saint Martin d 4.04 280 *e*P **Pn** **21 34 02.1 +1.4**
MFF Saint Martin d 4.04 280 *e*Pg **Pg** **21 34 15.8 -0.6**
MFF *e*Sn **Sn** **21 34 45.6 -2.3**
MFF *e*Sg **Sg** **21 35 04.7 -3.9**
18nm,0.4s
GIVF Givet 4.08 353 *e*Pn **Pn** **21 34 03.4 +2.1**
GIVF *e*Sn **Sn** **21 34 46.8 -2.2**
GIVF *e*Sg **Sg** **21 35 07.4 -2.7**
26nm,0.4s
BAIF Baives 4.11 347 *e*P **Pn** **21 34 04.5 +2.7**
BAIF *e*Sn **Sn** **21 34 47.2 -2.6**
BAIF *e*Sg **Sg** **21 35 11.2 +0.1**
10.0nm,0.3s
WATA Walderalm 4.29 71 *e*Pn **Pn** **21 34 07.6 +3.2**
0.4nm,0.1s
WTTA Wattenberg 4.31 72 *e*Pn **Pn** **21 34 06.5 +1.9**
0.6nm,0.2s
WTTA *e*Sn **Sn** **21 34 56.6 +1.6**
1.8nm,0.3s
FUR Furstenfeldbru 4.39 59 Sg **Sg** **21 35 19.1 -1.1**
LDF La Druitiere 4.66 305 *e*P **Pn** **21 34 10.5 +1.2**
LDF La Druitiere 4.66 305 *e*Pg **Pg** **21 34 26.4 -1.9**
LDF *e*Sn **Sn** **21 35 01.4 -1.8**
LDF *e*Sg **Sg** **21 35 23.8 -4.8**
13nm,0.3s
EPF Esparros 4.84 233 *e*Pg **Pg** **21 34 30.3 -1.6**
EPF *e*Sg **Sg** **21 35 30.9 -3.6**
11nm,0.4s
FLN La Foliniere 4.95 305 *e*P **Pn** **21 34 14.8 +1.5**
FLN *e*Sn **Sn** **21 35 07.9 -2.5**
FLN *e*Sg **Sg** **21 35 36.5 -1.4**
16nm,0.5s
GRR Gorron 4.99 300 *e*P **Pn** **21 34 14.8 +0.9**
GRR Gorron 4.99 300 *e*Pg **Pg** **21 34 33.6 -1.1**
GRR *e*Sn **Sn** **21 35 08.4 -3.1**
8.3nm,0.4s
GRR *e*Sg **Sg** **21 35 35.9 -3.5**
7.8nm,0.4s
LESA Schwarzleotal 5.04 72 *e*Pn **Pn** **21 34 15.9 +1.3**
0.4nm,0.2s
KBA Koelnbreinsper 5.42 76 *e*Pn **Pn** **21 34 22.3 +2.4**
0.7nm,0.3s
ETSF Etsaut 5.44 237 *e*Sn **Sn** **21 35 16.2 -6.4**
ETSF *e*Sg **Sg** **21 35 51.2 -2.5**
11nm,0.5s
SGMF Saint Gilles 6.00 294 *e*P **Pn** **21 34 28.1 +0.5**
SGMF *e*Sn **Sn** **21 35 31.5 -4.7**
4.8nm,0.4s
NKC Novy Kostel 6.18 45 *e*SG **Sg** **21 36 16.0 -1.6**
6.6nm,0.5s
KHC Kasperske Hory 6.19 57 *e*PG **Pg** **21 34 54.0 -3.7**
KHC *e*SN **Sn** **21 35 39.9 -1.2**
KHC *e*SG **Sg** **21 36 14.7 -3.1**
6.5nm,0.5s
QUIF Quistinic 6.29 290 *e*P **Pn** **21 34 32.4 +0.7**
ROSF Rostrenen 6.48 294 *e*P **Pn** **21 34 34.8 +0.6**
CKRC Cesky Krumlov 6.50 62 *e*SG **Sg** **21 36 25.9 -1.9**
ZVC Zvikov 6.69 57 *e*SG **Sg** **21 36 30.0 -3.8**
HSKC Hora Svate Kat 6.91 46 *e*SG **Sg** **21 36 38.8 -2.0**
CLL Collm 7.17 40 *i* Sg **Sg** **21 36 49.6 +0.6**
CONA Conrad Observa 7.25 71 *e*Pn **Pn** **21 34 46.1 +1.2**
0.2nm,0.2s
RONA Rosalia, Austr 7.50 74 *e*Pn **Pn** **21 34 48.9 +0.6**
0.3nm,0.2s
DPC Dobruska-Polom 8.33 55 *e*SG **Sg** **21 37 23.5 -2.9**

IDC ***05*** *21:34:21.1±42.0, 44°.19N×148°.94E, h0km, mb3.9/4, mbtmp3.9/4, MS3.7/1, Error ellipse: s-maj=983.8km s-min=74.1km az=156.0*
MOS ***05*** *21:34:35.8±0.4, 44°.38N×148°.44E, h125km, mb4.1/1, Error ellipse: s-maj=31.5km s-min=25.5km az=146.6*
SKHL ***05*** *21:34:38.8±0.2, 44°.50N×148°.10E, h120km±3km, mb4.4/3, msha5.4/3*
JMA ***05*** *21:34:40.6±0.5, 44°N±3°×14°8E±°, h105km, MV3.3/15, SE OFF ETOROFU*
ISC 05 21:34:37.0±2.0, 44°.3N±0°.1×148°.4E±0°.2, h108km±9km, n27, σ1§31/33, mb3.8/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**339**	*e*PN	**Pn**	**21 34 58.2**	**+0.7**
KUR				*e*S	**Sn**	**21 35 12.3**	**-0.7**
KUR				pmax	pmax		
	comp=Z,275nm,0.4s						
KUR				smax	smax		
	comp=N,696nm,0.2s						
KUR				smax	smax		
	comp=E,291nm,0.2s						
KUR	**Kuril'sk**	**0.95**	**339**	*e*P	**Pn**	**21 34 58.2**	**+0.7**
KUR				AMB	AMB	21 34 58.6	
	comp=E,280nm,0.3s						
KUR				*e*S	**Sn**	**21 35 12.6**	**-0.4**
KUR				A	A	21 35 13.4	
	comp=E,700nm,0.3s						
KUR				A	A	21 35 13.4	
	comp=E,290nm,0.3s						
SHO	**Shikotan**	**1.19**	**247**	*e*PN	**Pn**	**21 35 01.7**	**+1.6**
SHO				*i* S	**Sn**	**21 35 17.0**	**-0.5**
SHO				pmax	pmax		
	comp=N,19nm,0.2s						
SHO				pmax	pmax		
	comp=Z,17nm,0.2s						
SHO				pmax	pmax		
	comp=E,21nm,0.1s						
SHO				smax	smax		
	comp=N,387nm,0.2s						
SHO				smax	smax		
	comp=E,220nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.82**	**261**	*e*PN	**Pn**	**21 35 09.1**	**+1.6**
YUK				*e*S	**Sn**	**21 35 30.0**	**-0.8**
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
YUK				pmax	pmax		
	comp=N,112nm,0.2s						
YUK				pmax	pmax		
	comp=E,101nm,0.3s						
YUK				smax	smax		
	comp=N,104nm,0.2s						
YUK				smax	smax		
	comp=E,344nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.82**	**261**	*e*P	**Pn**	**21 35 07.3**	**-0.2**
YUK				AMB	AMB	21 35 11.8	
	comp=E,140nm,0.3s						
YUK				*e*S	**Sn**	**21 35 28.8**	**-2.0**
YUK				A	A	21 35 33.5	
	comp=E,100nm,0.2s						
YUK				A	A	21 35 33.5	
	comp=E,340nm,0.2s						
NEM2	**Nemuro 2**	**2.13**	**243**	*e*S	**Sn**	**21 35 36.6**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.13**	**244**	*e*PN	**Pn**	**21 35 12.5**	**+1.0**
NMR				*i* S	**Sn**	**21 35 36.7**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.13**	**244**	*e*P	**Pn**	**21 35 12.7**	**+1.2**
NMR				*i* S	**Sn**	**21 35 36.7**	**-1.3**
JRA	**Rausu**	**2.36**	**261**	*e*P	**Pn**	**21 35 16.1**	**+1.6**
JNSB	**Nemuroshibetsu**	**2.48**	**258**	*e*P	**Pn**	**21 35 17.8**	**+1.8**
JNSB				*e*S	**Sn**	**21 35 46.0**	**0.0**
JKHN	**Kushirohamanak**	**2.63**	**243**	*e*P	**Pn**	**21 35 19.3**	**+1.2**
JKHN				*e*S	**Sn**	**21 35 48.2**	**-1.5**
AKK	**Akkeshi**	**2.87**	**244**	*e*P	**Pn**	**21 35 22.2**	**+1.0**
AKK				*e*S	**Sn**	**21 35 53.0**	**-2.2**
JAK	**Akkeshi**	**2.98**	**244**	*e*P	**Pn**	**21 35 23.6**	**+1.1**
JAK				*e*S	**Sn**	**21 35 56.4**	**-1.3**
JTKR	**Abashiri--Toko**	**3.22**	**265**	*e*P	**Pn**	**21 35 27.0**	**+1.2**
JAR	**Ashorobuto**	**3.48**	**254**	*e*P	**Pn**	**21 35 31.4**	**+2.2**
JAR				*e*S	**Sn**	**21 36 10.3**	**+0.6**
JCH	**Churui**	**4.02**	**246**	*e*P	**Pn**	**21 35 38.2**	**+1.7**
JCH				*e*S	**Sn**	**21 36 21.2**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**29.01**	**142**	T	T	22 11 39.5	
	baz=333,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	22 11 38.9	
	baz=333,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	22 11 38.7	
	baz=333,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**30.00**	**143**	T	T	22 12 49.8	
	baz=334,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	22 12 49.8	
	baz=334,slow=76,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	22 12 50.9	
	baz=334,slow=76,SNR=9.6						
MKAR	**Makanchi Array**	**45.08**	**298**	P	**P**	**21 42 42.2**	**+0.2**
	comp=E,1.0nm,0.6s,baz=77,slow=8.1,SNR=11						
	comp=E,1.0nm,0.6s						
ARTI	**Arti**	**54.61**	**317**	LR	LR	22 08 43.7	
	comp=E,64nm,18.5s,baz=6.5,slow=38						
FINES	**FINESS Array B**	**64.74**	**333**	P	**P**	**21 45 02.5**	**-0.8**
	comp=E,2.5nm,0.9s,baz=46,slow=5.5,SNR=8.8						
	comp=E,2.5nm,0.9s						
NOA	**NORSAR Array B**	**69.36**	**339**	P	**P**	**21 45 32.5**	**-0.1**
	comp=E,0.7nm,1.0s,baz=40,slow=5.5,SNR=5.4						
	comp=E,0.7nm,1.0s						
HFS	**Hagfors**	**69.47**	**338**	P	**P**	**21 45 32.4**	**-0.8**
	comp=E,0.7nm,0.4s,baz=38,slow=7.3,SNR=1.5						
	comp=E,0.7nm,0.4s						

LDG ***05*** *21:52:58.6±0.1, 46°.03N×5°.59E, h8km, Md3.1/1, Ml3.4/39, Error ellipse: s-maj=1.6km s-min=1.5km az=52.0*
BGR ***05*** *21:52:59.6±1.1, 46°.09N×5°.67E, h10km, ML3.0/6, Error ellipse: s-maj=14.5km s-min=8.9km az=158.0*
ZUR ***05*** *21:52:59.0, 46°.04N×5°.67E, h6km±1km, MLh2.9/76, Error ellipse: s-maj=2119.1km s-min=765.5km az=11.0*
STR ***05*** *21:52:59.0±0.2, 46°N±1°×±°, h2km, MLv3.0/12, Error ellipse: s-maj=0.0km s-min=0.0km az=86.5, preliminary*
PRU ***05*** *21:53:00.3, 46°.01N×5°.73E, h1km*
BUG ***05*** *21:53:03.6±0.9, 46°.26N×5°.92E, h39km±19km, MD4.0/7, ML3.3/7*
ISC 05 21:52:58.6±0.8, 46°.04N±0°.01×5°.67E±0°.01, h13km±5km, n166, σ1§32/251, 1C-11D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.07**	**271**	Pg	**Pg**	**21 53 01.1**	**-0.3**
OG35				Sg	**Sg**	**21 53 02.1**	**-1.2**
OGMY	**Moye**	**0.22**	**137**	⇓Pg	**Pg**	**21 53 03.6**	**+0.1**
OGMY				Sg	**Sg**	**21 53 06.8**	**+0.1**
OGMY	**Moye**	**0.22**	**137**	Pg	**Pg**	**21 53 03.6**	**+0.1**
OGMY				Sg	**Sg**	**21 53 06.5**	**-0.3**
SGEV	**Genve, Vieux-**	**0.36**	**64**	Pg	**Pb**	**21 53 06.9**	**0.0**
SGEV				Sg	**Sb**	**21 53 12.4**	**-0.1**
OG02	**Monnetier-Morn**	**0.40**	**74**	Pg	**Pb**	**21 53 07.4**	**-0.1**
OG02				Sg	**Sb**	**21 53 13.4**	**-0.2**
OGSM	**Saint Maurice**	**0.43**	**178**	Pg	**Pg**	**21 53 07.2**	**0.0**
OGSM				Sg	**Sg**	**21 53 12.9**	**-0.1**
CABF	**La Chapelle**	**0.64**	**27**	*e*P	**Pb**	**21 53 12.0**	**+0.3**
CABF				*e*Sg	**Sn**	**21 53 21.8**	**-1.7**
	68nm,0.2s						
GIMEL	**St. Georges /**	**0.64**	**40**	⇑Pg	**Pb**	**21 53 12.2**	**+0.4**
GIMEL	**St. Georges /**	**0.64**	**40**	Pg	**Pb**	**21 53 12.2**	**+0.4**
GIMEL	**St. Georges /**	**0.64**	**40**	Sg	**Sn**	**21 53 21.6**	**-1.9**
GIMEL	**St. Georges /**	**0.64**	**40**	P	**Pb**	**21 53 12.2**	**+0.4**
GIMEL				S	**Sn**	**21 53 21.7**	**-1.9**
GIMEL				AML	AML		
	comp=N,383μm,0.6s						
GIMEL				AML	AML		
	comp=E,642μm,0.2s						
RIVEL	**MONT RIVEL**	**0.74**	**13**	Pg	**Pb**	**21 53 13.9**	**+0.5**
RIVEL				Sg	**Sn**	**21 53 24.5**	**-1.4**
OGSI	**Sixt**	**0.75**	**88**	⇓Pg	**Pb**	**21 53 13.7**	**+0.1**
OGSI	**Sixt**	**0.75**	**88**	Pg	**Pb**	**21 53 13.6**	**+0.1**
OGSI				Sg	**Sb**	**21 53 24.2**	**+0.3**
RSL	**Roselend**	**0.75**	**118**	⇓Pg	**Pb**	**21 53 13.8**	**+0.1**
RSL	**Roselend**	**0.75**	**118**	Pg	**Pb**	**21 53 13.8**	**+0.1**
RSL				Sg	**Sb**	**21 53 24.6**	**+0.6**
RSL	**Roselend**	**0.75**	**118**	P	**Pb**	**21 53 13.8**	**+0.1**
SEMOS	**Emosson Stauma**	**0.88**	**88**	Pg	**Pn**	**21 53 16.3**	**-0.6**
ILLEZ	**Chalet Vouargn**	**0.90**	**78**	Pg	**Pn**	**21 53 16.7**	**-0.4**
LPL	**La Plagne**	**0.91**	**125**	*e*Pg	**Pb**	**21 53 16.7**	**+0.3**
LPL				*e*Sg	**Sb**	**21 53 28.8**	**+0.3**
	comp=E,87nm,0.2s						
SALAN	**Lac Salanfe**	**0.91**	**83**	⇓Pg	**Pn**	**21 53 16.8**	**-0.5**
LPG	**La Plagne**	**0.93**	**125**	*e*Pg	**Pb**	**21 53 17.0**	**+0.2**
LPG				*e*Sg	**Sb**	**21 53 29.3**	**+0.1**
	comp=E,144nm,0.3s						
AIGLE	**Aigle**	**0.94**	**71**	Sg	**Sn**	**21 53 30.9**	**0.0**
AIGLE	**Aigle**	**0.94**	**71**	Pg	**Pn**	**21 53 17.6**	**0.0**
SMOE	**Moudon cole,**	**1.00**	**51**	⇓Pg	**Pn**	**21 53 18.9**	**+0.5**
MRGE	**Morge**	**1.01**	**105**	P	**Pn**	**21 53 18.7**	**+0.1**
MRGE	**Morge**	**1.01**	**105**	⇓P	**Pn**	**21 53 18.7**	**+0.1**
MRGE				AML	AML		
	comp=E,476μm,0.4s						
MRGE				AML	AML		
	comp=N,365μm,0.9s						
MRGE				AML	AML		
	comp=E,476μm,1.6s						
FULLY	**Reservoir Maze**	**1.02**	**83**	Pg	**Pn**	**21 53 18.8**	**+0.1**
BRANT	**Les Verrieres**	**1.05**	**31**	⇓Pg	**Pn**	**21 53 19.6**	**+0.4**
BRANT	**Les Verrieres**	**1.05**	**31**	Pg	**Pn**	**21 53 19.6**	**+0.4**
BRANT	**Les Verrieres**	**1.05**	**31**	Sg	**Sn**	**21 53 35.3**	**+1.5**
REMY	**Saint-Rhmy-en**	**1.06**	**101**	⇓Pg	**Pn**	**21 53 19.6**	**+0.3**
REMY	**Saint-Rhmy-

ORIF *e*Sg **Sb** **21 53 34.1 -0.7**
comp=N,112nm,0.2s
ORIF Oris-en-Rattie 1.13 173 Pg **Pb** **21 53 20.0 -0.1**
ORIF Oris-en-Rattie 1.13 173 Sg **Sb** **21 53 35.5 +0.7**
ORIF Oris-en-Rattie 1.13 173 P **Pb** **21 53 20.0 -0.1**
ORIF S **Sb** **21 53 34.3 -0.5**
ORIF AML AML
comp=E,411µm,0.6s
ORIF AML AML
comp=E,411µm,1.4s
TORNY Torny/Romont 1.15 50 Pg **Pg** **21 53 21.6 +0.8**
TORNY Torny/Romont 1.15 50 Sg **Sn** **21 53 38.0 +1.9**
SENIN Lac Senin/Sane 1.17 74 Pg **Pg** **21 53 21.7 +0.5**
SENIN Lac Senin/Sane 1.17 74 P **Pg** **21 53 21.7 +0.5**
DIX Grande Dixence 1.21 88 ⇓Pg **Pg** **21 53 22.4 +0.5**
DIX Grande Dixence 1.21 88 Sg **Sn** **21 53 39.6 +1.7**
DIX Grande Dixence 1.21 88 Pg **Pg** **21 53 22.4 +0.5**
DIX Grande Dixence 1.21 88 P **Pg** **21 53 22.4 +0.5**
DIX Grande Dixence 1.21 88 ⇓P **Pg** **21 53 22.4 +0.5**
DIX S **Sn** **21 53 38.4 +0.5**
DIX AML AML
comp=E,422µm,0.3s
DIX AML AML
comp=N,839µm,0.3s
DIX AML AML
comp=N,839µm,1.7s
BNI Bardonecchia 1.22 144 Pg **Pb** **21 53 22.0 +0.5**
BNI Bardonecchia 1.22 144 P **Pb** **21 53 22.1 +0.5**
BNI Bardonecchia 1.22 144 P **Pb** **21 53 22.0 +0.5**
BNI S **Sn** **21 53 37.8 -0.1**
BNI AML AML
comp=N,156µm,1.1s
BNI AML AML
comp=N,194µm,1.1s
BNI AML AML
comp=E,154µm,0.4s
BNI AML AML
comp=E,126µm,0.4s
BNI AML AML
comp=N,194µm,0.9s
BNI AML AML
comp=N,156µm,0.9s
STFL Fournets-Luisa 1.23 30 Pg **Pg** **21 53 22.5 +0.2**
STFL Sg **Sg** **21 53 40.8 +2.4**
RRL Rocca Remolon 1.37 145 Sn **Sg** **21 53 43.7 +0.9**
RRL Rocca Remolon 1.37 145 Pn **Pg** **21 53 25.1 +0.1**
RRL Rocca Remolon 1.37 145 P **Pg** **21 53 25.1 +0.1**
RRL Rocca Remolon 1.37 145 P **Pg** **21 53 25.0 +0.1**
RRL S **Sg** **21 53 43.3 +0.5**
VIVF Saint-Julien-l 1.38 211 *e*Pg **Pn** **21 53 23.1 -0.5**
VIVF Saint-Julien-l 1.38 211 *e*P **Pb** **21 53 24.5 +0.2**
VIVF *e*Sg **Sn** **21 53 42.1 +0.4**
comp=N,47nm,0.2s
CHMF Charmoille 1.38 29 Pn **Pg** **21 53 25.6 +0.5**
CIRO Champorcher 1.40 108 Pn **Pg** **21 53 25.5 +0.1**
CIRO Champorcher 1.40 108 P **Pg** **21 53 25.6 +0.1**
CIRO Champorcher 1.40 108 P **Pg** **21 53 25.6 +0.1**
CIRO AML AML
comp=N,109µm,0.9s
CIRO AML AML
comp=N,109µm,1.1s
CIRO AML AML
comp=E,96µm,0.5s
SMF Signal de Mont 1.41 296 *e*P **Pn** **21 53 24.0 +0.1**
SMF *e*Sg **Sg** **21 53 44.0 +0.1**
comp=E,132nm,0.2s
PLDF La Plantade 1.43 268 Pn **Pb** **21 53 25.6 +0.4**
PLDF Sn **Sb** **21 53 44.3 +1.0**
RSP Reno Superiore 1.43 128 Pn **Pg** **21 53 26.0 -0.1**
RSP Reno Superiore 1.43 128 Sn **Sg** **21 53 45.5 +0.7**
RSP Reno Superiore 1.43 128 P **Pg** **21 53 26.0 -0.1**
RSP Reno Superiore 1.43 128 P **Pg** **21 53 26.0 -0.1**
RSP AML AML
comp=E,202µm,1.1s
RSP AML AML
comp=N,234µm,1.3s
COLF Collangettes 1.48 250 Pn **Pb** **21 53 26.1 +0.1**
COLF Sn **Sb** **21 53 46.0 +1.2**
EMBD Embd, Matterta 1.51 83 Pn **Pg** **21 53 27.5 -0.1**
EMBD Embd, Matterta 1.51 83 Sn **Sg** **21 53 48.2 +0.9**
MBDF Montbardon 1.53 149 *e*Pg **Pb** **21 53 27.5 +0.6**
MBDF *e*Sg **Sg** **21 53 47.4 -0.4**
comp=N,113nm,0.5s
SATI Passo dei Sala 1.54 95 Pn **Pg** **21 53 27.6 -0.6**
SATI Passo dei Sala 1.54 95 Sn **Sg** **21 53 48.7 +0.5**
SATI Passo dei Sala 1.54 95 P **Pb** **21 53 27.1 -0.1**
TRAV Traversella 1.54 109 Pn **Pg** **21 53 27.9 -0.4**
TRAV Traversella 1.54 109 Sn **Sg** **21 53 48.9 +0.5**
TRAV Traversella 1.54 109 P **Pg** **21 53 28.2 -0.1**
TRAV AML AML
comp=N,126µm,0.1s
TRAV AML AML
comp=E,112µm,0.3s
MMK Mattmark 1.60 89 P **Pg** **21 53 29.1 -0.2**
MMK S **Sg** **21 53 50.7 +0.6**
MMK AML AML
comp=E,27µm,0.3s
MMK AML AML
comp=E,27µm,1.7s
MMK AML AML
comp=N,36µm,0.6s
CREF Crivoux 1.64 155 Pn **Pb** **21 53 28.4 -0.4**
CREF Sn **Sb** **21 53 50.3 +1.0**
BHB Bricherasio 1.64 136 Pn **Pb** **21 53 29.0 +0.2**
BHB Bricherasio 1.64 136 Sn **Sg** **21 53 51.1 -0.4**
BHB Bricherasio 1.64 136 P **Pb** **21 53 29.4 +0.6**
OGAG Argentiere 1.70 159 Pn **Pn** **21 53 25.1 -3.0**
OGAG Sn **Sn** **21 53 43.4 -6.4**
OGAG Argentiere 1.70 159 P **Pn** **21 53 25.3 -2.9**
BOURR Bourrignon 1.73 38 Pn **Pb** **21 53 30.0 -0.2**
BOURR Bourrignon 1.73 38 Sn **Sg** **21 53 52.9 -1.2**
LOR Lormes 1.75 315 *e*P **Pn** **21 53 29.0 +0.3**
baz=142
LOR *e*Sg **Sb** **21 53 53.9 +1.4**
comp=N,75nm,0.2s
LOR Lormes 1.75 315 Pn **Pb** **21 53 30.3 -0.2**
LOR Lormes 1.75 315 Sn **Sb** **21 53 52.9 +0.4**
SURF Saint Ours 1.76 152 Pn **Pn** **21 53 30.1 +1.2**
SURF Sn **Sb** **21 53 53.5 +0.7**
AGO Saint Agoulin 1.77 271 Pn **Pn** **21 53 29.9 +0.9**
AGO Sn **Sb** **21 53 53.0 0.0**
AVF Avril sur Loir 1.77 296 *e*P **Pn** **21 53 29.0 +0.1**
AVF *e*Sg **Sb** **21 53 54.6 +1.6**
comp=N,45nm,0.3s
JAUF Jausiers 1.78 154 Pn **Pn** **21 53 30.3 +1.0**
JAUF Sn **Sb** **21 53 53.7 +0.1**
SSF Saint Saulge 1.81 305 *e*P **Pn** **21 53 29.7 +0.2**
SSF *e*Sg **Sb** **21 53 55.8 +1.6**
comp=N,36nm,0.4s
PZZ Stroppo 1.84 146 Sn **Sb** **21 53 55.5 +0.2**
PZZ Stroppo 1.84 146 Pn **Pn** **21 53 31.3 +1.2**
PZZ Stroppo 1.84 146 P **Pb** **21 53 32.8 +0.6**
PZZ AML AML
comp=E,202µm,0.9s
PZZ AML AML
comp=N,210µm,0.5s
PZZ AML AML
comp=N,210µm,1.5s
PZZ AML AML
comp=E,202µm,1.1s
BALST Balsthal 1.90 46 *e*Pg **Pg** **21 53 35.3 +0.2**
BALST *e*Sg **Sg** **21 54 00.5 +0.8**
HINF Hinteralfeld 1.95 24 *e*Pg **Pg** **21 53 34.9 -1.1**
HINF *e*Sg **Sg** **21 54 00.6 -0.7**
comp=E,49nm,0.2s
HAU Haudompre 2.02 13 *e*Pg **Pg** **21 53 36.5 -0.8**
HAU *e*Sg **Sg** **21 54 03.0 -0.5**
comp=E,113nm,0.3s
BGF Bois d'Agland 2.03 286 *e*P **Pn** **21 53 32.7 +0.2**
BGF *e*Sg **Sg** **21 54 03.3 -0.4**
comp=E,58nm,0.3s
SMRF Simiane la Rot 2.07 182 *e*Pn **Pn** **21 53 33.2 +0.1**
SMRF Simiane la Rot 2.07 182 *e*Pg **Pg** **21 53 38.2 -0.1**
SMRF *e*Sg **Sg** **21 54 04.9 -0.2**
comp=E,31nm,0.4s
BNALP Bannalp 2.08 65 P **Pg** **21 53 37.9 -0.6**
BNALP AML AML
comp=E,97µm,1.6s
BNALP AML AML
comp=N,130µm,1.6s
BNALP AML AML
comp=E,97µm,0.4s
FUSIO Fusio 2.12 78 P **Pg** **21 53 38.3 -0.9**
FUSIO AML AML
comp=E,76µm,0.5s
FUSIO AML AML
comp=N,83µm,0.4s
SFTF Sexfontaines 2.21 349 *e*Pg **Pg** **21 53 40.7 -0.2**
SFTF *e*Sg **Sg** **21 54 08.7 -0.8**
comp=N,490nm,0.3s
SULZ Cheisacher 2.24 48 *e*Pg **Pg** **21 53 41.9 +0.3**
LASF Ste Croix 2.35 214 *e*Pg **Pb** **21 53 41.8 +1.0**
LASF *e*Sg **Sb** **21 54 11.9 +2.2**
comp=N,23nm,0.3s
MUGIO Muggio 2.35 92 P **Pb** **21 53 39.7 -1.1**
MUGIO AML AML
comp=E,52µm,0.4s
MUGIO AML AML
comp=N,65µm,0.5s
ECH Echery 2.40 24 *e*Pg **Pg** **21 53 44.0 -0.6**
TCF Toulx Ste Croi 2.42 277 *e*P **Pn** **21 53 37.9 0.0**
TCF *e*Sg **Sb** **21 54 12.6 +0.9**
comp=N,41nm,0.4s
HYF Humbligny 2.42 301 *e*P **Pn** **21 53 38.5 +0.6**
HYF *e*Sg **Sb** **21 54 14.1 +2.3**
METMA Mettma DE 2.43 46 *e*Pg **Pg** **21 53 44.9 -0.3**
METMA *e*Sg **Sg** **21 54 15.3 -1.5**
MEZF Maizieres J'vi 2.50 350 *e*Pg **Pg** **21 53 45.9 -0.6**
baz=171
MEZF *e*Sg **Sg** **21 54 17.7 -1.1**
comp=N,57nm,0.3s
BERGE Lenzkirch (DE) 2.51 42 *e*Pg **Pg** **21 53 45.9 -0.8**
SBF Sospel 2.51 150 *e*Pg **Pb** **21 53 44.4 +0.8**
SBF *e*Sg **Sg** **21 54 17.8 -1.6**
comp=N,41nm,0.4s
PAGF Fort de Pagny 2.51 1 *e*Pn **Pn** **21 53 39.5 +0.3**
PAGF Fort de Pagny 2.51 1 *e*Pg **Pg** **21 53 45.3 -1.5**
PAGF *e*Sn **Sn** **21 54 07.8 -1.8**
PAGF *e*Sg **Sg** **21 54 18.7 -0.7**
comp=N,41nm,0.3s
SLE Schleitheim 2.59 47 *e*Pg **Pg** **21 53 47.6 -0.6**
SAVF Savonnieres en 2.60 352 *e*Sg **Sg** **21 54 20.6 -1.5**
comp=N,40nm,0.5s
SAVF *e*Sg **Sb** **21 54 20.7 +3.8**
comp=N,34nm,0.3s
CDF Champ du Feu 2.61 24 *e*P **Pn** **21 53 39.8 -0.8**
CDF Champ du Feu 2.61 24 *e*Pg **Pg** **21 53 47.2 -1.4**
CDF *e*Sg **Sg** **21 54 20.4 -2.1**
comp=N,16nm,0.2s
WILA Wila 2.61 57 *e*Sg **Sg** **21 54 22.3 -0.3**
PLONS Plons/SG 2.75 67 *e*Sg **Sg** **21 54 25.8 -1.2**
CAF Calviac 2.77 248 *e*P **Pn** **21 53 42.7 0.0**
CAF *e*Sg **Sb** **21 54 23.1 +1.2**
comp=N,75nm,0.4s
LMR La Mourre 2.77 167 *e*Pg **Pb** **21 53 49.9 +1.9**
LMR *e*Sg **Sb** **21 54 24.0 +2.1**
comp=N,29nm,0.3s
EMING Emmingen-Lipti 2.85 48 *e*Sg **Sg** **21 54 28.9 -1.3**
A101B Rottweil, Deis 2.86 42 Pn **Pn** **21 53 42.9 -1.1**
A101B Pg **Pg** **21 53 52.9 -0.5**
A101B Sg **Sg** **21 54 28.7 -1.7**
BFO Black Forest 2.92 37 Pn **Pn** **21 53 43.5 -1.3**
BFO *e*Pg **Pg** **21 53 53.3 -1.2**
BFO Sn **Sn** **21 54 17.3 -2.4**
BFO *e*Sg **Sg** **21 54 30.3 -2.0**
WALHA Wallhausen, DE 2.92 53 *e*Pg **Pg** **21 53 53.7 -0.9**
RJF Les Rejaudoux 3.01 257 *e*P **Pn** **21 53 46.3 +0.4**
RJF *e*Sg **Sb** **21 54 31.0 +2.4**
comp=N,21nm,0.3s
DAVA Damuels 3.15 65 Pg **Pg** **21 53 58.5 -0.6**
comp=N,0.3nm,0.1s
DAVA Sg **Sg** **21 54 38.8 -1.0**
comp=N,7.0nm,0.2s
A103D Ravensburg, Wa 3.19 55 Pg **Pg** **21 53 59.8 +0.2**
A103D Sg **Sg** **21 54 39.8 -1.2**
A102A Sigmaringen, J 3.19 48 Pn **Pn** **21 53 47.8 -0.8**
A102A Pg **Pg** **21 53 59.2 -0.6**
A102A Sg **Sg** **21 54 40.8 -0.4**
A100A Rottenburg, We 3.27 41 Pn **Pn** **21 53 48.2 -1.4**
A100A Sg **Sg** **21 54 43.6 -0.2**
A104A Biberach, Staf 3.42 52 Sg **Sg** **21 54 48.6 +0.2**
A104C Biberach, Ahle 3.43 51 Pg **Pg** **21 54 04.1 -0.2**
A104C Sg **Sg** **21 54 48.3 -0.4**
UBR Ueberruh 3.46 60 Pg **Pg** **21 54 05.8 +1.0**
UBR Sg **Sg** **21 54 50.0 +0.5**
A105A Obersdorf, Sch 3.46 65 Sg **Sg** **21 54 49.0 -0.6**
A109A Bad Urach, See 3.52 46 Pg **Pg** **21 54 06.5 +0.4**
A109A Sg **Sg** **21 54 51.0 -0.8**
FETA Feichten 3.62 73 *i* Pn **Pn** **21 53 56.9 +2.3**
comp=N,0.1nm,0.1s
FETA *e*Sn **Sn** **21 54 36.5 -0.8**
comp=N,0.3nm,0.2s
LFF La Frestale 3.64 254 *e*P **Pn** **21 53 55.4 +0.8**
LFF *e*Sg **Sb** **21 54 51.1 +4.3**
comp=N,25nm,0.4s
MTLF Montolieu 3.66 224 *e*Pg **Pg** **21 54 06.8 -1.8**
MTLF *e*Sg **Sb** **21 54 50.5 +3.2**
comp=N,14nm,0.3s
MOTA Moosalm 3.96 69 *i* Pn **Pn** **21 54 01.4 +2.3**
comp=N,0.5nm,0.2s
MOTA *e*Sn **Sn** **21 54 44.5 -0.9**
comp=N,1.2nm,0.2s
SQTA Sankt Quirin 3.99 71 *e*Pn **Pn** **21 54 01.3 +1.7**
comp=N,0.7nm,0.2s
MFF Saint Martin d 4.07 280 *e*P **Pn** **21 54 01.0 +0.5**
MFF *e*Sg **Sb** **21 55 04.2 +5.0**
comp=N,12nm,0.4s
BAIF Baives 4.14 347 *e*P **Pn** **21 54 03.6 +2.2**
BAIF *e*Sn **Sn** **21 54 46.7 -2.9**
BAIF *e*Sg **Sg** **21 55 09.9 -1.5**
comp=N,2.2nm,0.2s
WATA Walderalm 4.26 70 *e*Pn **Pn** **21 54 04.3 +1.0**
comp=N,0.3nm,0.1s
WATA *e*Sn **Sn** **21 54 52.1 -0.9**
comp=N,1.3nm,0.3s
WTTA Wattenberg 4.28 71 *e*Pn **Pn** **21 54 05.3 +1.7**
comp=N,0.4nm,0.2s
WTTA *e*Sn **Sn** **21 54 56.0 +2.5**
comp=N,1.5nm,0.4s
LDF La Druitiere 4.70 305 *e*P **Pn** **21 54 09.7 +0.6**
LDF *e*Sg **Sb** **21 55 23.5 +6.4**
comp=N,4.1nm,0.3s
EPF Esparros 4.86 234 *e*Sg **Sg** **21 55 30.6 -3.9**
comp=N,4.6nm,0.2s
FLN La Foliniere 4.99 305 *e*P **Pn** **21 54 13.7 +0.6**
baz=127
FLN *e*Sn **Sn** **21 55 06.9 -3.7**
FLN *e*Sg **Sg** **21 55 35.9 -2.7**
comp=N,3.2nm,0.3s
LESA Schwarzleotal 5.01 71 *e*Pn **Pn** **21 54 13.8 +0.3**
comp=N,0.3nm,0.3s
LESA *e*Sn **Sn** **21 55 09.5 -1.8**
comp=N,0.3nm,0.2s
GRR Gorron 5.03 300 *e*P **Pn** **21 54 14.1 +0.4**
GRR *e*Sn **Sn** **21 55 07.9 -3.7**
GRR *e*Sg **Sg** **21 55 36.5 -3.5**
comp=N,4.7nm,0.3s
SGMF Saint Gilles 6.03 294 *e*P **Pn** **21 54 27.2 -0.3**
KHC Kasperske Hory 6.17 57 *e*SN **Sn** **21 55 38.8 -1.1**
KHC *e*SG **Sg** **21 56 15.1 -1.6**
QUIF Quistinic 6.33 290 *e*P **Pn** **21 54 31.4 -0.2**
CKRC Cesky Krumlov 6.48 62 *e*SG **Sg** **21 56 25.8 -0.8**
ROSF Rostrenen 6.51 294 *e*P **Pn** **21 54 33.8 -0.3**

---

*NEIC **05** 22:19:35.7±1.7, 34°.96N±0°.01×97°.84W±0°.02, h7km±5km, Error ellipse: s-maj=2.2km s-min=1.7km az=127.0*
NEIC 05 22:19:35.2±1.5,**34°.93N**±0°.01×**97°.82W**±0°.02,**h5**km±1km,
mb_Lg2.1/7,**ML2.**0/16,**ML2.**5/24,**Error ellipse:**
s-maj=2.9km s-min=2.4km az=323.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**0.33**	**183**		Pb	22 19 43.3	-0.3
X34A					Sg	22 19 47.2	+1.2
X34A				IAML		22 19 50.0	
	comp=N,120nm,0.3s						
X34A				IAML		22 19 50.1	
	comp=E,113nm,0.5s						
FNO	**Franklin**	**0.47**	**46**		Pg	22 19 44.8	+0.5
FNO					Sg	22 19 51.4	+1.0
FNO				IAML		22 19 52.2	
	comp=E,91nm,0.3s						
FNO				IAML		22 19 53.7	
	comp=N,95nm,0.1s						
BCOK	**Bluff Creek, N**	**0.74**	**13**		Pg	22 19 49.6	+0.1
W35A	**Tecumseh**	**0.80**	**74**		Pg	22 19 50.8	+0.2
W35A					Sb	22 20 02.2	-0.6
W35A				IAML		22 20 10.0	
	comp=N,54nm,0.2s						
W35A				IAML		22 20 13.2	
	comp=E,61nm,0.3s						
WMOK	**Wichita Mounta**	**0.82**	**256**		Pg	22 19 50.5	-0.4
WMOK					Sg	22 20 01.4	-0.1
WTFS	**Witchita Falls**	**1.28**	**205**		Pn	22 19 59.2	-0.6
WTFS					Sb	22 20 16.8	+0.2
OK031	**S. Brethren Rd**	**1.29**	**38**		Pn	22 19 58.0	-1.9
DEOK	**Depew**	**1.41**	**49**		Pn	22 20 00.9	-0.6
DEOK					Sb	22 20 20.1	-0.2
QUOK	**Quay**	**1.53**	**36**		Pn	22 20 03.0	-0.3
QUOK					Sb	22 20 23.7	-0.1
CROK	**Carrier**	**1.57**	**355**		Pn	22 20 03.8	0.0
CROK					Sn	22 20 24.4	-0.2
CROK				IAmb_Lg		22 20 26.5	
	comp=Z,12nm,0.7s						
ELIS	**Ellis County**	**1.73**	**311**		Pn	22 20 05.7	-0.3
NOKA	**Waynoka**	**1.93**	**332**		Pn	22 20 08.9	+0.2
FW06	**Azle**	**1.97**	**174**	Pn	Pb	22 20 10.4	-1.1
KAN14	**Manchester OK**	**2.02**	**357**	Pn	Pn	22 20 10.4	+0.4
KAN13	**South Haven SW**	**2.09**	**7**		Pn	22 20 11.9	+0.9
KAN17	**Caldwell West**	**2.11**	**1**	Pn	Pn	22 20 12.1	+0.9
PLPT	**Palo Pinto**	**2.16**	**191**	Pn	Pn	22 20 11.5	-0.3
KAN05	**Bluff City Nor**	**2.17**	**359**	Pn	Pn	22 20 10.0	-2.0
KAN09	**Caldwell North**	**2.20**	**4**	Pn	Pn	22 20 12.7	+0.2
KAN01	**Argonia South**	**2.22**	**1**		Pn	22 20 12.4	-0.2
APMT	**Aspermont**	**2.50**	**231**	Pn	Pn	22 20 17.0	+0.5
DKNS	**Dickens**	**2.87**	**245**	Pn	Pn	22 20 21.8	+0.1
DKNS				IAmb_Lg		22 21 11.4	
	comp=Z,6.3nm,0.8s						
SN07	**Snyder 07**	**3.15**	**235**	IAmb_Lg		22 21 13.1	
	comp=Z,4.3nm,0.8s						
HHAR	**Hobbs**	**3.43**	**66**		Pn	22 20 28.9	-0.5
HHAR				IAmb_Lg		22 21 33.7	
	comp=Z,7.2nm,1.1s						
X40A	**Basin Creek Fa**	**4.13**	**95**	IAmb_Lg		22 21 54.2	
	comp=Z,5.3nm,0.8s						

---

*SJA **05** 22:22:48.1±0.6, 33°.39S×69°.02W, h8km±4km, ML3.2, MW3.3*
*IDC **05** 22:23:05.4±2.7, 32°.47S×67°.86W, h0km, mb3.9/1, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=72.5km s-min=30.7km az=112.0*
ISC 05 22:22:50.1±0.8,**33°.46S**±0°.03×**68°.87W**±0°.04,**h10**km,**n28,**
σ2.9±**15/29,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVIZ	**Vizcacheras**	**0.30**	**92**	*e*P	**Pg**	**22 22 54.3**	**-1.9**
AAGR	**Agrelo**	**0.38**	**5**	*e*P	**Pg**	**22 22 56.0**	**-1.6**
ARCO	**CERRO ARCO**	**0.62**	**355**	*e*P	**Pg**	**22 23 00.1**	**-2.1**
ARCO				IAML		22 23 16.4	
	comp=Z,3µm,0.1s						
ASAL	**Salagasta**	**0.87**	**2**	*e*P	**Pg**	**22 23 04.4**	**-2.5**
MT08	**Bocatoma Ro**	**0.96**	**271**	*e*P	**Pg**	**22 23 05.0**	**-3.6**
MT08				IAML		22 23 24.8	
	comp=Z,595nm,0.2s						
MT04	**Ro Olivares**	**1.06**	**273**	*e*P	**Pn**	**22 23 12.0**	**+0.7**
MT04				IAML		22 23 31.7	
	comp=Z,280nm,0.5s						
LMEL	**Las Melosas**	**1.18**	**251**	*e*P	**Pb**	**22 23 09.4**	**-3.3**
MT13	**San Alfonso**	**1.21**	**256**	*e*P	**Pb**	**22 23 09.8**	**-3.5**
MT13				IAML		22 23 32.8	
	comp=Z,476nm,1.1s						
RFA	**San Rafael**	**1.35**	**166**	*e*P	**Pg**	**22 23 15.9**	**-0.2**
RFA				IAML		22 23 39.2	
	comp=Z,832nm,0.5s						
MT03	**Universidad Ad**	**1.37**	**268**	*e*P	**Pn**	**22 23 13.1**	**-2.3**
MT03				IAML		22 23 41.6	
	comp=Z,482nm,0.6s						
PEL	**Peldehue**	**1.55**	**281**	*e*P	**Pg**	**22 23 22.1**	**+2.2**
MT05	**Renca**	**1.56**	**272**	*e*P	**Pg**	**22 23 21.3**	**+1.2**
MT05				IAML		22 23 47.5	
	comp=Z,415nm,1.2s						
VA03	**San Esteban**	**1.57**	**296**	*e*P	**Pg**	**22 23 19.0**	**-1.3**
VA03				IAML		22 23 44.4	
	comp=Z,545nm,0.7s						
RTLS	**Leoncito**	**1.70**	**348**	*e*P	**Pn**	**22 23 19.2**	**-0.9**
RTLS				IAML		22 23 49.6	
	comp=Z,980nm,1.0s						
ROC1	**El Roble**	**1.86**	**285**	*e*P	**Pn**	**22 23 21.7**	**-0.6**
MT02	**Curacav**	**1.91**	**275**	*e*P	**Pn**	**22 23 21.7**	**-1.1**
MT02				IAML		22 23 57.1	
	comp=Z,205nm,1.2s						
ZON	**Zonda**	**1.92**	**5**	*e*P	**Pg**	**22 23 27.2**	**+0.3**
ZON				IAML		22 24 02.8	
	comp=Z,148nm,0.7s						
MT01	**Popeta**	**2.02**	**258**	*e*P	**Pn**	**22 23 23.0**	**-1.3**
MT01				IAML		22 23 57.4	
	comp=Z,183nm,0.3s						
BO01	**Tunca**	**2.06**	**243**	*e*P	**Pn**	**22 23 24.9**	**0.0**
BO01				IAML		22 23 58.0	
	comp=Z,138nm,0.7s						
BO01				*e*S	**Sg**	**22 23 58.1**	**+1.7**
BO02	**Sierra Bellavi**	**2.07**	**230**	*e*P	**Pg**	**22 23 29.1**	**-0.7**
BO02				IAML		22 24 01.9	
	comp=Z,154nm,0.2s						
EDS3	**Malargue**	**2.34**	**191**	*e*P	**Pg**	**22 23 34.2**	**-0.9**
DOCA	**Reserva Natura**	**2.51**	**356**	*e*P	**Pg**	**22 23 41.6**	**+3.3**
ML02	**Panimavida**	**3.11**	**222**	*e*P	**Pg**	**22 23 49.0**	**-0.8**
ML02				IAML		22 24 51.9	
	comp=Z,50nm,1.1s						
PLCA	**Paso Flores**	**7.38**	**190**	Pn	**Pg**	**22 25 10.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=16,slow=17,SNR=6.0						
PLCA				Sn	Sg	22 26 36.6	-10
	comp=Z,0.2nm,0.3s,baz=10,slow=12,SNR=1.3						
	comp=Z,2.4nm,0.9s						
CPUP	**Villa Florida**	**12.27**	**58**	Pn	**Pn**	**22 25 45.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=234,slow=14,SNR=1.6						
	comp=Z,0.5nm,0.3s						
LPAZ	**La Paz**	**17.11**	**2**	Pn	**P**	**22 26 54.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=186,slow=6.2,SNR=2.3						
	comp=Z,0.8nm,0.4s						
SIV	**San Ignacio**	**18.77**	**24**	P	**Pn**	**22 27 10.8**	**+0.8**
	baz=198,slow=10,SNR=5.8						
	comp=Z,1.0nm,0.7s						
BDFB	**Brasília**	**25.89**	**52**	P	**P**	**22 28 27.4**	**+5.0**
	comp=Z,3.6nm,1.1s,baz=243,slow=9.0,SNR=3.4						
	comp=Z,3.6nm,1.1s						

---

*NNC **05** 22:38:40.1±3.1, 36°.95N×69°.89E, h0km, mb4.7, mpv4.8, Error ellipse: s-maj=26.1km s-min=20.2km az=176.0*
*MOS **05** 22:38:45.8±0.9, 36°.62N×70°.52E, h240km, mb4.1/7, Error ellipse: s-maj=9.9km s-min=5.1km az=84.1*
*NEIC **05** 22:38:46.6±1.6, 36°.62N±0°.06×70°.39E±0°.05, h235km±6km, mb4.2/24, Error ellipse: s-maj=9.2km s-min=6.0km az=181.0*
*IDC **05** 22:38:47.3±1.9, 36°.59N×70°.54E, h243km±18km, mb3.6/19, mbtmp4.3/26, Error ellipse: s-maj=11.5km s-min=10.1km az=26.0*
ISC 05 22:38:47.3±0.4,**36°.58N**±0°.04×**70°.47E**±0°.05,**h250**km,**n147,**
σ1.9±**95/158,mb4.1/30,15C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.35**	**210**	Pn	**Pn**	**22 39 31.2**	**-2.2**
KBL	**Kabul**	**2.35**	**210**	PN	**Pn**	**22 39 31.2**	**-2.2**
SIMJ	**Simiganj**	**2.38**	**331**	Pn	**Pn**	**22 39 31.4**	**-2.0**
SIMJ				Sn	**S**	**22 40 03.9**	**-6.0**
GAR	**Garm**	**2.42**	**357**	Pn	**Pn**	**22 39 32.0**	**-1.8**
DRK	**Karamyk**	**3.08**	**20**		**Pn**	**22 39 39.7**	**-1.1**
DRK	**Karamyk**	**3.08**	**20**	PN	**Pn**	**22 39 39.7**	**-1.1**
NIL	**Nilore**	**3.71**	**141**	Pn	**Pn**	**22 39 46.8**	**-1.0**
NIL	**Nilore**	**3.71**	**141**	PN	**Pn**	**22 39 46.8**	**-1.0**
SRNI	**Srinagar**	**4.35**	**123**	*e*P	Pn	22 39 46.9	-8.4
SRNI				*ex*	x	22 40 43.5	
SRNI				IAML		22 40 48.4	
	comp=N,1µm,0.3s						
SRNI				IAML		22 40 50.6	
	comp=E,1µm,0.4s						
ARSB	**Arslanbob**	**5.12**	**22**		**Pn**	**22 40 02.9**	**-1.8**
ARSB	**Arslanbob**	**5.12**	**22**	PN	**Pn**	**22 40 02.9**	**-1.8**
KSH	**Kashi**	**5.24**	**54**	Pn	Pn	22 39 59.7	-6.3
KSH				Sn	S	22 40 55.2	-14
KSH				smax	smax		
	comp=N,340nm,0.7s						
KSH				smax	smax		
	comp=E,360nm,0.5s						
JMU	**Jammu**	**5.31**	**135**	*e*P	Pn	22 40 01.4	-5.5
JMU				IAML		22 41 14.5	

comp=E,363nm,0.6s
JMU IAML 22 41 19.9
comp=E,486nm,0.6s
IUG Iuzhnay 5.57 357 *e*PN **Pn 22 40 08.0 -2.1**
AML Almayashu 6.08 23 P **Pn 22 40 15.4 -1.3**
SNR=101
UCH Uchtor 6.45 28 P **Pn 22 40 20.2 -1.1**
SNR=18
BRLS Borolday 6.46 356 *e*PN Pn 22 40 15.5 -5.6
BRLS pmax pmax
comp=Z,12nm,0.6s
DHRM DHARAMSHALA 6.47 130 *e*P **Pn 22 40 17.6 -4.0**
DHRM *e*S S 22 41 27.3 -10
DHRM IAML 22 41 33.1
comp=E,512nm,0.7s
DHRM IAML 22 41 35.4
comp=E,404nm,0.4s
KK31 Karatay Array 6.51 0 **Pn 22 40 20.2 -1.5**
KK31 Karatay Array 6.51 0 P Pn 22 40 13.4 -8.4
comp=E,35nm,0.5s,baz=192,slow=14,SNR=221
KK31 ⇓S S 22 41 26.4 -11
comp=E,31nm,0.7s,baz=181,slow=19,SNR=5.0
KK31 Karatay Array 6.51 0 PN **Pn 22 40 20.2 -1.5**
KKAR Karatay Array 6.51 0 **Pn 22 40 20.1 -1.6**
KKAR Karatay Array 6.51 0 **Pn 22 40 20.0 -1.7**
KKAR Karatay Array 6.51 0 PN **Pn 22 40 20.2 -1.6**
EKS2 Erkin-Say 6.58 22 P **Pn 22 40 21.7 -1.0**
SNR=197
AAK Ala-Archa 6.79 26 Pn **Pn 22 40 24.3 -1.1**
AAK Ala-Archa 6.79 26 P **Pn 22 40 23.8 -1.7**
comp=E,99nm,0.4s,baz=196,slow=6.3,SNR=692
AAK S **S 22 41 41.7 -2.5**
comp=E,46nm,0.7s,baz=138,slow=22,SNR=12
AAK Ala-Archa 6.79 26 P **Pn 22 40 24.6 -0.9**
SNR=46
KBK Karagaybulak 6.98 28 P **Pn 22 40 27.1 -0.6**
SNR=22
FRU1 Bishkek 6.99 26 **Pn 22 40 26.3 -1.5**
FRU1 Bishkek 6.99 26 PN **Pn 22 40 26.3 -1.5**
HRA Herat 7.06 254 **Pn 22 40 26.0 -3.0**
BHK Bhakra 7.13 135 *e*P **Pn 22 40 27.9 -1.8**
BHK *e*S **S 22 41 50.1 -1.9**
BHK IAML 22 41 52.4
comp=E,148nm,0.5s
BHK IAML 22 42 01.6
comp=E,118nm,0.7s
CHMS Chumysh 7.20 26 P **Pn 22 40 29.8 -0.7**
SNR=13
CHMS Chumysh 7.20 26 ⇑P Pn 22 40 23.4 -7.0
comp=E,47nm,0.8s
CHMS ⇑S **S 22 41 48.5 -4.8**
comp=E,22nm,0.6s
CHMS Chumysh 7.20 26 PN Pn 22 40 23.4 -7.1
CHMS S **S 22 41 48.5 -4.8**
ULHL Ulahol 7.20 37 P **Pn 22 40 29.4 -1.2**
SNR=41
USP Ospenovka 7.36 24 P **Pn 22 40 31.7 -0.7**
SNR=23
TKM2 Tokmak 2 7.46 30 P **Pn 22 40 32.8 -1.0**
SNR=14
TKM2 Tokmak 2 7.46 30 ⇓P **Pn 22 40 32.3 -1.5**
comp=E,37nm,0.6s
TKM2 ⇑S **S 22 41 54.6 -4.8**
comp=E,48nm,1.1s
TKM2 Tokmak 2 7.46 30 PN **Pn 22 40 32.3 -1.5**
TKM2 S **S 22 41 54.6 -4.8**
KDJ Kajisay 7.59 41 Pn **Pn 22 40 34.3 -1.2**
KDJ Kajisay 7.59 41 PN **Pn 22 40 34.3 -1.2**
TARG Taragay, Kyrgy 7.67 46 **Pn 22 40 35.1 -1.6**
TARG Taragay, Kyrgy 7.67 46 PN **Pn 22 40 35.1 -1.6**
SMLA Simla 7.78 132 *e*P **Pn 22 40 36.1 -1.8**
SMLA IAML 22 42 03.1
comp=E,146nm,0.4s
SMLA IAML 22 42 04.7
comp=E,215nm,0.6s
WUS Wushi 8.23 53 **Pn 22 40 42.4 -1.2**
MDOK Medeo 8.29 36 ⇑P **Pn 22 40 43.5 -0.8**
comp=E,23nm,0.8s
MDOK Medeo 8.29 36 PN **Pn 22 40 48.5 +4.2**
KNDC Almaty 8.29 35 ⇑P **Pn 22 40 43.7 -0.6**
comp=E,68nm,0.6s
KNDC ⇑S **S 22 42 14.4 -4.1**
comp=E,71nm,1.1s
KNDC Almaty 8.29 35 PN Pn 22 40 48.7 +4.5
BTLS Baital 8.87 17 *e*PN **Pn 22 40 50.1 -1.4**
BTLS pmax pmax
comp=Z,4.0nm,0.5s
KPKS Kokpek 9.32 40 *e*P **P 22 41 01.1 -3.0**
KPKS pmax pmax
comp=Z,15nm,1.8s
SHLS Shalkode 9.53 44 *e*P **Pn 22 41 01.1 +1.2**
KUDL Kundal 9.83 147 *e*P **Pn 22 41 02.9 -0.8**
KUDL *e*S S 22 42 44.0 -10
KUDL IAML 22 42 45.6
comp=E,36nm,0.5s
KUDL IAML 22 43 01.9
comp=E,35nm,0.4s
PTH Pithoragarh 10.77 128 *e*P **Pn 22 41 12.8 -3.0**
PTH *e*S S 22 43 07.2 -9.3
PTH IAML 22 43 10.9
comp=E,11nm,0.6s
PTH IAML 22 43 30.2
comp=E,12nm,0.8s
LGTI Lohaghat 10.85 128 *e*P **Pn 22 41 13.6 -3.0**
LGTI *e*S S 22 43 06.4 -12
LGTI IAML 22 43 12.3
comp=E,22nm,0.6s
LGTI IAML 22 43 23.3
comp=E,21nm,0.6s
JHNI Jhansi 13.05 146 *e*P **P 22 41 46.0 +0.3**
JHNI *e*S **S 22 44 02.4 -6.7**
MAKZ Makanchi 13.34 36 Pn **Pn 22 41 46.5 -0.6**
MAKZ Makanchi 13.34 36 ⇑P **P 22 41 49.6 +1.0**
comp=E,14nm,0.8s
MAKZ Makanchi 13.34 36 P **Pn 22 41 46.6 -0.6**
MK31 Makanchi Array 13.47 37 ⇑P **P 22 41 51.5 +1.4**
comp=E,3.2nm,0.5s,baz=212,slow=11,SNR=59
MK31 Makanchi Array 13.47 37 *d i*P **Pn 22 41 47.9 -1.0**
MKAR Makanchi Array 13.47 37 P **Pn 22 41 47.9 -1.0**
comp=E,4.6nm,0.7s,baz=226,slow=18,SNR=84
MKAR S **S 22 44 19.5 +1.3**
comp=E,0.4nm,0.7s,baz=292,slow=33,SNR=1.4
AB31 Akbulak array 14.81 332 P **Pn 22 42 03.6 -1.4**
comp=E,4.9nm,0.5s,baz=146,slow=11,SNR=126
AB31 ⇑S **S 22 44 43.3 -5.2**
comp=E,1.7nm,0.7s
AB31 Akbulak array 14.81 332 P **Pn 22 42 03.6 -1.4**
AB31 S **S 22 44 48.3 -0.2**
ABKAR Akbulak array 14.81 332 P **P 22 42 03.4 -1.3**
ABKAR Akbulak array 14.81 332 P **P 22 42 03.5 -1.3**
NRDN NARMADA NAGAR 14.98 155 *e*P **Pn 22 42 09.6 +2.2**
NRDN *e*S **S 22 44 47.5 -5.3**
WMQ Urumqi 15.00 56 *e*P **Pn 22 42 07.8 +0.4**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 15.18 20 P **P 22 42 08.1 -0.8**
comp=Z,3.3nm,0.8s,baz=210,slow=12,SNR=30
KURBB S **S 22 44 57.2 +0.7**
comp=Z,0.4nm,0.7s,baz=222,slow=29,SNR=4.2
KURBB Kurchatov Arra 15.18 20 ⇑P **Pn 22 42 11.7 +2.2**
comp=Z,4.7nm,0.6s
KURBB Kurchatov Arra 15.18 20 P **Pn 22 42 11.7 +2.2**
KURK Kurchatov 15.29 20 **P 22 42 09.2 -0.9**
KURK Kurchatov 15.29 20 ⇑P **Pn 22 42 11.3 +0.6**
comp=Z,5.0nm,1.0s
KURK Kurchatov 15.29 20 P **P 22 42 08.1 -2.0**
KURK S **S 22 44 57.2 -1.5**
BVA0 Borovoye Array 16.44 360 ⇑P **Pn 22 42 25.7 +1.3**
comp=Z,3.2nm,0.5s,baz=161,slow=10.0,SNR=7.6
BVA0 Borovoye Array 16.44 360 P **Pn 22 42 25.7 +1.3**
BVAR Borovoye Array 16.44 360 P **Pn 22 42 23.5 -0.8**
comp=Z,5.0nm,0.5s,baz=161,slow=9.9,SNR=23
BVAR S **S 22 45 21.9 +0.2**
comp=Z,5.0nm,1.0s,baz=170,slow=26,SNR=5.3
BRVK Borovoye 16.47 360 P **Pn 22 42 23.9 -0.8**
BRVK IAmb IAmb 22 42 31.6
comp=Z,8.3nm,1.1s
BRVK Borovoye 16.47 360 ⇓P **Pn 22 42 25.7 +0.9**
comp=Z,3.7nm,0.6s
BRVK Borovoye 16.47 360 ⇑*e*P **Pn 22 42 24.0 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
AKTO Aktyubinsk 16.50 331 P **Pn 22 42 23.8 -1.3**
comp=Z,28nm,0.8s,baz=143,slow=8.6,SNR=82
AKTO S **S 22 45 22.8 -0.1**
comp=Z,3.2nm,0.9s,baz=357,slow=21,SNR=3.6
AKTO Aktyubinsk 16.50 331 ⇓P **Pn 22 42 23.9 -1.2**
comp=Z,18nm,0.8s
AKTO ⇑S **S 22 45 22.9 +0.1**
comp=Z,12nm,1.5s
WSAR Wadi Sarin 16.78 221 P **Pn 22 42 28.8 +0.2**
comp=Z,19nm,1.0s,baz=46,slow=7.1,SNR=4.2
AKL Akola 16.82 158 *e*S **S 22 45 30.0 0.0**
UOSS Minazif 16.86 230 P **P 22 42 27.0 -0.6**
UOSS IAmb IAmb 22 42 28.9
comp=Z,22nm,1.2s
DGZ Jazzator, Alta 17.97 38 *de*P **Pn 22 42 43.1 +0.6**
DGZ pmax pmax
comp=Z,16nm,1.1s
LSA Lhasa 18.61 106 P **P 22 42 46.8 -0.2**
LSA Lhasa 18.61 106 P **P 22 42 46.8 -0.2**
LSA pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 20.02 25 P **P 22 43 01.2 0.0**
ZALV Zalesovo Beam 20.02 25 P **P 22 43 01.2 0.0**
ZALV Zalesovo Beam 20.02 25 P **P 22 43 01.7 +0.5**
comp=Z,2.8nm,0.3s,baz=220,slow=10,SNR=28
ZALV S **S 22 46 32.0 0.0**
comp=Z,1.2nm,0.7s,baz=216,slow=20,SNR=3.6
GNI Garni 20.46 288 P **P 22 43 07.3 +0.9**
comp=Z,1.6nm,0.5s,baz=152,slow=15,SNR=2.2
comp=Z,1.6nm,0.5s
SHL Shillong 21.33 115 P **P 22 43 14.9 -0.4**
SHL IAmb IAmb 22 43 38.5
comp=Z,4.4nm,0.6s
SHL Shillong 21.33 115 P **P 22 43 14.9 -0.4**
SHL pmax pmax
comp=Z,4.0nm,0.6s
ARTI Arti 21.43 341 P **P 22 43 16.2 +0.5**
ARTI Arti 21.43 341 P **P 22 43 16.1 +0.5**
comp=Z,8.6nm,0.4s,baz=151,slow=7.9,SNR=24
comp=Z,8.6nm,0.4s
ARTI Arti 21.43 341 *d i*P **P 22 43 16.8 +1.1**
ARTI S **S 22 47 03.5 +7.6**
ARTI pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 22.37 298 *e*P **P 22 43 25.6 +0.9**
KIV pmax pmax
comp=Z,3.0nm,1.0s
BELG Belogornoye 22.56 322 P **P 22 43 26.9 +0.8**
comp=Z,7.0nm,0.4s,baz=163,slow=2.7,SNR=11
comp=Z,7.0nm,0.4s
GTA Gaotai 23.25 74 *e*P **P 22 43 36.0 +3.3**
GTA pP pP 22 43 41.9 -36
GTA pmax pmax
comp=Z,1.0nm,1.0s
KIRV Kirov 25.98 335 P **P 22 43 57.1 +0.2**
comp=Z,14nm,0.6s,baz=64,slow=1.0,SNR=8.2
comp=Z,14nm,0.6s
KIRV Kirov 25.98 335 *ce*P **P 22 43 58.1 +1.2**
LZH Lanzhou 26.81 81 *e*P P 22 43 52.2 -13
LZH pP pP 22 44 09.2 -46
LZH pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 28.64 56 P **P 22 44 22.5 +1.6**
comp=Z,0.5nm,0.7s,baz=268,slow=9.5,SNR=4.5
comp=Z,0.5nm,0.7s
SONM Songino Array 28.64 56 *e*P **P 22 44 22.0 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 30.87 118 P **P 22 44 42.0 +1.4**
comp=Z,1.6nm,0.3s,baz=301,slow=8.2,SNR=11
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 30.87 118 *i* P **P 22 44 42.7 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
KLMR Klimovskoe 31.20 331 *e*P **P 22 44 42.1 -0.9**
KLMR pmax pmax
comp=Z,11nm,1.1s
AKASG Malin Array Be 32.56 309 P **P 22 44 55.7 +0.7**
comp=Z,0.4nm,0.5s,baz=78,slow=7.7,SNR=4.2
comp=Z,0.4nm,0.5s
NRIK Noril'sk 34.12 11 P **P 22 45 09.5 +1.2**
NRIK IAmb IAmb 22 45 10.9
comp=Z,4.9nm,0.7s
NRIK Noril'sk 34.12 11 P **P 22 45 09.8 +1.6**
comp=Z,4.5nm,0.6s,baz=203,slow=6.6,SNR=12
comp=Z,4.5nm,0.6s
NRIK Noril'sk 34.12 11 *de*P **P 22 45 09.8 +1.6**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
NRIK pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 34.37 299 P **P 22 45 13.3 +2.5**
comp=Z,2.6nm,0.8s,baz=106,slow=8.3,SNR=4.4
comp=Z,2.6nm,0.8s
BURAR Bucovina Array 34.88 303 P **P 22 45 15.3 +0.1**
FIA1 FINESS Array S 37.18 326 P **P 22 45 35.1 +0.9**
FINES FINESS Array B 37.18 326 P **P 22 45 34.9 +0.7**
FINES FINESS Array B 37.18 326 P **P 22 45 35.4 +1.2**
comp=Z,1.7nm,0.4s,baz=121,slow=10,SNR=16
comp=Z,1.7nm,0.4s
LVZ Lovozero 37.23 339 P **P 22 45 35.5 +0.9**
LVZ Lovozero 37.23 339 P **P 22 45 35.5 +0.9**
LVZ pmax pmax
comp=Z,49nm,1.5s
ARCES ARCESS Array B 40.91 338 P **P 22 46 06.3 +1.4**
comp=Z,5.1nm,0.7s,baz=91,slow=7.4,SNR=12
comp=Z,5.1nm,0.7s
ARCES ARCESS Array B 40.91 338 *e*P **P 22 46 06.5 +1.6**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
IPM Ipoh 42.51 131 P **P 22 46 19.0 +0.4**
IPM IAmb IAmb 22 46 19.7
comp=Z,6.5nm,0.8s
HFS Hagfors 42.74 322 P **P 22 46 20.1 +0.3**
comp=Z,2.1nm,0.6s,baz=111,slow=11,SNR=12
comp=Z,2.1nm,0.6s
NC405 NORSAR Array S 43.83 323 P **P 22 46 28.2 -0.3**
NB2 NORSAR Subarra 44.06 323 P **P 22 46 30.9 +0.5**
comp=Z,0.8nm,0.5s,baz=98,slow=8.6
NOA NORSAR Array B 44.06 323 P **P 22 46 30.8 +0.4**
comp=Z,1.2nm,0.6s,baz=98,slow=7.2,SNR=6.0
comp=Z,1.2nm,0.6s
NOA NORSAR Array B 44.06 323 *e*P **P 22 46 30.9 +0.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
TIXI Tiksi 45.85 22 P **P 22 46 44.8 +0.6**
TIXI Tiksi 45.85 22 P **P 22 46 44.8 +0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
SPITS Spitsbergen Ar 47.31 347 P **P 22 46 56.9 +1.4**
comp=Z,14nm,1.1s,baz=129,slow=15,SNR=2.1
comp=Z,14nm,1.1s
VOI Vohitsoka 62.33 205 P **P 22 48 45.3 +1.9**
TORD Torodi Ar. Bea 65.30 268 P **P 22 49 02.7 -0.2**
comp=Z,4.8nm,0.6s,baz=48,slow=6.6,SNR=5.8
comp=Z,4.8nm,0.6s
C16K Lisburne Hills 67.52 19 P **P 22 49 16.9 +0.8**
C16K IAmb IAmb 22 49 42.5
comp=Z,8.5nm,1.5s
C18K Utukok River 68.32 18 P **P 22 49 22.1 +0.9**
TOLK Toolik Lake Re 70.95 14 P **P 22 49 38.6 +1.4**
TOLK IAmb IAmb 22 49 41.6
comp=Z,5.1nm,1.4s
BMAR Burnt Mountain 72.96 13 P **P 22 49 49.6 +0.5**
INK Inuvik 73.89 9 P **P 22 49 55.8 +1.4**
INK Inuvik 73.89 9 P **P 22 49 55.8 +1.4**
INK pmax pmax
comp=Z,3.0nm,1.5s
K20K Telida 74.27 19 P **P 22 49 57.4 +0.6**
K20K IAmb IAmb 22 50 01.3
comp=Z,6.4nm,1.4s
G31M Satah River 75.10 10 P **P 22 50 01.8 +0.4**
G31M IAmb IAmb 22 50 03.3
comp=Z,4.8nm,1.4s
FITZ Fitzroy Crossi 75.28 126 P **P 22 50 03.2 +0.1**
comp=Z,4.6nm,1.0s,baz=322,slow=6.5,SNR=1.7
comp=Z,4.6nm,1.0s
BCAR Beaver Creek A 77.39 14 P **P 22 50 15.7 +1.3**
YKA Yellowknife Ar 81.18 2 P **P 22 50 35.8 +1.1**
comp=Z,0.3nm,0.6s,baz=345,slow=5.1,SNR=5.3
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 82.39 122 P **P 22 50 40.9 -0.8**
comp=Z,0.8nm,0.8s,baz=324,slow=5.1,SNR=6.6
comp=Z,0.8nm,0.8s
ASAR Alice Springs 84.65 125 P **P 22 50 52.2 -0.8**
comp=Z,0.6nm,0.5s,baz=304,slow=5.3,SNR=7.6
comp=Z,0.6nm,0.5s

CNRM ***05*** *22:41:22.9, 35°.87N×4°.67W, h113km, ML2.5*

SFS ***05*** *22:41:23.8, 35°.89N×4°.68W, h130km, ML3.2/25, MLv3.2/25*
IGIL ***05*** *22:41:25.7, 35°.88N×4°.63W, h77km, ML3.0*
MDD ***05*** *22:41:25.2±0.3, 35°.88N×4°.63W, h77km±4km, Mb3.5/38, Error ellipse: s-maj=2.2km s-min=1.9km az=175.0*
INMG ***05*** *22:41:25.3±1.8, 35°.93N×4°.67W, h69km±5km, ML2.9, Error ellipse: s-maj=3.5km s-min=2.9km az=11.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: Alboran
ISC 05 22:41:22.6±1.2, 35°.91N±0°.03×4°.63W±0°.02, h105km±7km, n127, σ1$75/217, 30C-4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.61**	**269**	Pn	Sn	**Pn**	**Sn**	**22 41 39.4**	**-0.3**
CEU				P	Sn	**Sn**	**Sn**	**22 41 49.8**	**-2.8**
ECEU	**Ceuta**	**0.61**	**269**	Pn	Sn	**Pn**	**Sn**	**22 41 40.4**	**+0.6**
ECEU				Sn	Sn	**Sn**	**Sn**	**22 41 51.9**	**-0.8**
ECEU	**Ceuta**	**0.61**	**269**	P	Pn	**Pn**	**Sn**	**22 41 40.1**	**+0.3**
ECEU				S	Sn	**Sn**	**Sn**	**22 41 48.8**	**-3.8**
SMIR	**Smir Dam**	**0.66**	**250**	P	Pn	**Pn**	**Sn**	**22 41 40.5**	**+0.4**
SMIR				P	Pn	**Pn**	**Sn**	**22 41 40.5**	**+0.4**
SMIR	**Smir Dam**	**0.66**	**250**	S	Sn	**Sn**	**Sn**	**22 41 53.5**	**+0.2**
PVLZ	**Pen de Vlez**	**0.78**	**160**	Pn	Pn	**Pn**	**Sn**	**22 41 40.6**	**-0.6**
PVLZ				Sn	Sn	**Sn**	**Sn**	**22 41 53.0**	**-2.2**
EMAL	**Malaga-Limoner**	**0.87**	**10**	Pn	Pn	**Pn**	**Sn**	**22 41 42.2**	**+0.2**
EMAL				Sn	Sn	**Sn**	**Sn**	**22 41 55.0**	**-1.6**
EJIF	**Jimena Fronter**	**0.87**	**309**	⇑P	Pn	**Pn**	**Sn**	**22 41 44.3**	**+2.2**
EJIF				S	Sn	**Sn**	**Sn**	**22 41 54.8**	**-2.0**
PALE	**Palemas**	**0.89**	**141**	P	Pn	**Pn**	**Sn**	**22 41 42.2**	**-0.1**
PALE				P				22 41 42.3	
PALE	**Palemas**	**0.89**	**141**	S	Sn	**Sn**	**Sn**	**22 41 56.1**	**-1.0**
CHEFC	**Chefchaouen**	**0.99**	**216**	P	Pn	**Pn**	**Sn**	**22 41 45.6**	**+2.1**
CHEFC	**Chefchaouen**	**0.99**	**216**	S	Sn	**Sn**	**Sn**	**22 42 02.3**	**+3.3**
CPS	**Cap Spartel**	**1.05**	**264**	P	Pn	**Pn**	**Sn**	**22 41 46.3**	**+2.3**
CPS	**Cap Spartel**	**1.05**	**264**	S	Sn	**Sn**	**Sn**	**22 42 02.3**	**+2.3**
LIJA	**Lijar**	**1.18**	**328**	Pn	Pn	**Pn**	**Sn**	**22 41 47.4**	**+1.9**
ELGU	**Los Guajares,**	**1.25**	**40**	Pn	Pn	**Pn**	**Sn**	**22 41 46.3**	**0.0**
ELGU				Sn	Sn	**Sn**	**Sn**	**22 42 02.6**	**-1.6**
ELGU	**Los Guajares,**	**1.25**	**40**	P	Pn	**Pn**	**Sn**	**22 41 46.3**	**0.0**
ELGU				⇑*i*Vmb_V				22 41 47.7	
	2μm,SNR=58								
ELGU				S	Sn	**Sn**	**Sn**	**22 42 02.6**	**-1.6**
EGOR	**Sierra Gorda,**	**1.27**	**19**	Pn	Pn	**Pn**	**Sn**	**22 41 47.7**	**+1.1**
EGOR				Sn	Sn	**Sn**	**Sn**	**22 42 06.1**	**+1.5**
EGOR	**Sierra Gorda,**	**1.27**	**19**	P	Pn	**Pn**	**Sn**	**22 41 47.7**	**+1.1**
EGOR				S	Sn	**Sn**	**Sn**	**22 42 04.6**	**-0.1**
EALB	**Alboran**	**1.29**	**88**	Pn	Pn	**Pn**	**Sn**	**22 41 46.2**	**-0.5**
EALB				Sn	Sn	**Sn**	**Sn**	**22 42 03.3**	**-1.5**
EALB	**Alboran**	**1.29**	**88**	P	Pn	**Pn**	**Sn**	**22 41 46.8**	**+0.1**
EALB				⇑*i*Vmb_V				22 41 46.9	
	1μm,SNR=8.3								
EALB				S	Sn	**Sn**	**Sn**	**22 42 03.6**	**-1.2**
ESPR	**Espera**	**1.38**	**314**	Pn	Pn	**Pn**	**Sn**	**22 41 49.5**	**+1.8**
ESPR				Sn	Sn	**Sn**	**Sn**	**22 42 07.4**	**+0.7**
ESPR	**Espera**	**1.38**	**314**	⇓P	Pn	**Pn**	**Sn**	**22 41 49.7**	**+2.0**
ESPR				⇑*i*Vmb_V				22 41 49.9	
	1μm,SNR=23								
ESPR				S	Sn	**Sn**	**Sn**	**22 42 05.1**	**-1.6**
EXMOR	**Moron de la Fr**	**1.38**	**331**	P	Pn	**Pn**	**Sn**	**22 41 49.5**	**+1.8**
EXMOR				S	Sn	**Sn**	**Sn**	**22 42 06.7**	**0.0**
WMELI	**Melilla**	**1.48**	**113**	Pn	Pn	**Pn**	**Sn**	**22 41 49.3**	**+0.3**
EMEL	**Melilla**	**1.49**	**114**	P	Pn	**Pn**	**Sn**	**22 41 49.8**	**+0.8**
EMEL				⇑*i*Vmb_V				22 41 51.0	
	2μm,SNR=2.0								
EMEL				S	Sn	**Sn**	**Sn**	**22 42 07.2**	**-1.9**
EMLI	**Melilla**	**1.49**	**113**	Pn	Pn	**Pn**	**Sn**	**22 41 49.3**	**+0.3**
GOG	**Mont Gurugu**	**1.49**	**117**	P	Pn	**Pn**	**Sn**	**22 41 49.3**	**+0.1**
GOG	**Mont Gurugu**	**1.49**	**117**	S	Sn	**Sn**	**Sn**	**22 42 11.0**	**+1.7**
AKLM	**AKL**	**1.53**	**156**	P	Pn	**Pn**	**Sn**	**22 41 51.0**	**+1.5**
AKLM				P	Pn	**Pn**	**Sn**	**22 41 51.1**	**+1.5**
AKLM				P	Pn	**Pn**	**Sn**	**22 41 51.1**	**+1.5**
AKLM	**AKL**	**1.53**	**156**	S	Sn	**Sn**	**Sn**	**22 42 10.0**	**0.0**
EQTA	**Presa de Quent**	**1.61**	**36**	Pn	Pn	**Pn**	**Sn**	**22 41 52.6**	**+2.1**
EQTA				Sn	Sn	**Sn**	**Sn**	**22 42 13.8**	**+2.0**
EQUE	**Quentar**	**1.61**	**36**	P	Pn	**Pn**	**Sn**	**22 41 52.7**	**+2.1**
EQUE				S	Sn	**Sn**	**Sn**	**22 42 11.5**	**-0.3**
EBER	**Berja**	**1.71**	**54**	Pn	Pn	**Pn**	**Sn**	**22 41 52.6**	**+0.7**
EBER				Sn	Sn	**Sn**	**Sn**	**22 42 14.1**	**-0.1**
EBER	**Berja**	**1.71**	**54**	⇑P	Pn	**Pn**	**Sn**	**22 41 52.7**	**+0.7**
EBER				S	Sn	**Sn**	**Sn**	**22 42 13.8**	**-0.4**
TAF	**Taforalt**	**2.11**	**120**	P	Pn	**Pn**	**Sn**	**22 41 57.5**	**+0.6**
TAF	**Taforalt**	**2.11**	**120**	S	Sn	**Sn**	**Sn**	**22 42 24.6**	**+1.5**
ENIJ	**Nijar**	**2.22**	**61**	Pn	Pn	**Pn**	**Sn**	**22 41 59.2**	**+1.0**
ENIJ	**Nijar**	**2.22**	**61**	P	Pn	**Pn**	**Sn**	**22 41 59.5**	**+1.3**
ENIJ				S	Sn	**Sn**	**Sn**	**22 42 25.3**	**-0.2**
LCRM	**LCR**	**2.23**	**185**	P	Pn	**Pn**	**Sn**	**22 41 58.7**	**+0.3**
EXCBR	**El Cabril**	**2.25**	**344**	P	Pn	**Pn**	**Sn**	**22 42 00.1**	**+1.4**
EXCBR				S	Sn	**Sn**	**Sn**	**22 42 25.6**	**-0.6**
ECAB	**El Cabril**	**2.25**	**344**	Pn	Pn	**Pn**	**Sn**	**22 41 59.9**	**+1.2**
ECAB				Sn	Sn	**Sn**	**Sn**	**22 42 25.2**	**-1.2**
ECAB	**El Cabril**	**2.25**	**344**	⇑P	Pn	**Pn**	**Sn**	**22 41 59.9**	**+1.2**
ECAB				⇑*i*Vmb_V				22 42 00.3	
	724nm,SNR=17								
ECAB				S	Sn	**Sn**	**Sn**	**22 42 25.3**	**-1.0**
EADA	**Adamuz**	**2.25**	**1**	Pn	Pn	**Pn**	**Sn**	**22 42 00.4**	**+1.7**
EADA				Sn	Sn	**Sn**	**Sn**	**22 42 25.0**	**-1.3**
EADA	**Adamuz**	**2.25**	**1**	⇑P	Pn	**Pn**	**Sn**	**22 42 00.5**	**+1.7**
EADA				⇑*i*Vmb_V				22 42 00.8	
	1μm,SNR=24								
EADA				S	Sn	**Sn**	**Sn**	**22 42 26.5**	**+0.1**
JBK	**JBK**	**2.30**	**132**	P	Pn	**Pn**	**Sn**	**22 42 00.2**	**+0.7**
JBK	**JBK**	**2.30**	**132**	S	Sn	**Sn**	**Sn**	**22 42 28.0**	**+0.2**
E0802	**Ubeda,Jaen**	**2.34**	**25**	S	Sn	**Sn**	**Sn**	**22 42 28.7**	**+0.4**
IFR	**Ifrane**	**2.42**	**190**	Pn	Pn	**Pn**	**Sn**	**22 42 01.2**	**+0.2**
IFR				Sn	Sn	**Sn**	**Sn**	**22 42 27.4**	**-3.1**
EMIN	**Mina Concepcio**	**2.48**	**319**	Pn	Pn	**Pn**	**Sn**	**22 42 02.8**	**+1.3**
EMIN				Sn	Sn	**Sn**	**Sn**	**22 42 29.9**	**-1.6**
EMIN	**Mina Concepcio**	**2.48**	**319**	⇑P	Pn	**Pn**	**Sn**	**22 42 02.9**	**+1.3**
EMIN				⇑*i*Vmb_V				22 42 03.8	
	2μm,SNR=48								
EMIN				S	Sn	**Sn**	**Sn**	**22 42 30.7**	**-0.8**
RTC	**Rabat Centre**	**2.65**	**224**	Sn	Sn	**Sn**	**Sn**	**22 42 33.7**	**-1.8**
RTC				Pn	Pn	**Pn**	**Sn**	**22 42 04.8**	**+0.9**
EGRO	**El Granado**	**2.81**	**306**	Pn	Pn	**Pn**	**Sn**	**22 42 07.2**	**+1.3**
EGRO				Sn	Sn	**Sn**	**Sn**	**22 42 38.0**	**-1.3**
EGRO	**El Granado**	**2.81**	**306**	⇑P	Pn	**Pn**	**Sn**	**22 42 07.3**	**+1.3**
EGRO				⇑*i*Vmb_V				22 42 07.4	
	1μm,SNR=28								
EGRO				S	Sn	**Sn**	**Sn**	**22 42 38.3**	**-1.1**
PVAQ	**Vaqueiros**	**2.90**	**302**	*e*P	Pn	**Pn**	**Sn**	**22 42 08.3**	**+1.2**
PVAQ				*e*S	Sn	**Sn**	**Sn**	**22 42 40.0**	**-1.5**
PVAQ				*i* AML	AML	AML	AML	22 42 42.5	
PVAQ	**Vaqueiros**	**2.90**	**302**	Pn	Pn	**Pn**	**Sn**	**22 42 08.3**	**+1.2**
PVAQ	**Vaqueiros**	**2.90**	**302**	P	Pn	**Pn**	**Sn**	**22 42 08.1**	**+1.0**
PVAQ	**Vaqueiros**	**2.90**	**302**	S	Sn	**Sn**	**Sn**	**22 42 40.1**	**-1.3**
ZHG	**ZHG**	**2.97**	**215**	P	Pn	**Pn**	**Sn**	**22 42 08.5**	**+0.4**
PBAR	**Barrancos**	**2.98**	**320**	*e*P	Pn	**Pn**	**Sn**	**22 42 09.6**	**+1.4**
PBAR				*e*S	Sn	**Sn**	**Sn**	**22 42 41.7**	**-1.5**
PBAR				*i* AML	AML	AML	AML	22 42 43.5	
PBAR				*i* AML	AML	AML	AML	22 42 43.5	
PBAR				*i* AML	AML	AML	AML	22 42 44.6	
PBAR	**Barrancos**	**2.98**	**320**	Pn	Pn	**Pn**	**Sn**	**22 42 09.7**	**+1.6**
PBAR				Sn	Sn	**Sn**	**Sn**	**22 42 41.7**	**-1.5**
PBDV	**Barranco-do-Ve**	**2.98**	**298**	⇓*i*P	Pn	**Pn**	**Sn**	**22 42 09.4**	**+1.2**
PBDV				*e*S	Sn	**Sn**	**Sn**	**22 42 42.0**	**-1.2**
PBDV				*i* AML	AML	AML	AML	22 42 42.4	
PBDV				*i* AML	AML	AML	AML	22 42 42.6	
PBDV				*i* AML	AML	AML	AML	22 42 44.1	
PSIM	**Granatula de C**	**2.99**	**13**	P	Pn	**Pn**	**Sn**	**22 42 10.2**	**+1.8**
PSI

PBEJ			*i* AML	AML	22 42 53.4	
EBAD	**Badajoz**	**3.42 327**	Pn	**Pn**	**22 42 15.8**	**+1.8**
EBAD			Sn	**Sn**	**22 42 53.1**	**-0.7**
EBAD	**Badajoz**	**3.42 327**	⇑P	**Pn**	**22 42 15.9**	**+1.8**
EBAD			⇑*i*Vmb_V		22 42 16.6	
	758nm,SNR=16					
EBAD			S	**Sn**	**22 42 52.9**	**-0.9**
MESJ	**Messejana**	**3.47 305**	*e*P	**Pn**	**22 42 16.0**	**+1.3**
MESJ			*e*S	**Sn**	**22 42 52.6**	**-2.3**
MESJ			IAML		22 42 55.0	
	comp=N,42nm,0.2s					
MESJ	**Messejana**	**3.47 305**	*e*P	**Pn**	**22 42 16.0**	**+1.3**
MESJ			*e*S	**Sn**	**22 42 52.9**	**-2.0**
MESJ			*i* AML	AML	22 42 54.3	
MESJ			*i* AML	AML	22 42 55.0	
MESJ			*i* AML	AML	22 42 55.0	
AVE	**Averroes**	**3.47 222**	Sn	**Sn**	**22 42 53.1**	**-2.1**
MORF	**Marmelete**	**3.53 294**	*e*P	**Pn**	**22 42 16.6**	**+1.1**
MORF			*e*S	**Sn**	**22 42 53.8**	**-2.6**
MORF			IAML		22 42 57.0	
	comp=N,38nm,0.2s					
MORF	**Marmelete**	**3.53 294**	*e*P	**Pn**	**22 42 16.7**	**+1.1**
MORF			*e*S	**Sn**	**22 42 54.4**	**-2.1**
MORF			*i* AML	AML	22 42 57.1	
MORF			*i* AML	AML	22 42 58.1	
MORF			*i* AML	AML	22 42 59.1	
PFVI	**Vila Bisbo**	**3.60 291**	*e*P	**Pn**	**22 42 17.8**	**+1.3**
PFVI			*e*S	**Sn**	**22 42 56.3**	**-1.8**
PFVI			*i* AML	AML	22 42 57.8	
PFVI			*i* AML	AML	22 42 59.2	
PFVI			*i* AML	AML	22 43 01.7	
PFVI	**Vila Bisbo**	**3.60 291**	Pn	**Pn**	**22 42 17.5**	**+1.0**
PFVI			Sn	**Sn**	**22 42 55.9**	**-2.2**
PFVI	**Vila Bisbo**	**3.60 291**	P	**Pn**	**22 42 18.0**	**+1.5**
PAB	**San Pablo**	**3.64 3**	P	**Pn**	**22 42 18.6**	**+1.6**
PAB			⇑*i*Vmb_V		22 42 19.5	
	comp=N,96nm,SNR=2.6					
PAB			S	**Sn**	**22 42 57.8**	**-1.4**
PAB	**San Pablo**	**3.64 3**	P	**Pn**	**22 42 18.7**	**+1.6**
PTEO	**Sao Teotonio**	**3.68 298**	*e*P	**Pn**	**22 42 19.0**	**+1.5**
PTEO			*e*S	**Sn**	**22 42 58.4**	**-1.5**
PTEO			*i* AML	AML	22 43 01.3	
PTEO			*i* AML	AML	22 43 06.7	
PTEO			*i* AML	AML	22 43 13.9	
EVO	**Evora**	**3.76 315**	*e*P	**Pn**	**22 42 20.6**	**+1.9**
EVO			*e*S	**Sn**	**22 43 00.8**	**-1.3**
EVO			*i* AML	AML	22 43 01.4	
EVO			*i* AML	AML	22 43 01.5	
EVO			*i* AML	AML	22 43 12.2	
EVO	**Evora**	**3.76 315**	Sn	**Sn**	**22 43 00.8**	**-1.3**
EVO			Pn	**Pn**	**22 42 20.5**	**+1.8**
PESTR	**Estremoz**	**3.78 322**	*e*P	**Pn**	**22 42 20.8**	**+1.8**
PESTR			*e*S	**Sn**	**22 43 01.2**	**-1.4**
PESTR			*i* AML	AML	22 43 01.8	
PESTR			*i* AML	AML	22 43 03.2	
PESTR			*i* AML	AML	22 43 14.3	
PESTR	**Estremoz**	**3.78 322**	Pn	**Pn**	**22 42 20.8**	**+1.8**
PESTR			Sn	**Sn**	**22 43 01.0**	**-1.5**
PESTR	**Estremoz**	**3.78 322**	P	**Pn**	**22 42 20.8**	**+1.8**
ESDC	**Sonseca Array**	**3.80 8**	P	**Pn**	**22 42 21.2**	**+2.1**
ESDC			⇑*i*Vmb_V		22 42 29.9	
	comp=N,101nm,SNR=2.5					
ESDC			S	**Sn**	**22 43 00.7**	**-2.2**
ESBB	**Sonseca Array**	**3.80 8**	P	**Pn**	**22 42 20.5**	**+1.4**
ESBB			S	**Sn**	**22 43 00.9**	**-2.1**
ESBB			⇑*i*Vmb_V		22 43 01.6	
	comp=N,561nm,SNR=12					
PMRV	**Marv??o**	**4.14 329**	*e*P	**Pn**	**22 42 25.7**	**+1.9**
PMRV			*e*S	**Sn**	**22 43 09.5**	**-1.7**
PMRV			*i* AML	AML	22 43 22.6	
PMRV			*i* AML	AML	22 43 22.9	
PMRV			*i* AML	AML	22 43 22.9	
PMTG	**Montargil**	**4.26 319**	*e*P	**Pn**	**22 42 27.1**	**+1.7**
PMTG			*e*S	**Sn**	**22 43 12.0**	**-2.1**
PMTG			*i* AML	AML	22 43 12.7	
PMTG			*i* AML	AML	22 43 15.4	
PMTG			*i* AML	AML	22 43 16.4	
EPLA	**Plasencia**	**4.30 345**	P	**Pn**	**22 42 27.8**	**+1.8**
EPLA			⇑*i*Vmb_V		22 42 28.2	
	comp=N,181nm,SNR=3.1					
EPLA			S	**Sn**	**22 43 13.2**	**-2.0**
EVIV	**Cofrentes, Val**	**4.36 39**	P	**Pn**	**22 42 29.1**	**+2.3**
EVIV			⇑*i*Vmb_V		22 42 38.2	
	comp=N,117nm,SNR=1.3					
EVIV			S	**Sn**	**22 43 14.4**	**-2.1**
TISM	**Timmit**	**4.44 200**	P	**Pn**	**22 42 28.3**	**+0.4**
UCM	**Universidad Co**	**4.53 14**	Pn	**Pn**	**22 42 31.1**	**+2.1**
UCM			Sn	**Sn**	**22 43 18.7**	**-1.8**
PCBR	**Castelo Branco**	**4.53 331**	*e*P	**Pn**	**22 42 31.0**	**+2.1**
PCBR			*e*S	**Sn**	**22 43 18.6**	**-1.9**
PCBR			*i* AML	AML	22 43 18.7	
PCBR			*i* AML	AML	22 43 19.1	
PCBR			*i* AML	AML	22 43 19.2	
ECHE	**Chera**	**4.68 37**	Pn	**Pn**	**22 42 32.7**	**+1.6**
ECHE			Sn	**Sn**	**22 43 22.0**	**-2.3**
ECHE	**Chera**	**4.68 37**	P	**Pn**	**22 42 32.8**	**+1.8**
ECHE			⇑*i*Vmb_V		22 42 40.8	
	comp=N,99nm,SNR=1.6					
ECHE			S	**Sn**	**22 43 21.5**	**-2.8**
GUD	**Guadarrama**	**4.74 4**	P	**Pn**	**22 42 33.2**	**+1.2**
GUD			S	**Sn**	**22 43 23.9**	**-2.0**
PMAFR	**Mafra**	**4.79 311**	*e*P	**Pn**	**22 42 35.0**	**+2.4**
PMAFR			*e*S	**Sn**	**22 43 25.3**	**-1.7**
PMAFR			*i* AML	AML	22 43 28.7	
PMAFR			*i* AML	AML	22 43 40.0	
PMAFR			*i* AML	AML	22 43 42.2	
PMAFR	**Mafra**	**4.79 311**	Pn	**Pn**	**22 42 34.4**	**+1.9**
PMAFR			Sn	**Sn**	**22 43 25.0**	**-1.9**
PSBE	**So Bento**	**4.89 319**	*e*P	**Pn**	**22 42 36.2**	**+2.4**
MTE	**Manteigas**	**5.04 334**	*e*P	**Pn**	**22 42 38.3**	**+2.4**
MTE			*e*S	**Sn**	**22 43 30.8**	**-2.2**
MTE			*i* AML	AML	22 43 34.0	
MTE			*i* AML	AML	22 43 34.1	
MTE			*i* AML	AML	22 43 35.6	
PCAS	**Casmilo, Conde**	**5.14 325**	*e*P	**Pn**	**22 42 39.6**	**+2.3**
PCAS			*e*S	**Sn**	**22 43 33.1**	**-2.4**
PCAS			*i* AML	AML	22 43 36.9	
PCAS			*i* AML	AML	22 43 37.5	
PCAS			*i* AML	AML	22 43 37.9	
EJUZ	**Juzbado, Salam**	**5.26 350**	P	**Pn**	**22 42 40.5**	**+1.5**
EJUZ			S	**Sn**	**22 43 35.9**	**-2.5**
OUZM	**OUZ**	**5.30 200**	P	**Pn**	**22 42 41.3**	**+1.8**
ETOR	**Torete**	**5.30 22**	P	**Pn**	**22 42 41.6**	**+2.1**
ETOR			⇑*i*Vmb_V		22 42 49.7	
	comp=N,111nm,SNR=1.8					
ETOR			S	**Sn**	**22 43 36.7**	**-2.7**
E0901	**Celadas (Terue**	**5.33 30**	⇑*i*Vmb_V		22 42 41.0	
	comp=N,128nm,SNR=2.0					
E0901			P	**Pn**	**22 42 41.8**	**+1.9**
E0901			S	**Sn**	**22 43 39.2**	**-0.9**
PVIS	**Viseu**	**5.44 333**	*e*P	**Pn**	**22 42 43.3**	**+1.9**
PVIS			*e*S	**Sn**	**22 43 41.5**	**-1.3**
EMOS	**Mosqueruela**	**5.52 35**	P	**Pn**	**22 42 44.5**	**+1.9**
EMOS			⇑*i*Vmb_V		22 42 52.2	
	comp=N,104nm,SNR=1.6					
EMOS			S	**Sn**	**22 43 43.2**	**-1.7**
MVO	**Moncorvo**	**5.58 341**	*e*P	**Pn**	**22 42 45.5**	**+2.3**
MVO			*e*S	**Sn**	**22 43 43.9**	**-2.1**
MVO			*i* AML	AML	22 43 46.7	
MVO			*i* AML	AML	22 43 47.7	
MVO			*i* AML	AML	22 43 49.0	
PVRL	**Vila Real**	**5.88 337**	*e*P	**Pn**	**22 42 49.8**	**+2.5**
PVRL			*e*S	**Sn**	**22 43 50.5**	**-2.8**
EAH	**EAH**	**5.92 226**	P	**Pn**	**22 42 48.3**	**+0.4**
POLO	**Lamas de Olo**	**5.99 337**	*e*P	**Pn**	**22 42 51.3**	**+2.4**
POLO			*e*S	**Sn**	**22 43 54.2**	**-2.0**
POLO			*i* AML	AML	22 43 55.3	
POLO			*i* AML	AML	22 43 56.1	
POLO			*i* AML	AML	22 43 57.3	
PBRG	**Braganca**	**6.12 345**	*e*P	**Pn**	**22 42 52.9**	**+2.4**
PBRG			*e*S	**Sn**	**22 43 56.3**	**-2.8**
PBRG			*i* AML	AML	22 43 58.2	
PBRG			*i* AML	AML	22 43 59.7	
PBRG			*i* AML	AML	22 44 00.0	
TTIG	**Tnine Tigouga,**	**6.23 212**	P	**Pn**	**22 42 50.9**	**-1.2**
PCAB	**Cabril**	**6.37 336**	*e*P	**Pn**	**22 42 56.5**	**+2.5**
PCAB			*e*S	**Sn**	**22 44 02.1**	**-3.1**
PCAB			*i* AML	AML	22 44 04.1	
PCAB			*i* AML	AML	22 44 06.1	
PCAB			*i* AML	AML	22 44 07.3	
ELOB	**Lobios**	**6.53 337**	P	**Pn**	**22 42 58.3**	**+2.2**
ELOB			⇑*i*Vmb_V		22 42 58.8	
	comp=N,202nm,SNR=2.0					
ELOB			S	**Sn**	**22 44 07.3**	**-1.8**
ESAC	**San Caprasio**	**6.65 28**	P	**Pn**	**22 42 59.5**	**+1.7**
ESAC			⇑*i*Vmb_V		22 43 03.4	
	comp=N,210nm,SNR=1.1					
ESAC			S	**Sn**	**22 44 08.6**	**-3.5**
PGAV	**Gavieira, Arco**	**6.68 336**	⇓*e*P	**Pn**	**22 43 00.8**	**+2.6**
PGAV			*e*S	**Sn**	**22 44 09.9**	**-3.0**
PGAV			*i* AML	AML	22 44 11.7	
PGAV			*i* AML	AML	22 44 13.2	
PGAV			*i* AML	AML	22 44 15.8	
ELAN	**Lanestosa**	**7.37 7**	P	**Pn**	**22 43 10.9**	**+3.4**
ELAN			⇑*i*Vmb_V		22 43 13.4	
	comp=N,150nm,SNR=1.4					
ELAN			S	**Sn**	**22 44 25.6**	**-3.9**
EAGO	**Agolada(Pontev**	**7.39 340**	P	**Pn**	**22 43 10.0**	**+2.3**
EAGO			S	**Sn**	**22 44 28.3**	**-1.7**
EPON	**Pontenova**	**7.66 346**	P	**Pn**	**22 43 13.7**	**+2.3**
EPON			S	**Sn**	**22 44 34.3**	**-2.3**
EALK	**Alkurruntz**	**7.69 17**	P	**Pn**	**22 43 14.5**	**+2.6**
EALK			⇑*i*Vmb_V		22 43 16.8	
	comp=N,132nm,SNR=1.2					
EALK			S	**Sn**	**22 44 35.0**	**-2.3**

IDC 05 22:45:36.9±1.5, 3°39N×127°22E, h0km, mb3.6/6, mbtmp3.6/6, MS3.5/1, Error ellipse: s-maj=141.0km s-min=20.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**163**	P	P	22 50 56.0	+0.4
	0.8nm,1.0s,baz=343,slow=10,SNR=7.8 0.8nm,1.0s						
JCJ	**Chichijima**	**27.58**	**30**	LR	LR	23 01 13.9	
	comp=Z,106nm,21.4s,baz=114,slow=34						
ASAR	**Alice Springs**	**27.67**	**167**	P	P	22 51 26.4	-0.4
	0.3nm,0.5s,baz=348,slow=9.2,SNR=1.8 0.3nm,0.5s						
SONM	**Songino Array**	**47.77**	**341**	P	P	22 54 15.7	-0.4
	0.5nm,0.8s,baz=141,slow=7.7,SNR=3.5 0.5nm,0.8s						
MKAR	**Makanchi Array**	**58.11**	**325**	P	P	22 55 32.9	+0.6
	0.5nm,0.4s,baz=115,slow=8.0,SNR=18 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.29**	**327**	P	P	22 56 00.5	-0.3
	0.6nm,0.4s,baz=120,slow=5.9,SNR=5.6 0.6nm,0.4s						
BVAR	**Borovoye Array**	**67.87**	**327**	P	P	22 56 36.5	-0.7
	0.4nm,0.5s,baz=111,slow=6.6,SNR=3.0 0.4nm,0.5s						

*IDC **05** 22:58:54.5±1.3, 54°10N×161°45E, h0km, mb3.4/8, mbtmp3.4/9, ML3.1/1, MS2.9/2, Error ellipse: s-maj=46.5km s-min=16.8km az=155.0*

*KRSC **05** 22:58:55.4±1.1, 53°80N×161°75E, h40km±24km, Ml4.0*

ISC 05 22:58:58.4±1.1, 53°78N±0°05×161°73E±0°05, h38km±2km, n40, σ1º16/46, mb3.5/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.23**	**237**	*e*P	**Pn**	**22 59 17.7**	**-1.4**
SPN				*e*S	**Sn**	**22 59 32.6**	**-1.8**
NLC	**Nalytchevo**	**1.55**	**248**	*e*P	**Pn**	**22 59 22.3**	**-1.1**
UGLR	**Uglovaya**	**1.83**	**253**	*e*P	**Pn**	**22 59 26.9**	**-0.5**
AVH	**Avacha**	**1.86**	**255**	*e*P	**Pn**	**22 59 27.3**	**-0.4**
KRX	**Arik**	**1.88**	**258**	*e*P	**Pn**	**22 59 27.4**	**-0.8**
KOK	**Koryaka**	**1.91**	**256**	*e*P	**Pn**	**22 59 27.9**	**-0.6**
DALK	**Dalny**	**1.93**	**248**	*e*P	**Pn**	**22 59 27.9**	**-0.7**
PET	**Petropavlovsk**	**1.99**	**249**	*e*P	**Pn**	**22 59 29.1**	**-0.3**
PET				*e*S	**Sn**	**22 59 51.7**	**-1.4**
INSR	**Institute**	**2.00**	**250**	*e*P	**Pn**	**22 59 29.0**	**-0.7**
INSR				*e*S	**Sn**	**22 59 52.5**	**-0.9**
KMNR	**Kamenistaya**	**2.16**	**337**	*e*P	**Pn**	**22 59 31.9**	**0.0**
GNL	**Ganaly**	**2.25**	**269**	*e*P	**Pn**	**22 59 33.4**	**+0.2**
GNL				*e*S	**Sn**	**23 00 00.7**	**+1.0**
KIRR	**Kirishev**	**2.32**	**340**	*e*P	**Pn**	**22 59 34.2**	**+0.1**
KIRR				*e*S	**Sn**	**23 00 03.4**	**+1.9**
KPT	**Kopyto**	**2.35**	**339**	*e*P	**Pn**	**22 59 34.0**	**-0.6**
KPT				*e*S	**Sn**	**23 00 02.7**	**+0.5**
KRMR	**Karymshinskiy**	**2.36**	**248**	*e*P	**Pn**	**22 59 34.7**	**+0.1**
KRMR				*e*S	**Sn**	**23 00 01.7**	**-0.5**
RUS	**Russkaya**	**2.36**	**236**	*e*P	**Pn**	**22 59 35.6**	**+1.0**
RUS				*e*S	**Sn**	**23 00 05.2**	**+2.9**
PETK	**Petropavlovsk-**	**2.50**	**256**	Pn	**Pn**	**22 59 36.4**	**-0.1**
	19nm,0.3s,baz=74,slow=17,SNR=82						
PETK				Sn	**Sn**	**23 00 06.0**	**+0.2**
	24nm,0.3s,baz=356,slow=18,SNR=12 22nm,0.4s						
KBTR	**Krutoberegovo**	**2.51**	**14**	*e*P	**Pn**	**22 59 37.0**	**+0.3**
GRL	**Gorelyy**	**2.52**	**242**	*e*P	**Pn**	**22 59 37.3**	**+0.3**
KRSR	**Krestovskiy**	**2.53**	**345**	*e*P	**Pn**	**22 59 36.3**	**-0.7**
KBG	**Krutoberegovo**	**2.54**	**12**	*e*P	**Pn**	**22 59 37.7**	**+0.7**
KBG				*e*S	**Sn**	**23 00 07.9**	**+1.2**
ESO	**Esso**	**2.77**	**322**	*e*P	**Pn**	**22 59 39.3**	**-0.9**
ESO				*e*S	**Sn**	**23 00 10.7**	**-1.6**
SRDR	**Sredinnyy**	**2.79**	**336**	*e*P	**Pn**	**22 59 41.4**	**+0.8**
SMKR	**Semkarok**	**2.81**	**357**	*e*P	**Pn**	**22 59 41.4**	**+0.6**
BKI	**Bering**	**2.86**	**58**	*e*P	**Pn**	**22 59 40.8**	**-0.6**
BKI				*e*S	**Sn**	**23 00 12.9**	**-1.6**
APC	**Apacha**	**2.87**	**254**	*e*P	Pn	22 59 43.7	+2.1
APC				*e*S	**Sn**	**23 00 17.2**	**+2.5**
KDTR	**Khodutka, Kamc**	**2.97**	**230**	*e*P	**Pn**	**22 59 44.5**	**+1.5**
KDTR				*e*S	**Sn**	**23 00 18.5**	**+1.2**
PAU	**Pauzhetka**	**3.79**	**234**	*e*P	Pn	22 59 58.1	+3.9
MA2	**Magadan**	**8.37**	**318**	LR	LR	23 04 41.2	
	comp=Z,72nm,20.4s,baz=140,slow=43						
YAK	**Yakutsk**	**18.74**	**309**	LR	LR	23 12 09.1	
	comp=Z,39nm,18.1s,baz=224,slow=43						
USRK	**Ussuriysk Ar.**	**21.59**	**256**	P	**P**	**23 03 44.4**	**-0.2**
	1.8nm,0.6s,baz=143,slow=31,SNR=4.1 1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**23.74**	**233**	P	**P**	**23 04 08.8**	**+1.9**
	1.2nm,0.5s,baz=20,slow=9.8,SNR=5.4 1.2nm,0.5s						
ILAR	**Eielson Array**	**27.63**	**46**	P	**P**	**23 04 43.0**	**+1.0**
	0.3nm,0.6s,baz=240,slow=7.2,SNR=2.9 0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.22**	**171**	T	T	23 42 21.9	
	baz=354,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**34.24**	**171**	T	T	23 42 37.0	
	baz=354,slow=76,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**34.24**	**171**	T	T	23 42 32.6	
	baz=354,slow=76,SNR=6.4						
SONM	**Songino Array**	**34.69**	**283**	P	**P**	**23 05 44.8**	**+0.5**
	0.3nm,0.6s,baz=57,slow=5.3,SNR=2.6 0.3nm,0.6s						
YKA	**Yellowknife Ar**	**41.99**	**44**	P	**P**	**23 06 45.2**	**0.0**
	0.1nm,0.6s,baz=231,slow=19,SNR=2.0 0.1nm,0.6s						
MKAR	**Makanchi Array**	**48.73**	**296**	P	**P**	**23 07 36.6**	**-2.3**
	0.2nm,0.7s,baz=52,slow=5.1,SNR=4.5 0.2nm,0.7s						
BVAR	**Borovoye Array**	**50.72**	**309**	P	**P**	**23 07 54.1**	**+0.2**
	0.6nm,0.9s,baz=69,slow=9.7,SNR=1.8 0.6nm,0.9s						
TXAR	**Lajitas Array**	**69.47**	**68**	P	P	23 10 05.0	+2.2
	0.5nm,0.6s,baz=314,slow=5.7,SNR=3.6 0.5nm,0.6s						

*NAO **05** 23:15:15.1±1.8, 73°19N×6°28E, ML3.0*

*IDC **05** 23:15:15.2±2.4, 73°04N×6°02E, h0km, mb3.2/2, mbtmp3.4/7, ML2.7/5, MS3.3/4, Error ellipse: s-maj=39.9km s-min=21.2km az=94.0*

*BER **05** 23:15:18.6±2.5, 73°21N×6°09E, h10km, mb(Pn)4.1, Confirmed Earthquake*

*KOLA **05** 23:15:22.9, 72°85N×7°33E, h0km, ML2.5, Error ellipse: s-maj=26.1km s-min=16.1km az=140.0, Norwegian sea*

ISC 05 23:15:15.6±1.0, 73°12N±0°06×6°57E±0°06, h11km, n50, σ2º63/65, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.53**	**26**	*e*P	**Pn**	**23 16 24.3**	**+0.3**
JNE	**Jan Mayen East**	**5.07**	**252**	*e*P	**Pn**	**23 16 31.5**	**+0.2**
JNE				IAML		23 16 34.5	
	comp=Z,28nm,0.7s						
JNW	**Jan Mayen West**	**5.08**	**253**	*e*P	**Pn**	**23 16 32.5**	**+1.0**
JNW				IAML		23 16 33.7	
	comp=Z,21nm,0.7s						
TRO	**Tromso**	**5.28**	**125**	Pn	**Pn**	**23 16 36.1**	**+1.9**
TRO				Sn	**Sn**	**23 17 33.9**	**-1.0**
TRO	**Tromso**	**5.28**	**125**	*e*P	**Pn**	**23 16 36.5**	**+2.3**
TRO				*e*S	**Sn**	**23 17 34.0**	**-0.9**
TRO				IAML		23 17 35.4	
	comp=Z,3.0nm,0.4s						
BRBA	**Barentsburg A**	**5.31**	**17**	*e*P	**Pn**	**23 16 36.5**	**+1.8**
BRBB	**Barentsburg B**	**5.34**	**17**	Pn	**Pn**	**23 16 36.4**	**+1.3**
BRBB	**Barentsburg B**	**5.34**	**17**	*e*P	**Pn**	**23 16 37.0**	**+1.9**
LOF	**Lofoten**	**5.52**	**152**	Pn	**Pn**	**23 16 40.9**	**+3.3**
LOF				Sn	**Sn**	**23 17 37.0**	**-3.9**
LOF	**Lofoten**	**5.52**	**152**	*e*P	**Pn**	**23 16 40.1**	**+2.6**
LOF				IAML		23 17 37.5	
	comp=Z,7.8nm,0.5s						
LOF				*e*		23 17 38.0	
SPA0	**Spitsbergen Ar**	**5.63**	**21**	Pn	**Pn**	**23 16 40.1**	**+1.1**
	baz=207,slow=16						
SPA0	**Spitsbergen Ar**	**5.63**	**21**	*e*P	**Pn**	**23 16 40.1**	**+1.1**
SPITS	**Spitsbergen Ar**	**5.63**	**21**	Pn	**Pn**	**23 16 40.0**	**+0.9**
	baz=205,slow=6.4 comp=Z,1.3nm,0.4s						
JETT	**Jettan, Norway**	**5.69**	**122**	Pn	**Pn**	**23 16 42.6**	**+2.7**
JETT				Sn	**Sn**	**23 17 40.9**	**-4.4**
JETT	**Jettan, Norway**	**5.69**	**122**	*e*P	**Pn**	**23 16 43.0**	**+3.1**
JETT				*e*S	**Sn**	**23 17 45.4**	**+0.2**
JETT				IAML		23 17 46.9	
	comp=Z,4.9nm,0.6s						
STEI	**Steigen**	**5.96**	**147**	*e*P	**Pn**	**23 16 46.7**	**+3.2**
STEI				*e*S	**Sn**	**23 17 49.6**	**-2.0**
STEI				IAML		23 17 55.2	
	comp=Z,1.8nm,0.6s						
KIF	**Kilpisjarvi**	**6.19**	**125**	Pn	**Pn**	**23 16 48.5**	**+1.8**
KIF				Sn	**Sn**	**23 17 54.0**	**-3.4**
KIF	**Kilpisjarvi**	**6.19**	**125**	*e*P	**Pn**	**23 16 49.0**	**+2.3**
KIF				*e*S	**Sn**	**23 17 56.5**	**-1.0**
FAUS	**Fauske**	**6.47**	**149**	*e*P	**Pn**	**23 16 53.2**	**+2.7**
FAUS				*e*S	**Sn**	**23 18 02.6**	**-1.6**
FAUS				IAML		23 18 07.8	
	comp=Z,2.0nm,0.5s						
FAUS	**Fauske**	**6.47**	**149**	P	**Pn**	**23 16 53.5**	**+3.0**
FAUS				S	**Sn**	**23 18 00.2**	**-4.0**
KONS	**Konsvik**	**7.02**	**158**	*e*P	**Pn**	**23 17 00.7**	**+2.6**
KONS				IAML		23 18 20.5	
	comp=Z,2.7nm,0.6s						
ARA0	**ARCESS Array S**	**7.04**	**111**	Pn	**Pn**	**23 17 00.8**	**+2.4**
	baz=316,slow=12						
ARA0				Sn	**Sn**	**23 18 14.5**	**-3.7**
	baz=314,slow=22						
ARA0	**ARCESS Array S**	**7.04**	**111**	*e*P	**Pn**	**23 17 01.5**	**+3.1**
ARA0				IAML		23 18 15.1	
	comp=Z,2.1nm,0.8s						
ARCES	**ARCESS Array B**	**7.04**	**111**	Pn	**Pn**	**23 17 00.8**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=312,slow=13,SNR=20						
ARCES				Sn	**Sn**	**23 18 13.7**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=312,slow=14,SNR=1.8 comp=Z,1.2nm,0.4s						
ARCES	**ARCESS Array B**	**7.04**	**111**	P	**Pn**	**23 17 00.8**	**+2.4**
ARCES				S	**Sn**	**23 18 14.8**	**-3.5**
STOK	**Stokkvaagen**	**7.17**	**159**	*e*P	**Pn**	**23 17 02.5**	**+2.3**
STOK				IAML		23 18 23.9	
	comp=Z,2.8nm,0.5s						
KEV	**Kevo**	**7.32**	**107**	Pn	**Pn**	**23 17 04.2**	**+2.0**
KEV	**Kevo**	**7.32**	**107**	*e*P	**Pn**	**23 17 04.4**	**+2.2**
HEF	**Hetta**	**7.34**	**122**	Pn	**Pn**	**23 17 04.9**	**+2.5**
HEF	**Hetta**	**7.34**	**122**	*e*P	**Pn**	**23 17 05.4**	**+2.9**
HEF				*e*S	**Sn**	**23 18 25.9**	**+0.3**
LEIR	**Leirfjorden**	**7.40**	**159**	*e*P	**Pn**	**23 17 05.4**	**+2.1**
LEIR				IAML		23 18 28.0	
	comp=Z,5.3nm,0.4s						
DAG	**Danmarks Havn**	**7.46**	**311**	*e*P	**Pn**	**23 17 01.3**	**-2.8**
DAG				*e*S	Sn	23 18 16.0	-13
MOR8	**Moi Rana**	**7.49**	**155**	*e*P	**Pn**	**23 17 07.0**	**+2.3**
MOR8				*e*S	**Sn**	**23 18 24.1**	**-5.3**
MOR8				IAML		23 18 30.0	
	comp=Z,3.0nm,0.5s						
DBG	**Daneborg**	**7.59**	**292**	Pn	**Pn**	**23 17 04.0**	**-1.9**
DBG				Sn	Sn	23 18 19.2	-12
DBG	**Daneborg**	**7.59**	**292**	*e*S	Sn	23 18 19.7	-12
VADS	**Vadso**	**7.77**	**102**	*e*P	**Pn**	**23 17 10.7**	**+2.3**
VADS				IAML		23 18 35.3	
	comp=Z,6.5nm,0.6s						
VADS	**Vadso**	**7.77**	**102**	P	**Pn**	**23 17 10.8**	**+2.3**
VADS				S	**Sn**	**23 18 33.6**	**-2.6**
PRVG	**Vayda Guba**	**8.79**	**100**	P	**Pn**	**23 17 24.9**	**+2.6**
PRVG				S	**Sn**	**23 18 56.4**	**-4.9**
NSS	**Namsos**	**8.84**	**165**	*e*P	**Pn**	**23 17 25.4**	**+2.3**
NSS				*e*S	**Sn**	**23 18 57.2**	**-5.3**
NSS				IAML		23 19 05.5	
	comp=Z,2.1nm,0.5s						
TERR	**Teriberka**	**9.95**	**99**	P	**Pn**	**23 17 38.8**	**+0.6**
APA0	**Apatity Array**	**10.38**	**109**	Pn	**Pn**	**23 17 44.4**	**+0.2**
AKN	**Aaknes**	**10.99**	**179**	Pn	**Pn**	**23 17 55.5**	**+3.0**
NOA	**NORSAR Array B**	**12.26**	**169**	Pn	**Pn**	**23 18 10.0**	**+0.1**
	baz=347,slow=12,SNR=1.0						
NOA				Sn	Sn	23 20 19.1	-7.3
	baz=331,slow=10,SNR=1.0						
NOA				LR	LR	23 22 30.4	
	comp=Z,60nm,19.1s,baz=245,slow=36 comp=Z,0.2

KMSI Cibinong 4.83 246 P **Pn 23 18 59.1 +0.8**
SANI Sanana 5.17 208 P **Pn 23 19 02.5 -0.5**
SANI Sanana 5.17 208 P **Pn 23 19 01.8 -1.2**
1.2nm6µm3µm219nm,1.0s
DAV Davao City (W) 5.29 328 Pn **Pn 23 19 03.3 -1.3**
DAV Davao City (W) 5.29 328 P **Pn 23 19 03.5 -1.1**
88nm,0.4s,baz=126,slow=9.0,SNR=5.7
DAV S Sn 23 19 54.8 -9.5
528nm,0.8s,baz=75,slow=20,SNR=3.6
DAV LR LR 23 21 29.3
comp=Z,2µm,18.6s,baz=164,slow=42
MSAI Masohi 5.89 175 P **Pn 23 19 14.8 +2.0**
1.0nm4µm3µm227nm,0.7s
NLAI Namlea 5.90 193 P **Pn 23 19 13.2 +0.2**
5µm233nm,0.8s
AAI Ambon 6.20 182 P **Pn 23 19 20.5 +3.4**
0.7nm3µm267nm,0.9s
LUWI Luwuk 6.66 238 Pn **Pn 23 19 23.9 +0.6**
LUWI Luwuk 6.66 238 P **Pn 23 19 25.1 +1.8**
LUWI Luwuk 6.66 238 P **Pn 23 19 24.1 +0.8**
4µm391nm,0.8s
FAKI Fak Fak 6.67 145 Pn Pn 23 19 21.6 -1.9
FAKI Fak Fak 6.67 145 P **Pn 23 19 22.6 -0.9**
FAKI Fak Fak 6.67 145 S **Sn 23 20 34.2 -3.8**
FAKI Fak Fak 6.67 145 P **Pn 23 19 23.1 -0.4**
0.7nm129nm,0.9s
MRSI Marisa 6.77 252 P **Pn 23 19 25.6 +0.7**
RKPI Ransiki, Papua 7.05 125 P **Pn 23 19 28.9 +0.1**
BNDI Bandanaira 7.19 168 P **Pn 23 19 33.1 +2.5**
1.7nm438nm,1.5s
APSI Ampana 7.57 243 P **Pn 23 19 36.6 +0.8**
4µm245nm,0.7s
TOLI2 Tolitoli 7.74 259 Pn **Pn 23 19 36.8 -1.4**
TOLI2 Tolitoli 7.74 259 P **Pn 23 19 37.5 -0.6**
KMPI Kaimana, Papua 8.14 139 P **Pn 23 19 45.8 +2.1**
162nm,0.6s
BAKI Biak 8.56 116 P **Pn 23 19 50.9 +1.5**
192nm,0.8s
KDI Kendari 8.67 222 P **Pn 23 19 50.4 -0.4**
3µm2µm194nm,0.8s
SRPI Serui, Papua 8.99 119 P **Pn 23 19 56.8 +1.5**
4µm109nm,0.6s
PCI Palu 9.22 248 P **Pn 23 19 58.0 -0.3**
4µm108nm,1.1s
BBSI Bau Bau 9.88 216 P **Pn 23 20 08.1 +0.7**
3µm3µm306nm,1.0s
TTSI Tana Toraja 10.22 237 P **Pn 23 20 11.8 -0.1**
2µm176nm,0.6s
SPSI Sidrap Palu 10.78 233 P **Pn 23 20 19.7 +0.1**
1µm127nm,0.7s
SMPI Sarmi 11.26 114 P **Pn 23 20 26.4 +0.2**
BKSI Bulukumba 11.38 227 P **Pn 23 20 29.7 +1.9**
1µm69nm,0.6s
KAPI Kappang 11.45 229 Pn **Pn 23 20 28.9 +0.2**
KAPI Kappang 11.45 229 P **Pn 23 20 29.2 +0.4**
22nm,0.4s,baz=13,slow=4.0,SNR=10
KAPI S **Sn 23 22 32.5 -2.4**
26nm,0.7s,baz=332,slow=22,SNR=3.5
KAPI LR LR 23 25 45.6
comp=Z,510nm,19.7s,baz=36,slow=42
KAPI Kappang 11.45 229 P **Pn 23 20 29.9 +1.2**
KAPI Kappang 11.45 229 P **Pn 23 20 28.9 +0.2**
SMKI Samarinda 11.57 255 P **Pn 23 20 31.9 +1.5**
12µm243nm,0.9s
BSSI Bau Bau, Buton 11.70 222 P **Pn 23 20 33.1 +0.9**
171nm,1.3s
BKB Balikpapan 12.10 252 Pn **Pn 23 20 37.8 +0.2**
BKB Balikpapan 12.10 252 P **Pn 23 20 38.4 +0.7**
133nm,0.9s
KKM Kota Kinabalu 12.62 286 Pn **Pn 23 20 43.8 -1.0**
KKM Kota Kinabalu 12.62 286 P **Pn 23 20 46.4 +1.5**
MMRI Maumere 12.70 209 P **Pn 23 20 46.4 +0.6**
121nm,1.0s
GENI Genyem 12.84 113 P **Pn 23 20 50.5 +2.9**
3µm138nm,0.9s
SOEI Soe 12.90 199 Pn **Pn 23 20 49.1 +0.5**
SOEI Soe 12.90 199 P **Pn 23 20 51.8 +3.2**
2µm122nm,1.1s
JAY Jayapura 13.30 112 LR LR 23 25 19.4
comp=Z,947nm,20.9s,baz=326,slow=34
JAY Jayapura 13.30 112 P **Pn 23 20 54.3 +0.4**
TGY Tagaytay City 13.63 328 LR LR 23 27 14.1
comp=Z,833nm,21.0s,baz=127,slow=42
MTKI Muara Teweh, K 13.93 256 P **Pn 23 21 02.2 0.0**
WSI Waingapu 14.58 213 P **Pn 23 21 11.3 +0.8**
BASI Baing, Sumba 14.88 211 P **P 23 21 17.9 -0.5**
264nm,0.9s
WBSI Waikabubak, Su 15.07 216 P **Pn 23 21 17.1 +0.1**
2µm143nm,0.9s
PLAI Plampang 15.49 223 P **P 23 21 23.8 -1.3**
2µm226nm,1.2s
MTN Manton Dam 15.54 170 **Pn 23 21 24.7 +1.8**
MTN Manton Dam 15.54 170 P **Pn 23 21 24.7 +1.8**
comp=Z,68nm,1.7s
KDU Kakadu 15.68 165 P **Pn 23 21 26.3 +1.7**
comp=Z,65nm,0.9s
TWSI Taliwang, Sumb 16.05 226 P **P 23 21 30.6 -0.7**
comp=Z,2µmcomp=Z,103nm,1.1s
SBUM Sibu 16.16 270 Pn **Pn 23 21 30.7 0.0**
SBUM Sibu 16.16 270 P **P 23 21 31.7 -0.8**
SRBI Singaraja 16.87 231 P **P 23 21 42.0 +1.6**
comp=Z,2µmcomp=Z,143nm,1.0s
STKI Sintang 17.09 262 P **P 23 21 43.0 +0.1**
comp=Z,1µmcomp=Z,9µmcomp=Z,121nm,1.1s
DNP Denpasar 17.24 230 P **Pn 23 21 43.3 -0.8**
KMMI Kalianget 17.27 236 P **P 23 21 48.1 +3.2**
comp=Z,4µmcomp=Z,349nm,1.6s
ABJI Asem Bagus 17.47 234 P **Pn 23 21 47.8 +0.9**
comp=Z,220nm,1.1s
JAGI Jajag, Banyuwa 17.93 232 **P 23 21 50.4 -1.7**
JAGI Jajag, Banyuwa 17.93 232 P **Pn 23 21 53.4 +0.9**
JAGI Jajag, Banyuwa 17.93 232 P **Pn 23 21 55.2 +2.7**
comp=Z,2µmcomp=Z,260nm,1.0s
KSM Kuching 18.10 267 P **Pn 23 21 54.5 -0.1**
KSM IAmb IAmb 23 21 58.2
comp=Z,153nm,1.1s
KNRA Kununurra 18.12 179 P **Pn 23 21 54.9 +0.1**
KNRA IAmb IAmb 23 21 59.9
comp=Z,130nm,1.4s
KNRA Kununurra 18.12 179 P **Pn 23 21 55.3 +0.6**
comp=Z,85nm,0.9s
GMJI Gumukmas 18.38 234 P **Pn 23 22 00.7 +2.7**
comp=Z,3µmcomp=Z,198nm,1.1s
NGJI Ngawi 19.56 240 P **Pn 23 22 11.2 -0.8**
comp=Z,4µmcomp=Z,159nm,0.9s
GUMO Guam 19.63 55 LR LR 23 28 44.3
comp=Z,697nm,21.8s,baz=218,slow=34
PCJI Pacitan 20.22 238 P Pn 23 22 19.4 -0.3
SMRI Semarang 20.30 242 P **P 23 22 18.3 +0.2**
SMRI Semarang 20.30 242 P Pn 23 22 20.1 -0.6
UGM Wanagama 20.64 240 P Pn 23 22 24.1 -0.6
FITZ Fitzroy Crossi 20.70 187 P **P 23 22 21.4 -0.9**
FITZ Fitzroy Crossi 20.70 187 P **P 23 22 21.8 -0.5**
comp=Z,6.7nm,1.0s,baz=0.6,slow=6.6,SNR=10
FITZ LR LR 23 31 28.2
comp=Z,541nm,19.8s,baz=12,slow=40
comp=Z,6.7nm,1.0s
YOGI Yogyakarta 20.79 240 P Pn 23 22 24.8 -1.6
comp=Z,185nm,0.7s
TPI Tanjungpandan 21.39 256 P **P 23 22 30.0 +0.2**
comp=Z,1µmcomp=Z,116nm,1.4s
KPJI Karang Pucung 21.76 243 P **P 23 22 35.0 +1.3**
comp=Z,130nm,0.9s
YULB Yu-li 21.82 342 P **P 23 22 33.7 -0.6**
YULB Yu-li 21.82 342 P **P 23 22 34.5 +0.2**
TPUB Ta-pu 21.95 341 P **P 23 22 34.0 -1.6**
TPUB IAmb IAmb 23 22 55.0
comp=Z,84nm,0.9s
COEN Coen 22.00 139 P **P 23 22 37.1 +0.9**
COEN IAmb IAmb 23 22 54.9
comp=Z,51nm,0.9s
COEN Coen 22.00 139 P **P 23 22 36.4 +0.1**
JCJI Jatiwangi 22.01 246 P **P 23 22 39.2 +2.9**
PMG Port Moresby 22.16 123 LR LR 23 32 20.0
comp=Z,480nm,20.3s,baz=273,slow=39
SSLB Suanglung 22.30 342 P **P 23 22 38.5 -0.9**
SSLB IAmb IAmb 23 22 54.0
comp=Z,49nm,0.8s
SSLB Suanglung 22.30 342 P **P 23 22 40.6 +1.2**
NACB Ninganchiao 22.47 344 P **P 23 22 40.4 -0.8**
NACB Ninganchiao 22.47 344 P **P 23 22 41.8 +0.6**
LEM Lembang 22.73 246 LR LR 23 32 58.5
comp=Z,255nm,20.1s,baz=79,slow=40
LEM Lembang 22.73 246 P **P 23 22 46.4 +2.1**
comp=Z,82nm,0.8s
WB0 Warramunga Arr 22.95 165 P **P 23 22 46.3 0.0**

BBJI Bungbulang 22.96 244 P **P 23 22 49.3 +2.8**
YHNB Yeheng 23.00 343 P **P 23 22 45.1 -1.7**
YHNB IAmb IAmb 23 23 01.1
comp=Z,41nm,0.9s
YHNB Yeheng 23.00 343 P **P 23 22 48.2 +1.4**
WRAB Tennant Creek 23.10 166 P **P 23 22 48.2 +0.5**
WRAB Tennant Creek 23.10 166 P **P 23 22 48.2 +0.5**
WRAB pmax pmax
comp=Z,115nm,1.1s
WRA Warramunga Arr 23.11 166 P **P 23 22 47.7 -0.1**
comp=Z,27nm,1.0s,baz=344,slow=11,SNR=90
WRA PcP **PcP 23 26 35.5 +1.0**
comp=Z,0.9nm,0.5s,baz=20,slow=1.7,SNR=2.2
WRA ScP **ScP 23 30 07.2 +1.3**
comp=Z,1.8nm,0.8s,baz=340,slow=3.0,SNR=6.1
WRA LR LR 23 33 20.7
comp=Z,474nm,18.7s,baz=331,slow=40
comp=Z,27nm,1.0s
WRA Warramunga Arr 23.11 166 *i* P **P 23 22 47.7 -0.1**
WRA pmax pmax
comp=Z,19nm,0.7s
WB2 Warramunga Arr 23.11 166 P **P 23 22 47.7 -0.1**
CNJI Cibinong 23.37 245 P **P 23 22 50.1 -0.2**
TNG Tangerang 23.38 248 P **P 23 22 53.0 +2.6**
SKJI Sukabumi 23.77 246 P **P 23 22 55.2 +1.2**
comp=Z,176nm,0.8s
KNMB Chin-men Tao 23.83 337 P **P 23 22 54.2 -0.1**
KNMB IAmb IAmb 23 23 13.5
comp=Z,54nm,1.0s
SBJI Serang 23.84 249 P **P 23 22 57.8 +3.2**
comp=Z,157nm,1.4s
JOW Kunigami 24.14 360 P **P 23 22 57.6 +0.5**
JOW Kunigami 24.14 360 LR LR 23 31 36.4
comp=Z,423nm,20.7s,baz=310,slow=34
QZH Quanzhou 24.18 338 P **P 23 22 57.6 +0.1**
QZH S **S 23 27 13.3 +2.9**
QZH pmax pmax
comp=Z,51nm,1.1s
QZH LR LR
comp=Z,330nm,22.0s
QZH LR LR
comp=Z,430nm,21.6s
QZH LR LR
comp=Z,490nm,21.6s
PMBI Palembang 24.23 257 P **P 23 23 00.1 +2.0**
CGJI Cibinong 24.42 248 P **P 23 22 59.9 +0.1**
comp=Z,2µmcomp=Z,186nm,1.0s
BLSI Bandar Lampung 24.42 251 P **P 23 23 00.7 +0.9**
QIZ Qiongzhong 24.45 313 P **P 23 22 59.6 -0.4**
QIZ Qiongzhong 24.45 313 P **P 23 23 00.6 +0.6**
QIZ pP **pP 23 23 17.1 +0.6**
QIZ S **S 23 27 17.5 +2.6**
QIZ sS **sS 23 27 46.2 +1.1**
QIZ pmax pmax
comp=Z,28nm,1.2s
QIZ LR LR
comp=Z,180nm,13.1s
QIZ LR LR
comp=Z,240nm,12.7s
QIZ LR LR
comp=Z,350nm,16.7s
MYKOM Kota Tinggi 24.54 269 P **P 23 23 01.2 +0.4**
KRVT Keravat (AS076 24.58 106 LR LR 23 30 49.1
comp=Z,782nm,20.0s,baz=29,slow=32
MBWA Marble Bar 25.05 199 P **P 23 23 04.7 -0.8**
MBWA IAmb IAmb 23 23 21.6
comp=Z,74nm,1.3s
MBWA Marble Bar 25.05 199 P **P 23 23 07.0 +1.6**
MDSI Maura Dua 25.18 254 P **P 23 23 07.3 +0.5**
comp=Z,69nm,1.1s
PSA00 Pilbara Seismi 25.40 199 P **P 23 23 07.5 -1.0**
PSA00 IAmb IAmb 23 23 11.9
comp=Z,34nm,0.9s
PSA00 Pilbara Seismi 25.40 199 P **P 23 23 08.8 +0.2**
LWLI Liwa 25.45 253 P **P 23 23 10.4 +1.1**
QIS Mount Isa 25.47 155 P **P 23 23 10.2 +0.9**
comp=Z,146nm,1.1s
QIS Mount Isa 25.47 155 P **P 23 23 10.2 +0.9**
MTSU Mount Surprise 25.86 143 P **P 23 23 14.6 +1.7**
comp=Z,17nm,0.8s
UBPT Khong Chiam 25.89 301 P **P 23 23 13.0 -0.2**
UBPT IAmb IAmb 23 23 16.9
comp=Z,68nm,0.9s
UBPT Khong Chiam 25.89 301 P **P 23 23 14.4 +1.2**
XMIS Christmas Isla 26.08 240 P **P 23 23 14.1 -0.8**
MNAI Manna 26.33 255 P **P 23 23 18.2 +1.1**
KSI Kapahiang 26.51 257 P **P 23 23 19.7 +0.8**
comp=Z,110nm,1.0s
AS16 Alice Springs 26.59 169 P **P 23 23 19.9 +0.5**
comp=Z,49nm,1.1s
AS31 Alice Springs 26.61 169 P **P 23 23 18.7 -0.9**
ASAR Alice Springs 26.61 169 P **P 23 23 19.6 0.0**
comp=Z,4.0nm,0.5s,baz=354,slow=8.2,SNR=60
ASAR PcP **PcP 23 26 42.7 +0.5**
comp=Z,2.9nm,0.5s,baz=354,slow=2.2,SNR=7.6
ASAR ScP **ScP 23 30 17.2 +1.6**
comp=Z,3.3nm,0.9s,baz=341,slow=2.1,SNR=10
ASAR LR LR 23 34 45.0
comp=Z,177nm,18.5s,baz=341,slow=38
comp=Z,4.0nm,0.5s
AS01 Alice Springs 26.62 169 P **P 23 23 20.3 +0.6**
IPM Ipoh 27.38 275 P **P 23 23 27.1 +0.5**
WRKA Warakurna 27.43 180 P **P 23 23 27.1 +0.2**
BKNI Bangkinang 27.43 266 P **P 23 23 28.0 +0.9**
BKNI Bangkinang 27.43 266 P **P 23 23 28.6 +1.5**
JCJ Chichijima 27.75 27 LR LR 23 32 06.3
comp=Z,316nm,21.6s,baz=132,slow=31
KULM Kulim 27.81 276 P **P 23 23 30.4 0.0**
KULM Kulim 27.81 276 P **P 23 23 31.6 +1.2**
PPI Padang Panjang 28.15 264 P **P 23 23 33.9 +0.5**
comp=Z,23nm,0.8s
GIRL Giralia 28.61 208 P **P 23 23 38.1 +0.7**
MNSI Mandailing Nat 28.85 267 P **P 23 23 40.2 +0.5**
PSI Prapat 29.44 271 LR LR 23 36 47.1
comp=Z,188nm,21.7s,baz=114,slow=39
PSI Prapat 29.44 271 P **P 23 23 44.2 -0.8**
PSI pmax pmax
comp=Z,14nm,1.1s
RPSI Rantau Prapat 29.44 271 P **P 23 23 44.2 -0.7**
TSI Tuntungan 29.80 273 P **P 23 23 49.9 +1.8**
SLVN Son La 30.27 310 P **P 23 23 51.6 -0.6**
JNU Nakatsue 30.50 4 P **P 23 23 54.4 +0.4**
JNU IAmb IAmb 23 24 02.6
comp=Z,23nm,1.0s
JNU Nakatsue 30.50 4 P **P 23 23 53.1 -1.0**
comp=Z,12nm,0.8s,baz=274,slow=1.4,SNR=6.8
JNU LR LR 23 34 55.9
comp=Z,368nm,21.2s,baz=178,slow=34
comp=Z,12nm,0.8s
JNU Nakatsue 30.50 4 P **P 23 23 53.6 -0.5**
MEEK Meekatharra 30.52 197 P **P 23 23 53.7 -0.6**
GSI Gunungsitoli 30.82 268 P **P 23 23 56.9 -0.3**
GSI IAmb IAmb 23 24 19.6
comp=Z,24nm,0.9s
GSI Gunungsitoli 30.82 268 P **P 23 23 57.5 +0.3**
comp=Z,2µmcomp=Z,33nm,0.9s
OOD Oodnadatta 30.98 167 P **P 23 23 59.5 +1.2**
PHRA Phrae 31.81 302 P **P 23 24 06.0 +0.2**
CM31 Chiang Mai Arr 32.89 301 P **P 23 24 14.2 -1.1**
CMAR Chiang Mai Arr 32.89 301 P **P 23 24 15.3 0.0**
CMAR Chiang Mai Arr 32.89 301 P **P 23 24 15.4 +0.2**
comp=Z,3.1nm,0.5s,baz=121,slow=7.5,SNR=26
CMAR ScP **ScP 23 30 37.9 +1.8**
comp=Z,2.4nm,0.3s,baz=148,slow=2.5,SNR=7.2
CMAR LR LR 23 36 26.3
comp=Z,95nm,21.2s,baz=105,slow=34
comp=Z,3.1nm,0.5s
CMAR Chiang Mai Arr 32.89 301 *ce*P **P 23 24 16.7 +1.4**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 33.05 301 P **P 23 24 15.6 -1.0**
CHTO Chiang Mai 33.05 301 P **P 23 24 15.6 -1.0**
CHTO pmax pmax
comp=Z,15nm,0.9s
FORT Forrest 33.15 181 P **P 23 24 15.9 -1.4**
FORT Forrest 33.15 181 P **P 23 24 19.9 +2.6**
comp=Z,69nm,0.9s
FORT Forrest 33.15 181 P **P 23 24 17.1 -0.2**
KMI Kunming 33.38 315 ⇑P **P 23 24 20.9 +1.2**
KMI sP pwP 23 24 45.0 +3.8
KMI S **S 23 29 38.0 +2.4**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,160nm,18.2s

KMI LR LR
comp=Z,140nm,17.9s
KMI LR LR
comp=Z,470nm,27.6s
INU Inuyama 33.60 13 P **P 23 24 19.9 -1.2**
INU IAmb IAmb 23 24 42.8
comp=Z,17nm,0.9s
INU Inuyama 33.60 13 P **P 23 24 20.6 -0.6**
INU pP **pP 23 24 36.1 -2.2**
MORW Morawa 33.60 200 P **P 23 24 20.4 -0.9**
HNR Honiara 33.62 111 LR LR 23 39 08.1
comp=Z,99nm,18.9s,baz=280,slow=38
TJN Taejon 33.67 359 P **P 23 24 21.6 -0.1**
TJN Taejon 33.67 359 P **P 23 24 21.6 -0.1**
TJN pmax pmax
comp=Z,90nm,0.9s
LCRK Leigh Creek 34.13 165 P **P 23 24 26.9 +1.0**
KMBL Kambalda 34.30 190 P **P 23 24 26.9 -0.5**
comp=Z,33nm,0.8s
KMBL Kambalda 34.30 190 P **P 23 24 27.2 -0.1**
KSRS Korea Array 34.73 359 P **P 23 24 30.2 -0.8**
comp=Z,15nm,0.7s,baz=175,slow=9.9,SNR=56
KSRS ScP **ScP 23 30 44.4 +2.3**
comp=Z,0.4nm,0.5s,baz=182,slow=3.5,SNR=4.3
KSRS LR LR 23 37 47.7
comp=Z,190nm,21.0s,baz=165,slow=35
comp=Z,15nm,0.7s
KS19 Wonju Array Si 34.78 359 P **P 23 24 30.7 -0.7**
KS19 IAmb IAmb 23 24 33.4
comp=Z,22nm,0.8s
BLDU Ballidu 34.82 198 P **P 23 24 30.8 -1.0**
BLDU Ballidu 34.82 198 P **P 23 24 30.8 -1.0**
PZH PanZhiHua 34.94 315 P **P 23 24 33.8 +0.7**
PZH S **S 23 30 01.5 +2.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,150nm,6.7s
PZH LR LR
comp=Z,100nm,16.5s
PZH LR LR
comp=Z,130nm,16.9s
PZH LR LR
comp=Z,210nm,19.1s
MAJO Matsushiro 35.01 14 P **P 23 24 32.1 -1.4**
MAJO IAmb IAmb 23 24 38.2
comp=Z,12nm,0.7s
MAJO Matsushiro 35.01 14⇑*e*P **P 23 24 32.3 -1.1**
MAJO pmax pmax
comp=Z,33nm,2.6s
MAJO Matsushiro 35.01 14 P **P 23 24 31.6 -1.8**
MJAR Matsushiro Arr 35.01 14 P **P 23 24 31.1 -2.3**
comp=Z,3.7nm,0.5s,baz=184,slow=9.1,SNR=11
MJAR LR LR 23 36 41.7
comp=Z,528nm,21.5s,baz=198,slow=32
comp=Z,3.7nm,0.5s
MJB9 Matsu-Tunnel 35.02 14 P **P 23 24 31.8 -1.7**
MJB9 IAmb IAmb 23 24 39.2
comp=Z,12nm,0.7s
LYN LuoYang 35.12 337 P **P 23 24 36.0 +1.7**
LYN pP pP 23 24 55.5 +4.1
LYN sP pwP 23 25 03.1 +7.2
LYN S **S 23 30 01.5 -0.3**
LYN SS **SS 23 32 32.4 -5.0**
LYN pmax pmax
comp=Z,15nm,0.7s
LYN pmax pmax
comp=Z,130nm,5.9s
LYN LR LR
comp=Z,320nm,21.6s
LYN LR LR
comp=Z,410nm,24.4s
LYN LR LR
comp=Z,750nm,24.4s
EIDS Eidsvold 35.42 143 P **P 23 24 36.1 -0.9**
EIDS Eidsvold 35.42 143 P **P 23 24 38.9 +1.9**
comp=Z,48nm,1.4s
KLBR Kellerberrin 35.43 196 P **P 23 24 36.1 -1.0**
comp=Z,57nm,0.8s
KLBR Kellerberrin 35.43 196 P **P 23 24 36.3 -0.8**
BBOO Buckleboo 35.91 169 P **P 23 24 40.5 -0.7**
BBOO IAmb IAmb 23 24 54.7
comp=Z,43nm,1.4s
BBOO Buckleboo 35.91 169 P **P 23 24 41.3 +0.1**
comp=Z,22nm,0.7s
BBOO Buckleboo 35.91 169 P **P 23 24 41.5 +0.3**
XAN Xi'an 36.21 332 ⇑P **P 23 24 42.9 -0.9**
XAN pP pP 23 25 00.6 -0.3
XAN PP **PP 23 26 07.6 0.0**
XAN S **S 23 30 17.8 -0.9**
XAN pmax pmax
comp=Z,24nm,1.3s
XAN pmax pmax
comp=Z,240nm,4.6s
XAN LR LR
comp=Z,380nm,14.9s
XAN LR LR
comp=Z,290nm,16.5s
XAN LR LR
comp=Z,530nm,18.0s
TNCH TengChong 36.44 310 ⇑P **P 23 24 46.4 +0.4**
TNCH pP pP 23 25 06.7 +3.7
TNCH sP sP 23 25 15.3 +3.9
TNCH PP **PP 23 26 10.1 -0.2**
TNCH S **S 23 30 20.1 -2.5**
TNCH sS ScP 23 30 55.3 +6.4
TNCH pmax pmax
comp=Z,13nm,1.7s
TNCH pmax pmax
comp=Z,130nm,4.8s
TNCH LR LR
comp=Z,97nm,7.8s
TNCH LR LR
comp=Z,100nm,6.4s
TNCH LR LR
comp=Z,260nm,23.8s
STKA Stephens Creek 36.47 161 P **P 23 24 45.0 -0.9**
STKA Stephens Creek 36.47 161 P **P 23 24 46.6 +0.7**
comp=Z,17nm,0.8s
STKA Stephens Creek 36.47 161 P **P 23 24 46.0 +0.1**
comp=Z,14nm,0.6s,baz=339,slow=8.3,SNR=18
STKA LR LR 23 41 46.0
comp=Z,199nm,19.9s,baz=341,slow=39
comp=Z,14nm,0.6s
STKA Stephens Creek 36.47 161 P **P 23 24 46.3 +0.4**
STKA Stephens Creek 36.47 161 P **P 23 24 45.0 -0.9**
STKA pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 36.57 323 P **P 23 24 47.0 +0.1**
CD2 S **S 23 30 25.4 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 LR LR
comp=Z,150nm,13.3s
CD2 LR LR
comp=Z,190nm,10.2s
CD2 LR LR
comp=Z,170nm,13.3s
NWAO Narrogin (SRO) 36.84 196 P **P 23 24 48.2 -0.8**
comp=Z,45nm,1.2s
NWAO Narrogin (SRO) 36.84 196 LR LR 23 41 03.9
comp=Z,175nm,19.1s,baz=130,slow=38
NWAO Narrogin (SRO) 36.84 196 P **P 23 24 48.8 -0.2**
NWAO Narrogin (SRO) 36.84 196 P **P 23 24 48.0 -1.0**
HNS HongShan 36.89 342 ⇓P **P 23 24 51.9 +2.5**
HNS sP **pwP 23 25 16.3 +5.2**
HNS *e*S **S 23 30 34.0 +5.3**
HNS pmax pmax
comp=Z,19nm,0.9s
HNS LR LR
comp=Z,260nm,18.4s
HNS LR LR
comp=Z,170nm,15.3s
HNS LR LR
comp=Z,260nm,18.2s
JMM Marumori 36.94 16 P **P 23 24 48.4 -1.4**
CMSA Cobar Meteorol 37.69 155 P **P 23 24 56.6 +0.4**
TIY Taiyuan 37.93 339 P **P 23 24 57.0 -1.3**
TIY pP **pP 23 25 16.3 +0.8**
TIY sP **pwP 23 25 27.8 +7.7**
TIY S **S 23 30 49.6 +4.9**
TIY pmax pmax
comp=Z,5.0nm,0.9s
TIY LR LR
comp=Z,280nm,17.2s
TIY LR LR

comp=Z,120nm,12.4s
TIY LR LR
comp=Z,260nm,24.0s
BJT Baijiatuau 38.91 345 P **P** **23 25 04.7 -1.7**
BJT IAmb IAmb 23 25 35.1
comp=Z,24nm,1.0s
BJT Baijiatuau 38.91 345 P **P** **23 25 08.4 +2.0**
BJT Baijiatuau 38.91 345 P **P** **23 25 04.7 -1.7**
BJT pmax pmax
comp=Z,24nm,1.0s
BJI Beijing 38.92 345 P **P** **23 25 05.1 -1.4**
BJI pmax pmax
comp=Z,11nm,0.9s
ARMA Armidale 39.59 148 P **P** **23 25 12.4 +0.1**
ARMA Armidale 39.59 148 P **P** **23 25 13.2 +0.8**
comp=Z,59nm,1.3s
ARMA Armidale 39.59 148 P **P** **23 25 13.3 +1.0**
JTM Tenmabayashi 39.74 15 P **P** **23 25 12.5 -0.8**
PSTR Posyet 39.98 3⇑ *e*P **P** **23 25 16.1 +0.9**
LZH Lanzhou 40.35 329 ⇑P **P** **23 25 20.0 +1.3**
LZH pP pP 23 25 33.9 -2.0
LZH S **S** **23 31 26.6 +5.2**
LZH pmax pmax
comp=Z,43nm,1.1s
LZH LR LR
comp=Z,370nm,14.8s
LZH LR LR
comp=Z,240nm,13.6s
LZH LR LR
comp=Z,250nm,15.3s
BRDH Bariadhala 40.86 302 LR LR 23 45 29.9
comp=Z,94nm,18.1s,baz=138,slow=41
HHC Hu-ho-hao-te 41.04 340 *e*P **P** **23 25 23.7 -0.5**
HHC pmax pmax
comp=Z,3.0nm,0.7s
HHC pmax pmax
comp=Z,52nm,4.2s
HHC LR LR
comp=Z,140nm,17.6s
HHC LR LR
comp=Z,200nm,17.6s
HHC LR LR
comp=Z,210nm,17.6s
ARPS Mount Arapiles 41.08 163 P **P** **23 25 26.0 +1.6**
comp=Z,150nm,0.9s
USA0B Ussuriysk Arra 41.59 4⇑ *e*P **P** **23 25 27.9 -0.6**
USRK Ussuriysk Ar. 41.59 4 P **P** **23 25 27.1 -1.4**
USRK Ussuriysk Ar. 41.59 4 P **P** **23 25 28.2 -0.3**
comp=Z,6.7nm,0.7s,baz=182,slow=5.4,SNR=8.6
USRK LR LR 23 40 10.4
comp=Z,118nm,20.4s,baz=190,slow=32
comp=Z,6.7nm,0.7s
USRK Ussuriysk Ar. 41.59 4 P **P** **23 25 27.1 -1.4**
MDJ Mudanjiang 41.90 1 P **P** **23 25 32.4 +1.4**
MDJ pP pP 23 25 48.7 +0.1
MDJ PcP **PcP** **23 27 25.8 +0.4**
MDJ PcS **PcS** **23 31 14.6 -2.3**
MDJ S **S** **23 31 46.0 +2.4**
MDJ ScS **ScS** **23 35 27.1 +0.7**
MDJ pmax pmax
comp=Z,19nm,2.1s
MDJ LR LR
comp=Z,240nm,10.9s
MDJ LR LR
comp=Z,170nm,10.5s
MDJ LR LR
comp=Z,290nm,10.5s
SHL Shillong 41.90 306 P **P** **23 25 31.2 -0.4**
SHL Shillong 41.90 306 P **P** **23 25 31.2 -0.4**
SHL pmax pmax
comp=Z,42nm,0.7s
XLT XiLinHaoTe 42.59 347 *e*P **P** **23 25 35.3 -1.5**
XLT pP pP 23 25 52.8 -1.5
XLT sP pwP 23 26 05.1 +6.6
XLT pmax pmax
comp=Z,7.0nm,1.4s
BNX BinXian 43.02 359 ⇑P **P** **23 25 41.9 +1.8**
BNX pmax pmax
comp=Z,3.0nm,1.0s
ASAJ Asahikawa 43.26 15 P **P** **23 25 43.0 +0.9**
comp=Z,5.1nm,0.5s,baz=217,slow=12,SNR=2.0
ASAJ LR LR 23 41 52.2
comp=Z,284nm,20.6s,baz=214,slow=34
comp=Z,5.1nm,0.5s
LSA Lhasa 44.45 311 IAmb IAmb 23 26 26.3
comp=Z,15nm,0.8s
LSA Lhasa 44.45 311 P **P** **23 25 53.9 +1.5**
LSA Lhasa 44.45 311 P **P** **23 25 54.1 +1.6**
LSA pP **pP** **23 26 08.9 -1.0**
DZM Mont Dzumac 44.51 125 *e*S **S** **23 32 20.7 -1.9**
comp=Z,83nm,28.6s
DZM *e*LR LR 23 38 21.9
comp=Z,299nm,28.6s
DZM Mont Dzumac 44.51 125 LR LR 23 45 15.3
comp=Z,131nm,18.8s,baz=248,slow=37
GTA Gaotai 44.95 328 P **P** **23 25 56.9 +1.0**
GTA pP pP 23 26 18.4 +5.0
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=Z,190nm,15.1s
GTA LR LR
comp=Z,150nm,17.9s
GTA LR LR
comp=Z,230nm,18.3s
GOMU GeErMu 45.63 321 P **P** **23 26 02.8 +1.2**
GOMU pmax pmax
comp=Z,10.0nm,0.9s
GOMU LR LR
comp=Z,380nm,15.0s
GOMU LR LR
comp=Z,310nm,13.1s
GOMU LR LR
comp=Z,210nm,13.6s
YSS Yuzhno-Sakhali 45.95 14⇑ *e*P **P** **23 26 04.1 +0.7**
YSS pmax pmax
comp=Z,27nm,1.7s
KLR Kul'dur 46.59 3 P **P** **23 26 08.7 +0.3**
comp=Z,3.3nm,0.7s,baz=240,slow=4.4,SNR=9.6
KLR LR LR 23 43 18.5
comp=Z,149nm,21.6s,baz=178,slow=33
comp=Z,3.3nm,0.7s
KLR Kul'dur 46.59 3⇓ *e*P **P** **23 26 09.3 +0.9**
KLR pmax pmax
comp=Z,10.0nm,1.3s
HEH HeiHe 47.53 359 *e*P **P** **23 26 15.9 +0.2**
HEH pmax pmax
comp=Z,8.0nm,0.8s
PALK Pallekele 47.72 277 LR LR 23 50 36.4
comp=Z,33nm,18.7s,baz=94,slow=41
ULN Ulaanbaatar 48.75 341 P **P** **23 26 24.8 -0.6**
ULN IAmb IAmb 23 26 50.0
comp=Z,17nm,1.0s
ULN Ulaanbaatar 48.75 341 *de*P **P** **23 26 25.4 0.0**
ULN pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 48.75 341 P **P** **23 26 25.2 -0.2**
ULN pP **pP** **23 26 40.3 -2.9**
SONM Songino Array 48.94 340 P **P** **23 26 25.4 -1.3**
SONM Songino Array 48.94 340 P **P** **23 26 25.9 -0.9**
comp=Z,2.7nm,0.6s,baz=150,slow=8.0,SNR=18
SONM ScP **ScP** **23 31 39.3 +0.8**
comp=Z,1.0nm,0.9s,baz=150,slow=4.0,SNR=4.8
SONM LR LR 23 49 00.5
comp=Z,135nm,21.6s,baz=152,slow=38
comp=Z,2.7nm,0.6s
SONM Songino Array 48.94 340 P **P** **23 26 25.5 -1.3**
SONM pmax pmax
comp=Z,6.0nm,0.8s
ZEA Zeya 51.02 359 *e*P **P** **23 26 42.6 +0.3**
HYB Hyderabad 51.07 290 *e*P **P** **23 26 44.3 +1.0**
HYB IVmB_BB 23 26 44.6
comp=Z,561nm,0.9s
ZAK Zakamensk 52.18 340 *e*P **P** **23 26 49.3 -1.8**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
MSVF Nonsavu 52.92 114 LR LR 23 47 31.2
comp=Z,83nm,21.1s,baz=193,slow=34
MOY Mondy 54.05 339 *e*P **P** **23 27 05.4 +0.5**
MOY pmax pmax
comp=Z,22nm,1.9s
WMQ Urumqi 54.63 325 *e*P **P** **23 27 09.6 +0.4**
WMQ pP pP 23 27 29.0 +1.6
WMQ S **S** **23 34 38.1 -5.3**
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ LR LR
comp=Z,210nm,20.1s
WMQ Urumqi 54.63 325 P **P** **23 27 09.9 +0.8**
PEA0B Petropavlovsk- 55.91 21 P **P** **23 27 17.7 -0.4**
PEA0B Petropavlovsk- 55.91 21 P **P** **23 27 17.7 -0.4**
PEA0B pmax pmax
comp=Z,137nm,1.6s
PETK Petropavlovsk- 55.91 21 P **P** **23 27 18.2 +0.2**
PETK Petropavlovsk- 55.91 21 P **P** **23 27 18.7 +0.6**
comp=Z,6.8nm,0.7s,baz=179,slow=3.9,SNR=7.7
PETK LR LR 23 50 22.5
comp=Z,129nm,20.3s,baz=206,slow=35
comp=Z,6.8nm,0.7s
PETK Petropavlovsk- 55.91 21 P **P** **23 27 18.2 +0.2**
DGZ Jazzator, Alta 58.43 330⇑ *e*P **P** **23 27 37.7 +1.6**
DGZ pmax pmax
comp=Z,13nm,0.8s
WUS Wushi 58.54 318 IAmb IAmb 23 28 21.6
comp=Z,12nm,1.0s
YAK Yakutsk 59.34 1 P **P** **23 27 40.9 -1.1**
YAK Yakutsk 59.34 1 LR LR 23 51 21.8
comp=Z,127nm,21.8s,baz=142,slow=34
YAK Yakutsk 59.34 1 *e*P **P** **23 27 41.2 -0.7**
YAK *e**PP **pP** **23 28 00.9 0.0**
YAK *e* 23 28 28.2
YAK *e*PPP PPP 23 31 14.3
YAK *e*S **S** **23 35 44.0 -0.6**
YAK *e* 23 37 21.0
YAK *e*SS **SS** **23 39 40.4 -0.1**
YAK *e*SSS SSS 23 42 12.9
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK smax smax
comp=E,96nm,4.2s
YAK smax smax
comp=N,90nm,4.2s
MA2 Magadan 59.45 13 P **P** **23 27 42.6 -0.2**
MA2 IAmb IAmb 23 27 44.6
comp=Z,17nm,0.9s
MA2 Magadan 59.45 13 LR LR 23 50 55.1
comp=Z,114nm,21.9s,baz=214,slow=34
MA2 Magadan 59.45 13⇓ *e*P **P** **23 27 44.0 +1.2**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 59.45 13 P **P** **23 27 44.0 +1.2**
MK31 Makanchi Array 59.46 325 *c i*P **P** **23 27 43.1 -0.1**
MKAR Makanchi Array 59.46 325 P **P** **23 27 42.4 -0.8**
MKAR Makanchi Array 59.46 325 P **P** **23 27 43.2 +0.1**
comp=Z,6.9nm,0.6s,baz=111,slow=7.4,SNR=74
MKAR ScP **ScP** **23 32 24.5 +0.2**
comp=Z,0.9nm,0.7s,baz=115,slow=4.7,SNR=4.4
MKAR LR LR 23 54 40.0
comp=Z,124nm,21.9s,baz=109,slow=37
comp=Z,6.9nm,0.6s
MAKZ Makanchi 59.65 325 P **P** **23 27 43.8 -0.7**
MAKZ IAmb IAmb 23 28 18.5
comp=Z,9.9nm,0.8s
MAKZ Makanchi 59.65 325 P **P** **23 27 43.8 -0.7**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 59.65 325 P **P** **23 27 44.3 -0.2**
LBZ Lake Benmore 59.79 146 P **P** **23 27 45.0 -0.5**
KSH Kashi 60.04 315 P **P** **23 27 48.2 +0.8**
KSH pmax pmax
comp=Z,6.0nm,1.3s
URZ Urewera 60.56 137 LR LR 23 54 09.1
comp=Z,215nm,20.0s,baz=36,slow=36
AAK Ala-Archa 62.34 318 P **P** **23 28 02.6 -0.3**
AAK Ala-Archa 62.34 318 LR LR 23 56 48.0
comp=Z,198nm,21.1s,baz=92,slow=38
AAK Ala-Archa 62.34 318⇓ *e*P **P** **23 28 03.7 +0.8**
AAK pmax pmax
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 62.38 333 P **P** **23 28 00.9 -1.9**
ZAA0 IAmb IAmb 23 28 14.5
comp=Z,13nm,1.2s
ZALV Zalesovo Beam 62.38 333 P **P** **23 28 01.2 -1.6**
ZALV Zalesovo Beam 62.38 333 P **P** **23 28 01.6 -1.1**
comp=Z,1.4nm,0.4s,baz=116,slow=6.8,SNR=11
ZALV LR LR 23 56 57.7
comp=Z,130nm,19.7s,baz=139,slow=38
comp=Z,1.4nm,0.4s
SHEM Shemya Is, Ala 62.65 29 LR LR 23 51 28.9
comp=Z,196nm,19.9s,baz=230,slow=32
SEY Seymchan 62.81 12 LR LR 23 56 16.4
comp=Z,48nm,19.0s,baz=186,slow=37
SEY Seymchan 62.81 12⇓ *e*P **P** **23 28 07.1 +1.7**
SEY pmax pmax
comp=Z,19nm,1.0s
DRK Karamyk 63.01 314 P **P** **23 28 06.7 -1.0**
DRK IAmb IAmb 23 28 36.1
comp=Z,13nm,0.7s
DRK Karamyk 63.01 314 P **P** **23 28 06.7 -1.0**
DRK pmax pmax
comp=Z,13nm,0.7s
KBL Kabul 63.55 308 P **P** **23 28 09.6 -1.6**
KBL IAmb IAmb 23 28 33.0
comp=Z,9.2nm,0.8s
KBL Kabul 63.55 308 P **P** **23 28 09.6 -1.6**
KBL pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 63.62 327 P **P** **23 28 10.7 -0.3**
comp=Z,7.2nm,0.7s,baz=126,slow=6.0,SNR=61
comp=Z,7.2nm,0.7s
KURK Kurchatov 63.62 327 P **P** **23 28 09.8 -1.2**
KURK IAmb IAmb 23 28 36.7
comp=Z,18nm,0.9s
KURK Kurchatov 63.62 327 *c i*P **P** **23 28 10.7 -0.3**
KURK pmax pmax
comp=Z,18nm,1.3s
KURK Kurchatov 63.62 327 P **P** **23 28 10.7 -0.3**
BTK Batken 63.92 314 P **P** **23 28 12.2 -1.2**
BTK IAmb IAmb 23 28 51.7
comp=Z,15nm,1.0s
BTK Batken 63.92 314 P **P** **23 28 12.2 -1.2**
BTK pmax pmax
comp=Z,15nm,1.0s
GAR Garm 63.93 313 P **P** **23 28 12.9 -0.7**
SIMJ Simiganj 64.79 312 P **P** **23 28 17.8 -1.4**
SIMJ IAmb IAmb 23 28 51.1
comp=Z,30nm,1.6s
KK31 Karatay Array 65.22 317 P **P** **23 28 20.1 -1.6**
KK31 Karatay Array 65.22 317 P **P** **23 28 20.1 -1.6**
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 65.22 317 P **P** **23 28 20.7 -1.0**
KKAR Karatay Array 65.22 317 P **P** **23 28 20.7 -1.0**
KKAR pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 69.00 0 P **P** **23 28 43.6 -1.4**
TIXI Tiksi 69.00 0 LR LR 23 57 19.1
comp=Z,108nm,21.7s,baz=192,slow=34
TIXI Tiksi 69.00 0⇑ *e*P **P** **23 28 44.5 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 69.00 0 P **P** **23 28 44.3 -0.7**
BVAR Borovoye Array 69.20 327 P **P** **23 28 45.6 -1.0**
comp=Z,5.5nm,0.7s,baz=116,slow=6.8,SNR=19
BVAR LR LR 00 01 38.2
comp=Z,101nm,20.0s,baz=108,slow=38
comp=Z,5.5nm,0.7s
BRVK Borovoye 69.28 327 P **P** **23 28 45.1 -2.0**
BRVK IAmb IAmb 23 29 23.5
comp=Z,15nm,0.9s
BRVK Borovoye 69.28 327 *ce*P **P** **23 28 45.8 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 69.28 327 P **P** **23 28 46.0 -1.1**
BILL Bilibino 70.27 14 P **P** **23 28 53.0 +0.1**
BILL Bilibino 70.27 14⇑ *i*P **P** **23 28 52.7 -0.2**
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL Bilibino 70.27 14 P **P** **23 28 53.2 +0.3**
NRIK Noril'sk 71.96 346 P **P** **23 29 01.0 -2.1**
NRIK Noril'sk 71.96 346 P **P** **23 29 01.4 -1.7**
comp=Z,7.7nm,0.6s,baz=124,slow=6.0,SNR=21
NRIK LR LR 00 02 55.4
comp=Z,113nm,21.7s,baz=146,slow=38
comp=Z,7.7nm,0.6s
NRIK Noril'sk 71.96 346 *ce*P **P** **23 29 02.5 -0.6**
NRIK pmax pmax
comp=Z,12nm,0.8s
P08K Saint George I 72.80 31 P **P** **23 29 08.8 +0.5**
baz=247
UNV Unalaska Valle 73.45 34 P **P** **23 29 12.4 +0.2**
UNV Unalaska Valle 73.45 34 P **P** **23 29 12.4 +0.2**
baz=251
RAR Rarotonga 74.06 113 LR LR 00 01 03.8
comp=Z,90nm,18.0s,baz=276,slow=35
ABKAR Akbulak array 74.10 321 P **P** **23 29 14.9 -1.3**
GAMB Gambell 74.80 23 P **P** **23 29 20.7 +0.9**
baz=244
AKTO Aktyubinsk 75.60 322 LR LR 00 05 17.8
comp=Z,96nm,19.0s,baz=52,slow=38
M11K Mekoryuk 75.82 28 P **P** **23 29 26.4 +0.6**
baz=250
SVE Sverdlovsk 75.82 328 *e*P **P** **23 29 25.0 -0.9**
SVE pmax pmax
comp=Z,16nm,1.4s
S12K Black Hills 76.46 33 P **P** **23 29 30.0 +0.4**
baz=254
ARTI Arti 76.89 328 P **P** **23 29 29.9 -2.1**
ARTI Arti 76.89 328 LR LR 00 05 46.5
comp=Z,87nm,18.4s,baz=89,slow=38
ARTI Arti 76.89 328 *d i*P **P** **23 29 30.4 -1.6**
ARTI *PP **PcP** **23 29 48.6 +5.8**
ARTI 23 32 20.9
ARTI S **S** **23 39 11.5 -2.3**
ARTI pmax pmax
comp=Z,10.0nm,1.4s
TNA Tin City 77.03 23 P **P** **23 29 33.0 +0.5**
baz=247
K13K Kusilvak Mount 77.06 27 P **P** **23 29 33.5 +0.7**
baz=251
M13K Dall Lake 77.17 28 P **P** **23 29 34.1 +0.7**
baz=252
F14K Arctic Creek 77.61 23 P **P** **23 29 36.3 +0.6**
baz=248
CHNA Chernabura Isl 77.61 34 P **P** **23 29 36.8 +0.8**
baz=257
ANM Nome 77.66 24 P **P** **23 29 34.9 -1.2**
ANM IAmb IAmb 23 31 49.8
comp=Z,46nm,1.7s
ANM Nome 77.66 24 P **P** **23 29 36.6 +0.5**
baz=249
ANM Nome 77.66 24 P **P** **23 29 34.9 -1.2**
ANM pmax pmax
comp=Z,46nm,1.7s
L14K Kuka Creek 77.76 27 P **P** **23 29 37.2 +0.5**
baz=252
J14K Nanvaranak Lak 77.81 26 P **P** **23 29 37.2 +0.3**
baz=251
N14K Kuskokwak Cree 77.82 29 P **P** **23 29 37.3 +0.2**
baz=254
O14K Tigyukauivet M 77.84 30 P **P** **23 29 37.6 +0.4**
baz=254
M14K Bethel 77.92 28 P **P** **23 29 37.6 0.0**
M14K Bethel 77.92 28 P **P** **23 29 37.6 0.0**
baz=253
S14K Fog Glacier 77.97 33 P **P** **23 29 38.0 -0.2**
baz=256
G15K Niukluk 78.34 24 P **P** **23 29 40.5 +0.6**
baz=250
F15K North Star Dit 78.34 23 P **P** **23 29 40.7 +0.9**
baz=250
L15K Ungalak Mounta 78.41 27 P **P** **23 29 41.0 +0.7**
baz=254
M15K Kasigluk River 78.51 28 P **P** **23 29 41.4 +0.5**
baz=254
O15K Ungalikthiuk R 78.53 30 P **P** **23 29 41.9 +0.8**
baz=256
K15K Wolf Creek Mou 78.56 27 P **P** **23 29 41.9 +0.8**
baz=253
CHGN Chignik 78.59 33 P **P** **23 29 42.2 +0.8**
baz=257
N15K Kwethluk River 78.66 29 P **P** **23 29 42.4 +0.7**
baz=255
H16K Elim 78.96 24 P **P** **23 29 44.0 +0.7**
baz=252
C16K Lisburne Hills 79.00 20 P **P** **23 29 44.0 +0.6**
baz=249
G16K Koyuk River 79.14 23 P **P** **23 29 45.1 +0.9**
baz=252
J16K Anvik River 79.25 26 IAmb IAmb 23 29 47.5
comp=Z,20nm,1.1s
J16K Anvik River 79.25 26 P **P** **23 29 45.8 +0.9**
baz=254
R16K Pilot Point 79.32 32 P **P** **23 29 46.8 +1.5**
baz=258
L16K Owhat River 79.34 27 P **P** **23 29 45.7 +0.3**
L16K IAmb IAmb 23 29 48.6
comp=Z,32nm,1.2s
L16K Owhat River 79.34 27 P **P** **23 29 46.2 +0.8**
baz=255
N16K Nishlik Lake 79.37 29 P **P** **23 29 46.4 +0.8**
baz=256
I17K Unalakleet 79.38 25 P **P** **23 29 46.5 +0.9**
baz=254
M16K Timber Creek 79.41 28 P **P** **23 29 46.4 +0.6**
baz=256
O16K Kokwok River B 79.50 30 P **P** **23 29 47.0 +0.7**
baz=257
D17K Noatak River 79.60 21 P **P** **23 29 47.0 +0.3**
baz=251
RDOG Red Dog Mine 79.78 21 P **P** **23 29 48.2 +0.5**
baz=251
C17K DeLong Mountai 79.82 20 P **P** **23 29 48.3 +0.4**
baz=251
G17K Kiwalik Mounta 79.85 24 P **P** **23 29 48.7 +0.6**
baz=254
E17K Hotham Inlet 79.86 22 P **P** **23 29 49.7 +1.5**
baz=252
F17K Baldwin Pennin 79.89 23 IAmb IAmb 23 30 09.3
comp=Z,28nm,1.6s
F17K Baldwin Pennin 79.89 23 P **P** **23 29 49.0 +0.8**
baz=253
J17K VABM Dome 79.95 26 P **P** **23 29 49.8 +1.1**
baz=255
L17K Donlin 79.99 27 P **P** **23 29 49.3 +0.4**
baz=256
H17K Granite Mounta 80.00 24 P **P** **23 29 49.9 +1.0**
baz=254
O17K Koliganek Bris 80.03 30 P **P** **23 29 49.7 +0.6**
baz=258
CHIR Chirikof Islan 80.03 34 P **P** **23 29 50.0 +0.7**
baz=260
K17K Iditarod 80.12 27 P **P** **23 29 50.2 +0.6**
K17K IAmb IAmb 23 29 52.2
comp=Z,17nm,1.1s
K17K Iditarod 80.12 27 P **P** **23 29 50.5 +0.8**
baz=256
N17K Nushagak Hills 80.14 29 P **P** **23 29 50.8 +1.0**
baz=258
M17K Holitna River 80.22 28 P **P** **23 29 51.2 +1.0**
baz=257
P17K Kvichak River 80.24 30 P **P** **23 29 51.4 +1.1**
baz=258
Q17K Contact Creek 80.34 31 P **P** **23 29 51.9 +0.9**
baz=259
E18K Tukpahlearik C 80.42 22 IAmb IAmb 23 29 53.9
comp=Z,14nm,0.8s
E18K Tukpahlearik C 80.42 22 P **P** **23 29 51.7 +0.6**
baz=253
F18K Selawik 80.55 23 P **P** **23 29 52.5 +0.7**
baz=254
C18K Utukok River 80.57 20 IAmb IAmb 23 29 54.4
comp=Z,26nm,1.5s
C18K Utukok River 80.57 20 P **P** **23 29 52.3 +0.3**
baz=252
B18K Kokolik River 80.58 20 P **P** **23 29 52.7 +0.8**
baz=252
H18K Honhosa River 80.69 24 P **P** **23 29 53.4 +0.7**
baz=256
L18K Granite Mounta 80.74 27 IAmb IAmb 23 29 51.8
comp=Z,52nm,1.9s
L18K Granite Mounta 80.74 27 P **P** **23 29 53.6 +0.7**
baz=258
G18K Tagagawik 80.75 23 P **P** **23 29 54.2 +1.2**
baz=255
N18K Kilae Creek 80.80 29 P **P** **23 29 54.0 +0.6**
baz=259
P18K Big Mountain, 80.88 30 P **P** **23 29 54.1 +0.2**
baz=260
SII Sitkinak Islan 80.95 33 P **P** **23 29 54.6 +0.4**
baz=261
O18K Koktuh Hills 80.98 30 P **P** **23 29 55.2 +0.9**
O18K IAmb IAmb 23 32 27.6
comp=Z,32nm,1.5s
O18K Koktuh Hills 80.98 30 P **P** **23 29 54.6 +0.3**
baz=259

M18K	Stony River	80.99	28	P	P	23 29 54.6	+0.3
	baz=259						
J18K	Innoko River	81.00	26	P	P	23 29 54.4	+0.1
	baz=258						
TTA	Tatalina	81.19	27	P	P	23 29 55.5	+0.1
TTA	Tatalina	81.19	27	P	P	23 29 55.7	+0.2
	baz=258						
TTA	Tatalina	81.19	27	P	P	23 29 55.5	+0.1
TTA				pmax	pmax		
	comp=Z,15nm,1.4s						
GCSA	Galena City Sc	81.21	25	P	P	23 29 55.8	+0.4
	baz=257						
F19K	Shaleruckik Mo	81.33	23	P	P	23 29 56.6	+0.6
	baz=256						
G19K	Purcell Mounta	81.44	23	IAmb	IAmb	23 29 59.2	
	comp=Z,16nm,0.8s						
G19K	Purcell Mounta	81.44	23	P	P	23 29 57.2	+0.6
	baz=257						
N19K	Bonanza Creek	81.50	29	IAmb	IAmb	23 29 60.0	
	comp=Z,26nm,1.2s						
N19K	Bonanza Creek	81.50	29	P	P	23 29 57.8	+0.6
	baz=260						
OHAK	Old Harbor	81.54	33	P	P	23 29 57.2	0.0
OHAK	Old Harbor	81.54	33	P	P	23 29 57.9	+0.7
	baz=262						
H19K	Roundabout Mou	81.56	24	IAmb	IAmb	23 30 01.9	
	comp=Z,17nm,0.9s						
H19K	Roundabout Mou	81.56	24	P	P	23 29 57.9	+0.8
	baz=257						
L19K	White Mountain	81.58	27	P	P	23 29 57.8	+0.4
	baz=259						
J19K	Poorman	81.58	26	P	P	23 29 58.0	+0.6
	baz=258						
D19K	Kuna River	81.61	21	IAmb	IAmb	23 30 00.0	
	comp=Z,24nm,1.1s						
D19K	Kuna River	81.61	21	P	P	23 29 58.4	+0.9
	baz=256						
E19K	Redstone River	81.69	22	IAmb	IAmb	23 30 02.6	
	comp=Z,22nm,0.9s						
E19K	Redstone River	81.69	22	P	P	23 29 59.0	+1.1
	baz=256						
M19K	Big River Lodg	81.74	28	P	P	23 29 58.9	+0.6
	baz=260						
P19K	Oil Pt	81.93	30	P	P	23 29 59.6	+0.2
	baz=261						
KDAK	Kodiak Island	81.99	32	LR	LR	00 00 04.8	
	comp=Z,180nm,21.8s,baz=97,slow=31						
KDAK	Kodiak Island	81.99	32	P	P	23 29 60.0	+0.3
	baz=262						
KDAK	Kodiak Island	81.99	32⇑	eP	P	23 30 01.2	+1.6
KDAK				pmax	pmax		
	comp=Z,24nm,1.1s						
VNDA	Vanda	82.06	173	P	P	23 29 58.8	-0.8
VNDA				IAmb	IAmb	23 30 13.0	
	comp=Z,14nm,1.0s						
VNDA	Vanda	82.06	173	P	P	23 29 59.4	-0.3
	comp=Z,3.7nm,0.8s,baz=350,slow=6.7,SNR=6.1						
VNDA				LR	LR	00 07 00.7	
	comp=Z,114nm,18.2s,baz=329,slow=36						
	comp=Z,3.7nm,0.8s						
VNDA	Vanda	82.06	173	P	P	23 29 58.8	-0.8
VNDA				pmax	pmax		
	comp=Z,15nm,1.0s						
L20K	Farewell, AK	82.08	27	P	P	23 30 00.9	+0.8
	baz=260						
KIRV	Kirov	82.08	329	ceP	P	23 30 00.5	+0.5
K20K	Telida	82.14	26	IAmb	IAmb	23 30 03.5	
	comp=Z,18nm,1.3s						
K20K	Telida	82.14	26	P	P	23 30 01.2	+0.9
	baz=260						
F20K	Avaraart Lake	82.17	23	P	P	23 30 01.7	+1.4
	baz=258						
H20K	Anotleneega Mo	82.19	24	P	P	23 30 01.5	+0.9
	baz=259						
D20K	Etivluk River	82.20	21	P	P	23 30 01.7	+1.1
	baz=257						
Q20K	Shuyak Island	82.21	31	P	P	23 30 01.9	+1.2
	baz=262						
SYI	Shuyak Island	82.21	31	P	P	23 30 01.3	+0.5
I20K	Naaghedeneel	82.22	25	IAmb	IAmb	23 30 03.8	
	comp=Z,22nm,0.8s						
I20K	Naaghedeneel	82.22	25	P	P	23 30 01.9	+1.2
	baz=259						
E20K	Nigu River	82.25	21	P	P	23 30 01.9	+1.0
	baz=257						
J20K	Nowinta River	82.25	26	IAmb	IAmb	23 30 03.9	
	comp=Z,26nm,1.3s						
J20K	Nowinta River	82.25	26	P	P	23 30 02.1	+1.3
	baz=260						
O20K	Slope Mountain	82.30	30	P	P	23 30 02.3	+0.9
	baz=262						
M20K	Styx River	82.33	28	IAmb	IAmb	23 30 07.5	
	comp=Z,11nm,0.8s						
M20K	Styx River	82.33	28	P	P	23 30 02.2	+0.7
	baz=261						
BELG	Belogornoye	82.34	322	LR	LR	00 09 17.0	
	comp=Z,82nm,21.1s,baz=68,slow=38						
RAYN	Ar Rayn	82.47	293	P	P	23 30 02.0	-0.9
RAYN	Ar Rayn	82.47	293	P	P	23 30 02.0	-0.9
RAYN				pmax	pmax		
	comp=Z,11nm,0.9s						
HOM	Homer	82.73	30	P	P	23 30 04.2	+0.8
	baz=263						
A21K	Barrow	82.80	18	P	P	23 30 04.2	+0.6
	baz=256						
G21K	Allakaket	82.93	23	IAmb	IAmb	23 30 07.2	
	comp=Z,24nm,1.1s						
G21K	Allakaket	82.93	23	P	P	23 30 05.0	+0.6
	baz=260						
C21K	Knifeblade Rid	82.94	21	P	P	23 30 05.0	+0.6
	baz=258						
F21K	Alatna River	83.06	23	P	P	23 30 05.4	+0.3
	baz=260						
H21K	Melozitna Rive	83.07	24	IAmb	IAmb	23 30 07.9	
	comp=Z,20nm,1.1s						
H21K	Melozitna Rive	83.07	24	P	P	23 30 05.7	+0.5
	baz=261						
SKT	Skwentna	83.09	28	P	P	23 30 05.4	+0.1
SKT				IAmb	IAmb	23 30 07.1	
	comp=Z,22nm,1.2s						
SKT	Skwentna	83.09	28	P	P	23 30 05.7	+0.3
	baz=262						
B21K	Ikpikpuk River	83.09	20	IAmb	IAmb	23 30 07.9	
	comp=Z,27nm,0.9s						
B21K	Ikpikpuk River	83.09	20	P	P	23 30 05.9	+0.8
	baz=259						
E21K	Killik River	83.10	21	IAmb	IAmb	23 30 07.8	
	comp=Z,18nm,1.1s						
E21K	Killik River	83.10	21	P	P	23 30 06.0	+0.8
	baz=259						
CAPN	Captain Cook N	83.11	29	P	P	23 30 06.6	+1.2
	baz=263						
BRLK	Bradley Lake	83.12	30	P	P	23 30 05.2	-0.4
PPT	Papeete	83.18	108	LR	LR	00 03 43.5	
	comp=Z,104nm,21.6s,baz=320,slow=33						
PPT2	Papeete2	83.18	108	eLR	LR	23 56 15.3	
	comp=Z,180nm,28.5s						
PPT2				eLR	LR	23 56 20.1	
	comp=Z,247nm,25.8s						
BRSE	Bradley Lake S	83.19	30	P	P	23 30 07.0	+1.1
	baz=263						
I21K	Tanana	83.33	25	IAmb	IAmb	23 30 09.3	
	comp=Z,18nm,1.1s						
I21K	Tanana	83.33	25	P	P	23 30 07.6	+1.1
	baz=262						
SUA	Susitna One	83.39	29	P	P	23 30 06.6	-0.4
SUA				IAmb	IAmb	23 30 30.5	
	comp=Z,18nm,0.9s						
SUA	Susitna One	83.39	29	P	P	23 30 07.4	+0.4
	baz=263,SNR=6.4						
GNI	Garni	83.50	310	LR	LR	00 10 32.3	
	comp=Z,38nm,21.7s,baz=31,slow=38						
SLKM	Skilak Lake	83.54	29	P	P	23 30 07.5	-0.2
KTH	Kantishna Hill	83.57	26	IAmb	IAmb	23 30 09.7	
	comp=Z,27nm,1.2s						
BPAW	Bear Paw Mtn.	83.61	26	IAmb	IAmb	23 30 38.8	
	comp=Z,13nm,1.1s						
BPAW	Bear Paw Mtn.	83.61	26	P	P	23 30 08.5	+0.6
	baz=263						
B22K	Teshekpuk Lake	83.63	19	P	P	23 30 08.0	+0.1
	baz=260						
D22K	Ayikyak River	83.64	21	IAmb	IAmb	23 30 18.6	
	comp=Z,33nm,1.7s						
D22K	Ayikyak River	83.64	21	P	P	23 30 08.0	0.0
	baz=260						
H22K	Ishtalitna Cre	83.69	24	P	P	23 30 08.6	+0.3
	baz=262						
M22K	Willow	83.72	28	P	P	23 30 08.6	+0.1
	baz=264						
CUT	Chulitna	83.73	28	P	P	23 30 08.8	+0.3
	baz=264						
G22K	Bettles	83.78	23	P	P	23 30 08.7	0.0
	baz=262						
O22K	Cooper Landing	83.78	30	P	P	23 30 08.5	-0.3
	baz=264						
TBI	Tubuai	83.80	114	eLR	LR	23 56 34.9	
	comp=Z,900nm,29.8s						
E22K	Anaktuvuk Pass	83.84	22	IAmb	IAmb	23 30 12.5	
	comp=Z,22nm,0.9s						
E22K	Anaktuvuk Pass	83.84	22	P	P	23 30 09.6	+0.5
	baz=261,SNR=27						
RC01	Rabbit Creek A	83.84	29	P	P	23 30 08.3	-0.9
RC01				IAmb	IAmb	23 30 11.2	
	comp=Z,28nm,1.2s						
RC01	Rabbit Creek A	83.84	29	P	P	23 30 09.3	+0.2
	baz=264						
TRF	Thorofare Moun	83.84	27	IAmb	IAmb	23 30 11.3	
	comp=Z,12nm,1.0s						
TRF	Thorofare Moun	83.84	27	P	P	23 30 09.0	-0.3
	baz=263,SNR=5.1						
SEW	Seward	83.88	30	P	P	23 30 09.4	+0.1
	baz=264						
PMR	Palmer	84.18	28	IAmb	IAmb	23 30 12.8	
	comp=Z,26nm,1.1s						
PMR	Palmer	84.18	28	P	P	23 30 10.8	0.0
	baz=265						
COLD	Coldfoot	84.32	23	IAmb	IAmb	23 30 14.9	
	comp=Z,28nm,1.2s						
COLD	Coldfoot	84.32	23	P	P	23 30 11.6	+0.1
	baz=263,SNR=21						
G23K	Bananza Creek	84.33	23	IAmb	IAmb	23 30 15.1	
	comp=Z,20nm,1.0s						
G23K	Bananza Creek	84.33	23	P	P	23 30 11.5	-0.1
	baz=263						
D23K	Nanushuk River	84.37	21	IAmb	IAmb	23 30 14.9	
	comp=Z,18nm,0.9s						
D23K	Nanushuk River	84.37	21	P	P	23 30 12.3	+0.6
	baz=262,SNR=16						
I23K	Minto, Yukon-K	84.43	25	IAmb	IAmb	23 30 14.4	
	comp=Z,19nm,1.2s						
I23K	Minto, Yukon-K	84.43	25	P	P	23 30 12.8	+0.8
	baz=264,SNR=7.5						
MCK	McKinley	84.47	26	IAmb	IAmb	23 30 35.1	
	comp=Z,12nm,0.8s						
MCK	McKinley	84.47	26	P	P	23 30 12.4	+0.1
	baz=264						
RND	Reindeer	84.48	27	P	P	23 30 12.3	-0.1
RND				IAmb	IAmb	23 30 13.6	
	comp=Z,18nm,1.0s						
RND	Reindeer	84.48	27	P	P	23 30 12.3	-0.1
RND				pmax	pmax		
	comp=Z,18nm,1.0s						
KNK	Knik Glacier	84.48	29	P	P	23 30 12.7	+0.3
	baz=265,SNR=7.0						
NEA2	Nenana	84.50	25	P	P	23 30 12.4	0.0
	baz=264						
PWL	Port Wells	84.50	29	P	P	23 30 12.4	-0.1
	baz=265						
C23K	Itkillik River	84.50	20	P	P	23 30 12.5	+0.2
	baz=262						
SML	Sawmill	84.58	28	P	P	23 30 12.8	-0.1
	baz=265,SNR=7.4						
E23K	Chandalar	84.64	22	P	P	23 30 13.4	+0.2
	baz=264						
TOLK	Toolik Lake Re	84.73	21	P	P	23 30 14.4	+0.8
TOLK				IAmb	IAmb	23 30 17.0	
	comp=Z,14nm,1.1s						
TOLK	Toolik Lake Re	84.73	21	P	P	23 30 13.6	0.0
	baz=264,SNR=9.5						
M23K	Glacier View	84.86	28	P	P	23 30 14.5	+0.2
	baz=266,SNR=7.4						
KBZ	Khabaz	84.98	313	LR	LR	00 12 31.7	
	comp=Z,96nm,19.0s,baz=39,slow=39						
CCB	Clear Creek Bu	85.04	25	IAmb	IAmb	23 30 42.9	
	comp=Z,16nm,1.5s						
D24K	Happy Valley	85.05	21	IAmb	IAmb	23 30 17.9	
	comp=Z,14nm,0.8s						
D24K	Happy Valley	85.05	21	P	P	23 30 15.6	+0.5
	baz=264,SNR=18						
SCM	Sheep Creek Mo	85.05	28	P	P	23 30 15.6	+0.2
	baz=266,SNR=6.4						
SCM	Sheep Creek Mo	85.05	28	P	P	23 30 16.7	+1.3
E24K	Your Creek	85.07	22	P	P	23 30 15.8	+0.5
	baz=264						
GLI	Glacier Island	85.10	29	P	P	23 30 16.2	+0.6
	baz=266						
H24K	Noodor Dome	85.11	24	IAmb	IAmb	23 30 18.8	
	comp=Z,20nm,1.6s						
H24K	Noodor Dome	85.11	24	P	P	23 30 16.0	+0.4
	baz=265						
C24K	Franklin Bluff	85.15	20	IAmb	IAmb	23 30 18.0	
	comp=Z,12nm,0.8s						
C24K	Franklin Bluff	85.15	20	P	P	23 30 16.2	+0.6
	baz=264						
POKR	Poker Plat Res	85.24	25	P	P	23 30 16.0	-0.1
	baz=266						
F24K	Squaw Lake	85.25	23	P	P	23 30 16.1	-0.1
	baz=265						
G24K	Hadweenzic Riv	85.34	23	IAmb	IAmb	23 30 30.6	
	comp=Z,35nm,2.0s						
G24K	Hadweenzic Riv	85.34	23	P	P	23 30 16.6	0.0
	baz=266						
HDA	Harding Lake	85.40	26	P	P	23 30 17.2	+0.2
	baz=266						
ILAR	Eielson Array	85.45	25	P	P	23 30 16.8	-0.4
	comp=Z,0.7nm,0.5s,baz=245,slow=5.1,SNR=15						
ILAR				LR	LR	00 03 39.0	
	comp=Z,75nm,21.7s,baz=262,slow=32						
	comp=Z,0.7nm,0.5s						
M24K	Tolsona, Glenn	85.61	28	P	P	23 30 18.7	+0.6
M24K	Tolsona, Glenn	85.61	28	P	P	23 30 18.4	+0.3
	baz=267						
KLU	Klutina	85.70	29	IAmb	IAmb	23 30 31.6	
	comp=Z,22nm,1.2s						
KLU	Klutina	85.70	29	P	P	23 30 18.7	0.0
	baz=267						
EYAK	Cordova Ski Ar	85.75	30	P	P	23 30 19.1	+0.4
	baz=268						
K24K	Donnelly Dome	85.88	26	P	P	23 30 19.9	+0.5
	baz=267						
D25K	Kavik River	85.94	21	P	P	23 30 20.3	+0.7
	baz=266						
H25L	Birch Creek	85.97	24	P	P	23 30 20.3	+0.6
	baz=267						
PAX	Paxson	85.98	27	P	P	23 30 20.5	+0.5
	baz=268						
PRP	Porcupine Dome	86.06	25	P	P	23 30 20.9	+0.5
	baz=268						
J25K	Salcha River,	86.09	26	P	P	23 30 21.2	+0.8
	baz=268						
HARP	HAARP	86.10	28	P	P	23 30 21.2	+0.7
	baz=268						
F25K	Christian Rive	86.11	23	IAmb	IAmb	23 31 31.4	
	comp=Z,26nm,1.9s						
F25K	Christian Rive	86.11	23	P	P	23 30 21.6	+1.1
	baz=267						
E25K	Arctic Village	86.16	22	P	P	23 30 21.5	+0.8
	baz=267,SNR=10						
RIDG	Independent Ri	86.29	26	IAmb	IAmb	23 31 07.8	
	comp=Z,22nm,1.5s						
RIDG	Independent Ri	86.29	26	P	P	23 30 22.1	+0.7
	baz=268						
BMRM	Bremner River	86.32	29	P	P	23 30 21.9	+0.3
	baz=269						
N25K	Chitina, Valde	86.34	29	P	P	23 30 22.7	+0.9
	baz=269						
KAIM	Kayak Island	86.39	30	P	P	23 30 22.7	+0.8
	baz=269						
C26K	Camden Bay	86.48	20	P	P	23 30 23.1	+1.0
	baz=268						
BMAR	Burnt Mountain	86.51	23	P	P	23 30 23.3	+0.9
F26K	Sheenjek River	86.69	22	IAmb	IAmb	23 32 32.0	
	comp=Z,16nm,1.9s						
F26K	Sheenjek River	86.69	22	P	P	23 30 23.9	+0.6
	baz=269						
G26K	Porcupine Rive	86.81	23	P	P	23 30 22.7	-1.1
	baz=269						
J26L	Joseph Creek	86.87	26	IAmb	IAmb	23 30 33.5	
	comp=Z,18nm,1.8s						
J26L	Joseph Creek	86.87	26	P	P	23 30 23.5	-0.7
	baz=269						
C27K	Jago River	86.89	21	IAmb	IAmb	23 30 27.6	
	comp=Z,10.0nm,1.1s						
C27K	Jago River	86.89	21	P	P	23 30 23.6	-0.5
	baz=269						
I26K	Coal Creek Min	87.05	25	P	P	23 30 25.0	0.0
	baz=270						
KLMR	Klimovskoe	87.23	331	eP	P	23 30 23.0	-3.0
KLMR				pmax	pmax		
	comp=Z,20nm,1.2s						
VORR	Voronezh	87.50	321	eP	P	23 30 35.8	+8.3
VORR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VSR	Storozhevoye	87.54	321	eP	P	23 30 35.8	+8.1
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
M27K	Edge Creek, AK	87.63	28	P	P	23 30 28.4	+0.4
	baz=271						
MESA	MESA	87.63	30	P	P	23 30 28.6	+0.4
	baz=271						
L27K	Beaver Creek,	87.64	27	P	P	23 30 28.4	+0.4
	baz=271						
G27K	Doyon Strip	87.65	23	P	P	23 30 28.1	+0.1
	baz=271						
I27K	Kandik River	87.69	25	P	P	23 30 28.3	+0.1
	baz=271						
H27K	Steamboat Moun	87.71	24	P	P	23 30 28.2	-0.1
	baz=271						
D27M	Malcolm River	87.86	21	P	P	23 30 29.1	+0.1
	baz=272						
EGAK	Eagle	87.90	25	P	P	23 30 29.5	+0.4
	baz=272						
BVCY	Beaver Creek	88.10	28	P	P	23 30 29.5	-0.7
	baz=272						
YUK3	Moose Creek	88.31	28	P	P	23 30 31.2	-0.2
	baz=272						
F28M	Old Crow	88.32	23	P	P	23 30 31.4	+0.3
	baz=273						
I28M	Miner Creek	88.39	25	IAmb	IAmb	23 30 34.0	
	comp=Z,11nm,1.3s						
I28M	Miner Creek	88.39	25	P	P	23 30 31.5	-0.1
	baz=273						
E28M	Babbage River	88.40	22	IAmb	IAmb	23 30 33.1	
	comp=Z,12nm,1.4s						
E28M	Babbage River	88.40	22	P	P	23 30 31.4	-0.1
	baz=273						
PINM	Pinnacle	88.48	30	P	P	23 30 31.8	-0.3
	baz=272						
O28M	Mount Upton	88.48	29	P	P	23 30 31.8	-0.6
	baz=272						
D28M	Stokes Point	88.65	21	P	P	23 30 33.0	+0.5
	baz=274						
YUK8	Steele Glacier	88.67	29	P	P	23 30 32.7	-0.4
	baz=273						
DAWY	Dawson	88.69	26	P	P	23 30 32.6	-0.3
	baz=273						
OBN	Obninsk	88.97	325‖	eP	P	23 30 32.9	-1.4
OBN				e		23 34 01.9	
OBN				eS	SKSac	23 41 01.6	+4.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,121nm,18.0s						
H29M	Whitestone	88.99	24	P	P	23 30 34.3	0.0
	baz=274						
E29M	Blow River	89.02	22	P	P	23 30 35.1	+0.7
	baz=274						
I29M	Ogilvie Camp,	89.08	25	IAmb	IAmb	23 32 40.1	
	comp=Z,12nm,1.4s						
I29M	Ogilvie Camp,	89.08	25	P	P	23 30 34.6	-0.2
	baz=274						
G29M	Pine Creek	89.08	23	IAmb	IAmb	23 31 02.5	
	comp=Z,7.8nm,0.9s						
G29M	Pine Creek	89.08	23	P	P	23 30 35.0	+0.3
	baz=274						
YUK4	Talbot Arm	89.20	29	P	P	23 30 35.8	+0.2
	baz=274						
M29M	Somme Creek	89.22	28	P	P	23 30 35.0	-0.6
	baz=274						
O29M	Mount Kennedy	89.31	30	P	P	23 30 35.5	-0.5
	baz=274						
L29M	L29M	89.32	27	P	P	23 30 35.6	-0.4
	baz=274						
YUK6	Outpost Mounta	89.37	29	P	P	23 30 35.9	-0.5
	baz=274						
K29M	Barlow Dome	89.53	26	IAmb	IAmb	23 30 55.9	
	comp=Z,18nm,1.7s						
K29M	Barlow Dome	89.53	26	P	P	23 30 36.6	-0.4
	baz=275						
EPYK	Eagle Plains	89.64	24	P	P	23 30 37.1	-0.3
	baz=276						
G30M	tAoh Zraii Nji	89.78	23	IAmb	IAmb	23 31 54.5	
	comp=Z,26nm,1.9s						
G30M	tAoh Zraii Nji	89.78	23	P	P	23 30 37.9	-0.1
	baz=276						
HYT	Haines Junctio	89.80	29	P	P	23 30 38.1	-0.2
	baz=275						
F30M	Barrier River	89.88	22	P	P	23 30 38.4	0.0
	baz=276						
I30M	Mount Dempster	89.90	25	P	P	23 30 38.4	-0.3
	baz=276						
N30M	Aishikik Lake	89.94	29	P	P	23 30 39.2	+0.4
	baz=275						
M30M	Minto, Yukon	89.97	27	P	P	23 30 38.5	-0.5
	baz=275						
J30M	Hart River	89.98	25	P	P	23 30 38.9	-0.2
	baz=276						
P30M	Million Dollar	90.13	30	P	P	23 30 39.6	-0.1
	baz=275						
G31M	Satah River	90.55	23	P	P	23 30 41.0	-0.4
	baz=278						
INK	Inuvik	90.64	22	P	P	23 30 42.0	+0.2
	baz=278						
H31M	Peel River	90.67	24	P	P	23 30 42.4	+0.3
	baz=278						
F31M	Tsiigehtchic	90.68	22	P	P	23 30 42.3	+0.3
	baz=278						
WHY	Whitehorse	91.09	29	P	P	23 30 44.1	-0.2
	baz=277						
M31M	Drury Creek, Y	91.13	28	P	P	23 30 44.2	-0.2
	baz=278						
SIT	Sitka	91.30	33	P	P	23 30 45.3	+0.2
	baz=277						
FARO	Faro, Yukon	91.61	28	IAmb	IAmb	23 30 48.1	
	comp=Z,7.2nm,1.1s						
FARO	Faro, Yukon	91.61	28	P	P	23 30 46.6	0.0
	baz=278						
S32K	Killisnoo	91.65	32	P	P	23 30 46.8	+0.1
	baz=277						
EIL	Elat	91.74	300	LR	LR	00 20 10.2	
	comp=Z,22nm,18.6s,baz=62,slow=41						
P32M	Atlin	91.81	30	P	P	23 30 46.8	-0.8
	baz=278						
TAOE	Nuku Hiva Isla	91.83	99	eLR	LR	00 00 13.4	
	comp=Z,398nm,24.6s						
N32M	Quiet Lake	91.90	29	P	P	23 30 47.0	-0.9
	baz=279						
SYO	Syowa Base	91.94	201‖	iP	P	23 30 49.0	+1.2
SPITS	Spitsbergen Ar	91.94	349	P	P	23 30 46.7	-1.1
	comp=Z,16nm,1.0s,baz=130,slow=13,SNR=2.8						
SPITS				LR	LR	00 17 50.3	
	comp=Z,68nm,21.0s,baz=18,slow=39						
	comp=Z,16nm,1.0s						
BRTR	Keskin Array B	92.04	310	P	P	23 30 47.4	-1.9
	comp=Z,0.6nm,0.9s,baz=144,slow=5.1,SNR=1.9						
BRTR				PP	PP	23 34 30.0	+0.2
	comp=Z,0.8nm,0.8s,baz=127,slow=7.9,SNR=3.5						
	comp=Z,0.6nm,0.9s						
ARCES	ARCESS Array B	92.11	340	P	P	23 30 47.6	-1.2
	comp=Z,5.3nm,0.9s,baz=71,slow=5.7,SNR=8.8						
ARCES				LR	LR	00 18 02.1	
	comp=Z,82nm,18.1s,baz=99,slow=39						
	comp=Z,5.3nm,0.9s						
P33M	Teslin, Yukon	92.17	30	P	P	23 30 49.0	-0.3
	baz=279						
QSPA	South Pole Qui	92.47	180	P	P	23 30 49.5	-1.0
QSPA				IAmb	IAmb	23 31 13.4	
	comp=Z,6.8nm,1.1s						
QSPA	South Pole Qui	92.47	180	P	P	23 30 49.9	-0.6
	comp=Z,4.3nm,1.2s,baz=284,slow=4.2,SNR=15						
QSPA				LR	LR	00 14 16.7	
	comp=Z,73nm,19.0s,baz=360,slow=37						
	comp=Z,4.3nm,1.2s						
R33M	Jennings River	93.23	30	P	P	23 30 54.5	+0.2
	baz=280						
FINES	FINESS Array B	93.64	332	P	P	23 30 55.6	-0.3
	comp=Z,1.7nm,0.9s,baz=127,slow=2.9,SNR=7.1						
FINES				LR	LR	00 16 32.5	
	comp=Z,97nm,18.5s,baz=60,slow=38						
	comp=Z,1.7nm,0.9s						
C36M	Paulatuk	93.75	20	P	P	23 30 57.2	+1.0
	baz=287						
AKASG	Malin Array Be	93.84	321	P	P	23 30 58.1	+1.0
	comp=Z,0.1nm,0.2s,baz=70,slow=4.3,SNR=1.5						

comp=Z,0.1nm,0.2s
DLBC Dease Lake 93.89 31 LR LR 00 08 08.2
comp=Z,133nm,20.9s,baz=272,slow=32
DLBC Dease Lake 93.89 31 P **P** **23 30 57.0 -0.2**
baz=281
WTLY Watson Lake, Y 94.16 29 P **P** **23 30 58.1 -0.3**
baz=282
TOAD Toad River Com 96.23 30 P **P** **23 31 08.7 +0.8**
baz=285
BBB Bella Bella 96.24 37 LR LR 00 10 29.7
comp=Z,69nm,18.6s,baz=258,slow=33
KOTAN Kotaneelee Air 96.46 29 P **P** **23 31 09.1 +0.3**
baz=287
MLR Muntele Rosu 96.89 316 LR LR 00 19 47.3
comp=Z,142nm,18.8s,baz=51,slow=38
RES Resolute Bay 98.66 11 IAmb IAmb 23 31 42.0
comp=Z,3.3nm,0.9s
RES Resolute Bay 98.66 11 LR LR 00 14 24.8
comp=Z,24nm,21.5s,baz=20,slow=34
HFS Hagfors 99.82 333 P **Pdif** **23 31 23.4 -0.5**
comp=Z,3.1nm,1.0s,baz=148,slow=15,SNR=1.7
HFS LR LR 00 20 44.6
comp=Z,158nm,18.9s,baz=54,slow=38
comp=Z,3.1nm,1.0s
YKA Yellowknife Ar 99.87 25 P **Pdif** **23 31 24.2 +0.2**
comp=Z,0.8nm,0.9s,baz=295,slow=4.7,SNR=7.9
YKA LR LR 00 13 23.3
comp=Z,101nm,21.5s,baz=306,slow=33
comp=Z,0.8nm,0.9s
MODS Modra-Piesok 101.94 321 *e*P **Pdif** **23 31 32.3 -1.3**
MODS Modra-Piesok 101.94 321 *e*PDIFF **Pdif** **23 31 32.3 -1.3**
Q24A Divide 115.79 44 P **PKPdf** **23 36 22.2 -0.6**
baz=297
TXAR Lajitas Array 120.98 53 PKP **PKPdf** **23 36 31.4 -1.4**
comp=Z,0.5nm,0.6s,baz=198,slow=1.2,SNR=5.5
SCHQ Schefferville 121.44 10 PKP **PKPdf** **23 36 32.5 -0.3**
comp=Z,0.8nm,0.5s,baz=307,slow=1.3,SNR=5.8
TORD Torodi Ar. Bea 124.86 288 PKP **PKiKP** **23 36 40.6 -0.1**
comp=Z,1.7nm,0.9s,baz=45,slow=3.2,SNR=6.5
O48B Farmland 127.49 32 P **PKPdf** **23 36 44.6 -0.2**
baz=316
PLCA Paso Flores 138.32 158 PKP **PKPdf** **23 37 05.8 +0.6**
comp=Z,1.8nm,0.8s,baz=249,slow=3.1,SNR=7.0
BO02 Sierra Bellavi 143.30 153 PKPbc 23 37 11.8 +0.3
TRQA Tornquist 143.41 166 PKPdf PKPbc 23 37 12.1 +0.4
TRQA Tornquist 143.41 166 PKIKP PKPbc 23 37 12.1 +0.4
JTS Las Juntas de 144.44 68 PKP **PKPdf** **23 37 16.9 +0.1**
comp=Z,5.0nm,0.5s,baz=344,slow=4.0,SNR=4.3
LPAZ La Paz 158.77 131 PKP **PKPdf** **23 37 39.8 +0.8**
comp=Z,0.7nm,0.5s,baz=246,slow=5.4,SNR=3.5

IDC 05 23:44:17.1±2.3, 7°.75S×127°.83E, h0km, mb3.0/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=105.0km s-min=30.0km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.50**	**192**	Pn	Pn	23 46 48.8	-0.2
	0.2nm,0.3s,baz=24,slow=11,SNR=1.3						
FITZ				Sn	Sn	23 48 39.2	-8.2
	0.3nm,0.3s,baz=29,slow=19,SNR=6.5						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**13.66**	**153**	Pn	Pn	23 47 32.6	+0.4
	0.2nm,0.3s,baz=332,slow=13,SNR=17						
WRA				Sn	Sn	23 49 59.2	-5.7
	0.5nm,0.3s,baz=330,slow=25,SNR=10						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**16.86**	**160**	Pn	Pn	23 48 14.6	-0.2
	0.4nm,0.3s,baz=344,slow=12,SNR=19						
ASAR				Sn	Sn	23 51 15.5	-7.3
	0.1nm,0.3s,baz=335,slow=24,SNR=2.4						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**67.70**	**328**	P	P	23 55 16.3	0.0
	0.1nm,0.4s,baz=142,slow=7.3,SNR=1.6						
	0.1nm,0.4s						

IDC 05 23:53:49.6±2.9, 6°.81S×132°.80E, h0km, mb3.2/1, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=111.9km s-min=31.2km az=82.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.14**	**174**	Pn	Pn	23 56 59.1	+1.4
	0.2nm,0.3s,baz=356,slow=13,SNR=19						
WRA				Sn	Sn	23 59 20.8	-4.1
	0.4nm,0.3s,baz=349,slow=24,SNR=5.6						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.21**	**211**	Pn	Pn	23 56 58.2	-0.5
	0.1nm,0.3s,baz=34,slow=12,SNR=1.7						
FITZ				Sn	Sn	23 59 12.0	-15
	0.1nm,0.3s,baz=44,slow=15,SNR=1.9						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**16.80**	**176**	Pn	Pn	23 57 45.4	-1.1
	0.1nm,0.3s,baz=7.4,slow=8.1,SNR=4.1						
ASAR				Sn	Sn	00 00 45.2	-8.7
	0.1nm,0.3s,baz=2.2,slow=27,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**69.61**	**326**	P	P	00 05 00.9	+0.1
	0.2nm,0.6s,baz=108,slow=7.7,SNR=4.2						
	0.2nm,0.6s						

*IDC **05** 23:56:23.0±3.6, 16°.07S×175°.11W, h308km±32km, mb3.4/7, mbtmp4.0/8, Error ellipse: s-maj=80.1km s-min=18.0km az=149.0*

ISC 05 23:56:22.1±1.4, 16°.0S±0°.5×175°.1W±0°.3, h300km, n11, σ0°.84/11, mb3.5/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.81**	**255**	P	**Pn**	**23 58 02.4**	**+1.1**
	9.0nm,0.6s,baz=115,slow=18,SNR=4.7						
STKA	**Stephens Creek**	**42.34**	**240**	P	**P**	**00 03 47.1**	**-0.4**
	1.0nm,0.4s,baz=4.2,slow=5.9,SNR=3.1						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**48.15**	**257**	P	**P**	**00 04 32.0**	**-1.0**
	0.8nm,0.4s,baz=92,slow=6.8,SNR=28						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**48.40**	**252**	P	**P**	**00 04 34.2**	**-0.7**
	7.3nm,0.5s,baz=87,slow=8.0,SNR=75						
	7.3nm,0.5s						
NVAR	**Mina Array Bea**	**75.86**	**43**	P	**P**	**00 07 35.9**	**-0.4**
	0.6nm,0.6s,baz=219,slow=9.2,SNR=4.0						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**82.29**	**57**	P	**P**	**00 08 11.9**	**+1.0**
	0.2nm,0.5s,baz=224,slow=7.3,SNR=4.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.37**	**12**	P	**P**	**00 08 14.9**	**-0.6**
	0.7nm,0.5s,baz=231,slow=5.4,SNR=14						
	0.7nm,0.5s						
PDAR	**Pinedale Array**	**83.80**	**42**	P	**P**	**00 08 18.4**	**-0.1**
	0.8nm,0.6s,baz=212,slow=4.4,SNR=10						
	0.8nm,0.6s						
ARCES	**ARCESS Array B**	**124.99**	**351**	PKP	**PKPdf**	**00 14 45.4**	**-0.7**
	3.2nm,0.8s,baz=48,slow=1.8,SNR=6.6						
BRTR	**Keskin Array B**	**145.60**	**319**	PKPbc	**PKPbc**	**00 15 26.7**	**+0.6**
	1.3nm,1.0s,baz=48,slow=1.8,SNR=4.7						
GERES	**GERESS Array B**	**146.49**	**349**	PKPbc	**PKPbc**	**00 15 29.0**	**+0.6**
	0.2nm,0.3s,baz=29,slow=2.4,SNR=2.5						

*NNC **06** 00:16:38.4±5.5, 37°.20N×71°.36E, h200km±80km, mb2.3, mpv3.3, Error ellipse: s-maj=57.3km s-min=27.3km az=6.0*
*IDC **06** 00:16:38.8±24.0, 37°.00N×71°.88E, h250km±157km, mb2.6/1, mbtmp3.4/5, Error ellipse: s-maj=208.9km s-min=100.7km az=20.0*

ISC 06 00:16:33.7±2.2, 36°.9N±0°.2×71°.5E±0°.1, h200km, n9, σ1°.41/11, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.23**	**354**	⇑P	**Pn**	**00 18 05.6**	**+1.7**
	0.8nm,0.5s,baz=188,slow=15,SNR=7.5						
KK31				S	**Sn**	**00 19 12.9**	**-2.4**
	2.4nm,0.3s,baz=193,slow=24,SNR=17						
TKM2	**Tokmak 2**	**6.79**	**27**	⇑P	**Pn**	**00 18 12.2**	**+0.9**
	1.8nm,0.5s						
TKM2				⇑S	**Sn**	**00 19 29.6**	**+0.9**
	4.5nm,1.1s						
MK31	**Makanchi Array**	**12.74**	**36**	⇑P	**P**	**00 19 29.8**	**-1.6**
	baz=217,slow=8.8,SNR=21						
MKAR	**Makanchi Array**	**12.74**	**36**	P	**Pn**	**00 19 28.3**	**+0.5**
	0.9nm,0.6s,baz=213,slow=10,SNR=12						
KURBB	**Kurchatov Arra**	**14.61**	**18**	P	**Pn**	**00 19 50.3**	**-0.7**
	0.2nm,0.3s,baz=206,slow=11,SNR=3.6						
AB31	**Akbulak array**	**14.91**	**329**	P	**P**	**00 19 56.2**	**+0.8**
	0.6nm,0.7s,baz=146,slow=12,SNR=5.0						
BVAR	**Borovoye Array**	**16.13**	**358**	P	**Pn**	**00 20 10.2**	**+0.8**
	0.6nm,0.6s,baz=157,slow=11,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.39**	**24**	P	**P**	**00 20 44.0**	**-0.3**
	1.1nm,0.3s,baz=221,slow=9.8,SNR=7.4						
YKA	**Yellowknife Ar**	**80.82**	**3**	P	**P**	**00 28 23.6**	**-1.0**
	0.1nm,0.5s,baz=350,slow=5.1,SNR=4.9						
	0.1nm,0.5s						

*CATAC **06** 00:22:43.5±0.9, 13°N±12°×8°9W±°, h34km±8km, M3.4/15, MLv3.4/15, Error ellipse: s-maj=27.4km s-min=6.6km az=15.2, confirmed*

ISC 06 00:22:42.6±1.8, 13°.08N±0°.09×89°.22W±0°.06, h35km, n58, σ0°.91/57, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**346**	P	**Pn**	**00 22 56.4**	**+4.3**
LALI	**Alcalda de L**	**0.42**	**346**	P	**Pn**	**00 22 53.3**	**+1.1**
LFRS	**El Faro**	**0.56**	**16**	*e*P	**Pn**	**00 22 53.8**	**-0.4**
LOMA	**Loma Larga**	**0.56**	**5**	*e*P	**Pn**	**00 22 53.8**	**-0.5**
LOMA	**Loma Larga**	**0.56**	**5**	P	**Pn**	**00 22 54.0**	**-0.4**
LOMA	**Loma Larga**	**0.56**	**5**	P	**Pn**	**00 22 53.9**	**-0.4**
JAYA	**Jayaque - finc**	**0.61**	**338**	*e*P	**Pn**	**00 22 54.2**	**-0.9**
JAYA	**Jayaque - finc**	**0.61**	**338**	P	**Pn**	**00 22 54.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.61**	**338**	P	**Pn**	**00 22 54.2**	**-0.9**
TECO	**Alcaldia de Te**	**0.62**	**43**	*e*P	**Pn**	**00 22 54.3**	**-0.7**
TECO	**Alcaldia de Te**	**0.62**	**43**	P	**Pn**	**00 22 54.5**	**-0.5**
TECO	**Alcaldia de Te**	**0.62**	**43**	P	**Pn**	**00 22 54.4**	**-0.6**
COEG	**Centro de Oper**	**0.63**	**31**	*e*P	**Pn**	**00 22 54.4**	**-0.8**
COEG	**Centro de Oper**	**0.63**	**31**	P	Pn	00 22 49.6	-5.5
IGN	**Direccin Gen**	**0.63**	**4**	P	**Pn**	**00 22 54.9**	**-0.3**
UEES	**Universidad Ev**	**0.63**	**358**	P	**Pn**	**00 22 56.4**	**+1.2**
PMON	**Piamonte**	**0.64**	**351**	P	**Pn**	**00 22 54.6**	**-0.7**
PMON	**Piamonte**	**0.64**	**351**	P	**Pn**	**00 22 54.6**	**-0.7**
BOQS	**Boqueron**	**0.65**	**355**	*e*P	**Pn**	**00 22 55.1**	**-0.5**
ALJI	**Alcalda de J**	**0.68**	**69**	*e*P	**Pn**	**00 22 55.4**	**-0.4**
ALJI				*e*S	**Sn**	**00 23 06.1**	**+1.0**
ALJI	**Alcalda de J**	**0.68**	**69**	P	**Pn**	**00 22 55.3**	**-0.4**
PAVA	**Las Pavas**	**0.69**	**23**	*e*P	**Pn**	**00 22 55.5**	**-0.5**
PAVA	**Las Pavas**	**0.69**	**23**	P	**Pn**	**00 22 55.5**	**-0.5**
UESV	**Universidad de**	**0.69**	**37**	P	**Pn**	**00 22 55.5**	**-0.5**
CEDA	**San Andres**	**0.74**	**346**	P	**Pn**	**00 22 54.1**	**-2.5**
SCLA	**Alcaldia de Sa**	**0.78**	**38**	*i* P	**Pn**	**00 22 57.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.78**	**38**	P	**Pn**	**00 22 57.2**	**0.0**
SCLA	**Alcaldia de Sa**	**0.78**	**38**	P	**Pn**	**00 22 57.0**	**-0.2**
TECA	**Tecapa**	**0.81**	**59**	*e*P	**Pn**	**00 22 56.9**	**-0.8**
TECA				*e*P		00 22 57.1	
PQSS	**Presa 15 de Se**	**0.84**	**50**	P	**Pn**	**00 22 57.4**	**-0.5**
CEVE	**Cerro Verde**	**0.84**	**332**	P	**Pn**	**00 22 58.5**	**+0.2**
CEVE	**Cerro Verde**	**0.84**	**332**	P	Pn	00 23 09.0	+11
PACA	**Pacayal**	**0.95**	**66**	*e*P	**Pn**	**00 22 59.8**	**+0.1**
PACA	**Pacayal**	**0.95**	**66**	P	**Pn**	**00 23 00.0**	**+0.4**
PACA	**Pacayal**	**0.95**	**66**	P	**Pn**	**00 22 59.5**	**-0.1**
LCY	**Lacayo**	**0.96**	**69**	*e*P	**Pn**	**00 22 59.7**	**-0.1**
RANC	**El Ranchito**	**0.97**	**69**	*e*P	**Pn**	**00 22 59.6**	**-0.2**
RANC	**El Ranchito**	**0.97**	**69**	P	**Pn**	**00 22 59.7**	**-0.2**
RANC	**El Ranchito**	**0.97**	**69**	P	**Pn**	**00 22 60.0**	**+0.1**
VSM	**San Miguel**	**0.98**	**69**	*e*P	**Pn**	**00 23 00.1**	**-0.1**
NUBE	**Las Nubes**	**0.98**	**326**	*e*P	**Pn**	**00 22 58.8**	**-1.3**
NUBE	**Las Nubes**	**0.98**	**326**	P	**Pn**	**00 22 59.5**	**-0.6**
NUBE	**Las Nubes**	**0.98**	**326**	P	**Pn**	**00 22 58.8**	**-1.3**
BLLM	**Bellamira**	**1.02**	**69**	*e*P	**Pn**	**00 23 00.3**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.09**	**330**	*e*P	**Pn**	**00 23 00.8**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.09**	**330**	P	**Pn**	**00 23 00.9**	**-0.6**
LCND	**La Caada**	**1.31**	**80**	*e*P	**Pn**	**00 23 04.3**	**-0.1**
LCND	**La Caada**	**1.31**	**80**	P	**Pn**	**00 23 04.4**	**-0.1**
MTO3	**Montecristo**	**1.32**	**354**	*e*P	**Pn**	**00 23 04.4**	**-0.4**
MTO3	**Montecristo**	**1.32**	**354**	P	**Pn**	**00 23 04.6**	**-0.2**
CNCH	**Conchagua**	**1.36**	**82**	*e*P	**Pn**	**00 23 04.6**	**-0.7**
CNCH	**Conchagua**	**1.36**	**82**	P	**Pn**	**00 23 05.0**	**-0.2**
CHOHN	**Orocuina**	**2.04**	**79**	P	**Pn**	**00 23 13.8**	**-0.8**
PKGN	**Cerro Pekin**	**2.22**	**100**	P	**Pn**	**00 23 16.9**	**-0.1**
MACN	**El Madrono**	**2.56**	**104**	P	**Pn**	**00 23 21.2**	**-0.4**
MACN	**El Madrono**	**2.56**	**104**	P	**Pn**	**00 23 22.3**	**+0.6**
MOMN	**Momotombo**	**2.70**	**104**	P	**Pn**	**00 23 22.3**	**-1.3**
COPN	**Copaltepe**	**2.71**	**109**	P	**Pn**	**00 23 24.1**	**+0.3**

*NEIC **06** 00:34:22.5±1.8, 6°.86N±0°.07×73°.00W±0°.09, h150km±6km, mb4.4/11, Error ellipse: s-maj=13.3km s-min=9.6km az=114.0*
*IDC **06** 00:34:22.4±1.1, 6°.79N×72°.90W, h162km±9km, mb3.7/10, mbtmp4.3/15, Error ellipse: s-maj=17.1km s-min=11.8km az=146.0*
*RSNC **06** 00:34:23.3±0.0, 7°N±1°×7°3W±°, h144km±2km, M4.2, mB4.9, mb4.8, ML3.8, Mw(mB)4.2*

ISC 06 00:34:21.9±0.6, 6°.85N±0°.03×73°.05W±0°.04, h153km±5km, n210, σ1°.32/260, mb4.4/61, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**207**	P	**Pn**	**00 34 43.1**	**0.0**
BARC				S	**Sn**	**00 34 58.0**	**-1.3**
PAMC	**Pamplona, Colo**	**0.59**	**36**	P	**Pn**	**00 34 45.9**	**+1.2**
PAMC				S	**Sn**	**00 35 02.4**	**+0.3**
BRJC	**Barrancabermej**	**0.70**	**280**	P	**Pn**	**00 34 44.8**	**0.0**
BRJC				S	**Sn**	**00 35 00.9**	**-1.2**
RUSC	**La Rusia**	**0.96**	**182**	Pn	**Pn**	**00 34 46.8**	**-0.5**
RUSC				Sn	**Sn**	**00 35 05.9**	**-0.6**
RUSC	**La Rusia**	**0.96**	**182**	P	**Pn**	**00 34 47.1**	**-0.1**
RUSC				S	**Sn**	**00 35 05.5**	**-1.0**
TAMC	**Tame, Arauca**	**1.32**	**108**	P	**Pn**	**00 34 51.4**	**+1.5**
TAMC				S	**Sn**	**00 35 11.2**	**-0.1**
OCAC	**Ocana**	**1.40**	**349**	P	**Pn**	**00 34 51.2**	**+0.3**
OCAC				S	**Sn**	**00 35 12.8**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.43**	**257**	P	**Pn**	**00 34 49.8**	**-1.2**
PTBC				S	**Sn**	**00 35 10.8**	**-2.5**
SPBC	**San Pablo de B**	**1.57**	**220**	P	**Pn**	**00 34 52.1**	**-0.5**
SPBC				S	**Sn**	**00 35 14.2**	**-1.9**
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	P	**Pn**	**00 34 55.5**	**-0.6**
ZARC				S	**Sn**	**00 35 21.4**	**-1.0**
NORC	**Norcasia**	**2.22**	**235**	P	**Pn**	**00 34 59.4**	**-0.5**
NORC				S	**Sn**	**00 35 27.6**	**-1.5**
CHIC	**Chingaza**	**2.31**	**197**	P	**Pn**	**00 35 01.3**	**-0.1**
CHIC				S	**Sn**	**00 35 29.8**	**-1.9**
ROSC	**El Rosal**	**2.37**	**212**	Pn	**Pn**	**00 35 02.7**	**+0.7**
ROSC				Sn	**Sn**	**00 35 33.0**	**+0.1**
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**	**00 35 03.2**	**+1.2**
	298nm,0.3s,baz=343,slow=3.2,SNR=332						
ROSC				S	**Sn**	**00 35 30.3**	**-2.6**
	642nm,0.4s,baz=56,slow=20,SNR=8.9						
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**	**00 35 03.1**	**+1.1**
ROSC				S	**Sn**	**00 35 34.0**	**+1.1**
UREC	**San Jos de Ur**	**2.62**	**290**	P	**Pn**	**00 35 02.6**	**-2.1**
UREC				S	**Sn**	**00 35 34.4**	**-3.3**
VILC	**Villavicencio,**	**2.80**	**193**	P	**Pn**	**00 35 06.7**	**-0.4**
VILC				S	**Sn**	**00 35 42.7**	**+0.7**
GUY2C	**Guyana, Caldas**	**2.81**	**235**	P	**Pn**	**00 35 07.5**	**-0.1**
GUY2C				S	**Sn**	**00 35 43.3**	**+0.5**
RECRC	**Villamaria, Ca**	**2.96**	**231**	P	**Pn**	**00 35 08.9**	**-0.6**
NIZA	**Niza - Manizal**	**3.00**	**234**	P	**Pn**	**00 35 09.9**	**+0.2**
NIZA				S	**Sn**	**00 35 46.9**	**+0.3**
CBOC	**Ciudad Bolivar**	**3.10**	**252**	P	**Pn**	**00 35 11.0**	**+0.1**
CBOC				S	**Sn**	**00 35 47.5**	**-1.3**
SDV	**Santo Domingo**	**3.13**	**50**	Pn	**Pn**	**00 35 11.9**	**+0.6**
SDV	**Santo Domingo**	**3.13**	**50**	P	**Pn**	**00 35 12.6**	**+1.3**
	325nm,0.3s,baz=139,slow=3.2,SNR=838						
SDV				S	**Sn**	**00 35 49.3**	**-0.2**
	379nm,0.4s,baz=259,slow=22,SNR=24						
SDV	**Santo Domingo**	**3.13**	**50**	P	**Pn**	**00 35 12.6**	**+1.3**
SDV				S	**Sn**	**00 35 49.2**	**-0.3**
DBBC	**Dabeiba**	**3.14**	**273**	P	**Pn**	**00 35 10.8**	**-0.5**
DBBC				S	**Sn**	**00 35 46.8**	**-2.7**
ARGC	**Ariguani, Magd**	**3.21**	**338**	P	**Pn**	**00 35 13.4**	**+1.3**
ARGC				S	**Sn**	**00 35 50.7**	**-0.4**
ANIL	**Santa Ana**	**3.32**	**225**	P	**Pn**	**00 35 14.7**	**+0.9**
PRAC	**Prado**	**3.62**	**210**	P	**Pn**	**00 35 17.4**	**0.0**
PRAC				S	**Sn**	**00 35 59.5**	**-0.9**
APAC	**Apartado, Choc**	**3.65**	**287**	P	**Pn**	**00 35 17.3**	**-0.5**
APAC				S	**Sn**	**00 35 58.9**	**-2.2**
ORTC	**Ortega, Tolima**	**3.65**	**217**	P	**Pn**	**00 35 17.3**	**-0.6**
ORTC				S	**Sn**	**00 36 01.9**	**+0.6**
SJCC	**San Jacinto, C**	**3.69**	**325**	P	**Pn**	**00 35 17.1**	**-1.2**
SJCC				S	**Sn**	**00 35 58.5**	**-3.5**
PLMC	**San Jos del P**	**3.75**	**239**	P	**Pn**	**00 35 18.9**	**-0.3**
PLMC				S	**Sn**	**00 36 03.0**	**-0.6**
URMC	**La Uribe, Meta**	**3.82**	**200**	P	**Pn**	**00 35 20.1**	**0.0**
URMC				S	**Sn**	**00 36 03.4**	**-1.8**
CRJC	**Cerrejon, Guaj**	**4.14**	**2**	P	**Pn**	**00 35 23.1**	**-1.1**
CRJC				S	**Sn**	**00 36 10.4**	**-2.4**
GUVC	**San Jose del G**	**4.30**	**174**	P	**Pn**	**00 35 26.1**	**-0.2**
GUVC				S	**Sn**	**00 36 15.8**	**-0.6**
YOTC	**Yotoco, Valle**	**4.35**	**229**	P	**Pn**	**00 35 25.6**	**-1.4**
YOTC				S	**Sn**	**00 36 19.3**	**+1.7**
SMRC	**Santa Marta, M**	**4.44**	**345**	Pn	**Pn**	**00 35 27.6**	**-0.4**
SMRC	**Santa Marta, M**	**4.44**	**345**	P	**Pn**	**00 35 28.2**	**+0.2**
SMRC				S	**Sn**	**00 36 16.6**	**-2.9**
CAPC	**Capurgana**	**4.62**	**293**	P	**Pn**	**00 35 28.0**	**-2.4**
CAPC				S	Sn	00 36 15.9	-7.8
PIZC	**Pizarro, Choco**	**4.68**	**247**	P	**Pn**	**00 35 31.6**	**+0.4**
PIZC				S	**Sn**	**00 36 24.1**	**-1.1**
PTAC	**Punta Ardita,**	**4.73**	**274**	P	**Pn**	**00 35 30.2**	**-1.7**
MACC	**Macarena, Meta**	**4.75**	**190**	P	**Pn**	**00 35 30.5**	**-1.6**
MACC				S	**Sn**	**00 36 23.3**	**-3.6**
BETC	**Betania**	**4.78**	**210**	P	**Pn**	**00 35 31.7**	**-0.9**
BETC				S	**Sn**	**00 36 23.1**	**-4.7**
URIC	**Uribia, Colomb**	**4.93**	**12**	P	**Pn**	**00 35 33.4**	**-1.1**
URIC				S	**Sn**	**00 36 29.4**	**-1.7**
JAMC	**Jamundi, Valle**	**5.11**	**225**	P	**Pn**	**00 35 36.5**	**-0.6**
	73nm,0.5s						
JAMC				S	**Sn**	**00 36 36.2**	**+0.5**
	73nm,0.5s						
MALC	**Bahia Malaga**	**5.12**	**237**	P	**Pn**	**00 35 37.5**	**+0.5**
MALC				S	**Sn**	**00 36 39.0**	**+3.5**
GARC	**Garzon, Huila**	**5.24**	**208**	P	**Pn**	**00 35 37.6**	**-1.2**
GARC				S	**Sn**	**00 36 35.2**	**-3.7**
BAUV	**El Baul**	**5.38**	**67**	Pn	**Pn**	**00 35 38.9**	**-1.6**
POPC	**Popayan, Colom**	**5.61**	**220**	P	**Pn**	**00 35 43.2**	**-0.5**
	688nm53nm,0.6s						
POPC				S	**Sn**	**00 36 46.3**	**-1.3**
	688nm53nm,0.6s						
FLOC	**Florencia**	**5.84**	**206**	Pn	**Pn**	**00 35 45.7**	**-1.0**
FLOC	**Florencia**	**5.84**	**206**	P	**Pn**	**00 35 45.5**	**-1.2**
	872nm62nm,0.9s						
FLOC				S	**Sn**	**00 36 47.8**	**-5.2**
	872nm62nm,0.9s						
HATO	**Hato, Curacao**	**6.66**	**37**	Pn	**Pn**	**00 35 56.8**	**-0.6**
BCIP	**Isla Barro Col**	**7.10**	**289**	Pn	**Pn**	**00 36 00.5**	**-2.9**
OTAV	**Otavalo**	**8.50**	**220**	Pn	**Pn**	**00 36 20.2**	**-2.3**
PCRV	**Puerto La Cruz**	**8.95**	**68**	P	**Pn**	**00 36 26.3**	**-1.8**
	14nm,0.5s,baz=223,slow=8.1,SNR=27						
PCRV				S	**Sn**	**00 38 06.8**	**-0.8**
	11nm,0.5s,baz=347,slow=16,SNR=1.5						
STH	**Stony Hill**	**11.74**	**342**	*e*P	**Pn**	**00 37 07.4**	**+2.6**
MTDJ	**Mount Denham**	**12.12**	**339**	Pn	**Pn**	**00 37 11.6**	**+1.8**
MTDJ	**Mount Denham**	**12.12**	**339**	*e*P	**Pn**	**00 37 12.8**	**+2.9**
JTS	**Las Juntas de**	**12.26**	**287**	P	**Pn**	**00 37 14.9**	**+3.4**
	5.4nm,0.7s,baz=137,slow=19,SNR=2.9						
DR12	**Loma Pena Alta**	**12.39**	**16**	Pn	**Pn**	**00 37 11.1**	**-2.2**
CELP	**Cerrillos**	**12.81**	**29**	Pn	**Pn**	**00 37 16.5**	**-2.2**
PDPR	**Patillas Dam,**	**13.04**	**31**	Pn	**Pn**	**00 37 20.2**	**-1.4**
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**00 37 21.2**	**-0.6**
	6.6nm,0.3s,baz=218,slow=14,SNR=4.3						
GTBY	**Guantanamo Bay**	**13.15**	**351**	*e*P	**P**	**00 37 26.8**	**-0.6**
HUMP	**Col San Antoni**	**13.23**	**31**	Pn	**Pn**	**00 37 23.5**	**-0.6**
BOAV	**Boa Vista**	**13.25**	**109**	Pn	**Pn**	**00 37 22.4**	**-1.9**
MASC	**Masc**	**13.29**	**355**	*e*P	**Pn**	**00 37 28.0**	**+3.2**
RCC	**Rio Carpintero**	**13.31**	**349**	*e*P	**P**	**00 37 29.0**	**-0.2**
QMBU	**Quimbuelo**	**13.38**	**353**	*e*P	**Pn**	**00 37 29.0**	**+3.1**
LMGC	**Las Mercedes**	**13.68**	**344**	*e*P	**Pn**	**00 37 32.5**	**+2.8**
PINC	**Pinares de May**	**13.81**	**349**	*e*P	**P**	**00 37 35.1**	**+0.3**
ATAH	**Atahualpa**	**14.88**	**201**	P	**P**	**00 37 49.7**	**+2.5**
	3.8nm,0.7s,baz=74,slow=13,SNR=3.7						
TEIG	**Tepich**	**19.87**	**313**		**P**	**00 38 41.5**	**+0.2**
352A	**Blakely**	**26.90**	**337**	P	**P**	**00 39 50.7**	**+2.0**
152A	**Waverly Hall**	**27.89**	**339**	P	**P**	**00 39 59.5**	**+2.0**
152A				IAmb	IAmb	00 40 00.3	
	comp=Z,5.8nm,0.8s						
HODGE	**Hodges**	**28.54**	**344**	P	**P**	**00 40 05.0**	**+1.7**
HODGE				IAmb	IAmb	00 40 33.3	
	comp=Z

comp=Z,8.3nm,1.1s
VHRN Van Horn 38.23 313 P P 00 41 27.4 +0.1
L40A Anamosa 38.59 338 P P 00 41 29.4 -0.6
L40A IAmb IAmb 00 41 50.3
comp=Z,12nm,1.1s
JFWS Jewell Farm 38.99 340 P P 00 41 33.6 +0.2
SLBS Sierra La Lagu 39.16 299 P P 00 41 35.6 +0.5
SLBS IAmb IAmb 00 42 13.6
comp=Z,13nm,1.2s
I42A Draeger Farm, 39.42 342 P P 00 41 36.5 -0.4
LMN Caledonia Moun 39.50 9 P P 00 41 38.5 +0.9
LMN IAmb IAmb 00 42 11.1
comp=Z,14nm,1.3s
D62A Allapoint, All 40.23 4 P P 00 41 45.0 +1.5
E46A Sault Ste Mari 40.55 348 P P 00 41 46.9 +0.8
E46A IAmb IAmb 00 41 47.7
comp=Z,6.1nm,0.8s
BATG Bathurst New B 40.72 7 P P 00 41 48.1 +0.5
BATG IAmb IAmb 00 41 51.7
comp=Z,12nm,1.3s
LDAQ Lac Daran 40.99 2 P P 00 41 50.6 +0.8
LDAQ IAmb IAmb 00 42 32.9
comp=Z,7.0nm,1.3s
ECSD EROS Data Cent 42.15 334 P P 00 41 58.7 -0.6
K30B Basset 42.69 331 P P 00 42 03.4 -0.3
EYMN Ely 43.86 342 P P 00 42 12.9 0.0
EYMN IAmb IAmb 00 42 13.9
comp=Z,8.5nm,0.6s
MVCO Mesa Verde 44.18 318 P P 00 42 16.2 +0.3
PV13 Radium Mtn., P 44.92 319 P P 00 42 23.3 +1.4
PV13 IAmb IAmb 00 42 24.0
comp=Z,4.9nm,0.8s
AGMN Agassiz Nation 45.62 339 P P 00 42 26.5 -0.4
AGMN IAmb IAmb 00 42 27.9
comp=Z,4.5nm,0.6s
Y14A Wickenburg 45.68 312 P P 00 42 28.9 +1.2
Y14A IAmb IAmb 00 42 29.5
comp=Z,3.9nm,0.7s
ULM Lac du Bonnet 47.28 340 P P 00 42 39.2 -0.5
ULM IAmb IAmb 00 42 40.7
comp=Z,6.1nm,0.7s
ULM Lac du Bonnet 47.28 340 P P 00 42 39.5 -0.2
comp=Z,7.0nm,0.5s,baz=145,slow=6.7,SNR=18
comp=Z,7.0nm,0.5s
MSU Marysvale 47.33 318 P P 00 42 41.3 +0.6
BSUT Blindstream Ca 47.51 321 P P 00 42 43.0 +0.7
PD31 Pinedale Array 48.09 324 P P 00 42 46.3 -0.2
PD31 IAmb IAmb 00 42 47.7
comp=Z,6.5nm,1.4s
PDAR Pinedale Array 48.09 324 P P 00 42 45.9 -0.6
PDAR Pinedale Array 48.09 324 P P 00 42 46.9 +0.4
comp=Z,1.0nm,0.5s,baz=127,slow=9.0,SNR=15
PDAR PcP **PcP 00 44 11.5 -0.3**
comp=Z,0.3nm,0.6s,baz=116,slow=6.8,SNR=2.5
comp=Z,1.0nm,0.5s
SCHQ Schefferville 48.10 5 P P 00 42 46.5 +0.4
comp=Z,1.9nm,0.4s,baz=191,slow=7.3,SNR=14
comp=Z,1.9nm,0.4s
TCUT Toone Canyon 48.25 321 P P 00 42 48.3 +0.6
AHID Auburn Hatcher 49.00 323 P P 00 42 54.0 +0.6
SPR3 Spring Creek 3 49.02 317 P P 00 42 53.3 -0.5
DGMT Dagmar 49.15 333 P P 00 42 55.3 +1.1
BGU Big Grassy Mou 49.16 320 P P 00 42 55.0 +0.4
BGU IAmb IAmb 00 42 56.1
comp=Z,4.1nm,0.7s
TPAW Teton Pass 49.34 324 P P 00 42 55.3 -0.7
RLMT Red Lodge 49.39 327 P P 00 42 57.1 +0.8
HVU Hansel Valley 49.47 321 P P 00 42 57.2 +0.3
R11B Troy Canyon, C 49.57 316 P P 00 42 57.7 0.0
GCMT Greycliff 50.03 327 P P 00 43 01.0 0.0
DSP Deep Springs 50.82 313 P P 00 43 08.1 +1.2
BOZ Bozeman (W) 50.99 326 P P 00 43 09.1 +0.8
MCMT McKenzie Canyo 51.23 324 P P 00 43 11.2 +1.0
HLID Hailey 51.45 322 P P 00 43 12.6 +0.8
NVAR Mina Array Bea 51.51 315 P P 00 43 12.9 +0.6
comp=Z,0.5nm,0.5s,baz=134,slow=6.4,SNR=4.1
NVAR PcP **PcP 00 44 24.9 +0.5**
comp=Z,0.4nm,0.4s,baz=139,slow=2.8,SNR=2.1
comp=Z,0.5nm,0.5s
LRM Limekiln Ridge 51.59 325 P P 00 43 13.1 +0.2
LYMT Lyon Mountain 52.19 327 P P 00 43 17.9 +0.7
BPMT Black Pine Rid 52.51 326 P P 00 43 19.1 -0.6
FFC Flin Flon 53.08 339 P P 00 43 23.4 +0.1
PLID Pearl Lake 53.23 323 P P 00 43 24.5 -0.4
FCC Fort Churchill 54.26 347 P P 00 43 31.1 -0.7
FCC IAmb IAmb 00 43 32.4
comp=Z,4.0nm,1.2s
F10A Beach Ranch, E 54.44 323 P P 00 43 33.4 -0.1
F10A IAmb IAmb 00 43 34.4
comp=Z,2.7nm,0.5s
I07A Izee 54.89 320 P P 00 43 37.4 +0.6
I07A IAmb IAmb 00 43 38.5
comp=Z,3.3nm,0.9s
G08A Pilot Rock 55.13 322 P P 00 43 38.5 0.0
G08A IAmb IAmb 00 43 40.0
comp=Z,4.6nm,0.7s
PINE Pine Mountain 55.67 319 P P 00 43 43.5 +0.9
G06A Carlson Farm, 56.14 321 P P 00 43 47.2 +1.5
G06A IAmb IAmb 00 43 47.2
comp=Z,6.5nm,1.4s
LTY Liberty 57.13 323 P P 00 43 52.8 +0.2
LTY IAmb IAmb 00 43 53.8
comp=Z,5.6nm,1.2s
KBO Bosley Butte 57.19 316 P P 00 43 54.1 +0.9
NLWA Neilton Lookou 59.12 322 P P 00 44 06.2 -0.2
YKA Yellowknife Ar 63.26 340 P P 00 44 34.1 +0.2
comp=Z,3.0nm,0.6s,baz=139,slow=6.6,SNR=81
comp=Z,3.0nm,0.6s
DLBC Dease Lake 67.33 331 P P 00 45 00.9 +0.6
DLBC IAmb IAmb 00 45 17.3
comp=Z,9.9nm,1.5s
WTLY Watson Lake, Y 67.51 333 P P 00 45 02.0 +0.7
WTLY IAmb IAmb 00 45 03.0
comp=Z,5.2nm,0.8s
S34M Telegraph Cree 67.64 331 P P 00 45 03.2 +1.1
S34M IAmb IAmb 00 45 43.7
comp=Z,4.4nm,0.9s
SUMG Summit 68.94 11 P P 00 45 09.6 -0.9
ESDC Sonseca Array 69.58 50 P P 00 45 13.8 -0.9
comp=Z,0.3nm,0.7s,baz=302,slow=1.7,SNR=2.0
comp=Z,0.3nm,0.7s
FARO Faro, Yukon 70.42 334 P P 00 45 19.6 +0.4
FARO IAmb IAmb 00 46 01.8
comp=Z,5.2nm,1.3s
O30N Mendenhall 71.08 332 P P 00 45 24.5 +1.1
A36M Sachs Harbour 72.42 345 P P 00 45 31.4 +0.3
INK Inuvik 73.02 340 P P 00 45 35.0 +0.4
EPYK Eagle Plains 73.38 338 P P 00 45 37.7 +0.8
EPYK IAmb IAmb 00 45 37.8
comp=Z,3.5nm,0.5s
TORD Torodi Ar. Bea 73.66 78 P P 00 45 37.7 -1.7
comp=Z,1.2nm,0.3s,baz=286,slow=6.6,SNR=1.6
comp=Z,1.2nm,0.3s
F28M Old Crow 74.98 339 P P 00 45 46.1 0.0
BMRM Bremner River 75.12 331 P P 00 45 46.8 -0.3
PRP Porcupine Dome 76.56 336 P P 00 45 55.6 +0.4
PWL Port Wells 76.89 331 P P 00 45 57.1 0.0
ILAR Eielson Array 76.96 335 P P 00 45 57.3 -0.1
comp=Z,0.7nm,0.7s,baz=110,slow=4.6,SNR=9.2
comp=Z,0.7nm,0.7s
E25K Arctic Village 77.19 338 P P 00 45 59.3 +0.7
RND Reindeer 77.56 333 P P 00 46 01.8 +1.0
RND IAmb IAmb 00 46 03.1
comp=Z,4.8nm,0.8s
SUA Susitna One 78.14 331 P P 00 46 04.4 +0.3
SUA IAmb IAmb 00 46 05.7
comp=Z,4.5nm,0.8s
TRF Thorofare Moun 78.20 333 P P 00 46 05.0 +0.6
TRF IAmb IAmb 00 46 07.8
comp=Z,4.8nm,1.1s
SKT Skwentna 78.57 332 P P 00 46 06.8 +0.4
OHAK Old Harbor 78.98 327 P P 00 46 08.6 0.0
O18K Koktuh Hills 80.17 330 P P 00 46 14.8 -0.3
O18K IAmb IAmb 00 46 44.7
comp=Z,15nm,1.2s
ARCES ARCESS Array B 86.62 20 P P 00 46 47.5 -0.3
comp=Z,3.2nm,0.9s,baz=272,slow=3.2,SNR=4.9
comp=Z,3.2nm,0.9s
ZALV Zalesovo Beam 116.62 14 PKP PKPdf 00 52 47.1 -0.8
comp=Z,0.3nm,0.3s,baz=326,slow=2.1,SNR=2.9
MK31 Makanchi Array 122.27 20 PKPdf PKPdf 00 52 57.9 -1.1
MKAR Makanchi Array 122.27 20 PKPdf PKPdf 00 52 57.5 -1.5
MKAR Makanchi Array 122.27 20 PKP PKPdf 00 52 58.4 -0.6
comp=Z,0.3nm,0.4s,baz=299,slow=2.6,SNR=13
SONM Songino Array 125.55 0 PKP PKPdf 00 53 05.0 -0.4
comp=Z,0.2nm,0.5s,baz=318,slow=1.9,SNR=2.2
AS31 Alice Springs 149.19 234 PKPbc PKPdf 00 53 51.9 +3.0
ASAR Alice Springs 149.19 234 PKPdf PKPdf 00 53 47.7 -1.2
ASAR PKPbc **PKPbc 00 53 52.2 -1.1**
ASAR Alice Springs 149.19 234 PKP PKPdf 00 53 48.1 -0.8
comp=Z,2.6nm,0.7s,baz=94,slow=1.2,SNR=5.0
ASAR PKPbc **PKPbc 00 53 51.7 -1.6**
comp=Z,2.5nm,0.5s,baz=116,slow=3.7,SNR=14
WR0 Warramunga Arr 150.23 241 PKPbc PKPbc 00 53 54.7 -1.2
WB2 Warramunga Arr 150.40 241 PKPbc PKPbc 00 53 55.4 -0.9
WRAB Tennant Creek 150.41 241 PKPbc PKPbc 00 53 54.8 -1.5
WRA Warramunga Arr 150.41 241 PKP PKPdf 00 53 50.7 -0.2
comp=Z,0.3nm,0.6s,baz=108,slow=2.6,SNR=5.4
WRA PKPbc **PKPbc 00 53 55.4 -0.9**
comp=Z,2.8nm,0.4s,baz=109,slow=2.6,SNR=18
WB0 Warramunga Arr 150.43 242 PKPbc PKPbc 00 53 54.9 -1.5
SLVN Son La 151.83 6 PKPbc PKPbc 00 53 60.0 +0.4

IDC 06 00:35:30.2±3.8, 5°.10S×150°.36E, h0km, mb3.7/3, mbtmp3.8/3, Error ellipse: s-maj=126.2km s-min=35.4km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.84**	**65**	LR	LR	00 36 52.1	
	comp=Z,62nm,20.4s,baz=211,slow=44						
WRA	**Warramunga Arr**	**21.46**	**225**	P	P	00 40 20.7	+0.1
	2.9nm,0.5s,baz=52,slow=10,SNR=42						
	2.9nm,0.5s						
ASAR	**Alice Springs**	**24.34**	**219**	P	P	00 40 49.6	-0.4
	1.8nm,0.6s,baz=56,slow=9.0,SNR=17						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**78.97**	**320**	P	P	00 47 34.7	-1.3
	0.3nm,0.9s,baz=101,slow=4.6,SNR=1.9						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.08**	**287**	PKPbc	PKiKP	00 55 20.3	-0.5
	0.3nm,0.6s,baz=81,slow=1.9,SNR=2.9						

---

*RSNC **06** 00:44:53.6±0.5, 11°.N×6°.6°×5W±°, h143km±23km, M4.8, mB5.4, mb4.1, ML3.1, Mw(mB)4.8, Hypocentre not reviewed by the ISC*
*FUNV **06** 00:44:54.4, 10°.61N×65°.43W, h5km, MW3.6*
ISC 06 00:44:54.0±1.3, 10°.74N±0°.05×65°.39W±0°.03, h27km±14km, n28, σ1°.74/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**0.93**	**127**	*e*P	**Pn**	**00 45 12.4**	**+1.0**
PCRV				*e*S	**Sn**	**00 45 25.2**	**+1.3**
PCRV	**Puerto La Cruz**	**0.93**	**127**	*e*P	**Pn**	**00 45 12.6**	**+1.2**
PCRV				*e*S	**Sb**	**00 45 21.8**	**-1.6**
CUMV	**Cumana_UDO**	**1.21**	**105**	*e*P	**Pb**	**00 45 16.1**	**-0.2**
CUMV				*e*S	**Sb**	**00 45 34.5**	**+2.8**
FUNV	**FUNVISIS**	**1.42**	**259**	*e*P	**Pn**	**00 45 18.3**	**0.0**
FUNV				*e*S	**Sb**	**00 45 37.8**	**0.0**
TACV	**Tcata**	**1.72**	**250**	*e*P	**Pb**	**00 45 23.3**	**-1.7**
TACV				*e*S	**Sb**	**00 45 45.6**	**-0.6**
BENV	**Beln**	**2.31**	**251**	*e*P	**Pn**	**00 45 31.8**	**+1.3**
BENV				*e*S	**Sn**	**00 45 59.5**	**+1.4**
BAUV	**El Baul**	**3.17**	**236**	*e*P	**Pn**	**00 45 42.3**	**+0.1**
BAUV	**El Baul**	**3.17**	**236**	*e*P	**Pn**	**00 45 42.1**	**0.0**
BAUV				*e*S	**Pb**	**00 45 52.4**	**+2.7**
CACV	**CAICARA DEL OR**	**3.35**	**200**	*e*P	**Pn**	**00 45 43.5**	**-1.3**
CACV				*e*S	**Sn**	**00 46 19.3**	**-4.4**
JACV	**Jacura**	**3.40**	**276**	*e*P	**Pn**	**00 45 45.9**	**+0.4**
JACV				*e*S	**Sn**	**00 46 26.3**	**+1.4**
GRFF	**Grenada Fort F**	**3.81**	**70**	*e*P	**Pn**	**00 45 51.7**	**+0.7**
TEPV	**Terepaima**	**3.82**	**259**	*e*P	**Pn**	**00 45 52.2**	**+1.0**
GRGR	**Grenville**	**3.91**	**69**	*e*P	**Pn**	**00 45 52.9**	**+0.4**
GRGR				*e*S	**Sn**	**00 46 35.9**	**-1.7**
TRN	**Trinidad (W)**	**3.92**	**91**	*e*P	**Pn**	**00 45 54.6**	**+2.1**
TRN	**Trinidad (W)**	**3.92**	**91**	*e*S	**Sn**	**00 46 39.9**	**+2.2**
GRHS	**Sauteurs**	**3.96**	**68**	*e*P	**Pn**	**00 45 55.2**	**+2.1**
GCMP	**Grenada, Carri**	**4.25**	**66**	*e*P	**Pn**	**00 45 55.4**	**-1.7**
GCMP	**Grenada, Carri**	**4.25**	**66**	*e*S	**Sn**	**00 46 43.5**	**-2.5**
SVT	**Saint Vincent**	**4.72**	**59**	*e*S	**Sn**	**00 46 58.5**	**+1.0**
SVB	**Belmont**	**4.76**	**58**	*e*P	**Pn**	**00 46 06.0**	**+1.8**
SVB	**Belmont**	**4.76**	**58**	*e*S	**Sn**	**00 46 57.9**	**-0.7**
TOSP	**Speyside**	**4.80**	**83**	*e*P	**Pb**	**00 46 15.5**	**-1.9**
SLAC	**Saint Lucia, A**	**5.40**	**54**	*e*P	**Pn**	**00 46 14.7**	**+1.8**
SLAC	**Saint Lucia, A**	**5.40**	**54**	*e*S	**Sn**	**00 47 13.7**	**-0.5**
SLBI	**Saint Lucia, B**	**5.41**	**52**	*e*P	**Pn**	**00 46 13.5**	**+0.5**
SLBI	**Saint Lucia, B**	**5.41**	**52**	*e*S	**Sn**	**00 47 12.5**	**-1.9**
SDV	**Santo Domingo**	**5.49**	**251**	P		00 46 15.1	
	18nm,0.7s						
BIM	**Bigot**	**5.64**	**48**	*e*P	**Pn**	**00 46 17.1**	**+0.8**
BIM	**Bigot**	**5.64**	**48**	*e*S	**Sn**	**00 47 17.8**	**-2.6**
URIC	**Uribia, Colomb**	**6.55**	**279**	P		00 46 28.0	
	12nm,1.1s						
CRJC	**Cerrejon, Guaj**	**7.37**	**273**	P		00 46 40.1	
	22nm,0.8s						
TAMC	**Tame, Arauca**	**7.64**	**236**	P		00 46 44.2	
	20nm,0.6s						
ANWB	**Willy Bob**	**7.72**	**26**	P		00 46 40.9	
	49nm,0.9s						
PAMC	**Pamplona, Colo**	**7.97**	**246**	P		00 46 49.1	
OCAC	**Ocana**	**8.21**	**253**	P		00 46 52.5	
BARC	**Barichara**	**8.74**	**243**	P		00 46 59.7	
RUSC	**La Rusia**	**9.01**	**238**	P		00 47 02.4	
	11nm,1.1s						
BOAV	**Boa Vista**	**9.59**	**149**	P		00 47 09.5	
	6.3nm,1.5s						
SJCC	**San Jacinto, C**	**9.67**	**266**	P		00 47 11.3	
	13nm,1.8s						
PTBC	**PUERTO BERRIO,**	**9.89**	**246**	P		00 47 14.1	
	5.6nm,1.0s						
ZARC	**Zaragoza, Cauc**	**9.89**	**252**	P		00 47 13.8	
	1μm6.5nm,0.9s						
CHIC	**Chingaza**	**10.26**	**234**	P		00 47 19.9	
	8.7nm,0.7s						
VILC	**Villavicencio,**	**10.54**	**232**	P		00 47 22.8	
	392nm11nm,0.4s						
GUY2C	**Guyana, Caldas**	**11.30**	**242**	P		00 47 32.2	
	12nm,0.6s						
URMC	**La Uribe, Meta**	**11.62**	**231**	P		00 47 37.7	
	6.4nm,0.8s						
PRAC	**Prado**	**11.72**	**234**	P		00 47 39.3	
	9.4nm,1.1s						
ORTC	**Ortega, Tolima**	**11.90**	**236**	P		00 47 41.3	

TXNET 06 00:46:19.7, 31°.6N±0°.6×104°.3W±0°.6, h5km±1km, ML1.7/7, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=46.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	P	Pg	00 46 26.6	-0.1
TPB11				S	Sg	00 46 31.3	-0.1
PECS	**Pecos**	**0.42**	**128**	⇑P	Pg	00 46 28.1	+0.3
PECS				Sg	Sg	00 46 33.6	+0.3
PECS	**Pecos**	**0.42**	**128**	P	Pg	00 46 28.1	+0.3
PECS				S	Sg	00 46 33.8	+0.5
TPB12	**Southwest of T**	**0.48**	**149**	P	Pg	00 46 29.1	0.0
TPB12				Sg	Sg	00 46 35.6	+0.2
TPB07	**Mentone**	**0.50**	**96**	S	Sg	00 46 36.5	+0.7
TPB10	**Southeast of T**	**0.55**	**129**	P	Pg	00 46 30.4	+0.1
TPB10				S	Sg	00 46 38.1	+0.7
CLNB	**Carlsbad**	**0.71**	**26**	P	Pg	00 46 33.8	+0.4
CLNB				S	Sg	00 46 43.2	+0.7
TPB01	**Permian Basin**	**0.79**	**149**	P	Pg	00 46 34.7	-0.3
TPB01				S	Sg	00 46 45.0	-0.2
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	00 46 38.6	+0.3
MNTX				S	Sb	00 46 51.7	-0.4
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pb	00 46 38.8	-0.3
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	00 46 39.9	0.0
VHRN				S	Sb	00 46 54.1	-0.5
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	00 46 40.1	+0.2
TPB05	**Hovey Rd**	**1.06**	**132**	P	Pg	00 46 39.9	-0.2
TPB05				S	Sg	00 46 54.4	+0.4
MNHN	**Monahans**	**1.30**	**102**	P	Pn	00 46 43.4	-1.3
MNHN				S	Sg	00 47 01.3	-0.4
MNHN	**Monahans**	**1.30**	**102**	P	Pn	00 46 43.6	-1.1
MNHN				S	Sg	00 47 01.4	-0.3
ALPN	**Alpine**	**1.36**	**157**	⇓P	Pn	00 46 44.4	-1.0
ALPN				S	Sg	00 47 02.0	-1.4
ALPN	**Alpine**	**1.36**	**157**	P	Pn	00 46 44.5	-1.0
ALPN				S	Sg	00 47 02.2	-1.2
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	00 46 46.3	-0.3
ODSA	**Odessa**	**1.53**	**71**	P	Pn	00 46 47.4	-0.4
ODSA				S	Sn	00 47 07.5	-0.6
ODSA	**Odessa**	**1.53**	**71**	P	Pn	00 46 47.6	-0.2
ODSA				S	Sn	00 47 07.8	-0.2
TMB04	**Seminole**	**1.79**	**56**	P	Pn	00 46 51.2	-0.2
TMB04				S	Sb	00 47 15.5	-0.5
TMB02	**Rankin**	**1.94**	**102**	P	Pn	00 46 54.2	+0.8
TMB02				S	Sb	00 47 19.5	-0.7
TX31	**Lajitas Ar. Si**	**2.34**	**167**	P	Pb	00 47 01.4	-1.1
TX31				S	Sb	00 47 32.9	+1.1
POST	**Post**	**2.73**	**58**	P	Pn	00 47 06.2	+1.9

KRSC 06 00:52:56.0±1.2, 51°.27N×158°.35E, h60km±14km, Ml3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.56**	**343**	*i* P	Pn	00 53 10.2	+1.5
KDTR				*e*S	Sn	00 53 18.6	+0.7
PAU	**Pauzhetka**	**0.98**	**282**	*e*P	Pn	00 53 15.3	+1.4
PAU				*e*S	Sn	00 53 27.5	+0.5
RUS	**Russkaya**	**1.17**	**5**	*e*P	Pn	00 53 17.8	+1.6
RUS				*e*S	Sn	00 53 32.2	+1.0
GRL	**Gorelyy**	**1.29**	**353**	*e*P	Pn	00 53 20.4	+2.4
GRL				*e*S	Sn	00 53 36.6	+2.2
SKR	**Severo-Kuril's**	**1.53**	**248**	*e*P	Pn	00 53 22.6	+1.6
SKR				*e*S	Sn	00 53 40.7	+0.8
KRMR	**Karymshinskiy**	**1.56**	**355**	*e*P	Pn	00 53 23.9	+2.3
KRMR				*e*S	Sn	00 53 43.3	+2.5
PET	**Petropavlovsk**	**1.76**	**6**	*e*P	Pn	00 53 26.4	+2.1
PET				*e*S	Sn	00 53 47.5	+2.0
DALK	**Dalny**	**1.78**	**8**	*e*P	Pn	00 53 26.8	+2.4
DALK				*e*S	Sn	00 53 47.9	+2.0
INSR	**Institute**	**1.80**	**5**	*e*S	Sn	00 53 49.1	+2.6
APC	**Apacha**	**1.81**	**337**	*e*P	Pn	00 53 26.3	+1.5
UGLR	**Uglovaya**	**1.96**	**8**	*e*P	Pn	00 53 29.9	+2.8
NLC	**Nalytchevo**	**2.00**	**17**	*e*P	Pn	00 53 28.6	+1.2
AVH	**Avacha**	**2.01**	**7**	*e*P	Pn	00 53 30.8	+3.2
KOK	**Koryaka**	**2.03**	**5**	*e*P	Pn	00 53 31.3	+3.4
KRX	**Arik**	**2.10**	**5**	*e*P	Pn	00 53 31.8	+2.9
GNL	**Ganaly**	**2.44**	**354**	*e*P	Pn	00 53 36.0	+2.5
KMNR	**Kamenistaya**	**4.63**	**13**	*e*P	Pn	00 54 08.1	+4.7
KBTR	**Krutoberegovo**	**5.61**	**26**	*e*P	Pn	00 54 19.8	+3.0
BKI	**Bering**	**6.04**	**46**	*e*P	Pn	00 54 24.7	+2.1

---

*TEH **06** 00:53:01.8, 35°.29N×46°.65E, h8km±178km*
*ISN **06** 00:53:01.8±0.3, 35°.38N×46°.65E, h17km±9km, ML2.7*
ISC 06 00:53:01.8±1.6, 35°.30N±0°.06×46°.66E±0°.05, h7km±13km, n9, σ1°.13/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIN	**Lien**	**0.45**	**146**	Pg	**Pg**	**00 53 10.4**	**-0.3**
ILIN				Sg	**Sg**	**00 53 18.1**	**+1.5**
IDHR	**Dehrash**	**0.64**	**201**	Pg	**Pg**	**00 53 13.6**	**-0.5**
IDHR				Sg	**Sg**	**00 53 22.9**	**+0.5**
SNQR	**Sonqor, Kerman**	**0.91**	**119**	Pg	**Pg**	**00 53 19.5**	**+0.2**
IGHG	**Ghaleghazi**	**0.97**	**184**	Pg	**Pn**	**00 53 21.6**	**-0.4**
GLG1	**Gilan-e-Gharb**	**1.33**	**208**	Pg	**Pg**	**00 53 27.9**	**+0.5**
HGHA	**Hamedan- Ghaye**	**1.81**	**83**	Pn	**Pg**	**00 53 36.4**	**-0.1**
IKRK	**Kirkuk**	**1.90**	**274**	*e*Pn	**Pn**	**00 53 35.0**	**+0.5**
IKRK				*e*Sn	**Sb**	**00 53 59.5**	**-1.1**
IBDR	**Badra**	**2.26**	**196**	*e*Pn	**Pb**	**00 53 41.3**	**-1.6**
IBDR				*e*Sn	**Sb**	**00 54 10.2**	**-0.9**
IBDR				AML	AML	00 54 27.5	
	comp=E,81nm,0.3s						
IBDR				AML	AML	00 54 34.8	
	comp=N,40nm,0.4s						
BHD	**Baghdad**	**2.76**	**224**	*e*Pn	**Pn**	**00 53 48.0**	**+1.6**
BHD				*e*Sn	**Sn**	**00 54 21.5**	**+1.5**

---

*BYKL **06** 01:02:26.9±0.1, 55°.22N×110°.92E, h19km±2km*
*IDC **06** 01:02:29.5±5.0, 55°.19N×110°.02E, h0km, mb2.8/1, mbtmp3.0/5, ML2.5/4, Error ellipse: s-maj=62.7km s-min=27.9km az=75.0*
ISC 06 01:02:24.9±1.1, 55°.26N±0°.02×110°.67E±0°.02, h0km±9km, n35, σ2°.23/106, 7C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.48**	**143**	⇑*i*Pg	**Pg**	**01 02 35.0**	**+0.9**
YLYR				*e*Sg	**Sg**	**01 02 40.1**	**-0.2**
YLYR				*e*		01 02 44.0	
YLYR				Pmax			
	2μm,0.1s						
YLYR				Smax			
	6μm,0.1s						
KMO	**Kumora**	**0.70**	**26**	⇑*i*Pg	**Pb**	**01 02 39.9**	**0.0**
KMO				*e*Sg	**Sg**	**01 02 48.9**	**+1.6**
KMO				Pmax			
	2μm,0.3s						
KMO				Smax			
	4μm,0.5s						
NIZB	**Nizh Angarsk**	**0.82**	**309**	⇑*i*Pg	**Pn**	**01 02 44.7**	**+1.1**
NIZB				*e*Sg	**Sn**	**01 02 57.7**	**+1.3**
NIZB				*e*		01 03 07.6	
NIZB				Pmax			
	261nm,0.3s						
NIZB				Smax			
	781nm,0.3s						
YOAB	**Uoyan, Buryati**	**1.06**	**34**	⇓*i*Pg	**Pb**	**01 02 46.0**	**-0.2**
YOAB				*e*Pb	**Pn**	**01 02 47.3**	**+0.2**
YOAB				*e*Sg	**Sg**	**01 02 59.7**	**+0.6**
YOAB				*e*Sb	**Sn**	**01 03 03.2**	**+0.6**
YOAB				*e*		01 03 06.5	
YOAB				Pmax			
	403nm,0.1s						
YOAB				max			
	2μm,0.5s						
SYVR	**Suvo**	**1.65**	**194**	⇑*i*Pn	**Pb**	**01 02 55.9**	**-0.3**
SYVR				⇑*i*Pg	**Pg**	**01 02 56.7**	**+0.2**
SYVR				*e*Sg	**Sg**	**01 03 18.3**	**+0.3**
SYVR				*e*Sb	**Sb**	**01 03 19.6**	**+2.1**
SYVR				Pmax			
	226nm,0.5s						
SYVR				max			
	892nm,0.4s						
UKT	**Uakit**	**1.71**	**81**	⇑*i*Pg	**Pn**	**01 02 54.9**	**-1.0**
UKT				*e*		01 02 59.6	
UKT				*e*Sg	**Sn**	**01 03 15.8**	**-2.7**
UKT				*e*		01 03 22.6	
UKT				max			
	68nm,0.2s						
UKT				Smax			
	444nm,0.4s						
SVKR	**Severomuysk**	**1.85**	**61**	*e*Pn	**Pn**	**01 02 56.9**	**-1.0**
SVKR				*e*Pg	**Pb**	**01 02 58.6**	**-1.0**
SVKR				*e*		01 03 00.7	
SVKR				*e*		01 03 15.6	
SVKR				*e*Sn	**Sn**	**01 03 18.8**	**-3.1**
SVKR				*e*Sg	**Sb**	**01 03 21.5**	**-1.7**
SVKR				max			
	233nm,0.3s						
SVKR				Smax			
	2μm,0.5s						
MXMB	**Maximikha**	**2.30**	**210**	*e*Pn	**Pn**	**01 03 05.0**	**+1.0**
MXMB				*e*Pg	**Pg**	**01 03 08.6**	**-0.3**
MXMB				*e*Sn	**Sn**	**01 03 33.2**	**+0.3**
MXMB				*e*Sg	**Sg**	**01 03 39.8**	**+1.2**
OGRR	**Ongureny**	**2.42**	**229**	⇓*i*Pn	**Pb**	**01 03 07.9**	**-1.3**
OGRR				*e*Pg	**Pg**	**01 03 11

NLYR				*e*Sg	**Sb**	**01 03 58.7 -0.3**
NLYR				max		
	43nm,0.6s					
NLYR				Smax		
	155nm,1.2s					
BOD	**Bodaibo**	**3.16**	**34**	*e*Pn	**Pn**	**01 03 15.6 -0.2**
BOD				*e*Pg	**Pb**	**01 03 21.9 +0.1**
BOD				*e*PgPg	**PnPn**	**01 03 24.0 +1.0**
BOD				*e*		01 03 29.7
BOD				*e*Sn	**Sn**	**01 03 52.3 -1.8**
BOD				*e*Sg	**Sb**	**01 04 02.3 +1.4**
BOD				max		
	26nm,0.3s					
BOD				Smax		
	186nm,0.8s					
ZRHB	**Zarechye**	**3.42**	**219**	*e*Pg	**Pg**	**01 03 29.5 -0.8**
ZRHB				*e*Sn	**Sn**	**01 04 00.9 +0.4**
ZRHB				*e*Sg	**Sg**	**01 04 15.7 +1.1**
ZRHB				Pmax		
	69nm,0.4s					
ZRHB				Smax		
	482nm,0.8s					
TRG	**Tyrgan**	**3.57**	**227**	*e*Pn	**Pn**	**01 03 23.8 +2.3**
TRG				*e*Pg	**Pg**	**01 03 32.9 -0.4**
TRG				*e*		01 03 38.5
TRG				*e*Sn	**Sn**	**01 04 05.1 +0.7**
TRG				*e*Sg	**Sg**	**01 04 20.6 +1.0**
TRG				max		
	15nm,0.4s					
TRG				Smax		
	96nm,0.3s					
CIT	**Chita**	**3.67**	**151**	*e*Pn	**Pn**	**01 03 22.4 -0.5**
CIT				*e*Pg	**Pb**	**01 03 30.5 -0.1**
CIT				*e*Sn	**Sn**	**01 04 03.2 -3.7**
CIT				*e*Sg	**Sb**	**01 04 17.4 +1.7**
CIT				*e*		01 04 24.6
CIT				Pmax		
	93nm,0.3s					
CIT				max		
	359nm,0.3s					
UUDB	**Ulan-Yde**	**3.84**	**209**	*e*Pn	**Pn**	**01 03 26.3 +1.1**
UUDB				*e*Pg	**Pg**	**01 03 36.3 -2.2**
UUDB				*e*Sn	**Sn**	**01 04 09.8 -1.2**
UUDB				*e*Sg	**Sg**	**01 04 26.6 -1.7**
UUDB				Pmax		
	18nm,0.9s					
UUDB				Smax		
	90nm,2.0s					
FFNB	**Fofonovo**	**3.97**	**217**	*e*Pn	**Pn**	**01 03 27.3 +0.3**
FFNB				*e*Pg	**Pg**	**01 03 38.5 -2.4**
FFNB				*e*Sn	**Sn**	**01 04 13.8 -0.4**
FFNB				*e*Sg	**Sg**	**01 04 31.6 -0.7**
KAB	**Kabansk**	**4.01**	**218**	*e*Sg	**Sg**	**01 04 33.0 -0.5**
KAB				Smax		
	268nm,0.2s					
STDB	**Stepnoy Dvoret**	**4.01**	**221**	*e*Sn	**Sn**	**01 04 15.6 +0.3**
STDB				*e*Sg	**Sg**	**01 04 33.7 -0.1**
VTMR	**Vitim**	**4.31**	**13**	*e*Pg	**Pg**	**01 03 45.0 -2.5**
VTMR				*e*Sn	**Sn**	**01 04 20.2 -2.3**
VTMR				*e*Sg	**Sg**	**01 04 40.4 -2.9**
BGT	**Bolshoye Golou**	**4.49**	**226**	*e*Pn	**Pn**	**01 03 35.2 +1.1**
BGT				*e*Pg	**Pg**	**01 03 48.4 -2.5**
BGT				*e*Sg	**Sg**	**01 04 47.3 -1.7**
BGT				*e*		01 04 53.3
BGT				Pmax		
	11nm,0.6s					
BGT				max		
	44nm,0.6s					
CRS	**Chara**	**4.56**	**66**	*e*Pn	**Pn**	**01 03 34.3 -0.8**
CRS				*e*Pg	**Pb**	**01 03 47.7 +1.9**
CRS				*e*		01 03 52.5
CRS				*e*		01 04 02.9
CRS				*e*Sn	**Sn**	**01 04 22.9 -5.9**
CRS				*e*Sg	**Sb**	**01 04 45.4 +4.1**
CRS				*e*		01 04 53.7
CRS				max		
	30nm,0.9s					
CRS				max		
	55nm,0.9s					
LSTR	**Listvyanka**	**4.86**	**228**	*e*Pn	**Pn**	**01 03 40.9 +1.7**
LSTR				*e*Pg	**Pg**	**01 03 55.6 -2.4**
LSTR				*e*Sn	**Sn**	**01 04 35.5 -0.6**
LSTR				*e*		01 04 46.1
LSTR				*e*Sg	**Sg**	**01 04 59.8 -1.2**
LSTR				Pmax		
	6.0nm,0.5s					
LSTR				Smax		
	47nm,1.4s					
TUP	**Tupik**	**5.43**	**95**	*e*Pn	**Pn**	**01 03 45.0 -2.1**
TUP				*e*Pg	**Pb**	**01 04 02.0 +1.4**
TUP				*e*Sn	**Sn**	**01 04 42.7 -7.5**
TUP				*e*Sg	**Sb**	**01 05 09.9 +3.6**
TUP				Pmax		
	14nm,0.5s					
TUP				Smax		
	118nm,0.9s					
KPC	**Khapcheranga**	**5.67**	**169**	*e*Pn	**Pn**	**01 03 48.8 -1.5**
KPC				*e*		01 03 57.2
KPC				*e*Pg	**Pb**	**01 04 07.7 +3.1**
KPC				*e*Sn	**Sn**	**01 04 49.7 -6.3**
KPC				*e*		01 04 54.3
KPC				*e*Sg	**Sb**	**01 05 20.1 +7.1**
KPC				Pmax		
	12nm,1.2s					
KPC				Smax		
	78nm,1.1s					
YKLR	**Yuktali**	**6.32**	**73**	*e*Sg	**Sb**	**01 05 37.6 +5.9**
ZAK	**Zakamensk**	**6.62**	**225**	*e*Sg	**Sg**	**01 05 55.1 -2.4**
ZAK				Smax		
	29nm,1.6s					
MOY	**Mondy**	**6.80**	**242**	*e*Pn	**Pn**	**01 04 08.5 +2.5**
MOY				*e*		01 04 15.7
MOY				*e*Pg	Pg	01 04 30.2 -5.0
MOY				*e*Sn	**Sn**	**01 05 22.8 -1.3**
MOY				*e*Sg	**Sg**	**01 06 00.6 -2.7**
MOY				Pmax		
	20nm,0.8s					
MOY				Smax		
	38nm,0.8s					
ORL	**Orlik**	**6.97**	**251**	*e*Pn	**Pn**	**01 04 11.2 +3.0**
ORL				*e*		01 04 20.2
ORL				*e*Pg	**Pg**	**01 04 34.0 -4.3**
ORL				*e*Sn	**Sn**	**01 05 27.2 -1.0**
ORL				*e*Sg	**Sg**	**01 06 05.9 -2.7**
ORL				Pmax		
	13nm,1.4s					
ORL				Smax		
	32nm,1.0s					
SONM	**Songino Array**	**7.90**	**201**	Pn	**Pn**	**01 04 22.7 +1.7**
	0.2nm,0.3s,baz=12,slow=14,SNR=10					
SONM				Sn	**Sn**	**01 05 51.9 +0.8**
	0.4nm,0.3s,baz=20,slow=29,SNR=1.9					
SONM				Lg	Lg	01 06 34.9
	1.1nm,0.3s,baz=14,slow=28,SNR=12					
	0.3nm,0.3s					
ZALV	**Zalesovo Beam**	**15.01**	**276**	Pn	**Pn**	**01 05 57.3 -0.7**
	0.1nm,0.3s,baz=75,slow=17,SNR=2.0					
ZALV				Lg	Lg	01 10 15.4
	0.1nm,0.3s,baz=98,slow=18,SNR=1.3					
	0.2nm,0.3s					
MKAR	**Makanchi Array**	**19.64**	**256**	P	**Pn**	**01 06 55.6 -0.6**
	baz=47,slow=12,SNR=2.0					
	0.1nm,0.5s					
KURBB	**Kurchatov Arra**	**19.80**	**270**	P	**Pn**	**01 06 56.6 -1.5**
	baz=69,slow=11,SNR=3.3					
	0.2nm,0.2s					
BVAR	**Borovoye Array**	**23.47**	**281**	P	**P**	**01 07 37.5 +1.7**
	0.2nm,0.4s,baz=60,slow=8.5,SNR=1.7					
	0.2nm,0.4s					

*DJA **06** 01:02:39.8±0.2, 1°S±2°×12°3E±°, h10km, M4.3/16, mb4.5/7, MLv4.3/16*
*IDC **06** 01:02:52.2±6.9, 1°03S×122°81E, h148km±71km, mb3.1/5, mbtmp3.6/7, MS3.1/2, Error ellipse: s-maj=66.6km s-min=16.8km az=54.0*
ISC 06 01:02:38.3±0.7, 0°60S±0°05×123°29E±°05, h10km, n22, σ1ˢ50/25, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.68**	**230**	P	**Pb**		**01 02 51.9**	**-0.4**
LUWI				S	**Sb**		**01 03 00.6**	**-1.1**
KMSI	**Cibinong**	**1.36**	**30**	P	**Pb**		**01 03 04.3**	**+0.4**
KMSI				S	**Sn**		**01 03 21.6**	**+0.2**
APSI	**Ampana**	**1.67**	**260**	P	**Pb**		**01 03 09.3**	**+0.1**
MRSI	**Marisa**	**1.73**	**308**	P	**Pn**		**01 03 07.3**	**-1.1**
SANI	**Sanana**	**3.05**	**118**	P	**Pn**		**01 03 26.3**	**-0.4**
KDI	**Kendari**	**3.40**	**191**	P	**Pn**		**01 03 32.1**	**+0.7**
KDI				S	**Sn**		**01 04 12.0**	**+0.2**
PCI	**Palu**	**3.47**	**265**	P	**Pn**		**01 03 35.1**	**+2.7**
TTSI	**Tana Toraja**	**4.24**	**235**	P	**Pn**		**01 03 44.1**	**+1.2**
TTSI				S	**Sn**		**01 04 34.1**	**+1.6**
NLAI	**Namlea**	**4.62**	**125**	P	**Pn**		**01 03 49.8**	**+1.6**
SPSI	**Sidrap Palu**	**4.85**	**226**	P	**Pn**		**01 03 53.0**	**+1.6**
SPSI				S	**Sn**		**01 04 47.6**	**-0.1**
KAPI	**Kappang**	**5.63**	**219**	P	**Pn**		**01 04 04.3**	**+2.2**
	11nm,0.4s,baz=32,slow=5.1,SNR=9.4							
KAPI				S	**Sn**		**01 05 04.1**	**-2.8**
	16nm,0.4s,baz=37,slow=20,SNR=5.1							
AAI	**Ambon**	**5.78**	**122**	P	Pn		01 03 51.5	-13
BKB	**Balikpapan**	**6.43**	**264**	P	**Pn**		**01 04 15.9**	**+2.8**
FAKI	**Fak Fak**	**9.24**	**105**	P	**Pn**		**01 04 53.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**17.54**	**173**	P	**Pn**		**01 06 41.5**	**-1.5**
	1.9nm,0.9s,baz=324,slow=17,SNR=1.5							
WRA	**Warramunga Arr**	**22.05**	**151**	P	**P**		**01 07 32.3**	**-1.1**
	1.9nm,0.7s,baz=331,slow=9.5,SNR=16							
	1.9nm,0.7s							
ASAR	**Alice Springs**	**25.13**	**157**	P	**P**		**01 08 02.8**	**-0.9**
	1.2nm,0.6s,baz=328,slow=7.4,SNR=9.0							
	1.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.52**	**310**	LR	LR		01 21 34.6	
	comp=Z,26nm,19.9s,baz=180,slow=37							
PALK	**Pallekele**	**43.20**	**281**	LR	LR		01 32 17.9	
	comp=Z,34nm,18.1s,baz=100,slow=41							
SONM	**Songino Array**	**50.44**	**345**	P	**P**		**01 11 35.8**	**-0.5**
	0.2nm,0.6s,baz=161,slow=6.1,SNR=2.0							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**59.28**	**328**	P	**P**		**01 12 39.5**	**-0.8**
	0.3nm,0.4s,baz=126,slow=8.6,SNR=13							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**63.63**	**330**	P	**P**		**01 13 08.8**	**-0.7**
	0.1nm,0.3s,baz=138,slow=6.0,SNR=2.2							
	0.1nm,0.3s							

*IDC **06** 01:07:00.4±5.2, 30°00N×87°56E, h0km, mb3.6/7, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=90.1km s-min=47.0km az=164.0*
ISC 06 01:07:06.0±4.5, 30°1N±0°5×87°6E±0°3, h35km, n8, σ0ˢ80/8, mb3.4/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.17**	**348**	P	**Pn**		**01 11 03.5**	**+0.4**
	0.1nm,0.3s,baz=183,slow=12,SNR=6.7							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**21.60**	**344**	P	**P**		**01 11 51.7**	**-1.0**
	0.6nm,0.7s,baz=156,slow=11,SNR=5.1							
	0.6nm,0.7s							
SONM	**Songino Array**	**22.86**	**34**	P	**P**		**01 12 06.2**	**-0.2**
	0.7nm,0.8s,baz=213,slow=9.5,SNR=4.6							
	0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**23.92**	**356**	P	**P**		**01 12 16.8**	**+0.4**
	0.6nm,0.7s,baz=172,slow=8.6,SNR=4.4							
	0.6nm,0.7s							
BVAR	**Borovoye Array**	**26.14**	**336**	P	**P**		**01 12 37.1**	**+0.4**
	0.7nm,0.7s,baz=145,slow=11,SNR=5.0							
	0.7nm,0.7s							
FINES	**FINESS Array B**	**50.49**	**327**	P	**P**		**01 15 59.4**	**-0.9**
	2.9nm,1.0s,baz=101,slow=7.9,SNR=1.6							
	2.9nm,1.0s							
ARCES	**ARCESS Array B**	**52.42**	**337**	P	**P**		**01 16 15.6**	**+0.9**
	1.6nm,0.7s,baz=108,slow=7.7,SNR=5.0							
	1.6nm,0.7s							
HFS	**Hagfors**	**56.47**	**325**	P	**P**		**01 16 44.4**	**+0.2**
	1.5nm,0.8s,baz=74,slow=6.2,SNR=5.4							
	1.5nm,0.8s							

*NEIC **06** 01:22:25.5±1.2, 19°65N±0°07×65°60W±0°09, h35km±2km, ML2.3/24, Md3.3/14(RSPR), Error ellipse: s-maj=15.2km s-min=10.7km az=64.0*
*RSPR **06** 01:22:25.3, 19°66N×65°56W, h65km±8km, MD3.3/14*
ISC 06 01:22:24.9±3.4, 19°61N±0°09×65°62W±0°06, h23km±25km, n49, σ0ˢ58/62, 9C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.37**	**199**		**Pn**		**01 22 46.9**	**-1.8**
GCPR						**Sn**	**01 23 05.9**	**-0.1**
GCPR				IAML			01 23 07.8	
	comp=N,42nm,0.7s							
GCPR				IAML			01 23 21.9	
	comp=E,32nm,0.8s							
GCPR	**Guaynabo City**	**1.37**	**199**	*e*P	**Pn**		**01 22 48.5**	**-0.1**
GCPR	**Guaynabo City**	**1.37**	**199**	*e*S	**Sn**		**01 23 06.4**	**+0.3**
EMPR	**Esperanza - Ma**	**1.42**	**218**	Pn	**Pn**		**01 22 48.9**	**-0.4**
EMPR				Sn	**Sn**		**01 23 07.5**	**+0.3**
EMPR				IAML			01 23 13.5	
	comp=E,76nm,0.7s							
EMPR				IAML			01 23 33.8	
	comp=N,62nm,1.4s							
EMPR	**Esperanza - Ma**	**1.42**	**218**	*e*P	**Pn**		**01 22 49.1**	**-0.2**
EMPR	**Esperanza - Ma**	**1.42**	**218**	*e*S	**Sn**		**01 23 08.0**	**+0.8**
ECPR	**Experimental S**	**1.47**	**209**	*e*P	**Pn**		**01 22 49.6**	**-0.3**
ECPR	**Experimental S**	**1.47**	**209**	*e*S	**Sn**		**01 23 09.2**	**+0.7**
HUMP	**Col San Antoni**	**1.48**	**189**	Pn	**Pn**		**01 22 49.8**	**-0.3**
HUMP				Sn	**Sn**		**01 23 08.8**	**0.0**
HUMP				IAML			01 23 14.2	
	comp=E,35nm,0.2s							
HUMP	**Col San Antoni**	**1.48**	**189**	*e*P	**Pn**		**01 22 49.6**	**-0.5**
HUMP	**Col San Antoni**	**1.48**	**189**	*e*S	**Sn**		**01 23 09.0**	**+0.3**
SJG	**San Juan**	**1.57**	**199**	*e*P	**Pn**		**01 22 51.7**	**+0.3**
SJG				*e*S	**Sb**		**01 23 13.0**	**+0.2**
SJG	**San Juan**	**1.57**	**199**	*e*P	**Pn**		**01 22 51.2**	**-0.2**
SJG	**San Juan**	**1.57**	**199**	*e*S	**Sn**		**01 23 11.4**	**+0.3**
PDPR	**Patillas Dam,**	**1.63**	**194**	Pn	**Pn**		**01 22 52.1**	**-0.1**
PDPR	**Patillas Dam,**	**1.63**	**194**	*e*P	**Pn**		**01 22 52.1**	**-0.1**
PDPR	**Patillas Dam,**	**1.63**	**194**	*e*S	**Sn**		**01 23 12.8**	**+0.3**
AOPR	**Arecibo Observ**	**1.65**	**221**	Pn	**Pn**		**01 22 52.0**	**-0.5**
AOPR				Sn	**Sn**		**01 23 12.6**	**-0.6**
AOPR	**Arecibo Observ**	**1.65**	**221**	*e*P	**Pn**		**01 22 52.2**	**-0.4**
AOPR				*e*S	**Sn**		**01 23 13.4**	**+0.2**
AOPR	**Arecibo Observ**	**1.65**	**221**	*e*P	**Pn**		**01 22 52.2**	**-0.4**
IGPR	**InterUniversit**	**1.70**	**196**	Sn	**Sn**		**01 23 13.9**	**-0.3**
IGPR	**InterUniversit**	**1.70**	**196**	*e*P	**Pn**		**01 22 53.3**	**+0.1**
IGPR	**InterUniversit**	**1.70**	**196**	*e*S	**Sn**		**01 23 14.7**	**+0.5**
CELP	**Cerrillos**	**1.78**	**211**	Pn	**Pn**		**01 22 54.1**	**-0.2**
CELP				Sn	**Sn**		**01 23 17.0**	**+0.8**
CELP				IAML			01 23 27.3	
	comp=N,18nm,0.8s							
CELP	**Cerrillos**	**1.78**	**211**	*e*P	**Pn**		**01 22 54.3**	**0.0**
CELP	**Cerrillos**	**1.78**	**211**	*e*S	**Sn**		**01 23 16.4**	**+0.2**
AGPR	**Aguadilla, PR**	**1.81**	**231**	Pn	**Pn**		**01 22 55.6**	**+0.9**
AGPR				IAML			01 23 12.1	
	comp=N,45nm,2.0s							
AGPR				IAML			01 23 16.9	
	comp=E,40nm,2.3s							
OBIP	**Obispado Ponce**	**1.82**	**211**	Pn	**Pn**		**01 22 53.8**	**-1.1**
OBIP				Sn	**Sn**		**01 23 17.4**	**+0.3**
OBIP				IAML			01 23 31.1	
	comp=N,18nm,0.7s							
OBIP	**Obispado Ponce**	**1.82**	**211**	*e*P	**Pn**		**01 22 54.1**	**-0.7**
OBIP	**Obispado Ponce**	**1.82**	**211**	*e*S	**Sn**		**01 23 17.9**	**+0.8**
LSP	**Las Mesas**	**1.99**	**224**		**Pn**		**01 22 57.2**	**0.0**
LSP					**Sn**		**01 23 21.6**	**+0.1**
LSP	**Las Mesas**	**1.99**	**224**	*e*P	**Pn**		**01 22 57.2**	**0.0**
LSP	**Las Mesas**	**1.99**	**224**	*e*S	**Sn**		**01 23 21.6**	**+0.1**
MLPR	**Magueyes Islan**	**2.12**	**220**	Pn	**Pn**		**01 22 57.9**	**-1.0**
MLPR				IAML			01 23 13.8	
	comp=N,14nm,3.1s							
MLPR				Sn	**Sn**		**01 23 23.1**	**-1.5**
MLPR	**Magueyes Islan**	**2.12**	**220**	*e*P	**Pn**		**01 22 58.3**	**-0.6**
MLPR	**Magueyes Islan**	**2.12**	**220**	*e*S	**Sn**		**01 23 24.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.13**	**222**	Pn	**Pn**		**01 22 59.1**	**0.0**
CRPR				Sn	**Sn**		**01 23 24.0**	**-0.9**
CRPR				IAML			01 23 37.2	
	comp=E,16nm,2.5s							
CRPR				IAML			01 24 08.1	
	comp=N,14nm,3.0s							
CRPR	**Cabo Rojo, PR**	**2.13**	**222**	*e*P	**Pn**		**01 22 59.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.13**	**222**	*e*S	**Sn**		**01 23 25.2**	**+0.3**
IDE	**Isla Desecheo**	**2.14**	**236**		**Pn**		**01 22 59.0**	**-0.2**
IDE					**Sn**		**01 23 26.0**	**+0.9**
IDE	**Isla Desecheo**	**2.14**	**236**	*e*P	**Pn**		**01 22 59.0**	**-0.2**
IDE	**Isla Desecheo**	**2.14**	**236**	*e*S	**Sn**		**01 23 26.0**	**+0.9**
PCDR	**Punta Cana, DR**	**2.83**	**248**	Pn	**Pn**		**01 23 08.5**	**-0.2**
PCDR				Sn	**Sn**		**01 23 40.9**	**-1.3**
PCDR	**Punta Cana, DR**	**2.83**	**248**	*e*P	**Pn**		**01 23 09.0**	**+0.3**
PCDR	**Punta Cana, DR**	**2.83**	**248**	*e*S	**Sn**		**01 23 42.2**	**0.0**
DR12	**Loma Pena Alta**	**3.65**	**258**	Pn	**Pn**		**01 23 19.6**	**-0.5**
ANBD	**Bethesda, Anti**	**4.46**	**124**	*e*P	**Pn**		**01 23 31.4**	**+0.2**
ANBD	**Bethesda, Anti**	**4.46**	**124**	*e*S	**Sn**		**01 24 22.9**	**+0.5**
SDDR	**Presa de Saban**	**5.39**	**264**	Pn	**Pn**		**01 23 44.7**	**+0.6**

IDC 06 01:36:55.8±1.5, 22°65S×179°73W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=56.3km s-min=31.2km az=171.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.43**	**247**	P	**P**		**01 43 53.0**	**-0.8**
	0.7nm,0.4s,baz=88,slow=7.7,SNR=3.7							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**42.49**	**259**	P	**P**		**01 44 52.8**	**-0.3**
	0.7nm,0.5s,baz=93,slow=7.4,SNR=7.3							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**42.75**	**265**	P	**P**		**01 44 55.7**	**+0.5**
	2.1nm,0.4s,baz=97,slow=8.3,SNR=62							
	2.1nm,0.4s							
QSPA	**South Pole Qui**	**67.43**	**180**	P	**P**		**01 47 53.0**	**-0.1**
	0.8nm,0.5s,baz=27,slow=0.5,SNR=2.0							
	0.8nm,0.5s							
TXAR	**Lajitas Array**	**89.56**	**58**	P	**P**		**01 49 55.6**	**0.0**
	0.3nm,0.7s,baz=216,slow=6.2,SNR=5.0							
	0.3nm,0.7s							

TXNET 06 01:38:30.2, 31°6N±0°6×104°3W±0°6, h6km±1km, ML2.0/8, 2C, Error ellipse: s-maj=0.9km s-min=0.8km az=65.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	⇑P		Pg	01 38 37.1	0.0
TPB11				S		Sg	01 38 41.8	0.0
PECS	**Pecos**	**0.42**	**129**	⇑P		Pg	01 38 38.7	+0.3
PECS				S		Sg	01 38 44.0	+0.1
TPB12	**Southwest of T**	**0.49**	**149**	P		Pg	01 38 39.5	-0.1
TPB12				S		Sg	01 38 46.1	+0.1
TPB07	**Mentone**	**0.50**	**96**	P		Pg	01 38 40.3	+0.4
TPB07				S		Sg	01 38 47.0	+0.6
TPB10	**Southeast of T**	**0.55**	**129**	P		Pg	01 38 41.0	+0.2
TPB10				S		Sg	01 38 48.7	+0.7
CLNB	**Carlsbad**	**0.70**	**27**	P		Pg	01 38 43.6	-0.2
CLNB				S		Sg	01 38 53.6	+0.7
TPB01	**Permian Basin**	**0.80**	**149**	P		Pg	01 38 45.1	-0.5
MNTX	**Cornudas Mount**	**0.96**	**274**	P		Pb	01 38 49.1	-0.2
MNTX				S		Sb	01 39 02.2	-0.3
HTMS	**Hat Mesa**	**0.99**	**32**	P		Pg	01 38 49.2	0.0
VHRN	**Van Horn**	**1.05**	**217**	P		Pg	01 38 50.3	-0.1
VHRN				S		Sb	01 39 04.9	-0.2
TPB05	**Hovey Rd**	**1.07**	**132**	P		Pg	01 38 50.4	-0.3
TPB05				S		Sg	01 39 04.3	-0.2
MNHN	**Monahans**	**1.31**	**103**	P		Pn	01 38 53.9	-1.2
MNHN				S		Sg	01 39 11.3	-0.9
ALPN	**Alpine**	**1.36**	**157**	P		Pn	01 38 54.9	-1.1
ALPN				S		Sb	01 39 12.4	-1.6
CPRX	**Cap Rock**	**1.43**	**13**	P		Pn	01 38 56.6	-0.3
ODSA	**Odessa**	**1.53**	**71**	P		Pn	01 38 58.0	-0.2
ODSA				S		Sn	01 39 17.8	-0.6
TMB02	**Rankin**	**1.94**	**102**	P		Pb	01 39 05.0	-1.1
TMB02				S		Sb	01 39 29.9	-0.7
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg		Pb	01 39 12.5	-0.6

*IDC **06** 01:41:34.4±1.2, 27°61N×56°53E, h0km, mb3.8/17, mbtmp3.8/21, ML3.5/4, MS3.5/3, Error ellipse: s-maj=24.9km s-min=17.6km az=174.0*
*TEH **06** 01:41:36.8, 27°66N×56°59E, h8km±45km*
*OMAN **06** 01:41:37.9±0.3, 27°64N×56°71E, h10km, mb4.2/3, ml3.7/16, Error ellipse: s-maj=4.9km s-min=3.9km az=273.0*
*DSN **06** 01:41:38.4±0.9, 27°61N×56°17E, h8km, ML3.5/9, Error ellipse: s-maj=13.3km s-min=5.0km az=63.0*
ISC 06 01:41:37.2±1.2, 27°64N±0°03×56°65E±0°04, h15km±8km, n94, σ1ˢ81/104, mb3.8/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.22**	**207**	Pg	**Pg**		**01 41 41.6**	**-0.6**
GENO	**Geno**	**0.49**	**241**	Pg	**Pg**		**01 41 46.5**	**-0.5**
KHNJ	**Kahnooj**	**0.98**	**72**	Pg	**Pb**		**01 41 55.8**	**-0.1**
SHME	**Shamm**	**1.65**	**196**	P	**Pb**		**01 42 08.3**	**+1.0**
	SNR=59							
SHME				S	**Sb**		**01 42 29.4**	**+1.6**
SHME	**Shamm**	**1.65**	**196**	*e*P	**Pn**		**01 42 06.1**	**+0.5**
	SNR=59							
SHME				S	**Sn**		**01 42 27.7**	**+1.2**
BANOM	**Banah**	**1.74**	**191**	P	**Pn**		**01 42 08.1**	**+1.2**
BANOM				S	**Sb**		**01 42 31.5**	**+0.9**
BANOM	**Banah**	**1.74**	**191**	*e*P	**Pn**		**01 42 07.7**	**+0.8**
	SNR=36							
BANOM				S	**Sb**		**01 42 30.9**	**+0.3**
NGRK	**Negar Kerman**	**2.00**	**2**	Pn	**Pn**		**01 42 13.0**	**+2.3**
KBAM	**BAM**	**2.17**	**46**	Pn	**Pb**		**01 42 16.4**	**+0.1**
MASF	**Masafi**	**2.30**	**191**	P	**Pn**		**01 42 16.3**	**+1.6**
	SNR=7.8							
MASF				S	**Sn**		**01 42 44.8**	**+2.0**
MSFE	**Esma-Masafi**	**2.31**	**191**	*e*P	**Pn**		**01 42 15.9**	**+1.1**
	SNR=7.4							
TVBK	**TV Kerman**	**2.34**	**2**	Pn	**Pn**		**01 42 17.9**	**+2.5**
CHMN	**Cheshme madani**	**2.34**	**19**	Pn	**Pn**		**01 42 18.5**	**+3.0**
UOSS	**Minazif**	**2.71**	**189**	P	**Pn**		**01 42 22.8**	**+2.5**
UOSS				S	**Sn**		**01 42 55.4**	**+2.6**
UOSS	**Minazif**	**2.71**	**189**	*e*P	**Pn**		**01 42 21.5**	**+1.3**
	SNR=7.3							
KHGB	**Koh Gabri**	**2.73**	**357**	Pn	**Pn**		**01 42 23.0**	**+2.3**
NAZ	**Nazwa, Dubai**	**2.79**

WSAR LR LR 01 44 53.2
comp=Z,77nm,18.8s,baz=294,slow=42
20nm,0.4s
NHDN Nehbandan 4.77 38 Pn **Pn 01 42 51.7 +3.0**
KAZ2 Kazeron-Fars-I 4.81 295 Pn **Pn 01 42 49.4 +0.3**
BSRN Basiran 4.81 26 Pn **Pn 01 42 52.7 +3.4**
DSBU Dashti - Bushe 4.82 280 Pn **Pn 01 42 50.1 +0.8**
BSY Bisya 4.90 174 P **Pn 01 42 52.0 +1.6**
SNR=10
ISAD Sadrabad 4.98 330 Pn **Pn 01 42 54.0 +2.4**
ICHK Chekchek 4.98 338 Pn **Pn 01 42 53.8 +2.2**
SRVN Saravan 5.11 91 Pn **Pn 01 42 56.9 +3.6**
IKOO Kooshah 5.18 23 Pn **Pn 01 42 57.1 +2.6**
SHMA Al-Shehemyia 5.39 252 P **Pn 01 42 60.0 +3.0**
SNR=5.1
JMDO Jabal Madar 5.41 166 P **Pn 01 42 59.2 +1.8**
WBK Wadi Bani Khal 5.43 157 P **Pn 01 42 58.4 +0.7**
MZR Muzera 5.44 213 P **Pn 01 42 58.9 +1.1**
KLNJ Kolanjah 5.55 308 Pn **Pn 01 43 01.1 +1.5**
TRNA Turayna 5.68 241 P **Pn 01 43 03.2 +2.2**
SAKB Bahrain 5.71 255 P **Pn 01 43 03.4 +2.0**
TKDS Koohdasht(Taba 5.97 4 Pn **Pn 01 43 07.7 +2.6**
SMRA Abu-Samra 5.98 242 P **Pn 01 43 06.5 +1.4**
ANAR Anarak 6.08 336 Pn **Pn 01 43 08.3 +1.7**
AFRZ Afriz 6.11 19 Pn **Pn 01 43 10.6 +3.4**
IBRJ Brojen 6.33 314 Pn **Pn 01 43 11.8 +1.7**
ZNGN Zangian 6.72 313 Pn **Pn 01 43 17.4 +1.7**
IPIR Pirpir 7.08 317 Pn **Pn 01 43 21.8 +1.3**
IKLH Kolahrood 7.15 324 Pn **Pn 01 43 23.4 +1.9**
ISFB Sefidab 7.69 332 Pn **Pn 01 43 30.6 +1.9**
KBD Kabd 8.04 283 P **Pn 01 43 33.6 +0.2**
DOK Doka 9.28 195 P **Pn 01 43 50.0 -0.5**
SNR=6.7
RAYN Ar Rayn 10.87 250 *i* P Pn 01 44 08.0 -4.2
SNR=6.7
GNI Garni 15.90 325 Pn **P 01 45 24.6 +0.5**
0.7nm,0.3s,baz=180,slow=19,SNR=6.5
ASF Jabal al Asfar 17.71 290 P **Pn 01 45 40.8 -2.5**
0.2nm,0.3s,baz=138,slow=21,SNR=1.2
1.8nm,0.7s
MMAI Mount Meron Ar 19.10 291 P **P 01 45 59.2 -0.3**
0.1nm,0.3s,baz=106,slow=15,SNR=2.0
2.1nm,0.8s
KVAR Kislovodsk Arr 19.78 329 P **P 01 46 07.8 +0.9**
baz=100,slow=6.1
2.7nm,0.8s
AAK Ala-Archa 20.84 39 P **P 01 46 17.9 -0.5**
0.7nm,0.5s,baz=220,slow=7.5,SNR=4.7
0.7nm,0.5s
AKTO Aktyubinsk 22.79 2 P **P 01 46 39.4 +0.3**
3.2nm,0.5s,baz=200,slow=8.6,SNR=13
3.2nm,0.5s
BVAR Borovoye Array 27.34 18 P **P 01 47 21.6 +0.2**
1.0nm,0.6s,baz=203,slow=8.3,SNR=8.7
1.0nm,0.6s
MKAR Makanchi Array 27.77 40 P **P 01 47 26.2 +0.8**
0.2nm,0.6s,baz=231,slow=7.4,SNR=3.8
0.2nm,0.6s
KURBB Kurchatov Arra 28.34 30 P **P 01 47 31.7 +1.4**
0.5nm,0.3s,baz=229,slow=8.7,SNR=8.0
0.5nm,0.3s
AKASG Malin Array Be 31.03 325 P **P 01 47 53.2 -0.9**
0.5nm,0.5s,baz=134,slow=8.7,SNR=7.6
0.5nm,0.5s
ZALV Zalesovo Beam 33.43 30 P **P 01 48 14.8 -0.4**
1.9nm,0.3s,baz=241,slow=8.8,SNR=12
1.9nm,0.3s
FINES FINESS Array B 39.49 337 P **P 01 49 05.9 -0.9**
3.1nm,1.0s,baz=142,slow=9.6,SNR=6.1
3.1nm,1.0s
SONM Songino Array 43.34 49 P **P 01 49 40.0 +1.2**
0.3nm,0.6s,baz=284,slow=5.8,SNR=2.8
0.3nm,0.6s
HFS Hagfors 43.57 330 P **P 01 49 40.2 -0.1**
1.3nm,0.4s,baz=125,slow=9.3,SNR=8.6
1.3nm,0.4s
NOA NORSAR Array B 45.08 331 P **P 01 49 50.7 -1.7**
0.5nm,0.7s,baz=120,slow=7.4,SNR=1.6
0.5nm,0.7s
ARCES ARCESS Array B 45.65 345 P **P 01 49 54.9 -1.8**
3.2nm,1.0s,baz=124,slow=9.2,SNR=1.9
3.2nm,1.0s
OPO Ambohidratompo 46.84 192 LR LR 02 07 42.9
comp=Z,47nm,18.6s,baz=186,slow=34
ESDC Sonseca Array 50.99 300 P **P 01 50 36.9 -1.6**
0.2nm,0.5s,baz=80,slow=8.1,SNR=2.7
0.2nm,0.5s
TORD Torodi Ar. Bea 53.09 266 P **P 01 50 52.9 -1.5**
1.2nm,0.6s,baz=64,slow=7.9,SNR=1.7
1.2nm,0.6s
SPITS Spitsbergen Ar 53.76 350 P **P 01 50 58.7 +0.3**
12nm,1.0s,baz=192,slow=4.1,SNR=1.4
12nm,1.0s
KSRS Korea Array 59.59 61 P **P 01 51 39.2 -1.2**
0.6nm,0.8s,baz=269,slow=4.0,SNR=2.1
0.6nm,0.8s
JCJ Chichijima 74.30 67 LR LR 02 28 08.5
comp=Z,177nm,19.6s,baz=108,slow=38
YKA Yellowknife Ar 89.91 356 P **P 01 54 34.9 -0.5**
0.2nm,0.8s,baz=8.9,slow=3.5,SNR=3.6
0.2nm,0.8s

IDC 06 02:19:47.7±3.6, 1°.21N×99°.16E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=150.4km s-min=27.7km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.38**	**123**	P	P	02 27 27.7	-0.1
	0.5nm,0.6s,baz=298,slow=8.1,SNR=5.2						
	0.5nm,0.6s						
SONM	**Songino Array**	**46.87**	**7**	P	P	02 28 19.1	-0.6
	0.4nm,0.6s,baz=186,slow=8.8,SNR=4.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**47.74**	**344**	P	P	02 28 26.9	+0.5
	0.2nm,0.3s,baz=157,slow=8.0,SNR=16						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**52.26**	**344**	P	P	02 29 00.4	-0.3
	0.1nm,0.2s,baz=160,slow=8.1,SNR=1.4						
	0.1nm,0.2s						
ZALV	**Zalesovo Beam**	**53.88**	**350**	P	P	02 29 12.2	-0.3
	0.9nm,0.4s,baz=165,slow=6.7,SNR=5.3						
	0.9nm,0.4s						

*NOU **06** 02:20:52.0, 36°.79S×177°.50E, h347km, mb3.9/6, Off E. Coast of N. Island, N.Z.*
*WEL **06** 02:21:25.1±0.7, 38°S±4°×17°6E±°, h131km±6km, M2.6/17, ML2.8/18, MLv2.6/17, Error ellipse: s-maj=5.3km s-min=5.1km az=72.6, confirmed*

ISC 06 02:21:21.4±1.8, 38°.44S±0°.05×176°.10E±0°.05, h164km±10km, n82, σ1§31/86, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSRZ	**Hossack Road**	**0.17**	**43**	P	**Pn**	**02 21 43.8**	**+0.4**
ALRZ	**Allen Road**	**0.23**	**123**	P	**Pn**	**02 21 43.8**	**+0.4**
TLZ	**Tolley Road**	**0.45**	**283**	P	**Pn**	**02 21 45.1**	**+0.9**
TLZ				S	**Sn**	**02 22 00.1**	**-1.4**
MRHZ	**Matea Rd**	**0.47**	**148**	P	**Pn**	**02 21 44.9**	**+0.6**
RITZ	**Rihia Road**	**0.57**	**199**	P	**Pn**	**02 21 46.0**	**+1.3**
KMRZ	**Kaimai**	**0.60**	**348**	MLv			
KATZ	**Kakaramea**	**0.62**	**210**	P	**Pn**	**02 21 46.0**	**+0.9**
MTHZ	**Maungataniwha**	**0.72**	**126**	P	**Pn**	**02 21 46.7**	**+1.2**
MTHZ				S	**Sn**	**02 22 02.3**	**-1.8**
RTZ	**Ruatahuna**	**0.72**	**105**	P	**Pn**	**02 21 46.6**	**+1.0**
RTZ				S	**Sn**	**02 22 02.2**	**-1.9**
NTVZ	**North Tongarir**	**0.74**	**206**	P	**Pn**	**02 21 46.7**	**+1.0**
TMVZ	**Te Maari**	**0.74**	**204**	P	**Pn**	**02 21 46.8**	**+1.0**
ETVZ	**East Tongariro**	**0.76**	**203**	P	**Pn**	**02 21 47.0**	**+1.1**
WTVZ	**West Tongariro**	**0.79**	**210**	P	**Pn**	**02 21 47.0**	**+1.0**
NNVZ	**North Ngauruho**	**0.79**	**208**	P	**Pn**	**02 21 47.0**	**+0.9**
BKZ	**Black Stump Fm**	**0.79**	**157**	P	**Pn**	**02 21 47.0**	**+1.0**
BKZ	**Black Stump Fm**	**0.79**	**157**	P	**Pn**	**02 21 47.1**	**+1.0**
BKZ				S	**Sn**	**02 22 04.5**	**-0.6**
OTVZ	**Oturere**	**0.80**	**205**	P	**Pn**	**02 21 47.6**	**+1.4**
URZ	**Urewera**	**0.82**	**78**	P	**Pn**	**02 21 46.8**	**+0.7**
URZ				S	**Sn**	**02 22 02.6**	**-2.4**
TWVZ	**Taurewa**	**0.82**	**219**	P	**Pn**	**02 21 47.4**	**+1.1**
SNVZ	**South Ngauruho**	**0.83**	**205**	P	**Pn**	**02 21 47.5**	**+1.1**
NGZ	**Ngauruhoe**	**0.83**	**208**	P	**Pn**	**02 21 47.6**	**+1.2**
TOZ	**Tahuroa Road**	**0.85**	**326**	P	**Pn**	**02 21 47.1**	**+0.7**
NMHZ	**Naumai**	**0.86**	**140**	P	**Pn**	**02 21 48.5**	**+2.0**
NMHZ				S	**Sn**	**02 22 06.1**	**+0.2**
COVZ	**Chateau Observ**	**0.88**	**209**	P	**Pn**	**02 21 47.5**	**+0.8**
TUVZ	**Tukino**	**0.90**	**202**	P	**Pn**	**02 21 48.2**	**+1.3**
RAHZ	**Arahi**	**0.91**	**122**	P	**Pn**	**02 21 48.7**	**+1.8**
RAHZ				S	**Sn**	**02 22 06.0**	**-0.4**
FWVZ	**Far West T-bar**	**0.92**	**207**	P	**Pn**	**02 21 48.0**	**+0.8**
TRVZ	**Turoa**	**0.96**	**206**	P	**Pn**	**02 21 48.7**	**+1.2**
WNVZ	**Wahianoa**	**0.97**	**203**	P	**Pn**	**02 21 48.8**	**+1.3**
HIZ	**Hauiti**	**0.98**	**265**	P	**Pn**	**02 21 48.6**	**+1.3**
HIZ	**Hauiti**	**0.98**	**265**	P	**Pn**	**02 21 48.4**	**+1.1**
MOVZ	**Moawhango**	**1.01**	**195**	P	**Pn**	**02 21 48.6**	**+1.0**
KWHZ	**Kaweka Forest**	**1.02**	**166**	P	**Pn**	**02 21 49.2**	**+1.5**
SNGZ	**Shannon Statio**	**1.03**	**110**	ML			
PKVZ	**Pokaka**	**1.03**	**214**	P	**Pn**	**02 21 49.1**	**+1.3**
MTVZ	**Mangateitei**	**1.07**	**207**	P	**Pn**	**02 21 49.7**	**+1.6**
ARHZ	**Aropaoanui**	**1.08**	**140**	P	**Pn**	**02 21 50.2**	**+2.1**
MCHZ	**McNeill Hill**	**1.11**	**155**	P	**Pn**	**02 21 50.5**	**+2.1**
MWZ	**Matawai**	**1.13**	**85**	P	**Pn**	**02 21 49.8**	**+1.2**
MWZ				S	**Sn**	**02 22 07.9**	**-1.6**
KRHZ	**Kereru**	**1.22**	**170**	P	**Pn**	**02 21 50.8**	**+1.4**
VRZ	**Vera Road**	**1.25**	**236**	P	**Pn**	**02 21 51.4**	**+1.8**
RUGZ	**Raukumara Rang**	**1.33**	**70**	P	**Pn**	**02 21 51.2**	**+0.7**
RIGZ	**Rimuhau**	**1.33**	**102**	P	**Pn**	**02 21 52.5**	**+2.1**
TKGZ	**Te Karaka**	**1.38**	**91**	ML			
PNHZ	**Pukenui**	**1.48**	**177**	P	**Pn**	**02 21 53.2**	**+1.4**
KAHZ	**Kahuranaki**	**1.49**	**156**	P	**Pn**	**02 21 53.7**	**+1.8**
HAZ	**Te Kaha**	**1.49**	**63**	P	**Pn**	**02 21 53.0**	**+1.1**
TWGZ	**Tauwhareparae**	**1.50**	**81**	ML			
MKAZ	**Moumakai**	**1.52**	**331**	P	**Pn**	**02 21 54.0**	**+1.7**
TSZ	**Takapari Road**	**1.62**	**184**	P	**Pn**	**02 21 54.6**	**+1.4**
LREZ	**Lake Rotokare**	**1.67**	**232**	P	**Pn**	**02 21 54.9**	**+1.2**
PXZ	**Pawanui**	**1.70**	**160**	P	**Pn**	**02 21 55.7**	**+1.6**
KUZ	**Kuaotunu**	**1.71**	**350**	P	**Pn**	**02 21 55.7**	**+1.4**
NEZ	**North Egmont**	**1.77**	**241**	P	**Pn**	**02 21 56.6**	**+1.7**
WIAZ	**Waiheke Island**	**1.81**	**335**	P	**Pn**	**02 21 56.9**	**+1.7**
PKE	**Pukeiti**	**1.81**	**245**	P	**Pn**	**02 21 57.5**	**+2.2**
KHEZ	**Kahui Hut**	**1.84**	**242**	P	**Pn**	**02 21 58.2**	**+2.6**
KHEZ	**Kahui Hut**	**1.84**	**242**	P	**Pn**	**02 21 58.0**	**+2.3**
DVHZ	**Dannevirke**	**1.86**	**178**	P	**Pn**	**02 21 57.0**	**+1.2**
PRHZ	**Porangahau**	**1.88**	**167**	P	**Pn**	**02 21 57.4**	**+1.5**
MBAZ	**Motutapu North**	**1.92**	**330**	P	**Pn**	**02 21 56.9**	**+0.5**
POWZ	**Post Office Ro**	**1.97**	**187**	P	**Pn**	**02 21 58.2**	**+1.2**
ANWZ	**Angora Road**	**2.04**	**172**	P	**Pn**	**02 21 59.5**	**+1.7**
PRWZ	**Pori Road**	**2.12**	**183**	P	**Pn**	**02 22 00.2**	**+1.5**
BFZ	**Birch Farm**	**2.25**	**177**	P	**Pn**	**02 22 00.7**	**+0.6**
BFZ	**Birch Farm**	**2.25**	**177**	P	**Pn**	**02 22 01.3**	**+1.1**
MRZ	**Mangatainoka R**	**2.26**	**190**	P	**Pn**	**02 22 01.2**	**+0.9**
TIWZ	**Tintock**	**2.34**	**184**	P	**Pn**	**02 22 02.5**	**+1.2**
OGWZ	**Otaki Gorge**	**2.48**	**196**	P	**Pn**	**02 22 03.9**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.50**	**190**	P	**Pn**	**02 22 03.9**	**+0.7**
KIW	**Kapiti Island**	**2.59**	**200**	P	**Pn**	**02 22 05.0**	**+0.7**
TMWZ	**Te Maipa**	**2.67**	**183**	P	**Pn**	**02 22 06.1**	**+0.9**
CAW	**Cannon Point**	**2.78**	**196**	P	**Pn**	**02 22 07.2**	**+0.6**
TRWZ	**Traveller**	**2.98**	**186**	P	**Pn**	**02 22 09.6**	**+0.6**
PAWZ	**Paruwai Farm**	**2.99**	**190**	P	**Pn**	**02 22 09.4**	**+0.2**
PLWZ	**Palliser**	**3.20**	**191**	P	**Pn**	**02 22 11.8**	**0.0**
TUWZ	**Tuamarina**	**3.42**	**208**	P	**Pn**	**02 22 15.4**	**+0.9**
QRZ	**Quartz Range**	**3.65**	**228**	P	**Pn**	**02 22 17.8**	**+0.4**
QRZ	**Quartz Range**	**3.65**	**228**	P	**Pn**	**02 22 17.7**	**+0.4**
KHZ	**Kahutara**	**4.43**	**205**	P	**Pn**	**02 22 27.5**	**+0.1**
KHZ	**Kahutara**	**4.43**	**205**	P	**Pn**	**02 22 27.4**	**0.0**
MHCZ	**Mount Hutt**	**6.14**	**213**	P	**Pn**	**02 22 49.4**	**-0.5**

*IDC **06** 02:25:48.7±0.8, 40°.87N×48°.39E, h0km, mb3.9/16, mbtmp3.9/25, ML2.4/5, MS3.4/7, Error ellipse: s-maj=15.3km s-min=7.7km az=163.0*
*MOS **06** 02:25:49.2±1.3, 40°.66N×48°.63E, h13km, mb4.2/3, Error ellipse: s-maj=6.6km s-min=3.5km az=122.6*
*AZER **06** 02:25:50.2, 40°.78N×48°.49E, h10km, ml3.9*
*TIF **06** 02:25:51.2, 40°.78N×48°.49E, h19km±1km*
*NNC **06** 02:25:51.9±4.3, 41°.13N×48°.60E, h8km±37km, mb3.8, Error ellipse: s-maj=62.8km s-min=18.8km az=100.0*
*DRS **06** 02:25:53.6, 40°.77N×48°.39E, h33km*

ISC 06 02:25:49.6±1.0, 40°.69N±0°.01×48°.62E±0°.02, h15km±6km, n198, σ1§82/277, mb4.0/19, MS3.5/4, 22C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.10**	**348**	P	**Pb**	**02 25 54.4**	**+0.9**
PQL				S	**Sb**	**02 25 57.3**	**+1.3**
GBS	**Qobustan**	**0.29**	**122**	P	**Pn**	**02 26 00.5**	**+1.2**
GBS				S	**Sn**	**02 26 08.8**	**+3.4**
ATGJ	**Altiaghaj**	**0.30**	**54**	P	**Pn**	**02 25 59.1**	**-0.4**
ATGJ				S	**Sn**	**02 26 05.2**	**-0.5**
IML	**Ismayilli**	**0.35**	**288**	P	**Pg**	**02 25 57.1**	**+0.2**
IML				S	**Sb**	**02 26 02.6**	**-0.4**
SIZA	**Siyzn**	**0.44**	**28**	P	**Pn**	**02 26 01.0**	**-0.5**
SIZA				S	**Sn**	**02 26 09.1**	**-0.2**
KDMR	**Kurdemir**	**0.46**	**227**	P	**Pn**	**02 26 01.1**	**-0.5**
KDMR				S	**Sn**	**02 26 10.4**	**+1.0**
XNQ	**Khinaliq**	**0.61**	**323**	P	**Pg**	**02 26 01.6**	**0.0**
XNQ				S	**Sg**	**02 26 09.1**	**-0.7**
QBL	**Gabala**	**0.65**	**294**	P	**Pg**	**02 26 02.2**	**-0.2**
QBL				S	**Sg**	**02 26 11.5**	**+0.5**
QUBA	**Quba, Azerbaij**	**0.68**	**352**	P	**Pn**	**02 26 04.6**	**0.0**
QUBA				S	**Sb**	**02 26 14.2**	**+1.9**
ALIB	**&Aumlli-Bayram**	**0.79**	**158**	P	Pn	02 26 10.5	+4.4
ALIB				S	Sn	02 26 27.5	+10
ZRD	**Zardab**	**0.82**	**241**	P	**Pn**	**02 26 07.2**	**+0.6**
ZRD				S	**Sn**	**02 26 21.0**	**+2.6**
SAAT	**Saatly**	**0.84**	**191**	P	**Pn**	**02 26 08.6**	**+1.7**
SAAT				S	**Sn**	**02 26 22.6**	**+3.8**
QSAR	**Qusar**	**0.87**	**342**	P	**Pn**	**02 26 07.3**	**-0.1**
QSAR				S	**Sb**	**02 26 19.0**	**+1.1**
GOBA	**Gobu**	**0.89**	**108**	P	Pn	02 26 13.3	+5.7
GOBA				S	Sn	02 26 29.2	+8.9
KSMR	**Kasumkent**	**0.99**	**338**	*i* Pg	**Pn**	**02 26 09.4**	**+0.4**
	1μm,0.5s						
KSMR				*e*Sg	**Sb**	**02 26 22.1**	**+0.7**
	11μm,0.5s						
KSMR	**Kasumkent**	**0.99**	**338**	*i* PG	**Pn**	**02 26 09.4**	**+0.4**
KSMR				*e*S	**Sb**	**02 26 22.0**	**+0.7**
KSMR				pmax	pmax		
	comp=Z,1μm,0.5s						
AKT	**Akhty**	**1.04**	**320**	*i* Pg	**Pb**	**02 26 09.0**	**-0.5**
	comp=Z,331nm,0.6s						
AKT				*e*Sg	**Sb**	**02 26 22.5**	**-0.4**
	comp=Z,3μm,0.6s						
AKT	**Akhty**	**1.04**	**320**	⇑ *i* PG	**Pb**	**02 26 08.9**	**-0.5**
AKT				*e*S	**Sb**	**02 26 22.5**	**-0.4**
AKT				pmax	pmax		
	comp=Z,331nm,0.6s						
NDR	**Nardaran**	**1.04**	**95**	P	Pn	02 26 15.0	+5.4
NDR				S	Sn	02 26 34.6	+11
MNGR	**Mingechevir, A**	**1.17**	**275**	P	**Pg**	**02 26 12.1**	**-0.1**
MNGR				S	**Sn**	**02 26 28.4**	**+1.3**
MNGR	**Mingechevir, A**	**1.17**	**275**	PG	**Pg**	**02 26 12.1**	**-0.1**
BRDA	**Brd**	**1.18**	**249**	P	**Pg**	**02 26 13.4**	**+1.1**
BRDA				S	**Sn**	**02 26 31.3**	**+4.0**
SEKA	**Sheki**	**1.20**	**296**	P	**Pn**	**02 26 11.1**	**-0.8**
SEKA				S	**Sb**	**02 26 27.7**	**+0.3**
SEKA	**Sheki**	**1.20**	**296**	PG	**Pn**	**02 26 11.0**	**-0.8**
BLQ	**Beylaqan**	**1.26**	**221**	P	**Pg**	**02 26 14.1**	**+0.1**
BLQ				S	**Sg**	**02 26 32.1**	**+1.7**
AGDM	**Agdam**	**1.29**	**244**	P	**Pg**	**02 26 14.4**	**-0.1**
AGDM				S	**Sg**	**02 26 33.3**	**+2.0**
DRN	**Derbent**	**1.36**	**351**	*e*Pg	**Pg**	**02 26 16.0**	**+0.2**
	comp=Z,939nm,0.4s						
DRN				*e*Sg	**Sg**	**02 26 33.9**	**+0.4**
	comp=Z,3μm,0.5s						
DRN	**Derbent**	**1.36**	**351**	*e*PG	**Pg**	**02 26 16.0**	**+0.2**
DRN				*e*S	**Sg**	**02 26 33.9**	**+0.4**
DRN				pmax	pmax		
	comp=Z,939nm,0.4s						
GLBA	**Cilabad**	**1.45**	**187**	Pg	**Pg**	**02 26 17.7**	**+0.1**
GLBA				Sn	**Sg**	**02 26 38.6**	**+2.2**
QRD	**Qoradiz**	**1.58**	**220**	Pn	**Pg**	**02 26 18.8**	**-1.1**
QRD				Sn	**Sg**	**02 26 40.4**	**-0.1**
URKR	**Urkarakh**	**1.65**	**334**	*i* Pg	**Pb**	**02 26 20.7**	**+0.8**
	comp=Z,439nm,0.6s						
URKR				*e*Sg	**Sg**	**02 26 42.5**	**-0.4**
	comp=Z,1μm,0.7s						
URKR	**Urkarakh**	**1.65**	**334**	⇑ *i*PN	**Pb**	**02 26 20.6**	**+0.8**
URKR				*e*S	**Sg**	**02 26 42.5**	**-0.4**
URKR				pmax	pmax		
	comp=Z,439nm,0.6s						
GANJ	**Ganja**	**1.75**	**269**	Pn	**Pn**	**02 26 19.3**	**-0.2**
GANJ				Sn	**Sn**	**02 26 42.4**	**+1.0**
GANJ	**Ganja**	**1.75**	**269**	PN	**Pn**	**02 26 19.4**	**0.0**
VSHL	**Vashlovani**	**1.77**	**289**	P	**Pb**	**02 26 21.5**	**-0.2**
VSHL				S	**Sg**	**02 26 46.8**	**+0.2**
ZKTA	**Zakatala**	**1.78**	**303**	Pn	**Pn**	**02 26 21.0**	**+1.1**
ZKTA				Sn	**Sg**	**02 26 47.1**	**0.0**
YRD	**Yardimli**	**1.79**	**190**	Pn	**Pg**	**02 26 22.4**	**-1.7**
YRD				Sn	**Sg**	**02 26 47.7**	**+0.3**
KMKR	**Kumukh**	**1.84**	**322**	*i* Pg	**Pb**	**02 26 23.4**	**+0.2**
	comp=Z,442nm,0.6s						
KMKR				*e*Sg	**Sb**	**02 26 47.3**	**+1.2**
	comp=Z,2μm,0.5s						
KMKR	**Kumukh**	**1.84**	**322**	⇑ *i*PN	**Pb**	**02 26 23.3**	**+0.2**
KMKR				*e*S	**Sb**	**02 26 47.3**	**+1.2**
KMKR				pmax	pmax		
	comp=Z,442nm,0.6s						
SGKR	**Sergokala**	**1.91**	**338**	*i* Pg	**Pb**	**02 26 24.5**	**+0.2**
	comp=Z,294nm,0.3s						
SGKR				*e*Sg	**Sb**	**02 26 49.9**	**+2.0**
	comp=Z,1μm,0.5s						
SGKR	**Sergokala**	**1.91**	**338**	⇑ *i*PN	**Pb**	**02 26 24.4**	**+0.2**
SGKR				*e*S	**Sb**	**02 26 49.9**	**+2.0**
SGKR				pmax	pmax		
	comp=Z,294nm,0.3s						
LKRN	**Lenkeran, Azer**	**1.98**	**176**	Pn	**Pb**	**02 26 24.9**	**-0.4**
LKRN				Sn	**Sg**	**02 26 53.1**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.98**	**176**	PN	**Pb**	**02 26 25.1**	**-0.2**
LRK	**Lerik**	**2.05**	**186**	Pg	**Pb**	**02 26 26.1**	**-0.5**
LRK				Sn	**Sg**	**02 26 55.5**	**-0.2**
GNBR	**Gunib**	**2.11**	**324**	*e*Pg	**Pb**	**02 26 27.3**	**-0.2**
	comp=Z,273nm,0.7s						
GNBR				*e*Sg	**Sb**	**02 26 55.1**	**+1.6**
	comp=Z,703nm,0.7s						
GNBR	**Gunib**	**2.11**	**324**	*e*PN	**Pb**	**02 26 27.3**	**-0.2**
GNBR				*e*S	**Sb**	**02 26 55.1**	**+1.6**
GNBR				pmax	pmax		
	comp=Z,273nm,0.7s						
ASTR	**Astara**	**2.13**	**176**	Pn	**Pb**	**02 26 26.8**	**-1.0**
ASTR				Sn	**Sg**	**02 26 56.8**	**-1.2**
LGD	**Lagodekhi**	**2.13**	**303**	P	**Pb**	**02 26 26.8**	**-1.1**
LGD				S	**Sg**	**02 26 59.1**	**+1.0**
LGD	**Lagodekhi**	**2.13**	**303**	PN	**Pb**	**02 26 26.8**	**-1.1**
LGD				S	**Sg**	**02 26 59.1**	**+1.0**
GDB	**GEDABAY**	**2.18**	**272**	Pn	**Pn**	**02 26 25.4**	**0.0**
GDB				Sn	**Sn**	**02 26 53.6**	**+1.3**
ARKR	**Arakani**	**2.27**	**328**	*i* Pg	**Pb**	**02 26 30.3**	**-0.1**
	comp=Z,167nm,0.6s						
ARKR				*e*Sg	**Sb**	**02 27 00.2**	**+2.0**
	comp=Z,530nm,0.5s						
ARKR	**Arakani**	**2.27**	**328**	⇑ *i*PN	**Pb**	**02 26 30.2**	**-0.1**
ARKR				*e*S	**Sb**	**02 27 00.2**	**+2.0**
ARKR				pmax	pmax		
	comp=Z,167nm,0.6s						
XNZR	**Khunzakh**	**2.34**	**323**	*e*Pg	**Pb**	**02 26 30.6**	**-1.1**
	comp=Z,170nm,0.4s						
XNZR				*e*Sg	**Sb**	**02 27 00.9**	**+0.4**
	comp=Z,269nm,0.6s						
HNZR	**Khunzah**	**2.35**	**323**	*e*PN	**Pb**	**02 26 30.5**	**-1.3**
HNZR				*e*S	**Sb**	**02 27 00.8**	**+0.1**
HNZR				pmax	pmax		
	comp=Z,170nm,0.4s						
BUJR	**Buynaksk**	**2.42**	**333**	*e*Pg	**Pb**	**02 26 31.3**	**-1.5**
	comp=Z,113nm,0.4s						
BUJR				*e*Sg	**Sb**	**02 27 02.1**	**-0.4**
	comp=Z,820nm,0.6s						
BUJR	**Buynaksk**	**2.42**	**333**	*e*PN	**Pb**	**02 26 31.3**	**-1.5**
BUJR				*e*S	**Sb**	**02 27 02.0**	**-0.4**
BUJR				pmax	pmax		
	comp=Z,113nm,0.4s						
MAK	**Makhachkala**	**2.42**	**340**	*c i*PN	**Pn**	**02 26 28.7**	**+0.1**
MAK				*e*		02 26 33.8	
MAK				*e*S	**Sn**	**02 27 00.1**	**+2.2**
MAK				*e*		02 27 08.2	
MAK				*e*		02 27 11.0	
MAK				pmax	pmax		
	comp=Z,159nm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.6s						
MAK				smax	smax		
	comp=N,1μm,0.6s						
MAK				smax	smax		
	comp=Z,695nm,3.0s						
UNCR	**Uncukul**	**2.44**	**327**	*e*Pn	**Pb**	**02 26 32.4**	**-0.9**
	comp=Z,288nm,0.6s						
UNCR				*e*Sn	**Sb**	**02 27 04.8**	**+1.5**
	comp=Z,439nm,0.6s						
UNCR	**Uncukul**	**2.44**	**327**	*e*PN	**Pb**	**02 26 32.4**	**-0.9**
UNCR				*e*S	**Sb**	**02 27 04.7**	**+1.5**
UNCR				pmax	pmax		
	comp=Z,288nm,0.6s						
QZX	**Qazax, Azerbai**	**2.49**	**280**	Pn	**Pn**	**02 26 30.3**	**+0.6**
QZX				Sn	**Sb**	**02 27 02.9**	**-1.7**
KRNR	**Karanay**	**2.49**	**330**	*i* Pn	**Pb**	**02 26 33.3**	**-0.9**
	comp=Z,48nm,0.6s						
KRNR				*e*Sn	**Sb**	**02 27 06.1**	**+1.4**
	comp=Z,160nm,0.4s						
KRNR	**Karanay**	**2.49**	**330**	⇓ *i*PN	**Pb**	**02 26 33.3**	**-0.9**
KRNR				*e*S	**Sb**	**02 27 06.1**	**+1.4**
KRNR				pmax	pmax		
	comp=Z,48nm,0.6s						
KANR	**Karaman**	**2.65**	**342**	*e*Pn	**Pb**	**02 26 35.1**	**-1.6**
	comp=Z,310nm,0.5s

GROC *eSn* **Sn** **02 27 23.7 +4.6**
comp=Z,147nm,0.7s
GROC Groznyy 3.28 321 *e*PN **Pn** **02 26 43.3 +2.9**
GROC *eS* **Sn** **02 27 23.7 +4.6**
GROC pmax pmax
comp=Z,109nm,0.6s
TRLG Trialeti 3.52 285 P **Pn** **02 26 45.5 +1.7**
TRLG Trialeti 3.52 285 PN **Pn** **02 26 45.6 +1.7**
GUDG Gudauri 3.58 301 P **Pn** **02 26 48.8 +4.0**
GUDG Gudauri 3.58 301 PN **Pn** **02 26 48.8 +4.0**
MTEO Meteo 3.65 304 P **Pn** **02 26 49.5 +3.5**
MTEO Meteo 3.65 304 PN **Pn** **02 26 49.5 +3.5**
ALIG Mtskhetisjvari 4.00 292 PN **Pn** **02 26 51.9 +1.5**
TKB Tkibuli 4.54 293 P **Pn** **02 26 59.9 +2.1**
TKB Tkibuli 4.54 293 PN **Pn** **02 26 59.9 +2.1**
NEUR Neytrino 5.11 302 *e*PN **Pn** **02 27 04.7 -1.0**
KBZ Khabaz 5.23 307 Pn **Pn** **02 27 08.0 +0.9**
comp=Z,0.1nm,0.3s,baz=155,slow=9.9,SNR=6.1
KBZ Pg **Pb** **02 27 19.6 -1.0**
comp=Z,0.4nm,0.3s,baz=158,slow=3.3,SNR=9.8
KBZ Lg Lg 02 28 27.9
comp=Z,0.7nm,0.3s,baz=135,slow=20,SNR=3.9
KBZ LR LR 02 29 23.5
comp=Z,134nm,19.5s,baz=120,slow=43
comp=Z,1.6nm,0.7s
KBZ Khabaz 5.23 307 PN **Pn** **02 27 08.0 +0.9**
KVAR Kislovodsk Arr 5.47 309 Pn **Pn** **02 27 10.8 +0.1**
KVAR Pg **Pb** **02 27 22.4 -2.5**
baz=120,slow=20
KVAR Sn **Sn** **02 28 13.5 +0.1**
baz=69,slow=16
KVAR Lg Lg 02 28 34.3
baz=166,slow=4.2
comp=Z,2.8nm,0.7s
KIV Kislovodsk 5.48 309 *e*P **Pn** **02 27 11.5 +0.8**
KIV *eS* **Sn** **02 28 15.5 +2.0**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,52nm,10.0s
GOF Gofitskoye 5.99 319 *ce*P **Pb** **02 27 31.9 -1.7**
GOF *eS* **Sb** **02 28 39.8 -5.3**
AB31 Akbulak array 11.72 39 Pn **Pn** **02 28 34.9 -1.3**
comp=Z,0.7nm,0.4s,baz=213,slow=12,SNR=26
AB31 ⇑Sn **Sn** **02 30 43.5 -3.2**
comp=Z,3.8nm,0.8s,baz=28,slow=49,SNR=4.9
AB31 Akbulak array 11.72 39 P **Pn** **02 28 34.9 -1.3**
AB31 SN **Sn** **02 30 43.5 -3.2**
BELG Belogornoye 11.73 357 Pn **Pn** **02 28 33.4 -2.8**
comp=Z,5.7nm,0.4s,baz=186,slow=2.0,SNR=14
BELG Sn **Sn** **02 30 41.3 -5.5**
comp=Z,0.7nm,0.3s,baz=194,slow=17,SNR=7.0
AKTO Aktyubinsk 11.75 31 Pn **Pn** **02 28 34.6 -2.0**
comp=Z,0.9nm,0.3s,baz=211,slow=13,SNR=5.9
AKTO Sn **Sn** **02 30 40.5 -6.9**
comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=2.1
AKTO Aktyubinsk 11.75 31 ⇑Pn **Pn** **02 28 34.0 -2.6**
comp=Z,2.2nm,0.8s
AKTO ⇑Sn **Sn** **02 30 43.1 -4.3**
comp=Z,6.2nm,1.0s
AKTO Aktyubinsk 11.75 31 P **Pn** **02 28 34.3 -2.3**
AKTO SN **Sn** **02 30 43.1 -4.3**
SORM Soroca 16.26 304 ⇑P **Pn** **02 29 38.8 +1.5**
SORM Soroca 16.26 304 P **Pn** **02 29 38.7 +1.5**
SORM Soroca 16.26 304 P **P** **02 29 39.0 -1.2**
comp=Z,10nm,1.1s
KK31 Karatay Array 16.47 74 ⇑P **P** **02 29 42.2 -0.5**
comp=Z,1.7nm,0.5s,baz=286,slow=12,SNR=23
KK31 Karatay Array 16.47 74 P **P** **02 29 42.2 -0.5**
OBN Obninsk 16.50 335 ⇓*e*P **P** **02 29 42.1 -0.8**
OBN S **Sn** **02 32 48.0 +4.9**
OBN pmax pmax
comp=Z,42nm,3.6s
OBN MLR MLR
comp=Z,309nm,8.0s
AK09 Malin Array Si 16.73 313 P **P** **02 29 44.8 -0.6**
AK10 Malin Array Si 16.74 313 P **P** **02 29 45.0 -0.5**
AK07 Malin Array Si 16.74 313 P **P** **02 29 45.1 -0.5**
AK08 Malin Array Si 16.75 313 P **P** **02 29 44.9 -0.8**
AK06 Malin Array Si 16.76 313 P **P** **02 29 45.7 -0.1**
AK05 Malin Array Si 16.77 313 P **P** **02 29 45.8 -0.1**
AKASG Malin Array Be 16.80 313 Pn **Pn** **02 29 40.1 -4.0**
comp=Z,1.0nm,0.6s,baz=122,slow=12,SNR=7.4
AKBB Malin Array Si 16.80 313 *ce*P **Pn** **02 29 45.0 +0.9**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AK12 Malin Array Si 16.81 313 P **P** **02 29 46.1 -0.3**
AK04 Malin Array Si 16.84 313 P **P** **02 29 46.8 +0.1**
AK20 Malin Array Si 16.94 313 P **P** **02 29 47.3 -0.5**
ARTI Arti 16.96 19 Pn **Pn** **02 29 40.7 -5.5**
comp=Z,0.8nm,0.3s,baz=202,slow=6.7,SNR=6.1
ARTI Arti 16.96 19 P **Pn** **02 29 41.3 -4.8**
ARTI S **Sn** **02 32 45.9 -8.3**
NDNU Novodnistrovsk 17.03 305 P **Pn** **02 29 47.8 +0.8**
MLR Muntele Rosu 17.23 294 Pn **Pn** **02 29 46.2 -3.5**
comp=Z,0.1nm,0.3s,baz=155,slow=6.9,SNR=4.4
MLR Muntele Rosu 17.23 294 ⇓P **P** **02 29 51.0 -0.2**
MLR Muntele Rosu 17.23 294 P **P** **02 29 51.0 -0.2**
RAYN Ar Rayn 17.32 190 P **P** **02 29 52.5 +0.3**
DOPR Dopca 17.68 295 ⇑P **P** **02 29 57.2 +1.1**
HORU Horodok 17.82 306 P **Pn** **02 29 56.8 -0.1**
HORU Horodok 17.82 306 P **Pn** **02 29 56.8 -0.1**
VOIR 17.84 293 ⇓P **P** **02 29 59.6 +1.7**
VOIR 17.84 293 P **P** **02 29 59.6 +1.7**
VOIR 17.84 293 P **P** **02 29 59.8 +1.9**
comp=Z,13nm,1.0s
KIRV Kirov 17.92 1 P **Pn** **02 29 54.4 -3.6**
comp=Z,22nm,0.7s,baz=175,slow=1.4,SNR=5.1
SVE Sverdlovsk 17.94 22 *e*P **P** **02 30 00.7 +1.9**
BURAR Bucovina Array 18.13 300 ⇑P **P** **02 30 01.6 +0.5**
BURAR Bucovina Array 18.13 300 P **P** **02 30 01.6 +0.5**
ARR Arges 18.13 293 ⇑P **P** **02 30 02.4 +1.4**
LOT Lotru 18.74 293 ⇓P **Pn** **02 30 08.9 +0.6**
CJR Cluj-Napoca 19.03 297 ⇑P **Pn** **02 30 12.8 +1.1**
CJR Cluj-Napoca 19.03 297 P **Pn** **02 30 12.8 +1.1**
BRVK Borovoye 19.20 43 *ce*P **Pn** **02 30 14.2 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 19.24 43 P **Pn** **02 30 13.9 -0.2**
comp=Z,2.3nm,0.7s,baz=223,slow=11,SNR=11
BVA0 Borovoye Array 19.24 43 P **Pn** **02 30 13.9 -0.2**
BVAR Borovoye Array 19.24 43 P **P** **02 30 13.4 +0.2**
comp=Z,0.1nm,0.3s,baz=223,slow=10,SNR=16
BVAR LR LR 02 39 07.6
comp=Z,93nm,20.5s,baz=254,slow=42
comp=Z,2.7nm,0.7s
MARR Marisel-Cluj 19.35 297 ⇓P **Pn** **02 30 16.2 +0.7**
MORS Morshin 19.38 304 P **Pn** **02 30 15.7 -0.1**
MORS Morshin 19.38 304 P **Pn** **02 30 15.7 -0.1**
AAK Ala-Archa 19.41 76 P **Pn** **02 30 18.4 +2.0**
comp=Z,1.0nm,0.4s,baz=278,slow=6.7,SNR=11
IDI Anoyia 19.44 262 P **Pn** **02 30 16.6 -0.1**
comp=Z,0.3nm,0.3s,baz=54,slow=19,SNR=1.0
comp=Z,5.2nm,0.9s
DRGR 19.64 297 P **Pn** **02 30 21.6 +2.5**
SURR Surduc 19.92 294 ⇑P **P** **02 30 21.2 +0.6**
MDVR Moldovita 20.15 291 ⇑P **P** **02 30 23.5 +0.3**
SIRR Siria 20.29 295 ⇓P Pn 02 30 25.9 -0.8
NACGM Naroch 20.31 322 *e*P **P** **02 30 23.5 -1.3**
baz=124
KOLS Kolonicke sedl 20.35 303 *e*P **P** **02 30 25.6 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,0.6s
KOLS Kolonicke sedl 20.35 303 *e*P **P** **02 30 25.6 +0.3**
KLMR Klimovskoe 20.96 347 *e*P **P** **02 30 31.8 +0.1**
KLMR pmax pmax
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 21.13 304 *e*P P 02 30 24.2 -9.5
PSZ Piszkesteto 21.71 299 ⇓P **P** **02 30 42.1 +2.1**
PSZ Piszkesteto 21.71 299 P **P** **02 30 42.1 +2.1**
OJC Ojcow 22.23 305 P **P** **02 30 45.4 -0.1**
OJC Ojcow 22.23 305 P **P** **02 30 45.4 -0.1**
comp=Z,7.5nm,2.5s
KURBB Kurchatov Arra 23.00 54 P **P** **02 30 55.8 +2.1**
comp=Z,0.6nm,0.5s,baz=261,slow=9.9,SNR=7.3
comp=Z,0.6nm,0.5s
KURK Kurchatov 23.08 54 ⇑*e*P **P** **02 30 57.3 +2.9**
KURK pmax pmax
comp=Z,6.0nm,1.3s
MODS Modra-Piesok 23.51 300 *e*P **P** **02 31 00.0 +1.2**
MODS Modra-Piesok 23.51 300 *e*P **P** **02 31 00.0 +1.2**
MTSE Matsula 23.91 327 *e*P **P** **02 31 02.7 +0.2**
VRAC Vranov 24.09 302 LR LR 02 42 11.6
comp=Z,127nm,19.6s,baz=317,slow=41
JOF Joensuu 24.54 341 *e*P **P** **02 31 08.0 -0.3**
MEF Metsahovi 24.65 331 *e*P **P** **02 31 09.2 -0.1**
MAKZ Makanchi 24.73 65 P **P** **02 31 10.5 +0.2**
FINES FINESS Array B 24.91 334 P **P** **02 31 11.2 -0.4**
comp=Z,6.9nm,0.5s,baz=135,slow=10,SNR=40
comp=Z,6.9nm,0.5s
MK31 Makanchi Array 24.95 65 P **P** **02 31 13.9 +1.8**
comp=Z,2.2nm,0.7s,baz=264,slow=6.8,SNR=20
MK31 Makanchi Array 24.95 65 *i* P **P** **02 31 14.0 +1.8**
MKAR Makanchi Array 24.95 65 P **P** **02 31 14.2 +2.0**
comp=Z,1.6nm,0.7s,baz=271,slow=7.2,SNR=21
comp=Z,1.6nm,0.7s
KEF Keuruu 25.83 334 *e*P **P** **02 31 19.8 -0.2**
GERES GERESS Array B 25.92 300 P **P** **02 31 20.1 -1.0**
comp=Z,0.5nm,0.4s,baz=87,slow=9.5,SNR=3.7
comp=Z,0.5nm,0.4s
RAF Rauma 26.16 330 *e*P **P** **02 31 24.4 +1.4**
VAF Ylistaro 27.17 334 *e*P **P** **02 31 31.8 -0.2**
ZALV Zalesovo Beam 27.56 49 P **P** **02 31 38.3 +2.7**
comp=Z,0.3nm,0.4s,baz=270,slow=12,SNR=1.7
comp=Z,0.3nm,0.4s
HFS Hagfors 29.04 324 P **P** **02 31 48.4 -0.4**
comp=Z,7.6nm,0.6s,baz=115,slow=10.0,SNR=21
HFS LR LR 02 45 31.6
comp=Z,176nm,18.3s,baz=260,slow=41
comp=Z,7.6nm,0.6s
NB2 NORSAR Subarra 30.54 324 P **P** **02 32 01.0 -1.1**
comp=Z,2.5nm,0.5s,baz=115,slow=8.6
NOA NORSAR Array B 30.54 324 P **P** **02 32 01.3 -0.8**
comp=Z,1.6nm,0.6s,baz=117,slow=8.3,SNR=19
NOA LR LR 02 45 20.3
comp=Z,78nm,19.9s,baz=245,slow=39
comp=Z,1.6nm,0.6s
ARCES ARCESS Array B 31.36 345 P **P** **02 32 08.4 -0.8**
comp=Z,5.7nm,1.1s,baz=146,slow=8.6,SNR=8.1
ARCES LR LR 02 46 04.5
comp=Z,105nm,19.7s,baz=246,slow=39
comp=Z,5.7nm,1.1s
EKA Eskdalemuir Ar 36.70 311 P **P** **02 32 54.4 -1.2**
comp=Z,1.6nm,0.6s,baz=106,slow=8.9,SNR=4.4
comp=Z,1.6nm,0.6s
ESDC Sonseca Array 39.69 286 P **P** **02 33 19.8 -1.3**
comp=Z,0.5nm,0.8s,baz=65,slow=8.5,SNR=5.8
comp=Z,0.5nm,0.8s
SPITS Spitsbergen Ar 39.82 350 P **P** **02 33 22.0 +0.3**
comp=Z,5.5nm,0.9s,baz=142,slow=12,SNR=5.7
comp=Z,5.5nm,0.9s
SPITS Spitsbergen Ar 39.82 350 P **P** **02 33 22.0 +0.3**
SONM Songino Array 41.14 60 P **P** **02 33 34.7 +1.6**
comp=Z,0.4nm,0.7s,baz=288,slow=11,SNR=2.4
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 49.26 250 P **P** **02 34 37.6 -0.2**
comp=Z,0.8nm,0.4s,baz=51,slow=6.5,SNR=1.5
comp=Z,0.8nm,0.4s
PETK Petropavlovsk- 68.39 38 P **P** **02 36 51.8 +1.5**
comp=Z,4.2nm,1.0s,baz=349,slow=5.9,SNR=1.6
comp=Z,4.2nm,1.0s
SCHQ Schefferville 70.09 326 P **P** **02 37 00.8 0.0**
comp=Z,0.9nm,0.7s,baz=24,slow=9.1,SNR=3.9
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 76.28 352 P **P** **02 37 37.2 0.0**
comp=Z,0.2nm,0.7s,baz=11,slow=5.3,SNR=4.6
comp=Z,0.2nm,0.7s

IDC 06 02:25:51.9±4.1, 6°29S×149°76E, h0km, mb3.3/2, mbtmp3.5/2, Error ellipse: s-maj=137.6km s-min=52.4km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.21**	**226**	P	P	02 30 28.5	-0.2
	1.8nm,0.6s,baz=52,slow=11,SNR=17						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**23.05**	**220**	P	P	02 30 58.9	-0.2
	0.5nm,0.7s,baz=54,slow=9.3,SNR=4.9						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.82**	**285**	PKPbc	PKPbc	02 45 39.6	-0.5
	1.8nm,0.4s,baz=92,slow=2.1,SNR=2.5						

RSNC 06 03:16:32.6±0.0, 6°N±1°×7°3W±°, h4km±3km, M2.4, mb4.0, ML2.2, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.39**	**307**	P	Pg	03 16 39.6	-0.6
RUSC				S	Sg	03 16 44.5	-0.9
BARC	**Barichara**	**1.01**	**336**	P	Pg	03 16 50.2	-1.9
BARC				S	Sg	03 17 02.9	-2.3
TAMC	**Tame, Arauca**	**1.24**	**52**	P	Pg	03 16 54.6	-1.8
TAMC				S	Sg	03 17 12.5	-0.1
SPBC	**San Pablo de B**	**1.30**	**270**	P	Pg	03 16 55.8	-1.7
SPBC				S	Sg	03 17 12.5	-1.8
CHIC	**Chingaza**	**1.40**	**223**	P	Pn	03 16 56.6	-2.7
CHIC				S	Sg	03 17 15.6	-2.1
BRJC	**Barrancabermej**	**1.62**	**323**	P	Pn	03 17 01.7	-0.3
BRJC				S	Sn	03 17 22.4	-1.0
PAMC	**Pamplona, Colo**	**1.67**	**2**	P	Pn	03 17 02.1	-1.0
PAMC				S	Sn	03 17 23.1	-2.1
ROSC	**El Rosal**	**1.75**	**242**	P	Pb	03 17 05.4	-0.1
ROSC				S	Sg	03 17 29.1	+0.3
VILC	**Villavicencio,**	**1.79**	**211**	P	Pn	03 17 03.2	-1.3
VILC				S	Sg	03 17 30.1	-0.2
PTBC	**PUERTO BERRIO,**	**1.89**	**298**	P	Pn	03 17 04.9	-0.8
PTBC				S	Sn	03 17 30.8	+0.8
NORC	**Norcasia**	**2.09**	**267**	P	Pn	03 17 09.4	+0.9
NORC				S	Sn	03 17 35.0	0.0
OCAC	**Ocana**	**2.62**	**348**	P	Pb	03 17 18.3	-1.9
OCAC				S	Sb	03 17 50.8	-2.1
GUY2C	**Guyana, Caldas**	**2.62**	**261**	P	Pn	03 17 17.5	+1.3
GUY2C				S	Sn	03 17 50.8	+2.1
ZARC	**Zaragoza, Cauc**	**2.76**	**311**	P	Pn	03 17 18.7	+1.0
ZARC				S	Sn	03 17 53.1	+1.6
PRAC	**Prado**	**2.86**	**228**	P	Pn	03 17 18.5	-0.6
PRAC				S	Sn	03 17 55.6	+1.6
MEDEC	**Medelln, Ant**	**2.87**	**282**	P	Pn	03 17 19.2	-0.2
MEDEC				S	Sn	03 17 55.1	+0.6
URMC	**La Uribe, Meta**	**2.88**	**214**	P	Pn	03 17 19.1	-0.4
URMC				S	Sn	03 17 56.2	+1.5
ORTC	**Ortega, Tolima**	**3.02**	**235**	P	Pn	03 17 20.4	-0.9
ORTC				S	Sn	03 17 59.4	+1.5
GUVC	**San Jose del G**	**3.10**	**177**	P	Pn	03 17 21.5	-0.8
GUVC				S	Sn	03 17 59.0	-0.8
MACC	**Macarena, Meta**	**3.65**	**197**	P	Pn	03 17 28.4	-1.6
MACC				S	Sn	03 18 11.9	-1.7
SDV	**Santo Domingo**	**3.84**	**33**	P	Pn	03 17 30.5	-2.2
SDV				S	Sn	03 18 18.2	-0.3
GARC	**Garzon, Huila**	**4.39**	**218**	P	Pn	03 17 40.0	-0.3
GARC				S	Sn	03 18 32.1	0.0
JAMC	**Jamundi, Valle**	**4.59**	**238**	P	Pn	03 17 42.0	-1.0
JAMC				S	Sn	03 18 37.6	+0.7
URIC	**Uribia, Colomb**	**6.05**	**7**	P	Pn	03 18 03.0	0.0
URIC				S	Sn	03 19 13.5	+0.8

*FUNV **06** 03:22:31.4, 10°54N×63°22W, h2km, MW3.5*
*TRN **06** 03:22:33.4, 10°82N×63°31W, h83km, MD3.7, North of Venezuela.*

ISC 06 03:22:30.4±0.9, 10°9N±0°1×63°34W±0°06, h10km, n21, σ0°88/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUMV	**Cumana_UDO**	**0.96**	**241**	*e*P	**Pg**	03 22 48.9	+0.1
CUMV				*e*S	**Sn**	03 23 03.2	-0.5
PCRV	**Puerto La Cruz**	**1.46**	**241**	*e*P	**Pn**	03 22 57.2	+0.3
PCRV				*e*S	**Sb**	03 23 16.3	-0.1
PCRV	**Puerto La Cruz**	**1.46**	**241**	*e*P	**Pb**	03 22 57.5	-0.2
PCRV				*e*S	**Sg**	03 23 17.2	-0.2
PCRV	**Puerto La Cruz**	**1.46**	**241**	*e*P	**Pb**	03 22 57.5	-0.2
PCRV				*e*S	**Sg**	03 23 17.2	-0.2
TRN	**Trinidad (W)**	**1.92**	**97**	*e*P	**Pn**	03 23 04.2	+1.0
TRN	**Trinidad (W)**	**1.92**	**97**	*e*P	**Pn**	03 23 04.2	+1.0
GRFF	**Grenada Fort F**	**1.95**	**54**	*e*P	**Pb**	03 23 05.9	-0.2
GRFF	**Grenada Fort F**	**1.95**	**54**	*e*P	**Pb**	03 23 05.9	-0.2
GRGR	**Grenville**	**2.06**	**53**	*e*P	**Pb**	03 23 07.2	-0.8
GRGR	**Grenville**	**2.06**	**53**	*e*P	**Pb**	03 23 07.2	-0.8
GCMP	**Grenada, Carri**	**2.46**	**50**	*e*P	**Pn**	03 23 11.3	+0.7
GCMP				*e*S	**Sn**	03 23 40.3	-0.3
GCMP	**Grenada, Carri**	**2.46**	**50**	*e*P	**Pn**	03 23 11.3	+0.7
GCMP				*e*S	**Sn**	03 23 40.3	-0.3
TOSP	**Speyside**	**2.78**	**81**	*e*P	**Pn**	03 23 15.8	+0.7
TOSP	**Speyside**	**2.78**	**81**	*e*P	**Pn**	03 23 15.8	+0.7
TACV	**Tcata**	**3.70**	**259**	*e*P	**Pn**	03 23 28.9	+1.0
TACV				*e*S	**Sn**	03 24 11.4	-0.2
BENV	**Beln**	**4.29**	**258**	*e*P	**Pn**	03 23 37.5	+1.6
BENV				*e*S	**Sn**	03 24 25.8	-0.3
CACV	**CAICARA DEL OR**	**4.57**	**224**	*e*P	Pn	03 23 34.4	-5.3
BAUV	**El Baul**	**5.02**	**248**	*e*P	**Pn**	03 23 46.8	+0.9
BAUV				*e*S	**Sn**	03 24 41.7	-2.3
BAUV	**El Baul**	**5.02**	**248**	*e*P	**Pn**	03 23 47.2	+1.3
BAUV	**El Baul**	**5.02**	**248**	*e*P	**Pn**	03 23 47.2	+1.3
LUEV	**Luepa**	**5.35**	**160**	*e*P	Pn	03 23 45.1	-5.4
LUEV				*e*S	Sn	03 24 40.5	-12

*IDC **06** 03:50:37.5±8.1, 22°67S×179°91E, h532km±86km, mb3.0/4, mbtmp3.8/4, Error ellipse: s-maj=136.8km s-min=38.7km az=159.0*
*NEIC **06** 03:50:38.4±1.4, 22°8S±0°2×179°99W±0°09, h544km±11km, mb4.3/9, Error ellipse: s-maj=33.4km s-min=12.2km az=176.0*

ISC 06 03:50:38.0±0.6, 22°8S±0°2×180°0E±0°1, h550km, n34, σ0°58/30, mb4.2/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.67**	**164**	P	**P**	03 52 22.9	+0.2
NIUE	**Niue**	**10.14**	**70**	P	**P**	03 52 56.8	-0.6
ASAR	**Alice Springs**	**42.20**	**259**	P	**P**	03 57 43.6	+0.4
	1.1nm,0.6s,baz=90,slow=7.8,SNR=11						
	1.1nm,0.6s						
WB0	**Warramunga Arr**	**42.45**	**265**	P	**P**	03 57 45.4	+0.2
WB0				IAmb	IAmb	03 57 46.6	
	comp=Z,6.7nm,0.9s						
WB2	**Warramunga Arr**	**42.46**	**265**	P	**P**	03 57 45.5	+0.2
WRA	**Warramunga Arr**	**42.47**	**265**	P	**P**	03 57 45.5	+0.2
WRA	**Warramunga Arr**	**42.47**	**265**	P	**P**	03 57 45.5	+0.2
	comp=Z,1.9nm,0.7s,baz=102,slow=8.0,SNR=22						
	comp=Z,1.9nm,0.7s						
KNRA	**Kununurra**	**48.68**	**269**	P	**P**	03 58 33.4	+0.7
KNRA				IAmb	IAmb	03 58 43.1	
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.90**	**265**	P	**P**	03 58 49.6	+0.6
MBWA	**Marble Bar**	**55.54**	**259**	P	**P**	03 59 21.9	0.0
MBWA				IAmb	IAmb	04 00 02.2	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**57.23**	**249**	P	**P**	03 59 33.1	-0.3
MORW				IAmb	IAmb	04 00 00.9	
	comp=Z,20nm,1.2s						
KSAR	**Wonju Array Be**	**77.43**	**320**	P	**P**	04 01 36.5	-0.2
TXAR	**Lajitas Array**	**89.89**	**58**	P	**P**	04 02 40.2	+1.2
	comp=Z,0.3nm,0.7s,baz=197,slow=3.9,SNR=4.6						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**91.00**	**14**	P	**P**	04 02 44.0	+0.9
	comp=Z,0.3nm,0.9s,baz=217,slow=6.1,SNR=2.0						
	comp=Z,0.3nm,0.9s						
E28M	**Babbage River**	**95.82**	**14**	P	**P**	04 03 05.7	+0.7
E28M				IAmb	IAmb	04 03 28.5	
	comp=Z,4.4nm,1.5s						
AC02	**Maricunga**	**96.94**	**123**	P	**P**	04 03 11.8	0.0
KKAR	**Karatay Array**	**119.20**	**308**	PKPdf	**PKiKP**	04 08 25.2	+0.3
BVAR	**Borovoye Array**	**119.62**	**319**	PKP	**PKiKP**	04 08 25.4	0.0
	comp=Z,0.7nm,0.3s,baz=157,slow=1.9,SNR=6.3						
ARCES	**ARCESS Array B**	**130.84**	**348**	PKP	**PKPdf**	04 08 46.1	-0.2
	comp=Z,3.2nm,0.9s,baz=39,slow=1.8,SNR=1.7						
FINES	**FINESS Array B**	**137.43**	**342**	PKP	**PKiKP**	04 09 00.1	-0.7
	comp=Z,1.1nm,0.8s,baz=90,slow=4.2,SNR=3.7						
GNI	**Garni**	**138.58**	**305**	PKPdf	**PKPdf**	04 09 00.4	-1.4
NC303	**NORSAR Array S**	**140.82**	**351**	PKPpre	PKPpre	04 09 00.5	
HFS	**Hagfors**	**141.50**	**349**	PKhKP	PKPpre	04 09 02.8	
	comp=Z,3.2nm,0.3s,baz=66,slow=3.7,SNR=52						
KONO	**Kongsberg**	**142.59**	**352**	PKPdf	**PKPdf**	04 09 07.2	-0.9
AKASG	**Malin Array Be**	**144.06**	**328**	PKhKP	PKPpre	04 09 11.3	
	comp=Z,1.5nm,0.4s,baz=46,slow=4.2,SNR=15						
AKBB	**Malin Array Si**	**144.06**	**328**	PKPbc	**PKPdf**	04 09 10.8	-0.2
KIEV	**Kiev**	**144.07**	**328**	PKPbc	**PKPdf**	04 09 11.0	0.0
AK05	**Malin Array Si**	**144.12**	**328**	PKPbc	PKPbc	04 09 10.6	0.0
BRTR	**Keskin Array B**	**146.91**	**308**	PKPbc	**PKPbc**	04 09 18.9	-0.4
BRTR	**Keskin Array B**	**146.91**	**308**	PKPbc	**PKPbc**	04 09 19.6	+0.4
	comp=Z,0.6nm,0.6s,baz=146,slow=5.0,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.23**	**296**	PKPbc	**PKiKP**	04 09 21.6	-0.3
	comp=Z,1.6nm,0.4s,baz=77,slow=6.2,SNR=5.2						
EKA	**Eskdalemuir Ar**	**147.46**	**3**	PKPbc	**PKPbc**	04 09 19.6	-0.4
	comp=Z,0.5nm,0.4s,baz=350,slow=2.1,SNR=6.2						
BUR08	**Bucovina Ar. S**	**148.06**	**327**	PKPbc	**PKPbc**	04 09 22.3	+0.4
BURAR	**Bucovina Array**	**148.07**	**327**	PKPdf	**PKPdf**	04 09 18.4	+0.5

*SOF **06** 03:51:01.3, 42°54N±0°01×28°01E±0°02, h10km±6km, MD2.8/4*
*BEO **06** 03:51:01.8±0.9, 42°46N×27°89E, h0km, ML3.0/6*
*ISK **06** 03:51:01.3, 42°58N×27°90E, h10km, ML3.2/30*
*AFAD **06** 03:51:01.8, 42°50N×27°96E, h23km±1km, ML2.8*
*CFUSG **06** 03:51:04.3, 42°60N×27°90E, h10km, mb2.4/2, Black Sea Magtype MSH 3.1 from 2 stations*
*MCSM **06** 03:51:07.8±0.7, 43°N±4°×2°8E±1°1, h10km, MLv3.1*

ISC 06 03:51:01.2±1.1, 42°58N±0°02×27°99E±0°02, h9km±9km, n80, σ1°910/114, 10C-11D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVR	**AVREN**	**0.59**	**337**	Sg	**Sb**	03 51 23.9	+1.7
AVR				*i* Pg	**Pb**	03 51 14.1	+0.4
ROIA	**ROIAK**	**0.68**	**319**	*i* Pg	**Pb**	03 51 16.2	+0.9
ROIA				Sg	**Sb**	03 51 26.0	+1.1
PRD	**Provadia**	**0.72**	**324**	*i* Pg	**Pb**	03 51 16.2	+0.2
PRD				Sg	**Sb**	03 51 27.0	+1.0
ARMN	**Kirklareli, Me**	**0.83**	**210**	P	**Pg**	03 51 16.3	-0.8
ARMN				S	**Sg**	03 51 24.9	-3.0
NEF	**NEVSHA**	**0.86**	**323**	*i* Pg	**Pb**	03 51 18.8	+0.4
NEF				Sg	**Sn**	03 51 32.0	-0.4
VIZE	**Kirklareli, Vi**	**1.01**	**186**	P	**Pg**	03 51 20.4	-0.1
VIZE				S	**Sg**	03 51 33.0	-0.6
VIZE				*i* AML	AML	03 51 36.0	
	comp=N,615nm,0.3s						
VIZE				*i* AML	AML	03 51 38.0	
	comp=E,271nm,0.6s						
PHSR	**Pinarhisar**	**1.01**	**200**	Pg	**Pg**	03 51 20.9	+0.3
KIRK	**Kırklareli**	**1.04**	**220**	P	**Pg**	03 51 20.7	-0.4
KIRK				S	**Sg**	03 51 35.0	+0.4
KIRK				*i* AML	AML	03 51 35.0	
	comp=N,540nm,0.9s						
KIRK				*i* AML	AML	03 51 38.0	
	comp=E,402nm,0.5s						
PSN	**Preselentsi**	**1.06**	**6**	Pg	**Pg**	03 51 22.1	+0.5
PSN				Sg	**Sn**	03 51 37.1	-0.2
PSN	**Preselentsi**	**1.06**	**6**	Pg	**Pn**	03 51 22.6	+0.3
PSN				Sg	**Sn**	03 51 36.9

DIM Sg **Sg** **03 52 01.4 +0.2**
SILT Sile 1.89 139 Pn **Pb** **03 51 35.5 -0.3**
TIRR Tirgusor 1.90 9 ⇑P **Pb** **03 51 35.8 -0.3**
TLBR Topalu 1.96 1 ⇓P **Pn** **03 51 36.2 +1.4**
TLBR ⇓S **Sb** **03 52 02.3 +0.6**
RKY Sarkoy-Tekirda 1.99 198 Pn **Pn** **03 51 35.6 +0.5**
LEHL Lehliu 2.08 336 ⇓P **Pb** **03 51 39.7 +0.6**
LEHL ⇑S **Sg** **03 52 07.6 -0.3**
AMRR Amara 2.08 347 ⇑P **Pb** **03 51 38.5 -0.7**
AMRR ⇑S **Sg** **03 52 07.0 -1.2**
HARR Harsova 2.11 359 ⇓P **Pb** **03 51 39.1 -0.5**
ARMT Armutlu 2.12 162 Pn **Pn** **03 51 37.9 +1.1**
PVL Pavlikeni 2.14 286 P **Pb** **03 51 40.6 +0.4**
PVL S **Sg** **03 52 10.0 0.0**
HRT Hereke 2.16 144 Pn **Pn** **03 51 39.1 +1.6**
KDZ Kurdzhali 2.19 245 Pn **Pn** **03 51 37.9 +0.1**
SGRR Singureni 2.20 319 ⇓P **Pb** **03 51 41.3 +0.1**
SGRR ⇑S **Sg** **03 52 11.0 -1.0**
ERIK Erikli-Kesan 2.21 211 Pn **Pn** **03 51 38.4 +0.4**
ALN Alexandroupoli 2.22 222 Pn **Pn** **03 51 38.4 +0.1**
EDC Edincik 2.23 182 Pn **Pn** **03 51 39.4 +1.0**
YLV Yalova 2.26 152 Pn **Pn** **03 51 40.4 +1.5**
YLV Yalova 2.26 152 P **Pb** **03 51 44.1 +1.8**
TPGR Topolog 2.30 8 ⇑S **Sb** **03 52 11.1 -0.3**
ENEZ Enez 2.30 217 Pn **Pn** **03 51 39.5 +0.2**
MDNY Mudanya-Bursa 2.31 163 Pn **Pn** **03 51 40.7 +1.2**
RDO Rodhopi 2.33 233 Pn **Pn** **03 51 40.1 +0.4**
KCTX Karacabey (Bur 2.33 173 Pn **Pn** **03 51 40.8 +1.0**
LPK Lapseki 2.39 203 Pn **Pn** **03 51 41.0 +0.4**
PLD Plovdiv 2.44 261 Pn **Pn** **03 51 42.2 +0.9**
PLD Plovdiv 2.44 261 *e*Pn **Pn** **03 51 43.1 +1.8**
PLD *e*Sn **Sn** **03 52 11.2 -0.1**
GELI Tayfur-Gelibol 2.46 208 Pn **Pn** **03 51 42.2 +0.7**
ADVT Abdulvahap 2.52 148 Pn **Pn** **03 51 44.0 +1.7**
SUSR Susurluk-Balik 2.62 178 Pn **Pn** **03 51 44.8 +1.1**
CANM Can-anakkale 2.66 196 Pn **Pn** **03 51 44.9 +0.6**
ISR Istrita 2.75 338 P **Pb** **03 51 51.8 +1.3**
EZN Ezine 3.02 205 P **Pg** **03 51 58.6 -0.6**
MPEP Malo Peshtene 3.21 285 P **Pg** **03 52 01.1 -1.7**
MLR Muntele Rosu 3.26 334 P **Pg** **03 52 03.2 -0.5**
VRI Vrincioaia 3.41 345 P **Pb** **03 52 03.5 +1.7**
PLOR3 Plostina Array 3.41 344 P **Pb** **03 52 04.3 +2.4**
VTS Vitosha 3.51 272 *e*Pn **Pn** **03 51 57.0 +0.9**
VTS *e*Sn **Sn** **03 52 37.8 -0.1**
VOIR 3.56 324 P **Pb** **03 52 04.1 -0.3**
SRS Serrai 3.59 247 *e*Pn **Pn** **03 51 56.5 -0.7**
SRS *e*Sn **Sn** **03 52 38.6 -1.2**
ZAPS Zavoj 3.99 282 *e*Pn **Pn** **03 52 03.7 +1.0**
ZAPS *e*Sn **Sn** **03 52 50.3 +0.7**
TESR Tescani 4.05 347 P **Pb** **03 52 09.5 -3.2**
TARU Tarkhankut 4.31 48 *e*S **Sn** **03 52 56.2 -1.1**
TARU Sm 03 52 59.1
comp=N,11nm,0.4s
TARU Sm 03 52 59.1
comp=E,18nm,0.8s
ZAGS Zajecar 4.38 288 *e*Pn **Pn** **03 52 08.8 +0.8**
ZAGS *e*Sn **Sn** **03 52 58.8 -0.4**
BARS Barje 4.56 275 *e*Pn **Pn** **03 52 11.2 +0.8**
BARS *e*Sn **Sn** **03 53 02.8 -0.7**
SEV Sevastopol' 4.57 63 *e*P **Pn** **03 52 10.0 -0.5**
SEV Pm 03 52 18.1
comp=Z,2.0nm,0.5s
SEV *e*S **Sn** **03 52 59.1 -4.6**
SEV Sm 03 53 01.9
comp=N,2.0nm,0.3s
SEV Sm 03 53 01.9
comp=E,3.0nm,0.5s
KUBS Kucevo 4.95 294 *e*Pn **Pn** **03 52 15.3 -0.4**
SELS Selova 5.09 280 *e*Pn **Pn** **03 52 18.5 +0.8**
SUDU Sudak 5.58 63 *e*P **Pn** **03 52 23.5 -0.9**
SUDU Pm 03 52 25.5
comp=Z,4.0nm,0.4s
SUDU *e*S **Sn** **03 53 24.1 -4.5**
SUDU Sm 03 53 26.5
comp=N,11nm,0.6s
SUDU Sm 03 53 26.5
comp=E,4.0nm,0.4s
IVAS Ivanjica 5.83 282 *e*Pn **Pn** **03 52 27.5 -0.4**
DIVS Divibare 6.03 287 *e*Pn **Pn** **03 52 30.8 +0.2**

---

*NEIC **06** 03:54:22.6±1.2, 32°.38S±0°.09×180°.0W±0°.2, h196km±6km, mb4.8/18, Error ellipse: s-maj=19.8km s-min=11.4km az=111.0*
*WEL **06** 03:54:24.5±0.5, 33°S±5°×17°.9W±°, h33km, mB5.5/12, ML5.1/15, MLv5.3/15, Mw(mB)5.0/12, Error ellipse: s-maj=12.8km s-min=4.2km az=113.4, confirmed*
*IDC **06** 03:54:26.0±1.8, 32°.16S×179°.93E, h234km±16km, mb3.9/14, mbtmp4.5/17, Error ellipse: s-maj=14.0km s-min=12.9km az=15.0*
ISC 06 03:54:22.1±0.4, **32°.38S**±0°.05×**179°.76W**±0°.07, **h200**km, **n194**, σ2°.01/188, **mb4.7**/30, **5C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.48**	**27**	P	**Pn**	**03 55 16.3**	**-1.2**
GLKZ				S	**Sn**	**03 55 58.4**	**-2.5**
RAO	**Raoul Island**	**3.49**	**27**	Pn	**Pn**	**03 55 20.0**	**+2.3**
RAO	**Raoul Island**	**3.49**	**27**	P	**Pn**	**03 55 20.7**	**+3.0**
	239nm,0.4s,baz=81,slow=23,SNR=3.8						
RAO				S	**Sn**	**03 55 55.8**	**-5.3**
	404nm,0.4s,baz=86,slow=23,SNR=2.3						
MXZ	**Matakaoa Point**	**5.41**	**197**	Pn	**Pn**	**03 55 41.5**	**-0.2**
MXZ	**Matakaoa Point**	**5.41**	**197**	P	**Pn**	**03 55 42.5**	**+0.8**
MXZ				S	**Sn**	**03 56 44.5**	**-0.1**
GRZ	**Great Barrier**	**5.53**	**224**	P	Pn	03 55 48.0	+4.8
GRZ				S	**Sn**	**03 56 53.6**	**+6.3**
WMGZ	**Waiomatatini S**	**5.63**	**195**	P	**Pn**	**03 55 46.0**	**+1.5**
WSRZ	**White Island S**	**5.71**	**205**	P	**Pn**	**03 55 49.5**	**+4.0**
WSRZ				S	**Sn**	**03 56 53.7**	**+2.0**
WIZ	**White Island**	**5.72**	**205**	P	**Pn**	**03 55 49.4**	**+3.8**
WIZ				S	**Sn**	**03 56 52.1**	**+0.5**
HAZ	**Te Kaha**	**5.73**	**200**	P	**Pn**	**03 55 47.4**	**+1.6**
HAZ				S	**Sn**	**03 56 51.9**	**-0.1**
KUZ	**Kuaotunu**	**5.74**	**219**	P	**Pn**	**03 55 49.6**	**+3.8**
PKGZ	**Pakihiroa**	**5.76**	**197**	P	**Pn**	**03 55 47.3**	**+1.2**
PKGZ				S	**Sn**	**03 56 53.3**	**+0.6**
MYRZ	**Mayor Island**	**5.89**	**213**	P	**Pn**	**03 55 51.7**	**+3.8**
PUZ	**Puketiti**	**5.91**	**195**	P	**Pn**	**03 55 48.8**	**+0.7**
RUGZ	**Raukumara Rang**	**5.96**	**200**	P	**Pn**	**03 55 50.3**	**+1.5**
RUGZ				S	**Sn**	**03 56 56.3**	**-1.2**
WCZ	**Waipu Caves**	**6.04**	**232**	P	Pn	03 55 54.7	+4.9
TWGZ	**Tauwhareparae**	**6.07**	**197**	P	**Pn**	**03 55 52.4**	**+2.1**
WIAZ	**Waiheke Island**	**6.10**	**222**	P	Pn	03 55 55.4	+4.9
OUZ	**Omahuta**	**6.22**	**241**	P	Pn	03 55 55.7	+3.6
OPRZ	**Ohinepanea**	**6.24**	**208**	P	**Pn**	**03 55 53.6**	**+1.3**
TGRZ	**Tauranga**	**6.26**	**210**	P	Pn	03 55 57.3	+4.8
MKAZ	**Moumakai**	**6.30**	**220**	P	Pn	03 55 58.0	+4.8
MARZ	**Manawahe**	**6.31**	**207**	P	Pn	03 55 58.8	+4.7
CNGZ	**Carnagh Statio**	**6.32**	**195**	P	**Pn**	**03 55 53.9**	**+0.6**
MWZ	**Matawai**	**6.34**	**200**	P	**Pn**	**03 55 53.7**	**0.0**
TKGZ	**Te Karaka**	**6.36**	**197**	P	**Pn**	**03 55 53.4**	**-0.4**
URZ	**Urewera**	**6.40**	**203**	P	**Pn**	**03 55 55.6**	**+1.2**
	66nm,0.3s,baz=357,slow=4.8,SNR=38						
URZ				S	**Sn**	**03 57 03.3**	**-4.4**
	215nm,0.5s,baz=90,slow=7.2,SNR=6.9						
URZ	**Urewera**	**6.40**	**203**	P	**Pn**	**03 55 54.8**	**+0.3**
RAGZ	**Rawiri**	**6.53**	**200**	P	**Pn**	**03 55 58.5**	**+2.4**
OMRZ	**Omania**	**6.53**	**208**	P	**Pn**	**03 55 59.6**	**+3.4**
RIGZ	**Rimuhau**	**6.63**	**197**	P	**Pn**	**03 55 56.7**	**-0.7**
RRRZ	**Republican Roa**	**6.68**	**206**	P	**Pn**	**03 56 02.0**	**+3.8**
MUGZ	**Murupara**	**6.71**	**204**	P	**Pn**	**03 56 00.9**	**+2.4**
RTZ	**Ruatahuna**	**6.77**	**202**	Pn	**Pn**	**03 55 58.8**	**-0.5**
RTZ	**Ruatahuna**	**6.77**	**202**	P	**Pn**	**03 55 59.4**	**+0.1**
PRGZ	**Paritu Road**	**6.81**	**196**	P	**Pn**	**03 55 59.6**	**-0.1**
SNGZ	**Shannon Statio**	**6.81**	**200**	P	**Pn**	**03 55 59.0**	**-0.8**
HRRZ	**Handcock Road**	**6.81**	**207**	P	**Pn**	**03 56 04.1**	**+4.2**
PRRZ	**Plateau Road**	**6.87**	**206**	P	**Pn**	**03 56 01.4**	**+0.9**
ALRZ	**Allen Road**	**6.94**	**206**	P	**Pn**	**03 56 02.8**	**+1.3**
KNZ	**Kokohu**	**6.95**	**197**	P	**Pn**	**03 56 03.3**	**+1.8**
WPRZ	**Whakapapatarin**	**6.97**	**207**	P	Pn	03 56 06.2	+4.3
RAHZ	**Arahi**	**7.01**	**201**	P	**Pn**	**03 56 02.1**	**-0.3**
MHGZ	**Mahia Peninsul**	**7.02**	**195**	P	**Pn**	**03 56 01.5**	**-1.0**
MTHZ	**Maungataniwha**	**7.03**	**202**	P	**Pn**	**03 56 02.7**	**+0.1**
TLZ	**Tolley Road**	**7.07**	**212**	P	Pn	03 56 08.1	+4.9
KUTZ	**Kaahu Road**	**7.08**	**209**	P	Pn	03 56 08.3	+5.0
WHHZ	**Waihua**	**7.12**	**199**	P	**Pn**	**03 56 04.4**	**+0.6**
NMHZ	**Naumai**	**7.26**	**202**	P	**Pn**	**03 56 06.1**	**+0.4**
WATZ	**Wairara**	**7.31**	**209**	P	**Pn**	**03 56 08.9**	**+2.7**
HATZ	**Hinemaiaia**	**7.32**	**206**	P	**Pn**	**03 56 09.5**	**+3.0**
ARHZ	**Aropaoanui**	**7.36**	**200**	P	**Pn**	**03 56 05.7**	**-1.2**
BKZ	**Black Stump Fm**	**7.43**	**203**	P	**Pn**	**03 56 06.9**	**-0.9**
RITZ	**Rihia Road**	**7.49**	**207**	P	**Pn**	**03 56 10.9**	**+2.3**
HIZ	**Hauiti**	**7.54**	**214**	P	**Pn**	**03 56 12.0**	**+2.8**
KATZ	**Kakaramea**	**7.55**	**208**	P	**Pn**	**03 56 12.8**	**+3.3**
MCHZ	**McNeill Hill**	**7.62**	**201**	P	**Pn**	**03 56 10.5**	**+0.3**
NTVZ	**North Tongarir**	**7.67**	**208**	P	**Pn**	**03 56 11.2**	**+0.2**
TMVZ	**Te Maari**	**7.67**	**207**	P	**Pn**	**03 56 12.7**	**+1.6**
KRVZ	**Karewarewa**	**7.67**	**208**	P	**Pn**	**03 56 13.2**	**+2.1**
ETVZ	**East Tongariro**	**7.68**	**207**	P	**Pn**	**03 56 13.7**	**+2.5**
KWHZ	**Kaweka Forest**	**7.68**	**203**	P	**Pn**	**03 56 10.1**	**-1.1**
CKHZ	**Cape Kidnapper**	**7.70**	**199**	P	**Pn**	**03 56 11.2**	**-0.2**
WTVZ	**West Tongariro**	**7.71**	**208**	P	**Pn**	**03 56 13.4**	**+1.8**
NNVZ	**North Ngauruho**	**7.72**	**208**	P	**Pn**	**03 56 13.6**	**+1.9**
OTVZ	**Oturere**	**7.72**	**208**	P	**Pn**	**03 56 11.6**	**-0.2**
TWVZ	**Taurewa**	**7.74**	**209**	P	**Pn**	**03 56 13.1**	**+1.2**
SNVZ	**South Ngauruho**	**7.75**	**208**	P	**Pn**	**03 56 11.2**	**-1.0**
NGZ	**Ngauruhoe**	**7.76**	**208**	P	**Pn**	**03 56 14.1**	**+1.9**
COVZ	**Chateau Observ**	**7.80**	**208**	P	**Pn**	**03 56 15.4**	**+2.6**
TUVZ	**Tukino**	**7.82**	**207**	P	**Pn**	**03 56 14.6**	**+1.5**
FWVZ	**Far West T-bar**	**7.85**	**208**	P	**Pn**	**03 56 13.0**	**-0.5**
MAVZ	**Matarangi**	**7.86**	**208**	P	**Pn**	**03 56 14.3**	**+0.7**
WHVZ	**Whangaehu Hut**	**7.86**	**207**	P	**Pn**	**03 56 15.6**	**+2.0**
KAHZ	**Kahuranaki**	**7.89**	**199**	P	**Pn**	**03 56 12.0**	**-1.8**
TRVZ	**Turoa**	**7.89**	**208**	P	**Pn**	**03 56 15.5**	**+1.5**
WNVZ	**Wahianoa**	**7.89**	**207**	P	**Pn**	**03 56 14.0**	**0.0**
KRHZ	**Kereru**	**7.90**	**202**	P	**Pn**	**03 56 12.2**	**-1.8**
MOVZ	**Moawhango**	**7.90**	**206**	P	**Pn**	**03 56 14.2**	**+0.1**
PKVZ	**Pokaka**	**7.96**	**209**	P	**Pn**	**03 56 15.8**	**+1.1**
MTVZ	**Mangateitei**	**7.99**	**208**	P	**Pn**	**03 56 15.1**	**-0.1**
VRZ	**Vera Road**	**8.07**	**212**	P	**Pn**	**03 56 19.7**	**+3.6**
PXZ	**Pawanui**	**8.11**	**199**	P	**Pn**	**03 56 15.9**	**-0.8**
PNHZ	**Pukenui**	**8.20**	**202**	P	**Pn**	**03 56 16.8**	**-1.1**
WPHZ	**Waipukurau**	**8.26**	**201**	P	**Pn**	**03 56 19.3**	**+0.7**
PRHZ	**Porangahau**	**8.39**	**199**	P	**Pn**	**03 56 20.0**	**-0.3**
TSZ	**Takapari Road**	**8.41**	**203**	P	**Pn**	**03 56 19.5**	**-1.1**
PKE	**Pukeiti**	**8.49**	**215**	P	**Pn**	**03 56 25.6**	**+3.9**
NEZ	**North Egmont**	**8.50**	**214**	P	**Pn**	**03 56 25.7**	**+3.9**
WAZ	**Wanganui**	**8.50**	**209**	P	**Pn**	**03 56 22.4**	**+0.6**
LREZ	**Lake Rotokare**	**8.51**	**212**	P	**Pn**	**03 56 23.4**	**+1.6**
KHEZ	**Kahui Hut**	**8.55**	**214**	P	**Pn**	**03 56 25.7**	**+3.2**
DVHZ	**Dannevirke**	**8.56**	**201**	P	**Pn**	**03 56 22.3**	**-0.3**
NBEZ	**Newall Road No**	**8.61**	**215**	P	Pn	03 56 27.7	+4.6
ANWZ	**Angora Road**	**8.62**	**200**	P	**Pn**	**03 56 24.1**	**+0.8**
POWZ	**Post Office Ro**	**8.77**	**203**	P	**Pn**	**03 56 24.8**	**-0.4**
POWZ				S	**Sn**	**03 57 57.0**	**-6.7**
PRWZ	**Pori Road**	**8.86**	**202**	P	**Pn**	**03 56 25.2**	**-1.2**
PRWZ				S	**Sn**	**03 57 59.6**	**-6.0**
BFZ	**Birch Farm**	**8.89**	**200**	P	**Pn**	**03 56 26.1**	**-0.7**
MRZ	**Mangatainoka R**	**9.08**	**203**	P	**Pn**	**03 56 27.9**	**-1.4**
TIWZ	**Tintock**	**9.08**	**201**	P	**Pn**	**03 56 28.9**	**-0.4**
CPWZ	**Castlepoint**	**9.11**	**200**	P	**Pn**	**03 56 30.2**	**+0.5**
HOWZ	**Holdsworth Sta**	**9.31**	**203**	P	**Pn**	**03 56 29.5**	**-2.8**
TMWZ	**Te Maipa**	**9.38**	**201**	P	**Pn**	**03 56 31.7**	**-1.5**
MTW	**Mount Morrison**	**9.55**	**202**	P	**Pn**	**03 56 33.3**	**-2.1**
TRWZ	**Traveller**	**9.71**	**201**	P	**Pn**	**03 56 34.5**	**-2.9**
PAWZ	**Paruwai Farm**	**9.78**	**202**	P	**Pn**	**03 56 36.2**	**-2.2**
MSWZ	**Moikau Station**	**9.87**	**202**	P	**Pn**	**03 56 34.9**	**-4.6**
MSWZ				S	Sn	03 58 19.5	-10
BHW	**Baring Head**	**9.98**	**204**	P	**Pn**	**03 56 38.5**	**-2.5**
PLWZ	**Palliser**	**10.00**	**202**	P	**Pn**	**03 56 38.3**	**-3.0**
TKNZ	**Takaka Hill**	**10.43**	**212**		**Pn**	**03 56 44.5**	**-2.2**
CTZ	**Chatham Island**	**11.60**	**169**	P	**P**	**03 57 07.7**	**+0.6**
CTZ				S	**Sn**	**03 59 10.0**	**-1.0**
MSVF	**Nonsavu**	**14.72**	**352**	P	**Pn**	**03 57 40.1**	**-0.9**
	40nm,0.8s,baz=166,slow=6.5,SNR=13						
DZM	**Mont Dzumac**	**15.99**	**307**	P	**P**	**03 57 54.9**	**-1.1**
DZM				IAmb	IAmb	03 57 59.0	
	comp=Z,17nm,0.9s						
DZM	**Mont Dzumac**	**15.99**	**307**	P	**P**	**03 57 52.9**	**-3.1**
	comp=Z,16nm,0.8s,baz=150,slow=13,SNR=7.1						
STKA	**Stephens Creek**	**32.62**	**260**	P	**P**	**04 00 34.0**	**-1.0**
STKA				IAmb	IAmb	04 00 36.8	
	comp=Z,22nm,1.7s						
STKA	**Stephens Creek**	**32.62**	**260**	P	**P**	**04 00 33.8**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=101,slow=11,SNR=5.2						
	comp=Z,2.7nm,0.7s						
BBOO	**Buckleboo**	**37.02**	**257**	P	**P**	**04 01 11.8**	**-0.9**
BBOO				IAmb	IAmb	04 01 54.1	
	comp=Z,32nm,1.6s						
XMAS	**Kiritimati**	**40.23**	**36**	P	**P**	**04 01 40.4**	**+0.9**
AS31	**Alice Springs**	**41.55**	**270**	P	**P**	**04 01 49.5**	**-0.8**
ASAR	**Alice Springs**	**41.55**	**270**	P	**P**	**04 01 49.4**	**-0.9**
	comp=Z,7.2nm,0.7s,baz=106,slow=7.7,SNR=48						
ASAR				S	**S**	**04 07 44.8**	**-6.4**
	comp=Z,1.7nm,1.0s,baz=119,slow=15,SNR=6.1						
	comp=Z,7.2nm,0.7s						
WRA	**Warramunga Arr**	**42.73**	**275**	P	**P**	**04 01 58.5**	**-1.3**
	comp=Z,3.4nm,0.3s,baz=113,slow=8.1,SNR=12						
	comp=Z,3.4nm,0.3s						
WB0	**Warramunga Arr**	**42.76**	**276**	P	**P**	**04 01 59.1**	**-0.9**
FORT	**Forrest**	**44.12**	**258**	P	**P**	**04 02 09.3**	**-1.5**
FORT				IAmb	IAmb	04 02 11.3	
	comp=Z,22nm,0.9s						
KNRA	**Kununurra**	**49.41**	**277**	P	**P**	**04 02 50.8**	**-1.1**
KNRA				IAmb	IAmb	04 03 34.0	
	comp=Z,63nm,1.6s						
CCD	**Concordia, Ant**	**50.64**	**196**	P	**P**	**04 03 01.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**50.90**	**272**	P	**P**	**04 03 02.2**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=128,slow=9.2,SNR=2.0						
	comp=Z,4.8nm,1.0s						
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**04 03 54.2**	**+2.4**
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**04 03 54.6**	**+2.8**
	comp=Z,54nm,0.7s,baz=26,slow=1.5,SNR=118						
QSPA	**South Pole Qui**	**57.74**	**180**	P	**P**	**04 03 54.5**	**+2.7**
BELA	**Belgrano 2**	**68.03**	**173**	P	**P**	**04 05 00.5**	**+1.2**
BELA				IAmb	IAmb	04 05 01.6	
	comp=Z,19nm,0.9s						
SYO	**Syowa Base**	**74.85**	**194**	⇓*e*P	**P**	**04 05 39.6**	**-0.5**
TROLL	**Troll, Antarti**	**75.89**	**181**	P	**P**	**04 05 47.2**	**+1.0**
TROLL	**Troll, Antarti**	**75.89**	**181**	⇑P	**P**	**04 05 47.2**	**+1.0**
	comp=Z,349nm,0.5s						
SNAA	**Sanae**	**76.22**	**179**	P	**P**	**04 05 49.0**	**+1.1**
SNAA	**Sanae**	**76.22**	**179**	P	**P**	**04 05 48.9**	**+0.9**
SNAA				IAmb	IAmb	04 05 50.0	
	comp=Z,33nm,1.2s						
SNAA	**Sanae**	**76.22**	**179**	⇑P	**P**	**04 05 49.0**	**+1.1**
	comp=Z,340nm,1.0s						
SNAA	**Sanae**	**76.22**	**179**	P	**P**	**04 05 48.6**	**+0.7**
	comp=Z,16nm,1.0s,baz=192,slow=4.7,SNR=29						
	comp=Z,16nm,1.0s						
VNA3	**Neumayer Olymp**	**76.43**	**177**	P	**P**	**04 05 50.2**	**+1.1**
VNA3	**Neumayer Olymp**	**76.43**	**177**	⇑P	**P**	**04 05 50.2**	**+1.1**
	comp=Z,52nm,0.7s						
VNA2	**Neumayer--Watz**	**76.84**	**177**	P	**P**	**04 05 52.7**	**+1.3**
	baz=179,slow=5.7						
VNA2	**Neumayer--Watz**	**76.84**	**177**	⇑P	**P**	**04 05 52.7**	**+1.3**
	comp=Z,31nm,0.5s,baz=179,slow=5.7						
VNA1	**Neumayer--Stat**	**77.08**	**177**	P	**P**	**04 05 54.2**	**+1.5**
VNA1	**Neumayer--Stat**	**77.08**	**177**	⇑P	**P**	**04 05 54.2**	**+1.5**
	comp=Z,44nm,1.1s						
MJAR	**Matsushiro Arr**	**79.04**	**327**	P	**P**	**04 06 01.8**	**-2.0**
	comp=Z,1.3nm,0.3s,baz=155,slow=4.5,SNR=6.3						
	comp=Z,1.3nm,0.3s						
JSD	**Sado**	**80.23**	**328**	P	**P**	**04 06 10.2**	**+0.1**
H03S2	**Juan Fernandez**	**80.61**	**124**	T	T	05 35 38.4	
	baz=235,slow=74,SNR=3.6						
H03S1	**Juan Fernandez**	**80.63**	**124**	T	T	05 35 35.3	
	baz=235,slow=74,SNR=3.6						
H03S3	**Juan Fernandez**	**80.63**	**124**	T	T	05 35 33.6	
	baz=235,slow=74,SNR=3.2						
H03N3	**Juan Fernandez**	**80.82**	**124**	T	T	05 35 46.0	
	baz=240,slow=72,SNR=10						
H03N2	**Juan Fernandez**	**80.82**	**124**	T	T	05 35 40.1	
	baz=240,slow=72,SNR=7.0						
H03N1	**Juan Fernandez**	**80.84**	**124**	T	T	05 35 45.0	
	baz=240,slow=72,SNR=15						
ERM	**Erimo**	**81.51**	**333**	P	**P**	**04 06 17.1**	**+0.3**
PLCA	**Paso Flores**	**82.25**	**134**	P	**P**	**04 06 22.8**	**+1.6**
PLCA	**Paso Flores**	**82.25**	**134**	P	**P**	**04 06 23.8**	**+2.7**
	comp=Z,1.3nm,0.7s,baz=244,slow=4.2,SNR=5.4						
	comp=Z,1.3nm,0.7s						
ASAJ	**Asahikawa**	**83.52**	**334**	P	**P**	**04 06 26.9**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=164,slow=7.4,SNR=4.1						
	comp=Z,5.2nm,0.6s						
KSRS	**Korea Array**	**84.90**	**321**	P	**P**	**04 06 34.7**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=139,slow=5.5,SNR=9.6						
	comp=Z,2.4nm,0.7s						
KSAR	**Wonju Array Be**	**84.91**	**321**	P	**P**	**04 06 34.5**	**+0.1**
YSS	**Yuzhno-Sakhali**	**85.89**	**335**	P	**P**	**04 06 39.2**	**+0.2**
YSS				IAmb	IAmb	04 06 41.4	
	comp=Z,24nm,0.9s						
NJ2	**Nanjing**	**86.41**	**312**	*e*P	**P**	**04 06 45.0**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,150nm,3.8s						
PEA0B	**Petropavlovsk-**	**87.37**	**347**		**P**	**04 06 46.0**	**+0.1**
PETK	**Petropavlovsk-**	**87.37**	**347**	P	**P**	**04 06 46.4**	**+0.5**
PETK	**Petropavlovsk-**	**87.37**	**347**	P	**P**	**04 06 46.2**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=128,slow=8.0,SNR=7.8						
	comp=Z,6.3nm,0.7s						
USRK	**Ussurisyk Ar.**	**88.00**	**328**	P	**P**	**04 06 48.9**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=121,slow=5.7,SNR=4.4						
	comp=Z,2.2nm,0.8s						
O02D	**Mt. Diablo Mer**	**89.37**	**40**	P	**P**	**04 06 57.3**	**+1.4**
O02D				IAmb	IAmb	04 07 14.7	
	comp=Z,25nm,1.6s						
NVAR	**Mina Array Bea**	**90.70**	**44**	P	**P**	**04 07 03.4**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=222,slow=7.7,SNR=12						
	comp=Z,1.3nm,0.7s						
CN2	**Changchun**	**90.83**	**324**	*e*P	P	04 06 55.0	-7.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PINE	**Pine Mountain**	**92.88**	**38**	P	**P**	**04 07 13.0**	**+0.9**
PINE				IAmb	IAmb	04 07 14.3	
	comp=Z,6.6nm,0.8s						
TXAR	**Lajitas Array**	**94.71**	**58**	P	**P**	**04 07 21.8**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=212,slow=6.8,SNR=4.3						
	comp=Z,0.5nm,1.0s						
PZH	**PanZhiHua**	**94.90**	**298**	P	**P**	**04 07 22.4**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,7.2s						
HHC	**Hu-ho-hao-te**	**96.54**	**315**	*e*P	**P**	**04 07 31.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
PDAR	**Pinedale Array**	**98.60**	**44**	P	**P**	**04 07 37.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=250,slow=8.1,SNR=2.9						
	comp=Z,0.5nm,0.9s						
LZH	**Lanzhou**	**98.71**	**307**	*e*P	Pdif	04 07 43.1	+4.3
LZH				pP	pwP	04 08 30.2	-1.4
LZH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ILAR	**Eielson Array**	**100.19**	**14**	P	**Pdif**	**04 07 44.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=205,slow=4.4,SNR=6.9						
MKAR	**Makanchi Array**	**117.88**	**310**	PKP	**PKPdf**	**04 12 42.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=224,slow=2.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**118.50**	**318**	PKP	**PKPdf**	**04 12 42.3**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=1.9						
KURBB	**Kurchatov Arra**	**121.35**	**313**	PKP	**PKPdf**	**04 12 48.8**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=106,slow=1.8,SNR=10						
BVAR	**Borovoye Array**	**126.75**	**315**	PKP	**PKPdf**	**04 12 59.5**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=132,slow=6.2,SNR=6.1						
KBZ	**Khabaz**	**144.91**	**301**	PKP	PKPbc	04 13 34.4	-0.3
	comp=Z,2.4nm,0.8s,baz=104,slow=4.2,SNR=5.4						
FIA1	**FINESS Array S**	**146.44**	**338**		**PKPdf**	**04 13 37.3**	**+0.3**
**

PHSR				Sg	Sn	03 59 36.9	-0.7
JMB	**Yambol**	**1.03**	**265**	Pg	Pn	03 59 24.2	+0.2
JMB				Sg	Sn	03 59 39.4	+1.0
PSN	**Preselentsi**	**1.06**	**9**	Pg	Pn	03 59 24.1	-0.4
PSN				Sg	Sn	03 59 39.0	-0.3
PSN	**Preselentsi**	**1.06**	**9**	P	Pg	03 59 24.4	+0.4
PSN				S	Sn	03 59 39.0	-0.3
EDRB	**Edirne**	**1.14**	**230**	Pn	Pg	03 59 25.2	-0.2
EDRB				Sn	Sn	03 59 41.6	+0.4
CTYL	**Yalikoy Yolu**	**1.14**	**166**	Pn	Pg	03 59 25.7	+0.3
MANR	**Mangalia**	**1.33**	**21**	⇑P	Pg	03 59 29.1	+0.1
MANR				⇑S	Sg	03 59 46.8	+0.6
SLVT	**Silivri**	**1.37**	**171**	Pn	Pb	03 59 29.1	-0.1
SLVT				Sn	Sg	03 59 47.5	-0.1
CTKS	**Kestanelik-??a**	**1.42**	**162**	Pn	Pb	03 59 29.7	-0.3
CTKS				Sn	Sg	03 59 48.6	-0.5
ICOR	**Ion Corvin**	**1.54**	**357**	⇑P	Pb	03 59 32.4	+0.4
ICOR				⇑S	Sg	03 59 53.8	+0.9
BGKT	**Bogazkoy**	**1.54**	**155**	Pn	Pb	03 59 31.5	-0.6
BGKT				Sn	Sb	03 59 51.7	+0.1
ELND	**Elena**	**1.54**	**284**	⇓P	Pg	03 59 33.6	+0.5
MFTR	**Murfatlar**	**1.64**	**13**	⇑P	Pb	03 59 33.3	-0.5
MFTR				⇓S	Sb	03 59 55.3	+0.9
ISK	**Istanbul-Kandi**	**1.74**	**150**	Pn	Pb	03 59 34.3	-1.2
UKOP	**Uzunkopru-Edir**	**1.74**	**214**	Pn	Pb	03 59 34.5	-1.0
KAVV	**Kandilli-Istan**	**1.74**	**150**	Pn	Pb	03 59 34.7	-0.8
CVDA	**Cernavoda**	**1.75**	**3**	⇑S	Sg	03 59 59.0	-0.8
TIRR	**Tirgusor**	**1.91**	**11**	⇑P	Pb	03 59 38.0	-0.4
TIRR				⇓S	Sb	04 00 02.7	+0.4
TLBR	**Topalu**	**1.96**	**3**	⇑P	Pb	03 59 38.6	-0.7
TLBR				⇓S	Sb	04 00 04.7	+0.9
LEHL	**Lehliu**	**2.05**	**337**	⇑S	Sg	04 00 10.0	+0.6
AMRR	**Amara**	**2.07**	**348**	⇑S	Sg	04 00 09.0	-1.0
KDZ	**Kurdzhali**	**2.14**	**244**	Pn	Pn	03 59 40.2	+0.9
SGRR	**Singureni**	**2.17**	**320**	⇓S	Sg	04 00 12.3	-0.8
ERIK	**Erikli-Kesan**	**2.18**	**209**	Pn	Pn	03 59 40.6	+0.8
ALN	**Alexandroupoli**	**2.19**	**220**	Pn	Pn	03 59 40.9	+1.0
RDO	**Rodhopi**	**2.29**	**232**	Pn	Pn	03 59 42.3	+1.1
TPGR	**Topolog**	**2.30**	**9**	⇑S	Sb	04 00 13.9	+0.3
KCTX	**Karacabey (Bur**	**2.34**	**172**	Pn	Pn	03 59 42.7	+0.7
SULR		**2.42**	**331**	⇑P	Pb	03 59 46.4	-0.6
CFR	**Carcaliu**	**2.60**	**3**	⇓S	Sb	04 00 20.7	-1.4
SUSR	**Susurluk-Balik**	**2.62**	**177**	Pn	Pn	03 59 46.8	+0.9
TLCR		**2.68**	**14**	⇑S	Sn	04 00 21.6	+2.4

RSNC 06 03:59:38.5±0.0, 7°N±1°×7°4W±°, h104km±2km, M2.1, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.36**	**82**	P	Pn	03 59 53.7	-0.4
BARC				S	Sn	04 00 05.2	-0.6
BRJC	**Barrancabermej**	**0.48**	**335**	P	Pn	03 59 53.7	-0.9
BRJC				S	Sn	04 00 06.6	0.0
RUSC	**La Rusia**	**0.79**	**145**	P	Pn	03 59 56.6	-1.1
RUSC				S	Sn	04 00 10.9	-1.1
PTBC	**PUERTO BERRIO,**	**0.91**	**270**	P	Pn	03 59 56.5	-1.8
PTBC				S	Sn	04 00 11.3	-1.9
SPBC	**San Pablo de B**	**1.03**	**211**	P	Pn	03 59 58.6	-1.1
SPBC				S	Sn	04 00 15.0	-0.6
PAMC	**Pamplona, Colo**	**1.15**	**46**	P	Pn	04 00 00.4	-1.0
PAMC				S	Sn	04 00 17.8	-0.8
ZARC	**Zaragoza, Cauc**	**1.61**	**306**	P	Pn	04 00 05.6	-0.8
ZARC				S	Sn	04 00 27.6	0.0
NORC	**Norcasia**	**1.64**	**234**	P	Pn	04 00 04.9	-1.9
NORC				S	Sn	04 00 27.3	-0.9
OCAC	**Ocana**	**1.70**	**7**	P	Pn	04 00 07.3	-0.4
OCAC				S	Sn	04 00 29.0	-0.8
TAMC	**Tame, Arauca**	**1.74**	**93**	P	Pn	04 00 06.6	-1.4
TAMC				S	Sn	04 00 29.3	-1.2
ROSC	**El Rosal**	**1.86**	**205**	P	Pn	04 00 10.1	+0.3
ROSC				S	Sn	04 00 32.2	-1.4
CHIC	**Chingaza**	**1.91**	**186**	P	Pn	04 00 09.3	-1.2
CHIC				S	Sn	04 00 34.4	-0.4
GUY2C	**Guyana, Caldas**	**2.24**	**234**	P	Pn	04 00 14.7	-0.1
GUY2C				S	Sn	04 00 43.4	+1.0
UREC	**San Jos de Ur**	**2.31**	**301**	P	Pn	04 00 13.0	-2.3
UREC				S	Sn	04 00 42.1	-1.5
VILC	**Villavicencio,**	**2.42**	**184**	P	Pn	04 00 15.8	-1.0
VILC				S	Sn	04 00 45.5	-0.6
CBOC	**Ciudad Bolivar**	**2.55**	**255**	P	Pn	04 00 18.1	-0.4
CBOC				S	Sn	04 00 48.2	-1.1
DBBC	**Dabeiba**	**2.69**	**280**	P	Pn	04 00 19.5	-0.9
DBBC				S	Sn	04 00 51.6	-1.0
PRAC	**Prado**	**3.11**	**206**	P	Pn	04 00 24.9	-1.0
ORTC	**Ortega, Tolima**	**3.12**	**213**	P	Pn	04 00 25.3	-0.7
ORTC				S	Sn	04 01 03.1	+0.5
PLMC	**San Jos del P**	**3.18**	**239**	P	Pn	04 00 25.7	-1.1
PLMC				S	Sn	04 01 03.7	-0.3
ARGC	**Ariguani, Magd**	**3.37**	**348**	P	Pn	04 00 27.8	-1.5
ARGC				S	Sn	04 01 09.2	+0.6
SJCC	**San Jacinto, C**	**3.71**	**334**	P	Pn	04 00 31.4	-2.5
SJCC				S	Sn	04 01 13.4	-3.4

*ISK **06** 04:00:08.8, 42°.60N×27°.87E, h9km, ML2.5/11*
*SOF **06** 04:00:08.7, 42°.57N±0°.02×27°.96E±0°.03, h10km±2km, MD2.3/3*
ISC 06 04:00:08.9±1.2, 42°.58N±0°.02×27°.94E±0°.04, h10km±10km, n27, σ0s73/41, 6C-8D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVR	**AVREN**	**0.57**	**339**	Pg	Pb	04 00 21.0	0.0
AVR				Sg	Sb	04 00 30.5	+1.2
ROIA	**ROIAK**	**0.66**	**321**	Pg	Pg	04 00 21.6	0.0
ROIA				Sg	Sn	04 00 33.2	-1.5
PRD	**Provadia**	**0.70**	**326**	Pg	Pb	04 00 23.6	+0.5
PRD				Sg	Sn	04 00 35.0	-0.7
NEF	**NEVSHA**	**0.84**	**324**	Pg	Pn	04 00 26.2	-0.6
NEF				Sg	Sn	04 00 38.8	-0.4
PHSR	**Pinarhisar**	**1.00**	**198**	Pg	Pn	04 00 28.5	-0.5
PHSR				Sg	Sn	04 00 43.3	+0.1
JMB	**Yambol**	**1.05**	**265**	Pg	Pn	04 00 29.5	-0.1
JMB				Sg	Sn	04 00 44.6	+0.3
PSN	**Preselentsi**	**1.06**	**8**	Pg	Pb	04 00 29.4	0.0
PSN				Sg	Sn	04 00 44.9	+0.2
PSN	**Preselentsi**	**1.06**	**8**	Pg	Pn	04 00 29.7	-0.2
PSN				Sg	Sb	04 00 43.8	+0.5
EDRB	**Edirne**	**1.16**	**231**	Pn	Pg	04 00 30.6	-0.5
EDRB				Sn	Sn	04 00 46.4	-0.5
MANR	**Mangalia**	**1.32**	**21**	⇑P	Pn	04 00 33.4	0.0
MANR				⇑S	Sg	04 00 51.5	+0.1
SLVT	**Silivri**	**1.37**	**172**	Pn	Pb	04 00 34.7	+0.2
SLVT				Sn	Sg	04 00 52.8	0.0
CTKS	**Kestanelik-??a**	**1.41**	**162**	Pn	Pb	04 00 35.4	+0.1
BGKT	**Bogazkoy**	**1.53**	**156**	Pn	Pb	04 00 37.1	-0.2
ELND	**Elena**	**1.56**	**283**	⇓S	Sg	04 01 00.9	+1.8
EFOR	**EFORIE**	**1.58**	**18**	⇓S	Sb	04 00 58.6	+0.5
MFTR	**Murfatlar**	**1.63**	**12**	⇑P	Pb	04 00 38.7	-0.4
MFTR				⇓S	Sb	04 01 00.5	+0.8
ISK	**Istanbul-Kandi**	**1.73**	**151**	Pn	Pb	04 00 40.1	-0.6
UKOP	**Uzunkopru-Edir**	**1.75**	**214**	Pn	Pb	04 00 40.0	-1.1
TIRR	**Tirgusor**	**1.91**	**10**	⇓P	Pn	04 00 42.4	+1.0
TIRR				⇑S	Sb	04 01 07.3	-0.2
TLBR	**Topalu**	**1.96**	**2**	⇓P	Pn	04 00 43.0	+0.8
TLBR				⇓S	Sb	04 01 08.9	-0.3
LEHL	**Lehliu**	**2.06**	**337**	⇓S	Sb	04 01 12.9	+0.9
AMRR	**Amara**	**2.07**	**348**	⇓S	Sg	04 01 14.4	-1.1
KDZ	**Kurdzhali**	**2.16**	**245**	Pn	Pn	04 00 45.1	+0.2
RDO	**Rodhopi**	**2.30**	**232**	Pn	Pn	04 00 47.4	+0.6
CFR	**Carcaliu**	**2.60**	**3**	⇑S	Sb	04 01 26.4	-1.1
SUSR	**Susurluk-Balik**	**2.62**	**178**	Pn	Pn	04 00 52.8	+1.5
TLCR		**2.68**	**13**	⇑S	Sb	04 01 29.7	0.0

HEL 06 04:09:37.2±0.4, 67°.67N×33°.65E, h0km, ML1.1, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.45**	**58**	PG	Pg	04 09 45.5	-0.2
LVZ				SG	Sg	04 09 49.5	-2.0
VRF	**Varrio**	**1.54**	**275**	PG	Pn	04 10 04.6	-1.4
VRF				MSG		04 10 23.6	
	comp=Z,1.7nm,0.2s						
VRF				SG	Sn	04 10 24.0	-2.7
RAJF	**Raja-Jooseppi**	**2.17**	**295**	SN	Sn	04 10 40.5	-1.4
KU6	**Riekki**	**2.22**	**224**	PG	Pn	04 10 16.2	+1.0
KU6				MSG		04 10 43.0	
	comp=Z,0.5nm,0.2s						
KU6				SG	Sb	04 10 45.8	-0.4
MSF	**Maaselka**	**2.54**	**228**	SG	Sb	04 10 56.8	+1.5
KMNF	**Kaamanen**	**2.88**	**304**	PB	Pn	04 10 24.6	+0.4
RNF	**Rovaniemi**	**3.17**	**254**	SN	Sn	04 11 05.8	-0.8
KEV	**Kevo**	**3.21**	**314**	PN	Pn	04 10 28.1	-0.7
ERTU	**Ertsjaerv**	**4.61**	**261**	SN	Sn	04 11 41.0	-1.2

KOLA 06 04:10:00.7, 67°.63N×33°.79E, h0km, ML1.4, Error ellipse: s-maj=3.0km s-min=1.3km az=140.0, Khibiny, mines Rasvumchorr, Central, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**246**	P	Pg	04 10 03.8	0.0
APA				S	Sg	04 10 05.5	-0.3
APA0	**Apatity Array**	**0.31**	**265**	P	Pg	04 10 05.8	-0.8
APA0				S	Sg	04 10 09.8	-0.7
LVZ	**Lovozero**	**0.42**	**51**	S	Sg	04 10 13.9	-0.4
KVDA	**Kovda**	**1.01**	**201**	S	Sg	04 10 31.9	-1.3
TERR	**Teriberka**	**1.65**	**17**	S	Sn	04 10 50.7	-2.0
PRVG	**Vayda Guba**	**2.20**	**345**	S	Sb	04 11 08.1	-1.1
ARCES	**ARCESS Array B**	**3.59**	**306**	P	Pn	04 10 56.5	-1.0

*IDC **06** 04:10:01.0±4.1, 51°.77N×157°.12E, h126km±26km, mb2.9/3, mbtmp3.2/3, Error ellipse: s-maj=58.6km s-min=25.7km az=177.0*
*KRSC **06** 04:10:01.1±1.2, 51°.86N×157°.42E, h126km±8km, Ml3.5*
ISC 06 04:10:01.6±1.1, 51°.83N±0°.08×157°.34E±0°.10, h129km±7km, n19, σ0s77/25, mb2.9/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.46**	**93**	*eP*	**Pn**	**04 10 20.1**	**-0.2**
KDTR				*eS*	**Sn**	**04 10 33.9**	**-0.5**
PAU	**Pauzhetka**	**0.49**	**222**	*eP*	**Pn**	**04 10 21.0**	**+0.6**
ASAK	**Asacha**	**0.65**	**32**	*eP*	**Pn**	**04 10 22.1**	**+0.5**
GRL	**Gorelyy**	**0.85**	**32**	*eP*	**Pn**	**04 10 23.5**	**+0.3**
RUS	**Russkaya**	**0.94**	**50**	*eP*	**Pn**	**04 10 23.7**	**-0.1**
RUS				*eS*	**Sn**	**04 10 40.3**	**-0.4**
APC	**Apacha**	**1.10**	**354**	*eP*	**Pn**	**04 10 25.4**	**+0.1**
APC				*eS*	**Sn**	**04 10 43.2**	**-0.2**
KRMR	**Karymshinskiy**	**1.11**	**26**	*eP*	**Pn**	**04 10 25.3**	**-0.1**
PETK	**Petropavlovsk-**	**1.29**	**10**	P	**Pn**	**04 10 26.8**	**-0.6**
	54nm,0.4s,baz=203,slow=14,SNR=68						
PETK				S	**Sn**	**04 10 47.9**	**+0.9**
	23nm,0.7s,baz=192,slow=21,SNR=7.7						
DALK	**Dalny**	**1.48**	**35**	*eP*	**Pn**	**04 10 29.5**	**+0.3**
UGLR	**Uglovaya**	**1.65**	**33**	*eP*	**Pn**	**04 10 32.2**	**+0.8**
UGLR				*eS*	**Sn**	**04 10 54.9**	**+0.8**
KOK	**Koryaka**	**1.66**	**28**	*eP*	**Pn**	**04 10 32.6**	**+1.1**
AVH	**Avacha**	**1.67**	**30**	*eP*	**Pn**	**04 10 32.9**	**+1.3**
KRX	**Arik**	**1.72**	**27**	*eP*	**Pn**	**04 10 32.6**	**+0.3**
NLC	**Nalytchevo**	**1.81**	**42**	*eP*	**Pn**	**04 10 32.7**	**-0.5**
NLC				*eS*	**Sn**	**04 10 55.6**	**-1.7**
GNL	**Ganaly**	**1.90**	**11**	*eP*	**Pn**	**04 10 34.5**	**+0.2**
ESO	**Esso**	**4.18**	**11**	*eP*	**Pn**	**04 11 03.4**	**-0.2**
ILAR	**Eielson Array**	**30.89**	**44**	P	**P**	**04 16 05.2**	**-0.2**
	0.2nm,0.9s,baz=275,slow=8.4,SNR=4.3						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**47.17**	**295**	P	**P**	**04 18 19.6**	**-1.1**
	0.1nm,0.5s,baz=58,slow=6.8,SNR=4.9						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**72.69**	**65**	P	**P**	**04 21 16.5**	**+1.2**
	0.3nm,0.5s,baz=319,slow=6.6,SNR=8.8						
	0.3nm,0.5s						

RSNC 06 04:10:09.3±0.0, 3°N±5°×7°9W±°, h7km±6km, M2.0, mb3.7, ML2.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**1.31**	**83**	P	Pn	04 10 31.4	-2.7
GR1C				S	Sb	04 10 50.2	-1.1
BBAC	**Balboa, Cauca**	**2.37**	**110**	P	Pn	04 10 46.2	-2.6
BBAC				S	Sn	04 11 17.8	-0.4
MALC	**Bahia Malaga**	**2.43**	**61**	P	Pn	04 10 48.4	-1.0
MALC				S	Sn	04 11 15.9	-3.5
GCUF	**Volcan Galeras**	**2.66**	**127**	P	Pn	04 10 52.5	-0.6
GCUF				S	Sn	04 11 24.7	-1.2
POPC	**Popayan, Colom**	**2.81**	**96**	P	Pn	04 10 52.6	-2.3
POPC				S	Sb	04 11 32.4	-2.3
JAMC	**Jamundi, Valle**	**2.82**	**82**	P	Pn	04 10 53.0	-2.0
JAMC				S	Sn	04 11 26.7	-2.7
YOTC	**Yotoco, Valle**	**3.32**	**70**	P	Pn	04 11 00.6	-1.2
YOTC				S	Sn	04 11 40.6	-1.0
FLOC	**Florencia**	**4.01**	**108**	P	Pn	04 11 11.0	-0.3
GARC	**Garzon, Huila**	**4.03**	**99**	P	Pn	04 11 12.0	+0.3
ORTC	**Ortega, Tolima**	**4.35**	**76**	P	Pn	04 11 11.1	-4.8
ORTC				S	Sn	04 12 07.7	+0.8
PRAC	**Prado**	**4.66**	**79**	P	Pn	04 11 21.1	+0.9
URMC	**La Uribe, Meta**	**5.10**	**85**	P	Pn	04 11 28.1	+1.8
CHIC	**Chingaza**	**6.00**	**73**	P	Pn	04 11 39.0	+0.1

*CATAC **06** 04:23:25.0±1.9, 13°N±14°×9°0W±°, h27km±6km, M3.8/20, MLv3.8/20, Error ellipse: s-maj=34.8km s-min=8.3km az=31.6, confirmed*
*GCG **06** 04:23:25.4±0.6, 13°.16N×89°.70W, h42km±16km, MD4.3, Hypocentre not reviewed by the ISC*
ISC 06 04:23:25.6±2.3, 13°.12N±0°.10×89°.64W±0°.09, h43km, n56, σ0s61/59, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.48**	**40**	*eP*	**Pn**	**04 23 36.0**	**-0.2**
LALI	**Alcalda de L**	**0.48**	**40**	P	**Pn**	**04 23 39.9**	**+3.7**
LALI	**Alcalda de L**	**0.48**	**40**	P	**Pn**	**04 23 36.0**	**-0.2**
LALI	**Alcalda de L**	**0.48**	**40**	*eP*		04 23 35.9	
JAYA	**Jayaque - finc**	**0.56**	**19**	P	**Pn**	**04 23 37.2**	**-0.2**
JAYA	**Jayaque - finc**	**0.56**	**19**	*eP*		04 23 37.0	
ITCA	**Escuela Especi**	**0.65**	**33**	P	**Pn**	**04 23 38.0**	**-0.6**
PANCS	**Alcalda de**	**0.66**	**42**	P	**Pn**	**04 23 38.0**	**-0.7**
PMON	**Piamonte**	**0.67**	**28**	P	**Pn**	**04 23 38.5**	**-0.3**
LOMA	**Loma Larga**	**0.69**	**41**	P	**Pn**	**04 23 38.8**	**-0.4**
CEVE	**Cerro Verde**	**0.70**	**1**	*i P*	**Pn**	**04 23 40.4**	**+1.0**
CEVE	**Cerro Verde**	**0.70**	**1**	P	**Pn**	**04 23 39.3**	**-0.1**
BOQS	**Boqueron**	**0.70**	**30**	*i P*	**Pn**	**04 23 39.0**	**-0.4**
UEES	**Universidad Ev**	**0.71**	**33**	*eP*	**Pn**	**04 23 38.8**	**-0.5**
UEES				*eS*	**Sn**	**04 23 48.8**	**-0.4**
UEES	**Universidad Ev**	**0.71**	**33**	P	**Pn**	**04 23 39.0**	**-0.3**
SBLS	**San Blas**	**0.71**	**1**	*eP*	**Pn**	**04 23 39.2**	**-0.3**
CEDA	**San Andres**	**0.72**	**19**	P	**Pn**	**04 23 39.3**	**-0.1**
IGN	**Direccin Gen**	**0.75**	**38**	P	**Sn**	**04 23 50.4**	**+0.4**
IGN	**Direccin Gen**	**0.75**	**38**	P	**Pn**	**04 23 39.4**	**-0.4**
LFRS	**El Faro**	**0.75**	**48**	*eP*	**Pn**	**04 23 39.5**	**-0.5**
UDBS	**Universidad Do**	**0.76**	**39**	P	**Pn**	**04 23 39.6**	**-0.3**
NUBE	**Las Nubes**	**0.79**	**350**	P	**Pn**	**04 23 40.0**	**-0.5**
NUBE	**Las Nubes**	**0.79**	**350**	*eP*		04 23 39.9	
NUBE				*eS*		04 23 51.1	
UNIC	**Universidad Ca**	**0.86**	**6**	*eP*	**Pn**	**04 23 41.3**	**-0.1**
UNIC	**Universidad Ca**	**0.86**	**6**	P	**Pn**	**04 23 41.6**	**+0.2**
UNIC	**Universidad Ca**	**0.86**	**6**	P	**Pn**	**04 23 41.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.88**	**351**	P	**Pn**	**04 23 41.3**	**-0.3**
LOAL	**Lomas de Alarc**	**0.88**	**351**	P	**Pn**	**04 23 41.8**	**+0.1**
COEG	**Centro de Oper**	**0.89**	**56**	P	**Pn**	**04 23 41.4**	**-0.4**
PAVA	**Las Pavas**	**0.90**	**49**	P	**Pn**	**04 23 42.0**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**351**	P	**Pn**	**04 23 41.9**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**351**	P	**Pn**	**04 23 41.8**	**-0.3**
SNVI	**San Vicente**	**0.92**	**58**	*eP*	**Pn**	**04 23 41.8**	**-0.4**
TECO	**Alcaldia de Te**	**0.93**	**64**	P	**Pn**	**04 23 41.6**	**-0.7**
UESV	**Universidad de**	**0.97**	**58**	*eP*	**Pn**	**04 23 42.4**	**-0.4**
UESV	**Universidad de**	**0.97**	**58**	P	**Pn**	**04 23 42.5**	**-0.4**
UESV	**Universidad de**	**0.97**	**58**	P	**Pn**	**04 23 42.5**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.06**	**57**	P	**Pn**	**04 23 44.1**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.06**	**57**	P	**Pn**	**04 23 44.0**	**0.0**
ALJI	**Alcalda de J**	**1.06**	**79**	*eP*	**Pn**	**04 23 43.5**	**-0.5**
ALJI				*eS*	**Sn**	**04 23 57.8**	**+0.2**
PQSS	**Presa 15 de Se**	**1.16**	**64**	P	**Pn**	**04 23 45.4**	**0.0**
LLGN	**La Laguna**	**1.24**	**33**	*eS*	**Sn**	**04 24 03.0**	**+0.9**
LLGN	**La Laguna**	**1.24**	**33**	P	**Pn**	**04 23 46.2**	**-0.3**
MTO3	**Montecristo**	**1.30**	**12**	P	**Pn**	**04 23 47.2**	**-0.3**
MTO3	**Montecristo**	**1.30**	**12**	P	**Pn**	**04 23 47.1**	**-0.3**
MTO3	**Montecristo**	**1.30**	**12**	*i P*		04 23 47.1	
PACA	**Pacayal**	**1.33**	**75**	*eP*	**Pn**	**04 23 48.0**	**+0.2**
PACA	**Pacayal**	**1.33**	**75**	P	**Pn**	**04 23 48.5**	**+0.7**
PACA	**Pacayal**	**1.33**	**75**	P	**Pn**	**04 23 48.0**	**+0.2**
LCY	**Lacayo**	**1.34**	**77**	*eP*	**Pn**	**04 23 48.1**	**+0.1**
RANC	**El Ranchito**	**1.35**	**77**	P	**Pn**	**04 23 48.3**	**+0.1**
RANC	**El Ranchito**	**1.35**	**77**	P	**Pn**	**04 23 48.1**	**0.0**
LCND	**La Caada**	**1.71**	**84**	*eP*	**Pn**	**04 23 52.9**	**-0.1**
LCND				*eS*	**Sn**	**04 24 13.5**	**-0.2**
LCND	**La Caada**	**1.71**	**84**	P	**Pn**	**04 23 53.2**	**+0.2**
LCND	**La Caada**	**1.71**	**84**	P	**Pn**	**04 23 52.9**	**-0.1**
AMPH	**Amapala**	**1.94**	**85**	P	**Pn**	**04 23 55.7**	**-0.3**
APG	**El Apazote**	**2.04**	**337**	*eP*		04 23 57.6	
CHOHN	**Orocuina**	**2.44**	**81**	P	**Pn**	**04 24 02.7**	**-0.4**
PKGN	**Cerro Pekin**	**2.63**	**100**	P	**Pn**	**04 24 05.6**	**0.0**
MACN	**El Madrono**	**2.96**	**102**	P	**Pn**	**04 24 10.2**	**0.0**
RCVN	**Varillal2**	**3.38**	**82**	P	**Pn**	**04 24 15.6**	**-0.5**

*BJI **06** 04:23:38.7, 3°.65S×118°.77E, h42km, mB4.8/8, mb4.7/55, Ms4.2/3, Ms7 4.0/3*
*IDC **06** 04:23:38.5±0.5, 3°.00S×118°.61E, h0km, mb4.5/16, mbtmp4.5/18, ML4.3/2, MS3.5/11, Error ellipse: s-maj=27.6km s-min=10.7km az=65.0*
*NEIC **06** 04:23:40.8±1.1, 3°.07S±0°.05×118°.62E±0°.07, h10km±1km, mb4.8/36, Error ellipse: s-maj=12.7km s-min=6.1km az=239.0*
*DJA **06** 04:23:41.0±0.6, 3°S±2°×11°9E±°, h13km±4km, M4.8/23, mB5.7/2, mb4.7/13, MLv4.8/23, Mw(mB)5.2/2*
ISC 06 04:23:44.0±0.4, 3°.08S±0°.04×118°.60E±0°.06, h35km, n118, σ1s36/116, mb4.7/47, MS3.4/10, 3C-2D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.22**	**88**	P	**Pn**	**04 24 04.7**	**+0.2**
TTSI				S	**Sn**	**04 24 22.6**	**+2.8**
SPSI	**Sidrap Palu**	**1.46**	**127**	P	**Pn**	**04 24 06.7**	**-1.2**
KAPI	**Kappang**	**2.24**	**149**		**Pn**	**04 24 18.2**	**-0.3**
KAPI	**Kappang**	**2.24**	**149**	Pn	**Pn**	**04 24 18.4**	**-0.2**
	173nm,0.3s,baz=320,slow=12,SNR=81						
KAPI				Sn	**Sn**	**04 24 47.3**	**+2.3**
	219nm,0.3s,baz=219,slow=17,SNR=6.9						
KAPI				LR	LR	04 25 31.8	
	comp=Z,758nm,21.1s,baz=225,slow=49						
	714nm,0.3s						
BKB	**Balikpapan**	**2.48**	**317**	Pn	**Pn**	**04 24 23.0**	**+1.0**
BKB	**Balikpapan**	**2.48**	**317**	P	**Pn**	**04 24 22.5**	**+0.5**
PCI	**Palu**	**2.49**	**30**	P	**Pn**	**04 24 20.3**	**-1.8**
BKSI	**Bulukumba**	**2.69**	**146**	P	**Pn**	**04 24 25.3**	**+0.4**
SMKI	**Samarinda**	**2.96**	**332**	P	Pn	04 24 23.5	-5.1
BSSI	**Bau Bau, Buton**	**3.58**	**148**	P	**Pn**	**04 24 39.3**	**+2.3**
APSI	**Ampana**	**3.73**	**55**	P	**Pn**	**04 24 39.0**	**-0.1**
KDI	**Kendari**	**4.10**	**102**	P	**Pn**	**04 24 43.9**	**-0.4**
MTKI	**Muara Teweh, K**	**4.27**	**300**	P	Pn	04 24 51.1	+4.6
BBSI	**Bau Bau**	**4.62**	**121**	P	**Pn**	**04 24 53.2**	**+1.8**
LUWI	**Luwuk**	**4.63**	**64**	Pn	**Pn**	**04 24 50.6**	**-1.0**
LUWI	**Luwuk**	**4.63**	**64**	P	**Pn**	**04 24 50.1**	**-1.5**
TOLI2	**Tolitoli**	**4.70**	**28**	Pn	**Pn**	**04 24 51.6**	**-0.9**
MRSI	**Marisa**	**4.86**	**43**	P	**Pn**	**04 24 53.2**	**-1.5**
PLAI	**Plampang**	**5.77**	**188**	P	**Pn**	**04 25 05.9**	**-1.2**
	0.4nm50nm,0.5s						
TWSI	**Taliwang, Sumb**	**5.87**	**197**	P	**Pn**	**04 25 07.4**	**-1.2**
	0.3nm46nm,0.6s						
SRBI	**Singaraja**	**6.00**	**214**	P	**Pn**	**04 25 09.6**	**-0.8**
KMMI	**Kalianget**	**6.07**	**229**	P	**Pn**	**04 25 10.6**	**-0.7**
	0.8nm61nm,0.9s						
KMSI	**C

XAN pmax pmax
comp=Z,5.0nm,0.9s
HNS HongShan 40.44 355 ⇑P **P 04 31 21.0 +2.0**
HNS pmax pmax
comp=Z,6.0nm,0.9s
KSAR Wonju Array Be 41.23 11 P **P 04 31 25.2 -0.4**
KSRS Korea Array 41.25 11 P **P 04 31 25.4 -0.3**
comp=Z,6.8nm,0.9s,baz=186,slow=10,SNR=23
KSRS LR LR 04 50 43.5
comp=Z,23nm,19.4s,baz=195,slow=40
comp=Z,6.8nm,0.9s
LZH Lanzhou 41.34 342 *e*P **P 04 31 30.9 +4.2**
LZH pP pP 04 31 36.4 0.0
LZH pmax pmax
comp=Z,11nm,1.1s
BJT Baijiatuau 42.95 357 P **P 04 31 39.6 0.0**
BJT IAmb IAmb 04 31 41.4
comp=Z,40nm,1.7s
BJI Beijing 42.97 357 P **P 04 31 39.7 0.0**
BJI S **S 04 38 09.2 +6.5**
BJI pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 43.46 23 P **P 04 31 41.1 -2.7**
comp=Z,1.2nm,0.4s,baz=198,slow=8.5,SNR=4.2
comp=Z,1.2nm,0.4s
HHC Hu-ho-hao-te 44.19 352 *e*P **P 04 31 52.2 +2.5**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.9s
GOMU GeErMu 44.95 332 P **P 04 31 56.3 +0.1**
GOMU pP pP 04 32 05.2 -0.8
GOMU sP sP 04 32 10.3 +0.4
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GTA Gaotai 45.68 340 P **P 04 32 03.2 +1.5**
GTA pmax pmax
comp=Z,10.0nm,1.0s
XLT XiLinHaoTe 46.82 358 *e*P **P 04 32 10.5 0.0**
XLT pP sP 04 32 26.2 +1.9
XLT sP pwP 04 32 31.3 +8.7
XLT pmax pmax
comp=Z,21nm,0.7s
MDJ Mudanjiang 48.49 10 P **P 04 32 27.2 +3.9**
MDJ pmax pmax
comp=Z,10.0nm,1.8s
USRK Ussuriysk Ar. 48.58 13 P **P 04 32 22.0 -1.9**
comp=Z,1.2nm,0.5s,baz=190,slow=7.2,SNR=2.4
comp=Z,1.2nm,0.5s
BNX BinXian 49.23 8 ⇓P **P 04 32 30.2 +1.2**
BNX pmax pmax
comp=Z,5.0nm,1.5s
DZM Mont Dzumac 50.09 116 LR LR 04 54 58.6
comp=Z,79nm,18.1s,baz=116,slow=38
ULN Ulaanbaatar 51.73 350 P **P 04 32 47.5 -0.5**
ULN IAmb IAmb 04 32 48.8
comp=Z,10.0nm,0.7s
SONM Songino Array 51.82 350 P **P 04 32 48.8 +0.1**
SONM IAmb IAmb 04 32 49.7
comp=Z,10nm,0.6s
SONM Songino Array 51.82 350 P **P 04 32 48.8 +0.1**
comp=Z,9.3nm,0.6s,baz=169,slow=8.2,SNR=98
comp=Z,9.3nm,0.6s
KLR Kul'dur 53.34 11 LR LR 04 56 58.8
comp=Z,52nm,18.9s,baz=56,slow=38
HEH HeiHe 53.66 7 *e*P **P 04 33 00.6 -1.5**
HEH pmax pmax
comp=Z,9.0nm,0.6s
WMQ Urumqi 54.32 333 *e*P **P 04 33 08.0 +0.9**
WMQ pmax pmax
comp=Z,15nm,0.9s
NIL Nilore 56.23 314 P **P 04 33 20.4 -0.6**
KSH Kashi 57.69 322 P **P 04 33 31.7 +0.3**
KSH pP pP 04 33 41.8 +0.4
KSH pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 59.06 332 P **P 04 33 40.8 +0.1**
MK31 IAmb IAmb 04 33 42.0
comp=Z,12nm,1.1s
MKAR Makanchi Array 59.06 332 P **P 04 33 40.9 +0.2**
comp=Z,5.7nm,0.6s,baz=146,slow=6.8,SNR=102
comp=Z,5.7nm,0.6s
MAKZ Makanchi 59.22 332 P **P 04 33 41.4 -0.4**
MAKZ IAmb IAmb 04 33 43.0
comp=Z,12nm,1.3s
KBL Kabul 59.70 313 P **P 04 33 44.5 -1.0**
DRK Karamyk 60.32 320 P **P 04 33 49.6 -0.2**
AAK Ala-Archa 60.46 324 P **P 04 33 50.5 0.0**
AAK IAmb IAmb 04 33 51.8
comp=Z,15nm,1.6s
ARSB Arslanbob 60.60 322 P **P 04 33 51.4 -0.1**
GAR Garm 61.03 318 P **P 04 33 53.9 -0.5**
BTK Batken 61.27 320 P **P 04 33 55.1 -0.8**
BTK IAmb IAmb 04 34 03.6
comp=Z,12nm,1.4s
SIMJ Simiganj 61.73 317 P **P 04 33 58.7 -0.6**
SIMJ IAmb IAmb 04 33 59.3
comp=Z,13nm,1.4s
KK31 Karatay Array 63.12 322 P **P 04 34 07.1 -1.1**
KK31 IAmb IAmb 04 34 09.2
comp=Z,8.7nm,1.4s
KKAR Karatay Array 63.12 322 P **P 04 34 07.6 -0.6**
KKAR Karatay Array 63.12 322 P **P 04 34 07.3 -1.0**
KKAR IAmb IAmb 04 34 09.2
comp=Z,6.1nm,1.5s
ZAA0 Zalesovo Array 63.41 338 P **P 04 34 08.9 -1.1**
ZALV Zalesovo Beam 63.41 338 P **P 04 34 08.9 -1.1**
comp=Z,17nm,0.8s,baz=137,slow=4.9,SNR=70
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 63.54 333 P **P 04 34 10.6 -0.3**
comp=Z,4.3nm,0.6s,baz=141,slow=6.0,SNR=56
comp=Z,4.3nm,0.6s
KURK Kurchatov 63.56 333 P **P 04 34 10.6 -0.4**
MA2 Magadan 67.40 17 LR LR 05 05 25.8
comp=Z,25nm,20.3s,baz=114,slow=37
BVAR Borovoye Array 68.94 331 P **P 04 34 44.4 -1.0**
comp=Z,3.5nm,0.8s,baz=139,slow=9.2,SNR=16
comp=Z,3.5nm,0.8s
BRVK Borovoye 69.01 331 P **P 04 34 45.3 -0.6**
BRVK IAmb IAmb 04 34 46.1
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 72.54 324 P **P 04 35 06.3 -1.2**
ABKAR Akbulak array 72.54 324 P **P 04 35 06.1 -1.3**
ABKAR IAmb IAmb 04 35 07.5
comp=Z,6.2nm,1.0s
VNDA Vanda 77.86 171 P **P 04 35 38.1 +0.5**
comp=Z,2.4nm,0.6s,baz=307,slow=7.0,SNR=5.8
comp=Z,2.4nm,0.6s
BELG Belogornoye 80.95 324 LR LR 05 15 20.7
comp=Z,67nm,19.0s,baz=289,slow=38
KBZ Khabaz 81.84 315 P **P 04 35 58.0 -1.7**
comp=Z,1.6nm,0.9s,baz=90,slow=9.1,SNR=3.5
comp=Z,1.6nm,0.9s
SYO Syowa Base 83.20 201⇑*ep*P **P 04 36 09.4 +3.1**
SYO Syowa Base 83.20 201⇑*es*P P 04 36 13.2 +6.9
QSPA South Pole Qui 86.87 180 P **P 04 36 24.8 -0.2**
comp=Z,1.3nm,0.4s,baz=332,slow=1.0,SNR=3.8
comp=Z,1.3nm,0.4s
NVAR Mina Array Bea 117.47 48 PKP **PKiKP 04 42 27.1 +0.2**
comp=Z,0.5nm,0.7s,baz=213,slow=1.4,SNR=4.6
TXAR Lajitas Array 132.16 52 PKP **PKPdf 04 42 55.0 -0.1**
comp=Z,0.5nm,0.8s,baz=215,slow=1.5,SNR=8.5
CPUP Villa Florida 150.50 187 PKPbc **PKPbc 04 43 32.2 -0.6**
comp=Z,2.4nm,0.8s,baz=173,slow=3.0,SNR=6.3
LPAZ La Paz 159.64 161 PKPab **PKPab 04 44 18.8 -0.4**
comp=Z,2.3nm,0.6s,baz=158,slow=5.4,SNR=3.6

*SJA **06** 04:27:17.5±0.7, 23°.99S×66°.88W, h214km±8km, ML2.3, MW2.8*
*GUC **06** 04:27:19.7±0.4, 23°.99S×67°.20W, h230km±9km, ML3.7*
ISC 06 04:27:17.0±2.2, 23°.98S±0°.04×66°.92W±0°.05, h219km±19km, n18, σ1°.69/30, **5C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**120**	*e*P			**Pn**	**04 27 53.3**	**+0.7**
SLA				*e*S			**S**	**04 28 19.2**	**-0.9**
SLA				IAML				04 28 20.5	
comp=Z,17nm,1.1s									
AF01	**San Pedro de A**	**1.54**	**311**	*i*P			**Pn**	**04 27 54.9**	**+1.7**
AZAP	**Zapla**	**1.71**	**99**	*e*P			**Pn**	**04 27 54.9**	**+0.4**
AZAP				*e*S			**S**	**04 28 22.6**	**-1.1**
AZAP				IAML				04 28 25.8	
comp=Z,23nm,1.0s									
YJA	**Yavi**	**2.21**	**36**	*e*P			**Pn**	**04 28 00.3**	**+0.6**
YJA				*e*S			**S**	**04 28 32.6**	**0.0**
YJA				IAML				04 28 33.4	
comp=Z,2.9nm,0.4s									
FSA	**Cafayete**	**2.29**	**158**	*e*P			**Pn**	**04 28 00.6**	**+0.6**
FSA				*e*S			**S**	**04 28 32.3**	**-1.4**
GO02	**Mina Guanaco**	**2.70**	**244**	*e*P			**Pn**	**04 28 06.0**	**+1.3**
GO02				*e*S			**S**	**04 28 41.2**	**-0.5**
GO02	**Mina Guanaco**	**2.70**	**244**	*i*P			**Pn**	**04 28 06.0**	**+1.3**
GO02				*i* S			**S**	**04 28 41.1**	**-0.7**
GO02				IAML				04 28 43.0	
comp=N,176nm,0.2s									
PB09	**IPOC Station P**	**3.05**	**315**	*e*P			**Pn**	**04 28 10.6**	**+2.1**
PB09				*e*S			**S**	**04 28 48.5**	**0.0**
PB09				IAML				04 28 51.5	
comp=E,80nm,0.6s									
AHML	**Horco Molle**	**3.14**	**153**	⇓*i*P			**Pn**	**04 28 10.1**	**+0.7**
PB14	**IPOC Station P**	**3.25**	**258**	⇑*i*P			**Pn**	**04 28 11.8**	**+1.0**
PB14				*e*S			**S**	**04 28 51.0**	**-1.8**
AC02	**Maricunga**	**3.48**	**215**	*e*P			**Pn**	**04 28 14.9**	**+1.1**
AC02				IAML				04 29 19.8	
comp=Z,6.0nm,0.4s									
AC02	**Maricunga**	**3.48**	**215**	⇑*i*P			**Pn**	**04 28 15.3**	**+1.6**
AC02				*e*S			**S**	**04 28 59.3**	**+1.2**
PB01	**IPOC Station P**	**3.77**	**320**	*e*P			**Pn**	**04 28 18.4**	**+1.5**
PB01				*e*S			**S**	**04 29 01.8**	**-1.9**
AC01	**Pan de Azucar**	**3.98**	**236**	⇑*i*P			**Pn**	**04 28 19.4**	**+0.2**
AC01				*i* S			**S**	**04 29 05.3**	**-2.8**
PATCX	**Punta Patache**	**4.34**	**316**	*e*S			**S**	**04 29 13.4**	**-2.9**
PB08	**IPOC Station P**	**4.34**	**331**	*e*P			**Pn**	**04 28 26.5**	**+2.3**
PB08				*e*S			**S**	**04 29 16.5**	**-0.4**
TA01	**Diego Aracena**	**4.55**	**318**	*e*S			**S**	**04 29 17.8**	**-3.0**
HMBC	**Humberstone**	**4.60**	**323**	*i* S			**S**	**04 29 18.9**	**-3.3**

*AFAD **06** 04:41:42.7, 42°.17N×28°.29E, h2km±2km, ML2.4*
*SOF **06** 04:41:42.4, 42°.54N±0°.01×28°.01E±0°.02, h18km±5km, MD2.6/3*
*ISK **06** 04:41:42.3, 42°.61N×27°.92E, h16km, ML2.9/20*
ISC 06 04:41:41.7±1.2, 42°.56N±0°.02×28°.05E±0°.03, h6km±11km, n37, σ0°.91/53, **6C-4D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AVR	**AVREN**	**0.63**	**334**	P			**Pb**	**04 41 55.2**	**+0.1**
AVR				S			**Sb**	**04 42 05.8**	**+1.6**
ROIA	**ROIAK**	**0.73**	**318**	P			**Pb**	**04 41 56.9**	**+0.1**
ROIA				S			**Sb**	**04 42 08.4**	**+1.3**
PRD	**Provadia**	**0.76**	**322**	P			**Pg**	**04 41 56.8**	**+0.5**
PRD				S			**Sb**	**04 42 08.0**	**-0.1**
ARMN	**Kirklareli, Me**	**0.83**	**214**	P			**Pg**	**04 41 57.2**	**-0.4**
ARMN				S			**Sg**	**04 42 08.4**	**+0.1**
NEF	**NEVSHA**	**0.91**	**322**	*i* P			**Pb**	**04 41 59.9**	**0.0**
NEF				S			**Sb**	**04 42 12.4**	**+0.2**
VIZE	**Kirklareli, Vi**	**0.99**	**189**	P			**Pb**	**04 42 00.8**	**-0.5**
VIZE				S			**Sb**	**04 42 15.6**	**+1.1**
VIZE				*i* AML			AML	04 42 17.0	
comp=N,219nm,0.3s									
VIZE				*i* AML			AML	04 42 17.0	
comp=E,112nm,0.5s									
PHSR	**Pinarhisar**	**1.00**	**203**	Pg			**Pn**	**04 42 02.3**	**0.0**
PHSR				Sg			**Sn**	**04 42 18.0**	**+1.2**
KIRK	**Kırklareli**	**1.05**	**223**	P			**Pg**	**04 42 01.6**	**-0.1**
KIRK				S			**Sg**	**04 42 15.6**	**+0.3**
KIRK				*i* AML			AML	04 42 19.0	
comp=N,110nm,0.5s									
KIRK				*i* AML			AML	04 42 19.0	
comp=E,113nm,0.5s									
PSN	**Preselentsi**	**1.08**	**3**	Pg			**Pb**	**04 42 02.6**	**-0.2**
PSN				Sg			**Sn**	**04 42 18.1**	**-0.7**
PSN	**Preselentsi**	**1.08**	**3**	P			**Pn**	**04 42 03.6**	**+0.2**
PSN				S			**Sb**	**04 42 17.8**	**+0.6**
CTYL	**Yalikoy Yolu**	**1.10**	**170**	Pn			**Pn**	**04 42 04.6**	**+1.0**
JMB	**Yambol**	**1.12**	**267**	Pg			**Pg**	**04 42 01.7**	**-1.5**
JMB	**Yambol**	**1.12**	**267**	P			**Pg**	**04 42 03.1**	**-0.1**
JMB				S			**Sg**	**04 42 18.8**	**+1.0**
EDRB	**Edirne**	**1.20**	**234**	Pn			**Pg**	**04 42 04.2**	**-0.5**
MANR	**Mangalia**	**1.32**	**17**	⇑P			**Pb**	**04 42 06.9**	**0.0**
MANR				⇑S			**Sn**	**04 42 25.1**	**+0.5**
SLVT	**Silivri**	**1.33**	**175**	Pn			**Pb**	**04 42 07.8**	**+0.7**
CTKS	**Kestanelik-??a**	**1.36**	**165**	Pn			**Pb**	**04 42 08.3**	**+0.7**
BGKT	**Bogazkoy**	**1.48**	**158**	Pn			**Pg**	**04 42 09.9**	**-0.1**
KLYT	**Kilyos**	**1.50**	**150**	Pn			**Pg**	**04 42 10.4**	**0.0**
ICOR	**Ion Corvin**	**1.57**	**353**	⇑P			**Pb**	**04 42 11.0**	**-0.1**
ICOR				⇓S			**Sg**	**04 42 32.6**	**+0.5**
MFTR	**Murfatlar**	**1.64**	**9**	⇑P			**Pg**	**04 42 12.3**	**-0.8**
MFTR				⇓S			**Sg**	**04 42 34.4**	**-0.1**
ISK	**Istanbul-Kandi**	**1.67**	**153**	Pn			**Pg**	**04 42 12.8**	**-0.9**
KAVV	**Kandilli-Istan**	**1.67**	**153**	Pn			**Pg**	**04 42 12.9**	**-0.8**
UKOP	**Uzunkopru-Edir**	**1.78**	**217**	Pn			**Pn**	**04 42 13.3**	**+0.4**
TIRR	**Tirgusor**	**1.92**	**8**	⇓P			**Pn**	**04 42 15.3**	**+0.4**
TIRR				⇑S			**Sb**	**04 42 40.9**	**-0.4**
TLBR	**Topalu**	**1.99**	**360**	⇑P			**Pb**	**04 42 17.5**	**-0.8**
ERIK	**Erikli-Kesan**	**2.21**	**212**	Pn			**Pn**	**04 42 19.7**	**+0.8**
EDC	**Edincik**	**2.21**	**184**	Pn			**Pn**	**04 42 20.1**	**+1.1**
KDZ	**Kurdzhali**	**2.22**	**246**	Pn			**Pn**	**04 42 18.2**	**-0.8**
ALN	**Alexandroupoli**	**2.23**	**223**	Pn			**Pn**	**04 42 19.7**	**+0.5**
KCTX	**Karacabey (Bur**	**2.30**	**174**	Pn			**Pb**	**04 42 21.8**	**-1.8**
ENEZ	**Enez**	**2.31**	**219**	Pn			**Pn**	**04 42 20.6**	**+0.4**
TPGR	**Topolog**	**2.31**	**7**	⇓P			**Pb**	**04 42 23.1**	**-0.7**
RDO	**Rodhopi**	**2.35**	**234**	Pn			**Pn**	**04 42 20.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.46**	**209**	Pn			**Pn**	**04 42 22.9**	**+0.6**
SUSR	**Susurluk-Balik**	**2.59**	**179**	Pn			**Pn**	**04 42 25.5**	**+1.3**
BALY	**Balya**	**2.83**	**187**	P			**Pn**	**04 42 28.5**	**+1.0**
BALY				S			**Sn**	**04 42 58.4**	**-3.6**
BALY				*i* AML			AML	04 43 14.0	
comp=E,43nm,3.3s									
BALY				*i* AML			AML	04 43 58.0	
comp=N,40nm,2.5s									

*SDD **06** 04:43:54.8±1.7, 19°.34N×68°.05W, h10km±498km, MD3.5, ML1.9, MW2.5*
*RSPR **06** 04:43:57.7, 19°.29N×68°.19W, h95km±8km, MD3.3/6*
ISC 06 04:43:55.3±1.8, 19°.3N±0°.1×68°.14W±0°.04, h10km, n18, σ0°.81/22, **8C-7D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.81**	**196**	⇓*e*Pg			**Pg**	**04 44 10.6**	**-0.4**
PCDR				⇓*e*Sg			**Sb**	**04 44 22.3**	**-0.2**
PCDR				IAML				04 44 56.0	
comp=N,59nm,1.4s									
HATOM	**Hato Mayor del**	**1.27**	**247**	⇑*e*Pg			**Pg**	**04 44 19.5**	**-0.3**
HATOM				⇑*e*Sg			**Sg**	**04 44 37.8**	**+1.4**
HATOM				IAML				04 44 38.2	
comp=N,22nm,0.7s									
AGPR	**Aguadilla, PR**	**1.28**	**130**	⇑*e*P			**Pg**	**04 44 20.5**	**+0.6**
AGPR	**Aguadilla, PR**	**1.28**	**130**	*e*S			**Sb**	**04 44 36.3**	**+0.3**
LSP	**Las Mesas**	**1.50**	**138**	⇑*e*P			**Pb**	**04 44 23.1**	**-0.2**
LSP	**Las Mesas**	**1.50**	**138**	*e*S			**Sg**	**04 44 45.5**	**+0.9**
CRPR	**Cabo Rojo, PR**	**1.61**	**142**	⇑*e*P			**Pg**	**04 44 25.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.61**	**142**	*e*S			**Sb**	**04 44 46.1**	**+0.5**
AOPR	**Arecibo Observ**	**1.62**	**125**	⇑*e*P			**Pb**	**04 44 25.0**	**-0.4**
AOPR	**Arecibo Observ**	**1.62**	**125**	*e*S			**Sg**	**04 44 47.1**	**-0.4**
MLPR	**Magueyes Islan**	**1.68**	**142**	⇓*e*Pg			**Pn**	**04 44 23.1**	**-1.7**
MLPR				⇓*e*Sg			**Sn**	**04 44 47.0**	**+0.6**
MLPR				IAML				04 44 47.5	
comp=N,14nm,1.7s									
MLPR	**Magueyes Islan**	**1.68**	**142**	⇑*e*P			**Pb**	**04 44 26.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.68**	**142**	*e*S			**Sn**	**04 44 47.2**	**+0.8**
CELP	**Cerrillos**	**1.92**	**129**	⇑*e*Pg			**Pb**	**04 44 29.6**	**-0.8**
CELP				⇓*e*Sg			**Sb**	**04 44 53.6**	**-0.8**
CELP				IAML				04 44 59.0	
comp=N,5.6nm,2.4s									
CELP	**Cerrillos**	**1.92**	**129**	⇓*e*P			**Pn**	**04 44 29.0**	**+0.9**
CELP	**Cerrillos**	**1.92**	**129**	*e*S			**Sn**	**04 44 53.2**	**+1.0**
ECPR	**Experimental S**	**1.95**	**120**	⇓*e*P			**Pb**	**04 44 30.2**	**-0.7**
ECPR	**Experimental S**	**1.95**	**120**	*e*S			**Sn**	**04 44 53.8**	**+0.8**

*IDC **06** 05:04:13.8±1.6, 6°.95S×129°.53E, h0km, mb3.6/3, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=75.0km s-min=24.6km az=79.0*
ISC 06 05:04:23.8±1.1, 7°.48S±0°.08×129°.7E±0°.2, h100km, n6, σ2°.38/9, **mb3.5**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.26**	**200**	Pn			**Pn**	**05 07 03.5**	**+1.8**
0.5nm,0.3s,baz=27,slow=14,SNR=20									
FITZ				Sn			**Sn**	**05 09 03.6**	**-1.9**
2.2nm,0.3s,baz=91,slow=14,SNR=8.0									
1.3nm,0.4s									
WRA	**Warramunga Arr**	**13.20**	**160**	Pn			**Pn**	**05 07 28.4**	**+1.0**
0.6nm,0.3s,baz=339,slow=13,SNR=11									
WRA				Sn			**Sn**	**05 09 49.8**	**-2.8**
2.7nm,0.3s,baz=332,slow=22,SNR=13									
0.7nm,0.3s									
ASAR	**Alice Springs**	**16.61**	**166**	P			**P**	**05 08 15.2**	**+3.7**
0.5nm,0.3s,baz=341,slow=9.0,SNR=16									
ASAR				S			**Sn**	**05 11 13.5**	**-1.5**
1.4nm,0.7s,baz=355,slow=26,SNR=6.7									
1.9nm,0.7s									
SONM	**Songino Array**	**58.78**	**342**	P			**P**	**05 14 11.0**	**-0.7**
0.2nm,0.5s,baz=157,slow=7.8,SNR=2.2									
0.2nm,0.5s									
MKAR	**Makanchi Array**	**68.44**	**327**	P			**P**	**05 15 14.2**	**-0.8**
0.5nm,0.4s,baz=120,slow=8.2,SNR=7.3									
0.5nm,0.4s									
KURBB	**Kurchatov Arra**	**72.74**	**329**	P			**P**	**05 15 40.2**	**-0.9**
0.2nm,0.4s,baz=129,slow=5.1,SNR=4.1									
0.2nm,0.4s									

ISC 06 05:25:21.3±0.9, 25°.78N±0°.03×110°.15W±0°.04, h10km, n8, σ0°.72/16, **3C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EVAR0	**San Evaristo**	**1.00**	**211**	*e*P			**Pn**	**05 25 41.7**	**+0.4**
EVAR0				*e*S			**Sn**	**05 25 55.0**	**-0.4**
TSIG	**Topolobambo**	**1.02**	**100**	*e*P			**Pn**	**05 25 41.7**	**0.0**
TSIG				*e*S			**Sn**	**05 25 56.4**	**+0.4**
TSIG				IAML				05 25 57.1	
comp=N,854nm,0.4s									
TSIG				⇑*e*				05 25 57.1	
TSIG				⇑*e*				05 25 57.8	
TSIG				IAML				05 25 57.8	
comp=E,897nm,0.4s									
UAGRB	**Rancho Ultima**	**1.02**	**258**	⇑*e*P			**Pn**	**05 25 42.0**	**+0.3**
UAGRB				*e*S			**Sn**	**05 25 55.7**	**-0.3**
NE77	**Loreto B.C.S**	**1.11**	**283**	*e*P			**Pb**	**05 25 42.9**	**+0.2**
NE77				*e*S			**Sn**	**05 25 58.9**	**+0.5**
NE80	**Navojoa**	**1.41**	**36**	*e*P			**Pn**	**05 25 47.2**	**+0.3**
NE80				*e*S			**Sb**	**05 26 06.2**	**+0.6**
NE80				IAML				05 26 07.2	
comp=E,753nm,0.2s									
NE80				⇓*e*				05 26 07.2	
NE80				⇓*e*				05 26 07.3	
NE80				IAML				05 26 07.3	
comp=N,1μm,0.2s									
CDOB	**Cd. Obregon**	**1.63**	**1**	*e*P			**Pb**	**05 25 51.9**	**+0.4**
CDOB				*e*S			**Sg**	**05 26 13.8**	**-0.1**
SLBS	**Sierra La Lagu**	**2.09**	**175**	*e*P			**Pb**	**05 25 59.1**	**-0.3**
SLBS				*e*S			**Sb**	**05 26 25.3**	**0.0**
NOVRB	**El Novillo Son**	**3.19**	**8**	*e*P			**Pb**	**05 26 18.1**	**+0.1**
NOVRB				*e*S			**Sb**	**05 26 54.6**	**-2.2**

*BEO **06** 05:29:57.8±2.8, 38°.03N×20°.47E, h62km±9km, ML3.5/4*
*IDC **06** 05:29:58.0±2.4, 38°.37N×20°.30E, h0km, mb3.7/8, mbtmp3.7/12, ML3.7/3, MS3.4/3, Error ellipse: s-maj=41.6km s-min=18.2km az=40.0*
*TIR **06** 05:30:04.9, 38°.83N×20°.42E, h30km±1km, Md3.3/6, Ml4.0/7*
*ATH **06** 05:30:05.8, 38°.88N×20°.57E, h8km, ML3.7/35, Manual Solution by N.Liadopoulou First location: 2019/02/15 17:03:38, This location: 2020/07/01 11:00:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*PDG **06** 05:30:05.4±0.7, 39°.05N×20°.48E, h2km±11km, ML3.7/7, Error ellipse: s-maj=13.1km s-min=3.9km az=90.0*
*THE **06** 05:30:06.0, 38°.86N×20°.62E, h13km, ML3.7/13, Error ellipse: s-maj=0.8km s-min=0.4km az=243.0*
ISC 06 05:30:05.0±0.7, 38°.86N±0°.01×20°.53E±0°.02, h15km±4km, n203, σ1°.35/245, **mb3.6**/8, **MS3.3**/3, **10C-7D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.11**	**109**	P			**Pg**	**05 30 08.2**	**-0.2**
TSLK				S			**Sg**	**05 30 10.5**	**0.0**
85μm,0.3s									
TSLK	**Tsoukalades, L**	**0.11**	**109**	P			**Pg**	**05 30 08.1**	**-0.3**
TSLK				S			**Sg**	**05 30 09.9**	**-0.6**
LKD2	**Lefkada island**	**0.12**	**124**	P			**Pg**	**05 30 08.7**	**+0.1**
LKD2				S			**Sg**	**05 30 10.4**	**-0.6**
63μm,0.2s									
LKD2	**Lefkada island**	**0.12**	**124**	P			**Pg**	**05 30 08.6**	**+0.1**
LKD2				S			**Sg**	**05 30 10.2**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.20**	**137**	P			**Pg**	**05 30 09.8**	**+0.2**
NYDR				S			**Sg**	**05 30 13.1**	**+0.4**
35μm,0.2s									
EVGI	**Lefkada island**	**0.26**	**157**	P			**Pg**	**05 30 11.3**	**+0.6**
EVGI				S			**Sg**	**05 30 15.5**	**+1.1**
47μm,0.2s									
EVGI	**Lefkada island**	**0.26**	**157**	P			**Pg**	**05 30 11.2**	**+0.6**
EVGI				S			**Sg**	**05 30 15.6**	**+1.1**
FSK	**Fiskardo**	**0.40**	**176**	P			**Pg**	**05 30 13.7**	**+0.6**
FSK				S			**Sb**	**05 30 19.9**	**+0.1**
7μm,0.5s									
FSK	**Fiskardo**	**0.40**	**176**	P			**Pg**	**05 30 13.7**	**+0.6**
FSK				S			**Sb**	**05 30 20.1**	**+0.2**
PRGA	**Parga**	**0.44**	**347**	P			**Pg**	**05 30 14.2**	**+0.5**
PRGA				S			**Sg**	**05 30 20.0**	**+0.4**
ARTB	**Arta**	**0.46**	**50**	P			**Pg**	**05 30 12.6**	**-1.6**
SMHA	**Samh**	**0.61**	**171**	P			**Pg**	**05 30 16.6**	**-0.5**
DMLN	**Damoulianata-K**	**0.63**	**191**	P			**Pb**	**05 30 18.1**	**+0.3**
DMLN	**Damoulianata-K**	**0.63**	**191**	P			**Pb**	**05 30 18.2**	**+0.4**
DMLN				S			**Sb**	**05 30 27.9**	**+1.4**
VLS	**Valsamata**	**0.68**	**176**	P			**Pg**	**05 30 18.6**	**+0.2**
VLS				S			**Sb**	**05 30 28.9**	**+0.9**
7μm,0.5s									
VLS	**Valsamata**	**0.68**	**176**	P			**Pg**	**05 30 18.5**	**+0.1**
IGT	**Igoumenitsa**	**0.69**	**347**	Pg			**Pg**	**05 30 18.2**	**-0.3**
IGT				Sg			**Sb**	**05 30 29.8**	**+1.7**
IGT				AMd				05 31 06.9	
IGT	**Igoumenitsa**	**0.69**	**347**	P			**Pg**	**05 30 17.8**	**-0.7**
IGT				S			**Sg**	**05 30 27.4**	**-0.2**
LFKM	**Lefkimmi**	**0.69**	**328**	P			**Pb**	**05 30 19.6**	**+0.8**
LFKM				S			**Sn**	**05 30 30.4**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.75**	**176**	P			**Pg**	**

MAKR S **Sb** **05 30 44.5 -0.2**
7μm,0.4s
MAKR Makrakomi, Fth 1.26 83 P **Pn** **05 30 27.7 -0.6**
MAKR S **Sb** **05 30 45.5 +0.8**
KPRO Kipourio 1.27 30 P **Pn** **05 30 28.2 -0.2**
KPRO Kipourio 1.27 30 P **Pn** **05 30 28.4 0.0**
LSK Leskovik 1.29 3 Pg **Pb** **05 30 29.8 +0.7**
LSK Sg **Sg** **05 30 48.8 +2.0**
LSK AML AML 05 30 57.5
11nm,0.8s
LSK AMd 05 31 51.8
LSK Leskovik 1.29 3 P **Pb** **05 30 29.5 +0.4**
DRO Drossia 1.30 134 P **Pn** **05 30 28.1 -0.6**
DRO Drossia 1.30 134 P **Pn** **05 30 28.1 -0.6**
SOFA Sofades 1.31 68 P **Pn** **05 30 28.8 0.0**
KALE Kalithea 1.35 110 P **Pn** **05 30 28.9 -0.5**
KALE Kalithea 1.35 110 P **Pn** **05 30 29.2 -0.3**
THL Klokotos Trika 1.35 58 P **Pn** **05 30 28.5 -0.9**
THL Klokotos Trika 1.35 58 P **Pn** **05 30 29.0 -0.4**
ALIK Aliki, Aigiali 1.38 115 P **Pn** **05 30 29.6 -0.2**
PENT Pentalofos 1.42 19 P **Pb** **05 30 31.8 +0.5**
KLV Kalavryta, Ach 1.51 122 P **Pn** **05 30 31.2 -0.5**
KLV Kalavryta, Ach 1.51 122 P **Pn** **05 30 31.3 -0.5**
TYRN Tyrnavos 1.57 57 P **Pn** **05 30 32.4 -0.1**
DLFA Delphi 1.59 103 P **Pn** **05 30 33.8 +1.1**
NEST Nestorio 1.60 14 Pg **Pb** **05 30 35.4 +0.9**
NEST Sg **Sg** **05 30 58.0 +1.2**
NEST Nestorio 1.60 14 P **Pb** **05 30 34.9 +0.4**
AMT Artemida-Makis 1.62 145 P **Pn** **05 30 34.5 +1.4**
ZARO Zacharo 1.63 147 P **Pb** **05 30 35.0 +0.1**
AXAR Agios Charalam 1.67 93 P **Pn** **05 30 34.7 +0.9**
GUR Goura 1.70 122 P **Pn** **05 30 34.1 -0.2**
GUR Goura 1.70 122 P **Pn** **05 30 35.4 +1.1**
KZN Kozani 1.74 33 P **Pn** **05 30 35.3 +0.5**
KZN Kozani 1.74 33 P **Pn** **05 30 36.6 +1.8**
KBN Korca 1.77 6 P **Pb** **05 30 38.7 +1.3**
KBN Sg **Sg** **05 31 01.6 -0.5**
KBN AML AML 05 31 17.9
3.7nm,1.0s
KBN AMd 05 31 57.2
VLO Vlora 1.79 334 Pn **Pn** **05 30 36.7 +1.2**
VLO Sn **Sb** **05 31 00.8 +1.0**
VLO AML AML 05 31 23.0
5.9nm,0.4s
VLO AMd 05 31 58.6
KIAA Kiato 1.94 115 P **Pn** **05 30 38.7 +1.2**
LKR Lokris 1.95 95 P **Pn** **05 30 38.7 +1.1**
LIT Litokhoron 1.96 50 P **Pn** **05 30 39.1 +1.3**
SCTE Santa Cesarea 2.00 308 P **Pb** **05 30 40.3 -0.9**
ITM Ithomi 2.01 146 P **Pn** **05 30 40.2 +1.7**
FNA Florina 2.03 19 Pn **Pb** **05 30 42.3 +0.6**
FNA Sn **Sb** **05 31 08.4 +1.6**
FNA AML AML 05 31 14.6
3.6nm,0.5s
FNA Florina 2.03 19 *e*Pn **Pn** **05 30 40.9 +2.1**
FNA *e*Sn **Sb** **05 31 08.9 +2.1**
FNA Florina 2.03 19 P **Pn** **05 30 40.2 +1.4**
LTK Loutraki 2.09 113 P **Pn** **05 30 40.9 +1.3**
LOUT Loutraki 2.11 114 P **Pn** **05 30 41.5 +1.6**
VERN Vergina 2.13 40 P **Pn** **05 30 41.1 +0.9**
XOR Xorichti 2.13 75 P **Pn** **05 30 41.1 +0.9**
NEO Neokhori 2.15 77 P **Pn** **05 30 41.5 +1.1**
VIL2 Platees 2.25 106 P **Pn** **05 30 43.7 +2.0**
OHR Ohrid 2.26 5 *i* Pn **Pb** **05 30 45.5 -0.1**
OHR Ohrid 2.26 5 *e*Pn **Pb** **05 30 45.3 -0.3**
OHR *e*Sn **Sg** **05 31 16.5 -1.2**
TIR Tirane 2.54 349 Pn **Pn** **05 30 48.2 +2.5**
TIR Sn **Sb** **05 31 20.4 -0.9**
TIR AML AML 05 31 43.3
0.7nm,0.7s
TIR Tirane 2.54 349 P **Pn** **05 30 47.3 +1.6**
TIR Tirane 2.54 349 ⇑P **Pn** **05 30 47.6 +1.9**
TIR Tirane 2.54 349 *e*Pn **Pn** **05 30 47.3 +1.6**
TIR *e*Sn **Sb** **05 31 21.5 +0.2**
TIR Tirane 2.54 349 P **Pn** **05 30 47.2 +1.6**
KRND KRANIDI 2.54 125 P **Pn** **05 30 47.6 +1.8**
GRG Griva 2.54 34 P **Pn** **05 30 45.5 -0.3**
GRG Griva 2.54 34 P **Pn** **05 30 47.2 +1.3**
THE Thessaloniki 2.58 46 P **Pn** **05 30 45.9 -0.4**
HORT Hortiatis 2.64 48 P **Pn** **05 30 47.1 -0.1**
HORT Hortiatis 2.64 48 P **Pn** **05 30 48.7 +1.5**
ATH Athens Observa 2.66 108 P **Pn** **05 30 49.0 +1.7**
ATHU Athens Univers 2.71 108 P **Pn** **05 30 49.5 +1.4**
PLG Polygyros 2.71 55 P **Pn** **05 30 49.2 +1.0**
PTL Penteli 2.74 106 P **Pn** **05 30 50.5 +1.9**
VLY Voula,Athens 2.76 110 P **Pn** **05 30 50.2 +1.4**
KYMI Kymi, Euboea I 2.80 94 P **Pn** **05 30 50.6 +1.2**
PHP Peshkopia 2.82 359 P **Pn** **05 30 52.2 +2.5**
PHP Sn **Sb** **05 31 27.3 -2.3**
PHP AML AML 05 31 57.5
0.9nm,1.3s
PHP AMd 05 32 16.9
VLI Veliai 2.87 137 P **Pn** **05 30 52.0 +1.8**
VAY Valandovo 2.92 32 *i* Pn **Pn** **05 30 52.4 +1.4**
VAY Valandovo 2.92 32 *e*Pn **Pn** **05 30 50.9 0.0**
VAY *e*Sn **Sn** **05 31 29.3 +3.6**
TIP Timpagrande 2.95 277 ⇓P **Pb** **05 30 54.4 -3.0**
TIP Timpagrande 2.95 277 P **Pn** **05 30 53.4 +1.9**
KARY Karystos 3.18 104 P **Pn** **05 30 56.0 +1.4**
PUK Puka 3.22 352 Pn **Pn** **05 30 57.2 +2.0**
PUK Sn **Sn** **05 31 36.9 +3.6**
ULC Ulcinj 3.25 343 ⇑*i*Pn **Pn** **05 30 56.5 +0.9**
ULC *e*Sn **Sn** **05 31 34.6 +0.6**
SRS Serrai 3.26 45 *e*Pn **Pn** **05 30 55.1 -0.6**
SRS *e*Sn **Sn** **05 31 35.0 +0.7**
SRS Serrai 3.26 45 P **Pn** **05 30 56.7 +1.0**
KOKK Kokkinochori, 3.31 53 P **Pn** **05 30 57.6 +1.2**
LTRZ Laterza 3.35 303 P **Pn** **05 30 58.9 +2.0**
PEHC Pehcevo 3.43 31 *i* Pn **Pn** **05 31 03.3 +3.2**
MATE Matera 3.44 302 ⇓P **Pb** **05 31 03.4 -2.4**
DRME Dracevica, Mon 3.48 343 *e*Pn **Pn** **05 30 59.2 +0.6**
DRME Dracevica, Mon 3.48 343 *e*Pn **Pn** **05 30 58.7 +0.1**
DRME *i* Sn **Sn** **05 31 40.8 +1.2**
BCI Bajram Curri 3.52 354 Pn **Pn** **05 31 02.0 +2.7**
BCI Sn **Sn** **05 31 45.0 +4.3**
NVR Nevrokopi 3.57 45 P **Pn** **05 31 01.0 +1.1**
BUM Brajici-Budva 3.66 341 ⇑*i*Pn **Pn** **05 31 02.0 +0.8**
BUM *e*Sn **Sn** **05 31 44.4 +0.3**
CEL Celeste 3.68 262 P **Pn** **05 31 03.4 +1.9**
PDG Podgorica 3.69 345 *e*Pn **Pn** **05 31 02.6 +1.0**
PDG Podgorica 3.69 345 ⇑P **Pn** **05 31 03.3 +1.7**
PDG Podgorica 3.69 345 ⇑*i*Pn **Pn** **05 31 02.3 +0.7**
PDG *e*Sn **Sn** **05 31 45.7 +0.8**
PDG Podgorica 3.69 345 P **Pn** **05 31 03.6 +2.0**
KAVA Kavala 3.74 54 P **Pn** **05 31 02.1 -0.1**
KAVA Kavala 3.74 54 P **Pn** **05 31 03.6 +1.4**
CEME Cevo 3.88 342 ⇑*i*Pn **Pn** **05 31 04.6 +0.3**
CEME *e*Sn **Sn** **05 31 49.3 -0.3**
HCY Herceg Novi 3.90 337 ⇓*i*Pn **Pn** **05 31 04.6 +0.1**
HCY *e*Sn **Sn** **05 31 48.1 -2.0**
IVA Berane 4.04 353 *e*Pn **Pn** **05 31 09.1 +2.7**
BARS Barje 4.07 13 *e*Pn **Pn** **05 31 07.7 +0.9**
SELS Selova 4.38 6 *e*Pn **Pn** **05 31 12.2 +1.1**
SJES Sjenica 4.42 355 *e*Pn **Pn** **05 31 13.4 +1.7**
SJES Sjenica 4.42 355 *e*Pn **Pn** **05 31 13.6 +1.9**
RDO Rodhopi 4.47 58 P **Pn** **05 31 13.6 +1.3**
STON Ston 4.54 333 *e*Pn **Pn** **05 31 12.5 -0.8**
PLE Pljevlja 4.55 349 ⇓*i*Pn **Pn** **05 31 15.4 +1.9**
PLE *e*Sn **Sn** **05 32 06.3 +0.2**
ZAPS Zavoj 4.69 19 *e*Pn **Pn** **05 31 16.1 +0.8**
GOCS Kraljevo Serbi 4.71 3 *e*Pn **Pn** **05 31 16.9 +1.3**
ALN Alexandroupoli 4.71 63 P **Pn** **05 31 16.8 +1.2**
IVAS Ivanjica 4.72 357 *e*Pn **Pn** **05 31 16.6 +0.8**
RUDO Rudo 4.83 357 *e*Pn **Pn** **05 31 16.1 -1.2**
IDI Anoyia 4.99 134 Pn Pn 05 31 11.0 -8.5
25nm,1.3s,baz=355,slow=13,SNR=1.2
IDI Sn **Sn** **05 32 11.9 -5.0**
4.2nm,0.3s,baz=160,slow=14,SNR=8.5
GRUS Gruza 5.03 2 *e*Pn **Pn** **05 31 20.9 +1.0**
BBLS Lazi&#263i 5.07 351 *e*Pn **Pn** **05 31 23.9 +3.3**
BBLS Lazi&#263i 5.07 351 *e*Pn **Pn** **05 31 21.6 +1.0**
ZAGS Zajecar 5.11 14 *e*Pn **Pn** **05 31 21.7 +0.6**
DIVS Divibare 5.25 356 *e*Pn **Pn** **05 31 23.2 +0.1**
BORS2 Bor- Borsko je 5.34 12 *e*Pn **Pn** **05 31 24.1 -0.2**
HAPS Han Pijesak,BI 5.35 348 *e*Pn **Pn** **05 31 24.5 0.0**
TRUS Trudelj 5.36 359 *e*Pn **Pn** **05 31 24.9 +0.4**
KUBS Kucevo 5.61 8 *e*Pn **Pn** **05 31 28.2 +0.2**
TEKS Tekeris 5.73 353 *e*Pn **Pn** **05 31 29.0 -0.7**
TEKS Tekeris 5.73 353 *e*Pn **Pn** **05 31 29.4 -0.3**
ELND Elena 5.74 43 ⇓P **Pn** **05 31 32.1 +2.4**

MDVR Moldovita 5.98 8 ⇑P **Pn** **05 31 34.5 +1.3**
FRGS Fruska Gora 6.32 355 *e*Pn **Pn** **05 31 37.0 -0.7**
FRGS Fruska Gora 6.32 355 *e*Pn **Pn** **05 31 37.5 -0.2**
A050A Klekovaca 6.36 333 *e*Pn **Pn** **05 31 39.1 +0.7**
BLY Banja Luka 6.39 338 *e*Pn **Pn** **05 31 39.5 +0.8**
A051A Mrakovica 6.71 337 *e*Pn **Pn** **05 31 42.6 -0.6**
GZR Gura Zlata 6.74 14 ⇓P **Pn** **05 31 45.3 +1.8**
VOIR 7.38 26 ⇓P **Pn** **05 31 54.8 +2.5**
BOJS Bojanci 7.71 331 *e*Pn **Pn** **05 31 56.5 -0.2**
MLR Muntele Rosu 7.75 30 Pn **Pn** **05 32 01.2 +3.7**
0.7nm,0.3s,baz=250,slow=9.9,SNR=7.1
7.1nm,0.7s
MLR Muntele Rosu 7.75 30 ⇑P **Pn** **05 32 00.3 +2.9**
GBRS Gornja Briga 7.90 329 *e*Pn **Pn** **05 32 00.8 +1.4**
CRES Cresnjevec Ost 7.91 333 *e*Pn **Pn** **05 31 60.0 +0.5**
CRES Cresnjevec Ost 7.91 333 *e*Pn **Pn** **05 31 58.7 -0.8**
CEY Cerknica 8.22 329 *e*Pn **Pn** **05 32 04.8 +0.9**
CEY Cerknica 8.22 329 *e*Pn **Pn** **05 32 04.6 +0.7**
SKDS Skadanscina 8.24 326 *e*Pn **Pn** **05 32 04.2 +0.1**
PLOR Plostina 8.33 31 ⇑P **Pn** **05 32 08.3 +3.0**
VRI Vrincioaia 8.37 31 ⇑P **Pn** **05 32 08.2 +2.3**
SOKA Soboth 8.79 334 *e*Pn **Pn** **05 32 11.6 -0.1**
1.0nm,0.3s
OBKA Obir 8.82 332 *e*Pn **Pn** **05 32 13.7 +1.7**
0.5nm,0.2s
OBKA Obir 8.82 332 *e*Pn **Pn** **05 32 12.8 +0.8**
VYHS Vyhne 9.71 353 *e*PN Pn 05 32 19.2 -5.0
VYHS *e*PG 05 33 08.5
KBA Koelnbreinsper 9.75 330 *e*Pn **Pn** **05 32 26.3 +1.4**
0.7nm,0.4s
MODS Modra-Piesok 9.80 347 *e*PN Pn 05 32 19.4 -6.0
MODS *e*PG 05 33 09.7
ABTA Abfaltersbach 9.83 326 *e*Pn **Pn** **05 32 29.9 +3.9**
1.0nm,0.4s
MOA Molln 10.07 335 *e*Pn **Pn** **05 32 30.4 +1.2**
1.0nm,0.3s
BRTR Keskin Array B 10.20 81 Pn **Pn** **05 32 31.1 -0.1**
0.1nm,0.3s,baz=263,slow=12,SNR=4.7
0.2nm,0.4s
LESA Schwarzleotal 10.30 329 *e*Pn **Pn** **05 32 32.9 +0.6**
0.5nm,0.2s
MOTA Moosalm 10.92 324 *e*Pn **Pn** **05 32 42.0 +1.1**
2.1nm,0.5s
GERES GERESS Array B 11.12 336 Pn **Pn** **05 32 44.6 +0.9**
0.1nm,0.3s,baz=148,slow=19,SNR=1.9
0.5nm,0.6s
MDT Midelt 21.22 261 LR LR 05 44 07.0
comp=Z,45nm,18.6s,baz=346,slow=40
HFS Hagfors 21.73 351 P **P** **05 34 55.6 0.0**
2.6nm,0.9s,baz=163,slow=11,SNR=6.4
2.6nm,0.9s
FINES FINESS Array B 22.87 7 P **P** **05 35 07.7 0.0**
1.7nm,0.7s,baz=165,slow=7.9,SNR=6.6
1.7nm,0.7s
EKA Eskdalemuir Ar 22.88 324 P **P** **05 35 06.4 -1.5**
1.6nm,0.7s,baz=121,slow=9.8,SNR=4.1
1.6nm,0.7s
NOA NORSAR Array B 22.95 348 P **P** **05 35 07.8 -0.8**
0.3nm,0.5s,baz=163,slow=11,SNR=3.3
0.3nm,0.5s
ARTI Arti 30.44 42 LR LR 05 48 37.3
comp=Z,69nm,20.4s,baz=297,slow=36
BVAR Borovoye Array 36.68 51 P **P** **05 37 10.4 -0.7**
0.5nm,0.5s,baz=267,slow=7.8,SNR=3.9
0.5nm,0.5s
KURBB Kurchatov Arra 41.82 54 P **P** **05 37 52.7 -1.4**
0.9nm,0.2s,baz=283,slow=9.1,SNR=2.4
0.9nm,0.2s
MKAR Makanchi Array 44.94 59 P **P** **05 38 18.0 -1.4**
0.8nm,0.5s,baz=277,slow=6.9,SNR=9.0
0.8nm,0.5s
ZALV Zalesovo Beam 45.24 49 P **P** **05 38 19.9 -1.6**
1.1nm,0.4s,baz=282,slow=9.1,SNR=6.5
1.1nm,0.4s
SIV San Ignacio 93.52 252 LR LR 06 27 18.7
comp=Z,32nm,18.3s,baz=118,slow=37

*IDC **06** 05:41:40.4±1.0, 12°.76N×147°.63E, h0km, mb3.9/11, mbtmp4.0/12, ML4.6/1, MS2.9/1, Error ellipse: s-maj=27.5km s-min=20.3km az=98.0*
ISC 06 05:41:45.9±1.0, 12°.7N±0°.2×147°.5E±0°.1, h35km, n19, σ0°54/13, mb3.9/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.71**	**288**	**Pn**	**Pn**	**05 42 27.5**	**+0.6**
	104nm,0.3s,baz=158,slow=7.7,SNR=10						
GUMO				Sn	**Sn**	**05 42 57.7**	**-0.8**
	180nm,0.3s,baz=73,slow=22,SNR=14						
	198nm,0.3s						
JAY	**Jayapura**	**16.60**	**204**	LR	LR	05 51 17.4	
	comp=Z,48nm,21.4s,baz=281,slow=35						
H11S3	**WAKE ISLAND Hy 19.33**	**70**		T	T	06 05 53.6	
	baz=254,slow=75,SNR=9.3						
H11S1	**WAKE ISLAND Hy 19.34**	**70**		T	T	06 05 50.4	
	baz=254,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy 19.34**	**70**		T	T	06 05 58.1	
	baz=254,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy 19.85**	**67**		T	T	06 06 39.7	
	baz=258						
H11N2	**WAKE ISLAND Hy 19.86**	**67**		T	T	06 06 47.6	
	baz=258						
H11N3	**WAKE ISLAND Hy 19.87**	**67**		T	T	06 06 39.4	
	baz=258						
KSRS	**Korea Array**	**30.20**	**328**	P	**P**	**05 47 52.6**	**-0.4**
	1.8nm,0.9s,baz=152,slow=11,SNR=5.4						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**34.97**	**202**	P	**P**	**05 48 34.8**	**-0.2**
	2.0nm,0.8s,baz=24,slow=9.2,SNR=5.9						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**38.55**	**200**	P	**P**	**05 49 05.4**	**-0.1**
	0.4nm,0.5s,baz=23,slow=7.2,SNR=5.8						
	0.4nm,0.5s						
SONM	**Songino Array**	**48.91**	**324**	P	**P**	**05 50 29.3**	**+0.7**
	0.6nm,0.5s,baz=142,slow=7.5,SNR=9.7						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**63.81**	**324**	P	**P**	**05 52 14.3**	**-0.2**
	0.4nm,0.3s,baz=77,slow=9.0,SNR=2.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**63.88**	**316**	P	**P**	**05 52 15.8**	**+0.5**
	1.2nm,0.6s,baz=91,slow=8.3,SNR=17						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**66.93**	**320**	P	**P**	**05 52 34.7**	**-0.1**
	2.3nm,0.6s,baz=100,slow=6.3,SNR=17						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**68.24**	**25**	P	**P**	**05 52 42.0**	**-0.9**
	0.5nm,0.6s,baz=252,slow=5.8,SNR=15						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**72.18**	**322**	P	**P**	**05 53 07.2**	**0.0**
	3.0nm,0.6s,baz=102,slow=8.1,SNR=22						
	3.0nm,0.6s						
INK	**Inuvik**	**74.16**	**22**	P	**P**	**05 53 18.7**	**+0.2**
	1.0nm,0.9s,baz=264,slow=11,SNR=3.8						
	1.0nm,0.9s						
YKA	**Yellowknife Ar**	**82.42**	**28**	P	**P**	**05 54 04.5**	**+0.2**
	0.3nm,0.6s,baz=284,slow=5.6,SNR=6.0						
	0.3nm,0.6s						

*ISK **06** 05:45:59.5, 42°.61N×27°.88E, h5km, ML2.9/22*
*SOF **06** 05:46:00.2, 42°.57N±0°.01×27°.98E±0°.01, h19km±5km, MD2.5/3*
*AFAD **06** 05:46:00.1, 42°.50N×28°.00E, h7km±1km, ML2.4*
ISC 06 05:45:59.5±1.2, 42°.56N±0°.02×27°.97E±0°.03, h1km±10km, n46, σ0°88/71, 16C-7D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVR	**AVREN**	**0.60**	**339**	P	**Pb**	**05 46 12.4**	**-0.5**
AVR				S	**Sb**	**05 46 21.3**	**-0.6**
ROIA	**ROIAK**	**0.69**	**321**	P	**Pg**	**05 46 13.4**	**+0.6**
ROIA				S	**Sb**	**05 46 23.7**	**-0.7**
PRD	**Provadia**	**0.73**	**326**	*i* P	**Pg**	**05 46 14.4**	**+0.9**
PRD				S	**Sb**	**05 46 24.5**	**-1.0**
ARMN	**Kirklareli, Me**	**0.80**	**210**	P	**Pg**	**05 46 14.9**	**0.0**
ARMN				S	**Sg**	**05 46 24.0**	**-1.3**
NEF	**NEVSHA**	**0.87**	**324**	P	**Pg**	**05 46 17.0**	**+0.8**
NEF				S	**Sb**	**05 46 29.5**	**-0.1**
VIZE	**Kirklareli, Vi**	**0.98**	**186**	P	**Pg**	**05 46 18.1**	**-0.2**
VIZE				S	**Sg**	**05 46 31.7**	**+0.6**
VIZE				*i* AML	AML	05 46 35.0	
	comp=N,105nm,0.4s						
VIZE				*i* AML	AML	05 46 36.0	
	comp=E,86nm,0.4s						
PHSR	**Pinarhisar**	**0.98**	**200**	Pg	**Pg**	**05 46 19.3**	**+0.9**
PHSR				Sg	**Sn**	**05 46 34.1**	**-1.0**

KIRK Kırklareli 1.01 220 P **Pg** **05 46 19.3 +0.3**
KIRK S **Sb** **05 46 33.6 -0.1**
KIRK *i* AML AML 05 46 36.0
comp=N,97nm,0.5s
KIRK *i* AML AML 05 46 36.0
comp=E,127nm,0.4s
JMB Yambol 1.07 267 P **Pg** **05 46 20.3 +0.3**
JMB S **Sn** **05 46 36.0 -1.1**
PSN Preselentsi 1.08 6 Pg **Pg** **05 46 19.9 -0.4**
PSN Sg **Sg** **05 46 34.7 +0.3**
PSN Preselentsi 1.08 6 P **Pg** **05 46 20.5 +0.2**
PSN S **Sg** **05 46 34.5 +0.1**
CTYL Yalikoy Yolu 1.11 168 Pn **Pn** **05 46 22.4 +0.2**
EDRB Edirne 1.16 232 Pn **Pg** **05 46 21.2 -0.5**
MANR Mangalia 1.34 20 ⇑P **Pg** **05 46 25.4 +0.3**
MANR ⇑S **Sb** **05 46 40.8 -2.1**
SLVT Silivri 1.34 172 Pn **Pn** **05 46 25.4 0.0**
SLVT Sn **Sn** **05 46 45.4 +1.6**
CTKS Kestanelik-??a 1.38 163 Pn **Pn** **05 46 25.9 0.0**
BGKT Bogazkoy 1.50 156 Pn **Pb** **05 46 28.4 +0.2**
KLYT Kilyos 1.53 148 Pn **Pb** **05 46 28.9 +0.2**
ICOR Ion Corvin 1.56 356 ⇑P **Pg** **05 46 30.5 +1.0**
ICOR ⇓S **Sg** **05 46 49.7 0.0**
EFOR EFORIE 1.59 17 ⇑P **Pb** **05 46 29.1 -0.7**
EFOR ⇓S **Sn** **05 46 49.4 -0.7**
SZH Strazhitsa 1.63 296 P **Pn** **05 46 29.7 +0.4**
SZH S **Sb** **05 46 51.1 -0.3**
MFTR Murfatlar 1.65 11 ⇓P **Pb** **05 46 30.0 -0.7**
MFTR ⇑S **Sn** **05 46 51.1 -0.5**
ISK Istanbul-Kandi 1.70 151 Pn **Pb** **05 46 31.3 -0.3**
KAVV Kandilli-Istan 1.70 151 Pn **Pb** **05 46 31.8 +0.2**
UKOP Uzunkopru-Edir 1.74 215 Pn **Pn** **05 46 31.3 +0.4**
CVDA Cernavoda 1.77 2 ⇑S **Sb** **05 46 55.3 -0.3**
DIM Dimitrovgrad 1.85 255 P **Pg** **05 46 35.8 +0.9**
DIM S **Sg** **05 46 59.8 +0.9**
TIRR Tirgusor 1.93 9 ⇑P **Pn** **05 46 33.9 +0.5**
TIRR ⇑S **Sn** **05 46 58.4 +0.1**
RKY Sarkoy-Tekirda 1.96 198 Pn **Pn** **05 46 34.9 +0.9**
TLBR Topalu 1.99 2 ⇑P **Pb** **05 46 36.2 -0.3**
TLBR ⇓S **Sb** **05 47 00.8 -0.9**
ARMT Armutlu 2.10 161 Pn **Pb** **05 46 37.6 -0.8**
AMRR Amara 2.10 348 ⇑S **Sb** **05 47 05.2 +0.2**
HARR Harsova 2.13 359 ⇓P **Pb** **05 46 38.7 -0.3**
HRT Hereke 2.15 143 Pn **Pb** **05 46 38.2 -1.1**
ERIK Erikli-Kesan 2.18 211 Pn **Pn** **05 46 38.0 +1.1**
ALN Alexandroupoli 2.20 222 Pn **Pn** **05 46 37.4 +0.2**
ZIMR 2.20 301 ⇑P **Pg** **05 46 43.6 +1.9**
ZIMR ⇓S **Sg** **05 47 11.5 +1.2**
EDC Edincik 2.21 182 Pn **Pn** **05 46 38.3 +0.9**
YLV Yalova 2.25 152 Pn **Pn** **05 46 39.4 +1.4**
RDO Rodhopi 2.30 233 Pn **Pn** **05 46 38.4 -0.2**
TPGR Topolog 2.32 8 ⇑P **Pb** **05 46 40.8 -1.4**
TPGR ⇑S **Sn** **05 47 09.0 +0.9**
GELI Tayfur-Gelibol 2.43 208 Pn **Pn** **05 46 40.9 +0.5**
SULR 2.46 330 ⇑P **Pb** **05 46 45.4 +0.9**
SULR ⇓S **Sg** **05 47 17.1 -1.4**
SUSR Susurluk-Balik 2.59 178 Pn **Pn** **05 46 43.9 +1.3**
CFR Carcaliu 2.62 3 ⇑P **Pn** **05 46 44.0 +1.1**
CFR ⇑S **Sn** **05 47 16.8 +1.4**
MPEP Malo Peshtene 3.21 286 P **Pg** **05 46 59.7 -1.3**
MPEP S **Sg** **05 47 40.3 -2.2**

TXNET 06 05:46:12.9, 31°.5N±0°.6×103°.7W±0°.7, h5km±1km, ML1.8/7, Error ellipse: s-maj=1.1km s-min=0.9km az=103.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.07**	**27**	P	Pg	05 46 14.5	-0.2
TPB07				S	Sg	05 46 16.6	+0.6
PCOS	**Crockett Middl**	**0.20**	**123**	P	Pg	05 46 17.3	+0.5
PCOS				S	Sg	05 46 20.8	+1.3
PECS	**Pecos**	**0.20**	**224**	P	Pg	05 46 17.6	+0.7
PECS				S	Sg	05 46 21.3	+1.8
TPB10	**Southeast of T**	**0.24**	**190**	P	Pg	05 46 18.2	+0.6
TPB10				S	Sg	05 46 22.2	+1.5
TPB12	**Southwest of T**	**0.37**	**216**	P	Pg	05 46 20.2	0.0
TPB12				S	Sg	05 46 26.1	+1.0
TPB06	**Permian Basin**	**0.44**	**72**	P	Pg	05 46 22.1	+0.7
TPB06				S	Sb	05 46 28.9	-1.1
TPB03	**Saragosa**	**0.46**	**159**	S	Sg	05 46 29.1	+1.2
TPB11	**China Draw**	**0.50**	**326**	S	Sb	05 46 31.3	-0.7
TPB01	**Permian Basin**	**0.57**	**186**	P	Pg	05 46 23.6	-0.4
TPB01				S	Sg	05 46 32.2	+0.7
TPB05	**Hovey Rd**	**0.68**	**151**	P	Pg	05 46 25.7	-0.2
TPB05				S	Sg	05 46 35.2	+0.4
CLNB	**Carlsbad**	**0.76**	**349**	S	Sb	05 46 39.2	-0.2
MNHN	**Monahans**	**0.83**	**102**	P	Pg	05 46 28.5	-0.3
MNHN				S	Sg	05 46 39.3	-0.2
TPB08	**Permian Basin**	**0.93**	**132**	S	Sg	05 46 42.6	-0.1
HTMS	**Hat Mesa**	**0.95**	**4**	S	Sb	05 46 45.2	+0.2
ALPN	**Alpine**	**1.14**	**177**	P	Pg	05 46 33.9	-0.9
ALPN				S	Sg	05 46 49.7	+0.1
ODSA	**Odessa**	**1.15**	**58**	S	Sb	05 46 50.4	-0.3
VHRN	**Van Horn**	**1.32**	**237**	P	Pn	05 46 37.8	-0.3
VHRN				S	Sn	05 46 55.9	-0.1
MNTX	**Cornudas Mount**	**1.44**	**278**	P	Pb	05 46 40.3	+0.1
MNTX				S	Sg	05 46 60.0	+0.7
TMB02	**Rankin**	**1.46**	**102**	S	Sb	05 46 59.0	-0.5
TMB04	**Seminole**	**1.51**	**43**	P	Pn	05 46 40.9	+0.1
TMB04				S	Sb	05 47 01.2	+0.1
SAND	**Sanderson**	**2.07**	**138**	P	Pb	05 46 49.7	-1.2
SAND				S	Sb	05 47 16.9	-0.1
TX31	**Lajitas Ar. Si**	**2.17**	**179**	P	Pb	05 46 51.4	-1.5
TX31				S	Sg	05 47 21.5	-1.3
SGCY	**Sterling City**	**2.23**	**79**	S	Sb	05 47 21.1	-0.6
OZNA	**Ozona**	**2.29**	**104**	P	Pb	05 46 53.3	-1.4
OZNA				S	Sb	05 47 22.6	-0.7

*DJA **06** 05:48:50.5±0.5, 8°S±4°×10°4E±°, h10km, M4.8/16, mb5.0/6, mB5.4/3, MLv4.7/16, Mw(mB)4.8/3*
*IDC **06** 05:48:53.5±0.8, 8°.16S×104°.08E, h0km, mb4.3/14, mbtmp4.3/15, ML4.4/1, MS3.4/7, Error ellipse: s-maj=30.8km s-min=15.0km az=53.0*
*NEIC **06** 05:48:54.6±1.6, 8°.32S±0°.04×104°.0E±0°.1, h10km±1km, mb4.6/18, Error ellipse: s-maj=18.2km s-min=3.4km az=248.0*
ISC 06 05:48:54.4±0.5, 8°.26S±0°.05×104°.12E±0°.06, h10km, n85, σ1°41/78, mb4.5/23, MS3.2/6, 2D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.26**	**44**	P	**Pn**	**05 49 29.4**	**-2.5**
XMI	**Christmas Isla**	**2.67**	**145**	P	**Pn**	**05 49 35.9**	**-1.6**
XMIS	**Christmas Isla**	**2.67**	**146**		**Pn**	**05 49 35.9**	**-1.7**
XMIS	**Christmas Isla**	**2.67**	**146**	P	**Pn**	**05 49 35.5**	**-2.1**
SKJI	**Sukabumi**	**2.72**	**63**	P	**Pb**	**05 49 40.2**	**-3.0**
SBJI	**Serang**	**2.92**	**43**	P	**Pn**	**05 49 42.4**	**+1.5**
CNJI	**Cibinong**	**3.13**	**73**	P	**Pn**	**05 49 42.8**	**-1.0**
LWLI	**Liwa**	**

90nm,0.7s
MYKOM **Kota Tinggi** 9.99 358 P Pn 05 11 15.3 -2.8
9.3nm,1.3s
GSI **Gunungsitoli** 11.53 325 P Pn 05 51 30.8 -8.4
PLAI **Plampang** 13.52 93 P Pn 05 52 06.2 -0.2
KAPI **Kappang** 15.86 79 LR LR 05 58 52.0
comp=Z,94nm,20.0s,baz=270,slow=38
GIRL **Giralia** 17.29 147 Pn Pn 05 52 55.7 -0.3
GIRL **Giralia** 17.29 147 P Pn 05 52 55.3 -0.8
MBWA **Marble Bar** 19.78 132 Pn Pn 05 53 26.8 +0.3
SOEI **Soe** 19.95 96 P Pn 05 53 28.0 -0.7
SOEI IAmb IAmb 05 54 06.2
comp=Z,32nm,0.9s
PSA00 **Pilbara Seismi** 20.12 133 P P 05 53 29.6 +0.9
PSA00 IAmb IAmb 05 53 44.0
comp=Z,23nm,1.1s
FITZ **Fitzroy Crossi** 23.09 117 P P 05 54 01.8 +1.2
FITZ **Fitzroy Crossi** 23.09 117 LR LR 06 02 31.1
comp=Z,76nm,21.6s,baz=313,slow=35
PHRA **Phrae** 26.87 352 P P 05 54 36.0 +0.5
CMAR **Chiang Mai Arr** 27.04 349 P P 05 54 36.7 -0.4
comp=Z,2.6nm,0.5s,baz=182,slow=8.6,SNR=25
CMAR LR LR 06 07 09.6
comp=Z,32nm,18.3s,baz=175,slow=41
comp=Z,2.6nm,0.5s
CHTO **Chiang Mai** 27.39 349 P P 05 54 40.0 -0.2
CHTO IAmb IAmb 05 54 41.2
comp=Z,5.7nm,0.7s
PALK **Pallekele** 27.99 303 LR LR 06 05 00.5
comp=Z,48nm,18.5s,baz=108,slow=35
WB0 **Warramunga Arr** 31.46 115 P P 05 55 18.1 +1.7
WB0 IAmb IAmb 05 55 19.4
comp=Z,12nm,1.2s
WRA **Warramunga Arr** 31.46 115 P P 05 55 16.7 +0.2
comp=Z,2.1nm,0.8s,baz=286,slow=10,SNR=6.3
comp=Z,2.1nm,0.8s
WB2 **Warramunga Arr** 31.47 115 P P 05 55 16.9 +0.4
WB2 IAmb IAmb 05 55 48.7
comp=Z,16nm,1.5s
ASAR **Alice Springs** 32.37 122 P P 05 55 25.6 +1.2
comp=Z,1.4nm,0.9s,baz=288,slow=7.9,SNR=7.2
comp=Z,1.4nm,0.9s
STKA **Stephens Creek** 41.99 129 P P 05 56 47.7 +1.7
comp=Z,2.3nm,0.5s,baz=296,slow=11,SNR=6.0
comp=Z,2.3nm,0.5s
XAN **Xi'an** 42.32 6 P P 05 56 47.5 -1.1
XAN pmax pmax
comp=Z,10.0nm,0.8s
LZH **Lanzhou** 44.11 360 *e*P P 05 57 07.3 +4.1
LZH pP pwP 05 57 14.0 +1.3
LZH pmax pmax
comp=Z,22nm,1.3s
GTA **Gaotai** 47.60 355 P P 05 57 31.8 +1.1
GTA sP pwP 05 57 42.2 +2.1
GTA pmax pmax
comp=Z,3.0nm,0.7s
JNU **Nakatsue** 48.40 30 LR LR 06 19 26.3
comp=Z,31nm,18.5s,baz=180,slow=38
SONM **Songino Array** 55.89 2 P P 05 58 32.8 +0.3
SONM IAmb IAmb 05 58 34.0
comp=Z,5.2nm,1.0s
SONM **Songino Array** 55.89 2 P P 05 58 32.8 +0.3
comp=Z,3.9nm,0.9s,baz=174,slow=9.1,SNR=23
SONM PcP PcP 05 59 31.4 +0.2
comp=Z,1.0nm,0.5s,baz=190,slow=4.4,SNR=3.6
comp=Z,3.9nm,0.9s
BNX **BinXian** 57.67 19 ⇓P P 05 58 44.8 -0.2
BNX pmax pmax
comp=Z,6.0nm,0.8s
USRK **Ussuriysk Ar.** 57.99 23 P P 05 58 46.7 -0.6
USRK **Ussuriysk Ar.** 57.99 23 P P 05 58 46.6 -0.7
comp=Z,2.4nm,0.7s,baz=206,slow=8.8,SNR=4.7
comp=Z,2.4nm,0.7s
MK31 **Makanchi Array** 58.16 342 P P 05 58 48.5 +0.1
MKAR **Makanchi Array** 58.16 342 P P 05 58 47.5 -0.9
MKAR **Makanchi Array** 58.16 342 P P 05 58 48.5 0.0
comp=Z,1.8nm,0.6s,baz=145,slow=8.3,SNR=26
comp=Z,1.8nm,0.6s
HEH **HeiHe** 61.70 17 *e*P P 05 59 12.2 -0.5
HEH pmax pmax
comp=Z,8.0nm,0.7s
KURBB **Kurchatov Arra** 62.71 342 P P 05 59 19.4 0.0
comp=Z,1.9nm,0.9s,baz=158,slow=5.8,SNR=14
comp=Z,1.9nm,0.9s
ZAA0 **Zalesovo Array** 64.09 347 P P 05 59 28.5 0.0
ZALV **Zalesovo Beam** 64.09 347 P P 05 59 28.2 -0.3
comp=Z,4.7nm,0.4s,baz=147,slow=3.5,SNR=29
comp=Z,4.7nm,0.4s
BVAR **Borovoye Array** 67.45 339 P P 05 59 50.0 -0.2
comp=Z,2.5nm,0.6s,baz=144,slow=7.9,SNR=15
comp=Z,2.5nm,0.6s
BRVK **Borovoye** 67.52 339 P P 05 59 50.5 -0.2
ABKAR **Abkulak array** 69.07 331 P P 06 00 00.7 +0.3
ABKAR **Abkulak array** 69.07 331 P P 06 00 00.8 +0.4
ABKAR IAmb IAmb 06 00 01.6
comp=Z,5.7nm,0.8s
SYO **Syowa Base** 73.35 200 ⇓*e*pP pP 06 00 28.6 +1.2
ARTI **Arti** 74.60 336 P P 06 00 32.8 -0.7
KBZ **Khabaz** 75.70 319 P P 06 00 39.1 -1.0
comp=Z,1.7nm,0.8s,baz=127,slow=10,SNR=2.7
comp=Z,1.7nm,0.8s
SUR **Sutherland** 80.00 239 LR LR 06 31 05.7
comp=Z,44nm,18.5s,baz=116,slow=32
BRTR **Keskin Array B** 80.55 313 P P 06 01 07.5 0.0
comp=Z,1.5nm,0.8s,baz=134,slow=8.0,SNR=7.6
comp=Z,1.5nm,0.8s
TIXI **Tiksi** 81.42 8 LR LR 06 39 55.5
comp=Z,52nm,20.5s,baz=338,slow=38
QSPA **South Pole Qui** 81.74 180 P P 06 01 11.4 -1.8
QSPA IAmb IAmb 06 01 44.5
comp=Z,5.6nm,1.4s
QSPA **South Pole Qui** 81.74 180 P P 06 01 14.9 +1.7
comp=Z,2.3nm,0.9s,baz=301,slow=12,SNR=6.9
comp=Z,2.3nm,0.9s
BURAR **Bucovina Array** 88.64 318 P P 06 01 48.1 0.0
BUR08 **Bucovina Ar. S** 88.66 318 P P 06 01 47.9 -0.3
BUR08 IAmb IAmb 06 01 59.6
comp=Z,7.0nm,1.5s
FINES **FINESS Array B** 91.53 332 P P 06 02 01.1 +0.1
FINES **FINESS Array B** 91.53 332 P P 06 02 01.7 +0.6
comp=Z,3.1nm,0.9s,baz=87,slow=4.0,SNR=4.9
comp=Z,3.1nm,0.9s
YKA **Yellowknife Ar** 119.01 19 PKP PKPdf 06 07 43.1 0.0
comp=Z,0.1nm,0.7s,baz=329,slow=1.4,SNR=4.1
TXAR **Lajitas Array** 146.53 48 PKPbc PKPab 06 08 38.1 +0.3
comp=Z,0.8nm,0.7s,baz=252,slow=2.3,SNR=12
T42A **Van Buren** 148.20 23 PKPbc 06 08 41.7 +0.5
JCT **Junction City** 148.55 42 PKPbc 06 08 43.1 +0.7

*SDD **06** 05:51:45.0±2.3, 19°.35N×68°.12W, h20km±116km, MD3.5, ML2.2, MW2.9*
*OSPL **06** 05:51:45.4±1.2, 19°.27N×68°.18W, h0km±12km, ML2.1, Hypocentre not reviewed by the ISC*
*NEIC **06** 05:51:47.0±1.2, 19°.25N±0°.06×68°.21W±0°.03, h35km±2km, ML2.1/22, Md3.1/12(RSPR), Error ellipse: s-maj=10.3km s-min=3.2km az=196.0*
*RSPR **06** 05:51:46.1, 19°.50N×68°.16W, h48km±7km, MD3.1/12*
ISC 06 05:51:42.1±1.5, 19°.37N±0°.06×68°.14W±0°.03, h10km±10km, n55, σ0§95/67, 20C-10D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	0.88	195		**Pg**	05 51 58.6	-0.4
PCDR					**Sb**	05 52 10.8	-0.5
PCDR	**Punta Cana, DR**	0.88	195	IAML		05 52 18.9	
	comp=N,90nm,1.6s						
PCDR	**Punta Cana, DR**	0.88	195	⇑*e*Pg	**Pn**	05 52 01.5	+0.9
PCDR				⇑*e*Sg	**Sb**	05 52 11.4	+0.1
PCDR				IAML		05 52 15.0	
	comp=N,77nm,0.7s						
PCDR	**Punta Cana, DR**	0.88	195	*i* P		05 51 58.6	
PCDR				*e*S		05 52 09.9	
PCDR				IAML		05 52 13.1	
	comp=Z,45nm,1.9s						
SMDR	**Samana, DR**	1.00	266	⇑*e*Pg	**Pn**	05 52 02.9	+0.7
SMDR				⇑*e*Sg	**Sn**	05 52 16.1	-0.1
SMDR				IAML		05 52 17.9	
	comp=N,54nm,0.6s						
SMDR	**Samana, DR**	1.00	266	⇑*e*P	**Pn**	05 52 02.8	+0.7
SMDR	**Samana, DR**	1.00	266	*e*S	**Sn**	05 52 15.4	-0.9
IDE	**Isla Desecheo**	1.16	147		**Pb**	05 52 03.9	-0.4
IDE					**Sn**	05 52 20.0	-0.3
IDE	**Isla Desecheo**	1.16	147	⇑*e*P	**Pb**	05 52 03.9	-0.4
IDE	**Isla Desecheo**	1.16	147	*e*S	**Sn**	05 52 20.0	-0.3
DR12	**Loma Pena Alta**	1.31	244	Pn	**Pg**	05 52 07.5	+0.2
DR12				IAML		05 52 26.6	
	comp=N,34nm,0.8s						
HATOM	**Hato Mayor del**	1.31	244	⇓*e*Pg	**Pg**	05 52 07.4	+0.1
HATOM				⇑*e*Sg	**Sg**	05 52 25.9	+1.6
HATOM				IAML		05 52 26.5	
	comp=N,32nm,0.5s						
SADR	**Isla Saona**	1.32	208	⇓*e*Pg	**Pg**	05 52 07.0	-0.4
SADR				⇓*e*Sg	**Sg**	05 52 24.0	-0.6
SADR				IAML		05 52 26.0	
	comp=N,73nm,1.6s						
SADR				IAML		05 52 26.0	
	comp=N,73nm,1.6s						
AGPR	**Aguadilla, PR**	1.32	132		**Pg**	05 52 08.6	+1.1
AGPR					**Sg**	05 52 25.8	+1.1
AGPR	**Aguadilla, PR**	1.32	132	IAML		05 52 27.5	
	comp=E,46nm,0.8s						
AGPR				IAML		05 52 36.3	
	comp=N,41nm,1.9s						
AGPR	**Aguadilla, PR**	1.32	132	⇑*e*Pg	**Pg**	05 52 08.6	+1.1
AGPR				⇓*e*Sg	**Sg**	05 52 25.6	+0.9
AGPR				IAML		05 52 43.3	
	comp=N,28nm,1.1s						
AGPR	**Aguadilla, PR**	1.32	132	⇑*e*P	**Pg**	05 52 08.6	+1.1
AGPR	**Aguadilla, PR**	1.32	132	*e*S	**Sg**	05 52 25.8	+1.1
AGPR	**Aguadilla, PR**	1.32	132	*i* P		05 52 08.6	
AGPR				*e*S		05 52 24.8	
AGPR				IAML		05 52 26.0	
	comp=Z,32nm,1.7s						
PRSN	**Puerto Rico Se**	1.48	140	Pn	**Pg**	05 52 10.2	-0.3
LSP	**Las Mesas**	1.55	140		**Pg**	05 52 12.0	+0.1
LSP					**Sg**	05 52 32.1	+0.2
LSP	**Las Mesas**	1.55	140	⇑*e*P	**Pg**	05 52 12.0	+0.1
LSP	**Las Mesas**	1.55	140	*e*S	**Sg**	05 52 32.1	+0.2
AOPR	**Arecibo Observ**	1.66	128		**Pb**	05 52 12.9	+0.1
AOPR					**Sb**	05 52 34.3	+0.6
AOPR	**Arecibo Observ**	1.66	128	IAML		05 52 38.2	
	comp=N,34nm,0.5s						
AOPR	**Arecibo Observ**	1.66	128	⇓*e*Pg	**Pb**	05 52 12.9	+0.1
AOPR				⇓*e*Sg	**Sg**	05 52 34.8	-0.6
AOPR				IAML		05 52 38.1	
	comp=N,32nm,0.4s						
AOPR	**Arecibo Observ**	1.66	128	⇑*e*P	**Pb**	05 52 12.9	+0.1
AOPR	**Arecibo Observ**	1.66	128	*e*S	**Sb**	05 52 34.3	+0.6
CRPR	**Cabo Rojo, PR**	1.67	144		**Pg**	05 52 13.9	-0.2
CRPR					**Sb**	05 52 34.5	+0.5
CRPR	**Cabo Rojo, PR**	1.67	144	⇑*e*Pg	**Pg**	05 52 13.4	-0.7
CRPR				⇓*e*Sg	**Sg**	05 52 36.4	+0.6
CRPR				IAML		05 52 39.6	
	comp=N,14nm,0.4s						
CRPR	**Cabo Rojo, PR**	1.67	144	⇑*e*P	**Pg**	05 52 13.9	-0.2
CRPR	**Cabo Rojo, PR**	1.67	144	*e*S	**Sb**	05 52 34.5	+0.5
CRPR	**Cabo Rojo, PR**	1.67	144	*i* P		05 52 13.5	
CRPR				*e*S		05 52 34.2	
CRPR				IAML		05 52 40.7	
	comp=Z,20nm,0.4s						
MLPR	**Magueyes Islan**	1.73	143		**Pb**	05 52 13.7	-0.4
MLPR					**Sg**	05 52 36.7	-1.1
MLPR	**Magueyes Islan**	1.73	143	IAML		05 52 38.6	
	comp=E,22nm,1.2s						
MLPR				IAML		05 52 39.8	
	comp=N,17nm,0.9s						
MLPR	**Magueyes Islan**	1.73	143	⇓*e*Pg	**Pb**	05 52 13.8	-0.3
MLPR				⇑*e*Sg	**Sb**	05 52 35.3	-0.6
MLPR				IAML		05 52 39.6	
	comp=N,15nm,0.8s						
MLPR	**Magueyes Islan**	1.73	143	⇑*e*P	**Pb**	05 52 13.7	-0.4
MLPR	**Magueyes Islan**	1.73	143	*e*S	**Sg**	05 52 36.7	-1.1
CELP	**Cerrillos**	1.96	131		**Pb**	05 52 17.3	-0.6
CELP					**Sb**	05 52 41.9	-0.5
CELP	**Cerrillos**	1.96	131	IAML		05 52 46.7	
	comp=E,14nm,1.0s						
CELP				IAML		05 52 48.0	
	comp=N,14nm,0.8s						
CELP	**Cerrillos**	1.96	131	⇑*e*Pg	**Pb**	05 52 17.2	-0.6
CELP				⇑*e*Sg	**Sb**	05 52 42.7	+0.3
CELP				IAML		05 52 47.9	
	comp=N,13nm,0.3s						
CELP	**Cerrillos**	1.96	131	⇑*e*P	**Pb**	05 52 17.3	-0.6
CELP	**Cerrillos**	1.96	131	*e*S	**Sb**	05 52 41.9	-0.5
OBIP	**Obispado Ponce**	1.96	132		**Pb**	05 52 16.9	-1.0
OBIP					**Sb**	05 52 42.0	-0.4
OBIP	**Obispado Ponce**	1.96	132	IAML		05 52 44.8	
	comp=N,17nm,0.7s						
OBIP	**Obispado Ponce**	1.96	132	⇑*e*P	**Pb**	05 52 16.9	-1.0
OBIP	**Obispado Ponce**	1.96	132	*e*S	**Sb**	05 52 42.0	-0.4
ECPR	**Experimental S**	1.98	122	⇑*e*P	**Pb**	05 52 17.1	-1.1
ECPR	**Experimental S**	1.98	122	*e*S	**Sb**	05 52 41.9	-1.1
GCPR	**Guaynabo City**	2.21	118		**Sb**	05 52 48.1	-1.5
GCPR	**Guaynabo City**	2.21	118	*e*S	**Sb**	05 52 48.1	-1.5
PDPR	**Patillas Dam,**	2.41	123	⇓*e*P	**Pb**	05 52 24.1	-1.5
PDPR	**Patillas Dam,**	2.41	123	*e*S	**Sb**	05 52 53.0	-2.5
HUMP	**Col San Antoni**	2.49	119		**Pb**	05 52 24.6	-2.3
HUMP					**Sn**	05 52 54.9	+1.8
HUMP	**Col San Antoni**	2.49	119	IAML		05 53 43.4	
	comp=N,7.5nm,3.3s						
HUMP				IAML		05 53 58.2	
	comp=E,7.5nm,0.2s						
HUMP	**Col San Antoni**	2.49	119	⇓*e*P	**Pb**	05 52 24.6	-2.3
HUMP	**Col San Antoni**	2.49	119	*e*S	**Sn**	05 52 54.9	+1.8
SDDR	**Presa de Saban**	3.00	263	Pn	**Pn**	05 52 30.8	+0.9

*IDC **06** 06:01:55.0±0.9, 13°.52N×121°.65E, h0km, mb3.8/10, mbtmp3.8/10, MS2.8/1, Error ellipse: s-maj=36.9km s-min=14.8km az=52.0*
*NEIC **06** 06:01:57.6±2.6, 13°.87N±0°.09×121°.84E±0°.05, h10km±1km, mb4.6/12, Error ellipse: s-maj=16.9km s-min=5.1km az=200.0*
ISC 06 06:01:57.0±0.7, 13°.77N±0°.10×121°.77E±0°.09, h10km, n26, σ1§40/27, mb4.1/16, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	0.87	292	Pn	**Pn**	06 02 15.2	-0.2
	822nm,0.3s,baz=140,slow=3.5,SNR=49						
TGY				Sn	**Sn**	06 02 28.7	+0.5
	2μm,0.3s,baz=5.7,slow=22,SNR=9.5						
DAV	**Davao City (W)**	7.64	150	Pn	**Pn**	06 03 49.3	+0.8
TWG	**Pinlang**	9.03	356	Pn	**Pn**	06 04 06.4	-1.1
PHRA	**Phrae**	21.21	286	P	**P**	06 06 44.2	+1.1
CM31	**Chiang Mai Arr**	22.41	285	P	**P**	06 06 56.8	+0.8
CM31				IAmb	IAmb	06 06 59.8	
	comp=Z,25nm,1.2s						
CMAR	**Chiang Mai Arr**	22.41	285	P	**P**	06 06 57.9	+1.9
CMAR	**Chiang Mai Arr**	22.41	285	P	**P**	06 06 55.7	-0.3
	comp=Z,2.6nm,0.3s,baz=97,slow=7.7,SNR=38						
CMAR				LR	LR	06 15 46.1	
	comp=Z,26nm,19.3s,baz=10.0,slow=37						
	comp=Z,2.6nm,0.3s						
CHTO	**Chiang Mai**	22.46	286	P	**P**	06 06 55.9	-0.7
SHL	**Shillong**	30.41	297	P	**P**	06 08 09.8	-0.1
SHL				IAmb	IAmb	06 08 10.7	
	comp=Z,16nm,1.1s						
WB0	**Warramunga Arr**	35.57	159	P	**P**	06 08 53.1	-1.7
WRAB	**Tennant Creek**	35.71	159	P	**P**	06 08 57.1	+1.2
WRAB				IAmb	IAmb	06 09 39.4	
	comp=Z,20nm,1.2s						
WRA	**Warramunga Arr**	35.71	159	P	**P**	06 08 55.3	-0.6
WRA	**Warramunga Arr**	35.71	159	P	**P**	06 08 53.5	-2.5
	comp=Z,0.4nm,0.3s,baz=332,slow=10,SNR=5.5						
	comp=Z,0.4nm,0.3s						
WB2	**Warramunga Arr**	35.72	159	P	**P**	06 08 54.7	-1.3
WB2				IAmb	IAmb	06 09 01.6	
	comp=Z,6.3nm,0.9s						
SONM	**Songino Array**	36.29	342	P	**P**	06 09 01.0	+0.1
	comp=Z,0.4nm,0.6s,baz=165,slow=11,SNR=3.5						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	39.05	162	P	**P**	06 09 22.1	-2.3
	comp=Z,1.2nm,0.9s,baz=334,slow=6.7,SNR=6.8						
	comp=Z,1.2nm,0.9s						
MORW	**Morawa**	42.94	187	P	**P**	06 09 56.9	+0.6
MKAR	**Makanchi Array**	46.59	323	P	**P**	06 10 25.6	+0.4
	comp=Z,0.7nm,0.8s,baz=135,slow=7.7,SNR=6.2						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	49.48	332	P	**P**	06 10 49.4	+2.0
	comp=Z,0.5nm,0.4s,baz=101,slow=7.5,SNR=2.5						
	comp=Z,0.5nm,0.4s						
KURK	**Kurchatov**	50.71	326	P	**P**	06 10 58.2	+1.4
KURK				IAmb	IAmb	06 10 59.8	
	comp=Z,5.4nm,0.8s						
KURBB	**Kurchatov Arra**	50.71	326	P	**P**	06 10 57.8	+1.0
	comp=Z,2.3nm,0.8s,baz=120,slow=8.2,SNR=14						
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	56.30	325	P	**P**	06 11 38.7	+0.8
	comp=Z,1.3nm,0.8s,baz=114,slow=7.2,SNR=7.0						
	comp=Z,1.3nm,0.8s						
BRVK	**Borovoye**	56.37	325	P	**P**	06 11 38.7	+0.3
BRVK				IAmb	IAmb	06 11 40.4	
	comp=Z,6.1nm,1.1s						
ABKAR	**Abkulak array**	61.36	319	P	**P**	06 12 10.2	-2.9
ILAR	**Eielson Array**	78.23	26	P	**P**	06 13 58.7	+2.0
	comp=Z,0.2nm,0.7s,baz=272,slow=5.5,SNR=1.7						
	comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	80.73	331	P	**P**	06 14 09.8	-0.5
	comp=Z,2.8nm,0.9s,baz=111,slow=4.7,SNR=3.5						
	comp=Z,2.8nm,0.9s						

TXNET 06 06:16:44.5, 31°.6N±0°.8×104°.2W±0°.8, h4km±1km, ML1.8/8, Error ellipse: s-maj=1.3km s-min=1.0km az=49.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	0.36	29	P	Pg	06 16 51.3	-0.2
TPB11				S	Sg	06 16 56.0	-0.3
PECS	**Pecos**	0.41	128	P	Pg	06 16 53.2	+0.8
PECS	**Pecos**	0.41	128	P	Pg	06 16 52.9	+0.5
PECS				S	Sg	06 16 58.2	+0.5
TPB12	**Southwest of T**	0.47	149	P	Pg	06 16 53.6	0.0
TPB12				S	Sg	06 17 00.2	+0.4
TPB12	**Southwest of T**	0.47	149	P	Pg	06 16 53.6	0.0
TPB12				S	Sg	06 17 00.2	+0.4
TPB07	**Mentone**	0.49	95	P	Pn	06 17 01.5	+3.1
TPB07	**Mentone**	0.49	95	S	Sg	06 17 01.2	+0.8
GDL2	**Guadalupe Moun**	0.59	350	P	Pg	06 16 55.8	0.0
CLNB	**Carlsbad**	0.71	26	P	Pg	06 16 58.8	+0.6
CLNB				S	Sg	06 17 07.8	+0.3
TPB01	**Permian Basin**	0.78	150	P	Pg	06 16 59.2	-0.3
TPB01				S	Sg	06 17 09.6	-0.1
TPB03	**Saragosa**	0.82	131	S	Sg	06 17 11.7	+0.8
TPB03	**Saragosa**	0.82	131	S	Sg	06 17 11.7	+0.7
TPB06	**Permian Basin**	0.87	88	S	Sg	06 17 12.4	-0.2
MNTX	**Cornudas Mount**	0.98	275	P	Pg	06 17 03.4	+0.2
MNTX				S	Sg	06 17 16.4	+0.5
HTMS	**Hat Mesa**	0.99	31	P	Pg	06 17 03.9	+0.3
NM01	**Eunice**	1.02	44	S	Sg	06 17 16.9	-0.5
VHRN	**Van Horn**	1.05	218	P	Pg	06 17 04.7	+0.1
VHRN				S	Sb	06 17 19.1	-0.4
TPB05	**Hovey Rd**	1.05	131	S	Sg	06 17 18.5	+0.1
MNHN	**Monahans**	1.29	102	P	Pg	06 17 08.5	-0.8
MNHN				S	Sb	06 17 26.4	-0.1
ALPN	**Alpine**	1.35	157	P	Pn	06 17 09.1	-1.2
ALPN				S	Sg	06 17 26.6	-1.3
ODSA	**Odessa**	1.52	71	P	Pn	06 17 12.0	-0.6
ODSA				S	Sn	06 17 32.0	-0.9
TMB04	**Seminole**	1.79	56	P	Pn	06 17 16.4	0.0
TMB04				S	Sn	06 17 40.0	+0.3
TMB02	**Rankin**	1.93	102	P	Pn	06 17 18.3	+0.1
TMB02				S	Sb	06 17 44.0	-0.8
TX31	**Lajitas Ar. Si**	2.33	168	P	Pn	06 17 25.5	+1.7
SAND	**Sanderson**	2.47	132	P	Pb	06 17 29.4	-0.1
SAND				S	Sb	06 18 01.4	+1.2
MSTX	**Muleshoe**	2.65	27	P	Pn	06 17 30.1	+2.0
MSTX				S	Sb	06 18 03.4	-2.2

*SNET **06** 06:19:06.8±0.7, 12°.86N×90°.17W, h17km±8km, ML2.8*
*GCG **06** 06:19:06.7±0.6, 12°.92N×90°.28W, h20km±9km, MD3.2, Hypocentre not reviewed by the ISC*
*CATAC **06** 06:19:12.5±4.2, 13°N±29°×9°0W±2°2, h30km±13km, M3.0/12, MLv3.0/12, Error ellipse: s-maj=76.7km s-min=17.9km az=36.3*
ISC 06 06:18:59.2±6.7, 12°.4N±0°.3×90°.7W±0°.4, h35km, n35, σ0§67/35, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	1.72	51	*i* P		06 19 25.8	
NUBE	**Las Nubes**	1.73	31	*e*P	**Pn**	06 19 26.4	-0.6
NUBE	**Las Nubes**	1.73	31	P	**Pn**	06 19 26.7	-0.3
NUBE	**Las Nubes**	1.73	31	*i* P		06 19 26.5	
JAYA	**Jayaque - finc**	1.73	44	*i* P	**Pn**	06 19 26.2	-0.8
JAYA				IAML		06 19 27.3	
	comp=Z,340nm,0.2s						
JAYA	**Jayaque - finc**	1.73	44	P	**Pn**	06 19 26.5	-0.5
JAYA	**Jayaque - finc**	1.73	44	*i* P		06 19 26.4	
CEVE	**Cerro Verde**	1.76	36	*e*P	**Pn**	06 19 27.1	-0.2
CEVE	**Cerro Verde**	1.76	36	P	**Pn**	06 19 27.1	-0.2
SBLS	**San Blas**	1.77	36	*e*P	**Pn**	06 19 27.2	-0.3
SNJE	**San Jose**	1.80	36	*i* P	**Pn**	06 19 27.6	-0.3
RTR	**El Retiro**	1.80	34	*e*P	**Pn**	06 19 27.9	0.0
RTR				IAML		06 19 28.7	
	comp=Z,141nm,0.3s						
LOAL	**Lomas de Alarc**	1.82	29	P	**Pn**	06 19 28.3	+0.3
SLOZ	**Alcaldia de Sa**	1.84	29	*e*P	**Pn**	06 19 28.2	-0.1
SLOZ				IAML		06 19 53.3	
	comp=Z,128nm,0.5s						
SLOZ	**Alcaldia de Sa**	1.84	29	P	**Pn**	06 19 28.3	-0.1
PMON	**Piamonte**	1.87	46	*e*P	**Pn**	06 19 28.2	-0.5
PMON	**Piamonte**	1.87	46	P	**Pn**	06 19 28.3	-0.5
CEDA	**San Andres**	1.88	42	*e*P	**Pn**	06 19 27.8	-1.0
UNIC	**Universidad Ca**	1.92	35	P	**Pn**	06 19 29.5	0.0
UEES	**Universidad Ev**	1.92	47	P	**Pn**	06 19 29.1	-0.4
LOMA	**Loma Larga**	1.93	50	*e*P	**Pn**	06 19 29.0	-0.6
LOMA	**Loma Larga**	1.93	50	P	**Pn**	06 19 29.1	-0.6
LFRS	**El Faro**	2.00	52	*e*P	**Pn**	06 19 30.1	-0.5
COEG	**Centro de Oper**	2.14	55	*i* P	**Pn**	06 19 32.1	-0.4
COEG				IAML		06 19 35.0	
	comp=Z,194nm,0.3s						
COEG	**Centro de Oper**	2.14	55	P	**Pn**	06 19 32.2	-0.3
PAVA	**Las Pavas**	2.15	52	*e*P	**Pn**	06 19 32.7	+0.1
PAVA	**Las Pavas**	2.15	52	P	**Pn**	06 19 32.7	+0.1
UESV	**Universidad de**	2.22	56	P	**Pn**	06 19 32.9	-0.7
SCLA	**Alcaldia de Sa**	2.31	56	*i* P	**Pn**	06 19 35.0	+0.2
SCLA	**Alcaldia de Sa**	2.31	56	P	**Pn**	06 19 35.0	+0.2
MTO3	**Montecristo**	2.37	33	*e*P	**Pn**	06 19 36.2	+0.4
MTO3	**Montecristo**	2.37	33	P	**Pn**	06 19 36.6	+0.8
MTO3	**Montecristo**	2.37	33	*i* P		06 19 36.1	
ESQI	**Esquipulas**	2.51	31	*e*P	**Pn**	06 19 38.3	+0.7
PACA

OTVZ	Oturere	8.51 199	P	Pn	06 42 51.5	-2.1
MCHZ	McNeill Hill	8.53 194	P	Pn	06 42 52.4	-1.2
KWHZ	Kaweka Forest	8.57 195	P	Pn	06 42 52.9	-1.2
KRHZ	Kereru	8.79 195	P	Pn	06 42 54.6	-2.2
PXZ	Pawanui	9.07 192	P	Pn	06 42 57.9	-2.1
PNHZ	Pukenui	9.09 195	P	Pn	06 42 57.4	-3.0

*IDC **06** 06:53:53.5±1.1, 1°.61N×126°.00E, h0km, mb3.9/5, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=101.9km s-min=18.4km az=69.0*
*DJA **06** 06:54:00.0±0.5, 2°.N±4°.×12°.6E±°., h74km±14km, M3.9/8, mb3.8/1, MLv3.9/8*
ISC 06 06:54:00.5±0.9, 1°.67N±0°.08×126°.18E±0°.10, h54km, n9, σ0°81/10, mb3.9/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.49	127	P	Pn	06 54 25.1	+0.2
SGSI	Sangihe	2.10	342	P	Pn	06 54 32.9	-0.4
KMSI	Cibinong	2.45	244	P	Pn	06 54 38.3	+0.2
FITZ	Fitzroy Crossi	19.65	182	P	P	06 58 23.9	-1.0
	0.2nm,0.3s,baz=19,slow=12,SNR=2.2 3.4nm,0.9s						
WRA	Warramunga Arr	22.93	160	P	P	06 58 59.1	-1.0
	2.4nm,0.5s,baz=337,slow=11,SNR=23 2.4nm,0.5s						
ASAR	Alice Springs	26.29	164	P	P	06 59 30.9	-0.1
	1.6nm,0.5s,baz=347,slow=7.6,SNR=38						
ASAR				PcP	PcP	07 02 57.0	+0.5
	0.3nm,0.6s,baz=351,slow=3.0,SNR=1.6 1.6nm,0.5s						
STKA	Stephens Creek	36.43	158	P	P	07 01 00.1	0.0
	2.2nm,0.6s,baz=340,slow=5.8,SNR=4.5 2.2nm,0.6s						
SONM	Songino Array	49.07	342	P	P	07 02 43.7	+1.3
	0.2nm,0.3s,baz=145,slow=5.3,SNR=2.4 0.2nm,0.3s						
MKAR	Makanchi Array	58.93	326	P	P	07 03 53.6	-0.6
	0.7nm,0.4s,baz=121,slow=7.5,SNR=14 0.7nm,0.4s						

*ASRS **06** 06:59:31.0±0.8, 54°.17N×87°.09E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 06 06:59:33.5±3.2, 54°.23N×87°.18E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=30.5km s-min=18.8km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.42	259	I	I	07 07 13.9	
	baz=79,slow=344,SNR=11						
ZALV	Zalesovo Beam	1.42	259	Pg	Pn	06 59 59.2	-1.3
	1.0nm,0.3s,baz=74,slow=15,SNR=11						
ZALV				Lg	Lg	07 00 19.1	
	1.4nm,0.3s,baz=78,slow=28,SNR=7.2						
KURBB	Kurchatov Arra	6.40	239	Pn	Pn	07 01 09.3	+0.3
	0.1nm,0.3s,baz=54,slow=14,SNR=2.7 0.3nm,0.4s						
MKAR	Makanchi Array	8.07	205	Pn	Pn	07 01 33.3	+1.4
	0.1nm,0.3s,baz=26,slow=13,SNR=7.8 0.2nm,0.3s						

*AFAD **06** 06:59:38.4, 36°.46N×44°.03E, h10km±2km, ML2.7*
*ISN **06** 06:59:42.2±1.2, 36°.42N×44°.59E, h16km, ML2.8*
*TEH **06** 06:59:43.1, 36°.45N×44°.59E, h17km±148km*
ISC 06 06:59:39.9±1.3, 36°.53N±0°.04×44°.29E±0°.05, h10km±11km, n16, σ1°41/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	Hakkari_Yksek	1.06	0	P	Pg	06 59 59.6	-0.7
YOVA				S	Sn	07 00 16.6	+0.6
YOVA				*i* AML	AML	07 00 20.0	
	comp=N,173nm,0.6s						
YOVA				*i* AML	AML	07 00 20.0	
	comp=E,125nm,0.5s						
IKRK	Kirkuk	1.12	178	*e*Pg	Pg	07 00 00.5	-1.0
	baz=11						
IKRK				*e*Sg	Sn	07 00 16.0	-1.2
HAKT	HAKKARI	1.13	336	P	Pb	06 59 59.9	-1.8
HAKT				S	Sg	07 00 15.6	-0.8
HAKT				*i* AML	AML	07 00 19.0	
	comp=E,277nm,0.6s						
HAKT				*i* AML	AML	07 00 20.0	
	comp=N,330nm,0.6s						
MAHB	Mahabad	1.17	78	Pg	Pb	07 00 01.4	-0.8
SIRT	Sirnak	1.77	304	P	Pn	07 00 10.6	-0.1
SIRT				S	Sn	07 00 32.0	-1.4
SIRT				*i* AML	AML	07 00 44.0	
	comp=N,148nm,0.8s						
IAZR	Azarshahr	1.78	49	Pg	Pb	07 00 13.5	+0.7
SIRN	Sırnak	1.79	303	P	Pg	07 00 15.8	+1.7
SIRN				S	Sn	07 00 32.4	-1.3
PERV	Siirt/Pervari-	1.99	316	P	Pn	07 00 11.9	-1.9
PERV				S	Sb	07 00 41.6	+0.5
PERV				*i* AML	AML	07 00 47.0	
	comp=N,134nm,0.5s						
PERV				*i* AML	AML	07 00 47.0	
	comp=E,111nm,0.5s						
GEVA	Gevas	2.04	332	P	Pn	07 00 14.5	+0.1
GEVA				S	Sn	07 00 41.4	+1.4
GEVA				*i* AML	AML	07 00 48.0	
	comp=N,24nm,0.6s						
GEVA				*i* AML	AML	07 00 49.0	
	comp=E,28nm,0.6s						
ITBZ	Tabriz	2.26	40	Pn	Pb	07 00 20.2	-0.7
SRTM	Siirt_Merkez	2.39	308	P	Pn	07 00 21.3	+2.1
SRTM				S	Sb	07 00 52.1	-0.5
SRTM				*i* AML	AML	07 01 01.0	
	comp=E,45nm,0.5s						
SRTM				*i* AML	AML	07 01 02.0	
	comp=N,72nm,0.6s						
MIDY	Mardin/Midyat-	2.48	292	P	Pg	07 00 30.3	+3.0
MIDY				S	Sn	07 00 50.9	+0.1
IDHR	Dehrash	2.50	136	Pn	Pn	07 00 22.4	+1.5
ILIN	Lien	2.70	126	Pn	Pn	07 00 25.0	+1.3
IGHG	Ghaleghazi	2.88	139	Pn	Pn	07 00 27.4	+1.4
MUSM	Mu-Merkez	3.11	316	P	Pn	07 00 30.2	+1.0
MUSM				S	Sb	07 01 11.9	-1.5

*ASRS **06** 07:00:43.0±1.8, 53°.73N×90°.99E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
NNC 06 07:00:55.6±3.5, 53°.54N×90°.34E, h12km±18km, mb3.6, mpv3.4, 6C-8D, Error ellipse: s-maj=21.9km s-min=19.8km az=51.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.30	279	⇓Pn	Pn	07 01 49.3	+2.3
	2.1nm,0.9s						
ZAA0				⇓Lg	Lg	07 02 40.9	
	26nm,1.1s						
KURK	Kurchatov	7.75	253	⇑Pn	Pn	07 02 46.2	-1.9
	3.6nm,0.9s						
KURK				⇑Sn	Sn	07 04 15.6	0.0
	8.9nm,0.9s						
KURK				⇓Lg	Lg	07 05 01.9	
	35nm,1.2s						
KURBB	Kurchatov Arra	7.84	253	⇑Pn	Pn	07 02 47.5	-1.8
	4.3nm,1.2s						
KURBB				⇓Sn	Sn	07 04 18.3	+0.4
	22nm,0.9s						
KURBB				⇓Lg	Lg	07 05 07.1	
	74nm,1.2s						
MK31	Makanchi Array	8.50	221	⇓Pn	Pn	07 02 58.1	-0.3
	3.1nm,1.2s,baz=31,slow=13,SNR=8.4						
MK31				⇑Sn	Sn	07 04 37.0	+2.8
	3.4nm,0.9s,baz=35,slow=18,SNR=5.2						
MK31				⇑Lg	Lg	07 05 24.1	
	18nm,1.1s,baz=53,slow=29,SNR=5.2						
MAKZ	Makanchi	8.61	222	⇑Pn	Pn	07 02 59.5	-0.5
	2.0nm,1.0s						
MAKZ				⇓Sn	Sn	07 04 39.2	+2.2
	5.5nm,1.2s						
MAKZ				⇓Lg	Lg	07 05 30.7	
	14nm,1.1s						

IDC 06 07:29:27.8±3.7, 12°.75N×50°.41E, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/1, 1C, Error ellipse: s-maj=103.0km s-min=46.5km az=79.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	38.09	8	⇑Sn	S	07 42 47.2	+5.2
	2.4nm,0.8s						
BVAR	Borovoye Array	43.23	18	P	P	07 37 30.6	-0.1
	0.6nm,0.6s,baz=201,slow=7.5,SNR=4.2 0.6nm,0.6s						
CMAR	Chiang Mai Arr	46.98	77	P	P	07 38 00.9	-0.1
	0.7nm,0.4s,baz=280,slow=8.7,SNR=6.6 0.7nm,0.4s						
BOSA	Boshof	47.78	210	LR	LR	07 59 26.8	
	comp=Z,31nm,18.7s,baz=22,slow=38						
WRA	Warramunga Arr	88.69	111	P	P	07 42 23.6	-0.1
	0.7nm,0.8s,baz=302,slow=3.7,SNR=6.5 0.7nm,0.8s						
ASAR	Alice Springs	89.20	114	P	P	07 42 26.1	0.0
	0.3nm,0.6s,baz=288,slow=4.8,SNR=4.9 0.3nm,0.6s						

*IDC **06** 07:41:36.6±1.2, 29°.84N×51°.27E, h0km, mb3.9/17, mbtmp3.9/20, ML3.5/3, Error ellipse: s-maj=25.7km s-min=18.0km az=3.0*
*TEH **06** 07:41:39.2, 29°.98N×51°.35E, h8km±42km*
ISC 06 07:41:39.3±0.5, 29°.94N±0°.04×51°.34E±0°.05, h15km, n55, σ1°67/57, mb3.9/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	Kazeron-Fars-I	0.43	139	Pg	Pb	07 41 48.3	-0.3
SHI	Shiraz	1.06	106	Pg	Pn	07 41 59.8	0.0
AHBU	AHRAM	1.07	182	Pg	Pg	07 42 01.1	+1.2
KLNJ	Kolanjah	1.09	12	Pg	Pb	07 41 58.9	-1.2
ABEH	Behbahan	1.15	306	Pg	Pg	07 42 01.7	+0.2
DSBU	Dashti - Bushe	1.57	183	Pg	Pg	07 42 09.6	+0.2
DSBU				Sg	Sg	07 42 32.9	+3.1
IBRJ	Brojen	1.97	358	Pn	Pb	07 42 14.2	-0.7
IRAM	Ramesheh	2.07	25	Pn	Pb	07 42 15.8	-0.9
QIR1	Qir	2.08	134	Pn	Pb	07 42 16.6	-0.2
ZNGN	Zangian	2.21	349	Pn	Pb	07 42 18.0	-1.2
JHRM	Jahrom	2.42	125	Pn	Pb	07 42 21.3	-1.3
IPIR	Pirpir	2.77	352	Pn	Pn	07 42 25.4	+2.0
ISAD	Sadrabad	2.82	45	Pn	Pn	07 42 27.0	+2.9
IZEF	Zefreh	3.07	16	Pn	Pn	07 42 29.9	+2.4
IMEH	Mehriz	3.17	62	Pn	Pn	07 42 31.7	+2.8
IKLH	Kolahrood	3.38	3	Pn	Pn	07 42 33.9	+2.2
ANAR	Anarak	3.83	32	Pn	Pn	07 42 40.0	+2.1
ISFB	Sefidab	4.47	10	Pn	Pn	07 42 48.1	+1.5
BDRS	Dareh Seyedi	4.52	333	Pn	Pn	07 42 49.3	+1.9
HSAM	Samen	4.86	332	Pn	Pn	07 42 54.2	+2.1
IQOM	Qom	4.90	357	Pn	Pn	07 42 54.1	+1.5
IVRN	Varamin	5.06	4	Pn	Pn	07 42 56.3	+1.7
HAGD	Aghdareh	5.22	340	Pn	Pn	07 42 59.1	+2.1
TPRV	Parvadeh(Tabas	5.51	55	Pn	Pn	07 43 03.6	+2.7
IDMV	Damavand	5.66	6	Pn	Pn	07 43 05.2	+2.1
IFIR	Firoozkooh	5.81	11	Pn	Pn	07 43 07.3	+2.1
SNQR	Sonqor, Kerman	5.83	328	Pn	Pn	07 43 07.2	+1.9
QABG	Abgarm-Qazvin	5.94	346	Pn	Pn	07 43 09.4	+2.4
TNSJ	Nastanj	6.02	47	Pn	Pn	07 43 09.7	+1.9
TKDS	Koohdasht(Taba	6.14	52	Pn	Pn	07 43 11.9	+2.4
IDHR	Dehrash	6.33	320	Pn	Pn	07 43 13.8	+1.5
WSAR	Wadi Sarin	9.33	134	Pn	Pn	07 43 50.5	-2.7
	1.5nm,0.3s,baz=313,slow=12,SNR=7.1						
WSAR				Sn	Sn	07 45 33.8	-4.2
	1.6nm,0.3s,baz=230,slow=23,SNR=8.0 14nm,1.0s						
KBZ	Khabaz	15.32	336	Pn	P	07 45 17.8	-1.9
	0.1nm,0.3s,baz=248,slow=20,SNR=1.8 0.9nm,0.5s						
BRTR	Keskin Array B	17.48	309	P	P	07 45 43.2	-0.6
	0.1nm,0.3s,baz=121,slow=11,SNR=4.2 0.4nm,0.6s						
AKTO	Aktyubinsk	21.09	12	P	P	07 46 24.2	+1.3
	0.7nm,0.4s,baz=185,slow=7.7,SNR=4.2 0.7nm,0.4s						
AKASG	Malin Array Be	26.55	328	P	P	07 47 15.7	-0.7
	1.1nm,0.4s,baz=134,slow=9.1,SNR=11 1.1nm,0.4s						
BVAR	Borovoye Array	26.96	26	P	P	07 47 21.2	+1.1
	1.1nm,0.4s,baz=223,slow=7.8,SNR=7.9 1.1nm,0.4s						
KURBB	Kurchatov Arra	29.01	37	P	P	07 47 39.8	+1.4
	0.8nm,0.6s,baz=238,slow=9.2,SNR=6.5 0.8nm,0.6s						
MKAR	Makanchi Array	29.28	46	P	P	07 47 41.9	+1.0
	0.2nm,0.5s,baz=245,slow=9.0,SNR=6.8 0.2nm,0.5s						
ZALV	Zalesovo Beam	34.06	36	P	P	07 48 23.8	+1.0
	0.9nm,0.4s,baz=244,slow=9.0,SNR=6.2 0.9nm,0.4s						
SQTA	Sankt Quirin	35.34	311	*e*P	P	07 48 33.5	-0.6
	2.8nm,0.3s						
MOTA	Moosalm	35.45	311	*i* P	P	07 48 34.5	-0.5
	1.0nm,0.3s						
FETA	Feichten	35.61	310	*e*P	P	07 48 35.8	-0.6
	0.9nm,0.4s						
FINES	FINESS Array B	35.65	339	P	P	07 48 36.1	-0.3
	0.9nm,0.5s,baz=141,slow=9.8,SNR=5.5 0.9nm,0.5s						
DAVA	Damuels	36.24	310	*i* P	P	07 48 41.2	-0.6
	5.9nm,0.5s						
HFS	Hagfors	39.30	331	P	P	07 49 06.6	-0.7
	1.6nm,0.3s,baz=129,slow=8.4,SNR=15 1.6nm,0.3s						
NOA	NORSAR Array B	40.82	331	P	P	07 49 18.9	-1.1
	0.5nm,0.4s,baz=122,slow=8.3,SNR=3.4 0.5nm,0.4s						
ARCES	ARCESS Array B	42.31	347	P	P	07 49 32.5	+0.4
	1.8nm,0.8s,baz=142,slow=6.0,SNR=7.2 1.8nm,0.8s						
EKA	Eskdalemuir Ar	45.93	320	P	P	07 50 00.7	-0.6
	0.3nm,0.4s,baz=106,slow=8.7,SNR=3.9 0.3nm,0.4s						
TORD	Torodi Ar. Bea	48.72	261	P	P	07 50 23.6	+0.2
	2.0nm,0.4s,baz=52,slow=9.5,SNR=18 2.0nm,0.4s						
SPITS	Spitsbergen Ar	50.77	351	P	P	07 50 38.8	+0.5
	14nm,1.1s,baz=135,slow=8.3,SNR=7.2 14nm,1.1s						
KSRS	Korea Array	62.55	61	P	P	07 52 02.3	-0.3
	1.3nm,0.7s,baz=280,slow=6.7,SNR=7.7 1.3nm,0.7s						
SCHQ	Schefferville	80.34	329	P	P	07 53 49.8	+0.1
	1.1nm,0.7s,baz=22,slow=5.4,SNR=4.0 1.1nm,0.7s						
ILAR	Eielson Array	84.54	8	P	P	07 54 11.0	-0.4
	0.1nm,0.6s,baz=329,slow=6.3,SNR=2.3 0.1nm,0.6s						
YKA	Yellowknife Ar	87.20	354	P	P	07 54 24.9	+0.3
	0.3nm,0.7s,baz=9.4,slow=5.1,SNR=6.7 0.3nm,0.7s						

*IDC **06** 07:51:33.5±0.7, 29°.15N×87°.37E, h0km, mb3.8/16, mbtmp3.8/19, ML4.0/3, MS3.3/4, Error ellipse: s-maj=24.3km s-min=14.5km az=48.0*
ISC 06 07:51:35.7±0.7, 29°.1N±0°.1×87°.3E±0°.1, h14km, n24, σ0°84/22, mb3.7/16, MS3.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	GeErMu	9.51	40	P	Pn	07 53 54.5	+2.0
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	Chiang Mai Arr	15.04	132	Pn	Pn	07 55 09.0	+1.1
	comp=Z,1.2nm,0.3s,baz=312,slow=12,SNR=9.8						
CMAR				LR	LR	08 01 28.0	
	comp=Z,37nm,21.4s,baz=310,slow=40 comp=Z,1.8nm,0.3s						
AAK	Ala-Archa	16.98	326	P	P	07 55 34.8	0.0
	comp=Z,0.1nm,0.3s,baz=146,slow=18,SNR=3.6 comp=Z,1.6nm,0.7s						
MKAR	Makanchi Array	18.08	349	P	P	07 55 46.6	-0.1
	comp=Z,0.2nm,0.3s,baz=166,slow=12,SNR=17 comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	22.48	345	P	P	07 56 34.2	-0.2
	comp=Z,3.3nm,0.8s,baz=162,slow=10,SNR=16 comp=Z,3.3nm,0.8s						
SONM	Songino Array	23.84	33	P	P	07 56 48.6	+0.1
	comp=Z,2.0nm,0.8s,baz=218,slow=9.4,SNR=14 comp=Z,2.0nm,0.8s						
ZALV	Zalesovo Beam	24.88	357	P	P	07 56 57.9	+0.1
	comp=Z,1.0nm,0.5s,baz=179,slow=9.6,SNR=5.9 comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	26.93	337	P	P	07 57 16.8	+0.4
	comp=Z,0.9nm,0.6s,baz=152,slow=10,SNR=5.6 comp=Z,0.9nm,0.6s						
AKTO	Aktyubinsk	30.64	322	P	P	07 57 50.0	+0.5
	comp=Z,1.2nm,0.6s,baz=153,slow=2.3,SNR=2.6 comp=Z,1.2nm,0.6s						
KSRS	Korea Array	34.77	65	P	P	07 58 24.1	-1.6
	comp=Z,0.7nm,0.6s,baz=259,slow=7.7,SNR=5.1						
KSRS				LR	LR	08 13 26.4	
	comp=Z,26nm,20.8s,baz=165,slow=38 comp=Z,0.7nm,0.6s						
KBZ	Khabaz	38.11	305	LR	LR	08 17 02.6	
	comp=Z,131nm,18.2s,baz=302,slow=40						
KLR	Kul'dur	39.22	47	LR	LR	08 15 31.0	
	comp=Z,55nm,18.2s,baz=61,slow=37						
BRTR	Keskin Array B	44.90	298	P	P	07 59 50.9	+0.8
	comp=Z,0.6nm,0.6s,baz=95,slow=10,SNR=3.1 comp=Z,0.6nm,0.6s						
AKASG	Malin Array Be	48.08	314	P	P	08 00 14.4	-0.3
	comp=Z,0.3nm,0.5s,baz=82,slow=6.5,SNR=5.1 comp=Z,0.3nm,0.5s						
FINES	FINESS Array B	51.16	327	P	P	08 00 37.3	-0.7
	comp=Z,3.4nm,1.0s,baz=111,slow=7.2,SNR=2.1 comp=Z,3.4nm,1.0s						
HFS	Hagfors	57.12	325	P	P	08 01 21.3	-0.2
	comp=Z,1.6nm,0.6s,baz=119,slow=12,SNR=2.1 comp=Z,1.6nm,0.6s						
GERES	GERESS Array B	58.20	312	P	P	08 01 30.2	+0.8
	comp=Z,1.3nm,0.6s,baz=90,slow=5.3,SNR=5.7 comp=Z,1.3nm,0.6s						
WRA	Warramunga Arr	66.63	131	P	P	08 02 25.9	-0.1
	comp=Z,1.4nm,0.7s,baz=326,slow=6.7,SNR=11 comp=Z,1.4nm,0.7s						
ASAR	Alice Springs	69.04	134	P	P	08 02 41.4	+0.2
	comp=Z,1.4nm,0.7s,baz=320,slow=6.5,SNR=17 comp=Z,1.4nm,0.7s						
ILAR	Eielson Array	77.43	21	P	P	08 03 28.7	-1.4
	comp=Z,0.4nm,0.8s,baz=309,slow=3.5,SNR=4.6 comp=Z,0.4nm,0.8s						
TORD	Torodi Ar. Bea	79.91	279	P	P	08 03 45.0	+0.3
	comp=Z,0.7nm,0.8s,baz=39,slow=6.2,SNR=4.2 comp=Z,0.7nm,0.8s						
YKA	Yellowknife Ar	87.04	10	P	P	08 04 19.4	-1.1
	comp=Z,0.1nm,0.4s,baz=336,slow=4.0,SNR=5.3 comp=Z,0.1nm,0.4s						
TXAR	Lajitas Array	120.95	11	PKP	PKPdf	08 10 27.9	-0.4
	comp=Z,0.2nm,0.5s,baz=18,slow=2.0,SNR=3.8						
CPUP	Villa Florida	148.61	266	PKPbc	PKPbc	08 11 22.6	0.0
	comp=Z,0.7nm,0.3s,baz=106,slow=2.7,SNR=5.3						

*NNC **06** 07:57:03.9±1.7, 49°.86N×76°.39E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=27.6km s-min=11.0km az=146.0, Suspected Mining explosion.*
*IDC **06** 07:57:04.0±1.2, 50°.19N×76°.15E, h0km, mbtmp2.5/3, ML1.5/3, Error ellipse: s-maj=16.5km s-min=8.8km az=27.0*
ISC 06 07:57:02.7±1.1, 50°.13N±0°.07×76°.11E±0°.06, h0km, n8, σ1°39/11, 3C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	1.62	71	Pg	Pg	07 57 33.0	-0.8
	0.4nm,0.3s,baz=255,slow=16,SNR=20						
KURBB				Lg	Lg	07 57 54.2	
	0.4nm,0.3s,baz=257,slow=31,SNR=12						
KURBB				Rg	Rg	07 58 05.2	
	1.0nm,0.6s,baz=235,slow=40,SNR=2.2						
KURBB	Kurchatov Arra	1.62	71	⇑P	Pb	07 57 32.6	-0.9
	15nm,0.9s						
KURBB				⇑S	Sb	07 57 53.8	-0.7
	21nm,0.8s						
KURK	Kurchatov	1.71	69	⇓P	Pb	07 57 33.9	-1.0
	12nm,0.8s						
KURK				⇑S	Sg	07 57 57.1	-0.3
	22nm,1.0s						
BVAR	Borovoye Array	4.60	311	Pn	Pn	07 58 13.6	+0.2
	baz=125,slow=11,SNR=1.1						
BVAR				Sn	Sn	07 59 07.8	+0.3
	baz=124,slow=19,SNR=1.6						
BVAR				Lg	Lg	07 59 28.3	
	baz=126,slow=27,SNR=6.3 0.2nm,0.4s						
MK31	Makanchi Array	5.29	127	⇓Lg	Lg	07 59 42.9	
	4.2nm,1.1s,baz=310,slow=20,SNR=4.4						
MKAR	Makanchi Array	5.29	127	Pn	Pn	07 58 24.5	+1.5
	baz=316,slow=13,SNR=1.9						
MKAR				Pg	Pb	07 58 34.5	-1.5
	0.1nm,0.3s,baz=313,slow=17,SNR=2.4						
MKAR				Sn	Sn	07 59 26.4	+1.7
	0.1nm,0.3s,baz=311,slow=26,SNR=5.3						
MKAR				Lg	Lg	07 59 44.1	
	0.2nm,0.3s,baz=310,slow=28,SNR=12 0.1nm,0.3s						
ZALV	Zalesovo Beam	6.59	51	Pn	Pn	07 58 42.9	+2.2
	0.2nm,0.3s,baz=244,slow=15,SNR=3.7 0.4nm,0.3s						
I46RU	ZALESOVO INFRA	6.59	51	I	I	08 39 20.0	
	baz=234,slow=344,SNR=6.4						

*IDC **06** 08:02:39.6±2.4, 27°.49N×53°.12E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=61.8km s-min=28.0km az=154.0*
*TEH **06** 08:02:41.2, 27°.68N×53°.13E, h6km±56km*
*OMAN **06** 08:02:49.4±0.1, 27°.19N×53°.14E, h10km, mb4.3/4, ml3.1/7, Error ellipse: s-maj=1.3km s-min=0.6km az=1.0*
ISC 06 08:02:43.8±0.7, 27°.63N±0°.04×53°.09E±0°.04, h20km, n44, σ2°08/61, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.30	167	Pg	Pb	08 02 48.9	-1.6
QIR1	Qir	0.84	357	Pg	Pb	08 02 57.3	-2.6
JHRM	Jahrom	0.97	26	Pg	Pb	08 02 59.9	-2.2
DSBU	Dashti - Bushe	1.78	295	Pg	Pn	08 03 15.1	+1.7
AHBU	AHRAM	2.00	308	Pn	Pn	08 03 18.4	+1.9
SHI	Shiraz	2.07	346	Pn	Pn	08 03 19.1	+1.5
SHMA	Al-Shehemyia	2.60	228	P	Pn	08 03 28.3	+3.6
	SNR=6.7						
SHMA				S	Sn	08 03 58.7	+3.0
JRN	Qarnain Island	2.69	185	P	Pn	08 03 28.1	+2.2
JRN				S	Sn	08 03 56.3	-1.6
GENO	Geno	2.75	94	Pn	Pn	08 03 28.7	+1.8
SAKB	Bahrain	2.81	235	P	Pn	08 03 32.9	+5.2
SAKB				S	Sn	08 04 04.4	+3.3
BANOM	Banah	3.33	120	P	Pn	08 03 37.6	+2.7
TRNA	Turayna	3.34	211	P	Pn	08 03 38.0	+3.1
	SNR=6.5						
TRNA				S	Sn	08 04 13.5	-0.6
AJN	Ajban	3.50	150	P	Pn	08 03 40.0	+2.9
NAZ	Nazwa, Dubai	3.50	138	P	Pn	08 03 39.6	+2.5
NAZ				S	Sn	08 04 19.5	+1.6
SMRA	Abu-Samra	3.52	216	P	Pn	08 03 40.2	+2.8
MASF	Masafi	3.55	129	P	Pn	08 03 40.9	+3.0
MASF				S	Sn	08 04 21.8	+2.4
KLNJ	Kolanjah	3.61	339	Pn	Pn	08 03 40.1	+1.1
MDH	Madha	3.69	128	P	Pn	08 03 42.5	+2.6
MDH				S	Sn	08 04 25.1	+2.3
UOSS	Minazif	3.87	133	P	Pn	08 03 43.6	+1.4
HATD	Hatta, Dubai	3.91	135	P	Pn	08 03 44.5	+1.8
HATD				S	Sn	08 04 29.6	+1.5
ASHO	Ashiyiah	3.96	137	S	Sn	08 04 31.

SRVN	Saravan	8.27 89	Pn	Pn	08 04 43.7	+0.9
DOK	Doka	9.02 174	P	Pn	08 04 52.5	-0.5
DOK			S	Sn	08 06 31.4	-2.7
DMTO	DMTO	10.02 170	P	Pn	08 05 06.0	-0.7
SNR=7.5						
DMTO			S	Sn	08 06 54.6	-3.8
ABTO	Aybut	10.23 179	P	Pn	08 05 08.2	-1.4
ABTO			S	Sn	08 06 59.0	-4.9
AKTO	Aktyubinsk	23.08 8	P	P	08 07 49.0	+0.9
1.3nm,0.5s,baz=192,slow=8.6,SNR=4.1						
1.3nm,0.5s						
MKAR	Makanchi Array	29.85 42	P	P	08 08 49.5	-0.3
0.3nm,0.4s,baz=234,slow=10,SNR=5.4						
0.3nm,0.4s						
KURBB	Kurchatov Arra	30.00 33	P	P	08 08 49.6	-1.4
0.2nm,0.6s,baz=254,slow=6.5,SNR=1.3						
0.2nm,0.6s						
FINES	FINESS Array B	38.34 339	P	P	08 10 02.8	-0.2
0.6nm,0.4s,baz=155,slow=7.5,SNR=3.8						
0.6nm,0.4s						
SONM	Songino Array	45.72 49	P	P	08 11 03.6	-0.1
0.4nm,0.6s,baz=270,slow=9.0,SNR=4.4						
0.4nm,0.6s						
TORD	Torodi Ar. Bea	49.95 264	P	P	08 11 35.7	-1.0
0.7nm,0.9s,baz=49,slow=6.7,SNR=4.4						
0.7nm,0.9s						

*IDC **06** 08:08:06.7±0.7, 12°.09S×166°.30E, h0km, mb4.3/15, mbtmp4.3/18, ML5.4/2, MS3.8/22, Error ellipse: s-maj=21.3km s-min=16.6km az=91.0*
*NEIC **06** 08:08:08.3±1.2, 12°.14S±0°.08×166°.41E±0°.08, h10km±1km, mb4.9/25, Error ellipse: s-maj=18.7km s-min=5.4km az=44.0*
ISC 06 08:08:11.6±0.5, 12°.17S±0°.06×166°.26E±0°.07, h35km, n75, σ1§06/66, mb4.7/31, MS3.8/17, 1C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.77 293		Pn	Pn	08 09 49.5	+1.0
HNR				Sn	Sn	08 11 01.8	-2.6
HNR	Honiara	6.77 293		Pn	Pn	08 09 49.2	+0.7
57nm,0.3s,baz=134,slow=6.3,SNR=8.3							
HNR				Sn	Sn	08 11 01.5	-2.8
47nm,0.3s,baz=136,slow=8.3,SNR=4.1							
HNR				LR	LR	08 12 58.0	
comp=Z,720nm,18.3s,baz=136,slow=43							
149nm,0.3s							
DZM	Mont Dzumac	9.85 179		Pn	Pn	08 10 31.3	+0.4
DZM	Mont Dzumac	9.85 179		Pn	Pn	08 10 32.2	+1.3
7.1nm,0.6s,baz=18,slow=20,SNR=5.4							
DZM				Sn	Sn	08 12 19.6	-0.7
baz=356,slow=23							
DZM				LR	LR	08 13 34.7	
comp=Z,204nm,19.1s,baz=16,slow=33							
ONTNC	Ouen Toro	10.09 179		Pn	Pn	08 10 32.5	-1.5
MSVF	Nonsavu	12.67 117		Pn	Pn	08 11 10.1	+0.7
0.9nm,0.3s,baz=133,slow=21,SNR=1.4							
MSVF				LR	LR	08 15 08.3	
comp=Z,956nm,18.3s,baz=309,slow=33							
1.6nm,0.2s							
KRVT	Keravat (AS076	16.09 298		LR	LR	08 18 29.9	
comp=Z,206nm,18.5s,baz=208,slow=39							
PMG	Port Moresby	18.96 276		LR	LR	08 19 33.7	
comp=Z,260nm,19.0s,baz=112,slow=36							
EIDS	Eidsvold	19.44 225		P	Pn	08 12 36.5	0.0
EIDS				IAmb	IAmb	08 12 51.5	
comp=Z,56nm,1.4s							
COEN	Coen	22.55 263		P	P	08 13 08.9	0.0
COEN				IAmb	IAmb	08 13 11.9	
comp=Z,50nm,1.2s							
ARMA	Armidale	22.66 214		P	P	08 13 08.5	-1.5
ARMA				IAmb	IAmb	08 13 21.8	
comp=Z,32nm,1.4s							
NIUE	Niue	23.93 110		P	P	08 13 20.3	-2.3
BKZ	Black Stump Fm	28.38 163		P	P	08 14 01.8	-0.9
STKA	Stephens Creek	29.99 225		P	P	08 14 17.4	+0.4
STKA	Stephens Creek	29.99 225		P	P	08 14 18.6	+1.6
comp=Z,1.5nm,0.7s,baz=34,slow=9.4,SNR=7.4							
STKA				LR	LR	08 26 05.1	
comp=Z,237nm,18.7s,baz=28,slow=36							
comp=Z,1.5nm,0.7s							
WB0	Warramunga Arr	31.51 252		P	P	08 14 30.1	-0.5
WB0				IAmb	IAmb	08 14 45.6	
comp=Z,12nm,1.1s							
WB2	Warramunga Arr	31.58 252		P	P	08 14 31.1	-0.1
WB2				IAmb	IAmb	08 14 44.7	
comp=Z,16nm,1.2s							
WRA	Warramunga Arr	31.59 252		P	P	08 14 30.7	-0.5
comp=Z,1.0nm,0.7s,baz=84,slow=9.1,SNR=9.1							
WRA				PcP	PcP	08 17 24.0	+0.7
comp=Z,4.4nm,1.0s,baz=77,slow=2.4,SNR=11							
WRA				LR	LR	08 26 42.3	
comp=Z,149nm,18.6s,baz=102,slow=35							
comp=Z,1.0nm,0.7s							
AS31	Alice Springs	32.76 245		P	P	08 14 42.6	+1.1
ASAR	Alice Springs	32.76 245		P	P	08 14 41.1	-0.4
comp=Z,2.1nm,0.8s,baz=70,slow=9.7,SNR=14							
ASAR				PcP	PcP	08 17 27.1	+0.7
comp=Z,3.4nm,0.8s,baz=83,slow=2.3,SNR=14							
ASAR				LR	LR	08 26 57.7	
comp=Z,128nm,20.5s,baz=99,slow=34							
comp=Z,2.1nm,0.8s							
GUMO	Guam	33.23 320		LR	LR	08 26 53.2	
comp=Z,144nm,21.9s,baz=144,slow=34							
BBOO	Buckleboo	34.45 228		P	P	08 14 56.4	+0.3
BBOO				IAmb	IAmb	08 15 15.5	
comp=Z,13nm,1.1s							
KNRA	Kununurra	36.53 260		P	P	08 15 16.0	+1.9
KNRA				IAmb	IAmb	08 15 18.6	
comp=Z,25nm,1.2s							
FITZ	Fitzroy Crossi	39.59 256		P	P	08 15 40.4	+0.5
FITZ	Fitzroy Crossi	39.59 256		LR	LR	08 31 06.4	
comp=Z,131nm,20.4s,baz=90,slow=35							
FORT	Forrest	39.83 236		P	P	08 15 42.4	+0.7
FORT				IAmb	IAmb	08 16 01.4	
comp=Z,16nm,0.8s							
PPT	Papeete	42.95 103		LR	LR	08 29 30.3	
comp=Z,79nm,20.9s,baz=294,slow=30							
KAPI	Kappang	46.48 275		LR	LR	08 38 03.0	
comp=Z,49nm,18.2s,baz=120,slow=39							
NWAO	Narrogin (SRO)	49.26 237		LR	LR	08 38 03.7	
comp=Z,248nm,18.6s,baz=66,slow=36							
MORW	Morawa	49.53 242		P	P	08 16 57.6	-1.6
MORW				IAmb	IAmb	08 17 19.0	
comp=Z,18nm,1.1s							
KKM	Kota Kinabalu	52.94 287		P	P	08 17 25.3	+0.2
KKM				IAmb	IAmb	08 17 34.2	
comp=Z,20nm,0.9s							
JMN	Monobe	55.08 327		P	P	08 17 40.3	+0.1
MJAR	Matsushiro Arr	55.19 333		P	P	08 17 40.2	-0.7
comp=Z,2.6nm,0.7s,baz=137,slow=8.3,SNR=4.6							
MJAR				LR	LR	08 40 09.3	
comp=Z,32nm,19.9s,baz=142,slow=35							
comp=Z,2.6nm,0.7s							
JNU	Nakatsue	56.28 324		P	P	08 17 48.6	-0.2
JNU	Nakatsue	56.28 324		P	P	08 17 48.9	+0.1
comp=Z,20nm,0.8s,baz=90,slow=4.0,SNR=12							
comp=Z,20nm,0.8s							
ASAJ	Asahikawa	60.01 341		LR	LR	08 42 00.4	
comp=Z,79nm,19.3s,baz=152,slow=34							
KSRS	Korea Array	61.08 326		P	P	08 18 23.1	+1.0
comp=Z,5.1nm,0.8s,baz=138,slow=7.4,SNR=21							
comp=Z,5.1nm,0.8s							
KS19	Wonju Array Si	61.15 326		P	P	08 18 22.7	+0.1
USRK	Ussuriysk Ar.	64.17 333		P	P	08 18 43.0	+0.4
comp=Z,3.1nm,0.8s,baz=138,slow=6.9,SNR=4.6							
comp=Z,3.1nm,0.8s							
VNDA	Vanda	65.39 181		P	P	08 18 51.0	+0.9
VNDA				IAmb	IAmb	08 18 55.6	
comp=Z,10nm,1.2s							
PETK	Petropavlovsk-	65.42 354		LR	LR	08 41 13.4	
comp=Z,74nm,21.2s,baz=113,slow=30							
KLR	Kul'dur	68.28 336		P	P	08 19 09.6	+0.7
comp=Z,2.0nm,0.7s,baz=172,slow=2.2,SNR=8.1							
KLR				LR	LR	08 45 28.3	
comp=Z,50nm,20.7s,baz=96,slow=33							
comp=Z,2.0nm,0.7s							
MA2	Magadan	72.58 352		LR	LR	08 44 58.8	
comp=Z,80nm,20.1s,baz=138,slow=30							
CMAR	Chiang Mai Arr	73.02 294		P	P	08 19 40.0	+1.5
comp=Z,1.2nm,0.4s,baz=113,slow=4.4,SNR=9.2							
comp=Z,1.2nm,0.4s							
KDAK	Kodiak Island	77.44 21		LR	LR	08 49 31.4	
comp=Z,103nm,18.4s,baz=83,slow=32							
QSPA	South Pole Qui	77.84 180		P	P	08 20 06.4	+1.0
QSPA				IAmb	IAmb	08 20 08.6	
comp=Z,13nm,1.1s							
QSPA	South Pole Qui	77.84 180		P	P	08 20 06.4	+1.0
comp=Z,10.0nm,0.9s,baz=15,slow=2.7,SNR=17							
comp=Z,10.0nm,0.9s							
M16K	Timber Creek	77.98 17		P	P	08 20 06.0	0.0
K15K	Wolf Creek Mou	78.37 15		P	P	08 20 07.8	-0.3
ULN	Ulaanbaatar	79.50 324		P	P	08 20 16.2	+1.4
ULN				IAmb	IAmb	08 20 17.3	
comp=Z,19nm,0.8s							
RPN	Rapa Nui	79.64 116		LR	LR	08 48 46.6	
comp=Z,28nm,21.6s,baz=322,slow=31							
SONM	Songino Array	79.86 324		P	P	08 20 17.2	+0.5
comp=Z,7.2nm,1.0s,baz=139,slow=5.2,SNR=23							
comp=Z,7.2nm,1.0s							
TTA	Tatalina	80.35 16		P	P	08 20 18.3	-0.7
VRDI	Verde Repeater	83.17 22		P	P	08 20 33.3	-0.7
ILAR	Eielson Array	84.41 18		P	P	08 20 38.5	-1.5
comp=Z,0.7nm,0.7s,baz=237,slow=4.6,SNR=8.2							
comp=Z,0.7nm,0.7s							
NVAR	Mina Array Bea	86.36 50		P	P	08 20 52.4	+1.7
comp=Z,0.3nm,0.7s,baz=251,slow=3.8,SNR=1.8							
comp=Z,0.3nm,0.7s							
PDAR	Pinedale Array	93.94 47		P	P	08 21 25.9	-0.3
comp=Z,0.2nm,0.8s,baz=280,slow=7.7,SNR=1.3							
comp=Z,0.2nm,0.8s							
PMSA	Palmer Station	94.50 161		LR	LR	09 00 41.5	
comp=Z,43nm,18.9s,baz=320,slow=33							
MKAR	Makanchi Array	94.68 317		P	P	08 21 30.1	+0.8
comp=Z,17nm,0.7s,baz=94,slow=6.3,SNR=127							
ZALV	Zalesovo Beam	94.75 324		P	P	08 21 29.1	-0.2
comp=Z,2.6nm,0.8s,baz=119,slow=5.2,SNR=13							
comp=Z,2.6nm,0.8s							
TROLL	Troll, Antarti	95.32 185		P	P	08 21 31.8	-0.1
TROLL	Troll, Antarti	95.32 185		⇑P	P	08 21 31.8	-0.1
comp=Z,208nm,0.6s							
YKA	Yellowknife Ar	95.73 27		P	P	08 21 30.9	-2.7
comp=Z,0.1nm,0.4s,baz=253,slow=5.3,SNR=1.8							
SNAA	Sanae	96.03 183		P	P	08 21 34.7	-0.3
SNAA	Sanae	96.03 183		⇓P	P	08 21 34.7	-0.3
comp=Z,71nm,1.0s							
VNA3	Neumayer Olymp	96.74 181		P	P	08 21 36.9	-1.3
VNA3	Neumayer Olymp	96.74 181		⇓P	P	08 21 36.9	-1.3
comp=Z,4.3nm,0.9s							
VNA2	Neumayer--Watz	96.99 182		P	P	08 21 38.9	-0.4
baz=143,slow=4.9							
VNA2	Neumayer--Watz	96.99 182		⇓P	P	08 21 38.9	-0.4
comp=Z,2.2nm,0.6s,baz=143,slow=4.9							
NRIK	Noril'sk	97.34 339		LR	LR	09 08 56.7	
comp=Z,60nm,18.0s,baz=322,slow=38							
KURBB	Kurchatov Arra	97.86 320		P	P	08 21 43.1	-0.4
comp=Z,1.1nm,0.2s,baz=108,slow=3.7,SNR=7.5							
BVAR	Borovoye Array	103.14 322		Pdiff	Pdif	08 22 06.9	-0.1
comp=Z,1.1nm,0.7s,baz=114,slow=3.7,SNR=4.0							
ARCES	ARCESS Array B	117.54 345		PKP	PKPdf	08 26 52.9	-0.3
comp=Z,3.8nm,1.0s,baz=47,slow=2.0,SNR=10							
FINES	FINESS Array B	122.99 338		PKP	PKiKP	08 27 03.9	-0.3
comp=Z,2.7nm,1.0s,baz=134,slow=4.0,SNR=4.6							
TORD	Torodi Ar. Bea	164.90 275		PKP	PKPdf	08 28 13.6	+0.6
comp=Z,1.0nm,0.9s,baz=357,slow=3.3,SNR=4.9							

*IDC **06** 08:26:10.2±1.4, 35°.88N×140°.10E, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/2, Error ellipse: s-maj=33.8km s-min=15.9km az=26.0*
*NIED **06** 08:26:17.7, 36°.02N×139°.90E, h41km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}1.57; $M_{\theta\theta}$-1.88; $M_{\phi\phi}$0.30; $M_{r\theta}$0.57; $M_{\theta\phi}$-1.07; $M_{\phi r}$1.65; Fault plane solution: $M_0$2.69000×10^14^ NP1: ϕ_s277.00000°, δ38.00000°, λ143.00000°. NP2: ϕ_s38.00000°, δ68.00000°, λ58.00000°.*
*JMA **06** 08:26:17.7±0.1, 36°.0N±0°.3×139°.9E±0°.4, h41km±1km, MV3.6/35, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
ISC 06 08:26:17.0±1.0, 36°.02N±0°.04×139°.93E±0°.05, h49km±8km, n18, σ0§89/21, mb3.8/3, 6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.30 46		*i* P	Pn	08 26 26.2	+0.2
JYT				S	Sn	08 26 32.2	-0.2
TOK	Tokyo	0.36 202		P	Pn	08 26 27.6	+1.1
JAG	Ashikaga	0.56 317		⇓*i* P	Pn	08 26 29.1	+0.2
JAG				⇓S	Sn	08 26 37.1	-0.3
JRY	Ryogami san	0.83 270		⇓*i* P	Pn	08 26 32.4	-0.1
JRY				⇓S	Sn	08 26 42.9	-0.8
JKT	Katashina	0.93 324		⇓P	Pn	08 26 34.0	+0.2
JKT				⇓S	Sn	08 26 46.2	+0.1
JOD2	Odawara 2	1.02 222		P	Pn	08 26 35.1	+0.2
JOD2				S	Sn	08 26 47.7	-0.4
MJAR	Matsushiro Arr	1.48 291		Pg	Pn	08 26 41.7	+0.4
3.0nm,0.3s,baz=93,slow=15,SNR=107							
MJAR				Lg	Lg	08 27 01.6	
2.4nm,0.3s,baz=180,slow=40,SNR=4.9							
MJAR				LR	LR	08 27 32.0	
comp=Z,83nm,21.5s,baz=140,slow=49							
MAJO	Matsushiro	1.48 291		P	Pn	08 26 41.9	+0.6
JMM	Marumori	1.97 20		P	Pn	08 26 49.2	+1.3
JGF	Kuroka	2.13 259		P	Pn	08 26 52.3	+2.2
JSD	Sado	2.42 327		P	Pn	08 26 54.5	+0.5
INU	Inuyama	2.46 255		P	Pn	08 26 56.3	+1.7
JHJ2	Mitsune	2.90 182		P	Pn	08 27 00.9	+0.2
GUMO	Guam	22.77 167		LR	LR	08 37 49.3	
comp=Z,23nm,19.3s,baz=100,slow=31							
KURBB	Kurchatov Arra	45.69 309		P	P	08 34 32.2	-0.7
0.9nm,0.2s,baz=82,slow=7.7,SNR=4.6							
0.9nm,0.2s							
ILAR	Eielson Array	50.99 32		P	P	08 35 14.2	+0.6
0.1nm,0.6s,baz=273,slow=7.2,SNR=4.4							
0.1nm,0.6s							
WRA	Warramunga Arr	55.91 186		P	P	08 35 49.2	-0.8
0.7nm,0.7s,baz=0.7,slow=7.6,SNR=6.8							
0.7nm,0.7s							
RES	Resolute Bay	63.88 14		LR	LR	09 07 41.6	
comp=Z,72nm,19.1s,baz=5.0,slow=39							

*HEL **06** 08:30:05.7±0.1, 63°.97N×28°.12E, h0km, ML1.5, Suspected explosion*
*IDC **06** 08:30:06.7±1.9, 63°.95N×28°.14E, h0km, mbtmp2.7/2, ML1.5/2, Error ellipse: s-maj=44.7km s-min=10.8km az=96.0*
ISC 06 08:30:04.8±0.7, 63°.96N±0°.02×28°.20E±0°.03, h0km, n33, σ1§21/57, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	Nilsia	0.59 197		PG	Pg	08 30 16.8	+0.6
baz=13							
NIF				SG	Sg	08 30 24.5	+0.7
RMF	Romuvaara	0.81 70		PB	Pb	08 30 21.5	-0.3
RMF				MSG		08 30 31.6	
comp=Z,3.6nm,0.2s							
RMF				SB	Sb	08 30 32.0	-1.2
OUL	Oulu	1.51 320		PN	Pb	08 30 33.1	-0.6
OUL				SN	Sg	08 30 52.4	-0.8
SUF	Sumiainen	1.55 218		PN	Pb	08 30 33.8	-0.5
SUF				MSG		08 30 51.8	
comp=Z,1.5nm,0.2s							
SUF				SN	Sg	08 30 56.8	+2.4
OUF	Merijarvi	1.57 287		PN	Pn	08 30 33.5	-0.4
OUF				MSG		08 30 51.8	
comp=Z,5.0nm,0.2s							
OUF				SN	Sn	08 30 53.7	-1.3
OBF4	Vikkela, Lumij	1.60 304		PG	Pn	08 30 34.2	-0.1
baz=117							
OBF4				MSG		08 30 52.4	
comp=Z,3.6nm,0.2s							
OBF4				SN	Sb	08 30 55.3	-0.5
KU1	Kurvinen	1.72 19		PG	Pb	08 30 36.9	-0.4
KU1				SN	Sg	08 30 59.7	-0.3
JOF	Joensuu	1.75 125		*e*P	Pg	08 30 38.3	0.0
JOF	Joensuu	1.75 125		PG	Pg	08 30 38.0	-0.3
baz=304							
JOF				SN	Sg	08 31 01.0	+0.1
KU2	Taivalkoski	1.76 0		PG	Pb	08 30 37.3	-0.7
KU2				SN	Sg	08 31 01.7	+0.4
OBF0	Syolatti, Pyha	1.81 289		PG	Pb	08 30 38.0	-0.9
OBF0				MSG		08 30 58.6	
comp=Z,2.8nm,0.2s							
OBF0				SN	Sb	08 31 01.2	-0.9
MSF	Maaselka	2.00 10		PG	Pb	08 30 41.6	-0.4
MSF				SG	Sb	08 31 06.5	-0.9
KAF	Kangasniemi	2.04 206		PG	Pb	08 30 42.4	-0.3
baz=20							
KAF				MSG		08 31 06.3	
comp=Z,3.0nm,0.2s							
KAF				SG	Sb	08 31 09.2	+0.6
RANF	Ranua	2.15 345		PG	Pb	08 30 44.2	-0.5
RANF				SG	Sb	08 31 11.0	-0.8
KU6	Riekki	2.20 18		PG	Pb	08 30 44.9	-0.5
baz=199							
KU6				MSG		08 31 10.8	
comp=Z,1.2nm,0.2s							
KU6				SG	Sb	08 31 13.0	-0.2
KEF	Keuruu	2.35 222		*e*P	Pb	08 30 47.7	-0.2
KEF	Keuruu	2.35 222		PG	Pb	08 30 47.4	-0.6
KEF				MSG		08 31 14.9	
comp=Z,3.0nm,0.2s							
KEF				SG	Sb	08 31 17.5	0.0
RUF	Ruokolahti	2.56 172		PG	Pb	08 30 51.5	-0.2
RUF				MSG		08 31 21.9	
comp=Z,2.2nm,0.2s							
RUF				SG	Sg	08 31 25.4	-1.8
VAF	Ylistaro	2.64 252		*e*P	Pb	08 30 51.6	-1.3
VAF	Ylistaro	2.64 252		PG	Pb	08 30 51.6	-1.3
VAF				MSG		08 31 22.9	
comp=Z,2.1nm,0.2s							
VAF				SG	Sb	08 31 24.8	-1.0
TOF	Tornio	2.69 324		PB	Pn	08 30 51.1	+1.8
TOF				MSG		08 31 23.9	
comp=Z,0.9nm,0.2s							
TOF				SG	Sb	08 31 25.7	-1.6
FIA0	FINESS Array S	2.70 202		PG	Pb	08 30 53.1	-0.9
baz=20							
FIA0				MSG		08 31 25.5	
comp=Z,1.3nm,0.2s							
FIA0				SG	Sb	08 31 26.7	-1.0
FINES	FINESS Array B	2.70 202		Pn	Pb	08 30 53.0	-1.1
comp=Z,0.2nm,0.3s,baz=18,slow=16,SNR=6.0							
FINES				Sn	Sb	08 31 26.7	-1.0
comp=Z,0.5nm,0.3s,baz=22,slow=27,SNR=18							
comp=Z,0.7nm,0.3s							
KALU	Kalix	2.81 315		SB	Sn	08 31 27.0	+1.6
RNF	Rovaniemi	2.82 342		SB	Sb	08 31 30.2	-0.8
BURU	Burvik	3.04 285		SB	Sn	08 31 32.0	+0.9
UMAU	Umeaa	3.32 272		PB	Pn	08 30 59.5	+1.5
UMAU				SG	Sb	08 31 46.4	+0.9
ERTU	Ertsjaerv	3.63 319		PB	Pn	08 31 05.1	+2.9
KLF	Kolari	3.73 334		PN	Pn	08 31 05.6	+2.0
KLF				SN	Sn	08 31 48.9	+0.7
PAJU	Pajala	3.74 328		PN	Pn	08 31 06.0	+2.3
PAJU				SN	Sn	08 31 49.3	+0.9
HEMU	Hemsoen	4.76 259		PN	Pn	08 31 19.2	+1.6
HEMU				SN	Sn	08 32 10.1	-3.4
ARCES	ARCESS Array B	5.70 350		Pn	Pn	08 31 31.9	+1.2
baz=171,slow=15,SNR=1.9							
ARCES				Sn	Sn	08 32 34.8	-2.0
comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=1.6							
ARCES				Lg	Lg	08 32 56.1	
comp=Z,0.1nm,0.3s,baz=163,slow=28,SNR=2.1							
comp=Z,1.1nm,0.9s							
I43RU	DUBNA INFRAS	8.52 144		I	I	09 24 10.0	
baz=334,slow=327,SNR=4.6							

IDC 06 08:49:59.6±999.0, 61°.37N×46°.51E, h0km, Error ellipse: s-maj=513.6km s-min=199.8km az=123.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	12.72 145		I	I	10 06 40.0	
baz=334,slow=323,SNR=1.6							
I46RU	ZALESOVO INFRA	21.52 93		I	I	10 59 22.5	
0.1nm,1.9s,baz=307,slow=340,SNR=2.5							
I34MN	SONGINO INFRAS	35.89 84		I	I	12 28 40.0	
baz=311,slow=335,SNR=0.7							

*SDD **06** 08:51:42.4±0.7, 19°.33N×68°.16W, h12km±75km, MD3.4, ML2.2, MW2.5*
*OSPL **06** 08:51:43.6±1.2, 19°.30N×68°.16W, h0km±32km, ML1.9, Hypocentre not reviewed by the ISC*
*RSPR **06** 08:51:44.6, 19°.36N×68°.24W, h29km±16km, MD3.0/6*
ISC 06 08:51:43.2±1.9, 19°.26N±0°.08×68°.17W±0°.03, h13km±10km, n38, σ1§02/58, 16C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.77 195		*e*Pg	Pg	08 51 57.4	-0.7
PCDR				*e*Sg	Sg	08 52 09.6	+1.4
PCDR				IAML		08 52 13.3	
comp=N,44nm,0.8s							
PCDR	Punta Cana, DR	0.77 195		⇑*e*Pg	Pg	08 51 56.6	-1.6
PCDR				⇑*e*Sg	Sg	08 52 08.7	+0.4
PCDR				IAML		08 52 13.3	
comp=N,44nm,0.8s							
PCDR	Punta Cana, DR	0.77 195		*e*P	Pg	08 51 58.4	+0.3
PCDR	Punta Cana, DR	0.77 195		*e*S	Sg	08 52 09.7	+1.4
PCDR	Punta Cana, DR	0.77 195		*i* P		08 51 57.5	
PCDR				*e*S		08 52 09.3	
PCDR				IAML		08 52 13.0	
comp=Z,36nm,1.5s							
HIDR	Higuey Centro	0.85 218		*e*Pg	Pn	08 52 00.8	0.0
HIDR				*e*Sg	Sg	08 52 10.4	-0.3
HIDR				IAML		08 52 13.8	
comp=N,50nm,0.2s							
HIDR	Higuey Centro	0.85 218		*e*Pg	Pg	08 51 58.6	-0.9
HIDR				*e*Sg	Sg	08 52 10.6	-0.1
HIDR				IAML		08 52 13.8	
comp=N,50nm,0.2s							
IDE	Isla Desecheo	1.09 143		⇑*e*P	Pb	08 52 02.1	-1.7
IDE	Isla Desecheo	1.09 143		*e*S	Sb	08 52 16.2	-1.8
HATOM	Hato Mayor del	1.24 248		*e*Pg	Pb	08 52 06.3	-0.2
HATOM				*e*Sg	Sb	08 52 22.2	-0.3
HATOM				IAML		08 52 24.7	
comp=N,10nm,0.7s							
HATOM	Hato Mayor del	1.24 248		*e*Pg	Pn	08 52 06.0	-0.3
HATOM				*e*Sg	Sb	08 52 22.4	0.0
HATOM				IAML		08 52 24.7	
comp=N,10nm,0.7s							
HATOM	Hato Mayor del	1.24 248		⇑*e*Pg	Pb	08 52 06.3	-0.2
HATOM				⇑*e*Sg	Sg	08 52 23.6	+0.3
HATOM				IAML		08 52 24.8	
comp=N,10nm,0.7s							
AGPR	Aguadilla, PR	1.27 128		⇓*e*Pg	Pn	08 52 06.6	-0.1
AGPR				⇑*e*Sg	Sb	08 52

CELP	**Cerrillos**	**1.91 128**	*e*Pg	**Pb**	**08 52 18.4**	**+0.5**
CELP			*e*Sg	**Sb**	**08 52 41.2**	**-0.5**
CELP			IAML		08 52 43.5	
	comp=N,8.0nm,0.2s					
CELP	**Cerrillos**	**1.91 128**⇑	*e*Pg	**Pn**	**08 52 16.0**	**+0.6**
CELP		⇑	*e*Sg	**Sb**	**08 52 42.4**	**+0.7**
CELP			IAML		08 52 45.9	
	comp=N,7.2nm,0.2s					
CELP	**Cerrillos**	**1.91 128**⇑	*e*P	**Pn**	**08 52 15.6**	**+0.1**
CELP	**Cerrillos**	**1.91 128**	*e*S	**Sn**	**08 52 39.0**	**-0.4**
ECPR	**Experimental S**	**1.95 118**⇑	*e*P	**Pn**	**08 52 15.6**	**-0.4**
ECPR	**Experimental S**	**1.95 118**	*e*S	**Sn**	**08 52 40.1**	**-0.2**
BANI	**BANI**	**2.25 248**	*e*Pg	**Pb**	**08 52 23.1**	**-0.6**
BANI			IAML		08 52 47.7	
	comp=N,16nm,1.3s					
BANI			*e*Sg	**Sn**	**08 52 47.9**	**0.0**
BANI	**BANI**	**2.25 248**	*e*Pg	**Pb**	**08 52 23.2**	**-0.6**
BANI			*e*Sg	**Sb**	**08 52 53.6**	**+2.1**
BANI			IAML		08 53 13.6	
	comp=N,18nm,1.6s					
ABDR	**Alto Bandera**	**2.37 260**	*e*Pg	**Pn**	**08 52 22.9**	**+0.8**
ABDR			*e*Sg	**Sb**	**08 52 53.7**	**-1.5**
ABDR			IAML		08 53 39.5	
	comp=N,13nm,2.0s					
ABDR	**Alto Bandera**	**2.37 260**⇓	*e*Pg	**Pb**	**08 52 24.9**	**-1.1**
ABDR			*e*Sg	**Sb**	**08 52 56.8**	**+1.6**
ABDR			IAML		08 53 41.6	
	comp=N,20nm,4.5s					
JIDR	**Jimani**	**3.57 258**	*e*Pg	**Pn**	**08 52 41.3**	**+3.0**
JIDR			*i*		08 52 57.6	
JIDR			IAML		08 53 45.8	
	comp=N,20nm,2.6s					

*TEH **06** 09:02:53.7, 38°.25N×56°.38E, h8km*
ISC 06 09:02:56.1±0.9, **38°.21N**±0°.06×**56°.41E**±0°.05, **h10**km, **n24,**
σ1§58/26, 2C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.60**	**205**	Pg	**Pg**	**09 03 06.4**	**-1.4**
IMND	**Minoodasht**	**1.24**	**220**	Pg	**Pb**	**09 03 18.6**	**-0.9**
ISFR	**Sfrayin**	**1.71**	**132**	Pg	**Pb**	**09 03 27.0**	**-0.7**
IEMG	**Emamgholi**	**1.94**	**113**	Pn	**Pn**	**09 03 30.6**	**+1.2**
SBZV	**Sabzevar**	**2.05**	**152**	Pn	**Pb**	**09 03 32.6**	**-0.9**
IAKL	**Akhelmad**	**2.46**	**130**	Pn	**Pn**	**09 03 38.0**	**+1.5**
IGLO	**Ghaloghah**	**2.67**	**231**	Pn	**Pn**	**09 03 41.1**	**+1.8**
IPAY	**Payeh**	**2.71**	**130**	Pn	**Pn**	**09 03 40.6**	**+0.8**
IKRD	**Kardeh**	**2.85**	**119**	Pn	**Pn**	**09 03 43.6**	**+1.8**
IKIA	**Kiasar**	**2.96**	**228**	Pn	**Pn**	**09 03 44.5**	**+1.3**
IMOG	**Moghan**	**3.14**	**131**	Pn	**Pn**	**09 03 47.3**	**+1.4**
TAPT	**Tabas- Tapeh t**	**3.37**	**169**	Pn	**Pn**	**09 03 50.2**	**+1.3**
IMYA	**Miami**	**3.48**	**121**	Pn	**Pn**	**09 03 52.9**	**+2.4**
IALA	**Alasht**	**3.58**	**235**	Pn	**Pn**	**09 03 53.5**	**+1.7**
IFIR	**Firoozkooh**	**3.89**	**230**	Pn	**Pn**	**09 03 58.0**	**+1.9**
TBJM	**Torbat-e-JAM**	**4.30**	**132**	Pn	**Pn**	**09 04 02.8**	**+1.1**
IDMV	**Damavand**	**4.38**	**235**	Pn	**Pn**	**09 04 04.9**	**+1.9**
TKDS	**Koohdasht(Taba**	**4.62**	**173**	Pn	**Pn**	**09 04 08.2**	**+2.1**
ISFB	**Sefidab**	**5.11**	**222**	Pn	**Pn**	**09 04 14.4**	**+1.6**
TPRV	**Parvadeh(Tabas**	**5.17**	**177**	Pn	**Pn**	**09 04 15.0**	**+1.4**
ANAR	**Anarak**	**5.46**	**204**	Pn	**Pn**	**09 04 18.3**	**+0.7**
IHRS	**Heris**	**7.37**	**274**	Pn	**Pn**	**09 04 44.0**	**0.0**
AB31	**Akbulak array**	**11.33**	**12**	⇑Pn	**Pn**	**09 05 39.3**	**+1.3**
	1.2nm,0.8s,baz=199,slow=14,SNR=12						
AB31				⇓Sn	**Sn**	**09 07 42.2**	**-2.4**
	0.4nm,0.4s,baz=196,slow=21,SNR=4.1						
AKTO	**Aktyubinsk**	**12.28**	**5**	⇓Pn	**Pn**	**09 05 51.9**	**+1.1**
	1.3nm,0.6s						
AKTO				⇑Sn	**Sn**	**09 08 06.2**	**-1.5**
	1.5nm,0.9s						

*NEIC **06** 09:20:22.6±0.7, 36°.43N±0°.01×96°.89W±0°.02, h5km±1km,*
mb_Lg2.3/14, ML2.7/32, ML2.9/33, Error ellipse:
s-maj=3.1km s-min=1.7km az=68.0
NEIC 06 09:20:22.2±0.8, **36°.45N**±0°.01×**96°.88W**±0°.02, **h5**km±3km,
Error ellipse: s-maj=3.1km s-min=0.9km az=50.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.07**	**35**		Pg	09 20 24.3	+0.5
OK051				Sg	Sg	09 20 25.5	+0.6
QUOK	**Quay**	**0.31**	**153**		Pg	09 20 28.8	+0.5
QUOK				Sg	Sg	09 20 33.2	+0.9
QUOK				IAML		09 20 34.8	
	comp=E,977nm,0.3s						
OK031	**S. Brethren Rd**	**0.50**	**176**		Sg	09 20 39.1	+0.8
DEOK	**Depew**	**0.68**	**153**		Pg	09 20 35.6	+0.3
DEOK					Sg	09 20 44.9	+0.8
DEOK				IAML		09 20 48.1	
	comp=N,225nm,0.4s						
KAN13	**South Haven SW**	**0.74**	**320**		Pg	09 20 36.5	+0.2
CROK	**Carrier**	**0.89**	**274**		Pg	09 20 39.3	0.0
CROK					Sg	09 20 51.4	+0.6
CROK				IAML		09 20 59.9	
	comp=N,218nm,0.5s						
ADOK	**Arcadia Dam**	**0.89**	**207**	Pg	Pg	09 20 39.6	+0.3
KAN09	**Caldwell North**	**0.90**	**319**		Pg	09 20 39.5	0.0
KAN01	**Argonia South**	**0.99**	**315**		Pg	09 20 41.4	+0.2
KAN01				IAML		09 20 55.8	
	comp=E,276nm,0.1s						
KAN01				IAML		09 20 57.1	
	comp=N,251nm,0.1s						
OKCSW	**OKLAHOMA CITY**	**1.14**	**204**	Pg	Pg	09 20 43.8	-0.2
FNO	**Franklin**	**1.26**	**200**		Pg	09 20 45.6	-0.8
FNO				IAML		09 21 04.9	
	comp=E,208nm,0.2s						
FNO				IAML		09 21 05.1	
	comp=N,175nm,0.2s						
W35A	**Tecumseh**	**1.30**	**180**		Pn	09 20 46.0	-0.9
W35A				IAML		09 21 05.3	
	comp=E,149nm,0.3s						
W35A				IAML		09 21 07.5	
	comp=N,126nm,0.5s						
NOKA	**Waynoka**	**1.66**	**277**		Pb	09 20 52.6	-0.6
CSTR	**Hydro, Custer**	**1.67**	**242**		Pb	09 20 52.7	-0.6
X34A	**Smith Ranch, M**	**2.00**	**203**		Pb	09 20 58.1	-0.9
U38A	**Gravette**	**2.01**	**90**		Pb	09 20 58.3	-0.9
S39A	**Bolivar**	**3.10**	**65**	IAmb_Lg		09 22 06.0	
	comp=Z,9.7nm,0.8s						
Z35A	**Perchaven, San**	**3.13**	**186**	Pn	Pn	09 21 11.6	-0.5
CBKS	**Cedar Bluff**	**3.27**	**317**	Pn	Pn	09 21 14.4	+0.3
FW06	**Azle**	**3.52**	**189**	IAmb_Lg		09 22 19.4	
	comp=Z,8.2nm,0.7s						
X40A	**Basin Creek Fa**	**3.84**	**119**	IAmb_Lg		09 22 23.8	
	comp=Z,9.5nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.89**	**97**	IAmb_Lg		09 22 32.2	
	comp=Z,7.0nm,0.8s						
UALR	**University of**	**4.06**	**113**	IAmb_Lg		09 22 35.5	
	comp=Z,9.5nm,0.7s						
WHTX	**Lake Whitney,**	**4.47**	**186**	Pn	Pn	09 21 30.6	0.0
N35A	**Tabor**	**4.51**	**12**	IAmb_Lg		09 22 54.4	
	comp=Z,7.5nm,0.8s						
PBMO	**Poplar Bluff**	**5.20**	**84**	IAmb_Lg		09 23 18.4	
	comp=Z,6.0nm,0.7s						

*HEL **06** 09:28:12.5±0.3, 60°.92N×29°.13E, h0km, ML1.7, Suspected explosion*
*IDC **06** 09:28:14.8±2.7, 60°.97N×28°.95E, h0km, mbtmp3.6/1,*
ML2.3/1, Error ellipse: s-maj=21.0km s-min=12.4km
az=161.0
ISC 06 09:28:11.9±1.4, **60°.95N**±0°.05×**29°.01E**±0°.06, **h0**km, **n22,**
σ1§12/30, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.48**	**356**	PG	**Pg**	**09 28 22.0**	**+0.9**
RUF				SG	**Sg**	**09 28 28.0**	**+0.7**
RUF				MSG		09 28 29.1	
	comp=Z,7.5nm,0.2s						
VJF	**Virojoki**	**0.82**	**241**	PG	**Pb**	**09 28 28.8**	**-0.3**
VJF				MSG		09 28 39.2	
	comp=Z,8.1nm,0.2s						
VJF				SB	**Sb**	**09 28 40.7**	**0.0**
FIA0	**FINESS Array S**	**1.51**	**291**	PG	**Pn**	**09 28 40.3**	**+0.2**
	baz=105						
FIA0				MSG		09 28 59.7	
	comp=Z,7.0nm,0.2s						
FIA0				SG	**Sn**	**09 29 00.9**	**+0.5**
FINES	**FINESS Array B**	**1.51**	**291**	Pg	**Pn**	**09 28 40.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=112,slow=16,SNR=21						
FINES				Lg	Lg	09 29 01.1	
	comp=Z,2.1nm,0.3s,baz=103,slow=30,SNR=28						
PVF	**Pernaja**	**1.60**	**257**	PG	**Pb**	**09 28 41.9**	**-0.3**
PVF				MSG		09 29 02.0	
	comp=Z,6.9nm,0.2s						
PVF				SN	**Sg**	**09 29 04.9**	**+1.7**
KAF	**Kangasniemi**	**1.75**	**313**	PG	**Pg**	**09 28 45.4**	**+0.1**
KAF				MSG		09 29 06.4	
	comp=Z,7.1nm,0.2s						
KAF				SN	**Sg**	**09 29 07.8**	**-0.1**
ARBE	**Arbavere**	**2.14**	**226**	PG	**Pb**	**09 28 50.7**	**-0.8**
HEL1	**Helsinki**	**2.18**	**251**	SG	**Sg**	**09 29 21.4**	**-0.5**
NUR	**Nurmijarvi**	**2.19**	**260**	PG	**Pb**	**09 28 51.5**	**-0.8**
	baz=73						
NUR				MSG		09 29 18.8	
	comp=Z,3.9nm,0.2s						
NUR				SG	**Sg**	**09 29 21.9**	**-0.2**
NUR	**Nurmijarvi**	**2.19**	**260**	PN	**Sg**	**09 29 21.9**	**-0.2**
SUF	**Sumiainen**	**2.24**	**324**	PG	**Pb**	**09 28 53.1**	**0.0**
SUF				MSG		09 29 20.4	
	comp=Z,1.8nm,0.2s						
SUF				SG	**Sg**	**09 29 23.4**	**-0.3**
SUF	**Sumiainen**	**2.24**	**324**	MSG		09 29 12.2	
	comp=Z,1.8nm,0.2s						
SUF	**Sumiainen**	**2.24**	**324**	PN	**Pb**	**09 28 53.1**	**0.0**
JOF	**Joensuu**	**2.26**	**28**	PG	**Pb**	**09 28 53.1**	**-0.3**
JOF				SG	**Sb**	**09 29 22.0**	**+0.1**
KEF	**Keuruu**	**2.33**	**304**	PB	**Pb**	**09 28 54.6**	**-0.1**
KEF				MSG		09 29 23.2	
	comp=Z,2.8nm,0.2s						
MEF	**Metsahovi**	**2.39**	**254**	PG	**Pb**	**09 28 56.2**	**+0.4**
MEF				MSG		09 29 24.5	
	comp=Z,4.1nm,0.2s						
MEF				SB	**Sb**	**09 29 25.8**	**0.0**
MEF	**Metsahovi**	**2.39**	**254**	PN	**Sb**	**09 29 25.8**	**0.0**
NIF	**Nilsia**	**2.52**	**348**	PG	**Pb**	**09 28 57.6**	**-0.3**
	baz=167						
VAF	**Ylistaro**	**3.66**	**308**	PN	**Pn**	**09 29 10.4**	**+0.8**
VAF	**Ylistaro**	**3.66**	**308**	SG	**Pn**	**09 29 10.4**	**+0.8**
I43RU	**DUBNA INFRASON**	**6.01**	**131**	I	I	10 05 50.0	
	baz=320,slow=324,SNR=3.4						
ARCES	**ARCESS Array B**	**8.75**	**352**	Pn	**Pn**	**09 30 21.1**	**+1.7**
	baz=167,slow=12,SNR=1.7						
ARCES				Sn	**Sn**	**09 31 53.8**	**-4.8**
	baz=167,slow=22,SNR=1.6						
	comp=Z,3.9nm,1.1s						

HEL 06 09:28:22.9±0.1, **64°.25N×24°.82E, h0**km, **ML1.3,**
Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.13**	**342**	PG	Pg	09 28 24.9	-0.4
OUF				SG	Sg	09 28 25.4	-1.6
OBF0	**Syolatti, Pyha**	**0.36**	**315**	PG	Pg	09 28 29.5	-0.3
	baz=139						
OBF0				SG	Sg	09 28 34.5	+0.1
OBF4	**Vikkela, Lumij**	**0.58**	**12**	PG	Pg	09 28 33.8	-0.3
OBF4				MSG		09 28 41.6	
	comp=Z,1.9nm,0.2s						
OUL	**Oulu**	**0.96**	**28**	PB	Pg	09 28 41.1	-0.2
BURU	**Burvik**	**1.53**	**284**	PG	Pn	09 28 50.4	-1.1
BURU				SN	Sn	09 29 11.4	-0.7
VAF	**Ylistaro**	**1.54**	**219**	PG	Pn	09 28 50.7	-0.9
	baz=42						
NIF	**Nilsia**	**1.58**	**122**	PN	Pn	09 28 51.5	-0.6
KALU	**Kalix**	**1.74**	**340**	PG	Pb	09 28 55.5	-0.1
TOF	**Tornio**	**1.85**	**354**	PG	Pn	09 28 56.4	+0.5
TOF				MSG		09 29 18.1	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sg	09 29 21.8	-0.5
UMAU	**Umeaa**	**1.86**	**261**	PG	Pn	09 28 56.0	0.0
UMAU				SG	Sn	09 29 20.2	+0.1
RANF	**Ranua**	**1.96**	**24**	PG	Pn	09 28 57.8	+0.4
	baz=205						
RANF				SG	Sb	09 29 24.0	-0.4
KU2	**Taivalkoski**	**2.06**	**43**	PG	Pn	09 28 59.6	+0.8
KU2				SG	Sb	09 29 27.4	+0.1
KEF	**Keuruu**	**2.09**	**179**	MSG		09 29 24.8	
	comp=Z,2.8nm,0.2s						
KEF				SB	Sn	09 29 25.0	-0.8
KEF	**Keuruu**	**2.09**	**179**	SB	Sn	09 29 25.0	-0.8
RMF	**Romuvaara**	**2.23**	**88**	MSG		09 29 29.0	
	comp=Z,1.2nm,0.2s						
RMF				SG	Sb	09 29 31.7	-0.5
MSF	**Maaselka**	**2.45**	**45**	SG	Sb	09 29 37.8	-0.6
ERTU	**Ertsjaerv**	**2.57**	**336**	SG	Sb	09 29 42.7	+0.9
FIA0	**FINESS Array S**	**2.87**	**168**	PN	Pn	09 29 09.9	+0.1
FIA0				MSG		09 29 47.4	
	comp=Z,1.1nm,0.2s						

*NNC **06** 09:37:07.2±3.3, 54°.40N×87°.33E, h0km, mb3.2, mpv2.9,*
Error ellipse: s-maj=49.7km s-min=20.2km az=173.0,
Suspected Mining explosion.
*ASRS **06** 09:37:10.0±1.5, 54°.37N×86°.78E, h0km, M2.5, The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
*IDC **06** 09:37:12.9±2.8, 54°.33N×86°.80E, h0km, mbtmp3.3/3,*
ML2.8/3, Error ellipse: s-maj=26.1km s-min=13.4km
az=63.0
ISC 06 09:37:10.3±4.4, **54°.4N**±0°.2×**87°.0E**±0°.2, **h0**km, **n9,** σ1§**37**/12,
3C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**253**	I	I	09 44 23.6	
	baz=69,slow=344,SNR=7.5						
ZAA0	**Zalesovo Array**	**1.36**	**252**	⇓P	**Pg**	**09 37 34.9**	**-1.4**
	0.3nm,0.3s						
ZAA0				⇓S	**Sn**	**09 37 56.8**	**+1.5**
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**1.36**	**252**	Pg	**Pg**	**09 37 34.7**	**-1.6**
	2.9nm,0.3s,baz=71,slow=17,SNR=22						
ZALV				Lg	Lg	09 37 53.2	
	2.1nm,0.3s,baz=69,slow=28,SNR=7.2						
KURK	**Kurchatov**	**6.30**	**238**	⇓Pn	**Pn**	**09 38 44.3**	**0.0**
	2.0nm,0.8s						
KURK				⇑Sn	**Sn**	**09 39 57.3**	**+0.4**
	4.4nm,0.9s						
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	**Pn**	**09 38 47.0**	**+1.2**
	0.2nm,0.3s,baz=53,slow=13,SNR=21						
	2.1nm,0.4s						
KURBB	**Kurchatov Arra**	**6.40**	**237**	⇑Pn	**Pn**	**09 38 45.9**	**+0.2**
	2.8nm,0.4s						
KURBB				⇑Sn	**Sn**	**09 40 00.6**	**+1.1**
	11nm,0.6s						
MK31	**Makanchi Array**	**8.16**	**204**	⇓Pn	**Pn**	**09 39 09.8**	**-0.1**
	0.2nm,0.4s,baz=27,slow=14,SNR=15						
MKAR	**Makanchi Array**	**8.16**	**204**	Pn	**Pn**	**09 39 12.4**	**+2.4**
	0.2nm,0.3s,baz=27,slow=14,SNR=12						
MKAR				Sn	**Sn**	**09 40 42.3**	**-0.6**
	0.1nm,0.3s,baz=20,slow=27,SNR=4.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**9.96**	**269**	Pn	**Pn**	**09 39 35.3**	**+0.8**
	0.1nm,0.3s,baz=71,slow=15,SNR=4.6						
	0.6nm,0.3s						

*BEO **06** 09:47:18.7±1.0, 41°.00N×24°.84E, h0km, ML2.6/7*
*SOF **06** 09:47:19.9, 41°.22N±0°.01×24°.75E±0°.01, h11km±2km,*
MD2.6/5
ISC 06 09:47:19.8±1.6, **41°.19N**±0°.06×**24°.75E**±0°.04, **h6**km±11km,
n16, σ1§**01**/29, **1C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.51**	**359**	⇑*i*Pg	**Pg**	**09 47 29.7**	**+0.1**
RZN				Sg	**Sg**	**09 47 36.2**	**-0.1**
KDZ	**Kurdzhali**	**0.63**	**45**	P	**Pg**	**09 47 31.6**	**-0.3**
KDZ				Sg	**Sg**	**09 47 40.3**	**+0.2**
MMB	**Musomishta**	**0.83**	**296**	Pg	**Pg**	**09 47 36.2**	**+0.4**
MMB				Sg	**Sg**	**09 47 47.0**	**+0.4**
SRS	**Serrai**	**0.88**	**266**	*e*Pg	**Pg**	**09 47 36.5**	**-0.1**
SRS				*e*Sg	**Sb**	**09 47 49.2**	**-0.2**
PLD	**Plovdiv**	**0.96**	**360**	*e*Pg	**Pg**	**09 47 37.7**	**-0.5**
PLD				*e*Sg	**Sn**	**09 47 54.1**	**+0.2**
DIM	**Dimitrovgrad**	**1.06**	**36**	P	**Pg**	**09 47 40.4**	**+0.3**
DIM				Sg	**Sg**	**09 47 53.4**	**-0.5**
KKB	**Krupnik**	**1.38**	**299**	Sg	**Sg**	**09 48 05.0**	**+0.8**
KKB				P	**Pn**	**09 47 45.4**	**-0.3**
PEHC	**Pehcevo**	**1.51**	**294**	*i* Pn	**Pb**	**09 47 48.3**	**0.0**
VAY	**Valandovo**	**1.65**	**275**	*i* Pn	**Pb**	**09 47 50.4**	**-0.2**
VAY	**Valandovo**	**1.65**	**275**	*e*Pg	**Pb**	**09 47 49.7**	**-0.9**
VAY				*e*Sg	**Sg**	**09 48 12.7**	**0.0**
VTS	**Vitosha**	**1.82**	**322**	P	**Pb**	**09 47 53.9**	**+0.2**
VTS				S	**Sb**	**09 48 16.6**	**-0.2**
VTS	**Vitosha**	**1.82**	**322**	*e*Pn	**Pb**	**09 47 53.6**	**-0.1**
VTS				*e*Sn	**Sg**	**09 48 18.7**	**+0.3**
MPEP	**Malo Peshtene**	**2.29**	**341**	P	**Pb**	**09 48 02.4**	**+0.8**
ZAPS	**Zavoj**	**2.61**	**324**	*e*Pn	**Pb**	**09 48 05.5**	**-1.5**
ZAPS				*e*Sn	**Sb**	**09 48 39.9**	**+0.5**
BARS	**Barje**	**2.73**	**308**	*e*Pn	**Pn**	**09 48 05.1**	**+1.0**
BARS				*e*Sn	**Sb**	**09 48 41.8**	**-0.9**
SELS	**Selova**	**3.38**	**308**	*e*Pn	**Pn**	**09 48 15.1**	**+2.0**
SELS				*e*Sn	**Sb**	**09 48 57.7**	**-3.7**

*KRNET **06** 09:48:55.3±0.1, 43°.37N×70°.21E, mb2.3*
*NNC **06** 09:48:55.8±0.5, 43°.29N×70°.14E, h0km, mb3.6, mpv3.1,*
Error ellipse: s-maj=3.5km s-min=2.0km az=4.0,
Suspected Mining explosion.
*SOME **06** 09:48:57.0, 43°.25N×70°.18E, h10km*
ISC 06 09:48:57.6±1.0, **43°.30N**±0°.04×**70°.29E**±0°.04, **h0**km, **n28,**
σ1§11/51, 22C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.23**	**139**	⇓P	**Pg**	**09 49 01.7**	**-0.4**
KK09				⇑S	**Sg**	**09 49 06.3**	**+1.2**
KK08	**Karatay Array**	**0.24**	**144**	⇓P	**Pg**	**09 49 01.9**	**-0.4**
KK08				⇑S	**Sg**	**09 49 06.5**	**+1.1**
KK04	**Karatay Array**	**0.25**	**140**	⇑P	**Pg**	**09 49 01.9**	**-0.4**
KK04				⇑S	**Sg**	**09 49 06.6**	**+1.1**
KK01	**Karatay Array**	**0.25**	**141**	⇓P	**Pg**	**09 49 02.0**	**-0.4**
KK01				⇓S	**Sg**	**09 49 06.8**	**+1.2**
KK03	**Karatay Array**	**0.25**	**142**	⇑P	**Pg**	**09 49 02.0**	**-0.3**
KK03				⇑S	**Sg**	**09 49 06.6**	**+1.0**
KK05	**Karatay Array**	**0.25**	**137**	⇑P	**Pg**	**09 49 01.9**	**-0.5**
KK05				⇑S	**Sg**	**09 49 06.6**	**+1.0**
KK02	**Karatay Array**	**0.25**	**141**	⇑P	**Pg**	**09 49 02.1**	**-0.4**
KK02				⇑S	**Sg**	**09 49 06.7**	**+0.9**
KK31	**Karatay Array**	**0.25**	**141**	⇑P	**Pg**	**09 49 02.1**	**-0.4**
	2.6nm,0°.2s,baz=339,slow=8.5,SNR=305						
KK31				⇓S	**Sg**	**09 49 07.2**	**+1.4**
	6.3nm,0.2s						
KKAR	**Karatay Array**	**0.25**	**141**	⇑*i*P	**Pg**	**09 49 02.0**	**-0.5**
KKAR				⇑*i*S	**Sg**	**09 49 06.9**	**+1.2**
KK07	**Karatay Array**	**0.26**	**144**	⇑P	**Pg**	**09 49 02.2**	**-0.4**
KK07				⇓S	**Sg**	**09 49 07.0**	**+1.0**
KK06	**Karatay Array**	**0.27**	**140**	⇑P	**Pg**	**09 49 02.4**	**-0.4**
KK06				⇑S	**Sg**	**09 49 07.0**	**+0.8**
BRLS	**Borolday**	**0.43**	**231**	P	**Pb**	**09 49 08.2**	**+0.1**
	7.0nm,0.1s						
BRLS				S	**Sb**	**09 49 16.2**	**+1.1**
	23nm,0.3s						
BRLS	**Borolday**	**0.43**	**231**	*e*P	**Pb**	**09 49 08.2**	**+0.1**
	7.0nm,0.1s						
BRLS				*e*S	**Sb**	**09 49 16.2**	**+1.1**
	23nm,0.3s						
IUG	**Iuzhnay**	**1.17**	**190**	P	**Pg**	**09 49 18.4**	**-1.6**
	18nm,0.2s						
IUG				S	**Sg**	**09 49 33.3**	**-1.8**
	32nm,0.3s						
MNAS	**Manas**	**1.82**	**116**	⇑*i*P	**Pn**	**09 49 30.4**	**+0.1**
MNAS				⇑*i*S	**Sg**	**09 49 55.9**	**-0.1**
TRKS	**Terek-Say**	**1.88**	**160**	⇓*i*P	**Pb**	**09 49 32.2**	**-0.7**
TRKS				⇓*i*S	**Sg**	**09 49 59.3**	**+1.4**
ARK	**Arkit**	**1.94**	**140**	⇑*i*P	**Pn**	**09 49 32.2**	**+0.2**
ARK				⇑*i*S	**Sb**	**09 49 59.2**	**+0.4**
MRKS	**Merke**	**2.22**	**103**	Pg	**Pb**	**09 49 39.1**	**+0.4**
	3.0nm,0.2s						
MRKS				Lg	Lg	09 50 08.9	
	9.2nm,0.4s						
MRKS	**Merke**	**2.22**	**103**	*e*P	**Pb**	**09 49 39.1**	**+0.4**
	3.0nm,0.2s						
MRKS				*e*S	**Sg**	**09 50 08.9**	**-0.1**
	10nm,0.3s						
EKS2	**Erkin-Say**	**2.64**	**103**	⇓*i*P	**Pn**	**09 49 41.6**	**+0.1**
EKS2				⇓*i*S	**Sn**	**09 50 15.4**	**+1.1**
AML	**Almayashu**	**2.77**	**114**	⇑*i*P	**Pn**	**09 49 43.8**	**+0.2**
AML				⇑*i*S	**Sn**	**09 50 19.1**	**+1.2**
BTLS	**Baital**	**3.21**	**56**	Pg	**Pg**	**09 49 59.0**	**-0.2**
	2.9nm,0.3s						
BTLS				Lg	Lg	09 50 42.9	
	3.3nm,0.4s						
BTLS	**Baital**	**3.21**	**56**	*e*P	**Pg**	**09 49 59.0**	**-0.2**
	1.3nm,0.2s						
BTLS				*e*S	**Sg**	**09 50 42.9**	**+2.1**
	3.3nm,0.4s						
ARLS	**Aral**	**3.31**	**114**	⇓*e*P	**Pn**	**09 49 49.7**	**-1.1**
ARLS				⇓*e*S	**Sn**	**09 50 29.6**	**-1.3**
KRBS	**Karabastau**	**3.94**	**82**	Pg	**Pg**	**09 50 10.8**	**-2.3**
	1.4nm,0.2s						
KRBS				Lg	Lg	09 51 03.5	
	4.3nm,0.4s						
KST	**Kastek**	**4.16**	**92**	Pg	**Pg**	**09 50 15.3**	**-2.0**
	2.2nm,0.6s						
KST				Lg	Lg	09 51 11.1	
	6.4nm,0.5s						
KST	**Kastek**	**4.16**	**92**	*e*P	**Pg**	**09 50 15.3**	**-2.0**
	1.2nm,0.2s						
KST				*e*S	**Sg**	**09 51 11.1**	**0.0**
	4.4nm,0.3s						
KTBS	**Karatobe**	**4.67**	**83**	Pg	**Pg**

SLA	San Lorenzo	1.49 110	⇑ *i*P		Pn	10 16 28.9 +1.3
AF01	San Pedro de A	1.63 320	*e*P		Pn	10 16 31.4 +2.3
AF01			*e*S		S	10 16 57.7 -0.1
AF01			IAML			10 17 03.7
	comp=Z,89nm,0.6s					
AF01	San Pedro de A	1.63 320	*e*P		Pn	10 16 31.2 +2.1
AF01			*i* S		S	10 16 58.5 +0.7
AF01			IAML			10 17 00.2
	comp=N,206nm,0.4s					
AZAP	Zapla	1.80 91	*e*P		Pn	10 16 31.6 +1.0
AZAP			*e*S		S	10 16 59.9 -0.3
FSA	Cafayete	2.12 153	*e*P		Pn	10 16 22.3 -11
FSA			*e*S		S	10 16 58.8 -7.0
YJA	Yavi	2.46 35	*e*P		Pn	10 16 39.2 +1.9
YJA			*e*S		S	10 17 12.8 +0.3
GO02	Mina Guanaco	2.51 247	*e*P		Pn	10 16 39.5 +1.8
GO02			*e*S		S	10 17 13.0 -0.1
GO02	Mina Guanaco	2.51 247	⇑ *i*P		Pn	10 16 39.4 +1.7
GO02			*i* S		S	10 17 12.8 -0.4
GO02			IAML			10 17 14.3
	comp=E,553nm,0.2s					
ALOL	LOMAS DE OLMED	2.82 83	*e*P		Pn	10 16 22.5 -18
AHML	Horco Molle	2.99 149	*e*P		Pn	10 16 44.7 +2.0
AHML			*e*S		S	10 17 21.9 -0.4
PB14	IPOC Station P	3.10 262	*e*P		Pn	10 16 45.8 +1.5
PB14			*e*S		S	10 17 24.1 -0.8
PB14			IAML			10 17 29.5
	comp=Z,110nm,0.2s					
PB14	IPOC Station P	3.10 262	⇑ *i*P		Pn	10 16 45.6 +1.4
PB14			*e*S		S	10 17 22.7 -2.2
PB14			IAML			10 17 27.9
	comp=E,113nm,0.4s					
PB09	IPOC Station P	3.15 319	*e*P		Pn	10 16 47.1 +2.4
PB09			*e*S		S	10 17 25.8 0.0
PB09			IAML			10 17 30.5
	comp=Z,120nm,0.5s					
PB09	IPOC Station P	3.15 319	⇑ *i*P		Pn	10 16 46.9 +2.2
PB09			*i* S		S	10 17 25.2 -0.5
PB09			IAML			10 17 26.7
	comp=N,117nm,0.5s					
AC02	Maricunga	3.23 215	*e*P		Pn	10 16 48.4 +2.5
AC02			*e*S		S	10 17 12.7 -15
AC01	Pan de Azucar	3.76 238	*e*P		Pn	10 16 52.8 +1.1
AC01			*e*S		S	10 17 36.6 -1.9
AC01			IAML			10 17 38.3
	comp=Z,61nm,0.3s					
PB01	IPOC Station P	3.88 324	*e*P		Pn	10 16 54.7 +1.4
PB01			*e*S		S	10 17 39.9 -1.5
PB01			IAML			10 17 41.6
	comp=Z,76nm,0.2s					
PB01	IPOC Station P	3.88 324	⇑ *i*P		Pn	10 16 54.6 +1.2
PB01			*e*S		S	10 17 38.9 -2.5
PATCX	Punta Patache	4.44 319	*e*P		Pn	10 17 01.7 +1.6
PATCX			*e*S		S	10 17 46.7 -6.9
PATCX			IAML			10 17 54.0
	comp=Z,37nm,0.4s					
PATCX	Punta Patache	4.44 319	*e*P		Pn	10 17 01.5 +1.4
PATCX			*e*S		S	10 17 50.6 -3.0
PB08	IPOC Station P	4.50 334	*e*P		Pn	10 17 03.5 +2.3
PB08			*e*S		S	10 17 55.2 -0.3
PB08			IAML			10 18 00.1
	comp=Z,29nm,0.5s					
PB08	IPOC Station P	4.50 334	*e*P		Pn	10 17 03.5 +2.3
PB08			*e*S		S	10 17 54.9 -0.7
TA01	Diego Aracena	4.65 321	*e*P		Pn	10 17 04.1 +1.4
TA01			*e*S		S	10 17 57.6 -0.6
TA01			IAML			10 18 01.9
	comp=Z,22nm,0.6s					
HMBC	Humberstone	4.72 325	*e*P		Pn	10 17 04.2 +0.5
HMBC			*e*S		S	10 17 56.9 -3.2
HMBC			IAML			10 18 02.7
	comp=Z,71nm,0.3s					
HMBC	Humberstone	4.72 325	*e*P		Pn	10 17 04.0 +0.3
HMBC			*e*S		S	10 17 55.7 -4.4
ACLC	CERRO LA CRUZ	5.20 179	*e*P		Pn	10 17 12.3 +2.7
ACLC			*e*S		S	10 18 10.9 0.0
AC04	Llanos de Chal	5.38 221	*e*P		Pn	10 17 12.8 +1.0
AC04			*e*S		S	10 18 14.4 -0.5
AC04			IAML			10 18 19.7
	comp=Z,14nm,0.8s					
PB12	IPOC Station P	6.36 331	*e*P		Pn	10 17 24.3 -0.1
PB12			*e*S		S	10 18 31.6 -6.1

AZER ***06*** *10:19:48.9, 40˚.76N×48˚.49E, h10km, ml2.9, Mw3.6*
DRS ***06*** *10:19:50.7, 40˚.78N×47˚.94E, h30km*
ISC 06 10:19:50.9±0.9, 40˚.75N±0˚.02×48˚.46E±0˚.02, h11km±6km, n46, σ1§10/89, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	Pirkuli	0.10	70	P	Pg	10 19 53.0	-0.8
PQL				S	Sg	10 19 56.1	+0.2
IML	Ismayilli	0.22	281	P	Pg	10 19 55.6	+0.1
IML				S	Sg	10 20 00.8	+2.2
ATGJ	Altiaghaj	0.38	73	P	Pg	10 19 57.8	-0.6
ATGJ				S	Sg	10 20 04.0	+0.5
GBS	Qobustan	0.42	121	P	Pg	10 19 59.2	-0.1
GBS				S	Sb	10 20 07.6	+0.6
KDMR	Kurdemir	0.43	210	P	Pg	10 19 59.6	+0.1
KDMR				S	Sb	10 20 08.3	+1.2
SIZA	Siyzn	0.46	46	P	Pg	10 19 59.7	-0.4
SIZA				S	Sb	10 20 08.2	0.0
XNQ	Khinaliq	0.48	330	P	Pg	10 20 00.0	-0.5
XNQ				S	Sb	10 20 08.2	-0.7
QBL	Gabala	0.51	292	P	Pg	10 20 00.7	-0.3
QBL				S	Sb	10 20 09.6	+0.1
QUBA	Quba, Azerbaij	0.60	2	P	Pb	10 20 03.1	-0.4
QUBA				S	Sb	10 20 13.1	+1.0
ZRD	Zardab	0.76	232	P	Pb	10 20 06.2	0.0
ZRD				S	Sn	10 20 19.2	+0.1
QSAR	Qusar	0.78	349	P	Pb	10 20 06.0	-0.6
QSAR				S	Sn	10 20 18.7	-1.0
KSMR	Kasumkent	0.89	344	*e*Pg	Pg	10 20 07.4	-0.7
	110nm,0.2s						
KSMR				*e*Sg	Sb	10 20 21.1	+0.8
	1μm,0.3s						
SAAT	Saatly	0.89	182	P	Pg	10 20 07.5	-0.6
SAAT				S	Sb	10 20 20.6	+0.3
ALIB	&Aumlli-Bayram	0.90	152	P	Pn	10 20 10.8	+1.3
ALIB				S	Sn	10 20 23.8	+1.3
AKT	Akhty	0.91	323	*i* Pg	Pg	10 20 07.6	-1.0
	54nm,0.5s						
AKT				*e*Sg	Sb	10 20 21.5	+0.3
	217nm,0.3s						
GOBA	Gobu	1.03	110	P	Pn	10 20 12.0	+0.6
MNGR	Mingechevir, A	1.05	272	P	Pn	10 20 11.1	-0.6
BRDA	Brd	1.09	244	P	Pn	10 20 11.8	-0.4
BRDA				S	Sn	10 20 30.2	+2.9
AGDM	Agdam	1.22	239	P	Pg	10 20 13.1	-1.2
AGDM				S	Sn	10 20 31.9	+1.4
BLQ	Beylaqan	1.24	214	P	Pb	10 20 13.0	-1.4
BLQ				S	Sb	10 20 30.5	0.0
DRN	Derbent	1.28	356	*e*Pg	Pn	10 20 14.1	-0.7
	56nm,0.3s						
DRN				*e*Sg	Sn	10 20 32.7	+0.7
	342nm,0.3s						
GLBA	Clilabad	1.51	182	Pn	Pn	10 20 16.7	-1.3
GLBA				Sn	Sn	10 20 37.4	-0.2
URKR	Urkarakh	1.54	336	*e*Pg	Pg	10 20 19.9	-0.7
	26nm,0.1s						
URKR				*e*Sg	Sg	10 20 42.9	+2.3
	65nm,0.1s						
QRD	Qoradiz	1.56	215	Pn	Pn	10 20 18.4	-0.3
QRD				Sn	Sn	10 20 38.9	0.0
GANJ	Ganja	1.63	267	Pn	Pn	10 20 18.4	-1.3
GANJ				Sn	Sn	10 20 40.4	-0.3
VSHL	Vashlovani	1.63	288	P	Pb	10 20 20.1	-1.0
VSHL				S	Sg	10 20 44.9	+1.4
ZKTA	Zakatala	1.65	303	Pn	Pn	10 20 20.3	+0.4
ZKTA				Sn	Sg	10 20 46.4	+2.5
KMKR	Kumukh	1.72	324	*e*Pg	Pg	10 20 23.4	-0.6
	36nm,0.5s						
KMKR				*e*Sg	Sg	10 20 48.9	+2.7
	113nm,0.5s						
SGKR	Sergokala	1.81	341	*e*Pg	Pb	10 20 23.7	-0.5
	21nm,0.2s						
SGKR				*e*Sg	Sg	10 20 50.0	+0.9
	108nm,0.2s						
YRD	Yardimli	1.84	185	Pn	Pn	10 20 21.1	-1.7
YRD				Sn	Sn	10 20 46.0	-0.2
GNBR	Gunib	1.98	326	*e*Pg	Pb	10 20 26.1	-1.0
	14nm,0.6s						
GNBR				*e*Sg	Sg	10 20 54.5	-0.2
	60nm,0.6s						
LGD	Lagodekhi	1.99	304	P	Pb	10 20 27.1	-0.2
LGD				S	Sg	10 20 57.1	+2.2
LKRN	Lenkeran, Azer	2.06	173	Pn	Pn	10 20 25.1	-0.4
LKRN				Sn	Sn	10 20 52.3	+1.3
GDB	GEDABAY	2.06	270	Pn	Pn	10 20 24.5	-1.2
GDB				Sn	Sn	10 20 51.8	+0.3
LRK	Lerik	2.11	183	Pn	Pn	10 20 26.0	-0.4
LRK				Sn	Sn	10 20 53.3	+0.5
ARKR	Arakani	2.15	330	*e*Pg	Pb	10 20 29.2	-0.7
	8.0nm,0.4s						
ARKR				*e*Sg	Sg	10 21 00.0	-0.1
	39nm,0.6s						
ASTR	Astara	2.21	173	Pn	Pn	10 20 27.5	0.0
ASTR				Sn	Sn	10 20 54.7	-0.1
UNCR	Uncukul	2.32	328	*e*Pg	Pb	10 20 31.3	-1.6
	8.0nm,0.7s						
UNCR				*e*Sg	Sg	10 21 04.0	-1.6
	30nm,0.4s						
QZX	Qazax, Azerbai	2.36	278	Pn	Pn	10 20 28.5	-1.3
QZX				Sn	Sb	10 21 00.6	-2.1
KRNR	Karanay	2.38	331	*e*Pg	Pb	10 20 32.4	-1.5
	6.0nm,0.5s						
KRNR				*e*Sg	Sg	10 21 06.2	-1.1
	18nm,0.7s						
DGRG	David-gareji	2.44	288	P	Pn	10 20 32.2	+1.4
DGRG				S	Sb	10 21 04.1	-0.8
BTLR	Botlikh	2.54	319	*e*Pn	Pn	10 20 33.4	+1.2
	9.0nm,0.4s						
BTLR				*e*Sn	Sb	10 21 08.3	+0.3
	19nm,0.5s						
SBZ	Shahbuz	2.61	240	Pn	Pn	10 20 34.4	+1.1
SBZ				Sn	Sb	10 21 10.7	+0.7
ORD	Ordubad	2.63	227	Pn	Pn	10 20 33.8	+0.3
ORD				Sn	Sb	10 21 08.4	-2.2
DLMR	Dylym	2.69	330	*e*Pn	Pn	10 20 35.8	+1.6
	32nm,0.2s						
DLMR				*e*Sn	Sb	10 21 12.3	+0.2
	105nm,0.2s						
CHRG	Chargali	3.09	302	P	Pn	10 20 41.1	+1.3

BJI ***06*** *10:25:18.6, 15˚.73N×120˚.69E, h142km, mB5.4/62, mb5.1/87*
MAN ***06*** *10:25:19.7, 15˚.91N×120˚.31E, h131km, mb6.0, ML5.0, MS5.5*
MAN INTENSITY V - AGUILAR ALAMINOS CITY BOLINAO MALASIQUI SAN CARLOS CITY AND VILLASIS PANGASINAN; SAN FERNANDO CITY LA UNION; INTENSITY IV - BAGUIO CITY; BINMALEY LABRADOR LINGAYEN AND MANGALDAN PANGASINAN; AGOO AND NAGUILIAN LA UNION; INTENSITY III - DAGUPAN CITY; BAUTISTA AND SAN MANUEL PANGASINAN; OLONGAPO CITY; SAN FELIPE ZAMBALES; BAUANG AND CABA LA UNION; ITOGON BENGUET; CAPAS TARLAC; ; OBANDO BULACAN; INTENSITY II - SUBIC ZAMBALES; CITY OF MANILA; MANDALUYONG CITY; PASAY CITY; QUEZON CITY.
DJA ***06*** *10:25:19.8±0.3, 16˚.N±2˚×12˚±1E±˚, h115km±4km, M5.5/117, mB5.9/85, mb5.7/117, MLv6.0/1, Mw5.5/71, Mw(mB)5.5/85, MwMwp5.2/35, Mwp5.4/35*
NEIC ***06*** *10:25:19.5, 15˚.84N×120˚.63E, h120km*
NEIC ***06*** *10:25:19.8, 15˚.84N×120˚.63E, h140km, Moment Tensor Solution. Duration: 2§8 Moment tensor: Scale 10^17Nm; Mrr=0.75; Mθθ=1.72; Mφφ=-0.97; Mrθ=-0.51; Mθφ=0.38; Mφr=1.16; Fault plane solution: Mo=1.99000×10^17 NP1: φs=298.94000°, δ=47.83000°, λ=-22.63000°. NP2: φs=44.58000°, δ=73.43000°, λ=-135.53000°. Principal axes: T 1.9642, Plg16.0000°, Azm166.0000°; N 0.0594, Plg43.0000°, Azm61.0000°; P -2.0236, Plg43.0000°, Azm271.0000°;*
NEIC ***06*** *10:25:19.8, 15˚.84N×120˚.63E, h140km*
NEIC ***06*** *10:25:20.5±1.8, 15˚.86N±0˚.05×120˚.62E±0˚.07, h130km±3km, mb5.3/319, Mwb5.5/18, Mww5.5/71, Error ellipse: s-maj=11.0km s-min=7.1km az=115.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.48; Mθθ=1.50; Mφφ=-1.03; Mrθ=0.87; Mθφ=0.12; Mφr=-1.12; Fault plane solution: Mo=1.95000×10^17 NP1: φs=306.51000°, δ=41.64000°, λ=-14.36000°. NP2: φs=47.35000°, δ=80.51000°, λ=-130.74000°. Principal axes: T 1.9352, Plg24.0000°, Azm168.0000°; N 0.0327, Plg40.0000°, Azm55.0000°; P -1.9679, Plg40.0000°, Azm280.0000°;*
MOS ***06*** *10:25:20.2±1.0, 15˚.82N×120˚.57E, h147km, mb5.5/89, MS4.6/8 Error ellipse: s-maj=6.5km s-min=3.5km az=117.4*
IDC ***06*** *10:25:21.5±0.4, 15˚.83N×120˚.63E, h146km±3km, mb5.1/36, mbtmp5.5/38, MS4.3/44, Error ellipse: s-maj=11.3km s-min=5.8km az=77.0*
GCMT ***06*** *10:25:21.5±0.1, 15˚.87N±0˚.01×120˚.39E±0˚.01, h137km, MW5.5/162, Moment Tensor Solution. s132,c220; s162,c333; Duration: 1§4 Moment tensor: Scale 10^17Nm; Mrr=0.65±.02; Mθθ=2.17±.03; Mφφ=-1.52±.03; Mrθ=0.80±.02; Mθφ=0.24±.03; Mφr=-1.37±.02; Best double couple: Mo=2.50900×10^17 NP1: φs=306.00000°, δ=50.00000°, λ=-16.00000°. NP2: φs=46.00000°, δ=78.00000°, λ=-139.00000°. Principal axes: T 2.4770, Plg18.0000°, Azm170.0000°; N 0.0610, Plg47.0000°, Azm59.0000°; P -2.5410, Plg37.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 10:25:21.4±0.2, 15.81N±0.02×120.55E±0.03, h143km±1km, h144km: pP-P, n1378, σ1§41/1408, mb5.3/393, 57C-39D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	Santa	1.74	357	P	Pn	10 25 53.3	+0.3
TGY	Tagaytay City	1.74	167	P	Pn	10 25 54.4	+1.2
	35μm,0.6s,baz=308,slow=2.7,SNR=436						
TGY				S	Sn	10 26 19.4	+2.0
	17μm,0.5s,baz=282,slow=7.8,SNR=5.8						
TWGBT	Beinan	6.99	4	P	Pn	10 27 00.3	-1.0
TWG	Pinlang	7.00	4		Pn	10 26 59.1	-2.2
TWG				Sn	Sn	10 28 15.2	-4.5
TPUB	Ta-pu	7.46	1	Pn	Pn	10 27 06.8	-0.7
TPUB	Ta-pu	7.46	1	P	Pn	10 27 07.7	+0.2
YULB	Yu-li	7.58	5		Pn	10 27 06.7	-2.5
YULB	Yu-li	7.58	5	P	Pn	10 27 09.1	-0.1
YULB	Yu-li	7.58	5	S	Sn	10 28 33.3	-0.4
SSLB	Suanglung	7.95	3	Pn	Pn	10 27 13.6	-0.6
SSLB	Suanglung	7.95	3	P	Pn	10 27 14.6	+0.5
SSLB	Suanglung	7.95	3	S	Sn	10 28 41.7	-1.0
NACB	Ninganchiao	8.38	7	Pn	Pn	10 27 18.4	-1.4
NACB	Ninganchiao	8.38	7	P	Pn	10 27 19.0	-0.9
HKPS	Hong Kong Po S	8.84	318	Pn	Pn	10 27 24.6	-1.4
HKPS	Hong Kong Po S	8.84	318	P	Pn	10 27 25.8	-0.2
KNMB	Chin-men Tao	8.85	347	Pn	Pn	10 27 25.6	-0.5
YHNB	Yeheng	8.85	5	Pn	Pn	10 27 26.0	-0.2
YHNB	Yeheng	8.85	5	P	Pn	10 27 26.5	+0.2
YHNB	Yeheng	8.85	5	S	Sn	10 29 03.3	-1.2
YOJ	Yonaguni jima	8.92	15		Pn	10 27 25.2	-1.7
YOJ	Yonaguni jima	8.92	15	P	Pn	10 27 26.8	-0.2
YOJ	Yonaguni jima	8.92	15	P	Pn	10 27 25.3	-1.7
MCO	Taipa Grande	9.12	315	P	Pn	10 27 30.0	+0.3
TATO	Taipei	9.16	5		Pn	10 27 28.9	-1.4
TATO	Taipei	9.16	5	P	Pn	10 27 30.3	0.0
TATO				S	Sn	10 29 13.3	+1.3
TATO	Taipei	9.16	5	P	Pn	10 27 31.5	+1.2
QZH	Quanzhou	9.27	349	⇑ *i*P	Pn	10 27 31.6	-0.2
QZH				S	Sn	10 29 13.3	-1.2
QZH				LR	LR		
	comp=N,2μm,14.3s						
QZH				LR	LR		
	comp=E,1μm,13.6s						
QZH				LR	LR		
	comp=Z,3μm,14.4s						
GZH	Guangzhou	9.93	318	P	Pn	10 27 42.8	+2.3
GZH				S	Sn	10 29 35.7	+5.3
GZH				LR	LR		
	comp=N,7μm,14.5s						
GZH				LR	LR		
	comp=E,8μm,14.7s						
DAV	Davao City (W)	9.98	150	P	Pn	10 27 47.6	+6.3
	119nm,0.4s,baz=59,slow=4.7,SNR=8.4						
DAV	Davao City (W)	9.98	150	P	Pn	10 27 45.2	+3.9
DAV	Davao City (W)	9.98	150	P	Pn	10 27 43.0	+1.6
JMJ	Miyako jima 2	10.01	26	P	Pn	10 27 42.0	+0.5
KKM	Kota Kinabalu	10.59	204	Pn	Pn	10 27 49.4	-0.2
KKM	Kota Kinabalu	10.59	204	P	Pn	10 27 49.6	+0.1
QIZ	Qiongzhong	10.71	289	Pn	Pn	10 27 50.4	-0.5
QIZ	Qiongzhong	10.71	289	P	Pn	10 27 50.6	-0.3
QIZ				S	Sn	10 29 47.1	-2.2
QIZ				pmax	pmax		
	comp=Z,370nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,2μm,5.8s						
QIZ				LR	LR		
	comp=N,7μm,18.1s						
QIZ				LR	LR		
	comp=E,3μm,16.9s						
QIZ				LR	LR		
	comp=Z,3μm,16.3s						
QIZ	Qiongzhong	10.71	289	P	Pn	10 27 51.4	+0.5
SGSI	Sangihe	13.00	157	P	Pn	10 28 22.4	+1.4
JOW	Kunigami	13.12	32	Pn	Pn	10 28 21.2	-1.1
JOW	Kunigami	13.12	32	P	Pn	10 28 22.4	+0.1
	396nm,1.2s,baz=234,slow=11,SNR=20						
JOW	Kunigami	13.12	32	P	Pn	10 28 22.9	+0.6
GULI	GuiLin	13.41	316	P	Pn	10 28 26.1	+0.1
GULI				S	Sn	10 30 51.0	-3.3
GULI				pmax	pmax		
	comp=Z,140nm,1.1s						
GULI				pmax	pmax		
	comp=Z,420nm,7.6s						
GULI				LR	LR		
	comp=N,4μm,18.8s						
GULI				LR	LR		
	comp=E,4μm,18.5s						
GULI				LR	LR		
	comp=Z,3μm,17.2s						
JMZ	Minamidaito 2	14.09	43	Pn	Pn	10 28 32.0	-2.8
CNSH	ChangSha	14.19	331	P	Pn	10 28 37.0	+1.1
CNSH				S	Sn	10 31 11.6	-1.5
CNSH				pmax	pmax		
	comp=Z,18nm,0.8s						
CNSH				LR	LR		
	comp=N,2μm,15.8s						
CNSH				LR	LR		
	comp=E,3μm,19.0s						
CNSH				LR	LR		
	comp=Z,1μm,41.2s						
UBPT	Khong Chiam	14.54	270	P	P	10 28 41.8	-1.2
UBPT	Khong Chiam	14.54	270	P	P	10 28 42.1	-0.9
TOLI2	Tolitoli	14.60	179	Pn	Pn	10 28 41.1	-0.1
TOLI2	Tolitoli	14.60	179	P	Pn	10 28 42.2	+0.9
SSE	Sheshan	15.23	2	P	Pn	10 28 48.5	-0.4
SSE				S	Sn	10 31 38.3	+0.2
SSE				pmax	pmax		
	comp=Z,55nm,0.8s						
SSE				pmax	pmax		
	comp=Z,570nm,5.7s						
SSE				LR	LR		
	comp=N,330nm,15.7s						
SSE				LR	LR		
	comp=E,550nm,15.7s						
MRSI	Marisa	15.29	175	P	Pn	10 28 49.5	-0.4
	5μm6μm502nm,0.9s						
KMSI	Cibinong	15.51	167	P	P	10 28 54.5	+0.7
	5μm18μm1μm,1.3s						
SBUM	Sibu	15.60	213		Pn	10 28 53.9	+0.2
SBUM	Sibu	15.60	213	P	P	10 28 54.3	-0.5
WHN	Wuhan	15.73	340	P	Pn	10 28 55.1	0.0
WHN				S	Sn	10 31 44.4	-5.7
WHN				pmax	pmax		
	comp=Z,180nm,1.2s						
WHN				pmax	pmax		
	comp=Z,2μm,7.0s						
NJ2	Nanjing	16.25	355	⇑P	P	10 29 02.0	+0.2
NJ2				sP	sP	10 29 36.8	-7.8
NJ2				S	S	10 32 02.6	0.0
NJ2				pmax	pmax		
	comp=Z,49nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,11.4s						
NJ2				LR	LR		
	comp=E,1μm,11.8s						
NJ2				LR	LR		
	comp=Z,2μm,18.9s						
TNTI	Ternate	16.39	155	P	Pn	10 29 02.1	-1.2
TNTI	Ternate	16.39	155	P	Pn	10 29 03.0	-0.3
TNTI	Ternate	16.39	155	P	Pn	10 29 01.8	-1.5
	5μm364nm,0.6s						
SMKI	Samarinda	16.48	192	P	P	10 29 08.8	+4.2
	6μm464nm,0.4s						
PCI	Palu	16.62	182	P	Pn	10 29 07.4	+1.3
	6μm5μm499nm,1.1s						
APSI	Ampana	16.65	176	P	Pn	10 29 08.1	+1.7
	8μm1μm,1.0s						
SLVN	Son La	16.70	292	P	Pn	10 29 07.7	+0.6
SLVN	Son La	16.70	292	P	Pn	10 29 08.5	+1.3
GYA	Guiyang	16.72	312	⇓P	Pn	10 29 09.6	+2.2
GYA				sP	sP	10 29 48.9	0.0
GYA				S	S	10 32 09.8	-4.0
GYA				pmax	pmax		
	comp=Z,180nm,1.2s						
GYA				pmax	pmax		
	comp=Z,2μm,7.1s						
GYA				LR	LR		
	comp=Z,2μm,15.9s						
NONG	Nongkai	16.80	280	P	Pn	10 29 09.7	+1.4
LUWI	Luwuk	16.89	172	P	P	10 29 09.0	0.0
LUWI	Luwuk	16.89	172	P	Pn	10 29 10.6	+1.3
LUWI	Luwuk	16.89	172	P	Pn	10 29 09.2	-0.1
	12μm971nm,0.8s						
BKB	Balikpapan	17.34	192	P	P	10 29 11.2	-2.8
BKB	Balikpapan	17.34	192	P	P	10 29 13.2	-0.8
BKB	Balikpapan	17.34	192	P	Pn	10 29 14.5	-0.3
	7μm12μm1μm,0.8s						
KSM	Kuching	17.46	216	P	P	10 29 15.3	0.0
KSM	Kuching	17.46	216	P	Pn	10 29 16.0	-0.2
LBMI	Labuha	17.73	157	P	P	10 29 17.5	-0.7
	7μm537nm,1.3s						
STKI	Sintang	18.02	211	P	Pn	10 29 23.8	+0.8
SANI	Sanana	18.54	163	P	P	10 29 25.6	-1.5
SANI	Sanana	18.54	163	P	P	10 29 24.5	-2.6
	4μm5μm359nm,0.7s						
NAYO	Nakonayok	18.63	268	P	Pn	10 29 30.1	0.0
TTSI	Tana Toraja	18.75	182	P	Pn	10 29 30.5	-0.9
	3μm7μm637nm,0.9s						
KMI	Kunming	19.07	302	⇓P	Pn	10 29 35.7	+0.3
KMI				sP	sP	10 30 14.2	-0.3
KMI				S	Sn	10 33 07.6	-2.8
KMI				pmax	pmax		
	comp=Z,300nm,1.0s						
KMI				pmax	pmax		
	comp=Z,2μm,9.2s						
KMI				LR	LR		
	comp=N,4μm,19.5s						
KMI				LR	LR		
	comp=E,2μm,18.8s						
KMI				LR	LR		
	comp=Z,2μm,14.0s						
PHRA	Phrae	19.60	281	P	P	10 29 39.8	+1.2
JNU	Nakatsue	19.61	27	P	P	10 29 38.1	-0.6
JNU	Nakatsue	19.61	27	P	P	10 29 38.9	+0.2
	90nm,0.7s,baz=210,slow=4.9,SNR=29						
JNU	Nakatsue	19.61	27	P	Pn	10 29 40.8	-0.7
SWI	Sorong	19.66	146	P	Pn	10 29 42.7	+0.6
	6μm8μm259nm,1.0s						
SPSI	Sidrap Palu	19.66	182	P	Pn	10 29 41.2	-0.9
	3μm226nm,0.7s						
KDI	Kendari	19.74	174	P	P	10 29 41.5	+1.3
	4μm6μm670nm,1.0s						
NLAI	Namlea	20.00	161	P	Pn	10 29 45.1	-1.1
	4μm8μm704nm,1.2s						
LYN	LuoYang	20.03	340	⇑P

PZH PcS **PcS** **10 37 30.7 -1.6**
PZH ScS **ScS** **10 40 59.8 -1.2**
PZH pmax pmax
comp=Z,330nm,1.2s
PZH pmax pmax
comp=Z,2μm,4.5s
PZH LR LR
comp=N,1μm,12.9s
PZH LR LR
comp=E,2μm,13.8s
PZH LR LR
comp=Z,2μm,14.7s
TIA Tai'an 20.55 352 P **P** **10 29 49.3 +0.6**
TIA pP pP 10 30 21.7 +7.8
TIA S **S** **10 33 32.3 +1.6**
TIA pmax pmax
comp=Z,16nm,0.6s
TIA pmax pmax
comp=Z,920nm,5.8s
TIA LR LR
comp=N,760nm,13.2s
TIA LR LR
comp=E,980nm,16.2s
TIA LR LR
comp=Z,2μm,14.7s
KAPI Kappang 20.70 182 P **P** **10 29 49.4 -1.0**
KAPI Kappang 20.70 182 P **P** **10 29 50.1 -0.3**
162nm,0.9s,baz=353,slow=8.7,SNR=26
162nm,0.9s
KAPI Kappang 20.70 182 P **P** **10 29 50.2 -0.3**
KAPI S **S** **10 33 33.6 -0.3**
KAPI Kappang 20.70 182 P **P** **10 29 51.7 +1.3**
KAPI Kappang 20.70 182 P **P** **10 29 49.4 -1.0**
SRDT SRDT 20.74 269 P Pn 10 29 53.1 -1.8
MSAI Masohi 20.76 156 P Pn 10 29 53.8 -1.3
5μm10μm832nm,1.0s
AAI Ambon 20.80 158 P **P** **10 29 53.4 +1.9**
5μm5μm568nm,0.8s
CM31 Chiang Mai Arr 20.81 280 P **P** **10 29 52.7 +1.0**
CMAR Chiang Mai Arr 20.81 280 P **P** **10 29 52.5 +0.9**
CMAR Chiang Mai Arr 20.81 280 P **P** **10 29 52.7 +1.0**
293nm,0.9s,baz=90,slow=8.5,SNR=586
CMAR PcP **PcP** **10 33 55.4 +0.5**
4.8nm,0.7s,baz=103,slow=2.3,SNR=5.9
CMAR ScP **ScP** **10 37 18.9 +0.5**
6.2nm,1.0s,baz=89,slow=2.9,SNR=11
CMAR LR LR 10 38 29.9
comp=Z,1μm,18.5s,baz=90,slow=38
293nm,0.9s
CHTO Chiang Mai 20.84 281 P **P** **10 29 52.4 +0.5**
CHTO Chiang Mai 20.84 281 P **P** **10 29 52.4 +0.5**
XAN Xi'an 20.96 332 ⇓P **P** **10 29 53.0 -0.1**
XAN S **S** **10 33 40.1 +1.3**
XAN pmax pmax
comp=Z,270nm,1.3s
XAN pmax pmax
comp=Z,2μm,4.1s
XAN LR LR
comp=N,2μm,14.4s
XAN LR LR
comp=E,1μm,10.8s
XAN LR LR
comp=Z,2μm,12.0s
BKSI Bulukumba 21.00 181 P **P** **10 29 55.0 +1.4**
169nm,0.8s
BBSI Bau Bau 21.25 174 P P 10 30 07.4 +11
TJN Taejon 21.37 15 P **P** **10 29 56.7 -0.7**
TJN Taejon 21.37 15 P **P** **10 29 57.1 -0.3**
TJN Taejon 21.37 15 *i*P **P** **10 29 56.0 -1.4**
CD2 Chengdu 21.49 317 ⇓P **P** **10 29 59.3 +0.5**
CD2 S **S** **10 33 49.0 +0.6**
CD2 pmax pmax
comp=Z,470nm,0.8s
CD2 pmax pmax
comp=Z,3μm,3.3s
CD2 LR LR
comp=N,4μm,14.0s
CD2 LR LR
comp=E,5μm,13.3s
CD2 LR LR
comp=Z,2μm,14.0s
JMN Monobe 21.52 32 P **P** **10 30 01.7 +2.5**
MYKOM Kota Tinggi 21.56 231 P **P** **10 29 59.4 -0.3**
MYKOM Kota Tinggi 21.56 231 P **P** **10 30 01.3 +1.6**
SRIT Nakonsritamara 21.68 253 P **P** **10 30 01.3 +0.4**
SRIT Nakonsritamara 21.68 253 P **P** **10 30 03.5 +2.6**
BSSI Bau Bau, Buton 21.81 180 P **P** **10 30 03.5 +1.2**
2μm4μm265nm,1.3s
RKPI Ransiki, Papua 21.85 141 P **P** **10 30 04.7 +1.9**
FAKI Fak Fak 21.91 147 P **P** **10 30 02.8 -0.5**
FAKI Fak Fak 21.91 147 P **P** **10 30 05.5 +2.1**
FAKI Fak Fak 21.91 147 P **P** **10 30 04.8 +1.4**
3μm4μm344nm,1.0s
HNS HongShan 22.12 348 ⇓P **P** **10 30 05.6 +0.4**
HNS pP **pP** **10 30 29.0 -2.1**
HNS sP **sP** **10 30 47.6 -1.3**
HNS S **S** **10 33 57.1 -1.8**
HNS SS **SnSn** **10 34 49.9 +7.5**
HNS pmax pmax
comp=Z,130nm,1.2s
HNS LR LR
comp=N,810nm,15.5s
HNS LR LR
comp=E,990nm,13.2s
HNS LR LR
comp=Z,940nm,14.7s
KULM Kulim 22.15 244 P **P** **10 30 05.5 -0.3**
KULM Kulim 22.15 244 P **P** **10 30 05.9 +0.1**
BNDI Bandanaira 22.22 155 P **P** **10 30 08.8 +2.3**
BNDI Bandanaira 22.22 155 P **P** **10 30 09.1 +2.6**
976nm,1.4s
IPM Ipoh 22.24 242 P **P** **10 30 05.6 -1.1**
IPM Ipoh 22.24 242 P **P** **10 30 05.6 -1.1**
INCN Inchon 22.25 13 P **P** **10 30 05.2 -1.4**
INCN Inchon 22.25 13 P **P** **10 30 07.2 +0.6**
INCN S **S** **10 34 02.5 +1.2**
INCN Inchon 22.25 13 P **P** **10 30 09.2 +2.6**
INCN Inchon 22.25 13 P **P** **10 30 05.2 -1.4**
TPI Tanjungpandan 22.42 216 P **P** **10 30 08.9 +0.5**
162nm,0.7s
KSAR Wonju Array Be 22.51 15 P **P** **10 30 08.7 -0.4**
KSAR Wonju Array Be 22.51 15 P **P** **10 30 08.7 -0.4**
KSRS Korea Array 22.53 15 P **P** **10 30 08.4 -0.8**
26nm,0.8s,baz=198,slow=10,SNR=49
KSRS pP **pP** **10 30 34.0 -2.2**
30nm,1.0s,baz=194,slow=11,SNR=5.2
KSRS S **S** **10 34 05.6 0.0**
14nm,1.3s,baz=196,slow=22,SNR=5.4
26nm,0.8s
KS19 Wonju Array Si 22.56 15 P **P** **10 30 08.8 -0.8**
TNCH TengChong 22.56 298 ⇓P **P** **10 30 09.9 0.0**
TNCH pP pP 10 30 36.1 +0.9
TNCH S **S** **10 33 58.2 -8.6**
TNCH SS **SnSn** **10 34 53.9 +0.6**
TNCH pmax pmax
comp=Z,3μm,3.9s
TNCH LR LR
comp=N,1μm,15.1s
TNCH LR LR
comp=E,2μm,20.1s
TNCH LR LR
comp=Z,2μm,15.1s
BAKI Biak 22.84 136 P **P** **10 30 16.2 +3.8**
5μm236nm,0.9s
PPBI Pangkal Pinang 22.84 220 P **P** **10 30 16.0 +3.6**
TIY Taiyuan 22.97 343 ⇓P **P** **10 30 13.3 -0.2**
TIY pP **pP** **10 30 41.4 +0.9**
TIY sP **sP** **10 30 55.0 -3.1**
TIY S **S** **10 34 12.2 -0.7**
TIY pmax pmax
comp=Z,57nm,1.0s
TIY pmax pmax
comp=Z,210nm,3.7s
DL2 Dalian 23.03 2 P **P** **10 30 13.8 -0.1**
DL2 pP **pP** **10 30 41.5 +0.3**
DL2 S **S** **10 34 12.3 -1.3**
DL2 sS **sS** **10 35 01.6 -1.2**
DL2 pmax pmax
comp=Z,97nm,1.3s
DL2 pmax pmax
comp=Z,960nm,6.3s
KMPI Kaimana, Papua 23.32 145 P **P** **10 30 19.5 +2.7**
SRPI Serui, Papua 23.43 137 P **P** **10 30 20.5 +2.6**
6μm791nm,0.9s
GUMO Guam 23.63 92 LR LR 10 38 01.1
comp=Z,481nm,20.2s,baz=242,slow=32
KMMI Kalianget 23.63 196 P **P** **10 30 21.7 +2.1**
8μm802nm,1.1s
GRJI Gresik 23.95 200 P **P** **10 30 25.9 +3.4**
TBJI Tambak Boyo 24.07 202 P **P** **10 30 28.5 +4.9**
ABJI Asem Bagus 24.27 195 P **P** **10 30 28.5 +3.1**
4μm311nm,1.1s
SRBI Singaraja 24.32 193 P **P** **10 30 28.7 +2.8**
3μm217nm,1.2s
MMRI Maumere 24.34 176 IAmb IAmb 10 30 31.1
comp=Z,171nm,0.9s
MMRI Maumere 24.34 176 P **P** **10 30 30.8 +4.7**
comp=Z,2μmcomp=Z,3μmcomp=Z,215nm,0.9s
INU Inuyama 24.41 34 P **P** **10 30 26.2 -0.3**
INU IAmb IAmb 10 30 29.2
comp=Z,77nm,0.9s
INU Inuyama 24.41 34 P **P** **10 30 29.2 +2.6**
BJT Baijiatuau 24.42 352 P **P** **10 30 26.5 -0.1**
BJT IAmb IAmb 10 31 00.0
comp=Z,180nm,1.4s
BJT Baijiatuau 24.42 352 P **P** **10 30 26.5 -0.1**
BJT pmax pmax
comp=Z,180nm,1.4s
BJI Beijing 24.44 352 P **P** **10 30 27.1 +0.3**
BJI pP **pP** **10 30 52.0 -4.1**
BJI sP **sP** **10 31 07.0 -6.3**
BJI S **S** **10 34 40.0 +3.7**
BJI PcS **PcS** **10 37 37.1 -4.7**
BJI pmax pmax
comp=Z,40nm,1.3s
BJI pmax pmax
comp=Z,1μm,4.6s
BJI LR LR
comp=Z,240nm,16.6s
BJI LR LR
comp=Z,360nm,18.1s
BJI LR LR
comp=Z,400nm,16.6s
PLAI Plampang 24.63 187 P **P** **10 30 30.0 +1.4**
PLAI Plampang 24.63 187 P **P** **10 30 30.1 +1.4**
comp=Z,2μmcomp=Z,4μmcomp=Z,427nm,0.9s
BKNI Bangkinang 24.64 233 P **P** **10 30 28.9 +0.1**
BKNI Bangkinang 24.64 233 P **P** **10 30 30.2 +1.3**
BKNI Bangkinang 24.64 233 P **P** **10 30 30.1 +1.2**
comp=Z,4μmcomp=Z,489nm,1.0s
TWSI Taliwang, Sumb 24.66 189 P **P** **10 30 31.8 +2.9**
comp=Z,103nm,0.6s
NGJI Ngawi 24.72 202 P **P** **10 30 33.0 +3.5**
comp=Z,4μmcomp=Z,329nm,0.9s
JGF Kuroka 24.79 34 P **P** **10 30 29.4 -0.6**
JGF IAmb IAmb 10 30 32.5
comp=Z,59nm,0.9s
JGF Kuroka 24.79 34 P **P** **10 30 31.2 +1.2**
SMRI Semarang 24.82 205 P **P** **10 30 30.9 +0.4**
SMRI Semarang 24.82 205 P **P** **10 30 31.8 +1.4**
SMRI Semarang 24.82 205 P **P** **10 30 33.1 +2.7**
comp=Z,595nm,1.0s
TSI Tuntungan 24.84 243 P **P** **10 30 32.4 +1.7**
comp=Z,11μmcomp=Z,950nm,1.2s
PSI Prapat 24.91 241 P **P** **10 30 32.0 +0.6**
PSI Prapat 24.91 241 P **P** **10 30 31.5 +0.1**
PSI pmax pmax
comp=Z,561nm,1.5s
GMJI Gumukmas 24.94 197 P **P** **10 30 33.1 +1.6**
comp=Z,2μmcomp=Z,172nm,0.8s
JAGI Jajag, Banyuwa 24.94 195 P **P** **10 30 31.5 0.0**
JAGI IAmb IAmb 10 30 52.4
comp=Z,100nm,0.9s
JAGI Jajag, Banyuwa 24.94 195 P **P** **10 30 32.9 +1.4**
JAGI Jajag, Banyuwa 24.94 195 P **P** **10 30 34.0 +2.5**
comp=Z,2μmcomp=Z,132nm,1.0s
RPSI Rantau Prapat 24.96 241 P **P** **10 30 31.5 -0.3**
LZH Lanzhou 25.09 327 ⇓P **P** **10 30 33.4 +0.4**
LZH pP pP 10 31 02.4 -0.4
LZH sP sP 10 31 14.4 -5.0
LZH S **S** **10 34 45.3 -1.8**
LZH sS sS 10 35 43.6 +3.5
LZH ScS **ScS** **10 41 20.4 +2.1**
LZH pmax pmax
comp=Z,250nm,1.1s
LZH pmax pmax
comp=Z,540nm,4.1s
LZH LR LR
comp=Z,3μm,13.7s
LZH LR LR
comp=Z,3μm,13.7s
LZH LR LR
comp=Z,2μm,16.3s
SMPI Sarmi 25.20 133 P **P** **10 30 40.1 +6.2**
comp=Z,150nm,1.2s
WBSI Waikabubak, Su 25.31 183 P **P** **10 30 36.9 +2.0**
comp=Z,152nm,0.7s
WSI Waingapu 25.31 181 P **P** **10 30 36.4 +1.5**
LHMI Lhok Sumawe 25.44 248 P **P** **10 30 36.3 +0.2**
LHMI Lhok Sumawe 25.44 248 P **P** **10 30 37.8 +1.7**
LHMI Lhok Sumawe 25.44 248 P **P** **10 30 37.9 +1.8**
comp=Z,3μmcomp=Z,6μmcomp=Z,657nm,1.1s
MNSI Mandailing Nat 25.50 236 P **P** **10 30 36.8 +0.1**
comp=Z,4μmcomp=Z,404nm,1.3s
KCSI Kotacane, Aceh 25.52 244 P **P** **10 30 36.9 +0.1**
comp=Z,5μmcomp=Z,132nm,1.3s
UGM Wanagama 25.57 204 P **P** **10 30 37.0 -0.3**
UGM Wanagama 25.57 204 P **P** **10 30 38.0 +0.7**
UGM Wanagama 25.57 204 P **P** **10 30 42.7 +5.4**
comp=Z,388nm,1.0s
YOGI Yogyakarta 25.57 204 P **P** **10 30 42.5 +5.2**
comp=Z,293nm,0.8s
PCJI Pacitan 25.59 202 P **P** **10 30 39.8 +2.4**
comp=Z,4μmcomp=Z,470nm,1.0s
PPI Padang Panjang 25.64 233 P **P** **10 30 38.8 +1.0**
comp=Z,2μmcomp=Z,121nm,1.1s
SOEI Soe 25.66 172 P **P** **10 30 37.9 -0.3**
SOEI IAmb IAmb 10 31 01.1
comp=Z,121nm,1.0s
SOEI Soe 25.66 172 P **P** **10 30 39.9 +1.7**
SOEI Soe 25.66 172 P **P** **10 30 41.9 +3.7**
comp=Z,2μmcomp=Z,138nm,0.8s
KPJI Karang Pucung 25.71 207 P **P** **10 30 40.9 +2.4**
comp=Z,271nm,1.2s
MDSI Maura Dua 25.87 220 P **P** **10 30 40.2 +0.3**
comp=Z,72nm,0.6s
MAJO Matsushiro 25.95 34 P **P** **10 30 39.5 -1.0**
MAJO Matsushiro 25.95 34 P **P** **10 30 41.7 +1.2**
MAJO Matsushiro 25.95 34 *i*P **P** **10 30 40.2 -0.3**
MAJO pmax pmax
comp=Z,37nm,1.7s
MJAR Matsushiro Arr 25.95 34 P **P** **10 30 38.8 -1.6**
comp=Z,13nm,1.0s,baz=215,slow=8.1,SNR=18
MJAR PcP **PcP** **10 34 05.8 +0.4**
comp=Z,4.1nm,0.9s,baz=199,slow=2.5,SNR=5.0
comp=Z,13nm,1.0s
MJB9 Matsu-Tunnel 25.95 34 P **P** **10 30 39.6 -0.9**
SBJI Serang 26.05 214 P **P** **10 30 46.0 +4.5**
comp=Z,255nm,0.6s
SNY Shenyang 26.06 5 ⇑P **P** **10 30 41.1 -0.3**
SNY S **S** **10 35 01.3 -0.5**
SNY pmax pmax
comp=Z,20nm,0.5s
SNY pmax pmax
comp=Z,560nm,6.7s
SNY LR LR
comp=Z,480nm,11.2s
SNY LR LR
comp=Z,390nm,11.4s
SNY LR LR
comp=Z,540nm,10.4s
HHC Hu-ho-hao-te 26.14 344 *e*P **P** **10 30 42.6 +0.3**
HHC pP pP 10 31 09.3 -2.7
HHC PP **sP** **10 31 28.2 -0.3**
HHC S **S** **10 35 04.8 +1.4**
HHC sS sS 10 35 51.7 -5.0
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,170nm,6.0s
KSI Kapahiang 26.26 224 P P 10 30 58.9 +15
CMJI Cimerak 26.32 208 P P 10 30 52.3 +8.3
BTO Baotou 26.35 342 *e*P **P** **10 30 45.4 +1.3**
BTO pP **pP** **10 31 14.5 +0.6**
BTO sP **sP** **10 31 32.0 +1.3**
BTO PP **PnPn** **10 31 37.6 +4.8**
BTO S **S** **10 35 11.2 +4.5**
BTO SS **SnSn** **10 36 31.7 +6.8**
BTO pmax pmax
comp=Z,16nm,0.8s
BTO pmax pmax
comp=Z,830nm,7.1s
BTO LR LR
comp=Z,2μm,12.1s
BTO LR LR
comp=Z,2μm,18.4s
BTO LR LR
comp=Z,1μm,14.7s
LWLI Liwa 26.35 220 P **P** **10 30 46.3 +1.9**
comp=Z,401nm,0.7s
MLSI Meulaboh, Aceh 26.36 247 P **P** **10 30 44.2 -0.2**
comp=Z,287nm,1.2s
BBJI Bungbulang 26.41 210 P **P** **10 30 45.7 +0.8**
CGJI Cibinong 26.70 215 P P 10 30 56.3 +9.0
BSI Banda Aceh 26.81 250 P **P** **10 30 48.4 -0.1**
comp=Z,3μmcomp=Z,235nm,1.3s
GSI Gunungsitoli 26.85 240 P **P** **10 30 47.4 -1.3**
GSI IAmb IAmb 10 30 49.5
comp=Z,161nm,0.9s
GSI Gunungsitoli 26.85 240 P **P** **10 30 48.8 0.0**
GSI Gunungsitoli 26.85 240 P **P** **10 30 47.7 -1.1**
comp=Z,5μmcomp=Z,207nm,1.1s
PBSI Pulau Batu 27.05 236 P **P** **10 30 50.3 -0.3**
comp=Z,3μmcomp=Z,185nm,1.2s
JSD Sado 27.10 32 P **P** **10 30 51.9 +1.1**
SISI Saibi 27.19 233 P **P** **10 30 52.1 +0.3**
comp=Z,2μmcomp=Z,187nm,1.2s
PBA Port Blair 27.31 265 P **P** **10 30 52.0 -0.9**
SNSI Sinabang, Aceh 27.32 243 P **P** **10 30 52.4 -0.6**
comp=Z,4μmcomp=Z,432nm,1.0s
CN2 Changchun 28.21 8 *e*P **P** **10 30 59.7 -0.9**
CN2 *e*S **S** **10 35 29.5 -6.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,700nm,14.6s
XLT XiLinHaoTe 28.26 353 *e*P **P** **10 31 01.2 +0.1**
XLT pP pP 10 31 32.6 +1.2
XLT sP sP 10 31 48.4 +0.3
XLT S **S** **10 35 32.3 -4.3**
XLT sS sS 10 36 29.7 -0.4
XLT pmax pmax
comp=Z,18nm,1.0s
SHL Shillong 28.46 295 P **P** **10 31 02.3 -1.0**
SHL Shillong 28.46 295 P **P** **10 31 02.7 -0.6**
SNR=69
SHL Shillong 28.46 295 P **P** **10 31 02.3 -1.0**
SHL pmax pmax
comp=Z,173nm,0.7s
TABU Tabubil 29.28 134 P **P** **10 31 11.6 +1.1**
GTA Gaotai 29.70 326 P **P** **10 31 15.0 +1.0**
GTA pP pP 10 31 44.8 +0.5
GTA PcP **PcP** **10 34 14.1 -0.6**
GTA S **S** **10 35 59.1 -0.3**
GTA ScP **ScP** **10 37 46.7 +3.3**
GTA PcS **PcS** **10 37 57.8 -0.3**
GTA ScS **ScS** **10 41 41.5 +2.8**
GTA pmax pmax
comp=Z,55nm,1.1s
GTA pmax pmax
comp=Z,280nm,6.0s
GTA LR LR
comp=Z,1μm,23.1s
GTA LR LR
comp=Z,1μm,22.3s
GTA LR LR
comp=Z,900nm,19.9s
MDJ Mudanjiang 29.72 13 P **P** **10 31 13.3 -0.7**
MDJ Mudanjiang 29.72 13 P **P** **10 31 16.1 +2.2**
MDJ sP sP 10 31 56.9 -4.8
MDJ PcP **PcP** **10 34 15.7 +1.3**
MDJ S **S** **10 36 03.4 +4.0**
MDJ sS sS 10 36 53.9 +0.9
MDJ pmax pmax
comp=Z,18nm,0.6s
MDJ pmax pmax
comp=Z,230nm,3.8s
MDJ Mudanjiang 29.72 13 P **P** **10 31 16.4 +2.5**
DRS Darwin Rock St 29.87 159 P **P** **10 31 16.4 +0.9**
USA0B Ussuriysk Arra 29.92 17 P **P** **10 31 14.1 -1.6**
USA0B Ussuriysk Arra 29.92 17 P **P** **10 31 14.1 -1.6**
USA0B pmax pmax
comp=Z,26nm,1.2s
USRK Ussuriysk Ar. 29.92 17 P **P** **10 31 14.7 -1.1**
USRK Ussuriysk Ar. 29.92 17 P **P** **10 31 16.8 +1.1**
comp=Z,15nm,0.8s,baz=197,slow=8.4,SNR=25
USRK pP **pP** **10 31 46.0 -0.8**
comp=Z,10nm,0.8s,baz=213,slow=9.6,SNR=3.5
USRK PcP **PcP** **10 34 14.4 -0.6**
comp=Z,4.8nm,0.6s,baz=210,slow=3.2,SNR=5.9
comp=Z,15nm,0.8s
LSA Lhasa 30.32 302 P **P** **10 31 20.8 +0.8**
LSA Lhasa 30.32 302 P **P** **10 31 21.1 +1.0**
LSA Lhasa 30.32 302 P **P** **10 31 20.8 +0.8**
MTN Manton Dam 30.33 159 P **P** **10 31 19.1 -0.5**
MTN IAmb IAmb 10 31 19.7
comp=Z,56nm,1.1s
MTN Manton Dam 30.33 159 P **P** **10 31 18.8 -0.8**
comp=Z,50nm,0.6s
BNX BinXian 30.39 10 ⇑P **P** **10 31 19.4 -0.4**
BNX pP **pP** **10 31 47.4 -3.5**
BNX S **S** **10 36 08.2 -1.6**
BNX sS **sS** **10 36 59.2 -4.3**
BNX pmax pmax
comp=Z,15nm,2.2s
BNX pmax pmax
comp=Z,210nm,6.2s
BNX LR LR
comp=Z,580nm,13.5s
BNX LR LR
comp=Z,520nm,12.5s
BNX LR LR
comp=Z,680nm,14.4s
JTM Tenmabayashi 30.60 32 P **P** **10 31 21.4 -0.3**
JTM IAmb IAmb 10 32 11.9
comp=Z,53nm,0.9s
KDU Kakadu 30.67 157 P **P** **10 31 21.6 -1.0**
comp=Z,129nm,0.7s
KDU Kakadu 30.67 157 P **P** **10 31 22.0 -0.6**
KNRA Kununurra 32.32 165 P **P** **10 31 36.2 -0.8**
KNRA IAmb IAmb 10 31 38.1
comp=Z,75nm,0.8s
KNRA Kununurra 32.32 165 P **P** **10 31 35.9 -1.1**
comp=Z,80nm,0.6s
ERM Erimo 32.57 32 P **P** **10 31 38.7 -0.3**
ERM IAmb IAmb 10 31 41.9
comp=Z,56nm,0.9s
ERM Erimo 32.57 32 P **P** **10 31 40.0 +1.1**
ERM Erimo 32.57 32*ce*P **P** **10 31 39.1 +0.1**
ERM pmax pmax
comp=Z,178nm,2.5s
JEM Erimo 32.57 32 P **P** **10 31 39.9 +0.9**
ULN Ulaanbaatar 33.85 344 P **P** **10 31 50.4 +0.1**
ULN IAmb IAmb 10 31 52.7
comp=Z,36nm,1.1s
ULN Ulaanbaatar 33.85 344 P **P** **10 31 50.4 +0.1**
ULN S **S** **10 37 04.8 +0.8**
ULN Ulaanbaatar 33.85 344 P **P** **10 31 50.4 +0.1**
ULN pmax pmax
comp=Z,36nm,1.2s
ASAJ Asahikawa 33.86 29 LR LR 10 45 42.1
comp=Z,373nm,20.7s,baz=172,slow=36
SONM Songino Array 34.01 343 P **P** **10 31 51.5 -0.1**
SONM Songino Array 34.01 343 P **P** **10 31 51.5 -0.1**
comp=Z,11nm,0.5s,baz=164,slow=9.5,SNR=68
SONM pP **pP** **10 32 21.8 -0.4**
comp=Z,10nm,0.9s,baz=161,slow=9.7,SNR=3.8
SONM PcP **PcP** **10 34 26.3 0.0**
comp=Z,17nm,1.0s,baz=172,slow=2.1,SNR=8.1
SONM ScP **ScP** **10 37 56.9 -1.0**
comp=Z,3.5nm,1.1s,baz=159,slow=3.2,SNR=5.9
SONM LR LR 10 46 04.7
comp=Z,742nm,19.4s,baz=178,slow=37
comp=Z,11nm,0.5s
SONM Songino Array 34.01 343 P **P** **10 31 51.5 -0.1**
SONM pmax pmax
comp=Z,29nm,1.2s
FITZ Fitzroy Crossi 34.06 171 PcP **PcP** **10 34 26.9 +0.3**
comp=Z,13nm,0.5s,baz=355,slow=3.9,SNR=3.8

KLR Kul'dur 34.57 13 LR LR 10 48 17.9
comp=Z,437nm,18.5s,baz=192,slow=40
KLR Kul'dur 34.57 13 *ce*P **P 10 31 56.6 +0.4**
KLR pmax pmax
comp=Z,32nm,0.6s
HEH HeiHe 34.80 8 *e*P **P 10 31 58.3 +0.1**
HEH pP **pP 10 32 27.8 -1.8**
HEH PcP **PcP 10 34 27.8 -0.5**
HEH S **S 10 37 18.0 -0.1**
HEH ScS **ScS 10 42 03.5 -0.4**
HEH pmax pmax
comp=Z,26nm,1.0s
YSS Yuzhno-Sakhali 36.12 26 P **P 10 32 10.1 +0.7**
YSS IAmb IAmb 10 32 13.0
comp=Z,86nm,0.9s
YSS Yuzhno-Sakhali 36.12 26 P **P 10 32 12.0 +2.5**
YSS Yuzhno-Sakhali 36.12 26⇑ *e*P **P 10 32 10.4 +0.9**
YSS *e* 10 33 42.9
YSS *e*PPP PPP 10 34 06.6
YSS *e*S **S 10 37 37.8 -0.6**
YSS pmax pmax
comp=Z,400nm,4.1s
YSS pmax pmax
comp=N,300nm,4.3s
YSS pmax pmax
comp=Z,100nm,1.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=N,400nm,16.0s
YSS Yuzhno-Sakhali 36.12 26 P **P 10 32 10.2 +0.7**
COCO West Island 36.39 222 P **P 10 32 12.2 +0.1**
COCO West Island 36.39 222 P **P 10 32 11.2 -1.0**
COCO West Island 36.39 222 P **P 10 32 14.0 +1.9**
COCO West Island 36.39 222 P **P 10 32 12.2 +0.1**
COCO pmax pmax
comp=Z,334nm,1.4s
MBWA Marble Bar 36.74 181 P **P 10 32 13.2 -1.9**
MBWA IAmb IAmb 10 32 15.4
comp=Z,47nm,0.8s
MBWA Marble Bar 36.74 181 P **P 10 32 13.0 -2.0**
comp=Z,77nm,0.8s
MBWA Marble Bar 36.74 181 P **P 10 32 13.3 -1.7**
MBWA S **S 10 37 44.7 -3.6**
MBWA Marble Bar 36.74 181 P **P 10 32 14.5 -0.5**
MBWA Marble Bar 36.74 181 P **P 10 32 13.0 -2.0**
MBWA PcP **PcP 10 34 34.7 +0.2**
COEN Coen 37.08 142 P **P 10 32 17.3 -0.7**
comp=Z,41nm,1.7s
PSAC1 Pilbara Seismi 37.12 181 P **P 10 32 16.0 -2.2**
comp=Z,113nm,0.9s
GRNR Gornyy 37.15 17⇓ *i*P **P 10 32 18.9 +0.7**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
PSA00 Pilbara Seismi 37.15 181 IAmb IAmb 10 32 20.5
comp=Z,93nm,0.9s
PSA00 Pilbara Seismi 37.15 181 P **P 10 32 16.4 -2.1**
comp=Z,99nm,0.9s
PSA00 Pilbara Seismi 37.15 181 P **P 10 32 18.0 -0.5**
ZAK Zakamensk 37.20 342 *e*P **P 10 32 17.9 -0.9**
ZAK pmax pmax
comp=Z,14nm,1.1s
KUR Kuril'sk 37.26 32 *i*P **P 10 32 19.4 +0.3**
UGL Uglegorsk 37.55 23 *e*P **P 10 32 24.4 +2.9**
UGL pmax pmax
comp=E,70nm,0.6s
UGL pmax pmax
comp=N,40nm,0.7s
UGL pmax pmax
comp=Z,100nm,1.2s
UGL MLR MLR
comp=E,800nm,17.0s
UGL MLR MLR
comp=N,700nm,12.0s
UGL MLR MLR
comp=Z,1μm,13.0s
WB0 Warramunga Arr 37.88 158 P **P 10 32 22.8 -1.8**
WRAB Tennant Creek 38.02 159 P **P 10 32 24.2 -1.7**
WRAB Tennant Creek 38.02 159 P **P 10 32 24.2 -1.7**
WRAB pmax pmax
comp=Z,88nm,0.8s
WRA Warramunga Arr 38.02 159 P **P 10 32 23.9 -2.0**
comp=Z,62nm,0.7s,baz=340,slow=9.1,SNR=189
WRA pP **pP 10 32 56.2 -1.0**
comp=Z,60nm,1.0s,baz=337,slow=9.4,SNR=5.7
WRA PcP **PcP 10 34 38.9 +0.4**
comp=Z,13nm,0.7s,baz=338,slow=3.5,SNR=6.9
WRA S **S 10 37 60.0 -7.8**
comp=Z,6.1nm,0.9s,baz=341,slow=15,SNR=8.1
WRA ScS **ScS 10 42 21.4 -1.4**
comp=Z,2.2nm,1.1s,baz=313,slow=5.8,SNR=7.3
comp=Z,62nm,0.7s
WB2 Warramunga Arr 38.03 159 P **P 10 32 24.2 -1.7**
ZEA Zeya 38.21 6 *e*P P 10 32 37.4 +10
ZEA *e* 10 33 12.9
ZEA *e* 10 34 27.5
ZEA *e*S **S 10 38 06.8 -3.0**
ZEA *e* 10 39 06.5
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA smax smax
comp=N,400nm,9.3s
ZEA MLR MLR
comp=N,300nm,16.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
IRK Irkutsk 38.59 344 *e*P **P 10 32 29.5 -0.7**
IRK *e* 10 33 00.3
IRK *e*S **S 10 38 20.5 +4.9**
IRK pmax pmax
comp=Z,76nm,1.6s
MOY Mondy 39.03 341 *e*P **P 10 32 34.0 -0.1**
MOY *e* 10 33 04.9
MOY pmax pmax
comp=Z,306nm,1.7s
TYV Tymovskoe 39.23 22 *e*P **P 10 32 37.7 +2.1**
TYV *e*S **S 10 38 30.1 +4.9**
TYV pmax pmax
comp=Z,500nm,4.6s
TYV pmax pmax
comp=Z,21nm,1.0s
TYV smax smax
comp=N,900nm,7.8s
TYV smax smax
comp=E,900nm,7.8s
WMQ Urumqi 39.45 322 *e*P **P 10 32 39.5 +1.9**
WMQ PcP **PcP 10 34 43.6 +0.9**
WMQ ScP **ScP 10 38 19.5 +1.3**
WMQ S **S 10 38 33.1 +4.2**
WMQ SS **SS 10 41 28.5 -0.6**
WMQ ScS **ScS 10 42 32.0 +1.3**
WMQ pmax pmax
comp=E,59nm,1.3s
WMQ pmax pmax
comp=E,430nm,4.3s
WMQ LR LR
comp=E,3μm,15.1s
WMQ LR LR
comp=E,2μm,13.3s
WMQ LR LR
comp=E,1μm,19.5s
PALK Pallekele 39.89 262 P **P 10 32 42.3 +0.7**
PALK IAmb IAmb 10 32 44.4
comp=Z,71nm,0.9s
PALK Pallekele 39.89 262 LR LR 10 50 03.4
comp=Z,403nm,18.2s,baz=66,slow=37
PALK Pallekele 39.89 262 P **P 10 32 42.4 +0.7**
PALK S **S 10 38 35.2 -0.9**
PALK Pallekele 39.89 262 P **P 10 32 42.3 +0.7**
PALK pmax pmax
comp=Z,71nm,1.0s
PALK Pallekele 39.89 262 P **P 10 32 42.3 +0.7**
PALK pP **pP 10 33 13.4 +1.0**
HYB Hyderabad 40.22 278⇓ *e*P **P 10 32 44.8 +0.6**
HYB IVmB_BB 10 32 46.3
comp=Z,3μm,1.0s
QIS Mount Isa 40.70 152 P **P 10 32 47.1 -1.0**
comp=Z,32nm,0.7s
QIS Mount Isa 40.70 152 P **P 10 32 48.6 +0.5**
MTSU Mount Surprise 41.06 144 P **P 10 32 50.4 -0.6**
comp=Z,17nm,0.7s
MTSU Mount Surprise 41.06 144 P **P 10 32 51.9 +0.8**
WRKA Warakurna 41.29 169 P **P 10 32 51.3 -1.6**
comp=Z,124nm,0.6s
WRKA Warakurna 41.29 169 P **P 10 32 51.4 -1.5**

AS31 Alice Springs 41.35 161 P **P 10 32 52.1 -1.3**
AS31 Alice Springs 41.35 161 P **P 10 32 51.9 -1.5**
comp=Z,37nm,0.7s
ASAR Alice Springs 41.35 161 P **P 10 32 51.9 -1.5**
comp=Z,64nm,0.7s,baz=338,slow=6.6,SNR=224
ASAR pP **pP 10 33 24.6 -0.6**
comp=Z,13nm,0.6s,baz=338,slow=7.2,SNR=1.8
ASAR PcP **PcP 10 34 49.4 +0.3**
comp=Z,18nm,0.6s,baz=342,slow=2.8,SNR=11
ASAR ScP **ScP 10 38 25.0 -0.8**
comp=Z,6.4nm,0.8s,baz=341,slow=3.5,SNR=11
ASAR S **S 10 38 52.3 -5.0**
comp=Z,7.0nm,0.9s,baz=351,slow=23,SNR=12
ASAR ScS **ScS 10 42 39.7 -2.7**
comp=Z,1.4nm,0.7s,baz=337,slow=4.7,SNR=7.1
comp=Z,64nm,0.7s
AS06 Alice Springs 41.35 161 P **P 10 32 52.1 -1.3**
comp=Z,84nm,0.8s
AS01 Alice Springs 41.36 161 P **P 10 32 52.3 -1.2**
AS19 Alice Springs 41.40 161 P **P 10 32 52.4 -1.4**
comp=Z,97nm,0.8s
BOD Bodaibo 42.23 355 *e*P **P 10 32 59.0 -1.0**
BOD pmax pmax
comp=Z,21nm,1.3s
MEEK Meekatharra 42.23 183 P **P 10 32 58.5 -2.0**
comp=Z,45nm,0.9s
MEEK Meekatharra 42.23 183 P **P 10 32 59.8 -0.7**
ZSN Zaisan 43.15 325 *e*P **P 10 33 07.8 +0.1**
ZSN Zaisan 43.15 325 *e*P **P 10 33 07.8 +0.1**
WUS Wushi 43.69 314 IAmb IAmb 10 33 15.4
comp=Z,93nm,1.2s
WUS Wushi 43.69 314 P **P 10 33 12.9 +0.6**
MK31 Makanchi Array 44.27 322 P **P 10 33 17.1 +0.4**
MK31 IAmb IAmb 10 33 19.4
comp=Z,120nm,1.1s
MK31 Makanchi Array 44.27 322 P **P 10 33 17.1 +0.4**
MK31 pmax pmax
comp=Z,120nm,1.1s
MKAR Makanchi Array 44.27 322 P **P 10 33 17.1 +0.4**
comp=Z,85nm,0.9s,baz=119,slow=7.6,SNR=228
MKAR pP **pP 10 33 49.6 +0.9**
comp=Z,5.6nm,0.5s,baz=132,slow=7.8,SNR=1.8
MKAR PcP **PcP 10 34 59.0 +0.4**
comp=Z,27nm,0.8s,baz=113,slow=2.1,SNR=6.9
comp=Z,85nm,0.9s
SHLS Shalkode 44.32 317 *e*P **P 10 33 14.9 -2.3**
SHLS pmax pmax
comp=Z,60nm,1.0s
SHLS Shalkode 44.32 317 *e*P **P 10 33 14.9 -2.3**
comp=Z,60nm,1.0s
PDGK Podgornoye 44.37 317 P **P 10 33 17.5 -0.2**
MAKZ Makanchi 44.46 322 P **P 10 33 18.5 +0.3**
MAKZ IAmb IAmb 10 33 20.9
comp=Z,120nm,1.1s
MAKZ Makanchi 44.46 322 P **P 10 33 18.5 +0.3**
MAKZ pmax pmax
comp=Z,120nm,1.2s
MAKZ Makanchi 44.46 322 P **P 10 33 18.4 +0.2**
MAKZ pP **pP 10 33 49.2 -1.1**
MAKZ PcP **PcP 10 34 59.2 0.0**
UZB Uzynbulak 44.61 316 *e*P **P 10 33 19.3 -0.2**
UZB *e*S **S 10 39 44.8 -0.1**
UZB pmax pmax
comp=Z,69nm,1.1s
UZB Uzynbulak 44.61 316 *e*P **P 10 33 19.4 -0.2**
comp=Z,69nm,1.1s
UZB *e*S **S 10 39 44.8 -0.1**
PRZ Przheval'sk 44.75 315 P **P 10 33 23.1 +2.3**
PRZ pmax pmax
comp=Z,187nm,1.2s
MORW Morawa 44.82 186 IAmb IAmb 10 33 23.6
comp=Z,44nm,0.7s
MORW Morawa 44.82 186 P **P 10 33 20.3 -0.9**
comp=Z,61nm,0.8s
MORW Morawa 44.82 186 P **P 10 33 20.1 -1.1**
TARG Taragay, Kyrgy 44.87 314 IAmb IAmb 10 33 25.6
comp=Z,97nm,1.1s
KPKS Kokpek 44.96 317 *e*P **P 10 33 22.6 +0.3**
KPKS pmax pmax
comp=Z,68nm,1.6s
KPKS Kokpek 44.96 317 *e*P **P 10 33 22.3 -0.1**
SATY Saty 44.98 316 *e*P **P 10 33 22.4 -0.1**
SATY *e*S **S 10 39 50.4 +0.2**
SATY Saty 44.98 316 *e*P **P 10 33 22.5 -0.1**
SATY *e*S **S 10 39 50.5 +0.2**
ZHN Zhinishke 45.01 316 *e*P **P 10 33 22.5 -0.1**
ZHN Zhinishke 45.01 316 *e*P **P 10 33 22.6 -0.1**
SKR Severo-Kuril's 45.01 32 *e*P P 10 33 27.7 +5.3
SKR pmax pmax
comp=Z,249nm,1.0s
KSH Kashi 45.41 310 P **P 10 33 28.4 +2.4**
KSH S **S 10 39 53.9 -2.6**
KSH pmax pmax
comp=Z,180nm,1.1s
KSH LR LR
comp=Z,3μm,19.9s
KSH LR LR
comp=Z,820nm,17.9s
KSH LR LR
comp=Z,1μm,18.9s
KDJ Kajisay 45.45 314 P **P 10 33 27.5 +1.2**
KDJ pmax pmax
comp=Z,98nm,1.2s
TATA Tatamba Isabel 45.71 119 P **P 10 33 29.3 +0.9**
OOD Oodnadatta 45.76 161 P **P 10 33 27.4 -1.2**
TDK Taldyqorghan 45.80 318 *e*P **P 10 33 28.8 0.0**
TDK pmax pmax
comp=Z,129nm,0.8s
TDK Taldyqorghan 45.80 318 *e*P **P 10 33 28.8 0.0**
comp=Z,129nm,0.8s
MDOK Medeo 45.94 315 *e*P **P 10 33 29.9 -0.1**
MDOK *e*S **S 10 40 03.9 -0.1**
MDOK Medeo 45.94 315 *e*P **P 10 33 30.0 -0.1**
MDOK *e*S **S 10 40 04.0 -0.1**
TNSS Tian-Shan 45.95 315 *e*P **P 10 33 30.0 -0.5**
TNSS Tian-Shan 45.95 315 *e*P **P 10 33 30.0 -0.5**
NRN Naryn 46.03 313 P **P 10 33 31.7 +0.7**
NRN Naryn 46.03 313 P **P 10 33 31.7 +0.7**
NRN pmax pmax
comp=Z,245nm,0.9s
AAA Alma-Ata 46.04 316 *e*P **P 10 33 30.7 0.0**
AAA pmax pmax
comp=Z,114nm,1.4s
AAA Alma-Ata 46.04 316 *e*P **P 10 33 30.8 0.0**
comp=Z,114nm,1.4s
NIL Nilore 46.06 302 P **P 10 33 31.0 0.0**
NIL Nilore 46.06 302 P **P 10 33 30.9 -0.2**
NIL Nilore 46.06 302 P **P 10 33 31.0 0.0**
NIL pmax pmax
comp=Z,465nm,0.6s
NIL Nilore 46.06 302 P **P 10 33 30.9 0.0**
ULHL Ulahol 46.14 314 P **P 10 33 33.2 +1.5**
SNR=15
BLDU Ballidu 46.30 185 P **P 10 33 32.3 -0.5**
HNR Honiara 46.38 120 LR LR 10 52 41.8
comp=Z,258nm,19.7s,baz=306,slow=35
BOOM Boomskoye usch 46.44 314 IAmb IAmb 10 33 36.5
comp=Z,72nm,1.1s
BOOM Boomskoye usch 46.44 314 P **P 10 33 35.1 +1.1**
BOOM pmax pmax
comp=Z,69nm,1.1s
YAK Yakutsk 46.62 6 *e*P **P 10 33 34.1 -0.7**
YAK *e**PP **pP 10 34 05.1 -2.5**
YAK *e* 10 35 05.3
YAK *e* 10 35 23.9
YAK *e*PPP PPP 10 36 11.0
YAK *e*S **S 10 40 13.1 +0.3**
YAK *e* 10 43 11.3
YAK pmax pmax
comp=Z,100nm,1.0s
YAK pmax pmax
comp=N,37nm,1.4s
YAK pmax pmax
comp=E,19nm,2.0s
YAK pmax pmax
comp=Z,233nm,6.6s
YAK pmax pmax
comp=N,102nm,4.1s
YAK pmax pmax
comp=E,184nm,5.3s
YAK smax smax
comp=N,198nm,2.2s
YAK smax smax
comp=E,107nm,2.8s
YAK Yakutsk 46.62 6 P **P 10 33 34.5 -0.3**

YAK PcP **PcP 10 35 05.7 -0.6**
FORT Forrest 46.88 171 P **P 10 33 35.8 -1.4**
FORT Forrest 46.88 171 P **P 10 33 35.6 -1.6**
comp=Z,138nm,0.8s
FORT Forrest 46.88 171 P **P 10 33 38.1 +0.9**
KMBL Kambalda 46.92 178 P **P 10 33 35.2 -2.3**
comp=Z,132nm,0.8s
KMBL Kambalda 46.92 178 P **P 10 33 36.2 -1.4**
ZAA0 Zalesovo Array 47.13 332 P **P 10 33 38.0 -0.2**
ZAA0 IAmb IAmb 10 33 40.9
comp=Z,63nm,0.9s
ZALV Zalesovo Beam 47.13 332 P **P 10 33 38.1 -0.9**
ZALV Zalesovo Beam 47.13 332 P **P 10 33 38.5 -0.4**
comp=Z,49nm,0.8s,baz=116,slow=6.8,SNR=116
ZALV PcP **PcP 10 35 07.5 -0.8**
comp=Z,8.6nm,0.6s,baz=126,slow=3.9,SNR=5.9
ZALV LR LR 10 54 17.7
comp=Z,410nm,18.1s,baz=124,slow=37
comp=Z,49nm,0.8s
KBK Karagaybulak 47.18 314 P **P 10 33 40.6 +0.8**
SNR=90
KLBR Kellerberrin 47.20 183 P **P 10 33 39.8 0.0**
HMDM Hanimaadhoo 47.21 265 P **P 10 33 39.5 -0.7**
PEA0B Petropavlovsk- 47.27 30 P **P 10 33 40.3 +0.2**
PEA0B Petropavlovsk- 47.27 30 P **P 10 33 40.3 +0.2**
PEA0B pmax pmax
comp=Z,134nm,0.9s
PETK Petropavlovsk- 47.27 30 P **P 10 33 40.0 0.0**
PETK Petropavlovsk- 47.27 30 P **P 10 33 39.9 -0.2**
comp=Z,98nm,0.8s,baz=212,slow=4.2,SNR=45
comp=Z,98nm,0.8s
PETK Petropavlovsk- 47.27 30 P **P 10 33 40.1 0.0**
UCH Uchtor 47.34 313 P **P 10 33 42.9 +1.5**
SNR=55
ARLS Aral 47.35 313 P **P 10 33 42.5 +1.4**
ARLS pmax pmax
comp=Z,190nm,1.0s
AAK Ala-Archa 47.49 314 P **P 10 33 42.9 +0.7**
AAK IAmb IAmb 10 33 52.7
comp=Z,66nm,1.1s
AAK Ala-Archa 47.49 314 P **P 10 33 43.0 +0.9**
comp=Z,19nm,0.5s,baz=125,slow=5.7,SNR=39
comp=Z,19nm,0.5s
AAK Ala-Archa 47.49 314 P **P 10 33 43.6 +1.4**
AAK S **S 10 40 28.5 +2.4**
AAK Ala-Archa 47.49 314 P **P 10 33 43.2 +1.0**
SNR=41
AAK Ala-Archa 47.49 314 *ce*P **P 10 33 43.4 +1.2**
AAK pmax pmax
comp=Z,112nm,1.7s
AAK Ala-Archa 47.49 314 *i*P **P 10 33 43.6 +1.4**
SNR=49
AAK Ala-Archa 47.49 314 P **P 10 33 43.1 +0.9**
AAK pP **pP 10 34 15.0 +0.4**
INKA Innaminka 47.51 155 P **P 10 33 43.3 +1.1**
PET Petropavlovsk 47.68 30 P **P 10 33 42.5 -0.7**
PET IAmb IAmb 10 33 46.5
comp=Z,63nm,0.8s
PET Petropavlovsk 47.68 30 P **P 10 33 45.7 +2.5**
PET Petropavlovsk 47.68 30 *e*P **P 10 33 45.6 +2.4**
PET *e**PP **pP 10 34 15.4 -0.9**
PET *e*S **S 10 40 30.7 +2.7**
PET pmax pmax
comp=Z,90nm,0.9s
SGDS Sogindy 47.68 315 *e*P **P 10 33 43.5 0.0**
SGDS Sogindy 47.68 315 *e*P **P 10 33 43.6 0.0**
MUN Mundaring 47.69 185 P **P 10 33 43.1 -0.5**
comp=Z,45nm,1.0s
MUN Mundaring 47.69 185 P **P 10 33 44.1 +0.6**
USP Ospenovka 47.70 315 P **P 10 33 44.3 +0.7**
SNR=72
AML Almayashu 47.88 313 P **P 10 33 46.7 +1.2**
SNR=174
EKS2 Erkin-Say 48.00 314 P **P 10 33 47.0 +1.0**
SNR=55
QLP Quilpie 48.02 151 P **P 10 33 46.0 -0.1**
comp=Z,69nm,2.0s
QLP Quilpie 48.02 151 P **P 10 33 46.9 +0.8**
OHH Osh 48.05 311 P **P 10 33 47.4 +1.0**
OHH pmax pmax
comp=Z,36nm,1.1s
KURK Kurchatov 48.37 325 P **P 10 33 48.9 +0.3**
KURK Kurchatov 48.37 325 P **P 10 33 49.1 +0.5**
KURK S **S 10 40 38.0 +0.1**
KURK Kurchatov 48.37 325 P **P 10 33 48.9 +0.3**
KURK pmax pmax
comp=Z,326nm,0.8s
KURK Kurchatov 48.37 325 P **P 10 33 49.1 +0.5**
KURK pP **pP 10 34 21.4 +0.2**
KURK PcP **PcP 10 35 12.8 -0.1**
KURBB Kurchatov Arra 48.38 325 P **P 10 33 48.9 +0.3**
comp=Z,179nm,0.9s,baz=122,slow=8.2,SNR=432
KURBB pP **pP 10 34 22.6 +1.4**
comp=Z,21nm,0.9s,baz=123,slow=7.8,SNR=1.9
KURBB PcP **PcP 10 35 12.7 -0.2**
comp=Z,15nm,0.7s,baz=118,slow=4.1,SNR=6.0
KURBB S **S 10 40 38.4 +0.4**
comp=Z,2.6nm,1.2s,baz=122,slow=13,SNR=6.7
KURBB LR LR 10 54 16.9
comp=Z,465nm,19.6s,baz=146,slow=36
comp=Z,179nm,0.9s
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 50.5 +0.4**
NWAO IAmb IAmb 10 33 51.1
comp=Z,37nm,0.7s
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 49.4 -0.8**
comp=Z,77nm,0.7s
NWAO Narrogin (SRO) 48.56 184 LR LR 10 56 44.2
comp=Z,147nm,20.7s,baz=357,slow=39
NWAO Narrogin (SRO) 48.56 184 S **S 10 40 37.6 -3.3**
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 50.3 +0.1**
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 50.6 +0.4**
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 50.5 +0.4**
NWAO pmax pmax
comp=Z,37nm,0.7s
NWAO Narrogin (SRO) 48.56 184 P **P 10 33 49.4 -0.8**
NWAO PcP **PcP 10 35 14.5 +0.8**
BTLS Baital 48.65 317 *e*P **P 10 33 50.9 +0.1**
BTLS pmax pmax
comp=Z,34nm,0.7s
BTLS Baital 48.65 317 *e*P **P 10 33 51.0 +0.1**
comp=Z,34nm,0.7s
MA2 Magadan 48.98 20 P **P 10 33 52.9 -0.2**
MA2 IAmb IAmb 10 33 56.6
comp=Z,56nm,0.8s
MA2 Magadan 48.98 20 LR LR 10 56 44.2
comp=Z,240nm,18.6s,baz=210,slow=38
MA2 Magadan 48.98 20 *ce*P **P 10 33 53.9 +0.8**
MA2 pmax pmax
comp=Z,82nm,1.3s
MA2 Magadan 48.98 20 P **P 10 33 53.7 +0.6**
MA2 PcP **PcP 10 35 16.9 +2.0**
LCRK Leigh Creek 49.03 160 P **P 10 33 54.0 +0.2**
BTK Batken 49.37 310 P **P 10 33 57.1 +0.6**
BTK pmax pmax
comp=Z,162nm,1.2s
TRKS Terek-Say 49.52 311 P **P 10 33 58.4 +0.6**
TRKS pmax pmax
comp=Z,109nm,1.0s
KBL Kabul 49.65 302 P **P 10 33 58.9 0.0**
KBL Kabul 49.65 302 P **P 10 33 59.2 +0.3**
SNR=145
KBL S **S 10 40 56.4 -0.4**
KBL Kabul 49.65 302 P **P 10 33 58.9 0.0**
KBL pmax pmax
comp=Z,213nm,0.9s
DZA Taraz 49.78 313 *e*P **P 10 33 59.5 0.0**
DZA pmax pmax
comp=Z,102nm,1.0s
DZA Taraz 49.78 313 *e*P **P 10 33 59.5 0.0**
comp=Z,102nm,1.0s
RKGY Rocky Gully 50.25 184 P **P 10 34 03.3 +0.3**
comp=Z,64nm,0.9s
KK31 Karatay Array 50.42 313 P **P 10 34 04.2 0.0**
KK31 Karatay Array 50.42 313 P **P 10 34 04.3 0.0**
KK31 pmax pmax
comp=Z,193nm,0.9s
KKAR Karatay Array 50.42 313 P **P 10 34 04.5 +0.2**
KKAR Karatay Array 50.42 313 P **P 10 34 04.5 +0.2**
SIMJ Simiganj 50.42 307 P **P 10 34 04.7 +0.2**
SIMJ Simiganj 50.42 307 P **P 10 34 04.6 +0.2**
IUG Iuzhnay 50.49 312 *e*P **P 10 34 04.8 -0.1**
IUG pmax pmax
comp=Z,112nm,1.0s
IUG Iuzhnay 50.49 312 *e*P **P 10 34 04.8 -0.1**
comp=Z,112nm,1.0s

BBOO	**Buckleboo**	**50.57 163**	P	**P**	**10 34 03.9 -1.5**
BBOO			IAmb	IAmb	10 34 06.2
	comp=Z,72nm,0.9s				
BBOO	**Buckleboo**	**50.57 163**	P	**P**	**10 34 03.5 -1.9**
	comp=Z,80nm,0.8s				
BBOO	**Buckleboo**	**50.57 163**	P	**P**	**10 34 05.2 -0.2**
CHM	**Chimkent**	**50.84 312**	*e*P	**P**	**10 34 07.4 -0.1**
CHM	**Chimkent**	**50.84 312**	*e*P	**P**	**10 34 07.5 -0.1**
BRLS	**Borolday**	**50.87 313**	*e*P	**P**	**10 34 07.8 +0.1**
BRLS			pmax	pmax	
	comp=Z,48nm,0.7s				
BRLS	**Borolday**	**50.87 313**	*e*P	**P**	**10 34 07.8 +0.1**
	comp=Z,48nm,0.7s				
OTUK	**Ortayu**	**50.94 320**	P	**P**	**10 34 07.8 -0.3**
BRZS	**Berezniki**	**51.42 322**	*e*P	**P**	**10 34 11.7 +0.1**
BRZS			pmax	pmax	
	comp=Z,39nm,0.6s				
BRZS	**Berezniki**	**51.42 322**	*e*P	**P**	**10 34 11.7 +0.1**
	comp=Z,39nm,0.6s				
STKA	**Stephens Creek**	**51.53 157**	P	**P**	**10 34 11.3 -1.3**
STKA			IAmb	IAmb	10 34 13.9
	comp=Z,61nm,0.8s				
STKA	**Stephens Creek**	**51.53 157**	P	**P**	**10 34 11.6 -1.0**
	comp=Z,44nm,0.7s,baz=334,slow=7.8,SNR=61				
STKA			S	**S**	**10 41 17.9 -4.2**
	comp=Z,5.3nm,1.1s,baz=127,slow=20,SNR=1.8				
	comp=Z,44nm,0.7s				
STKA	**Stephens Creek**	**51.53 157**	P	**P**	**10 34 11.9 -0.7**
STKA	**Stephens Creek**	**51.53 157**	P	**P**	**10 34 11.3 -1.3**
STKA			pmax	pmax	
	comp=Z,61nm,0.9s				
HTT	**Hallett**	**52.01 160**	P	**P**	**10 34 16.5 +0.3**
SEY	**Seymchan**	**52.06 18***ce*P		**P**	**10 34 17.2 +1.1**
SEY			pmax	pmax	
	comp=Z,36nm,0.7s				
AULRC	**Lightning Ridg**	**52.19 149**	P	**P**	**10 34 18.5 +1.0**
CMSA	**Cobar Meteorol**	**52.90 153**	P	**P**	**10 34 22.6 -0.1**
DGAR	**Diego Garcia**	**52.92 248**	P	**P**	**10 34 23.2 +0.1**
DGAR	**Diego Garcia**	**52.92 248***ce*P		**P**	**10 34 24.7 +1.5**
DGAR			pmax	pmax	
	comp=Z,118nm,1.0s				
BVA0	**Borovoye Array**	**53.97 325**	*i* P	**P**	**10 34 30.5 +0.2**
BVAR	**Borovoye Array**	**53.97 325**	P	**P**	**10 34 30.7 +0.4**
	comp=Z,182nm,1.0s,baz=120,slow=8.9,SNR=204				
BVAR			PcP	**PcP**	**10 35 33.5 -0.2**
	comp=Z,30nm,0.7s,baz=115,slow=5.1,SNR=5.1				
	comp=Z,182nm,1.0s				
BRVK	**Borovoye**	**54.04 325**	P	**P**	**10 34 31.4 +0.6**
BRVK	**Borovoye**	**54.04 325**	P	**P**	**10 34 31.1 +0.3**
BRVK			S	**S**	**10 41 55.2 -0.5**
BRVK	**Borovoye**	**54.04 325**	P	**P**	**10 34 31.4 +0.6**
BRVK			pmax	pmax	
	comp=Z,369nm,1.0s				
BRVK	**Borovoye**	**54.04 325**	P	**P**	**10 34 31.4 +0.6**
BRVK			sP	**sP**	**10 35 19.5 -0.4**
BRVK			PcP	**PcP**	**10 35 34.2 +0.2**
AUDCS	**Dubbo College**	**54.82 151**	P	**P**	**10 34 38.6 +1.9**
HRA	**Herat**	**55.22 301**	P	**P**	**10 34 39.6 -0.3**
ARPS	**Mount Arapiles**	**56.02 159**	P	**P**	**10 34 44.0 -1.2**
	comp=Z,60nm,0.9s				
ARPS	**Mount Arapiles**	**56.02 159**	P	**P**	**10 34 45.8 +0.6**
TIXI	**Tiksi**	**56.05 3**	P	**P**	**10 34 44.3 -0.6**
TIXI	**Tiksi**	**56.05 3**	LR	LR	11 01 43.9
	comp=Z,318nm,21.4s,baz=200,slow=39				
TIXI	**Tiksi**	**56.05 3**	*i* P	**P**	**10 34 43.7 -1.2**
TIXI			pmax	pmax	
	comp=Z,105nm,0.8s				
TIXI	**Tiksi**	**56.05 3**	P	**P**	**10 34 44.4 -0.5**
YNG	**Young**	**56.44 152**	P	**P**	**10 34 47.6 -0.6**
	comp=Z,83nm,2.3s				
NRIK	**Noril'sk**	**57.34 347**	P	**P**	**10 34 54.3 +0.3**
NRIK	**Noril'sk**	**57.34 347**	P	**P**	**10 34 54.3 +0.3**
	comp=Z,128nm,0.6s,baz=136,slow=6.7,SNR=94				
NRIK			S	**S**	**10 42 38.3 -0.7**
	comp=Z,5.9nm,1.0s,baz=36,slow=23,SNR=22				
NRIK			LR	LR	11 00 52.6
	comp=Z,316nm,20.0s,baz=148,slow=37				
	comp=Z,128nm,0.6s				
NRIK	**Noril'sk**	**57.34 347***ce*P		**P**	**10 34 54.1 0.0**
NRIK			pmax	pmax	
	comp=Z,245nm,0.9s				
CAN	**Canberra**	**57.57 153**	P	**P**	**10 34 56.8 +0.6**
	comp=Z,30nm,1.4s				
CAN	**Canberra**	**57.57 153**	P	**P**	**10 34 57.4 +1.2**
CAN			pP	**pP**	**10 35 31.4 +1.5**
CNB	**Canberra Magne**	**57.72 152**	P	**P**	**10 34 57.7 +0.4**
	comp=Z,55nm,1.7s				
CNB	**Canberra Magne**	**57.72 152**	P	**P**	**10 34 58.7 +1.4**
TOO	**Toolangi**	**58.05 157**	P	**P**	**10 34 59.8 +0.3**
TOO	**Toolangi**	**58.05 157**	P	**P**	**10 34 59.8 +0.3**
	comp=Z,14nm,1.3s				
TOO	**Toolangi**	**58.05 157**	P	**P**	**10 34 59.8 +0.3**
TOO			pmax	pmax	
	comp=Z,17nm,1.2s				
WSAR	**Wadi Sarin**	**58.46 288**	LR	LR	11 01 45.9
	comp=Z,211nm,21.1s,baz=99,slow=37				
DZM	**Mont Dzumac**	**58.65 129**	*e*P	**P**	**10 35 05.5 +1.5**
	comp=Z,178nm,27.2s				
DZM	**Mont Dzumac**	**58.65 129**	*e*PP	**PP**	**10 37 12.5 -3.0**
	comp=Z,93nm,26.4s				
DZM			*e*S	**S**	**10 42 55.8 -1.7**
	comp=Z,145nm,24.1s				
DZM			*e*SS	**SS**	**10 46 58.1 +5.0**
	comp=Z,620nm,28.0s				
DZM			*e*LQ	LQ	10 50 03.5
	comp=Z,2μm,32.1s				
DZM			*e*LR	LR	10 52 18.1
	comp=Z,357nm,25.2s				
DZM	**Mont Dzumac**	**58.65 129**	LR	LR	10 57 33.6
	comp=Z,95nm,21.7s,baz=26,slow=33				
JMDO	**Jabal Madar**	**59.02 287**	P	**P**	**10 35 05.8 -0.8**
AB31	**Akbulak array**	**59.06 318**	*i* P	**P**	**10 35 06.2 -0.2**
ABKAR	**Akbulak array**	**59.06 318**	P	**P**	**10 35 06.4 0.0**
MHTO	**MHTO**	**59.29 285**	P	**P**	**10 35 07.7 -0.7**
	SNR=7.5				
HOQ	**Hoqain**	**59.64 288**	P	**P**	**10 35 10.9 +0.1**
BILL	**Bilibino**	**59.76 18**	P	**P**	**10 35 10.8 0.0**
BILL	**Bilibino**	**59.76 18**	*i* P	**P**	**10 35 11.0 +0.2**
BILL			pmax	pmax	
	comp=Z,51nm,0.6s				
BILL	**Bilibino**	**59.76 18**	P	**P**	**10 35 11.0 +0.2**
BILL			PcP	**PcP**	**10 35 57.7 +1.6**
BSY	**Bisya**	**59.82 287**	P	**P**	**10 35 11.4 -0.7**
SOHO	**SOHO**	**60.30 289**	P	**P**	**10 35 15.6 +0.3**
ARQ	**Araqi**	**60.38 288**	P	**P**	**10 35 17.0 +1.0**
	SNR=5.4				
SHME	**Shamm**	**60.51 291**	*i* P	**P**	**10 35 17.5 +0.8**
	SNR=9.8				
AKTO	**Aktyubinsk**	**60.52 319**	P	**P**	**10 35 16.5 +0.2**
	comp=Z,344nm,1.3s,baz=92,slow=7.2,SNR=94				
AKTO			LR	LR	11 01 01.8
	comp=Z,765nm,18.3s,baz=66,slow=35				
	comp=Z,344nm,1.3s				
UOSS	**Minazif**	**60.53 290**	P	**P**	**10 35 16.4 -0.5**
UOSS			IAmb	IAmb	10 35 24.5
	comp=Z,61nm,1.1s				
UOSS	**Minazif**	**60.53 290**	P	**P**	**10 35 17.5 +0.6**
UOSS	**Minazif**	**60.53 290**	P	**P**	**10 35 17.3 +0.5**
MSFE	**Esma-Masafi**	**60.54 290**	*i* P	**P**	**10 35 18.1 +1.1**
	SNR=6.1				
SVE	**Sverdlovsk**	**60.56 327***c*	*i*P	**P**	**10 35 16.7 +0.2**
SVE			*e*S	**S**	**10 43 22.3 +1.3**
SVE			pmax	pmax	
	comp=Z,421nm,1.1s				
HATD	**Hatta, Dubai**	**60.61 290**	P	**P**	**10 35 18.0 +0.6**
HATD	**Hatta, Dubai**	**60.61 290**	*i* P	**P**	**10 35 17.7 +0.3**
	SNR=7.9				
ASHO	**Ashiyiah**	**60.69 290**	P	**P**	**10 35 20.0 +2.0**
	SNR=5.4				
NAZ	**Nazwa, Dubai**	**61.02 290**	P	**P**	**10 35 20.3 +0.1**
NAZ	**Nazwa, Dubai**	**61.02 290**	*i* P	**P**	**10 35 20.1 -0.1**
	SNR=9.6				
ALNE	**Al Ain**	**61.02 289**	*i* P	**P**	**10 35 20.4 +0.2**
	SNR=9.5				
ASUD	**Al Ashush, Dub**	**61.35 290**	P	**P**	**10 35 24.0 +1.6**
	SNR=5.9				
ASUD	**Al Ashush, Dub**	**61.35 290**	*i* P	**P**	**10 35 22.8 +0.4**
	SNR=15				
ARTI	**Arti**	**61.64 326**	P	**P**	**10 35 23.0 -0.8**
ARTI	**Arti**	**61.64 326**	P	**P**	**10 35 23.3 -0.5**
	comp=Z,93nm,0.8s,baz=101,slow=2.9,SNR=58				
ARTI			LR	LR	11 01 10.1
	comp=Z,527nm,20.8s,baz=115,slow=35				
	comp=Z,93nm,0.8s				
ARTI	**Arti**	**61.64 326***d*	*i*P	**P**	**10 35 23.2 -0.5**
ARTI					10 36 05.2
ARTI			S	**S**	**10 43 35.0 +0.3**
ARTI			SS	**SS**	**10 47 34.0 -4.3**
ARTI			pmax	pmax	
	comp=Z,154nm,1.0s				
ARTI	**Arti**	**61.64 326**	P	**P**	**10 35 23.4 -0.5**
AJN	**Ajban**	**61.67 290**	P	**P**	**10 35 23.3 -1.2**
DMTO	**DMTO**	**62.55 282**	P	**P**	**10 35 32.0 +1.5**
	SNR=7.0				
MZWR	**Madinat Zayed**	**62.75 289**	P	**P**	**10 35 32.0 +0.2**
DOK	**Doka**	**63.18 283**	P	**P**	**10 35 35.0 +0.3**
	SNR=15				
MZR	**Muzera**	**63.20 288**	*i* P	**P**	**10 35 34.5 -0.3**
	SNR=17				
RBK	**Rabkut**	**63.29 282**	P	**P**	**10 35 36.0 +0.5**
	SNR=19				
GHWR	**Ruwais**	**63.65 289**	P	**P**	**10 35 38.0 +0.3**
ABTO	**Aybut**	**64.16 282**	P	**P**	**10 35 40.9 -0.3**
	SNR=17				
SLWR	**Sila**	**64.71 289**	P	**P**	**10 35 44.3 -0.2**
TRNA	**Turayna**	**65.07 290**	P	**P**	**10 35 47.7 +0.8**
SHMA	**Al-Shehemyia**	**65.16 291**	P	**P**	**10 35 47.6 +0.1**
	SNR=5.4				
SMRA	**Abu-Samra**	**65.42 290**	P	**P**	**10 35 49.3 +0.1**
	SNR=6.9				
SPIA	**Saint Paul Isl**	**65.60 34**	P	**P**	**10 35 50.4 +0.7**
	baz=261				
P08K	**Saint George I**	**65.89 35**	P	**P**	**10 35 51.9 +0.3**
	baz=262				
GAMB	**Gambell**	**66.14 27**	IAmb	IAmb	10 35 57.0
	comp=Z,32nm,1.1s				
GAMB	**Gambell**	**66.14 27**	P	**P**	**10 35 53.8 +0.8**
	baz=257				
KIRV	**Kirov**	**66.82 327**	P	**P**	**10 35 57.0 -0.4**
	comp=Z,175nm,0.7s,baz=90,slow=3.6,SNR=46				
KIRV			LR	LR	11 06 51.0
	comp=Z,371nm,21.1s,baz=98,slow=37				
	comp=Z,175nm,0.7s				
KIRV	**Kirov**	**66.82 327***ce*P		**P**	**10 35 57.2 -0.2**
AKT	**Akhty**	**66.90 309***d*	*i*P	**P**	**10 35 58.6 +0.1**
AKT			*e*		10 36 26.4
AKT			*e**PP	**pP**	**10 36 32.1 -1.0**
AKT			*e*		10 38 28.6
AKT			*e*S	**S**	**10 44 41.2 +1.0**
AKT			*e**SS	**sS**	**10 45 39.8 +0.5**
AKT			pmax	pmax	
	comp=Z,195nm,1.4s				
MAK	**Makhachkala**	**67.05 310***d*	*i*P	**P**	**10 35 56.0 -3.2**
MAK			*e**PP	**pP**	**10 36 32.9 -0.9**
MAK			*e**SP	**sP**	**10 36 48.1 -1.2**
MAK			*e*		10 38 26.2
MAK			*e*PPP	PPP	10 40 08.1
MAK			*e*S	**S**	**10 44 36.6 -5.0**
MAK			*e**SS	**SKSac**	**10 45 42.0 -0.9**
MAK			*e*SS	**SS**	**10 49 07.3 +4.3**
MAK			pmax	pmax	
	comp=Z,193nm,1.1s				
MAK			pmax	pmax	
	comp=Z,305nm,13.0s				
BELG	**Belogornoye**	**67.22 321**	P	**P**	**10 35 59.8 -0.3**
	comp=Z,180nm,0.9s,baz=23,slow=0.7,SNR=42				
BELG			LR	LR	11 07 42.2
	comp=Z,204nm,20.6s,baz=93,slow=38				
	comp=Z,180nm,0.9s				
BELG	**Belogornoye**	**67.22 321**	*i* P	**P**	**10 35 59.4 -0.7**
BELG			pmax	pmax	
	comp=Z,50nm,1.0s				
UNV	**Unalaska Valle**	**67.34 38**	P	**P**	**10 36 01.2 +0.4**
	baz=266				
MSEY	**Mahe Island**	**67.51 258**	P	**P**	**10 36 03.6 +0.9**
TNA	**Tin City**	**68.10 25**	P	**P**	**10 36 06.0 +0.7**
	baz=260				
M11K	**Mekoryuk**	**68.12 31**	P	**P**	**10 36 06.0 +0.4**
	baz=263				
F14K	**Arctic Creek**	**68.74 25**	P	**P**	**10 36 10.2 +0.8**
	baz=261				
ANM	**Nome**	**69.01 26**	P	**P**	**10 36 11.8 +0.7**
	baz=263,SNR=12				
K13K	**Kusilvak Mount**	**69.03 29**	P	**P**	**10 36 11.8 +0.6**
	baz=264				
FALS	**False Pass**	**69.19 37**	P	**P**	**10 36 12.5 +0.2**
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 13.4 +0.4**
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 13.9 +0.9**
	comp=Z,53nm,1.1s,baz=172,slow=3.0,SNR=30				
GNI			LR	LR	11 10 21.5
	comp=Z,298nm,20.1s,baz=79,slow=39				
	comp=Z,53nm,1.1s				
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 14.9 +1.8**
GNI	**Garni**	**69.22 307**	*e*P	**P**	**10 36 14.1 +1.1**
GNI			pmax	pmax	
	comp=Z,149nm,1.4s				
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 14.3 +1.2**
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 13.7 +0.7**
	comp=Z,974nmcomp=Z,78nm,1.2s				
GNI	**Garni**	**69.22 307**	P	**P**	**10 36 14.2 +1.1**
GUDG	**Guauri**	**69.29 310**	P	**P**	**10 36 10.6 -2.9**
F15K	**North Star Dit**	**69.46 25**	P	**P**	**10 36 14.7 +0.8**
	baz=263,SNR=17				
M13K	**Dall Lake**	**69.53 31**	P	**P**	**10 36 14.9 +0.6**
	baz=266				
C16K	**Lisburne Hills**	**69.55 22**	IAmb	IAmb	10 36 18.1
	comp=Z,30nm,0.8s				
C16K	**Lisburne Hills**	**69.55 22**	P	**P**	**10 36 15.2 +1.0**
	baz=261,SNR=33				
J14K	**Nanvaranak Lak**	**69.62 28**	P	**P**	**10 36 15.6 +0.8**
	baz=265				
TRLG	**Trialeti**	**69.62 309**	P	**P**	**10 36 12.7 -2.8**
G15K	**Niukluk**	**69.63 26**	P	**P**	**10 36 15.9 +1.0**
	baz=264				
L14K	**Kuka Creek**	**69.92 30**	P	**P**	**10 36 17.6 +1.0**
	baz=266				
GOF	**Gofitskoye**	**70.21 313***ce*P		**P**	**10 36 18.8 0.0**
M14K	**Bethel**	**70.23 31**	P	**P**	**10 36 19.6 +1.0**
	baz=267				
D17K	**Noatak River**	**70.32 23**	P	**P**	**10 36 20.4 +1.4**
	baz=264,SNR=44				
N14K	**Kuskokwak Cree**	**70.33 32**	P	**P**	**10 36 20.2 +1.0**
	baz=268				
H16K	**Elim**	**70.36 26**	P	**P**	**10 36 20.0 +0.7**
	baz=265,SNR=24				
C17K	**DeLong Mountai**	**70.37 22**	P	**P**	**10 36 20.3 +0.9**
	baz=263,SNR=17				
G16K	**Koyuk River**	**70.38 26**	P	**P**	**10 36 20.4 +1.0**
	baz=265				
KBZ	**Khabaz**	**70.38 311**	P	**P**	**10 36 19.9 +0.1**
	comp=Z,76nm,1.0s,baz=111,slow=5.2,SNR=49				
KBZ			LR	LR	11 10 06.1
	comp=Z,248nm,19.5s,baz=85,slow=38				
	comp=Z,76nm,1.0s				
KBZ	**Khabaz**	**70.38 311***ce*P		**P**	**10 36 19.1 -0.7**
KBZ			pmax	pmax	
	comp=Z,123nm,1.1s				
RAYN	**Ar Rayn**	**70.40 290**	P	**P**	**10 36 20.4 0.0**
RAYN	**Ar Rayn**	**70.40 290**	P	**P**	**10 36 20.6 +0.2**
RAYN	**Ar Rayn**	**70.40 290**	P	**P**	**10 36 20.4 0.0**
RAYN			pmax	pmax	
	comp=Z,242nm,1.0s				
RAYN	**Ar Rayn**	**70.40 290**	*i* P	**P**	**10 36 20.4 0.0**
	SNR=182				
RAYN	**Ar Rayn**	**70.40 290**	P	**P**	**10 36 20.7 +0.2**
RDOG	**Red Dog Mine**	**70.42 23**	P	**P**	**10 36 20.5 +0.8**
	baz=264				
KARS	**Kars**	**70.45 308**	P	**P**	**10 36 22.2 +1.6**
KARS			pmax	pmax	
	comp=Z,67nm,1.4s				
L15K	**Ungalak Mounta**	**70.51 30**	P	**P**	**10 36 21.1 +0.9**
	baz=267				
O14K	**Tigyukauivet M**	**70.52 32**	P	**P**	**10 36 21.1 +0.7**
	baz=268				
K15K	**Wolf Creek Mou**	**70.52 29**	IAmb	IAmb	10 36 24.4
	comp=Z,40nm,1.2s				
K15K	**Wolf Creek Mou**	**70.52 29**	P	**P**	**10 36 21.2 +0.8**
	baz=267				
KIV	**Kislovodsk**	**70.52 312**	P	**P**	**10 36 20.9 +0.1**
KIV	**Kislovodsk**	**70.52 312**	P	**P**	**10 36 21.4 +0.6**
KIV	**Kislovodsk**	**70.52 312**	⇑P	**P**	**10 36 21.4 +0.6**
KIV	**Kislovodsk**	**70.52 312**	*e*P	**P**	**10 36 21.1 +0.3**
KIV			*e*S	**S**	**10 45 23.1 +0.3**
KIV			pmax	pmax	
	comp=Z,57nm,3.0s				
KIV			pmax	pmax	
	comp=Z,165nm,1.1s				
KIV			MLR	MLR	
	comp=Z,304nm,17.0s				
KIV	**Kislovodsk**	**70.52 312**	*i* P	**P**	**10 36 21.1 +0.3**
	SNR=26				
KIV	**Kislovodsk**	**70.52 312**	P	**P**	**10 36 20.7 -0.1**
	comp=Z,2μmcomp=Z,179nm,0.9s				
KIV	**Kislovodsk**	**70.52 312**	P	**P**	**10 36 21.2 +0.3**
SHA1	**Shidzhatmaz**	**70.56 311**	*i* P	**P**	**10 36 20.7 -0.5**
GEVA	**Gevas**	**70.66 306**	IAmb	IAmb	10 36 24.8
	comp=Z,118nm,1.1s				
E17K	**Hotham Inlet**	**70.74 24**	P	**P**	**10 36 22.7 +1.2**
	baz=265				
M15K	**Kasigluk River**	**70.86 31**	P	**P**	**10 36 22.9 +0.5**
	baz=268				
VRH	**Novokhopyorsk**	**70.86 319**	*e*P	**P**	**10 36 21.9 -0.7**
VRH			pmax	pmax	
	comp=Z,200nm,0.8s				
F17K	**Baldwin Pennin**	**70.91 25**	IAmb	IAmb	10 36 26.6
	comp=Z,25nm,0.7s				
F17K	**Baldwin Pennin**	**70.91 25**	P	**P**	**10 36 23.6 +1.0**
	baz=266				
B18K	**Kokolik River**	**70.97 21**	P	**P**	**10 36 24.2 +1.3**
	baz=264				
I17K	**Unalakleet**	**70.99 27**	IAmb	IAmb	10 36 27.4
	comp=Z,31nm,0.9s				
I17K	**Unalakleet**	**70.99 27**	P	**P**	**10 36 23.9 +0.8**
	baz=267,SNR=6.5				
J16K	**Anvik River**	**71.00 28**	P	**P**	**10 36 24.1 +0.9**
	baz=267				
G17K	**Kiwalik Mounta**	**71.09 26**	P	**P**	**10 36 24.7 +1.0**
	baz=267				
C18K	**Utukok River**	**71.12 22**	P	**P**	**10 36 24.7 +0.7**
	baz=265				
N15K	**Kwethluk River**	**71.14 31**	P	**P**	**10 36 24.3 +0.2**
N15K			IAmb	IAmb	10 36 27.9
	comp=Z,55nm,0.9s				
N15K	**Kwethluk River**	**71.14 31**	P	**P**	**10 36 25.0 +0.9**
	baz=269,SNR=9.6				
E18K	**Tukpahlearik C**	**71.24 24**	P	**P**	**10 36 25.5 +0.9**
	baz=266,SNR=22				
O15K	**Ungalikthiuk R**	**71.26 32**	P	**P**	**10 36 26.4 +1.5**
	baz=270				
H17K	**Granite Mounta**	**71.38 26**	P	**P**	**10 36 26.6 +1.1**
	baz=267				
S14K	**Fog Glacier**	**71.41 35**	P	**P**	**10 36 26.8 +0.9**
	baz=271				
CHNA	**Chernabura Isl**	**71.41 37**	P	**P**	**10 36 26.8 +1.0**
	baz=271				
L16K	**Owhat River**	**71.47 30**	P	**P**	**10 36 26.4 +0.3**
L16K	**Owhat River**	**71.47 30**	P	**P**	**10 36 26.8 +0.7**
	baz=269,SNR=7.0				
BCA	**Borcka**	**71.49 309**	⇑P	**P**	**10 36 27.1 +0.4**
F18K	**Selawik**	**71.56 24**	P	**P**	**10 36 27.5 +1.0**
	baz=267,SNR=50				
J17K	**VABM Dome**	**71.69 28**	P	**P**	**10 36 28.5 +1.1**
	baz=269				
M16K	**Timber Creek**	**71.71 30**	IAmb	IAmb	10 36 31.3
	comp=Z,31nm,1.0s				
M16K	**Timber Creek**	**71.71 30**	P	**P**	**10 36 28.1 +0.6**
	baz=270				
N16K	**Nishlik Lake**	**71.80 31**	P	**P**	**10 36 28.5 +0.4**
	baz=270				
G18K	**Tagagawik**	**71.94 25**	IAmb	IAmb	10 36 32.3
	comp=Z,26nm,0.8s				
G18K	**Tagagawik**	**71.94 25**	P	**P**	**10 36 29.5 +0.6**
	baz=268,SNR=28				
ERBR	**Yeremizino-Bor**	**71.97 313**	*e*P	**P**	**10 36 29.5 +0.1**
ERBR			pmax	pmax	
	comp=Z,108nm,0.7s				
KLMR	**Klimovskoe**	**71.97 329**	*e*P	**P**	**10 36 26.1 -2.9**
KLMR			*e*		10 36 43.1
KLMR			*e**PP	**pP**	**10 37 00.2 -3.9**
KLMR			pmax	pmax	
	comp=Z,201nm,1.3s				
L17K	**Donlin**	**72.03 29**	P	**P**	**10 36 30.8 +1.3**
	baz=270				
K17K	**Iditarod**	**72.03 29**	IAmb	IAmb	10 36 33.7
	comp=Z,48nm,0.8s				
K17K	**Iditarod**	**72.03 29**	P	**P**	**10 36 30.9 +1.5**
	baz=270,SNR=19				
H18K	**Honhosa River**	**72.04 26**	P	**P**	**10 36 30.2 +0.8**
	baz=269,SNR=15				
CHGN	**Chignik**	**72.04 35**	IAmb	IAmb	10 36 33.8
	comp=Z,26nm,0.7s				
CHGN	**Chignik**	**72.04 35**	P	**P**	**10 36 29.9 +0.4**
	baz=272				
O16K	**Kokwok River B**	**72.14 32**	IAmb	IAmb	10 36 33.7
	comp=Z,36nm,1.1s				
O16K	**Kokwok River B**	**72.14 32**	P	**P**	**10 36 30.7 +0.6**
	baz=271				
P16K	**Nushagak River**	**72.21 32**	P	**P**	**10 36 31.0 +0.5**
	baz=271				
D19K	**Kuna River**	**72.24 23**	IAmb	IAmb	10 36 34.0
	comp=Z,51nm,0.8s				
D19K	**Kuna River**	**72.24 23**	P	**P**	**10 36 31.5 +0.9**
	baz=268				
F19K	**Shaleruckik Mo**	**72.32 24**	P	**P**	**10 36 31.6 +0.5**
	baz=269,SNR=11				
VORD	**Divnogorie**	**72.41 319**	*e*P	**P**	**10 36 30.7 -1.1**
VORD			pmax	pmax	
	comp=Z,110nm,1.0s				
VORR	**Voronezh**	**72.42 320**	*e*P	**P**	**10 36 32.5 +0.6**
VORR			pmax	pmax	
	comp=Z,160nm,0.6s				
M17K	**Holitna River**	**72.44 30**	IAmb	IAmb	10 36 36.2
	comp=Z,42nm,0.9s				
M17K	**Holitna River**	**72.44 30**	P	**P**	**10 36 33.1 +1.2**
	baz=271				
R16K	**Pilot Point**	**72.46 34**	P	**P**	**10 36 32.9 +0.8**
	baz=272				
VSR	**Storozhevoye**	**72.47 319**	*e*P	**P**	**10 36 30.7 -1.5**
VSR			pmax	pmax	
	comp=Z,110nm,0.9s				
KOPT	**Kop Dagi**	**72.47 308**	IAmb	IAmb	10 36 36.9
	comp=Z,72nm,1.3s				
LPSR	**Galich'ya Gora**	**72.54 321**	*e*P	**P**	**10 36 32.0 -0.6**
LPSR			pmax	pmax	
	comp=Z,183nm,1.0s				
E19K	**Redstone River**	**72.54 24**	P	**P**	**10 36 33.2 +0.8**
	baz=269				
MARD	**Mardin**	**72.56 305**	IAmb	IAmb	10 36 36.0
	comp=Z,93nm,0.7s				
N17K	**Nushagak Hills**	**72.58 31**	IAmb	IAmb	10 36 37.0
	comp=Z,35nm,1.0s				
N17K	**Nushagak Hills**	**72.58 31**	P	**P**	**10 36 34.0 +1.3**
	baz=271				
G19K	**Purcell Mounta**	**72.58 25**	P	**P**	**10 36 33.4 +0.7**
	baz=270				
O17K	**Koliganek Bris**	**72.65 32**	P	**P**	**10 36 33.9 +0.8**
	baz=272,SNR=5.1				
GCSA	**Galena City Sc**	**72.67 26**	P	**P**	**10 36 34.0 +0.9**
	baz=270,SNR=28				
SOC	**Sochi**	**72.69 311**	*e*P	**P**	**10 36 31.6 -2.1**
SOC			*e**PP	**pP**	**10 37 08.2 -0.6**
SOC			*e**SP	**sP**	**10 37 25.9 +1.7**
SOC			*e*		10 39 23.3
SOC			*e*PPP	PPP	10 41 08.2
SOC			*e*S	**S**	**10 45 45.6 -1.9**
SOC			*e*SS	**SS**	**10 50 29.4 -0.3**
SOC			*e*SSS	SSS	10 53 45.1
SOC			pmax	pmax	
	comp=Z,67nm,0.5s				
J18K	**Innoko River**	**72.75 28**	P	**P**	**10 36 34.5 +0.8**
	baz=271				
L18K	**Granite Mounta**	**72.78 29**	P	**P**	**10 36 35.1 +1.2**
	baz=271				
D20K	**Etivluk River**	**72.79 22**	P	**P**	**10 36 34.7 +0.9**
	baz=269				
A21K	**Barrow**	**72.84 20**	P	**P**	**10 36 34.9 +0.8**
	baz=268,SNR=26				
H19K	**Roundabout Mou**	**72.85 26**	IAmb	IAmb	10 36 37.8
	comp=Z,44nm,0.8s				
H19K	**Roundabout Mou**	**72.85 26**	P	**P**	**10 36 35.3 +1.1**
	baz=270				
Q16K	**King Salmon**	**72.91 33**	P	**P**	**10 36 35.5 +0.8**
	baz=272				
KTUT	**Trabzon**	**72.92 309**	⇑P	**P**	**10 36 34.5 -0.7**
E20K	**Nigu River**	**72.95 23**	P	**P**	**10 36 35.8 +1.0**
	baz=270				
P17K	**Kvichak River**	**73.00 32**	P	**P**	**10 36 36.0 +0.8**
	baz=272,SNR=18				
TTA	**Tatalina**	**73.08 28**	P	**P**	**10 36 35.9 +0.1**
TTA	**Tatalina**	**73.08 28**	P	**P**	**10 36 36.6 +0.9**
	baz=272,SNR=21				

MOS pmax pmax
comp=Z,200nm,0.9s
MOS pmax pmax
comp=Z,110nm,0.8s
F20K Avaraart Lake 73.13 24 P **P 10 36 36.8 +1.0**
baz=271
M18K Stony River 73.22 30 P **P 10 36 37.4 +1.0**
baz=272,SNR=16
N18K Kilae Creek 73.22 31 P **P 10 36 37.4 +0.9**
baz=272
J19K Poorman 73.23 27 P **P 10 36 37.3 +0.9**
baz=272
Q17K Contact Creek 73.33 33 P **P 10 36 37.4 +0.1**
baz=273,SNR=9.7
C21K Knifeblade Rid 73.45 22 P **P 10 36 38.7 +1.0**
baz=271
H20K Anotleneega Mo 73.50 26 P **P 10 36 38.9 +0.8**
baz=272
B21K Ikpikpuk River 73.51 21 IAmb IAmb 10 36 41.8
comp=Z,24nm,0.8s
B21K Ikpikpuk River 73.51 21 P **P 10 36 38.8 +0.8**
baz=271
O18K Koktuh Hills 73.60 32 IAmb IAmb 10 36 42.6
comp=Z,95nm,0.9s
O18K Koktuh Hills 73.60 32 P **P 10 36 39.1 +0.3**
baz=273,SNR=30
P18K Big Mountain, 73.61 32 IAmb IAmb 10 36 42.4
comp=Z,42nm,1.2s
P18K Big Mountain, 73.61 32 P **P 10 36 38.9 0.0**
baz=273,SNR=8.7
CHIR Chirikof Islan 73.63 36 P **P 10 36 39.0 0.0**
baz=274
ACHA Angle Creek He 73.63 33 IAmb IAmb 10 36 41.6
comp=Z,36nm,1.2s
L19K White Mountain 73.65 29 P **P 10 36 39.9 +0.9**
baz=273
I20K Naaghedeneel 73.70 26 P **P 10 36 40.6 +1.4**
baz=272
OBN Obninsk 73.76 323 P **P 10 36 38.9 -0.8**
OBN IAmb IAmb 10 36 41.2
comp=Z,79nm,0.9s
OBN Obninsk 73.76 323 P **P 10 36 38.9 -0.8**
comp=Z,60nm,0.8s,baz=274,slow=2.8,SNR=14
OBN LR LR 11 09 20.5
comp=Z,342nm,18.1s,baz=84,slow=36
comp=Z,60nm,0.8s
OBN Obninsk 73.76 323 ⇓P **P 10 36 40.4 +0.6**
OBN Obninsk 73.76 323 *d i* P **P 10 36 38.8 -0.9**
OBN *e* 10 36 54.3
OBN *i* *PP **pP 10 37 13.8 -1.1**
OBN *e**SP **sP 10 37 34.4 +4.1**
OBN *e*S **S 10 45 57.7 -1.4**
OBN pmax pmax
comp=Z,118nm,1.3s
OBN MLR MLR
comp=Z,167nm,16.0s
OBN Obninsk 73.76 323 P **P 10 36 39.1 -0.6**
comp=Z,111nm,1.1s
E21K Killik River 73.77 23 P **P 10 36 40.2 +0.6**
baz=272
J20K Nowinta River 73.87 27 IAmb IAmb 10 36 43.9
comp=Z,36nm,0.8s
J20K Nowinta River 73.87 27 P **P 10 36 41.3 +1.1**
baz=273
M19K Big River Lodg 73.88 29 P **P 10 36 41.4 +1.1**
baz=273,SNR=9.7
N19K Bonanza Creek 73.90 31 P **P 10 36 41.5 +0.9**
baz=274
B22K Teshekpuk Lake 73.90 21 IAmb IAmb 10 36 43.5
comp=Z,27nm,0.8s
B22K Teshekpuk Lake 73.90 21 P **P 10 36 40.8 +0.5**
baz=272
LVZ Lovozero 73.94 337 P **P 10 36 40.2 -0.4**
LVZ IAmb IAmb 10 38 54.7
comp=Z,213nm,2.0s
LVZ Lovozero 73.94 337 *ce*P **P 10 36 41.6 +1.0**
LVZ pmax pmax
comp=Z,52nm,1.3s
K20K Telida 73.94 28 IAmb IAmb 10 36 44.9
comp=Z,42nm,1.1s
K20K Telida 73.94 28 P **P 10 36 41.9 +1.2**
baz=273
F21K Alatna River 74.00 24 P **P 10 36 41.4 +0.4**
baz=273
O19K Port Alsworth 74.02 31 IAmb IAmb 10 36 44.6
comp=Z,37nm,1.0s
O19K Port Alsworth 74.02 31 P **P 10 36 41.8 +0.6**
baz=274,SNR=10
G21K Allakaket 74.02 25 P **P 10 36 42.0 +1.0**
baz=273
JCZ Jackson Bay 74.07 146 P **P 10 36 43.3 +1.6**
L20K Farewell, AK 74.08 29 P **P 10 36 42.5 +0.9**
baz=274,SNR=12
HIZ Hauiti 74.17 139 P **P 10 36 45.9 +3.5**
ANN Anapa 74.20 313 *e*P **P 10 36 41.3 -1.2**
ANN pmax pmax
comp=Z,172nm,1.3s
D22K Ayikyak River 74.22 22 P **P 10 36 43.2 +1.0**
baz=273
H21K Melozitna Rive 74.36 25 IAmb IAmb 10 36 47.2
comp=Z,50nm,1.1s
H21K Melozitna Rive 74.36 25 P **P 10 36 44.1 +1.0**
baz=274
SII Sitkinak Islan 74.37 35 P **P 10 36 43.3 0.0**
baz=275
APA Apatity 74.43 337 ⇓*i*P **P 10 36 42.2 -1.2**
APA *i* 10 36 56.0
APA *i* *PP **pP 10 37 16.2 -2.4**
APA pmax pmax
comp=Z,48nm,0.8s
Q19K Cape Douglas, 74.46 32 P **P 10 36 43.9 +0.2**
baz=275
M20K Styx River 74.47 29 IAmb IAmb 10 36 47.9
comp=Z,45nm,0.8s
M20K Styx River 74.47 29 P **P 10 36 45.0 +1.1**
baz=274,SNR=25
E22K Anaktuvuk Pass 74.58 23 P **P 10 36 45.0 +0.7**
baz=274,SNR=15
P19K Oil Pt 74.61 32 P **P 10 36 45.1 +0.5**
baz=275
I21K Tanana 74.73 26 IAmb IAmb 10 36 49.3
comp=Z,43nm,1.0s
I21K Tanana 74.73 26 P **P 10 36 46.5 +1.4**
baz=274,SNR=30
G22K Bettles 74.79 24 P **P 10 36 46.1 +0.6**
baz=274
OHAK Old Harbor 74.80 34 IAmb IAmb 10 36 48.1
comp=Z,30nm,0.8s
OHAK Old Harbor 74.80 34 P **P 10 36 46.0 +0.3**
baz=276
OHAK Old Harbor 74.80 34 P **P 10 36 47.8 +2.1**
NNZ Nelson 74.87 141 P **P 10 36 49.8 +3.5**
O20K Slope Mountain 74.88 31 P **P 10 36 46.2 0.0**
baz=275
C23K Itkillik River 74.89 21 P **P 10 36 46.8 +0.8**
baz=274
THZ Tophouse 74.92 142 P **P 10 36 49.5 +2.9**
H22K Ishtalitna Cre 74.92 25 P **P 10 36 47.6 +1.3**
baz=275
D23K Nanushuk River 74.94 22 IAmb IAmb 10 37 36.2
comp=Z,36nm,1.1s
D23K Nanushuk River 74.94 22 P **P 10 36 47.5 +1.2**
baz=275
SPCR Spurr Chakacha 74.97 30 P **P 10 36 46.9 +0.1**
baz=275,SNR=12
WTVZ West Tongariro 74.99 139 P **P 10 36 49.3 +2.1**
NNVZ North Ngauruho 75.02 139 P **P 10 36 49.9 +2.5**
LBZ Lake Benmore 75.03 146 P **P 10 36 49.0 +1.9**
LBZ IAmb IAmb 10 37 07.9
comp=Z,82nm,1.5s
SPU Mount Spurr 75.05 30 IAmb IAmb 10 36 49.9
comp=Z,37nm,1.2s
OTVZ Oturere 75.06 139 P **P 10 36 50.2 +2.5**
KDAK Kodiak Island 75.12 34 P **P 10 36 47.6 +0.1**
KDAK IAmb IAmb 10 36 50.4
comp=Z,43nm,0.9s
KDAK Kodiak Island 75.12 34 LR LR 11 14 34.4
comp=Z,56nm,18.3s,baz=101,slow=39
KDAK Kodiak Island 75.12 34 P **P 10 36 47.6 +0.1**
baz=276
KDAK Kodiak Island 75.12 34 P **P 10 36 47.6 +0.1**
KDAK pmax pmax
comp=Z,43nm,1.0s
Q20K Shuyak Island 75.14 33 P **P 10 36 48.3 +0.7**
baz=276
SKT Skwentna 75.22 29 IAmb IAmb 10 36 50.6
comp=Z,33nm,0.9s
SKT Skwentna 75.22 29 P **P 10 36 47.8 -0.2**
baz=276,SNR=18
ATD Arta Tunnel 75.24 278 P **P 10 36 50.3 +1.2**
ATD IAmb IAmb 10 36 52.1
comp=Z,38nm,1.0s
BPAW Bear Paw Mtn. 75.25 27 IAmb IAmb 10 36 51.9
comp=Z,52nm,0.8s
BPAW Bear Paw Mtn. 75.25 27 P **P 10 36 49.1 +0.8**
baz=276,SNR=59
MOVZ Moawhango 75.26 139 P **P 10 36 49.5 +0.8**
COLD Coldfoot 75.27 24 P **P 10 36 48.9 +0.6**
baz=276,SNR=11
TOLK Toolik Lake Re 75.37 22 P **P 10 36 49.3 +0.4**
baz=276,SNR=25
G23K Bananza Creek 75.39 24 P **P 10 36 50.0 +1.0**
baz=276
GAZ Gaziantep 75.40 305 P **P 10 36 49.1 -0.6**
GAZ IAmb IAmb 10 36 52.6
comp=Z,86nm,1.1s
HOM Homer 75.41 32 P **P 10 36 49.7 +0.5**
baz=276
E23K Chandalar 75.41 23 P **P 10 36 50.1 +1.0**
baz=276
TOKA Tokat 75.49 308 P **P 10 36 50.3 +0.2**
TOKA IAmb IAmb 10 36 52.6
comp=Z,55nm,1.1s
CAPN Captain Cook N 75.53 30 P **P 10 36 50.7 +0.9**
baz=276
C24K Franklin Bluff 75.56 21 P **P 10 36 50.4 +0.5**
baz=276
D24K Happy Valley 75.58 22 P **P 10 36 50.7 +0.7**
baz=276
BKZ Black Stump Fm 75.59 138 P **P 10 36 52.4 +1.8**
BKZ IAmb IAmb 10 36 52.6
comp=Z,41nm,1.0s
BKZ Black Stump Fm 75.59 138 P **P 10 36 51.5 +1.0**
CNPM China Poot 75.63 32 IAmb IAmb 10 36 54.5
comp=Z,37nm,0.9s
TRF Thorofare Moun 75.63 28 P **P 10 36 50.8 +0.2**
baz=276,SNR=11
MTHZ Maungataniwha 75.64 138 P **P 10 36 52.0 +1.2**
SUA Susitna One 75.65 30 IAmb IAmb 10 36 53.6
comp=Z,80nm,0.8s
SUA Susitna One 75.65 30 P **P 10 36 50.4 -0.2**
baz=277,SNR=29
HAZ Te Kaha 75.65 137 P **P 10 36 53.6 +2.8**
VADS Vadso 75.67 339 *eP* **P 10 36 51.6 +1.2**
VADS IAmb IAmb 10 36 52.4
comp=Z,58nm,0.9s
KHZ Kahutara 75.69 142 P **P 10 36 55.2 +4.2**
JOF Joensuu 75.72 332 *eP* **P 10 36 51.3 +0.4**
GVZ Greta Valley S 75.73 143 P **P 10 36 53.8 +2.6**
CUT Chulitna 75.76 29 IAmb IAmb 10 36 55.0
comp=Z,61nm,0.7s
CUT Chulitna 75.76 29 P **P 10 36 50.8 -0.3**
baz=277,SNR=7.7
BRLK Bradley Lake 75.78 31 IAmb IAmb 10 36 55.4
comp=Z,44nm,0.7s
MWZ Matawai 75.80 137 P **P 10 36 53.7 +2.0**
PNHZ Pukenui 75.83 139 P **P 10 36 54.1 +2.2**
I23K Minto, Yukon-K 75.84 26 IAmb IAmb 10 36 56.3
comp=Z,27nm,0.8s
I23K Minto, Yukon-K 75.84 26 P **P 10 36 52.1 +0.6**
baz=277,SNR=35
BRSE Bradley Lake S 75.86 31 P **P 10 36 51.3 -0.4**
baz=277
MRZ Mangatainoka R 75.88 140 P **P 10 36 53.3 +1.2**
MCHZ McNeill Hill 75.88 138 P **P 10 36 54.5 +2.4**
M22K Willow 75.91 29 P **P 10 36 51.7 -0.2**
baz=277,SNR=32
BWN Browne 75.91 27 IAmb IAmb 10 36 56.1
comp=Z,54nm,1.0s
NEA2 Nenana 76.03 26 IAmb IAmb 10 36 56.3
comp=Z,34nm,0.8s
NEA2 Nenana 76.03 26 P **P 10 36 52.6 0.0**
baz=277,SNR=26
F24K Squaw Lake 76.13 23 P **P 10 36 54.1 +0.9**
baz=278
PUZ Puketiti 76.14 137 P **P 10 36 51.5 -2.1**
RC01 Rabbit Creek A 76.18 30 IAmb IAmb 10 36 55.8
comp=Z,27nm,0.6s
RC01 Rabbit Creek A 76.18 30 P **P 10 36 53.2 -0.4**
baz=278,SNR=13
MCK McKinley 76.20 27 IAmb IAmb 10 36 56.5
comp=Z,64nm,0.8s
MCK McKinley 76.20 27 P **P 10 36 53.7 0.0**
baz=278,SNR=36
DIKM Dikmen 76.20 310 ⇑P **P 10 36 54.2 +0.2**
DIKM Dikmen 76.20 310 P **P 10 36 54.4 +0.3**
comp=Z,51nm,1.1s
O22K Cooper Landing 76.27 31 P **P 10 36 53.5 -0.4**
baz=278
RND Reindeer 76.28 28 IAmb IAmb 10 36 56.3
comp=Z,42nm,0.7s
BFZ Birch Farm 76.30 140 P **P 10 36 55.2 +0.7**
MSF Maaselka 76.32 335 P **P 10 36 53.9 -0.3**
MSF pmax pmax
comp=Z,88nm,1.1s
H24K Noodor Dome 76.36 25 P **P 10 36 55.5 +1.0**
baz=278
PMR Palmer 76.40 29 IAmb IAmb 10 36 57.1
comp=Z,44nm,0.7s
PMR Palmer 76.40 29 P **P 10 36 54.4 -0.3**
baz=278,SNR=27
G24K Hadweenzic Riv 76.40 24 P **P 10 36 55.6 +0.9**
baz=278
D25K Kavik River 76.43 21 IAmb IAmb 10 36 58.2
comp=Z,28nm,0.8s
D25K Kavik River 76.43 21 P **P 10 36 55.2 +0.4**
baz=279,SNR=43
SEW Seward 76.45 31 IAmb IAmb 10 36 57.5
comp=Z,48nm,0.8s
SEW Seward 76.45 31 P **P 10 36 54.6 -0.4**
baz=278,SNR=6.6
GHO Glory Hole Cre 76.47 29 IAmb IAmb 10 37 02.0
comp=Z,30nm,0.7s
COLA College 76.51 26 P **P 10 36 55.3 0.0**
COLA College 76.51 26 P **P 10 36 55.0 -0.3**
baz=278
COLA College 76.51 26 P **P 10 36 55.3 0.0**
COLA pmax pmax
comp=Z,27nm,0.9s
SIM Simferopol' 76.52 313 *eP* **P 10 36 55.6 -0.2**
SIM *e**PP **pP 10 37 36.0 +4.8**
SIM pmax pmax
comp=Z,135nm,0.9s
KEV Kevo 76.52 339 P **P 10 36 55.1 -0.1**
KEV IAmb IAmb 10 37 11.1
comp=Z,59nm,1.4s
KEV Kevo 76.52 339 P **P 10 36 55.2 -0.1**
KEV pmax pmax
comp=Z,59nm,1.4s
CCB Clear Creek Bu 76.56 26 P **P 10 36 55.4 -0.2**
PUL Pulkovo 76.61 329 *ce*P **P 10 36 57.6 +1.7**
PUL pmax pmax
comp=Z,104nm,0.7s
POKR Poker Plat Res 76.65 26 P **P 10 36 56.0 -0.1**
baz=279,SNR=6.3
KNK Knik Glacier 76.74 30 IAmb IAmb 10 36 59.7
comp=Z,52nm,0.7s
KNK Knik Glacier 76.74 30 P **P 10 36 56.8 +0.1**
baz=279,SNR=17
SML Sawmill 76.75 29 IAmb IAmb 10 36 59.7
comp=Z,118nm,1.3s
SML Sawmill 76.75 29 P **P 10 36 56.8 +0.1**
baz=279,SNR=23
C26K Camden Bay 76.84 21 P **P 10 36 58.2 +1.1**
baz=280
PWL Port Wells 76.89 30 P **P 10 36 57.5 0.0**
baz=279,SNR=29
E25K Arctic Village 76.91 23 P **P 10 36 58.4 +0.8**
baz=280,SNR=14
ILAR Eielson Array 76.93 26 P **P 10 36 56.8 -0.9**
ILAR Eielson Array 76.93 26 P **P 10 36 56.5 -1.2**
comp=Z,7.1nm,0.9s,baz=262,slow=5.0,SNR=47
ILAR pP **pP 10 37 33.4 -0.1**
comp=Z,1.6nm,0.7s,baz=289,slow=4.4,SNR=1.7
ILAR PKKPbc **PKKPbc 10 56 04.8 -2.4**
comp=Z,0.6nm,0.9s,baz=58,slow=1.2,SNR=5.9
ILAR LR LR 11 13 55.9
comp=Z,89nm,18.3s,baz=264,slow=38
comp=Z,7.1nm,0.9s
HDA Harding Lake 76.96 26 P **P 10 36 57.1 -0.8**
baz=279,SNR=19
F25K Christian Rive 76.97 23 P **P 10 36 59.1 +1.2**
baz=280
M23K Glacier View 77.03 29 P **P 10 36 58.3 -0.1**
baz=279,SNR=12
ARA0 ARCESS Array S 77.08 339 *e*P **P 10 36 58.1 -0.3**
ARA0 IAmb IAmb 10 37 00.3
comp=Z,26nm,0.7s
ARCES ARCESS Array B 77.08 339 P **P 10 36 58.2 -0.2**
comp=Z,20nm,0.5s,baz=80,slow=6.2,SNR=102
ARCES LR LR 11 16 09.8
comp=Z,180nm,18.3s,baz=88,slow=40
comp=Z,20nm,0.5s
BZK Bozkurt 77.08 310 ⇑P **P 10 36 59.0 0.0**
BZK Bozkurt 77.08 310 P **P 10 36 59.3 +0.4**
comp=Z,142nm,1.1s
H25L Birch Creek 77.12 24 P **P 10 36 59.8 +1.1**
baz=280
SCM Sheep Creek Mo 77.21 29 IAmb IAmb 10 37 02.5
comp=Z,70nm,0.8s
SCM Sheep Creek Mo 77.21 29 P **P 10 36 59.8 +0.4**
baz=280,SNR=18
C27K Jago River 77.30 21 P **P 10 37 00.4 +0.7**
baz=281
PRP Porcupine Dome 77.37 25 P **P 10 36 59.9 -0.4**
baz=280,SNR=9.8
BMAR Burnt Mountain 77.40 23 P **P 10 37 00.4 +0.1**
ILGA Ilgaz 77.45 309 IAmb IAmb 10 37 03.3
comp=Z,68nm,1.0s
HAMF Hammerfest 77.47 340 *eP* **P 10 37 00.8 +0.2**
GLI Glacier Island 77.48 30 P **P 10 37 01.0 +0.2**
baz=281
P23K Montague Islan 77.48 31 P **P 10 37 00.0 -0.8**
baz=280
SPB1 Spitsbergen Ar 77.50 348 P **P 10 37 00.9 +0.2**
SPA0 Spitsbergen Ar 77.51 348 P **P 10 37 01.2 +0.4**
SPA0 Spitsbergen Ar 77.51 348 *eP* **P 10 37 00.8 +0.1**
SPA0 IAmb IAmb 10 37 02.4
comp=Z,183nm,1.2s
SPITS Spitsbergen Ar 77.51 348 P **P 10 37 00.7 0.0**
comp=Z,42nm,0.6s,baz=78,slow=8.1,SNR=52
SPITS LR LR 11 15 23.9
comp=Z,254nm,18.7s,baz=68,slow=39
comp=Z,42nm,0.6s
SPITS Spitsbergen Ar 77.51 348 P **P 10 37 01.0 +0.3**
SPITS pmax pmax
comp=Z,201nm,1.3s
F26K Sheenjek River 77.51 23 P **P 10 37 01.9 +1.0**
baz=281
MMAI Mount Meron Ar 77.57 301 P **P 10 37 03.0 +1.1**
comp=Z,135nm,1.2s,baz=83,slow=8.7,SNR=23
MMAI LR LR 11 16 11.3
comp=Z,148nm,20.0s,baz=69,slow=39
comp=Z,135nm,1.2s
K24K Donnelly Dome 77.57 27 P **P 10 37 01.2 -0.2**
baz=280,SNR=27
J25K Salcha River, 77.60 26 P **P 10 37 00.5 -1.1**
baz=281
KIRS Kirsehir-Merke 77.63 307 ⇑P **P 10 37 02.4 +0.1**
M24K Tolsona, Glenn 77.70 29 P **P 10 37 03.1 +1.0**
baz=280,SNR=18
BR131 Keskin Array S 77.74 308 P **P 10 37 02.3 -0.6**
BR131 Keskin Array S 77.74 308 P **P 10 37 02.3 -0.6**
BR131 pmax pmax
comp=Z,19nm,0.8s
BRTR Keskin Array B 77.74 308 P **P 10 37 02.2 -0.6**
comp=Z,12nm,0.8s,baz=130,slow=5.2,SNR=27
BRTR LR LR 11 14 52.3
comp=Z,117nm,19.4s,baz=116,slow=38
comp=Z,12nm,0.8s
BR104 Keskin Array S 77.74 308 P **P 10 37 02.5 -0.4**
comp=Z,172nmcomp=Z,25nm,0.9s
BR106 Keskin Array S 77.75 308 P **P 10 37 02.5 -0.5**
comp=Z,113nmcomp=Z,8.0nm,0.8s
BR105 Keskin Array S 77.76 308 P **P 10 37 02.6 -0.4**
comp=Z,136nmcomp=Z,18nm,0.9s
G26K Porcupine Rive 77.80 24 P **P 10 37 03.6 +1.2**
baz=282
PAX Paxson 77.86 28 P **P 10 37 03.5 +0.5**
baz=281,SNR=22
KLU Klutina 77.93 29 IAmb IAmb 10 37 06.5
comp=Z,26nm,0.7s
KLU Klutina 77.93 29 P **P 10 37 03.5 +0.1**
baz=281,SNR=14
KTK1 Kautokeino 77.97 339 *eP* **P 10 37 03.0 -0.3**
KTK1 IAmb IAmb 10 37 07.3
comp=Z,117nm,1.6s
RIDG Independent Ri 77.99 27 IAmb IAmb 10 37 07.6
comp=Z,72nm,1.0s
RIDG Independent Ri 77.99 27 P **P 10 37 03.4 -0.3**
baz=281,SNR=52
DIV Divide 78.07 30 IAmb IAmb 10 37 07.5
comp=Z,30nm,0.8s
KBS Kingsbay 78.10 349 *eP* **P 10 37 05.6 +1.6**
KBS Kingsbay 78.10 349 *i* P **P 10 37 05.4 +1.4**
HARP HAARP 78.11 28 P **P 10 37 05.0 +0.7**
baz=281,SNR=9.1
EYAK Cordova Ski Ar 78.19 30 P **P 10 37 05.4 +0.6**
baz=281
SCRK Sand Creek 78.32 27 P **P 10 37 05.4 -0.2**
baz=282,SNR=23
D27M Malcolm River 78.33 21 IAmb IAmb 10 37 09.2
comp=Z,25nm,0.8s
D27M Malcolm River 78.33 21 P **P 10 37 06.5 +1.0**
baz=284,SNR=37
ANTO Ankara 78.35 308 P **P 10 37 04.8 -1.4**
ANTO IAmb IAmb 10 37 07.7
comp=Z,102nm,1.4s
ANTO Ankara 78.35 308 P **P 10 37 06.6 +0.4**
ANTO Ankara 78.35 308 ⇑P **P 10 37 06.4 +0.2**
ANTO Ankara 78.35 308 P **P 10 37 04.8 -1.4**
ANTO pmax pmax
comp=Z,103nm,1.4s
ANTO Ankara 78.35 308 P **P 10 37 05.2 -1.0**
comp=Z,32nm,1.1s
FIA1 FINESS Array S 78.38 331 P **P 10 37 05.4 -0.3**
FINES FINESS Array B 78.38 331 P **P 10 37 05.2 -0.5**
comp=Z,25nm,0.5s,baz=72,slow=4.6,SNR=83
FINES LR LR 11 14 02.0
comp=Z,379nm,18.1s,baz=96,slow=37
comp=Z,25nm,0.5s
I26K Coal Creek Min 78.39 25 P **P 10 37 06.0 +0.2**
baz=282
J26L Joseph Creek 78.39 26 P **P 10 37 05.8 -0.1**
baz=282,SNR=14
N25K Chitina, Valde 78.53 29 P **P 10 37 07.4 +0.6**
baz=282,SNR=13
EIL Elat 78.60 298 LR LR 11 15 45.6
comp=Z,136nm,18.9s,baz=74,slow=38
G27K Doyon Strip 78.65 24 P **P 10 37 08.2 +1.0**
baz=283
MENT Mentasta 78.65 28 IAmb IAmb 10 37 10.8
comp=Z,19nm,0.6s
VSU Vasula 78.66 328 *ce*P **P 10 37 06.3 -1.0**
VSU pmax pmax
comp=Z,229nm,1.0s
VSU Vasula 78.66 328 *eP* **P 10 37 06.5 -0.8**
BMRM Bremner River 78.66 30 P **P 10 37 08.7 +0.4**
baz=282
AK09 Malin Array Si 78.75 320 P **P 10 37 07.0 -1.0**
RAGM Ragged Mountai 78.75 30 IAmb IAmb 10 37 11.3
comp=Z,56nm,1.1s
AK08 Malin Array Si 78.76 320 P **P 10 37 07.0 -1.1**
AKASG Malin Array Be 78.77 320 P **P 10 37 07.3 -0.8**
AKASG IAmb IAmb 10 37 09.7
comp=Z,41nm,1.2s
AKASG Malin Array Be 78.77 320 P **P 10 37 07.0 -1.1**
comp=Z,30nm,1.0s,baz=65,slow=5.6,SNR=57
AKASG LR LR 11 12 25.6
comp=Z,456nm,20.3s,baz=80,slow=36
comp=Z,30nm,1.0s
AKASG Malin Array Be 78.77 320 P **P 10 37 07.3 -0.8**
AKASG pmax pmax
comp=Z,41nm,1.2s
AKBB Malin Array Si 78.77 320 P **P 10 37 06.9 -1.2**
AKBB IAmb IAmb 10 37 09.3
comp=Z,52nm,1.1s
AKBB Malin Array Si 78.77 320 P **P 10 37 06.9 -1.2**
AKBB pmax pmax
comp=Z,52nm,1.1s
AK10 Malin Array Si 78.77 319 P **P 10 37 06.8 -1.3**
KIEV Kiev 78.78 320 P **P 10 37 06.8 -1.4**
KIEV IAmb IAmb 10 37 09.4
comp=Z,46nm,1.1s
KIEV Kiev 78.78 320 ⇑P **P 10 37 07.4 -0.7**
KIEV Kiev 78.78 320 P **P 10 37 06.8 -1.4**
KIEV pmax pmax
comp=Z,47nm,1.1s
KIEV Kiev 78.78 320 *i* P **P 10 37 06.9 -1.3**
SNR=22
KEF Keuruu 78.79 332 *eP* **P 10 37 07.3 -0.7**

JETT	Jettan, Norway	78.82	339	eP		P	10 37 08.5 +0.4
MNK	Minsk	78.83	324	i P		P	10 37 05.9 -2.4
MNK				i *PP		pP	10 37 43.0 -0.9
MNK				i *SP		sP	10 37 59.1 -0.1
MNK				i			10 40 06.9
MNK				i PPP		PPP	10 41 55.6
MNK				i S		S	10 46 50.6 -3.8
MNK				i *SS		sS	10 47 59.9 +5.5
MNK				i SS		SS	10 52 02.0 +0.3
MNK				i SSS		SSS	10 55 27.1
MNK				pmax		pmax	
	comp=E,16nm,0.7s						
MNK				pmax		pmax	
	comp=Z,53nm,0.8s						
MNK				pmax		pmax	
	comp=N,45nm,1.1s						
MNK				MLR		MLR	
	comp=E,238nm,24.0s						
MNK				MLR		MLR	
	comp=Z,239nm,16.0s						
MNK				MLR		MLR	
	comp=N,184nm,16.0s						
H27K	Steamboat Moun	78.83	24	P		P	10 37 09.4 +1.2
	baz=284						
ARBE	Arbavere	78.84	329	eP		P	10 37 08.5 +0.2
AK22	Malin Array Si	78.85	320	P		P	10 37 07.3 -1.2
AK14	Malin Array Si	78.85	320	P		P	10 37 07.3 -1.3
CSS	Mathiatis	78.88	303	P		P	10 37 09.7 +0.6
	comp=N,197nm,1.0s						
GLB	Gilahina Butte	78.94	29	IAmb		IAmb	10 37 12.3
	comp=Z,30nm,0.8s						
I27K	Kandik River	78.95	25	P		P	10 37 10.0 +1.1
	baz=284						
KAIM	Kayak Island	78.97	31	P		P	10 37 10.1 +1.1
	baz=282						
E28M	Babbage River	78.99	22	P		P	10 37 09.7 +0.7
	baz=285						
D28M	Stokes Point	79.08	21	P		P	10 37 10.1 +0.7
	baz=286						
M26K	Nabesna, AK	79.10	28	P		P	10 37 10.5 +0.7
	baz=283						
F28M	Old Crow	79.12	23	P		P	10 37 10.4 +0.6
	baz=285,SNR=30						
TRO	Tromso	79.30	340	eP		P	10 37 10.8 +0.2
TRO				IAmb		IAmb	10 37 13.1
	comp=Z,1μm,3.2s						
EGAK	Eagle	79.33	26	P		P	10 37 11.0 +0.1
	baz=284,SNR=12						
NACGM	Naroch	79.37	324	⇑i P		P	10 37 11.3 0.0
	baz=78						
MEF	Metsahovi	79.45	330	eP		P	10 37 11.9 +0.3
L27K	Beaver Creek,	79.47	27	P		P	10 37 12.7 +1.0
	baz=284						
BCAR	Beaver Creek A	79.48	27	P		P	10 37 12.2 +0.4
VAF	Ylistaro	79.58	333	eP		P	10 37 12.0 -0.2
IIGN	Ignalina	79.59	325	eP		P	10 37 13.0 +0.6
M27K	Edge Creek, AK	79.61	28	P		P	10 37 13.4 +0.8
	baz=284						
E29M	Blow River	79.63	22	P		P	10 37 12.8 +0.3
	baz=286						
I28M	Miner Creek	79.66	25	P		P	10 37 13.7 +0.8
	baz=285						
MI28	MI28,Pidlybu	79.69	320	P		P	10 37 11.9 -1.2
	comp=Z,991nm,1.2s						
MILM	Milestii Mici	79.80	316	⇓P		P	10 37 13.5 -0.3
MILM	Milestii Mici	79.80	316	P		P	10 37 13.4 -0.3
SORM	Soroca	79.85	317	⇑P		P	10 37 13.0 -1.0
SORM	Soroca	79.85	317	P		P	10 37 12.9 -1.0
SORM	Soroca	79.85	317	P		P	10 37 12.5 -1.5
	comp=Z,67nm,1.2s						
ABPO	Ambohimpanom	79.99	247	P		P	10 37 15.3 -0.2
ABPO	Ambohimpanom	79.99	247	P		P	10 37 15.3 -0.2
ABPO				pmax		pmax	
	comp=Z,13nm,1.0s						
G29M	Pine Creek	80.01	23	P		P	10 37 15.1 +0.5
	baz=287						
BVCY	Beaver Creek	80.06	28	P		P	10 37 16.0 +1.1
	baz=285,SNR=11						
H29M	Whitestone	80.07	24	P		P	10 37 15.4 +0.5
	baz=286						
MTSE	Matsula	80.09	328	eP		P	10 37 15.4 +0.4
BORA	Eskisehir	80.11	309	IAmb		IAmb	10 37 16.9
	comp=Z,131nm,1.6s						
MESA	MESA	80.12	30	P		P	10 37 16.4 +0.9
	baz=284						
TLCR		80.16	314	⇓P		P	10 37 16.0 +0.3
TLCR		80.16	314	P		P	10 37 16.0 +0.3
DAWY	Dawson	80.26	26	P		P	10 37 16.8 +0.8
	baz=286,SNR=22						
I29M	Ogilvie Camp,	80.34	25	P		P	10 37 16.8 +0.4
	baz=287,SNR=9.0						
YUK3	Moose Creek	80.41	28	P		P	10 37 17.6 +0.6
	baz=285,SNR=8.5						
ISP	Isparta	80.50	307	IAmb		IAmb	10 37 19.2
	comp=Z,77nm,0.9s						
RAF	Rauma	80.51	331	eP		P	10 37 17.4 +0.1
TPGR	Topolog	80.51	314	⇑P		P	10 37 17.8 +0.1
VLDR	Vladesti	80.52	315	⇓P		P	10 37 17.6 -0.1
NOR	Nord	80.57	354	i P		P	10 37 15.9 -1.4
NOR				IAmb		IAmb	10 37 19.1
	comp=Z,19nm,1.0s						
TIRR	Tirgusor	80.60	314	IAmb		IAmb	10 37 20.1
	comp=Z,40nm,1.0s						
TIRR	Tirgusor	80.60	314	⇓P		P	10 37 17.9 -0.3
TIRR	Tirgusor	80.60	314	P		P	10 37 17.8 -0.3
F30M	Barrier River	80.62	22	P		P	10 37 18.2 +0.3
	baz=289						
CFR	Carcaliu	80.63	314	⇓P		P	10 37 18.1 -0.2
CFR	Carcaliu	80.63	314	P		P	10 37 18.0 -0.2
J29N	Klondike Camp	80.64	26	IAmb		IAmb	10 37 22.1
	comp=Z,25nm,0.8s						
J29N	Klondike Camp	80.64	26	P		P	10 37 19.2 +1.1
	baz=287,SNR=23						
G30M	tAoh Zraii Nji	80.66	23	P		P	10 37 17.9 -0.2
	baz=288						
EPYK	Eagle Plains	80.67	23	P		P	10 37 18.0 -0.1
	baz=288,SNR=11						
RNPP9	Sopachiv	80.67	321	P		P	10 37 17.2 -1.1
VSVD	Vaisvydziai	80.70	326	eP		P	10 37 18.6 +0.2
RNPP5	Staryi Chortor	80.72	321	P		P	10 37 16.7 -1.9
YLV	Yalova	80.77	310	P		P	10 37 18.5 -0.7
	comp=Z,94nm,1.1s						
SLCR	Slobozia Conac	80.79	315	⇑P		P	10 37 19.7 +0.6
PABE	Paberze	80.80	325	eP		P	10 37 19.0 +0.1
O28M	Mount Upton	80.80	29	P		P	10 37 20.4 +1.1
	baz=286						
HORU	Horodok	80.85	319	P		P	10 37 18.6 -0.8
TUDR		80.86	315	⇑P		P	10 37 20.8 +1.4
YUK8	Steele Glacier	80.86	29	P		P	10 37 20.2 +0.7
	baz=286						
PCA	Pinnacle	80.96	30	IAmb		IAmb	10 37 23.8
	comp=Z,60nm,1.2s						
PINM	Pinnacle	80.96	30	P		P	10 37 21.0 +1.1
	baz=286						
KMPD	K-Podol'skiy	80.98	318	P		P	10 37 18.8 -1.2
	comp=Z,199μmcomp=Z,23μm,1.1s						
L29M	L29M	81.08	27	P		P	10 37 21.9 +1.5
	baz=287						
STEI	Steigen	81.11	338	eP		P	10 37 19.7 -0.6
STEI				IAmb		IAmb	10 37 23.3
	comp=Z,48nm,0.8s						
ICOR	Ion Corvin	81.11	313	⇑P		P	10 37 21.1 +0.3
K29M	Barlow Dome	81.12	26	P		P	10 37 21.5 +0.9
	baz=288						
M29M	Somme Creek	81.12	28	P		P	10 37 22.0 +1.3
	baz=287						
I30M	Mount Dempster	81.16	25	IAmb		IAmb	10 37 25.4
	comp=Z,21nm,0.7s						
I30M	Mount Dempster	81.16	25	P		P	10 37 21.3 +0.4
	baz=288,SNR=39						
INK	Inuvik	81.19	21	LR		LR	11 16 52.8
	comp=Z,134nm,18.0s,baz=263,slow=38						
INK	Inuvik	81.19	21	P		P	10 37 20.7 -0.1
	baz=290,SNR=31						
FAUS	Fauske	81.28	338	eP		P	10 37 20.5 -0.8
FAUS				IAmb		IAmb	10 37 23.7
	comp=Z,50nm,1.0s						
TESR	Tescani	81.34	316	⇑P		P	10 37 21.8 -0.3
TESR	Tescani	81.34	316	P		P	10 37 21.4 -0.6
	comp=Z,112nm,1.2s						
YUK4	Talbot Arm	81.36	29	P		P	10 37 22.9 +0.8
	baz=287						
J30M	Hart River	81.38	25	P		P	10 37 22.6 +0.5
	baz=289						
VOI	Vohitsoka	81.39	244	P		P	10 37 24.2 +1.4
G31M	Satah River	81.41	23	P		P	10 37 21.6 -0.3
	baz=290,SNR=12						
F31M	Tsiigehtchic	81.42	22	IAmb		IAmb	10 37 24.3
	comp=Z,23nm,0.7s						
F31M	Tsiigehtchic	81.42	22	P		P	10 37 21.8 -0.2
	baz=290,SNR=35						
VRI	Vrincioaia	81.44	315	⇑P		P	10 37 23.4 +0.8
VRI	Vrincioaia	81.44	315	P		P	10 37 23.4 +0.8
VRI	Vrincioaia	81.44	315	P		P	10 37 23.0 +0.4
	comp=Z,2μmcomp=Z,130nm,1.2s						
PLOR	Plostina	81.50	315	⇑P		P	10 37 23.3 +0.3
PLOR	Plostina	81.50	315	P		P	10 37 23.2 +0.3
PLOR3	Plostina Array	81.50	315	P		P	10 37 22.7 -0.2
	comp=Z,48nm,1.0s						
ONER	Baraj Valea Uz	81.55	316	⇓P		P	10 37 23.7 +0.6
YUK6	Outpost Mounta	81.61	29	P		P	10 37 23.9 +0.4
	baz=287						
SUW	Suwalki	81.62	324	eP		P	10 37 23.1 -0.3
SUW	Suwalki	81.62	324	eP		P	10 37 22.9 -0.4
LOF	Lofoten	81.63	339	eP		P	10 37 23.8 +0.7
LOF				IAmb		IAmb	10 37 27.9
	comp=Z,35nm,1.0s						
NEF	NEVSHA	81.68	313	P		P	10 37 23.3 -0.6
O29M	Mount Kennedy	81.70	30	P		P	10 37 24.0 +0.1
	baz=287						
H31M	Peel River	81.77	24	P		P	10 37 23.9 0.0
	baz=290						
BAND	Balkesir-Ban	81.77	310	⇑P		P	10 37 24.3 -0.1
COVR	Voineasa-Covas	81.80	315	⇑P		P	10 37 24.3 -0.2
M30M	Minto, Yukon	81.82	27	P		P	10 37 25.4 +1.1
	baz=288						
MANT	Manisa	81.86	308	IAmb		IAmb	10 37 26.5
	comp=Z,61nm,1.1s						
MAYO	Mayo, Yukon	81.88	26	IAmb		IAmb	10 37 31.4
	comp=Z,29nm,0.7s						
MAYO	Mayo, Yukon	81.88	26	P		P	10 37 25.2 +0.6
	baz=289,SNR=10						
MOR8	Moi Rana	82.02	337	eP		P	10 37 23.7 -1.5
BURAR	Bucovina Array	82.02	317	⇑P		P	10 37 26.0 +0.3
BURAR	Bucovina Array	82.02	317	P		P	10 37 26.0 +0.3
OZUR		82.02	316	⇑P		P	10 37 25.7 0.0
BUR08	Bucovina Ar. S	82.02	317	IAmb		IAmb	10 37 27.9
	comp=Z,24nm,0.8s						
N30M	Aishikik Lake	82.04	28	P		P	10 37 26.7 +1.3
	baz=288						
HYT	Haines Junctio	82.05	29	P		P	10 37 26.8 +1.2
	baz=288						
MLR	Muntele Rosu	82.06	315	IAmb		IAmb	10 37 29.5
	comp=Z,58nm,1.1s						
MLR	Muntele Rosu	82.06	315	⇓P		P	10 37 26.0 0.0
MLR	Muntele Rosu	82.06	315	P		P	10 37 26.0 0.0
MLR	Muntele Rosu	82.06	315	P		P	10 37 25.8 -0.2
	comp=Z,58nm,1.1s						
STNU	Starunia	82.20	318	P		P	10 37 26.2 -0.3
A36M	Sachs Harbour	82.27	17	IAmb		IAmb	10 37 28.6
	comp=Z,23nm,0.7s						
A36M	Sachs Harbour	82.27	17	P		P	10 37 26.2 -0.1
	baz=298,SNR=24						
DOPR	Dopca	82.32	315	⇓P		P	10 37 27.3 +0.1
MORS	Morshin	82.48	319	P		P	10 37 27.7 -0.2
STOK	Stokkvaagen	82.49	337	eP		P	10 37 27.6 0.0
P30M	Million Dollar	82.53	30	P		P	10 37 28.6 +0.6
	baz=289						
LEIR	Leirfjorden	82.54	337	eP		P	10 37 27.0 -0.9
LEIR				IAmb		IAmb	10 37 29.0
	comp=Z,66nm,0.8s						
N31M	Braeburn, Yuko	82.63	28	P		P	10 37 29.1 +0.6
	baz=290						
VOIR		82.69	315	⇓P		P	10 37 28.5 -0.6
VOIR		82.69	315	P		P	10 37 28.5 -0.6
VOIR		82.69	315	P		P	10 37 28.6 -0.6
	comp=Z,16nm,1.1s						
ARCR	ARCALIA	82.72	317	⇑P		P	10 37 30.1 +0.8
O30N	Mendenhall	82.72	29	P		P	10 37 30.2 +1.2
	baz=289						
ELND	Elena	82.75	312	⇓P		P	10 37 29.2 -0.3
SHIU	Shidnytsya	82.79	319	P		P	10 37 29.2 -0.4
HUMR	Humele	82.97	314	⇑P		P	10 37 30.1 -0.5
ARR	Arges	82.99	315	⇑P		P	10 37 30.7 0.0
M31M	Drury Creek, Y	83.00	27	P		P	10 37 31.0 +0.6
	baz=291						
PLBC	Pleasant Camp	83.03	30	P		P	10 37 31.6 +1.0
	baz=289						
KWP	Kalwaria Pacla	83.09	320	eP		P	10 37 30.6 -0.5
BMR	Baia Mare	83.13	318	⇑P		P	10 37 32.0 +0.7
BMR	Baia Mare	83.13	318	P		P	10 37 32.0 +0.7
ALN	Alexandroupoli	83.15	310	IAmb		IAmb	10 37 33.1
	comp=Z,58nm,1.0s						
TNR	Turnu Rosu	83.16	315	⇓P		P	10 37 31.9 +0.4
TNR	Turnu Rosu	83.16	315	P		P	10 37 31.9 +0.4
CJR	Cluj-Napoca	83.32	317	⇓P		P	10 37 33.3 +0.8
CJR	Cluj-Napoca	83.32	317	P		P	10 37 33.2 +0.8
WHY	Whitehorse	83.32	29	IAmb		IAmb	10 37 36.2
	comp=Z,126nm,1.9s						
WHY	Whitehorse	83.32	29	P		P	10 37 33.2 +1.0
	baz=290						
KIBK	Kibwezi	83.42	266	P		P	10 37 34.6 +1.1
MUKU	Mukachevo	83.43	318	P		P	10 37 33.0 +0.2
FARO	Faro, Yukon	83.45	27	P		P	10 37 33.6 +0.9
	baz=292						
RDO	Rodhopi	83.46	311	IAmb		IAmb	10 37 34.7
	comp=Z,97nm,1.3s						
BERU	Beregovo	83.52	318	P		P	10 37 33.4 +0.1
SKAG	Skagway	83.52	30	IAmb		IAmb	10 37 36.6
	comp=Z,31nm,1.1s						
SKAG	Skagway	83.52	30	P		P	10 37 34.4 +1.3
	baz=290						
SKAG	Skagway	83.52	30	P		P	10 37 34.7 +1.7
LOT	Lotru	83.55	315	⇓P		P	10 37 33.8 +0.1
KOLS	Kolonicke sedl	83.56	319	eP		P	10 37 33.3 -0.2
KOLS				pmax		pmax	
	comp=Z,11nm,0.6s						
KOLS	Kolonicke sedl	83.56	319	eP		P	10 37 33.3 -0.2
NSS	Namsos	83.60	336	eP		P	10 37 32.4 -0.9
NSS				IAmb		IAmb	10 37 34.0
	comp=Z,26nm,0.6s						
HOLU	Holmets	83.61	319	P		P	10 37 33.8 +0.1
BEL	Belsk	83.62	322	eP		P	10 37 33.5 -0.2
MARR	Marisel-Cluj	83.65	317	⇓P		P	10 37 34.6 +0.5
KARP	Karpathos	83.67	305	eP		P	10 37 34.6 +0.2
KARP	Karpathos	83.67	305	P		P	10 37 34.1 -0.3
	comp=Z,507nm,1.2s						
KMBO	Kilima Mbogo	83.85	267	P		P	10 37 35.3 -0.6
KMBO	Kilima Mbogo	83.85	267	P		P	10 37 35.3 -0.6
KMBO				pmax		pmax	
	comp=Z,18nm,1.1s						
KMBO	Kilima Mbogo	83.85	267	i P		P	10 37 36.9 +0.9
	SNR=11						
C36M	Paulatuk	83.88	19	IAmb		IAmb	10 37 36.7
	comp=Z,26nm,0.7s						
C36M	Paulatuk	83.88	19	P		P	10 37 34.3 -0.4
	baz=299,SNR=16						
DRGR		83.89	317	⇓P		P	10 37 35.3 0.0
DRGR		83.89	317	P		P	10 37 35.2 0.0
N32M	Quiet Lake	83.97	28	IAmb		IAmb	10 37 39.4
	comp=Z,42nm,1.1s						
N32M	Quiet Lake	83.97	28	P		P	10 37 36.3 +0.9
	baz=292						
BESE	Bessie Mountai	84.06	31	IAmb		IAmb	10 37 40.9
	comp=Z,44nm,1.2s						
STHS	Stebnicka Huta	84.07	320	eP		P	10 37 35.2 -0.9
STHS				pmax		pmax	
	comp=Z,10.0nm,1.1s						
STHS	Stebnicka Huta	84.07	320	eP		P	10 37 35.2 -0.9
PGB	Panagyurishte	84.07	312	P		P	10 37 36.1 -0.2
MPEP	Malo Peshtene	84.15	313	P		P	10 37 36.0 -0.6
SRE	Strehaia	84.15	315	⇓P		P	10 37 38.0 +1.4
SRE	Strehaia	84.15	315	P		P	10 37 38.0 +1.4
GZR	Gura Zlata	84.24	315	⇓P		P	10 37 37.2 0.0
GZR	Gura Zlata	84.24	315	P		P	10 37 37.1 0.0
P32M	Atlin	84.25	29	P		P	10 37 37.9 +1.1
	baz=291						
R32K	Eaglecrest	84.33	31	P		P	10 37 37.7 +0.5
	baz=291						
SIT	Sitka	84.36	32	P		P	10 37 38.1 +0.8
	baz=290						
JIS	Juneau Island	84.40	31	P		P	10 37 39.1 +1.6
P33M	Teslin, Yukon	84.44	29	IAmb		IAmb	10 37 40.2
	comp=Z,71nm,1.6s						
P33M	Teslin, Yukon	84.44	29	P		P	10 37 38.7 +0.9
	baz=292						
LODK	Lodwar	84.45	272	IAmb		IAmb	10 37 42.3
	comp=Z,48nm,1.8s						
LODK	Lodwar	84.45	272	P		P	10 37 41.3 +2.5
	SNR=6.2						
PUNG	Punghina	84.45	314	⇑P		P	10 37 38.7 +0.6
DAG	Danmarks Havn	84.51	351	P		P	10 37 36.7 -1.1
DAG				pmax		pmax	
	comp=Z,67nm,1.2s						
DAG	Danmarks Havn	84.51	351	i P		P	10 37 36.0 -1.8
DAG				IAmb		IAmb	10 37 38.7
	comp=Z,40nm,0.8s						
HFS	Hagfors	84.57	331	P		P	10 37 37.6 -0.7
	comp=Z,22nm,0.5s,baz=76,slow=6.3,SNR=78						
HFS				pP		pP	10 38 13.3 -1.1
	comp=Z,7.5nm,0.7s,baz=359,slow=6.4,SNR=2.8						
HFS				PKKPbc		PKKPbc	10 55 47.5 -2.5
	comp=Z,1.5nm,0.6s,baz=190,slow=4.5,SNR=5.6						
HFS				LR		LR	11 17 43.2
	comp=Z,243nm,19.9s,baz=85,slow=37						
	comp=Z,22nm,0.5s						
SURR	Surduc	84.57	316	⇓P		P	10 37 38.7 0.0
S32K	Killisnoo	84.59	32	P		P	10 37 39.7 +1.2
	baz=291						
HERR	Herculane	84.63	315	⇑P		P	10 37 38.8 -0.1
MMB	Musomishta	84.64	312	P		P	10 37 38.7 -0.5
NIE	Niedzica	84.65	320	eP		P	10 37 39.9 +0.8
VTS	Vitosha	84.71	313	P		P	10 37 39.1 -0.5
OJC	Ojcow	84.71	321	eP		P	10 37 39.3 0.0
OJC	Ojcow	84.71	321	IAmb		IAmb	10 37 41.7
	comp=Z,60nm,0.9s						
SIRR	Siria	84.73	317	⇑P		P	10 37 39.9 +0.4
TBLU	Trondheim	84.81	335	eP		P	10 37 38.9 -0.6
TBLU				IAmb		IAmb	10 37 40.3
	comp=Z,69nm,0.8s						
KECS	Kecovo	84.83	319	eP		P	10 37 39.9 0.0
KECS				pmax		pmax	
	comp=Z,57nm,0.9s						
KECS	Kecovo	84.83	319	eP		P	10 37 39.9 0.0
BLEU	Blekinge	84.93	327	i P		P	10 37 38.2 -2.0
BLEU				IAmb		IAmb	10 37 41.1
	comp=Z,13nm,0.8s						
BZS	Buzias	84.95	316	⇑P		P	10 37 40.0 -0.6
BZS	Buzias	84.95	316	P		P	10 37 40.0 -0.6
KKB	Krupnik	85.01	312	P		P	10 37 40.0 -1.0
MDVR	Moldovita	85.14	315	⇓P		P	10 37 41.4 -0.2
Q32M	Nakina River	85.17	30	P		P	10 37 42.8 +1.1
	baz=293						
PEHC	Pehcevo	85.19	312	i P		P	10 37 41.6 -0.4
GKP	Gorka Klasztor	85.22	324	eP		P	10 37 42.5 +0.8
LANS	Liptovska Anna	85.25	320	eP		P	10 37 43.3 +1.2
LANS				pmax		pmax	
	comp=Z,20nm,1.1s						
LANS	Liptovska Anna	85.25	320	eP		P	10 37 43.3 +1.2
NC602	NORSAR Array S	85.31	332	IAmb		IAmb	10 37 43.3
	comp=Z,51nm,1.1s						
NC602	NORSAR Array S	85.31	332	eP		P	10 37 41.2 -0.8
NC602				IAmb		IAmb	10 37 42.4
	comp=Z,41nm,0.9s						
NB2	NORSAR Subarra	85.33	333	P		P	10 37 41.1 -1.1
	comp=Z,80nm,0.9s,baz=66,slow=4.8						
NB2	NORSAR Subarra	85.33	333	P		P	10 37 41.1 -1.1
	baz=66,slow=4.8						
NOA	NORSAR Array B	85.33	333	P		P	10 37 41.1 -1.1
	comp=Z,38nm,0.7s,baz=67,slow=4.9,SNR=100						
NOA				LR		LR	11 17 31.3
	comp=Z,180nm,21.9s,baz=60,slow=37						
	comp=Z,38nm,0.7s						
PSZ	Piszkesteto	85.38	318	IAmb		IAmb	10 37 45.1
	comp=Z,58nm,1.1s						
PSZ	Piszkesteto	85.38	318	⇑P		P	10 37 43.0 +0.2
PSZ	Piszkesteto	85.38	318	P		P	10 37 42.9 +0.2
PSZ	Piszkesteto	85.38	318	eP		P	10 37 42.7 -0.1
BOVS	Bovan	85.48	314	⇑P		P	10 37 42.9 -0.4
NBO00	NORSAR Array S	85.53	333	P		P	10 37 42.5 -0.7
NBO00				IAmb		IAmb	10 37 44.5
	comp=Z,53nm,0.9s						
VAY	Valandovo	85.56	312	i P		P	10 37 43.1 -0.6
NAO01	NORSAR Array S	85.56	332	IAmb		IAmb	10 37 44.5
	comp=Z,64nm,0.8s						
R33M	Jennings River	85.62	29	IAmb		IAmb	10 37 46.7
	comp=Z,64nm,1.6s						
R33M	Jennings River	85.62	29	P		P	10 37 45.3 +1.5
	baz=294						
DOMB	Dombas	85.84	334	eP		P	10 37 44.5 -0.2
BSD	Bornholm Skovb	85.84	326	i P		P	10 37 44.0 -0.7
BSD				IAmb		IAmb	10 37 46.3
	comp=Z,25nm,0.6s						
VYHS	Vyhne	85.86	319	eP		P	10 37 45.3 +0.2
VYHS				pmax		pmax	
	comp=Z,52nm,1.4s						
VYHS	Vyhne	85.86	319	eP		P	10 37 45.3 +0.2
DEL	Delary	85.88	328	i P		P	10 37 44.3 -0.6
BORU	Boraas	85.98	329	i P		P	10 37 45.0 -0.4
OSL	Oslo	86.01	332	eP		P	10 37 45.3 -0.2
STEB	Steborice	86.04	321	eP		P	10 37 46.1 +0.2
CRAG	Craig	86.08	33	P		P	10 37 47.6 +1.7
	baz=292						
S34M	Telegraph Cree	86.14	31	P		P	10 37 47.5 +1.4
	baz=294						
MAUC	Maruska	86.20	320	eP		P	10 37 47.3 +0.6
MOL	Molde	86.23	335	eP		P	10 37 47.4 +0.9
MORC	Moravsky Berou	86.23	321	IAmb		IAmb	10 37 49.5
	comp=Z,64nm,1.4s						
MORC	Moravsky Berou	86.23	321	eP		P	10 37 46.7 -0.2
MORC	Moravsky Berou	86.23	321	⇓P		P	10 37 46.8 -0.2
MORC	Moravsky Berou	86.23	321	P		P	10 37 46.7 -0.2
FABU	Falkenberg	86.26	329	i P		P	10 37 45.9 -0.9
WTLY	Watson Lake, Y	86.32	28	IAmb		IAmb	10 37 51.0
	comp=Z,33nm,0.8s						
WTLY	Watson Lake, Y	86.32	28	P		P	10 37 48.2 +1.1
	baz=296						
RAR	Rarotonga	86.36	113	LR		LR	11 10 09.8
	comp=Z,86nm,21.6s,baz=279,slow=31						
SRO	Srobarova	86.42	319	eP		P	10 37 49.3 +1.6
SRO				pmax		pmax	
	comp=Z,46nm,1.0s						
SRO	Srobarova	86.42	319	eP		P	10 37 49.3 +1.6
LUNU	Lund	86.42	327	i P		P	10 37 46.3 -1.2
DLBC	Dease Lake	86.45	30	IAmb		IAmb	10 37 50.7
	comp=Z,39nm,1.4s						
DLBC	Dease Lake	86.45	30	P		P	10 37 49.2 +1.4
	baz=295						
BJUU	Bjuv	86.47	328	i P		P	10 37 47.0 -0.8
JAVC	Velka Javorina	86.47	320	eP		P	10 37 49.2 +1.1
ONAU	Onsala	86.50	329	i P		P	10 37 47.6 -0.3
FNA

RONA Rosalia, Austr 87.73 319 eP P 10 37 54.1 -0.1
comp=Z,8.1nm,0.8s
GOPC GO Pecny, Ondr 87.85 321 eP P 10 37 56.1 +1.4
GOPC GO Pecny, Ondr 87.85 321 eP P 10 37 56.1 +1.4
ODD1 Odda 87.87 333 eP P 10 37 54.8 +0.2
CONA Conrad Observa 87.92 319 eP P 10 37 55.3 +0.2
comp=Z,19nm,1.3s,SNR=9.3
PRU Pruhonice 87.97 322 eP P 10 37 56.6 +1.4
PRU Pruhonice 87.97 322 eP P 10 37 56.6 +1.4
BRG Berggiesshubel 87.99 323 i P P 10 37 55.1 -0.1
BRG Amp 10 37 55.8
comp=Z,10nm,1.0s
BRG Berggiesshubel 87.99 323 P P 10 38 01.3 +6.1
BRG Amp 10 38 01.8
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 87.99 323 Amp 10 39 57.5
comp=Z,3.6nm,0.7s
BLS5 Blasjo 88.18 332 eP P 10 37 55.6 -0.4
BLS5 IAmb IAmb 10 37 57.8
comp=Z,332nm,2.0s
CLL Collm 88.36 323 IAmb IAmb 10 37 58.7
comp=Z,14nm,0.8s
CLL Collm 88.36 323 eP P 10 37 54.0 -3.0
CLL pmax pmax
comp=Z,18nm,0.8s
CLL MLR MLR
comp=Z,300nm,19.5s
CLL Collm 88.36 323 P P 10 37 55.9 -1.1
comp=Z,23nm,1.0s
ARSA Arzberg 88.39 319 eP P 10 37 56.9 -0.4
comp=Z,8.5nm,0.9s
ZVC Zvikov 88.39 321 eP P 10 37 57.3 +0.1
GRNB Grenville Isla 88.41 34 IAmb IAmb 10 38 01.1
comp=Z,23nm,1.0s
KOTAN Kotaneelee Air 88.42 27 P P 10 37 57.6 +0.6
baz=300
TOAD Toad River Com 88.51 28 P P 10 37 58.6 +1.0
baz=299
CKRC Cesky Krumlov 88.55 321 eP P 10 37 58.4 +0.4
CKRC Cesky Krumlov 88.55 321 eP P 10 37 58.4 +0.4
KHC Kasperske Hory 88.88 321 eP P 10 37 59.6 +0.1
KHC Kasperske Hory 88.88 321 eP P 10 37 59.7 +0.2
KHC pmax pmax
comp=Z,40nm,1.3s
KHC Kasperske Hory 88.88 321 P P 10 37 58.9 -0.6
comp=Z,14nm,1.4s
SOKA Soboth 88.91 318 eP P 10 37 59.4 -0.4
comp=Z,22nm,1.4s
GEC2 GERESS Array S 88.91 321 IAmb IAmb 10 38 01.4
comp=Z,18nm,0.9s
GERES GERESS Array B 88.91 321 P P 10 37 59.0 -0.8
GERES GERESS Array B 88.91 321 P P 10 37 59.5 -0.3
comp=Z,7.3nm,0.6s,baz=49,slow=6.1,SNR=33
GERES pP pP 10 38 36.9 +0.7
comp=Z,3.7nm,0.8s,baz=92,slow=3.1,SNR=3.3
GERES LR LR 11 18 40.8
comp=Z,374nm,18.3s,baz=85,slow=36
comp=Z,7.3nm,0.6s
MOA Molln 88.95 320 i P P 10 37 59.9 0.0
comp=Z,53nm,1.3s,SNR=17
CRES Cresnjevec Ost 88.95 318 eP P 10 37 59.7 -0.2
OBKA Obir 89.28 318 eP P 10 38 01.0 -0.5
comp=Z,8.9nm,1.0s
BIOA Bad Ischl, Aus 89.40 320 eP P 10 38 01.4 -0.6
comp=Z,30nm,1.1s,SNR=6.5
MOX Moxa 89.43 323 P P 10 38 02.2 +0.1
MOX pmax pmax
comp=Z,13nm,1.4s
KULLO Kullorsuaq 89.80 359 i P P 10 38 02.1 -1.2
KULLO IAmb IAmb 10 38 05.3
comp=Z,22nm,0.9s
KBA Koelnbreinsper 89.83 319 eP P 10 38 03.3 -0.9
comp=Z,31nm,1.4s
VOJS Vojsko 89.89 318 i P P 10 38 03.6 -0.8
CADS Cadrg 89.91 318 eP P 10 38 03.1 -1.3
MBAR Mbarara 89.98 269 P P 10 38 04.5 -1.0
MBAR Mbarara 89.98 269 P P 10 38 06.9 +1.4
MBAR Mbarara 89.98 269 P P 10 38 04.5 -1.0
MBAR pmax pmax
comp=Z,6.0nm,0.9s
GRF Grafenberg Arr 90.06 322 eP P 10 38 05.2 +0.2
comp=Z,27nm,1.0s,baz=65,slow=4.2
SCO Scoresbysund 90.10 348 IAmb IAmb 10 41 29.0
comp=Z,49nm,1.7s
LESA Schwarzleotal 90.11 320 eP P 10 38 04.7 -0.7
comp=Z,19nm,1.1s,SNR=11
TIP Timpagrande 90.46 311 IAmb IAmb 10 38 09.3
comp=Z,54nm,1.1s
TIP Timpagrande 90.46 311 ⇓P P 10 38 07.7 +0.5
TIP Timpagrande 90.46 311 P P 10 38 06.6 -0.6
comp=Z,37nm,1.2s
ABTA Abfaltersbach 90.48 319 eP P 10 38 06.2 -0.9
comp=Z,38nm,1.4s,SNR=7.7
SUMG Summit 90.72 354 i P P 10 38 06.9 -1.2
SUMG IAmb IAmb 10 38 10.7
comp=Z,23nm,1.0s
WTTA Wattenberg 90.82 320 eP P 10 38 08.2 -0.6
comp=Z,63nm,0.7s,SNR=18
WATA Walderalm 90.83 320 eP P 10 38 08.0 -0.8
comp=Z,70nm,1.4s,SNR=14
CUC Castrocucco 90.85 312 IAmb IAmb 10 38 09.2
comp=Z,53nm,1.3s
YKA Yellowknife Ar 90.90 22 P P 10 38 08.9 +0.4
comp=Z,13nm,0.7s,baz=308,slow=4.4,SNR=145
YKA pP pP 10 38 45.9 +0.7
comp=Z,1.5nm,0.6s,baz=307,slow=4.3,SNR=2.0
YKA PKKPbc PKKPdf 10 55 31.9 +2.1
comp=Z,1.1nm,0.8s,baz=139,slow=2.6,SNR=14
comp=Z,13nm,0.7s
SQTA Sankt Quirin 91.10 320 eP P 10 38 09.5 -0.5
comp=Z,58nm,0.7s,SNR=20
MOTA Moosalm 91.11 320 i P P 10 38 09.4 -0.7
comp=Z,60nm,1.0s
RETA Reutte 91.26 320 eP P 10 38 10.0 -0.7
comp=Z,20nm,1.4s
CEL Celeste 91.42 310 P P 10 38 11.7 +0.1
comp=Z,142nm,1.6s
INTR Introdacqua 91.43 314 IAmb IAmb 10 38 12.6
comp=Z,32nm,1.1s
FETA Feichten 91.48 320 eP P 10 38 11.5 -0.4
comp=Z,70nm,1.0s,SNR=21
DAVA Damuels 91.89 320 eP P 10 38 13.6 -0.2
comp=Z,39nm,1.2s,SNR=7.8
DAVOX Davos/Dischmat 92.11 320 LR LR 11 20 45.1
comp=Z,541nm,20.1s,baz=70,slow=36
TUE Stuetta 92.58 320 P P 10 38 16.4 -0.5
TUE Stuetta 92.58 320 P P 10 38 16.9 -0.1
NUUG Nuugaatsiaq 92.77 358 i P P 10 38 17.4 +0.4
NUUG IAmb IAmb 10 38 20.6
comp=Z,39nm,1.3s
MAW Mawson 93.03 199 LR LR 11 16 32.2
comp=Z,90nm,21.0s,baz=212,slow=33
ECH Echery 93.11 322 IAmb IAmb 10 38 20.3
comp=Z,11nm,0.9s
UMMG Uummannaq 93.59 358 i P P 10 38 20.7 -0.1
UMMG IAmb IAmb 10 38 22.8
comp=Z,42nm,1.4s
LLLB Lilloet 94.32 34 IAmb IAmb 10 38 26.5
comp=Z,10nm,0.9s
PPT Papeete 94.55 107 LR LR 11 10 45.5
comp=Z,105nm,21.9s,baz=294,slow=29
PPT2 Papeete2 94.55 107 eP P 10 38 29.0 +2.6
comp=Z,93nm,27.2s
PPT2 Papeete2 94.55 107 ePP PP 10 42 15.5 -0.8
comp=Z,88nm,29.0s
PPT2 eS S 10 49 21.0 -6.3
comp=Z,173nm,24.2s
PPT2 Papeete2 94.55 107 eLR LR 11 08 48.7
comp=Z,385nm,28.2s
PPT2 eLR LR 11 08 50.1
comp=Z,258nm,31.5s
BORG Borgarnes 94.61 345 LR LR 11 28 23.9
comp=Z,116nm,18.1s,baz=80,slow=40
LPL La Plagne 94.63 320 eP P 10 38 26.3 -0.2
LPL pmax pmax
comp=Z,34nm,0.8s
EKA Eskdalemuir Ar 94.77 332 P P 10 38 26.1 -0.5
comp=Z,1.4nm,0.6s,baz=83,slow=4.4,SNR=5.4
comp=Z,1.4nm,0.6s
BNI Bardonecchia 94.89 319 IAmb IAmb 10 38 34.9
comp=Z,17nm,0.9s
GNW Green Mountain 95.34 37 IAmb IAmb 10 38 34.2
comp=Z,12nm,1.1s
SSF Saint Saulge 95.83 322 eP P 10 38 31.0 -0.6
SSF pmax pmax
comp=Z,27nm,1.6s
POGA Pongola 96.11 243 IAmb IAmb 10 38 34.8
comp=Z,20nm,1.0s
TBI Tubuai 96.12 112 eP P 10 38 29.4 -3.9
comp=Z,467nm,39.0s
TBI Tubuai 96.12 112 eS S 10 49 40.7 +0.2
comp=Z,824nm,26.8s
TBI Tubuai 96.12 112 eLQ LQ 11 05 45.3
comp=Z,3μm,33.0s
TBI eLR LR 11 09 41.0
comp=Z,2μm,30.2s
VNDA Vanda 96.14 172 P P 10 38 32.0 -0.2
comp=Z,3.6nm,0.9s,baz=333,slow=5.3,SNR=3.7
comp=Z,3.6nm,0.9s
LSZ Lusaka 96.26 256 P P 10 38 33.5 -0.8
LSZ IAmb IAmb 10 38 35.5
comp=Z,8.1nm,1.1s
LSZ Lusaka 96.26 256 LR LR 11 19 32.3
comp=Z,84nm,18.4s,baz=76,slow=34
LSZ Lusaka 96.26 256 P P 10 38 33.5 -0.8
LSZ pmax pmax
comp=Z,8.0nm,1.1s
B08A Colville Reser 96.92 36 P P 10 38 36.2 -0.4
B08A IAmb IAmb 10 38 40.2
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 97.18 357 i P P 10 38 35.9 -1.4
MXC Moxie City 97.33 37 IAmb IAmb 10 38 42.4
comp=Z,24nm,1.7s
E07A Sunnyside 97.59 37 IAmb IAmb 10 38 43.7
comp=Z,18nm,1.5s
C09A Chrisman Ranch 97.82 36 IAmb IAmb 10 38 44.2
comp=Z,5.7nm,0.7s
D08A Wollman Farm, 97.86 36 IAmb IAmb 10 38 44.4
comp=Z,6.1nm,0.7s
NEW Newport 98.20 35 IAmb IAmb 10 38 45.9
comp=Z,8.4nm,0.8s
PINE Pine Mountain 98.40 40 IAmb IAmb 10 38 47.7
comp=Z,6.9nm,0.8s
J05D Fort Rock, OR 98.48 41 P P 10 38 43.5 -0.4
J05D IAmb IAmb 10 38 47.7
comp=Z,5.4nm,0.7s
LFF La Frestale 98.58 321 eP P 10 38 43.6 -0.5
LFF pmax pmax
comp=Z,26nm,1.4s
BMO Blue Mountains 100.02 38 IAmb IAmb 10 39 17.7
comp=Z,9.6nm,1.6s
FFC Flin Flon 101.01 24 Pdif Pdif 10 38 54.8 +0.2
FFC Flin Flon 101.01 24 P Pdif 10 38 54.8 +0.2
TAOE Nuku Hiva Isla 101.26 96 eS Sdif 10 50 26.0 +1.5
comp=Z,129nm,26.8s
TAOE Nuku Hiva Isla 101.26 96 eLR LR 11 12 09.1
comp=Z,270nm,30.4s
NVAR Mina Array Bea 102.92 44 Pdiff Pdif 10 39 04.7 +0.9
comp=Z,0.9nm,0.6s,baz=307,slow=5.4,SNR=6.1
NVAR PKKPbc PKKPbc 10 55 01.1 -0.5
comp=Z,0.7nm,0.6s,baz=142,slow=3.7,SNR=6.9
MVO Moncorvo 105.41 322 ePP PP 10 43 36.6 -0.7
PDAR Pinedale Array 105.75 36 PKKPbc PKKPbc 10 54 51.9 -1.5
comp=Z,0.7nm,0.5s,baz=126,slow=5.2,SNR=9.1
PDAR PKKPab PKKPab 10 55 08.8 -2.9
comp=Z,2.5nm,1.0s,baz=114,slow=3.7,SNR=9.1
PMRV Marv??o 106.69 320 ePP PP 10 43 47.6 +1.0
ULM Lac du Bonnet 106.84 23 PKKPbc PKKPbc 10 54 48.1 -1.9
comp=Z,0.6nm,0.5s,baz=162,slow=2.2,SNR=3.6
PBAR Barrancos 107.23 319 ePP PP 10 43 51.4 +0.8
PMTG Montargil 107.42 320 ePP PP 10 43 53.3 +1.4
PBEJ Beja 107.84 319 ePP PP 10 43 58.5 +3.5
SCHQ Schefferville 109.36 5 PKiKP PKiKP 10 43 34.5 -0.1
comp=Z,1.2nm,0.6s,baz=225,slow=0.8,SNR=6.6
NVL N'lazarevskaya 110.96 200 i PKiKP PKiKP 10 43 38.0 +1.1
NVL pmax pmax
comp=Z,11nm,0.9s
T25A Trinidad 112.44 38 P PKiKP 10 43 41.6 +0.4
baz=313
TORD Torodi Ar. Bea 113.04 292 PKiKP PKiKP 10 43 41.7 -0.9
comp=Z,2.2nm,0.8s,baz=19,slow=2.0,SNR=11
TROLL Troll, Antarti 113.44 197 PKPdf PKiKP 10 43 42.4 +0.6
TROLL Troll, Antarti 113.44 197 ⇑PKPdf PKiKP 10 43 42.4 +0.6
comp=Z,492nm,0.8s
SNAA Sanae 115.11 197 PKPdf PKPdf 10 43 45.5 +0.5
SNAA Sanae 115.11 197 ⇑PKPdf PKPdf 10 43 45.5 +0.5
comp=Z,73nm,0.8s
BELA Belgrano 2 116.70 186 PKPdf 10 43 47.5 -0.3
VNA2 Neumayer--Watz 116.76 197 PKPdf PKiKP 10 43 48.5 +0.5
baz=119,slow=2.1
VNA2 Neumayer--Watz 116.76 197 ⇑PKPdf PKiKP 10 43 48.5 +0.5
comp=Z,22nm,0.7s,baz=119,slow=2.1
VNA1 Neumayer--Stat 117.15 197 PKPdf PKiKP 10 43 49.8 +0.9
VNA1 Neumayer--Stat 117.15 197 ⇓PKPdf PKiKP 10 43 49.8 +0.9
comp=Z,17nm,0.9s
VNA3 Neumayer Olymp 117.21 196 PKPdf PKiKP 10 43 49.1 +0.1
VNA3 Neumayer Olymp 117.21 196 ⇑PKPdf PKiKP 10 43 49.1 +0.1
comp=Z,13nm,0.8s
TXAR Lajitas Array 118.07 44 PKiKP 10 43 52.5 +0.4
TXAR Lajitas Array 118.07 44 PKP PKPdf 10 43 52.0 -0.1
comp=Z,1.3nm,0.6s,baz=300,slow=0.5,SNR=12
TXAR pPKP pPKPdf 10 44 29.6 -0.5
comp=Z,1.2nm,0.9s,baz=182,slow=1.6,SNR=3.1
TXAR PKKPbc PKKPbc 10 54 10.5 -1.7
comp=Z,0.4nm,0.6s,baz=130,slow=3.9,SNR=4.7
WCI Wyandotte Cave 120.64 24 PKPdf 10 43 56.1 -0.5
WCI Wyandotte Cave 120.64 24 PKIKP PKPdf 10 43 56.1 -0.5
DBIC Dimbokro 121.52 288 PKPdf 10 43 58.3 -0.6
DBIC Dimbokro 121.52 288 PKP PKPdf 10 43 58.0 -0.9
comp=Z,6.8nm,0.7s,baz=356,slow=1.8,SNR=8.2
DBIC PP PP 10 45 28.6 -3.9
comp=Z,6.0nm,0.9s,baz=52,slow=8.2,SNR=4.5
DBIC Dimbokro 121.52 288 PKIKP PKPdf 10 43 58.3 -0.6
WVT Waverly 121.79 27 PKPdf 10 43 58.5 -0.4
WVT Waverly 121.79 27 PKIKP PKPdf 10 43 58.5 -0.4
U49A Red Boiling Sp 122.33 25 PKPdf 10 43 59.9 -0.1
ACON Acoyapa 142.46 44 PKPdf 10 44 39.3 +1.1
EFI East Falkland 144.20 181 PKPdf 10 44 39.5 -0.6
EFI East Falkland 144.20 181 PKIKP PKPdf 10 44 39.5 -0.6
SJG San Juan 145.66 11 PKPdf 10 44 43.0 -0.6
SJG San Juan 145.66 11 PKP2 PKPdf 10 44 43.0 -0.6
SDV Santo Domingo 153.08 25 PKPdf PKPdf 10 44 54.3 -1.5
SDV PKPbc PKiKP 10 45 03.7 +0.3
SDV PKPab PKPab 10 45 15.6 +0.5
SDV Santo Domingo 153.08 25 eP PKPdf 10 44 54.7 -1.2
LR05 Currie 153.32 158 PKiKP 10 45 03.4 +0.5
PLCA Paso Flores 153.36 161 PKPbc PKiKP 10 45 04.5 +1.4
PLCA Paso Flores 153.36 161 PKP PKPdf 10 44 55.9 +0.6
comp=Z,2.9nm,0.8s,baz=216,slow=1.8,SNR=7.8
PLCA PKPbc PKiKP 10 45 04.0 +0.9
comp=Z,26nm,0.7s,baz=296,slow=1.1,SNR=58
BAUV El Baul 153.98 20 PKPab PKPab 10 45 18.7 +0.1
NBCL Cascal-CE 156.23 297 eP PKPdf 10 45 01.1 +1.2
BI02 San Fabin de 156.72 155 PKPdf 10 45 00.8 +0.7
NBLA Lagarto - SE 158.40 280 eP PKPdf 10 45 03.4 +0.8
CMC01 Camacan, BA 160.79 269 eP PKPdf 10 45 06.3 +1.1
GUA01 Guaratinga, BA 161.11 265 eP PKPdf 10 45 06.5 +1.0
BOAV Boa Vista 161.88 3 eP PKPdf 10 45 07.6 +1.1
BSFB Barra de Sao F 161.98 258 eP PKPdf 10 45 07.6 +1.2
TBOT Tacuaremb 163.87 191 eP PKPdf 10 45 08.6 +0.7
CPSB Cacapava Do Su 164.46 200 eP PKPdf 10 45 09.9 +1.4
TBTG Tabatinga, AM 164.54 43 eP PKPdf 10 45 09.7 +0.7
CZSB Cruzeiro do Su 164.75 60 eP PKPdf 10 45 10.4 +1.1
MAL2 Monte Alegre, 165.35 339 PKPab PKPab 10 46 08.1 +0.1
JANB Januaria 165.38 271 eP PKPdf 10 45 10.5 +0.7
SDBA SAO DESIDERIO 165.49 282 eP PKPdf 10 45 10.2 +0.3
AC02 Maricunga 165.81 142 PKPdf 10 45 12.4 +2.0
SMTB Santa Maria do 166.51 299 eP PKPdf 10 45 11.2 +0.5
ITAB Concordia 166.75 210 eP PKPdf 10 45 11.6 +1.2
TEFE Tefe 166.76 23 eP PKPdf 10 45 11.8 +1.0
MACA Manacapuru-AM 167.38 6 eP PKPdf 10 45 12.1 +0.8
FRTB Fartura 168.04 230 eP PKPdf 10 45 11.9 +0.4
ITTB Itaituba 168.06 342 eP PKPdf 10 45 12.0 +0.2
TA01 Diego Aracena 168.76 116 PKPdf 10 45 13.8 +1.8
BDFB Brasilia 168.98 269 PKP PKPdf 10 45 11.7 -0.7
comp=Z,3.1nm,0.7s,baz=39,slow=13,SNR=4.7
IPMB Ipameri, GO 169.02 257 eP PKPdf 10 45 13.2 +0.8
CPUP Villa Florida 169.34 190 PKP PKPdf 10 45 12.1 -0.2
comp=Z,3.4nm,0.9s,baz=98,slow=3.5,SNR=5.3
CPUP PKPab PKPab 10 46 25.2 -0.1
comp=Z,16nm,0.9s,baz=180,slow=3.9,SNR=19
NPGB Novo Progresso 170.41 335 eP PKPdf 10 45 13.7 +0.4
SNDB Serra Nova Dou 171.21 295 eP PKPdf 10 45 13.5 -0.1
LPAZ La Paz 171.64 94 PKP PKPdf 10 45 15.1 +0.5
comp=Z,9.6nm,1.2s,baz=351,slow=3.0,SNR=15
LPAZ La Paz 171.64 94 eP PKPdf 10 45 15.8 +1.2
RPRD Ribas do Rio P 172.82 229 eP PKPdf 10 45 15.1 +0.8
CLDB Colider 173.94 324 eP PKPdf 10 45 13.5 -1.3
AQDB Aquidauana 174.14 217 PKPdf 10 45 14.4 -0.2
AQDB PKPab 10 46 46.7 -0.1
BDQN Bodoquena, MS 174.72 209 eP PKPdf 10 45 15.1 +0.2
PANT Pantanal (Braz 175.84 220 eP PKPdf 10 45 15.5 +0.3
SALV Santo Antonio 176.38 268 eP PKPdf 10 45 16.6 +1.2
VILB Vilhena 177.07 14 eP PKPdf 10 45 16.8 +1.2
PTLB Pontes e Lacer 179.53 319 eP PKPdf 10 45 16.6 +0.8

ROM 06 10:36:56.5±0.1, 42°.809N±0°.004×13°.122E±0°.007, h11km, ML1.2/8, 1C, Error ellipse: s-maj=0.6km s-min=0.5km az=89.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	347	P	Pg	10 36 58.6	+0.1
NRCA				S	Sg	10 37 00.6	+0.6
NRCA				AML	AML		
NRCA	comp=E,344μm,0.5s						
NRCA				AML	AML		
NRCA	comp=N,610μm,0.1s						
NRCA				AML	AML		
NRCA	comp=E,340μm,0.1s						
NRCA				AML	AML		
NRCA	comp=N,609μm,0.1s						
NRCA				AML	AML		
NRCA	comp=E,312μm,0.1s						
NRCA				AML	AML		
NRCA	comp=N,592μm,0.1s						
MC2	Monte Cornacci	0.12	26	⇑P	Pg	10 36 60.0	+0.4
MC2				S	Sg	10 37 02.3	+0.5
MMO1	Montemonaco	0.18	59	P	Pg	10 37 00.8	+0.4
MMO1				S	Sg	10 37 03.7	+0.6
LNSS	Leonessa	0.21	196	P	Pg	10 37 01.8	+0.7
LNSS				S	Sg	10 37 05.4	+1.2
LNSS				AML	AML		
LNSS	comp=E,78μm,0.1s						
LNSS				AML	AML		
LNSS	comp=N,74μm,0.1s						
FDMO	Fiordimonte	0.23	354	P	Pg	10 37 01.8	+0.5
FDMO				S	Sg	10 37 05.5	+1.0
CESI	CESI - Serrava	0.25	321	P	Pg	10 37 02.3	+0.6
CESI				S	Sb	10 37 06.5	-1.2
CESI				AML	AML		
CESI	comp=N,52μm,0.1s						
CSP1	Cessapalombo	0.29	12	P	Pg	10 37 02.9	+0.5
CSP1				S	Sb	10 37 07.7	-1.1
MF5	Montefalcone A	0.31	54	P	Pb	10 37 03.5	-0.6
MF5				S	Sb	10 37 08.9	-0.3
TERO	Teramo	0.40	117	P	Pg	10 37 04.9	+0.4
TERO				S	Sg	10 37 10.6	+0.8
TERO				AML	AML		
TERO	comp=E,18μm,0.2s						

DJA 06 10:37:30.4±0.3, 0°.S±2°.×12°.3E±°, h10km, M4.0/12, mb4.2/5, MLv3.9/12
IDC 06 10:37:40.6±8.5, 0°.45S×122°.05E, h124km±85km, mb3.1/4, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=79.8km s-min=22.5km az=56.0

ISC 06 10:37:31.7±1.0, 0°.14S±0°.06×122°.57E±0°.06, h35km, n15, σ1.38/17, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.88	314	P	Pn	10 37 47.1	-0.5
MRSI				S	Sn	10 37 58.7	-0.4
LUWI	Luwuk	0.92	167	P	Pn	10 37 46.3	-1.9
APSI	Ampana	1.20	230	P	Pn	10 37 52.3	+0.3
KDI	Kendari	3.79	179	P	Pn	10 38 27.9	+0.1
SANI	Sanana	3.91	119	P	Pn	10 38 29.2	-0.2
TTSI	Tana Toraja	3.99	224	P	Pn	10 38 32.2	+1.8
SPSI	Sidrap Palu	4.72	216	P	Pn	10 38 41.6	+1.1
NLAI	Namlea	5.48	124	P	Pn	10 38 53.1	+2.2
	39nm,0.8s						
KAPI	Kappang	5.60	210	P	Pn	10 38 53.0	+0.3
	2.9nm,0.3s,baz=88,slow=2.4,SNR=7.7						
KAPI				S	Sn	10 39 53.5	-2.3
	8.6nm,0.6s,baz=209,slow=23,SNR=10						
	4.7nm,0.3s						
BKSI	Bulukumba	5.70	205	P	Pn	10 38 55.4	+1.4
BSSI	Bau Bau, Buton	6.32	199	P	Pn	10 39 03.3	+0.9
WRA	Warramunga Arr	22.81	150	P	P	10 42 32.4	+0.6
	1.1nm,0.6s,baz=332,slow=9.7,SNR=4.5						
	1.1nm,0.6s						
ASAR	Alice Springs	25.85	156	P	P	10 43 00.8	+0.6
	0.5nm,0.7s,baz=344,slow=15,SNR=5.1						
	0.5nm,0.7s						
MKAR	Makanchi Array	58.51	329	P	P	10 47 25.6	+1.0
	0.1nm,0.4s,baz=122,slow=8.5,SNR=2.1						
	0.1nm,0.4s						
ZALV	Zalesovo Beam	62.26	336	P	P	10 47 48.4	-1.7
	0.4nm,0.5s,baz=134,slow=8.3,SNR=2.0						
	0.4nm,0.5s						

UCR 06 11:02:13.8±0.9, 8°.83N×82°.90W, h22km±1km, MW3.5
UPA 06 11:02:14.4±0.9, 8°.83N×82°.87W, h21km±5km, ML3.9

ISC 06 11:02:13.8±1.0, 8°.83N±0°.03×82°.91W±0°.03, h20km±1km, n48, σ0.62/67, 19C-9D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VITO	San Vito	0.06	256	⇑iP	Pb	11 02 18.2	+0.6
VITO				eS	Sb	11 02 22.2	+1.9
MLIR3	Monte Lirio, C	0.10	115	⇑iP	Pb	11 02 18.5	+0.6
MLIR3				AMP		11 02 18.7	
	comp=Z,27μm,0.2s						
NELY	Ciudad Neily	0.19	191	⇑iP	Pb	11 02 19.2	-0.1
NELY				eS	Sb	11 02 24.0	+0.8
BRU2	Volcan	0.22	100	⇑iP	Pb	11 02 19.6	-0.1
BRU2	Volcan	0.22	100	⇑iP	Pb	11 02 19.6	-0.1
BRU2				eS	Sb	11 02 24.4	+0.6
LPPC	Paso Canoas	0.31	167	⇑iP	Pb	11 02 20.4	-0.2
LPPC				eS	Sb	11 02 26.0	+0.8
EDAD	Golfito	0.31	234	⇓iP	Pb	11 02 20.0	-0.7
EDAD				eS	Sb	11 02 24.8	-0.6
EDP2	Potrero Grande	0.32	305	⇑iP	Pb	11 02 20.9	+0.1
EDP2				eS	Sb	11 02 26.8	+1.3
PTAR3	Potrerillos Ar	0.43	109	eP	Pb	11 02 22.7	0.0
PTAR3				eS	Sb	11 02 29.1	+0.3
FIMO	Fila Mora	0.47	290	⇓eP	Pb	11 02 23.3	-0.1
JIME	Puerto Jimenez	0.50	234	⇓iP	Pb	11 02 23.4	-0.6
JIME				eS	Sb	11 02 31.1	+0.2
DRK0	Durika	0.54	322	⇑iP	Pb	11 02 24.3	-0.5
DRK0				eS	Sb	11 02 31.9	-0.3
BURE	Buenos Aires	0.54	309	⇑iP	Pb	11 02 24.4	-0.3
BURE				eS	Sb	11 02 32.4	+0.4
PIRO	Carate, Puerto	0.60	225	⇓iP	Pb	11 02 24.5	-1.2
DVD	David	0.60	131	eP	Pb	11 02 25.4	-0.3
DVD				eS	Sb	11 02 34.3	+0.5
PTPM	Petroterminale	0.63	177	eP	Pb	11 02 25.8	-0.4
PTPM				eS	Sn	11 02 36.7	-0.3
LOMA3	Las Lomas, Chi	0.65	128	eP	Pb	11 02 26.1	-0.4
PEDE3	Pedregal, Chir	0.66	133	eP	Pb	11 02 26.6	0.0
CNI2	El Empalme, Bo	0.73	36	eP	Pb	11 02 26.8	-1.0
CNI2				eS	Sb	11 02 37.3	-0.1
LIMO3	Limones	0.73	176	eP	Pb	11 02 27.7	-0.1
CHGR2	Aguacate	0.76	82	eP	Pb	11 02 27.4	-1.0
CHGR2				eS	Sb	11 02 37.9	-0.6
BRIBI	Bribri	0.79	4	eP	Pb	11 02 23.8	-5.0
BRIBI				eS	Sn	11 02 41.4	+0.4
ZELE	Perez Zeledon	0.95	304	eP	Pb	11 02 30.9	-0.7
ZELE				eS	Sb	11 02 44.3	+0.4
TURIB	Turrialba	1.31	324	⇑iP	Pn	11 02 36.5	-0.6
TURIB				eS	Sn	11 02 54.1	+0.1
RVSTA	Santa Teresita	1.35	327	eP	Pn	11 02 37.7	+0.2
RVSTA				eS	Sb	11 02 56.2	+0.9
VERB	Verbena	1.35	325	⇑eP	Pn	11 02 37.3	-0.3
REPA	Paraso	1.37	316	eP	Pn	11 02 37.3	-0.6
PCAYA	Pacayas	1.40	321	⇓eP	Pn	11 02 38.5	+0.2
PCAYA				eS	Sn	11 02 56.9	+0.6
VTCV	VTCV, Calle Va	1.40	325	⇑iP	Pn	11 02 38.3	-0.1
LCR2	La Lucha 2	1.41	310	⇑eP	Pn	11 02 37.5	-1.0
LCR2				eS	Sn	11 02 55.2	-1.3
ABE2	San Pablo	1.42	308	eP	Pn	11 02 38.1	-0.6
CVTV	Tajo	1.43	325	⇑iP	Pn	11 02 38.9	+0.1
RVLA	Villa Bonita	1.43	332	⇓iP	Pn	11 02 38.9	+0.3
PISJ	San Jernim	1.44	304	eP	Pn	11 02 38.5	-0.3
CVTQ	Turrialba Volc	1.44	324	⇑iP	Pn	11 02 39.0	0.0
VTLA	Turrialba Volc	1.44	324	⇑iP	Pn	11 02 39.1	0.0
VTR0	Volcan Turrial	1.44	325	⇑eP	Pn	11 02 39.2	0.0
CVTR	Volcan Turrial	1.45	325	⇑iP	Pn	11 02 39.1	-0.1
VICA	Volcano Irazu	1.47	321	eP	Pn	11 02 39.4	-0.1

PICV	PH. Pirrs	1.49	302	eP	Pn	11 02 38.4 -1.1
CVIMO	Finca Echandi	1.56	319	⇓iP	Pn	11 02 41.1 +0.5
CORON	Coronado	1.56	316	eP	Pn	11 02 41.0 +0.4
ACOS	Acosta	1.56	308	⇑eP	Pn	11 02 40.2 -0.3
LUJA	Lujan	1.58	314	eP	Pn	11 02 41.5 +0.7
TCS1	Tacares	1.82	311	eP	Pn	11 02 44.8 +0.7
SOCE	Pocosol	2.28	313	⇓iP	Pn	11 02 50.8 +0.5
ARE1	Arenal 1	2.41	312	⇓eP	Pn	11 02 52.8 +0.7
JTS	Las Juntas de	2.48	306	eP	Pn	11 02 53.2 +0.2

*IDC **06** 11:11:30.0±0.7,24°.18N×124°.56E,h0km,mb4.3/20, mbtmp4.3/22,ML3.4/2,MS3.7/27,Error ellipse: s-maj=19.5km s-min=16.6km az=75.0*

*BJI **06** 11:11:30.2,23°.94N×124°.75E,h27km,mB4.6/15,mb4.4/53, ML4.2/3,Ms4.1/31,Ms7 3.9/31*

*NEIC **06** 11:11:32.7±1.3,23°.95N±0°.09×124°.64E±0°.07,h30km±6km, mb4.8/75,Error ellipse: s-maj=12.8km s-min=8.7km az=166.0*

*MOS **06** 11:11:33.4±1.1,24°.14N×124°.55E,h42km,mb5.0/31,Error ellipse: s-maj=10.0km s-min=6.2km az=113.8*

*NIED **06** 11:11:35.1,24°.07N×124°.55E,h45km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.79; Mθθ=4.02; Mφφ=-3.24; Mrθ=2.73; Mθφ 1.89; Mφr=2.44; Fault plane solution: M0=5.41000×10^15 NP1: φs=123.00000°,δ48.00000°,λ-4.00000°. NP2:φs=216.00000°, δ87.00000°,λ-138.00000°.*

*JMA **06** 11:11:35.1±0.2,24°.1N±1°×124°.6E±0°.7,h45km,MD4.8/13, MV4.4/13,NEAR ISHIGAKIJIMA ISLAND*

JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 06 11:11:34.6±0.7,24°.04N±0°.05×124°.57E±0°.03,h45km±5km, n457,σ1°.19/412,mb4.7/97,MS3.7/29,9C-3D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JIJ	Ishigaki jima	0.50	309	P		Pn	11 11 45.6	-0.1
JIJ				eS		Sn	11 11 53.1	-0.3
JIJ	Ishigaki jima	0.50	309	A		A	11 11 45.6	
	comp=N,51nm,2.6s,comp=E,66nm,1.4s							
JKRS	Kuro-shima	0.55	291	P		Pn	11 11 46.6	+0.4
JKRS				S		Sn	11 11 55.4	+0.9
JKRS	Kuro-shima	0.55	291	A		A	11 11 46.6	
	comp=N,209nm,1.7s,comp=E,136nm,1.1s							
JISG	Ishigakijimahi	0.59	336	P		Pn	11 11 46.8	0.0
JISG				S		Sn	11 11 55.5	+0.1
JISG	Ishigakijimahi	0.59	336	A		A	11 11 46.8	
	comp=N,39nm,0.4s,comp=E,49nm,0.8s							
JTJ	Tarama	0.61	11	P		Pn	11 11 47.5	+0.5
JTJ				S		Sn	11 11 56.7	+0.9
JTJ	Tarama	0.61	11	A		A	11 11 47.5	
	comp=N,170nm,1.4s,comp=E,172nm,1.0s							
HATJ	Hateruma jima	0.70	271	P		Pn	11 11 48.3	+0.1
HATJ				eS		Sn	11 11 58.5	+0.5
HATJ	Hateruma jima	0.70	271	A		A	11 11 48.3	
	comp=N,62nm,3.8s,comp=E,60nm,3.2s							
IRIF	Iriomote-Funau	0.82	291	P		Pn	11 11 50.2	+0.4
IRIF				eS		Sn	11 12 02.1	+1.2
IRIF	Iriomote-Funau	0.82	291	A		A	11 11 50.2	
	comp=N,68nm,1.0s,comp=E,62nm,1.2s							
JIRB	Irabujima	0.95	35	P		Pn	11 11 52.0	+0.4
JIRB	Irabujima	0.95	35	A		A	11 11 52.0	
	comp=N,70nm,1.5s,comp=E,53nm,2.0s							
JMJ2	Miyako jima3	0.98	45	P		Pn	11 11 52.6	+0.6
JMJ2	Miyako jima3	0.98	45	A		A	11 11 52.6	
	comp=N,81nm,2.3s,comp=E,67nm,3.3s							
JMJ	Miyako jima 2	1.01	40	P		Pn	11 11 53.3	+0.9
JOGS	Gusukube	1.04	47	P		Pn	11 11 53.7	+0.9
JOGS	Gusukube	1.04	47	A		A	11 11 53.7	
	comp=N,115nm,0.7s,comp=E,66nm,1.0s							
JIKM	Ikemajima	1.07	35	P		Pn	11 11 53.9	+0.7
JIKM	Ikemajima	1.07	35	A		A	11 11 53.9	
	comp=N,48nm,1.5s,comp=E,57nm,3.5s							
YOJ	Yonaguni jima	1.48	287			Pn	11 11 59.8	+1.0
YOJ	Yonaguni jima	1.48	287	P		Pn	11 12 00.3	+1.5
YOJ	Yonaguni jima	1.48	287	P		Pn	11 11 59.8	+1.0
YOJ	Yonaguni jima	1.48	287	A		A	11 11 59.6	
	comp=N,13nm,2.5s,comp=E,17nm,2.3s							
JYNG	Yonagunijimaku	1.54	286	P		Pn	11 12 00.5	+0.9
JYNG	Yonagunijimaku	1.54	286	A		A	11 12 00.5	
	comp=N,17nm,2.1s,comp=E,16nm,1.7s							
NACB	Ninganchiao	2.72	273			Pn	11 12 15.5	-0.3
NACB	Ninganchiao	2.72	273	P		Pn	11 12 15.6	-0.3
TATO	Taipei	2.96	289			Pn	11 12 18.7	-0.4
TATO	Taipei	2.96	289	P		Pn	11 12 21.6	+2.5
YHNB	Yeheng	2.98	283			Pn	11 12 18.6	-0.9
YHNB	Yeheng	2.98	283	P		Pn	11 12 20.9	+1.4
YULB	Yu-li	3.07	258			Pn	11 12 19.8	-0.8
YULB	Yu-li	3.07	258	P		Pn	11 12 19.7	-1.0
SSLB	Suanglung	3.32	266			Pn	11 12 24.2	+0.1
SSLB	Suanglung	3.32	266	P		Pn	11 12 23.8	-0.3
TWGBT	Beinan	3.43	250	P		Pn	11 12 24.1	-1.5
TWG	Pinlang	3.44	250			Pn	11 12 24.1	-1.6
TPUB	Ta-pu	3.69	259			Pn	11 12 29.5	+0.4
TPUB	Ta-pu	3.69	259	P		Pn	11 12 30.0	+0.8
JOW	Kunigami	4.35	50			Pn	11 12 37.8	-0.5
JOW	Kunigami	4.35	50	Pn		Pn	11 12 37.5	-0.7
	comp=E,3.5nm,0.3s,baz=117,slow=24,SNR=19							
JOW				Sn		Sn	11 13 27.8	+0.1
	comp=E,8.3nm,0.3s,baz=299,slow=19,SNR=4.8							
	comp=E,15nm,0.5s							
JOW	Kunigami	4.35	50	P		Pn	11 12 37.7	-0.5
QZH	Quanzhou	5.52	281	Pn		Pn	11 12 54.4	+0.1
QZH				Sn		Sn	11 13 52.5	-4.0
QZH				smax		smax		
	comp=E,66nm,1.0s							
QZH				smax		smax		
	comp=E,61nm,1.3s							
QZH				LR		LR		
	comp=E,470nm,14.8s							
QZH				LR		LR		
	comp=E,870nm,13.1s							
QZH				LR		LR		
	comp=E,760nm,16.1s							
KNMB	Chin-men Tao	5.66	275			Pn	11 12 55.5	-0.6
JMZ	Minamidaito 2	6.29	72	Pn		Pn	11 13 03.1	-1.8
JMZ	Minamidaito 2	6.29	72	P		Pn	11 13 03.2	-1.7
NJ2	Nanjing	9.44	329	eP		Pn	11 13 49.7	+1.7
NJ2				pmax		pmax		
	comp=E,8.0nm,0.6s							
TGY	Tagaytay City	10.47	200	LR		LR	11 18 22.9	
	comp=E,261nm,18.9s,baz=29,slow=39							
JNU	Nakatsue	10.60	30	Pn		Pn	11 14 02.8	-1.2
	comp=E,0.9nm,0.3s,baz=197,slow=19,SNR=1.7							
	comp=E,1.9nm,0.5s							
KSRS	Korea Array	13.67	11	Pn		Pn	11 14 47.8	+2.0
	comp=E,0.5nm,0.3s,baz=195,slow=12,SNR=6.2							
KSRS				LR		LR	11 19 46.8	
	comp=E,110nm,21.1s,baz=180,slow=37							
QIZ	Qiongzhong	14.58	253	P		Pn	11 14 58.0	-0.2
QIZ				S		Sn	11 17 39.0	+0.4
QIZ				LR		LR		
	comp=E,160nm,12.1s							
QIZ				LR		LR		
	comp=E,170nm,8.5s							
QIZ				LR		LR		
	comp=E,230nm,23.0s							
LYN	LuoYang	14.86	318	⇑P		P	11 15 05.4	-1.3
LYN				pmax		pmax		
	comp=E,79nm,0.8s							
LYN				LR		LR		
	comp=E,540nm,18.3s							
LYN				LR		LR		
	comp=E,470nm,13.4s							
LYN				LR		LR		
	comp=E,470nm,25.1s							
HNS	HongShan	15.77	330	⇑P		P	11 15 17.1	+0.3
HNS				pmax		pmax		
	comp=E,11nm,1.9s							
HNS				LR		LR		
	comp=E,430nm,13.7s							
HNS				LR		LR		
	comp=E,460nm,15.3s							
DAV	Davao City (W)	16.91	177	LR		LR	11 21 23.7	
	comp=E,157nm,21.8s,baz=342,slow=35							
XAN	Xi'an	16.91	310	⇑P		P	11 15 31.4	+1.8
XAN				pP		pP	11 15 39.1	-0.9
XAN				S		S	11 18 43.3	-0.3
XAN				pmax		pmax		
	comp=E,13nm,0.7s							
XAN				pmax		pmax		
	comp=E,120nm,4.3s							
XAN				LR		LR		
	comp=E,420nm,12.4s							
XAN				LR		LR		
	comp=E,400nm,13.1s							
XAN				LR		LR		
	comp=E,510nm,12.0s							
MAJO	Matsushiro	17.12	40	iP		Pn	11 15 28.2	-2.4
MJAR	Matsushiro Arr	17.12	40	P		P	11 15 32.8	+1.0
	comp=E,5.1nm,0.7s,baz=228,slow=10,SNR=12							
MJAR				S		Sn	11 18 37.2	-2.9
	comp=E,1.0nm,0.6s,baz=316,slow=54,SNR=1.7							
MJAR				LR		LR	11 22 26.4	
	comp=E,108nm,19.7s,baz=226,slow=39							
SNY	Shenyang	17.75	358	⇓P		P	11 15 40.2	+1.4
SNY				pmax		pmax		
	comp=E,18nm,0.9s							
JMM	Marumori	19.54	41	P		P	11 15 57.5	-0.9
CD2	Chengdu	19.68	295	P		Pn	11 16 01.1	-0.7
CD2				pmax		pmax		
	comp=E,10.0nm,0.7s							
CD2				LR		LR		
	comp=E,460nm,12.7s							
CD2				LR		LR		
	comp=E,450nm,16.5s							
CD2				LR		LR		
	comp=E,450nm,14.6s							
CN2	Changchun	19.72	2	eP		P	11 16 01.0	+0.6
CN2				esP		pP	11 16 11.6	+0.8
CN2				eS		S	11 19 35.8	-4.4
CN2				pmax		pmax		
	comp=E,20nm,1.3s							
CN2				pmax		pmax		
	comp=E,100nm,5.0s							
CN2				LR		LR		
	comp=E,200nm,12.0s							
CN2				LR		LR		
	comp=E,200nm,12.0s							
CN2				LR		LR		
	comp=E,200nm,10.6s							
HHC	Hu-ho-hao-te	19.99	330	eP		Pn	11 16 06.9	+1.4
HHC				pmax		pmax		
	comp=E,4.0nm,0.6s							
HHC				pmax		pmax		
	comp=E,110nm,4.1s							
HHC				LR		LR		
	comp=E,280nm,13.8s							
HHC				LR		LR		
	comp=E,290nm,15.3s							
HHC				LR		LR		
	comp=E,340nm,13.8s							
BTO	Baotou	20.54	327	eP		Pn	11 16 12.4	+0.4
BTO				pP		sP	11 16 23.3	-2.4
BTO				sP		pP	11 16 27.4	+7.3
BTO				S		Sn	11 20 02.7	0.0
BTO				pmax		pmax		
	comp=E,21nm,0.6s							
BTO				pmax		pmax		
	comp=E,400nm,6.1s							
BTO				LR		LR		
	comp=E,520nm,15.3s							
BTO				LR		LR		
	comp=E,380nm,13.1s							
BTO				LR		LR		
	comp=E,370nm,9.6s							
PZH	PanZhiHua	20.79	282	P		Pn	11 16 14.9	-0.1
PZH				S		S	11 20 00.0	-1.9
PZH				pmax		pmax		
	comp=E,10.0nm,0.8s							
PZH				pmax		pmax		
	comp=E,140nm,8.8s							
PZH				LR		LR		
	comp=E,370nm,21.2s							
PZH				LR		LR		
	comp=E,250nm,19.2s							
PZH				LR		LR		
	comp=E,380nm,16.5s							
XLT	XiLinHaoTe	21.00	343	eP		P	11 16 13.2	-1.1
XLT				pP		pP	11 16 21.6	-3.3
XLT				sP		sP	11 16 25.4	-5.1
XLT				pmax		pmax		
	comp=E,8.0nm,1.0s							
USRK	Ussuriysk Ar.	21.00	15	LR		LR	11 24 13.3	
	comp=E,103nm,18.6s,baz=187,slow=37							
LZH	Lanzhou	21.53	309	eP		P	11 16 21.4	+1.2
LZH				pP		pP	11 16 27.1	-3.8
LZH				pmax		pmax		
	comp=E,23nm,1.0s							
LZH				LR		LR		
	comp=E,240nm,15.6s							
LZH				LR		LR		
	comp=E,290nm,15.5s							
LZH				LR		LR		
	comp=E,450nm,16.8s							
BNX	BinXian	21.77	5	⇑P		P	11 16 22.6	+0.2
BNX				pmax		pmax		
	comp=E,6.0nm,0.9s							
GUMO	Guam	21.82	115	LR		LR	11 23 03.4	
	comp=E,113nm,21.4s,baz=302,slow=32							
PHRA	Phrae	23.33	261	P		P	11 16 38.6	-0.5
TNCH	TengChong	23.71	278	P		P	11 16 46.0	+3.2
TNCH				pmax		pmax		
	comp=E,19nm,0.3s							
TNCH				pmax		pmax		
	comp=E,120nm,4.3s							
CHTO	Chiang Mai	24.40	263	P		P	11 16 48.6	-0.4
CHTO	Chiang Mai	24.40	263	P		P	11 16 48.6	-0.4
CHTO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CM31	Chiang Mai Arr	24.50	262	P		P	11 16 47.7	-2.3
CMAR	Chiang Mai Arr	24.50	262	P		P	11 16 49.2	-0.8
CMAR	Chiang Mai Arr	24.50	262	P		P	11 16 53.0	+3.0
	comp=Z,1.4nm,0.8s,baz=62,slow=7.9,SNR=11							
CMAR				LR		LR	11 27 05.3	
	comp=Z,78nm,20.2s,baz=70,slow=38							
	comp=Z,1.4nm,0.8s							
CMAR	Chiang Mai Arr	24.50	262	P		P	11 16 49.2	-0.8
SBUM	Sibu	24.57	211	P		P	11 16 47.4	-3.1
APSI	Ampana	24.97	187	P		P	11 17 00.8	+6.7
	comp=Z,19μmcomp=Z,48nm,1.1s							
HIA	Hailar	25.46	353	P		P	11 16 58.2	-0.1
HIA				IAmb		IAmb	11 17 00.7	
	comp=Z,13nm,0.8s							
HIA	Hailar	25.46	353	P		P	11 16 58.2	-0.1
HIA				pmax		pmax		
	comp=Z,13nm,0.8s							
KLR	Kul'dur	25.77	11	LR		LR	11 27 08.5	
	comp=Z,90nm,18.6s,baz=181,slow=37							
KLR	Kul'dur	25.77	11	iP		P	11 17 00.5	-0.6
KLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
GTA	Gaotai	25.93	312	eP		P	11 17 03.3	+0.5
GTA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GTA				LR		LR		
	comp=Z,190nm,12.7s							
GTA				LR		LR		
	comp=Z,140nm,14.7s							
GTA				LR		LR		
	comp=Z,140nm,17.9s							
HEH	HeiHe	26.26	4	eP		P	11 17 07.3	+1.8
YSS	Yuzhno-Sakhali	27.11	28	eP		P	11 17 14.3	+1.1
YSS				e			11 17 34.3	
YSS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
YSS				MLR		MLR		
	comp=Z,300nm,16.0s							
YSS				MLR		MLR		
	comp=N,300nm,15.0s							
ULN	Ulaanbaatar	27.55	334	P		P	11 17 16.7	-0.7
ULN	Ulaanbaatar	27.55	334	iP		P	11 17 17.2	-0.2
ULN				pmax		pmax		
	comp=Z,11nm,1.7s							
SONM	Songino Array	27.79	333	P		P	11 17 19.1	-0.4
SONM	Songino Array	27.79	333	P		P	11 17 18.9	-0.6
	comp=Z,2.3nm,0.7s,baz=149,slow=9.0,SNR=25							
SONM				LR		LR	11 29 45.3	
	comp=Z,190nm,18.5s,baz=138,slow=40							
	comp=Z,2.3nm,0.7s							
SONM	Songino Array	27.79	333	P		P	11 17 19.1	-0.4
SONM				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GOMU	GeErMu	28.33	302	P		P	11 17 25.7	+1.0
GOMU				sP		pP	11 17 34.9	-1.4
GOMU				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KAPI	Kappang	29.26	190	LR		LR	11 28 57.1	
	comp=Z,61nm,20.3s,baz=348,slow=36							
BRDH	Bariadhala	30.22	274	LR		LR	11 30 54.7	
	comp=Z,92nm,20.9s,baz=260,slow=39							
JAY	Jayapura	30.71	147	LR		LR	11 27 43.2	
	comp=Z,191nm,21.1s,baz=296,slow=32							
MOY	Mondy	32.98	333	eP		P	11 18 04.8	-0.5
MOY				pmax		pmax		
	comp=Z,13nm,1.3s							
WMQ	Urumqi	36.01	312	eP		P	11 18 33.7	+2.2
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
PEA0B	Petropavlovsk-	38.29	32	P		P	11 18 50.7	+0.1
PEA0B	Petropavlovsk-	38.29	32	P		P	11 18 50.7	+0.1
PEA0B				pmax		pmax		
	comp=Z,85nm,1.5s							
PETK	Petropavlovsk-	38.29	32	P		P	11 18 51.1	+0.5
PETK	Petropavlovsk-	38.29	32	LR		LR	11 35 12.6	
	comp=Z,95nm,20.4s,baz=157,slow=37							
PETK	Petropavlovsk-	38.29	32	P		P	11 18 51.1	+0.5
H11N1	WAKE ISLAND Hy	39.40	88	T		T	12 01 00.7	
	baz=283,slow=74							
H11N2	WAKE ISLAND Hy	39.40	88	T		T	12 00 54.8	
	baz=283,slow=74							
H11N3	WAKE ISLAND Hy	39.42	88	T		T	12 01 03.7	
	baz=283,slow=74							
H11S3	WAKE ISLAND Hy	39.53	90	T		T	12 01 12.3	
	baz=297,slow=77							
H11S1	WAKE ISLAND Hy	39.53	90	T		T	12 01 12.1	
	baz=297,slow=77							
H11S2	WAKE ISLAND Hy	39.54	90	T		T	12 01 07.2	
	baz=297,slow=77							
KNRA	Kununurra	39.69	174	P		P	11 19 00.5	-2.1
KNRA				IAmb		IAmb	11 19 08.1	
	comp=Z,44nm,1.5s							
MA2	Magadan	39.98	20	P		P	11 19 03.9	-0.8
MA2	Magadan	39.98	20	LR		LR	11 35 12.3	
	comp=Z,92nm,20.6s,baz=231,slow=36							
MA2	Magadan	39.98	20	ceP		P	11 19 04.8	+0.2
MA2				pmax		pmax		
	comp=Z,9.0nm,0.9s							
MA2	Magadan	39.98	20	P		P	11 19 05.4	+0.8
MK31	Makanchi Array	40.61	315	P		P	11 19 09.7	-0.4
MK31	Makanchi Array	40.61	315	P		P	11 19 09.7	-0.4
MK31				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MKAR	Makanchi Array	40.61	315	P		P	11 19 10.1	0.0
MKAR	Makanchi Array	40.61	315	P		P	11 19 10.8	+0.7
	comp=Z,8.4nm,0.9s,baz=101,slow=11,SNR=50							
MKAR				LR		LR	11 35 46.1	
	comp=Z,83nm,19.4s,baz=78,slow=36							
	comp=Z,8.4nm,0.9s							
MAKZ	Makanchi	40.82	315	P		P	11 19 11.5	-0.3
MAKZ	Makanchi	40.82	315	P		P	11 19 11.5	-0.3
MAKZ				pmax		pmax		
	comp=Z,9.0nm,0.9s							
MAKZ	Makanchi	40.82	315	P		P	11 19 12.4	+0.6
COEN	Coen	41.92	152	S		S	11 25 35.2	-1.2
ZAA0	Zalesovo Array	42.07	326	P		P	11 19 21.5	-0.4
ZAA0				IAmb		IAmb	11 19 22.7	
	comp=Z,12nm,0.7s							
ZALV	Zalesovo Beam	42.07	326	P		P	11 19 21.8	-0.1
ZALV	Zalesovo Beam	42.07	326	P		P	11 19 22.1	+0.1
	comp=Z,12nm,0.6s,baz=110,slow=8.1,SNR=51							
ZALV				LR		LR	11 38 29.9	
	comp=Z,127nm,21.1s,baz=108,slow=39							
	comp=Z,12nm,0.6s							
KSH	Kashi	43.58	303	P		P	11 19 39.4	+4.9
KSH				sP		pwP	11 19 48.0	-0.8
KSH				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KURK	Kurchatov	44.20	319	P		P	11 19 39.2	0.0
KURK				IAmb		IAmb	11 19 40.7	
	comp=Z,17nm,1.1s							
KURK	Kurchatov	44.20	319	P		P	11 19 39.2	0.0
KURK				pmax		pmax		
	comp=Z,17nm,1.1s							
KURK	Kurchatov	44.20	319	P		P	11 19 39.8	+0.6
KURBB	Kurchatov Arra	44.23	319	P		P	11 19 39.7	+0.3
	comp=Z,8.2nm,1.0s,baz=107,slow=7.8,SNR=40							
	comp=Z,8.2nm,1.0s							
WB0	Warramunga Arr	44.59	167	P		P	11 19 41.6	-0.9
WB0				IAmb		IAmb	11 19 57.6	
	comp=Z,28nm,1.4s							
WRA	Warramunga Arr	44.74	167	P		P	11 19 45.6	+1.8
	comp=Z,1.4nm,0.9s,baz=347,slow=8.8,SNR=8.0							
	comp=Z,1.4nm,0.9s							
AAK	Ala-Archa	45.06	307	LR		LR	11 42 13.1	
	comp=Z,102nm,19.1s,baz=51,slow=41							
PALK	Pallekele	45.18	256	LR		LR	11 39 44.1	
	comp=Z,66nm,18.8s,baz=45,slow=38							
NIL	Nilore	45.57	294	P		P	11 19 50.0	-0.3
NIL				IAmb		IAmb	11 19 53.2	
	comp=Z,15nm,0.8s							
NIL	Nilore	45.57	294	P		P	11 19 50.0	-0.3
NIL				pmax		pmax		
	comp=Z,15nm,0.9s							
NIL	Nilore	45.57	294	P		P	11 19 52.3	+2.0
DRK	Karamyk	46.79	302	P		P	11 20 03.3	+3.1
DRK	Karamyk	46.79	302	P		P	11 20 03.3	+3.1
DRK				pmax		pmax		
	comp=Z,14nm,0.5s							
BTK	Batken	47.58	303	P		P	11 20 08.2	+2.1
BTK				IAmb		IAmb	11 20 10.0	
	comp=Z,7.6nm,1.2s							
BTK	Batken	47.58	303	P		P	11 20 08.2	+2.1
BTK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
TIXI	Tiksi	47.70	2	P		P	11 20 05.5	-0.8
TIXI	Tiksi	47.70	2	LR		LR	11 40 36.0	
	comp=Z,87nm,20.5s,baz=193,slow=37							
TIXI	Tiksi	47.70	2	P		P	11 20 05.6	-0.8
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.8s							
GAR	Garm	47.92	302	P		P	11 20 09.7	+0.9
HNR	Honiara	47.97	130	LR		LR	11 39 51.8	
	comp=Z,51nm,19.0s,baz=342,slow=35							
KK31	Karatay Array	48.02	307	P		P	11 20 09.0	-0.4
KK31	Karatay Array	48.02	307	P		P	11 20 09.0	-0.4
KK31				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KKAR	Karatay Array	48.02	307	P		P	11 20 09.0	-0.4
KKAR	Karatay Array	48.02	307	P		P	11 20 09.0	-0.4
AS31	Alice Springs	48.28	169	P		P	11 20 10.4	-1.1
ASAR	Alice Springs	48.28	169	P		P	11 20 13.8	+2.3
	comp=Z,0.9nm,0.9s,baz=349,slow=8.1,SNR=11							
	comp=Z,0.9nm,0.9s							
SIMJ	Simiganj	48.94	301	P		P	11 20 17.2	+0.6
SIMJ				IAmb		IAmb	11 20 25.7	
	comp=Z,6.4nm,0.8s							
KBL	Kabul	49.02	296	P		P	11 20 17.5	+0.1
KBL	Kabul	49.02	296	P		P	11 20 17.5	+0.1
KBL				pmax		pmax		
	comp=Z,18nm,0.9s							
BVAR	Borovoye Array	49.75	320	P		P	11 20 23.4	+0.9
	comp=Z,4.4nm,0.5s,baz=108,slow=8.1,SNR=18							
	comp=Z,4.4nm,0.5s							
BRVK	Borovoye	49.82	320	P		P	11 20 23.0	0.0
BRVK				IAmb		IAmb	11 20 24.9	
	comp=Z,5.3nm,0.5s							
BRVK	Borovoye	49.82	320	ceP		P	11 20 23.8	+0.8
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
BRVK	Borovoye	49.82	320	P		P	11 20 24.1	+1.1
NRIK	Noril'sk	50.37	344	P		P	11 20 27.0	+0.1
NRIK	Noril'sk	50.37	344	P		P	11 20 26.6	-0.3
	comp=Z,4.3nm,0.8s,baz=124,slow=7.2,SNR=6.0							
NR

ARTI						11 22 10.4	
ARTI				S	S	11 29 08.2	-0.8
ARTI				SS	SS	11 32 53.1	-5.0
ARTI				pmax	pmax		
	comp=Z,12nm,0.7s						
ARTI	Arti	57.18	323	P	P	11 21 17.8	+1.0
TNA	Tin City	59.07	27	P	P	11 21 30.6	+0.7
	baz=260						
M11K	Mekoryuk	59.16	33	P	P	11 21 30.8	+0.2
	baz=264						
F14K	Arctic Creek	59.71	27	P	P	11 21 34.5	+0.1
	baz=261						
ANM	Nome	59.99	28	P	P	11 21 35.7	-0.6
	baz=263						
K13K	Kusilvak Mount	60.04	31	P	P	11 21 35.9	-0.8
	baz=265						
F15K	North Star Dit	60.44	27	IAmb	IAmb	11 21 44.1	
	comp=Z,8.0nm,0.9s						
F15K	North Star Dit	60.44	27	P	P	11 21 39.0	-0.4
	baz=263						
C16K	Lisburne Hills	60.53	24	IAmb	IAmb	11 21 42.9	
	comp=Z,5.4nm,0.9s						
C16K	Lisburne Hills	60.53	24	P	P	11 21 39.8	-0.1
	baz=261						
M13K	Dall Lake	60.57	33	P	P	11 21 40.4	+0.1
	baz=267						
G15K	Niukluk	60.61	28	P	P	11 21 41.6	+1.1
	baz=264						
J14K	Nanvaranak Lak	60.62	30	P	P	11 21 40.2	-0.4
	baz=266						
L14K	Kuka Creek	60.94	32	P	P	11 21 42.8	0.0
	baz=267						
M14K	Bethel	61.27	32	P	P	11 21 44.4	-0.6
	baz=268						
D17K	Noatak River	61.29	24	P	P	11 21 44.9	-0.2
	baz=263,SNR=8.9						
H16K	Elim	61.34	28	P	P	11 21 45.9	+0.4
	baz=266,SNR=7.9						
C17K	DeLong Mountai	61.35	24	P	P	11 21 46.0	+0.5
	baz=263						
G16K	Koyuk River	61.35	27	P	P	11 21 46.0	+0.5
	baz=265						
N14K	Kuskokwak Cree	61.38	33	P	P	11 21 45.6	-0.2
	baz=269						
RDOG	Red Dog Mine	61.40	24	P	P	11 21 45.8	0.0
	baz=263						
L15K	Ungalak Mounta	61.53	31	P	P	11 21 45.9	-0.9
	baz=268						
K15K	Wolf Creek Mou	61.53	31	P	P	11 21 47.0	+0.2
	baz=268						
E17K	Hotham Inlet	61.71	25	P	P	11 21 48.8	+0.8
	baz=265						
F17K	Baldwin Pennin	61.89	26	P	P	11 21 50.2	+1.1
	baz=266						
M15K	Kasigluk River	61.89	33	P	P	11 21 50.0	+0.8
	baz=269						
B18K	Kokolik River	61.95	23	P	P	11 21 49.7	+0.2
	baz=264						
J16K	Anvik River	61.99	30	P	P	11 21 50.1	+0.2
	baz=268						
G17K	Kiwalik Mounta	62.07	27	P	P	11 21 50.4	0.0
	baz=267						
C18K	Utukok River	62.10	24	IAmb	IAmb	11 21 53.9	
	comp=Z,4.7nm,0.8s						
C18K	Utukok River	62.10	24	P	P	11 21 51.3	+0.8
	baz=264						
KIRV	Kirov	62.11	325	LR	LR	11 49 49.6	
	comp=Z,144nm,20.8s,baz=29,slow=37						
KIRV	Kirov	62.11	325	*i* P	P	11 21 51.2	+0.5
N15K	Kwethluk River	62.19	33	P	P	11 21 51.4	+0.1
	baz=270						
E18K	Tukpahlearik C	62.22	25	P	P	11 21 51.4	+0.1
	baz=266						
O15K	Ungalikthiuk R	62.33	34	P	P	11 21 52.6	+0.4
	baz=271						
H17K	Granite Mounta	62.36	28	IAmb	IAmb	11 22 11.0	
	comp=Z,5.5nm,0.9s						
H17K	Granite Mounta	62.36	28	P	P	11 21 51.1	-1.2
	baz=268						
L16K	Owhat River	62.49	31	P	P	11 21 52.6	-0.6
	baz=270						
F18K	Selawik	62.54	26	P	P	11 21 53.2	-0.2
	baz=267,SNR=8.8						
CHNA	Chernabura Isl	62.62	39	P	P	11 21 53.3	-0.9
	baz=273						
J17K	VABM Dome	62.68	30	P	P	11 21 54.5	0.0
	baz=269						
M16K	Timber Creek	62.74	32	P	P	11 21 55.4	+0.5
	baz=271						
N16K	Nishlik Lake	62.84	33	P	P	11 21 55.9	+0.2
	baz=271						
G18K	Tagagawik	62.91	27	IAmb	IAmb	11 22 11.6	
	comp=Z,10nm,1.2s						
G18K	Tagagawik	62.91	27	P	P	11 21 56.1	0.0
	baz=268						
H18K	Honhosa River	63.02	28	P	P	11 21 56.1	-0.7
	baz=269						
K17K	Iditarod	63.04	30	P	P	11 21 56.0	-0.8
	baz=270						
L17K	Donlin	63.04	31	P	P	11 21 56.8	-0.1
	baz=271						
CHGN	Chignik	63.20	37	P	P	11 21 58.3	+0.3
	baz=274						
D19K	Kuna River	63.22	24	P	P	11 21 57.7	-0.3
	baz=268						
P16K	Nushagak River	63.28	34	P	P	11 21 57.0	-1.5
	baz=272						
F19K	Shaleruckik Mo	63.29	26	P	P	11 21 58.9	+0.4
	baz=269						
M17K	Holitna River	63.47	32	P	P	11 22 00.4	+0.6
	baz=272						
E19K	Redstone River	63.52	25	IAmb	IAmb	11 22 03.9	
	comp=Z,5.7nm,0.8s						
E19K	Redstone River	63.52	25	P	P	11 22 00.8	+0.8
	baz=269						
G19K	Purcell Mounta	63.56	26	P	P	11 22 01.0	+0.8
	baz=270						
N17K	Nushagak Hills	63.62	33	P	P	11 22 01.4	+0.6
	baz=272						
GCSA	Galena City Sc	63.65	28	P	P	11 22 01.0	+0.1
	baz=270						
O17K	Koliganek Bris	63.70	34	P	P	11 22 02.1	+0.8
	baz=273						
J18K	Innoko River	63.75	29	P	P	11 22 01.8	+0.2
	baz=271						
D20K	Etivluk River	63.77	24	P	P	11 22 02.0	+0.4
	baz=269,SNR=16						
L18K	Granite Mounta	63.80	31	P	P	11 22 02.8	+0.9
	baz=272						
H19K	Roundabout Mou	63.82	27	P	P	11 22 03.2	+1.2
	baz=270						
A21K	Barrow	63.85	21	P	P	11 22 03.8	+1.8
	baz=268,SNR=6.9						
E20K	Nigu River	63.92	24	P	P	11 22 04.4	+1.7
	baz=269						
Q16K	King Salmon	63.99	35	P	P	11 22 04.2	+1.0
	baz=274						
P17K	Kvichak River	64.07	34	P	P	11 22 03.2	-0.5
	baz=274						
TTA	Tatalina	64.08	30	IAmb	IAmb	11 22 09.1	
	comp=Z,10nm,1.3s						
TTA	Tatalina	64.08	30	P	P	11 22 03.8	-0.1
	baz=272						
F20K	Avaraart Lake	64.10	25	P	P	11 22 05.0	+1.2
	baz=270						
J19K	Poorman	64.22	29	P	P	11 22 05.5	+0.9
	baz=272						
M18K	Stony River	64.24	32	P	P	11 22 05.7	+0.9
	baz=273						
Q17K	Contact Creek	64.43	35	P	P	11 22 06.4	+0.2
	baz=275						
C21K	Knifeblade Rid	64.44	23	P	P	11 22 07.0	+1.0
	baz=270,SNR=12						
H20K	Anotleneega Mo	64.48	27	P	P	11 22 05.6	-0.7
	baz=272						
B21K	Ikpikpuk River	64.49	23	P	P	11 22 07.6	+1.3
	baz=270						
O18K	Koktuh Hills	64.65	33	P	P	11 22 09.4	+1.8
	baz=274						
L19K	White Mountain	64.66	31	P	P	11 22 08.0	+0.4
	baz=274						
P18K	Big Mountain,	64.68	34	P	P	11 22 08.3	+0.5
	baz=275						
I20K	Naaghedeneel	64.68	28	P	P	11 22 08.8	+1.2
	baz=273						
CHIR	Chirikof Islan	64.80	38	P	P	11 22 09.0	+0.5
	baz=276						
J20K	Nowinta River	64.85	29	P	P	11 22 09.7	+0.9
	baz=273						
M19K	Big River Lodg	64.89	31	P	P	11 22 10.4	+1.3
	baz=274						
B22K	Teshekpuk Lake	64.90	22	P	P	11 22 08.6	-0.4
	baz=271						
N19K	Bonanza Creek	64.93	32	P	P	11 22 09.8	+0.3
	baz=275						
K20K	Telida	64.94	29	P	P	11 22 09.2	-0.2
	baz=274						
F21K	Alatna River	64.97	25	P	P	11 22 10.4	+0.9
	baz=272						
G21K	Allakaket	65.00	26	IAmb	IAmb	11 22 14.1	
	comp=Z,6.4nm,0.9s						
G21K	Allakaket	65.00	26	P	P	11 22 09.8	+0.1
	baz=273						
O19K	Port Alsworth	65.07	33	P	P	11 22 09.1	-1.1
	baz=275						
L20K	Farewell, AK	65.09	30	P	P	11 22 09.9	-0.5
	baz=274						
D22K	Ayikyak River	65.20	23	P	P	11 22 11.1	+0.1
	baz=272						
H21K	Melozitna Rive	65.33	27	P	P	11 22 12.4	+0.5
	baz=274						
M20K	Styx River	65.49	31	P	P	11 22 13.2	+0.1
	baz=275						
E22K	Anaktuvuk Pass	65.56	24	P	P	11 22 16.6	+3.3
E22K				IAmb	IAmb	11 22 18.1	
	comp=Z,11nm,1.1s						
E22K	Anaktuvuk Pass	65.56	24	P	P	11 22 13.7	+0.3
	baz=274,SNR=8.4						
P19K	Oil Pt	65.67	34	P	P	11 22 13.4	-0.7
	baz=276						
I21K	Tanana	65.71	27	P	P	11 22 15.2	+0.9
	baz=275						
G22K	Bettles	65.76	25	P	P	11 22 15.7	+1.1
	baz=274						
C23K	Itkillik River	65.88	22	IAmb	IAmb	11 22 19.3	
	comp=Z,9.5nm,0.8s						
C23K	Itkillik River	65.88	22	P	P	11 22 17.2	+1.9
	baz=274,SNR=9.7						
H22K	Ishtalitna Cre	65.90	27	P	P	11 22 16.5	+0.9
	baz=275						
D23K	Nanushuk River	65.92	23	P	P	11 22 17.0	+1.4
	baz=274						
O20K	Slope Mountain	65.92	33	P	P	11 22 17.2	+1.3
	baz=276						
OHAK	Old Harbor	65.92	36	P	P	11 22 16.7	+1.0
	baz=277						
SPCR	Spurr Chakacha	66.00	32	P	P	11 22 16.8	+0.5
	baz=276						
Q20K	Shuyak Island	66.22	35	P	P	11 22 17.2	-0.5
	baz=277						
KDAK	Kodiak Island	66.23	36	P	P	11 22 17.0	-0.7
	baz=278						
SKT	Skwentna	66.23	31	P	P	11 22 17.9	+0.2
	baz=277						
BPAW	Bear Paw Mtn.	66.24	29	P	P	11 22 18.2	+0.4
	baz=276						
COLD	Coldfoot	66.25	25	P	P	11 22 19.1	+1.4
	baz=275						
TOLK	Toolik Lake Re	66.35	24	IAmb	IAmb	11 22 22.6	
	comp=Z,5.8nm,0.8s						
TOLK	Toolik Lake Re	66.35	24	P	P	11 22 18.5	+0.1
	baz=275,SNR=6.1						
G23K	Bananza Creek	66.37	26	P	P	11 22 18.8	+0.2
	baz=276						
E23K	Chandalar	66.39	24	IAmb	IAmb	11 22 36.6	
	comp=Z,17nm,1.3s						
E23K	Chandalar	66.39	24	P	P	11 22 19.0	+0.2
	baz=276						
C24K	Franklin Bluff	66.55	22	P	P	11 22 20.2	+0.6
	baz=276						
D24K	Happy Valley	66.57	23	P	P	11 22 20.7	+0.9
	baz=276						
TRF	Thorofare Moun	66.62	29	P	P	11 22 20.2	-0.3
	baz=277						
SUA	Susitna One	66.67	31	P	P	11 22 19.6	-1.0
	baz=277						
E24K	Your Creek	66.81	24	IAmb	IAmb	11 22 26.3	
	comp=Z,6.6nm,0.8s						
E24K	Your Creek	66.81	24	P	P	11 22 22.0	+0.7
	baz=277						
I23K	Minto, Yukon-K	66.82	27	P	P	11 22 20.8	-0.5
	baz=277						
BRSE	Bradley Lake S	66.91	33	P	P	11 22 21.2	-0.9
	baz=278						
M22K	Willow	66.92	31	P	P	11 22 22.1	0.0
	baz=278						
KLMR	Klimovskoe	66.93	328	*eP*	P	11 22 21.9	-0.2
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
NEA2	Nenana	67.01	28	P	P	11 22 22.3	-0.4
	baz=278						
F24K	Squaw Lake	67.10	25	IAmb	IAmb	11 22 27.9	
	comp=Z,9.2nm,0.7s						
F24K	Squaw Lake	67.10	25	P	P	11 22 22.9	-0.4
	baz=277,SNR=14						
MCK	McKinley	67.19	29	P	P	11 22 22.7	-1.1
	baz=278						
RC01	Rabbit Creek A	67.20	32	P	P	11 22 22.6	-1.3
	baz=278						
VRH	Novokhopyorsk	67.26	317	*eP*	P	11 22 23.4	-1.0
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
RND	Reindeer	67.27	29	P	P	11 22 26.7	+2.3
RND	Reindeer	67.27	29	P	P	11 22 26.7	+2.3
RND				pmax	pmax		
	comp=Z,21nm,1.3s						
O22K	Cooper Landing	67.30	32	P	P	11 22 23.7	-0.8
	baz=279						
H24K	Noodor Dome	67.34	26	P	P	11 22 22.9	-1.9
	baz=278						
G24K	Hadweenzic Riv	67.37	26	P	P	11 22 24.2	-0.8
	baz=278						
D25K	Kavik River	67.41	23	IAmb	IAmb	11 22 42.4	
	comp=Z,5.1nm,0.8s						
D25K	Kavik River	67.41	23	P	P	11 22 24.0	-1.2
	baz=278						
PMR	Palmer	67.42	31	P	P	11 22 23.8	-1.5
	baz=279						
GNI	Garni	67.42	305	P	P	11 22 26.9	+1.0
	comp=Z,15nm,0.5s						
COLA	College	67.49	28	P	P	11 22 26.3	+0.7
	baz=278						
SEW	Seward	67.49	33	P	P	11 22 25.1	-0.7
	baz=279						
POKR	Poker Plat Res	67.63	27	P	P	11 22 26.8	+0.2
	baz=279						
SML	Sawmill	67.76	31	P	P	11 22 26.7	-0.7
	baz=279						
KNK	Knik Glacier	67.76	31	P	P	11 22 27.4	-0.1
	baz=279						
C26K	Camden Bay	67.83	22	P	P	11 22 27.9	+0.2
	baz=279						
E25K	Arctic Village	67.89	24	P	P	11 22 28.0	-0.2
	baz=279,SNR=5.8						
ILAR	Eielson Array	67.91	28	P	P	11 22 29.5	+1.2
	comp=Z,0.5nm,0.5s,baz=286,slow=7.2,SNR=15						
	comp=Z,0.5nm,0.5s						
PWL	Port Wells	67.91	32	P	P	11 22 28.1	-0.3
	baz=280						
F25K	Christian Rive	67.94	24	P	P	11 22 28.4	-0.2
	baz=279						
HDA	Harding Lake	67.95	28	P	P	11 22 30.3	+1.8
	baz=280						
KBZ	Khabaz	67.97	309	P	P	11 22 30.6	+1.5
	comp=Z,6.2nm,1.0s,baz=54,slow=1.6,SNR=8.1						
	comp=Z,6.2nm,1.0s						
KBZ	Khabaz	67.97	309	*ceP*	P	11 22 29.0	-0.1
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
M23K	Glacier View	68.04	31	P	P	11 22 29.4	+0.2
	baz=280						
KIV	Kislovodsk	68.07	310	*eP*	P	11 22 32.3	+2.5
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
H25L	Birch Creek	68.10	26	P	P	11 22 30.2	+0.7
	baz=280						
SCM	Sheep Creek Mo	68.22	31	P	P	11 22 31.0	+0.5
	baz=280						
C27K	Jago River	68.29	22	P	P	11 22 32.4	+1.7
	baz=280						
PRP	Porcupine Dome	68.35	27	P	P	11 22 32.7	+1.4
	baz=280						
BMAR	Burnt Mountain	68.38	25	P	P	11 22 35.0	+3.8
F26K	Sheenjek River	68.49	24	P	P	11 22 32.6	+0.6
	baz=281						
P23K	Montague Islan	68.52	33	P	P	11 22 34.2	+2.0
	baz=281						
K24K	Donnelly Dome	68.56	28	P	P	11 22 32.6	+0.2
	baz=281						
J25K	Salcha River,	68.58	28	P	P	11 22 33.7	+1.1
	baz=281						
LPSR	Galich'ya Gora	68.69	319	*eP*	P	11 22 31.8	-1.6
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
M24K	Tolsona, Glenn	68.71	30	P	P	11 22 35.0	+1.6
	baz=281						
VORR	Voronezh	68.71	318	*eP*	P	11 22 32.2	-1.3
VORR				pmax	pmax		
	comp=Z,20nm,0.9s						
G26K	Porcupine Rive	68.77	25	P	P	11 22 35.0	+1.4
	baz=281						
VORD	Divnogorie	68.81	317	*eP*	P	11 22 33.3	-0.9
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR	Storozhevoye	68.83	318	*eP*	P	11 22 33.1	-1.2
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLU	Klutina	68.94	31	P	P	11 22 33.4	-1.5
	baz=282						
RIDG	Independent Ri	68.98	28	P	P	11 22 36.1	+1.0
	baz=282						
HARP	HAARP	69.11	30	P	P	11 22 37.0	+1.1
	baz=282						
SCRK	Sand Creek	69.30	28	P	P	11 22 37.7	+0.5
	baz=282						
D27M	Malcolm River	69.32	22	IAmb	IAmb	11 22 54.2	
	comp=Z,8.1nm,1.1s						
D27M	Malcolm River	69.32	22	P	P	11 22 37.2	+0.1
	baz=283						
I26K	Coal Creek Min	69.36	27	P	P	11 22 38.1	+0.7
	baz=282						
J26L	Joseph Creek	69.37	28	IAmb	IAmb	11 22 53.5	
	comp=Z,10.0nm,1.4s						
J26L	Joseph Creek	69.37	28	P	P	11 22 39.4	+1.9
	baz=282						
OBN	Obninsk	69.52	322	↓↓*iP*	P	11 22 39.8	+1.4
OBN				*PP	pP	11 22 50.0	-1.1
OBN				*SP	sP	11 22 54.0	-2.1
OBN						11 22 58.0	
OBN				*e*		11 32 23.7	
OBN				SSS	SSS	11 39 22.0	
OBN				pmax	pmax		
	comp=Z,29nm,1.3s						
N25K	Chitina, Valde	69.54	31	P	P	11 22 39.2	+0.5
	baz=283						
G27K	Doyon Strip	69.62	25	P	P	11 22 40.3	+1.3
	baz=283						
H27K	Steamboat Moun	69.81	26	P	P	11 22 41.3	+1.1
	baz=284						
I27K	Kandik River	69.92	26	P	P	11 22 41.1	+0.2
	baz=284						
E28M	Babbage River	69.97	23	IAmb	IAmb	11 22 45.6	
	comp=Z,6.7nm,0.7s						
E28M	Babbage River	69.97	23	P	P	11 22 42.4	+1.3
	baz=284						
D28M	Stokes Point	70.07	22	P	P	11 22 42.0	+0.4
	baz=285						
M26K	Nabesna, AK	70.09	30	IAmb	IAmb	11 23 00.7	
	comp=Z,9.6nm,1.1s						
M26K	Nabesna, AK	70.09	30	P	P	11 22 42.8	+0.8
	baz=284						
F28M	Old Crow	70.10	24	IAmb	IAmb	11 22 47.2	
	comp=Z,7.1nm,0.9s						
F28M	Old Crow	70.10	24	P	P	11 22 43.1	+1.2
	baz=284,SNR=11						
KEV	Kevo	70.25	338	P	P	11 22 43.8	+1.1
SPITS	Spitsbergen Ar	70.27	348	P	P	11 22 43.9	+1.1
	comp=Z,2.7nm,0.7s,baz=87,slow=5.9,SNR=5.5						
	comp=Z,2.7nm,0.7s						
EGAK	Eagle	70.31	27	P	P	11 22 43.0	-0.2
	baz=284						
L27K	Beaver Creek,	70.45	29	P	P	11 22 43.9	-0.3
	baz=284						
M27K	Edge Creek, AK	70.61	30	P	P	11 22 46.1	+0.9
	baz=285						
E29M	Blow River	70.61	23	P	P	11 22 46.0	+1.0
	baz=286						
I28M	Miner Creek	70.64	26	IAmb	IAmb	11 23 05.1	
	comp=Z,7.6nm,1.1s						
I28M	Miner Creek	70.64	26	P	P	11 22 45.4	+0.1
	baz=285						
ARCES	ARCESS Array B	70.81	338	P	P	11 22 47.2	+1.0
	comp=Z,2.1nm,0.7s,baz=78,slow=7.9,SNR=8.0						
	comp=Z,2.1nm,0.7s						
G29M	Pine Creek	70.98	24	P	P	11 22 47.7	+0.4
	baz=286						
H29M	Whitestone	71.05	25	P	P	11 22 48.1	+0.4
	baz=286						
DAWY	Dawson	71.24	28	P	P	11 22 49.5	+0.6
	baz=286						
I29M	Ogilvie Camp,	71.32	26	P	P	11 22 48.2	-1.2
	baz=287						
YUK3	Moose Creek	71.41	30	P	P	11 22 50.1	-0.1
	baz=286						
F30M	Barrier River	71.60	23	P	P	11 22 51.1	+0.1
	baz=288						
J29N	Klondike Camp	71.62	27	P	P	11 22 51.4	+0.1
	baz=287,SNR=6.5						
EPYK	Eagle Plains	71.64	25	P	P	11 22 49.7	-1.6
	baz=288						
G30M	tAoh Zraii Nji	71.64	24	IAmb	IAmb	11 22 56.1	
	comp=Z,12nm,1.2s						
G30M	tAoh Zraii Nji	71.64	24	P	P	11 22 51.0	-0.3
	baz=288,SNR=6.3						
O28M	Mount Upton	71.82	31	P	P	11 22 52.6	-0.2
	baz=287						
PINM	Pinnacle	71.98	32	P	P	11 22 52.6	-0.9
	baz=287						
L29M	L29M	72.06	28	P	P	11 22 53.2	-0.7
	baz=288						
K29M	Barlow Dome	72.09	27	P	P	11 22 53.9	-0.3
	baz=288						
M29M	Somme Creek	72.11	29	P	P	11 22 53.8	-0.5
	baz=288						
I30M	Mount Dempster	72.13	26	IAmb	IAmb	11 23 10.6	
	comp=Z,9.7nm,1.4s						
I30M	Mount Dempster	72.13	26	P	P	11 22 54.4	0.0
	baz=288						
INK	Inuvik	72.18	22	P	P	11 22 55.1	+0.7
INK	Inuvik	72.18	22	P	P	11 22 54.3	-0.1
	baz=290,SNR=5.6						
INK	Inuvik	72.18	22	P	P	11 22 55.1	+0.7
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YUK4	Talbot Arm	72.37	30	P	P	11 22 56.8	+0.9
	baz=288						
G31M	Satah River	72.39	24	P	P	11 22 55.9	+0.3
	baz=290						
F31M	Tsiigehtchic	72.40	23	P	P	11 22 56.9	+1.1
F31M				IAmb	IAmb	11 22 59.4	
	comp=Z,5.5nm,0.8s						
F31M	Tsiigehtchic	72.40	23	P	P	11 22 56.1	+0.3
	baz=290						
YUK6	Outpost Mounta	72.62	31	P	P	11 22 56.5	-0.9
	baz=288						
H31M	Peel River	72.74	25	P	P	11 22 57.1	-0.7
	baz=290						
M30M	Minto, Yukon	72.81	29	P	P	11 22 58.5	+0.1
	baz=289						
MAYO	Mayo, Yukon	72.86	27	P	P	11 22 59.2	+0.6
	baz=289						
N30M	Aishikik Lake	73.04	30	P	P	11 22 59.8	0.0
	baz=289						
FINES	FINESS Array B	73.12	330	P	P	11 23 01.4	+1.3
	comp=Z,9.9nm,0.8s,baz=76,slow=8.0,SNR=20						
FINES				LR	LR	11 57 07.2	
	comp=Z,160nm,21.0s,baz=282,slow=38						
	comp=Z,9.9nm,0.8s						
A36M	Sachs Harbour	73.33	18	IAmb	IAmb	11 23 04.7	
	comp=Z,7.0nm,0.8s						
A36M	Sachs Harbour	73.33	18	P	P	11 23 01.5	+0.4
	baz=296,SNR=9.4						
N31M	Braeburn, Yuko	73.62	30	P	P	11 23 03.3	+0.1
	baz=290						
O30N	Mendenhall	73.73	30	P	P	11 23 03.2	-0.6
	baz=290						
VSU	Vasula	73.79	327	*ceP*	P	11 23 04.6	+0.5
VSU				pmax	pmax		
	comp=Z,30nm,1.7s						
M31M	Drury Creek, Y	73.99	29	P	P	11 23 05.9	+0.6
	baz=291						
PLBC	Pleasant Camp	74.05	32	P	P	11 23 05.0	-0.7
	baz=290						
WHY	Whitehorse	74.33	30	P	P	11 23 05.5	-1.9

	baz=291							
FARO	Faro, Yukon	74.43	28	P	P	11 23 06.9	-1.0	
	baz=292							
MNK	Minsk	74.51	323	*i* P	P	11 23 07.4	-1.0	
MNK				*i*		11 23 21.9		
MNK				*i*		11 25 53.2		
MNK				*i* PPP	PPP	11 27 38.6		
MNK				*i* S	S	11 32 39.7	-0.5	
MNK				*i* SS	SS	11 37 26.2	-0.6	
MNK				pmax	pmax			
	comp=N,8.0nm,0.7s							
MNK				pmax	pmax			
	comp=E,35nm,0.7s							
MNK				pmax	pmax			
	comp=Z,9.0nm,0.7s							
MNK				MLR	MLR			
	comp=N,226nm,20.0s							
MNK				MLR	MLR			
	comp=E,485nm,22.0s							
MNK				MLR	MLR			
	comp=Z,162nm,22.0s							
C36M	Paulatuk	74.89	20	IAmb	IAmb	11 23 14.0		
	comp=Z,11nm,1.1s							
C36M	Paulatuk	74.89	20	P	P	11 23 09.3	-1.0	
	baz=298							
AKASG	Malin Array Be	75.02	319	P	P	11 23 12.2	+0.8	
	comp=Z,1.4nm,0.6s,baz=60,slow=5.2,SNR=7.8							
	comp=Z,1.4nm,0.6s							
AKASG	Malin Array Be	75.02	319	*i* P	P	11 23 12.1	+0.7	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKBB	Malin Array Si	75.02	319	P	P	11 23 12.0	+0.6	
AK01	Malin Array Si	75.03	319	P	P	11 23 11.7	+0.3	
AK10	Malin Array Si	75.04	319	P	P	11 23 12.2	+0.7	
AK02	Malin Array Si	75.04	319	P	P	11 23 12.3	+0.8	
AK04	Malin Array Si	75.05	319	P	P	11 23 12.3	+0.8	
AK12	Malin Array Si	75.08	319	P	P	11 23 12.2	+0.5	
P33M	Teslin, Yukon	75.44	30	P	P	11 23 13.6	-0.2	
	baz=293							
S32K	Killisnoo	75.65	33	P	P	11 23 14.2	-0.7	
	baz=292							
BRTR	Keskin Array B	75.73	307	P	P	11 23 17.1	+1.2	
	comp=Z,1.3nm,0.8s,baz=76,slow=5.2,SNR=6.1							
	comp=Z,1.3nm,0.8s							
BRTR	Keskin Array B	75.73	307	*i* P	P	11 23 17.7	+1.8	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BR104	Keskin Array S	75.74	307	P	P	11 23 16.8	+0.9	
	comp=Z,3.1nm,1.1s							
LUBAR	Lubar, Ukraine	76.17	319	P	P	11 23 19.2	+1.2	
Q32M	Nakina River	76.19	31	P	P	11 23 17.3	-1.0	
	baz=294							
SORM	Soroca	76.44	317	P	P	11 23 20.7	+1.1	
	comp=Z,5.6nm,1.1s							
R33M	Jennings River	76.63	31	P	P	11 23 19.2	-1.5	
	baz=294							
S34M	Telegraph Cree	77.17	32	P	P	11 23 21.5	-1.9	
	baz=295							
WRAK	Wrangell Islan	77.18	34	P	P	11 23 22.2	-1.3	
	baz=294							
WTLY	Watson Lake, Y	77.31	29	P	P	11 23 23.0	-1.3	
	baz=296							
KMPD	K-Podol'skiy	77.46	318	P	P	11 23 25.7	+0.4	
	comp=Z,51μmcomp=Z,2μm,1.1s							
DLBC	Dease Lake	77.47	31	P	P	11 23 23.4	-1.9	
	baz=295							
V35K	Ketchikan	78.01	35	P	P	11 23 27.5	-0.8	
	baz=295							
EIL	Elat	78.18	297	LR	LR	12 03 51.2		
	comp=Z,50nm,19.1s,baz=320,slow=40							
RES	Resolute Bay	78.28	10	IAmb	IAmb	11 23 32.3		
	comp=Z,6.2nm,0.8s							
HFS	Hagfors	79.18	332	P	P	11 23 36.2	+1.6	
	comp=Z,5.8nm,0.9s,baz=88,slow=7.6,SNR=6.0							
HFS				LR	LR	11 58 55.6		
	comp=Z,46nm,20.8s,baz=257,slow=36							
	comp=Z,5.8nm,0.9s							
KWP	Kalwaria Pacla	79.30	320	P	P	11 23 38.1	+2.6	
TOAD	Toad River Com	79.51	30	P	P	11 23 35.0	-1.5	
	baz=299							
NB2	NORSAR Subarra	79.77	333	P	P	11 23 39.1	+1.1	
	comp=Z,17nm,1.2s,baz=55,slow=6.2							
NOA	NORSAR Array B	79.77	333	P	P	11 23 39.0	+1.1	
	comp=Z,4.3nm,0.9s,baz=61,slow=4.9,SNR=6.6							
NOA				LR	LR	12 03 47.8		
	comp=Z,97nm,21.0s,baz=275,slow=39							
	comp=Z,4.3nm,0.9s							
NOA	NORSAR Array B	79.77	333	P	P	11 23 39.0	+1.1	
YKA	Yellowknife Ar	81.88	24	P	P	11 23 50.9	+1.9	
	comp=Z,1.9nm,1.0s,baz=308,slow=4.8,SNR=13							
	comp=Z,1.9nm,1.0s							
GERES	GERESS Array B	84.89	322	P	P	11 24 06.5	+1.5	
	comp=Z,0.7nm,0.4s,baz=29,slow=3.0,SNR=4.6							
	comp=Z,0.7nm,0.4s							
FCC	Fort Churchill	91.50	19	IAmb	IAmb	11 24 40.4		
	comp=Z,6.9nm,1.3s							
WVOR	Wild Horse Val	91.87	41	P	P	11 24 36.6	-1.8	
WVOR	Wild Horse Val	91.87	41	P	P	11 24 36.6	-1.8	
WVOR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
FFC	Flin Flon	91.99	25	P	P	11 24 37.8	-0.7	
FFC				IAmb	IAmb	11 24 41.4		
	comp=Z,4.1nm,0.9s							
FFC	Flin Flon	91.99	25	P	P	11 24 37.8	-0.7	
FFC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
R11B	Troy Canyon, C	96.16	43	P	P	11 24 55.7	-2.6	
	baz=307							
Q24A	Divide	101.95	37	P	Pdif	11 25 22.4	-2.0	
	baz=315							
T25A	Trinidad	103.65	38	P	Pdif	11 25 29.1	-2.7	
	baz=315							
121A	Cookes Peak, D	104.76	44	P	Pdif	11 25 34.9	-1.9	
	baz=312							
L61B	Northampton	111.95	14	P	PKiKP	11 30 04.5	-0.5	
	baz=343							

*IDC **06** 11:13:46.9±0.9, 26°.95S×178°.76W, h336km±9km, mb3.7/8, mbtmp4.5/10, Error ellipse: s-maj=22.1km s-min=15.4km az=77.0*
*NEIC **06** 11:13:47.4±1.8, 26°.82S±0°.09×178°.4W±0°.2, h347km±9km, mb4.0/14, Error ellipse: s-maj=23.4km s-min=12.2km az=98.0*

ISC 06 11:13:47.3±0.7, 27°.20S±0°.05×178°.5W±0°.1, h350km, n85, σ2°30/113, mb4.1/16, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	2.10	166	P	Pn	11 14 41.7	+2.4
RIZ				S	S	11 15 24.3	+3.3
RAO	Raoul Island	2.11	165	P	Pn	11 14 41.8	+2.5
	4μm,0.2s,baz=75,slow=6.1,SNR=42						
RAO				S	S	11 15 21.9	+0.8
	1μm,0.3s,baz=197,slow=19,SNR=2.0						
GLKZ	Green Lake	2.12	166	P	Pn	11 14 41.8	+2.4
GLKZ				S	S	11 15 19.7	-1.5
MSVF	Nonsavu	9.94	341	P	Pn	11 16 01.8	-2.9
MSVF	Nonsavu	9.94	341	P	Pn	11 16 01.3	-3.4
	29nm,0.6s,baz=113,slow=9.1,SNR=15						
GRZ	Great Barrier	10.37	208	P	P	11 16 14.7	+4.0
OUZ	Omahuta	10.45	218	P	P	11 16 14.6	+3.0
WCZ	Waipu Caves	10.62	213	P	P	11 16 17.5	+4.0
MXZ	Matakaoa Point	10.67	194	P	Pn	11 16 11.5	-1.6
MXZ				S	S	11 18 06.5	-6.4
HAZ	Te Kaha	10.97	196	P	P	11 16 16.8	-0.6
HAZ				S	S	11 18 15.6	-4.0
PUZ	Puketiti	11.17	193	P	Pn	11 16 18.3	-0.8
PUZ				S	S	11 18 21.2	-2.9
MWZ	Matawai	11.59	196	P	P	11 16 23.4	-0.8
MWZ				S	S	11 18 29.3	-3.9
URZ	Urewera	11.62	197	P	P	11 16 25.5	+0.9
	24nm,0.3s,baz=354,slow=5.2,SNR=43						
URZ				S	S	11 18 30.4	-3.5
	62nm,0.5s,baz=180,slow=20,SNR=15						
URZ	Urewera	11.62	197	P	Pn	11 16 23.0	-1.4
URZ				S	S	11 18 31.2	-2.8
RRRZ	Republican Roa	11.86	199	P	P	11 16 30.0	+2.7
MUGZ	Murupara	11.92	198	P	P	11 16 28.1	+0.3
MUGZ				S	S	11 18 35.8	-4.7
HRRZ	Handcock Road	11.98	200	P	P	11 16 31.4	+2.8
RTZ	Ruatahuna	11.99	197	P	Pn	11 16 28.2	-0.7
RTZ				S	S	11 18 39.2	-2.9
SNGZ	Shannon Statio	12.05	196	P	P	11 16 26.8	-2.7
SNGZ				S	S	11 18 38.9	-4.5

ALRZ	Allen Road	12.12	200	P	Pn	11 16 31.1	+0.8	
ALRZ				S	S	11 18 42.3	-2.5	
WPRZ	Whakapapatarin	12.13	200	P	Pn	11 16 33.1	+2.5	
KNZ	Kokohu	12.21	194	P	P	11 16 27.1	-4.0	
KNZ				S	S	11 18 40.7	-5.8	
MTHZ	Maungataniwha	12.25	197	P	Pn	11 16 32.1	+0.2	
MTHZ				S	S	11 18 44.1	-3.4	
NMHZ	Naumai	12.49	197	P	P	11 16 32.0	-2.2	
HIZ	Hauiti	12.57	205	P	Pn	11 16 39.8	+4.2	
ARHZ	Aropaoanui	12.60	196	P	Pn	11 16 36.0	+0.1	
ARHZ				S	S	11 18 51.7	-2.9	
BKZ	Black Stump Fm	12.64	198	P	P	11 16 34.7	-1.2	
BKZ				S	S	11 18 52.7	-2.9	
KATZ	Kakaramea	12.70	201	P	Pn	11 16 39.3	+2.0	
NTVZ	North Tongarir	12.81	201	P	Pn	11 16 39.3	+0.6	
NTVZ				S	S	11 19 00.2	+1.0	
FUTU	Fugatoga	12.84	2	P	P	11 16 34.7	-3.6	
MCHZ	McNeill Hill	12.84	197	P	P	11 16 37.2	-0.9	
MCHZ				S	S	11 18 55.8	-3.8	
NNVZ	North Ngauruho	12.87	201	P	Pn	11 16 40.2	+0.9	
OTVZ	Oturere	12.88	201	P	P	11 16 38.0	-0.6	
OTVZ				S	S	11 18 57.6	-3.0	
KWHZ	Kaweka Forest	12.90	198	P	P	11 16 37.7	-1.0	
KWHZ				S	S	11 18 57.0	-3.8	
SNVZ	South Ngauruho	12.91	201	P	Pn	11 16 40.3	+0.5	
SNVZ				S	S	11 19 00.2	-1.0	
TUVZ	Tukino	12.98	201	P	Pn	11 16 40.9	+0.3	
TUVZ				S	S	11 19 01.2	-1.4	
FWVZ	Far West T-bar	13.00	201	P	Pn	11 16 41.4	+0.5	
FWVZ				S	S	11 19 04.6	+1.5	
MAVZ	Matarangi	13.01	201	P	Pn	11 16 41.0	-0.1	
WNVZ	Wahianoa	13.05	201	P	Pn	11 16 40.6	-0.8	
MOVZ	Moawhango	13.07	200	P	Pn	11 16 40.5	-1.1	
MOVZ				S	S	11 18 58.1	-6.2	
KRHZ	Kereru	13.12	198	P	P	11 16 39.7	-1.4	
KRHZ				S	S	11 19 01.3	-3.9	
KAHZ	Kahuranaki	13.13	196	P	Pn	11 16 41.7	-0.5	
KAHZ				S	S	11 19 05.3	-0.1	
MTVZ	Mangateitei	13.14	201	P	P	11 16 39.5	-1.9	
PXZ	Pawanui	13.36	196	P	P	11 16 42.9	-0.9	
PXZ				S	S	11 19 06.7	-3.2	
PNHZ	Pukenui	13.41	198	P	P	11 16 42.1	-2.4	
PNHZ				S	S	11 19 06.9	-4.3	
MRZ	Mangatainoka R	14.28	198	P	P	11 16 52.2	-1.7	
MRZ				S	S	11 19 24.3	-4.3	
DZM	Mont Dzumac	14.59	287	P	Pn	11 16 58.5	-1.1	
DZM	Mont Dzumac	14.59	287	P	Pn	11 17 01.3	+1.8	
	23nm,0.7s,baz=107,slow=16,SNR=7.9							
AFI	Afiamalu	14.65	27	P	P	11 16 54.0	-4.3	
QRZ	Quartz Range	15.47	206	P	Pn	11 17 08.2	-1.2	
QRZ				S	S	11 19 55.8	+3.5	
NNZ	Nelson	15.49	203	P	P	11 17 05.9	-1.2	
NNZ				S	S	11 19 52.8	+0.1	
SANVU	Saraoutou	17.69	309	P	P	11 17 30.1	-1.0	
HNR	Honiara	26.94	307	P	P	11 18 56.1	-1.9	
EIDS	Eidsvold	27.28	267	P	P	11 19 02.5	+1.6	
EIDS				IAmb	IAmb	11 19 03.7		
	comp=Z,8.5nm,0.7s							
STKA	Stephens Creek	34.87	253	P	P	11 20 09.0	+2.2	
STKA				IAmb	IAmb	11 20 25.0		
	comp=Z,3.4nm,1.1s							
MANU	Manus Island	41.14	302	P	P	11 20 57.9	-1.0	
AS31	Alice Springs	42.91	264	P	P	11 21 13.6	+0.6	
ASAR	Alice Springs	42.91	264	P	P	11 21 13.3	+0.3	
ASAR	Alice Springs	42.91	264	P	P	11 21 12.1	-0.9	
	comp=Z,1.7nm,0.6s,baz=95,slow=6.9,SNR=25							
	comp=Z,1.7nm,0.6s							
WR0	Warramunga Arr	43.42	269	P	P	11 21 17.5	+0.5	
WR0				IAmb	IAmb	11 21 21.5		
	comp=Z,5.5nm,0.9s							
WB2	Warramunga Arr	43.59	269	P	P	11 21 17.7	-0.7	
WB2				IAmb	IAmb	11 21 18.9		
	comp=Z,11nm,0.8s							
WRA	Warramunga Arr	43.60	269	P	P	11 21 17.5	-1.0	
WRA	Warramunga Arr	43.60	269	P	P	11 21 17.6	-0.9	
	comp=Z,6.2nm,0.7s,baz=102,slow=8.8,SNR=31							
	comp=Z,6.2nm,0.7s							
WB0	Warramunga Arr	43.61	269	P	P	11 21 17.7	-0.8	
WB0				IAmb	IAmb	11 21 21.0		
	comp=Z,8.4nm,0.8s							
FORT	Forrest	46.50	252	P	P	11 21 40.5	-0.4	
FORT				IAmb	IAmb	11 22 00.1		
	comp=Z,13nm,0.8s							
KNRA	Kununurra	50.07	272	P	P	11 22 08.2	+0.1	
KNRA				IAmb	IAmb	11 22 11.5		
	comp=Z,18nm,0.9s							
FITZ	Fitzroy Crossi	51.97	268	P	P	11 22 23.0	+1.0	
QSPA	South Pole Qui	62.90	180	P	P	11 23 40.8	+3.8	
QSPA	South Pole Qui	62.90	180	P	P	11 23 40.0	+3.0	
	comp=Z,1.1nm,0.6s,baz=308,slow=1.2,SNR=9.7							
	comp=Z,1.1nm,0.6s							
BELA	Belgrano 2	73.00	173	P	P	11 24 41.3	+2.3	
BELA				IAmb	IAmb	11 24 42.2		
	comp=Z,1.5nm,0.7s							
MJAR	Matsushiro Arr	75.36	325	P	P	11 24 51.3	-1.8	
	comp=Z,5.3nm,0.8s,baz=162,slow=5.7,SNR=9.8							
	comp=Z,5.3nm,0.8s							
JNU	Nakatsue	76.87	318	P	P	11 25 00.7	-0.9	
	comp=Z,4.8nm,0.8s,baz=265,slow=1.8,SNR=5.5							
	comp=Z,4.8nm,0.8s							
KSRS	Korea Array	81.62	320	P	P	11 25 26.8	-0.1	
	comp=Z,1.1nm,0.7s,baz=133,slow=5.0,SNR=5.5							
	comp=Z,1.1nm,0.7s							
PETK	Petropavlovsk-	82.61	346	P	P	11 25 31.1	-0.5	
	comp=Z,5.5nm,1.0s,baz=101,slow=7.7,SNR=5.0							
	comp=Z,5.5nm,1.0s							
USRK	Ussuriysk Ar.	84.25	327	P	P	11 25 40.3	+0.2	
	comp=Z,2.5nm,0.7s,baz=125,slow=7.2,SNR=2.8							
	comp=Z,2.5nm,0.7s							
MKAR	Makanchi Array	115.34	311	PKP	PKPdf	11 31 47.2	-0.3	
	comp=Z,0.2nm,0.5s,baz=90,slow=2.9,SNR=3.0							
KURBB	Kurchatov Arra	118.53	315	PKP	PKPdf	11 31 52.9	-0.6	
	comp=Z,0.2nm,0.5s,baz=102,slow=2.0,SNR=5.8							
BVAR	Borovoye Array	123.78	317	PKP	PKPdf	11 32 03.8	+0.2	
	comp=Z,1.0nm,0.7s,baz=126,slow=2.5,SNR=3.9							
NB2	NORSAR Subarra	145.53	352	PKP	PKPdf	11 32 43.7	+0.1	
	comp=Z,2.4nm,0.7s,baz=11,slow=2.9							
NOA	NORSAR Array B	145.53	352	PKPbc	PKPdf	11 32 44.4	+0.9	
	comp=Z,1.6nm,0.7s,baz=14,slow=2.9,SNR=5.4							
HFS	Hagfors	146.03	349	PKPbc	PKPdf	11 32 45.1	+0.7	
	comp=Z,2.6nm,0.5s,baz=64,slow=3.7,SNR=10.0							
AKASG	Malin Array Be	148.45	326	PKPbc	PKPbc	11 32 52.3	-0.4	
	comp=Z,2.4nm,0.6s,baz=44,slow=3.9,SNR=18							
MMAI	Mount Meron Ar	150.17	289	PKPbc	PKPbc	11 32 58.3	+0.8	
	comp=Z,1.9nm,0.5s,baz=98,slow=6.0,SNR=4.2							
BRTR	Keskin Array B	150.57	303	PKPbc	PKPbc	11 32 58.0	-0.4	
	comp=Z,0.8nm,0.7s,baz=156,slow=2.6,SNR=4.0							
BRTR				PKPab	PKPab	11 33 06.4	-0.2	
	comp=Z,1.5nm,0.7s,baz=78,slow=3.6,SNR=6.4							
TORD	Torodi Ar. Bea	166.01	181	PKPab	PKPab	11 34 15.1	+1.6	
	comp=Z,0.5nm,0.7s,baz=225,slow=2.3,SNR=3.9							

*IDC **06** 11:16:47.9±1.0, 24°.95N×124°.39E, h0km, mb3.8/8, mbtmp3.8/9, ML2.9/1, Error ellipse: s-maj=31.7km s-min=18.5km az=62.0*
*JMA **06** 11:16:48.0±0.2, 24°.N±1°.×124°.6E±0°.9, h4±4km, MD3.9/13, MV3.6/13, NEAR ISHIGAKIJIMA ISLAND*

ISC 06 11:16:47.7±1.8, 24°.1N±0°.1×124°.59E±0°.06, h44km±13km, n25, σ0°64/24, mb3.7/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	Ishigaki jima	0.51	307	*i* P	Pn	11 16 58.5	-0.3
JIJ				*e*S	Sn	11 17 06.2	-0.4
JIJ	Ishigaki jima	0.51	307	A	A	11 16 58.5	
	comp=E,7.0nm,1.4s						
JKRS	Kuro-shima	0.56	289	*i* P	Pn	11 16 59.5	+0.1
JKRS	Kuro-shima	0.56	289	A	A	11 16 59.5	
	comp=N,25nm,1.4s,comp=E,16nm,0.8s						
JISG	Ishigakijimahi	0.58	334	*i* P	Pn	11 16 59.6	-0.1
JISG				*e*S	Sn	11 17 08.1	-0.2
JISG	Ishigakijimahi	0.58	334	A	A	11 16 59.6	
	comp=N,7.0nm,0.4s,comp=E,6.0nm,0.4s						
JTJ	Tarama	0.59	10	*i* P	Pn	11 17 00.2	+0.4
JTJ				*e*S	Sn	11 17 08.8	+0.4
JTJ	Tarama	0.59	10	A	A	11 17 00.2	
	comp=N,14nm,0.3s,comp=E,22nm,0.6s						
HATJ	Hateruma jima	0.72	270	*e*P	Pn	11 17 01.2	-0.2
HATJ				S	Sn	11 17 11.6	+0.2
IRIF	Iriomote-Funau	0.83	289	*i* P	Pn	11 17 03.1	+0.1
IRIF				*e*S	Sn	11 17 14.9	+0.8
IRIF	Iriomote-Funau	0.83	289	A	A	11 17 03.1	
	comp=N,6.0nm,0.6s,comp=E,9.0nm,3.2s						

JIRB	Irabujima	0.93	35	P	Pn	11 17 05.0	+0.6	
JMJ2	Miyako jima3	0.96	45	P	Pn	11 17 05.4	+0.7	
JOGS	Gusukube	1.02	47	P	Pn	11 17 06.3	+0.8	
JIKM	Ikemajima	1.05	35	P	Pn	11 17 06.6	+0.6	
JYNG	Yonagunijimaku	1.55	285	P	Pn	11 17 13.1	+0.3	
JOW	Kunigami	4.33	50	Pn	Pn	11 17 50.0	-1.0	
	comp=E,1.5nm,0.3s,baz=112,slow=23,SNR=5.1							
JOW				Sn	Sn	11 18 39.3	-0.9	
	comp=E,1.6nm,0.3s,baz=210,slow=20,SNR=1.1							
	comp=E,13nm,0.9s							
SONM	Songino Array	27.79	333	P	P	11 22 31.3	-1.3	
	comp=E,0.3nm,0.5s,baz=154,slow=9.8,SNR=3.0							
	comp=E,0.3nm,0.5s							
MKAR	Makanchi Array	40.61	315	P	P	11 24 23.4	+0.1	
	comp=E,0.5nm,0.5s,baz=101,slow=10,SNR=7.9							
	comp=E,0.5nm,0.5s							
ZALV	Zalesovo Beam	42.07	326	P	P	11 24 34.4	-0.7	
	comp=E,2.1nm,0.6s,baz=104,slow=8.9,SNR=8.0							
	comp=E,2.1nm,0.6s							
KURBB	Kurchatov Arra	44.23	319	P	P	11 24 52.5	-0.1	
	comp=E,0.3nm,0.4s,baz=109,slow=7.7,SNR=5.2							
	comp=E,0.3nm,0.4s							
WRA	Warramunga Arr	44.76	167	P	P	11 25 10.3	+13	
	comp=E,1.0nm,0.6s,baz=347,slow=8.8,SNR=5.3							
	comp=E,1.0nm,0.6s							
ASAR	Alice Springs	48.30	169	P	P	11 25 38.0	+13	
	comp=E,0.3nm,0.4s,baz=346,slow=8.5,SNR=8.9							
	comp=E,0.3nm,0.4s							
BVAR	Borovoye Array	49.75	320	P	P	11 25 35.8	+0.1	
	comp=E,0.9nm,0.3s,baz=99,slow=8.0,SNR=5.5							
	comp=E,0.9nm,0.3s							
FINES	FINESS Array B	73.11	330	P	P	11 28 14.1	+0.9	
	comp=E,1.0nm,0.7s,baz=48,slow=6.6,SNR=5.4							
	comp=E,1.0nm,0.7s							

*IDC **06** 11:21:56.5±2.8, 6°.37S×147°.78E, h74km±26km, mb3.6/9, mbtmp3.9/12, MS2.8/2, Error ellipse: s-maj=38.1km s-min=17.7km az=89.0*

ISC 06 11:21:54.4±0.7, 6°29S±0°.07×147°9E±0°.1, h51km, n24, σ1°82/25, mb3.9/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.18	193	P	Pn	11 22 42.9	+0.9
	251nm,0.7s,baz=2.5,slow=5.5,SNR=38						
PMG				S	Sn	11 23 18.8	+0.2
	76nm,0.3s,baz=224,slow=23,SNR=8.9						
PMG				LR	LR	11 24 04.5	
	comp=Z,168nm,21.1s,baz=70,slow=42						
KRVT	Keravat (AS076	4.57	65	LR	LR	11 24 59.0	
	comp=Z,125nm,20.4s,baz=34,slow=39						
JAY	Jayapura	8.08	297	P	Pn	11 23 51.6	+2.3
	11nm,0.6s,baz=142,slow=5.6,SNR=5.3						
COEN	Coen	8.92	211	P	Pn	11 24 01.7	+1.0
TATA	Tatamba Isabel	12.01	101	P	P	11 24 53.8	-0.7
MTSU	Mount Surprise	12.28	196	P	Pn	11 24 49.6	+2.9
QIS	Mount Isa	16.30	209	P	Pn	11 25 40.5	+0.5
WRA	Warramunga Arr	18.90	223	P	P	11 26 09.0	-2.0
	0.9nm,0.4s,baz=51,slow=10,SNR=21						
WRA				S	Sn	11 29 30.3	-13
	0.9nm,1.1s,baz=45,slow=22,SNR=1.4						
QLP	Quilpie	20.48	189	P	P	11 26 29.5	+1.4
AS01	Alice Springs	21.86	216	P	P	11 26 42.4	-0.6
	6.6nm,0.7s						
ASAR	Alice Springs	21.89	216	P	P	11 26 42.7	-0.7
	3.0nm,0.6s,baz=53,slow=8.9,SNR=62						
ASAR				S	S	11 30 36.5	-6.1
	0.5nm,0.7s,baz=38,slow=22,SNR=4.1						
	3.0nm,0.6s						
INKA	Innaminka	22.39	197	P	P	11 26 49.1	+0.6
OOD	Oodnadatta	24.32	207	P	P	11 27 08.6	+1.2
FITZ	Fitzroy Crossi	24.67	240	P	P	11 27 10.1	-0.6
	20nm,0.5s						
LCRK	Leigh Creek	25.69	200	P	P	11 27 20.3	+0.5
STKA	Stephens Creek	26.13	192	P	P	11 27 24.3	+0.5
	2.2nm,0.5s,baz=304,slow=21,SNR=4.9						
	2.2nm,0.5s						
PETK	Petropavlovsk-	59.76	7	P	P	11 31 55.4	+1.5
	4.1nm,1.0s,baz=166,slow=7.0,SNR=8.3						
	4.1nm,1.0s						
SONM	Songino Array	65.08	331	P	P	11 32 29.7	-0.2
	0.5nm,0.6s,baz=147,slow=6.0,SNR=6.0						
	0.5nm,0.6s						
MKAR	Makanchi Array	78.28	320	P	P	11 33 48.0	-1.0
	0.3nm,0.4s,baz=98,slow=8.1,SNR=10.0						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	79.72	328	P	P	11 33 55.5	-1.3
	0.6nm,0.5s,baz=100,slow=6.0,SNR=2.1						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	81.99	323	P	P	11 34 07.8	-1.1
	0.1nm,0.3s,baz=94,slow=6.4,SNR=2.1						
	0.1nm,0.3s						
ILAR	Eielson Array	85.40	23	P	P	11 34 24.5	-1.6
	0.3nm,0.6s,baz=261,slow=4.6,SNR=4.7						
	0.3nm,0.6s						
BVAR	Borovoye Array	87.52	324	P	P	11 34 35.8	-0.9
	0.7nm,0.6s,baz=

APSI Ampana 7.84 246 P **Pn 11 57 02.5 +0.9**
1µm127nm,1.2s
BAKI Biak 8.05 115 P **Pn 11 57 06.4 +2.0**
141nm,0.8s
TOLI2 Tolitoli 8.13 262 Pn **Pn 11 57 04.5 -1.0**
KDI Kendari 8.76 225 P **Pn 11 57 15.1 +0.9**
2µm76nm,0.8s
TTSI Tana Toraja 10.44 240 P **Pn 11 57 37.4 +0.2**
943nm75nm,0.8s
SPSI Sidrap Palu 10.97 236 P **Pn 11 57 44.4 -0.1**
844nm82nm,0.9s
BKSI Bulukumba 11.51 229 P **Pn 11 57 54.1 +2.2**
719nm64nm,0.7s
KAPI Kappang 11.60 231 Pn **Pn 11 57 54.4 +1.3**
KAPI Kappang 11.60 231 P **Pn 11 57 54.0 +0.9**
2.8nm,0.3s,baz=99,slow=17,SNR=5.6
KAPI LR LR 12 02 33.2
comp=Z,328nm,20.0s,baz=70,slow=39
7.7nm,0.3s
KAPI Kappang 11.60 231 P **Pn 11 57 54.4 +1.3**
JAY Jayapura 12.79 112 LR LR 12 02 25.8
comp=Z,726nm,20.9s,baz=295,slow=34
KKM Kota Kinabalu 13.13 287 Pn **Pn 11 58 15.2 +1.1**
TGY Tagaytay City 14.11 327 LR LR 12 04 29.5
comp=Z,635nm,21.3s,baz=172,slow=40
MTN Manton Dam 15.19 171 Pn **Pn 11 58 40.5 -1.3**
PLAI Plampang 15.58 225 P **Pn 11 58 45.7 -1.3**
1µm93nm,1.6s
TWSI Taliwang, Sumb 16.17 227 P **Pn 11 58 54.9 +0.5**
51nm,0.9s
SBUM Sibu 16.60 271 **Pn 11 59 00.3 +0.4**
KMMI Kalianget 17.48 238 P **P 11 59 12.6 +0.9**
86nm,1.3s
STKI Sintang 17.48 263 P **P 11 59 17.5 +5.7**
KNRA Kununurra 17.83 180 P **Pn 11 59 15.0 -0.2**
JAGI Jajag, Banyuwa 18.11 234 **P 11 59 20.3 +1.7**
JAGI IAmb IAmb 11 59 28.2
comp=Z,115nm,1.2s
JAGI Jajag, Banyuwa 18.11 234 P **P 11 59 20.5 +1.8**
comp=Z,88nm,1.1s
KSM Kuching 18.53 268 P **Pn 11 59 23.6 -0.1**
GUMO Guam 19.45 54 LR LR 12 06 12.5
comp=Z,415nm,21.6s,baz=226,slow=34
NGJI Ngawi 19.80 241 P **Pn 11 59 38.7 -0.2**
comp=Z,100nm,1.1s
PCJI Pacitan 20.44 239 P Pn 11 59 45.7 -0.8
comp=Z,98nm,1.5s
FITZ Fitzroy Crossi 20.48 189 P **P 11 59 45.0 +0.5**
FITZ Fitzroy Crossi 20.48 189 P **P 11 59 44.4 -0.1**
comp=Z,2.4nm,0.6s,baz=13,slow=6.2,SNR=10
comp=Z,2.4nm,0.6s
UGM Wanagama 20.87 241 P **P 11 59 49.5 +0.6**
COEN Coen 21.50 139 P **P 11 59 55.8 +0.2**
COEN IAmb IAmb 12 00 22.2
comp=Z,61nm,1.4s
PMG Port Moresby 21.63 123 P **P 11 59 58.2 +1.2**
comp=Z,17nm,0.9s,baz=286,slow=18,SNR=2.0
PMG LR LR 12 09 28.3
comp=Z,596nm,20.8s,baz=292,slow=39
comp=Z,17nm,0.9s
TWG Pinlang 21.77 340 P **P 11 59 56.2 -2.2**
KPJI Karang Pucung 22.03 244 P **P 12 00 01.9 +0.7**
comp=Z,71nm,0.9s
YULB Yu-li 22.23 341 P **P 12 00 00.2 -3.2**
TPUB Ta-pu 22.37 340 P **P 12 00 02.8 -2.1**
TPUB IAmb IAmb 12 00 15.8
comp=Z,59nm,0.8s
WB0 Warramunga Arr 22.57 166 P **P 12 00 07.5 +0.5**
SSLB Suanglung 22.71 341 P **P 12 00 06.8 -1.7**
WRAB Tennant Creek 22.72 166 P **P 12 00 09.3 +0.7**
WRAB IAmb IAmb 12 00 21.2
comp=Z,30nm,0.8s
WRAB Tennant Creek 22.72 166 *i* P **P 12 00 10.0 +1.4**
WRAB pmax pmax
comp=Z,26nm,0.9s
WRA Warramunga Arr 22.72 166 P **P 12 00 08.6 -0.1**
comp=Z,4.0nm,0.5s,baz=343,slow=10,SNR=24
WRA ScP **ScP 12 07 33.4 -1.3**
comp=Z,0.6nm,0.7s,baz=337,slow=3.5,SNR=2.6
WRA LR LR 12 10 55.4
comp=Z,438nm,20.6s,baz=2.5,slow=42
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 22.72 166 *i* P **P 12 00 09.8 +1.1**
WRA pmax pmax
comp=Z,13nm,0.9s
WB2 Warramunga Arr 22.73 166 P **P 12 00 08.8 +0.1**
WB2 IAmb IAmb 12 00 21.2
comp=Z,36nm,0.8s
LEM Lembang 23.02 247 LR LR 12 11 09.5
comp=Z,294nm,20.1s,baz=72,slow=42
YHNB Yeheng 23.41 343 P **P 12 00 15.5 -0.1**
YHNB IAmb IAmb 12 00 27.4
comp=Z,46nm,0.8s
TATO Taipei 23.66 343 P **P 12 00 18.0 +0.1**
TATO IAmb IAmb 12 00 37.9
comp=Z,50nm,1.0s
KRVT Keravat (AS076 24.08 106 LR LR 12 08 31.9
comp=Z,747nm,18.1s,baz=24,slow=33
KNMB Chin-men Tao 24.26 336 P **P 12 00 21.7 -1.8**
KNMB IAmb IAmb 12 00 26.8
comp=Z,44nm,1.2s
JOW Kunigami 24.43 359 P **P 12 00 24.6 -0.4**
JOW Kunigami 24.43 359 LR LR 12 09 02.8
comp=Z,498nm,21.6s,baz=174,slow=34
QZH Quanzhou 24.61 337 P **P 12 00 26.8 +0.1**
QZH pP **pP 12 00 35.4 -2.3**
QZH S **S 12 04 51.0 +5.7**
QZH pmax pmax
comp=Z,32nm,0.9s
QZH LR LR
comp=Z,630nm,15.8s
QZH LR LR
comp=Z,380nm,15.1s
QZH LR LR
comp=Z,730nm,16.6s
CGJI Cibinong 24.72 249 P **P 12 00 27.0 -0.8**
comp=Z,1µmcomp=Z,58nm,0.7s
QIZ Qiongzhong 24.96 313 P **P 12 00 30.1 +0.2**
QIZ S **S 12 04 53.0 +1.9**
QIZ LR LR
comp=Z,470nm,17.6s
QIZ LR LR
comp=Z,380nm,17.3s
QIZ LR LR
comp=Z,370nm,20.4s
MDSI Maura Dua 25.53 255 P **P 12 00 35.4 +0.3**
comp=Z,24nm,0.8s
AS31 Alice Springs 26.24 169 P **P 12 00 41.7 +0.1**
ASAR Alice Springs 26.25 169 P **P 12 00 42.3 +0.8**
comp=Z,2.5nm,0.6s,baz=353,slow=9.0,SNR=70
ASAR PcP **PcP 12 04 06.2 -1.4**
comp=Z,0.7nm,0.6s,baz=0.6,slow=2.6,SNR=4.9
ASAR ScP **ScP 12 07 43.0 -1.4**
comp=Z,1.2nm,0.8s,baz=349,slow=3.2,SNR=6.5
ASAR LR LR 12 12 35.1
comp=Z,628nm,21.0s,baz=354,slow=40
comp=Z,2.5nm,0.6s
UBPT Khong Chiam 26.41 301 P **P 12 00 42.5 -0.6**
JCJ Chichijima 27.81 26 LR LR 12 09 18.4
comp=Z,201nm,20.4s,baz=14,slow=30
GULI GuiLin 28.99 324 P **P 12 01 06.6 +0.5**
GULI pmax pmax
comp=Z,10.0nm,1.0s
GULI LR LR
comp=Z,260nm,19.5s
GULI LR LR
comp=Z,370nm,19.5s
GULI LR LR
comp=Z,260nm,20.1s
PSI Prapat 29.88 272 LR LR 12 15 38.9
comp=Z,142nm,18.1s,baz=151,slow=41
JNU Nakatsue 30.75 3 LR LR 12 12 32.4
comp=Z,388nm,21.6s,baz=180,slow=34
SLVN Son La 30.79 310 P **P 12 01 22.7 +0.6**
NJ2 Nanjing 31.08 343 ⇑P **P 12 01 25.4 +0.9**
NJ2 pP **pP 12 01 33.6 -1.5**
NJ2 sP **sP 12 01 38.3 -1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.8s
GSI Gunungsitoli 31.25 269 P **P 12 01 25.0 -1.2**
GSI IAmb IAmb 12 01 32.7
comp=Z,22nm,1.0s
WHN Wuhan 31.29 335 P **P 12 01 26.7 +0.4**
WHN pmax pmax
comp=Z,34nm,1.2s
JMN Monobe 31.65 8 P **P 12 01 30.4 +0.8**
JMN IAmb IAmb 12 01 32.8
comp=Z,19nm,0.9s
PHRA Phrae 32.34 302 P **P 12 01 35.5 -0.2**
FORT Forrest 32.87 181 P **P 12 01 39.7 -0.4**
FORT IAmb IAmb 12 01 51.9
comp=Z,18nm,0.8s
HNR Honiara 33.11 111 LR LR 12 14 13.6
comp=Z,212nm,21.9s,baz=308,slow=34
CMAR Chiang Mai Arr 33.42 301 P **P 12 01 44.5 -0.7**
CMAR Chiang Mai Arr 33.42 301 P **P 12 01 42.5 -2.7**
comp=Z,3.7nm,0.9s,baz=120,slow=7.5,SNR=24
CMAR PcP **PcP 12 04 25.8 -0.4**
comp=Z,1.1nm,0.7s,baz=164,slow=1.5,SNR=5.4
CMAR LR LR 12 15 17.4
comp=Z,92nm,21.9s,baz=135,slow=36
comp=Z,3.7nm,0.9s
CMAR Chiang Mai Arr 33.42 301 *i* P **P 12 01 45.2 0.0**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 33.57 301 P **P 12 01 46.1 -0.4**
CHTO Chiang Mai 33.57 301 P **P 12 01 46.1 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
INU Inuyama 33.78 12 P **P 12 01 48.0 -0.2**
INU Inuyama 33.78 12 P **P 12 01 48.2 +0.1**
JGF Kuroka 34.10 12 P **P 12 01 50.2 -0.7**
JGF IAmb IAmb 12 01 52.8
comp=Z,21nm,1.2s
KSAR Wonju Array Be 35.02 359 P **P 12 01 58.3 -0.4**
KSAR Wonju Array Be 35.02 359 P **P 12 01 58.3 -0.4**
KSRS Korea Array 35.03 359 P **P 12 01 58.9 +0.1**
comp=Z,13nm,0.8s,baz=176,slow=10,SNR=50
KSRS LR LR 12 15 03.2
comp=Z,280nm,21.3s,baz=195,slow=34
comp=Z,13nm,0.8s
KS19 Wonju Array Si 35.08 359 P **P 12 01 58.4 -0.9**
KS19 IAmb IAmb 12 02 00.8
comp=Z,16nm,0.8s
MAJO Matsushiro 35.19 13 P **P 12 01 59.7 -0.6**
MAJO Matsushiro 35.19 13 P **P 12 01 59.7 -0.6**
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 35.19 13 P **P 12 01 59.5 -0.9**
MJAR Matsushiro Arr 35.19 13 P **P 12 01 59.3 -1.0**
comp=Z,19nm,0.8s,baz=186,slow=9.2,SNR=42
MJAR LR LR 12 13 59.5
comp=Z,389nm,21.1s,baz=208,slow=32
comp=Z,19nm,0.8s
MJB9 Matsu-Tunnel 35.19 13 P **P 12 02 00.1 -0.2**
PZH PanZhiHua 35.45 315 P **P 12 02 05.4 +2.6**
PZH S **S 12 07 33.0 -2.4**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,90nm,6.1s
PZH LR LR
comp=Z,170nm,16.9s
PZH LR LR
comp=Z,140nm,15.9s
PZH LR LR
comp=Z,210nm,19.1s
TIA Tai'an 35.47 344 P **P 12 02 01.8 -0.9**
TIA pmax pmax
comp=Z,9.0nm,0.9s
LYN LuoYang 35.56 336 ⇓P **P 12 02 03.6 +0.1**
LYN pmax pmax
comp=Z,14nm,0.8s
LYN pmax pmax
comp=Z,160nm,6.9s
STKA Stephens Creek 36.05 161 P **P 12 02 08.6 +0.9**
comp=Z,4.4nm,0.5s,baz=341,slow=10.0,SNR=12
STKA LR LR 12 18 35.3
comp=Z,371nm,19.9s,baz=334,slow=39
comp=Z,4.4nm,0.5s
XAN Xi'an 36.67 332 ⇓P **P 12 02 12.3 -0.8**
XAN PP **PP 12 03 39.2 +2.0**
XAN S **S 12 07 54.5 +0.7**
XAN SS **SnSn 12 10 21.2 -5.5**
XAN pmax pmax
comp=Z,21nm,0.8s
XAN pmax pmax
comp=Z,200nm,4.1s
XAN LR LR
comp=Z,270nm,11.9s
XAN LR LR
comp=Z,280nm,12.0s
XAN LR LR
comp=Z,400nm,14.8s
NWAO Narrogin (SRO) 36.68 196 LR LR 12 17 36.5
comp=Z,90nm,21.2s,baz=52,slow=37
TNCH TengChong 36.96 310 *e*P **P 12 02 19.6 +3.8**
TNCH sP sP 12 02 29.1 -2.3
TNCH PP **PnPn 12 03 45.2 +4.2**
TNCH S **S 12 07 57.5 -1.1**
TNCH sS sS 12 08 15.0 -1.6
TNCH SS **SnSn 12 10 33.4 -0.5**
TNCH pmax pmax
comp=Z,11nm,0.6s
TNCH pmax pmax
comp=Z,75nm,5.2s
TNCH LR LR
comp=Z,100nm,5.2s
TNCH LR LR
comp=Z,88nm,3.9s
TNCH LR LR
comp=Z,66nm,7.1s
CD2 Chengdu 37.06 323 P **P 12 02 16.3 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 LR LR
comp=Z,280nm,19.0s
CD2 LR LR
comp=Z,180nm,17.8s
CD2 LR LR
comp=Z,300nm,17.1s
HNS HongShan 37.30 341 ⇓P **P 12 02 18.1 -0.2**
HNS pmax pmax
comp=Z,19nm,0.9s
HNS LR LR
comp=Z,260nm,12.4s
HNS LR LR
comp=Z,440nm,18.0s
TIY Taiyuan 38.36 339 P **P 12 02 27.2 -0.1**
TIY pP **pP 12 02 38.8 +0.8**
TIY S **S 12 08 12.7 -6.6**
TIY pmax pmax
comp=Z,10.0nm,1.0s
TIY pmax pmax
comp=Z,140nm,8.3s
TIY LR LR
comp=Z,190nm,10.3s
TIY LR LR
comp=Z,190nm,11.0s
TIY LR LR
comp=Z,120nm,15.1s
BJT Baijiatuau 39.30 345 P **P 12 02 35.0 -0.1**
BJT IAmb IAmb 12 02 36.0
comp=Z,24nm,0.8s
BJT Baijiatuau 39.30 345 P **P 12 02 35.0 -0.1**
BJT pmax pmax
comp=Z,24nm,0.8s
BJT Baijiatuau 39.30 345 P **P 12 02 34.9 -0.1**
BJI Beijing 39.32 345 P **P 12 02 35.0 -0.2**
BJI pmax pmax
comp=Z,16nm,0.8s
JTM Tenmabayashi 39.91 15 P **P 12 02 41.3 +1.2**
H11S3 WAKE ISLAND Hy 40.44 64 T T 12 46 00.5
baz=251,slow=74,SNR=216
H11S2 WAKE ISLAND Hy 40.46 64 T T 12 46 01.6
baz=251,slow=74,SNR=173
H11S1 WAKE ISLAND Hy 40.46 64 T T 12 46 00.2
baz=251,slow=74,SNR=155
LZH Lanzhou 40.83 328 ⇓P **P 12 02 49.1 +1.1**
LZH sP sP 12 03 02.8 -1.3
LZH S **S 12 09 04.3 +7.6**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH LR LR
comp=Z,410nm,16.8s
LZH LR LR
comp=Z,370nm,16.3s
LZH LR LR
comp=Z,460nm,16.7s
H11N1 WAKE ISLAND Hy 41.03 62 T T 12 46 42.9
baz=250,slow=75,SNR=1062
H11N2 WAKE ISLAND Hy 41.04 62 T T 12 46 44.9
baz=250,slow=75,SNR=886
H11N3 WAKE ISLAND Hy 41.05 62 T T 12 46 45.8
baz=250,slow=75,SNR=944
HHC Hu-ho-hao-te 41.46 340 *e*P **P 12 02 53.3 +0.2**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=Z,82nm,12.2s
HHC LR LR
comp=Z,200nm,12.2s
HHC LR LR
comp=Z,240nm,13.0s
CN2 Changchun 41.47 356 *e*P **P 12 02 54.7 +1.8**
CN2 *e*S **S 12 09 05.4 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,200nm,11.1s
BTO Baotou 41.79 338 *e*P **P 12 02 55.3 -0.5**
BTO pP **sP 12 03 09.2 -1.9**
BTO sP **pP 12 03 12.7 +6.2**
BTO S **S 12 09 10.2 -0.4**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,330nm,8.3s
BTO LR LR
comp=Z,360nm,7.8s
BTO LR LR
comp=Z,310nm,5.6s
BTO LR LR
comp=Z,450nm,14.9s
USA0B Ussuriysk Arra 41.85 3 P **P 12 02 57.1 +1.0**
USA0B IAmb IAmb 12 02 58.0
comp=Z,16nm,0.9s
USA0B Ussuriysk Arra 41.85 3 P **P 12 02 57.1 +1.0**
USA0B pmax pmax
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 41.85 3 P **P 12 02 57.5 +1.4**
USRK Ussuriysk Ar. 41.85 3 P **P 12 02 56.6 +0.6**
comp=Z,10nm,0.7s,baz=185,slow=7.0,SNR=17
USRK LR LR 12 17 36.0
comp=Z,113nm,19.9s,baz=180,slow=32
comp=Z,10nm,0.7s
USRK Ussuriysk Ar. 41.85 3 P **P 12 02 57.5 +1.4**
MDJ Mudanjiang 42.18 1 P **P 12 02 57.3 -1.4**
MDJ IAmb IAmb 12 03 00.9
comp=Z,31nm,1.1s
MDJ Mudanjiang 42.18 1 P **P 12 03 00.2 +1.5**
MDJ S **S 12 09 24.0 +8.0**
MDJ pmax pmax
comp=Z,29nm,0.9s
MDJ LR LR
comp=Z,310nm,11.0s
MDJ Mudanjiang 42.18 1 P **P 12 02 59.8 +1.0**
SHL Shillong 42.43 306 P **P 12 03 00.3 -1.0**
SHL IAmb IAmb 12 03 08.4
comp=Z,21nm,0.7s
SHL Shillong 42.43 306 P **P 12 03 00.3 -1.0**
SHL pmax pmax
comp=Z,21nm,0.7s
XLT XiLinHaoTe 42.98 346 *e*P **P 12 03 05.2 -0.2**
XLT pP pP 12 03 17.6 +1.3
XLT sP sP 12 03 25.4 +4.5
XLT pmax pmax
comp=Z,25nm,1.0s
XLT pmax pmax
comp=Z,160nm,4.1s
BNX BinXian 43.31 359 ⇓P **P 12 03 06.4 -1.5**
BNX pmax pmax
comp=Z,3.0nm,1.2s
ASAJ Asahikawa 43.42 14 LR LR 12 19 48.8
comp=Z,231nm,19.4s,baz=197,slow=34
DZM Mont Dzumac 43.98 125 *e*P **P 12 03 13.6 -0.2**
comp=Z,46nm,24.9s
DZM *e*SS SS 12 13 03.7 +2.4
comp=Z,118nm,23.9s
DZM *e*LR LR 12 15 33.8
comp=Z,166nm,23.4s
DZM Mont Dzumac 43.98 125 LR LR 12 21 02.9
comp=Z,122nm,21.4s,baz=236,slow=35
LSA Lhasa 44.97 311 P **P 12 03 22.4 +0.3**
LSA Lhasa 44.97 311 P **P 12 03 22.4 +0.3**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 44.97 311 P **P 12 03 24.1 +2.0**
GTA Gaotai 45.43 328 *e*P **P 12 03 26.1 +0.9**
GTA PcP **PcP 12 05 05.3 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA LR LR
comp=Z,210nm,16.3s
GTA LR LR
comp=Z,130nm,19.1s
GTA LR LR
comp=Z,260nm,20.3s
GOMU GeErMu 46.13 321 P **P 12 03 32.3 +1.3**
GOMU pP pP 12 03 41.5 -0.8
GOMU PcP **PcP 12 05 07.2 +0.5**
GOMU S **S 12 10 18.5 +3.9**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
GOMU pmax pmax
comp=Z,250nm,6.4s
YSS Yuzhno-Sakhali 46.13 13 *e*P **P 12 03 30.7 +0.3**
YSS *e**SP **sP 12 03 43.1 -2.3**
YSS *e* 12 05 14.4
YSS *e*S **S 12 10 11.2 -2.3**
YSS *e*SS **ScS 12 13 17.2 -5.4**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,400nm,15.0s
KLR Kul'dur 46.85 3 LR LR 12 21 19.2
comp=Z,115nm,21.9s,baz=190,slow=34
KLR Kul'dur 46.85 3 *c e*P **P 12 03 37.2 +1.2**
KLR pmax pmax
comp=Z,16nm,1.7s
HIA Hailar 47.47 352 P **P 12 03 40.9 +0.1**
HIA Hailar 47.47 352 P **P 12 03 40.9 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.9s
HEH HeiHe 47.83 359 *e*P **P 12 03 43.4 -0.2**
HEH pmax pmax
comp=Z,18nm,1.1s
HEH LR LR
comp=Z,290nm,17.3s
HEH LR LR
comp=Z,200nm,16.8s
HEH LR LR
comp=Z,440nm,18.0s
PALK Pallekele 48.19 278 LR LR 12 26 20.7
comp=Z,96nm,20.7s,baz=101,slow=39
ULN Ulaanbaatar 49.17 341 P **P 12 03 53.9 -0.2**
ULN Ulaanbaatar 49.17 341 P **P 12 03 53.9 -0.2**
ULN pmax pmax
comp=Z,28nm,0.9s
ULN Ulaanbaatar 49.17 341 P **P 12 03 54.3 +0.1**
SONM Songino Array 49.36 340 P **P 12 03 55.2 -0.4**
SONM IAmb IAmb 12 03 56.7
comp=Z,13nm,0.9s
SONM Songino Array 49.36 340 P **P 12 03 55.2 -0.4**
comp=Z,10nm,0.8s,baz=151,slow=8.7,SNR=85
SONM LR LR 12 25 39.3
comp=Z,128nm,21.9s,baz=127,slow=37
comp=Z,10nm,0.8s
ZEA Zeya 51.32 359 *e*P **P 12 04 09.8 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
MSVF Nonsavu 52.40 114 LR LR 12 24 37.2
comp=Z,116nm,20.8s,baz=254,slow=34
ZAK Zakamensk 52.60 340 *e*P **P 12 04 18.5 -1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
MOY Mondy 54.48 339 *e*P **P 12 04 33.8 +0.2**
MOY pmax pmax
comp=Z,17nm,1.5s
WMQ Urumqi 55.12 325 *e*P **P 12 04 41.0 +2.6**

WMQ LR LR
comp=Z,160nm,21.9s
PETK Petropavlovsk- 56.02 21 P **P 12 04 45.5 +1.0**
PETK Petropavlovsk- 56.02 21 P **P 12 04 44.9 +0.3**
comp=Z,12nm,0.8s,baz=186,slow=1.5,SNR=13
comp=Z,12nm,0.8s
PETK Petropavlovsk- 56.02 21 P **P 12 04 45.6 +1.0**
BOD Bodaibo 56.62 351 *e*P **P 12 04 47.5 -1.3**
BOD pmax pmax
comp=Z,23nm,1.1s
ZSN Zaisan 58.87 327 *e*P **P 12 05 03.1 -1.6**
ZSN Zaisan 58.87 327 *e*P **P 12 05 03.2 -1.6**
YAK Yakutsk 59.62 0 *e*P **P 12 05 09.6 0.0**
YAK *e**PP **pP 12 05 19.5 -1.8**
YAK *e* 12 05 56.5
YAK *e* 12 07 21.2
YAK *e*PPP PPP 12 08 43.6
YAK *e*S **S 12 13 18.3 +1.4**
YAK *e**SS **sS 12 13 39.4 +4.9**
YAK *e* 12 14 58.0
YAK *e*SS **SS 12 17 15.7 +2.7**
YAK pmax pmax
comp=Z,70nm,1.5s
YAK pmax pmax
comp=N,23nm,1.6s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,308nm,8.6s
YAK pmax pmax
comp=N,144nm,8.2s
YAK pmax pmax
comp=E,137nm,4.6s
YAK smax smax
comp=E,150nm,5.9s
YAK smax smax
comp=N,88nm,5.3s
MA2 Magadan 59.63 13 P **P 12 05 10.0 +0.2**
MA2 IAmb IAmb 12 05 12.4
comp=Z,14nm,0.9s
MA2 Magadan 59.63 13 LR LR 12 29 12.2
comp=Z,56nm,21.0s,baz=202,slow=34
MA2 Magadan 59.63 13*ce*P **P 12 05 10.5 +0.7**
MA2 pmax pmax
comp=Z,26nm,1.7s
MA2 Magadan 59.63 13 P **P 12 05 09.9 +0.2**
comp=Z,20nm,1.0s
MA2 Magadan 59.63 13 P **P 12 05 11.0 +1.2**
SHLS Shalkode 59.81 320 *e*P **P 12 05 07.9 -3.6**
SHLS Shalkode 59.81 320 *e*P **P 12 05 08.0 -3.6**
MK31 Makanchi Array 59.95 325 P **P 12 05 11.9 -0.4**
MK31 Makanchi Array 59.95 325 P **P 12 05 11.9 -0.4**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 59.95 325 P **P 12 05 11.6 -0.7**
comp=Z,4.3nm,0.5s,baz=114,slow=7.4,SNR=55
MKAR LR LR 12 31 55.9
comp=Z,129nm,20.3s,baz=104,slow=37
comp=Z,4.3nm,0.5s
URZ Urewera 60.05 137 LR LR 12 32 11.3
comp=Z,261nm,18.3s,baz=40,slow=37
UZB Uzynbulak 60.08 320 *e*P **P 12 05 11.3 -2.1**
UZB Uzynbulak 60.08 320 *e*P **P 12 05 11.3 -2.1**
MAKZ Makanchi 60.14 325 P **P 12 05 12.9 -0.7**
MAKZ IAmb IAmb 12 05 15.0
comp=Z,6.4nm,0.7s
MAKZ Makanchi 60.14 325 P **P 12 05 12.9 -0.7**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 60.14 325 P **P 12 05 12.7 -0.9**
SATY Saty 60.44 320 *e*P **P 12 05 14.2 -1.6**
SATY pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 60.44 320 *e*P **P 12 05 14.2 -1.6**
comp=Z,4.8nm,0.8s
KPKS Kokpek 60.45 320 *e*P **P 12 05 14.2 -1.6**
KPKS pmax pmax
comp=Z,5.0nm,0.8s
KPKS Kokpek 60.45 320 *e*P **P 12 05 14.2 -1.6**
comp=Z,5.0nm,0.8s
KSH Kashi 60.55 315 P **P 12 05 13.4 -3.3**
KSH sP pP 12 05 29.0 +0.6
KSH pmax pmax
comp=Z,4.0nm,1.2s
KSH LR LR
comp=N,240nm,8.4s
KSH LR LR
comp=E,250nm,7.9s
KSH LR LR
comp=Z,250nm,10.0s
TDK Taldyqorghan 61.36 321 *e*P **P 12 05 20.3 -1.6**
TDK Taldyqorghan 61.36 321 *e*P **P 12 05 20.3 -1.6**
MDOK Medeo 61.37 319 *e*P **P 12 05 20.5 -1.7**
MDOK Medeo 61.37 319 *e*P **P 12 05 20.6 -1.7**
AAA Alma-Ata 61.48 319 *e*P **P 12 05 20.8 -2.0**
AAA pmax pmax
comp=Z,6.0nm,0.4s
AAA Alma-Ata 61.48 319 *e*P **P 12 05 20.9 -2.0**
comp=Z,6.0nm,0.4s
BOOM Boomskoye usch 61.81 318 P **P 12 05 24.1 -1.1**
ZAA0 Zalesovo Array 62.84 333 P **P 12 05 30.3 -1.3**
ZAA0 IAmb IAmb 12 05 31.5
comp=Z,9.4nm,1.1s
ZALV Zalesovo Beam 62.84 333 P **P 12 05 30.4 -1.2**
ZALV Zalesovo Beam 62.84 333 P **P 12 05 30.1 -1.5**
comp=Z,4.1nm,0.8s,baz=114,slow=7.0,SNR=15
ZALV LR LR 12 34 34.5
comp=Z,82nm,18.3s,baz=348,slow=38
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 62.84 333 *i*P **P 12 05 30.7 -0.9**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 62.84 318 P **P 12 05 31.6 -0.5**
AAK Ala-Archa 62.84 318 LR LR 12 35 27.1
comp=Z,160nm,19.4s,baz=102,slow=38
AAK Ala-Archa 62.84 318 P **P 12 05 31.6 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.2s
SEY Seymchan 63.00 12*ce*P **P 12 05 34.6 +2.1**
SEY pmax pmax
comp=Z,13nm,1.0s
SGDS Sogindy 63.09 319 *e*P **P 12 05 31.7 -1.9**
SGDS Sogindy 63.09 319 *e*P **P 12 05 31.8 -1.9**
DRK Karamyk 63.53 314 IAmb IAmb 12 05 49.1
comp=Z,11nm,1.0s
DRK Karamyk 63.53 314 P **P 12 05 37.1 +0.2**
KBL Kabul 64.07 308 P **P 12 05 40.4 0.0**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 64.10 327 P **P 12 05 39.1 -0.9**
comp=Z,7.9nm,0.7s,baz=124,slow=5.9,SNR=50
comp=Z,7.9nm,0.7s
KURK Kurchatov 64.10 327 P **P 12 05 39.4 -0.6**
KURK IAmb IAmb 12 05 41.2
comp=Z,12nm,0.8s
KURK Kurchatov 64.10 327*ce*P **P 12 05 39.7 -0.3**
KURK pmax pmax
comp=Z,17nm,1.0s
KURK Kurchatov 64.10 327 P **P 12 05 39.5 -0.4**
BTLS Baital 64.14 320 *e*P **P 12 05 38.5 -1.8**
BTLS Baital 64.14 320 *e*P **P 12 05 38.6 -1.8**
BTK Batken 64.44 314 P **P 12 05 42.0 -0.6**
BTK Batken 64.44 314 P **P 12 05 42.0 -0.6**
BTK pmax pmax
comp=Z,5.0nm,0.7s
GAR Garm 64.45 313 P **P 12 05 42.2 -0.5**
GAR IAmb IAmb 12 05 43.3
comp=Z,11nm,0.7s
DZA Taraz 65.09 317 *e*P **P 12 05 44.9 -1.7**
DZA Taraz 65.09 317 *e*P **P 12 05 45.0 -1.7**
IUG Iuzhnay 65.72 316 *e*P **P 12 05 49.0 -1.8**
IUG pmax pmax
comp=Z,10.0nm,1.1s
IUG Iuzhnay 65.72 316 *e*P **P 12 05 49.1 -1.8**
comp=Z,9.6nm,1.1s
KK31 Karatay Array 65.73 317 P **P 12 05 50.4 -0.4**
KK31 IAmb IAmb 12 06 16.9
comp=Z,10.0nm,1.2s
KK31 Karatay Array 65.73 317 P **P 12 05 50.4 -0.4**
KK31 pmax pmax
comp=Z,10.0nm,1.2s
KKAR Karatay Array 65.73 317 P **P 12 05 50.3 -0.5**
KKAR Karatay Array 65.73 317 P **P 12 05 50.3 -0.5**
CHM Chimkent 66.08 316 *e*P **P 12 05 51.5 -1.6**
CHM Chimkent 66.08 316 *e*P **P 12 05 51.5 -1.6**
BRLS Borolday 66.16 317 *e*P **P 12 05 51.8 -1.8**
BRLS Borolday 66.16 317 *e*P **P 12 05 51.9 -1.8**
BRZS Berezniki 67.09 324 *e*P **P 12 05 57.8 -1.5**
BRZS Berezniki 67.09 324 *e*P **P 12 05 57.8 -1.5**
TIXI Tiksi 69.28 0 P **P 12 06 11.8 -0.8**
TIXI IAmb IAmb 12 06 13.4
comp=Z,19nm,1.1s
TIXI Tiksi 69.28 0 LR LR 12 39 07.9
comp=Z,104nm,18.1s,baz=198,slow=38
TIXI Tiksi 69.28 0 P **P 12 06 11.8 -0.8**
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 69.28 0 P **P 12 06 12.6 0.0**
HRA Herat 69.48 306 P **P 12 06 14.3 -0.6**
BVAR Borovoye Array 69.68 327 P **P 12 06 14.7 -0.8**
comp=Z,10nm,0.9s,baz=121,slow=7.1,SNR=33
BVAR LR LR 12 37 00.9
comp=Z,77nm,20.0s,baz=33,slow=36
comp=Z,10nm,0.9s
BRVK Borovoye 69.76 327 P **P 12 06 14.9 -1.0**
BRVK IAmb IAmb 12 06 16.4
comp=Z,13nm,0.9s
BRVK Borovoye 69.76 327 P **P 12 06 14.9 -1.0**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 69.76 327 P **P 12 06 15.3 -0.6**
BILL Biiibino 70.44 14 *i*P **P 12 06 19.6 -0.2**
BILL pmax pmax
comp=Z,3.0nm,1.4s
NRIK Noril'sk 72.35 346 P **P 12 06 30.8 -0.5**
NRIK IAmb IAmb 12 06 31.7
comp=Z,11nm,0.8s
NRIK Noril'sk 72.35 346 P **P 12 06 30.7 -0.6**
comp=Z,8.8nm,0.6s,baz=125,slow=5.9,SNR=15
NRIK LR LR 12 40 41.1
comp=Z,79nm,20.4s,baz=152,slow=38
comp=Z,8.8nm,0.6s
NRIK Noril'sk 72.35 346*ce*P **P 12 06 30.4 -0.9**
NRIK pmax pmax
comp=Z,12nm,0.8s
SPIA Saint Paul Isl 72.70 30 P **P 12 06 34.2 +0.6**
baz=246
P08K Saint George I 72.82 31 P **P 12 06 35.7 +1.3**
baz=247
RAR Rarotonga 73.54 113 LR LR 12 37 44.3
comp=Z,44nm,19.3s,baz=292,slow=35
ABKAR Akbulak array 74.60 321 P **P 12 06 43.6 -1.3**
GAMB Gambell 74.89 23 P **P 12 06 47.4 +1.1**
baz=243
M11K Mekoryuk 75.87 28 P **P 12 06 52.7 +0.7**
baz=249
AKTO Aktyubinsk 76.10 322 LR LR 12 43 55.5
comp=Z,137nm,18.9s,baz=60,slow=38
SVE Sverdlovsk 76.30 328 *e*P **P 12 06 53.4 -1.1**
SVE pmax pmax
comp=Z,19nm,1.0s
S12K Black Hills 76.46 33 P **P 12 06 56.2 +0.7**
baz=254
K13K Kusilvak Mount 77.12 26 P **P 12 06 59.8 +0.8**
baz=250
TNA Tin City 77.12 22 P **P 12 07 00.2 +1.2**
baz=246
M13K Dall Lake 77.22 28 P **P 12 07 01.0 +1.4**
baz=252
ARTI Arti 77.37 328*c i*P **P 12 07 00.0 -0.6**
ARTI 12 09 48.1
ARTI S **S 12 16 48.9 +0.9**
ARTI SS **SS 12 21 42.4 -4.6**
ARTI pmax pmax
comp=Z,8.0nm,1.0s
CHNA Chernabura Isl 77.60 34 P **P 12 07 02.9 +1.0**
baz=256
F14K Arctic Creek 77.70 23 P **P 12 07 03.9 +1.6**
baz=248
ANM Nome 77.74 24 P **P 12 07 03.8 +1.3**
baz=249
L14K Kuka Creek 77.82 27 P **P 12 07 04.0 +1.1**
baz=252
N14K Kuskokwak Cree 77.86 29 P **P 12 07 04.0 +0.8**
baz=253
O14K Tigyukauivet M 77.87 30 P **P 12 07 04.0 +0.7**
baz=254
J14K Nanvaranak Lak 77.88 26 P **P 12 07 04.5 +1.2**
baz=251
M14K Bethel 77.97 28 P **P 12 07 05.0 +1.2**
baz=253
S14K Fog Glacier 77.98 33 P **P 12 07 05.0 +0.9**
baz=256
G15K Niukluk 78.43 24 P **P 12 07 07.1 +0.8**
baz=250
F15K North Star Dit 78.44 23 P **P 12 07 07.2 +0.9**
baz=249
L15K Ungalak Mounta 78.46 27 P **P 12 07 07.8 +1.3**
baz=253
M15K Kasigluk River 78.56 28 P **P 12 07 08.4 +1.4**
baz=254
O15K Ungalikthiuk R 78.57 30 P **P 12 07 08.3 +1.1**
baz=255
CHGN Chignik 78.60 33 P **P 12 07 07.7 +0.4**
baz=257
K15K Wolf Creek Mou 78.63 27 P **P 12 07 07.9 +0.5**
baz=253
N15K Kwethluk River 78.70 29 P **P 12 07 08.8 +0.8**
baz=255
H16K Elim 79.04 24 P **P 12 07 10.6 +1.0**
baz=252
C16K Lisburne Hills 79.12 20 IAmb IAmb 12 07 12.5
comp=Z,14nm,1.1s
C16K Lisburne Hills 79.12 20 P **P 12 07 11.1 +1.1**
baz=248
G16K Koyuk River 79.23 23 P **P 12 07 11.8 +1.1**
baz=252
J16K Anvik River 79.32 26 IAmb IAmb 12 07 14.5
comp=Z,14nm,0.9s
J16K Anvik River 79.32 26 P **P 12 07 12.3 +1.0**
baz=254
L16K Owhat River 79.39 27 P **P 12 07 12.7 +1.1**
L16K Owhat River 79.39 27 P **P 12 07 12.4 +0.8**
baz=255
N16K Nishlik Lake 79.41 29 P **P 12 07 13.0 +1.2**
baz=256
P16K Nushagak River 79.45 30 P **P 12 07 13.0 +1.0**
baz=257
I17K Unalakleet 79.45 25 IAmb IAmb 12 07 15.2
comp=Z,20nm,0.9s
I17K Unalakleet 79.45 25 P **P 12 07 13.0 +1.1**
baz=253
M16K Timber Creek 79.46 28 P **P 12 07 13.1 +1.1**
baz=255
O16K Kokwok River B 79.53 30 P **P 12 07 13.0 +0.6**
baz=256
D17K Noatak River 79.71 21 P **P 12 07 14.0 +0.8**
baz=250
RDOG Red Dog Mine 79.89 21 IAmb IAmb 12 07 17.0
comp=Z,10nm,0.8s
RDOG Red Dog Mine 79.89 21 P **P 12 07 16.0 +1.8**
baz=250
C17K DeLong Mountai 79.94 20 P **P 12 07 14.9 +0.4**
baz=250
G17K Kiwalik Mounta 79.94 24 P **P 12 07 15.3 +0.7**
baz=253
E17K Hotham Inlet 79.97 22 P **P 12 07 16.1 +1.4**
baz=252
F17K Baldwin Pennin 79.99 23 P **P 12 07 15.6 +0.9**
baz=252
J17K VABM Dome 80.02 26 IAmb IAmb 12 07 18.2
comp=Z,12nm,0.9s
J17K VABM Dome 80.02 26 P **P 12 07 16.2 +1.2**
baz=255
CHIR Chirikof Islan 80.03 34 P **P 12 07 16.6 +1.4**
baz=259
L17K Donlin 80.04 27 P **P 12 07 15.7 +0.5**
baz=256
Q16K King Salmon 80.05 31 P **P 12 07 15.9 +0.7**
baz=258
O17K Koliganek Bris 80.06 30 P **P 12 07 16.7 +1.4**
baz=257
H17K Granite Mounta 80.08 24 P **P 12 07 16.5 +1.1**
baz=254
K17K Iditarod 80.18 27 IAmb IAmb 12 07 19.2
comp=Z,12nm,0.9s
K17K Iditarod 80.18 27 P **P 12 07 17.1 +1.2**
baz=256
N17K Nushagak Hills 80.18 29 P **P 12 07 17.0 +1.1**
baz=257
M17K Holitna River 80.26 28 P **P 12 07 17.6 +1.2**
baz=257
P17K Kvichak River 80.26 30 P **P 12 07 17.3 +0.9**
baz=258
Q17K Contact Creek 80.36 31 P **P 12 07 18.4 +1.3**
baz=259
E18K Tukpahlearik C 80.53 22 IAmb IAmb 12 07 20.7
comp=Z,13nm,0.8s
E18K Tukpahlearik C 80.53 22 P **P 12 07 19.1 +1.4**
baz=253
F18K Selawik 80.65 23 P **P 12 07 19.8 +1.5**
baz=254
C18K Utukok River 80.69 20 P **P 12 07 19.8 +1.2**
baz=252
B18K Kokolik River 80.70 20 P **P 12 07 20.1 +1.6**
baz=251,SNR=13
H18K Honhosa River 80.77 24 P **P 12 07 20.6 +1.6**
baz=255
L18K Granite Mounta 80.80 27 IAmb IAmb 12 07 24.0
comp=Z,9.0nm,0.8s
L18K Granite Mounta 80.80 27 P **P 12 07 20.7 +1.5**
baz=257
N18K Kilae Creek 80.84 29 P **P 12 07 20.7 +1.1**
baz=258
G18K Tagagawik 80.84 23 P **P 12 07 20.6 +1.1**
baz=255
P18K Big Mountain, 80.91 30 P **P 12 07 21.5 +1.5**
baz=259
SII Sitkinak Islan 80.95 33 P **P 12 07 21.1 +0.9**
baz=260
O18K Koktuh Hills 81.01 30 P **P 12 07 21.3 +0.9**
baz=259
M18K Stony River 81.04 28 P **P 12 07 21.4 +0.8**
baz=258
J18K Innoko River 81.06 26 P **P 12 07 21.6 +0.9**
baz=257
TTA Tatalina 81.26 27 P **P 12 07 22.6 +0.8**
TTA Tatalina 81.26 27 P **P 12 07 22.7 +1.0**
baz=258
TTA Tatalina 81.26 27 P **P 12 07 22.6 +0.8**
TTA pmax pmax
comp=Z,6.0nm,0.9s
GCSA Galena City Sc 81.28 25 P **P 12 07 23.0 +1.3**
baz=257
F19K Shaleruckik Mo 81.43 23 P **P 12 07 23.6 +1.2**
baz=256
O19K Port Alsworth 81.51 29 P **P 12 07 23.9 +0.8**
baz=260
G19K Purcell Mounta 81.53 23 IAmb IAmb 12 07 26.7
comp=Z,18nm,0.8s
G19K Purcell Mounta 81.53 23 P **P 12 07 24.2 +1.1**
baz=256
OHAK Old Harbor 81.54 33 P **P 12 07 24.2 +1.0**
baz=261
N19K Bonanza Creek 81.55 29 IAmb IAmb 12 07 26.9
comp=Z,12nm,1.0s
N19K Bonanza Creek 81.55 29 P **P 12 07 24.7 +1.3**
baz=259
L19K White Mountain 81.63 27 IAmb IAmb 12 07 26.7
comp=Z,10.0nm,1.1s
L19K White Mountain 81.63 27 P **P 12 07 24.9 +1.2**
baz=259
Q19K Cape Douglas, 81.63 31 P **P 12 07 24.0 +0.2**
baz=260
H19K Roundabout Mou 81.64 24 IAmb IAmb 12 07 26.7
comp=Z,14nm,0.8s
H19K Roundabout Mou 81.64 24 P **P 12 07 24.5 +0.9**
baz=257
J19K Poorman 81.65 26 IAmb IAmb 12 07 26.7
comp=Z,10nm,0.9s
J19K Poorman 81.65 26 P **P 12 07 24.8 +1.1**
baz=258
VNDA Vanda 81.73 173 P **P 12 07 23.6 -0.3**
comp=Z,1.3nm,0.7s,baz=320,slow=5.4,SNR=1.0
VNDA LR LR 12 42 06.2
comp=Z,88nm,21.1s,baz=335,slow=34
comp=Z,1.3nm,0.7s
D19K Kuna River 81.73 21 IAmb IAmb 12 07 26.9
comp=Z,15nm,0.8s
D19K Kuna River 81.73 21 P **P 12 07 25.0 +0.9**
baz=255,SNR=20
E19K Redstone River 81.79 22 P **P 12 07 25.3 +0.9**
baz=256
M19K Big River Lodg 81.79 28 P **P 12 07 25.8 +1.2**
baz=259
P19K Oil Pt 81.96 30 P **P 12 07 25.9 +0.4**
baz=261
KDAK Kodiak Island 82.00 32 LR LR 12 38 25.7
comp=Z,105nm,21.8s,baz=98,slow=32
KDAK Kodiak Island 82.00 32 P **P 12 07 26.2 +0.5**
baz=262
L20K Farewell, AK 82.13 27 P **P 12 07 26.7 +0.4**
baz=260
K20K Telida 82.20 26 P **P 12 07 27.9 +1.2**
baz=260
Q20K Shuyak Island 82.23 31 P **P 12 07 28.5 +1.6**
baz=262
F20K Avaraart Lake 82.26 23 IAmb IAmb 12 07 30.0
comp=Z,8.3nm,0.8s
F20K Avaraart Lake 82.26 23 P **P 12 07 28.1 +1.2**
baz=257,SNR=9.9
H20K Anotleneega Mo 82.27 24 P **P 12 07 28.4 +1.4**
baz=258
I20K Naaghedeneel 82.30 25 P **P 12 07 28.1 +1.0**
baz=259
D20K Etivluk River 82.31 21 P **P 12 07 28.0 +0.9**
baz=256
J20K Nowinta River 82.32 26 IAmb IAmb 12 07 29.9
comp=Z,11nm,1.1s
J20K Nowinta River 82.32 26 P **P 12 07 28.2 +0.9**
baz=259
E20K Nigu River 82.36 21 P **P 12 07 29.0 +1.5**
baz=257
M20K Styx River 82.37 28 IAmb IAmb 12 07 31.6
comp=Z,9.1nm,0.9s
M20K Styx River 82.37 28 P **P 12 07 29.3 +1.6**
baz=260
KIRV Kirov 82.55 329*ce*P **P 12 07 28.5 0.0**
PPT Papeete 82.67 108 LR LR 12 41 00.5
comp=Z,56nm,21.5s,baz=282,slow=33
PPT2 Papeete2 82.67 108 *e*LR LR 12 33 25.7
comp=Z,125nm,31.2s
PPT2 *e*LR LR 12 33 31.0
comp=Z,185nm,26.8s
BELG Belogornoye 82.84 322 LR LR 12 45 26.0
comp=Z,58nm,18.1s,baz=315,slow=36
A21K Barrow 82.94 18 P **P 12 07 30.7 +0.4**
baz=256,SNR=6.0
PPLA Purkeypile 82.97 27 P **P 12 07 31.5 +0.7**
baz=261
RAYN Ar Rayn 82.98 293 P **P 12 07 29.8 -1.9**
RAYN Ar Rayn 82.98 293 P **P 12 07 29.8 -1.9**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
G21K Allakaket 83.02 23 IAmb IAmb 12 07 33.8
comp=Z,14nm,0.9s
G21K Allakaket 83.02 23 P **P 12 07 31.8 +0.9**
baz=260
C21K Knifeblade Rid 83.06 21 P **P 12 07 32.1 +1.1**
baz=258
CHUM Lake Minchumin 83.07 26 P **P 12 07 32.7 +1.6**
baz=261
CAST Castle Rocks 83.10 26 IAmb IAmb 12 07 34.1
comp=Z,7.9nm,0.8s
CAST Castle Rocks 83.10 26 P **P 12 07 32.6 +1.3**
baz=261
SKT Skwentna 83.14 28 IAmb IAmb 12 07 33.0
comp=Z,13nm,1.0s
SKT Skwentna 83.14 28 P **P 12 07 32.5 +0.9**
baz=262,SNR=5.1
H21K Melozitna Rive 83.15 24 IAmb IAmb 12 07 34.5
comp=Z,12nm,0.9s
H21K Melozitna Rive 83.15 24 P **P 12 07 32.7 +1.1**
baz=260
CAPN Captain Cook N 83.15 29 P **P 12 07 31.9 +0.3**
baz=262
F21K Alatna River 83.16 23 IAmb IAmb 12 07 34.1
comp=Z,6.9nm,0.8s
F21K Alatna River 83.16 23 P **P 12 07 33.1 +1.5**
baz=260
E21K Killik River 83.20 21 P **P 12 07 33.2 +1.4**
baz=259
B21K Ikpikpuk River 83.21 20 P **P 12 07 32.8 +1.0**
baz=258,SNR=32
BRSE Bradley Lake S 83.22 30 P **P 12 07 33.4 +1.4**
baz=263
TBI Tubuai 83.28 114 *e*LR LR 12 33 42.2
comp=Z,747nm,34.5s
I21K Tanana 83.41 25 IAmb IAmb 12 07 35.9
comp=Z,11nm,0.9s

I21K	Tanana baz=261,SNR=6.0	83.41	25	P	P	12 07 33.6 +0.7
SUA	Susitna One comp=Z,11nm,0.9s	83.44	28	IAmb	IAmb	12 07 34.8
SUA	Susitna One baz=263	83.44	28	P	P	12 07 34.1 +0.8
KTH	Kantishna Hill comp=Z,22nm,1.3s	83.63	26	IAmb	IAmb	12 07 36.1
BPAW	Bear Paw Mtn. baz=262	83.68	26	P	P	12 07 34.8 +0.5
D22K	Ayikyak River comp=Z,9.4nm,1.1s	83.75	21	IAmb	IAmb	12 07 37.2
D22K	Ayikyak River baz=260	83.75	21	P	P	12 07 35.6 +1.0
B22K	Teshekpuk Lake baz=259,SNR=13	83.76	19	P	P	12 07 35.5 +0.9
H22K	Ishtalitna Cre baz=262,SNR=5.8	83.77	24	P	P	12 07 36.0 +1.2
M22K	Willow baz=263,SNR=7.3	83.77	28	P	P	12 07 35.8 +1.0
CUT	Chulitna baz=263	83.78	28	P	P	12 07 35.2 +0.4
O22K	Cooper Landing baz=264	83.82	30	P	P	12 07 35.4 +0.4
G22K	Bettles baz=261	83.87	23	P	P	12 07 36.1 +0.9
RC01	Rabbit Creek A baz=264,SNR=6.8	83.88	29	P	P	12 07 35.7 +0.4
TRF	Thorofare Moun comp=Z,14nm,1.0s	83.90	27	IAmb	IAmb	12 07 39.1
TRF	Thorofare Moun baz=263,SNR=6.7	83.90	27	P	P	12 07 36.2 +0.5
SEW	Seward baz=264	83.91	30	P	P	12 07 36.5 +1.0
E22K	Anaktuvuk Pass baz=261,SNR=22	83.94	22	P	P	12 07 36.7 +1.1
PMR	Palmer	84.22	28	P	P	12 07 37.7 +0.6
PMR	Palmer baz=264,SNR=6.5	84.22	28	P	P	12 07 37.5 +0.4
PMR PMR	Palmer comp=Z,19nm,0.9s	84.22	28	P pmax	P pmax	12 07 37.7 +0.6
COLD	Coldfoot comp=Z,13nm,0.8s	84.42	23	IAmb	IAmb	12 07 41.1
COLD	Coldfoot baz=263,SNR=16	84.42	23	P	P	12 07 38.6 +0.6
G23K	Bananza Creek baz=263	84.42	23	P	P	12 07 38.5 +0.4
D23K	Nanushuk River baz=262,SNR=15	84.48	21	P	P	12 07 38.9 +0.6
I23K	Minto, Yukon-K comp=Z,9.3nm,0.9s	84.50	25	IAmb	IAmb	12 07 41.0
I23K	Minto, Yukon-K baz=264,SNR=10	84.50	25	P	P	12 07 38.8 +0.3
KNK	Knik Glacier baz=265,SNR=5.8	84.53	29	P	P	12 07 39.0 +0.3
PWL	Port Wells baz=265,SNR=6.1	84.53	29	P	P	12 07 38.6 -0.1
MCK	McKinley baz=264,SNR=7.6	84.53	26	P	P	12 07 38.9 +0.2
NEA2	Nenana comp=Z,7.2nm,1.1s	84.57	25	IAmb	IAmb	12 07 42.7
NEA2	Nenana baz=264	84.57	25	P	P	12 07 38.5 -0.3
SML	Sawmill baz=265,SNR=7.2	84.62	28	P	P	12 07 39.2 0.0
C23K	Itkillik River baz=262	84.62	20	P	P	12 07 40.4 +1.4
E23K	Chandalar baz=263	84.75	22	P	P	12 07 41.0 +1.2
TOLK	Toolik Lake Re comp=Z,9.1nm,0.9s	84.83	21	IAmb	IAmb	12 07 43.2
TOLK	Toolik Lake Re baz=263,SNR=9.1	84.83	21	P	P	12 07 41.2 +1.1
M23K	Glacier View baz=265,SNR=7.4	84.91	28	P	P	12 07 41.2 +0.6
P23K	Montague Islan baz=266	84.92	30	P	P	12 07 42.1 +1.5
WRH	Wood River Hil	84.98	26	P	P	12 07 41.5 +0.6
WRH	comp=Z,14nm,1.2s			IAmb	IAmb	12 07 42.2
SCM	Sheep Creek Mo baz=266,SNR=7.6	85.10	28	P	P	12 07 42.5 +0.9
CCB	Clear Creek Bu comp=Z,6.6nm,1.0s	85.11	25	IAmb	IAmb	12 07 42.9
COLA	College baz=265	85.11	25	P	P	12 07 42.5 +1.0
GLI	Glacier Island baz=266	85.14	29	P	P	12 07 43.2 +1.4
D24K	Happy Valley comp=Z,12nm,0.8s	85.16	21	IAmb	IAmb	12 07 44.8
D24K	Happy Valley baz=264	85.16	21	P	P	12 07 43.2 +1.5
E24K	Your Creek comp=Z,11nm,1.4s	85.17	22	IAmb	IAmb	12 08 04.6
E24K	Your Creek baz=264	85.17	22	P	P	12 07 43.3 +1.5
H24K	Noodor Dome baz=265	85.19	24	P	P	12 07 43.3 +1.3
C24K	Franklin Bluff comp=Z,8.4nm,0.8s	85.27	20	IAmb	IAmb	12 07 44.9
C24K	Franklin Bluff baz=264	85.27	20	P	P	12 07 43.4 +1.2
GEVA	Gevas	85.28	308	P	P	12 07 42.6 -0.6
GEVA	comp=Z,5.1nm,0.7s			IAmb	IAmb	12 07 45.2
POKR	Poker Plat Res baz=265	85.31	25	P	P	12 07 43.6 +1.0
F24K	Squaw Lake comp=Z,8.4nm,1.2s	85.34	23	IAmb	IAmb	12 07 46.0
F24K	Squaw Lake baz=265	85.34	23	P	P	12 07 44.0 +1.3
G24K	Hadweenzic Riv baz=265	85.43	23	P	P	12 07 44.1 +1.0
HDA	Harding Lake baz=266	85.47	26	P	P	12 07 44.0 +0.7
KBZ	Khabaz	85.50	314	*i* P	P	12 07 43.1 -0.8
KBZ	comp=Z,6.0nm,1.3s			pmax	pmax	
ILAR	Eielson Array comp=Z,1.4nm,0.8s,baz=245,slow=5.7,SNR=17 comp=Z,1.4nm,0.8s	85.52	25	P	P	12 07 43.5 -0.1
M24K	Tolsona, Glenn baz=267	85.66	28	P	P	12 07 45.2 +0.8
KLU	Klutina baz=267	85.75	29	P	P	12 07 45.3 +0.4
EYAK	Cordova Ski Ar baz=267	85.78	30	P	P	12 07 45.3 +0.4
K24K	Donnelly Dome baz=267	85.94	26	P	P	12 07 46.5 +0.7
PAX	Paxson baz=267	86.03	27	P	P	12 07 47.3 +1.0
D25K	Kavik River baz=266	86.05	21	P	P	12 07 46.9 +0.7
GURO	Guroymak-BITLI comp=Z,14nm,1.0s	86.09	308	IAmb	IAmb	12 07 48.7
PRP	Porcupine Dome baz=267	86.14	25	P	P	12 07 47.3 +0.5
HARP	HAARP baz=268	86.15	28	P	P	12 07 47.7 +1.0
F25K	Christian Rive baz=267	86.21	23	P	P	12 07 47.3 +0.3
E25K	Arctic Village comp=Z,4.9nm,0.9s	86.27	22	IAmb	IAmb	12 07 50.1
E25K	Arctic Village baz=267,SNR=6.7	86.27	22	P	P	12 07 47.9 +0.7
RIDG	Independent Ri comp=Z,6.9nm,0.8s	86.35	26	IAmb	IAmb	12 07 50.2
RIDG	Independent Ri baz=268	86.35	26	P	P	12 07 48.7 +0.9
BMRM	Bremner River baz=268	86.36	29	P	P	12 07 48.6 +0.8
N25K	Chitina, Valde baz=268	86.39	29	P	P	12 07 48.9 +0.8
KAIM	Kayak Island baz=268	86.42	30	P	P	12 07 48.7 +0.6
C26K	Camden Bay baz=267	86.60	20	P	P	12 07 49.2 +0.4
BMAR	Burnt Mountain	86.61	23	P	P	12 07 50.1 +1.2
F26K	Sheenjek River baz=268	86.78	22	P	P	12 07 51.0 +1.2
G26K	Porcupine Rive baz=268	86.90	23	P	P	12 07 51.7 +1.4
J26L	Joseph Creek baz=269	86.94	26	P	P	12 07 51.7 +1.0
C27K	Jago River comp=Z,5.6nm,0.9s	87.00	21	IAmb	IAmb	12 07 53.4
C27K	Jago River baz=268	87.00	21	P	P	12 07 52.1 +1.3
I26K	Coal Creek Min baz=269	87.12	25	P	P	12 07 51.7 +0.2
M27K	Edge Creek, AK baz=270	87.68	28	P	P	12 07 54.5 +0.2
L27K	Beaver Creek, baz=270	87.70	27	P	P	12 07 54.1 -0.3
KLMR KLMR	Klimovskoe comp=Z,23nm,1.8s	87.70	331	*e*P pmax	P pmax	12 07 50.7 -3.6
I27K	Kandik River baz=271	87.77	25	P	P	12 07 55.3 +0.7
H27K	Steamboat Moun baz=271	87.80	24	P	P	12 07 55.7 +0.9
EGAK	Eagle baz=271	87.97	25	P	P	12 07 56.4 +0.9
BVCY	Beaver Creek baz=271	88.15	28	P	P	12 07 57.0 +0.5
YUK3	Moose Creek baz=272	88.36	28	P	P	12 07 57.6 -0.1
F28M	Old Crow baz=272	88.42	23	P	P	12 07 58.7 +1.1
I28M	Miner Creek comp=Z,6.3nm,0.8s	88.47	25	IAmb	IAmb	12 08 00.1
I28M	Miner Creek baz=272	88.47	25	P	P	12 07 58.6 +0.6
E28M	Babbage River baz=272	88.51	22	P	P	12 07 58.5 +0.5
PINM	Pinnacle baz=272	88.51	30	P	P	12 07 59.0 +0.8
O28M	Mount Upton baz=272	88.52	29	P	P	12 07 58.3 -0.3
YUK8	Steele Glacier baz=272	88.71	29	P	P	12 07 59.5 +0.1
D28M	Stokes Point baz=273	88.76	21	P	P	12 08 00.1 +0.9
DAWY	Dawson comp=Z,7.6nm,1.2s	88.76	26	IAmb	IAmb	12 08 02.2
DAWY	Dawson baz=273	88.76	26	P	P	12 07 59.8 +0.5
E29M	Blow River baz=274	89.12	22	P	P	12 08 01.4 +0.5
I29M	Ogilvie Camp, baz=274	89.16	25	P	P	12 08 01.8 +0.7
G29M	Pine Creek comp=Z,13nm,1.4s	89.17	23	IAmb	IAmb	12 08 07.2
G29M	Pine Creek baz=274	89.17	23	P	P	12 08 01.8 +0.6
YUK4	Talbot Arm baz=273	89.24	29	P	P	12 08 02.2 +0.3
J29N	Klondike Camp baz=274	89.25	26	P	P	12 08 02.6 +0.9
M29M	Somme Creek baz=274	89.27	28	P	P	12 08 02.4 +0.6
L29M	L29M baz=274	89.38	27	P	P	12 08 02.8 +0.6
OBN	Obninsk	89.46	325⇓	*e*P	P	12 08 01.5 -1.2
OBN				*PP	pP	12 08 12.0 -2.5
OBN				PS	PS	12 20 28.0 +28
OBN	comp=Z,33nm,1.7s			pmax	pmax	
OBN	comp=Z,164nm,17.0s			MLR	MLR	
K29M	Barlow Dome baz=274	89.60	26	P	P	12 08 04.2 +0.8
EPYK	Eagle Plains baz=275	89.73	24	P	P	12 08 04.6 +0.8
HYT	Haines Junctio baz=274	89.83	29	P	P	12 08 04.4 -0.1
G30M	tAoh Zraii Nji baz=276	89.87	23	P	P	12 08 05.1 +0.6
I30M	Mount Dempster baz=275	89.97	25	P	P	12 08 05.3 +0.2
F30M	Barrier River baz=276	89.98	22	P	P	12 08 06.1 +1.2
N30M	Aishikik Lake baz=275	89.98	29	P	P	12 08 05.5 +0.4
J30M	Hart River baz=275	90.06	25	P	P	12 08 06.1 +0.6
PLBC	Pleasant Camp baz=275	90.52	31	P	P	12 08 08.1 +0.6
O30N	Mendenhall baz=276	90.53	29	P	P	12 08 07.8 +0.2
N31M	Braeburn, Yuko baz=276	90.61	29	P	P	12 08 08.3 +0.3
G31M	Satah River baz=277	90.64	23	P	P	12 08 08.1 +0.2
INK	Inuvik baz=278	90.74	22	P	P	12 08 09.1 +0.7
H31M	Peel River baz=277	90.75	24	P	P	12 08 08.4 -0.2
F31M	Tsiigehtchic baz=278	90.78	22	P	P	12 08 09.0 +0.4
SKAG	Skagway baz=276	91.04	31	P	P	12 08 10.1 +0.1
WHY	Whitehorse baz=277	91.13	29	P	P	12 08 10.5 -0.1
SIT	Sitka baz=276	91.30	33	P	P	12 08 11.4 +0.2
TAOE	Nuku Hiva Isla comp=Z,271nm,28.8s	91.35	99	*e*LR	LR	12 37 31.7
FARO	Faro, Yukon comp=Z,11nm,1.2s	91.66	28	IAmb	IAmb	12 08 15.0
FARO	Faro, Yukon baz=278	91.66	28	P	P	12 08 13.2 +0.3
P32M	Atlin baz=278	91.84	30	P	P	12 08 14.0 +0.2
N32M	Quiet Lake baz=278	91.94	29	P	P	12 08 14.8 +0.6
QSPA	South Pole Qui comp=Z,0.6nm,0.6s,baz=316,slow=1.2,SNR=6.5 comp=Z,0.6nm,0.6s	92.18	180	P	P	12 08 14.5 -0.8
EIL	Elat comp=Z,26nm,21.2s,baz=58,slow=38	92.26	300	LR	LR	12 53 29.4
ARCES	ARCESS Array B comp=Z,7.4nm,0.9s,baz=81,slow=3.9,SNR=8.5	92.53	340	P	P	12 08 15.6 -1.2
ARCES	comp=Z,95nm,18.1s,baz=271,slow=40 comp=Z,7.4nm,0.9s			LR	LR	12 56 15.4
A36M	Sachs Harbour baz=286	92.75	17	P	P	12 08 18.2 +0.6
R33M	Jennings River baz=280	93.26	30	P	P	12 08 20.4 -0.1
S34M	Telegraph Cree baz=280	93.43	32	P	P	12 08 21.3 +0.2
DLBC	Dease Lake baz=281	93.91	31	P	P	12 08 23.2 -0.1
FINES	FINESS Array B comp=Z,2.0nm,0.7s,baz=51,slow=4.4,SNR=2.8 comp=Z,2.0nm,0.7s	94.10	332	P	P	12 08 22.2 -1.8
WTLY	Watson Lake, Y baz=282	94.20	29	P	P	12 08 24.9 +0.3
AKASG	Malin Array Be comp=Z,0.5nm,0.4s,baz=72,slow=4.1,SNR=4.5	94.34	321	P	P	12 08 23.7 -1.7
AKASG	comp=Z,86nm,18.1s,baz=323,slow=39 comp=Z,0.5nm,0.4s			LR	LR	12 56 06.9
AK14	Malin Array Si	94.43	321	P	P	12 08 26.2 +0.4
BBB	Bella Bella comp=Z,34nm,18.5s,baz=335,slow=33	96.20	37	LR	LR	12 47 55.4
TOAD	Toad River Com baz=285	96.26	30	P	P	12 08 34.5 +0.4
KOTAN	Kotaneelee Air baz=286	96.50	29	P	P	12 08 35.2 +0.1
RES	Resolute Bay	98.86	11	P	Pdif	12 08 45.8 +0.4
RES	Resolute Bay	98.86	11	P	Pdif	12 08 45.8 +0.4
RES	comp=Z,3.0nm,1.2s			pmax	pmax	
DAG	Danmarks Havn	98.97	353	P	P	12 08 46.1 +0.3
DAG	comp=Z,5.0nm,1.4s			pmax	pmax	
YKA	Yellowknife Ar comp=Z,0.9nm,0.9s,baz=288,slow=4.7,SNR=10	99.94	25	P	Pdif	12 08 50.4 -0.1
YKA	Yellowknife Ar	99.94	25	*i* P	Pdif	12 08 50.7 +0.2
YKA	comp=Z,1.0nm,0.9s			pmax	pmax	
Y22D	IRIS PASSCAL I baz=293	116.42	50	P	PKPdf	12 13 48.9 -1.3
T25A	Trinidad baz=296	117.02	46	P	PKPdf	12 13 50.5 -0.9
L44A	Lake County Fo baz=314	124.67	33	P	PKPdf	12 14 05.1 -0.5
TORD	Torodi Ar. Bea comp=Z,1.6nm,0.8s,baz=48,slow=2.1,SNR=9.8	125.36	288	PKP	PKPdf	12 14 06.5 -1.2
O48B	Farmland baz=315	127.50	33	P	PKPdf	12 14 11.5 +0.4

GII ***06*** *12:04:38.8±0.0, 34°.39N×33°.07E, h30km, Mws2.6, confirmed*
NIC ***06*** *12:04:39.8, 34°.39N×33°.07E, h29km, Ml2.1/4*
ISC 06 12:04:39.1±1.3, 34°.37N±0°.04×33°.08E±0°.05, h29km±13km, n32, σ0°.35/39, 2C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APOL	The Sanctuary	0.35	329	P	Pn	12 04 47.9	-0.4
APOL				S	Sn	12 04 53.9	-0.4
APOL	0.6nm,0.1s			AML	AML	12 04 56.5	
APOL	0.5nm,0.1s			AML	AML	12 04 56.9	
ASGA	Asgata	0.44	18⇓	*i* P	Pb	12 04 48.9	+0.4
ASGA				S	Sn	12 04 56.5	0.0
ASGA	1.4nm,0.3s			AML	AML	12 04 56.8	
ASGA	1.5nm,0.2s			AML	AML	12 04 57.1	
NATA	Nata	0.59	314	⇑P	Pn	12 04 51.5	-0.1
NATA				S	Sn	12 05 00.9	+0.7
NATA	0.4nm,0.2s			AML	AML	12 05 03.7	
NATA	0.6nm,0.3s			AML	AML	12 05 04.5	
CSS	Mathiatis	0.63	19⇑	*i* P	Pb	12 04 51.5	-0.1
CSS				S	Sn	12 05 01.2	0.0
CSS	0.3nm,0.3s			AML	AML	12 05 03.2	
CSS	0.2nm,0.3s			AML	AML	12 05 04.1	
CSS	Mathiatis	0.63	19	P	Pb	12 04 51.2	-0.4
CSS				S	Sb	12 05 00.1	0.0
MVOU	Mavrovouni	0.79	35	P	Pb	12 04 54.4	+0.1
MVOU				S	Sn	12 05 06.2	+1.0
AKMS	Akamas	0.89	317	P	Pb	12 04 55.8	-0.2
AKMS				S	Sn	12 05 08.0	+0.3
HNTI	Hanita	2.17	126	P	Pn	12 05 13.0	-0.2
HNTI	Hanita	2.17	126	S	Sn	12 05 39.3	+0.2
MMA0B	Mount Meron ar	2.36	124	P	Pn	12 05 15.5	-0.4
MMA0B	Mount Meron ar	2.36	124	S	Sn	12 05 44.3	+0.3
OFRI	`Ofer	2.36	137	P	Pn	12 05 15.7	-0.2
OFRI	`Ofer	2.36	137	S	Sn	12 05 43.3	-0.7
MMA2	Mount Meron ar	2.36	124	P	Pn	12 05 15.7	-0.3
GEM	Giv'at Ha'Em	2.44	118	P	Pn	12 05 16.6	-0.4
GEM	Giv'at Ha'Em	2.44	118	S	Sn	12 05 46.0	+0.1
NATI	Neve Ativ	2.47	116	P	Pn	12 05 17.4	0.0
NATI	Neve Ativ	2.47	116	S	Sn	12 05 46.6	0.0
MMLI	Mount Malkishu	2.75	134	P	Pn	12 05 21.2	-0.1
MMLI	Mount Malkishu	2.75	134	S	Sn	12 05 53.5	0.0
SALP	Salfit	2.90	142	P	Pn	12 05 23.3	-0.1
SALP	Salfit	2.90	142	S	Sn	12 05 57.0	-0.2
HMDT	Nahal Hemdat	2.94	135	P	Pn	12 05 24.1	+0.2
HMDT	Nahal Hemdat	2.94	135	S	Sn	12 05 58.3	+0.1
DSI	Dead Sea	3.40	145	P	Pn	12 05 29.9	-0.2
DSI	Dead Sea	3.40	145	S	Sn	12 06 09.3	-0.1
YTIR	Yattir	3.45	150	P	Pn	12 05 31.0	0.0
YTIR	Yattir	3.45	150	S	Sn	12 06 11.4	+0.4
PRNI	Paran	4.32	157	P	Pn	12 05 43.1	+0.1
PRNI	Paran	4.32	157	S	Sn	12 06 32.7	+0.3
MBRI	Mt Berech	4.82	161	P	Pn	12 05 50.2	+0.3
MBRI	Mt Berech	4.82	161	S	Sn	12 06 45.0	+0.3

HEL ***06*** *12:12:05.0±0.4, 60°.97N×29°.07E, h0km, ML1.4, Suspected explosion*
IDC ***06*** *12:12:05.8±2.8, 60°.95N×28°.99E, h0km, mbtmp3.7/1, Error ellipse: s-maj=22.2km s-min=12.5km az=161.0*
ISC 06 12:12:02.4±1.4, 60°.95N±0°.06×29°.28E±0°.06, h0km, n15, σ0°.93/24, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	Ruokolahti	0.50	342	PG	Pb	12 12 13.3	-0.7
RUF				SG	Sg	12 12 19.2	+0.8
RUF	comp=Z,4.9nm,0.2s			MSG		12 12 20.1	
VJF	Virojoki	0.94	245	PG	Pg	12 12 20.9	+0.5
VJF	comp=Z,7.4nm,0.2s			MSG		12 12 31.4	
VJF				SB	Sg	12 12 32.8	+0.2
FIA0	FINESS Array S	1.62	289	PG	Pn	12 12 32.0	-0.2
FIA0	comp=Z,2.9nm,0.2s			MSG		12 12 50.6	
FIA0				SN	Sn	12 12 52.9	-0.9
FINES	FINESS Array B comp=Z,0.4nm,0.3s,baz=105,slow=16,SNR=11	1.62	289	Pg	Pn	12 12 32.0	-0.2
FINES	comp=Z,1.4nm,0.3s,baz=103,slow=28,SNR=19			Lg	Lg	12 12 52.7	
FINES	comp=Z,31nm,0.8s,baz=119,slow=37,SNR=25			Rg	Rg	12 12 59.7	
PVF	Pernaja	1.73	258	PG	Pn	12 12 34.0	+0.4
PVF	comp=Z,4.6nm,0.2s			MSG		12 12 53.7	
PVF				SN	Sg	12 12 58.3	+0.5
KAF	Kangasniemi	1.84	311	PG	Pb	12 12 37.1	+0.2
KAF	comp=Z,2.2nm,0.2s			MSG		12 12 57.4	
KAF				SN	Sg	12 13 01.2	-0.2
JOF	Joensuu	2.19	25	PG	Pg	12 12 44.9	+0.5
JOF				SG	Sg	12 13 13.5	+0.6
SUF	Sumiainen	2.31	321	PG	Pb	12 12 45.0	+0.1
SUF	comp=Z,1.2nm,0.2s			MSG		12 13 11.3	
SUF				SG	Sb	12 13 14.5	+0.6
NUR	Nurmijarvi	2.32	261	PG	Pb	12 12 44.1	-0.9
NUR	comp=Z,1.7nm,0.2s			MSG		12 13 10.6	
KEF	Keuruu	2.44	302	PG	Pb	12 12 46.7	-0.3
KEF	comp=Z,0.9nm,0.2s			MSG		12 13 14.2	
KEF				SG	Sb	12 13 17.5	0.0
MEF	Metsahovi	2.52	255	PG	Pb	12 12 47.2	-1.2
MEF	comp=Z,1.4nm,0.2s			MSG		12 13 16.5	
NIF	Nilsia	2.54	345	PG	Pb	12 12 48.8	0.0
NIF				SG	Sb	12 13 20.4	-0.2
KU2	Taivalkoski	4.80	355	PB	Pb	12 13 24.3	-3.0
I43RU	DUBNA INFRASON baz=320,slow=322,SNR=17	5.92	132	I	I	12 49 50.0	
ARCES	ARCESS Array B comp=Z,4.9nm,1.1s,baz=171,slow=12,SNR=2.1	8.76	351	Pn	Pn	12 14 11.1	+0.9
ARCES	baz=164,slow=24,SNR=1.2			Sn	Sn	12 15 48.0	-1.5

IDC 06 12:43:01.5±3.9, 67°.31N×33°.48E, h0km, mbtmp2.4/1, ML2.0/1, Error ellipse: s-maj=56.0km s-min=28.5km az=41.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B 0.1nm,0.3s,baz=124,slow=15,SNR=17	3.69	311	Pn	Pn	12 43 59.2	-0.5
ARCES	0.1nm,0.3s,baz=125,slow=23,SNR=2.1			Sn	Sn	12 44 40.3	-3.6
ARCES	0.1nm,0.3s,baz=123,slow=27,SNR=1.4 0.4nm,0.2s			Lg	Lg	12 44 58.5	
I43RU	DUBNA INFRASON baz=356,slow=333,SNR=1.7	10.77	169	I	I	13 46 10.0	
I31KZ	AKTYUBINSK INF baz=335,slow=316,SNR=1.3	20.92	132	I	I	14 47 10.0	

HEL ***06*** *12:47:54.5±0.2, 59°.23N×27°.72E, h0km, ML1.7, Suspected explosion*
EST ***06*** *12:47:55.2±0.1, 59°.27N×27°.65E, h0km, ML1.5(HEL), Explosion*
IDC ***06*** *12:47:55.4±4.2, 59°.22N×26°.56E, h0km, mbtmp3.2/2, ML2.0/2, Error ellipse: s-maj=50.3km s-min=34.8km az=88.0*
ISC 06 12:47:54.0±0.8, 59°.30N±0°.02×27°.60E±0°.03, h0km, n29, σ1°.31/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	Vaivara Sinima	0.16	63	*e*P	Pg	12 47 57.9	+0.9
EE04				*e*S	Sg	12 47 59.5	+0.5
EE03	Tooma soojaam,	0.81	238	*e*P	Pg	12 48 10.0	+0.5
EE03				*e*S	Sg	12 48 20.3	+0.3
ARBE	Arbavere	0.84	280	*e*P	Pg	12 48 10.5	+0.4

```
ARBE                                    eS      Sg      12 48 21.6 +0.6
VSU   Vasula                0.96 209    eP      Pg      12 48 11.7 -0.6
VSU                                     eS      Sg      12 48 23.3 -1.3
VJF   Virojoki              1.24 359    eP      Pg      12 48 17.9 +0.2
VJF                                     MSG             12 48 34.2
      comp=Z,6.8nm,0.2s
VJF                                     eSB     Sb      12 48 34.7  0.0
EE08  Sarghaua, Vand        1.39 243    eP      Pg      12 48 20.4 -0.1
EE08                                    eS      Sg      12 48 38.3 -0.1
EE07  Piusa Caves, O        1.47 183    eP      Pn      12 48 21.4 -0.2
EE07                                    eS      Sg      12 48 39.1 -2.0
EE02  Kiisa, Saku           1.50 267    eP      Pg      12 48 22.7 +0.1
EE02                                    eS      Sg      12 48 41.4 -0.7
PVF   Pernaja               1.52 326    ePG     Pg      12 48 23.5 +0.3
PVF                                     eS      Sg      12 48 42.6 -0.3
PVF                                     MSG             12 48 43.0
      comp=Z,3.6nm,0.2s
HEL1  Helsinki              1.63 304    ePN     Pg      12 48 25.6 +0.3
HEL1                                    eSG     Sg      12 48 46.7 +0.3
MEF   Metsahovi             1.86 301    eP      Pb      12 48 28.8 -0.1
MEF   Metsahovi             1.86 301    ePG     Pg      12 48 29.6 -0.1
MEF                                     eSG     Sg      12 48 53.5 -0.3
MEF                                     MSG             12 48 54.8
      comp=Z,2.3nm,0.1s
NUR   Nurmijarvi            1.92 310    ePG     Pg      12 48 30.4 -0.3
NUR                                     eSG     Sg      12 48 55.1 -0.4
NUR                                     MSG             12 48 56.4
      comp=Z,2.9nm,0.1s
MTSE  Matsula               2.05 255    eP      Pg      12 48 38.4 +5.2
MTSE  Matsula               2.05 255    ePG     Pb      12 48 31.9 -0.1
MTSE                                    eSG     Sb      12 48 58.2 +0.3
RUF   Ruokolahti            2.23  17    eP      Pn      12 48 33.6 +1.5
RUF                                     MSG             12 49 02.1
      comp=Z,2.1nm,0.2s
RUF                                     eSG     Sb      12 49 04.1 +0.9
FIA0  FINESS Array S        2.28 341    ePB     Pb      12 48 35.7 -0.3
FIA0                                    MSG             12 49 04.5
      comp=Z,2.1nm,0.2s
FINES FINESS Array B        2.28 341    Pn      Pn      12 48 34.2 +1.4
      comp=Z,0.7nm,0.3s,baz=178,slow=11,SNR=21
FINES                                   Sn      Sn      12 49 03.0 +1.5
      comp=Z,0.8nm,0.3s,baz=172,slow=24,SNR=18
      comp=Z,2.0nm,0.4s
FIA1  FINESS Array S        2.28 341    eP      Pn      12 48 34.5 +1.7
FIA1                                    ePB     Pb      12 48 35.7 -0.2
FIA1                                    MSG             12 49 07.6
      comp=Z,1.6nm,0.1s
EE06  Soera, Palade,        2.47 264    eP      Pb      12 48 37.6 -1.6
EE06                                    eSB     Sb      12 49 10.8 +0.6
KAF   Kangasniemi           2.89 348    ePB     Pb      12 48 45.8 -0.6
KAF                                     MSG             12 49 21.8
      comp=Z,1.2nm,0.2s
KAF                                     eSG     Sg      12 49 24.7 -2.0
RAF   Rauma                 3.39 303    eP      Pn      12 48 49.1 +1.0
RAF   Rauma                 3.39 303    eP      Pn      12 48 50.8 +2.8
KPF   Kankaanpaa            3.73 315    eP      Pn      12 48 55.7 +3.0
JOF   Joensuu               4.05  25    eP      Pn      12 48 57.6 +0.5
VAF   Ylistaro              4.45 330    eP      Pn      12 49 02.2 -0.3
I43RU DUBNA INFRASON        5.73 113    I       I       13 22 58.2
      comp=Z,0.1nm,2.5s,baz=298,slow=305,SNR=7.6
SUW   Suwalki               5.84 207    eP      Pb      12 49 37.8 +1.2
ARCES ARCESS Array B       10.31 356    Pn      Pn      12 50 22.9 -0.1
      baz=171,slow=14,SNR=1.7
ARCES                                   Sn      Sn      12 52 13.9 -5.2
      baz=173,slow=23,SNR=2.5
      comp=Z,2.2nm,1.0s
```

*NEIC **06** 13:19:07.4±0.9,35.°11N±0.°02×97.°88W±0.°02,h5km±1km, mb_Lg2.7/52,ML2.6/32,Error ellipse: s-maj=3.2km s-min=2.9km az=323.0*

ISC 06 13:19:07.5±1.2,35.°11N±0.°03×97.°89W±0.°03,h4km±12km, n61,σ0ˢ93/49,Oklahoma

```
Code  Station Name          Δ°   AZ°    Phase ID        Time     Res
                                        Op      ISC     h m s    ISC
FNO   Franklin              0.42  69    Pg      Pg      13 19 16.1 +0.5
FNO                                     IAML            13 19 22.8
      comp=E,410nm,0.3s
OKCSW OKLAHOMA CITY         0.47  51    Pg      Pg      13 19 17.2 +0.6
OKCSW                                   Sg      Sg      13 19 23.6 +1.0
OKCSW                                   IAML            13 19 24.0
      comp=N,618nm,0.3s
OKCSW                                   IAML            13 19 24.0
      comp=E,686nm,0.2s
X34A  Smith Ranch, M        0.51 175            Pb      13 19 18.2 -0.8
X34A                                    IAML            13 19 32.8
      comp=E,387nm,0.5s
X34A                                    IAML            13 19 34.5
      comp=N,470nm,1.0s
ADOK  Arcadia Dam           0.69  38            Pg      13 19 20.9 +0.3
ADOK                                    Sg      Sg      13 19 30.4 +0.8
WMOK  Wichita Mounta        0.82 244            Pg      13 19 22.9 -0.3
WMOK  Wichita Mounta        0.82 244    P       Pg      13 19 22.9 -0.3
WMOK                                    S       Sg      13 19 34.5 +0.5
W35A  Tecumseh              0.83  87            Pg      13 19 23.0 -0.4
W35A                                    IAML            13 19 35.1
      comp=E,232nm,0.3s
W35A                                    IAML            13 19 41.1
      comp=N,165nm,0.3s
CSTR  Hydro, Custer         0.85 309            Pg      13 19 23.5 -0.2
OK031 S. Brethren Rd        1.20  45            Pg      13 19 29.7 -0.7
DEOK  Depew                 1.35  57            Pn      13 19 32.2 -0.9
CROK  Carrier               1.40 357            Pn      13 19 33.0 -0.7
WTFS  Witchita Falls        1.42 200            Pn      13 19 33.9 -0.2
WTFS  Witchita Falls        1.42 200    P       Pb      13 19 34.4 -0.2
QUOK  Quay                  1.43  42            Pn      13 19 33.2 -1.0
ELIS  Ellis County          1.57 308            Pn      13 19 36.4 +0.2
OK051 E0350 and S346        1.63  31            Pn      13 19 36.7 -0.3
BLOK  Blackwell             1.73  18            Pn      13 19 38.7 +0.3
NOKA  Waynoka               1.74 331            Pn      13 19 39.0 +0.5
NOKA                                    IAmb_Lg         13 20 06.5
      comp=Z,50nm,0.7s
KAN14 Manchester OK         1.84 358            Pn      13 19 40.2 +0.3
Z35A  Perchaven, San        1.85 163    P       Pn      13 19 40.6 +0.7
Z35A                                    S       Sb      13 20 05.3  0.0
Z35A  Perchaven, San        1.85 163    S       Sg      13 20 07.8 +0.9
KAN13 South Haven SW        1.93  10            Pn      13 19 41.7 +0.6
KAN17 Caldwell West         1.93   3            Pn      13 19 40.8 -0.3
SMWD  Samnorwood            1.93 271            Pb      13 19 42.3 -1.0
SMWD                                    IAmb_Lg         13 20 12.7
      comp=Z,28nm,0.8s
SMWD  Samnorwood            1.93 271    P       Pb      13 19 42.3 -1.0
SMWD                                    S       Sb      13 20 08.5 +0.8
KAN05 Bluff City Nor        2.00   0            Pn      13 19 42.4 +0.4
KAN09 Caldwell North        2.03   6            Pn      13 19 43.2 +0.6
KAN09                                   IAmb_Lg         13 20 13.6
      comp=Z,42nm,0.8s
KAN01 Argonia South         2.04   3            Pn      13 19 43.0 +0.4
KAN01                                   IAmb_Lg         13 20 12.6
      comp=Z,43nm,1.0s
FW03  Perrin-Whitt E        2.07 184            Pn      13 19 43.6 +0.6
FW03                                    IAmb_Lg         13 20 12.5
      comp=Z,27nm,1.1s
KAN08 Anthony NE Sta        2.11 358            Pn      13 19 44.6 +0.9
KAN08                                   IAmb_Lg         13 20 19.6
      comp=Z,44nm,1.1s
FW06  Azle                  2.15 173            Pn      13 19 45.2 +1.1
FW06                                    IAmb_Lg         13 20 14.7
      comp=Z,22nm,0.8s
KAN12 Harper NE Stat        2.19 358            Pn      13 19 45.5 +0.9
PLPT  Palo Pinto            2.32 189            Pn      13 19 47.4 +1.0
PLPT  Palo Pinto            2.32 189    P       Pb      13 19 48.1 -1.7
FW07  Weatherford           2.40 178    IAmb_Lg         13 20 29.5
      comp=Z,32nm,1.0s
APMT  Aspermont             2.57 227    P       Pb      13 19 52.2 -1.9
FW14  Alvarado              2.76 168    IAmb_Lg         13 20 38.7
      comp=Z,33nm,0.7s
TREL  Terrell               2.80 147    IAmb_Lg         13 20 39.9
      comp=Z,34nm,0.7s
ABTX  Abilene, Hawle        2.88 211    P       Pn      13 19 55.4 +1.3
DKNS  Dickens               2.90 241    P       Pn      13 19 56.2 +1.8
DKNS                                    S       Sb      13 20 32.9 -2.6
AMTX  Amarillo              3.12 267    IAmb_Lg         13 20 52.2
      comp=Z,16nm,1.0s
R32A  Long Quarter,         3.37 349    IAmb_Lg         13 20 59.5
      comp=Z,16nm,0.8s
HHAR  Hobbs                 3.42  69            Pn      13 20 01.9 +0.3
237A  Washetta, Mont        3.55 150    IAmb_Lg         13 21 01.0
      comp=Z,19nm,0.7s
BRDY  Brady                 3.93 194            Pn      13 20 08.7 +0.2
BRDY  Brady                 3.93 194    P       Pn      13 20 09.2 +0.6
CBKS  Cedar Bluff           3.98 339    IAmb_Lg         13 21 18.6
      comp=Z,25nm,0.7s
CBKS  Cedar Bluff           3.98 339    P       Pn      13 20 10.2 +0.8
RTBA  Rita Blanca           4.16 290    S       Sn      13 21 02.7 +1.7
SGCY  Sterling City         4.18 221    IAmb_Lg         13 21 27.7
      comp=Z,14nm,0.9s
X40A  Basin Creek Fa        4.20  97    IAmb_Lg         13 21 23.6
      comp=Z,17nm,0.9s
435B  Jarrell               4.32 177    IAmb_Lg         13 21 36.1
      comp=Z,21nm,0.8s
UALR  University of         4.56  93    IAmb_Lg         13 21 34.3
      comp=Z,14nm,0.8s
FCAR  Ozark Folk Cen        4.76  79    IAmb_Lg         13 21 50.6
      comp=Z,9.5nm,0.9s
MGMO  Mountain Grove        4.98  64    IAmb_Lg         13 21 58.4
      comp=Z,10nm,0.9s
CCM   Cathedral Cave        6.10  59    IAmb_Lg         13 22 38.1
      comp=Z,11nm,0.8s
SAND  Sanderson             6.26 216    P       Pn      13 20 40.4 -0.3
PBMO  Poplar Bluff          6.27  72    IAmb_Lg         13 22 34.2
      comp=Z,11nm,0.7s
Q24A  Divide                6.97 306    IAmb_Lg         13 23 02.0
      comp=Z,12nm,0.8s
N23A  Red Feather La        8.59 315    IAmb_Lg         13 23 52.7
      comp=Z,6.5nm,0.8s
ECSD  EROS Data Cent        8.67   6    IAmb_Lg         13 23 41.4
      comp=Z,5.1nm,1.1s
```

*IDC **06** 13:19:59.7±2.7,25.°72S×179.°93W,h455km±27km,mb3.3/4, mbtmp4.2/6,Error ellipse: s-maj=31.2km s-min=21.8km az=93.0*

ISC 06 13:19:58.9±1.1,25.°69S±0.°09×179.°7W±0.°2,h450km,n18, σ1ˢ81/19,mb3.6/4,South of Fiji Islands

```
Code  Station Name          Δ°   AZ°    Phase ID        Time     Res
                                        Op      ISC     h m s    ISC
MSVF  Nonsavu               8.20 345    P       P       13 21 58.2 +1.5
      10.0nm,0.4s,baz=164,slow=15,SNR=8.7
OUZ   Omahuta              11.12 210    P       P       13 22 31.6 +3.6
MXZ   Matakaoa Point       11.96 188    P       P       13 22 40.8 +3.7
URZ   Urewera              12.82 191    P       P       13 22 44.5 -2.0
      8.7nm,0.5s,baz=22,slow=19,SNR=18
URZ                                     S       S       13 25 03.4 -1.3
      2.4nm,0.6s,baz=94,slow=13,SNR=0.8
URZ   Urewera              12.82 191    P       P       13 22 46.4  0.0
BFZ   Birch Farm           15.33 192    P       P       13 23 13.7 +0.4
QRZ   Quartz Range         16.42 201    P       P       13 23 25.0 +0.1
KHZ   Kahutara             17.59 197    P       P       13 23 38.7 +1.5
ASAR  Alice Springs        42.05 262    P       P       13 27 08.8 -1.1
      1.0nm,0.4s,baz=95,slow=7.9,SNR=4.5
      1.0nm,0.4s
WRA   Warramunga Arr       42.60 268    P       P       13 27 12.6 -1.6
      0.8nm,0.4s,baz=98,slow=7.3,SNR=21
      0.8nm,0.4s
QSPA  South Pole Qui       64.40 180    P       P       13 29 50.4 +1.2
      1.5nm,0.9s,baz=95,slow=4.1,SNR=2.5
      1.5nm,0.9s
PETK  Petropavlovsk-       80.90 346    P       P       13 31 25.0 +0.3
      4.1nm,1.0s,baz=174,slow=6.3,SNR=2.0
      4.1nm,1.0s
NB2   NORSAR Subarra143.89 351          PKPdf   PKPdf   13 38 40.2 -1.3
      comp=Z,3.2nm,0.7s,baz=15,slow=2.0
NB2   NORSAR Subarra143.89 351          PKPdf   PKPdf   13 38 40.2 -1.3
      baz=15,slow=2.0
NOA   NORSAR Array B143.89 351          PKP     PKPdf   13 38 40.0 -1.5
      comp=Z,1.9nm,0.7s,baz=12,slow=2.3,SNR=5.6
HFS   Hagfors             144.35 349    PKP     PKPdf   13 38 41.4 -0.8
      comp=Z,2.5nm,0.4s,baz=54,slow=3.7,SNR=22
MMAI  Mount Meron Ar      148.66 292    PKPbc   PKiKP   13 38 54.5 -1.5
      comp=Z,1.2nm,0.4s,baz=116,slow=6.6,SNR=1.7
BRTR  Keskin Array B      148.86 305    PKPbc   PKiKP   13 38 54.9 -1.3
      comp=Z,0.5nm,0.7s,baz=146,slow=5.4,SNR=2.3
```

*NEIC **06** 13:20:59.5±0.9,35.°11N±0.°01×97.°89W±0.°02,h5km±3km, mb_Lg2.4/15,ML2.5/31,ML2.8/31,Error ellipse: s-maj=1.9km s-min=1.6km az=95.0*

*NEIC **06** 13:20:59.7±0.9,35.°12N±0.°01×97.°89W±0.°02,h7km±3km, Error ellipse: s-maj=1.9km s-min=1.7km az=99.0*

ISC 06 13:20:59.2±1.2,35.°13N±0.°03×97.°90W±0.°03,h3km±12km, n35,σ1ˢ16/36,Oklahoma

```
Code  Station Name          Δ°   AZ°    Phase ID        Time     Res
                                        Op      ISC     h m s    ISC
FNO   Franklin              0.43  72    Pg      Pg      13 21 08.1 +0.7
FNO                                     IAML            13 21 14.6
      comp=E,139nm,0.4s
X34A  Smith Ranch, M        0.53 174            Pb      13 21 10.3 -0.7
X34A                                    Sg      Sg      13 21 16.8 +0.7
X34A                                    IAML            13 21 19.1
      comp=N,370nm,0.4s
X34A                                    IAML            13 21 24.4
      comp=E,233nm,0.4s
ADOK  Arcadia Dam           0.68  39    Pg      Pg      13 21 11.9 -0.2
ADOK                                    Sg      Sg      13 21 21.9 +0.9
WMOK  Wichita Mounta        0.82 242    Pg      Pb      13 21 16.1  0.0
WMOK  Wichita Mounta        0.82 242    Sg      Sg      13 21 25.8 +0.2
WMOK  Wichita Mounta        0.82 242    P       Pg      13 21 15.3 +0.4
WMOK                                    S       Sg      13 21 26.6 +1.0
CSTR  Hydro, Custer         0.83 309            Pb      13 21 16.3  0.0
CSTR                                            Sb      13 21 27.7 -0.2
W35A  Tecumseh              0.84  88    Pg      Pg      13 21 15.7 +0.4
W35A                                    Sg      Sg      13 21 26.8 +0.7
W35A                                    IAML            13 21 40.0
      comp=N,119nm,0.2s
W35A                                    IAML            13 21 40.2
      comp=E,134nm,0.3s
OK031 S. Brethren Rd        1.19  46            Pg      13 21 21.5 -0.5
OK031                                   IAML            13 21 38.9
      comp=E,117nm,0.2s
OK031                                   IAML            13 21 43.2
      comp=E,112nm,0.3s
DEOK  Depew                 1.35  58            Pn      13 21 24.3 -0.6
DEOK                                            Sb      13 21 42.4 -0.4
CROK  Carrier               1.38 357            Pn      13 21 24.9 -0.4
QUOK  Quay                  1.42  43            Pn      13 21 25.4 -0.6
WTFS  Witchita Falls        1.44 199            Pn      13 21 25.7 -0.4
WTFS                                            Sb      13 21 44.5 -0.8
WTFS  Witchita Falls        1.44 199    P       Pn      13 21 25.8 -0.3
WTFS                                    S       Sb      13 21 45.1 -0.2
OK051 E0350 and S346        1.62  32            Pn      13 21 29.1 +0.4
NOKA  Waynoka               1.72 331    Pn      Pn      13 21 30.9 +0.8
KAN14 Manchester OK         1.83 358    IAmb_Lg         13 22 02.4
      comp=Z,21nm,0.9s
Z35A  Perchaven, San        1.87 163    P       Pn      13 21 32.3 +0.2
Z35A  Perchaven, San        1.87 163    S       Sg      13 21 59.7 +0.5
KAN09 Caldwell North        2.02   6            Pn      13 21 35.1 +1.0
KAN09                                   IAmb_Lg         13 22 08.1
      comp=Z,16nm,0.7s
KAN01 Argonia South         2.03   3            Pn      13 21 35.4 +1.1
FW03  Perrin-Whitt E        2.09 184    IAmb_Lg         13 22 09.5
      comp=Z,21nm,0.7s
KAN08 Anthony NE Sta        2.10 358    IAmb_Lg         13 22 06.3
      comp=Z,17nm,0.9s
FW06  Azle                  2.17 172    IAmb_Lg         13 22 06.6
      comp=Z,15nm,0.7s
KAN12 Harper NE Stat        2.17 358    IAmb_Lg         13 22 12.0
      comp=Z,20nm,0.8s
PLPT  Palo Pinto            2.33 189    P       Pb      13 21 40.1 -1.8
PLPT                                    S       Sb      13 22 10.6 -0.6
DRZT  Darrouzett            2.35 305    P       Pn      13 21 34.9 -3.9
FW07  Weatherford           2.42 178    IAmb_Lg         13 22 16.5
      comp=Z,18nm,0.8s
ABTX  Abilene, Hawle        2.89 211    P       Pn      13 21 47.3 +1.2
ABTX  Abilene, Hawle        2.89 211    S       Sn      13 22 23.8 +2.4
WHTX  Lake Whitney,         3.15 173    P       Pn      13 21 50.9 +1.2
BRDY  Brady                 3.94 194    IAmb_Lg         13 23 12.8
      comp=Z,11nm,0.8s
BRDY  Brady                 3.94 194    P       Pn      13 22 01.0 +0.4
EF75  Tulsita               6.41 179    P       Pb      13 22 48.9 -2.5
ALPN  Alpine                6.77 227    IAmb_Lg         13 24 36.1
      comp=Z,5.4nm,1.0s
```

*IDC **06** 13:30:24.6±0.6,29.°11N×87.°37E,h0km,mb3.9/21, mbtmp3.9/22,ML3.7/1,MS2.9/2,Error ellipse: s-maj=21.0km s-min=13.6km az=47.0*

*DMN **06** 13:30:25.1±0.0,29.°21N×87.°45E,h10km,Ml4.6/6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*NEIC **06** 13:30:27.1±2.4,29.°26N±0.°10×87.°2E±0.°1,h10km±1km, mb4.1/31,Error ellipse: s-maj=18.6km s-min=12.8km az=221.0*

*NDI **06** 13:30:30.9±3.0,29.°06N×87.°41E,h10km,ML3.8,MW3.8, mb4.1(NEIC)*

ISC 06 13:30:26.6±1.6,29.°21N±0.°04×87.°43E±0.°03,h9km±10km, n98,σ1ˢ99/116,mb4.0/34,Xizang

```
Code  Station Name          Δ°   AZ°    Phase ID        Time     Res
                                        Op      ISC     h m s    ISC
TAPN  Taplejung             1.87 172    Pg      Pb      13 31 00.5 -0.6
      baz=173,slow=0.0
TAPN                                    Sg      Sb      13 31 23.7 -0.9
      2μm,0.7s,baz=173,slow=0.0
GUN   Gumba                 1.88 227    Pg      Pb      13 31 00.9 -0.4
      baz=227,slow=0.0
GUN                                     Sg      Sb      13 31 24.1 -0.8
      baz=227,slow=0.0
GTK   Tadong                2.15 151    eP      Pb      13 31 05.3 -0.5
GTK                                     eS      Sb      13 31 33.2 +0.6
GTK                                     IAML            13 31 42.2
      562nm,0.5s
GTK                                     IAML            13 31 45.5
      comp=E,635nm,0.5s
ODAN  Odare                 2.34 181    Pg      Pb      13 31 08.9 -0.2
      baz=181,slow=0.0
KKN   Kakani                2.36 234    Pg      Pb      13 31 09.2 -0.2
      baz=234,slow=0.0
KKN                                     Sg      Sb      13 31 40.4 +1.7
      baz=234,slow=0.0
RAMN  Ramite                2.37 198    Pg      Pb      13 31 09.1 -0.4
      baz=199,slow=0.0
RAMN                                    Sg      Sg      13 31 40.5 -2.1
      comp=E,1μm,0.8s,baz=199,slow=0.0
PKI   Pulchoki              2.41 228    Pg      Pb      13 31 10.2 -0.2
      baz=228,slow=0.0
PKI                                     Sg      Sb      13 31 41.9 +1.6
      comp=E,4μm,1.0s,baz=228,slow=0.0
PKIN  Phulchoki             2.42 228    Pg      Pb      13 31 09.9 -0.5
      baz=228,slow=0.0
PKIN                                    Sg      Sb      13 31 42.1 +1.7
      comp=E,1μm,0.5s,baz=228,slow=0.0
GKN   Gorkha                2.73 245    Pg      Pb      13 31 16.3 +0.6
      baz=245,slow=0.0
GKN                                     Sg      Sb      13 31 51.5 +2.1
      comp=E,622nm,0.5s,baz=245,slow=0.0
LSA   Lhasa                 3.29  81            Pb      13 31 22.6 -2.8
DANN  Dangsing              3.33 256    Pg      Pb      13 31 27.3 +1.3
      baz=256,slow=0.0
KOLN  Koldanda              3.66 248    Pg      Pb      13 31 33.7 +2.1
      baz=248,slow=0.0
KOLN                                    Sg      Sg      13 32 20.7 -3.5
      baz=248,slow=0.0
PYUN  Piuthan               4.05 255    Pg      Pb      13 31 40.5 +2.2
      baz=255,slow=0.0
PYUN                                    Sg      Sg      13 32 33.6 -3.2
      comp=E,432nm,0.7s,baz=255,slow=0.0
TAWA  Tawang                4.23 111    eP      Pn      13 31 35.8 +4.2
TAWA                                    ex      Sg      13 32 40.9 -1.6
TAWA                                    IAML            13 32 53.7
      comp=E,215nm,0.4s
SHL   Shillong              5.37 131            Pn      13 31 47.6 +0.5
SHL   Shillong              5.37 131    eP      Pn      13 31 49.2 +2.1
SHL                                     eS      Sn      13 32 49.3 +0.1
SHL                                     IAML            13 32 50.4
      comp=N,280nm,1.4s
BOK   Bokaro                5.56 195    eP      Pn      13 31 51.5 +1.9
BOK                                     ex      Sn      13 33 01.1 +7.4
BOK                                     IAML            13 33 31.8
      comp=E,150nm,0.9s
BOK                                     IAML            13 33 32.2
      comp=N,138nm,0.6s
ZIRO  ZIRO                  5.90 105    eP      Pn      13 31 57.9 +3.5
KOHI  KOHIMA                6.88 119    eP      Pn      13 32 09.2 +1.5
KOHI                                    eS      Sn      13 33 25.1 -1.2
KOHI                                    IAML            13 33 44.3
      comp=N,148nm,1.1s
KOHI                                    IAML            13 33 46.3
      comp=E,154nm,0.6s
AZL   Aizawl                7.20 138    eP      Pn      13 32 13.4 +1.1
AZL                                     IAML            13 33 38.6
      comp=E,227nm,0.3s
AZL                                     IAML            13 33 44.7
      comp=E,124nm,0.6s
KLP   Kalpa                 8.26 289    eP      Pn      13 32 29.6 +2.8
SMLA  Simla                 9.09 285    eP      Pn      13 32 40.0 +2.1
SMLA                                    ex      Sn      13 34 10.1  -10
GOMU  GeErMu                9.34  40    P       Pn      13 32 45.9 +4.1
GOMU                                    pmax    pmax
      comp=Z,8.0nm,1.2s
DHRM  DHARAMSHALA          10.04 290    eP      Pn      13 32 55.9 +4.6
DHRM                                    eS      Sn      13 34 42.2 -2.0
RAGD  RAYAGADA             10.55 201    eP      Pn      13 32 57.5 -0.6
BHPL  Bhopal               10.76 239    eP      Pn      13 33 04.2 +3.2
BHPL                                    eS      Sn      13 34 53.7 -7.9
NIL   Nilore               12.89 294    Pn      Pn      13 33 27.4 -2.6
PZH   PanZhiHua            12.95  99    P       Pn      13 33 33.2 +2.2
PZH                                     pmax    pmax
      comp=Z,10.0nm,0.8s
PZH                                     pmax    pmax
      comp=Z,160nm,6.1s
WUS   Wushi                13.71 333    Pn      Pn      13 33 39.5 -1.7
KSH   Kashi                13.96 320    P       Pn      13 33 44.2 -0.5
KSH                                     pmax    pmax
      comp=Z,11nm,0.7s
KSH                                     LR      LR
      comp=N,310nm,19.2s
KSH                                     LR      LR
      comp=E,240nm,15.5s
KSH                                     LR      LR
      comp=Z,310nm,10.0s
CHTO  Chiang Mai           14.75 132    Pn      P       13 33 59.1 -2.4
CMAR  Chiang Mai Arr       15.01 133    Pn      Pn      13 34 00.5 +1.6
CMAR  Chiang Mai Arr       15.01 133    Pn      P       13 34 04.8 +0.4
      comp=Z,0.3nm,0.3s,baz=312,slow=10.0,SNR=24
CMAR                                    LR      LR      13 41 42.0
      comp=Z,18nm,20.6s,baz=320,slow=45
NRN   Naryn                15.34 326    P       Pn      13 34 04.2 +0.7
NRN                                     IAmb    IAmb    13 34 16.1
      comp=Z,3.0nm,0.6s
LZH   Lanzhou              15.43  59    eP      P       13 34 09.1 -0.1
LZH                                     sP      pP      13 34 14.5 +1.4
LZH                                     pmax    pmax
      comp=Z,8.0nm,1.1s
KBL   Kabul                16.49 293            Pn      13 34 16.0 -2.4
AAK   Ala-Archa            16.98 326    P       Pn      13 34 23.6 -0.8
AAK   Ala-Archa            16.98 326    Pn      P       13 34 28.2 +1.8
      comp=Z,0.1nm,0.3s,baz=84,slow=4.7,SNR=5.8
GAR   Garm                 17.18 309    Pn      Pn      13 34 24.9 -2.1
GAR                                     IAmb    IAmb    13 34 26.4
      comp=Z,6.7nm,0.7s
BTK   Batken               17.41 313    Pn      Pn      13 34 27.6 -2.2
BTK                                     IAmb    IAmb    13 34 29.7
      comp=Z,10nm,0.6s
SIMJ  Simiganj             17.93 307    P       Pn      13 34 33.6 -2.7
MK31  Makanchi Array       18.01 349    P       Pn      13 34 37.2 +0.1
MKAR  Makanchi Array       18.01 349    P       Pn      13 34 36.1 -1.0
MKAR  Makanchi Array       18.01 349    P       P       13 34 37.8 +0.1
      comp=Z,0.3nm,0.3s,baz=165,slow=11,SNR=23
MKAR                                    PcP     PcP     13 39 11.4 -0.6
      comp=Z,0.4nm,0.8s,baz=195,slow=2.8,SNR=3.6
      comp=Z,1.4nm,0.6s
MAKZ  Makanchi             18.08 348    P       Pn      13 34 36.9 -1.1
XAN   Xi'an                18.92  70    P       P       13 34 46.5 -1.2
XAN                                     pmax    pmax
      comp=Z,3.0nm,1.0s
XAN                                     LR      LR
      comp=N,240nm,11.0s
XAN                                     LR      LR
      comp=E,170nm,9.6s
XAN                                     LR      LR
      comp=Z,260nm,9.5s
KK31  Karatay Array        19.41 320    P       P       13 34 52.6 -0.4
KKAR  Karatay Array        19.41 320    P       P       13 34 52.4 -0.7
UBPT  Khong Chiam          21.66 126    P       P       13 35 18.0 +0.4
UBPT                                    IAmb    IAmb    13 35 24.6
      comp=Z,7.5nm,0.8s
LYN   LuoYang              21.90  70    P       P       13 35 24.4 +4.4
LYN                                     pmax    pmax
      comp=Z,14nm,0.4s
KURBB Kurchatov Arra       22.42 345    P       P       13 35 25.4 -0.1
      comp=Z,4.5nm,0.7s,baz=162,slow=10,SNR=40
KURBB                                   PcP     PcP     13 39 19.8 -0.1
      comp=Z,0.5nm,0.7s,baz=180,slow=2.1,SNR=5.5
      comp=Z,4.5nm,0.7s
KURK  Kurchatov            22.48 345    P       P       13 35 25.0 -1.1
KURK                                    IAmb    IAmb    13 35 32.3
      comp=Z,6.3nm,1.1s
SONM  Songino Array        23.68  33    P       P       13 35 39.6 +0.9
SONM                                    IAmb    IAmb    13 35 46.4
```

comp=Z,6.4nm,1.4s
SONM Songino Array 23.68 33 P **P 13 35 40.0 +1.4**
comp=Z,2.8nm,0.7s,baz=218,slow=9.1,SNR=12
comp=Z,2.8nm,0.7s
ZAA0 Zalesovo Array 24.79 356 P **P 13 35 48.0 -0.7**
ZALV Zalesovo Beam 24.79 356 P **P 13 35 48.5 -0.1**
ZALV Zalesovo Beam 24.79 356 P **P 13 35 48.8 +0.1**
comp=Z,1.7nm,0.5s,baz=182,slow=9.5,SNR=9.3
ZALV PcP **PcP 13 39 24.0 -1.0**
comp=Z,0.4nm,0.5s,baz=242,slow=3.1,SNR=2.3
comp=Z,1.7nm,0.5s
LHMI Lhok Sumawe 25.50 157 P **P 13 35 55.6 +0.2**
KULM Kulim 26.88 150 P **P 13 36 08.4 +0.5**
BVAR Borovoye Array 26.90 337 P **P 13 36 08.5 +0.8**
comp=Z,1.4nm,0.6s,baz=140,slow=12,SNR=7.8
comp=Z,1.4nm,0.6s
BRVK Borovoye 26.96 337 P **P 13 36 09.0 +0.7**
BRVK IAmb IAmb 13 36 18.2
comp=Z,2.9nm,0.8s
XLT XiLinHaoTe 27.12 49 *e*P **P 13 36 16.8 +6.8**
XLT pP sP 13 36 20.3 +4.4
XLT sP pP 13 36 23.2 +9.0
XLT pmax pmax
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 28.96 321 P **P 13 36 26.2 -0.1**
ABKAR IAmb IAmb 13 37 00.8
comp=Z,2.2nm,1.1s
ABKAR Akbulak array 28.96 321 P **P 13 36 26.3 +0.1**
ARTI Arti 34.05 331 P **P 13 37 10.4 -0.5**
KSRS Korea Array 34.61 65 P **P 13 37 15.1 -0.9**
comp=Z,0.8nm,0.5s,baz=265,slow=8.2,SNR=5.9
comp=Z,0.8nm,0.5s
GNI Garni 36.45 299 LR LR 13 57 38.0
comp=Z,48nm,18.7s,baz=338,slow=45
NRIK Noril'sk 40.17 0 P **P 13 38 04.7 +2.0**
comp=Z,1.7nm,0.4s,baz=158,slow=4.6,SNR=3.8
comp=Z,1.7nm,0.4s
MJAR Matsushiro Arr 42.87 67 P **P 13 38 24.8 -0.5**
comp=Z,0.8nm,0.6s,baz=282,slow=11,SNR=2.4
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 44.98 298 P **P 13 38 42.8 +0.4**
comp=Z,0.5nm,0.7s,baz=104,slow=7.9,SNR=3.0
comp=Z,0.5nm,0.7s
AKASG Malin Array Be 48.12 313 P **P 13 39 05.8 -0.8**
comp=Z,1.0nm,0.6s,baz=85,slow=6.6,SNR=6.1
comp=Z,1.0nm,0.6s
FINES FINESS Array B 51.16 327 P **P 13 39 29.2 -0.5**
comp=Z,0.8nm,0.6s,baz=114,slow=8.6,SNR=5.0
comp=Z,0.8nm,0.6s
HFS Hagfors 57.12 325 P **P 13 40 12.7 -0.5**
comp=Z,1.8nm,0.6s,baz=98,slow=6.0,SNR=2.2
comp=Z,1.8nm,0.6s
GERES GERESS Array B 58.24 312 P **P 13 40 21.1 -0.3**
comp=Z,2.0nm,0.6s,baz=94,slow=7.2,SNR=8.3
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 58.30 326 P **P 13 40 20.5 -1.0**
comp=Z,0.5nm,0.6s,baz=27,slow=2.0,SNR=1.7
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 66.59 132 P **P 13 41 17.2 -0.3**
comp=Z,2.6nm,0.7s,baz=326,slow=6.7,SNR=23
comp=Z,2.6nm,0.7s
EKA Eskdalemuir Ar 66.84 322 P **P 13 41 18.2 -0.4**
comp=Z,0.8nm,0.5s,baz=75,slow=6.1,SNR=1.8
comp=Z,0.8nm,0.5s
ASAR Alice Springs 69.01 135 P **P 13 41 32.8 +0.1**
comp=Z,2.6nm,0.7s,baz=320,slow=6.4,SNR=30
comp=Z,2.6nm,0.7s
ESDC Sonseca Array 73.00 306 P **P 13 41 56.2 -0.6**
comp=Z,0.4nm,0.6s,baz=60,slow=6.6,SNR=4.3
comp=Z,0.4nm,0.6s
E28M Babbage River 76.55 16 P **P 13 42 17.2 +0.3**
E28M IAmb IAmb 13 42 18.2
comp=Z,4.0nm,1.3s
A36M Sachs Harbour 76.56 10 P **P 13 42 16.9 +0.1**
A36M IAmb IAmb 13 42 17.9
comp=Z,2.6nm,0.7s
BWN Browne 76.87 22 P **P 13 42 20.2 +1.5**
E29M Blow River 77.10 16 P **P 13 42 19.8 -0.2**
F28M Old Crow 77.21 17 P **P 13 42 20.5 -0.1**
F28M IAmb IAmb 13 42 46.6
comp=Z,4.0nm,1.4s
ILAR Eielson Array 77.29 21 P **P 13 42 20.6 -0.5**
ILAR Eielson Array 77.29 21 P **P 13 42 20.4 -0.7**
comp=Z,0.3nm,0.6s,baz=320,slow=4.3,SNR=5.4
comp=Z,0.3nm,0.6s
SKT Skwentna 77.58 24 P **P 13 42 22.2 -0.6**
INK Inuvik 78.16 14 P **P 13 42 25.4 -0.4**
INK IAmb IAmb 13 42 26.4
comp=Z,1.6nm,1.0s
G29M Pine Creek 78.22 17 P **P 13 42 26.0 -0.2**
G29M IAmb IAmb 13 43 09.3
comp=Z,4.6nm,1.4s
J26L Joseph Creek 78.50 20 P **P 13 42 27.1 -0.8**
J26L IAmb IAmb 13 42 28.4
comp=Z,1.9nm,0.7s
G30M tAoh Zraii Nji 78.61 16 P **P 13 42 28.0 -0.4**
G30M IAmb IAmb 13 42 32.1
comp=Z,4.3nm,1.2s
H29M Whitestone 78.66 17 P **P 13 42 27.1 -1.6**
STKA Stephens Creek 79.61 135 P **P 13 42 33.4 -0.9**
comp=Z,1.5nm,0.7s,baz=297,slow=14,SNR=3.0
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 80.03 279 P **P 13 42 36.3 -0.7**
comp=Z,0.9nm,0.7s,baz=38,slow=5.8,SNR=5.7
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 86.92 10 P **P 13 43 10.4 -1.2**
comp=Z,0.3nm,0.8s,baz=343,slow=4.6,SNR=5.5
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 119.00 180 PKP **PKPdf 13 49 13.3 -1.7**
comp=Z,0.9nm,1.0s,baz=258,slow=10,SNR=1.7
TXAR Lajitas Array 120.83 11 PKP **PKPdf 13 49 18.9 -0.9**
comp=Z,0.2nm,0.5s,baz=8.4,slow=0.3,SNR=5.0
CPUP Villa Florida 148.75 267 PKPbc **PKPbc 13 50 13.2 -1.7**
comp=Z,3.2nm,0.8s,baz=31,slow=5.2,SNR=7.7

---

*NEIC **06** 13:39:40.6±0.9, 17°.42S±0°.09×70°.2W±0°.1, h178km±7km, mb4.2/5, Error ellipse: s-maj=18.7km s-min=9.0km az=125.0*
*GUC **06** 13:39:45.7±0.7, 17°.69S×69°.91W, h160km±3km, ML4.1*
*IDC **06** 13:39:51.2±3.5, 16°.97S×69°.22W, h184km±14km, mb3.5/7, mbtmp4.0/8, MS3.5/2, Error ellipse: s-maj=76.9km s-min=18.1km az=19.0*
ISC 06 13:39:43.0±0.8, 17°.65S±0°.06×69°.81W±0°.09, h161km±6km, n51, σ1§53/53, mb3.9/9, 4C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.32**	**79**	Pn	**Pn**	**13 40 06.5**	**+0.9**
PB18	**Visviri**	**0.32**	**79**	⇓*i*P	**Pn**	**13 40 06.7**	**+1.1**
PB18				*i* S	**Sn**	**13 40 23.6**	**+0.9**
AP01	**Chacalluta**	**0.88**	**215**		**Pn**	**13 40 06.7**	**-1.2**
AP01	**Chacalluta**	**0.88**	**215**	*e*P	**Pn**	**13 40 09.2**	**+1.4**
AP01				*i* S	**Sn**	**13 40 27.5**	**+0.5**
AP01				IAML		13 40 29.4	
comp=E,5μm,0.4s							
PB12	**IPOC Station P**	**1.08**	**207**	Pn	**Pn**	**13 40 10.4**	**+0.8**
PB12	**IPOC Station P**	**1.08**	**207**	⇓*i*P	**Pn**	**13 40 10.8**	**+1.2**
PB12				*i* S	**Sn**	**13 40 29.9**	**-0.1**
PB12				IAML		13 40 31.4	
comp=E,4μm,0.1s							
PX02	**IPOC Station P**	**1.36**	**196**	*e*P	**Pn**	**13 40 12.7**	**+0.6**
PX02				*i* S	**Sn**	**13 40 34.1**	**-0.5**
PX02				IAML		13 40 35.9	
comp=N,997nm,0.3s							
LPAZ	**La Paz**	**2.10**	**50**	Pn	**Pn**	**13 40 20.7**	**+0.1**
LPAZ	**La Paz**	**2.10**	**50**	P	**Pn**	**13 40 21.1**	**+0.4**
comp=N,300nm,0.3s,baz=272,slow=2.3,SNR=1410							
LPAZ				S	**Sn**	**13 40 46.5**	**-3.0**
comp=N,24nm,0.4s,baz=140,slow=17,SNR=4.1							
PB08	**IPOC Station P**	**2.55**	**166**		**Pn**	**13 40 27.9**	**+2.2**
PB08	**IPOC Station P**	**2.55**	**166**	⇑*i*P	**Pn**	**13 40 28.2**	**+2.5**
PB08				IAML		13 41 03.9	
comp=E,519nm,0.5s							
HMBC	**Humberstone**	**2.61**	**182**		**Pn**	**13 40 27.4**	**+1.2**
HMBC	**Humberstone**	**2.61**	**182**	⇑*i*P	**Pn**	**13 40 27.8**	**+1.6**
HMBC				*i* S	**Sn**	**13 40 58.6**	**-1.1**
HMBC				IAML		13 41 07.0	
comp=E,583nm,0.3s							
TA02	**Huaiquique**	**2.62**	**187**		**Pn**	**13 40 27.3**	**+1.2**
TA02	**Huaiquique**	**2.62**	**187**	*e*P	**Pn**	**13 40 27.6**	**+1.4**
TA02				*i* S	**Sn**	**13 40 59.0**	**-0.7**
TA02				IAML		13 41 01.2	
comp=N,1μm,0.1s							
PX03	**IPOC Station P**	**2.74**	**176**	*e*P	**Pn**	**13 40 28.9**	**+1.1**
PX03				*e*S	**Sn**	**13 41 02.1**	**-0.3**
PX03				IAML		13 41 03.3	
comp=N,1μm,0.3s							
TA01	**Diego Aracena**	**2.92**	**187**	Pn	**Pn**	**13 40 30.9**	**+1.1**
TA01	**Diego Aracena**	**2.92**	**187**	⇑*i*P	**Pn**	**13 40 31.0**	**+1.2**
TA01				IAML		13 41 07.2	
comp=N,239nm,0.3s							
PATCX	**Punta Patache**	**3.17**	**186**		**Pn**	**13 40 33.8**	**+0.8**
PATCX	**Punta Patache**	**3.17**	**186**	*e*P	**Pn**	**13 40 34.3**	**+1.2**
PATCX				*i* S	**Sn**	**13 41 10.8**	**-1.2**
PATCX				IAML		13 41 32.4	
comp=E,193nm,0.5s							
PB01	**IPOC Station P**	**3.39**	**175**		**Pn**	**13 40 37.1**	**+1.2**
PB01	**IPOC Station P**	**3.39**	**175**	⇑*i*P	**Pn**	**13 40 37.5**	**+1.6**
PB01				*i* S	**Sn**	**13 41 16.2**	**-0.7**
PB09	**IPOC Station P**	**4.16**	**173**		**Pn**	**13 40 47.8**	**+2.0**
AF01	**San Pedro de A**	**5.49**	**164**	Pn	**Pn**	**13 41 05.0**	**+1.6**
PB14	**IPOC Station P**	**6.96**	**184**	Pn	**Pn**	**13 41 22.7**	**-0.2**
GO02	**Mina Guanaco**	**7.48**	**178**	Pn	**Pn**	**13 41 30.3**	**+0.5**
AC01	**Pan de Azucar**	**8.49**	**185**	Pn	**Pn**	**13 41 42.4**	**-0.5**
SIV	**San Ignacio**	**8.53**	**80**	P	**Pn**	**13 41 42.4**	**-1.1**
comp=E,9.5nm,0.3s,baz=271,slow=10,SNR=49							
SIV				S	Sn	13 43 08.8	-10
comp=E,0.7nm,0.3s,baz=349,slow=19,SNR=3.1							
AC02	**Maricunga**	**9.16**	**176**	Pn	**Pn**	**13 41 53.1**	**+0.8**
VILB	**Vilhena**	**10.38**	**65**	Pn	**Pn**	**13 42 06.3**	**-1.7**
PTLB	**Pontes e Lacer**	**10.47**	**79**	Pn	**Pn**	**13 42 10.7**	**+1.6**
MT13	**San Alfonso**	**16.03**	**181**	P	**Pn**	**13 43 18.1**	**-1.6**
H03N1	**Juan Fernandez**	**17.72**	**206**	T	T	14 01 39.9	
baz=27,slow=73,SNR=6.4							
H03N2	**Juan Fernandez**	**17.73**	**206**	T	T	14 01 45.8	
baz=27,slow=73,SNR=8.1							
H03N3	**Juan Fernandez**	**17.74**	**206**	T	T	14 01 45.5	
baz=27,slow=73,SNR=16							
PLTB	**Pedras Altas**	**20.31**	**137**	P	**P**	**13 44 07.1**	**+0.5**
PLTB				IAmb	IAmb	13 44 17.3	
comp=Z,19nm,1.5s							
JTS	**Las Juntas de**	**31.54**	**331**	LR	LR	13 57 53.2	
comp=Z,70nm,18.2s,baz=91,slow=35							
TXAR	**Lajitas Array**	**57.01**	**325**	P	P	13 49 15.4	+3.1
comp=Z,0.2nm,0.5s,baz=141,slow=8.1,SNR=2.8							
TXAR				LR	LR	14 13 59.4	
comp=Z,55nm,18.8s,baz=43,slow=36							
comp=Z,0.2nm,0.5s							
ANMO	**Albuquerque**	**62.83**	**327**	P	P	13 49 44.7	-7.4
SNAA	**Sanae**	**66.18**	**161**	P	**P**	**13 50 08.8**	**-4.3**
SNAA				IAmb	IAmb	13 50 43.7	
comp=Z,6.7nm,1.3s							
DBIC	**Dimbokro**	**68.52**	**75**	P	**P**	**13 50 30.2**	**+1.6**
comp=Z,4.1nm,0.9s,baz=236,slow=7.3,SNR=4.5							
comp=Z,4.1nm,0.9s							
PDAR	**Pinedale Array**	**70.37**	**330**	P	P	13 50 43.5	+3.8
comp=Z,0.2nm,0.5s,baz=123,slow=7.8,SNR=5.9							
comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**71.41**	**343**	P	**P**	**13 50 47.8**	**+2.3**
comp=Z,3.1nm,0.4s,baz=160,slow=6.6,SNR=8.4							
comp=Z,3.1nm,0.4s							
QSPA	**South Pole Qui**	**72.52**	**180**	P	**P**	**13 50 50.0**	**-2.2**
QSPA				IAmb	IAmb	13 51 28.2	
comp=Z,3.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.91**	**72**	P	**P**	**13 51 19.6**	**+1.4**
comp=Z,1.7nm,0.5s,baz=265,slow=5.5,SNR=14							
comp=Z,1.7nm,0.5s							
ESDC	**Sonseca Array**	**83.72**	**45**	P	**P**	**13 51 55.9**	**+1.8**
comp=Z,0.2nm,0.4s,baz=268,slow=5.1,SNR=2.2							
comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**87.29**	**341**	P	P	13 52 14.4	+3.3
comp=Z,0.9nm,0.6s,baz=139,slow=5.0,SNR=21							
comp=Z,0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**138.53**	**30**	PKP	**PKiKP**	**13 58 53.1**	**+1.4**
comp=Z,0.2nm,0.4s,baz=292,slow=2.3,SNR=2.1							
ZALV	**Zalesovo Beam**	**138.79**	**23**	PKP	**PKiKP**	**13 58 54.0**	**+2.0**
comp=Z,0.4nm,0.5s,baz=323,slow=2.2,SNR=2.5							
MKAR	**Makanchi Array**	**142.94**	**32**	PKP	**PKiKP**	**13 59 00.6**	**-0.3**
comp=Z,0.1nm,0.6s,baz=37,slow=0.7,SNR=4.3							
SONM	**Songino Array**	**149.74**	**5**	PKPbc	**PKPab**	**13 59 17.6**	**-2.2**
comp=Z,0.6nm,0.5s,baz=316,slow=2.1,SNR=6.7							

---

*NOU **06** 13:47:07.7, 23°.11S×176°.31W, h196km, mb4.8/21, South of Fiji Islands*
*NEIC **06** 13:47:09.9±1.7, 23°.09S±0°.05×177°.0W±0°.1, h167km±6km, mb4.9/47, Error ellipse: s-maj=16.0km s-min=6.9km az=85.0*
*IDC **06** 13:47:15.1±2.1, 23°.04S×177°.32W, h208km±17km, mb3.8/14, mbtmp4.3/16, MS3.6/1, Error ellipse: s-maj=16.7km s-min=13.7km az=131.0*
ISC 06 13:47:09.9±0.3, 23°.22S±0°.05×177°.09W±0°.07, h167km, n227, σ1§73/234, mb4.8/45, 24C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.22**	**342**	P	**Pn**	**13 48 26.8**	**+0.3**
RAO	**Raoul Island**	**6.05**	**187**	Pn	**Pn**	**13 48 41.0**	**+3.6**
GLKZ	**Green Lake**	**6.06**	**187**	P	**Pn**	**13 48 39.7**	**+2.2**
GLKZ				S	**Sn**	**13 49 44.2**	**-2.2**
MSVF	**Nonsavu**	**7.11**	**319**	Pn	**Pn**	**13 48 52.7**	**+1.1**
MSVF	**Nonsavu**	**7.11**	**319**	P	**Pn**	**13 48 53.2**	**+1.6**
59nm,0.7s,baz=141,slow=16,SNR=31							
MSVF	**Nonsavu**	**7.11**	**319**	P	**Pn**	**13 48 53.7**	**+2.1**
DGTI	**Dogotuki**	**7.50**	**336**	P	**Pn**	**13 48 58.0**	**+1.2**
NIUE	**Niue**	**7.86**	**60**	Pn	Pn	13 48 55.1	-6.3
FUTU	**Fugatoga**	**8.92**	**354**	Pn	**Pn**	**13 49 15.4**	**-0.1**
AFI	**Afiamalu**	**10.54**	**29**	Pn	**Pn**	**13 49 33.2**	**-3.7**
OUZ	**Omahuta**	**14.45**	**212**	P	**P**	**13 50 31.7**	**+2.9**
HAZ	**Te Kaha**	**15.14**	**196**	P	**Pn**	**13 50 32.1**	**-3.1**
HAZ				S	Sn	13 53 09.2	-15
DZM	**Mont Dzumac**	**15.24**	**271**		**P**	**13 50 39.9**	**+2.1**
DZM	**Mont Dzumac**	**15.24**	**271**	P	**P**	**13 50 40.1**	**+2.3**
16nm,0.6s,baz=91,slow=18,SNR=13							
PUZ	**Puketiti**	**15.33**	**194**	P	**Pn**	**13 50 37.1**	**-0.5**
PUZ				S	Sn	13 53 10.6	-18
RUGZ	**Raukumara Rang**	**15.37**	**196**	P	**Pn**	**13 50 37.8**	**-0.3**
TWGZ	**Tauwhareparae**	**15.49**	**195**	P	**P**	**13 50 40.4**	**0.0**
TWGZ				S	Sn	13 53 17.2	-15
MWZ	**Matawai**	**15.75**	**196**	P	**Pn**	**13 50 40.9**	**-1.9**
MWZ				S	S	13 53 22.3	-16
TKGZ	**Te Karaka**	**15.78**	**195**	P	**Pn**	**13 50 42.0**	**-1.0**
TKGZ				S	S	13 53 22.5	-16
URZ	**Urewera**	**15.79**	**197**	P	**Pn**	**13 50 42.9**	**-0.3**
5.0nm,0.3s,baz=4.2,slow=3.1,SNR=15							
URZ				S	**S**	**13 53 31.8**	**-7.2**
12nm,0.4s,baz=160,slow=20,SNR=11							
URZ	**Urewera**	**15.79**	**197**	P	**P**	**13 50 43.5**	**-0.1**
URZ	**Urewera**	**15.79**	**197**	P	**Pn**	**13 50 41.2**	**-2.0**
URZ				S	S	13 53 24.4	-15
RAR	**Rarotonga**	**16.16**	**86**	P	**P**	**13 50 52.9**	**+5.0**
14nm,0.8s,baz=277,slow=17,SNR=1.7							
RAR				S	S	13 53 36.1	-11
7.5nm,0.4s,baz=126,slow=21,SNR=1.6							
RAHZ	**Arahi**	**16.41**	**196**	P	**P**	**13 50 49.2**	**-1.3**
RAHZ				S	S	13 53 39.0	-13
MTHZ	**Maungataniwha**	**16.42**	**197**	P	**Pn**	**13 50 50.8**	**-0.1**
MTHZ				S	S	13 53 39.3	-13
SANVU	**Saraoutou**	**16.71**	**295**	P	**Pn**	**13 50 55.7**	**+1.2**
SANVU	**Saraoutou**	**16.71**	**295**	P	**Pn**	**13 50 57.2**	**+2.7**
HIZ	**Hauiti**	**16.72**	**202**	P	**Pn**	**13 50 56.2**	**+1.8**
BKZ	**Black Stump Fm**	**16.81**	**197**	P	**P**	**13 50 52.4**	**-2.5**
BKZ				S	S	13 53 47.5	-14
MCHZ	**McNeill Hill**	**17.01**	**197**	P	**P**	**13 50 55.7**	**-1.4**
MCHZ				S	S	13 53 51.8	-14
OTVZ	**Oturere**	**17.05**	**200**	P	**P**	**13 50 55.5**	**-2.1**
OTVZ				S	S	13 53 54.7	-12
SNVZ	**South Ngauruho**	**17.07**	**200**	P	**P**	**13 50 57.1**	**-0.9**
SNVZ				S	S	13 53 53.4	-14
KAHZ	**Kahuranaki**	**17.30**	**196**	P	**P**	**13 50 59.6**	**-0.6**
KAHZ				S	S	13 53 59.6	-12
PXZ	**Pawanui**	**17.52**	**196**	P	**P**	**13 51 00.5**	**-2.1**
PXZ				S	S	13 54 02.2	-14
PNHZ	**Pukenui**	**17.59**	**197**	P	**P**	**13 50 59.9**	**-3.5**
PNHZ				S	S	13 54 01.6	-16
MRZ	**Mangatainoka R**	**18.45**	**198**	P	**P**	**13 51 10.0**	**-2.8**
MRZ	**Mangatainoka R**	**18.45**	**198**	P	**P**	**13 51 10.3**	**-2.5**
MRZ				S	S	13 54 19.1	-16
QRZ	**Quartz Range**	**19.61**	**204**	P	**P**	**13 51 24.4**	**-0.9**
QRZ	**Quartz Range**	**19.61**	**204**	P	**P**	**13 51 25.4**	**+0.1**
MRNZ	**Matariki Terra**	**20.03**	**203**	P	**P**	**13 51 31.5**	**+1.7**
DSZ	**Dennistoon Nort**	**20.68**	**204**	P	**P**	**13 51 37.3**	**+0.5**
RPZ	**Rata Peaks**	**22.66**	**203**	P	**P**	**13 51 55.8**	**-1.1**
ARMA	**Armidale**	**28.76**	**249**	P	**P**	**13 52 53.3**	**+1.2**
ARMA				IAmb	IAmb	13 52 54.6	
comp=Z,20nm,1.1s							
EIDS	**Eidsvold**	**29.05**	**259**	P	**P**	**13 52 55.2**	**+0.6**
CAN	**Canberra**	**31.79**	**240**	P	**P**	**13 53 19.5**	**+0.8**
AULRC	**Lightning Ridg**	**31.83**	**251**	P	**P**	**13 53 20.5**	**+1.5**
comp=Z,41nm,1.3s							
CMSA	**Cobar Meteorol**	**33.94**	**248**	P	**P**	**13 53 38.1**	**+0.7**
TOO	**Toolangi**	**35.06**	**237**	P	**P**	**13 53 47.9**	**+1.0**
QLP	**Quilpie**	**35.15**	**256**	P	**P**	**13 53 48.5**	**+0.7**
MTSU	**Mount Surprise**	**36.38**	**271**	P	**P**	**13 53 59.7**	**+1.3**
STKA	**Stephens Creek**	**37.45**	**247**	P	**P**	**13 54 06.3**	**-0.9**
STKA	**Stephens Creek**	**37.45**	**247**	P	**P**	**13 54 07.3**	**+0.1**
comp=Z,5.0nm,0.5s,baz=94,slow=8.9,SNR=25							
comp=Z,5.0nm,0.5s							
INKA	**Innaminka**	**38.19**	**254**	P	**P**	**13 54 14.5**	**+1.0**
COEN	**Coen**	**38.66**	**277**	P	**P**	**13 54 17.5**	**-0.1**
AUMBR	**Murray Bridge**	**39.61**	**242**	P	**P**	**13 54 25.6**	**+0.4**
HTT	**Hallett**	**39.78**	**245**	P	**P**	**13 54 27.2**	**+0.5**
LCRK	**Leigh Creek**	**40.32**	**250**	P	**P**	**13 54 31.8**	**+0.7**
OOD	**Oodnadatta**	**42.66**	**254**	P	**P**	**13 54 51.4**	**+1.2**
AS01	**Alice Springs**	**44.74**	**259**	P	**P**	**13 55 06.8**	**-0.1**
AS31	**Alice Springs**	**44.78**	**259**	P	**P**	**13 55 06.8**	**-0.4**
ASAR	**Alice Springs**	**44.78**	**259**	P	**P**	**13 55 06.7**	**-0.5**
comp=Z,7.6nm,0.4s,baz=94,slow=7.5,SNR=256							
ASAR				PcP	**PcP**	**13 56 46.8**	**+0.3**
comp=Z,1.6nm,0.5s,baz=109,slow=4.1,SNR=7.0							
comp=Z,7.6nm,0.4s							
WB0	**Warramunga Arr**	**45.11**	**265**	P	**P**	**13 55 09.1**	**-0.8**
WB0				IAmb	IAmb	13 55 10.5	
comp=Z,29nm,0.7s							
WRAB	**Tennant Creek**	**45.11**	**265**	P	**P**	**13 55 08.2**	**-1.7**
WRAB				IAmb	IAmb	13 55 10.5	
comp=Z,29nm,0.9s							
WRA	**Warramunga Arr**	**45.12**	**265**	P	**P**	**13 55 09.2**	**-0.8**
comp=Z,18nm,0.5s,baz=96,slow=8.4,SNR=725							
WRA				PcP	**PcP**	**13 56 47.5**	**-0.1**
comp=Z,0.9nm,0.5s,baz=99,slow=3.3,SNR=1.2							
comp=Z,18nm,0.5s							
FORT	**Forrest**	**49.05**	**249**	P	**P**	**13 55 39.6**	**-0.6**
FORT				IAmb	IAmb	13 55 40.5	
comp=Z,23nm,0.6s							
WRKA	**Warakurna**	**49.59**	**256**	P	**P**	**13 55 43.7**	**-0.7**
MTN	**Manton Dam**	**50.08**	**272**	P	**P**	**13 55 46.9**	**-1.3**
KNRA	**Kununurra**	**51.37**	**268**	P	**P**	**13 55 57.0**	**-0.8**
KNRA				IAmb	IAmb	13 55 58.4	
comp=Z,34nm,0.9s							
FAKI	**Fak Fak**	**52.97**	**285**	P	**P**	**13 56 08.8**	**-0.8**
FAKI				IAmb	IAmb	13 56 09.9	
comp=Z,20nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.55**	**264**	P	**P**	**13 56 13.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.55**	**264**	LR	LR	14 18 01.5	
comp=Z,50nm,18.0s,baz=63,slow=35							
SOEI	**Soe**	**57.46**	**273**	P	**P**	**13 56 42.0**	**+0.1**
SOEI	**Soe**	**57.46**	**273**	P	**P**	**13 56 41.9**	**0.0**
MBWA	**Marble Bar**	**58.12**	**259**	P	**P**	**13 56 45.4**	**-0.9**
MBWA				IAmb	IAmb	13 57 18.1	
comp=Z,34nm,1.4s							
MBWA	**Marble Bar**	**58.12**	**259**	P	**P**	**13 56 46.2**	**-0.1**
SANI	**Sanana**	**58.95**	**282**	P	**P**	**13 56 51.9**	**-0.3**
MORW	**Morawa**	**59.61**	**249**	P	**P**	**13 56 55.6**	**-0.9**
MORW				IAmb	IAmb	13 58 13.7	
comp=Z,26nm,1.2s							
CCD	**Concordia, Ant**	**60.06**	**195**	P	**P**	**13 57 01.0**	**+1.8**
CASY	**Casey**	**61.88**	**206**	P	**P**	**13 57 11.2**	**0.0**
CASY	**Casey**	**61.88**	**206**	P	**P**	**13 57 12.0**	**+0.8**
TOLI2	**Tolitoli**	**65.01**	**283**	P	**P**	**13 57 31.8**	**-0.8**
TOLI2				IAmb	IAmb	13 57 34.3	
comp=Z,10nm,0.9s							
QSPA	**South Pole Qui**	**66.86**	**180**	P	**P**	**13 57 45.1**	**+1.4**
QSPA	**South Pole Qui**	**66.86**	**180**	P	**P**	**13 57 45.4**	**+1.7**
comp=Z,4.4nm,1.0s,baz=249,slow=0.4,SNR=20							
comp=Z,4.4nm,1.0s							
KKM	**Kota Kinabalu**	**71.28**	**285**	P	**P**	**13 58 11.4**	**-0.3**
KKM				IAmb	IAmb	14 00 25.3	
comp=Z,27nm,1.2s							
MJAR	**Matsushiro Arr**	**72.89**	**324**	P	**P**	**13 58 18.6**	**-2.1**
comp=Z,2.1nm,0.7s,baz=164,slow=6.6,SNR=5.5							
comp=Z,2.1nm,0.7s							
KSM	**Kuching**	**74.63**	**278**	P	**P**	**13 58 30.5**	**-0.8**
KSM				IAmb	IAmb	13 58 32.5	
comp=Z,14nm,0.9s							
TPUB	**Ta-pu**	**76.16**	**303**	P	**P**	**13 58 38.2**	**-1.7**
TPUB				IAmb	IAmb	13 58 40.1	
comp=Z,15nm,0.9s							
SSLB	**Suanglung**	**76.17**	**304**	P	**P**	**13 58 37.7**	**-2.2**
SSLB				IAmb	IAmb	14 00 46.9	
comp=Z,39nm,1.7s							
JKA	**Kamikawa-asahi**	**76.51**	**331**	P	**P**	**13 58 42.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**79.11**	**345**	P	**P**	**13 58 54.0**	**-1.5**
PETK	**Petropavlovsk-**	**79.11**	**345**	P	**P**	**13 58 53.8**	**-1.6**
PETK	**Petropavlovsk-**	**79.11**	**345**	P	**P**	**13 58 54.3**	**-1.2**
comp=Z,1.9nm,0.6s,baz=178,slow=6.3,SNR=8.1							
comp=Z,1.9nm,0.6s							
KSRS	**Korea Array**	**79.47**	**318**	P	**P**	**13 58 57.5**	**-0.3**
comp=Z,0.8nm,0.7s,baz=138,slow=7.7,SNR=4.2							
comp=Z,0.8nm,0.7s							
MYKOM	**Kota Tinggi**	**80.66**	**276**	P	**P**	**13 59 04.4**	**-0

comp=Z,0.2nm,0.5s,baz=342,slow=2.3,SNR=4.2
comp=Z,0.7nm,0.5s
J25K Salcha River, 90.94 13 P P 13 59 53.8 -0.5
J25K IAmb IAmb 14 00 59.5
comp=Z,19nm,1.9s
F19K Shaleruckik Mo 90.95 8 P P 13 59 54.2 0.0
F19K IAmb IAmb 14 02 20.3
comp=Z,10nm,0.9s
E18K Tukpahlearik C 91.20 6 P P 13 59 54.9 -0.4
F20K Avaraart Lake 91.41 8 P P 13 59 56.1 -0.2
CMAR Chiang Mai Arr 91.81 289 P P 13 59 59.1 -0.2
CMAR Chiang Mai Arr 91.81 289 P P 14 00 00.3 +1.0
comp=Z,2.7nm,0.8s,baz=121,slow=3.3,SNR=17
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 91.95 290 P P 13 59 59.1 -0.9
BTO Baotou 92.76 313 *eP* **P 14 00 04.4 +1.1**
BTO pP pP 14 00 31.2 -13
BTO sP **pwP 14 00 41.9 -6.0**
BTO PP **PP 14 03 45.3 -2.8**
BTO Baotou 92.76 313 S **S 14 11 00.6 +6.5**
E22K Anaktuvuk Pass 92.97 9 P **P 14 00 03.1 -0.5**
E22K IAmb IAmb 14 00 50.4
comp=Z,21nm,1.9s
LZH Lanzhou 95.08 307 *eP* **P 14 00 17.9 +3.7**
LZH sP sP 14 01 21.5 +9.1
LZH pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 98.62 25 P Pdif 14 00 29.4 +0.1
comp=Z,0.4nm,0.8s,baz=235,slow=5.5,SNR=6.2
YKA PKKPbc **PKKPbc 14 16 57.4 -2.8**
comp=Z,0.3nm,1.0s,baz=54,slow=1.8,SNR=3.6
comp=Z,0.4nm,0.8s
ZALV Zalesovo Beam 113.12 320 PKiKP **PKiKP 14 05 25.7 -1.3**
comp=Z,0.7nm,0.4s,baz=158,slow=1.2,SNR=5.2
MKAR Makanchi Array 113.66 312 PKiKP **PKiKP 14 05 27.4 -1.0**
comp=Z,0.4nm,0.4s,baz=63,slow=2.3,SNR=14
KURBB Kurchatov Arra 116.60 316 PKP **PKPdf 14 05 32.6 -1.2**
comp=Z,0.6nm,0.5s,baz=99,slow=2.3,SNR=7.1
BVAR Borovoye Array 121.69 319 PKP **PKPdf 14 05 43.0 -0.6**
comp=Z,3.6nm,0.4s,baz=119,slow=1.1,SNR=15
SPITS Spitsbergen Ar 124.62 357 PKP **PKPdf 14 05 47.9 -0.6**
comp=Z,9.9nm,1.0s,baz=83,slow=3.3,SNR=6.8
ARCES ARCESS Array B 131.74 350 PKP **PKPdf 14 06 02.0 -0.2**
comp=Z,2.7nm,0.5s,baz=39,slow=1.8,SNR=18
ARCES SKPbc **SKPbc 14 09 05.8 -6.6**
comp=Z,5.2nm,1.1s,baz=10,slow=5.5,SNR=3.8
FINES FINESS Array B 138.61 343 PKhKP PKPpre 14 06 11.9
comp=Z,1.8nm,0.7s,baz=46,slow=5.5,SNR=1.6
FINES PKP **PKiKP 14 06 16.7 -0.7**
comp=Z,2.1nm,0.9s,baz=100,slow=3.2,SNR=4.4
KBZ Khabaz 141.35 312 PKP **PKPdf 14 06 21.2 +0.4**
comp=Z,2.0nm,1.0s,baz=293,slow=12,SNR=3.1
HFS Hagfors 142.34 351 PKhKP PKPpre 14 06 16.1
comp=Z,2.6nm,0.4s,baz=90,slow=3.0,SNR=14
NACGM Naroch 143.70 337 *eP*KP PKPbc 14 06 22.5 -0.1
comp=Z,1μm,1.1s,baz=39
BORU Boraas 144.89 351 *eP* PKPbc 14 06 19.9 -6.2
ONAU Onsala 145.24 351 *i P* **PKPdf 14 06 25.6 -1.5**
FABU Falkenberg 145.50 351 *i P* **PKPdf 14 06 26.4 -1.2**
SUW Suwalki 145.67 339 *eP*KP **PKPab 14 06 29.4 +0.2**
AK03 Malin Array Si 145.77 330 P **PKPdf 14 06 27.9 -0.4**
AKASG Malin Array Be 145.79 330 PKPbc **PKPdf 14 06 28.1 -0.2**
comp=Z,11nm,0.4s,baz=43,slow=4.2,SNR=34
AKBB Malin Array Si 145.79 330 P **PKPdf 14 06 27.9 -0.4**
AK23 Malin Array Si 145.79 330 P **PKPdf 14 06 27.9 -0.4**
AK01 Malin Array Si 145.80 330 P **PKPdf 14 06 27.9 -0.5**
AK04 Malin Array Si 145.80 330 P **PKPdf 14 06 27.9 -0.5**
KIEV Kiev 145.80 330 ⇓P **PKPdf 14 06 28.4 +0.1**
KIEV Kiev 145.80 330 P **PKPdf 14 06 27.9 -0.4**
AK22 Malin Array Si 145.81 330 P **PKPdf 14 06 28.0 -0.4**
DEL Delary 145.83 349 *eP* **PKPdf 14 06 25.1 -3.1**
MI28 Mi28,Pidlybu 146.32 331 P **PKPdf 14 06 29.7 +0.5**
BJUU Bjuv 146.35 350 *i P* **PKPdf 14 06 29.5 +0.4**
MUD Monsted U'grnd 146.49 354 *i P* **PKPbc 14 06 31.1 +0.2**
MUD IAmb IAmb 14 06 32.7
comp=Z,13nm,0.8s
RNPP5 Staryi Chortor 146.87 333 P **PKPdf 14 06 31.2 +1.1**
LUBAR Lubar, Ukraine 147.00 330 P **PKPdf 14 06 31.1 +0.7**
EKA Eskdalemuir Ar 147.61 6 PKPbc **PKPbc 14 06 33.7 -0.5**
comp=Z,1.9nm,0.5s,baz=335,slow=2.6,SNR=7.8
SORM Soroca 147.95 327 ⇓P **PKPbc 14 06 34.8 -0.5**
MILM Milestii Mici 148.50 325 ⇓P **PKPbc 14 06 35.3 -1.5**
KMPD K-Podol'skiy 148.57 329 P **PKPdf 14 06 34.2 +1.2**
BRTR Keskin Array B 149.25 310 PKPbc **PKPbc 14 06 38.6 -0.5**
comp=Z,5.7nm,0.8s,baz=137,slow=5.2,SNR=22
KIRS Kirsehir-Merke 149.28 308 ⇓P **PKPbc 14 06 38.9 -0.2**
VLDR Vladesti 149.58 324 ⇑P **PKPab 14 06 43.2 -1.9**
ANTO Ankara 149.79 310 ⇑P **PKPbc 14 06 40.3 -0.1**
BURAR Bucovina Array 149.83 329 ⇑P **PKiKP 14 06 42.2 +1.1**
MMAI Mount Meron Ar 149.83 296 PKPbc **PKiKP 14 06 41.4 -0.2**
comp=Z,5.4nm,0.4s,baz=73,slow=5.7,SNR=13
CFR Carcaliu 149.97 323 ⇑P **PKPbc 14 06 40.3 -0.1**
OJC Ojcow 149.99 338 *e*PKP **PKiKP 14 06 40.8 -0.4**
KOLS Kolonicke sedl 150.12 334 *e*PKP **PKiKP 14 06 41.8 +0.3**
STHS Stebnicka Huta 150.13 336 *e*PKP **PKPbc 14 06 40.9 +0.1**
ONER Baraj Valea Uz 150.15 326 ⇑P **PKiKP 14 06 41.6 -0.1**
VRI Vrincioaia 150.29 325 ⇑P **PKiKP 14 06 41.7 -0.3**
PLOR Plostina 150.34 325 ⇓P **PKiKP 14 06 43.0 +0.9**
NIE Niedzica 150.48 337 *e*PKP **PKiKP 14 06 43.0 +0.7**
KSP Ksiaz 150.53 343 *e*PKP **PKiKP 14 06 42.4 +0.1**
OZUR 150.62 327 ⇓P **PKPbc 14 06 42.1 +0.1**
OSTC Ostas 150.81 342⇑*e*PKP **PKiKP 14 06 43.4 +0.5**
CHVC Chvalec 150.82 343⇑*e*PKP **PKiKP 14 06 43.2 +0.2**
CLL Collm 150.89 347 *e*PKPdf **PKPdf 14 06 36.0 -0.6**
CLL *i* PKPbc **PKPbc 14 06 42.5 +0.1**
comp=Z,17nm,0.8s
CLL *i* PKPab **PKPab 14 06 49.6 -0.7**
comp=Z,12nm,0.7s
CLL *i* x x 14 06 53.4
STEB Steborice 150.90 340⇑*e*PKP **PKPbc 14 06 41.9 -0.6**
DOPR Dopca 150.91 327 ⇓P **PKiKP 14 06 43.4 +0.2**
UPC Upice 150.91 343⇑*e*PKP **PKiKP 14 06 43.2 +0.1**
MLR Muntele Rosu 150.94 325 ⇓P **PKPbc 14 06 43.1 +0.1**
DPC Dobruska-Polom 150.96 342⇑*e*PKP **PKiKP 14 06 43.6 +0.3**
LANS Liptovska Anna 151.01 337 *e*PKP **PKiKP 14 06 43.6 +0.2**
KRLC Kraliky 151.08 341⇑*e*PKP **PKPbc 14 06 43.2 +0.2**
MORC Moravsky Berou 151.11 340 *e*PKP **PKPbc 14 06 43.3 +0.2**
MORC Moravsky Berou 151.11 340 ⇓P **PKPbc 14 06 43.1 0.0**
PVCC Panska Ves 151.26 344⇑*e*PKP **PKiKP 14 06 44.1 +0.3**
HSKC Hora Svate Kat 151.46 346⇑*e*PKP **PKiKP 14 06 44.3 0.0**
MARR Marisel-Cluj 151.49 330 ⇑P **PKPbc 14 06 44.2 +0.1**
DRGR 151.59 331 ⇑P **PKPbc 14 06 44.2 -0.1**
ARR Arges 151.70 327 ⇑P **PKiKP 14 06 45.9 +0.9**
PRU Pruhonice 151.77 344⇑*e*PKP **PKPbc 14 06 44.6 +0.1**
VYHS Vyhne 151.78 337 *e*PKP **PKPab 14 06 49.9 -4.3**
PSZ Piszkesteto 151.87 335 ⇑P **PKPab 14 06 50.6 -4.0**
KRUC Moravsky 152.09 341 *e*PKP **PKPbc 14 06 45.3 0.0**
MODS Modra-Piesok 152.42 339 *e*PKP **PKiKP 14 06 47.2 +0.9**
SIRR Siria 152.46 331 ⇑P **PKiKP 14 06 50.9 +4.5**
GZR Gura Zlata 152.60 329 ⇓P **PKPbc 14 06 46.6 0.0**
SURR Surduc 152.64 330 ⇓P **PKiKP 14 06 48.3 +1.5**
KHC Kasperske Hory 152.80 345⇑*e*PKP **PKiKP 14 06 47.3 +0.2**
KHC *ex* x 14 06 52.6
KHC *e*PKPAB **PKPab 14 06 58.4 0.0**
SRE Strehaia 152.92 327 ⇓P **PKiKP 14 06 52.2 +4.7**
BZS Buzias 152.98 330 ⇑P **PKiKP 14 06 48.4 +0.8**
GERES GERESS Array B 153.04 344 PKPbc **PKPbc 14 06 47.2 -0.4**
comp=Z,1.5nm,0.6s,baz=64,slow=3,1,SNR=6.4
HERR Herculane 153.15 328 ⇑P **PKPbc 14 06 47.3 -0.5**
CONA Conrad Observa 153.26 340 *i* PKP **PKiKP 14 06 49.8 +1.6**
comp=Z,5.8nm,1.2s
RONA Rosalia, Austr 153.33 340 *e*PKiKP **PKiKP 14 06 53.1 +4.9**
comp=Z,9.0nm,1.0s
MORH Mrgy, Hungar 153.76 335 ⇓P **PKiKP 14 06 53.0 +3.9**
LESA Schwarzleotal 154.61 344 *e*PKP **PKiKP 14 06 52.9 +1.9**
comp=Z,2.4nm,0.9s
KBA Koelnbreinsper 154.76 343 *i* PKiKP **PKiKP 14 06 56.3 +4.9**
comp=Z,7.8nm,1.1s
OBKA Obir 154.94 341 *e*PKP **PKPab 14 07 09.0 +1.3**
comp=Z,20nm,1.7s
WTTA Wattenberg 155.01 346 *e*PKP **PKPab 14 07 08.1 0.0**
comp=Z,5.6nm,0.7s
MOTA Moosalm 155.05 347 *e*PKiKP PKPdf 14 06 55.0 +12
comp=Z,1.6nm,0.5s
ABTA Abfaltersbach 155.28 344 *i* PKP PKPdf 14 06 53.8 +11
comp=Z,10.0nm,1.1s
FETA Feichten 155.43 347 *e*PKP **PKPdf 14 06 43.2 -0.4**
comp=Z,3.4nm,1.1s
ESDC Sonseca Array 162.59 18 PKP **PKPdf 14 06 51.2 -0.8**
comp=Z,0.4nm,0.8s,baz=307,slow=1.6,SNR=2.0
ESDC PKPab **PKPab 14 07 41.0 0.0**
comp=Z,0.6nm,0.6s,baz=342,slow=4.5,SNR=6.2
TORD Torodi Ar. Bea 169.91 173 PKP **PKPdf 14 06 56.9 -1.5**
comp=Z,0.5nm,0.6s,baz=225,slow=1.4,SNR=4.7
TORD PKPab **PKPab 14 08 15.0 +1.3**
comp=Z,0.8nm,0.6s,baz=189,slow=3.3,SNR=4.5

FUNV 06 13:48:10.5, 10.00N×63.48W, h5km, MW3.1, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CUMV	**Cumana_UDO**	**0.82**	**301**	*eP*		Pg	13 48 24.8	-1.5
CUMV					*e*S	Sn	13 48 42.2	+1.0
PCRV	**Puerto La Cruz**	**1.15**	**279**	*eP*		Pg	13 48 30.1	-2.6
PCRV					*e*S	Sg	13 48 46.9	-0.7
PCRV	**Puerto La Cruz**	**1.15**	**279**	*eP*		Pg	13 48 30.1	-2.6
PCRV					*e*S	Sn	13 48 50.7	+1.2
MERV	**Las Mercedes**	**2.88**	**255**	*eP*		Pn	13 48 55.1	-2.0
MERV					*e*S	Sn	13 49 30.7	-1.4
MERV	**Las Mercedes**	**2.88**	**255**	*eP*		Pn	13 48 55.4	-1.7
MERV					*e*S	Sn	13 49 33.1	+0.9
CACV	**CAICARA DEL OR**	**3.88**	**232**	*eP*		Pn	13 49 04.9	-5.9
CACV					*e*S	Sn	13 49 44.9	-12
CACV	**CAICARA DEL OR**	**3.88**	**232**	*eP*		Pn	13 49 02.9	-8.0
CACV					*e*S	Sn	13 49 46.0	-11
BAUV	**El Baul**	**4.62**	**257**	*eP*		Pn	13 49 19.3	-1.8
BAUV					*e*S	Sn	13 50 11.0	-4.2
BAUV	**El Baul**	**4.62**	**257**	*eP*		Pn	13 49 17.7	-3.4
BAUV					*e*S	Sn	13 50 13.4	-1.8

IDC 06 13:56:49.4±2.0, 2.27S×147.42E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=134.3km s-min=34.7km az=117.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**215**	P		P	14 01 42.2	-0.2
	0.9nm,1.0s,baz=45,slow=10.0,SNR=2.1							
	0.9nm,1.0s							
ASAR	**Alice Springs**	**24.97**	**210**	P		P	14 02 14.4	-0.5
	0.2nm,0.5s,baz=47,slow=8.7,SNR=4.4							
	0.2nm,0.5s							
STKA	**Stephens Creek**	**29.96**	**190**	P		P	14 03 00.2	+0.7
	1.2nm,0.6s,baz=353,slow=8.1,SNR=2.9							
	1.2nm,0.6s							
YKA	**Yellowknife Ar**	**95.69**	**28**	P		P	14 10 16.7	-0.2
	0.2nm,0.6s,baz=263,slow=4.0,SNR=3.4							
	0.2nm,0.6s							

---

*JSN **06** 14:05:11.8±1.2, 18.23N×76.84W, h11km±31km, MD2.5*
*SSNC **06** 14:05:12.2±1.2, 18.20N×76.84W, h9km±15km, MD3.0, ML2.4*

ISC 06 14:05:08.9±1.0, 18.34N±0.03×76.79W±0.04, h13km±10km, n14, σ1°48/24, 3C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.26**	**184**	*i P*		**Pb**	**14 05 15.0**	**-0.5**
STH				*i* S		**Sg**	**14 05 17.3**	**-0.8**
STH				IAML			14 05 17.5	
	comp=E,132μm,0.1s							
STH				IAML			14 05 18.3	
	comp=N,141μm,0.2s							
STH	**Stony Hill**	**0.26**	**184**	⇑*i P*		**Pb**	**14 05 15.0**	**-0.5**
GWJ	**Greenwich**	**0.27**	**167**	*i P*		**Pb**	**14 05 16.0**	**+0.3**
HOJ	**Hope**	**0.34**	**173**	⇑*i P*		**Pg**	**14 05 15.9**	**+0.2**
MTDJ	**Mount Denham**	**0.72**	**261**	*eP*		**Pb**	**14 05 23.4**	**+0.1**
MTDJ				*e*S		**Sb**	**14 05 32.8**	**-0.2**
MTDJ				IAML			14 05 33.8	
	comp=N,116nm,0.2s							
MTDJ				IAML			14 05 36.6	
	comp=N,124nm,0.2s							
MTDJ	**Mount Denham**	**0.72**	**261**	⇓*i P*		**Pb**	**14 05 23.8**	**+0.5**
MTDJ				*i* S		**Sg**	**14 05 31.9**	**-0.4**
MTDJ				*i* S		**Sb**	**14 05 33.1**	**0.0**
MCJ	**Malvern**	**0.95**	**244**	⇑*i P*		**Pb**	**14 05 27.9**	**+0.7**
CHIV	**Chivirico**	**1.67**	**12**	*eP*		**Pg**	**14 05 41.4**	**+0.5**
CHIV				*e*S		**Sg**	**14 06 01.7**	**-0.9**
CHIV				IAML			14 06 04.7	
	comp=N,6.4nm,0.1s							
CHIV				IAML			14 06 05.5	
	comp=E,5.4nm,0.1s							
LMGC	**Las Mercedes**	**1.73**	**353**	*eP*		**Pg**	**14 05 41.4**	**-0.7**
LMGC				*e*S		**Sg**	**14 06 03.1**	**-1.4**
LMGC				IAML			14 06 04.9	
	comp=E,21nm,0.0s							
LMGC				IAML			14 06 05.4	
	comp=N,37nm,0.1s							
RCC	**Rio Carpintero**	**1.94**	**32**	*eP*		**Pg**	**14 05 45.5**	**-0.7**
RCC				*e*S		**Sb**	**14 06 09.6**	**+1.3**
RCC				IAML			14 06 12.7	
	comp=N,3.6nm,0.0s							
RCC				IAML			14 06 13.1	
	comp=E,3.0nm,0.2s							
GTBY	**Guantanamo Bay**	**2.24**	**45**	⇓*eP*		**Pb**	**14 05 49.4**	**+0.2**
GTBY				*e*S		**Sb**	**14 06 18.4**	**+1.6**
GTBY				IAML			14 06 21.7	
	comp=E,5.3nm,0.1s							
GTBY				IAML			14 06 23.0	
	comp=E,11nm,0.4s							
PINC	**Pinares de May**	**2.33**	**24**	*eP*		**Pb**	**14 05 51.0**	**+0.1**
PINC				*e*S		**Sb**	**14 06 20.5**	**+0.9**
PINC				IAML			14 06 22.9	
	comp=E,18nm,0.0s							
PINC				IAML			14 06 22.9	
	comp=N,18nm,0.1s							
QMBU	**Quimbuelo**	**2.63**	**45**	*eP*		**Pn**	**14 05 53.7**	**+2.6**
QMBU				*e*S		**Sn**	**14 06 21.7**	**-1.1**
QMBU				IAML			14 06 27.9	
	comp=N,5.7nm,0.4s							
QMBU				IAML			14 06 28.9	
	comp=E,6.0nm,0.1s							
MASC	**Masc**	**3.03**	**53**	*e*S		**Sn**	**14 06 27.8**	**-4.9**

IDC 06 14:16:50.6±896.0, 53.70N×4.71E, h0km, Error ellipse: s-maj=398.1km s-min=150.2km az=114.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.45**	**127**	I		I	15 01 51.0	
	0.1nm,1.4s,baz=314,slow=313,SNR=3.6							
I43RU	**DUBNA INFRASONI**	**8.69**	**68**	I		I	16 08 00.0	
	baz=275,slow=324,SNR=2.4							
I31KZ	**AKTYUBINSK INF**	**32.31**	**74**	I		I	17 34 20.0	
	baz=294,slow=327,SNR=0.8							

TRN 06 14:18:25.7, 17.50N×61.96W, h26km, MD3.9, South-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.24**	**45**	*eP*		Pn	14 18 33.5	-0.1
ANWB				*e*S		Sb	14 18 37.7	+1.6
ANWB	**Willy Bob**	**0.24**	**45**	*eP*		Pn	14 18 33.5	-0.1
ANWB				*e*S		Sb	14 18 37.7	+1.6
ANBD	**Bethesda, Anti**	**0.49**	**157**	*eP*		Pn	14 18 37.8	+0.8
ANBD				*e*S		Sn	14 18 45.2	+0.6
ANBD	**Bethesda, Anti**	**0.49**	**157**	*eP*		Pn	14 18 37.8	+0.8
ANBD				*e*S		Sn	14 18 45.2	+0.6
SKI	**Saint Kitts**	**0.76**	**258**	*eP*		Pn	14 18 42.5	+1.8
SKI				*e*S		Sn	14 18 53.4	+1.9
SKI	**Saint Kitts**	**0.76**	**258**	*eP*		Pn	14 18 42.5	+1.8
SKI				*e*S		Sn	14 18 53.4	+1.9
SKOC	**St. Kitts, UWI**	**0.76**	**255**	*eP*		Pn	14 18 42.5	+1.7
SKOC				*e*S		Sn	14 18 53.6	+2.1
SKOC	**St. Kitts, UWI**	**0.76**	**255**	*eP*		Pn	14 18 42.5	+1.7
SKOC				*e*S		Sn	14 18 53.6	+2.1
MBFL	**Flemmings, Mon**	**0.78**	**198**	*eP*		Pn	14 18 43.2	+2.1
MBFL				*e*S		Sn	14 18 54.6	+2.6
MBFL	**Flemmings, Mon**	**0.78**	**198**	*eP*		Pn	14 18 43.2	+2.1
MBFL				*e*S		Sn	14 18 54.6	+2.6
MBWH		**0.78**	**196**	*eP*		Pn	14 18 43.1	+2.0
MBWH				*e*S		Sn	14 18 54.1	+2.0
MBWH		**0.78**	**196**	*eP*		Pn	14 18 43.1	+2.0
MBWH				*e*S		Sn	14 18 54.1	+2.0
TBG	**Guadaloupe-3**	**1.67**	**169**	*eP*		Pb	14 18 55.9	+0.2
TBG				*e*S		Sb	14 19 17.4	+1.2
TBG	**Guadaloupe-3**	**1.67**	**169**	*eP*		Pb	14 18 55.9	+0.2
TBG				*e*S		Sb	14 19 17.4	+1.2
DSLB	**Salisbury**	**2.11**	**166**	*eP*		Pb	14 19 01.6	-1.7
DSLB				*e*S		Sb	14 19 28.1	-1.1
DSLB	**Salisbury**	**2.11**	**166**	*eP*		Pb	14 19 01.6	-1.7
DSLB				*e*S		Sb	14 19 28.1	-1.1
MDN	**Morne-Daniel**	**2.23**	**166**	*eP*		Pb	14 19 03.4	-2.1
MDN	**Morne-Daniel**	**2.23**	**166**	*eP*		Pb	14 19 03.4	-2.1
BIM	**Bigot**	**3.09**	**164**	*eP*		Pn	14 19 15.5	+2.6
BIM	**Bigot**	**3.09**	**164**	*eP*		Pn	14 19 15.5	+2.6
SLBI	**Saint Lucia, B**	**3.58**	**164**	*eP*		Pn	14 19 22.2	+2.5
SLBI	**Saint Lucia, B**	**3.58**	**164**	*eP*		Pn	14 19 22.2	+2.5
SLAC	**Saint Lucia, A**	**3.73**	**164**	*eP*		Pn	14 19 23.6	+2.0
SLAC	**Saint Lucia, A**	**3.73**	**164**	*eP*		Pn	14 19 23.6	+2.0
AOPR	**Arecibo Observ**	**4.64**	**281**	*eP*		Pn	14 19 36.8	+2.6
AOPR	**Arecibo Observ**	**4.64**	**281**	*eP*		Pn	14 19 36.8	+2.6

---

*IDC **06** 14:24:11.9±2.5, 2.91S×100.14E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=110.7km s-min=17.2km az=57.0*
*DJA **06** 14:24:14.3±0.6, 3°S±3°×10°0E±°, h19km±3km, M3.8/7, MLv3.8/7*

ISC 06 14:24:15.3±1.0, 2.97S±0.08×100.0E±0.1, h27km, n24, σ0°59/19, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.21**	**16**	P		**Pb**	**14 24 21.1**	**-0.2**
PPSI				S		**Sb**	**14 24 24.9**	**-0.5**
SISI	**Saibi**	**1.85**	**332**	P		**Pn**	**14 24 45.4**	**+0.2**
SISI				S		**Sn**	**14 25 08.5**	**+0.8**
PPI	**Padang Panjang**	**2.54**	**10**	P		**Pn**	**14 24 54.4**	**-0.3**
PPI				S		**Sn**	**14 25 25.6**	**+0.9**
MNAI	**Manna**	**3.30**	**115**	P		**Pn**	**14 25 05.2**	**0.0**
PBSI	**Pulau Batu**	**3.34**	**330**	P		**Pn**	**14 25 05.7**	**-0.1**
PBSI				S		**Sn**	**14 25 44.6**	**-0.1**
MDSI	**Maura Dua**	**4.48**	**110**	P		**Pn**	**14 25 22.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.32**	**357**	P		**P**	**14 28 59.2**	**-0.9**
	0.4nm,0.3s,baz=179,slow=12,SNR=6.2							
	0.4nm,0.3s							
H08S2	**Diego Garcia H**	**27.73**	**259**	T		T	14 59 04.1	
	baz=82,slow=76,SNR=289							
H08S3	**Diego Garcia H**	**27.73**	**259**	T		T	14 59 04.6	
	baz=82,slow=76,SNR=233							
H08S1	**Diego Carcia H**	**27.74**	**259**	T		T	14 59 05.5	
	baz=82,slow=76,SNR=311							
WRA	**Warramunga Arr**	**37.55**	**119**	P		**P**	**14 31 26.9**	**-0.7**
	0.2nm,0.3s,baz=310,slow=8.8,SNR=7.2							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**38.73**	**125**	P		**P**	**14 31 37.1**	**-0.4**
	0.5nm,0.7s,baz=298,slow=7.7,SNR=13							
	0.5nm,0.7s							
STKA	**Stephens Creek**	**48.55**	**131**	P		**P**	**14 32 56.3**	**-0.1**
	1.1nm,0.9s,baz=303,slow=17,SNR=1.5							
	1.1nm,0.9s							
SONM	**Songino Array**	**50.91**	**6**	P		**P**	**14 33 14.8**	**+0.6**
	1.4nm,0.8s,baz=192,slow=7.0,SNR=14							
	1.4nm,0.8s							
MKAR	**Makanchi Array**	**51.95**	**345**	P		**P**	**14 33 22.8**	**+0.9**
	2.0nm,0.6s,baz=148,slow=8.2,SNR=30							
	2.0nm,0.6s							
KURBB	**Kurchatov Arra**	**56.46**	**344**	P		**P**	**14 33 55.2**	**+0.6**
	1.0nm,0.9s,baz=157,slow=7.2,SNR=7.6							
	1.0nm,0.9s							
ZALV	**Zalesovo Beam**	**58.11**	**350**	P		**P**	**14 34 06.3**	**+0.1**
	0.6nm,0.4s,baz=180,slow=7.1,SNR=5.0							
	0.6nm,0.4s							
H04N2	**CROZET ISLANDS**	**59.99**	**217**	T		T	15 39 37.5	
	baz=59,slow=75,SNR=294							
H04N1	**CROZET ISLANDS**	**60.01**	**217**	T		T	15 39 38.0	
	baz=59,slow=75,SNR=292							
H04N3	**CROZET ISLANDS**	**60.01**	**217**	T		T	15 39 31.4	
	baz=59,slow=75,SNR=289							
H04S1	**CROZET ISLANDS**	**60.28**	**216**	T		T	15 39 53.3	
	baz=57,slow=75,SNR=37							
H04S3	**CROZET ISLANDS**	**60.29**	**216**	T		T	15 39 52.9	
	baz=57,slow=75,SNR=49							
H04S2	**CROZET ISLANDS**	**60.30**	**216**	T		T	15 39 54.3	
	baz=57,slow=75,SNR=24							
TXAR	**Lajitas Array**	**145.49**	**38**	PKPbc		**PKPab**	**14 43 51.9**	**-0.2**
	1.1nm,0.7s,baz=332,slow=0.7,SNR=8.3							

---

*NEIC **06** 14:30:29.5±2.1, 23.5N±0.1×125.22E±0.07, h10km±2km, mb4.4/22, Error ellipse: s-maj=18.2km s-min=11.1km az=170.0*
*IDC **06** 14:30:30.6±0.8, 23.95N×124.95E, h0km, mb3.9/14, mbtmp3.9/17, ML3.1/3, MS3.0/4, Error ellipse: s-maj=24.1km s-min=18.1km az=70.0*
*NIED **06** 14:30:34.0, 23.87N×124.99E, h24km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.32; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-0.02; $M_{r\theta}$0.80; $M_{\theta\phi}$-0.48; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.03000×10^{15} NP1: ϕ_s205.00000°, δ17.00000°, λ51.00000°. NP2: ϕ_s66.00000°, δ77.00000°, λ101.00000°.*
*JMA **06** 14:30:34.0±0.4, 24.5N±1.5×125.0E±0.9, h24km, MV3.5/12, NEAR ISHIGAKIJIMA ISLAND*

ISC 06 14:30:30.9±0.7, 23.81N±0.06×125.08E±0.05, h7km, n77, σ0°94/79, mb4.2/26, MS2.9/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.90**	**337**	P		**Pb**	**14 30 49.2**	**+0.4**
JTJ				*e*S		**Sg**	**14 31 00.3**	**+0.5**
JMJ2	**Miyako jima3**	**0.95**	**13**	P		**Pn**	**14 30 50.9**	**+0.2**
JMJ2				S		**Sb**	**14 31 03.1**	**+0.6**
JOGS	**Gusukube**	**0.99**	**17**	*i P*		**Pn**	**14 30 51.7**	**+0.5**
JOGS				S		**Sn**	**14 31 05.2**	**-0.2**
JIRB	**Irabujima**	**1.01**	**5**	*i P*		**Pn**	**14 30 51.4**	**-0.1**
JIRB				S		**Sg**	**14 31 04.6**	**+1.0**
JIJ	**Ishigaki jima**	**1.02**	**303**	P		**Pg**	**14 30 50.7**	**+0.2**
JISG	**Ishigakijimahi**	**1.05**	**318**

MKAR	**Makanchi Array**	**41.11**	**315**	P	**P**	**14 38 14.8**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=100,slow=10.0,SNR=35						
	comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**41.32**	**315**	P	**P**	**14 38 16.9**	**-0.3**
MAKZ				IAmb	IAmb	14 38 17.5	
	comp=Z,2.7nm,0.6s						
ZAA0	**Zalesovo Array**	**42.53**	**326**	P	**P**	**14 38 25.6**	**-1.4**
ZALV	**Zalesovo Beam**	**42.53**	**326**	P	**P**	**14 38 25.4**	**-1.5**
ZALV	**Zalesovo Beam**	**42.53**	**326**	P	**P**	**14 38 25.2**	**-1.7**
	comp=Z,3.1nm,0.6s,baz=112,slow=9.0,SNR=14						
	comp=Z,3.1nm,0.6s						
WRA	**Warramunga Arr**	**44.42**	**168**	P	**P**	**14 38 44.1**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=348,slow=8.8,SNR=4.8						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**44.69**	**319**	P	**P**	**14 38 43.6**	**-0.8**
KURBB	**Kurchatov Arra**	**44.71**	**319**	P	**P**	**14 38 44.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=110,slow=8.7,SNR=11						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**47.97**	**169**	P	**P**	**14 39 12.6**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=353,slow=13,SNR=7.7						
	comp=Z,0.3nm,0.6s						
GAR	**Garm**	**48.45**	**302**	P	**P**	**14 39 14.3**	**+0.1**
KKAR	**Karatay Array**	**48.53**	**307**	P	**P**	**14 39 15.2**	**+0.5**
BVAR	**Borovoye Array**	**50.23**	**320**	P	**P**	**14 39 27.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=141,slow=9.3,SNR=3.0						
	comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**56.25**	**314**	P	**P**	**14 40 11.7**	**-0.2**
ARTI	**Arti**	**57.65**	**323**	P	**P**	**14 40 19.8**	**-1.8**
F15K	**North Star Dit**	**60.43**	**27**	P	**P**	**14 40 41.1**	**+0.3**
F15K				IAmb	IAmb	14 41 23.9	
	comp=Z,9.7nm,1.4s						
L14K	**Kuka Creek**	**60.89**	**32**	P	**P**	**14 40 42.6**	**-1.4**
C18K	**Utukok River**	**62.12**	**23**	P	**P**	**14 40 52.9**	**+0.6**
C18K				IAmb	IAmb	14 41 02.2	
	comp=Z,5.0nm,1.4s						
G18K	**Tagagawik**	**62.91**	**27**	P	**P**	**14 40 56.6**	**-1.0**
G18K				IAmb	IAmb	14 41 38.3	
	comp=Z,4.6nm,1.4s						
K17K	**Iditarod**	**63.00**	**30**	P	**P**	**14 40 57.8**	**-0.4**
E19K	**Redstone River**	**63.53**	**25**	P	**P**	**14 41 01.0**	**-0.6**
E19K				IAmb	IAmb	14 41 08.1	
	comp=Z,2.4nm,1.0s						
H19K	**Roundabout Mou**	**63.82**	**27**	P	**P**	**14 41 03.7**	**+0.2**
H19K				IAmb	IAmb	14 41 08.7	
	comp=Z,3.7nm,0.9s						
B21K	**Ikpikpuk River**	**64.53**	**22**	P	**P**	**14 41 08.2**	**+0.1**
B21K				IAmb	IAmb	14 41 44.5	
	comp=Z,5.5nm,1.5s						
B22K	**Teshekpuk Lake**	**64.94**	**22**	P	**P**	**14 41 10.8**	**0.0**
D23K	**Nanushuk River**	**65.94**	**23**	P	**P**	**14 41 18.3**	**+0.9**
D23K				IAmb	IAmb	14 41 51.4	
	comp=Z,3.8nm,1.2s						
E24K	**Your Creek**	**66.83**	**24**	P	**P**	**14 41 23.8**	**+0.7**
E24K				IAmb	IAmb	14 41 46.0	
	comp=Z,2.9nm,1.5s						
ILAR	**Eielson Array**	**67.90**	**28**	P	**P**	**14 41 29.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=295,slow=6.2,SNR=4.7						
	comp=Z,0.2nm,0.7s						
G31M	**Satah River**	**72.41**	**24**	P	**P**	**14 41 58.0**	**+0.6**
G31M				IAmb	IAmb	14 42 03.8	
	comp=Z,4.1nm,1.3s						
F31M	**Tsiigehtchic**	**72.43**	**23**	P	**P**	**14 41 56.8**	**-0.8**
F31M				IAmb	IAmb	14 42 18.9	
	comp=Z,3.6nm,1.3s						
H31M	**Peel River**	**72.75**	**25**	P	**P**	**14 42 00.1**	**+0.5**
FINES	**FINESS Array B**	**73.55**	**330**	P	**P**	**14 42 04.8**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=57,slow=5.9,SNR=4.6						
	comp=Z,1.5nm,0.7s						
BRTR	**Keskin Array B**	**76.25**	**307**	P	**P**	**14 42 20.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=67,slow=8.0,SNR=3.9						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**79.61**	**332**	P	**P**	**14 42 39.1**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=86,slow=10,SNR=3.0						
	comp=Z,2.9nm,0.8s						
NB2	**NORSAR Subarra**	**80.19**	**333**	P	**P**	**14 42 41.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**80.19**	**333**	P	**P**	**14 42 40.9**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=56,slow=5.6,SNR=5.4						
	comp=Z,1.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.90**	**24**	P	**P**	**14 42 51.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=302,slow=5.3,SNR=9.8						
	comp=Z,0.7nm,0.8s						

*TEH **06** 14:34:42.8, 34.°51N×46.°09E, h6km±60km*
*ISN **06** 14:34:43.7±0.5, 34.°57N×46.°04E, h18km±25km, ML3.7*
ISC 06 14:34:44.9±1.0, 34.°51N±0.°03×46.°05E±0.°03, h10km, n38, σ1°13/42, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.34**	**55**	Pg	**Pg**	**14 34 50.0**	**-1.8**
KGS1	**Ghasr-e-Shirin**	**0.38**	**270**	Pg	**Pg**	**14 34 51.8**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.41**	**196**	Pg	**Pg**	**14 34 52.5**	**-0.5**
IGHG	**Ghaleghazi**	**0.47**	**112**	Pg	**Pg**	**14 34 53.1**	**-1.0**
KCHF	**Cheshme Sefid,**	**0.85**	**105**	Pg	**Pg**	**14 35 00.2**	**-1.2**
KCHF				Sg	**Sg**	**14 35 12.6**	**+0.1**
ILIN	**Lien**	**0.86**	**61**	Pg	**Pg**	**14 34 59.8**	**-1.7**
ILBA	**Ilam Banvizeh**	**0.89**	**171**	Pg	**Pg**	**14 35 01.4**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.35**	**74**	Pg	**Pn**	**14 35 09.1**	**-0.9**
IBDR	**Badra**	**1.40**	**184**	*e*Pg	**Pn**	**14 35 10.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**14 35 29.0**	**+0.1**
IBDR				AML	AML	14 35 37.2	
	comp=E,691nm,0.5s						
IBDR				AML	AML	14 35 42.8	
	comp=N,666nm,0.5s						
IKRK	**Kirkuk**	**1.66**	**303**	*e*Pn	**Pn**	**14 35 13.0**	**-1.1**
IKRK				*e*Sn	**Sn**	**14 35 35.0**	**-0.5**
IKRK				AML	AML	14 35 44.8	
	comp=N,2μm,0.7s						
IKRK				AML	AML	14 35 45.2	
	comp=E,1μm,0.7s						
SDS1	**Sardasht. Az.**	**1.70**	**345**	Pg	**Pn**	**14 35 14.9**	**+0.1**
BHD	**Baghdad**	**1.86**	**229**	*e*Pn	**Pn**	**14 35 17.0**	**+0.2**
BHD				*e*Sn	**Sn**	**14 35 41.0**	**+0.7**
IDOB	**Doab**	**1.91**	**112**	Pn	**Pn**	**14 35 18.3**	**+0.7**
HSAM	**Samen**	**2.13**	**97**	Pn	**Pn**	**14 35 21.8**	**+0.9**
MAHB	**Mahabad**	**2.27**	**353**	Pn	**Pn**	**14 35 24.3**	**+1.6**
BDRS	**Dareh Seyedi**	**2.41**	**102**	Pn	**Pn**	**14 35 25.6**	**+0.9**
HGHA	**Hamedan- Ghaye**	**2.50**	**66**	Pn	**Pn**	**14 35 27.4**	**+1.5**
HAGD	**Aghdareh**	**2.57**	**82**	Pn	**Pn**	**14 35 28.3**	**+1.5**
IHSH	**Hashtrud**	**2.96**	**19**	Pn	**Pn**	**14 35 33.5**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.14**	**67**	Pn	**Pn**	**14 35 35.6**	**+1.0**
IAZR	**Azarshahr**	**3.17**	**359**	Pn	**Pn**	**14 35 36.5**	**+1.5**
IRAZ	**Razeghan**	**3.31**	**73**	Pn	**Pn**	**14 35 38.6**	**+1.6**
ISRB	**Sarab**	**3.56**	**21**	Pn	**Pn**	**14 35 41.3**	**+0.9**
ITBZ	**Tabriz**	**3.72**	**1**	Pn	**Pn**	**14 35 44.4**	**+1.8**
ISHB	**Shabestar**	**3.79**	**355**	Pn	**Pn**	**14 35 44.6**	**+1.1**
IHRS	**Heris**	**3.89**	**12**	Pn	**Pn**	**14 35 46.7**	**+1.7**
IQOM	**Qom**	**4.15**	**84**	Pn	**Pn**	**14 35 49.3**	**+0.7**
IPIR	**Pirpir**	**4.43**	**113**	Pn	**Pn**	**14 35 53.0**	**+0.5**
GRMI	**Germi**	**4.54**	**19**	Pn	**Pn**	**14 35 55.4**	**+1.6**
ZNGN	**Zangian**	**4.68**	**119**	Pn	**Pn**	**14 35 56.5**	**+0.7**
IVRN	**Varamin**	**4.70**	**82**	Pn	**Pn**	**14 35 56.8**	**+0.8**
IKLH	**Kolahrood**	**4.75**	**103**	Pn	**Pn**	**14 35 58.3**	**+1.5**
MAKU	**Maku**	**4.96**	**348**	Pn	**Pn**	**14 36 00.4**	**+0.8**
IDMV	**Damavand**	**5.03**	**76**	Pn	**Pn**	**14 36 00.9**	**+0.3**
ISFB	**Sefidab**	**5.12**	**90**	Pn	**Pn**	**14 36 02.6**	**+0.9**
IZEF	**Zefreh**	**5.48**	**105**	Pn	**Pn**	**14 36 08.3**	**+1.5**
KLNJ	**Kolanjah**	**5.83**	**125**	Pn	**Pn**	**14 36 12.1**	**+0.4**
IRAM	**Ramesheh**	**5.95**	**115**	Pn	**Pn**	**14 36 14.7**	**+1.3**

*WEL **06** 14:47:27.5±0.4, 40.°S±2.°×17.°4E±.°, h12km, M3.4/44, ML3.8/13, MLv3.4/44, Error ellipse: s-maj=6.0km s-min=2.8km az=94.4, confirmed*
*NOU **06** 14:47:27.4, 40.°06S×173.°79E, h6km, MLv3.7/16, Cook Strait, New Zealand*
ISC 06 14:47:27.2±1.3, 40.°07S±0.°02×173.°84E±0.°03, h7km±12km, n88, σ0°64/95, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.66**	**3**	P	**Pb**	**14 47 40.8**	**-0.1**
NMEZ				S	**Sb**	**14 47 51.0**	**+0.8**
DUWZ	**D'Urville Isla**	**0.73**	**175**	P	**Pg**	**14 47 41.6**	**+0.4**
DUWZ				S	**Sb**	**14 47 52.3**	**-0.2**
LREZ	**Lake Rotokare**	**0.75**	**36**	P	**Pb**	**14 47 42.2**	**-0.3**
PREZ	**Palmer Road**	**0.77**	**19**	P	**Pb**	**14 47 42.5**	**-0.3**
PREZ				S	**Sb**	**14 47 53.9**	**+0.4**
KHEZ	**Kahui Hut**	**0.79**	**10**	P	**Pb**	**14 47 42.9**	**-0.3**
KHEZ	**Kahui Hut**	**0.79**	**10**	P	**Pb**	**14 47 42.9**	**-0.3**
KHEZ				S	**Sb**	**14 47 54.3**	**+0.2**
NBEZ	**Newall Road No**	**0.80**	**2**	P	**Pb**	**14 47 43.3**	**-0.1**
NBEZ				S	**Sb**	**14 47 55.1**	**+0.7**
NEZ	**North Egmont**	**0.82**	**14**	P	**Pg**	**14 47 43.2**	**+0.2**
PKE	**Pukeiti**	**0.88**	**7**	P	**Pg**	**14 47 44.5**	**+0.4**
PKE				S	**Sb**	**14 47 57.1**	**+0.3**
DREZ	**Durham Road**	**0.92**	**18**	P	**Pg**	**14 47 45.0**	**+0.1**
WAZ	**Wanganui**	**0.94**	**71**	P	**Pg**	**14 47 44.6**	**-0.5**
WAZ				S	**Sg**	**14 47 57.7**	**+0.4**
WCDS	**Wanganui Civil**	**0.94**	**82**	P	**Pg**	**14 47 45.2**	**0.0**
INHS	**Inglewood High**	**0.95**	**17**	P	**Pg**	**14 47 45.6**	**+0.2**
KIW	**Kapiti Island**	**1.14**	**134**	P	**Pg**	**14 47 48.2**	**-0.8**
TKNZ	**Takaka Hill**	**1.17**	**215**	P	**Pb**	**14 47 49.7**	**-0.1**
VRZ	**Vera Road**	**1.18**	**37**	P	**Pb**	**14 47 48.8**	**-1.1**
TCW	**Tory Channel**	**1.19**	**164**	P	**Pb**	**14 47 49.3**	**-0.7**
NNZ	**Nelson**	**1.20**	**197**	P	**Pb**	**14 47 49.7**	**-0.5**
QRZ	**Quartz Range**	**1.25**	**233**	P	**Pn**	**14 47 49.8**	**-1.2**
QRZ	**Quartz Range**	**1.25**	**233**	S	**Sn**	**14 48 07.9**	**-0.2**
QRZ	**Quartz Range**	**1.25**	**233**	P	**Pn**	**14 47 50.1**	**-0.9**
OGWZ	**Otaki Gorge**	**1.26**	**127**	P	**Pn**	**14 47 50.6**	**-0.5**
TUWZ	**Tuamarina**	**1.36**	**177**	P	**Pb**	**14 47 52.9**	**0.0**
CAW	**Cannon Point**	**1.40**	**138**	P	**Pn**	**14 47 53.1**	**+0.1**
PKVZ	**Pokaka**	**1.40**	**57**	P	**Pn**	**14 47 51.8**	**-1.3**
SNZO	**South Karori**	**1.40**	**152**	P	**Pn**	**14 47 53.3**	**+0.2**
SNZO	**South Karori**	**1.40**	**152**	S	**Sn**	**14 48 12.0**	**+0.2**
WEL	**Wellington**	**1.40**	**150**	P	**Pb**	**14 47 53.7**	**0.0**
MTVZ	**Mangateitei**	**1.43**	**62**	P	**Pn**	**14 47 53.2**	**-0.4**
MRZ	**Mangatainoka R**	**1.45**	**114**	P	**Pn**	**14 47 54.0**	**+0.2**
POWZ	**Post Office Ro**	**1.51**	**103**	P	**Pb**	**14 47 55.2**	**-0.3**
HOWZ	**Holdsworth Sta**	**1.52**	**123**	P	**Pb**	**14 47 55.4**	**-0.3**
TRVZ	**Turoa**	**1.53**	**60**	P	**Pn**	**14 47 54.1**	**-1.0**
WNVZ	**Wahianoa**	**1.55**	**62**	P	**Pn**	**14 47 54.4**	**-0.9**
BHW	**Baring Head**	**1.55**	**150**	P	**Pb**	**14 47 56.1**	**0.0**
MAVZ	**Matarangi**	**1.55**	**59**	P	**Pn**	**14 47 54.9**	**-0.5**
FWVZ	**Far West T-bar**	**1.55**	**59**	P	**Pn**	**14 47 54.4**	**-0.9**
MRNZ	**Matariki Terra**	**1.56**	**211**	P	**Pn**	**14 47 55.3**	**0.0**
WHVZ	**Whangaehu Hut**	**1.56**	**60**	P	**Pn**	**14 47 55.0**	**-0.5**
COVZ	**Chateau Observ**	**1.58**	**57**	P	**Pn**	**14 47 55.1**	**-0.5**
TWVZ	**Taurewa**	**1.59**	**52**	P	**Pn**	**14 47 54.8**	**-0.9**
TUVZ	**Tukino**	**1.61**	**61**	P	**Pn**	**14 47 55.7**	**-0.5**
MOVZ	**Moawhango**	**1.62**	**66**	P	**Pn**	**14 47 55.5**	**-0.7**
NGZ	**Ngauruhoe**	**1.63**	**57**	P	**Pn**	**14 47 55.9**	**-0.5**
TSZ	**Takapari Road**	**1.63**	**90**	P	**Pn**	**14 47 56.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.64**	**179**	P	**Pb**	**14 47 57.4**	**-0.4**
SNVZ	**South Ngauruho**	**1.65**	**58**	P	**Pn**	**14 47 56.1**	**-0.5**
WTVZ	**West Tongariro**	**1.66**	**55**	P	**Pn**	**14 47 56.2**	**-0.5**
NNVZ	**North Ngauruho**	**1.66**	**56**	P	**Pn**	**14 47 56.3**	**-0.5**
MTW	**Mount Morrison**	**1.67**	**131**	P	**Pb**	**14 47 57.7**	**-0.5**
OTVZ	**Oturere**	**1.68**	**58**	P	**Pn**	**14 47 56.6**	**-0.4**
KRVZ	**Karewarewa**	**1.70**	**56**	P	**Pn**	**14 47 56.7**	**-0.6**
PRWZ	**Pori Road**	**1.70**	**107**	P	**Pb**	**14 47 58.7**	**0.0**
TIWZ	**Tintock**	**1.71**	**112**	P	**Pb**	**14 47 58.8**	**-0.2**
MSWZ	**Moikau Station**	**1.72**	**142**	P	**Pb**	**14 47 58.5**	**-0.5**
NTVZ	**North Tongarir**	**1.72**	**56**	P	**Pn**	**14 47 57.1**	**-0.5**
TMVZ	**Te Maari**	**1.73**	**57**	P	**Pn**	**14 47 57.5**	**-0.1**
HIZ	**Hauiti**	**1.74**	**27**	P	**Pn**	**14 47 57.4**	**-0.4**
HIZ	**Hauiti**	**1.74**	**27**	S	**Sb**	**14 48 21.3**	**-0.2**
HIZ	**Hauiti**	**1.74**	**27**	P	**Pn**	**14 47 56.7**	**-1.1**
PAWZ	**Paruwai Farm**	**1.78**	**138**	P	**Pn**	**14 47 59.3**	**+0.9**
DVHZ	**Dannevirke**	**1.80**	**98**	P	**Pn**	**14 47 59.4**	**+0.9**
KATZ	**Kakaramea**	**1.81**	**53**	P	**Pn**	**14 47 58.4**	**-0.3**
PNHZ	**Pukenui**	**1.82**	**86**	P	**Pn**	**14 47 59.5**	**+0.6**
THZ	**Tophouse**	**1.83**	**202**	P	**Pn**	**14 47 59.8**	**+0.7**
PLWZ	**Palliser**	**1.84**	**145**	P	**Pn**	**14 48 00.1**	**+0.9**
TMWZ	**Te Maipa**	**1.87**	**124**	P	**Pb**	**14 48 00.9**	**-0.8**
RATZ	**Rangitukua**	**1.92**	**52**	P	**Pn**	**14 48 00.8**	**+0.5**
TRWZ	**Traveller**	**1.93**	**134**	P	**Pb**	**14 48 02.2**	**-0.5**
BFZ	**Birch Farm**	**1.94**	**109**	P	**Pb**	**14 48 02.0**	**-0.8**
BFZ	**Birch Farm**	**1.94**	**109**	P	**Pn**	**14 48 01.4**	**+1.0**
KRHZ	**Kereru**	**1.99**	**78**	P	**Pn**	**14 48 02.9**	**-0.9**
WPHZ	**Waipukurau**	**2.00**	**91**	P	**Pb**	**14 48 03.3**	**-0.5**
WATZ	**Wairara**	**2.00**	**48**	P	**Pn**	**14 48 01.8**	**+0.4**
ANWZ	**Angora Road**	**2.05**	**102**	P	**Pb**	**14 48 05.2**	**+0.4**
KWHZ	**Kaweka Forest**	**2.09**	**73**	P	**Pn**	**14 48 03.7**	**+1.0**
TLZ	**Tolley Road**	**2.18**	**38**	P	**Pn**	**14 48 04.1**	**+0.3**
KUTZ	**Kaahu Road**	**2.21**	**45**	P	**Pn**	**14 48 05.3**	**+1.1**
BKZ	**Black Stump Fm**	**2.24**	**67**	P	**Pn**	**14 48 04.5**	**-0.2**
BKZ	**Black Stump Fm**	**2.24**	**67**	P	**Sb**	**14 48 35.1**	**-0.8**
BKZ	**Black Stump Fm**	**2.24**	**67**	P	**Pn**	**14 48 04.7**	**+0.1**
DSZ	**Dennistón Nort**	**2.27**	**222**	P	**Pn**	**14 48 04.9**	**-0.3**
KHZ	**Kahutara**	**2.35**	**185**	P	**Pn**	**14 48 07.7**	**+1.5**
URZ	**Urewera**	**3.12**	**56**	P	**Pn**	**14 48 18.8**	**+2.1**
RPZ	**Rata Peaks**	**4.19**	**209**	P	**Pn**	**14 48 31.7**	**+0.2**
OUZ	**Omahuta**	**4.85**	**358**	P	**Pn**	**14 48 40.6**	**+0.2**
JCZ	**Jackson Bay**	**5.49**	**222**	P	**Pn**	**14 48 48.9**	**-0.5**
ODZ	**Otahua Downs**	**5.50**	**204**	P	**Pn**	**14 48 48.5**	**-0.9**

*IDC **06** 14:56:04.6±1.2, 12.°26S×167.°55E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=54.2km s-min=25.2km az=145.0*
ISC 06 14:56:10.2±1.1, 12.°3S±0.°3×167.°5E±0.°2, h35km, n6, σ0°49/6, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.72**	**252**	P	**P**	**15 02 39.3**	**-0.5**
	0.3nm,0.4s,baz=83,slow=8.7,SNR=5.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**33.83**	**246**	P	**P**	**15 02 49.3**	**-0.1**
	0.3nm,0.6s,baz=69,slow=10,SNR=7.5						
	0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.75**	**257**	P	**P**	**15 03 48.5**	**+0.3**
	0.9nm,0.3s,baz=38,slow=12,SNR=1.4						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**77.74**	**180**	P	**P**	**15 08 03.3**	**-0.1**
	1.1nm,1.1s,baz=311,slow=1.5,SNR=1.5						
	1.1nm,1.1s						
ILAR	**Eielson Array**	**84.13**	**18**	P	**P**	**15 08 36.8**	**-0.4**
	0.7nm,0.6s,baz=236,slow=5.1,SNR=20						
	0.7nm,0.6s						
NVAR	**Mina Array Bea**	**85.50**	**49**	P	**P**	**15 08 45.4**	**+0.4**
	0.6nm,0.6s,baz=230,slow=12,SNR=2.7						
	0.6nm,0.6s						

*IDC **06** 15:04:58.8±1.4, 36.°77N×141.°62E, h0km, mb3.7/8, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=26.7km s-min=20.3km az=113.0*
*JMA **06** 15:04:59.3±0.3, 36.°2N±0.°4×14.°2E±.°, h52km±4km, MV3.3/35, FAR E OFF IBARAKI PREF*
ISC 06 15:04:59.7±1.1, 36.°39N±0.°06×141.°61E±0.°10, h26km, n26, σ2°06/22, mb3.7/8, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.83**	**267**	⇓*i*P	**Pb**	**15 05 15.7**	**+0.3**
JHO	**Hitachi**	**0.87**	**285**	⇓P	**Pn**	**15 05 16.6**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.96**	**318**	P	**Pb**	**15 05 18.9**	**+1.1**
JIHU	**Itakohorinouch**	**0.98**	**244**	P	**Pn**	**15 05 17.2**	**-0.5**
JFK	**Kawauchi**	**1.14**	**329**	P	**Pb**	**15 05 21.6**	**+0.8**
JYT	**Yasato**	**1.16**	**262**	P	**Pn**	**15 05 19.8**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.55**	**319**	*i* P	**Pb**	**15 05 28.4**	**+0.6**
JAG	**Ashikaga**	**1.74**	**272**	P	**Pn**	**15 05 28.9**	**+0.6**
BSO1	**Boso 1**	**1.81**	**197**	P	**Pn**	**15 05 26.7**	**-2.1**
BSO1				*e*S	**Sn**	**15 05 48.3**	**-2.3**
BSO3	**Boso 3**	**1.82**	**210**	P	**Pn**	**15 05 27.5**	**-1.7**
MJAR	**Matsushiro Arr**	**2.75**	**274**	Pn	**Pn**	**15 05 43.8**	**+1.7**
	1.6nm,0.3s,baz=96,slow=8.7,SNR=66						
MJAR				Sn	**Sb**	**15 06 19.8**	**-1.6**
	0.6nm,0.3s,baz=80,slow=14,SNR=4.7						
	15nm,0.3s						
ASAJ	**Asahikawa**	**7.75**	**5**	Pn	**Pn**	**15 06 47.4**	**-3.5**
	0.5nm,0.3s,baz=218,slow=16,SNR=8.2						
ASAJ				Sn	**Sn**	**15 08 11.4**	**-6.3**
	baz=218,slow=19						
ASAJ				Lg	Lg	15 08 54.1	
	0.1nm,0.3s,baz=139,slow=34,SNR=1.5						
	2.5nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.69**	**120**	T	T	15 39 28.1	
	baz=312,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**27.70**	**120**	T	T	15 39 33.4	
	baz=312,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**27.71**	**120**	T	T	15 39 30.4	
	baz=312,slow=75,SNR=7.4						
SONM	**Songino Array**	**28.28**	**305**	P	**P**	**15 10 52.3**	**+1.3**
	1.1nm,0.7s,baz=108,slow=9.0,SNR=9.9						
	1.1nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	15 40 15.2	
	baz=314,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.38**	**122**	T	T	15 40 18.7	
	baz=314,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.40**	**122**	T	T	15 40 15.5	
	baz=314,slow=75,SNR=7.9						
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**15 12 52.9**	**+0.6**
	1.1nm,0.5s,baz=87,slow=7.2,SNR=6.1						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**44.59**	**303**	P	**P**	**15 13 10.3**	**+0.7**
	0.9nm,0.7s,baz=91,slow=9.7,SNR=12						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**46.52**	**308**	P	**P**	**15 13 26.1**	**+1.3**
	1.4nm,0.5s,baz=84,slow=8.0,SNR=19						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**49.95**	**32**	P	**P**	**15 13 52.0**	**+1.0**
	0.2nm,0.6s,baz=261,slow=6.5,SNR=4.3						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.12**	**313**	P	**P**	**15 14 01.5**	**+1.5**
	0.5nm,0.5s,baz=97,slow=7.4,SNR=2.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**60.18**	**188**	P	P	15 15 10.9	+5.6
	0.4nm,0.8s,baz=11,slow=9.4,SNR=4.8						
	0.4nm,0.8s						
AKASG	**Malin Array Be**	**74.90**	**322**	P	**P**	**15 16 39.0**	**+1.0**
	0.5nm,0.4s,baz=54,slow=5.7,SNR=5.6						
	0.5nm,0.4s						

*NSSP **06** 15:05:30.1, 38.°47N×44.°77E, h10km, Ms3.1*
*TEH **06** 15:05:31.7, 38.°39N×44.°83E, h4km±97km*
*AFAD **06** 15:05:31.1, 38.°46N×44.°80E, h7km±3km, ML2.5*
*AZER **06** 15:05:31.4, 38.°60N×44.°99E, h2km, ml2.8*
ISC 06 15:05:31.6±1.1, 38.°45N±0.°02×44.°82E±0.°02, h8km±10km, n35, σ1°01/60, 1C-3D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.65**	**104**	Pg	**Pg**	**15 05 44.0**	**-0.1**
OZAP	**Van, Ozalp-Mer**	**0.68**	**289**	P	**Pg**	**15 05 44.5**	**-0.3**
OZAP				S	**Sg**	**15 05 53.2**	**-0.6**
OZAP				*i* AML	AML	15 06 04.0	
	comp=E,212nm,0.5s						
IMRD	**Marand**	**0.74**	**69**	Pg	**Pg**	**15 05 45.9**	**0.0**
IMRD				Sg	**Sb**	**15 05 57.0**	**-0.2**
NAX	**Nakhchivan**	**0.90**	**36**	P	**Pb**	**15 05 48.8**	**-0.7**
NAX				S	**Sb**	**15 06 01.9**	**+0.3**
YOVA	**Hakkari_Yksek**	**0.95**	**206**	P	**Pg**	**15 05 49.7**	**-0.3**
YOVA				S	**Sg**	**15 06 03.3**	**+0.9**
YOVA				*i* AML	AML	15 06 07.0	
	comp=E,138nm,0.4s						
ORD	**Ordubad**	**1.04**	**62**	P	**Pb**	**15 05 51.4**	**-0.4**
ORD				S	**Sn**	**15 06 06.2**	**-1.1**
ITBZ	**Tabriz**	**1.06**	**101**	Pg	**Pg**	**15 05 51.1**	**-0.9**
SBZ	**Shahbuz**	**1.11**	**31**	P	**Pg**	**15 05 52.3**	**-0.6**
SBZ				S	**Sn**	**15 06 08.6**	**-0.5**
TVAN	**Van**	**1.11**	**275**	P	**Pg**	**15 05 52.6**

PTEO				*i* AML	AML	15 31 12.7	
MORF	**Marmelete**	**5.91**	**88**	*e*P	**Pn**	**15 30 00.7**	**+3.7**
MORF				*e*S	**Sn**	**15 31 03.7**	**-1.0**
MORF				*i* AML	AML	15 31 10.0	
MORF				*i* AML	AML	15 31 10.4	
MORF				*i* AML	AML	15 31 11.2	
MESJ	**Messejana**	**6.25**	**83**	*e*P	**Pn**	**15 30 05.8**	**+4.2**
MESJ				*e*S	**Sn**	**15 31 12.4**	**-0.6**
MESJ				*i* AML	AML	15 31 15.5	
MESJ				*i* AML	AML	15 31 18.1	
MESJ				*i* AML	AML	15 31 18.1	
PCVE	**Castro Verde**	**6.38**	**85**	*e*P	**Pn**	**15 30 07.3**	**+3.8**
PCVE				*e*S	**Sn**	**15 31 15.3**	**-1.2**
PCVE				*i* AML	AML	15 31 17.6	
PCVE				*i* AML	AML	15 31 20.1	
PCVE				*i* AML	AML	15 31 21.1	
PCVE	**Castro Verde**	**6.38**	**85**	Pn	**Pn**	**15 30 07.2**	**+3.7**
PCVE				Sn	**Sn**	**15 31 13.0**	**-3.5**
PMTG	**Montargil**	**6.40**	**72**	*e*P	**Pn**	**15 30 07.2**	**+3.5**
PMTG				*e*S	**Sn**	**15 31 15.6**	**-1.2**
PMTG				*i* AML	AML	15 31 18.0	
PMTG				*i* AML	AML	15 31 18.1	
PMTG				*i* AML	AML	15 31 19.8	
PBDV	**Barranco-do-Ve**	**6.48**	**89**	*e*P	**Pn**	**15 30 08.7**	**+3.8**
PBDV				*e*S	**Sn**	**15 31 18.1**	**-0.9**
PBDV				*i* AML	AML	15 31 24.3	
PBDV				*i* AML	AML	15 31 29.0	
PBDV				*i* AML	AML	15 31 31.1	
PCAS	**Casmilo, Conde**	**6.49**	**63**	*e*P	**Pn**	**15 30 07.8**	**+2.8**
PVAQ	**Vaqueiros**	**6.64**	**87**	*e*P	**Pn**	**15 30 10.5**	**+3.4**
PVAQ				*e*S	**Sn**	**15 31 20.6**	**-2.3**
PVAQ				*i* AML	AML	15 31 26.1	
PVAQ	**Vaqueiros**	**6.64**	**87**	Pn	**Pn**	**15 30 10.2**	**+3.1**
EGRO	**El Granado**	**6.83**	**86**	Pn	**Pn**	**15 30 12.4**	**+2.8**
EGRO				Sn	**Sn**	**15 31 24.1**	**-3.3**
EGRO	**El Granado**	**6.83**	**86**	Pn	**Pn**	**15 30 12.9**	**+3.3**
EGRO				⇑*i*Vmb_V		15 30 14.2	
	98nm,SNR=2.6						
EGRO				Sn	**Sn**	**15 31 25.8**	**-1.5**
PESTR	**Estremoz**	**6.84**	**75**	*e*S	**Sn**	**15 31 25.6**	**-2.2**
PESTR				*i* AML	AML	15 31 33.1	
PESTR				*i* AML	AML	15 31 33.7	
PESTR				*i* AML	AML	15 31 35.5	
PMRV	**Marv??o**	**7.11**	**71**	*e*P	**Pn**	**15 30 17.1**	**+3.5**
PMRV				*e*S	**Sn**	**15 31 32.3**	**-2.2**
PMRV				*i* AML	AML	15 31 34.9	
PMRV				*i* AML	AML	15 31 35.0	
PMRV				*i* AML	AML	15 31 36.7	
PCBR	**Castelo Branco**	**7.16**	**67**	*e*S	**Sn**	**15 31 34.0**	**-1.6**
PCBR				*i* AML	AML	15 31 43.2	
PCBR				*i* AML	AML	15 31 43.9	
PCBR				*i* AML	AML	15 31 46.2	
PBAR	**Barrancos**	**7.19**	**81**	*e*P	**Pn**	**15 30 18.7**	**+4.1**
PBAR				*e*S	**Sn**	**15 31 34.5**	**-1.9**
PBAR				*i* AML	AML	15 31 45.1	
PBAR				*i* AML	AML	15 31 45.4	
PBAR	**Barrancos**	**7.19**	**81**	Pn	**Pn**	**15 30 18.6**	**+4.0**
PBAR				Sn	**Sn**	**15 31 33.6**	**-2.8**
EBAD	**Badajoz**	**7.27**	**76**	Pn	**Pn**	**15 30 19.7**	**+4.0**
EBAD				Sn	**Sn**	**15 31 33.8**	**-4.5**
EBAD	**Badajoz**	**7.27**	**76**	Pn	**Pn**	**15 30 19.4**	**+3.7**
EBAD				⇑*i*Vmb_V		15 30 20.5	
	115nm,SNR=1.8						
EBAD				Sn	**Sn**	**15 31 35.6**	**-2.7**
EMIN	**Mina Concepcio**	**7.47**	**84**	Sn	**Sn**	**15 31 39.8**	**-3.3**
EMIN				Pn	**Pn**	**15 30 22.2**	**+3.8**
EMIN	**Mina Concepcio**	**7.47**	**84**	Pn	**Pn**	**15 30 18.4**	**0.0**
EMIN				Sn	**Sn**	**15 31 40.1**	**-3.1**
POLO	**Lamas de Olo**	**7.55**	**55**	*e*P	**Pn**	**15 30 22.1**	**+2.6**
POLO				*e*S	**Sn**	**15 31 40.6**	**-4.7**
POLO				*i* AML	AML	15 31 46.3	
POLO				*i* AML	AML	15 31 48.1	
POLO				*i* AML	AML	15 31 52.0	
PGAV	**Gavieira, Arco**	**7.56**	**50**	*e*P	**Pn**	**15 30 21.6**	**+1.9**
PGAV				*e*S	**Sn**	**15 31 40.9**	**-4.6**
PGAV				*i* AML	AML	15 31 45.5	
PGAV				*i* AML	AML	15 31 45.9	
PGAV				*i* AML	AML	15 31 46.2	
PCAB	**Cabril**	**7.57**	**53**	*e*S	**Sn**	**15 31 42.4**	**-3.3**
PCAB				*i* AML	AML	15 31 43.7	
ELOB	**Lobios**	**7.63**	**52**	Pn	**Pn**	**15 30 22.7**	**+2.0**
ELOB				⇑*i*Vmb_V		15 30 25.1	
	182nm,SNR=1.2						
ELOB				Sn	**Sn**	**15 31 42.1**	**-5.3**
ECAB	**El Cabril**	**8.46**	**82**	Pn	**Pn**	**15 30 35.9**	**+3.8**
ECAB				Sn	**Sn**	**15 32 03.3**	**-4.5**
ECAB	**El Cabril**	**8.46**	**82**	Pn	**Pn**	**15 30 35.7**	**+3.6**
ECAB				⇑*i*Vmb_V		15 30 36.7	
	67nm,SNR=1.5						
ECAB				Sn	**Sn**	**15 32 04.7**	**-3.0**
EADA	**Adamuz**	**9.13**	**82**	Pn	**Pn**	**15 30 45.2**	**+3.9**
EADA				Sn	**Sn**	**15 32 18.8**	**-5.3**

*DMN **06** 15:30:13.6±0.0,29°.33N×87°.47E,h10km,Ml4.2/6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **06** 15:30:14.8±0.8,29°.12N×87°.33E,h0km,mb3.7/15, mbtmp3.7/18,ML3.4/3,MS3.6/4,Error ellipse: s-maj=26.9km s-min=14.9km az=51.0*
ISC 06 15:30:18.6±2.8,29°.30N±0°.07×87°.47E±0°.07,h20km±12km, n33,σ1s05/39,mb3.7/15,MS3.7/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**1.96**	**174**	Pg	**Pn**	**15 30 50.9**	**-0.1**
	baz=174,slow=0.0						
TAPN				Sg	**Sn**	**15 31 16.4**	**+1.3**
	662nm,0.7s,baz=174,slow=0.0						
GUN	**Gumba**	**1.97**	**226**	Pg	**Pn**	**15 30 51.5**	**+0.3**
	baz=225,slow=0.0						
GUN				Sg	**Sn**	**15 31 15.4**	**-0.1**
	541nm,0.4s,baz=225,slow=0.0						
ODAN	**Odare**	**2.43**	**182**	Pg	**Pn**	**15 30 59.3**	**+1.8**
	baz=182,slow=0.0						
ODAN				Sg	**Sb**	**15 31 32.3**	**+0.7**
	baz=182,slow=0.0						
KKN	**Kakani**	**2.44**	**232**	Pg	**Pn**	**15 30 59.3**	**+1.7**
	baz=232,slow=0.0						
KKN				Sg	**Sb**	**15 31 31.3**	**-0.5**
	baz=232,slow=0.0						
RAMN	**Ramite**	**2.46**	**198**	Pg	**Pn**	**15 30 59.8**	**+1.9**
	baz=198,slow=0.0						
RAMN				Sg	**Sb**	**15 31 32.3**	**-0.2**
	399nm,0.7s,baz=198,slow=0.0						
PKI	**Pulchoki**	**2.50**	**227**	Pg	**Pn**	**15 31 00.4**	**+1.9**
	baz=227,slow=0.0						
PKI				Sg	**Sb**	**15 31 33.7**	**+0.1**
	792nm,0.7s,baz=227,slow=0.0						
PKIN	**Phulchoki**	**2.51**	**227**	Pg	**Pn**	**15 30 59.9**	**+1.4**
	baz=227,slow=0.0						
PKIN				Sg	**Sb**	**15 31 33.4**	**-0.3**
	601nm,0.5s,baz=227,slow=0.0						
DMN	**Daman**	**2.68**	**232**	Pg	**Pb**	**15 31 04.4**	**-1.6**
	baz=231,slow=0.0						
GKN	**Gorkha**	**2.80**	**243**	Pg	**Pb**	**15 31 06.8**	**-1.3**
	baz=243,slow=0.0						
GKN				Sg	**Sb**	**15 31 43.4**	**+1.2**
	165nm,0.2s,baz=243,slow=0.0						
KOLN	**Koldanda**	**3.73**	**247**	Sg	**Sb**	**15 32 10.3**	**+1.5**
	baz=246,slow=0.0						
CMAR	**Chiang Mai Arr**	**15.04**	**133**	Pn	**Pn**	**15 33 50.1**	**-0.1**
	0.1nm,0.3s,baz=310,slow=12,SNR=12						
CMAR				LR	LR	15 40 09.2	
	comp=Z,46nm,20.5s,baz=305,slow=40						
	0.2nm,0.3s						
AAK	**Ala-Archa**	**16.92**	**325**	P	**Pn**	**15 34 14.4**	**0.0**
	0.1nm,0.3s,baz=145,slow=20,SNR=3.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**17.93**	**348**	P	**P**	**15 34 27.9**	**+0.7**
	0.2nm,0.3s,baz=167,slow=12,SNR=12						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**22.34**	**345**	P	**P**	**15 35 15.5**	**+0.5**
	1.8nm,0.7s,baz=162,slow=10,SNR=17						
	1.8nm,0.7s						
SONM	**Songino Array**	**23.58**	**33**	P	**P**	**15 35 30.1**	**+2.0**
	1.6nm,0.7s,baz=224,slow=10,SNR=13						
	1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**24.70**	**356**	P	**P**	**15 35 39.5**	**+1.3**
	0.9nm,0.5s,baz=183,slow=7.4,SNR=5.6						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**26.83**	**337**	P	**P**	**15 35 58.8**	**+1.2**
	0.8nm,0.6s,baz=152,slow=9.8,SNR=3.0						
	0.8nm,0.6s						
KSRS	**Korea Array**	**34.54**	**66**	P	**P**	**15 37 05.3**	**-0.4**
	0.5nm,0.8s,baz=260,slow=10,SNR=1.2						
	0.5nm,0.8s						
JNU	**Nakatsue**	**37.13**	**73**	LR	LR	15 53 07.5	
	comp=Z,107nm,18.4s,baz=181,slow=37						
BRTR	**Keskin Array B**	**44.97**	**298**	P	**P**	**15 38 32.5**	**-0.1**
	0.5nm,0.6s,baz=124,slow=9.5,SNR=2.8						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**48.08**	**313**	P	**P**	**15 38 56.2**	**-0.5**
	0.2nm,0.3s,baz=78,slow=7.1,SNR=4.4						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**51.10**	**327**	P	**P**	**15 39 18.6**	**-0.9**
	2.5nm,1.0s,baz=108,slow=8.4,SNR=3.4						
	2.5nm,1.0s						
ARCES	**ARCESS Array B**	**53.12**	**337**	P	**P**	**15 39 35.1**	**+0.6**
	3.1nm,1.0s,baz=110,slow=6.9,SNR=2.0						
	3.1nm,1.0s						
VRAC	**Vranov**	**56.26**	**312**	LR	LR	16 05 46.1	
	comp=Z,258nm,18.3s,baz=327,slow=38						
HFS	**Hagfors**	**57.06**	**325**	P	**P**	**15 40 03.1**	**0.0**
	2.1nm,0.8s,baz=62,slow=10.0,SNR=2.4						
	2.1nm,0.8s						
GERES	**GERESS Array B**	**58.21**	**312**	P	**P**	**15 40 11.2**	**-0.3**
	0.8nm,0.6s,baz=74,slow=9.8,SNR=3.6						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**66.63**	**132**	P	**P**	**15 41 07.5**	**-0.5**
	0.8nm,0.6s,baz=326,slow=6.7,SNR=12						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**69.05**	**135**	P	**P**	**15 41 22.9**	**-0.4**
	1.1nm,0.7s,baz=319,slow=6.1,SNR=14						
ASAR				LR	LR	16 13 38.7	
	comp=Z,20nm,20.7s,baz=86,slow=38						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**77.19**	**21**	P	**P**	**15 42 10.6**	**-0.2**
	0.5nm,1.0s,baz=316,slow=4.4,SNR=2.9						
	0.5nm,1.0s						
YKA	**Yellowknife Ar**	**86.82**	**10**	P	**P**	**15 43 01.1**	**-0.2**
	0.2nm,0.7s,baz=347,slow=4.3,SNR=4.0						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**120.73**	**11**	PKP	**PKPdf**	**15 49 09.1**	**-0.7**
	0.1nm,0.3s,baz=357,slow=4.8,SNR=3.6						
SIV	**San Ignacio**	**148.20**	**288**	PKPbc	**PKPdf**	**15 50 00.6**	**0.0**
	0.3nm,0.3s,baz=142,slow=9.4,SNR=2.1						
CPUP	**Villa Florida**	**148.79**	**267**	PKPbc	**PKPbc**	**15 50 03.6**	**-1.5**
	0.8nm,0.3s,baz=56,slow=3.6,SNR=3.2						

*TIR **06** 15:36:09.7,38°.91N×20°.69E,h6km±2km,Md3.5/5,Ml3.2/5*
*THE **06** 15:36:09.6,38°.89N×20°.64E,h16km,ML2.9/10,Error ellipse: s-maj=0.7km s-min=0.4km az=253.0*
*ATH **06** 15:36:09.3,38°.89N×20°.61E,h15km±1km,ML2.9/25, Manual Solution by G.Panopoulou First location: 2019/02/06 15:37:04, This location: 2020/08/21 18:33:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
ISC 06 15:36:09.8±0.8,38°.88N±0°.01×20°.65E±0°.02,h16km±3km, n65,σ0s64/102,1C-3D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.06**	**173**	P	**Pg**	**15 36 12.4**	**-0.4**
TSLK				S	**Sg**	**15 36 14.8**	**0.0**
	14μm,0.4s						
TSLK	**Tsoukalades, L**	**0.06**	**173**	P	**Pg**	**15 36 12.4**	**-0.4**
TSLK				S	**Sg**	**15 36 15.2**	**+0.4**
LKD2	**Lefkada island**	**0.09**	**175**	⇑Pg	**Pg**	**15 36 12.8**	**-0.4**
LKD2				Sg	**Sg**	**15 36 14.7**	**-0.6**
LKD2				AML	AML	15 36 19.2	
	37nm,0.7s						
LKD2				AMd		15 36 57.7	
LKD2	**Lefkada island**	**0.09**	**175**	P	**Pg**	**15 36 12.9**	**-0.2**
LKD2				S	**Sg**	**15 36 15.4**	**+0.1**
	10μm,0.6s						
LKD2	**Lefkada island**	**0.09**	**175**	P	**Pg**	**15 36 13.0**	**-0.2**
LKD2				S	**Sb**	**15 36 15.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.17**	**167**	P	**Pg**	**15 36 14.1**	**0.0**
NYDR				S	**Sb**	**15 36 17.6**	**-0.2**
	6μm,0.3s						
EVGI	**Lefkada island**	**0.26**	**178**	P	**Pg**	**15 36 15.6**	**+0.1**
EVGI				S	**Sg**	**15 36 19.9**	**+0.5**
	5μm,0.2s						
EVGI	**Lefkada island**	**0.26**	**178**	P	**Pg**	**15 36 15.6**	**+0.1**
EVGI				S	**Sg**	**15 36 19.9**	**+0.5**
ART2	**Arta**	**0.38**	**45**	P	**Pg**	**15 36 16.7**	**-0.9**
ART2				S	**Sg**	**15 36 22.6**	**-0.2**
FSK	**Fiskardo**	**0.43**	**189**	P	**Pg**	**15 36 18.2**	**-0.2**
FSK				S	**Sb**	**15 36 25.0**	**-0.1**
	1μm,0.4s						
FSK	**Fiskardo**	**0.43**	**189**	P	**Pg**	**15 36 17.8**	**-0.6**
FSK				S	**Sb**	**15 36 24.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.68**	**199**	P	**Pg**	**15 36 22.7**	**-0.4**
DMLN				S	**Sb**	**15 36 32.8**	**+0.4**
	935nm,0.4s						
IGT	**Igoumenitsa**	**0.69**	**340**	⇓Pg	**Pg**	**15 36 22.5**	**-0.9**
IGT				Sg	**Sb**	**15 36 33.5**	**+0.5**
IGT				AMd		15 38 03.8	
IGT	**Igoumenitsa**	**0.69**	**340**	P	**Pg**	**15 36 21.9**	**-1.5**
IGT				S	**Sb**	**15 36 32.9**	**0.0**
IGT	**Igoumenitsa**	**0.69**	**340**	P	**Pg**	**15 36 22.2**	**-1.2**
IGT				S	**Sg**	**15 36 31.7**	**-0.9**
VLS	**Valsamata**	**0.70**	**184**	P	**Pg**	**15 36 23.0**	**-0.6**
VLS				S	**Sg**	**15 36 32.4**	**-0.5**
ARG2	**Argostoli**	**0.71**	**190**	P	**Pg**	**15 36 23.3**	**-0.5**
ARG2				S	**Sg**	**15 36 33.2**	**+0.1**
LFKM	**Lefkimmi**	**0.72**	**321**	P	**Pg**	**15 36 23.6**	**-0.4**
LFKM				S	**Sb**	**15 36 34.0**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.77**	**184**	P	**Pg**	**15 36 24.1**	**-0.6**
PSDA				S	**Sb**	**15 36 36.2**	**+1.2**
	1μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.77**	**184**	P	**Pg**	**15 36 24.1**	**-0.6**
JAN	**Janina**	**0.79**	**11**	P	**Pb**	**15 36 25.0**	**-0.2**
JAN				S	**Sb**	**15 36 36.1**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.81**	**173**	P	**Pg**	**15 36 24.7**	**-0.9**
RTZL				S	**Sb**	**15 36 36.7**	**+0.5**
	412nm,0.3s						
EVR	**Evrytania**	**0.91**	**87**	P	**Pn**	**15 36 28.2**	**+0.2**
EVR				S	**Sn**	**15 36 40.2**	**-0.6**
YRMI	**Loutra Irminis**	**0.95**	**144**	P	**Pb**	**15 36 27.7**	**-0.2**
YRMI				S	**Sg**	**15 36 41.3**	**+0.5**
ANX	**Ano Chora**	**1.04**	**106**	P	**Pb**	**15 36 28.9**	**-0.5**
ANX				S	**Sg**	**15 36 43.7**	**+0.2**
	505nm,0.4s						
ANX	**Ano Chora**	**1.04**	**106**	P	**Pb**	**15 36 29.1**	**-0.4**
RLS	**Riolos of Patr**	**1.04**	**142**	P	**Pb**	**15 36 29.0**	**-0.4**
RLS				S	**Sg**	**15 36 43.8**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**1.06**	**159**	P	**Pb**	**15 36 29.5**	**-0.3**
KEK	**Kerkira**	**1.06**	**322**	P	**Pn**	**15 36 29.8**	**-0.2**
KEK				S	**Sg**	**15 36 43.4**	**-0.7**
KYPS	**Kipseli, Zakin**	**1.07**	**172**	P	**Pb**	**15 36 29.8**	**-0.1**
EFP	**Efpalio**	**1.08**	**114**	P	**Pb**	**15 36 29.4**	**-0.8**
EFP				S	**Sg**	**15 36 44.8**	**-0.2**
	695nm,0.7s						
EFP	**Efpalio**	**1.08**	**114**	P	**Pb**	**15 36 29.9**	**-0.3**
EFP				S	**Sb**	**15 36 44.5**	**+0.4**
SRN	**Sarande**	**1.12**	**334**	P	**Pg**	**15 36 32.1**	**+0.7**
SRN				Sg	**Sn**	**15 36 48.4**	**+2.6**
SRN				AML	AML	15 36 57.8	
	0.5nm,0.6s						
SRN				AMd		15 38 11.8	
MAKR	**Makrakomi, Fth**	**1.17**	**83**	P	**Pn**	**15 36 31.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.17**	**83**	P	**Pb**	**15 36 31.7**	**+0.1**
MAKR				S	**Sg**	**15 36 47.9**	**+0.3**
LTHK	**Lithakia**	**1.18**	**173**	P	**Pn**	**15 36 30.5**	**-1.1**
LTHK	**Lithakia**	**1.18**	**173**	P	**Pn**	**15 36 30.5**	**-1.1**
LTHK				S	**Sg**	**15 36 47.9**	**-0.1**
SERG	**Sergoula**	**1.20**	**113**	P	**Pn**	**15 36 31.7**	**-0.3**
SERG				S	**Sg**	**15 36 49.0**	**+0.4**
KPRO	**Kipourio**	**1.21**	**27**	P	**Pn**	**15 36 31.2**	**-0.9**
KPRO	**Kipourio**	**1.21**	**27**	P	**Pb**	**15 36 32.0**	**-0.3**
DRO	**Drossia**	**1.25**	**138**	P	**Pn**	**15 36 31.6**	**-1.0**
DRO	**Drossia**	**1.25**	**138**	P	**Pn**	**15 36 32.4**	**-0.3**
DRO				S	**Sg**	**15 36 50.2**	**0.0**
THL	**Klokotos Trika**	**1.26**	**57**	P	**Pn**	**15 36 32.7**	**-0.1**
THL				S	**Sn**	**15 36 49.6**	**+0.2**
KALE	**Kalithea**	**1.27**	**112**	P	**Pb**	**15 36 33.4**	**+0.1**
LSK	**Leskovik**	**1.27**	**358**	⇓Pg	**Pg**	**15 36 34.1**	**-0.2**
LSK				Sg	**Sg**	**15 36 51.9**	**+1.1**
LSK				AML	AML	15 37 08.2	
	2.1nm,0.6s						
ALIK	**Aliki, Aigiali**	**1.30**	**118**	P	**Pn**	**15 36 32.3**	**-1.0**
PENT	**Pentalofos**	**1.37**	**16**	P	**Pg**	**15 36 35.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.45**	**125**	P	**Pn**	**15 36 35.5**	**+0.1**
NEST	**Nestorio**	**1.56**	**11**	⇓Pg	**Pg**	**15 36 39.5**	**-0.4**
NEST				Sn	**Sg**	**15 37 01.1**	**+0.9**
NEST				AML	AML	15 37 09.8	
	0.6nm,0.7s						
NEST				AMd		15 38 29.6	
NEST	**Nestorio**	**1.56**	**11**	P	**Pn**	**15 36 37.1**	**+0.1**
AXAR	**Agios Charalam**	**1.58**	**94**	P	**Pn**	**15 36 36.0**	**-1.1**
AXAR	**Agios Charalam**	**1.58**	**94**	P	**Pn**	**15 36 36.9**	**-0.3**
AMT	**Artemida-Makis**	**1.58**	**148**	P	**Pn**	**15 36 37.9**	**+0.6**
GUR	**Goura**	**1.63**	**125**	P	**Pn**	**15 36 38.5**	**+0.5**
KZN	**Kozani**	**1.67**	**31**	P	**Pn**	**15 36 38.8**	**+0.3**
LKR	**Lokris**	**1.85**	**96**	P	**Pn**	**15 36 41.6**	**+0.7**
LIT	**Litokhoron**	**1.88**	**49**	P	**Pn**	**15 36 41.5**	**+0.3**
ITM	**Ithomi**	**1.98**	**149**	P	**Pn**	**15 36 43.9**	**+1.3**
FNA	**Florina**	**1.98**	**16**	P	**Pg**	**15 36 46.7**	**-1.1**
FNA				Sn	**Sg**	**15 37 14.1**	**+0.5**
FNA				AML	AML	15 37 28.7	
	0.6nm,0.5s						
FNA				AMd		15 38 31.5	
FNA	**Florina**	**1.98**	**16**	P	**Pn**	**15 36 43.2**	**+0.4**
LTK	**Loutraki**	**2.01**	**114**	P	**Pn**	**15 36 42.8**	**-0.3**
PLG	**Polygyros**	**2.62**	**55**	P	**Pn**	**15 36 51.6**	**+0.1**
VLY	**Voula,Athens**	**2.68**	**112**	P	**Pn**	**15 36 53.5**	**+1.3**
TIP	**Timpagrande**	**3.04**	**277**	P	**Pn**	**15 36 56.8**	**-0.5**
KOKK	**Kokkinochori,**	**3.23**	**52**	P	**Pn**	**15 36 59.9**	**+0.1**

IDC 06 15:46:26.5±2.1,2°.54N×128°.13E,h0km,mb3.3/4, mbtmp3.3/4,MS3.5/1,Error ellipse: s-maj=178.3km s-min=22.6km az=68.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.16**	**165**	P	P	15 51 35.6	+0.7
	0.3nm,0.4s,baz=344,slow=10,SNR=1.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**26.65**	**168**	P	P	15 52 06.3	-0.9
	0.1nm,0.4s,baz=353,slow=7.7,SNR=7.1						
	0.1nm,0.4s						
HNR	**Honiara**	**33.86**	**111**	LR	LR	16 08 07.4	
	comp=Z,72nm,18.2s,baz=29,slow=38						
MKAR	**Makanchi Array**	**59.32**	**325**	P	P	15 56 30.7	+0.3
	0.2nm,0.4s,baz=117,slow=8.3,SNR=6.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.49**	**327**	P	P	15 56 58.4	0.0
	0.5nm,0.7s,baz=129,slow=6.4,SNR=5.6						
	0.5nm,0.7s						

IDC 06 15:48:57.5±333.0,23°.21S×69°.70W,h0km,Error ellipse: s-maj=133.8km s-min=117.4km az=146.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**7.05**	**10**	I	I	16 31 40.0	
	baz=187,slow=331,SNR=3.0						
I41PY	**VILLA FLORIDA**	**11.68**	**108**	I	I	17 15 00.0	
	baz=280,slow=313,SNR=4.4						
I14CL	**ROBINSON CRUSO**	**13.12**	**216**	I	I	17 10 00.0	
	0.1nm,0.5s,baz=38,slow=326,SNR=1.6						
I20EC	**Galapagos**	**30.14**	**315**	I	I	18 52 20.0	
	baz=140,slow=314,SNR=1.5						
I13CL	**EASTER ISLAND**	**36.01**	**255**	I	I	19 28 00.0	
	baz=91,slow=314,SNR=1.2						

*NDI **06** 16:21:22.5±2.9,23°.66N×94°.51E,h25km,ML3.7,MW3.7, mb4.4(NEIC)*
*NEIC **06** 16:21:25.1±1.7,23°.90N±0°.05×94°.33E±0°.08,h34km±5km, mb4.4/34,Error ellipse: s-maj=10.5km s-min=7.7km az=69.0*
*IDC **06** 16:21:26.5±1.9,23°.78N×94°.30E,h50km±20km,mb3.7/17, mbtmp4.0/19,ML4.2/2,Error ellipse: s-maj=15.9km s-min=12.9km az=49.0*
ISC 06 16:21:25.4±1.0,23°.81N±0°.05×94°.22E±0°.05,h42km±10km, n86,σ1s70/105,mb4.2/32,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.05**	**346**	*e*P	**Pn**	**16 21 44.2**	**+0.4**
IMP				*e*S	**Sn**	**16 21 60.0**	**+2.6**
IMP				IAML		16 22 02.9	
	comp=E,1μm,1.2s						
IMP				IAML		16 22 08.7	
	comp=E,727nm,0.4s						
AZL	**Aizawl**	**1.41**	**268**	*e*P	**Pn**	**16 21 50.8**	**+2.1**
AZL				*e*S	**Sn**	**16 22 13.3**	**+7.2**
KOHI	**KOHIMA**	**1.91**	**357**	*e*P	**Pn**	**16 21 56.9**	**+1.2**
KOHI				*e*S	**Sn**	**16 22 22.7**	**+4.2**
KOHI				IAML		16 22 37.1	
	comp=E,680nm,0.7s						
KOHI				IAML		16 22 38.1	
	comp=E,851nm,0.7s						
BRDH	**Bariadhala**	**2.63**	**245**	P	**Pn**	**16 22 07.8**	**+2.5**
	comp=E,86nm,0.3s,baz=285,slow=18,SNR=6.6						
BRDH				S	**Sn**	**16 22 38.6**	**+2.6**
	comp=E,141nm,0.3s,baz=76,slow=23,SNR=4.6						
	comp=E,177nm,0.3s						
SHL	**Shillong**	**2.76**	**310**	Pn	**Pn**	**16 22 07.9**	**+0.6**
SHL	**Shillong**	**2.76**	**310**	*e*P	**Pn**	**16 22 08.3**	**+1.0**
SHL				*e*S	**Sn**	**16 22 39.8**	**+0.3**

baz=304,slow=0.0
KKN Sn **Sn** **16 25 10.8 -2.0**
comp=Z,18nm,0.3s,baz=304,slow=0.0
SLVN Son La 9.28 103 Pn **Pn** **16 23 38.0 +1.2**
GKN Gorkha 9.59 298 Pn **Pn** **16 23 40.6 -0.5**
baz=303,slow=0.0
GKN Sn **Sn** **16 25 23.5 -4.1**
comp=Z,28nm,0.2s,baz=303,slow=0.0
KOLN Koldanda 10.35 295 Pn **Pn** **16 23 50.6 -1.0**
baz=300,slow=0.0
KOLN Sn **Sn** **16 25 41.3 -5.1**
comp=Z,28nm,0.5s,baz=300,slow=0.0
DANN Dangsing 10.44 298 Sn **Sn** **16 25 44.5 -4.1**
comp=Z,21nm,0.4s,baz=303,slow=0.0
PYUN Piuthan 10.97 295 Pn **Pn** **16 23 58.2 -1.9**
baz=300,slow=0.0
PYUN Sn **Sn** **16 25 56.6 -5.0**
comp=Z,20nm,0.5s,baz=300,slow=0.0
GOMU GeErMu 12.36 2 P **Pn** **16 24 17.3 -1.8**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
LZH Lanzhou 14.80 32 *eP* **P** **16 24 57.1 -0.2**
LZH pmax pmax
comp=Z,19nm,1.3s
GTA Gaotai 16.26 16 *eP* **P** **16 25 14.2 +0.7**
GTA pP pP 16 25 19.8 -3.9
GTA pmax pmax
comp=Z,2.0nm,0.9s
NIL Nilore 20.81 303 **P** **16 26 03.4 +0.1**
NIL IAmb IAmb 16 26 23.9
comp=Z,7.2nm,0.7s
WUS Wushi 21.41 328 P **P** **16 26 08.7 -1.2**
WUS IAmb IAmb 16 26 16.1
comp=Z,8.5nm,0.7s
MK31 Makanchi Array 24.86 340 P **P** **16 26 44.2 +0.2**
MKAR Makanchi Array 24.86 340 P **P** **16 26 42.7 -1.3**
MKAR Makanchi Array 24.86 340 P **P** **16 26 45.0 +1.1**
comp=Z,1.7nm,0.5s,baz=157,slow=9.2,SNR=50
MKAR PcP **PcP** **16 30 19.4 +0.2**
comp=Z,0.2nm,0.5s,baz=218,slow=2.3,SNR=1.7
comp=Z,1.7nm,0.5s
AAK Ala-Archa 24.89 324 P **P** **16 26 45.9 +1.3**
MAKZ Makanchi 24.97 340 P **P** **16 26 44.6 -0.3**
GAR Garm 25.31 312 P **P** **16 26 47.9 -0.4**
BTK Batken 25.52 315 P **P** **16 26 50.6 +0.5**
BTK IAmb IAmb 16 26 57.3
comp=Z,4.9nm,0.6s
SONM Songino Array 25.86 19 P **P** **16 26 53.2 0.0**
SONM Songino Array 25.86 19 P **P** **16 26 54.3 +1.1**
comp=Z,1.4nm,0.7s,baz=196,slow=9.7,SNR=15
comp=Z,1.4nm,0.7s
SIMJ Simiganj 26.04 311 P **P** **16 26 55.5 +0.6**
KURBB Kurchatov Arra 29.42 339 P **P** **16 27 25.6 +0.8**
comp=Z,0.4nm,0.3s,baz=156,slow=8.0,SNR=11
KURBB PcP **PcP** **16 30 29.7 -0.2**
comp=Z,0.5nm,0.7s,baz=170,slow=2.7,SNR=5.6
comp=Z,0.4nm,0.3s
ZAA0 Zalesovo Array 30.92 349 P **P** **16 27 38.6 +0.6**
ZALV Zalesovo Beam 30.92 349 P **P** **16 27 37.6 -0.5**
ZALV Zalesovo Beam 30.92 349 P **P** **16 27 38.9 +0.9**
comp=Z,1.3nm,0.4s,baz=177,slow=9.8,SNR=8.7
comp=Z,1.3nm,0.4s
BVAR Borovoye Array 34.32 334 P **P** **16 28 07.9 +0.1**
comp=Z,0.7nm,0.5s,baz=141,slow=11,SNR=6.7
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 36.96 322 P **P** **16 28 31.2 +0.7**
MAJO Matsushiro 39.76 61 P **P** **16 28 53.6 -0.6**
MJAR Matsushiro Arr 39.77 61 P **P** **16 28 53.3 -1.0**
comp=Z,0.9nm,0.7s,baz=275,slow=8.6,SNR=4.2
comp=Z,0.9nm,0.7s
ARTI Arti 41.71 331 P **P** **16 29 10.0 +0.1**
ARTI IAmb IAmb 16 29 26.6
comp=Z,8.6nm,1.4s
SOEI Soe 44.44 135 P **P** **16 29 32.0 -0.7**
KNRA Kununurra 51.76 136 P **P** **16 30 29.0 0.0**
AKASG Malin Array Be 56.23 316 P **P** **16 31 00.9 -0.3**
comp=Z,0.5nm,0.4s,baz=81,slow=6.4,SNR=7.6
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 56.23 316 P **P** **16 31 00.7 -0.6**
AKBB IAmb IAmb 16 31 14.8
comp=Z,2.9nm,0.8s
KIEV Kiev 56.23 316 P **P** **16 31 00.5 -0.8**
KIEV IAmb IAmb 16 31 14.8
comp=Z,2.7nm,0.8s
WB0 Warramunga Arr 58.38 134 P **P** **16 31 16.0 -0.8**
WRA Warramunga Arr 58.48 135 P **P** **16 31 16.5 -1.0**
comp=Z,1.6nm,0.7s,baz=322,slow=7.4,SNR=14
comp=Z,1.6nm,0.7s
WB2 Warramunga Ar 58.48 135 P **P** **16 31 17.7 +0.1**
FINES FINESS Array B 58.95 329 P **P** **16 31 22.3 +2.1**
comp=Z,0.6nm,0.7s,baz=8.5,slow=11,SNR=1.0
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 60.48 338 P **P** **16 31 31.5 +0.8**
comp=Z,1.2nm,0.8s,baz=83,slow=5.0,SNR=1.0
comp=Z,1.2nm,0.8s
AS31 Alice Springs 60.91 138 P **P** **16 31 34.2 -0.1**
ASAR Alice Springs 60.91 138 P **P** **16 31 34.3 0.0**
comp=Z,0.9nm,0.6s,baz=316,slow=6.3,SNR=36
comp=Z,0.9nm,0.6s
SPITS Spitsbergen Ar 64.37 347 P **P** **16 31 57.2 +0.6**
comp=Z,8.3nm,0.9s,baz=114,slow=10,SNR=5.4
comp=Z,8.3nm,0.9s
VOI Vohitsoka 64.75 229 P **P** **16 31 60.0 +0.1**
HFS Hagfors 64.98 327 P **P** **16 32 00.4 -0.3**
comp=Z,2.4nm,0.9s,baz=91,slow=12,SNR=5.3
comp=Z,2.4nm,0.9s
NOA NORSAR Array B 66.12 328 P **P** **16 32 07.2 -0.9**
comp=Z,0.5nm,0.7s,baz=81,slow=8.5,SNR=3.3
comp=Z,0.5nm,0.7s
GERES GERESS Array B 66.36 315 P **P** **16 32 10.3 +0.3**
comp=Z,0.5nm,0.6s,baz=94,slow=6.8,SNR=2.3
comp=Z,0.5nm,0.6s
C16K Lisburne Hills 71.89 23 P **P** **16 32 43.4 -0.4**
C16K IAmb IAmb 16 33 15.6
comp=Z,5.1nm,1.4s
C18K Utukok River 73.20 22 P **P** **16 32 51.5 -0.2**
C18K IAmb IAmb 16 33 11.5
comp=Z,6.1nm,1.4s
B22K Teshekpuk Lake 74.94 19 P **P** **16 33 01.1 -0.5**
B22K IAmb IAmb 16 33 12.9
comp=Z,7.8nm,1.5s
H18K Honhosa River 75.64 25 P **P** **16 33 04.7 -1.1**
H18K IAmb IAmb 16 33 34.7
comp=Z,6.4nm,1.4s
F20K Avaraart Lake 75.75 22 P **P** **16 33 05.9 -0.5**
F20K IAmb IAmb 16 33 29.7
comp=Z,3.6nm,1.2s
C23K Itkillik River 76.03 19 P **P** **16 33 07.5 -0.4**
C23K IAmb IAmb 16 33 23.0
comp=Z,8.1nm,1.4s
H21K Melozitna Rive 77.46 23 P **P** **16 33 15.2 -0.9**
H21K IAmb IAmb 16 33 40.2
comp=Z,5.4nm,1.3s
BMAR Burnt Mountain 79.22 20 P **P** **16 33 26.9 +1.1**
H29M Whitestone 81.88 19 P **P** **16 33 38.4 -1.7**
H29M IAmb IAmb 16 33 54.9
comp=Z,7.2nm,1.4s
LBTB Lobatse 82.30 238 P **P** **16 33 44.1 +1.1**
LBTB IAmb IAmb 16 33 45.0
comp=Z,4.4nm,0.6s
H31M Peel River 83.34 18 P **P** **16 33 46.7 -1.0**
H31M IAmb IAmb 16 33 50.9
comp=Z,8.3nm,1.4s
BOSA Boshof 84.39 236 P **P** **16 33 54.0 +0.2**
BOSA Boshof 84.39 236 P **P** **16 33 55.0 +1.2**
comp=Z,7.0nm,0.8s,baz=46,slow=3.1,SNR=14
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 87.06 283 P **P** **16 34 08.5 +1.3**
comp=Z,0.8nm,0.8s,baz=51,slow=6.6,SNR=4.0
comp=Z,0.8nm,0.8s
BELA Belgrano 2 120.92 191 PKPdf **PKPdf** **16 40 11.2 -1.0**

---

*JMA **06** 16:29:00.1±0.2,24°N±1°×12°5E±°, h45km±4km, MV2.9/14, NEAR ISHIGAKIJIMA ISLAND*
ISC 06 16:28:57.5±1.9, 23°92N±0°.10×124°64E±0°.05, h17km±15km, n21, σ0°86/29, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.63**	**314**	P	**Pg**	**16 29 10.2**	**+0.3**
JIJ				S	**Sg**	**16 29 17.6**	**-0.8**
JKRS	**Kuro-shima**	**0.66**	**299**	P	**Pg**	**16 29 11.3**	**+0.9**
JKRS				*e*S	**Sg**	**16 29 19.7**	**+0.6**
JTJ	**Tarama**	**0.72**	**5**	P	**Pg**	**16 29 12.2**	**+0.6**
JTJ				S	**Sg**	**16 29 21.0**	**-0.2**
JISG	**Ishigakijimahi**	**0.73**	**336**	P	**Pg**	**16 29 11.3**	**-0.4**
JISG				*e*S	**Sg**	**16 29 20.1**	**-1.3**
HATJ	**Hateruma jima**	**0.78**	**280**	*e*P	**Pg**	**16 29 13.2**	**+0.7**
HATJ				*e*S	**Sg**	**16 29 23.3**	**+0.4**
IRIF	**Iriomote-Funau**	**0.93**	**297**	P	**Pg**	**16 29 14.9**	**-0.6**
IRIF				S	**Sg**	**16 29 26.5**	**-1.2**
JIRB	**Irabujima**	**1.03**	**28**	*e*P	**Pg**	**16 29 16.8**	**-0.5**
JIRB				*e*S	**Sg**	**16 29 30.3**	**-0.5**
JMJ2	**Miyako jima3**	**1.03**	**37**	*e*P	**Pg**	**16 29 17.6**	**+0.1**
JMJ2				*e*S	**Sg**	**16 29 30.8**	**-0.2**
JMJ	**Miyako jima 2**	**1.07**	**34**	P	**Pb**	**16 29 17.1**	**-0.5**
JMJ	**Miyako jima 2**	**1.07**	**34**	S	**Sg**	**16 29 33.2**	**+0.9**
JOGS	**Gusukube**	**1.09**	**40**	*e*P	**Pb**	**16 29 18.8**	**+0.9**
JIKM	**Ikemajima**	**1.14**	**29**	*e*P	**Pb**	**16 29 18.8**	**0.0**
YOJ	**Yonaguni jima**	**1.58**	**290**	P	**Pn**	**16 29 26.7**	**+2.0**
YOJ	**Yonaguni jima**	**1.58**	**290**	*e*P	**Pn**	**16 29 24.3**	**-0.4**
JYNG	**Yonagunijimaku**	**1.63**	**289**	*e*P	**Pn**	**16 29 24.9**	**-0.6**
NACB	**Ninganchiao**	**2.79**	**276**	P	**Pn**	**16 29 42.3**	**+0.9**
YHNB	**Yeheng**	**3.07**	**285**	P	**Pn**	**16 29 46.0**	**+0.7**
YULB	**Yu-li**	**3.11**	**261**	P	**Pn**	**16 29 44.6**	**-1.2**
SSLB	**Suanglung**	**3.38**	**269**	P	**Pn**	**16 29 49.3**	**-0.2**
TWGBT	**Beinan**	**3.45**	**252**	P	**Pn**	**16 29 48.9**	**-1.6**
TPUB	**Ta-pu**	**3.73**	**261**	P	**Pn**	**16 29 54.9**	**+0.6**

---

*IDC **06** 16:30:11.9±1.5, 41°45N×83°77E, h0km, mb3.6/1, mbtmp3.5/7, ML3.0/6, MS3.2/4, Error ellipse: s-maj=23.1km s-min=14.4km az=66.0*
*SOME **06** 16:30:14.2, 41°40N×83°65E, h5km*
*NNC **06** 16:30:17.1±0.8, 41°46N×83°57E, h12km±4km, mb4.5, mpv4.3, Error ellipse: s-maj=5.6km s-min=3.7km az=151.0*
ISC 06 16:30:15.9±0.9, 41°50N±0°.05×83°62E±0°.03, h10km, n55, σ2°55/53, 10C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.50**	**300**	Pg	**Pb**	**16 31 15.9**	**-2.1**
	166nm,0.5s						
SHLS				Lg	Lg	16 32 00.7	
	307nm,0.5s						
SHLS	**Shalkode**	**3.50**	**300**	*e*P	**Pb**	**16 31 15.9**	**-2.1**
	56nm,0.2s						
SHLS				*e*S	**Sb**	**16 32 00.4**	**-0.2**
	307nm,0.5s						
UZB	**Uzynbulak**	**3.79**	**297**	Pg	**Pb**	**16 31 25.9**	**+3.1**
	35nm,0.4s						
UZB				Lg	Lg	16 32 17.7	
	114nm,0.3s						
UZB	**Uzynbulak**	**3.79**	**297**	*e*P	**Pb**	**16 31 25.9**	**+3.1**
	25nm,0.3s						
UZB				*e*S	**Sg**	**16 32 17.7**	**+0.3**
	107nm,0.3s						
DJR	**Jarkent**	**3.99**	**316**	Pg	**Pb**	**16 31 29.6**	**+3.3**
	45nm,0.2s						
DJR				Lg	Lg	16 32 23.6	
	111nm,0.7s						
DJR	**Jarkent**	**3.99**	**316**	*e*P	**Pb**	**16 31 29.6**	**+3.3**
	45nm,0.2s						
DJR				*e*S	**Sg**	**16 32 23.6**	**-0.4**
	102nm,0.4s						
KPKS	**Kokpek**	**4.15**	**300**	Pg	**Pb**	**16 31 32.2**	**+3.2**
	28nm,0.4s						
KPKS				Lg	Lg	16 32 28.7	
	119nm,0.5s						
KPKS	**Kokpek**	**4.15**	**300**	*e*P	**Pb**	**16 31 32.2**	**+3.2**
	29nm,0.2s						
KPKS				*e*S	**Sg**	**16 32 28.2**	**-0.8**
	138nm,0.3s						
KPKS	**Kokpek**	**4.15**	**300**	*e*P	**Sn**	**16 32 08.0**	**+0.1**
	9.4nm,0.5s						
KPKS				*e*S		16 33 30.0	
	74nm,0.6s						
SATY	**Saty**	**4.17**	**294**	Pg	**Pb**	**16 31 32.1**	**+2.7**
	102nm,0.6s						
SATY				Lg	Lg	16 32 28.1	
	144nm,0.4s						
ZHN	**Zhinishke**	**4.19**	**295**	Pg	**Pb**	**16 31 33.4**	**+3.6**
	37nm,0.4s						
ZHN				Lg	Lg	16 32 30.5	
	160nm,0.2s						
ZHN	**Zhinishke**	**4.19**	**295**	*e*P	**Pb**	**16 31 33.4**	**+3.6**
	13nm,0.1s						
ZHN				*e*S	**Sg**	**16 32 30.5**	**+0.1**
	160nm,0.2s						
KNOS	**Konyrlen**	**4.34**	**313**	Pg	**Pb**	**16 31 35.6**	**+3.4**
	38nm,0.6s						
KNOS				Lg	Lg	16 32 34.2	
	89nm,0.5s						
KURS	**Kuram**	**4.49**	**298**	Pg	**Pb**	**16 31 38.3**	**+3.4**
	36nm,0.6s						
KURS				Lg	Lg	16 32 38.9	
	51nm,0.9s						
BLB	**Baldybastay**	**4.59**	**306**	Pg	**Pb**	**16 31 40.8**	**+4.3**
	111nm,0.4s						
BLB				Lg	Lg	16 32 43.4	
	73nm,0.6s						
ARXS	**Arharly**	**5.05**	**304**	Pg	**Pb**	**16 31 48.7**	**+4.3**
	1.5nm,0.1s						
ARXS				Lg	Lg	16 32 56.6	
	93nm,0.9s						
MDOK	**Medeo**	**5.15**	**291**	⇑Pn	**Pn**	**16 31 34.4**	**+1.2**
	6.9nm,0.4s						
MDOK				Pg	**Pb**	**16 31 50.0**	**+3.9**
	45nm,0.7s						
MDOK				⇑Pg	**Pg**	**16 31 50.7**	**-3.8**
	41nm,0.6s						
MDOK				Lg	Lg	16 32 59.0	
	57nm,0.5s						
MDOK				Lg	Lg	16 33 01.9	
	108nm,0.8s						
MDOK	**Medeo**	**5.15**	**291**	*e*P	**Pb**	**16 31 50.0**	**+3.9**
	22nm,0.5s						
MDOK				*e*S	**Sg**	**16 32 59.0**	**-2.1**
	57nm,0.5s						
TDK	**Taldyqorghan**	**5.17**	**314**	Pg	Pb	16 31 51.3	+4.9
	83nm,0.5s						
TDK				Lg	Lg	16 33 01.0	
	278nm,1.1s						
TDK	**Taldyqorghan**	**5.17**	**314**	*e*P	Pb	16 31 51.3	+4.9
	51nm,0.3s						
TDK				*e*S	**Sg**	**16 33 01.0**	**-0.9**
	278nm,1.1s						
TNSS	**Tian-Shan**	**5.18**	**289**	Pg	**Pb**	**16 31 50.9**	**+4.0**
	18nm,0.5s						
TNSS				Lg	Lg	16 33 00.6	
	23nm,0.6s						
TNSS	**Tian-Shan**	**5.18**	**289**	*e*P	**Pb**	**16 31 50.9**	**+4.0**
	18nm,0.5s						
TNSS				*e*S	**Sg**	**16 33 00.6**	**-1.7**
	23nm,0.6s						
MK31	**Makanchi Array**	**5.38**	**350**	Pn	**Pn**	**16 31 37.5**	**+1.3**
	0.2nm,0.2s,baz=168,slow=13,SNR=95						
MK31				⇑Pg	Pb	16 31 55.1	+5.2
	7.2nm,0.5s,baz=168,slow=16,SNR=15						
MK31				⇓Lg	Lg	16 33 11.0	
	64nm,0.6s,baz=163,slow=26,SNR=10						
MKAR	**Makanchi Array**	**5.38**	**350**	Pn	**Pn**	**16 31 37.4**	**+1.1**
	0.5nm,0.3s,baz=168,slow=15,SNR=23						
MKAR				Pg	**Pb**	**16 31 50.9**	**+0.9**
	1.6nm,0.3s,baz=166,slow=16,SNR=16						
MKAR				Sn	**Sn**	**16 32 38.8**	**+0.6**
	4.0nm,0.3s,baz=169,slow=15,SNR=5.3						
MKAR				Lg	Lg	16 33 04.7	
	6.6nm,0.3s,baz=161,slow=27,SNR=5.7						
MKAR				LR	LR	16 34 09.1	
	comp=Z,132nm,19.3s,baz=310,slow=44						
	0.6nm,0.3s						
MAKZ	**Makanchi**	**5.44**	**348**	⇑Pn	**Pn**	**16 31 38.5**	**+1.5**
	1.7nm,0.5s						
MAKZ				⇓Pg	Pb	16 31 56.3	+5.3
	6.2nm,0.6s						
MAKZ				⇑Lg	Lg	16 33 11.9	
	81nm,1.1s						
MTBS	**Maitube**	**5.58**	**289**	Pg	Pb	16 31 58.5	+5.1
	21nm,0.3s						
MTBS				Lg	Lg	16 33 13.3	
	42nm,0.5s						
MTBS	**Maitube**	**5.58**	**289**	*e*P	Pb	16 31 58.5	+5.1
	14nm,0.4s						
MTBS				*e*S	**Sg**	**16 33 13.2**	**-1.6**
	42nm,0.5s						
KTBS	**Karatobe**	**5.58**	**296**	Pg	Pb	16 31 58.8	+5.5
	17nm,0.5s						
KTBS				Lg	Lg	16 33 13.8	
	45nm,0.7s						
KST	**Kastek**	**5.89**	**288**	Pg	Pg	16 32 04.4	-4.2
	19nm,0.7s						
KST				Lg	Lg	16 33 23.4	
	59nm,0.5s						
KST	**Kastek**	**5.89**	**288**	*e*P	Pb	16 32 04.4	+5.8
	10nm,0.5s						
KST				*e*S	**Sg**	**16 33 23.4**	**-1.4**
	59nm,0.5s						
ZSN	**Zaisan**	**6.02**	**8**	Pg	**Pg**	**16 32 08.6**	**-2.5**
	16nm,0.4s						
ZSN				Lg	Lg	16 33 30.7	
	126nm,1.4s						
ZSN	**Zaisan**	**6.02**	**8**	*e*P	**Pg**	**16 32 08.6**	**-2.5**
	8.5nm,0.3s						
ZSN				*e*S	**Sg**	**16 33 30.7**	**+1.7**
	130nm,1.0s						
DGS	**Degeres**	**6.07**	**289**	Pg	Pg	16 32 08.0	-4.1
	17nm,0.5s						
DGS				Lg	Lg	16 33 30.0	
	74nm,0.6s						
TKM2	**Tokmak 2**	**6.12**	**286**	⇓Pn	**Pn**	**16 31 47.6**	**+1.0**
	7.2nm,0.5s						
TKM2				⇑Pg	Pb	16 32 08.7	+5.9
	16nm,0.6s						
TKM2				⇓Lg	Lg	16 33 32.0	
	44nm,0.7s						
KRBS	**Karabastau**	**6.26**	**293**	Pg	Pg	16 32 11.4	-4.3
	15nm,0.5s						
KRBS				Lg	Lg	16 33 35.4	
	27nm,0.3s						
AAK	**Ala-Archa**	**6.89**	**283**	Pn	**Pn**	**16 31 58.7**	**+1.7**
	0.8nm,0.3s,baz=116,slow=8.6,SNR=12						
AAK				Pg	**Pg**	**16 32 24.5**	**-3.1**
	0.9nm,0.3s,baz=114,slow=11,SNR=7.9						
AAK				Lg	Lg	16 33 53.8	
	1.3nm,0.3s,baz=328,slow=17,SNR=7.4						
AAK				LR	LR	16 34 39.0	
	comp=Z,69nm,21.5s,baz=273,slow=38						
	1.6nm,0.3s						
MRKS	**Merke**	**7.83**	**283**	Pg	Pg	16 32 40.2	-5.5
	6.7nm,0.6s						
MRKS				Lg	Lg	16 34 24.8	
	14nm,0.8s						
BTLS	**Baital**	**7.83**	**300**	Pg	Pg	16 32 41.0	-4.7
	10nm,0.4s						
BTLS				Lg	Lg	16 34 26.9	
	6.8nm,0.9s						
KURBB	**Kurchatov Arra**	**9.79**	**341**	Pn	**Pn**	**16 32 36.1**	**-0.4**
	0.1nm,0.3s,baz=161,slow=12,SNR=6.4						
KURBB				Sn	**Sn**	**16 34 26.1**	**-0.3**
	0.1nm,0.3s,baz=150,slow=20,SNR=4.3						
KURBB				Lg	Lg	16 35 26.9	
	0.3nm,0.3s,baz=155,slow=32,SNR=6.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**9.79**	**341**	⇑Pn	**Pn**	**16 32 36.7**	**+0.1**
	2.5nm,0.7s						
KURBB				⇑Lg	Lg	16 35 28.4	
	54nm,0.8s						
KK31	**Karatay Array**	**9.85**	**284**	⇑Lg	Lg	16 35 29.9	
	3.7nm,0.6s,baz=87,slow=28,SNR=3.6						
KURK	**Kurchatov**	**9.85**	**341**	⇓Pn	**Pn**	**16 32 38.5**	**+1.1**
	2.1nm,0.5s						
KURK				⇓Lg	Lg	16 35 30.3	
	36nm,0.9s						
IUG	**Iuzhnay**	**10.17**	**278**	Pg	Pn	16 33 23.2	+41
	11nm,0.5s						
IUG				Lg	Lg	16 35 39.1	
	33nm,1.0s						
GOMU	**GeErMu**	**10.21**	**118**	Pn	Pn	16 32 36.3	-6.4
GOMU				Sn	Sn	16 34 23.7	-14
GOMU				smax	smax		
	comp=N,31nm,1.2s						
GOMU				smax	smax		
	comp=E,23nm,1.0s						
BRLS	**Boroldoy**	**10.33**	**283**	Pg	Pn	16 33 28.2	+44
	comp=E,1.4nm,0.3s						
BRLS				Lg	Lg	16 35 46.0	
	comp=E,3.5nm,0.8s						
OTUK	**Ortayu**	**10.46**	**314**	Pg	Pn	16 33 29.8	+44
	comp=E,0.9nm,0.5s						
OTUK				Lg	Lg	16 35 50.6	
	comp=E,6.9nm,1.2s						
BRZS	**Berezniki**	**11.41**	**322**	Pg	Pn	16 33 48.1	+49
	comp=E,2.6nm,0.7s						
BRZS				Lg	Lg	16 36 21.5	
	comp=E,6.2nm,0.8s						
ZALV	**Zalesovo Beam**	**12.48**	**3**	Pn	**Pn**	**16 33 10.5**	**-2.9**
	comp=E,0.4nm,0.3s,baz=183,slow=14,SNR=8.5						
ZALV				Sn	Sn	16 35 23.6	-8.9
	comp=E,0.5nm,0.3s,baz=176,slow=23,SNR=7.1						
ZALV				Lg	Lg	16 36 49.7	
	baz=182,slow=30						
	comp=E,1.5nm,0.4s						
GTA	**Gaotai**	**12.51**	**94**	*e*P	Pn	16 33 10.1	-4.0
GTA				sP		16 33 23.4	
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0	**Borovoye Array**	**14.59**	**327**	⇑Pn	**Pn**	**16 33 42.7**	**+0.5**
	comp=Z,6.5nm,1.4s,baz=129,slow=7.0,SNR=13						
BVAR	**Borovoye Array**	**14.59**	**327**	Pn	**Pn**	**16 33 40.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=14						
BVAR				Sn	**Sn**	**16 36 24.2**	**+0.4**
	baz=121,slow=22,SNR=3.3						
BVAR				Lg	Lg	16 37 57.4	
	baz=129,slow=25,SNR=2.4						
	comp=Z,1.5nm,0.5s						
SONM	**Songino Array**	**17.36**	**61**	P	**Pn**	**16 34 15.1**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=246,slow=14,SNR=2.3						
	comp=Z,0.2nm,0.4s						
ARTI	**Arti**	**22.11**	**321**	LR	LR	16 44 22.9	
	comp=Z,156nm,20.2s,baz=303,slow=38						
CMAR	**Chiang Mai Arr**	**26.44**	**146**	P	**P**	**16 35 49.6**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=330,slow=9.9,SNR=6.1						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**77.08**	**132**	LR	LR	17 19 02.3	
	comp=Z,22nm,18.2s,baz=340,slow=38						

---

*PRE **06** 16:34:06.7±1.0, 26°19S×29°06E, h0km, ML1.5, Suspected explosion*
*IDC **06** 16:34:15.8±8.7, 26°20S×28°62E, h0km, mbtmp2.4/1, ML2.0/1, Error ellipse: s-maj=80.0km s-min=55.3km az=140.0*
ISC 06 16:34:05.9±1.0, 26°19S±0°.06×29°03E±0°.04, h0km, n8, σ1°66/12, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.91**	**78**	*e*P	**Pb**	**16 34 23.7**	**-1.0**
CRLN				*e*S	**Sg**	**16 34 35.1**	**-0.1**
CRLN				IAML		16 34 42.9	
	comp=Z,12nm,1.0s						
HRAO	**HartRAO**	**1.25**	**283**	*e*P	**Pn**	**16 34 31.2**	**+0.5**
HRAO				*e*S	**Sn**	**16 34 48.4**	**+0.1**
HRAO				IAML		16 34 53.6	
	comp=Z,11nm,0.2s						
PRYS	**Parys**	**1.67**	**243**	*e*P	**Pg**	**16 34 38.6**	**+0.7**
PRYS				*e*S	**Sg**	**16 35 01.2**	**+1.6**
PRYS				IAML		16 35 07.7	
	comp=Z,4.7nm,0.3s						
PILG	**Pilgrimsrest,**	**1.96**	**51**	*e*P	**Pb**	**16 34 42.4**	**-0.2**
PILG				*e*S	**Sg**	**16 35 08.0**	**-1.0**
PILG				IAML		16 35 10.6	
	comp=Z,12nm,0.7s						
LEPH	**Lephalale, Lim**	**2.57**	**334**	*e*P	**Pb**	**16 34 51.1**	**-1.9**
LEPH				*e*S	**Sn**	**16 35 22.6**	**+1.7**
LEPH				IAML		16 35 29.6	
	comp=Z,4.1nm,0.5s						
BOSA	**Boshof**	**4.14**	**233**	Pn	**Pb**	**16 35 16.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=48,slow=16,SNR=1.2						
BOSA				Sn	**Sn**	**16 36 01.5**	**+1.9**
	baz=210,slow=20,SNR=1.7						
BOSA				Lg	Lg	16 36 18.3	
	comp=Z,0.2nm,0.3s,baz=334,slow=18,SNR=1.3						
	comp=Z,0.9nm,0.7s						
I47ZA	**BOSHOF INFRASO**	**4.16**	**233**	I	I	16 59 50.0	
	baz=51,slow=339,SNR=1.5						
I35NA	**TSUMEB INFRASO**	**12.65**	**301**	I	I	17 50 20.0	
	baz=129,slow=318,SNR=1.3						

---

*MOS **06** 16:42:54.5±0.9, 36°50N×70°44E, h218km, mb4.1/20, Error ellipse: s-maj=7.7km s-min=4.1km az=82.7*
*IDC **06** 16:42:55.4±0.6, 36°39N×70°40E, h214km±5km, mb3.6/21, mbtmp4.2/26, Error ellipse: s-maj=9.9km s-min=9.0km az=30.0*
*NEIC **06** 16:42:56.0±1.6, 36°51N±0°.06×70°36E±0°.08, h216km±4km, mb4.2/44, Error ellipse: s-maj=9.8km s-min=6.9km*

az=127.0
*NNC **06** 16:42:59.6±3.1,36°.87N×70°.52E,h208km±27km,mb3.8, mpv4.8,Error ellipse: s-maj=31.5km s-min=11.0km az=32.0*
ISC 06 16:42:54.7±0.4,36°.45N±0°.04×70°.51E±0°.04,h208km±4km, h208km:pP-P,n238,σ19.80/279,mb4.1/48,7C-8D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.25**	**213**	Pn	**Pn**	**16 43 37.7**	**+1.1**
KBL	**Kabul**	**2.25**	**213**	P	**Pn**	**16 43 38.0**	**+1.4**
	SNR=277						
KBL				S	**S**	**16 44 09.2**	**+0.4**
KBL	**Kabul**	**2.25**	**213**	PN	**Pn**	**16 43 37.7**	**+1.1**
SIMJ	**Simiganj**	**2.51**	**332**	Pn	**Pn**	**16 43 39.3**	**+0.1**
GAR	**Garm**	**2.55**	**357**	Pn	**Pn**	**16 43 40.2**	**+0.5**
DRK	**Karamyk**	**3.19**	**18**	Pn	**Pn**	**16 43 48.4**	**+1.1**
DRK	**Karamyk**	**3.19**	**18**	PN	**Pn**	**16 43 48.4**	**+1.1**
NIL	**Nilore**	**3.58**	**140**	Pn	**Pn**	**16 43 54.5**	**+2.8**
NIL	**Nilore**	**3.58**	**140**	P	**Pn**	**16 43 55.2**	**+3.4**
NIL	**Nilore**	**3.58**	**140**	PN	**Pn**	**16 43 54.5**	**+2.8**
BTK	**Batken**	**3.61**	**4**	Pn	**Pn**	**16 43 53.7**	**+1.6**
BTK	**Batken**	**3.61**	**4**	PN	**Pn**	**16 43 53.7**	**+1.6**
SFK	**Sufi-Kurgan**	**4.27**	**33**	PN	**Pn**	**16 44 00.7**	**+0.4**
OHH	**Osh**	**4.45**	**23**	PN	**Pn**	**16 44 02.7**	**+0.4**
TRKS	**Terek-Say**	**5.10**	**5**	PN	**Pn**	**16 44 09.8**	**-0.8**
JMU	**Jammu**	**5.19**	**135**	*e*P	**Pn**	**16 44 10.0**	**-1.7**
JMU				*e*S	**S**	**16 45 07.5**	**-4.8**
JMU				IAML		16 45 14.8	
	comp=N,379nm,0.5s						
JMU				IAML		16 45 16.1	
	comp=E,425nm,0.5s						
ARSB	**Arslanbob**	**5.24**	**21**	Pn	**Pn**	**16 44 11.9**	**-0.5**
ARSB	**Arslanbob**	**5.24**	**21**	PN	**Pn**	**16 44 11.9**	**-0.5**
KSH	**Kashi**	**5.29**	**53**	Pn	**Pn**	**16 44 09.6**	**-3.5**
KSH				Sn	**S**	**16 45 06.6**	**-8.1**
KSH				smax	smax		
	comp=N,320nm,0.4s						
KSH				smax	smax		
	comp=E,170nm,1.0s						
ARK	**Arkit**	**5.46**	**11**	PN	**Pn**	**16 44 14.8**	**-0.4**
ARLS	**Aral**	**6.17**	**28**	PN	**Pn**	**16 44 23.7**	**-0.6**
AML	**Almayashu**	**6.19**	**23**	P	**Pn**	**16 44 25.0**	**+0.2**
	SNR=426						
DHRM	**DHARAMSHALA**	**6.36**	**129**	*e*P	**Pn**	**16 44 28.4**	**+1.4**
DHRM				*e*S	**S**	**16 45 39.5**	**-0.4**
DHRM				IAML		16 45 41.1	
	comp=E,807nm,0.3s						
DHRM				IAML		16 45 44.6	
	comp=E,730nm,0.2s						
UCH	**Uchtor**	**6.55**	**27**	P	**Pn**	**16 44 30.4**	**+0.8**
	SNR=14						
KK31	**Karatay Array**	**6.65**	**0**	Pn	**Pn**	**16 44 30.0**	**-0.4**
KK31	**Karatay Array**	**6.65**	**0**	⇓P	**Pn**	**16 44 30.0**	**-0.4**
	comp=E,12nm,0.2s,baz=178,slow=5.9,SNR=578						
KK31				S	**S**	**16 45 41.4**	**-4.8**
	comp=E,179nm,0.9s,baz=199,slow=19,SNR=15						
KK31	**Karatay Array**	**6.65**	**0**	PN	**Pn**	**16 44 29.9**	**-0.4**
KKAR	**Karatay Array**	**6.65**	**0**	Pn	**Pn**	**16 44 29.6**	**-0.8**
KKAR	**Karatay Array**	**6.65**	**0**	PN	**Pn**	**16 44 29.6**	**-0.8**
AAK	**Ala-Archa**	**6.91**	**25**	Pn	**Pn**	**16 44 33.8**	**0.0**
AAK	**Ala-Archa**	**6.91**	**25**	P	**Pn**	**16 44 34.4**	**+0.6**
	comp=E,32nm,0.4s,baz=199,slow=6.4,SNR=165						
AAK				S	**S**	**16 45 51.4**	**-1.1**
	comp=E,33nm,0.3s,baz=133,slow=21,SNR=13						
AAK	**Ala-Archa**	**6.91**	**25**	P	**Pn**	**16 44 34.4**	**+0.6**
AAK				S	**S**	**16 45 51.3**	**-1.2**
AAK	**Ala-Archa**	**6.91**	**25**	P	**Pn**	**16 44 34.4**	**+0.6**
	SNR=53						
BHK	**Bhakra**	**7.02**	**134**	*e*P	**Pn**	**16 44 37.3**	**+2.0**
BHK				IAML		16 45 57.0	
	comp=N,256nm,0.4s						
BHK				*e*S	**S**	**16 45 58.6**	**+3.6**
BHK				IAML		16 45 58.8	
	comp=E,165nm,0.4s						
HRA	**Herat**	**7.05**	**255**	Pn	**Pn**	**16 44 35.1**	**-0.8**
KBK	**Karagaybulak**	**7.08**	**28**	P	**Pn**	**16 44 37.1**	**+1.0**
	SNR=53						
FRU1	**Bishkek**	**7.11**	**25**	Pn	**Pn**	**16 44 36.8**	**+0.5**
FRU1	**Bishkek**	**7.11**	**25**	PN	**Pn**	**16 44 36.8**	**+0.5**
ULHL	**Ulahol**	**7.30**	**36**	P	**Pn**	**16 44 39.7**	**+0.7**
	SNR=7.2						
CHMS	**Chumysh**	**7.31**	**25**	P	**Pn**	**16 44 39.1**	**+0.1**
	SNR=25						
CHMS	**Chumysh**	**7.31**	**25**	⇓P	**Pn**	**16 44 38.9**	**-0.1**
	comp=E,16nm,0.4s						
CHMS	**Chumysh**	**7.31**	**25**	PN	**Pn**	**16 44 38.9**	**-0.1**
USP	**Ospenovka**	**7.47**	**23**	P	**Pn**	**16 44 40.6**	**-0.4**
	SNR=30						
TKM2	**Tokmak 2**	**7.56**	**30**	P	**Pn**	**16 44 42.8**	**+0.4**
	SNR=89						
TKM2	**Tokmak 2**	**7.56**	**30**	P	**Pn**	**16 44 42.6**	**+0.2**
	comp=E,71nm,0.7s						
TKM2	**Tokmak 2**	**7.56**	**30**	PN	**Pn**	**16 44 42.6**	**+0.2**
SMLA	**Simla**	**7.67**	**132**	*e*P	**Pn**	**16 44 44.6**	**+1.0**
SMLA				*e*S	**S**	**16 46 10.4**	**0.0**
SMLA				IAML		16 46 13.5	
	comp=E,347nm,0.5s						
SMLA				IAML		16 46 15.1	
	comp=E,256nm,0.5s						
KDJ	**Kajisay**	**7.68**	**40**	Pn	**Pn**	**16 44 43.6**	**-0.3**
KDJ	**Kajisay**	**7.68**	**40**	PN	**Pn**	**16 44 43.6**	**-0.3**
TARG	**Taragay, Kyrgy**	**7.74**	**45**	Pn	**Pn**	**16 44 44.5**	**-0.4**
TARG	**Taragay, Kyrgy**	**7.74**	**45**	PN	**Pn**	**16 44 44.5**	**-0.4**
KST	**Kastek**	**7.81**	**31**	Pg	**Pn**	**16 44 46.2**	**+0.6**
	comp=E,56nm,0.4s						
KST				Lg	Lg	16 46 08.4	
	comp=E,65nm,1.1s						
DGS	**Degeres**	**7.90**	**29**	P	**Pn**	**16 44 46.8**	**+0.1**
	comp=E,26nm,0.6s						
MTBS	**Maitube**	**8.08**	**32**	P	**Pn**	**16 44 49.7**	**+0.8**
	comp=E,41nm,0.4s						
TNSS	**Tian-Shan**	**8.24**	**35**	P	**Pn**	**16 44 51.8**	**+0.5**
	comp=E,65nm,0.5s						
KRBS	**Karabastau**	**8.25**	**27**	P	**Pn**	**16 44 51.0**	**-0.2**
	comp=E,13nm,0.5s						
WUS	**Wushi**	**8.29**	**52**	Pn	**Pn**	**16 44 51.1**	**-0.6**
MDOK	**Medeo**	**8.38**	**35**	P	**Pn**	**16 44 53.4**	**+0.5**
	comp=E,32nm,0.5s						
MDOK	**Medeo**	**8.38**	**35**	PN	**Pn**	**16 44 53.4**	**+0.5**
KOTS	**Kotyrbulak**	**8.47**	**35**	P	**Pn**	**16 44 55.3**	**+1.2**
	comp=E,80nm,0.7s						
PRZ	**Przheval'sk**	**8.57**	**43**	Pn	**Pn**	**16 44 56.4**	**+0.9**
PRZ	**Przheval'sk**	**8.57**	**43**	PN	**Pn**	**16 44 56.4**	**+0.9**
KTBS	**Karatobe**	**8.66**	**31**	P	**Pn**	**16 44 55.8**	**-0.6**
	comp=E,5.3nm,0.6s						
DDI	**Dehra Dun**	**8.78**	**132**	*e*P	**Pn**	**16 44 59.8**	**+1.7**
SATY	**Saty**	**8.97**	**40**	P	**Pn**	**16 45 01.0**	**+0.5**
	comp=E,20nm,0.8s						
BTLS	**Baital**	**8.99**	**16**	P	**Pn**	**16 45 00.8**	**+0.1**
	comp=E,5.8nm,0.5s						
KURS	**Kuram**	**9.16**	**38**	P	**Pn**	**16 45 04.2**	**+1.2**
	comp=E,43nm,0.7s						
UZB	**Uzynbulak**	**9.36**	**42**	P	**Pn**	**16 45 06.2**	**+0.6**
	comp=E,17nm,0.5s						
KPKS	**Kokpek**	**9.40**	**39**	P	**Pn**	**16 45 06.5**	**+0.4**
	comp=E,24nm,0.5s						
JASL	**Jaisalmer**	**9.50**	**178**	*e*P	**Pn**	**16 45 07.6**	**+0.2**
JASL				*e*S	**S**	**16 46 47.7**	**-6.4**
ARXS	**Arharly**	**9.55**	**33**	P	**Pn**	**16 45 08.0**	**-0.1**
	comp=E,0.4nm,0.1s						
NDI	**New Delhi**	**9.59**	**142**	*e*P	**Pn**	**16 45 08.5**	**0.0**
NDI				*e*S	**S**	**16 46 50.5**	**-5.6**
NDI				IAML		16 46 52.8	
	comp=E,66nm,0.5s						
NPLP	**NPLP New Delhi**	**9.60**	**142**	*e*P	**Pn**	**16 45 09.2**	**+0.5**
NPLP				*e*S	**S**	**16 46 50.3**	**-6.1**
SHLS	**Shalkode**	**9.61**	**43**	P	**Pn**	**16 45 12.3**	**+3.5**
	comp=E,21nm,0.7s						
KUDL	**Kundal**	**9.70**	**147**	*e*P	**Pn**	**16 45 09.6**	**-0.3**
KUDL				*e*S	**S**	**16 46 51.5**	**-7.3**
KUDL				IAML		16 46 56.7	
	comp=E,81nm,0.5s						
KUDL				IAML		16 46 58.2	
	comp=N,51nm,0.4s						
BLB	**Baldybastay**	**9.77**	**36**	P	**Pn**	**16 45 10.4**	**-0.5**
	comp=N,44nm,0.6s						
SONA	**Sohna**	**9.88**	**144**	*e*P	**Pn**	**16 45 13.4**	**+1.1**
SONA				*e*S	**S**	**16 46 57.7**	**-5.3**
SONA				IAML		16 46 59.0	
	comp=E,112nm,0.6s						
SONA				IAML		16 47 01.5	
	comp=N,55nm,0.3s						
UGON	**Onchagaon**	**10.24**	**140**	*e*P	**Pn**	**16 45 18.0**	**+1.0**
UGON				*e*S	**S**	**16 47 07.0**	**-4.8**
AJM	**Ajmer**	**10.54**	**159**	*e*P	**Pn**	**16 45 20.6**	**-0.3**
PTH	**Pithoragarh**	**10.66**	**127**	*e*P	**Pn**	**16 45 22.0**	**-0.5**
PTH				*e*S	**S**	**16 47 15.8**	**-6.2**
PTH				IAML		16 47 19.2	
	comp=E,19nm,0.3s						
PTH				IAML		16 47 19.4	
	comp=N,27nm,0.3s						
LGTI	**Lohaghat**	**10.75**	**128**	*e*P	**Pn**	**16 45 22.8**	**-0.6**
LGTI				*e*S	**S**	**16 47 15.5**	**-8.3**
LGTI				IAML		16 47 21.6	
	comp=E,24nm,0.5s						
LGTI				IAML		16 47 23.9	
	comp=N,32nm,0.4s						
OTUK	**Ortayu**	**11.87**	**6**	P	**Pn**	**16 45 38.5**	**+1.0**
	comp=N,2.2nm,0.6s						
OTUK	**Ortayu**	**11.87**	**6**	⇓P	**Pn**	**16 45 37.3**	**-0.2**
	comp=N,5.8nm,0.8s						
OTUK	**Ortayu**	**11.87**	**6**	P	**Pn**	**16 45 37.3**	**-0.2**
MAKZ	**Makanchi**	**13.43**	**36**	Pn	**Pn**	**16 45 56.9**	**-0.2**
MAKZ	**Makanchi**	**13.43**	**36**	⇑P	**Pn**	**16 45 57.1**	**0.0**
	comp=N,17nm,0.6s						
MAKZ	**Makanchi**	**13.43**	**36**	P	**Pn**	**16 45 56.9**	**-0.2**
MK31	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**16 45 58.4**	**-0.5**
MK31	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 45 58.6**	**-0.3**
	comp=N,8.4nm,0.8s,baz=229,slow=8.0,SNR=50						
MK31	**Makanchi Array**	**13.57**	**37**	*ce*P	**Pn**	**16 45 58.6**	**-0.3**
MKAR	**Makanchi Array**	**13.57**	**37**	Pn	**Pn**	**16 45 57.7**	**-1.2**
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**16 45 58.8**	**0.0**
	comp=N,4.2nm,0.6s,baz=228,slow=13,SNR=42						
MKAR				S	**S**	**16 48 32.2**	**+2.9**
	comp=N,0.3nm,0.4s,baz=27,slow=11,SNR=0.9						
BRZS	**Berezniki**	**13.62**	**6**	P	**P**	**16 46 03.3**	**+1.7**
	comp=N,20nm,0.4s						
NGCH	**Negor - Chabah**	**13.66**	**219**	P	**P**	**16 46 01.7**	**-0.6**
BHPL	**Bhopal**	**14.46**	**154**	*e*P	**P**	**16 46 12.1**	**+0.9**
BHPL				*e*S	**S**	**16 48 45.5**	**-4.9**
AB31	**Akbulak array**	**14.94**	**332**	⇑P	**Pn**	**16 46 13.9**	**-1.8**
	comp=N,12nm,0.6s,baz=144,slow=12,SNR=201						
AB31	**Akbulak array**	**14.94**	**332**	P	**Pn**	**16 46 13.9**	**-1.8**
ABKAR	**Akbulak array**	**14.94**	**332**		**Pn**	**16 46 13.9**	**-1.8**
WMQ	**Urumqi**	**15.05**	**55**	*e*P	**P**	**16 46 18.6**	**+1.0**
WMQ	**Urumqi**	**15.05**	**55**	ScS	ScS	16 58 02.0	-0.4
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				LR	LR		
	comp=N,460nm,9.1s						
KURBB	**Kurchatov Arra**	**15.30**	**20**	P	**Pn**	**16 46 19.4**	**-0.7**
	comp=N,1.9nm,0.6s,baz=210,slow=11,SNR=14						
KURBB				S	**S**	**16 49 12.1**	**+2.7**
	comp=N,0.5nm,0.6s,baz=214,slow=27,SNR=1.9						
KURBB	**Kurchatov Arra**	**15.30**	**20**	⇓P	**Pn**	**16 46 19.1**	**-1.0**
	comp=N,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**15.30**	**20**	P	**Pn**	**16 46 19.7**	**-0.3**
KURK	**Kurchatov**	**15.41**	**20**	P	**Pn**	**16 46 20.3**	**-1.0**
KURK	**Kurchatov**	**15.41**	**20**	P	**Pn**	**16 46 21.4**	**+0.1**
KURK				S	**S**	**16 49 12.5**	**+0.6**
KURK	**Kurchatov**	**15.41**	**20**	P	**Pn**	**16 46 19.4**	**-2.0**
KURK				S	**S**	**16 49 12.1**	**+0.2**
BANOM	**Banah**	**16.04**	**233**	P	**Pn**	**16 46 29.4**	**+0.2**
SHME	**Shamm**	**16.05**	**234**	P	**P**	**16 46 27.1**	**-1.7**
MDH	**Madha**	**16.48**	**232**	P	**Pn**	**16 46 34.6**	**+0.2**
MASF	**Masafi**	**16.52**	**232**	P	**Pn**	**16 46 34.6**	**-0.3**
BVA0	**Borovoye Array**	**16.58**	**360**	⇓P	**P**	**16 46 34.6**	**+0.4**
	comp=N,12nm,0.9s,baz=154,slow=10.0,SNR=117						
BVA0	**Borovoye Array**	**16.58**	**360**	P	**P**	**16 46 34.6**	**+0.4**
BVAR	**Borovoye Array**	**16.58**	**360**	P	**P**	**16 46 35.0**	**+0.7**
	comp=N,8.2nm,0.4s,baz=165,slow=12,SNR=66						
BVAR				S	**S**	**16 49 32.2**	**-4.7**
	comp=N,1.3nm,0.6s,baz=174,slow=22,SNR=2.0						
BVAR	**Borovoye Array**	**16.58**	**360**	P	**P**	**16 46 35.0**	**+0.7**
BRVK	**Borovoye**	**16.61**	**360**	P	**P**	**16 46 34.8**	**+0.2**
BRVK	**Borovoye**	**16.61**	**360**	P	**Pn**	**16 46 35.7**	**0.0**
BRVK				S	**S**	**16 49 35.6**	**-1.9**
BRVK	**Borovoye**	**16.61**	**360**	*ce*P	**P**	**16 46 35.2**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,28nm,1.3s						
AKTO	**Aktyubinsk**	**16.63**	**331**	P	**P**	**16 46 35.4**	**+0.5**
	comp=Z,35nm,0.8s,baz=144,slow=8.1,SNR=82						
AKTO	**Aktyubinsk**	**16.63**	**331**	⇓P	**P**	**16 46 35.1**	**+0.2**
	comp=Z,34nm,1.1s						
AKL	**Akola**	**16.69**	**158**	*e*P	**Pn**	**16 46 42.8**	**+5.9**
AKL				*e*S	**S**	**16 49 38.3**	**-1.3**
UMQ	**Umm Al-Quwin**	**16.73**	**234**	P	**Pn**	**16 46 37.0**	**-0.4**
UOSS	**Minazif**	**16.79**	**231**	P	**Pn**	**16 46 38.3**	**+0.1**
HATD	**Hatta, Dubai**	**16.93**	**231**	P	**Pn**	**16 46 40.7**	**+1.0**
ASHO	**Ashiyiah**	**17.07**	**231**	P	**Pn**	**16 46 41.6**	**0.0**
SOHO	**SOHO**	**17.19**	**228**	P	**Pn**	**16 46 44.3**	**+1.5**
JLN	**Jalan Bani Buh**	**17.20**	**217**	P	**Pn**	**16 46 46.6**	**+3.6**
ASUD	**Al Ashush, Dub**	**17.57**	**232**	P	**Pn**	**16 46 47.0**	**-0.3**
ALNE	**Al Ain**	**17.72**	**230**	P	**Pn**	**16 46 48.0**	**-1.1**
	SNR=8.0						
ARQ	**Araqi**	**17.80**	**227**	P	**Pn**	**16 46 49.4**	**-0.6**
	SNR=17						
BSY	**Bisya**	**17.87**	**224**	P	**Pn**	**16 46 52.6**	**+1.7**
AKT	**Akhty**	**18.40**	**293**	*e*P	**P**	**16 46 53.8**	**-0.5**
AKT				*e*S	**S**	**16 50 12.6**	**-0.9**
AKT				pmax	pmax		
	comp=Z,37nm,1.5s						
LSA	**Lhasa**	**18.54**	**105**	P	**Pn**	**16 46 58.1**	**-1.1**
LSA				IAmb	IAmb	16 47 06.8	
	comp=Z,4.5nm,0.8s						
LSA	**Lhasa**	**18.54**	**105**	P	**Pn**	**16 46 58.1**	**-1.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAK	**Makhachkala**	**18.83**	**297**	*d*iP	**P**	**16 46 57.0**	**-1.8**
MAK				*e*S	**S**	**16 50 19.1**	**-2.6**
MAK				pmax	pmax		
	comp=Z,203nm,1.6s						
GOMU	**GeErMu**	**19.58**	**83**	P	**P**	**16 47 09.4**	**+2.0**
SHMA	**Al-Shehemyia**	**19.75**	**243**	P	**P**	**16 47 08.2**	**-0.6**
	SNR=20						
ZAA0	**Zalesovo Array**	**20.13**	**25**	P	**P**	**16 47 12.5**	**-0.2**
ZAA0				IAmb	IAmb	16 47 16.9	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**20.13**	**25**	P	**P**	**16 47 13.2**	**+0.5**
ZALV	**Zalesovo Beam**	**20.13**	**25**	P	**P**	**16 47 13.3**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=218,slow=11,SNR=23						
ZALV				S	**S**	**16 50 46.7**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=202,slow=22,SNR=1.1						
	comp=Z,3.9nm,0.5s						
TRNA	**Turayna**	**20.26**	**240**	P	**P**	**16 47 13.1**	**-1.3**
	SNR=6.9						
SMRA	**Abu-Samra**	**20.53**	**241**	P	**P**	**16 47 16.2**	**-1.0**
GNI	**Garni**	**20.53**	**288**	P	**P**	**16 47 16.2**	**-1.2**
	comp=Z,2.9nm,0.3s,baz=9.0,slow=23,SNR=3.1						
	comp=Z,2.9nm,0.3s						
GNI	**Garni**	**20.53**	**288**	*i*P	**P**	**16 47 17.1**	**-0.2**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SHL	**Shillong**	**21.24**	**115**	P	**P**	**16 47 25.7**	**+0.8**
SHL	**Shillong**	**21.24**	**115**	P	**P**	**16 47 25.7**	**+0.8**
SHL				pmax	pmax		
	comp=Z,35nm,1.3s						
SVE	**Sverdlovsk**	**21.44**	**345**	*e*P	**P**	**16 47 27.1**	**+0.7**
ARTI	**Arti**	**21.57**	**341**	P	**P**	**16 47 26.7**	**-1.0**
ARTI	**Arti**	**21.57**	**341**	P	**P**	**16 47 28.1**	**+0.5**
	comp=Z,5.4nm,0.5s,baz=160,slow=6.2,SNR=15						
ARTI				S	**S**	**16 51 12.5**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=9.9,slow=23,SNR=1.3						
	comp=Z,5.4nm,0.5s						
ARTI	**Arti**	**21.57**	**341**	*d*iP	**P**	**16 47 27.9**	**+0.2**
ARTI				*PP	**pP**	**16 48 00.2**	**-3.1**
ARTI				S	**S**	**16 51 14.6**	**+2.2**
ARTI				pmax	pmax		
	comp=Z,13nm,0.9s						
KBZ	**Khabaz**	**22.27**	**298**	P	**P**	**16 47 34.0**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=169,slow=12,SNR=4.0						
KBZ				S	**S**	**16 51 23.4**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=7.0,slow=22,SNR=1.6						
	comp=Z,1.9nm,1.0s						
KBZ	**Khabaz**	**22.27**	**298**	P	**P**	**16 47 35.0**	**+0.4**
SHA1	**Shidzhatmaz**	**22.45**	**298**	*i*P	**P**	**16 47 36.0**	**-0.6**
KIV	**Kislovodsk**	**22.46**	**298**	*e*P	**P**	**16 47 36.7**	**+0.2**
KIV				*e*S	**S**	**16 51 29.5**	**+2.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BELG	**Belogornoye**	**22.69**	**322**	*i*P	**P**	**16 47 38.3**	**0.0**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DOK	**Doka**	**22.88**	**223**	P	**P**	**16 47 40.9**	**+0.5**
	SNR=6.3						
GTA	**Gaotai**	**23.26**	**74**	*e*P	**P**	**16 47 45.9**	**+2.1**
GTA				sP	pP	16 48 27.8	+5.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ABTO	**Aybut**	**24.37**	**223**	P	**P**	**16 47 57.0**	**+3.0**
	SNR=10.0						
RAYN	**Ar Rayn**	**25.11**	**246**	P	**P**	**16 47 59.5**	**-1.1**
RAYN				IAmb	IAmb	16 48 02.2	
	comp=Z,11nm,1.1s						
RAYN	**Ar Rayn**	**25.11**	**246**	P	**P**	**16 48 01.3**	**+0.6**
RAYN	**Ar Rayn**	**25.11**	**246**	P	**P**	**16 47 59.6**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,11nm,1.1s						
VRH	**Novokhopyorsk**	**25.27**	**315**	*e*P	**P**	**16 48 05.2**	**+3.6**
VRH				*e*PP	**pP**	**16 48 47.7**	**+5.0**
VRH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIRV	**Kirov**	**26.12**	**335**	*ce*P	**P**	**16 48 10.3**	**+1.1**
VSR	**Storozhevoye**	**26.75**	**313**	*e*P	**P**	**16 48 18.3**	**+3.3**
VSR				*e*PP	**pP**	**16 48 56.8**	**0.0**
VSR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPSR	**Galich'ya Gora**	**27.42**	**316**	*e*P	**P**	**16 48 20.6**	**-0.3**
LPSR				*e*PP	**pP**	**16 49 02.2**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**28.69**	**55**	P	**P**	**16 48 34.2**	**+1.8**
SONM	**Songino Array**	**28.69**	**55**	P	**P**	**16 48 34.8**	**+2.3**
	comp=Z,1.1nm,0.5s,baz=261,slow=9.8,SNR=13						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**28.69**	**55**	P	**P**	**16 48 34.2**	**+1.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BRTR	**Keskin Array B**	**29.07**	**288**	P	**P**	**16 48 37.1**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=101,slow=7.6,SNR=1.9						
	comp=Z,0.4nm,0.7s						
ULN	**Ulaanbaatar**	**29.13**	**55**	P	**P**	**16 48 37.4**	**+1.1**
ULN	**Ulaanbaatar**	**29.13**	**55**	P	**P**	**16 48 37.4**	**+1.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.78**	**118**	P	**P**	**16 48 52.4**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=298,slow=8.2,SNR=9.8						
CMAR				pP	**pP**	**16 49 35.9**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=295,slow=9.3,SNR=3.1						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.78**	**118**	*ce*P	**P**	**16 48 51.9**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.67**	**309**	P	**P**	**16 49 07.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=84,slow=7.4,SNR=5.5						
AKASG				pP	**pP**	**16 49 51.1**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=88,slow=7.1,SNR=2.3						
AKASG				sP	**sP**	**16 50 16.3**	**+2.7**
	comp=Z,0.9nm,0.6s,baz=85,slow=8.7,SNR=2.4						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**32.67**	**309**	P	**P**	**16 49 06.4**	**-0.7**
AKBB				IAmb	IAmb	16 49 26.0	
	comp=Z,5.6nm,1.4s						
AKBB	**Malin Array Si**	**32.67**	**309**	P	**P**	**16 49 06.4**	**-0.7**
AKBB				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KIEV	**Kiev**	**32.68**	**309**	P	**P**	**16 49 06.2**	**-1.0**
KIEV	**Kiev**	**32.68**	**309**	P	**P**	**16 49 06.2**	**-1.0**
KIEV				pmax	pmax		
	comp=Z,5.0nm,1.4s						
NRIK	**Noril'sk**	**34.25**	**11**	P	**P**	**16 49 21.9**	**+1.4**
NRIK				IAmb	IAmb	16 49 22.6	
	comp=Z,3.3nm,0.6s						
NRIK	**Noril'sk**	**34.25**	**11**	P	**P**	**16 49 21.3**	**+0.8**
	comp=Z,3.0nm,0.5s,baz=203,slow=5.6,SNR=11						
	comp=Z,3.0nm,0.5s						
NRIK	**Noril'sk**	**34.25**	**11**	P	**P**	**16 49 21.9**	**+1.4**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BURAR	**Bucovina Array**	**34.98**	**303**	P	**P**	**16 49 26.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**34.99**	**303**	P	**P**	**16 49 27.7**	**+0.4**
FIA1	**FINESS Array S**	**37.31**	**326**	P	**P**	**16 49 47.0**	**+0.5**
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**16 49 46.3**	**-0.2**
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**16 49 47.0**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=108,slow=11,SN

comp=Z,0.7nm,0.9s
H29M Whitestone 75.26 12 P **P 16 54 14.9 +0.6**
H29M IAmb IAmb 16 54 23.6
comp=Z,5.3nm,1.4s
I28M Miner Creek 75.70 13 P **P 16 54 16.9 -0.1**
I28M IAmb IAmb 16 54 20.4
comp=Z,9.9nm,1.5s
SCRK Sand Creek 76.25 15 P **P 16 54 20.9 +0.9**
SCRK IAmb IAmb 16 54 21.5
comp=Z,3.6nm,1.1s
I30M Mount Dempster 76.51 11 P **P 16 54 21.6 +0.2**
BOSA Boshof 77.45 220 P **P 16 54 26.9 -0.3**
BOSA Boshof 77.45 220 P **P 16 54 27.3 +0.1**
comp=Z,1.6nm,0.3s,baz=11,slow=2.9,SNR=12
comp=Z,1.6nm,0.3s
BOSA Boshof 77.45 220 P **P 16 54 26.9 -0.3**
BOSA pmax pmax
comp=Z,9.0nm,1.2s
YKA Yellowknife Ar 81.31 2 P **P 16 54 48.0 +0.6**
comp=Z,0.8nm,0.7s,baz=348,slow=4.9,SNR=11
YKA pP **pP 16 55 38.5 +0.4**
comp=Z,0.5nm,0.7s,baz=350,slow=4.8,SNR=4.3
comp=Z,0.8nm,0.7s
P33M Teslin, Yukon 81.79 12 P **P 16 54 50.4 +0.3**
P33M IAmb IAmb 16 55 13.7
comp=Z,3.8nm,1.1s
WRA Warramunga Arr 82.30 122 P **P 16 54 52.1 -1.1**
comp=Z,0.6nm,0.3s,baz=323,slow=5.0,SNR=19
comp=Z,0.6nm,0.3s
WRA Warramunga Arr 82.30 122 *i* P **P 16 54 52.0 -1.2**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WB2 Warramunga Arr 82.31 122 P **P 16 54 52.3 -0.9**
ASAR Alice Springs 84.55 125 P **P 16 55 03.8 -0.8**
comp=Z,1.0nm,0.6s,baz=317,slow=4.8,SNR=22
comp=Z,1.0nm,0.6s
MT02 Curacav 148.50 264 PKPbc **PKPbc 17 02 15.6 -1.3**
BO02 Sierra Bellavi 148.63 261 PKPbc **PKPbc 17 02 15.8 -1.4**
BI02 San Fabin de 149.43 258 PKPbc **PKPbc 17 02 17.9 -1.3**
PLCA Paso Flores 149.44 250 PKPbc **PKPbc 17 02 19.2 +0.2**
comp=Z,1.5nm,0.9s,baz=51,slow=3.1,SNR=3.4

SDD 06 16:48:43.4±2.2, 17°.89N×69°.38W, h20km±99km, MD3.1, ML2.5, MW3.9, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.95**	**42**	*e*Pg	Pb	16 48 59.4	-1.7
HIDR				*e*Sg	Sb	16 49 11.3	-1.9
BANI	**BANI**	**1.06**	**299**	*e*Pg	Pb	16 49 02.2	-0.9
BANI				*e*Sg	Sb	16 49 14.9	-1.6
BANI				IAML		16 49 55.6	
comp=N,27nm,0.9s							
NADR	**Nagua**	**1.53**	**343**	*e*Pg	Pn	16 49 09.2	-0.3
NADR				*e*Sg	Sb	16 49 30.4	+0.4
NADR				IAML		16 49 49.3	
comp=N,275nm,0.3s							
PODR	**Polo**	**1.83**	**279**	*e*Pg	Pb	16 49 15.4	-0.9
PODR				IAML		16 49 36.2	
comp=N,26nm,0.1s							
PODR				*e*Sg	Sn	16 49 36.2	-0.3
CADR	**Cabrera**	**1.85**	**344**	*e*Pg	Pn	16 49 13.6	-0.4
CADR				*e*Sg	Sn	16 49 36.9	+0.1
CADR				IAML		16 50 04.6	
comp=N,196nm,0.1s							
SC01	**Santiago de lo**	**2.00**	**320**	*e*Pg	Pn	16 49 17.1	+1.1
SC01				*e*Sg	Sb	16 49 42.1	-1.3
SC01				IAML		16 49 59.0	
comp=N,41nm,0.5s							
CRPR	**Cabo Rojo, PR**	**2.17**	**86**	*e*Pg	Pn	16 49 19.8	+1.4
CRPR				*e*Sg	Sb	16 49 48.1	-0.3
CRPR				IAML		16 50 01.6	
comp=N,17nm,1.5s							

*IDC **06** 16:48:44.9±2.8, 49°.38N×97°.32E, h0km, mbtmp3.4/2, ML3.1/1, Error ellipse: s-maj=107.0km s-min=25.5km az=16.0*
*ASRS **06** 16:48:52.3±0.5, 50°.N±2°.×9°.7E±°., h5km, MLh4.3/12, Error ellipse: s-maj=5.0km s-min=3.2km az=150.0, confirmed*
ISC 06 16:48:46.5±0.9, 49°.48N±0°.05×97°.07E±0°.04, h10km, n22, σ2°29/42, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**1.17**	**14**	Pg	**Pb**	**16 49 07.6**	**-1.2**
KNGR				Sg	**Sg**	**16 49 22.7**	**-1.3**
KZLR	**Kyzyl**	**2.79**	**324**	Pg	**Pg**	**16 49 38.7**	**-1.1**
KZLR				Sg	**Sg**	**16 50 16.4**	**+0.6**
TDJR	**Todzha**	**2.99**	**349**	Pg	**Pg**	**16 49 43.8**	**0.0**
TDJR				Sg	**Sg**	**16 50 22.6**	**+0.2**
ARDR	**Aradan**	**3.86**	**325**	Pg	**Pb**	**16 49 56.7**	**+2.0**
ARDR				Sg	**Sg**	**16 50 48.3**	**-2.2**
TEL	**Teeli**	**4.67**	**292**	Pn	**Pb**	**16 50 03.7**	**-4.7**
TEL				Pg	**Pg**	**16 50 15.5**	**-0.3**
TEL				Sg	**Sg**	**16 51 17.2**	**+0.9**
CERR	**Cheremushki**	**4.91**	**316**	Pg	**Pb**	**16 50 15.5**	**+3.1**
CERR				Sg	**Sg**	**16 51 21.1**	**-2.8**
DJO	**Djoy, Khakassi**	**4.95**	**314**	Pn	**Pn**	**16 50 04.7**	**+3.8**
DJO				Pg	**Pg**	**16 50 18.5**	**-2.7**
DJO				Sg	**Sg**	**16 51 22.4**	**-3.0**
VEH	**Verkhnyaya Baz**	**5.67**	**314**	Pn	**Pn**	**16 50 14.6**	**+3.8**
VEH				Pg	**Pg**	**16 50 31.5**	**-3.5**
VEH				Sg	**Sg**	**16 51 46.3**	**-2.1**
CUR	**Chagan-Uzun**	**5.68**	**280**	Pn	**Pn**	16 50 18.0	+7.0
CUR				Pg	**Pg**	**16 50 35.2**	**-0.1**
CUR				Sg	**Sg**	**16 51 48.4**	**-0.4**
MINR	**Mina**	**5.71**	**343**	Pg	**Pg**	**16 50 35.4**	**-0.3**
MINR				Sg	**Sg**	**16 51 49.2**	**-0.4**
ULGR	**Ulagan, Altay**	**5.98**	**285**	Pg	**Pg**	**16 50 38.3**	**-2.6**
ULGR				Sg	**Sg**	**16 51 57.5**	**-0.8**
AKAR	**Aktash**	**6.16**	**281**	Pg	**Pg**	**16 50 44.2**	**-0.3**
AKAR				Sg	**Sg**	**16 52 02.4**	**-1.8**
CHBI	**Chibit, Altay**	**6.24**	**281**	Pg	**Pg**	**16 50 45.5**	**-0.3**
CHBI				Sg	**Sg**	**16 52 05.8**	**-0.8**
DGZ	**Jazzator, Alta**	**6.27**	**276**	Pg	**Pg**	**16 50 45.8**	**-0.7**
DGZ				Sg	**Sg**	**16 52 09.1**	**+1.4**
SONM	**Songino Array**	**6.39**	**101**	Pn	**Pn**	**16 50 18.4**	**-2.4**
0.5nm,0.3s,baz=289,slow=14,SNR=15							
SONM				Pg	**Pb**	**16 50 37.2**	**-0.6**
0.6nm,0.3s,baz=286,slow=15,SNR=8.5							
SONM				Lg	Lg	16 51 59.0	
6.8nm,0.3s,baz=291,slow=28,SNR=8.5							
0.8nm,0.2s							
YALR	**Yailyu, Altay**	**6.44**	**294**	Pg	**Pg**	**16 50 46.1**	**-3.6**
YALR				Sg	**Sg**	**16 52 12.1**	**-0.9**
LUZB	**Luzhba, Kemero**	**6.59**	**313**	Pn	**Pn**	**16 50 27.4**	**+4.0**
LUZB				Pg	**Pg**	**16 50 49.8**	**-2.8**
LUZB				Sg	**Sg**	**16 52 16.8**	**-1.1**
ARTR	**Artybash**	**6.65**	**294**	Pn	**Pn**	**16 50 28.3**	**+4.2**
ARTR				Pg	**Pg**	**16 50 50.4**	**-3.2**
ARTR				Sg	**Sg**	**16 52 20.2**	**+0.6**
ZALV	**Zalesovo Beam**	**8.82**	**305**	Pg	Pg	16 51 28.5	-6.7
0.3nm,0.3s,baz=118,slow=17,SNR=3.6							
ZALV				Lg	Lg	16 53 24.8	
0.5nm,0.3s,baz=112,slow=23,SNR=5.7							
MKAR	**Makanchi Array**	**10.24**	**260**	Pg	Pn	16 51 58.8	+45
0.1nm,0.3s,baz=66,slow=18,SNR=1.2							
MKAR				Lg	Lg	16 54 12.7	
0.3nm,0.3s,baz=61,slow=32,SNR=7.5							
KURBB	**Kurchatov Arra**	**11.97**	**283**	Lg	Lg	16 55 10.5	
0.2nm,0.3s,baz=103,slow=26,SNR=5.9							
BVAR	**Borovoye Array**	**17.04**	**292**	P	**P**	**16 52 47.0**	**+0.6**
0.7nm,0.7s,baz=87,slow=13,SNR=0.7							

SDD 06 16:48:58.3±1.7, 19°.65N×68°.42W, h7km±379km, MD2.6, ML2.1, 3C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMDR	**Samana, DR**	**0.81**	**244⇑**	*e*Pg	Pg	16 49 12.6	-1.3
SMDR				⇑*e*Sg	Sg	16 49 24.0	-0.5
SMDR				IAML		16 49 59.3	
comp=N,24nm,0.8s							
HIDR	**Higuey Centro**	**1.09**	**195**	*e*Pg	Pg	16 49 18.3	-1.0
HIDR				IAML		16 49 36.6	
comp=N,30nm,0.1s							
PCDR	**Punta Cana, DR**	**1.13**	**178**	*e*Pg	Pg	16 49 18.8	-1.2
PCDR				*e*Sg	Sg	16 49 33.9	-0.8
PCDR				IAML		16 49 35.7	
comp=N,58nm,2.2s							
HATOM	**Hato Mayor del**	**1.25**	**227**	*e*Pg	Pn	16 49 19.4	-2.8
HATOM				IAML		16 49 58.4	
comp=N,8.4nm,1.5s							
NADR	**Nagua**	**1.39**	**258⇑**	*e*Pg	Pn	16 49 24.1	+0.1

*IDC **06** 16:57:51.8±0.6, 27°.2N×140°.39E, h360km±8km, mb3.1/12, mbtmp3.8/14, Error ellipse: s-maj=21.9km s-min=13.7km az=77.0*
ISC 06 16:57:51.1±0.8, 27°.2N±0°.1×140°.2E±0°.1, h350km, n15, σ0°98/16, mb3.4/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.76**	**93**	P	**Pn**	**16 58 41.2**	**+0.3**
131nm,0.4s,baz=342,slow=21,SNR=85							
JCJ				S	**S**	**16 59 21.6**	**+0.9**
515nm,0.4s,baz=254,slow=22,SNR=22							
KSRS	**Korea Array**	**14.55**	**318**	P	**P**	**17 01 00.9**	**+0.2**
0.4nm,0.5s,baz=137,slow=12,SNR=5.9							
USRK	**Ussuriysk Ar.**	**18.20**	**341**	P	**P**	**17 01 42.1**	**+2.1**
2.4nm,0.5s,baz=163,slow=6.0,SNR=10.0							
SONM	**Songino Array**	**33.42**	**317**	P	**P**	**17 03 58.2**	**0.0**
0.2nm,0.5s,baz=134,slow=9.1,SNR=2.5							
0.2nm,0.5s							
WRA	**Warramunga Arr**	**47.22**	**188**	P	**P**	**17 05 50.5**	**+0.2**
0.8nm,0.3s,baz=6.4,slow=7.8,SNR=7.9							
0.8nm,0.3s							
MKAR	**Makanchi Array**	**49.05**	**310**	P	**P**	**17 06 04.3**	**+0.4**
0.2nm,0.4s,baz=86,slow=11,SNR=8.6							
0.2nm,0.4s							
ASAR	**Alice Springs**	**50.95**	**187**	P	**P**	**17 06 18.2**	**0.0**
0.4nm,0.6s,baz=357,slow=4.5,SNR=5.4							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**51.70**	**314**	P	**P**	**17 06 23.9**	**+0.5**
1.0nm,0.3s,baz=91,slow=8.4,SNR=7.9							
1.0nm,0.3s							
BVAR	**Borovoye Array**	**56.77**	**317**	P	**P**	**17 07 00.1**	**+0.5**
1.8nm,0.5s,baz=86,slow=6.7,SNR=23							
1.8nm,0.5s							
ILAR	**Eielson Array**	**58.45**	**29**	P	**P**	**17 07 10.2**	**-0.8**
0.5nm,0.9s,baz=254,slow=6.7,SNR=4.9							
0.5nm,0.9s							
ARCES	**ARCESS Array B**	**72.85**	**340**	P	**P**	**17 08 42.6**	**+0.5**
0.9nm,0.6s,baz=72,slow=9.1,SNR=8.2							
0.9nm,0.6s							
YKA	**Yellowknife Ar**	**72.86**	**28**	P	**P**	**17 08 41.4**	**-0.8**
0.6nm,0.7s,baz=290,slow=5.6,SNR=8.6							
0.6nm,0.7s							
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**17 09 05.7**	**-0.4**
1.2nm,0.4s,baz=65,slow=5.8,SNR=18							
1.2nm,0.4s							
HFS	**Hagfors**	**82.61**	**336**	P	**P**	**17 09 34.2**	**-1.4**
0.9nm,0.4s,baz=57,slow=5.5,SNR=1.7							
0.9nm,0.4s							
NOA	**NORSAR Array B**	**82.84**	**338**	P	**P**	**17 09 35.3**	**-1.6**
0.4nm,0.6s,baz=38,slow=5.1,SNR=2.2							
0.4nm,0.6s							

*NEIC **06** 16:58:43.4±1.7, 8°.07S±0°.09×158°.20E±0°.10, h91km±2km, mb4.6/56, Error ellipse: s-maj=15.4km s-min=11.1km az=52.0*
*IDC **06** 16:58:44.3±0.5, 8°.16S×158°.23E, h104km±4km, mb4.2/17, mbtmp4.5/19, MS3.1/6, Error ellipse: s-maj=12.4km s-min=8.4km az=39.0*
ISC 06 16:58:44.0±0.3, 8°.12S±0°.06×158°.17E±0°.06, h100km, n155, σ1°05/154, mb4.5/46, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATA	**Tatamba Isabel**	**1.64**	**100**	P	**Pn**	**16 59 10.5**	**-1.6**
TATA	**Tatamba Isabel**	**1.64**	**100**	P	**Pn**	**16 59 11.0**	**-1.1**
SAVO	**Savo Central**	**1.93**	**122**	P	**Pn**	**16 59 14.5**	**-1.2**
SAVO	**Savo Central**	**1.93**	**122**	P	**Pn**	**16 59 15.0**	**-0.7**
HNR	**Honiara**	**2.19**	**127**		**Pn**	**16 59 18.1**	**-1.1**
HNR	**Honiara**	**2.19**	**127**	P	**Pn**	**16 59 18.7**	**-0.5**
602nm,0.5s,baz=238,slow=6.3,SNR=93							
HNR				S	**Sn**	**16 59 45.2**	**-0.8**
2μm,0.4s,baz=334,slow=20,SNR=7.0							
HNR	**Honiara**	**2.19**	**127**	P	**Pn**	**16 59 20.0**	**+0.8**
HNR	**Honiara**	**2.19**	**127**	P	**Pn**	**16 59 19.0**	**-0.1**
ALEG	**Aligegeo Malai**	**2.58**	**104**	P	**Pn**	**16 59 23.3**	**-0.9**
NGOA	**Tingoa Renbel**	**3.90**	**151**	P	**Pn**	**16 59 40.9**	**-0.9**
HURO	**Huro Makira**	**4.37**	**123**	Pn	**Pn**	**16 59 49.4**	**+1.2**
HURO	**Huro Makira**	**4.37**	**123**	P	**Pn**	**16 59 48.3**	**+0.1**
RABL	**Rabaul**	**7.13**	**303**	Pn	**Pn**	**17 00 25.4**	**-0.4**
KRVT	**Keravat (AS076**	**7.18**	**301**	LR	LR	17 03 10.6	
comp=Z,197nm,21.1s,baz=192,slow=37							
PMG	**Port Moresby**	**10.95**	**262**	LR	LR	17 04 59.8	
comp=Z,87nm,19.9s,baz=33,slow=34							
COEN	**Coen**	**15.81**	**247**	P	**Pn**	**17 02 15.2**	**-5.9**
JAY	**Jayapura**	**18.25**	**287**	P	**P**	**17 02 50.2**	**+0.3**
114nm,1.3s,baz=47,slow=5.6,SNR=5.2							
EIDS	**Eidsvold**	**18.44**	**201**	Pn	**Pn**	**17 02 54.6**	**+1.5**
EIDS				IAmb	IAmb	17 02 55.8	
comp=Z,43nm,0.9s							
EIDS	**Eidsvold**	**18.44**	**201**	P	**Pn**	**17 02 55.1**	**+2.0**
EIDS	**Eidsvold**	**18.44**	**201**	P	**Pn**	**17 02 52.7**	**-0.4**
QIS	**Mount Isa**	**21.79**	**233**	P	**P**	**17 03 30.1**	**+2.0**
QLP	**Quilpie**	**22.63**	**214**	P	**P**	**17 03 38.2**	**+1.4**
QLP	**Quilpie**	**22.63**	**214**	P	**P**	**17 03 37.1**	**+0.3**
ARMA	**Armidale**	**23.02**	**195**	P	**P**	**17 03 41.2**	**+0.5**
ARMA				IAmb	IAmb	17 03 43.5	
comp=Z,25nm,1.0s							
ARMA	**Armidale**	**23.02**	**195**	P	**P**	**17 03 42.8**	**+2.1**
ARMA	**Armidale**	**23.02**	**195**	P	**P**	**17 03 42.7**	**+2.1**
AULRC	**Lightning Ridg**	**23.26**	**203**	P	**P**	**17 03 44.3**	**+1.4**
AUPHS	**Peel High Scho**	**23.86**	**196**	P	**P**	**17 03 50.0**	**+1.7**
GUMO	**Guam**	**25.29**	**328**	LR	LR	17 13 44.9	
comp=Z,26nm,20.2s,baz=55,slow=36							
INKA	**Innaminka**	**25.54**	**218**	P	**P**	**17 04 04.4**	**+0.8**
INKA	**Innaminka**	**25.54**	**218**	P	**P**	**17 04 04.2**	**+0.6**
AUDCS	**Dubbo College**	**25.58**	**199**	P	**P**	**17 04 07.0**	**+3.1**
WR0	**Warramunga Arr**	**25.72**	**240**	P	**P**	**17 04 05.8**	**+0.4**
WR0				IAmb	IAmb	17 04 06.9	
comp=Z,18nm,1.1s							
WB0	**Warramunga Arr**	**25.77**	**241**	P	**P**	**17 04 05.6**	**-0.2**
WB0				IAmb	IAmb	17 04 07.2	
comp=Z,25nm,1.2s							
WRAB	**Tennant Creek**	**25.88**	**241**	P	**P**	**17 04 07.2**	**+0.4**
WRAB				IAmb	IAmb	17 04 08.2	
comp=Z,21nm,1.1s							
WB2	**Warramunga Arr**	**25.88**	**240**	P	**P**	**17 04 06.7**	**0.0**
WB2				IAmb	IAmb	17 04 10.0	
comp=Z,26nm,1.3s							
WRA	**Warramunga Arr**	**25.89**	**241**	P	**P**	**17 04 05.2**	**-1.6**
WRA	**Warramunga Arr**	**25.89**	**241**	P	**P**	**17 04 07.4**	**+0.5**
comp=Z,9.9nm,0.8s,baz=64,slow=9.0,SNR=50							
WRA				pP	**pP**	**17 04 29.5**	**+0.7**
comp=Z,6.6nm,0.8s,baz=65,slow=9.2,SNR=5.1							
WRA				PcP	**PcP**	**17 07 33.5**	**-0.1**
comp=Z,0.4nm,0.4s,baz=67,slow=3.0,SNR=4.7							
comp=Z,9.9nm,0.8s							
CMSA	**Cobar Meteorol**	**26.04**	**205**	P	**P**	**17 04 08.9**	**+0.8**
CMSA	**Cobar Meteorol**	**26.04**	**205**	P	**P**	**17 04 09.1**	**+1.0**
MTN	**Manton Dam**	**26.98**	**258**	P	**P**	**17 04 16.8**	**0.0**
AS01	**Alice Springs**	**27.88**	**234**	P	**P**	**17 04 24.4**	**-0.3**
AS31	**Alice Springs**	**27.91**	**234**	P	**P**	**17 04 24.2**	**-0.8**
ASAR	**Alice Springs**	**27.92**	**234**	P	**P**	**17 04 24.6**	**-0.4**
ASAR	**Alice Springs**	**27.92**	**234**	P	**P**	**17 04 24.8**	**-0.2**
comp=Z,5.1nm,1.0s,baz=62,slow=9.6,SNR=44							
ASAR				pP	**pP**	**17 04 48.8**	**+1.6**
comp=Z,1.9nm,1.0s,baz=49,slow=11,SNR=2.7							
ASAR				PcP	**PcP**	**17 07 38.5**	**+0.1**
comp=Z,0.3nm,0.4s,baz=78,slow=3.0,SNR=4.1							
ASAR				LR	LR	17 16 01.8	
comp=Z,34nm,18.0s,baz=86,slow=37							
comp=Z,5.1nm,1.0s							
STKA	**Stephens Creek**	**28.23**	**211**	P	**P**	**17 04 26.3**	**-1.4**
STKA	**Stephens Creek**	**28.23**	**211**	P	**P**	**17 04 27.3**	**-0.3**
comp=Z,5.3nm,0.8s,baz=31,slow=16,SNR=15							
STKA				pP	**pP**	**17 04 52.2**	**+2.3**
comp=Z,3.3nm,0.7s,baz=44,slow=11,SNR=2.6							
comp=Z,5.3nm,0.8s							
STKA	**Stephens Creek**	**28.23**	**211**	P	**P**	**17 04 28.5**	**+0.9**
CAN	**Canberra**	**28.35**	**196**	P	**P**	**17 04 29.2**	**+0.4**
CAN				IAmb	IAmb	17 04 33.6	
comp=Z,26nm,1.4s							
OOD	**Oodnadatta**	**28.89**	**225**	P	**P**	**17 04 34.0**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**28.96**	**17**	T	T	17 34 50.2	
baz=196,slow=76,SNR=65							
H11N3	**WAKE ISLAND Hy**	**28.97**	**17**	T	T	17 34 51.0	
baz=196,slow=76,SNR=49							
H11N2	**WAKE ISLAND Hy**	**28.98**	**17**	T	T	17 34 51.4	
baz=196,slow=76,SNR=44							
LCRK	**Leigh Creek**	**29.02**	**217**	P	**P**	**17 04 35.3**	**+0.6**
KNRA	**Kununurra**	**29.71**	**253**	P	**P**	**17 04 41.0**	**+0.1**
TOO	**Toolangi**	**31.49**	**199**	P	**P**	**17 04 57.4**	**+0.9**
TOO				IAmb	IAmb	17 05 18.0	
comp=Z,11nm,1.5s							
BBOO	**Buckleboo**	**31.99**	**217**	P	**P**	**17 05 00.6**	**-0.3**
BBOO	**Buckleboo**	**31.99**	**217**	P	**P**	**17 05 01.3**	**+0.4**
ARPS	**Mount Arapiles**	**32.16**	**205**	P	**P**	**17 05 03.8**	**+1.5**
WRKA	**Warakurna**	**33.08**	**236**	P	**P**	**17 05 10.3**	**-0.3**
WRKA	**Warakurna**	**33.08**	**236**	P	**P**	**17 05 10.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**33.14**	**249**	P	**P**	**17 05 09.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**33.14**	**249**	LR	LR	17 17 48.2	
comp=Z,46nm,18.4s,baz=80,slow=34							
BKZ	**Black Stump Fm**	**35.03**	**155**	P	**P**	**17 05 26.7**	**-0.5**
TCW	**Tory Channel**	**35.93**	**159**	P	**P**	**17 05 35.2**	**+0.4**
TUWZ	**Tuamarina**	**36.01**	**160**	P	**P**	**17 05 36.4**	**+1.0**
FORT	**Forrest**	**36.04**	**227**	P	**P**	**17 05 35.9**	**0.0**
BSWZ	**Blackbirch Sta**	**36.24**	**160**	P	**P**	**17 05 37.1**	**-0.4**
LTZ	**Lake Taylor**	**36.69**	**163**	P	**P**	**17 05 41.6**	**+0.2**
JCJ	**Chichijima**	**38.28**	**337**	LR	LR	17 20 15.9	
comp=Z,51nm,20.6s,baz=168,slow=34							
MBWA	**Marble Bar**	**39.26**	**246**	P	**P**	**17 06 01.9**	**-1.3**
KMBL	**Kambalda**	**40.94**	**231**	P	**P**	**17 06 16.9**	**-0.1**
MEEK	**Meekatharra**	**41.77**	**239**	P	**P**	**17 06 23.2**	**-0.7**
KKM	**Kota Kinabalu**	**44.14**	**287**	P	**P**	**17 06 42.2**	**-1.0**
BLDU	**Ballidu**	**44.70**	**234**	P	**P**	**17 06 47.2**	**-0.2**
JOW	**Kunigami**	**45.25**	**321**	P	**P**	**17 06 53.1**	**+1.4**
comp=Z,11nm,0.6s,baz=200,slow=7.5,SNR=4.9							
comp=Z,11nm,0.6s							
MJAR	**Matsushiro Arr**	**48.22**	**338**	PcP	**PcP**	**17 08 40.9**	**+0.5**
comp=Z,1.6nm,0.7s,baz=158,slow=4.8,SNR=3.2							
KSRS	**Korea Array**	**53.43**	**330**	P	**P**	**17 07 54.5**	**+0.7**
comp=Z,0.9nm,0.5s,baz=146,slow=7.2,SNR=6.9							
comp=Z,0.9nm,0.5s							
KULM	**Kulim**	**58.89**	**281**	P	**P**	**17 08 32.0**	**-1.1**
PETK	**Petropavlovsk-**	**60.99**	**360**	P	**P**	**17 08 46.6**	**-0.1**
comp=Z,2.8nm,0.7s,baz=120,slow=5.8,SNR=1.6							
comp=Z,2.8nm,0.7s							
CM31	**Chiang Mai Arr**	**64.10**	**295**	P	**P**	**17 09 07.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**64.10**	**295**	P	**P**	**17 09 08.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**64.10**	**295**	P	**P**	**17 09 08.9**	**+0.8**
comp=Z,1.4nm,0.9s,baz=101,slow=4.3,SNR=10							
CMAR				pP	**pP**	**17 09 33.0**	**+0.4**
comp=Z,1.1nm,0.7s,baz=118,slow=4.7,SNR=5.1							
comp=Z,1.4nm,0.9s							
XLT	**XiLinHaoTe**	**64.26**	**327**	*e*P	**P**	**17 09 09.7**	**+0.9**
XLT				pP	pP	17 09 13.6	-20
XLT				pmax	pmax		
comp=Z,12nm,0.8s							
XLT				pmax	pmax		
comp=Z,120nm,4.3s							
HIA	**Hailar**	**66.29**	**334**	P	**P**	**17 09 22.1**	**+0.4**
HIA				IAmb	IAmb	17 09 48.9	
comp=Z,7.6nm,1.0s							
VNDA	**Vanda**	**69.40**	**179**	P	**P**	**17 09 41.1**	**+0.4**
VNDA	**Vanda**	**69.40**	**179**	P	**P**	**17 09 41.1**	**+0.4**
comp=Z,4.5nm,0.9s,baz=340,slow=6.1,SNR=2.5							
comp=Z,4.5nm,0.9s							
ULN	**Ulaanbaatar**	**71.65**	**326**	P	**P**	**17 09 55.9**	**+0.9**
ULN				IAmb	IAmb	17 09 57.6	
comp=Z,13nm,1.1s							
GTA	**Gaotai**	**71.71**	**316**	*e*P	**P**	**17 09 57.7**	**+2.1**
GTA				pP	PcP	17 10 03.8	-10
GTA				sP	pP	17 10 07.0	-14
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
SONM	**Songino Array**	**71.99**	**326**	P	**P**	**17 09 58.1**	**+1.0**
SONM				IAmb	IAmb	17 09 59.3	
comp=Z,11nm,0.8s							
SONM	**Songino Array**	**71.99**	**326**	P	**P**	**17 09 58.3**	**+1.2**
comp=Z,9.0nm,0.8s,baz=139,slow=6.0,SNR=75							
comp=Z,9.0nm,0.8s							
YAK	**Yakutsk**	**73.35**	**346**	P	**P**	**17 10 04.5**	**-0.1**
YAK				IAmb	IAmb	17 10 31.1	
comp=Z,9.1nm,0.8s							
BILL	**Bilibino**	**76.19**	**3**	P	**P**	**17 10 20.4**	**-0.5**
BILL				IAmb	IAmb	17 10 48.5	
comp=Z,5.9nm,1.0s							
L18K	**Granite Mounta**	**78.27**	**20**	P	**P**	**17 10 33.1**	**+0.5**
L18K				IAmb	IAmb	17 10 37.4	
comp=Z,6.9nm,1.1s							
J17K	**VABM Dome**	**78.34**	**18**	P	**P**	**17 10 33.9**	**+0.9**
J17K				IAmb	IAmb	17 10 54.5	
comp=Z,17nm,1.4s							
L19K	**White Mountain**	**78.87**	**20**	P	**P**	**17 10 36.3**	**+0.3**
SLKM	**Skilak Lake**	**79.49**	**23**	P	**P**	**17 10 39.1**	**-0.4**
SLKM				IAmb	IAmb	17 10 46.1	
comp=Z,13nm,1.2s							
SUA	**Susitna One**	**79.89**	**22**	P	**P**	**17 10 40.2**	**-1.4**
SUA				IAmb	IAmb	17 11 00.1	
comp=Z,9.5nm,1.4s							
F17K	**Baldwin Pennin**	**79.99**	**15**	P	**P**	**17 10 42.5**	**+0.6**
F17K				IAmb	IAmb	17 11 10.0	
comp=Z,12nm,1.5s							
J20K

BRVK	Borovoye	95.15	323	P	P	17 11 54.8	-1.3
YKA	Yellowknife Ar	95.86	28	P	P	17 11 58.8	-0.3
	comp=Z,0.6nm,0.9s,baz=198,slow=1.1,SNR=4.5						
YKA				pP	pwP	17 12 26.5	-0.6
	comp=Z,0.7nm,0.8s,baz=257,slow=4.6,SNR=5.0						
	comp=Z,0.6nm,0.9s						
PDAR	Pinedale Array	97.11	48	P	P	17 12 05.1	-0.5
	comp=Z,0.9nm,0.9s,baz=256,slow=3.1,SNR=6.2						
	comp=Z,0.9nm,0.9s						
FINES	FINESS Array B	116.22	337	PKP	PKPdf	17 17 14.5	-0.9
	comp=Z,1.3nm,0.9s,baz=332,slow=40,SNR=2.1						
AKASG	Malin Array Be	120.26	325	PKP	PKPdf	17 17 22.6	-0.9
	comp=Z,0.8nm,0.4s,baz=48,slow=2.8,SNR=11						
AKBB	Malin Array Si	120.26	325	PKPdf	PKPdf	17 17 22.0	-1.5
KIEV	Kiev	120.28	325	PKPdf	PKPdf	17 17 22.6	-0.9
HFS	Hagfors	121.65	340	PKP	PKPdf	17 17 25.3	-0.6
	comp=Z,2.4nm,0.9s,baz=106,slow=9.1,SNR=2.8						
NOA	NORSAR Array B	121.77	342	PKP	PKPdf	17 17 25.3	-0.9
	comp=Z,0.6nm,0.7s,baz=59,slow=1.8,SNR=1.7						
LPAZ	La Paz	128.16	118	PKP	PKPdf	17 17 39.3	-1.1
	comp=Z,0.5nm,0.5s,baz=238,slow=2.2,SNR=4.0						
MVO	Moncorvo	144.56	341	ePKP	PKPdf	17 18 08.8	-0.5
POLO	Lamas de Olo	144.61	342	ePKP	PKPbc	17 18 08.6	+0.2
ESDC	Sonseca Array	144.73	336	PKPdf	PKPab	17 18 08.2	-0.4
ESDC	Sonseca Array	144.73	336	PKP	PKPbc	17 18 08.8	+0.1
	comp=Z,3.7nm,0.9s,baz=25,slow=3.3,SNR=19						
ESDC				pPKP	pPKPdf	17 18 35.7	-0.9
	comp=Z,3.3nm,0.9s,baz=27,slow=3.2,SNR=6.9						
BDFB	Brasilia	144.93	132		PKPab	17 18 07.8	-2.2
BDFB	Brasilia	144.93	132	PKP	PKPab	17 18 09.4	-0.7
	comp=Z,3.4nm,0.6s,baz=131,slow=3.8,SNR=5.6						
PVIS	Viseu	145.24	341	ePKP	PKPab	17 18 11.1	+0.6
MTE	Manteigas	145.41	341	ePKP	PKPab	17 18 12.0	+0.8
PCBR	Castelo Branco	145.90	340	ePKP	PKPab	17 18 12.8	-0.1
PCBR				etx	tx	17 18 39.6	
PCAS	Casmilo, Conde	146.04	342	ePKP	PKPab	17 18 13.6	+0.2
PMRV	Marv??o	146.24	340	ePKP	PKPab	17 18 14.1	-0.1
PMRV				etx	tx	17 18 40.9	
PESTR	Estremoz	146.81	339	etx	tx	17 18 42.3	
PMTG	Montargil	146.84	340	ePKP	PKPbc	17 18 15.3	+0.2
PMTG				etx	tx	17 18 42.2	
PCVE	Castro Verde	148.07	339	etx	tx	17 18 46.3	
PVAQ	Vaqueiros	148.16	338	ePKP	PKPab	17 18 22.5	+0.7
PVAQ				etx	tx	17 18 46.8	

*JMA **06** 17:12:28.4±0.4, 44°N±2°×14°8E±°, h96km, MV3.6/26, SE OFF ETOROFU*
*SKHL **06** 17:12:28.4±0.2, 44°50N×148°20E, h87km±4km, mb4.8/3, msha5.5/3*
ISC 06 17:12:23.1±3.3, 44°37N±0°07×148°5E±0°2, h106km±17km, n20, σ2°44/31, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.98	331	i P	Pn	17 12 44.9	+1.1
KUR				AMB	AMB	17 12 45.3	
	530nm,0.3s						
KUR				i S	Sn	17 12 57.1	-2.3
KUR				A	A	17 12 58.2	
	500nm,0.3s						
KUR				A	A	17 12 58.2	
	1μm,0.3s						
SHO	Shikotan	1.32	248	i P	Pn	17 12 49.0	+1.4
SHO				AMB	AMB	17 12 51.0	
	180nm,0.3s						
SHO				i S	Sn	17 13 04.6	-1.5
SHO				A	A	17 13 05.8	
	560nm,0.4s						
SHO				A	A	17 13 05.8	
	570nm,0.4s						
YUK	Yuzh-Kuril'sk	1.95	261	eP	Pn	17 12 56.9	+1.7
YUK				AMB	AMB	17 12 57.6	
	120nm,0.2s						
YUK				i S	Sn	17 13 18.1	-1.7
YUK				A	A	17 13 20.0	
	740nm,0.3s						
YUK				A	A	17 13 20.0	
	480nm,0.3s						
NEM2	Nemuro 2	2.25	244	eP	Pn	17 13 01.0	+1.8
NEM2				eS	Sn	17 13 25.3	-1.5
NMR	Nemuro--Hokkai	2.26	245	eP	Pn	17 13 01.1	+1.8
NMR				i S	Sn	17 13 25.6	-1.3
JRA	Rausu	2.49	261	eP	Pn	17 13 04.8	+2.6
JRA				eS	Sn	17 13 32.6	+0.3
JNSB	Nemuroshibetsu	2.61	258	eP	Pn	17 13 06.5	+2.7
JKHN	Kushirohamanak	2.76	243	eS	Sn	17 13 37.5	-1.2
JNK	Nakash	2.86	255	eP	Pn	17 13 09.6	+2.4
AKK	Akkeshi	3.00	244	eP	Pn	17 13 11.6	+2.7
JAK	Akkeshi	3.10	245	eP	Pn	17 13 12.3	+2.0
JAK				eS	Sn	17 13 45.2	-1.6
JTKR	Abashiri--Toko	3.35	265	P	Pn	17 13 15.8	+2.2
JAR	Ashorobuto	3.61	254	P	Pn	17 13 20.1	+3.0
JAR				eS	Sn	17 13 59.3	+0.4
JCH	Churui	4.15	247	eP	Pn	17 13 26.6	+2.3
JCH				eS	Sn	17 14 10.0	-1.9
JKK2	Kamakawa 2	4.19	265	eP	Pn	17 13 27.7	+2.7
JSE	Soyaes	4.28	280	eP	Pn	17 13 27.9	+1.8
JNBK	Urakawa-nobuka	4.71	246	eP	Pn	17 13 33.7	+1.8
YSS	Yuzhno-Sakhali	4.80	305	eP	Pn	17 13 34.5	+1.4
YSS				eS	Sn	17 14 25.1	-2.5
JOT	Ohata	6.26	244	eP	Pn	17 13 54.0	+1.2
JOT				eS	Sn	17 14 58.0	-4.9
JANG	Nango	6.55	235	eS	Sn	17 15 04.7	-5.5

*SJA **06** 17:17:21.9±0.7, 31°98S×68°18W, h9km, ML3.6, MW3.4*
*IDC **06** 17:17:30.0±3.3, 32°20S×68°12W, h82km±28km, mb3.6/6, mbtmp3.8/8, MS3.0/1, Error ellipse: s-maj=31.0km s-min=22.5km az=100.0*
ISC 06 17:17:19.7±1.3, 31°90S±0°03×68°05W±0°04, h6km±9km, n41, σ1°59/50, mb4.0/6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	San Juan	0.57	310	eP	Pn	17 17 33.4	-1.0
SJA				eS	Sb	17 17 41.4	+0.9
SJA				IAML		17 17 43.7	
	comp=Z,3μm,0.2s						
ZON	Zonda	0.64	303	eP	Pb	17 17 32.9	-0.4
ZON				IAML		17 17 44.4	
	comp=Z,2μm,0.5s						
ASAL	Salagasta	0.96	224	eP	Pg	17 17 37.4	-0.7
RTLS	Leoncito	1.06	275	eP	Pg	17 17 40.0	-0.2
RTLS				IAML		17 17 54.3	
	comp=Z,1μm,0.6s						
ARCO	CERRO ARCO	1.20	218	eP	Pb	17 17 42.4	-0.6
ARCO				IAML		17 18 03.5	
	comp=Z,1μm,0.5s						
DOCA	Reserva Natura	1.29	317	eP	Pg	17 17 44.9	+0.3
AAGR	Agrelo	1.36	209	eP	Pg	17 17 45.5	-0.2
ACCO	Cerro Coronel	1.57	326	eP	Pg	17 17 51.2	+1.4
AVIZ	Vizcacheras	1.62	194	eP	Pg	17 17 50.8	-0.1
ACDV	Cuesta del Vie	1.95	332	eP	Pg	17 17 58.1	+1.0
ACDV				IAML		17 18 27.1	
	comp=Z,636nm,0.5s						
APLL	PUNTA DE LOS L	1.99	41	eP	Pg	17 17 59.9	+2.1
AROD	Rodeo	2.11	324	eP	Pg	17 18 00.6	+0.4
MT08	Bocatoma Ro	2.27	227	eP	Pb	17 18 00.2	-1.0
MT08				eS	Sb	17 18 28.7	-0.9
MT08				IAML		17 18 31.9	
	comp=Z,470nm,0.3s						
VA03	San Esteban	2.29	247	eP	Pb	17 17 59.9	-1.5
VA03				IAML		17 18 32.2	
	comp=Z,531nm,0.7s						
MT04	Ro Olivares	2.32	229	eP	Pn	17 17 59.7	+1.1
MT04				eS	Sb	17 18 30.0	-1.0
MT04				IAML		17 18 33.4	
	comp=Z,290nm,0.3s						
PEL	Peldehue	2.55	240	eP	Pb	17 18 05.0	-0.9
PEL				eS	Sb	17 18 36.8	-0.8
CO01	Juntas del Tor	2.60	317	eP	Pn	17 17 48.1	-14
CO01				IAML		17 18 46.2	
	comp=Z,236nm,0.6s						
MT13	San Alfonso	2.63	225	eP	Pn	17 18 01.5	-1.4
MT13				eS	Sg	17 18 43.4	-1.0
MT13				IAML		17 18 44.0	
	comp=Z,118nm,0.5s						
LMEL	Las Melosas	2.66	222	eP	Pb	17 18 06.7	-1.2
LMEL				eS	Sb	17 18 41.4	+0.6
MT05	Renca	2.71	236	eP	Pb	17 18 08.5	-0.2
MT05				eS	Sn	17 18 37.6	+0.5
MT05				IAML		17 18 45.5	
	comp=Z,230nm,0.6s						
RFA	San Rafael	2.89	187	eP	Pn	17 18 06.3	-0.1
RFA				eS	Sb	17 18 49.5	+2.2
RFA				IAML		17 18 58.6	
	comp=Z,642nm,0.4s						
GO04	Tololo Observa	2.92	305	eS	Sg	17 18 52.0	-1.5
MT02	Curacav	2.94	242	eP	Pn	17 18 09.1	+2.1
MT02				eS	Sb	17 18 48.8	0.0
MT02				IAML		17 19 00.0	
	comp=Z,208nm,0.6s						
VCA	Vinchina	3.15	358	eS	Sg	17 19 02.3	+1.3
VCA				IAML		17 19 17.2	
	comp=Z,366nm,0.3s						
MT01	Popeta	3.33	233	eP	Pn	17 18 14.1	+1.7
MT01				eS	Sb	17 18 55.6	-4.4
MT01				IAML		17 19 01.6	
	comp=Z,111nm,0.3s						
BO01	Tunca	3.56	225	eP	Pn	17 18 00.5	-15
BO01				IAML		17 19 22.3	
	comp=Z,60nm,0.8s						
BO02	Sierra Bellavi	3.68	218	eP	Pn	17 18 20.6	+3.3
BO02				eS	Sg	17 19 20.3	+2.2
BO02				IAML		17 19 30.1	
	comp=Z,72nm,0.8s						
CYA	Choya	3.96	30	eP	Pb	17 18 26.1	-3.8
CYA				eS	Sb	17 19 15.5	-2.5
CYA				IAML		17 19 41.7	
	comp=Z,201nm,0.6s						
PLCA	Paso Flores	9.05	192	P	Pn	17 19 33.8	+2.9
	comp=Z,0.9nm,0.6s,baz=14,slow=11,SNR=3.8						
CPUP	Villa Florida	10.89	62	P	Pn	17 20 05.8	+10
	comp=Z,1.6nm,0.5s,baz=221,slow=9.0,SNR=4.3						
CPUP				LR	LR	17 24 20.4	
	comp=Z,71nm,20.1s,slow=37						
SNAA	Sanae	52.29	159	P	P	17 26 30.0	-1.7
	comp=Z,0.6nm,0.3s,baz=297,slow=9.0,SNR=1.5						
	comp=Z,0.6nm,0.3s						
QSPA	South Pole Qui	58.34	180	P	P	17 27 15.2	-0.3
	comp=Z,1.4nm,0.9s,baz=153,slow=6.2,SNR=2.5						
	comp=Z,1.4nm,0.9s						
TXAR	Lajitas Array	69.67	327	P	P	17 28 31.5	+1.2
	comp=Z,0.2nm,0.5s,baz=172,slow=10,SNR=1.9						
	comp=Z,0.2nm,0.5s						
LBTB	Lobatse	80.09	113	P	P	17 29 30.6	-0.4
	comp=Z,1.6nm,0.4s,baz=249,slow=5.7,SNR=4.5						
	comp=Z,1.6nm,0.4s						
TORD	Torodi Ar. Bea	80.33	68	P	P	17 29 33.0	+0.9
	comp=Z,1.2nm,0.7s,baz=280,slow=4.8,SNR=8.1						
	comp=Z,1.2nm,0.7s						
PDAR	Pinedale Array	83.49	331	P	P	17 29 50.1	+1.7
	comp=Z,0.2nm,0.4s,baz=127,slow=5.0,SNR=6.1						
	comp=Z,0.2nm,0.4s						
ASAR	Alice Springs	120.89	204	PKP	PKPdf	17 36 11.8	-1.8
	comp=Z,0.2nm,0.4s,baz=135,slow=1.6,SNR=7.3						
WRA	Warramunga Arr	124.17	206	PKP	PKPdf	17 36 18.8	-1.2
	comp=Z,0.7nm,0.5s,baz=161,slow=1.7,SNR=18						
KURBB	Kurchatov Arra	149.04	43	PKPbc	PKiKP	17 37 09.4	-0.2
	comp=Z,2.2nm,0.7s,baz=301,slow=3.1,SNR=13						
ZALV	Zalesovo Beam	150.64	33	PKPbc	PKiKP	17 37 12.9	+0.1
	comp=Z,4.0nm,0.6s,baz=298,slow=3.0,SNR=26						
MKAR	Makanchi Array	152.86	48	PKPbc	PKiKP	17 37 17.8	+0.1
	comp=Z,0.6nm,0.7s,baz=301,slow=2.3,SNR=8.6						

*IDC **06** 17:24:17.1±5.8, 56°03N×161°71E, h0km, mb3.6/3, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=132.2km s-min=30.1km az=113.0*
*KRSC **06** 17:24:18.6±0.4, 55°57N×162°46E, h80km±8km, Ml3.9*
ISC 06 17:24:21.1±1.4, 55°60N±0°05×162°42E±0°04, h71km±16km, n31, σ0°80/41, mb3.8/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.65	20	i P	Pn	17 24 35.3	-0.2
KBTR				eS	Sn	17 24 47.0	+1.0
KBG	Krutoberegovo	0.67	13	i P	Pn	17 24 35.5	-0.2
KBG				eS	Sn	17 24 47.4	+0.9
SMKR	Semkarok	1.12	332	eP	Pn	17 24 41.3	+0.1
SMKR				eS	Sn	17 24 57.4	+1.2
BZWR	Bezymyannyi-We	1.15	289	eS	Sn	17 24 57.4	+0.4
KRSR	Krestovskiy	1.21	301	eP	Pn	17 24 41.4	-1.0
KRSR				eS	Sn	17 24 57.6	-0.8
KLY	Klyuchi	1.23	306	i P	Pn	17 24 40.8	-1.6
KLY				eS	Sn	17 24 56.1	-2.3
KIRR	Kirishev	1.23	287	eP	Pn	17 24 42.7	+0.1
KIRR				eS	Sn	17 24 59.0	+0.3
KMNR	Kamenistaya	1.25	278	eP	Pn	17 24 42.5	-0.4
KMNR				eS	Sn	17 24 59.1	-0.1
SRKR	Sorokina	1.27	327	eP	Pn	17 24 42.9	-0.2
KPT	Kopyto	1.30	287	eP	Pn	17 24 43.2	-0.3
KPT				eS	Sn	17 25 00.8	+0.5
KOZ	Kozyrevsk	1.51	289	eP	Pn	17 24 46.8	+0.6
SRDR	Sredinnyy	1.68	296	eP	Pn	17 24 48.3	-0.2
BKI	Bering	2.06	100	eP	Pn	17 24 53.2	-0.3
BKI				eS	Sn	17 25 17.2	-1.1
ESO	Esso	2.13	280	eP	Pn	17 24 53.9	-0.6
NLC	Nalytchevo	3.03	218	eP	Pn	17 25 06.0	-0.6
NLC				eS	Sn	17 25 40.5	-1.2
KRX	Arik	3.15	226	eP	Pn	17 25 08.1	-0.3
AVH	Avacha	3.18	224	eP	Pn	17 25 09.1	+0.3
UGLR	Uglovaya	3.19	223	eP	Pn	17 25 08.8	-0.2
KOK	Koryaka	3.20	225	eP	Pn	17 25 09.4	+0.3
GNL	Ganaly	3.23	236	eP	Pn	17 25 09.6	0.0
DALK	Dalny	3.36	221	eP	Pn	17 25 10.9	-0.2
PET	Petropavlovsk	3.40	222	eP	Pn	17 25 11.6	-0.1
PET				eS	Sn	17 25 50.7	-0.1
OSSR	Ossora	3.67	5	eP	Pn	17 25 15.7	+0.3
OSSR				eS	Sn	17 25 57.6	+0.2
PETK	Petropavlovsk-	3.73	230	Pn	Pn	17 25 16.8	+0.6
	1.7nm,0.3s,baz=64,slow=16,SNR=18						
PETK				Sn	Sn	17 26 00.1	+1.3
	0.7nm,0.3s,baz=84,slow=20,SNR=1.6						
	2.3nm,0.5s						
PALN	Palana	3.74	340	eP	Pn	17 25 18.8	+2.5
KRMR	Karymshinskiy	3.75	224	eP	Pn	17 25 17.6	+1.1
KRMR				eS	Sn	17 26 00.4	+1.0
RUS	Russkaya	3.92	218	eP	Pn	17 25 18.3	-0.5
GRL	Gorelyy	3.99	222	eP	Pn	17 25 20.6	+0.7
KURBB	Kurchatov Arra	47.69	301	P	P	17 32 51.2	+1.1
	0.3nm,0.3s,baz=51,slow=7.3,SNR=1.1						
	0.3nm,0.3s						
MKAR	Makanchi Array	48.31	295	P	P	17 32 55.1	+0.1
	0.3nm,0.9s,baz=57,slow=5.3,SNR=2.3						
	0.3nm,0.9s						
FINES	FINESS Array B	58.35	337	P	P	17 34 09.2	+1.0
	0.8nm,0.5s,baz=29,slow=6.9,SNR=12						
	0.8nm,0.5s						

*AEIC **06** 17:37:38.4±2.2, 53°81N±0°08×165°16W±0°10, h53km±8km, Error ellipse: s-maj=13.6km s-min=6.1km az=152.0*
NEIC 06 17:37:38.3±1.3, 53°8N±0°1×165°1W±0°1, h59km±16km, mb3.6/2, ML3.2/6, ML2.9(AEIC), Error ellipse: s-maj=18.2km s-min=6.2km az=153.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.47	316		Pn	17 37 49.8	0.0
AKSA					Sn	17 37 58.5	+0.2
AHB	Akutan Harbor	0.51	309		Pn	17 37 50.3	0.0
AHB					Sn	17 37 59.2	+0.2
AKBBA	Akutan Broad B	0.56	303		Pn	17 37 50.7	-0.1
AKBBA					Sn	17 38 00.3	+0.5
AKRB	Akutan Reef Bi	0.64	302		Pn	17 37 51.6	-0.1
LVA	Lava Point	0.64	305		Pn	17 37 51.7	-0.1
LVA	Lava Point	0.64	305	IAML		17 38 11.5	
	comp=N,488nm,0.5s						
AKGG	Akutan Green G	0.64	309		Pn	17 37 51.7	0.0
AKGG					Sn	17 38 02.0	+0.4
UNV	Unalaska Valle	0.81	274		Pn	17 37 53.7	-0.1
UNV	Unalaska Valle	0.81	274		Sn	17 38 05.0	-0.1
MTBL	Makushin Table	0.93	281		Pn	17 37 55.5	+0.1
MSW	Makushin Switc	0.98	278		Pn	17 37 56.0	0.0
MGOD	Makushin Gods	1.03	271		Sn	17 38 11.0	+0.7
ISLZ	Isanotski Laza	1.25	42		Pn	17 38 00.0	+0.3
ISLZ					Sn	17 38 15.8	+0.2
ISNN	Isanotski Nort	1.31	37		Pn	17 38 01.0	+0.6
FALS	False Pass	1.47	43		Pn	17 38 02.7	+0.3
OKNC	Okmok New Cone	1.81	260		Pn	17 38 08.2	+1.2
S12K	Black Hills	2.62	42	Pn	Pn	17 38 17.6	-0.4
S12K				IAML		17 39 14.9	
	comp=E,126nm,3.4s						
S12K				IAML		17 39 32.2	
	comp=N,112nm,2.2s						
CHGN	Chignik	4.61	54	Pn	Pn	17 38 44.2	-1.1
CHGN				IAML		17 39 44.6	
	comp=N,30nm,2.3s						
N15K	Kwethluk River	6.96	21	Pn	Pn	17 39 16.9	-0.6
O16K	Kokwok River B	6.99	31	Pn	Pn	17 39 17.0	-0.8
OHAK	Old Harbor	7.55	58	Pn	Pn	17 39 24.7	-0.9
O18K	Koktuh Hills	8.15	38	Pn	Pn	17 39 35.4	+1.6
M17K	Holitna River	8.67	25	Pn	Pn	17 39 38.0	-2.8
K15K	Wolf Creek Mou	8.73	11	Pn	Pn	17 39 40.5	-1.2
N19K	Bonanza Creek	9.09	35	Pn	Pn	17 39 47.1	+0.5
J17K	VABM Dome	10.13	16	Pn	Pn	17 40 00.8	+0.1
M20K	Styx River	10.31	33	Pn	Pn	17 40 04.2	+0.9
STLK	Strandline Lak	10.49	37	Pn	Pn	17 40 07.0	+1.2
SUA	Susitna One	10.87	39	Pn	Pn	17 40 10.4	-0.6
SKT	Skwentna	10.92	36	Pn	Pn	17 40 13.1	+1.5
J19K	Poorman	11.33	22	Pn	Pn	17 40 17.9	+0.7
BERG	Berg Lake	13.35	52	Pn	Pn	17 40 43.7	-1.0
VRDI	Verde Repeater	13.78	49	Pn	Pn	17 40 49.9	-0.7
SCRK	Sand Creek	14.87	38	Pn	Pn	17 41 05.0	+0.2
M27K	Edge Creek, AK	14.92	46	Pn	Pn	17 41 05.4	-0.2
BCAR	Beaver Creek A	15.26	43	Pn	Pn	17 41 09.8	-0.1
K29M	Barlow Dome	17.33	44		Pn	17 41 35.2	-0.7
K29M				IAmb	IAmb	17 42 16.9	
	comp=Z,5.0nm,1.4s						
H31M	Peel River	19.35	40	P	P	17 41 58.0	-0.6
H31M				IAmb	IAmb	17 42 05.4	
	comp=Z,8.7nm,1.5s						

*NIED **06** 17:38:47.2, 39°50N×142°66E, h33km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.35; $M_{\theta\theta}$=0.36; $M_{\phi\phi}$=0.99; $M_{r\theta}$=0.03; $M_{\theta\phi}$=-0.25; $M_{r\phi}$=0.37; Fault plane solution: M_0=1.27000×10^{15} NP1: ϕ_s=336.00000°, δ37.00000°, λ-98.00000°. NP2: ϕ_s=167.00000°, δ53.00000°, λ-84.00000°.*
*JMA **06** 17:38:47.2±0.1, 39°5N±0°2×142°7E±0°6, h33km±1km, MD4.2/29, MV4.2/29, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
*NEIC **06** 17:38:50.2±1.2, 39°55N±0°07×142°6E±0°1, h40km±4km, mb4.4/54, Error ellipse: s-maj=13.4km s-min=9.0km az=119.0*
*IDC **06** 17:38:50.9±1.9, 39°54N×142°63E, h50km±17km, mb3.7/18, mbtmp3.9/23, ML3.4/5, MS3.7/3, Error ellipse: s-maj=17.4km s-min=12.3km az=119.0*
ISC 06 17:38:47.9±1.7, 39°51N±0°04×142°64E±0°07, h26km±11km, n126, σ1°26/112, mb4.3/45, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.64	276	P	Pb	17 38 59.9	-0.4
MIYJ				eS	Sb	17 39 08.9	+0.1
JTH	Tanohata	0.73	306	P	Pb	17 39 01.4	-0.6
JTH				eS	Sb	17 39 11.6	0.0
JTH	Tanohata	0.73	306	A	A	17 39 01.4	
	comp=N,11nm,0.3s,comp=E,15nm,0.3s						
OFUJ	Ofunato	0.87	240	P	Pb	17 39 03.2	-1.1
OFUJ				eS	Sb	17 39 14.7	-0.8
OFUJ	Ofunato	0.87	240	A	A	17 39 03.2	
	comp=N,6.0nm,1.8s,comp=E,4.0nm,4.2s						
JKEN	Kujiedanarisaw	0.99	314	A	A	17 39 05.4	
	comp=N,15nm,0.6s,comp=E,8.0nm,0.9s						
JOM	Ohasama	1.04	268	P	Pn	17 39 06.4	-0.4
JOM				eS	Sb	17 39 20.4	-0.1
JOM	Ohasama	1.04	268	A	A	17 39 06.4	
	comp=N,8.0nm,0.3s,comp=E,13nm,0.4s						
JKZ	Kuzumaki	1.11	295	P	Pn	17 39 07.6	-0.3
JKZ				eS	Sb	17 39 22.1	-0.5
JKZ	Kuzumaki	1.11	295	A	A	17 39 07.6	
	comp=N,8.0nm,0.3s,comp=E,6.0nm,1.4s						
JKMT	Kesennumamotoy	1.15	233	P	Pn	17 39 07.1	-1.1
JKMT				eS	Sn	17 39 21.8	-1.3
JANG	Nango	1.22	315	P	Pn	17 39 08.5	-0.8
JANG				eS	Sn	17 39 24.1	-0.8
JMK	Ichinoseki	1.24	243	P	Pn	17 39 09.0	-0.5
JMK				eS	Sn	17 39 24.9	-0.4
JSZI	Iwateshizukuis	1.32	280	A	A	17 39 10.3	
	comp=N,10.0nm,1.3s,comp=E,17nm,0.7s						
JRG	Rokugo	1.56	266	A	A	17 39 13.7	
	comp=N,5.0nm,0.6s,comp=E,8.0nm,0.4s						
JAH	Hinai	1.68	294	A	A	17 39 15.7	
	comp=N,5.0nm,1.4s,comp=E,6.0nm,1.0s						
JTM	Tenmabayashi	1.75	317		Pn	17 39 17.3	+0.7
JYW	Yuwa	1.88	272	A	A	17 39 18.4	
	comp=N,9.0nm,0.9s,comp=E,11nm,0.8s						
JOU	Okura	1.92	234	A	A	17 39 18.8	
	comp=N,4.0nm,1.4s,comp=E,4.0nm,1.6s						
JAHD	Aomorihigashid	2.01	331	A	A	17 39 20.4	
	comp=N,7.0nm,0.5s,comp=E,9.0nm,0.8s						
JNTW	Noshirotokiwa	2.05	292	A	A	17 39 20.9	
	comp=N,8.0nm,1.8s,comp=E,7.0nm,3.7s						
JMM	Marumori	2.19	222		Pn	17 39 22.4	-0.1
JSI2	Shiura 2	2.30	313	A	A	17 39 24.6	
	comp=N,3.0nm,3.1s,comp=E,2.0nm,1.8s						
JYA	Atsumi	2.46	249	A	A	17 39 26.6	
	comp=N,3.0nm,1.3s,comp=E,4.0nm,1.3s						
JYAR	Yonezawaarcadi	2.52	231	A	A	17 39 27.4	
	comp=N,4.0nm,1.0s,comp=E,4.0nm,1.1s						
ERM	Erimo	2.53	9		Pn	17 39 27.2	-0.1
JSD	Sado	3.73	248		Pn	17 39 44.8	+1.1
MJAR	Matsushiro Arr	4.58	231	P	Pn	17 39 58.2	+2.7
	comp=E,0.7nm,0.3s,baz=40,slow=12,SNR=35						
MJAR		

ZALV	**Zalesovo Beam**	**41.00**	**310**	P	**P**	**17 46 27.2**	**-1.2**
ZALV	**Zalesovo Beam**	**41.00**	**310**	P	**P**	**17 46 28.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=95,slow=7.9,SNR=10.0						
ZALV				PcP	**PcP**	**17 48 27.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=153,slow=1.6,SNR=2.7						
	comp=Z,1.9nm,0.4s						
F17K	**Baldwin Pennin**	**41.09**	**31**	P	**P**	**17 46 28.6**	**-0.4**
F17K				IAmb	IAmb	17 46 31.1	
	comp=Z,4.5nm,0.8s						
E18K	**Tukpahlearik C**	**41.56**	**29**	P	**P**	**17 46 33.6**	**+0.8**
C18K	**Utukok River**	**41.63**	**27**	P	**P**	**17 46 33.3**	**-0.3**
G18K	**Tagagawik**	**42.03**	**32**	P	**P**	**17 46 37.5**	**+0.7**
G18K				IAmb	IAmb	17 46 58.9	
	comp=Z,8.7nm,1.4s						
H18K	**Honhosa River**	**42.04**	**33**	P	**P**	**17 46 37.6**	**+0.7**
M17K	**Holitna River**	**42.09**	**38**	P	**P**	**17 46 37.4**	**+0.1**
G19K	**Purcell Mounta**	**42.70**	**31**	P	**P**	**17 46 42.8**	**+0.6**
D19K	**Kuna River**	**42.70**	**28**	P	**P**	**17 46 42.4**	**+0.1**
E19K	**Redstone River**	**42.84**	**29**	P	**P**	**17 46 44.0**	**+0.6**
E19K				IAmb	IAmb	17 46 45.3	
	comp=Z,6.1nm,0.9s						
H19K	**Roundabout Mou**	**42.88**	**32**	P	**P**	**17 46 44.5**	**+0.9**
H19K				IAmb	IAmb	17 46 45.7	
	comp=Z,7.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.09**	**254**	P	**P**	**17 46 46.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=40,slow=7.7,SNR=4.6						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**43.66**	**300**	P	**P**	**17 46 50.0**	**-0.3**
MKAR	**Makanchi Array**	**43.66**	**300**	P	**P**	**17 46 50.5**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=86,slow=11,SNR=29						
	comp=Z,0.6nm,0.4s						
B21K	**Ikpikpuk River**	**44.14**	**27**	P	**P**	**17 46 54.7**	**+0.9**
D22K	**Ayikyak River**	**44.72**	**28**	P	**P**	**17 46 59.7**	**+1.2**
D22K				IAmb	IAmb	17 47 00.5	
	comp=Z,5.6nm,0.8s						
E22K	**Anaktuvuk Pass**	**44.97**	**29**	P	**P**	**17 47 01.4**	**+0.9**
E22K				IAmb	IAmb	17 47 02.4	
	comp=Z,4.9nm,0.8s						
KURK	**Kurchatov**	**45.20**	**306**	P	**P**	**17 47 01.8**	**-0.7**
KURK				IAmb	IAmb	17 47 18.1	
	comp=Z,8.3nm,1.3s						
KURBB	**Kurchatov Arra**	**45.28**	**306**	P	**P**	**17 47 03.0**	**0.0**
	comp=Z,1.6nm,0.4s,baz=81,slow=8.6,SNR=14						
	comp=Z,1.6nm,0.4s						
SUA	**Susitna One**	**45.31**	**38**	P	**P**	**17 47 02.7**	**-0.7**
SUA				IAmb	IAmb	17 47 14.9	
	comp=Z,7.7nm,1.4s						
D23K	**Nanushuk River**	**45.45**	**28**	P	**P**	**17 47 04.1**	**-0.1**
D23K				IAmb	IAmb	17 47 15.0	
	comp=Z,6.0nm,1.2s						
C23K	**Itkillik River**	**45.55**	**27**	P	**P**	**17 47 05.6**	**+0.7**
E23K	**Chandalar**	**45.78**	**29**	P	**P**	**17 47 08.0**	**+1.0**
E23K				IAmb	IAmb	17 47 09.2	
	comp=Z,6.7nm,1.1s						
I23K	**Minto, Yukon-K**	**45.83**	**33**	P	**P**	**17 47 07.3**	**0.0**
TOLK	**Toolik Lake Re**	**45.83**	**28**	P	**P**	**17 47 07.5**	**+0.2**
TOLK				IAmb	IAmb	17 47 16.5	
	comp=Z,3.9nm,1.1s						
NEA2	**Nenana**	**45.96**	**34**	P	**P**	**17 47 08.6**	**+0.2**
NEA2				IAmb	IAmb	17 47 09.9	
	comp=Z,2.6nm,0.6s						
RND	**Reindeer**	**46.10**	**36**	P	**P**	**17 47 09.8**	**+0.3**
D24K	**Happy Valley**	**46.13**	**28**	P	**P**	**17 47 10.1**	**+0.5**
GHO	**Glory Hole Cre**	**46.16**	**38**	P	**P**	**17 47 10.3**	**+0.3**
GHO				IAmb	IAmb	17 47 14.6	
	comp=Z,4.5nm,0.9s						
C24K	**Franklin Bluff**	**46.20**	**27**	P	**P**	**17 47 10.6**	**+0.4**
E24K	**Your Creek**	**46.21**	**29**	P	**P**	**17 47 11.3**	**+1.0**
E24K				IAmb	IAmb	17 47 12.5	
	comp=Z,3.8nm,0.7s						
IL31		**46.89**	**34**	P	**P**	**17 47 15.1**	**-0.4**
IL31				IAmb	IAmb	17 47 16.5	
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**46.89**	**34**	P	**P**	**17 47 16.0**	**+0.3**
ILAR	**Eielson Array**	**46.89**	**34**	P	**P**	**17 47 15.8**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=264,slow=5.9,SNR=30						
	comp=Z,1.8nm,0.7s						
D25K	**Kavik River**	**47.01**	**27**	P	**P**	**17 47 17.0**	**+0.4**
D25K				IAmb	IAmb	17 47 18.2	
	comp=Z,4.1nm,0.8s						
F25K	**Christian Rive**	**47.29**	**30**	P	**P**	**17 47 20.3**	**+1.6**
PRP	**Porcupine Dome**	**47.43**	**33**	P	**P**	**17 47 20.2**	**+0.3**
PRP				IAmb	IAmb	17 47 22.5	
	comp=Z,3.3nm,0.8s						
KLU	**Klutina**	**47.61**	**38**	P	**P**	**17 47 21.9**	**+0.6**
F26K	**Sheenjek River**	**47.86**	**30**	P	**P**	**17 47 25.0**	**+1.9**
F26K				IAmb	IAmb	17 47 25.8	
	comp=Z,4.2nm,0.8s						
C27K	**Jago River**	**47.95**	**27**	P	**P**	**17 47 24.6**	**+0.9**
SCRK	**Sand Creek**	**48.21**	**35**		**P**	**17 47 26.3**	**+0.3**
SCRK				IAmb	IAmb	17 47 27.0	
	comp=Z,3.1nm,0.7s						
BVAR	**Borovoye Array**	**49.65**	**311**	P	**P**	**17 47 37.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=74,slow=7.4,SNR=4.9						
	comp=Z,0.8nm,0.5s						
I28M	**Miner Creek**	**49.75**	**32**	P	**P**	**17 47 38.9**	**+1.2**
I28M				IAmb	IAmb	17 48 11.9	
	comp=Z,6.8nm,1.5s						
E29M	**Blow River**	**50.13**	**28**	P	**P**	**17 47 41.9**	**+1.4**
E29M				IAmb	IAmb	17 47 42.7	
	comp=Z,4.0nm,1.1s						
I29M	**Ogilvie Camp,**	**50.44**	**32**	P	**P**	**17 47 43.5**	**+0.6**
I29M				IAmb	IAmb	17 47 54.6	
	comp=Z,3.1nm,0.8s						
L29M	**L29M**	**50.94**	**35**	P	**P**	**17 47 47.7**	**+0.9**
L29M				IAmb	IAmb	17 47 49.0	
	comp=Z,3.8nm,0.9s						
G30M	**tAoh Zrali Nji**	**50.99**	**30**	P	**P**	**17 47 48.0**	**+1.0**
I30M	**Mount Dempster**	**51.26**	**32**	P	**P**	**17 47 50.1**	**+0.9**
HYT	**Haines Junctio**	**51.74**	**38**	P	**P**	**17 47 53.7**	**+0.8**
INK	**Inuvik**	**51.74**	**28**	P	**P**	**17 47 53.3**	**+0.8**
INK				IAmb	IAmb	17 48 04.0	
	comp=Z,2.3nm,0.8s						
G31M	**Satah River**	**51.75**	**30**	P	**P**	**17 47 53.1**	**+0.5**
G31M				IAmb	IAmb	17 47 54.1	
	comp=Z,6.2nm,1.2s						
H31M	**Peel River**	**51.97**	**31**	P	**P**	**17 47 55.1**	**+0.8**
KKAR	**Karatay Array**	**52.74**	**299**	P	**P**	**17 47 59.4**	**-1.1**
ARTI	**Arti**	**55.27**	**318**	P	**P**	**17 48 18.4**	**-0.2**
ABKAR	**Akbulak array**	**57.10**	**309**	P	**P**	**17 48 31.1**	**-0.7**
ABKAR	**Akbulak array**	**57.10**	**309**	IAmb	IAmb	17 48 45.5	
	comp=Z,3.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**59.47**	**199**	LR	LR	18 13 17.3	
	comp=Z,438nm,21.2s,baz=40,slow=35						
WRA	**Warramunga Arr**	**59.65**	**189**	P	**P**	**17 48 48.6**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=8.4,slow=6.8,SNR=5.6						
	comp=Z,0.8nm,0.7s						
YKA	**Yellowknife Ar**	**61.19**	**31**	P	**P**	**17 49 00.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=300,slow=6.4,SNR=8.6						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**63.38**	**189**	P	**P**	**17 49 16.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=14,slow=8.4,SNR=4.5						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**67.07**	**332**	P	**P**	**17 49 38.4**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=27,slow=13,SNR=12						
	comp=Z,2.1nm,0.7s						
HFS	**Hagfors**	**72.22**	**336**	P	**P**	**17 50 10.4**	**+0.1**
	comp=Z,4.8nm,1.1s,baz=44,slow=8.7,SNR=6.8						
	comp=Z,4.8nm,1.1s						
NB2	**NORSAR Subarra**	**72.27**	**337**	P	**P**	**17 50 10.5**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**72.27**	**337**	P	**P**	**17 50 10.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=39,slow=6.0,SNR=4.5						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**72.75**	**54**	P	**P**	**17 50 14.8**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=289,slow=6.3,SNR=6.5						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	**72.93**	**322**	P	**P**	**17 50 14.4**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=46,slow=6.2,SNR=15						
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**75.25**	**46**	P	**P**	**17 50 28.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=273,slow=2.6,SNR=5.6						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**87.86**	**53**	P	**P**	**17 51 35.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=303,slow=2.5,SNR=4.1						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**129.25**	**180**	PKP	**PKPdf**	**17 57 51.3**	**-1.5**
	comp=Z,1.6nm,1.1s,baz=324,slow=4.3,SNR=3.0						

*IDC **06** 17:39:33.0±1.2, 19°.21S×173°.58W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=48.6km s-min=26.6km az=144.0*

ISC 06 17:39:37.3±1.1, 19°.2S±0°.3×173°.6W±0°.3, h28km, n6, σ0§55/6, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.03**	**243**	P	**P**	**17 47 26.2**	**-0.4**
	2.1nm,1.0s,baz=96,slow=9.2,SNR=3.0						
	2.1nm,1.0s						
ASAR	**Alice Springs**	**48.81**	**255**	P	**P**	**17 48 21.0**	**+0.5**
	3.9nm,0.8s,baz=94,slow=7.9,SNR=48						
	3.9nm,0.8s						
WRA	**Warramunga Arr**	**48.85**	**260**	P	**P**	**17 48 21.1**	**+0.3**
	0.9nm,0.5s,baz=97,slow=7.4,SNR=14						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**17 50 51.5**	**0.0**
	1.0nm,0.7s,baz=89,slow=1.5,SNR=3.6						
	1.0nm,0.7s						
NVAR	**Mina Array Bea**	**77.31**	**41**	P	**P**	**17 51 30.1**	**+0.4**
	0.6nm,0.7s,baz=221,slow=4.9,SNR=2.5						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**86.21**	**11**	P	**P**	**17 52 15.2**	**-0.5**
	0.4nm,0.7s,baz=205,slow=5.4,SNR=6.0						
	0.4nm,0.7s						

*IDC **06** 17:44:43.7±0.5, 21°.36N×146°.03E, h0km, mb5.0/31, mbtmp5.0/34, ML4.7/3, MS4.8/64, Error ellipse: s-maj=16.2km s-min=10.6km az=85.0*

*NEIC **06** 17:44:45.5, 21°.50N×146°.73E, h12km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.53; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-0.17; $M_{r\theta}$-0.34; $M_{\theta\phi}$0.04; $M_{\phi r}$0.80; Fault plane solution: $M_0$1.02000×10^{17} NP1: ϕ_s245.10000°, δ34.96000°, λ-150.21000°. NP2: ϕ_s129.96000°, δ73.46000°, λ-58.75000°. Principal axes: T 0.8274, Plg22.0000°, Azm197.0000°; N 0.3886, Plg30.0000°, Azm300.0000°; P -1.2160, Plg51.0000°, Azm76.0000°;*

*NEIC **06** 17:44:45.5, 21°.40N×146°.08E, h12km*

*BJI **06** 17:44:45.2, 21°.30N×145°.84E, h12km, mB5.3/52, mb5.1/86, Ms5.2/90, Ms7 5.0/87*

*MOS **06** 17:44:45.2±1.0, 21°.33N×146°.03E, h16km, mb5.6/83, MS5.0/12, Error ellipse: s-maj=8.4km s-min=3.9km az=118.0*

*NEIC **06** 17:44:46.1±1.9, 21°.40N±0°.07×146°.1E±0°.1, h9km±3km, mb5.4/293, Mww5.3/29, Error ellipse: s-maj=14.3km s-min=9.5km az=78.0*

*JMA **06** 17:44:48.1±0.5, 22°.N±3°×14°.7E±°, h0km, MV6.2/24, FAR E OFF OGASAWARA*

*GCMT **06** 17:44:49.1±0.1, 21°.33N±0°.01×146°.19E±0°.01, h12km, MW5.2/140, Moment Tensor Solution. s73, c107; s140, c256; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.01; $M_{\theta\theta}$0.82±.01; $M_{\phi\phi}$-0.52±.01; $M_{r\theta}$0.02±.03; $M_{\theta\phi}$0.15±.01; $M_{\phi r}$0.17±.04; Best double couple: $M_0$0.73100×10^{17} NP1:ϕ_s126.00000°, δ70.00000°, λ-19.00000°. NP2:ϕ_s222.00000°, δ73.00000°, λ-159.00000°. Principal axes: T 0.8400, Plg2.0000°, Azm353.0000°; N -0.2180, Plg63.0000°, Azm259.0000°; P -0.6220, Plg27.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:44:46.8±0.5, 21°.38N±0°.03×146°.09E±0°.04, h16km±2km, h16km:pP-P, n938, σ1§71/869, mb5.4/286, MS4.8/103, 26C-14D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**6.33**	**326**	*e*P	**Pn**	**17 46 19.4**	**-0.1**
JHH2				*e*S	**Sn**	**17 47 28.2**	**-3.4**
CBIJ	**Chichi jima**	**6.71**	**329**	*e*P	**Pn**	**17 46 23.5**	**-1.2**
CBIJ				*e*S	**Sn**	**17 47 35.9**	**-5.0**
JCJ	**Chichijima**	**6.71**	**329**	Pn	**Pn**	**17 46 23.6**	**-1.1**
JCJ				Sn	**Sn**	**17 47 33.1**	**-7.8**
JCJ	**Chichijima**	**6.71**	**329**	Pn	Pn	17 46 17.6	-7.1
	234nm,0.3s,baz=127,slow=15,SNR=76						
JCJ				Sn	Sn	17 47 30.1	-11
	159nm,0.3s,baz=128,slow=20,SNR=13						
GUMO	**Guam**	**7.84**	**189**	Pn	**Pn**	**17 46 41.3**	**+1.1**
GUMO	**Guam**	**7.84**	**189**	Pn	**Pn**	**17 46 43.0**	**+2.8**
	38nm,0.3s,baz=56,slow=5.3,SNR=16						
GUMO				Sn	**Sn**	**17 48 11.8**	**+3.1**
	14nm,0.3s,baz=360,slow=20,SNR=0.9						
GUMO	**Guam**	**7.84**	**189**	P	**Pn**	**17 46 40.2**	**0.0**
GUMO	**Guam**	**7.84**	**189**	P	**Pn**	**17 46 41.3**	**+1.1**
JHJ2	**Mitsune**	**12.94**	**336**	Pn	**Pn**	**17 47 50.2**	**+0.1**
BSO1	**Boso 1**	**13.97**	**342**	*e*S	**Sn**	**17 50 32.1**	**-5.9**
JMZ	**Minamidaito 2**	**14.32**	**291**	Pn	**Pn**	**17 48 09.4**	**+0.4**
JMZ	**Minamidaito 2**	**14.32**	**291**	*e*P	**P**	**17 48 14.8**	**-1.2**
JSG	**Sagara**	**14.96**	**334**	Pn	**Pn**	**17 48 17.6**	**-0.1**
JOD2	**Odawara 2**	**15.13**	**338**	*e*P	**Pn**	**17 48 17.3**	**-2.7**
JOD2				*e*S	**Sn**	**17 51 01.1**	**-6.2**
JRY	**Ryogami san**	**15.88**	**338**	*e*P	**Pn**	**17 48 29.1**	**-0.6**
JRY				*e*S	**Sn**	**17 51 17.4**	**-8.0**
INU	**Inuyama**	**16.03**	**332**		**Pn**	**17 48 30.8**	**-0.8**
INU	**Inuyama**	**16.03**	**332**	P	**P**	**17 48 34.6**	**-0.4**
JGF	**Kuroka**	**16.10**	**334**		**Pn**	**17 48 31.3**	**-1.3**
JGF				IAmb	IAmb	17 48 40.3	
	comp=Z,199nm,0.8s						
JGF	**Kuroka**	**16.10**	**334**	P	**P**	**17 48 35.2**	**-0.6**
JMN	**Monobe**	**16.37**	**321**		**Pn**	**17 48 36.1**	**+0.1**
JMN				IAmb	IAmb	17 48 40.6	
	comp=Z,726nm,1.8s						
JMN	**Monobe**	**16.37**	**321**	P	**Pn**	**17 48 36.8**	**+0.8**
JTO	**Tosashimizu**	**16.43**	**317**	*e*P	**Pn**	**17 48 37.3**	**+0.5**
MJAR	**Matsushiro Arr**	**16.59**	**337**	Pn	**Pn**	**17 48 37.4**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=163,slow=9.7,SNR=21						
MJAR				Sn	**Sn**	**17 51 32.9**	**-10**
	comp=Z,0.2nm,0.3s,baz=148,slow=15,SNR=1.8						
	comp=Z,21nm,0.9s						
MAJO	**Matsushiro**	**16.59**	**337**		**Pn**	**17 48 38.4**	**-0.4**
MAJO	**Matsushiro**	**16.59**	**337**	P	**P**	**17 48 40.2**	**-1.1**
MAJO	**Matsushiro**	**16.59**	**337**	P	**Pn**	**17 48 38.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,72nm,0.8s						
MJB9	**Matsu-Tunnel**	**16.60**	**337**		**Pn**	**17 48 39.3**	**+0.4**
JAMN	**Amaminishikomi**	**16.80**	**297**	*e*P	**P**	**17 48 44.6**	**+1.1**
JMM	**Marumori**	**17.05**	**346**	P	**Pn**	**17 48 44.4**	**-0.2**
JMM	**Marumori**	**17.05**	**346**	P	**P**	**17 48 46.2**	**-0.1**
JOW	**Kunigami**	**17.14**	**292**		**Pn**	**17 48 45.2**	**-0.6**
JOW	**Kunigami**	**17.14**	**292**	P	**Pn**	**17 48 46.2**	**+0.5**
	comp=Z,7.2nm,0.3s,baz=131,slow=8.7,SNR=29						
JOW				LR	LR	17 55 25.3	
	comp=Z,6μm,18.1s,baz=122,slow=38						
	comp=Z,65nm,0.6s						
JOW	**Kunigami**	**17.14**	**292**	P	**P**	**17 48 47.5**	**+0.1**
JOW	**Kunigami**	**17.14**	**292**	*e*P	**P**	**17 48 47.1**	**-0.3**
JHS	**Saijyo**	**17.72**	**323**	*e*P	**P**	**17 48 53.5**	**-0.2**
JNU	**Nakatsue**	**17.85**	**314**	P	**P**	**17 48 55.1**	**-0.1**
JNU				IAmb	IAmb	17 49 01.0	
	comp=Z,426nm,1.1s						
JNU	**Nakatsue**	**17.85**	**314**	P	**Pn**	**17 48 54.5**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=112,slow=5.4,SNR=49						
JNU				LR	LR	17 55 43.8	
	comp=Z,2μm,18.2s,baz=132,slow=37						
	comp=Z,103nm,1.1s						
JNU	**Nakatsue**	**17.85**	**314**	P	**P**	**17 48 57.8**	**+2.6**
JSJ	**Shimokoshiki**	**17.86**	**308**	*e*P	**P**	**17 48 56.8**	**+1.5**
JSD	**Sado**	**17.92**	**340**	P	**Pn**	**17 48 54.8**	**-0.5**
JSD	**Sado**	**17.92**	**340**	P	**P**	**17 48 58.9**	**+3.0**
JMK	**Ichinoseki**	**18.00**	**348**	*e*P	**Pn**	**17 48 55.8**	**-0.6**
JKE	**Kume jima 2**	**18.32**	**289**	*e*P	**P**	**17 49 01.4**	**+1.0**
PATS	**Pohnpei**	**18.68**	**139**	P	**P**	**17 49 02.9**	**-1.4**
JOGS	**Gusukube**	**19.32**	**284**	*e*P	**Pn**	**17 49 14.0**	**+1.5**
H11N1	**WAKE ISLAND Hy**	**19.55**	**91**	T	T	18 09 40.9	
	baz=276,slow=75,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**19.55**	**91**	T	T	18 09 38.0	
	baz=276,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**19.57**	**91**	T	T	18 09 24.2	
	baz=276,slow=75,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**19.58**	**95**	T	T	18 09 26.3	
	baz=284,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**19.59**	**95**	T	T	18 09 26.7	
	baz=284,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**19.59**	**95**	T	T	18 09 27.6	
	baz=284,slow=75,SNR=31						
JTU	**Tsushima**	**19.68**	**315**	P	**Pn**	**17 49 18.1**	**+1.4**
JTU	**Tsushima**	**19.68**	**315**	*e*P	**Pn**	**17 49 17.6**	**+0.9**
JTM	**Tenmabayashi**	**19.81**	**349**	P	**Pn**	**17 49 17.9**	**-0.3**
JTM				IAmb	IAmb	17 49 25.4	
	comp=Z,252nm,1.2s						
ERM	**Erimo**	**20.72**	**354**	P	**P**	**17 49 26.6**	**+0.2**
ERM	**Erimo**	**20.72**	**354**	P	**P**	**17 49 26.7**	**+0.2**
ERM				pmax	pmax		
	comp=Z,126nm,1.2s						
YOJ	**Yonaguni jima**	**21.47**	**283**	P	**P**	**17 49 34.3**	**-0.4**
YOJ				IAmb	IAmb	17 49 37.4	
	comp=Z,180nm,1.2s						
YOJ	**Yonaguni jima**	**21.47**	**283**	P	**P**	**17 49 34.3**	**-0.4**
YOJ				pmax	pmax		
	comp=Z,180nm,1.2s						
TJN	**Taejon**	**22.12**	**317**	P	**P**	**17 49 42.8**	**+1.2**
TJN				IAmb	IAmb	17 49 58.8	
	comp=Z,221nm,1.1s						
TJN	**Taejon**	**22.12**	**317**	P	**P**	**17 49 44.6**	**+3.0**
TJN	**Taejon**	**22.12**	**317**	P	**P**	**17 49 42.8**	**+1.2**
TJN				pmax	pmax		
	comp=Z,221nm,1.1s						
KSRS	**Korea Array**	**22.45**	**319**	P	**P**	**17 49 43.9**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=151,slow=7.7,SNR=49						
KSRS				LR	LR	17 59 02.7	
	comp=Z,6μm,18.2s,baz=130,slow=38						
	comp=Z,5.3nm,0.8s						
KSAR	**Wonju Array Be**	**22.46**	**319**	P	**P**	**17 49 44.6**	**-0.7**
KSAR	**Wonju Array Be**	**22.46**	**319**	P	**P**	**17 49 44.6**	**-0.7**
KS19	**Wonju Array Si**	**22.52**	**320**	P	**P**	**17 49 46.6**	**+0.7**
KS19				IAmb	IAmb	17 49 55.5	
	comp=Z,190nm,1.6s						
NACB	**Ninganchiao**	**22.75**	**282**	P	**P**	**17 49 45.8**	**-2.6**
NACB	**Ninganchiao**	**22.75**	**282**	P	**P**	**17 49 50.1**	**+1.7**
JKA	**Kamikawa-asahi**	**22.86**	**354**	P	**P**	**17 49 51.0**	**+1.6**
JKA				IAmb	IAmb	17 49 55.8	
	comp=Z,189nm,1.1s						
ASAJ	**Asahikawa**	**22.86**	**354**	P	**P**	**17 49 48.1**	**-1.3**
	comp=Z,15nm,0.9s,baz=210,slow=11,SNR=44						
ASAJ				S	**S**	**17 53 59.1**	**+0.9**
	comp=Z,15nm,1.2s,baz=198,slow=20,SNR=1.9						
ASAJ				LR	LR	18 00 02.2	
	comp=Z,804nm,19.3s,baz=186,slow=40						
	comp=Z,15nm,0.9s						
YHNB	**Yeheng**	**22.97**	**283**	P	**P**	**17 49 52.3**	**+1.5**
YULB	**Yu-li**	**23.00**	**280**	P	**P**	**17 49 50.4**	**-0.7**
YULB	**Yu-li**	**23.00**	**280**	P	**P**	**17 49 52.8**	**+1.7**
TWGBT	**Beinan**	**23.21**	**278**	P	**P**	**17 49 55.0**	**+1.8**
TWG	**Pinlang**	**23.22**	**278**	P	**P**	**17 49 52.6**	**-0.7**
INCN	**Inchon**	**23.26**	**318**	P	**P**	**17 49 54.2**	**+0.6**
INCN				IAmb	IAmb	17 49 56.3	
	comp=Z,87nm,0.8s						
INCN	**Inchon**	**23.26**	**318**	P	**P**	**17 49 56.1**	**+2.5**
INCN	**Inchon**	**23.26**	**318**	P	**P**	**17 49 54.2**	**+0.6**
INCN				pmax	pmax		
	comp=Z,87nm,0.9s						
MANU	**Manus Island**	**23.32**	**177**	P	**P**	**17 49 52.0**	**-2.3**
SSLB	**Suanglung**	**23.32**	**281**	IAmb	IAmb	17 49 59.9	
	comp=Z,59nm,0.7s						
SSLB	**Suanglung**	**23.32**	**281**	P	**P**	**17 49 54.6**	**+0.2**
TPUB	**Ta-pu**	**23.62**	**279**	P	**P**	**17 49 56.6**	**-0.7**
TPUB	**Ta-pu**	**23.62**	**279**	P	**P**	**17 49 59.3**	**+2.0**
KUR	**Kuril'sk**	**23.83**	**3**	*e*P	**P**	**17 50 02.4**	**+3.3**
KUR				SSS	SSS	17 55 16.4	
KUR				pmax	pmax		
	comp=Z,561nm,1.3s						
SSE	**Sheshan**	**24.29**	**299**	P	**P**	**17 50 02.1**	**-1.5**
SSE				S	**S**	**17 54 22.4**	**+0.5**
SSE				pmax	pmax		
	comp=Z,35nm,0.7s						
SSE				pmax	pmax		
	comp=Z,200nm,3.6s						
SSE				LR	LR		
	comp=Z,690nm,20.1s						
SSE				LR	LR		
	comp=Z,1μm,20.0s						
SMPI	**Sarmi**	**24.32**	**198**	P	**P**	**17 50 04.8**	**+0.9**
	comp=Z,2μmcomp=Z,91nm,1.3s						
JAY	**Jayapura**	**24.33**	**193**	LR	LR	17 59 20.5	
	comp=Z,4μm,19.1s,baz=358,slow=36						
SZP	**Santa**	**24.45**	**266**	P	**P**	**17 50 06.7**	**+1.6**
BAKI	**Biak**	**24.47**	**205**	P	**P**	**17 50 06.4**	**+1.2**
	comp=Z,59nm,0.9s						
GENI	**Genyem**	**24.52**	**194**	P	**P**	**17 50 06.5**	**+0.8**
GENI	**Genyem**	**24.52**	**194**	P	**P**	**17 50 04.4**	**-1.3**
	comp=Z,81nm,1.1s						
MSHR	**Mys Shultsa**	**24.57**	**333**	*e*P	**P**	**17 50 06.8**	**+0.9**
VLA	**Vladivostok**	**24.71**	**335**	*i* P	**P**	**17 50 09.0**	**+1.8**
VLA				pmax	pmax		
	comp=Z,149nm,0.9s						
TEY	**Ternei**	**24.85**	**344**	*e*P	**P**	**17 50 10.6**	**+2.1**
TEY						17 54 34

UGL			smax	smax		
	comp=N,1μm,12.0s					
UGL			smax	smax		
	comp=E,800nm,12.0s					
UGL			MLR	MLR		
	comp=E,900nm,12.0s					
UGL			MLR	MLR		
	comp=N,2μm,17.0s					
UGL			MLR	MLR		
	comp=Z,2μm,16.0s					
SNY	**Shenyang**	**27.83 322**	⇑P	**P**	**17 50 35.6 +0.2**	
SNY			pmax	pmax		
	comp=Z,10.0nm,0.9s					
SNY			pmax	pmax		
	comp=Z,430nm,11.4s					
SNY			LR	LR		
	comp=Z,2μm,13.8s					
SNY			LR	LR		
	comp=Z,1μm,19.6s					
SNY			LR	LR		
	comp=Z,2μm,18.1s					
CN2	**Changchun**	**28.18 327**	*e*P	**P**	**17 50 40.1 +1.6**	
CN2			*e*S	**S**	**17 55 22.5 -0.8**	
CN2			pmax	pmax		
	comp=Z,10.0nm,0.8s					
CN2			pmax	pmax		
	comp=Z,300nm,5.0s					
CN2			LR	LR		
	comp=Z,3μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,15.6s					
BNX	**BinXian**	**28.71 332**	⇑P	**P**	**17 50 44.8 +1.6**	
BNX			sP	**sP**	**17 50 48.4 +0.6**	
BNX			S	**S**	**17 55 36.8 +5.1**	
BNX			pmax	pmax		
	comp=Z,18nm,0.7s					
BNX			pmax	pmax		
	comp=Z,330nm,7.4s					
BNX			LR	LR		
	comp=Z,3μm,16.6s					
BNX			LR	LR		
	comp=Z,2μm,15.6s					
BNX			LR	LR		
	comp=Z,3μm,15.5s					
TIA	**Tai'an**	**29.23 307**	P	**P**	**17 50 47.7 -0.3**	
TIA			S	**S**	**17 55 37.2 -2.9**	
TIA			pmax	pmax		
	comp=Z,32nm,1.0s					
TIA			pmax	pmax		
	comp=Z,310nm,5.5s					
TIA			LR	LR		
	comp=Z,2μm,15.1s					
TIA			LR	LR		
	comp=Z,2μm,19.4s					
TIA			LR	LR		
	comp=Z,2μm,18.2s					
TYV	**Tymovskoe**	**29.55 356**	*e*P	**P**	**17 50 52.0 +1.5**	
TYV			*e*S	**S**	**17 55 45.4 +0.8**	
TYV			pmax	pmax		
	comp=Z,500nm,4.3s					
TYV			pmax	pmax		
	comp=Z,250nm,0.9s					
TYV			smax	smax		
	comp=N,400nm,8.4s					
TYV			smax	smax		
	comp=E,500nm,8.4s					
WHN	**Wuhan**	**29.88 294**	P	**P**	**17 50 53.6 -0.1**	
WHN			S	**S**	**17 55 51.7 +1.4**	
WHN			pmax	pmax		
	comp=E,52nm,0.6s					
WHN			pmax	pmax		
	comp=E,390nm,5.1s					
WHN			LR	LR		
	comp=E,6μm,15.5s					
WHN			LR	LR		
	comp=E,4μm,13.3s					
WHN			LR	LR		
	comp=E,5μm,16.0s					
KLR	**Kul'dur**	**30.04 341**	P	**P**	**17 50 55.9 +0.9**	
	comp=E,84nm,0.7s,baz=147,slow=8.9,SNR=135					
KLR			LR	LR	18 03 02.3	
	comp=E,558nm,21.9s,baz=160,slow=36					
	comp=E,84nm,0.7s					
KLR	**Kul'dur**	**30.04 341**	*ce*P	**P**	**17 50 56.5 +1.5**	
KLR			pmax	pmax		
	comp=Z,99nm,0.7s					
GRNR	**Gornyy**	**30.30 348**	⇓*i*P	**P**	**17 50 59.5 +2.3**	
GRNR			pmax	pmax		
	comp=E,10.0nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,50nm,0.9s					
GRNR			pmax	pmax		
	comp=N,20nm,1.0s					
GRNR			MLR	MLR		
	comp=E,930nm,14.0s					
PMG	**Port Moresby**	**30.61 178**	LR	LR	18 03 44.7	
	comp=E,280nm,19.3s,baz=353,slow=37					
CNSH	**ChangSha**	**30.79 289**	P	**P**	**17 51 01.6 -0.2**	
CNSH			S	**S**	**17 56 07.8 +3.1**	
CNSH			pmax	pmax		
	comp=E,9.0nm,1.0s					
CNSH			LR	LR		
	comp=E,2μm,15.4s					
CNSH			LR	LR		
	comp=E,1μm,19.8s					
CNSH			LR	LR		
	comp=E,2μm,16.7s					
MRSI	**Marisa**	**31.41 232**	P	**P**	**17 51 07.6 +0.2**	
	comp=E,521nmcomp=E,41nm,0.9s					
HNS	**HongShan**	**31.47 307**	⇓P	**P**	**17 51 07.0 -0.8**	
HNS			S	**S**	**17 56 17.3 +2.1**	
HNS			SS	**SnSn**	**17 58 03.9 +3.8**	
HNS			pmax	pmax		
	comp=E,59nm,1.3s					
HNS			LR	LR		
	comp=E,1μm,14.0s					
HNS			LR	LR		
	comp=E,2μm,14.6s					
HNS			LR	LR		
	comp=E,2μm,14.7s					
BJT	**Baijiatuau**	**31.52 313**	P	**P**	**17 51 10.2 +2.1**	
BJI	**Beijing**	**31.52 313**	P	**P**	**17 51 08.8 +0.7**	
BJI			S	**S**	**17 56 22.8 +6.9**	
BJI			pmax	pmax		
	comp=E,5.0nm,1.4s					
BJI			LR	LR		
	comp=E,580nm,18.6s					
BJI			LR	LR		
	comp=E,1μm,15.0s					
BJI			LR	LR		
	comp=E,1μm,15.3s					
TOLI2	**Tolitoli**	**31.86 234**	P	**P**	**17 51 11.7 +0.3**	
TOLI2			IAmb	IAmb	17 51 26.5	
	comp=Z,37nm,0.9s					
TOLI2	**Tolitoli**	**31.86 234**	P	**P**	**17 51 12.4 +1.1**	
LYN	**LuoYang**	**32.30 301**	⇑P	**P**	**17 51 16.1 +1.0**	
LYN			S	**S**	**17 56 29.6 +1.3**	
LYN			SS	**SnSn**	**17 58 23.2 +2.9**	
LYN			pmax	pmax		
	comp=Z,63nm,1.2s					
LYN			pmax	pmax		
	comp=Z,270nm,6.3s					
LYN			LR	LR		
	comp=Z,2μm,13.1s					
LYN			LR	LR		
	comp=Z,3μm,15.8s					
LYN			LR	LR		
	comp=Z,3μm,16.5s					
HEH	**HeiHe**	**32.36 337**	*e*P	**P**	**17 51 16.2 +0.8**	
HEH			pP	**pP**	**17 51 18.2 -0.4**	
HEH			S	**S**	**17 56 37.1 +8.4**	
HEH			pmax	pmax		
	comp=Z,63nm,1.3s					
HEH			LR	LR		
	comp=Z,2μm,15.5s					
HEH			LR	LR		
	comp=Z,3μm,16.9s					
HEH			LR	LR		
	comp=Z,4μm,17.9s					
APSI	**Ampana**	**32.58 230**	P	**P**	**17 51 17.5 -0.2**	
	comp=Z,755nmcomp=Z,75nm,1.0s					
KKM	**Kota Kinabalu**	**32.69 247**	IAmb	IAmb	17 51 33.1	
	comp=Z,36nm,0.9s					
KKM	**Kota Kinabalu**	**32.69 247**	P	**P**	**17 51 20.0 +1.2**	
PETK	**Petropavlovsk-**	**32.91 13**	P	**P**	**17 51 19.8 -0.4**	
	comp=Z,7.3nm,0.6s,baz=190,slow=7.1,SNR=12					
PETK			LR	LR	18 06 58.5	
	comp=Z,2μm,18.2s,baz=197,slow=40					
	comp=Z,7.3nm,0.6s					
TIY	**Taiyuan**	**33.27 307**	*e*P	**P**	**17 51 24.3 +0.6**	
TIY			S	**S**	**17 56 46.0 +2.5**	
TIY			SS	**SnSn**	**17 58 45.5 +1.5**	
TIY			pmax	pmax		
	comp=Z,18nm,1.2s					
TIY			pmax	pmax		
	comp=Z,130nm,4.2s					
TIY			LR	LR		
	comp=Z,1μm,16.5s					
TIY			LR	LR		
	comp=Z,630nm,15.8s					
TIY			LR	LR		
	comp=Z,1μm,17.2s					
XLT	**XiLinHaoTe**	**33.50 319**	*e*P	**P**	**17 51 25.3 -0.3**	
XLT			sP	sP	17 51 32.1 +1.9	
XLT			S	**S**	**17 56 48.0 +1.1**	
XLT			sS	sS	17 57 02.5 +11	
XLT			ScS	**ScS**	**18 01 50.1 -1.3**	
XLT			pmax	pmax		
	comp=Z,250nm,5.5s					
XLT			LR	LR		
	comp=Z,3μm,19.6s					
XLT			LR	LR		
	comp=Z,4μm,19.6s					
HNR	**Honiara**	**33.51 155**	LR	LR	18 04 43.4	
	comp=Z,2μm,19.9s,baz=325,slow=36					
QIZ	**Qiongzhong**	**34.05 273**	P	**P**	**17 51 28.0 -2.5**	
QIZ			S	**S**	**17 56 56.4 +0.7**	
QIZ			PcS	**PcS**	**17 57 49.8 -4.8**	
QIZ			pmax	pmax		
	comp=Z,23nm,1.6s					
QIZ			LR	LR		
	comp=Z,370nm,10.8s					
QIZ			LR	LR		
	comp=Z,770nm,16.7s					
QIZ			LR	LR		
	comp=Z,810nm,17.8s					
XAN	**Xi'an**	**35.05 299**	⇑P	**P**	**17 51 38.9 -0.2**	
XAN			pP	pP	17 51 42.0 -0.4	
XAN			sP	sP	17 51 45.8 +2.3	
XAN			PP	**PP**	**17 52 58.0 -0.6**	
XAN			S	**S**	**17 57 06.8 -4.1**	
XAN			sS	sS	17 57 16.9 +0.7	
XAN			ScS	**ScS**	**18 02 01.9 +2.0**	
XAN			pmax	pmax		
	comp=Z,24nm,1.2s					
XAN			pmax	pmax		
	comp=Z,280nm,5.8s					
XAN			LR	LR		
	comp=Z,2μm,13.7s					
XAN			LR	LR		
	comp=Z,3μm,15.6s					
XAN			LR	LR		
	comp=Z,4μm,16.8s					
HHC	**Hu-ho-hao-te**	**35.05 312**	*e*P	**P**	**17 51 39.6 +0.5**	
HHC			S	**S**	**17 57 08.0 -2.9**	
HHC			sS	sS	17 57 18.9 +2.8	
HHC			SS	**SnSn**	**17 59 27.7 +0.8**	
HHC			pmax	pmax		
	comp=Z,40nm,1.2s					
HHC			pmax	pmax		
	comp=Z,340nm,6.0s					
HHC			LR	LR		
	comp=Z,1μm,15.3s					
HHC			LR	LR		
	comp=Z,2μm,16.0s					
HHC			LR	LR		
	comp=Z,2μm,17.6s					
ZEA	**Zeya**	**35.35 341**	*e*P	**P**	**17 51 42.7 +1.3**	
ZEA			*e*S	**S**	**17 57 14.2 -0.8**	
ZEA			pmax	pmax		
	comp=N,100nm,1.5s					
ZEA			pmax	pmax		
	comp=Z,200nm,1.6s					
ZEA			pmax	pmax		
	comp=N,60nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,80nm,0.9s					
ZEA			smax	smax		
	comp=E,300nm,14.3s					
ZEA			MLR	MLR		
	comp=E,800nm,13.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,16.0s					
BTO	**Baotou**	**36.04 310**	*e*P	**P**	**17 51 49.6 +2.0**	
BTO			pP	**sP**	**17 51 53.8 +1.5**	
BTO			sP	**pwP**	**17 51 57.4 -0.7**	
BTO			PP	**PnPn**	**17 53 08.6 0.0**	
BTO			S	**S**	**17 57 31.2 +5.0**	
BTO			pmax	pmax		
	comp=Z,21nm,1.1s					
BTO			pmax	pmax		
	comp=Z,850nm,8.7s					
BTO			LR	LR		
	comp=Z,8μm,14.1s					
BTO			LR	LR		
	comp=Z,4μm,15.1s					
BTO			LR	LR		
	comp=Z,5μm,15.7s					
GYA	**Guiyang**	**36.29 286**	P	**P**	**17 51 49.7 -0.2**	
GYA			S	**S**	**17 57 28.1 -2.2**	
GYA			pmax	pmax		
	comp=Z,10.0nm,1.1s					
GYA			LR	LR		
	comp=Z,1μm,15.3s					
GYA			LR	LR		
	comp=Z,630nm,16.2s					
GYA			LR	LR		
	comp=Z,1μm,17.7s					
KDU	**Kakadu**	**36.40 203**	P	**P**	**17 51 48.8 -1.9**	
	comp=Z,38nm,0.7s					
MTN	**Manton Dam**	**37.05 205**	P	**P**	**17 51 55.1 -1.1**	
MTN			IAmb	IAmb	17 52 08.4	
	comp=Z,61nm,0.7s					
MTN	**Manton Dam**	**37.05 205**	P	**P**	**17 51 55.1 -1.1**	
	comp=Z,97nm,0.9s					
SBUM	**Sibu**	**37.95 245**	P	**P**	**17 52 05.1 +1.1**	
SHEM	**Shemya Is, Ala**	**37.99 28**	LR	LR	18 03 46.5	
	comp=Z,682nm,21.2s,baz=240,slow=30					
MA2	**Magadan**	**38.30 4**	P	**P**	**17 52 06.9 +0.5**	
MA2			IAmb	IAmb	17 52 10.9	
	comp=Z,113nm,1.0s					
MA2	**Magadan**	**38.30 4**	P	**P**	**17 52 05.5 -0.8**	
	comp=Z,51nm,0.8s,baz=186,slow=8.1,SNR=46					
MA2			LR	LR	18 05 06.0	
	comp=Z,827nm,20.2s,baz=188,slow=32					
	comp=Z,51nm,0.8s					
MA2	**Magadan**	**38.30 4**	P	**P**	**17 52 08.5 +2.2**	
MA2	**Magadan**	**38.30 4**	*ce*P	**P**	**17 52 08.6 +2.2**	
MA2			pmax	pmax		
	comp=Z,197nm,1.7s					
UBPT	**Khong Chiam**	**38.95 268**	P	**P**	**17 52 14.2 +1.8**	
CD2	**Chengdu**	**38.97 293**	P	**P**	**17 52 11.6 -0.9**	
CD2			S	**S**	**17 58 08.7 -2.1**	
CD2			pmax	pmax		
	comp=Z,70nm,0.9s					
CD2			pmax	pmax		
	comp=Z,220nm,6.3s					
CD2			LR	LR		
	comp=Z,1μm,12.7s					
CD2			LR	LR		
	comp=Z,1μm,16.5s					
CD2			LR	LR		
	comp=Z,2μm,17.8s					
SLVN	**Son La**	**39.20 278**	P	**P**	**17 52 15.8 +1.3**	
MTSU	**Mount Surprise**	**39.31 183**	P	**P**	**17 52 14.3 -1.0**	
MTSU	**Mount Surprise**	**39.31 183**	P	**P**	**17 52 15.7 +0.4**	
LZH	**Lanzhou**	**39.52 301**	*e*P	**P**	**17 52 18.3 +1.2**	
LZH			sP	sP	17 52 24.5 +2.9	
LZH			PP	**PnPn**	**17 53 53.4 +2.6**	
LZH			S	**S**	**17 58 20.4 +1.3**	
LZH			pmax	pmax		
	comp=Z,41nm,1.0s					
LZH			pmax	pmax		
	comp=Z,380nm,4.1s					
LZH			LR	LR		
	comp=Z,510nm,16.5s					
LZH			LR	LR		
	comp=Z,2μm,16.1s					
LZH			LR	LR		
	comp=Z,3μm,17.5s					
CIT	**Chita**	**39.60 329**	*e*P	**P**	**17 52 18.6 +1.2**	
CIT			*e*		17 52 26.8	
CIT			*e*		17 53 56.6	
CIT			*e*		17 54 23.8	
CIT			*e*		17 58 23.2	
CIT			pmax	pmax		
	comp=Z,191nm,1.7s					
KMI	**Kunming**	**39.88 284**	⇑P	**P**	**17 52 21.8 +1.5**	
KMI			S	**S**	**17 58 21.8 -3.1**	
KMI			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KMI			LR	LR		
	comp=Z,1μm,14.1s					
KMI			LR	LR		
	comp=Z,530nm,14.7s					
KMI			LR	LR		
	comp=Z,860nm,19.4s					
KSM	**Kuching**	**40.08 245**	P	**P**	**17 52 23.8 +2.0**	
NONG	**Nongkai**	**40.47 273**	P	**P**	**17 52 26.4 +1.4**	
PZH	**PanZhiHua**	**40.70 286**	P	P	17 52 16.3 -11	
PZH			S	**S**	**17 58 35.1 -1.8**	
PZH			SS	**SnSn**	**18 01 45.8 +1.9**	
PZH			pmax	pmax		
	comp=Z,60nm,0.6s					
PZH			pmax	pmax		
	comp=Z,180nm,5.3s					
PZH			LR	LR		
	comp=N,730nm,16.5s					
PZH			LR	LR		
	comp=E,510nm,17.3s					
PZH			LR	LR		
	comp=Z,650nm,15.5s					
PLAI	**Plampang**	**40.92 226**	P	**P**	**17 52 29.6 +0.9**	
ULN	**Ulaanbaatar**	**40.94 320**	P	**P**	**17 52 29.0 +0.3**	
ULN	**Ulaanbaatar**	**40.94 320**	P	**P**	**17 52 29.0 +0.3**	
ULN			pmax	pmax		
	comp=Z,87nm,1.7s					
SONM	**Songino Array**	**41.32 319**	P	**P**	**17 52 31.4 -0.4**	
SONM	**Songino Array**	**41.32 319**	P	**P**	**17 52 30.6 -1.2**	
	comp=Z,7.6nm,0.8s,baz=135,slow=8.4,SNR=42					
SONM			PcP	**PcP**	**17 54 30.1 -0.1**	
	comp=Z,3.9nm,0.9s,baz=121,slow=3.3,SNR=1.7					
SONM			ScP	**ScP**	**17 58 18.1 -1.5**	
	comp=Z,2.2nm,1.0s,baz=147,slow=2.9,SNR=4.8					
SONM			LR	LR	18 10 45.9	
	comp=Z,3μm,19.4s,baz=115,slow=38					
	comp=Z,7.6nm,0.8s					
SONM	**Songino Array**	**41.32 319**	P	**P**	**17 52 31.4 -0.4**	
SONM			pmax	pmax		
	comp=Z,49nm,1.4s					
SEY	**Seymchan**	**41.75 4**	LR	LR	18 08 25.6	
	comp=Z,632nm,20.0s,baz=174,slow=34					
SEY	**Seymchan**	**41.75 4**	*ce*P	**P**	**17 52 37.0 +2.1**	
SEY			pmax	pmax		
	comp=Z,113nm,1.6s					
ADK	**Adak**	**41.89 34**	P	**P**	**17 52 38.6 +2.3**	
ADK	**Adak**	**41.89 34**	P	**P**	**17 52 37.0 +0.7**	
ADK			pmax	pmax		
	comp=Z,119nm,1.6s					
QIS	**Mount Isa**	**42.16 189**	P	**P**	**17 52 38.0 -0.8**	
	comp=Z,27nm,1.0s					
YAK	**Yakutsk**	**42.17 349**	P	**P**	**17 52 38.5 +0.1**	
YAK			IAmb	IAmb	17 52 41.1	
	comp=Z,75nm,0.8s					
YAK	**Yakutsk**	**42.17 349**	LR	LR	18 12 36.3	
	comp=Z,602nm,18.4s,baz=144,slow=40					
YAK	**Yakutsk**	**42.17 349**	*e*P	**P**	**17 52 38.7 +0.3**	
YAK			*e**PP	**sP**	**17 52 42.8 -0.1**	
YAK			*e*		17 54 14.9	
YAK			*e*		17 54 32.2	
YAK			*e*S	**S**	**17 59 00.1 +2.6**	
YAK			pmax	pmax		
	comp=Z,48nm,1.0s					
YAK			pmax	pmax		
	comp=N,23nm,1.5s					
YAK			pmax	pmax		
	comp=E,14nm,1.6s					
YAK			pmax	pmax		
	comp=Z,55nm,2.4s					
YAK			pmax	pmax		
	comp=N,57nm,2.3s					
YAK			pmax	pmax		
	comp=E,82nm,3.2s					
YAK			smax	smax		
	comp=E,546nm,11.6s					
YAK			smax	smax		
	comp=N,342nm,7.8s					
YAK			MLR	MLR		
	comp=Z,807nm,21.0s					
YAK			MLR	MLR		
	comp=N,573nm,18.0s					
YAK			MLR	MLR		
	comp=E,560nm,13.0s					
WB0	**Warramunga Arr**	**42.47 196**	P	**P**	**17 52 40.7 -0.6**	
WB0			IAmb	IAmb	17 53 04.1	
	comp=Z,145nm,1.6s					
WRAB	**Tennant Creek**	**42.64 196**	P	**P**	**17 52 42.4 -0.3**	
WRAB	**Tennant Creek**	**42.64 196**	P	**P**	**17 52 42.4 -0.3**	
WRAB			pmax	pmax		
	comp=Z,203nm,1.6s					
WB2	**Warramunga Arr**	**42.65 196**	P	**P**	**17 52 41.4 -1.3**	
WRA	**Warramunga Arr**	**42.65 196**	P	**P**	**17 52 41.9 -0.8**	
	comp=Z,28nm,0.7s,baz=9.9,slow=8.6,SNR=100					
WRA			PcP	**PcP**	**17 54 35.6 +0.8**	
	comp=Z,5.4nm,0.8s,baz=9.8,slow=3.4,SNR=4.6					
WRA			ScP	**ScP**	**17 58 26.3 +1.3**	
	comp=Z,3.3nm,1.1s,baz=34,slow=4.9,SNR=7.2					
WRA			S	**S**	**17 59 03.2 -2.2**	
	comp=Z,0.4nm,0.4s,baz=16,slow=15,SNR=7.5					
WRA			LR	LR	18 10 51.2	
	comp=Z,2μm,18.7s,baz=14,slow=37					
	comp=Z,28nm,0.7s					
WRA	**Warramunga Arr**	**42.65 196**	*i*P	**P**	**17 52 42.5 -0.3**	
WRA			pmax	pmax		
	comp=Z,39nm,0.9s					
NAYO	**Nakonayok**	**43.08 268**	P	**P**	**17 52 48.7 +2.3**	
BOD	**Bodaibo**	**43.22 335**	*e*P	**P**	**17 52 47.3 +0.4**	
BOD			pmax	pmax		
	comp=Z,33nm,1.0s					
GTA	**Gaotai**	**43.26 305**	P	**P**	**17 52 47.9 +0.1**	
GTA			sP	pwP	17 53 01.4 +3.1	
GTA			S	**S**	**17 59 16.6 +2.1**	
GTA			pmax	pmax		
	comp=Z,27nm,1.0s					
GTA			pmax	pmax		
	comp=Z,260nm,5.2s					
GTA			LR	LR		
	comp=Z,930nm,16.7s					
GTA			LR	LR		
	comp=Z,970nm,15.5s					
GTA			LR	LR		
	comp=Z,1μm,17.5s					
TNCH	**TengChong**	**43.70 284**	⇑P	**P**	**17 52 51.6 0.0**	
TNCH			PP	**PP**	**17 54 35.5 +2.2**	
TNCH			S	**S**	**17 59 19.6 -1.8**	
TNCH			SS	**SS**	**18 02 27.1 -10**	
TNCH			pmax	pmax		
	comp=Z,20nm,1.0s					
TNCH			pmax	pmax		
	comp=Z,99nm,4.6s					
TNCH			LR	LR		
	comp=Z,460nm,13.1s					
TNCH			LR	LR		
	comp=Z,730nm,14.9s					
TNCH			LR	LR		
	comp=Z,1μm,15.6s					
FITZ	**Fitzroy Crossi**	**44.05 209**	P	**P**	**17 52 52.1 -2.0**	
FITZ	**Fitzroy Crossi**	**44.05 209**	P	**P**	**17 52 53.0 -1.1**	
	comp=Z,13nm,0.8s					
FITZ	**Fitzroy Crossi**	**44.05 209**	P	**P**	**17 52 54.4 +0.3**	
CHTO	**Chiang Mai**	**44.22 275**	P	**P**	**17 52 55.1 -0.5**	
CHTO	**Chiang Mai**	**44.22 275**	P	**P**	**17 52 55.1 -0.5**	
CHTO			pmax	pmax		
	comp=Z,10.0nm,1.0s					
ZAK	**Zakamensk**	**44.26 321**	*e*P	**P**	**17 52 55.7 +0.1**	
ZAK			pmax	pmax		
	comp=Z,27nm,1.2s					
CM31	**Chiang Mai Arr**	**44.30 275**	P	**P**	**17 52 54.1 -2.1**	
CMAR	**Chiang Mai Arr**	**44.30 275**	P	**P**	**17 52 55.1 -1.1**	
CMAR	**Chiang Mai Arr**	**44.30 275**	P	**P**	**17 52 55.3 -0.9**	
	comp=Z,4.0nm,0.6s,baz=68,slow=7.2,SNR=38					
CMAR			LR	LR	18 11 53.1	
	comp=Z,406nm,18.7s,baz=85,slow=37					
	comp=Z,4.0nm,0.6s					
CMAR	**Chiang Mai Arr**	**44.30 275**	*i*P	**P**	**17 52 56.2 0.0**	
CMAR			pmax	pmax		

comp=Z,4.0nm,0.6s
IRK Irkutsk 44.52 324 *e*P **P 17 52 57.7 +0.1**
IRK pmax pmax
comp=Z,72nm,1.6s
SRDT SRDT 45.12 269 P **P 17 53 04.5 +1.7**
MYKOM Kota Tinggi 45.50 250 IAmb IAmb 17 53 25.3
comp=Z,53nm,1.4s
MYKOM Kota Tinggi 45.50 250 P **P 17 53 06.9 +1.1**
MOY Mondy 46.10 322 *e*P **P 17 53 12.8 +2.5**
MOY pmax pmax
comp=Z,34nm,1.5s
AS06 Alice Springs 46.29 195 P **P 17 53 10.9 -1.0**
comp=Z,21nm,0.9s
AS31 Alice Springs 46.32 196 P **P 17 53 10.8 -1.3**
comp=Z,10.0nm,0.7s
ASAR Alice Springs 46.32 196 P **P 17 53 10.4 -1.7**
comp=Z,8.5nm,0.6s,baz=13,slow=6.6,SNR=143
ASAR PcP **PcP 17 54 47.2 -0.1**
comp=Z,6.1nm,0.8s,baz=34,slow=3.2,SNR=5.2
ASAR ScP **ScP 17 58 43.3 +3.2**
comp=Z,0.3nm,0.9s,baz=20,slow=3.0,SNR=3.6
ASAR S **S 17 59 56.0 -2.8**
comp=Z,0.7nm,0.8s,baz=18,slow=20,SNR=4.7
ASAR LR LR 18 12 07.0
comp=Z,3μm,21.5s,baz=18,slow=36
comp=Z,8.5nm,0.6s
AS19 Alice Springs 46.34 195 P **P 17 53 11.3 -1.0**
comp=Z,22nm,0.9s
SRIT Nakonsritamara 46.50 261 P **P 17 53 14.7 +1.0**
GOMU GeErMu 46.78 300 P **P 17 53 16.4 +0.2**
GOMU PP **PP 17 55 04.4 -1.8**
GOMU S **S 18 00 06.5 +0.4**
GOMU pmax pmax
comp=Z,110nm,1.0s
GOMU pmax pmax
comp=Z,490nm,3.6s
GOMU LR LR
comp=Z,2μm,17.1s
GOMU LR LR
comp=Z,890nm,16.0s
GOMU LR LR
comp=Z,1μm,14.6s
IPM Ipoh 46.81 255 IAmb IAmb 17 53 33.8
comp=Z,27nm,0.9s
IPM Ipoh 46.81 255 P **P 17 53 17.8 +1.6**
KULM Kulim 46.81 257 IAmb IAmb 17 53 33.6
comp=Z,35nm,1.1s
KULM Kulim 46.81 257 P **P 17 53 17.4 +1.2**
DZM Mont Dzumac 47.54 154 P **P 17 53 20.7 -1.0**
DZM Mont Dzumac 47.54 154 *e*P **P 17 53 20.8 -0.9**
comp=Z,169nm,1.1s
DZM *e*S **S 18 00 15.1 -1.2**
comp=Z,395nm,30.6s
DZM *e*SS **SS 18 03 44.7 0.0**
comp=Z,741nm,24.3s
DZM *e*LQ LQ 18 04 43.7
comp=Z,2μm,33.8s
DZM *e*LR LR 18 06 51.6
comp=Z,2μm,24.0s
DZM Mont Dzumac 47.54 154 LR LR 18 13 08.5
comp=Z,1μm,18.8s,baz=356,slow=36
QLP Quilpie 47.71 182 P **P 17 53 20.5 -2.4**
comp=Z,36nm,1.2s
QLP Quilpie 47.71 182 P **P 17 53 23.1 +0.2**
SPIA Saint Paul Isl 47.84 30 P **P 17 53 24.9 +1.3**
baz=240
P08K Saint George I 47.90 31 P **P 17 53 25.2 +1.2**
baz=241
OUENC Ouen Island, N 48.01 154 P **P 17 53 25.7 +0.5**
UNV Unalaska Valle 48.26 36 P **P 17 53 26.5 -0.3**
UNV Unalaska Valle 48.26 36 P **P 17 53 27.0 +0.2**
baz=247,SNR=5.5
BILL Bilibino 48.33 10 P **P 17 53 27.7 +0.5**
BILL IAmb IAmb 17 53 31.3
comp=Z,41nm,1.0s
BILL Bilibino 48.33 10 *i* P **P 17 53 28.1 +0.9**
BILL pmax pmax
comp=Z,57nm,1.1s
BKNI Bangkinang 48.66 250 P **P 17 53 31.8 +1.3**
INKA Innaminka 49.11 186 P **P 17 53 34.3 +0.7**
WRKA Warakurna 49.27 201 P **P 17 53 33.8 -1.2**
comp=Z,69nm,1.1s
WRKA Warakurna 49.27 201 P **P 17 53 34.8 -0.2**
PSI Prapat 49.42 255 P **P 17 53 38.0 +1.5**
comp=Z,42nm,1.2s
PSI Prapat 49.42 255 P **P 17 53 35.8 -0.7**
PSI pmax pmax
comp=Z,39nm,1.2s
RPSI Rantau Prapat 49.47 255 IAmb IAmb 17 53 50.4
comp=Z,37nm,1.0s
SHL Shillong 49.62 286 IAmb IAmb 17 53 52.6
comp=Z,25nm,0.6s
SHL Shillong 49.62 286 P **P 17 53 36.7 -1.2**
SHL pmax pmax
comp=Z,34nm,0.6s
LSA Lhasa 49.87 291 IAmb IAmb 17 53 44.8
comp=Z,36nm,0.7s
LSA Lhasa 49.87 291 P **P 17 53 41.5 +1.3**
LSA pmax pmax
comp=Z,54nm,0.7s
LSA Lhasa 49.87 291 P **P 17 53 41.3 +1.1**
MSVF Nonsavu 49.92 139 P **P 17 53 40.0 -0.1**
MSVF Nonsavu 49.92 139 P **P 17 53 40.0 -0.1**
MSVF pmax pmax
comp=Z,25nm,0.8s
FALS False Pass 50.32 35 P **P 17 53 43.0 +0.5**
baz=249
AULRC Lightning Ridg 50.55 178 P **P 17 53 43.3 -1.3**
GAMB Gambell 50.84 23 P **P 17 53 47.8 +1.4**
baz=234
M11K Mekoryuk 51.24 28 P **P 17 53 50.3 +0.9**
baz=242
TIXI Tiksi 51.26 353 P **P 17 53 49.0 -0.4**
TIXI Tiksi 51.26 353 *i* P **P 17 53 49.2 -0.2**
TIXI pmax pmax
comp=Z,17nm,0.9s
GSI Gunungsitoli 51.29 254 IAmb IAmb 17 54 08.7
comp=Z,67nm,1.0s
GSI Gunungsitoli 51.29 254 P **P 17 53 51.7 +1.2**
S12K Black Hills 51.34 35 P **P 17 53 50.6 +0.3**
baz=250
ARMA Armidale 51.78 174 P **P 17 53 51.9 -2.0**
comp=Z,25nm,1.2s
AUPHS Peel High Scho 52.38 175 P **P 17 53 59.2 +0.9**
CHNA Chernabura Isl 52.40 36 P **P 17 53 58.5 +0.4**
baz=253
M13K Dall Lake 52.52 29 P **P 17 54 00.8 +1.8**
baz=245
CMSA Cobar Meteorol 52.62 180 P **P 17 53 58.3 -1.8**
comp=Z,18nm,1.6s
CMSA Cobar Meteorol 52.62 180 P **P 17 54 00.0 0.0**
K13K Kusilvak Mount 52.62 27 P **P 17 54 01.5 +1.8**
baz=243
WMQ Urumqi 52.87 309 *e*P **P 17 54 03.5 +1.5**
WMQ S **S 18 01 31.2 +0.9**
WMQ pmax pmax
comp=Z,89nm,1.3s
WMQ pmax pmax
comp=Z,220nm,3.9s
WMQ LR LR
comp=Z,960nm,15.3s
WMQ LR LR
comp=Z,1μm,15.1s
WMQ LR LR
comp=Z,640nm,18.9s
N14K Kuskokwak Cree 53.08 30 P **P 17 54 04.3 +1.2**
baz=247
STKA Stephens Creek 53.13 185 P **P 17 54 01.2 -2.6**
comp=Z,2.2nm,1.8s
STKA Stephens Creek 53.13 185 P **P 17 54 01.2 -2.6**
comp=Z,9.9nm,0.9s,baz=14,slow=7.2,SNR=14
STKA LR LR 18 16 22.7
comp=Z,1μm,21.5s,baz=359,slow=36
comp=Z,9.9nm,0.9s
STKA Stephens Creek 53.13 185 P **P 17 54 03.1 -0.7**
TNA Tin City 53.20 22 P **P 17 54 05.4 +1.5**
baz=237,SNR=14
L14K Kuka Creek 53.21 28 P **P 17 54 05.8 +1.7**
baz=245
M14K Bethel 53.28 29 P **P 17 54 06.5 +1.9**
baz=246,SNR=9.3
AUDCS Dubbo College 53.36 177 P **P 17 54 05.8 +0.3**
J14K Nanvaranak Lak 53.45 26 P **P 17 54 07.6 +1.8**
baz=243
CHGN Chignik 53.47 35 IAmb IAmb 17 54 08.9
comp=Z,83nm,1.2s
CHGN Chignik 53.47 35 P **P 17 54 06.3 +0.2**
baz=253
ANM Nome 53.60 24 P **P 17 54 08.5 +1.6**
baz=240,SNR=13
O15K Ungalikthiuk R 53.69 31 P **P 17 54 08.9 +1.2**
baz=250
F14K Arctic Creek 53.72 22 P **P 17 54 09.3 +1.5**
baz=239,SNR=20
M15K Kasigluk River 53.84 29 P **P 17 54 09.7 +1.0**
baz=248
L15K Ungalak Mounta 53.87 28 P **P 17 54 10.4 +1.5**
baz=246
N15K Kwethluk River 53.91 30 P **P 17 54 11.1 +1.8**
baz=249
K15K Wolf Creek Mou 54.10 27 P **P 17 54 12.5 +1.8**
baz=246
G15K Niukluk 54.31 24 P **P 17 54 13.7 +1.6**
baz=241,SNR=18
F15K North Star Dit 54.44 23 P **P 17 54 14.6 +1.6**
baz=240,SNR=23
KHU Kahuku 54.44 81 P **P 17 54 14.6 +0.6**
KHU Kahuku 54.44 81 P **P 17 54 14.6 +0.6**
KHU pmax pmax
comp=Z,136nm,1.2s
P16K Nushagak River 54.53 32 P **P 17 54 15.7 +2.0**
baz=251
N16K Nishlik Lake 54.64 30 P **P 17 54 16.4 +1.8**
baz=250
O16K Kokwok River B 54.66 31 P **P 17 54 16.2 +1.5**
baz=251
FORT Forrest 54.68 199 P **P 17 54 14.4 -0.7**
comp=Z,128nm,0.8s
FORT Forrest 54.68 199 P **P 17 54 16.3 +1.2**
BBOO Buckleboo 54.73 190 IAmb IAmb 17 54 16.5
comp=Z,39nm,1.4s
BBOO Buckleboo 54.73 190 P **P 17 54 14.3 -1.2**
comp=Z,22nm,1.2s
M16K Timber Creek 54.74 29 P **P 17 54 16.9 +1.6**
baz=249,SNR=8.5
L16K Owhat River 54.77 28 P **P 17 54 16.7 +1.3**
baz=248
PUH Pauahi 54.78 81 P **P 17 54 15.0 -1.4**
H16K Elim 54.83 24 P **P 17 54 17.2 +1.4**
baz=243,SNR=10
CHIR Chirikof Islan 54.85 36 P **P 17 54 17.5 +1.4**
baz=256
STCH Steam Cracks 54.86 81 IAmb IAmb 17 54 22.6
comp=Z,65nm,1.1s
J16K Anvik River 54.90 26 P **P 17 54 18.3 +1.9**
baz=246
HTT Hallett 54.93 187 P **P 17 54 15.9 -1.1**
comp=Z,17nm,1.1s
HTT Hallett 54.93 187 P **P 17 54 17.2 +0.2**
I17K Unalakleet 55.11 26 P **P 17 54 19.6 +1.7**
baz=246
G16K Koyuk River 55.12 24 P **P 17 54 19.0 +1.0**
baz=243
O17K Koliganek Bris 55.20 31 P **P 17 54 20.3 +1.7**
baz=252,SNR=16
ZSN Zaisan 55.20 314 *e*P **P 17 54 19.4 +0.5**
ZSN Zaisan 55.20 314 *e*P **P 17 54 19.4 +0.5**
Q17K Contact Creek 55.35 33 P **P 17 54 21.1 +1.2**
baz=254
N17K Nushagak Hills 55.40 30 P **P 17 54 21.9 +1.9**
baz=251,SNR=8.1
L17K Donlin 55.44 28 P **P 17 54 22.4 +2.0**
baz=249,SNR=11
C16K Lisburne Hills 55.53 20 P **P 17 54 22.2 +1.4**
baz=238
M17K Holitna River 55.57 29 P **P 17 54 23.1 +1.8**
baz=250,SNR=8.7
J17K VABM Dome 55.58 26 P **P 17 54 23.0 +1.7**
baz=247
K17K Iditarod 55.65 27 P **P 17 54 23.6 +1.8**
baz=249
SII Sitkinak Islan 55.81 35 P **P 17 54 24.5 +1.4**
baz=257,SNR=5.5
SII Sitkinak Islan 55.81 35 P **P 17 54 25.5 +2.4**
G17K Kiwalik Mounta 55.81 24 P **P 17 54 24.4 +1.5**
baz=244
H17K Granite Mounta 55.85 25 P **P 17 54 25.0 +1.7**
baz=246
R18K Karluk 55.91 34 P **P 17 54 25.0 +1.3**
baz=256
D17K Noatak River 55.96 21 P **P 17 54 25.7 +1.7**
baz=241,SNR=34
P18K Big Mountain, 55.99 32 P **P 17 54 25.0 +0.6**
baz=254
F17K Baldwin Pennin 56.01 23 P **P 17 54 26.2 +2.0**
baz=243
N18K Kilae Creek 56.05 30 P **P 17 54 26.5 +1.8**
baz=252
E17K Hotham Inlet 56.10 22 P **P 17 54 26.9 +1.9**
baz=242
O18K Koktuh Hills 56.13 31 P **P 17 54 27.0 +1.6**
baz=254,SNR=18
ZAA0 Zalesovo Array 56.14 321 IAmb IAmb 17 54 27.8
comp=Z,29nm,0.9s
ZALV Zalesovo Beam 56.14 321 P **P 17 54 24.7 -0.7**
ZALV Zalesovo Beam 56.14 321 P **P 17 54 24.2 -1.3**
comp=Z,19nm,0.7s,baz=102,slow=7.8,SNR=62
ZALV LR LR 18 19 48.0
comp=Z,1μm,18.2s,baz=98,slow=38
comp=Z,19nm,0.7s
ZALV Zalesovo Beam 56.14 321 *i* P **P 17 54 24.8 -0.7**
ZALV pmax pmax
comp=Z,19nm,0.6s
L18K Granite Mounta 56.18 28 P **P 17 54 27.5 +1.9**
baz=251
RDOG Red Dog Mine 56.20 21 P **P 17 54 27.5 +1.8**
baz=241,SNR=17
C17K DeLong Mountai 56.32 20 P **P 17 54 28.2 +1.7**
baz=240
M18K Stony River 56.33 29 P **P 17 54 28.3 +1.6**
baz=252
OHAK Old Harbor 56.44 35 P **P 17 54 28.6 +1.1**
baz=257
OHAK Old Harbor 56.44 35 P **P 17 54 30.1 +2.6**
CAN Canberra 56.46 177 P **P 17 54 27.7 -0.3**
comp=Z,23nm,1.3s
CAN Canberra 56.46 177 P **P 17 54 28.8 +0.9**
CAN Canberra 56.46 177 P **P 17 54 30.2 +2.3**
CAN pmax pmax
comp=Z,36nm,1.3s
H18K Honhosa River 56.54 25 P **P 17 54 29.6 +1.4**
baz=247
J18K Innoko River 56.59 27 P **P 17 54 29.9 +1.4**
baz=250
F18K Selawik 56.65 23 P **P 17 54 30.4 +1.5**
baz=245,SNR=26
O19K Port Alsworth 56.66 31 P **P 17 54 30.3 +1.3**
baz=254,SNR=10
Q19K Cape Douglas, 56.66 33 P **P 17 54 30.3 +1.2**
baz=256
E18K Tukpahlearik C 56.67 22 P **P 17 54 30.9 +1.9**
baz=243
TTA Tatalina 56.71 28 P **P 17 54 30.9 +1.4**
baz=251,SNR=20
TTA Tatalina 56.71 28 P **P 17 54 31.6 +2.1**
G18K Tagagawik 56.73 24 P **P 17 54 31.0 +1.5**
baz=246
N19K Bonanza Creek 56.75 30 P **P 17 54 31.6 +1.7**
baz=254
MK31 Makanchi Array 56.90 313 *ce*P **P 17 54 31.3 +0.2**
MKAR Makanchi Array 56.90 313 P **P 17 54 30.5 -0.5**
MKAR Makanchi Array 56.90 313 P **P 17 54 30.7 -0.4**
comp=Z,8.2nm,0.6s,baz=91,slow=7.9,SNR=50
MKAR ScP **ScP 17 59 24.7 -0.9**
comp=Z,1.7nm,1.0s,baz=73,slow=4.1,SNR=3.0
MKAR LR LR 18 20 03.6
comp=Z,847nm,18.6s,baz=80,slow=37
MKAR PKP2bc 18 24 32.6
comp=Z,0.5nm,1.0s,baz=27,slow=0.3,SNR=4.2
comp=Z,8.2nm,0.6s
MKAR Makanchi Array 56.90 313 *i* P **P 17 54 30.8 -0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
KDAK Kodiak Island 56.93 34 P **P 17 54 31.5 +0.5**
KDAK IAmb IAmb 17 54 36.4
comp=Z,28nm,0.9s
KDAK Kodiak Island 56.93 34 LR LR 18 21 54.4
comp=Z,419nm,18.0s,baz=92,slow=39
KDAK Kodiak Island 56.93 34 P **P 17 54 32.0 +1.0**
baz=257
KDAK Kodiak Island 56.93 34 P **P 17 54 31.5 +0.5**
KDAK pmax pmax
comp=Z,29nm,1.0s
GCSA Galena City Sc 56.98 25 P **P 17 54 31.9 +0.7**
baz=249
L19K White Mountain 56.98 29 P **P 17 54 32.8 +1.4**
baz=252
C18K Utukok River 57.04 20 P **P 17 54 32.8 +1.1**
baz=242
P19K Oil Pt 57.04 32 P **P 17 54 32.5 +0.6**
baz=256,SNR=6.6
M19K Big River Lodg 57.11 29 P **P 17 54 33.2 +1.0**
baz=253
MAKZ Makanchi 57.12 313 P **P 17 54 32.4 -0.2**
MAKZ Makanchi 57.12 313 P **P 17 54 32.4 -0.2**
MAKZ pmax pmax
comp=Z,30nm,1.1s
B18K Kokolik River 57.19 19 P **P 17 54 34.8 +2.1**
baz=241
Q20K Shuyak Island 57.22 33 P **P 17 54 33.7 +0.6**
baz=257,SNR=7.0
J19K Poorman 57.23 26 P **P 17 54 34.9 +1.8**
baz=250
G19K Purcell Mounta 57.41 24 P **P 17 54 35.7 +1.3**
baz=248,SNR=45
F19K Shaleruckik Mo 57.43 23 P **P 17 54 35.3 +0.9**
baz=247
H19K Roundabout Mou 57.43 25 P **P 17 54 36.2 +1.8**
baz=249,SNR=42
O20K Slope Mountain 57.45 31 P **P 17 54 35.3 +0.5**
baz=256
L20K Farewell, AK 57.50 28 P **P 17 54 36.8 +1.7**
baz=253
M20K Styx River 57.67 29 P **P 17 54 37.9 +1.5**
baz=254
K20K Telida 57.68 27 P **P 17 54 38.3 +2.0**
baz=252,SNR=26
HOM Homer 57.83 32 P **P 17 54 37.6 +0.3**
baz=257
E19K Redstone River 57.87 22 P **P 17 54 39.1 +1.6**
baz=247,SNR=28
J20K Nowinta River 57.90 27 P **P 17 54 39.8 +2.1**
baz=252,SNR=61
SPCR Spurr Chakacha 57.92 30 P **P 17 54 40.4 +2.3**
baz=256,SNR=7.0
I20K Naaghedeneel 57.96 26 P **P 17 54 40.3 +2.2**
baz=251
ARPS Mount Arapiles 57.98 184 P **P 17 54 37.5 -1.0**
comp=Z,38nm,1.1s
ARPS Mount Arapiles 57.98 184 P **P 17 54 39.1 +0.6**
D19K Kuna River 57.99 21 P **P 17 54 39.9 +1.5**
baz=245
H20K Anotleneega Mo 58.03 25 P **P 17 54 40.4 +1.7**
baz=250,SNR=53
BRLK Bradley Lake 58.23 32 IAmb IAmb 17 54 42.6
comp=Z,42nm,1.2s
F20K Avaraart Lake 58.26 23 P **P 17 54 41.4 +1.2**
baz=249
BRSE Bradley Lake S 58.29 32 P **P 17 54 40.9 +0.3**
baz=258,SNR=6.5
CAPN Captain Cook N 58.32 31 P **P 17 54 42.6 +1.9**
baz=257
PPLA Purkeypile 58.37 28 P **P 17 54 42.9 +1.6**
baz=255
SKT Skwentna 58.43 29 IAmb IAmb 17 54 43.1
comp=Z,101nm,1.8s
SKT Skwentna 58.43 29 P **P 17 54 41.1 -0.4**
baz=256,SNR=11
E20K Nigu River 58.55 22 P **P 17 54 44.0 +1.7**
baz=248
CAST Castle Rocks 58.56 28 P **P 17 54 43.9 +1.5**
baz=254
D20K Etivluk River 58.58 21 P **P 17 54 43.8 +1.3**
baz=247
CHUM Lake Minchumin 58.58 27 P **P 17 54 44.2 +1.6**
baz=254
TOO Toolangi 58.64 181 P **P 17 54 41.2 -2.1**
comp=Z,10nm,0.9s
SUA Susitna One 58.67 30 P **P 17 54 45.1 +1.8**
baz=257,SNR=5.7
SHLS Shalkode 58.83 308 *e*P **P 17 54 42.9 -1.9**
SHLS Shalkode 58.83 308 *e*P **P 17 54 42.9 -1.9**
H21K Melozitna Rive 58.90 25 P **P 17 54 46.6 +1.8**
baz=252,SNR=61
BLDU Ballidu 58.90 210 P **P 17 54 45.8 +0.6**
O22K Cooper Landing 58.95 31 P **P 17 54 45.6 +0.5**
baz=258
SEW Seward 59.00 32 P **P 17 54 46.1 +0.6**
baz=259,SNR=11
M22K Willow 59.03 30 P **P 17 54 46.8 +1.1**
baz=257
RC01 Rabbit Creek A 59.06 31 P **P 17 54 46.5 +0.5**
baz=258,SNR=14
I21K Tanana 59.09 26 P **P 17 54 47.9 +1.9**
baz=253,SNR=38
CUT Chulitna 59.11 29 P **P 17 54 47.9 +1.7**
baz=257
F21K Alatna River 59.14 23 P **P 17 54 47.8 +1.4**
baz=251
UZB Uzynbulak 59.15 308 *e*P **P 17 54 47.1 +0.1**
UZB Uzynbulak 59.15 308 *e*P **P 17 54 47.2 +0.1**
BPAW Bear Paw Mtn. 59.21 27 P **P 17 54 48.3 +1.3**
baz=255,SNR=63
NRIK Noril'sk 59.23 339 P **P 17 54 46.7 -0.3**
comp=Z,87nm,1.2s,baz=112,slow=7.4,SNR=38
NRIK LR LR 18 21 30.3
comp=Z,1μm,20.2s,baz=120,slow=37
comp=Z,87nm,1.2s
NRIK Noril'sk 59.23 339 *ce*P **P 17 54 47.9 +0.9**
NRIK pmax pmax
comp=Z,90nm,1.3s
KLBR Kellerberrin 59.26 208 P **P 17 54 47.0 -0.7**
comp=Z,53nm,0.8s
KLBR Kellerberrin 59.26 208 P **P 17 54 48.2 +0.5**
TRF Thorofare Moun 59.34 28 P **P 17 54 48.8 +0.7**
baz=256,SNR=26
C21K Knifeblade Rid 59.36 21 P **P 17 54 49.9 +2.0**
baz=248
E21K Kilik River 59.38 22 P **P 17 54 49.2 +1.1**
baz=250
KPKS Kokpek 59.39 309 *e*P **P 17 54 49.0 +0.4**
KPKS Kokpek 59.39 309 *e*P **P 17 54 49.0 +0.4**
PMR Palmer 59.45 30 P **P 17 54 48.9 +0.3**
baz=258,SNR=11
PMR Palmer 59.45 30 P **P 17 54 51.0 +2.4**
H22K Ishtalitna Cre 59.53 25 P **P 17 54 50.4 +1.2**
baz=254
KURK Kurchatov 59.55 317 P **P 17 54 48.7 -0.7**
KURK IAmb IAmb 17 54 52.0
comp=Z,41nm,1.1s
KURK Kurchatov 59.55 317 *ce*P **P 17 54 49.9 +0.5**
KURK pmax pmax
comp=Z,54nm,1.3s
TDK Taldyqorghan 59.57 310 *e*P **P 17 54 50.1 +0.4**
TDK pmax pmax
comp=Z,78nm,1.6s
TDK Taldyqorghan 59.57 310 *e*P **P 17 54 50.2 +0.4**
comp=Z,78nm,1.6s
ZHN Zhinishke 59.58 308 *e*P **P 17 54 49.6 -0.4**
ZHN Zhinishke 59.58 308 *e*P **P 17 54 49.6 -0.4**
GHO Glory Hole Cre 59.59 30 IAmb IAmb 17 55 04.1
comp=Z,24nm,1.0s
B21K Ikpikpuk River 59.59 20 P **P 17 54 51.1 +1.7**
baz=248
KURBB Kurchatov Arra 59.60 317 P **P 17 54 48.7 -1.1**
comp=Z,30nm,1.0s,baz=94,slow=7.8,SNR=77
KURBB S **S 18 02 60.0 +0.7**
comp=Z,0.2nm,0.6s,baz=122,slow=22,SNR=2.8
KURBB LR LR 18 22 14.9
comp=Z,2μm,18.3s,baz=95,slow=38
KURBB PKP2bc 18 24 23.3
comp=Z,0.8nm,1.0s,baz=274,slow=3.2,SNR=4.9
comp=Z,30nm,1.0s
SATY Saty 59.60 308 *e*P **P 17 54 50.3 +0.2**
SATY pmax pmax
comp=Z,31nm,1.2s
SATY Saty 59.60 308 *e*P **P 17 54 50.4 +0.2**
comp=Z,31nm,1.2s
A21K Barrow 59.64 18 P **P 17 54 51.3 +1.5**
baz=245,SNR=8.7
PWL Port Wells 59.69 31 P **P 17 54 51.0 +0.7**
baz=259,SNR=10.0
KNK Knik Glacier 59.73 30 P **P 17 54 50.5 -0.1**
baz=259,SNR=12
G22K Bettles 59.78 24 P **P 17 54 51.6 +0.8**
baz=253
SML Sawmill 59.87 30 P **P 17 54 52.4 +0.9**
baz=259,SNR=34
D22K Ayikyak River 59.97 22 P **P 17 54 53.7 +1.6**
baz=251,SNR=83
P23K Montague Islan 59.99 32 P **P 17 54 52.5 +0.1**
baz=261

MCK	McKinley	60.00	28	P	P	17 54 53.0	+0.6
	baz=257,SNR=24						
E22K	Anaktuvuk Pass	60.04	22	P	P	17 54 54.4	+1.8
	baz=252,SNR=52						
NEA2	Nenana	60.14	27	IAmb	IAmb	17 54 55.6	
	comp=Z,35nm,0.8s						
NEA2	Nenana	60.14	27	P	P	17 54 54.1	+0.8
	baz=257,SNR=40						
I23K	Minto, Yukon-K	60.15	26	P	P	17 54 54.6	+1.3
	baz=256,SNR=29						
M23K	Glacier View	60.15	30	P	P	17 54 54.2	+0.7
	baz=259,SNR=11						
B22K	Teshekpuk Lake	60.23	20	P	P	17 54 54.6	+0.8
	baz=249						
G23K	Bananza Creek	60.28	24	P	P	17 54 56.1	+1.8
	baz=254,SNR=67						
GLI	Glacier Island	60.29	31	P	P	17 54 55.6	+1.2
	baz=260						
SCM	Sheep Creek Mo	60.34	30	P	P	17 54 56.1	+1.3
	baz=260,SNR=29						
COLD	Coldfoot	60.36	24	P	P	17 54 56.7	+1.9
	baz=254,SNR=33						
WRH	Wood River Hil	60.52	27	IAmb	IAmb	17 54 58.8	
	comp=Z,38nm,1.1s						
KDJ	Kajisay	60.55	307	P	P	17 54 58.6	+1.9
KDJ				pmax	pmax		
	comp=Z,36nm,1.3s						
MDOK	Medeo	60.59	308	eP	P	17 54 57.1	+0.1
MDOK	Medeo	60.59	308	eP	P	17 54 57.1	+0.1
NWAO	Narrogin (SRO)	60.63	208	LR	LR	18 22 41.8	
	comp=Z,667nm,19.0s,baz=57,slow=38						
TNSS	Tian-Shan	60.67	308	eP	P	17 54 57.7	-0.1
TNSS	Tian-Shan	60.67	308	eP	P	17 54 57.8	-0.1
CCB	Clear Creek Bu	60.68	27	IAmb	IAmb	17 54 59.9	
	comp=Z,59nm,1.5s						
D23K	Nanushuk River	60.69	22	P	P	17 54 59.0	+2.0
	baz=253						
AAA	Alma-Ata	60.69	308	eP	P	17 54 57.7	+0.2
AAA				pmax	pmax		
	comp=Z,109nm,1.9s						
AAA	Alma-Ata	60.69	308	eP	P	17 54 57.8	+0.2
	comp=Z,109nm,1.9s						
COLA	College	60.71	27	P	P	17 54 57.6	+0.4
COLA	College	60.71	27	P	P	17 54 59.1	+2.0
	baz=258						
COLA	College	60.71	27	P	P	17 54 59.4	+2.2
COLA	College	60.71	27	P	P	17 54 57.6	+0.4
COLA				pmax	pmax		
	comp=Z,43nm,0.3s						
E23K	Chandalar	60.80	23	P	P	17 55 00.1	+2.2
	baz=254						
EYAK	Cordova Ski Ar	60.89	32	P	P	17 55 00.1	+1.6
	baz=262						
EYAK	Cordova Ski Ar	60.89	32	P	P	17 55 01.5	+3.0
H24K	Noodor Dome	60.91	25	P	P	17 55 00.1	+1.5
	baz=257,SNR=25						
M24K	Tolsona, Glenn	60.93	30	P	P	17 55 00.3	+1.5
	baz=261,SNR=10.0						
POKR	Poker Plat Res	60.94	26	IAmb	IAmb	17 55 02.3	
	comp=Z,34nm,1.1s						
POKR	Poker Plat Res	60.94	26	P	P	17 54 59.3	+0.6
	baz=258,SNR=8.4						
KLU	Klutina	60.95	31	P	P	17 54 59.6	+0.6
KLU				IAmb	IAmb	17 55 02.8	
	comp=Z,40nm,0.9s						
KLU	Klutina	60.95	31	P	P	17 55 00.3	+1.4
	baz=261,SNR=18						
C23K	Itkillik River	60.98	21	P	P	17 55 00.7	+1.8
	baz=252						
TOLK	Toolik Lake Re	60.98	22	P	P	17 55 00.7	+1.7
	baz=254,SNR=63						
HDA	Harding Lake	60.99	27	P	P	17 54 58.5	-0.6
HDA				IAmb	IAmb	17 55 01.6	
	comp=Z,49nm,1.1s						
HDA	Harding Lake	60.99	27	P	P	17 54 59.1	0.0
	baz=259,SNR=31						
ILAR	Eielson Array	61.09	27	P	P	17 54 58.7	-1.1
ILAR	Eielson Array	61.09	27	P	P	17 54 59.0	-0.8
	comp=Z,22nm,0.9s,baz=258,slow=5.6,SNR=155						
ILAR				LR	LR	18 21 06.9	
	comp=Z,511nm,19.7s,baz=252,slow=36						
	comp=Z,22nm,0.9s						
ILAR	Eielson Array	61.09	27	P	P	17 54 59.0	-0.8
E24K	Your Creek	61.22	23	P	P	17 55 02.5	+1.9
	baz=255						
G24K	Hadweenzic Riv	61.27	25	P	P	17 55 02.8	+1.9
	baz=257						
F24K	Squaw Lake	61.30	24	P	P	17 55 03.0	+1.7
	baz=256						
D24K	Happy Valley	61.38	22	P	P	17 55 03.3	+1.6
	baz=254						
PAX	Paxson	61.39	29	P	P	17 55 02.9	+0.9
	baz=261,SNR=28						
K24K	Donnelly Dome	61.39	28	P	P	17 55 04.0	+2.1
	baz=260,SNR=15						
HARP	HAARP	61.44	30	P	P	17 55 03.7	+1.5
	baz=262,SNR=18						
NRN	Naryn	61.47	306	IAmb	IAmb	17 55 07.2	
	comp=Z,42nm,1.2s						
KAIM	Kayak Island	61.47	32	P	P	17 55 04.1	+1.7
	baz=264						
BMRM	Bremner River	61.51	31	P	P	17 55 04.0	+1.3
	baz=263,SNR=15						
C24K	Franklin Bluff	61.58	21	P	P	17 55 04.6	+1.7
	baz=254,SNR=27						
N25K	Chitina, Valde	61.59	31	P	P	17 55 04.9	+1.5
	baz=262,SNR=16						
KSH	Kashi	61.65	304	P	P	17 55 07.0	+2.8
KSH				S	S	18 03 31.2	+5.1
KSH				pmax	pmax		
	comp=Z,30nm,1.1s						
KSH				pmax	pmax		
	comp=Z,230nm,4.9s						
KSH				LR	LR		
	comp=Z,830nm,16.1s						
KSH				LR	LR		
	comp=Z,1µm,17.9s						
KSH				LR	LR		
	comp=Z,890nm,15.5s						
J25K	Salcha River,	61.70	27	IAmb	IAmb	17 55 05.6	
	comp=Z,21nm,0.9s						
J25K	Salcha River,	61.70	27	P	P	17 55 03.5	-0.5
	baz=260						
RIDG	Independent Ri	61.79	28	P	P	17 55 05.3	+0.7
	baz=261,SNR=33						
PRP	Porcupine Dome	61.80	26	P	P	17 55 04.9	+0.1
	baz=260,SNR=6.6						
F25K	Christian Rive	62.16	24	P	P	17 55 09.1	+2.1
	baz=258						
KBK	Karagaybulak	62.16	308	P	P	17 55 08.4	+0.8
	SNR=19						
SCRK	Sand Creek	62.20	28	P	P	17 55 08.3	+0.9
	baz=262,SNR=51						
D25K	Kavik River	62.27	22	P	P	17 55 09.4	+1.6
	baz=257						
CHMS	Chumysh	62.28	308	P	P	17 55 08.7	+0.4
	SNR=13						
E25K	Arctic Village	62.29	23	P	P	17 55 09.9	+2.0
	baz=258,SNR=48						
SGDS	Sogindy	62.34	309	eP	P	17 55 08.8	+0.1
SGDS	Sogindy	62.34	309	eP	P	17 55 08.8	+0.1
L26K	Log Cabin Wild	62.35	29	P	P	17 55 09.6	+1.2
	baz=263						
FRU1	Bishkek	62.38	308	P	P	17 55 10.5	+1.5
FRU1				pmax	pmax		
	comp=Z,34nm,1.1s						
M26K	Nabesna, AK	62.44	30	P	P	17 55 09.9	+0.9
	baz=264						
USP	Ospenovka	62.45	309	P	P	17 55 09.5	+0.1
	SNR=17						
J26L	Joseph Creek	62.46	27	P	P	17 55 09.2	+0.1
	baz=262						
AAK	Ala-Archa	62.50	308	P	P	17 55 09.9	0.0
AAK				IAmb	IAmb	17 55 12.9	
	comp=Z,51nm,1.6s						
AAK	Ala-Archa	62.50	308	LR	LR	18 23 24.3	
	comp=Z,608nm,18.8s,baz=92,slow=37						
AAK	Ala-Archa	62.50	308	P	P	17 55 10.3	+0.4
	SNR=14						
AAK	Ala-Archa	62.50	308	ceP	P	17 55 11.0	+1.1
AAK				pmax	pmax		
	comp=Z,26nm,1.3s						
AAK	Ala-Archa	62.50	308	P	P	17 55 09.9	0.0
UCH	Uchtor	62.52	307	P	P	17 55 12.5	+2.1
	SNR=8.4						
BMAR	Burnt Mountain	62.52	24	P	P	17 55 10.3	+0.9
BTLS	Baital	62.66	311	eP	P	17 55 10.8	+0.2
BTLS	Baital	62.66	311	eP	P	17 55 10.9	+0.2
ARLS	Aral	62.69	307	P	P	17 55 12.6	+1.4
ARLS				pmax	pmax		
	comp=Z,35nm,1.1s						
MESA	MESA	62.73	32	P	P	17 55 12.5	+1.4
	baz=266						
F26K	Sheenjek River	62.74	24	P	P	17 55 12.4	+1.5
	baz=260						
I26K	Coal Creek Min	62.74	26	P	P	17 55 10.6	-0.3
	baz=262						
G26K	Porcupine Rive	62.75	25	P	P	17 55 12.7	+1.8
	baz=260						
C26K	Camden Bay	62.90	21	P	P	17 55 14.3	+2.5
	baz=258						
M27K	Edge Creek, AK	62.95	30	P	P	17 55 13.3	+0.8
	baz=264						
L27K	Beaver Creek,	63.05	29	P	P	17 55 13.6	+0.6
	baz=264						
BCAR	Beaver Creek A	63.07	29	P	P	17 55 13.8	+0.6
AML	Almayashu	63.13	307	P	P	17 55 12.0	-2.4
	SNR=21						
C27K	Jago River	63.25	22	P	P	17 55 15.7	+1.5
	baz=259						
BRZS	Berezniki	63.35	316	eP	P	17 55 15.4	+0.2
BRZS	Berezniki	63.35	316	eP	P	17 55 15.4	+0.2
HYB	Hyderabad	63.40	279	eP	P	17 55 17.2	+1.1
I27K	Kandik River	63.42	26	P	P	17 55 16.1	+0.6
	baz=263						
BVCY	Beaver Creek	63.43	30	P	P	17 55 16.8	+1.3
	baz=265,SNR=6.7						
EGAK	Eagle	63.52	27	IAmb	IAmb	17 55 21.6	
	comp=Z,23nm,1.0s						
EGAK	Eagle	63.52	27	P	P	17 55 16.6	+0.6
	baz=264,SNR=16						
H27K	Steamboat Moun	63.53	26	P	P	17 55 17.3	+1.1
	baz=263						
G27K	Doyon Strip	63.56	25	P	P	17 55 17.5	+1.1
	baz=262						
PINM	Pinnacle	63.57	32	P	P	17 55 17.5	+0.9
	baz=267						
YUK3	Moose Creek	63.57	31	P	P	17 55 18.0	+1.3
	baz=266,SNR=14						
O28M	Mount Upton	63.64	32	P	P	17 55 18.9	+1.7
	baz=267						
ARSB	Arslanbob	63.74	307	IAmb	IAmb	17 55 42.6	
	comp=Z,28nm,1.4s						
YUK8	Steele Glacier	63.87	31	P	P	17 55 20.2	+1.4
	baz=267,SNR=15						
OHH	Osh	63.98	306	P	P	17 55 20.2	+0.6
OHH				pmax	pmax		
	comp=Z,62nm,1.3s						
I28M	Miner Creek	64.10	27	IAmb	IAmb	17 55 25.9	
	comp=Z,47nm,1.2s						
I28M	Miner Creek	64.10	27	P	P	17 55 21.0	+1.0
	baz=265						
D27M	Malcolm River	64.15	22	P	P	17 55 21.7	+1.5
	baz=262						
DAWY	Dawson	64.22	28	P	P	17 55 22.0	+1.3
	baz=266,SNR=22						
F28M	Old Crow	64.34	24	P	P	17 55 23.0	+1.5
	baz=264,SNR=37						
YUK4	Talbot Arm	64.42	31	P	P	17 55 23.9	+1.6
	baz=268,SNR=33						
O29M	Mount Kennedy	64.42	32	P	P	17 55 23.6	+1.4
	baz=268						
PALK	Pallekele	64.49	268	LR	LR	18 21 51.2	
	comp=Z,286nm,20.0s,baz=54,slow=35						
YUK6	Outpost Mounta	64.54	32	P	P	17 55 24.5	+1.3
	baz=268,SNR=9.0						
M29M	Somme Creek	64.55	30	P	P	17 55 24.6	+1.6
	baz=268						
NIL	Nilore	64.58	298	P	P	17 55 23.7	+0.1
NIL	Nilore	64.58	298	P	P	17 55 23.7	+0.1
NIL				pmax	pmax		
	comp=Z,166nm,1.4s						
E28M	Babbage River	64.58	23	P	P	17 55 24.9	+1.9
	baz=264						
BVAR	Borovoye Array	64.66	320	P	P	17 55 23.2	-0.6
	comp=Z,34nm,0.4s,baz=94,slow=8.1,SNR=214						
BVAR				S	S	18 04 02.4	-0.8
	comp=Z,2.0nm,1.1s,baz=81,slow=14,SNR=4.3						
BVAR				LR	LR	18 24 57.0	
	comp=Z,2µm,19.7s,baz=83,slow=37						
	comp=Z,34nm,0.4s						
BRVK	Borovoye	64.73	320	P	P	17 55 23.9	-0.3
BRVK	Borovoye	64.73	320	ceP	P	17 55 24.5	+0.3
BRVK				pmax	pmax		
	comp=Z,99nm,1.3s						
L29M	L29M	64.73	29	P	P	17 55 26.1	+2.0
	baz=268						
J29N	Klondike Camp	64.76	28	P	P	17 55 26.0	+1.7
	baz=267,SNR=17						
I29M	Ogilvie Camp,	64.77	27	P	P	17 55 25.2	+0.9
	baz=266,SNR=24						
DZA	Taraz	64.79	308	eP	P	17 55 25.1	+0.3
DZA	Taraz	64.79	308	eP	P	17 55 25.2	+0.3
H29M	Whitestone	64.81	26	IAmb	IAmb	17 55 47.5	
	comp=Z,45nm,1.1s						
H29M	Whitestone	64.81	26	P	P	17 55 25.8	+1.3
	baz=266,SNR=21						
DRK	Karamyk	64.86	305	IAmb	IAmb	17 55 39.8	
	comp=Z,21nm,0.8s						
DRK	Karamyk	64.86	305	P	P	17 55 26.1	+0.4
D28M	Stokes Point	64.94	22	P	P	17 55 26.5	+1.3
	baz=264						
HYT	Haines Junctio	64.96	32	P	P	17 55 27.8	+2.0
	baz=269,SNR=26						
G29M	Pine Creek	65.00	25	P	P	17 55 27.2	+1.5
	baz=266						
K29M	Barlow Dome	65.03	28	P	P	17 55 27.9	+1.8
	baz=268						
TRKS	Terek-Say	65.09	307	P	P	17 55 27.6	+0.6
TRKS				pmax	pmax		
	comp=Z,14nm,1.0s						
E29M	Blow River	65.16	23	P	P	17 55 28.7	+2.0
	baz=265						
N30M	Aishikik Lake	65.17	31	P	P	17 55 28.7	+1.7
	baz=269						
P30M	Million Dollar	65.22	32	P	P	17 55 29.0	+1.7
	baz=270						
M30M	Minto, Yukon	65.33	30	P	P	17 55 29.6	+1.6
	baz=269,SNR=13						
KKAR	Karatay Array	65.37	309	P	P	17 55 28.0	-0.6
KKAR	Karatay Array	65.37	309	IAmb	IAmb	17 55 31.4	
	comp=Z,29nm,0.9s						
KKAR	Karatay Array	65.37	309	P	P	17 55 28.0	-0.6
EPYK	Eagle Plains	65.48	26	P	P	17 55 30.1	+1.2
	baz=267,SNR=12						
PLBC	Pleasant Camp	65.53	33	P	P	17 55 30.7	+1.5
	baz=271,SNR=11						
BTK	Batken	65.53	305	IAmb	IAmb	17 55 43.4	
	comp=Z,21nm,0.9s						
BTK	Batken	65.53	305	P	P	17 55 30.1	+0.3
BTK				pmax	pmax		
	comp=Z,23nm,1.4s						
I30M	Mount Dempster	65.58	27	P	P	17 55 30.4	+0.7
	baz=268						
S31K	Pelican	65.63	35	P	P	17 55 32.4	+2.6
	baz=272						
O30N	Mendenhall	65.65	32	P	P	17 55 31.6	+1.5
	baz=270,SNR=9.5						
G30M	tAoh Zraii Nji	65.71	25	P	P	17 55 31.2	+0.9
	baz=268						
N31M	Braeburn, Yuko	65.80	31	P	P	17 55 33.0	+1.9
	baz=270,SNR=17						
IUG	Iuzhnay	65.84	308	eP	P	17 55 31.8	+0.1
IUG				pmax	pmax		
	comp=Z,42nm,1.5s						
IUG	Iuzhnay	65.84	308	eP	P	17 55 31.8	+0.1
	comp=Z,42nm,1.5s						
BRLS	Borolday	65.87	309	eP	P	17 55 32.7	+0.9
BRLS	Borolday	65.87	309	eP	P	17 55 32.8	+0.9
F30M	Barrier River	65.90	24	P	P	17 55 33.2	+1.6
	baz=268						
SKAG	Skagway	66.06	33	P	P	17 55 34.3	+1.6
	baz=272						
SKAG	Skagway	66.06	33	P	P	17 55 35.0	+2.4
URZ	Urewera	66.09	154	LR	LR	18 21 45.2	
	comp=Z,611nm,20.0s,baz=57,slow=34						
CHM	Chimkent	66.13	308	eP	P	17 55 33.7	+0.2
CHM				pmax	pmax		
	comp=Z,32nm,1.6s						
CHM	Chimkent	66.13	308	eP	P	17 55 33.7	+0.2
	comp=Z,32nm,1.6s						
SIT	Sitka	66.15	36	P	P	17 55 35.6	+2.3
	baz=273						
WHY	Whitehorse	66.25	32	P	P	17 55 35.7	+1.6
	baz=272,SNR=13						
H31M	Peel River	66.44	26	P	P	17 55 36.2	+1.1
	baz=270						
M31M	Drury Creek, Y	66.44	30	P	P	17 55 36.0	+0.8
	baz=271,SNR=15						
G31M	Satah River	66.47	25	P	P	17 55 35.9	+0.7
	baz=269						
R32K	Eaglecrest	66.52	34	P	P	17 55 35.5	-0.2
	baz=273						
S32K	Killisnoo	66.53	35	P	P	17 55 35.5	-0.2
	baz=273						
JIS	Juneau Island	66.59	34	P	P	17 55 38.5	+2.4
BKZ	Black Stump Fm	66.62	155	P	P	17 55 37.0	+0.5
F31M	Tsiigehtchic	66.69	24	IAmb	IAmb	17 55 39.6	
	comp=Z,35nm,1.1s						
F31M	Tsiigehtchic	66.69	24	P	P	17 55 37.1	+0.6
	baz=270,SNR=12						
INK	Inuvik	66.77	24	IAmb	IAmb	17 55 40.2	
	comp=Z,35nm,1.1s						
INK	Inuvik	66.77	24	P	P	17 55 37.7	+0.6
	baz=269,SNR=38						
P32M	Atlin	66.87	33	P	P	17 55 39.3	+1.3
	baz=273,SNR=7.5						
FARO	Faro, Yukon	66.93	30	P	P	17 55 39.7	+1.4
	baz=272,SNR=14						
N32M	Quiet Lake	67.11	31	P	P	17 55 40.4	+1.0
	baz=273						
SIMJ	Simiganj	67.13	304	P	P	17 55 39.9	-0.2
P33M	Teslin, Yukon	67.29	32	P	P	17 55 42.2	+1.5
	baz=274,SNR=13						
U33K	Whale Pass	67.43	37	P	P	17 55 43.0	+1.5
	baz=275						
CRAG	Craig	67.49	37	P	P	17 55 43.4	+1.6
	baz=275						
Q32M	Nakina River	67.65	34	P	P	17 55 44.8	+1.7
	baz=274						
KBL	Kabul	67.85	300	P	P	17 55 44.1	-0.7
KBL	Kabul	67.85	300	P	P	17 55 44.1	-0.7
KBL				pmax	pmax		
	comp=Z,60nm,0.9s						
DIB	Dawson Inlet,	68.10	40	IAmb	IAmb	17 55 46.9	
	comp=Z,44nm,1.2s						
R33M	Jennings River	68.28	33	P	P	17 55 48.8	+1.8
	baz=275,SNR=9.9						
S34M	Telegraph Cree	68.34	35	P	P	17 55 49.2	+1.9
	baz=276,SNR=11						
V35K	Ketchikan	68.36	38	P	P	17 55 48.9	+1.6
	baz=276						
OXZ	Oxford	68.67	160	P	P	17 55 48.4	-0.9
OXZ				IAmb	IAmb	17 56 18.1	
	comp=Z,43nm,1.1s						
RPZ	Rata Peaks	68.71	161	P	P	17 55 49.2	-0.4
DLBC	Dease Lake	68.87	34	P	P	17 55 52.5	+1.9
	baz=277,SNR=29						
T35M	Bob Quinn	68.92	36	P	P	17 55 52.8	+1.9
	baz=277						
HG4B	Hotspring	68.98	41	P	P	17 55 51.5	+0.1
WTLY	Watson Lake, Y	69.30	32	P	P	17 55 54.8	+1.6
	baz=277						
A36M	Sachs Harbour	69.44	19	IAmb	IAmb	17 56 15.5	
	comp=Z,26nm,0.9s						
A36M	Sachs Harbour	69.44	19	P	P	17 55 54.7	+0.9
	baz=276,SNR=27						
SVE	Sverdlovsk	69.92	324	eP	P	17 55 57.4	+0.4
SVE				pmax	pmax		
	comp=Z,61nm,1.2s						
C36M	Paulatuk	70.14	22	IAmb	IAmb	17 56 01.1	
	comp=Z,52nm,1.3s						
C36M	Paulatuk	70.14	22	P	P	17 55 58.5	+0.5
	baz=278,SNR=17						
BBB	Bella Bella	70.87	41	LR	LR	18 27 40.7	
	comp=Z,220nm,18.1s,baz=284,slow=36						
ARTI	Arti	71.22	324	P	P	17 56 03.8	-1.1
ARTI				IAmb	IAmb	17 56 07.5	
	comp=Z,31nm,0.8s						
ARTI	Arti	71.22	324	LR	LR	18 30 41.0	
	comp=Z,878nm,18.4s,baz=86,slow=39						
ARTI	Arti	71.22	324	c iP	P	17 56 05.4	+0.5
ARTI						17 56 24.0	
ARTI						17 58 44.9	
ARTI				S	S	18 05 24.0	+2.6
ARTI				SS	SS	18 09 52.0	-2.8
ARTI				pmax	pmax		
	comp=Z,38nm,0.9s						
TOAD	Toad River Com	71.29	33	P	P	17 56 06.4	+1.0
	baz=280,SNR=19						
KOTAN	Kotaneelee Air	71.64	32	P	P	17 56 08.7	+1.2
	baz=281,SNR=21						
ABKAR	Akbulak array	71.65	316	P	P	17 56 06.8	-0.9
ABKAR	Akbulak array	71.65	316	IAmb	IAmb	17 56 16.1	
	comp=Z,20nm,0.8s						
AKTO	Aktyubinsk	72.62	318	LR	LR	18 29 54.0	
	comp=Z,733nm,19.4s,baz=73,slow=37						
CBB	Campbell River	73.01	42	P	P	17 56 16.5	+0.7
CBB				IAmb	IAmb	17 56 19.5	
	comp=Z,56nm,1.4s						
PPT2	Papeete2	73.97	117	eLQ	LQ	18 15 26.2	
	comp=Z,799nm,36.2s						
PPT2				eLR	LR	18 18 53.0	
	comp=Z,684nm,25.5s						
PPT2				eLR	LR	18 18 56.6	
	comp=Z,520nm,27.0s						
KIRV	Kirov	75.40	327	LR	LR	18 33 15.2	
	comp=Z,2µm,18.2s,baz=75,slow=39						
KIRV	Kirov	75.40	327	ceP	P	17 56 30.1	+0.6
YKA	Yellowknife Ar	75.46	28	P	P	17 56 29.2	-0.6
	comp=Z,9.1nm,0.8s,baz=288,slow=5.7,SNR=86						
YKA				LR	LR	18 28 13.5	
	comp=Z,424nm,21.2s,baz=259,slow=34						
	comp=Z,9.1nm,0.8s						
YKA	Yellowknife Ar	75.46	28	i P	P	17 56 29.7	-0.1
YKA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LON	Longmire	76.13	45	IAmb	IAmb	17 56 37.0	
	comp=Z,48nm,1.6s						
DBO	Dodson Butte	76.18	49	IAmb	IAmb	17 56 48.3	
	comp=Z,50nm,1.5s						
KMPM	Mount Pierce	76.31	52	IAmb	IAmb	17 56 40.2	
	comp=Z,46nm,1.0s						
H04A	Detroit Lake	76.47	47	IAmb	IAmb	17 56 39.7	
	comp=Z,53nm,1.2s						
I04A	Tendick Farm,	76.57	48	IAmb	IAmb	17 56 40.4	
	comp=Z,34nm,1.0s						
SPITS	Spitsbergen Ar	76.59	351	P	P	17 56 36.2	+0.1
	comp=Z,5.4nm,0.7s,baz=94,slow=7.6,SNR=7.7						
SPITS				LR	LR	18 32 59.3	
	comp=Z,203nm,19.6s,baz=3.5,slow=38						
	comp=Z,5.4nm,0.7s						
KBS	Kingsbay	76.69	352	i P	P	17 56 36.4	-0.3
LTY	Liberty	76.73	44	IAmb	IAmb	17 56 41.1	
	comp=Z,33nm,0.9s						
RES	Resolute Bay	76.74	14	LR	LR	18 30 48.0	
	comp=Z,204nm,21.3s,baz=356,slow=36						
NOR	Nord	76.84	357	i P	P	17 56 37.1	-0.3
NOR				IAmb	IAmb	17 56 43.5	
	comp=Z,46nm,1.8s						
TBI	Tubuai	76.90	122	eLQ	LQ	18 16 41.9	
	comp=Z,4µm,30.2s						
TBI				eLR	LR	18 20 21.1	
	comp=Z,2µm,26.8s						
TBI				eLR	LR	18 20 24.8	
	comp=Z,963nm,24.0s						
J04A	Umpqua Nationa	76.94	49	IAmb	IAmb	17 56 42.8	
	comp=Z,52nm,0.9s						
YBH	Yreka Blue Hor	76.95	50	IAmb	IAmb	17 56 43.1	
	comp=Z,32nm,1.1s						
YBH	Yreka Blue Hor	76.95	50	LR	LR	18 25 54.1	
	comp=Z,303nm,19.3s,baz=229,slow=32						
B08A	Colville Reser	77.26	43	IAmb	IAmb	17 56 44.0	
	comp=Z,45nm,1.1s						
O02D	Mt. Diablo Mer	77.35	52	IAmb	IAmb	17 56 47.3	
	comp=Z,30nm,1.1s						
G06A	Carlson Farm,	77.36	46	IAmb	IAmb	17 57 18.1	
	comp=Z,58nm,1.5s						
F07A	Phinny Hill Vi	77.63	46	IAmb	IAmb	17 56 46.5	
	comp=Z,46nm,1.2s						
HAWA	Hanford	77.74	45	IAmb	IAmb	17 56 47.0	
	comp=Z

BELG pmax pmax
comp=Z,30nm,1.1s
G08A Pilot Rock 78.47 46 IAmb IAmb 17 56 56.1
comp=Z,32nm,1.2s
ORV Oroville 78.49 52 IAmb IAmb 17 56 50.7
comp=Z,61nm,1.3s
E09A Wood Farm, Sta 78.61 45 IAmb IAmb 17 56 51.8
comp=Z,57nm,1.2s
APA Apatity 78.65 339 ⇓*i*P **P 17 56 47.7 0.0**
APA *i* 17 56 58.4
APA *i* 17 59 44.0
APA pmax pmax
comp=Z,34nm,0.9s
NEW Newport 78.69 43 IAmb IAmb 17 56 52.1
comp=Z,57nm,1.4s
KLMR Klimovskoe 79.28 331 *e*P **P 17 56 49.1 -2.2**
KLMR *e* 17 59 46.4
KLMR pmax pmax
comp=Z,71nm,1.4s
J08A Circle Bar Ran 79.42 48 IAmb IAmb 17 56 56.4
comp=Z,54nm,1.2s
WSAR Wadi Sarin 79.62 291 LR LR 18 35 20.5
comp=Z,142nm,19.7s,baz=86,slow=38
BMO Blue Mountains 79.72 46 IAmb IAmb 17 56 57.8
comp=Z,47nm,1.1s
PNTR Pine Nut 80.03 52 IAmb IAmb 17 56 60.0
comp=Z,54nm,1.3s
ARCES ARCESS Array B 80.06 342 P **P 17 56 55.9 +0.5**
comp=Z,12nm,0.9s,baz=54,slow=4.6,SNR=16
ARCES LR LR 18 37 03.4
comp=Z,472nm,20.3s,baz=62,slow=39
comp=Z,12nm,0.9s
YERR Yerington 80.33 52 IAmb IAmb 17 57 01.4
comp=Z,52nm,1.2s
BANOM Banah 80.75 294 P **P 17 57 00.4 +0.4**
SHME Shamm 80.85 294 P **P 17 56 59.9 -0.5**
NEEM North Greenlan 80.86 4 *i* P **P 17 56 59.4 -0.6**
NEEM IAmb IAmb 17 57 03.3
comp=Z,59nm,1.1s
MSF Maaselka 80.99 338 P **P 17 57 01.8 +1.4**
MSF pmax pmax
comp=Z,37nm,2.0s
LHV Little Huntoon 81.12 52 IAmb IAmb 17 57 06.0
comp=Z,44nm,1.1s
SOHO SOHO 81.14 292 P **P 17 57 02.1 +0.1**
UOSS Minazif 81.16 293 P **P 17 57 03.8 +1.7**
NVAR Mina Array Bea 81.21 52 P **P 17 57 02.7 +0.2**
NVAR Mina Array Bea 81.21 52 P **P 17 57 02.3 -0.2**
comp=Z,21nm,0.8s,baz=263,slow=6.3,SNR=92
comp=Z,21nm,0.8s
MFID Camas Ranch 81.22 47 IAmb IAmb 17 57 05.9
comp=Z,72nm,1.3s
HATD Hatta, Dubai 81.26 293 P **P 17 57 02.9 +0.2**
NV11 Mina Array Sit 81.32 52 IAmb IAmb 17 57 06.6
comp=Z,48nm,1.2s
ASHO Ashiyiah 81.37 293 P **P 17 57 03.8 +0.6**
NAZ Nazwa, Dubai 81.61 293 P **P 17 57 05.6 +1.1**
DAG Danmarks Havn 81.62 356 P **P 17 57 03.8 +0.2**
DAG pmax pmax
comp=Z,16nm,1.2s
DAG Danmarks Havn 81.62 356 *i* P **P 17 57 03.0 -0.6**
DAG IAmb IAmb 17 57 06.6
comp=Z,17nm,1.2s
MAK Makhachkala 81.72 313 *e*P P 17 56 59.5 -5.2
MAK *e*PPP PPP 18 02 01.2
MAK *e*S **S 18 07 09.2 -7.8**
MAK *e*SS **SS 18 12 33.7 -0.4**
MAK *e*SSS SSS 18 15 56.8
MAK pmax pmax
comp=Z,221nm,1.2s
JOF Joensuu 81.75 335 *e*P **P 17 57 04.5 0.0**
DSP Deep Springs 81.82 53 IAmb IAmb 17 57 09.5
comp=Z,38nm,1.1s
ALNE Al Ain 81.84 293 P **P 17 57 06.2 +0.5**
AKT Akhty 82.10 311 *e*P **P 17 57 07.6 +0.6**
AKT pmax pmax
comp=Z,25nm,0.8s
VRH Novokhopyorsk 82.17 322 *e*P **P 17 57 07.0 +0.1**
VRH pmax pmax
comp=Z,91nm,1.1s
MOS Moscow 82.42 327 *e*P **P 17 57 07.4 -0.7**
MOS pmax pmax
comp=Z,83nm,1.4s
MOS MLR MLR
comp=Z,2µm,18.0s
MOS MLR MLR
comp=N,900nm,17.0s
MOS MLR MLR
comp=E,2µm,17.0s
CCAC Calif City Air 82.57 55 IAmb IAmb 18 00 03.0
comp=Z,22nm,0.5s
ELK Elko 82.59 49 IAmb IAmb 17 57 13.3
comp=Z,28nm,1.1s
KULLO Kullorsuaq 83.09 6 *i* P **P 17 57 11.5 +0.2**
KULLO IAmb IAmb 17 57 15.0
comp=Z,48nm,1.2s
LPSR Galich'ya Gora 83.14 324 *e*P **P 17 57 11.8 -0.1**
LPSR pmax pmax
comp=Z,100nm,1.0s
R11B Troy Canyon, C 83.23 52 IAmb IAmb 17 57 16.7
comp=Z,32nm,1.2s
R11B Troy Canyon, C 83.23 52 P **P 17 57 14.0 +1.0**
baz=292
OBN Obninsk 83.24 327 P **P 17 57 12.3 -0.1**
OBN Obninsk 83.24 327 LR LR 18 37 41.1
comp=Z,2µm,18.3s,baz=21,slow=38
OBN Obninsk 83.24 327 *d i* P **P 17 57 12.8 +0.4**
OBN *e* 17 57 16.9
OBN *i* *SP **pwP 17 57 22.3 -1.2**
OBN *e*S **S 18 07 39.1 +7.1**
OBN *e*PPS PPS 18 08 47.1
OBN *e*SS **SS 18 12 52.4 -3.4**
OBN pmax pmax
comp=Z,106nm,1.7s
OBN MLR MLR
comp=Z,2µm,17.0s
OBN Obninsk 83.24 327 P **P 17 57 13.2 +0.8**
comp=Z,51nm,2.3s
EGMT Eagleton 83.36 41 IAmb IAmb 17 57 16.6
comp=Z,39nm,1.4s
S11A Rachel 83.37 52 IAmb IAmb 17 57 21.7
comp=Z,45nm,1.1s
VORR Voronezh 83.39 323 *e*P **P 17 57 14.0 +0.7**
VORR pmax pmax
comp=Z,81nm,0.6s
GSC Goldstone, Bar 83.44 55 IAmb IAmb 17 57 17.4
comp=Z,34nm,1.1s
ELS Elsinore Mount 83.56 57 IAmb IAmb 17 57 19.5
comp=Z,59nm,1.6s
VSR Storozhevoye 83.62 323 *e*P **P 17 57 13.7 -0.7**
VSR pmax pmax
comp=Z,60nm,1.0s
VORD Divnogorie 83.66 322 *e*P **P 17 57 13.9 -0.7**
VORD pmax pmax
comp=Z,40nm,0.9s
GOF Gofitskoye 83.88 316 *ce*P **P 17 57 17.8 +1.9**
SPR3 Spring Creek 3 83.90 51 IAmb IAmb 17 57 20.4
comp=Z,33nm,1.3s
HVU Hansel Valley 83.92 48 IAmb IAmb 17 57 19.7
comp=Z,58nm,1.6s
PRN Pahroc Range 83.98 52 IAmb IAmb 17 57 20.4
comp=Z,23nm,1.0s
DBG Daneborg 84.13 356 *i* P **P 17 57 16.2 -0.4**
DBG IAmb IAmb 17 57 18.6
comp=Z,8.7nm,1.0s
PFO Pinyon Flats O 84.33 56 P **P 17 57 18.4 -0.2**
PFO IAmb IAmb 17 57 26.3
comp=Z,28nm,1.1s
PFO Pinyon Flats O 84.33 56 LR LR 18 30 43.2
comp=Z,343nm,19.3s,baz=255,slow=33
PFO Pinyon Flats O 84.33 56 P **P 17 57 18.4 -0.2**
PFO pmax pmax
comp=Z,28nm,1.2s
PSUT Pine Spring 84.42 51 IAmb IAmb 17 57 31.4
comp=Z,38nm,1.2s
TPAW Teton Pass 84.47 45 IAmb IAmb 17 57 22.3
comp=Z,22nm,1.1s
DUG Dugway, Tooele 84.51 49 IAmb IAmb 17 57 22.9
comp=Z,46nm,1.2s
KBZ Khabaz 84.52 315 P **P 17 57 19.1 -0.1**
comp=Z,11nm,0.8s,baz=91,slow=6.9,SNR=18
KBZ LR LR 18 38 19.6
comp=Z,1µm,20.6s,baz=60,slow=38
comp=Z,11nm,0.8s
KBZ Khabaz 84.52 315 *ce*P **P 17 57 19.7 +0.5**
KBZ pmax pmax
comp=Z,20nm,0.9s
KVAR Kislovodsk Arr 84.56 315 LR LR 18 38 36.1
comp=Z,776nm,19.3s,baz=264,slow=38
KIV Kislovodsk 84.57 315 *e*P **P 17 57 21.2 +1.6**
KIV *e* 18 07 45.1
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 84.57 315 P **P 17 57 22.4 +2.8**
TRLG Trialeti 84.60 312 P **P 17 57 20.6 +0.7**
FINES FINESS Array B 84.61 335 P **P 17 57 18.0 -1.3**
FINES FINESS Array B 84.61 335 P **P 17 57 17.9 -1.3**
comp=Z,7.2nm,0.4s,baz=65,slow=4.3,SNR=86
FINES LR LR 18 37 32.3
comp=Z,388nm,20.0s,baz=48,slow=37
comp=Z,7.2nm,0.4s
FINES FINESS Array B 84.61 335 P **P 17 57 18.0 -1.3**
KEF Keuruu 84.64 336 *e*P **P 17 57 18.8 -0.6**
FFC Flin Flon 84.65 33 P **P 17 57 19.1 -0.4**
FFC IAmb IAmb 17 57 22.9
comp=Z,34nm,1.1s
FFC Flin Flon 84.65 33 P **P 17 57 19.2 -0.4**
FFC pmax pmax
comp=Z,34nm,1.2s
AHID Auburn Hatcher 84.66 46 IAmb IAmb 17 57 25.6
comp=Z,25nm,1.1s
SHA1 Shidzhatmaz 84.67 315 *i* P **P 17 57 19.7 -0.6**
GNI Garni 84.71 311 P **P 17 57 21.2 +0.7**
GNI Garni 84.71 311 LR LR 18 39 13.4
comp=Z,308nm,18.3s,baz=63,slow=39
GNI Garni 84.71 311 *i* P **P 17 57 21.4 +0.9**
GNI pmax pmax
comp=Z,54nm,1.3s
GNI Garni 84.71 311 P **P 17 57 22.1 +1.7**
V12A Nelson 84.76 54 IAmb IAmb 17 57 24.3
comp=Z,31nm,0.9s
HWUT Hardware Ranch 84.82 47 IAmb IAmb 17 57 24.5
comp=Z,42nm,1.2s
RLMT Red Lodge 84.88 43 IAmb IAmb 17 57 24.9
comp=Z,39nm,1.0s
UPNV Upernavik 84.89 6 *i* P **P 17 57 20.9 +0.4**
UPNV IAmb IAmb 17 57 24.2
comp=Z,29nm,1.1s
VAF Ylistaro 84.91 338 *e*P **P 17 57 20.7 0.0**
TCUT Toone Canyon 85.12 48 IAmb IAmb 17 57 27.0
comp=Z,15nm,0.8s
MPU Maple Canyon 85.42 49 IAmb IAmb 17 57 27.4
comp=Z,20nm,1.0s
LCMT Little Creek M 85.46 52 IAmb IAmb 17 57 28.0
comp=Z,24nm,1.2s
PDAR Pinedale Array 85.69 46 P **P 17 57 24.9 -0.5**
PDAR Pinedale Array 85.69 46 P **P 17 57 25.2 -0.2**
comp=Z,4.9nm,0.7s,baz=249,slow=2.3,SNR=35
PDAR PP **PP 18 00 42.5 -1.6**
comp=Z,0.5nm,0.8s,baz=308,slow=3.6,SNR=4.0
comp=Z,4.9nm,0.7s
BSUT Blindstream Ca 85.81 48 IAmb IAmb 17 57 39.3
comp=Z,40nm,1.8s
ARBE Arbavere 85.83 334 *e*P **P 17 57 25.6 +0.2**
TMUT Trail Mountain 86.01 49 IAmb IAmb 17 57 31.9
comp=Z,21nm,1.0s
VSU Vasula 86.09 333 *ce*P **P 17 57 27.4 +0.7**
VSU pmax pmax
comp=Z,50nm,1.7s
VSU Vasula 86.09 333 *e*P **P 17 57 24.9 -1.8**
FCC Fort Churchill 86.11 27 IAmb IAmb 17 57 29.6
comp=Z,44nm,1.1s
SUMG Summit 86.23 1 IAmb IAmb 17 57 31.6
comp=Z,28nm,1.1s
SUMG Summit 86.23 1 *i* P **P 17 57 28.0 +0.3**
SUMG IAmb IAmb 17 57 31.3
comp=Z,80nm,1.7s
BCA Borcka 86.33 313 ⇓P **P 17 57 29.1 +0.8**
DGMT Dagmar 86.49 39 IAmb IAmb 17 57 31.7
comp=Z,48nm,1.6s
SRU San Rafael Swe 86.57 49 IAmb IAmb 17 57 32.8
comp=Z,31nm,1.0s
SOC Sochi 86.67 316 *e*P **P 17 57 27.1 -2.8**
SOC *e* 18 00 50.4
SOC *e*PPP PPP 18 02 44.9
SOC *e*S **SKSac 18 07 52.8 -3.4**
SOC *e*SS **SS 18 13 48.1 +1.0**
SOC *e*SSS SSS 18 17 14.4
SOC MLR MLR
comp=Z,1µm,19.0s
113A Mohawk Valley, 86.74 56 IAmb IAmb 17 57 32.9
comp=Z,32nm,1.5s
Y14A Wickenburg 86.86 55 IAmb IAmb 17 57 34.6
comp=Z,33nm,1.0s
WUAZ Wupatki 87.44 53 IAmb IAmb 17 57 37.9
comp=Z,27nm,1.0s
MNK Minsk 87.85 329 *i* LRM MLR 18 40 10.9
comp=Z,1µm,19.5s
MNK Minsk 87.85 329 *i* P **P 17 57 36.5 +1.2**
MNK *i* 18 01 02.0
MNK *i* PPP PPP 18 02 57.1
MNK *i* S **SKSac 18 08 04.3 +1.3**
MNK *i* SS **SS 18 14 10.1 +6.5**
MNK *i* SSS SSS 18 17 37.7
MNK pmax pmax
comp=Z,54nm,1.3s
MNK pmax pmax
comp=E,28nm,1.1s
MNK pmax pmax
comp=N,29nm,1.0s
MNK MLR MLR
comp=E,790nm,16.0s
MNK MLR MLR
comp=N,545nm,16.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK Minsk 87.85 329 *i* P **P 17 57 36.5 +1.2**
comp=E,28nm,1.1s
MNK Minsk 87.85 329 *i* P **P 17 57 36.5 +1.2**
comp=Z,54nm,1.3s,baz=55
MNK Minsk 87.85 329 *i* P **P 17 57 36.5 +1.2**
comp=N,29nm,1.0s
MNK Minsk 87.85 329 *i* PP PP 18 01 02.1 +1.3
MNK Minsk 87.85 329 *i* PPP PPP 18 02 57.2
MNK Minsk 87.85 329 *i* S S 18 08 04.3 -13
MNK Minsk 87.85 329 *i* SS SS 18 14 10.1 +6.5
MNK Minsk 87.85 329 *i* SSS SSS 18 17 37.7
MNK Minsk 87.85 329 *i* LQ LQ 18 26 42.7
MNK Minsk 87.85 329 *i* LR LR 18 34 17.4
MNK Minsk 87.85 329 *i* LRM MLR 18 37 38.5
comp=E,790nm,16.3s
MNK Minsk 87.85 329 *i* LRM MLR 18 38 10.7
comp=N,545nm,15.9s
SCO Scoresbysund 88.00 356 IAmb IAmb 17 57 39.2
comp=Z,21nm,1.2s
PV07 Paradox Valley 88.18 49 IAmb IAmb 17 57 45.4
comp=Z,19nm,1.1s
PV15 Paradox Valley 88.34 49 IAmb IAmb 17 57 50.5
comp=Z,17nm,1.0s
RSSD Black Hills 88.67 43 P **P 17 57 40.4 +0.6**
RSSD Black Hills 88.67 43 P **P 17 57 40.4 +0.6**
RSSD pmax pmax
comp=Z,19nm,1.4s
MVCO Mesa Verde 88.83 50 IAmb IAmb 17 57 53.8
comp=Z,27nm,1.2s
N23A Red Feather La 88.94 46 P **P 17 57 42.0 +0.8**
baz=298
PABE Paberze 89.07 331 *e*P **P 17 57 40.8 -0.3**
TUC Tucson 89.22 56 P **P 17 57 43.6 +1.1**
TUC Tucson 89.22 56 P **P 17 57 43.6 +1.1**
TUC pmax pmax
comp=Z,18nm,1.2s
AK03 Malin Array Si 89.30 325 P **P 17 57 41.1 -1.2**
AKASG Malin Array Be 89.32 325 P **P 17 57 41.1 -1.3**
AKASG Malin Array Be 89.32 325 P **P 17 57 40.7 -1.7**
comp=Z,9.3nm,0.8s,baz=47,slow=5.0,SNR=32
AKASG LR LR 18 41 06.7
comp=Z,728nm,19.2s,baz=52,slow=38
comp=Z,9.3nm,0.8s
AKASG Malin Array Be 89.32 325 P **P 17 57 41.1 -1.3**
AKASG pmax pmax
comp=Z,18nm,1.2s
AKBB Malin Array Si 89.32 325 IAmb IAmb 17 57 43.7
comp=Z,28nm,1.1s
AKBB Malin Array Si 89.32 325 *i* P **P 17 57 39.9 -2.5**
AKBB pmax pmax
comp=Z,32nm,1.1s
AKBB Malin Array Si 89.32 325 P **P 17 57 41.0 -1.4**
AK01 Malin Array Si 89.33 325 P **P 17 57 40.8 -1.6**
KIEV Kiev 89.33 325 P **P 17 57 40.6 -1.8**
KIEV IAmb IAmb 17 57 43.7
comp=Z,25nm,1.1s
KIEV Kiev 89.33 325 ⇓P **P 17 57 41.3 -1.1**
KIEV Kiev 89.33 325 P **P 17 57 40.6 -1.8**
KIEV pmax pmax
comp=Z,25nm,1.1s
KIEV Kiev 89.33 325 P **P 17 57 41.0 -1.5**
KIEV Kiev 89.33 325 P **P 17 57 40.8 -1.6**
comp=Z,95nm,1.3s
AK23 Malin Array Si 89.33 326 P **P 17 57 41.2 -1.3**
AK04 Malin Array Si 89.34 325 P **P 17 57 41.2 -1.3**
AK08 Malin Array Si 89.34 325 P **P 17 57 41.2 -1.3**
AK20 Malin Array Si 89.41 326 P **P 17 57 40.9 -1.9**
AK13 Malin Array Si 89.45 325 P **P 17 57 41.1 -1.9**
SIM Simferopol' 89.56 319 *e*P **P 17 57 43.2 -0.5**
SIM 17 57 45.0
SIM pmax pmax
comp=Z,11nm,0.8s
ICESG Greenland Ices 89.69 2 *i* P **P 17 57 44.1 -0.1**
ICESG IAmb IAmb 17 57 49.9
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 89.78 49 P **P 17 57 46.0 +0.8**
baz=297
MI28 Mi28,Pidlybu 90.00 326 P **P 17 57 44.0 -1.6**
comp=Z,328nm,1.0s
HFS Hagfors 90.04 338 P **P 17 57 44.1 -1.5**
comp=Z,5.9nm,0.8s,baz=66,slow=3.7,SNR=14
HFS LR LR 18 41 59.7
comp=Z,405nm,20.3s,baz=34,slow=38
comp=Z,5.9nm,0.8s
NC204 NORSAR Array S 90.16 340 IAmb IAmb 17 57 58.0
comp=Z,43nm,1.3s
ULM Lac du Bonnet 90.19 35 IAmb IAmb 17 57 49.1
comp=Z,25nm,1.2s
ULM Lac du Bonnet 90.19 35 P **P 17 57 46.2 -0.3**
comp=Z,10nm,1.0s,baz=314,slow=7.3,SNR=13
ULM LR LR 18 36 31.6
comp=Z,266nm,20.5s,baz=268,slow=34
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 90.19 340 P **P 17 57 45.6 -0.8**
comp=Z,16nm,1.1s,baz=43,slow=5.1
NB2 NORSAR Subarra 90.19 340 P **P 17 57 45.6 -0.8**
baz=43,slow=5.1
NOA NORSAR Array B 90.19 340 P **P 17 57 45.5 -0.8**
comp=Z,5.8nm,0.9s,baz=46,slow=4.8,SNR=12
NOA PP **PP 18 01 15.1 -4.2**
comp=Z,2.1nm,0.8s,baz=46,slow=8.5,SNR=3.7
NOA LR LR 18 47 13.1
comp=Z,174nm,18.0s,baz=40,slow=42
comp=Z,5.8nm,0.9s
SUW Suwalki 90.36 330 *e*P **P 17 57 46.3 -0.9**
Q24A Divide 90.38 48 P **P 17 57 48.8 +0.8**
baz=298
LUBAR Lubar, Ukraine 90.53 325 P **P 17 57 46.4 -1.7**
RNPP9 Sopachiv 90.63 327 P **P 17 57 47.2 -1.3**
RNPP8 Varash 90.69 327 P **P 17 57 47.8 -1.0**
RNPP5 Staryi Chortor 90.74 327 P **P 17 57 47.8 -1.2**
RAYN Ar Rayn 90.76 296 P **P 17 57 48.7 -1.1**
RAYN Ar Rayn 90.76 296 P **P 17 57 48.7 -1.1**
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 90.76 296 P **P 17 57 48.8 -1.0**
FRB Frobisher Bay 90.94 15 LR LR 18 43 37.2
comp=Z,271nm,19.0s,baz=299,slow=39
SFJD Kangerlussuaq 91.00 6 LR LR 18 38 46.0
comp=Z,247nm,22.0s,baz=342,slow=36
SORM Soroca 91.23 324 ⇓P **P 17 57 51.3 -0.1**
SORM Soroca 91.23 324 P **P 17 57 51.2 -0.1**
AGMN Agassiz Nation 91.31 36 IAmb IAmb 17 57 54.3
comp=Z,24nm,1.1s
ANMO Albuquerque 91.32 52 P **P 17 57 52.0 -0.3**
ANMO IAmb IAmb 17 57 55.9
comp=Z,18nm,1.1s
ANMO Albuquerque 91.32 52 LR LR 18 34 14.6
comp=Z,191nm,19.9s,baz=118,slow=32
ANMO Albuquerque 91.32 52 P **P 17 57 52.0 -0.3**
ANMO pmax pmax
comp=Z,18nm,1.2s
121A Cookes Peak, D 91.41 54 P **P 17 57 53.6 +0.8**
baz=296
T25A Trinidad 91.76 49 IAmb IAmb 17 57 57.9
comp=Z,14nm,1.0s
T25A Trinidad 91.76 49 P **P 17 57 54.9 +0.6**
baz=299
BRTR Keskin Array B 92.51 314 P **P 17 57 55.9 -1.8**
comp=Z,4.7nm,1.0s,baz=74,slow=3.1,SNR=11
BRTR LR LR 18 43 28.8
comp=Z,477nm,19.6s,baz=50,slow=38
comp=Z,4.7nm,1.0s
BRTR Keskin Array B 92.51 314 *i* P **P 17 57 56.4 -1.3**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
KIRS Kirsehir-Merke 92.62 314 ⇓P **P 17 57 56.7 -1.4**
STNU Starunia 92.97 326 P **P 17 57 57.4 -2.0**
MORS Morshin 93.03 326 P **P 17 57 59.7 0.0**
MORS Morshin 93.03 326 P **P 17 57 59.7 0.0**
LPIG La Paz 93.05 63 LR LR 18 31 17.1
comp=Z,354nm,21.0s,baz=291,slow=30
BURAR Bucovina Array 93.25 324 ⇑P **P 17 57 60.0 -0.9**
BURAR Bucovina Array 93.25 324 P **P 17 57 59.9 -0.9**
SHIU Shidnytsya 93.25 326 P **P 17 58 00.6 -0.1**
VRI Vrincioaia 93.44 322 ⇑P **P 17 58 02.0 +0.3**
VRI Vrincioaia 93.44 322 P **P 17 58 01.9 +0.3**
ECSD EROS Data Cent 93.45 40 IAmb IAmb 17 58 04.1
comp=Z,32nm,1.4s
MANR Mangalia 93.52 320 ⇑P **P 17 58 01.7 -0.4**
MLR Muntele Rosu 94.11 322 LR LR 18 42 10.8
comp=Z,333nm,21.2s,baz=62,slow=37
HOLU Holmets 94.19 326 P **P 17 58 05.1 +0.1**
BERU Beregovo 94.23 326 P **P 17 58 05.3 +0.1**
VHRN Van Horn 94.33 55 IAmb IAmb 17 58 09.8
comp=Z,31nm,1.5s
OJC Ojcow 94.39 329 *e*P **P 17 58 07.4 +1.5**
OJC Ojcow 94.39 329 P **P 17 58 07.9 +2.0**
OJC pmax pmax
comp=Z,12nm,1.3s
E38A The Farm, Brul 94.67 36 IAmb IAmb 17 58 10.1
comp=Z,19nm,1.0s
NIE Niedzica 94.67 328 *e*P **P 17 58 07.8 +0.5**
NIE Niedzica 94.67 328 P **P 17 58 07.4 +0.1**
comp=Z,4.3nm,1.6s
SPMN Marine on St. 94.81 37 IAmb IAmb 17 58 10.4
comp=Z,32nm,1.3s
PECS Pecos 94.90 54 IAmb IAmb 17 58 10.0
comp=Z,8.0nm,0.6s
ARR Arges 94.92 323 ⇑P **P 17 58 08.6 +0.1**
DRGR 95.10 325 ⇓P **P 17 58 08.4 -0.9**
DRGR 95.10 325 P **P 17 58 08.4 -0.9**
I37A Lemond, Waseca 95.19 39 IAmb IAmb 17 58 12.5
comp=Z,37nm,1.5s
LOT Lotru 95.35 323 ⇑P **P 17 58 10.5 -0.1**
KSP Ksiaz 95.62 331 *e*P **P 17 58 12.8 +1.2**
KSP Ksiaz 95.62 331 P **P 17 58 12.2 +0.7**
KSP pmax pmax
comp=Z,11nm,1.0s
KSP Ksiaz 95.62 331 P **P 17 58 12.1 +0.6**
comp=Z,11nm,1.0s
MORC Moravsky Berou 95.77 329 *e*P **P 17 58 11.7 -0.6**
MORC *e*PP **PP 18 02 05.9 +2.6**
DKNS Dickens 95.94 51 IAmb IAmb 17 58 16.5
comp=Z,22nm,1.4s
DPC Dobruska-Polom 95.95 330 P **P 17 58 14.7 +1.6**
DPC pmax pmax
comp=Z,9.0nm,2.7s
DPC Dobruska-Polom 95.95 330 P **P 17 58 12.4 -0.7**
comp=Z,8.9nm,2.8s
TXAR Lajitas Array 96.02 55 P **P 17 58 13.4 -0.5**
TXAR Lajitas Array 96.02 55 P **P 17 58 14.0 0.0**
comp=Z,3.6nm,0.9s,baz=308,slow=4.1,SNR=15
TXAR PP **PP 18 02 05.3 -0.9**
comp=Z,0.2nm,0.4s,baz=282,slow=6.3,SNR=5.0
TXAR LR LR 18 35 08.0
comp=Z,197nm,20.2s,baz=288,slow=32
comp=Z,3.6nm,0.9s
TXAR Lajitas Array 96.02 55 P **P 17 58 14.0 0.0**
SURR Surduc 96.07 324 ⇓P **P 17 58 12.6 -1.1**
JAVC Velka Javorina 96.33 329 *e*P **P 17 58 15.9 +1.0**
BZS Buzias 96.43 324 ⇓P **P 17 58 14.9 -0.5**
BZS Buzias 96.43 324 P **P 17 58 14.8 -0.5**
VRAC Vranov 96.54 329 LR LR 18 46 29.8
comp=Z,608nm,18.3s,baz=61,slow=38
VRAC Vranov 96.54 329 *e*P **P 17 58 16.9 +1.1**
CLL Collm 96.75 333 *i* P **P 17 58 17.5 +0.9**
CLL pmax pmax
comp=Z,19nm,1.6s

```
CLL                                   MLR     MLR
      comp=Z,700nm,18.5s
CLL   Collm          96.75 333 eP              P      17 58 15.9 -0.7
      comp=Z,19nm,1.6s
CLL                                   i x     x      17 58 26.6
CLL                                   ex      x      18 02 00.0
CLL                                   ePP     PP     18 02 09.0 -1.7
CLL                                   eSS     SS     18 16 16.0 +4.8
CLL                                   AMS     AMS    18 45 00.0
      comp=Z,700nm,18.5s
KRUC  Moravsky       96.81 329 eP              P      17 58 16.8 -0.2
KRUC                                  ePP     PP     18 02 11.5 +0.2
BANR  Banloc         96.84 324 ||P             P      17 58 15.6 -1.6
RONA  Rosalia, Austr 97.80 328 epP             Pdif   17 58 22.7 +1.2
      comp=Z,2.8nm,0.7s
RONA                                  ePP     PP     18 02 22.0 +3.1
      comp=Z,1.4nm,0.6s
CONA  Conrad Observa 97.85 329 epP             P      17 58 21.7 -0.1
      comp=Z,9.7nm,1.5s
CONA                                  ePP     PP     18 02 22.0 +2.6
      comp=Z,9.0nm,1.8s
KHC   Kasperske Hory 98.07 331 eP              P      17 58 17.0 -5.7
KHC                                   ePP     PP     18 02 20.0 -1.0
KHC   Kasperske Hory 98.07 331 eP              P      17 58 17.0 -5.7
GERES GERESS Array B 98.22 330 P               Pdif   17 58 23.5 0.0
      comp=Z,1.0nm,0.8s,baz=1.0,slow=8.0,SNR=5.6
GERES                                 PP      PP     18 02 24.2 +2.0
      comp=Z,1.1nm,0.7s,baz=7.8,slow=11,SNR=4.9
GERES                                 LR      LR     18 47 45.8
      comp=Z,742nm,18.3s,baz=52,slow=38
      comp=Z,1.0nm,0.8s
JCT   Junction City  98.38  53 IAmb            IAmb   17 58 27.1
      comp=Z,19nm,1.4s
ARSA  Arzberg        98.48 328 eP              P      17 58 23.2 -1.4
      comp=Z,6.9nm,1.3s
ARSA                                  ePP     PP     18 02 18.8 -5.4
      comp=Z,8.1nm,1.5s
SOKA  Soboth         99.13 328 i PP            PP     18 02 28.2 -1.0
      comp=Z,9.8nm,1.4s
VNDA  Vanda          99.13 177 LR              LR     18 43 10.5
      comp=Z,231nm,18.0s,baz=338,slow=35
EKA   Eskdalemuir Ar 99.22 343 PP              PP     18 02 30.5 +1.1
      comp=Z,2.9nm,0.8s,baz=36,slow=7.3,SNR=4.0
OBKA  Obir           99.48 328 i PP            PP     18 02 25.8 -6.2
      comp=Z,26nm,1.8s
KBA   Koelnbreinsper 99.66 329 ePP             PP     18 02 33.5 +0.2
      comp=Z,9.3nm,1.3s
LESA  Schwarzleotal  99.72 330 epPdiff         Pdif   17 58 33.2 +3.0
      comp=Z,6.7nm,1.6s
LESA                                  ePP     PP     18 02 34.6 +1.0
      comp=Z,6.3nm,1.0s
ABTA  Abfaltersbach  100.29 330 ePdiff         Pdif   17 58 32.3 -0.4
      comp=Z,7.7nm,1.2s
ABTA                                  i PP    PP     18 02 39.1 +1.1
      comp=Z,10nm,1.4s
WATA  Walderalm      100.29 330 i PP           PP     18 02 40.5 +2.4
      comp=Z,8.9nm,0.8s
WTTA  Wattenberg     100.32 330 i PP           PP     18 02 40.7 +2.4
      comp=Z,12nm,1.2s
MOTA  Moosalm        100.50 331 epPdiff        pPdif  17 58 35.9 -1.3
      comp=Z,12nm,1.4s
MOTA                                  i PP    PP     18 02 40.1 +0.4
      comp=Z,15nm,1.3s
SQTA  Sankt Quirin   100.55 331 i PP           PP     18 02 40.6 +0.7
      comp=Z,12nm,1.4s
FETA  Feichten       100.92 331 ePdiff         Pdif   17 58 34.1 -1.5
      comp=Z,10nm,1.7s
FETA                                  ePP     PP     18 02 45.0 +2.2
      comp=Z,4.4nm,1.2s
DAVA  Damuels        101.10 331 ePP            PP     18 02 43.9 -0.3
      comp=Z,8.3nm,1.3s
ESDC  Sonseca Array  113.13 335 PP             PP     18 04 10.5 -1.8
      comp=Z,1.8nm,0.9s,baz=18,slow=7.1,SNR=8.1
SYO   Syowa Base     115.69 203||epPdiff       pPdif  17 59 46.0 +2.2
ELIB  Princess Elisa 120.10 198 dPKPdf         PKiKP  18 03 36.4 +0.1
LSZ   Lusaka         121.05 265 PKPdf          PKPdf  18 03 38.9 -0.8
LSZ   Lusaka         121.05 265 PKiKP          PKPdf  18 03 38.9 -0.8
LBTB  Lobatse        125.56 254 PKPdf          PKPdf  18 03 47.9 -0.2
LBTB  Lobatse        125.56 254 PKiKP          PKPdf  18 03 47.9 -0.2
BOSA  Boshof         126.35 250 PKP            PKPdf  18 03 49.7 +0.2
      comp=Z,2.0nm,0.9s,baz=198,slow=6.4,SNR=1.9
SNAA  Sanae          126.61 192 PKP            PKPdf  18 03 48.4 -0.3
      comp=Z,2.4nm,1.0s,baz=58,slow=5.1,SNR=16
PDPR  Patillas Dam,  129.77  41 PKPdf          PKPdf  18 03 54.2 -2.0
TORD  Torodi Ar. Bea 131.01 311 PKPdf          PKPdf  18 03 55.4 -3.3
TORD  Torodi Ar. Bea 131.01 311 PKP            PKPdf  18 03 57.6 -1.1
      comp=Z,1.3nm,0.7s,baz=35,slow=3.6,SNR=6.3
TORD                                  PP      PP     18 06 10.9 -3.7
      comp=Z,0.5nm,0.6s,baz=43,slow=5.5,SNR=3.6
DBIC  Dimbokro       140.12 311 PKP            PKPdf  18 04 14.5 -1.2
      comp=Z,2.3nm,0.6s,baz=98,slow=3.6,SNR=4.0
PLCA  Paso Flores    143.50 130 PKP            PKPbc  18 04 14.8 +0.1
      comp=Z,8.7nm,1.1s,baz=246,slow=8.0,SNR=3.2
BI02  San Fabin de   144.21 123 PKPdf          PKPbc  18 04 20.5 0.0
LPAZ  La Paz         147.26  87 PKPbc          PKPbc  18 04 31.7 +0.6
      comp=Z,40nm,0.9s,baz=342,slow=2.1,SNR=7.3
MACA  Manacapuru-AM  148.29  59                PKPdf  18 04 27.4 -2.5
TRQA  Tornquist      150.66 131                PKPbc  18 04 37.9 -0.5
TRQA  Tornquist      150.66 131 PKIKP          PKPbc  18 04 37.9 -0.5
```

*MDD **06** 17:55:18.7±0.8, 36°.78N×8°.23W, h20km, mb_Lg2.3/5, Error ellipse: s-maj=6.2km s-min=3.5km az=11.0*
*CNRM **06** 17:55:18.3, 36°.73N×8°.25W, h41km, ML1.8*
*SFS **06** 17:55:18.8, 36°.77N×8°.26W, h23km, ML2.5/7, ML2.0/10, MLv1.8/10*
*IGIL **06** 17:55:19.6, 36°.78N×8°.29W, h24km, ML1.8*
*INMG **06** 17:55:19.3±1.0, 36°.78N×8°.29W, h24km±3km, ML1.7, Error ellipse: s-maj=3.9km s-min=2.3km az=26.0, #DIST_RANGE: LOCAL #IPMA_REGION: S Albufeira*

ISC 06 17:55:17.9±1.2, 36°.75N±0°.05×8°.28W±0°.03, h30km±11km, n33, σ1§06/56, West of Gibraltar

```
Code  Station Name   Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PBDV  Barranco-do-Ve 0.57  29  eP    Pn          17 55 29.8 -0.2
PBDV                            eS    Sn          17 55 37.7 -0.7
PBDV                            i AML AML         17 55 38.5
PBDV                            i AML AML         17 55 38.6
PBDV                            i AML AML         17 55 38.6
PFVI  Vila Bisbo     0.58 312   eP    Pb          17 55 29.9 +0.2
PFVI                            eS    Sb          17 55 37.8 0.0
PFVI                            i AML AML         17 55 39.5
PFVI                            i AML AML         17 55 39.5
PFVI                            i AML AML         17 55 40.0
PFVI  Vila Bisbo     0.58 312   Sg    Sb          17 55 37.8 0.0
PFVI                            Pg    Pb          17 55 29.9 +0.2
PFVI  Vila Bisbo     0.58 312   P     Pb          17 55 30.0 +0.2
PFVI  Vila Bisbo     0.58 312   S     Sn          17 55 40.1 +1.4
MORF  Marmelete      0.63 332   eP    Pb          17 55 30.5 0.0
MORF                            eS    Sb          17 55 38.7 -0.5
MORF                            IAML              17 55 40.7
      comp=E,68nm,0.2s
MORF  Marmelete      0.63 332   eP    Pb          17 55 30.5 0.0
MORF                            eS    Sb          17 55 39.2 0.0
MORF                            i AML AML         17 55 39.6
MORF                            i AML AML         17 55 40.8
MORF                            i AML AML         17 55 41.5
PVAQ  Vaqueiros      0.80  34   eP    Pn          17 55 33.3 +0.2
PVAQ                            eS    Sn          17 55 44.5 +0.5
PVAQ                            i AML AML         17 55 45.0
PVAQ  Vaqueiros      0.80  34   Pg    Pn          17 55 33.3 +0.2
PVAQ  Vaqueiros      0.80  34   P     Pn          17 55 33.8 +0.7
PVAQ  Vaqueiros      0.80  34   S     Sn          17 55 43.8 -0.1
PTEO  Sao Teotonio   0.87 336   eP    Pb          17 55 34.8 +0.2
PTEO                            eS    Sb          17 55 45.5 -0.5
PTEO                            i AML AML         17 55 47.5
PTEO                            i AML AML         17 55 49.1
PCVE  Castro Verde   0.90  12   eP    Pb          17 55 34.6 -0.5
PCVE                            eS    Sn          17 55 46.4 -0.3
PCVE                            i AML AML         17 55 46.6
PCVE                            i AML AML         17 55 46.8
PCVE                            i AML AML         17 55 48.0
PCVE  Castro Verde   0.90  12   Pn    Pb          17 55 34.6 -0.5
PCVE                            Sn    Sn          17 55 46.0 -0.6
EGRO  El Granado     1.01  39   Pn    Pb          17 55 36.0 -0.9
EGRO                            Sn    Sn          17 55 48.3 -1.0
EGRO  El Granado     1.01  39   Pg    Pb          17 55 36.0 -0.9
EGRO                            Sg    Sn          17 55 48.2 -1.0
EGRO                            i Vmb_Lg          17 55 51.3
MESJ  Messejana      1.09   3   eP    Pn          17 55 37.3 +0.1
MESJ                            eS    Sn          17 55 50.5 -0.7
MESJ                            IAML              17 55 56.0
      comp=N,9.7nm,0.2s
MESJ  Messejana      1.09   3   eP    Pn          17 55 37.4 +0.2
MESJ                            eS    Sn          17 55 50.6 -0.7
MESJ                            i AML AML         17 55 56.0
MESJ                            i AML AML         17 55 56.3
MESJ                            i AML AML         17 55 56.7
EMIN  Mina Concepcio 1.64  51   Sn    Sn          17 56 03.5 -1.2
EMIN  Mina Concepcio 1.64  51   Pg    Pb          17 55 48.6 +1.1
EMIN                            Sn    Sn          17 56 03.0 -1.7
EMIN                            Sg    Sb          17 56 07.6 -0.1
EMIN                            i Vmb_Lg          17 56 11.5
PBAR  Barrancos      1.73  34   eS    Sn          17 56 07.3 +0.2
PBAR                            i AML AML         17 56 15.3
PBAR                            i AML AML         17 56 19.0
PBAR                            i AML AML         17 56 21.4
ESPR  Espera         1.95  86   Pn    Pn          17 55 49.3 +0.3
ESPR                            Sn    Sn          17 56 12.5 +0.1
ESPR  Espera         1.95  86   Pn    Pn          17 55 49.4 +0.5
ESPR                            Sn    Sn          17 56 12.3 -0.1
ESPR                            i Vmb_Lg          17 56 12.7
PESTR Estremoz       2.19  14   Sn    Sn          17 56 18.0 -0.2
EBAD  Badajoz        2.24  26   Sn    Sn          17 56 19.2 -0.4
EBAD  Badajoz        2.24  26   Sn    Sn          17 56 18.2 -1.5
EBAD                            Sg    Sb          17 56 27.9 +2.8
PMTG  Montargil      2.32   1   eP    Pn          17 55 53.8 -0.2
PMTG                            eS    Sn          17 56 21.7 +0.2
ECAB  El Cabril      2.64  59   Pn    Pn          17 55 58.3 -0.2
ECAB  El Cabril      2.64  59   Pn    Pn          17 55 58.2 -0.2
ECAB                            Sn    Sn          17 56 26.3 -3.1
ECAB                            Sg    Sb          17 56 37.8 +1.4
ECAB                            i Vmb_Lg          17 56 38.3
EADA  Adamuz         3.27  63   Pn    Pn          17 56 06.8 -0.4
EADA  Adamuz         3.27  63   Pn    Pn          17 56 06.9 -0.2
EADA                            Sn    Sn          17 56 42.4 -2.6
EADA                            i Vmb_Lg          17 56 49.1
EADA                            Sg    Sb          17 56 58.3 +3.6
MD31  MD31           4.83 142   P     Pn          17 56 28.3 -0.4
MDT   Midelt         4.95 141   P     Pn          17 56 30.0 -0.3
```

PRU 06 17:55:59.0, 50°.18N×18°.97E, h0km, Poland

```
Code  Station Name   Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
STEB  Steborice      0.81 253  eSG   Sg          17 56 25.6 +0.6
MORC  Moravsky Berou 1.01 247  ePG   Pg          17 56 18.7 +0.4
MORC                            eSG   Sg          17 56 32.2 +0.9
LANS  Liptovska Anna 1.08 162  ePG   Pn          17 56 22.0 +0.6
LANS                            eSG   Sb          17 56 35.0 -0.2
LANS                            eLG   Lg          17 56 38.6
KRLC  Kraliky        1.41 267  ePG   Pn          17 56 24.3 -1.7
KRLC                            eSG   Sg          17 56 43.8 -0.5
DPC   Dobruska-Polom 1.71 277  ePG   Pn          17 56 29.2 -0.9
DPC                             eSG   Sb          17 56 53.5 +0.2
KHC   Kasperske Hory 3.66 255  eSG   Sg          17 57 54.3 -2.1
```

*SJA **06** 17:56:47.2±0.7, 19°.88S×71°.21W, h19km±2km, ML5.3, MW5.4*
*IDC **06** 17:56:48.2±0.5, 19°.85S×70°.81W, h0km, mb4.5/14, mbtmp4.5/17, ML4.2/3, MS4.6/28, Error ellipse: s-maj=20.6km s-min=14.9km az=61.0*
*MOS **06** 17:56:48.7±1.9, 19°.81S×70°.86W, h10km, mb5.1/12, Error ellipse: s-maj=14.1km s-min=8.5km az=110.5*
*NEIC **06** 17:56:49.2, 19°.90S×71°.19W, h20km, Moment Tensor Solution. Duration: 2§1 Moment tensor: Scale 10^{16}Nm; M_{rr}4.67; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-5.12; $M_{r\theta}$1.47; $M_{\theta\phi}$1.04; $M_{\phi r}$-5.88; Fault plane solution: $M_0$7.85000×10^{16} NP1: ϕ_s353.79000°, δ19.85000°, λ96.69000°. NP2: ϕ_s166.68000°, δ70.29000°, λ87.59000°. Principal axes: T 7.5355, Plg65.0000°, Azm73.0000°; N 0.6260, Plg2.0000°, Azm167.0000°; P -8.1615, Plg25.0000°, Azm259.0000°;*
*NEIC **06** 17:56:49.7±1.6, 19°.89S±0°.03×71°.04W±0°.07, h13km±3km, mb5.1/128, Mwr5.1/33, Mww5.2/20 Error ellipse: s-maj=10.7km s-min=2.4km az=67.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}4.14; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-4.89; $M_{r\theta}$1.32; $M_{\theta\phi}$1.13; $M_{\phi r}$-3.03; Fault plane solution: $M_0$5.74000×10^{16} NP1:ϕ_s160.49000°, δ63.04000°, λ80.86000°. NP2:ϕ_s0.03000°, δ28.36000°, λ107.35000°. Principal axes: T 5.2609, Plg71.0000°, Azm51.0000°; N 0.8672, Plg8.0000°, Azm165.0000°; P -6.1281, Plg18.0000°, Azm257.0000°;*
*NEIC **06** 17:56:49.2, 19°.90S×71°.09W, h20km*
*NEIC **06** 17:56:49.6, 19°.92S×71°.09W, h12km*
*GUC **06** 17:56:50.9±0.7, 19°.89S×71°.14W, h37km±4km, ML5.0*
*BJI **06** 17:56:51.5, 19°.90S×71°.00W, h14km, Ms5.3/4, Ms7 5.2/6*
*VAO **06** 17:56:54.9±0.7, 19°.82S×70°.71W, h39km±5km, mb4.9*
*GCMT **06** 17:56:54.7±0.2, 19°.85S±0°.01×71°.15W±0°.01, h17km, MW5.2/124, Moment Tensor Solution. s70,c92; s124,c180; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.55±.02; $M_{\theta\theta}$-0.03±.01; $M_{\phi\phi}$-0.52±.01; $M_{r\theta}$0.12±.03; $M_{\theta\phi}$0.11±.01; $M_{\phi r}$-0.68±.04; Best double couple: $M_0$0.88400×10^{17} NP1:ϕ_s347.00000°, δ19.00000°, λ87.00000°. NP2:ϕ_s170.00000°, δ71.00000°, λ91.00000°. Principal axes: T 0.8870, Plg64.0000°, Azm81.0000°; N -0.0050, Plg1.0000°, Azm349.0000°; P -0.8820, Plg26.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:56:49.6±0.9, 19°.89S±0°.03×71°.03W±0°.04, h16km±5km, n336, σ1§53/268, mb5.1/78, MS4.8/27, 6C-7D, Off coast of northern Chile

```
Code  Station Name   Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
TA02  Huaiquique     0.93 114   Pn    Pn          17 57 08.1 +0.1
TA02  Huaiquique     0.93 114   eP    Pn          17 57 08.2 +0.1
TA02                            eS    Sn          17 57 23.2 +2.1
TA02  Huaiquique     0.93 114   eP    Pn          17 57 08.4 +0.4
TA02                            i S   Sn          17 57 21.3 +0.3
TA02                            IAML              17 57 26.4
      comp=N,62μm,0.5s
TA01  Diego Aracena  1.05 130   Pn    Pn          17 57 09.6 0.0
TA01                            Sg    Sn          17 57 23.9 -0.1
TA01  Diego Aracena  1.05 130   eP    Pg          17 57 09.9 +0.1
TA01                            eS    Sn          17 57 28.7 +4.7
TA01  Diego Aracena  1.05 130⇑  iP    Pg          17 57 09.9 +0.1
TA01                            i S   Sn          17 57 23.9 -0.1
TA01                            IAML              17 57 30.8
      comp=N,31μm,0.5s
HMBC  Humberstone    1.14 110   Pg    Pg          17 57 11.5 -0.2
HMBC  Humberstone    1.14 110   eP    Pg          17 57 11.7 0.0
HMBC                            eS    Sg          17 57 29.7 +3.0
HMBC                            IAML              17 57 32.1
      comp=Z,54μm,0.4s
HMBC  Humberstone    1.14 110⇑  iP    Pg          17 57 11.6 -0.2
HMBC                            i S   Sg          17 57 28.0 +1.3
HMBC                            IAML              17 57 32.2
      comp=N,71μm,0.4s
PX02  IPOC Station P 1.21  41   eP    Pn          17 57 11.3 -0.6
PX02                            i S   Sg          17 57 27.0 -1.8
PB12  IPOC Station P 1.43  28   Pn    Pb          17 57 15.5 -0.5
PB12  IPOC Station P 1.43  28   eP    Pb          17 57 15.3 -0.7
PB12                            eS    Sg          17 57 37.9 +2.1
PB12  IPOC Station P 1.43  28⇑  iP    Pb          17 57 15.1 -0.8
PB12                            IAML              17 57 42.0
      comp=N,17μm,0.6s
AP01  Chacalluta     1.64  24   Pb    Pb          17 57 18.3 -1.3
AP01  Chacalluta     1.64  24   eP    Pn          17 57 12.9 -4.9
AP01                            eS    Sg          17 57 42.2 -0.3
AP01  Chacalluta     1.64  24   eP    Pb          17 57 18.0 -1.5
AP01                            IAML              17 57 50.9
      comp=N,36μm,0.4s
PB08  IPOC Station P 1.78  98   Pb    Pb          17 57 21.2 -1.0
PB08  IPOC Station P 1.78  98   eP    Pb          17 57 21.1 -1.0
PB08                            eS    Sg          17 57 47.6 +0.5
PB08  IPOC Station P 1.78  98⇑  iP    Pb          17 57 21.1 -1.0
PB08                            i S   Sg          17 57 45.7 -1.4
PB08                            IAML              17 57 52.2
      comp=N,21μm,0.6s
PB01  IPOC Station P 1.85 129   Pn    Pn          17 57 21.5 +0.7
PB01  IPOC Station P 1.85 129   eP    Pn          17 57 21.8 +0.9
PB01                            eS    Sg          17 57 48.1 -1.1
PB01                            IAML              17 57 54.7
      comp=Z,15μm,0.7s
PB01  IPOC Station P 1.85 129⇑  iP    Pn          17 57 21.7 +0.9
PB01                            i S   Sb          17 57 45.0 -1.1
PB01                            IAML              17 57 56.6
      comp=E,21μm,0.6s
PB09  IPOC Station P 2.53 139   Pn    Pn          17 57 31.5 +1.2
PB09  IPOC Station P 2.53 139   eP    Pn          17 57 31.8 +1.6
PB09                            eS    Sb          17 58 04.9 -0.9
PB09                            IAML              17 58 19.2
      comp=Z,16μm,1.0s
PB09  IPOC Station P 2.53 139⇑  iP    Pn          17 57 31.9 +1.6
PB09                            IAML              17 58 18.2
      comp=E,20μm,0.3s
PB18  Visviri        2.72  33   Pn    Pb          17 57 36.1 -2.1
PB18  Visviri        2.72  33   eP    Pb          17 57 36.4 -1.8
LPAZ  La Paz         4.52  38   Pn    Pn          17 58 00.9 +2.9
LPAZ  La Paz         4.52  38   Pn    Pn          17 58 01.9 +4.0
      comp=E,1.6nm,0.3s,baz=204,slow=8.4,SNR=42
LPAZ                            Lg    Lg          17 59 10.5
      baz=198,slow=20
LPAZ                            LR    LR          17 59 55.1
      comp=E,7μm,19.2s,baz=237,slow=43
LPAZ  La Paz         4.52  38   eP    Pn          17 58 02.0 +4.0
LPAZ                            pmax  pmax
      comp=Z,31nm,0.6s
LPAZ  La Paz         4.52  38   eP    Pn          17 58 01.7 +3.7
PB14  IPOC Station P 4.75 173   Pn    Pn          17 57 58.8 -2.1
GO02  Mina Guanaco   5.42 166   Pn    Pn          17 58 09.4 -0.7
AC01  Pan de Azucar  6.25 176   Pn    Pn          17 58 18.9 -2.2
AC02  Maricunga      7.13 166   Pn    Pn          17 58 30.7 -3.2
AC04  Llanos de Chal 8.28 180   Pn    Pn          17 58 47.2 -1.9
NNA   Nana           9.64 324   Pn    Pn          17 59 11.8 +4.0
      comp=Z,4.2nm,0.3s,baz=179,slow=11,SNR=4.2
NNA                             Sn    Sn          18 00 52.6 -3.3
      comp=Z,6.1nm,0.3s,baz=177,slow=11,SNR=2.3
NNA                             Lg    Lg          18 01 38.0
      baz=230,slow=16
      comp=Z,6.9nm,0.3s
SIV   San Ignacio    10.24  69   Pn    Pn          17 59 15.0 -1.0
      comp=Z,1.3nm,0.3s,baz=256,slow=9.9,SNR=96
SIV                             Sn    Sn          18 01 14.1 +3.5
      comp=Z,0.1nm,0.3s,baz=300,slow=7.8,SNR=1.9
SIV                             LR    LR          18 03 22.7
      comp=Z,2μm,21.9s,baz=270,slow=39
      comp=Z,14nm,0.5s
ETMB  Extrema        11.04  26   Pn    Pn          17 59 26.3 -0.7
ETMB  Extrema        11.04  26   eP    Pn          17 59 27.9 +1.0
PTLB  Pontes e Lacer 12.16  71   Pn    Pn          17 59 41.1 -1.2
PTLB  Pontes e Lacer 12.16  71   eP    Pn          17 59 41.3 -1.0
CZSB  Cruzeiro do Su 12.19 352   Pn    Pn          17 59 43.1 +0.3
CZSB  Cruzeiro do Su 12.19 352   eP    Pn          17 59 45.9 +3.1
VILB  Vilhena        12.47  58   Pn    Pn          17 59 46.9 +0.4
VILB  Vilhena        12.47  58   eP    Pn          17 59 44.8 -1.8
PAPY  Pozo Azul      12.59 112   eP    Pn          17 59 48.2 0.0
MURT  Porto Murtinho 12.68 100   eP    Pn          17 59 46.9 -2.5
BDQN  Bodoquena, MS  13.42  95   eP    Pn          17 59 57.6 -1.9
CPUP  Villa Florida  14.14 120   Pn    Pn          18 00 08.6 -0.7
CPUP  Villa Florida  14.14 120   Pn    Pn          18 00 10.2 +0.9
      comp=Z,0.4nm,0.3s,baz=297,slow=12,SNR=10
CPUP                            LR    LR          18 06 04.6
      comp=Z,1μm,21.1s,slow=40
CPUP  Villa Florida  14.14 120   P     Pn          18 00 08.6 -0.7
CPUP  Villa Florida  14.14 120   eP    Pn          18 00 09.3 0.0
AQDB  Aquidauana     14.41  95   Pn    Pn          18 00 12.8 -0.2
AQDB  Aquidauana     14.41  95   eP    Pn          18 00 11.6 -1.5
ATAH  Atahualpa      14.55 330   Pn    Pn          18 00 16.9 +1.5
      comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=5.5
ATAH                            LR    LR          18 05 06.5
      comp=Z,586nm,20.7s,baz=163,slow=34
      comp=Z,0.9nm,0.5s
SALV  Santo Antonio  15.13  77   eP    Pn          18 00 22.3 -0.5
H03N1 Juan Fernandez 15.22 206   Pn    Pn          18 00 21.9 -1.8
      baz=108,slow=14
H03N1                           T     T           18 16 08.9
      baz=34,slow=72,SNR=119
H03N2 Juan Fernandez 15.22 206   Pn    Pn          18 00 22.1 -1.7
      baz=108,slow=14
H03N2                           T     T           18 16 16.9
      baz=34,slow=72,SNR=138
H03N3 Juan Fernandez 15.24 206   Pn    Pn          18 00 21.9 -2.0
      baz=108,slow=14
H03N3                           T     T           18 16 09.9
      baz=34,slow=72,SNR=100
H03S3 Juan Fernandez 15.55 205   Pn    Pn          18 00 26.2 -1.9
      baz=9.2,slow=20
H03S3                           T     T           18 16 36.6
      baz=198,slow=78,SNR=4.1
H03S1 Juan Fernandez 15.57 205   Pn    Pn          18 00 26.3 -1.9
      baz=9.2,slow=20
H03S1                           T     T           18 16 34.7
      baz=198,slow=78,SNR=5.2
H03S2 Juan Fernandez 15.57 205   Pn    Pn          18 00 26.8 -1.4
      baz=9.2,slow=20
H03S2                           T     T           18 16 28.0
      baz=198,slow=78,SNR=5.5
TBTG  Tabatinga, AM  15.64   4   eP    P           18 00 31.4 -2.3
ML02  Panimavida     15.82 181   Pn    Pn          18 00 31.3 -0.5
PDRB  Porto dos Gac  16.03  61   eP    Pn          18 00 33.6 -0.9
RPRD  Ribas do Rio P 16.28  95   eP    Pn          18 00 37.5 -0.3
BI02  San Fabin de   16.72 181   Pn    Pn          18 00 43.2 -0.1
CLDB  Colider        17.19  61   eP    Pn          18 00 49.1 -0.3
C2SB  Chapadao do Su 17.21  89   eP    Pn          18 00 48.8 -0.7
TEFE  Tefe           17.43  22   eP    P           18 00 52.0 -0.3
TBOT  Tacuaremb      17.94 134   eP    P           18 00 59.9 +0.9
PTGB  Pitanga        18.19 109   eP    P           18 01 03.0 +1.0
ARAG  Araguaiana, MT 18.76  80   eP    P           18 01 07.3 -0.9
ITAB  Concordia      18.79 116   P     P           18 01 08.1 -0.4
ITAB  Concordia      18.79 116   eP    Pn          18 01 09.4 +0.4
LDASE Londrina, Braz 18.84 104   eP    P           18 01 09.0 0.0
CPSB  Cacapava Do Su 19.04 127   eP    Pn          18 01 12.0 +0.1
MACA  Manacapuru-AM  19.45  33   P     P           18 01 14.9 -0.8
MACA                            IAmb  IAmb        18 01 24.3
      comp=Z,97nm,0.7s
MACA  Manacapuru-AM  19.45  33   eP    P           18 01 15.2 -0.5
ITRB  Iturama        19.45  93   eP    P           18 01 15.5 -0.3
PLTB  Pedras Altas   19.61 131   eP    Pn          18 01 18.4 -0.5
TRQA  Tornquist      19.74 158   P     P           18 01 19.2 +0.4
TRQA  Tornquist      19.74 158   P     P           18 01 19.2 +0.4
TRQA                            pmax  pmax        18 01 19.2 +0.4
      comp=Z,53nm,1.2s
NPGB  Novo Progresso 19.86  52   eP    P           18 01 18.7 -1.4
FRTB  Fartura        20.25 104   eP    Pn          18 01 25.6 -0.8
LR05  Currie         20.29 182   P     P           18 01 24.3 -0.4
SNDB  Serra Nova Dou 20.53  70   eP    P           18 01 26.2 -1.3
CNLB  Canela         20.58 121   eP    P           18 01 27.6 -0.5
PLCA  Paso Flores    20.78 179   P     P           18 01 30.8 +0.6
PLCA  Paso Flores    20.78 179   P     P           18 01 30.4 +0.3
      comp=Z,14nm,0.9s,baz=357,slow=12,SNR=26
      comp=Z,14nm,0.9s
PLCA  Paso Flores    20.78 179   eP    Pn          18 01 33.0 +0.4
PLCA                            pmax  pmax
      comp=Z,26nm,1.1s
PLCA  Paso Flores    20.78 179   eP    Pn          18 01 32.2 -0.4
LL04  Puerto Octay   20.99 183          P           18 01 34.4 +2.2
BB19B Bebedouro      21.11  97   eP    P           18 01 33.9 0.0
OTAV  Otavalo        21.28 339   P     P           18 01 34.8 -1.3
OTAV  Otavalo        21.28 339   P     P           18 01 34.8 -1.3
OTAV                            pmax  pmax
      comp=Z,13nm,0.9s
OTAV  Otavalo        21.28 339   eP    P           18 01 39.8 +3.8
ITTB  Itaituba       21.45  46   eP    P           18 01 35.3 -2.1
MAJ01 Sao Joao Batis 21.49 115   eP    P           18 01 37.0 -0.9
IPMB  Ipameri, GO    21.67  89   eP    P           18 01 38.8 -1.0
TER01 Tubaro-SC      21.73 118   eP    P           18 01 39.6 -0.7
FLOC  Florencia      21.81 347   P     P           18 01 41.3 0.0
SPB   Sao Paulo      22.22 104   eP    P           18 01 45.4 -0.3
BDFB  Brasilia       22.32  83   P     P           18 01 45.4 -1.5
BDFB                            IAmb  IAmb        18 02 01.9
      comp=Z,48nm,0.9s
BDFB  Brasilia       22.32  83   P     P           18 01 45.5 -1.3
      comp=Z,8.8nm,0.5s,baz=251,slow=9.6,SNR=14
BDFB                            S     S           18 05 49.2 -2.8
      comp=Z,1.5nm,0.3s,baz=246,slow=12,SNR=1.4
BDFB                            LR    LR          18 10 49.1
      comp=Z,2μm,18.2s,baz=271,slow=38
      comp=Z,8.8nm,0.5s
BDFB  Brasilia       22.32  83   P     P           18 01 45.4 -1.5
BDFB                            pmax  pmax
      comp=Z,48nm,0.9s
VAO   Valinhos       22.61 102   P     P           18 01 48.5 -1.4
VAO                             IAmb  IAmb        18 01 57.0
      comp=Z,211nm,1.9s
VAO   Valinhos       22.61 102   eP    P           18 01 50.0 +0.1
PMNB  Patos De Minas 23.26  91   eP    P           18 01 55.9 -0.8
PARB  Paraibuna      23.86 103   eP    P           18 02 02.7 +0.1
MAL2  Monte Alegre,  24.22  45   P     P           18 02 04.7 -1.2
BOAV  Boa Vista      24.43  26   eP    P           18 02 08.1 +0.3
```

BSCB Bom Sucesso 24.62 97 *eP* **P 18 02 09.3 -0.3**
ROSC El Rosal 24.78 352 P **P 18 02 12.1 +0.7**
comp=Z,10nm,0.3s,baz=96,slow=17,SNR=2.2
ROSC LR LR 18 12 25.7
comp=Z,2μm,20.7s,baz=206,slow=38
comp=Z,10nm,0.3s
SMTB Santa Maria do 25.18 68 *eP* **P 18 02 14.7 +0.1**
RUSC La Rusia 25.70 355 P **P 18 02 20.0 +0.3**
VAS01 Vassouras-RJ 25.84 100 *eP* **P 18 02 22.0 +1.4**
DIAM Diamantina, MG 25.89 91 *eP* **P 18 02 20.8 -0.4**
JANB Januaria 25.92 84 *eP* **P 18 02 20.4 -1.0**
SDBA SAO DESIDERIO 26.15 77 *eP* **P 18 02 22.9 -0.6**
DUB01 Friburgo-RJ 26.83 100 *eP* **P 18 02 29.5 -0.1**
CAM01 Campos-RJ 27.50 99 *eP* **P 18 02 35.7 +0.1**
SJMB Sao Joao De Ma 28.18 93 *eP* **P 18 02 40.9 -0.7**
ALF01 Guarapari-ES 28.42 97 *eP* **P 18 02 43.2 -0.6**
BSFB Barra de Sao F 28.48 93 *eP* **P 18 02 43.7 -0.6**
SDV Santo Domingo 28.59 1 P **P 18 02 44.8 -0.7**
SDV IAmb IAmb 18 03 10.2
comp=Z,60nm,1.8s
SDV Santo Domingo 28.59 1 LR LR 18 14 49.0
comp=Z,901nm,18.2s,baz=238,slow=38
SDV Santo Domingo 28.59 1 *eP* **P 18 02 45.4 -0.1**
GUA01 Guaratinga, BA 29.82 89 *eP* **P 18 02 55.6 -0.6**
CMC01 Camacan, BA 30.34 87 *eP* **P 18 02 60.0 -0.9**
PCRV Puerto La Cruz 30.53 12 LR LR 18 15 54.0
comp=Z,2μm,18.1s,slow=38
MDP Montagnes des 30.72 38 LR LR 18 16 08.9
comp=Z,3μm,20.8s,baz=212,slow=38
JTS Las Juntas de 32.97 334 LR LR 18 17 17.9
comp=Z,444nm,19.6s,baz=124,slow=37
NBLA Lagarto - SE 33.19 80 *eP* **P 18 03 24.3 -1.6**
NBPB Pedra_Branca-C 33.74 69 *eP* **P 18 03 30.5 -0.2**
NBAN Anadia - AL 35.04 78 *eP* **P 18 03 40.6 -1.4**
NBLV Livramento - P 35.33 74 *eP* **P 18 03 44.7 +0.1**
NBCL Cascavel-CE 35.49 68 *eP* **P 18 03 45.3 -0.6**
RPN Rapa Nui 35.75 251 LR LR 18 15 01.5
comp=Z,2μm,18.4s,baz=86,slow=30
RCBR Riachuelo 36.88 73 P **P 18 03 57.7 -0.1**
RCBR IAmb IAmb 18 04 08.6
comp=Z,44nm,0.9s
RCBR Riachuelo 36.88 73 LR LR 18 19 48.1
comp=Z,414nm,18.7s,baz=246,slow=38
RCBR Riachuelo 36.88 73 P **P 18 03 57.7 -0.1**
RCBR pmax pmax
comp=Z,44nm,0.9s
RCBR Riachuelo 36.88 73 *eP* **P 18 03 57.9 0.0**
MLPR Magueyes Islan 37.82 6 P **P 18 04 03.9 -1.7**
IGPR InterUniversit 37.92 8 IAmb IAmb 18 04 47.8
comp=Z,26nm,1.0s
OBIP Obispado Ponce 37.94 7 P **P 18 04 04.2 -2.4**
OBIP IAmb IAmb 18 04 20.8
comp=Z,70nm,1.4s
CELP Cerrillos 37.98 7 IAmb IAmb 18 04 22.9
comp=Z,22nm,0.8s
SJG San Juan 38.06 8 LR LR 18 21 05.4
comp=Z,392nm,18.2s,baz=197,slow=38
AOPR Arecibo Observ 38.23 7 IAmb IAmb 18 04 34.1
comp=Z,43nm,1.1s
PMSA Palmer Station 45.10 176 LR LR 18 23 47.7
comp=Z,237nm,18.0s,baz=303,slow=36
BIRD Birdtown, Kers 54.97 351 IAmb IAmb 18 06 38.0
comp=Z,30nm,1.2s
HKT Hockley 55.01 334 *i* P **P 18 06 23.5 +3.2**
HKT pmax pmax
comp=Z,20nm,1.6s
W57A Gilead 55.39 351 IAmb IAmb 18 06 29.4
comp=Z,14nm,1.0s
V58A Windy Hill, Pi 55.90 352 IAmb IAmb 18 06 32.6
comp=Z,17nm,1.1s
X48A Hartselle 56.14 344 IAmb IAmb 18 06 43.2
comp=Z,47nm,1.7s
V55A Taylorsville 56.27 350 IAmb IAmb 18 06 44.8
comp=Z,16nm,1.0s
CPCT Cooper Cave 56.50 347 IAmb IAmb 18 06 45.0
comp=Z,38nm,1.8s
SWET Sewanee 56.60 345 IAmb IAmb 18 06 46.2
comp=Z,42nm,1.8s
U56A King 56.62 351 IAmb IAmb 18 06 49.8
comp=Z,51nm,1.5s
T59A Double "B" Far 56.88 354 IAmb IAmb 18 06 47.1
comp=Z,19nm,1.0s
U54A Nelsons Funny 57.02 350 IAmb IAmb 18 06 49.9
comp=Z,17nm,1.0s
T57A Hurt 57.11 352 IAmb IAmb 18 06 41.4
comp=Z,23nm,1.1s
CLTN Cedars of Leba 57.53 345 IAmb IAmb 18 07 07.6
comp=Z,20nm,1.4s
U49A Red Boiling Sp 57.80 346 IAmb IAmb 18 06 53.8
comp=Z,48nm,2.0s
S57A Dark Hollow, R 57.82 353 IAmb IAmb 18 06 46.5
comp=Z,21nm,1.1s
SAND Sanderson 57.90 328 IAmb IAmb 18 06 57.5
comp=Z,42nm,1.7s
R58B Mineral 57.90 354 IAmb IAmb 18 06 47.3
comp=Z,17nm,1.2s
WVT Waverly 57.94 344 P **P 18 06 40.3 -0.9**
WVT Waverly 57.94 344 P **P 18 06 40.3 -0.9**
WVT pmax pmax
comp=Z,15nm,1.1s
T50A Nancy 58.08 347 IAmb IAmb 18 06 55.8
comp=Z,65nm,1.9s
TXAR Lajitas Array 58.18 326 P **P 18 06 43.6 +0.4**
TXAR Lajitas Array 58.18 326 P **P 18 06 44.2 +1.1**
comp=Z,1.2nm,0.8s,baz=147,slow=8.5,SNR=9.7
comp=Z,1.2nm,0.8s
TX31 Lajitas Ar. Si 58.18 326 P **P 18 06 43.1 -0.1**
WHAR Wooly Hollow 58.47 340 P **P 18 06 43.9 -1.0**
T47A Sharon Grove 58.57 345 IAmb IAmb 18 07 00.2
comp=Z,24nm,1.1s
LCAR Lake Charles 58.82 341 P **P 18 06 47.7 +0.4**
LCAR IAmb IAmb 18 07 02.4
comp=Z,41nm,1.9s
FCAR Ozark Folk Cen 58.96 340 IAmb IAmb 18 08 55.8
comp=Z,8.1nm,0.6s
Q56A Snyder Ridge, 59.11 353 IAmb IAmb 18 07 23.8
comp=Z,20nm,0.9s
PBMO Poplar Bluff 59.26 342 IAmb IAmb 18 07 12.8
comp=Z,38nm,1.6s
MNHN Monahans 59.34 328 IAmb IAmb 18 07 14.8
comp=Z,15nm,1.0s
T42A Van Buren 59.69 341 IAmb IAmb 18 07 01.4
comp=Z,16nm,1.5s
APMT Aspermont 59.76 332 P **P 18 06 54.7 +0.8**
APMT IAmb IAmb 18 08 40.3
comp=Z,11nm,0.8s
VHRN Van Horn 60.03 326 IAmb IAmb 18 07 12.4
comp=Z,30nm,1.4s
SSPA Standing Stone 60.55 354 P **P 18 06 59.3 +0.1**
SSPA IAmb IAmb 18 07 03.1
comp=Z,33nm,1.4s
CCM Cathedral Cave 60.69 342 P **P 18 06 60.0 -0.2**
CCM IAmb IAmb 18 07 06.4
comp=Z,15nm,1.1s
CCM Cathedral Cave 60.69 342 P **P 18 07 00.0 -0.2**
CCM pmax pmax
comp=Z,15nm,1.2s
S39A Bolivar 60.99 340 IAmb IAmb 18 07 08.3
comp=Z,16nm,1.0s
R40A Maddies Statio 61.21 341 IAmb IAmb 18 07 09.5
comp=Z,16nm,1.1s
O48B Farmland 61.26 348 IAmb IAmb 18 07 08.8
comp=Z,21nm,1.1s
T35A Sooner Cattle 61.40 337 P **P 18 07 05.1 0.0**
T35A IAmb IAmb 18 07 39.8
comp=Z,22nm,1.2s
P43A Skaggs, Pawnee 61.69 344 IAmb IAmb 18 07 12.2
comp=Z,22nm,1.0s
N49A Columbus Grove 61.72 349 IAmb IAmb 18 07 12.7
comp=Z,27nm,1.0s
BINY Binghamton 61.94 356 IAmb IAmb 18 07 26.5
comp=Z,26nm,1.1s
P38A Dawn 62.82 341 IAmb IAmb 18 07 19.9
comp=Z,12nm,1.0s
N41A Harden Midland 63.04 343 IAmb IAmb 18 07 21.8
comp=Z,18nm,0.9s
NCB Newcomb 63.61 357 P **P 18 07 20.7 +1.0**
BBTS Babate 63.65 62 LR LR 18 34 40.4
comp=Z,533nm,18.3s,baz=121,slow=36
ANMO Albuquerque 64.08 328 *i* P **P 18 07 26.0 +2.8**
ANMO pmax pmax
comp=Z,5.0nm,1.6s
SNAA Sanae 64.44 161 P **P 18 07 26.9 +1.9**
SNAA Sanae 64.44 161 P **P 18 07 26.1 +1.2**
SNAA IAmb IAmb 18 07 55.3
comp=Z,49nm,1.9s
SNAA Sanae 64.44 161 ||P **P 18 07 26.9 +1.9**
comp=Z,102nm,0.7s
SNAA Sanae 64.44 161 P **P 18 07 25.5 +0.5**
comp=Z,4.0nm,0.7s,baz=271,slow=7.8,SNR=7.5
comp=Z,4.0nm,0.7s
SNAA Sanae 64.44 161 *i* P **P 18 07 27.6 +2.6**
SNAA pmax pmax
comp=Z,11nm,1.1s
FRNY Flat Rock 64.45 358 IAmb IAmb 18 07 32.1
comp=Z,23nm,1.1s
SADO Sadowa 64.77 354 IAmb IAmb 18 07 33.3
comp=Z,25nm,1.1s
G62A West of Eustis 64.79 0 P **P 18 07 29.5 +2.1**
TRQ Mont Tremblant 65.87 357 IAmb IAmb 18 07 40.9
comp=Z,30nm,1.2s
TROLL Troll, Antarti 66.16 161 P **P 18 07 38.4 +2.2**
TROLL Troll, Antarti 66.16 161 ||P **P 18 07 38.4 +2.2**
comp=Z,211nm,0.6s
I37A Lemond, Waseca 66.81 343 IAmb IAmb 18 08 01.0
comp=Z,18nm,1.0s
ECSD EROS Data Cent 67.52 340 IAmb IAmb 18 07 50.6
comp=Z,21nm,1.2s
VLDQ Val d'Or 67.93 355 IAmb IAmb 18 07 54.0
comp=Z,24nm,1.4s
NVL N'lazarevskaya 69.04 159 *eP* **P 18 07 56.9 +2.7**
NVL *eS* **S 18 16 56.7 -1.6**
NVL pmax pmax
comp=Z,8.0nm,0.9s
NVL MLR MLR
comp=Z,542nm,20.0s
ICQ Pointe Anglais 69.18 3 P **P 18 07 55.8 +0.7**
F33A 5 Mile Ranch, 69.32 341 IAmb IAmb 18 08 01.4
comp=Z,15nm,1.3s
MTPU Mount Pierson 69.39 326 IAmb IAmb 18 08 14.8
comp=Z,33nm,2.0s
DBIC Dimbokro 70.21 75 P **P 18 08 01.7 -0.7**
DBIC IAmb IAmb 18 08 12.8
comp=Z,28nm,0.9s
DBIC Dimbokro 70.21 75 P **P 18 08 02.0 -0.3**
comp=Z,11nm,0.8s,baz=241,slow=6.0,SNR=10
DBIC LR LR 18 38 50.3
comp=Z,547nm,18.1s,baz=234,slow=36
comp=Z,11nm,0.8s
DBIC Dimbokro 70.21 75 P **P 18 08 01.7 -0.7**
DBIC pmax pmax
comp=Z,28nm,1.0s
QSPA South Pole Qui 70.30 180 P **P 18 08 04.4 +2.2**
comp=Z,5.4nm,0.6s,baz=181,slow=0.6,SNR=32
comp=Z,5.4nm,0.6s
RSSD Black Hills 70.50 335 P **P 18 08 03.9 +0.1**
RSSD Black Hills 70.50 335 P **P 18 08 03.9 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,0.9s
WCT Wildcat Mounta 70.92 323 pP 18 08 10.6 +0.4
DUG Dugway, Tooele 71.33 327 P **P 18 08 08.9 +0.1**
PDAR Pinedale Array 71.74 331 P **P 18 08 13.5 +2.2**
comp=Z,0.8nm,0.8s,baz=130,slow=6.4,SNR=6.1
comp=Z,0.8nm,0.8s
DSP Deep Springs 72.09 322 pP 18 08 17.6 +0.5
TBI Tubuai 72.14 251 *e*LR LR 18 30 13.6
comp=Z,4μm,27.2s
ELIB Princess Elisa 72.61 161 *d*P **P 18 08 18.0 +2.0**
comp=Z,4.5nm,0.8s
ELK Elko 72.98 326 P **P 18 08 19.1 +0.3**
LHV Little Huntoon 73.00 323 pP 18 08 23.4 +0.8
NVAR Mina Array Bea 73.01 323 P **P 18 08 21.3 +2.3**
comp=Z,1.6nm,0.8s,baz=135,slow=7.2,SNR=7.6
comp=Z,1.6nm,0.8s
MOOW Moose Ponds 73.04 331 IAmb IAmb 18 08 52.5
comp=Z,23nm,1.9s
ULM Lac du Bonnet 73.20 344 P **P 18 08 19.5 0.0**
comp=Z,5.8nm,1.0s,baz=138,slow=3.3,SNR=6.1
comp=Z,5.8nm,1.0s
ULM Lac du Bonnet 73.20 344 *eP* **P 18 08 21.1 +1.6**
ULM pmax pmax
comp=Z,6.0nm,1.0s
FLWY Flagg Ranch 73.28 331 IAmb IAmb 18 08 35.1
comp=Z,12nm,0.8s
RLMT Red Lodge 73.47 333 IAmb IAmb 18 08 31.9
comp=Z,49nm,1.9s
PPT2 Papeete2 73.75 257 *e*LR LR 18 30 58.2
comp=Z,585nm,24.0s
PPT2 *e*LR LR 18 30 58.7
comp=Z,468nm,25.0s
DGMT Dagmar 74.22 338 IAmb IAmb 18 08 33.7
comp=Z,25nm,1.1s
SCHQ Schefferville 74.50 3 P **P 18 08 27.2 +0.1**
comp=Z,3.2nm,0.7s,baz=170,slow=8.0,SNR=4.2
comp=Z,3.2nm,0.7s
HLID Hailey 74.63 329 pP 18 08 32.3 0.0
ORV Oroville 75.60 322 pP 18 08 38.2 +0.5
EGMT Eagleton 75.98 334 IAmb IAmb 18 08 43.5
comp=Z,17nm,1.1s
I07A Izee 77.57 326 pP 18 08 49.2 +0.2
SYO Syowa Base 78.70 160 ||*eP* **P 18 08 48.8 -2.0**
SYO Syowa Base 78.70 160 ||*pP* **P 18 08 51.1 +0.3**
SYO Syowa Base 78.70 160 ||*sP* **P 18 08 54.9 +4.1**
TORD Torodi Ar. Bea 78.71 72 P **P 18 08 51.0 -0.8**
TORD Torodi Ar. Bea 78.71 72 P **P 18 08 51.0 -0.8**
comp=Z,16nm,0.7s,baz=266,slow=4.9,SNR=59
TORD LR LR 18 41 51.5
comp=Z,590nm,21.1s,slow=34
comp=Z,16nm,0.7s
MORF Marmelete 81.73 46 *eP* **P 18 09 10.8 +3.2**
MORF *e*tx tx 18 09 19.2
RAR Rarotonga 81.90 250 LR LR 18 37 55.1
comp=Z,339nm,19.9s,baz=127,slow=30
PBDV Barranco-do-Ve 82.18 46 *e*tx tx 18 09 21.6
MESJ Messejana 82.31 45 *eP* **P 18 09 11.8 +1.2**
MESJ IAmb IAmb 18 09 14.0
comp=Z,8.1nm,0.9s
MESJ Messejana 82.31 45 *eP* **P 18 09 11.9 +1.3**
MESJ *e*tx tx 18 09 20.9
PCVE Castro Verde 82.32 46 *eP* **P 18 09 12.1 +1.4**
PCVE *e*tx tx 18 09 22.1
PVAQ Vaqueiros 82.41 46 *e*tx tx 18 09 22.5
TSUM Tsumeb 82.41 108 LR LR 18 44 03.5
comp=Z,337nm,18.9s,baz=346,slow=34
PBEJ Beja 82.64 45 *e*tx tx 18 09 23.5
PBAR Barrancos 83.27 45 *eP* **P 18 09 16.9 +1.3**
PBAR *e*tx tx 18 09 26.6
PVIS Viseu 84.06 43 *eP* **P 18 09 21.4 +1.7**
POLO Lamas de Olo 84.47 42 *eP* **P 18 09 23.4 +1.5**
POLO *e*tx tx 18 09 32.1
MVO Moncorvo 84.85 43 *eP* **P 18 09 26.3 +2.6**
MVO *e*tx tx 18 09 34.7
PBRG Braganca 85.37 43 *e*tx tx 18 09 37.3
TAM Tamanrasset 85.89 64 P **P 18 09 27.6 -1.8**
TAM IAmb IAmb 18 09 42.1
comp=Z,23nm,1.2s
TAM Tamanrasset 85.89 64 P **P 18 09 27.6 -1.8**
TAM pmax pmax
comp=Z,23nm,1.2s
BOSA Boshof 85.96 119 LR LR 18 44 41.1
comp=Z,376nm,18.8s,baz=247,slow=34
ESDC Sonseca Array 86.10 45 P **P 18 09 30.5 +0.5**
ESDC IAmb IAmb 18 10 23.0
comp=Z,14nm,1.4s
ESDC Sonseca Array 86.10 45 P **P 18 09 30.7 +0.7**
comp=Z,2.2nm,1.0s,baz=245,slow=5.2,SNR=9.3
comp=Z,2.2nm,1.0s
MAW Mawson 86.43 164 LR LR 18 50 43.8
comp=Z,383nm,18.1s,baz=96,slow=37
BBB Bella Bella 87.22 329 LR LR 18 50 05.3
comp=Z,166nm,18.0s,baz=165,slow=37
LBTB Lobatse 87.50 116 LR LR 18 45 43.5
comp=Z,380nm,19.2s,baz=228,slow=34
YKA Yellowknife Ar 89.02 341 P **P 18 09 44.1 +0.8**
comp=Z,2.1nm,0.8s,baz=143,slow=4.9,SNR=31
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 89.02 341 *eP* **P 18 09 44.7 +1.4**
YKA pmax pmax
comp=Z,6.0nm,0.9s
DLBC Dease Lake 91.87 333 LR LR 18 55 50.0
comp=Z,317nm,18.2s,baz=91,slow=38
LSZ Lusaka 93.27 107 LR LR 18 48 49.7
comp=Z,360nm,20.6s,baz=221,slow=34
URZ Urewera 93.86 227 LR LR 18 43 09.9
comp=Z,446nm,20.5s,baz=226,slow=30
KEST Kesra 93.93 54 LR LR 18 53 44.6
comp=Z,414nm,20.2s,baz=4.2,slow=36
INK Inuvik 98.76 341 LR LR 18 58 21.8
comp=Z,250nm,20.3s,baz=254,slow=37
DZM Mont Dzumac 110.06 236 *e*LR LR 18 47 47.5
comp=Z,559nm,23.9s
KBZ Khabaz 120.64 50 PKP **PKiKP 18 15 42.0 +1.2**
comp=Z,3.6nm,1.0s,baz=323,slow=2.2,SNR=4.8
KBZ Khabaz 120.64 50 *e*PKIKP **PKiKP 18 15 44.1 +3.2**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
H11S2 WAKE ISLAND Hyl 25.69 279 T T 20 35 13.4
baz=101,slow=74,SNR=85
H11S1 WAKE ISLAND Hyl 25.69 279 T T 20 35 18.4
baz=101,slow=74,SNR=71
H11S3 WAKE ISLAND Hyl 25.70 279 T T 20 35 13.6
baz=101,slow=74,SNR=63
H11N3 WAKE ISLAND Hyl 25.73 280 T T 20 35 23.2
baz=102,slow=74,SNR=30
H11N2 WAKE ISLAND Hyl 25.75 280 T T 20 35 16.7
baz=102,slow=74,SNR=39
H11N1 WAKE ISLAND Hyl 25.75 280 T T 20 35 22.7
baz=102,slow=74,SNR=12
ARTI Arti 127.83 33 *i* PKIKP **PKiKP 18 15 55.7 +0.9**
ARTI 18 17 59.1
ARTI 18 23 06.6
ARTI SS SS 18 35 03.4 -4.7
SEY Seymchan 127.84 337 *e*PKIKP **PKiKP 18 15 56.5 +1.9**
SEY pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 130.35 210 PKP **PKPdf 18 16 00.0 -0.2**
comp=Z,1.1nm,0.8s,baz=121,slow=1.5,SNR=17
ABKAR Akbulak array 131.28 41 PKiKP 18 16 01.8 -0.1
WRA Warramunga Arr 133.26 214 PKP **PKiKP 18 16 06.7 -0.2**
comp=Z,0.7nm,0.7s,baz=148,slow=1.5,SNR=7.6
WRA Warramunga Arr 133.26 214 *e*PKIKP **PKPdf 18 16 06.3 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 135.55 33 PKP **PKiKP 18 16 10.3 -0.2**
comp=Z,2.1nm,0.8s,baz=305,slow=2.6,SNR=9.9
KURK Kurchatov 141.01 31 PKIKP **PKPdf 18 16 20.3 +1.3**
KURBB Kurchatov Arra 141.03 31 PKP **PKPdf 18 16 20.2 +1.2**
comp=Z,1.7nm,0.9s,baz=306,slow=2.6,SNR=13
ZALV Zalesovo Beam 141.29 23 PKPdf 18 16 16.8 -2.6
ZALV Zalesovo Beam 141.29 23 PKP **PKPdf 18 16 18.3 -1.1**
comp=Z,3.7nm,0.5s,baz=303,slow=3.0,SNR=12
ZALV Zalesovo Beam 141.29 23 *e*PKIKP **PKiKP 18 16 21.0 -1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
AAK Ala-Archa 143.20 44 PKP **PKPdf 18 16 24.6 +1.2**
comp=Z,3.9nm,0.9s,baz=0.0,slow=0.0,SNR=3.8
KDJ Kajisay 145.19 43 PKPbc 18 16 23.9 -2.6
KDJ Kajisay 145.19 43 PKP2 **PKPbc 18 16 23.9 -2.6**
MAKZ Makanchi 145.26 33 PKPbc 18 16 25.0 -1.4
MAKZ Makanchi 145.26 33 PKP2 **PKPbc 18 16 25.0 -1.4**
MKAR Makanchi Array 145.43 33 PKPab 18 16 27.6 +0.4
MKAR Makanchi Array 145.43 33 PKPbc **PKPab 18 16 28.1 +0.9**
comp=Z,5.1nm,1.0s,baz=316,slow=3.3,SNR=26
NIL Nilore 145.47 59 PKPbc 18 16 25.0 -2.5
NIL Nilore 145.47 59 PKP2 **PKPbc 18 16 25.0 -2.5**
KLR Kul'dur 145.50 333 *i* PKIKP **PKPbc 18 16 27.3 +0.3**
KLR pmax pmax
comp=Z,12nm,1.3s
KSH Kashi 145.57 48 PKPbc **PKPab 18 16 29.4 +1.4**
HEH HeiHe 146.34 339 *e*PKPbc **PKPab 18 16 30.7 +0.4**
IRK Irkutsk 147.50 5 *e*PKP2 **PKPbc 18 16 32.3 -0.5**
IRK pmax pmax
comp=Z,40nm,2.2s
MOY Mondy 147.67 9 *e*PKP2 **PKPbc 18 16 34.0 +0.5**
MOY pmax pmax
comp=Z,26nm,1.8s
CIT Chita 147.73 355 *e*PKP2 **PKPbc 18 16 33.8 +0.3**
USRK Ussuriysk Ar. 149.08 327 PKPbc **PKiKP 18 16 39.5 +1.0**
comp=Z,6.8nm,1.0s,baz=31,slow=4.4,SNR=5.9
ZAK Zakamensk 149.24 7 *e*PKIKP **PKPbc 18 16 35.6 -2.0**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
MJAR Matsushiro Arr 149.52 309 PKPbc **PKiKP 18 16 39.9 +0.3**
comp=Z,6.7nm,0.9s,baz=82,slow=2.3,SNR=9.6
MAJO Matsushiro 149.52 309 PKPab **PKiKP 18 16 41.2 +1.5**
MAJO Matsushiro 149.52 309 PKP2 **PKiKP 18 16 41.2 +1.5**
MJB9 Matsu-Tunnel 149.52 309 PKiKP 18 16 40.2 +0.5
BNX BinXian 150.07 334 ||PKPbc **PKPbc 18 16 39.2 -0.4**
WMQ Urumqi 150.24 32 *e*PKPbc **PKPdf 18 16 35.1 0.0**
WMQ LR LR
comp=Z,180nm,18.9s
HYB Hyderabad 151.10 90 *e*PKPdf **PKPdf 18 16 35.1 -2.0**
HYB *e*PKiKP **PKiKP 18 16 43.7 +0.3**
SONM Songino Array 152.04 4 PKPdf 18 16 35.4 -2.4
SONM Songino Array 152.04 4 PKP **PKPdf 18 16 38.7 +0.9**
comp=Z,1.1nm,0.9s,baz=339,slow=3.7,SNR=5.7
SONM PKPbc **PKiKP 18 16 46.1 +1.4**
comp=Z,4.1nm,0.8s,baz=319,slow=0.9,SNR=15
ULN Ulaanbaatar 152.05 3 PKPdf 18 16 39.5 +1.7
ULN Ulaanbaatar 152.05 3 PKIKP **PKPdf 18 16 39.5 +1.7**
HHC Hu-ho-hao-te 158.99 355 *e*PKP **PKPdf 18 16 43.3 -4.0**
GTA Gaotai 159.00 20 PKP **PKPdf 18 16 48.9 +1.5**
BTO Baotou 159.33 358 *e*PKP **PKPdf 18 16 43.9 -3.8**
BTO pPKP **sPKPdf 18 16 54.0 +0.8**
BTO sPKP 18 16 57.1
BTO PP PP 18 21 15.3 +10
BTO LR LR
comp=Z,210nm,10.2s
BTO LR LR
comp=Z,520nm,15.9s
GOMU GeErMu 159.54 34 PKP **PKPdf 18 16 48.9 +0.5**
NJ2 Nanjing 164.99 326 *e*PKP **PKPdf 18 16 52.7 -0.8**
CMAR Chiang Mai Arr 170.42 97 PKPab **PKPab 18 18 15.6 +1.0**
comp=Z,0.2nm,0.4s,baz=270,slow=5.2,SNR=5.4
PZH PanZhiHua 170.65 44 PKP **PKPdf 18 16 56.3 -1.5**
GYA Guiyang 173.12 18 PKP **PKPdf 18 17 01.4 +2.4**
QIZ Qiongzhong 178.81 224 PKP **PKPdf 18 16 59.2 -1.1**
QIZ PP **PP 18 22 44.4 -0.1**
QIZ SS SS 18 44 26.5 +0.8
QIZ LR LR
comp=Z,120nm,9.8s
QIZ LR LR
comp=Z,120nm,13.4s
QIZ LR LR
comp=Z,230nm,17.8s

*NNC **06** 18:09:52.8±4.6, 35°.29N×73°.73E, h0km, mb3.6, mpv3.5,*
Error ellipse: s-maj=122.2km s-min=26.7km az=84.0
*IDC **06** 18:09:59.3±5.5, 35°.24N×73°.99E, h112km±52km, mb3.3/5,*
mbtmp3.6/10, Error ellipse: s-maj=37.0km s-min=21.4km
az=27.0

ISC 06 18:09:47.8±0.7, 35°.08N±0°.05×74°.39E±0°.08, h10km, n36,
σ2°.60/51, mb3.6/4, 1C-1D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSSA	**Tissa**	**2.67**	**146**	*eP*	**Pb**	**18 10 35.6**	**-0.3**
TSSA				*eS*	**Sb**	**18 11 08.5**	**-0.3**
DHRM	**DHARAMSHALA**	**3.24**	**150**	*eP*	**Pb**	**18 10 44.0**	**-1.6**
DHRM				*eS*	**Sb**	**18 11 24.2**	**-1.0**
DHRM				IAML		18 11 26.2	
	comp=E,532nm,0.3s						
DHRM				IAML		18 11 27.1	
	comp=N,493nm,0.3s						
TLWR	**Talawar**	**3.38**	**157**	*eS*	**Sn**	**18 11 25.6**	**+4.8**
BHK	**Bhakra**	**4.03**	**155**	*eP*	**Pn**	**18 10 54.0**	**+4.4**
BHK				*eS*	**Sb**	**18 11 44.1**	**-3.5**
BHK				IAML		18 11 44.5	
	comp=N,528nm,0.2s						
BHK				IAML		18 11 44.8	
	comp=E,507nm,0.1s						
SMLA	**Simla**	**4.58**	**149**	*eP*	**Pn**	**18 11 01.4**	**+4.3**
SMLA				*eS*	**Sn**	**18 11 53.9**	**+3.6**
SMLA				IAML		18 11 57.9	
	comp=N,395nm,0.3s						
SMLA				IAML		18 11 58.2	
	comp=E,493nm,0.4s						
KSH	**Kashi**	**4.60**	**15**	Pn	**Pn**	**18 10 58.9**	**+1.3**
KSH				Sn	**Sn**	**18 11 46.9**	**-4.3**
KSH				smax	smax		
	comp=N,12nm,0.7s						
KSH				smax	smax		
	comp=E,15nm,0.9s						
DDI	**Dehra Dun**	**5.66**	**146**	*eS*	**Sn**	**18 12 19.5**	**+2.4**
DDI				IAML		18 12 24.1	
	comp=E,218nm,0.2s						
DDI				IAML		18 12 24.5	
	comp=N,312nm,0.3s						
JOSI	**Joshimath**	**6.26**	**135**	*eP*	**Pn**	**18 11 24.9**	**+4.4**
JOSI				*eS*	**Sn**	**18 12 36.1**	**+3.9**
JOSI				IAML		18 12 42.6	
	comp=E,139nm,0.1s						
JOSI				IAML		18 12 45.4	
	comp=N,236nm,0.3s						
KUDL	**Kundal**	**7.14**	**165**	*eP*	**Pn**	**18 11 33.3**	**+1.0**

KUDL eS Sn 18 12 51.5 -2.0
KUDL IAML 18 12 54.6
comp=N,200nm,0.2s
KUDL IAML 18 12 55.7
comp=E,117nm,0.5s
UGON Onchagaon 7.38 155 eS **Sn 18 12 58.0 -1.5**
LGTI Lohaghat 7.49 137 eP **Pn 18 11 38.4 +1.3**
LGTI eS **Sn 18 13 01.0 -1.1**
LGTI IAML 18 13 05.3
comp=E,108nm,0.4s
LGTI IAML 18 13 07.4
comp=N,89nm,0.4s
AAK Ala-Archa 7.55 1 P Pn 18 11 44.0 +6.0
comp=N,0.8nm,0.4s,baz=125,slow=4.9,SNR=6.0
KK31 Karatay Array 8.56 341 P **Pn 18 11 53.3 +1.6**
comp=N,0.8nm,0.3s,baz=159,slow=12,SNR=10
KK31 ⇓S **Sn 18 13 27.4 -0.9**
comp=N,0.9nm,0.3s,baz=148,slow=22,SNR=7.1
PYUN Piuthan 10.10 131 Pn **Pn 18 12 15.0 +1.8**
baz=131,slow=0.0
PYUN Sn **Sn 18 14 02.5 -4.2**
comp=N,18nm,0.5s,baz=131,slow=0.0
JHNI Jhansi 10.23 158 eP **Pn 18 12 15.6 +0.9**
JHNI eS **Sn 18 14 05.3 -4.2**
JHNI IAML 18 14 10.9
comp=E,99nm,0.5s
DANN Dangsing 10.42 128 Pn **Pn 18 12 19.4 +1.8**
baz=128,slow=0.0
DANN Sn **Sn 18 14 11.6 -2.9**
comp=E,9.7nm,0.5s,baz=128,slow=0.0
KOLN Koldanda 10.72 130 Pn **Pn 18 12 23.2 +1.6**
baz=130,slow=0.0
GKN Gorkha 11.23 126 Pn **Pn 18 12 29.9 +1.4**
baz=126,slow=0.0
GKN Sn **Sn 18 14 30.3 -3.8**
comp=E,17nm,0.4s,baz=126,slow=0.0
KKN Kakani 11.79 125 Pn **Pn 18 12 38.5 +2.2**
baz=125,slow=0.0
PKIN Phulchoki 12.01 125 Pn **Pn 18 12 40.9 +1.6**
baz=126,slow=0.0
PKI Pulchoki 12.02 125 Pn **Pn 18 12 40.8 +1.2**
baz=126,slow=0.0
PKI Sn **Sn 18 14 49.7 -4.2**
comp=E,6.5nm,0.4s,baz=126,slow=0.0
GUN Gumba 12.12 123 Pn **Pn 18 12 42.4 +1.4**
baz=123,slow=0.0
MKAR Makanchi Array 13.13 25 P **P 18 13 02.5 -2.0**
comp=E,0.2nm,0.4s,baz=209,slow=11,SNR=5.1
RAMN Ramite 13.23 124 Pn **Pn 18 12 57.2 +1.2**
baz=124,slow=0.0
RAMN Sn **Sn 18 15 19.7 -3.6**
comp=E,12nm,0.4s,baz=124,slow=0.0
TAPN Taplejung 13.75 120 Pn **Pn 18 13 03.7 +0.6**
baz=120,slow=0.0
KURBB Kurchatov Arra 15.82 10 P **P 18 13 35.1 +0.8**
comp=E,0.6nm,0.7s,baz=200,slow=11,SNR=7.8
AB31 Akbulak array 17.71 327 P **Pn 18 13 54.8 +0.4**
comp=E,1.1nm,0.7s,baz=134,slow=14,SNR=13
BVAR Borovoye Array 18.16 352 P **Pn 18 14 01.2 +1.3**
comp=E,1.4nm,0.6s,baz=154,slow=8.7,SNR=12
AKTO Aktyubinsk 19.43 327 P **P 18 14 13.2 -0.9**
comp=E,1.9nm,0.5s,baz=132,slow=10,SNR=8.3
AKTO Aktyubinsk 19.43 327 ⇑P **P 18 14 15.2 +1.1**
comp=E,1.4nm,0.6s
ZALV Zalesovo Beam 20.24 18 P **P 18 14 23.6 +0.7**
comp=E,0.9nm,0.3s,baz=212,slow=11,SNR=7.8
comp=E,0.9nm,0.3s
SONM Songino Array 26.95 52 P **P 18 15 32.3 +2.8**
comp=E,0.3nm,0.5s,baz=231,slow=9.1,SNR=1.8
comp=E,0.3nm,0.5s
CMAR Chiang Mai Arr 27.36 121 P **P 18 15 37.5 +4.2**
comp=E,0.6nm,0.8s,baz=314,slow=10,SNR=8.2
comp=E,0.6nm,0.8s
XLT XiLinHaoTe 33.06 62 eP **P 18 16 22.5 -1.1**
XLT pP sP 18 16 36.5 +6.6
XLT sP pP 18 16 50.7 +23
XLT PP **PnPn 18 17 34.9 +2.0**
TORD Torodi Ar. Bea 68.47 271 P **P 18 20 47.9 -2.6**
comp=E,0.5nm,0.5s,baz=42,slow=6.3,SNR=5.6
comp=E,0.5nm,0.5s
ASAR Alice Springs 81.19 127 P **P 18 22 04.2 +0.2**
comp=E,0.5nm,0.6s,baz=314,slow=5.2,SNR=3.0
comp=E,0.5nm,0.6s

---

*VIE **06** 18:19:39.9±0.4, 49.°70N×19.°04E, h0km, mb2.7/3, ml2.1/6, Error ellipse: s-maj=4.9km s-min=2.3km az=151.0, Suspected Mining induced.*
*IPEC **06** 18:19:41.1±0.2, 50.°20N×18.°79E, h1km, ML2.1/4, Error ellipse: s-maj=1.9km s-min=0.9km az=177.0*
*PRU **06** 18:19:42.2, 50.°24N×18.°68E, h0km*
ISC 06 18:19:40.8±0.8, 50.°14N±0.°04×18.°72E±0.°02, h0km, n33, σ1§58/57, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.48**	**231**	ePG	**Pb**	**18 19 52.2**	**+0.2**
OKC				eSG	**Sb**	**18 20 00.3**	**+0.7**
comp=Z,31nm,0.5s							
STEB	**Steborice**	**0.64**	**252**	ePG	**Pb**	**18 19 54.8**	**-0.1**
STEB				eSG	**Sb**	**18 20 04.6**	**+0.2**
OJC	**Ojcow**	**0.70**	**83**	ePg	**Pg**	**18 19 53.6**	**-0.6**
OJC				eSg	**Sg**	**18 20 03.1**	**-0.2**
MORC	**Moravsky Berou**	**0.84**	**245**	ePg	**Pb**	**18 19 58.4**	**+0.1**
baz=62							
MORC				eSg	**Sb**	**18 20 09.6**	**-0.6**
33nm,0.3s,baz=62							
MORC	**Moravsky Berou**	**0.84**	**245**	ePG	**Pb**	**18 19 58.4**	**+0.1**
MORC				eSG	**Sb**	**18 20 09.7**	**-0.5**
MAUC	**Maruska**	**0.96**	**217**	ePG	**Pn**	**18 20 01.4**	**-0.2**
LANS	**Liptovska Anna**	**1.10**	**153**	ePG	**Pn**	**18 20 03.8**	**+0.3**
LANS				eSG	**Sn**	**18 20 20.4**	**+0.9**
LANS				eLG	Lg	18 20 22.4	
KRLC	**Kraliky**	**1.25**	**268**	ePG	**Pg**	**18 20 04.6**	**-0.1**
KRLC				eSG	**Sb**	**18 20 21.9**	**0.0**
comp=Z,23nm,0.4s							
NIE	**Niedzica**	**1.25**	**125**	ePg	**Pn**	**18 20 05.5**	**-0.1**
NIE				eSg	**Sn**	**18 20 23.1**	**-0.1**
JAVC	**Velka Javorina**	**1.45**	**208**	ePn	**Pb**	**18 20 09.1**	**+0.4**
baz=28							
JAVC	**Velka Javorina**	**1.45**	**208**	ePN	**Pb**	**18 20 09.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.55**	**279**	ePG	**Pb**	**18 20 10.1**	**-0.3**
DPC				eSG	**Sg**	**18 20 31.1**	**+0.5**
comp=Z,18nm,0.4s							
VRAC	**Vranov**	**1.61**	**240**	ePn	**Pb**	**18 20 11.5**	**+0.1**
baz=57							
VRAC				eSg	**Sg**	**18 20 33.6**	**+1.1**
9.9nm,0.3s,baz=57							
VRAC	**Vranov**	**1.61**	**240**	ePN	**Pb**	**18 20 11.5**	**+0.1**
VRAC				eSG	**Sg**	**18 20 33.7**	**+1.2**
VYHS	**Vyhne**	**1.65**	**177**	ePG	**Pn**	**18 20 11.5**	**+0.5**
VYHS				eSG	**Sg**	**18 20 35.8**	**+2.1**
OSTC	**Ostas**	**1.66**	**286**	ePG	**Pb**	**18 20 11.7**	**-0.5**
OSTC				eSG	**Sg**	**18 20 34.5**	**+0.5**
KSP	**Ksiaz**	**1.70**	**295**	ePg	**Pg**	**18 20 13.3**	**-0.1**
KSP				eSg	**Sg**	**18 20 35.7**	**+0.3**
CHVC	**Chvalec**	**1.76**	**286**	ePG	**Pn**	**18 20 13.1**	**+0.5**
STHS	**Stebnicka Huta**	**1.79**	**113**	ePG	**Pb**	**18 20 14.4**	**-0.1**
STHS				eSG	**Sg**	**18 20 39.6**	**+1.3**
KRUC	**Moravsky**	**1.86**	**235**	ePn	**Pn**	**18 20 14.9**	**+1.1**
baz=53							
KRUC				eSg	**Sg**	**18 20 41.3**	**+0.9**
9.0nm,0.4s,baz=53							
KRUC	**Moravsky**	**1.86**	**235**	ePN	**Pn**	**18 20 15.0**	**+1.1**
KRUC				eSG	**Sg**	**18 20 41.3**	**+0.9**
GOPC	**GO Pecny, Ondr**	**2.54**	**266**	eSG	**Sb**	**18 21 00.5**	**+1.3**
PRU	**Pruhonice**	**2.69**	**268**	eSG	**Sb**	**18 21 05.3**	**+1.9**
comp=Z,4.5nm,0.4s							
CONA	**Conrad Observa**	**2.90**	**221**	ePn	**Pn**	**18 20 24.9**	**-3.4**
0.5nm,0.3s							
CONA				eSn	**Sn**	**18 20 59.7**	**-4.3**
1.5nm,0.4s							
RONA	**Rosalia, Austr**	**2.92**	**214**	ePn	**Pn**	**18 20 25.3**	**-3.2**
0.7nm,0.4s							
RONA				Sn	**Sn**	**18 20 58.6**	**-5.7**
0.6nm,0.3s							
BRG	**Berggiesshubel**	**3.13**	**285**	Pg	**Pg**	**18 20 44.0**	**+3.2**
BRG				Sg	**Sg**	**18 21 22.2**	**+0.8**
BRG				Amp		18 21 22.5	
comp=Z,1.8nm,0.3s							
CKRC	**Cesky Krumlov**	**3.16**	**247**	eSG	**Sg**	**18 21 21.7**	**-0.6**
KHC	**Kasperske Hory**	**3.49**	**255**	ePN	**Pn**	**18 20 36.2**	**-0.1**
KHC				ePG	**Pb**	**18 20 43.6**	**+0.2**
KHC				eSG	**Sg**	**18 21 32.3**	**-0.5**
comp=Z,6.4nm,0.4s							
ARSA	**Arzberg**	**3.58**	**217**	*i* Pn	**Pn**	**18 20 34.2**	**-3.4**
comp=Z,0.5nm,0.4s							
ARSA				eSg	**Sb**	**18 21 31.6**	**+2.6**
comp=Z,0.5nm,0.3s							
CLL	**Collm**	**3.81**	**290**	eSg	**Sg**	**18 21 44.0**	**+0.7**
BIOA	**Bad Ischl, Aus**	**4.15**	**236**	eSg	**Sg**	**18 21 55.5**	**+1.5**
comp=Z,4.4nm,0.5s							
LESA	**Schwarzleotal**	**4.83**	**238**	*i* Pn	**Pn**	**18 20 54.4**	**-0.4**
comp=Z,0.4nm,0.2s							
LESA				Sg	**Sg**	**18 22 17.8**	**+2.0**
comp=Z,0.4nm,0.3s							
WTTA	**Wattenberg**	**5.50**	**241**	Sg	**Sg**	**18 22 39.3**	**+2.0**

---

*IDC **06** 18:22:55.9±0.9, 40.°78N×123.°85W, h0km, mb3.9/9, mbtmp3.9/15, ML3.8/6, MS4.3/5, Error ellipse: s-maj=11.9km s-min=8.9km az=118.0*
*NEIC **06** 18:23:00.7±2.7, 40.°85N±0.°02×123.°85W±0.°04, h22km±3km, Error ellipse: s-maj=4.4km s-min=3.5km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.28; $M_{\theta\theta}$=-2.79; $M_{\phi\phi}$3.07; $M_{r\theta}$-1.18; $M_{\theta\phi}$0.48; $M_{\phi r}$-0.58; Fault plane solution: $M_0$3.25000×10^{15} NP1: ϕ_s141.09000°, δ66.68000°, λ-172.81000°. NP2: ϕ_s48.23000°, δ83.40000°, λ-23.48000°. Principal axes: T 3.2401, Plg11.0000°, Azm97.0000°; N 0.0246, Plg66.0000°, Azm213.0000°; P -3.2647, Plg21.0000°, Azm2.0000°;*
*NEIC **06** 18:23:01.6, 40.°85N×123.°84W, h26km*
ISC 06 18:23:01.1±0.8, 40.°85N±0.°02×123.°77W±0.°03, h27km±7km, n370, σ1§41/324, mb4.3/25, MS4.4/5, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.04**	**57**		Pb	18 23 06.4	+0.4
JCC	**Jacoby Creek,**	**0.20**	**260**		**Pb**	**18 23 06.4**	**-0.5**
JCC				IAML		18 23 11.7	
comp=E,39μm,0.9s							
KRPM	**Rodgers**	**0.36**	**328**		**Sb**	**18 23 15.1**	**+0.3**
KRPM	**Rodgers**	**0.36**	**328**		**Pb**	**18 23 09.0**	**-0.3**
KRPM	**Rodgers**	**0.36**	**328**	IAML		18 23 15.7	
comp=E,90μm,0.6s							
KRPM				IAML		18 23 19.6	
comp=N,73μm,0.7s							
KCRM	**Chalk Rock**	**0.43**	**185**		**Pb**	**18 23 10.4**	**+0.1**
KHBM	**Hayfork Bally**	**0.46**	**114**		**Pn**	**18 23 11.6**	**-0.6**
KHBM					**Sn**	**18 23 19.5**	**-0.1**
KHBM	**Hayfork Bally**	**0.46**	**114**	IAML		18 23 20.0	
comp=E,90μm,0.4s							
KHBM				IAML		18 23 20.2	
comp=N,129μm,0.6s							
KMPM	**Mount Pierce**	**0.51**	**211**		**Pb**	**18 23 11.2**	**-0.4**
KMPM					**Sb**	**18 23 18.8**	**0.0**
KMPM	**Mount Pierce**	**0.51**	**211**	IAML		18 23 19.5	
comp=E,52μm,0.6s							
KMPM				IAML		18 23 19.5	
comp=N,64μm,0.9s							
KCTM	**Capetown**	**0.57**	**229**		**Pb**	**18 23 11.9**	**-0.7**
WEAV	**Weaverville**	**0.61**	**100**		**Pn**	**18 23 13.7**	**-0.4**
KMRM	**Mail Ridge**	**0.63**	**175**		**Pb**	**18 23 13.6**	**-0.2**
KMRM				IAML		18 23 24.0	
comp=N,12μm,0.9s							
KMRM				IAML		18 23 36.2	
comp=E,12μm,0.9s							
KRMB	**Red Mountain**	**0.68**	**351**		**Pb**	**18 23 13.8**	**-0.7**
KRMB				IAML		18 23 23.3	
comp=E,9μm,0.9s							
KRMB				IAML		18 23 23.8	
comp=N,6μm,0.5s							
KRMB	**Red Mountain**	**0.68**	**351**		**Sb**	**18 23 22.9**	**-0.6**
N02D	**Trinity Center**	**0.82**	**81**		**Pn**	**18 23 16.7**	**-0.2**
LBPM	**Beegum Peak**	**0.86**	**128**		**Pn**	**18 23 17.3**	**-0.3**
LBKM	**Bonanza King**	**0.87**	**74**		**Pb**	**18 23 17.5**	**-0.2**
M02C	**Callahan**	**0.88**	**52**		**Pb**	**18 23 17.4**	**-0.5**
KSXB	**Camp Six Broad**	**0.98**	**356**		**Pn**	**18 23 18.0**	**-1.2**
KSXB				IAML		18 23 32.4	
comp=E,4μm,0.8s							
KSXB				IAML		18 23 47.2	
comp=N,4μm,0.8s							
O02D	**Mt. Diablo Mer**	**1.01**	**132**	Pn	**Pn**	**18 23 19.3**	**-0.3**
O02D				IAML		18 23 34.4	
comp=N,4μm,0.6s							
O02D				IAML		18 23 48.9	
comp=E,3μm,0.9s							
SIGP	**Signal Peak, C**	**1.04**	**348**		**Pn**	**18 23 18.7**	**-1.3**
KBNM	**Bluenose Ridge**	**1.06**	**155**		**Pn**	**18 23 20.1**	**-0.2**
KIPM	**Iron Peak**	**1.07**	**168**		**Pn**	**18 23 19.7**	**-0.7**
LAMM	**Antelope Mount**	**1.15**	**49**		**Pn**	**18 23 21.5**	**-0.1**
KCPM	**Cahto Peak**	**1.18**	**173**		**Pn**	**18 23 21.0**	**-0.9**
KCPM				IAML		18 23 37.1	
comp=N,4μm,0.5s							
LCSM	**College of the**	**1.19**	**61**		**Pb**	**18 23 22.5**	**-0.6**
YBH	**Yreka Blue Hor**	**1.19**	**42**	Pn	**Pn**	**18 23 21.8**	**-0.2**
YBH				IAML		18 23 39.7	
comp=N,2μm,0.5s							
YBH				IAML		18 23 41.2	
comp=E,3μm,0.5s							
YBH	**Yreka Blue Hor**	**1.19**	**42**	Pn	**Pn**	**18 23 21.8**	**-0.2**
comp=E,196nm,0.3s,baz=272,slow=10,SNR=1580							
YBH				Lg	Lg	18 23 37.2	
comp=E,680nm,0.3s,baz=119,slow=19,SNR=14							
KFPM	**Farley Peak**	**1.24**	**167**		**Pn**	**18 23 22.1**	**-0.7**
GROM	**Round Mountain**	**1.26**	**138**		**Pn**	**18 23 23.0**	**0.0**
LGBM	**Gray Butte**	**1.29**	**67**		**Pb**	**18 23 24.6**	**-0.4**
M03C	**McCloud**	**1.32**	**71**		**Pb**	**18 23 24.5**	**-0.7**
GVV	**Valley View**	**1.37**	**142**		**Pn**	**18 23 24.6**	**+0.1**
LMPM	**Military Pass**	**1.37**	**62**		**Pb**	**18 23 26.1**	**-0.2**
KBO	**Bosley Butte**	**1.40**	**346**		**Pn**	**18 23 23.7**	**-1.2**
KBO				IAML		18 23 41.3	
comp=N,4μm,0.8s							
LTCM	**Tuscan Springs**	**1.41**	**117**		**Pn**	**18 23 25.3**	**+0.2**
DCMP	**DeCamp, Califo**	**1.42**	**166**		**Pn**	**18 23 23.9**	**-1.3**
LBFM	**Black Fox Moun**	**1.51**	**70**		**Pb**	**18 23 27.5**	**-1.0**
SOUA	**Southern Orego**	**1.56**	**31**		**Pn**	**18 23 27.9**	**+0.9**
LDBM	**Digger Butte**	**1.57**	**105**		**Pn**	**18 23 27.2**	**-0.1**
O03E	**Paynes Creek**	**1.60**	**110**		**Pn**	**18 23 27.3**	**-0.4**
O03E	**Paynes Creek**	**1.60**	**110**	IAML		18 24 05.4	
comp=N,3μm,0.7s							
GWRM	**Wonder Ranch**	**1.68**	**167**		**Pn**	**18 23 27.7**	**-1.1**
LMEM	**Manzanita Ertr**	**1.71**	**100**		**Pn**	**18 23 29.8**	**+0.5**
M04C	**Macdoel**	**1.73**	**57**		**Pn**	**18 23 30.5**	**+1.0**
L04D	**Klamath Falls**	**1.75**	**39**		**Pn**	**18 23 31.0**	**+1.1**
L04D				IAML		18 23 59.4	
comp=N,3μm,0.7s							
HATC	**Hat Creek Radi**	**1.75**	**90**		**Pn**	**18 23 30.5**	**+0.7**
LTIM	**Timbered Crate**	**1.76**	**79**		**Pn**	**18 23 30.5**	**+0.6**
LRDM	**Redding Peak**	**1.80**	**102**		**Pn**	**18 23 31.0**	**+0.6**
K02D	**Willamette Mer**	**1.84**	**2**		**Pn**	**18 23 30.7**	**-0.4**
K02D				IAML		18 24 16.4	
comp=E,1μm,0.8s							
K02D				IAML		18 24 17.9	
comp=N,978nm,1.0s							
GFC	**Funks Creek**	**1.90**	**143**		**Pn**	**18 23 32.2**	**+0.5**
HOPS	**Hopland Field**	**1.94**	**164**		**Pn**	**18 23 31.1**	**-1.1**
HOG	**Hogback Mounta**	**2.08**	**48**		**Pn**	**18 23 35.3**	**+0.8**
OSUM	**Sutter Buttes**	**2.16**	**136**		**Pn**	**18 23 32.3**	**-3.0**
ORV	**Oroville**	**2.17**	**126**	Pn	**Pn**	**18 23 34.5**	**-0.9**
ORV				IAML		18 24 04.0	
comp=N,909nm,0.7s							
MNRC	**McLaughlin Min**	**2.22**	**152**		**Pn**	**18 23 36.1**	**-0.1**
MNRC	**McLaughlin Min**	**2.22**	**152**	IAML		18 24 39.5	
comp=N,768nm,1.5s							
PAM	**Palermo**	**2.23**	**128**		**Pn**	**18 23 35.5**	**-0.7**
SUTB	**Sutter Butte**	**2.23**	**136**		**Pn**	**18 23 35.3**	**-0.9**
SUTB	**Sutter Butte**	**2.23**	**136**	IAML		18 24 33.2	
comp=N,1μm,0.6s							
SUTB				IAML		18 24 35.8	
comp=E,1μm,0.5s							
OSTM	**Stimpson Lane**	**2.23**	**131**		**Pn**	**18 23 35.8**	**-0.5**
DBO	**Dodson Butte**	**2.30**	**10**		**Pn**	**18 23 36.7**	**-0.6**
K04D	**Chiloquin, OR**	**2.33**	**40**		**Pn**	**18 23 38.6**	**+0.9**
NHSM	**Mount Saint He**	**2.37**	**157**		**Pn**	**18 23 38.1**	**-0.2**
J04A	**Umpqua Nationa**	**2.69**	**27**		**Pn**	**18 23 44.0**	**+1.2**
MCCM	**Marconi Confer**	**2.79**	**165**		**Pn**	**18 23 43.2**	**-0.8**
AFDM	**Forest Hills D**	**2.88**	**131**		**Pn**	**18 23 45.4**	**+0.2**
J05D	**Fort Rock, OR**	**3.08**	**37**		**Pn**	**18 23 49.4**	**+1.4**
J05D				IAML		18 24 49.9	
comp=E,587nm,1.2s							
J05D				IAML		18 24 55.4	
comp=N,517nm,1.5s							
I02E	**Swisshome, OR**	**3.25**	**359**		**Pn**	**18 23 50.5**	**+0.2**
I02E				IAML		18 24 29.4	
comp=E,366nm,0.6s							
I02E				IAML		18 24 31.2	
comp=N,268nm,0.6s							
BUCK	**Buck Mountain**	**3.39**	**10**	IAML		18 24 57.1	
comp=E,276nm,1.1s							
BUCK				IAML		18 25 06.5	
comp=N,334nm,1.6s							
PINE	**Pine Mountain**	**3.61**	**35**	IAML		18 25 12.7	
comp=N,244nm,1.2s							
PINE				IAML		18 25 13.7	
comp=E,208nm,1.0s							
PNTR	**Pine Nut**	**3.66**	**117**		**Pn**	**18 23 57.2**	**+1.1**
PNTR				IAML		18 25 16.2	
comp=E,490nm,1.0s							
COR	**Corvallis**	**3.75**	**5**		**Pn**	**18 23 57.1**	**+0.1**
COR				IAML		18 25 17.1	
comp=E,235nm,1.8s							
COR				IAML		18 25 19.7	
comp=E,257nm,0.9s							
H04D	**Lebanon**	**3.75**	**11**	IAML		18 25 08.0	
comp=N,280nm,1.1s							
H04D				IAML		18 25 19.4	
comp=E,301nm,1.1s							
I05D	**Terrebonne, OR**	**3.92**	**26**	IAML		18 25 28.9	
comp=N,157nm,1.3s							
YERR	**Yerington**	**3.95**	**117**	IAML		18 25 12.1	
comp=N,185nm,1.1s							
YERR				IAML		18 25 12.9	
comp=E,235nm,1.8s							
H04A	**Detroit Lake**	**4.00**	**16**	IAML		18 24 51.0	
comp=N,140nm,0.5s							
WAKR	**Walker**	**4.09**	**124**	IAML		18 25 33.9	
comp=E,143nm,1.4s							
WVOR	**Wild Horse Val**	**4.16**	**66**	IAML		18 25 21.6	
comp=E,120nm,2.0s							
WVOR				IAML		18 25 26.3	
comp=E,145nm,1.6s							
HEBO	**Mount Hebo**	**4.36**	**0**	IAML		18 25 49.9	
comp=E,187nm,2.0s							
HEBO				IAML		18 26 02.4	
comp=N,178nm,1.8s							
G03D	**McMinnville, O**	**4.37**	**5**	IAML		18 25 33.0	
comp=E,149nm,1.8s							
G03D				IAML		18 25 38.4	
comp=N,194nm,1.2s							
I07A	**Izee**	**4.51**	**43**		**Pn**	**18 24 09.7**	**+1.9**
HOOD	**Mount Hood Mea**	**4.73**	**18**	IAML		18 26 09.5	
comp=E,101nm,1.9s							
HOOD				IAML		18 26 15.1	
comp=N,104nm,1.3s							
BBGB	**Big Mountain B**	**4.77**	**153**	IAML		18 25 48.0	
comp=N,194nm,1.1s							
LHV	**Little Huntoon**	**4.83**	**121**	IAML		18 25 40.3	
comp=E,148nm,1.8s							
LHV				IAML		18 25 53.1	
comp=N,170nm,1.9s							
NVAR	**Mina Array Bea**	**4.87**	**118**		**Pn**	**18 24 13.2**	**+0.5**
NVAR	**Mina Array Bea**	**4.87**	**118**	Pn	**Pn**	**18 24 13.7**	**+1.0**
comp=N,6.4nm,0.3s,baz=297,slow=14,SNR=58							
NVAR				Sn	**Sn**	**18 25 09.6**	**+1.3**
comp=N,5.1nm,0.3s,baz=321,slow=22,SNR=2.4							
comp=N,11nm,0.5s							
NV11	**Mina Array Sit**	**4.97**	**117**	IAML		18 25 50.5	
comp=E,64nm,2.0s							
NV11				IAML		18 26 02.8	
comp=N,82nm,2.0s							
F03A	**Seaside**	**5.08**	**2**	IAML		18 24 55.8	
comp=N,152nm,1.0s							
F03A				IAML		18 25 13.4	
comp=E,144nm,0.4s							
PMPB	**Monarch Peak**	**5.18**	**152**		**Pn**	**18 24 17.4**	**+0.5**
PMPB				IAML		18 26 01.3	
comp=E,87nm,2.9s							
PMPB				IAML		18 26 28.5	
comp=N,84nm,1.4s							
F04D	**Rainier, OR**	**5.26**	**6**	IAML		18 26 04.7	
comp=E,152nm,1.7s							
F04D				IAML		18 26 11.5	
comp=N,123nm,2.4s							
BMO	**Blue Mountains**	**6.21**	**48**		**Pn**	**18 24 31.9**	**+0.9**
ELK	**Elko**	**6.48**	**88**	Pn	**Pn**	**18 24 34.1**	**-0.8**
comp=N,0.6nm,0.3s,baz=282,slow=14,SNR=28							
ELK				Sn	**Sn**	**18 25 46.7**	**-1.3**
comp=N,0.6nm,0.3s,baz=352,slow=9.9,SNR=1.5							
ELK				Lg	Lg	18 26 24.8	
comp=N,0.7nm,0.3s,baz=184,slow=17,SNR=1.4							
comp=N,4.9nm,0.6s							
NLWA	**Neilton Lookou**	**6.54**	**359**		**Pn**	**18 24 36.2**	**+0.7**
R11B	**Troy Canyon, C**	**6.80**	**109**	P	**Pn**	**18 24 41.0**	**+1.8**
baz=294							
CLRS	**Cowichan Lake**	**7.97**	**358**		**Pn**	**18 24 55.6**	**+0.5**
NEW	**Newport**	**8.80**	**30**	Pn	**Pn**	**18 25 07.6**	**+1.1**
comp=N,1.0nm,0.3s,baz=199,slow=16,SNR=4.3							
NEW				Sn	**Sn**	**18 26 40.0**	**-4.6**
comp=N,0.2nm,0.3s,baz=256,slow=22,SNR=1.3							
NEW				Lg	Lg	18 27 36.9	
comp=N,0.1nm,0.3s,baz=136,slow=23,SNR=1.5							
comp=N,3.0nm,0.4s							
PFO	**Pinyon Flats O**	**9.28**	**139**	Lg	Lg	18 28 00.5	
comp=N,0.2nm,0.3s,baz=234,slow=18,SNR=1.5							
PDAR	**Pinedale Array**	**10.79**	**75**	Pn	**Pn**	**18 25 34.7**	**+0.8**
comp=N,0.1nm,0.3s,baz=266,slow=20,SNR=20							
PDAR				Lg	Lg	18 28 38.4	
baz=194,slow=36,SNR=1.6							
comp=N,0.5nm,0.7s							
EGMT	**Eagleton**	**12.31**	**50**		**Pn**	**18 25 55.3**	**+0.8**
S22A	**4UR Ranch, Cre**	**13.49**	**98**	P	**Pn**	**18 26 13.4**	**+2.5**
baz=289							
N23A	**Red Feather La**	**13.50**	**84**	P	**Pn**	**18 26 12.2**	**+1.2**
baz=276							
Q24A	**Divide**	**14.42**	**91**	P	**Pn**	**18 26 25.8**	**+2.1**
baz=283							
ANMO	**Albuquerque**	**14.88**	**108**		**Pn**	**18 26 30.9**	**+1.1**
ANMO	**Albuquerque**	**14.88**	**108**	Pn	**Pn**	**18 26 29.4**	**-0.4**
comp=N,0.2nm,0.3s,baz=338,slow=5.4,SNR=9.1							
comp=N,5.4nm,0.9s							
RSSD	**Black Hills**	**14.92**	**71**		**Pn**	**18 26 29.0**	**-1.3**
121A	**Cookes Peak, D**	**15.26**	**118**	IAmb	IAmb	18 26 39.3	
comp=Z,28nm,1.4s							
121A	**Cookes Peak, D**	**15.26**	**118**	P	**Pn**	**18 26 36.9**	**+2.0**
baz=308							
T25A	**Trinidad**	**15.50**	**98**	IAmb	IAmb	18 26 41.5	
comp=Z,32nm,1.2s							
T25A	**Trinidad**	**15.50**	**98**	P	**P**	**18 26 40.9**	**-1.3**
baz=290							
U35K	**Hyder**	**15.62**	**347**	P	**Pn**	**18 26 40.5**	**+1.3**
baz=162							
CRAG	**Craig**	**15.88**	**340**	P	**Pn**	**18 26 43

comp=Z,3.2nm,0.6s
FFC Flin Flon 20.06 39 P P 18 27 30.4 -1.6
FFC IAmb IAmb 18 27 32.9
comp=Z,8.6nm,0.5s
P33M Teslin, Yukon 20.18 347 P Pn 18 27 36.0 +0.6
baz=160
PLBC Pleasant Camp 20.23 341 P Pn 18 27 35.3 -0.6
baz=152
ECSD EROS Data Cent 20.26 73 P P 18 27 31.3 -3.1
KAN01 Argonia South 20.53 92 P P 18 27 36.6 -0.6
F33A 5 Mile Ranch, 20.55 67 P P 18 27 34.7 -2.7
F33A IAmb IAmb 18 27 38.5
comp=Z,15nm,0.6s
KAN09 Caldwell North 20.64 92 P P 18 27 36.2 -2.3
KAN09 IAmb IAmb 18 27 42.0
comp=Z,24nm,0.9s
SAND Sanderson 20.68 115 IAmb IAmb 18 27 43.7
comp=Z,6.7nm,0.6s
OZNA Ozona 20.80 111 IAmb IAmb 18 27 42.8
comp=Z,14nm,0.7s
P30M Million Dollar 20.96 341 P Pn 18 27 43.6 -0.8
baz=151
WHY Whitehorse 20.98 345 Pn Pn 18 27 44.7 -0.1
WHY IAmb IAmb 18 27 45.2
comp=Z,12nm,1.0s
WHY Whitehorse 20.98 345 P Pn 18 27 43.8 -0.9
baz=156
N32M Quiet Lake 21.11 347 P P 18 27 45.2 +1.8
baz=160
AGMN Agassiz Nation 21.15 60 P P 18 27 42.1 -1.7
AGMN IAmb IAmb 18 27 45.7
comp=Z,16nm,0.8s
O30N Mendenhall 21.34 343 P P 18 27 47.3 +1.4
baz=154
O29M Mount Kennedy 21.52 340 P P 18 27 49.2 +1.3
baz=148
T35A Sooner Cattle 21.55 92 P P 18 27 46.9 -1.4
ULM Lac du Bonnet 21.57 55 P P 18 27 45.6 -2.7
ULM Lac du Bonnet 21.57 55 P P 18 27 45.9 -2.5
comp=Z,5.0nm,0.6s,baz=263,slow=8.4,SNR=10
comp=Z,5.0nm,0.6s
HYT Haines Junctio 21.71 342 P P 18 27 51.9 +2.0
baz=151
PINM Pinnacle 21.82 338 P P 18 27 52.8 +1.8
baz=145
N31M Braeburn, Yuko 21.92 344 P P 18 27 54.2 +2.2
baz=155
JCT Junction City 21.99 111 IAmb IAmb 18 27 57.6
comp=Z,10.0nm,0.7s
YUK6 Outpost Mounta 22.02 341 P P 18 27 54.5 +1.2
baz=150
FARO Faro, Yukon 22.17 348 P P 18 27 56.5 +1.7
baz=161
N30M Aishikik Lake 22.17 343 P P 18 27 55.7 +0.9
baz=153
M31M Drury Creek, Y 22.32 347 P P 18 27 58.0 +1.7
baz=159
O28M Mount Upton 22.35 339 P P 18 27 58.7 +1.7
baz=146
YKA Yellowknife Ar 22.36 11 P P 18 27 55.9 -0.8
comp=Z,3.1nm,1.0s,baz=200,slow=12,SNR=20
comp=Z,3.1nm,1.0s
WRGLY Wrigley 22.41 0 IAmb IAmb 18 28 12.4
comp=Z,26nm,1.1s
WRGLY Wrigley 22.41 0 P P 18 27 59.5 +2.3
baz=181
YUK4 Talbot Arm 22.44 341 P P 18 27 59.9 +2.1
baz=150
YUK8 Steele Glacier 22.67 340 P P 18 28 01.7 +1.4
baz=147
KAIM Kayak Island 23.01 333 P P 18 28 04.9 +1.3
baz=137
P38A Dawn 23.07 83 IAmb IAmb 18 28 10.1
comp=Z,9.0nm,0.6s
M30M Minto, Yukon 23.11 345 P P 18 28 05.9 +1.2
baz=154
YUK3 Moose Creek 23.26 340 P P 18 28 05.4 -1.0
baz=147
U38A Gravette 23.32 91 P P 18 28 03.6 -3.4
U38A IAmb IAmb 18 28 08.1
comp=Z,6.3nm,0.8s
M29M Somme Creek 23.35 343 P P 18 28 07.6 +0.5
baz=151
HHAR Hobbs 23.71 91 IAmb IAmb 18 28 28.8
comp=Z,7.2nm,0.8s
BMRM Bremner River 23.84 335 P P 18 28 11.1 -0.7
baz=138
L29M L29M 23.86 344 P P 18 28 12.4 +0.4
baz=152
BVCY Beaver Creek 23.90 340 P P 18 28 13.1 +0.8
baz=147
EYAK Cordova Ski Ar 23.92 333 P P 18 28 12.8 +0.4
baz=136
M27K Edge Creek, AK 24.12 339 P P 18 28 15.4 +0.9
baz=145
P23K Montague Islan 24.13 330 P P 18 28 14.7 +0.3
baz=132
N25K Chitina, Valde 24.32 336 P P 18 28 17.3 +1.0
baz=139
R40A Maddies Statio 24.36 86 IAmb IAmb 18 28 24.8
comp=Z,5.0nm,0.7s
K29M Barlow Dome 24.40 345 P P 18 28 18.1 +1.1
baz=154
M26K Nabesna, AK 24.46 338 P P 18 28 18.3 +0.8
baz=143
KLU Klutina 24.66 334 P P 18 28 20.2 +0.8
baz=137
L27K Beaver Creek, 24.69 340 P P 18 28 21.5 +1.9
baz=146
J30M Hart River 24.85 347 P P 18 28 23.1 +2.0
baz=157
DAWY Dawson 24.98 344 P P 18 28 24.1 +1.9
DAWY IAmb IAmb 18 28 25.8
comp=Z,9.0nm,1.0s
DAWY Dawson 24.98 344 P P 18 28 24.1 +1.9
baz=151
SEW Seward 24.98 329 P P 18 28 23.8 +1.7
baz=129
PWL Port Wells 25.05 331 P P 18 28 25.0 +2.2
baz=132
OHAK Old Harbor 25.06 321 P P 18 28 24.4 +1.5
baz=118
L26K Log Cabin Wild 25.06 339 P P 18 28 25.1 +2.2
baz=143
J29N Klondike Camp 25.08 345 P P 18 28 25.1 +2.0
baz=154
HARP HAARP 25.09 336 P P 18 28 26.0 +2.8
baz=140
M24K Tolsona, Glenn 25.19 335 P P 18 28 25.7 +1.5
baz=137
SII Sitkinak Islan 25.20 319 P P 18 28 25.3 +1.1
baz=116
BRSE Bradley Lake S 25.28 327 P P 18 28 26.3 +1.4
baz=126
WHAR Wooly Hollow 25.32 92 IAmb IAmb 18 28 25.5
comp=Z,7.1nm,0.5s
O22K Cooper Landing 25.33 330 P P 18 28 26.7 +1.4
baz=129
Q20K Shuyak Island 25.34 324 P P 18 28 26.7 +1.2
baz=122
SCM Sheep Creek Mo 25.37 334 P P 18 28 27.4 +1.6
baz=135
I30M Mount Dempster 25.46 348 P P 18 28 27.9 +1.3
baz=158
KNK Knik Glacier 25.47 332 P P 18 28 27.9 +1.3
baz=133
M23K Glacier View 25.48 333 P P 18 28 28.7 +2.0
baz=134
PAX Paxson 25.62 337 P P 18 28 30.0 +2.0
baz=140
CHIR Chirikof Islan 25.64 317 P P 18 28 30.0 +1.9
baz=112
SML Sawmill 25.70 333 P P 18 28 30.6 +1.9
baz=134
H31M Peel River 25.71 350 P P 18 28 30.6 +1.9
baz=161
RC01 Rabbit Creek A 25.72 331 P P 18 28 30.4 +1.5
baz=130
PMR Palmer 25.83 332 P P 18 28 30.8 +1.0
baz=132
FCC Fort Churchill 25.90 36 P P 18 28 31.1 +0.6
I29M Ogilvie Camp, 25.92 346 P P 18 28 32.7 +2.1
baz=154
EGAK Eagle 25.98 343 P P 18 28 33.3 +2.1
baz=149
SCRK Sand Creek 26.00 340 IAmb IAmb 18 28 46.1
comp=Z,12nm,1.5s
SCRK Sand Creek 26.00 340 P P 18 28 33.6 +2.1
baz=143
RIDG Independent Ri 26.04 339 P P 18 28 34.4 +2.6
baz=142
CAPN Captain Cook N 26.06 329 P P 18 28 32.6 +0.7
baz=128
Q19K Cape Douglas, 26.07 324 P P 18 28 32.8 +0.8
baz=121
O20K Slope Mountain 26.25 327 P P 18 28 34.2 +0.4
baz=124
P19K Oil Pt 26.27 326 P P 18 28 34.3 +0.5
baz=123
I28M Miner Creek 26.31 345 P P 18 28 34.9 +0.7
baz=152
J26L Joseph Creek 26.32 341 P P 18 28 35.4 +1.1
baz=145
SUA Susitna One 26.34 331 P P 18 28 36.0 +1.5
baz=129
EPYK Eagle Plains 26.58 348 P P 18 28 38.5 +1.8
baz=158
H29M Whitestone 26.71 347 P P 18 28 39.1 +1.4
baz=155
SPCR Spurr Chakacha 26.73 329 P P 18 28 39.8 +1.7
baz=127
G31M Satah River 26.76 351 P P 18 28 39.2 +1.0
baz=162
CUT Chulitna 26.77 333 P P 18 28 39.1 +0.7
baz=132
I27K Kandik River 26.79 344 P P 18 28 39.6 +1.0
baz=149
J25K Salcha River, 26.87 339 P P 18 28 40.6 +1.3
baz=142
I26K Coal Creek Min 26.88 342 P P 18 28 40.6 +1.3
baz=146
SKT Skwentna 26.95 331 P P 18 28 41.4 +1.3
baz=129
P18K Big Mountain, 27.01 324 P P 18 28 42.2 +1.6
baz=120
O19K Port Alsworth 27.02 326 P P 18 28 41.7 +1.1
baz=122
G30M tAoh Zraii Nji 27.07 349 P P 18 28 41.9 +0.8
baz=159
F31M Tsiigehtchic 27.20 352 IAmb IAmb 18 28 44.4
comp=Z,7.2nm,0.8s
F31M Tsiigehtchic 27.20 352 P P 18 28 43.4 +1.3
baz=163
O18K Koktuh Hills 27.23 325 P P 18 28 43.3 +0.8
baz=120
MCK McKinley 27.25 336 P P 18 28 43.1 +0.5
baz=135
CHGN Chignik 27.27 316 P P 18 28 43.2 +0.4
baz=110
G29M Pine Creek 27.28 348 P P 18 28 43.9 +1.0
baz=156
R16K Pilot Point 27.30 319 P P 18 28 43.8 +0.6
baz=113
ILAR Eielson Array 27.41 339 P P 18 28 44.7 +0.7
comp=Z,1.6nm,0.9s,baz=161,slow=7.6,SNR=14
comp=Z,1.6nm,0.9s
N19K Bonanza Creek 27.42 327 P P 18 28 45.3 +0.9
baz=123
CHNA Chernabura Isl 27.46 313 P P 18 28 45.3 +0.7
baz=106
TRF Thorofare Moun 27.48 334 P P 18 28 45.6 +0.6
baz=133
F30M Barrier River 27.61 350 P P 18 28 47.6 +1.7
baz=160
PRP Porcupine Dome 27.63 341 P P 18 28 47.2 +1.0
baz=143
PPLA Purkeypile 27.77 332 P P 18 28 47.8 +0.3
baz=129
POKR Poker Plat Res 27.82 339 P P 18 28 48.5 +0.8
baz=139
G27K Don Strip 27.84 345 P P 18 28 48.6 +0.6
baz=150
NEA2 Nenana 27.91 337 P P 18 28 49.2 +0.7
baz=136
N18K Kilae Creek 27.94 326 P P 18 28 49.1 +0.2
baz=121
M19K Big River Lodg 27.99 329 P P 18 28 49.9 +0.6
baz=125
INK Inuvik 28.01 352 P P 18 28 50.5 +1.1
INK IAmb IAmb 18 28 51.5
comp=Z,9.6nm,1.1s
INK Inuvik 28.01 352 P P 18 28 49.6 +0.2
baz=164
O17K Koliganek Bris 28.02 324 P P 18 28 49.4 -0.1
baz=118
L20K Farewell, AK 28.13 330 P P 18 28 51.4 +0.8
baz=126
BPAW Bear Paw Mtn. 28.16 335 P P 18 28 52.3 +1.6
baz=133
F28M Old Crow 28.23 347 P P 18 28 52.2 +0.9
baz=154
I23K Minto, Yukon-K 28.39 337 P P 18 28 54.4 +1.6
baz=137
G26K Porcupine Rive 28.40 344 P P 18 28 54.0 +1.1
baz=147
CHUM Lake Minchumin 28.45 334 P P 18 28 53.0 -0.3
baz=131
H24K Noodor Dome 28.49 339 P P 18 28 53.3 -0.5
baz=140
C36M Paulatuk 28.56 360 P P 18 28 54.8 +0.6
baz=180
E29M Blow River 28.63 349 P P 18 28 55.7 +0.8
baz=157
K20K Telida 28.73 332 P P 18 28 56.7 +0.8
baz=127
M17K Holitna River 28.95 327 P P 18 28 58.4 +0.6
baz=120
S12K Black Hills 29.05 314 P P 18 28 58.9 +0.1
baz=105
G24K Hadweenzic Riv 29.06 341 P P 18 29 00.3 +1.6
baz=141
E28M Babbage River 29.07 348 P P 18 29 00.7 +1.9
baz=155
L18K Granite Mounta 29.07 328 P P 18 29 00.1 +1.3
baz=122
F26K Sheenjek River 29.11 344 P P 18 29 01.3 +2.2
baz=147
TTA Tatalina 29.20 330 P P 18 29 01.6 +1.5
baz=124
I21K Tanana 29.20 336 P P 18 29 01.8 +1.7
baz=133
J20K Nowinta River 29.26 333 P P 18 29 02.0 +1.5
baz=128
F25K Christian Rive 29.34 343 P P 18 29 03.3 +2.0
baz=145
M16K Timber Creek 29.42 325 P P 18 29 03.7 +1.6
baz=117
H22K Ishtalitna Cre 29.52 337 P P 18 29 05.1 +2.3
baz=135
N15K Kwethluk River 29.55 323 P P 18 29 04.6 +1.4
baz=114
FALS False Pass 29.61 312 P P 18 29 05.2 +1.5
baz=102
D28M Stokes Point 29.61 349 P P 18 29 05.2 +1.6
baz=157
J19K Poorman 29.66 332 P P 18 29 05.5 +1.4
baz=126
G23K Bananza Creek 29.73 339 P P 18 29 07.3 +2.6
baz=138
I20K Naaghedeneel 29.76 334 P P 18 29 07.2 +2.3
baz=129
J18K Innoko River 29.76 331 P P 18 29 06.9 +1.9
baz=124
E25K Arctic Village 29.76 344 P P 18 29 08.1 +3.1
baz=146
H21K Melozitna Rive 29.78 336 P P 18 29 07.7 +2.5
baz=132
F24K Squaw Lake 29.80 342 P P 18 29 07.0 +1.6
baz=142
D27M Malcolm River 29.87 348 P P 18 29 07.5 +1.5
baz=153
L16K Owhat River 29.96 326 P P 18 29 08.9 +2.1
baz=118
COLD Coldfoot 30.16 340 P P 18 29 10.3 +1.9
baz=138
N14K Kuskokwak Cree 30.19 322 P P 18 29 09.8 +1.1
baz=112
G22K Bettles 30.29 339 P P 18 29 11.0 +1.4
baz=136
H20K Anotleneega Mo 30.33 335 P P 18 29 10.8 +0.7
baz=129
E24K Your Creek 30.38 342 P P 18 29 12.6 +2.2
baz=141
M14K Bethel 30.64 323 P P 18 29 13.9 +1.2
baz=113
E23K Chandalar 30.64 341 P P 18 29 14.8 +2.0
baz=140
C27K Jago River 30.68 346 P P 18 29 14.7 +1.7
baz=150
L15K Ungalak Mounta 30.80 325 P P 18 29 16.1 +1.9
baz=115
H19K Roundabout Mou 30.87 334 P P 18 29 16.9 +2.2
baz=127
D25K Kavik River 30.92 345 P P 18 29 17.2 +2.0
baz=146
F21K Alatna River 31.05 338 P P 18 29 18.1 +1.8
baz=133
TOLK Toolik Lake Re 31.07 342 P P 18 29 18.6 +2.0
baz=140
K15K Wolf Creek Mou 31.09 326 P P 18 29 19.0 +2.3
baz=116
C26K Camden Bay 31.14 346 P P 18 29 20.3 +3.2
baz=148
M13K Dall Lake 31.14 322 P P 18 29 17.9 +0.7
baz=111
J16K Anvik River 31.16 328 P P 18 29 19.9 +2.6
baz=119
L14K Kuka Creek 31.19 324 P P 18 29 19.5 +2.0
baz=113
A36M Sachs Harbour 31.22 359 P P 18 29 19.8 +2.1
baz=178
UNV Unalaska Valle 31.23 309 P P 18 29 19.4 +1.4
baz=97
E22K Anaktuvuk Pass 31.24 340 P P 18 29 19.7 +1.7
baz=137
H18K Honhosa River 31.30 333 P P 18 29 20.0 +1.5
baz=124
D24K Happy Valley 31.30 343 P P 18 29 20.2 +1.7
baz=142
G19K Purcell Mounta 31.45 335 P P 18 29 21.4 +1.5
baz=127
D23K Nanushuk River 31.58 342 P P 18 29 23.8 +2.8
baz=139
F20K Avaraart Lake 31.59 337 P P 18 29 22.7 +1.7
baz=130
C24K Franklin Bluff 31.73 344 P P 18 29 23.7 +1.5
baz=143
H17K Granite Mounta 31.74 331 P P 18 29 23.6 +1.2
baz=122
G18K Tagagawik 31.82 334 P P 18 29 24.8 +1.7
baz=125
D22K Ayikyak River 32.01 341 P P 18 29 26.8 +2.0
baz=136
F19K Shaleruckik Mo 32.09 335 P P 18 29 26.9 +1.5
baz=127
C23K Itkillik River 32.23 343 P P 18 29 28.4 +1.7
baz=140
E19K Redstone River 32.30 337 P P 18 29 29.7 +2.4
baz=129
H16K Elim 32.45 330 P P 18 29 30.0 +1.4
baz=118
E20K Nigu River 32.51 338 P P 18 29 30.9 +1.7
baz=131
F18K Selawik 32.56 334 P P 18 29 31.0 +1.5
baz=124
C21K Knifeblade Rid 32.74 340 P P 18 29 32.6 +1.4
baz=134
D20K Etivluk River 32.93 339 P P 18 29 34.2 +1.4
baz=131
F17K Baldwin Pennin 33.01 333 P P 18 29 34.7 +1.2
baz=122
B21K Ikpikpuk River 33.02 341 P P 18 29 34.6 +1.0
baz=135
D19K Kuna River 33.21 338 P P 18 29 36.4 +1.1
baz=129
B22K Teshekpuk Lake 33.25 342 P P 18 29 36.9 +1.4
baz=137
E18K Tukpahlearik C 33.33 335 P P 18 29 37.7 +1.4
baz=124
P08K Saint George I 33.33 314 P P 18 29 37.4 +1.0
baz=98
E17K Hotham Inlet 33.54 334 P P 18 29 39.2 +1.1
baz=122
C18K Utukok River 34.21 337 P P 18 29 45.1 +1.1
baz=125
D17K Noatak River 34.28 335 P P 18 29 46.2 +1.6
baz=122
F14K Arctic Creek 34.37 330 P P 18 29 46.9 +1.5
baz=115
RDOG Red Dog Mine 34.41 335 P P 18 29 47.5 +1.8
baz=122
A21K Barrow 34.70 342 P P 18 29 49.7 +1.6
baz=134
C17K DeLong Mountai 34.72 336 P P 18 29 50.3 +1.9
baz=122
B18K Kokolik River 34.80 338 P P 18 29 51.0 +2.0
baz=125
TNA Tin City 35.02 330 P P 18 29 52.6 +1.6
baz=113
C16K Lisburne Hills 35.31 335 P P 18 29 54.9 +1.5
baz=120
GAMB Gambell 35.95 326 P P 18 30 00.5 +1.7
baz=106
RES Resolute Bay 36.42 12 P P 18 30 03.2 +0.3
RES IAmb IAmb 18 30 04.5
comp=Z,3.1nm,0.9s
L61B Northampton 37.74 70 P P 18 30 16.1 +1.6
baz=285
SCHQ Schefferville 39.57 50 P P 18 30 28.4 -1.3
comp=Z,4.2nm,0.8s,baz=279,slow=9.4,SNR=6.1
comp=Z,4.2nm,0.8s
SDV Santo Domingo 56.66 109 P P 18 32 42.2 -0.2
SDV IAmb IAmb 18 32 44.3
comp=Z,6.6nm,0.9s
RUSC La Rusia 57.01 113 P P 18 32 44.0 -1.1
BAUV El Baul 58.49 107 P P 18 32 54.1 -1.0
SPITS Spitsbergen Ar 58.83 9 LR LR 18 59 22.1
comp=Z,284nm,19.0s,baz=214,slow=37
PCRV Puerto La Cruz 60.17 103 LR LR 19 03 46.1
comp=Z,217nm,18.5s,slow=41
H11N3 WAKE ISLAND Hy 61.90 272 T T 19 40 25.1
baz=52,slow=74,SNR=8.8
H11N2 WAKE ISLAND Hy 61.91 272 T T 19 40 22.6
baz=52,slow=74,SNR=7.1
H11N1 WAKE ISLAND Hy 61.92 272 T T 19 40 09.6
baz=52,slow=74,SNR=8.1
H11S1 WAKE ISLAND Hy 62.78 271 T T 19 41 35.7
baz=53,slow=75,SNR=6.3
H11S2 WAKE ISLAND Hy 62.79 271 T T 19 41 35.0
baz=53,slow=75,SNR=6.0
H11S3 WAKE ISLAND Hy 62.80 271 T T 19 41 37.1
baz=53,slow=75,SNR=3.7
ETMB Extrema 73.10 120 P P 18 34 27.9 -1.2
ETMB IAmb IAmb 18 34 30.9
comp=Z,3.3nm,0.9s
LPAZ La Paz 76.73 125 P P 18 34 50.4 -0.4
LPAZ IAmb IAmb 18 34 53.9
comp=Z,2.8nm,0.7s
LPAZ La Paz 76.73 125 P P 18 34 50.3 -0.4
comp=Z,2.3nm,0.6s,baz=301,slow=6.8,SNR=7.4
comp=Z,2.3nm,0.6s
XLT XiLinHaoTe 79.93 321 *e*P P 18 35 09.2 +1.6
XLT pP pP 18 35 16.1 -0.3
XLT pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 82.42 343 LR LR 19 16 40.3
comp=Z,47nm,18.2s,baz=306,slow=39
HHC Hu-ho-hao-te 84.42 321 *e*P P 18 35 30.1 -1.1
HHC pmax pmax
comp=Z,2.0nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.3s
BVAR Borovoye Array 85.70 351 P P 18 35 36.2 -1.0
comp=Z,0.9nm,0.9s,baz=294,slow=1.5,SNR=4.1
BVAR LR LR 19 18 02.0
comp=Z,147nm,18.1s,baz=292,slow=39
comp=Z,0.9nm,0.9s
KURBB Kurchatov Arra 86.83 346 P P 18 35 43.1 +0.3
comp=Z,0.5nm,0.6s,baz=17,slow=5.2,SNR=4.5
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 89.70 342 P P 18 35 55.9 -0.7
comp=Z,0.1nm,0.6s,baz=31,slow=3.4,SNR=1.7
MKAR LR LR 19 19 25.3
comp=Z,266nm,18.3s,baz=304,slow=38
comp=Z,0.1nm,0.6s
PZH PanZhiHua 100.78 319 P Pdif 18 36 47.6 0.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
BOSA Boshof 151.92 74 PKPbc PKPbc 18 42 52.9 -0.9
comp=Z,3.0nm,0.9s,baz=319,slow=9.3,SNR=2.6

*IDC **06** 18:23:28.1±1.3,37°.28N×20°.87E,h0km,mb3.5/7,*
mbtmp3.5/9,ML1.5/2,MS4.3/1,Error ellipse: s-maj=25.6km

s-min=24.1km az=141.0
*THE **06** 18:23:29.4, 37.′09N×20.′65E, h0km±1km, ML3.2/13, Error ellipse: s-maj=1.7km s-min=0.7km az=217.0*
*ATH **06** 18:23:30.0, 37.′12N×20.′66E, h6km±1km, ML3.2/26, Manual Solution by G.Panopoulou First location: 2019/02/06 18:23:54, This location: 2020/08/21 18:43:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NAO **06** 18:23:31.4, 37.′09N×19.′21E, h10km, mb3.6*
ISC 06 18:23:30.3±1.2, 37.′13N±0.′03×20.′70E±0.′03, h14km±8km, n80, σ1°24/110, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.54**	**10**	P	**Pb**	**18 23 41.2**	**-0.4**
KRI1				S	**Sg**	**18 23 48.0**	**-0.2**
LTHK	**Lithakia**	**0.59**	**11**	P	**Pg**	**18 23 41.8**	**-0.1**
LTHK				S	**Sb**	**18 23 50.7**	**0.0**
	6μm,0.2s						
LTHK	**Lithakia**	**0.59**	**11**	P	**Pg**	**18 23 41.9**	**-0.1**
LTHK				S	**Sg**	**18 23 50.4**	**+0.7**
KYPS	**Kipseli, Zakin**	**0.70**	**8**	P	**Pb**	**18 23 44.1**	**-0.2**
KYPS				S	**Sg**	**18 23 53.6**	**+0.5**
ORTH	**Orthonies,Zaky**	**0.72**	**360**	P	**Pg**	**18 23 44.3**	**-0.1**
ORTH				S	**Sb**	**18 23 54.6**	**0.0**
PYL1	**Pylos**	**0.82**	**105**	P	**Pg**	**18 23 46.4**	**+0.1**
PYL1				S	**Sg**	**18 23 57.4**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.83**	**24**	P	**Pg**	**18 23 46.5**	**-0.1**
CLEM				S	**Sg**	**18 23 57.7**	**+0.2**
ZARO	**Zacharo**	**0.84**	**64**	P	**Pb**	**18 23 47.7**	**+1.0**
MTHA	**Methoni**	**0.86**	**111**	P	**Pb**	**18 23 47.6**	**+0.6**
MTHA				S	**Sg**	**18 23 58.6**	**+0.3**
AMT	**Artemida-Makis**	**0.90**	**63**	P	**Pb**	**18 23 48.4**	**+0.6**
AMT				S	**Sb**	**18 24 00.9**	**+1.3**
RTZL	**Ratzakli, Kefa**	**0.95**	**3**	P	**Pg**	**18 23 48.1**	**-0.6**
RTZL				S	**Sb**	**18 24 02.6**	**+1.6**
	2μm,0.2s						
ANDM	**Andravida**	**0.97**	**28**	P	**Pb**	**18 23 49.3**	**+0.4**
ITM	**Ithomi**	**0.98**	**87**	P	**Pg**	**18 23 48.6**	**-0.7**
ITM				S	**Sb**	**18 24 03.9**	**+1.9**
	840nm,0.5s						
ITM	**Ithomi**	**0.98**	**87**	P	**Pg**	**18 23 48.9**	**-0.4**
ITM				S	**Sg**	**18 24 02.7**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.99**	**355**	P	**Pg**	**18 23 48.1**	**-1.3**
PSDA				S	**Sb**	**18 24 04.2**	**+2.0**
	3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.99**	**355**	P	**Pg**	**18 23 48.9**	**-0.5**
PSDA				S	**Sg**	**18 24 02.3**	**-0.1**
VLS	**Valsamata**	**1.05**	**355**	P	**Pg**	**18 23 49.8**	**-0.8**
VLS				S	**Sn**	**18 24 06.2**	**+1.0**
	1μm,0.3s						
VLS	**Valsamata**	**1.05**	**355**	P	**Pg**	**18 23 49.8**	**-0.8**
VLS				S	**Sg**	**18 24 04.0**	**-0.3**
ARG2	**Argostoli**	**1.06**	**351**	P	**Pb**	**18 23 50.8**	**+0.3**
RLS	**Riolos of Patr**	**1.11**	**33**	P	**Pg**	**18 23 51.0**	**-0.7**
RLS				S	**Sn**	**18 24 08.3**	**+1.7**
	615nm,0.4s						
RLS	**Riolos of Patr**	**1.11**	**33**	P	**Pg**	**18 23 51.1**	**-0.7**
RLS				S	**Sb**	**18 24 06.7**	**+1.1**
DMLN	**Damoulianata-K**	**1.14**	**347**	P	**Pg**	**18 23 51.3**	**-1.0**
DMLN				S	**Sn**	**18 24 08.3**	**+0.9**
	2μm,0.4s						
DMLN	**Damoulianata-K**	**1.14**	**347**	P	**Pb**	**18 23 51.8**	**0.0**
DMLN				S	**Sg**	**18 24 06.4**	**-0.7**
DRO	**Drossia**	**1.15**	**44**	P	**Pg**	**18 23 51.7**	**-0.8**
DRO				S	**Sn**	**18 24 09.6**	**+1.9**
	2μm,0.5s						
DRO	**Drossia**	**1.15**	**44**	P	**Pg**	**18 23 51.8**	**-0.7**
DRO				S	**Sb**	**18 24 08.2**	**+1.3**
AXS	**Araxos**	**1.19**	**27**	P	**Pg**	**18 23 52.4**	**-0.9**
FSK	**Fiskardo**	**1.33**	**355**	P	**Pg**	**18 23 54.8**	**-1.2**
FSK				S	**Sn**	**18 24 15.1**	**+3.0**
	605nm,0.3s						
FSK	**Fiskardo**	**1.33**	**355**	P	**Pg**	**18 23 55.0**	**-1.0**
FSK				S	**Sb**	**18 24 13.0**	**+0.9**
VLX	**Vlachokerasia**	**1.36**	**79**	P	**Pg**	**18 23 56.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.47**	**51**	P	**Pg**	**18 23 58.0**	**-0.6**
KLV				S	**Sn**	**18 24 18.4**	**+2.8**
	272nm,0.7s						
KLV	**Kalavryta, Ach**	**1.47**	**51**	P	**Pn**	**18 23 57.8**	**+1.3**
EVGI	**Lefkada island**	**1.49**	**359**	P	**Pn**	**18 23 57.0**	**+0.3**
EVGI				S	**Sn**	**18 24 18.5**	**+2.5**
	478nm,0.2s						
EVGI	**Lefkada island**	**1.49**	**359**	P	**Pn**	**18 23 57.3**	**+0.5**
EVGI				S	**Sg**	**18 24 17.0**	**-1.4**
GUR	**Goura**	**1.53**	**58**	P	**Pn**	**18 23 58.0**	**+0.6**
GUR				S	**Sg**	**18 24 20.5**	**+0.7**
	670nm,0.5s						
GUR	**Goura**	**1.53**	**58**	P	**Pn**	**18 23 58.1**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.58**	**360**	P	**Pn**	**18 23 58.5**	**+0.5**
NYDR				S	**Sg**	**18 24 20.7**	**-0.6**
	310nm,0.6s						
ALIK	**Aliki, Aigiali**	**1.59**	**44**	P	**Pn**	**18 23 58.4**	**+0.3**
EFP	**Efpalio**	**1.61**	**36**	P	**Pn**	**18 23 59.0**	**+0.6**
EFP	**Efpalio**	**1.61**	**36**	P	**Pn**	**18 23 59.9**	**+1.5**
LKD2	**Lefkada island**	**1.66**	**359**	P	**Pn**	**18 23 59.3**	**+0.2**
LKD2	**Lefkada island**	**1.66**	**359**	P	**Pn**	**18 24 00.1**	**+1.0**
SERG	**Sergoula**	**1.67**	**40**	P	**Pn**	**18 24 00.9**	**+1.6**
TSLK	**Tsoukalades, L**	**1.69**	**359**	P	**Pn**	**18 24 00.8**	**+1.2**
TSLK	**Tsoukalades, L**	**1.69**	**359**	P	**Pn**	**18 24 00.8**	**+1.2**
KALE	**Kalithea**	**1.70**	**42**	P	**Pn**	**18 24 00.5**	**+0.9**
ANX	**Ano Chora**	**1.75**	**33**	P	**Pn**	**18 24 01.7**	**+1.3**
ANX	**Ano Chora**	**1.75**	**33**	P	**Pn**	**18 24 02.1**	**+1.7**
VLI	**Veliai**	**1.84**	**102**	P	**Pn**	**18 24 03.2**	**+1.7**
KRND	**KRANIDI**	**1.97**	**82**	P	**Pn**	**18 24 04.1**	**+0.8**
EVR	**Evrytania**	**1.99**	**26**	P	**Pn**	**18 24 05.3**	**+1.6**
LTK	**Loutraki**	**2.01**	**63**	P	**Pn**	**18 24 08.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.19**	**31**	P	**Pn**	**18 24 07.3**	**+0.8**
AXAR	**Agios Charalam**	**2.25**	**43**	P	**Pn**	**18 24 08.1**	**+0.9**
TETR	**Tetrakomo, Epi**	**2.26**	**11**	P	**Pn**	**18 24 08.7**	**+1.3**
VIL2	**Platees**	**2.31**	**61**	P	**Pn**	**18 24 08.8**	**+0.8**
LKR	**Lokris**	**2.37**	**49**	P	**Pn**	**18 24 10.1**	**+1.3**
IGT	**Igoumenitsa**	**2.42**	**353**	P	**Pn**	**18 24 09.9**	**+0.4**
VLY	**Voula,Athens**	**2.56**	**73**	P	**Pn**	**18 24 11.8**	**+0.2**
THL	**Klokotos Trika**	**2.64**	**23**	P	**Pn**	**18 24 14.1**	**+1.5**
KEK	**Kerkira**	**2.68**	**345**	P	**Pn**	**18 24 14.7**	**+1.7**
DION	**Dionisos Attik**	**2.74**	**69**	P	**Pn**	**18 24 14.5**	**+0.6**
KPRO	**Kipourio**	**2.87**	**10**	P	**Pn**	**18 24 17.3**	**+1.6**
NEO	**Neokhori**	**2.95**	**42**	P	**Pn**	**18 24 17.9**	**+1.1**
KARY	**Karystos**	**3.10**	**72**	P	**Pn**	**18 24 19.6**	**+0.7**
KZN	**Kozani**	**3.28**	**14**	P	**Pn**	**18 24 22.1**	**+0.6**
LIT	**Litokhoron**	**3.28**	**25**	P	**Pn**	**18 24 22.4**	**+1.0**
NEST	**Nestorio**	**3.29**	**5**	P	**Pn**	**18 24 23.0**	**+1.4**
TIP	**Timpagrande**	**3.72**	**305**	P	**Pn**	**18 24 28.2**	**+0.8**
IDI	**Anoyia**	**3.85**	**117**	Pn	**Pn**	**18 24 29.9**	**+0.6**
	0.3nm,0.3s,baz=287,slow=16,SNR=1.7						
IDI				Sn	**Sn**	**18 25 10.4**	**-4.1**
	1.0nm,0.3s,baz=322,slow=9.8,SNR=2.4						
	7.5nm,0.9s						
CEL	**Celeste**	**3.98**	**288**	P	**Pn**	**18 24 31.7**	**+0.8**
VAE	**Valguarnera**	**5.03**	**276**	Pn	**Pn**	**18 24 49.0**	**+3.6**
	3.9nm,0.3s,baz=170,slow=7.3,SNR=8.0						
VAE				Sn	**Sn**	**18 25 45.9**	**+2.5**
	2.5nm,0.3s,baz=65,slow=16,SNR=5.1						
	8.5nm,0.4s						
HFS	**Hagfors**	**23.46**	**351**	P	**P**	**18 28 37.6**	**-1.5**
	1.9nm,0.5s,baz=152,slow=10.0,SNR=9.9						
	1.9nm,0.5s						
FINES	**FINESS Array B**	**24.57**	**6**	P	**P**	**18 28 48.8**	**-0.8**
	1.2nm,0.6s,baz=157,slow=10,SNR=7.2						
	1.2nm,0.6s						
NB2	**NORSAR Subarra**	**24.67**	**349**	P	**P**	**18 28 49.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=164,slow=10						
NOA	**NORSAR Array B**	**24.67**	**349**	P	**P**	**18 28 48.5**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=157,slow=9.1,SNR=4.3						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.31**	**220**	P	**P**	**18 29 33.3**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=38,slow=10,SNR=2.0						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**32.57**	**3**	P	**P**	**18 29 59.4**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=188,slow=8.6,SNR=1.6						
	comp=Z,1.0nm,0.7s						
BORG	**Borgarnes**	**37.10**	**332**	LR	LR	18 46 54.0	
	comp=Z,383nm,18.0s,baz=276,slow=38						
KURBB	**Kurchatov Arra**	**42.74**	**53**	P	**P**	**18 31 25.6**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=279,slow=8.4,SNR=4.4						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**18 31 48.6**	**-2.5**
	comp=Z,0.2nm,0.4s,baz=269,slow=7.4,SNR=6.8						
	comp=Z,0.2nm,0.4s						

TXNET 06 18:27:37.4, 31.′6N±0.′8×104.′6W±0.′7, h3km±1km, ML1.6/5, Error ellipse: s-maj=1.3km s-min=1.1km az=161.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	S	Sg	18 27 55.3	+0.2
GDL2	**Guadalupe Moun**	**0.59**	**18**	P	Pg	18 27 48.8	+0.1
PECS	**Pecos**	**0.66**	**113**	P	Pg	18 27 50.3	+0.3
PECS				S	Sg	18 27 59.1	+0.5
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pg	18 27 50.4	-0.3
MNTX				S	Sg	18 28 00.3	+0.6
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	18 27 55.1	+0.1
VHRN				S	Sg	18 28 07.7	+0.8
TPB05	**Hovey Rd**	**1.29**	**123**	S	Sg	18 28 18.9	+0.2
ALPN	**Alpine**	**1.49**	**147**	P	Pn	18 28 04.6	-0.7
ALPN				S	Sb	18 28 24.3	-1.0
CPRX	**Cap Rock**	**1.51**	**23**	P	Pn	18 28 05.6	0.0
MNHN	**Monahans**	**1.58**	**100**	P	Pn	18 28 06.7	+0.3
MNHN				S	Sb	18 28 27.8	+0.2
ODSA	**Odessa**	**1.79**	**74**	S	Sb	18 28 34.3	+0.5

IDC 06 18:37:35.9±9.7, 6.′30N×87.′38E, h0km, mb3.4/3, mbtmp3.5/5, ML3.9/1, MS3.5/3, Error ellipse: s-maj=192.2km s-min=38.1km az=161.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**6.70**	**279**	Pn	Pn	18 39 15.4	-0.3
	2.4nm,0.3s,baz=93,slow=13,SNR=15						
PALK				Sn	Sn	18 40 22.5	-10
	5.4nm,0.3s,baz=90,slow=5.1,SNR=12						
PALK				LR	LR	18 41 48.5	
	comp=Z,169nm,19.3s,baz=73,slow=38						
	15nm,0.6s						
PSI	**Prapat**	**12.02**	**106**	LR	LR	18 45 01.8	
	comp=Z,102nm,18.3s,baz=302,slow=37						
CMAR	**Chiang Mai Arr**	**16.52**	**42**	Pn	Pn	18 41 28.5	-0.8
	0.5nm,0.8s,baz=226,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**40.58**	**355**	P	P	18 45 16.9	-0.3
	0.3nm,0.7s,baz=178,slow=8.6,SNR=3.8						
	0.3nm,0.7s						
SONM	**Songino Array**	**44.46**	**18**	P	P	18 45 49.2	+0.3
	0.4nm,0.7s,baz=197,slow=9.1,SNR=3.7						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**44.79**	**352**	P	P	18 45 51.3	0.0
	0.2nm,0.2s,baz=172,slow=7.5,SNR=1.4						
	0.2nm,0.2s						
MJAR	**Matsushiro Arr**	**55.23**	**49**	LR	LR	19 10 38.7	
	comp=Z,165nm,21.7s,baz=58,slow=36						

*NEIC **06** 18:38:43.0±2.6, 16.′07S±0.′08×172.′9W±0.′2, h13km±6km, mb4.6/9, Error ellipse: s-maj=23.4km s-min=11.9km az=88.0*
*IDC **06** 18:38:51.6±6.7, 16.′68S×172.′95W, h96km±48km, mb3.7/6, mbtmp4.1/7, MS3.7/5, Error ellipse: s-maj=104.0km s-min=24.5km az=142.0*
ISC 06 18:38:41.6±0.7, 16.′3S±0.′2×173.′1W±0.′1, h10km, n28, σ1°14/24, mb4.5/12, MS3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**27**	Pn	Pn	18 39 19.6	-5.9
NIUE	**Niue**	**4.04**	**133**		**Pn**	**18 39 43.0**	**-0.5**
MSVF	**Nonsavu**	**8.61**	**259**	P	Pn	18 40 55.9	+9.4
	7.1nm,0.2s,baz=122,slow=13,SNR=6.9						
MSVF				LR	LR	18 43 41.1	
	comp=Z,379nm,19.8s,baz=145,slow=33						
DZM	**Mont Dzumac**	**20.17**	**250**	P	Pn	18 43 22.0	+3.7
	3.5nm,0.8s,baz=89,slow=18,SNR=6.0						
DZM				LR	LR	18 49 53.0	
	comp=Z,383nm,21.1s,baz=148,slow=33						
STKA	**Stephens Creek**	**43.86**	**241**	P	**P**	**18 46 48.2**	**-0.1**
	1.9nm,0.7s,baz=354,slow=9.8,SNR=5.4						
	1.9nm,0.7s						
WR0	**Warramunga Arr**	**49.76**	**257**	P	**P**	**18 47 34.1**	**-0.6**
WR0				IAmb	IAmb	18 47 39.0	
	comp=Z,9.3nm,1.4s						
WB0	**Warramunga Arr**	**49.92**	**258**	P	**P**	**18 47 35.9**	**0.0**
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**18 47 36.9**	**+0.7**
WRA	**Warramunga Arr**	**49.95**	**257**	P	**P**	**18 47 35.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=93,slow=6.8,SNR=7.1						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**50.13**	**253**	P	**P**	**18 47 35.6**	**-2.0**
ASAR	**Alice Springs**	**50.13**	**253**	P	**P**	**18 47 34.2**	**-3.4**
ASAR	**Alice Springs**	**50.13**	**253**	P	**P**	**18 47 36.7**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=88,slow=8.2,SNR=30						
	comp=Z,3.4nm,0.7s						
GUMO	**Guam**	**51.12**	**303**	LR	LR	19 06 21.6	
	comp=Z,35nm,20.3s,baz=104,slow=32						
QSPA	**South Pole Qui**	**73.71**	**180**	P	**P**	**18 50 17.3**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=345,slow=2.7,SNR=8.1						
MCK	**McKinley**	**81.98**	**11**	P	**P**	**18 51 01.2**	**-0.2**
MCK				IAmb	IAmb	18 51 01.6	
	comp=Z,4.6nm,0.8s						
PDAR	**Pinedale Array**	**82.75**	**42**	P	**P**	**18 51 06.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=242,slow=3.2,SNR=6.9						
	comp=Z,0.9nm,0.8s						
CCB	**Clear Creek Bu**	**83.02**	**11**	P	**P**	**18 51 06.0**	**-0.8**
ILAR	**Eielson Array**	**83.30**	**11**	P	**P**	**18 51 07.5**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=228,slow=6.4,SNR=18						
ILAR				LR	LR	19 21 05.1	
	comp=Z,59nm,21.1s,baz=240,slow=30						
	comp=Z,0.9nm,0.7s						
DAWY	**Dawson**	**84.25**	**14**	P	**P**	**18 51 12.9**	**-0.2**
DAWY				IAmb	IAmb	18 51 14.0	
	comp=Z,4.0nm,0.9s						
BMAR	**Burnt Mountain**	**86.11**	**11**	P	**P**	**18 51 22.7**	**+0.3**
D22K	**Ayikyak River**	**86.24**	**7**	P	**P**	**18 51 23.1**	**+0.1**
D22K				IAmb	IAmb	18 51 44.8	
	comp=Z,6.8nm,1.5s						
G30M	**tAoh Zraii Nji**	**87.42**	**14**	P	**P**	**18 51 27.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**93.22**	**288**	P	**P**	**18 51 58.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**93.22**	**288**	P	**P**	**18 51 57.5**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=93,slow=5.2,SNR=5.5						
CMAR				LR	LR	19 31 14.2	
	comp=Z,42nm,21.4s,baz=290,slow=34						
	comp=Z,0.6nm,0.8s						
A36M	**Sachs Harbour**	**93.74**	**13**	P	**P**	**18 51 58.4**	**+0.3**
A36M				IAmb	IAmb	18 51 59.2	
	comp=Z,2.8nm,0.8s						
BRTR	**Keskin Array B**	**147.09**	**320**	PKPbc	**PKPbc**	**18 58 25.2**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=144,slow=2.0,SNR=15						
GERES	**GERESS Array B**	**147.12**	**352**	PKPbc	**PKPbc**	**18 58 25.1**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=111,slow=1.9,SNR=4.3						
DAVOX	**Davos/Dischmat**	**149.55**	**356**	PKPbc	**PKPbc**	**18 58 31.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=71,slow=10,SNR=3.6						

*NEIC **06** 18:42:32.4±1.1, 14.′0N±0.′1×94.′02W±0.′07, h10km±2km, mb4.3/13, Error ellipse: s-maj=21.0km s-min=9.3km az=199.0*
*GCG **06** 18:42:44.2±1.4, 14.′75N×93.′89W, h34km, MD4.3, Hypocentre not reviewed by the ISC*
*MEX **06** 18:42:46.6±0.9, 14.′83N×93.′83W, h17km±12km, MD4.2*
*IDC **06** 18:42:48.7±5.3, 15.′19N×93.′61W, h63km±33km, mb3.5/5, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=47.4km s-min=18.1km az=9.0*
ISC 06 18:42:45.8±0.9, 14.′89N±0.′06×93.′78W±0.′03, h57km±8km, n58, σ2°01/74, mb4.1/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.98**	**34**	*eP*	**Pn**	**18 43 02.7**	**-0.8**
PCIG				*i* S	**Sn**	**18 43 15.6**	**-0.9**
CARR	**Arriaga**	**1.35**	**355**	*eP*	**Pn**	**18 43 08.5**	**0.0**
CARR				*e*S	**Sn**	**18 43 24.7**	**-0.8**
THIG		**1.47**	**89**	*eP*	**Pn**	**18 43 09.8**	**-0.2**
THIG				*e*S	**Sn**	**18 43 25.9**	**-2.3**
THIG		**1.47**	**89**	*i* P		18 43 09.7	
NILT	**Santiago Nilte**	**1.85**	**334**	*eP*	**Pn**	**18 43 14.9**	**-0.3**
NILT				*e*S	**Sn**	**18 43 36.5**	**-0.9**
TGIG		**1.98**	**19**	*eP*	**Pn**	**18 43 17.4**	**+0.4**
TGIG				*e*S	**Sn**	**18 43 40.6**	**-0.3**
TGIG		**1.98**	**19**	*i* P		18 43 17.4	
TGBT	**Tuxtla Gutierr**	**1.99**	**20**	*eP*	**Pn**	**18 43 16.1**	**-1.1**
TGBT				*i* S	**Sn**	**18 43 42.6**	**+1.7**
RTAL	**Retalhuleu**	**2.05**	**100**		Pn	18 43 10.4	-7.6
RTAL	**Retalhuleu**	**2.05**	**100**	*eP*	**Pn**	**18 43 17.0**	**-1.0**
RTAL				*e*S	**Sn**	**18 43 41.0**	**-1.6**
CCIG	**Comitan**	**2.10**	**49**		**Pn**	**18 43 18.7**	**-0.2**
CCIG	**Comitan**	**2.10**	**49**	*eP*	**Pn**	**18 43 20.4**	**+1.5**
CCIG				*i* S	**Sn**	**18 43 43.0**	**-1.1**
CCIG	**Comitan**	**2.10**	**49**	*i* P		18 43 20.3	
HUEH	**Huehuetenango**	**2.24**	**79**		**Pn**	**18 43 22.0**	**+1.2**
HUEH	**Huehuetenango**	**2.24**	**79**	*eP*	**Pn**	**18 43 22.0**	**+1.2**
HUEH				*e*S	**Sn**	**18 43 50.2**	**+2.7**
HUEH	**Huehuetenango**	**2.24**	**79**	*i* P		18 43 22.4	
SOKI	**Kika Raxquin**	**2.30**	**91**	*i* P		18 43 22.3	
HUIG	**Huatulco**	**2.41**	**292**	*eP*	Pn	18 43 21.5	-1.3
HUIG				*e*S	Sn	18 43 45.1	-6.1
HUIG	**Huatulco**	**2.41**	**292**	*i* P		18 43 21.1	
CMIG	**Matias Romero**	**2.43**	**334**	P	**Pn**	**18 43 23.1**	**-0.1**
	9.4nm,0.3s,baz=162,slow=13,SNR=56						
CMIG				S	**Sn**	**18 43 51.3**	**-0.5**
	101nm,0.3s,baz=116,slow=17,SNR=12						
	52nm,0.3s						
CMIG	**Matias Romero**	**2.43**	**334**	*eP*	**Pn**	**18 43 23.0**	**-0.1**
CMIG				*i* S	**Sn**	**18 43 48.1**	**-3.6**
UXUV	**UXUV**	**2.44**	**352**	*eP*	**Pn**	**18 43 24.2**	**+1.0**
UXUV				*i* S	**Sn**	**18 43 49.3**	**-2.7**
QUIS	**Sacapulas**	**2.63**	**81**	*i* P		18 43 27.9	
NEUV	**Arroyo Zacate**	**3.41**	**326**	*eP*	**Pn**	**18 43 37.0**	**+0.5**
NEUV				*i* S	**Sn**	**18 44 15.4**	**-0.4**
PEIG	**Puerto Escondi**	**3.42**	**289**	*eP*	Pn	18 43 35.8	-0.9
PEIG				*i* S	Sn	18 44 09.8	-6.4
VHO	**Vista Hermosa**	**3.57**	**308**	*eP*	**Pn**	**18 43 38.1**	**-0.8**
VHO				*i* S	**Sn**	**18 44 16.8**	**-3.3**
PMUV	**Sontecomapan**	**3.85**	**341**	*eP*	**Pn**	**18 43 45.3**	**+2.5**
PMUV				*i* S	**Sn**	**18 44 20.4**	**-6.4**
YOIG	**Yosondua**	**4.11**	**299**	*eP*	**Pn**	**18 43 47.8**	**+1.3**
YOIG				*i* S	**Sn**	**18 44 29.2**	**-4.3**
PETF	**Flores**	**4.27**	**61**		**Pn**	**18 43 48.9**	**+0.5**
PETF	**Flores**	**4.27**	**61**	*eP*	**Pn**	**18 43 48.8**	**+0.4**
PETF				*i* S	**Sn**	**18 44 35.1**	**-1.9**
MTO3	**Montecristo**	**4.31**	**96**		**Pn**	**18 43 49.3**	**+0.2**
MTO3	**Montecristo**	**4.31**	**96**	*i* P		18 43 49.5	
ESQI	**Esquipulas**	**4.31**	**94**		Pn	18 43 41.4	-7.6
PNIG	**Pinotepa**	**4.44**	**290**	*eP*	**Pn**	**18 43 50.7**	**0.0**
PNIG				*e*S	Sn	18 44 34.9	-6.3
TOIG	**Toxpalan**	**4.48**	**316**	*eP*	**Pn**	**18 43 55.8**	**+4.4**
TOIG				*i* S	**Sn**	**18 44 43.1**	**+0.9**
TXIG	**Tlaxiaco**	**4.49**	**302**	*eP*	Pn	18 43 47.8	-3.9
TXIG				*i* S	**Sn**	**18 44 39.1**	**-3.7**
HLIG	**Huajuapan de L**	**4.84**	**308**	*eP*	**Pn**	**18 43 58.7**	**+2.3**
HLIG				*i* S	**Sn**	**18 44 54.0**	**+2.8**
FTIG	**Fresnillo de T**	**5.14**	**306**	*i* P	**Pn**	**18 44 02.7**	**+2.3**
FTIG				*i* S	**Sn**	**18 44 55.0**	**-3.5**
MGIG	**Malinaltepec**	**5.21**	**297**	*i* P	**Pn**	**18 44 03.0**	**+1.6**
MGIG				*i* S	**Sn**	**18 44 56.1**	**-4.3**
JAUV	**Jalcomulco**	**5.30**	**327**	*eP*	**Pn**	**18 44 03.5**	**+0.9**
TLIG	**Tlapa**	**5.31**	**301**	Pn	Pn	18 43 56.1	-6.6
CRIG	**Cruz Grande**	**5.46**	**290**	*i* P	**Pn**	**18 44 05.3**	**+0.6**
CRIG				*i* S	Sn	18 44 58.5	-7.8
PBPN	**Popocatepetl**	**6.21**	**312**	*eP*	Pn	18 44 24.6	+9.2
PBXN	**Popocatepetl**	**6.21**	**312**	*eP*	Pn	18 44 22.7	+7.4
PBXN				*eP*		18 44 23.7	
TEIG	**Tepich**	**7.46**	**44**	P	**Pn**	**18 44 30.2**	**-1.9**
	0.1nm,0.3s,baz=180,slow=20,SNR=43						
TEIG				S	**Sn**	**18 45 51.1**	**-4.3**
	0.2nm,0.4s,baz=246,slow=24,SNR=6.5						
TXAR	**Lajitas Array**	**17.03**	**329**	P	**Pn**	**18 46 40.3**	**+0.1**
	0.1nm,0.3s,baz=137,slow=10,SNR=3.7						
	0.4nm,0.7s						
WMOK	**Wichita Mounta**	**20.27**	**348**	P	**P**	**18 47 16.8**	**+0.1**
FCAR	**Ozark Folk Cen**	**20.96**	**4**	P	Pn	18 47 25.1	-2.2
FCAR				IAmb	IAmb	18 47 27.4	
	comp=Z,5.9nm,0.7s						
HHAR	**Hobbs**	**21.30**	**360**	P	**P**	**18 47 28.6**	**+0.7**
SWET	**Sewanee**	**21.43**	**18**	P	**P**	**18 47 28.7**	**-0.6**
U38A	**Gravette**	**21.47**	**359

AP01	**Chacalluta**	**1.70**	**26**	*eP*	**Pn**	**18 51 11.7**	**+0.4**
AP01				*eS*	**Sn**	**18 51 33.5**	**+0.1**
AP01				IAML		18 51 43.3	
	comp=E,9μm,0.5s						
PB08	**IPOC Station P**	**1.87**	**97**		**Pn**	**18 51 14.3**	**+0.4**
PB08	**IPOC Station P**	**1.87**	**97**	*eP*	**Pn**	**18 51 15.1**	**+1.1**
PB08				*eS*	**Sb**	**18 51 39.1**	**-0.5**
PB08				IAML		18 51 43.1	
	comp=N,3μm,0.5s						
PB01	**IPOC Station P**	**1.90**	**127**		**Pn**	**18 51 14.8**	**+0.7**
PB01	**IPOC Station P**	**1.90**	**127**	*eP*	**Pn**	**18 51 15.1**	**+1.0**
PB01				*eS*	**Sn**	**18 51 38.0**	**-0.5**
PB01				IAML		18 51 48.2	
	comp=N,7μm,0.5s						
PB09	**IPOC Station P**	**2.57**	**137**		**Pn**	**18 51 22.9**	**-0.6**
PB09	**IPOC Station P**	**2.57**	**137**	*eP*	**Pn**	**18 51 24.4**	**+1.0**
PB18	**Visviri**	**2.78**	**34**	Pn	**Pn**	**18 51 27.0**	**+0.3**
AF01	**San Pedro de A**	**4.08**	**138**	Pn	**Pn**	**18 51 44.3**	**-0.1**
LPAZ	**La Paz**	**4.59**	**39**		**Pn**	**18 51 53.0**	**+1.4**
LPAZ	**La Paz**	**4.59**	**39**	Pn	**Pn**	**18 51 55.2**	**+3.6**
	comp=N,0.6nm,0.3s,baz=197,slow=8.0,SNR=24						
LPAZ				Lg	Lg	18 53 08.9	
	comp=N,1.0nm,0.3s,baz=195,slow=12,SNR=1.0						
LPAZ	**La Paz**	**4.59**	**39**	*eP*	**Pn**	**18 51 52.9**	**+1.3**
PB14	**IPOC Station P**	**4.74**	**172**		**Pn**	**18 51 52.6**	**-0.8**
GO02	**Mina Guanaco**	**5.42**	**165**		**Pn**	**18 52 01.8**	**-0.9**
AC01	**Pan de Azucar**	**6.23**	**176**	Pn	**Pn**	**18 52 12.4**	**-1.2**
AC02	**Maricunga**	**7.13**	**166**		**Pn**	**18 52 24.9**	**-1.6**
SIV	**San Ignacio**	**10.33**	**69**		**Pn**	**18 53 10.9**	**+1.0**
SIV	**San Ignacio**	**10.33**	**69**	Pn	**Pn**	**18 53 10.9**	**+1.0**
	comp=N,0.3nm,0.3s,baz=255,slow=9.9,SNR=36						
ETMB	**Extrema**	**11.10**	**26**		**Pn**	**18 53 20.6**	**+0.2**
ETMB	**Extrema**	**11.10**	**26**	*eP*	**Pn**	**18 53 22.1**	**+1.7**
PTLB	**Pontes e Lacer**	**12.25**	**71**		**Pn**	**18 53 36.0**	**-0.2**
VILB	**Vilhena**	**12.55**	**58**		**Pn**	**18 53 41.0**	**+0.7**
VILB	**Vilhena**	**12.55**	**58**	*eP*	**Pn**	**18 53 43.8**	**+3.4**
PAPY	**Pozo Azul**	**12.66**	**111**	*eP*	**Pn**	**18 53 43.2**	**+1.4**
MURT	**Porto Murtinho**	**12.76**	**100**	*eP*	**Pn**	**18 53 46.7**	**+3.5**
BDQN	**Bodoquena, MS**	**13.51**	**95**	*eP*	**Pn**	**18 53 55.8**	**+2.5**
AQDB	**Aquidauana**	**14.49**	**95**	Pn	**Pn**	**18 54 06.8**	**0.0**
H03N1	**Juan Fernandez**	**15.16**	**206**	T	T	19 10 37.1	
	baz=33,slow=72,SNR=101						
H03N2	**Juan Fernandez**	**15.17**	**206**	T	T	19 10 36.9	
	baz=33,slow=72,SNR=97						
H03N3	**Juan Fernandez**	**15.18**	**206**	T	T	19 10 32.9	
	baz=33,slow=72,SNR=126						
SALV	**Santo Antonio**	**15.21**	**77**	*eP*	**Pn**	**18 54 18.5**	**+1.9**
PDRB	**Porto dos Gac**	**16.11**	**61**	*eP*	**P**	**18 54 30.8**	**-1.0**
RPRD	**Ribas do Rio P**	**16.37**	**95**	*eP*	**P**	**18 54 33.5**	**-1.0**
PTGB	**Pitanga**	**18.27**	**109**	*eP*	**P**	**18 54 57.8**	**+2.2**
ARAG	**Araguaiana, MT**	**18.85**	**80**	*eP*	**P**	**18 55 02.1**	**+0.1**
ITAB	**Concordia**	**18.86**	**116**	*eP*	**P**	**18 55 02.3**	**+0.2**
LDASE	**Londrina, Braz**	**18.91**	**104**	*eP*	**Pn**	**18 55 03.8**	**+0.6**
COHC	**Cochancay**	**19.07**	**334**	P	**P**	**18 55 03.0**	**-1.4**
CPSB	**Cacapava Do Su**	**19.09**	**127**	*eP*	**P**	**18 55 04.2**	**-0.4**
MACA	**Manacapuru-AM**	**19.52**	**33**	P	**P**	**18 55 08.2**	**-1.1**
MACA				IAmb	IAmb	18 55 19.6	
	comp=Z,22nm,0.8s						
MACA	**Manacapuru-AM**	**19.52**	**33**	*eP*	**P**	**18 55 08.6**	**-0.7**
ITRB	**Iturama**	**19.54**	**93**	*eP*	**Pn**	**18 55 10.4**	**-0.4**
TRQA	**Tornquist**	**19.75**	**158**		**Pn**	**18 55 13.2**	**+0.1**
NPGB	**Novo Progresso**	**19.94**	**52**	*eP*	**P**	**18 55 13.9**	**0.0**
FRTB	**Fartura**	**20.33**	**104**	*eP*	**P**	**18 55 18.7**	**+0.5**
SNDB	**Serra Nova Dou**	**20.62**	**70**	*eP*	**P**	**18 55 18.8**	**-2.6**
PLCA	**Paso Flores**	**20.76**	**179**	P	Pn	18 55 26.1	+1.0
PLCA	**Paso Flores**	**20.76**	**179**	P	Pn	18 55 28.0	+2.9
	comp=Z,2.1nm,0.9s,baz=10,slow=9.9,SNR=5.1						
	comp=Z,2.1nm,0.9s						
BB19B	**Bebedouro**	**21.20**	**97**	*eP*	**P**	**18 55 27.1**	**-0.5**
IPMB	**Ipameri, GO**	**21.75**	**89**	*eP*	**P**	**18 55 32.4**	**-1.2**
BDFB	**Brasilia**	**22.40**	**83**	P	**P**	**18 55 39.1**	**-1.6**
BDFB				IAmb	IAmb	18 55 54.1	
	comp=Z,10.0nm,1.1s						
BDFB	**Brasilia**	**22.40**	**83**	P	**P**	**18 55 40.7**	**0.0**
	comp=Z,2.3nm,0.5s,baz=224,slow=7.9,SNR=3.9						
	comp=Z,2.3nm,0.5s						
MAL2	**Monte Alegre,**	**24.30**	**45**	P	**P**	**18 55 58.3**	**-1.3**
BOAV	**Boa Vista**	**24.49**	**26**	P	**P**	**18 56 00.6**	**-0.6**
BOAV				IAmb	IAmb	18 56 02.5	
	comp=Z,11nm,0.7s						
BOAV	**Boa Vista**	**24.49**	**26**	*eP*	**P**	**18 56 01.4**	**+0.2**
SMTB	**Santa Maria do**	**25.27**	**68**	*eP*	**P**	**18 56 08.7**	**+0.4**
RUSC	**La Rusia**	**25.71**	**356**	P	**P**	**18 56 12.7**	**-0.2**
RUSC				IAmb	IAmb	18 56 27.6	
	comp=Z,17nm,1.0s						
DIAM	**Diamantina, MG**	**25.98**	**91**	*eP*	**P**	**18 56 14.4**	**-0.6**
JANB	**Januaria**	**26.01**	**84**	*eP*	**P**	**18 56 13.9**	**-1.2**
SDBA	**SAO DESIDERIO**	**26.24**	**77**	*eP*	**P**	**18 56 16.1**	**-1.1**
BAUV	**El Baul**	**28.83**	**6**	P	**P**	**18 56 40.9**	**+0.5**
BAUV				IAmb	IAmb	18 56 56.5	
	comp=Z,17nm,1.1s						
NBLA	**Lagarto - SE**	**33.27**	**80**	*eP*	**P**	**18 57 18.1**	**-1.6**
NBPB	**Pedra_Branca-C**	**33.83**	**69**	*eP*	**P**	**18 57 23.9**	**-0.6**
RCBR	**Riachuelo**	**36.97**	**73**	P	**P**	**18 57 51.1**	**-0.5**
RCBR				IAmb	IAmb	18 57 52.0	
	comp=Z,8.9nm,0.8s						
RCBR	**Riachuelo**	**36.97**	**73**	*eP*	**P**	**18 57 50.5**	**-1.2**
PDPR	**Patillas Dam,**	**38.02**	**8**	P	**P**	**18 57 59.4**	**-0.8**
PDPR				IAmb	IAmb	18 58 41.1	
	comp=Z,9.8nm,1.1s						
G62A	**West of Eustis**	**64.82**	**0**	P	**P**	**19 01 22.6**	**+1.9**
LMN	**Caledonia Moun**	**65.70**	**5**	P	**P**	**19 01 26.7**	**+0.4**
QSPA	**South Pole Qui**	**70.27**	**180**	P	**P**	**19 01 58.0**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=141,slow=3.6,SNR=1.8						
	comp=Z,0.9nm,0.6s						
DBIC	**Dimbokro**	**70.30**	**75**	P	**P**	**19 01 54.4**	**-1.5**
DBIC				IAmb	IAmb	19 02 05.0	
	comp=Z,6.9nm,1.1s						
DBIC	**Dimbokro**	**70.30**	**75**	P	**P**	**19 01 55.3**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=210,slow=7.6,SNR=3.8						
	comp=Z,2.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.80**	**72**	P	**P**	**19 02 44.4**	**-1.0**
TORD				IAmb	IAmb	19 02 54.3	
	comp=Z,4.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.80**	**72**	P	**P**	**19 02 44.3**	**-1.0**
	comp=Z,3.9nm,0.6s,baz=252,slow=5.3,SNR=32						
	comp=Z,3.9nm,0.6s						
YKA	**Yellowknife Ar**	**89.02**	**341**	P	**P**	**19 03 37.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=142,slow=4.8,SNR=9.3						
	comp=Z,0.5nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**25.61**	**279**	T	T	21 29 10.2	
	baz=100,slow=74,SNR=37						
H11S1	**WAKE ISLAND Hy**	**25.61**	**279**	T	T	21 29 08.2	
	baz=100,slow=74,SNR=20						
H11S3	**WAKE ISLAND Hy**	**25.62**	**279**	T	T	21 29 09.8	
	baz=100,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**25.65**	**280**	T	T	21 29 09.4	
	baz=101,slow=74,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**25.67**	**280**	T	T	21 29 08.7	
	baz=101,slow=74,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**25.67**	**280**	T	T	21 29 12.2	
	baz=101,slow=74,SNR=4.1						
ASAR	**Alice Springs**	**130.29**	**211**	PKP	**PKiKP**	**19 09 54.9**	**+0.9**
	comp=Z,0.3nm,1.0s,baz=123,slow=1.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**141.35**	**23**	PKP	**PKiKP**	**19 10 14.1**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=280,slow=2.9,SNR=7.3						
MKAR	**Makanchi Array**	**145.50**	**33**	PKPbc	**PKPab**	**19 10 21.0**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=336,slow=2.7,SNR=9.1						
SONM	**Songino Array**	**152.07**	**4**	PKPbc	**PKiKP**	**19 10 38.8**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=332,slow=1.3,SNR=9.1						

TAP 06 19:08:14.3, 23°.51N×120°.92E, h5km, ML1.0, 2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUS	**Yu-Shan**	**0.03**	**122**	*i* P	Pg	19 08 16.0	+0.2
YUS				*eS*	Sg	19 08 17.9	+1.1
ALS	**Alishan**	**0.11**	**272**	||*i* P	Pg	19 08 17.3	+0.6
ALS				S	Sg	19 08 19.3	+1.0
WHYT	**Xinyi Township**	**0.20**	**341**	P	Pg	19 08 18.9	+0.7
WHYT				*eS*	Sg	19 08 21.6	+0.8
SSLB	**Suanglung**	**0.28**	**6**	*i* P	Pg	19 08 20.3	+0.5
SSLB				*eS*	Sg	19 08 24.5	+1.0
WCKO	**Fanlu**	**0.30**	**257**	*i* P	Pb	19 08 21.2	-0.9
WCKO				S	Sb	19 08 25.8	-1.7
VWDT	**VWDT**	**0.32**	**39**	P	Pg	19 08 20.9	+0.4
VWDT				S	Sg	19 08 26.0	+1.4
ELDTW	**Lidau**	**0.33**	**165**	||P	Pb	19 08 21.9	-0.8
ELDTW				S	Sg	19 08 26.4	+1.4
TPUB	**Ta-pu**	**0.34**	**233**	*i* P	Pg	19 08 21.8	+1.0
TPUB				*eS*	Sg	19 08 26.4	+1.1
STYH	**Taoyuan**	**0.36**	**202**	P	Pg	19 08 22.1	+0.9
STYH				S	Sg	19 08 27.5	+1.6
WJS	**Zhushan**	**0.36**	**330**	P	Pb	19 08 22.5	-0.7
WJS				S	Sb	19 08 28.9	-0.3
YULB	**Yu-li**	**0.36**	**108**	*eP*	Pb	19 08 22.8	-0.4
YULB				S	Sb	19 08 28.0	-1.2
EHY	**Hungye**	**0.37**	**90**	*eP*	Pb	19 08 23.5	+0.2
EHY				*eS*	Sb	19 08 29.8	+0.4
STYT	**Tauyuan**	**0.37**	**204**	*eP*	Pg	19 08 21.5	0.0
STYT				*eS*	Sg	19 08 27.0	+0.6
SMLT	**Sun Moon Lake**	**0.38**	**357**	*eP*	Pg	19 08 21.4	-0.2
SMLT				*eS*	Sg	19 08 27.4	+0.9
TWF1	**Yuli**	**0.38**	**114**	*eP*	Pb	19 08 23.2	-0.2
TWF1				S	Sg	19 08 28.0	+1.6
WGK	**Gukeng**	**0.38**	**298**	*eP*	Pb	19 08 23.3	-0.1
WGK				*eS*	Sb	19 08 29.5	-0.2
WTP	**Ta-pu**	**0.38**	**228**	P	Pg	19 08 22.5	+0.8
WTP				S	Sb	19 08 28.8	-1.1
EHYH	**Wanrong**	**0.39**	**92**	P	Pg	19 08 22.0	+0.2
EHYH				S	Sg	19 08 28.0	+1.2
EYUL	**Yuli**	**0.40**	**113**	*i* P	Pg	19 08 22.4	+0.5
EYUL				*eS*	Sg	19 08 27.9	+0.8
WDLH	**Douliu**	**0.40**	**297**	*i* P	Pb	19 08 23.2	-0.6
WDLH				*eS*	Sb	19 08 30.0	-0.3
TYC	**Yuchr**	**0.40**	**351**	*i* P	Pg	19 08 22.9	+0.9
TYC				*eS*	Sb	19 08 31.0	+0.6
WNT	**Mingjian**	**0.43**	**329**	*eP*	Pb	19 08 24.6	+0.2
WNT				*eS*	Sb	19 08 31.3	+0.1
FULB	**Fuli**	**0.46**	**132**	P	Pg	19 08 23.4	+0.3
FULB				*eS*	Sb	19 08 32.1	+0.1
HGSD	**Ruisui**	**0.46**	**92**	*eP*	Pb	19 08 25.3	+0.4
HGSD				*eS*	Sb	19 08 33.1	+1.0
TWK	**Hsinying**	**0.47**	**239**	*eP*	Pb	19 08 25.5	+0.5
TWK				*eS*	Sb	19 08 32.3	+0.1
WARBT	**Fenglin Townsh**	**0.47**	**64**	*eP*	Pb	19 08 25.0	-0.1
WARBT				*i* S	Sg	19 08 30.7	+1.1
CHN1	**Nanshi**	**0.48**	**229**	*eP*	Pb	19 08 24.8	-0.5
CHN1				*eS*	Sb	19 08 33.0	+0.2
SNST	**Tainan City**	**0.48**	**234**	*eP*	Pb	19 08 25.8	+0.5
SNST				*i* S	Sb	19 08 32.4	-0.4
EGFH	**Guangfu**	**0.49**	**71**	*eP*	Pb	19 08 26.3	+0.9
EGFH				*eS*	Sb	19 08 31.6	-1.4
ECS	**Chishang**	**0.49**	**146**	P	Pg	19 08 24.2	+0.5
ECS				S	Sb	19 08 31.6	-1.4
OWD	**Renai**	**0.50**	**27**	*eP*	Pb	19 08 24.9	-0.9
OWD				*eS*	Sg	19 08 30.6	+0.1
WUSB	**Renai**	**0.52**	**20**	*eP*	Pg	19 08 24.8	+0.5
WUSB				*eS*	Sg	19 08 31.3	+0.4
DPDB	**Guoxing**	**0.53**	**0**	*i* P	Pb	19 08 25.4	-0.7
DPDB				*i* S	Sb	19 08 33.7	-0.4
SGST	**Jiashian**	**0.53**	**217**	*eP*	Pb	19 08 25.6	-0.4
SGST				*eS*	Sb	19 08 32.7	-1.3
WCS	**Beigang Elemen**	**0.55**	**359**	*eP*	Pb	19 08 26.0	-0.4
WCS				*eS*	Sb	19 08 34.0	-0.6
ESL	**Shilin**	**0.56**	**57**	*i* P	Pg	19 08 25.7	+0.7
ESL				*eS*	Sb	19 08 33.8	-1.2
LONT	**Longtian**	**0.63**	**162**	*eP*	Pb	19 08 27.9	+0.2
LONT				*eS*	Sb	19 08 36.0	-0.8
LXIB	**Xiulin Townshi**	**0.68**	**41**	P	Pg	19 08 27.8	+0.4
ETM	**Tongmen**	**0.69**	**49**	*eP*	Pg	19 08 27.7	+0.1
TWGBT	**Beinan**	**0.70**	**168**	*eP*	Pb	19 08 28.8	-0.2
TWGBT				*eS*	Sb	19 08 38.8	-0.1
WHP	**Taichung City**	**0.77**	**2**	*eP*	Pb	19 08 31.0	+0.7
WHP				*eS*	Sn	19 08 42.9	-1.1
FUSS	**Fushou**	**0.80**	**22**	P	Pb	19 08 30.3	-0.4
SSD	**Sandimen**	**0.80**	**200**	*eP*	Pb	19 08 30.4	-0.3
SSD				S	Sb	19 08 42.2	+0.3
TSMG	**Majia**	**0.84**	**198**	P	Pg	19 08 30.4	+0.1
TSMG				*eS*	Sb	19 08 42.7	-0.2

*IDC **06** 19:20:18.3±1.1, 9°.79N×140°.61E, h0km, mb3.6/6, mbtmp3.7/7, ML4.4/1, Error ellipse: s-maj=35.6km s-min=20.9km az=102.0*

ISC 06 19:20:22.3±1.0, 9°.8N±0°.1×140°.6E±0°.1, h26km, n14, σ1§03/8, mb3.6/7, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.65**	**47**	Pn	**Pn**	**19 21 45.1**	**+0.4**
	11nm,0.3s,baz=232,slow=18,SNR=1.7						
GUMO				Sn	**Sn**	**19 22 48.8**	**0.0**
	5.6nm,0.3s,baz=180,slow=20,SNR=2.2						
	26nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**26.72**	**68**	T	T	19 54 10.4	
	baz=255,slow=75,SNR=334						
H11S1	**WAKE ISLAND Hy**	**26.74**	**68**	T	T	19 54 36.5	
	baz=255,slow=75,SNR=193						
H11S2	**WAKE ISLAND Hy**	**26.74**	**68**	T	T	19 54 39.3	
	baz=255,slow=75,SNR=334						
H11N1	**WAKE ISLAND Hy**	**27.25**	**66**	T	T	19 54 46.6	
	baz=254,slow=74,SNR=204						
H11N2	**WAKE ISLAND Hy**	**27.26**	**66**	T	T	19 54 42.8	
	baz=254,slow=74,SNR=113						
H11N3	**WAKE ISLAND Hy**	**27.27**	**66**	T	T	19 54 47.9	
	baz=254,slow=74,SNR=86						
WRA	**Warramunga Arr**	**30.16**	**192**	P	**P**	**19 26 30.2**	**-0.2**
	0.4nm,0.7s,baz=9.0,slow=9.4,SNR=2.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**33.87**	**191**	P	**P**	**19 27 03.2**	**+0.2**
	0.5nm,0.6s,baz=18,slow=12,SNR=10						
	0.5nm,0.6s						
SONM	**Songino Array**	**47.63**	**329**	P	**P**	**19 28 55.1**	**-1.2**
	0.2nm,0.6s,baz=142,slow=7.2,SNR=1.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**61.42**	**318**	P	**P**	**19 30 38.2**	**+1.8**
	0.6nm,0.9s,baz=100,slow=7.5,SNR=4.8						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**70.36**	**323**	P	**P**	**19 31 33.6**	**-0.2**
	1.2nm,0.8s,baz=107,slow=9.2,SNR=5.4						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**73.79**	**25**	P	**P**	**19 31 53.5**	**-0.7**
	1.5nm,1.3s,baz=259,slow=5.9,SNR=4.3						
	1.5nm,1.3s						
YKA	**Yellowknife Ar**	**88.14**	**27**	P	P	19 33 16.9	+6.3
	0.2nm,0.6s,baz=288,slow=5.1,SNR=4.5						

RSNC 06 19:23:43.0±0.0, 7°N±1°×7°3W±°, h145km±2km, M2.6, mb3.7, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	P	Pn	19 24 02.6	-0.5
BARC				S	Sn	19 24 16.0	-2.3
BRJC	**Barrancabermej**	**0.60**	**286**	P	Pn	19 24 04.2	-0.1
BRJC				S	Sn	19 24 21.2	+0.7
PAMC	**Pamplona, Colo**	**0.70**	**41**	P	Pn	19 24 05.4	-0.1
PAMC				S	Sn	19 24 22.2	-0.4
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	19 24 06.6	-0.6
RUSC				S	Sn	19 24 25.0	-0.5
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	19 24 09.1	-1.2
PTBC				S	Sn	19 24 30.4	-0.7
TAMC	**Tame, Arauca**	**1.41**	**105**	P	Pn	19 24 11.0	-0.3
TAMC				S	Sn	19 24 33.2	+0.3
OCAC	**Ocana**	**1.43**	**354**	P	Pn	19 24 11.1	-0.5
OCAC				S	Sn	19 24 32.7	-0.8
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	19 24 12.0	+0.1
SPBC				S	Sn	19 24 33.4	-0.6
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	19 24 15.5	-0.2
ZARC				S	Sn	19 24 40.8	0.0
NORC	**Norcasia**	**2.10**	**234**	P	Pn	19 24 18.6	-0.5
NORC				S	Sn	19 24 47.1	+0.3
CHIC	**Chingaza**	**2.24**	**195**	P	Pn	19 24 20.9	-0.2
CHIC				S	Sn	19 24 50.8	+0.4
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	19 24 22.3	+0.8
ROSC				S	Sn	19 24 53.1	+2.0
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	19 24 23.8	-0.5
UREC				S	Sn	19 24 54.3	-1.8
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	19 24 28.3	+1.4
GUY2C				S	Sn	19 25 03.9	+3.3
VILC	**Villavicencio,**	**2.73**	**191**	P	Pn	19 24 26.5	-0.5
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	19 24 31.2	+1.0
CBOC				S	Sn	19 25 05.0	-1.6
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	19 24 34.7	+1.6
ANIL				S	Sn	19 25 14.7	+2.8
PRAC	**Prado**	**3.52**	**209**	P	Pn	19 24 36.6	-0.4
PRAC				S	Sn	19 25 18.5	-0.3
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	19 24 37.8	+0.4
ORTC				S	Sn	19 25 20.3	+0.8
PLMC	**San Jos del P**	**3.64**	**239**	P	Pn	19 24 38.5	0.0
PLMC				S	Sn	19 25 21.2	-0.3
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	19 24 36.8	-2.0
SJCC				S	Sn	19 25 18.2	-3.8
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	19 24 39.7	-0.2
URMC				S	Sn	19 25 23.9	-0.1
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	19 24 43.5	-2.3
CRJC				S	Sn	19 25 30.5	-4.1
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	19 24 53.1	-3.2

*IDC **06** 19:27:57.8±0.5, 2°.72N×31°.16W, h0km, mb4.4/20, mbtmp4.3/21, ML4.1/1, MS4.3/58, Error ellipse: s-maj=17.7km s-min=12.9km az=134.0*

*NEIC **06** 19:28:00.6±1.6, 2°.7N±0°.1×31°.12W±0°.09, h10km±1km, mb4.9/37, Error ellipse: s-maj=17.4km s-min=15.1km az=338.0*

*GCMT **06** 19:28:02.6±0.2, 2°.76N±0°.02×31°.01W±0°.01, h12km, MW5.0/118, Moment Tensor Solution. s52,c55; s118,c188; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.00±.10; $M_{\theta\theta}$=0.81±.10; $M_{\phi\phi}$=3.18±.09; $M_{r\theta}$=0.18±.34; $M_{\theta\phi}$=-2.26±.08; $M_{\phi r}$=-0.92±.30; Best double couple: M_0=4.37800×10^{16} NP1:ϕ_s=143.00000°, δ39.00000°, λ-98.00000°. NP2:ϕ_s=334.00000°, δ51.00000°, λ-83.00000°. Principal axes: T 4.6380, Plg6.0000°, Azm59.0000°; N -0.5240, Plg5.0000°, Azm150.0000°; P -4.1190, Plg82.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 19:27:59.6±0.3, 2°.76N±0°.07×31°.13W±0°.07, h10km, n184, σ1§38/118, mb4.7/53, MS4.3/58, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**9.77**	**209**	Pn	**Pn**	**19 30 19.7**	**-0.7**
RCBR				Sn	Sn	19 31 58.4	-12
RCBR	**Riachuelo**	**9.77**	**209**	Pn	**Pn**	**19 30 19.7**	**-0.7**
	1.8nm,0.3s,baz=21,slow=20,SNR=30						
RCBR				Sn	Sn	19 31 59.3	-11
	1.1nm,0.3s,baz=108,slow=19,SNR=5.9						
RCBR				LR	LR	19 33 22.9	
	comp=Z,1μm,19.1s,baz=22,slow=33						
	4.0nm,0.4s						
NBPB	**Pedra_Branca-C**	**11.80**	**226**	*eP*	**Pn**	**19 30 46.8**	**-1.4**
NBCA	**Caruaru-PE**	**11.95**	**204**	*eP*	**Pn**	**19 30 50.3**	**0.0**
SACV	**Santiago Islan**	**14.22**	**31**	Pn	**Pn**	**19 31 18.9**	**-2.3**
NBLA	**Lagarto - SE**	**15.19**	**206**	*eP*	**Pn**	**19 31 34.7**	**+0.4**
TMAB	**Tom-Au,PA,Br**	**17.71**	**253**	*eP*	**Pn**	**19 32 07.6**	**+1.0**
BBTS	**Babate**	**18.63**	**50**	LR	LR	19 37 39.2	
	comp=Z,1μm,20.8s,baz=112,slow=31						
H10N3	**ASCENSION HYDR**	**19.65**	**123**	T	T	19 52 35.1	
	baz=302,slow=74,SNR=2108						
H10N2	**ASCENSION HYDR**	**19.66**	**122**	T	T	19 52 35.5	
	baz=302,slow=74,SNR=4904						
H10N1	**ASCENSION HYDR**	**19.67**	**123**	T	T	19 52 36.7	
	baz=302,slow=74,SNR=5503						
CMC01	**Camacan, BA**	**19.83**	**205**	*eP*	**P**	**19 32 30.9**	**+0.2**
SMTB	**Santa Maria do**	**20.06**	**235**	*eP*	**P**	**19 32 33.5**	**+0.3**
H10S3	**ASCENSION HYDR**	**20.12**	**126**	T	T	19 53 10.1	
	baz=302,slow=74,SNR=1768						
H10S2	**ASCENSION HYDR**	**20.14**	**125**	T	T	19 53 11.5	
	baz=278,slow=74,SNR=1573						
SDBA	**SAO DESIDERIO**	**20.36**	**222**	*eP*	**P**	**19 32 36.7**	**+0.2**
GUA01	**Guaratinga, BA**	**21.05**	**204**	*eP*	**P**	**19 32 44.0**	**+0.2**
MDP	**Montagnes des**	**21.59**	**277**	LR	LR	19 39 37.3	
	comp=Z,484nm,20.2s,baz=102,slow=32						
JANB	**Januaria**	**22.00**	**216**	*eP*	**P**	**19 32 53.9**	**

comp=Z,597nm,19.1s,baz=71,slow=36
ATAH Atahualpa 48.18 258 LR LR 19 57 26.5
comp=Z,714nm,18.4s,baz=98,slow=37
COHC Cochancay 48.39 264 P **P** **19 36 41.3 -1.0**
KEST Kesra 49.76 44 LR LR 19 59 15.3
comp=Z,902nm,18.2s,baz=262,slow=38
MT08 Bocatoma Ro 51.41 222 P **P** **19 37 06.0 +0.8**
MT08 IAmb IAmb 19 37 09.3
comp=Z,24nm,1.3s
TSUM Tsumeb 52.61 117 LR LR 19 56 04.9
comp=Z,349nm,18.1s,baz=328,slow=32
BATG Bathurst New B 53.65 331 P **P** **19 37 22.6 +1.2**
JTS Las Juntas de 53.93 281 LR LR 20 00 48.1
comp=Z,112nm,20.6s,baz=86,slow=36
VAE Valguarnera 54.16 44 LR LR 20 00 57.9
comp=Z,919nm,18.4s,baz=172,slow=37
ICQ Pointe Anglais 55.81 332 P **P** **19 37 35.7 -1.2**
PLCA Paso Flores 56.27 215 LR LR 20 01 30.8
comp=Z,380nm,19.6s,baz=46,slow=36
DAVOX Davos/Dischmat 56.44 33 LR LR 19 59 06.7
comp=Z,164nm,21.6s,baz=258,slow=33
DAVA Damuels 56.76 32 *i* P **P** **19 37 45.8 +1.8**
comp=Z,9.2nm,1.5s
FETA Feichten 57.05 33 *e*P **P** **19 37 47.5 +1.4**
comp=Z,5.6nm,1.4s
RETA Reutte 57.35 33 *e*P **P** **19 37 50.2 +2.1**
comp=Z,2.6nm,0.7s
SQTA Sankt Quirin 57.43 33 *e*P **P** **19 37 50.4 +1.7**
comp=Z,6.4nm,1.2s
MOTA Moosalm 57.45 33 *e*P **P** **19 37 53.4 +4.5**
comp=Z,4.2nm,1.0s
WTTA Wattenberg 57.69 33 *i* P **P** **19 37 54.6 +4.0**
comp=Z,8.0nm,1.0s
WATA Walderalm 57.70 33 *e*P **P** **19 37 53.8 +3.1**
comp=Z,2.6nm,0.5s
ABTA Abfaltersbach 57.87 34 *e*P P 19 37 56.9 +5.1
comp=Z,13nm,1.2s
LESA Schwarzleotal 58.36 34 *e*P **P** **19 37 59.4 +4.2**
comp=Z,12nm,1.6s
MYKA Terra Mystica 58.44 35 *e*P **P** **19 37 59.0 +3.3**
comp=Z,4.7nm,0.7s
KBA Koelnbreinsper 58.53 34 *e*P **P** **19 37 59.3 +2.8**
comp=Z,5.9nm,1.3s
TKL Tuckaleechee C 58.58 311 LR LR 19 57 30.2
comp=Z,172nm,21.6s,baz=111,slow=30
BIOA Bad Ischl, Aus 59.04 34 *e*P **P** **19 38 03.8 +3.9**
comp=Z,4.0nm,0.7s
SOKA Soboth 59.27 35 *e*P P 19 38 06.7 +5.2
comp=Z,10.0nm,1.4s
SCHQ Schefferville 59.45 337 P **P** **19 38 02.9 +0.4**
SCHQ Schefferville 59.45 337 P **P** **19 38 02.9 +0.4**
comp=Z,13nm,0.9s,baz=137,slow=6.1,SNR=13
comp=Z,13nm,0.9s
APG El Apazote 59.69 286 LR LR 20 05 04.2
comp=Z,8.4nm,19.7s,baz=173,slow=37
GERES GERESS Array B 59.74 33 P **P** **19 38 05.2 +0.5**
comp=Z,1.0nm,0.8s,baz=233,slow=6.5,SNR=4.2
GERES LR LR 20 01 16.0
comp=Z,244nm,21.1s,baz=264,slow=33
comp=Z,1.0nm,0.8s
SUR Sutherland 60.30 130 LR LR 19 59 15.2
comp=Z,104nm,19.3s,baz=332,slow=31
CONA Conrad Observa 60.42 34 *e*P **P** **19 38 07.8 -1.6**
comp=Z,6.1nm,1.4s
RONA Rosalia, Austr 60.54 35 *e*P **P** **19 38 11.1 +0.8**
comp=Z,5.7nm,1.0s
IDI Anoyia 61.04 51 LR LR 20 05 23.9
comp=Z,192nm,21.9s,baz=296,slow=37
LSZ Lusaka 61.36 109 LR LR 19 59 35.9
comp=Z,288nm,21.9s,baz=309,slow=31
LBTB Lobatse 61.51 120 LR LR 20 00 39.6
comp=Z,71nm,18.6s,baz=290,slow=32
VRAC Vranov 61.58 33 LR LR 20 05 08.7
comp=Z,132nm,18.4s,baz=266,slow=36
BORG Borgarnes 62.26 5 LR LR 19 58 45.6
comp=Z,138nm,20.2s,baz=127,slow=30
BOSA Boshof 62.40 124 P **P** **19 38 22.3 -0.9**
BOSA IAmb IAmb 19 38 24.3
comp=Z,14nm,1.1s
BOSA Boshof 62.40 124 P **P** **19 38 22.2 -0.9**
comp=Z,12nm,1.1s,baz=316,slow=6.4,SNR=7.2
BOSA LR LR 20 00 57.9
comp=Z,104nm,19.9s,baz=304,slow=32
comp=Z,12nm,1.1s
PSZ Piszkesteto 62.74 36 P **P** **19 38 25.8 +0.8**
PSZ IAmb IAmb 19 38 31.8
comp=Z,15nm,1.3s
USHA Ushuaia 65.12 203 LR LR 20 08 22.6
comp=Z,130nm,18.7s,baz=58,slow=37
KWP Kalwaria Pacla 65.19 35 P **P** **19 38 40.2 -0.9**
SFJD Kangerlussuaq 65.54 352 LR LR 20 01 10.1
comp=Z,80nm,18.6s,baz=130,slow=30
NOA NORSAR Array B 66.35 21 P **P** **19 38 49.5 +1.2**
comp=Z,3.0nm,1.1s,baz=230,slow=6.4,SNR=3.7
NOA LR LR 20 05 47.7
comp=Z,159nm,18.1s,baz=240,slow=34
comp=Z,3.0nm,1.1s
LODK Lodwar 66.39 87 P **P** **19 38 49.2 -0.3**
LODK IAmb IAmb 19 39 21.7
comp=Z,13nm,1.8s
EIL Elat 67.91 59 LR LR 20 09 47.2
comp=Z,724nm,18.1s,baz=252,slow=37
LUBAR Lubar, Ukraine 68.28 37 P **P** **19 39 00.2 -0.6**
LUBAR pP **pP** **19 39 03.6 +0.4**
BR104 Keskin Array S 68.97 48 P **P** **19 39 05.6 +0.1**
comp=Z,6.3nm,1.0s
BRTR Keskin Array B 68.97 48 P **P** **19 39 06.4 +0.9**
comp=Z,3.2nm,0.8s,baz=239,slow=4.3,SNR=9.2
BRTR LR LR 20 09 19.8
comp=Z,229nm,20.8s,baz=272,slow=36
comp=Z,3.2nm,0.8s
AK19 Malin Array Si 69.33 36 P **P** **19 39 07.2 -0.1**
AK20 Malin Array Si 69.33 36 P **P** **19 39 07.2 -0.1**
AK17 Malin Array Si 69.34 36 P **P** **19 39 07.2 -0.2**
AK14 Malin Array Si 69.35 36 P **P** **19 39 07.1 -0.3**
AK06 Malin Array Si 69.39 36 P **P** **19 39 08.1 +0.5**
KIEV Kiev 69.43 36 P **P** **19 39 08.7 +0.8**
AKASG Malin Array Be 69.44 36 P **P** **19 39 08.2 +0.3**
comp=Z,1.7nm,0.7s,baz=248,slow=7.1,SNR=8.9
comp=Z,1.7nm,0.7s
AKBB Malin Array Si 69.44 36 P **P** **19 39 08.4 +0.4**
JMIC Jan Mayen 69.67 8 LR LR 20 04 51.6
comp=Z,175nm,18.6s,baz=300,slow=32
BRDY Brady 69.70 302 IAmb IAmb 19 39 11.1
comp=Z,9.3nm,1.1s
SUMG Summit 69.87 358 P **P** **19 39 11.4 +0.7**
JCT Junction City 70.26 301 P **P** **19 39 13.2 -0.3**
PMSA Palmer Station 71.58 194 LR LR 20 07 03.7
comp=Z,48nm,21.7s,baz=326,slow=33
ULM Lac du Bonnet 71.92 322 P **P** **19 39 22.3 -0.9**
comp=Z,1.6nm,0.7s,baz=198,slow=5.4,SNR=3.0
comp=Z,1.6nm,0.7s
SAND Sanderson 72.17 300 P **P** **19 39 25.0 -0.2**
FINES FINESS Array B 72.43 25 P **P** **19 39 25.9 +0.1**
comp=Z,3.7nm,1.0s,baz=216,slow=9.4,SNR=4.0
FINES LR LR 20 07 14.6
comp=Z,206nm,21.8s,baz=274,slow=32
comp=Z,3.7nm,1.0s
TXAR Lajitas Array 73.44 300 P **P** **19 39 32.2 -0.5**
comp=Z,1.6nm,0.9s,baz=111,slow=6.9,SNR=8.3
comp=Z,1.6nm,0.9s
FCC Fort Churchill 73.89 331 IAmb IAmb 19 39 37.9
comp=Z,25nm,1.3s
VHRN Van Horn 74.73 301 P **P** **19 39 40.2 -0.1**
VHRN IAmb IAmb 19 39 42.8
comp=Z,14nm,1.4s
OBN Obninsk 75.11 33 LR LR 20 12 59.8
comp=Z,188nm,19.2s,baz=238,slow=36
GURO Guroymak-BITLI 75.13 51 P **P** **19 39 43.0 +0.5**
ARCES ARCESS Array B 76.23 18 LR LR 20 10 51.2
comp=Z,132nm,18.1s,baz=240,slow=34
ANMO Albuquerque 76.40 305 LR LR 20 11 04.7
comp=Z,62nm,19.3s,baz=244,slow=34
KIV Kislovodsk 76.46 46 P **P** **19 39 50.8 +0.9**
KIV IAmb IAmb 19 39 55.6
comp=Z,14nm,1.1s
SNAA Sanae 76.53 171 P **P** **19 39 49.1 -0.6**
comp=Z,3.2nm,0.9s,baz=325,slow=7.0,SNR=4.0
SNAA LR LR 20 07 48.3
comp=Z,72nm,18.3s,baz=310,slow=31
comp=Z,3.2nm,0.9s
KBZ Khabaz 76.57 46 P **P** **19 39 52.0 +1.7**
comp=Z,9.8nm,1.0s,baz=312,slow=1.9,SNR=10
KBZ LR LR 20 16 23.4
comp=Z,114nm,19.1s,baz=286,slow=38
comp=Z,9.8nm,1.0s
FFC Flin Flon 76.76 326 P **P** **19 39 50.6 -0.6**
FFC IAmb IAmb 19 39 52.8
comp=Z,12nm,1.6s
GNI Garni 77.43 50 LR LR 20 17 06.8
comp=Z,173nm,19.0s,baz=265,slow=38
GNI Garni 77.43 50 P **P** **19 39 55.4 -0.1**
comp=Z,5.5nm,1.9s
LPIG La Paz 79.00 294 LR LR 20 15 32.9
comp=Z,41nm,19.0s,baz=18,slow=36
SPITS Spitsbergen Ar 79.28 9 LR LR 20 10 30.1
comp=Z,113nm,18.0s,baz=180,slow=32
PDAR Pinedale Array 79.63 313 P **P** **19 40 06.7 -1.1**
comp=Z,0.3nm,0.8s,baz=77,slow=6.4,SNR=6.7
PDAR LR LR 20 10 38.4
comp=Z,86nm,21.5s,baz=88,slow=32
comp=Z,0.3nm,0.8s
RES Resolute Bay 80.59 346 P **P** **19 40 12.5 +0.6**
EUNU Eureka 81.60 352 IAmb IAmb 19 40 34.7
comp=Z,20nm,1.6s
YKA Yellowknife Ar 84.54 332 P **P** **19 40 31.4 -1.3**
comp=Z,3.8nm,1.1s,baz=100,slow=5.1,SNR=25
comp=Z,3.8nm,1.1s
PFO Pinyon Flats O 84.59 303 LR LR 20 15 47.2
comp=Z,60nm,19.9s,baz=122,slow=34
NEW Newport 85.28 318 LR LR 20 14 06.9
comp=Z,111nm,21.9s,baz=49,slow=32
SYO Syowa Base 85.75 160 ‖ *i* sP sP 19 40 45.0 +3.3
J08A Circle Bar Ran 86.19 313 IAmb IAmb 19 40 44.1
comp=Z,12nm,1.3s
AKTO Aktyubinsk 87.34 40 LR LR 20 19 31.7
comp=Z,101nm,21.1s,baz=84,slow=35
ARTI Arti 87.45 34 P **P** **19 40 48.3 +1.0**
ARTI IAmb IAmb 19 40 51.2
comp=Z,6.6nm,1.1s
ARTI Arti 87.45 34 LR LR 20 18 10.6
comp=Z,146nm,20.7s,baz=284,slow=34
ABKAR Akbulak array 88.63 41 P **P** **19 40 54.7 +1.6**
ABKAR IAmb IAmb 19 40 59.6
comp=Z,11nm,1.6s
A36M Sachs Harbour 88.67 342 IAmb IAmb 19 40 54.0
comp=Z,14nm,1.6s
WSAR Wadi Sarin 88.70 67 LR LR 20 21 40.4
comp=Z,408nm,18.2s,baz=284,slow=36
QSPA South Pole Qui 92.82 180 LR LR 20 17 39.1
comp=Z,116nm,18.2s,baz=189,slow=32
BVAR Borovoye Array 94.72 36 LR LR 20 22 51.1
comp=Z,85nm,20.2s,baz=297,slow=35
NRIK Noril'sk 97.20 18 LR LR 20 22 23.5
comp=Z,130nm,21.0s,baz=314,slow=34
ILAR Eielson Array 98.21 337 P **P** **19 41 35.6 -1.2**
comp=Z,1.6nm,1.1s,baz=38,slow=4.2,SNR=6.7
comp=Z,1.6nm,1.1s
AAK Ala-Archa 99.57 46 LR LR 20 30 26.7
comp=Z,58nm,21.6s,baz=317,slow=38
TBI Tubuai 117.03 245 *e*LR LR 20 22 16.4
comp=Z,2μm,32.5s
PPT2 Papeete2 117.92 252 *e*SS SS 20 04 13.0 -3.2
comp=Z,121nm,26.8s
PPT2 Papeete2 117.92 252 *e*LR LR 20 22 34.5
comp=Z,234nm,25.8s
PPT2 *e*LR LR 20 22 37.7
comp=Z,306nm,25.0s
LZH Lanzhou 122.94 43 PKP **PKPdf** **19 46 57.3 +0.3**
LZH sPKP 19 47 15.2
LZH LR LR
comp=N,230nm,14.9s
LZH LR LR
comp=E,220nm,14.1s
LZH LR LR
comp=Z,350nm,15.5s
HHC Hu-ho-hao-te 124.86 34 *e*P **PKPdf** **19 46 55.5 -4.9**
PZH PanZhiHua 126.00 54 PKP **PKPdf** **19 47 02.6 -0.4**
CMAR Chiang Mai Arr 126.53 65 **PKPdf** **19 47 02.3 -1.8**
CMAR Chiang Mai Arr 126.53 65 PKP **PKPdf** **19 47 01.7 -2.4**
comp=Z,1.3nm,0.9s,baz=276,slow=2.9,SNR=9.2
NJ2 Nanjing 135.17 37 *e*P **PKPdf** **19 47 21.5 +1.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 150.24 167 PKPbc **PKPbc** **19 47 52.0 +0.3**
comp=Z,1.0nm,0.5s,baz=171,slow=5.3,SNR=3.6
DZM Mont Dzumac 154.31 220 *e*LR LR 20 39 27.0
comp=Z,238nm,26.7s
ASAR Alice Springs 154.67 146 PKPbc **PKPbc** **19 48 02.2 +0.3**
comp=Z,0.5nm,0.8s,baz=207,slow=1.5,SNR=4.5
ASAR PKPab **PKPab** **19 48 16.3 -0.2**
comp=Z,1.5nm,0.9s,baz=200,slow=4.0,SNR=13

FUNV 06 19:45:34.9, 10°.21N×62°.04W, h16km, MW3.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.55**	**269**	*e*P	Pn	19 46 14.3	-1.4
PCRV				*e*S	Sn	19 46 43.7	-2.8
LUEV	**Luepa**	**4.38**	**172**	*e*P	Pn	19 46 39.5	-1.5
LUEV				*e*S	Sn	19 47 27.1	-4.6
TACV	**Tcata**	**4.91**	**270**	*e*P	Pn	19 46 46.6	-1.5
TACV				*e*S	Sn	19 47 39.5	-5.2
CACV	**CAICARA DEL OR**	**5.16**	**240**	*e*P	Pn	19 46 44.5	-7.1
CACV				*e*S	Sn	19 47 36.3	-15
BENV	**Beln**	**5.48**	**268**	*e*P	Pn	19 46 54.1	-1.9
BENV				*e*S	Sn	19 47 53.1	-5.6
BAUV	**El Baul**	**6.05**	**258**	*e*P	Pn	19 47 02.3	-1.5
BAUV				*e*S	Sn	19 48 05.8	-7.0
MAPV	**Macapo**	**6.33**	**267**	*e*P	Pn	19 47 05.6	-2.1
MAPV				*e*S	Sn	19 48 12.5	-7.2

IDC 06 19:45:45.9±3.5, 30°.93S×177°.74W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=82.6km s-min=31.8km az=124.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.68**	**355**	Pn	Pb	19 46 17.2	-0.4
	219nm,0.3s,baz=255,slow=20,SNR=4.7						
RAO				Sn	Sn	19 46 33.4	-5.2
	450nm,0.3s,baz=252,slow=22,SNR=6.8						
STKA	**Stephens Creek**	**34.58**	**258**	P	P	19 52 38.0	+1.5
	0.8nm,0.5s,baz=107,slow=13,SNR=4.0						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**43.30**	**267**	P	P	19 53 49.2	-0.6
	0.2nm,0.5s,baz=102,slow=7.7,SNR=1.8						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.34**	**273**	P	P	19 53 57.1	-1.0
	0.5nm,0.4s,baz=112,slow=8.2,SNR=8.9						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**145.71**	**340**	PKPbc	PKPdf	20 05 24.8	-0.8
	1.4nm,0.4s,baz=62,slow=4.2,SNR=16						

*NEIC **06** 19:46:08.3±1.8, 20°.3S±0°.1×176°.4W±0°.1, h229km±7km, mb4.5/34, Error ellipse: s-maj=19.3km s-min=17.9km az=167.0*
*IDC **06** 19:46:10.1±2.3, 20°.54S×176°.45W, h251km±19km, mb3.8/14, mbtmp4.4/16, Error ellipse: s-maj=20.0km s-min=10.6km az=104.0*
*NOU **06** 19:46:25.7, 20°.87S×176°.83W, h384km, mb4.6/9, Fiji Islands Region*
ISC 06 19:46:08.3±0.4, 20°.47S±0°.09×176°.34W±0°.08, h234km, n91, σ0°.98/89, mb4.3/31, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.96**	**296**	Pn	**Pn**	**19 47 34.3**	**-1.4**
MSVF	**Nonsavu**	**5.96**	**296**	P	**Pn**	**19 47 38.0**	**+2.4**
	12nm,0.5s,baz=126,slow=19,SNR=8.3						
NIUE	**Niue**	**6.20**	**78**	Pn	Pn	19 47 31.7	-6.9
NIUE				S	Sn	19 48 36.0	-15
AFI	**Afiamalu**	**7.84**	**34**	Pn	Pn	19 47 53.1	-6.6
DVP	**Devils Point**	**14.87**	**278**	P	P	19 49 33.1	+5.4
RAR	**Rarotonga**	**15.51**	**96**	S	**S**	**19 52 26.3**	**+0.3**
	19nm,0.4s,baz=185,slow=6.8,SNR=8.6						
DZM	**Mont Dzumac**	**16.12**	**261**	P	**P**	**19 49 40.7**	**-1.0**
DZM	**Mont Dzumac**	**16.12**	**261**	P	**Pn**	**19 49 44.2**	**+1.5**
	27nm,0.6s,baz=86,slow=18,SNR=31						
DZM	**Mont Dzumac**	**16.12**	**261**	P	**Pn**	**19 49 45.7**	**+3.0**
TOZ	**Tiniroa Road**	**18.61**	**201**	P	**P**	**19 50 08.6**	**+0.3**
URZ	**Urewera**	**18.62**	**196**	P	**P**	**19 50 07.4**	**-1.0**
	7.4nm,0.4s,baz=76,slow=2.0,SNR=5.8						
URZ				S	**S**	**19 53 25.2**	**-2.8**
	8.9nm,0.7s,baz=109,slow=13,SNR=7.7						
BFZ	**Birch Farm**	**21.12**	**196**	P	**P**	**19 50 36.7**	**+1.6**
QRZ	**Quartz Range**	**22.40**	**203**	P	**P**	**19 50 47.3**	**+0.1**
LTZ	**Lake Taylor**	**24.22**	**201**	P	**P**	**19 51 05.0**	**+1.2**
RPZ	**Rata Peaks**	**25.46**	**202**	P	**P**	**19 51 15.2**	**+0.3**
	11nm,0.6s,baz=56,slow=17,SNR=4.1						
	11nm,0.6s						
RPZ	**Rata Peaks**	**25.46**	**202**	P	**P**	**19 51 16.4**	**+1.5**
JCZ	**Jackson Bay**	**26.60**	**204**	P	**P**	**19 51 25.6**	**+0.4**
CMSA	**Cobar Meteorol**	**35.70**	**244**	P	**P**	**19 52 44.5**	**-0.1**
MTSU	**Mount Surprise**	**37.14**	**267**	P	**P**	**19 52 57.6**	**+0.6**
STKA	**Stephens Creek**	**39.20**	**244**	P	**P**	**19 53 13.4**	**-0.6**
	1.4nm,0.7s,baz=77,slow=10,SNR=3.4						
	1.4nm,0.7s						
AS31	**Alice Springs**	**46.04**	**256**	P	**P**	**19 54 09.2**	**+0.2**
ASAR	**Alice Springs**	**46.04**	**256**	P	**P**	**19 54 08.8**	**-0.2**
ASAR	**Alice Springs**	**46.04**	**256**	P	**P**	**19 54 07.7**	**-1.3**
	5.0nm,0.8s,baz=92,slow=8.3,SNR=39						
ASAR				PcP	**PcP**	**19 55 41.1**	**-0.3**
	0.8nm,0.5s,baz=110,slow=3.8,SNR=5.6						
ASAR				ScP	**ScP**	**19 59 11.3**	**-0.8**
	0.2nm,0.6s,baz=111,slow=4.3,SNR=4.9						
	5.0nm,0.8s						
WB0	**Warramunga Arr**	**46.12**	**262**	P	**P**	**19 54 09.0**	**-0.7**
WB2	**Warramunga Arr**	**46.13**	**262**	P	**P**	**19 54 08.3**	**-1.5**
WRA	**Warramunga Arr**	**46.14**	**262**	P	**P**	**19 54 08.8**	**-1.1**
WRA	**Warramunga Arr**	**46.14**	**262**	P	**P**	**19 54 09.0**	**-0.9**
	2.7nm,0.5s,baz=96,slow=7.6,SNR=36						
	2.7nm,0.5s						
FORT	**Forrest**	**50.73**	**247**	P	**P**	**19 54 43.9**	**-0.8**
FORT				IAmb	IAmb	19 54 56.9	
	comp=Z,21nm,1.1s						
KNRA	**Kununurra**	**52.21**	**266**	P	**P**	**19 54 55.4**	**-0.3**
FAKI	**Fak Fak**	**53.01**	**282**	P	**P**	**19 55 01.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**54.57**	**262**	P	**P**	**19 55 12.3**	**-0.6**
SOEI	**Soe**	**58.05**	**271**	P	**P**	**19 55 38.8**	**+1.1**
CASY	**Casey**	**64.66**	**205**	P	**P**	**19 56 22.5**	**+1.8**
CASY				IAmb	IAmb	19 56 49.3	
	comp=Z,11nm,0.9s						
TOLI2	**Tolitoli**	**65.12**	**281**	P	**P**	**19 56 23.4**	**-1.3**
TOLI2				IAmb	IAmb	19 56 57.4	
	comp=Z,6.8nm,1.0s						
QSPA	**South Pole Qui**	**69.60**	**180**	P	**P**	**19 56 52.7**	**+0.7**
QSPA				IAmb	IAmb	19 56 53.5	
	comp=Z,6.2nm,0.9s						
QSPA	**South Pole Qui**	**69.60**	**180**	P	**P**	**19 56 52.4**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=6.8,slow=1.1,SNR=11						
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**71.11**	**323**	P	**P**	**19 57 00.9**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=154,slow=6.5,SNR=5.6						
	comp=Z,2.4nm,0.7s						
NACB	**Ninganchiao**	**74.95**	**303**	P	**P**	**19 57 23.6**	**-0.5**
NACB				IAmb	IAmb	19 57 27.4	
	comp=Z,23nm,1.4s						
PETK	**Petropavlovsk-**	**76.65**	**344**	P	**P**	**19 57 32.9**	**-0.1**
	comp=Z,16nm,1.1s,baz=116,slow=9.0,SNR=4.7						
	comp=Z,16nm,1.1s						
YERR	**Yerington**	**79.68**	**42**	P	**P**	**19 57 51.2**	**+1.0**
OHAK	**Old Harbor**	**79.77**	**13**	P	**P**	**19 57 50.0**	**+0.1**
TPNV	**Topopah Spring**	**80.42**	**45**	P	**P**	**19 57 53.5**	**-0.7**
TPNV				IAmb	IAmb	19 57 58.3	
	comp=Z,6.1nm,0.9s						
J05D	**Fort Rock, OR**	**81.13**	**37**	P	**P**	**19 57 58.1**	**+0.3**
J05D				IAmb	IAmb	19 57 59.4	
	comp=Z,3.3nm,0.6s						
X16A	**Lo Mia Camp, P**	**82.34**	**49**	P	**P**	**19 58 03.1**	**-1.2**
X16A				IAmb	IAmb	19 58 13.4	
	comp=Z,4.8nm,0.9s						
O19K	**Port Alsworth**	**82.35**	**11**	P	**P**	**19 58 02.6**	**-0.9**
O19K				IAmb	IAmb	19 58 04.6	
	comp=Z,9.9nm,0.9s						
I07A	**Izee**	**82.61**	**37**	P	**P**	**19 58 05.8**	**+0.4**
U15A	**North Rim**	**82.80**	**47**	P	**P**	**19 58 07.3**	**+0.6**
K15K	**Wolf Creek Mou**	**83.32**	**7**	P	**P**	**19 58 09.2**	**+0.8**
SLKM	**Skilak Lake**	**83.42**	**13**	P	**P**	**19 58 09.1**	**+0.1**
SLKM				IAmb	IAmb	19 58 09.8	
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**84.17**	**344**	P	**P**	**19 58 11.4**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=137,slow=7.8,SNR=4.5						
	comp=Z,1.7nm,0.5s						
SUA	**Susitna One**	**84.19**	**12**	P	**P**	**19 58 12.3**	**-0.7**
SUA				IAmb	IAmb	19 58 51.4	
	comp=Z,6.5nm,0.7s						
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**19 58 23.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=158,slow=3.9,SNR=3.4						
	comp=Z,0.8nm,0.8s						
TRF	**Thorofare Moun**	**86.10**	**11**	P	**P**	**19 58 22.0**	**-0.5**
TRF				IAmb	IAmb	19 58 22.8	
	comp=Z,9.6nm,0.8s						
RND	**Reindeer**	**86.33**	**12**	P	**P**	**19 58 23.5**	**0.0**
RND				IAmb	IAmb	19 58 24.9	
	comp=Z,16nm,1.2s						
MCK	**McKinley**	**86.61**	**12**	P	**P**	**19 58 24.4**	**-0.4**
MCK				IAmb	IAmb	19 58 25.5	
	comp=Z,8.2nm,1.1s						
SEY	**Seymchan**	**86.70**	**346**	P	**P**	**19 58 24.6**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=144,slow=5.7,SNR=21						
	comp=Z,5.2nm,0.7s						
M26K	**Nabesna, AK**	**86.72**	**15**	P	**P**	**19 58 26.1**	**+0.7**
M26K				IAmb	IAmb	19 58 26.8	
	comp=Z,8.6nm,1.1s						
M27K	**Edge Creek, AK**	**86.96**	**15**	P	**P**	**19 58 27.6**	**+1.0**
M27K				IAmb	IAmb	19 58 28.4	
	comp=Z,9.6nm,1.1s						
MENT	**Mentasta**	**87.01**	**14**	P	**P**	**19 58 25.4**	**-1.4**
MENT				IAmb	IAmb	19 58 28.6	
	comp=Z,5.3nm,1.0s						
PDAR	**Pinedale Array**	**87.88**	**43**	P	**P**	**19 58 31.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=281,slow=7.0,SNR=2.6						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**87.95**	**12**	P	**P**	**19 58 30.8**	**-0.3**
	comp=Z,3.0nm,1.1s,baz=230,slow=5.2,SNR=6.7						
	comp=Z,3.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**91.57**	**289**	P	**P**	**19 58 50.4**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=119,slow=3.5,SNR=11						
	comp=Z,1.1nm,0.8s						
CHTO	**Chiang Mai**	**91.69**	**289**	P	**P**	**19 58 48.8**	**-0.9**
CHTO				IAmb	IAmb	19 58 51.2	
	comp=Z,2.5nm,0.9s						
YKA	**Yellowknife Ar**	**95.84**	**24**	P	**P**	**19 59 07.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=241,slow=4.5,SNR=8.1						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**111.44**	**321**	PKiKP	**PKiKP**	**20 04 12.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=85,slow=3.0,SNR=2.2						
MKAR	**Makanchi Array**	**112.31**	**313**	PKiKP	**PKiKP**	**20 04 15.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=148,slow=1.0,SNR=22						
KURBB	**Kurchatov Arra**	**115.08**	**317**	PKP	**PKiKP**	**20 04 20.4**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=93,slow=1.9,SNR=14						
BVAR	**Borovoye Array**	**120.05**	**320**	PKP	**PKPdf**	**20 04 30.3**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=108,slow=1.4,SNR=18						
ARCES	**ARCESS Array B**	**129.16**	**350**	PKP	**PKPdf**	**20 04 47.6**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=38,slow=4.6,SNR=5.6						
FINES	**FINESS Array B**	**136.16**	**345**	PKP	**PKPdf**	**20 04 59.4**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=112,slow=2.1,SNR=4.7						
AKASG	**Malin Array Be**	**143.72**	**332**	PKP	PKPab	20 05 11.9	-0.7
	comp=Z,0.9nm,0.4s,baz=44,slow=4.3,SNR=15						
EKA	**Eskdalemuir Ar**	**144.81**	**7**	PKP	PKPbc	20 05 16.2	-0.3
	comp=Z,1.3nm,0.4s,baz=330,slow=2.5,SNR=11						
BRTR	**Keskin Array B**	**147.96**	**313**	PKPbc	**PKPbc**	**20 05 25.8**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=139,slow=3.9,SNR=11						
STEB	**Steborice**	**148.53**	**342**	*e*PKP	**PKPbc**	**20 05 27.7**	**+0.5**
STEB				*ex*	x	20 05 32.2	
DPC	**Dobruska-Polom**	**148.54**	**344**	*e*PKP	**PKPbc**	**20 05 27.9**	**+0.6**
DPC				*ex*	x	20 05 32.3	
KRLC	**Kraliky**	**148.67**	**344**	*e*PKP	**PKPbc**	**20 05 28.3**	**+0.6**
KRLC				*ex*	x	20 05 32.7	
MLR	**Muntele Rosu**	**149.02**	**329**	PKPbc	**PKPdf**	**20 05 25.0**	**+0.5**
MAUC	**Maruska**	**149.02**	**342**	*e*PKP	**PKiKP**	**20 05 29.8**	**+0.1**
MAUC				*ex*	x	20 05 34.3	
MMAI	**Mount Meron Ar**	**149.14**	**300**	PKPbc	**PKPbc**	**20 05 29.8**	**+0.4**
	comp

comp=Z,8.3nm,1.5s
ESDC Sonseca Array 159.77 17 PKPab **PKPab 20 06 19.9 +0.4**
comp=Z,0.5nm,0.5s,baz=345,slow=2.8,SNR=6.8

---

*IDC **06** 19:57:42.5±0.7,55.°71N×160.°52E, h0km, mb3.8/15, mbtmp3.8/19, ML3.7/4, MS3.5/4, Error ellipse: s-maj=17.1km s-min=13.2km az=164.0*
*KRSC **06** 19:57:44.6±0.5,55.°72N×160.°45E, h19km±3km, Ml4.3*
*MOS **06** 19:57:44.1±0.9,55.°75N×160.°48E, h21km, mb4.3/2, Error ellipse: s-maj=11.5km s-min=6.2km az=86.0*
*NEIC **06** 19:57:50.2±1.6,55.°4N±0.°1×160.°7E±0.°2, h73km±15km, mb4.1/46, Error ellipse: s-maj=20.0km s-min=15.4km az=114.0*
ISC 06 19:57:45.1±1.0,55.°71N±0.°04×160.°53E±0.°03, h16km±6km, n102, σ1§16/102, mb4.2/37, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.17**	**284**	PN	**Pg**	**19 57 49.0**	**-0.4**
KMNR	**Kamenistaya**	**0.17**	**284**	*e*P	**Pg**	**19 57 49.0**	**-0.4**
BZWR	**Bezymyannyi-We**	**0.25**	**356**	PN	**Pg**	**19 57 50.4**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.25**	**356**	*e*P	**Pg**	**19 57 50.4**	**-0.3**
KIRR	**Kirishev**	**0.26**	**336**	PN	**Pg**	**19 57 50.7**	**-0.2**
KIRR				S	**Sg**	**19 57 55.0**	**+0.2**
KIRR	**Kirishev**	**0.26**	**336**	*e*P	**Pg**	**19 57 50.8**	**-0.2**
KIRR				*e*S	**Sg**	**19 57 55.0**	**+0.2**
KPT	**Kopyto**	**0.31**	**326**	PN	**Pg**	**19 57 51.3**	**-0.3**
KPT	**Kopyto**	**0.31**	**326**	*e*P	**Pg**	**19 57 51.4**	**-0.3**
KRSR	**Krestovskiy**	**0.51**	**2**	PN	**Pg**	**19 57 54.7**	**-0.4**
KRSR				S	**Sg**	**19 58 02.3**	**+0.4**
KRSR	**Krestovskiy**	**0.51**	**2**	*e*P	**Pg**	**19 57 54.7**	**-0.4**
KRSR				*e*S	**Sg**	**19 58 02.4**	**+0.4**
KOZ	**Kozyrevsk**	**0.51**	**313**	PN	**Pg**	**19 57 54.9**	**-0.2**
KOZ	**Kozyrevsk**	**0.51**	**313**	*e*P	**Pg**	**19 57 55.0**	**-0.2**
KLY	**Klyuchi**	**0.60**	**6**	*e*S	**Sb**	**19 58 06.6**	**+1.0**
SRDR	**Sredinnyy**	**0.76**	**323**	PN	**Pg**	**19 57 58.7**	**-1.1**
SRDR				S	**Sg**	**19 58 09.0**	**-0.9**
SRDR	**Sredinnyy**	**0.76**	**323**	*e*P	**Pg**	**19 57 58.8**	**-1.1**
SRDR				*e*S	**Sg**	**19 58 09.0**	**-0.9**
SRKR	**Sorokina**	**1.01**	**20**	PN	**Pg**	**19 58 03.1**	**-1.5**
SRKR	**Sorokina**	**1.01**	**20**	*e*P	**Pg**	**19 58 03.2**	**-1.5**
SMKR	**Semkarok**	**1.02**	**31**	PN	**Pg**	**19 58 03.6**	**-1.1**
SMKR	**Semkarok**	**1.02**	**31**	*e*P	**Pg**	**19 58 03.6**	**-1.1**
ESO	**Esso**	**1.05**	**282**	PN	**Pg**	**19 58 02.7**	**-2.7**
ESO				S	**Sg**	**19 58 16.8**	**-2.4**
ESO	**Esso**	**1.05**	**282**	*e*P	**Pg**	**19 58 02.8**	**-2.7**
ESO				*e*S	**Sg**	**19 58 16.9**	**-2.4**
KBG	**Krutoberegovo**	**1.34**	**65**	PN	**Pn**	**19 58 08.6**	**-0.5**
KBG				S	**Sb**	**19 58 26.7**	**+0.1**
KBG	**Krutoberegovo**	**1.34**	**65**	*e*P	**Pn**	**19 58 08.7**	**-0.5**
KBG				*e*S	**Sb**	**19 58 26.7**	**+0.1**
KBTR	**Krutoberegovo**	**1.38**	**68**	PN	**Pn**	**19 58 08.9**	**-0.8**
KBTR				S	**Sb**	**19 58 27.2**	**-0.6**
KBTR	**Krutoberegovo**	**1.38**	**68**	*e*P	**Pn**	**19 58 09.0**	**-0.8**
KBTR				*e*S	**Sb**	**19 58 27.3**	**-0.6**
PET	**Petropavlovsk**	**2.91**	**203**		**Pn**	**19 58 31.2**	**+0.5**
PET	**Petropavlovsk**	**2.91**	**203**	*e*PN	**Pn**	**19 58 32.9**	**+2.2**
PET				*e*S	**Sn**	**19 59 07.0**	**+1.7**
PET				pmax	pmax		
	comp=Z,110nm,0.7s						
PET				smax	smax		
	comp=E,194nm,0.8s						
PET				smax	smax		
	comp=N,173nm,0.7s						
PEA0B	**Petropavlovsk-**	**3.09**	**214**	Pn	**Pn**	**19 58 33.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**3.09**	**214**	PN	**Pn**	**19 58 33.3**	**+0.1**
PETK	**Petropavlovsk-**	**3.09**	**214**	Pn	**Pn**	**19 58 33.8**	**+0.6**
PETK	**Petropavlovsk-**	**3.09**	**214**	Pn	**Pn**	**19 58 33.4**	**+0.2**
	comp=N,8.9nm,0.3s,baz=58,slow=14,SNR=16						
PETK				Sn	**Sn**	**19 59 13.9**	**+4.1**
	comp=N,3.1nm,0.3s,baz=45,slow=15,SNR=3.5						
	comp=N,25nm,0.6s						
PETK	**Petropavlovsk-**	**3.09**	**214**	PN	**Pn**	**19 58 33.8**	**+0.6**
MA2	**Magadan**	**6.51**	**310**	Pn	Pn	19 59 27.5	+7.3
MA2	**Magadan**	**6.51**	**310**	Pn	**Pn**	**19 59 20.0**	**-0.1**
	comp=N,0.3nm,0.3s,baz=94,slow=16,SNR=4.0						
MA2				LR	LR	20 02 13.5	
	comp=N,308nm,18.9s,baz=96,slow=42						
	comp=N,3.8nm,0.8s						
ASAJ	**Asahikawa**	**16.31**	**232**	Pn	**P**	**20 01 38.5**	**+2.3**
	comp=N,0.4nm,0.3s,baz=61,slow=11,SNR=5.1						
YAK	**Yakutsk**	**17.03**	**304**	Pn	**Pn**	**20 01 43.5**	**+1.2**
YAK				IAmb	IAmb	20 02 02.1	
	comp=Z,8.4nm,0.8s						
YAK	**Yakutsk**	**17.03**	**304**	P	**Pn**	**20 01 43.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=114,slow=19,SNR=5.3						
YAK				LR	LR	20 08 48.9	
	comp=Z,129nm,18.0s,baz=262,slow=39						
	comp=Z,2.3nm,0.4s						
ERM	**Erimo**	**17.77**	**227**	P	**Pn**	**20 01 49.8**	**-1.8**
ERM	**Erimo**	**17.77**	**227**	P	**Pn**	**20 01 49.8**	**-1.8**
ERM				pmax	pmax		
	comp=Z,117nm,1.5s						
KLR	**Kul'dur**	**18.60**	**262**	P	**P**	**20 02 02.2**	**+0.7**
	baz=71,slow=11,SNR=4.4						
KLR				LR	LR	20 10 17.9	
	comp=Z,71nm,18.1s,baz=72,slow=41						
	comp=Z,2.5nm,1.0s						
KLR	**Kul'dur**	**18.60**	**262**	*e*P	**P**	**20 02 02.5**	**+1.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
L14K	**Kuka Creek**	**19.81**	**58**	P	**P**	**20 02 12.8**	**-1.7**
C16K	**Lisburne Hills**	**20.01**	**38**	P	**P**	**20 02 17.5**	**+0.8**
K15K	**Wolf Creek Mou**	**20.37**	**56**	P	**P**	**20 02 19.6**	**-1.0**
TIXI	**Tiksi**	**20.84**	**332**	P	**P**	**20 02 26.6**	**+1.0**
TIXI				IAmb	IAmb	20 02 32.5	
	comp=Z,8.0nm,1.0s						
TIXI	**Tiksi**	**20.84**	**332**	P	**P**	**20 02 26.9**	**+1.2**
	comp=Z,3.1nm,0.4s,baz=138,slow=11,SNR=12						
	comp=Z,3.1nm,0.4s						
TIXI	**Tiksi**	**20.84**	**332**	P	**P**	**20 02 26.6**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**21.51**	**250**	P	**P**	**20 02 34.3**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=48,slow=18,SNR=3.0						
	comp=Z,1.2nm,0.5s						
C18K	**Utukok River**	**21.58**	**38**	P	**P**	**20 02 36.2**	**+2.5**
K17K	**Iditarod**	**21.87**	**55**	P	**P**	**20 02 36.6**	**-0.2**
G18K	**Tagagawik**	**21.93**	**46**	P	**P**	**20 02 38.2**	**+0.7**
H18K	**Honhosa River**	**21.96**	**48**	P	**P**	**20 02 39.0**	**+1.2**
F19K	**Shaleruckik Mo**	**22.43**	**44**	P	**P**	**20 02 43.5**	**+0.8**
F19K				IAmb	IAmb	20 02 46.0	
	comp=Z,5.9nm,1.0s						
G19K	**Purcell Mounta**	**22.60**	**46**	P	**P**	**20 02 44.9**	**+0.2**
D19K	**Kuna River**	**22.63**	**39**	P	**P**	**20 02 45.7**	**+0.8**
D19K				IAmb	IAmb	20 03 05.6	
	comp=Z,18nm,1.4s						
E19K	**Redstone River**	**22.74**	**42**	P	**P**	**20 02 47.3**	**+1.2**
H19K	**Roundabout Mou**	**22.80**	**47**	P	**P**	**20 02 47.6**	**+1.0**
H19K				IAmb	IAmb	20 02 55.4	
	comp=Z,11nm,0.9s						
R16K	**Pilot Point**	**22.85**	**68**	P	**P**	**20 02 46.3**	**-1.0**
F20K	**Avaraart Lake**	**23.26**	**43**	P	**P**	**20 02 52.2**	**+0.8**
J20K	**Nowinta River**	**23.73**	**51**		**P**	**20 02 57.0**	**+0.9**
J20K				IAmb	IAmb	20 02 58.2	
	comp=Z,11nm,1.0s						
G21K	**Allakaket**	**24.07**	**45**	P	**P**	**20 03 00.5**	**+1.2**
B21K	**Ikpikpuk River**	**24.11**	**37**	P	**P**	**20 03 00.0**	**+0.4**
B21K				IAmb	IAmb	20 03 06.8	
	comp=Z,9.0nm,0.8s						
F21K	**Alatna River**	**24.15**	**43**	P	**P**	**20 03 00.8**	**+0.8**
F21K				IAmb	IAmb	20 03 02.5	
	comp=Z,7.3nm,1.0s						
H21K	**Melozitna Rive**	**24.32**	**47**	IAmb	IAmb	20 03 05.2	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**24.45**	**228**	P	**P**	**20 03 01.3**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=21,slow=13,SNR=2.2						
	comp=Z,1.3nm,0.8s						
D22K	**Ayikyak River**	**24.65**	**39**	IAmb	IAmb	20 03 07.6	
	comp=Z,12nm,1.1s						
I21K	**Tanana**	**24.66**	**48**	IAmb	IAmb	20 03 07.6	
	comp=Z,10nm,1.2s						
E22K	**Anaktuvuk Pass**	**24.88**	**41**	IAmb	IAmb	20 03 15.0	
	comp=Z,10nm,1.1s						
D23K	**Nanushuk River**	**25.38**	**39**		**P**	**20 03 12.3**	**+1.1**
D23K				IAmb	IAmb	20 03 19.4	
	comp=Z,4.4nm,0.8s						
TRF	**Thorofare Moun**	**25.48**	**52**	P	**P**	**20 03 13.0**	**+0.7**
TRF				IAmb	IAmb	20 03 42.9	
	comp=Z,9.5nm,1.2s						
E23K	**Chandalar**	**25.69**	**42**	P	**P**	**20 03 14.1**	**0.0**
TOLK	**Toolik Lake Re**	**25.75**	**40**	IAmb	IAmb	20 03 35.7	
	comp=Z,11nm,1.1s						
I23K	**Minto, Yukon-K**	**25.76**	**48**	IAmb	IAmb	20 03 41.2	
	comp=Z,8.9nm,1.3s						
E24K	**Your Creek**	**26.11**	**42**	IAmb	IAmb	20 03 24.3	
	comp=Z,4.5nm,0.9s						
WRH	**Wood River Hil**	**26.35**	**50**	IAmb	IAmb	20 03 24.6	
	comp=Z,7.3nm,1.0s						
CCB	**Clear Creek Bu**	**26.46**	**49**	IAmb	IAmb	20 03 25.0	
	comp=Z,5.9nm,1.1s						
G24K	**Hadweenzic Riv**	**26.49**	**45**	IAmb	IAmb	20 04 03.0	
	comp=Z,6.2nm,1.1s						
ILAR	**Eielson Array**	**26.84**	**49**	P	**P**	**20 03 23.0**	**-1.4**
	comp=Z,1.2nm,1.1s,baz=264,slow=8.6,SNR=7.4						
	comp=Z,1.2nm,1.1s						
D25K	**Kavik River**	**26.95**	**39**	IAmb	IAmb	20 03 34.7	
	comp=Z,4.0nm,0.8s						
E25K	**Arctic Village**	**27.21**	**41**	P	**P**	**20 03 28.0**	**+0.3**
E25K				IAmb	IAmb	20 03 35.4	
	comp=Z,6.6nm,1.3s						
BMAR	**Burnt Mountain**	**27.60**	**43**	P	**P**	**20 03 32.4**	**+1.1**
SCRK	**Sand Creek**	**28.19**	**50**	P	**P**	**20 03 36.4**	**-0.3**
G27K	**Doyon Strip**	**28.79**	**44**	IAmb	IAmb	20 04 04.5	
	comp=Z,6.2nm,1.5s						
BCAR	**Beaver Creek A**	**29.33**	**52**	P	**P**	**20 03 46.2**	**-0.5**
G29M	**Pine Creek**	**30.20**	**44**	P	**P**	**20 03 55.4**	**+1.1**
G29M				IAmb	IAmb	20 04 06.6	
	comp=Z,6.1nm,1.4s						
G30M	**tAoh Zrail Nji**	**30.88**	**43**	P	**P**	**20 04 00.8**	**+0.4**
INK	**Inuvik**	**31.66**	**40**	P	**P**	**20 04 07.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=253,slow=9.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**33.63**	**280**	P	**P**	**20 04 24.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=54,slow=9.0,SNR=3.5						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**41.09**	**45**	P	**P**	**20 05 26.0**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=302,slow=8.1,SNR=7.8						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**41.09**	**45**	P	**P**	**20 05 26.0**	**-1.5**
KURK	**Kurchatov**	**46.60**	**300**	P	**P**	**20 06 12.4**	**+0.4**
KURK	**Kurchatov**	**46.60**	**300**	P	**P**	**20 06 12.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KURBB	**Kurchatov Arra**	**46.71**	**300**	P	**P**	**20 06 12.6**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=57,slow=8.1,SNR=6.0						
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**48.99**	**307**	P	**P**	**20 06 30.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=65,slow=7.3,SNR=8.2						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**54.65**	**72**	P	**P**	**20 07 14.6**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=306,slow=7.7,SNR=11						
	comp=Z,2.3nm,0.7s						
PDAR	**Pinedale Array**	**56.05**	**63**	P	**P**	**20 07 23.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=321,slow=2.1,SNR=4.1						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**57.82**	**336**	P	**P**	**20 07 35.6**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=19,slow=6.5,SNR=3.9						
	comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**69.40**	**68**	P	**P**	**20 08 52.3**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=317,slow=6.8,SNR=5.1						
	comp=Z,0.7nm,0.6s						
GNI	**Garni**	**70.07**	**313**	LR	LR	20 45 19.6	
	comp=Z,75nm,18.7s,baz=302,slow=41						
WRA	**Warramunga Arr**	**78.57**	**205**	P	**P**	**20 09 44.7**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=17,slow=5.4,SNR=4.5						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**82.25**	**205**	P	**P**	**20 10 05.2**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=14,slow=3.8,SNR=8.2						
	comp=Z,1.6nm,1.0s						
QSPA	**South Pole Qui**	**145.46**	**180**	PKPbc	**PKPdf**	**20 17 18.6**	**-2.2**
	comp=Z,1.5nm,0.6s,baz=326,slow=2.6,SNR=5.2						

---

*IDC **06** 19:58:05.0±1.5,5.°36N×93.°17E, h0km, mb3.6/6, mbtmp3.7/9, ML3.5/2, MS2.9/2, Error ellipse: s-maj=44.2km s-min=20.0km az=55.0*
ISC 06 19:58:09.0±1.0,5.°3N±0.°1×93.°2E±0.°1, h28km, n18, σ0§85/10, mb3.5/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.25**	**113**	Pn	**Pn**	**19 59 40.7**	**+1.1**
	0.5nm,0.3s,baz=327,slow=20,SNR=1.6						
PSI				Sn	**Sn**	**20 00 48.4**	**-1.8**
	1.9nm,0.3s,baz=343,slow=19,SNR=4.0						
	1.6nm,0.3s						
PALK	**Pallekele**	**12.56**	**280**	Pn	**Pn**	**20 01 05.7**	**-0.3**
	0.5nm,0.3s,baz=84,slow=15,SNR=4.4						
PALK				Sn	Sn	20 03 14.1	-11
	1.1nm,0.3s,baz=170,slow=22,SNR=4.6						
PALK				LR	LR	20 04 41.3	
	comp=Z,85nm,19.8s,baz=54,slow=32						
	7.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.21**	**23**	Pn	**Pn**	**20 01 28.8**	**+0.3**
	2.4nm,1.0s,baz=219,slow=14,SNR=22						
CMAR				LR	LR	20 06 51.0	
	comp=Z,30nm,18.1s,baz=200,slow=37						
H08S3	**Diego Garcia H**	**24.33**	**238**	T	T	20 28 26.5	
	baz=58,slow=75,SNR=976						
H08S2	**Diego Garcia H**	**24.33**	**238**	T	T	20 28 31.1	
	baz=58,slow=75,SNR=1164						
H08S1	**Diego Garcia H**	**24.35**	**238**	T	T	20 28 32.3	
	baz=58,slow=75,SNR=1303						
MKAR	**Makanchi Array**	**42.37**	**349**	P	**P**	**20 06 00.7**	**-0.2**
	0.3nm,0.5s,baz=166,slow=9.2,SNR=8.1						
	0.3nm,0.5s						
SONM	**Songino Array**	**43.84**	**13**	P	**P**	**20 06 12.6**	**-0.3**
	0.5nm,1.0s,baz=190,slow=7.5,SNR=8.0						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**47.62**	**123**	P	**P**	**20 06 43.3**	**+0.4**
	0.7nm,0.7s,baz=302,slow=9.0,SNR=5.5						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**48.95**	**353**	P	**P**	**20 06 53.0**	**+0.3**
	0.3nm,0.3s,baz=156,slow=8.1,SNR=4.5						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**49.07**	**128**	P	**P**	**20 06 54.4**	**+0.3**
	0.2nm,0.8s,baz=299,slow=8.3,SNR=6.7						
	0.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**63.06**	**211**	T	T	21 16 59.2	
	baz=47,slow=75,SNR=416						
H04N1	**CROZET ISLANDS**	**63.07**	**211**	T	T	21 16 58.4	
	baz=47,slow=75,SNR=342						
H04N3	**CROZET ISLANDS**	**63.08**	**211**	T	T	21 16 57.0	
	baz=47,slow=75,SNR=445						
H04S1	**CROZET ISLANDS**	**63.47**	**210**	T	T	21 17 24.4	
	baz=47,slow=76,SNR=10						
H04S3	**CROZET ISLANDS**	**63.48**	**210**	T	T	21 17 26.5	
	baz=47,slow=76,SNR=21						
H04S2	**CROZET ISLANDS**	**63.48**	**210**	T	T	21 17 25.7	
	baz=47,slow=76,SNR=14						
TIXI	**Tiksi**	**69.90**	**11**	P	**P**	**20 09 16.8**	**-0.3**
	1.9nm,0.3s,baz=267,slow=2.3,SNR=3.7						
	1.9nm,0.3s						

---

*NEIC **06** 20:04:44.7±1.8,61.°39N±0.°04×149.°96W±0.°05, h45km±3km, Error ellipse: s-maj=5.3km s-min=3.0km az=163.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.10; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$1.27; $M_{r\theta}$1.07; $M_{\theta\phi}$0.07; $M_{\phi r}$1.70; Fault plane solution: $M_0$2.34000×10^{15} NP1: ϕ_s341.29000°, δ19.85000°, λ-134.36000°. NP2: ϕ_s207.40000°, δ75.95000°, λ-75.84000°. Principal axes: T 2.2993, Plg30.0000°, Azm286.0000°; N 0.0834, Plg14.0000°, Azm24.0000°; P -2.3828, Plg57.0000°, Azm136.0000°;*
*IDC **06** 20:04:44.9±2.0,61.°42N×150.°42W, h60km±19km, mb3.9/21, mbtmp4.1/26, MS3.5/7 Error ellipse: s-maj=15.6km s-min=11.8km az=34.0*
*ANF **06** 20:04:45.0±0.2,61.°34N×150.°09W, h34km±1km, ML4.5/81, ML4.5/105, Error ellipse: s-maj=1.2km s-min=0.8km az=0.0*
*NEIC **06** 20:04:45.8,61.°41N×150.°01W, h39km*
*AEIC **06** 20:04:46.0±2.0,61.°41N±0.°02×150.°03W±0.°06, h34km±6km, ML4.1, mb4.3/28(NEIC), ML4.3/192(NEIC), Mwr4.2/146(NEIC), Error ellipse: s-maj=4.2km s-min=3.4km az=69.0*
ISC 06 20:04:44.3±0.6,61.°37N±0.°03×150.°11W±0.°03, h48km±5km, n430, σ1§10/390, mb4.2/38, MS3.9/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**193**		**Pn**	**20 04 53.5**	**+0.8**
SUA	**Susitna One**	**0.32**	**287**		**Sn**	**20 05 00.6**	**+0.4**
SUA	**Susitna One**	**0.32**	**287**		**Pn**	**20 04 53.0**	**-0.7**
SUA	**Susitna One**	**0.32**	**287**	IAML		20 05 01.0	
	comp=E,44μm,0.7s						
SUA				IAML		20 05 01.3	
	comp=N,31μm,0.8s						
SUA	**Susitna One**	**0.32**	**287**	P	**Pn**	**20 04 53.4**	**-0.2**
	baz=111,SNR=1000						
SUA				S	**Sn**	**20 05 00.4**	**+0.1**
	baz=111						
RC01	**Rabbit Creek A**	**0.34**	**147**		**Pn**	**20 04 53.2**	**-0.4**
RC01				IAML		20 05 00.8	
	comp=E,19μm,0.6s						
RC01	**Rabbit Creek A**	**0.34**	**147**		**Sn**	**20 05 00.4**	**+0.1**
RC01	**Rabbit Creek A**	**0.34**	**147**	P	**Pn**	**20 04 53.4**	**-0.3**
	baz=326,SNR=1000						
RC01				S	**Sn**	**20 05 00.2**	**-0.1**
	baz=326						
M22K	**Willow**	**0.38**	**359**		**Pn**	**20 04 53.4**	**-0.8**
M22K				IAML		20 05 05.2	
	comp=N,31μm,0.6s						
M22K	**Willow**	**0.38**	**359**		**Sn**	**20 05 00.9**	**-0.2**
M22K	**Willow**	**0.38**	**359**	P	**Pn**	**20 04 53.5**	**-0.6**
	baz=178,SNR=460						
M22K				S	**Sn**	**20 05 01.0**	**0.0**
	baz=178						
PMR	**Palmer**	**0.52**	**64**		**Sn**	**20 05 03.3**	**-0.5**
PMR	**Palmer**	**0.52**	**64**		**Pn**	**20 04 55.0**	**-0.7**
PMR	**Palmer**	**0.52**	**64**	IAML		20 05 04.0	
	comp=E,19μm,0.4s						
PMR				IAML		20 05 04.1	
	comp=N,25μm,0.6s						
PMR	**Palmer**	**0.52**	**64**	P	**Pn**	**20 04 55.1**	**-0.6**
	baz=241,SNR=1000						
PMR				S	**Sn**	**20 05 03.3**	**-0.5**
	baz=241						
GHO	**Glory Hole Cre**	**0.70**	**54**		**Sn**	**20 05 08.0**	**+0.1**
GHO	**Glory Hole Cre**	**0.70**	**54**		**Pn**	**20 04 57.6**	**-0.5**
GHO	**Glory Hole Cre**	**0.70**	**54**	IAML		20 05 09.4	
	comp=E,20μm,0.5s						
GHO				IAML		20 05 10.2	
	comp=N,20μm,0.4s						
CAPN	**Captain Cook N**	**0.79**	**220**		**Pn**	**20 05 00.6**	**+1.5**
CAPN	**Captain Cook N**	**0.79**	**220**	P	**Pn**	**20 05 00.6**	**+1.5**
	baz=42,SNR=90						
KNK	**Knik Glacier**	**0.80**	**86**		**Pn**	**20 04 59.2**	**0.0**
KNK				IAML		20 05 13.8	
	comp=N,14μm,0.6s						
KNK				IAML		20 05 15.0	
	comp=E,9μm,0.4s						
KNK	**Knik Glacier**	**0.80**	**86**		**Sn**	**20 05 10.6**	**+0.4**
KNK	**Knik Glacier**	**0.80**	**86**	P	**Pn**	**20 04 59.3**	**0.0**
	baz=265,SNR=1000						
KNK				S	**Sn**	**20 05 10.8**	**+0.6**
	baz=265						
STLK	**Strandline Lak**	**0.84**	**280**		**Pn**	**20 05 00.1**	**+0.2**
STLK				IAML		20 05 12.8	
	comp=E,9μm,0.6s						
SLKM	**Skilak Lake**	**0.87**	**184**		**Pn**	**20 04 59.9**	**-0.4**
SLKM				IAML		20 05 14.7	
	comp=N,9μm,0.5s						
SLKM				IAML		20 05 15.4	
	comp=E,10μm,0.6s						
O22K	**Cooper Landing**	**0.91**	**168**		**Pn**	**20 05 00.7**	**0.0**
O22K	**Cooper Landing**	**0.91**	**168**	P	**Pn**	**20 05 00.8**	**0.0**
	baz=349,SNR=271						
SKT	**Skwentna**	**0.91**	**313**		**Sn**	**20 05 13.2**	**+0.2**
SKT	**Skwentna**	**0.91**	**313**		**Pn**	**20 05 00.7**	**-0.1**
SKT	**Skwentna**	**0.91**	**313**	IAML		20 05 13.7	
	comp=E,12μm,0.5s						
SKT				IAML		20 05 14.7	
	comp=N,19μm,0.6s						
SKT	**Skwentna**	**0.91**	**313**	P	**Pn**	**20 05 00.7**	**-0.1**
	baz=132,SNR=645						
SKT				S	**Sn**	**20 05 13.2**	**+0.2**
	baz=132						
SML	**Sawmill**	**0.96**	**62**		**Sn**	**20 05 14.7**	**+0.6**
SML	**Sawmill**	**0.96**	**62**		**Pn**	**20 05 01.2**	**-0.2**
SML	**Sawmill**	**0.96**	**62**	IAML		20 05 17.7	
	comp=N,8μm,0.6s						
SML				IAML		20 05 18.0	
	comp=E,5μm,0.7s						
SML	**Sawmill**	**0.96**	**62**	P	**Pn**	**20 05 01.3**	**-0.2**
	baz=242,SNR=907						
SML				S	**Sn**	**20 05 14.2**	**+0.1**
	baz=242						
SPU	**Mount Spurr**	**0.96**	**259**		**Pn**	**20 05 01.2**	**-0.2**
SPU				IAML		20 05 15.7	
	comp=N,5μm,0.7s						
SPU	**Mount Spurr**	**0.96**	**259**		**Sn**	**20 05 14.6**	**+0.5**
PWL	**Port Wells**	**1.00**	**120**		**Sn**	**20 05 16.3**	**+1.2**
PWL	**Port Wells**	**1.00**	**120**		**Pn**	**20 05 02.1**	**0.0**
PWL	**Port Wells**	**1.00**	**120**	IAML		20 05 17.6	
	comp=N,22μm,0.4s						
PWL				IAML		20 05 18.6	
	comp=E,34μm,0.9s						
PWL	**Port Wells**	**1.00**	**120**	P	**Pn**	**20 05 02.1**	**0.0**
	baz=300,SNR=1000						
SPCR	**Spurr Chakacha**	**1.03**	**261**		**Pn**	**20 05 02.6**	**+0.2**
SPCR	**Spurr Chakacha**	**1.03**	**261**	P	**Pn**	**20 05 02.6**	**+0.

KLU	Klutina	2.02	85		Pn	20 05 15.8 -0.1
KLU				IAML		20 05 48.8
	comp=N,3µm,0.5s					
KLU	Klutina	2.02	85	P	Pn	20 06 16.0 +0.1
	baz=267,SNR=477					
HIN	Hinchinbrook I	2.02	117		Pn	20 05 15.2 -0.7
ILSW	Iliamna Southw	2.04	228		Pn	20 05 17.0 +0.7
ILSW				IAML		20 05 46.3
	comp=E,1µm,0.9s					
TRF	Thorofare Moun	2.09	358		Pn	20 05 17.4 +0.4
TRF	Thorofare Moun	2.09	358	P	Pn	20 05 17.4 +0.4
	baz=177,SNR=467					
L20K	Farewell, AK	2.10	304		Pn	20 05 17.6 +0.5
L20K	Farewell, AK	2.10	304	P	Pn	20 05 17.8 +0.7
	baz=121,SNR=594					
DIV	Divide	2.11	95		Pn	20 05 17.2 0.0
M19K	Big River Lodg	2.11	287		Pn	20 05 17.9 +0.7
M19K	Big River Lodg	2.11	287	P	Pn	20 05 17.9 +0.7
	baz=104					
RND	Reindeer	2.12	15	IAML		20 05 56.7
	comp=E,2µm,0.7s					
N19K	Bonanza Creek	2.20	257	P	Pn	20 05 19.2 +0.8
	baz=74,SNR=95					
KTH	Kantishna Hill	2.22	351	Pn	Pn	20 05 19.4 +0.7
KTH				IAML		20 05 50.2
	comp=E,2µm,0.6s					
KTH				IAML		20 05 53.6
	comp=N,2µm,0.8s					
CAST	Castle Rocks	2.25	337		Pn	20 05 19.0 -0.1
CAST	Castle Rocks	2.25	337	P	Pn	20 05 19.9 +0.8
	baz=155,SNR=200					
EYAK	Cordova Ski Ar	2.28	109		Pn	20 05 18.8 -0.6
EYAK	Cordova Ski Ar	2.28	109	P	Pn	20 05 18.9 -0.6
	baz=292,SNR=121					
P19K	Oil Pt	2.31	223	P	Pn	20 05 20.9 +1.0
	baz=41,SNR=74					
O19K	Port Alsworth	2.38	242	IAML		20 05 57.1
	comp=N,2µm,0.5s					
O19K	Port Alsworth	2.38	242	P	Pn	20 05 21.1 +0.3
	baz=59,SNR=69					
L19K	White Mountain	2.40	292		Pn	20 05 22.0 +0.9
L19K	White Mountain	2.40	292	IAML		20 06 05.1
	comp=E,1µm,1.6s					
L19K				IAML		20 06 09.6
	comp=N,1µm,0.8s					
L19K	White Mountain	2.40	292	P	Pn	20 05 22.0 +0.9
	baz=108					
MCK	McKinley	2.43	12		Pn	20 05 22.6 +1.0
MCK	McKinley	2.43	12	P	Pn	20 05 23.2 +1.6
	baz=193,SNR=287					
HARP	HAARP	2.56	64		Pn	20 05 24.5 +1.2
HARP	HAARP	2.56	64	P	Pn	20 05 24.4 +1.0
	baz=248,SNR=211					
N25K	Chitina, Valde	2.65	82	IAML		20 06 07.1
	comp=N,1µm,0.6s					
N25K	Chitina, Valde	2.65	82	P	Pn	20 05 24.6 0.0
	baz=267,SNR=345					
Q23K	Middleton Isla	2.70	135	Pn	Pn	20 05 23.2 -1.9
Q23K				IAML		20 06 18.4
	comp=E,1µm,0.7s					
Q23K				IAML		20 06 25.2
	comp=N,1µm,1.3s					
Q23K	Middleton Isla	2.70	135	P	Pn	20 05 25.2 +0.1
	baz=318					
BMRM	Bremner River	2.70	96	P	Pn	20 05 24.7 -0.5
	baz=280					
PAX	Paxson	2.70	52	Pn	Pn	20 05 26.1 +0.8
PAX	Paxson	2.70	52	P	Pn	20 05 27.4 +2.0
	baz=235,SNR=151					
K20K	Telida	2.72	319		Pn	20 05 25.8 +0.3
K20K	Telida	2.72	319	IAML		20 06 19.4
	comp=E,991nm,0.7s					
K20K	Telida	2.72	319	P	Pn	20 05 25.9 +0.5
	baz=136					
CHUM	Lake Minchumin	2.72	339		Pn	20 05 25.1 -0.3
CHUM	Lake Minchumin	2.72	339	P	Pn	20 05 25.8 +0.4
	baz=157,SNR=255					
GOAT	Goat Mountain	2.74	104		Pn	20 05 25.4 -0.4
M18K	Stony River	2.75	275		Pn	20 05 26.5 +0.6
M18K	Stony River	2.75	275	P	Pn	20 05 26.5 +0.6
	baz=91					
BPAW	Bear Paw Mtn.	2.77	352	P	Pn	20 05 26.2 0.0
	baz=171,SNR=51					
WACK	Wrangell Chich	2.83	75		Pn	20 05 27.3 +0.2
BWN	Browne	2.83	6		Pn	20 05 28.5 +1.6
N18K	Kilae Creek	2.90	259	IAML		20 06 03.0
	comp=N,634nm,0.7s					
N18K	Kilae Creek	2.90	259	P	Pn	20 05 28.4 +0.4
	baz=74,SNR=110					
O18K	Koktuh Hills	2.94	241		Pn	20 05 29.1 +0.6
O18K	Koktuh Hills	2.94	241	IAML		20 06 31.4
	comp=E,598nm,1.3s					
O18K				IAML		20 06 32.9
	comp=N,895nm,1.0s					
O18K	Koktuh Hills	2.94	241	P	Pn	20 05 28.8 +0.3
	baz=57,SNR=73					
SYI	Shuyak Island	3.00	203	Pn	Pn	20 05 29.4 +0.2
SYI				IAML		20 06 15.0
	comp=E,764nm,0.8s					
SYI				IAML		20 06 15.9
	comp=N,600nm,0.7s					
Q20K	Shuyak Island	3.00	204	P	Pn	20 05 29.6 +0.4
	baz=22,SNR=24					
Q19K	Cape Douglas,	3.02	217		Pn	20 05 30.3 +0.7
Q19K	Cape Douglas,	3.02	217	P	Pn	20 05 29.8 +0.1
	baz=35,SNR=62					
GLB	Gilahina Butte	3.03	86		Pn	20 05 29.4 -0.3
GLB	Gilahina Butte	3.03	86	IAML		20 06 20.3
	comp=N,1µm,0.7s					
KAIM	Kayak Island	3.15	115	P	Pn	20 05 29.9 -1.6
	baz=299					
K24K	Donnelly Dome	3.16	37	P	Pn	20 05 31.9 +0.3
	baz=221,SNR=227					
TTA	Tatalina	3.18	302	Pn	Pn	20 05 32.1 +0.3
TTA				IAML		20 06 34.9
	comp=N,567nm,0.9s					
TTA	Tatalina	3.18	302	P	Pn	20 05 32.3 +0.4
	baz=117,SNR=328					
VRDI	Verde Repeater	3.22	90	Pn	Pn	20 05 31.8 -0.7
VRDI				IAML		20 06 29.6
	comp=E,508nm,1.0s					
VRDI				IAML		20 06 30.2
	comp=N,549nm,0.8s					
P18K	Big Mountain,	3.22	234	Pn	Pn	20 05 33.2 +0.7
P18K	Big Mountain,	3.22	234	P	Pn	20 05 32.5 0.0
	baz=50,SNR=6.9					
L18K	Granite Mounta	3.24	288		Pn	20 05 33.0 +0.5
L18K	Granite Mounta	3.24	288	IAML		20 06 30.9
	comp=E,631nm,0.7s					
L18K	Granite Mounta	3.24	288	P	Pn	20 05 33.2 +0.6
	baz=103					
WRH	Wood River Hil	3.25	16		Pn	20 05 33.3 +0.6
NEA2	Nenana	3.27	8		Pn	20 05 32.7 -0.3
NEA2	Nenana	3.27	8	P	Pn	20 05 33.8 +0.8
	baz=188,SNR=59					
J20K	Nowinta River	3.37	328		Pn	20 05 34.5 +0.1
J20K				IAML		20 06 14.9
	comp=N,655nm,0.5s					
J20K				IAML		20 06 15.2
	comp=E,586nm,0.5s					
J20K	Nowinta River	3.37	328	P	Pn	20 05 34.6 +0.2
	baz=145					
SUCK	Suckling Hills	3.37	110	IAML		20 06 36.6
SUCK				IAML		20 06 52.4
	comp=N,850nm,0.7s					
SUCK				IAML		20 06 52.4
	comp=E,545nm,1.3s					
HDA	Harding Lake	3.38	24	IAML		20 06 32.8
	comp=N,828nm,0.5s					
HDA				IAML		20 06 32.9
	comp=E,622nm,0.5s					
HDA	Harding Lake	3.38	24	P	Pn	20 05 35.2 +0.8
	baz=206,SNR=32					
MENT	Mentasta	3.39	60		Pn	20 05 34.9 +0.2
RIDG	Independent Ri	3.41	43	P	Pn	20 05 35.9 +1.0
	baz=228,SNR=153					
CCB	Clear Creek Bu	3.45	17		Pn	20 05 36.2 +0.7
CCB	Clear Creek Bu	3.45	17	IAML		20 06 33.1
	comp=E,425nm,0.9s					
M26K	Nabesna, AK	3.52	70	IAML		20 06 37.5
	comp=N,866nm,0.6s					
M26K				IAML		20 06 41.5
	comp=E,464nm,0.8s					
M26K	Nabesna, AK	3.52	70	P	Pn	20 05 37.1 +0.6
	baz=256					
M17K	Holitna River	3.53	274	IAML		20 06 49.3
	comp=N,776nm,1.1s					
M17K	Holitna River	3.53	274	P	Pn	20 05 37.2 +0.7
	baz=88,SNR=100					
N17K	Nushagak Hills	3.55	259	Pn	Pn	20 05 37.0 +0.1
N17K				IAML		20 06 19.3
	comp=E,535nm,0.8s					
N17K				IAML		20 06 46.3
	comp=N,365nm,1.0s					
N17K	Nushagak Hills	3.55	259	P	Pn	20 05 37.3 +0.4
	baz=74,SNR=90					
L26K	Log Cabin Wild	3.58	59	IAML		20 06 34.5
	comp=N,744nm,0.4s					
L26K	Log Cabin Wild	3.58	59	P	Pn	20 05 38.5 +1.2
	baz=245,SNR=77					
BGLC	Bering Glacier	3.58	108	P	Pn	20 05 37.7 +0.5
	baz=293					
DOT	Dot Lake	3.62	48		Pn	20 05 38.4 +0.6
J19K	Poorman	3.66	318	IAML		20 06 53.2
	comp=E,499nm,1.1s					
J19K				IAML		20 06 54.9
	comp=N,640nm,0.9s					
J19K	Poorman	3.66	318	P	Pn	20 05 38.6 +0.3
	baz=134					
COLA	College	3.66	15		Pn	20 05 38.6 +0.3
COLA	College	3.66	15	P	Pn	20 05 40.0 +1.6
	baz=197					
IL31		3.71	22		Pn	20 05 39.4 +0.3
ILAR	Eielson Array	3.71	22	Pn	Pn	20 05 40.1 +1.0
ILAR	Eielson Array	3.71	22	P	Pn	20 05 40.4 +1.2
	comp=N,12nm,0.4s,baz=206,slow=14,SNR=113					
ILAR				S	Sn	20 06 27.8 +6.3
	comp=N,41nm,0.5s,baz=207,slow=25,SNR=6.0					
ILAR				LR	LR	20 07 10.4
	comp=N,220nm,20.1s,baz=60,slow=39					
J18K	Innoko River	3.72	307	IAML		20 06 22.6
	comp=N,463nm,0.8s					
J18K	Innoko River	3.72	307	P	Pn	20 05 39.9 +0.7
	baz=122					
O17K	Koliganek Bris	3.80	248	P	Pn	20 05 40.8 +0.5
	baz=62,SNR=14					
I23K	Minto, Yukon-K	3.81	5		Pn	20 05 40.6 +0.3
I23K	Minto, Yukon-K	3.81	5	IAML		20 06 51.5
	comp=N,475nm,1.2s					
I23K	Minto, Yukon-K	3.81	5	P	Pn	20 05 41.3 +0.9
	baz=185,SNR=156					
KDAK	Kodiak Island	3.81	200	Pn	Pn	20 05 39.3 -1.1
KDAK				IAML		20 06 46.6
	comp=N,367nm,0.8s					
KDAK				IAML		20 06 48.2
	comp=N,527nm,0.9s					
KDAK	Kodiak Island	3.81	200	P	Pn	20 05 39.0 -1.4
	comp=N,13nm,0.4s,baz=247,slow=4.3,SNR=65					
KDAK				S	Sn	20 06 35.2 +11
	comp=N,170nm,0.6s,baz=331,slow=21,SNR=8.8					
KDAK				LR	LR	20 07 35.8
	comp=N,384nm,18.4s,baz=230,slow=45					
KDAK	Kodiak Island	3.81	200	P	Pn	20 05 39.6 -0.9
	baz=18					
SCRK	Sand Creek	3.85	45		Pn	20 05 41.1 +0.1
SCRK	Sand Creek	3.85	45	IAML		20 06 45.7
	comp=E,645nm,0.6s					
SCRK				IAML		20 06 47.2
	comp=N,421nm,0.7s					
SCRK	Sand Creek	3.85	45	P	Pn	20 05 42.0 +0.9
	baz=229,SNR=41					
J25K	Salcha River,	3.91	32		Pn	20 05 43.0 +1.2
J25K	Salcha River,	3.91	32	IAML		20 06 35.7
	comp=E,598nm,0.6s					
J25K	Salcha River,	3.91	32	P	Pn	20 05 43.4 +1.6
	baz=215,SNR=92					
I21K	Tanana	3.92	348	P	Pn	20 05 43.0 +1.1
	baz=167					
POKR	Poker Plat Res	3.95	17		Pn	20 05 43.7 +1.4
POKR	Poker Plat Res	3.95	17	IAML		20 07 00.0
	comp=E,338nm,1.0s					
POKR	Poker Plat Res	3.95	17	P	Pn	20 05 43.9 +1.5
	baz=199,SNR=26					
L17K	Donlin	3.97	285	P	Pn	20 05 43.1 +0.6
	baz=98,SNR=142					
I20K	Naaghedeneel	3.97	332	P	Pn	20 05 43.2 +0.6
	baz=148					
M27K	Edge Creek, AK	4.02	72	P	Pn	20 05 44.1 +0.7
	baz=259					
KELA	Mount Kelaz	4.08	226		Pn	20 05 45.1 +0.8
K17K	Iditarod	4.09	293	IAML		20 07 05.3
	comp=E,461nm,1.2s					
K17K				IAML		20 07 07.2
	comp=N,442nm,1.2s					
K17K	Iditarod	4.09	293	P	Pn	20 05 45.0 +0.8
	baz=106,SNR=142					
MESA	MESA	4.18	103	IAML		20 06 59.4
	comp=E,478nm,0.9s					
MESA				IAML		20 07 01.1
	comp=N,545nm,0.7s					
MESA	MESA	4.18	103	P	Pn	20 05 45.0 -0.7
	baz=290					
ANCK	Angle Creek	4.19	223		Pn	20 05 46.6 +1.0
L27K	Beaver Creek,	4.23	63	P	Pn	20 05 46.8 +0.6
	baz=250					
BCAR	Beaver Creek A	4.25	63	Pn	Pn	20 05 46.9 +0.4
Q16K	King Salmon	4.25	233	P	Pn	20 05 47.6 +1.2
	baz=48					
Q17K	Contact Creek	4.27	226	P	Pn	20 05 47.4 +0.6
	baz=41,SNR=14					
M16K	Timber Creek	4.30	269	IAML		20 07 06.3
	comp=N,237nm,1.7s					
M16K	Timber Creek	4.30	269	P	Pn	20 05 47.8 +0.7
	baz=82					
N16K	Nishlik Lake	4.32	262	P	Pn	20 05 48.1 +0.6
	baz=75					
O16K	Kokwok River B	4.33	249	IAML		20 07 18.4
	comp=N,315nm,1.6s					
O16K				IAML		20 07 18.6
	comp=E,202nm,1.2s					
O16K	Kokwok River B	4.33	249	P	Pn	20 05 48.4 +0.8
	baz=63					
J26L	Joseph Creek	4.34	41	IAML		20 06 47.2
	comp=E,455nm,0.5s					
J26L				IAML		20 06 47.6
	comp=N,491nm,0.5s					
J26L	Joseph Creek	4.34	41	P	Pn	20 05 48.3 +0.6
	baz=226					
R18K	Karluk	4.41	212	P	Pn	20 05 49.1 +0.5
	baz=29,SNR=15					
RKAV	Rock Avalanche	4.42	100		Pn	20 05 48.8 -0.2
YUK2	White River	4.45	81		Pn	20 05 49.3 0.0
OHAK	Old Harbor	4.47	203	Pn	Pn	20 05 51.0 +1.5
OHAK				IAML		20 07 01.2
	comp=N,203nm,0.9s					
OHAK				IAML		20 07 11.4
	comp=E,177nm,0.9s					
OHAK	Old Harbor	4.47	203	P	Pn	20 05 48.4 -1.1
	baz=20					
H21K	Melozitna Rive	4.47	346	P	Pn	20 05 49.9 +0.5
	baz=163					
L16K	Owhat River	4.50	278	Pn	Pn	20 05 49.4 -0.4
L16K				IAML		20 07 18.4
	comp=N,192nm,0.9s					
L16K				IAML		20 07 19.6
	comp=E,215nm,1.1s					
L16K	Owhat River	4.50	278	P	Pn	20 05 50.2 +0.4
	baz=91,SNR=27					
BVCY	Beaver Creek	4.50	73		Pn	20 05 51.0 +1.1
BVCY	Beaver Creek	4.50	73	P	Pn	20 05 50.7 +0.8
	baz=260,SNR=9.7					
H22K	Ishtalitna Cre	4.58	353	P	Pn	20 05 52.1 +1.1
	baz=172					
GCSA	Galena City Sc	4.58	321	P	Pn	20 05 51.7 +0.8
	baz=135,SNR=14					
P16K	Nushagak River	4.58	243	P	Pn	20 05 51.9 +0.9
	baz=56					
H24K	Noodor Dome	4.59	12	IAML		20 07 14.0
	comp=E,245nm,1.0s					
H24K				IAML		20 07 28.0
	comp=N,194nm,0.9s					
H24K	Noodor Dome	4.59	12	P	Pn	20 05 52.7 +1.6
	baz=193					
YUK3	Moose Creek	4.63	81		Pn	20 05 52.0 +0.1
YUK3	Moose Creek	4.63	81	P	Pn	20 05 52.0 +0.1
	baz=269,SNR=22					
J17K	VABM Dome	4.64	300	IAML		20 07 25.6
	comp=N,170nm,0.9s					
J17K	VABM Dome	4.64	300	P	Pn	20 05 52.0 +0.2
	baz=112					
PRP	Porcupine Dome	4.64	24		Pn	20 05 52.9 +0.9
PRP	Porcupine Dome	4.64	24	IAML		20 07 11.9
	comp=E,200nm,0.9s					
PRP				IAML		20 07 15.6
	comp=N,262nm,0.8s					
PRP	Porcupine Dome	4.64	24	P	Pn	20 05 53.6 +1.6
	baz=208,SNR=59					
H20K	Anotleneega Mo	4.66	335	P	Pn	20 05 52.8 +0.7
	baz=150					
O28M	Mount Upton	4.86	93	P	Pn	20 05 55.6 +0.6
	baz=281,SNR=43					
YUK8	Steele Glacier	4.99	86		Pn	20 05 58.1 +1.3
YUK8	Steele Glacier	4.99	86	P	Pn	20 05 58.1 +1.3
	baz=275					
PCA	Pinnacle	5.00	100		Pn	20 05 56.4 -0.4
PINM	Pinnacle	5.00	100	P	Pn	20 05 56.4 -0.5
	baz=289					
I26K	Coal Creek Min	5.04	35	P	Pn	20 05 58.8 +1.5
	baz=221					
N15K	Kwethluk River	5.04	261	IAML		20 07 27.4
	comp=E,237nm,1.0s					
N15K				IAML		20 07 38.1
	comp=N,250nm,1.4s					
N15K	Kwethluk River	5.04	261	P	Pn	20 05 58.3 +1.0
	baz=72,SNR=11					
H19K	Roundabout Mou	5.05	328	IAML		20 07 32.6
	comp=N,156nm,1.0s					
H19K				IAML		20 07 34.6
	comp=E,218nm,1.6s					
H19K	Roundabout Mou	5.05	328	P	Pn	20 05 57.6 +0.3
	baz=143,SNR=39					
M15K	Kasigluk River	5.19	267	P	Pn	20 05 59.7 +0.4
	baz=78					
J16K	Anvik River	5.25	296	IAML		20 07 32.5
	comp=N,131nm,1.4s					
J16K	Anvik River	5.25	296	P	Pn	20 06 00.6 +0.4
	baz=107					
SII	Sitkinak Islan	5.26	205	P	Pn	20 06 00.9 +0.5
	baz=22					
EGAK	Eagle	5.31	46	P	Pn	20 06 02.3 +1.3
	baz=234,SNR=7.8					
O15K	Ungalikthiuk R	5.31	250	P	Pn	20 06 01.9 +0.9
	baz=62,SNR=6.8					
H18K	Honhosa River	5.32	319	IAML		20 07 43.6
	comp=E,135nm,1.6s					
H18K				IAML		20 07 49.1
	comp=N,115nm,1.9s					
H18K	Honhosa River	5.32	319	P	Pn	20 06 01.7 +0.6
	baz=132,SNR=44					
G23K	Bananza Creek	5.36	0	P	Pn	20 06 02.8 +1.0
	baz=180					
G21K	Allakaket	5.38	345	P	Pn	20 06 02.5 +0.6
	baz=162					
L15K	Ungalak Mounta	5.45	278	P	Pn	20 06 03.4 +0.5
	baz=88,SNR=18					
G24K	Hadweenzic Riv	5.47	11	P	Pn	20 06 05.0 +1.8
	baz=193					
K15K	Wolf Creek Mou	5.49	285	P	Pn	20 06 04.2 +0.8
	baz=95					
I17K	Unalakleet	5.50	302	P	Pn	20 06 04.3 +0.8
	baz=113					
YUK4	Talbot Arm	5.52	85	P	Pn	20 06 04.9 +0.9
	baz=274					
G22K	Bettles	5.61	354	P	Pn	20 06 06.3 +1.3
	baz=173					
M29M	Somme Creek	5.61	74	P	Pn	20 06 05.7 +0.5
	baz=264					
DAWY	Dawson	5.62	57		Pn	20 06 06.0 +0.7
DAWY	Dawson	5.62	57	P	Pn	20 06 05.9 +0.7
	baz=246					
I27K	Kandik River	5.70	38	P	Pn	20 06 07.6 +1.2
	baz=225					
G19K	Purcell Mounta	5.70	330	P	Pn	20 06 06.5 +0.1
	baz=144,SNR=23					
H17K	Granite Mounta	5.70	313	P	Pn	20 06 07.3 +1.0
	baz=125					
YUK6	Outpost Mounta	5.71	89		Pn	20 06 06.8 +0.2
YUK6	Outpost Mounta	5.71	89	P	Pn	20 06 06.9 +0.3
	baz=279					
O29M	Mount Kennedy	5.74	96	P	Pn	20 06 07.0 0.0
	baz=286,SNR=6.8					
M14K	Bethel	5.79	269	Pn	Pn	20 06 08.1 +0.6
M14K	Bethel	5.79	269	P	Pn	20 06 08.3 +0.8
	baz=79,SNR=11					
L29M	L29M	5.87	67	P	Pn	20 06 09.5 +0.9
	baz=258					
N14K	Kuskokwak Cree	5.88	261	P	Pn	20 06 09.5 +0.8
	baz=71					
COLD	Coldfoot	5.88	360	P	Pn	20 06 09.5 +0.7
	baz=179,SNR=30					
G18K	Tagagawik	5.92	324	P	Pn	20 06 10.1 +0.8
	baz=136,SNR=32					
O14K	Tigyukauivet M	5.94	254	P	Pn	20 06 10.4 +0.9
	baz=65					
L14K	Kuka Creek	6.05	275	P	Pn	20 06 12.1 +1.0
	baz=84,SNR=29					
F21K	Alatna River	6.05	347	P	Pn	20 06 12.0 +0.8
	baz=164					
I28M	Miner Creek	6.13	44	P	Pn	20 06 13.4 +1.1
	baz=232					
HYT	Haines Junctio	6.14	90		Pn	20 06 13.0 +0.5
HYT	Haines Junctio	6.14	90	P	Pn	20 06 13.0 +0.5
	baz=280					
H27K	Steamboat Moun	6.18	34	P	Pn	20 06 13.9 +0.9
	baz=222					
F20K	Avaraart Lake	6.20	339	P	Pn	20 06 14.4 +1.2
	baz=154					
G26K	Porcupine Rive	6.24	24	P	Pn	20 06 15.0 +1.3
	baz=209					
F24K	Squaw Lake	6.25	8	P	Pn	20 06 15.6 +1.8
	baz=190					
N30M	Aishikik Lake	6.25	83	P	Pn	20 06 13.9 0.0
	baz=275					
G17K	Kiwalik Mounta	6.28	316	P	Pn	20 06 14.9 +0.6
	baz=126					
K29M	Barlow Dome	6.32	61	P	Pn	20 06 15.3 +0.5
	baz=252					
M30M	Minto, Yukon	6.39	73	P	Pn	20 06 16.5 +0.7
	baz=265					
H16K	Elim	6.42	306	P	Pn	20 06 17.1 +0.9
	baz=115,SNR=33					
F19K	Shaleruckik Mo	6.42	332	P	Pn	20 06 17.1 +0.9
	baz=145					
J14K	Nanvaranak Lak	6.47	288	P	Pn	20 06 17.5 +0.8
	baz=97					
M13K	Dall Lake	6.53	267	P	Pn	20 06 18.5 +0.9
	baz=76					
BMAR	Burnt Mountain	6.54	19	Pn	Pn	20 06 18.8 +1.0
F25K	Christian Rive	6.54	15	P	Pn	20 06 18.7 +0.9
	baz=199					
P30M	Million Dollar	6.57	95	P	Pn	20 06 18.5 +0.2
	baz=286					
G27K	Doyon Strip	6.59	30	P	Pn	20 06 19.4 +0.9
	baz=218					
I29M	Ogilvie Camp,	6.64	48	P	Pn	20 06 20.1 +0.9
	baz=238,SNR=35					
F18K	Selawik	6.71	326	P	Pn	20 06 21.2 +1.1
	baz=137,SNR=14					
E23K	Chandalar	6.72	2	P	Pn	20 06 21.3 +1.0
	baz=182					
E24K	Your Creek	6.77	5	P	Pn	20 06 22.1 +1.1
	baz=186					
G16K	Koyuk River	6.82	312	P	Pn	20 06 22.3 +0.7
	baz=121					
O30N	Mendenhall	6.83	89	P	Pn	20 06 21.8 0.0
	baz=281					
E22K	Anaktuvuk Pass	6.83	355		Pn	20 06 23.1 +1.3
E22K	Anaktuvuk Pass	6.83	355	P	Pn	20 06 23.2 +1.3
	baz=173,SNR=9.6					
E19K	Redstone River	6.84	336	P	Pn	20 06 22.6 +0.7
	baz=150					
F26K	Sheenjek River	6.85	19	P	Pn	20 06 23.2 +1.2
	baz=205					
N31M	Braeburn, Yuko	6.88	83	P	Pn	20 06 23.1 +0.6
	baz=275					
K13K	Kusilvak Mount	6.95	281		Pn	20 06 23.1 -0.3
K13K	Kusilvak Mount	6.95	281	P	Pn	20 06 24.2 +0.7
	baz=88,SNR=5.6					
E25K	Arctic Village	7.05	14		Pn	20 06 25.8 +1.0
E25K	Arctic Village	7.05	14	P	Pn	20 06 25.9 +1.1
	baz=198,SNR=18					
J30M	Hart River	7.05	57	P	Pn	20 06 25.5 +0.6
	baz=249					
F17K	Baldwin Pennin	7.07	321		Pn	20 06 26.1 +1.1
F17K	Baldwin Pennin	7.07	321	P	Pn	20 06 26.1 +1.1
	baz=131,SNR=23					
PLBC	Pleasant Camp	7.07	100	P	Pn	20 06 25.3 +0.2
	baz=291					
H29M	Whitestone	7.11	42	P	Pn	20 06 26.7 +1.1
	baz=232					
G15K	Niukluk	7.27	306	P	Pn	20 06 28.1 +0.4
	baz=114					

E21K	Killik River baz=165	7.29 349	P	Pn	20 06 29.5 +1.5
I30M	Mount Dempster baz=244	7.29 52	P	Pn	20 06 28.8 +0.6
TOLK	Toolik Lake Re baz=182,SNR=15	7.30 2	P	Pn	20 06 30.3 +2.0
E20K	Nigu River baz=157	7.38 342	P	Pn	20 06 30.6 +1.2
WHY	Whitehorse baz=282	7.43 89	P	Pn	20 06 30.0 -0.2
M31M	Drury Creek, Y baz=270	7.50 77	P	Pn	20 06 32.1 +1.1
SKAG	Skagway baz=291	7.56 98	P	Pn	20 06 32.5 +0.7
E18K	Tukpahlearik C baz=138	7.58 328	P	Pn	20 06 34.1 +2.2
D22K	Ayikyak River baz=171	7.62 353	P	Pn	20 06 34.1 +1.5
D23K	Nanushuk River baz=178	7.63 358	P	Pn	20 06 35.0 +2.2
ANM	Nome	7.65 301	Pn	Pn	20 06 34.3 +1.3
ANM	Nome baz=108,SNR=8.4	7.65 301	P	Pn	20 06 34.4 +1.3
F28M	Old Crow	7.66 31		Pn	20 06 33.8 +0.6
F28M	Old Crow baz=220,SNR=11	7.66 31	P	Pn	20 06 34.3 +1.2
G29M	Pine Creek baz=229	7.66 38	P	Pn	20 06 35.6 +2.4
E17K	Hotham Inlet baz=133,SNR=56	7.67 323	P	Pn	20 06 34.5 +1.3
EPYK	Eagle Plains baz=236,SNR=7.8	7.74 44	P	Pn	20 06 35.9 +1.7
F15K	North Star Dit baz=117	7.81 310	P	Pn	20 06 36.1 +1.0
S31K	Pelican baz=302	7.81 110	P	Pn	20 06 36.1 +0.9
D24K	Happy Valley baz=184	7.83 3	P	Pn	20 06 37.9 +2.4
D20K	Etivluk River baz=156	7.86 342	P	Pn	20 06 37.8 +1.9
D19K	Kuna River baz=151,SNR=8.2	7.91 338	P	Pn	20 06 39.0 +2.4
M11K	Mekoryuk baz=76	7.91 270	P	Pn	20 06 37.2 +0.7
FARO	Faro, Yukon baz=271	7.99 76	P	Pn	20 06 38.8 +1.2
C21K	Knifeblade Rid baz=164	8.06 348	P	Pn	20 06 40.4 +1.9
D25K	Kavik River baz=193	8.13 9	P	Pn	20 06 41.7 +2.0
N32M	Quiet Lake baz=279	8.21 84	P	Pn	20 06 40.8 0.0
G30M	tAoh Zraii Nji baz=233	8.26 41	P	Pn	20 06 42.6 +1.3
P32M	Atlin baz=289	8.29 95	P	Pn	20 06 42.1 +0.3
H31M	Peel River baz=245	8.30 51	P	Pn	20 06 44.3 +2.3
F14K	Arctic Creek baz=112	8.34 307	P	Pn	20 06 43.9 +1.4
C24K	Franklin Bluff baz=185	8.41 3	P	Pn	20 06 45.3 +2.0
D17K	Noatak River baz=133	8.44 324	P	Pn	20 06 44.5 +0.7
B21K	Ikpikpuk River baz=165	8.49 349	P	Pn	20 06 45.1 +0.6
C23K	Itkillik River baz=178	8.51 359	P	Pn	20 06 46.8 +2.1
E28M	Babbage River baz=216	8.52 27	P	Pn	20 06 46.7 +1.9
P33M	Teslin, Yukon baz=285	8.54 90	P	Pn	20 06 44.8 -0.4
RDOG	Red Dog Mine baz=135	8.64 326	P	Pn	20 06 48.6 +2.0
C18K	Utukok River baz=142	8.67 332	P	Pn	20 06 47.6 +0.7
C27K	Jago River baz=201	8.70 15	P	Pn	20 06 49.6 +2.3
E29M	Blow River baz=222	8.73 31	P	Pn	20 06 48.9 +1.1
D27M	Malcolm River baz=210	8.77 22	P	Pn	20 06 49.1 +0.8
F30M	Barrier River baz=231	8.78 38	P	Pn	20 06 49.6 +1.2
S32K	Killisnoo baz=303	8.82 109	P	Pn	20 06 48.7 -0.4
C26K	Camden Bay baz=196	8.84 12	P	Pn	20 06 51.5 +2.2
G31M	Satah River baz=238	8.86 44	P	Pn	20 06 51.1 +1.6
C17K	DeLong Mountai baz=136	9.01 328	P	Pn	20 06 52.8 +1.2
B22K	Teshekpuk Lake baz=170	9.11 353	P	Pn	20 06 53.7 +0.8
Q32M	Nakina River baz=293	9.21 97	P	Pn	20 06 54.3 -0.2
D28M	Stokes Point baz=216	9.27 26	P	Pn	20 06 56.9 +1.8
F31M	Tsiigehtchic baz=237,SNR=13	9.31 42	P	Pn	20 06 56.9 +1.1
B18K	Kokolik River baz=143	9.37 334	P	Pn	20 06 57.3 +0.8
C16K	Lisburne Hills baz=130	9.46 323	P	Pn	20 06 58.9 +1.1
R33M	Jennings River baz=290	9.68 93	P	Pn	20 07 00.9 +0.1
INK	Inuvik comp=N,2.5nm,0.5s,baz=229,slow=12,SNR=17	9.88 38	P	Pn	20 07 05.0 +1.6
INK	comp=N,12nm,0.7s,baz=263,slow=11,SNR=6.9		S	Sn	20 08 55.9 +3.2
INK	Inuvik baz=233	9.88 38	P	Pn	20 07 05.1 +1.7
S34M	Telegraph Cree	10.20 101	Pn	Pn	20 07 07.0 -0.9
S34M	Telegraph Cree baz=298	10.20 101	P	Pn	20 07 07.7 -0.2
GAMB	Gambell baz=94	10.23 293	P	Pn	20 07 09.1 +0.8
DLBC	Dease Lake comp=N,2.2nm,0.6s,baz=267,slow=16,SNR=3.1	10.49 97	P	Pn	20 07 14.0 +2.0
DLBC	comp=N,234nm,20.9s,baz=337,slow=40		LR	LR	20 11 53.3
DLBC	Dease Lake baz=295	10.49 97	P	Pn	20 07 12.9 +1.0
KOTAN	Kotaneelee Air baz=287	12.77 84	P	Pn	20 07 44.4 +1.4
C36M	Paulatuk	13.37 42	Pn	Pn	20 07 49.7 -1.3
C36M	Paulatuk baz=246	13.37 42	P	Pn	20 07 50.9 -0.2
A36M	Sachs Harbour	14.34 32	Pn	Pn	20 08 02.1 -2.1
A36M	Sachs Harbour baz=235	14.34 32	P	Pn	20 08 03.7 -0.5
YKA	Yellowknife Ar comp=N,1.1nm,0.6s,baz=282,slow=10,SNR=18	16.62 71	P	Pn	20 08 35.7 +2.1
MXC	Moxie City comp=Z,5.4nm,0.8s	22.67 117	IAmb	IAmb	20 09 43.7
D08A	Wollman Farm, comp=Z,5.7nm,0.7s	22.89 114	IAmb	IAmb	20 09 45.8
F07A	Phinny Hill Vi comp=Z,8.2nm,0.9s	23.36 118	IAmb	IAmb	20 09 50.7
PINE	Pine Mountain	24.64 122	P	P	20 10 01.4 +1.1
PINE	comp=Z,16nm,1.2s		IAmb	IAmb	20 10 04.0
J05D	Fort Rock, OR	24.95 123	P	P	20 10 04.1 +1.1
J05D	comp=Z,11nm,1.2s		IAmb	IAmb	20 10 06.0
I07A	Izee comp=Z,4.6nm,0.7s	25.00 120	IAmb	IAmb	20 10 07.7
PLID	Pearl Lake	25.70 114	P	P	20 10 10.3 +0.4
EGMT	Eagleton comp=Z,10nm,0.9s	26.37 102	IAmb	IAmb	20 10 17.6
ELK	Elko	29.54 118	P	P	20 10 45.9 +1.6
ELK	comp=Z,3.7nm,0.8s		IAmb	IAmb	20 10 47.5
NVAR	Mina Array Bea comp=Z,2.1nm,0.7s,baz=334,slow=8.5,SNR=8.4	30.24 125	P	P	20 10 51.8 +1.3
PDAR	Pinedale Array comp=Z,2.1nm,0.7s	30.41 109	P	P	20 10 53.1 +1.2
MZP	Montezuma Peak comp=Z,1.0nm,0.6s comp=Z,4.9nm,0.9s	31.23 124	IAmb	IAmb	20 11 00.3
R11B	Troy Canyon, C comp=Z,4.1nm,1.0s	31.41 121	P	P	20 11 01.7 +1.0
R11B	Troy Canyon, C baz=328,SNR=7.1	31.41 121	P	P	20 11 01.8 +1.0
ULM	Lac du Bonnet comp=Z,7.4nm,0.8s	31.50 86	IAmb	IAmb	20 11 02.5
ULM	Lac du Bonnet comp=Z,7.0nm,0.8s,baz=300,slow=9.2,SNR=16 comp=Z,7.0nm,0.8s	31.50 86	P	P	20 11 01.9 +0.7
RSSD	Black Hills	31.94 101	P	P	20 11 06.0 +0.7
RSSD	comp=Z,3.3nm,0.6s		IAmb	IAmb	20 11 08.6
AGMN	Agassiz Nation comp=Z,4.4nm,0.7s	32.83 88	IAmb	IAmb	20 11 14.2
EYMN	Ely comp=Z,5.2nm,0.8s	35.18 85	IAmb	IAmb	20 11 34.6
YAK	Yakutsk comp=Z,9.4nm,0.7s,baz=217,slow=0.3,SNR=8.0 comp=Z,9.4nm,0.7s	35.76 307	P	P	20 11 35.2 -2.8
ANMO	Albuquerque comp=Z,79nm,20.5s,baz=202,slow=38	38.19 113	LR	LR	20 28 46.2
SPITS	Spitsbergen Ar comp=Z,7.8nm,0.9s,baz=30,slow=5.2,SNR=7.9 comp=Z,7.8nm,0.9s	40.45 4	P	P	20 12 16.3 -1.0
WMOK	Wichita Mounta	41.84 105	P	P	20 12 29.7 +0.4
NRIK	Noril'sk comp=Z,2.4nm,0.5s,baz=58,slow=5.5,SNR=4.0 comp=Z,2.4nm,0.5s	43.29 334	P	P	20 12 39.4 -1.1
KLR	Kul'dur comp=Z,1.0nm,0.6s,baz=18,slow=6.4,SNR=3.7 comp=Z,1.0nm,0.6s	43.39 291	P	P	20 12 39.7 -1.9
O48B	Farmland	43.93 88	P	P	20 12 44.9 -1.2
O48B	Farmland baz=321	43.93 88	P	P	20 12 45.0 -1.0
TXAR	Lajitas Array comp=Z,1.3nm,0.7s,baz=343,slow=7.8,SNR=7.6 comp=Z,1.3nm,0.7s	44.20 115	P	P	20 12 48.9 +0.5
TKL	Tuckaleechee C	48.24 91	P	P	20 13 20.1 +0.1
TKL	Tuckaleechee C comp=Z,123nm,18.4s,baz=9.5,slow=39	48.24 91	LR	LR	20 35 53.7
ARCES	ARCESS Array B comp=Z,3.3nm,0.9s,baz=1.9,slow=7.3,SNR=6.3 comp=Z,3.3nm,0.9s	49.34 2	P	P	20 13 26.6 -1.4
KSRS	Korea Array comp=Z,2.9nm,0.7s,baz=34,slow=6.4,SNR=7.9 comp=Z,2.9nm,0.7s	54.25 284	P	P	20 14 04.5 -0.5
SONM	Songino Array comp=Z,1.7nm,0.8s,baz=50,slow=7.1,SNR=13 comp=Z,1.7nm,0.8s	55.12 307	P	P	20 14 11.4 +0.1
ZALV	Zalesovo Beam comp=Z,0.5nm,0.3s,baz=16,slow=7.7,SNR=4.5 comp=Z,0.5nm,0.3s	57.09 325	P	P	20 14 23.3 -1.8
FINES	FINESS Array B comp=Z,0.5nm,0.4s,baz=357,slow=7.9,SNR=7.5 comp=Z,0.5nm,0.4s	57.48 2	P	P	20 14 25.9 -1.8
HHC	Hu-ho-hao-te	58.80 299	*e*P	P	20 14 40.4 +3.0
HHC	comp=Z,2.0nm,0.5s		pmax	pmax	
HHC	comp=Z,140nm,6.0s		pmax	pmax	
HHC	comp=N,200nm,15.3s		LR	LR	
HHC	comp=E,160nm,14.7s		LR	LR	
HHC	comp=Z,220nm,15.3s		LR	LR	
EKA	Eskdalemuir Ar comp=Z,0.8nm,0.6s,baz=335,slow=6.3,SNR=2.2 comp=Z,0.8nm,0.6s	60.75 21	P	P	20 14 49.4 -1.0
BVAR	Borovoye Array comp=Z,2.0nm,0.6s,baz=26,slow=6.5,SNR=16 comp=Z,2.0nm,0.6s	61.50 333	P	P	20 14 54.2 -1.3
KURBB	Kurchatov Arra comp=Z,1.0nm,0.5s,baz=29,slow=6.6,SNR=25 comp=Z,1.0nm,0.5s	61.78 327	P	P	20 14 55.5 -1.9
MKAR	Makanchi Array comp=Z,0.8nm,0.5s,baz=34,slow=7.0,SNR=31 comp=Z,0.8nm,0.5s	64.22 323	P	P	20 15 11.5 -2.3
GTA	Gaotai	64.78 306	*e*P	P	20 15 16.2 -1.5
GTA			sP	pP	20 15 31.0 -0.3
GTA	comp=Z,2.0nm,0.9s		pmax	pmax	
AKTO	Aktyubinsk comp=Z,1.4nm,0.5s,baz=17,slow=4.9,SNR=5.1 comp=Z,1.4nm,0.5s	66.29 341	P	P	20 15 25.4 -1.6
AKASG	Malin Array Be comp=Z,1.5nm,0.5s,baz=1.4,slow=6.2,SNR=4.2 comp=Z,1.5nm,0.5s	68.28 0	P	P	20 15 38.5 -1.0
JTS	Las Juntas de comp=Z,65nm,18.4s,baz=64,slow=42	69.23 107	LR	LR	20 52 44.0
SJG	San Juan comp=Z,29nm,18.0s,baz=41,slow=38	71.40 86	LR	LR	20 50 22.2
KSH	Kashi	72.72 324	P	P	20 16 08.9 +1.8
KSH	comp=Z,2.0nm,0.8s		pmax	pmax	
PZH	PanZhiHua	75.25 298	P	P	20 16 26.0 +4.0
PZH	comp=Z,10.0nm,0.5s		pmax	pmax	
PZH	comp=Z,100nm,5.1s		pmax	pmax	
ESDC	Sonseca Array comp=Z,1.1nm,0.9s,baz=341,slow=5.3,SNR=5.3 comp=Z,1.1nm,0.9s	75.61 26	P	P	20 16 23.1 -0.7
CMAR	Chiang Mai Arr comp=Z,1.1nm,0.8s,baz=8.2,slow=5.8,SNR=9.6 comp=Z,1.1nm,0.8s	83.55 297	P	P	20 17 05.4 -1.7
BOSA	Boshof	147.10 8	PKPbc	PKPdf	20 24 18.4 -0.8
QSPA	South Pole Qui comp=Z,2.6nm,0.6s,baz=347,slow=0.9,SNR=8.4	151.18 180	PKPbc	PKPdf	20 24 29.2 +4.7

*HEL **06** 20:05:16.4±0.2, 67°.67N×33°.68E, h0km, ML1.3, Explosion*
KOLA 06 20:05:16.6, 67°.66N×33°.70E, h0km, ML1.5, Error ellipse: s-maj=2.6km s-min=1.3km az=120.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.15	230	S	Sg	20 05 21.1	-0.2
APA0	Apatity Array	0.28	258	P	Pg	20 05 21.6	-0.3
APA0				S	Sg	20 05 25.5	0.0
LVZ	Lovozero	0.43	56	PG	Pg	20 05 24.6	-0.3
LVZ				SG	Sg	20 05 30.1	-0.4
KVDA	Kovda	1.03	199	P	Pg	20 05 35.2	-1.0
KVDA				S	Sg	20 05 48.6	-0.9
VRF	Varrio baz=90	1.56	275	PG	Pn	20 05 44.7	-0.9
VRF				MSG		20 06 03.1	
VRF	comp=Z,2.8nm,0.2s			SG	Sn	20 06 04.6	-1.9
TERR	Teriberka	1.63	18	P	Pn	20 05 45.4	-1.1
TERR				S	Sn	20 06 06.2	-1.9
PRVG	Vayda Guba	2.17	346	S	Sb	20 06 22.8	-1.2
RAJF	Raja-Jooseppi	2.18	294	SB	Sn	20 06 21.2	-0.6
KU6	Riekki	2.23	224	PG	Pb	20 05 56.4	-1.3
KU6				MSG		20 06 22.2	
KU6	comp=Z,1.0nm,0.2s			SG	Sb	20 06 26.6	+0.8
MSF	Maaselka	2.55	229	PG	Pb	20 06 02.6	-0.6
MSF				SG	Sb	20 06 33.8	-1.2
KMNF	Kaamanen	2.89	304	SB	Sn	20 06 40.8	+1.5
RANF	Ranua	3.19	242	SN	Sn	20 06 43.7	-3.0
KEV	Kevo	3.22	314	PN	Pn	20 06 08.6	+0.3
KEV				SN	Sn	20 06 46.4	-1.0
ARCES	ARCESS Array B	3.54	306	P	Pn	20 06 12.2	-0.6
HEF	Hetta	3.85	286	SN	Sn	20 06 58.7	-4.1

DJA 06 20:13:41.7±0.3, 2°S±2°×12°0E±°, h10km, M3.7/10, mb3.8/1, MLv3.6/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.76	332	P	Pg	20 13 53.6	-2.8
TTSI	Tana Toraja	1.50	194	P	Pn	20 14 06.8	-1.9
TTSI				S	Sn	20 14 27.7	-0.7
APSI	Ampana	1.60	66	P	Pn	20 14 10.4	+0.3
SPSI	Sidrap Palu	2.41	190	P	Pn	20 14 21.8	+0.6
LUWI	Luwuk	2.64	78	P	Pn	20 14 23.4	-0.9
LUWI				S	Sb	20 15 00.2	-1.3
MRSI	Marisa	2.69	41	P	Pn	20 14 25.3	+0.2
MRSI				S	Sn	20 14 58.6	+0.9
KDI	Kendari	3.39	134	P	Pn	20 14 32.5	-2.2
BKSI	Bulukumba	3.72	181	P	Pn	20 14 40.1	+0.9
SANI	Sanana	5.81	95	P	Pn	20 15 06.2	-1.9

*OSPL **06** 20:26:50.1±1.4, 19°.40N×68°.31W, h0km±55km, ML2.8, Hypocentre not reviewed by the ISC*
*SDD **06** 20:26:52.9±2.1, 19°.42N×68°.08W, h22km±183km, MD3.6, ML3.0, MW3.4*
*NEIC **06** 20:26:56.0±1.8, 19°.14N±0°.04×68°.27W±0°.04, h35km±2km, ML2.8/38, Md2.7/11(RSPR), Error ellipse: s-maj=8.8km s-min=3.1km az=49.0*
*RSPR **06** 20:26:56.5, 19°.31N×68°.17W, h59km±11km, MD2.7/11*
ISC 06 20:26:51.0±1.7, 19°.35N±0°.07×68°.15W±0°.03, h3km±12km, n60, σ0=73/58, 14C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.86	195		Pg	20 27 07.8	+0.3
PCDR	Punta Cana, DR	0.86	195		Sb	20 27 19.7	-0.8
PCDR	Punta Cana, DR comp=E,293nm,0.7s	0.86	195	IAML		20 27 24.1	
PCDR	comp=N,456nm,0.6s			IAML		20 27 26.7	
PCDR	Punta Cana, DR comp=N,414nm,0.5s	0.86	195	IAML		20 27 26.5	
PCDR	Punta Cana, DR	0.86	195	*e*P	Pg	20 27 06.5	-1.0
PCDR	Punta Cana, DR	0.86	195	*e*S	Sb	20 27 19.7	-0.8
PCDR	Punta Cana, DR	0.86	195	*i* P		20 27 05.8	
PCDR				*e*S		20 27 17.9	
PCDR	comp=Z,289nm,0.5s			IAML		20 27 23.8	
HIDR	Higuey Centro comp=N,402nm,0.3s	0.93	216	IAML		20 27 22.4	
HIDR	comp=E,423nm,0.2s			IAML		20 27 23.6	
SMDR	Samana, DR	0.98	267⇓	*e*Pg	Pn	20 27 11.7	0.0
SMDR	comp=N,146nm,0.7s			IAML		20 27 29.4	
SMDR	comp=E,236nm,0.7s			IAML		20 27 36.1	
SMDR	Samana, DR	0.98	267⇑	*e*P	Pn	20 27 11.9	+0.1
SMDR	Samana, DR	0.98	267	*e*S	Sn	20 27 26.6	+0.3
DR12	Loma Pena Alta	1.29	245		Pg	20 27 15.4	-0.4
HATOM	Hato Mayor del	1.29	245⇑	*e*Pg	Pn	20 27 16.6	+0.6
HATOM			⇓	*e*Sg	Sn	20 27 34.6	+0.6
HATOM	comp=N,118nm,0.6s			IAML		20 27 35.2	
HATOM	comp=E,84nm,0.5s			IAML		20 27 36.6	
SADR	Isla Saona	1.30	208	*e*Pg	Pn	20 27 18.3	+2.2
SADR				*e*Sg	Sn	20 27 34.8	+0.9
SADR	comp=N,226nm,0.5s			IAML		20 27 38.1	
SADR	comp=N,226nm,0.5s			IAML		20 27 38.1	
SADR	comp=E,142nm,0.4s			IAML		20 27 38.5	
AGPR	Aguadilla, PR	1.31	132		Pb	20 27 16.7	+0.3
AGPR					Sb	20 27 34.1	+0.4
AGPR	Aguadilla, PR comp=N,130nm,0.5s	1.31	132	IAML		20 27 37.3	
AGPR	comp=E,175nm,0.6s			IAML		20 27 44.0	
AGPR	Aguadilla, PR	1.31	132⇑	*e*Pg	Pb	20 27 16.7	+0.3
AGPR	comp=N,124nm,0.5s			IAML		20 27 37.1	
AGPR	comp=E,153nm,0.4s			IAML		20 27 39.2	
AGPR	Aguadilla, PR	1.31	132⇑	*e*P	Pb	20 27 16.7	+0.3
AGPR	Aguadilla, PR	1.31	132	*e*S	Sb	20 27 34.1	+0.4
AGPR	Aguadilla, PR	1.31	132	*i* P		20 27 16.6	
AGPR				*e*S		20 27 34.2	
AGPR	comp=Z,73nm,0.7s			IAML		20 27 36.7	
PRSN	Puerto Rico Se	1.47	140	Pn	Pn	20 27 18.9	+0.4
PRSN	comp=E,169nm,0.3s			IAML		20 27 42.6	
PRSN	comp=N,203nm,0.3s			IAML		20 27 50.4	
NADR	Nagua comp=N,414nm,0.5s	1.61	271	IAML		20 27 47.0	
AOPR	Arecibo Observ	1.65	127		Pb	20 27 21.9	-0.3
AOPR					Sb	20 27 43.8	+0.4
AOPR	Arecibo Observ comp=N,156nm,0.5s	1.65	127	IAML		20 27 47.5	
AOPR	Arecibo Observ	1.65	127	*e*Pg	Pn	20 27 21.0	0.0
AOPR			⇑	*e*Sg	Sb	20 27 43.4	-0.1
AOPR	comp=N,145nm,0.5s			IAML		20 27 47.3	
AOPR	comp=E,223nm,0.3s			IAML		20 27 53.9	
AOPR	Arecibo Observ	1.65	127⇑	*e*P	Pb	20 27 21.9	-0.3
AOPR	Arecibo Observ	1.65	127	*e*S	Sb	20 27 43.8	+0.4
CRPR	Cabo Rojo, PR	1.66	143		Pg	20 27 22.9	+0.1
CRPR					Sn	20 27 42.3	-0.5
CRPR	Cabo Rojo, PR	1.66	143	*e*Pg	Pn	20 27 20.7	-0.4
CRPR	comp=E,69nm,0.3s			IAML		20 27 47.5	
CRPR	comp=N,58nm,0.5s			IAML		20 27 48.7	
CRPR	Cabo Rojo, PR	1.66	143⇑	*e*P	Pg	20 27 22.9	+0.1
CRPR	Cabo Rojo, PR	1.66	143	*e*S	Sn	20 27 42.3	-0.5
CRPR	Cabo Rojo, PR	1.66	143	*i* P		20 27 19.9	
CRPR				*e*S		20 27 43.4	
CRPR	comp=Z,141nm,0.6s			IAML		20 27 45.4	
MLPR	Magueyes Islan	1.72	142		Pn	20 27 22.1	+0.2
MLPR					Sn	20 27 43.9	-0.6
MLPR	Magueyes Islan comp=E,82nm,0.8s	1.72	142	IAML		20 27 46.1	
MLPR	comp=N,78nm,0.7s			IAML		20 27 49.5	
MLPR	Magueyes Islan	1.72	142	*e*Pg	Pn	20 27 22.2	+0.2
MLPR	comp=N,69nm,0.6s			IAML		20 27 49.4	
MLPR	Magueyes Islan	1.72	142⇑	*e*P	Pn	20 27 22.1	+0.2
MLPR	Magueyes Islan	1.72	142	*e*S	Sn	20 27 43.9	-0.6
EMPR	Esperanza - Ma	1.76	119		Pb	20 27 24.1	+0.1
EMPR					Sn	20 27 45.4	0.0
EMPR	Esperanza - Ma comp=N,136nm,0.7s	1.76	119	IAML		20 27 56.2	
EMPR	Esperanza - Ma	1.76	119⇑	*e*P	Pb	20 27 24.1	+0.1
EMPR	Esperanza - Ma	1.76	119	*e*S	Sn	20 27 45.4	0.0
DR08	Loma La Naviza	1.81	258⇓	*e*Pg	Pg	20 27 26.5	+0.7
DR08	comp=E,846nm,0.3s			IAML		20 27 52.8	
DR08	comp=N,975nm,0.2s			IAML		20 27 53.9	
GBPR	Guanica, Bosqu	1.82	138		Pb	20 27 25.1	+0.1
GBPR					Sb	20 27 48.5	+0.3
GBPR	Guanica, Bosqu	1.82	138⇑	*e*P	Pb	20 27 25.1	+0.1
GBPR	Guanica, Bosqu	1.82	138	*e*S	Sb	20 27 48.5	+0.3
CELP	Cerrillos	1.95	130		Sn	20 27 48.8	-1.3
CELP	Cerrillos comp=N,69nm,0.7s	1.95	130	IAML		20 27 51.9	
CELP	comp=E,54nm,0.6s			IAML		20 27 55.2	
CELP	Cerrillos	1.95	130	*e*S	Sn	20 27 48.8	-1.3
OBIP	Obispado Ponce comp=E,54nm,0.9s	1.95	131	IAML		20 27 49.3	
OBIP	comp=N,77nm,0.7s			IAML		20 27 52.4	
ECPR	Experimental S	1.98	121⇑	*e*P	Pb	20 27 27.6	-0.1
ECPR	Experimental S	1.98	121	*e*S	Sn	20 27 50.7	0.0
GCPR	Guaynabo City	2.21	118		Pn	20 27 27.3	-1.3
SJG	San Juan	2.26	123		Pn	20 27 29.9	+0.7
SJG	comp=N,58nm,0.6s			IAML		20 28 03.0	
SJG	comp=N,57nm,0.6s			IAML		20 28 03.5	
BANI	BANI	2.30	246		Pn	20 27 28.3	-1.7
BANI	comp=E,84nm,0.6s			IAML		20 28 09.7	
BANI	BANI	2.30	246⇑	*e*Pg	Pb	20 27 33.1	-0.1
BANI	comp=E,78nm,0.5s			IAML		20 28 09.5	
BANI	comp=N,96nm,0.7s			IAML		20 28 14.6	
IGPR	InterUniversit	2.37	125		Pn	20 27 32.1	+1.2
IGPR	comp=E,62nm,0.3s			IAML		20 28 06.3	
IGPR	comp=N,56nm,0.3s			IAML		20 28 15.3	
ABDR	Alto Bandera comp=N,66nm,0.7s	2.41	258	IAML		20 28 14.7	
ABDR	comp=E,84nm,0.6s			IAML		20 28 17.5	
PDPR	Patillas Dam,	2.41	123	Pn	Pn	20 27 32.2	+0.8
PDPR	Patillas Dam,	2.41	123⇑	*e*P	Pb	20 27 34.0	-1.1
PDPR	Patillas Dam,	2.41	123	*e*S	Sn	20 28 01.3	-0.2
SC01	Santiago de lo	2.44	272	Pn	Pn	20 27 31.2	-0.6

HUMP	**Col San Antoni**	**2.48 118**	Pn	**Pn**	**20 27 34.2 +1.7**
HUMP			IAML		20 28 09.9
	comp=E,32nm,0.7s				
SDDR	**Presa de Saban**	**2.99 264**		**Pn**	**20 27 40.2 +0.8**

NEIC ***06*** *20:27:57.7±1.1,61°.41N±0°.03×150°.04W±0°.05,h50km±5km, Error ellipse: s-maj=4.0km s-min=3.2km az=180.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.32; $M_{\theta\theta}$0.05; $M_{\phi\phi}$4.26; $M_{r\theta}$4.14; $M_{\theta\phi}$0.71; $M_{\phi r}$3.21; Fault plane solution: $M_0$6.81000×1014 NP1: ϕ_s=351.79000°,δ26.53000°,λ-133.64000°. NP2: ϕ_s=218.61000°,δ71.14000°,λ-70.99000°. Principal axes: T 6.1337, Plg24.0000°, Azm294.0000°; N 1.1907, Plg18.0000°, Azm32.0000°; P -7.3244, Plg59.0000°, Azm156.0000°;*

IDC ***06*** *20:27:58.2±1.4,61°.34N×150°.62W,h60km±16km,mb3.3/8, mbtmp3.6/12,MS2.7/1 Error ellipse: s-maj=18.1km s-min=9.4km az=109.0*

NEIC ***06*** *20:27:58.1,61°.40N×150°.03W,h46km*

AEIC ***06*** *20:27:59.1±1.5,61°.38N±0°.03×150°.03W±0°.04,h43km±4km, ML3.6,ML3.8/182(NEIC),Mwr3.8/38(NEIC),Error ellipse: s-maj=3.9km s-min=2.8km az=167.0*

ISC 06 20:27:57.8±0.7,**61°.37N**±0°.02×**150°.10W**±0°.02,**h42**km, **n207**,σ1§**13**/186,**mb3.6**/8,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23 194**			**Pn**	**20 28 07.0**	**+1.5**
SUA	**Susitna One**	**0.33 288**			**Pn**	**20 28 06.9**	**+0.3**
SUA	**Susitna One**	**0.33 288**			**Sn**	**20 28 14.1**	**+1.3**
SUA	**Susitna One**	**0.33 288**		IAML		20 28 14.5	
	comp=E,21μm,0.7s						
SUA				IAML		20 28 14.5	
	comp=N,11μm,0.6s						
SUA	**Susitna One**	**0.33 288**		P	**Pn**	**20 28 07.0**	**+0.3**
	baz=104						
SUA				S	**Sn**	**20 28 14.1**	**+1.3**
	baz=104						
RC01	**Rabbit Creek A**	**0.33 147**			**Pn**	**20 28 06.8**	**+0.3**
RC01				IAML		20 28 14.3	
	comp=N,10μm,0.2s						
RC01				IAML		20 28 14.3	
	comp=E,8μm,0.4s						
RC01	**Rabbit Creek A**	**0.33 147**			**Sn**	**20 28 13.9**	**+1.2**
RC01	**Rabbit Creek A**	**0.33 147**		P	**Pn**	**20 28 06.7**	**+0.1**
	baz=334						
RC01				S	**Sn**	**20 28 13.9**	**+1.2**
	baz=334						
M22K	**Willow**	**0.39 359**			**Pn**	**20 28 06.9**	**-0.3**
M22K	**Willow**	**0.39 359**			**Sn**	**20 28 14.6**	**+0.8**
M22K	**Willow**	**0.39 359**		IAML		20 28 15.0	
	comp=E,10μm,0.6s						
M22K				IAML		20 28 15.0	
	comp=N,6μm,0.6s						
M22K	**Willow**	**0.39 359**		P	**Pn**	**20 28 06.9**	**-0.3**
	baz=173						
M22K				S	**Sn**	**20 28 14.6**	**+0.8**
	baz=173						
PMR	**Palmer**	**0.52 64**			**Pn**	**20 28 08.7**	**-0.1**
PMR	**Palmer**	**0.52 64**			**Sn**	**20 28 17.1**	**+0.4**
PMR	**Palmer**	**0.52 64**		IAML		20 28 17.6	
	comp=E,9μm,0.4s						
PMR				IAML		20 28 17.7	
	comp=N,11μm,0.6s						
PMR	**Palmer**	**0.52 64**		P	**Pn**	**20 28 08.7**	**-0.1**
	baz=244						
PMR				S	**Sn**	**20 28 17.1**	**+0.4**
	baz=244						
GHO	**Glory Hole Cre**	**0.69 54**			**Sn**	**20 28 22.0**	**+1.0**
GHO	**Glory Hole Cre**	**0.69 54**			**Pn**	**20 28 11.2**	**-0.1**
GHO	**Glory Hole Cre**	**0.69 54**		IAML		20 28 22.8	
	comp=E,7μm,0.5s						
GHO				IAML		20 28 24.0	
	comp=N,8μm,0.2s						
CAPN	**Captain Cook N**	**0.79 221**			**Pn**	**20 28 14.0**	**+1.5**
CAPN	**Captain Cook N**	**0.79 221**		P	**Pn**	**20 28 14.2**	**+1.7**
	baz=42						
KNK	**Knik Glacier**	**0.79 86**			**Pn**	**20 28 12.8**	**+0.3**
KNK				IAML		20 28 27.7	
	comp=N,5μm,0.3s						
KNK				IAML		20 28 28.1	
	comp=E,4μm,0.3s						
KNK	**Knik Glacier**	**0.79 86**			**Sn**	**20 28 24.4**	**+1.2**
KNK	**Knik Glacier**	**0.79 86**		P	**Pn**	**20 28 12.8**	**+0.3**
	baz=268						
KNK				S	**Sn**	**20 28 24.4**	**+1.2**
	baz=268						
STLK	**Strandline Lak**	**0.84 280**			**Pn**	**20 28 13.6**	**+0.4**
STLK	**Strandline Lak**	**0.84 280**			**Sn**	**20 28 25.5**	**+1.0**
STLK	**Strandline Lak**	**0.84 280**		IAML		20 28 26.1	
	comp=N,13μm,0.4s						
STLK				IAML		20 28 26.1	
	comp=E,6μm,0.2s						
SLKM	**Skilak Lake**	**0.86 184**			**Pn**	**20 28 13.4**	**-0.2**
SLKM				IAML		20 28 28.2	
	comp=N,4μm,0.3s						
O22K	**Cooper Landing**	**0.91 168**			**Pn**	**20 28 14.3**	**+0.3**
O22K	**Cooper Landing**	**0.91 168**		P	**Pn**	**20 28 14.3**	**+0.3**
	baz=351						
SKT	**Skwentna**	**0.92 313**			**Pn**	**20 28 14.3**	**0.0**
SKT				IAML		20 28 28.0	
	comp=E,4μm,0.3s						
SKT	**Skwentna**	**0.92 313**			**Sn**	**20 28 26.7**	**+0.4**
SKT	**Skwentna**	**0.92 313**		P	**Pn**	**20 28 14.2**	**0.0**
	baz=130						
SKT				S	**Sn**	**20 28 26.7**	**+0.4**
	baz=130						
SPCG	**Spurr Capps Gl**	**0.93 266**			**Sn**	**20 28 27.9**	**+1.2**
SML	**Sawmill**	**0.95 62**			**Pn**	**20 28 14.8**	**0.0**
SML	**Sawmill**	**0.95 62**			**Sn**	**20 28 28.3**	**+1.1**
SML	**Sawmill**	**0.95 62**		IAML		20 28 31.6	
	comp=E,2μm,0.9s						
SML				IAML		20 28 31.6	
	comp=N,3μm,0.6s						
SML	**Sawmill**	**0.95 62**		P	**Pn**	**20 28 14.8**	**0.0**
	baz=243						
SML				S	**Sn**	**20 28 28.3**	**+1.1**
	baz=243						
SPU	**Mount Spurr**	**0.96 260**			**Pn**	**20 28 14.8**	**-0.1**
SPU				IAML		20 28 29.6	
	comp=N,2μm,0.4s						
SPU	**Mount Spurr**	**0.96 260**			**Sn**	**20 28 28.0**	**+0.6**
PWL	**Port Wells**	**1.00 120**			**Pn**	**20 28 15.9**	**+0.6**
PWL	**Port Wells**	**1.00 120**		P	**Pn**	**20 28 15.7**	**+0.4**
	baz=303						
SPCR	**Spurr Chakacha**	**1.03 262**			**Pn**	**20 28 16.2**	**+0.4**
SPCR	**Spurr Chakacha**	**1.03 262**		P	**Pn**	**20 28 16.2**	**+0.4**
	baz=80						
CUT	**Chulitna**	**1.04 356**		Pn	**Pn**	**20 28 15.9**	**0.0**
CUT	**Chulitna**	**1.04 356**		P	**Pn**	**20 28 16.1**	**+0.1**
	baz=174						
SPBG	**Spurr Blockage**	**1.10 265**			**Sn**	**20 28 32.1**	**+1.3**
M23K	**Glacier View**	**1.21 68**		P	**Pn**	**20 28 18.9**	**+0.6**
	baz=250						
SEW	**Seward**	**1.31 166**			**Pn**	**20 28 19.4**	**-0.1**
SEW	**Seward**	**1.31 166**		P	**Pn**	**20 28 19.5**	**0.0**
	baz=348						
SCM	**Sheep Creek Mo**	**1.41 69**		Pn	**Pn**	**20 28 21.6**	**+0.6**
SCM				IAML		20 28 41.6	
	comp=E,2μm,0.6s						
SCM				IAML		20 28 42.9	
	comp=N,2μm,0.8s						
SCM	**Sheep Creek Mo**	**1.41 69**			**Sn**	**20 28 40.2**	**+1.9**
SCM	**Sheep Creek Mo**	**1.41 69**		P	**Pn**	**20 28 21.6**	**+0.6**
	baz=252						
SCM				S	**Sn**	**20 28 40.2**	**+1.9**
	baz=252						
DFR	**Drift River**	**1.48 239**			**Pn**	**20 28 22.5**	**+0.4**
M20K	**Styx River**	**1.54 291**			**Pn**	**20 28 23.5**	**+0.7**
M20K				IAML		20 28 45.5	
	comp=N,908nm,0.8s						
M20K				IAML		20 28 47.8	
	comp=E,839nm,0.7s						
M20K	**Styx River**	**1.54 291**		P	**Pn**	**20 28 23.9**	**+1.1**
	baz=108						
GLI	**Glacier Island**	**1.54 107**			**Pn**	**20 28 22.9**	**+0.1**
GLI	**Glacier Island**	**1.54 107**		IAML		20 28 49.2	
	comp=N,2μm,0.3s						
GLI	**Glacier Island**	**1.54 107**		P	**Pn**	**20 28 22.9**	**+0.1**
	baz=291						
NCT	**North Crescent**	**1.60 241**			**Pn**	**20 28 24.3**	**+0.6**
RDWB	**Redoubt West**	**1.60 238**			**Sn**	**20 28 44.4**	**+1.2**
BRLK	**Bradley Lake**	**1.66 194**		Pn	**Pn**	**20 28 24.9**	**+0.5**
BRLK				IAML		20 28 49.7	
	comp=N,934nm,0.7s						
BRLK				IAML		20 28 50.7	
	comp=E,2μm,0.5s						
BRSE	**Bradley Lake S**	**1.66 191**		P	**Pn**	**20 28 24.5**	**0.0**
	baz=12						
O20K	**Slope Mountain**	**1.79 225**		P	**Pn**	**20 28 27.5**	**+1.3**
	baz=43						
PPLA	**Purkeypile**	**1.82 328**			**Sn**	**20 28 50.8**	**+2.2**
PPLA	**Purkeypile**	**1.82 328**			**Pn**	**20 28 27.1**	**+0.3**
PPLA	**Purkeypile**	**1.82 328**		P	**Pn**	**20 28 27.3**	**+0.6**
	baz=145						
PPLA				S	**Sn**	**20 28 50.8**	**+2.2**
	baz=145						
HOM	**Homer**	**1.88 205**			**Sn**	**20 28 52.3**	**+2.5**
HOM	**Homer**	**1.88 205**			**Pn**	**20 28 28.1**	**+0.7**
HOM	**Homer**	**1.88 205**		IAML		20 28 55.9	
	comp=E,2μm,0.9s						
HOM				IAML		20 28 56.0	
	comp=N,2μm,0.9s						
HOM	**Homer**	**1.88 205**		P	**Pn**	**20 28 28.4**	**+1.0**
	baz=24						
HOM				S	**Sn**	**20 28 52.3**	**+2.5**
	baz=24						
P23K	**Montague Islan**	**1.91 135**		P	**Pn**	**20 28 27.3**	**-0.5**
	baz=318						
CNPM	**China Poot**	**1.93 197**			**Pn**	**20 28 28.4**	**+0.3**
CNPM				IAML		20 28 57.8	
	comp=N,1μm,0.3s						
CNPM				IAML		20 28 58.5	
	comp=E,942nm,0.6s						
M24K	**Tolsona, Glenn**	**2.01 67**		IAML		20 29 06.8	
	comp=N,801nm,0.5s						
M24K				IAML		20 29 07.4	
	comp=E,993nm,0.6s						
M24K	**Tolsona, Glenn**	**2.01 67**		P	**Pn**	**20 28 30.6**	**+1.4**
	baz=250						
HIN	**Hinchinbrook I**	**2.01 117**			**Pn**	**20 28 28.6**	**-0.7**
HIN				IAML		20 29 03.7	
	comp=N,1μm,0.5s						
KLU	**Klutina**	**2.01 85**			**Pn**	**20 28 29.4**	**+0.1**
KLU				IAML		20 29 02.4	
	comp=N,812nm,0.6s						
KLU				IAML		20 29 03.9	
	comp=E,503nm,0.5s						
KLU	**Klutina**	**2.01 85**		P	**Pn**	**20 28 29.5**	**+0.2**
	baz=268						
ILSW	**Iliamna Southw**	**2.04 228**			**Pn**	**20 28 30.5**	**+0.8**
TRF	**Thorofare Moun**	**2.09 358**		IAML		20 29 09.6	
	comp=N,518nm,0.6s						
TRF	**Thorofare Moun**	**2.09 358**		P	**Pn**	**20 28 31.1**	**+0.6**
	baz=176						
L20K	**Farewell, AK**	**2.11 304**		P	**Pn**	**20 28 31.2**	**+0.7**
	baz=120						
DIV	**Divide**	**2.11 95**			**Pn**	**20 28 30.7**	**+0.1**
M19K	**Big River Lodg**	**2.12 287**			**Pn**	**20 28 31.6**	**+0.9**
M19K	**Big River Lodg**	**2.12 287**		P	**Pn**	**20 28 31.5**	**+0.9**
	baz=102						
RND	**Reindeer**	**2.13 15**			**Pn**	**20 28 32.0**	**+1.1**
RND				IAML		20 29 09.2	
	comp=N,427nm,1.0s						
RND				IAML		20 29 10.3	
	comp=E,417nm,0.7s						
N19K	**Bonanza Creek**	**2.20 257**			**Pn**	**20 28 32.8**	**+0.9**
N19K	**Bonanza Creek**	**2.20 257**		P	**Pn**	**20 28 32.8**	**+0.9**
	baz=73						
KTH	**Kantishna Hill**	**2.23 351**			**Pn**	**20 28 33.0**	**+0.8**
KTH				IAML		20 29 02.3	
	comp=E,773nm,0.6s						
KTH				IAML		20 29 07.2	
	comp=N,656nm,0.9s						
CAST	**Castle Rocks**	**2.26 337**			**Pn**	**20 28 33.2**	**+0.6**
CAST	**Castle Rocks**	**2.26 337**		P	**Pn**	**20 28 33.2**	**+0.6**
	baz=154						
EYAK	**Cordova Ski Ar**	**2.28 109**		P	**Pn**	**20 28 32.6**	**-0.2**
	baz=294						
P19K	**Oil Pt**	**2.31 223**		P	**Pn**	**20 28 34.6**	**+1.2**
	baz=41						
O19K	**Port Alsworth**	**2.38 242**			**Pn**	**20 28 35.0**	**+0.8**
O19K				IAML		20 29 10.2	
	comp=N,792nm,0.4s						
O19K	**Port Alsworth**	**2.38 242**		P	**Pn**	**20 28 35.0**	**+0.8**
	baz=59						
L19K	**White Mountain**	**2.40 292**			**Pn**	**20 28 35.7**	**+1.1**
L19K	**White Mountain**	**2.40 292**		P	**Pn**	**20 28 35.7**	**+1.1**
	baz=107						
MCK	**McKinley**	**2.44 12**			**Pn**	**20 28 36.8**	**+1.8**
MCK	**McKinley**	**2.44 12**		P	**Pn**	**20 28 36.8**	**+1.8**
	baz=192						
HARP	**HAARP**	**2.56 64**		P	**Pn**	**20 28 38.0**	**+1.3**
	baz=248						
AUL	**Augustine Lava**	**2.59 221**			**Pn**	**20 28 39.1**	**+1.9**
AUCH	**Augustine Cone**	**2.61 221**			**Pn**	**20 28 38.9**	**+1.4**
N25K	**Chitina, Valde**	**2.65 82**			**Pn**	**20 28 38.8**	**+0.8**
N25K				IAML		20 29 18.5	
	comp=E,301nm,0.6s						
N25K				IAML		20 29 20.7	
	comp=N,431nm,0.6s						
N25K	**Chitina, Valde**	**2.65 82**		P	**Pn**	**20 28 38.2**	**+0.1**
	baz=267						
BMRM	**Bremner River**	**2.69 96**		P	**Pn**	**20 28 38.2**	**-0.4**
	baz=281						
PAX	**Paxson**	**2.70 51**			**Pn**	**20 28 40.1**	**+1.3**
PAX	**Paxson**	**2.70 51**		P	**Pn**	**20 28 40.7**	**+1.9**
	baz=235						
K20K	**Telida**	**2.72 319**		IAML		20 29 33.0	
	comp=E,276nm,0.6s						
K20K	**Telida**	**2.72 319**		P	**Pn**	**20 28 39.4**	**+0.4**
	baz=135						
CHUM	**Lake Minchumin**	**2.72 339**			**Pn**	**20 28 39.7**	**+0.7**
CHUM	**Lake Minchumin**	**2.72 339**		P	**Pn**	**20 28 39.7**	**+0.7**
	baz=156						
GOAT	**Goat Mountain**	**2.74 104**			**Pn**	**20 28 39.1**	**-0.1**
M18K	**Stony River**	**2.75 275**			**Pn**	**20 28 39.9**	**+0.5**
M18K	**Stony River**	**2.75 275**		P	**Pn**	**20 28 39.9**	**+0.5**
	baz=90						
BPAW	**Bear Paw Mtn.**	**2.77 352**		Pn	**Pn**	**20 28 39.8**	**+0.2**
BPAW	**Bear Paw Mtn.**	**2.77 352**		P	**Pn**	**20 28 39.9**	**+0.2**
	baz=170						
WACK	**Wrangell Chich**	**2.82 75**			**Pn**	**20 28 41.5**	**+1.0**
WASW	**Wrangell South**	**2.88 76**			**Pn**	**20 28 41.4**	**0.0**
N18K	**Kilae Creek**	**2.90 259**			**Pn**	**20 28 41.7**	**+0.3**
N18K	**Kilae Creek**	**2.90 259**		IAML		20 29 16.1	
	comp=N,236nm,0.7s						
N18K	**Kilae Creek**	**2.90 259**		P	**Pn**	**20 28 41.7**	**+0.3**
	baz=74						
O18K	**Koktuh Hills**	**2.94 241**		Pn	**Pn**	**20 28 42.4**	**+0.5**
O18K				IAML		20 29 46.4	
	comp=N,272nm,1.0s						
O18K	**Koktuh Hills**	**2.94 241**		P	**Pn**	**20 28 42.5**	**+0.5**
	baz=57						
SYI	**Shuyak Island**	**3.00 204**			**Pn**	**20 28 43.1**	**+0.4**
SYI				IAML		20 29 28.3	
	comp=E,289nm,0.8s						
SYI				IAML		20 29 29.7	
	comp=N,199nm,0.6s						
Q20K	**Shuyak Island**	**3.00 204**		P	**Pn**	**20 28 43.1**	**+0.4**
	baz=22						
Q19K	**Cape Douglas,**	**3.02 217**			**Pn**	**20 28 43.8**	**+0.7**
Q19K	**Cape Douglas,**	**3.02 217**		P	**Pn**	**20 28 43.8**	**+0.7**
	baz=35						
GLB	**Gilahina Butte**	**3.03 86**		IAML		20 29 33.4	
	comp=E,195nm,0.6s						
GLB				IAML		20 29 33.8	
	comp=N,304nm,0.7s						
HMT	**Hamilton**	**3.04 107**			**Pn**	**20 28 42.9**	**-0.5**
TTA	**Tatalina**	**3.19 302**			**Pn**	**20 28 45.7**	**+0.3**
TTA				IAML		20 29 47.4	
	comp=E,153nm,0.8s						
TTA				IAML		20 29 48.4	
	comp=N,216nm,1.0s						
TTA	**Tatalina**	**3.19 302**		P	**Pn**	**20 28 45.9**	**+0.5**
	baz=116						
VRDI	**Verde Repeater**	**3.21 90**			**Pn**	**20 28 45.9**	**0.0**
VRDI				IAML		20 29 41.9	
	comp=N,166nm,1.0s						
P18K	**Big Mountain,**	**3.23 234**		P	**Pn**	**20 28 46.6**	**+0.7**
	baz=50						
WRH	**Wood River Hil**	**3.25 16**			**Pn**	**20 28 47.2**	**+1.0**
NEA2	**Nenana**	**3.27 8**			**Pn**	**20 28 46.7**	**+0.2**
NEA2	**Nenana**	**3.27 8**		P	**Pn**	**20 28 46.7**	**+0.2**
	baz=188						
HDA	**Harding Lake**	**3.38 24**			**Pn**	**20 28 49.6**	**+1.6**
HDA				IAML		20 29 46.4	
	comp=N,261nm,0.5s						
HDA				IAML		20 29 46.5	
	comp=E,219nm,0.5s						
HDA	**Harding Lake**	**3.38 24**		P	**Pn**	**20 28 50.0**	**+2.0**
	baz=206						
J20K	**Nowinta River**	**3.38 328**		IAML		20 29 28.6	
	comp=N,222nm,0.6s						
J20K				IAML		20 29 59.0	
	comp=E,232nm,0.7s						
RIDG	**Independent Ri**	**3.40 43**			**Pn**	**20 28 49.7**	**+1.3**
RIDG				IAML		20 29 38.7	
	comp=N,334nm,0.7s						
CCB	**Clear Creek Bu**	**3.46 17**			**Pn**	**20 28 50.0**	**+1.0**
CCB	**Clear Creek Bu**	**3.46 17**		IAML		20 29 46.7	
	comp=E,138nm,1.0s						
M26K	**Nabesna, AK**	**3.52 70**		IAML		20 29 51.1	
	comp=N,211nm,0.6s						
M26K				IAML		20 29 55.2	
	comp=E,129nm,0.5s						
M17K	**Holitna River**	**3.53 274**		IAML		20 29 33.4	
	comp=N,274nm,0.4s						
N17K	**Nushagak Hills**	**3.56 259**		IAML		20 29 32.8	
	comp=E,220nm,0.7s						
N17K				IAML		20 29 59.8	
	comp=N,119nm,0.8s						
L26K	**Log Cabin Wild**	**3.58 59**		IAML		20 29 48.2	
	comp=N,216nm,0.4s						
L26K				IAML		20 29 52.3	
	comp=E,248nm,0.6s						
KAHG	**Katmai Hook Gl**	**3.65 220**			**Pn**	**20 28 52.5**	**+0.7**
J19K	**Poorman**	**3.66 318**		IAML		20 29 52.0	
	comp=E,153nm,0.7s						
J19K				IAML		20 30 08.0	
	comp=N,177nm,0.8s						
COLA	**College**	**3.67 15**			**Pn**	**20 28 53.4**	**+1.5**
ILAR	**Eielson Array**	**3.72 22**	Pn		**Pn**	**20 28 54.1**	**+1.5**
ILAR	**Eielson Array**	**3.72 22**	P		**Pn**	**20 28 54.5**	**+1.9**
	comp=N,4.5nm,0.3s,baz=208,slow=13,SNR=69						
ILAR				S	**Sn**	**20 29 39.2**	**+4.1**
	comp=N,14nm,0.4s,baz=210,slow=22,SNR=7.5						
J18K	**Innoko River**	**3.73 307**			**Pn**	**20 28 53.0**	**+0.2**
J18K				IAML		20 29 36.5	
	comp=N,127nm,0.7s						
J18K	**Innoko River**	**3.73 307**		P	**Pn**	**20 28 53.5**	**+0.7**
	baz=121						
O17K	**Koliganek Bris**	**3.80 248**		P	**Pn**	**20 28 54.6**	**+0.8**
	baz=62						
I23K	**Minto, Yukon-K**	**3.81 5**		IAML		20 30 05.5	
	comp=N,96nm,0.7s						
I23K	**Minto, Yukon-K**	**3.81 5**		P	**Pn**	**20 28 54.7**	**+0.8**
	baz=185						
KDAK	**Kodiak Island**	**3.81 200**	Pn		**Pn**	**20 28 52.9**	**-0.9**
KDAK				IAML		20 29 58.0	
	comp=N,104nm,0.7s						
KDAK				IAML		20 30 01.7	
	comp=N,179nm,0.9s						
KDAK	**Kodiak Island**	**3.81 200**	P		**Pn**	**20 28 53.0**	**-0.9**
	comp=N,5.7nm,0.3s,baz=239,slow=3.8,SNR=75						
KDAK				S	**Sn**	**20 29 35.6**	**-1.8**
	comp=N,36nm,0.5s,baz=256,slow=7.8,SNR=4.0						
KDAK				LR	LR	20 30 07.4	
	comp=N,121nm,21.1s,baz=17,slow=35						
SCRK	**Sand Creek**	**3.85 44**	Pn		**Pn**	**20 28 55.4**	**+0.8**
SCRK				IAML		20 29 59.4	
	comp=E,147nm,0.6s						
SCRK				IAML		20 30 00.8	
	comp=N,110nm,0.6s						
SCRK	**Sand Creek**	**3.85 44**	P		**Pn**	**20 28 55.5**	**+1.0**
	baz=230						
J25K	**Salcha River,**	**3.91 31**	IAML			20 29 49.3	
	comp=N,119nm,0.6s						
J25K				IAML		20 30 01.2	
	comp=E,154nm,0.8s						
POKR	**Poker Plat Res**	**3.95 17**			**Pn**	**20 28 56.1**	**+0.3**
POKR	**Poker Plat Res**	**3.95 17**	IAML			20 30 13.6	
	comp=E,100nm,1.0s						
POKR	**Poker Plat Res**	**3.95 17**	P		**Pn**	**20 28 56.1**	**+0.3**
	baz=198						
K17K	**Iditarod**	**4.09 293**	IAML			20 30 15.5	
	comp=E,112nm,0.8s						
K17K				IAML		20 30 20.1	
	comp=N,126nm,1.0s						
MESA	**MESA**	**4.17 103**	IAML			20 29 49.7	
	comp=N,165nm,0.5s						
MESA				IAML		20 30 10.3	
	comp=E,144nm,0.7s						
BCAR	**Beaver Creek A**	**4.25 63**			**Pn**	**20 29 00.5**	**+0.5**
Q17K	**Contact Creek**	**4.27 226**	P		**Pn**	**20 29 01.1**	**+0.8**
	baz=41						
J26L	**Joseph Creek**	**4.34 41**	IAML			20 29 58.8	
	comp=N,110nm,0.6s						
J26L				IAML		20 30 00.7	
	comp=E,131nm,0.4s						
R18K	**Karluk**	**4.41 212**	IAML			20 30 04.7	
	comp=E,138nm,0.6s						
R18K	**Karluk**	**4.41 212**	P		**Pn**	**20 29 02.9**	**+0.8**
	baz=29						
YUK2	**White River**	**4.45 81**			**Pn**	**20 29 03.1**	**+0.4**
OHAK	**Old Harbor**	**4.47 203**	IAML			20 30 14.7	
	comp=N,58nm,0.9s						
L16K	**Owhat River**	**4.50 278**	Pn		**Pn**	**20 29 03.7**	**+0.4**
L16K				IAML		20 30 30.1	
	comp=E,56nm,0.9s						
L16K	**Owhat River**	**4.50 278**	P		**Pn**	**20 29 03.9**	**+0.5**
	baz=90						
GCSA	**Galena City Sc**	**4.58 321**	P		**Pn**	**20 29 05.5**	**+1.1**
	baz=134						
H24K	**Noodor Dome**	**4.60 12**	IAML			20 30 27.6	
	comp=E,77nm,1.0s						
YUK3	**Moose Creek**	**4.63 81**			**Pn**	**20 29 06.2**	**+0.9**
YUK3	**Moose Creek**	**4.63 81**	P		**Pn**	**20 29 06.2**	**+0.9**
	baz=269						
PRP	**Porcupine Dome**	**4.64 24**	IAML			20 30 25.5	
	comp=E,68nm,0.9s						
PRP				IAML		20 30 28.7	
	comp=N,80nm,0.8s						
J17K	**VABM Dome**	**4.65 300**	IAML			20 30 46.5	
	comp=N,50nm,0.9s						
N15K	**Kwethluk River**	**5.04 261**	IAML			20 30 43.1	
	comp=N,64nm,1.1s						
N15K				IAML		20 30 45.5	
	comp=E,76nm,1.2s						
N15K	**Kwethluk River**	**5.04 261**	P		**Pn**	**20 29 12.1**	**+1.2**
	baz=72						
H19K	**Roundabout Mou**	**5.05 328**	IAML			20 30 35.8	
	comp=E,43nm,1.1s						
H19K				IAML		20 30 48.1	
	comp=N,43nm,1.1s						
M15K	**Kasigluk River**	**5.19 267**	P		**Pn**	**20 29 13.5**	**+0.7**
	baz=78						
H18K	**Honhosa River**	**5.32 319**	IAML			20 30 18.0	
	comp=N,35nm,0.5s						
H18K				IAML		20 30 18.6	
	comp=E,31nm,0.6s						
H18K	**Honhosa River**	**5.32 319**	P		**Pn**	**20 29 15.2**	**+0.6**
	baz=131						
H17K	**Granite Mounta**	**5.71 313**	P		**Pn**	**20 29 20.9**	**+1.0**
	baz=124						
M14K	**Bethel**	**5.79 269**			**Pn**	**20 29 21.9**	**+0.8**
M14K	**Bethel**	**5.79 269**	P		**Pn**	**20 29 21.9**	**+0.8**
	baz=79						
G17K	**Kiwalik Mounta**	**6.29 316**	P		**Pn**	**20 29 28.9

comp=E,0.3nm,0.5s,baz=37,slow=7.1,SNR=4.5
comp=E,0.3nm,0.5s
ZALV Zalesovo Beam 57.10 325 P P 20 37 36.6 -2.7
comp=E,0.3nm,0.4s,baz=22,slow=7.0,SNR=4.3
comp=E,0.3nm,0.4s
KURBB Kurchatov Arra 61.78 327 P P 20 38 09.5 -2.1
comp=E,0.2nm,0.4s,baz=31,slow=6.5,SNR=8.4
comp=E,0.2nm,0.4s
MKAR Makanchi Array 64.23 323 P P 20 38 25.3 -2.7
comp=E,0.2nm,0.4s,baz=31,slow=6.4,SNR=9.4
comp=E,0.2nm,0.4s
AKASG Malin Array Be 68.28 0 P P 20 38 53.0 -0.8
comp=E,0.5nm,0.5s,baz=3.5,slow=6.4,SNR=2.9
comp=E,0.5nm,0.5s

---

*ISK **06** 20:35:12.7, 39°.15N×40°.46E, h3km, ML3.9/29*
*AFAD **06** 20:35:13.1, 39°.13N×40°.44E, h7km±2km, MW3.9*
*IDC **06** 20:35:13.9±0.8, 39°.23N×40°.34E, h0km, mb3.2/5, mbtmp3.3/11, ML3.4/7, MS3.2/2, Error ellipse: s-maj=15.7km s-min=9.0km az=160.0*
ISC 06 20:35:13.4±1.1, 39°.14N±0°.02×40°.46E±0°.02, h4km±8km, n91, σ1°36/106, mb3.6/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.23**	**130**	Pg	**Pg**	**20 35 18.8**	**+1.0**
BNGB				Sg	**Sg**	**20 35 22.1**	**+1.3**
SLHN	**Bingol, Solhan**	**0.48**	**112**	P	**Pg**	**20 35 22.2**	**-0.4**
KARO	**Karliova-Bingo**	**0.49**	**69**	Pg	**Pg**	**20 35 22.8**	**0.0**
KARO				Sg	**Sg**	**20 35 30.6**	**+1.4**
ECAT	**Cat-ERZURUM**	**0.61**	**40**	P	**Pg**	**20 35 25.0**	**-0.2**
KOVA	**Elazig, Kovanc**	**0.66**	**230**	P	**Pg**	**20 35 26.3**	**+0.1**
KOVA				S	**Sg**	**20 35 35.3**	**+0.5**
KOVA				*i* AML	AML	20 35 38.0	
	comp=E,10μm,0.4s						
TNCL	**Tunceli-Merkez**	**0.71**	**268**	P	**Pg**	**20 35 27.0**	**-0.1**
TNCL				S	**Sb**	**20 35 37.2**	**-1.4**
TNCL				*i* AML	AML	20 35 38.0	
	comp=N,2μm,0.3s						
TNCL				*i* AML	AML	20 35 38.0	
	comp=E,10μm,0.3s						
HANI	**Diyarbakir_Han**	**0.72**	**184**	P	**Pg**	**20 35 27.3**	**+0.1**
VRTB	**Varto-Mus**	**0.78**	**88**	Pg	**Pg**	**20 35 27.9**	**-0.4**
VRTB				Sg	**Sb**	**20 35 39.9**	**-0.5**
VRTB	**Varto-Mus**	**0.78**	**88**	P	**Pg**	**20 35 28.3**	**+0.1**
EUZM	**Uzumlu**	**0.82**	**314**	P	**Pg**	**20 35 28.8**	**-0.3**
ETEKE	**Tekederesi - E**	**0.84**	**39**	P	**Pg**	**20 35 28.6**	**-0.9**
PTK	**Pertek**	**0.87**	**254**	Pg	**Pg**	**20 35 29.3**	**-0.7**
KOPT	**Kop Dagi**	**0.88**	**2**	P	**Pg**	**20 35 30.4**	**+0.1**
MUSM	**Mu-Merkez**	**0.92**	**116**	P	**Pg**	**20 35 29.2**	**-1.9**
MUSM				S	**Sg**	**20 35 41.4**	**-1.5**
MUSM				*i* AML	AML	20 35 45.0	
	comp=E,1μm,0.4s						
EJDE	**Erzurum, Palan**	**0.95**	**43**	P	**Pg**	**20 35 32.0**	**+0.3**
EMRE	**Erzurum,Aziziy**	**0.98**	**24**	P	**Pg**	**20 35 31.8**	**-0.3**
ERZM	**Erzurum**	**1.04**	**42**	P	**Pg**	**20 35 33.2**	**-0.1**
BAYB	**BAYBURT**	**1.13**	**352**	P	**Pb**	**20 35 34.9**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.14**	**149**	Pn	**Pg**	**20 35 35.3**	**0.0**
SVAN	**Silvan-Diyarba**	**1.14**	**149**	P	**Pn**	**20 35 36.1**	**0.0**
SVAN				S	**Sb**	**20 35 51.5**	**+0.6**
SVAN				*i* AML	AML	20 35 52.0	
	comp=E,2μm,0.6s						
DIYA	**Diyarbakir**	**1.24**	**192**	P	**Pn**	**20 35 37.9**	**+0.4**
DIYA				S	**Sn**	**20 35 54.8**	**+0.1**
DIYA				*i* AML	AML	20 35 57.0	
	comp=E,3μm,0.2s						
KRIK	**Erzurum-spir**	**1.25**	**17**	P	**Pg**	**20 35 37.2**	**-0.2**
BAYT	**Aydıntepe-Bayb**	**1.28**	**349**	Pn	**Pb**	**20 35 37.6**	**-0.5**
ELZG	**Elazig**	**1.32**	**241**	P	**Pg**	**20 35 37.7**	**-0.9**
ELZG				S	**Sn**	**20 35 57.1**	**+0.3**
ELZG				*i* AML	AML	20 36 05.0	
	comp=E,2μm,0.4s						
GURO	**Guroymak-BITLI**	**1.36**	**115**	Pn	**Pn**	**20 35 37.3**	**-2.0**
KELT	**Kelkit**	**1.37**	**318**	P	**Pn**	**20 35 38.6**	**-0.8**
KOPR	**Koprukoy-ERZUR**	**1.37**	**51**	Pn	**Pn**	**20 35 38.9**	**-0.6**
BTMN	**Batman**	**1.40**	**153**	P	**Pn**	**20 35 39.8**	**0.0**
BTMN				S	**Sg**	**20 35 57.3**	**-1.0**
BTMN				*i* AML	AML	20 36 00.0	
	comp=E,4μm,0.9s						
BTMN				*i* AML	AML	20 36 02.0	
	comp=N,5μm,0.4s						
HOMI	**Horasan**	**1.44**	**51**	P	**Pn**	**20 35 39.9**	**-0.5**
BLIS	**Bitlis-Merkez**	**1.48**	**119**	P	**Pn**	**20 35 40.0**	**-1.0**
GUMT	**Gumushane**	**1.52**	**331**	Pn	**Pb**	**20 35 41.8**	**-0.4**
KEMA	**Kemaliye**	**1.53**	**275**	P	**Pn**	**20 35 45.4**	**-0.1**
KEMA				S	**Sg**	**20 36 02.4**	**-0.3**
KEMA				*i* AML	AML	20 36 06.0	
	comp=N,1μm,0.3s						
KEMA				*i* AML	AML	20 36 07.0	
	comp=E,1μm,0.5s						
SRTM	**Siirt_Merkez**	**1.62**	**134**	P	**Pg**	**20 35 44.6**	**+0.1**
MLAZ	**Malazgirt-MUS**	**1.63**	**89**	Pn	**Pn**	**20 35 42.5**	**-0.4**
IZDR	**Rize**	**1.65**	**3**	P	**Pb**	**20 35 43.8**	**-0.6**
MAZI	**Mazidag**	**1.68**	**180**	Pn	**Pn**	**20 35 43.6**	**0.0**
MAZI				Sn	**Sb**	**20 36 06.3**	**0.0**
ALUC	**Giresun/Alucra**	**1.77**	**313**	P	**Pb**	**20 35 46.4**	**-0.1**
MAYA	**Malatya/Merkez**	**1.79**	**244**	P	**Pb**	**20 35 46.2**	**-0.5**
MAYA				S	**Sg**	**20 36 11.2**	**+0.5**
MAYA				*i* AML	AML	20 36 17.0	
	comp=N,652nm,0.7s						
NARI	**Adyaman-Kaht**	**1.83**	**227**	P	**Pg**	**20 35 48.1**	**-0.3**
MARD	**Mardin**	**1.84**	**172**	P	**Pn**	**20 35 46.5**	**+0.6**
MARD				S	**Sn**	**20 36 09.6**	**0.0**
MARD				*i* AML	AML	20 36 18.0	
	comp=E,3μm,0.4s						
KTUT	**Trabzon**	**1.92**	**344**	Pn	**Pn**	**20 35 47.0**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.96**	**263**	P	**Pb**	**20 35 49.9**	**+0.1**
CHOM	**Cayeli-Rize**	**1.97**	**7**	Pn	**Pn**	**20 35 48.0**	**+0.5**
HANM	**anlurfa/Hi**	**1.99**	**219**	P	**Pn**	**20 35 47.8**	**0.0**
HANM				S	**Sn**	**20 36 13.5**	**+0.4**
HANM				*i* AML	AML	20 36 19.0	
	comp=N,2μm,0.8s						
HANM				*i* AML	AML	20 36 19.0	
	comp=E,519nm,0.4s						
AGRB	**Hanur-Agry**	**2.01**	**77**	Pn	**Pn**	**20 35 48.7**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.04**	**45**	Pn	**Pn**	**20 35 49.0**	**+0.4**
SUSE	**Susehri**	**2.04**	**302**	P	**Pb**	**20 35 50.3**	**-0.8**
URFA	**Urfa**	**2.13**	**218**	Pn	**Pn**	**20 35 50.3**	**+0.5**
AKCD	**Akcadag**	**2.15**	**248**	P	**Pb**	**20 35 51.5**	**-1.6**
AZEY	**Adyaman-Merk**	**2.18**	**233**	P	**Pb**	**20 35 51.8**	**-1.7**
CUZAR	**Zara_SIVAS**	**2.21**	**291**	P	**Pn**	**20 35 52.0**	**+1.1**
ESPY	**Espiye-Giresun**	**2.22**	**324**	Pn	**Pn**	**20 35 51.6**	**+0.7**
SIRT	**Sirnak**	**2.26**	**136**	Pn	**Pn**	**20 35 52.1**	**+0.6**
SANL	**SANLIURFA_Merk**	**2.28**	**211**	P	**Pn**	**20 35 52.8**	**+1.0**
CUKAN	**kangal_SIVAS**	**2.33**	**275**	P	**Pb**	**20 35 55.8**	**-0.3**
CUKAN				S	**Sg**	**20 36 29.7**	**+1.4**
CUKAN				*i* AML	AML	20 36 37.0	
	comp=E,359nm,0.3s						
VANB	**Van**	**2.35**	**102**	Pn	**Pn**	**20 35 54.0**	**+1.1**
ATAB	**Bozova**	**2.38**	**226**	P	**Pn**	**20 35 54.2**	**+1.0**
DARE	**Darende-Malaty**	**2.39**	**257**	Pn	**Pn**	**20 35 54.2**	**+0.8**
BCA	**Borcka**	**2.47**	**21**	Pn	**Pn**	**20 35 55.1**	**+0.7**
KARS	**Kars**	**2.50**	**53**	Pn	**Pn**	**20 35 56.0**	**+1.0**
CUGUR	**Gurin_SVAS**	**2.52**	**262**	P	**Pg**	**20 36 01.2**	**-0.5**
AKCA	**Adyaman/G¶l**	**2.56**	**239**	P	**Pb**	**20 35 57.7**	**-2.2**
RSDY	**Resadiye-TOKAT**	**2.72**	**299**	Pn	**Pn**	**20 35 58.9**	**+1.0**
ELBS	**KAHRAMANMARAS**	**2.73**	**254**	P	**Pb**	**20 36 03.6**	**+0.9**
SVSK	**Karacayir**	**2.79**	**287**	Pn	**Pn**	**20 35 59.8**	**+1.1**
CUAYA	**Sivas-Altinyay**	**2.89**	**274**	P	**Pb**	**20 36 06.2**	**+0.6**
CUAYA				S	**Sg**	**20 36 45.3**	**-0.8**
CUAYA				*i* AML	AML	20 37 04.0	
	comp=N,195nm,0.7s						
TASB	**TASBURUN-IGDIR**	**3.04**	**73**	Pn	**Pn**	**20 36 03.3**	**+1.0**
CUKT	**Cukurca**	**3.12**	**126**	Pn	**Pn**	**20 36 04.4**	**+1.0**
GAZ	**Gaziantep**	**3.23**	**234**	Pn	**Pn**	**20 36 06.1**	**+1.3**
TOKT	**Tokat**	**3.24**	**293**	Pn	**Pn**	**20 36 06.2**	**+1.2**
SARI	**SarD1z-Kayseri**	**3.24**	**258**	Pn	**Pn**	**20 36 06.3**	**+1.2**
GNI	**Garni**	**3.46**	**72**	Pn	**Pn**	**20 36 11.5**	**+3.4**
	3.8nm,0.3s,baz=274,slow=1.9,SNR=28						
GNI				Lg	Lg	20 37 05.8	
	0.9nm,0.3s,baz=72,slow=24,SNR=4.9						
	4.4nm,0.5s						
BNN	**Bunyan**	**3.60**	**267**	Pn	**Pn**	**20 36 11.4**	**+1.3**
KBZ	**Khabaz**	**4.94**	**21**	Pn	**Pn**	**20 36 30.9**	**+2.7**
	0.2nm,0.3s,baz=197,slow=11,SNR=6.2						
	2.0nm,0.7s						
KVAR	**Kislovodsk Arr**	**5.10**	**18**	Pn	**Pn**	**20 36 32.5**	**+1.9**
	baz=282,slow=19						
	1.5nm,0.5s						
BRTR	**Keskin Array B**	**5.31**	**278**	Pn	**Pn**	**20 36 35.0**	**+1.5**
	0.5nm,0.3s,baz=97,slow=14,SNR=11						
BRTR				Lg	Lg	20 37 59.9	
	baz=91,slow=28						
	1.2nm,0.4s						
MMAI	**Mount Meron Ar**	**7.35**	**215**	Pn	**Pn**	**20 37 04.4**	**+2.8**
	2.3nm,0.3s,baz=34,slow=13,SNR=14						
MMAI				Lg	Lg	20 39 07.2	
	1.0nm,0.3s,baz=31,slow=32,SNR=5.8						
	2.8nm,0.5s						
ASF	**Jabal al Asfar**	**7.53**	**204**	Pn	**Pn**	**20 37 06.3**	**+2.3**
	0.6nm,0.3s,baz=46,slow=19,SNR=6.1						
ASF				Lg	Lg	20 39 13.0	
	0.7nm,0.3s,baz=52,slow=23,SNR=2.3						
	2.6nm,0.5s						
EIL	**Elat**	**10.48**	**207**	LR	LR	20 42 06.5	
	comp=Z,57nm,22.0s,baz=71,slow=39						
MLR	**Muntele Rosu**	**12.47**	**305**	Pn	**Pn**	**20 38 11.7**	**+0.1**
	0.1nm,0.3s,baz=114,slow=20,SNR=3.0						
ARTI	**Arti**	**20.94**	**29**	LR	LR	20 49 13.4	
	comp=Z,140nm,20.0s,baz=312,slow=40						
GERES	**GERESS Array B**	**21.46**	**306**	P	**P**	**20 40 03.1**	**+0.4**
	0.3nm,0.3s,baz=101,slow=11,SNR=3.7						
	0.3nm,0.3s						
WTTA	**Wattenberg**	**22.43**	**301**	*e*Pn	**P**	**20 40 09.8**	**-3.4**
	2.6nm,0.8s						
WATA	**Walderalm**	**22.48**	**301**	*i* Pn	**P**	**20 40 10.4**	**-3.3**
	6.0nm,1.1s						
SQTA	**Sankt Quirin**	**22.71**	**300**	*e*Pn	**P**	**20 40 11.7**	**-4.4**
	2.0nm,0.7s						
MOTA	**Moosalm**	**22.80**	**301**	*i* Pn	**P**	**20 40 12.6**	**-4.5**
	7.7nm,1.0s						
FETA	**Feichten**	**23.00**	**300**	*i* Pn	**P**	**20 40 15.1**	**-4.0**
	4.7nm,1.3s						
FINES	**FINESS Array B**	**24.04**	**343**	P	**P**	**20 40 30.3**	**+1.2**
	0.6nm,0.5s,baz=148,slow=11,SNR=6.1						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**29.00**	**54**	P	**P**	**20 41 14.8**	**+0.8**
	0.1nm,0.6s,baz=258,slow=8.7,SNR=1.9						
	0.1nm,0.6s						
MKAR	**Makanchi Array**	**31.25**	**62**	P	**P**	**20 41 37.2**	**+3.2**
	0.5nm,1.0s,baz=282,slow=7.2,SNR=2.6						
	0.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**42.88**	**244**	P	**P**	**20 43 13.4**	**+0.4**
	0.5nm,0.8s,baz=40,slow=7.6,SNR=3.6						
	0.5nm,0.8s						

---

*MEX **06** 21:07:52.3±0.5, 32°.43N×115°.03W, h2km±6km, MD3.2*
*NEIC **06** 21:07:52.7±1.7, 32°.28N±0°.03×115°.10W±0°.02, h25km±10km, Error ellipse: s-maj=4.1km s-min=2.1km az=147.0*
*PAS **06** 21:07:52.7±2.1, 32°.27N±0°.03×115°.10W±0°.03, h25km±7km, ML3.3/177, ML3.0/28(NEIC), Error ellipse: s-maj=4.1km s-min=3.2km az=207.0*
*ECX **06** 21:07:53.0±0.6, 32°.37N×115°.15W, h13km±2km, MD3.3, ML3.4*
ISC 06 21:07:53.6±0.8, 32°.37N±0°.01×115°.15W±0°.01, h17km±1km, n59, σ1°05/91, 7C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELX	**Delta**	**0.04**	**243**	⇑*i*P	**Pg**	**21 07 58.6**	**+1.9**
DELX				*e*S	**Sg**	**21 08 03.1**	**+4.4**
SALX	**Saltillo**	**0.05**	**16**	⇑*i*P	**Pg**	**21 07 56.0**	**-0.7**
SALX				*e*S	**Sg**	**21 07 59.1**	**+0.3**
MBIG	**Mexicali**	**0.06**	**308**	⇑*e*P	**Pg**	**21 07 56.7**	**-0.1**
	baz=83,slow=2.6						
MBIG				*e*P		21 07 58.1	
MBIG				*i* S	**Sg**	**21 07 59.9**	**+1.1**
MBIG				*i* S		21 08 01.0	
MBIG	**Mexicali**	**0.06**	**308**	⇑*i*P	**Pg**	**21 07 56.7**	**-0.1**
MBIG				*i* S	**Sg**	**21 07 59.6**	**+0.8**
GUVIX	**Guadalupe Vict**	**0.09**	**139**		**Pg**	**21 07 57.2**	**+0.2**
GUVIX					**Sg**	**21 08 00.2**	**+0.8**
GUVIX	**Guadalupe Vict**	**0.09**	**139**	⇓*i*P	**Pg**	**21 07 57.2**	**+0.2**
GUVIX				*i* S	**Sg**	**21 08 00.1**	**+0.8**
GUVIX				*e*		21 08 00.7	
GUVIX				IAML		21 08 00.7	
	comp=E,38μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.10**	**1**	*e*P	**Pb**	**21 07 56.7**	**-0.4**
CTLX				*e*S	**Sb**	**21 07 59.6**	**+0.1**
AGSX	**Ej. Aguas Cali**	**0.11**	**186**	⇓*i*P	**Pb**	**21 07 57.6**	**+0.4**
AGSX				*e*S	**Sb**	**21 08 00.4**	**+0.8**
CPBX	**Cerro Prieto**	**0.14**	**289**		**Pb**	**21 07 58.2**	**+0.4**
CPBX	**Cerro Prieto**	**0.14**	**289**	⇑*i*P	**Pb**	**21 07 58.3**	**+0.4**
CPBX				*e*S	**Sb**	**21 08 01.0**	**+0.4**
CPBX				⇑*e*		21 08 07.5	
CPBX				IAML		21 08 07.5	
	comp=N,30μm,0.4s						
CPBX				IAML		21 08 13.8	
	comp=E,26μm,0.5s						
CPBX				⇓*e*		21 08 13.8	
PESCX	**Ej. Pescaderos**	**0.17**	**69**		**Pb**	**21 07 58.2**	**0.0**
PESCX				*e*S	**Sb**	**21 08 02.1**	**+0.8**
PESCX	**Ej. Pescaderos**	**0.17**	**69**	⇓*i*P	**Pb**	**21 07 58.2**	**0.0**
PESCX				*e*S	**Sb**	**21 08 02.1**	**+0.8**
RITX	**Riito Sonora**	**0.26**	**143**	⇓*i*P	**Pb**	**21 08 00.3**	**+0.5**
RHX	**Rio Hardy**	**0.26**	**206**	⇓*i*P	**Pb**	**21 07 59.8**	**-0.1**
5054	**Holtville Bond**	**0.36**	**333**		**Pb**	**21 08 01.9**	**+0.4**
5054					**Sn**	**21 08 09.0**	**-1.7**
UABX	**UABC, Campus M**	**0.36**	**316**		**Pb**	**21 08 01.9**	**+0.4**
UABX					**Sn**	**21 08 08.9**	**-1.8**
EMSC	**East Mesa**	**0.39**	**20**		**Pb**	**21 08 02.5**	**+0.4**
EMSC					**Sb**	**21 08 09.2**	**+1.4**
EMSC	**East Mesa**	**0.39**	**20**	⇓*i*P	**Pb**	**21 08 02.5**	**+0.4**
JARAX	**Ej. Heriberto**	**0.40**	**294**	⇑*e*P	**Pb**	**21 08 02.5**	**+0.3**
5053	**Calexico**	**0.42**	**315**		**Pb**	**21 08 03.3**	**+0.8**
5053					**Sn**	**21 08 10.8**	**-1.4**
COA	**Coachella**	**0.49**	**2**		**Pb**	**21 08 04.3**	**+0.5**
COA					**Sn**	**21 08 12.5**	**-1.4**
DREC	**Desert Rsrch C**	**0.50**	**330**		**Pn**	**21 08 05.1**	**-0.9**
DREC					**Sn**	**21 08 13.8**	**-0.4**
EDOMX	**El Doctor, EDO**	**0.54**	**140**	*e*P	**Pb**	**21 08 05.1**	**+0.6**
EDOMX				*e*S	**Sn**	**21 08 13.6**	**-1.4**
SNR	**Schaffner Ranc**	**0.55**	**333**		**Pb**	**21 08 04.7**	**0.0**
SNR					**Sn**	**21 08 15.0**	**-0.3**
SGL	**Mount Signal**	**0.56**	**300**		**Sb**	**21 08 13.6**	**+0.9**
ALAMX	**Rancho Alamar**	**0.60**	**233**	⇓*i*P	**Pb**	**21 08 06.2**	**+0.6**
ALAMX				*i* S	**Sb**	**21 08 14.8**	**+1.0**
RUN	**Ruthven**	**0.61**	**13**		**Pb**	**21 08 05.8**	**-0.1**
RUN					**Sb**	**21 08 14.7**	**+0.4**
WESC	**Westside Schoo**	**0.63**	**308**		**Pb**	**21 08 06.4**	**+0.3**
WESC					**Sb**	**21 08 15.8**	**+1.3**
IMPE	**Imperial**	**0.63**	**327**		**Pn**	**21 08 06.8**	**-0.9**
IMPE					**Sn**	**21 08 17.4**	**-0.1**
COK2	**Cook Ranch 2**	**0.68**	**314**		**Pb**	**21 08 07.3**	**+0.3**
COK2					**Sn**	**21 08 17.9**	**-0.8**
YUH	**Yuha Desert**	**0.71**	**293**	Pn	**Pb**	**21 08 07.2**	**-0.3**
YUH					**Sb**	**21 08 17.9**	**+0.8**
YUH				IAML		21 08 19.4	
	comp=N,398nm,0.6s						
YUH				IAML		21 08 27.0	
	comp=E,502nm,0.6s						
GLA	**Glamis**	**0.73**	**22**		**Pb**	**21 08 07.6**	**-0.3**
GLA					**Sb**	**21 08 17.8**	**+0.3**
WEMD	**Westmorland, C**	**0.76**	**331**		**Sn**	**21 08 21.0**	**-0.5**
ESJX	**Sierra Juarez**	**0.77**	**242**		**Pb**	**21 08 09.0**	**+0.4**
ESJX					**Sb**	**21 08 20.0**	**+1.0**
ESJX				IAML		21 08 21.1	
	comp=N,718nm,0.2s						
ESJX				IAML		21 08 22.2	
	comp=E,802nm,0.5s						
SWSC	**Sam W. Stewart**	**0.79**	**316**		**Pb**	**21 08 08.9**	**0.0**
SWSC					**Sb**	**21 08 19.8**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**0.86**	**289**		**Pb**	**21 08 09.8**	**-0.3**
IKP					**Sb**	**21 08 22.1**	**+0.7**
CRR	**Carrizo Plain**	**0.86**	**307**		**Pg**	**21 08 09.5**	**-0.9**
CRR					**Sb**	**21 08 21.8**	**+0.4**
SLVP	**Salvation Pass**	**0.87**	**351**		**Pg**	**21 08 09.8**	**-0.8**
VTX	**Valle De La Tr**	**1.12**	**209**		**Pg**	**21 08 14.5**	**-0.7**
113A	**Mohawk Valley,**	**1.23**	**71**	Pn	**Pn**	**21 08 15.3**	**-0.7**
113A				IAML		21 08 32.7	
	comp=N,314nm,0.6s						
113A				IAML		21 08 39.4	
	comp=E,219nm,0.8s						
CBX	**Cerro Bola**	**1.28**	**268**		**Pn**	**21 08 16.9**	**0.0**
CBX	**Cerro Bola**	**1.28**	**268**	*e*P	**Pb**	**21 08 17.1**	**-0.3**
CBX				*i* S	**Sg**	**21 08 36.0**	**+0.8**
TJIG	**Tijuana**	**1.29**	**273**	*e*P	**Pb**	**21 08 17.4**	**-0.1**
TJIG				*i* S	**Sg**	**21 08 35.0**	**-0.4**
SFX	**San Felipe**	**1.35**	**169**	Pn	**Pn**	**21 08 16.2**	**-1.5**
SFX				IAML		21 08 59.8	
	comp=N,233nm,0.7s						
SFX				IAML		21 09 00.1	
	comp=E,195nm,1.2s						
SFX	**San Felipe**	**1.35**	**169**	*e*P	**Pn**	**21 08 17.0**	**-0.7**
SFX				*i* S	**Sb**	**21 08 35.6**	**+0.1**
SFX	**San Felipe**	**1.35**	**169**	*e*P	**Pn**	**21 08 16.6**	**-1.1**
BLYC	**Blythe**	**1.47**	**21**	Pn	**Pb**	**21 08 20.0**	**-0.5**
BLYC				IAML		21 08 41.9	
	comp=N,248nm,0.4s						
PIX	**Pinacate**	**1.65**	**119**	Pn	**Pn**	**21 08 19.9**	**-1.8**
PIX				IAML		21 09 19.5	
	comp=E,167nm,0.9s						
PIX				IAML		21 09 19.6	
	comp=N,172nm,1.0s						
PFO	**Pinyon Flats O**	**1.66**	**319**		**Pn**	**21 08 20.6**	**-1.4**
ELS	**Elsinore Mount**	**2.30**	**304**		**Pn**	**21 08 30.9**	**+0.1**
Y14A	**Wickenburg**	**2.38**	**48**	Pn	**Pn**	**21 08 32.6**	**+0.7**
GSC	**Goldstone, Bar**	**3.23**	**335**		**Pn**	**21 08 45.9**	**+2.2**
GSC				IAML		21 10 07.3	
	comp=E,58nm,1.4s						
GSC				IAML		21 10 12.9	
	comp=N,36nm,1.0s						
V12A	**Nelson**	**3.35**	**4**		**Pn**	**21 08 48.8**	**+3.4**
TUC	**Tucson**	**3.69**	**90**		**Pn**	**21 08 52.4**	**+2.5**
TUC	**Tucson**	**3.69**	**90**	IAML		21 10 08.3	
	comp=N,31nm,1.1s						
TUC	**Tucson**	**3.69**	**90**	*e*P	**Pn**	**21 08 49.4**	**-0.6**
X16A	**Lo Mia Camp, P**	**3.71**	**56**	Pn	**Pn**	**21 08 51.3**	**+1.0**
GWY	**Greenwater Val**	**4.01**	**342**	Pn	**Pn**	**21 08 54.8**	**+0.5**
SHPR	**Sheep Range**	**4.12**	**360**		**Pn**	**21 08 57.4**	**+1.4**

---

*IDC **06** 21:15:36.2±1.1, 6°.31N×87°.36E, h0km, mb3.8/10, mbtmp3.8/11, ML4.5/1, MS3.7/20, Error ellipse: s-maj=32.6km s-min=20.4km az=48.0*
ISC 06 21:15:41.3±1.1, 6°.4N±0°.2×87°.4E±0°.1, h35km, n31, σ1°36/12, mb3.7/10, MS3.7/16, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**6.71**	**278**	Pn	**Pn**	**21 17 15.8**	**-1.7**
	9.0nm,0.3s,baz=95,slow=12,SNR=57						
PALK				Sn	Sn	21 18 22.8	-10
	26nm,0.3s,baz=177,slow=22,SNR=14						
PALK				LR	LR	21 19 39.2	
	comp=Z,892nm,21.2s,baz=80,slow=36						
	28nm,0.4s						
PSI	**Prapat**	**12.02**	**107**	LR	LR	21 23 11.4	
	comp=Z,402nm,19.9s,baz=282,slow=38						
CMAR	**Chiang Mai Arr**	**16.44**	**42**	Pn	**Pn**	**21 19 26.6**	**-2.9**
	baz=233,slow=15						
CMAR				LR	LR	21 25 41.1	
	comp=Z,101nm,19.2s,baz=230,slow=37						
BRDH	**Bariadhala**	**16.70**	**14**	LR	LR	21 27 38.3	
	comp=Z,327nm,18.4s,baz=211,slow=43						
H08S3	**Diego Garcia H**	**20.38**	**227**	T	T	21 41 13.9	
	baz=24,slow=72,SNR=5.3						
H08S2	**Diego Garcia H**	**20.39**	**227**	T	T	21 41 16.3	
	baz=24,slow=72,SNR=6.5						
H08S1	**Diego Carcia H**	**20.40**	**227**	T	T	21 41 12.6	
	baz=24,slow=72,SNR=4.8						
TGY	**Tagaytay City**	**33.84**	**74**	LR	LR	21 35 19.1	
	comp=Z,117nm,21.1s,baz=257,slow=35						
KAPI	**Kappang**	**34.22**	**109**	LR	LR	21 36 33.0	
	comp=Z,124nm,19.4s,baz=286,slow=37						
AAK	**Ala-Archa**	**37.86**	**344**	LR	LR	21 38 16.7	
	comp=Z,110nm,20.4s,baz=318,slow=36						
MKAR	**Makanchi Array**	**40.49**	**355**	P	**P**	**21 23 16.7**	**-0.1**
	0.7nm,0.6s,baz=171,slow=9.4,SNR=15						
	0.7nm,0.6s						
JOW	**Kunigami**	**43.85**	**58**	LR	LR	21 44 47.4	
	comp=Z,76nm,18.1s,baz=258,slow=40						
SONM	**Songino Array**	**44.37**	**18**	P	**P**	**21 23 50.1**	**+1.7**
	1.3nm,0.7s,baz=200,slow=9.1,SNR=16						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.71**	**352**	P	**P**	**21 23 51.6**	**+0.7**
	1.0nm,0.3s,baz=171,slow=7.1,SNR=5.7						
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**47.46**	**358**	P	**P**	**21 24 12.5**	**0.0**
	0.9nm,0.5s,baz=181,slow=5.9,SNR=5.2						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**48.53**	**346**	P	**P**	**21 24 21.4**

NSK				S	Sb	21 33 20.2	+0.4
LXIB	**Xiulin Townshi**	**0.63**	**226**	P	Pb	21 33 13.2	-0.3
LXIB				S	Sb	21 33 22.4	+0.2
FUSS	**Fushou**	**0.64**	**251**	*e*P	Pb	21 33 14.4	+0.6
FUSS				*e*S	Sb	21 33 22.7	-0.1
WHF	**Hehuan Shan**	**0.67**	**242**	P	Pb	21 33 14.2	-0.1
WHF				*e*S	Sg	21 33 22.6	0.0
OWD	**Renai**	**0.84**	**233**	*i* P	Pb	21 33 17.0	0.0
OWD				*e*S	Sb	21 33 28.9	+0.6
WUSB	**Renai**	**0.86**	**237**	*e*P	Pn	21 33 18.2	-0.3
WUSB				*e*S	Sn	21 33 30.9	0.0
WHP	**Taichung City**	**0.90**	**259**	*e*P	Pn	21 33 19.2	+0.3
WHP				*i* S	Sn	21 33 30.9	-0.9
SSLB	**Suanglung**	**1.10**	**233**	*i* P	Pn	21 33 21.7	0.0
SSLB				*e*S	Sg	21 33 36.1	0.0

JMA 06 21:33:06.2±0.1,**24°.3N**±0°.3×**123°.8E**±0°.3,**h16**km±1km,
MV0.7/7,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.12**	**302**	*e*P	Pg	21 33 09.9	0.0
IRIF				*e*S	Sg	21 33 12.1	-0.1
JKRS	**Kuro-shima**	**0.16**	**102**	P	Pg	21 33 10.4	0.0
JKRS				*e*S	Sb	21 33 13.7	-0.2
HATJ	**Hateruma jima**	**0.22**	**188**	*i* P	Pg	21 33 11.1	-0.1
HATJ				*e*S	Sg	21 33 14.5	-0.1
JIJ	**Ishigaki jima**	**0.29**	**72**	P	Pg	21 33 12.3	-0.2
JIJ				*e*S	Sg	21 33 16.5	-0.3
JISG	**Ishigakijimahi**	**0.53**	**54**	*e*P	Pg	21 33 16.8	-0.1
JISG				*e*S	Sb	21 33 24.4	-0.3

*AEIC **06** 21:39:18.1±1.6,55°.9N±0°.1×149°.3W±0°.1,h10km±9km,*
Error ellipse: s-maj=18.9km s-min=10.9km az=165.0
NEIC 06 21:39:16.2±0.8,**56°.1N**±0°.1×**149°.3W**±0°.1,**h21**km±12km,
ML2.9/32,**ML2.6**(AEIC),**Error ellipse: s-maj=19.1km s-min=10.6km az=169.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.47**	**300**		Pn	21 39 54.8	-0.3
OHAK					Sn	21 40 23.2	-1.4
KDAK	**Kodiak Island**	**2.47**	**315**		Pn	21 39 55.5	+0.2
KDAK	**Kodiak Island**	**2.47**	**315**		Sn	21 40 24.3	-0.5
SYI	**Shuyak Island**	**3.04**	**328**		Pn	21 40 03.2	+0.2
SYI					Sn	21 40 39.3	+0.6
CNPM	**China Poot**	**3.61**	**344**		Pn	21 40 10.7	-0.2
CNPM					Sn	21 40 52.9	0.0
CNPM	**China Poot**	**3.61**	**344**	IAML		21 41 48.3	
	comp=E,12nm,1.5s						
Q19K	**Cape Douglas,**	**3.69**	**323**		Pn	21 40 12.9	+0.9
KAHG	**Katmai Hook Gl**	**3.73**	**313**		Pn	21 40 14.2	+1.6
BRSE	**Bradley Lake S**	**3.76**	**349**		Pn	21 40 12.6	-0.3
BRLK	**Bradley Lake**	**3.79**	**348**		Pn	21 40 13.1	-0.3
BRLK	**Bradley Lake**	**3.79**	**348**	IAML		21 41 03.8	
	comp=N,11nm,1.3s						
SEW	**Seward**	**4.04**	**359**	Pn	Pn	21 40 16.4	-0.4
P19K	**Oil Pt**	**4.15**	**332**		Pn	21 40 18.8	+0.4
P19K				IAML		21 41 23.1	
	comp=N,25nm,0.8s						
P19K				IAML		21 41 44.3	
	comp=E,23nm,1.4s						
ILS	**Iliamna Low So**	**4.37**	**335**		Pn	21 40 22.1	+0.7
ILSW	**Iliamna Southw**	**4.41**	**334**		Pn	21 40 22.2	+0.1
SLKM	**Skilak Lake**	**4.47**	**354**	Pn	Pn	21 40 22.2	-0.6
SLKM				IAML		21 41 11.8	
	comp=E,13nm,0.5s						
SLKM				IAML		21 41 14.9	
	comp=N,15nm,0.9s						
P18K	**Big Mountain,**	**4.59**	**319**		Pn	21 40 24.3	-0.1
P18K				IAML		21 41 54.8	
	comp=N,7.8nm,1.4s						
HIN	**Hinchinbrook I**	**4.59**	**18**	Pn	Pn	21 40 23.6	-0.7
KAIM	**Kayak Island**	**4.67**	**32**	Pn	Pn	21 40 25.8	+0.4
RDT	**Redoubt**	**4.79**	**342**		Pn	21 40 26.9	-0.4
PWL	**Port Wells**	**4.83**	**6**	Pn	Pn	21 40 27.5	-0.2
PWL				IAML		21 41 09.6	
	comp=N,14nm,0.5s						
PWL				IAML		21 41 11.6	
	comp=E,12nm,0.4s						
O18K	**Koktuh Hills**	**4.91**	**323**	Pn	Pn	21 40 28.8	-0.1
FID	**Port Fidalgo**	**4.93**	**17**	Pn	Pn	21 40 28.5	-0.5
SUCK	**Suckling Hills**	**4.98**	**34**	Pn	Pn	21 40 29.5	-0.2
SUCK				IAML		21 42 06.2	
	comp=E,23nm,1.4s						
HMT	**Hamilton**	**5.05**	**30**	Pn	Pn	21 40 30.5	-0.1
HMT				IAML		21 41 14.7	
	comp=N,17nm,1.5s						

*IDC **06** 21:50:54.5±2.6,52°.12N×171°.56W,h30km±17km,mb4.1/27,*
mbtmp4.2/29,ML3.7/2,MS3.8/28,Error ellipse:
s-maj=20.1km s-min=10.8km az=177.0
*NEIC **06** 21:50:57.1±1.9,52°.07N±0°.09×171°.58W±0°.08,h53km±7km,*
mb4.4/99,ML4.6/8,ML4.3(AEIC),Error ellipse:
s-maj=14.0km s-min=6.6km az=165.0
*AEIC **06** 21:50:58.1±3.1,51°.90N±0°.09×171°.50W±0°.06,h11km±3km,*
Error ellipse: s-maj=12.9km s-min=5.2km az=171.0
ISC 06 21:50:55.7±0.5,**51°.96N**±0°.09×**171°.53W**±0°.04,**h44**km,
n230,σ1$**20**/213,**mb4.3**/64,**MS3.9**/25,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.66**	**279**		**Pn**	**21 51 22.1**	**-0.2**
ATKA				Sn	**Sn**	**21 51 42.0**	**-0.4**
OKSP	**Okmok Steeple**	**2.36**	**56**		**Pn**	**21 51 31.3**	**-0.7**
OKSP					**Sn**	**21 51 59.6**	**-0.2**
OKCE	**Okmok Cone E**	**2.52**	**53**		**Pn**	**21 51 35.1**	**+1.0**
OKCE					**Sn**	**21 52 05.1**	**+1.4**
OKNC	**Okmok New Cone**	**2.56**	**53**		**Pn**	**21 51 35.8**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**2.56**	**55**		**Pn**	**21 51 35.1**	**+0.4**
OKFG	**Magazine Ridge**	**2.64**	**55**		**Pn**	**21 51 36.7**	**+0.9**
GSTR	**Great Sitkin T**	**2.80**	**275**		**Pn**	**21 51 39.2**	**+1.3**
GSCK	**Great Sitkin C**	**2.86**	**273**		**Pn**	**21 51 39.6**	**+0.7**
GSCK					**Sn**	**21 52 12.5**	**+0.4**
ADK	**Adak**	**3.19**	**271**	Pn	**Pn**	**21 51 43.7**	**+0.4**
ADK				Sn	**Sn**	**21 52 20.1**	**+0.1**
ADK				IAML		21 52 30.5	
	2μm,0.9s						
ADK				IAML		21 52 35.1	
	1μm,0.9s						
MAPS	**Pakushin South**	**3.34**	**55**		**Pn**	**21 51 45.8**	**+0.4**
MGOD	**Makushin Gods**	**3.37**	**55**		**Pn**	**21 51 45.9**	**+0.1**
MGOD					**Sn**	**21 52 24.1**	**-0.4**
KIWB	**Kanaga Island**	**3.48**	**270**		**Pn**	**21 51 48.0**	**+0.6**
UNV	**Unalaska Valle**	**3.58**	**56**	Pn	**Pn**	**21 51 49.5**	**+0.9**
ZRO	**Akutan Zero**	**3.97**	**55**		**Pn**	**21 51 55.0**	**+0.9**
LVA	**Lava Point**	**3.98**	**54**		**Pn**	**21 51 55.6**	**+1.5**
TAFP	**Tanaga Falls P**	**3.99**	**272**		**Pn**	**21 51 55.8**	**+1.4**
AKBBA	**Akutan Broad B**	**4.00**	**55**		**Pn**	**21 51 55.4**	**+1.0**
TASE	**Tanaga Southea**	**4.03**	**271**		**Pn**	**21 51 56.2**	**+1.3**
AKSA	**Akutan Strait**	**4.14**	**56**		**Pn**	**21 51 57.7**	**+1.4**
P08K	**Saint George I**	**4.79**	**13**	Pn	**Pn**	**21 52 06.3**	**+1.0**
P08K				IAML		21 53 08.3	
	comp=E,435nm,2.3s						
P08K				IAML		21 54 29.4	
	comp=N,348nm,2.2s						
WECS	**Westdahl Cape**	**4.80**	**55**		**Pn**	**21 52 07.7**	**+2.2**
SPIA	**Saint Paul Isl**	**5.28**	**8**	Pn	**Pn**	**21 52 12.8**	**+0.9**
CNBA	**Chernabura Isl**	**7.69**	**63**	Pn	**Pn**	**21 52 45.0**	**-0.1**
SHEM	**Shemya Is, Ala**	**8.83**	**281**	LR	LR	21 55 57.6	
	comp=N,175nm,21.7s,baz=78,slow=34						
CHGN	**Chignik**	**8.84**	**55**	Pn	**Pn**	**21 53 01.0**	**+0.3**
M11K	**Mekoryuk**	**8.95**	**17**		**Pn**	**21 53 04.2**	**+2.1**
M13K	**Dall Lake**	**9.61**	**25**		**Pn**	**21 53 13.7**	**+2.5**
M14K	**Bethel**	**10.28**	**27**	Pn	**Pn**	**21 53 22.9**	**+2.6**
N15K	**Kwethluk River**	**10.40**	**33**		**Pn**	**21 53 24.7**	**+2.6**
L14K	**Kuka Creek**	**10.58**	**24**		**Pn**	**21 53 26.9**	**+2.4**
K13K	**Kusilvak Mount**	**10.67**	**18**	Pn	**Pn**	**21 53 27.5**	**+1.8**
O16K	**Kokwok River B**	**10.74**	**39**	Pn	**Pn**	**21 53 29.4**	**+2.6**
SII	**Sitkinak Islan**	**11.13**	**59**	Pn	**Pn**	**21 53 31.9**	**-0.2**
M16K	**Timber Creek**	**11.41**	**32**		**Pn**	**21 53 37.5**	**+1.6**
K15K	**Wolf Creek Mou**	**11.68**	**24**		**Pn**	**21 53 41.5**	**+2.0**
N17K	**Nushagak Hills**	**11.69**	**37**		**Pn**	**21 53 42.1**	**+2.4**
L16K	**Owhat River**	**11.77**	**29**	Pn	**Pn**	**21 53 42.9**	**+2.2**
OHAK	**Old Harbor**	**11.80**	**56**	Pn	**Pn**	**21 53 38.4**	**-2.8**
GAMB	**Gambell**	**11.85**	**360**	Pn	**Pn**	**21 53 43.0**	**+1.2**
O18K	**Koktuh Hills**	**12.07**	**43**	Pn	**Pn**	**21 53 47.2**	**+2.3**
M17K	**Holitna River**	**12.20**	**34**		**Pn**	**21 53 49.5**	**+2.9**
N18K	**Kilae Creek**	**12.28**	**39**		**Pn**	**21 53 49.9**	**+2.1**
KDAK	**Kodiak Island**	**12.35**	**54**	Pn	**Pn**	**21 53 46.1**	**-2.5**
KDAK	**Kodiak Island**	**12.35**	**54**	Pn	**Pn**	**21 53 45.8**	**-2.9**
	comp=N,0.6nm,0.3s,baz=44,slow=4.3,SNR=17						
KDAK				LR	LR	21 58 47.3	
	comp=N,322nm,18.3s,baz=91,slow=38						
J16K	**Anvik River**	**12.75**	**23**		**Pn**	**21 53 56.0**	**+1.9**
SYI	**Shuyak Island**	**12.75**	**51**	Pn	**Pn**	**21 53 52.1**	**-2.0**
P19K	**Oil Pt**	**12.82**	**46**		**Pn**	**21 53 58.9**	**+3.8**
K17K	**Iditarod**	**12.90**	**28**		**Pn**	**21 53 58.2**	**+2.0**
ANM	**Nome**	**13.04**	**12**	Pn	**Pn**	**21 53 58.8**	**+0.7**
J17K	**VABM Dome**	**13.22**	**25**	Pn	**Pn**	**21 54 02.5**	**+1.9**
M19K	**Big River Lodg**	**13.62**	**36**		**Pn**	**21 54 08.8**	**+2.8**
CNPM	**China Poot**	**13.67**	**48**		**Pn**	**21 54 05.6**	**-1.1**
F15K	**North Star Dit**	**14.23**	**12**		**Pn**	**21 54 15.9**	**+1.7**
G16K	**Koyuk River**	**14.27**	**16**		**Pn**	**21 54 15.8**	**+1.1**
J19K	**Poorman**	**14.66**	**29**		**Pn**	**21 54 21.8**	**+1.8**
K20K	**Telida**	**14.69**	**32**		**Pn**	**21 54 22.7**	**+2.4**
SEW	**Seward**	**14.73**	**48**	Pn	**Pn**	**21 54 20.0**	**-0.9**
SKT	**Skwentna**	**14.75**	**39**		**Pn**	**21 54 22.8**	**+1.6**
H18K	**Honhosa River**	**14.86**	**22**	P	**P**	**21 54 26.3**	**-1.3**
RC01	**Rabbit Creek A**	**15.03**	**44**		**Pn**	**21 54 25.5**	**+0.5**
PPLA	**Purkeypile**	**15.04**	**36**	P	**P**	**21 54 27.8**	**-2.0**
CAST	**Castle Rocks**	**15.40**	**34**		**Pn**	**21 54 31.1**	**+1.3**
CAST				IAmb	IAmb	21 54 39.4	
	comp=Z,12nm,0.6s						
F17K	**Baldwin Pennin**	**15.41**	**16**	P	**P**	**21 54 32.2**	**-1.5**
F17K				IAmb	IAmb	21 54 39.1	
	comp=Z,28nm,0.9s						
CUT	**Chulitna**	**15.48**	**39**		**Pn**	**21 54 32.1**	**+1.4**
H19K	**Roundabout Mou**	**15.62**	**24**	P	**P**	**21 54 34.4**	**-1.7**
GHO	**Glory Hole Cre**	**15.70**	**42**	Pn	**Pn**	**21 54 32.8**	**-0.8**
GHO				IAmb	IAmb	21 54 52.6	
	comp=Z,16nm,0.9s						
KNK	**Knik Glacier**	**15.73**	**44**		**Pn**	**21 54 34.1**	**+0.1**
KTH	**Kantishna Hill**	**15.90**	**35**	Pn	**Pn**	**21 54 37.1**	**+1.0**
KTH				IAmb	IAmb	21 54 59.1	
	comp=Z,20nm,0.9s						
SML	**Sawmill**	**15.96**	**43**	Pn	**Pn**	**21 54 37.0**	**0.0**
G19K	**Purcell Mounta**	**15.98**	**22**	P	**Pn**	**21 54 38.0**	**+0.9**
TRF	**Thorofare Moun**	**16.06**	**36**		**Pn**	**21 54 38.6**	**+0.3**
SCM	**Sheep Creek Mo**	**16.40**	**44**	Pn	**Pn**	**21 54 41.7**	**-0.8**
SCM				IAmb	IAmb	21 54 46.8	
	comp=Z,30nm,0.8s						
I21K	**Tanana**	**16.61**	**30**	P	**P**	**21 54 46.5**	**-0.5**
C16K	**Lisburne Hills**	**16.64**	**8**	P	**P**	**21 54 48.0**	**+0.7**
M24K	**Tolsona, Glenn**	**17.01**	**44**	Pn	**Pn**	**21 54 49.9**	**-0.2**
M24K				IAmb	IAmb	21 54 54.0	
	comp=Z,22nm,0.8s						
F20K	**Avaraart Lake**	**17.03**	**21**	P	**P**	**21 54 51.2**	**-0.5**
G21K	**Allakaket**	**17.15**	**25**	P	**Pn**	**21 54 52.2**	**+0.4**
HMT	**Hamilton**	**17.24**	**50**	Pn	**Pn**	**21 54 52.0**	**-1.0**
HMT				IAmb	IAmb	21 55 05.2	
	comp=Z,49nm,1.4s						
BMRM	**Bremner River**	**17.28**	**48**	Pn	**Pn**	**21 54 52.2**	**-1.3**
I23K	**Minto, Yukon-K**	**17.42**	**32**	P	**Pn**	**21 54 55.1**	**0.0**
I23K				IAmb	IAmb	21 55 07.7	
	comp=Z,27nm,1.2s						
PAX	**Paxson**	**17.68**	**41**	P	**Pn**	**21 54 57.8**	**-0.7**
GLB	**Gilahina Butte**	**17.80**	**47**		**Pn**	**21 54 57.3**	**-2.5**
SNH	**Sunshine Point**	**17.88**	**51**		**Pn**	**21 55 01.3**	**+0.4**
IL31		**18.05**	**35**	P	**Pn**	**21 55 01.6**	**-1.2**
ILAR	**Eielson Array**	**18.05**	**35**		**Pn**	**21 55 02.0**	**-0.8**
ILAR	**Eielson Array**	**18.05**	**35**	P	**Pn**	**21 55 00.2**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=234,slow=11,SNR=38						
ILAR				LR	LR	22 02 40.1	
	comp=Z,242nm,19.5s,baz=238,slow=39						
	comp=Z,2.6nm,0.9s						
PETK	**Petropavlovsk-**	**18.69**	**286**	P	**Pn**	**21 55 09.5**	**-1.2**
PETK	**Petropavlovsk-**	**18.69**	**286**	P	**Pn**	**21 55 10.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=90,slow=14,SNR=8.4						
	comp=Z,3.0nm,0.8s						
SCRK	**Sand Creek**	**18.73**	**39**	P	**P**	**21 55 09.5**	**-1.1**
BCAR	**Beaver Creek A**	**19.26**	**43**	P	**P**	**21 55 15.7**	**-0.6**
BILL	**Bilibino**	**19.37**	**335**		**P**	**21 55 17.0**	**-0.4**
BILL				IAmb	IAmb	21 55 22.4	
	comp=Z,16nm,0.8s						
B21K	**Ikpikpuk River**	**19.41**	**18**	P	**P**	**21 55 17.9**	**+0.2**
B21K				IAmb	IAmb	21 55 23.3	
	comp=Z,24nm,1.1s						
O29M	**Mount Kennedy**	**19.98**	**52**	P	**P**	**21 55 24.8**	**+0.5**
EGAK	**Eagle**	**20.19**	**39**	P	**P**	**21 55 26.2**	**0.0**
B22K	**Teshekpuk Lake**	**20.24**	**18**	P	**P**	**21 55 27.1**	**+0.4**
B22K				IAmb	IAmb	21 55 32.7	
	comp=Z,29nm,0.9s						
D24K	**Happy Valley**	**20.31**	**23**	P	**P**	**21 55 27.9**	**+0.4**
D24K				IAmb	IAmb	21 55 34.4	
	comp=Z,17nm,1.0s						
C23K	**Itkillik River**	**20.41**	**21**	P	**P**	**21 55 28.9**	**+0.3**
E25K	**Arctic Village**	**20.48**	**28**	P	**P**	**21 55 30.3**	**+0.9**
M29M	**Somme Creek**	**20.51**	**46**	P	**P**	**21 55 30.2**	**+0.3**
M29M				IAmb	IAmb	21 55 34.7	
	comp=Z,8.6nm,0.7s						
HYT	**Haines Junctio**	**20.60**	**51**	P	**P**	**21 55 31.7**	**+0.8**
HYT				IAmb	IAmb	21 55 35.2	
	comp=Z,29nm,1.1s						
DAWY	**Dawson**	**20.62**	**42**	P	**P**	**21 55 30.6**	**-0.4**
N30M	**Aishikik Lake**	**20.91**	**50**	P	**P**	**21 55 34.6**	**+0.4**
N30M				IAmb	IAmb	21 55 39.9	
	comp=Z,11nm,0.6s						
I28M	**Miner Creek**	**20.94**	**38**	P	**P**	**21 55 33.7**	**-0.8**
I28M				IAmb	IAmb	21 55 38.0	
	comp=Z,12nm,0.6s						
O30N	**Mendenhall**	**21.27**	**52**	P	**P**	**21 55 38.0**	**0.0**
O30N				IAmb	IAmb	21 55 45.7	
	comp=Z,14nm,0.9s						
SKAG	**Skagway**	**21.50**	**55**	P	**P**	**21 55 40.5**	**+0.1**
SKAG				IAmb	IAmb	21 55 43.2	
	comp=Z,18nm,0.7s						
WHY	**Whitehorse**	**21.85**	**52**	P	**P**	**21 55 45.1**	**+0.9**
WHY				IAmb	IAmb	21 55 53.1	
	comp=Z,14nm,0.8s						
H29M	**Whitestone**	**21.85**	**37**	P	**P**	**21 55 42.9**	**-1.2**
H29M				IAmb	IAmb	21 55 54.7	
	comp=Z,16nm,0.8s						
SEY	**Seymchan**	**21.98**	**314**	P	**P**	**21 55 44.8**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=112,slow=10,SNR=18						
SEY				ScP	**ScP**	**22 03 19.0**	**+3.2**
	comp=Z,0.9nm,0.5s,baz=80,slow=7.5,SNR=5.0						
	comp=Z,4.1nm,0.6s						
I30M	**Mount Dempster**	**22.24**	**40**	P	**P**	**21 55 46.5**	**-2.0**
MA2	**Magadan**	**22.27**	**305**	LR	LR	22 04 34.3	
	comp=Z,144nm,18.7s,baz=112,slow=37						
P32M	**Atlin**	**22.33**	**55**	P	**P**	**21 55 50.3**	**+0.9**
P32M				IAmb	IAmb	21 56 21.7	
	comp=Z,21nm,1.4s						
P33M	**Teslin, Yukon**	**22.82**	**54**	P	**P**	**21 55 53.4**	**-1.2**
P33M				IAmb	IAmb	21 56 01.9	
	comp=Z,12nm,1.0s						
G30M	**tAoh Zrail Nji**	**22.95**	**36**	P	**P**	**21 55 54.7**	**-1.2**
Q32M	**Nakina River**	**23.05**	**57**	P	**P**	**21 55 58.1**	**+1.0**
S34M	**Telegraph Cree**	**23.68**	**59**	P	**P**	**21 56 04.2**	**+1.2**
S34M				IAmb	IAmb	21 56 06.5	
	comp=Z,18nm,1.1s						
R33M	**Jennings River**	**23.73**	**56**	P	**P**	**21 56 04.8**	**+1.3**
MMPY	**Sheldon Lake,**	**23.82**	**48**	P	**P**	**21 56 04.6**	**+0.4**
MMPY				IAmb	IAmb	21 56 08.8	
	comp=Z,9.7nm,1.0s						
T35M	**Bob Quinn**	**24.22**	**62**	P	**P**	**21 56 09.5**	**+1.5**
T35M				IAmb	IAmb	21 56 12.6	
	comp=Z,14nm,1.0s						
DLBC	**Dease Lake**	**24.24**	**58**	P	**P**	**21 56 10.2**	**+2.0**
DLBC	**Dease Lake**	**24.24**	**58**	P	**P**	**21 56 08.3**	**+0.1**
	comp=Z,5.5nm,0.5s,baz=274,slow=6.5,SNR=19						
	comp=Z,5.5nm,0.5s						
INK	**Inuvik**	**24.42**	**34**	P	**P**	**21 56 08.3**	**-1.4**
INK	**Inuvik**	**24.42**	**34**	LR	LR	22 04 54.8	
	comp=Z,135nm,20.1s,baz=245,slow=35						
GRNB	**Grenville Isla**	**24.89**	**69**	P	**P**	**21 56 15.2**	**+1.0**
ASAJ	**Asahikawa**	**31.21**	**274**	LR	LR	22 11 24.7	
	comp=Z,47nm,19.5s,baz=174,slow=39						
YKA	**Yellowknife Ar**	**31.51**	**48**	P	**P**	**21 57 12.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=274,slow=8.5,SNR=25						
YKA				PcP	**PcP**	**22 00 05.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=278,slow=2.7,SNR=5.3						
YKA				ScP	**ScP**	**22 03 44.7**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=273,slow=3.1,SNR=4.7						
YKA				LR	LR	22 10 54.3	
	comp=Z,203nm,18.0s,baz=298,slow=38						
	comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**32.40**	**329**	LR	LR	22 11 19.7	
	comp=Z,87nm,19.1s,baz=190,slow=38						
YAK	**Yakutsk**	**32.44**	**311**	LR	LR	22 10 59.4	
	comp=Z,103nm,19.4s,baz=99,slow=37						
B08A	**Colville Reser**	**33.04**	**75**	P	**P**	**21 57 27.4**	**+0.7**
B08A				IAmb	IAmb	21 57 38.6	
	comp=Z,5.5nm,0.8s						
NEW	**Newport**	**34.40**	**74**	P	**P**	**21 57 38.9**	**+0.4**
G08A	**Pilot Rock**	**34.73**	**80**	P	**P**	**21 57 41.0**	**-0.4**
G08A				IAmb	IAmb	21 57 43.1	
	comp=Z,7.0nm,1.5s						
KLR	**Kul'dur**	**35.33**	**289**	LR	LR	22 13 21.2	
	comp=Z,82nm,18.0s,baz=56,slow=38						
J08A	**Circle Bar Ran**	**36.03**	**82**	P	**P**	**21 57 52.7**	**+0.1**
J08A				IAmb	IAmb	21 57 55.4	
	comp=Z,4.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**36.32**	**216**	T	T	22 36 29.7	
	baz=21,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	22 36 31.7	
	baz=21,slow=76,SNR=51						
H11N1	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	22 36 32.8	
	baz=21,slow=76,SNR=43						
RES	**Resolute Bay**	**37.31**	**25**	P	**P**	**21 58 02.2**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**37.52**	**215**	T	T	22 38 02.6	
	baz=22,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**37.53**	**215**	T	T	22 38 03.9	
	baz=22,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**37.53**	**215**	T	T	22 37 57.2	
	baz=22,slow=75,SNR=20						
PNTR	**Pine Nut**	**37.79**	**89**	P	**P**	**21 58 07.8**	**0.0**
LYMT	**Lyon Mountain**	**37.89**	**73**	P	**P**	**21 58 09.0**	**+0.5**
MJAR	**Matsushiro Arr**	**38.34**	**267**	P	**P**	**21 58 12.7**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=36,slow=7.0,SNR=6.0						
MJAR				LR	LR	22 11 14.0	
	comp=Z,37nm,20.3s,baz=50,slow=32						
	comp=Z,1.4nm,0.6s						
HLID	**Hailey**	**38.40**	**79**	P	**P**	**21 58 12.6**	**-0.2**
HLID				IAmb	IAmb	21 58 14.6	
	comp=Z,5.9nm,1.3s						
MCMT	**McKenzie Canyo**	**38.67**	**77**	P	**P**	**21 58 15.2**	**+0.1**
EGMT	**Eagleton**	**38.86**	**71**	P	**P**	**21 58 16.8**	**+0.4**
BOZ	**Bozeman (W)**	**38.99**	**75**	P	**P**	**21 58 18.0**	**+0.3**
BOZ				IAmb	IAmb	21 58 20.2	
	comp=Z,6.5nm,1.2s						
NVAR	**Mina Array Bea**	**39.00**	**89**	P	**P**	**21 58 18.6**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=293,slow=8.5,SNR=12						
	comp=Z,3.5nm,0.8s						
ELK	**Elko**	**39.50**	**84**	P	**P**	**21 58 22.3**	**+0.2**
FFC	**Flin Flon**	**40.07**	**58**	P	**P**	**21 58 26.3**	**0.0**
FFC				IAmb	IAmb	21 58 35.3	
	comp=Z,5.1nm,0.9s						
RLMT	**Red Lodge**	**40.65**	**74**	P	**P**	**21 58 31.9**	**+0.3**
RLMT				IAmb	IAmb	21 58 33.9	
	comp=Z,7.6nm,1.0s						
R11B	**Troy Canyon, C**	**40.73**	**87**	P	**P**	**21 58 32.6**	**+0.4**
TPNV	**Topopah Spring**	**41.19**	**89**	P	**P**	**21 58 35.9**	**-0.2**
TPNV				IAmb	IAmb	21 58 38.5	
	comp=Z,7.6nm,0.9s						
DUG	**Dugway, Tooele**	**41.31**	**83**	P	**P**	**21 58 37.4**	**+0.4**
DUG				IAmb	IAmb	21 58 39.4	
	comp=Z,8.1nm,1.2s						
GWY	**Greenwater Val**	**41.42**	**90**	P	**P**	**21 58 38.6**	**+0.7**
GWY				IAmb	IAmb	21 58 49.4	
	comp=Z,4.1nm,0.8s						
PD31	**Pinedale Array**	**41.79**	**77**	P	**P**	**21 58 41.0**	**+0.1**
PD31				IAmb	IAmb	21 58 42.8	
	comp=Z,5.0nm,1.1s						
PDAR	**Pinedale Array**	**41.79**	**77**	P	**P**	**21 58 41.5**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=308,slow=5.5,SNR=16						
	comp=Z,1.7nm,0.5s						
GSC	**Goldstone, Bar**	**41.91**	**91**	P	**P**	**21 58 42.3**	**+0.5**
GSC				IAmb	IAmb	21 58 43.9	
	comp=Z,10nm,0.9s						
FCC	**Fort Churchill**	**42.22**	**49**	P	**P**	**21 58 43.8**	**-0.1**
W13A	**Hualapai Mount**	**43.85**	**89**	P	**P**	**21 58 57.9

comp=Z,1.7nm,0.7s,baz=51,slow=6.8,SNR=20
comp=Z,1.7nm,0.7s
MAKZ Makanchi 63.24 312 P **P** **22 01 18.3 -1.0**
MAKZ IAmb IAmb 22 01 19.5
comp=Z,2.4nm,0.8s
BVAR Borovoye Array 63.25 323 P **P** **22 01 19.1 -0.2**
comp=Z,5.9nm,0.6s,baz=47,slow=7.5,SNR=14
comp=Z,5.9nm,0.6s
BRVK Borovoye 63.26 323 P **P** **22 01 19.1 -0.1**
BRVK IAmb IAmb 22 01 19.8
comp=Z,3.1nm,0.7s
ARTI Arti 64.45 332 P **P** **22 01 26.1 -0.9**
ARTI Arti 64.45 332 LR LR 22 35 09.8
comp=Z,112nm,18.3s,baz=337,slow=41
KIRV Kirov 64.89 338 LR LR 22 35 34.2
comp=Z,100nm,18.2s,baz=304,slow=41
FINES FINESS Array B 66.07 351 P **P** **22 01 36.5 -1.0**
FINES FINESS Array B 66.07 351 P **P** **22 01 36.8 -0.6**
comp=Z,1.8nm,0.7s,baz=18,slow=6.1,SNR=10
comp=Z,1.8nm,0.7s
NOA NORSAR Array B 67.33 359 P **P** **22 01 45.4 -0.1**
comp=Z,0.9nm,0.8s,baz=0.4,slow=6.2,SNR=3.6
comp=Z,0.9nm,0.8s
PZH PanZhiHua 67.64 285 P **P** **22 01 49.6 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
HFS Hagfors 68.18 357 P **P** **22 01 49.6 -1.2**
comp=Z,2.3nm,0.6s,baz=7.1,slow=6.5,SNR=9.2
HFS LR LR 22 34 18.2
comp=Z,295nm,18.0s,baz=326,slow=38
comp=Z,2.3nm,0.6s
ABKAR Akbulak array 70.06 327 P **P** **22 02 02.0 -0.7**
ABKAR IAmb IAmb 22 02 18.4
comp=Z,4.8nm,1.2s
ABKAR Akbulak array 70.06 327 P **P** **22 02 02.2 -0.5**
KKAR Karatay Array 71.19 317 P **P** **22 02 09.6 -0.1**
KSH Kashi 71.66 311 P **P** **22 02 16.0 +3.3**
KSH pmax pmax
comp=Z,7.0nm,0.8s
PPT2 Papeete2 71.85 158 eLR LR 22 24 06.3
comp=Z,54nm,23.5s
RAR Rarotonga 73.58 169 LR LR 22 29 49.3
comp=Z,59nm,21.5s,baz=304,slow=32
CMAR Chiang Mai Arr 75.40 281 P **P** **22 02 35.5 +0.6**
comp=Z,1.6nm,0.6s,baz=26,slow=6.5,SNR=14
CMAR LR LR 22 37 04.7
comp=Z,19nm,20.2s,baz=165,slow=37
comp=Z,1.6nm,0.6s
DZM Mont Dzumac 76.20 201 eLR LR 22 26 22.1
comp=Z,88nm,22.9s
DZM Mont Dzumac 76.20 201 LR LR 22 30 48.6
comp=Z,68nm,19.6s,baz=268,slow=31
AKASG Malin Array Be 76.21 347 P **P** **22 02 37.2 -1.7**
comp=Z,0.2nm,0.3s,baz=18,slow=6.1,SNR=3.1
AKASG LR LR 22 40 12.6
comp=Z,122nm,18.1s,baz=330,slow=39
comp=Z,0.2nm,0.3s
VRAC Vranov 78.87 355 LR LR 22 39 53.3
comp=Z,119nm,18.2s,baz=345,slow=37
GNI Garni 82.98 333 LR LR 22 47 22.6
comp=Z,63nm,18.1s,baz=336,slow=41
WB0 Warramunga Arr 85.54 230 P **P** **22 03 28.3 -0.6**
WRA Warramunga Arr 85.71 230 P **P** **22 03 29.4 -0.4**
comp=Z,2.2nm,0.9s,baz=29,slow=5.3,SNR=7.4
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 86.09 341 P **P** **22 03 32.9 +1.1**
BRTR Keskin Array B 86.09 341 P **P** **22 03 31.5 -0.3**
comp=Z,0.7nm,0.8s,baz=33,slow=5.5,SNR=2.6
BRTR LR LR 22 46 55.2
comp=Z,65nm,19.4s,baz=311,slow=39
comp=Z,0.7nm,0.8s
ESDC Sonseca Array 88.10 10 P **P** **22 03 41.5 +0.1**
comp=Z,1.2nm,0.8s,baz=354,slow=4.8,SNR=9.5
comp=Z,1.2nm,0.8s
ASAR Alice Springs 89.12 228 P **P** **22 03 46.8 +0.6**
comp=Z,7.5nm,0.8s,baz=33,slow=4.8,SNR=44
comp=Z,7.5nm,0.8s
URZ Urewera 90.39 189 LR LR 22 38 40.0
comp=Z,58nm,20.1s,baz=251,slow=32
EIL Elat 95.46 337 LR LR 22 53 55.8
comp=Z,34nm,18.8s,baz=249,slow=40
TORD Torodi Ar. Bea 114.90 7 PKP **PKiKP** **22 09 30.7 -1.1**
comp=Z,0.2nm,0.6s,baz=352,slow=3.3,SNR=1.6
H03N2 Juan Fernandez 117.02 110 T T 00 17 41.0
baz=317,slow=77,SNR=12
H03N1 Juan Fernandez 117.03 110 T T 00 17 41.9
baz=317,slow=77,SNR=22
H03N3 Juan Fernandez 117.04 110 T T 00 17 42.2
baz=317,slow=77,SNR=12

---

*IDC **06** 22:00:19.8±1.5, 40°.85N×22°.26E, h0km, mb3.0/3, mbtmp3.1/4, ML2.6/1, Error ellipse: s-maj=55.0km s-min=21.8km az=168.0*
*SOF **06** 22:00:22.5, 40°.56N±0°.03×22°.49E±0°.03, h17km±5km, MD3.3/8*
*THE **06** 22:00:22.9, 40°.54N×22°.49E, h4km±1km, ML3.0/19, Error ellipse: s-maj=1.2km s-min=0.3km az=157.0*
*ATH **06** 22:00:23.2, 40°.53N×22°.52E, h7km±2km, ML3.2/19, Manual Solution by M.Papanikolaou First location: 2019/02/06 22:01:18, This location: 2019/02/06 22:18:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*BEO **06** 22:00:23.4±0.6, 40°.56N×22°.51E, h18km±3km, ML2.8/6*
*SKO **06** 22:00:23.9, 40°.53N×22°.53E, h4km, ML3.0*
ISC 06 22:00:23.0±0.8, 40°.54N±0°.02×22°.50E±0°.01, h14km±6km, n130, σ1§09/176, 18C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VERN	**Vergina**	**0.14**	**249**	P	**Pg**	**22 00 26.6**	**0.0**
VERN				S	**Sg**	**22 00 28.7**	**-0.5**
KTI	**Kastanea**	**0.33**	**244**	P	**Pg**	**22 00 29.4**	**-0.4**
NASA	**Naoussa**	**0.34**	**286**	P	**Pg**	**22 00 29.9**	**-0.1**
NASA				S	**Sg**	**22 00 35.3**	**+0.5**
THE	**Thessaloniki**	**0.37**	**75**	P	**Pg**	**22 00 30.2**	**-0.3**
THE				S	**Sg**	**22 00 35.2**	**-0.3**
	2μm,0.4s						
THE	**Thessaloniki**	**0.37**	**75**	⇓*i*Pg	**Pg**	**22 00 30.2**	**-0.3**
THE				*i* Sg	**Sg**	**22 00 36.0**	**+0.6**
THE	**Thessaloniki**	**0.37**	**75**	P	**Pg**	**22 00 30.1**	**-0.3**
THE				S	**Sg**	**22 00 32.9**	**-2.5**
OREA	**Oraiokastro**	**0.37**	**59**	P	**Pn**	**22 00 36.8**	**+2.8**
OREA				S	**Sb**	**22 00 41.8**	**+4.8**
GRG	**Griva**	**0.42**	**350**	P	**Pg**	**22 00 31.1**	**-0.4**
GRG				S	**Sg**	**22 00 37.0**	**-0.3**
	3μm,0.6s						
GRG	**Griva**	**0.42**	**350**	⇑*i*Pg	**Pg**	**22 00 31.3**	**-0.3**
GRG				*i* Sg	**Sb**	**22 00 38.6**	**-0.1**
GRG	**Griva**	**0.42**	**350**	P	**Pg**	**22 00 31.2**	**-0.3**
LIT	**Litokhoron**	**0.44**	**181**	P	**Pg**	**22 00 31.3**	**-0.4**
LIT				S	**Sg**	**22 00 37.5**	**-0.1**
	3μm,0.2s						
LIT	**Litokhoron**	**0.44**	**181**	*i* Pg	**Pg**	**22 00 31.4**	**-0.3**
LIT				*i* Sg	**Sg**	**22 00 38.2**	**+0.6**
LIT	**Litokhoron**	**0.44**	**181**	P	**Pg**	**22 00 31.4**	**-0.4**
LIT				S	**Sg**	**22 00 37.3**	**-0.3**
HORT	**Hortiatis**	**0.46**	**82**	P	**Pg**	**22 00 31.9**	**-0.3**
HORT				S	**Sg**	**22 00 38.9**	**+0.5**
	2μm,0.4s						
HORT	**Hortiatis**	**0.46**	**82**	P	**Pg**	**22 00 32.0**	**-0.3**
KZN	**Kozani**	**0.60**	**248**	P	**Pg**	**22 00 33.8**	**-1.0**
KZN				S	**Sg**	**22 00 42.5**	**-0.3**
	2μm,0.4s						
KZN	**Kozani**	**0.60**	**248**	P	**Pg**	**22 00 34.0**	**-0.8**
SOH	**Sokhos**	**0.71**	**66**	P	**Pg**	**22 00 36.5**	**-0.3**
SOH				S	**Sg**	**22 00 46.2**	**0.0**
	1μm,0.4s						
PLG	**Polygyros**	**0.74**	**102**	P	**Pg**	**22 00 37.1**	**-0.3**
PLG				S	**Sb**	**22 00 47.9**	**+0.1**
	1μm,0.4s						
PLG	**Polygyros**	**0.74**	**102**	P	**Pg**	**22 00 37.1**	**-0.3**
VAY	**Valandovo**	**0.78**	**4**	*i* Pg	**Pg**	**22 00 37.8**	**-0.4**
VAY				*i* Sg	**Sb**	**22 00 50.4**	**+1.4**
VAY				*e*Lg	Lg	22 00 50.6	
	comp=N,450nm,0.6s						
VAY				*e*Lg	Lg	22 00 52.5	
	comp=E,897nm,0.6s						
VAY	**Valandovo**	**0.78**	**4**	*e*Pg	**Pg**	**22 00 37.4**	**-0.9**
VAY				*e*Sg	**Sg**	**22 00 48.7**	**+0.1**
NGRA	**Nigrita**	**0.84**	**64**	P	**Pb**	**22 00 39.7**	**+0.2**
NGRA				S	**Sg**	**22 00 50.4**	**-0.1**
TYRN	**Tyrnavos**	**0.85**	**194**	P	**Pg**	**22 00 38.6**	**-0.9**
TYRN				S	**Sg**	**22 00 50.7**	**0.0**
	comp=E,2μm,0.5s						
LRSO	**Larissa Observ**	**0.87**	**185**	P	**Pg**	**22 00 39.4**	**-0.5**
LRSO				S	**Sg**	**22 00 51.2**	**0.0**
	comp=E,3μm,0.8s						
LRSO	**Larissa Observ**	**0.87**	**185**	P	**Pg**	**22 00 39.4**	**-0.5**
GINA	**Giannouli**	**0.87**	**186**	P	**Pg**	**22 00 39.2**	**-0.7**
FNA	**Florina**	**0.89**	**286**	P	**Pg**	**22 00 38.9**	**-1.3**
FNA				S	**Sg**	**22 00 52.1**	**+0.2**
	comp=E,1μm,0.4s						
FNA	**Florina**	**0.89**	**286**	⇓*i*Pg	**Pg**	**22 00 39.1**	**-1.2**
FNA				*i* Sg	**Sb**	**22 00 52.8**	**+0.7**
FNA	**Florina**	**0.89**	**286**	*e*Pg	**Pg**	**22 00 39.0**	**-1.3**
FNA				*e*Sg	**Sb**	**22 00 52.7**	**+0.7**
FNA	**Florina**	**0.89**	**286**	P	**Pg**	**22 00 39.4**	**-0.8**
SRS	**Serrai**	**1.01**	**55**	P	**Pg**	**22 00 41.3**	**-1.3**
SRS				S	**Sb**	**22 00 56.9**	**+1.4**
	comp=E,642nm,0.8s						
SRS	**Serrai**	**1.01**	**55**	*i* Pg	**Pg**	**22 00 41.8**	**-0.7**
SRS	**Serrai**	**1.01**	**55**	*e*Pg	**Pg**	**22 00 41.4**	**-1.2**
SRS				*e*Sg	**Sg**	**22 00 55.2**	**-0.6**
SRS	**Serrai**	**1.01**	**55**	P	**Pg**	**22 00 41.8**	**-0.7**
THL	**Klokotos Trika**	**1.04**	**201**	P	**Pg**	**22 00 42.5**	**-0.6**
THL				S	**Sb**	**22 00 57.8**	**+1.5**
	comp=E,1μm,0.7s						
THL	**Klokotos Trika**	**1.04**	**201**	P	**Pg**	**22 00 42.5**	**-0.6**
KPRO	**Kipourio**	**1.05**	**237**	P	**Pg**	**22 00 42.3**	**-0.9**
KPRO				S	**Sb**	**22 00 58.1**	**+1.5**
	comp=E,1μm,0.6s						
KPRO	**Kipourio**	**1.05**	**237**	P	**Pg**	**22 00 43.0**	**-0.3**
PAIG	**Paliouri**	**1.09**	**124**	P	**Pg**	**22 00 43.0**	**-1.0**
PAIG				S	**Sg**	**22 00 58.3**	**0.0**
	comp=E,598nm,0.5s						
PENT	**Pentalofos**	**1.09**	**252**	P	**Pg**	**22 00 43.5**	**-0.6**
PENT	**Pentalofos**	**1.09**	**252**	P	**Pg**	**22 00 43.5**	**-0.6**
NEST	**Nestorio**	**1.11**	**264**	P	**Pg**	**22 00 43.7**	**-0.8**
NEST				S	**Sg**	**22 00 59.5**	**+0.5**
	comp=E,578nm,0.6s						
NEST	**Nestorio**	**1.11**	**264**	P	**Pg**	**22 00 43.6**	**-0.8**
OUR	**Ouranopolis**	**1.15**	**100**	P	**Pg**	**22 00 45.1**	**-0.1**
OUR				S	**Sn**	**22 01 01.3**	**+1.1**
	comp=E,1μm,0.5s						
OUR	**Ouranopolis**	**1.15**	**100**	P	**Pg**	**22 00 44.4**	**-0.8**
KOKK	**Kokkinochori,**	**1.17**	**76**	P	**Pg**	**22 00 44.8**	**-0.8**
KOKK				S	**Sn**	**22 01 01.8**	**+0.9**
	comp=E,322nm,0.5s						
KOKK	**Kokkinochori,**	**1.17**	**76**	P	**Pg**	**22 00 45.1**	**-0.5**
PEHC	**Pehcevo**	**1.28**	**14**	*i* Pg	**Pn**	**22 00 46.3**	**-0.3**
PEHC				*i* Sg	**Sn**	**22 01 04.6**	**+1.0**
PEHC				*e*Lg	Lg	22 01 05.3	
	comp=N,310nm,0.5s						
KBN	**Korca**	**1.31**	**274**	P	**Pn**	**22 00 46.6**	**-0.4**
KBN				S	**Sn**	**22 01 06.0**	**+1.7**
	comp=N,512nm,1.2s						
NVR	**Nevrokopi**	**1.31**	**51**	P	**Pn**	**22 00 47.8**	**+0.8**
NVR				S	**Sn**	**22 01 05.6**	**+1.2**
	comp=N,365nm,0.7s						
NVR	**Nevrokopi**	**1.31**	**51**	P	**Pn**	**22 00 47.9**	**+0.8**
NEO	**Neokhori**	**1.35**	**155**	P	**Pn**	**22 00 46.3**	**-1.2**
MMB	**Musomishta**	**1.38**	**43**	*i* P	**Pn**	**22 00 48.2**	**+0.2**
MMB				S	**Sb**	**22 01 06.7**	**+0.5**
MMB	**Musomishta**	**1.38**	**43**	*i* Pg	**Pn**	**22 00 48.0**	**0.0**
MMB				*i* Sg	**Sg**	**22 01 08.9**	**+1.3**
KKB	**Krupnik**	**1.39**	**20**	*i* P	**Pn**	**22 00 48.0**	**0.0**
KKB				S	**Sb**	**22 01 06.5**	**+0.2**
KKB	**Krupnik**	**1.39**	**20**	*i* Pg	**Pn**	**22 00 48.1**	**+0.1**
KKB				*i* Sg	**Sg**	**22 01 10.1**	**+2.3**
OHR	**Ohrid**	**1.41**	**294**	*i* Pg	**Pn**	**22 00 48.8**	**+0.4**
OHR				*i* Sg	**Sg**	**22 01 10.7**	**+2.2**
OHR				*e*Lg	Lg	22 01 11.3	
	comp=N,121nm,0.7s						
OHR	**Ohrid**	**1.41**	**294**	*e*Pg	**Pn**	**22 00 48.6**	**+0.2**
OHR				*e*Sg	**Sg**	**22 01 09.0**	**+0.5**
LSK	**Leskovik**	**1.50**	**256**	P	**Pn**	**22 00 49.8**	**+0.1**
TETR	**Tetrakomo, Epi**	**1.52**	**219**	P	**Pn**	**22 00 51.4**	**+1.5**
JAN	**Janina**	**1.54**	**236**	P	**Pn**	**22 00 51.6**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.55**	**191**	P	**Pn**	**22 00 50.7**	**+0.4**
KAVA	**Kavala**	**1.60**	**73**	P	**Pn**	**22 00 50.5**	**-0.4**
KAVA	**Kavala**	**1.60**	**73**	P	**Pn**	**22 00 50.6**	**-0.3**
THAS	**Thassos island**	**1.69**	**87**	P	**Pn**	**22 00 52.8**	**+0.6**
THAS	**Thassos island**	**1.69**	**87**	P	**Pn**	**22 00 52.6**	**+0.4**
EVR	**Evrytania**	**1.71**	**198**	P	**Pn**	**22 00 54.4**	**+1.9**
IGT	**Igoumenitsa**	**1.94**	**240**	*i* Pn	**Pb**	**22 00 59.0**	**+0.7**
IGT				*i* Sn	**Sb**	**22 01 24.4**	**+2.1**
IGT	**Igoumenitsa**	**1.94**	**240**	P	**Pb**	**22 00 58.0**	**-0.2**
ANX	**Ano Chora**	**1.99**	**193**	P	**Pn**	**22 00 57.4**	**+0.9**
RZN	**Rozhen**	**2.05**	**55**	*i* P	**Pn**	**22 00 57.3**	**0.0**
RZN				S	**Sn**	**22 01 23.8**	**+1.1**
PLNA	**Plana**	**2.06**	**19**	*i* P	**Pn**	**22 00 58.0**	**+0.7**
VTS	**Vitosha**	**2.15**	**15**	*i* P	**Pn**	**22 00 58.6**	**-0.1**
VTS				S	**Sn**	**22 01 26.0**	**+0.8**
VTS	**Vitosha**	**2.15**	**15**	*e*Pn	**Pn**	**22 00 58.5**	**-0.1**
VTS				*e*Sn	**Sn**	**22 01 23.8**	**-1.4**
TIR	**Tirane**	**2.15**	**293**	*e*Pn	**Pn**	**22 00 59.4**	**+0.9**
EFP	**Efpalio**	**2.16**	**192**	P	**Pn**	**22 00 59.5**	**+0.9**
KALE	**Kalithea**	**2.16**	**188**	P	**Pn**	**22 00 59.6**	**+0.9**
KEK	**Kerkira**	**2.23**	**249**	P	**Pn**	**22 01 01.2**	**+1.6**
BARS	**Barje**	**2.33**	**348**	*i* Pn	**Pn**	**22 01 01.5**	**+0.5**
BARS	**Barje**	**2.33**	**348**	*e*Pn	**Pn**	**22 01 00.6**	**-0.4**
BARS				*e*Sn	**Sn**	**22 01 29.2**	**-0.3**
PLD	**Plovdiv**	**2.33**	**46**	*e*Pn	**Pn**	**22 01 01.6**	**+0.6**
PGB	**Panagyurishte**	**2.34**	**32**	*i* P	**Pn**	**22 01 01.9**	**+0.8**
PGB				S	**Sg**	**22 01 39.2**	**+1.0**
KDZ	**Kurdzhali**	**2.41**	**62**	*i* P	**Pn**	**22 01 03.3**	**+1.3**
ZAPS	**Zavoj**	**2.73**	**2**	*e*Pn	**Pn**	**22 01 07.1**	**+0.5**
ZAPS				*e*Sn	**Sn**	**22 01 38.7**	**-0.8**
SELS	**Selova**	**2.87**	**339**	*e*Pn	**Pn**	**22 01 07.8**	**-0.6**
SELS				*e*Sn	**Sn**	**22 01 41.9**	**-0.9**
MPEP	**Malo Peshtene**	**2.96**	**18**	*i* P	**Pn**	**22 01 10.9**	**+1.2**
PDG	**Podgorica**	**3.08**	**309**	⇑P	**Pn**	**22 01 12.6**	**+1.2**
BLKB	**Belogradchik**	**3.08**	**2**	⇓S	**Sn**	**22 01 47.0**	**-1.2**
GOCS	**Kraljevo Serbi**	**3.26**	**339**	*e*Pn	**Pn**	**22 01 12.3**	**-1.5**
ZAGS	**Zajecar**	**3.28**	**357**	*e*Pn	**Pn**	**22 01 13.3**	**-0.7**
SJES	**Sjenica**	**3.31**	**326**	*e*Pn	**Pn**	**22 01 14.9**	**+0.4**
ELND	**Elena**	**3.48**	**45**	⇑P	**Pn**	**22 01 17.1**	**+0.4**
IVAS	**Ivanjica**	**3.50**	**331**	*e*Pn	**Pn**	**22 01 15.8**	**-1.4**
BORS2	**Bor- Borsko je**	**3.57**	**354**	*e*Pn	**Pn**	**22 01 16.2**	**-1.8**
GRUS	**Gruza**	**3.60**	**339**	*e*Pn	**Pn**	**22 01 18.0**	**-0.4**
KUBS	**Kucevo**	**3.92**	**351**	*e*Pn	**Pn**	**22 01 20.7**	**-2.1**
TRUS	**Trudelj**	**4.00**	**338**	*e*Pn	**Pn**	**22 01 23.2**	**-0.7**
DIVS	**Divibare**	**4.01**	**333**	*e*Pn	**Pn**	**22 01 23.7**	**-0.5**
MDVR	**Moldovita**	**4.28**	**352**	⇑P	**Pn**	**22 01 27.2**	**-0.6**
HERR	**Herculane**	**4.34**	**359**	⇑P	**Pn**	**22 01 28.1**	**-0.5**
TEKS	**Tekeris**	**4.57**	**332**	*e*Pn	**Pn**	**22 01 31.4**	**-0.4**
GZR	**Gura Zlata**	**4.86**	**2**	⇑P	**Pn**	**22 01 36.0**	**+0.2**
FRGS	**Fruska Gora**	**5.02**	**338**	*e*Pn	**Pn**	**22 01 37.9**	**-0.1**
ARR	**Arges**	**5.07**	**17**	⇑P	**Pn**	**22 01 38.8**	**0.0**
BZS	**Buzias**	**5.12**	**353**	⇑P	**Pn**	**22 01 38.7**	**-0.6**
SURR	**Surduc**	**5.22**	**357**	⇑P	**Pn**	**22 01 40.9**	**+0.2**
VOIR		**5.24**	**20**	⇑P	**Pn**	**22 01 41.5**	**+0.5**
ISR	**Istrita**	**5.46**	**32**	⇓P	**Pn**	**22 01 45.6**	**+1.6**
MLR	**Muntele Rosu**	**5.56**	**26**	⇑P	**Pn**	**22 01 47.6**	**+2.1**
NEHR	**Nehoiu**	**5.62**	**28**	⇓P	**Pn**	**22 01 48.1**	**+1.8**
SIRR	**Siria**	**5.76**	**354**	⇑P	**Pn**	**22 01 48.0**	**-0.1**
DOPR	**Dopca**	**5.82**	**20**	⇑P	**Pn**	**22 01 49.6**	**+0.6**
COVR	**Voineasa-Covas**	**5.96**	**26**	⇑P	**Pn**	**22 01 52.3**	**+1.5**
OZUR		**6.05**	**22**	⇑P	**Pn**	**22 01 53.3**	**+1.1**
PLOR	**Plostina**	**6.12**	**28**	⇑P	**Pn**	**22 01 54.4**	**+1.4**
MARR	**Marisel-Cluj**	**6.15**	**4**	⇑P	**Pn**	**22 01 55.1**	**+1.5**
VRI	**Vrincioaia**	**6.16**	**29**	⇑P	**Pn**	**22 01 55.0**	**+1.5**
MORH	**Mrgy, Hungar**	**6.33**	**335**	⇓P	**Pn**	**22 01 55.3**	**-0.6**
BURAR	**Bucovina Array**	**7.34**	**15**	⇓P	**Pn**	**22 02 10.8**	**+0.9**
OBKA	**Obir**	**8.30**	**319**	*e*Pn	Pn	22 02 32.6	+9.5
	comp=N,9.4nm,1.2s						
BRTR	**Keskin Array B**	**8.57**	**92**	Pn	**Pn**	**22 02 30.0**	**+3.1**
	comp=N,0.1nm,0.3s,baz=277,slow=12,SNR=2.2						
	comp=N,0.5nm,0.8s						
KBA	**Koelnbreinsper**	**9.30**	**318**	*e*Pn	**Pn**	**22 02 40.8**	**+4.0**
	comp=N,7.2nm,1.4s						
ABTA	**Abfaltersbach**	**9.53**	**314**	*e*Pn	**Pn**	**22 02 41.4**	**+1.5**
	comp=N,11nm,2.0s						
LESA	**Schwarzleotal**	**9.87**	**317**	*i* Pn	**Pn**	**22 02 45.6**	**+1.1**
	comp=N,0.2nm,0.2s						
MOTA	**Moosalm**	**10.66**	**313**	*e*Pn	Pn	22 03 03.4	+8.0
	comp=N,9.1nm,1.5s						
DAVA	**Damuels**	**11.32**	**311**	*e*Pn	**Pn**	**22 03 05.7**	**+1.2**
	comp=N,0.4nm,0.1s						
ESDC	**Sonseca Array**	**20.24**	**276**	P	**P**	**22 04 55.4**	**-2.4**
	comp=N,0.4nm,0.8s,baz=91,slow=11,SNR=2.6						
	comp=N,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.83**	**220**	P	**P**	**22 06 55.7**	**-0.5**
	comp=N,0.4nm,0.6s,baz=30,slow=9.4,SNR=3.3						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**42.79**	**61**	P	**P**	**22 08 18.0**	**-2.1**
	comp=N,0.1nm,0.5s,baz=282,slow=6.6,SNR=6.1						
	comp=N,0.1nm,0.5s						

---

*SJA **06** 22:04:30.7±0.7, 31°.92S×70°.10W, h123km±4km, ML3.5, MW3.7*
*GUC **06** 22:04:32.6±0.8, 31°.98S×70°.32W, h124km±4km, ML3.3*
ISC 06 22:04:30.8±1.5, 31°.95S±0°.03×70°.15W±0°.04, h124km±11km, n41, σ1§17/67, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.70**	**113**	*e*P	Pn	22 04 45.0	-5.9
CO04	**Los Peladeros**	**0.71**	**262**	*e*P	**Pn**	**22 04 50.7**	**-0.2**
CO04				*e*S	**Sn**	**22 05 04.9**	**-1.2**
RTLS	**Leoncito**	**0.74**	**78**	*e*P	Pn	22 04 45.0	-6.3
RTLS				IAML		22 05 06.2	
	comp=Z,3μm,0.2s						
VA03	**San Esteban**	**0.88**	**203**	*e*P	**Pn**	**22 04 52.2**	**+0.1**
VA03				IAML		22 05 09.2	
	comp=Z,1μm,0.2s						
VA03	**San Esteban**	**0.88**	**203**	*e*P	**Pn**	**22 04 52.1**	**-0.1**
VA03				*e*S	**Sn**	**22 05 07.4**	**-1.0**
VA06	**Catapilco**	**1.15**	**238**	⇑*i*P	**Pn**	**22 04 54.3**	**-0.2**
VA06				*e*S	**Sn**	**22 05 11.1**	**-1.5**
VA06				IAML		22 05 12.4	
	comp=E,2μm,0.5s						
CO03	**El Pedregal**	**1.20**	**337**	*e*P	**Pn**	**22 04 56.0**	**+0.7**
CO03				*e*S	**Sn**	**22 05 15.4**	**+1.5**
CO03				IAML		22 05 18.9	
	comp=Z,769nm,0.4s						
CO03	**El Pedregal**	**1.20**	**337**	*e*P	**Pn**	**22 04 56.0**	**+0.7**
CO03				*e*S	**Sn**	**22 05 14.9**	**+1.0**
CO03				IAML		22 05 16.3	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.25**	**215**	⇑*i*P	**Pn**	**22 04 56.0**	**0.0**
ROCH				*e*S	**Sn**	**22 05 14.2**	**-0.9**
ROCH				IAML		22 05 15.2	
	comp=N,905nm,0.2s						
ROC1	**El Roble**	**1.26**	**215**	*e*P	Pn	22 04 50.5	-5.6
ROC1				*e*P		22 04 56.0	
ROC1				*e*S	**Sn**	**22 05 14.6**	**-0.6**
PEL	**Peldehue**	**1.27**	**201**	*e*P	**Pn**	**22 04 56.2**	**+0.2**
PEL				*e*S	**Sn**	**22 05 16.2**	**+1.1**
PEL	**Peldehue**	**1.27**	**201**	*e*P	**Pn**	**22 04 56.1**	**0.0**
PEL				*e*S	**Sn**	**22 05 14.0**	**-1.2**
PEL				IAML		22 05 15.7	
	comp=E,378nm,0.2s						
ASAL	**Salagasta**	**1.28**	**120**	*e*P	**Pn**	**22 04 56.5**	**+0.3**
ASAL				*e*S	**Sn**	**22 05 11.0**	**-4.5**
ZON	**Zonda**	**1.32**	**73**	*e*P	**Pn**	**22 04 56.4**	**-0.1**
ZON				*e*S	**Sn**	**22 05 15.4**	**-0.6**
DOCA	**Reserva Natura**	**1.35**	**43**	*e*P	**Pn**	**22 04 57.4**	**+0.1**
DOCA				*e*S	**Sn**	**22 05 17.0**	**-0.3**
MT10	**Hacienda Santa**	**1.36**	**194**	*e*P	**Pn**	**22 04 57.6**	**+0.5**
MT10				*e*S	**Sn**	**22 05 16.8**	**-0.2**
MT10				IAML		22 05 18.9	
	comp=E,1μm,0.3s						
ARCO	**CERRO ARCO**	**1.36**	**131**	*e*P	**Pn**	**22 04 57.8**	**+0.7**
ARCO				*e*S	**Sn**	**22 05 18.4**	**+1.3**
ARCO				IAML		22 05 19.8	
	comp=Z,670nm,0.3s						
RTCV	**Cerro Valdivia**	**1.37**	**87**	*e*P	Pn	22 05 11.1	+14
FCH	**Farellones**	**1.38**	**185**	*e*P	**Pn**	**22 04 58.4**	**+1.0**
FCH				*e*S	**Sn**	**22 05 18.5**	**+0.8**
FCH				IAML		22 05 19.3	
	comp=E,373nm,0.2s						
MT04	**Ro Olivares**	**1.45**	**180**	*e*P	**Pn**	**22 04 59.4**	**+1.2**
MT04				*e*S	**Sn**	**22 05 19.7**	**+0.7**
MT14	**Cerro Cal¡n**	**1.48**	**193**	*e*P	**Pn**	**22 04 59.1**	**+0.8**
MT14				*e*S	**Sn**	**22 05 18.9**	**-0.4**
MT14				IAML		22 05 24.1	
	comp=N,383nm,0.2s						
MT08	**Bocatoma Ro**	**1.49**	**176**	*e*P	**Pn**	**22 04 59.8**	**+1.1**
MT08				*e*S	**Sn**	**22 05 20.3**	**+0.4**
MT16	**CCHEN**	**1.51**	**192**	*e*P	**Pn**	**22 04 59.2**	**+0.6**
MT16				*e*S	**Sn**	**22 05 19.5**	**-0.4**
MT02	**Curacav**	**1.55**	**212**	*e*P	**Pn**	**22 04 59.0**	**0.0**
MT02				*e*S	**Sn**	**22 05 19.7**	**-0.8**
MT02				IAML		22 05 21.4	
	comp=E,215nm,0.2s						
MT03	**Universidad Ad**	**1.57**	**191**	*e*P	**Pn**	**22 05 00.0**	**+0.6**
MT03				*e*S	**Sn**	**22 05 21.1**	**0.0**
MT03				IAML		22 05 22.9	

304nm,0.4s
YHL Hebgen Lake 1.02 173 Pg 22 06 39.9 -0.4
QLMT Earthquake Lak 1.03 183 Pg 22 06 39.4 -1.1
GCR Grayling Creek 1.08 171 Pg 22 06 41.3 -0.1
YHB Horse Butte 1.12 174 Pg 22 06 41.8 -0.4
YMC Maple Creek 1.13 168 Pg 22 06 42.0 -0.4
YHH Holmes Hill 1.13 162 Pg 22 06 42.0 -0.4
YPDC Denny Creek 1.16 176 Pg 22 06 42.6 -0.2
GCMT Greycliff 1.18 93 Pg 22 06 42.4 -1.0
YMR Madison River 1.23 167 Pg 22 06 43.7 -0.5
YNR Norris Junctio 1.24 157 Pg 22 06 44.1 -0.4
YPM Purple Mountai 1.25 164 Pb 22 06 44.9 -0.1
YNE Yellowstone No 1.27 132 Pg 22 06 44.6 -0.6
LYMT Lyon Mountain 1.28 330 Pg 22 06 44.9 -0.5
YPSB Soda Butte 1.29 139 Pg 22 06 45.1 -0.4
YUF Upper Falls 1.29 153 Pg 22 06 45.3 -0.2
CMI Centennial Mou 1.35 188 Pn 22 06 46.0 -0.5
YMP Mirror Lake Pl 1.40 143 Pn 22 06 47.3 0.0
YFT Old Faithful 1.46 165 Pb 22 06 48.3 -0.2
YPPC Pelican Cone 1.46 146 Pg 22 06 51.1 +2.3
MCMT McKenzie Canyo 1.48 226 Pn 22 06 48.1 -0.2
YPK Parker Peak, Y 1.52 138 Pn 22 06 49.1 +0.3
YLT Little Thumb C 1.52 159 Pg 22 06 51.0 +1.1
BPMT Black Pine Rid 1.57 292 Pn 22 06 49.3 -0.2
RLMT Red Lodge 1.64 116 Pn 22 06 50.7 +0.3
RLMT Sn 22 07 12.1 +0.1
RLMT IAML 22 07 15.5
370nm,0.2s
YTP The Promontory 1.65 153 Pb 22 06 51.9 +0.1
MCID Moose Creek 1.68 176 Pb 22 06 51.9 -0.3
FLWY Flagg Ranch 1.84 165 Pn 22 06 54.0 +0.8
FLWY Sb 22 07 18.5 +0.2
MSO Missoula 2.04 299 Pn 22 06 56.3 +0.5
MSO IAML 22 07 28.3
125nm,0.4s
TPAW IAML 22 07 51.3
41nm,0.7s
EGMT Eagleton 2.42 26 Pn Pn 22 07 01.7 +0.6
SNOW Snow King Moun 2.44 170 Pn Pn 22 06 59.5 -1.9
SNOW IAML 22 07 58.6
33nm,0.4s
AHID Auburn Hatcher 3.10 177 Pn Pn 22 07 09.9 -0.7
AHID IAML 22 07 60.0
27nm,0.7s
AHID IAML 22 08 05.4
22nm,0.6s
HLID Hailey 3.17 225 Pn 22 07 12.4 +0.9
HLID IAML 22 07 59.8
70nm,0.4s
HLID IAML 22 08 01.4
42nm,0.4s
PLID Pearl Lake 3.36 258 Pn Pn 22 07 13.9 -0.2
PLID IAML 22 08 08.5
19nm,0.4s
PLID IAML 22 08 13.3
24nm,0.5s
LAO LASA Array 3.65 75 Pn Pn 22 07 17.3 -0.6
MFID Camas Ranch 4.03 234 Pn Pn 22 07 22.4 -0.8
MFID IAML 22 08 33.2
43nm,0.5s
F10A Beach Ranch, E 4.11 274 Pn Pn 22 07 22.9 -1.3
D08A Wollman Farm, 5.37 286 Pn Pn 22 07 39.5 -1.9
D08A IAML 22 09 19.9
comp=E,9.8nm,3.1s
DGMT Dagmar 5.53 59 Pn Pn 22 07 42.1 -1.6
J08A Circle Bar Ran 5.67 246 Pn Pn 22 07 45.5 -0.2
I07A Izee 6.05 256 Pn Pn 22 07 51.3 +0.3

*IDC **06** 22:11:34.1±2.5,52°.79N×171°.72W,h0km,mb3.7/7, mbtmp3.7/9,ML3.2/2,MS3.2/1,Error ellipse: s-maj=69.2km s-min=19.9km az=5.0*
*AEIC **06** 22:11:38.9±3.8,52°.4N±0°.1×171°.65W±0°.07,h34km±6km, Error ellipse: s-maj=18.1km s-min=4.8km az=167.0*
*NEIC **06** 22:11:38.2±2.5,52°.1N±0°.1×171°.56W±0°.10,h58km±13km, mb3.7/27,ML3.8/6,ML3.2(AEIC),Error ellipse: s-maj=19.1km s-min=7.1km az=164.0*
ISC 06 22:11:37.3±1.1,52°.1N±0°.2×171°.56W±0°.06,h44km,n82, σ1§51/75,mb3.9/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.62**	**275**		**Pn**	**22 12 03.0**	**-0.4**
ATKA					**Sn**	**22 12 22.7**	**-0.5**
ATKA				IAML		22 12 29.6	
comp=N,404nm,0.9s							
OKSP	**Okmok Steeple**	**2.30**	**59**		**Pn**	**22 12 12.1**	**-0.6**
OKSP					**Sn**	**22 12 38.6**	**-1.2**
OKWR	**Okmok West Rim**	**2.44**	**55**		**Pn**	**22 12 15.5**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**2.50**	**58**		**Pn**	**22 12 15.6**	**+0.2**
GSTR	**Great Sitkin T**	**2.77**	**272**		**Pn**	**22 12 16.9**	**-2.3**
GSTR				Sn	**Sn**	**22 12 53.0**	**+1.6**
GSCK	**Great Sitkin C**	**2.84**	**270**		**Pn**	**22 12 20.6**	**+0.4**
ADAG	**Mount Adagdak**	**3.11**	**270**		**Pn**	**22 12 25.1**	**+1.2**
ADK	**Adak**	**3.17**	**268**		**Pn**	**22 12 24.4**	**-0.2**
ADK	**Adak**	**3.17**	**268**		**Sn**	**22 13 01.3**	**0.0**
ADK				IAML		22 13 11.1	
comp=N,272nm,1.0s							
ADK				IAML		22 13 15.6	
comp=N,231nm,0.9s							
MAPS	**Pakushin South**	**3.28**	**57**		**Pn**	**22 12 26.2**	**+0.1**
MSW	**Makushin Switc**	**3.41**	**56**		**Pn**	**22 12 28.1**	**+0.2**
KIWB	**Kanaga Island**	**3.46**	**268**	Pn	**Pn**	**22 12 29.1**	**+0.4**
UNV	**Unalaska Valle**	**3.52**	**58**		**Pn**	**22 12 29.5**	**+0.1**
TASE	**Tanaga Southea**	**4.01**	**269**		**Pn**	**22 12 37.4**	**+1.1**
P08K	**Saint George I**	**4.66**	**14**	Pn	**Pn**	**22 12 45.7**	**+0.6**
P08K				IAML		22 14 14.2	
comp=E,167nm,1.5s							
SPIA	**Saint Paul Isl**	**5.14**	**8**	Pn	**Pn**	**22 12 50.8**	**-0.9**
O14K	**Tigyukauivet M**	**9.22**	**35**	Pn	**Pn**	**22 13 48.3**	**+0.8**
M13K	**Dall Lake**	**9.49**	**25**	Pn	**Pn**	**22 13 53.4**	**+2.1**
M14K	**Bethel**	**10.16**	**28**	Pn	**Pn**	**22 14 01.1**	**+0.7**
N15K	**Kwethluk River**	**10.30**	**34**	Pn	**Pn**	**22 14 04.3**	**+2.0**
K13K	**Kusilvak Mount**	**10.54**	**18**	Pn	**Pn**	**22 14 06.9**	**+1.3**
O16K	**Kokwok River B**	**10.64**	**40**	Pn	**Pn**	**22 14 09.2**	**+2.2**
K15K	**Wolf Creek Mou**	**11.56**	**24**	Pn	**Pn**	**22 14 21.4**	**+2.0**
M17K	**Holitna River**	**12.09**	**34**	Pn	**Pn**	**22 14 29.0**	**+2.3**
KDAK	**Kodiak Island**	**12.28**	**55**	Pn	**Pn**	**22 14 27.2**	**-2.1**
comp=E,0.1nm,0.3s,baz=100,slow=7.6,SNR=1.8							
comp=E,6.6nm,1.2s							
K17K	**Iditarod**	**12.78**	**29**	Pn	**Pn**	**22 14 38.3**	**+2.1**
N19K	**Bonanza Creek**	**12.82**	**40**	Pn	**Pn**	**22 14 39.0**	**+2.2**
L18K	**Granite Mounta**	**12.92**	**33**	Pn	**Pn**	**22 14 41.0**	**+3.0**
M19K	**Big River Lodg**	**13.52**	**37**	Pn	**Pn**	**22 14 48.4**	**+2.2**
M20K	**Styx River**	**13.97**	**38**	Pn	**Pn**	**22 14 54.7**	**+2.2**
G16K	**Koyuk River**	**14.13**	**16**		**Pn**	**22 14 57.6**	**+3.0**
K20K	**Telida**	**14.58**	**33**	Pn	**Pn**	**22 15 02.6**	**+2.0**
SKT	**Skwentna**	**14.65**	**40**	Pn	**Pn**	**22 15 03.9**	**+2.4**
SUA	**Susitna One**	**14.70**	**42**	Pn	**Pn**	**22 15 03.8**	**+1.6**
J20K	**Nowinta River**	**15.12**	**30**	Pn	**Pn**	**22 15 09.2**	**+1.5**
CAST	**Castle Rocks**	**15.30**	**35**		**Pn**	**22 15 12.9**	**+2.9**
KNK	**Knik Glacier**	**15.64**	**44**	Pn	**Pn**	**22 15 14.5**	**+0.1**
KNK				IAmb	IAmb	22 15 35.2	
comp=Z,14nm,1.4s							
TRF	**Thorofare Moun**	**15.96**	**36**	Pn	**Pn**	**22 15 19.5**	**+0.8**
TRF				IAmb	IAmb	22 15 37.5	
comp=Z,9.4nm,1.5s							
SCM	**Sheep Creek Mo**	**16.31**	**44**	Pn	**Pn**	**22 15 22.9**	**-0.1**
H21K	**Melozitna Rive**	**16.59**	**28**	Pn	**Pn**	**22 15 26.8**	**+0.4**
RAGM	**Ragged Mountai**	**16.98**	**50**	P	**P**	**22 15 33.2**	**+0.4**
HMT	**Hamilton**	**17.16**	**51**		**Pn**	**22 15 34.8**	**+1.1**
I23K	**Minto, Yukon-K**	**17.31**	**32**		**Pn**	**22 15 36.0**	**+0.6**
I23K				IAmb	IAmb	22 16 01.0	
comp=Z,5.8nm,1.2s							
GLB	**Gilahina Butte**	**17.72**	**47**		**Pn**	**22 15 40.7**	**+0.2**
GLB				IAmb	IAmb	22 15 50.6	
comp=Z,5.1nm,1.1s							
ILAR	**Eielson Array**	**17.94**	**36**	P	**P**	**22 15 39.7**	**-3.6**
comp=Z,0.1nm,0.3s,baz=225,slow=8.6,SNR=3.1							
comp=Z,0.2nm,0.6s							
G23K	**Bananza Creek**	**18.13**	**28**	P	**P**	**22 15 45.9**	**+0.4**
G23K				IAmb	IAmb	22 16 12.4	
comp=Z,5.3nm,1.4s							
H24K	**Noodor Dome**	**18.22**	**32**	P	**P**	**22 15 46.3**	**-0.2**
J25K	**Salcha River,**	**18.41**	**37**	P	**P**	**22 15 46.5**	**-2.1**
G24K	**Hadweenzic Riv**	**18.89**	**30**	P	**P**	**22 15 54.2**	**+0.5**
G24K				IAmb	IAmb	22 16 01.1	
comp=Z,6.0nm,1.3s							
J26L	**Joseph Creek**	**19.04**	**39**	P	**P**	**22 15 53.8**	**-1.7**
J26L				IAmb	IAmb	22 16 01.4	
comp=Z,5.5nm,1.4s							
BCAR	**Beaver Creek A**	**19.17**	**44**	P	**P**	**22 15 56.5**	**-0.4**
B21K	**Ikpikpuk River**	**19.28**	**18**	P	**P**	**22 15 58.7**	**+0.8**
B21K				IAmb	IAmb	22 16 19.7	
comp=Z,6.8nm,1.3s							
E24K	**Your Creek**	**19.51**	**26**	P	**P**	**22 16 02.5**	**+2.0**
E24K				IAmb	IAmb	22 16 07.5	
comp=Z,3.2nm,0.9s							
I26K	**Coal Creek Min**	**19.58**	**37**	P	**P**	**22 15 59.5**	**-1.7**
I26K				IAmb	IAmb	22 16 12.4	
comp=Z,4.9nm,1.4s							
O29M	**Mount Kennedy**	**19.91**	**53**	P	**P**	**22 16 05.2**	**+0.1**
B22K	**Teshekpuk Lake**	**20.11**	**18**	P	**P**	**22 16 06.3**	**-0.6**
B22K				IAmb	IAmb	22 16 13.1	
comp=Z,3.2nm,0.8s							
HYT	**Haines Junctio**	**20.52**	**52**	P	**P**	**22 16 12.0**	**+0.3**
HYT				IAmb	IAmb	22 16 15.6	
comp=Z,4.4nm,0.8s							
I28M	**Miner Creek**	**20.84**	**38**	P	**P**	**22 16 14.0**	**-1.1**
I28M				IAmb	IAmb	22 16 18.3	
comp=Z,1.9nm,0.7s							
K29M	**Barlow Dome**	**21.23**	**43**	P	**P**	**22 16 19.4**	**+0.1**
K29M				IAmb	IAmb	22 16 56.0	
comp=Z,5.5nm,1.4s							
SEY	**Seymchan**	**21.87**	**314**	P	**P**	**22 16 24.2**	**-1.7**
comp=Z,1.0nm,0.2s,baz=40,slow=19,SNR=1.3							
comp=Z,1.0nm,0.2s							
E28M	**Babbage River**	**22.47**	**31**	P	**P**	**22 16 32.0**	**-0.4**
YKA	**Yellowknife Ar**	**31.43**	**48**	P	**P**	**22 17 53.1**	**-0.8**
comp=Z,0.1nm,0.4s,baz=282,slow=8.7,SNR=2.2							
comp=Z,0.1nm,0.4s							
NEW	**Newport**	**34.38**	**74**	P	**P**	**22 18 21.8**	**+1.9**
comp=Z,0.8nm,0.4s,baz=98,slow=5.6,SNR=1.8							
comp=Z,0.8nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**36.43**	**216**	T	T	22 57 11.3	
baz=21,slow=76,SNR=9.0							
H11N3	**WAKE ISLAND Hy**	**36.43**	**216**	T	T	22 57 09.6	
baz=21,slow=76,SNR=8.0							
H11N1	**WAKE ISLAND Hy**	**36.45**	**216**	T	T	22 57 11.7	
baz=21,slow=76,SNR=5.7							
H11S1	**WAKE ISLAND Hy**	**37.62**	**215**	T	T	22 58 41.4	
baz=22,slow=76,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**37.64**	**215**	T	T	22 58 47.7	
baz=22,slow=76,SNR=2.9							
H11S3	**WAKE ISLAND Hy**	**37.64**	**215**	T	T	22 58 43.2	
baz=22,slow=76,SNR=3.9							
PDAR	**Pinedale Array**	**41.78**	**77**	P	**P**	**22 19 25.4**	**+2.9**
comp=Z,0.3nm,0.4s,baz=285,slow=3.4,SNR=5.2							
comp=Z,0.3nm,0.4s							
JCJ	**Chichijima**	**42.54**	**252**	LR	LR	22 34 06.7	
comp=Z,33nm,20.3s,baz=92,slow=32							
KURK	**Kurchatov**	**61.66**	**317**	P	**P**	**22 21 49.6**	**-0.6**
KURBB	**Kurchatov Arra**	**61.77**	**317**	P	**P**	**22 21 50.0**	**-1.0**
comp=Z,0.8nm,0.8s,baz=44,slow=7.0,SNR=6.1							
comp=Z,0.8nm,0.8s							
MK31	**Makanchi Array**	**63.00**	**312**	P	**P**	**22 21 57.9**	**-1.4**
MKAR	**Makanchi Array**	**63.00**	**312**	P	**P**	**22 21 58.0**	**-1.3**
MKAR	**Makanchi Array**	**63.00**	**312**	P	**P**	**22 21 57.8**	**-1.5**
comp=Z,0.2nm,0.5s,baz=48,slow=5.8,SNR=3.7							
comp=Z,0.2nm,0.5s							
BVAR	**Borovoye Array**	**63.12**	**323**	P	**P**	**22 21 59.2**	**-0.8**
comp=Z,0.9nm,0.6s,baz=51,slow=4.1,SNR=5.0							
comp=Z,0.9nm,0.6s							
ABKAR	**Akbulak array**	**69.94**	**327**	P	**P**	**22 22 42.4**	**-1.2**
ABKAR	**Akbulak array**	**69.94**	**327**	P	**P**	**22 22 42.4**	**-1.2**
ABKAR				IAmb	IAmb	22 23 19.4	
comp=Z,2.4nm,1.2s							
H03N2	**Juan Fernandez**	**117.09**	**110**	T	T	00 38 23.1	
baz=317							
H03N1	**Juan Fernandez**	**117.10**	**110**	T	T	00 38 22.8	
baz=317							
H03N3	**Juan Fernandez**	**117.11**	**110**	T	T	00 38 23.3	
baz=317							

*NEIC **06** 22:14:01.8±1.9,8°.22S±0°.07×117°.51E±0°.06,h184km±6km, mb4.5/63,Error ellipse: s-maj=10.6km s-min=8.6km az=194.0*
*DJA **06** 22:14:02.4±0.1,8°.S±2°.×11°.8E±°.,h186km±2km,M4.7/38, mb4.7/38,mB5.2/12,MLv5.0/26,Mw(mB)4.5/12*
*IDC **06** 22:14:03.0±1.2,8°.11S×117°.56E,h200km±11km,mb4.1/17, mbtmp4.6/20,MS2.8/1,Error ellipse: s-maj=12.1km s-min=6.9km az=55.0*
ISC 06 22:14:02.9±0.3,8°.25S±0°.04×117°.54E±0°.04,h200km,n196, σ1§54/210,mb4.4/52,1C-4D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.62**	**158**	P	**Pn**	**22 14 28.2**	**-2.3**
PLAI	**Plampang**	**0.62**	**158**	P	**Pn**	**22 14 27.6**	**-2.9**
PLAI				S	**Sn**	**22 14 49.1**	**-3.0**
WBSI	**Waikabubak, Su**	**2.29**	**127**	P	**Pn**	**22 14 42.0**	**-2.6**
WBSI				S	**Sn**	**22 15 13.7**	**-3.4**
SRBI	**Singaraja**	**2.31**	**274**	P	**Pn**	**22 14 43.2**	**-1.5**
SRBI				S	**Sn**	**22 15 16.8**	**-0.4**
DNP	**Denpasar**	**2.34**	**259**	P	**Pn**	**22 14 46.4**	**+1.3**
DNP				S	**Sn**	**22 15 17.5**	**-0.3**
WSI	**Waingapu**	**3.07**	**118**	P	**Pn**	**22 14 51.7**	**-1.7**
WSI				S	**Sn**	**22 15 30.0**	**-2.8**
ABJI	**Asem Bagus**	**3.30**	**278**	P	**Pn**	**22 14 56.4**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.36**	**266**	Pn	**Pn**	**22 14 55.1**	**-1.7**
JAGI	**Jajag, Banyuwa**	**3.36**	**266**	P	**Pn**	**22 14 55.1**	**-1.7**
JAGI	**Jajag, Banyuwa**	**3.36**	**266**	S	**Sn**	**22 15 37.2**	**-1.8**
JAGI	**Jajag, Banyuwa**	**3.36**	**266**	P	**Pn**	**22 14 54.9**	**-1.9**
BASI	**Baing, Sumba**	**3.58**	**123**	P	**Pn**	**22 14 58.3**	**-1.3**
BASI				S	**Sn**	**22 15 41.2**	**-2.8**
BSSI	**Bau Bau, Buton**	**3.60**	**55**	P	**Pn**	**22 14 59.2**	**-0.6**
KMMI	**Kalianget**	**3.73**	**288**	P	**Pn**	**22 15 02.2**	**+0.7**
BKSI	**Bulukumba**	**3.88**	**42**	P	**Pn**	**22 15 02.7**	**-0.6**
KAPI	**Kappang**	**3.90**	**34**	Pn	**Pn**	**22 15 02.9**	**-0.5**
KAPI	**Kappang**	**3.90**	**34**	P	**Pn**	**22 15 03.2**	**-0.2**
84nm,0.4s,baz=213,slow=8.0,SNR=43							
KAPI				S	**Sn**	**22 15 47.1**	**-4.0**
74nm,0.8s,baz=188,slow=13,SNR=3.9							
KAPI				LR	LR	22 16 16.5	
comp=Z,124nm,20.6s,baz=160,slow=35							
KAPI	**Kappang**	**3.90**	**34**	P	**Pn**	**22 15 03.3**	**-0.2**
GMJI	**Gumukmas**	**4.05**	**269**	P	**Pn**	**22 15 04.3**	**-1.1**
MMRI	**Maumere**	**4.67**	**95**	Pn	**Pn**	**22 15 11.2**	**-1.9**
MMRI	**Maumere**	**4.67**	**95**	P	**Pn**	**22 15 12.1**	**-1.0**
MMRI	**Maumere**	**4.67**	**95**	P	**Pn**	**22 15 10.4**	**-2.7**
MMRI				S	**Sn**	**22 16 05.8**	**-2.5**
SPSI	**Sidrap Palu**	**4.80**	**28**	P	**Pn**	**22 15 14.0**	**-0.9**
GRJI	**Gresik**	**5.19**	**285**	P	**Pn**	**22 15 20.3**	**+0.5**
1.0nm267nm,1.0s							
TTSI	**Tana Toraja**	**5.65**	**24**	P	**Pn**	**22 15 26.8**	**+1.1**
0.7nm2μm172nm,1.0s							
BBSI	**Bau Bau**	**5.70**	**62**	P	**Pn**	**22 15 26.0**	**-0.4**
0.3nm82nm,0.9s							
TBJI	**Tambak Boyo**	**5.82**	**284**	P	**Pn**	**22 15 27.1**	**-0.8**
0.9nm121nm,1.2s							
TBJI				S	**Sn**	**22 16 35.1**	**+0.1**
0.9nm121nm,1.2s							
PCJI	**Pacitan**	**6.30**	**270**	P	**Pn**	**22 15 33.1**	**-1.0**
2.8nm2μm128nm,0.6s							
SOEI	**Soe**	**6.81**	**103**	Pn	**Pn**	**22 15 39.3**	**-1.6**
SOEI	**Soe**	**6.81**	**103**	P	**Pn**	**22 15 39.7**	**-1.2**
SOEI	**Soe**	**6.81**	**103**	S	**Sn**	**22 16 57.5**	**-1.1**
SOEI	**Soe**	**6.81**	**103**	P	**Pn**	**22 15 39.7**	**-1.2**
UGM	**Wanagama**	**6.95**	**272**	Pn	**Pn**	**22 15 41.4**	**-1.3**
UGM	**Wanagama**	**6.95**	**272**	P	**Pn**	**22 15 41.9**	**-0.7**
1.8nm122nm,1.5s							
BKB	**Balikpapan**	**6.97**	**355**	Pn	**Pn**	**22 15 45.3**	**+2.4**
SMRI	**Semarang**	**7.13**	**279**	P	**Pn**	**22 15 46.3**	**+1.3**
0.9nm94nm,0.9s							
YOGI	**Yogyakarta**	**7.18**	**273**	P	**Pn**	**22 15 45.9**	**+0.3**
0.9nm84nm,1.2s							
PCI	**Palu**	**7.65**	**18**	P	**Pn**	**22 15 54.0**	**+2.3**
0.2nm66nm,1.1s							
MTKI	**Muara Teweh, K**	**7.72**	**340**	P	**Pn**	**22 15 53.5**	**+0.8**
KPJI	**Karang Pucung**	**8.58**	**276**	P	**Pn**	**22 16 04.4**	**+0.7**
64nm,0.4s							
CMJI	**Cimerak**	**9.01**	**272**	P	**Pn**	**22 16 09.1**	**-0.3**
60nm,0.9s							
BBJI	**Bungbulang**	**9.83**	**274**	P	**Pn**	**22 16 19.6**	**-0.5**
TOLI2	**Tolitoli**	**9.85**	**19**		**Pn**	**22 16 18.9**	**-1.4**
TOLI2	**Tolitoli**	**9.85**	**19**	P	**Pn**	**22 16 22.9**	**+2.6**
LEM	**Lembang**	**9.94**	**278**	P	**Pn**	**22 16 22.7**	**+1.1**
43nm,0.6s,baz=327,slow=23,SNR=12							
LEM				S	**Sn**	**22 18 09.4**	**-3.4**
16nm,0.5s,baz=292,slow=22,SNR=1.9							
STKI	**Sintang**	**10.23**	**324**	P	**Pn**	**22 16 27.3**	**+2.0**
38nm,1.0s							
SANI	**Sanana**	**10.43**	**54**	P	**Pn**	**22 16 31.0**	**+3.2**
SANI	**Sanana**	**10.43**	**54**	P	**Pn**	**22 16 28.9**	**+1.1**
33nm,0.8s							
CGJI	**Cibinong**	**11.86**	**277**	P	**Pn**	**22 16 47.2**	**+1.1**
1μm40nm,1.1s							
SBUM	**Sibu**	**11.88**	**333**	Pn	**Pn**	**22 16 45.6**	**-0.8**
SBUM	**Sibu**	**11.88**	**333**	P	**Pn**	**22 16 47.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**12.56**	**142**	Pn	**Pn**	**22 16 54.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.56**	**142**	P	**Pn**	**22 16 55.6**	**+0.6**
22nm,0.5s,baz=329,slow=8.1,SNR=42							
FITZ				S	**Sn**	**22 19 08.7**	**-6.6**
57nm,0.4s,baz=197,slow=18,SNR=11							
FITZ	**Fitzroy Crossi**	**12.56**	**142**	P	**Pn**	**22 16 55.2**	**+0.2**
MBWA	**Marble Bar**	**13.01**	**171**	Pn	**Pn**	**22 16 59.4**	**-1.1**
MBWA	**Marble Bar**	**13.01**	**171**	P	**Pn**	**22 16 59.9**	**-0.6**
KNRA	**Kununurra**	**13.22**	**125**	Pn	**Pn**	**22 17 02.4**	**-0.9**
PSA00	**Pilbara Seismi**	**13.43**	**171**	Pn	**Pn**	**22 17 04.7**	**-1.1**
PSA00	**Pilbara Seismi**	**13.43**	**171**	P	**Pn**	**22 17 05.3**	**-0.5**
SAUI	**Saumlaki**	**13.63**	**90**	Pn	**Pn**	**22 17 07.5**	**-0.9**
DRS	**Darwin Rock St**	**13.78**	**109**	P	**Pn**	**22 17 10.7**	**+0.4**
137nm,0.7s							
MDSI	**Maura Dua**	**13.79**	**285**	P	**Pn**	**22 17 11.0**	**+0.6**
MTN	**Manton Dam**	**14.12**	**110**	Pn	**Pn**	**22 17 13.4**	**-1.1**
MTN	**Manton Dam**	**14.12**	**110**	P	**Pn**	**22 17 14.0**	**-0.5**
KKM	**Kota Kinabalu**	**14.26**	**355**	P	**Pn**	**22 17 16.6**	**+0.2**
MNAI	**Manna**	**15.00**	**284**	Pn	**Pn**	**22 17 23.2**	**-2.1**
KDU	**Kakadu**	**15.33**	**108**	P	**P**	**22 17 30.5**	**+0.9**
SWI	**Sorong**	**15.52**	**62**	P	**P**	**22 17 33.3**	**+1.7**
55nm,0.9s							
KSI	**Kapahiang**	**15.55**	**286**	P	**P**	**22 17 32.0**	**-0.1**
81nm,0.8s							
FAKI	**Fak Fak**	**15.57**	**71**		**Pn**	**22 17 30.6**	**-1.6**
FAKI				IAmb	IAmb	22 17 42.7	
comp=Z,26nm,0.7s							
KMPI	**Kaimana, Papua**	**16.71**	**75**	P	**Pn**	**22 17 45.0**	**-0.9**
comp=Z,111nm,0.7s							
MYKOM	**Kota Tinggi**	**16.91**	**306**	P	**P**	**22 17 46.4**	**-0.5**
MYKOM				IAmb	IAmb	22 17 50.2	
comp=Z,23nm,1.3s							
PPSI	**Pulau Pagai**	**18.27**	**286**	P	**Pn**	**22 18 02.9**	**-1.4**
comp=Z,166nm,0.9s							
MEEK	**Meekatharra**	**18.31**	**177**	P	**Pn**	**22 18 03.8**	**-0.9**
WRKA	**Warakurna**	**19.60**	**150**	P	**P**	**22 18 17.7**	**+1.6**
WB0	**Warramunga Arr**	**19.94**	**127**	P	**P**	**22 18 19.6**	**-0.2**
WRA	**Warramunga Arr**	**19.99**	**127**	P	**P**	**22 18 20.3**	**-0.1**
WRA	**Warramunga Arr**	**19.99**	**127**	P	**P**	**22 18 20.9**	**+0.5**
comp=Z,16nm,0.3s,baz=301,slow=12,SNR=728							
WRA				S	**S**	**22 21 57.6**	**+3.4**
comp=Z,3.7nm,0.7s,baz=301,slow=20,SNR=5.4							
comp=Z,16nm,0.3s							
IPM	**Ipoh**	**20.77**	**307**	P	**P**	**22 18 27.4**	**-1.3**
IPM				IAmb	IAmb	22 18 32.6	
comp=Z,9.3nm,1.0s							
RPSI	**Rantau Prapat**	**21.51**	**300**	P	**P**	**22 18 34.8**	**-1.7**
RPSI				IAmb	IAmb	22 18 39.9	
comp=Z,11nm,0.5s							
KULM	**Kulim**	**21.56**	**308**	P	**P**	**22 18 36.5**	**-0.3**
KULM				IAmb	IAmb	22 18 52.8	
comp=Z,7.4nm,0.8s							
PSI	**Prapat**	**21.57**	**300**	P	**P**	**22 18 36.2**	**-1.0**
comp=Z,6.9nm,0.4s,baz=119,slow=11,SNR=6.7							
comp=Z,6.9nm,0.4s							
PSI	**Prapat**	**21.57**	**300**	P	**P**	**22 18 38.9**	**+1.7**
ASAR	**Alice Springs**	**21.93**	**136**	P	**P**	**22 18 41.4**	**+0.8**
ASAR	**Alice Springs**	**21.93**	**136**	P	**P**	**22 18 41.5**	**+0.9**
comp=Z,21nm,0.6s,baz=311,slow=8.5,SNR=270							
ASAR				S	**S**	**22 22 28.7**	**+0.2**
comp=Z,5.1nm,0.8s,baz=328,slow=22,SNR=6.3							
comp=Z,21nm,0.6s							
AS31	**Alice Springs**	**21.93**	**136**	P	**P**	**22 18 41.1**	**+0.5**
AS31				IAmb	IAmb	22 18 43.4	
comp=Z,12nm,0.9s							
BLDU	**Ballidu**	**22.26**	**182**	P	**P**	**22 18 44.6**	**+1.0**
KMBL	**Kambalda**	**23.35**	**171**	P	**P**	**22 18 54.8**	**+1.3**
FORT	**Forrest**	**24.48**	**158**	P	**P**	**22 19 04.8**	**+1.1**
FORT	**Forrest**	**24.48**	**158**	P	**P**	**22 19 06.9**	**+3.2**
QIS	**Mount Isa**	**24.59**	**122**	P	**P**	**22 19 06.5**	**+1.6**
COEN	**Coen**	**25.78**	**105**	P	**P**	**22 19 16.2**	**+0.5**
OOD	**Oodnadatta**	**25.93**	**141**	P	**P**	**22 19 18.5**	**+1.7**
SRDT	**SRDT**	**28.95**	**321**	P	**P**	**22 19 47.5**	**+3.7**
INKA	**Innaminka**	**29.27**	**134**	P	**P**	**22 19 49.9**	**+3.3**
LCRK	**Leigh Creek**	**29.36**	**142**	P	**P**	**22 19 49.6**	**+2.3**
NONG	**Nongkai**	**29.76**	**332**	P	**P**	**22 19 54.6**	**+3.6**
BBOO	**Buckleboo**	**29.86**	**148**	P	**P**	**22 19 52.8**	**+1.1**
BBOO				IAmb	IAmb	22 19 53.9

HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,100nm,4.0s
JSD Sado 49.95 21 P P 22 22 36.1 -0.5
JSD IAmb IAmb 22 22 36.8
comp=Z,17nm,0.7s
GTA Gaotai 50.19 342 *e*P **P 22 22 39.7 +1.2**
GTA pP pP 22 23 24.0 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
JMM Marumori 50.76 24 P P 22 22 41.5 -1.1
XLT XiLinHaoTe 51.92 359 *e*P **P 22 22 51.3 0.0**
XLT pP pP 22 23 39.2 +3.6
XLT sP sP 22 23 58.0 +0.3
XLT pmax pmax
comp=Z,13nm,0.8s
JTM Tenmabayashi 53.40 22 P P 22 23 01.1 -0.9
MDJ Mudanjiang 53.74 11 P P 22 23 04.0 -0.4
MDJ Mudanjiang 53.74 11 P P 22 23 05.0 +0.6
MDJ pmax pmax
comp=Z,44nm,0.8s
MDJ pmax pmax
comp=Z,200nm,3.7s
USA0B Ussuriysk Arra 53.82 13 P P 22 23 04.8 -0.3
USRK Ussuriysk Ar. 53.82 13 P P 22 23 04.6 -0.4
USRK Ussuriysk Ar. 53.82 13 P P 22 23 04.7 -0.3
comp=Z,16nm,0.7s,baz=192,slow=7.0,SNR=39
comp=Z,16nm,0.7s
BNX BinXian 54.47 8 ⇑P **P 22 23 08.6 -1.1**
BNX pmax pmax
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar 56.64 352 P P 22 23 24.9 -0.4
ULN IAmb IAmb 22 23 26.0
comp=Z,6.8nm,1.0s
SONM Songino Array 56.71 351 P P 22 23 25.3 -0.4
SONM IAmb IAmb 22 23 26.4
comp=Z,9.1nm,0.8s
SONM Songino Array 56.71 351 P P 22 23 25.5 -0.2
comp=Z,8.2nm,0.8s,baz=168,slow=8.5,SNR=73
comp=Z,8.2nm,0.8s
JKA Kamikawa-asahi 56.85 21 P P 22 23 25.7 -1.0
LBZ Lake Benmore 58.00 138 P P 22 23 34.4 -0.3
HEH HeiHe 58.89 7 *e*P **P 22 23 40.5 -0.2**
HEH pP **pP 22 24 24.4 -1.8**
HEH pmax pmax
comp=Z,19nm,0.9s
BKZ Black Stump Fm 60.89 130 P P 22 23 55.4 +0.6
KSH Kashi 61.15 324 P P 22 23 56.4 -0.1
KSH pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 62.55 316 P P 22 24 04.0 -2.1
KBL IAmb IAmb 22 24 06.3
comp=Z,4.9nm,0.8s
MK31 Makanchi Array 63.14 334 P P 22 24 08.1 -1.4
MKAR Makanchi Array 63.14 334 P P 22 24 08.3 -1.1
MKAR Makanchi Array 63.14 334 P P 22 24 08.7 -0.7
comp=Z,1.8nm,0.5s,baz=153,slow=5.8,SNR=49
comp=Z,1.8nm,0.5s
MAKZ Makanchi 63.29 333 P P 22 24 09.6 -0.8
DRK Karamyk 63.62 322 P P 22 24 12.7 -0.4
DRK IAmb IAmb 22 24 22.0
comp=Z,4.5nm,0.6s
ARSB Arslanbob 64.06 324 P P 22 24 15.2 -0.6
ARSB IAmb IAmb 22 24 24.2
comp=Z,6.4nm,0.7s
GAR Garm 64.25 321 P P 22 24 16.5 -0.5
GAR IAmb IAmb 22 24 25.2
comp=Z,12nm,0.8s
BTK Batken 64.57 322 P P 22 24 18.3 -0.7
SIMJ Simiganj 64.88 320 P P 22 24 19.6 -1.5
SIMJ IAmb IAmb 22 24 23.2
comp=Z,8.1nm,1.5s
KKAR Karatay Array 66.61 324 P P 22 24 30.2 -1.7
KKAR Karatay Array 66.61 324 P P 22 24 30.7 -1.2
KKAR IAmb IAmb 22 24 32.2
comp=Z,1.8nm,1.2s
KURBB Kurchatov Arra 67.67 334 P P 22 24 37.3 -1.0
comp=Z,1.8nm,1.0s,baz=147,slow=5.3,SNR=16
comp=Z,1.8nm,1.0s
KURK Kurchatov 67.70 334 P P 22 24 37.4 -1.1
ZAA0 Zalesovo Array 67.84 340 P P 22 24 36.9 -2.4
ZALV Zalesovo Beam 67.84 340 P P 22 24 37.0 -2.3
ZALV Zalesovo Beam 67.84 340 P P 22 24 37.8 -1.5
comp=Z,1.8nm,0.5s,baz=157,slow=5.7,SNR=11
comp=Z,1.8nm,0.5s
ABPO Ambohimpanom 68.80 253 P P 22 24 45.8 -0.5
ABPO IAmb IAmb 22 24 48.2
comp=Z,22nm,1.4s
VOI Vohitsoka 69.14 250 P P 22 24 48.4 +0.1
VOI IAmb IAmb 22 24 50.3
comp=Z,10nm,1.0s
VNDA Vanda 72.95 171 P P 22 25 10.6 +0.6
VNDA IAmb IAmb 22 25 13.8
comp=Z,27nm,1.4s
VNDA Vanda 72.95 171 P P 22 25 10.3 +0.3
comp=Z,1.7nm,0.5s,baz=306,slow=5.5,SNR=7.0
comp=Z,1.7nm,0.5s
BVAR Borovoye Array 72.96 332 P P 22 25 09.2 -1.2
comp=Z,4.6nm,0.8s,baz=141,slow=7.2,SNR=15
comp=Z,4.6nm,0.8s
BRVK Borovoye 73.03 332 P P 22 25 10.4 -0.3
ABKAR Akbulak array 76.12 325 P P 22 25 27.5 -1.1
ABKAR Akbulak array 76.12 325 P P 22 25 27.6 -1.0
RAYN Ar Rayn 77.08 296 P P 22 25 32.9 -1.8
SYO Syowa Base 78.02 201⇓*e*P **P 22 25 41.2 +2.3**
KIBK Kibwezi 79.27 269 P P 22 25 46.9 -0.1
KIBK IAmb IAmb 22 25 48.7
comp=Z,10nm,0.8s
TIXI Tiksi 80.09 4 P P 22 25 48.6 -1.3
KMBO Kilima Mbogo 80.22 270 P P 22 25 52.5 +0.2
KMBO IAmb IAmb 22 25 54.1
comp=Z,9.8nm,0.9s
QSPA South Pole Qui 81.74 180 P P 22 26 00.1 +1.0
QSPA IAmb IAmb 22 26 08.3
comp=Z,8.4nm,1.2s
QSPA South Pole Qui 81.74 180 P P 22 26 00.7 +1.6
comp=Z,3.8nm,0.5s,baz=328,slow=0.4,SNR=11
comp=Z,3.8nm,0.5s
POGA Pongola 82.58 243 P P 22 26 05.2 +1.1
LODK Lodwar 82.76 275 P P 22 26 04.9 -0.4
LODK IAmb IAmb 22 26 07.0
comp=Z,5.2nm,0.9s
MBAR Mbarara 86.75 270 P P 22 26 25.4 0.0
BOSA Boshof 88.09 242 P P 22 26 32.5 +1.0
comp=Z,4.2nm,0.9s,baz=81,slow=4.2,SNR=5.4
comp=Z,4.2nm,0.9s
SNAA Sanae 91.32 196 P 22 26 47.5 +1.9
SNAA IAmb IAmb 22 26 56.5
comp=Z,5.9nm,1.2s
SNAA Sanae 91.32 196 P P 22 26 47.3 +1.8
comp=Z,1.5nm,0.5s,baz=176,slow=8.2,SNR=11
comp=Z,1.5nm,0.5s
BELA Belgrano 2 92.62 186 P P 22 26 52.3 +0.9
BELA IAmb IAmb 22 27 12.2
comp=Z,7.9nm,1.3s
YKA Yellowknife Ar 114.10 24 PKiKP PKPdf 22 32 17.2 -0.8
comp=Z,0.3nm,0.5s,baz=295,slow=2.2,SNR=5.7
TORD Torodi Ar. Bea 116.91 281 PKP **PKPdf 22 32 24.3 -0.4**
comp=Z,3.1nm,0.7s,baz=44,slow=2.3,SNR=29
ESDC Sonseca Array 119.33 311 PKP **PKPdf 22 32 28.5 -0.3**
comp=Z,0.2nm,0.3s,baz=26,slow=1.8,SNR=2.0
NVAR Mina Array Bea 121.65 50 PKP **PKPdf 22 32 33.2 -0.3**
comp=Z,0.5nm,0.5s,baz=339,slow=1.6,SNR=1.5
DBIC Dimbokro 122.90 273 PKP **PKPdf 22 32 35.9 -0.5**
comp=Z,4.5nm,0.5s,baz=78,slow=3.1,SNR=14
CPUP Villa Florida 145.26 188 PKPbc **PKPdf 22 33 17.1 -0.4**
comp=Z,4.7nm,0.5s,baz=182,slow=3.2,SNR=18
CPUP PP **PP 22 36 40.4 +3.5**
comp=Z,2.4nm,0.7s,baz=120,slow=2.0,SNR=6.7
BDFB Brasilia 152.28 211 PKPbc **PKPbc 22 33 35.6 -0.5**
comp=Z,3.7nm,0.6s,baz=158,slow=5.7,SNR=7.4
LPAZ La Paz 154.98 167 PKP **PKPdf 22 33 33.5 -0.2**
comp=Z,0.5nm,0.3s,baz=163,slow=5.6,SNR=2.6
LPAZ PKPab **PKPab 22 33 58.6 0.0**
comp=Z,1.4nm,0.7s,baz=174,slow=24,SNR=3.9

*IDC **06** 22:18:20.4±3.2, 18°.70N×122°.23E, h0km, mb3.9/8, mbtmp4.0/10, ML3.7/2, MS3.7/2, Error ellipse: s-maj=74.5km s-min=34.5km az=174.0*
ISC 06 22:18:23.8±2.0, 19°.0N±0°.2×122°.3E±0°.1, h10km, n20, σ1§32/16, mb4.0/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**3.94**	**344**	P	**Pn**	**22 19 24.8**	**+0.4**
YULB	**Yu-li**	**4.45**	**348**	P	**Pn**	**22 19 29.8**	**-1.6**
TPUB	**Ta-pu**	**4.53**	**341**	P	**Pn**	**22 19 34.8**	**+2.3**
SSLB	**Suanglung**	**4.90**	**346**	P	**Pn**	**22 19 38.0**	**+0.3**
NACB	**Ninganchiao**	**5.17**	**353**	P	**Pn**	**22 19 38.5**	**-2.8**
YHNB	**Yeheng**	**5.69**	**352**	P	**Pn**	**22 19 48.2**	**-0.3**
JOW	**Kunigami**	**9.55**	**34**	Pn	**Pn**	**22 20 41.9**	**+0.5**
	1.7nm,0.3s,baz=135,slow=22,SNR=14						
	5.7nm,0.2s						
KSRS	**Korea Array**	**19.03**	**14**	P	**Pn**	**22 22 48.6**	**+2.0**
	0.2nm,0.3s,baz=200,slow=14,SNR=2.9						
KSRS				LR	LR	22 29 52.6	
	comp=Z,36nm,19.9s,baz=160,slow=36						
	2.3nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**42.02**	**81**	T	T	23 11 37.7	
	baz=277,slow=75,SNR=93						
H11N2	**WAKE ISLAND Hy**	**42.02**	**81**	T	T	23 11 37.9	
	baz=277,slow=75,SNR=87						
H11N3	**WAKE ISLAND Hy**	**42.03**	**81**	T	T	23 11 38.9	
	baz=277,slow=75,SNR=59						
MKAR	**Makanchi Array**	**42.82**	**320**	P	**P**	**22 26 21.7**	**-0.3**
	0.8nm,0.5s,baz=125,slow=8.0,SNR=4.1						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**45.15**	**330**	P	**P**	**22 26 39.7**	**-0.8**
	1.0nm,0.6s,baz=134,slow=6.8,SNR=2.4						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.76**	**323**	P	**P**	**22 26 53.5**	**+0.3**
	1.3nm,0.9s,baz=122,slow=7.5,SNR=5.7						
	1.3nm,0.9s						
BVAR	**Borovoye Array**	**52.34**	**323**	P	**P**	**22 27 36.0**	**+0.1**
	0.7nm,0.5s,baz=117,slow=8.5,SNR=1.8						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**73.34**	**27**	P	**P**	**22 29 54.8**	**-0.8**
	0.3nm,0.5s,baz=271,slow=6.1,SNR=6.7						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**74.69**	**339**	P	**P**	**22 30 03.2**	**-0.2**
	1.6nm,0.8s,baz=74,slow=4.4,SNR=1.3						
	1.6nm,0.8s						
ASF	**Jabal al Asfar**	**76.33**	**300**	LR	LR	23 07 48.9	
	comp=Z,252nm,18.9s,baz=275,slow=39						
FINES	**FINESS Array B**	**76.41**	**331**	P	**P**	**22 30 12.5**	**-0.8**
	1.8nm,0.9s,baz=54,slow=4.9,SNR=4.0						
	1.8nm,0.9s						
YKA	**Yellowknife Ar**	**87.32**	**23**	P	**P**	**22 31 11.3**	**+0.5**
	1.0nm,0.8s,baz=309,slow=4.7,SNR=16						
	1.0nm,0.8s						

IDC 06 22:40:57.7±4.0, 11°.94S×117°.89E, h0km, mb3.0/1, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=255.6km s-min=28.5km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.67**	**130**	Pn	Pn	22 43 17.9	-0.3
	0.2nm,0.3s,baz=302,slow=9.5,SNR=1.5						
FITZ				Sn	Sn	22 44 56.3	-11
	0.1nm,0.3s,baz=142,slow=21,SNR=1.0						
	3.3nm,0.9s						
WRA	**Warramunga Arr**	**17.70**	**119**	P	Pn	22 45 04.5	-1.2
	0.8nm,1.0s,baz=289,slow=13,SNR=1.7						
ASAR	**Alice Springs**	**19.17**	**130**	P	Pn	22 45 24.1	+0.3
	0.1nm,0.3s,baz=304,slow=11,SNR=4.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**66.59**	**334**	P	P	22 51 49.7	-0.1
	0.1nm,0.5s,baz=142,slow=6.8,SNR=1.4						
	0.1nm,0.5s						

*IDC **06** 22:54:36.3±1.7, 20°.51S×71°.00W, h0km, mb3.8/3, mbtmp3.9/5, ML3.7/2, Error ellipse: s-maj=62.9km s-min=31.5km az=171.0*
*NEIC **06** 22:54:38.2±1.9, 19°.95S±0°.05×71°.17W±0°.08, h10km±2km, mb4.4/4, Error ellipse: s-maj=12.6km s-min=7.4km az=258.0*
*GUC **06** 22:54:41.8±0.7, 19°.85S×71°.01W, h34km±3km, ML3.6*
ISC 06 22:54:38.7±1.8, 19°.90S±0°.03×71°.11W±0°.06, h10km±10km, n48, σ1§13/56, mb4.0/4, 8C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.99**	**112**	Pn	**Pg**	**22 54 57.9**	**+0.1**
TA02				Sn	**Sg**	**22 55 11.2**	**+0.5**
TA02	**Huaiquique**	**0.99**	**112**	*e*P	**Pg**	**22 54 57.9**	**+0.1**
TA02				*e*S	**Sg**	**22 55 10.5**	**-0.2**
TA02				IAML		22 55 11.8	
	comp=N,2μm,0.4s						
TA01	**Diego Aracena**	**1.09**	**127**	Pn	**Pb**	**22 54 59.6**	**0.0**
TA01				Sn	**Sb**	**22 55 13.1**	**-1.0**
TA01	**Diego Aracena**	**1.09**	**127**	⇑*i*P	**Pb**	**22 54 59.7**	**0.0**
TA01				*i* S	**Sb**	**22 55 13.1**	**-1.0**
TA01				IAML		22 55 14.7	
	comp=E,2μm,0.8s						
HMBC	**Humberstone**	**1.21**	**108**	Pn	**Pn**	**22 55 01.2**	**-0.5**
HMBC				Sn	**Sb**	**22 55 17.0**	**-0.4**
HMBC	**Humberstone**	**1.21**	**108**	*e*P	**Pn**	**22 55 01.1**	**-0.6**
HMBC				*i* S	**Sb**	**22 55 16.5**	**-0.9**
HMBC				IAML		22 55 20.7	
	comp=N,3μm,0.6s						
PX02	**IPOC Station P**	**1.27**	**43**	*e*P	**Pn**	**22 55 01.0**	**-1.6**
PX02				*e*S	**Sb**	**22 55 16.9**	**-2.2**
PX02				IAML		22 55 25.6	
	comp=N,2μm,0.4s						
PATCX	**Punta Patache**	**1.28**	**136**	Pn	**Pn**	**22 55 02.4**	**-0.3**
PATCX	**Punta Patache**	**1.28**	**136**	⇑*i*P	**Pn**	**22 55 02.5**	**-0.3**
PATCX				*i* S	**Sb**	**22 55 18.2**	**-1.3**
PATCX				IAML		22 55 30.8	
	comp=E,1μm,0.2s						
PX03	**IPOC Station P**	**1.47**	**110**	*e*P	**Pn**	**22 55 04.5**	**-0.9**
PX03				*e*S	**Sn**	**22 55 23.3**	**-1.5**
PB12	**IPOC Station P**	**1.48**	**30**	Pn	**Pn**	**22 55 04.9**	**-0.6**
PB12	**IPOC Station P**	**1.48**	**30**	⇑*i*P	**Pn**	**22 55 05.0**	**-0.4**
PB12				*i* S	**Sn**	**22 55 23.0**	**-1.8**
PB12				IAML		22 55 32.8	
	comp=E,1μm,0.3s						
AP01	**Chacalluta**	**1.68**	**26**	Pn	**Pn**	**22 55 07.8**	**-0.4**
AP01	**Chacalluta**	**1.68**	**26**	⇑*i*P	**Pn**	**22 55 08.0**	**-0.2**
AP01				*i* S	**Sn**	**22 55 28.4**	**-1.4**
AP01				IAML		22 55 39.2	
	comp=E,3μm,0.4s						
PB08	**IPOC Station P**	**1.85**	**98**	Pn	**Pn**	**22 55 10.6**	**-0.2**
PB08	**IPOC Station P**	**1.85**	**98**	⇑*i*P	**Pn**	**22 55 10.8**	**-0.1**
PB08				*i* S	**Sn**	**22 55 34.0**	**-0.5**
PB08				IAML		22 55 37.5	
	comp=N,1μm,0.4s						
PB01	**IPOC Station P**	**1.90**	**127**	Pn	**Pn**	**22 55 11.4**	**+0.2**
PB01	**IPOC Station P**	**1.90**	**127**	⇑*i*P	**Pn**	**22 55 11.4**	**+0.2**
PB01				*i* S	**Sn**	**22 55 34.8**	**-0.5**
PB01				IAML		22 55 43.1	
	comp=N,1μm,0.3s						
PB09	**IPOC Station P**	**2.57**	**138**		**Pn**	**22 55 21.1**	**+0.5**
PB09	**IPOC Station P**	**2.57**	**138**	⇑*i*P	**Pn**	**22 55 21.7**	**+1.2**
PB09				*e*S	**Sn**	**22 55 51.6**	**-0.4**
PB18	**Visviri**	**2.77**	**34**	Pn	**Pn**	**22 55 25.3**	**+1.7**
PB18	**Visviri**	**2.77**	**34**	⇑*i*P	**Pn**	**22 55 26.1**	**+2.5**
AF01	**San Pedro de A**	**4.08**	**139**	Pn	**Pn**	**22 55 40.6**	**-0.9**
LPAZ	**La Paz**	**4.57**	**39**		**Pn**	**22 55 50.7**	**+2.2**
LPAZ	**La Paz**	**4.57**	**39**	Pn	Pn	22 55 53.7	+5.2
	comp=N,0.7nm,0.3s,baz=195,slow=3.8,SNR=6.7						
LPAZ				Lg	Lg	22 57 05.2	
	comp=N,1.1nm,0.3s,baz=3.4,slow=22,SNR=3.6						
	comp=N,6.5nm,0.4s						
PB14	**IPOC Station P**	**4.75**	**172**	Pn	**Pn**	**22 55 49.1**	**-1.6**
GO02	**Mina Guanaco**	**5.42**	**165**		**Pn**	**22 55 59.3**	**-0.6**
SIV	**San Ignacio**	**10.31**	**69**	Pn	**Pn**	**22 57 07.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=234,slow=11,SNR=16						
SIV				Sn	**Sn**	**22 59 05.9**	**+3.4**
	baz=351,slow=23,SNR=1.2						
	comp=N,4.7nm,0.5s						
ETMB	**Extrema**	**11.08**	**26**		**Pn**	**22 57 16.6**	**-0.7**
PTLB	**Pontes e Lacer**	**12.23**	**71**		**Pn**	**22 57 34.5**	**+1.4**
VILB	**Vilhena**	**12.53**	**58**		**Pn**	**22 57 38.4**	**+1.2**
H03N1	**Juan Fernandez**	**15.18**	**206**	T	T	23 14 06.3	
	baz=34,slow=73,SNR=12						
H03N2	**Juan Fernandez**	**15.18**	**206**	T	T	23 14 09.4	
	baz=34,slow=73,SNR=9.9						
H03N3	**Juan Fernandez**	**15.19**	**206**	T	T	23 13 53.6	
	baz=34,slow=73,SNR=7.7						
TRQA	**Tornquist**	**19.75**	**158**	P	**P**	**22 59 07.8**	**-1.0**
BDFB	**Brasilia**	**22.39**	**83**	P	**P**	**22 59 37.2**	**-0.4**
	comp=N,1.6nm,0.6s,baz=229,slow=11,SNR=2.2						
	comp=N,1.6nm,0.6s						
BOAV	**Boa Vista**	**24.47**	**26**	P	**P**	**22 59 57.6**	**-0.5**
BOAV				IAmb	IAmb	22 59 58.8	
	comp=Z,7.9nm,0.8s						
RUSC	**La Rusia**	**25.70**	**355**	P	**P**	**23 00 09.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**78.78**	**72**	P	**P**	**23 06 41.0**	**-1.1**
TORD				IAmb	IAmb	23 06 50.7	
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.78**	**72**	P	**P**	**23 06 41.2**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=251,slow=5.5,SNR=16						
	comp=Z,1.6nm,0.6s						
YKA	**Yellowknife Ar**	**89.01**	**341**	P	**P**	**23 07 34.5**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=147,slow=4.5,SNR=4.6						
	comp=Z,0.2nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**125.62**	**279**	T	T	01 33 03.4	
	baz=100						
H11S1	**WAKE ISLAND Hy**	**125.63**	**279**	T	T	01 33 04.0	
	baz=100						
H11S3	**WAKE ISLAND Hy**	**125.64**	**279**	T	T	01 33 08.8	
	baz=100						
BVAR	**Borovoye Array**	**135.60**	**33**	PKP	**PKPdf**	**23 13 58.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=300,slow=2.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**141.33**	**23**	PKP	**PKPdf**	**23 14 10.4**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=349,slow=4.4,SNR=2.6						
MKAR	**Makanchi Array**	**145.48**	**33**	PKPbc	**PKPab**	**23 14 18.1**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=10,slow=2.7,SNR=5.4						
SONM	**Songino Array**	**152.06**	**4**	PKPbc	**PKiKP**	**23 14 35.7**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=287,slow=0.5,SNR=4.4						

*IDC **06** 22:56:25.3±0.9, 12°.88S×45°.53E, h0km, mb3.7/6, mbtmp3.9/8, ML4.6/2, Error ellipse: s-maj=27.1km s-min=23.4km az=9.0*
*NEIC **06** 22:56:26.1±1.2, 12°.90S±0°.10×45°.3E±0°.1, h10km±1km, mb4.1/5, Error ellipse: s-maj=19.2km s-min=16.6km az=70.0*
ISC 06 22:56:25.8±0.7, 13°.02S±0°.08×45°.33E±0°.09, h10km, n20, σ1§79/22, mb4.0/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.80**	**162**	Pn	**Pn**	**22 57 53.8**	**+1.7**
	2.0nm,0.3s,baz=336,slow=12,SNR=148						
OPO				Sn	**Sn**	**22 58 54.5**	**-4.4**
	1.4nm,0.3s,baz=117,slow=22,SNR=10						
	85nm,0.6s						
ABPO	**Ambohimpanom**	**6.24**	**163**	Pn	**Pn**	**22 57 59.6**	**+1.5**
VOI	**Vohitsoka**	**8.95**	**171**	Pn	**Pn**	**22 58 36.6**	**+1.4**
FOMA	**Nahampoana Res**	**12.00**	**173**	Pn	**Pn**	**22 59 17.5**	**+0.6**
RER	**Riviere de l'E**	**12.83**	**131**	Pn	**Pn**	**22 59 28.2**	**-0.1**
KIBK	**Kibwezi**	**12.83**	**325**	Pn	**Pn**	**22 59 25.7**	**-2.7**
LSZ	**Lusaka**	**16.78**	**260**		**Pn**	**23 00 20.8**	**-0.3**
LSZ				IAmb	IAmb	23 00 27.1	
	comp=Z,11nm,0.9s						
LSZ	**Lusaka**	**16.78**	**260**	Pn	**P**	**23 00 23.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=10,SNR=15						
LSZ				Sn	**S**	**23 03 36.4**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=336,slow=5.8,SNR=1.4						
	comp=Z,8.3nm,0.8s						
LBTB	**Lobatse**	**22.11**	**234**	P	**P**	**23 01 21.1**	**-0.5**
LBTB				IAmb	IAmb	23 01 26.9	
	comp=Z,7.6nm,1.1s						
BOSA	**Boshof**	**24.29**	**227**	P	**P**	**23 01 44.5**	**+0.8**
BOSA				IAmb	IAmb	23 01 50.7	
	comp=Z,7.6nm,1.2s						
BOSA	**Boshof**	**24.29**	**227**	P	**P**	**23 01 46.8**	**+3.1**
	comp=Z,2.2nm,0.7s,baz=71,slow=8.3,SNR=6.7						
	comp=Z,2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**50.47**	**299**	P	**P**	**23 05 26.1**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=139,slow=10.0,SNR=2.7						
	comp=Z,0.3nm,0.8s						
ABKAR	**Akbulak array**	**63.33**	**11**	P	**P**	**23 06 54.6**	**-0.3**
ABKAR	**Akbulak array**	**63.33**	**11**	P	**P**	**23 06 54.4**	**-0.5**
MK31	**Makanchi Array**	**68.13**	**26**	P	**P**	**23 07 25.6**	**-0.4**
MKAR	**Makanchi Array**	**68.13**	**26**	P	**P**	**23 07 25.4**	**-0.6**
MKAR	**Makanchi Array**	**68.13**	**26**	P	**P**	**23 07 25.0**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=216,slow=7.3,SNR=4.7						
	comp=Z,0.1nm,0.6s						
ESDC	**Sonseca Array**	**69.62**	**321**	P	**P**	**23 07 37.5**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=140,slow=10,SNR=4.4						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**83.59**	**113**	P	**P**	**23 08 55.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=269,slow=5.1,SNR=7.5						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**84.73**	**109**	P	**P**	**23 09 01.4**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=259,slow=3.3,SNR=6.8						
	comp=Z,0.7nm,0.7s						

*IDC **06** 22:58:15.2±0.9, 20°.19S×71°.13W, h0km, mb3.8/8, mbtmp3.9/11, ML4.1/4, MS3.9/17, Error ellipse: s-maj=22.7km s-min=20.4km az=6.0*
*SJA **06** 22:58:17.7±1.2, 19°.95S×71°.14W, h40km±3km, ML4.3, MW4.4*
*NEIC **06** 22:58:18.1±1.4, 19°.97S±0°.01×71°.07W±0°.07, h13km±5km, mb4.5/14, Mwr4.5/33, Error ellipse: s-maj=10.3km s-min=1.1km az=81.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.96; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-4.75; $M_{r\theta}$1.68; $M_{\phi\phi}$2.37; $M_{\theta r}$-4.49; Fault plane solution: $M_0$7.23000×10^{15} NP1ϕ_s158.80000°, δ65.91000°, λ91.79000°. NP2ϕ_s334.42000°, δ24.15000°, λ86.00000°. Principal axes: T 6.8006, Plg69.0000°, Azm72.0000°; N 0.7950, Plg2.0000°, Azm338.0000°; P -7.5956, Plg21.0000°, Azm247.0000°;*
*NEIC **06** 22:58:18.2, 19°.95S×71°.08W, h14km*
*GUC **06** 22:58:19.3±0.9, 19°.86S×71°.10W, h31km±5km, ML4.2*
*VAO **06** 22:58:23.4±0.9, 19°.82S×70°.83W, h53km±7km, mb4.3*
ISC 06 22:58:18.8±1.0, 19°.94S±0°.03×71°.07W±0°.05, h25km±7km, n115, σ1§15/115, mb4.3/10, MS4.0/15, 5C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.94**	**111**	Pn	**Pb**	**22 58 36.5**	**+0.1**
TA02				Sn	**Sb**	**22 58 49.8**	**+1.3**
TA02	**Huaiquique**	**0.94**	**111**	*e*P	**Pb**	**22 58 36.4**	**-0.1**
TA02				*e*S	**Sb**	**22 58 50.0**	**+1.5**
TA02				IAML		22 59 00.5	
	comp=Z,6μm,1.2s						
TA02	**Huaiquique**	**0.94**	**111**	*e*P	**Pb**	**22 58 36.5**	**+0.1**
TA02				*e*S	**Sb**	**22 58 49.2**	**+0.7**
TA02				IAML		22 58 51.3	
	comp=N,12μm,0.2s						
TA01	**Diego Aracena**	**1.04**	**127**	Pn	**Pb**	**22 58 38.2**	**0.0**
TA01				Sn	**Sb**	**22 58 51.8**	**+0.4**
TA01	**Diego Aracena**	**1.04**	**127**	*e*P	**Pb**	**22 58 38.1**	**0.0**
TA01				*e*S	**Sb**	**22 58 52.1**	**+0.7**
TA01				IAML		22 59 03.8	
	comp=Z,5μm,0.9s						
TA01	**Diego Aracena**	**1.04**	**127**	⇑*i*P	**Pb**	**22 58 38.2**	**0.0**
TA01				*i* S	**Sb**	**22 58 51.9**	**+0.6**
TA01				IAML		22 58 52.9	
	comp=E,5μm,0.2s						
HMBC	**Humberstone**	**1.16**	**107**	Pn	**Pb**	**22 58 39.7**	**-0.5**
HMBC					**Sb**	**22 58 55.5**	**+0.6**
HMBC	**Humberstone**	**1.16**	**107**	*e*P	**Pb**	**22 58 39.8**	**-0.4**
HMBC				*e*S	**Sb**	**22

comp=N,5μm,0.4s
AP01 Chacalluta 1.71 24 Pn **Pn 22 58 46.7 -0.3**
AP01 Chacalluta 1.71 24 *eP* **Pn 22 58 46.6 -0.4**
AP01 *eS* **Sn 22 59 07.1 -0.9**
AP01 IAML 22 59 22.4
comp=E,8μm,0.7s
PB08 IPOC Station P 1.81 97 Pn **Pb 22 58 50.0 -1.6**
PB08 IPOC Station P 1.81 97 *eP* **Pn 22 58 49.4 +0.7**
PB08 *eS* **Sb 22 59 13.7 -0.2**
PB08 IAML 22 59 23.8
comp=Z,3μm,0.8s
PB08 IPOC Station P 1.81 97⇑ *iP* **Pn 22 58 49.3 +0.5**
PB08 *eS* **Sb 22 59 13.8 -0.1**
PB08 IAML 22 59 16.3
comp=N,4μm,0.3s
PB01 IPOC Station P 1.84 127 Pn **Pb 22 58 49.9 -2.0**
PB01 IPOC Station P 1.84 127 *eP* **Pn 22 58 49.3 +0.3**
PB01 *eS* **Sb 22 59 13.2 -1.3**
PB01 IAML 22 59 22.0
comp=Z,3μm,0.3s
PB01 IPOC Station P 1.84 127⇑ *iP* **Pn 22 58 49.7 +0.8**
PB01 IAML 22 59 22.6
comp=E,4μm,0.4s
PB09 IPOC Station P 2.52 138 Pn **Pb 22 59 00.2 -3.2**
PB09 IPOC Station P 2.52 138 *eP* **Pn 22 58 59.3 +1.0**
PB09 *eS* **Sn 22 59 29.6 +1.3**
PB09 IAML 22 59 48.3
comp=Z,2μm,1.2s
PB18 Visviri 2.78 33 Pn **Pn 22 59 03.7 +1.4**
AF01 San Pedro de A 4.03 139 Pn 22 59 19.5 +0.3
LPAZ La Paz 4.58 38 Pn 22 59 28.2 +1.0
LPAZ La Paz 4.58 38 Pn **Pn 22 59 30.8 +3.6**
comp=Z,6.8nm,0.3s,baz=228,slow=6.9,SNR=22
LPAZ Lg Lg 23 00 48.2
comp=Z,2.9nm,0.3s,baz=356,slow=22,SNR=4.1
LPAZ LR LR 23 01 22.7
comp=Z,1μm,18.0s,baz=234,slow=39
comp=Z,6.1nm,0.4s
LPAZ La Paz 4.58 38 *eP* **Pn 22 59 27.9 +0.8**
PB14 IPOC Station P 4.70 173 Pn **Pn 22 59 28.2 -0.3**
AC01 Pan de Azucar 6.19 176 Pn **Pn 22 59 48.4 -0.3**
NNA Nana 9.66 324 Pn **Pn 23 00 37.5 +1.1**
comp=Z,1.4nm,0.3s,baz=195,slow=7.4,SNR=1.7
comp=Z,5.3nm,0.4s
SIV San Ignacio 10.29 69 Pn **Pn 23 00 45.7 +0.7**
comp=Z,0.3nm,0.3s,baz=255,slow=9.2,SNR=28
SIV LR LR 23 04 49.0
comp=Z,346nm,19.9s,baz=288,slow=38
comp=Z,11nm,0.5s
ETMB Extrema 11.10 26 Pn **Pn 23 00 56.5 +0.4**
ETMB Extrema 11.10 26 *eP* **Pn 23 00 56.5 +0.4**
PTLB Pontes e Lacer 12.21 70 Pn 23 01 13.2 +1.9
PTLB Pontes e Lacer 12.21 70 *eP* **Pn 23 01 11.8 +0.5**
CZSB Cruzeiro do Su 12.24 352 Pn **Pn 23 01 13.8 +2.1**
VILB Vilhena 12.52 58 Pn **Pn 23 01 16.8 +1.2**
VILB Vilhena 12.52 58 *eP* **Pn 23 01 16.5 +0.9**
MURT Porto Murtinho 12.70 100 *eP* **Pn 23 01 18.8 +0.8**
BDQN Bodoquena, MS 13.45 95 *eP* **Pn 23 01 29.0 +0.8**
CPUP Villa Florida 14.14 119 Pn **Pn 23 01 35.0 -2.6**
comp=Z,0.2nm,0.3s,baz=330,slow=9.2,SNR=4.1
H03N1 Juan Fernandez 15.15 206 Pn **Pn 23 01 49.6 -1.4**
baz=106,slow=14
H03N1 T T 23 17 35.0
baz=33,slow=72,SNR=18
H03N2 Juan Fernandez 15.16 206 Pn **Pn 23 01 50.2 -0.9**
baz=106,slow=14
H03N2 T T 23 17 39.1
baz=33,slow=72,SNR=16
SALV Santo Antonio 15.17 77 *eP* **Pn 23 01 51.6 0.0**
H03N3 Juan Fernandez 15.17 206 Pn **Pn 23 01 50.6 -0.7**
baz=106,slow=14
H03N3 T T 23 17 35.4
baz=33,slow=72,SNR=19
H03S3 Juan Fernandez 15.49 205 Pn **Pn 23 01 54.0 -1.4**
baz=15,slow=21
H03S1 Juan Fernandez 15.50 205 Pn **Pn 23 01 54.2 -1.4**
baz=15,slow=21
H03S2 Juan Fernandez 15.51 205 Pn **Pn 23 01 54.7 -0.9**
baz=15,slow=21
PDRB Porto dos Gac 16.08 61 *eP* **Pn 23 02 03.5 +0.1**
RPRD Ribas do Rio P 16.31 95 *eP* **P 23 02 07.0 -2.2**
BI02 San Fabin de 16.66 181 P P 23 02 12.0 -1.0
BI02 IAmb IAmb 23 02 18.1
comp=Z,17nm,1.1s
CLDB Colider 17.25 61 *eP* **P 23 02 17.9 -1.6**
ITAB Concordia 18.80 116 P **Pn 23 02 36.9 -0.3**
ARAG Araguaiana, MT 18.81 80 *eP* **P 23 02 35.8 -0.9**
CPSB Cacapava Do Su 19.03 127 *eP* **Pn 23 02 40.0 +0.1**
COHC Cochancay 19.12 334 P **Pn 23 02 42.2 +1.1**
MACA Manacapuru-AM 19.52 33 P **P 23 02 42.9 -1.6**
MACA IAmb IAmb 23 02 54.7
comp=Z,63nm,1.3s
MACA Manacapuru-AM 19.52 33 *eP* **P 23 02 43.6 -0.9**
TRQA Tornquist 19.70 158 P **Pn 23 02 47.7 -0.3**
NPGB Novo Progresso 19.91 52 *eP* **Pn 23 02 49.2 -1.4**
SNDB Serra Nova Dou 20.58 70 *eP* **P 23 02 54.9 -1.2**
PLCA Paso Flores 20.73 179 P **P 23 02 56.4 -1.2**
PLCA IAmb IAmb 23 03 12.8
comp=Z,22nm,1.2s
PLCA Paso Flores 20.73 179 P **P 23 02 55.0 -2.6**
comp=Z,0.9nm,0.8s,baz=0.0,slow=11,SNR=3.8
comp=Z,0.9nm,0.8s
PLCA Paso Flores 20.73 179 *eP* Pn 23 03 01.5 +1.5
BB19B Bebedouro 21.14 97 *eP* **P 23 03 01.5 -0.7**
OTAV Otavalo 21.32 339 P **P 23 03 03.8 -0.7**
OTAV Otavalo 21.32 339 *eP* **P 23 03 04.6 +0.1**
ITTB Itaituba 21.51 46 *eP* **P 23 03 04.9 -1.3**
IPMB Ipameri, GO 21.70 89 *eP* **P 23 03 08.5 +0.3**
FLOC Florencia 21.86 348 P **P 23 03 10.0 +0.1**
BDFB Brasilia 22.36 83 P **P 23 03 15.6 +0.3**
BDFB IAmb IAmb 23 03 20.7
comp=Z,14nm,1.2s
BDFB Brasilia 22.36 83 P **P 23 03 17.6 +2.3**
comp=Z,5.0nm,0.9s,baz=277,slow=13,SNR=6.0
BDFB LR LR 23 12 16.5
comp=Z,156nm,20.5s,baz=304,slow=38
comp=Z,5.0nm,0.9s
MAL2 Monte Alegre, 24.28 45 P **P 23 03 36.1 +1.7**
MAL2 IAmb IAmb 23 03 43.1
comp=Z,18nm,1.0s
BOAV Boa Vista 24.49 26 P **P 23 03 36.5 +0.2**
BOAV IAmb IAmb 23 03 37.6
comp=Z,14nm,0.9s
BOAV Boa Vista 24.49 26 *eP* **P 23 03 35.9 -0.4**
ROSC El Rosal 24.83 352 LR LR 23 13 43.8
comp=Z,267nm,19.6s,baz=200,slow=37
SMTB Santa Maria do 25.23 67 *eP* **P 23 03 42.4 -0.6**
RUSC La Rusia 25.75 355 P **P 23 03 48.5 +0.3**
DIAM Diamantina, MG 25.93 91 *eP* **P 23 03 48.8 -0.6**
JANB Januaria 25.96 83 *eP* **P 23 03 48.6 -1.1**
BAUV El Baul 28.86 6 P **P 23 04 15.7 +0.1**
PCRV Puerto La Cruz 30.59 13 LR LR 23 17 23.0
comp=Z,241nm,18.9s,slow=37
MDP Montagnes des 30.78 38 LR LR 23 17 36.5
comp=Z,367nm,19.9s,baz=183,slow=37
RPN Rapa Nui 35.70 251 LR LR 23 16 30.9
comp=Z,216nm,19.1s,baz=82,slow=31
RCBR Riachuelo 36.93 72 LR LR 23 21 26.8
comp=Z,63nm,20.8s,baz=246,slow=38
SJG San Juan 38.12 8 LR LR 23 21 44.7
comp=Z,28nm,19.0s,baz=198,slow=37
TKL Tuckaleechee C 56.59 348 LR LR 23 33 37.0
comp=Z,66nm,18.2s,baz=54,slow=37
SNAA Sanae 64.41 161 P **P 23 08 53.7 +1.1**
SNAA IAmb IAmb 23 09 19.1
comp=Z,4.6nm,1.2s
DBIC Dimbokro 70.26 75 P **P 23 09 30.9 +0.5**
comp=Z,2.9nm,0.9s,baz=231,slow=7.3,SNR=3.8
DBIC LR LR 23 38 43.5
comp=Z,132nm,19.1s,baz=346,slow=34
comp=Z,2.9nm,0.9s
PDAR Pinedale Array 71.77 331 P **P 23 09 40.7 +1.4**
comp=Z,0.1nm,0.3s,baz=187,slow=4.4,SNR=1.0
comp=Z,0.1nm,0.3s
NVAR Mina Array Bea 73.03 323 P **P 23 09 48.2 +1.3**
comp=Z,0.1nm,0.3s,baz=159,slow=2.9,SNR=3.7
comp=Z,0.1nm,0.3s
ULM Lac du Bonnet 73.24 344 P **P 23 09 49.1 +1.5**
comp=Z,0.9nm,0.5s,baz=161,slow=5.1,SNR=3.1
comp=Z,0.9nm,0.5s
SCHQ Schefferville 74.56 3 LR LR 23 43 23.0
comp=Z,64nm,18.0s,baz=360,slow=36
SYO Syowa Base 78.66 160⇑ *eP* **P 23 10 18.8 +0.4**
TORD Torodi Ar. Bea 78.76 72 P **P 23 10 19.2 -0.6**
TORD IAmb IAmb 23 10 29.5
comp=Z,10nm,1.1s
TORD Torodi Ar. Bea 78.76 72 P **P 23 10 19.8 0.0**
comp=Z,6.2nm,1.1s,baz=268,slow=4.1,SNR=19
TORD LR LR 23 46 01.4
comp=Z,124nm,18.1s,slow=36
comp=Z,6.2nm,1.1s
RAR Rarotonga 81.85 250 LR LR 23 38 10.1
comp=Z,102nm,21.0s,baz=115,slow=29
MDT Midelt 82.33 51 LR LR 23 47 13.0
comp=Z,96nm,18.0s,baz=336,slow=36
BOSA Boshof 85.96 119 LR LR 23 45 59.7
comp=Z,96nm,19.4s,baz=234,slow=33
LBTB Lobatse 87.51 116 LR LR 23 47 10.7
comp=Z,58nm,18.8s,baz=252,slow=34
YKA Yellowknife Ar 89.06 341 P **P 23 11 12.2 +0.8**
comp=Z,0.9nm,1.0s,baz=145,slow=4.7,SNR=8.9
comp=Z,0.9nm,1.0s
H11S2 WAKE ISLAND Hyl 25.66 279 T T 01 36 24.9
baz=101,slow=74,SNR=26
H11S1 WAKE ISLAND Hyl 25.67 279 T T 01 36 19.4
baz=101,slow=74,SNR=5.2
H11S3 WAKE ISLAND Hyl 25.68 279 T T 01 36 28.2
baz=101,slow=74,SNR=5.5
H11N3 WAKE ISLAND Hyl 25.71 280 T T 01 36 36.3
baz=101,slow=74
H11N2 WAKE ISLAND Hyl 25.72 280 T T 01 36 31.9
baz=101,slow=74
H11N1 WAKE ISLAND Hyl 25.72 280 T T 01 36 31.9
baz=101
ZALV Zalesovo Beam 141.35 23 PKP **PKiKP 23 17 48.2 -1.8**
comp=Z,1.1nm,0.8s,baz=272,slow=4.3,SNR=4.5
MKAR Makanchi Array 145.50 33 PKPbc **PKiKP 23 17 56.1 -2.8**
comp=Z,2.7nm,1.1s,baz=302,slow=2.3,SNR=14
SONM Songino Array 152.10 4 PKPbc **PKiKP 23 18 14.4 +1.8**
comp=Z,1.3nm,1.0s,baz=347,slow=0.8,SNR=6.9
SONM PKPab **sPKPbc 23 18 22.7 +0.9**
comp=Z,0.7nm,0.8s,baz=354,slow=2.9,SNR=5.0

*TEH **06** 23:08:25.5,34.°12N×45.°58E,h8km±27km*
*ISN **06** 23:08:25.3±0.4,34.°13N×45.°63E,h15km±7km,ML3.7*
ISC 06 23:08:26.3±1.0,34.°08N±0.°03×45.°56E±0.°04,h10km,n29,
σ0.°97/32,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.29**	**83**	Pg	**Pg**	**23 08 31.4**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.43**	**3**	Pg	**Pg**	**23 08 33.2**	**-1.6**
ILBA	**Ilam Banvizeh**	**0.70**	**130**	Pg	**Pg**	**23 08 39.5**	**-0.4**
IGHG	**Ghaleghazi**	**0.87**	**73**	Pg	**Pg**	**23 08 42.1**	**-1.0**
IDHR	**Dehrash**	**0.92**	**47**	Pg	**Pg**	**23 08 42.1**	**-2.0**
IBDR	**Badra**	**1.01**	**162**	*ePg*	**Pg**	**23 08 45.0**	**-0.8**
IBDR				*eSg*	**Sb**	**23 08 59.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.24**	**80**	Pg	**Pn**	**23 08 49.0**	**-0.9**
BHD	**Baghdad**	**1.27**	**231**	*ePg*	**Pn**	**23 08 50.0**	**-0.1**
BHD				*eSg*	**Sn**	**23 09 08.0**	**+0.7**
BHD				AML	AML	23 09 13.4	
	comp=E,2μm,0.6s						
ILIN	**Lien**	**1.43**	**54**	Pg	**Pn**	**23 08 52.2**	**-0.3**
IKRK	**Kirkuk**	**1.66**	**323**	*ePn*	**Pn**	**23 08 55.5**	**0.0**
IKRK				*eSn*	**Sn**	**23 09 18.0**	**+1.1**
IKRK				AML	AML	23 09 21.7	
	comp=E,1μm,0.1s						
IKRK				AML	AML	23 09 22.3	
	comp=N,769nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.88**	**65**	Pn	**Pn**	**23 09 00.1**	**+1.4**
SDS1	**Sardasht. Az.**	**2.07**	**358**	Pn	**Pn**	**23 09 02.3**	**+1.0**
IDOB	**Doab**	**2.19**	**97**	Pn	**Pn**	**23 09 03.9**	**+0.9**
HSAM	**Samen**	**2.52**	**86**	Pn	**Pn**	**23 09 08.6**	**+1.0**
MAHB	**Mahabad**	**2.69**	**2**	Pn	**Pn**	**23 09 10.8**	**+1.0**
BDRS	**Dareh Seyedi**	**2.76**	**92**	Pn	**Pn**	**23 09 11.7**	**+0.9**
HAGD	**Aghdareh**	**3.05**	**75**	Pn	**Pn**	**23 09 15.5**	**+0.7**
HGHA	**Hamedan- Ghaye**	**3.05**	**62**	Pn	**Pn**	**23 09 16.1**	**+1.2**
IHSH	**Hashtrud**	**3.50**	**23**	Pn	**Pn**	**23 09 22.1**	**+0.9**
IAZR	**Azarshahr**	**3.61**	**5**	Pn	**Pn**	**23 09 23.6**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.68**	**63**	Pn	**Pn**	**23 09 24.2**	**+0.7**
ISRB	**Sarab**	**4.11**	**24**	Pn	**Pn**	**23 09 30.5**	**+1.2**
IHRS	**Heris**	**4.40**	**15**	Pn	**Pn**	**23 09 34.7**	**+1.4**
ZNGN	**Zangian**	**4.85**	**112**	Pn	**Pn**	**23 09 39.4**	**-0.2**
GRMI	**Germi**	**5.08**	**21**	Pn	**Pn**	**23 09 43.5**	**+0.9**
IVRN	**Varamin**	**5.17**	**78**	Pn	**Pn**	**23 09 44.4**	**+0.6**
ISFB	**Sefidab**	**5.54**	**85**	Pn	**Pn**	**23 09 49.1**	**+0.2**
KLNJ	**Kolanjah**	**5.94**	**119**	Pn	**Pn**	**23 09 54.9**	**+0.2**
IRAM	**Ramesheh**	**6.16**	**110**	Pn	**Pn**	**23 09 58.4**	**+0.8**

*NEIC **06** 23:36:49.7±1.0,19.°80N±0.°04×155.°76W±0.°04,*
h32km±10km,Error ellipse: s-maj=6.2km s-min=5.3km
az=86.0
HVO 06 23:36:51.6±2.0,19.°80N±0.°03×155.°78W±0.°03,h21km±6km,
ML2.7/32,ML2.8/38(NEIC),Error ellipse: s-maj=5.4km
s-min=2.4km az=224.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.13**	**204**	Pg	Pb	23 36 55.9	-2.2
HUH				IAML		23 37 01.7	
	comp=E,2μm,0.3s						
POHA	**Pohakuloa**	**0.24**	**101**		Pb	23 36 56.9	-1.0
POHA					Sb	23 37 00.6	-1.8
POHA	**Pohakuloa**	**0.24**	**101**	IAML		23 37 01.0	
	comp=E,2μm,0.4s						
POHA				IAML		23 37 01.5	
	comp=E,980nm,0.2s						
HPAH	**Hawaii Prepara**	**0.24**	**19**	Pg	Pb	23 36 57.2	-0.6
HPAH				Sg	Sb	23 37 01.1	-1.0
HPAH				IAML		23 37 01.4	
	comp=E,2μm,0.2s						
HPAH				IAML		23 37 01.4	
	comp=N,1μm,0.1s						
KKH	**Kailua Kona**	**0.27**	**237**		Pb	23 36 57.4	-0.5
KKH					Sb	23 37 01.9	-0.4
ALEP	**Alea Permanent**	**0.29**	**153**		Pb	23 36 58.1	-0.5
ALEP					Sb	23 37 02.9	-0.4
MLOA	**Mauna Loa Obse**	**0.33**	**144**		Pb	23 36 58.5	-0.5
MLOA					Sb	23 37 03.5	-0.6
CPH	**Captain Cook**	**0.34**	**202**		Pb	23 36 58.3	-0.6
HMH	**Humu'ula Sheep**	**0.34**	**125**		Pb	23 36 58.7	-0.5
HMH					Sb	23 37 03.8	-0.6
HMH				IAML		23 37 04.4	
	comp=E,1μm,0.3s						
MWH	**Mokuaweoweo**	**0.36**	**151**		Pb	23 36 58.5	-1.0
MWH				IAML		23 37 11.6	
	comp=N,1μm,0.3s						
MWH				IAML		23 37 11.9	
	comp=E,909nm,0.3s						
MHA	**Mahukona**	**0.40**	**343**	Pg	Pb	23 36 59.9	0.0
MLH	**Mauna Loa**	**0.48**	**129**		Pb	23 37 00.3	-1.2
MLH					Sb	23 37 07.4	-0.8
MLH	**Mauna Loa**	**0.48**	**129**	IAML		23 37 07.9	
	comp=N,1μm,0.2s						
MLH				IAML		23 37 08.1	
	comp=E,2μm,0.2s						
KHU	**Kahuku**	**0.57**	**164**		Pb	23 37 01.4	-1.8
KHU					Sb	23 37 09.0	-2.0
RSD	**Rainshed**	**0.58**	**125**	Pg	Pb	23 37 01.4	-1.8
RSD				Sg	Sb	23 37 09.1	-2.1
UWE	**Uwekahuna**	**0.60**	**129**	Pg	Pb	23 37 01.6	-1.9
UWE	**Uwekahuna**	**0.60**	**129**		Sb	23 37 09.8	-1.8
WRMHI	**West Rim**	**0.60**	**131**		Pb	23 37 01.6	-1.9
WRMHI					Sb	23 37 09.8	-1.9
UWB	**Uwekahuna Bluf**	**0.60**	**128**		Pb	23 37 01.6	-2.1
SBLHI	**Steaming Bluff**	**0.61**	**128**		Pb	23 37 01.6	-2.1
SDHHI	**Sand Hill**	**0.62**	**132**		Pb	23 37 02.0	-1.9
SDHHI					Sb	23 37 10.5	-1.7
HATHI	**Halema'uma'u T**	**0.62**	**127**		Pb	23 37 01.7	-2.2
HATHI				IAML		23 37 24.1	
	comp=E,325nm,0.7s						
BYL	**Byron's Ledge**	**0.63**	**128**		Pb	23 37 01.1	-2.8
RIM	**Rim**	**0.63**	**130**		Pb	23 37 02.0	-2.0
KKO	**Keanakako'i**	**0.63**	**129**		Pb	23 37 02.1	-2.0
HTC	**Hot Caves**	**0.67**	**147**		Pb	23 37 02.7	-2.0
HLP	**Hilina Pali**	**0.67**	**138**		Pb	23 37 02.6	-2.1
HLP				Sg	Sb	23 37 12.6	-1.0
HLP				IAML		23 37 16.1	
	comp=E,535nm,1.9s						
HLP				IAML		23 37 26.9	
	comp=N,489nm,1.5s						
PUH	**Pauahi**	**0.68**	**128**		Pb	23 37 02.5	-2.4
KNHH	**Kane Nui o Ham**	**0.71**	**126**		Pb	23 37 03.2	-2.2
STCH	**Steam Cracks**	**0.74**	**124**		Pb	23 37 03.4	-2.5
STCH				IAML		23 37 15.3	
	comp=N,282nm,0.1s						
STCH				IAML		23 37 16.1	
	comp=E,400nm,0.1s						
JOKA	**Jonika Flow**	**0.82**	**116**		Pb	23 37 04.3	-2.8
JOKA				IAML		23 37 19.0	
	comp=N,357nm,0.3s						

ISC 06 23:53:18.0±0.8,61.°55N±0.°02×141.°07W±0.°03,h10km,n18,
σ0.°77/30,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.37**	**52**	P	**Pg**	**23 53 24.6**	**-0.7**
	baz=230,SNR=21						
YUK8	**Steele Glacier**	**0.68**	**113**	P	**Pg**	**23 53 30.9**	**-0.3**
	baz=290,SNR=14						
BVCY	**Beaver Creek**	**0.87**	**6**	P	**Pg**	**23 53 34.3**	**-0.5**
	baz=188,SNR=11						
O28M	**Mount Upton**	**0.89**	**151**	P	**Pg**	**23 53 34.0**	**-1.1**
	baz=330						
O28M				S	**Sb**	**23 53 47.2**	**-0.5**
	baz=330						
M27K	**Edge Creek, AK**	**0.90**	**335**	P	**Pg**	**23 53 34.0**	**-1.3**
	baz=156						
M27K				S	**Sb**	**23 53 47.6**	**-0.1**
	baz=156						
M27K				S	**Sb**	**23 53 47.6**	**-0.1**
	baz=156						
YUK4	**Talbot Arm**	**1.18**	**99**	P	**Pb**	**23 53 40.0**	**-0.6**
	baz=275,SNR=27						
M26K	**Nabesna, AK**	**1.25**	**314**	P	**Pb**	**23 53 41.7**	**0.0**
	baz=134,SNR=19						
M26K				S	**Sn**	**23 53 59.4**	**+1.0**
	baz=134						
M26K				S	**Sn**	**23 53 59.4**	**+1.0**
	baz=134						
YUK6	**Outpost Mounta**	**1.44**	**114**	P	**Pb**	**23 53 44.6**	**-0.4**
	baz=295						
MESA	**MESA**	**1.44**	**198**	P	**Pg**	**23 53 44.9**	**-0.7**
	baz=17						
MESA				S	**Sg**	**23 54 06.5**	**+2.1**
	baz=17						
PINM	**Pinnacle**	**1.51**	**164**	P	**Pg**	**23 53 46.1**	**-0.9**
	baz=344,SNR=11						
PINM				S	**Sg**	**23 54 06.5**	**-0.1**
	baz=344						
M29M	**Somme Creek**	**1.52**	**53**	P	**Pb**	**23 53 46.0**	**-0.3**
	baz=234						
M29M				S	**Sg**	**23 54 07.2**	**+0.3**
	baz=234						
L27K	**Beaver Creek,**	**1.56**	**347**	P	**Pn**	**23 53 46.2**	**+0.5**
	baz=168						
L27K				S	**Sg**	**23 54 08.6**	**+0.6**
	baz=168						
N25K	**Chitina, Valde**	**1.69**	**273**	P	**Pb**	**23 53 48.2**	**-1.0**
	baz=92						
L26K	**Log Cabin Wild**	**1.82**	**325**	Sb	**Sg**	**23 54 16.9**	**+0.3**
	baz=144						
HYT	**Haines Junctio**	**1.87**	**111**	Pb	**Pb**	**23 53 52.3**	**0.0**
	baz=293						
N30M	**Aishikik Lake**	**1.91**	**91**	P	**Pn**	**23 53 51.1**	**+0.5**
	baz=273						
N30M				Sb	**Sg**	**23 54 19.6**	**+0.3**
	baz=273						
L29M	**L29M**	**2.08**	**40**	Pg	**Pg**	**23 53 57.0**	**-0.8**
	baz=222						
L29M				Sb	**Sg**	**23 54 24.0**	**-0.7**
	baz=222						
M30M	**Minto, Yukon**	**2.26**	**61**	Pb	**Pb**	**23 53 59.3**	**+0.5**
	baz=244						
M30M				Sg	**Sg**	**23 54 31.0**	**+0.6**
	baz=244						

*IDC **06** 23:53:53.0±11.0,18.°20N×145.°71E,h303km±117km,*
mb3.2/10,mbtmp3.8/10,Error ellipse: s-maj=30.9km
s-min=16.7km az=84.0
*NEIC **06** 23:53:54.6±1.2,18.°2N±0.°1×145.°4E±0.°2,h301km±11km,*
mb3.8/16,Error ellipse: s-maj=28.6km s-min=15.2km
az=102.0
ISC 06 23:53:53.8±1.0,18.°2N±0.°1×145.°5E±0.°2,h300km,n29,
σ0.°81/29,mb3.6/18,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**23.32**	**290**	P	**P**	**23 58 35.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**28.34**	**339**	P	**P**	**23 59 19.9**	**-0.5**
KLR	**Kul'dur**	**32.93**	**343**	P	**P**	**23 59 59.7**	**-0.8**
	0.7nm,0.3s,baz=169,slow=8.5,SNR=4.9						
	0.7nm,0.3s						
WB0	**Warramunga Arr**	**39.21**	**197**	P	**P**	**00 00 53.9**	**0.0**
WRA	**Warramunga Arr**	**39.40**	**197**	P	**P**	**00 00 54.2**	**-1.1**
WRA	**Warramunga Arr**	**39.40**	**197**	P	**P**	**00 00 55.2**	**-0.1**
	2.1nm,0.5s,baz=20,slow=10.0,SNR=4.8						
	2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.95**	**209**	P	**P**	**00 01 07.9**	**-0.1**
ASAR	**Alice Springs**	**43.06**	**196**	P	**P**	**00 01 24.9**	**-0.1**
ASAR	**Alice Springs**	**43.06**	**196**	P	**P**	**00 01 24.6**	**-0.3**
	0.4nm,0.4s,baz=13,slow=7.2,SNR=5.8						
	0.4nm,0.4s						
SONM	**Songino Array**	**43.43**	**322**	P	**P**	**00 01 29.0**	**+1.2**
SONM	**Songino Array**	**43.43**	**322**	P	**P**	**00 01 27.2**	**-0.6**
	1.0nm,0.6s,baz=139,slow=8.3,SNR=9.2						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.07**	**278**	P	**P**	**00 01 33.9**	**+0.8**
	0.6nm,0.3s,baz=76,slow=7.5,SNR=4.1						
	0.6nm,0.3s						
FORT	**Forrest**	**51.44**	**199**	P	**P**	**00 02 29.1**	**+0.1**
ZAA0	**Zalesovo Array**	**58.31**	**323**	P	**P**	**00 03 17.9**	**+0.3**
ZALV	**Zalesovo Beam**	**58.31**	**323**	P	**P**	**00 03 17.9**	**+0.2**
	0.9nm,0.4s,baz=106,slow=8.5,SNR=6.6						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**58.68**	**314**	P	**P**	**00 03 20.5**	**+0.1**
	0.5nm,0.6s,baz=92,slow=7.9,SNR=5.9						
	0.5nm,0.6s						
MAKZ	**Makanchi**	**58.90**	**314**	P	**P**	**00 03 22.3**	**+0.5**
MAKZ				IAmb	IAmb	00 03 23.6	
	comp=Z,1.0nm,0.6s						
F17K	**Baldwin Pennin**	**59.21**	**22**	P	**P**	**00 03 23.2**	**-0.3**
C18K	**Utukok River**	**60.27**	**20**	P	**P**	**00 03 30.9**	**+0.1**
C18K				IAmb	IAmb	00 03 52.3	
	comp=Z,5.0nm,1.4s						
J20K	**Nowinta River**	**61.05**	**26**	P	**P**	**00 03 37.0**	**+1.0**
J20K				IAmb	IAmb	00 03 44.8	
	comp=Z,3.3nm,1.4s						
KURK	**Kurchatov**	**61.53**	**318**	P	**P**	**00 03 39.6**	**+0.2**
KURK				IAmb	IAmb	00 03 47.1	
	comp=Z,1.9nm,1.1s						
KURBB	**Kurchatov Arra**	**61.58**	**318**	P	**P**	**00 03 39.3**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=92,slow=7.6,SNR=36						
	comp=Z,0.8nm,0.4s						
CAST	**Castle Rocks**	**61.69**	**27**	P	**P**	**00 03 41.1**	**+0.8**
CAST				IAmb	IAmb	00 03 50.0	
	comp=Z,3.5nm,1.5s						
I23K	**Minto, Yukon-K**	**63.30**	**25**	P	**P**	**00 03 52.0**	**+1.2**
I23K				IAmb	IAmb	00 03 53.7	
	comp=Z,6.8nm,1.5s						
TOLK	**Toolik Lake Re**	**64.19**	**22**	P	**P**	**00 03 57.7**	**+1.1**
TOLK				IAmb	IAmb	00 04 03.2	
	comp=Z,3.1nm,1.3s						
ILAR	**Eielson Array**	**64.24**	**26**	P	**P**	**00 03 55.0**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=248,slow=6.3,SNR=6.4						
	comp=Z,0.2nm,0.4s						
BMAR	**Burnt Mountain**	**65.71**	**23**	P	**P**	**00 04 07.9**	**+1.5**
BVAR	**Borovoye Array**	**66.75**	**321**	P	**P**	**00 04 12.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=68,slow=8.4,SNR=4.4						
	comp=Z,0.7nm,0.7s						
GAR	**Garm**	**67.42**	**305**	P	**P**	**00 04 17.3**	**-0.5**
GAR				IAmb	IAmb	00 04 19.6	
	comp=Z,3.0nm,1.0s						

*IDC **07** 00:01:46.3±2.4,34.°72S×179.°23W,h0km,mb3.7/2,*
*mbtmp3.8/3,ML3.9/1,Error ellip

MXZ			S		Sn	00 03 20.9	-0.2
PKGZ	**Pakihiroa**	**3.78 219**	P		**Pn**	**00 02 47.1**	**+0.6**
PKGZ			S		Sn	00 03 31.8	+2.0
PUZ	**Puketiti**	**3.85 216**	P		**Pn**	**00 02 47.0**	**-0.5**
PUZ			S		Sn	00 03 31.4	-0.1
HAZ	**Te Kaha**	**3.86 223**	P		**Pn**	**00 02 48.5**	**+1.0**
HAZ			S		Sn	00 03 35.0	+3.4
RUGZ	**Raukumara Rang**	**4.07 222**	P		**Pn**	**00 02 50.8**	**+0.3**
RUGZ			S		Sn	00 03 39.2	+2.3
TWGZ	**Tauwhareparae**	**4.07 217**	P		**Pn**	**00 02 51.4**	**+0.9**
TWGZ			S		Sn	00 03 37.8	+1.0
CNGZ	**Carnagh Statio**	**4.21 213**	P		**Pn**	**00 02 52.6**	**+0.2**
CNGZ			S		Sn	00 03 42.6	+2.4
TKGZ	**Te Karaka**	**4.34 216**	P		**Pn**	**00 02 54.9**	**+0.8**
TKGZ			S		Sn	00 03 43.9	+0.5
MWZ	**Matawai**	**4.42 220**	P		**Pn**	**00 02 55.0**	**-0.3**
MWZ			S		Sn	00 03 46.0	+0.5
RIGZ	**Rimuhau**	**4.59 215**	P		**Pn**	**00 02 57.8**	**+0.1**
RIGZ			S		Sn	00 03 50.3	+0.5
URZ	**Urewera**	**4.59 223**	Pn		**Pn**	**00 02 57.5**	**0.0**
URZ	5.8nm,0.3s,baz=349,slow=3.6,SNR=15		Sn		**Sn**	**00 03 50.0**	**+0.4**
	7.7nm,0.3s,baz=240,slow=21,SNR=11 12nm,0.3s						
URZ	**Urewera**	**4.59 223**	P		**Pn**	**00 02 57.7**	**+0.1**
URZ	**Urewera**	**4.59 223**	P		**Pn**	**00 02 57.6**	**0.0**
URZ			S		Sn	00 03 49.5	-0.2
RAGZ	**Rawiri**	**4.60 219**	P		**Pn**	**00 02 58.2**	**+0.4**
RAGZ			S		Sn	00 03 51.8	+1.8
PRGZ	**Paritu Road**	**4.71 212**	P		**Pn**	**00 02 59.7**	**+0.4**
PRGZ			S		Sn	00 03 52.7	0.0
SNGZ	**Shannon Statio**	**4.85 217**	P		**Pn**	**00 03 01.8**	**+0.5**
SNGZ			S		Sn	00 03 57.2	+1.0
KNZ	**Kokohu**	**4.89 213**	P		**Pn**	**00 03 00.6**	**-1.0**
KNZ			S		Sn	00 03 56.4	-0.5
MHGZ	**Mahia Peninsul**	**4.89 211**	P		**Pn**	**00 03 01.9**	**+0.1**
MUGZ	**Murupara**	**4.93 224**	P		**Pn**	**00 03 02.1**	**-0.2**
MUGZ			S		Sn	00 03 58.0	-0.2
TOZ	**Tahuroa Road**	**5.29 237**	P		**Pn**	**00 03 08.3**	**+1.1**
BKZ	**Black Stump Fm**	**5.58 220**	P		**Pn**	**00 03 09.8**	**-1.4**
BKZ	**Black Stump Fm**	**5.58 220**	P		**Pn**	**00 03 10.5**	**-0.7**
BKZ			S		Sn	00 04 12.3	-1.8
WCZ	**Waipu Caves**	**5.60 258**	P		**Pn**	**00 03 12.1**	**+0.6**
GLKZ	**Green Lake**	**5.75 9**	P		Pn	00 03 06.9	-6.7
GLKZ			S		Sn	00 04 09.4	-8.9
NGZ	**Ngauruhoe**	**6.08 225**	P		**Pn**	**00 03 18.4**	**+0.2**
OUZ	**Omahuta**	**6.16 266**	P		Pn	00 03 32.1	+13
OUZ	**Omahuta**	**6.16 266**	P		**Pn**	**00 03 19.7**	**+0.5**
POWZ	**Post Office Ro**	**6.87 216**	S		**Sn**	**00 04 42.3**	**-3.4**
BFZ	**Birch Farm**	**6.87 213**	P		**Pn**	**00 03 26.6**	**-2.4**
BFZ	**Birch Farm**	**6.87 213**	P		**Pn**	**00 03 25.9**	**-3.0**
MRZ	**Mangatainoka R**	**7.17 216**	P		**Pn**	**00 03 30.8**	**-2.2**
CTZ	**Chatham Island**	**8.93 169**	P		**Pn**	**00 03 59.4**	**+2.3**
CTZ	**Chatham Island**	**8.93 169**	P		**Pn**	**00 03 59.0**	**+1.9**
KHZ	**Kahutara**	**9.49 216**	P		**Pn**	**00 04 03.9**	**-0.9**
ASAR	**Alice Springs**	**42.32 272**	P		**P**	**00 09 40.1**	**-0.6**
	0.6nm,0.5s,baz=114,slow=7.9,SNR=11 0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.72 277**	P		**P**	**00 09 50.7**	**-1.4**
	0.5nm,0.5s,baz=118,slow=7.8,SNR=12 0.5nm,0.5s						
MKAR	**Makanchi Array**	**120.07 308**	PKP		**PKPdf**	**00 20 37.4**	**+0.9**
	0.1nm,0.6s,baz=129,slow=2.0,SNR=1.3						
FINES	**FINESS Array B**	**149.10 337**	PKPbc		**PKPbc**	**00 21 34.3**	**+0.8**
	1.8nm,0.8s,baz=29,slow=3.2,SNR=7.1						

IDC 07 00:24:57.7±1.8, 6°.80S×129°.06E, h0km, mb3.5/2, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=91.8km s-min=26.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.71**	**196**	Pn	Pn	00 27 46.0	-0.3
	0.1nm,0.3s,baz=18,slow=13,SNR=0.9						
FITZ				Sn	Sn	00 29 41.8	-16
	0.2nm,0.3s,baz=216,slow=13,SNR=2.7 2.0nm,0.7s						
WRA	**Warramunga Arr**	**14.04**	**159**	Pn	Pn	00 28 18.9	+0.8
	0.1nm,0.3s,baz=342,slow=13,SNR=8.4						
WRA				Sn	Sn	00 30 40.1	-15
	0.3nm,0.3s,baz=333,slow=23,SNR=7.7 0.2nm,0.4s						
ASAR	**Alice Springs**	**17.41**	**165**	P	Pn	00 29 01.7	-0.4
	0.1nm,0.3s,baz=338,slow=11,SNR=4.7 0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.55**	**327**	P	P	00 35 56.4	+0.4
	0.2nm,0.5s,baz=129,slow=6.1,SNR=7.0 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.85**	**329**	P	P	00 36 22.0	-0.4
	0.3nm,0.6s,baz=135,slow=5.1,SNR=4.6 0.3nm,0.6s						

*NOU **07** 00:27:54.7, 42°.50S×173°.56E, h15km, MLv3.8/12, South Island, New Zealand*
*WEL **07** 00:27:55.8±0.3, 42°.S±3°.×17°.3E±°., h13km±4km, M3.4/11, ML3.5/12, MLv3.4/11, Error ellipse: s-maj=5.5km s-min=2.5km az=120.4, confirmed*

ISC 07 00:27:55.6±0.8, 42°.44S±0°.02×173°.46E±0°.02, h18km±5km, n55, σ0°81/75, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.06**	**71**	P	**Pg**	**00 27 58.7**	**-0.2**
KHZ	**Kahutara**	**0.06**	**71**	P	**Pg**	**00 27 58.9**	**0.0**
KHZ				S	**Sg**	**00 28 01.1**	**0.0**
KIKS	**Kaikoura**	**0.16**	**86**	P	**Pb**	**00 28 01.0**	**+1.2**
KIKS				S	**Sb**	**00 28 05.0**	**+2.4**
CECS	**Cheviot Emerge**	**0.40**	**200**	P	**Pb**	**00 28 05.3**	**+1.1**
CECS				S	**Sb**	**00 28 12.4**	**+2.3**
HSES	**Hanmer Springs**	**0.47**	**259**	P	**Pg**	**00 28 05.0**	**-0.2**
HSES				S	**Sg**	**00 28 11.2**	**-0.5**
KEKS	**Kekerengu Vall**	**0.62**	**39**	P	**Pb**	**00 28 08.5**	**+0.6**
KEKS				S	**Sn**	**00 28 18.9**	**-0.1**
GVZ	**Greta Valley S**	**0.62**	**211**	P	**Pb**	**00 28 09.2**	**+1.3**
GVZ				S	**Sn**	**00 28 19.1**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.78**	**23**	P	**Pg**	**00 28 10.8**	**-0.2**
THZ	**Tophouse**	**0.79**	**328**	P	**Pg**	**00 28 10.6**	**-0.5**
THZ				S	**Sg**	**00 28 20.1**	**-1.5**
CMWZ	**Cape Campbell**	**0.89**	**39**	P	**Pn**	**00 28 13.9**	**+0.7**
LTZ	**Lake Taylor**	**0.94**	**248**	P	**Pb**	**00 28 13.2**	**-0.3**
LTZ				S	**Sb**	**00 28 25.9**	**+0.2**
AMCZ	**Amberley**	**0.95**	**219**	P	**Pn**	**00 28 14.6**	**+0.5**
TUWZ	**Tuamarina**	**1.07**	**20**	P	**Pb**	**00 28 15.9**	**+0.3**
TUWZ				S	**Sn**	**00 28 30.7**	**+0.6**
MRNZ	**Matariki Terra**	**1.16**	**333**	P	**Pb**	**00 28 17.3**	**+0.1**
MRNZ				S	**Sg**	**00 28 32.7**	**-0.6**
NNZ	**Nelson**	**1.22**	**357**	P	**Pn**	**00 28 17.9**	**+0.2**
NNZ				S	**Sn**	**00 28 34.4**	**+0.6**
OKCZ	**Okains Bay**	**1.32**	**193**	P	**Pn**	**00 28 19.0**	**-0.2**
TCW	**Tory Channel**	**1.37**	**27**	P	**Pn**	**00 28 19.8**	**-0.1**
OXZ	**Oxford**	**1.37**	**229**	P	**Pn**	**00 28 19.3**	**-0.6**
OXZ				S	**Sn**	**00 28 37.3**	**-0.4**
MQZ	**McQueen's Vall**	**1.40**	**205**	P	**Pn**	**00 28 19.3**	**-1.0**
MQZ				S	**Sn**	**00 28 36.9**	**-1.4**
DSZ	**Denniston Nort**	**1.41**	**299**	P	**Pn**	**00 28 21.1**	**+0.6**
DSZ				S	**Sg**	**00 28 40.1**	**-1.2**
TKNZ	**Takaka Hill**	**1.45**	**345**	P	**Pn**	**00 28 21.6**	**+0.6**
TKNZ				S	**Sg**	**00 28 41.9**	**-0.6**
SNZO	**South Karori**	**1.46**	**40**	P	**Pn**	**00 28 21.0**	**-0.1**
BHW	**Baring Head**	**1.47**	**46**	P	**Pn**	**00 28 20.9**	**-0.4**
AKCZ	**Akaroa Harbour**	**1.49**	**196**	P	**Pn**	**00 28 21.2**	**-0.3**
INZ	**Inchbonnie**	**1.52**	**258**	P	**Pn**	**00 28 22.7**	**+0.8**
INZ				S	**Sb**	**00 28 42.3**	**+0.1**
PLWZ	**Palliser**	**1.59**	**58**	P	**Pn**	**00 28 22.2**	**-0.7**
RACZ	**Rakaia**	**1.61**	**216**	P	**Pn**	**00 28 22.6**	**-0.6**
RACZ				S	**Sn**	**00 28 43.1**	**-0.5**
DUWZ	**D'Urville Isla**	**1.67**	**12**	P	**Pn**	**00 28 24.6**	**+0.6**
MSWZ	**Moikau Station**	**1.68**	**53**	P	**Pn**	**00 28 23.5**	**-0.7**
MSWZ				S	**Sn**	**00 28 44.4**	**-0.8**
QRZ	**Quartz Range**	**1.75**	**336**	P	**Pn**	**00 28 26.5**	**+1.3**
QRZ	**Quartz Range**	**1.75**	**336**	S	**Sb**	**00 28 49.3**	**+0.3**
QRZ	**Quartz Range**	**1.75**	**336**	P	**Pn**	**00 28 26.5**	**+1.3**
QRZ				S	**Sb**	**00 28 48.8**	**-0.2**
MHCZ	**Mount Hutt**	**1.77**	**231**	P	**Pn**	**00 28 24.6**	**-0.8**
CAW	**Cannon Point**	**1.79**	**43**	P	**Pn**	**00 28 25.3**	**-0.3**
CAW				S	**Sn**	**00 28 47.2**	**-0.7**
PAWZ	**Paruwai Farm**	**1.81**	**55**	P	**Pn**	**00 28 24.9**	**-1.0**
KIW	**Kapiti Island**	**1.91**	**35**	P	**Pn**	**00 28 27.4**	**+0.1**
WACZ	**Wakanui South**	**1.92**	**218**	P	**Pn**	**00 28 27.0**	**-0.4**
MTW	**Mount Morrison**	**1.99**	**51**	P	**Pn**	**00 28 27.4**	**-0.9**
OGWZ	**Otaki Gorge**	**2.06**	**39**	P	**Pn**	**00 28 29.1**	**-0.3**
WVZ	**Waitaha Valley**	**2.11**	**251**	P	**Pn**	**00 28 30.6**	**+0.6**
HOWZ	**Holdsworth Sta**	**2.17**	**46**	P	**Pn**	**00 28 30.0**	**-1.0**
RPZ	**Rata Peaks**	**2.18**	**233**	P	**Pn**	**00 28 30.6**	**-0.4**
RPZ	**Rata Peaks**	**2.18**	**233**	S	**Sn**	**00 28 57.1**	**-0.4**
RPZ	**Rata Peaks**	**2.18**	**233**	P	**Pn**	**00 28 30.5**	**-0.5**
TMWZ	**Te Maipa**	**2.25**	**55**	P	**Pn**	**00 28 30.8**	**-1.2**
ARCZ	**Arundel**	**2.25**	**227**	P	**Pn**	**00 28 31.3**	**-0.7**
MRZ	**Mangatainoka R**	**2.38**	**43**	P	**Pn**	**00 28 32.8**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.47**	**248**	P	**Pn**	**00 28 35.7**	**+0.7**
TMZ	**Timaru**	**2.64**	**222**	P	**Pn**	**00 28 37.8**	**+0.4**
BFZ	**Birch Farm**	**2.73**	**51**	S	**Sn**	**00 29 09.8**	**-1.3**
LBZ	**Lake Benmore**	**3.08**	**230**	P	**Pn**	**00 28 43.1**	**-0.3**
KHEZ	**Kahui Hut**	**3.17**	**8**	P	**Pn**	**00 28 45.8**	**+1.1**
ODZ	**Otahua Downs**	**3.31**	**217**	P	**Pn**	**00 28 45.9**	**-0.6**
JCZ	**Jackson Bay**	**3.79**	**243**	P	**Pn**	**00 28 53.6**	**+0.4**
BKZ	**Black Stump Fm**	**4.00**	**36**	P	**Pn**	**00 28 56.2**	**+0.2**

IDC 07 00:29:04.2±2.5, 3°.59N×128°.19E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=185.7km s-min=26.9km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**166**	P	P	00 34 21.2	-1.1
	1.0nm,0.5s,baz=344,slow=9.5,SNR=16 1.0nm,0.5s						
ASAR	**Alice Springs**	**27.66**	**169**	P	P	00 34 54.4	+0.4
	0.2nm,0.3s,baz=346,slow=11,SNR=5.6 0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.51**	**325**	P	P	00 39 03.2	+0.8
	0.2nm,0.7s,baz=116,slow=8.2,SNR=1.9 0.2nm,0.7s						

*NEIC **07** 00:38:33.8±1.6, 9°.81N±0°.01×126°.5E±0°.1, h10km±1km, mb4.6/54, Error ellipse: s-maj=19.8km s-min=3.3km az=89.0*
*IDC **07** 00:38:42.7±2.6, 9°.68N×126°.26E, h96km±25km, mb3.8/20, mbtmp4.1/21, MS3.4/9, Error ellipse: s-maj=30.3km s-min=13.7km az=67.0*

ISC 07 00:38:38.3±0.4, 9.78N±0°.05×126°.50E±0°.08, h50km, n110, σ1°21/98, mb4.4/57, MS3.4/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**199**	Pn	**Pn**	**00 39 19.5**	**-1.6**
DAV	**Davao City (W)**	**2.84**	**199**	P	**Pn**	**00 39 24.6**	**+3.5**
	178nm,0.3s,baz=40,slow=11,SNR=1.6						
DAV				S	**Sn**	**00 39 56.7**	**+2.6**
	235nm,0.4s,baz=67,slow=23,SNR=7.7						
DAV				LR	LR	00 40 27.6	
	comp=Z,748nm,21.6s,baz=32,slow=39						
FAKI	**Fak Fak**	**13.85**	**155**	Pn	**Pn**	**00 41 50.5**	**-1.6**
YULB	**Yu-li**	**14.42**	**340**	Pn	**Pn**	**00 41 58.2**	**-1.4**
TPUB	**Ta-pu**	**14.57**	**338**	Pn	**Pn**	**00 41 59.9**	**-1.7**
SSLB	**Suanglung**	**14.90**	**340**		**Pn**	**00 42 04.8**	**-1.2**
SBUM	**Sibu**	**15.94**	**244**	Pn	**Pn**	**00 42 18.4**	**-1.0**
KAPI	**Kappang**	**16.16**	**205**	LR	LR	00 49 12.5	
	comp=Z,114nm,20.6s,baz=10.0,slow=39						
KSM	**Kuching**	**18.09**	**244**		**Pn**	**00 42 45.7**	**-0.4**
GUMO	**Guam**	**18.39**	**76**	LR	LR	00 48 30.0	
	comp=Z,98nm,21.0s,baz=54,slow=32						
QIZ	**Qiongzhong**	**18.55**	**302**	P	**Pn**	**00 42 51.6**	**-0.1**
QIZ				S	**Sn**	**00 46 18.2**	**-0.2**
QIZ				LR	LR		
	comp=N,150nm,8.9s						
QIZ				LR	LR		
	comp=E,180nm,11.0s						
QIZ				LR	LR		
	comp=Z,220nm,15.2s						
SOEI	**Soe**	**19.53**	**187**	P	**Pn**	**00 43 03.7**	**+0.2**
SOEI				IAmb	IAmb	00 43 24.5	
	comp=Z,26nm,0.7s						
NJ2	**Nanjing**	**23.27**	**343**	*e*P	**P**	**00 43 43.1**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,15nm,1.0s						
MYKOM	**Kota Tinggi**	**23.87**	**252**	P	**P**	**00 43 48.6**	**+1.2**
MYKOM				IAmb	IAmb	00 43 56.0	
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**25.39**	**175**	P	**P**	**00 44 02.7**	**+1.6**
IPM	**Ipoh**	**25.80**	**260**	P	**P**	**00 44 04.6**	**-0.4**
IPM				IAmb	IAmb	00 44 09.3	
	comp=Z,21nm,1.2s						
KSRS	**Korea Array**	**27.59**	**2**	LR	LR	00 57 44.5	
	comp=Z,63nm,18.0s,baz=190,slow=41						
FITZ	**Fitzroy Crossi**	**27.71**	**182**	P	**P**	**00 44 21.3**	**-0.7**
LYN	**LuoYang**	**27.80**	**335**	*e*P	**P**	**00 44 27.9**	**+5.1**
LYN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.05**	**291**	P	**P**	**00 44 25.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**28.05**	**291**	P	**P**	**00 44 24.9**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=99,slow=9.9,SNR=4.3						
CMAR				LR	LR	00 56 55.9	
	comp=Z,68nm,18.6s,baz=100,slow=39 comp=Z,1.9nm,0.3s						
PSI	**Prapat**	**28.25**	**258**	LR	LR	00 57 12.9	
	comp=Z,71nm,20.7s,baz=112,slow=40						
PZH	**PanZhiHua**	**28.72**	**309**	P	**P**	**00 44 33.5**	**+2.3**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
XAN	**Xi'an**	**29.04**	**329**	P	**P**	**00 44 33.8**	**-0.1**
XAN				pP	pP	00 44 43.2	-2.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HNS	**HongShan**	**29.49**	**341**	⇓P	**P**	**00 44 38.3**	**+0.6**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WB0	**Warramunga Arr**	**30.37**	**165**	P	**P**	**00 44 46.5**	**+0.8**
WB0				IAmb	IAmb	00 45 08.0	
	comp=Z,9.6nm,1.2s						
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**00 44 45.5**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=345,slow=9.2,SNR=3.7 comp=Z,1.1nm,1.0s						
MBWA	**Marble Bar**	**31.45**	**192**	P	**P**	**00 44 54.2**	**-1.0**
LZH	**Lanzhou**	**33.31**	**325**	*e*P	P	00 45 17.6	+6.0
LZH				sP	sP	00 45 30.1	+1.0
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				LR	LR		
	comp=N,250nm,12.0s						
LZH				LR	LR		
	comp=E,540nm,14.3s						
LZH				LR	LR		
	comp=Z,670nm,15.3s						
HHC	**Hu-ho-hao-te**	**33.65**	**339**	⇑*i*P	**P**	**00 45 16.2**	**+1.7**
HHC				pP	pP	00 45 26.1	-0.1
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.7s						
AS31	**Alice Springs**	**34.02**	**168**	P	**P**	**00 45 18.5**	**+0.8**
ASAR	**Alice Springs**	**34.02**	**168**	P	**P**	**00 45 16.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=346,slow=6.7,SNR=5.9						
ASAR				PcP	**PcP**	**00 47 53.7**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=347,slow=3.0,SNR=2.8 comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.62**	**7**	P	**P**	**00 45 22.2**	**-0.5**
XLT	**XiLinHaoTe**	**35.18**	**347**	*e*P	**P**	**00 45 28.4**	**+0.8**
XLT				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SHL	**Shillong**	**36.38**	**300**	P	**P**	**00 45 39.1**	**+0.9**
ASAJ	**Asahikawa**	**36.95**	**19**	LR	LR	00 58 15.0	
	comp=Z,77nm,21.4s,baz=307,slow=32						
GTA	**Gaotai**	**37.91**	**326**	*e*P	**P**	**00 45 50.2**	**-0.8**
GTA				sP	pP	00 46 01.6	-1.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				LR	LR		
	comp=N,90nm,16.7s						
GTA				LR	LR		
	comp=E,130nm,17.9s						
GTA				LR	LR		
	comp=Z,130nm,16.3s						
MORW	**Morawa**	**39.91**	**194**	P	**P**	**00 46 07.3**	**-0.3**
MORW				IAmb	IAmb	00 46 31.1	
	comp=Z,22nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	01 29 34.8	
	baz=265,slow=74,SNR=38						
H11N2	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	01 29 35.4	
	baz=265,slow=74,SNR=30						
H11N3	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	01 29 34.1	
	baz=265,slow=74,SNR=38						
FORT	**Forrest**	**40.35**	**178**	P	**P**	**00 46 10.8**	**-0.4**
HEH	**HeiHe**	**40.36**	**1**	*e*P	**P**	**00 46 12.8**	**+1.7**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ULN	**Ulaanbaatar**	**41.36**	**340**	P	**P**	**00 46 19.7**	**+0.1**
SONM	**Songino Array**	**41.56**	**340**	P	**P**	**00 46 21.3**	**+0.1**
SONM	**Songino Array**	**41.56**	**340**	P	**P**	**00 46 20.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=156,slow=9.1,SNR=10 comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**43.32**	**168**	P	**P**	**00 46 35.1**	**-0.4**
BBOO				IAmb	IAmb	00 46 37.6	
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**43.87**	**161**	P	**P**	**00 46 39.4**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=319,slow=11,SNR=1.8 comp=Z,1.0nm,0.3s						
PALK	**Pallekele**	**45.33**	**271**	LR	LR	01 06 39.8	
	comp=Z,41nm,19.0s,baz=54,slow=37						
PETK	**Petropavlovsk-**	**49.99**	**24**	P	**P**	**00 47 28.2**	**+0.8**
PETK	**Petropavlovsk-**	**49.99**	**24**	P	**P**	**00 47 28.6**	**+1.1**
	comp=Z,9.0nm,1.0s,baz=257,slow=5.0,SNR=2.1 comp=Z,9.0nm,1.0s						
MK31	**Makanchi Array**	**52.55**	**323**	P	**P**	**00 47 46.1**	**-0.7**
MKAR	**Makanchi Array**	**52.55**	**323**	P	**P**	**00 47 46.5**	**-0.3**
MKAR	**Makanchi Array**	**52.55**	**323**	P	**P**	**00 47 45.6**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=125,slow=8.1,SNR=21						
MKAR				PcP	**PcP**	**00 48 56.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=113,slow=3.7,SNR=1.5						
MKAR				LR	LR	01 11 53.6	
	comp=Z,97nm,18.7s,baz=329,slow=38 comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**52.75**	**323**	P	**P**	**00 47 47.5**	**-0.7**
NIL	**Nilore**	**54.19**	**305**	P	**P**	**00 47 59.6**	**+0.5**
NIL				IAmb	IAmb	00 48 16.0	
	comp=Z,5.9nm,0.9s						
ZAA0	**Zalesovo Array**	**55.16**	**331**	P	**P**	**00 48 06.3**	**+0.6**
ZALV	**Zalesovo Beam**	**55.16**	**331**	P	**P**	**00 48 06.6**	**+0.9**
ZALV	**Zalesovo Beam**	**55.16**	**331**	P	**P**	**00 48 04.1**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=124,slow=7.4,SNR=3.6 comp=Z,0.4nm,0.4s						
ARSB	**Arslanbob**	**56.47**	**313**	P	**P**	**00 48 14.8**	**-0.7**
KURK	**Kurchatov**	**56.60**	**326**	P	**P**	**00 48 15.2**	**-0.8**
KURK				IAmb	IAmb	00 48 21.9	
	comp=Z,4.8nm,0.8s						
KURBB	**Kurchatov Arra**	**56.60**	**325**	P	**P**	**00 48 14.8**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=127,slow=6.9,SNR=13 comp=Z,0.9nm,0.5s						
GAR	**Garm**	**57.78**	**310**	P	**P**	**00 48 25.2**	**+0.5**
GAR				IAmb	IAmb	00 48 38.0	
	comp=Z,3.5nm,0.8s						
KBL	**Kabul**	**57.79**	**305**	P	**P**	**00 48 24.9**	**-0.1**
KKAR	**Karatay Array**	**58.75**	**315**	P	**P**	**00 48 30.1**	**-1.3**
KKAR	**Karatay Array**	**58.75**	**315**	P	**P**	**00 48 30.6**	**-0.7**
KKAR				IAmb	IAmb	00 48 37.1	
	comp=Z,1.4nm,0.9s						
TIXI	**Tiksi**	**61.84**	**1**	P	**P**	**00 48 51.5**	**-0.3**
BVAR	**Borovoye Array**	**62.20**	**325**	P	**P**	**00 48 51.8**	**-2.8**
	comp=Z,0.7nm,0.6s,baz=116,slow=6.8,SNR=5.5 comp=Z,0.7nm,0.6s						
BRVK	**Borovoye**	**62.27**	**325**	P	**P**	**00 48 54.6**	**-0.5**
BRVK				IAmb	IAmb	00 49 07.3	
	comp=Z,6.6nm,1.5s						
BILL	**Bilibino**	**63.82**	**16**	P	**P**	**00 49 06.3**	**+1.2**
NRIK	**Noril'sk**	**64.55**	**346**	P	**P**	**00 49 09.5**	**-0.3**
NRIK	**Noril'sk**	**64.55**	**346**	P	**P**	**00 49 09.0**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=132,slow=6.4,SNR=6.6 comp=Z,3.6nm,0.9s						
ABKAR	**Abkulak array**	**67.39**	**319**	P	**P**	**00 49 28.4**	**-0.1**
ABKAR	**Abkulak array**	**67.39**	**319**	P	**P**	**00 49 28.1**	**-0.4**
ABKAR				IAmb	IAmb	00 49 46.0	
	comp=Z,2.3nm,1.0s						
C18K	**Utukok River**	**74.53**	**21**	P	**P**	**00 50 11.8**	**+0.3**
C18K				IAmb	IAmb	00 50 26.2	
	comp=Z,2.6nm,0.8s						
B22K	**Teshekpuk Lake**	**77.52**	**20**	IAmb	IAmb	00 50 31.9	
	comp=Z,6.0nm,1.1s						
D22K	**Ayikyak River**	**77.63**	**21**	P	**P**	**00 50 28.8**	**-0.3**
D22K				IAmb	IAmb	00 50 56.0	
	comp=Z,5.4nm,1.3s						
RAYN	**Ar Rayn**	**77.96**	**292**	P	**P**	**00 50 32.6**	**+0.8**
RAYN				IAmb	IAmb	00 50 37.4	
	comp=Z,2.3nm,0.8s						
BPAW	**Bear Paw Mtn.**	**78.00**	**26**	P	**P**	**00 50 30.2**	**-1.0**
BPAW				IAmb	IAmb	00 50 34.5	
	comp=Z,8.8nm,1.2s						
D23K	**Nanushuk River**	**78.36**	**21**	P	**P**	**00 50 33.8**	**+0.7**
D23K				IAmb	IAmb	00 50 36.0	
	comp=Z,9.9nm,1.4s

comp=Z,70nm,19.5s,baz=322,slow=35
MMAI Mount Meron Ar 23.57 331 LR LR 01 00 43.3
comp=Z,51nm,19.5s,baz=208,slow=39
GNI Garni 27.57 354 LR LR 01 03 31.1
comp=Z,110nm,19.2s,baz=326,slow=40
OPO Ambohidratompo 31.09 183 LR LR 01 02 49.4
comp=Z,35nm,19.6s,baz=174,slow=34
AKASG Malin Array Be 41.08 341 P **P 00 53 08.6 +0.2**
0.3nm,0.4s,baz=155,slow=6.8,SNR=4.3
0.3nm,0.4s
LBTB Lobatse 43.68 211 LR LR 01 13 24.9
comp=Z,42nm,18.6s,baz=356,slow=38
MKAR Makanchi Array 44.23 33 P **P 00 53 34.2 0.0**
0.3nm,0.7s,baz=224,slow=6.8,SNR=4.2
0.3nm,0.7s
KURBB Kurchatov Arra 45.01 27 P **P 00 53 40.4 +0.1**
0.3nm,0.3s,baz=226,slow=8.0,SNR=4.9
0.3nm,0.3s
TORD Torodi Ar. Bea 45.68 276 P **P 00 53 46.1 0.0**
0.5nm,0.9s,baz=100,slow=7.1,SNR=2.9
0.5nm,0.9s
CMAR Chiang Mai Arr 48.70 77 P **P 00 54 09.8 +0.1**
2.2nm,0.3s,baz=265,slow=7.3,SNR=7.3
ZALV Zalesovo Beam 50.10 27 P **P 00 54 18.9 -0.9**
0.5nm,0.7s,baz=232,slow=7.1,SNR=2.1
0.5nm,0.7s
FINES FINESS Array B 51.35 346 P **P 00 54 29.3 +0.1**
1.5nm,0.8s,baz=157,slow=7.5,SNR=1.7
1.5nm,0.8s
SONM Songino Array 59.22 42 P **P 00 55 26.5 +0.1**
0.5nm,0.8s,baz=255,slow=10.0,SNR=4.1
0.5nm,0.8s
KAPI Kappang 72.82 99 LR LR 01 25 54.8
comp=Z,52nm,21.5s,baz=344,slow=33
YAK Yakutsk 74.70 29 LR LR 01 33 39.4
comp=Z,101nm,19.9s,baz=130,slow=39

---

*JMA **07** 00:50:31.5±0.2,37°N±3°×13°5E±°, h369km, MV3.0/28, NW OFF HOKURIKU DISTRICT*
*IDC **07** 00:50:33.2±1.4,37°.34N×136°.15E, h393km±39km, mb2.7/3, mbtmp3.4/3, Error ellipse: s-maj=120.4km s-min=26.5km az=61.0*
ISC 07 00:50:32.9±1.1,**37°.0N**±0°.2×**135°.2E**±0°.1,**h350**km,**n12,**
σ0°.94/12,**mb2.9**/3,**Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.40**	**182**	P	**Pn**	**00 51 21.2**	**+0.6**
JKSM	**Kasumi**	**1.49**	**196**	*eP*	**Pn**	**00 51 21.6**	**+0.5**
JWT	**Wachi**	**1.75**	**174**	*eP*	**Pn**	**00 51 23.1**	**+0.5**
JNG	**Nsakai**	**2.43**	**104**	P	**Pn**	**00 51 27.4**	**-0.1**
MAT	**Matsushiro**	**2.48**	**100**	P	**Pn**	**00 51 27.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.49**	**100**	P	**Pn**	**00 51 27.8**	**-0.1**
	23nm,0.9s,baz=296,slow=11,SNR=27						
JSD	**Sado**	**2.66**	**67**	*eP*	**Pn**	**00 51 29.1**	**0.0**
JRY	**Ryogami san**	**3.17**	**107**	*eP*	**Pn**	**00 51 36.0**	**+2.1**
JAG	**Ashikaga**	**3.49**	**99**	P	**Pn**	**00 51 37.2**	**+0.4**
MKAR	**Makanchi Array**	**39.87**	**301**	P	**P**	**00 57 33.9**	**+0.1**
	0.1nm,0.4s,baz=78,slow=8.7,SNR=5.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**42.05**	**307**	P	**P**	**00 57 51.9**	**+0.7**
	0.3nm,0.2s,baz=68,slow=6.4,SNR=1.4						
	0.3nm,0.2s						
WRA	**Warramunga Arr**	**56.67**	**181**	P	**P**	**00 59 39.5**	**-1.3**
	0.3nm,0.5s,baz=2.9,slow=7.3,SNR=1.9						
	0.3nm,0.5s						

---

*ATH **07** 00:55:25.7,37°.60N×20°.79E, h20km±4km, ML2.5/6, Manual Solution by K.Orfanogiannaki First location: 2019/02/07 00:56:20, This location: 2019/02/07 11:56:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*THE **07** 00:55:25.7,37°.55N×20°.77E, h2km±46km, ML2.4/8, Error ellipse: s-maj=46.6km s-min=0.9km az=41.0*
ISC 07 00:55:25.3±1.3,**37°.60N**±0°.05×**20°.80E**±0°.04,**h13**km±6km,
n29,σ0°.59/50,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.11**	**16**	P	**Pg**	**00 55 28.7**	**+0.2**
LTHK				S	**Sg**	**00 55 30.3**	**-0.4**
KYPS	**Kipseli, Zakin**	**0.22**	**5**	P	**Pb**	**00 55 31.2**	**0.0**
KYPS				S	**Sb**	**00 55 35.4**	**+0.4**
ORTH	**Orthonies,Zaky**	**0.26**	**342**	P	**Pb**	**00 55 31.7**	**-0.2**
ORTH				S	**Sb**	**00 55 36.1**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**0.39**	**43**	P	**Pb**	**00 55 34.0**	**-0.2**
CLEM				S	**Sb**	**00 55 40.1**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.47**	**358**	P	**Pb**	**00 55 35.3**	**-0.2**
RTZL				S	**Sb**	**00 55 43.4**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.54**	**342**	P	**Pb**	**00 55 36.8**	**+0.2**
PSDA				S	**Sn**	**00 55 45.8**	**-1.8**
	710nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.54**	**342**	P	**Pb**	**00 55 36.5**	**-0.1**
PSDA				S	**Sb**	**00 55 44.5**	**+0.3**
VLS	**Valsamata**	**0.60**	**344**	P	**Pg**	**00 55 37.3**	**+0.3**
VLS				S	**Sb**	**00 55 47.0**	**+1.0**
	265nm,0.2s						
VLS	**Valsamata**	**0.60**	**344**	P	**Pg**	**00 55 37.3**	**+0.3**
VLS				S	**Sb**	**00 55 46.3**	**+0.3**
ZARO	**Zacharo**	**0.69**	**99**	P	**Pb**	**00 55 39.6**	**+0.5**
RLS	**Riolos of Patr**	**0.70**	**49**	P	**Pb**	**00 55 39.4**	**+0.1**
RLS				S	**Sn**	**00 55 50.7**	**-0.8**
	282nm,0.6s						
RLS	**Riolos of Patr**	**0.70**	**49**	P	**Pb**	**00 55 39.3**	**0.0**
RLS				S	**Sb**	**00 55 48.8**	**0.0**
DMLN	**Damoulianata-K**	**0.72**	**332**	P	**Pb**	**00 55 40.1**	**+0.4**
DMLN				S	**Sn**	**00 55 52.0**	**-0.1**
	472nm,0.5s						
DMLN	**Damoulianata-K**	**0.72**	**332**	P	**Pb**	**00 55 39.8**	**+0.1**
DMLN				S	**Sb**	**00 55 50.0**	**+0.5**
AMT	**Artemida-Makis**	**0.73**	**95**	P	**Pg**	**00 55 39.7**	**+0.2**
AMT				S	**Sn**	**00 55 50.7**	**-1.6**
AXS	**Araxos**	**0.75**	**37**	P	**Pb**	**00 55 40.1**	**-0.1**
AXS				S	**Sg**	**00 55 49.8**	**+0.1**
DRO	**Drossia**	**0.80**	**64**	P	**Pn**	**00 55 41.8**	**-0.5**
DRO				S	**Sn**	**00 55 54.7**	**+0.5**
	262nm,0.3s						
DRO	**Drossia**	**0.80**	**64**	P	**Pg**	**00 55 41.3**	**+0.4**
DRO				S	**Sb**	**00 55 52.4**	**+0.5**
FSK	**Fiskardo**	**0.88**	**348**	P	**Pb**	**00 55 42.0**	**-0.3**
FSK				S	**Sn**	**00 55 56.4**	**+0.5**
	228nm,0.8s						
FSK	**Fiskardo**	**0.88**	**348**	P	**Pb**	**00 55 42.1**	**-0.3**
FSK				S	**Sb**	**00 55 53.6**	**-0.3**
ITM	**Ithomi**	**0.99**	**115**	P	**Pg**	**00 55 44.7**	**+0.2**
ITM				S	**Sn**	**00 55 59.1**	**+0.3**
	80nm,0.7s						
ITM	**Ithomi**	**0.99**	**115**	P	**Pg**	**00 55 44.6**	**+0.2**
EVGI	**Lefkada island**	**1.02**	**354**	P	**Pb**	**00 55 44.7**	**-0.2**
EVGI				S	**Sn**	**00 56 01.5**	**+1.9**
	132nm,0.2s						
EVGI	**Lefkada island**	**1.02**	**354**	P	**Pb**	**00 55 44.5**	**-0.3**
KLV	**Kalavryta, Ach**	**1.16**	**67**	P	**Pn**	**00 55 47.0**	**-0.2**
LKD2	**Lefkada island**	**1.19**	**355**	P	**Pn**	**00 55 47.3**	**-0.4**
EFP	**Efpalio**	**1.20**	**46**	P	**Pb**	**00 55 47.9**	**0.0**
GUR	**Goura**	**1.27**	**74**	P	**Pb**	**00 55 49.3**	**+0.1**
ANX	**Ano Chora**	**1.33**	**42**	P	**Pb**	**00 55 50.4**	**+0.3**

---

*KRNET **07** 01:18:24.8±0.1,40°.00N×75°.11E, h19km, mb2.8*
*NNC **07** 01:18:25.7±1.3,40°.08N×75°.23E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=9.2km s-min=6.4km az=169.0*
*SOME **07** 01:18:25.5,40°.05N×75°.37E, h10km*
ISC 07 01:18:27.9±1.1,**40°.12N**±0°.05×**75°.08E**±0°.03,**h10**km,**n56,**
σ1°.71/85,**38C-12B,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.21**	**266**	⇑*iP*	**Pb**	**01 18 48.5**	**-2.6**
SFK				⇑*iS*	**Sb**	**01 19 05.7**	**-1.2**
SALK	**Salom-Alik**	**1.23**	**309**	⇑*iP*	**Pb**	**01 18 50.0**	**-1.3**
SALK				⇑*iS*	**Sn**	**01 19 08.5**	**+0.5**
OHH	**Osh**	**1.80**	**284**	⇑*iP*	**Pn**	**01 18 59.6**	**+0.5**
OHH				⇑*iS*	**Sg**	**01 19 24.8**	**-0.9**
ARLS	**Aral**	**1.83**	**342**	⇑*eP*	**Pb**	**01 19 01.1**	**-0.5**
ARLS				⇑*eS*	**Sg**	**01 19 27.5**	**+0.6**
ARSB	**Arslanbob**	**2.00**	**308**	⇑*eP*	**Pb**	**01 19 03.6**	**-0.8**
ARSB				⇑*eS*	**Sg**	**01 19 31.7**	**-0.4**
UCH	**Uchtor**	**2.15**	**349**	⇓*iP*	**Pb**	**01 19 06.2**	**-1.0**
UCH				⇓*iS*	**Sg**	**01 19 36.2**	**-0.9**
AML	**Almayashu**	**2.27**	**333**	P	**Pb**	**01 19 09.1**	**-0.1**
	SNR=9.7						
AML	**Almayashu**	**2.27**	**333**	⇑*iP*	**Pb**	**01 19 07.8**	**-1.4**
AML				⇑*iS*	**Sg**	**01 19 38.9**	**-1.9**
ULHL	**Ulahol**	**2.30**	**22**	P	**Pb**	**01 19 09.1**	**-0.5**
	SNR=18						
ULHL	**Ulahol**	**2.30**	**22**	⇑*eP*	**Pb**	**01 19 07.9**	**-1.7**
ULHL				⇑*iS*	**Sb**	**01 19 39.0**	**+0.8**
BOOM	**Boomskoye usch**	**2.46**	**15**	⇑*eP*	**Pb**	**01 19 10.3**	**-2.0**
BOOM				⇑*eS*	**Sb**	**01 19 43.1**	**+0.4**
KBK	**Karagaybulak**	**2.54**	**358**	P	**Pb**	**01 19 14.1**	**+0.4**
	SNR=7.8						
KBK	**Karagaybulak**	**2.54**	**358**	⇑*iP*	**Pb**	**01 19 11.4**	**-2.3**
KBK				⇑*iS*	**Sb**	**01 19 45.0**	**0.0**
AAK	**Ala-Archa**	**2.56**	**350**	P	**Pb**	**01 19 14.3**	**+0.4**
	SNR=5.9						
AAK	**Ala-Archa**	**2.56**	**350**	⇑*eP*	**Pn**	**01 19 11.5**	**+2.0**
AAK				⇑*iS*	**Sb**	**01 19 45.6**	**+0.1**
KDJ	**Kajisay**	**2.56**	**38**	⇑*eP*	**Pn**	**01 19 10.8**	**+1.2**
KDJ				⇑*eS*	**Sb**	**01 19 44.8**	**-0.9**
DRK	**Karamyk**	**2.60**	**257**	⇑*iP*	**Pn**	**01 19 10.6**	**+0.3**
DRK				⇑*iS*	**Sn**	**01 19 43.9**	**+1.8**
TARG	**Taragay, Kyrgy**	**2.62**	**51**	⇑*eP*	**Pn**	**01 19 11.4**	**+0.8**
TARG				⇑*iS*	**Sb**	**01 19 45.5**	**-2.1**
EKS2	**Erkin-Say**	**2.73**	**339**	⇑*eP*	**Pn**	**01 19 13.8**	**+2.0**
EKS2				⇑*iS*	**Sb**	**01 19 49.5**	**-0.8**
TKM2	**Tokmak 2**	**2.83**	**8**	P	**Pb**	**01 19 16.0**	**-2.6**
	SNR=10						
TKM2	**Tokmak 2**	**2.83**	**8**	⇑Pg	**Pb**	**01 19 17.9**	**-0.7**
	2.9nm,0.3s						
TKM2				⇑Lg	Lg	01 19 57.5	
	5.8nm,0.4s						
CHMS	**Chumysh**	**2.89**	**355**	⇑Pg	**Pb**	**01 19 17.4**	**-2.2**
	2.4nm,0.5s						
CHMS				⇓Lg	Lg	01 19 59.1	
	5.2nm,0.7s						
ARK	**Arkit**	**2.90**	**306**	⇑*eP*	**Pn**	**01 19 15.8**	**+1.6**
ARK				⇑*eS*	**Sb**	**01 19 53.1**	**-2.1**
MRKS	**Merke**	**2.97**	**333**	Pg	**Pb**	**01 19 21.5**	**+0.5**
	2.8nm,0.7s						
MRKS				Lg	Lg	01 20 01.9	
	7.0nm,0.3s						
MRKS	**Merke**	**2.97**	**333**	*eP*	**Pb**	**01 19 21.5**	**+0.5**
	2.8nm,0.7s						
MRKS				*eS*	**Sg**	**01 20 01.8**	**-1.6**
	7.0nm,0.3s						
KST	**Kastek**	**3.00**	**13**	Pg	**Pb**	**01 19 21.6**	**+0.1**
	3.8nm,0.4s						
KST				Lg	Lg	01 20 02.0	
	18nm,0.5s						
KST	**Kastek**	**3.00**	**13**	*eP*	**Pb**	**01 19 21.4**	**-0.1**
	3.8nm,0.3s						
KST				*eS*	**Sg**	**01 20 01.5**	**-2.7**
	18nm,0.4s						
MNAS	**Manas**	**3.06**	**322**	⇑*eP*	**Pn**	**01 19 17.9**	**+1.4**
MNAS				⇑*eS*	**Sb**	**01 19 57.8**	**-2.2**
IZV	**Izvestkoviy**	**3.14**	**21**	Pg	**Pb**	**01 19 24.1**	**+0.3**
	6.6nm,0.6s						
IZV				Lg	Lg	01 20 06.9	
	22nm,1.1s						
IZV	**Izvestkoviy**	**3.14**	**21**	*eP*	**Pb**	**01 19 24.2**	**+0.3**
	6.4nm,0.3s						
IZV				*eS*	**Sg**	**01 20 06.8**	**-1.9**
	29nm,0.5s						
MTBS	**Maitube**	**3.18**	**18**	Pg	**Pb**	**01 19 25.2**	**+0.8**
	3.2nm,0.5s						
MTBS				Lg	Lg	01 20 08.2	
	8.1nm,0.4s						
MTBS	**Maitube**	**3.18**	**18**	*eP*	**Pb**	**01 19 25.2**	**+0.8**
	3.5nm,0.2s						
MTBS				*eS*	**Sg**	**01 20 08.2**	**-1.7**
	8.1nm,0.4s						
USP	**Ospenovka**	**3.18**	**352**	P	**Pb**	**01 19 21.8**	**-2.6**
	SNR=5.7						
TNSS	**Tian-Shan**	**3.24**	**25**	Pg	**Pb**	**01 19 25.2**	**-0.5**
	6.5nm,0.3s						
TNSS				Lg	Lg	01 20 08.0	
	10nm,0.5s						
TNSS	**Tian-Shan**	**3.24**	**25**	*eP*	**Pb**	**01 19 25.2**	**-0.5**
	6.6nm,0.2s						
TNSS				*eS*	**Sg**	**01 20 08.0**	**-3.9**
	10nm,0.5s						
BTK	**Batken**	**3.27**	**270**	⇓*eP*	**Pn**	**01 19 19.6**	**+0.4**
BTK				⇓*eS*	**Sn**	**01 20 00.3**	**+2.1**
ANVS	**Anan'yevo**	**3.30**	**35**	⇓*eP*	**Pn**	**01 19 21.3**	**+1.5**
ANVS				⇓*eS*	**Sb**	**01 20 02.8**	**-4.1**
TRKS	**Terek-Say**	**3.31**	**297**	⇑*eP*	**Pn**	**01 19 20.8**	**+1.0**
TRKS				⇑*eS*	**Sn**	**01 20 01.1**	**+1.8**
SGDS	**Sogindy**	**3.35**	**354**	Pg	**Pb**	**01 19 28.4**	**+1.0**
	2.0nm,0.4s						
SGDS				Lg	Lg	01 20 13.6	
	8.1nm,0.9s						
MDOK	**Medeo**	**3.38**	**25**	⇓Pg	**Pb**	**01 19 26.9**	**-1.1**
	3.2nm,0.6s						
MDOK				Pg	**Pb**	**01 19 28.0**	**0.0**
	4.4nm,0.3s						
MDOK				⇑Lg	Lg	01 20 12.9	
	4.9nm,0.4s						
MDOK				Lg	Lg	01 20 13.0	
	14nm,0.7s						
MDOK	**Medeo**	**3.38**	**25**	*eP*	**Pb**	**01 19 28.0**	**0.0**
	4.4nm,0.3s						
MDOK				*eS*	**Sg**	**01 20 13.0**	**-3.5**
	14nm,0.7s						
KRBS	**Karabastau**	**3.60**	**7**	Pg	**Pb**	**01 19 32.4**	**+0.7**
	5.3nm,0.3s						
KRBS				Lg	Lg	01 20 21.9	
	4.2nm,0.4s						
KTBS	**Karatobe**	**3.79**	**18**	Pg	**Pb**	**01 19 35.0**	**+0.2**
	3.6nm,0.4s						
KTBS				Lg	Lg	01 20 25.6	
	4.3nm,0.4s						
SATY	**Saty**	**3.86**	**39**	*eP*	Pg	01 19 48.8	+7.1
	0.1nm,0.1s						
SATY				*eS*	Sg	01 20 48.9	+17
	6.4nm,0.6s						
ZHN	**Zhinishke**	**3.95**	**38**	Pg	**Pb**	**01 19 35.4**	**-2.3**
	3.7nm,0.2s						
ZHN				Lg	Lg	01 20 25.5	
	12nm,1.0s						
ZHN	**Zhinishke**	**3.95**	**38**	*eP*	**Pb**	**01 19 35.4**	**-2.3**
	3.7nm,0.2s						
ZHN				*eS*	**Sb**	**01 20 25.7**	**+0.1**
	12nm,1.0s						
KPKS	**Kokpek**	**4.30**	**38**	*eP*	Pn	01 19 24.5	-8.9
	5.4nm,0.5s						
KPKS				*eS*	Sn	01 20 06.8	-17
	7.2nm,0.4s						
KPKS	**Kokpek**	**4.30**	**38**	*eP*	**Pb**	**01 19 42.5**	**-1.1**
	1.9nm,0.3s						
KPKS				*eS*	**Sb**	**01 20 37.9**	**+2.4**
	11nm,0.5s						
SHLS	**Shalkode**	**4.47**	**46**	Pg	**Pb**	**01 19 50.3**	**+3.7**
	5.9nm,0.4s						
SHLS				Lg	Lg	01 20 51.1	
	460nm,0.1s						
SHLS	**Shalkode**	**4.47**	**46**	*eP*	**Pb**	**01 19 50.2**	**+3.7**
	5.9nm,0.4s						
SHLS				*eS*	**Sg**	**01 20 51.0**	**-0.5**
	460nm,0.1s						
KK31	**Karatay Array**	**4.54**	**313**	⇓Pg	**Pb**	**01 19 50.0**	**+2.3**
	0.2nm,0.2s,baz=330,slow=41,SNR=3.9						
KK31				⇓Lg	Lg	01 20 52.8	
	2.2nm,0.6s,baz=118,slow=30,SNR=3.7						
ARXS	**Arharly**	**4.58**	**26**	Pg	**Pb**	**01 19 48.8**	**+0.5**
	0.1nm,0.1s						
ARXS				Lg	Lg	01 20 48.9	
	6.4nm,0.6s						
PDGK	**Podgornoye**	**4.61**	**44**	⇓Pg	**Pb**	**01 19 48.4**	**-0.4**
	2.6nm,0.6s						
PDGK				⇓Lg	Lg	01 20 49.1	
	10nm,0.8s						
BLB	**Baldybastay**	**4.71**	**31**	Pg	**Pb**	**01 19 50.7**	**0.0**
	9.1nm,0.4s						
BLB				Lg	Lg	01 20 51.9	
	12nm,0.7s						
BRLS	**Borolday**	**4.89**	**308**	Pg	**Pb**	**01 19 56.3**	**+2.6**
	1.1nm,0.5s						
BRLS				Lg	Lg	01 21 01.2	
	1.4nm,0.4s						
BRLS	**Borolday**	**4.89**	**308**	*eP*	**Pb**	**01 19 56.3**	**+2.6**
	1.1nm,0.5s						
BRLS				*eS*	**Sg**	**01 21 01.2**	**-3.7**
	1.4nm,0.4s						

---

*DNK **07** 01:20:46.6±2.3,82°.93N×5°.68W, h36km±24km, ML1.4*
*BER **07** 01:20:47.2±2.8,82°.74N×5°.91W, h10km, mb(Pn)3.4, ML1.4(DNK), Confirmed Earthquake*
*FCIAR **07** 01:20:47.0,82°.73N×4°.80W, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.30*
ISC 07 01:20:43.7±0.9,**81°.18N**±0°.05×**6°.05W**±0°.03,**h10**km,**n18,**
σ2°.52/30,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.65**	**290**	*i* P	**Pg**	**01 21 16.4**	**+1.0**
NOR				*i* S	**Sg**	**01 21 37.9**	**+1.1**
NOR				IAML		01 21 40.9	
	comp=Z,5.4nm,0.3s						
NOR	**Nord**	**1.65**	**290**	*i* P	**Pg**	**01 21 16.4**	**+1.0**
NOR				*i* S	**Sg**	**01 21 37.9**	**+1.1**
NOR				IAML		01 21 40.9	
	comp=Z,5.4nm,0.3s						
KBS	**Kingsbay**	**3.84**	**117**	*eP*	**Pg**	**01 21 55.8**	**-1.3**
KBS				*eS*	**Sg**	**01 22 45.9**	**-0.8**
KBS				IAML		01 22 53.0	
	comp=Z,4.7nm,0.6s						
KBS	**Kingsbay**	**3.84**	**117**	*eP*	**Pg**	**01 21 55.5**	**-1.6**
KBS				*eS*	**Sg**	**01 22 46.1**	**-0.7**
KBS	**Kingsbay**	**3.84**	**117**	*i* P	**Pg**	**01 21 55.7**	**-1.4**
KBS				*i* S	**Sg**	**01 22 46.4**	**-0.4**
BRBB	**Barentsburg B**	**4.76**	**120**	*eP*	**Pb**	**01 22 10.4**	**+3.3**
BRBB				*eS*	**Sb**	**01 23 09.8**	**+5.4**
BRBA	**Barentsburg A**	**4.79**	**120**	*eP*	**Pb**	**01 22 10.7**	**+3.2**
SPA0	**Spitsbergen Ar**	**5.00**	**115**	*eP*	**Pb**	**01 22 10.8**	**-0.3**
SPA0				*eS*	**Sb**	**01 23 13.6**	**+2.6**
SPA0				IAML		01 23 16.8	
	comp=Z,4.4nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.00**	**115**	*eP*	**Pb**	**01 22 10.6**	**-0.4**
SPA0				*eS*	**Sb**	**01 23 12.5**	**+1.5**
DAG	**Danmarks Havn**	**5.03**	**215**	*eP*	**Pg**	**01 22 18.8**	**-1.1**
DAG				*i* S	**Sg**	**01 23 27.7**	**+2.7**
DAG				IAML		01 23 33.3	
	comp=Z,1.2nm,0.2s						
DAG	**Danmarks Havn**	**5.03**	**215**	*eP*	**Pg**	**01 22 18.8**	**-1.1**
DAG				*i* S	**Sg**	**01 23 27.7**	**+2.7**
DAG				IAML		01 23 33.3	
	comp=Z,1.2nm,0.2s						
HSPB	**Hornsund (broa**	**5.81**	**125**	*eP*	**Pb**	**01 22 26.2**	**+1.2**
DBG	**Daneborg**	**7.50**	**211**	*i* P	**Pb**	**01 22 53.2**	**-0.5**
DBG				*eS*	**Sb**	**01 24 23.5**	**+0.5**
DBG				IAML		01 24 55.9	
	comp=Z,0.4nm,0.2s						
DBG	**Daneborg**	**7.50**	**211**	*i* P	**Pb**	**01 22 53.2**	**-0.5**
DBG				*eS*	**Sb**	**01 24 23.5**	**+0.5**
DBG				IAML		01 24 55.9	
	comp=Z,0.4nm,0.2s						
ZFI2	**Zemlya Franca-**	**8.17**	**66**	*eP*	Pn	01 22 32.4	-10
ZFI2				*eS*	Sn	01 23 50.9	-23
	comp=Z,11nm,3.2s						
OMEGA	**Omega**	**8.19**	**66**	*eP*	Pn	01 22 32.8	-10
OMEGA				S	Sn	01 23 51.0	-24
	comp=Z,7.8nm,1.3s						
NEEM	**North Greenlan**	**8.90**	**269**	*i* P	**Pn**	**01 22 52.2**	**-0.1**
NEEM				*eS*	**Sn**	**01 24 26.3**	**-6.3**
NEEM				IAML		01 24 32.2	
	comp=Z,1.7nm,0.3s						
NEEM	**North Greenlan**	**8.90**	**269**	*i* P	**Pn**	**01 22 52.2**	**-0.1**
NEEM				*eS*	**Sn**	**01 24 26.3**	**-6.3**
NEEM				IAML		01 24 32.2	
	comp=Z,1.7nm,0.3s						

---

*IDC **07** 01:25:38.5±1.0,5°.28N×127°.53E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=76.7km s-min=19.7km az=69.0*
*NEIC **07** 01:25:50.2±0.9,5°.1N±0°.1×127°.4E±0°.1, h94km±8km, mb4.3/15, Error ellipse: s-maj=19.9km s-min=13.5km az=61.0*
ISC 07 01:25:50.8±0.6,**5°.01N**±0°.08×**127°.4E**±0°.1,**h108**km,**n31,**
σ0°.91/31,**mb4.2**/16,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**4.21**	**180**	Pn	**Pn**	**01 26 53.4**	**+0.4**
TOLI2	**Tolitoli**	**7.64**	**240**	Pn	**Pn**	**01 27 39.2**	**-0.3**
FAKI	**Fak Fak**	**9.26**	**148**	Pn	**Pn**	**01 28 00.3**	**-1.2**
KNRA	**Kununurra**	**20.60**	**176**	P	**P**	**01 30 22.2**	**+0.7**
KNRA				IAmb	IAmb	01 30 41.1	
	comp=Z,33nm,1.4s						
QIZ	**Qiongzhong**	**22.06**	**311**	P	**P**	**01 30 36.3**	**-0.7**
QIZ				IAmb	IAmb	01 30 41.4	
	comp=Z,34nm,1.3s						
FITZ	**Fitzroy Crossi**	**23.03**	**184**	P	**P**	**01 30 46.5**	**-0.2**
WB0	**Warramunga Arr**	**25.57**	**165**	P	**P**	**01 31 10.9**	**+1.0**
WB0				IAmb	IAmb	01 31 15.7	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**25.73**	**165**	P	**P**	**01 31 13.4**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=342,slow=10.0,SNR=6.5						
	comp=Z,1.2nm,0.7s						
WB2	**Warramunga Arr**	**25.73**	**165**	P	**P**	**01 31 12.3**	**+1.0**
WB2				IAmb	IAmb	01 31 17.1	
	comp=Z,9.2nm,1.3s						
ASAR	**Alice Springs**	**29.21**	**168**	P	**P**	**01 31 43.4**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=348,slow=8.9,SNR=1.5						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**46.30**	**341**	P	**P**	**01 34 04.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=152,slow=6.5,SNR=2.5						
	comp=Z,0.3nm,0.5s						
PETK	**Petropavlovsk-**	**54.01**	**22**	P	**P**	**01 35 04.2**	**+0.5**
MK31	**Makanchi Array**	**56.88**	**324**	P	**P**	**01 35 24.6**	**+0.1**
MK31				IAmb	IAmb	01 35 27.9	
	comp=Z,3.5nm,1.5s						
MKAR	**Makanchi Array**	**56.88**	**324**	P	**P**	**01 35 24.4**	**0.0**
MKAR	**Makanchi Array**	**56.88**	**324**	P	**P**	**01 35 24.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=115,slow=7.8,SNR=31						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**57.07**	**324**	P	**P**	**01 35 25.8**	**0.0**
MAKZ				IAmb	IAmb	01 35 26.9	
	comp=Z,3.7nm,1.4s						

GCMT ***07*** *01:41:32.4±0.1, 8.42S±0.01×161.05E±0.01, h45km, MW5.3/127, Moment Tensor Solution. s127,c203; s127,c199; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr0.95±.02; Mθθ-0.63±.01; Mφφ-0.31±.01; Mrθ0.18±.01; Mθφ0.62±.01; Mφr0.06±.01; Best double couple: M0 1.05200×1017 NP1:φs319.00000°, δ43.00000°, λ106.00000°. NP2:φs117.00000°, δ49.00000°, λ75.00000°. Principal axes: T 0.9820, Plg79.0000°, Azm322.0000°; N 0.1400, Plg11.0000°, Azm127.0000°; P -1.1220, Plg3.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***07*** *01:41:32.7, 7.87S×161.05E, h55km, mB5.4/48, mb5.5/93, Ms4.8/52, Ms7 4.6/56*

NEIC ***07*** *01:41:32.2, 8.41S×161.02E, h46km*

NEIC ***07*** *01:41:33.2±1.6, 8.45S±0.07×161.03E±0.08, h59km±4km, mb5.5/457, Mww5.2/12, Error ellipse: s-maj=10.9km s-min=9.9km az=109.0*

ISC 07 01:41:31.1±0.3, 8.42S±0.03×161.06E±0.03, h47km±2km, h47km:pP-P, n1200, σ1.18/1101, mb5.5/341, MS4.6/75, 45C-42D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ALEG	**Aligegeo Malai**	**0.49 227**		P	**Pn**	**01 41 43.6**	**+1.5**
ALEG	**Aligegeo Malai**	**0.49 227**		S	**Sn**	**01 41 52.6**	**+2.7**
TATA	**Tatamba Isabel**	**1.24 271**		P	**Pn**	**01 41 53.9**	**+1.9**
SAVO	**Savo Central**	**1.43 239**		P	**Pn**	**01 41 56.6**	**+2.0**
SAVO	**Savo Central**	**1.43 239**		S	**Sn**	**01 42 15.4**	**+3.1**
HNR	**Honiara**	**1.49 227**			**Pn**	**01 41 57.5**	**+2.1**
HNR				Sn	**Sn**	**01 42 15.0**	**+1.2**
HNR	**Honiara**	**1.49 227**		Pn	**Pn**	**01 41 57.2**	**+1.8**
	4μm,0.3s,baz=232,slow=4.3,SNR=464						
HNR	**Honiara**	**1.49 227**		P	**Pn**	**01 41 57.5**	**+2.1**
HNR	**Honiara**	**1.49 227**		P	**Pn**	**01 41 56.9**	**+1.5**
HNR				SN	**Sn**	**01 42 14.0**	**+0.3**
HURO	**Huro Makira**	**2.20 158**		P	**Pn**	**01 42 06.3**	**+1.1**
NGOA	**Tingoa Renbel**	**3.27 197**		P	**Pn**	**01 42 20.5**	**+0.7**
NGOA	**Tingoa Renbel**	**3.27 197**		S	**Sn**	**01 42 58.1**	**+0.6**
LUES	**Luesalemba Tem**	**5.28 115**		P	**Pn**	**01 42 48.6**	**+1.1**
RABL	**Rabaul**	**9.79 295**		Pn	**Pn**	**01 43 50.5**	**+1.2**
RABL					**Sn**	**01 45 38.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**12.46 166**		P	**Pn**	**01 44 28.4**	**+2.6**
PMG	**Port Moresby**	**13.77 265**		Pn	**Pn**	**01 44 42.8**	**-0.9**
	2.5nm,0.3s,baz=132,slow=1.9,SNR=6.0						
PMG				LR	LR	01 49 57.5	
	comp=Z,6μm,20.1s,baz=106,slow=37						
	9.7nm,0.3s						
DZM	**Mont Dzumac**	**14.53 160**			**Pn**	**01 44 51.7**	**-2.3**
DZM	**Mont Dzumac**	**14.53 160**		*e*P	**Pn**	**01 44 55.0**	**+1.0**
	260nm,1.3s						
DZM				*e*LR	LR	01 48 21.2	
	6μm,24.1s						
DZM	**Mont Dzumac**	**14.53 160**		Pn	**Pn**	**01 44 55.7**	**+1.7**
	1.7nm,0.3s,baz=13,slow=12,SNR=26						
DZM				Sn	**Sn**	**01 47 33.1**	**-0.9**
	2.6nm,0.3s,baz=344,slow=18,SNR=7.0						
DZM				LR	LR	01 49 53.6	
	comp=Z,3μm,21.3s,baz=320,slow=35						
DZM	**Mont Dzumac**	**14.53 160**		P	**Pn**	**01 44 56.6**	**+2.6**
YATNC	**Mamie plateau,**	**14.68 158**		P	**P**	**01 44 59.1**	**-2.1**
ONTNC	**Ouen Toro**	**14.76 160**		Pn	**Pn**	**01 44 53.6**	**-3.2**
ONTNC	**Ouen Toro**	**14.76 160**		P	**Pn**	**01 44 59.5**	**+2.6**
OUENC	**Ouen Island, N**	**14.99 159**		P	**Pn**	**01 45 02.3**	**+2.3**
MANU	**Manus Island**	**15.03 294**		Pn	**Pn**	**01 44 58.2**	**-2.3**
PINNC	**Pines Island,**	**15.39 157**		Pn	**Pn**	**01 45 06.5**	**+1.3**
PINNC	**Pines Island,**	**15.39 157**		P	**Pn**	**01 45 07.3**	**+2.1**
PATS	**Pohnpei**	**15.40 350**		Pn	**Pn**	**01 45 02.3**	**-3.0**
PATS	**Pohnpei**	**15.40 350**		P	**Pn**	**01 45 03.0**	**-2.3**
TV1H	**Townsville Har**	**17.53 231**		P	**P**	**01 45 33.2**	**+0.4**
GD1S	**Gladstone Soft**	**18.03 211**		P	**P**	**01 45 40.3**	**+2.1**
COEN	**Coen**	**18.38 251**		P	**P**	**01 45 42.7**	**+0.5**
COEN	**Coen**	**18.38 251**		P	**Pn**	**01 45 43.7**	**+1.0**
	comp=Z,136nm,1.3s						
COEN	**Coen**	**18.38 251**		P	**Pn**	**01 45 43.4**	**+0.8**
MTSU	**Mount Surprise**	**18.93 238**		P	**Pn**	**01 45 49.6**	**+0.4**
	comp=Z,130nm,1.1s						
MTSU	**Mount Surprise**	**18.93 238**		P	**Pn**	**01 45 50.0**	**+0.8**
MSVF	**Nonsavu**	**18.95 121**			**P**	**01 45 48.5**	**0.0**
MSVF	**Nonsavu**	**18.95 121**		P	**Pn**	**01 45 51.0**	**+1.5**
	comp=Z,20nm,1.0s,baz=269,slow=3.7,SNR=6.5						
MSVF				LR	LR	01 51 50.9	
	comp=Z,2μm,21.2s,baz=279,slow=33						
MSVF	**Nonsavu**	**18.95 121**	*i*	P	**Pn**	**01 45 50.4**	**+0.9**
EIDS	**Eidsvold**	**19.36 208**		P	**P**	**01 45 53.5**	**+0.7**
EIDS				IAmb	IAmb	01 45 56.0	
	comp=Z,264nm,0.9s						
EIDS	**Eidsvold**	**19.36 208**		P	**Pn**	**01 45 54.5**	**+0.3**
	comp=Z,0.0nmcomp=Z,331nm,1.0s						
EIDS	**Eidsvold**	**19.36 208**		P	**Pn**	**01 45 54.9**	**+0.7**
DGTI	**Dogotuki**	**19.84 115**		P	**Pn**	**01 46 00.8**	**+0.7**
TABU	**Tabubil**	**19.94 278**		P	**P**	**01 45 59.5**	**+0.2**
TW1H	**Toowoomba 1 Ha**	**20.88 203**		P	**P**	**01 46 11.4**	**+2.0**
GC1S	**Gold Coast 1 S**	**20.89 199**		P	Pn	01 46 11.9	-0.5
JAY	**Jayapura**	**21.08 285**		P	**P**	**01 46 11.4**	**-0.3**
	comp=Z,108nm,0.9s,baz=164,slow=2.4,SNR=6.7						
JAY				LR	LR	01 53 28.8	
	comp=Z,525nm,21.6s,baz=143,slow=34						
	comp=Z,108nm,0.9s						
JAY	**Jayapura**	**21.08 285**		P	**P**	**01 46 11.1**	**-0.6**
	comp=Z,2μmcomp=Z,139nm,1.1s						
FUTU	**Fugatoga**	**21.23 108**		P	**P**	**01 46 12.1**	**-1.1**
FUTU				IAmb	IAmb	01 46 16.9	
	comp=Z,278nm,1.4s						
RMQ	**Roma**	**21.43 212**		P	**P**	**01 46 17.7**	**+2.4**
	comp=Z,78nm,1.0s						
RMQ	**Roma**	**21.43 212**		P	**P**	**01 46 17.6**	**+2.3**
GENI	**Genyem**	**21.57 284**		P	**P**	**01 46 17.0**	**+0.1**
GENI	**Genyem**	**21.57 284**		P	**P**	**01 46 17.9**	**+1.0**
	comp=Z,4μmcomp=Z,179nm,0.9s						
SMPI	**Sarmi**	**23.14 285**		P	**P**	**01 46 34.6**	**+1.1**
	comp=Z,265nm,1.1s						
ARMA	**Armidale**	**23.60 201**		P	**P**	**01 46 37.8**	**-0.1**
ARMA	**Armidale**	**23.60 201**		P	**P**	**01 46 38.1**	**+0.2**
	comp=Z,118nm,1.0s						
ARMA	**Armidale**	**23.60 201**		P	**P**	**01 46 39.3**	**+1.4**
QIS	**Mount Isa**	**23.98 237**		P	**P**	**01 46 41.3**	**-0.1**
	comp=Z,100nm,1.1s						
QIS	**Mount Isa**	**23.98 237**		P	**P**	**01 46 41.5**	**+0.1**
QLP	**Quilpie**	**24.11 219**		P	**P**	**01 46 43.4**	**+0.9**
	comp=Z,244nm,0.9s						
QLP	**Quilpie**	**24.11 219**		P	**P**	**01 46 43.2**	**+0.7**
AULRC	**Lightning Ridg**	**24.25 209**		P	**P**	**01 46 44.5**	**+0.8**
BAKI	**Biak**	**25.86 285**		P	**P**	**01 47 01.2**	**+2.6**
	comp=Z,161nm,1.2s						
MGCD	**Mangrove Creek**	**26.33 199**		P	**P**	**01 47 04.1**	**+1.5**
	comp=Z,47nm,0.9s						
MGCD	**Mangrove Creek**	**26.33 199**		P	**P**	**01 47 04.1**	**+1.5**
AUDCS	**Dubbo College**	**26.36 204**		P	**P**	**01 47 04.1**	**+1.3**
SYDH	**Sydney Hard Ro**	**26.96 199**		P	**P**	**01 47 10.1**	**+1.9**
CMSA	**Cobar Meteorol**	**27.09 210**		P	**P**	**01 47 10.4**	**+0.9**
	comp=Z,61nm,1.1s						
CMSA	**Cobar Meteorol**	**27.09 210**		P	**P**	**01 47 09.5**	**0.0**
GUMO	**Guam**	**27.14 324**		LR	LR	01 59 10.7	
	comp=Z,578nm,18.2s,baz=160,slow=39						
INKA	**Innaminka**	**27.16 222**		P	**P**	**01 47 10.5**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**27.31 12**		T	T	02 15 52.7	
	baz=193,slow=76,SNR=208						
H11S3	**WAKE ISLAND Hy**	**27.31 12**		T	T	02 15 53.6	
	baz=193,slow=76,SNR=232						
H11S1	**WAKE ISLAND Hy**	**27.33 12**		T	T	02 15 53.9	
	baz=193,slow=76,SNR=212						
WR0	**Warramunga Arr**	**28.10 243**		P	**P**	**01 47 17.6**	**-1.0**
WB0	**Warramunga Arr**	**28.17 244**		P	**P**	**01 47 18.6**	**-0.7**
WB0				IAmb	IAmb	01 47 41.1	
	comp=Z,88nm,1.1s						
WB0				PcP	**PcP**	**01 50 31.3**	**-1.1**
WRAB	**Tennant Creek**	**28.26 243**		P	**P**	**01 47 19.0**	**-1.2**
WRAB				PcP	**PcP**	**01 50 33.0**	**+0.3**
WRAB	**Tennant Creek**	**28.26 243**	*i*	P	**P**	**01 47 18.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,63nm,0.8s						
WB2	**Warramunga Arr**	**28.27 243**		P	**P**	**01 47 19.6**	**-0.6**
YNG	**Young**	**28.27 203**		P	**P**	**01 47 20.0**	**0.0**
	comp=Z,101nm,1.0s						
YNG	**Young**	**28.27 203**		P	**P**	**01 47 21.0**	**+1.0**
WRA	**Warramunga Arr**	**28.27 243**		P	**P**	**01 47 19.4**	**-0.8**
	comp=Z,64nm,0.7s,baz=62,slow=7.8,SNR=162						
WRA				PcP	**PcP**	**01 50 32.6**	**-0.1**
	comp=Z,11nm,0.9s,baz=74,slow=2.7,SNR=8.5						
WRA				S	**S**	**01 51 59.0**	**-4.4**
	comp=Z,20nm,1.0s,baz=69,slow=13,SNR=13						
WRA				ScP	**ScP**	**01 54 13.0**	**+2.9**
	comp=Z,1.7nm,0.7s,baz=73,slow=3.3,SNR=6.2						
WRA				PKiKP	**PKiKP**	**01 58 07.3**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=342,slow=0.7,SNR=7.0						
WRA				LR	LR	01 58 22.0	
	comp=Z,2μm,20.0s,baz=60,slow=36						
	comp=Z,64nm,0.7s						
WRA	**Warramunga Arr**	**28.27 243**	*i*	P	**P**	**01 47 18.8**	**-1.4**
WRA				pmax	pmax		
	comp=Z,52nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**28.54 12**		T	T	02 17 25.4	
	baz=192,slow=76,SNR=3968						
H11N3	**WAKE ISLAND Hy**	**28.54 12**		T	T	02 17 21.7	
	baz=192,slow=76,SNR=239						
H11N2	**WAKE ISLAND Hy**	**28.55 12**		T	T	02 17 28.6	
	baz=192,slow=76,SNR=4176						
CNB	**Canberra Magne**	**28.84 200**		P	**P**	**01 47 25.8**	**+0.7**
	comp=Z,42nm,0.9s						
CNB	**Canberra Magne**	**28.84 200**		P	**P**	**01 47 26.2**	**+1.1**
CAN	**Canberra**	**28.97 201**		P	**P**	**01 47 26.5**	**+0.3**
CAN	**Canberra**	**28.97 201**		P	**P**	**01 47 26.5**	**+0.3**
	comp=Z,33nm,1.0s						
CAN	**Canberra**	**28.97 201**		P	**P**	**01 47 27.1**	**+0.9**
CAN	**Canberra**	**28.97 201**		P	**P**	**01 47 26.5**	**+0.3**
CAN				pmax	pmax		
	comp=Z,95nm,1.4s						
OUZ	**Omahuta**	**29.05 159**		P	**P**	**01 47 29.3**	**+2.5**
STKA	**Stephens Creek**	**29.54 215**		P	**P**	**01 47 31.4**	**+0.1**
STKA				PcP	**PcP**	**01 50 35.8**	**+0.1**
STKA	**Stephens Creek**	**29.54 215**		P	**P**	**01 47 31.2**	**-0.1**
	comp=Z,9.3nm,1.2s						
STKA	**Stephens Creek**	**29.54 215**		P	**P**	**01 47 31.0**	**-0.3**
	comp=Z,14nm,0.7s,baz=6.4,slow=11,SNR=24						
STKA				PcP	**PcP**	**01 50 35.8**	**+0.1**
	comp=Z,23nm,0.9s,baz=10,slow=4.4,SNR=5.2						
STKA				ScP	**ScP**	**01 54 16.5**	**+2.6**
	comp=Z,6.7nm,0.9s,baz=333,slow=3.5,SNR=4.6						
STKA				LR	LR	02 00 03.9	
	comp=Z,2μm,18.5s,baz=36,slow=38						
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**29.54 215**		P	**P**	**01 47 31.5**	**+0.2**
MTN	**Manton Dam**	**29.73 259**		P	**P**	**01 47 34.0**	**+0.9**
AS06	**Alice Springs**	**30.03 237**		P	**P**	**01 47 34.1**	**-1.7**
AS01	**Alice Springs**	**30.06 237**		P	**P**	**01 47 34.6**	**-1.4**
AS19	**Alice Springs**	**30.06 236**		P	**P**	**01 47 34.4**	**-1.6**
AS31	**Alice Springs**	**30.09 237**		P	**P**	**01 47 35.2**	**-1.2**
AS31	**Alice Springs**	**30.09 237**		P	**P**	**01 47 34.6**	**-1.7**
ASAR	**Alice Springs**	**30.09 237**		P	**P**	**01 47 34.9**	**-1.5**
	comp=Z,28nm,0.7s,baz=65,slow=9.2,SNR=178						
ASAR				PcP	**PcP**	**01 50 37.6**	**+0.3**
	comp=Z,21nm,1.0s,baz=66,slow=2.8,SNR=14						
ASAR				S	**S**	**01 52 26.1**	**-5.8**
	comp=Z,7.5nm,0.9s,baz=64,slow=17,SNR=7.9						
ASAR				ScP	**ScP**	**01 54 18.6**	**+2.7**
	comp=Z,6.7nm,0.9s,baz=63,slow=3.5,SNR=14						
ASAR				PKiKP	**PKiKP**	**01 58 08.3**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=77,slow=2.4,SNR=4.9						
ASAR				LR	LR	01 59 40.0	
	comp=Z,2μm,18.9s,baz=72,slow=36						
ASAR				P3KPbc		02 19 33.4	
	comp=Z,1.0nm,0.8s,baz=250,slow=5.9,SNR=5.2						
	comp=Z,28nm,0.7s						
LCRK	**Leigh Creek**	**30.60 221**		P	**P**	**01 47 40.1**	**-0.6**
OOD	**Oodnadatta**	**30.75 228**		P	**P**	**01 47 41.4**	**-0.6**
HTT	**Hallett**	**32.21 216**		P	**P**	**01 47 54.4**	**-0.5**
	comp=Z,29nm,1.0s						
HTT	**Hallett**	**32.21 216**		P	**P**	**01 47 54.9**	**0.0**
TOO	**Toolangi**	**32.27 204**		P	**P**	**01 47 55.2**	**-0.1**
TOO	**Toolangi**	**32.27 204**		P	**P**	**01 47 55.5**	**+0.2**
	comp=Z,9.6nm,1.5s						
TOO	**Toolangi**	**32.27 204**		P	**P**	**01 47 55.2**	**-0.1**
TOO				pmax	pmax		
	comp=Z,19nm,1.4s						
KNRA	**Kununurra**	**32.37 254**		P	**P**	**01 47 55.8**	**-0.6**
KNRA				IAmb	IAmb	01 48 18.7	
	comp=Z,56nm,0.8s						
WHYH	**Whyalla**	**32.74 218**		P	**P**	**01 47 59.1**	**-0.3**
BRAT	**Ballarat**	**32.89 206**		P	**P**	**01 48 01.6**	**+0.9**
URZ	**Urewera**	**33.05 156**		LR	LR	02 00 03.6	
	comp=Z,613nm,21.0s,baz=48,slow=34						
ARPS	**Mount Arapiles**	**33.20 209**		P	**P**	**01 48 03.7**	**+0.3**
	comp=Z,67nm,0.8s						
ARPS	**Mount Arapiles**	**33.20 209**		P	**P**	**01 48 04.2**	**+0.8**
AUMBR	**Murray Bridge**	**33.24 214**		P	**P**	**01 48 04.7**	**+0.9**
RTZ	**Ruatahuna**	**33.31 157**		P	**P**	**01 48 04.7**	**+0.2**
RTZ				IAmb	IAmb	01 48 09.7	
	comp=Z,51nm,0.9s						
BBOO	**Buckleboo**	**33.54 220**		P	**P**	**01 48 05.6**	**-0.8**
BBOO	**Buckleboo**	**33.54 220**		P	**P**	**01 48 05.6**	**-0.8**
	comp=Z,126nm,1.0s						
BBOO	**Buckleboo**	**33.54 220**		P	**P**	**01 48 05.9**	**-0.5**
BKZ	**Black Stump Fm**	**33.61 158**		P	**P**	**01 48 07.0**	**0.0**
BKZ	**Black Stump Fm**	**33.61 158**		P	**P**	**01 48 06.9**	**-0.1**
MRNZ	**Matariki Terra**	**34.45 164**		P	**P**	**01 48 14.0**	**-0.2**
NNZ	**Nelson**	**34.45 163**		P	**P**	**01 48 15.3**	**+1.1**
NNZ				IAmb	IAmb	01 48 30.0	
	comp=Z,87nm,1.3s						
MGBR	**Mount Gambier**	**34.56 209**		P	**P**	**01 48 16.9**	**+1.6**
MRZ	**Mangatainoka R**	**34.62 160**		P	**P**	**01 48 14.9**	**-0.8**
MRZ				IAmb	IAmb	01 48 46.2	
	comp=Z,50nm,1.2s						
TCW	**Tory Channel**	**34.70 162**		P	**P**	**01 48 16.9**	**+0.5**
TUWZ	**Tuamarina**	**34.81 163**		P	**P**	**01 48 17.4**	**+0.1**
THZ	**Tophouse**	**34.83 164**		P	**P**	**01 48 16.3**	**-1.2**
MSWZ	**Moikau Station**	**35.19 161**		P	**P**	**01 48 19.8**	**-0.9**
WRKA	**Warakurna**	**35.32 238**		P	**P**	**01 48 20.4**	**-1.7**
	comp=Z,74nm,0.7s						
WRKA	**Warakurna**	**35.32 238**		P	**P**	**01 48 20.6**	**-1.5**
SANI	**Sanana**	**35.47 278**		P	**P**	**01 48 23.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**35.73 251**		P	**P**	**01 48 24.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**35.73 251**		P	**P**	**01 48 24.6**	**-0.9**
	comp=Z,6.6nm,1.4s						
FITZ	**Fitzroy Crossi**	**35.73 251**		PcP	**PcP**	**01 50 54.0**	**+0.9**
	comp=Z,17nm,0.8s,baz=110,slow=5.1,SNR=4.2						
FITZ				LR	LR	02 02 40.2	
	comp=Z,1μm,21.6s,baz=78,slow=36						
FITZ	**Fitzroy Crossi**	**35.73 251**		P	**P**	**01 48 25.7**	**+0.2**
OXZ	**Oxford**	**36.08 166**		P	**P**	**01 48 28.3**	**0.0**
OXZ				IAmb	IAmb	01 48 44.1	
	comp=Z,74nm,1.2s						
RPZ	**Rata Peaks**	**36.23 168**		P	**P**	**01 48 30.3**	**+0.8**
MQZ	**McQueen's Vall**	**36.59 166**		P	**P**	**01 48 33.2**	**+0.7**
MQZ				IAmb	IAmb	01 48 55.0	
	comp=Z,42nm,0.9s						
FORT	**Forrest**	**37.98 230**		P	**P**	**01 48 44.1**	**-0.5**
FORT				IAmb	IAmb	01 48 45.2	
	comp=Z,54nm,0.8s						
FORT	**Forrest**	**37.98 230**		P	**P**	**01 48 43.7**	**-0.9**
	comp=Z,87nm,0.8s						
FORT	**Forrest**	**37.98 230**		P	**P**	**01 48 44.0**	**-0.5**
BBSI	**Bau Bau**	**38.30 272**		P	P	01 48 58.0	+11
MMRI	**Maumere**	**38.38 267**		P	**P**	**01 48 47.9**	**-0.2**
MMRI	**Maumere**	**38.38 267**		P	**P**	**01 48 48.9**	**+0.8**
	comp=Z,5μmcomp=Z,78nm,1.2s						
DAV	**Davao City (W)**	**38.57 292**		LR	LR	02 04 54.3	
	comp=Z,307nm,19.7s,baz=50,slow=36						
LUWI	**Luwuk**	**38.82 279**		P	**P**	**01 48 51.0**	**-0.9**
LUWI				IAmb	IAmb	01 48 53.6	
	comp=Z,86nm,0.9s						
LUWI	**Luwuk**	**38.82 279**		P	**P**	**01 48 52.0**	**+0.2**
LUWI	**Luwuk**	**38.82 279**		P	**P**	**01 48 52.7**	**+0.9**
	comp=Z,2μmcomp=Z,102nm,1.1s						
JCJ	**Chichijima**	**39.76 333**		LR	LR	02 04 52.3	
	comp=Z,175nm,18.4s,baz=114,slow=35						
RAR	**Rarotonga**	**39.83 113**		LR	LR	02 01 16.9	
	comp=Z,503nm,21.2s,baz=278,slow=30						
APSI	**Ampana**	**39.95 279**		P	**P**	**01 49 02.2**	**+1.0**
	comp=Z,970nmcomp=Z,76nm,1.2s						
KAPI	**Kappang**	**41.15 272**		P	**P**	**01 49 10.7**	**-0.4**
KAPI	**Kappang**	**41.15 272**		LR	LR	02 07 26.4	
	comp=Z,322nm,21.9s,baz=94,slow=38						
KAPI	**Kappang**	**41.15 272**		P	**P**	**01 49 10.7**	**-0.4**
KAPI				pmax	pmax		
	comp=Z,53nm,1.1s						
KAPI	**Kappang**	**41.15 272**		P	**P**	**01 49 10.6**	**-0.6**
KAPI				PcP	**PcP**	**01 51 11.1**	**+1.1**
TOLI2	**Tolitoli**	**41.25 281**		P	**P**	**01 49 10.6**	**-1.3**
TOLI2	**Tolitoli**	**41.25 281**		P	**P**	**01 49 10.6**	**-1.3**
SPSI	**Sidrap Palu**	**41.27 274**		P	**P**	**01 49 11.4**	**-0.7**
	comp=Z,3μmcomp=Z,38nm,1.1s						
TTSI	**Tana Toraja**	**41.36 275**		P	**P**	**01 49 14.6**	**+1.7**
PCI	**Palu**	**41.72 278**		P	**P**	**01 49 17.6**	**+1.7**
	comp=Z,151nm,1.2s						
PSA00	**Pilbara Seismi**	**41.76 247**		P	**P**	**01 49 14.9**	**-1.2**
PSA00				IAmb	IAmb	01 49 35.4	
	comp=Z,147nm,1.4s						
PSA00	**Pilbara Seismi**	**41.76 247**		P	**P**	**01 49 14.6**	**-1.5**
	comp=Z,89nm,1.4s						
PSA00	**Pilbara Seismi**	**41.76 247**		P	**P**	**01 49 15.4**	**-0.7**
MBWA	**Marble Bar**	**41.78 248**		P	**P**	**01 49 15.0**	**-1.3**
MBWA				IAmb	IAmb	01 49 36.1	
	comp=Z,58nm,1.0s						
MBWA	**Marble Bar**	**41.78 248**		P	**P**	**01 49 14.4**	**-1.9**
	comp=Z,74nm,1.4s						
MBWA	**Marble Bar**	**41.78 248**		P	**P**	**01 49 14.9**	**-1.3**
MBWA				pP	**pP**	**01 49 28.4**	**-0.7**
MBWA				sP	**sP**	**01 49 34.9**	**+0.2**
MBWA				PcP	**PcP**	**01 51 12.1**	**+0.1**
PSAC1	**Pilbara Seismi**	**41.79 247**		P	**P**	**01 49 14.4**	**-1.9**
	comp=Z,78nm,1.3s						
PLAI	**Plampang**	**42.78 266**		P	**P**	**01 49 22.5**	**-2.0**
PLAI	**Plampang**	**42.78 266**		P	**P**	**01 49 22.4**	**-2.0**
	comp=Z,1μmcomp=Z,61nm,1.5s						
KMBL	**Kambalda**	**43.00 232**		P	**P**	**01 49 25.1**	**-0.9**
	comp=Z,103nm,0.8s						
KMBL	**Kambalda**	**43.00 232**		P	**P**	**01 49 25.5**	**-0.5**
MEEK	**Meekatharra**	**44.09 240**		P	**P**	**01 49 34.0**	**-0.8**
	comp=Z,158nm,0.8s						
MEEK	**Meekatharra**	**44.09 240**		P	**P**	**01 49 34.4**	**-0.5**
TGY	**Tagaytay City**	**45.67 299**		LR	LR	02 07 22.9	
	comp=Z,249nm,21.6s,baz=91,slow=34						
KLBR	**Kellerberrin**	**46.35 234**		P	**P**	**01 49 51.2**	**-1.5**
	comp=Z,116nm,0.8s						
KLBR	**Kellerberrin**	**46.35 234**		P	**P**	**01 49 51.9**	**-0.9**
JAGI	**Jajag, Banyuwa**	**46.38 266**		P	**P**	**01 49 50.4**	**-2.8**
JAGI				IAmb	IAmb	01 50 27.4	
	comp=Z,85nm,1.1s						
JAGI	**Jajag, Banyuwa**	**46.38 266**		P	**P**	**01 49 50.9**	**-2.3**
JAGI	**Jajag, Banyuwa**	**46.38 266**		P	**P**	**01 49 50.8**	**-2.4**
	comp=Z,69nm,1.0s						
BLDU	**Ballidu**	**46.87 236**		P	**P**	**01 49 55.9**	**-0.9**
	comp=Z,53nm,1.4s						
BLDU	**Ballidu**	**46.87 236**		P	**P**	**01 49 56.2**	**-0.7**
MORW	**Morawa**	**46.96 238**		P	**P**	**01 49 57.5**	**-0.1**
MORW	**Morawa**	**46.96 238**		P	**P**	**01 49 56.6**	**-1.0**
	comp=Z,109nm,1.2s						
MORW	**Morawa**	**46.96 238**		P	**P**	**01 49 56.8**	**-0.8**
KKM	**Kota Kinabalu**	**46.97 286**		P	**P**	**01 49 57.9**	**0.0**
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 59.1**	**-0.5**
NWAO				IAmb	IAmb	01 50 19.6	
	comp=Z,53nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 58.9**	**-0.8**
	comp=Z,107nm,1.1s						
NWAO	**Narrogin (SRO)**	**47.24 232**		LR	LR	02 09 58.5	
	comp=Z,1μm,22.0s,baz=40,slow=36						
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 59.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 59.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 59.1**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,53nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.24 232**		P	**P**	**01 49 59.0**	**-0.7**
NWAO				sP	**sP**	**01 50 18.9**	**+0.7**
MUN	**Mundaring**	**47.72 234**		P	**P**	**01 50 03.0**	**-0.4**
	comp=Z,65nm,1.2s						
MUN	**Mundaring**	**47.72 234**		P	**P**	**01 50 03.6**	**+0.2**
PPT	**Papeete**	**48.83 106**		LR	LR	02 06 46.5	
	comp=Z,260nm,20.9s,baz=283,slow=31						
PPT2	**Papeete2**	**48.84 106**	*e*P		**P**	**01 50 11.6**	**-0.7**
	comp=Z,65nm,27.8s						
PPT2			*e*S		**S**	**01 57 08.7**	**-4.0**
	comp=Z,130nm,21.8s						
PPT2			*e*SS		**SS**	**02 00 46.1**	**+2.2**
	comp=Z,255n

comp=Z,1μm,21.8s,baz=164,slow=33
ASAJ Asahikawa 54.90 344 P **P 01 50 58.0 +1.1**
ASAJ pmax pmax
comp=Z,90nm,1.0s
KSRS Korea Array 55.16 328 P **P 01 50 59.3 +0.4**
comp=Z,31nm,1.0s,baz=142,slow=7.8,SNR=45
KSRS LR LR 02 12 32.7
comp=Z,343nm,20.6s,baz=125,slow=34
comp=Z,31nm,1.0s
KSAR Wonju Array Be 55.17 328 P **P 01 50 59.5 +0.5**
KSAR Wonju Array Be 55.17 328 P **P 01 50 59.5 +0.5**
KS19 Wonju Array Si 55.23 328 IAmb IAmb 01 51 01.0
comp=Z,46nm,1.1s
MDSI Maura Dua 56.62 270 P **P 01 51 08.0 -1.8**
comp=Z,919nmcomp=Z,43nm,1.1s
NJ2 Nanjing 56.94 317 ⇑P **P 01 51 12.7 +1.0**
NJ2 pmax pmax
comp=Z,56nm,1.0s
QIZ Qiongzhong 57.37 299 P **P 01 51 16.1 +1.1**
QIZ Qiongzhong 57.37 299 P **P 01 51 17.0 +2.0**
QIZ ScP **ScP 01 56 04.8 0.0**
QIZ S **S 01 59 08.2 -0.5**
QIZ pmax pmax
comp=Z,43nm,1.4s
QIZ pmax pmax
comp=Z,310nm,4.4s
QIZ LR LR
comp=Z,170nm,15.9s
QIZ LR LR
comp=Z,250nm,19.8s
QIZ LR LR
comp=Z,400nm,28.0s
QIZ Qiongzhong 57.37 299 P **P 01 51 16.5 +1.5**
YSS Yuzhno-Sakhali 57.48 345 P **P 01 51 15.9 +0.7**
YSS IAmb IAmb 01 51 17.6
comp=Z,47nm,1.0s
YSS Yuzhno-Sakhali 57.48 345 *e*P **P 01 51 16.5 +1.3**
YSS Yuzhno-Sakhali 57.48 345 *e*P **P 01 51 16.7 +1.5**
YSS *e* 01 53 21.1
YSS *e*SS **S 01 59 07.3 -1.8**
YSS *e*SS **SS 02 02 59.3 -0.5**
YSS pmax pmax
comp=Z,200nm,2.8s
YSS pmax pmax
comp=Z,40nm,1.1s
TAOE Nuku Hiva Isla 58.07 95 *e*S **S 01 59 13.5 -4.8**
TAOE comp=Z,320nm,25.6s *e*LR LR 02 08 21.4
comp=Z,866nm,24.5s
USA0B Ussuriysk Arra 58.60 336 P **P 01 51 23.7 +0.5**
USA0B Ussuriysk Arra 58.60 336 P **P 01 51 23.7 +0.5**
USA0B pmax pmax
comp=Z,131nm,1.1s
USRK Ussuriysk Ar. 58.60 336 P **P 01 51 23.7 +0.5**
USRK Ussuriysk Ar. 58.60 336 P **P 01 51 24.1 +0.9**
comp=Z,64nm,0.9s,baz=144,slow=6.8,SNR=44
USRK LR LR 02 14 00.4
comp=Z,220nm,21.3s,baz=140,slow=33
comp=Z,64nm,0.9s
CNSH ChangSha 59.02 310 P **P 01 51 27.7 +1.3**
CNSH pmax pmax
comp=Z,62nm,1.1s
WHN Wuhan 59.22 313 ⇑P **P 01 51 28.1 +0.4**
WHN pmax pmax
comp=Z,100nm,0.8s
GULI GuiLin 59.63 306 P **P 01 51 32.4 +1.7**
GULI S **S 01 59 34.8 -3.1**
GULI pmax pmax
comp=Z,50nm,1.2s
GULI pmax pmax
comp=Z,250nm,5.4s
GULI LR LR
comp=Z,100nm,17.4s
GULI LR LR
comp=Z,170nm,19.5s
GULI LR LR
comp=Z,280nm,18.4s
UGL Uglegorsk 59.63 346 *e*P **P 01 51 29.2 -0.9**
DL2 Dalian 59.65 325 P **P 01 51 31.4 +0.9**
DL2 pmax pmax
comp=Z,170nm,1.0s
UBPT Khong Chiam 59.90 293 P **P 01 51 33.7 +1.1**
UBPT IAmb IAmb 01 51 35.1
comp=Z,49nm,1.2s
MDJ Mudanjiang 59.94 334 P **P 01 51 32.5 +0.1**
MDJ Mudanjiang 59.94 334 P **P 01 51 33.2 +0.8**
MDJ pmax pmax
comp=Z,84nm,1.0s
MDJ Mudanjiang 59.94 334 P **P 01 51 33.4 +1.0**
MDJ Mudanjiang 59.94 334 P **P 01 51 33.5 +1.1**
MDJ pP **sP 01 51 48.3 -2.2**
MDJ PcP **PcP 01 52 18.6 +0.3**
TIA Tai'an 60.61 320 P **P 01 51 37.1 -0.1**
TIA pmax pmax
comp=Z,41nm,1.1s
SNY Shenyang 60.65 329 ⇓P **P 01 51 39.1 +1.8**
SNY S **S 01 59 47.8 -2.5**
SNY pmax pmax
comp=Z,17nm,1.5s
SNY pmax pmax
comp=Z,200nm,4.0s
SNY LR LR
comp=Z,320nm,18.3s
SNY LR LR
comp=Z,230nm,22.5s
SNY LR LR
comp=Z,370nm,21.6s
PPI Padang Panjang 60.93 274 P **P 01 51 43.3 +3.5**
comp=Z,20nm,0.9s
TYV Tymovskoe 61.15 347 *e*P **P 01 51 39.6 -0.9**
TYV *e*S **S 01 59 52.8 -3.6**
TYV pmax pmax
comp=Z,32nm,1.3s
TYV pmax pmax
comp=Z,200nm,4.4s
TYV smax smax
comp=N,300nm,5.5s
TYV smax smax
comp=E,400nm,5.5s
CN2 Changchun 61.18 331 *e*P **P 01 51 41.3 +0.5**
CN2 *e*S **S 01 59 54.4 -2.6**
CN2 pmax pmax
comp=E,60nm,1.2s
CN2 pmax pmax
comp=E,180nm,4.0s
IPM Ipoh 61.22 280 P **P 01 51 41.7 -0.1**
IPM IAmb IAmb 01 51 56.1
comp=Z,67nm,1.5s
PET Petropavlovsk 61.23 358 *ce*P **P 01 51 42.4 +1.4**
PET pmax pmax
comp=Z,75nm,1.3s
PET Petropavlovsk 61.23 358 P **P 01 51 42.2 +1.2**
comp=Z,102nm,1.6s
PEA0B Petropavlovsk- 61.35 358 P **P 01 51 43.1 +1.2**
PEA0B Petropavlovsk- 61.35 358 P **P 01 51 43.1 +1.2**
PEA0B pmax pmax
comp=Z,134nm,1.3s
PETK Petropavlovsk- 61.35 358 P **P 01 51 43.1 +1.2**
PETK Petropavlovsk- 61.35 358 P **P 01 51 42.5 +0.7**
comp=Z,42nm,1.0s,baz=147,slow=5.5,SNR=15
PETK LR LR 02 13 55.3
comp=Z,692nm,21.8s,baz=166,slow=32
comp=Z,42nm,1.0s
PETK Petropavlovsk- 61.35 358 P **P 01 51 43.1 +1.2**
KULM Kulim 61.76 281 P **P 01 51 45.0 -0.4**
KULM IAmb IAmb 01 51 46.2
comp=Z,70nm,1.7s
BNX BinXian 61.77 334 ⇑P **P 01 51 45.0 +0.2**
BNX pmax pmax
comp=Z,110nm,1.1s
BNX pmax pmax
comp=Z,540nm,4.9s
SHEM Shemya Is, Ala 61.92 9 LR LR 02 12 41.3
comp=Z,246nm,19.9s,baz=142,slow=30
MNSI Mandailing Nat 61.94 275 P **P 01 51 45.4 -1.2**
SISI Saibi 62.08 273 P **P 01 51 48.0 +0.4**
comp=Z,43nm,0.9s
GRNR Gornyy 62.69 343 ⇑*i*P **P 01 51 52.0 +1.1**
GRNR pmax pmax
comp=Z,20nm,1.2s
LYN LuoYang 62.74 316 ⇑*i*P **P 01 51 51.9 +0.4**
LYN pP pP 01 52 05.0 +0.6
LYN sP sP 01 52 08.6 -1.0
LYN pmax pmax
comp=Z,98nm,1.1s
LYN pmax pmax
comp=Z,500nm,5.8s
LYN LR LR
comp=Z,400nm,17.1s
LYN LR LR
comp=Z,410nm,21.8s
LYN LR LR
comp=Z,580nm,22.7s
HNS HongShan 62.88 320 ⇑P **P 01 51 53.1 +0.7**
HNS pmax pmax
comp=Z,120nm,1.2s
HNS LR LR
comp=Z,310nm,17.8s
HNS LR LR
comp=Z,260nm,16.9s
HNS LR LR
comp=Z,290nm,18.6s
KLR Kul'dur 62.89 339 LR LR 02 17 37.3
comp=Z,353nm,20.4s,baz=156,slow=34
KLR Kul'dur 62.89 339 *ce*P **P 01 51 53.0 +0.8**
KLR pmax pmax
comp=Z,115nm,1.7s
RPSI Rantau Prapat 62.93 277 P **P 01 51 52.4 -0.8**
PSI Prapat 62.95 277 LR LR 02 22 36.2
comp=Z,176nm,19.7s,baz=132,slow=39
PSI Prapat 62.95 277 P **P 01 51 52.4 -1.1**
PSI pmax pmax
comp=Z,122nm,1.9s
GYA Guiyang 63.13 305 ⇑P **P 01 51 55.7 +1.2**
GYA pmax pmax
comp=Z,73nm,1.3s
SRIT Nakonsritamara 63.52 284 IAmb IAmb 01 51 58.6
comp=Z,28nm,0.9s
BJT Baijiatuau 63.57 323 P **P 01 51 57.0 +0.1**
BJT IAmb IAmb 01 51 58.8
comp=Z,54nm,1.4s
BJT Baijiatuau 63.57 323 P **P 01 51 57.7 +0.8**
BJT Baijiatuau 63.57 323 P **P 01 51 57.0 +0.1**
BJT pmax pmax
comp=Z,54nm,1.4s
BJT Baijiatuau 63.57 323 P **P 01 51 57.4 +0.5**
BJT pP **sP 01 52 12.9 -2.2**
BJT PcP **PcP 01 52 32.6 -0.5**
BJI Beijing 63.58 323 P **P 01 51 57.2 +0.3**
BJI pP **sP 01 52 13.3 -1.8**
BJI PcP **PcP 01 52 32.3 -0.8**
BJI pmax pmax
comp=Z,14nm,1.3s
BJI pmax pmax
comp=Z,130nm,3.9s
BJI LR LR
comp=Z,140nm,24.0s
BJI LR LR
comp=Z,110nm,22.1s
BJI LR LR
comp=Z,220nm,21.8s
GSI Gunungsitoli 64.00 276 P **P 01 51 59.1 -1.2**
GSI Gunungsitoli 64.00 276 P **P 01 51 59.7 -0.6**
GSI Gunungsitoli 64.00 276 P **P 01 51 59.5 -0.8**
comp=Z,98nm,1.0s
TIY Taiyuan 64.53 319 *e*P **P 01 52 04.5 +1.1**
TIY pP **sP 01 52 22.3 +0.8**
TIY S S 02 00 29.4 -10
TIY pmax pmax
comp=Z,35nm,0.8s
TIY pmax pmax
comp=Z,150nm,4.4s
TIY LR LR
comp=Z,160nm,13.7s
TIY LR LR
comp=Z,230nm,15.8s
TIY LR LR
comp=Z,330nm,19.2s
XAN Xi'an 64.96 314 ⇑P **P 01 52 06.6 +0.4**
XAN pP pP 01 52 19.7 +0.5
XAN sP sP 01 52 24.5 +0.1
XAN PcP **PcP 01 52 39.6 +0.6**
XAN S **S 02 00 43.1 -1.7**
XAN sS sS 02 01 02.9 -4.2
XAN SS **SS 02 04 54.4 -3.2**
XAN pmax pmax
comp=Z,97nm,0.9s
XAN pmax pmax
comp=Z,390nm,3.6s
XAN LR LR
comp=Z,360nm,16.5s
XAN LR LR
comp=Z,300nm,17.7s
XAN LR LR
comp=Z,700nm,20.4s
HEH HeiHe 65.34 337 *e*P **P 01 52 08.6 +0.3**
HEH sP **pwP 01 52 24.8 +3.5**
HEH S **S 02 00 46.0 -2.7**
HEH pmax pmax
comp=Z,82nm,1.0s
HEH LR LR
comp=Z,220nm,21.8s
HEH LR LR
comp=Z,310nm,22.6s
HEH LR LR
comp=Z,490nm,22.9s
PHRA Phrae 65.68 295 P **P 01 52 11.1 0.0**
MLSI Meulaboh, Aceh 65.69 279 P **P 01 52 10.2 -1.1**
comp=Z,4μmcomp=Z,102nm,1.1s
KMI Kunming 65.82 302 ⇑P **P 01 52 14.0 +1.8**
KMI pP sP 01 52 26.6 -4.3
KMI S **S 02 00 58.8 +2.8**
KMI pmax pmax
comp=Z,130nm,1.2s
KMI LR LR
comp=Z,200nm,16.3s
KMI LR LR
comp=Z,230nm,18.8s
KMI LR LR
comp=Z,270nm,23.1s
KMI Kunming 65.82 302 P **P 01 52 14.2 +2.0**
XLT XiLinHaoTe 66.08 326 *e*P **P 01 52 14.7 +1.4**
XLT pP sP 01 52 31.6 0.0
XLT pmax pmax
comp=Z,260nm,1.0s
XLT LR LR
comp=Z,28nm,14.7s
XLT LR LR
comp=Z,220nm,16.8s
XLT LR LR
comp=Z,410nm,18.9s
CM31 Chiang Mai Arr 66.83 294 P **P 01 52 19.0 +0.5**
CMAR Chiang Mai Arr 66.83 294 P **P 01 52 19.3 +0.8**
CMAR Chiang Mai Arr 66.83 294 P **P 01 52 19.9 +1.5**
comp=Z,48nm,1.0s,baz=111,slow=4.5,SNR=143
CMAR PKP2bc 02 20 50.0
comp=Z,1.1nm,0.3s,baz=291,slow=3.0,SNR=9.4
CMAR LR LR 02 21 42.2
comp=Z,81nm,19.4s,baz=110,slow=36
comp=Z,48nm,1.0s
CMAR Chiang Mai Arr 66.83 294 P **P 01 52 20.0 +1.5**
HHC Hu-ho-hao-te 66.87 321 ⇑*i*P **P 01 52 19.6 +1.1**
HHC pP sP 01 52 36.2 -0.5
HHC S **S 02 01 08.4 +0.4**
HHC pmax pmax
comp=Z,46nm,1.3s
HHC pmax pmax
comp=Z,100nm,5.9s
HHC LR LR
comp=Z,280nm,15.1s
HHC LR LR
comp=Z,110nm,10.1s
HHC LR LR
comp=Z,360nm,15.0s
CHTO Chiang Mai 66.94 295 P **P 01 52 19.9 +0.8**
CHTO IAmb IAmb 01 52 21.6
comp=Z,84nm,1.2s
CHTO Chiang Mai 66.94 295 P **P 01 52 20.0 +0.8**
CHTO pmax pmax
comp=Z,84nm,1.2s
BSI Banda Aceh 67.02 280 P **P 01 52 20.3 +0.5**
PZH PanZhiHua 67.18 303 ⇑P **P 01 52 21.5 +0.8**
PZH S **S 02 01 12.5 +0.3**
PZH sS **sS 02 01 33.6 -0.5**
PZH ScS SKSac 02 02 04.0 -11
PZH pmax pmax
comp=Z,50nm,1.4s
PZH pmax pmax
comp=Z,150nm,5.1s
PZH LR LR
comp=Z,160nm,25.5s
PZH LR LR
comp=Z,140nm,23.5s
PZH LR LR
comp=Z,290nm,23.5s
CD2 Chengdu 67.35 308 P **P 01 52 22.5 +0.8**
CD2 S **S 02 01 14.6 +0.6**
CD2 pmax pmax
comp=Z,130nm,1.0s
CD2 LR LR
comp=Z,130nm,10.8s
CD2 LR LR
comp=Z,190nm,14.0s
CD2 LR LR
comp=Z,210nm,13.3s
BTO Baotou 67.70 320 *e*P **P 01 52 25.7 +2.0**
BTO pP **sP 01 52 38.5 -3.5**
BTO sP **PcP 01 52 46.3 -4.1**
BTO S **S 02 01 19.0 +1.0**
BTO SS **SS 02 05 39.3 -0.8**
BTO pmax pmax
comp=Z,84nm,1.4s
BTO pmax pmax
comp=Z,280nm,5.0s
BTO LR LR
comp=Z,550nm,12.5s
BTO LR LR
comp=Z,550nm,17.5s
BTO LR LR
comp=Z,390nm,13.9s
UNV Unalaska Valle 67.81 20 P **P 01 52 24.3 +0.4**
baz=215
HIA Hailar 67.86 332 P **P 01 52 25.2 +0.8**
HIA IAmb IAmb 01 52 26.6
comp=Z,56nm,1.0s
HIA Hailar 67.86 332 P **P 01 52 25.6 +1.2**
HIA Hailar 67.86 332 P **P 01 52 25.2 +0.8**
HIA pmax pmax
comp=Z,56nm,1.0s
HIA Hailar 67.86 332 P **P 01 52 25.4 +1.0**
HIA pP **sP 01 52 39.1 -3.7**
HIA PcP **PcP 01 52 52.0 +1.3**
ZEA Zeya 68.20 339 *e*P **P 01 52 27.7 +1.3**
ZEA pmax pmax
comp=N,60nm,1.1s
ZEA pmax pmax
comp=E,20nm,1.1s
ZEA pmax pmax
comp=Z,100nm,0.9s
ZEA MLR MLR
comp=Z,300nm,16.0s
MA2 Magadan 68.27 354 P **P 01 52 26.8 0.0**
MA2 IAmb IAmb 01 52 27.8
comp=Z,46nm,1.1s
MA2 Magadan 68.27 354 LR LR 02 18 19.1
comp=Z,381nm,21.5s,baz=168,slow=32
MA2 Magadan 68.27 354 *ce*P **P 01 52 25.7 -1.0**
MA2 pmax pmax
comp=Z,68nm,1.7s
MA2 Magadan 68.27 354 P **P 01 52 26.5 -0.2**
comp=Z,43nm,1.3s
MA2 Magadan 68.27 354 P **P 01 52 26.7 0.0**
VNDA Vanda 69.08 180 P **P 01 52 31.3 -0.3**
comp=Z,7.6nm,0.7s,baz=337,slow=6.1,SNR=8.5
VNDA LR LR 02 17 36.4
comp=Z,514nm,21.2s,baz=358,slow=31
comp=Z,7.6nm,0.7s
VNDA Vanda 69.08 180 P **P 01 52 31.7 +0.1**
TNCH TengChong 69.35 301 ⇑P **P 01 52 35.4 +1.0**
TNCH pP PcP 01 52 55.3 -2.4
TNCH S **S 02 01 41.7 +3.4**
TNCH sS sS 02 01 59.8 -0.7
TNCH pmax pmax
comp=Z,70nm,1.1s
TNCH pmax pmax
comp=Z,270nm,2.7s
TNCH LR LR
comp=Z,150nm,20.0s
TNCH LR LR
comp=Z,140nm,20.8s
TNCH LR LR
comp=Z,240nm,23.9s
LZH Lanzhou 69.59 313 ⇑P **P 01 52 37.2 +1.5**
LZH pP pP 01 52 48.1 -0.7
LZH pmax pmax
comp=Z,82nm,1.3s
LZH pmax pmax
comp=Z,460nm,4.3s
LZH LR LR
comp=Z,180nm,16.3s
LZH LR LR
comp=Z,290nm,15.6s
LZH LR LR
comp=Z,480nm,17.7s
CCD Concordia, Ant 69.95 190 P **P 01 52 37.0 -0.5**
S12K Black Hills 70.84 21 P **P 01 52 43.7 +1.0**
baz=219
SEY Seymchan 71.45 356 *ce*P **P 01 52 46.8 +0.6**
SEY pmax pmax
comp=Z,73nm,1.7s
CHGN Chignik 72.64 22 P **P 01 52 54.7 +1.3**
baz=222
ULN Ulaanbaatar 73.50 325 P **P 01 53 00.2 +1.2**
ULN Ulaanbaatar 73.50 325 *c i*P **P 01 53 00.8 +1.8**
ULN pmax pmax
comp=Z,144nm,1.2s
SONM Songino Array 73.85 325 P **P 01 53 01.7 +0.7**
SONM IAmb IAmb 01 53 03.7
comp=Z,85nm,1.1s
SONM Songino Array 73.85 325 P **P 01 53 02.3 +1.3**
comp=Z,44nm,1.0s,baz=138,slow=4.8,SNR=148
SONM PKPPKP **P'P'df 02 20 35.1 +0.9**
comp=Z,0.8nm,1.0s,baz=239,slow=1.3,SNR=4.4
SONM LR LR 02 24 37.4
comp=Z,219nm,20.3s,baz=132,slow=35
comp=Z,44nm,1.0s
SONM Songino Array 73.85 325 P **P 01 53 01.7 +0.7**
SONM pmax pmax
comp=Z,85nm,1.1s
O14K Tigyukauivet M 73.88 19 P **P 01 53 01.7 +0.9**
baz=219
GTA Gaotai 73.93 315 P **P 01 53 03.5 +1.8**
GTA pmax pmax
comp=Z,72nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.0s
GTA LR LR
comp=Z,210nm,16.3s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,240nm,18.7s
M13K Dall Lake 74.16 17 P **P 01 53 03.2 +0.9**
baz=217
N14K Kuskokwak Cree 74.28 18 P **P 01 53 03.9 +1.0**
baz=218
O15K Ungalikthiuk R 74.30 20 P **P 01 53 04.1 +0.9**
baz=220
YAK Yakutsk 74.33 345 P **P 01 53 04.2 +0.9**
YAK Yakutsk 74.33 345 LR LR 02 22 33.7
comp=Z,533nm,21.9s,baz=120,slow=33
YAK Yakutsk 74.33 345 *c i*P **P 01 53 03.7 +0.4**
YAK *e* 01 53 17.8
YAK *e**PP **sP 01 53 21.0 -0.2**
YAK *e* 01 55 56.5
YAK *e*S **S 02 02 33.1 -0.7**
YAK *e**SS **SKSac 02 03 05.6 -1.3**
YAK *e* 02 03 07.7
YAK *e*SS **SS 02 07 26.2 +5.4**
YAK pmax pmax
comp=Z,164nm,1.0s
YAK pmax pmax
comp=N,30nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,100nm,3.0s
YAK pmax pmax
comp=E,75nm,3.7s
YAK pmax pmax
comp=N,58nm,3.8s
YAK smax smax
comp=E,79nm,3.0s
SII Sitkinak Islan 74.46 24 P **P 01 53 04.9 +0.7**
baz=226
BRDH Bariadhala 74.60 296 P **P 01 53 07.0 +1.3**
comp=E,84nm,0.4s,baz=75,slow=8.5,SNR=18
BRDH LR LR 02 24 40.8

comp=E,107nm,21.7s,baz=167,slow=35
comp=E,84nm,0.4s
M14K Bethel 74.84 18 P **P 01 53 06.8 +0.6**
M14K IAmb IAmb 01 53 08.6
comp=Z,83nm,1.1s
M14K Bethel 74.84 18 P **P 01 53 07.3 +1.0**
baz=218,SNR=6.0
GAMB Gambell 74.90 12 P **P 01 53 07.4 +0.9**
baz=208
N15K Kwethluk River 74.97 19 P **P 01 53 07.9 +0.8**
baz=220
Q17K Contact Creek 75.01 22 P **P 01 53 07.3 -0.2**
baz=224
K13K Kusilvak Mount 75.02 16 P **P 01 53 08.4 +1.2**
baz=215
Q16K King Salmon 75.03 21 P **P 01 53 07.7 +0.4**
baz=224
L14K Kuka Creek 75.10 17 P **P 01 53 09.3 +1.6**
L14K IAmb IAmb 01 53 10.2
comp=Z,74nm,1.2s
L14K Kuka Creek 75.10 17 P **P 01 53 08.9 +1.2**
baz=217
ACHA Angle Creek He 75.18 22 P **P 01 53 08.7 +0.3**
M15K Kasigluk River 75.19 18 P **P 01 53 09.1 +0.8**
baz=219
O16K Kokwok River B 75.20 20 P **P 01 53 09.5 +1.2**
baz=222
SHL Shillong 75.21 299 P **P 01 53 09.2 -0.2**
SHL Shillong 75.21 299 P **P 01 53 09.2 -0.2**
SHL pmax pmax
comp=Z,227nm,1.1s
OHAK Old Harbor 75.28 24 P **P 01 53 09.3 +0.4**
baz=227
O17K Koliganek Bris 75.67 20 P **P 01 53 11.3 +0.2**
baz=223
L15K Ungalak Mounta 75.71 17 P **P 01 53 11.3 0.0**
baz=218
KDAK Kodiak Island 75.94 24 LR LR 02 23 40.9
comp=Z,285nm,18.6s,baz=73,slow=33
KDAK Kodiak Island 75.94 24 P **P 01 53 12.8 +0.2**
baz=228
J14K Nanvaranak Lak 75.98 16 P **P 01 53 14.1 +1.3**
J14K IAmb IAmb 01 53 15.5
comp=Z,87nm,1.1s
J14K Nanvaranak Lak 75.98 16 P **P 01 53 14.2 +1.5**
baz=216
M16K Timber Creek 75.98 19 P **P 01 53 13.8 +0.9**
M16K IAmb IAmb 01 53 15.5
comp=Z,65nm,1.1s
M16K Timber Creek 75.98 19 P **P 01 53 14.3 +1.4**
baz=221
P18K Big Mountain, 76.05 21 P **P 01 53 13.3 -0.1**
P18K IAmb IAmb 01 53 14.5
comp=Z,58nm,1.1s
P18K Big Mountain, 76.05 21 P **P 01 53 13.2 -0.1**
baz=225
K15K Wolf Creek Mou 76.19 17 P **P 01 53 14.6 +0.6**
K15K Wolf Creek Mou 76.19 17 P **P 01 53 15.3 +1.4**
baz=218
N17K Nushagak Hills 76.19 20 P **P 01 53 14.7 +0.7**
N17K IAmb IAmb 01 53 16.7
comp=Z,55nm,1.1s
N17K Nushagak Hills 76.19 20 P **P 01 53 15.4 +1.4**
baz=223
BOD Bodaibo 76.24 336 *e*P **P 01 53 14.2 -0.1**
BOD pmax pmax
comp=Z,63nm,1.7s
GOMU GeErMu 76.30 310 P **P 01 53 16.8 +1.1**
GOMU pmax pmax
comp=Z,49nm,1.4s
Q19K Cape Douglas, 76.31 22 P **P 01 53 14.9 +0.1**
Q19K Cape Douglas, 76.31 22 P **P 01 53 14.7 -0.1**
baz=226
L16K Owhat River 76.35 18 P **P 01 53 15.6 +0.7**
L16K Owhat River 76.35 18 P **P 01 53 15.8 +1.0**
baz=220,SNR=10
BILL Bilibino 76.36 2 P **P 01 53 15.0 +0.1**
BILL IAmb IAmb 01 53 16.8
comp=Z,84nm,1.1s
BILL Bilibino 76.36 2*c i*P **P 01 53 15.5 +0.7**
BILL pmax pmax
comp=Z,96nm,1.1s
O18K Koktuh Hills 76.39 21 P **P 01 53 16.8 +1.6**
baz=225
Q20K Shuyak Island 76.57 23 P **P 01 53 17.1 +1.0**
baz=228
N18K Kilae Creek 76.75 20 P **P 01 53 18.1 +0.9**
N18K IAmb IAmb 01 53 19.8
comp=Z,56nm,1.3s
N18K Kilae Creek 76.75 20 P **P 01 53 18.3 +1.0**
baz=224
M17K Holitna River 76.76 19 P **P 01 53 18.1 +0.9**
M17K IAmb IAmb 01 53 20.2
comp=Z,40nm,1.1s
M17K Holitna River 76.76 19 P **P 01 53 18.8 +1.6**
baz=222
ZAK Zakamensk 76.94 326 *e*P **P 01 53 18.2 -0.4**
ZAK pmax pmax
comp=Z,43nm,1.3s
O19K Port Alsworth 76.95 21 IAmb IAmb 01 54 23.7
comp=Z,57nm,1.6s
O19K Port Alsworth 76.95 21 P **P 01 53 18.7 +0.4**
baz=226
P19K Oil Pt 76.97 22 P **P 01 53 18.9 +0.4**
baz=227
ANM Nome 77.00 14 P **P 01 53 19.0 +0.5**
ANM IAmb IAmb 01 53 21.1
comp=Z,46nm,1.2s
ANM Nome 77.00 14 P **P 01 53 19.8 +1.3**
baz=214,SNR=12
ANM Nome 77.00 14 P **P 01 53 19.0 +0.5**
ANM pmax pmax
comp=Z,47nm,1.2s
L17K Donlin 77.03 18 P **P 01 53 20.4 +1.6**
baz=221
LSA Lhasa 77.05 303 P **P 01 53 20.9 +0.7**
LSA IAmb IAmb 01 53 23.3
comp=Z,62nm,1.0s
LSA Lhasa 77.05 303 P **P 01 53 21.9 +1.7**
LSA pmax pmax
comp=Z,62nm,1.1s
LSA Lhasa 77.05 303 P **P 01 53 20.9 +0.7**
LSA pmax pmax
comp=Z,62nm,1.0s
ILSW Iliamna Southw 77.22 22 P **P 01 53 19.8 -0.3**
ILSW IAmb IAmb 01 53 21.2
comp=Z,54nm,1.1s
J16K Anvik River 77.23 17 P **P 01 53 20.8 +1.0**
J16K IAmb IAmb 01 53 22.8
comp=Z,73nm,1.1s
J16K Anvik River 77.23 17 P **P 01 53 21.6 +1.7**
baz=219,SNR=18
N19K Bonanza Creek 77.33 21 P **P 01 53 20.8 +0.3**
baz=225
M18K Stony River 77.35 20 P **P 01 53 22.2 +1.6**
baz=224
IRK Irkutsk 77.38 328 *e*P **P 01 53 20.5 -0.4**
IRK pmax pmax
comp=Z,101nm,1.5s
K17K Iditarod 77.47 18 IAmb IAmb 01 53 23.9
comp=Z,59nm,1.1s
K17K Iditarod 77.47 18 P **P 01 53 22.6 +1.4**
baz=221
F14K Arctic Creek 77.54 13 P **P 01 53 22.7 +1.2**
baz=213
HOM Homer 77.56 22 P **P 01 53 22.9 +1.2**
baz=228
L18K Granite Mounta 77.60 19 P **P 01 53 23.1 +1.1**
L18K IAmb IAmb 01 53 24.9
comp=Z,62nm,1.1s
L18K Granite Mounta 77.60 19 P **P 01 53 23.7 +1.7**
baz=223
CNPM China Poot 77.63 23 P **P 01 53 23.1 +0.9**
I17K Unalakleet 77.67 16 P **P 01 53 24.0 +1.7**
I17K IAmb IAmb 01 53 25.3
comp=Z,67nm,1.2s
I17K Unalakleet 77.67 16 P **P 01 53 24.2 +1.9**
baz=219
G15K Niukluk 77.69 14 P **P 01 53 23.1 +0.8**
baz=216,SNR=7.8
J17K VABM Dome 77.76 17 P **P 01 53 23.4 +0.6**
J17K IAmb IAmb 01 53 25.6
comp=Z,50nm,1.1s
J17K VABM Dome 77.76 17 P **P 01 53 24.1 +1.3**
baz=220
H16K Elim 77.85 15 P **P 01 53 24.0 +0.7**
baz=217,SNR=5.8

BRLK Bradley Lake 77.92 23 P **P 01 53 24.6 +0.8**
BRSE Bradley Lake S 77.96 23 P **P 01 53 24.9 +0.9**
baz=229,SNR=13
F15K North Star Dit 78.12 14 IAmb IAmb 01 53 27.2
comp=Z,46nm,1.2s
F15K North Star Dit 78.12 14 P **P 01 53 25.9 +1.1**
baz=215,SNR=11
M19K Big River Lodg 78.13 20 P **P 01 53 26.0 +1.1**
M19K Big River Lodg 78.13 20 P **P 01 53 26.4 +1.5**
baz=225
L19K White Mountain 78.17 19 P **P 01 53 26.1 +0.9**
L19K IAmb IAmb 01 53 27.8
comp=Z,86nm,1.1s
L19K White Mountain 78.17 19 P **P 01 53 26.6 +1.5**
baz=225
TTA Tatalina 78.34 19 P **P 01 53 27.0 +0.9**
TTA IAmb IAmb 01 53 28.5
comp=Z,46nm,1.2s
TTA Tatalina 78.34 19 P **P 01 53 27.3 +1.2**
baz=224,SNR=21
TTA Tatalina 78.34 19 P **P 01 53 27.4 +1.3**
TTA Tatalina 78.34 19 P **P 01 53 27.0 +0.9**
TTA pmax pmax
comp=Z,46nm,1.2s
SPCR Spurr Chakacha 78.39 21 P **P 01 53 27.7 +1.3**
baz=227
G16K Koyuk River 78.43 15 P **P 01 53 27.1 +0.6**
G16K IAmb IAmb 01 53 28.9
comp=Z,51nm,1.1s
G16K Koyuk River 78.43 15 P **P 01 53 27.6 +1.2**
baz=217
CAPN Captain Cook N 78.49 22 P **P 01 53 28.4 +1.6**
baz=228
J18K Innoko River 78.51 18 P **P 01 53 27.4 +0.4**
J18K Innoko River 78.51 18 P **P 01 53 27.9 +0.9**
baz=223
M20K Styx River 78.54 20 P **P 01 53 28.1 +0.9**
M20K IAmb IAmb 01 53 29.6
comp=Z,68nm,1.4s
M20K Styx River 78.54 20 P **P 01 53 28.2 +0.9**
baz=226
SLKM Skilak Lake 78.66 22 P **P 01 53 27.7 -0.2**
SLKM IAmb IAmb 01 53 29.7
comp=Z,73nm,1.0s
SEW Seward 78.69 23 P **P 01 53 28.8 +0.8**
SEW IAmb IAmb 01 53 29.9
comp=Z,40nm,1.0s
SEW Seward 78.69 23 P **P 01 53 28.8 +0.8**
baz=230,SNR=9.5
L20K Farewell, AK 78.70 20 P **P 01 53 29.5 +1.4**
baz=226
H17K Granite Mounta 78.71 16 IAmb IAmb 01 53 30.4
comp=Z,45nm,1.1s
H17K Granite Mounta 78.71 16 P **P 01 53 29.1 +1.1**
baz=220
STLK Strandline Lak 78.73 21 P **P 01 53 27.1 -1.2**
MOY Mondy 78.83 327 *e*P **P 01 53 29.6 +0.5**
MOY pmax pmax
comp=Z,51nm,1.9s
O22K Cooper Landing 78.83 22 P **P 01 53 29.6 +0.8**
O22K Cooper Landing 78.83 22 P **P 01 53 29.5 +0.8**
baz=230,SNR=6.8
G17K Kiwalik Mounta 78.95 15 P **P 01 53 30.5 +1.1**
baz=219
FIS Fire Island 79.08 22 P **P 01 53 31.2 +1.1**
SUA Susitna One 79.10 21 P **P 01 53 30.5 +0.1**
SUA IAmb IAmb 01 53 31.7
comp=Z,52nm,1.1s
SUA Susitna One 79.10 21 P **P 01 53 30.6 +0.3**
baz=229,SNR=21
SKT Skwentna 79.16 21 P **P 01 53 29.7 -0.9**
baz=228,SNR=9.3
RC01 Rabbit Creek A 79.22 22 P **P 01 53 31.3 +0.4**
RC01 IAmb IAmb 01 53 32.8
comp=Z,71nm,1.2s
RC01 Rabbit Creek A 79.22 22 P **P 01 53 31.6 +0.7**
baz=230,SNR=15
J19K Poorman 79.23 18 P **P 01 53 31.2 +0.3**
J19K IAmb IAmb 01 53 33.6
comp=Z,52nm,1.2s
J19K Poorman 79.23 18 P **P 01 53 32.3 +1.3**
baz=224
K20K Telida 79.26 19 P **P 01 53 31.6 +0.5**
K20K IAmb IAmb 01 53 33.7
comp=Z,57nm,1.1s
K20K Telida 79.26 19 P **P 01 53 32.4 +1.2**
baz=225
H18K Honhosa River 79.30 16 P **P 01 53 32.0 +0.7**
H18K Honhosa River 79.30 16 P **P 01 53 31.7 +0.4**
baz=221
GCSA Galena City Sc 79.41 17 P **P 01 53 32.6 +0.8**
baz=222
M22K Willow 79.51 21 P **P 01 53 32.9 +0.5**
M22K Willow 79.51 21 P **P 01 53 32.6 +0.1**
baz=229,SNR=8.5
F17K Baldwin Pennin 79.54 14 P **P 01 53 33.4 +0.9**
F17K IAmb IAmb 01 53 35.0
comp=Z,53nm,1.2s
F17K Baldwin Pennin 79.54 14 P **P 01 53 33.8 +1.3**
baz=218
PPLA Purkeypile 79.56 20 P **P 01 53 33.4 +0.5**
PPLA Purkeypile 79.56 20 P **P 01 53 33.3 +0.4**
baz=227,SNR=7.0
PWL Port Wells 79.60 23 P **P 01 53 33.2 +0.2**
PWL IAmb IAmb 01 53 35.0
comp=Z,85nm,1.0s
PWL Port Wells 79.60 23 P **P 01 53 33.5 +0.5**
baz=231,SNR=19
PMR Palmer 79.77 22 P **P 01 53 34.1 +0.3**
PMR IAmb IAmb 01 53 35.6
comp=Z,61nm,1.0s
PMR Palmer 79.77 22 P **P 01 53 34.2 +0.3**
baz=230,SNR=19
PMR Palmer 79.77 22 P **P 01 53 34.5 +0.7**
PMR Palmer 79.77 22 P **P 01 53 34.1 +0.3**
PMR pmax pmax
comp=Z,61nm,1.0s
G18K Tagagawik 79.78 16 P **P 01 53 34.3 +0.4**
G18K Tagagawik 79.78 16 P **P 01 53 34.5 +0.6**
baz=221
J20K Nowinta River 79.82 18 P **P 01 53 34.9 +0.8**
J20K IAmb IAmb 01 53 36.7
comp=Z,62nm,1.1s
J20K Nowinta River 79.82 18 P **P 01 53 35.3 +1.2**
baz=225,SNR=23
CUT Chulitna 79.89 21 P **P 01 53 34.3 -0.2**
CUT IAmb IAmb 01 53 36.2
comp=Z,93nm,1.1s
CUT Chulitna 79.89 21 P **P 01 53 34.4 -0.1**
baz=229
KNK Knik Glacier 79.90 22 P **P 01 53 35.4 +0.8**
KNK IAmb IAmb 01 53 36.9
comp=Z,65nm,1.3s
KNK Knik Glacier 79.90 22 P **P 01 53 35.4 +0.8**
baz=231,SNR=14
E17K Hotham Inlet 79.91 14 P **P 01 53 35.9 +1.3**
baz=217,SNR=31
CAST Castle Rocks 79.95 19 P **P 01 53 34.9 0.0**
CAST IAmb IAmb 01 53 36.1
comp=Z,44nm,0.9s
CAST Castle Rocks 79.95 19 P **P 01 53 34.9 0.0**
baz=227,SNR=40
GHO Glory Hole Cre 79.96 22 P **P 01 53 35.2 +0.2**
GHO IAmb IAmb 01 53 37.0
comp=Z,62nm,1.1s
F18K Selawik 80.06 15 P **P 01 53 35.9 +0.5**
baz=220,SNR=27
GLI Glacier Island 80.09 23 P **P 01 53 36.4 +0.8**
GLI IAmb IAmb 01 53 37.4
comp=Z,60nm,1.2s
GLI Glacier Island 80.09 23 P **P 01 53 36.2 +0.6**
baz=232
C16K Lisburne Hills 80.10 12 P **P 01 53 36.1 +0.6**
C16K Lisburne Hills 80.10 12 P **P 01 53 36.1 +0.6**
baz=214
H19K Roundabout Mou 80.11 17 P **P 01 53 36.1 +0.5**
H19K IAmb IAmb 01 53 37.9
comp=Z,52nm,1.1s
H19K Roundabout Mou 80.11 17 P **P 01 53 36.6 +1.0**
baz=223,SNR=25
D17K Noatak River 80.12 13 P **P 01 53 36.7 +1.1**
baz=216
I20K Naaghedeneel 80.16 18 P **P 01 53 37.0 +1.2**
I20K Naaghedeneel 80.16 18 P **P 01 53 37.1 +1.2**
baz=225,SNR=5.5
CHUM Lake Minchumin 80.19 19 P **P 01 53 36.8 +0.7**

baz=227,SNR=24
SML Sawmill 80.20 22 IAmb IAmb 01 53 38.4
comp=Z,85nm,1.1s
SML Sawmill 80.20 22 P **P 01 53 37.2 +0.9**
baz=231,SNR=24
G19K Purcell Mounta 80.39 16 IAmb IAmb 01 53 39.5
comp=Z,69nm,1.1s
G19K Purcell Mounta 80.39 16 P **P 01 53 38.1 +0.9**
baz=222,SNR=39
EYAK Cordova Ski Ar 80.41 24 P **P 01 53 37.8 +0.4**
baz=234
EYAK Cordova Ski Ar 80.41 24 P **P 01 53 38.8 +1.5**
M23K Glacier View 80.42 22 P **P 01 53 38.0 +0.6**
baz=232,SNR=7.7
KTH Kantishna Hill 80.43 20 IAmb IAmb 01 53 38.4
comp=Z,54nm,1.0s
RDOG Red Dog Mine 80.44 13 IAmb IAmb 01 53 39.7
comp=Z,53nm,1.0s
RDOG Red Dog Mine 80.44 13 P **P 01 53 38.4 +0.9**
baz=216
E18K Tukpahlearik C 80.47 14 P **P 01 53 38.5 +1.0**
baz=218
H20K Anotleneega Mo 80.54 17 P **P 01 53 39.1 +1.1**
baz=224,SNR=23
TRF Thorofare Moun 80.57 20 P **P 01 53 38.2 -0.2**
baz=229,SNR=18
SCM Sheep Creek Mo 80.59 22 P **P 01 53 39.3 +0.9**
baz=232,SNR=8.2
C17K DeLong Mountai 80.73 13 P **P 01 53 39.9 +1.0**
baz=216
F19K Shaleruckik Mo 80.73 15 P **P 01 53 39.4 +0.5**
baz=221
BPAW Bear Paw Mtn. 80.77 19 P **P 01 53 39.0 -0.2**
baz=228,SNR=13
KLU Klutina 80.91 23 P **P 01 53 41.1 +0.9**
baz=233,SNR=6.8
RND Reindeer 81.03 20 IAmb IAmb 01 53 42.1
comp=Z,65nm,1.1s
BMRM Bremner River 81.11 24 P **P 01 53 42.0 +0.8**
baz=234
I21K Tanana 81.19 18 IAmb IAmb 01 53 43.8
comp=Z,42nm,1.0s
I21K Tanana 81.19 18 P **P 01 53 42.6 +1.2**
baz=227,SNR=31
M24K Tolsona, Glenn 81.19 22 IAmb IAmb 01 53 44.3
comp=Z,101nm,1.2s
M24K Tolsona, Glenn 81.19 22 P **P 01 53 43.1 +1.5**
baz=233,SNR=12
MCK McKinley 81.22 20 P **P 01 53 41.8 +0.1**
baz=230,SNR=85
H21K Melozitna Rive 81.27 18 P **P 01 53 43.0 +1.1**
baz=226,SNR=20
C18K Utukok River 81.30 13 IAmb IAmb 01 53 43.9
comp=Z,54nm,1.1s
C18K Utukok River 81.30 13 P **P 01 53 42.7 +0.7**
baz=218
E19K Redstone River 81.34 15 IAmb IAmb 01 53 44.6
comp=Z,76nm,1.1s
E19K Redstone River 81.34 15 P **P 01 53 43.2 +1.0**
baz=222
F20K Avaraart Lake 81.43 16 P **P 01 53 43.7 +1.1**
baz=223
N25K Chitina, Valde 81.49 23 P **P 01 53 44.4 +1.1**
baz=234,SNR=9.3
QSPA South Pole Qui 81.57 180 P **P 01 53 43.3 -0.4**
QSPA South Pole Qui 81.57 180 P **P 01 53 43.1 -0.6**
comp=Z,27nm,1.0s,baz=1.3,slow=1.1,SNR=42
QSPA LR LR 02 27 01.8
comp=Z,431nm,19.5s,baz=9.5,slow=34
comp=Z,27nm,1.0s
PALK Pallekele 81.60 279 P **P 01 53 45.6 +0.9**
PALK Pallekele 81.60 279 LR LR 02 35 18.4
comp=Z,80nm,18.5s,baz=114,slow=40
PALK Pallekele 81.60 279*c i*P **P 01 53 46.3 +1.5**
PALK pmax pmax
comp=Z,114nm,0.9s
G21K Allakaket 81.66 17 P **P 01 53 44.7 +0.8**
baz=226
NEA2 Nenana 81.73 19 IAmb IAmb 01 53 45.3
comp=Z,69nm,1.0s
NEA2 Nenana 81.73 19 P **P 01 53 44.0 -0.3**
baz=230,SNR=33
B18K Kokolik River 81.74 12 P **P 01 53 45.2 +0.9**
baz=217
HARP HAARP 81.74 22 P **P 01 53 45.3 +0.9**
baz=234,SNR=6.1
MESA MESA 81.75 25 P **P 01 53 46.0 +1.2**
baz=237
H22K Ishtalitna Cre 81.86 18 P **P 01 53 46.1 +1.1**
baz=228
D19K Kuna River 81.90 14 IAmb IAmb 01 53 47.2
comp=Z,48nm,1.1s
D19K Kuna River 81.90 14 P **P 01 53 45.9 +0.7**
baz=221
PAX Paxson 81.97 22 P **P 01 53 45.9 +0.2**
baz=233,SNR=5.4
WRH Wood River Hil 81.97 20 IAmb IAmb 01 53 46.6
comp=Z,50nm,1.0s
I23K Minto, Yukon-K 81.99 19 P **P 01 53 45.5 -0.1**
baz=230,SNR=15
F21K Alatna River 82.17 16 P **P 01 53 47.4 +0.9**
baz=225
CCB Clear Creek Bu 82.18 20 IAmb IAmb 01 53 47.5
comp=Z,37nm,1.0s
E20K Nigu River 82.20 15 P **P 01 53 47.7 +1.0**
baz=223
COLA College 82.31 20 P **P 01 53 47.1 -0.2**
COLA College 82.31 20 P **P 01 53 47.1 -0.2**
baz=231
COLA College 82.31 20*c i*P **P 01 53 47.3 0.0**
COLA pmax pmax
comp=Z,111nm,1.0s
HDA Harding Lake 82.32 20 P **P 01 53 47.5 +0.1**
baz=232,SNR=39
K24K Donnelly Dome 82.36 21 P **P 01 53 48.5 +0.9**
baz=233,SNR=17
PCA Pinnacle 82.42 26 IAmb IAmb 01 53 51.9
comp=Z,57nm,1.0s
PINM Pinnacle 82.43 26 P **P 01 53 49.0 +0.9**
baz=238,SNR=5.2
D20K Etivluk River 82.43 14 P **P 01 53 48.8 +0.9**
baz=222
G22K Bettles 82.52 17 P **P 01 53 49.3 +0.9**
baz=227
IL31 82.57 20 IAmb IAmb 01 53 50.4
comp=Z,64nm,1.1s
ILAR Eielson Array 82.57 20 P **P 01 53 48.5 -0.2**
ILAR Eielson Array 82.57 20 P **P 01 53 48.2 -0.4**
comp=Z,34nm,1.0s,baz=252,slow=3.8,SNR=115
ILAR PKKP **PKKPbc 02 12 13.7 -3.7**
comp=Z,0.6nm,0.8s,baz=320,slow=0.9,SNR=6.9
comp=Z,34nm,1.0s
ILAR Eielson Array 82.57 20 P **P 01 53 48.5 -0.2**
M26K Nabesna, AK 82.57 23 P **P 01 53 49.9 +1.0**
baz=236,SNR=19
POKR Poker Plat Res 82.60 20 IAmb IAmb 01 53 49.8
comp=Z,42nm,1.0s
POKR Poker Plat Res 82.60 20 P **P 01 53 48.5 -0.4**
baz=231,SNR=19
RIDG Independent Ri 82.65 21 IAmb IAmb 01 53 51.3
comp=Z,85nm,1.2s
RIDG Independent Ri 82.65 21 P **P 01 53 50.0 +0.8**
baz=234,SNR=31
TIXI Tiksi 82.69 350 P **P 01 53 48.8 -0.3**
TIXI IAmb IAmb 01 53 50.6
comp=Z,81nm,1.4s
TIXI Tiksi 82.69 350 LR LR 02 31 25.1
comp=Z,224nm,19.5s,baz=188,slow=36
TIXI Tiksi 82.69 350*c i*P **P 01 53 49.4 +0.3**
TIXI pmax pmax
comp=Z,68nm,1.5s
L26K Log Cabin Wild 82.79 22 P **P 01 53 51.1 +1.2**
baz=235,SNR=15
O28M Mount Upton 82.81 25 P **P 01 53 51.7 +1.4**
baz=238
G23K Bananza Creek 82.81 18 IAmb IAmb 01 53 52.4
comp=Z,41nm,1.1s
G23K Bananza Creek 82.81 18 P **P 01 53 51.1 +1.1**
baz=229,SNR=36
E21K Killik River 82.90 15 IAmb IAmb 01 53 52.6
comp=Z,44nm,1.1s
E21K Killik River 82.90 15 P **P 01 53 51.2 +0.8**
baz=225,SNR=9.3
H24K Noodor Dome 82.91 19 P **P 01 53 51.8 +1.3**
baz=231
M27K Edge Creek, AK 82.98 23 P **P 01 53 52.6 +1.5**
baz=237
J25K Salcha River, 82.99 20 IAmb IAmb 01 53 52.8

comp=Z,68nm,1.1s
J25K Salcha River, 82.99 20 P P 01 53 51.6 +0.6
baz=233
DIB Dawson Inlet, 83.02 34 IAmb IAmb 01 53 53.9
comp=Z,65nm,1.2s
H02S1 DAWSON INLET T 83.02 34 T T 03 25 40.7
SNR=34
SCRK Sand Creek 83.10 21 IAmb IAmb 01 53 53.8
comp=Z,60nm,1.1s
SCRK Sand Creek 83.10 21 P P 01 53 52.6 +1.0
baz=235,SNR=30
COLD Coldfoot 83.10 17 P P 01 53 52.7 +1.3
baz=229,SNR=17
S31K Pelican 83.18 28 P P 01 53 53.3 +1.4
baz=242
SIT Sitka 83.20 30 P P 01 53 53.4 +1.4
baz=243
C21K Knifeblade Rid 83.21 15 P P 01 53 53.3 +1.4
baz=224
YUK3 Moose Creek 83.22 24 P P 01 53 53.7 +1.3
baz=238,SNR=19
O29M Mount Kennedy 83.25 26 P P 01 53 53.9 +1.4
baz=240
YUK8 Steele Glacier 83.25 25 P P 01 53 54.3 +1.7
baz=239,SNR=30
E22K Anaktuvuk Pass 83.26 16 P P 01 53 53.3 +1.0
baz=227,SNR=20
MOBC Moresby Island 83.28 34 IAmb IAmb 01 53 55.4
comp=Z,71nm,1.1s
L27K Beaver Creek, 83.38 23 P P 01 53 54.2 +1.2
baz=237
BCAR Beaver Creek A 83.40 23 P P 01 53 53.9 +0.7
BVCY Beaver Creek 83.41 23 P P 01 53 54.7 +1.5
baz=238,SNR=14
PRP Porcupine Dome 83.48 20 P P 01 53 55.1 +1.5
baz=233,SNR=13
D22K Ayikyak River 83.55 15 IAmb IAmb 01 53 56.4
comp=Z,53nm,1.0s
D22K Ayikyak River 83.55 15 P P 01 53 55.2 +1.5
baz=226,SNR=41
J26L Joseph Creek 83.56 21 P P 01 53 54.8 +0.9
baz=235
G24K Hadweenzic Riv 83.58 18 IAmb IAmb 01 53 56.2
comp=Z,74nm,1.0s
G24K Hadweenzic Riv 83.58 18 P P 01 53 55.0 +1.1
baz=231
B21K Ikpikpuk River 83.58 14 IAmb IAmb 01 53 56.2
comp=Z,64nm,1.1s
B21K Ikpikpuk River 83.58 14 P P 01 53 54.8 +1.0
baz=224
CRAG Craig 83.61 32 P P 01 53 55.7 +1.5
baz=245
YUK6 Outpost Mounta 83.66 25 P P 01 53 56.4 +1.7
baz=240,SNR=7.8
S32K Killisnoo 83.75 29 IAmb IAmb 01 53 57.9
comp=Z,92nm,1.4s
S32K Killisnoo 83.75 29 P P 01 53 56.2 +1.3
baz=244
YUK4 Talbot Arm 83.75 25 P P 01 53 57.2 +2.1
baz=240,SNR=33
PLBC Pleasant Camp 83.82 27 P P 01 53 56.4 +1.2
baz=242,SNR=12
E23K Chandalar 83.82 17 IAmb IAmb 01 53 57.8
comp=Z,51nm,1.2s
E23K Chandalar 83.82 17 P P 01 53 56.4 +1.2
baz=229
P30M Million Dollar 83.87 26 P P 01 53 57.3 +1.7
baz=242
U33K Whale Pass 83.89 31 P P 01 53 57.1 +1.5
baz=245
HYT Haines Junctio 83.97 26 P P 01 53 57.8 +1.7
baz=241,SNR=25
F24K Squaw Lake 83.97 18 IAmb IAmb 01 53 58.8
comp=Z,57nm,1.4s
F24K Squaw Lake 83.97 18 P P 01 53 57.5 +1.6
baz=231
WMQ Urumqi 83.99 316 *eP* **P 01 53 57.5 +0.9**
WMQ SKS **SKSac 02 04 11.0 -5.1**
WMQ pmax pmax
comp=Z,71nm,1.3s
WMQ LR LR
comp=Z,290nm,24.0s
KMPM Mount Pierce 84.04 48 IAmb IAmb 01 54 00.2
comp=Z,58nm,1.1s
R32K Eaglecrest 84.13 29 IAmb IAmb 01 53 59.9
comp=Z,97nm,1.4s
R32K Eaglecrest 84.13 29 P P 01 53 58.5 +1.6
baz=244,SNR=6.4
D23K Nanushuk River 84.13 16 IAmb IAmb 01 53 59.6
comp=Z,55nm,1.1s
D23K Nanushuk River 84.13 16 P P 01 53 58.3 +1.6
baz=229
E24K Your Creek 84.16 17 P P 01 53 57.9 +1.0
baz=230
I26K Coal Creek Min 84.16 20 IAmb IAmb 01 53 59.1
comp=Z,63nm,1.2s
I26K Coal Creek Min 84.16 20 P P 01 53 58.0 +1.1
baz=235
TOLK Toolik Lake Re 84.22 16 P P 01 53 58.3 +1.1
baz=229,SNR=20
KMRM Mail Ridge 84.29 48 IAmb IAmb 01 54 01.4
comp=Z,41nm,1.0s
SKAG Skagway 84.29 27 P P 01 53 59.2 +1.6
baz=243,SNR=12
V35K Ketchikan 84.34 32 P P 01 53 59.2 +1.2
baz=247
A21K Barrow 84.37 13 P P 01 53 58.5 +0.7
baz=222,SNR=23
M29M Somme Creek 84.38 24 P P 01 53 59.4 +1.2
baz=240
B22K Teshekpuk Lake 84.39 14 IAmb IAmb 01 53 60.0
comp=Z,58nm,1.0s
B22K Teshekpuk Lake 84.39 14 P P 01 53 58.8 +0.9
baz=225
WRAK Wrangell Islan 84.40 31 P P 01 53 59.6 +1.4
baz=246
KHMM Horse Mountain 84.45 47 IAmb IAmb 01 54 02.4
comp=Z,40nm,1.1s
N30M Aishikik Lake 84.46 25 P P 01 53 60.0 +1.5
baz=241
O30N Mendenhall 84.55 26 P P 01 54 00.3 +1.3
baz=242,SNR=23
EGAK Eagle 84.57 21 IAmb IAmb 01 54 01.5
comp=Z,42nm,1.0s
EGAK Eagle 84.57 21 P P 01 54 00.3 +1.4
baz=237,SNR=26
GRNB Grenville Isla 84.66 34 IAmb IAmb 01 54 02.5
comp=Z,43nm,1.0s
F25K Christian Rive 84.70 18 P P 01 54 01.4 +1.8
baz=233,SNR=29
C23K Itkillik River 84.74 15 P P 01 54 01.1 +1.4
baz=228
D24K Happy Valley 84.76 16 IAmb IAmb 01 54 02.4
comp=Z,46nm,1.1s
D24K Happy Valley 84.76 16 P P 01 54 01.2 +1.3
baz=230
L29M L29M 84.84 23 IAmb IAmb 01 54 04.5
comp=Z,37nm,1.1s
L29M L29M 84.84 23 P P 01 54 02.2 +1.7
baz=240
DAWY Dawson 84.84 22 P P 01 54 01.8 +1.4
baz=239,SNR=14
I27K Kandik River 84.86 21 P P 01 54 01.8 +1.3
baz=237
G26K Porcupine Rive 84.90 19 P P 01 54 02.2 +1.7
baz=235
L02F Cave Junction 84.91 46 IAmb IAmb 01 54 07.4
comp=Z,44nm,1.5s
BMAR Burnt Mountain 84.93 18 P P 01 54 02.0 +1.2
J01E Myrtle Point 84.94 45 IAmb IAmb 01 54 31.9
comp=Z,76nm,1.3s
O02D Mt. Diablo Mer 84.95 48 IAmb IAmb 01 54 04.8
comp=Z,35nm,0.9s
K02D Willamette Mer 85.00 46 IAmb IAmb 01 54 04.7
comp=Z,43nm,1.0s
N31M Braeburn, Yuko 85.02 25 P P 01 54 03.0 +1.6
baz=242,SNR=46
WHY Whitehorse 85.03 26 IAmb IAmb 01 54 04.0
comp=Z,37nm,1.1s
WHY Whitehorse 85.03 26 P P 01 54 02.6 +1.1
baz=243,SNR=13
E25K Arctic Village 85.04 18 P P 01 54 02.9 +1.5
baz=233,SNR=18
P32M Atlin 85.08 28 IAmb IAmb 01 54 04.4
comp=Z,48nm,1.2s
P32M Atlin 85.08 28 P P 01 54 03.0 +1.3
baz=244,SNR=8.7
BBB Bella Bella 85.10 36 LR LR 02 25 04.5
comp=Z,272nm,21.0s,baz=258,slow=31
SAO San Andreas Ge 85.10 52 IAmb IAmb 01 54 23.6
comp=Z,35nm,1.2s
M30M Minto, Yukon 85.12 24 P P 01 54 03.3 +1.5
baz=241,SNR=25
C24K Franklin Bluff 85.16 16 IAmb IAmb 01 54 04.4
comp=Z,57nm,1.0s
C24K Franklin Bluff 85.16 16 P P 01 54 03.2 +1.4
baz=230
F26K Sheenjek River 85.22 18 P P 01 54 03.8 +1.6
baz=234
H27K Steamboat Moun 85.24 20 P P 01 54 03.7 +1.4
baz=237
I28M Miner Creek 85.37 21 IAmb IAmb 01 54 06.5
comp=Z,68nm,1.9s
I28M Miner Creek 85.37 21 P P 01 54 04.1 +1.1
baz=238
MAW Mawson 85.39 202 LR LR 02 27 32.9
comp=Z,405nm,21.9s,baz=96,slow=32
HYB Hyderabad 85.41 288 *eP* **P 01 54 04.4 +0.1**
HYB IVmB_BB 01 54 04.8
comp=Z,715nm,1.2s
YBH Yreka Blue Hor 85.42 47 P P 01 54 04.9 +1.0
YBH IAmb IAmb 01 54 07.0
comp=Z,40nm,1.1s
YBH Yreka Blue Hor 85.42 47 LR LR 02 26 19.8
comp=Z,120nm,20.3s,baz=256,slow=32
YBH Yreka Blue Hor 85.42 47 P P 01 54 04.9 +1.0
YBH pmax pmax
comp=Z,40nm,1.1s
K29M Barlow Dome 85.44 23 P P 01 54 05.0 +1.5
baz=241
J29N Klondike Camp 85.48 22 P P 01 54 05.6 +1.9
baz=240
Q32M Nakina River 85.49 29 P P 01 54 05.3 +1.3
baz=246
G27K Doyon Strip 85.51 20 P P 01 54 05.2 +1.5
baz=237
D25K Kavik River 85.54 16 P P 01 54 04.7 +0.8
baz=232
S34M Telegraph Cree 85.61 30 P P 01 54 05.9 +1.6
baz=247,SNR=6.4
T35M Bob Quinn 85.69 31 IAmb IAmb 01 54 07.6
comp=Z,51nm,1.6s
T35M Bob Quinn 85.69 31 P P 01 54 06.1 +1.3
baz=248
P33M Teslin, Yukon 85.76 27 P P 01 54 06.2 +1.0
baz=245
L04D Klamath Falls 85.84 46 IAmb IAmb 01 54 08.7
comp=Z,42nm,1.0s
RPN Rapa Nui 85.87 117 LR LR 02 24 12.5
comp=Z,173nm,21.8s,baz=264,slow=30
BUCK Buck Mountain 85.89 44 IAmb IAmb 01 54 09.2
comp=Z,46nm,1.0s
I29M Ogilvie Camp, 85.91 21 IAmb IAmb 01 54 08.1
comp=Z,58nm,1.1s
I29M Ogilvie Camp, 85.91 21 P P 01 54 06.6 +0.9
baz=240
M31M Drury Creek, Y 85.94 25 P P 01 54 06.8 +0.9
baz=244
MAYO Mayo, Yukon 85.96 24 P P 01 54 07.6 +1.7
baz=242,SNR=9.5
AFDM Forest Hills D 86.00 50 IAmb IAmb 01 54 09.2
comp=Z,41nm,1.4s
N32M Quiet Lake 86.04 26 P P 01 54 07.7 +1.3
baz=245
HATC Hat Creek Radi 86.09 48 IAmb IAmb 01 54 10.0
comp=Z,45nm,1.0s
I04A Tendick Farm, 86.18 45 IAmb IAmb 01 54 09.9
comp=Z,34nm,1.0s
J30M Hart River 86.25 23 IAmb IAmb 01 54 10.5
comp=Z,61nm,1.3s
J30M Hart River 86.25 23 P P 01 54 09.1 +1.6
baz=242,SNR=22
R33M Jennings River 86.28 28 P P 01 54 09.0 +1.3
baz=247,SNR=7.8
C26K Camden Bay 86.31 16 P P 01 54 09.5 +2.0
baz=233
H29M Whitestone 86.32 21 IAmb IAmb 01 54 19.8
comp=Z,40nm,1.4s
H29M Whitestone 86.32 21 P P 01 54 08.9 +1.3
baz=240
DLBC Dease Lake 86.36 29 LR LR 02 25 11.8
comp=Z,238nm,20.5s,baz=282,slow=30
DLBC Dease Lake 86.36 29 P P 01 54 09.2 +1.1
baz=248,SNR=5.0
FARO Faro, Yukon 86.39 25 IAmb IAmb 01 54 10.2
comp=Z,53nm,1.3s
FARO Faro, Yukon 86.39 25 P P 01 54 08.9 +0.8
baz=245,SNR=27
C27K Jago River 86.48 17 P P 01 54 09.9 +1.6
baz=235
F28M Old Crow 86.53 19 P P 01 54 10.2 +1.5
baz=238
I30M Mount Dempster 86.55 22 IAmb IAmb 01 54 11.4
comp=Z,52nm,1.1s
I30M Mount Dempster 86.55 22 P P 01 54 10.2 +1.2
baz=242
H04A Detroit Lake 86.57 44 P P 01 54 09.9 +0.5
H04A IAmb IAmb 01 54 11.7
comp=Z,35nm,1.1s
G29M Pine Creek 86.79 20 P P 01 54 11.2 +1.2
baz=240
J05D Fort Rock, OR 86.88 46 P P 01 54 12.3 +1.3
J05D IAmb IAmb 01 54 14.1
comp=Z,46nm,0.9s
ZSN Zaisan 86.93 319 *eP* **P 01 54 11.5 +0.4**
ZSN pmax pmax
comp=Z,37nm,1.1s
ZSN Zaisan 86.93 319 *eP* **P 01 54 11.6 +0.4**
comp=Z,37nm,1.1s
EPYK Eagle Plains 86.97 21 P P 01 54 12.3 +1.4
baz=241
WAKR Walker 87.06 51 IAmb IAmb 01 54 15.2
comp=Z,56nm,1.8s
D27M Malcolm River 87.07 18 P P 01 54 13.1 +1.8
baz=237
I05D Terrebonne, OR 87.07 45 IAmb IAmb 01 54 14.7
comp=Z,40nm,1.0s
PNTR Pine Nut 87.07 50 IAmb IAmb 01 54 42.1
comp=Z,39nm,1.4s
HOOD Mount Hood Mea 87.10 44 IAmb IAmb 01 54 14.7
comp=Z,62nm,1.3s
PASC Pasadena Art C 87.11 55 IAmb IAmb 01 54 14.6
comp=Z,24nm,0.9s
E28M Babbage River 87.16 18 P P 01 54 13.4 +1.7
baz=239
PAHR Pah Rah Range 87.37 49 IAmb IAmb 01 54 16.2
comp=Z,30nm,1.2s
G30M tAoh Zraii Nji 87.44 20 P P 01 54 14.0 +0.9
baz=242
H31M Peel River 87.57 22 IAmb IAmb 01 54 16.0
comp=Z,43nm,1.1s
H31M Peel River 87.57 22 P P 01 54 14.8 +1.1
baz=244
WTLY Watson Lake, Y 87.57 28 P P 01 54 14.8 +0.9
baz=249
E29M Blow River 87.57 19 P P 01 54 14.6 +1.0
baz=240
G06A Carlson Farm, 87.78 44 IAmb IAmb 01 54 17.9
comp=Z,51nm,1.7s
D28M Stokes Point 87.78 18 P P 01 54 16.2 +1.5
baz=239
F30M Barrier River 87.89 20 P P 01 54 16.4 +1.2
baz=242
NVAR Mina Array Bea 87.91 51 P P 01 54 16.8 +0.5
NVAR Mina Array Bea 87.91 51 P P 01 54 17.6 +1.3
comp=Z,16nm,1.0s,baz=240,slow=6.8,SNR=31
NVAR PKKPbc **PKKPbc 02 12 04.8 +1.2**
comp=Z,1.3nm,0.9s,baz=98,slow=3.6,SNR=4.7
NVAR LR LR 02 26 24.2
comp=Z,334nm,20.5s,baz=262,slow=31
comp=Z,16nm,1.0s
DSP Deep Springs 87.95 52 IAmb IAmb 01 54 19.1
comp=Z,23nm,1.1s
NV11 Mina Array Sit 88.03 51 IAmb IAmb 01 54 19.4
comp=Z,30nm,1.2s
G31M Sash River 88.10 21 P P 01 54 17.3 +1.1
baz=244
I07A Izee 88.29 45 IAmb IAmb 01 54 20.7
comp=Z,32nm,1.1s
PFO Pinyon Flats O 88.40 56 LR LR 02 26 15.8
comp=Z,859nm,20.4s,baz=270,slow=30
PFO Pinyon Flats O 88.40 56 *i P* **P 01 54 19.0 +0.4**
PFO pmax pmax
comp=Z,12nm,0.8s
MK31 Makanchi Array 88.47 318 *ceP* **P 01 54 18.7 +0.2**
MKAR Makanchi Array 88.47 318 P P 01 54 18.7 +0.3
MKAR Makanchi Array 88.47 318 P P 01 54 18.9 +0.4
comp=Z,51nm,0.8s,baz=100,slow=5.8,SNR=378
MKAR PKKPbc **PKKPdf 02 12 00.5 +3.2**
comp=Z,0.4nm,0.7s,baz=294,slow=2.4,SNR=4.7
MKAR PKPPKP **P'P'df 02 20 06.5 -1.7**
comp=Z,0.8nm,0.9s,baz=298,slow=2.6,SNR=5.3
MKAR LR LR 02 35 53.3
comp=Z,161nm,19.3s,baz=120,slow=37
comp=Z,51nm,0.8s
MKAR Makanchi Array 88.47 318 *i P* **P 01 54 18.8 +0.3**
MKAR pmax pmax
comp=Z,51nm,0.8s
F31M Tsiigehtchic 88.51 21 P P 01 54 18.9 +0.8
baz=244
WVOR Wild Horse Val 88.53 47 IAmb IAmb 01 54 21.9
comp=Z,40nm,1.1s
VTX Valle De La Tr 88.54 58 IAmb IAmb 01 54 22.6
comp=Z,52nm,1.3s
E07A Sunnyside 88.62 43 IAmb IAmb 01 54 22.7
comp=Z,24nm,1.3s
YUH Yuha Desert 88.66 57 IAmb IAmb 01 54 21.9
comp=Z,29nm,1.2s
MAKZ Makanchi 88.68 318 P P 01 54 19.6 +0.1
MAKZ Makanchi 88.68 318 P P 01 54 19.6 +0.1
MAKZ pmax pmax
comp=Z,84nm,1.0s
ZALV Zalesovo Beam 88.75 325 P P 01 54 19.0 -0.6
ZALV Zalesovo Beam 88.75 325 P P 01 54 18.9 -0.7
comp=Z,11nm,0.7s,baz=110,slow=5.3,SNR=55
ZALV LR LR 02 32 41.8
comp=Z,122nm,21.9s,baz=98,slow=35
comp=Z,11nm,0.7s
TOAD Toad River Com 88.85 30 P P 01 54 20.7 +0.7
baz=252
J08A Circle Bar Ran 88.85 46 IAmb IAmb 01 54 23.2
comp=Z,35nm,1.2s
Q09A Carvers 88.86 51 IAmb IAmb 01 54 23.5
comp=Z,30nm,1.1s
G08A Pilot Rock 88.94 44 IAmb IAmb 01 54 23.5
comp=Z,45nm,1.5s
INK Inuvik 88.97 20 IAmb IAmb 01 54 22.3
comp=Z,48nm,1.5s
INK Inuvik 88.97 20 LR LR 02 30 14.6
comp=Z,459nm,19.8s,baz=230,slow=33
INK Inuvik 88.97 20 P P 01 54 20.9 +0.7
baz=244
E08A Dider Farm, El 89.14 43 IAmb IAmb 01 54 24.3
comp=Z,62nm,1.7s
TPNV Topopah Spring 89.21 53 IAmb IAmb 01 54 55.2
comp=Z,72nm,1.9s
WUS Wushi 89.39 312 IAmb IAmb 01 54 25.2
comp=Z,41nm,1.1s
SHLS Shalkode 89.61 314 *eP* **P 01 54 22.9 -1.1**
SHLS pmax pmax
comp=Z,15nm,0.9s
SHLS Shalkode 89.61 314 *eP* **P 01 54 23.0 -1.1**
comp=Z,15nm,0.9s
S11A Rachel 89.73 52 IAmb IAmb 01 54 27.4
comp=Z,58nm,1.6s
E09A Wood Farm, Sta 89.76 43 IAmb IAmb 01 54 26.9
comp=Z,36nm,1.0s
KOTAN Kotaneelee Air 89.81 29 P P 01 54 24.6 +0.1
baz=253
UZB Uzynbulak 89.93 314 *eP* **P 01 54 25.8 +0.3**
UZB pmax pmax
comp=Z,25nm,1.1s
UZB Uzynbulak 89.93 314 *eP* **P 01 54 25.9 +0.3**
comp=Z,25nm,1.1s
SHPR Sheep Range 89.99 53 IAmb IAmb 01 54 29.2
comp=Z,37nm,1.5s
BMO Blue Mountains 89.99 45 IAmb IAmb 01 54 28.3
comp=Z,40nm,1.4s
R11B Troy Canyon, C 89.99 51 IAmb IAmb 01 54 28.8
comp=Z,27nm,1.2s
R11B Troy Canyon, C 89.99 51 P P 01 54 27.4 +1.3
baz=259
BLYC Blythe 90.01 56 IAmb IAmb 01 54 29.0
comp=Z,31nm,0.9s
V12A Nelson 90.09 54 IAmb IAmb 01 54 29.4
comp=Z,30nm,1.1s
KPKS Kokpek 90.23 314 *eP* **P 01 54 27.1 +0.2**
KPKS pmax pmax
comp=Z,26nm,1.2s
KPKS Kokpek 90.23 314 *eP* **P 01 54 27.2 +0.2**
comp=Z,26nm,1.2s
SATY Saty 90.35 313 *eP* **P 01 54 27.9 +0.4**
SATY pmax pmax
comp=Z,18nm,1.1s
SATY Saty 90.35 313 *eP* **P 01 54 27.9 +0.4**
comp=Z,18nm,1.1s
ZHN Zhinishke 90.35 313 *eP* **P 01 54 27.6 +0.1**
ZHN Zhinishke 90.35 313 *eP* **P 01 54 27.6 +0.1**
113A Mohawk Valley, 90.47 57 IAmb IAmb 01 54 31.1
comp=Z,21nm,0.9s
PIX Pinacate 90.53 58 IAmb IAmb 01 54 31.2
comp=Z,23nm,0.9s
TARG Taragay, Kyrgy 90.54 312 IAmb IAmb 01 54 41.2
comp=Z,35nm,1.1s
ELK Elko 90.69 49 IAmb IAmb 01 54 32.2
comp=Z,32nm,1.2s
TDK Taldyqorghan 90.73 315 *eP* **P 01 54 29.3 +0.2**
TDK pmax pmax
comp=Z,16nm,0.7s
TDK Taldyqorghan 90.73 315 *eP* **P 01 54 29.3 +0.2**
comp=Z,16nm,0.7s
H06S1 SOCORRO T 90.77 71 T T 03 35 23.3
SNR=34
NEW Newport 90.81 41 IAmb IAmb 01 54 31.2
comp=Z,18nm,1.0s
NEW Newport 90.81 41 LR LR 02 27 01.4
comp=Z,363nm,21.7s,baz=264,slow=30
PLID Pearl Lake 90.94 45 IAmb IAmb 01 54 32.3
comp=Z,23nm,0.9s
WRGLY Wrigley 90.99 26 P P 01 54 30.5 +0.7
baz=253
KDJ Kajisay 91.07 312 P P 01 54 30.9 -0.1
Y14A Wickenburg 91.29 56 IAmb IAmb 01 54 34.9
comp=Z,29nm,1.5s
MDOK Medeo 91.35 313 *eP* **P 01 54 32.1 -0.1**
MDOK Medeo 91.35 313 *eP* **P 01 54 32.2 -0.1**
PSUT Pine Spring 91.36 51 IAmb IAmb 01 54 35.4
comp=Z,18nm,1.0s
TNSS Tian-Shan 91.40 313 *eP* **P 01 54 32.5 -0.2**
TNSS Tian-Shan 91.40 313 *eP* **P 01 54 32.6 -0.2**
AAA Alma-Ata 91.45 313 *eP* **P 01 54 32.8 +0.3**
AAA pmax pmax
comp=Z,15nm,0.5s
AAA Alma-Ata 91.45 313 *eP* **P 01 54 32.9 +0.3**
comp=Z,15nm,0.5s
KSH Kashi 91.52 310 P P 01 54 35.0 +2.0
KSH sP sP 01 54 56.9 +5.1
KSH pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 91.69 321 P P 01 54 32.8 -0.5
KURK Kurchatov 91.69 321 P P 01 54 32.8 -0.5
KURK pmax pmax
comp=Z,79nm,1.6s
KURBB Kurchatov Arra 91.73 321 P P 01 54 32.6 -0.9
comp=Z,4.9nm,0.8s,baz=104,slow=3.8,SNR=51
KURBB PP **PP 01 58 05.7 -7.1**
comp=Z,3.5nm,0.9s,baz=95,slow=8.9,SNR=8.8
KURBB PKKP **PKKPdf 02 11 51.8 +0.2**
comp=Z,0.9nm,0.7s,baz=287,slow=2.9,SNR=8.3
KURBB PKPPKP **P'P'df 02 20 02.0 +0.2**
comp=Z,0.5nm,0.8s,baz=276,slow=2.6,SNR=5.0
KURBB LR LR 02 35 35.6
comp=Z,223nm,21.9s,baz=166,slow=35
comp=Z,4.9nm,0.8s
ULHL Ulahol 91.78 312 P P 01 54 35.5 +1.2
SNR=9.3
HLID Hailey 91.79 46 IAmb IAmb 01 54 37.4
comp=Z,40nm,1.4s
NRN Naryn 91.82 311 IAmb IAmb 01 54 36.5
comp=Z,32nm,1.2s
NRIK Noril'sk 92.08 340 IAmb IAmb 01 54 35.4
comp=Z,28nm,1.1s
NRIK Noril'sk 92.08 340 P P 01 54 33.9 -0.9
comp=Z,21nm,1.0s,baz=103,slow=4.3,SNR=29
NRIK LR LR 02 35 32.7
comp=Z,582nm,20.8s,baz=108,slow=35
comp=Z,21nm,1.0s
NRIK Noril'sk 92.08 340 *ceP* **P 01 54 34.4 -0.3**
NRIK pmax pmax
comp=Z,26nm,1.1s
LPIG La Paz 92.15 66 LR LR 02 30 06.8
comp=Z,336nm,18.9s,baz=234,slow=32
TKM2 Tokmak 2 92.36 313 P P 01 54 37.1 +0.2

SNR=10
BGU Big Grassy Mou 92.38 49 IAmb IAmb 01 54 39.8
comp=Z,22nm,1.0s
DUG Dugway, Tooele 92.42 50 IAmb IAmb 01 54 40.1
comp=Z,22nm,1.2s
TCRU Three Creeks R 92.46 52 IAmb IAmb 01 54 41.0
comp=Z,20nm,1.0s
C36M Paulatuk 92.54 20 P **P 01 54 37.3 +0.5**
baz=253
X16A Lo Mia Camp, P 92.64 56 IAmb IAmb 01 54 41.7
comp=Z,18nm,1.2s
NIL Nilore 92.79 303 P **P 01 54 38.8 -0.1**
NIL IAmb IAmb 01 54 40.1
comp=Z,20nm,0.9s
NIL Nilore 92.79 303 P **P 01 54 38.8 -0.1**
NIL pmax pmax
comp=Z,20nm,1.0s
KBK Karagaybulak 92.79 313 P **P 01 54 39.6 +0.7**
SNR=8.3
WUAZ Wupatki 92.86 55 IAmb IAmb 01 55 02.2
comp=Z,22nm,1.2s
TUC Tucson 92.89 58 P **P 01 54 40.0 +0.5**
TUC Tucson 92.89 58 P **P 01 54 40.0 +0.5**
TUC pmax pmax
comp=Z,7.0nm,1.0s
SYO Syowa Base 92.89 198⇓*e*P **P 01 54 39.2 +0.6**
A36M Sachs Harbour 92.97 17 P **P 01 54 39.7 +0.9**
baz=252
CHMS Chumysh 92.98 313 P **P 01 54 39.9 +0.3**
SNR=15
AAK Ala-Archa 93.12 312 P **P 01 54 40.6 +0.2**
AAK IAmb IAmb 01 54 41.8
comp=Z,17nm,0.9s
AAK Ala-Archa 93.12 312 P **P 01 54 40.8 +0.4**
SNR=11
AAK Ala-Archa 93.12 312*ce*P **P 01 54 41.0 +0.6**
AAK pmax pmax
comp=Z,16nm,1.0s
SGDS Sogindy 93.14 313 *e*P **P 01 54 40.3 0.0**
SGDS Sogindy 93.14 313 *e*P **P 01 54 40.4 0.0**
USP Ospenovka 93.20 313 P **P 01 54 40.8 +0.2**
SNR=12
MPU Maple Canyon 93.29 50 IAmb IAmb 01 54 44.5
comp=Z,34nm,1.4s
BELA Belgrano 2 93.40 177 P **P 01 54 40.6 -0.3**
BELA IAmb IAmb 01 54 41.2
comp=Z,13nm,1.0s
Q16A Castle Valley 93.49 51 IAmb IAmb 01 54 45.6
comp=Z,24nm,1.2s
JLU Jordanelle 93.51 50 IAmb IAmb 01 54 45.2
comp=Z,22nm,1.1s
TMUT Trail Mountain 93.52 51 IAmb IAmb 01 54 51.9
comp=Z,22nm,0.9s
HWUT Hardware Ranch 93.57 49 IAmb IAmb 01 54 44.9
comp=Z,17nm,0.8s
AML Almayashu 93.63 312 P **P 01 54 43.8 +0.7**
SNR=19
BTLS Baital 93.78 315 *e*P **P 01 54 42.4 -0.8**
BTLS pmax pmax
comp=Z,19nm,1.4s
X18A Snowflake 93.88 56 IAmb IAmb 01 55 07.7
comp=Z,25nm,1.6s
BSUT Blindstream Ca 94.03 50 IAmb IAmb 01 54 47.6
comp=Z,20nm,1.0s
319A Douglas 94.03 59 IAmb IAmb 01 54 48.1
comp=Z,12nm,0.8s
AHID Auburn Hatcher 94.07 48 IAmb IAmb 01 54 47.3
comp=Z,13nm,1.0s
BOZ Bozeman (W) 94.07 45 IAmb IAmb 01 54 47.4
comp=Z,30nm,1.4s
FXWY Fox Creek 94.23 47 IAmb IAmb 01 54 48.4
comp=Z,13nm,0.9s
YHB Horse Butte 94.26 46 IAmb IAmb 01 54 49.0
comp=Z,17nm,1.1s
YHL Hebgen Lake 94.28 45 IAmb IAmb 01 54 49.2
comp=Z,23nm,1.3s
SNOW Snow King Moun 94.41 47 IAmb IAmb 01 54 49.2
comp=Z,15nm,1.0s
YMR Madison River 94.41 46 IAmb IAmb 01 54 49.8
comp=Z,16nm,1.1s
MOOW Moose Ponds 94.45 47 IAmb IAmb 01 54 49.2
comp=Z,20nm,1.5s
LOHW Long Hollow 94.54 47 IAmb IAmb 01 54 49.6
comp=Z,25nm,1.5s
YNR Norris Junctio 94.62 46 IAmb IAmb 01 54 53.2
comp=Z,17nm,1.3s
H17A Grant Village 94.65 46 IAmb IAmb 01 54 51.4
comp=Z,13nm,1.0s
YKA Yellowknife Ar 94.79 28 P **P 01 54 47.4 0.0**
comp=Z,15nm,0.9s,baz=257,slow=4.8,SNR=126
YKA PKKPbc **PKKPdf 02 11 43.4 -3.0**
comp=Z,0.9nm,0.8s,baz=81,slow=2.2,SNR=11
comp=Z,15nm,0.9s
PV10 Paradox Valley 95.08 52 IAmb IAmb 01 54 52.3
comp=Z,25nm,1.2s
PD31 Pinedale Array 95.19 48 IAmb IAmb 01 54 52.0
comp=Z,20nm,0.9s
PDAR Pinedale Array 95.19 48 P **P 01 54 49.9 -0.1**
PDAR Pinedale Array 95.19 48 P **P 01 54 50.8 +0.7**
comp=Z,14nm,0.8s,baz=238,slow=2.2,SNR=110
PDAR PKKPbc **PKKPbc 02 11 43.1 -2.2**
comp=Z,0.5nm,0.8s,baz=128,slow=4.3,SNR=4.6
PDAR LR LR 02 32 06.4
comp=Z,159nm,20.2s,baz=305,slow=32
comp=Z,14nm,0.8s
PV11 David Mesa, Pa 95.20 52 IAmb IAmb 01 54 52.9
comp=Z,18nm,1.2s
BRZS Berezniki 95.33 320 *e*P **P 01 54 49.0 -1.2**
BRZS pmax pmax
comp=Z,11nm,1.3s
121A Cookes Peak, D 95.43 58 P **P 01 54 52.5 +1.2**
baz=264
DZA Taraz 95.46 312 *e*P **P 01 54 50.9 0.0**
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA Taraz 95.46 312 *e*P **P 01 54 51.0 0.0**
comp=Z,6.3nm,0.5s
BTK Batken 95.53 310 P **P 01 54 51.3 -0.1**
EGMT Eagleton 95.64 42 IAmb IAmb 01 54 53.6
comp=Z,20nm,1.1s
O20A White River Ci 95.89 50 IAmb IAmb 01 54 55.3
comp=Z,13nm,1.1s
KK31 Karatay Array 96.08 313 IAmb IAmb 01 54 54.6
comp=Z,22nm,1.1s
KKAR Karatay Array 96.08 313 P **P 01 54 53.1 -0.7**
KKAR Karatay Array 96.08 313 IAmb IAmb 01 54 54.5
comp=Z,14nm,1.1s
KKAR Karatay Array 96.08 313 P **P 01 54 53.1 -0.7**
IUG Iuzhnay 96.34 312 *e*P **P 01 54 55.0 0.0**
IUG pmax pmax
comp=Z,16nm,1.2s
IUG Iuzhnay 96.34 312 *e*P **P 01 54 55.1 0.0**
comp=Z,16nm,1.2s
KBL Kabul 96.36 304 P **P 01 54 54.4 -1.1**
KBL IAmb IAmb 01 54 55.9
comp=Z,11nm,1.0s
KBL Kabul 96.36 304 P **P 01 54 54.4 -1.1**
KBL pmax pmax
comp=Z,11nm,1.0s
BRLS Boroldoy 96.56 312 *e*P **P 01 54 56.0 0.0**
BRLS Boroldoy 96.56 312 *e*P **P 01 54 56.0 0.0**
S22A 4UR Ranch, Cre 96.75 53 P **P 01 54 59.0 +1.7**
baz=265
ANMO Albuquerque 96.78 56 P **P 01 54 58.3 +0.9**
ANMO Albuquerque 96.78 56 LR LR 02 30 42.4
comp=Z,268nm,21.5s,baz=92,slow=30
ANMO Albuquerque 96.78 56 *i* P **P 01 54 58.8 +1.4**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
SIMJ Simiganj 96.79 308 P **P 01 54 56.6 -0.7**
SIMJ IAmb IAmb 01 54 58.5
comp=Z,21nm,1.2s
BVAR Borovoye Array 97.06 323 P **P 01 54 57.2 -0.7**
comp=Z,27nm,0.8s,baz=99,slow=5.3,SNR=109
BVAR PKKPbc **PKKPbc 02 11 39.0 -1.3**
comp=Z,0.7nm,0.7s,baz=291,slow=4.1,SNR=4.5
comp=Z,27nm,0.8s
BRVK Borovoye 97.12 323 P **P 01 54 57.7 -0.5**
BRVK Borovoye 97.12 323*ce*P **P 01 54 57.8 -0.4**
BRVK pmax pmax
comp=Z,28nm,1.0s
K22A Casper 97.41 48 IAmb IAmb 01 55 02.1
comp=Z,15nm,1.0s
N23A Red Feather La 97.70 50 IAmb IAmb 01 55 33.3
comp=Z,22nm,1.6s
N23A Red Feather La 97.70 50 P Pdif 01 55 03.1 +1.6
baz=266
Q24A Divide 98.17 52 P Pdif 01 55 05.0 +1.3
baz=266
T25A Trinidad 98.62 54 P Pdif 01 55 07.0 +1.3
baz=266
TXAR Lajitas Array 98.64 62 P Pdif 01 55 07.0 +1.2
comp=Z,0.7nm,0.7s,baz=198,slow=3.7,SNR=3.9
TXAR PKKPbc **PKKPbc 02 11 34.7 -0.4**
comp=Z,0.4nm,0.6s,baz=90,slow=5.0,SNR=3.7
TXAR LR LR 02 34 32.2
comp=Z,171nm,18.8s,baz=267,slow=32
comp=Z,0.7nm,0.7s
RSSD Black Hills 99.31 47 **Pdif 01 55 08.5 -0.1**
RSSD IAmb IAmb 01 55 10.6
comp=Z,10nm,1.1s
RSSD Black Hills 99.31 47 P **Pdif 01 55 08.5 -0.1**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
SNAA Sanae 99.37 185 P **Pdif 01 55 06.2 -1.9**
comp=Z,3.1nm,1.0s,baz=158,slow=11,SNR=3.6
SNAA LR LR 02 36 19.3
comp=Z,423nm,21.7s,baz=130,slow=33
comp=Z,3.1nm,1.0s
DGMT Dagmar 99.38 42 IAmb IAmb 01 55 10.3
comp=Z,21nm,1.1s
PMSA Palmer Station 99.66 162 LR LR 02 33 25.2
comp=Z,324nm,19.4s,baz=320,slow=31
ARTI Arti 103.98 326 P **Pdif 01 55 27.2 -1.5**
ULM Lac du Bonnet 104.78 40 Pdiff **Pdif 01 55 31.4 -1.0**
comp=Z,1.2nm,0.7s,baz=280,slow=6.1,SNR=3.9
L44A Lake County Fo 111.17 48 P **PKiKP 01 59 59.9 +0.1**
baz=278
APA Apatity 111.48 341⇓*i*PKIKP **PKiKP 01 59 57.3 -2.3**
APA pmax pmax
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 112.61 345 PKiKP **PKiKP 02 00 01.6 -0.2**
comp=Z,3.9nm,0.8s,baz=358,slow=0.9,SNR=7.5
ARCES PKKPbc **PKKPbc 02 10 50.2 -3.2**
comp=Z,6.3nm,0.8s,baz=228,slow=2.3,SNR=9.9
VRH Novokhopyorsk 114.71 323 *e*PKIKP **PKiKP 02 00 05.9 -0.4**
VRH pmax pmax
comp=Z,11nm,1.0s
LPSR Galich'ya Gora 115.86 325 *e*PKIKP **PKiKP 02 00 08.8 +0.4**
LPSR pmax pmax
comp=Z,12nm,1.0s
VORR Voronezh 116.03 324 *e*PKIKP **PKPdf 02 00 08.4 -0.4**
VORR pmax pmax
comp=Z,27nm,0.4s
KIV Kislovodsk 116.11 315⇓P **PKiKP 02 00 10.6 +1.3**
KIV Kislovodsk 116.11 315 *i* PKIKP **PKPdf 02 00 09.7 +0.3**
KIV *e* 02 01 12.3
KIV *e*PS **PS 02 10 58.2 +1.1**
KIV *e*SS SS 02 17 10.9 -3.3
KIV pmax pmax
comp=Z,8.0nm,1.1s
OBN Obninsk 116.16 328 *i* PKIKP **PKPdf 02 00 09.0 +0.1**
OBN *e* 02 01 13.8
OBN *e*PPP PPP 02 03 44.5
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,468nm,23.0s
RAYN Ar Rayn 116.71 292 PKPdf **PKPdf 02 00 10.4 -0.6**
RAYN Ar Rayn 116.71 292 PKIKP **PKPdf 02 00 10.4 -0.6**
BCA Borcka 117.48 312⇑P **PKiKP 02 00 13.0 +1.0**
FINES FINESS Array B 117.62 337 PKP **PKPdf 02 00 11.6 0.0**
comp=Z,6.3nm,0.9s,baz=91,slow=4.0,SNR=12
SOC Sochi 118.28 315 *i* PKIKP **PKPdf 02 00 11.2 -2.2**
SOC *e* 02 01 27.0
SOC *e* 02 06 59.0
SOC *e*PS **PS 02 11 13.9 -2.7**
SOC *e*SS SS 02 17 38.1 -4.1
SOC *e*SSS SSS 02 22 04.7
SSPA Standing Stone 118.86 48 **PKPdf 02 00 14.4 -0.2**
MNK Minsk 120.86 330 *e*PKIKP **PKPdf 02 00 17.0 -1.0**
MNK *e* 02 00 37.0
MNK *e*PP **PP 02 01 46.0 -0.7**
L61B Northampton 122.06 45 P **PKPdf 02 00 20.8 +0.1**
baz=290
AK03 Malin Array Si 122.12 326 PKP **PKPdf 02 00 20.6 +0.1**
AKASG Malin Array Be 122.13 326 PKPdf **PKPdf 02 00 20.7 +0.1**
AKASG Malin Array Be 122.13 326 PKP **PKPdf 02 00 20.1 -0.5**
comp=Z,6.0nm,0.7s,baz=62,slow=2.1,SNR=27
AKASG PP **PP 02 01 54.2 -1.3**
comp=Z,0.3nm,0.5s,baz=48,slow=6.6,SNR=5.2
AKASG PKKPbc **PKKPab 02 10 17.5 0.0**
comp=Z,0.9nm,0.6s,baz=259,slow=3.8,SNR=6.8
AKASG Malin Array Be 122.13 326 PKIKP **PKPdf 02 00 20.7 +0.1**
AKBB Malin Array Si 122.13 326*c i* PKIKP **PKPdf 02 00 20.8 +0.2**
AKBB Malin Array Si 122.13 326 PKP **PKPdf 02 00 20.3 -0.3**
AK09 Malin Array Si 122.14 326 PKP **PKPdf 02 00 20.2 -0.4**
AK01 Malin Array Si 122.14 326 PKP **PKPdf 02 00 20.8 +0.2**
KIEV Kiev 122.14 326 PKPdf **PKPdf 02 00 20.8 +0.2**
KIEV Kiev 122.14 326⇓P **PKPdf 02 00 20.8 +0.2**
KIEV Kiev 122.14 326 PKIKP **PKPdf 02 00 20.8 +0.2**
KIEV Kiev 122.14 326 PKP **PKPdf 02 00 20.4 -0.2**
AK08 Malin Array Si 122.15 326 PKP **PKPdf 02 00 20.8 +0.2**
D62A Allapoint, All 122.67 39 **PKPdf 02 00 21.7 0.0**
MI28 Mi28,Pidlybu 122.86 327 PKP **PKPdf 02 00 22.4 +0.4**
HFS Hagfors 122.88 341 PKP **PKPdf 02 00 21.2 -0.5**
comp=Z,6.8nm,0.8s,baz=243,slow=1.3,SNR=7.9
NB2 NORSAR Subarra 122.91 343 PKPdf **PKPdf 02 00 21.6 -0.3**
comp=Z,9.2nm,1.0s,baz=34,slow=1.9
NB2 NORSAR Subarra 122.91 343 PKPdf **PKPdf 02 00 21.6 -0.3**
baz=34,slow=1.9
NOA NORSAR Array B 122.91 343 PKP **PKPdf 02 00 21.6 -0.3**
comp=Z,4.5nm,0.8s,baz=36,slow=1.9,SNR=13
BAL3X Bal3x, Balta 123.23 323 PKP **PKPdf 02 00 22.8 0.0**
LUBAR Lubar, Ukraine 123.33 326 PKP **PKPdf 02 00 22.7 -0.2**
SUW Suwalki 123.40 332 *e*PKP **PKPdf 02 00 22.8 -0.1**
RNPP9 Sopachiv 123.56 328 PKP **PKPdf 02 00 23.6 +0.3**
RNPP8 Varash 123.62 328 PKP **PKPdf 02 00 23.4 0.0**
RNPP5 Staryi Chortor 123.66 328 PKP **PKPdf 02 00 23.6 +0.1**
BOSA Boshof 123.67 227 PKP **PKPdf 02 00 24.6 +0.1**
comp=Z,8.6nm,0.8s,baz=121,slow=0.9,SNR=14
PURM Purcari 123.71 321⇓P **PKiKP 02 00 24.6 +0.6**
KIRS Kirsehir-Merke 123.78 312⇓P **PKPdf 02 00 24.9 +0.7**
BRTR Keskin Array B 123.79 313 PKPdf **PKPdf 02 00 23.9 -0.5**
BRTR Keskin Array B 123.79 313 PKP **PKPdf 02 00 24.6 +0.2**
comp=Z,7.5nm,1.0s,baz=114,slow=1.5,SNR=20
BRTR PP **PP 02 02 07.5 0.0**
comp=Z,2.0nm,1.0s,baz=102,slow=5.4,SNR=4.3
BRTR PKKPbc **PKKPbc 02 10 13.1 +0.8**
comp=Z,1.6nm,0.8s,baz=323,slow=3.1,SNR=7.4
BR104 Keskin Array S 123.80 312 PKP **PKPdf 02 00 24.3 0.0**
BR106 Keskin Array S 123.81 313 PKP **PKPdf 02 00 24.5 +0.1**
BR105 Keskin Array S 123.81 313 PKIKP **PKPdf 02 00 24.5 +0.1**
SORM Soroca 123.88 324⇓P **PKPdf 02 00 24.4 +0.4**
SORM Soroca 123.88 324⇓PKIKP **PKPdf 02 00 24.4 +0.4**
SORM Soroca 123.88 324 PKP **PKPdf 02 00 24.0 0.0**
CZSB Cruzeiro do Su 124.07 105 *e*P **PKPdf 02 00 26.0 +0.6**
MILM Milestii Mici 124.18 322⇓P **PKPdf 02 00 25.0 +0.4**
MILM Milestii Mici 124.18 322⇓PKIKP **PKPdf 02 00 25.0 +0.4**
MMAI Mount Meron Ar 124.29 304 PKP **PKPdf 02 00 25.7 +0.3**
comp=Z,11nm,0.9s,baz=52,slow=6.8,SNR=6.9
ANTO Ankara 124.36 313 **PKPdf 02 00 25.5 +0.2**
ANTO Ankara 124.36 313⇓P **PKiKP 02 00 26.3 +0.7**
ANTO Ankara 124.36 313 PKIKP **PKPdf 02 00 25.5 +0.2**
ANTO Ankara 124.36 313 PKP **PKPdf 02 00 25.5 +0.2**
BATG Bathurst New B 124.40 37 PKPdf **PKPdf 02 00 25.2 +0.1**
HORU Horodok 124.44 326 PKP **PKPdf 02 00 25.0 -0.1**
KMPD K-Podol'skiy 124.76 325 PKP **PKPdf 02 00 25.2 -0.5**
ROSC El Rosal 124.91 90 PKP **PKPdf 02 00 27.5 0.0**
comp=Z,6.5nm,0.6s,baz=119,slow=22,SNR=6.2
LBTB Lobatse 125.36 231 PKPdf **PKPdf 02 00 27.7 0.0**
LBTB Lobatse 125.36 231 PKIKP **PKPdf 02 00 27.7 0.0**
CFR Carcaliu 125.40 321⇓P **PKiKP 02 00 28.0 +0.6**
CFR Carcaliu 125.40 321⇓PKIKP **PKiKP 02 00 28.0 +0.6**
LVV L'vov 125.43 327 PKP **PKPdf 02 00 27.3 +0.3**
LPAZ La Paz 125.48 117 PKP **PKPdf 02 00 29.5 +0.7**
comp=Z,7.7nm,0.8s,baz=336,slow=1.6,SNR=17
LPAZ La Paz 125.48 117 *e*P **PKPdf 02 00 28.9 +0.1**
MFTR Murfatlar 125.67 319⇓P **PKiKP 02 00 28.9 +0.9**
KSV Kosov 125.68 325 PKP **PKPdf 02 00 27.7 +0.2**
STNU Starunia 125.78 326 PKP **PKPdf 02 00 28.0 +0.3**
LMN Caledonia Moun 125.84 38 PKPdf **PKPdf 02 00 28.1 +0.2**
BEL Belsk 125.88 331 *e*PKP **PKiKP 02 00 29.2 +1.1**
MORS Morshin 125.89 327 PKP **PKPdf 02 00 28.2 +0.4**
ONER Baraj Valea Uz 125.92 323⇓P **PKiKP 02 00 29.3 +0.8**
BURAR Bucovina Array 125.97 324⇑P **PKiKP 02 00 29.8 +1.2**
BURAR Bucovina Array 125.97 324⇑PKIKP **PKiKP 02 00 29.8 +1.2**
SHIU Shidnytsya 126.12 327 PKP **PKPdf 02 00 28.6 +0.3**
KWP Kalwaria Pacla 126.24 328 *e*PKP **PKiKP 02 00 29.6 +0.7**
KWP Kalwaria Pacla 126.24 328 PKP **PKPdf 02 00 28.8 +0.3**
GKP Gorka Klasztor 126.58 334 *e*PKP **PKiKP 02 00 30.4 +0.9**
MLR Muntele Rosu 126.61 322 PKP **PKPdf 02 00 29.5 0.0**
comp=Z,10nm,1.2s,baz=82,slow=22,SNR=4.8
MLR Muntele Rosu 126.61 322⇓P **PKPdf 02 00 30.4 +0.9**
MLR Muntele Rosu 126.61 322 PKP **PKPdf 02 00 29.7 +0.2**
TBOT Tacuaremb 126.70 140 *e*P **PKPdf 02 00 31.0 +1.0**
DOPR Dopca 126.71 323⇓P **PKiKP 02 00 30.8 +0.8**
KOLS Kolonicke sedl 126.88 327 *e*PKIKP **PKiKP 02 00 31.7 +1.4**
KOLS Kolonicke sedl 126.88 327 *e*PKP **PKiKP 02 00 31.7 +1.4**
BMR Baia Mare 126.92 325⇓P **PKiKP 02 00 31.1 +0.7**
BMR Baia Mare 126.92 325⇓PKIKP **PKiKP 02 00 31.1 +0.7**
MUKU Mukachevo 126.93 326 PKP **PKPdf 02 00 30.2 +0.4**
HOLU Holmets 127.05 327 PKP **PKPdf 02 00 30.4 +0.3**
STHS Stebnicka Huta 127.14 328 *e*PKIKP **PKiKP 02 00 35.1 +4.3**
STHS Stebnicka Huta 127.14 328 *e*PKP **PKiKP 02 00 35.1 +4.3**
VOIR 127.19 322⇑P **PKiKP 02 00 32.4 +1.3**
VOIR 127.19 322⇑PKIKP **PKiKP 02 00 32.4 +1.3**
CBBR Cluj-Babes-Bol 127.38 324⇓P **PKiKP 02 00 32.5 +1.2**
OJC Ojcow 127.38 330 *e*PKP **PKiKP 02 00 31.8 +0.6**
OJC Ojcow 127.38 330 PKP **PKPdf 02 00 31.0 +0.3**
ARR Arges 127.47 322⇓P **PKiKP 02 00 32.7 +1.0**
MESR Meseseni 127.51 325⇓P **PKiKP 02 00 32.5 +1.0**
TNR Turnu Rosu 127.55 323⇓P **PKiKP 02 00 32.9 +1.2**
TNR Turnu Rosu 127.55 323 PKIKP **PKiKP 02 00 32.9 +1.2**
NIE Niedzica 127.63 329 *e*PKP **PKiKP 02 00 33.0 +1.3**
NIE Niedzica 127.63 329 PKP **PKPdf 02 00 31.5 +0.3**
TBTG Tabatinga, AM 127.65 102 *e*P **PKPdf 02 00 32.8 +0.6**
MARR Marisel-Cluj 127.68 324⇓P **PKPdf 02 00 32.3 +0.8**
HUMR Humele 127.69 321⇑P **PKiKP 02 00 32.5 +0.5**
LSZ Lusaka 127.70 243 PKPdf **PKPdf 02 00 31.6 -0.8**
LSZ Lusaka 127.70 243 PKIKP **PKPdf 02 00 31.7 -0.8**
DRGR 127.85 325⇓P **PKPdf 02 00 32.5 +0.7**
DRGR 127.85 325⇓PKIKP **PKPdf 02 00 32.5 +0.7**
ELND Elena 127.89 319⇑P **PKiKP 02 00 33.4 +0.9**
LOT Lotru 127.95 323⇓P **PKPdf 02 00 32.9 +0.8**
PLTB Pedras Altas 128.10 142 *e*P **PKiKP 02 00 33.9 +0.6**
LANS Liptovska Anna 128.22 329 *e*PKIKP **PKPdf 02 00 32.9 +0.5**
LANS Liptovska Anna 128.22 329 *e*PKP **PKPdf 02 00 32.9 +0.5**
STEB Steborice 128.57 330 *e*PKPDF **PKPdf 02 00 33.8 +0.8**
GZR Gura Zlata 128.57 323⇑P **PKiKP 02 00 34.3 +0.4**
GZR Gura Zlata 128.57 323⇑PKIKP **PKiKP 02 00 34.3 +0.4**
KSP Ksiaz 128.67 332 *e*PKP **PKiKP 02 00 34.7 +0.9**
KSP Ksiaz 128.67 332 PKP **PKPdf 02 00 33.4 +0.3**
SIRR Siria 128.74 325⇓P **PKPdf 02 00 34.3 +0.9**
PSZ Piszkesteto 128.75 327⇓P **PKiKP 02 00 34.6 +0.4**
PSZ Piszkesteto 128.75 327⇓PKIKP **PKiKP 02 00 34.6 +0.4**
SURR Surduc 128.76 324⇑P **PKPdf 02 00 34.3 +0.8**
MORC Moravsky Berou 128.78 330 *e*PKP **PKPdf 02 00 34.3 +0.9**
MORC Moravsky Berou 128.78 330⇑P **PKiKP 02 00 34.5 +0.4**
MORC Moravsky Berou 128.78 330⇑PKIKP **PKiKP 02 00 34.5 +0.4**
OSTC Ostas 128.90 332 *e*PKPDF **PKiKP 02 00 35.0 +0.7**
OSTC Ostas 128.90 332 *e*PKIKP **PKiKP 02 00 35.0 +0.7**
MAUC Maruska 128.91 330 *e*PKPDF **PKiKP 02 00 35.6 +1.2**
SDV Santo Domingo 128.93 85 PKPdf **PKPdf 02 00 34.1 -0.8**
SDV Santo Domingo 128.93 85 *e*P **PKPdf 02 00 35.2 +0.3**
KRLC Kraliky 128.96 331 *e*PKPDF **PKiKP 02 00 35.1 +0.7**
KRLC Kraliky 128.96 331 *e*PKIKP **PKiKP 02 00 35.1 +0.7**
VYHS Vyhne 128.96 328 *e*PKIKP **PKPdf 02 00 34.3 +0.5**
VYHS Vyhne 128.96 328 *e*PKP **PKPdf 02 00 34.3 +0.5**
DPC Dobruska-Polom 128.99 332 PKP **PKPdf 02 00 34.0 +0.2**
UPC Upice 129.03 332 *e*PKPDF **PKiKP 02 00 35.3 +0.8**
UPC Upice 129.03 332 *e*PKIKP **PKiKP 02 00 35.3 +0.8**
HERR Herculane 129.06 323⇑P **PKPdf 02 00 35.1 +1.0**
BZS Buzias 129.13 324⇓P **PKPdf 02 00 34.9 +0.7**
BZS Buzias 129.13 324⇓PKIKP **PKPdf 02 00 34.9 +0.7**
CPSB Cacapava Do Su 129.14 141 *e*P **PKPdf 02 00 35.7 +1.0**
CPUP Villa Florida 129.18 134 PKP **PKPdf 02 00 35.0 +0.1**
comp=Z,11nm,1.0s,baz=245,slow=0.5,SNR=18
CPUP Villa Florida 129.18 134 *e*P **PKPdf 02 00 35.4 +0.6**
JAVC Velka Javorina 129.32 329 *e*PKP **PKiKP 02 00 36.2 +1.0**
MDVR Moldovita 129.54 323⇑P **PKiKP 02 00 36.3 +0.5**
VRAC Vranov 129.56 330 PKP **PKPdf 02 00 35.5 +0.7**
comp=Z,1.3nm,0.4s,baz=356,slow=2.8,SNR=7.2
VRAC Vranov 129.56 330 *e*PKP **PKPdf 02 00 35.2 +0.3**
VRAC Vranov 129.56 330⇓P **PKiKP 02 00 36.5 +0.9**
PVCC Panska Ves 129.68 333 *e*PKPDF **PKiKP 02 00 36.9 +1.1**
PVCC Panska Ves 129.68 333 *e*PKIKP **PKiKP 02 00 36.9 +1.1**
BRG Berggiesshubel 129.71 333 *i* PKP **PKiKP 02 00 36.3 +0.4**
BRG Amp 02 00 36.9
comp=Z,22nm,1.2s
BRG x x 02 00 41.1
BRG x x 02 00 41.8
CLL Collm 129.80 334 *i* PKIKP **PKPdf 02 00 35.6 +0.4**
CLL pmax pmax
comp=Z,19nm,1.3s
CLL MLR MLR
comp=Z,400nm,19.7s
CLL Collm 129.80 334 *i* PKPdf **PKPdf 02 00 35.6 +0.4**
comp=Z,19nm,1.3s
CLL *e*PP **PP 02 02 49.0 +2.8**
CLL AMS AMS 02 56 00.0
comp=Z,400nm,19.7s
KRUC Moravsky 129.82 330 *e*PKP **PKPdf 02 00 35.9 +0.5**
MODS Modra-Piesok 129.83 329 *e*PKIKP **PKiKP 02 00 36.7 +0.5**
MODS Modra-Piesok 129.83 329 *e*PKP **PKiKP 02 00 36.7 +0.5**
PRU Pruhonice 130.07 332 *e*PKPDF **PKiKP 02 00 37.9 +1.3**
PRU Pruhonice 130.07 332 *e*PKIKP **PKiKP 02 00 37.9 +1.3**
MORH Mrgy, Hungar 130.47 326⇓P **PKPdf 02 00 37.7 +1.1**
MORH Mrgy, Hungar 130.47 326 PKP **PKPdf 02 00 36.9 +0.2**
MPLH Magyarpolny 130.47 328 PKP **PKPdf 02 00 36.9 +0.2**
RONA Rosalia, Austr 130.77 329 *i* PKiKP **PKiKP 02 00 39.1 +0.9**
comp=Z,15nm,1.1s,SNR=5.1
CONA Conrad Observa 130.84 330 *i* PKiKP **PKPdf 02 00 38.2 +0.8**
comp=Z,16nm,1.1s,SNR=7.4
CKRC Cesky Krumlov 130.99 331 *e*PKPDF **PKPdf 02 00 38.5 +0.9**
CKRC Cesky Krumlov 130.99 331 *e*PKIKP **PKPdf 02 00 38.5 +0.9**
KHC Kasperske Hory 131.12 332 *e*PKPDF **PKPdf 02 00 38.8 +0.9**
KHC Kasperske Hory 131.12 332*c i* PKIKP **PKiKP 02 00 39.4 +0.6**
KHC pmax pmax
comp=Z,44nm,1.7s
GERES GERESS Array B 131.26 332 PKPdf **PKPdf 02 00 38.9 +0.7**
GERES GERESS Array B 131.26 332 PKP **PKPdf 02 00 38.5 +0.2**
comp=Z,4.5nm,0.7s,baz=38,slow=2.4,SNR=21
GERES GERESS Array B 131.26 332 PKIKP **PKPdf 02 00 38.9 +0.7**
ARSA Arzberg 131.46 329 *i* PKiKP **PKiKP 02 00 39.9 +0.4**
comp=Z,11nm,1.3s
CNLB Canela 131.50 142 *e*P **PKPdf 02 00 39.8 +0.6**
EKA Eskdalemuir Ar 131.55 348 PKP **PKPdf 02 00 39.1 +0.7**
comp=Z,1.3nm,0.7s,baz=32,slow=4.9,SNR=3.9
MOA Molln 131.69 330 *i* PKiKP **PKPdf 02 00 39.6 +0.6**
comp=Z,4.8nm,1.1s
MURT Porto Murtinho 131.70 129 *e*P **PKPdf 02 00 40.3 +0.5**
GRF Grafenberg Arr 131.76 334 *e*PKPdf **PKPdf 02 00 39.3 +0.3**
baz=42,slow=1.2
SOKA Soboth 132.09 329 *i* PKP **PKPdf 02 00 40.3 +0.4**
comp=Z,12nm,1.4s
BIOA Bad Ischl, Aus 132.10 331 *i* PKiKP **PKPdf 02 00 40.5 +0.7**
comp=Z,14nm,1.3s
ITAB Concordia 132.15 139 *e*P **PKPdf 02 00 41.2 +0.7**
MLPR Magueyes Islan 132.34 73 **PKPdf 02 00 40.2 -0.8**
OBKA Obir 132.46 329 *i* PKP **PKPdf 02 00 39.9 -0.6**
comp=Z,6.1nm,1.2s
KBA Koelnbreinsper 132.67 330 *i* PKP **PKPdf 02 00 41.2 +0.1**
comp=Z,11nm,1.9s
LESA Schwarzleotal 132.75 331 *i* PKP **PKPdf 02 00 41.1 0.0**
comp=Z,15nm,1.1s
MYKA Terra Mystica 132.83 330 *e*PKP **PKPdf 02 00 40.2 -1.0**
comp=Z,3.2nm,0.9s
BDQN Bodoquena, MS 133.04 128 *e*P **PKPdf 02 00 43.0 +0.7**
BTNL Ternell 133.10 338 *d*PKIKP **PKPdf 02 00 42.6 +1.1**
TER01 Tubaro-SC 133.11 143 *e*P **PKPdf 02 00 43.0 +0.8**
MEM Membach 133.13 338 *d*PKIKP **PKiKP 02 00 43.2 +0.4**
WIN Windhoek 133.16 228 **PKPdf 02 00 43.6 +0.9**
WIN Windhoek 133.16 228 PKIKP **PKPdf 02 00 43.6 +0.9**
SJG San Juan 133.17 73 **PKPdf 02 00 42.3 -0.2**
SJG San Juan 133.17 73 PKIKP **PKPdf 02 00 42.3 -0.2**
BSTI Sart Tilman 133.31 339 *d*PKIKP **PKiKP 02 00 43.8 +0.7**
ABTA Abfaltersbach 133.31 330 *i* PKP **PKPdf 02 00 42.1 -0.1**
comp=Z,14nm,1.6s
WATA Walderalm 133.34 332 *i* PKP **PKPdf 02 00 42.7 +0.4**
comp=Z,3.8nm,0.7s
WTTA Wattenberg 133.36 332 *i* PKP **PKPdf 02 00 42.2 -0.1**
comp=Z,31nm,1.4s,SNR=5.8
MOTA Moosalm 133.55 332 *e*PKP **PKPdf 02 00 42.9 +0.3**
comp=Z,22nm,1.1s
SQTA Sankt Quirin 133.59 332 *i* PKP **PKPdf 02 00 43.3 +0.6**
comp=Z,8.2nm,0.9s
RETA Reutte 133.60 332 *i* PKiKP **PKPdf 02 00 43.6 +0.9**
comp=Z,3.4nm,0.8s
PTLB Pontes e Lacer 133.65 121 *e*P **PKPdf 02 00 44.4 +0.8**
RCHB Rochefort 133.78 339 *d*PKIKP **PKiKP 02 00 45.0 +1.0**
BMRD Maredsous 133.83 339 *d*PKIKP **PKiKP 02 00 44.4 +0.2**
AQDB Aquidauana 133.84 129

VILB	Vilhena	133.84 117		PKPdf	02 00 43.9	-0.1
VILB	Vilhena	133.84 117	eP	PKPdf	02 00 44.6	+0.6
WLF	Walferdange	133.84 338	dPKiKP	PKiKP	02 00 45.6	+1.3
PTGB	Pitanga	133.88 136	eP	PKPdf	02 00 45.0	+1.1
PANT	Pantanal (Braz	133.94 127	eP	PKPdf	02 00 45.1	+1.0
FETA	Feichten	133.96 332	i PKiKP	PKPdf	02 00 44.2	+0.8
	comp=Z,13nm,0.9s					
DAVA	Damuels	134.16 333	i PKiKP	PKPdf	02 00 44.5	+0.6
	comp=Z,12nm,1.1s					
DAVOX	Davos/Dischmat	134.53 332	PKP	PKPdf	02 00 45.2	+0.6
	comp=Z,9.4nm,0.8s,baz=309,slow=2.1,SNR=13					
TSUM	Tsumeb	134.74 232		PKPdf	02 00 46.9	+1.2
RPRD	Ribas do Rio P	135.36 130	eP	PKPdf	02 00 47.8	+1.1
LDASE	Londrina, Braz	135.40 136	eP	PKPdf	02 00 47.8	+1.1
TIP	Timpagrande	135.72 319	⇓P	PKPdf	02 00 47.6	+0.7
SALV	Santo Antonio	136.32 124	eP	PKPdf	02 00 49.5	+0.9
FRTB	Fartura	136.49 137	eP	PKPdf	02 00 49.7	+0.9
MACA	Manacapuru-AM	136.81 104	eP	PKPdf	02 00 50.1	+0.5
PDRB	Porto dos Gac	137.48 117	eP	PKPdf	02 00 51.3	+0.6
SPB	Sao Paulo	137.72 139	eP	PKPdf	02 00 51.9	+1.0
BOAV	Boa Vista	138.20 96	PKPdf	PKPdf	02 00 52.6	+0.5
BOAV	Boa Vista	138.20 96	eP	PKPdf	02 00 52.6	+0.5
ITRB	Iturama	138.31 132	eP	PKPdf	02 00 53.0	+0.8
VAO	Valinhos	138.44 139	eP	PKPdf	02 00 53.2	+0.8
CLDB	Colider	138.62 117	eP	PKPdf	02 00 53.4	+0.5
BB19B	Bebedouro	138.73 136	eP	PKPdf	02 00 53.8	+0.8
ARAG	Araguaiana, MT	139.57 126	eP	PKPdf	02 00 55.4	+0.9
NPGB	Novo Progresso	140.58 112	eP	PKPdf	02 00 56.9	+0.4
IPMB	Ipameri, GO	140.97 132	eP	PKPdf	02 00 52.1	-5.0
KEST	Kesra	142.50 321	PKhKP	PKPpre	02 00 55.5	
	comp=Z,15nm,1.0s,baz=314,slow=6.1,SNR=6.7					
BDFB	Brasilia	142.57 130	PKPdf	PKPdf	02 00 57.0	-3.1
BDFB	Brasilia	142.57 130	PKhKP	PKPpre	02 00 55.4	
	comp=Z,11nm,0.9s,baz=333,slow=2.7,SNR=8.9					
BDFB	Brasilia	142.57 130	PKIKP	PKPdf	02 00 57.0	-3.1
MAL2	Monte Alegre,	143.37 105	PKPdf	PKPbc	02 01 00.7	+2.1
DIAM	Diamantina, MG	143.94 138	eP	PKPbc	02 01 01.2	+0.9
ALF01	Guarapari-ES	144.07 144	eP	PKPbc	02 01 01.8	+1.4
PBRG	Braganca	145.04 344	ePKP	PKPab	02 01 03.4	+0.4
SJMB	Sao Joao De Ma	145.25 141	eP	PKPbc	02 01 04.5	+0.2
RIB01	Linhares ES	145.27 143	eP	PKPbc	02 01 04.5	+0.2
PGAV	Gavieira, Arco	145.28 346	ePKP	PKPdf	02 01 04.9	+0.8
BSFB	Barra de Sao F	145.36 142	eP	PKPbc	02 01 04.7	+0.1
PCAB	Cabril	145.46 346	ePKP	PKPab	02 01 05.3	+0.8
JANB	Januaria	145.70 133	eP	PKPdf	02 01 05.9	+0.5
MVO	Moncorvo	145.71 344	ePKP	PKPab	02 01 06.3	+0.7
POLO	Lamas de Olo	145.72 345	ePKP	PKPab	02 01 06.7	+1.1
PVRL	Vila Real	145.79 345	ePKP	PKPab	02 01 06.6	+0.8
ESDC	Sonseca Array	146.11 339		PKPbc	02 01 06.8	+0.3
ESDC	Sonseca Array	146.11 339	PKPbc	PKPdf	02 01 06.6	+1.1
	comp=Z,38nm,1.1s,baz=11,slow=3.4,SNR=92					
PAB	San Pablo	146.36 339		PKPdf	02 01 06.9	+0.9
PAB	San Pablo	146.36 339	PKP2	PKPdf	02 01 06.9	+0.9
PVIS	Viseu	146.37 345	ePKP	PKPab	02 01 08.2	+0.2
MTE	Manteigas	146.57 344	ePKP	PKPbc	02 01 07.9	+0.1
SMTB	Santa Maria do	146.70 120	eP	PKPdf	02 01 07.6	+0.4
SDBA	SAO DESIDERIO	146.93 128	eP	PKPdf	02 01 08.2	+0.6
COI	Coimbra	146.97 345	ePKP	PKPbc	02 01 08.8	-0.1
PCBR	Castelo Branco	147.07 344	ePKP	PKPdf	02 01 08.7	+1.6
PCAS	Casmilo, Conde	147.14 345	ePKP	PKPdf	02 01 07.1	-0.1
PMRV	Marv??o	147.43 343	ePKP	PKPdf	02 01 09.1	+1.4
GUA01	Guaratinga, BA	147.70 140	eP	PKPdf	02 01 09.4	+0.7
PSBE	So Bento	147.73 345	ePKP	PKPbc	02 01 12.5	+1.5
PMTG	Montargil	148.00 344	ePKP	PKPbc	02 01 12.4	+0.7
PESTR	Estremoz	148.01 343	ePKP	PKPbc	02 01 12.4	+0.6
EVO	Evora	148.44 343	ePKP	PKPab	02 01 24.3	+8.2
PBAR	Barrancos	148.48 342	ePKP	PKPbc	02 01 14.3	+1.3
CMC01	Camacan, BA	148.79 139	eP	PKPdf	02 01 11.3	+0.8
PBEJ	Beja	148.87 343	ePKP	PKPbc	02 01 15.2	+1.2
TMAB	Tom-Au,PA,Br	149.02 109	eP	PKPdf	02 01 11.5	+0.5
MESJ	Messejana	149.14 343	ePKP	PKiKP	02 01 16.2	+0.2
PCVE	Castro Verde	149.28 343	ePKP	PKiKP	02 01 16.4	+0.1
PVAQ	Vaqueiros	149.40 342	ePKP	PKiKP	02 01 16.7	+0.2
PTEO	Sao Teotonio	149.56 344	ePKP	PKPbc	02 01 16.9	+1.1
PBDV	Barranco-do-Ve	149.61 342	ePKP	PKiKP	02 01 17.9	+0.9
MORF	Marmelete	149.76 344	ePKP	PKiKP	02 01 17.7	+0.4
MDT	Midelt	152.33 333	PKP	PKPdf	02 01 16.5	+0.8
	comp=Z,2.9nm,0.9s,baz=61,slow=1.5,SNR=8.3					
MDT			PKPbc	PKiKP	02 01 23.8	+1.0
	comp=Z,24nm,0.9s,baz=45,slow=2.6,SNR=45					
MDT			PKPab	pPKPbc	02 01 34.0	-2.2
	comp=Z,18nm,1.0s,baz=49,slow=5.0,SNR=10					
TORD	Torodi Ar. Bea	159.19 285	PKPdf	PKPdf	02 01 24.6	-0.6
TORD			PKPab	PKPab	02 02 01.7	-0.7
TORD	Torodi Ar. Bea	159.19 285	PKP	PKPdf	02 01 24.8	-0.4
	comp=Z,10nm,0.9s,baz=7.4,slow=3.3,SNR=46					
TORD			PKPab	PKPab	02 02 02.5	+0.1
	comp=Z,18nm,1.0s,baz=43,slow=5.2,SNR=24					
TORD			PP	PP	02 05 42.4	-1.4
	comp=Z,2.3nm,1.0s,baz=40,slow=5.8,SNR=5.2					
DBIC	Dimbokro	165.93 264	PKPdf	PKPdf	02 01 31.3	-0.6
DBIC			PKPab	PKPab	02 02 31.6	-0.4
DBIC	Dimbokro	165.93 264	PKP	PKPdf	02 01 31.2	-0.7
	comp=Z,5.5nm,0.9s,baz=38,slow=1.7,SNR=5.0					
DBIC			PKPab	PKPab	02 02 32.1	+0.2
	comp=Z,13nm,0.8s,baz=99,slow=4.2,SNR=11					

*IDC **07** 01:41:33.6±2.2,38.°13N×90.°99E, h0km, mb3.7/8, mbtmp3.7/13, ML3.5/5, MS3.2/2, Error ellipse: s-maj=41.7km s-min=33.3km az=82.0*
*NNC **07** 01:41:40.9±5.9,38.°74N×90.°53E, h0km, mb4.1, Error ellipse: s-maj=69.2km s-min=45.0km az=18.0*

ISC 07 01:41:41.5±1.3,38.°6N±0.°1×90.°79E±0.°08, h35km, n17, σ1°33/22, mb3.7/7, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	9.77	303			⇓Pn	Pn	01 44 00.0	+0.4
	3.6nm,0.5s								
PDGK						⇓Sn	Sn	01 45 47.5	-0.5
	23nm,0.9s								
MK31	Makanchi Array	10.31	325			⇑Pn	Pn	01 44 08.0	+1.2
	2.1nm,0.3s,baz=142,slow=14,SNR=174								
MK31						⇑Sn	Sn	01 46 02.9	+1.7
	4.6nm,0.6s,baz=134,slow=22,SNR=6.6								
MKAR	Makanchi Array	10.31	325			Pn	Pn	01 44 07.9	+1.1
	2.6nm,0.3s,baz=136,slow=14,SNR=140								
MKAR						Sn	Sn	01 46 02.4	+1.3
	0.6nm,0.3s,baz=132,slow=22,SNR=6.5								
MKAR						Lg	Lg	01 47 11.2	
	0.1nm,0.3s,baz=137,slow=30,SNR=2.0								
MKAR						LR	LR	01 48 41.8	
	comp=Z,115nm,18.3s,baz=308,slow=40								
	4.4nm,0.4s								
AAK	Ala-Archa	13.02	293			Pn	Pn	01 44 44.7	+0.6
	0.3nm,0.3s,baz=133,slow=9.6,SNR=6.3								
AAK						Sn	Sn	01 47 07.3	-0.5
	0.1nm,0.3s,baz=168,slow=23,SNR=1.5								
AAK						LR	LR	01 51 04.1	
	comp=Z,117nm,19.4s,baz=85,slow=43								
	0.8nm,0.4s								
SONM	Songino Array	14.64	46			Pn	Pn	01 45 06.3	+0.2
	0.3nm,0.3s,baz=235,slow=15,SNR=8.5								
SONM						Sn	Sn	01 47 46.4	-0.6
	0.1nm,0.3s,baz=241,slow=18,SNR=1.3								
SONM						Lg	Lg	01 49 16.8	
	0.1nm,0.3s,baz=238,slow=27,SNR=4.7								
	1.0nm,0.7s								
KURBB	Kurchatov Arra	14.84	328			Pn	Pn	01 45 07.0	-1.7
	0.1nm,0.3s,baz=142,slow=12,SNR=16								
KURBB						Sn	Sn	01 47 48.5	-3.2
	baz=168,slow=38,SNR=1.3								
KURBB						Lg	Lg	01 49 31.9	
	baz=139,slow=30								
	1.0nm,0.6s								
KURBB	Kurchatov Arra	14.84	328			⇓P	Pn	01 45 07.1	-1.5
	1.9nm,0.6s								
KURK	Kurchatov	14.88	329			⇑P	Pn	01 45 07.0	-2.0
	0.6nm,0.5s								
ZALV	Zalesovo Beam	15.90	347			Pn	Pn	01 45 23.9	+1.4
	0.1nm,0.3s,baz=167,slow=14,SNR=4.7								
	0.6nm,0.4s								
BVAR	Borovoye Array	20.16	322			P	Pn	01 46 14.9	+0.1
	1.2nm,0.6s,baz=127,slow=13,SNR=8.1								
	1.2nm,0.6s								
BRTR	Keskin Array B	43.68	290			P	P	01 49 43.6	+0.6
	0.8nm,0.9s,baz=96,slow=10,SNR=4.0								
	0.8nm,0.9s								
AKASG	Malin Array Be	44.22	307			P	P	01 49 47.2	+0.2
	0.2nm,0.3s,baz=83,slow=7.5,SNR=2.3								
	0.2nm,0.3s								
FINES	FINESS Array B	45.12	322			P	P	01 49 54.7	+0.6
	0.7nm,0.6s,baz=79,slow=9.9,SNR=7.4								
	0.7nm,0.6s								
ARCES	ARCESS Array B	45.84	334			P	P	01 50 00.3	+0.6
	1.7nm,0.9s,baz=100,slow=7.0,SNR=1.5								
	1.7nm,0.9s								
HFS	Hagfors	51.29	321			P	P	01 50 42.4	+0.7
	1.0nm,0.7s,baz=97,slow=12,SNR=5.6								
	1.0nm,0.7s								
NOA	NORSAR Array B	52.29	323			P	P	01 50 49.5	+0.2
	0.6nm,0.7s,baz=76,slow=7.3,SNR=1.8								
	0.6nm,0.7s								
TORD	Torodi Ar. Bea	81.23	280			P	P	01 53 52.9	-1.4
	0.3nm,0.4s,baz=35,slow=5.0,SNR=8.9								
	0.3nm,0.4s								

*IDC **07** 01:48:23.2±1.9,20.°67S×70.°90W, h0km, mb3.8/2, mbtmp3.8/4, ML3.7/2, MS4.6/1, Error ellipse: s-maj=67.6km s-min=43.4km az=162.0*
*NEIC **07** 01:48:25.9±1.8,19.°90S±0.°04×71.°02W±0.°07, h10km±1km, mb4.2/3, Error ellipse: s-maj=10.5km s-min=6.8km az=254.0*
*GUC **07** 01:48:28.3±0.8,19.°90S×71.°06W, h29km±4km, ML3.4*

ISC 07 01:48:25.1±2.1,19.°89S±0.°03×71.°03W±0.°06, h6km±12km, n41, σ1°08/54, mb4.1/4, 4C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA02	Huaiquique	0.93	114				Pn	01 48 44.6	0.0
TA02						Sn	Sn	01 48 57.1	-1.2
TA02	Huaiquique	0.93	114			eP	Pn	01 48 44.7	0.0
TA02						i S	Sn	01 48 57.1	-1.2
TA02						IAML		01 48 58.9	
	comp=N,2μm,0.4s								
TA01	Diego Aracena	1.05	130				Pn	01 48 46.3	0.0
TA01						Sn	Sb	01 49 00.1	+0.5
TA01	Diego Aracena	1.05	130			i P	Pn	01 49 46.1	-0.2
TA01						i S	Sg	01 48 59.2	+0.4
TA01						IAML		01 49 01.5	
	comp=E,1μm,0.5s								
HMBC	Humberstone	1.14	110				Pn	01 48 47.8	0.0
HMBC						Sn	Sb	01 49 02.6	+0.1
HMBC	Humberstone	1.14	110			eP	Pn	01 48 47.8	0.0
HMBC						eS	Sb	01 49 02.8	+0.3
HMBC						IAML		01 49 09.9	
	comp=E,3μm,0.6s								
PX02	IPOC Station P	1.21	41			eP	Pb	01 48 48.0	-0.4
PX02						i S	Sg	01 49 05.3	+1.3
PX02						IAML		01 49 08.3	
	comp=Z,883nm,0.3s								
PATCX	Punta Patache	1.24	139				Pb	01 48 49.3	+0.3
PATCX						Sn	Sb	01 49 04.9	-0.4
PATCX	Punta Patache	1.24	139			⇑iP	Pn	01 48 48.8	-0.3
PATCX						i S	Sg	01 49 05.3	+0.2
PATCX						IAML		01 49 17.9	
	comp=E,611nm,0.6s								
PX03	IPOC Station P	1.41	112			eP	Pn	01 48 51.6	+0.1
PX03						eS	Sg	01 49 11.0	+0.4
PX03						IAML		01 49 15.6	
	comp=Z,3μm,0.7s								
PB12	IPOC Station P	1.43	28				Pn	01 48 52.1	+0.4
PB12	IPOC Station P	1.43	28			⇑iP	Pn	01 48 52.1	+0.4
PB12						i S	Sn	01 49 10.9	+0.1
PB12						IAML		01 49 19.3	
	comp=N,820nm,0.5s								
AP01	Chacalluta	1.64	23				Pn	01 48 54.6	+0.1
AP01	Chacalluta	1.64	23			i P	Pn	01 48 53.3	-1.2
AP01						IAML		01 49 29.9	
	comp=N,1μm,0.7s								
PB08	IPOC Station P	1.78	98				Pn	01 48 57.5	+0.6
PB08	IPOC Station P	1.78	98			⇑iP	Pn	01 48 57.8	+1.0
PB08						eS	Sb	01 49 21.4	+0.2
PB08						IAML		01 49 33.0	
	comp=E,476nm,0.7s								
PB01	IPOC Station P	1.85	129				Pn	01 48 58.3	+0.9
PB01	IPOC Station P	1.85	129			⇑iP	Pn	01 48 58.3	+0.9
PB01						i S	Sb	01 49 21.8	-1.1
PB01						IAML		01 49 32.0	
	comp=E,646nm,0.4s								
PB09	IPOC Station P	2.53	139				Pn	01 49 07.5	+0.5
PB09	IPOC Station P	2.53	139			eP	Pn	01 49 08.5	+1.6
PB18	Visviri	2.72	33			Pn	Pn	01 49 11.2	+1.5
PB18	Visviri	2.72	33			eP	Pb	01 49 15.8	+1.4
LPAZ	La Paz	4.52	38				Pn	01 49 35.4	+0.7
LPAZ	La Paz	4.52	38			Pn	Pb	01 49 41.5	-3.7
	comp=E,1.3nm,0.3s,baz=218,slow=12,SNR=16								
LPAZ						Sn	Sb	01 50 38.5	-1.7
	comp=E,0.7nm,0.3s,baz=115,slow=3.5,SNR=4.0								
LPAZ						LR	LR	01 51 15.8	
	comp=E,37nm,21.9s,baz=252,slow=34								
	comp=E,6.1nm,0.5s								
PB14	IPOC Station P	4.75	173				Pn	01 49 36.4	-1.2
GO02	Mina Guanaco	5.42	166				Pn	01 49 46.8	0.0
AC01	Pan de Azucar	6.25	176			Pn	Pn	01 49 56.0	-1.8
AC02	Maricunga	7.13	166			Pn	Pn	01 50 10.2	-0.3
NNA	Nana	9.64	324			Pn	Pn	01 50 45.2	+0.8
SIV	San Ignacio	10.24	69			Pn	Pn	01 50 54.9	+2.1
	comp=E,0.1nm,0.3s,baz=249,slow=13,SNR=15								
	comp=E,2.7nm,0.6s								
PTLB	Pontes e Lacer	12.16	71				Pn	01 51 18.9	-0.2
VILB	Vilhena	12.46	58				Pn	01 51 23.8	+0.6
BOAV	Boa Vista	24.43	26			P	P	01 53 42.7	-2.1
BOAV						IAmb	IAmb	01 53 47.3	
	comp=Z,5.3nm,1.0s								
SNAA	Sanae	64.44	161			P	P	01 59 02.6	+0.6
SNAA						IAmb	IAmb	01 59 33.1	
	comp=Z,7.2nm,1.4s								
ULM	Lac du Bonnet	73.20	344			LR	LR	02 35 48.7	
	comp=Z,382nm,21.8s,baz=271,slow=38								
TORD	Torodi Ar. Bea	78.71	72			P	P	02 00 28.0	-0.9
TORD						IAmb	IAmb	02 00 38.2	
	comp=Z,1.4nm,0.9s								
TORD	Torodi Ar. Bea	78.71	72			P	P	02 00 28.3	-0.6
	comp=Z,1.1nm,0.6s,baz=256,slow=5.5,SNR=13								
	comp=Z,1.1nm,0.6s								
YKA	Yellowknife Ar	89.02	341			P	P	02 01 22.5	+2.0
	comp=Z,0.2nm,0.7s,baz=136,slow=5.1,SNR=1.3								
	comp=Z,0.2nm,0.7s								
KURBB	Kurchatov Arra	141.03	31			PKP	PKPdf	02 07 56.5	+0.3
	comp=Z,0.2nm,0.3s,baz=316,slow=1.0,SNR=2.6								
MKAR	Makanchi Array	145.43	33			PKPbc	PKPab	02 08 04.9	+0.6
	comp=Z,0.4nm,0.8s,baz=310,slow=3.2,SNR=3.7								
SONM	Songino Array	152.04	4			PKPbc	PKiKP	02 08 23.0	+1.2
	comp=Z,0.3nm,0.5s,baz=8.5,slow=2.9,SNR=2.4								

*RSNC **07** 01:59:08.7±0.0,10.°N±40.°×7.°1W±4.°0, h150km±83km, M2.5, ML2.3*
*FUNV **07** 01:59:12.9,8.°76N×71.°06W, h12km, MW3.0*

ISC 07 01:59:10.9±1.9,8.°84N±0.°05×70.°99W±0.°04, h10km±13km, n13, σ1°46/24, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOCV	Socops	0.57	166			eP	Pg	01 59 22.5	+0.5
SOCV						eS	Sb	01 59 30.3	-0.9
CAPV	Capacho	1.63	234			eP	Pn	01 59 40.3	+0.4
CAPV						eS	Sn	01 59 59.6	-1.5
TEPV	Terepaima	2.10	58			eP	Pn	01 59 48.4	+2.3
TEPV						eS	Sb	02 00 15.4	+0.1
PAMC	Pamplona, Colo	2.25	229			P	Pb	01 59 52.2	+0.1
PAMC						S	Sb	02 00 19.7	-0.5
PAMC	Pamplona, Colo	2.25	229			P		01 59 52.2	
PAMC						S		02 00 19.7	
OCAC	Ocana	2.38	256			P	Pn	01 59 50.5	+0.4
OCAC						S	Sn	02 00 20.3	+0.8
OCAC	Ocana	2.38	256			P		01 59 50.5	
OCAC						S		02 00 20.3	
TAMC	Tame, Arauca	2.52	198			P	Pb	01 59 55.9	-0.4
TAMC						S	Sb	02 00 27.4	+0.1
TAMC	Tame, Arauca	2.52	198			P		01 59 55.9	
TAMC						S		02 00 27.4	
CRJC	Cerrejon, Guaj	2.86	319			P		01 59 47.8	
CRJC						S		02 00 26.0	
BAUV	El Baul	2.92	88			eP	Pn	01 59 58.9	+1.5
BAUV						eS	Sn	02 00 33.7	+1.2
URIC	Uribia, Colomb	3.01	341			P	Pn	01 59 58.1	-0.6
URIC	Uribia, Colomb	3.01	341			P		01 59 58.1	
BENV	Beln	3.53	71			eP	Pn	02 00 07.1	+1.2
BENV						eS	Sn	02 00 48.7	+0.9
RUSC	La Rusia	3.59	215			P	Pn	02 00 07.8	+0.7
RUSC						S	Sn	02 00 49.4	-0.4
RUSC	La Rusia	3.59	215			P		02 00 07.8	
RUSC						S		02 00 49.4	
TACV	Tcata	4.12	71			eP	Pn	02 00 16.3	+2.3
TACV						eS	Sn	02 01 02.1	-0.2
CACV	CAICARA DEL OR	4.58	106			eP	Pb	02 00 28.6	-2.9
CACV						eS	Sb	02 01 24.1	-2.7
CHIC	Chingaza	4.99	213			P	Pn	02 00 28.4	+2.1
CHIC	Chingaza	4.99	213			P		02 00 28.4	

*IDC **07** 02:03:48.8±0.8,2.°42N×128.°69E, h0km, mb3.8/10, mbtmp3.9/10, Error ellipse: s-maj=49.7km s-min=15.0km az=76.0*
*DJA **07** 02:03:53.1±0.5,2.°N±5.°×12.°9E±.°, h10km, M4.2/8, mb4.2/1, MLv4.2/8*
*NEIC **07** 02:03:53.3±1.6,2.°3N±0.°1×128.°9E±0.°1, h35km±2km, mb4.0/7, Error ellipse: s-maj=19.6km s-min=15.9km az=224.0*

ISC 07 02:03:53.6±0.7,2.°31N±0.°08×128.°9E±0.°1, h35km, n32, σ1°21/26, mb4.0/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.15	225				Pn	02 04 26.9	0.0
TNTI	Ternate	2.15	225			P	Pn	02 04 27.1	+0.2
SGSI	Sangihe	3.61	292			P	Pn	02 04 47.8	+0.8
FAKI	Fak Fak	6.20	147			Pn	Pn	02 05 22.0	-0.6
FAKI	Fak Fak	6.20	147			P	Pn	02 05 24.6	+2.0
TOLI2	Tolitoli	8.17	262				Pn	02 05 50.1	+0.2
SBUM	Sibu	16.64	271			P	P	02 07 47.2	+0.8
KNRA	Kununurra	17.87	180				Pn	02 07 57.4	-2.2
FITZ	Fitzroy Crossi	20.53	189			P	P	02 08 27.3	-1.7
FITZ						IAmb	IAmb	02 08 39.2	
	comp=Z,3.1nm,1.2s								
FITZ	Fitzroy Crossi	20.53	189			P	P	02 08 29.9	+0.8
	comp=Z,4.9nm,1.1s,baz=21,slow=8.2,SNR=5.7								
	comp=Z,4.9nm,1.1s								
YULB	Yu-li	22.20	341			P	P	02 08 48.1	+1.0
YULB						IAmb	IAmb	02 08 48.4	
	comp=Z,13nm,1.1s								
WB0	Warramunga Arr	22.60	166			P	P	02 08 49.3	-2.0
WRA	Warramunga Arr	22.76	167			P	P	02 08 55.3	+2.3
	comp=Z,4.9nm,0.9s,baz=343,slow=10,SNR=14								
	comp=Z,4.9nm,0.9s								
WB2	Warramunga Arr	22.76	167			P	P	02 08 51.6	-1.5
WB2						IAmb	IAmb	02 09 07.6	
	comp=Z,8.6nm,1.0s								
ASAR	Alice Springs	26.28	170			P	P	02 09 26.6	+0.7
	comp=Z,0.4nm,0.5s,baz=2.9,slow=7.5,SNR=5.4								
	comp=Z,0.4nm,0.5s								
MJAR	Matsushiro Arr	35.14	13			P	P	02 10 43.8	-0.2
	comp=Z,1.6nm,0.5s,baz=188,slow=7.4,SNR=5.0								
	comp=Z,1.6nm,0.5s								
STKA	Stephens Creek	36.08	161			P	P	02 10 53.8	+1.7
	comp=Z,1.4nm,0.6s,baz=351,slow=7.6,SNR=5.4								
	comp=Z,1.4nm,0.6s								
H11S3	WAKE ISLAND Hy 40.38	64				T	T	02 54 45.3	
	baz=251,slow=75,SNR=19								
H11S2	WAKE ISLAND Hy 40.40	64				T	T	02 54 45.3	
	baz=251,slow=75,SNR=22								
H11S1	WAKE ISLAND Hy 40.40	64				T	T	02 54 46.4	
	baz=251,slow=75,SNR=16								
H11N1	WAKE ISLAND Hy 40.97	62				T	T	02 55 27.3	
	baz=250,slow=75,SNR=123								
H11N2	WAKE ISLAND Hy 40.98	62				T	T	02 55 28.1	
	baz=250,slow=75,SNR=67								
H11N3	WAKE ISLAND Hy 40.99	62				T	T	02 55 30.9	
	baz=250,slow=75,SNR=141								
SONM	Songino Array	49.33	340			P	P	02 12 39.6	0.0
	comp=Z,1.2nm,0.8s,baz=155,slow=8.3,SNR=10								
	comp=Z,1.2nm,0.8s								
MK31	Makanchi Array	59.94	325			P	P	02 13 56.4	+0.1
MK31						IAmb	IAmb	02 14 15.0	
	comp=Z,1.1nm,1.1s								
MKAR	Makanchi Array	59.94	325			P	P	02 13 55.9	-0.4
MKAR	Makanchi Array	59.94	325			P	P	02 13 55.5	-0.9
	comp=Z,0.4nm,0.4s,baz=114,slow=8.5,SNR=17								
	comp=Z,0.4nm,0.4s								
MAKZ	Makanchi	60.12	325			P	P	02 13 57.0	-0.6
MAKZ						IAmb	IAmb	02 14 09.1	
	comp=Z,2.0nm,1.1s								
KURBB	Kurchatov Arra	64.08	327			P	P	02 14 23.1

AKCZ	Akaroa Harbour	0.24	172	P	Pb	02 15 24.1	-0.1
AKCZ				S	Sg	02 15 27.5	+0.5
DSLC	Dunsandel Scho	0.48	266	P	Pb	02 15 28.2	-0.2
AMCZ	Amberley	0.49	341	P	Pn	02 15 29.5	-1.1
AMCZ				S	Sb	02 15 36.5	+1.1
RACZ	Rakaia	0.53	260	P	Pb	02 15 29.0	-0.2
RACZ				S	Sg	02 15 36.0	+0.1
SMHS	Summerhill	0.54	314	P	Pb	02 15 29.9	+0.6
SMHS				S	Sb	02 15 37.7	+0.8
OXZ	Oxford	0.68	297	P	Pb	02 15 31.7	0.0
OXZ				S	Sb	02 15 41.3	+0.3
GVZ	Greta Valley S	0.68	11	P	Pn	02 15 33.1	-0.2
GVZ				S	Sn	02 15 43.9	+0.2
WAKC	Waikari	0.69	350	P	Pn	02 15 33.3	-0.1
WAKC				S	Sn	02 15 43.6	-0.2
LSRC	Lake Sumner Ro	0.80	343	P	Pn	02 15 34.5	-0.5
LSRC				S	Sn	02 15 46.2	-0.5
WACZ	Wakanui South	0.80	247	P	Pb	02 15 34.2	+0.4
WACZ				S	Sg	02 15 44.3	-0.1
MHCZ	Mount Hutt	0.95	276	P	Pb	02 15 36.4	0.0
MHCZ				S	Sb	02 15 49.3	+0.6
LTZ	Lake Taylor	0.96	333	P	Pn	02 15 37.1	-0.1
LTZ				S	Sn	02 15 50.4	-0.2
ARCZ	Arundel	1.26	255	P	Pn	02 15 40.7	-0.6
RPZ	Rata Peaks	1.32	266	P	Pn	02 15 42.3	+0.2
RPZ	Rata Peaks	1.32	266	S	Sg	02 16 00.5	-0.2
RPZ	Rata Peaks	1.32	266	P	Pg	02 15 43.4	-0.1
KHZ	Kahutara	1.32	22	P	Pg	02 15 42.5	-1.1
KHZ	Kahutara	1.32	22	P	Pb	02 15 42.1	-0.5
INZ	Inchbonnie	1.38	311	P	Pb	02 15 43.9	+0.2
TMZ	Timaru	1.53	240	P	Pb	02 15 46.4	+0.1
WVZ	Waitaha Valley	1.65	289	P	Pn	02 15 47.1	+0.5
GCSZ	Gaunt Creek Bo	1.81	279	P	Pn	02 15 50.1	+0.8
THZ	Tophouse	1.88	1	P	Pn	02 15 50.1	+0.3
DSZ	Denniston Nort	2.05	337	P	Pn	02 15 53.0	+0.9
BSWZ	Blackbirch Sta	2.06	22	P	Pn	02 15 53.0	+0.7
LBZ	Lake Benmore	2.07	248	P	Pn	02 15 52.4	-0.1
ODZ	Otahua Downs	2.12	228	P	Pb	02 15 54.9	-1.5
ODZ	Otahua Downs	2.12	228	P	Pn	02 15 52.8	-0.3
FOZ	Fox Glacier	2.22	272	P	Pn	02 15 55.7	+1.2
MRNZ	Matariki Terra	2.24	358	P	Pb	02 15 56.3	-2.1
TUWZ	Tuamarina	2.35	20	P	Pn	02 15 57.1	+0.9
NNZ	Nelson	2.45	9	P	Pn	02 15 58.7	+1.1
TKNZ	Takaka Hill	2.60	2	P	Pn	02 16 01.3	+1.5
TCW	Tory Channel	2.64	24	P	Pn	02 16 00.6	+0.3
PLWZ	Palliser	2.72	41	P	Pn	02 16 01.1	-0.3
QRZ	Quartz Range	2.82	355	P	Pn	02 16 03.4	+0.6
QRZ	Quartz Range	2.82	355	P	Pn	02 16 03.5	+0.8
MSWZ	Moikau Station	2.83	39	P	Pn	02 16 02.8	-0.1
DUWZ	D'Urville Isla	2.94	16	P	Pn	02 16 05.9	+1.5
PAWZ	Paruwai Farm	2.94	41	P	Pn	02 16 03.7	-0.8
JCZ	Jackson Bay	2.98	260	P	Pn	02 16 05.6	+0.5
JCZ	Jackson Bay	2.98	260	P	Pn	02 16 05.8	+0.8
EAZ	Earnscleugh	3.00	237	P	Pn	02 16 05.2	-0.1
CAW	Cannon Point	3.01	34	P	Pn	02 16 05.2	-0.2
WKZ	Wanaka	3.01	245	P	Pn	02 16 05.3	-0.1
TRWZ	Traveller	3.06	44	P	Pn	02 16 05.8	-0.2
MTW	Mount Morrison	3.15	39	P	Pn	02 16 07.0	-0.3
KIW	Kapiti Island	3.16	29	P	Pn	02 16 07.6	+0.1
TUZ	Tuapeka	3.27	224	P	Pn	02 16 08.4	-0.4
OGWZ	Otaki Gorge	3.30	32	P	Pn	02 16 09.4	+0.1
HOWZ	Holdsworth Sta	3.37	37	P	Pn	02 16 10.1	-0.2
MRZ	Mangatainoka R	3.59	35	P	Pn	02 16 12.9	-0.5
BFZ	Birch Farm	3.88	42	P	Pn	02 16 16.4	-0.9
BFZ	Birch Farm	3.88	42	P	Pn	02 16 16.6	-0.7
SYZ	Scrubby Hill	3.92	221	P	Pn	02 16 17.5	-0.3
SYZ	Scrubby Hill	3.92	221	P	Pn	02 16 17.8	0.0
ANWZ	Angora Road	4.16	41	P	Pn	02 16 20.0	-0.6
LREZ	Lake Rotokare	4.33	16	P	Pn	02 16 25.2	+1.7
PRHZ	Porangahau	4.39	41	P	Pn	02 16 23.7	-0.6
PREZ	Palmer Road	4.40	13	P	Pn	02 16 26.9	+2.4
KHEZ	Kahui Hut	4.42	12	P	Pn	02 16 27.4	+2.6
KHEZ	Kahui Hut	4.42	12	P	Pn	02 16 27.5	+2.6
NBEZ	Newall Road No	4.43	10	P	Pn	02 16 28.3	+3.4
NEZ	North Egmont	4.46	12	P	Pn	02 16 28.1	+2.7
PNHZ	Pukenui	4.48	35	P	Pn	02 16 24.6	-0.9
APZ	The Paps	4.70	225	P	Pn	02 16 28.7	+0.2
PKVZ	Pokaka	4.73	24	P	Pn	02 16 30.8	+1.8
VRZ	Vera Road	4.73	18	P	Pn	02 16 31.4	+2.4
MOVZ	Moawhango	4.75	28	P	Pn	02 16 30.0	+0.6
WNVZ	Wahianoa	4.77	26	P	Pn	02 16 30.6	+0.9
KRHZ	Kereru	4.78	35	P	Pn	02 16 28.9	-0.7
TRVZ	Turoa	4.78	26	P	Pn	02 16 31.2	+1.3
TUVZ	Tukino	4.84	27	P	Pn	02 16 31.6	+0.9
KAHZ	Kahuranaki	4.88	39	P	Pn	02 16 31.1	+0.1
NGZ	Ngauruhoe	4.91	26	P	Pn	02 16 32.5	+0.9
SNVZ	South Ngauruho	4.91	26	P	Pn	02 16 33.0	+1.4
OTVZ	Oturere	4.94	26	P	Pn	02 16 32.6	+0.6
NNVZ	North Ngauruho	4.96	26	P	Pn	02 16 33.5	+1.3
TWVZ	Taurewa	4.96	24	P	Pn	02 16 33.3	+1.1
WTVZ	West Tongariro	4.96	25	P	Pn	02 16 33.3	+1.0
ETVZ	East Tongariro	4.98	26	P	Pn	02 16 33.8	+1.2
TMVZ	Te Maari	5.00	26	P	Pn	02 16 34.0	+1.2
NTVZ	North Tongariro	5.00	26	P	Pn	02 16 34.0	+1.2
BKZ	Black Stump Fm	5.24	33	P	Pn	02 16 35.9	-0.1
HIZ	Hauiti	5.34	17	P	Pn	02 16 38.6	+1.2
HIZ	Hauiti	5.34	17	P	Pn	02 16 38.5	+1.2
MTHZ	Maungataniwha	5.64	33	P	Pn	02 16 41.7	+0.1
TLZ	Tolley Road	5.68	22	P	Pn	02 16 42.7	+0.7
URZ	Urewera	6.26	32	P	Pn	02 16 49.4	-0.6
URZ	Urewera	6.26	32	P	Pn	02 16 48.7	-1.3
TWGZ	Tauwhareparae	6.69	37	P	Pn	02 16 55.6	-0.4
AWAZ	Awhitu Peninsu	6.71	14	P	Pn	02 16 57.6	+1.5
RUGZ	Raukumara Rang	6.74	34	P	Pn	02 16 55.4	-1.3
MKAZ	Moumakai	6.76	16	P	Pn	02 16 56.8	-0.1
HAZ	Te Kaha	6.96	34	P	Pn	02 16 58.4	-1.2
WIAZ	Waiheke Island	7.05	15	P	Pn	02 17 02.0	+1.1

*TRN **07** 02:51:24.9, 10˚.82N×62˚.32W, h89km, MD3.4, North of the Paria peninsula.*
*FUNV **07** 02:51:25.3, 10˚.82N×62˚.28W, h89km, MW3.3*
ISC 07 02:51:22.9±1.3, 10˚.78N±0˚.04×62˚.33W±0˚.04, h110km±12km, n33, σ1§53/61, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGH	Port of Spain	0.82	98	eP	Pn	02 51 42.9	+0.7
PSGH				eS	Sn	02 51 55.3	-1.6
PSGH	Port of Spain	0.82	98	eP	Pn	02 51 42.9	+0.7
PSGH				eS	Sn	02 51 55.3	-1.6
TRN	Trinidad (W)	0.92	98	⇑iP	Pn	02 51 44.4	+1.1
TRN				eS	Sn	02 51 57.3	-1.3
TRN	Trinidad (W)	0.92	98	⇑iP	Pn	02 51 44.4	+1.1
TRN				eS	Sn	02 51 57.3	-1.3
TBH	Brigand Hill	1.27	103	e	Pn	02 51 50.1	+3.0
TBH	Brigand Hill	1.27	103	e	Sn	02 52 07.1	+1.7
GRGR	Grenville	1.50	26	eP	Pn	02 51 50.0	+0.2
GRGR				eS	Sn	02 52 09.1	-1.0
GRGR	Grenville	1.50	26	eP	Pn	02 51 50.0	+0.2
GRGR				eS	Sn	02 52 09.1	-1.0
GRW	Mount Saint Ca	1.52	25	eP	Pn	02 51 50.0	-0.1
GRW				eS	Sn	02 52 10.1	-0.6
GRW	Mount Saint Ca	1.52	25	eP	Pn	02 51 50.0	-0.1
GRW				eS	Sn	02 52 10.1	-0.6
GRHS	Sauteurs	1.59	25	eP	Pn	02 51 51.0	+0.3
GRHS				eS	Sn	02 52 10.2	-1.7
GRHS	Sauteurs	1.59	25	eP	Pn	02 51 51.0	+0.3
GRHS				eS	Sn	02 52 10.2	-1.7
GRSS	Sisters	1.67	25	eP	Pn	02 51 52.2	+0.5
GRSS				eS	Sn	02 52 11.8	-1.9
GRSS	Sisters	1.67	25	eP	Pn	02 51 52.2	+0.5
GRSS				eS	Sn	02 52 11.8	-1.9
TOSP	Speyside	1.83	73	eP	Pn	02 51 54.9	+1.1
TOSP				eS	Sn	02 52 16.5	-0.9
TOSP	Speyside	1.83	73	eP	Pn	02 51 54.9	+1.1
TOSP				eS	Sn	02 52 16.5	-0.9
CUMV	Cumana_UDO	1.87	259	eP	Pn	02 51 55.8	+1.6
CUMV				eS	Sn	02 52 17.9	-0.1
GCMP	Grenada, Carri	1.91	27	eP	Pn	02 51 55.1	+0.3
GCMP				eS	Sn	02 52 18.0	-1.1
GCMP	Grenada, Carri	1.91	27	eP	Pn	02 51 55.1	+0.3
GCMP				eS	Sn	02 52 18.0	-1.1
PCRV	Puerto La Cruz	2.35	255	eP	Pn	02 52 01.5	+1.1
PCRV				eS	Sn	02 52 28.2	-0.9
PCRV	Puerto La Cruz	2.35	255	eP	Pn	02 52 02.2	+1.8
PCRV				eS	Sn	02 52 30.4	+1.2
PCRV	Puerto La Cruz	2.35	255	eP	Pn	02 52 02.2	+1.8
PCRV				eS	Sn	02 52 30.4	+1.2
SVB	Belmont	2.69	23	eP	Pn	02 52 07.0	+2.1
SVB				eS	Sn	02 52 35.7	-1.5
SVB	Belmont	2.69	23	eP	Pn	02 52 07.0	+2.1
SVB				eS	Sn	02 52 35.7	-1.5
SLBI	Saint Lucia, B	3.49	22	eP	Pn	02 52 17.0	+1.6
SLBI				eS	Sn	02 52 55.5	-0.4
SLBI	Saint Lucia, B	3.49	22	eP	Pn	02 52 17.0	+1.6
SLBI				eS	Sn	02 52 55.5	-0.4
TACV	Tcata	4.66	263	eP	Pn	02 52 32.9	+1.6
LUEV	Luepa	4.98	170	eP	Pn	02 52 37.5	+1.8
LUEV				eS	Sn	02 53 29.0	-3.2
CACV	CAICARA DEL OR	5.24	233	eP	Pn	02 52 35.6	-3.5
CACV				eS	Sn	02 53 27.7	-11
BENV	Beln	5.25	262	eP	Pn	02 52 40.5	+1.3
BENV				eS	Sn	02 53 36.4	-2.1
BAUV	El Baul	5.92	253	eP	Pn	02 52 49.4	+1.2
BAUV				eS	Sn	02 53 51.7	-3.0
BAUV	El Baul	5.92	253	eP	Pn	02 52 50.0	+1.8
BAUV				eS	Sn	02 53 53.2	-1.6
BAUV	El Baul	5.92	253	eP	Pn	02 52 50.0	+1.8

TXNET 07 03:28:11.0, 31˚.6N±0˚.9×10˚4W±˚, h6km±2km, ML2.0/8, Error ellipse: s-maj=1.9km s-min=1.0km az=52.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	28	P	Pg	03 28 18.6	+0.7
TPB11				S	Sg	03 28 23.4	+0.9
PECS	Pecos	0.40	129	P	Pb	03 28 20.1	-0.5
PECS				S	Sg	03 28 25.5	+1.4
PECS	Pecos	0.40	129	P	Pb	03 28 20.2	-0.4
PECS				S	Sg	03 28 25.5	+1.4
TPB12	Southwest of T	0.47	150	P	Pg	03 28 20.5	+0.3
TPB12				S	Sg	03 28 27.4	+1.1
TPB07	Mentone	0.48	95	S	Sb	03 28 28.3	-1.0
TPB10	Southeast of T	0.53	130	P	Pb	03 28 22.2	-0.5
TPB10				S	Sb	03 28 30.0	-0.7
GDL2	Guadalupe Moun	0.58	349	P	Pb	03 28 23.0	-0.7
PCOS	Crockett Middl	0.65	109	S	Sb	03 28 33.8	-0.4
CLNB	Carlsbad	0.70	25	P	Pb	03 28 25.5	-0.2
CLNB				S	Sb	03 28 35.0	-0.7
TPB01	Permian Basin	0.78	150	P	Pg	03 28 26.2	+0.2
TPB01				S	Sb	03 28 37.1	-0.8
TPB03	Saragosa	0.82	131	S	Sb	03 28 39.0	+0.1
CLN7	Carlsbad 7	0.86	24	P	Pg	03 28 27.9	+0.4
HTMS	Hat Mesa	0.98	31	P	Pb	03 28 30.9	+0.4
MNTX	Cornudas Mount	0.98	274	P	Pb	03 28 30.6	+0.2
MNTX				S	Sb	03 28 43.5	-0.2
MNTX	Cornudas Mount	0.98	274	P	Pn	03 28 31.0	-0.4
MNTX				S	Sb	03 28 43.6	-0.1
TPB05	Hovey Rd	1.05	132	P	Pb	03 28 31.8	+0.2
TPB05				S	Sb	03 28 45.8	+0.2
VHRN	Van Horn	1.06	218	P	Pb	03 28 31.7	0.0
VHRN	Van Horn	1.06	218	P	Pb	03 28 32.0	+0.2
VHRN				S	Sn	03 28 46.9	-0.7
MNHN	Monahans	1.29	102	P	Pb	03 28 35.6	0.0
MNHN				S	Sn	03 28 53.4	+0.3
ALPN	Alpine	1.35	158	P	Pn	03 28 36.4	-0.1
ALPN				S	Sb	03 28 53.9	-0.4
ALPN	Alpine	1.35	158	P	Pn	03 28 36.0	-0.5
ALPN				P	Pb	03 28 36.4	-0.3
ALPN				S	Sb	03 28 54.0	-0.3
ODSA	Odessa	1.51	71	P	Pb	03 28 39.4	-0.1
ODSA				S	Sg	03 28 59.5	-0.2
TMB04	Seminole	1.78	56	P	Pb	03 28 43.9	-0.2
TMB04				S	Sb	03 29 07.2	+0.4
TMB02	Rankin	1.92	102	P	Pn	03 28 45.2	+0.9
TMB02				S	Sb	03 29 11.6	+0.8
TX31	Lajitas Ar. Si	2.34	168	P	Pb	03 28 53.5	-0.1
TX31				S	Sg	03 29 25.1	-0.9
SAND	Sanderson	2.46	132	P	Pb	03 28 56.1	+0.4

*IDC **07** 03:34:55.0±1.3, 0˚.66N×122˚.70E, h0km, mb3.4/4, mbtmp3.5/5, ML3.8/1, MS3.5/1, Error ellipse: s-maj=132.9km s-min=21.3km az=68.0*
*DJA **07** 03:35:23.7±1.1, 0˚N±5˚×12˚2E±˚, h85km±16km, M3.1/5, MLv3.1/5*
ISC 07 03:35:14.1±0.9, 0˚.3N±0˚.1×122˚.0E±0˚.2, h177km±8km, n10, σ1§86/10, mb3.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.15	344	P	Pn	03 35 37.6	-0.1
MRSI				S	Sn	03 35 55.1	-0.7
APSI	Ampana	1.27	195	P	Pn	03 35 44.7	+0.9
LUWI	Luwuk	1.57	150	P	Pn	03 35 49.1	+2.5
LUWI				S	Sn	03 36 11.0	-0.7
KMSI	Cibinong	2.01	83	P	Pn	03 36 01.1	+10
FITZ	Fitzroy Crossi	18.66	169	P	P	03 39 17.3	-1.4
	0.2nm,0.3s,baz=14,slow=8.4,SNR=7.6 1.5nm,0.6s						
JAY	Jayapura	18.93	99	LR	LR	03 46 36.3	
	comp=Z,127nm,18.3s,baz=308,slow=38						
WRA	Warramunga Arr	23.50	150	P	P	03 40 06.5	-1.6
	1.0nm,0.5s,baz=324,slow=11,SNR=12 1.0nm,0.5s						
ASAR	Alice Springs	26.51	155	P	P	03 40 34.2	-1.2
	0.3nm,0.3s,baz=344,slow=14,SNR=7.9 0.3nm,0.3s						
SONM	Songino Array	49.22	346	P	P	03 43 43.6	-0.9
	0.2nm,0.6s,baz=142,slow=7.3,SNR=1.9 0.2nm,0.6s						
MKAR	Makanchi Array	57.80	329	P	P	03 44 49.2	+2.3
	0.2nm,0.7s,baz=129,slow=8.4,SNR=2.1 0.2nm,0.7s						

*IDC **07** 03:37:54.2±0.8, 12˚.12N×143˚.26E, h0km, mb4.0/15, mbtmp4.0/16, ML4.1/1, Error ellipse: s-maj=22.0km s-min=18.0km az=112.0*
*NEIC **07** 03:37:55.8±1.9, 12˚.0N±0˚.1×143˚.6E±0˚.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=29.2km s-min=17.6km az=99.0*
ISC 07 03:37:58.0±0.6, 12˚.07N±0˚.09×143˚.4E±0˚.1, h25km, n35, σ1§08/33, mb4.4/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.06	43	Pn	Pn	03 38 31.0	-0.1
	56nm,0.3s,baz=213,slow=17,SNR=4.1						
GUMO				Sn	Sb	03 38 58.2	-1.7
	163nm,0.3s,baz=31,slow=22,SNR=15 134nm,0.4s						
JOW	Kunigami	20.45	318	P	P	03 42 33.5	-0.3
H11N1	WAKE ISLAND Hy	23.79	68	T	T	04 07 51.7	
	baz=255,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	23.80	68	T	T	04 07 50.5	
	baz=255,slow=75,SNR=9.6						
H11N3	WAKE ISLAND Hy	23.81	68	T	T	04 07 53.8	
	baz=255,slow=75,SNR=9.3						
COEN	Coen	25.86	181	P	P	03 43 27.9	+0.1
KSRS	Korea Array	28.84	334	P	P	03 43 54.8	+0.4
	0.8nm,0.8s,baz=146,slow=9.4,SNR=1.7 0.8nm,0.8s						
WB0	Warramunga Arr	32.86	196	P	P	03 44 29.3	-0.7
WB0				IAmb	IAmb	03 44 35.2	
	comp=Z,19nm,1.5s						
WB2	Warramunga Arr	33.04	196	P	P	03 44 30.7	-0.9
WB2				IAmb	IAmb	03 44 32.9	
	comp=Z,8.0nm,1.1s						
WRA	Warramunga Arr	33.05	196	P	P	03 44 30.9	-0.7
	comp=Z,2.7nm,0.9s,baz=18,slow=9.6,SNR=8.9 comp=Z,2.7nm,0.9s						
USRK	Ussuriysk Ar.	33.49	345	P	P	03 44 34.6	-0.7
USRK	Ussuriysk Ar.	33.49	345	P	P	03 44 33.9	-1.4
	comp=Z,6.5nm,1.2s,baz=149,slow=17,SNR=1.9 comp=Z,6.5nm,1.2s						
ASAR	Alice Springs	36.72	195	P	P	03 45 03.0	-0.3
	comp=Z,0.3nm,0.6s,baz=20,slow=12,SNR=3.1 comp=Z,0.3nm,0.6s						
CMAR	Chiang Mai Arr	43.30	284	P	P	03 45 57.8	-0.3
	comp=Z,0.8nm,0.3s,baz=85,slow=6.2,SNR=4.6 comp=Z,0.8nm,0.3s						
BBOO	Buckleboo	45.18	189	P	P	03 46 12.0	-0.9
BBOO				IAmb	IAmb	03 46 19.9	
	comp=Z,12nm,1.2s						
SONM	Songino Array	47.18	326	P	P	03 46 28.8	+0.1
SONM	Songino Array	47.18	326	P	P	03 46 29.0	+0.4
	comp=Z,0.3nm,0.5s,baz=144,slow=8.2,SNR=4.3 comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	61.61	317	P	P	03 48 13.2	-0.3
MKAR	Makanchi Array	61.61	317	P	P	03 48 12.1	-1.4
	comp=Z,0.3nm,0.6s,baz=90,slow=8.6,SNR=5.2 comp=Z,0.3nm,0.6s						
ZALV	Zalesovo Beam	62.04	325	P	P	03 48 16.8	+0.6
	comp=Z,0.8nm,0.5s,baz=113,slow=8.3,SNR=4.3 comp=Z,0.8nm,0.5s						
N15K	Kwethluk River	63.26	28	P	P	03 48 24.8	+0.6
TARG	Taragay, Kyrgy	63.90	311	P	P	03 48 28.7	-0.6
TARG				IAmb	IAmb	03 48 33.0	
	comp=Z,6.8nm,1.1s						
KURK	Kurchatov	64.84	321	P	P	03 48 36.4	+1.6
KURK				IAmb	IAmb	03 48 37.7	
	comp=Z,2.6nm,0.8s						
KURBB	Kurchatov Arra	64.88	320	P	P	03 48 33.0	-2.1
	comp=Z,2.4nm,0.6s,baz=105,slow=6.8,SNR=19 comp=Z,2.4nm,0.6s						
K17K	Iditarod	65.07	26	P	P	03 48 35.4	-0.7
L19K	White Mountain	66.36	27	P	P	03 48 46.0	+1.5
L19K				IAmb	IAmb	03 48 50.3	
	comp=Z,4.9nm,1.2s						
BVAR	Borovoye Array	70.25	322	P	P	03 49 07.2	-1.7
	comp=Z,1.8nm,0.5s,baz=97,slow=6.9,SNR=7.1 comp=Z,1.8nm,0.5s						
ILAR	Eielson Array	70.53	25	P	P	03 49 09.7	-0.7
	comp=Z,1.0nm,0.7s,baz=247,slow=6.2,SNR=12 comp=Z,1.0nm,0.7s						
ABKAR	Akbulak array	76.72	318	P	P	03 49 48.3	+1.2
ABKAR	Akbulak array	76.72	318	P	P	03 49 48.7	+1.6
ABKAR				IAmb	IAmb	03 49 49.3	
	comp=Z,1.6nm,0.7s						
YKA	Yellowknife Ar	84.84	27	P	P	03 50 31.6	+1.3
	comp=Z,0.4nm,0.6s,baz=285,slow=5.7,SNR=8.7 comp=Z,0.4nm,0.6s						
ARCES	ARCESS Array B	88.08	342	P	P	03 50 46.8	+0.7
	comp=Z,1.6nm,0.7s,baz=69,slow=6.6,SNR=6.8 comp=Z,1.6nm,0.7s						
NVAR	Mina Array Bea	88.96	51	P	P	03 50 53.0	+1.9
	comp=Z,1.4nm,0.8s,baz=264,slow=3.2,SNR=7.0 comp=Z,1.4nm,0.8s						
FINES	FINESS Array B	91.93	335	P	P	03 51 04.0	-0.1
	comp=Z,4.0nm,1.0s,baz=54,slow=3.3,SNR=4.9 comp=Z,4.0nm,1.0s						
LPAZ	La Paz	149.14	102	PKPbc	PKiKP	03 57 47.4	+0.2
	comp=Z,1.2nm,0.6s,baz=226,slow=1.1,SNR=4.7						

*SJA **07** 04:08:25.8±1.1, 23˚.01S×66˚.48W, h238km±8km, ML3.3, MW3.3*
*GUC **07** 04:08:27.1±0.5, 23˚.02S×66˚.68W, h243km±11km, ML3.7*
ISC 07 04:08:25.7±2.4, 22˚.96S±0˚.05×66˚.57W±0˚.07, h236km±19km, n23, σ1§59/37, 2C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.25	52	iP	Pn	04 09 02.6	+1.1
YJA				iS	S	04 09 28.8	-0.5
YJA	Yavi	1.25	52	eP	Pn	04 09 02.2	+0.8
YJA				eS	S	04 09 27.6	-1.7
SALTA		1.28	170	eP	Pn	04 09 02.6	+1.0
SALTA				eS	S	04 09 28.4	-1.4
AZAP	Zapla	1.87	133	iP	Pn	04 09 06.6	+0.5
AZAP				iS	S	04 09 35.5	-2.3
SLA	San Lorenzo	2.01	151	eP	Pn	04 09 08.9	+1.6
SLA	San Lorenzo	2.01	151	⇓iP	Pn	04 09 09.0	+1.7
PB09	IPOC Station P	2.73	295	iP	Pn	04 09 16.6	+2.0
PB09				iS	S	04 09 53.6	+0.6
PB09				IAML		04 09 55.9	
	comp=Z,67nm,0.2s						
PB09	IPOC Station P	2.73	295	eP	Pn	04 09 16.5	+1.9
PB09				iS	S	04 09 53.0	+0.1
PB09				IAML		04 09 57.4	
	comp=E,101nm,0.1s						
FSA	Cafayete	3.18	170	iP	Pn	04 09 21.2	+1.7
PB01	IPOC Station P	3.31	305	iP	Pn	04 09 22.3	+1.3
PB01				IAML		04 10 04.8	
	comp=Z,50nm,0.2s						
PB01	IPOC Station P	3.31	305	⇑iP	Pn	04 09 22.2	+1.3
PB01				iS	S	04 10 03.6	-0.9
GO02	Mina Guanaco	3.52	231	iP	Pn	04 09 24.5	+0.9
GO02				iS	S	04 10 08.9	-0.3
GO02	Mina Guanaco	3.52	231	eP	Pn	04 09 24.6	+1.0
GO02				eS	S	04 10 08.8	-0.3
PB08	IPOC Station P	3.69	319	iP	Pn	04 09 27.8	+2.1
PB08				IAML		04 10 17.6	
	comp=Z,23nm,0.2s						
PB08	IPOC Station P	3.69	319	⇓iP	Pn	04 09 27.9	+2.2
PB08				iS	S	04 10 13.0	+0.1
PB14	IPOC Station P	3.88	244	iP	Pn	04 09 28.8	+1.0
PB14				IAML		04 10 18.6	
	comp=Z,20nm,0.3s						
PB14	IPOC Station P	3.88	244	eP	Pn	04 09 28.8	+1.0
PB14				iS	S	04 10 14.5	-2.3
HMBC	Humberstone	4.08	310	iP	Pn	04 09 30.4	+0.3
HMBC				iS	S	04 10 18.4	-2.4
HMBC				IAML		04 10 25.3	
	comp=Z,90nm,0.3s						
HMBC	Humberstone	4.08	310	eP	Pn	04

ISC 07 04:15:30.4±0.3,1°45N±0°02×126°34E±0°04,h50km±2km, h50km:pP-P,n1425,σ1944/1431,mb5.5/297,MS4.9/151, 52C-19D,Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**123**	Pn		**Pn**		**04 15 49.0**	**-2.3**
TNTI	**Ternate**	**1.23**	**123**	P		**Pn**		**04 15 48.7**	**-2.6**
TNTI	**Ternate**	**1.23**	**123**	P		**Pn**		**04 15 49.1**	**-2.2**
SGSI	**Sangihe**	**2.36**	**340**	P		**Pn**		**04 16 06.8**	**0.0**
LBMI	**Labuha**	**2.38**	**151**	P		**Pn**		**04 16 06.2**	**-0.8**
KMSI	**Cibinong**	**2.51**	**250**	P		**Pn**		**04 16 10.4**	**+1.6**
SANI	**Sanana**	**3.49**	**186**	P		**Pn**		**04 16 21.6**	**-0.7**
SANI	**Sanana**	**3.49**	**186**	P		**Pn**		**04 16 21.7**	**-0.6**
LUWI	**Luwuk**	**4.34**	**235**	Pn		**Pn**		**04 16 34.8**	**+0.8**
LUWI	**Luwuk**	**4.34**	**235**	P		**Pn**		**04 16 37.3**	**+3.4**
LUWI	**Luwuk**	**4.34**	**235**	P		**Pn**		**04 16 35.9**	**+2.0**
MRSI	**Marisa**	**4.50**	**258**	P		**Pn**		**04 16 38.2**	**+2.1**
NLAI	**Namlea**	**4.72**	**171**	P		**Pn**		**04 16 39.5**	**+0.4**
APSI	**Ampana**	**5.24**	**243**	P		**Pn**		**04 16 49.4**	**+3.1**
MSAI	**Masohi**	**5.42**	**151**	P		**Pn**		**04 16 50.8**	**+2.0**
4.4nm16μm1μm,0.9s									
AAI	**Ambon**	**5.43**	**160**	P		**Pn**		**04 16 49.7**	**+0.8**
3.3nm35μm10μm783nm,0.8s									
SWI	**Sorong**	**5.43**	**115**	P		**Pn**		**04 16 48.4**	**-0.5**
TOLI2	**Tolitoli**	**5.57**	**267**	Pn		**Pn**		**04 16 51.3**	**+0.6**
TOLI2	**Tolitoli**	**5.57**	**267**	P		**Pn**		**04 16 51.4**	**+0.7**
DAV	**Davao City (W)**	**5.63**	**352**	Pn		**Pn**		**04 16 51.4**	**-0.3**
DAV	**Davao City (W)**	**5.63**	**352**	Pn		**Pn**		**04 16 50.1**	**-1.5**
53nm,0.3s,baz=126,slow=5.1,SNR=4.1									
DAV				Sn		**Sn**		**04 17 53.2**	**-1.9**
123nm,0.3s,baz=66,slow=18,SNR=3.6									
DAV				LR		LR		04 19 15.1	
comp=Z,17μm,21.6s,baz=126,slow=41									
164nm,0.4s									
DAV	**Davao City (W)**	**5.63**	**352**	P		**Pn**		**04 16 53.1**	**+1.5**
DAV				S		**Sn**		**04 17 52.9**	**-2.2**
DAV	**Davao City (W)**	**5.63**	**352**	P		**Pn**		**04 16 54.0**	**+2.3**
KDI	**Kendari**	**6.53**	**215**	P		**Pn**		**04 17 05.0**	**+1.0**
2.1nm17μm6μm591nm,0.8s									
PCI	**Palu**	**6.91**	**250**	P		**Pn**		**04 17 11.3**	**+2.1**
3.1nm36μm10μm1μm,1.0s									
FAKI	**Fak Fak**	**7.33**	**126**	Pn		**Pn**		**04 17 14.2**	**-0.8**
FAKI	**Fak Fak**	**7.33**	**126**	P		**Pn**		**04 17 15.3**	**+0.3**
FAKI	**Fak Fak**	**7.33**	**126**	P		**Pn**		**04 17 14.7**	**-0.3**
3.2nm41μm11μm962nm,0.9s									
BBSI	**Bau Bau**	**7.85**	**209**	P		**Pn**		**04 17 25.1**	**+3.0**
TTSI	**Tana Toraja**	**7.90**	**236**	P		**Pn**		**04 17 24.6**	**+1.8**
RKPI	**Ransiki, Papua**	**8.37**	**111**	P		**Pn**		**04 17 28.4**	**-0.8**
344nm,0.9s									
SPSI	**Sidrap Palu**	**8.49**	**231**	P		**Pn**		**04 17 32.8**	**+2.0**
KMPI	**Kaimana, Papua**	**8.94**	**125**	P		**Pn**		**04 17 36.8**	**-0.3**
33μm13μm1μm,1.1s									
BKSI	**Bulukumba**	**9.15**	**223**	P		**Pn**		**04 17 41.7**	**+1.8**
16μm5μm364nm,0.6s									
KAPI	**Kappang**	**9.19**	**226**	Pn		**Pn**		**04 17 42.0**	**+1.5**
KAPI	**Kappang**	**9.19**	**226**	Pn		**Pn**		**04 17 41.3**	**+0.8**
38nm,0.3s,baz=18,slow=6.9,SNR=67									
KAPI				Sn		**Sn**		**04 19 20.4**	**-2.2**
2.9nm,0.3s,baz=100,slow=18,SNR=0.9									
KAPI	**Kappang**	**9.19**	**226**	P		**Pn**		**04 17 42.1**	**+1.7**
KAPI				S		**Sn**		**04 19 29.2**	**+6.5**
KAPI	**Kappang**	**9.19**	**226**	P		**Pn**		**04 17 44.3**	**+3.8**
KAPI	**Kappang**	**9.19**	**226**	*c P*		**Pn**		**04 17 42.2**	**+1.7**
BSSI	**Bau Bau, Buton**	**9.54**	**218**	P		**Pn**		**04 17 46.6**	**+1.4**
10μm5μm377nm,0.5s									
BKB	**Balikpapan**	**9.82**	**254**	Pn		**Pn**		**04 17 51.9**	**+2.8**
BKB	**Balikpapan**	**9.82**	**254**	P		**Pn**		**04 17 50.8**	**+1.8**
BKB	**Balikpapan**	**9.82**	**254**	P		**Pn**		**04 17 51.8**	**+2.8**
4μm266nm,0.6s									
BAKI	**Biak**	**10.11**	**105**	P		**Pn**		**04 17 56.1**	**+3.0**
28μm886nm,1.1s									
SRPI	**Serui, Papua**	**10.44**	**108**	P		**Pn**		**04 17 56.6**	**-0.9**
15μm7μm176nm,0.4s									
MMRI	**Maumere**	**10.82**	**202**			**Pn**		**04 18 03.6**	**+0.8**
MMRI	**Maumere**	**10.82**	**202**	P		**Pn**		**04 18 04.6**	**+1.8**
MMRI	**Maumere**	**10.82**	**202**	P		**Pn**		**04 18 04.4**	**+1.6**
4μm303nm,1.1s									
KKM	**Kota Kinabalu**	**11.08**	**295**			**Pn**		**04 18 09.4**	**+3.0**
KKM	**Kota Kinabalu**	**11.08**	**295**	P		**Pn**		**04 18 10.6**	**+4.2**
SOEI	**Soe**	**11.32**	**190**	Pn		**Pn**		**04 18 12.4**	**+2.8**
SOEI	**Soe**	**11.32**	**190**	P		**Pn**		**04 18 12.5**	**+2.8**
SOEI	**Soe**	**11.32**	**190**	P		**Pn**		**04 18 14.2**	**+4.5**
15μm721nm,1.1s									
MTKI	**Muara Teweh, K**	**11.69**	**258**	P		**Pn**		**04 18 16.6**	**+2.0**
BATI	**Baumata**	**11.88**	**193**	P		Pn		04 18 22.5	+5.2
5μm329nm,1.0s									
WSI	**Waingapu**	**12.58**	**208**	P		**Pn**		**04 18 29.4**	**+2.6**
8μm8μm274nm,0.7s									
SMPI	**Sarmi**	**12.83**	**105**	P		**Pn**		**04 18 32.3**	**+2.0**
19μm10μm188nm,1.1s									
BASI	**Baing, Sumba**	**12.93**	**206**	P		**Pn**		**04 18 33.4**	**+1.8**
10μm5μm299nm,1.1s									
WBSI	**Waikabubak, Su**	**13.01**	**212**	P		**Pn**		**04 18 34.4**	**+1.7**
7μm3μm232nm,0.9s									
PLAI	**Plampang**	**13.31**	**220**	P		**Pn**		**04 18 38.4**	**+1.7**
PLAI	**Plampang**	**13.31**	**220**	P		**Pn**		**04 18 40.3**	**+3.6**
8μm5μm465nm,1.1s									
TGY	**Tagaytay City**	**13.66**	**337**	Pn		**Pn**		**04 18 43.0**	**+1.4**
152nm,0.3s,baz=215,slow=18,SNR=1.9									
TGY				LR		LR		04 24 06.4	
comp=Z,6μm,21.7s,baz=172,slow=38									
TWSI	**Taliwang, Sumb**	**13.83**	**223**	P		**P**		**04 18 48.6**	**-2.3**
8μm5μm654nm,0.9s									
SBUM	**Sibu**	**14.14**	**274**	Pn		**Pn**		**04 18 50.0**	**+1.8**
SBUM	**Sibu**	**14.14**	**274**	P		**Pn**		**04 18 50.4**	**+2.3**
GENI	**Genyem**	**14.40**	**106**	P		**Pn**		**04 18 52.9**	**+1.4**
GENI	**Genyem**	**14.40**	**106**	P		**Pn**		**04 18 52.9**	**+1.4**
6μm418nm,1.4s									
DRS	**Darwin Rock St**	**14.52**	**162**	P		**Pn**		**04 18 53.8**	**+0.8**
SRBI	**Singaraja**	**14.59**	**229**	P		**P**		**04 18 57.3**	**-2.0**
9μm4μm242nm,0.9s									
JAY	**Jayapura**	**14.89**	**105**	Pn		**Pn**		**04 18 57.0**	**-1.1**
4.6nm,0.3s,baz=265,slow=5.9,SNR=12									
JAY				LR		LR		04 24 17.9	
comp=Z,5μm,20.3s,baz=301,slow=36									
17nm,0.8s									
JAY	**Jayapura**	**14.89**	**105**	P		**P**		**04 19 00.9**	**-1.9**
2μm141nm,0.8s									
JAY	**Jayapura**	**14.89**	**105**	P		**Pn**		**04 18 57.0**	**-1.1**
STKI	**Sintang**	**14.92**	**265**	P		**P**		**04 19 01.0**	**-2.1**
15μm12μm201nm,1.1s									
KMMI	**Kalianget**	**14.96**	**235**	P		**P**		**04 19 04.0**	**+0.6**
10μm4μm640nm,0.9s									
DNP	**Denpasar**	**14.97**	**228**	P		**P**		**04 19 06.9**	**+3.3**
MTN	**Manton Dam**	**14.98**	**162**	Pn		**Pn**		**04 18 57.0**	**-2.1**
MTN	**Manton Dam**	**14.98**	**162**	P		**Pn**		**04 18 57.7**	**-1.4**
MTN	**Manton Dam**	**14.98**	**162**	P		**Pn**		**04 18 58.2**	**-0.9**
ABJI	**Asem Bagus**	**15.17**	**233**	P		**Pn**		**04 19 03.4**	**+1.8**
9μm4μm274nm,1.0s									
KDU	**Kakadu**	**15.31**	**157**	P		**Pn**		**04 19 00.3**	**-3.1**
KDU	**Kakadu**	**15.31**	**157**	P		**Pn**		**04 19 00.5**	**-2.9**
JAGI	**Jajag, Banyuwa**	**15.64**	**231**	P		**Pn**		**04 19 08.2**	**+0.4**
JAGI				IAmb		IAmb		04 19 16.4	
comp=Z,488nm,1.0s									
JAGI	**Jajag, Banyuwa**	**15.64**	**231**	P		**P**		**04 19 09.4**	**-1.6**
JAGI	**Jajag, Banyuwa**	**15.64**	**231**	P		**P**		**04 19 09.5**	**-1.6**
comp=Z,7μmcomp=Z,5μmcomp=Z,563nm,1.0s									
KSM	**Kuching**	**16.02**	**270**	P		**P**		**04 19 14.4**	**-0.9**
KSM	**Kuching**	**16.02**	**270**	P		**P**		**04 19 14.8**	**-0.5**
GMJI	**Gumukmas**	**16.08**	**233**	P		**P**		**04 19 16.6**	**+0.7**
comp=Z,3μmcomp=Z,349nm,0.9s									
TABU	**Tabubil**	**16.30**	**114**	P		**P**		**04 19 18.9**	**+0.5**
SZP	**Santa**	**17.01**	**340**	P		**P**		**04 19 27.4**	**+1.2**
KNRA	**Kununurra**	**17.19**	**172**	Pn		**Pn**		**04 19 26.0**	**-1.1**
KNRA				IAmb		IAmb		04 19 28.6	
comp=Z,559nm,1.1s									
KNRA	**Kununurra**	**17.19**	**172**	P		**Pn**		**04 19 26.5**	**-0.6**
comp=Z,0.0nmcomp=Z,506nm,1.1s									
NGJI	**Ngawi**	**17.23**	**239**	P		**P**		**04 19 29.5**	**+0.8**
comp=Z,310nm,0.9s									
PCJI	**Pacitan**	**17.90**	**237**	P		**P**		**04 19 37.3**	**+1.3**
comp=Z,9μmcomp=Z,5μmcomp=Z,375nm,0.7s									
SMRI	**Semarang**	**17.97**	**242**	P		**P**		**04 19 39.3**	**+2.4**
SMRI	**Semarang**	**17.97**	**242**	P		**P**		**04 19 38.5**	**+1.6**
comp=Z,8μmcomp=Z,172nm,0.9s									
UGM	**Wanagama**	**18.31**	**239**	P		**Pn**		**04 19 41.8**	**+0.8**
UGM	**Wanagama**	**18.31**	**239**	P		**Pn**		**04 19 42.0**	**+1.0**
comp=Z,8μmcomp=Z,207nm,0.9s									
YOGI	**Yogyakarta**	**18.46**	**240**	P		**Pn**		**04 19 42.6**	**-0.2**
comp=Z,202nm,0.8s									
TPI	**Tanjungpandan**	**19.14**	**257**	P		**P**		**04 19 49.2**	**-0.5**
KPJI	**Karang Pucung**	**19.44**	**243**	P		**Pn**		**04 19 53.7**	**-0.8**
comp=Z,7μmcomp=Z,3μmcomp=Z,452nm,0.8s									
FITZ	**Fitzroy Crossi**	**19.44**	**182**	P		**P**		**04 19 51.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.44**	**182**	P		**P**		**04 19 51.3**	**-1.6**
comp=Z,9.2nm,0.3s,baz=17,slow=9.1,SNR=140									
FITZ				S		**S**		**04 23 25.7**	**-4.4**
comp=Z,16nm,0.9s,baz=108,slow=0.7,SNR=1.9									
comp=Z,46nm,0.6s									
CMJI	**Cimerak**	**20.06**	**243**	P		**P**		**04 19 58.3**	**-1.5**
comp=Z,3μmcomp=Z,191nm,0.7s									
LEM	**Lembang**	**20.41**	**246**	P		**P**		**04 20 01.9**	**-1.9**
comp=Z,83nm,0.8s,baz=69,slow=6.4,SNR=8.9									
LEM				LR		LR		04 29 51.8	
comp=Z,3μm,18.1s,baz=73,slow=42									
comp=Z,83nm,0.8s									
LEM	**Lembang**	**20.41**	**246**	P		**P**		**04 20 03.3**	**-0.4**
PPBI	**Pangkal Pinang**	**20.52**	**260**	P		**P**		**04 20 05.5**	**+0.8**
BBJI	**Bungbulang**	**20.64**	**244**	P		**P**		**04 20 04.9**	**-1.2**
LYUB	**Lan-yu**	**20.95**	**348**	*eP*		**P**		**04 20 08.6**	**-0.6**
CNJI	**Cibinong**	**21.05**	**245**	P		**P**		**04 20 09.1**	**-1.3**
TWKBT	**Hengchun**	**21.07**	**346**	*eP*		**P**		**04 20 09.9**	**-0.6**
TWK1	**Hengchun**	**21.07**	**346**	*eP*		**P**		**04 20 09.7**	**-0.9**
HEN	**Hengchun**	**21.15**	**345**	*eP*		**P**		**04 20 12.5**	**+1.1**
SLIU	**Shizi**	**21.33**	**346**	*eP*		**P**		**04 20 12.7**	**-0.7**
TAWH	**Dawu Township**	**21.43**	**346**	*eP*		**P**		**04 20 13.2**	**-1.2**
EAST	**Anshuo**	**21.48**	**346**	*eP*		**P**		**04 20 14.8**	**-0.1**
LDUT	**Ludao**	**21.62**	**348**	*eP*		**P**		**04 20 13.3**	**-3.2**
ECL	**Taimali**	**21.66**	**346**	*eP*		**P**		**04 20 16.4**	**-0.4**
MASBT	**Mashibuluo**	**21.75**	**346**	*eP*		**P**		**04 20 16.9**	**-0.9**
TSMG	**Majia**	**21.84**	**346**	*eP*		**P**		**04 20 18.5**	**-0.3**
TWGBT	**Beinan**	**21.84**	**347**	P		**P**		**04 20 17.2**	**-1.7**
TWGBT	**Beinan**	**21.84**	**347**	*eP*		**P**		**04 20 16.2**	**-2.6**
TWG	**Pinlang**	**21.85**	**347**	P		**P**		**04 20 15.7**	**-3.2**
TWG				IAmb		IAmb		04 20 21.6	
comp=Z,185nm,0.7s									
TWG				IAMs_20		IAMs_20		04 29 10.8	
comp=Z,5μm,22.0s									
TWG	**Pinlang**	**21.85**	**347**	*eP*		**P**		**04 20 16.5**	**-2.4**
LONT	**Longtian**	**21.92**	**347**	*eP*		**P**		**04 20 17.7**	**-1.9**
GUMO	**Guam**	**21.95**	**56**	P		**P**		**04 20 18.2**	**-1.9**
comp=Z,53nm,0.2s,baz=161,slow=12,SNR=3.7									
GUMO				LR		LR		04 28 28.7	
comp=Z,621nm,18.8s,baz=228,slow=36									
comp=Z,53nm,0.2s									
PMBI	**Palembang**	**21.99**	**259**	IAMs_20		IAMs_20		04 29 33.5	
comp=Z,7μm,22.0s									
TWM1	**Shoushan**	**22.01**	**345**	*eP*		**P**		**04 20 21.1**	**+0.5**
CGJI	**Cibinong**	**22.11**	**249**	P		**P**		**04 20 20.0**	**-1.8**
comp=Z,2μmcomp=Z,156nm,0.7s									
CHKH	**Chenggong**	**22.14**	**348**	*eP*		**P**		**04 20 19.4**	**-2.6**
FULB	**Fuli**	**22.17**	**348**	*eP*		**P**		**04 20 19.7**	**-2.6**
ELDTW	**Lidau**	**22.22**	**347**	*eP*		**P**		**04 20 21.0**	**-2.0**
TWF1	**Yuli**	**22.31**	**348**	*eP*		**P**		**04 20 21.0**	**-2.9**
YULB	**Yu-li**	**22.35**	**348**	P		**P**		**04 20 21.1**	**-3.2**
YULB				IAmb		IAmb		04 20 29.8	
comp=Z,127nm,0.7s									
YULB				IAMs_20		IAMs_20		04 30 02.2	
comp=Z,4μm,21.0s									
YULB	**Yu-li**	**22.35**	**348**	P		**P**		**04 20 21.4**	**-2.9**
TPUB	**Ta-pu**	**22.41**	**346**	P		**P**		**04 20 22.5**	**-2.5**
TPUB				IAMs_20		IAMs_20		04 30 06.0	
comp=Z,6μm,22.0s									
TPUB	**Ta-pu**	**22.41**	**346**	P		**P**		**04 20 23.8**	**-1.2**
MYKOM	**Kota Tinggi**	**22.48**	**271**	P		**P**		**04 20 26.3**	**+0.5**
MYKOM				IAmb		IAmb		04 20 28.9	
comp=Z,282nm,1.0s									
MYKOM	**Kota Tinggi**	**22.48**	**271**	P		**P**		**04 20 27.3**	**+1.5**
WB0	**Warramunga Arr**	**22.52**	**160**	P		**P**		**04 20 25.0**	**-1.2**
COEN	**Coen**	**22.64**	**133**	P		**P**		**04 20 25.5**	**-2.0**
COEN	**Coen**	**22.64**	**133**	P		**P**		**04 20 25.4**	**-2.1**
comp=Z,0.0nmcomp=Z,127nm,1.0s									
COEN	**Coen**	**22.64**	**133**	P		**P**		**04 20 26.0**	**-1.5**
WRAB	**Tennant Creek**	**22.66**	**160**	P		**P**		**04 20 26.2**	**-1.4**
WRAB	**Tennant Creek**	**22.66**	**160**	*i P*		**P**		**04 20 26.4**	**-1.2**
WRAB				pmax		pmax			
comp=Z,556nm,0.9s									
WRA	**Warramunga Arr**	**22.66**	**160**	P		**P**		**04 20 26.5**	**-1.2**
comp=Z,518nm,0.9s,baz=341,slow=10,SNR=247									
WRA				S		**S**		**04 24 27.9**	**-4.5**
comp=Z,29nm,1.0s,baz=341,slow=18,SNR=11									
WRA				ScP		**ScP**		**04 27 55.1**	**+2.3**
comp=Z,2.9nm,0.9s,baz=338,slow=2.9,SNR=3.0									
WRA	**Warramunga Arr**	**22.66**	**160**	*i P*		**P**		**04 20 25.5**	**-2.2**
WRA				pmax		pmax			
comp=Z,519nm,0.9s									
WB2	**Warramunga Arr**	**22.67**	**160**	P		**P**		**04 20 26.6**	**-1.1**
SSLB	**Suanglung**	**22.81**	**347**	IAmb		IAmb		04 20 37.1	
comp=Z,180nm,0.8s									
SSLB				IAMs_20		IAMs_20		04 29 40.4	
comp=Z,6μm,22.0s									
SSLB	**Suanglung**	**22.81**	**347**	P		**P**		**04 20 29.0**	**-0.2**
MDSI	**Maura Dua**	**22.91**	**255**	P		**P**		**04 20 28.1**	**-2.3**
comp=Z,6μmcomp=Z,102nm,0.8s									
NACB	**Ninganchiao**	**23.05**	**349**	P		**P**		**04 20 28.7**	**-2.9**
NACB	**Ninganchiao**	**23.05**	**349**	P		**P**		**04 20 33.0**	**+1.4**
YOJ	**Yonaguni jima**	**23.10**	**352**	P		**P**		**04 20 30.8**	**-1.3**
YOJ				IAmb		IAmb		04 20 46.2	
comp=Z,139nm,0.8s									
YOJ	**Yonaguni jima**	**23.10**	**352**	P		**P**		**04 20 33.8**	**+1.7**
YOJ	**Yonaguni jima**	**23.10**	**352**	P		**P**		**04 20 30.8**	**-1.3**
YOJ				pmax		pmax			
comp=Z,139nm,0.8s									
JMJ	**Miyako jima 2**	**23.25**	**358**	P		**P**		**04 20 35.8**	**+2.3**
MBWA	**Marble Bar**	**23.38**	**196**	P		**P**		**04 20 33.6**	**-1.2**
MBWA				IAmb		IAmb		04 20 36.7	
comp=Z,205nm,0.9s									
MBWA	**Marble Bar**	**23.38**	**196**	P		**P**		**04 20 33.8**	**-1.0**
comp=Z,0.0nmcomp=Z,275nm,0.9s									
MBWA	**Marble Bar**	**23.38**	**196**	P		**P**		**04 20 33.7**	**-1.2**
MBWA				S		**S**		**04 24 41.7**	**-2.6**
MBWA	**Marble Bar**	**23.38**	**196**	P		**P**		**04 20 34.1**	**-0.8**
YHNB	**Yeheng**	**23.58**	**349**	P		**P**		**04 20 35.5**	**-1.3**
YHNB				IAmb		IAmb		04 20 47.1	
comp=Z,122nm,0.8s									
YHNB				IAMs_20		IAMs_20		04 30 52.6	
comp=Z,7μm,22.0s									
YHNB	**Yeheng**	**23.58**	**349**	P		**P**		**04 20 35.9**	**-0.9**
XMI	**Christmas Isla**	**23.71**	**240**	P		**P**		**04 20 39.4**	**+1.4**
PSAC1	**Pilbara Seismi**	**23.72**	**195**	P		**P**		**04 20 37.2**	**-0.9**
comp=Z,219nm,0.9s									
PSA00	**Pilbara Seismi**	**23.75**	**195**	P		**P**		**04 20 37.4**	**-0.9**
PSA00				IAmb		IAmb		04 20 41.5	
comp=Z,178nm,0.9s									
PSA00	**Pilbara Seismi**	**23.75**	**195**	P		**P**		**04 20 37.3**	**-1.0**
comp=Z,246nm,0.8s									
PSA00	**Pilbara Seismi**	**23.75**	**195**	P		**P**		**04 20 37.6**	**-0.7**
XMIS	**Christmas Isla**	**23.75**	**240**	P		**P**		**04 20 38.2**	**-0.3**
XMIS				IAmb		IAmb		04 20 39.8	
comp=Z,204nm,0.8s									
XMIS				IAMs_20		IAMs_20		04 31 17.5	
comp=Z,4μm,21.0s									
XMIS	**Christmas Isla**	**23.75**	**240**	P		**P**		**04 20 37.8**	**-0.7**
QIZ	**Qiongzhong**	**23.80**	**318**	IAMs_20		IAMs_20		04 28 34.6	
comp=Z,4μm,21.0s									
QIZ	**Qiongzhong**	**23.80**	**318**	P		**P**		**04 20 38.4**	**-0.4**
QIZ				sP		**pP**		**04 20 51.4**	**+0.4**
QIZ				S		**S**		**04 24 54.8**	**+3.6**
QIZ				pmax		pmax			
comp=Z,49nm,2.2s									
QIZ				pmax		pmax			
comp=Z,810nm,4.6s									
QIZ				LR		LR			
comp=Z,2μm,24.3s									
QIZ				LR		LR			
comp=Z,2μm,18.7s									
QIZ				LR		LR			
comp=Z,6μm,26.0s									
QIZ	**Qiongzhong**	**23.80**	**318**	P		**P**		**04 20 38.9**	**+0.1**
TATO	**Taipei**	**23.85**	**349**	P		**P**		**04 20 38.0**	**-1.1**
TATO				IAmb		IAmb		04 20 44.7	
comp=Z,143nm,1.1s									
TATO	**Taipei**	**23.85**	**349**	IAMs_20		IAMs_20		04 31 02.8	
comp=Z,4μm,21.0s									
TATO	**Taipei**	**23.85**	**349**	P		**P**		**04 20 38.1**	**-1.1**
TATO	**Taipei**	**23.85**	**349**	P		**P**		**04 20 41.6**	**+2.4**
HKPS	**Hong Kong Po S**	**23.86**	**331**	P		**P**		**04 20 40.9**	**+1.6**
MNAI	**Manna**	**24.07**	**256**	IAMs_20		IAMs_20		04 31 20.7	
comp=Z,5μm,21.0s									
MNAI	**Manna**	**24.07**	**256**	P		**P**		**04 20 40.8**	**-0.6**
comp=Z,220nm,0.6s									
KNMB	**Chin-men Tao**	**24.14**	**342**	P		**P**		**04 20 41.2**	**-0.6**
KSI	**Kapahiang**	**24.27**	**258**	P		**P**		**04 20 43.6**	**+0.3**
comp=Z,6μmcomp=Z,188nm,0.6s									
QZH	**Quanzhou**	**24.52**	**343**	P		**P**		**04 20 44.1**	**-1.3**
QZH				S		**S**		**04 24 59.7**	**-2.9**
QZH				pmax		pmax			
comp=Z,120nm,0.8s									
QZH				pmax		pmax			
comp=Z,650nm,6.9s									
QZH				LR		LR			
comp=Z,3μm,20.6s									
QZH				LR		LR			
comp=Z,2μm,19.9s									
QZH				LR		LR			
comp=Z,5μm,23.7s									
GZH	**Guangzhou**	**24.93**	**331**	P		**P**		**04 20 52.3**	**+3.2**
GZH				S		S		04 25 20.6	+11
GZH				LR		LR			
comp=Z,2μm,19.8s									
GZH				LR		LR			
comp=Z,3μm,21.0s									
GZH				LR		LR			
comp=Z,4μm,22.0s									
JOW	**Kunigami**	**25.30**	**4**	IAmb		IAmb		04 20 59.9	
comp=Z,188nm,0.8s									
BKNI	**Bangkinang**	**25.32**	**268**	IAMs_20		IAMs_20		04 31 51.6	
comp=Z,5μm,21.0s									
BKNI	**Bangkinang**	**25.32**	**268**	P		**P**		**04 20 54.0**	**+1.2**
BKNI	**Bangkinang**	**25.32**	**268**	P		**P**		**04 20 49.8**	**-3.0**
comp=Z,6μmcomp=Z,4μmcomp=Z,399nm,0.9s									
QIS	**Mount Isa**	**25.44**	**150**	P		**P**		**04 20 53.4**	**-0.4**
comp=Z,0.0nmcomp=Z,159nm,1.0s									
QIS	**Mount Isa**	**25.44**	**150**	P		**P**		**04 20 53.6**	**-0.2**
IPM	**Ipoh**	**25.45**	**277**	P		**P**		**04 20 53.1**	**-0.9**
IPM	**Ipoh**	**25.45**	**277**	P		**P**		**04 20 54.9**	**+0.9**
KULM	**Kulim**	**25.92**	**279**	P		**P**		**04 20 57.7**	**-0.5**
KULM				IAmb		IAmb		04 21 19.7	
comp=Z,448nm,1.9s									
KULM	**Kulim**	**25.92**	**279**	P		**P**		**04 20 59.2**	**+1.0**
PPI	**Padang Panjang**	**26.01**	**266**	P		**P**		**04 20 57.6**	**-1.4**
AS31	**Alice Springs**	**26.03**	**164**	P		**P**		**04 20 58.2**	**-0.9**
AS31	**Alice Springs**	**26.03**	**164**	P		**P**		**04 20 58.4**	**-0.7**
comp=Z,67nm,0.7s									
ASAR	**Alice Springs**	**26.03**	**164**	P		**P**		**04 20 58.0**	**-1.1**
comp=Z,49nm,0.5s,baz=338,slow=6.7,SNR=169									
ASAR				PcP		**PcP**		**04 24 26.5**	**+0.2**
comp=Z,8.7nm,0.5s,baz=316,slow=2.0,SNR=4.9									
ASAR				S		**S**		**04 25 25.1**	**-1.7**
comp=Z,15nm,1.0s,baz=344,slow=19,SNR=4.9									
ASAR				ScP		**ScP**		**04 28 04.8**	**+2.7**
comp=Z,4.9nm,1.0s,baz=334,slow=

NJ2			LR	LR		
	comp=Z,1μm,24.6s					
NJ2			LR	LR		
	comp=Z,1μm,23.7s					
NJ2			LR	LR		
	comp=Z,2μm,24.5s					
CM31	**Chiang Mai Arr**	**31.75 304**	P	**P**	**04 21 49.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.75 304**	P	**P**	**04 21 49.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.75 304**	P	**P**	**04 21 49.8**	**-0.3**
	comp=Z,11nm,0.9s,baz=124,slow=6.9,SNR=48					
CMAR			PcP	**PcP**	**04 24 42.7**	**+1.9**
	comp=Z,8.5nm,0.7s,baz=136,slow=2.8,SNR=12					
CMAR			ScP	**ScP**	**04 28 21.6**	**+1.4**
	comp=Z,1.5nm,0.3s,baz=123,slow=4.7,SNR=1.9					
CMAR			LR	LR	04 35 49.0	
	comp=Z,1μm,21.5s,baz=115,slow=39					
	comp=Z,11nm,0.9s					
CMAR	**Chiang Mai Arr**	**31.75 304**	*i* P	**P**	**04 21 50.4**	**+0.4**
CMAR			pmax	pmax		
	comp=Z,12nm,0.9s					
JNU	**Nakatsue**	**31.79 7**	P	**P**	**04 21 50.3**	**0.0**
JNU			IAmb	IAmb	04 21 52.0	
	comp=Z,64nm,1.0s					
JNU	**Nakatsue**	**31.79 7**	LR	LR	04 33 23.2	
	comp=Z,990nm,21.8s,baz=177,slow=34					
JNU	**Nakatsue**	**31.79 7**	P	**P**	**04 21 51.2**	**+0.9**
MORW	**Morawa**	**31.91 197**	P	**P**	**04 21 51.2**	**-0.1**
MORW			IAmb	IAmb	04 21 53.0	
	comp=Z,156nm,1.2s					
MORW	**Morawa**	**31.91 197**	P	**P**	**04 21 50.8**	**-0.5**
	comp=Z,0.0nmcomp=Z,117nm,0.9s					
MORW	**Morawa**	**31.91 197**	P	**P**	**04 21 51.5**	**+0.2**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**04 21 51.5**	**0.0**
CHTO	**Chiang Mai**	**31.92 304**	P	**P**	**04 21 51.5**	**0.0**
CHTO			pmax	pmax		
	comp=Z,22nm,0.7s					
CHTO			MLR	MLR		
	comp=Z,2μm,19.0s					
FORT	**Forrest**	**32.09 177**	P	**P**	**04 21 52.6**	**-0.2**
FORT	**Forrest**	**32.09 177**	P	**P**	**04 21 52.7**	**-0.2**
	comp=Z,243nm,0.8s					
FORT	**Forrest**	**32.09 177**	P	**P**	**04 21 53.0**	**+0.1**
INKA	**Innaminka**	**32.16 156**	P	**P**	**04 21 54.4**	**+0.9**
COCO	**West Island**	**32.28 244**	IAMs_20	IAMs_20	04 36 53.7	
	comp=Z,3μm,21.0s					
KMI	**Kunming**	**32.75 318**	⇑P	**P**	**04 21 58.4**	**-0.6**
KMI			sP	pwP	04 22 14.0	+0.1
KMI			PP	**PP**	**04 23 13.3**	**-0.5**
KMI			PcP	**PcP**	**04 24 45.8**	**+2.1**
KMI			S	S	04 27 03.4	-9.2
KMI			pmax	pmax		
	comp=Z,38nm,1.2s					
KMI			pmax	pmax		
	comp=Z,260nm,5.9s					
KMI			LR	LR		
	comp=Z,2μm,22.5s					
KMI			LR	LR		
	comp=Z,3μm,26.5s					
KMI			LR	LR		
	comp=Z,5μm,27.2s					
QLP	**Quilpie**	**32.79 149**	P	**P**	**04 21 57.7**	**-1.3**
	comp=Z,63nm,0.9s					
QLP	**Quilpie**	**32.79 149**	P	**P**	**04 21 59.5**	**+0.5**
JMN	**Monobe**	**32.88 12**	P	**P**	**04 21 59.4**	**-0.4**
JMN	**Monobe**	**32.88 12**	P	**P**	**04 22 01.1**	**+1.3**
KMBL	**Kambalda**	**32.91 187**	P	**P**	**04 21 59.2**	**-0.8**
	comp=Z,116nm,0.9s					
KMBL	**Kambalda**	**32.91 187**	P	**P**	**04 22 00.7**	**+0.6**
BLDU	**Ballidu**	**33.18 195**	P	**P**	**04 22 01.7**	**-0.8**
	comp=Z,173nm,0.9s					
BLDU	**Ballidu**	**33.18 195**	P	**P**	**04 22 02.0**	**-0.4**
LCRK	**Leigh Creek**	**33.68 161**	P	**P**	**04 22 06.5**	**-0.3**
KLBR	**Kellerberrin**	**33.86 193**	P	**P**	**04 22 08.2**	**-0.1**
	comp=Z,440nm,0.9s					
KLBR	**Kellerberrin**	**33.86 193**	P	**P**	**04 22 08.1**	**-0.2**
PZH	**PanZhiHua**	**34.34 319**	P	**P**	**04 22 11.8**	**-0.9**
PZH			S	**S**	**04 27 33.4**	**-3.7**
PZH			sS	**sS**	**04 27 57.5**	**-1.0**
PZH			pmax	pmax		
	comp=Z,70nm,0.9s					
PZH			pmax	pmax		
	comp=Z,360nm,7.1s					
PZH			LR	LR		
	comp=Z,2μm,21.8s					
PZH			LR	LR		
	comp=Z,2μm,21.8s					
PZH			LR	LR		
	comp=Z,3μm,20.6s					
MUN	**Mundaring**	**34.61 195**	P	**P**	**04 22 14.6**	**-0.2**
	comp=Z,120nm,1.0s					
MUN	**Mundaring**	**34.61 195**	P	**P**	**04 22 15.0**	**+0.2**
PBA	**Port Blair**	**34.84 288**	IAMs_20	IAMs_20	04 36 38.4	
	comp=Z,4μm,22.0s					
GD1S	**Gladstone Soft**	**34.85 138**	P	**P**	**04 22 17.7**	**+0.7**
JSG	**Sagara**	**34.85 17**	P	**P**	**04 22 18.1**	**+1.2**
INU	**Inuyama**	**35.16 15**	P	**P**	**04 22 19.3**	**-0.2**
INU			IAmb	IAmb	04 22 27.8	
	comp=Z,76nm,0.8s					
INU	**Inuyama**	**35.16 15**	P	**P**	**04 22 20.5**	**+1.0**
INU	**Inuyama**	**35.16 15**	P	**P**	**04 22 19.8**	**+0.3**
INU			PcP	**PcP**	**04 24 52.4**	**+2.4**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.9**	**+0.5**
NWAO			IAmb	IAmb	04 22 23.6	
	comp=Z,90nm,0.8s					
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.3**	**-0.1**
	comp=Z,199nm,0.9s					
NWAO	**Narrogin (SRO)**	**35.26 193**	LR	LR	04 39 18.0	
	comp=Z,750nm,20.5s,baz=346,slow=41					
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.7**	**+0.3**
NWAO			S	**S**	**04 27 51.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.6**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.9**	**+0.5**
NWAO			pmax	pmax		
	comp=Z,90nm,0.9s					
NWAO			MLR	MLR		
	comp=Z,1μm,20.0s					
NWAO	**Narrogin (SRO)**	**35.26 193**	P	**P**	**04 22 20.5**	**+0.1**
BBOO	**Buckleboo**	**35.29 166**	P	**P**	**04 22 20.2**	**-0.5**
BBOO	**Buckleboo**	**35.29 166**	P	**P**	**04 22 20.0**	**-0.7**
	comp=Z,179nm,1.3s					
BBOO	**Buckleboo**	**35.29 166**	P	**P**	**04 22 20.1**	**-0.6**
LYN	**LuoYang**	**35.39 340**	P	**P**	**04 22 21.0**	**-0.5**
LYN			S	**S**	**04 27 48.2**	**-4.5**
LYN			SS	**SnSn**	**04 30 19.2**	**+3.7**
LYN			pmax	pmax		
	comp=Z,64nm,0.8s					
LYN			pmax	pmax		
	comp=Z,300nm,4.0s					
LYN			LR	LR		
	comp=Z,2μm,24.3s					
LYN			LR	LR		
	comp=Z,2μm,22.4s					
LYN			LR	LR		
	comp=Z,5μm,24.9s					
JGF	**Kuroka**	**35.49 16**	P	**P**	**04 22 21.8**	**-0.6**
JGF	**Kuroka**	**35.49 16**	P	**P**	**04 22 23.4**	**+1.0**
TIA	**Tai'an**	**35.63 347**	P	**P**	**04 22 23.7**	**+0.2**
TIA			PP	**PP**	**04 23 48.4**	**+3.2**
TIA			S	**S**	**04 27 53.7**	**-2.6**
TIA			pmax	pmax		
	comp=Z,28nm,0.7s					
TIA			pmax	pmax		
	comp=Z,500nm,3.9s					
TIA			LR	LR		
	comp=Z,1μm,22.0s					
TIA			LR	LR		
	comp=Z,1μm,18.9s					
TIA			LR	LR		
	comp=Z,3μm,24.7s					
TNCH	**TengChong**	**35.64 313**	P	**P**	**04 22 23.4**	**-0.6**
TNCH			PP	**PnPn**	**04 23 43.2**	**-1.6**
TNCH			S	**S**	**04 27 50.3**	**-7.0**
TNCH			pmax	pmax		
	comp=Z,35nm,0.8s					
TNCH			pmax	pmax		
	comp=Z,260nm,3.0s					
TNCH			LR	LR		
	comp=Z,810nm,16.3s					
TNCH			LR	LR		
	comp=Z,1μm,20.7s					
TNCH			LR	LR		
	comp=Z,3μm,32.0s					
EIDS	**Eidsvold**	**35.84 140**	P	**P**	**04 22 24.6**	**-1.0**
EIDS	**Eidsvold**	**35.84 140**	P	**P**	**04 22 24.2**	**-1.3**
	comp=Z,132nm,1.2s					
EIDS	**Eidsvold**	**35.84 140**	P	**P**	**04 22 25.3**	**-0.2**
KSAR	**Wonju Array Be**	**35.84 2**	P	**P**	**04 22 26.0**	**+0.7**
KSAR	**Wonju Array Be**	**35.84 2**	P	**P**	**04 22 26.0**	**+0.7**
KSRS	**Korea Array**	**35.86 2**	P	**P**	**04 22 25.9**	**+0.5**
	comp=Z,17nm,0.9s,baz=180,slow=9.9,SNR=26					
KSRS			PcP	**PcP**	**04 24 52.9**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=181,slow=3.4,SNR=6.1					
	comp=Z,17nm,0.9s					
WHYH	**Whyalla**	**35.90 164**	P	**P**	**04 22 25.8**	**-0.1**
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**04 22 27.8**	**-0.4**
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**04 22 27.3**	**-0.8**
	comp=Z,34nm,0.8s					
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**04 22 27.4**	**-0.8**
	comp=Z,103nm,0.7s,baz=328,slow=8.4,SNR=105					
STKA			PP	**PP**	**04 23 52.2**	**+0.9**
	comp=Z,41nm,0.8s,baz=327,slow=13,SNR=3.8					
STKA			LR	LR	04 39 51.9	
	comp=Z,1μm,21.1s,baz=327,slow=40					
	comp=Z,103nm,0.7s					
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**04 22 27.8**	**-0.4**
STKA	**Stephens Creek**	**36.17 158**	P	**P**	**04 22 27.8**	**-0.4**
STKA			pmax	pmax		
	comp=Z,29nm,0.9s					
CD2	**Chengdu**	**36.27 326**	⇓P	**P**	**04 22 28.5**	**-0.7**
CD2			PP	**PP**	**04 23 53.2**	**+0.7**
CD2			S	**S**	**04 28 08.8**	**+2.3**
CD2			pmax	pmax		
	comp=Z,50nm,1.0s					
CD2			pmax	pmax		
	comp=Z,390nm,2.7s					
CD2			LR	LR		
	comp=Z,2μm,21.6s					
CD2			LR	LR		
	comp=Z,1μm,22.8s					
CD2			LR	LR		
	comp=Z,2μm,22.8s					
XAN	**Xi'an**	**36.29 335**	⇓P	**P**	**04 22 28.6**	**-0.6**
XAN			PP	**PP**	**04 23 55.4**	**+2.8**
XAN			S	**S**	**04 28 08.3**	**+1.7**
XAN			SS	**SnSn**	**04 30 30.3**	**-7.0**
XAN			pmax	pmax		
	comp=Z,110nm,0.7s					
XAN			pmax	pmax		
	comp=Z,460nm,4.3s					
XAN			LR	LR		
	comp=Z,1μm,18.6s					
XAN			LR	LR		
	comp=Z,2μm,18.7s					
XAN			LR	LR		
	comp=Z,4μm,21.6s					
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**04 22 31.2**	**-0.7**
MAJO			IAmb	IAmb	04 22 53.3	
	comp=Z,66nm,1.0s					
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**04 22 31.7**	**-0.2**
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**04 22 31.2**	**-0.7**
MAJO			pmax	pmax		
	comp=Z,66nm,1.0s					
MAJO	**Matsushiro**	**36.60 16**	P	**P**	**04 22 31.1**	**-0.8**
MAJO			PcP	**PcP**	**04 24 55.9**	**+1.6**
MJAR	**Matsushiro Arr**	**36.60 16**	P	**P**	**04 22 30.7**	**-1.2**
	comp=Z,13nm,0.4s,baz=182,slow=9.6,SNR=36					
MJAR			PcP	**PcP**	**04 24 55.4**	**+1.1**
	comp=Z,11nm,0.9s,baz=183,slow=2.7,SNR=5.0					
MJAR			ScP	**ScP**	**04 28 40.3**	**+3.3**
	comp=Z,2.5nm,0.7s,baz=199,slow=3.8,SNR=2.8					
	comp=Z,13nm,0.4s					
MJB9	**Matsu-Tunnel**	**36.61 16**	IAmb	IAmb	04 22 54.3	
	comp=Z,64nm,1.0s					
HTT	**Hallett**	**36.67 162**	P	**P**	**04 22 32.2**	**-0.3**
	comp=Z,94nm,0.8s					
HTT	**Hallett**	**36.67 162**	P	**P**	**04 22 32.6**	**+0.1**
RKGY	**Rocky Gully**	**36.93 193**	P	**P**	**04 22 36.1**	**+1.4**
	comp=Z,586nm,0.9s					
RKGY	**Rocky Gully**	**36.93 193**	P	**P**	**04 22 36.6**	**+1.9**
AULRC	**Lightning Ridg**	**37.03 148**	P	**P**	**04 22 35.5**	**-0.1**
AUALB	**St Joseph's Co**	**37.11 192**	P	**P**	**04 22 37.9**	**+1.7**
HNS	**HongShan**	**37.34 345**	⇑P	**P**	**04 22 38.4**	**+0.3**
HNS			S	**S**	**04 28 19.4**	**-3.1**
HNS			pmax	pmax		
	comp=Z,40nm,0.8s					
HNS			pmax	pmax		
	comp=Z,340nm,6.7s					
HNS			LR	LR		
	comp=Z,2μm,24.1s					
HNS			LR	LR		
	comp=Z,890nm,23.4s					
HNS			LR	LR		
	comp=Z,4μm,24.7s					
DL2	**Dalian**	**37.53 354**	P	**P**	**04 22 40.2**	**+0.6**
DL2			S	**S**	**04 28 30.0**	**+4.8**
DL2			pmax	pmax		
	comp=Z,240nm,0.8s					
DL2			pmax	pmax		
	comp=Z,510nm,4.5s					
DL2			LR	LR		
	comp=Z,2μm,18.4s					
DL2			LR	LR		
	comp=Z,1μm,19.6s					
DL2			LR	LR		
	comp=Z,3μm,21.7s					
CMSA	**Cobar Meteorol**	**37.60 152**	P	**P**	**04 22 39.9**	**-0.4**
	comp=Z,65nm,1.1s					
CMSA	**Cobar Meteorol**	**37.60 152**	P	**P**	**04 22 40.0**	**-0.4**
TW1H	**Toowoomba 1 Ha**	**37.94 141**	P	**P**	**04 22 43.7**	**+0.3**
JSD	**Sado**	**38.02 15**	IAmb	IAmb	04 22 48.5	
	comp=Z,60nm,1.0s					
JSD	**Sado**	**38.02 15**	P	**P**	**04 22 44.6**	**+0.8**
TIY	**Taiyuan**	**38.29 342**	*eP*	**P**	**04 22 47.0**	**+0.8**
TIY			sP	**sP**	**04 23 06.5**	**+1.9**
TIY			S	**S**	**04 28 38.2**	**+1.2**
TIY			sS	**sS**	**04 28 55.4**	**-3.1**
TIY			pmax	pmax		
	comp=Z,47nm,0.7s					
TIY			pmax	pmax		
	comp=Z,270nm,3.7s					
TIY			LR	LR		
	comp=Z,1μm,22.7s					
TIY			LR	LR		
	comp=Z,1μm,22.7s					
TIY			LR	LR		
	comp=Z,2μm,23.4s					
AUMBR	**Murray Bridge**	**38.36 163**	P	**P**	**04 22 47.6**	**+0.9**
AUWSH	**Wavell State H**	**38.51 140**	P	**P**	**04 22 48.8**	**+0.7**
SAIH	**SAIHA**	**38.57 305**	*eP*	**P**	**04 22 47.9**	**-1.0**
SAIH			IAmb	IAmb	04 22 54.3	
	comp=Z,81nm,0.7s					
JMM	**Marumori**	**38.60 18**	P	**P**	**04 22 49.9**	**+1.2**
IMP	**Imphal**	**38.97 309**	*eP*	**P**	**04 22 50.9**	**-1.2**
IMP			IAmb	IAmb	04 22 55.3	
	comp=Z,36nm,0.9s					
KOHI	**KOHIMA**	**39.31 311**	*eP*	**P**	**04 22 53.6**	**-1.5**
KOHI			IAmb	IAmb	04 22 55.6	
	comp=Z,88nm,1.1s					
MOKO	**MOKOCHONG**	**39.34 312**	*eP*	**P**	**04 22 55.0**	**-0.3**
MOKO			IAmb	IAmb	04 22 59.9	
	comp=Z,52nm,0.7s					
GC1S	**Gold Coast 1 S**	**39.34 140**	P	**P**	**04 22 54.7**	**-0.3**
AZL	**Aizawl**	**39.41 307**	*eP*	**P**	**04 22 55.6**	**-0.2**
AZL			IAmb	IAmb	04 22 59.6	
	comp=Z,36nm,0.6s					
BJT	**Baijiatuau**	**39.49 348**	P	**P**	**04 22 56.5**	**+0.4**
BJT	**Baijiatuau**	**39.49 348**	P	**P**	**04 22 56.0**	**-0.1**
BJI	**Beijing**	**39.51 348**	P	**P**	**04 22 56.5**	**+0.3**
BJI			S	**S**	**04 28 50.9**	**-4.2**
BJI			SS	**SS**	**04 31 49.2**	**-2.1**
BJI			pmax	pmax		
	comp=Z,33nm,0.7s					
BJI			pmax	pmax		
	comp=Z,160nm,4.2s					
BJI			LR	LR		
	comp=Z,420nm,25.3s					
BJI			LR	LR		
	comp=Z,410nm,23.6s					
BJI			LR	LR		
	comp=Z,970nm,26.9s					
AUDCS	**Dubbo College**	**39.59 150**	P	**P**	**04 22 57.2**	**+0.1**
BRDH	**Bariadhala**	**39.76 305**	LR	LR	04 40 42.0	
	comp=Z,2μm,20.7s,baz=126,slow=38					
JORH	**JORHAT**	**39.77 312**	*eP*	**P**	**04 22 57.7**	**-1.0**
ARMA	**Armidale**	**39.81 145**	P	**P**	**04 22 59.4**	**+0.3**
	comp=Z,205nm,0.9s					
ARMA	**Armidale**	**39.81 145**	P	**P**	**04 22 59.6**	**+0.5**
SNY	**Shenyang**	**40.27 357**	⇓P	**P**	**04 23 03.5**	**+0.9**
SNY			sS	**sS**	**04 29 27.9**	**-0.2**
SNY			pmax	pmax		
	comp=Z,110nm,0.8s					
SNY			pmax	pmax		
	comp=Z,520nm,6.9s					
SNY			LR	LR		
	comp=Z,720nm,21.8s					
SNY			LR	LR		
	comp=Z,770nm,24.5s					
SNY			LR	LR		
	comp=Z,2μm,22.5s					
LZH	**Lanzhou**	**40.28 331**	*eP*	**P**	**04 23 02.7**	**-0.3**
LZH			PcP	**PcP**	**04 25 08.8**	**+2.8**
LZH			PcS	**PcS**	**04 28 58.4**	**+1.8**
LZH			S	**S**	**04 29 03.9**	**-3.3**
LZH			pmax	pmax		
	comp=Z,63nm,1.1s					
LZH			pmax	pmax		
	comp=Z,440nm,4.1s					
LZH			LR	LR		
	comp=Z,2μm,17.5s					
LZH			LR	LR		
	comp=Z,2μm,18.7s					
LZH			LR	LR		
	comp=Z,3μm,23.2s					
ITAN	**ITANAGAR**	**40.38 312**	*eP*	**P**	**04 23 03.7**	**0.0**
ITAN			IAmb	IAmb	04 23 19.3	
	comp=Z,173nm,0.9s					
ZIRO	**ZIRO**	**40.50 313**	*eP*	**P**	**04 23 04.8**	**-0.2**
ZIRO			IAmb	IAmb	04 23 07.2	
	comp=Z,101nm,0.4s					
ARPS	**Mount Arapiles**	**40.66 161**	P	**P**	**04 23 05.9**	**0.0**
	comp=Z,525nm,1.0s					
ARPS	**Mount Arapiles**	**40.66 161**	P	**P**	**04 23 06.4**	**+0.5**
TEZP	**TEZPUR**	**40.79 311**	*eP*	**P**	**04 23 05.7**	**-1.4**
SHL	**Shillong**	**40.95 309**	P	**P**	**04 23 08.3**	**-0.4**
SHL			IAmb	IAmb	04 23 11.8	
	comp=Z,85nm,0.5s					
SHL	**Shillong**	**40.95 309**	P	**P**	**04 23 08.0**	**-0.6**
	SNR=26					
SHL	**Shillong**	**40.95 309**	*eP*	**P**	**04 23 07.7**	**-1.0**
SHL			IAmb	IAmb	04 23 11.7	
	comp=Z,75nm,0.5s					
SHL	**Shillong**	**40.95 309**	P	**P**	**04 23 08.3**	**-0.4**
SHL			pmax	pmax		
	comp=Z,85nm,0.5s					
MGBR	**Mount Gambier**	**41.15 163**	P	**P**	**04 23 10.0**	**+0.2**
YNG	**Young**	**41.16 152**	P	**P**	**04 23 10.6**	**+0.5**
	comp=Z,335nm,1.1s					
YNG	**Young**	**41.16 152**	P	**P**	**04 23 10.7**	**+0.7**
LUES	**Luesalemba Tem**	**41.17 108**	P	**P**	**04 23 10.8**	**+0.4**
PSTR	**Posyet**	**41.21 5**	*c iP*	**P**	**04 23 11.2**	**+0.9**
JTM	**Tenmabayashi**	**41.37 17**	P	**P**	**04 23 12.0**	**+0.4**
JTM			IAmb	IAmb	04 23 13.8	
	comp=Z,124nm,0.7s					
JTM	**Tenmabayashi**	**41.37 17**	P	**P**	**04 23 12.8**	**+1.2**
HHC	**Hu-ho-hao-te**	**41.44 343**	⇑*iP*	**P**	**04 23 13.2**	**+0.8**
HHC			sP	pwP	04 23 27.5	+0.3
HHC			PP	**PP**	**04 24 49.6**	**+0.7**
HHC			S	**S**	**04 29 26.2**	**+2.1**
HHC			pmax	pmax		
	comp=Z,26nm,0.7s					
HHC			pmax	pmax		
	comp=Z,340nm,6.7s					
HHC			LR	LR		
	comp=Z,2μm,23.4s					
HHC			LR	LR		
	comp=Z,720nm,20.2s					
HHC			LR	LR		
	comp=Z,3μm,22.7s					
MGCD	**Mangrove Creek**	**41.65 148**	P	**P**	**04 23 15.0**	**+1.0**
	comp=Z,64nm,1.0s					
MGCD	**Mangrove Creek**	**41.65 148**	P	**P**	**04 23 14.8**	**+0.8**
BTO	**Baotou**	**41.69 341**	*eP*	**P**	**04 23 16.9**	**+2.5**
BTO			pP	**pwP**	**04 23 28.7**	**-0.6**
BTO			sP	**sP**	**04 23 34.6**	**+1.7**
BTO			PP	**PnPn**	**04 24 58.6**	**+1.8**
BTO			S	**S**	**04 29 30.2**	**+2.4**
BTO			pmax	pmax		
	comp=Z,19nm,0.9s					
BTO			pmax	pmax		
	comp=Z,960nm,7.5s					
BTO			LR	LR		
	comp=Z,4μm,23.9s					
BTO			LR	LR		
	comp=Z,4μm,22.2s					
BTO			LR	LR		
	comp=Z,4μm,25.7s					
SYDH	**Sydney Hard Ro**	**41.88 149**	P	**P**	**04 23 17.0**	**+1.1**
TAWA	**Tawang**	**42.01 311**	*eP*	**P**	**04 23 17.8**	**+0.2**
AUHPC	**Hawkesdale P12**	**42.04 161**	P	**P**	**04 23 18.9**	**+1.8**
BRAT	**Ballarat**	**42.09 159**	P	**P**	**04 23 18.4**	**+0.9**
RIV	**Riverview**	**42.15 149**	P	**P**	**04 23 19.3**	**+1.2**
	comp=Z,100nm,1.3s					
CN2	**Changchun**	**42.18 359**	*eP*	**P**	**04 23 20.5**	**+2.3**
CN2			*eS*	**S**	**04 29 30.6**	**-4.1**
CN2			pmax	pmax		
	comp=Z,20nm,0.8s					
CN2			pmax	pmax		
	comp=Z,320nm,4.0s					
CN2			LR	LR		
	comp=Z,230nm,16.0s					
CN2			LR	LR		
	comp=Z,290nm,16.0s					
CAN	**Canberra**	**42.28 152**	P	**P**	**04 23 19.6**	**+0.4**
CAN			IAmb	IAmb	04 23 21.2	
	comp=Z,69nm,0.8s					
CAN	**Canberra**	**42.28 152**	P	**P**	**04 23 20.0**	**+0.8**
	comp=Z,94nm,1.0s					
CAN	**Canberra**	**42.28 152**	P	**P**	**04 23 19.8**	**+0.6**
CAN	**Canberra**	**42.28 152**	P	**P**	**04 23 19.6**	**+0.4**
CAN			pmax	pmax		
	comp=Z,69nm,0.8s					
CAN	**Canberra**	**42.28 152**	P	**P**	**04 23 19.5**	**+0.4**
CAN			PcP	**PcP**	**04 25 13.6**	**+1.2**
CNB	**Canberra Magne**	**42.44 152**	P	**P**	**04 23 21.2**	**+0.6**
	comp=Z,41nm,1.1s					
CNB	**Canberra Magne**	**42.44 152**	P	**P**	**04 23 19.3**	**-1.3**
WOLH	**Wollongong Har**	**42.46 149**	P	**P**	**04 23 21.8**	**+1.2**
TOO	**Toolangi**	**42.69 157**	P	**P**	**04 23 23.4**	**+0.9**
TOO	**Toolangi**	**42.69 157**	P	**P**	**04 23 23.4**	**+0.9**
	comp=Z,26nm,1.2s					
TOO	**Toolangi**	**42.69 157**	P	**P**	**04 23 23.4**	**+0.9**
TOO			pmax	pmax		
	comp=Z,62nm,1.6s					
USA0B	**Ussuriysk Arra**	**42.86 6**	⇓*eP*	**P**	**04 23 23.7**	**0.0**
USRK	**Ussuriysk Ar.**	**42.86 6**	P	**P**	**04 23 24.0**	**+0.3**
	comp=Z,32nm,0.7s,baz=193,slow=6.4,SNR=53					
USRK			LR	LR	04 39 00.7	
	comp=Z,657nm,21.4s,baz=199,slow=33					
	comp=Z,32nm,0.7s					
MDJ	**Mudanjiang**	**43.08 3**	IAMs_20	IAMs_20	04 43 34.5	
	comp=Z,2μm,22.0s					
MDJ	**Mudanjiang**	**43.08 3**	P	**P**	**04 23 26.7**	**+1.2**
MDJ			sP	sP	04 23 41.4	-2.7
MDJ			S	**S**	**04 29 48.6**	**+0.6**
MDJ			pmax	pmax		
	comp=Z,76nm,0.8s					
MDJ			pmax	pmax		
	comp=Z,760nm,6.0s					
MDJ			LR	LR		
	comp=Z,1μm,24.7s					
MDJ			LR	LR		
	comp=Z,890nm,24.7s					
MDJ			LR	LR		
	comp=Z,2μm,21.3s					
MDJ	**Mudanjiang**	**43.08 3**	P	**P**	**04 23 27.0**	**+1.5**
MDJ	**Mudanjiang**	**43.08 3**	P	**P**	**04 23 26.4**	**+0.9**
MDJ			PcP	**PcP**	**04 25 15.7**	**+0.9**
KOUNC	**Koumac, New Ca**	**43.11 123**	P	**P**	**04 23 26.4**	**+0.2**
ERM	**Erimo**	**43.12 18**	P	**P**	**04 23 25.5**	**-0.4**
ERM			IAmb	IAmb	04 24 05.7	
	comp=Z,82nm,1.1s					
ERM	**Erimo**	**43.12 18**	*i* P	**P**	**04 23 26.9**	**+1.0**
ERM			pmax	pmax		
	comp=Z,97nm,1.2s					
ERM	**Erimo**	**43.12 18**	P	**P**	**04 23 27.8**	**+1.9**
XLT	**XiLinHaoTe**	**43.24 349**	*eP*	**P**	**04 23 26.4**	**-0.6**
XLT			ScP	**ScP**	**04 28 59.6**	**-3.2**
XLT			S	**S**	**04 29 44.3**	**-6.3**
XLT			pmax	pmax		
	comp=Z,54nm,0.9s					
XLT			pmax	pmax		
	comp=Z,550nm,4.6s					
XLT			LR	LR		
	comp=Z,840nm,17.4s					
XLT			LR	LR		

comp=Z,24μm,20.8s
LSA Lhasa 43.68 313 P P 04 23 32.0 +0.9
LSA S **S** **04 29 59.1 +1.0**
LSA pmax pmax
comp=Z,33nm,0.7s
LSA LR LR
comp=Z,690nm,23.0s
LSA LR LR
comp=Z,800nm,21.6s
LSA Lhasa 43.68 313 P P 04 23 32.0 +0.9
LSA Lhasa 43.68 313 P P 04 23 31.7 +0.5
LSA pP **pP** **04 23 43.5 -0.4**
LSA PcP **PcP** **04 25 19.5 +1.7**
SANVU Saraoutou 43.75 114 P P 04 23 32.1 +0.8
BNX BinXian 44.12 1 ⇑P **P 04 23 34.5 +0.7**
BNX PP **PP** **04 25 17.7 +0.3**
BNX S **S** **04 30 05.8 +2.7**
BNX sS **sS** **04 30 25.6 +0.7**
BNX pmax pmax
comp=Z,35nm,0.8s
BNX pmax pmax
comp=Z,370nm,7.1s
BNX LR LR
comp=Z,1μm,26.6s
BNX LR LR
comp=Z,650nm,22.2s
BNX LR LR
comp=Z,2μm,29.3s
TEY Ternei 44.34 10⇑*e*P **P 04 23 36.8 +1.2**
TEY pmax pmax
comp=N,50nm,0.7s
TEY pmax pmax
comp=Z,80nm,0.7s
GTK Tadong 44.37 309 *e*P **P 04 23 35.8 -0.6**
GTA Gaotai 44.86 331 *e*P **P 04 23 40.0 -0.1**
GTA sP sP 04 23 58.5 -0.1
GTA PcP **PcP** **04 25 23.1 +1.9**
GTA S **S** **04 30 09.0 -5.4**
GTA sS sS 04 30 36.9 +0.6
GTA ScS **ScS** **04 33 34.7 +1.3**
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,210nm,5.6s
GTA LR LR
comp=Z,1μm,21.1s
GTA LR LR
comp=Z,980nm,21.1s
GTA LR LR
comp=Z,2μm,22.7s
JKA Kamikawa-asahi 44.87 17 IAmb IAmb 04 23 42.8
comp=Z,69nm,0.8s
VIS Vishakhapatnam 45.22 294 *e*P **P 04 23 43.0 -0.1**
VIS IAmb IAmb 04 23 45.7
comp=Z,15nm,0.7s
GOMU GeErMu 45.25 323 P **P 04 23 43.2 -0.3**
GOMU PcP **PcP** **04 25 24.2 +1.3**
GOMU S **S** **04 30 20.4 -0.1**
GOMU pmax pmax
comp=Z,28nm,1.4s
GOMU pmax pmax
comp=Z,630nm,7.0s
GOMU LR LR
comp=Z,2μm,19.1s
GOMU LR LR
comp=Z,2μm,23.8s
GOMU LR LR
comp=Z,4μm,23.5s
DVP Devils Point 45.40 117 P **P 04 23 45.3 +0.8**
NOUC Port Laguerre 45.48 123 P **P 04 23 45.2 +0.1**
NOUC pP **pP** **04 23 56.2 -1.6**
RAGD RAYAGADA 45.55 296 *e*P **P 04 23 45.5 -0.1**
RAGD IAmb IAmb 04 23 49.4
comp=Z,40nm,0.8s
DZM Mont Dzumac 45.58 123 IAmb IAmb 04 23 47.5
comp=Z,88nm,1.0s
DZM Mont Dzumac 45.58 123 LR LR 04 45 18.8
comp=Z,450nm,19.2s,baz=331,slow=39
DZM Mont Dzumac 45.58 123 P **P 04 23 45.8 -0.2**
DZM Mont Dzumac 45.58 123 P **P 04 23 46.4 +0.4**
ONTNC Ouen Toro 45.70 124 P **P 04 23 45.1 -1.6**
ONTNC IAmb IAmb 04 23 47.9
comp=Z,101nm,1.1s
ONTNC Ouen Toro 45.70 124 P **P 04 23 47.4 +0.6**
PALK Pallekele 45.84 279 P **P 04 23 48.1 0.0**
PALK Pallekele 45.84 279 IAMs_20 IAMs_20 04 45 07.6
comp=Z,2μm,22.0s
PALK Pallekele 45.84 279 LR LR 04 44 58.3
comp=Z,1μm,20.2s,baz=102,slow=39
PALK Pallekele 45.84 279 P **P 04 23 49.0 +0.9**
PALK Pallekele 45.84 279 P **P 04 23 48.2 0.0**
PALK pmax pmax
comp=Z,24nm,0.9s
PALK MLR MLR
comp=Z,2μm,22.0s
YATNC Mamie plateau, 45.95 123 P **P 04 23 49.6 +0.8**
CORO Coronation Par 46.70 158 P **P 04 23 53.8 -0.5**
YSS Yuzhno-Sakhali 47.53 15 P **P 04 24 00.8 +0.1**
YSS IAmb IAmb 04 24 04.3
comp=Z,53nm,0.6s
YSS Yuzhno-Sakhali 47.53 15 P **P 04 24 02.4 +1.7**
YSS Yuzhno-Sakhali 47.53 15 *e*P **P 04 24 00.9 +0.2**
YSS *e* 04 25 52.8
YSS *e*S **S** **04 30 51.9 -0.2**
YSS pmax pmax
comp=Z,300nm,3.3s
YSS pmax pmax
comp=Z,70nm,0.6s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,600nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
MOO Moorlands 47.58 159 P **P 04 24 02.1 +1.0**
BLSP Bilaspur 47.63 299 *e*P **P 04 24 01.0 -1.0**
BLSP IAmb IAmb 04 24 03.8
comp=Z,41nm,0.5s
KLR Kul'dur 47.83 5*c e*P **P 04 24 03.3 +0.3**
KLR pmax pmax
comp=Z,55nm,0.8s
HIA Hailar 47.97 354 IAMs_20 IAMs_20 04 44 17.5
comp=Z,1μm,22.0s
HIA Hailar 47.97 354 P **P 04 24 05.3 +1.1**
HIA Hailar 47.97 354 P **P 04 24 05.0 +0.8**
HEH HeiHe 48.63 1 *e*P **P 04 24 09.0 -0.2**
HEH S **S** **04 31 04.7 -2.9**
HEH pmax pmax
comp=Z,81nm,0.8s
HEH pmax pmax
comp=Z,700nm,7.4s
HEH LR LR
comp=Z,1μm,22.4s
HEH LR LR
comp=Z,630nm,21.8s
HEH LR LR
comp=Z,2μm,21.8s
SALM Salem 48.81 284 *e*P **P 04 24 10.8 -0.3**
SALM IAmb IAmb 04 24 16.4
comp=Z,51nm,0.5s
ALBI Allahabad 49.02 303 *e*P **P 04 24 11.5 -1.2**
ALBI IAmb IAmb 04 24 14.4
comp=Z,40nm,0.7s
ULN Ulaanbaatar 49.16 343 P **P 04 24 13.7 +0.2**
ULN IAmb IAmb 04 24 16.3
comp=Z,32nm,0.8s
ULN Ulaanbaatar 49.16 343 P **P 04 24 14.7 +1.2**
ULN S **S** **04 31 14.7 -0.8**
ULN Ulaanbaatar 49.16 343 P **P 04 24 13.7 +0.2**
ULN pmax pmax
comp=Z,32nm,0.8s
ULN MLR MLR
comp=Z,800nm,21.0s
ULN Ulaanbaatar 49.16 343 P **P 04 24 14.4 +0.9**
ULN pP **pP** **04 24 26.3 -0.2**
ULN sP **sP** **04 24 31.3 -0.9**
SONM Songino Array 49.33 342 P **P 04 24 14.8 0.0**
SONM Songino Array 49.33 342 P **P 04 24 14.6 -0.1**
comp=Z,24nm,0.8s,baz=159,slow=7.5,SNR=124
SONM PcP **PcP** **04 25 38.0 +1.2**
comp=Z,7.5nm,0.9s,baz=132,slow=4.1,SNR=1.8
SONM LR LR 04 49 07.8
comp=Z,734nm,19.2s,baz=160,slow=41
SONM PKP2ab 04 56 03.6
comp=Z,0.5nm,0.9s,baz=5.7,slow=1.2,SNR=3.6
comp=Z,24nm,0.8s
SONM Songino Array 49.33 342 P **P 04 24 14.8 0.0**
SONM pmax pmax
comp=Z,23nm,0.8s
UGL Uglegorsk 49.33 14 *e*P **P 04 24 15.1 +0.6**
UGL pmax pmax
comp=Z,700nm,3.6s
UGL pmax pmax
comp=Z,140nm,0.7s
HYB Hyderabad 49.55 292 *e*P **P 04 24 15.6 -1.2**
HYB IVmB_BB 04 24 15.8
comp=Z,515nm,2.4s
HYB IVmBB 04 24 21.3
comp=Z,549nm,2.0s
HYB IVMs_BB IVMs_BB 04 44 02.0
comp=Z,545nm,24.3s
TRD Trivandrum 49.65 280 *e*P **P 04 24 16.3 -1.3**
TRD IAmb IAmb 04 24 22.4
comp=Z,72nm,1.0s
GRNR Gornyy 49.88 8⇑*i*P **P 04 24 19.3 +0.6**
GRNR pmax pmax
comp=Z,20nm,0.8s
NGP Nagpur 50.06 297 *e*P **P 04 24 19.2 -1.4**
NGP IAmb IAmb 04 24 26.8
comp=Z,16nm,0.5s
TYV Tymovskoe 51.14 13 *e*P **P 04 24 29.1 +0.9**
TYV *e*S **S** **04 31 44.4 +1.9**
TYV pmax pmax
comp=Z,500nm,4.2s
TYV pmax pmax
comp=Z,14nm,1.1s
TYV smax smax
comp=N,900nm,8.9s
TYV smax smax
comp=E,100nm,8.9s
CIT Chita 51.52 350 *e*P **P 04 24 33.0 +1.9**
CIT *e* 04 24 52.2
CIT *e* 04 26 27.4
CIT pmax pmax
comp=Z,230nm,1.8s
AKL Akola 51.77 295 *e*P **P 04 24 32.5 -0.9**
AKL IAmb IAmb 04 24 35.4
comp=Z,88nm,0.6s
JHNI Jhansi 51.85 302 *e*P **P 04 24 32.3 -1.7**
LGTI Lohaghat 51.91 307 *e*P **P 04 24 33.6 -0.7**
LGTI IAmb IAmb 04 24 36.9
comp=Z,26nm,0.6s
PTH Pithoragarh 51.97 307 *e*P **P 04 24 33.2 -1.8**
BHPL Bhopal 52.11 299 *e*P **P 04 24 34.6 -1.4**
BHPL IAmb IAmb 04 24 37.7
comp=Z,49nm,0.7s
ZEA Zeya 52.12 1 *e*P **P 04 24 35.9 +0.4**
ZEA *e* 04 26 41.4
ZEA *e*S **S** **04 32 00.7 +4.8**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,0.7s
ZEA pmax pmax
comp=Z,200nm,7.3s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA smax smax
comp=N,200nm,8.2s
NRDN NARMADA NAGAR 52.18 298 *e*P **P 04 24 39.0 +2.5**
NRDN IAmb IAmb 04 24 42.8
comp=Z,55nm,1.0s
ZAK Zakamensk 52.54 342 *e*P **P 04 24 38.1 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
GUNA GUNA 52.62 300 *e*P **P 04 24 38.1 -1.6**
GUNA IAmb IAmb 04 24 42.1
comp=Z,157nm,1.0s
JOSI Joshimath 52.90 308 *e*P **P 04 24 41.6 -0.3**
JOSI IAmb IAmb 04 24 46.9
comp=Z,67nm,0.8s
KAD Karad 53.61 290 *e*P **P 04 24 46.0 -1.1**
KAD IAmb IAmb 04 24 48.6
comp=Z,32nm,0.7s
DDI Dehra Dun 54.00 307 *e*P **P 04 24 51.9 +2.1**
DDI IAmb IAmb 04 24 57.2
comp=Z,64nm,0.6s
POO Poona 54.16 292 *e*P **P 04 24 49.6 -1.6**
POO IAmb IAmb 04 24 51.4
comp=Z,23nm,0.7s
HNLY HANLEY 54.27 310 *e*P **P 04 24 51.9 -0.5**
HNLY IAmb IAmb 04 24 55.8
comp=Z,29nm,0.8s
MSVF Nonsavu 54.36 113 P **P 04 24 52.6 -0.1**
MSVF IAmb IAmb 04 24 55.0
comp=Z,94nm,1.1s
MSVF Nonsavu 54.36 113 LR LR 04 48 08.1
comp=Z,1μm,21.9s,baz=313,slow=36
MSVF Nonsavu 54.36 113 P **P 04 24 53.4 +0.8**
MSVF Nonsavu 54.36 113 P **P 04 24 52.6 -0.1**
MSVF pmax pmax
comp=Z,94nm,1.1s
WMQ Urumqi 54.37 326 *e*P **P 04 24 53.3 +1.0**
WMQ S **S** **04 32 27.7 +0.6**
WMQ pmax pmax
comp=Z,74nm,0.9s
WMQ pmax pmax
comp=Z,260nm,5.7s
WMQ LR LR
comp=Z,2μm,24.2s
WMQ LR LR
comp=Z,1μm,20.7s
WMQ LR LR
comp=Z,2μm,21.9s
WMQ Urumqi 54.37 326 P **P 04 24 53.2 +0.8**
WMQ pP **pP** **04 25 04.6 -0.9**
MOY Mondy 54.38 341 *e*P **P 04 24 53.1 +0.8**
MOY pmax pmax
comp=Z,107nm,3.9s
DGAR Diego Garcia 54.47 260 P **P 04 24 54.6 +1.2**
DGAR IAmb IAmb 04 24 55.6
comp=Z,73nm,0.9s
DGAR Diego Garcia 54.47 260 P **P 04 24 54.6 +1.2**
DGAR pmax pmax
comp=Z,73nm,1.0s
KUDL Kundal 54.48 304 *e*P **P 04 24 52.0 -1.3**
KUDL IAmb IAmb 04 24 55.3
comp=Z,80nm,1.1s
SMLA Simla 55.01 308 *e*P **P 04 24 56.2 -0.8**
SMLA IAmb IAmb 04 25 00.5
comp=Z,137nm,0.8s
AJM Ajmer 55.49 301 *e*P **P 04 24 59.4 -1.3**
AJM IAmb IAmb 04 25 08.2
comp=Z,25nm,0.7s
DGTI Dogotuki 55.57 111 P **P 04 25 02.1 +0.7**
BHK Bhakra 55.72 308 *e*P **P 04 25 01.9 -0.3**
BHK IAmb IAmb 04 25 07.8
comp=Z,108nm,0.7s
DHRM DHARAMSHALA 56.12 309 *e*P **P 04 25 04.7 -0.7**
DHRM IAmb IAmb 04 25 06.8
comp=Z,143nm,0.7s
BOD Bodaibo 57.05 352 *e*P **P 04 25 11.9 +0.7**
BOD pmax pmax
comp=Z,75nm,1.8s
OUZ Omahuta 57.24 134 P **P 04 25 13.5 +0.6**
JMU Jammu 57.40 309 *e*P **P 04 25 15.2 +1.2**
PETK Petropavlovsk- 57.68 22 P **P 04 25 16.0 +0.3**
PETK Petropavlovsk- 57.68 22 P **P 04 25 16.3 +0.6**
comp=Z,19nm,0.5s,baz=228,slow=8.4,SNR=62
PETK LR LR 04 50 47.2
comp=Z,184nm,20.3s,baz=216,slow=37
comp=Z,19nm,0.5s
PET Petropavlovsk 57.97 22 *e*P **P 04 25 16.7 -1.0**
PET *e*S **S** **04 33 17.4 +3.1**
PET pmax pmax
comp=Z,60nm,1.5s
PET pmax pmax
comp=Z,1μm,6.1s
PET pmax pmax
comp=Z,2μm,4.7s
WUS Wushi 58.01 319 P **P 04 25 18.7 +0.3**
ZSN Zaisan 58.21 328 *e*P **P 04 25 20.1 +0.5**
ZSN pmax pmax
comp=Z,15nm,0.7s
ZSN Zaisan 58.21 328 *e*P **P 04 25 19.0 -0.6**
SHLS Shalkode 58.86 321 *e*P **P 04 25 21.9 -2.3**
SHLS pmax pmax
comp=Z,33nm,0.8s
SHLS Shalkode 58.86 321 *e*P **P 04 25 22.0 -2.3**
comp=Z,33nm,0.8s
PDGK Podgornoye 58.93 322 P **P 04 25 23.8 -1.0**
MSZ Milford Sound 58.95 146 P **P 04 25 25.8 +1.1**
NIL Nilore 59.02 309 P **P 04 25 25.3 -0.2**
NIL IAmb IAmb 04 25 46.8
comp=Z,55nm,0.8s
NIL Nilore 59.02 309 P **P 04 25 25.4 -0.1**
NIL Nilore 59.02 309 P **P 04 25 25.3 -0.2**
NIL pmax pmax
comp=Z,55nm,0.8s
NIL MLR MLR
comp=Z,600nm,21.0s
NIL Nilore 59.02 309 P **P 04 25 25.2 -0.2**
DCZ Deep Cove 59.03 148 IAmb IAmb 04 25 27.2
comp=Z,79nm,1.2s
DCZ Deep Cove 59.03 148 P **P 04 25 25.1 -0.1**
JCZ Jackson Bay 59.05 145 P **P 04 25 27.1 +1.5**
JCZ Jackson Bay 59.05 145 P **P 04 25 26.2 +0.7**
UZB Uzynbulak 59.13 321 *e*P **P 04 25 25.4 -0.8**
UZB Uzynbulak 59.13 321 *e*P **P 04 25 25.5 -0.8**
PRZ Przheval'sk 59.18 320 IAMs_20 IAMs_20 04 53 02.6
comp=Z,940nm,21.0s
MK31 Makanchi Array 59.21 326 P **P 04 25 26.1 -0.4**
MK31 IAmb IAmb 04 25 30.5
comp=Z,29nm,0.7s
MK31 Makanchi Array 59.21 326 P **P 04 25 26.1 -0.4**
MK31 pmax pmax
comp=Z,29nm,0.7s
MKAR Makanchi Array 59.21 326 P **P 04 25 26.3 -0.2**
comp=Z,33nm,0.5s,baz=122,slow=8.7,SNR=178
MKAR PcP **PcP** **04 26 13.7 -0.8**
comp=Z,25nm,0.8s,baz=119,slow=4.7,SNR=4.9
MKAR S **S** **04 33 27.4 -3.4**
comp=Z,0.4nm,0.8s,baz=54,slow=3.1,SNR=1.8
MKAR LR LR 04 51 24.1
comp=Z,2μm,21.7s,baz=110,slow=36
MKAR PKPPKP **P'P'df** **04 54 58.8 -0.1**
comp=Z,0.7nm,0.9s,baz=329,slow=1.4,SNR=3.8
comp=Z,33nm,0.5s
MKAR Makanchi Array 59.21 326 *i* P **P 04 25 25.7 -0.8**
MKAR pmax pmax
comp=Z,33nm,0.5s
FOZ Fox Glacier 59.31 144 IAmb IAmb 04 25 29.4
comp=Z,54nm,0.9s
FOZ Fox Glacier 59.31 144 P **P 04 25 27.6 +0.3**
KSH Kashi 59.39 316 P **P 04 25 28.9 +0.9**
KSH S **S** **04 33 35.9 +2.3**
KSH ScS **ScS** **04 35 13.4 -0.9**
KSH pmax pmax
comp=Z,45nm,1.0s
KSH pmax pmax
comp=Z,270nm,4.9s
KSH LR LR
comp=Z,2μm,21.0s
KSH LR LR
comp=Z,750nm,19.2s
KSH LR LR
comp=Z,2μm,24.7s
MAKZ Makanchi 59.39 326 P **P 04 25 27.5 -0.3**
MAKZ IAmb IAmb 04 25 31.7
comp=Z,32nm,0.6s
MAKZ Makanchi 59.39 326 P **P 04 25 27.5 -0.3**
MAKZ pmax pmax
comp=Z,31nm,0.6s
QRZ Quartz Range 59.42 140 P **P 04 25 27.7 -0.4**
SATY Saty 59.47 321 *e*P **P 04 25 28.0 -0.5**
SATY pmax pmax
comp=Z,44nm,0.9s
SATY Saty 59.47 321 *e*P **P 04 25 28.1 -0.5**
comp=Z,44nm,0.9s
MLZ Mavora Lakes 59.49 147 P **P 04 25 28.2 -0.3**
KPKS Kokpek 59.50 321 *e*P **P 04 25 28.1 -0.6**
KPKS pmax pmax
comp=Z,27nm,0.7s
KPKS Kokpek 59.50 321 *e*P **P 04 25 28.1 -0.6**
comp=Z,27nm,0.7s
ZHN Zhinishke 59.51 321 *e*P **P 04 25 28.1 -0.6**
ZHN Zhinishke 59.51 321 *e*P **P 04 25 28.1 -0.6**
WKZ Wanaka 59.65 146 P **P 04 25 29.1 -0.5**
KDJ Kajisay 59.79 319 P **P 04 25 30.5 -0.3**
KDJ IAmb IAmb 04 25 33.9
comp=Z,56nm,0.8s
KDJ IAMs_20 IAMs_20 04 52 13.4
comp=Z,1μm,22.0s
KDJ Kajisay 59.79 319 P **P 04 25 30.5 -0.3**
KDJ pmax pmax
comp=Z,56nm,0.8s
KDJ MLR MLR
comp=Z,1μm,22.0s
TOZ Tahuroa Road 59.80 136 P **P 04 25 31.2 +0.5**
INZ Inchbonnie 59.80 143 IAmb IAmb 04 25 34.2
comp=Z,58nm,1.1s
INZ Inchbonnie 59.80 143 P **P 04 25 30.0 -0.6**
LBZ Lake Benmore 60.04 145 P **P 04 25 31.8 -0.4**
EAZ Earnscleugh 60.06 146 P **P 04 25 31.5 -0.8**
RPZ Rata Peaks 60.15 144 P **P 04 25 33.2 +0.2**
RPZ Rata Peaks 60.15 144 LR LR 04 53 22.9
comp=Z,948nm,20.8s,baz=306,slow=38
RPZ Rata Peaks 60.15 144 P **P 04 25 33.2 +0.2**
THZ Tophouse 60.16 141 P **P 04 25 32.4 -0.9**
THZ Tophouse 60.16 141 P **P 04 25 32.1 -1.1**
NNZ Nelson 60.17 140 P **P 04 25 31.4 -1.8**
NRN Naryn 60.24 318 IAmb IAmb 04 25 36.6
comp=Z,25nm,0.7s
LTZ Lake Taylor 60.34 143 IAmb IAmb 04 25 36.4
comp=Z,60nm,1.2s
LTZ Lake Taylor 60.34 143 P **P 04 25 34.6 +0.3**
APZ The Paps 60.36 148 P **P 04 25 33.8 -0.6**
MDOK Medeo 60.38 320 P **P 04 25 34.7 -0.1**
MDOK Medeo 60.38 320 *e*P **P 04 25 34.4 -0.4**
TNSS Tian-Shan 60.38 320 *e*P **P 04 25 34.3 -0.9**
TNSS Tian-Shan 60.38 320 *e*P **P 04 25 34.4 -0.8**
ULHL Ulahol 60.46 319 P **P 04 25 35.6 +0.2**
SNR=9.8
TDK Taldyqorghan 60.47 323 *e*P **P 04 25 34.7 -0.5**
TDK pmax pmax
comp=Z,31nm,0.7s
TDK Taldyqorghan 60.47 323 *e*P **P 04 25 34.8 -0.5**
comp=Z,31nm,0.7s
YAK Yakutsk 60.48 2 P **P 04 25 35.7 +0.8**
YAK Yakutsk 60.48 2 LR LR 04 49 44.4
comp=Z,400nm,20.9s,baz=171,slow=34
YAK Yakutsk 60.48 2 *e*P **P 04 25 35.4 +0.5**
YAK *e**PP **pP** **04 25 49.5 +1.1**
YAK *e* 04 26 18.1
YAK *e* 04 27 46.8
YAK *e*S **S** **04 33 47.1 +0.6**
YAK *e**SS **sS** **04 34 14.3 +5.4**
YAK *e* 04 35 18.4
YAK *e*SS **SS** **04 37 49.1 +3.9**
YAK pmax pmax
comp=Z,96nm,0.9s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,112nm,3.0s
YAK pmax pmax
comp=N,71nm,3.2s
YAK pmax pmax
comp=E,63nm,3.0s
YAK smax smax
comp=N,243nm,3.7s
YAK smax smax
comp=E,136nm,4.0s
YAK MLR MLR
comp=Z,1μm,27.0s
YAK MLR MLR
comp=N,864nm,27.0s
YAK Yakutsk 60.48 2 P **P 04 25 35.3 +0.4**
AAA Alma-Ata 60.49 320 *e*P **P 04 25 35.0 -0.4**
AAA pmax pmax
comp=Z,26nm,0.5s
AAA Alma-Ata 60.49 320 *e*P **P 04 25 35.0 -0.4**
comp=Z,26nm,0.5s
OXZ Oxford 60.51 143 IAmb IAmb 04 25 47.7
comp=Z,28nm,0.6s
WTVZ West Tongariro 60.54 137 P **P 04 25 36.7 +0.8**
NNVZ North Ngauruho 60.56 137 P **P 04 25 36.3 +0.1**
NGZ Ngauruhoe 60.58 137 P **P 04 25 36.5 +0.3**
NTVZ North Tongarir 60.59 137 P **P 04 25 36.7 +0.5**
SNVZ South Ngauruho 60.61 137 P **P 04 25 36.4 0.0**
TMVZ Te Maari 60.62 137 P **P 04 25 37.0 +0.6**

ETVZ East Tongariro 60.63 137 P **P** **04 25 36.2 -0.3**
WNVZ Wahianoa 60.65 138 P **P** **04 25 36.5 -0.2**
TUZ Tuapeka 60.69 147 P **P** **04 25 36.9 +0.3**
MOVZ Moawhango 60.79 138 P **P** **04 25 36.5 -1.0**
GVZ Greta Valley S 60.91 142 P **P** **04 25 38.1 -0.2**
KHZ Kahutara 60.92 142 IAmb IAmb 04 25 39.6
comp=Z,55nm,0.8s
KHZ Kahutara 60.92 142 P **P** **04 25 36.8 -1.4**
MA2 Magadan 61.00 14 P **P** **04 25 38.8 +0.3**
MA2 Magadan 61.00 14 P **P** **04 25 40.1 +1.6**
MA2 Magadan 61.00 14 *ce*P **P** **04 25 39.6 +1.1**
MA2 pmax pmax
comp=Z,78nm,0.8s
MA2 Magadan 61.00 14 P **P** **04 25 39.0 +0.5**
comp=Z,1µmcomp=Z,117nm,0.8s
MA2 Magadan 61.00 14 P **P** **04 25 39.5 +1.0**
SNZO South Karori 61.07 140 P **P** **04 25 38.9 -0.4**
SNZO South Karori 61.07 140 P **P** **04 25 39.3 0.0**
SNZO pP **pP** **04 25 51.4 -1.3**
MQZ McQueen's Vall 61.09 143 IAMs_20 IAMs_20 04 47 44.1
comp=Z,951nm,18.0s
MQZ McQueen's Vall 61.09 143 P **P** **04 25 39.0 -0.4**
URZ Urewera 61.17 136 LR LR 04 55 24.5
comp=Z,756nm,18.2s,baz=38,slow=39
URZ Urewera 61.17 136 P **P** **04 25 41.2 +1.1**
URZ Urewera 61.17 136 P **P** **04 25 38.4 -1.6**
BKZ Black Stump Fm 61.18 137 P **P** **04 25 40.0 -0.2**
BKZ Black Stump Fm 61.18 137 P **P** **04 25 39.1 -1.0**
TKM2 Tokmak 2 61.20 320 P **P** **04 25 40.0 -0.5**
SNR=43
TKM2 Tokmak 2 61.20 320 P **P** **04 25 39.9 -0.5**
RTZ Ruatahuna 61.25 136 P **P** **04 25 39.5 -1.2**
KWHZ Kaweka Forest 61.25 137 P **P** **04 25 40.0 -0.7**
TSZ Takapari Road 61.25 138 P **P** **04 25 39.8 -0.8**
MRZ Mangatainoka R 61.30 139 P **P** **04 25 39.1 -1.8**
KRHZ Kereru 61.32 138 P **P** **04 25 40.2 -0.9**
PNHZ Pukenui 61.34 138 P **P** **04 25 40.2 -1.1**
NMHZ Naumai 61.36 137 P **P** **04 25 40.9 -0.5**
HAZ Te Kaha 61.41 135 P **P** **04 25 41.4 -0.3**
RUGZ Raukumara Rang 61.43 135 P **P** **04 25 40.7 -1.3**
MCHZ McNeill Hill 61.45 137 P **P** **04 25 41.7 -0.2**
RAHZ Arahi 61.46 137 P **P** **04 25 41.8 -0.2**
RAGZ Rawiri 61.49 136 P **P** **04 25 41.2 -1.2**
MWZ Matawai 61.50 136 P **P** **04 25 41.1 -1.2**
KBK Karagaybulak 61.50 319 P **P** **04 25 43.0 +0.6**
SNR=15
SNGZ Shannon Statio 61.58 136 P **P** **04 25 42.4 -0.5**
UCH Uchtor 61.59 318 P **P** **04 25 44.4 +0.9**
SNR=7.4
KAHZ Kahuranaki 61.74 138 P **P** **04 25 43.0 -0.9**
TWGZ Tauwhareparae 61.74 135 P **P** **04 25 43.6 -0.4**
TRWZ Traveller 61.75 140 P **P** **04 25 42.9 -1.0**
BFZ Birch Farm 61.75 139 P **P** **04 25 43.1 -0.8**
CHMS Chumysh 61.78 319 P **P** **04 25 45.0 +0.8**
SNR=8.1
AAK Ala-Archa 61.79 319 P **P** **04 25 44.2 -0.2**
AAK IAmb IAmb 04 25 50.7
comp=Z,38nm,1.3s
AAK Ala-Archa 61.79 319 S **S** **04 34 01.7 -2.5**
comp=Z,0.3nm,0.3s,baz=307,slow=17,SNR=1.2
AAK Ala-Archa 61.79 319 P **P** **04 25 45.0 +0.6**
AAK Ala-Archa 61.79 319 P **P** **04 25 44.8 +0.3**
SNR=15
AAK Ala-Archa 61.79 319 *ce*P **P** **04 25 44.7 +0.3**
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 61.79 319 *i* P **P** **04 25 43.8 -0.6**
SNR=24
AAK Ala-Archa 61.79 319 P **P** **04 25 44.7 +0.3**
AAK pP **pP** **04 25 57.6 -0.2**
ANWZ Angora Road 61.79 138 P **P** **04 25 42.9 -1.3**
RIGZ Rimuhau 61.83 136 P **P** **04 25 43.5 -1.1**
PXZ Pawanui 61.84 138 P **P** **04 25 43.0 -1.6**
WMGZ Waiomatatini S 61.89 135 P **P** **04 25 43.6 -1.3**
PUZ Puketiti 61.89 135 P **P** **04 25 43.4 -1.6**
CNGZ Carnagh Statio 62.04 136 P **P** **04 25 44.8 -1.1**
SGDS Sogindy 62.07 320 *eP* **P** **04 25 45.5 -0.6**
SGDS Sogindy 62.07 320 *eP* **P** **04 25 45.5 -0.6**
USP Ospenovka 62.07 319 P **P** **04 25 45.3 -0.8**
SNR=32
AML Almayashu 62.09 318 P **P** **04 25 47.4 +0.6**
SNR=36
EKS2 Erkin-Say 62.27 319 P **P** **04 25 48.3 +0.7**
SNR=23
ZAA0 Zalesovo Array 62.44 334 P **P** **04 25 47.2 -1.0**
ZALV Zalesovo Beam 62.44 334 P **P** **04 25 47.3 -0.9**
ZALV Zalesovo Beam 62.44 334 P **P** **04 25 47.5 -0.8**
comp=Z,14nm,0.4s,baz=126,slow=7.1,SNR=44
ZALV S **S** **04 34 09.3 -2.3**
comp=Z,0.5nm,0.5s,baz=187,slow=22,SNR=1.2
ZALV LR LR 04 54 38.2
comp=Z,627nm,21.0s,baz=133,slow=38
ZALV PKPPKP **P'P'df** **04 54 52.6 -0.7**
comp=Z,0.3nm,0.3s,baz=270,slow=3.0,SNR=3.9
ZALV PKP2bc 04 54 59.7
comp=Z,4.5nm,0.9s,baz=336,slow=3.3,SNR=4.7
comp=Z,14nm,0.4s
KBL Kabul 62.61 309 P **P** **04 25 49.9 -0.2**
KBL Kabul 62.61 309 P **P** **04 25 49.6 -0.5**
SNR=32
KBL Kabul 62.61 309 P **P** **04 25 49.9 -0.2**
KBL pmax pmax
comp=Z,52nm,0.7s
BTLS Baital 63.18 321 *eP* **P** **04 25 52.9 -0.5**
BTLS Baital 63.18 321 *eP* **P** **04 25 52.9 -0.5**
GAR Garm 63.19 314 IAMs_20 IAMs_20 04 56 41.9
comp=Z,1µm,21.0s
BTK Batken 63.23 315 IAmb IAmb 04 25 56.2
comp=Z,31nm,0.8s
BTK Batken 63.23 315 P **P** **04 25 53.5 -0.4**
KURBB Kurchatov Arra 63.45 328 P **P** **04 25 54.4 -0.6**
comp=Z,35nm,0.5s,baz=129,slow=5.5,SNR=6.1
KURBB S **S** **04 34 20.9 -3.4**
comp=Z,0.2nm,0.4s,baz=57,slow=34,SNR=2.9
KURBB LR LR 04 54 28.0
comp=Z,337nm,21.4s,baz=142,slow=37
KURBB PKPPKP **P'P'df** **04 54 51.2 -0.8**
comp=Z,1.3nm,1.0s,baz=289,slow=3.6,SNR=6.1
KURBB PKP2bc 04 54 56.7
comp=Z,1.9nm,0.9s,baz=294,slow=3.7,SNR=9.9
KURBB PKP2ab 04 55 04.2
comp=Z,1.4nm,0.9s,baz=305,slow=3.5,SNR=4.1
comp=Z,35nm,0.5s
KURK Kurchatov 63.45 328 P **P** **04 25 54.9 -0.1**
KURK Kurchatov 63.45 328 P **P** **04 25 54.6 -0.5**
KURK Kurchatov 63.45 328 *ce*P **P** **04 25 54.6 -0.5**
KURK pmax pmax
comp=Z,81nm,0.6s
KURK Kurchatov 63.45 328 P **P** **04 25 54.6 -0.5**
DZA Taraz 64.00 318 *eP* **P** **04 25 58.3 -0.6**
DZA Taraz 64.00 318 *eP* **P** **04 25 58.4 -0.6**
SIMJ Simiganj 64.02 313 P **P** **04 25 59.0 -0.2**
SIMJ IAmb IAmb 04 26 05.2
comp=Z,46nm,0.9s
SEY Seymchan 64.33 13 LR LR 04 57 09.2
comp=Z,170nm,19.2s,baz=195,slow=39
SEY Seymchan 64.33 13 *ce*P **P** **04 26 02.2 +1.6**
SEY pmax pmax
comp=Z,53nm,1.3s
IUG Iuzhnay 64.58 317 *eP* **P** **04 26 02.3 -0.5**
IUG pmax pmax
comp=Z,26nm,0.6s
IUG Iuzhnay 64.58 317 *eP* **P** **04 26 02.3 -0.5**
comp=Z,26nm,0.6s
SHEM Shemya Is, Ala 64.62 30 LR LR 04 48 12.2
comp=Z,630nm,20.9s,baz=244,slow=30
KK31 Karatay Array 64.64 318 IAmb IAmb 04 26 05.3
comp=Z,20nm,0.7s
KK31 Karatay Array 64.64 318 *i* P **P** **04 26 02.4 -0.7**
KKAR Karatay Array 64.64 318 P **P** **04 26 02.3 -0.7**
KKAR Karatay Array 64.64 318 IAmb IAmb 04 26 05.2
comp=Z,13nm,0.7s
KKAR Karatay Array 64.64 318 P **P** **04 26 02.3 -0.7**
BRLS Borolday 65.06 318 *eP* **P** **04 26 05.3 -0.5**
BRLS pmax pmax
comp=Z,10.0nm,0.6s
BRLS Borolday 65.06 318 *eP* **P** **04 26 05.4 -0.5**
BRZS Berezniki 66.32 325 *eP* **P** **04 26 13.2 -0.6**
BRZS pmax pmax
comp=Z,96nm,3.7s
BRZS Berezniki 66.32 325 *eP* **P** **04 26 13.6 -0.2**
CASY Casey 68.52 187 P **P** **04 26 27.8 +0.5**
CASY pP **pP** **04 26 41.1 +0.3**
DRV Dumont d'Urvil 68.66 174 P **P** **04 26 27.8 -0.4**
DRV pP **pP** **04 26 40.3 -1.7**
WSAR Wadi Sarin 68.98 294 LR LR 04 57 39.2
comp=Z,727nm,21.5s,baz=108,slow=37
BVA0 Borovoye Array 69.01 328 *i* P **P** **04 26 30.6 -0.1**
BVAR Borovoye Array 69.01 328 P **P** **04 26 30.1 -0.6**
comp=Z,19nm,0.5s,baz=126,slow=7.5,SNR=73
BVAR S **S** **04 35 29.1 -2.8**
comp=Z,0.3nm,0.4s,baz=349,slow=39,SNR=1.6
BVAR PKPPKP **P'P'df** **04 54 43.4 +0.6**
comp=Z,1.2nm,0.8s,baz=266,slow=4.5,SNR=5.4
BVAR LR LR 04 57 07.3
comp=Z,870nm,21.6s,baz=126,slow=36
comp=Z,19nm,0.5s
BRVK Borovoye 69.09 328 P **P** **04 26 31.3 +0.2**
BRVK IAmb IAmb 04 26 57.9
comp=Z,77nm,1.1s
BRVK Borovoye 69.09 328 P **P** **04 26 31.1 0.0**
BRVK S **S** **04 35 32.9 +0.2**
BRVK Borovoye 69.09 328 P **P** **04 26 31.3 +0.2**
BRVK pmax pmax
comp=Z,77nm,1.1s
TIXI Tiksi 70.11 1 P **P** **04 26 37.1 0.0**
TIXI IAmb IAmb 04 26 46.8
comp=Z,32nm,0.8s
TIXI Tiksi 70.11 1 IAMs_20 IAMs_20 05 02 22.9
comp=Z,925nm,22.0s
TIXI Tiksi 70.11 1 S **S** **04 35 46.0 +2.0**
comp=Z,2.5nm,0.4s,baz=26,slow=2.8,SNR=2.2
TIXI LR LR 04 55 54.0
comp=Z,738nm,21.6s,baz=194,slow=35
TIXI Tiksi 70.11 1 P **P** **04 26 37.1 0.0**
TIXI pmax pmax
comp=Z,32nm,0.8s
TIXI MLR MLR
comp=Z,900nm,22.0s
BSY Bisya 70.23 294 P **P** **04 26 39.4 +0.6**
ARQ Araqi 70.92 294 P **P** **04 26 43.6 +0.6**
SOHO SOHO 71.00 295 P **P** **04 26 44.3 +0.8**
SOHO SOHO 71.00 295 P **P** **04 26 43.6 +0.1**
MSEY Mahe Island 71.05 265 IAMs_20 IAMs_20 04 53 25.3
comp=Z,2µm,22.0s
UOSS Minazif 71.40 296 P **P** **04 26 45.9 +0.1**
UOSS IAmb IAmb 04 28 44.4
comp=Z,44nm,0.7s
UOSS Minazif 71.40 296 P **P** **04 26 46.1 +0.2**
UOSS Minazif 71.40 296 P **P** **04 26 45.6 -0.3**
BANOM Banah 71.44 297 P **P** **04 26 47.0 +0.9**
BANOM Banah 71.44 297 P **P** **04 26 45.7 -0.5**
HATD Hatta, Dubai 71.45 296 P **P** **04 26 47.1 +0.9**
HATD Hatta, Dubai 71.45 296 P **P** **04 26 46.8 +0.6**
MASF Masafi 71.50 296 P **P** **04 26 48.2 +1.7**
ASHO Ashiyiah 71.50 295 P **P** **04 26 47.1 +0.6**
ASHO Ashiyiah 71.50 295 P **P** **04 26 46.6 +0.1**
SHME Shamm 71.60 297 P **P** **04 26 48.9 +1.9**
SHME Shamm 71.60 297 P **P** **04 26 48.7 +1.6**
ALNE Al Ain 71.70 295 P **P** **04 26 47.7 0.0**
SNR=6.6
ALNE Al Ain 71.70 295 *i* P **P** **04 26 48.3 +0.6**
SNR=6.5
BILL Bilibino 71.84 15 P **P** **04 26 48.1 +0.4**
BILL Bilibino 71.84 15 *c i* P **P** **04 26 47.2 -0.4**
BILL pmax pmax
comp=Z,20nm,1.0s
BILL Bilibino 71.84 15 P **P** **04 26 47.6 -0.1**
NAZ Nazwa, Dubai 71.90 296 P **P** **04 26 49.4 +0.5**
NAZ Nazwa, Dubai 71.90 296 P **P** **04 26 48.9 0.0**
FAQ Al Faqa, Dubai 71.93 295 P **P** **04 26 49.6 +0.5**
FAQ Al Faqa, Dubai 71.93 295 P **P** **04 26 49.6 +0.5**
ASUD Al Ashush, Dub 72.15 295 P **P** **04 26 51.3 +0.9**
ASUD Al Ashush, Dub 72.15 295 *i* P **P** **04 26 50.4 0.0**
SNR=8.1
AJN Ajban 72.45 295 P **P** **04 26 53.1 +0.9**
SNR=5.2
RER Riviere de l'E 72.48 247 P **P** **04 26 53.1 +0.6**
RER IAmb IAmb 04 26 57.3
comp=Z,64nm,0.9s
NRIK Noril'sk 72.54 347 IAmb IAmb 04 26 53.7
comp=Z,64nm,0.8s
NRIK Noril'sk 72.54 347 P **P** **04 26 51.9 +0.1**
comp=Z,62nm,0.7s,baz=132,slow=6.3,SNR=56
NRIK S **S** **04 36 12.6 +0.4**
comp=Z,1.3nm,0.4s,baz=290,slow=20,SNR=5.8
NRIK LR LR 05 03 57.9
comp=Z,443nm,19.5s,baz=145,slow=40
comp=Z,62nm,0.7s
NRIK Noril'sk 72.54 347 *ce*P **P** **04 26 51.7 -0.1**
NRIK pmax pmax
comp=Z,67nm,0.8s
DOK Doka 72.69 289 P **P** **04 26 57.0 +3.3**
SNR=6.7
WHFO Wadi Hawf 72.97 288 P **P** **04 26 54.0 -1.5**
SNR=5.8
ABTO Aybut 73.39 288 P **P** **04 26 58.2 +0.3**
AB31 Akbulak array 73.66 321 *i* P **P** **04 26 58.1 -0.7**
ABKAR Akbulak array 73.66 321 P **P** **04 26 58.8 -0.1**
ABKAR Akbulak array 73.66 321 IAmb IAmb 04 27 02.0
comp=Z,31nm,0.7s
MZR Muzera 73.67 293 P **P** **04 26 59.2 -0.2**
MZR Muzera 73.67 293 *i* P **P** **04 26 59.2 -0.2**
SNR=18
GHWR Ruwais 74.31 294 P **P** **04 27 02.7 -0.4**
JRN Qarnain Island 74.43 295 P **P** **04 27 03.7 -0.1**
SPIA Saint Paul Isl 74.65 30 P **P** **04 27 05.0 +0.6**
baz=248
P08K Saint George I 74.79 31 P **P** **04 27 06.1 +1.0**
baz=249
AKTO Aktyubinsk 75.20 322 P **P** **04 27 07.9 +0.2**
comp=Z,51nm,0.7s,baz=106,slow=6.3,SNR=92
AKTO S **S** **04 36 41.1 -1.8**
comp=Z,0.3nm,0.4s,baz=331,slow=24,SNR=1.0
AKTO LR LR 05 03 53.9
comp=Z,880nm,20.5s,baz=138,slow=39
comp=Z,51nm,0.7s
SLWR Sila 75.40 294 P **P** **04 27 09.2 -0.1**
UNV Unalaska Valle 75.51 34 P **P** **04 27 09.8 +0.4**
baz=252
SVE Sverdlovsk 75.69 329 *de*P **P** **04 27 10.1 -0.3**
SVE pmax pmax
comp=Z,113nm,0.8s
TRNA Turayna 75.89 295 P **P** **04 27 12.9 +0.7**
SHMA Al-Shehemyia 76.21 296 P **P** **04 27 13.6 -0.4**
SMRA Abu-Samra 76.24 295 P **P** **04 27 13.8 -0.4**
SAKB Bahrain 76.61 296 P **P** **04 27 15.5 -0.7**
GAMB Gambell 76.62 24 P **P** **04 27 16.6 +1.0**
baz=245
ARTI Arti 76.73 328 P **P** **04 27 15.9 -0.4**
ARTI IAmb IAmb 04 27 18.5
comp=Z,60nm,0.8s
ARTI Arti 76.73 328 P **P** **04 27 15.6 -0.7**
comp=Z,48nm,0.7s,baz=116,slow=2.6,SNR=54
ARTI S **S** **04 36 58.8 -0.7**
comp=Z,2.1nm,0.4s,baz=92,slow=22,SNR=1.6
ARTI LR LR 05 03 05.7
comp=Z,538nm,21.5s,baz=111,slow=37
comp=Z,48nm,0.7s
ARTI Arti 76.73 328 *c i* P **P** **04 27 15.3 -1.0**
ARTI 04 27 29.8
ARTI 04 30 07.9
ARTI S **S** **04 37 00.3 +0.8**
ARTI pmax pmax
comp=Z,64nm,0.8s
ARTI MLR MLR
comp=Z,864nm,20.0s
SBV Sambava 77.14 256 P **P** **04 27 20.9 +1.5**
FALS False Pass 77.53 34 P **P** **04 27 21.9 +1.1**
baz=254
M11K Mekoryuk 77.75 28 P **P** **04 27 23.4 +1.5**
baz=251
MLH Mauna Loa 78.46 71 P **P** **04 27 26.9 -0.2**
S12K Black Hills 78.50 33 P **P** **04 27 26.8 +0.5**
baz=255
KNHH Kane Nui o Ham 78.66 71 P **P** **04 27 28.0 0.0**
STCH Steam Cracks 78.70 71 P **P** **04 27 28.3 +0.1**
K13K Kusilvak Mount 78.96 27 P **P** **04 27 30.0 +1.5**
baz=252
M13K Dall Lake 79.11 28 IAmb IAmb 04 27 33.2
comp=Z,103nm,1.2s
M13K Dall Lake 79.11 28 P **P** **04 27 31.3 +1.9**
baz=253
LKRN Lenkeran, Azer 79.39 309 P **P** **04 27 32.8 +1.4**
F14K Arctic Creek 79.42 23 P **P** **04 27 32.3 +1.3**
baz=250
ANM Nome 79.49 24 P **P** **04 27 32.7 +1.2**
baz=251
CHNA Chernabura Isl 79.67 34 P **P** **04 27 32.9 +0.3**
baz=258
L14K Kuka Creek 79.68 28 P **P** **04 27 33.7 +1.2**
baz=254
J14K Nanvaranak Lak 79.69 26 P **P** **04 27 33.4 +0.9**
baz=253
N14K Kuskokwak Cree 79.78 29 P **P** **04 27 34.0 +1.0**
baz=255
O14K Tigyukauivet M 79.81 30 IAmb IAmb 04 28 13.4
comp=Z,94nm,1.4s
O14K Tigyukauivet M 79.81 30 P **P** **04 27 34.5 +1.3**
baz=255
M14K Bethel 79.86 28 IAmb IAmb 04 27 37.0
comp=Z,82nm,1.1s
M14K Bethel 79.86 28 P **P** **04 27 35.6 +2.1**
baz=254
S14K Fog Glacier 80.01 33 P **P** **04 27 35.5 +0.9**
baz=257
F15K North Star Dit 80.15 23 IAMs_20 IAMs_20 05 03 26.5
comp=Z,615nm,21.0s
F15K North Star Dit 80.15 23 P **P** **04 27 36.0 +1.0**
baz=251
G15K Niukluk 80.17 24 P **P** **04 27 36.1 +0.9**
baz=252
ABPO Ambohimpanom 80.18 251 P **P** **04 27 37.3 +1.0**
ABPO IAmb IAmb 04 27 44.4
comp=Z,41nm,0.9s
ABPO IAMs_20 IAMs_20 04 59 54.0
comp=Z,803nm,21.0s
ABPO Ambohimpanom 80.18 251 P **P** **04 27 37.3 +1.0**
ABPO pmax pmax
comp=Z,41nm,0.9s
L15K Ungalak Mounta 80.33 27 P **P** **04 27 37.1 +1.1**
baz=255
M15K Kasigluk River 80.45 28 P **P** **04 27 38.0 +1.3**
baz=256
K15K Wolf Creek Mou 80.47 27 P **P** **04 27 38.2 +1.5**
baz=255
AKT Akhty 80.51 312 *c i* P **P** **04 27 38.0 +0.4**
AKT *e**PP **pP** **04 27 51.8 +0.3**
AKT *e**SP **sP** **04 27 56.7 -0.2**
AKT *e*PPP PPP 04 32 34.8
AKT pmax pmax
comp=Z,45nm,0.8s
O15K Ungalikthiuk R 80.51 30 P **P** **04 27 37.9 +0.9**
baz=257
N15K Kwethluk River 80.61 29 IAmb IAmb 04 28 01.4
comp=Z,59nm,1.2s
N15K Kwethluk River 80.61 29 P **P** **04 27 38.9 +1.3**
baz=256
CHGN Chignik 80.63 33 P **P** **04 27 38.2 +0.5**
baz=258
C16K Lisburne Hills 80.74 21 IAmb IAmb 04 27 41.5
comp=Z,50nm,1.1s
C16K Lisburne Hills 80.74 21 P **P** **04 27 39.0 +0.9**
baz=250
H16K Elim 80.80 24 P **P** **04 27 39.3 +0.8**
baz=254
MAK Makhachkala 80.84 313 *e*P **P** **04 27 36.3 -2.9**
MAK *e**PP **pP** **04 27 52.7 -0.3**
MAK *e* 04 30 42.6
MAK *e*PPP PPP 04 32 32.6
MAK *e*S **S** **04 37 38.6 -5.3**
MAK *e*SS **SS** **04 42 58.8 +0.4**
VOI Vohitsoka 80.84 248 P **P** **04 27 40.4 +0.6**
VOI IAmb IAmb 04 27 48.0
comp=Z,41nm,0.7s
VOI Vohitsoka 80.84 248 P **P** **04 27 40.2 +0.5**
SEKA Sheki 80.87 311 P **P** **04 27 40.1 +0.6**
MNGR Mingechevir, A 80.91 311 P **P** **04 27 40.8 +1.2**
G16K Koyuk River 80.97 24 P **P** **04 27 40.5 +1.2**
baz=253
RAYN Ar Rayn 81.02 293 P **P** **04 27 40.6 0.0**
RAYN IAmb IAmb 04 27 42.8
comp=Z,43nm,0.8s
RAYN Ar Rayn 81.02 293 IAMs_20 IAMs_20 05 06 26.0
comp=Z,950nm,21.0s
RAYN Ar Rayn 81.02 293 P **P** **04 27 40.4 -0.3**
RAYN Ar Rayn 81.02 293 P **P** **04 27 40.6 0.0**
RAYN pmax pmax
comp=Z,43nm,0.8s
RAYN MLR MLR
comp=Z,900nm,21.0s
RAYN Ar Rayn 81.02 293 *i* P **P** **04 27 40.6 0.0**
SNR=41
J16K Anvik River 81.14 26 P **P** **04 27 41.7 +1.4**
baz=255
VNDA Vanda 81.23 173 P **P** **04 27 41.1 +0.5**
VNDA IAmb IAmb 04 27 57.0
comp=Z,39nm,0.8s
VNDA Vanda 81.23 173 P **P** **04 27 40.3 -0.2**
comp=Z,20nm,0.5s,baz=316,slow=7.5,SNR=73
VNDA LR LR 05 02 01.9
comp=Z,384nm,22.0s,baz=344,slow=34
comp=Z,20nm,0.5s
VNDA Vanda 81.23 173 P **P** **04 27 41.1 +0.5**
VNDA pmax pmax
comp=Z,39nm,0.8s
I17K Unalakleet 81.25 25 P **P** **04 27 42.3 +1.5**
baz=255
L16K Owhat River 81.26 28 P **P** **04 27 42.1 +1.1**
baz=257
M16K Timber Creek 81.35 28 P **P** **04 27 42.6 +1.0**
baz=257
D17K Noatak River 81.37 21 P **P** **04 27 43.0 +1.6**
baz=252,SNR=33
P16K Nushagak River 81.40 30 P **P** **04 27 42.5 +0.8**
baz=258
O16K Kokwok River B 81.47 30 P **P** **04 27 43.2 +1.1**
baz=258
GANJ Ganja 81.48 311 P **P** **04 27 43.5 +0.8**
MAW Mawson 81.50 200 P **P** **04 27 42.3 +0.2**
comp=Z,51nm,1.1s,baz=62,slow=7.4,SNR=2.5
comp=Z,51nm,1.1s
RDOG Red Dog Mine 81.54 21 IAmb IAmb 04 27 48.3
comp=Z,46nm,1.1s
RDOG Red Dog Mine 81.54 21 P **P** **04 27 43.5 +1.1**
baz=252,SNR=22
C17K DeLong Mountai 81.57 21 P **P** **04 27 43.6 +1.0**
baz=252
E17K Hotham Inlet 81.65 22 P **P** **04 27 44.3 +1.4**
baz=254,SNR=27
G17K Kiwalik Mounta 81.68 24 P **P** **04 27 44.5 +1.3**
baz=255,SNR=18
F17K Baldwin Pennin 81.69 23 IAmb IAmb 04 28 06.8
comp=Z,88nm,1.7s
F17K Baldwin Pennin 81.69 23 P **P** **04 27 43.9 +0.7**
baz=254
J17K VABM Dome 81.83 26 P **P** **04 27 45.1 +1.1**
baz=257
H17K Granite Mounta 81.84 24 IAmb IAmb 04 27 50.1
comp=Z,58nm,1.4s
H17K Granite Mounta 81.84 24 P **P** **04 27 45.2 +1.1**
baz=256,SNR=7.1
L17K Donlin 81.90 27 P **P** **04 27 45.8 +1.4**
baz=258
KIRV Kirov 81.96 329 P **P** **04 27 45.0 +0.3**
comp=Z,91nm,0.6s,baz=213,slow=0.5,SNR=31
KIRV S **S** **04 37 52.9 -1.9**
comp=Z,7.4nm,0.5s,baz=290,slow=1.3,SNR=3.6
KIRV LR LR 05 07 23.4
comp=Z,450nm,21.5s,baz=99,slow=38
comp=Z,91nm,0.6s
KIRV Kirov 81.96 329 *ce*P **P** **04 27 44.9 +0.2**
BELG Belogornoye 81.97 323 P **P** **04 27 45.1 +0.2**
comp=Z,175nm,1.0s,baz=336,slow=0.8,SNR=44
BELG LR LR 05 05 07.5
comp=Z,500nm,21.9s,baz=82,slow=36
comp=Z,175nm,1.0s
BELG Belogornoye 81.97 323 *c i* P **P** **04 27 44.8 -0.1**
BELG pmax pmax
comp=Z,37nm,1.1s
NAX Nakhchivan 81.98 309 P **P** **04 27 46.7 +1.3**
O17K Koliganek Bris 82.00 30 P **P** **04 27 46.0 +1.1**
baz=259,SNR=6.3
K17K Iditarod 82.02 27 P **P** **04 27 46.6 +1.6**
baz=258
CHIR Chirikof Islan 82.09 34 P **P** **04 27 46.6 +1.1**
baz=261
N17K Nushagak Hills 82.10 29 P **P** **04 27 46.5 +1.0**
baz=259
M17K Holitna River 82.15 28 P **P** **04 27 47.3 +1.5**
baz=258
E18K Tukpahlearik C 82.20 22 P **P** **04 27 47.0 +1.1**
baz=255
B18K Kokolik River 82.31 20 P **P** **04 27 47.6 +1.2**
baz=253
C18K Utukok River 82.32 21 P **P** **04 27 47.4 +0.9**

baz=254
Q17K Contact Creek 82.34 31 P **P 04 27 46.9 0.0**
baz=260,SNR=9.5
F18K Selawik 82.36 23 P **P 04 27 47.7 +1.1**
baz=256,SNR=19
H18K Honhosa River 82.53 24 P **P 04 27 48.1 +0.5**
baz=257
G18K Tagagawik 82.58 24 P **P 04 27 48.6 +0.7**
baz=257
GNI Garni 82.64 310 P **P 04 27 49.5 +0.5**
GNI IAmb IAmb 04 28 08.0
comp=Z,64nm,0.9s
GNI Garni 82.64 310 P **P 04 27 50.5 +1.5**
GNI Garni 82.64 310 *i* P **P 04 27 49.9 +1.0**
GNI pmax pmax
comp=Z,47nm,0.9s
GNI Garni 82.64 310 P **P 04 27 50.3 +1.4**
GNI Garni 82.64 310 P **P 04 27 50.0 +1.0**
comp=Z,949nmcomp=Z,80nm,0.9s
L18K Granite Mounta 82.66 27 P **P 04 27 49.4 +1.1**
baz=259
N18K Kilae Creek 82.75 29 P **P 04 27 49.8 +0.9**
baz=260
P18K Big Mountain, 82.87 30 P **P 04 27 49.8 +0.3**
baz=261
J18K Innoko River 82.88 26 P **P 04 27 50.4 +0.8**
baz=259,SNR=25
M18K Stony River 82.93 28 P **P 04 27 51.0 +1.2**
baz=260
O18K Koktuh Hills 82.95 30 IAmb IAmb 04 27 53.3
comp=Z,35nm,1.1s
O18K Koktuh Hills 82.95 30 P **P 04 27 50.8 +0.8**
baz=261
SII Sitkinak Islan 82.99 33 P **P 04 27 50.4 +0.2**
baz=262
GCSA Galena City Sc 83.06 25 P **P 04 27 51.4 +1.1**
baz=258
TTA Tatalina 83.10 27 IAmb IAmb 04 27 54.1
comp=Z,49nm,1.0s
TTA Tatalina 83.10 27 P **P 04 27 51.7 +0.9**
baz=260,SNR=41
TTA Tatalina 83.10 27 P **P 04 27 53.0 +2.3**
F19K Shaleruckik Mo 83.14 23 P **P 04 27 51.9 +1.2**
baz=258
TRLG Trialeti 83.22 311 P **P 04 27 52.5 +0.5**
G19K Purcell Mounta 83.26 23 P **P 04 27 52.5 +1.1**
baz=258
D19K Kuna River 83.38 21 P **P 04 27 53.0 +1.0**
baz=257
H19K Roundabout Mou 83.39 24 P **P 04 27 53.3 +1.3**
baz=259
O19K Port Alsworth 83.44 30 P **P 04 27 52.6 +0.2**
baz=261
N19K Bonanza Creek 83.46 29 P **P 04 27 53.6 +1.0**
baz=261
J19K Poorman 83.46 26 P **P 04 27 53.1 +0.7**
baz=260
E19K Redstone River 83.47 22 P **P 04 27 53.7 +1.3**
baz=258
L19K White Mountain 83.50 28 P **P 04 27 54.0 +1.3**
baz=261
OHAK Old Harbor 83.57 33 IAmb IAmb 04 27 57.8
comp=Z,25nm,0.7s
OHAK Old Harbor 83.57 33 P **P 04 27 53.9 +0.8**
baz=263
OHAK Old Harbor 83.57 33 P **P 04 27 56.6 +3.5**
Q19K Cape Douglas, 83.61 31 P **P 04 27 54.2 +0.8**
baz=262
M19K Big River Lodg 83.67 28 P **P 04 27 55.1 +1.5**
baz=261
NCK Nalchik 83.73 313 *i* P **P 04 27 55.1 +0.8**
NCK pmax pmax
comp=Z,53nm,0.6s
P19K Oil Pt 83.91 30 P **P 04 27 55.1 +0.2**
baz=262
KARS Kars 83.94 311 P **P 04 27 57.3 +1.7**
KARS pmax pmax
comp=Z,128nm,0.8s
D20K Etivluk River 83.96 21 P **P 04 27 56.1 +1.2**
baz=258
F20K Avaraart Lake 83.97 23 P **P 04 27 56.5 +1.5**
baz=259
L20K Farewell, AK 83.99 27 P **P 04 27 56.2 +1.0**
baz=262,SNR=16
KDAK Kodiak Island 84.01 32 P **P 04 27 56.4 +1.0**
KDAK IAmb IAmb 04 27 58.4
comp=Z,48nm,1.0s
KDAK Kodiak Island 84.01 32 P **P 04 27 55.7 +0.3**
comp=Z,34nm,0.9s,baz=308,slow=1.8,SNR=21
KDAK LR LR 05 00 10.7
comp=Z,363nm,21.8s,baz=99,slow=32
comp=Z,34nm,0.9s
KDAK Kodiak Island 84.01 32 P **P 04 27 55.8 +0.4**
baz=263
KDAK Kodiak Island 84.01 32 P **P 04 27 56.4 +1.0**
KDAK pmax pmax
comp=Z,48nm,1.0s
E20K Nigu River 84.02 21 P **P 04 27 56.3 +1.0**
baz=259
H20K Anotleneega Mo 84.03 24 P **P 04 27 56.5 +1.1**
baz=260
K20K Telida 84.04 26 P **P 04 27 56.2 +0.7**
baz=261
I20K Naaghedeneel 84.08 25 P **P 04 27 57.1 +1.5**
baz=261
J20K Nowinta River 84.13 26 P **P 04 27 57.3 +1.5**
baz=261
Q20K Shuyak Island 84.21 31 P **P 04 27 57.2 +0.8**
baz=263
SYI Shuyak Island 84.21 31 IAmb IAmb 04 27 59.0
comp=Z,58nm,1.0s
GOF Gofitskoye 84.23 315 *ce*P **P 04 27 56.2 -0.6**
KBZ Khabaz 84.25 314 P **P 04 27 57.0 +0.1**
comp=Z,35nm,0.8s,baz=110,slow=5.0,SNR=43
comp=Z,35nm,0.8s
KBZ Khabaz 84.25 314 *ce*P **P 04 27 57.1 +0.2**
KBZ pmax pmax
comp=Z,48nm,0.9s
M20K Styx River 84.26 28 IAmb IAmb 04 28 00.2
comp=Z,52nm,1.1s
M20K Styx River 84.26 28 P **P 04 27 57.6 +0.9**
baz=262,SNR=28
O20K Slope Mountain 84.27 30 P **P 04 27 57.3 +0.6**
baz=263
SIRT Sirnak 84.28 307 IAMs_20 IAMs_20 05 01 40.9
comp=Z,716nm,20.0s
KVAR Kislovodsk Arr 84.42 314 P **P 04 27 58.6 +0.7**
comp=Z,9.8nm,0.7s,baz=135,slow=10.0,SNR=6.8
KVAR LR LR 05 09 42.6
comp=Z,204nm,21.3s,baz=246,slow=39
comp=Z,9.8nm,0.7s
KIV Kislovodsk 84.42 314 P **P 04 27 58.6 +0.6**
KIV IAmb IAmb 04 28 09.5
comp=Z,48nm,0.8s
KIV Kislovodsk 84.42 314 P **P 04 27 58.9 +1.0**
KIV Kislovodsk 84.42 314 ⇑P **P 04 27 59.0 +1.0**
KIV Kislovodsk 84.42 314 *eP* **P 04 27 58.0 +0.1**
KIV *e* 04 38 17.3
KIV *e*SSS SSS 04 47 22.5
KIV pmax pmax
comp=Z,122nm,3.0s
KIV pmax pmax
comp=Z,47nm,1.0s
KIV MLR MLR
comp=Z,430nm,20.0s
KIV Kislovodsk 84.42 314 *i* P **P 04 27 58.5 +0.6**
SNR=10
SHA1 Shidzhatmaz 84.43 314 *i* P **P 04 27 58.2 +0.1**
A21K Barrow 84.49 18 P **P 04 27 58.8 +1.3**
baz=258
SPCR Spurr Chakacha 84.61 29 P **P 04 27 58.3 -0.2**
baz=263,SNR=14
C21K Knifeblade Rid 84.69 21 P **P 04 27 59.5 +0.9**
baz=260
HOM Homer 84.71 30 P **P 04 27 58.8 -0.1**
baz=264
G21K Allakaket 84.75 23 P **P 04 27 59.6 +0.6**
baz=261
PPT Papeete 84.80 108 LR LR 05 05 38.4
comp=Z,189nm,18.6s,baz=266,slow=36
PPLA Purkeypile 84.82 27 P **P 04 27 59.9 +0.3**
baz=263
B21K Ikpikpuk River 84.83 20 IAmb IAmb 04 28 03.0
comp=Z,62nm,0.9s
B21K Ikpikpuk River 84.83 20 P **P 04 28 00.3 +1.0**
baz=260
F21K Alatna River 84.86 23 P **P 04 28 00.8 +1.2**
baz=261,SNR=10

E21K Killik River 84.86 21 P **P 04 28 00.1 +0.5**
baz=261
CHUM Lake Minchumin 84.89 26 P **P 04 28 00.7 +1.1**
baz=263
CNPM China Poot 84.91 30 IAmb IAmb 04 28 01.8
comp=Z,54nm,0.9s
H21K Melozitna Rive 84.91 24 P **P 04 28 00.8 +0.9**
baz=262
CAST Castle Rocks 84.93 27 P **P 04 28 00.7 +0.7**
baz=263
SKT Skwentna 85.02 28 IAmb IAmb 04 28 04.1
comp=Z,28nm,1.0s
SKT Skwentna 85.02 28 P **P 04 27 59.6 -0.8**
baz=264,SNR=22
CAPN Captain Cook N 85.07 29 P **P 04 28 00.7 +0.1**
baz=264
BCA Borcka 85.08 311 ⇑P **P 04 28 02.5 +1.3**
BRSE Bradley Lake S 85.18 30 P **P 04 28 01.2 -0.1**
baz=264,SNR=18
I21K Tanana 85.19 25 P **P 04 28 01.4 +0.3**
baz=263
SUA Susitna One 85.34 29 P **P 04 28 01.5 -0.7**
baz=264,SNR=52
B22K Teshekpuk Lake 85.35 20 P **P 04 28 02.6 +0.7**
baz=261
D22K Ayikyak River 85.40 21 P **P 04 28 03.1 +0.9**
baz=262
BPAW Bear Paw Mtn. 85.49 26 P **P 04 28 03.1 +0.4**
baz=264
VRH Novokhopyorsk 85.50 321 *eP* **P 04 28 01.2 -1.8**
VRH pmax pmax
comp=Z,130nm,1.0s
H22K Ishtalitna Cre 85.52 24 P **P 04 28 04.0 +1.1**
baz=264
G22K Bettles 85.59 23 P **P 04 28 04.0 +0.9**
baz=263
E22K Anaktuvuk Pass 85.62 22 P **P 04 28 04.1 +0.7**
baz=263
CUT Chulitna 85.65 28 P **P 04 28 02.4 -1.1**
baz=265
M22K Willow 85.66 28 P **P 04 28 03.0 -0.5**
baz=265,SNR=31
TRF Thorofare Moun 85.74 27 P **P 04 28 03.7 -0.5**
baz=265
O22K Cooper Landing 85.75 30 P **P 04 28 04.1 0.0**
baz=265,SNR=11
RC01 Rabbit Creek A 85.79 29 IAmb IAmb 04 28 07.9
comp=Z,41nm,0.8s
RC01 Rabbit Creek A 85.79 29 P **P 04 28 02.6 -1.7**
baz=265,SNR=28
SEW Seward 85.85 30 IAmb IAmb 04 28 13.2
comp=Z,35nm,0.9s
SEW Seward 85.85 30 P **P 04 28 04.4 -0.2**
baz=266,SNR=10
LABN Labinsk 85.86 314 *eP* **P 04 28 02.2 -2.8**
LABN *e**PP **PcP 04 28 12.6 +4.9**
LABN *e*S **SKSac 04 38 24.3 -2.5**
LABN pmax pmax
comp=Z,49nm,0.6s
KOPT Kop Dagi 85.88 310 IAMs_20 IAMs_20 05 09 41.2
comp=Z,583nm,21.0s
ERBR Yeremizino-Bor 86.07 316 *eP* **P 04 28 03.8 -2.2**
ERBR *e**PP **PcP 04 28 13.2 +4.6**
ERBR *e*S **SKSac 04 38 26.5 -1.5**
ERBR pmax pmax
comp=Z,159nm,0.9s
PMR Palmer 86.12 28 P **P 04 28 05.1 -0.8**
baz=266,SNR=28
PMR Palmer 86.12 28 P **P 04 28 08.9 +3.0**
D23K Nanushuk River 86.13 21 P **P 04 28 06.9 +1.1**
baz=264
COLD Coldfoot 86.13 23 IAmb IAmb 04 28 09.3
comp=Z,30nm,0.8s
COLD Coldfoot 86.13 23 P **P 04 28 05.5 -0.4**
baz=264,SNR=43
G23K Bananza Creek 86.15 23 P **P 04 28 06.7 +0.7**
baz=265
GHO Glory Hole Cre 86.23 28 IAmb IAmb 04 28 19.0
comp=Z,19nm,0.8s
C23K Itkillik River 86.24 20 P **P 04 28 06.8 +0.5**
baz=264
I23K Minto, Yukon-K 86.29 25 P **P 04 28 06.6 0.0**
baz=265,SNR=22
VSLR Vesyoloye 86.32 313 *d i* P **P 04 28 07.5 +0.2**
VSLR pmax pmax
comp=Z,195nm,0.8s
MCK McKinley 86.36 26 IAmb IAmb 04 28 26.5
comp=Z,73nm,1.8s
MCK McKinley 86.36 26 P **P 04 28 06.2 -0.9**
baz=266,SNR=7.2
NEA2 Nenana 86.37 25 P **P 04 28 06.6 -0.5**
baz=266,SNR=6.0
RND Reindeer 86.38 27 IAmb IAmb 04 28 44.2
comp=Z,45nm,1.6s
E23K Chandalar 86.43 22 P **P 04 28 07.6 +0.2**
baz=265
KNK Knik Glacier 86.43 29 P **P 04 28 07.3 -0.2**
baz=266,SNR=18
PWL Port Wells 86.46 29 P **P 04 28 07.9 +0.3**
baz=267,SNR=28
KTUT Trabzon 86.46 311 ⇑P **P 04 28 07.9 -0.1**
TOLK Toolik Lake Re 86.50 21 IAmb IAmb 04 28 10.6
comp=Z,26nm,0.9s
TOLK Toolik Lake Re 86.50 21 P **P 04 28 08.5 +0.8**
baz=265
SML Sawmill 86.52 28 IAmb IAmb 04 28 11.2
comp=Z,49nm,1.1s
SML Sawmill 86.52 28 P **P 04 28 07.0 -0.9**
baz=266,SNR=17
SOC Sochi 86.56 313 *eP* **P 04 28 06.5 -1.9**
SOC *e* 04 31 27.8
SOC *e*PPP PPP 04 33 22.6
SOC *e*S **SKSac 04 38 30.0 -1.1**
SOC *e*SS **SS 04 44 18.9 -4.0**
SOC *e*SSS SSS 04 47 58.5
SOC pmax pmax
comp=Z,56nm,0.7s
SOC MLR MLR
comp=Z,432nm,18.0s
M23K Glacier View 86.80 28 P **P 04 28 08.5 -0.8**
baz=267,SNR=14
D24K Happy Valley 86.81 21 P **P 04 28 09.3 +0.2**
baz=266
E24K Your Creek 86.85 22 P **P 04 28 09.9 +0.5**
baz=266
P23K Montague Islan 86.87 30 P **P 04 28 08.6 -1.0**
baz=267
C24K Franklin Bluff 86.89 20 P **P 04 28 09.6 +0.1**
baz=266
COLA College 86.91 25 P **P 04 28 09.2 -0.4**
baz=267
COLA College 86.91 25 P **P 04 28 10.5 +0.9**
COLA College 86.91 25 P **P 04 28 09.6 0.0**
H24K Noodor Dome 86.95 24 P **P 04 28 10.1 +0.1**
baz=267
SCM Sheep Creek Mo 86.99 28 IAmb IAmb 04 28 13.9
comp=Z,40nm,1.1s
SCM Sheep Creek Mo 86.99 28 P **P 04 28 10.4 +0.1**
baz=267,SNR=12
VORD Divnogorie 87.02 321 *eP* **P 04 28 09.5 -1.0**
VORD pmax pmax
comp=Z,70nm,0.8s
F24K Squaw Lake 87.05 23 P **P 04 28 11.0 +0.6**
baz=267
GLI Glacier Island 87.06 29 P **P 04 28 09.8 -0.8**
baz=268
VORR Voronezh 87.09 321 *eP* **P 04 28 11.3 +0.5**
VORR pmax pmax
comp=Z,160nm,0.8s
POKR Poker Plat Res 87.10 25 P **P 04 28 10.4 -0.3**
baz=267
VSR Storozhevoye 87.10 321 *eP* **P 04 28 09.9 -1.0**
VSR pmax pmax
comp=Z,60nm,0.8s
G24K Hadweenzic Riv 87.16 23 P **P 04 28 11.3 +0.4**
baz=267
KLMR Klimovskoe 87.19 331 *eP* **P 04 28 08.3 -2.8**
KLMR S **SKSac 04 38 33.2 -1.0**
KLMR pmax pmax
comp=Z,109nm,1.5s
HDA Harding Lake 87.28 26 P **P 04 28 10.6 -0.9**
baz=268,SNR=18
LPSR Galich'ya Gora 87.28 322 *eP* **P 04 28 10.9 -0.8**
LPSR pmax pmax
comp=Z,155nm,0.8s
ILAR Eielson Array 87.32 25 P **P 04 28 10.5 -1.2**
ILAR Eielson Array 87.32 25 P **P 04 28 10.3 -1.3**
comp=Z,6.2nm,0.9s,baz=253,slow=3.6,SNR=31
ILAR PP **PP 04 31 35.1 -1.2**
comp=Z,0.9nm,0.8s,baz=270,slow=8.2,SNR=2.2
ILAR PKKP **PKKPdf 04 45 58.9 +0.7**
comp=Z,0.8nm,0.8s,baz=139,slow=1.2,SNR=7.1
ILAR LR LR 05 04 59.8
comp=Z,165nm,21.9s,baz=252,slow=34
comp=Z,6.2nm,0.9s
ILAR Eielson Array 87.32 25 P **P 04 28 10.5 -1.2**
M24K Tolsona, Glenn 87.55 28 IAmb IAmb 04 28 16.6
comp=Z,34nm,0.9s
M24K Tolsona, Glenn 87.55 28 P **P 04 28 12.1 -0.8**
baz=268,SNR=8.6
KLU Klutina 87.65 29 P **P 04 28 12.5 -1.0**
baz=269,SNR=9.4
D25K Kavik River 87.69 21 P **P 04 28 13.8 +0.3**
baz=268
EYAK Cordova Ski Ar 87.72 30 P **P 04 28 14.4 +0.7**
baz=269
K24K Donnelly Dome 87.77 26 P **P 04 28 13.8 -0.1**
baz=269,SNR=18
PAX Paxson 87.89 27 P **P 04 28 14.5 -0.1**
baz=269,SNR=11
F25K Christian Rive 87.91 23 P **P 04 28 15.3 +0.8**
baz=269
PRP Porcupine Dome 87.91 25 P **P 04 28 14.5 -0.2**
baz=269
E25K Arctic Village 87.95 22 IAmb IAmb 04 28 17.7
comp=Z,22nm,0.9s
E25K Arctic Village 87.95 22 P **P 04 28 15.2 +0.5**
baz=269
J25K Salcha River, 87.96 26 P **P 04 28 14.0 -0.9**
baz=269
HARP HAARP 88.03 28 P **P 04 28 14.8 -0.4**
baz=269,SNR=11
FYU Fort Yukon 88.05 24 IAmb IAmb 04 28 18.7
comp=Z,22nm,1.0s
MOS Moscow 88.08 326 *eP* **P 04 28 13.8 -1.7**
MOS *e* 04 28 34.2
MOS *e*S **SKSac 04 38 39.0 -0.8**
MOS pmax pmax
comp=Z,41nm,0.6s
MOS MLR MLR
comp=Z,1μm,23.0s
RIDG Independent Ri 88.18 26 IAmb IAmb 04 28 17.6
comp=Z,28nm,0.9s
RIDG Independent Ri 88.18 26 P **P 04 28 15.6 -0.3**
baz=270,SNR=13
ANN Anapa 88.21 315 *eP* **P 04 28 14.1 -2.2**
ANN *e**PP **pP 04 28 24.9 -5.4**
ANN *e*S **SKSac 04 38 39.4 -1.7**
ANN pmax pmax
comp=Z,144nm,0.8s
C26K Camden Bay 88.22 20 P **P 04 28 16.3 +0.5**
baz=269
BMRM Bremner River 88.28 29 IAmb IAmb 04 28 21.1
comp=Z,18nm,0.9s
BMRM Bremner River 88.28 29 P **P 04 28 16.4 0.0**
baz=270,SNR=7.4
N25K Chitina, Valde 88.29 29 P **P 04 28 16.6 +0.1**
baz=270
BMAR Burnt Mountain 88.32 23 P **P 04 28 16.8 +0.4**
KIBK Kibwezi 88.35 268 IAmb IAmb 04 28 25.7
comp=Z,32nm,1.0s
KIBK IAMs_20 IAMs_20 05 04 56.8
comp=Z,774nm,22.0s
KIBK Kibwezi 88.35 268 P **P 04 28 19.7 +1.8**
SNR=7.3
KAIM Kayak Island 88.37 30 P **P 04 28 16.7 -0.1**
baz=270
F26K Sheenjek River 88.48 22 P **P 04 28 17.4 +0.1**
baz=270
SCRK Sand Creek 88.56 26 P **P 04 28 17.4 -0.4**
baz=270,SNR=5.9
G26K Porcupine Rive 88.63 23 P **P 04 28 18.1 +0.3**
baz=270
C27K Jago River 88.63 21 P **P 04 28 18.6 +0.8**
baz=270
OBN Obninsk 88.69 325 P **P 04 28 18.5 +0.2**
OBN Obninsk 88.69 325 P **P 04 28 17.5 -0.8**
comp=Z,31nm,0.7s,baz=106,slow=2.1,SNR=9.1
OBN LR LR 05 12 59.6
comp=Z,316nm,18.8s,baz=77,slow=39
comp=Z,31nm,0.7s
OBN Obninsk 88.69 325 *de*P **P 04 28 18.1 -0.2**
OBN *e* 04 31 43.1
OBN *e*S **SKSac 04 38 50.1 +6.6**
OBN *e*SS **SS 04 44 51.3 -2.0**
OBN pmax pmax
comp=Z,148nm,1.3s
OBN MLR MLR
comp=Z,1μm,23.0s
OBN Obninsk 88.69 325 P **P 04 28 18.1 -0.2**
comp=Z,120nm,0.7s
MENT Mentasta 88.69 27 P **P 04 28 19.5 +1.2**
J26L Joseph Creek 88.74 26 P **P 04 28 18.1 -0.5**
baz=271
ASF Jabal al Asfar 88.76 302 LR LR 05 12 27.1
comp=Z,645nm,22.0s,baz=67,slow=39
L26K Log Cabin Wild 88.86 27 P **P 04 28 19.1 0.0**
baz=271
I26K Coal Creek Min 88.91 25 P **P 04 28 18.9 -0.3**
baz=271
KHAM Kharkiv 88.96 320 P **P 04 28 20.0 +0.2**
TOKA Tokat 88.97 310 IAMs_20 IAMs_20 05 12 56.7
comp=Z,591nm,21.0s
M26K Nabesna, AK 89.03 28 P **P 04 28 19.7 -0.2**
baz=271
KMBO Kilima Mbogo 89.11 269 P **P 04 28 21.4 -0.2**
KMBO IAmb IAmb 04 28 29.2
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 89.11 269 IAMs_20 IAMs_20 05 04 32.9
comp=Z,1μm,22.0s
KMBO Kilima Mbogo 89.11 269 P **P 04 28 23.5 +1.9**
KMBO Kilima Mbogo 89.11 269 P **P 04 28 21.4 -0.2**
KMBO pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 89.11 269 *i* P **P 04 28 23.3 +1.7**
SNR=21
G27K Doyon Strip 89.47 23 P **P 04 28 22.1 +0.2**
baz=272
I27K Kandik River 89.54 25 P **P 04 28 21.8 -0.5**
baz=272
H27K Steamboat Moun 89.55 24 P **P 04 28 21.9 -0.3**
baz=272
L27K Beaver Creek, 89.55 27 P **P 04 28 22.6 +0.3**
baz=272,SNR=17
M27K Edge Creek, AK 89.56 28 P **P 04 28 22.2 -0.3**
baz=272
BCAR Beaver Creek A 89.57 27 P **P 04 28 23.0 +0.6**
D27M Malcolm River 89.61 21 P **P 04 28 22.7 +0.1**
baz=273
EGAK Eagle 89.77 25 P **P 04 28 23.3 0.0**
baz=273,SNR=7.2
APA Apatity 89.80 337 ⇓*i*P **P 04 28 21.7 -1.6**
APA *i* 04 31 54.2
APA *i* S **S 04 39 11.0 -0.2**
APA *i* PS **PnS 04 40 20.0 -3.0**
APA pmax pmax
comp=Z,17nm,1.0s
BALJ Balqa 89.83 302 IAMs_20 IAMs_20 05 12 25.6
comp=Z,704nm,21.0s
GHAJ Ghor Haditha 89.92 301 IAMs_20 IAMs_20 05 13 38.9
comp=Z,767nm,22.0s
MMAI Mount Meron Ar 90.00 303 P **P 04 28 26.1 +1.0**
comp=Z,17nm,0.6s,baz=83,slow=6.8,SNR=25
MMAI LR LR 05 13 56.4
comp=Z,466nm,21.6s,baz=89,slow=39
comp=Z,17nm,0.6s
BVCY Beaver Creek 90.03 28 P **P 04 28 24.9 +0.3**
baz=273,SNR=7.6
F28M Old Crow 90.12 22 P **P 04 28 25.0 +0.1**
baz=274,SNR=22
E28M Babbage River 90.17 21 P **P 04 28 25.1 +0.1**
baz=274
SYO Syowa Base 90.17 201 ⇓*eP* **P 04 28 25.8 +0.8**
SYO Syowa Base 90.17 201 ⇓*i*PcP **PcP 04 28 26.6 +0.4**
SYO Syowa Base 90.17 201 ⇓*es*P sP 04 28 43.3 -1.0
I28M Miner Creek 90.25 25 P **P 04 28 25.2 -0.5**
baz=274
YUK3 Moose Creek 90.25 28 P **P 04 28 25.6 -0.3**
baz=273
D28M Stokes Point 90.40 21 P **P 04 28 25.9 -0.2**
baz=275
O28M Mount Upton 90.45 29 P **P 04 28 26.2 -0.7**
baz=274
PINM Pinnacle 90.46 30 P **P 04 28 26.2 -0.5**

baz=274
EIL Elat 90.50 300 LR LR 05 13 38.1
comp=Z,629nm,20.7s,baz=92,slow=39
SIM Simferopol' 90.56 315 *e*P **P** **04 28 28.2 +0.8**
SIM *e*S **S** **04 39 17.8 -1.4**
SIM pmax pmax
comp=Z,86nm,0.8s
DAWY Dawson 90.58 26 P **P** **04 28 27.2 +0.1**
baz=274,SNR=12
YUK8 Steele Glacier 90.62 29 P **P** **04 28 27.9 +0.2**
baz=274
E29M Blow River 90.79 22 P **P** **04 28 27.7 -0.3**
baz=276
H29M Whitestone 90.83 24 P **P** **04 28 28.0 -0.1**
baz=275
LODK Lodwar 90.89 273 P **P** **04 28 30.7 +1.0**
G29M Pine Creek 90.90 23 P **P** **04 28 28.1 -0.4**
baz=276
I29M Ogilvie Camp, 90.93 25 P **P** **04 28 28.6 -0.1**
baz=275
KIRS Kirsehir-Merke 90.98 309 ⇑P **P** **04 28 29.8 +0.2**
J29N Klondike Camp 91.06 26 P **P** **04 28 29.4 0.0**
baz=276
M29M Somme Creek 91.14 28 P **P** **04 28 30.4 +0.6**
baz=275,SNR=13
YUK4 Talbot Arm 91.15 29 P **P** **04 28 30.2 +0.2**
baz=275
BR104 Keskin Array S 91.16 310 P **P** **04 28 30.1 -0.4**
comp=Z,9.4nm,0.7s
BR131 Keskin Array S 91.16 310 *d* *i*P **P** **04 28 29.9 -0.6**
BRTR Keskin Array B 91.16 310 P **P** **04 28 30.3 -0.2**
BRTR Keskin Array B 91.16 310 P **P** **04 28 30.1 -0.4**
comp=Z,6.8nm,0.6s,baz=131,slow=5.5,SNR=42
BRTR PP **PP** **04 32 06.2 -1.6**
comp=Z,1.8nm,0.9s,baz=118,slow=7.1,SNR=3.8
BRTR LR LR 05 13 02.5
comp=Z,206nm,21.8s,baz=84,slow=38
comp=Z,6.8nm,0.6s
BRTR Keskin Array B 91.16 310 P **P** **04 28 30.3 -0.2**
BR105 Keskin Array S 91.18 310 P **P** **04 28 30.4 -0.2**
comp=Z,13nm,0.8s
L29M L29M 91.23 27 P **P** **04 28 30.9 +0.8**
baz=276
O29M Mount Kennedy 91.28 30 P **P** **04 28 29.8 -0.8**
baz=275
YUK6 Outpost Mounta 91.33 29 P **P** **04 28 30.6 -0.3**
baz=275
QSPA South Pole Qui 91.37 180 P **P** **04 28 31.0 +0.2**
comp=Z,4.4nm,0.4s,baz=328,slow=2.5,SNR=27
QSPA S **SKSac** **04 38 58.8 -0.1**
comp=Z,0.7nm,0.3s,baz=284,slow=22,SNR=7.5
QSPA LR LR 05 08 31.8
comp=Z,456nm,21.7s,baz=358,slow=35
comp=Z,4.4nm,0.4s
K29M Barlow Dome 91.42 26 P **P** **04 28 31.3 +0.2**
baz=276
EPYK Eagle Plains 91.47 24 P **P** **04 28 31.2 0.0**
baz=277,SNR=12
G30M tAoh Zraii Nji 91.59 23 P **P** **04 28 31.7 -0.1**
baz=277,SNR=9.3
F30M Barrier River 91.68 22 P **P** **04 28 32.0 -0.1**
baz=278
I30M Mount Dempster 91.75 25 P **P** **04 28 32.8 +0.2**
baz=277
HYT Haines Junctio 91.75 29 P **P** **04 28 32.8 +0.1**
baz=276
PUL Pulkovo 91.80 330 *c* *e*P **P** **04 28 33.5 +0.8**
PUL pmax pmax
comp=Z,56nm,0.4s
J30M Hart River 91.86 25 P **P** **04 28 33.6 +0.5**
baz=277
N30M Aishikik Lake 91.89 29 P **P** **04 28 33.6 +0.4**
baz=276
M30M Minto, Yukon 91.89 27 IAmb IAmb 04 28 36.3
comp=Z,26nm,1.4s
M30M Minto, Yukon 91.89 27 P **P** **04 28 33.5 +0.2**
baz=277,SNR=9.4
P30M Million Dollar 92.10 30 P **P** **04 28 34.6 +0.3**
baz=276
MAYO Mayo, Yukon 92.17 26 P **P** **04 28 34.9 +0.4**
baz=278
G31M Satah River 92.36 23 P **P** **04 28 34.9 -0.3**
baz=279
INK Inuvik 92.41 21 IAmb IAmb 04 28 37.3
comp=Z,14nm,1.0s
INK Inuvik 92.41 21 LR LR 05 10 36.3
comp=Z,231nm,21.3s,baz=240,slow=36
INK Inuvik 92.41 21 P **P** **04 28 35.8 +0.4**
baz=280,SNR=21
ARA0 ARCESS Array S 92.44 340 *e*P **P** **04 28 35.5 0.0**
ARA0 IAmb IAmb 04 28 36.5
comp=Z,26nm,0.9s
ARCES ARCESS Array B 92.44 340 P **P** **04 28 34.4 -1.2**
comp=Z,25nm,0.9s,baz=76,slow=5.1,SNR=26
ARCES PKKP **PKKPdf** **04 45 48.5 -0.7**
comp=Z,2.1nm,0.7s,baz=250,slow=3.5,SNR=13
ARCES LR LR 05 16 51.4
comp=Z,292nm,18.4s,baz=86,slow=40
comp=Z,25nm,0.9s
O30N Mendenhall 92.45 29 P **P** **04 28 35.5 -0.4**
baz=277
PLBC Pleasant Camp 92.48 30 P **P** **04 28 35.6 -0.3**
baz=277
F31M Tsiigehtchic 92.48 22 IAmb IAmb 04 28 37.0
comp=Z,16nm,0.9s
F31M Tsiigehtchic 92.48 22 P **P** **04 28 35.2 -0.5**
baz=280,SNR=12
N31M Braeburn, Yuko 92.51 28 IAmb IAmb 04 28 39.8
comp=Z,22nm,1.0s
N31M Braeburn, Yuko 92.51 28 P **P** **04 28 36.2 +0.1**
baz=278,SNR=7.0
H31M Peel River 92.51 24 P **P** **04 28 36.0 0.0**
baz=279
SPA0 Spitsbergen Ar 92.62 349 *e*P **P** **04 28 37.0 +0.7**
SPITS Spitsbergen Ar 92.62 349 P **P** **04 28 35.4 -0.9**
comp=Z,6.1nm,0.5s,baz=96,slow=8.5,SNR=16
SPITS LR LR 05 17 13.6
comp=Z,266nm,18.8s,baz=41,slow=40
comp=Z,6.1nm,0.5s
S31K Pelican 92.73 32 P **P** **04 28 37.9 +0.8**
baz=277
HAMF Hammerfest 92.83 341 *e*P **P** **04 28 36.1 -1.2**
HAMF IAmb IAmb 04 28 37.7
comp=Z,22nm,0.8s
R31K City Hall, Gus 92.93 31 P **P** **04 28 38.3 +0.3**
baz=277
SKAG Skagway 93.00 30 P **P** **04 28 38.9 +0.6**
baz=278,SNR=6.9
SKAG Skagway 93.00 30 P **P** **04 28 39.4 +1.1**
WHY Whitehorse 93.05 29 IAmb IAmb 04 28 41.7
comp=Z,21nm,1.1s
WHY Whitehorse 93.05 29 P **P** **04 28 38.5 -0.3**
baz=278,SNR=9.9
M31M Drury Creek, Y 93.06 28 P **P** **04 28 39.3 +0.7**
baz=279
KBS Kingsbay 93.16 350 IAms_20 IAms_20 05 15 39.2
comp=Z,856nm,20.0s
SIT Sitka 93.33 33 P **P** **04 28 40.7 +0.8**
baz=278
KTK1 Kautokeino 93.34 339 *e*P **P** **04 28 38.9 -0.9**
KTK1 IAmb IAmb 04 28 40.1
comp=Z,18nm,1.0s
AK09 Malin Array Si 93.37 321 P **P** **04 28 39.7 -0.5**
AK08 Malin Array Si 93.39 321 P **P** **04 28 39.9 -0.4**
AK10 Malin Array Si 93.39 321 P **P** **04 28 39.9 -0.5**
AKASG Malin Be 93.40 321 P **P** **04 28 40.6 +0.2**
AKASG IAmb IAmb 04 29 01.1
comp=Z,26nm,1.8s
AKASG Malin Array Be 93.40 321 P **P** **04 28 39.4 -1.0**
comp=Z,7.7nm,0.7s,baz=72,slow=4.5,SNR=17
AKASG PKKP **PKKPdf** **04 45 46.7 -0.5**
comp=Z,0.2nm,0.4s,baz=272,slow=2.7,SNR=4.7
AKASG LR LR 05 14 33.6
comp=Z,676nm,21.1s,baz=91,slow=38
comp=Z,7.7nm,0.7s
AKASG Malin Array Be 93.40 321 P **P** **04 28 40.6 +0.2**
AKBB Malin Array Si 93.40 321 *i* P **P** **04 28 40.0 -0.4**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AK01 Malin Array Si 93.41 321 P **P** **04 28 40.0 -0.4**
KIEV Kiev 93.41 321 P **P** **04 28 39.0 -1.5**
PURM Purcari 93.41 317 ⇑P **P** **04 28 40.8 +0.3**
PURM Purcari 93.41 317 P **P** **04 28 39.7 -0.8**
comp=Z,83nm,0.8s
AK02 Malin Array Si 93.42 321 P **P** **04 28 40.0 -0.5**
AK05 Malin Array Si 93.42 321 P **P** **04 28 40.0 -0.5**
AK06 Malin Array Si 93.43 321 P **P** **04 28 40.1 -0.4**

FARO Faro, Yukon 93.53 27 P **P** **04 28 41.0 +0.2**
baz=280,SNR=41
R32K Eaglecrest 93.59 32 P **P** **04 28 40.5 -0.6**
baz=278
BORA Eskisehir 93.60 310 IAms_20 IAms_20 05 01 53.4
comp=Z,481nm,18.0s
FINES FINESS Array B 93.64 332 P **P** **04 28 40.2 -1.1**
FINES FINESS Array B 93.64 332 P **P** **04 28 40.8 -0.5**
comp=Z,5.6nm,0.6s,baz=64,slow=4.7,SNR=15
FINES LR LR 05 14 26.8
comp=Z,409nm,21.3s,baz=71,slow=38
comp=Z,5.6nm,0.6s
S32K Killisnoo 93.68 32 P **P** **04 28 41.2 -0.3**
baz=278
MNK Minsk 93.75 325 *i* P **P** **04 28 41.3 -0.6**
MNK *i* 04 32 25.8
MNK *i* PPP PPP 04 34 27.1
MNK *i* S **SKSac** **04 39 12.8 +0.4**
MNK *i* SS **SS** **04 46 04.2 -2.0**
MNK *i* SSS SSS 04 49 50.9
MNK pmax pmax
comp=N,18nm,1.1s
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=Z,33nm,0.9s
MNK MLR MLR
comp=N,951nm,21.0s
MNK MLR MLR
comp=E,519nm,24.0s
P32M Atlin 93.80 30 P **P** **04 28 42.3 +0.2**
baz=279
N32M Quiet Lake 93.84 29 P **P** **04 28 42.3 0.0**
baz=280
P33M Teslin, Yukon 94.14 29 P **P** **04 28 43.2 -0.5**
baz=280,SNR=5.9
JETT Jettan, Norway 94.18 340 *e*P **P** **04 28 42.6 -1.0**
JETT IAmb IAmb 04 28 44.2
comp=Z,157nm,1.6s
A36M Sachs Harbour 94.26 17 P **P** **04 28 43.5 -0.4**
baz=288,SNR=8.7
SORM Soroca 94.27 318 ⇑P **P** **04 28 44.1 -0.3**
SORM Soroca 94.27 318 P **P** **04 28 44.8 +0.4**
SORM Soroca 94.27 318 P **P** **04 28 43.0 -1.4**
comp=Z,28nm,0.9s
TLCR 94.29 315 ⇑P **P** **04 28 44.5 -0.1**
TLCR 94.29 315 P **P** **04 28 44.5 -0.1**
YLV Yalova 94.36 311 P **P** **04 28 44.7 -0.5**
comp=Z,39nm,0.8s
LUBAR Lubar, Ukraine 94.43 320 P **P** **04 28 44.3 -0.8**
Q32M Nakina River 94.64 31 P **P** **04 28 45.3 -0.9**
baz=280
TRO Tromso 94.66 340 *e*P **P** **04 28 44.9 -0.8**
POGA Pongola 94.78 243 IAms_20 IAms_20 05 09 57.2
comp=Z,636nm,22.0s
CRAG Craig 94.79 34 P **P** **04 28 45.6 -1.0**
baz=280
NDNU Novodnistrovsk 94.86 319 P **P** **04 28 46.5 -0.6**
WRAK Wrangell Islan 95.05 33 P **P** **04 28 47.1 -0.7**
baz=280
R33M Jennings River 95.21 30 P **P** **04 28 48.5 -0.2**
baz=282
HORU Horodok 95.39 320 P **P** **04 28 49.4 -0.1**
HORU Horodok 95.39 320 P **P** **04 28 49.4 -0.1**
RNPP9 Sopachiv 95.39 322 P **P** **04 28 49.4 -0.1**
ELIB Princess Elisa 95.39 198 *d*P **P** **04 28 50.8 +1.5**
comp=Z,12nm,1.2s
RNPP5 Staryi Chortor 95.42 322 P **P** **04 28 49.5 -0.1**
S34M Telegraph Cree 95.42 32 IAmb IAmb 04 28 53.2
comp=Z,14nm,1.1s
S34M Telegraph Cree 95.42 32 P **P** **04 28 49.4 -0.1**
baz=281,SNR=5.2
RNPP8 Vasash 95.42 322 P **P** **04 28 49.5 -0.1**
KMPD K-Podol'skiy 95.46 319 P **P** **04 28 48.3 -1.6**
C36M Paulatuk 95.47 20 IAmb IAmb 04 28 51.2
comp=Z,25nm,0.9s
C36M Paulatuk 95.47 20 P **P** **04 28 49.0 -0.4**
baz=289,SNR=26
MBAR Mbarara 95.61 270 IAms_20 IAms_20 05 07 31.1
comp=Z,608nm,21.0s
TESR Tescani 95.62 317 ⇑P **P** **04 28 50.7 0.0**
TESR Tescani 95.62 317 P **P** **04 28 50.4 -0.3**
comp=Z,57nm,0.8s
V35K Ketchikan 95.66 34 P **P** **04 28 49.5 -1.1**
baz=281
VRI Vrincioaia 95.66 316 ⇑P **P** **04 28 51.8 +0.8**
VRI Vrincioaia 95.66 316 P **P** **04 28 51.7 +0.8**
VRI Vrincioaia 95.66 316 P **P** **04 28 51.5 +0.6**
comp=Z,38nm,0.9s
PLOR Plostina 95.72 316 ⇑P **P** **04 28 51.9 +0.7**
PLOR Plostina 95.72 316 P **P** **04 28 51.9 +0.7**
ONER Baraj Valea Uz 95.83 317 ⇑P **P** **04 28 52.0 +0.3**
DLBC Dease Lake 95.89 31 LR LR 05 08 29.9
comp=Z,358nm,21.6s,baz=283,slow=33
DLBC Dease Lake 95.89 31 P **P** **04 28 51.6 -0.1**
baz=282
NEHR Nehoiu 96.02 316 ⇓P **P** **04 28 53.3 +0.7**
COVR Voineasa-Covas 96.03 316 ⇑P **P** **04 28 53.5 +0.9**
T35M Bob Quinn 96.08 32 P **P** **04 28 52.5 -0.1**
baz=282
WTLY Watson Lake, Y 96.12 29 P **P** **04 28 53.0 +0.3**
baz=284,SNR=16
MLR Muntele Rosu 96.26 316 IAmb IAmb 04 28 59.0
comp=Z,23nm,0.9s
MLR Muntele Rosu 96.26 316 LR LR 05 17 07.9
comp=Z,658nm,21.9s,baz=75,slow=38
MLR Muntele Rosu 96.26 316 ⇑P **P** **04 28 53.8 0.0**
MLR Muntele Rosu 96.26 316 P **P** **04 28 54.4 +0.6**
BURAR Bucovina Array 96.43 318 ⇑P **P** **04 28 54.7 +0.3**
BURAR Bucovina Array 96.43 318 P **P** **04 28 54.7 +0.3**
BUR08 Bucovina Ar. S 96.43 318 IAmb IAmb 04 28 56.5
comp=Z,17nm,0.9s
STEI Steigen 96.47 339 *e*P **P** **04 28 53.0 -1.0**
SUW Suwalki 96.55 325 *e*P **P** **04 28 54.3 -0.3**
DOPR Dopca 96.57 316 ⇑P **P** **04 28 55.4 +0.4**
FAUS Fauske 96.64 339 *e*P **P** **04 28 53.6 -1.3**
FAUS IAmb IAmb 04 28 54.5
comp=Z,31nm,1.1s
ELND Elena 96.68 313 ⇓P **P** **04 28 56.2 +0.6**
ARR Arges 97.19 316 ⇑P Pdif 04 28 58.1 +0.1
SHIU Shidnytsya 97.36 320 P Pdif 04 28 59.4 +0.8
MOR8 Moi Rana 97.38 338 *e*P Pdif 04 28 59.4 +1.1
MOR8 IAmb IAmb 04 28 59.8
comp=Z,50nm,1.9s
BMR Baia Mare 97.56 318 ⇑P Pdif 04 28 59.6 +0.1
BMR Baia Mare 97.56 318 P Pdif 04 28 59.5 0.0
CBBR Cluj-Babes-Bol 97.69 317 ⇑P **P** **04 28 59.9 -0.2**
WRGLY Wrigley 97.70 25 P Pdif 04 28 59.7 0.0
baz=289
KWP Kalwaria Pacla 97.71 320 *e*P Pdif 04 29 08.1 +8.0
KWP Kalwaria Pacla 97.71 320 P Pdif 04 29 00.6 +0.5
KWP Kalwaria Pacla 97.71 320 P Pdif 04 29 00.6 +0.5
LOT Lotru 97.78 316 ⇑P Pdif 04 29 01.3 +0.6
LEIR Leirfjorden 97.91 338 *e*P **P** **04 28 60.0 -0.6**
LEIR IAmb IAmb 04 29 00.6
comp=Z,26nm,1.1s
MUKU Mukachevo 97.95 319 P Pdif 04 29 01.9 +0.7
MARR Marisel-Cluj 98.00 317 ⇑P Pdif 04 29 02.3 +0.7
BERU Beregovo 98.02 319 P Pdif 04 29 02.1 +0.6
KOLS Kolonicke sedl 98.12 320 *e*P Pdif 04 29 03.9 +1.9
KOLS Kolonicke sedl 98.12 320 *e*PDIFF Pdif 04 29 03.9 +1.9
HOLU Holmets 98.13 319 P Pdif 04 29 02.6 +0.6
UZHM Uzhgorod 98.17 319 P Pdif 04 29 02.9 +0.7
TOAD Toad River Com 98.21 30 P Pdif 04 29 02.2 0.0
baz=287
LSZ Lusaka 98.24 255 P **P** **04 29 03.3 0.0**
LSZ Lusaka 98.24 255 LR LR 05 09 24.0
comp=Z,560nm,21.0s,baz=102,slow=33
LSZ Lusaka 98.24 255 P Pdif 04 29 03.5 +0.1
LSZ Lusaka 98.24 255 P **P** **04 29 03.3 0.0**
LSZ pmax pmax
comp=Z,7.0nm,0.8s
LSZ MLR MLR
comp=Z,900nm,20.0s
DRGR 98.25 318 ⇑P Pdif 04 29 03.3 +0.6
DRGR 98.25 318 P Pdif 04 29 03.2 +0.5
DEV Deva 98.29 317 ⇑P Pdif 04 29 03.5 +0.7
DEV Deva 98.29 317 P Pdif 04 29 03.5 +0.7
BBB Bella Bella 98.35 37 LR LR 05 06 36.3
comp=Z,316nm,21.6s,baz=278,slow=31
KOTAN Kotaneelee Air 98.41 28 P Pdif 04 29 03.0 0.0
baz=288
GZR Gura Zlata 98.47 316 ⇑P Pdif 04 29 04.3 +0.6
GZR Gura Zlata 98.47 316 P Pdif 04 29 04.3 +0.6
IDI Anoyia 98.50 306 LR LR 05 20 05.3

comp=Z,217nm,21.2s,baz=85,slow=39
STHS Stebnicka Huta 98.68 320 *e*P Pdif 04 29 05.6 +1.1
STHS Stebnicka Huta 98.68 320 *e*PDIFF Pdif 04 29 05.6 +1.1
HERR Herculane 98.82 316 ⇑P Pdif 04 29 05.7 +0.5
SURR Surduc 98.85 317 ⇑P Pdif 04 29 05.4 +0.1
NSS Namsos 98.96 337 *e*P **P** **04 29 04.8 -0.5**
NSS IAmb IAmb 04 29 07.6
comp=Z,723nm,3.4s
SIRR Siria 99.07 317 ⇑P **Pdif** **04 29 06.9 +0.6**
BZS Buzias 99.23 317 ⇑P **Pdif** **04 29 07.0 0.0**
BZS Buzias 99.23 317 P **Pdif** **04 29 06.9 0.0**
MDVR Moldovita 99.33 316 ⇑P **Pdif** **04 29 07.7 +0.2**
OJC Ojcow 99.41 321 *e*P **Pdif** **04 29 10.4 +2.7**
OJC Ojcow 99.41 321 IAmb IAmb 04 29 13.3
comp=Z,12nm,0.8s
DAG Danmarks Havn 99.44 352 P **Pdif** **04 29 07.0 -0.3**
DAG pmax pmax
comp=Z,12nm,2.9s
HFS Hagfors 99.84 332 P **Pdif** **04 29 08.0 -1.3**
comp=Z,3.5nm,0.8s,baz=38,slow=7.3,SNR=8.1
HFS LR LR 05 18 16.9
comp=Z,759nm,20.9s,baz=67,slow=38
comp=Z,3.5nm,0.8s
LANS Liptovska Anna 99.88 320 *e*P **Pdif** **04 29 12.2 +2.4**
LANS Liptovska Anna 99.88 320 *e*PDIFF **Pdif** **04 29 12.2 +2.4**
BOSA Boshof 100.42 241 P **Pdif** **04 29 11.7 -1.2**
comp=Z,4.8nm,1.0s,baz=152,slow=1.7,SNR=4.2
VYHS Vyhne 100.44 320 *e*P **Pdif** **04 29 13.6 +1.3**
VYHS Vyhne 100.44 320 *e*PDIFF **Pdif** **04 29 13.6 +1.3**
NC602 NORSAR Array S 100.61 333 *e*P **Pdif** **04 29 16.0 +3.2**
NC602 IAmb IAmb 04 29 24.4
comp=Z,133nm,2.3s
NB2 NORSAR Subarra 100.64 333 P **Pdif** **04 29 11.6 -1.3**
comp=Z,5.7nm,0.9s,baz=70,slow=4.3
NB2 NORSAR Subarra 100.64 333 P **Pdif** **04 29 11.6 -1.3**
baz=70,slow=4.3
NOA NORSAR Array B 100.64 333 P **Pdif** **04 29 11.9 -1.0**
comp=Z,1.8nm,0.6s,baz=69,slow=4.5,SNR=7.0
NOA PKKPbc **PKKPbc** **04 45 28.4 -1.2**
comp=Z,1.6nm,0.9s,baz=249,slow=2.3,SNR=3.6
STEB Steborice 100.75 321 *e*PDIFF **Pdif** **04 29 13.6 0.0**
MAUC Maruska 100.86 321 *e*PDIFF **Pdif** **04 29 17.7 +3.5**
BSD Bornholm Skovb 100.91 327 *i* P **Pdif** **04 29 14.0 -0.2**
BSD IAmb IAmb 04 29 30.1
comp=Z,72nm,1.5s
MORC Moravsky Berou 100.93 321 Pdif **Pdif** **04 29 15.8 +1.3**
MORC Moravsky Berou 100.93 321 *e*PDIFF **Pdif** **04 29 15.9 +1.4**
MORC Moravsky Berou 100.93 321 ⇑P **Pdif** **04 29 15.3 +0.8**
MORC Moravsky Berou 100.93 321 P **Pdif** **04 29 15.3 +0.8**
DEL Delary 101.02 329 *i* P **Pdif** **04 29 13.9 -0.7**
JAVC Velka Javorina 101.09 320 *e*PDIFF **Pdif** **04 29 18.1 +2.8**
MORH Mrgy, Hungar 101.12 318 ⇑P **Pdif** **04 29 14.8 -0.5**
KRLC Kraliky 101.33 322 *e*PDIFF **Pdif** **04 29 20.1 +3.8**
KRLC Kraliky 101.33 322 *e*P **Pdif** **04 29 20.1 +3.8**
KSP Ksiaz 101.41 323 *e*P **Pdif** **04 29 17.7 +1.1**
FABU Falkenberg 101.43 329 *i* P **Pdif** **04 29 14.8 -1.7**
LUNU Lund 101.53 328 *i* P **Pdif** **04 29 15.9 -1.0**
OSTC Ostas 101.54 322 *e*PDIFF **Pdif** **04 29 22.7 +5.5**
OSTC Ostas 101.54 322 *e*P **Pdif** **04 29 22.7 +5.5**
PDG Podgorica 101.57 314 IAms_20 IAms_20 05 18 38.6
comp=Z,725nm,20.0s
BJUU Bjuv 101.60 328 *i* P **Pdif** **04 29 18.6 +1.4**
VRAC Vranov 101.66 321 *e*PDIFF **Pdif** **04 29 18.3 +0.6**
UPC Upice 101.68 322 *e*PDIFF **Pdif** **04 29 22.7 +4.9**
UPC Upice 101.68 322 *e*P **Pdif** **04 29 22.7 +4.9**
YKA Yellowknife Ar 101.72 24 P **Pdif** **04 29 17.1 -0.6**
comp=Z,2.6nm,0.9s,baz=297,slow=4.6,SNR=18
YKA PP **PP** **04 33 31.4 +3.2**
comp=Z,1.7nm,1.1s,baz=296,slow=6.6,SNR=4.9
YKA PKiKP **PKiKP** **04 33 41.1 +0.4**
comp=Z,1.1nm,0.9s,baz=292,slow=2.3,SNR=7.8
YKA PKKPbc **PKKPbc** **04 45 24.2 -2.1**
comp=Z,0.5nm,0.7s,baz=126,slow=2.7,SNR=8.0
KRUC Moravsky 101.85 321 *e*PDIFF **Pdif** **04 29 19.3 +0.7**
RONA Rosalia, Austr 102.29 319 *i* Pdiff **Pdif** **04 29 25.0 +4.4**
comp=Z,2.7nm,0.8s
CONA Conrad Observa 102.51 320 *e*Pdiff **Pdif** **04 29 25.1 +3.4**
CONA *e*PKiKP **PKiKP** **04 33 42.1 -0.7**
comp=Z,4.3nm,1.2s
PRU Pruhonice 102.73 322 *e*PDIFF **Pdif** **04 29 27.3 +4.9**
PRU AMS AMS 05 20 10.0
comp=Z,900nm,21.5s
PRU Pruhonice 102.73 322 *e*P **Pdif** **04 29 27.3 +4.9**
PRU MLR MLR
comp=Z,900nm,21.5s
BRG Berggiesshubel 102.82 323 ⇓ *i* Pif 04 29 23.4
BRG Amp 04 29 24.5
comp=Z,4.5nm,0.8s
BRG Berggiesshubel 102.82 323 P **Pdif** **04 29 27.8 +5.0**
BRG Amp 04 29 29.1
comp=Z,8.6nm,0.8s
ARSA Arzberg 102.92 319 *i* Pdiff **Pdif** **04 29 24.8 +1.4**
comp=Z,2.6nm,0.8s
ARSA *e*PKiKP **PKiKP** **04 33 44.4 +0.9**
SNAA Sanae 102.92 195 IAms_20 IAms_20 05 14 39.9
comp=Z,386nm,20.0s
SNAA Sanae 102.92 195 Pdiff **Pdif** **04 29 24.0 +1.1**
comp=Z,1.7nm,0.8s,baz=90,slow=1.0,SNR=7.1
CKRC Cesky Krumlov 103.23 321 *e*PDIFF **Pdif** **04 29 26.6 +1.8**
CKRC Cesky Krumlov 103.23 321 *e*P **Pdif** **04 29 26.6 +1.8**
MOA Molln 103.56 320 *e*Pdiff **Pdif** **04 29 28.3 +2.1**
comp=Z,7.4nm,1.1s
MOA *e*PKiKP **PKiKP** **04 33 47.0 +2.4**
comp=Z,8.7nm,1.7s
KHC Kasperske Hory 103.60 321 *e*PDIFF **Pdif** **04 29 30.5 +4.1**
KHC Kasperske Hory 103.60 321 *e*P **Pdif** **04 29 30.5 +4.1**
SSRD Sdr. Stenderup 103.60 328 *i* P **Pdif** **04 29 24.9 -1.2**
SSRD IAmb IAmb 04 29 25.6
comp=Z,88nm,0.8s
GERES GERESS Array B 103.61 321 Pdiff **Pdif** **04 29 24.1 -2.4**
comp=Z,2.1nm,0.8s,baz=104,slow=5.6,SNR=3.5
OBKA Obir 103.78 319 *e*Pdiff **Pdif** **04 29 28.8 +1.5**
comp=Z,7.3nm,1.2s
OBKA *e*PP **PP** **04 33 40.2 -4.1**
comp=Z,14nm,1.9s
BIOA Bad Ischl, Aus 104.01 320 *e*Pdiff **Pdif** **04 29 28.3 +0.1**
comp=Z,3.1nm,1.0s
MOX Moxa 104.29 323 *e*L L 05 21 29.6
comp=Z,569nm,21.7s
KBA Koelnbreinsper 104.39 319 *e*Pdiff **Pdif** **04 29 30.2 0.0**
YBH Yreka Blue Hor 104.53 46 IAms_20 IAms_20 05 07 05.1
comp=Z,746nm,19.0s
LESA Schwarzleotal 104.71 320 *e*Pdiff **Pdif** **04 29 32.0 +0.6**
comp=Z,1.4nm,0.5s
GRF Grafenberg Arr 104.86 323 *e*Pdiff **Pdif** **04 29 37.1 +5.2**
GRF *e*L L 05 18 42.0
comp=Z,671nm,21.2s
ABTA Abfaltersbach 105.04 319 *e*Pdiff **Pdif** **04 29 34.0 +1.1**
comp=Z,5.3nm,1.2s
ABTA *e*PKiKP **PKiKP** **04 33 46.5 -0.9**
comp=Z,3.9nm,1.0s
PAOL Paolisi 105.31 313 IAms_20 IAms_20 05 23 41.8
comp=Z,671nm,21.0s
WTTA Wattenberg 105.43 320 *i* Pdiff **Pdif** **04 29 33.5 -1.3**
comp=Z,8.0nm,1.1s
WTTA *i* PKiKP **PKiKP** **04 33 48.6 +0.3**
comp=Z,2.6nm,0.6s
SQTA Sankt Quirin 105.72 320 *e*Pdiff **Pdif** **04 29 39.4 +3.4**
comp=Z,3.2nm,0.7s
MOTA Moosalm 105.75 320 *e*Pdiff **Pdif** **04 29 32.5 -3.6**
comp=Z,4.8nm,1.1s
MOTA *e*PKiKP **PKiKP** **04 33 49.8 +0.9**
comp=Z,12nm,1.5s
RETA Reutte 105.92 320 *i* PKiKP **PKiKP** **04 33 50.1 +1.0**
comp=Z,6.6nm,0.8s
ORV Oroville 106.00 48 IAms_20 IAms_20 05 07 32.1
comp=Z,558nm,20.0s
FETA Feichten 106.10 320 *e*Pdiff **Pdif** **04 29 41.3 +3.5**
comp=Z,4.6nm,1.0s
DAVA Damuels 106.55 321 *e*PKiKP **PKiKP** **04 33 52.1 +1.8**
comp=Z,5.7nm,0.9s
BMO Blue Mountains 107.34 42 IAms_20 IAms_20 05 09 10.1
comp=Z,860nm,22.0s
NVAR Mina Array Bea 108.70 49 Pdiff **Pdif** **04 29 49.8 +0.2**
comp=Z,1.1nm,0.8s,baz=294,slow=4.8,SNR=5.5
NVAR PKiKP **PKiKP** **04 33 54.9 +0.2**
comp=Z,0.8nm,0.7s,baz=333,slow=2.3,SNR=3.9
NVAR PP **PP** **04 34 22.7 +1.7**
comp=Z,1.2nm,0.8s,baz=327,slow=5.1,SNR=4.4
NVAR PKKPbc **PKKPbc** **04 45 04.4 -0.3**
comp=Z,0.9nm,0.7s,baz=138,slow=5.4,SNR=5.5
NVAR PKKPab **PKKPab** **04 45 17.7 +0.6**
comp=Z,2.0nm,0.9s,baz=96,slow=4.6,SNR=8.5
MSO Missoula 108.78 39 IAms_20 IAms_20 05 09 37.2
comp=Z,646nm,18.0s
EKA Eskdalemuir Ar 110.04 332 PKKPbc PKKPbc 04 44 59.7 -1.0

comp=Z,1.0nm,0.5s,baz=240,slow=3.6,SNR=8.6
EKA PKKPab **PKKPab 04 45 10.9 +0.1**
comp=Z,2.4nm,1.0s,baz=236,slow=5.4,SNR=4.4
R11B Troy Canyon, C 110.76 48 P **PKiKP 04 33 57.9 -0.7**
baz=289
PDAR Pinedale Array 113.31 42 PKiKP **PKiKP 04 34 03.5 +0.2**
comp=Z,0.9nm,0.7s,baz=280,slow=3.3,SNR=9.4
PDAR PKKPbc **PKKPbc 04 44 48.5 -1.3**
comp=Z,1.0nm,0.7s,baz=115,slow=5.3,SNR=9.9
PDAR PKKPab **PKKPab 04 44 55.9 -0.8**
comp=Z,1.7nm,0.7s,baz=125,slow=7.1,SNR=9.9
PDAR PKKP **PKKPdf 04 45 10.0 -0.8**
comp=Z,1.6nm,0.8s,baz=120,slow=7.0,SNR=4.7
RSSD Black Hills 116.21 38 PKPdf 04 34 08.6 -0.2
RSSD Black Hills 116.21 38 PKIKP **PKPdf 04 34 08.6 -0.2**
TUC Tucson 116.50 53 PKPdf **PKiKP 04 34 09.8 +0.3**
TUC Tucson 116.50 53 PKIKP **PKiKP 04 34 09.8 +0.3**
N23A Red Feather La 116.57 42 P **PKPdf 04 34 09.2 -0.5**
baz=298
ULM Lac du Bonnet 117.13 29 PKP **PKPdf 04 34 08.6 -1.5**
comp=Z,6.2nm,0.8s,baz=268,slow=2.5,SNR=16
ULM PKKPbc **PKKPbc 04 44 35.6 -0.9**
comp=Z,0.7nm,0.5s,baz=112,slow=3.6,SNR=4.0
ULM SKKPbc SKKPbc 04 48 24.6 +5.4
comp=Z,1.2nm,0.7s,baz=69,slow=1.3,SNR=3.0
S22A 4UR Ranch, Cre 117.37 46 P **PKPdf 04 34 11.0 -0.4**
baz=296
121A Cookes Peak, D 118.78 51 P **PKPdf 04 34 13.8 -0.2**
baz=292
ANMO Albuquerque 118.83 48 PKPdf **PKiKP 04 34 14.7 +0.5**
ANMO Albuquerque 118.83 48 PKIKP **PKiKP 04 34 14.7 +0.5**
ESDC Sonseca Array 118.89 318 PKP **PKPdf 04 34 13.3 -0.6**
comp=Z,0.6nm,0.6s,baz=16,slow=1.2,SNR=5.5
ESDC PP **PP 04 35 32.0 -0.7**
comp=Z,1.8nm,0.9s,baz=69,slow=6.8,SNR=6.0
ESDC PKKPbc **PKKPbc 04 44 28.9 -1.1**
comp=Z,1.5nm,0.8s,baz=261,slow=3.5,SNR=7.9
T25A Trinidad 119.36 45 P **PKPdf 04 34 14.4 -0.7**
baz=297
KSCO Kaye Shedlock' 119.71 43 IAMs_20 IAMs_20 05 21 07.5
comp=Z,571nm,19.0s
POLO Lamas de Olo 120.49 321 *e*PKPdf **PKiKP 04 34 19.1 +2.1**
PVRL Vila Real 120.49 321 *e*PKPdf **PKiKP 04 34 19.6 +2.6**
MTE Manteigas 120.86 320 *e*PKPdf **PKiKP 04 34 18.8 +1.0**
PVIS Viseu 120.91 321 *e*PKPdf **PKiKP 04 34 20.5 +2.7**
PCBR Castelo Branco 121.12 320 *e*PKPdf **PKiKP 04 34 21.1 +2.9**
PCAS Casmilo, Conde 121.66 320 *e*PKPdf **PKiKP 04 34 22.0 +2.7**
PBAR Barrancos 121.71 318 *e*PKPdf **PKiKP 04 34 20.7 +1.3**
SCHQ Schefferville 122.86 9 PKP **PKPdf 04 34 20.6 -0.4**
comp=Z,9.1nm,0.7s,baz=28,slow=3.0,SNR=31
SCHQ PKKPbc **PKKPab 04 44 13.6 -0.8**
comp=Z,2.7nm,0.8s,baz=99,slow=2.8,SNR=5.6
TORD Torodi Ar. Bea 123.22 287 PKP **PKPdf 04 34 22.8 0.0**
comp=Z,8.1nm,0.8s,baz=23,slow=3.6,SNR=29
TORD PP **PP 04 36 03.8 +0.4**
comp=Z,2.3nm,0.9s,baz=72,slow=5.0,SNR=2.2
TORD PKKPbc **PKKPbc 04 44 12.5 -0.4**
comp=Z,2.8nm,0.8s,baz=298,slow=3.7,SNR=18
TXAR Lajitas Array 123.28 53 PKPdf **PKPdf 04 34 22.7 0.0**
TXAR Lajitas Array 123.28 53 PKP **PKiKP 04 34 22.9 -0.1**
comp=Z,3.6nm,0.7s,baz=224,slow=1.6,SNR=27
TXAR PKKPbc **PKKPab 04 44 12.9 -0.1**
comp=Z,1.1nm,0.8s,baz=112,slow=5.6,SNR=6.6
I40A Norwalk 124.07 32 IAMs_20 IAMs_20 05 22 41.0
comp=Z,584nm,22.0s
I45A Fountain 126.17 29 IAMs_20 IAMs_20 05 29 01.4
comp=Z,576nm,22.0s
435B Jarrell 127.36 49 P **PKPdf 04 34 29.8 -0.5**
baz=299
CCM Cathedral Cave 127.59 37 PKPdf **PKPdf 04 34 30.7 +0.2**
CCM Cathedral Cave 127.59 37 PKIKP **PKPdf 04 34 30.7 +0.2**
ICQ Pointe Anglais 127.89 11 PKPdf **PKPdf 04 34 30.9 +0.2**
O48B Farmland 129.51 31 P **PKPdf 04 34 33.2 -1.0**
baz=317
WCI Wyandotte Cave 130.36 34 PKPdf **PKPdf 04 34 35.9 +0.1**
WCI Wyandotte Cave 130.36 34 PKIKP **PKPdf 04 34 35.9 +0.1**
DBIC Dimbokro 130.63 280 PKPdf **PKPdf 04 34 36.5 -0.4**
DBIC Dimbokro 130.63 280 PKP **PKPdf 04 34 37.2 +0.2**
comp=Z,5.8nm,0.7s,baz=87,slow=2.4,SNR=11
DBIC SKPbc **SKPab 04 38 00.9 +4.1**
comp=Z,4.0nm,0.7s,baz=168,slow=0.6,SNR=3.4
SSPA Standing Stone 132.65 25 PKPdf **PKPdf 04 34 39.5 -0.6**
L61B Northampton 133.05 19 P **PKPdf 04 34 40.5 -0.3**
baz=334
COYC Coyhaique 133.16 162 PKPdf **PKPdf 04 34 41.1 +0.2**
V53A Saluda 134.13 34 IAMs_20 IAMs_20 05 31 16.5
comp=Z,451nm,21.0s
BLA Blacksburg 134.23 30 IAMs_20 IAMs_20 05 34 32.7
comp=Z,518nm,22.0s
U56A King 134.91 31 IAMs_20 IAMs_20 05 34 54.0
comp=Z,479nm,20.0s
GOGA Godfrey 135.38 36 IAMs_20 IAMs_20 05 29 27.9
comp=Z,476nm,22.0s
V58A Windy Hill, Pi 135.99 30 IAMs_20 IAMs_20 05 40 14.4
comp=Z,523nm,21.0s
Y60A Bolivia 137.85 31 IAMs_20 IAMs_20 05 29 36.7
comp=Z,474nm,21.0s
PLCA Paso Flores 138.01 161 PKPdf **PKiKP 04 34 51.8 -0.4**
PLCA Paso Flores 138.01 161 PKP **PKPdf 04 34 50.8 +0.6**
comp=Z,6.5nm,1.0s,baz=223,slow=4.9,SNR=6.3
PLCA Paso Flores 138.01 161 PKIKP **PKiKP 04 34 51.8 -0.4**
TEIG Tepich 139.81 56 IAMs_20 IAMs_20 05 27 20.4
comp=Z,433nm,20.0s
061Z Ochoppi 142.17 42 IAMs_20 IAMs_20 05 32 34.3
comp=Z,489nm,21.0s
TRQA Tornquist 142.78 169 PKPdf **PKPdf 04 34 54.8 -4.0**
TRQA Tornquist 142.78 169 PKIKP **PKPdf 04 34 54.8 -4.0**
MT01 Popeta 143.79 155 *e*P PKPbc 04 34 58.2 -0.1
RFA San Rafael 144.09 159 *e*P **PKPab 04 34 58.6 -0.2**
RFA *e*P PKPbc 04 35 00.2 +0.9
MT13 San Alfonso 144.30 156 *e*P PKPbc 04 35 00.2 +0.2
MT02 Curacav 144.36 154‖ *e*P PKPbc 04 35 00.2 +0.1
MT05 Renca 144.41 155 IAMs_20 IAMs_20 05 41 58.0
comp=Z,479nm,22.0s
MT05 Renca 144.41 155 *e*P PKPbc 04 35 00.2 -0.1
MT03 Universidad Ad 144.42 155 *e*P PKPbc 04 35 00.6 +0.2
PEL Peldehue 144.65 155 *e*P **PKPab 04 34 59.4 -1.5**
ROC1 El Roble 144.65 154‖ *e*P **PKPab 04 34 59.8 -1.4**
MT04 Ro Olivares 144.65 156 *e*P **PKPab 04 35 01.0 -0.1**
MT08 Bocatoma Ro 144.67 156 *e*P **PKPdf 04 35 02.2 -0.3**
VA03 San Esteban 145.03 155 *e*P **PKPbc 04 35 02.2 -0.2**
AAGR Agrelo 145.46 157 *i* P **PKPab 04 35 05.3 +1.3**
ARCO CERRO ARCO 145.63 157 *i* P **PKiKP 04 35 06.5 -1.7**
ASAL Salagasta 145.89 157 *i* P **PKPab 04 35 06.2 +0.7**
ACON Acoyapa 145.97 66 *e*P **PKPbc 04 35 05.7 0.0**
SACV Santiago Islan 146.08 300 PKPab **PKPab 04 35 07.6 +0.9**
PLVR Palo Verde 146.36 69 *e*P **PKPdf 04 35 06.5 +0.6**
RTLS Leoncito 146.40 156 *i* P **PKPab 04 35 07.5 -0.2**
HORNC Hornillas 146.40 68 *e*P **PKPbc 04 35 07.2 +0.1**
CO03 El Pedregal 146.61 153 *i* P **PKPbc 04 35 06.9 -0.4**
ESPN Las Esperanzas 146.69 65 *e*P **PKPbc 04 35 07.0 -0.8**
JTS Las Juntas de 146.75 69 PKPab **PKPab 04 35 08.7 -0.6**
JTS Las Juntas de 146.75 69 PKP2 **PKPab 04 35 08.7 -0.6**
ZON Zonda 146.87 156 *e*P **PKiKP 04 35 10.2 -0.5**
ARE1 Arenal 1 146.91 68 *e*P **PKPbc 04 35 08.4 -0.1**
VARE2 V. Arenal 146.91 68 *e*P **PKPbc 04 35 08.2 -0.4**
VACR Volcan Arenal 146.94 68 *e*P **PKPbc 04 35 08.0 -0.7**
DOCA Reserva Natura 147.23 155 *i* P **PKPbc 04 35 08.4 -1.1**
ACCO Cerro Coronel 147.55 155 *i* P **PKPbc 04 35 11.3 +1.1**
HDC Heredia 147.62 69 *e*P **PKPdf 04 35 07.3 -0.6**
AROD Rodeo 147.73 154 *i* P **PKiKP 04 35 11.9 -0.8**
LCR2 La Lucha 2 147.80 69 *e*P **PKPdf 04 35 08.1 -0.2**
VICA Volcano Irazu 147.88 69 *e*P **PKPdf 04 35 09.1 +0.4**
CVTG V. Turrialba, 147.89 68 *e*P **PKPbc 04 35 10.7 -0.5**
LCO Las Campanas 148.14 151 PKPdf **PKPdf 04 35 08.2 -0.4**
LCO Las Campanas 148.14 151 PKIKP **PKPdf 04 35 08.2 -0.4**
APLL PUNTA DE LOS L 148.73 158 *i* P **PKiKP 04 35 14.0 -0.5**
AGUA GUANDACOL 148.75 155 *i* P **PKPbc 04 35 12.8 -0.3**
ALCO Alturas Coton, 149.15 70 *e*P **PKPdf 04 35 10.5 0.0**
ACLC CERRO LA CRUZ 149.44 157 *i* P **PKPbc 04 35 15.4 +0.4**
VCA Vinchina 149.52 154 *e*P **PKPbc 04 35 15.3 +0.1**
VCA *i* P **PKiKP 04 35 16.8 +0.5**
NMDO Nuevo Mundo 149.76 43 PKPbc **PKPbc 04 35 14.9 -0.8**
PLTB Pedras Altas 149.85 180 **PKPdf 04 35 13.1 +2.2**
PLTB Pedras Altas 149.85 180 *e*P **PKPdf 04 35 10.8 -0.2**
TBOT Tacuaremb 149.85 176 *e*P **PKPdf 04 35 10.8 -0.1**
CPSB Cacapava Do Su 151.20 180 *e*P **PKPdf 04 35 12.8 -0.2**
SDDR Presa de Saban 153.31 40 IAMs_20 IAMs_20 05 45 14.1
comp=Z,371nm,19.0s
ITAB Concordia 154.32 183 PKPdf **PKPdf 04 35 18.4 +0.7**
CPUP Villa Florida 155.01 172 PKPdf **PKPdf 04 35 18.6 0.0**
CPUP Villa Florida 155.01 172 PKP **PKPdf 04 35 19.3 +0.6**
comp=Z,4.3nm,0.9s,baz=18,slow=1.0,SNR=12
CPUP PKPab **PKPab 04 35 43.9 +1.1**
comp=Z,9.8nm,0.8s,baz=198,slow=4.1,SNR=6.5
CPUP Villa Florida 155.01 172 *e*P **PKPdf 04 35 19.3 +0.6**
OTAV Otavalo 155.16 86 PKPdf **PKPdf 04 35 19.0 -0.8**
OTAV Otavalo 155.16 86 PKIKP **PKPdf 04 35 19.0 -0.8**
OTAV Otavalo 155.16 86 *e*P **PKPdf 04 35 18.7 -1.1**
MLPR Magueyes Islan 156.63 34 PKPdf **PKPdf 04 35 20.9 -0.1**
SJG San Juan 157.00 32 IAMs_20 IAMs_20 05 42 54.1
comp=Z,362nm,22.0s
ROSC El Rosal 158.44 73 PKP **PKPdf 04 35 24.5 +0.6**
comp=Z,13nm,0.7s,baz=158,slow=10,SNR=7.4
ROSC PKPab **PKPab 04 36 00.5 +1.8**
comp=Z,12nm,0.6s,baz=153,slow=14,SNR=5.0
BSFB Barra de Sao F 158.64 215 *e*P **PKPdf 04 35 23.6 +0.1**
LPAZ La Paz 159.49 137 PKP **PKPdf 04 35 26.1 +0.7**
comp=Z,4.8nm,0.7s,baz=310,slow=1.2,SNR=18
LPAZ PKPab **PKPab 04 36 05.0 +1.8**
comp=Z,8.9nm,0.7s,baz=116,slow=0.5,SNR=5.7
LPAZ La Paz 159.49 137 *e*P **PKPdf 04 35 22.5 -2.9**
MURT Porto Murtinho 159.55 169 *e*P **PKPdf 04 35 23.7 -0.8**
CZSB Cruzeiro do Su 160.03 109 PKPdf **PKPdf 04 35 24.0 -1.3**
CZSB Cruzeiro do Su 160.03 109 *e*P **PKPdf 04 35 24.9 -0.3**
SDV Santo Domingo 160.21 58 PKPdf **PKPdf 04 35 24.7 -1.0**
SDV Santo Domingo 160.21 58 *e*P **PKPdf 04 35 22.9 -2.8**
BDQN Bodoquena, MS 160.88 171 *e*P **PKPdf 04 35 25.3 -0.7**
AQDB Aquidauana 160.99 174 *e*P **PKPdf 04 35 25.4 -0.8**
RPRD Ribas do Rio P 161.09 180 *e*P **PKPdf 04 35 25.3 -0.9**
ITRB Iturama 161.57 190 *e*P **PKPdf 04 35 27.0 +0.2**
PANT Pantanal (Braz 162.33 171 *e*P **PKPdf 04 35 27.4 -0.2**
TBTG Tabatinga, AM 163.55 100 *e*P **PKPdf 04 35 28.2 -0.7**
NBCL Cascavel-CE 164.40 260 *e*P **PKPdf 04 35 30.3 +0.6**
BDFB Brasilia 164.84 201 PKPab **PKPab 04 36 26.3 +0.3**
BDFB Brasilia 164.84 201 PKP **PKPdf 04 35 30.3 +0.1**
comp=Z,4.8nm,0.8s,baz=17,slow=0.6,SNR=7.4
BDFB PKPab **PKPab 04 36 26.6 +0.6**
comp=Z,8.6nm,0.9s,baz=159,slow=3.1,SNR=5.7
PTLB Pontes e Lacer 165.08 159 PKPab **PKPab 04 36 27.2 +0.4**
PTLB Pontes e Lacer 165.08 159 *e*P **PKPdf 04 35 29.9 -0.3**
SALV Santo Antonio 165.50 172 *e*P **PKPdf 04 35 27.5 -3.0**
ARAG Araguaiana, MT 165.72 187 *e*P **PKPdf 04 35 29.9 -0.8**
VILB Vilhena 166.86 151 PKPab **PKPab 04 36 35.2 +0.4**
VILB Vilhena 166.86 151 *e*P **PKPdf 04 35 30.7 -1.0**
PDRB Porto dos Gac 169.46 163 *e*P **PKPdf 04 35 32.7 -0.7**
CLDB Colider 170.40 167 *e*P **PKPdf 04 35 32.7 -1.3**
BOAV Boa Vista 172.15 61 *e*P **PKPdf 04 35 32.7 -0.7**
NPGB Novo Progresso 174.19 163 *e*P **PKPdf 04 35 34.8 -0.9**
TMAB Tom-Au,PA,Br 174.36 261 *e*P **PKPdf 04 35 35.2 -0.6**
ITTB Itaituba 176.44 144 *e*P **PKPdf 04 35 35.6 -0.7**

*AEIC **07** 04:19:01.6±0.8, 53°.9N±0°.1×164°.98W±0°.10, h61km±9km, Error ellipse: s-maj=18.2km s-min=4.3km az=156.0*
NEIC 07 04:19:00.7±0.6, 53°.67N±0°.07×164°.80W±0°.04, h35km±2km, ML2.7(AEIC)**, Error ellipse: s-maj=12.2km s-min=3.1km az=343.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.71**	**312**		Pn	04 19 14.1	-0.1
AKSA					Sn	04 19 23.3	-0.5
WESE	**West Dahl East**	**0.81**	**9**		Pn	04 19 15.6	-0.2
WESE					Sn	04 19 26.6	-0.1
AKMO	**Akutan Morgan**	**0.83**	**301**		Pn	04 19 15.9	0.0
AKMO					Sn	04 19 26.5	-0.4
WECS	**Westdahl Cape**	**0.86**	**1**		Pn	04 19 16.1	-0.3
LVA	**Lava Point**	**0.88**	**304**	Pn	Pn	04 19 16.3	-0.3
LVA				Sn	Sn	04 19 29.0	+0.8
UNV	**Unalaska Valle**	**1.03**	**281**		Pn	04 19 18.6	+0.1
UNV					Sn	04 19 31.7	0.0
SSLS	**Shishaldin Sou**	**1.15**	**24**		Pn	04 19 19.6	-0.6
MTBL	**Makushin Table**	**1.15**	**286**		Pn	04 19 20.6	+0.2
MTBL					Sn	04 19 34.8	-0.2
MSW	**Makushin Switc**	**1.20**	**283**		Pn	04 19 21.0	+0.1
ISLZ	**Isanotski Laza**	**1.24**	**31**		Pn	04 19 21.6	+0.1
ISLZ					Sn	04 19 36.8	-0.2
MGOD	**Makushin Gods**	**1.24**	**277**		Pn	04 19 22.2	+0.7
MAPS	**Pakushin South**	**1.28**	**277**		Pn	04 19 22.5	+0.5
FALS	**False Pass**	**1.44**	**34**	Pn	Pn	04 19 23.8	-0.4

*IDC **07** 04:42:31.3±1.9, 7°.96S×154°.95E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=70.4km s-min=24.7km az=126.0*
*NEIC **07** 04:42:33.7±1.1, 8°.1S±0°.1×154°.8E±0°.2, h10km±1km, mb4.6/33, Error ellipse: s-maj=29.3km s-min=19.8km az=78.0*
ISC 07 04:42:36.9±0.8, 8°.0S±0°.1×154°.8E±0°.2, h35km, n45, σ1**9**02/45**, mb4.5/24, 1D, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.63**	**326**	Pn	**Pn**	**04 43 44.0**	**-0.4**
WB0	**Warramunga Arr**	**22.94**	**237**	P	**P**	**04 47 41.0**	**+2.8**
WB2	**Warramunga Arr**	**23.05**	**237**	P	**P**	**04 47 40.3**	**+0.9**
WRA	**Warramunga Arr**	**23.06**	**237**	P	**P**	**04 47 40.3**	**+0.8**
	1.5nm,0.9s,baz=61,slow=9.8,SNR=6.5						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**25.33**	**230**	P	**P**	**04 48 01.8**	**+1.1**
	0.2nm,0.3s,baz=67,slow=9.7,SNR=12						
	0.2nm,0.3s						
PSA00	**Pilbara Seismi**	**36.25**	**244**	P	**P**	**04 49 35.8**	**-1.2**
CASY	**Casey**	**65.54**	**198**	P	**P**	**04 53 16.1**	**-0.4**
VNDA	**Vanda**	**69.55**	**178**	P	**P**	**04 53 42.4**	**+0.7**
SONM	**Songino Array**	**70.10**	**328**	P	**P**	**04 53 46.3**	**+0.6**
SONM	**Songino Array**	**70.10**	**328**	P	**P**	**04 53 45.4**	**-0.3**
	0.8nm,0.8s,baz=148,slow=5.4,SNR=7.1						
	0.8nm,0.8s						
J14K	**Nanvaranak Lak**	**77.46**	**18**	P	**P**	**04 54 30.2**	**+1.9**
M16K	**Timber Creek**	**77.76**	**21**	P	**P**	**04 54 30.9**	**+0.9**
K15K	**Wolf Creek Mou**	**77.77**	**19**	P	**P**	**04 54 30.9**	**+0.8**
J16K	**Anvik River**	**78.78**	**19**	P	**P**	**04 54 37.2**	**+1.6**
P19K	**Oil Pt**	**79.05**	**24**	P	**P**	**04 54 37.4**	**+0.2**
J17K	**VABM Dome**	**79.35**	**19**	P	**P**	**04 54 39.5**	**+0.7**
J17K				IAmb	IAmb	04 54 50.2	
	comp=Z,8.6nm,1.2s						
L18K	**Granite Mounta**	**79.37**	**21**	P	**P**	**04 54 39.5**	**+0.5**
L18K				IAmb	IAmb	04 54 51.8	
	comp=Z,6.5nm,1.2s						
G16K	**Koyuk River**	**79.76**	**17**	P	**P**	**04 54 41.2**	**+0.3**
G16K				IAmb	IAmb	04 54 46.5	
	comp=Z,5.4nm,0.9s						
CNPM	**China Poot**	**79.79**	**25**	P	**P**	**04 54 41.9**	**+0.6**
CNPM				IAmb	IAmb	04 54 50.9	
	comp=Z,9.9nm,0.9s						
L19K	**White Mountain**	**80.00**	**22**	P	**P**	**04 54 43.0**	**+0.6**
L19K				IAmb	IAmb	04 54 53.0	
	comp=Z,5.4nm,0.9s						
H18K	**Honhosa River**	**80.78**	**18**	P	**P**	**04 54 46.5**	**0.0**
SUA	**Susitna One**	**81.11**	**23**	P	**P**	**04 54 51.1**	**+2.6**
SUA				IAmb	IAmb	04 54 57.7	
	comp=Z,4.3nm,0.8s						
G18K	**Tagagawik**	**81.20**	**18**	P	**P**	**04 54 49.0**	**+0.3**
G18K				IAmb	IAmb	04 55 03.7	
	comp=Z,6.0nm,1.4s						
PPLA	**Purkeypile**	**81.42**	**22**	P	**P**	**04 54 51.4**	**+1.3**
J20K	**Nowinta River**	**81.51**	**20**	P	**P**	**04 54 51.9**	**+1.5**
H19K	**Roundabout Mou**	**81.63**	**18**	P	**P**	**04 54 51.8**	**+0.8**
H19K				IAmb	IAmb	04 55 01.0	
	comp=Z,5.1nm,0.9s						
QSPA	**South Pole Qui**	**81.94**	**180**	P	**P**	**04 54 53.1**	**+0.2**
E19K	**Redstone River**	**82.68**	**17**	P	**P**	**04 54 57.3**	**+0.8**
E19K				IAmb	IAmb	04 55 06.7	
	comp=Z,5.0nm,0.8s						
F20K	**Avaraart Lake**	**82.85**	**17**	P	**P**	**04 54 58.1**	**+0.7**
MK31	**Makanchi Array**	**84.05**	**319**	P	**P**	**04 55 04.2**	**+0.2**
MK31				IAmb	IAmb	04 55 12.4	
	comp=Z,4.6nm,1.2s						
MKAR	**Makanchi Array**	**84.05**	**319**	P	**P**	**04 55 04.0**	**0.0**
MKAR	**Makanchi Array**	**84.05**	**319**	P	**P**	**04 55 04.7**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=101,slow=4.6,SNR=14						
	comp=Z,2.4nm,0.9s						
MAKZ	**Makanchi**	**84.26**	**319**	P	**P**	**04 55 05.2**	**+0.1**
MAKZ				IAmb	IAmb	04 55 11.9	
	comp=Z,5.0nm,1.1s						
IL31		**84.42**	**22**	P	**P**	**04 55 04.7**	**-0.7**
IL31				IAmb	IAmb	04 55 13.9	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**84.42**	**22**	P	**P**	**04 55 05.4**	**-0.1**
ILAR	**Eielson Array**	**84.42**	**22**	P	**P**	**04 55 04.7**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=243,slow=5.7,SNR=8.1						
	comp=Z,0.5nm,0.8s						
D22K	**Ayikyak River**	**84.91**	**17**	P	**P**	**04 55 09.2**	**+1.4**
D22K				IAmb	IAmb	04 55 18.6	
	comp=Z,2.3nm,0.7s						
ZAA0	**Zalesovo Array**	**84.92**	**326**	P	**P**	**04 55 08.0**	**-0.2**
ZAA0				IAmb	IAmb	04 55 10.9	
	comp=Z,3.5nm,1.1s						
ZALV	**Zalesovo Beam**	**84.92**	**326**	P	**P**	**04 55 08.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=110,slow=4.1,SNR=6.1						
	comp=Z,1.6nm,0.5s						
M27K	**Edge Creek, AK**	**85.16**	**25**	P	**P**	**04 55 09.8**	**+0.3**
M27K				IAmb	IAmb	04 55 13.1	
	comp=Z,7.4nm,1.3s						
G24K	**Hadweenzic Riv**	**85.25**	**20**	P	**P**	**04 55 10.3**	**+0.6**
D23K	**Nanushuk River**	**85.54**	**17**	P	**P**	**04 55 11.9**	**+0.9**
D23K				IAmb	IAmb	04 55 21.9	
	comp=Z,2.8nm,0.7s						
B22K	**Teshekpuk Lake**	**85.61**	**15**	P	**P**	**04 55 11.8**	**+0.6**
B22K				IAmb	IAmb	04 55 16.1	
	comp=Z,3.3nm,1.2s						
SYO	**Syowa Base**	**91.28**	**199**‖ *e*P		**P**	**04 55 36.8**	**-1.6**
YKA	**Yellowknife Ar**	**97.35**	**28**	P	**P**	**04 56 05.3**	**-1.0**
	comp=Z,0.1nm,0.8s,baz=265,slow=4.6,SNR=1.4						
	comp=Z,0.1nm,0.8s						

*IDC **07** 04:49:37.5±1.0, 22°.11S×169°.49E, h0km, mb4.1/6, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=33.5km s-min=25.0km az=160.0*
*NOU **07** 04:49:38.9, 22°.21S×169°.45E, h0km, MLv4.1/9, Southeast of Loyalty Islands*
ISC 07 04:49:41.4±0.8, 22°.21S±0°.10×169°.43E±0°.08, h25km, n24, σ0**66**/25**, mb4.2/8, 3C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.48**	**299**	P	**Pn**	**04 50 05.9**	**-0.6**
MARNC	**Mare, Loyalty**	**1.48**	**299**	S	**Sb**	**04 50 26.3**	**-0.4**
YATNC	**Mamie plateau,**	**3.25**	**273**	P	**Pn**	**04 50 18.7**	**+0.2**
OUENC	**Ouen Island, N**	**2.40**	**264**	P	**Pn**	**04 50 19.7**	**+0.5**
ONTNC	**Ouen Toro**	**2.75**	**267**	P	**Pn**	**04 50 24.7**	**+0.7**
DZM	**Mont Dzumac**	**2.77**	**272**	Pn	**Pn**	**04 50 24.8**	**+0.5**
	8.7nm,0.3s,baz=102,slow=7.1,SNR=88						
DZM				Sn	**Sn**	**04 50 57.2**	**+0.2**
	27nm,0.3s,baz=67,slow=16,SNR=6.1						
	39nm,0.6s						
DZM	**Mont Dzumac**	**2.77**	**272**	P	**Pn**	**04 50 24.5**	**+0.2**
DVP	**Devils Point**	**4.61**	**345**	P	**Pn**	**04 50 50.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.07**	**288**	P	**Pn**	**04 50 57.0**	**+1.2**
ASAR	**Alice Springs**	**32.70**	**260**	P	**P**	**04 56 12.5**	**+0.4**
	2.7nm,0.7s,baz=82,slow=9.1,SNR=20						
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**32.77**	**267**	P	**P**	**04 56 12.6**	**-0.2**
	2.1nm,0.7s,baz=96,slow=8.5,SNR=11						
	2.1nm,0.7s						
QSPA	**South Pole Qui**	**67.86**	**180**	P	**P**	**05 00 38.2**	**+0.7**
	5.0nm,1.0s,baz=357,slow=1.3,SNR=10						
	5.0nm,1.0s						
TROLL	**Troll, Antarti**	**85.60**	**184**	P	**P**	**05 02 17.2**	**-0.3**
TROLL	**Troll, Antarti**	**85.60**	**184**	⇑P	**P**	**05 02 17.2**	**-0.3**
	comp=Z,236nm,0.7s						
VNA3	**Neumayer Olymp**	**86.80**	**180**	P	**P**	**05 02 22.6**	**-0.7**
VNA3	**Neumayer Olymp**	**86.80**	**180**	⇑P	**P**	**05 02 22.6**	**-0.7**
	comp=Z,6.2nm,0.7s						
VNA2	**Neumayer--Watz**	**87.10**	**181**	P	**P**	**05 02 24.7**	**+0.1**
	baz=207,slow=4.5						
VNA2	**Neumayer--Watz**	**87.10**	**181**	⇑P	**P**	**05 02 24.7**	**+0.1**
	comp=Z,6.9nm,0.7s,baz=207,slow=4.5						
SONM	**Songino Array**	**89.69**	**323**	P	**P**	**05 02 37.7**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=111,slow=7.9,SNR=3.1						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**90.63**	**48**	P	**P**	**05 02 42.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=254,slow=4.7,SNR=2.6						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**93.00**	**17**	P	**P**	**05 02 50.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=204,slow=5.4,SNR=11						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**146.46**	**352**	PKPbc	**PKPbc**	**05 09 19.7**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=359,slow=2.9,SNR=4.9						
GERES	**GERESS Array B**	**147.16**	**330**	PKPbc	**PKPbc**	**05 09 22.0**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=341,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**165.25**	**234**	PKPab	**PKPab**	**05 10 42.1**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=138,slow=5.2,SNR=2.4						

*NEIC **07** 04:50:55.5±1.1, 6°.88N±0°.09×137°.7E±0°.2, h10km±1km, mb4.5/35, Error ellipse: s-maj=31.9km s-min=9.7km az=112.0*
*IDC **07** 04:51:00.2±2.0, 8°.69N×138°.28E, h0km, mb4.1/9, mbtmp4.1/10, ML4.6/1, MS3.6/1, Error ellipse: s-maj=115.1km s-min=18.3km az=78.0*
ISC 07 04:51:06.8±0.7, 8°.35N±0°.09×137°.5E±0°.2, h35km, n54, σ1**9**06/47**, mb4.4/28, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**11.25**	**164**	Pn	**Pn**	**04 53 45.5**	**+0.4**
	3.9nm,0.3s,baz=191,slow=11,SNR=9.2						
JAY				Sn	**Sn**	**04 55 47.5**	**-2.3**
	2.3nm,0.3s,baz=140,slow=19,SNR=5.5

CNPM	China Poot	73.36	30	P	P	05 02 34.0	-0.9
BRLK	Bradley Lake	73.58	30	P	P	05 02 35.5	-0.7
CAST	Castle Rocks	73.84	26	P	P	05 02 37.1	-0.6
H21K	Melozitna Rive	74.11	24	P	P	05 02 39.6	+0.4
H21K				IAmb	IAmb	05 02 39.9	
	comp=Z,3.7nm,1.1s						
F21K	Alatna River	74.27	22	P	P	05 02 40.2	+0.1
SEW	Seward	74.36	30	P	P	05 02 39.0	-1.7
RC01	Rabbit Creek A	74.41	29	P	P	05 02 40.0	-1.0
RC01				IAmb	IAmb	05 03 06.3	
	comp=Z,6.9nm,1.2s						
TRF	Thorofare Moun	74.64	26	P	P	05 02 41.5	-1.1
TRF				IAmb	IAmb	05 02 50.1	
	comp=Z,12nm,1.4s						
PWL	Port Wells	75.04	29	P	P	05 02 44.1	-0.5
PWL				IAmb	IAmb	05 03 04.2	
	comp=Z,5.5nm,1.0s						
KNK	Knik Glacier	75.07	29	P	P	05 02 44.5	-0.4
KNK				IAmb	IAmb	05 02 47.1	
	comp=Z,6.7nm,1.2s						
E22K	Anaktuvuk Pass	75.14	21	P	P	05 02 45.8	+0.6
E22K				IAmb	IAmb	05 02 46.2	
	comp=Z,2.7nm,0.8s						
B22K	Teshekpuk Lake	75.20	19	P	P	05 02 45.2	-0.2
B22K				IAmb	IAmb	05 03 08.2	
	comp=Z,5.6nm,1.3s						
SML	Sawmill	75.20	28	P	P	05 02 44.9	-0.7
I23K	Minto, Yukon-K	75.39	25	P	P	05 02 45.1	-1.5
I23K				IAmb	IAmb	05 02 50.9	
	comp=Z,6.1nm,1.5s						
ABKAR	Akbulak array	75.62	319	P	P	05 02 47.8	-0.4
ABKAR	Akbulak array	75.62	319	P	P	05 02 46.7	-1.6
ABKAR				IAmb	IAmb	05 03 15.1	
	comp=Z,4.6nm,1.5s						
C23K	Itkillik River	75.99	20	P	P	05 02 49.9	0.0
C23K				IAmb	IAmb	05 03 07.4	
	comp=Z,8.8nm,1.4s						
E24K	Your Creek	76.34	22	P	P	05 02 51.7	-0.3
G24K	Hadweenzic Riv	76.45	23	P	P	05 02 51.4	-1.3
G24K				IAmb	IAmb	05 02 53.9	
	comp=Z,3.8nm,1.1s						
C24K	Franklin Bluff	76.61	20	P	P	05 02 48.5	-5.0
C24K				IAmb	IAmb	05 02 53.9	
	comp=Z,2.8nm,0.9s						
ARCES	ARCESS Array B	89.74	341	P	P	05 03 59.5	-1.6
	comp=Z,2.8nm,0.9s,baz=102,slow=5.8,SNR=1.9						
	comp=Z,2.8nm,0.9s						
FINES	FINESS Array B	92.72	333	P	P	05 04 13.2	-1.9
	comp=Z,1.4nm,0.7s,baz=62,slow=4.5,SNR=7.1						
	comp=Z,1.4nm,0.7s						

ASRS ***07*** *05:07:28.0±1.2, 51°.82N×82°.17E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***07*** *05:07:35.4±1.4, 51°.38N×82°.20E, h0km, mbtmp2.0/2, ML1.4/2, Error ellipse: s-maj=16.6km s-min=11.5km az=132.0*

ISC 07 05:07:32.6±1.2, 51°.7N±0°.1×81°.8E±0°.1, h0km, n4, σ2§81/5, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.34	243	Pg	Pg	05 08 18.6	+1.1
	baz=74,slow=20,SNR=4.0						
KURBB				Lg	Lg	05 08 53.7	
	0.1nm,0.3s,baz=72,slow=33,SNR=6.6						
ZALV	Zalesovo Beam	2.88	38	Pn	Pb	05 08 23.8	-1.0
	0.1nm,0.3s,baz=210,slow=14,SNR=3.5						
ZALV				Pg	Pg	05 08 30.4	+2.6
	0.3nm,0.3s,baz=213,slow=15,SNR=4.9						
ZALV				Sn	Sb	05 08 57.9	-2.6
	0.4nm,0.3s,baz=205,slow=21,SNR=5.3						
ZALV				Lg	Lg	05 09 11.9	
	0.5nm,0.3s,baz=217,slow=26,SNR=7.1						
	0.8nm,0.7s						
I46RU	ZALESOVO INFRA	2.88	38	I	I	05 24 45.0	
	0.1nm,0.9s,baz=212,slow=348,SNR=18						
MKAR	Makanchi Array	4.94	176	Pn	Pn	05 08 47.9	-0.2
	baz=2.9,slow=12,SNR=1.8						
MKAR				Lg	Lg	05 09 59.2	
	0.1nm,0.3s,baz=5.6,slow=26,SNR=8.2						
	0.1nm,0.5s						

ASRS ***07*** *05:25:21.0±0.7, 54°.62N×86°.64E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***07*** *05:25:24.0±2.7, 54°.57N×86°.58E, h0km, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=22.4km s-min=13.8km az=60.0*

ISC 07 05:25:24.2±3.8, 54°.6N±0°.2×86°.5E±0°.2, h0km, n5, σ1§44/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.14	239	I	I	05 32 33.9	
	baz=56,slow=357,SNR=3.0						
ZALV	Zalesovo Beam	1.14	239	Pg	Pb	05 25 46.5	-0.2
	0.7nm,0.3s,baz=56,slow=16,SNR=8.4						
ZALV				Lg	Lg	05 26 04.7	
	1.8nm,0.3s,baz=56,slow=26,SNR=9.4						
KURBB	Kurchatov Arra	6.23	234	Pn	Pn	05 26 59.4	+2.0
	0.1nm,0.3s,baz=51,slow=14,SNR=5.1						
KURBB				Sn	Sn	05 28 08.9	-0.3
	baz=48,slow=23,SNR=1.8						
KURBB				Lg	Lg	05 28 43.0	
	baz=42,slow=29,SNR=1.6						
	0.6nm,0.3s						
MKAR	Makanchi Array	8.21	201	Pn	Pn	05 27 25.3	+0.9
	0.1nm,0.3s,baz=24,slow=14,SNR=5.6						
MKAR				Sn	Sn	05 28 56.7	-1.1
	0.1nm,0.3s,baz=21,slow=28,SNR=5.2						
MKAR				Lg	Lg	05 29 43.7	
	baz=28,slow=28,SNR=1.1						
	0.1nm,0.3s						
BVAR	Borovoye Array	9.64	267	Pn	Pn	05 27 43.9	-0.2
	baz=75,slow=12,SNR=1.9						
	0.1nm,0.3s						

NEIC ***07*** *05:34:57.0±2.0, 32°.77N±0°.02×118°.34W±0°.02, h5km±3km, Error ellipse: s-maj=3.6km s-min=1.6km az=222.0*

PAS 07 05:34:58.4±2.0, 32°.80N±0°.02×118°.34W±0°.03, h9km±8km, ML3.0/172, ML2.6/34(NEIC), Error ellipse: s-maj=4.1km s-min=2.0km az=222.0, Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	Catalina I. Ai	0.60	354		Pg	05 35 09.7	-0.4
CIAC					Sg	05 35 17.3	-0.8
SBI	Santa Barbara	0.89	320		Pg	05 35 14.5	-1.1
SBI					Sg	05 35 27.1	-0.1
FMP	Fort Macarthur	0.91	2		Pg	05 35 15.3	-0.6
FMP					Sg	05 35 27.5	-0.3
RPV	Rancho Palos V	0.94	357		Pg	05 35 15.9	-0.6
RPV					Sg	05 35 27.8	-1.0
GORC	Green Oak Ranc	1.00	69		Pg	05 35 16.1	-1.4
GORC					Sg	05 35 29.3	-1.1
SDMC	San Diego Miss	1.01	91		Pg	05 35 17.1	-0.7
SDMC					Sg	05 35 30.1	-0.8
CPE	Camp Elliot	1.04	85		Pg	05 35 17.3	-1.0
CPE					Sg	05 35 30.4	-1.4
SNCC	San Nicolas Is	1.09	294	Pg	Pg	05 35 18.3	-1.1
TJX	Tijuana	1.12	105		Pg	05 35 18.9	-0.9
TJX					Sg	05 35 34.0	-0.4
ELS	Elsinore Mount	1.14	42	Pg	Pg	05 35 18.2	-2.0
ELS	Elsinore Mount	1.14	42		Sg	05 35 32.7	-2.4
ELS	Elsinore Mount	1.14	42	IAML		05 35 34.5	
	comp=N,147nm,0.5s						
ELS				IAML		05 35 34.6	
	comp=E,228nm,0.3s						
SDRC	San Diego Road	1.18	93		Pb	05 35 19.2	-1.7
SDRC					Sg	05 35 34.0	-2.2
DPP	Dos Picos Cty	1.19	80		Pb	05 35 19.4	-1.8
DPP					Sb	05 35 34.2	-2.5
OLP	Otay Lakes Par	1.20	99		Sb	05 35 34.8	-2.2
EML	El Monte Cty P	1.26	85		Pn	05 35 20.4	-1.8
DJJ	Donna J Jenkin	1.31	356		Pn	05 35 21.4	-1.4
GR2C	Griffith Obs.	1.32	1		Pn	05 35 19.1	-3.9
DUZA	Dulzura	1.33	98		Pn	05 35 21.7	-1.5
BACC	Bachelor Mtn.	1.36	53		Pn	05 35 21.6	-1.9
PLM	Palomar	1.36	66		Pn	05 35 21.9	-1.8
PSRC	Puddingstone R	1.36	19		Pn	05 35 22.1	-1.5
PASC	Pasadena Art C	1.38	5		Pn	05 35 23.5	-0.3
BAR	Barrett	1.41	94		Pn	05 35 22.6	-1.6
RVR	Riverside	1.44	34		Pn	05 35 23.5	-1.2
HMTC	Hemet	1.44	51		Pn	05 35 23.2	-1.5
MATG	Mataguay Scout	1.48	74		Pn	05 35 23.7	-1.6
TKX	Tecate	1.48	98		Pn	05 35 24.1	-1.1
POB	Polly Butte	1.48	53		Pn	05 35 23.5	-1.8
JUEM	Julian Eagle M	1.49	79		Pn	05 35 24.0	-1.5
CBX	Cerro Bola	1.49	108		Pn	05 35 24.0	-1.5
CBX				IAML		05 35 48.2	
	comp=N,124nm,0.6s						
BFSC	Mount Baldy Ra	1.54	21		Pn	05 35 24.9	-1.3
CRY	Cary Ranch	1.54	60		Pn	05 35 24.8	-1.4
PFO	Pinyon Flats O	1.77	62		Pn	05 35 28.5	-0.8
PFO				IAML		05 35 53.8	
	comp=N,66nm,0.4s						
PFO				IAML		05 35 55.0	
	comp=N,75nm,0.2s						
YUH	Yuha Desert	2.04	94		Pn	05 35 33.4	+0.5
YUH				IAML		05 35 58.6	
	comp=N,35nm,0.3s						
YUH				IAML		05 36 01.1	
	comp=E,52nm,0.3s						
ESJX	Sierra Juarez	2.17	111		Sn	05 36 01.5	-0.5
CCAC	Calif City Air	2.36	6		Pn	05 35 36.8	-0.6
CCAC				IAML		05 36 13.3	
	comp=N,45nm,2.0s						
CCAC				IAML		05 36 17.3	
	comp=E,30nm,0.6s						
VTX	Valle De La Tr	2.58	122	Pn	Pn	05 35 40.1	-0.4
VTX				IAML		05 36 31.3	
	comp=E,20nm,4.3s						
GSC	Goldstone, Bar	2.80	27		Pn	05 35 43.5	0.0
GSC				IAML		05 36 28.3	
	comp=N,22nm,0.7s						
GSC				IAML		05 36 29.5	
	comp=E,24nm,0.8s						
GWY	Greenwater Val	3.65	22	Pn	Pn	05 35 54.5	-0.7
GWY				IAML		05 36 59.8	
	comp=N,8.1nm,0.7s						
GWY				IAML		05 37 15.2	
	comp=E,14nm,4.8s						
V12A	Nelson	4.11	44	Pn	Pn	05 36 02.0	+0.5
V12A				IAML		05 38 09.1	
	comp=N,5.6nm,3.8s						
WCT	Wildcat Mounta	4.23	19		Pn	05 36 02.9	-0.1
WCT				IAML		05 37 14.8	
	comp=N,4.9nm,3.1s						
WCT				IAML		05 37 32.8	
	comp=E,7.4nm,5.0s						
TPNV	Topopah Spring	4.48	22	Pn	Pn	05 36 07.4	+0.7
TPNV				IAML		05 37 13.1	
	comp=E,9.0nm,4.5s						
TPNV				IAML		05 37 34.9	
	comp=E,8.3nm,4.6s						
SHPR	Sheep Range	4.53	34	Pn	Pn	05 36 07.8	+0.5

NEIC ***07*** *05:35:48.5±2.0, 29°.29N±0°.05×87°.27E±0°.09, h10km±1km, mb4.2/34, Error ellipse: s-maj=14.5km s-min=7.4km az=69.0*

MOS ***07*** *05:35:48.9±1.3, 29°.14N×87°.31E, h21km, mb4.4/15, Error ellipse: s-maj=11.1km s-min=5.4km az=121.8*

BJI ***07*** *05:35:49.0, 29°.15N×87°.41E, h6km, mB4.7/11, mb4.3/41, Ms4.2/26, Ms7 4.0/25*

DMN ***07*** *05:35:51.3±0.0, 29°.39N×87°.64E, h10km, Ml4.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

NDI ***07*** *05:35:52.5±3.7, 29°.23N×87°.24E, h10km, ML3.8, MW3.8, mb4.2(NEIC)*

IDC ***07*** *05:35:55.9±4.2, 29°.26N×87°.42E, h58km±36km, mb3.8/23, mbtmp4.1/26, ML3.9/2, MS3.9/7, Error ellipse: s-maj=22.4km s-min=12.7km az=38.0*

ISC 07 05:35:49.3±0.7, 29°.24N±0°.03×87°.29E±0°.03, h11km±4km, n161, σ1§88/180, mb4.2/50, MS4.0/10, 9C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	1.81	224	Pn	Pg	05 36 24.5	+0.4
	baz=227,slow=0.0						
GUN				Sn	Sg	05 36 48.3	+0.7
	baz=227,slow=0.0						
TAPN	Taplejung	1.92	169	Pn	Pb	05 36 23.7	-0.8
	baz=178,slow=0.0						
TAPN				Sn	Sn	05 36 47.7	+1.2
	2μm,0.9s,baz=178,slow=0.0						
GTK	Tadong	2.23	148	eP	Pb	05 36 28.8	-1.1
GTK				eS	Sb	05 36 59.1	+1.6
GTK				IAML		05 37 06.2	
	comp=E,452nm,0.8s						
GTK				IAML		05 37 07.0	
	comp=E,533nm,0.8s						
KKN	Kakani	2.28	231	Pn	Pb	05 36 32.1	+1.4
	baz=233,slow=0.0						
KKN				Sn	Sg	05 37 02.2	-0.5
	comp=E,10μm,2.0s,baz=233,slow=0.0						
PKI	Pulchoki	2.34	225	Pn	Pb	05 36 32.8	+1.0
	baz=228,slow=0.0						
PKI				Sn	Sg	05 37 05.8	+1.1
	comp=E,3μm,1.0s,baz=228,slow=0.0						
PKIN	Phulchoki	2.35	226	Pn	Pb	05 36 32.8	+1.0
	baz=228,slow=0.0						
RAMN	Ramite	2.36	195	Pn	Pb	05 36 31.8	-0.2
	baz=201,slow=0.0						
ODAN	Odare	2.37	178	Pn	Pb	05 36 31.7	-0.5
	baz=185,slow=0.0						
DMN	Daman	2.52	230	Pn	Pb	05 36 35.2	+0.5
	baz=232,slow=0.0						
LSA	Lhasa	3.40	81	Pn	Pn	05 36 41.0	-1.7
LSA	Lhasa	3.40	81	Pn	Pb	05 36 46.6	-3.3
LSA				LR	LR		
	comp=E,1μm,4.5s						
LSA				LR	LR		
	comp=E,560nm,5.4s						
LSA	Lhasa	3.40	81	P	Pn	05 36 41.1	-1.7
KOLN	Koldanda	3.56	247	Pn	Pb	05 36 49.7	-2.8
	baz=246,slow=0.0						
SHBG	Sahibganj	4.02	175	eP	Pn	05 36 54.2	+3.3
TAWA	Tawang	4.35	111	eP	Pn	05 37 00.1	+4.3
SHL	Shillong	5.48	131	Pn	Pn	05 37 10.6	-0.5
SHL	Shillong	5.48	131	eP	Pn	05 37 13.4	+2.3
SHL				eS	Sn	05 38 14.5	+0.3
SHL				IAML		05 38 41.3	
	comp=E,102nm,0.8s						
SHL				IAML		05 38 47.1	
	comp=N,174nm,1.0s						
SHL	Shillong	5.48	131	P	Pn	05 37 10.6	-0.5
TEZP	TEZPUR	5.53	117	eP	Pn	05 37 12.9	+1.3
ZIRO	ZIRO	6.03	105	eP	Pn	05 37 23.2	+4.6
ITAN	ITANAGAR	6.05	109	eP	Pn	05 37 22.2	+3.5
ALBI	Allahabad	6.25	233	eP	Pn	05 37 22.9	+1.4
KOHI	KOHIMA	7.00	118	eP	Pn	05 37 33.7	+1.8
KOHI				eS	Sn	05 38 51.6	0.0
KOHI				IAML		05 39 34.6	
	comp=E,101nm,1.8s						
KOHI				IAML		05 39 40.0	
	comp=E,178nm,1.2s						
MOKO	MOKOCHONG	7.03	113	eP	Pn	05 37 33.6	+1.2
MOKO				eS	Sn	05 38 52.5	+0.1
MOKO				IAML		05 38 56.5	
	comp=E,161nm,0.8s						
MOKO				IAML		05 38 59.8	
	comp=E,151nm,0.9s						
AZL	Aizawl	7.31	137	eP	Pn	05 37 36.7	+0.6
AZL				eS	Sn	05 38 58.2	-1.0
IMP	Imphal	7.38	125	eP	Pn	05 37 40.8	+3.7
IMP				eS	Sn	05 39 01.5	+0.6
HNLY	HANLEY	7.96	298	eP	Pn	05 37 49.9	+4.4
SAIH	SAIHA	8.45	141	eP	Pn	05 37 53.5	+1.6
SAIH				IAML		05 39 37.9	
	comp=E,70nm,1.2s						
SAIH				IAML		05 39 40.3	
	comp=E,43nm,1.1s						
GOMU	GeErMu	9.40	40	P	Pn	05 38 08.2	+3.2
GOMU				pmax	pmax		
	comp=E,12nm,1.5s						
BHPL	Bhopal	10.68	238	eP	Pn	05 38 23.3	+1.0
BHPL				eS	Sn	05 40 16.1	-5.8
NIL	Nilore	12.77	294		Pn	05 38 48.7	-2.1
NIL	Nilore	12.77	294	P	Pn	05 38 48.7	-2.1
PZH	PanZhiHua	13.07	99	P	Pn	05 38 56.4	+1.2
PZH				pmax	pmax		
	comp=E,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,100nm,5.5s						
WUS	Wushi	13.63	333		Pn	05 39 01.2	-1.5
KSH	Kashi	13.86	321	P	Pn	05 39 07.4	+1.5
KSH				pmax	pmax		
	comp=E,26nm,0.7s						
KSH				LR	LR		
	comp=E,320nm,9.3s						
KSH				LR	LR		
	comp=E,380nm,8.3s						
KSH				LR	LR		
	comp=E,370nm,9.3s						
KMI	Kunming	14.35	103	⇑P	Pn	05 39 13.6	+0.9
KMI				pmax	pmax		
	comp=E,5.0nm,0.8s						
KMI				LR	LR		
	comp=E,210nm,9.0s						
KMI				LR	LR		
	comp=E,250nm,9.7s						
KMI				LR	LR		
	comp=E,170nm,5.4s						
WMQ	Urumqi	14.56	1	eP	Pn	05 39 12.2	-3.2
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
CHTO	Chiang Mai	14.86	132	Pn	Pn	05 39 18.1	-1.3
CHTO	Chiang Mai	14.86	132	P	Pn	05 39 18.1	-1.3
CM31	Chiang Mai Arr	15.11	133	Pn	Pn	05 39 22.6	-0.3
CM31				IAmb	IAmb	05 39 32.4	
	comp=Z,6.6nm,0.8s						
CMAR	Chiang Mai Arr	15.11	133	Pn	Pn	05 39 21.7	-1.2
CMAR	Chiang Mai Arr	15.11	133	P	P	05 39 27.0	-1.1
	comp=Z,1.4nm,0.4s,baz=314,slow=11,SNR=15						
CMAR	Chiang Mai Arr	15.11	133	eP	Pn	05 39 21.7	-1.2
NRN	Naryn	15.24	326		Pn	05 39 23.1	-1.7
NRN				IAmb	IAmb	05 39 31.0	
	comp=Z,4.4nm,0.7s						
NRN	Naryn	15.24	326	P	Pn	05 39 23.1	-1.7
NRN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	Lanzhou	15.52	60	eP	P	05 39 31.3	-1.4
LZH				sP	sP	05 39 39.4	+0.4
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
LZH				LR	LR		
	comp=Z,420nm,8.9s						
LZH				LR	LR		
	comp=Z,520nm,8.1s						
LZH				LR	LR		
	comp=Z,380nm,9.3s						
PHRA	Phrae	15.93	129	Pn	Pn	05 39 32.1	-1.5
PHRA				IAmb	IAmb	05 39 44.3	
	comp=Z,32nm,1.0s						
BOOM	Boomskoye usch	16.09	328		Pn	05 39 34.8	-0.9
BOOM				IAmb	IAmb	05 39 43.5	
	comp=Z,15nm,1.1s						
BOOM	Boomskoye usch	16.09	328	P	Pn	05 39 34.8	-0.9
BOOM				pmax	pmax		
	comp=Z,15nm,1.1s						
DRK	Karamyk	16.35	313	P	Pn	05 39 39.3	+0.2
DRK	Karamyk	16.35	313	P	Pn	05 39 39.3	+0.2
DRK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBL	Kabul	16.37	293		Pn	05 39 37.7	-1.6
KBL	Kabul	16.37	293	P	Pn	05 39 37.7	-1.6
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARSB	Arslanbob	16.76	320	Pn	Pn	05 39 42.6	-1.6
ARSB				IAmb	IAmb	05 39 50.3	
	comp=Z,6.1nm,0.6s						
ARSB	Arslanbob	16.76	320	P	Pn	05 39 42.6	-1.6
ARSB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	Ala-Archa	16.89	326		Pn	05 39 44.6	-1.2
AAK	Ala-Archa	16.89	326	P	P	05 39 49.5	+1.6
	comp=Z,0.3nm,0.3s,baz=132,slow=10,SNR=15						
	comp=Z,4.8nm,0.8s						
AAK	Ala-Archa	16.89	326	i P	P	05 39 49.3	+1.4
GAR	Garm	17.07	309	P	Pn	05 39 46.5	-1.7
GAR				IAmb	IAmb	05 39 49.4	
	comp=Z,12nm,0.7s						
BTK	Batken	17.30	313	P	Pn	05 39 49.2	-1.7
BTK				IAmb	IAmb	05 39 53.1	
	comp=Z,20nm,0.6s						
BTK	Batken	17.30	313	P	Pn	05 39 49.2	-1.7
BTK				pmax	pmax		
	comp=Z,20nm,0.6s						
SIMJ	Simiganj	17.82	307	P	Pn	05 39 55.8	-1.6
MK31	Makanchi Array	17.96	349	P	Pn	05 39 58.0	-1.0
MK31	Makanchi Array	17.96	349	cePP	P	05 40 00.9	+1.4
MKAR	Makanchi Array	17.96	349	P	Pn	05 39 56.9	-2.0
MKAR	Makanchi Array	17.96	349	P	P	05 40 00.8	+1.2
	comp=Z,0.5nm,0.3s,baz=167,slow=12,SNR=42						
	comp=Z,2.5nm,0.6s						
MAKZ	Makanchi	18.03	348	P	Pn	05 39 57.5	-2.3
MAKZ	Makanchi	18.03	348	P	Pn	05 39 57.5	-2.3
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN	Xi'an	19.02	70	P	Pn	05 40 13.6	+1.5
XAN				S	S	05 43 50.6	+3.3
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				LR	LR		
	comp=Z,230nm,7.4s						
XAN				LR	LR		
	comp=Z,400nm,8.2s						
XAN				LR	LR		
	comp=Z,400nm,9.5s						
KK31	Karatay Array	19.31	320	P	P	05 40 11.4	-3.0
KK31	Karatay Array	19.31	320	P	P	05 40 11.4	-3.0
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	19.31	320		P	05 40 11.4	-3.0
KKAR	Karatay Array	19.31	320	P	P	05 40 11.6	-2.8
KKAR	Karatay Array	19.31	320	P	P	05 40 11.6	-2.8
BTO	Baotou	21.75	53	eP	P	05 40 41.1	+0.1
BTO				pP	pP	05 40 43.8	-1.6
BTO				sP	sP	05 40 48.4	+1.0
BTO				PP	PnPn	05 41 08.8	+6.8
BTO				S	S	05 44 42.9	+1.2
BTO				SS	SnSn	05 45 10.3	+4.1
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				pmax	pmax		
	comp=Z,230nm,4.3s						
BTO				LR	LR		
	comp=Z,470nm,11.0s						
BTO				LR	LR		
	comp=Z,560nm,10.7s						
BTO				LR	LR		
	comp=Z,360nm,7.3s						
UBPT	Khong Chiam	21.77	126	P	P	05 40 39.6	-1.7
UBPT				IAmb	IAmb	05 40 48.2	
	comp=Z,9.5nm,1.0s						
LYN	LuoYang	22.00	70	eP	P	05 40 46.0	+2.4
LYN				sP	sP	05 40 51.3	+1.4
LYN				S	S	05 44 44.2	-2.1
LYN				pmax	pmax		
	comp=Z,12nm,0.9s						
KURBB	Kurchatov Arra	22.36	345	P	P	05 40 47.9	+0.7
	comp=Z,7.4nm,0.7s,baz=161,slow=10,SNR=66						
KURBB				PcP	PcP	05 44 42.1	-0.1
	comp=Z,0.8nm,0.7s,baz=170,slow=1.6,SNR=7.3						
	comp=Z,7.4nm,0.7s						
KURK	Kurchatov	22.43	345	P	P	05 40 48.3	+0.3
KURK				IAmb	IAmb	05 40 50.1	
	comp=Z,7.4nm,1.1s						
KURK	Kurchatov	22.43	345	cePP	P	05 40 49.3	+1.3
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
QIZ	Qiongzhong	22.92	111	P	P	05 40 52.9	-0.5
QIZ				S	S	05 45 05.2	+1.8
QIZ				LR	LR		
	comp=Z,400nm,20.9s						
QIZ				LR	LR		
	comp=Z,340nm,15.7s						
QIZ				LR	LR		
	comp=Z,350nm,17.2s						
HHC	Hu-ho-hao-te	22.93	53	eP	P	05 40 51.4	-2.1
HHC				sP	pP	05 40 58.5	+0.6
HHC				S	S	05 44 57.7	-5.9
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC			

HHC LR LR
comp=Z,160nm,13.5s
HHC LR LR
comp=Z,150nm,15.1s
SONM Songino Array 23.72 33 P **P** **05 41 01.9 +0.4**
SONM lAmb lAmb 05 41 07.5
comp=Z,6.0nm,0.9s
SONM Songino Array 23.72 33 P **P** **05 41 02.6 +1.1**
comp=Z,4.4nm,0.8s,baz=223,slow=10,SNR=16
SONM PcP **PcP** **05 44 45.2 -0.1**
comp=Z,0.2nm,0.4s,baz=149,slow=3.0,SNR=2.4
comp=Z,4.4nm,0.8s
SONM Songino Array 23.72 33 P **P** **05 41 01.9 +0.4**
SONM pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 24.06 34 P **P** **05 41 02.7 -2.0**
ULN lAmb lAmb 05 41 12.3
comp=Z,6.1nm,1.0s
ULN Ulaanbaatar 24.06 34 P **P** **05 41 02.7 -2.0**
ULN pmax pmax
comp=Z,6.0nm,1.0s
HNS HongShan 24.25 63 *e*P **P** **05 41 07.3 +0.9**
HNS LR LR
comp=Z,150nm,9.3s
HNS LR LR
comp=Z,280nm,9.4s
HNS LR LR
comp=Z,300nm,9.7s
ZAK Zakamensk 24.33 25 *e*P **P** **05 41 07.8 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 24.76 357 P **P** **05 41 08.0 -2.8**
ZAA0 lAmb lAmb 05 41 14.0
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 24.76 357 P **P** **05 41 09.5 -1.3**
ZALV Zalesovo Beam 24.76 357 P **P** **05 41 12.0 +1.2**
comp=Z,2.8nm,0.6s,baz=182,slow=9.8,SNR=14
ZALV PcP **PcP** **05 44 45.6 -1.7**
comp=Z,0.6nm,0.6s,baz=194,slow=3.0,SNR=2.2
comp=Z,2.8nm,0.6s
BVAR Borovoye Array 26.82 337 P **P** **05 41 31.0 +1.4**
comp=Z,2.0nm,0.6s,baz=133,slow=10,SNR=7.6
BVAR PcP **PcP** **05 44 52.4 +0.4**
comp=Z,1.1nm,0.6s,baz=149,slow=4.1,SNR=4.4
comp=Z,2.0nm,0.6s
BRVK Borovoye 26.89 337 P **P** **05 41 29.4 -0.7**
BRVK lAmb lAmb 05 41 36.4
comp=Z,2.9nm,0.6s
BRVK Borovoye 26.89 337 *ce*P **P** **05 41 31.1 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KULM Kulim 26.97 150 P **P** **05 41 30.2 -0.9**
IPM Ipoh 27.85 150 P **P** **05 41 38.1 -1.0**
IPM lAmb lAmb 05 41 42.8
comp=Z,6.7nm,0.9s
ABKAR Akbulak array 28.87 321 P **P** **05 41 45.6 -2.3**
AKTO Aktyubinsk 30.56 322 P **P** **05 42 04.3 +1.5**
comp=Z,1.9nm,0.6s,baz=138,slow=7.0,SNR=3.3
comp=Z,1.9nm,0.6s
CN2 Changchun 33.62 54 *e*P **P** **05 42 29.7 -0.1**
ARTI Arti 33.97 331 P **P** **05 42 32.4 -0.3**
ARTI Arti 33.97 331 *c i*P **P** **05 42 33.8 +1.2**
ARTI 05 43 45.0
ARTI S **S** **05 48 01.6 +4.3**
ARTI SS **SnSn** **05 50 09.0 +5.5**
ARTI pmax pmax
comp=Z,8.0nm,0.9s
TGY Tagaytay City 34.56 109 LR LR 05 57 24.7
comp=Z,181nm,19.7s,baz=231,slow=37
KSRS Korea Array 34.71 66 P **P** **05 42 38.7 -0.6**
comp=Z,1.3nm,0.6s,baz=263,slow=8.8,SNR=3.0
KSRS LR LR 05 59 22.8
comp=Z,85nm,21.9s,baz=200,slow=41
comp=Z,1.3nm,0.6s
BELG Belogornoye 37.22 320 P **P** **05 43 02.0 +1.4**
comp=Z,5.1nm,0.6s,baz=119,slow=10,SNR=2.3
comp=Z,5.1nm,0.6s
BELG Belogornoye 37.22 320 *i* P **P** **05 43 00.3 -0.3**
BELG pmax pmax
comp=Z,2.0nm,1.4s
JNU Nakatsue 37.30 73 LR LR 06 00 13.4
comp=Z,406nm,19.6s,baz=200,slow=39
RAYN Ar Rayn 37.72 271 P **P** **05 43 04.9 -0.4**
RAYN Ar Rayn 37.72 271 P **P** **05 43 04.9 -0.4**
RAYN pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 38.05 305 *ce*P **P** **05 43 08.3 +0.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 38.23 305 *i* P **P** **05 43 11.9 +2.4**
USA0B Ussuriysk Arra 38.33 55 P **P** **05 43 09.4 -0.8**
USA0B lAmb lAmb 05 43 29.9
comp=Z,10nm,1.1s
USA0B Ussuriysk Arra 38.33 55 P **P** **05 43 09.4 -0.8**
USA0B pmax pmax
comp=Z,10.0nm,1.1s
GURO Guroymak-BITLI 38.37 296 P **P** **05 43 09.0 -1.7**
KIRV Kirov 39.17 329 *ce*P **P** **05 43 20.0 +3.1**
NRIK Noril'sk 40.14 0 P **P** **05 43 24.6 -0.3**
comp=Z,1.3nm,0.5s,baz=104,slow=2.6,SNR=4.2
comp=Z,1.3nm,0.5s
NRIK Noril'sk 40.14 0 *ce*P **P** **05 43 26.5 +1.6**
NRIK pmax pmax
comp=Z,3.0nm,0.8s
DAV Davao City (W) 42.25 114 LR LR 06 02 43.8
comp=Z,248nm,19.9s,baz=344,slow=38
MJAR Matsushiro Arr 42.96 67 LR LR 06 02 48.0
comp=Z,221nm,21.7s,baz=214,slow=38
OBN Obninsk 44.30 320 *e*P **P** **05 44 01.4 +2.4**
OBN *e* 05 45 42.5
OBN *e*PPP PPP 05 46 22.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 44.86 298 P **P** **05 44 05.2 +1.3**
comp=Z,1.3nm,0.7s,baz=108,slow=7.8,SNR=7.1
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 44.86 298 *i* P **P** **05 44 05.8 +1.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 48.01 313 P **P** **05 44 28.7 +0.4**
comp=Z,1.4nm,0.7s,baz=79,slow=7.3,SNR=9.1
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 48.01 313 *i* P **P** **05 44 29.1 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
MLR Muntele Rosu 50.19 307 P **P** **05 44 44.5 -0.8**
MLR Muntele Rosu 50.19 307 P **P** **05 44 46.9 +1.6**
comp=Z,4.6nm,0.7s,baz=194,slow=2.6,SNR=7.1
comp=Z,4.6nm,0.7s
MLR Muntele Rosu 50.19 307 P **P** **05 44 44.5 -0.8**
MLR pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 51.07 327 P **P** **05 44 51.0 -0.4**
FINES FINESS Array B 51.07 327 P **P** **05 44 53.3 +1.8**
comp=Z,2.3nm,0.7s,baz=103,slow=8.0,SNR=4.7
comp=Z,2.3nm,0.7s
ARCES ARCESS Array B 53.12 337 P **P** **05 45 08.3 +1.7**
comp=Z,2.3nm,0.9s,baz=108,slow=7.8,SNR=1.8
comp=Z,2.3nm,0.9s
CONA Conrad Observa 56.85 310 *e*P **P** **05 45 32.2 -1.9**
comp=Z,6.1nm,1.1s
HFS Hagfors 57.03 325 P **P** **05 45 34.9 -0.1**
comp=Z,3.0nm,0.7s,baz=100,slow=7.9,SNR=3.6
comp=Z,3.0nm,0.7s
SOKA Soboth 57.60 309 *ep*P **P** **05 45 40.5 +1.1**
comp=Z,2.7nm,0.6s
GERES GERESS Array B 58.13 312 P **P** **05 45 41.5 -1.6**
GERES GERESS Array B 58.13 312 P **P** **05 45 44.2 +1.1**
comp=Z,3.4nm,0.7s,baz=61,slow=6.7,SNR=14
comp=Z,3.4nm,0.7s
KHC Kasperske Hory 58.17 312 *ce*P **P** **05 45 44.7 +1.4**
KHC pmax pmax
comp=Z,23nm,2.5s
NOA NORSAR Array B 58.21 326 P **P** **05 45 43.6 +0.2**
comp=Z,1.0nm,0.8s,baz=89,slow=6.8,SNR=2.6
comp=Z,1.0nm,0.8s
MYKA Terra Mystica 58.55 309 *e*P **P** **05 45 45.5 -0.6**
comp=Z,7.6nm,1.7s
RER Riviere de l'E 58.61 215 P **P** **05 45 45.2 -1.4**
LESA Schwarzleotal 59.06 310 *e*PP **PP** **05 47 57.1 -2.7**
comp=Z,7.7nm,1.4s
MBWA Marble Bar 59.06 144 P **P** **05 45 49.6 0.0**
ABTA Abfaltersbach 59.30 309 *i* P **P** **05 45 50.0 -1.2**
comp=Z,7.4nm,1.4s
WTTA Wattenberg 59.78 310 *i* P **P** **05 45 53.8 -0.9**
comp=Z,3.5nm,0.6s
WATA Walderalm 59.81 310 *e*P **P** **05 45 53.4 -1.4**
comp=Z,3.1nm,0.7s
SQTA Sankt Quirin 60.08 310 *i* P **P** **05 45 55.7 -0.9**
comp=Z,4.6nm,0.7s
MOTA Moosalm 60.12 310 *e*P **P** **05 45 55.4 -1.6**
comp=Z,5.2nm,0.8s
RETA Reutte 60.32 311 *e*P **P** **05 45 55.6 -2.6**
comp=Z,0.7nm,0.3s
FETA Feichten 60.44 310 *ep*P **P** **05 45 59.4 +0.2**
comp=Z,4.5nm,1.1s
DAVA Damuels 60.95 311 *e*P P 05 45 57.9 -4.8
comp=Z,9.5nm,1.1s
WRA Warramunga Arr 66.70 131 P **P** **05 46 40.2 -0.5**
comp=Z,3.0nm,0.8s,baz=324,slow=6.6,SNR=16
WRA LR LR 06 19 56.6
comp=Z,61nm,18.5s,baz=160,slow=40
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 66.70 131 *i* P **P** **05 46 40.5 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 66.74 322 P **P** **05 46 41.0 +0.6**
comp=Z,1.0nm,0.6s,baz=76,slow=7.0,SNR=4.8
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 66.74 322 P **P** **05 46 41.0 +0.6**
ASAR Alice Springs 69.11 135 P **P** **05 46 55.6 -0.2**
comp=Z,3.0nm,0.7s,baz=319,slow=6.4,SNR=28
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 72.89 306 P **P** **05 47 19.4 +0.7**
comp=Z,0.7nm,0.8s,baz=51,slow=6.2,SNR=4.3
comp=Z,0.7nm,0.8s
ILAR Eielson Array 77.30 21 P **P** **05 47 43.5 -0.1**
comp=Z,0.5nm,0.7s,baz=314,slow=3.9,SNR=6.8
comp=Z,0.5nm,0.7s
SFJD Kangerlussuaq 78.94 344 LR LR 06 30 05.5
comp=Z,59nm,18.8s,baz=159,slow=41
TORD Torodi Ar. Bea 79.91 279 P **P** **05 47 59.1 +0.3**
comp=Z,1.4nm,0.8s,baz=45,slow=5.1,SNR=10
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 86.91 10 P **P** **05 48 33.4 -0.6**
comp=Z,0.4nm,0.8s,baz=335,slow=4.7,SNR=7.9
comp=Z,0.4nm,0.8s
TXAR Lajitas Array 120.83 11 PKP **PKPdf** **05 54 42.2 0.0**
comp=Z,0.4nm,0.5s,baz=16,slow=0.9,SNR=5.3
CPUP Villa Florida 148.63 267 PKPbc **PKPbc** **05 55 36.9 -0.1**
comp=Z,3.7nm,0.9s,baz=72,slow=3.5,SNR=9.5

*IDC **07** 05:37:12.6±1.0, 34°.24N×45°.54E, h0km, mb3.9/15,*
mbtmp3.9/20, ML3.7/5, MS4.2/1, Error ellipse:
s-maj=23.7km s-min=13.3km az=172.0
*NEIC **07** 05:37:14.9±0.9, 34°.17N±0°.04×45°.6E±0°.1, h10km±1km,*
mb4.0/11, Error ellipse: s-maj=14.7km s-min=7.2km
az=269.0
*TEH **07** 05:37:14.2, 34°.26N×45°.73E, h8km±32km*
*ISN **07** 05:37:14.5±0.3, 34°.28N×45°.68E, h18km±17km, ML3.7*
ISC 07 05:37:14.3±0.5, 34°.23N±0°.03×45°.66E±0°.03, h10km, n74,
σ1$27/75, mb3.9/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.23**	**120**	Pg	**Pg**	**05 37 19.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.28**	**347**	Pg	**Pg**	**05 37 19.7**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.76**	**143**	Pg	**Pg**	**05 37 28.4**	**-0.4**
IGHG	**Ghaleghazi**	**0.76**	**82**	Pg	**Pg**	**05 37 28.1**	**-0.8**
IDHR	**Dehrash**	**0.76**	**52**	Pg	**Pg**	**05 37 27.4**	**-1.6**
IBDR	**Badra**	**1.14**	**169**	*e*Pg	**Pg**	**05 37 36.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**05 37 52.0**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.14**	**87**	Pg	**Pb**	**05 37 35.7**	**-0.6**
ILIN	**Lien**	**1.27**	**57**	Pg	**Pn**	**05 37 37.7**	**-0.7**
BHD	**Baghdad**	**1.44**	**229**	*e*Pn	**Pg**	**05 37 42.0**	**+0.2**
BHD				*e*Sn	**Sg**	**05 38 02.2**	**+1.7**
BHD				AML	AML	05 38 08.1	
comp=E,352nm,0.8s							
IKRK	**Kirkuk**	**1.60**	**317**	*e*Pn	**Pn**	**05 37 43.5**	**+0.9**
IKRK				*e*Sn	**Sn**	**05 38 04.5**	**+1.2**
IKRK				AML	AML	05 38 09.8	
comp=N,2μm,0.6s							
IKRK				AML	AML	05 38 10.2	
comp=E,2μm,0.8s							
SNQR	**Sonqor, Kerman**	**1.74**	**68**	Pg	**Pn**	**05 37 46.2**	**+1.4**
SDS1	**Sardasht. Az.**	**1.92**	**356**	Pn	**Pn**	**05 37 49.7**	**+2.4**
IDOB	**Doab**	**2.13**	**101**	Pn	**Pn**	**05 37 51.6**	**+1.4**
HSAM	**Samen**	**2.44**	**90**	Pn	**Pn**	**05 37 55.8**	**+1.4**
MAHB	**Mahabad**	**2.53**	**1**	Pn	**Pn**	**05 37 58.1**	**+2.5**
BDRS	**Dareh Seyedi**	**2.68**	**95**	Pn	**Pn**	**05 37 59.3**	**+1.5**
HGHA	**Hamedan- Ghaye**	**2.91**	**64**	Pn	**Pn**	**05 38 01.8**	**+0.9**
HAGD	**Aghdareh**	**2.93**	**77**	Pn	**Pn**	**05 38 03.4**	**+2.3**
IHSH	**Hashtrud**	**3.33**	**23**	Pn	**Pn**	**05 38 08.5**	**+1.8**
IAZR	**Azarshahr**	**3.45**	**4**	Pn	**Pn**	**05 38 10.5**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.54**	**64**	Pn	**Pn**	**05 38 11.3**	**+1.8**
ISRB	**Sarab**	**3.94**	**24**	Pn	**Pn**	**05 38 16.3**	**+1.3**
IHRS	**Heris**	**4.23**	**15**	Pn	**Pn**	**05 38 20.5**	**+1.4**
GEVA	**Gevas**	**4.58**	**333**	Pn	**Pn**	**05 38 26.0**	**+2.2**
IPIR	**Pirpir**	**4.63**	**108**	Pn	**Pn**	**05 38 25.6**	**+1.0**
GRMI	**Germi**	**4.91**	**21**	Pn	**Pn**	**05 38 30.1**	**+1.9**
IKLH	**Kolahrood**	**5.01**	**99**	Pn	**Pn**	**05 38 31.7**	**+1.9**
MARD	**Mardin**	**5.02**	**309**	Pn	**Pn**	**05 38 31.4**	**+1.6**
GURO	**Guroymak-BITLI**	**5.21**	**327**	Pn	**Pn**	**05 38 34.7**	**+2.2**
IDMV	**Damavand**	**5.40**	**74**	Pn	**Pn**	**05 38 36.6**	**+1.3**
ISFB	**Sefidab**	**5.45**	**87**	Pn	**Pn**	**05 38 36.9**	**+1.3**
IZEF	**Zefreh**	**5.72**	**102**	Pn	**Pn**	**05 38 41.5**	**+2.0**
KLNJ	**Kolanjah**	**5.94**	**121**	Pn	**Pn**	**05 38 44.4**	**+1.7**
GNI	**Garni**	**5.95**	**353**	Pn	Pb	05 38 53.4	-4.9
comp=E,0.6nm,0.3s,baz=163,slow=17,SNR=1.7							
GNI				Lg	Lg	05 40 26.7	
comp=E,0.6nm,0.3s,baz=329,slow=19,SNR=0.8							
IFIR	**Firoozkooh**	**5.99**	**74**	Pn	**Pn**	**05 38 44.5**	**+1.2**
IRAM	**Ramesheh**	**6.14**	**111**	Pn	**Pn**	**05 38 46.3**	**+1.1**
ASF	**Jabal al Asfar**	**7.63**	**257**	Pn	**Pn**	**05 39 04.7**	**-0.9**
comp=E,0.2nm,0.3s,baz=72,slow=3.2,SNR=2.8							
ASF				Sn	**Sn**	**05 40 29.2**	**-2.9**
comp=E,0.3nm,0.3s,baz=141,slow=6.9,SNR=3.8							
ASF				Lg	Lg	05 41 11.4	
comp=E,1.2nm,0.3s,baz=125,slow=16,SNR=2.1							
comp=E,3.4nm,0.8s							
MMAI	**Mount Meron Ar**	**8.64**	**265**	Pn	**Pn**	**05 39 17.8**	**-1.7**
comp=E,0.6nm,0.3s,baz=72,slow=14,SNR=2.0							
MMAI				Lg	Lg	05 41 44.6	
comp=E,1.3nm,0.3s,baz=90,slow=39,SNR=2.0							
comp=E,0.4nm,0.3s							
EIL	**Elat**	**10.17**	**246**	Lg	Lg	05 42 40.5	
comp=E,0.2nm,0.3s,baz=332,slow=14,SNR=1.5							
CSS	**Mathiatis**	**10.19**	**278**	Pn	**Pn**	**05 39 40.5**	**-0.2**
RAYN	**Ar Rayn**	**10.67**	**181**	Pn	**Pn**	**05 39 46.7**	**-0.6**
BRTR	**Keskin Array B**	**11.07**	**303**	Pn	**Pn**	**05 39 52.7**	**-0.1**
UOSS	**Minazif**	**13.02**	**133**	Pn	**Pn**	**05 40 19.8**	**+0.4**
WSAR	**Wadi Sarin**	**15.77**	**131**	Pn	**Pn**	**05 40 57.7**	**+1.1**
comp=E,0.7nm,0.3s,baz=309,slow=9.2,SNR=4.3							
comp=E,13nm,0.9s							
ABKAR	**Akbulak array**	**18.36**	**31**	P	**P**	**05 41 29.6**	**+0.7**
AKTO	**Aktyubinsk**	**18.55**	**25**	P	**P**	**05 41 31.8**	**+0.8**
comp=E,0.2nm,0.3s,baz=217,slow=11,SNR=4.8							
comp=E,2.1nm,0.7s							
MLR	**Muntele Rosu**	**18.80**	**313**	P	**P**	**05 41 34.2**	**+0.2**
comp=E,0.1nm,0.3s,baz=97,slow=16,SNR=2.8							
comp=E,2.8nm,0.9s							
GAR	**Garm**	**20.33**	**69**	P	**P**	**05 41 51.7**	**+1.0**
GAR				lAmb	lAmb	05 42 01.8	
comp=Z,6.8nm,1.0s							
BURAR	**Bucovina Array**	**20.35**	**317**	P	**P**	**05 41 51.2**	**+0.3**
AKASG	**Malin Array Be**	**20.37**	**329**	P	**P**	**05 41 50.2**	**-0.7**
comp=Z,0.5nm,0.4s,baz=141,slow=9.6,SNR=11							
comp=Z,0.5nm,0.4s							
AKBB	**Malin Array Si**	**20.37**	**329**	P	**P**	**05 41 51.5**	**+0.6**
AKBB				lAmb	lAmb	05 41 58.9	
comp=Z,6.4nm,0.8s							
KIEV	**Kiev**	**20.37**	**329**	P	**P**	**05 41 51.2**	**+0.3**
KIEV				lAmb	lAmb	05 41 58.9	
comp=Z,6.1nm,0.9s							
BUR08	**Bucovina Ar. S**	**20.38**	**317**	P	**P**	**05 41 51.5**	**+0.3**
BUR08				lAmb	lAmb	05 42 06.0	
comp=Z,2.4nm,0.8s							
BOOM	**Boomskoye usch**	**25.03**	**62**	P	**P**	**05 42 39.2**	**+0.5**
BOOM				lAmb	lAmb	05 42 55.5	
comp=Z,5.5nm,1.2s							
BVAR	**Borovoye Array**	**25.73**	**36**	P	**P**	**05 42 46.7**	**+1.9**
comp=Z,0.8nm,0.5s,baz=223,slow=7.0,SNR=2.7							
comp=Z,0.8nm,0.5s							
ZCCA	**Zocca**	**28.50**	**301**	P	**P**	**05 43 09.2**	**-0.6**
KURBB	**Kurchatov Arra**	**28.96**	**46**	P	**P**	**05 43 13.9**	**+0.2**
comp=Z,0.8nm,0.8s,baz=251,slow=8.8,SNR=4.8							
comp=Z,0.8nm,0.8s							
FINES	**FINESS Array B**	**29.99**	**341**	P	**P**	**05 43 22.0**	**-0.7**
FINES	**FINESS Array B**	**29.99**	**341**	P	**P**	**05 43 21.8**	**-0.9**
comp=Z,2.1nm,0.8s,baz=157,slow=10,SNR=7.5							
comp=Z,2.1nm,0.8s							
MK31 Makanchi Array 30.27 54 P **P** **05 43 26.3 +0.9**
MKAR Makanchi Array 30.27 54 P **P** **05 43 26.6 +1.2**
MKAR Makanchi Array 30.27 54 P **P** **05 43 25.9 +0.6**
comp=Z,0.6nm,0.7s,baz=258,slow=5.9,SNR=5.4
comp=Z,0.6nm,0.7s
BNI Bardonecchia 31.63 302 P **P** **05 43 37.7 +0.2**
BNI lAmb lAmb 05 43 50.6
comp=Z,5.9nm,1.1s
HFS Hagfors 33.22 331 P **P** **05 43 50.5 -0.6**
comp=Z,3.8nm,0.8s,baz=148,slow=12,SNR=6.3
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 33.76 42 P **P** **05 43 55.5 -0.3**
comp=Z,0.4nm,0.4s,baz=247,slow=5.9,SNR=2.5
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 37.09 348 P **P** **05 44 23.6 -0.8**
comp=Z,1.4nm,0.7s,baz=168,slow=7.4,SNR=8.6
comp=Z,1.4nm,0.7s
EKA Eskdalemuir Ar 39.54 317 P **P** **05 44 43.0 -2.1**
comp=Z,0.8nm,0.5s,baz=101,slow=8.6,SNR=6.4
comp=Z,0.8nm,0.5s
TORD Torodi Ar. Bea 44.97 253 P **P** **05 45 29.8 -0.1**
comp=Z,0.3nm,0.6s,baz=37,slow=7.3,SNR=2.2
comp=Z,0.3nm,0.6s
SPITS Spitsbergen Ar 45.82 352 P **P** **05 45 36.1 +0.2**
comp=Z,9.9nm,0.9s,baz=139,slow=13,SNR=6.0
comp=Z,9.9nm,0.9s
SONM Songino Array 46.63 54 LR LR 06 09 25.0
comp=Z,234nm,19.4s,baz=194,slow=41
CMAR Chiang Mai Arr 49.73 94 P **P** **05 46 06.9 0.0**
comp=Z,1.4nm,0.3s,baz=303,slow=6.2,SNR=5.3
comp=Z,1.4nm,0.3s
KSRS Korea Array 64.67 61 P **P** **05 47 53.2 +0.8**
comp=Z,1.7nm,0.7s,baz=284,slow=6.9,SNR=3.0
comp=Z,1.7nm,0.7s
SCHQ Schefferville 74.14 326 P **P** **05 48 49.8 -0.9**
comp=Z,1.1nm,0.6s,baz=13,slow=5.2,SNR=5.3
comp=Z,1.1nm,0.6s
YKA Yellowknife Ar 82.31 351 P **P** **05 49 35.1 -0.6**
comp=Z,0.2nm,0.7s,baz=18,slow=5.5,SNR=2.9
comp=Z,0.2nm,0.7s

DJA 07 05:49:52.1±0.5, 10°S±4°×11°9E±°, h24km±4km, M4.1/7,
mb4.7/1, MLv3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.52**	**63**	P	Pn	05 50 03.6	-0.5
WBSI				S	Sn	05 50 11.8	-0.4
WSI	**Waingapu**	**1.37**	**81**	P	Pb	05 50 16.5	-0.6
WSI				S	Sb	05 50 34.1	-0.2
PLAI	**Plampang**	**1.54**	**313**	P	Pn	05 50 16.8	-1.3
PLAI				S	Sn	05 50 36.5	-0.8
BASI	**Baing, Sumba**	**1.67**	**102**	P	Pn	05 50 17.4	-2.4
BSSI	**Bau Bau, Buton**	**4.03**	**23**	P	Pn	05 50 53.4	+1.1
BSSI				S	Sn	05 51 39.4	+0.7
BKSI	**Bulukumba**	**4.68**	**15**	P	Pn	05 51 02.0	+0.7
BKSI				S	Sn	05 51 55.0	+0.1
PWJI	**Pagerwojo**	**7.27**	**284**	P	Pn	05 51 37.0	+0.1

IDC 07 05:56:51.7±7.5, 34°.66N×74°.43E, h0km, mb3.8/3,
mbtmp3.8/3, 2C, Error ellipse: s-maj=191.7km
s-min=42.9km az=130.0, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.96**	**341**	⇑P	Pn	05 59 01.8	-0.6
1.1nm,0.3s,baz=166,slow=13,SNR=19							
KK31				⇑S	Sn	06 00 34.0	-10
0.7nm,0.4s,baz=169,slow=22,SNR=6.3							
ZALV	**Zalesovo Beam**	**20.62**	**18**	P	P	06 01 32.4	-0.1
0.9nm,0.4s,baz=209,slow=11,SNR=4.9							
0.9nm,0.4s							
ARCES	**ARCESS Array B**	**43.91**	**338**	P	P	06 04 59.6	-0.1
4.1nm,1.1s,baz=116,slow=8.3,SNR=1.5							
4.1nm,1.1s							
TORD	**Torodi Ar. Bea**	**68.52**	**271**	P	P	06 07 56.3	0.0
0.3nm,0.5s,baz=53,slow=6.6,SNR=2.4							
0.3nm,0.5s							

*JMA **07** 05:58:47.7±0.1, 24°.1N±0°.9×122°.5E±0°.3, h59km±2km,*
MV3.3/15, NW OFF ISHIGAKIJIMA IS
*TAP **07** 05:58:48.2, 24°.13N×122°.49E, h56km, ML4.1, C*
ISC 07 05:58:48.3±1.2, 24°.10N±0°.03×122°.51E±0°.02, h56km±6km,
n150, σ1$16/262, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.18**	**276**	*i* P	**Pn**	**05 58 56.8**	**0.0**
EOS4				*i* S	**Sn**	**05 59 03.6**	**+0.8**
EOS3	**EOS3**	**0.26**	**316**	P	**Pn**	**05 58 57.9**	**+0.3**
EOS3				S	**Sn**	**05 59 05.4**	**+1.3**
EOS2	**EOS2**	**0.41**	**321**	P	**Pn**	**05 58 59.4**	**+0.5**
EOS2				S	**Sn**	**05 59 08.1**	**+1.6**
JYNG	**Yonagunijimaku**	**0.53**	**48**	*i* P	**Pn**	**05 59 00.4**	**+0.2**
JYNG				S	**Sn**	**05 59 09.4**	**+0.4**
YOJ	**Yonaguni jima**	**0.58**	**52**	⇓*i*P	**Pn**	**05 59 01.1**	**+0.1**
YOJ				*i* S	**Sn**	**05 59 10.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.58**	**52**	P	**Pn**	**05 59 01.0**	**+0.1**
YOJ				*e*S	**Sn**	**05 59 10.5**	**+0.5**
EAHA	**Aohua**	**0.74**	**288**	P	**Pn**	**05 59 02.8**	**-0.1**
EAHA				S	**Sn**	**05 59 13.9**	**+0.4**
EWUT	**Wuta**	**0.75**	**297**	*e*P	**Pn**	**05 59 02.5**	**-0.5**
EWUT				*e*S	**Sn**	**05 59 12.6**	**-1.1**
ESAO	**Su ao**	**0.77**	**308**	*i* P	**Pn**	**05 59 02.9**	**-0.3**
ESAO				S	**Sn**	**05 59 13.0**	**-1.2**
ENA	**Nanau**	**0.78**	**295**	*i* P	**Pn**	**05 59 02.8**	**-0.5**
ENA				*i* S	**Sn**	**05 59 13.6**	**-0.7**
TWC	**Suao**	**0.79**	**310**	*i* P	**Pn**	**05 59 02.9**	**-0.5**
TWC				*i* S	**Sn**	**05 59 12.5**	**-2.1**
ETL	**Fush Village**	**0.81**	**274**	*e*P	**Pn**	**05 59 03.4**	**-0.4**
ETL				S	**Sn**	**05 59 15.1**	**-0.2**
TWD	**Chiawan**	**0.84**	**269**	*i* P	**Pn**	**05 59 03.3**	**-0.8**
TWD				*i* S	**Sn**	**05 59 14.5**	**-1.2**
HWA	**Hwalien**	**0.84**	**262**	P	**Pn**	**05 59 03.8**	**-0.3**
HWA				*e*S	**Sn**	**05 59 16.3**	**+0.6**
NACB	**Ninganchiao**	**0.84**	**275**	P	**Pn**	**05 59 02.9**	**-1.3**
NACB	**Ninganchiao**	**0.84**	**275**	P	**Pn**	**05 59 03.7**	**-0.5**
NACB				S	**Sn**	**05 59 12.9**	**-2.9**
TEYL	**Yanliau Villag**	**0.87**	**255**	*e*P	**Pn**	**05 59 04.2**	**-0.3**
TEYL				*e*S	**Sn**	**05 59 16.4**	**0.0**
NDS	**Dongshan**	**0.90**	**306**	*e*P	**Pn**	**05 59 04.5**	**-0.4**
NDS				*e*S	**Sn**	**05 59 17.2**	**+0.1**
EGS		**0.91**	**325**	*i* P	**Pn**	**05 59 04.8**	**-0.3**
EGS				*i* S	**Sn**	**05 59 16.6**	**-0.8**
SHUL	**Shoufeng**	**0.92**	**250**	*i* P	**Pn**	**05 59 04.8**	**-0.4**
SHUL				*e*S	**Sn**	**05 59 16.9**	**-0.7**
ETM	**Tongmen**	**0.94**	**262**	*e*P	**Pn**	**05 59 04.8**	**-0.6**
ETM				S	**Sn**	**05 59 16.9**	**-1.2**
ETLH	**Xiulin Townshi**	**0.95**	**277**	P	**Pn**	**05 59 05.1**	**-0.5**
ETLH				S	**Sn**	**05 59 17.2**	**-1.1**
ILA	**Ilan**	**0.96**	**314**	*e*P	**Pn**	**05 59 06.2**	**+0.5**
ILA				S	**Sn**	**05 59 18.7**	**+0.2**
NTC	**Toucheng**	**0.97**	**320**	*e*P	**Pn**	**05 59 06.4**	**+0.5**
NTC				*e*S	**Sn**	**05 59 20.4**	**+1.6**
TWE	**Neicheng**	**0.99**	**309**	*i* P	**Pn**	**05 59 06.1**	**0.0**
TWE				*

WHF			eS	Sn	05 59 22.6	-0.8
SXI1	**Grass Mountain**	**1.15 330**	i P	Pn	05 59 07.8	-0.5
SXI1			S	Sn	05 59 22.0	-1.1
HGSD	**Ruisui**	**1.17 239**	P	Pn	05 59 07.9	-0.6
HGSD			eS	Sn	05 59 22.8	-0.6
FUSS	**Fushou**	**1.17 277**	eP	Pn	05 59 08.6	-0.1
FUSS			S	Sn	05 59 23.2	-0.6
NWF	**Wu-fen Shan**	**1.17 326**	P	Pn	05 59 08.2	-0.4
NWF			S	Sn	05 59 22.1	-1.6
WFSB	**Wu-fen Shan**	**1.17 326**	P	Pn	05 59 08.3	-0.2
WFSB			eS	Sn	05 59 23.1	-0.5
HATJ	**Hateruma jima**	**1.18 92**	P	Pn	05 59 09.2	+0.6
HATJ			S	Sn	05 59 25.0	+1.3
YHNB	**Yeheng**	**1.18 299**	P	Pn	05 59 08.7	0.0
YHNB	**Yeheng**	**1.18 299**	i P	Pn	05 59 08.9	+0.2
YHNB			S	Sn	05 59 23.3	-0.6
NSK	**Sanguang**	**1.20 299**	i P	Pn	05 59 08.9	0.0
NSK			i S	Sn	05 59 23.5	-0.8
EHYH	**Wanrong**	**1.23 241**	eP	Pn	05 59 09.2	0.0
EHYH			eS	Sn	05 59 24.2	-0.7
TWT	**Tachien**	**1.23 277**	eP	Pn	05 59 10.0	+0.5
TWT			S	Sn	05 59 25.0	-0.2
OWD	**Renai**	**1.23 263**	i P	Pn	05 59 09.2	-0.2
OWD			i S	Sn	05 59 24.1	-1.1
EHY	**Hungye**	**1.24 242**	P	Pn	05 59 08.8	-0.6
EHY			eS	Sn	05 59 24.2	-1.0
TDCB	**Techi**	**1.25 277**	P	Pn	05 59 10.0	+0.4
TDCB			i S	Sn	05 59 25.0	-0.5
ECBN	**Changbin**	**1.25 231**	eP	Pn	05 59 09.2	-0.4
ECBN			i S	Sn	05 59 24.1	-1.3
NHY	**Taipei**	**1.27 318**	eS	Sn	05 59 26.7	+0.8
TATO	**Taipei**	**1.28 313**	P	Pn	05 59 09.7	-0.2
WUSB	**Renai**	**1.28 265**	i P	Pn	05 59 10.1	0.0
WUSB			eS	Sn	05 59 25.9	-0.5
VWDT	**VWDT**	**1.30 255**	i P	Pn	05 59 10.5	+0.3
VWDT			S	Sn	05 59 26.1	-0.5
TAP	**Taipei**	**1.31 316**	eS	Sn	05 59 25.1	-1.7
YULB	**Yu-li**	**1.32 238**	P	Pn	05 59 09.9	-0.6
YULB	**Yu-li**	**1.32 238**	i P	Pn	05 59 10.1	-0.4
YULB			eS	Sn	05 59 26.0	-1.1
EYUL	**Yuli**	**1.33 236**	i P	Pn	05 59 10.6	0.0
EYUL			S	Sn	05 59 27.2	-0.1
TWF1	**Yuli**	**1.34 236**	i P	Pn	05 59 10.5	-0.3
TWF1			eS	Sn	05 59 27.0	-0.6
YM01	**YM01**	**1.35 321**	P	Pn	05 59 10.4	-0.5
YM01			eS	Sn	05 59 26.4	-1.5
CHKH	**Chenggong**	**1.37 229**	P	Pn	05 59 10.2	-0.9
CHKH			i S	Sn	05 59 26.0	-2.2
YM08	**YM08**	**1.37 322**	eP	Pn	05 59 10.3	-0.9
YM08			eS	Sn	05 59 26.2	-2.1
JKRS	**Kuro-shima**	**1.37 84**	P	Pn	05 59 11.9	+0.7
JKRS			S	Sn	05 59 29.1	+0.7
ZUZH	**Zhuzihu**	**1.38 320**	i P	Pn	05 59 10.6	-0.6
ZUZH			S	Sn	05 59 26.9	-1.6
NFF	**Wufeng Townshi**	**1.38 293**	i P	Pn	05 59 11.8	+0.5
NFF			i S	Sn	05 59 28.6	+0.1
KSHI	**Guanxi Townshi**	**1.39 299**	i P	Pn	05 59 12.3	+0.8
KSHI			S	Sn	05 59 30.2	+1.4
TWS1	**Kuangyinshan**	**1.41 315**	i P	Pn	05 59 10.5	-1.2
TWS1			i S	Sn	05 59 27.8	-1.5
NTST	**Danshui**	**1.43 318**	eP	Pn	05 59 11.8	-0.2
NTST			eS	Sn	05 59 29.0	-0.8
TWY	**Chenhua**	**1.43 325**	eP	Pn	05 59 10.7	-1.3
TWY			eS	Sn	05 59 28.0	-1.9
FULB	**Fuli**	**1.44 231**	i P	Pn	05 59 11.5	-0.5
FULB			S	Sn	05 59 28.6	-1.3
WHP	**Taichung City**	**1.44 277**	eP	Pn	05 59 13.8	+1.6
WHP			S	Sn	05 59 30.7	+0.5
SSLB	**Suanglung**	**1.46 258**	P	Pn	05 59 12.4	0.0
SSLB	**Suanglung**	**1.46 258**	i P	Pn	05 59 12.7	+0.2
SSLB			S	Sn	05 59 29.9	-0.6
WCS	**Beigang Elemen**	**1.47 269**	eP	Pn	05 59 12.7	+0.2
WCS			eS	Sn	05 59 30.8	+0.2
LIOB	**Emei**	**1.47 292**	i P	Pn	05 59 13.4	+0.9
LIOB			S	Sn	05 59 31.8	+1.1
NCUH	**Zhongli**	**1.49 306**	eP	Pn	05 59 13.1	+0.4
NCUH			eS	Sn	05 59 31.7	+0.6
SMLT	**Sun Moon Lake**	**1.49 262**	eP	Pn	05 59 12.2	-0.7
SMLT			i S	Sn	05 59 30.1	-1.3
JIJ	**Ishigaki jima**	**1.51 80**	i P	Pn	05 59 13.0	-0.1
JIJ			S	Sn	05 59 31.0	-0.7
EHD	**Haiduan**	**1.53 232**	eP	Pn	05 59 13.0	-0.4
EHD			eS	Sn	05 59 31.0	-1.2
ECS	**Chishang**	**1.55 230**	eS	Sn	05 59 33.3	+0.5
SBCB	**Hsinchu**	**1.55 297**	eP	Pn	05 59 14.7	+1.0
SBCB			i S	Sn	05 59 34.3	+1.5
HSN	**Hsinchu**	**1.57 297**	eP	Pn	05 59 13.9	0.0
HSN			S	Sn	05 59 33.5	+0.3
WHYT	**Xinyi Township**	**1.57 255**	P	Pn	05 59 14.9	+0.9
WHYT			i S	Sn	05 59 33.9	+0.6
PCYT	**Pengchaiyu**	**1.57 345**	eP	Pn	05 59 13.9	0.0
EDH	**Donghe**	**1.58 225**	eP	Pn	05 59 13.6	-0.4
EDH			S	Sn	05 59 31.5	-1.8
TWQ1	**Liyutan**	**1.61 279**	P	Pn	05 59 15.4	+1.0
TWQ1			S	Sn	05 59 35.9	+1.8
NMLH	**Miaoli**	**1.63 286**	i P	Pn	05 59 15.6	+0.9
NMLH			eS	Sn	05 59 35.5	+0.9
NSY	**Sanyi**	**1.63 281**	i P	Pn	05 59 15.9	+1.2
NSY			eS	Sn	05 59 36.4	+1.7
ELDTW	**Lidau**	**1.65 237**	eP	Pn	05 59 14.7	-0.3
ELDTW			eS	Sn	05 59 34.2	-1.0
WJS	**Zhushan**	**1.66 261**	P	Pn	05 59 17.0	+1.9
WJS			S	Sn	05 59 37.4	+2.1
ALS	**Alishan**	**1.67 250**	P	Pn	05 59 16.4	+0.9
ALS			S	Sn	05 59 36.1	+0.1
TCU	**Taichung**	**1.68 272**	eP	Pn	05 59 16.5	+1.2
TCU			eS	Sn	05 59 37.2	+1.4
WNT	**Mingjian**	**1.69 263**	i P	Pn	05 59 17.3	+1.8
WNT			eS	Sn	05 59 37.9	+1.8
JISG	**Ishigakijimahi**	**1.71 73**	P	Pn	05 59 15.7	-0.1
JISG			eS	Sn	05 59 35.9	-0.6
LDUT	**Ludao**	**1.71 214**	i P	Pn	05 59 15.0	-0.8
LDUT			i S	Sn	05 59 34.0	-2.7
WDJ	**Dajia District**	**1.73 279**	eP	Pn	05 59 16.9	+0.9
LONT	**Longtian**	**1.74 227**	eP	Pn	05 59 17.3	+1.1
WCHH	**Zhanghua**	**1.79 270**	i P	Pn	05 59 18.2	+1.4
WCHH			i S	Sn	05 59 39.9	+1.5
WCH1	**Changhua City**	**1.80 269**	eS	Sn	05 59 40.7	+2.1
WGK	**Gukeng**	**1.83 257**	eP	Pn	05 59 19.8	+2.3
WGK			i S	Sn	05 59 41.9	+2.4
TWGBT	**Beinan**	**1.83 226**	P	Pn	05 59 16.9	-0.6
TWGBT	**Beinan**	**1.83 226**	eP	Pn	05 59 16.9	-0.6
TWGBT			eS	Sn	05 59 39.0	-0.6
TWG	**Pinlang**	**1.84 226**	eP	Pn	05 59 17.1	-0.5
TWG			eS	Sn	05 59 38.0	-1.6
STYH	**Taoyuan**	**1.84 240**	i P	Pn	05 59 18.4	+0.8
STYH			i S	Sn	05 59 40.1	+0.4
WDLH	**Douliu**	**1.85 258**	P	Pn	05 59 19.3	+1.6
WDLH			i S	Sn	05 59 42.1	+2.0
WCKO	**Fanlu**	**1.87 250**	eP	Pn	05 59 19.9	+2.0
WCKO			S	Sn	05 59 42.4	+2.0
TPUB	**Ta-pu**	**1.90 246**	P	Pn	05 59 19.8	+1.4
TPUB	**Ta-pu**	**1.90 246**	i P	Pn	05 59 20.2	+1.8
TPUB			i S	Sn	05 59 43.1	+1.8
WTP	**Ta-pu**	**1.94 244**	eP	Pn	05 59 19.9	+1.0
CHN2	**Minshiung**	**1.95 254**	eP	Pn	05 59 21.0	+2.0
CHN2			eS	Sn	05 59 45.0	+2.5
WRL	**Guolierlin Hig**	**1.96 265**	eP	Pn	05 59 20.4	+1.1
WRL			i S	Sn	05 59 44.0	+1.2
WTK	**Tuku**	**1.99 258**	P	Pn	05 59 21.1	+1.6
WTK			i S	Sn	05 59 45.4	+2.1
CHY	**Chiayi**	**2.01 253**	eP	Pn	05 59 21.4	+1.6
CHY			eS	Sn	05 59 44.4	+0.6
TWK	**Hsinying**	**2.03 246**	eP	Pn	05 59 22.1	+1.9
TWK			eS	Sn	05 59 46.2	+1.6
CHN1	**Nanshi**	**2.04 244**	eP	Pn	05 59 22.1	+1.9
CHN1			i S	Sn	05 59 46.3	+1.7
SGST	**Jiashian**	**2.04 241**	eP	Pn	05 59 21.5	+1.2
SGST			i S	Sn	05 59 46.4	+1.8
SNST	**Tainan City**	**2.05 245**	eP	Pn	05 59 22.2	+1.9
SNST			S	Sn	05 59 46.8	+2.0
WTCT	**Ta-ch'eng**	**2.06 264**	eS	Sn	05 59 46.6	+1.7
JTJ	**Tarama**	**2.07 74**	P	Pn	05 59 20.8	+0.2
JTJ			eS	Sn	05 59 44.9	-0.4
ECL	**Taimali**	**2.07 224**	eP	Pn	05 59 19.8	-0.9
ECL			S	Sn	05 59 42.2	-3.2
WSF	**Szhu**	**2.15 258**	eP	Pn	05 59 21.9	+0.2
WSL	**Shuilin Townsh**	**2.17 255**	P	Pn	05 59 23.4	+1.3
WSL			eS	Sn	05 59 49.4	+1.6
ICHU	**Yijhu**	**2.18 251**	eP	Pn	05 59 22.9	+0.8
ICHU			i S	Sn	05 59 50.5	+2.6
TSMG	**Majia**	**2.21 231**	eP	Pn	05 59 24.8	+2.2
SCST	**Cishan**	**2.21 237**	eP	Pn	05 59 25.5	+2.8
SCST			i S	Sn	05 59 53.2	+4.3
LAY	**Lan-yu**	**2.24 204**	eP	Pn	05 59 21.7	-1.3
LYUB	**Lan-yu**	**2.26 202**	eP	Pn	05 59 22.1	-1.1
SHHT	**Tainan City**	**2.26 242**	eP	Pn	05 59 26.7	+3.4
MASBT	**Mashibuluo**	**2.28 230**	eP	Pn	05 59 24.2	+0.7
EAST	**Anshuo**	**2.30 222**	eP	Pn	05 59 25.2	+1.4
EAST			eS	Sn	05 59 49.9	-1.0
TAWH	**Dawu Township**	**2.31 221**	eP	Pn	05 59 24.5	+0.6
TAWH			S	Sn	05 59 49.4	-1.7
TSCK	**Chigu Township**	**2.42 247**	eP	Pn	05 59 26.9	+1.4
SLIU	**Shizi**	**2.45 220**	eP	Pn	05 59 26.7	+0.8
WDGT	**Dungji**	**2.75 253**	eP	Pn	05 59 30.4	+0.5
PHUB	**P'eng-hu**	**2.76 258**	eP	Pn	05 59 29.7	-0.4
PNG	**Penghu**	**2.76 259**	eP	Pn	05 59 30.6	+0.5
VWUC	**VWUC**	**2.93 288**	i P	Pn	05 59 31.6	-0.8
VCHM	**Qimei**	**2.96 253**	eP	Pn	05 59 33.4	+0.5
MATB	**Ma-tsu**	**3.10 312**	i P	Pn	05 59 33.9	-0.8
PTMZ	**Houxiangcun**	**3.23 288**	eP	Pn	05 59 35.7	-0.8
XPSS	**Dashiqiu**	**3.51 324**	eP	Pn	05 59 39.5	-0.9
MHZQ	**Yeshan**	**3.73 303**	eP	Pn	05 59 42.6	-0.8
KNM	**Kinmen**	**3.74 276**	eP	Pn	05 59 45.0	+1.5
KNMB	**Chin-men Tao**	**3.78 276**	eP	Pn	05 59 44.4	+0.3
AXDP	**Jialang**	**4.21 282**	eP	Pn	05 59 49.5	-0.5
ZPLA	**Ao Xicun**	**4.36 269**	i P	Pn	05 59 51.5	-0.5
DSXP	**Dongshan**	**4.67 266**	eP	Pn	05 59 56.1	-0.2

*ISN **07** 06:00:43.9±0.5, 34.°29N×45.°72E, h14km±28km, ML2.5*
*TEH **07** 06:00:44.1, 34.°28N×45.°72E, h10km±990km*

ISC 07 06:00:44.1±1.1, 34.°30N±0.°04×45.°73E±0.°05, h18km, n7, σ0°54/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**330**	Pg	**Pg**	**06 00 49.5**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.24**	**141**	Pg	**Pg**	**06 00 49.0**	**-0.7**
IDHR	**Dehrash**	**0.67**	**54**	Pg	**Pb**	**06 00 57.5**	**+0.1**
IGHG	**Ghaleghazi**	**0.69**	**87**	Pg	**Pb**	**06 00 58.5**	**+0.6**
IBDR	**Badra**	**1.20**	**172**	ePg	**Pb**	**06 01 07.0**	**+0.7**
IBDR				eSg	**Sg**	**06 01 23.3**	**+0.3**
BHD	**Baghdad**	**1.52**	**228**	ePn	**Pb**	**06 01 12.0**	**+0.2**
BHD				eSn	**Sg**	**06 01 33.0**	**-0.3**
IKRK	**Kirkuk**	**1.58**	**314**	ePn	**Pb**	**06 01 13.4**	**+0.5**
IKRK				eSn	**Sg**	**06 01 35.0**	**-0.3**

IDC 07 06:04:30.6±1.6, 18.°30N×147.°49E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=287.9km s-min=24.4km az=112.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.13**	**199**	P	P	06 12 08.8	+0.2
	2.0nm,0.5s,baz=24,slow=8.1,SNR=29 2.0nm,0.5s						
ASAR	**Alice Springs**	**43.77**	**198**	P	P	06 12 37.6	-0.6
	0.5nm,0.5s,baz=14,slow=6.3,SNR=6.7 0.5nm,0.5s						
ILAR	**Eielson Array**	**63.26**	**26**	P	P	06 15 01.0	+0.3
	0.4nm,0.9s,baz=258,slow=4.7,SNR=2.6 0.4nm,0.9s						
YKA	**Yellowknife Ar**	**77.54**	**28**	P	P	06 16 28.0	-0.2
	0.2nm,0.5s,baz=283,slow=5.8,SNR=2.9 0.2nm,0.5s						

*MOS **07** 06:04:41.8, 43.°13N×45.°84E, h90km±2km, MPVA3.8*
*NORS **07** 06:04:42.3, 43.°07N×45.°86E, h86km±2km, MPVA3.7*
*DRS **07** 06:04:43.6, 43.°15N×45.°55E, h69km*

ISC 07 06:04:43.1±0.9, 43.°13N±0.°04×45.°81E±0.°03, h90km±5km, n81, σ1°23/147, 2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.08**	**353**	ePg	**Pn**	**06 04 55.8**	**0.0**
GROC				eSg	**Sn**	**06 05 05.8**	**+0.6**
GROC	**Groznyy**	**0.08**	**353**	eP	**Pn**	**06 04 55.8**	**0.0**
GROC				eS	**Sn**	**06 05 05.8**	**+0.6**
DVE	**Vedeno**	**0.29**	**126**	ePg	**Pn**	**06 04 55.6**	**-1.0**
DVE				eSg	**Sn**	**06 05 03.8**	**-2.7**
DVE	**Vedeno**	**0.29**	**126**	eP	**Pn**	**06 04 55.7**	**-0.9**
DVE				eS	**Sn**	**06 05 05.2**	**-1.3**
BTLR	**Botlikh**	**0.55**	**147**	ePg	**Pn**	**06 04 57.8**	**-0.6**
BTLR				eSg	**Sn**	**06 05 08.6**	**-1.1**
BTLR	**Botlikh**	**0.55**	**147**	‖ iP	**Pn**	**06 04 58.0**	**-0.4**
BTLR				eS	**Sn**	**06 05 08.8**	**-0.9**
DLMR	**Dylym**	**0.60**	**95**	ePg	**Pn**	**06 04 57.4**	**-1.3**
DLMR				eSg	**Sn**	**06 05 09.2**	**-1.2**
DLMR	**Dylym**	**0.60**	**95**	eP	**Pn**	**06 04 57.4**	**-1.3**
DLMR				eS	**Sn**	**06 05 09.2**	**-1.2**
KMGR	**Komgaron**	**0.69**	**265**	ePg	**Pn**	**06 04 59.0**	**-0.6**
KMGR				eSg	**Sn**	**06 05 12.7**	**+0.8**
KMGR	**Komgaron**	**0.69**	**265**	eP	**Pn**	**06 05 00.2**	**+0.6**
KMGR				eS	**Sn**	**06 05 13.1**	**+1.2**
DBC	**Dubki**	**0.76**	**98**	ePg	**Pn**	**06 04 59.4**	**-0.8**
DBC				eSg	**Sn**	**06 05 11.6**	**-1.5**
DBC	**Dubki**	**0.76**	**98**	eP	**Pn**	**06 04 59.5**	**-0.8**
DBC				eS	**Sn**	**06 05 11.7**	**-1.3**
UNCR	**Uncukul**	**0.83**	**119**	ePg	**Pn**	**06 05 00.2**	**-0.8**
UNCR				eSg	**Sn**	**06 05 13.3**	**-1.1**
UNCR	**Uncukul**	**0.83**	**119**	eP	**Pn**	**06 05 00.2**	**-0.8**
UNCR				eS	**Sn**	**06 05 13.3**	**-1.1**
KRNR	**Karanay**	**0.86**	**110**	ePg	**Pn**	**06 05 00.5**	**-0.9**
KRNR				eSg	**Sn**	**06 05 13.3**	**-1.7**
KRNR	**Karanay**	**0.86**	**110**	eP	**Pn**	**06 05 00.5**	**-0.9**
KRNR				eS	**Sn**	**06 05 13.3**	**-1.7**
HNZR	**Khunzah**	**0.88**	**130**	‖ iP	**Pn**	**06 05 01.5**	**-0.1**
HNZR				eS	**Sn**	**06 05 15.3**	**-0.2**
XNZR	**Khunzakh**	**0.88**	**131**	ePg	**Pn**	**06 05 01.3**	**-0.4**
XNZR				eSg	**Sn**	**06 05 14.8**	**-0.7**
BTKR	**Batakoyurt**	**0.96**	**285**	ePg	**Pn**	**06 05 03.4**	**+1.0**
BTKR				eSg	**Sn**	**06 05 19.0**	**+2.2**
BTKR	**Batakoyurt**	**0.96**	**285**	eP	**Pn**	**06 05 03.4**	**+1.0**
BTKR				eS	**Sn**	**06 05 19.0**	**+2.2**
TRKR	**Terskaya**	**0.98**	**308**	eP	**Pn**	**06 05 04.3**	**+1.7**
TRKR				eS	**Sn**	**06 05 19.7**	**+2.5**
BUJR	**Buynaksk**	**1.00**	**107**	ePg	**Pn**	**06 05 02.9**	**+0.1**
BUJR				eSg	**Sn**	**06 05 18.0**	**+0.4**
BUJR	**Buynaksk**	**1.00**	**107**	eP	**Pn**	**06 05 02.9**	**+0.1**
BUJR				eS	**Sn**	**06 05 18.0**	**+0.4**
ARKR	**Arakani**	**1.02**	**121**	ePg	**Pn**	**06 05 02.8**	**-0.3**
ARKR				eSg	**Sn**	**06 05 17.5**	**-0.5**
ARKR	**Arakani**	**1.02**	**121**	eP	**Pn**	**06 05 03.0**	**-0.1**
ARKR				eS	**Sn**	**06 05 18.3**	**+0.3**
ARKR				pmax	pmax		
	comp=Z,36nm,0.3s						
ARNR	**Ardon**	**1.12**	**273**	ePg	**Pn**	**06 05 04.4**	**+0.2**
ARNR				eSg	**Sn**	**06 05 21.8**	**+1.8**
ARNR	**Ardon**	**1.12**	**273**	eP	**Pn**	**06 05 04.4**	**+0.2**
ARNR				eS	**Sn**	**06 05 21.8**	**+1.8**
GNBR	**Gunib**	**1.13**	**131**	ePg	**Pn**	**06 05 04.2**	**-0.1**
GNBR				eSg	**Sn**	**06 05 20.7**	**+0.5**
GNBR	**Gunib**	**1.13**	**131**	eP	**Pn**	**06 05 04.2**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,39nm,0.2s						
LACR	**Lac**	**1.15**	**255**	ePg	**Pn**	**06 05 04.3**	**-0.4**
LACR				eSg	**Sn**	**06 05 20.0**	**-0.9**
LACR	**Lac**	**1.15**	**255**	eP	**Pn**	**06 05 04.3**	**-0.4**
LACR				eS	**Sn**	**06 05 20.0**	**-0.9**
GUDG	**Gudauri**	**1.18**	**236**	ePg	Pn	06 04 57.6	-7.6
GUDG				eSg	**Sn**	**06 05 22.2**	**+0.4**
GUDG	**Gudauri**	**1.18**	**236**	eP	Pn	06 04 57.6	-7.6
GUDG				eS	**Sn**	**06 05 22.2**	**+0.4**
MAK	**Makhachkala**	**1.25**	**97**	eP	**Pn**	**06 05 06.3**	**+0.5**
MAK				e		06 05 23.0	
MAK				pmax	pmax		
	comp=Z,113nm,0.2s						
MAK				smax	smax		
	comp=E,244nm,0.3s						
MAK				smax	smax		
	comp=E,273nm,0.3s						
MAK				smax	smax		
	comp=Z,606nm,2.0s						
PRTR	**Priterechnaya**	**1.27**	**300**	ePg	**Pn**	**06 05 07.2**	**+1.2**
PRTR				eSg	**Sn**	**06 05 25.7**	**+2.4**
PRTR	**Priterechnaya**	**1.27**	**300**	eP	**Pn**	**06 05 07.2**	**+1.2**
PRTR				eS	**Sn**	**06 05 25.7**	**+2.4**
KORR	**Kora**	**1.28**	**269**	ePg	**Pn**	**06 05 06.5**	**+0.4**
KORR				eSg	**Sn**	**06 05 24.5**	**+1.1**
KORR	**Kora**	**1.28**	**269**	eP	**Pn**	**06 05 06.5**	**+0.4**
KORR				eS	**Sn**	**06 05 24.5**	**+1.1**
STDR	**Stavd-Durt**	**1.30**	**281**	ePg	Pn	06 05 12.3	+6.0
STDR				eSg	**Sn**	**06 05 24.9**	**+1.1**
STDR	**Stavd-Durt**	**1.30**	**281**	eP	Pn	06 05 12.3	+6.0
STDR				eS	**Sn**	**06 05 24.9**	**+1.1**
KMKR	**Kumukh**	**1.38**	**136**	ePg	**Pn**	**06 05 07.5**	**0.0**
KMKR				eSg	**Sn**	**06 05 25.5**	**-0.5**
KMKR	**Kumukh**	**1.38**	**136**	eP	**Pn**	**06 05 07.7**	**+0.2**
KMKR				eS	**Sn**	**06 05 27.0**	**+1.1**
KMKR				pmax	pmax		
	comp=Z,65nm,0.2s						
LSNR	**Lesken**	**1.46**	**277**	ePg	**Pn**	**06 05 09.1**	**+0.7**
LSNR				eSg	**Sn**	**06 05 28.2**	**+0.7**
LSNR	**Lesken**	**1.46**	**277**	eP	**Pn**	**06 05 09.1**	**+0.7**
LSNR				eS	**Sn**	**06 05 28.2**	**+0.7**
SGKR	**Sergokala**	**1.52**	**115**	ePg	**Pn**	**06 05 09.8**	**+0.7**
SGKR				eSg	**Sn**	**06 05 30.9**	**+2.2**
SGKR	**Sergokala**	**1.52**	**115**	eP	**Pn**	**06 05 09.8**	**+0.7**
SGKR				eS	**Sn**	**06 05 30.9**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.65**	**263**	ePg	**Pn**	**06 05 11.0**	**+0.1**
DIGR				eSg	**Sn**	**06 05 30.6**	**-1.4**
DIGR	**Digorskoe uzhe**	**1.65**	**263**	eP	**Pn**	**06 05 11.6**	**+0.6**
DIGR				eS	**Sn**	**06 05 30.5**	**-1.6**
URKR	**Urkarakh**	**1.65**	**125**	ePg	**Pn**	**06 05 11.0**	**+0.1**
URKR				eSg	**Sn**	**06 05 32.7**	**+0.7**
URKR	**Urkarakh**	**1.65**	**125**	eP	**Pn**	**06 05 12.0**	**+1.0**
URKR				eS	**Sn**	**06 05 34.3**	**+2.3**
URKR				pmax	pmax		
	comp=Z,39nm,0.2s						
NCK	**Nalchik**	**1.66**	**284**	i P	**Pn**	**06 05 10.6**	**-0.3**
KBTC	**Kuba-Taba**	**1.88**	**292**	ePg	**Pn**	**06 05 14.2**	**+0.4**
KBTC				eSg	**Sn**	**06 05 37.5**	**+0.4**
KBTC	**Kuba-Taba**	**1.88**	**292**	eP	**Pn**	**06 05 14.1**	**+0.4**
KBTC				eS	**Sn**	**06 05 37.5**	**+0.4**
AKT	**Akhty**	**2.18**	**138**	ePg	**Pn**	**06 05 17.5**	**-0.3**
AKT				eSg	**Sn**	**06 05 42.8**	**-1.4**
AKT	**Akhty**	**2.18**	**138**	eP	**Pn**	**06 05 18.0**	**+0.2**
AKT				eS	**Sn**	**06 05 46.3**	**+2.1**
AKT				pmax	pmax		
	comp=Z,17nm,0.2s						
SEKA	**Sheki**	**2.18**	**151**	P	**Pn**	**06 05 16.7**	**-1.0**
PYA1	**Pyatigorsk**	**2.18**	**296**	ePg	**Pn**	**06 05 17.6**	**-0.1**
PYA1				eSg	**Sn**	**06 05 42.8**	**-1.4**
PYA1	**Pyatigorsk**	**2.18**	**296**	eP	**Pn**	**06 05 17.6**	**-0.1**
PYA1				eS	**Sn**	**06 05 42.8**	**-1.4**
KBZ	**Khabaz**	**2.21**	**287**	ePg	**Pn**	**06 05 17.4**	**-0.5**
KBZ				eSg	**Sn**	**06 05 42.8**	**-1.8**
KBZ	**Khabaz**	**2.21**	**287**	eP	**Pn**	**06 05 17.4**	**-0.5**
KBZ				eS	**Sn**	**06 05 42.8**	**-1.8**
KSMR	**Kasumkent**	**2.30**	**131**	ePn	**Pn**	**06 05 18.6**	**-0.7**
KSMR				eSn	**Sn**	**06 05 47.0**	**0.0**
KSMR	**Kasumkent**	**2.30**	**131**	eP	**Pn**	**06 05 18.6**	**-0.7**
KSMR				eS	**Sn**	**06 05 47.0**	**0.0**
BEYR	**Belyy Ugol+**	**2.35**	**293**	ePn	**Pn**	**06 05 19.6**	**-0.4**
BEYR				eSn	**Sn**	**06 05 45.6**	**-2.5**
BEYR	**Belyy Ugol+**	**2.35**	**293**	eP	**Pn**	**06 05 19.6**	**-0.4**
BEYR				eS	**Sn**	**06 05 45.6**	**-2.5**
SHA1	**Shidzhatmaz**	**2.38**	**286**	i Pn	**Pn**	**06 05 20.3**	**-0.2**
SHA1				eSn	**Sn**	**06 05 47.6**	**-1.5**
SHA1	**Shidzhatmaz**	**2.38**	**286**	i P	**Pn**	**06 05 20.3**	**-0.2**
SHA1				eS	**Sn**	**06 05 47.6**	**-1.5**
KIV0	**Kislovodsk Arr**	**2.41**	**291**	ePn	**Pn**	**06 05 20.6**	**-0.2**
KIV0				eSn	**Sn**	**06 05 48.2**	**-1.5**
KIV	**Kislovodsk**	**2.42**	**291**	ePn	**Pn**	**06 05 20.9**	**0.0**
KIV				eSn	**Sn**	**06 05 48.3**	**-1.6**
KIV	**Kislovodsk**	**2.42**	**291**	eP	**Pn**	**06 05 20.6**	**-0.3**
KIV				eS	**Sn**	**06 05 48.2**	**-1.6**
GANJ	**Ganja**	**2.51**	**171**	P	**Pn**	**06 05 21.0**	**-1.1**
ALER	**Alexandrovskoy**	**2.66**	**309**	ePn	**Pn**	**06 05 24.6**	**+0.6**
ALER				eSn	**Sn**	**06 05 54.6**	**-0.8**
ALER	**Alexandrovskoy**	**2.66**	**309**	eP	**Pn**	**06 05

KRMR	**Karymshinskiy**	**4.44 244**	*e*P	**Pn**	**06 16 02.5**	**+1.0**
KRMR			*e*S	**Sn**	**06 16 50.7**	**-1.4**
RUS	**Russkaya**	**4.46 238**	*e*P	**Pn**	**06 16 01.8**	**0.0**
PETK	**Petropavlovsk-**	**4.53 249**	Pn	**Pn**	**06 16 03.1**	**+0.4**
	1.4nm,0.3s,baz=69,slow=16,SNR=57					
PETK			Sn	**Sn**	**06 16 53.7**	**-0.8**
	0.9nm,0.3s,baz=88,slow=18,SNR=4.5					
	2.3nm,0.4s					
MTVR	**Mutnovka**	**4.60 240**	*e*P	**Pn**	**06 16 04.5**	**+0.6**
MTVR			*e*S	**Sn**	**06 16 53.5**	**-2.8**
GRL	**Gorelyy**	**4.62 241**	*e*P	**Pn**	**06 16 06.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**5.07 234**	*e*P	**Pn**	**06 16 09.7**	**-0.4**
TILK	**Tilichiki**	**5.57 7**	*e*P	**Pn**	**06 16 19.4**	**+2.4**
ILAR	**Eielson Array**	**25.56 48**	P	**P**	**06 20 21.5**	**-0.7**
	0.9nm,0.9s,baz=261,slow=8.7,SNR=10					
	0.9nm,0.9s					
H11N2	**WAKE ISLAND Hy**	**35.19 176**	T	T	06 59 37.7	
	baz=359,slow=74					
H11N3	**WAKE ISLAND Hy**	**35.21 176**	T	T	06 59 44.4	
	baz=359,slow=74					
H11N1	**WAKE ISLAND Hy**	**35.21 176**	T	T	06 59 32.9	
	baz=359					
YKA	**Yellowknife Ar**	**39.93 46**	P	**P**	**06 22 27.5**	**+0.2**
	0.2nm,0.7s,baz=295,slow=8.2,SNR=3.2					
	0.2nm,0.7s					
TXAR	**Lajitas Array**	**67.42 71**	P	**P**	**06 25 50.2**	**+1.1**
	0.2nm,0.4s,baz=321,slow=5.4,SNR=2.5					
	0.2nm,0.4s					

IDC 07 06:30:21.1±8.3, 5°78.S×154°.17E, h168km±68km, mb3.4/3, mbtmp4.0/4, MS2.3/1, Error ellipse: s-maj=119.3km s-min=32.8km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.59 304**		LR	LR	06 32 17.4	
	comp=Z,61nm,20.8s,baz=192,slow=45						
PMG	**Port Moresby**	**7.83 242**		P	Pn	06 32 11.1	-1.1
	12nm,0.3s,baz=68,slow=14,SNR=3.6						
PMG				S	Sn	06 33 42.1	+2.2
	8.4nm,0.4s,baz=298,slow=15,SNR=1.8						
WRA	**Warramunga Arr**	**23.87 232**		P	P	06 35 19.5	+0.1
	1.7nm,0.4s,baz=58,slow=11,SNR=10						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**26.39 226**		P	P	06 35 42.1	-0.1
	1.2nm,0.4s,baz=56,slow=9.2,SNR=32						
	1.2nm,0.4s						
ILAR	**Eielson Array**	**82.56 22**		P	P	06 42 25.1	+0.2
	0.3nm,0.9s,baz=239,slow=7.0,SNR=2.9						
	0.3nm,0.9s						

*ASRS **07** 06:39:18.0±1.6, 54°.15N×87°.18E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **07** 06:39:19.6±3.3, 54°.17N×87°.40E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=26.5km s-min=16.8km az=61.0*
ISC 07 06:39:25.9±6.2, 54°.1N±0°.2×86°.5E±0°.4, h0km, n4, σ0°88/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99 263**		I	I	06 47 40.0	
	0.1nm,0.7s,baz=81,slow=354,SNR=6.5						
ZALV	**Zalesovo Beam**	**0.99 263**		Pg	**Pn**	**06 39 46.7**	**-0.3**
	1.4nm,0.3s,baz=82,slow=17,SNR=14						
ZALV				Lg	Lg	06 40 09.1	
	1.8nm,0.3s,baz=80,slow=25,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.97 238**		Pn	**Pn**	**06 40 56.2**	**+0.7**
	0.1nm,0.3s,baz=53,slow=13,SNR=1.3						
KURBB				Lg	Lg	06 42 47.8	
	baz=99,slow=30,SNR=1.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.77 202**		Pn	**Pn**	**06 41 20.2**	**0.0**
	baz=26,slow=14,SNR=1.7						
MKAR				Sn	**Sn**	**06 42 48.3**	**-0.4**
	baz=113,slow=44,SNR=1.9						
MKAR				Lg	Lg	06 43 35.5	
	baz=19,slow=32						
	0.1nm,0.3s						

TRN 07 06:44:25.3, 14°.99N×59°.36W, h54km, MD3.6, Far East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**1.72 254**		*e*P	Pn	06 44 53.9	+0.9
BIM				*e*S	Sn	06 45 15.8	+1.9
BIM	**Bigot**	**1.72 254**		*e*P	Pn	06 44 53.9	+0.9
BIM				*e*S	Sn	06 45 15.8	+1.9
SLBI	**Saint Lucia, B**	**1.84 239**		*e*P	Pn	06 44 55.8	+1.3
SLBI				*e*S	Sn	06 45 18.4	+1.8
SLBI	**Saint Lucia, B**	**1.84 239**		*e*P	Pn	06 44 55.8	+1.3
SLBI				*e*S	Sn	06 45 18.4	+1.8
MDN	**Morne-Daniel**	**1.99 280**		*e*P	Pn	06 44 58.6	+2.0
MDN				*e*S	Sn	06 45 21.5	+1.1
MDN	**Morne-Daniel**	**1.99 280**		*e*P	Pn	06 44 58.6	+2.0
MDN				*e*S	Sn	06 45 21.5	+1.1
DSLB	**Salisbury**	**2.04 283**		*e*P	Pn	06 44 59.8	+2.5
DSLB				*e*S	Sn	06 45 24.1	+2.4
DSLB	**Salisbury**	**2.04 283**		*e*P	Pn	06 44 59.8	+2.5
DSLB				*e*S	Sn	06 45 24.1	+2.4
ANBD	**Bethesda, Anti**	**3.09 312**		*e*P	Pn	06 45 13.5	+1.9
ANBD				*e*S	Sn	06 45 49.2	+1.9
ANBD	**Bethesda, Anti**	**3.09 312**		*e*P	Pn	06 45 13.5	+1.9
ANBD				*e*S	Sn	06 45 49.2	+1.9
ANWB	**Willy Bob**	**3.54 319**		*e*P	Pn	06 45 19.0	+1.2
ANWB				*e*S	Sn	06 45 58.5	+0.1
ANWB	**Willy Bob**	**3.54 319**		*e*P	Pn	06 45 19.0	+1.2
ANWB				*e*S	Sn	06 45 58.5	+0.1

*NEIC **07** 06:58:49.6±2.1, 47°.95N±0°.01×121°.94W±0°.02, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.0km az=148.0*
SEA 07 06:58:50.2±2.5, 47°.96N±0°.01×121°.93W±0°.01, h12km±2km, ML1.8/14, ML1.6/21(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=153.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLH	**Bald Hill**	**0.14 208**			Pg	06 58 53.6	0.0
BLH					Sg	06 58 56.5	+0.5
HTW	**Haystack Looko**	**0.19 145**			Pg	06 58 54.2	-0.3
HTW					Sg	06 58 57.2	-0.2
EARN	**East Ridge Ele**	**0.23 198**			Pg	06 58 55.6	+0.5
EARN					Sg	06 59 00.1	+1.7
JCW	**Jim Creek**	**0.23 1**			Pg	06 58 54.9	-0.4
JCW					Sg	06 58 58.5	-0.1
LYNC	**Lynnwood City**	**0.28 241**			Pg	06 58 56.5	+0.5
C05A	**Tolt Reservoir**	**0.31 148**			Pg	06 58 56.1	-0.5
SWID	**South Whidbey**	**0.33 279**			Sb	06 59 02.8	-0.4
RATT	**Rattlesnake La**	**0.54 171**			Pg	06 58 60.0	-0.9
RATT					Sg	06 59 07.8	-0.2
GPW	**Glacier Peak**	**0.56 73**			Pg	06 59 00.7	-0.5
GPW					Sg	06 59 08.9	+0.3
SVOH	**Skagit Valley**	**0.57 305**			Pg	06 59 00.9	-0.6
SVOH					Sg	06 59 09.4	+0.4
B013	**Quilcene**	**0.67 258**			Pg	06 59 02.0	-1.3
B013	**Quilcene**	**0.67 258**			Pg	06 59 02.0	-1.3
B013					Sg	06 59 11.2	-0.9
GMW	**Gold Mountain**	**0.71 235**			Pg	06 59 02.6	-1.3
WRW	**Wenatchee Ridg**	**0.71 98**			Pg	06 59 03.2	-1.0
GNW	**Green Mountain**	**0.72 237**			Pg	06 59 02.9	-1.3
GNW				Sg	Sg	06 59 12.5	-1.2
GNW				IAML		06 59 12.9	
	comp=E,18nm,0.3s						
C04A	**Brinnon**	**0.74 251**			Pg	06 59 03.6	-0.9
C04A					Sg	06 59 13.2	-1.1
D05A	**Enumclaw**	**0.77 183**		Pg	Pg	06 59 04.3	-0.9
D05A				Sg	Sg	06 59 14.8	-0.5
D05A				IAML		06 59 20.7	
	comp=N,18nm,0.9s						
HDW	**Hoodsport**	**0.82 248**			Pg	06 59 04.3	-1.7
HDW					Sg	06 59 15.6	-1.1
SLFW	**Sugar Loaf**	**0.97 101**			Pg	06 59 07.6	-1.3
B941	**Kapowsin**	**0.99 191**			Pb	06 59 07.2	-2.2
VGZ	**Gonzales**	**1.04 297**			Pb	06 59 08.7	-1.4
FMW	**Mount Fremont**	**1.04 170**			Pg	06 59 08.2	-2.2
B04A	**Port Angeles**	**1.06 276**			Pb	06 59 09.4	-1.1
B04A				Sg	Sb	06 59 22.4	-2.0
B04A				IAML		06 59 27.4	
	comp=E,12nm,1.2s						
OBSR	**Observation Ro**	**1.06 176**			Pb	06 59 09.0	-1.8
NLW	**Nelson Butte**	**1.08 83**			Pb	06 59 09.9	-1.0
RCS	**Mount Rainier-**	**1.10 173**			Pb	06 59 09.5	-1.8
LTY	**Liberty**	**1.11 129**			Pb	06 59 09.4	-1.9
LTY				Sg	Sb	06 59 24.0	-1.8
LTY				IAML		06 59 28.4	
	comp=E,9.9nm,0.2s						
PANH	**Panhandle Gap,**	**1.12 170**			Pb	06 59 09.7	-2.0
RCM	**Mount Rainier-**	**1.13 173**			Pb	06 59 10.0	-1.9
ETW	**Entiat**	**1.14 108**			Pb	06 59 10.5	-1.4
REMR	**Mount Rainier-**	**1.14 177**			Pb	06 59 10.1	-2.0
TBM	**Table Mountain**	**1.20 131**			Pn	06 59 11.9	-1.1
LON	**Longmire**	**1.21 176**			Pn	06 59 10.8	-2.3
LON				Sg	Sb	06 59 26.9	-1.9
B011	**North Saanich**	**1.23 305**			Pn	06 59 11.1	-2.1
PGC	**Sidney**	**1.23 305**		Pn	Pn	06 59 11.1	-2.1
PGC				IAML		06 59 29.4	
	comp=N,20nm,0.4s						
PGC				IAML		06 59 31.4	
	comp=E,14nm,1.2s						
EBG	**Ellensburg**	**1.40 138**			Pn	06 59 15.8	+0.1
NLWA	**Neilton Lookou**	**1.43 247**		Pn	Pn	06 59 16.1	+0.1
NLWA				IAML		06 59 35.8	
	comp=E,12nm,1.8s						
NLWA				IAML		06 59 38.1	
	comp=E,14nm,3.8s						
NAC	**Naches**	**1.44 148**			Pn	06 59 16.1	-0.1
TDL	**Tradedollar La**	**1.62 187**			Pn	06 59 18.1	-0.6
B201	**Coldwater, Mou**	**1.67 188**			Pn	06 59 18.8	-0.6
ERK	**Elk Rock**	**1.68 190**			Pn	06 59 18.9	-0.6
CLRS	**Cowichan Lake**	**1.70 301**		Pn	Pn	06 59 18.6	-1.1
CLRS				IAML		07 00 06.3	
	comp=N,11nm,4.5s						
B202	**Windy Ridge, M**	**1.72 185**			Pn	06 59 19.6	-0.5
B019	**Raymond**	**1.75 222**			Pn	06 59 19.2	-1.2
SEPW	**September Lobe**	**1.77 186**			Pn	06 59 21.2	+0.3
MXC	**Moxie City**	**1.78 140**			Pn	06 59 21.1	+0.2
B08A	**Colville Reser**	**1.79 76**		Pn	Pn	06 59 20.9	0.0
B08A				IAML		06 59 46.1	
	comp=E,6.4nm,1.2s						
B08A				IAML		06 59 46.2	
	comp=N,7.1nm,0.2s						
FL2	**Flat Top 2**	**1.79 189**			Pn	06 59 20.8	-0.2
CDFW	**Cedar Flats**	**1.85 182**			Pn	06 59 22.4	+0.6
E07A	**Sunnyside**	**1.99 134**			Pn	06 59 23.0	-0.8
BENWA	**Benson Ranch**	**2.09 133**			Pn	06 59 25.1	+0.1

*SJA **07** 07:02:46.6±0.9, 36°.14S×74°.31W, h10km*
*GUC **07** 07:03:01.2±0.4, 35°.70S×73°.35W, h16km±4km, ML3.7*
ISC 07 07:03:00.5±1.7, 35°.72S±0°.05×73°.40W±0°.10, h10km, n21, σ1°50/33, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.04 171**		*e*P	**Pg**	**07 03 20.1**	**-0.4**
BI05				*e*S	**Sg**	**07 03 34.5**	**+0.5**
BI05				IAML		07 03 37.0	
	comp=N,3μm,0.2s						
GO05	**Hualane**	**1.40 60**		*e*P	**Pn**	**07 03 25.1**	**-1.0**
ML02	**Panimavida**	**1.61 92**		*e*P	**Pn**	**07 03 28.6**	**-0.4**
ML02	**Panimavida**	**1.61 92**		*e*P	**Pn**	**07 03 28.1**	**-0.9**
ML02				*e*S	**Sn**	**07 03 49.1**	**-0.8**
ML02				IAML		07 03 58.3	
	comp=E,2μm,0.4s						
BO03	**Pichilemu**	**1.70 44**		*e*P	**Pn**	**07 03 29.7**	**-0.5**
BO03				IAML		07 04 01.5	
	comp=E,958nm,0.8s						
BO01	**Tunca**	**2.32 56**		*e*P	**Pn**	**07 03 38.6**	**-0.1**
BO01				*e*S	**Sg**	**07 04 18.1**	**+3.2**
BO01	**Tunca**	**2.32 56**		*e*P	**Pn**	**07 03 39.8**	**+1.0**
BO01				*e*S	**Sn**	**07 04 08.5**	**+1.3**
BO01				IAML		07 04 22.0	
	comp=E,235nm,0.4s						
BO02	**Sierra Bellavi**	**2.33 67**		*e*P	**Pn**	**07 03 39.3**	**+0.3**
BO02				*e*S	**Sg**	**07 04 17.8**	**+2.2**
BO02	**Sierra Bellavi**	**2.33 67**		*e*P	**Pn**	**07 03 39.9**	**+0.9**
BO02				*e*S	**Sb**	**07 04 09.5**	**-2.2**
MT01	**Popeta**	**2.56 44**		*e*P	**Pn**	**07 03 42.5**	**+0.4**
MT01				*e*S	**Sg**	**07 04 23.2**	**+0.4**
MT09	**Talagante**	**2.77 46**		*e*P	**Pn**	**07 03 46.3**	**+1.1**
BO04	**La Punta**	**2.87 54**		*e*P	**Pn**	**07 03 47.5**	**+1.1**
BO04				*e*S	**Sn**	**07 04 23.3**	**+2.3**
BO04				IAML		07 04 35.1	
	comp=N,367nm,0.3s						
MT12	**Pirque**	**3.07 51**		*e*P	**Pn**	**07 03 50.1**	**+0.9**
MT02	**Curacav**	**3.08 38**		*e*P	**Pn**	**07 03 48.9**	**-0.4**
MT02				*e*S	**Sg**	**07 04 36.4**	**-3.2**
MT15	**Las Vizcachas**	**3.19 49**		*e*P	**Pn**	**07 03 51.8**	**+1.0**
MT15				IAML		07 04 45.5	
	comp=N,276nm,0.3s						
MT13	**San Alfonso**	**3.23 53**		*e*P	**Pn**	**07 03 52.8**	**+1.4**
MT03	**Universidad Ad**	**3.26 48**		*e*P	**Pn**	**07 03 52.0**	**+0.2**
MT03				*e*S	**Sg**	**07 04 41.1**	**-4.1**
ROCH	**El Roble**	**3.38 36**		*e*P	**Pn**	**07 03 54.1**	**+0.6**
ROCH				*e*P	**Pn**	**07 03 54.1**	**+0.6**
MT10	**Hacienda Santa**	**3.40 45**		*e*P	**Pn**	**07 03 54.6**	**+0.8**
PEL	**Peldehue**	**3.41 42**		*e*P	**Pn**	**07 03 55.0**	**+1.1**
PEL				IAML		07 05 00.0	
	comp=E,134nm,0.5s						
VA03	**San Esteban**	**3.78 39**		*e*P	**Pn**	**07 03 59.2**	**+0.3**
VA03				*e*S	**Sb**	**07 04 53.6**	**+0.4**

*IDC **07** 07:03:47.3±1.0, 50°.02N×78°.78E, h0km, mbtmp2.5/2, ML1.9/1, Error ellipse: s-maj=14.2km s-min=6.3km az=65.0*
*NNC **07** 07:03:49.3±1.7, 50°.06N×78°.61E, h0km, mb3.5, mpv2.9, Error ellipse: s-maj=13.7km s-min=8.4km az=67.0, Suspected Mining explosion.*
ISC 07 07:03:48.0±0.8, 50°.08N±0°.03×78°.80E±0°.05, h0km, n23, σ1°18/33, 12C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54 341**		⇑P	**Pg**	**07 03 58.1**	**-0.2**
KUR07				⇑S	**Sb**	**07 04 09.2**	**+0.6**
KUR14	**Kurchatov Arra**	**0.55 346**		⇓P	**Pg**	**07 03 58.2**	**-0.4**
KUR14				⇑S	**Sb**	**07 04 08.6**	**-0.4**
KUR06	**Kurchatov Arra**	**0.55 342**		⇓P	**Pg**	**07 03 58.8**	**+0.2**
KUR06				⇓S	**Sb**	**07 04 09.9**	**+0.9**
KUR15	**Kurchatov Arra**	**0.56 345**		⇓P	**Pg**	**07 03 58.4**	**-0.3**
KUR15				⇓S	**Sb**	**07 04 08.6**	**-0.6**
KURBB	**Kurchatov Arra**	**0.57 343**		Pg	**Pg**	**07 03 58.8**	**-0.1**
	1.1nm,0.3s,baz=165,slow=17,SNR=66						
KURBB				Lg	Lg	07 04 09.3	
	1.4nm,0.3s,baz=164,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**0.57 343**		⇑P	**Pg**	**07 03 58.8**	**-0.1**
	10nm,0.5s						
KURBB				⇑S	**Sb**	**07 04 08.5**	**-1.0**
	17nm,0.5s						
KUR16	**Kurchatov Arra**	**0.58 341**		⇓P	**Pg**	**07 03 58.9**	**-0.2**
KUR16				⇑S	**Sb**	**07 04 08.8**	**-1.0**
KUR05	**Kurchatov Arra**	**0.59 344**		⇓P	**Pg**	**07 03 59.3**	**0.0**
KUR05				⇑S	**Sb**	**07 04 10.6**	**+0.6**
KUR17	**Kurchatov Arra**	**0.59 339**		⇓P	**Pg**	**07 03 59.4**	**0.0**
KUR17				⇓S	**Sb**	**07 04 09.9**	**-0.2**
KUR04	**Kurchatov Arra**	**0.61 345**		⇑P	**Pg**	**07 03 59.8**	**+0.2**
KUR04				⇑S	**Sb**	**07 04 11.3**	**+0.7**
KURK	**Kurchatov**	**0.65 350**		⇓P	**Pg**	**07 04 00.3**	**-0.1**
	3.8nm,0.4s						
KURK				⇑S	**Sb**	**07 04 11.2**	**-0.6**
	23nm,0.6s						
SEM	**Semipalatinsk**	**0.99 70**		P	Pn	07 04 14.9	+5.5
	3.0nm,0.1s						
SEM				S	**Sn**	**07 04 25.4**	**+1.3**
	6.3nm,0.1s						
BRZS	**Berezniki**	**3.95 271**		Pg	**Pg**	**07 05 05.8**	**+2.2**
	1.3nm,0.4s						
BRZS				Lg	Lg	07 05 52.1	
	3.8nm,0.5s						
MK31	**Makanchi Array**	**4.03 143**		⇑Pn	**Pn**	**07 04 52.2**	**+1.2**
	baz=320,slow=10,SNR=6.5						
MK31				⇑Pg	**Pb**	**07 05 01.6**	**+1.8**
	0.5nm,0.3s,baz=329,slow=13,SNR=12						
MK31				Lg	Lg	07 05 53.9	
	2.9nm,0.5s,baz=333,slow=26,SNR=15						
MKAR	**Makanchi Array**	**4.03 143**		Pn	**Pn**	**07 04 49.6**	**-1.3**
	0.1nm,0.3s,baz=325,slow=11,SNR=4.6						
MKAR				Pg	**Pb**	**07 04 57.9**	**-1.9**
	0.4nm,0.3s,baz=329,slow=14,SNR=16						
MKAR				Sn	**Sn**	**07 05 36.3**	**-2.5**
	0.2nm,0.3s,baz=330,slow=17,SNR=5.1						
MKAR				Lg	Lg	07 05 52.9	
	1.3nm,0.3s,baz=325,slow=26,SNR=16						
	0.1nm,0.3s						
OTUK	**Ortayu**	**4.62 249**		Pg	**Pg**	**07 05 18.1**	**+1.7**
	1.0nm,1.3s						
OTUK				Lg	Lg	07 06 13.6	
	1.8nm,0.5s						
OTUK	**Ortayu**	**4.62 249**		⇓Lg	Lg	07 06 12.3	
	2.7nm,0.5s						
ZSN	**Zaisan**	**4.80 121**		Pg	**Pg**	**07 05 21.2**	**+1.3**
	3.4nm,0.3s						
ZSN				Lg	Lg	07 06 19.1	
	4.2nm,0.7s						
I46RU	**ZALESOVO INFRA**	**5.37 42**		I	I	07 41 40.0	
	baz=222,slow=277,SNR=8.7						
ZALV	**Zalesovo Beam**	**5.37 42**		Pn	**Pn**	**07 05 11.0**	**+1.7**
	0.8nm,0.3s,baz=228,slow=11,SNR=1.5						
ZALV				Lg	Lg	07 06 39.2	
	0.2nm,0.3s,baz=225,slow=24,SNR=2.8						
BVAR	**Borovoye Array**	**6.02 303**		Sn	**Sn**	**07 06 25.3**	**-2.4**
	baz=119,slow=23,SNR=2.5						
BVAR				Lg	Lg	07 06 58.2	
	baz=116,slow=29,SNR=3.6						
KRBS	**Karabastau**	**6.73 200**		Pg	**Pg**	**07 05 56.4**	**-0.6**
	1.1nm,1.0s						
KRBS				Lg	Lg	07 07 19.0	
	5.1nm,0.6s						
TKM2	**Tokmak 2**	**7.49 198**		⇓Lg	Lg	07 07 40.9	
	3.0nm,0.9s						

*NEIC **07** 07:08:53.5±1.3, 31°.65N±0°.01×104°.37W±0°.04, h5km±2km, mb_Lg2.9/50, ML2.8/20, Error ellipse: s-maj=5.4km s-min=2.9km az=262.0*
*TXNET **07** 07:08:54.1, 31°.7N±0°.6×104°.4W±0°.6, h6km±2km, ML3.1/8, Error ellipse: s-maj=1.0km s-min=0.9km az=35.1, final*
ISC 07 07:08:54.1±1.1, 31°.65N±0°.02×104°.36W±0°.02, h7km±10km, n65, σ0°67/70, 9C, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.40 44**		⇑P	**Pg**	**07 09 01.8**	**-0.1**
TPB11				S	**Sg**	**07 09 07.4**	**+0.2**
PECS	**Pecos**	**0.51 123**			**Pg**	**07 09 04.3**	**+0.4**
PECS				Sg	**Sg**	**07 09 10.6**	**+0.1**
PECS				IAML		07 09 13.8	
	579nm,0.6s						
PECS				IAML		07 09 15.8	
	600nm,0.6s						
PECS	**Pecos**	**0.51 123**		⇑P	**Pg**	**07 09 04.2**	**+0.3**
PECS				S	**Sg**	**07 09 11.1**	**+0.6**
GDL2	**Guadalupe Moun**	**0.55 360**			**Pg**	**07 09 04.9**	**+0.1**
GDL2	**Guadalupe Moun**	**0.55 360**		P	**Pg**	**07 09 04.8**	**+0.1**
TPB12	**Southwest of T**	**0.56 142**		⇑P	**Pg**	**07 09 04.2**	**-0.7**
TPB12				S	**Sg**	**07 09 12.3**	**+0.1**
TPB07	**Mentone**	**0.60 97**		S	**Sg**	**07 09 14.4**	**+0.9**
TPB10	**Southeast of T**	**0.64 125**		P	**Pg**	**07 09 06.7**	**+0.3**
CLNB	**Carlsbad**	**0.74 34**		P	**Pg**	**07 09 08.4**	**+0.1**
CLNB				S	**Sg**	**07 09 18.2**	**+0.3**
PCOS	**Crockett Middl**	**0.77 108**		S	**Sb**	**07 09 20.0**	**-0.5**
TPB01	**Permian Basin**	**0.86 145**		P	**Pg**	**07 09 09.9**	**-0.8**
TPB01				S	**Sg**	**07 09 21.9**	**-0.1**
MNTX	**Cornudas Mount**	**0.87 273**		P	**Pb**	**07 09 11.0**	**-0.6**
MNTX				S	**Sb**	**07 09 22.6**	**-0.8**
CLN7	**Carlsbad 7**	**0.89 32**			**Pg**	**07 09 10.8**	**-0.5**
CLN7	**Carlsbad 7**	**0.89 32**		⇑P	**Pg**	**07 09 10.9**	**-0.4**
TPB03	**Saragosa**	**0.92 128**		⇑P	**Pg**	**07 09 11.8**	**0.0**
TPB03				S	**Sg**	**07 09 24.1**	**+0.3**
TPB06	**Permian Basin**	**0.97 90**		S	**Sb**	**07 09 26.4**	**-0.1**
VHRN	**Van Horn**	**1.01 212**			**Pg**	**07 09 13.5**	**-0.1**
VHRN				IAML		07 09 33.3	
	290nm,0.3s						
VHRN	**Van Horn**	**1.01 212**		⇑P	**Pg**	**07 09 13.5**	**-0.1**
VHRN				S	**Sb**	**07 09 28.2**	**+0.6**
HTMS	**Hat Mesa**	**1.02 37**			**Pg**	**07 09 13.7**	**-0.1**
HTMS	**Hat Mesa**	**1.02 37**		P	**Pg**	**07 09 13.7**	**-0.1**
HTMS				S	**Sb**	**07 09 27.4**	**-0.5**
NM01	**Eunice**	**1.08 49**		S	**Sg**	**07 09 28.8**	**-0.1**
TPB05	**Hovey Rd**	**1.15 129**		⇑P	**Pg**	**07 09 15.8**	**-0.4**
TPB05				S	**Sg**	**07 09 31.1**	**0.0**
MNHN	**Monahans**	**1.40 102**			**Pn**	**07 09 19.9**	**-0.2**
MNHN				IAML		07 09 43.4	
	199nm,0.7s						
MNHN				IAML		07 09 53.3	
	174nm,0.6s						
MNHN	**Monahans**	**1.40 102**		⇑P	**Pn**	**07 09 19.6**	**-0.5**
MNHN				S	**Sg**	**07 09 39.5**	**+0.2**
MNHN	**Monahans**	**1.40 102**		S	**Sg**	**07 09 39.5**	**+0.2**
MNHN	**Monahans**	**1.40 102**		P	**Pn**	**07 09 19.9**	**-0.2**
ALPN	**Alpine**	**1.42 154**			**Pn**	**07 09 19.8**	**-0.6**
ALPN				Sg	**Sb**	**07 09 38.8**	**-0.5**
ALPN	**Alpine**	**1.42 154**		⇑P	**Pn**	**07 09 19.8**	**-0.6**
ALPN				S	**Sb**	**07 09 38.6**	**-0.6**
CPRX	**Cap Rock**	**1.44 17**			**Pn**	**07 09 20.1**	**-0.6**
CPRX	**Cap Rock**	**1.44 17**		P	**Pn**	**07 09 20.6**	**-0.1**
ODSA	**Odessa**	**1.61 73**			**Pn**	**07 09 22.7**	**-0.3**
ODSA	**Odessa**	**1.61 73**		P	**Pn**	**07 09 23.5**	**+0.5**
ODSA				S	**Sn**	**07 09 44.3**	**+0.2**
ODSA	**Odessa**	**1.61 73**		P	**Pb**	**07 09 23.9**	**-0.3**
EPT	**El Paso**	**1.83 274**		Pn	**Pn**	**07 09 25.3**	**-0.8**
EPT				IAML		07 09 56.7	
	comp=E,89nm,0

comp=Z,12nm,0.7s
KSCO Kaye Shedlock' 7.48 10 IAmb_Lg 07 13 00.2
comp=Z,14nm,1.0s

---

*IDC **07** 07:17:50.1±8.7,36°.77N×70°.36E,h193km±59km,mb3.4/4, mbtmp3.8/10, Error ellipse: s-maj=84.6km s-min=42.7km az=172.0*
*NNC **07** 07:17:55.0±4.2,37°.09N×70°.60E,h242km±51km,mb2.5, mpv3.5, Error ellipse: s-maj=44.0km s-min=26.4km az=7.0*
ISC 07 07:17:50.9±2.3,36°.8N±0°.2×70°.4E±0°.1,h200km,n14, σ0°78/17,mb3.6/4,1C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.28**	**1**	⇓P	**Pn**	**07 19 23.2**	**+1.5**
	1.4nm,0.2s,baz=182,slow=13,SNR=49						
KK31				S	**Sn**	**07 20 33.8**	**+0.1**
	8.5nm,0.5s,baz=189,slow=24,SNR=10						
AAK	**Ala-Archa**	**6.62**	**27**	P	**Pn**	**07 19 26.5**	**+0.3**
	1.7nm,0.3s,baz=172,slow=7.1,SNR=6.2						
AAK				S	**Sn**	**07 20 42.2**	**+0.3**
	16nm,0.6s,baz=131,slow=19,SNR=28						
TKM2	**Tokmak 2**	**7.29**	**32**	⇓P	**Pn**	**07 19 35.2**	**+0.1**
	1.2nm,0.3s						
TKM2				⇓S	**Sn**	**07 20 56.1**	**-1.7**
	5.6nm,0.8s						
MKAR	**Makanchi Array**	**13.34**	**38**	P	**Pn**	**07 20 52.3**	**-0.1**
	1.5nm,0.7s,baz=226,slow=14,SNR=16						
AB31	**Akbulak array**	**14.57**	**332**	⇓P	**Pn**	**07 21 06.6**	**-1.1**
	0.7nm,0.6s,baz=144,slow=12,SNR=18						
KURBB	**Kurchatov Arra**	**14.99**	**20**	P	**Pn**	**07 21 12.1**	**-0.6**
	0.3nm,0.6s,baz=208,slow=10,SNR=7.3						
BVAR	**Borovoye Array**	**16.21**	**0**	P	**Pn**	**07 21 28.2**	**+0.7**
	0.7nm,0.3s,baz=196,slow=12,SNR=5.4						
AKTO	**Aktyubinsk**	**16.27**	**331**	P	**Pn**	**07 21 27.5**	**-0.7**
	4.9nm,0.7s,baz=150,slow=10.0,SNR=17						
AKTO	**Aktyubinsk**	**16.27**	**331**	⇑P	**Pn**	**07 21 28.6**	**+0.4**
	3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**19.84**	**26**	P	**P**	**07 22 06.4**	**+0.1**
	1.6nm,0.4s,baz=219,slow=10,SNR=12						
FINES	**FINESS Array B**	**36.95**	**326**	P	**P**	**07 24 40.0**	**-0.3**
	4.3nm,1.1s,baz=117,slow=11,SNR=4.3						
	4.3nm,1.1s						
ARCES	**ARCESS Array B**	**40.67**	**338**	P	**P**	**07 25 11.6**	**+0.4**
	2.2nm,0.9s,baz=118,slow=7.7,SNR=7.0						
	2.2nm,0.9s						
HFS	**Hagfors**	**42.52**	**322**	P	**P**	**07 25 26.1**	**-0.2**
	0.9nm,0.5s,baz=87,slow=7.7,SNR=1.4						
	0.9nm,0.5s						
NOA	**NORSAR Array B**	**43.83**	**323**	P	**P**	**07 25 36.6**	**-0.3**
	0.4nm,0.6s,baz=97,slow=8.1,SNR=1.5						
	0.4nm,0.6s						

---

*ASRS **07** 07:34:17.0±0.8,53°.99N×86°.58E,h0km,M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 07:34:20.2±2.9,53°.97N×86°.52E,h0km,mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=22.7km s-min=13.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00 270**		I	I	07 40 33.5	
	baz=87,slow=355,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.00 270**		Pg	Pg	07 34 37.9	**-1.5**
	0.4nm,0.3s,baz=91,slow=13,SNR=4.2						
ZALV				Lg	Lg	07 34 53.8	
	1.3nm,0.3s,baz=91,slow=31,SNR=9.7						
KURBB	**Kurchatov Arra**	**5.93 239**		Pn	Pn	07 35 50.2	**+1.1**
	baz=54,slow=14,SNR=4.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.67 202**		Pn	Pn	07 36 14.2	**+1.1**
	0.1nm,0.3s,baz=24,slow=16,SNR=2.4						
	0.1nm,0.5s						

---

*ASRS **07** 07:45:41.0±1.1,53°.80N×88°.27E,h0km,M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **07** 07:45:43.2±3.4,53°.79N×88°.13E,h0km,mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=30.6km s-min=17.1km az=59.0*
ISC 07 07:45:47.2±6.0,53°.7N±0°.2×87°.8E±0°.4,h0km,n4,σ0°42/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76 280**		I	I	07 57 37.4	
	baz=91,slow=356,SNR=7.5						
ZALV	**Zalesovo Beam**	**1.76 280**		Pg	**Pn**	**07 46 18.7**	**-0.1**
	1.2nm,0.3s,baz=95,slow=12,SNR=11						
ZALV				Lg	Lg	07 46 45.7	
	4.0nm,0.3s,baz=90,slow=24,SNR=20						
KURBB	**Kurchatov Arra**	**6.45 245**		Pn	**Pn**	**07 47 23.6**	**+0.3**
	0.1nm,0.3s,baz=63,slow=14,SNR=12						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.73 209**		Pn	**Pn**	**07 47 41.0**	**0.0**
	0.1nm,0.3s,baz=32,slow=13,SNR=4.8						
MKAR				Sn	**Sn**	**07 49 08.9**	**-0.3**
	0.2nm,0.3s,baz=30,slow=27,SNR=6.7						
	0.1nm,0.3s						

---

*NEIC **07** 07:46:35.5±0.9,7°.0S±0°.1×156°.4E±0°.1,h165km±7km, mb4.4/17, Error ellipse: s-maj=22.4km s-min=13.6km az=130.0*
*IDC **07** 07:46:43.4±3.8,6°.94S×156°.27E,h237km±36km,mb3.6/13, mbtmp4.1/15, Error ellipse: s-maj=21.5km s-min=18.1km az=92.0*
ISC 07 07:46:39.1±0.7,6°.89S±0°.10×156°.28E±0°.10,h200km,n42, σ1°12/37,mb4.1/22,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.90**	**303**	Pn	**Pn**	**07 47 49.9**	**-2.4**
PMG	**Port Moresby**	**9.37**	**254**	P	Pn	07 48 55.6	**+5.4**
	16nm,0.6s,baz=66,slow=18,SNR=2.4						
PMG				S	**Sn**	**07 50 39.0**	**+3.7**
	16nm,0.8s,baz=75,slow=20,SNR=2.0						
COEN	**Coen**	**14.68**	**240**	Pn	**Pn**	**07 49 55.2**	**-2.3**
DZM	**Mont Dzumac**	**18.00**	**148**	P	**Pn**	**07 50 36.9**	**-0.4**
	3.9nm,0.7s,baz=0.0,slow=20,SNR=1.3						
WB2	**Warramunga Arr**	**24.93**	**236**	P	**P**	**07 51 43.4**	**-0.7**
WB2				IAmb	IAmb	07 51 47.9	
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**24.94**	**236**	P	**P**	**07 51 43.0**	**-1.2**
WRA	**Warramunga Arr**	**24.94**	**236**	P	**P**	**07 51 44.5**	**+0.3**
	comp=Z,3.2nm,0.4s,baz=60,slow=9.0,SNR=15						
	comp=Z,3.2nm,0.4s						
MTN	**Manton Dam**	**25.46**	**255**	P	**P**	**07 51 49.3**	**+0.3**
AS31	**Alice Springs**	**27.21**	**230**	P	**P**	**07 52 04.0**	**-0.6**
AS31				IAmb	IAmb	07 52 09.1	
	comp=Z,2.1nm,0.3s						
ASAR	**Alice Springs**	**27.21**	**230**	P	**P**	**07 52 03.9**	**-0.7**
ASAR	**Alice Springs**	**27.21**	**230**	P	**P**	**07 52 04.3**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=60,slow=9.5,SNR=53						
ASAR				PcP	**PcP**	**07 55 20.3**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=67,slow=2.7,SNR=2.1						
	comp=Z,2.3nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**27.23**	**22**	T	T	08 20 40.4	
	baz=202,slow=76,SNR=125						
H11S2	**WAKE ISLAND Hy**	**27.23**	**22**	T	T	08 20 40.6	
	baz=202,slow=76,SNR=109						
H11S1	**WAKE ISLAND Hy**	**27.25**	**22**	T	T	08 20 41.6	
	baz=202,slow=76,SNR=52						
KNRA	**Kununurra**	**28.34**	**250**	P	**P**	**07 52 14.4**	**-0.2**
KNRA				IAmb	IAmb	07 52 48.4	
	comp=Z,26nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**28.42**	**21**	T	T	08 22 11.1	
	baz=202,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**28.43**	**21**	T	T	08 22 12.0	
	baz=202,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**28.44**	**21**	T	T	08 22 12.7	
	baz=202,slow=76,SNR=8.1						
BBOO	**Buckleboo**	**31.92**	**213**	P	**P**	**07 52 45.1**	**-0.9**
BBOO				IAmb	IAmb	07 53 26.4	
	comp=Z,14nm,1.2s						
FORT	**Forrest**	**35.55**	**224**	P	**P**	**07 53 16.9**	**-0.4**
JMN	**Monobe**	**45.64**	**334**	P	**P**	**07 54 39.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**61.89**	**295**	P	**P**	**07 56 38.8**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=130,slow=5.2,SNR=5.8						
	comp=Z,0.8nm,0.3s						
MA2	**Magadan**	**66.39**	**357**	P	**P**	**07 57 06.4**	**0.0**
	comp=Z,2.1nm,0.4s,baz=133,slow=18,SNR=2.3						
	comp=Z,2.1nm,0.4s						
SEY	**Seymchan**	**69.68**	**358**	P	**P**	**07 57 27.5**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=180,slow=5.1,SNR=4.1						
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**07 57 30.0**	**+1.2**
SONM	**Songino Array**	**69.94**	**327**	P	**P**	**07 57 30.4**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=140,slow=5.7,SNR=14						
	comp=Z,1.7nm,0.7s						
SII	**Sitkinak Islan**	**75.07**	**26**	P	**P**	**07 57 59.1**	**+0.4**
K15K	**Wolf Creek Mou**	**76.20**	**19**	P	**P**	**07 58 04.8**	**-0.2**
K15K				IAmb	IAmb	07 58 35.9	
	comp=Z,14nm,1.4s						
G16K	**Koyuk River**	**78.24**	**16**	P	**P**	**07 58 16.9**	**+0.7**
G16K				IAmb	IAmb	07 58 25.1	
	comp=Z,4.8nm,1.1s						
SUA	**Susitna One**	**79.48**	**23**	P	**P**	**07 58 23.5**	**+0.3**
SUA				IAmb	IAmb	07 58 47.2	
	comp=Z,7.0nm,1.3s						
G18K	**Tagagawik**	**79.66**	**17**	P	**P**	**07 58 24.7**	**+0.7**
TRF	**Thorofare Moun**	**80.83**	**21**	P	**P**	**07 58 30.5**	**0.0**
TRF				IAmb	IAmb	07 58 42.3	
	comp=Z,8.2nm,1.4s						
E19K	**Redstone River**	**81.16**	**16**	P	**P**	**07 58 33.2**	**+1.3**
E19K				IAmb	IAmb	07 58 34.7	
	comp=Z,3.6nm,1.4s						
ILAR	**Eielson Array**	**82.81**	**21**	P	**P**	**07 58 40.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=251,slow=5.5,SNR=10						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**07 58 43.6**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=301,slow=1.9,SNR=6.5						
	comp=Z,1.7nm,0.9s						
MK31	**Makanchi Array**	**84.17**	**318**	P	**P**	**07 58 48.6**	**+0.7**
MKAR	**Makanchi Array**	**84.17**	**318**	P	**P**	**07 58 48.1**	**+0.1**
MKAR	**Makanchi Array**	**84.17**	**318**	P	**P**	**07 58 48.9**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=105,slow=6.7,SNR=9.6						
	comp=Z,1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**84.81**	**326**	P	**P**	**07 58 50.4**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=161,slow=11,SNR=2.3						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**87.57**	**321**	P	**P**	**07 59 03.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=88,slow=5.4,SNR=1.2						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**92.98**	**323**	P	**P**	**07 59 29.3**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=22,slow=6.1,SNR=2.7						
	comp=Z,0.4nm,0.4s						
YKA	**Yellowknife Ar**	**95.64**	**28**	P	**P**	**07 59 41.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=264,slow=5.3,SNR=5.0						
	comp=Z,0.2nm,0.6s						

---

*ASRS **07** 07:48:02.0±1.2,54°.00N×86°.56E,h0km,M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 07:48:05.7±2.8,53°.96N×86°.58E,h0km,mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=23.8km s-min=14.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04 270**		I	I	07 54 28.3	
	0.1nm,0.7s,baz=89,slow=356,SNR=6.8						
ZALV	**Zalesovo Beam**	**1.04 270**		Pg	Pg	07 48 24.2	-1.4
	0.7nm,0.3s,baz=90,slow=16,SNR=6.3						
ZALV				Lg	Lg	07 48 41.5	
	1.5nm,0.3s,baz=92,slow=28,SNR=4.8						
KURBB	**Kurchatov Arra**	**5.96 239**		Pn	Pn	07 49 34.9	-0.2
	0.1nm,0.3s,baz=56,slow=13,SNR=6.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.68 203**		Pn	Pn	07 50 00.6	+1.9
	0.2nm,0.3s,baz=26,slow=14,SNR=6.4						
	0.3nm,0.3s						

---

*GUC **07** 07:48:39.2±0.8,21°.12S×68°.95W,h110km±4km,ML3.0*
*SJA **07** 07:48:40.0,21°.27S×69°.17W,h95km,ML3.2*
ISC 07 07:48:38.7±1.8,21°.17S±0°.05×69°.02W±0°.09, h113km±13km,n18,σ1°00/26,4C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.45 286**		⇑iP	**Pn**	**07 48 55.6**	**-0.1**
PB01				*i* S	**Sn**	**07 49 08.5**	**0.0**
PB01				IAML		07 49 09.6	
	comp=N,900nm,0.2s						
PB09	**IPOC Station P**	**0.66 198**		*i* P	**Pn**	**07 48 57.1**	**-0.2**
PB09	**IPOC Station P**	**0.66 198**		⇑iP	**Pn**	**07 48 57.8**	**+0.5**
PB09				*e*S	**Sn**	**07 49 12.7**	**+1.4**
PB09				IAML		07 49 14.7	
	comp=N,234nm,0.1s						
PX03	**IPOC Station P**	**0.95 323**		*e*P	**Pn**	**07 48 58.7**	**-1.1**
PX03				*e*S	**Sn**	**07 49 15.0**	**-0.7**
PX03				IAML		07 49 17.3	
	comp=N,680nm,0.2s						
PB08	**IPOC Station P**	**1.03 353**		⇓iP	**Pn**	**07 49 00.4**	**-0.5**
PB08				*e*S	**Sn**	**07 49 16.7**	**-0.9**
PB08				IAML		07 49 18.9	
	comp=E,376nm,0.2s						
PATCX	**Punta Patache**	**1.11 288**		*i* P	**Pn**	**07 49 01.4**	**0.0**
PATCX	**Punta Patache**	**1.11 288**		⇑iP	**Pn**	**07 49 02.1**	**+0.7**
PATCX				*i* S	**Sn**	**07 49 19.6**	**+0.9**
PATCX				IAML		07 49 21.4	
	comp=E,513nm,0.2s						
HMBC	**Humberstone**	**1.20 317**		*i* P	**Pn**	**07 49 01.5**	**-0.9**
HMBC	**Humberstone**	**1.20 317**		⇑iP	**Pn**	**07 49 02.2**	**-0.2**
HMBC				*i* S	**Sn**	**07 49 20.0**	**-0.4**
HMBC				IAML		07 49 21.7	
	comp=N,601nm,0.3s						
TA01	**Diego Aracena**	**1.24 299**		*i* P	**Pn**	**07 49 02.3**	**-0.4**
TA01	**Diego Aracena**	**1.24 299**		*e*P	**Pn**	**07 49 02.9**	**+0.2**
TA01				*e*S	**Sn**	**07 49 21.4**	**+0.6**
TA01				IAML		07 49 21.9	
	comp=E,417nm,0.2s						
TA02	**Huaiquique**	**1.37 310**		*i* P	**Pn**	**07 49 04.8**	**+0.6**
TA02	**Huaiquique**	**1.37 310**		*e*P	**Pn**	**07 49 04.1**	**-0.1**
TA02				*e*S	**Sn**	**07 49 23.0**	**-0.5**
TA02				IAML		07 49 28.4	
	comp=N,1μm,0.1s						
AF01	**San Pedro de A**	**1.94 156**		*e*P	**Pn**	**07 49 11.1**	**-0.3**
PB14	**IPOC Station P**	**3.67 200**		*i* P	**Pn**	**07 49 34.1**	**+0.1**
GO02	**Mina Guanaco**	**4.01 187**		*i* P	**Pn**	**07 49 38.1**	**-0.5**
LPAZ	**La Paz**	**4.93 10**		*i* P	**Pn**	**07 49 54.1**	**+2.9**
AC01	**Pan de Azucar**	**5.16 196**		*i* P	**Pn**	**07 49 51.6**	**-2.2**

JMA 07 07:57:34.2±0.1,41°.8N±0°.9×143°.8E±0°.7,h35km±2km, MV3.0/37, SE OFF TOKACHI, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.49 293**		*i* P	Pb	07 57 44.1	-0.6
JEM				S	Sb	07 57 51.4	-0.5
JTHR	**Tokachihiroo**	**0.58 324**		P	Pn	07 57 45.7	-0.2
JTHR				*e*S	Sb	07 57 55.3	+1.0
JCH	**Churui**	**0.84 340**		P	Pn	07 57 49.9	+0.3
JNBK	**Urakawa-nobuka**	**0.88 302**		P	Pb	07 57 50.9	-0.1
JNBK				*e*S	Sb	07 58 03.7	+1.2
JOB	**Onbets**	**1.08 3**		P	Pb	07 57 53.7	-0.8
JSHD	**Hidakashinhida**	**1.12 302**		P	Pb	07 57 54.9	-0.3
JAK	**Akkeshi**	**1.36 30**		*e*P	Pn	07 57 56.8	0.0
JBT2	**Biratori 2**	**1.41 313**		*e*P	Pn	07 57 57.8	+0.4
JAR	**Ashorobuto**	**1.47 0**		*i* P	Pn	07 57 58.6	+0.4

---

*BJI **07** 07:57:51.7,41°.82N×143°.85E,h29km,mB5.0/31,mb4.8/79, Ms4.6/69,Ms7 4.6/68*
*NEIC **07** 07:57:52.5±2.8,41°.72N±0°.04×143°.93E±0°.07,h15km±5km, mb4.8/18,Mww4.9/12, Error ellipse: s-maj=8.5km s-min=4.5km az=49.0, preliminary*
*MOS **07** 07:57:53.1±1.0,41°.79N×143°.70E,h30km,mb5.1/55, MS4.3/10, Error ellipse: s-maj=5.8km s-min=3.9km az=112.6*
*NEIC **07** 07:57:54.6,41°.79N×143°.79E,h30km*
*NEIC **07** 07:57:54.6,41°.59N×144°.00E,h30km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.46; $M_{\theta\theta}$2.29; $M_{r\theta}$0.17; $M_{r\varphi}$-0.47; $M_{\theta\varphi}$0.76; $M_{\varphi r}$-0.00; Fault plane solution: $M_0$2.54000×10^{16} NP1: ϕ_s248.84000°, δ40.04000°, λ-95.03000°. NP2: ϕ_s75.39000°, δ50.14000°, λ-85.79000°. Principal axes: T 2.5743, Plg5.0000°, Azm162.0000°; N -0.0664, Plg3.0000°, Azm253.0000°; P -2.5079, Plg84.0000°, Azm15.0000°;*
*JMA **07** 07:57:56.1±0.1,42°.N±1°.×143°.8E±0°.8,h29km±3km, MD4.9/29,MV4.9/29, SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
*NIED **07** 07:57:56.1,41°.86N×143°.79E,h29km,MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06; $M_{\theta\theta}$1.34; $M_{r\theta}$0.72; $M_{r\varphi}$-0.62; $M_{\theta\varphi}$0.75; $M_{\varphi r}$-0.06; Fault plane solution: $M_0$2.04000×10^{16} NP1: ϕ_s230.00000°, δ37.00000°, λ-101.00000°. NP2: ϕ_s64.00000°, δ53.00000°, λ-82.00000°.*
*BGR **07** 07:57:58.6,42°.64N×144°.90E,h59km,mb4.7*
*IDC **07** 07:57:58.4±0.4,41°.77N×143°.68E,h61km±2km,mb4.4/33, mbtmp4.6/39,MS4.3/63, Error ellipse: s-maj=8.7km s-min=7.7km az=73.0*
*GCMT **07** 07:58:00.6±0.3,41°.84N±0°.02×143°.82E±0°.03,h22km, MW4.9/81, Moment Tensor Solution. s38,c51; s81,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.13; $M_{\theta\theta}$2.14±.09; $M_{\varphi\varphi}$0.37±.08; $M_{r\theta}$0.25±.11; $M_{\theta\varphi}$0.84±.05; $M_{\varphi r}$-0.08±.13; Best double couple: $M_0$2.51200×10^{16} NP1:ϕ_s64.00000°, δ43.00000°, λ-95.00000°. NP2: ϕ_s252.00000°, δ47.00000°, λ-85.00000°. Principal axes: T 2.4860, Plg2.0000°, Azm338.0000°; N 0.0480, Plg4.0000°, Azm68.0000°; P -2.5390, Plg86.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 07:57:55.8±0.3,41°.80N±0°.04×143°.79E±0°.03,h40km±1km, h39km:pP-P,n714,σ1°29/757,mb4.8/148,MS4.4/76, 32C-39D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.52 294**			**Pn**	**07 58 05.2**	**-1.5**
ERM	**Erimo**	**0.52 294**		c *i*P	**Pn**	**07 58 05.8**	**-0.9**
JEM	**Erimo**	**0.52 294**		P	**Pn**	**07 58 05.9**	**-0.9**
JEM				*e*S	**Sn**	**07 58 13.4**	**-1.1**
JEM	**Erimo**	**0.52 294**		A	A	07 58 05.9	
	comp=N,67nm,2.0s,comp=E,151nm,2.8s						
JTHR	**Tokachihiroo**	**0.61 323**		P	**Pn**	**07 58 07.3**	**-0.7**
JTHR				*e*S	**Sn**	**07 58 16.4**	**-0.3**
JTHR	**Tokachihiroo**	**0.61 323**		A	A	07 58 07.3	
	comp=N,115nm,0.3s,comp=E,103nm,0.7s						
JCH	**Churui**	**0.87 339**		P	**Pn**	**07 58 11.8**	**+0.3**
JCH	**Churui**	**0.87 339**		A	A	07 58 11.8	
	comp=N,64nm,1.8s,comp=E,82nm,2.3s						
JNBK	**Urakawa-nobuka**	**0.91 302**		⇓P	**Pn**	**07 58 12.8**	**+0.7**
JNBK				⇓*e*S	**Sn**	**07 58 25.8**	**+1.9**
JNBK	**Urakawa-nobuka**	**0.91 302**		A	A	07 58 12.8	
	comp=N,100nm,0.6s,comp=E,159nm,1.7s						
JOB	**Onbets**	**1.10 2**		*e*P	**Pn**	**07 58 15.1**	**+0.5**
JOB	**Onbets**	**1.10 2**		A	A	07 58 15.1	
	comp=N,103nm,1.6s,comp=E,95nm,2.6s						
JSHD	**Hidakashinhida**	**1.16 302**		P	**Pn**	**07 58 16.7**	**+1.3**
JSHD	**Hidakashinhida**	**1.16 302**		A	A	07 58 16.7	
	comp=N,119nm,1.7s,comp=E,109nm,2.2s						
JAK	**Akkeshi**	**1.37 29**		⇓P	**Pn**	**07 58 18.3**	**0.0**
JAR	**Ashorobuto**	**1.49 359**		⇓P	**Pn**	**07 58 20.2**	**+0.1**
JFR	**Furan**	**1.62 327**		*e*P	**Pn**	**07 58 22.4**	**+0.5**
JKHN	**Kushirohamanak**	**1.63 38**		P	**Pn**	**07 58 22.6**	**+0.7**
JKHN				S	**Sn**	**07 58 43.8**	**+2.1**
JKHN	**Kushirohamanak**	**1.63 38**		A	A	07 58 22.6	
	comp=N,29nm,1.2s,comp=E,22nm,2.1s						
NMR	**Nemuro--Hokkai**	**2.12 42**		⇑*i*P	**Pn**	**07 58 28.6**	**0.0**
NMR				*e*S	**Sn**	**07 58 52.6**	**-1.1**
JTKR	**Abashiri--Toko**	**2.17 2**		A	A	07 58 30.7	
	comp=N,11nm,3.0s,comp=E,7.0nm,2.6s						
JTM	**Tenmabayashi**	**2.29 245**		Pn	**Pn**	**07 58 30.5**	**-0.5**
JTM	**Tenmabayashi**	**2.29 245**		P	**Pn**	**07 58 31.2**	**+0.2**
JKA	**Kamikawa-asahi**	**2.47 340**		Pn	**Pn**	**07 58 34.3**	**+0.8**
ASAJ	**Asahikawa**	**2.47 340**		P	**Pn**	**07 58 34.5**	**+1.1**
	comp=E,67nm,0.3s,baz=211,slow=12,SNR=22						
ASAJ				S	**Sn**	**07 59 06.9**	**+4.4**
	comp=E,1μm,0.6s,baz=230,slow=14,SNR=7.4						
ASAJ				LR	LR	07 59 59.8	
	comp=E,10μm,18.6s,baz=154,slow=49						
ASAJ	**Asahikawa**	**2.47 340**		P	**Pn**	**07 58 34.6**	**+1.1**
ASAJ				S	**Sn**	**07 59 06.9**	**+4.4**
RUSJ	**Misakicho**	**2.54 24**		⇓*i*P	**Pn**	**07 58 34.8**	**+0.4**
RUSJ				*i* S	**Sn**	**07 59 04.1**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**2.70 34**		⇑*i*P	**Pn**	**07 58 36.9**	**+0.3**
YUK				*e*S	**Sn**	**07 59 08.4**	**+0.4**
YUK				pmax	pmax		
	comp=N,212nm,0.2s						
YUK				pmax	pmax		
	comp=E,4μm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=E,5μm,0.3s						
YUK				MLR	MLR		
	comp=Z,7μm,16.0s						
SHO	**Shikotan**	**3.04 46**		⇑*i*P	**Pn**	**07 58 41.0**	**-0.3**
SHO				*e*S	**Sn**	**07 59 14.4**	**-2.1**
SHO				pmax	pmax		
	comp=Z,309nm,0.3s						
SHO				pmax	pmax		
	comp=N,210nm,0.2s						
SHO				pmax	pmax		
	comp=E,171nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,809nm,0.3s						
SHO				MLR	MLR		
	comp=Z,3μm,13.0s						
KUR	**Kuril'sk**	**4.53 39**		*e*P	**Pn**	**07 59 02.7**	**+1.0**
KUR				*e*S	**Sn**	**07 59 54.4**	**+1.3**
KUR				pmax	pmax		
	comp=N,121nm,0.6s						
KUR				pmax	pmax		
	comp=Z,483nm,0.6s						
KUR				smax	smax		
	comp=E,647nm,0.7s						
KUR				smax	smax		
	comp=N,555n

UGL MLR MLR
comp=N,4μm,16.0s
UGL MLR MLR
comp=E,2μm,14.0s
JGF Kuroka 7.98 221 Pn Pn 07 59 49.4 +0.2
JGF Kuroka 7.98 221 P **Pn 07 59 49.2 0.0**
INU Inuyama 8.35 222 Pn **Pn 07 59 54.3 +0.1**
INU Inuyama 8.35 222 P **Pn 07 59 55.5 +1.3**
JSG Sagara 8.37 214 Pn **Pn 07 59 54.5 0.0**
USA0B Ussuriysk Arra 8.98 289⇓ *eP* **Pn 08 00 04.3 +1.5**
USRK Ussuriysk Ar. 8.98 289 P **Pn 08 00 04.8 +2.0**
comp=E,11nm,0.7s,baz=105,slow=14,SNR=14
USRK LR LR 08 03 47.7
comp=E,3μm,18.7s,baz=118,slow=39
USRK Ussuriysk Ar. 8.98 289 P **Pn 08 00 04.8 +2.0**
TYV Tymovskoe 9.10 355 *eP* **Pn 08 00 06.9 +2.5**
TYV *eS* **Sn 08 01 50.6 +5.3**
TYV pmax pmax
comp=Z,11nm,1.2s
TYV pmax pmax
comp=Z,400nm,4.0s
TYV smax smax
comp=N,8.0nm,1.2s
TYV smax smax
comp=E,9.0nm,1.2s
TYV smax smax
comp=N,300nm,4.6s
TYV smax smax
comp=E,400nm,4.6s
JHJ2 Mitsune 9.23 201 Pn **Pn 08 00 04.0 -2.4**
PSTR Posyet 9.68 279⇑ *eP* **Pn 08 00 12.1 -0.2**
GRNR Gornyy 10.31 333⇓ *iP* **Pn 08 00 22.5 +1.5**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR MLR MLR
comp=E,680nm,16.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,1μm,18.0s
MDJ Mudanjiang 10.74 290 P **Pn 08 00 29.5 +2.6**
MDJ pP 08 00 36.4
MDJ S **Sn 08 02 26.0 +0.2**
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ LR LR
comp=Z,940nm,15.1s
MDJ LR LR
comp=Z,3μm,16.1s
MDJ LR LR
comp=Z,5μm,15.8s
KLR Kul'dur 11.24 315 P **Pn 08 00 36.3 +2.6**
comp=Z,4.7nm,0.6s,baz=127,slow=14,SNR=13
KLR LR LR 08 05 13.8
comp=Z,1μm,20.5s,baz=131,slow=39
KLR Kul'dur 11.24 315⇓ *eP* **Pn 08 00 35.6 +1.9**
KLR pmax pmax
comp=Z,22nm,1.7s
JMN Monobe 11.24 227 Pn 08 00 32.7 -1.2
NKL Nikolayevsk 11.54 351 *eP* **Pn 08 00 37.0 -0.8**
NKL *eS* **Sn 08 02 45.9 +0.6**
NKL MLR MLR
comp=N,7μm,14.0s
NKL MLR MLR
comp=E,12μm,17.0s
NKL MLR MLR
comp=Z,14μm,17.0s
SKR Severo-Kuril's 12.30 40 *eP* **P 08 00 55.0 -4.6**
SKR pmax pmax
comp=Z,200nm,4.8s
SKR MLR MLR
comp=Z,2μm,15.0s
BNX BinXian 12.48 294 ⇑P **Pn 08 00 51.3 +0.6**
BNX pmax pmax
comp=Z,25nm,0.8s
KSRS Korea Array 12.98 256 Pn 08 00 57.7 +0.2
KSRS Korea Array 12.98 256 P **Pn 08 00 57.7 +0.2**
comp=Z,5.0nm,0.7s,baz=64,slow=14,SNR=15
KSRS S **Sn 08 03 23.2 +2.7**
comp=Z,3.6nm,0.7s,baz=65,slow=24,SNR=1.1
KSRS LR LR 08 06 02.1
comp=Z,2μm,18.6s,baz=65,slow=37
KSRS Korea Array 12.98 256 P **Pn 08 00 57.7 +0.2**
KS19 Wonju Array Si 13.00 256 Pn **Pn 08 00 57.2 -0.6**
KSAR Wonju Array Be 13.01 256 Pn **Pn 08 00 57.1 -0.9**
KSAR Wonju Array Be 13.01 256 P **Pn 08 00 57.1 -0.9**
JNU Nakatsue 13.42 234 Pn **Pn 08 01 00.5 -3.1**
JNU Nakatsue 13.42 234 P **Pn 08 01 00.8 -2.8**
comp=Z,5.2nm,0.7s,baz=120,slow=9.3,SNR=4.2
JNU LR LR 08 06 36.7
comp=Z,2μm,20.0s,baz=50,slow=39
CN2 Changchun 13.62 285 *eP* **Pn 08 01 05.5 -0.7**
CN2 *e*PP **P 08 01 16.1 +1.7**
CN2 *eS* **Sn 08 03 31.3 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,250nm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
PEA0B Petropavlovsk- 14.68 35 Pn **Pn 08 01 18.6 -1.9**
PEA0B Petropavlovsk- 14.68 35 P **Pn 08 01 18.6 -1.9**
PETK Petropavlovsk- 14.68 35 Pn **Pn 08 01 18.8 -1.7**
PETK Petropavlovsk- 14.68 35 P **Pn 08 01 17.9 -2.5**
comp=Z,4.3nm,0.6s,baz=200,slow=8.1,SNR=3.6
PETK pP P 08 01 37.5 +11
comp=Z,7.9nm,0.6s,baz=182,slow=9.5,SNR=5.2
PETK LR LR 08 07 21.6
comp=Z,785nm,18.0s,baz=215,slow=38
PETK Petropavlovsk- 14.68 35 P **Pn 08 01 18.8 -1.7**
JCJ Chichijima 14.73 186 Pn **Pn 08 01 18.4 -3.0**
JCJ Chichijima 14.73 186 P Pn 08 01 10.8 -11
comp=Z,40nm,0.4s,baz=78,slow=22,SNR=5.8
JCJ S Sn 08 03 41.5 -22
comp=Z,101nm,0.6s,baz=281,slow=22,SNR=7.0
JCJ LR LR 08 12 13.3
comp=Z,189nm,18.2s,baz=325,slow=58
SNY Shenyang 15.08 277 ⇓P **P 08 01 29.2 -1.3**
SNY pmax pmax
comp=Z,18nm,0.7s
SNY pmax pmax
comp=Z,190nm,4.5s
SNY LR LR
comp=Z,710nm,14.9s
SNY LR LR
comp=Z,1μm,15.6s
SNY LR LR
comp=Z,2μm,16.9s
ZEA Zeya 16.27 323 *eP* **Pn 08 01 41.6 +0.5**
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=N,900nm,16.0s
ZEA MLR MLR
comp=Z,800nm,15.0s
DL2 Dalian 17.14 268 P **Pn 08 01 50.3 -1.8**
DL2 pmax pmax
comp=Z,86nm,0.9s
DL2 LR LR
comp=Z,720nm,7.8s
DL2 LR LR
comp=Z,880nm,15.1s
DL2 LR LR
comp=Z,850nm,11.8s
MA2 Magadan 18.32 11 **P 08 02 03.9 -2.4**
MA2 Magadan 18.32 11 P **P 08 02 03.8 -2.4**
comp=Z,8.1nm,0.5s,baz=195,slow=7.7,SNR=9.4
MA2 LR LR 08 09 54.6
comp=Z,1μm,18.1s,baz=198,slow=39
MA2 Magadan 18.32 11*c iP* **P 08 02 04.6 -1.6**
MA2 pmax pmax
comp=Z,53nm,1.7s
JOW Kunigami 19.63 225 P **P 08 02 19.1 -1.9**
comp=Z,18nm,0.8s,baz=20,slow=12,SNR=4.1
JOW LR LR 08 10 39.9
comp=Z,934nm,21.4s,baz=69,slow=39
XLT XiLinHaoTe 20.39 285 *eP* **P 08 02 27.0 -2.2**
XLT pP Pn 08 02 33.6 +2.1
XLT sP pP 08 02 40.0 +0.9
XLT PP **PnPn 08 02 50.0 +3.0**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT LR LR
comp=Z,2μm,16.8s
XLT LR LR
comp=Z,2μm,16.1s
BJI Beijing 20.91 274 P **P 08 02 33.7 -1.0**
BJI S Sn 08 06 31.0 -1.6
BJI pmax pmax
comp=Z,11nm,0.7s
BJI LR LR
comp=Z,170nm,15.3s
BJI LR LR
comp=Z,870nm,15.5s
BJI LR LR
comp=Z,1μm,15.4s
TIA Tai'an 21.42 264 P **P 08 02 36.9 -3.3**
TIA pmax pmax
comp=Z,16nm,0.6s
TIA pmax pmax
comp=Z,190nm,3.6s
TIA LR LR
comp=Z,380nm,16.5s
TIA LR LR
comp=Z,700nm,17.2s
TIA LR LR
comp=Z,930nm,15.5s
SEY Seymchan 21.76 11 P **P 08 02 40.9 -2.7**
comp=Z,27nm,0.7s,baz=196,slow=8.5,SNR=58
SEY Seymchan 21.76 11⇑ *iP* **P 08 02 41.0 -2.7**
SEY pmax pmax
comp=Z,43nm,0.9s
YAK Yakutsk 21.95 342 P **P 08 02 41.6 -4.0**
YAK Yakutsk 21.95 342 P **P 08 02 41.9 -3.7**
comp=Z,23nm,0.5s,baz=154,slow=4.7,SNR=6.4
YAK S **S 08 06 37.3 -8.2**
comp=Z,15nm,0.5s,baz=160,slow=22,SNR=9.4
YAK LR LR 08 12 17.1
comp=Z,2μm,18.1s,baz=129,slow=39
YAK Yakutsk 21.95 342⇓ *iP* **P 08 02 42.1 -3.5**
YAK pmax pmax
comp=Z,27nm,0.6s
NJ2 Nanjing 22.12 252 ⇓P **P 08 02 48.1 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,270nm,4.1s
NJ2 LR LR
comp=Z,560nm,16.1s
NJ2 LR LR
comp=Z,2μm,17.1s
NJ2 LR LR
comp=Z,2μm,19.0s
HNS HongShan 22.79 269 ⇓P **P 08 02 50.6 -4.2**
HNS pmax pmax
comp=Z,9.0nm,0.8s
HNS LR LR
comp=Z,590nm,14.7s
HNS LR LR
comp=Z,980nm,15.0s
HNS LR LR
comp=Z,1μm,14.3s
CIT Chita 22.89 307 *eP* **P 08 02 55.0 -0.8**
CIT *e* 08 03 05.8
CIT *e* 08 03 29.0
CIT *e* 08 03 33.6
CIT *e*S **S 08 07 06.8 +4.2**
CIT pmax pmax
comp=Z,84nm,2.1s
SHEM Shemya Is, Ala 23.11 51 LR LR 08 12 41.8
comp=Z,260nm,19.6s,baz=262,slow=38
HHC Hu-ho-hao-te 24.15 279⇓ *iP* **P 08 03 08.2 +0.1**
HHC pP pP 08 03 17.1 -1.9
HHC S **S 08 07 23.8 +0.4**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,91nm,5.9s
HHC LR LR
comp=Z,600nm,14.9s
HHC LR LR
comp=Z,1μm,18.0s
HHC LR LR
comp=Z,2μm,17.8s
BTO Baotou 25.35 279 *eP* **P 08 03 19.0 0.0**
BTO pP **pP 08 03 27.8 -2.0**
BTO sP **sP 08 03 32.9 -1.7**
BTO PP **PnPn 08 03 55.4 +0.6**
BTO S **S 08 07 43.3 +0.7**
BTO SS **SnSn 08 08 44.0 +7.7**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,210nm,4.1s
BTO LR LR
comp=Z,1μm,11.5s
BTO LR LR
comp=Z,2μm,17.2s
BTO LR LR
comp=Z,3μm,18.3s
LYN LuoYang 25.57 264 P **P 08 03 21.1 +0.2**
LYN sP sP 08 03 34.5 -2.0
LYN S **S 08 07 40.8 -5.2**
LYN pmax pmax
comp=Z,21nm,1.1s
LYN LR LR
comp=Z,1μm,16.6s
LYN LR LR
comp=Z,650nm,15.0s
LYN LR LR
comp=Z,960nm,15.7s
WHN Wuhan 26.17 254 ⇑P **P 08 03 26.1 -0.2**
WHN sP **sP 08 03 42.6 +0.6**
WHN pmax pmax
comp=Z,110nm,0.6s
YULB Yu-li 26.26 233 P **P 08 03 26.1 -1.1**
YULB IAmb IAmb 08 03 42.5
comp=Z,41nm,1.5s
ULN Ulaanbaatar 26.57 296 P **P 08 03 29.3 -0.7**
ULN IAmb IAmb 08 03 48.7
comp=Z,22nm,0.9s
ULN Ulaanbaatar 26.57 296*deP* **P 08 03 29.6 -0.4**
ULN pmax pmax
comp=Z,34nm,1.9s
SONM Songino Array 27.01 296 P **P 08 03 33.6 -0.4**
SONM IAmb IAmb 08 03 52.2
comp=Z,16nm,0.9s
SONM Songino Array 27.01 296 P **P 08 03 33.8 -0.2**
comp=Z,9.6nm,0.7s,baz=84,slow=7.8,SNR=61
SONM pP **sP 08 03 49.9 +0.2**
comp=Z,13nm,0.8s,baz=86,slow=8.3,SNR=10
SONM LR LR 08 15 14.7
comp=Z,1μm,20.1s,baz=114,slow=38
comp=Z,9.6nm,0.7s
SONM Songino Array 27.01 296 P **P 08 03 33.6 -0.4**
SONM pmax pmax
comp=Z,16nm,0.9s
XAN Xi'an 28.43 266 ⇑P **P 08 03 45.9 -0.8**
XAN PP **PnPn 08 04 35.0 -2.0**
XAN S **S 08 08 33.1 +1.8**
XAN pmax pmax
comp=Z,9.0nm,0.5s
XAN pmax pmax
comp=Z,130nm,4.1s
XAN LR LR
comp=Z,610nm,17.5s
XAN LR LR
comp=Z,990nm,16.1s
XAN LR LR
comp=Z,1μm,20.6s
ADK Adak 28.52 56 P **P 08 03 48.8 +1.5**
IRK Irkutsk 28.56 305 *eP* **P 08 03 45.6 -2.0**
IRK pmax pmax
comp=Z,65nm,1.3s
BILL Bilibino 28.93 17 P **P 08 03 49.1 -1.6**
BILL Bilibino 28.93 17⇑ *iP* **P 08 03 49.7 -1.0**
BILL pmax pmax
comp=Z,10.0nm,1.3s
ZAK Zakamensk 29.07 301 *eP* **P 08 03 51.9 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.3s
H11N2 WAKE ISLAND Hy 29.46 131 T T 08 34 53.2
baz=324,slow=75,SNR=1735
H11N1 WAKE ISLAND Hy 29.47 131 T T 08 35 16.6
baz=324,slow=75,SNR=1622
H11N3 WAKE ISLAND Hy 29.48 131 T T 08 35 08.8
baz=324,slow=75,SNR=2060
H11S1 WAKE ISLAND Hy 30.34 133 T T 08 36 08.6
baz=325,slow=76,SNR=2394
H11S3 WAKE ISLAND Hy 30.34 133 T T 08 36 28.0
baz=325,slow=76,SNR=1974
H11S2 WAKE ISLAND Hy 30.36 133 T T 08 36 00.1
baz=325,slow=76,SNR=1789
MOY Mondy 30.55 304 *eP* **P 08 04 04.8 -0.5**
MOY pmax pmax
comp=Z,22nm,2.6s
TIXI Tiksi 30.83 351⇓ *eP* **P 08 04 10.1 +2.7**
TIXI pmax pmax
comp=Z,11nm,2.7s
LZH Lanzhou 31.38 273 *eP* **P 08 04 12.8 -0.1**
LZH pP pP 08 04 20.8 -3.1
LZH sP sP 08 04 25.4 -3.3
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=Z,800nm,15.5s
LZH LR LR
comp=Z,850nm,14.9s
LZH LR LR
comp=Z,1μm,16.1s
SPIA Saint Paul Isl 32.86 46 P **P 08 04 24.6 -0.8**
baz=262
P08K Saint George I 33.17 47 P **P 08 04 28.5 +0.4**
baz=264
GTA Gaotai 33.20 281 P **P 08 04 29.0 +0.2**
GTA sP sP 08 04 45.4 +0.8
GTA pmax pmax
comp=Z,10.0nm,0.8s
GTA LR LR
comp=Z,400nm,18.7s
GTA LR LR
comp=Z,930nm,19.1s
GTA LR LR
comp=Z,1μm,19.5s
GAMB Gambell 33.71 34 P **P 08 04 33.5 +0.8**
baz=251
CD2 Chengdu 33.75 264 P **P 08 04 32.7 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,560nm,15.9s
CD2 LR LR
comp=Z,350nm,12.7s
CD2 LR LR
comp=Z,490nm,15.2s
GYA Guiyang 34.04 255 P **P 08 04 35.5 -0.7**
GYA pmax pmax
comp=Z,15nm,0.7s
GYA LR LR
comp=Z,1μm,19.2s
K13K Kusilvak Mount 36.39 39 P **P 08 04 56.3 +0.4**
baz=261
F14K Arctic Creek 36.43 33 P **P 08 04 57.1 +1.0**
baz=254
ANM Nome 36.59 34 P **P 08 04 57.3 -0.3**
baz=256
QIZ Qiongzhong 36.68 242 P **P 08 04 58.7 -0.1**
QIZ S **S 08 10 40.4 +0.9**
QIZ LR LR
comp=Z,330nm,13.6s
QIZ LR LR
comp=Z,440nm,15.7s
QIZ LR LR
comp=Z,460nm,19.9s
M13K Dall Lake 36.81 41 P **P 08 05 00.9 +1.4**
baz=264
J14K Nanvaranak Lak 37.03 37 P **P 08 05 01.7 +0.5**
baz=261
F15K North Star Dit 37.16 32 P **P 08 05 03.0 +0.5**
baz=256
L14K Kuka Creek 37.24 40 P **P 08 05 04.4 +1.3**
L14K IAmb IAmb 08 05 05.5
comp=Z,16nm,0.8s
L14K Kuka Creek 37.24 40 P **P 08 05 04.2 +1.1**
baz=263
G15K Niukluk 37.25 34 P **P 08 05 04.0 +0.9**
baz=257
M14K Bethel 37.53 41 P **P 08 05 07.0 +1.5**
M14K IAmb IAmb 08 05 25.1
comp=Z,23nm,0.8s
M14K Bethel 37.53 41 P **P 08 05 06.6 +1.1**
baz=265
N14K Kuskokwak Cree 37.60 42 P **P 08 05 06.6 +0.4**
baz=266
PZH PanZhiHua 37.60 260 P **P 08 05 06.4 -0.3**
PZH S **S 08 10 53.1 -0.6**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.9s
PZH LR LR
comp=Z,300nm,17.5s
PZH LR LR
comp=Z,290nm,17.3s
PZH LR LR
comp=Z,330nm,17.1s
C16K Lisburne Hills 37.62 28 P **P 08 05 06.6 +0.4**
baz=252
KMI Kunming 37.68 257 ⇓P **P 08 05 07.4 -0.1**
KMI pmax pmax
comp=Z,13nm,0.9s
KMI LR LR
comp=Z,430nm,16.4s
KMI LR LR
comp=Z,450nm,17.7s
KMI LR LR
comp=Z,670nm,17.7s
O14K Tigyukauivet M 37.78 43 P **P 08 05 07.2 -0.5**
baz=267
L15K Ungalak Mounta 37.85 39 P **P 08 05 09.6 +1.3**
baz=264
K15K Wolf Creek Mou 37.89 38 P **P 08 05 09.3 +0.7**
baz=263
H16K Elim 37.93 35 P **P 08 05 10.2 +1.3**
baz=260,SNR=19
G16K Koyuk River 38.03 33 P **P 08 05 10.4 +0.7**
baz=258
GOMU GeErMu 38.06 278 P **P 08 05 10.9 +0.1**
GOMU pP pP 08 05 19.1 -2.8
GOMU sP sP 08 05 23.5 -3.1
GOMU S **S 08 11 02.2 +1.3**
GOMU pmax pmax
comp=Z,65nm,0.8s
GOMU LR LR
comp=Z,980nm,15.2s
GOMU LR LR
comp=Z,990nm,15.9s
GOMU LR LR
comp=Z,2μm,16.2s
M15K Kasigluk River 38.15 41 P **P 08 05 11.8 +1.1**
baz=266
D17K Noatak River 38.27 30 P **P 08 05 11.3 -0.4**
baz=255,SNR=7.8
N15K Kwethluk River 38.41 42 P **P 08 05 13.8 +0.7**
baz=267
RDOG Red Dog Mine 38.43 29 P **P 08 05 13.0 -0.1**
baz=255
J16K Anvik River 38.44 37 P **P 08 05 14.3 +1.1**
baz=263
C17K DeLong Mountai 38.45 28 P **P 08 05 12.6 -0.7**
baz=254
I17K Unalakleet 38.48 36 P **P 08 05 14.2 +0.8**
baz=262
O15K Ungalikthiuk R 38.52 44 P **P 08 05 15.1 +1.2**
baz=269
E17K Hotham Inlet 38.59 31 P **P 08 05 14.5 0.0**
baz=257,SNR=13
F17K Baldwin Pennin 38.68 32 P **P 08 05 15.9 +0.8**
baz=258
G17K Kiwalik Mounta 38.74 33 P **P 08 05 16.4 +0.6**
baz=260
CHNA Chernabura Isl 38.77 50 P **P 08 05 15.8 -0.2**
baz=274
L16K Owhat River 38.81 39 P **P 08 05 17.3 +1.0**
L16K IAmb IAmb 08 05 18.2
comp=Z,14nm,0.8s
L16K Owhat River 38.81 39 P **P 08 05 17.4 +1.1**
baz=266,SNR=7.2
H17K Granite Mounta 38.96 34 P **P 08 05 18.0 +0.4**
baz=262
M16K Timber Creek 39.01 41 P **P 08 05 18.7 +0.6**
baz=267
E18K Tukpahlearik C 39.13 30 P **P 08 05 18.2 -0.8**

baz=258
J17K VABM Dome 39.13 37 P **P** 08 05 19.6 +0.6
baz=264
B18K Kokolik River 39.17 27 P **P** 08 05 19.4 +0.2
baz=254
SLVN Son La 39.19 251 P **P** 08 05 19.0 -1.0
C18K Utukok River 39.20 28 P **P** 08 05 20.5 +0.9
baz=256
CHGN Chignik 39.33 48 P **P** 08 05 21.2 +0.5
baz=274
F18K Selawik 39.34 32 P **P** 08 05 21.3 +0.7
baz=260
L17K Donlin 39.39 39 P **P** 08 05 21.1 0.0
baz=266
O16K Kokwok River B 39.41 43 P **P** 08 05 22.3 +1.0
baz=270
K17K Iditarod 39.43 38 P **P** 08 05 22.8 +1.3
baz=266
P16K Nushagak River 39.46 44 P **P** 08 05 23.2 +1.5
baz=270
G18K Tagagawik 39.62 33 P **P** 08 05 24.1 +1.0
baz=262,SNR=10
H18K Honhosa River 39.64 34 P **P** 08 05 24.4 +1.1
baz=263
M17K Holitna River 39.76 40 P **P** 08 05 25.7 +1.4
baz=268,SNR=7.8
NRIK Noril'sk 39.80 333 P **P** 08 05 22.6 -1.8
NRIK Noril'sk 39.80 333 P **P** 08 05 23.1 -1.4
comp=Z,4.2nm,0.6s,baz=116,slow=6.0,SNR=11
NRIK LR LR 08 23 21.6
comp=Z,1µm,19.2s,baz=107,slow=38
comp=Z,4.2nm,0.6s
NRIK Noril'sk 39.80 333*c i*P **P** 08 05 22.5 -1.9
NRIK pmax pmax
comp=Z,13nm,1.6s
N17K Nushagak Hills 39.87 41 P **P** 08 05 25.9 +0.7
baz=269
O17K Koliganek Bris 39.91 43 P **P** 08 05 25.9 +0.4
baz=270
F19K Shaleruckik Mo 40.12 32 P **P** 08 05 27.0 -0.2
baz=261
L18K Granite Mounta 40.15 39 P **P** 08 05 28.9 +1.5
baz=268
J18K Innoko River 40.20 37 P **P** 08 05 28.5 +0.6
baz=266
GCSA Galena City Sc 40.23 35 P **P** 08 05 28.6 +0.6
baz=265
ZALV Zalesovo Beam 40.23 308 P **P** 08 05 28.2 0.0
comp=Z,13nm,0.8s,baz=88,slow=7.5,SNR=47
ZALV pP **sP** 08 05 44.6 +0.5
comp=Z,22nm,0.8s,baz=83,slow=8.4,SNR=9.1
ZALV PcP **PcP** 08 07 31.9 +0.5
comp=Z,4.9nm,0.7s,baz=69,slow=3.5,SNR=3.6
ZALV LR LR 08 23 21.7
comp=Z,642nm,18.5s,baz=80,slow=38
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 40.23 308 P **P** 08 05 28.2 0.0
ZALV *PP **sP** 08 05 44.6 +0.5
ZALV 08 07 32.0
D19K Kuna River 40.27 29 P **P** 08 05 28.6 +0.2
baz=259
G19K Purcell Mounta 40.29 33 P **P** 08 05 28.6 0.0
baz=263,SNR=7.4
E19K Redstone River 40.42 31 P **P** 08 05 29.9 +0.3
baz=261,SNR=16
H19K Roundabout Mou 40.48 34 P **P** 08 05 31.2 +1.1
baz=264,SNR=47
TTA Tatalina 40.49 38 P **P** 08 05 30.0 -0.4
baz=268
N18K Kilae Creek 40.51 41 P **P** 08 05 30.4 -0.1
baz=270
WMQ Urumqi 40.53 292 *e*P **P** 08 05 31.2 +0.2
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,740nm,17.3s
WMQ LR LR
comp=Z,2µm,14.3s
WMQ LR LR
comp=Z,1µm,18.3s
M18K Stony River 40.54 40 P **P** 08 05 31.7 +0.9
baz=269
Q17K Contact Creek 40.59 45 P **P** 08 05 31.4 +0.1
baz=273
J19K Poorman 40.72 36 P **P** 08 05 32.9 +0.8
baz=267
TNCH TengChong 40.83 260 P **P** 08 05 33.8 +0.1
TNCH pmax pmax
comp=Z,130nm,4.0s
D20K Etivluk River 40.85 29 P **P** 08 05 33.9 +0.7
baz=260
O18K Koktuh Hills 40.87 42 P **P** 08 05 34.6 +1.1
baz=272
P18K Big Mountain, 40.87 43 P **P** 08 05 34.0 +0.5
baz=272
E20K Nigu River 40.93 30 P **P** 08 05 34.8 +0.8
baz=261
F20K Avaraart Lake 40.94 31 P **P** 08 05 34.2 +0.3
baz=263
L19K White Mountain 41.01 39 P **P** 08 05 34.9 +0.3
baz=270
H20K Anotleneega Mo 41.13 34 P **P** 08 05 36.3 +0.8
baz=266
N19K Bonanza Creek 41.20 41 P **P** 08 05 37.1 +0.9
baz=271
M19K Big River Lodg 41.22 39 P **P** 08 05 36.0 -0.3
baz=270
I20K Naaghedeneel 41.26 35 P **P** 08 05 37.8 +1.3
baz=267
O19K Port Alsworth 41.30 42 P **P** 08 05 37.2 +0.2
baz=272
A21K Barrow 41.36 25 P **P** 08 05 37.0 -0.3
baz=257,SNR=7.3
J20K Nowinta River 41.37 36 P **P** 08 05 38.8 +1.3
baz=268
K20K Telida 41.38 37 P **P** 08 05 38.7 +1.0
baz=269,SNR=8.7
ZSN Zaisan 41.44 299 *e*P **P** 08 05 38.3 -0.1
ZSN pmax pmax
comp=Z,13nm,0.8s
ZSN Zaisan 41.44 299 *e*P **P** 08 05 38.3 -0.1
comp=Z,12nm,0.8s
L20K Farewell, AK 41.46 38 P **P** 08 05 39.0 +0.7
baz=270
C21K Knifeblade Rid 41.57 28 P **P** 08 05 40.2 +1.1
baz=262
SII Sitkinak Islan 41.65 47 P **P** 08 05 40.5 +0.6
baz=276
B21K Ikpikpuk River 41.70 28 P **P** 08 05 40.7 +0.5
baz=261
G21K Allakaket 41.77 32 P **P** 08 05 41.2 +0.4
baz=266
M20K Styx River 41.82 39 P **P** 08 05 42.6 +1.2
baz=271,SNR=6.8
F21K Alatna River 41.83 31 P **P** 08 05 41.9 +0.6
baz=265
P19K Oil Pt 41.87 43 P **P** 08 05 42.2 +0.4
baz=274
H21K Melozitna Rive 42.00 34 P **P** 08 05 43.9 +1.2
baz=267
OHAK Old Harbor 42.06 46 P **P** 08 05 44.8 +1.6
baz=276
O20K Slope Mountain 42.15 42 P **P** 08 05 45.1 +1.1
baz=274
CHUM Lake Minchumin 42.17 36 P **P** 08 05 45.2 +1.2
baz=270,SNR=12
B22K Teshekpuk Lake 42.22 27 P **P** 08 05 44.5 +0.2
baz=262
PPLA Purkeypile 42.24 38 P **P** 08 05 46.1 +1.3
PPLA Purkeypile 42.24 38 P **P** 08 05 46.7 +1.9
baz=271,SNR=12
CAST Castle Rocks 42.28 37 P **P** 08 05 46.0 +1.1
CAST IAmb IAmb 08 05 47.4
comp=Z,18nm,0.7s
CAST Castle Rocks 42.28 37 P **P** 08 05 46.4 +1.5
baz=271,SNR=22
SPCR Spurr Chakacha 42.29 40 P **P** 08 05 46.8 +1.7
baz=273,SNR=6.5
D22K Ayikyak River 42.29 29 P **P** 08 05 45.9 +0.9
baz=264,SNR=15
I21K Tanana 42.33 34 P **P** 08 05 46.4 +1.0
baz=269
SPU Mount Spurr 42.37 40 P **P** 08 05 47.1 +1.4
SPU IAmb IAmb 08 05 48.5
comp=Z,30nm,1.3s
KDAK Kodiak Island 42.38 45 LR LR 08 24 33.4
comp=Z,48nm,18.4s,baz=91,slow=38
KDAK Kodiak Island 42.38 45 P **P** 08 05 46.0 +0.2
baz=276
Q20K Shuyak Island 42.39 44 P **P** 08 05 46.0 +0.1
baz=276
STLK Strandline Lak 42.45 40 P **P** 08 05 47.3 +0.9
STLK IAmb IAmb 08 06 05.5
comp=Z,15nm,0.9s
E22K Anaktuvuk Pass 42.54 30 P **P** 08 05 47.5 +0.4
baz=266
SKT Skwentna 42.57 39 P **P** 08 05 48.0 +0.6
baz=273
G22K Bettles 42.59 32 P **P** 08 05 47.9 +0.6
baz=267
H22K Ishtalitna Cre 42.60 33 P **P** 08 05 48.6 +1.0
baz=268
BPAW Bear Paw Mtn. 42.76 36 P **P** 08 05 50.0 +1.1
baz=271,SNR=15
CAPN Captain Cook N 42.83 41 P **P** 08 05 49.5 +0.1
baz=274
SUA Susitna One 42.98 40 P **P** 08 05 51.2 +0.4
baz=274,SNR=5.8
D23K Nanushuk River 43.02 29 P **P** 08 05 51.3 +0.4
baz=266
BRLK Bradley Lake 43.05 42 P **P** 08 05 52.0 +0.7
BRLK IAmb IAmb 08 06 11.4
comp=Z,15nm,0.8s
TRF Thorofare Moun 43.08 37 P **P** 08 05 52.3 +0.6
baz=272,SNR=7.5
COLD Coldfoot 43.11 31 P **P** 08 05 52.2 +0.6
baz=268
C23K Itkillik River 43.11 28 P **P** 08 05 51.9 +0.3
baz=265
BRSE Bradley Lake S 43.12 42 P **P** 08 05 51.9 0.0
baz=276
G23K Bananza Creek 43.16 32 P **P** 08 05 52.9 +0.7
baz=269
M22K Willow 43.26 39 P **P** 08 05 53.8 +1.0
baz=274
MK31 Makanchi Array 43.31 298*d i*P **P** 08 05 53.2 -0.4
MKAR Makanchi Array 43.31 298 P **P** 08 05 53.3 -0.3
MKAR Makanchi Array 43.31 298 P **P** 08 05 53.4 -0.2
comp=Z,8.1nm,0.6s,baz=84,slow=9.6,SNR=109
MKAR pP **sP** 08 06 09.9 +0.3
comp=Z,5.8nm,0.6s,baz=80,slow=9.4,SNR=10
MKAR PcP **PcP** 08 07 42.5 +0.7
comp=Z,2.1nm,0.5s,baz=87,slow=0.4,SNR=4.8
MKAR LR LR 08 24 32.6
comp=Z,274nm,19.3s,baz=102,slow=37
comp=Z,8.1nm,0.6s
MKAR Makanchi Array 43.31 298 P **P** 08 05 53.4 -0.2
MKAR *PP **sP** 08 06 09.9 +0.3
MKAR 08 07 42.5
E23K Chandalar 43.36 30 P **P** 08 05 54.7 +0.9
baz=268
TOLK Toolik Lake Re 43.40 29 P **P** 08 05 55.1 +1.0
baz=267,SNR=11
I23K Minto, Yukon-K 43.44 34 P **P** 08 05 55.6 +1.3
baz=271,SNR=18
RC01 Rabbit Creek A 43.49 40 P **P** 08 05 55.6 +0.8
baz=275,SNR=7.4
MAKZ Makanchi 43.52 298 P **P** 08 05 54.5 -0.7
O22K Cooper Landing 43.56 41 P **P** 08 05 55.7 +0.4
baz=276,SNR=5.7
NEA2 Nenana 43.58 35 P **P** 08 05 56.6 +1.1
baz=272,SNR=37
MCK McKinley 43.67 36 P **P** 08 05 56.9 +0.6
baz=273,SNR=15
D24K Happy Valley 43.70 29 P **P** 08 05 56.3 0.0
baz=267
SEW Seward 43.73 42 P **P** 08 05 57.2 +0.5
baz=276
PMR Palmer 43.74 40 P **P** 08 05 56.9 +0.2
baz=275
C24K Franklin Bluff 43.77 28 P **P** 08 05 56.5 -0.3
baz=267,SNR=12
LSA Lhasa 43.77 271 P **P** 08 05 58.1 +0.1
LSA pmax pmax
comp=Z,19nm,1.0s
F24K Squaw Lake 44.01 31 P **P** 08 05 59.4 +0.5
baz=270
H24K Noodor Dome 44.04 33 P **P** 08 06 00.6 +1.4
baz=272
KNK Knik Glacier 44.08 40 P **P** 08 06 00.4 +0.9
baz=276,SNR=8.5
COLA College 44.09 35 P **P** 08 05 59.9 +0.5
baz=273
COLA College 44.09 35*d i*P **P** 08 06 00.8 +1.3
COLA pmax pmax
comp=Z,49nm,0.9s
SML Sawmill 44.10 39 P **P** 08 05 59.5 -0.3
baz=276,SNR=20
G24K Hadweenzic Riv 44.18 32 P **P** 08 06 00.8 +0.5
baz=271
PWL Port Wells 44.20 41 P **P** 08 06 01.1 +0.6
baz=276,SNR=8.1
JAY Jayapura 44.20 184 LR LR 08 26 44.6
comp=Z,86nm,18.9s,baz=343,slow=39
POKR Poker Plat Res 44.25 34 P **P** 08 06 02.0 +1.1
baz=273,SNR=16
CHTO Chiang Mai 44.36 253 P **P** 08 06 02.8 +0.5
M23K Glacier View 44.38 39 P **P** 08 06 02.8 +0.8
baz=276,SNR=8.7
HDA Harding Lake 44.51 35 P **P** 08 06 02.7 -0.1
baz=274,SNR=21
ILAR Eielson Array 44.51 35 P **P** 08 06 03.4 +0.5
comp=Z,19nm,0.8s,baz=262,slow=5.8,SNR=235
ILAR pP **sP** 08 06 20.2 +1.7
comp=Z,13nm,0.7s,baz=269,slow=6.7,SNR=8.2
ILAR LR LR 08 27 49.5
comp=Z,202nm,18.1s,baz=270,slow=40
comp=Z,19nm,0.8s
ILAR Eielson Array 44.51 35 P **P** 08 06 03.4 +0.5
ILAR *PP **sP** 08 06 20.2 +1.7
SCM Sheep Creek Mo 44.57 39 P **P** 08 06 04.6 +1.1
baz=276,SNR=9.2
D25K Kavik River 44.57 28 P **P** 08 06 03.6 +0.2
baz=270
KURK Kurchatov 44.59 305*d i*P **P** 08 06 03.2 -0.5
KURK pmax pmax
comp=Z,17nm,0.7s
CMAR Chiang Mai Arr 44.59 252 P **P** 08 06 04.5 +0.4
comp=Z,2.7nm,0.5s,baz=45,slow=7.7,SNR=15
CMAR pP **sP** 08 06 20.4 +0.3
comp=Z,2.1nm,0.5s,baz=38,slow=8.8,SNR=2.8
CMAR LR LR 08 25 41.1
comp=Z,383nm,20.6s,baz=55,slow=37
comp=Z,2.7nm,0.5s
CMAR Chiang Mai Arr 44.59 252 *i* P **P** 08 06 04.5 +0.4
CMAR pmax pmax
comp=Z,3.0nm,0.5s
KURBB Kurchatov Arra 44.67 305 P **P** 08 06 04.1 -0.2
comp=Z,18nm,0.7s,baz=76,slow=8.8,SNR=108
KURBB pP **sP** 08 06 20.5 +0.2
comp=Z,17nm,0.6s,baz=74,slow=8.8,SNR=7.1
KURBB LR LR 08 25 49.2
comp=Z,422nm,18.8s,baz=190,slow=38
comp=Z,18nm,0.7s
P23K Montague Islan 44.77 42 P **P** 08 06 05.0 0.0
baz=278
GLI Glacier Island 44.80 40 P **P** 08 06 05.8 +0.6
baz=278
F25K Christian Rive 44.87 31 P **P** 08 06 06.9 +1.1
baz=272
E25K Arctic Village 44.88 30 P **P** 08 06 06.7 +0.9
baz=272,SNR=8.7
PRP Porcupine Dome 45.03 34 P **P** 08 06 08.3 +1.1
baz=274,SNR=52
K24K Donnelly Dome 45.07 36 P **P** 08 06 07.7 +0.2
baz=276,SNR=20
M24K Tolsona, Glenn 45.08 39 P **P** 08 06 09.0 +1.4
baz=277,SNR=10
C26K Camden Bay 45.09 28 P **P** 08 06 07.4 0.0
baz=270
J25K Salcha River, 45.17 35 P **P** 08 06 07.7 -0.6
baz=275,SNR=6.8
KLU Klutina 45.28 39 P **P** 08 06 10.3 +1.2
baz=278,SNR=11
PAX Paxson 45.30 37 P **P** 08 06 10.3 +0.9
baz=277,SNR=8.5
Q23K Middleton Isla 45.38 42 P **P** 08 06 09.5 -0.4
baz=280
F26K Sheenjek River 45.44 31 P **P** 08 06 11.4 +1.1
baz=273
SHL Shillong 45.44 266 P **P** 08 06 11.1 +0.1
SHL pmax pmax
comp=Z,11nm,0.6s
RIDG Independent Ri 45.49 36 P **P** 08 06 10.4 -0.4
baz=276,SNR=9.1
EYAK Cordova Ski Ar 45.50 41 P **P** 08 06 11.4 +0.7
baz=279
C27K Jago River 45.51 28 P **P** 08 06 11.4 +0.6
baz=272,SNR=19
HARP HAARP 45.51 38 P **P** 08 06 12.0 +1.0
baz=278,SNR=18
G26K Porcupine Rive 45.62 32 P **P** 08 06 13.3 +1.6
baz=274,SNR=22
SCRK Sand Creek 45.84 36 P **P** 08 06 13.7 +0.1
baz=277,SNR=38
N25K Chitina, Valde 45.89 39 P **P** 08 06 14.7 +0.7
baz=279
J26L Joseph Creek 45.96 35 P **P** 08 06 14.9 +0.4
baz=277
BMRM Bremner River 45.99 40 P **P** 08 06 15.1 +0.4
baz=279,SNR=6.4
I26K Coal Creek Min 46.04 34 P **P** 08 06 15.7 +0.7
baz=276
L26K Log Cabin Wild 46.25 37 P **P** 08 06 17.9 +1.1
baz=278,SNR=32
KAIM Kayak Island 46.26 41 P **P** 08 06 17.5 +0.7
baz=280
PDGK Podgornoye 46.32 295 *i* P **P** 08 06 16.8 -0.9
PDGK pmax pmax
comp=Z,8.0nm,0.7s
SHLS Shalkode 46.40 294 *e*P **P** 08 06 15.7 -2.6
SHLS pmax pmax
comp=Z,5.0nm,0.5s
SHLS Shalkode 46.40 294 *e*P **P** 08 06 15.7 -2.6
comp=Z,5.3nm,0.5s
TDK Taldyqorghan 46.45 297 *e*P **P** 08 06 18.6 0.0
TDK pmax pmax
comp=Z,14nm,0.6s
TDK Taldyqorghan 46.45 297 *e*P **P** 08 06 18.6 0.0
comp=Z,14nm,0.6s
G27K Doyon Strip 46.48 32 P **P** 08 06 20.0 +1.5
baz=276
D27M Malcolm River 46.50 28 P **P** 08 06 18.8 +0.1
baz=275
KRVT Keravat (AS076 46.50 169 LR LR 08 25 18.2
comp=Z,64nm,18.6s,baz=191,slow=35
M26K Nabesna, AK 46.51 38 P **P** 08 06 20.3 +1.5
baz=279
H27K Steamboat Moun 46.59 33 P **P** 08 06 20.8 +1.4
baz=277
I27K Kandik River 46.64 33 P **P** 08 06 20.8 +1.1
baz=278
UZB Uzynbulak 46.70 295 *e*P **P** 08 06 20.2 -0.5
UZB Uzynbulak 46.70 295 *e*P **P** 08 06 20.3 -0.5
KPKS Kokpek 46.82 295 *e*P **P** 08 06 21.4 -0.1
KPKS pmax pmax
comp=Z,5.0nm,0.8s
KPKS Kokpek 46.82 295 *e*P **P** 08 06 21.3 -0.2
L27K Beaver Creek, 46.93 37 P **P** 08 06 23.3 +1.2
baz=280
EGAK Eagle 46.95 35 P **P** 08 06 22.5 +0.4
baz=279
M27K Edge Creek, AK 47.03 38 P **P** 08 06 24.6 +1.6
baz=280
F28M Old Crow 47.07 31 P **P** 08 06 24.4 +1.3
baz=277,SNR=12
E28M Babbage River 47.08 29 P **P** 08 06 24.2 +1.1
baz=276
ZHN Zhinishke 47.10 295 *e*P **P** 08 06 23.5 -0.3
ZHN Zhinishke 47.10 295 *e*P **P** 08 06 23.5 -0.3
SATY Saty 47.16 295 *e*P **P** 08 06 24.0 -0.2
SATY Saty 47.16 295 *e*P **P** 08 06 24.0 -0.2
D28M Stokes Point 47.28 28 P **P** 08 06 25.7 +1.1
baz=276
BRDH Bariadhala 47.29 263 LR LR 08 29 23.8
comp=Z,270nm,18.8s,baz=108,slow=40
I28M Miner Creek 47.35 33 P **P** 08 06 26.8 +1.4
baz=279
MESA MESA 47.42 41 P **P** 08 06 27.2 +1.1
baz=282
BVCY Beaver Creek 47.48 38 P **P** 08 06 27.6 +1.2
baz=281,SNR=17
E29M Blow River 47.70 29 P **P** 08 06 29.2 +1.2
baz=278
YUK3 Moose Creek 47.80 38 P **P** 08 06 29.9 +0.8
baz=282,SNR=8.4
DAWY Dawson 47.82 35 P **P** 08 06 29.6 +0.6
baz=281,SNR=5.9
H29M Whitestone 47.86 32 P **P** 08 06 30.5 +1.3
baz=280
G29M Pine Creek 47.88 31 P **P** 08 06 31.1 +1.7
baz=279
MDOK Medeo 48.04 295 *e*P **P** 08 06 30.9 -0.2
MDOK Medeo 48.04 295 *e*P **P** 08 06 30.9 -0.2
I29M Ogilvie Camp, 48.04 33 P **P** 08 06 31.9 +1.2
baz=280,SNR=26
AAA Alma-Ata 48.11 295 *e*P **P** 08 06 31.5 0.0
AAA pmax pmax
comp=Z,13nm,0.7s
AAA Alma-Ata 48.11 295 *e*P **P** 08 06 31.6 0.0
comp=Z,13nm,0.7s
O28M Mount Upton 48.14 40 P **P** 08 06 32.9 +1.1
baz=283
TNSS Tian-Shan 48.15 295 *e*P **P** 08 06 31.7 -0.6
TNSS Tian-Shan 48.15 295 *e*P **P** 08 06 31.8 -0.6
YUK8 Steele Glacier 48.23 39 P **P** 08 06 33.3 +0.9
baz=283
J29N Klondike Camp 48.25 35 P **P** 08 06 34.0 +1.6
baz=281,SNR=8.2
PINM Pinnacle 48.27 41 P **P** 08 06 33.9 +1.3
baz=284
BRZS Berezniki 48.44 305 *e*P **P** 08 06 33.7 -0.2
BRZS pmax pmax
comp=Z,2.0nm,0.4s
BRZS Berezniki 48.44 305 *e*P **P** 08 06 33.8 -0.2
EPYK Eagle Plains 48.49 32 P **P** 08 06 35.4 +1.2
baz=281,SNR=35
G30M tAoh Zraii Nji 48.57 31 P **P** 08 06 35.5 +0.8
baz=281
M29M Somme Creek 48.57 37 P **P** 08 06 36.3 +1.4
baz=283
L29M L29M 48.57 36 P **P** 08 06 36.8 +2.0
baz=283,SNR=30
F30M Barrier River 48.62 30 P **P** 08 06 36.3 +1.3
baz=281
K29M Barlow Dome 48.68 35 P **P** 08 06 37.1 +1.4
baz=282
YUK4 Talbot Arm 48.74 39 P **P** 08 06 37.6 +1.2
baz=284,SNR=5.7
BVA0 Borovoye Array 48.84 310 P **P** 08 06 36.3 -0.6
BVAR Borovoye Array 48.84 310 P **P** 08 06 37.0 +0.1
comp=Z,7.4nm,0.4s,baz=74,slow=8.8,SNR=63
BVAR S **S** 08 13 35.4 -1.8
comp=Z,0.2nm,0.5s,baz=69,slow=9.4,SNR=2.0
BVAR LR LR 08 28 48.5
comp=Z,539nm,18.2s,baz=78,slow=38
comp=Z,7.4nm,0.4s
BVAR Borovoye Array 48.84 310 P **P** 08 06 37.0 +0.1
BVAR S **S** 08 13 35.4 -1.8
I30M Mount Dempster 48.86 33 P **P** 08 06 38.5 +1.4
baz=282
BRVK Borovoye 48.88 310*d i*P **P** 08 06 37.4 +0.1
BRVK pmax pmax
comp=Z,22nm,2.2s
YUK6 Outpost Mounta 48.97 39 P **P** 08 06 39.7 +1.6
baz=284
J30M Hart River 49.02 34 P **P** 08 06 39.9 +1.6
baz=283
O29M Mount Kennedy 49.03 40 P **P** 08 06 40.3 +1.8
baz=285
BOOM Boomskoye usch 49.05 295 P **P** 08 06 39.4 +0.5
BOOM pmax pmax
comp=Z,31nm,0.8s
TKM2 Tokmak 2 49.11 296 *i* P **P** 08 06 39.3 -0.1
TKM2 pmax pmax
comp=Z,31nm,0.8s
OTUK Ortayu 49.24 303 *i* P **P** 08 06 39.7 -0.4
OTUK pmax pmax
comp=Z,9.0nm,0.8s
M30M Minto, Yukon 49.29 37 P **P** 08 06 42.1 +1.8
baz=284,SNR=15
INK Inuvik 49.31 29 LR LR 08 29 28.2
comp=Z,331nm,18.8s,baz=253,slow=38
INK Inuvik 49.31 29 P **P** 08 06 41.4 +1.1
baz=282,SNR=14
BTLS Baital 49.32 299 *e*P **P** 08 06 40.1 -0.6
BTLS Baital 49.32 299 *e*P **P** 08 06 40.1 -0.6
G31M Satah River 49.33 31 P **P** 08 06 41.2 +0.8
baz=283
HYT Haines Junctio 49.41 39 P **P** 08 06 43.7 +2.4
baz=285,SNR=28
F31M Tsiigehtchic 49.42 30 P **P** 08 06 42.1 +1.0
baz=283,SNR=28

N30M	Aishikik Lake	49.44	38	P		P	08 06 42.3 +0.9
	baz=285						
MAYO	Mayo, Yukon	49.44	35	P		P	08 06 43.0 +1.7
	baz=284,SNR=7.9						
H31M	Peel River	49.56	32	P		P	08 06 44.0 +1.7
	baz=283,SNR=63						
P30M	Million Dollar	49.86	40	P		P	08 06 46.3 +1.7
	baz=286						
AAK	Ala-Archa	49.97	296	P		P	08 06 45.8 -0.1
	comp=Z,3.4nm,0.5s,baz=138,slow=7.5,SNR=14						
AAK				LR		LR	08 30 18.5
	comp=Z,942nm,18.5s,baz=76,slow=39						
	comp=Z,3.4nm,0.5s						
AAK	Ala-Archa	49.97	296	⇓*e*P		P	08 06 45.9 -0.1
AAK				pmax		pmax	
	comp=Z,10.0nm,1.7s						
N31M	Braeburn, Yuko	50.04	38	P		P	08 06 47.6 +1.6
	baz=286,SNR=8.7						
O30N	Mendenhall	50.09	39	P		P	08 06 48.1 +1.7
	baz=286						
KSH	Kashi	50.27	291	P		P	08 06 52.0 +3.8
KSH				sP		sP	08 07 08.2 +3.9
KSH				pmax		pmax	
	comp=Z,6.0nm,0.6s						
KSH				LR		LR	
	comp=Z,810nm,16.1s						
KSH				LR		LR	
	comp=Z,890nm,16.8s						
KSH				LR		LR	
	comp=Z,1μm,16.5s						
PLBC	Pleasant Camp	50.34	41	P		P	08 06 50.1 +1.9
	baz=287						
ARLS	Aral	50.40	295	P		P	08 06 50.2 +1.0
ARLS				pmax		pmax	
	comp=Z,8.0nm,0.8s						
M31M	Drury Creek, Y	50.47	37	P		P	08 06 50.8 +1.6
	baz=286,SNR=11						
WHY	Whitehorse	50.69	39	P		P	08 06 53.2 +2.1
	baz=287,SNR=5.6						
SKAG	Skagway	50.84	41	P		P	08 06 54.4 +2.4
	baz=288						
S31K	Pelican	50.86	43	P		P	08 06 52.9 +0.8
	baz=288						
FARO	Faro, Yukon	50.93	37	P		P	08 06 54.0 +1.2
	baz=287,SNR=11						
A36M	Sachs Harbour	51.15	24	P		P	08 06 55.1 +1.0
	baz=286,SNR=6.2						
KAPI	Kappang	51.50	211	LR		LR	08 29 09.4
	comp=Z,107nm,21.1s,baz=26,slow=36						
P32M	Atlin	51.58	40	P		P	08 06 58.8 +1.2
	baz=289						
P33M	Teslin, Yukon	51.80	39	P		P	08 07 00.7 +1.4
	baz=289,SNR=12						
C36M	Paulatuk	52.34	27	P		P	08 07 03.3 +0.3
	baz=289,SNR=25						
KK31	Karatay Array	52.43	298	*i*P		P	08 07 03.5 -0.7
Q32M	Nakina River	52.49	41	P		P	08 07 05.8 +1.2
	baz=290						
TRKS	Terek-Say	52.70	296	P		P	08 07 06.2 -0.2
TRKS				pmax		pmax	
	comp=Z,5.0nm,1.0s						
SVE	Sverdlovsk	52.86	317	*e*P		P	08 07 07.6 +0.5
SVE				pmax		pmax	
	comp=Z,35nm,0.9s						
BRLS	Borolday	52.91	298	*e*P		P	08 07 09.0 +1.2
BRLS				pmax		pmax	
	comp=Z,8.0nm,2.0s						
BRLS	Borolday	52.91	298	*e*P		P	08 07 08.9 +1.2
R33M	Jennings River	52.96	40	P		P	08 07 09.5 +1.5
	baz=291						
IUG	Iuzhnay	53.17	297	*e*P		P	08 07 09.6 -0.1
IUG				pmax		pmax	
	comp=Z,7.0nm,0.7s						
IUG	Iuzhnay	53.17	297	*e*P		P	08 07 09.6 -0.1
	comp=Z,7.3nm,0.7s						
CRAG	Craig	53.33	45	P		P	08 07 11.3 +0.8
	baz=292						
WRAK	Wrangell Islan	53.38	44	P		P	08 07 11.1 +0.2
	baz=292						
S34M	Telegraph Cree	53.43	41	P		P	08 07 11.7 +0.4
	baz=292						
BTK	Batken	53.58	294	P		P	08 07 12.8 0.0
BTK				pmax		pmax	
	comp=Z,10.0nm,0.7s						
WTLY	Watson Lake, Y	53.72	38	P		P	08 07 13.6 +0.2
	baz=292						
DLBC	Dease Lake	53.77	41	LR		LR	08 32 48.9
	comp=Z,79nm,18.3s,baz=304,slow=39						
DLBC	Dease Lake	53.77	41	P		P	08 07 14.1 +0.2
	baz=292						
ARTI	Arti	54.18	317	P		P	08 07 16.4 -0.4
	comp=Z,22nm,0.7s,baz=66,slow=3.9,SNR=52						
ARTI				LR		LR	08 33 47.9
	comp=Z,463nm,18.5s,baz=58,slow=40						
	comp=Z,22nm,0.7s						
ARTI	Arti	54.18	317	*d*iP		P	08 07 16.6 -0.2
ARTI							08 08 17.1
ARTI							08 09 18.3
ARTI				S		S	08 14 51.5 +0.7
ARTI				SS		SKiKP	08 18 27.3 +2.8
ARTI				pmax		pmax	
	comp=Z,29nm,0.8s						
T35M	Bob Quinn	54.23	42	P		P	08 07 18.7 +1.5
	baz=293						
WRGLY	Wrigley	54.84	34	P		P	08 07 22.9 +1.4
	baz=294						
NIL	Nilore	54.97	286	P		P	08 07 23.6 +0.7
NIL				pmax		pmax	
	comp=Z,35nm,0.8s						
CHGR	Chuyangaron	55.37	293	P		P	08 07 25.4 -0.4
CHGR				pmax		pmax	
	comp=Z,45nm,0.9s						
DZET	Dzherino	55.53	294	P		P	08 07 26.6 -0.4
DZET				pmax		pmax	
	comp=Z,7.0nm,0.6s						
PSI	Prapat	55.84	238	LR		LR	08 36 14.7
	comp=Z,144nm,18.9s,baz=44,slow=41						
HOPEN	Hopen	55.87	346	*e*P		P	08 07 29.3 +0.6
KOTAN	Kotaneelee Air	55.89	37	P		P	08 07 30.5 +1.4
	baz=296						
TOAD	Toad River Com	55.90	39	P		P	08 07 30.6 +1.4
	baz=296						
SPA0	Spitsbergen Ar	56.21	349	*e*P		P	08 07 31.7 +0.6
SPITS	Spitsbergen Ar	56.21	349	P		P	08 07 30.9 -0.2
SPITS	Spitsbergen Ar	56.21	349	P		P	08 07 30.9 -0.2
	comp=Z,2.8nm,0.5s,baz=75,slow=9.6,SNR=14						
SPITS				LR		LR	08 35 17.0
	comp=Z,572nm,18.5s,baz=14,slow=40						
	comp=Z,2.8nm,0.5s						
SPITS	Spitsbergen Ar	56.21	349	P		P	08 07 30.9 -0.2
AB31	Akbulak array	56.35	309	*i*P		P	08 07 32.5 0.0
AB31				pmax		pmax	
	comp=Z,4.0nm,0.4s						
NOR	Nord	56.41	357	*i*P		P	08 07 31.1 -1.4
NOR				IAmb		IAmb	08 07 39.0
	comp=Z,12nm,1.5s						
AKTO	Aktyubinsk	56.92	310	P		P	08 07 36.3 -0.3
	comp=Z,3.0nm,0.5s,baz=73,slow=6.6,SNR=14						
	comp=Z,3.0nm,0.5s						
AKTO	Aktyubinsk	56.92	310	*i*P		P	08 07 36.0 -0.6
AKTO				pmax		pmax	
	comp=Z,5.0nm,0.9s						
KBL	Kabul	57.51	289	P		P	08 07 40.8 -0.4
KBL				pmax		pmax	
	comp=Z,19nm,0.8s						
RES	Resolute Bay	57.52	16	LR		LR	08 36 33.0
	comp=Z,360nm,18.0s,baz=344,slow=40						
RES	Resolute Bay	57.52	16	P		P	08 07 40.5 +0.1
RES				pmax		pmax	
	comp=Z,25nm,1.2s						
KIRV	Kirov	57.60	322	P		P	08 07 41.2 +0.1
KIRV	Kirov	57.60	322	P		P	08 07 41.2 +0.1
	comp=Z,16nm,0.6s,baz=52,slow=10,SNR=4.7						
KIRV				LR		LR	08 35 14.4
	comp=Z,321nm,19.8s,baz=1.9,slow=39						
	comp=Z,16nm,0.6s						
KIRV	Kirov	57.60	322	*d*iP		P	08 07 41.0 -0.2
LVZ	Lovozero	58.54	335	P		P	08 07 47.5 -0.2
	comp=Z,42nm,3.0s						
YKA	Yellowknife Ar	58.78	32	P		P	08 07 50.0 +0.6
	comp=Z,2.9nm,0.9s,baz=301,slow=7.0,SNR=30						
YKA				pP		sP	08 08 06.7 +1.5
	comp=Z,3.0nm,0.7s,baz=303,slow=6.4,SNR=9.4						
YKA				LR		LR	08 36 12.0
	comp=Z,140nm,18.3s,baz=305,slow=39						
	comp=Z,2.9nm,0.9s						
YKA	Yellowknife Ar	58.78	32	P		P	08 07 50.0 +0.6
YKA				*PP		sP	08 08 06.7 +1.5
VADS	Vadso	58.78	339	*e*P		P	08 07 49.5 +0.2
HAMF	Hammerfest	59.93	341	*e*P		P	08 07 58.1 +0.9
ARA0	ARCESS Array S	60.20	339	*e*P		P	08 07 59.0 -0.1
ARCES	ARCESS Array B	60.20	339	P		P	08 07 58.9 -0.2
	comp=Z,3.3nm,0.5s,baz=46,slow=7.3,SNR=25						
ARCES				pP		sP	08 08 15.7 +0.4
	comp=Z,2.2nm,0.6s,baz=41,slow=8.1,SNR=2.6						
ARCES				LR		LR	08 39 31.5
	comp=Z,545nm,18.1s,baz=42,slow=41						
	comp=Z,3.3nm,0.5s						
ARCES	ARCESS Array B	60.20	339	P		P	08 07 58.9 -0.2
ARCES				*PP		sP	08 08 15.7 +0.4
NEEM	North Greenlan	60.66	4	*i*P		P	08 08 01.6 -1.0
NEEM				IAmb		IAmb	08 08 04.6
	comp=Z,15nm,0.8s						
KLMR	Klimovskoe	60.74	327	*e*P		P	08 08 00.4 -2.5
KLMR				pmax		pmax	
	comp=Z,31nm,1.6s						
KTK1	Kautokeino	61.15	339	*e*P		P	08 08 05.5 -0.1
DAG	Danmarks Havn	61.18	355	*i*P		P	08 08 05.0 -0.6
DAG				IAmb		IAmb	08 08 05.9
	comp=Z,5.1nm,0.7s						
JETT	Jettan, Norway	61.50	340	*e*P		P	08 08 09.2 +1.3
BELG	Belogornoye	61.60	316	LR		LR	08 38 08.5
	comp=Z,675nm,18.4s,baz=135,slow=39						
BELG	Belogornoye	61.60	316	*d*iP		P	08 08 08.8 0.0
BELG				pmax		pmax	
	comp=Z,4.0nm,0.9s						
TRO	Tromso	61.81	341	*e*P		P	08 08 11.8 +1.8
WRA	Warramunga Arr	62.05	190	P		P	08 08 11.2 -1.0
	comp=Z,2.2nm,0.5s,baz=7.8,slow=6.8,SNR=34						
	comp=Z,2.2nm,0.5s						
WRA	Warramunga Arr	62.05	190	*i*P		P	08 08 11.6 -0.6
WRA				pmax		pmax	
	comp=Z,2.0nm,0.5s						
JOF	Joensuu	62.64	332	*e*P		P	08 08 15.2 -0.4
KULLO	Kullorsuaq	63.05	6	*i*P		P	08 08 13.2 -5.0
KULLO				IAmb		IAmb	08 08 18.5
	comp=Z,9.5nm,0.8s						
DBG	Daneborg	63.68	355	*i*P		P	08 08 19.9 -2.4
DBG				IAmb		IAmb	08 08 27.2
	comp=Z,33nm,1.9s						
STEI	Steigen	63.98	341	*e*P		P	08 08 25.6 +1.2
FAUS	Fauske	64.38	340	*e*P		P	08 08 27.3 +0.2
MOS	Moscow	64.54	323	*e*P		P	08 08 27.7 -0.6
MOS				*e*			08 08 59.3
MOS				MLR		MLR	
	comp=Z,600nm,18.0s						
UPNV	Upernavik	64.87	6	*i*P		P	08 08 32.0 +1.8
UPNV				IAmb		IAmb	08 08 33.4
	comp=Z,6.4nm,0.7s						
PALK	Pallekele	65.22	257	LR		LR	08 38 31.5
	comp=Z,190nm,20.5s,baz=39,slow=37						
VRH	Novokhopyorsk	65.30	317	*e*P		P	08 08 31.1 -2.2
VRH				pmax		pmax	
	comp=Z,12nm,0.4s						
KEF	Keuruu	65.37	333	*e*P		P	08 08 32.8 -0.9
OBN	Obninsk	65.40	323	*de*P		P	08 08 33.6 -0.2
OBN				*e**PP		pP	08 08 43.3 -2.2
OBN				*e**SP		sP	08 08 49.3 -0.9
OBN				*e*			08 08 59.9
OBN				*e*			08 10 55.1
OBN				*e*S		S	08 17 15.5 +0.6
OBN				*e*SS		SS	08 21 29.5 +1.8
OBN				pmax		pmax	
	comp=Z,46nm,1.5s						
OBN				MLR		MLR	
	comp=Z,523nm,18.0s						
FINES	FINESS Array B	65.46	332	P		P	08 08 34.2 0.0
	comp=Z,26nm,0.5s,baz=46,slow=7.7,SNR=112						
FINES				pP		sP	08 08 50.5 +0.1
	comp=Z,25nm,0.6s,baz=45,slow=7.3,SNR=9.2						
FINES				LR		LR	08 38 58.5
	comp=Z,559nm,19.5s,baz=41,slow=38						
	comp=Z,26nm,0.5s						
FINES	FINESS Array B	65.46	332	P		P	08 08 34.2 0.0
FINES				*PP		sP	08 08 50.5 +0.1
NEW	Newport	65.47	46	LR		LR	08 36 57.5
	comp=Z,65nm,20.3s,baz=320,slow=36						
VAF	Ylistaro	65.48	335	*e*P		P	08 08 34.3 0.0
MOR8	Moi Rana	65.53	340	*e*P		P	08 08 32.9 -1.7
STOK	Stokkvaagen	65.77	340	*e*P		P	08 08 36.8 +0.8
ASAR	Alice Springs	65.78	190	P		P	08 08 36.5 -0.2
	comp=Z,1.2nm,0.5s,baz=9.2,slow=7.9,SNR=20						
	comp=Z,1.2nm,0.5s						
ASAR	Alice Springs	65.78	190	P		P	08 08 36.5 -0.2
LPSR	Galich'ya Gora	65.84	320	*e*P		P	08 08 34.9 -1.9
LPSR				pmax		pmax	
	comp=Z,10.0nm,0.8s						
SUMG	Summit	65.91	1	*i*P		P	08 08 37.0 -0.4
SUMG				IAmb		IAmb	08 08 39.0
	comp=Z,16nm,0.6s						
LEIR	Leirfjorden	65.92	340	*e*P		P	08 08 38.2 +1.2
YBH	Yreka Blue Hor	66.03	55	LR		LR	08 32 35.7
	comp=Z,48nm,20.3s,baz=323,slow=31						
VORR	Voronezh	66.27	319	*e*P		P	08 08 31.7 -7.9
VORR				pmax		pmax	
	comp=Z,29nm,0.3s						
VSR	Storozhevoye	66.57	318	*e*P		P	08 08 40.1 -1.4
VSR				pmax		pmax	
	comp=Z,9.0nm,0.8s						
DZM	Mont Dzumac	66.93	157	LR		LR	08 33 29.9
	comp=Z,150nm,21.6s,baz=19,slow=32						
MSVF	Nonsavu	67.18	144	LR		LR	08 34 25.6
	comp=Z,149nm,19.2s,baz=328,slow=32						
RAF	Rauma	67.23	333	*e*P		P	08 08 45.5 -0.1
AKT	Akhty	67.74	306	*e*P		P	08 08 50.0 +0.8
MTSE	Matsula	68.19	331	*e*P		P	08 08 51.8 +0.3
GOF	Gofitskoye	68.31	311	*ce*P		P	08 08 53.4 +0.8
KIV	Kislovodsk	69.19	311	*e*P		P	08 08 59.8 +1.6
KIV				pmax		pmax	
	comp=Z,23nm,0.9s						
KBZ	Khabaz	69.21	310	P		P	08 08 59.2 +1.0
KBZ	Khabaz	69.21	310	P		P	08 08 59.2 +1.0
	comp=Z,10nm,0.8s,baz=61,slow=3.8,SNR=20						
KBZ				pP		sP	08 09 15.2 +0.6
	comp=Z,12nm,0.8s,baz=90,slow=2.1,SNR=7.9						
KBZ				LR		LR	08 44 45.9
	comp=Z,339nm,18.4s,baz=37,slow=41						
	comp=Z,10nm,0.8s						
KBZ	Khabaz	69.21	310	*d*iP		P	08 08 58.7 +0.5
KBZ				pmax		pmax	
	comp=Z,12nm,0.7s						
ERBR	Yeremizino-Bor	69.31	313	*e*P		P	08 08 57.8 -1.0
ERBR				*e**PP		pP	08 09 06.8 -3.9
ERBR				*e*S		S	08 18 02.9 +0.5
ERBR				pmax		pmax	
	comp=Z,26nm,0.6s						
SHA1	Shidzhatmaz	69.34	311	*de*P		P	08 09 00.1 +0.8
ICESG	Greenland Ices	69.40	1	*i*P		P	08 08 59.5 +0.1
ICESG				IAmb		IAmb	08 09 00.7
	comp=Z,17nm,0.7s						
MNK	Minsk	69.58	326	*i*P		P	08 08 59.8 -0.5
MNK				*i*			08 11 33.4
MNK				*i*PPP		PPP	08 13 15.5
MNK				*i*S		S	08 18 06.5 +1.3
MNK				*i*SS		SS	08 22 36.9 +4.4
MNK				pmax		pmax	
	comp=E,13nm,0.7s						
MNK				pmax		pmax	
	comp=N,15nm,0.7s						
MNK				pmax		pmax	
	comp=Z,11nm,0.7s						
MNK				MLR		MLR	
	comp=N,381nm,20.0s						
MNK				MLR		MLR	
	comp=Z,429nm,21.0s						
MNK				MLR		MLR	
	comp=E,240nm,21.0s						
LABN	Labinsk	69.86	312	*e*P		P	08 09 00.4 -1.8
LABN				*e**PP		pP	08 09 10.7 -3.4
LABN				*e*S		S	08 18 08.3 -0.5
LABN				pmax		pmax	
	comp=Z,14nm,0.2s						
PLTM	Poltava	69.88	319	P		P	08 09 03.7 +1.5
DOMB	Dombas	70.26	339	*e*P		P	08 09 04.9 +0.5
GNI	Garni	70.34	307	⇓*e*P		P	08 09 06.6 +1.1
GNI				pmax		pmax	
	comp=Z,9.0nm,0.8s						
PABE	Paberze	70.45	328	*e*P		P	08 09 06.2 +0.6
NB2	NORSAR Subarra	70.49	338	P		P	08 09 06.0 +0.1
	comp=Z,2.8nm,0.6s,baz=35,slow=6.2						
NB2	NORSAR Subarra	70.49	338	P		P	08 09 06.0 +0.1
	baz=35,slow=6.2						
NOA	NORSAR Array B	70.49	338	P		P	08 09 06.0 +0.1
	comp=Z,3.8nm,0.6s,baz=38,slow=6.2,SNR=18						
NOA				pP		sP	08 09 21.5 -0.7
	comp=Z,6.4nm,0.7s,baz=36,slow=6.1,SNR=9.0						
NOA				LR		LR	08 45 30.3
	comp=Z,291nm,18.3s,baz=35,slow=40						
	comp=Z,3.8nm,0.6s						
NOA	NORSAR Array B	70.49	338	P		P	08 09 06.0 +0.1
NOA				*PP		sP	08 09 21.5 -0.7
HFS	Hagfors	70.49	336	P		P	08 09 05.9 +0.1
HFS	Hagfors	70.49	336	P		P	08 09 05.9 +0.1
	comp=Z,7.7nm,0.6s,baz=54,slow=7.5,SNR=44						
HFS				pP		sP	08 09 22.1 -0.1
	comp=Z,11nm,0.5s,baz=55,slow=6.0,SNR=8.6						
HFS				LR		LR	08 43 28.8
	comp=Z,356nm,18.1s,baz=4.5,slow=39						
	comp=Z,7.7nm,0.6s						
HFS	Hagfors	70.49	336	P		P	08 09 05.9 +0.1
NC602	NORSAR Array S	70.65	337	*e*P		P	08 09 08.4 +1.7
NVAR	Mina Array Bea	70.71	56	P		P	08 09 09.6 +1.8
	comp=Z,6.8nm,0.7s,baz=294,slow=6.0,SNR=48						
NVAR				pP		sP	08 09 25.6 +1.7
	comp=Z,16nm,0.9s,baz=290,slow=6.6,SNR=17						
	comp=Z,6.8nm,0.7s						
SFJD	Kangerlussuaq	70.97	6	LR		LR	08 41 56.5
	comp=Z,204nm,18.7s,baz=359,slow=37						
SOC	Sochi	71.09	312	*e*P		P	08 09 07.5 -2.2
SOC				*e*			08 11 45.5
SOC				*e*PPP		PPP	08 13 28.7
SOC				*e*S		S	08 18 21.3 -1.9
ELK	Elko	71.11	52	P		P	08 09 11.8 +1.6
WSAR	Wadi Sarin	71.43	285	LR		LR	08 46 51.9
	comp=Z,154nm,18.2s,baz=53,slow=41						
ANN	Anapa	71.55	314	*e*P		P	08 09 10.0 -2.5
ANN				*e**PP		pP	08 09 20.2 -4.2
ANN				*e*			08 09 26.8
ANN				*e*S		S	08 18 26.2 -2.3
ANN				*e*SS		SS	08 23 06.3 +3.1
ANN				pmax		pmax	
	comp=Z,35nm,0.8s						
AK03	Malin Array Si	71.63	322	P		P	08 09 12.6 -0.3
AKASG	Malin Array Be	71.65	322	P		P	08 09 12.8 -0.2
	comp=Z,9.4nm,0.6s,baz=44,slow=5.9,SNR=51						
AKASG				pP		sP	08 09 29.5 +0.2
	comp=Z,12nm,0.7s,baz=44,slow=6.1,SNR=11						
	comp=Z,9.4nm,0.6s						
AKASG	Malin Array Be	71.65	322	P		P	08 09 12.8 -0.2
AKASG				*PP		sP	08 09 29.5 +0.2
AKBB	Malin Array Si	71.65	322	*d*iP		P	08 09 12.5 -0.5
AK04	Malin Array Si	71.66	323	P		P	08 09 12.8 -0.2
AK01	Malin Array Si	71.66	322	P		P	08 09 12.7 -0.3
KIEV	Kiev	71.66	322	⇑P		P	08 09 13.1 +0.1
KIEV	Kiev	71.66	322	P		P	08 09 13.1 +0.1
KIEV	Kiev	71.66	322	P		P	08 09 12.8 -0.2
	comp=Z,134nm,0.9s						
AK22	Malin Array Si	71.68	323	P		P	08 09 12.8 -0.3
AK21	Malin Array Si	71.68	323	P		P	08 09 12.8 -0.3
AK09	Malin Array Si	71.68	322	P		P	08 09 12.9 -0.3
AK08	Malin Array Si	71.68	322	P		P	08 09 12.7 -0.5
AK11	Malin Array Si	71.69	322	P		P	08 09 12.8 -0.4
FRB	Frobisher Bay	71.71	15	LR		LR	08 45 56.5
	comp=Z,213nm,18.1s,baz=22,slow=40						
AK10	Malin Array Si	71.71	322	P		P	08 09 13.1 -0.2
AK05	Malin Array Si	71.72	322	P		P	08 09 12.9 -0.5
AK20	Malin Array Si	71.72	323	P		P	08 09 13.1 -0.3
AK12	Malin Array Si	71.72	322	P		P	08 09 13.2 -0.2
UOSS	Minazif	72.12	288	P		P	08 09 16.6 +0.3
MI28	Mi28,Pidlybu	72.19	323	P		P	08 09 15.5 -0.7
	comp=Z,178nm,0.9s						
R11B	Troy Canyon, C	72.42	54	P		P	08 09 19.2 +1.1
	baz=310						
RNPP9	Sopachiv	72.63	325	P		P	08 09 18.6 -0.2
RNPP8	Varash	72.70	325	P		P	08 09 18.8 -0.4
RNPP5	Staryi Chortor	72.76	324	P		P	08 09 19.6 0.0
LUBAR	Lubar, Ukraine	72.87	323	P		P	08 09 20.1 -0.2
DUG	Dugway, Tooele	72.89	51	P		P	08 09 22.7 +1.9
DUG				pmax		pmax	
	comp=Z,15nm,1.9s						
PDAR	Pinedale Array	73.05	48	P		P	08 09 22.9 +1.1
	comp=Z,5.2nm,0.6s,baz=264,slow=1.9,SNR=83						
PDAR				pP		PcP	08 09 39.2 +0.8
	comp=Z,6.2nm,0.6s,baz=232,slow=1.5,SNR=12						
	comp=Z,5.2nm,0.6s						
STKA	Stephens Creek	73.34	182	P		P	08 09 23.2 +0.1
	comp=Z,2.6nm,1.1s,baz=354,slow=5.7,SNR=2.9						
STKA				LR		LR	08 43 16.4
	comp=Z,91nm,20.3s,baz=24,slow=37						
	comp=Z,2.6nm,1.1s						
STKA	Stephens Creek	73.34	182	P		P	08 09 23.2 +0.1
BAL3X	Bal3x, Balta	73.41	320	P		P	08 09 24.2 +0.7
SORM	Soroca	73.86	321	⇑P		P	08 09 26.1 -0.1
SORM	Soroca	73.86	321	P		P	08 09 26.0 -0.1
SORM	Soroca	73.86	321	P		P	08 09 25.8 -0.3
	comp=Z,2μmcomp=Z,24nm,1.1s						
NDNU	Novodnistrovsk	73.99	322	P		P	08 09 27.0 +0.1
KMPD	K-Podol'skiy	74.43	322	P		P	08 09 29.0 -0.5
	comp=Z,8μm,1.0s						
ULM	Lac du Bonnet	74.53	35	P		P	08 09 30.1 +0.2
	comp=Z,1.9nm,0.5s,baz=326,slow=5.0,SNR=6.2						
ULM				LR		LR	08 45 19.2
	comp=Z,152nm,18.8s,baz=350,slow=38						
	comp=Z,1.9nm,0.5s						
ULM	Lac du Bonnet	74.53	35	P		P	08 09 30.2 +0.2
GKP	Gorka Klasztor	74.72	330	*e*P		P	08 09 23.3 -7.7
PFO	Pinyon Flats O	74.91	58	LR		LR	08 36 18.6
	comp=Z,84nm,21.1s,baz=289,slow=31						
MORS	Morshin	75.17	324	P		P	08 09 34.7 +1.0
MORS	Morshin	75.17	324	P		P	08 09 34.7 +1.0
STNU	Starunia	75.21	323	P		P	08 09 34.2 +0.2
KSV	Kosov	75.25	323	P		P	08 09 34.7 +0.5
BURAR	Bucovina Array	75.70	322	⇑P		P	08 09 37.7 +0.7
BURAR	Bucovina Array	75.70	322	P		P	08 09 37.6 +0.7
TESR	Tescani	75.84	321	⇑P		P	08 09 38.3 +0.7
TESR	Tescani	75.84	321	P		P	08 09 37.8 +0.2
	comp=Z,20nm,0.9s						
CFR	Carcaliu	76.08	319	⇑P		P	08 09 39.6 +0.6
CFR	Carcaliu	76.08	319	P		P	08 09 39.6 +0.6
ONER	Baraj Valea Uz	76.09	321	⇑P		P	08 09 39.6 +0.6
OJC	Ojcow	76.09	327	*e*P		P	08 09 38.7 -0.3
OJC	Ojcow	76.09	327	P		P	08 09 39.8 +0.8
OJC				pmax		pmax	
	comp=Z,20nm,0.9s						
OJC	Ojcow	76.09	327	P		P	08 09 39.4 +0.4
STHS	Stebnicka Huta	76.10	325	*e*PP		PP	08 12 31.0 +1.4
TPGR	Topolog	76.17	319	⇓P		P	08 09 40.2 +

CLL Collm 77.86 331 ⇓ *i* P **P 08 09 49.1 +0.2**
CLL pmax pmax
comp=Z,13nm,0.8s
CLL MLR MLR
comp=Z,500nm,21.1s
CLL Collm 77.86 331 ⇓ *i* P **P 08 09 49.1 +0.2**
comp=Z,13nm,0.8s
CLL *i* pP **PcP 08 09 54.9 -3.8**
CLL *i* pPcP 08 10 05.9
comp=Z,13nm,0.7s
CLL AMS AMS 08 47 00.0
comp=Z,500nm,21.1s
S22A 4UR Ranch, Cre 77.98 50 P **P 08 09 51.8 +1.6**
baz=314
JAVC Velka Javorina 78.02 327 *e*P **P 08 09 51.7 +1.8**
Q24A Divide 78.08 48 P **P 08 09 51.5 +0.7**
baz=315
VRAC Vranov 78.10 328 LR LR 08 48 23.3
comp=Z,390nm,20.1s,baz=4.5,slow=39
VRAC Vranov 78.10 328 *e*P **P 08 09 51.2 +0.9**
HSKC Hora Svate Kat 78.27 330 *e*P **P 08 09 51.9 +0.7**
GOPC GO Pecny, Ondr 78.32 329 *e*P **P 08 09 52.5 +1.0**
GOPC *ex* x 08 10 08.9
GOPC GO Pecny, Ondr 78.32 329 *e*P **P 08 09 52.5 +1.0**
GOPC *e* 08 10 08.9
PRU Pruhonice 78.35 329 *e*P **P 08 09 52.8 +1.1**
PRU *ex* x 08 10 09.2
PRU Pruhonice 78.35 329 *e*P **P 08 09 52.8 +1.1**
PRU *e* 08 10 09.2
KRUC Moravsky 78.37 328 *e*P **P 08 09 52.7 +0.9**
KRUC *e* 08 10 09.3
GZR Gura Zlata 78.48 322 ⇑P **P 08 09 53.3 +0.8**
GZR Gura Zlata 78.48 322 P **P 08 09 53.3 +0.8**
SURR Surduc 78.50 323 ⇑P **P 08 09 53.4 +0.9**
ZVC Zvikov 78.93 329 *e*P **P 08 09 56.0 +1.1**
EKA Eskdalemuir Ar 79.23 342 P **P 08 09 56.9 +0.6**
EKA Eskdalemuir Ar 79.23 342 P **P 08 09 56.9 +0.6**
comp=Z,5.3nm,0.6s,baz=25,slow=5.1,SNR=24
EKA pP **sP 08 10 13.3 +0.4**
comp=Z,5.0nm,0.6s,baz=26,slow=5.1,SNR=4.9
comp=Z,5.3nm,0.6s
EKA Eskdalemuir Ar 79.23 342 P **P 08 09 56.9 +0.6**
EKA *PP **sP 08 10 13.3 +0.4**
TUC Tucson 79.34 56 P **P 08 09 59.3 +1.8**
TUC pmax pmax
comp=Z,7.0nm,1.5s
CKRC Cesky Krumlov 79.39 329 *e*P **P 08 09 58.4 +1.0**
CKRC Cesky Krumlov 79.39 329 *e*P **P 08 09 58.4 +1.0**
KHC Kasperske Hory 79.42 329 *e*P **P 08 09 58.6 +1.0**
KHC *ex* x 08 10 14.8
KHC Kasperske Hory 79.42 329 *d i*P **P 08 09 58.4 +0.8**
KHC pmax pmax
comp=Z,18nm,0.6s
MDVR Moldovita 79.43 322 ⇓P **P 08 09 58.2 +0.5**
CONA Conrad Observa 79.49 327 *i* P **P 08 09 59.0 +1.0**
comp=Z,3.3nm,0.7s
RONA Rosalia, Austr 79.50 327 *i* P **P 08 09 59.3 +1.3**
comp=Z,4.0nm,0.6s
GERES GERESS Array B 79.60 329 P **P 08 09 59.2 +0.5**
comp=Z,2.1nm,0.6s,baz=34,slow=5.3,SNR=8.4
GERES pP **sP 08 10 15.3 +0.2**
comp=Z,2.0nm,0.6s,baz=24,slow=5.0,SNR=4.9
comp=Z,2.1nm,0.6s
GERES GERESS Array B 79.60 329 P **P 08 09 59.2 +0.5**
GERES *PP **sP 08 10 15.3 +0.2**
T25A Trinidad 79.78 49 P **P 08 10 01.5 +1.5**
baz=315
GRF Grafenberg Arr 79.83 331 *e*P **P 08 10 00.6 +0.8**
comp=Z,8.1nm,0.8s,baz=34,slow=4.8
GRF *e*pP **sP 08 10 16.9 +0.6**
ANMO Albuquerque 80.15 52 LR LR 08 43 03.8
comp=Z,42nm,21.7s,baz=146,slow=34
ANMO Albuquerque 80.15 52 *de*P **P 08 10 03.9 +1.9**
ANMO pmax pmax
comp=Z,10.0nm,1.6s
ARSA Arzberg 80.17 327 *e*P **P 08 10 02.5 +0.8**
comp=Z,1.6nm,0.5s
SCHQ Schefferville 80.25 17 P **P 08 10 02.6 +0.7**
comp=Z,4.3nm,0.6s,baz=3.4,slow=5.4,SNR=19
SCHQ LR LR 08 50 29.9
comp=Z,157nm,18.5s,baz=311,slow=39
comp=Z,4.3nm,0.6s
RAYN Ar Rayn 80.53 293 P **P 08 10 04.5 +0.5**
BIOA Bad Ischl, Aus 80.57 328 *i* P **P 08 10 04.2 +0.4**
comp=Z,3.5nm,0.7s
MMAI Mount Meron Ar 80.68 306 P **P 08 10 06.0 +1.3**
comp=Z,5.6nm,0.6s,baz=48,slow=6.8,SNR=10
MMAI pP **sP 08 10 22.3 +1.0**
comp=Z,5.6nm,0.6s,baz=40,slow=7.0,SNR=4.2
comp=Z,5.6nm,0.6s
SOKA Soboth 80.83 327 *i* P **P 08 10 06.1 +0.8**
comp=Z,7.5nm,0.6s,SNR=5.4
121A Cookes Peak, D 81.03 54 P **P 08 10 08.6 +1.8**
baz=314
LESA Schwarzleotal 81.16 329 *i* P **P 08 10 07.1 0.0**
comp=Z,3.6nm,0.6s
OBKA Obir 81.17 327 *e*P **P 08 10 07.6 +0.5**
comp=Z,8.8nm,0.8s,SNR=7.1
KBA Koelnbreinsper 81.18 328 *i* P **P 08 10 08.4 +1.1**
comp=Z,5.4nm,0.7s
MYKA Terra Mystica 81.43 328 *i* P **P 08 10 08.7 +0.2**
comp=Z,2.6nm,0.5s
WATA Walderalm 81.66 329 *e*P **P 08 10 10.3 +0.6**
comp=Z,6.2nm,0.8s
WTTA Wattenberg 81.69 329 *i* P **P 08 10 10.5 +0.5**
comp=Z,5.4nm,1.0s
ABTA Abfaltersbach 81.78 329 *i* P **P 08 10 12.2 +1.9**
comp=Z,4.1nm,0.9s
MOTA Moosalm 81.83 330 *i* P **P 08 10 11.1 +0.4**
comp=Z,7.3nm,0.7s
RETA Reutte 81.84 330 *i* P **P 08 10 10.7 +0.1**
comp=Z,4.7nm,0.7s
SQTA Sankt Quirin 81.89 330 *i* P **P 08 10 11.2 +0.3**
comp=Z,4.3nm,0.6s
FETA Feichten 82.24 330 *i* P **P 08 10 13.6 +0.8**
comp=Z,4.9nm,0.8s
CDF Champ du Feu 82.31 332 *e*P **P 08 10 12.9 -0.2**
CDF pmax pmax
comp=Z,7.0nm,1.0s
DAVA Damuels 82.33 330 *i* P **P 08 10 14.0 +0.7**
comp=Z,8.0nm,0.7s
PDG Podgorica 82.38 322 ⇑P **P 08 10 14.0 +0.6**
DAVOX Davos/Dischmat 82.76 330 LR LR 08 50 41.3
comp=Z,558nm,18.6s,baz=16,slow=38
EIL Elat 83.29 304 LR LR 08 54 08.9
comp=Z,155nm,18.1s,baz=64,slow=40
SSF Saint Saulge 84.75 334 *e*P **P 08 10 25.3 -0.2**
SSF pmax pmax
comp=Z,14nm,1.1s
SMF Signal de Mont 85.01 334 *e*P **P 08 10 26.7 -0.1**
SMF pmax pmax
comp=Z,18nm,1.2s
PPT Papeete 85.20 119 LR LR 08 49 18.1
comp=Z,194nm,18.4s,baz=306,slow=36
LPIG La Paz 85.27 62 LR LR 08 41 19.9
comp=Z,36nm,19.9s,baz=355,slow=30
URZ Urewera 85.28 154 LR LR 08 44 57.9
comp=Z,110nm,18.4s,baz=52,slow=33
SADO Sadowa 85.63 29 LR LR 08 51 33.2
comp=Z,154nm,19.4s,baz=50,slow=38
TXAR Lajitas Array 85.79 54 P **P 08 10 32.5 +1.3**
comp=Z,6.7nm,0.5s,baz=300,slow=3.4,SNR=96
TXAR pP **sP 08 10 49.3 +1.9**
comp=Z,12nm,0.7s,baz=295,slow=3.7,SNR=14
comp=Z,6.7nm,0.5s
TXAR Lajitas Array 85.79 54 P **P 08 10 32.5 +1.3**
TXAR *PP **sP 08 10 49.3 +1.9**
MFF Saint Martin d 86.31 336 *e*P **P 08 10 33.7 +0.4**
MFF pmax pmax
comp=Z,25nm,1.2s
O48B Farmland 87.04 35 P **P 08 10 37.2 +0.3**
baz=326
CAF Calviac 87.11 334 *e*P **P 08 10 38.2 +0.9**
CAF pmax pmax
comp=Z,14nm,0.8s
435B Jarrell 88.28 49 P **P 08 10 43.7 +0.6**
baz=319
H06S1 SOCORRO T 88.53 66 T T 09 49 45.9
SNR=4.3
L61B Northampton 89.91 26 P **P 08 10 50.3 -0.2**
baz=334
ESDC Sonseca Array 93.77 336 P **P 08 11 09.8 +1.3**
comp=Z,0.4nm,0.6s,baz=11,slow=4.8,SNR=2.3
ESDC LR LR 08 59 07.2
comp=Z,254nm,18.6s,baz=12,slow=39
comp=Z,0.4nm,0.6s

TORD Torodi Ar. Bea 115.12 319 PKP **PKiKP 08 16 32.7 -0.4**
comp=Z,0.3nm,0.4s,baz=38,slow=4.6,SNR=1.8
TORD PP **PP 08 17 29.8 -2.5**
comp=Z,1.2nm,0.8s,baz=23,slow=12,SNR=7.1
DBIC Dimbokro 123.89 321 PKP **PKPdf 08 16 49.9 0.0**
comp=Z,2.1nm,0.6s,baz=37,slow=5.1,SNR=2.1
DBIC Dimbokro 123.89 321 PKIKP **PKPdf 08 16 49.9 0.0**
BOSA Boshof 129.08 264 PKP **PKPdf 08 16 59.3 -0.2**
comp=Z,1.7nm,0.8s,baz=140,slow=4.2,SNR=1.5
BOSA Boshof 129.08 264 PKIKP **PKPdf 08 16 59.3 -0.2**
QSPA South Pole Qui 131.54 180 PKP **PKPdf 08 17 02.8 -0.1**
comp=Z,1.7nm,0.5s,baz=288,slow=1.0,SNR=22
QSPA pPKP **sPKPdf 08 17 19.7 0.0**
comp=Z,2.2nm,0.5s,baz=53,slow=3.4,SNR=6.5
LPAZ La Paz 142.61 57 PKP **PKPdf 08 17 25.8 +0.3**
comp=Z,0.8nm,0.5s,baz=304,slow=3.6,SNR=3.8
LPAZ La Paz 142.61 57 PKIKP **PKPdf 08 17 25.8 +0.3**
TROLL Troll, Antarti 144.34 199 P **PKPab 08 17 24.6 +0.1**
TROLL Troll, Antarti 144.34 199 ⇑P **PKPab 08 17 24.6 +0.1**
comp=Z,323nm,0.6s
H03N2 Juan Fernandez 145.44 90 T T 11 00 50.2
baz=301,slow=77,SNR=101
H03N3 Juan Fernandez 145.45 90 T T 11 00 51.2
baz=301,slow=77,SNR=119
H03N1 Juan Fernandez 145.45 90 T T 11 00 51.3
baz=301,slow=77,SNR=123
SNAA Sanae 145.85 198 P **PKPdf 08 17 29.1 +0.2**
SNAA Sanae 145.85 198 ⇑P **PKPdf 08 17 29.1 +0.2**
comp=Z,129nm,0.6s
SNAA Sanae 145.85 198 PKPbc **PKPdf 08 17 29.1 +0.2**
comp=Z,3.4nm,0.5s,baz=205,slow=7.4,SNR=21
SNAA pPKP **sPKPdf 08 17 45.0 -0.6**
comp=Z,16nm,0.9s,baz=84,slow=1.5,SNR=9.5
SNAA Sanae 145.85 198 PKP2 **PKPdf 08 17 29.1 +0.2**
VNA2 Neumayer--Watz 147.41 197 P **PKPdf 08 17 32.8 +1.4**
baz=144,slow=2.8
VNA2 Neumayer--Watz 147.41 197 ⇑P **PKPdf 08 17 32.8 +1.4**
comp=Z,22nm,0.6s,baz=144,slow=2.8
VNA3 Neumayer Olymp 147.65 196 P **PKPbc 08 17 34.5 -0.1**
VNA3 Neumayer Olymp 147.65 196 ⇑P **PKPbc 08 17 34.5 -0.1**
comp=Z,9.4nm,0.7s
BDFB Brasilia 152.01 25 PKPbc **PKiKP 08 17 47.9 +0.5**
comp=Z,1.3nm,0.4s,baz=104,slow=10,SNR=4.1
BDFB PKPab **PKPab 08 17 56.7 +0.3**
comp=Z,3.6nm,0.6s,baz=302,slow=2.8,SNR=5.6
BDFB Brasilia 152.01 25 PKIKP **PKiKP 08 17 47.9 +0.5**
BDFB 08 17 56.7
PLCA Paso Flores 154.26 99 PKPbc **PKiKP 08 17 51.7 +0.4**
comp=Z,1.9nm,0.7s,baz=272,slow=2.7,SNR=13
PLCA PKPab **PKPab 08 18 05.8 +0.4**
comp=Z,1.9nm,0.8s,baz=270,slow=4.3,SNR=4.2
PLCA Paso Flores 154.26 99 PKIKP **PKiKP 08 17 51.7 +0.4**
PLCA 08 18 05.8
CPUP Villa Florida 156.76 55 PKPab **PKPab 08 18 16.3 0.0**
comp=Z,0.8nm,0.7s,baz=307,slow=5.1,SNR=3.5
CPUP Villa Florida 156.76 55 PKP2 **PKPab 08 18 16.3 0.0**

*NOU **07** 08:10:31.4, 14°.53S×167°.16E, h0km, MLv4.8/9, Vanuatu Islands*
*NEIC **07** 08:10:33.0±2.3, 14°.4S±0°.1×167°.4E±0°.2, h204km±5km, mb4.2/20, Error ellipse: s-maj=27.0km s-min=15.8km az=99.0*
*IDC **07** 08:10:32.8±4.2, 14°.49S×167°.37E, h201km±39km, mb3.7/10, mbtmp4.1/11, Error ellipse: s-maj=31.3km s-min=23.9km az=159.0*
ISC 07 08:10:29.4±0.6, 14°.31S±0°.07×167°.4E±0°.1, h170km, n50, σ1§46/49, mb4.1/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.49**	**167**	P	**Pn**	**08 11 24.5**	**+0.8**
LUES	**Luesalemba Tem**	**3.89**	**339**	P	**Pn**	**08 11 32.9**	**+4.2**
YATNC	**Mamie plateau,**	**7.72**	**183**	P	**Pn**	**08 12 20.2**	**+1.2**
DZM	**Mont Dzumac**	**7.77**	**186**		**Pn**	**08 12 21.0**	**+1.2**
DZM	**Mont Dzumac**	**7.77**	**186**	P	**Pn**	**08 12 20.8**	**+1.0**
DZM	16nm,0.9s,baz=11,slow=16,SNR=39			S	**Sn**	**08 13 48.2**	**+1.2**
	4.1nm,0.5s,baz=344,slow=22,SNR=1.3						
DZM	**Mont Dzumac**	**7.77**	**186**	P	**Pn**	**08 12 21.7**	**+1.9**
ONTNC	**Ouen Toro**	**8.00**	**186**	Pn	**Pn**	**08 12 25.6**	**+2.9**
ONTNC	**Ouen Toro**	**8.00**	**186**	P	**Pn**	**08 12 26.3**	**+3.6**
ALEG	**Aligegeo Malai**	**8.54**	**310**	P	Pn	08 12 36.2	+6.2
TATA	**Tatimba Isabel**	**9.45**	**308**	P	Pn	08 12 50.7	+8.7
EIDS	**Eidsvold**	**18.83**	**232**	P	**Pn**	**08 14 37.3**	**-1.5**
BKZ	**Black Stump Fm**	**26.04**	**164**	P	**P**	**08 15 45.2**	**-1.6**
STKA	**Stephens Creek**	**29.33**	**229**	P	**P**	**08 16 16.5**	**+0.3**
STKA	**Stephens Creek**	**29.33**	**229**	P	**P**	**08 16 16.7**	**+0.5**
	0.9nm,0.4s,baz=48,slow=10,SNR=6.5						
	0.9nm,0.4s						
WB0	**Warramunga Arr**	**31.95**	**256**	P	**P**	**08 16 38.1**	**-1.3**
WB0				IAmb	IAmb	08 17 06.2	
	comp=Z,9.2nm,1.2s						
WRA	**Warramunga Arr**	**32.01**	**255**	P	**P**	**08 16 38.6**	**-1.3**
WRA	**Warramunga Arr**	**32.01**	**255**	P	**P**	**08 16 39.1**	**-0.8**
	comp=Z,2.0nm,1.1s,baz=84,slow=8.7,SNR=5.5						
	comp=Z,2.0nm,1.1s						
AS31	**Alice Springs**	**32.90**	**249**	P	**P**	**08 16 45.5**	**-2.2**
ASAR	**Alice Springs**	**32.90**	**248**	P	**P**	**08 16 46.3**	**-1.4**
ASAR	**Alice Springs**	**32.90**	**248**	P	**P**	**08 16 46.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=70,slow=9.6,SNR=25						
	comp=Z,0.5nm,0.3s						
BBOO	**Buckleboo**	**33.90**	**232**	P	**P**	**08 16 56.2**	**0.0**
BBOO				IAmb	IAmb	08 17 09.3	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**37.27**	**263**	P	**P**	**08 17 24.2**	**-0.9**
CASY	**Casey**	**63.95**	**202**	P	**P**	**08 20 43.8**	**-0.2**
PETK	**Petropavlovsk-**	**67.65**	**354**	P	**P**	**08 21 04.6**	**-3.1**
CMAR	**Chiang Mai Arr**	**74.85**	**294**	P	**P**	**08 21 53.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=122,slow=5.6,SNR=4.3						
	comp=Z,1.0nm,0.3s						
QSPA	**South Pole Qui**	**75.72**	**180**	P	**P**	**08 21 54.9**	**-1.1**
QSPA				IAmb	IAmb	08 21 57.0	
	comp=Z,6.1nm,1.3s						
QSPA	**South Pole Qui**	**75.72**	**180**	P	**P**	**08 21 54.3**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=347,slow=3.1,SNR=2.6						
	comp=Z,1.1nm,0.8s						
O22K	**Cooper Landing**	**82.06**	**20**	P	**P**	**08 22 31.4**	**+1.2**
SONM	**Songino Array**	**82.21**	**324**	P	**P**	**08 22 33.0**	**+1.5**
SONM	**Songino Array**	**82.21**	**324**	P	**P**	**08 22 33.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=142,slow=5.4,SNR=4.7						
	comp=Z,0.5nm,0.6s						
SUA	**Susitna One**	**82.47**	**19**	P	**P**	**08 22 33.1**	**+0.6**
SUA				IAmb	IAmb	08 22 49.8	
	comp=Z,7.3nm,1.3s						
CAST	**Castle Rocks**	**83.57**	**17**	P	**P**	**08 22 38.1**	**0.0**
CAST				IAmb	IAmb	08 22 38.8	
	comp=Z,3.4nm,0.8s						
TRF	**Thorofare Moun**	**84.11**	**18**	P	**P**	**08 22 40.1**	**-0.8**
TRF				IAmb	IAmb	08 23 06.9	
	comp=Z,4.5nm,1.3s						
N25K	**Chitina, Valde**	**84.60**	**21**	P	**P**	**08 22 44.2**	**+0.8**
N25K				IAmb	IAmb	08 23 02.0	
	comp=Z,8.5nm,1.5s						
E19K	**Redstone River**	**85.52**	**13**	P	**P**	**08 22 49.1**	**+1.3**
E19K				IAmb	IAmb	08 23 18.1	
	comp=Z,4.7nm,1.3s						
IL31		**86.10**	**18**	P	**P**	**08 22 50.2**	**-0.3**
IL31				IAmb	IAmb	08 22 51.6	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**86.10**	**18**	P	**P**	**08 22 50.0**	**-0.6**
ILAR	**Eielson Array**	**86.10**	**18**	P	**P**	**08 22 50.2**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=241,slow=4.8,SNR=22						
	comp=Z,1.4nm,0.7s						
F21K	**Alatna River**	**86.19**	**14**	P	**P**	**08 22 51.5**	**+0.5**
MK31	**Makanchi Array**	**96.96**	**316**	P	**P**	**08 23 42.6**	**+1.1**
MK31				IAmb	IAmb	08 23 43.8	
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**96.96**	**316**	P	**P**	**08 23 41.7**	**+0.1**
MKAR	**Makanchi Array**	**96.96**	**316**	P	**P**	**08 23 42.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=93,slow=6.3,SNR=12						
	comp=Z,1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**97.10**	**324**	P	**P**	**08 23 42.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=78,slow=6.8,SNR=3.6						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**97.14**	**27**	P	**P**	**08 23 41.6**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=259,slow=4.0,SNR=4.9						
	comp=Z,0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**100.17**	**320**	P	**Pdif**	**08 23 56.6**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=76,slow=3.9,SNR=4.7						
ARCES	**ARCESS Array B**	**119.86**	**345**	PKP	**PKPdf**	**08 28 59.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=72,slow=1.9,SNR=22						
FINES	**FINESS Array B**	**125.36**	**338**	PKP	**PKPdf**	**08 29 10.2**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=48,slow=2.8,SNR=5.3						
NOA	**NORSAR Array B**	**130.24**	**345**	PKP	**PKPdf**	**08 29 17.5**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=96,slow=3.8,SNR=1.5						
BRTR	**Keskin Array B**	**132.30**	**311**	PKP	**PKPdf**	**08 29 22.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=357,slow=6.3,SNR=1.7						
KEST	**Kesra**	**150.94**	**321**	PKPbc	**PKiKP**	**08 30 03.5**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=342,slow=6.4,SNR=5.7						

*ASRS **07** 08:15:39.0±0.9, 54°.04N×86°.51E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 07 08:15:42.8±2.2, 53°.99N×86°.40E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=18.1km s-min=11.1km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**268**	I	I	08 21 44.6	
	0.2nm,0.8s,baz=84,slow=354,SNR=9.0						
ZALV	**Zalesovo Beam**	**0.93**	**268**	Pg	Pg	08 15 59.4	-1.2
	0.9nm,0.3s,baz=85,slow=18,SNR=13						
ZALV				Lg	Lg	08 16 13.5	
	1.5nm,0.3s,baz=84,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.89**	**238**	Pn	Pn	08 17 12.5	+1.3
	0.1nm,0.3s,baz=56,slow=14,SNR=14						
KURBB				Sn	Sn	08 18 18.2	-1.0
	baz=56,slow=33,SNR=0.9						
KURBB				Lg	Lg	08 18 50.5	
	baz=51,slow=35,SNR=5.2						
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**7.67**	**202**	Pn	Pn	08 17 36.0	+0.3
	0.1nm,0.3s,baz=24,slow=14,SNR=6.1						
MKAR				Sn	Sn	08 19 02.2	-0.9
	baz=19,slow=28,SNR=1.0						
MKAR				Lg	Lg	08 19 44.0	
	0.1nm,0.3s,baz=23,slow=30,SNR=2.7						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**9.59**	**271**	Pn	Pn	08 18 02.3	+0.3
	baz=79,slow=22,SNR=2.2						
	0.2nm,0.4s						

*ASRS **07** 08:20:21.0±1.0, 53°.72N×88°.22E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **07** 08:20:23.0±3.4, 53°.71N×88°.23E, h0km, mbtmp2.4/3, ML1.8/3, Error ellipse: s-maj=30.9km s-min=20.8km az=44.0*
ISC 07 08:20:24.2±4.4, 53°.7N±0°.2×88°.1E±0°.3, h0km, n4, σ0§17/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**278**	I	I	08 32 11.4	
	baz=95,slow=356,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.98**	**278**	Pn	**Pn**	**08 20 58.9**	**0.0**
	0.5nm,0.3s,baz=99,slow=12,SNR=14						
ZALV				Lg	Lg	08 21 27.1	
	1.3nm,0.3s,baz=93,slow=28,SNR=12						
	2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**6.67**	**246**	Pn	**Pn**	**08 22 03.2**	**-0.1**
	baz=60,slow=14,SNR=4.5						
KURBB				Sn	**Sn**	**08 23 20.0**	**+0.1**
	baz=36,slow=21						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**7.88**	**211**	Pn	**Pn**	**08 22 20.0**	**0.0**
	baz=31,slow=12,SNR=1.9						
	0.1nm,0.4s						

TRN 07 08:22:55.5, 15°.03N×59°.38W, h35km, MD3.8, East of Maritnique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**1.71**	**253**	*e*P	Pn	08 23 23.8	+0.9
BIM				*e*S	Sn	08 23 45.9	+2.3
BIM	**Bigot**	**1.71**	**253**	*e*P	Pn	08 23 23.8	+0.9
BIM				*e*S	Sn	08 23 45.9	+2.3
SLBI	**Saint Lucia, B**	**1.84**	**237**	*e*P	Pn	08 23 25.6	+0.9
SLBI				*e*S	Sn	08 23 48.5	+1.8
SLBI	**Saint Lucia, B**	**1.84**	**237**	*e*P	Pn	08 23 25.6	+0.9
SLBI				*e*S	Sn	08 23 48.5	+1.8
SLAC	**Saint Lucia, A**	**1.85**	**233**	*e*P	Pn	08 23 26.0	+1.2
SLAC				*e*S	Sn	08 23 49.0	+2.0
SLAC	**Saint Lucia, A**	**1.85**	**233**	*e*P	Pn	08 23 26.0	+1.2
SLAC				*e*S	Sn	08 23 49.0	+2.0
MDN	**Morne-Daniel**	**1.96**	**279**	*e*P	Pn	08 23 28.5	+2.2
MDN				*e*S	Sn	08 23 52.1	+2.4
MDN	**Morne-Daniel**	**1.96**	**279**	*e*P	Pn	08 23 28.5	+2.2
MDN				*e*S	Sn	08 23 52.1	+2.4
DSLB	**Salisbury**	**2.01**	**282**	*e*P	Pn	08 23 29.1	+2.1
DSLB				*e*S	Sn	08 23 53.5	+2.5
DSLB	**Salisbury**	**2.01**	**282**	*e*P	Pn	08 23 29.1	+2.1
DSLB				*e*S	Sn	08 23 53.5	+2.5
SVB	**Belmont**	**2.52**	**226**	*e*P	Pn	08 23 37.0	+2.9
SVB				*e*S	Sn	08 24 05.4	+1.8
SVB	**Belmont**	**2.52**	**226**	*e*P	Pn	08 23 37.0	+2.9
SVB				*e*S	Sn	08 24 05.4	+1.8
ANBD	**Bethesda, Anti**	**3.04**	**311**	*e*P	Pn	08 23 43.5	+2.4
ANBD				*e*S	Sn	08 24 18.2	+1.8
ANBD	**Bethesda, Anti**	**3.04**	**311**	*e*P	Pn	08 23 43.5	+2.4
ANBD				*e*S	Sn	08 24 18.2	+1.8
ANWB	**Willy Bob**	**3.49**	**319**	*e*P	Pn	08 23 49.5	+2.1
ANWB				*e*S	Sn	08 24 28.4	+0.9
ANWB	**Willy Bob**	**3.49**	**319**	*e*P	Pn	08 23 49.5	+2.1
ANWB				*e*S	Sn	08 24 28.4	+0.9

*NEIC **07** 08:24:37.3±1.0, 34°.706N±0°.004×116°.28W±0°.01, h1km±1km, Error ellipse: s-maj=1.4km s-min=0.3km az=73.0*
PAS 07 08:24:37.8±1.0, 34°.710N±0°.009×116°.28W±0°.01, h2km±1km, ML3.2/267, ML2.9/60(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=58.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.13**	**340**		Pg	08 24 40.7	+0.4
HEC					Sg	08 24 42.8	+0.8
GTM	**Goat Mountain**	**0.42**	**188**		Pg	08 24 45.9	+0.1
GTM					Sg	08 24 52.3	+1.0
DSCC	**Desert Studies**	**0.46**	**19**		Pg	08 24 46.7	+0.1
DSCC					Sg	08 24 53.3	+0.8
GMRC	**Granite Mounta**	**0.52**	**82**		Pg	08 24 47.8	0.0
GMRC					Sg	08 24 54.9	+0.4
RRX	**Edison Barstow**	**0.61**	**286**		Pg	08 24 49.7	+0.1
RRX					Sg	08 24 58.7	+1.3
TPC	**Twentynine Pal**	**0.63**	**162**		Pg	08 24 50.0	+0.1
BLAC	**Blackrock camp**	**0.65**	**188**		Pg	08 24 50.1	-0.1
BLAC					Sg	08 24 59.3	+0.8
BBRC	**Big Bear Solar**	**0.69**	**230**		Pg	08 24 50.9	-0.2
BBRC					Sg	08 25 00.7	+0.6
GSC	**Goldstone, Bar**	**0.73**	**324**		Pg	08 24 51.9	+0.1
GSC					Sg	08 25 02.0	+0.6
BELC	**Belle Mtn. Jos**	**0.75**	**161**		Pg	08 24 52.0	-0.1
BELC					Sg	08 25 02.1	+0.4
DANC	**Danby, Needles**	**0.75**	**95**		Pg	08 24 52.2	+0.1
DANC					Sg	08 25 02.6	+0.8
EW2	**E Wide Canyon**	**0.77**	**188**		Pg	08 24 52.4	-0.2
EW2					Sg	08 25 03.3	+0.6
TUQ	**Turquoise Moun**	**0.78**	**22**		Pg	08 24 52.6	-0.2
TUQ					Sg	08 25 03.6	+0.6
DEVC	**Devers**	**0.81**	**198**		Sg	08 25 04.9	+1.1
VTV	**Victorville**	**0.88**	**261**		Pg	08 24 54.2	-0.4
VTV					Sg	08 25 05.7	-0.2
SVD	**Seven Oaks Dam**	**0.90**	**228**		Pg	08 24 54.7	-0.4
SVD					Sg	08 25 06.7	-0.2
CFT

IRM					Sg	08 25 12.9	+0.1
PEC	**Perris**	**1.09 222**			Pg	08 24 58.1	-0.6
PEC					Sg	08 25 13.4	+0.5
PFO	**Pinyon Flats O**	**1.10 188**			Pg	08 24 58.6	-0.4
PFO				IAML		08 25 16.7	
	182nm,0.4s						
PFO	**Pinyon Flats O**	**1.10 188**			Pg	08 24 58.2	-0.8
PFO					Sg	08 25 12.8	-0.5
XPFO	**Pinon Flat**	**1.11 187**			Pg	08 24 58.4	-0.6
XPFO					Sg	08 25 12.9	-0.4
HAY	**Hayfield**	**1.12 153**			Pg	08 24 58.9	-0.3
HAY					Sg	08 25 14.0	+0.3
SS2	**San Sevaine**	**1.12 244**			Pg	08 24 58.9	-0.4
POB	**Polly Butte**	**1.15 208**			Pg	08 24 59.2	-0.7
POB					Sg	08 25 15.2	+0.4
HMTC	**Hemet**	**1.16 211**			Pg	08 24 59.5	-0.7
HMTC					Sg	08 25 15.1	-0.1
SHOC	**Shoshone, Teco**	**1.19 0**			Pg	08 24 59.9	-0.7
SNDA	**J Saunders Pla**	**1.19 193**			Pg	08 25 00.6	0.0
CRY	**Cary Ranch**	**1.20 198**			Pg	08 25 00.0	-0.9
CRY					Sg	08 25 15.9	-0.6
BFSC	**Mount Baldy Ra**	**1.23 248**			Pg	08 25 00.5	-0.9
FRD	**Ford Ranch, An**	**1.24 192**			Pg	08 25 00.7	-0.9
BZNA	**Buzz No.'s Pla**	**1.26 195**			Pg	08 25 00.9	-1.0
BC3	**Big Chuckawall**	**1.26 147**			Sb	08 25 18.9	-0.1
BACC	**Bachelor Mtn.**	**1.26 210**			Pg	08 25 01.1	-1.0
SSK	**Sunset Peak**	**1.27 247**			Pg	08 25 01.5	-0.6
SBB	**Saddle Back Bu**	**1.27 269**			Pg	08 25 01.3	-0.9
SBB					Sg	08 25 18.0	-0.7
HOLC	**Holcomb Ridge**	**1.31 259**			Pg	08 25 02.2	-0.8
MURC	**Murrieta**	**1.34 215**			Sg	08 25 20.7	-0.2
NEE2	**Needles Airpor**	**1.37 87**			Pn	08 25 03.4	-0.7
NEE2					Sn	08 25 22.8	0.0
LRMC	**Laurel Mtn Rad**	**1.38 304**			Sn	08 25 23.5	+0.3
JNH	**Juniper Hills**	**1.40 260**			Pn	08 25 04.0	-0.6
JNH					Sg	08 25 22.5	-0.4
PSRC	**Puddingstone R**	**1.40 244**			Sg	08 25 22.6	-0.3
FRK	**Frink**	**1.41 158**			Pn	08 25 04.4	-0.1
FRK					Sn	08 25 23.6	-0.1
EDW2	**Edwards Air Fo**	**1.42 277**			Pn	08 25 04.3	-0.4
EDW2					Sb	08 25 23.8	+0.2
ELS	**Elsinore Mount**	**1.42 222**			Pn	08 25 03.7	-1.1
ELS				IAML		08 25 28.3	
	comp=E,114nm,0.8s						
ELS	**Elsinore Mount**	**1.42 222**			Sg	08 25 22.8	-0.7
PLM	**Palomar**	**1.44 200**			Pg	08 25 05.3	0.0
BORC	**Borrego Spring**	**1.44 184**			Pn	08 25 05.0	+0.1
LRRC	**Littlerock Res**	**1.45 263**			Pn	08 25 04.6	-0.5
LRRC					Sg	08 25 24.1	-0.4
CHFC	**Chilao Flat St**	**1.49 256**			Pn	08 25 05.5	-0.3
CHFC					Sg	08 25 24.8	-0.9
GWY	**Greenwater Val**	**1.51 348**			Pn	08 25 05.7	-0.3
GWY					Sn	08 25 26.5	+0.1
MATG	**Mataguay Scout**	**1.54 191**			Pb	08 25 06.9	-0.2
MATG					Sg	08 25 27.4	+0.2
CJV	**Casa Juvan**	**1.54 264**			Pn	08 25 06.3	-0.3
MWC	**Mount Wilson**	**1.54 252**			Pn	08 25 06.6	0.0
V12A	**Nelson**	**1.55 49**			Pn	08 25 06.2	-0.4
V12A				IAML		08 25 28.7	
	comp=E,176nm,0.6s						
V12A				IAML		08 25 28.7	
	comp=N,180nm,0.7s						
JUEM	**Julian Eagle M**	**1.65 189**			Sg	08 25 31.1	+0.4
PASC	**Pasadena Art C**	**1.66 252**			Pn	08 25 07.7	-0.3
PASC				IAML		08 25 32.5	
	comp=N,141nm,0.9s						
PASC				IAML		08 25 35.8	
	comp=E,114nm,0.5s						
LEOC	**Leona Valley**	**1.67 268**			Pn	08 25 08.5	+0.3
BLYC	**Blythe**	**1.74 123**			Pn	08 25 06.5	-2.6
BLYC				IAML		08 25 35.0	
	comp=E,112nm,0.5s						
BLYC				IAML		08 25 36.8	
	comp=N,129nm,0.6s						
THC	**Tehachapi Micr**	**1.97 276**			Pb	08 25 14.3	-0.2
W13A	**Hualapai Mount**	**2.01 78**			Pn	08 25 10.9	-2.1
W13A				IAML		08 25 48.0	
	comp=E,72nm,0.7s						
SHPR	**Sheep Range**	**2.01 27**			Pn	08 25 11.4	-1.6
ISA	**Isabella, Lake**	**2.03 299**			Pn	08 25 12.7	-0.5
ISA				IAML		08 25 44.9	
	comp=N,92nm,0.6s						
ISA				IAML		08 25 46.6	
	comp=E,103nm,0.6s						
YUH	**Yuha Desert**	**2.08 172**			Pn	08 25 12.4	-1.4
WCT	**Wildcat Mounta**	**2.10 352**			Pn	08 25 14.1	0.0
WCT				IAML		08 25 46.9	
	comp=E,61nm,0.5s						
GRAC	**Grapevine Rang**	**2.44 339**			Pn	08 25 18.1	-0.8
GMN	**Gold Mountain**	**2.70 343**			Pn	08 25 21.9	-0.7
GMN				IAML		08 26 11.3	
	comp=N,35nm,0.6s						
Y14A	**Wickenburg**	**2.82 105**	Pn	Pn		08 25 22.0	-2.0
Y14A				IAML		08 26 17.3	
	comp=E,37nm,0.3s						
Y14A				IAML		08 26 19.7	
	comp=N,43nm,0.6s						
PRN	**Pahroc Range**	**2.87 20**	Pn	Pn		08 25 23.9	-0.9
PRN				IAML		08 26 26.5	
	comp=E,46nm,0.8s						
PRN				IAML		08 26 33.8	
	comp=N,39nm,0.8s						
DSP	**Deep Springs**	**2.99 333**	Pn	Pn		08 25 25.5	-0.7
LCMT	**Little Creek M**	**3.37 46**		Pn		08 25 30.9	-0.7
KNB	**Kanab**	**3.63 50**	Pn	Pn		08 25 34.7	-0.6
KNB				IAML		08 26 40.3	
	comp=E,25nm,0.9s						
U15A	**North Rim**	**3.68 61**	Pn	Pn		08 25 34.8	-1.3
U15A				IAML		08 26 42.0	
	comp=E,25nm,0.7s						
LHV	**Little Huntoon**	**3.96 334**		Pn		08 25 39.5	-0.1
LHV				IAML		08 26 50.7	
	comp=N,20nm,2.0s						
X16A	**Lo Mia Camp, P**	**4.01 93**	Pn	Pn		08 25 39.0	-1.4
NVAR	**Mina Array Bea**	**4.05 337**		Pn		08 25 40.0	-1.1
PSUT	**Pine Spring**	**4.29 26**	Pn	Pn		08 25 43.4	-0.9
PSUT				IAML		08 27 03.6	
	comp=E,11nm,1.2s						
PSUT				IAML		08 27 09.6	
	comp=N,8.5nm,1.3s						
SPR3	**Spring Creek 3**	**4.56 20**		Pn		08 25 46.9	-1.3
MVU	**Marysvale**	**5.01 40**	Pn	Pn		08 25 53.1	-1.1

IDC 07 08:29:02.3±3.3, 53°.92N×86°.97E, h0^{km}, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=30.1km s-min=17.7km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**272**	I	I	08 38 31.2	
	0.1nm,1.5s,baz=93,slow=342,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.27**	**272**	Pg	Pg	08 29 25.4	-1.2
	0.4nm,0.3s,baz=92,slow=16,SNR=4.8						
ZALV				Lg	Lg	08 29 43.5	
	0.4nm,0.3s,baz=87,slow=26,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.14**	**241**	Pn	Pn	08 30 34.8	+0.6
	baz=59,slow=13,SNR=2.9						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**7.74**	**205**	Pn	Pn	08 30 57.7	+1.7
	baz=24,slow=14,SNR=1.8						
	0.1nm,0.3s						

*IDC **07** 08:32:30.1±0.9, 1°.33N×125°.97E, h0^{km}, mb4.0/9, mbtmp4.1/11, ML4.9/1, Error ellipse: s-maj=85.1km s-min=13.9km az=69.0*

*DJA **07** 08:32:35.4±0.3, 1°.N±3'×12°.6E±°, h10^{km}, M4.0/12, mb4.0/2, MLv4.0/12*

*NEIC **07** 08:32:36.2±1.5, 1°.43N±0°.08×126°.43E±0°.07, h42^{km}±5^{km}, mb4.4/15, Error ellipse: s-maj=12.9km s-min=8.3km az=220.0*

ISC 07 08:32:36.4±0.5, 1°.42N±0°.06×126°.46E±0°.07, h47^{km}, n41, σ1°.16/42, mb4.2/16, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.11**	**125**		**Pn**	**08 32 55.5**	**-0.1**
TNTI	**Ternate**	**1.11**	**125**	P	**Pn**	**08 32 56.0**	**+0.4**
SGSI	**Sangihe**	**2.44**	**338**	P	**Pn**	**08 33 15.1**	**+1.3**
KMSI	**Cibinong**	**2.62**	**251**	P	**Pn**	**08 33 17.8**	**+1.5**
SANI	**Sanana**	**3.48**	**188**	P	**Pn**	**08 33 29.6**	**+1.5**
LUWI	**Luwuk**	**4.42**	**237**	Pn	**Pn**	**08 33 40.4**	**-0.7**
LUWI	**Luwuk**	**4.42**	**237**	P	**Pn**	**08 33 41.1**	**0.0**
DAV	**Davao City (W)**	**5.68**	**351**	Pn	**Pn**	**08 33 58.2**	**-0.2**
	36nm,0.3s,baz=96,slow=9.2,SNR=1.2						
	114nm,0.3s						
TOLI2	**Tolitoli**	**5.69**	**267**	Pn	**Pn**	**08 33 58.5**	**0.0**
FAKI	**Fak Fak**	**7.21**	**127**	Pn	**Pn**	**08 34 22.2**	**+2.8**
FAKI	**Fak Fak**	**7.21**	**127**	P	**Pn**	**08 34 21.8**	**+2.4**
MTN	**Manton Dam**	**14.91**	**162**	Pn	**Pn**	**08 36 03.8**	**-0.5**
KNRA	**Kununurra**	**17.14**	**172**	Pn	**Pn**	**08 36 30.3**	**-2.4**
KNRA				IAmb	IAmb	08 36 35.4	
	comp=Z,35nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.41**	**182**	P	**P**	**08 36 58.1**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=3.9,slow=8.7						
WB0	**Warramunga Arr**	**22.45**	**160**	P	**P**	**08 37 31.8**	**+0.2**
WB0				IAmb	IAmb	08 37 35.4	
	comp=Z,21nm,1.3s						
TPUB	**Ta-pu**	**22.48**	**346**	P	**P**	**08 37 29.8**	**-2.1**
TPUB				IAmb	IAmb	08 37 34.2	
	comp=Z,9.5nm,0.7s						
WRA	**Warramunga Arr**	**22.59**	**160**	P	**P**	**08 37 32.4**	**-0.8**
WRA	**Warramunga Arr**	**22.59**	**160**	P	**P**	**08 37 32.6**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=339,slow=11,SNR=48						
	comp=Z,2.7nm,0.4s						
AS31	**Alice Springs**	**25.96**	**164**	P	**P**	**08 38 05.5**	**+0.7**
ASAR	**Alice Springs**	**25.96**	**164**	P	**P**	**08 38 05.4**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=346,slow=8.9,SNR=30						
ASAR				PcP	**PcP**	**08 41 32.8**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=338,slow=1.4,SNR=1.6						
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**36.09**	**158**	P	**P**	**08 39 33.6**	**-0.3**
STKA	**Stephens Creek**	**36.09**	**158**	P	**P**	**08 39 34.4**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=336,slow=8.9,SNR=10						
	comp=Z,2.2nm,0.5s						
SONM	**Songino Array**	**49.40**	**342**	P	**P**	**08 41 21.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=156,slow=9.4,SNR=3.7						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**59.30**	**326**	P	**P**	**08 42 33.1**	**-0.4**
MK31				IAmb	IAmb	08 43 00.0	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**08 42 32.9**	**-0.6**
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**08 42 32.7**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.7,SNR=18						
	comp=Z,0.7nm,0.4s						
BKZ	**Black Stump Fm**	**61.07**	**137**	P	**P**	**08 42 45.3**	**-0.5**
RTZ	**Ruatahuna**	**61.14**	**136**	P	**P**	**08 42 45.1**	**-1.2**
KURBB	**Kurchatov Arra**	**63.54**	**328**	P	**P**	**08 43 01.2**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=129,slow=6.3,SNR=18						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**63.54**	**328**	P	**P**	**08 43 01.3**	**-0.7**
KURK				IAmb	IAmb	08 43 13.1	
	comp=Z,3.2nm,1.1s						
KKAR	**Karatay Array**	**64.74**	**318**	P	**P**	**08 43 11.2**	**+1.1**
CASY	**Casey**	**68.50**	**187**	P	**P**	**08 43 35.0**	**+1.5**
BVAR	**Borovoye Array**	**69.11**	**328**	P	**P**	**08 43 36.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=104,slow=6.1,SNR=1.8						
	comp=Z,0.2nm,0.3s						
ABKAR	**Akbulak array**	**73.77**	**321**	P	**P**	**08 44 05.2**	**-0.5**
AKTO	**Aktyubinsk**	**75.30**	**322**	P	**P**	**08 44 13.2**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=120,slow=2.7,SNR=3.8						
	comp=Z,1.1nm,0.6s						
VNDA	**Vanda**	**81.18**	**173**	P	**P**	**08 44 46.7**	**+0.1**
VNDA				IAmb	IAmb	08 45 06.1	
	comp=Z,22nm,1.4s						
VNDA	**Vanda**	**81.18**	**173**	P	**P**	**08 44 47.6**	**+1.0**
	comp=Z,5.8nm,1.1s,baz=333,slow=6.8,SNR=2.7						
	comp=Z,5.8nm,1.1s						
G19K	**Purcell Mounta**	**83.24**	**23**	P	**P**	**08 44 58.6**	**+1.0**
G19K				IAmb	IAmb	08 45 40.1	
	comp=Z,6.3nm,1.5s						
H19K	**Roundabout Mou**	**83.38**	**24**	P	**P**	**08 45 00.3**	**+2.0**
H19K				IAmb	IAmb	08 45 01.0	
	comp=Z,3.8nm,1.1s						
B21K	**Ikpikpuk River**	**84.82**	**20**	P	**P**	**08 45 05.4**	**-0.2**
B21K				IAmb	IAmb	08 45 14.0	
	comp=Z,3.6nm,1.2s						
BCAR	**Beaver Creek A**	**89.55**	**27**	P	**P**	**08 45 29.4**	**+0.7**

*IDC **07** 08:34:11.0±2.9, 54°.45N×86°.92E, h0^{km}, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=17.3km az=60.0*

ASRS 07 08:34:09.0±0.5, 54°.38N×86°.93E, h0^{km}, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**252**	I	I	08 41 40.0	
	0.1nm,0.7s,baz=68,slow=355,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.31**	**252**	Pg	Pn	08 34 34.8	+0.2
	0.9nm,0.3s,baz=66,slow=18,SNR=9.5						
ZALV				Lg	Lg	08 34 53.9	
	0.8nm,0.3s,baz=64,slow=11,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	08 35 47.0	+3.1
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Sn	Sn	08 36 59.6	+2.5
	baz=46,slow=21,SNR=4.0						
KURBB				Lg	Lg	08 37 34.2	
	0.1nm,0.3s,baz=49,slow=30,SNR=6.6						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**8.15**	**203**	Pn	Pn	08 36 12.7	+4.2
	0.1nm,0.3s,baz=26,slow=12,SNR=4.2						
MKAR				Sn	Sn	08 37 44.2	+3.0
	0.1nm,0.3s,baz=17,slow=26,SNR=1.4						
MKAR				Lg	Lg	08 38 30.1	
	baz=26,slow=28,SNR=3.7						
	0.1nm,0.5s						

*IDC **07** 08:41:34.3±3.7, 55°.62N×86°.33E, h0^{km}, mbtmp2.4/2, ML2.1/1, Error ellipse: s-maj=32.3km s-min=29.2km az=64.0*

ASRS 07 08:41:36.0±1.0, 55°.55N×86°.07E, h0^{km}, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**205**	I	I	08 52 00.0	
	baz=25,slow=357,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.76**	**205**	Pg	Pn	08 42 06.9	-0.8
	0.9nm,0.3s,baz=23,slow=16,SNR=9.0						
ZALV				Lg	Lg	08 42 35.2	
	2.1nm,0.3s,baz=34,slow=27,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.71**	**226**	Pn	Pn	08 43 16.9	+1.3
	baz=41,slow=13,SNR=6.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**9.08**	**197**	Pn	Pn	08 43 47.2	-1.1
	0.1nm,0.4s,baz=11,slow=6.9,SNR=1.7						

*IDC **07** 08:45:05.6±3.2, 53°.61N×87°.73E, h0^{km}, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=25.3km s-min=15.5km az=61.0*

ASRS 07 08:45:02.0±1.0, 53°.58N×87°.94E, h0^{km}, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**283**	I	I	08 56 01.4	
	baz=99,slow=357,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.89**	**283**	Pg	Pb	08 45 37.6	+0.3
	0.5nm,0.3s,baz=98,slow=15,SNR=6.1						
ZALV				Lg	Lg	08 46 02.5	
	1.2nm,0.3s,baz=106,slow=24,SNR=10						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	08 46 42.0	+3.1
	baz=61,slow=14,SNR=4.0						
KURBB				Sn	Sn	08 47 52.5	-1.3
	baz=53,slow=29,SNR=1.4						
KURBB				Lg	Lg	08 48 28.9	
	baz=74,slow=31,SNR=4.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 46 59.3	+4.0
	baz=28,slow=12,SNR=1.8						
MKAR				Sn	Sn	08 48 26.9	+3.7
	baz=24,slow=36,SNR=1.3						
MKAR				Lg	Lg	08 49 06.6	
	baz=32,slow=28,SNR=6.5						
	0.1nm,0.3s						

*ISK **07** 08:48:49.8, 35°.44N×23°.27E, h65^{km}, ML3.5/18*

*NEIC **07** 08:48:50.1±2.3, 35°.19N±0°.09×23°.24E±0°.07, h45^{km}±9^{km}, mb4.2/21, Error ellipse: s-maj=13.1km s-min=7.9km az=197.0*

*THE **07** 08:48:53.0, 35°.34N×23°.35E, h17^{km}±1^{km}, ML3.7/6, Error ellipse: s-maj=2.9km s-min=1.4km az=50.0*

*IDC **07** 08:48:54.9±1.2, 35°.41N×23°.45E, h80^{km}±11^{km}, mb3.6/18, mbtmp3.9/23, Error ellipse: s-maj=17.9km s-min=13.7km az=6.0*

*ATH **07** 08:48:54.2, 35°.42N×23°.47E, h30^{km}±3^{km}, ML3.7/8, Manual Solution by A.Moschou First location: 2019/02/07 08:49:23, This location: 2019/02/07 09:04:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 5 km*

ISC 07 08:48:51.2±0.8, 35°.37N±0°.04×23°.44E±0°.04, h50^{km}±7^{km}, n120, σ2°.37/141, mb4.0/26, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.45**	**78**	Pg	**Pn**	**08 49 03.3**	**+1.4**
IMMV	**Iera Moni Meta**	**0.45**	**78**	P	**Pn**	**08 49 03.3**	**+1.4**
IMMV				S	**Sn**	**08 49 12.0**	**+2.4**
	12μm,0.5s						
IMMV	**Iera Moni Meta**	**0.45**	**78**	P	**Pn**	**08 49 03.2**	**+1.4**
IMMV				S	**Sn**	**08 49 10.8**	**+1.2**
CHAN	**Chania**	**0.52**	**72**	P	**Pn**	**08 49 04.3**	**+1.7**
CHAN				S	**Sn**	**08 49 11.4**	**+0.6**
CHNB	**Souda**	**0.53**	**76**	P	**Pn**	**08 49 04.5**	**+1.8**
CHNB				S	**Sn**	**08 49 12.1**	**+1.1**
GVD	**Gavdhos**	**0.75**	**134**	Pg	**Pn**	**08 49 07.4**	**+1.9**
GVD				Sg	**Sn**	**08 49 20.2**	**+4.3**
GVD	**Gavdhos**	**0.75**	**134**	P	**Pn**	**08 49 07.5**	**+1.9**
GVD				S	**Sn**	**08 49 19.6**	**+3.7**
	6μm,0.3s						
GVD	**Gavdhos**	**0.75**	**134**	P	**Pn**	**08 49 08.2**	**+2.7**
GVD				S	**Sn**	**08 49 20.0**	**+4.0**
PRNS	**Prines Rethymn**	**0.87**	**90**	P	**Pn**	**08 49 09.0**	**+1.9**
PRNS				S	**Sn**	**08 49 19.5**	**+0.7**
TMBK	**Timbaki Herakl**	**1.12**	**105**	P	**Pn**	**08 49 13.5**	**+3.0**
TMBK				S	**Sn**	**08 49 29.5**	**+4.5**
IDI	**Anoyia**	**1.19**	**93**	Pn	**Pn**	**08 49 14.5**	**+3.0**
IDI				Sn	**Sn**	**08 49 30.2**	**+3.6**
IDI	**Anoyia**	**1.19**	**93**		**Pn**	**08 49 14.0**	**+2.5**
IDI	**Anoyia**	**1.19**	**93**	P	**Pn**	**08 49 14.5**	**+3.0**
IDI				S	**Sn**	**08 49 31.3**	**+4.7**
	1μm,0.5s						
IDI	**Anoyia**	**1.19**	**93**	P	**Pn**	**08 49 14.7**	**+3.2**
	128nm,0.4s,baz=274,slow=13,SNR=147						
IDI				S	**Sn**	**08 49 32.6**	**+6.0**
	528nm,0.6s,baz=358,slow=16,SNR=22						
IDI				LR	LR	08 50 02.3	
	comp=Z,268nm,19.8s,baz=302,slow=57						
IDI	**Anoyia**	**1.19**	**93**	P	**Pn**	**08 49 14.6**	**+3.0**
IDI				S	**Sn**	**08 49 29.9**	**+3.3**
IACM	**Heraklion**	**1.33**	**92**	P	**Pn**	**08 49 17.3**	**+3.9**
IACM				S	**Sn**	**08 49 36.6**	**+6.6**
	7μm,0.7s						
IACM	**Heraklion**	**1.33**	**92**	P	**Pn**	**08 49 17.1**	**+3.7**
MNVA	**Monemvasia**	**1.36**	**346**	P	**Pn**	**08 49 17.4**	**+3.7**
VLI	**Veliai**	**1.41**	**343**	P	**Pn**	**08 49 17.3**	**+2.8**
VLI				S	**Sn**	**08 49 36.6**	**+4.7**
	995nm,0.7s						
VLI	**Veliai**	**1.41**	**343**	P	**Pn**	**08 49 17.5**	**+3.0**
VLI				S	**Sn**	**08 49 35.3**	**+3.3**
THR9	**Santorini-Faro**	**1.85**	**57**	P	**Pn**	**08 49 22.8**	**+2.4**
THR6	**Thira Island,**	**1.87**	**58**	P	**Pn**	**08 49 23.8**	**+3.1**
THR3	**Thira Island,**	**1.90**	**56**	P	**Pn**	**08 49 23.4**	**+2.2**
CMBO	**Columbo, Santo**	**1.94**	**55**	P	**Pn**	**08 49 24.9**	**+3.2**
CMBO				S	**Sn**	**08 49 50.0**	**+5.1**
	1μm,0.6s						
CMBO	**Columbo, Santo**	**1.94**	**55**	P	**Pn**	**08 49 24.4**	**+2.7**
THR8	**Santorini-Mono**	**1.96**	**57**	P	**Pn**	**08 49 24.4**	**+2.5**
ITM	**Ithomi**	**2.19**	**326**	Pn	**Pn**	**08 49 23.2**	**-1.9**
ITM	**Ithomi**	**2.19**	**326**		**Pn**	**08 49 26.0**	**+1.0**
ITM	**Ithomi**	**2.19**	**326**	P	**Pn**	**08 49 27.3**	**+2.2**
ITM	**Ithomi**	**2.19**	**326**	P	**Pn**	**08 49 28.9**	**+3.8**
ZKR	**Zakros**	**2.29**	**95**	Pn	**Pn**	**08 49 28.6**	**+2.2**
ZKR	**Zakros**	**2.29**	**95**	P	**Pn**	**08 49 30.1**	**+3.6**
APE	**Apeiranthos**	**2.40**	**44**	Pn	**Pn**	**08 49 28.6**	**+0.6**
APE				Sn	**Sn**	**08 49 57.3**	**+1.1**
APE	**Apeiranthos**	**2.40**	**44**	P	**Pn**	**08 49 29.6**	**+1.6**
VLY	**Voula,Athens**	**2.50**	**6**	P	**Pn**	**08 49 31.6**	**+2.3**
AMT	**Artemida-Makis**	**2.57**	**328**	P	**Pn**	**08 49 33.1**	**+2.7**
DION	**Dionisos Attik**	**2.74**	**8**	P	**Pn**	**08 49 34.9**	**+2.3**
KARP	**Karpathos**	**3.04**	**85**	Pn	**Pn**	**08 49 38.9**	**+2.1**
KARP	**Karpathos**	**3.04**	**85**	Pn	**Pn**	**08 49 39.1**	**+2.3**
BODT	**Bodrum**	**3.56**	**60**	Pn	**Pn**	**08 49 45.6**	**+1.7**
ARG	**Arkhangelos**	**3.90**	**76**	Pn	**Pn**	**08 49 51.2**	**+2.6**
ARG	**Arkhangelos**	**3.90**	**76**	Pn	**Pn**	**08 49 50.5**	**+1.9**
YER	**Yerkesik**	**4.29**	**64**	Pn	**Pn**	**08 49 56.4**	**+2.4**
AYDB	**Zeytinkoy-Aydi**	**4.41**	**53**	Pn	**Pn**	**08 49 57.5**	**+1.8**
DALY	**Dalyan (Mula)**	**4.46**	**70**	Pn	**Pn**	**08 49 58.5**	**+2.2**
FETY	**Fethiye**	**4.75**	**73**	Pn	**Pn**	**08 50 02.4**	**+2.2**
LIT	**Litokhoron**	**4.79**	**351**	Pn	**Pn**	**08 50 01.7**	**+1.0**
CAME	**Cameli-Denizli**	**5.00**	**70**	Pn	**Pn**	**08 50 06.2**	**+2.5**
AKAS	**Kas**	**5.09**	**78**	Pn	**Pn**	**08 50 07.1**	**+2.2**
AKAS	**Kas**	**5.09**	**78**	Pn	**Pn**	**08 50 06.1**	**+1.1**
MANT	**Manisa**	**5.15**	**51**	Pn	**Pn**	**08 50 08.8**	**+2.8**
APMY	**Acipayam-Deniz**	**

NOA	NORSAR Array B	26.86	347	P	P	08 54 27.4	+0.5
	comp=Z,0.3nm,0.4s,baz=150,slow=11,SNR=6.1						
	comp=Z,0.3nm,0.4s						
EKA	Eskdalemuir Ar	27.07	326	P	P	08 54 30.6	+1.9
	comp=Z,0.7nm,0.5s,baz=122,slow=8.9,SNR=4.1						
	comp=Z,0.7nm,0.5s						
TORD	Torodi Ar. Bea	29.57	227	P	P	08 54 52.1	+0.8
	comp=Z,1.7nm,0.6s,baz=30,slow=9.8,SNR=13						
	comp=Z,1.7nm,0.6s						
ABKAR	Akbulak array	30.03	51	P	P	08 54 54.1	-1.0
ARTI	Arti	31.63	37	P	P	08 55 08.7	-0.4
ARTI				IAmb	IAmb	08 55 09.8	
	comp=Z,4.5nm,0.6s						
ARCES	ARCESS Array B	34.24	1	P	P	08 55 31.1	-0.7
	comp=Z,1.4nm,0.5s,baz=184,slow=9.0,SNR=14						
	comp=Z,1.4nm,0.5s						
KK31	Karatay Array	36.87	63	P	P	08 55 52.7	-2.0
KK31				IAmb	IAmb	08 56 09.3	
	comp=Z,3.8nm,1.2s						
KKAR	Karatay Array	36.87	63	P	P	08 55 53.2	-1.5
BRVK	Borovoye	37.17	47	P	P	08 55 56.9	-0.2
BVAR	Borovoye Array	37.23	47	P	P	08 55 57.9	+0.3
	comp=Z,1.4nm,0.8s,baz=270,slow=4.2,SNR=3.9						
	comp=Z,1.4nm,0.8s						
NRN	Naryn	41.11	65	P	P	08 56 31.6	+1.0
NRN				IAmb	IAmb	08 56 33.2	
	comp=Z,2.3nm,0.6s						
KURBB	Kurchatov Arra	42.09	51	P	P	08 56 38.1	+0.1
	comp=Z,2.0nm,0.6s,baz=279,slow=8.6,SNR=13						
	comp=Z,2.0nm,0.6s						
SPITS	Spitsbergen Ar	43.02	358	P	P	08 56 45.8	+0.6
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=11						
	comp=Z,0.5nm,0.3s						
MK31	Makanchi Array	44.84	57	P	P	08 57 00.2	-0.1
MK31				IAmb	IAmb	08 57 01.4	
	comp=Z,1.4nm,0.6s						
MKAR	Makanchi Array	44.84	57	P	P	08 57 00.4	+0.2
MKAR	Makanchi Array	44.84	57	P	P	08 57 00.6	+0.4
	comp=Z,1.8nm,0.6s,baz=269,slow=7.8,SNR=14						
	comp=Z,1.8nm,0.6s						
ZAA0	Zalesovo Array	45.88	46	P	P	08 57 08.0	-0.4
ZAA0				IAmb	IAmb	08 57 42.9	
	comp=Z,6.1nm,1.5s						
ZALV	Zalesovo Beam	45.88	46	P	P	08 57 07.8	-0.5
ZALV	Zalesovo Beam	45.88	46	P	P	08 57 08.1	-0.3
	comp=Z,1.4nm,0.4s,baz=267,slow=9.5,SNR=6.3						
	comp=Z,1.4nm,0.4s						
LBTB	Lobatse	60.09	178	P	P	08 58 50.2	-3.1
SONM	Songino Array	60.44	50	P	P	08 58 56.6	+0.9
SONM	Songino Array	60.44	50	P	P	08 58 55.7	0.0
	comp=Z,0.3nm,0.4s,baz=288,slow=7.0,SNR=4.8						
	comp=Z,0.3nm,0.4s						
SCHQ	Schefferville	62.11	319	P	P	08 59 07.1	+0.4
SCHQ	Schefferville	62.11	319	P	P	08 59 07.7	+1.0
	comp=Z,1.3nm,0.6s,baz=84,slow=4.5,SNR=5.6						
	comp=Z,1.3nm,0.6s						
RES	Resolute Bay	63.10	345	P	P	08 59 13.3	+0.4
A36M	Sachs Harbour	70.71	350	P	P	09 00 01.8	+0.5
A36M				IAmb	IAmb	09 00 17.4	
	comp=Z,2.3nm,0.9s						
C36M	Paulatuk	72.89	348	P	P	09 00 15.3	+0.9
C36M				IAmb	IAmb	09 00 27.3	
	comp=Z,4.0nm,1.4s						
YKA	Yellowknife Ar	76.81	341	P	P	09 00 37.6	+0.5
	comp=Z,0.3nm,0.7s,baz=34,slow=5.0,SNR=6.2						
	comp=Z,0.3nm,0.7s						
USRK	Ussuriysk Ar.	77.68	44	P	P	09 00 42.6	+0.2
	comp=Z,1.9nm,0.5s,baz=294,slow=1.4,SNR=4.3						
	comp=Z,1.9nm,0.5s						
KSRS	Korea Array	79.27	52	P	P	09 00 51.9	+0.7
	comp=Z,1.4nm,0.7s,baz=310,slow=5.7,SNR=3.9						
	comp=Z,1.4nm,0.7s						
ILAR	Eielson Array	79.90	356	P	P	09 00 55.2	+1.0
	comp=Z,0.2nm,0.6s,baz=17,slow=3.8,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ASAR	Alice Springs	119.47	99	PKP	PKPdf	09 07 34.8	-0.7
	comp=Z,0.1nm,0.4s,baz=338,slow=2.2,SNR=1.3						

*IDC **07** 08:49:34.5±7.3, 54°.27N×88°.85E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=76.8km s-min=32.6km az=61.0*

ASRS 07 08:49:31.0±1.2, 54°.29N×89°.08E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.53	264	I	I	09 05 07.5	
	baz=81,slow=357,SNR=3.5						
ZALV	Zalesovo Beam	2.53	264	Pg	Pg	08 50 18.7	-0.8
	0.4nm,0.3s,baz=84,slow=16,SNR=5.2						
KURBB	Kurchatov Arra	7.42	245	Pn	Pn	08 51 21.7	+1.3
	baz=57,slow=14,SNR=4.4						
	0.4nm,0.4s						
MKAR	Makanchi Array	8.66	213	Pn	Pn	08 51 41.0	+3.5
	baz=28,slow=14,SNR=2.0						
	0.1nm,0.4s						

*IDC **07** 08:49:33.9±0.7, 25°.98N×96°.91E, h0km, mb3.8/15, mbtmp3.8/16, ML4.6/1, MS3.6/10, Error ellipse: s-maj=34.9km s-min=14.3km az=62.0*
*BJI **07** 08:49:35.6, 26°.07N×96°.82E, h9km, mB4.6/7, mb4.3/30, ML3.8/6, Ms4.1/19, Ms7 3.8/17*
*NEIC **07** 08:49:37.0±1.5, 26°.01N±0°.08×96°.85E±0°.09, h10km±1km, mb4.3/22, Error ellipse: s-maj=16.6km s-min=11.3km az=45.0*

ISC 07 08:49:36.1±1.1, 26°.01N±0°.04×96°.83E±0°.02, h11km±8km, n96, σ2.28/116, mb4.2/31, MS3.5/10, 1C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	TengChong	1.81	122	Pn	Pn	08 50 07.8	+0.4
TNCH				Pg	Pg	08 50 11.7	+0.8
TNCH				Sn	Sn	08 50 29.9	-0.5
TNCH				Sg	Sb	08 50 32.4	+0.3
TNCH				smax	smax		
	comp=N,7μm,1.1s						
TNCH				smax	smax		
	comp=E,9μm,1.0s						
MOKO	MOKOCHONG	2.11	279	eP	Pg	08 50 16.0	-0.6
MOKO				eS	Sg	08 50 46.7	+2.8
MOKO				IAML		08 50 48.0	
	comp=N,2μm,0.7s						
MOKO				IAML		08 50 49.2	
	comp=E,2μm,0.8s						
DIBR	DIBRUGARH	2.25	311	eP	Pb	08 50 15.7	-1.1
DIBR				eS	Sg	08 50 48.4	-0.2
DIBR				IAML		08 50 55.2	
	comp=E,1μm,0.7s						
DIBR				IAML		08 50 56.3	
	comp=N,625nm,0.5s						
JORH	JORHAT	2.43	288	eP	Pb	08 50 20.3	+0.5
KOHI	KOHIMA	2.47	264	eP	Pb	08 50 19.9	-0.8
KOHI				eS	Sg	08 50 54.9	-0.7
KOHI				IAML		08 51 00.9	
	comp=E,1μm,0.8s						
KOHI				IAML		08 51 03.5	
	comp=N,755nm,0.6s						
IMP	Imphal	2.86	246	eP	Pb	08 50 25.7	-1.6
IMP				eS	Sb	08 51 02.4	+0.1
IMP				IAML		08 51 14.6	
	comp=N,547nm,0.4s						
IMP				IAML		08 51 18.0	
	comp=E,749nm,0.5s						
ITAN	ITANAGAR	3.01	293	eP	Pb	08 50 27.7	-2.0
ITAN				eS	Sb	08 51 05.0	-1.5
ITAN				IAML		08 51 06.8	
	comp=E,416nm,0.5s						
ITAN				IAML		08 51 06.8	
	comp=N,745nm,0.3s						
ZIRO	ZIRO	3.07	300	eP	Pb	08 50 27.7	-3.2
ZIRO				eS	Sb	08 51 06.5	-1.8
ZIRO				IAML		08 51 10.3	
	comp=N,2μm,0.7s						
ZIRO				IAML		08 51 11.4	
	comp=E,2μm,0.5s						
AZL	Aizawl	4.39	240	eP	Pn	08 50 45.2	+2.3
AZL				eS	Sb	08 51 42.7	-3.6
AZL				IAML		08 51 52.0	
	comp=N,155nm,0.7s						
AZL				IAML		08 51 56.2	
	comp=E,120nm,0.4s						
PZH	PanZhiHua	4.44	83	Pn	Pn	08 50 46.4	+2.9
PZH				Pg	Pg	08 50 59.0	-2.2
PZH				Sn	Sn	08 51 33.9	-1.3
PZH				Sg	Sg	08 51 52.8	-5.9
PZH				smax	smax		
	comp=E,140nm,1.2s						
PZH				smax	smax		
	comp=E,110nm,1.7s						
SHL	Shillong	4.48	265	Pn	Pn	08 50 45.3	+1.1
SHL	Shillong	4.48	265	eP	Pn	08 50 45.8	+1.5
SHL				eS	Sn	08 51 37.2	+0.8
TAWA	Tawang	4.71	291	eP	Pn	08 50 51.2	+3.7
TAWA				eS	Sn	08 51 46.5	+4.1
TAWA				IAML		08 51 50.1	
	comp=N,431nm,0.7s						
TAWA				IAML		08 51 52.9	
	comp=E,276nm,0.3s						
SAIH	SAIHA	4.96	226	eP	Pn	08 50 52.6	+1.9
SAIH				eS	Sb	08 51 55.8	-7.0
SAIH				IAML		08 52 07.5	
	comp=N,181nm,1.2s						
KMI	Kunming	5.41	98	⇓Pn	Pg	08 51 16.2	-3.6
KMI				Sn	Sb	08 52 18.3	+2.5
KMI				smax	smax		
	comp=N,320nm,0.9s						
KMI				smax	smax		
	comp=E,200nm,1.1s						
KMI				LR	LR		
	comp=N,4μm,8.4s						
KMI				LR	LR		
	comp=E,650nm,10.8s						
KMI				LR	LR		
	comp=Z,460nm,8.8s						
LSA	Lhasa	6.23	307	Pn	Pn	08 51 11.6	+3.1
CHTO	Chiang Mai	7.42	164	Pn	Pn	08 51 24.5	0.0
GTK	Tadong	7.48	282	eP	Pn	08 51 28.9	+3.5
GTK				eS	Sn	08 52 49.1	-1.2
GTK				IAML		08 52 58.7	
	comp=E,70nm,0.9s						
GTK				IAML		08 52 59.4	
	comp=N,49nm,0.4s						
CM31	Chiang Mai Arr	7.76	165		Pn	08 51 28.9	-0.3
CMAR	Chiang Mai Arr	7.76	165	Pn	Pn	08 51 30.4	+1.2
CMAR	Chiang Mai Arr	7.76	165	Pn	Pn	08 51 29.5	+0.4
	comp=N,2.4nm,0.3s,baz=338,slow=13,SNR=31						
CMAR				Lg	Lg	08 53 38.6	
	comp=N,0.5nm,0.3s,baz=354,slow=20,SNR=4.7						
	comp=N,9.4nm,0.6s						
CD2	Chengdu	7.81	50	P	Pn	08 51 34.1	+4.3
PHRA	Phrae	8.11	157		Pn	08 51 36.1	+2.3
TAPN	Taplejung	8.27	281	Pn	Pn	08 51 38.8	+2.5
	baz=284,slow=0.0						
RAMN	Ramite	9.22	278	Pn	Pn	08 51 50.8	+1.5
	baz=281,slow=0.0						
RAMN				Sn	Sn	08 53 31.2	-1.9
	comp=N,55nm,0.6s,baz=281,slow=0.0						
GUN	Gumba	9.96	283	Pn	Pn	08 52 02.9	+3.4
	baz=286,slow=0.0						
GUN				Sn	Sn	08 53 48.9	-2.5
	baz=286,slow=0.0						
BOK	Bokaro	10.18	260	eP	Pn	08 52 02.8	+0.6
BOK				eS	Sn	08 53 55.7	-0.8
GOMU	GeErMu	10.30	351	P	Pn	08 52 06.1	+1.8
GOMU				pmax	pmax		
	comp=N,20nm,0.9s						
PKI	Pulchoki	10.33	281	Pn	Pn	08 52 06.2	+1.6
	baz=283,slow=0.0						
PKI				Sn	Sn	08 53 57.7	-2.8
	comp=N,53nm,0.8s,baz=283,slow=0.0						
PKIN	Phulchoki	10.34	281	Pn	Pn	08 52 06.3	+1.6
	baz=283,slow=0.0						
PKIN				Sn	Sn	08 53 57.7	-3.0
	comp=N,50nm,0.7s,baz=283,slow=0.0						
KKN	Kakani	10.46	282	Pn	Pn	08 52 07.9	+1.5
	baz=284,slow=0.0						
DMN	Daman	10.60	281	Sn	Sn	08 54 04.2	-2.9
	comp=N,54nm,0.8s,baz=283,slow=0.0						
GKN	Gorkha	11.06	283	Pn	Pn	08 52 15.7	+1.3
	baz=285,slow=0.0						
GKN				Sn	Sn	08 54 14.9	-3.3
	comp=N,65nm,0.7s,baz=285,slow=0.0						
LZH	Lanzhou	11.70	29	eP	Pn	08 52 23.8	+0.6
LZH				pP		08 52 31.4	
LZH				pmax	pmax		
	comp=N,23nm,1.4s						
DANN	Dangsing	11.87	284	Sn	Sn	08 54 34.6	-3.7
	comp=N,38nm,0.8s,baz=286,slow=0.0						
PYUN	Piuthan	12.51	283	Sn	Sn	08 54 49.6	-4.3
	comp=N,94nm,0.9s,baz=284,slow=0.0						
XAN	Xi'an	13.17	50	P	P	08 52 50.0	-3.3
XAN				pmax	pmax		
	comp=N,7.0nm,0.8s						
XAN				LR	LR		
	comp=N,460nm,8.4s						
XAN				LR	LR		
	comp=N,310nm,11.0s						
XAN				LR	LR		
	comp=N,440nm,10.1s						
UBPT	Khong Chiam	13.38	141	Pn	Pn	08 52 47.8	+1.8
GTA	Gaotai	13.60	10	eP	P	08 53 01.4	+3.3
GTA				pP	Pn	08 53 04.9	+16
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
QIZ	Qiongzhong	13.88	117	P	Pn	08 52 53.7	+0.8
QIZ				S	Sn	08 55 30.9	+3.9
QIZ				LR	LR		
	comp=Z,440nm,9.4s						
QIZ				LR	LR		
	comp=Z,240nm,9.6s						
QIZ				LR	LR		
	comp=Z,230nm,11.2s						
LYN	LuoYang	15.95	54	eP	Pn	08 53 21.1	+0.5
LYN				PP	PnPn	08 53 34.8	+5.6
LYN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LYN				LR	LR		
	comp=Z,820nm,14.9s						
LYN				LR	LR		
	comp=Z,390nm,12.9s						
LYN				LR	LR		
	comp=Z,400nm,10.4s						
SRIT	Nakonsritamara	17.52	171		P	08 53 42.0	+0.4
BHPL	Bhopal	17.86	265	eP	P	08 53 47.8	+2.4
HHC	Hu-ho-hao-te	19.20	36	eP	P	08 54 00.0	-0.1
HHC				pP	sP	08 54 05.7	+0.7
HHC				PP	PnPn	08 54 14.8	+0.9
HHC				S	Sn	08 57 27.4	-8.8
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,4.5s						
HHC				LR	LR		
	comp=Z,260nm,14.9s						
HHC				LR	LR		
	comp=Z,510nm,16.3s						
HHC				LR	LR		
	comp=Z,260nm,10.4s						
WMQ	Urumqi	19.26	340	eP	Pn	08 54 03.0	+1.3
WMQ				sP	sP	08 54 10.0	+4.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
KNMB	Chin-men Tao	19.56	90	P	Pn	08 54 06.4	+1.1
TIA	Tai'an	20.10	55	P	P	08 54 10.1	+0.3
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
WUS	Wushi	21.03	320	P	P	08 54 20.1	+0.1
WUS				IAmb	IAmb	08 54 32.0	
	comp=Z,17nm,0.9s						
NIL	Nilore	21.80	296	P	P	08 54 27.3	-1.0
NIL				IAmb	IAmb	08 54 37.3	
	comp=Z,18nm,0.8s						
KSH	Kashi	22.05	313	P	P	08 54 33.5	+2.5
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
TARG	Taragay, Kyrgy	22.18	320	P	P	08 54 32.9	+0.1
TARG				IAmb	IAmb	08 54 43.4	
	comp=Z,10nm,0.7s						
SONM	Songino Array	23.05	17	P	P	08 54 41.6	0.0
SONM	Songino Array	23.05	17	P	P	08 54 41.3	-0.3
	comp=Z,1.2nm,0.8s,baz=197,slow=11,SNR=9.8						
	comp=Z,1.2nm,0.8s						
NRN	Naryn	23.09	317	P	P	08 54 42.7	+0.5
PSI	Prapat	23.16	175	LR	LR	09 05 35.6	
	comp=Z,144nm,18.3s,baz=3.0,slow=41						
ULN	Ulaanbaatar	23.25	18	P	P	08 54 43.7	+0.1
XLT	XiLinHaoTe	23.72	36	eP	P	08 54 48.5	+0.2
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MK31	Makanchi Array	23.74	335	P	P	08 54 49.4	+1.0
MK31				IAmb	IAmb	08 54 56.8	
	comp=Z,10nm,1.1s						
MKAR	Makanchi Array	23.74	335	P	P	08 54 49.2	+0.9
MKAR	Makanchi Array	23.74	335	P	P	08 54 50.0	+1.6
	comp=Z,4.0nm,0.6s,baz=141,slow=9.6,SNR=59						
MKAR				LR	LR	09 05 10.9	
	comp=Z,121nm,18.6s,baz=261,slow=39						
	comp=Z,4.0nm,0.6s						
MAKZ	Makanchi	23.88	334	P	P	08 54 50.7	+1.1
MAKZ				IAmb	IAmb	08 55 14.7	
	comp=Z,6.6nm,1.1s						
PALK	Pallekele	24.15	222	LR	LR	09 05 37.7	
	comp=Z,45nm,18.7s,baz=30,slow=40						
AAK	Ala-Archa	24.70	318	P	P	08 54 58.0	+0.7
AAK				IAmb	IAmb	08 55 35.4	
	comp=Z,5.5nm,1.0s						
AAK	Ala-Archa	24.70	318	LR	LR	09 05 52.8	
	comp=Z,104nm,18.6s,baz=14,slow=40						
KBL	Kabul	25.40	296	P	P	08 55 03.7	-0.2
KBL				IAmb	IAmb	08 55 12.5	
	comp=Z,15nm,1.2s						
GAR	Garm	25.74	307	P	P	08 55 07.6	+0.7
SIMJ	Simiganj	26.57	305	P	P	08 55 15.0	+0.7
SIMJ				IAmb	IAmb	08 55 34.3	
	comp=Z,11nm,1.4s						
JOW	Kunigami	28.14	81	LR	LR	09 07 56.4	
	comp=Z,107nm,19.6s,baz=230,slow=39						
KURBB	Kurchatov Arra	28.31	335	P	P	08 55 30.8	+1.1
	comp=Z,0.4nm,0.4s,baz=149,slow=10,SNR=6.6						
	comp=Z,0.4nm,0.4s						
KURK	Kurchatov	28.35	335	P	P	08 55 32.6	+2.6
KURK				IAmb	IAmb	08 55 46.3	
	comp=Z,4.6nm,0.8s						
KSRS	Korea Array	28.68	59	LR	LR	09 08 50.6	
	comp=Z,36nm,18.9s,baz=280,slow=40						
ZAA0	Zalesovo Array	29.30	345	P	P	08 55 38.6	+0.1
ZAA0				IAmb	IAmb	08 55 45.7	
	comp=Z,7.6nm,1.2s						
ZALV	Zalesovo Beam	29.30	345	P	P	08 55 38.9	+0.4
BNX	BinXian	31.36	43	⇑P	P	08 55 57.0	+0.3
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR	Borovoye Array	33.46	331	P	P	08 56 15.5	+0.4
	comp=Z,1.3nm,0.5s,baz=145,slow=8.8,SNR=6.4						
BVAR				LR	LR	09 11 21.9	
	comp=Z,155nm,19.4s,baz=326,slow=39						
	comp=Z,1.3nm,0.5s						
BRVK	Borovoye	33.53	331	P	P	08 56 16.5	+0.8
BRVK				IAmb	IAmb	08 56 17.9	
	comp=Z,3.6nm,0.9s						
HEH	HeiHe	33.72	36	eP	P	08 56 17.6	+0.2
HEH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ABKAR	Akbulak array	36.77	319	P	P	08 56 44.5	+0.8
ABKAR	Akbulak array	36.77	319	P	P	08 56 44.0	+0.4
ARTI	Arti	41.03	328	P	P	08 57 19.6	+0.4
ARTI				IAmb	IAmb	08 57 42.7	
	comp=Z,8.2nm,1.4s						
PETK	Petropavlovsk-	52.26	42	LR	LR	09 22 55.0	
	comp=Z,55nm,20.7s,baz=88,slow=38						
BRTR	Keskin Array B	53.80	301	P	P	08 59 00.1	+1.1
BRTR	Keskin Array B	53.80	301	P	P	08 58 57.1	-1.9
	comp=Z,0.4nm,0.6s,baz=90,slow=7.8,SNR=1.7						
	comp=Z,0.4nm,0.6s						
AKASG	Malin Array Be	56.32	315	P	P	08 59 15.8	-1.1
	comp=Z,0.4nm,0.4s,baz=80,slow=6.1,SNR=5.6						
	comp=Z,0.4nm,0.4s						
WB0	Warramunga Arr	58.32	138	P	P	08 59 30.1	-1.2
FINES	FINESS Array B	58.33	328	P	P	08 59 32.6	+1.7
	comp=Z,1.1nm,0.7s,baz=110,slow=8.4,SNR=1.2						
	comp=Z,1.1nm,0.7s						
WRA	Warramunga Arr	58.42	138	P	P	08 59 31.2	-0.8
	comp=Z,2.0nm,0.8s,baz=329,slow=7.6,SNR=6.7						
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	59.36	337	P	P	08 59 39.4	+1.4
	comp=Z,2.5nm,1.0s,baz=72,slow=7.8,SNR=1.5						
	comp=Z,2.5nm,1.0s						
ASAR	Alice Springs	61.04	141	P	P	08 59 49.9	-0.2
	comp=Z,0.9nm,0.9s,baz=321,slow=7.6,SNR=6.4						
	comp=Z,0.9nm,0.9s						
HFS	Hagfors	64.45	327	P	P	09 00 13.5	+1.2
	comp=Z,1.9nm,0.8s,baz=64,slow=9.8,SNR=1.9						
	comp=Z,1.9nm,0.8s						
NOA	NORSAR Array B	65.52	328	P	P	09 00 18.4	-0.9
	comp=Z,0.6nm,0.7s,baz=84,slow=6.4,SNR=3.3						
	comp=Z,0.6nm,0.7s						
ILAR	Eielson Array	77.10	23	P	P	09 01 27.0	-2.3
	comp=Z,0.3nm,0.8s,baz=282,slow=5.9,SNR=3.4						
	comp=Z,0.3nm,0.8s						
ESDC	Sonseca Array	81.53	310	P	P	09 01 52.3	-1.8
	comp=Z,0.3nm,0.4s,baz=27,slow=4.2,SNR=2.7						
	comp=Z,0.3nm,0.4s						
BOSA	Boshof	87.58	237	LR	LR	09 42 34.1	
	comp=Z,51nm,18.1s,baz=351,slow=36						
YKA	Yellowknife Ar	88.29	14	P	P	09 02 25.7	-1.7
	comp=Z,0.6nm,0.8s,baz=327,slow=4.6,SNR=11						
	comp=Z,0.6nm,0.8s						
SUR	Sutherland	92.78	235	LR	LR	09 45 11.9	
	comp=Z,74nm,18.5s,baz=338,slow=36						

*IDC **07** 08:50:13.5±3.2, 54°.09N×86°.98E, h0km, mbtmp2.4/2, ML2.3/2, Error ellipse: s-maj=28.8km s-min=17.0km az=63.0*

ASRS 07 08:50:11.0±0.6, 54°.12N×87°.15E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39	264	I	I	08 58 20.0	
	baz=80,slow=354,SNR=2.5						
ZALV	Zalesovo Beam	1.39	264	Pg	Pb	08 50 37.9	+0.2
	1.5nm,0.3s,baz=85,slow=16,SNR=16						
ZALV				Lg	Lg	08 50 55.0	
	1.0nm,0.3s,baz=88,slow=25,SNR=8.9						
KURBB	Kurchatov Arra	6.33	240	Pn	Pn	08 51 46.6	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=4.2						
	0.1nm,0.3s						
MKAR	Makanchi Array	7.96	205	Pn	Pn	08 52 11.1	+3.2
	0.1nm,0.3s,baz=26,slow=15,SNR=1.6						
	0.1nm,0.3s						

NEIC 07 08:52:38.9±1.2, 3°.30S±0°.04×37°.38E±0°.06, h10km±2km, mb_Lg3.7/4, Error ellipse: s-maj=10.0km s-min=7.2km az=72.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIBK	Kibwezi	1.17	35	Pn	Pb	08 53 01.1	-0.2
KIBK					Sb	08 53 15.6	-0.9
KIBK				IAmb_Lg		08 53 16.4	
	comp=Z,387nm,0.8s						
KMBO	Kilima Mbogo	2.16	357	Pn	Pn	08 53 16.1	+0.9
KMBO				Sn	Sn	08 53 42.2	-0.1
KMBO				IAmb_Lg		08 53 47.9	
	comp=Z,522nm,1.1s						
LODK	Lodwar	6.97	343	Pn	Pn	08 54 21.7	+0.4
LODK				Sn	Sn	08 55 38.0	-2.8
MBAR	Mbarara	7.15	292	Pn	Pn	08 54 23.1	-0.8

*NEIC **07** 08:52:50.9±1.3, 61°.62N±0°.03×150°.94W±0°.06, h77km±4km, Error ellipse: s-maj=4.8km s-min=3.9km az=156.0*

AEIC 07 08:52:51.8±1.4, 61°.61N±0°.03×150°.89W±0°.06, h72km±4km, ML2.8, ML2.9/156(NEIC), Error ellipse: s-maj=4.8km s-min=3.9km az=161.0, Southern Alaska

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

SPCG	Spurr Capps Gl	0.63	240		Pn	08 53 05.4	-0.8
SPCG					Sn	08 53 15.9	-0.9
SPU	Mount Spurr	0.71	233		Pn	08 53 05.6	-1.4
SPU				IAML		08 53 17.6	
	comp=E,632nm,0.3s						
SPU				IAML		08 53 18.0	
	comp=N,616nm,0.5s						
SPU	Mount Spurr	0.71	233		Sn	08 53 17.1	-1.0
RC01	Rabbit Creek A	0.77	133		Pn	08 53 07.2	-0.3
RC01				IAML		08 53 21.4	
	comp=N,418nm,0.3s						
RC01				IAML		08 53 23.0	
	comp=E,304nm,0.5s						
SPBG	Spurr Blockage	0.79	244		Pn	08 53 07.1	-0.9
SPBG					Sn	08 53 18.9	-1.0
PMR	Palmer	0.84	91		Pn	08 53 07.8	-0.6
PMR				IAML		08 53 21.6	
	comp=N,282nm,0.5s						
PMR	Palmer	0.84	91		Sn	08 53 20.8	+0.1
CUT	Chulitna	0.85	20		Pn	08 53 08.0	-0.4
CUT	Chulitna	0.85	20		Sn	08 53 21.4	+0.5
CAPN	Captain Cook N	0.86	189		Pn	08 53 09.2	+0.6
GHO	Glory Hole Cre	0.95	80	Pn	Pn	08 53 09.5	-0.4
GHO				IAML		08 53 25.2	
	comp=E,417nm,0.3s						
GHO				IAML		08 53 25.4	
	comp=N,365nm,0.5s						
GHO	Glory Hole Cre	0.95	80		Sn	08 53 24.2	+1.0
M20K	Styx River	1.10	285		Pn	08 53 10.6	-1.0
M20K				IAML		08 53 27.0	
	comp=N,145nm,0.8s						
M20K				IAML		08 53 27.4	
	comp=E,159nm,0.8s						
M20K	Styx River	1.10	285		Sn	08 53 25.4	-1.2
SLKM	Skilak Lake	1.16	163		Pn	08 53 11.6	-0.7
SLKM				IAML		08 53 31.0	
	comp=N,158nm,0.3s						
KNK	Knik Glacier	1.18	99		Pn	08 53 12.8	+0.2
KNK	Knik Glacier	1.18	99		Sn	08 53 29.0	+0.7
SML	Sawmill	1.23	80	Pn	Pn	08 53 12.8	-0.5
SML				IAML		08 53 31.8	
	comp=N,177nm,0.8s						
SML				IAML		08 53 33.1	
	comp=E,213nm,0.7s						
O22K	Cooper Landing	1.27	153		Pn	08 53 13.2	-0.5
RDT	Redoubt	1.28	216		Pn	08 53 13.1	-0.8
RDJH	Redoubt Jeurge	1.38	223		Pn	08 53 14.7	-0.7
PPLA	Purkeypile	1.42	335		Pn	08 53 15.3	-0.6
PWL	Port Wells	1.45	120		Pn	08 53 15.0	-1.1
PWL				IAML		08 53 42.5	
	comp=N,216nm,0.4s						
RDWB	Redoubt West	1.47	221		Pn	08 53 15.9	-0.6
M23K	Glacier View	1.52	82		Pn	08 53 16.8	-0.3
L20K	Farewell, AK	1.65	303		Pn	08 53 17.8	-1.1
SEW	Seward	1.67	154	Pn	Pn	08 53 20.4	+1.4
M19K	Big River Lodg	1.69	281		Pn	08 53 18.1	-1.2
SCM	Sheep Creek Mo	1.71	81	Pn	Pn	08 53 19.6	0.0
SCM				IAML		08 53 43.6	
	comp=N,184nm,0.8s						
O20K	Slope Mountain	1.76	210		Pn	08 53 20.1	-0.1
BRLK	Bradley Lake	1.86	180		Pn	08 53 21.9	+0.4
BRLK				IAML		08 53 50.4	
	comp=N,120nm,0.6s						
BRLK				IAML		08 53 52.9	
	comp=E,88nm,0.4s						
TRF	Thorofare Moun	1.86	8		Pn	08 53 21.7	0.0
TRF				IAML		08 53 46.2	
	comp=N,108nm,0.5s						
TRF				IAML		08 53 51.6	
	comp=E,95nm,0.7s						
BRSE	Bradley Lake S	1.88	178		Pn	08 53 20.7	-1.1
CAST	Castle Rocks	1.89	344		Pn	08 53 21.2	-0.8
CAST				IAML		08 53 45.3	
	comp=E,84nm,0.7s						
CAST				IAML		08 53 47.4	
	comp=N,75nm,0.5s						
ILW	Iliamna West	1.91	216		Pn	08 53 21.4	-0.9
N19K	Bonanza Creek	1.91	247		Pn	08 53 21.6	-0.8
N19K	Bonanza Creek	1.91	247	IAML		08 53 45.8	
	comp=N,63nm,0.8s						
KTH	Kantishna Hill	1.95	360	Pn	Pn	08 53 22.9	+0.1
KTH				IAML		08 53 51.0	
	comp=E,143nm,0.6s						
L19K	White Mountain	1.96	289		Pn	08 53 22.2	-0.7
L19K	White Mountain	1.96	289	IAML		08 53 46.0	
	comp=N,96nm,0.6s						
L19K				IAML		08 53 46.4	
	comp=E,63nm,0.6s						
ILSW	Iliamna Southw	1.97	215		Pn	08 53 22.2	-1.0
ILSW				IAML		08 53 50.6	
	comp=N,75nm,0.7s						
ILSW				IAML		08 53 53.6	
	comp=E,77nm,0.7s						
ILS	Iliamna Low So	1.98	214		Pn	08 53 22.6	-0.6
GLI	Glacier Island	1.98	110		Pn	08 53 21.7	-1.4
GLI	Glacier Island	1.98	110	IAML		08 53 46.8	
	comp=N,114nm,0.3s						
GLI				IAML		08 53 49.3	
	comp=E,121nm,0.5s						
HOM	Homer	2.00	191		Pn	08 53 23.2	-0.1
RND	Reindeer	2.03	27	Pn	Pn	08 53 23.3	-0.6
CNPM	China Poot	2.10	185	Pn	Pn	08 53 23.4	-1.4
CNPM				IAML		08 53 55.9	
	comp=E,137nm,0.6s						
CNPM				IAML		08 53 56.8	
	comp=N,134nm,0.6s						
O19K	Port Alsworth	2.20	231		Pn	08 53 24.7	-1.4
O19K				IAML		08 54 02.0	
	comp=N,124nm,0.4s						
P19K	Oil Pt	2.28	211	Pn	Pn	08 53 26.8	-0.4
P19K				IAML		08 53 59.3	
	comp=N,90nm,0.5s						
K20K	Telida	2.29	321		Pn	08 53 26.8	-0.5
K20K	Telida	2.29	321	IAML		08 54 00.9	
	comp=E,106nm,0.6s						
K20K				IAML		08 54 01.5	
	comp=N,49nm,0.8s						
M24K	Tolsona, Glenn	2.29	75	Pn	Pn	08 53 27.6	+0.3
MCK	McKinley	2.31	22	Pn	Pn	08 53 28.4	+0.8
P23K	Montague Islan	2.36	132		Pn	08 53 26.6	-1.6
M18K	Stony River	2.36	269		Pn	08 53 27.2	-1.0
CHUM	Lake Minchumin	2.37	345		Pn	08 53 28.0	-0.4
KLU	Klutina	2.38	91		Pn	08 53 28.1	-0.5
KLU				IAML		08 53 57.7	
	comp=E,66nm,0.3s						
HIN	Hinchinbrook I	2.46	118		Pn	08 53 28.3	-1.4
HIN	Hinchinbrook I	2.46	118	IAML		08 53 59.5	
	comp=N,49nm,0.9s						
HIN				IAML		08 54 11.7	
	comp=E,60nm,0.8s						
BPAW	Bear Paw Mtn.	2.50	359		Pn	08 53 29.4	-0.7
BPAW				IAML		08 53 59.5	
	comp=E,69nm,0.5s						
BPAW				IAML		08 53 59.7	
	comp=N,61nm,0.6s						
DIV	Divide	2.51	99		Pn	08 53 29.2	-1.2
N18K	Kilae Creek	2.60	251		Pn	08 53 30.3	-1.2
TTA	Tatalina	2.73	301		Pn	08 53 32.2	-1.1
O18K	Koktuh Hills	2.76	232	Pn	Pn	08 53 32.7	-0.9
O18K				IAML		08 54 05.3	
	comp=E,42nm,0.5s						
O18K				IAML		08 54 05.6	
	comp=N,62nm,0.6s						
L18K	Granite Mounta	2.81	285		Pn	08 53 33.2	-1.1
HARP	HAARP	2.82	71		Pn	08 53 35.0	+0.5
PAX	Paxson	2.88	59		Pn	08 53 36.0	+0.6
J20K	Nowinta River	2.97	331		Pn	08 53 35.5	-1.0
J20K				IAML		08 54 25.0	
	comp=E,32nm,0.6s						
J20K				IAML		08 54 25.1	
	comp=N,35nm,0.5s						
N25K	Chitina, Valde	3.01	87		Pn	08 53 36.2	-0.9
N25K				IAML		08 54 13.0	
	comp=N,28nm,0.5s						
N25K				IAML		08 54 13.8	
	comp=E,25nm,0.5s						
Q19K	Cape Douglas,	3.02	208		Pn	08 53 37.4	+0.2
P18K	Big Mountain,	3.09	226		Pn	08 53 37.1	-1.1
BMRM	Bremner River	3.10	99		Pn	08 53 36.4	-1.9
NEA2	Nenana	3.10	15		Pn	08 53 37.2	-1.1
SYI	Shuyak Island	3.11	195	Pn	Pn	08 53 37.5	-0.8
SYI				IAML		08 54 21.1	
	comp=E,37nm,1.4s						
SYI				IAML		08 54 23.6	
	comp=N,28nm,0.6s						
WRH	Wood River Hil	3.14	23		Pn	08 53 37.7	-1.1
M17K	Holitna River	3.14	269		Pn	08 53 37.8	-1.1
M17K	Holitna River	3.14	269	IAML		08 54 14.4	
	comp=N,46nm,0.5s						
WASW	Wrangell South	3.21	81		Pn	08 53 39.8	-0.1
HDA	Harding Lake	3.33	31		Pn	08 53 41.4	0.0
HDA				IAML		08 54 20.3	
	comp=E,22nm,0.5s						
HDA				IAML		08 54 39.0	
	comp=N,38nm,0.6s						
CCB	Clear Creek Bu	3.35	23		Pn	08 53 40.6	-1.0
GLB	Gilahina Butte	3.40	90		Pn	08 53 42.4	0.0
GLB				IAML		08 54 33.9	
	comp=N,23nm,0.4s						
GLB				IAML		08 54 37.6	
	comp=E,16nm,0.7s						
RIDG	Independent Ri	3.51	50		Pn	08 53 43.7	-0.2
RIDG				IAML		08 54 38.4	
	comp=E,32nm,0.9s						
RIDG				IAML		08 54 39.3	
	comp=N,25nm,0.6s						
L17K	Donlin	3.54	282		Pn	08 53 43.3	-1.0
VRDI	Verde Repeater	3.60	93	Pn	Pn	08 53 45.5	+0.3
VRDI				IAML		08 54 49.5	
	comp=N,16nm,0.8s						
MENT	Mentasta	3.61	65		Pn	08 53 44.9	-0.3
I23K	Minto, Yukon-K	3.62	10		Pn	08 53 45.2	0.0
K17K	Iditarod	3.65	291		Pn	08 53 44.8	-0.9
K17K	Iditarod	3.65	291	IAML		08 54 27.5	
	comp=E,18nm,0.6s						
K17K				IAML		08 54 41.4	
	comp=N,14nm,1.3s						
IL31		3.65	28		Pn	08 53 44.9	-0.8
L26K	Log Cabin Wild	3.79	65		Pn	08 53 47.3	-0.4
L26K				IAML		08 54 49.9	
	comp=N,26nm,0.5s						
L26K				IAML		08 54 53.7	
	comp=E,25nm,0.5s						
M26K	Nabesna, AK	3.81	75		Pn	08 53 47.9	0.0
M26K				IAML		08 54 48.4	
	comp=E,13nm,0.8s						
M26K				IAML		08 54 48.5	
	comp=N,19nm,0.6s						
POKR	Poker Plat Res	3.85	22	Pn	Pn	08 53 49.3	+0.9
J25K	Salcha River,	3.92	37		Pn	08 53 50.8	+1.3
J25K	Salcha River,	3.92	37	IAML		08 54 43.9	
	comp=E,15nm,0.6s						
M16K	Timber Creek	3.93	265	Pn	Pn	08 53 47.9	-1.7
M16K				IAML		08 54 34.3	
	comp=N,13nm,1.4s						
KDAK	Kodiak Island	3.94	193		Pn	08 53 47.1	-2.5
KDAK	Kodiak Island	3.94	193	IAML		08 54 28.9	
	comp=N,12nm,1.4s						
KDAK				IAML		08 54 49.6	
	comp=N,15nm,0.9s						
SCRK	Sand Creek	3.96	50		Pn	08 53 49.6	-0.5
SCRK				IAML		08 54 51.1	
	comp=E,12nm,0.7s						
O16K	Kokwok River B	4.09	243		Pn	08 53 50.9	-0.8
H21K	Melozitna Rive	4.15	349		Pn	08 53 51.9	-0.6
H21K				IAML		08 54 55.8	
	comp=E,9.5nm,0.6s						
BALM	Baldy	4.16	94		Pn	08 53 52.2	-0.6
P16K	Nushagak River	4.38	237		Pn	08 53 55.4	-0.2
J26L	Joseph Creek	4.42	46		Pn	08 53 56.7	+0.5
J26L	Joseph Creek	4.42	46	IAML		08 54 48.6	
	comp=N,12nm,0.6s						
J26L				IAML		08 54 49.4	
	comp=E,14nm,0.9s						
H24K	Noodor Dome	4.45	16		Pn	08 53 57.3	+0.6
BCAR	Beaver Creek A	4.49	67	Pn	Pn	08 53 57.2	0.0
PRP	Porcupine Dome	4.59	29		Pn	08 54 00.0	+1.3
PRP				IAML		08 54 53.6	
	comp=E,9.7nm,0.5s						
PRP				IAML		08 54 54.2	
	comp=N,9.7nm,0.4s						
J16K	Anvik River	4.81	295	Pn	Pn	08 53 59.9	-1.6
O15K	Ungalikthiuk R	5.06	245		Pn	08 54 04.5	-0.4
I26K	Coal Creek Min	5.08	40		Pn	08 54 05.5	+0.3
I26K	Coal Creek Min	5.08	40	IAML		08 55 02.5	
	comp=E,12nm,0.6s						
I26K				IAML		08 55 03.0	
	comp=N,12nm,0.7s						
G23K	Bananza Creek	5.13	4		Pn	08 54 06.3	+0.3
G23K				IAML		08 55 05.2	
	comp=N,4.7nm,0.7s						
FYU	Fort Yukon	5.55	24	Pn	Pn	08 54 12.6	+0.9
DAWY	Dawson	5.81	60		Pn	08 54 14.9	-0.4
J29N	Klondike Camp	6.43	58	Pn	Pn	08 54 24.2	+0.5
BMAR	Burnt Mountain	6.44	22	Pn	Pn	08 54 24.0	+0.2
HYT	Haines Junctio	6.52	91	Pn	Pn	08 54 24.4	-0.6
F26K	Sheenjek River	6.75	22	Pn	Pn	08 54 28.0	-0.1
E25K	Arctic Village	6.91	17	Pn	Pn	08 54 30.0	-0.2
TOLK	Toolik Lake Re	7.08	4	Pn	Pn	08 54 34.8	+2.2

*IDC **07** 09:00:04.7±0.9,25°.27N×45°.37W,h0km,mb3.9/10, mbtmp3.9/10,MS3.6/13,Error ellipse: s-maj=23.4km s-min=21.9km az=157.0*

ISC 07 09:00:06.4±0.8,25°.3N±0°.1×45°.4W±0°.1,h11km,n27, σ0s55/10,mb4.0/10,MS3.6/13,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	San Juan	20.57	254	LR	LR	09 10 41.3	
	comp=Z,129nm,22.0s,baz=62,slow=31						
MDP	Montagnes des	21.24	200	P	P	09 04 53.4	+0.9
	29nm,1.1s,baz=9.5,slow=19,SNR=1.9						
	29nm,1.1s						
BBTS	Babate	29.02	106	LR	LR	09 14 12.8	
	comp=Z,170nm,21.8s,baz=246,slow=29						
SDV	Santo Domingo	29.05	240	LR	LR	09 18 51.8	
	comp=Z,121nm,18.1s,baz=302,slow=39						
SADO	Sadowa	33.48	314	LR	LR	09 17 38.5	
	comp=Z,109nm,20.4s,baz=58,slow=32						
ROSC	El Rosal	34.41	239	LR	LR	09 20 42.9	
	comp=Z,117nm,18.5s,baz=75,slow=36						
TKL	Tuckaleechee C	34.49	297	LR	LR	09 17 28.3	
	comp=Z,164nm,21.8s,baz=106,slow=30						
FRB	Frobisher Bay	41.37	345	LR	LR	09 23 12.4	
	comp=Z,117nm,19.9s,baz=114,slow=34						
H10N2	ASCENSION HYDR	44.57	134	T	T	09 55 55.6	
	baz=318,slow=74,SNR=62						
H10N3	ASCENSION HYDR	44.57	134	T	T	09 55 55.6	
	baz=318,slow=74,SNR=56						
H10N1	ASCENSION HYDR	44.59	134	T	T	09 55 56.8	
	baz=318,slow=74,SNR=70						
H10S3	ASCENSION HYDR	45.30	135	T	T	09 56 48.3	
	baz=317,slow=74,SNR=29						
H10S2	ASCENSION HYDR	45.31	135	T	T	09 56 49.5	
	baz=263,slow=74,SNR=31						
TORD	Torodi Ar. Bea	45.83	96	P	P	09 08 28.5	-0.3
	2.7nm,1.1s,baz=314,slow=8.8,SNR=9.4						
	2.7nm,1.1s						
ULM	Lac du Bonnet	45.95	316	P	P	09 08 29.1	-0.2
	1.0nm,0.8s,baz=102,slow=7.3,SNR=2.2						
ULM				LR	LR	09 24 47.2	
	comp=Z,80nm,20.6s,baz=106,slow=32						
	1.0nm,0.8s						
CMIG	Matias Romero	46.67	270	LR	LR	09 25 35.8	
	comp=Z,45nm,19.4s,baz=31,slow=33						
LPAZ	La Paz	46.89	211	P	P	09 08 36.9	-0.8
	4.1nm,1.1s,baz=15,slow=7.4,SNR=6.3						
	4.1nm,1.1s						
NOA	NORSAR Array B	52.15	31	P	P	09 09 16.4	-0.2
	0.9nm,0.8s,baz=254,slow=7.8,SNR=3.2						
	0.9nm,0.8s						
ANMO	Albuquerque	53.01	296	LR	LR	09 30 46.0	
	comp=Z,42nm,18.3s,baz=231,slow=35						
PDAR	Pinedale Array	54.72	306	P	P	09 09 36.4	+0.3
	1.5nm,1.0s,baz=77,slow=6.7,SNR=9.1						
	1.5nm,1.0s						
YKA	Yellowknife Ar	58.33	329	P	P	09 10 00.7	-0.4
	0.3nm,0.7s,baz=99,slow=6.1,SNR=5.8						
	0.3nm,0.7s						
LPIG	La Paz	58.47	284	LR	LR	09 37 54.1	
	comp=Z,42nm,18.7s,baz=37,slow=39						
AKASG	Malin Array Be	61.27	44	P	P	09 10 21.7	+0.1
	0.9nm,0.6s,baz=279,slow=6.0,SNR=4.3						
	0.9nm,0.6s						
PFO	Pinyon Flats O	61.39	296	LR	LR	09 36 31.6	
	comp=Z,50nm,19.4s,baz=68,slow=36						
NVAR	Mina Array Bea	61.87	302	LR	LR	09 35 29.1	
	comp=Z,90nm,20.2s,baz=74,slow=34						
BRTR	Keskin Array B	66.21	56	P	P	09 10 55.0	+0.5
	1.7nm,0.8s,baz=264,slow=8.6,SNR=5.9						
	1.7nm,0.8s						
ILAR	Eielson Array	72.17	334	P	P	09 11 31.3	+0.4
	0.9nm,1.0s,baz=74,slow=6.6,SNR=5.3						
	0.9nm,1.0s						

*IDC **07** 09:05:35.0±1.3,84°.88N×5°.53E,h0km,mb3.9/5, mbtmp3.9/8,ML3.7/3,MS3.6/10,Error ellipse: s-maj=37.2km s-min=21.4km az=36.0*

*NEIC **07** 09:05:36.8±1.9,84°.4N±0°.2×±°,h10km±2km,mb4.1/10, Error ellipse: s-maj=52.6km s-min=13.7km az=53.0*

*FCIAR **07** 09:05:38.0,84°.79N×9°.32E,h10km,station ZFI2 has station magnitude of 3.40*

*BER **07** 09:05:39.4±2.9,84°.78N×7°.65E,h15km±54km,mb(Pn)3.6, ML1.1(DNK),Confirmed Earthquake*

*KOLA **07** 09:05:42.9,84°.54N×11°.87E,h0km,ML1.7,Error ellipse: s-maj=184.3km s-min=38.8km az=80.0,Arctic Ocean,Gakkel ridge*

ISC 07 09:05:35.8±0.7,84°.58N±0°.06×5°.69E±0°.06,h10km,n57, σ0s22/63,mb4.1/9,MS3.5/9,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	3.99	234	*i* P	Pb	09 06 43.0	-3.1
NOR	Nord	3.99	234	*i* P	Pb	09 06 43.0	-3.1
KBS	Kingsbay	5.75	168	Pn	Pn	09 07 02.8	+1.7
KBS	Kingsbay	5.75	168	*e*P	Pn	09 07 02.9	+1.7
KBS				*e*S	Sn	09 08 05.8	-1.3
KBS				IAML		09 08 10.2	
	comp=Z,6.2nm,0.3s						
KBS	Kingsbay	5.75	168	P	Pn	09 07 02.9	+1.7
KBS				S	Sn	09 08 02.8	-4.2
KBS	Kingsbay	5.75	168	*e*P	Pn	09 07 02.6	+1.5
KBS				*e*S	Sn	09 08 05.7	-1.3
KBS	Kingsbay	5.75	168	*e*P	Pn	09 07 02.7	+1.7
KBS				*i* S	Sn	09 08 06.3	-0.8
ZFI2	Zemlya Franca-	6.34	103	*e*P	Pn	09 07 07.4	-1.7
ZFI2				*e*S	Sn	09 08 12.2	-9.2
	comp=Z,16nm,1.9s						
SPB5	Spitsbergen Ar	6.61	161	Pn	Pn	09 07 14.6	+1.8
SPB4	Spitsbergen Ar	6.61	161	Pn	Pn	09 07 14.2	+1.3
SPA0	Spitsbergen Ar	6.62	161	*e*P	Pn	09 07 14.1	+1.1
SPA0				*e*S	Sn	09 08 25.1	-3.2
SPA0				IAML		09 08 30.2	
	comp=Z,3.8nm,0.6s						
SPA0	Spitsbergen Ar	6.62	161	*e*P	Pn	09 07 14.4	+1.5
SPA0				*e*S	Sn	09 08 25.4	-2.9
SPITS	Spitsbergen Ar	6.62	161	Pn	Pn	09 07 14.8	+1.9
	baz=353,slow=14						
SPITS				Sn	Sn	09 08 26.8	-1.4
	baz=24,slow=17						
	comp=Z,2.9nm,0.4s						
SPITS	Spitsbergen Ar	6.62	161	P	Pn	09 07 14.6	+1.6
SPITS				S	Sn	09 08 24.0	-4.3
SPB2	Spitsbergen Ar	6.62	161	Pn	Pn	09 07 13.8	+0.8
BRBB	Barentsburg B	6.64	165	*e*P	Pn	09 07 15.3	+2.1
BRBB				*e*S	Sn	09 08 26.3	-2.4
BRBB	Barentsburg B	6.64	165	P	Pn	09 07 15.5	+2.3
BRBB				S	Sn	09 08 29.0	+0.2
BRBA	Barentsburg A	6.67	165	*e*P	Pn	09 07 15.7	+2.1
BRBA				*e*S	Sn	09 08 29.7	+0.1
HSPB	Hornsund (broa	7.76	163	*e*P	Pn	09 07 30.5	+1.9
HSPB				*e*		09 08 56.3	
HSPB	Hornsund (broa	7.76	163	P	Pn	09 07 31.1	+2.4
HSPB				S	Sn	09 08 55.9	-0.5
HOPEN	Hopen	8.62	149	*e*P	Pn	09 07 42.0	+1.7
HOPEN				*e*S	Sn	09 09 11.3	-6.0
HOPEN				IAML		09 09 21.4	
	comp=Z,12nm,0.8s						
HOPEN	Hopen	8.62	149	*e*P	Pn	09 07 42.3	+2.0
HOPEN				*e*S	Sn	09 09 11.9	-5.4
DAG	Danmarks Havn	8.64	219	*i* P	Pn	09 07 47.3	+6.7
DAG				*i* S	Sn	09 09 15.1	-2.7
DAG				IAML		09 09 35.9	
	comp=Z,0.3nm,0.3s						
DAG	Danmarks Havn	8.64	219	*e*P	Pn	09 07 44.9	+4.3
DAG				IAML		09 09 35.9	
	comp=Z,0.3nm,0.3s						
NEEM	North Greenlan	10.65	262	*i* P	Pn	09 08 08.8	+0.3
NEEM				*e*S	Sn	09 09 58.0	-10
NEEM				IAML		09 10 08.5	
	comp=Z,0.6nm,0.2s						
NEEM	North Greenlan	10.65	262	*i* P	Pn	09 08 08.8	+0.3
NEEM				*e*S	Sn	09 09 58.0	-10
NEEM				IAML		09 10 08.5	
	comp=Z,0.6nm,0.2s						
DBG	Daneborg	11.14	218	*i* P	Pn	09 08 16.6	+1.8
DBG	Daneborg	11.14	218	*i* P	Pn	09 08 16.6	+1.8
EUNU	Eureka	11.56	300	Pn	Pn	09 08 18.9	-1.7
SUMG	Summit	14.12	239	*i* P	Pn	09 08 58.2	+2.3
KEV	Kevo	15.41	152	Pn	Pn	09 09 13.3	+0.4
KEV				IAmb	IAmb	09 09 43.9	
	comp=Z,18nm,1.1s						
ARCES	ARCESS Array B	15.57	154	Pn	Pn	09 09 16.0	+1.1
ARCES	ARCESS Array B	15.57	154	Pn	Pn	09 09 15.6	+0.7
	comp=Z,0.1nm,0.3s,baz=0.0,slow=8.5,SNR=11						
ARCES				Sn	Sn	09 11 54.9	-12
	baz=2.7,slow=21,SNR=1.8						
ARCES				LR	LR	09 14 28.5	
	comp=Z,188nm,18.2s,baz=256,slow=34						
	comp=Z,0.7nm,0.5s						
RES	Resolute Bay	17.25	298	Pn	Pn	09 09 33.4	-2.8
RES	Resolute Bay	17.25	298	P	Pn	09 09 33.9	-2.3
	comp=Z,0.3nm,0.3s,baz=22,slow=11,SNR=19						
	comp=Z,2.5nm,0.6s						
NRIK	Noril'sk	20.70	84	P	P	09 10 16.4	+0.9
	comp=Z,1.3nm,0.4s,baz=13,slow=12,SNR=4.8						
	comp=Z,1.3nm,0.4s						
A36M	Sachs Harbour	22.07	321	P	P	09 10 30.1	-0.2
A36M				IAmb	IAmb	09 10 36.4	
	comp=Z,10nm,1.2s						
FINES	FINESS Array B	23.68	155	P	P	09 10 49.2	+2.2
FINES	FINESS Array B	23.68	155	P	P	09 10 50.1	+3.2
	comp=Z,3.1nm,0.9s,baz=357,slow=9.4,SNR=4.3						
	comp=Z,3.1nm,0.9s						
B22K	Teshekpuk Lake	24.95	343	P	P	09 10 59.7	+1.1
B22K				IAmb	IAmb	09 11 08.4	
	comp=Z,5.8nm,1.3s						
E28M	Babbage River	26.18	332	P	P	09 11 10.4	+0.5
E25K	Arctic Village	26.92	337	P	P	09 11 16.9	+0.4
E25K				IAmb	IAmb	09 11 34.3	
	comp=Z,3.1nm,1.1s						
F28M	Old Crow	27.19	332	P	P	09 11 20.1	+1.2
F28M				IAmb	IAmb	09 11 21.1	
	comp=Z,5.4nm,1.1s						
BMAR	Burnt Mountain	27.57	336	P	P	09 11 21.7	-0.7
G31M	Satah River	27.60	327	P	P	09 11 23.8	+1.2
G31M				IAmb	IAmb	09 11 39.4	
	comp=Z,5.1nm,1.2s						
ILAR	Eielson Array	30.

s-min=18.5km az=77.0

ISC 07 09:15:10.4±1.1,30°28N±0'.09×142°2E±0'.3,h35km,n10,
σ1$76/11,mb3.6/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.17**	**179**	Pn	**Pn**	**09 15 58.0**	**+0.1**
	4.7nm,0.3s,baz=288,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**09 16 31.4**	**-3.2**
	18nm,0.3s,baz=298,slow=19,SNR=4.4						
	26nm,0.4s						
MJAR	**Matsushiro Arr**	**7.06**	**333**	Pn	**Pn**	**09 16 49.1**	**-2.2**
	0.2nm,0.3s,baz=148,slow=14,SNR=13						
	1.9nm,0.6s						
SONM	**Songino Array**	**32.47**	**313**	P	**P**	**09 21 37.9**	**+0.3**
	0.4nm,0.6s,baz=120,slow=8.3,SNR=2.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**48.48**	**307**	P	**P**	**09 23 49.8**	**+0.2**
	0.2nm,0.4s,baz=87,slow=8.1,SNR=6.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**50.50**	**190**	P	**P**	**09 24 06.7**	**+1.5**
	0.4nm,0.4s,baz=5.6,slow=7.6,SNR=5.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**50.83**	**313**	P	**P**	**09 24 07.7**	**+0.3**
	0.3nm,0.4s,baz=87,slow=7.1,SNR=4.4						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**54.22**	**189**	P	**P**	**09 24 35.2**	**+2.5**
	0.3nm,0.5s,baz=4.4,slow=6.1,SNR=6.2						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**55.71**	**316**	P	**P**	**09 24 44.0**	**+0.8**
	0.8nm,0.6s,baz=90,slow=6.7,SNR=4.6						
	0.8nm,0.5s						
YKA	**Yellowknife Ar**	**69.37**	**29**	P	**P**	**09 26 13.7**	**-0.5**
	0.1nm,0.6s,baz=296,slow=7.0,SNR=1.7						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**75.09**	**333**	P	**P**	**09 26 48.6**	**+0.2**
	2.5nm,0.9s,baz=66,slow=5.4,SNR=4.5						
	2.5nm,0.9s						

*RSNC **07** 09:24:31.0±0.2,10°N±2°×7°9W±°,h54km±13km,M3.7,*
mB5.2,mb4.5,ML3.3,Mw(mB)4.6
*UPA **07** 09:24:34.0±1.2,9°51N×78°98W,h44km±15km,MW4.4*
*UCR **07** 09:24:39.2±1.4,9°93N×79°56W,h24km±262km,MW3.8*

ISC 07 09:24:30.9±0.8,9.79N±0'.05×78°95W±0'.03,h46km±22km,
n136,σ1$85/188,11C-16D,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.56**	**174**	⇓*iP*	**Pn**	**09 24 42.3**	**-0.5**
CNTA3				*i* S	**Sn**	**09 24 50.4**	**-0.9**
CNTA3	**Canitas, Panam**	**0.56**	**174**	⇓*iP*	**Pn**	**09 24 42.3**	**-0.5**
UPA	**Univ. de Panam**	**0.99**	**216**	⇓*iP*	**Pn**	**09 24 47.9**	**-0.5**
UPA				*i* S	**Sn**	**09 24 58.9**	**-2.4**
UPA	**Univ. de Panam**	**0.99**	**216**	*eP*	**Pn**	**09 24 47.9**	**-0.5**
UPA				⇑*eS*	**Sn**	**09 24 59.4**	**-1.8**
BCIP	**Isla Barro Col**	**1.07**	**235**	P	**Pn**	**09 24 49.4**	**-0.1**
BCIP				S	**Sn**	**09 25 02.3**	**-1.0**
BCIP	**Isla Barro Col**	**1.07**	**235**	P		09 24 49.4	
BCIP				S		09 25 02.3	
ARRA3	**Arraijan, Pana**	**1.07**	**221**	⇑*iP*	**Pn**	**09 24 49.8**	**+0.2**
ARRA3				*i* S	**Sn**	**09 25 03.2**	**-0.2**
ARRA3	**Arraijan, Pana**	**1.07**	**221**	*eP*	**Pn**	**09 24 49.8**	**+0.2**
TABO3	**Taboga, Panama**	**1.15**	**211**	⇑*iP*	**Pn**	**09 24 50.5**	**-0.1**
TABO3				*i* S	**Sn**	**09 25 04.0**	**-1.2**
TABO3	**Taboga, Panama**	**1.15**	**211**	*eP*	**Pn**	**09 24 50.6**	**0.0**
CHOR3	**La Chorrera**	**1.20**	**223**	⇓*iP*	**Pn**	**09 24 51.8**	**+0.5**
CHOR3				*i* S	**Sn**	**09 25 05.7**	**-0.6**
CHOR3	**La Chorrera**	**1.20**	**223**	⇓*iP*	**Pn**	**09 24 51.7**	**+0.5**
CHOR3				*eS*	**Sn**	**09 25 04.2**	**-2.1**
UPD2	**Meteti**	**1.54**	**143**	⇑*iP*	**Pn**	**09 24 55.7**	**-0.2**
UPD2	**Meteti**	**1.54**	**143**	⇑*iP*	**Pn**	**09 24 55.7**	**-0.2**
UPD2				*eS*	**Sn**	**09 25 13.7**	**-0.9**
PNME	**Penonome**	**1.88**	**227**	⇓*iP*	**Pn**	**09 25 00.6**	**+0.1**
PNME				*i* S	**Sn**	**09 25 22.0**	**-1.0**
PNME	**Penonome**	**1.88**	**227**	*eP*	**Pn**	**09 25 00.6**	**+0.1**
CAPC	**Capurgana**	**1.94**	**126**	P	**Pn**	**09 25 01.0**	**-0.5**
CAPC				S	**Sn**	**09 25 24.6**	**-0.1**
CAPC	**Capurgana**	**1.94**	**126**	P		09 25 01.0	
CAPC				S		09 25 24.6	
CRIS3	**El Cristo, Coc**	**2.25**	**227**	⇓*iP*	**Pn**	**09 25 05.5**	**-0.1**
CRIS3				*i* S	**Sn**	**09 25 30.5**	**-1.6**
CRIS3	**El Cristo, Coc**	**2.25**	**227**	*eP*	**Pn**	**09 25 05.4**	**-0.1**
CHIT3	**Chitre**	**2.33**	**219**	⇓*iP*	**Pn**	**09 25 06.1**	**-0.6**
CHIT3				*i* S	**Sn**	**09 25 32.1**	**-2.0**
CHIT3	**Chitre**	**2.33**	**219**	⇓*iP*	**Pn**	**09 25 06.1**	**-0.6**
CHIT3				*eS*	**Sn**	**09 25 30.1**	**-4.1**
CALO3	**Calobre, Verag**	**2.37**	**232**	*iP*	**Pn**	**09 25 07.8**	**+0.5**
CALO3				*i* S	**Sn**	**09 25 35.1**	**-0.1**
CALO3	**Calobre, Verag**	**2.37**	**232**	*eP*	**Pn**	**09 25 07.8**	**+0.5**
AZU	**Azuero**	**2.38**	**214**	P	**Pn**	**09 25 06.5**	**-0.9**
AZU				S	**Sn**	**09 25 32.9**	**-2.4**
AZU	**Azuero**	**2.38**	**214**	⇓*iP*	**Pn**	**09 25 06.7**	**-0.7**
AZU				*i* S	**Sn**	**09 25 31.9**	**-3.4**
AZU	**Azuero**	**2.38**	**214**	⇓*iP*	**Pn**	**09 25 06.7**	**-0.7**
AZU				*eS*	**Sn**	**09 25 32.9**	**-2.4**
AZU	**Azuero**	**2.38**	**214**	P		09 25 06.5	
AZU				S		09 25 32.9	
PCRI3	**Pocri, Los San**	**2.41**	**209**	⇓*eP*	**Pn**	**09 25 07.6**	**-0.2**
PEDA3	**Pedasi**	**2.48**	**206**	⇓*eP*	**Pn**	**09 25 08.4**	**-0.5**
PESE3	**Pese, Herrera**	**2.49**	**222**	*eP*	**Pn**	**09 25 08.9**	**0.0**
STIA3	**Santiago, Vera**	**2.61**	**230**	⇑*eP*	**Pn**	**09 25 10.7**	**+0.1**
STIA3				*i* S	**Sn**	**09 25 39.0**	**-2.1**
ACHO3	**Achotines, Los**	**2.65**	**207**	⇓*iP*	**Pn**	**09 25 10.9**	**-0.2**
ACHO3				*i* S	**Sn**	**09 25 39.1**	**-3.0**
ACHO3	**Achotines, Los**	**2.65**	**207**	⇓*iP*	**Pn**	**09 25 10.9**	**-0.2**
LCBC	**Los crdobas,**	**2.71**	**110**	P	**Pn**	**09 25 13.6**	**+1.7**
LCBC				S	**Sn**	**09 25 45.9**	**+2.4**
LCBC	**Los crdobas,**	**2.71**	**110**	P		09 25 13.6	
LCBC				S		09 25 45.9	
MESA3	**La Mesa, Verag**	**2.75**	**234**	⇑*eP*	**Pn**	**09 25 13.0**	**+0.5**
MESA3				*i* S	**Sn**	**09 25 42.5**	**-1.9**
MESA3	**La Mesa, Verag**	**2.75**	**234**	*eP*	**Pn**	**09 25 12.9**	**+0.5**
PTAC	**Punta Ardita,**	**2.85**	**157**	P	**Pn**	**09 25 12.2**	**-1.7**
PTAC				S	**Sn**	**09 25 44.6**	**-2.5**
PTAC	**Punta Ardita,**	**2.85**	**157**	P		09 25 12.2	
PTAC				S		09 25 44.6	
APAC	**Apartado, Choc**	**3.00**	**129**	P	**Pn**	**09 25 17.8**	**+1.9**
APAC				S	**Sn**	**09 25 53.2**	**+2.6**
APAC	**Apartado, Choc**	**3.00**	**129**	P		09 25 17.8	
APAC				S		09 25 53.2	
GMAL	**Guarumal, Vera**	**3.02**	**229**	P	**Pn**	**09 25 16.1**	**-0.2**
GMAL				S	**Sn**	**09 25 48.4**	**-2.9**
GMAL	**Guarumal, Vera**	**3.02**	**229**	⇑*eP*	**Pn**	**09 25 16.4**	**+0.1**
GMAL	**Guarumal, Vera**	**3.02**	**229**	*eP*	**Pn**	**09 25 16.4**	**+0.1**
GMAL				*eS*	**Sn**	**09 25 48.3**	**-3.0**
GMAL	**Guarumal, Vera**	**3.02**	**229**	P		09 25 16.1	
GMAL				S		09 25 48.4	
CHGR2	**Aguacate**	**3.27**	**255**	*eP*	**Pn**	**09 25 20.6**	**+0.9**
CHGR2				*i* S	**Sn**	**09 25 51.6**	**-5.7**
CNI2	**El Empalme, Bo**	**3.49**	**264**	⇓*eP*	**Pn**	**09 25 24.8**	**+2.0**
PSOM3	**Paja de Sombre**	**3.51**	**252**	⇑*eP*	Pn	09 25 17.1	-5.9
LNBQ3	**Los Naranjos,**	**3.59**	**254**	⇑*eP*	**Pn**	**09 25 24.6**	**+0.4**
LNBQ3				*eS*	**Sn**	**09 26 01.6**	**-3.8**
PTAR3	**Potrerillos Ar**	**3.67**	**253**	⇑*eP*	**Pn**	**09 25 26.9**	**+1.7**
DVD	**David**	**3.71**	**249**	*eP*	**Pn**	**09 25 27.1**	**+1.4**
DVD				*eS*	**Sn**	**09 26 06.1**	**-2.1**
DVD	**David**	**3.71**	**249**	*eP*	**Pn**	**09 25 27.9**	**+2.2**
DVD				*eS*	**Sn**	**09 26 07.3**	**-1.0**
SJCC	**San Jacinto, C**	**3.71**	**88**	P	**Pn**	**09 25 26.9**	**+1.1**
SJCC				S	**Sn**	**09 26 06.5**	**-1.9**
SJCC	**San Jacinto, C**	**3.71**	**88**	P		09 25 26.9	
SJCC				S		09 26 06.5	
BRU2	**Volcan**	**3.83**	**255**	*eP*	**Pn**	**09 25 28.6**	**+1.1**
BRU2				*eS*	**Sn**	**09 26 08.0**	**-3.3**
SAIC	**Isla e San And**	**3.85**	**315**	P	**Pn**	**09 25 31.4**	**+3.7**
SAIC				S	**Sn**	**09 26 10.8**	**-0.9**
SAIC	**Isla e San And**	**3.85**	**315**	P		09 25 31.4	
SAIC				S		09 26 10.8	
DBBC	**Dabeiba**	**3.86**	**135**	P	**Pn**	**09 25 29.0**	**+1.1**
DBBC				S	**Sn**	**09 26 14.1**	**+2.1**
DBBC	**Dabeiba**	**3.86**	**135**	P		09 25 29.0	
DBBC				S		09 26 14.1	
ALCO	**Alturas Coton,**	**3.92**	**258**	*eP*	**Pn**	**09 25 29.9**	**+1.1**
UREC	**San Jos de Ur**	**3.93**	**121**	P	**Pn**	**09 25 28.5**	**-0.3**
UREC				S	**Sn**	**09 26 11.5**	**-2.2**
UREC	**San Jos de Ur**	**3.93**	**121**	P		09 25 28.5	
UREC				S		09 26 11.5	
MLIR3	**Monte Lirio, C**	**3.95**	**256**	*eP*	**Pn**	**09 25 31.8**	**+2.7**
MLIR3				*eS*	**Sn**	**09 26 12.3**	**-2.0**
MLIR3	**Monte Lirio, C**	**3.95**	**256**	*eP*	**Pn**	**09 25 31.6**	**+2.5**
LPPC	**Paso Canoas**	**4.04**	**252**	*eP*	**Pn**	**09 25 32.8**	**+2.5**
VITO	**San Vito**	**4.09**	**257**	*eP*	**Pn**	**09 25 33.5**	**+2.5**
NELY	**Ciudad Neily**	**4.11**	**254**	*eP*	**Pn**	**09 25 33.6**	**+2.5**
NELY				*eS*	**Sn**	**09 26 16.9**	**-1.1**
EDP2	**Potrero Grande**	**4.24**	**260**	*eP*	**Pn**	**09 25 35.0**	**+1.9**
DRK0	**Durika**	**4.27**	**263**	*eP*	**Pn**	**09 25 34.6**	**+1.0**
EDAD	**Golfito**	**4.32**	**255**	*eP*	**Pn**	**09 25 36.1**	**+2.0**
TAAN	**Batan**	**4.35**	**274**	*eP*	**Pn**	**09 25 36.3**	**+1.9**
BURE	**Buenos Aires**	**4.38**	**262**	*eP*	**Pn**	**09 25 37.2**	**+2.3**
FIMO	**Fila Mora**	**4.42**	**260**	*eP*	**Pn**	**09 25 38.2**	**+2.6**
IRES	**Siquirres**	**4.50**	**274**	*eP*	**Pn**	**09 25 37.2**	**+0.6**
PIRO	**Carate, Puerto**	**4.55**	**253**	*eP*	**Pn**	**09 25 40.1**	**+2.9**
RVLA	**Villa Bonita**	**4.58**	**274**	*eP*	**Pn**	**09 25 38.8**	**+1.1**
EDPE	**Pejibaye, P**	**4.61**	**263**	*eP*	**Pn**	**09 25 40.4**	**+2.4**
ARGC	**Ariguani, Magd**	**4.63**	**89**	P	**Pn**	**09 25 40.4**	**+2.0**
ARGC				S	**Sn**	**09 26 29.9**	**-1.1**
ARGC	**Ariguani, Magd**	**4.63**	**89**	P		09 25 40.4	
ARGC				S		09 26 29.9	
RVSTA	**Santa Teresita**	**4.64**	**273**	*eP*	**Pn**	**09 25 39.5**	**+1.0**
ZARC	**Zaragoza, Cauc**	**4.64**	**119**	P	**Pn**	**09 25 38.3**	**-0.2**
ZARC				S	**Sn**	**09 26 27.8**	**-3.4**
ZARC	**Zaragoza, Cauc**	**4.64**	**119**	P		09 25 38.3	
ZARC				S		09 26 27.8	
TURIB	**Turrialba**	**4.67**	**272**	*eP*	**Pn**	**09 25 40.1**	**+1.1**
VERB	**Verbena**	**4.68**	**272**	*eP*	**Pn**	**09 25 40.2**	**+1.0**
VTCV	**VTCV, Calle Va**	**4.71**	**273**	*eP*	**Pn**	**09 25 40.5**	**+0.8**
CVTV	**Tajo**	**4.74**	**273**	*eP*	**Pn**	**09 25 40.8**	**+0.7**
CVTR	**Volcan Turrial**	**4.75**	**273**	*eP*	**Pn**	**09 25 41.4**	**+1.0**
VTR0	**Volcan Turrial**	**4.75**	**273**	*eP*	**Pn**	**09 25 41.5**	**+1.1**
CVTQ	**Turrialba Volc**	**4.75**	**273**	*eP*	**Pn**	**09 25 42.0**	**+1.6**
VTLA	**Turrialba Volc**	**4.76**	**273**	*eP*	**Pn**	**09 25 41.5**	**+1.0**
CVTG	**V. Turrialba,**	**4.77**	**275**	*eP*	**Pn**	**09 25 41.0**	**+0.7**
PCAYA	**Pacayas**	**4.80**	**272**	*eP*	**Pn**	**09 25 41.9**	**+1.1**
VICA	**Volcano Irazu**	**4.83**	**273**	*eP*	**Pn**	**09 25 42.3**	**+0.8**
REPA	**Paraso**	**4.85**	**271**	*eP*	**Pn**	**09 25 43.1**	**+1.5**
CBOC	**Ciudad Bolivar**	**4.86**	**143**	P	**Pn**	**09 25 41.8**	**+0.1**
CBOC				S	**Sn**	**09 26 35.3**	**-1.5**
CBOC	**Ciudad Bolivar**	**4.86**	**143**	P		09 25 41.8	
CBOC				S		09 26 35.3	
CVIMO	**Finca Echandi**	**4.93**	**273**	*eP*	**Pn**	**09 25 43.6**	**+0.9**
CORON	**Coronado**	**4.99**	**273**	*eP*	**Pn**	**09 25 45.1**	**+1.7**
LCR2	**La Lucha 2**	**4.99**	**270**	*eP*	**Pn**	**09 25 44.8**	**+1.3**
RAZU	**San Marcos de**	**5.01**	**269**	*eP*	**Pn**	**09 25 45.6**	**+1.9**
ABE2	**San Pablo**	**5.04**	**270**	*eP*	**Pn**	**09 25 46.0**	**+1.9**
AMPA	**Desamparados**	**5.04**	**272**	*eP*	**Pn**	**09 25 45.7**	**+1.5**
VBV1	**V. Barva**	**5.09**	**274**	*eP*	**Pn**	**09 25 46.0**	**+1.1**
PISJ	**San Jernim**	**5.11**	**269**	*eP*	**Pn**	**09 25 46.8**	**+1.8**
ACOS	**Acosta**	**5.14**	**271**	*eP*	**Pn**	**09 25 47.3**	**+1.8**
SANTA	**Santa Ana**	**5.16**	**272**	*eP*	**Pn**	**09 25 47.8**	**+2.0**
BELE	**Belen**	**5.17**	**273**	*eP*	**Pn**	**09 25 48.0**	**+2.2**
PICV	**PH. Pirrs**	**5.18**	**269**	*eP*	**Pn**	**09 25 47.8**	**+1.8**
BLUN	**Bluefields**	**5.23**	**295**	P	**Pn**	**09 25 47.3**	**+0.7**
	3µm50nm,1.1s						
BLUN				S	**Sn**	**09 26 40.9**	**-4.8**
	3µm50nm,1.1s						
BLUN	**Bluefields**	**5.23**	**295**	P		09 25 47.3	
	3µm50nm,1.1s						
BLUN				S		09 26 40.9	
	3µm50nm,1.1s						
TCS1	**Tacares**	**5.28**	**273**	*eP*	**Pn**	**09 25 49.1**	**+1.7**
GREC	**Grecia**	**5.29**	**274**	*eP*	**Pn**	**09 25 49.6**	**+2.0**
PTBC	**PUERTO BERRIO,**	**5.49**	**126**	P	**Pn**	**09 25 49.4**	**-0.8**
PTBC				S	**Sn**	**09 26 49.0**	**-3.1**
PTBC	**PUERTO BERRIO,**	**5.49**	**126**	P		09 25 49.4	
PTBC				S		09 26 49.0	
SOCE	**Pocosol**	**5.62**	**277**	*eP*	**Pn**	**09 25 53.5**	**+1.5**
TUNA	**La Fortuna**	**5.65**	**277**	*eP*	**Pn**	**09 25 54.2**	**+1.8**
VACR	**Volcan Arenal**	**5.68**	**277**	*eP*	**Pn**	**09 25 55.0**	**+2.2**
ARE1	**Arenal 1**	**5.72**	**277**	*eP*	**Pn**	**09 25 55.6**	**+2.2**
VARE2	**V. Arenal**	**5.72**	**277**	*eP*	**Pn**	**09 25 55.9**	**+2.4**
OCAC	**Ocana**	**5.77**	**105**	P	**Pn**	**09 25 53.7**	**-0.4**
OCAC				S	**Sn**	**09 26 56.1**	**-3.0**
OCAC	**Ocana**	**5.77**	**105**	P		09 25 53.7	
OCAC				S		09 26 56.1	
BRJC	**Barrancabermej**	**5.86**	**118**	P	**Pn**	**09 25 55.5**	**+0.3**
	2µm71nm,0.5s						
BRJC				S	**Sn**	**09 27 00.3**	**-0.8**
	2µm71nm,0.5s						
BRJC	**Barrancabermej**	**5.86**	**118**	P		09 25 55.5	
	2µm71nm,0.5s						
BRJC				S		09 27 00.3	
	2µm71nm,0.5s						
JTS	**Las Juntas de**	**5.94**	**275**	P	**Pn**	**09 25 57.5**	**+1.1**
	1µm86nm,0.7s						
JTS	**Las Juntas de**	**5.94**	**275**	*eP*	**Pn**	**09 25 57.4**	**+1.1**
JTS	**Las Juntas de**	**5.94**	**275**	P		09 25 57.5	
	1µm86nm,0.7s						
JUNT	**Juntas**	**5.94**	**275**	*eP*	**Pn**	**09 25 58.1**	**+1.7**
CBL1	**Cabuya**	**6.06**	**269**	*eP*	**Pn**	**09 26 00.5**	**+2.5**
CRJC	**Cerrejon, Guaj**	**6.09**	**78**	P	**Pn**	**09 25 59.1**	**+0.6**
	16nm,0.8s						
CRJC				S	**Sn**	**09 27 02.3**	**-4.7**
	16nm,0.8s						
CRJC	**Cerrejon, Guaj**	**6.09**	**78**	P		09 25 59.1	
	16nm,0.8s						
CRJC				S		09 27 02.3	
	16nm,0.8s						
PLVR	**Palo Verde**	**6.33**	**276**	*eP*	**Pn**	**09 26 04.0**	**+2.1**
ACON	**Acoyapa**	**6.49**	**290**	P	**Pn**	**09 26 05.5**	**+1.6**
	1µm60nm,0.6s						
ACON				S	**Sn**	**09 27 15.7**	**-1.0**
	1µm60nm,0.6s						
ACON	**Acoyapa**	**6.49**	**290**	*eP*	**Pn**	**09 26 05.5**	**+1.6**
ACON	**Acoyapa**	**6.49**	**290**	P		09 26 05.5	
	1µm60nm,0.6s						
ACON				S		09 27 15.7	
	1µm60nm,0.6s						
BARC	**Barichara**	**6.53**	**119**	P	**Pn**	**09 26 04.7**	**+0.1**
BARC	**Barichara**	**6.53**	**119**	P		09 26 04.7	
ALIBA	**Liberia Airpor**	**6.55**	**278**	*eP*	**Pn**	**09 26 06.4**	**+1.7**
PAMC	**Pamplona, Colo**	**6.64**	**111**	P	**Pn**	**09 26 06.5**	**+0.1**
PAMC				S	**Sn**	**09 27 19.5**	**-1.5**
PAMC	**Pamplona, Colo**	**6.64**	**111**	P		09 26 06.5	
PAMC				S		09 27 19.5	
RUSC	**La Rusia**	**6.98**	**123**	P	**Pn**	**09 26 11.0**	**0.0**
	15nm,0.5s						
RUSC				S	**Sn**	**09 27 26.8**	**-2.6**
	15nm,0.5s						
RUSC	**La Rusia**	**6.98**	**123**	P		09 26 11.0	
	15nm,0.5s						
RUSC				S		09 27 26.8	
	15nm,0.5s						
URIC	**Uribia, Colomb**	**7.09**	**74**	P	**Pn**	**09 26 13.9**	**+1.7**
	16nm,1.1s						
URIC				S	**Sn**	**09 27 28.2**	**-3.3**
	16nm,1.1s						
URIC	**Uribia, Colomb**	**7.09**	**74**	P		09 26 13.9	
	16nm,1.1s						
URIC				S		09 27 28.2	
	16nm,1.1s						
POPC	**Popayan, Colom**	**7.54**	**162**	P	**Pn**	**09 26 19.7**	**+1.1**
	6.0nm,0.5s						
POPC				S	**Sn**	**09 27 42.1**	**-0.8**
	6.0nm,0.5s						
POPC	**Popayan, Colom**	**7.54**	**162**	P		09 26 19.7	
	6.0nm,0.5s						
POPC				S		09 27 42.1	
	6.0nm,0.5s						
VILC	**Villavicencio,**	**7.68**	**137**	P	**Pn**	**09 26 24.0**	**+3.7**
VILC				S	**Sn**	**09 27 48.9**	**+2.8**
VILC	**Villavicencio,**	**7.68**	**137**	P		09 26 24.0	
VILC				S		09 27 48.9	
SDV	**Santo Domingo**	**8.25**	**96**	P	**Pn**	**09 26 28.5**	**+0.2**
	20nm,0.7s						
SDV				S	**Sn**	**09 27 56.2**	**-4.1**
	20nm,0.7s						
SDV	**Santo Domingo**	**8.25**	**96**	P		09 26 28.5	
	20nm,0.7s						
SDV				S		09 27 56.2	
	20nm,0.7s						
STH	**Stony Hill**	**8.50**	**14**	*eP*	**Pn**	**09 26 33.7**	**+2.3**
MTDJ	**Mount Denham**	**8.50**	**9**	*eP*	**Pn**	**09 26 33.1**	**+1.5**
MTDJ	**Mount Denham**	**8.50**	**9**	P	**Pn**	**09 26 32.4**	**+0.8**
	56nm,1.9s						
MTDJ				S	**Sn**	**09 28 04.9**	**-1.4**
	56nm,1.9s						
MTDJ	**Mount Denham**	**8.50**	**9**	P		09 26 32.4	
	56nm,1.9s						
MTDJ				S		09 28 04.9	
	56nm,1.9s						
FLOC	**Florencia**	**8.78**	**158**	P	**Pn**	**09 26 37.2**	**+1.8**
	4.5nm,1.1s						
FLOC	**Florencia**	**8.78**	**158**	P		09 26 37.2	
	4.5nm,1.1s						
TGUH	**Tegucigalpa,Un**	**9.19**	**298**	P	**Pn**	**09 26 42.7**	**+1.7**
TGUH	**Tegucigalpa,Un**	**9.19**	**298**	P		09 26 42.7	
LMGC	**Las Mercedes**	**10.39**	**10**	*eP*	**Pn**	**09 26 58.8**	**+1.5**
CHIV	**Chivirico**	**10.42**	**13**	*eP*	**Pn**	**09 26 59.1**	**+1.3**
RCC	**Rio Carpintero**	**10.62**	**17**	*eP*	**Pn**	**09 27 02.0**	**+1.4**
GTBY	**Guantanamo Bay**	**10.74**	**20**	*eP*	**Pn**	**09 27 04.6**	**+2.5**
PINC	**Pinares de May**	**11.07**	**16**	*eP*	**Pn**	**09 27 08.7**	**+2.1**
QMBU	**Quimbuelo**	**11.10**	**21**	*eP*	**Pn**	**09 27 09.4**	**+2.3**
MASC	**Masc**	**11.29**	**23**	*eP*	**Pn**	**09 27 12.1**	**+2.5**
NMDO	**Nuevo Mundo**	**11.37**	**19**	*eP*	**Pn**	**09 27 13.0**	**+2.2**
MOAC	**Moa**	**11.47**	**19**	*eP*	**Pn**	**09 27 14.5**	**+2.3**

*IDC **07** 09:24:45.7±1.0,21°.30N×146°.15E,h0km,mb3.7/8,*
mbtmp3.7/8,Error ellipse: s-maj=38.1km s-min=22.1km
az=92.0

ISC 07 09:24:50.1±1.0,21°.3N±0'.2×146°.1E±0'.3,h29km,n8,
σ0$70/8,mb3.7/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.42**	**319**	P	**P**	**09 32 35.0**	**+0.8**
	0.3nm,0.4s,baz=131,slow=7.2,SNR=4.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.56**	**197**	P	**P**	**09 32 43.4**	**-0.1**
	1.0nm,0.7s,baz=16,slow=8.7,SNR=7.7						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**46.23**	**196**	P	**P**	**09 33 13.1**	**+0.2**
	0.4nm,0.4s,baz=12,slow=7.1,SNR=8.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**59.70**	**317**	P	**P**	**09 34 52.0**	**+0.1**
	0.4nm,0.3s,baz=93,slow=7.7,SNR=1.4						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**64.77**	**320**	P	**P**	**09 35 25.7**	**-0.2**
	0.5nm,0.3s,baz=96,slow=6.0,SNR=2.9						
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**75.54**	**28**	P	**P**	**09 36 31.7**	**0.0**
	0.2nm,0.7s,baz=286,slow=5.6,SNR=4.8						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**81.25**	**52**	P	**P**	**09 37 04.4**	**+0.4**
	0.6nm,0.7s,baz=266,slow=6.5,SNR=4.6						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**84.72**	**335**	P	**P**	**09 37 19.9**	**-1.2**
	1.6nm,0.8s,baz=46,slow=6.0,SNR=3.7						
	1.6nm,0.8s						

*BJI **07** 09:29:53.7,6°.47S×150°.05E,h11km,mB5.2/9,mb4.5/35,*
Ms4.7/3,Ms7 4.4/4
*IDC **07** 09:29:53.9±0.6,6°.19S×149°.99E,h0km,mb4.3/19,*
mbtmp4.4/21,ML3.2/2,MS3.7/12,Error ellipse:
s-maj=24.5km s-min=13.2km az=90.0
*NEIC **07** 09:29:56.5±1.8,6°.29S±0°.08×149°.89E±0°.04,h10km±1km,*
mb4.8/48,Error ellipse: s-maj=13.2km s-min=6.7km
az=182.0

ISC 07 09:29:56.1±0.4,6°25S±0°.05×149°89E±0°.07,h10km,n132,
σ1$26/126,mb4.7/46,MS3.7/12,2C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**0.83**	**30**	P	**Pn**	**09 30 15.2**	**+1.4**
RABL	**Rabaul**	**3.05**	**48**		**Pn**	**09 30 47.2**	**+2.8**
PMG	**Port Moresby**	**4.14**	**221**	Pn	**Pn**	**09 31 02.0**	**+2.5**
	74nm,0.3s,baz=46,slow=5.6,SNR=74						
PMG				Sn	**Sn**	**09 31 50.6**	**+2.6**
	114nm,0.3s,baz=1.6,slow=24,SNR=21				

GIRL	**Giralia**	**38.04 241**	P	**P**	**09 37 14.6**	**-0.4**
JOW	**Kunigami**	**38.99 328**	P	**P**	**09 37 22.4**	**-0.4**
JOW			IAmb	IAmb	09 37 38.6	
	comp=Z,41nm,1.2s					
JOW	**Kunigami**	**38.99 328**	P	**P**	**09 37 21.9**	**-1.0**
	comp=Z,11nm,0.8s,baz=196,slow=11,SNR=1.6					
JOW			LR	LR	09 51 09.3	
	comp=Z,116nm,20.3s,baz=147,slow=33					
	comp=Z,11nm,0.8s					
UGM	**Wanagama**	**39.10 265**	P	**P**	**09 37 23.2**	**-0.8**
MORW	**Morawa**	**39.19 231**	P	**P**	**09 37 24.2**	**-0.4**
MORW			IAmb	IAmb	09 37 53.4	
	comp=Z,18nm,1.1s					
URZ	**Urewera**	**40.30 146**	LR	LR	09 52 29.0	
	comp=Z,209nm,19.8s,baz=43,slow=34					
NWAO	**Narrogin (SRO)**	**40.32 225**	LR	LR	09 55 23.8	
	comp=Z,127nm,19.2s,baz=244,slow=38					
THZ	**Tophouse**	**40.86 153**	P	**P**	**09 37 37.8**	**-0.5**
THZ			IAmb	IAmb	09 37 52.6	
	comp=Z,24nm,1.4s					
TUWZ	**Tuamarina**	**41.06 152**	P	**P**	**09 37 39.7**	**-0.3**
BBJI	**Bungbulang**	**41.95 266**	P	**P**	**09 37 46.7**	**-1.0**
JNU	**Nakatsue**	**43.12 336**	P	**P**	**09 37 56.4**	**-0.5**
	comp=Z,8.8nm,0.8s,baz=357,slow=2.0,SNR=3.8					
	comp=Z,8.8nm,0.8s					
MJAR	**Matsushiro Arr**	**43.96 346**	P	**P**	**09 38 02.4**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=165,slow=5.8,SNR=4.4					
MJAR			LR	LR	09 57 05.4	
	comp=Z,100nm,18.2s,baz=167,slow=37					
	comp=Z,2.3nm,0.7s					
MJB9	**Matsu-Tunnel**	**43.96 346**	P	**P**	**09 38 04.8**	**+1.3**
MJB9			IAmb	IAmb	09 38 13.3	
	comp=Z,28nm,1.3s					
JTM	**Tenmabayashi**	**47.51 351**	P	**P**	**09 38 31.2**	**-0.2**
KSRS	**Korea Array**	**48.07 336**	P	**P**	**09 38 35.2**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=155,slow=7.5,SNR=7.0					
	comp=Z,3.1nm,0.8s					
NJ2	**Nanjing**	**48.23 324**	*e*P	**P**	**09 38 38.4**	**+1.2**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.7s					
KULM	**Kulim**	**50.48 282**	P	**P**	**09 38 54.6**	**-0.1**
ASAJ	**Asahikawa**	**50.57 353**	LR	LR	10 00 23.7	
	comp=Z,38nm,19.1s,baz=253,slow=36					
JKA	**Kamikawa-asahi**	**50.57 353**	P	**P**	**09 38 56.1**	**+1.2**
JKA			IAmb	IAmb	09 38 58.6	
	comp=Z,16nm,0.9s					
USRK	**Ussuriysk Ar.**	**52.75 344**	P	**P**	**09 39 11.2**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=151,slow=3.3,SNR=4.3					
	comp=Z,1.3nm,0.5s					
HNS	**HongShan**	**54.44 326**	⇓P	**P**	**09 39 25.5**	**+1.8**
HNS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PHRA	**Phrae**	**54.80 298**	P	**P**	**09 39 26.7**	**0.0**
BNX	**BinXian**	**55.52 341**	⇑P	**P**	**09 39 33.0**	**+1.5**
BNX			pmax	pmax		
	comp=Z,10.0nm,1.2s					
XAN	**Xi'an**	**55.74 319**	P	**P**	**09 39 32.1**	**-1.2**
XAN			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**55.91 297**	P	**P**	**09 39 34.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=122,slow=5.2,SNR=5.8					
	comp=Z,0.7nm,0.3s					
PZH	**PanZhiHua**	**56.89 307**	P	**P**	**09 39 44.1**	**+2.4**
PZH			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,170nm,4.8s					
CD2	**Chengdu**	**57.53 313**	P	**P**	**09 39 47.3**	**+1.1**
CD2			pP	pP	09 39 50.0	+0.6
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
XLT	**XiLinHaoTe**	**58.51 332**	*e*P	P	09 39 59.4	+6.6
XLT			pmax	pmax		
	comp=Z,4.0nm,1.6s					
HHC	**Hu-ho-hao-te**	**58.59 327**	*e*P	**P**	**09 39 56.1**	**+2.6**
HHC			pmax	pmax		
	comp=Z,4.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,62nm,6.7s					
PEA0B	**Petropavlovsk-**	**59.50 5**	P	**P**	**09 39 59.5**	**+0.1**
PETK	**Petropavlovsk-**	**59.50 5**	P	**P**	**09 39 59.5**	**+0.1**
PETK	**Petropavlovsk-**	**59.50 5**	P	**P**	**09 39 58.3**	**-1.1**
	comp=Z,2.9nm,0.5s,baz=163,slow=6.6,SNR=18					
	comp=Z,2.9nm,0.5s					
HEH	**HeiHe**	**59.55 343**	*e*P	**P**	**09 40 00.6**	**+0.8**
LZH	**Lanzhou**	**60.30 318**	*e*P	**P**	**09 40 10.2**	**+4.8**
LZH			sP	sP	09 40 17.5	+7.5
LZH			pmax	pmax		
	comp=Z,10.0nm,1.3s					
GTA	**Gaotai**	**64.80 319**	*e*P	**P**	**09 40 37.2**	**+1.8**
GTA			sP	sP	09 40 44.1	+4.2
GTA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
SONM	**Songino Array**	**66.05 330**	P	**P**	**09 40 42.8**	**-0.6**
SONM	**Songino Array**	**66.05 330**	P	**P**	**09 40 42.6**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=142,slow=5.5,SNR=9.5					
	comp=Z,1.7nm,0.7s					
VNDA	**Vanda**	**71.51 177**	P	**P**	**09 41 15.9**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=92,slow=1.6,SNR=2.2					
	comp=Z,2.9nm,0.6s					
WMQ	**Urumqi**	**74.87 318**	*e*P	**P**	**09 41 38.1**	**+0.8**
WMQ			sP	sP	09 41 45.0	+3.2
WMQ			pmax	pmax		
	comp=Z,7.0nm,0.7s					
MK31	**Makanchi Array**	**79.53 320**	P	**P**	**09 42 02.5**	**-0.8**
MKAR	**Makanchi Array**	**79.53 320**	P	**P**	**09 42 02.4**	**-0.9**
MKAR	**Makanchi Array**	**79.53 320**	P	**P**	**09 42 02.9**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=119,slow=6.3,SNR=14					
	comp=Z,0.6nm,0.4s					
ZALV	**Zalesovo Beam**	**80.77 327**	P	**P**	**09 42 08.1**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=113,slow=6.5,SNR=4.6					
	comp=Z,1.0nm,0.5s					
KSH	**Kashi**	**81.70 311**	P	**P**	**09 42 16.0**	**+0.8**
KSH			sP	PcP	09 42 24.9	+3.9
KSH			pmax	pmax		
	comp=Z,3.0nm,0.9s					
CAST	**Castle Rocks**	**81.94 23**	P	**P**	**09 42 14.9**	**-1.0**
PWL	**Port Wells**	**82.19 26**	P	**P**	**09 42 16.2**	**-1.0**
PWL			IAmb	IAmb	09 42 18.7	
	comp=Z,5.4nm,0.9s					
NIL	**Nilore**	**82.42 305**	P	**P**	**09 42 17.9**	**-1.1**
KTH	**Kantishna Hill**	**82.45 23**	P	**P**	**09 42 17.6**	**-1.0**
BOOM	**Boomskoye usch**	**82.50 314**	P	**P**	**09 42 19.4**	**0.0**
SML	**Sawmill**	**82.64 25**	P	**P**	**09 42 19.0**	**-0.6**
SML			IAmb	IAmb	09 42 29.0	
	comp=Z,11nm,1.2s					
TRF	**Thorofare Moun**	**82.65 23**	P	**P**	**09 42 19.0**	**-0.7**
TRF			IAmb	IAmb	09 42 28.6	
	comp=Z,10nm,1.4s					
KURBB	**Kurchatov Arra**	**83.17 323**	P	**P**	**09 42 21.3**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=119,slow=3.4,SNR=5.3					
	comp=Z,0.4nm,0.3s					
RND	**Reindeer**	**83.19 23**	P	**P**	**09 42 21.2**	**-1.2**
RND			IAmb	IAmb	09 42 23.2	
	comp=Z,4.5nm,0.8s					
MCK	**McKinley**	**83.31 23**	P	**P**	**09 42 22.3**	**-0.7**
MCK			IAmb	IAmb	09 42 35.9	
	comp=Z,5.9nm,1.1s					
M24K	**Tolsona, Glenn**	**83.69 25**	P	**P**	**09 42 25.7**	**+0.7**
QSPA	**South Pole Qui**	**83.72 180**	P	**P**	**09 42 24.4**	**-0.8**
QSPA			IAmb	IAmb	09 42 44.6	
	comp=Z,16nm,1.5s					
QSPA	**South Pole Qui**	**83.72 180**	P	**P**	**09 42 24.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=0.2,slow=1.2,SNR=7.9					
	comp=Z,2.2nm,0.6s					
GLB	**Gilahina Butte**	**84.42 26**	P	**P**	**09 42 29.6**	**+0.9**
GLB			IAmb	IAmb	09 42 40.1	
	comp=Z,4.8nm,1.3s					
ILAR	**Eielson Array**	**84.59 23**	P	**P**	**09 42 28.8**	**-0.7**
ILAR	**Eielson Array**	**84.59 23**	P	**P**	**09 42 25.5**	**-4.0**
	comp=Z,1.2nm,0.7s,baz=250,slow=4.9,SNR=13					
TOLK	**Toolik Lake Re**	**85.50 19**	P	**P**	**09 42 35.1**	**+1.1**
NRIK	**Noril'sk**	**86.41 342**	P	**P**	**09 42 38.1**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=131,slow=4.1,SNR=4.8					
	comp=Z,1.5nm,0.6s					
KK31	**Karatay Array**	**86.53 314**	P	**P**	**09 42 38.4**	**-1.2**
KKAR	**Karatay Array**	**86.53 314**	P	**P**	**09 42 38.3**	**-1.4**
N31M	**Braeburn, Yuko**	**88.05 28**	P	**P**	**09 42 46.9**	**+0.3**
N31M			IAmb	IAmb	09 43 14.9	
	comp=Z,6.7nm,1.0s					
BVAR	**Borovoye Array**	**88.67 324**	P	**P**	**09 42 47.6**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=104,slow=4.7,SNR=4.2					
	comp=Z,1.1nm,0.7s					
FARO	**Faro, Yukon**	**89.36 27**	P	**P**	**09 42 53.1**	**+0.3**
SYO	**Syowa Base**	**91.34 200**	⇑*e*PcP	**PcP**	**09 43 04.3**	**+1.5**
NVAR	**Mina Array Bea**	**95.25 52**	P	**P**	**09 43 20.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=327,slow=8.1,SNR=4.5					
	comp=Z,0.4nm,0.6s					
NOA	**NORSAR Array B**	**117.25 339**	PKP	**PKPdf**	**09 48 40.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=50,slow=1.7,SNR=1.9					
PLCA	**Paso Flores**	**120.31 145**	PKP	**PKPdf**	**09 48 47.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=120,slow=0.6,SNR=8.6					
CKRC	**Cesky Krumlov**	**123.40 326**	*e*PKPDF	**PKPdf**	**09 48 53.9**	**+0.1**
KHC	**Kasperske Hory**	**123.63 327**	*e*PKPDF	**PKPdf**	**09 48 54.3**	**+0.1**
GERES	**GERESS Array B**	**123.72 327**	PKP	**PKPdf**	**09 48 53.6**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=50,slow=2.3,SNR=7.0					
LPAZ	**La Paz**	**136.21 121**	PKP	**PKPdf**	**09 49 18.5**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=357,slow=4.3,SNR=6.0					
CPUP	**Villa Florida**	**138.21 142**	PKP	**PKPdf**	**09 49 21.6**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=49,slow=2.6,SNR=4.0					
TORD	**Torodi Ar. Bea**	**147.94 285**	PKPbc	**PKPbc**	**09 49 42.1**	**-0.7**
	comp=Z,9.6nm,0.4s,baz=86,slow=2.8,SNR=58					
BDFB	**Brasilia**	**151.93 141**	PKPbc	**PKPbc**	**09 49 52.5**	**-0.2**
	comp=Z,5.9nm,0.5s,baz=191,slow=2.0,SNR=8.5					
DBIC	**Dimbokro**	**154.91 272**	PKPab	**PKPab**	**09 50 13.9**	**-0.5**
	comp=Z,4.4nm,0.5s,baz=82,slow=3.5,SNR=7.9					

*DJA **07** 09:40:26.1±0.6, 2°N±4°×12°9E±°, h10km, M4.6/13, mB5.2/5, mb4.5/9, MLv4.6/13, Mw(mB)4.7/5*
*IDC **07** 09:40:31.8±4.5, 2°10N×128°90E, h96km±43km, mb3.9/15, mbtmp4.2/16, MS3.5/6, Error ellipse: s-maj=27.8km s-min=17.9km az=79.0*

ISC 07 09:40:25.9±0.6, 2°27N±0°07×129°0E±0°1, h35km, n48, σ1°89/37, mb4.3/22, MS3.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.18**	**227**	P	**Pn**	**09 40 59.6**	**-0.1**
LBMI	**Labuha**	**3.23**	**207**	P	**Pn**	**09 41 18.0**	**+3.8**
SGSI	**Sangihe**	**3.71**	**292**	P	**Pn**	**09 41 19.9**	**-0.8**
SWI	**Sorong**	**3.86**	**144**	P	**Pn**	**09 41 24.8**	**+1.9**
SANI	**Sanana**	**5.22**	**215**	P	**Pn**	**09 41 43.1**	**+1.6**
KMSI	**Cibinong**	**5.26**	**251**	P	**Pn**	**09 41 42.9**	**+0.9**
DAV	**Davao City (W)**	**5.84**	**325**	LR	LR	09 43 33.1	
	comp=Z,141nm,20.6s,baz=46,slow=30						
FAKI	**Fak Fak**	**6.11**	**147**	P	**Pn**	**09 41 55.9**	**+2.2**
LUWI	**Luwuk**	**7.01**	**242**	P	**Pn**	**09 42 09.1**	**+3.0**
MRSI	**Marisa**	**7.24**	**256**	P	**Pn**	**09 42 10.1**	**+0.8**
	0.2nm646nm42nm,0.9s						
APSI	**Ampana**	**7.97**	**247**	P	**Pn**	**09 42 21.5**	**+2.2**
	0.3nm47nm,1.2s						
KDI	**Kendari**	**8.86**	**226**	P	**Pn**	**09 42 32.1**	**+0.6**
	2μm35nm,1.2s						
TTSI	**Tana Toraja**	**10.55**	**240**	P	**Pn**	**09 42 53.9**	**-0.9**
	27nm,0.8s						
SPSI	**Sidrap Palu**	**11.08**	**236**	P	**Pn**	**09 43 03.7**	**+1.7**
	33nm,1.0s						
BKSI	**Bulukumba**	**11.61**	**230**	P	**Pn**	**09 43 11.0**	**+1.8**
KAPI	**Kappang**	**11.71**	**232**	P	**Pn**	**09 43 12.8**	**+2.3**
	5.2nm,0.4s,baz=167,slow=3.5,SNR=5.5						
JAY	**Jayapura**	**12.66**	**112**	LR	LR	09 47 44.5	
	comp=Z,228nm,19.5s,baz=331,slow=34						
PMG	**Port Moresby**	**21.52**	**123**	LR	LR	09 54 45.9	
	comp=Z,152nm,20.7s,baz=258,slow=40						
WRA	**Warramunga Arr**	**22.69**	**167**	P	**P**	**09 45 25.3**	**+0.6**
	0.9nm,0.5s,baz=344,slow=9.4,SNR=7.8						
	0.9nm,0.5s						
LEM	**Lembang**	**23.14**	**247**	LR	LR	09 56 47.5	
	comp=Z,106nm,18.3s,baz=68,slow=42						
KRVT	**Keravat (AS076**	**23.95**	**106**	LR	LR	09 53 13.7	
	comp=Z,178nm,20.3s,baz=13,slow=32						
ASAR	**Alice Springs**	**26.22**	**170**	P	**P**	**09 45 52.1**	**-5.6**
	0.4nm,0.6s,baz=333,slow=9.0,SNR=6.1						
ASAR				PcP	**PcP**	**09 49 21.1**	**-3.0**
	0.1nm,0.3s,baz=12,slow=2.2,SNR=1.5						
ASAR				LR	LR	09 58 03.5	
	comp=Z,123nm,20.2s,baz=301,slow=40						
CMAR	**Chiang Mai Arr**	**33.53**	**301**	P	**P**	**09 47 03.0**	**+0.4**
	1.0nm,0.3s,baz=122,slow=8.0,SNR=8.5						
	1.0nm,0.3s						
KSRS	**Korea Array**	**35.03**	**359**	P	**P**	**09 47 16.8**	**+1.5**
	3.4nm,0.9s,baz=175,slow=9.8,SNR=6.0						
	3.4nm,0.9s						
MJAR	**Matsushiro Arr**	**35.16**	**13**	P	**P**	**09 47 17.1**	**+0.6**
	3.9nm,0.8s,baz=186,slow=9.4,SNR=6.6						
	3.9nm,0.8s						
STKA	**Stephens Creek**	**36.01**	**162**	P	P	09 47 19.1	-4.7
	1.7nm,0.6s,baz=323,slow=12,SNR=4.2						
XAN	**Xi'an**	**36.74**	**332**	P	**P**	**09 47 29.6**	**-0.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.32**	**64**	T	T	10 31 17.5	
	baz=251,slow=74,SNR=67						
H11S2	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	10 31 21.1	
	baz=251,slow=74,SNR=48						
H11S1	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	10 31 19.8	
	baz=251,slow=74,SNR=53						
LZH	**Lanzhou**	**40.90**	**328**	*e*P	**P**	**09 48 05.2**	**+0.1**
LZH				pP	pP	09 48 11.3	-3.2
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.91**	**62**	T	T	10 32 05.3	
	baz=250,slow=75,SNR=315						
H11N2	**WAKE ISLAND Hy**	**40.92**	**62**	T	T	10 32 03.8	
	baz=250,slow=75,SNR=246						
H11N3	**WAKE ISLAND Hy**	**40.93**	**62**	T	T	10 32 02.3	
	baz=250,slow=75,SNR=234						
USRK	**Ussuriysk Ar.**	**41.84**	**3**	P	**P**	**09 48 13.3**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=147,slow=5.2,SNR=4.7						
	comp=Z,1.8nm,0.5s						
XLT	**XiLinHaoTe**	**43.01**	**346**	*e*P	**P**	**09 48 21.9**	**-0.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA	**Gaotai**	**45.50**	**328**	*e*P	**P**	**09 48 43.9**	**+1.7**
GTA				pP	pP	09 48 48.2	-3.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**49.41**	**340**	P	**P**	**09 49 13.1**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=152,slow=8.2,SNR=16						
	comp=Z,2.1nm,0.6s						
PETK	**Petropavlovsk-**	**55.97**	**20**	P	**P**	**09 50 01.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=216,slow=7.2,SNR=1.5						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**60.03**	**325**	P	**P**	**09 50 29.4**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=114,slow=8.3,SNR=35						
	comp=Z,1.2nm,0.4s						
KSH	**Kashi**	**60.65**	**315**	P	**P**	**09 50 35.7**	**+1.9**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**62.90**	**332**	P	**P**	**09 50 47.8**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=130,slow=6.9,SNR=5.2						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.17**	**327**	P	**P**	**09 50 57.0**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=125,slow=6.0,SNR=17						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**69.76**	**327**	P	**P**	**09 51 32.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=123,slow=5.5,SNR=9.0						
	comp=Z,1.4nm,0.5s						
NRIK	**Noril'sk**	**72.38**	**346**	P	**P**	**09 51 48.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=119,slow=8.5,SNR=3.5						
	comp=Z,1.7nm,0.4s						
VNDA	**Vanda**	**81.71**	**173**	P	**P**	**09 52 36.7**	**-3.6**
	comp=Z,7.6nm,1.2s,baz=18,slow=4.4,SNR=2.4						
	comp=Z,7.6nm,1.2s						
ILAR	**Eielson Array**	**85.46**	**25**	P	**P**	**09 52 59.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=250,slow=5.7,SNR=4.9						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**92.58**	**340**	P	**P**	**09 53 32.5**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=77,slow=6.4,SNR=3.6						
	comp=Z,2.7nm,0.9s						

TXNET 07 09:41:21.4, 31°6N±0°8×10°4W±°, h8km±2km, ML1.8/7, Error ellipse: s-maj=1.7km s-min=0.9km az=60.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**29**	P	Pg	09 41 28.9	+0.5
TPB11				S	Sg	09 41 33.7	+0.6
PECS	**Pecos**	**0.40**	**129**	P	Pb	09 41 30.2	-0.7
PECS				S	Sb	09 41 36.1	-1.1
TPB12	**Southwest of T**	**0.47**	**150**	P	Pg	09 41 30.8	+0.1
TPB12				S	Sg	09 41 37.6	+0.6
TPB07	**Mentone**	**0.48**	**96**	S	Sb	09 41 38.8	-0.7
TPB10	**Southeast of T**	**0.53**	**130**	P	Pg	09 41 32.2	+0.4
GDL2	**Guadalupe Moun**	**0.58**	**349**	P	Pg	09 41 33.3	+0.6
CLNB	**Carlsbad**	**0.70**	**25**	P	Pb	09 41 36.4	+0.4
CLNB				S	Sb	09 41 45.4	-0.4
TPB01	**Permian Basin**	**0.78**	**150**	P	Pg	09 41 36.9	+0.3
TPB01				S	Sg	09 41 47.3	+0.5
TPB03	**Saragosa**	**0.82**	**131**	S	Sb	09 41 49.5	+0.3
CLN7	**Carlsbad 7**	**0.86**	**25**	P	Pg	09 41 38.2	+0.1
TPB06	**Permian Basin**	**0.86**	**88**	S	Sb	09 41 50.4	-0.1
MNTX	**Cornudas Mount**	**0.98**	**274**	P	Pb	09 41 40.9	+0.2
MNTX				S	Sb	09 41 53.9	+0.1
HTMS	**Hat Mesa**	**0.98**	**31**	S	Sn	09 41 55.2	-0.6
HTMS	**Hat Mesa**	**0.98**	**31**	P	Pn	09 41 41.2	-0.4
TPB05	**Hovey Rd**	**1.05**	**132**	S	Sb	09 41 56.2	+0.4
VHRN	**Van Horn**	**1.06**	**218**	P	Pb	09 41 42.2	+0.1
VHRN				S	Sb	09 41 56.8	+0.7
MNHN	**Monahans**	**1.29**	**102**	P	Pg	09 41 46.5	+0.3
MNHN				S	Sn	09 42 04.0	+0.8
ALPN	**Alpine**	**1.35**	**158**	P	Pn	09 41 46.7	0.0
ALPN				S	Sb	09 42 04.3	-0.2
TPB08	**Permian Basin**	**1.35**	**123**	S	Sg	09 42 05.6	+0.7
ODSA	**Odessa**	**1.51**	**71**	P	Pb	09 41 49.8	0.0
ODSA				S	Sg	09 42 09.8	-0.4
TMB04	**Seminole**	**1.78**	**56**	P	Pb	09 41 54.3	-0.1
TMB04				S	Sg	09 42 18.2	-0.6
TMB02	**Rankin**	**1.92**	**102**	P	Pb	09 41 57.0	+0.2
TMB02				S	Sb	09 42 21.7	+0.8
EPT	**El Paso**	**1.94**	**275**	P	Pb	09 41 57.1	-0.1
TX31	**Lajitas Ar. Si**	**2.34**	**168**	P	Pb	09 42 02.8	-1.1

*ASRS **07** 09:51:57.0±0.7, 54°39N×86°98E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **07** 09:51:58.0±3.1, 54°38N×87°17E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=26.1km s-min=17.4km az=63.0.*

ISC 07 09:52:01.4±6.3, 54°3N±0°2×86°7E±0°4, h0km, n4, σ1°25/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.16**	**252**	I	I	09 59 40.4	
	0.2nm,1.1s,baz=71,slow=357,SNR=14						
ZALV	**Zalesovo Beam**	**1.16**	**252**	Pg	**Pn**	**09 52 24.2**	**-0.6**
	0.8nm,0.3s,baz=69,slow=16,SNR=14						
ZALV				Lg	Lg	09 52 44.5	
	1.2nm,0.3s,baz=70,slow=31,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.20**	**237**	Pn	**Pn**	**09 53 35.2**	**+1.0**
	0.1nm,0.3s,baz=54,slow=14,SNR=7.6						
KURBB				Lg	Lg	09 55 24.7	
	baz=51,slow=33,SNR=1.8						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**8.04**	**202**	Pn	**Pn**	**09 53 59.3**	**0.0**
	0.1nm,0.3s,baz=22,slow=14,SNR=2.8						
MKAR				Sn	**Sn**	**09 55 30.5**	**-0.4**
	baz=19,slow=26,SNR=2.2						
MKAR				Lg	Lg	09 56 15.1	
	0.1nm,0.3s,baz=20,slow=32,SNR=4.6						
	0.2nm,0.6s						

ISC 07 09:53:37.5±0.9, 60°05N±0°02×137°03W±0°02, h8km±8km, n22, σ6°72/37, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P30M	**Million Dollar**	**0.08**	**27**	P	**Pg**	**09 53 39.6**	**0.0**
	baz=213,SNR=1000						
P30M				S	**Sg**	**09 53 41.4**	**+0.2**
	baz=213						
PLBC	**Pleasant Camp**	**0.69**	**150**	P	**Pg**	**09 53 50.3**	**-0.3**
	baz=332,SNR=389						
PLBC				S	**Sg**	**09 53 59.7**	**+0.1**
	baz=332						
O29M	**Mount Kennedy**	**0.81**	**289**	P	**Pg**	**09 53 52.5**	**-0.6**
	baz=106						
O29M				S	**Sg**	**09 54 03.2**	**-0.5**
	baz=106						
HYT	**Haines Junctio**	**0.81**	**343**	P	**Pg**	**09 53 52.4**	**-0.8**
	baz=162,SNR=126						
HYT				S	**Sg**	**09 54 03.3**	**-0.4**
	baz=162						
O30N	**Mendenhall**	**0.86**	**33**	P	**Pg**	**09 53 53.6**	**-0.4**
	baz=214,SNR=216						
O30N				S	**Sg**	**09 54 04.9**	**-0.3**
	baz=214						
SKAG	**Skagway**	**1.05**	**124**	P	**Pg**	**09 53 56.9**	**-0.7**
	baz=306,SNR=98						
SKAG				S	**Sg**	**09 54 10.9**	**-0.2**
	baz=306						
YUK6	**Outpost Mounta**	**1.11**	**324**	P	**Pg**	**09 53 57.6**	**-1.2**
	baz=142,SNR=94						
YUK6				S	**Sg**	**09 54 13.0**	**-0.3**
	baz=142						
WHY	**Whitehorse**	**1.23**	**59**	P	**Pg**	**09 54 00.2**	**-1.0**
	baz=242,SNR=370						
WHY				S	**Sg**	**09 54 16.8**	**-0.3**
	baz=242						
N30M	**Aishikik Lake**	**1.41**	**359**	Pg	**Pn**	**09 54 03.3**	**-0.3**
	baz=179						
N30M				Sg	**Sg**	**09 54 22.8**	**-0.2**
	baz=179						
YUK4	**Talbot Arm**	**1.52

*BER **07** 09:59:42.5±1.7, 67°.82N×26°.74E, h0km, ML0.8, Suspected explosion*

HEL 07 09:59:38.3±0.1, 67°.72N×26°.97E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.91**	**33**	PG	Pg	09 59 55.1	-0.6
RAJF				SG	Sg	10 00 04.1	-3.4
VRF	**Varrio**	**1.01**	**87**	PB	Pg	09 59 56.6	-1.0
VRF				MSG		10 00 09.2	
	comp=Z,1.7nm,0.2s						
VRF				SN	Sn	10 00 16.2	+1.7
RNF	**Rovaniemi**	**1.18**	**199**	PG	Pg	09 59 59.7	-1.1
RNF				SG	Sg	10 00 16.0	0.0
KLF	**Kolari**	**1.26**	**249**	PG	Pg	10 00 00.9	-1.4
KLF				MSG		10 00 16.4	
	comp=Z,1.7nm,0.2s						
KLF				SN	Sn	10 00 22.2	+1.5
HEF	**Hetta**	**1.42**	**301**	*e*P	Pn	10 00 04.1	-1.2
HEF				*e*S	Sg	10 00 23.0	-0.9
HEF	**Hetta**	**1.42**	**301**	PG	Pn	10 00 04.0	-1.4
HEF				MSG		10 00 21.1	
	comp=Z,1.9nm,0.2s						
HEF				SN	Sn	10 00 24.5	-0.2
KMNF	**Kaamanen**	**1.44**	**0**	PN	Pn	10 00 04.7	-0.8
KMNF				SN	Sg	10 00 23.8	-0.6
PAJU	**Pajala**	**1.65**	**247**	PG	Pn	10 00 08.1	-0.4
PAJU				SN	Sn	10 00 29.4	-0.9
OLKF	**Oulanka, Finla**	**1.70**	**145**	PG	Pn	10 00 09.1	-0.1
OLKF				MSG		10 00 29.1	
	comp=Z,1.9nm,0.2s						
OLKF				SN	Sb	10 00 32.4	+0.1
RANF	**Ranua**	**1.72**	**182**	PG	Pn	10 00 09.3	-0.1
	baz=2.0						
RANF				SG	Sn	10 00 28.4	-3.6
KTK1	**Kautokeino**	**1.90**	**315**	*e*P	Pn	10 00 12.5	+0.7
KTK1				IAML		10 00 41.8	
	comp=Z,2.2nm,0.5s						
KTK1	**Kautokeino**	**1.90**	**315**	PG	Pn	10 00 12.7	+0.8
KTK1				SG	Sb	10 00 37.7	-0.2
ARA0	**ARCESS Array S**	**1.90**	**344**	*e*P	Pn	10 00 12.3	+0.4
ARA0				IAML		10 00 41.6	
	comp=Z,1.4nm,0.1s						
LANU	**Lannavaara**	**1.91**	**282**	PG	Pn	10 00 12.3	+0.2
TOF	**Tornio**	**1.95**	**214**	PG	Pn	10 00 11.2	-1.4
TOF				MSG		10 00 36.4	
	comp=Z,1.4nm,0.2s						
MSF	**Maaselka**	**1.99**	**155**	PG	Pn	10 00 14.3	+1.1
MSF				SG	Sb	10 00 40.0	-0.7
KEV	**Kevo**	**2.04**	**0**	*e*P	Pn	10 00 14.8	+1.0
KEV	**Kevo**	**2.04**	**0**	PG	Pn	10 00 15.0	+1.1
KEV				MSG		10 00 38.9	
	comp=Z,1.2nm,0.2s						
KEV				SG	Sb	10 00 41.2	-1.0
KU6	**Riekki**	**2.06**	**145**	PG	Pn	10 00 14.8	+0.8
KU6				MSG		10 00 39.5	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sb	10 00 42.1	-0.4
KU2	**Taivalkoski**	**2.08**	**165**	PB	Pn	10 00 14.2	-0.3
ERTU	**Ertsjaerv**	**2.20**	**240**	PG	Pn	10 00 17.2	+1.2
ERTU				SG	Sb	10 00 46.6	-0.2
KU1	**Kurvinen**	**2.40**	**153**	PG	Pb	10 00 20.6	-1.6
KIF	**Kilpisjarvi**	**2.62**	**302**	*e*P	Pn	10 00 23.9	+2.1
KIF	**Kilpisjarvi**	**2.62**	**302**	PG	Pb	10 00 24.6	-1.5
KIF				MSG		10 00 56.0	
	comp=Z,0.7nm,0.2s						
KIF				SG	Sb	10 00 59.2	+0.4
NIF	**Nilsia**	**4.36**	**175**	PB	Pb	10 00 52.2	-3.5

*HEL **07** 10:00:49.2±0.2, 64°.68N×30°.65E, h0km, ML1.9, Suspected explosion*

*KOLA **07** 10:00:51.0, 64°.71N×30°.73E, h0km, ML2.1, Error ellipse: s-maj=17.6km s-min=9.0km az=160.0, Kostomuksha, Karelia*

*IDC **07** 10:00:51.8±2.0, 64°.74N×30°.36E, h0km, mbtmp3.2/3, ML2.0/3, Error ellipse: s-maj=30.2km s-min=7.6km az=99.0*

ISC 07 10:00:47.3±0.8, 64°.74N±0°.02×31°.06E±0°.04, h0km, n37, σ1§46/57, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.71**	**224**	PG	**Pg**	**10 00 59.5**	**-1.5**
	baz=33						
RMF				SG	**Sg**	**10 01 06.7**	**-3.5**
RMF				MSG		10 01 07.1	
	comp=Z,19nm,0.2s						
KU1	**Kurvinen**	**1.04**	**323**	PG	**Pg**	**10 01 07.1**	**-0.3**
	baz=148						
KU6	**Riekki**	**1.38**	**340**	PG	**Pb**	**10 01 14.0**	**0.0**
	baz=162						
KU6				MSG		10 01 30.9	
	comp=Z,7.8nm,0.2s						
KU6				SB	**Sn**	**10 01 32.8**	**0.0**
MSF	**Maaselka**	**1.45**	**325**	PG	**Pn**	**10 01 14.4**	**-0.5**
MSF				SN	**Sg**	**10 01 33.4**	**-0.5**
KU2	**Taivalkoski**	**1.54**	**311**	PG	**Pn**	**10 01 15.1**	**-1.0**
	baz=136						
OLKF	**Oulanka, Finla**	**1.73**	**337**	PG	**Pg**	**10 01 20.1**	**-0.4**
OLKF				MSG		10 01 40.8	
	comp=Z,7.2nm,0.2s						
OLKF				SN	**Sg**	**10 01 43.5**	**+0.5**
JOF	**Joensuu**	**1.83**	**176**	PG	**Pn**	**10 01 20.7**	**+0.7**
JOF				SG	**Sn**	**10 01 45.1**	**+1.3**
NIF	**Nilsia**	**1.97**	**228**	PG	**Pn**	**10 01 21.5**	**-0.4**
	baz=38						
NIF				SN	**Sn**	**10 01 46.5**	**-0.7**
KVDA	**Kovda**	**2.10**	**20**	P	**Pg**	**10 01 27.8**	**+0.2**
KVDA				S	**Sg**	**10 01 56.2**	**+1.5**
RANF	**Ranua**	**2.20**	**308**	PG	**Pn**	**10 01 26.2**	**+1.1**
	baz=128						
RANF				SG	**Sn**	**10 01 53.4**	**+0.4**
OUL	**Oulu**	**2.23**	**281**	PG	**Pn**	**10 01 25.7**	**+0.3**
OUL				SG	**Sn**	**10 01 52.7**	**-0.9**
OBF4	**Vikkela, Lumij**	**2.55**	**274**	PG	**Pn**	**10 01 30.7**	**+0.8**
OBF4				MSG		10 01 59.4	
	comp=Z,9.9nm,0.2s						
OBF4				SG	**Sn**	**10 02 01.6**	**0.0**
OUF	**Merijarvi**	**2.76**	**265**	PB	**Pn**	**10 01 33.5**	**+0.8**
OUF				MSG		10 02 05.1	
	comp=Z,12nm,0.2s						
OUF				SG	**Sn**	**10 02 07.8**	**+1.1**
RNF	**Rovaniemi**	**2.81**	**314**	PG	**Pb**	**10 01 37.0**	**-1.3**
	baz=131						
RNF				SG	**Sb**	**10 02 11.8**	**-1.4**
OBF0	**Syolatti, Pyha**	**2.95**	**268**	PG	**Pn**	**10 01 37.0**	**+1.7**
OBF0				MSG		10 02 10.8	
	comp=Z,4.8nm,0.2s						
OBF0				SG	**Sn**	**10 02 13.5**	**+2.1**
SUF	**Sumiainen**	**2.98**	**229**	PB	**Pn**	**10 01 37.2**	**+1.5**
SUF				MSG		10 02 11.9	
	comp=Z,2.2nm,0.2s						
APA0	**Apatity Array**	**2.99**	**14**	P	**Pb**	**10 01 39.5**	**-1.8**
APA0				S	**Sb**	**10 02 17.3**	**-1.0**
VRF	**Varrio**	**3.08**	**350**	PB	**Pb**	**10 01 43.0**	**0.0**
VRF				MSG		10 02 20.4	
	comp=Z,2.3nm,0.2s						
TOF	**Tornio**	**3.12**	**299**	PG	**Pb**	**10 01 43.1**	**-0.6**
TOF				MSG		10 02 17.0	
	comp=Z,2.4nm,0.2s						
TOF				SG	**Sn**	**10 02 18.4**	**+2.7**
KAF	**Kangasniemi**	**3.39**	**221**	PB	**Pb**	**10 01 45.2**	**-3.0**
	baz=38						
KALU	**Kalix**	**3.42**	**293**	PN	**Pn**	**10 01 42.6**	**+0.7**
	baz=111						
KALU				SG	**Sb**	**10 02 31.3**	**+0.4**
RUF	**Ruokolahti**	**3.46**	**197**	PN	**Pn**	**10 01 43.8**	**+1.4**
LVZ	**Lovozero**	**3.49**	**23**	SN	**Sb**	**10 02 30.9**	**-1.9**
KEF	**Keuruu**	**3.79**	**230**	SG	**Sb**	**10 02 42.4**	**+1.0**
PAJU	**Pajala**	**3.99**	**309**	PG	**Pb**	**10 01 59.5**	**+1.1**
FIA0	**FINESS Array S**	**4.01**	**217**	PG	**Pb**	**10 01 59.8**	**+1.1**
	baz=32						
FINES	**FINESS Array B**	**4.01**	**217**	Pn	**Pn**	**10 01 50.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=7.6						
FINES				Pg	**Pb**	**10 01 58.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=7.4						
FINES				Sn	**Sn**	**10 02 38.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=39,slow=23,SNR=1.4						
FINES				Lg	Lg	10 02 50.6	
	comp=Z,1.0nm,0.3s,baz=38,slow=26,SNR=9.0						
	comp=Z,4.0nm,0.8s						
ERTU	**Ertsjaerv**	**4.10**	**300**	PN	**Pn**	**10 01 52.8**	**+1.6**
BURU	**Burvik**	**4.17**	**272**	PG	**Pb**	**10 02 01.4**	**0.0**
	baz=89						
VJF	**Virojoki**	**4.51**	**203**	SG	**Sb**	**10 03 05.2**	**+3.0**
KMNF	**Kaamanen**	**4.71**	**342**	PN	**Pn**	**10 02 01.1**	**+1.6**
KMNF				SN	**Sn**	**10 02 54.4**	**-0.3**
HEF	**Hetta**	**4.72**	**325**	SG	**Sb**	**10 03 11.8**	**+3.6**
ARCES	**ARCESS Array B**	**5.28**	**338**	Pn	**Pn**	**10 02 08.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 03 07.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=157,slow=19,SNR=5.5						
ARCES				Lg	Lg	10 03 31.5	
	comp=Z,0.4nm,0.3s,baz=160,slow=28,SNR=7.3						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**5.28**	**338**	P	**Pn**	**10 02 08.4**	**+1.0**
ARCES				S	**Sn**	**10 03 06.8**	**-2.1**
FAUS	**Fauske**	**6.94**	**300**	S	**Sn**	**10 03 47.4**	**-2.2**
I43RU	**DUBNA INFRASON**	**8.59**	**157**	I	I	10 52 30.0	
	baz=346,slow=321,SNR=2.3						
HFS	**Hagfors**	**9.26**	**248**	Pn	**Pn**	**10 03 00.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=55,slow=15,SNR=2.5						
HFS				Lg	Lg	10 05 33.8	
	comp=Z,0.3nm,0.3s,baz=52,slow=34,SNR=2.2						
	comp=Z,2.9nm,0.9s						

KOLA 07 10:01:51.1, 64°.79N×30°.75E, h0km, ML2.0, Error ellipse: s-maj=15.8km s-min=14.0km az=40.0, Kostomuksha, Karelia, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVDA	**Kovda**	**2.10**	**24**	P	Pn	10 02 26.9	-0.6
KVDA				S	Sn	10 02 53.8	-0.4
APA0	**Apatity Array**	**2.97**	**17**	S	Sn	10 03 14.2	-1.4
ARCES	**ARCESS Array B**	**5.18**	**339**	P	Pn	10 03 08.8	-0.9
ARCES				S	Sn	10 04 06.1	-4.0
VADS	**Vadso**	**5.38**	**355**	P	Pn	10 03 11.8	-0.7
VADS				S	Sn	10 04 11.4	-3.5

*WEL **07** 10:02:28.1±0.8, 33°.5±9°.×17°.8W±2°.0, h175km±28km, M4.1/9, mB4.5/9, MLv4.5/9, Mw(mB)3.7/9, Error ellipse: s-maj=28.4km s-min=5.5km az=110.6, confirmed*

*NOU **07** 10:02:56.5, 35°.06S×179°.85W, h307km, mb3.8/6, East of North Island, N.Z.*

ISC 07 10:02:27.0±1.4, 33°.15S±0°.08×178°.1W±0°.2, h200km, n62, σ1§97/80, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.88**	**2**	P	**Pn**	**10 03 27.2**	**-0.2**
GLKZ				S	**Sn**	**10 04 14.2**	**-0.5**
MXZ	**Matakaoa Point**	**5.29**	**213**	P	Pn	10 03 51.9	+6.9
MXZ	**Matakaoa Point**	**5.29**	**213**	P	**Pn**	**10 03 47.6**	**+2.6**
MXZ				S	**Sn**	**10 04 48.3**	**+1.6**
WMGZ	**Waiomatatini S**	**5.45**	**210**	P	**Pn**	**10 03 51.0**	**+3.8**
WMGZ				S	**Sn**	**10 04 52.3**	**+1.8**
PKGZ	**Pakihiroa**	**5.64**	**212**	P	**Pn**	**10 03 52.1**	**+2.6**
PKGZ				S	**Sn**	**10 04 54.7**	**-0.2**
HAZ	**Te Kaha**	**5.69**	**215**	P	**Pn**	**10 03 52.6**	**+2.5**
HAZ				S	**Sn**	**10 04 55.2**	**-0.8**
PUZ	**Puketiti**	**5.73**	**210**	P	**Pn**	**10 03 53.4**	**+2.6**
PUZ				S	**Sn**	**10 04 59.1**	**+2.0**
RUGZ	**Raukumara Rang**	**5.90**	**214**	P	**Pn**	**10 03 55.0**	**+1.9**
RUGZ				S	**Sn**	**10 05 00.7**	**-0.5**
TWGZ	**Tauwhareparae**	**5.94**	**211**	P	**Pn**	**10 03 56.6**	**+3.1**
TWGZ				S	**Sn**	**10 04 59.8**	**-2.1**
CNGZ	**Carnagh Statio**	**6.10**	**208**	P	**Pn**	**10 03 58.6**	**+3.1**
CNGZ				S	Sn	10 04 58.7	-7.0
TKGZ	**Te Karaka**	**6.21**	**211**	P	**Pn**	**10 03 58.5**	**+1.5**
TKGZ				S	**Sn**	**10 05 06.7**	**-1.6**
MWZ	**Matawai**	**6.27**	**213**	P	**Pn**	**10 03 58.8**	**+1.0**
MWZ				S	**Sn**	**10 05 07.0**	**-2.7**
OPRZ	**Ohinepanea**	**6.39**	**221**	P	**Pn**	**10 04 01.9**	**+2.6**
URZ	**Urewera**	**6.41**	**216**	P	**Pn**	**10 04 02.3**	**+2.8**
URZ	**Urewera**	**6.41**	**216**	P	**Pn**	**10 03 59.7**	**+1.2**
URZ				S	**Sn**	**10 05 09.2**	**-3.7**
RAGZ	**Rawiri**	**6.45**	**213**	P	**Pn**	**10 04 01.4**	**+1.3**
RAGZ				S	**Sn**	**10 05 11.5**	**-2.5**
RIGZ	**Rimuhau**	**6.47**	**210**	P	**Pn**	**10 04 02.1**	**+1.7**
RIGZ				S	**Sn**	**10 05 09.6**	**-4.8**
PRGZ	**Paritu Road**	**6.61**	**208**	P	Pn	10 04 07.1	+4.9
PRGZ				S	**Sn**	**10 05 20.2**	**+2.6**
SNGZ	**Shannon Statio**	**6.72**	**212**	P	**Pn**	**10 04 03.3**	**-0.3**
SNGZ				S	**Sn**	**10 05 17.7**	**-2.5**
MUGZ	**Murupara**	**6.75**	**217**	P	**Pn**	**10 04 03.1**	**-0.8**
MUGZ				S	Sn	10 05 13.8	-7.0
RTZ	**Ruatahuna**	**6.75**	**215**	P	**Pn**	**10 04 05.3**	**+1.2**
RTZ				S	Sn	10 05 14.7	-6.3
RAHZ	**Arahi**	**6.95**	**213**	P	**Pn**	**10 04 09.5**	**+3.0**
RAHZ				S	**Sn**	**10 05 23.9**	**-1.6**
PRRZ	**Plateau Road**	**6.96**	**218**	P	**Pn**	**10 04 09.0**	**+2.4**
ALRZ	**Allen Road**	**7.03**	**218**	P	**Pn**	**10 04 09.8**	**+2.2**
NMHZ	**Naumai**	**7.22**	**213**	P	**Pn**	**10 04 12.9**	**+2.8**
NMHZ				S	**Sn**	**10 05 31.4**	**-0.6**
ARHZ	**Aropaoanui**	**7.27**	**212**	P	**Pn**	**10 04 14.6**	**+3.9**
ARHZ				S	**Sn**	**10 05 35.1**	**+2.1**
BKZ	**Black Stump Fm**	**7.42**	**215**	P	**Pn**	**10 04 15.0**	**+2.3**
BKZ	**Black Stump Fm**	**7.42**	**215**	P	**Pn**	**10 04 14.9**	**+2.2**
BKZ				S	**Sn**	**10 05 35.0**	**-1.7**
MCHZ	**McNeill Hill**	**7.55**	**212**	P	**Pn**	**10 04 16.8**	**+2.4**
MCHZ				S	**Sn**	**10 05 39.2**	**-0.5**
KWHZ	**Kaweka Forest**	**7.66**	**214**	P	**Pn**	**10 04 17.4**	**+1.6**
KWHZ				S	**Sn**	**10 05 40.3**	**-2.1**
KAHZ	**Kahuranaki**	**7.76**	**210**	P	**Pn**	**10 04 19.9**	**+2.7**
TMVZ	**Te Maari**	**7.78**	**218**	P	**Pn**	**10 04 18.5**	**+1.2**
NTVZ	**North Tongariro**	**7.78**	**219**	P	**Pn**	**10 04 18.6**	**+1.2**
ETVZ	**East Tongariro**	**7.79**	**218**	P	**Pn**	**10 04 18.5**	**+1.0**
HIZ	**Hauiti**	**7.83**	**225**	P	**Pn**	**10 04 20.1**	**+2.2**
HIZ	**Hauiti**	**7.83**	**225**	P	**Pn**	**10 04 19.8**	**+1.8**
OTVZ	**Oturere**	**7.83**	**218**	P	**Pn**	**10 04 18.4**	**+0.2**
KRHZ	**Kereru**	**7.86**	**213**	P	**Pn**	**10 04 19.5**	**+1.1**
SNVZ	**South Ngauruho**	**7.86**	**218**	P	**Pn**	**10 04 17.5**	**-1.0**
PXZ	**Pawanui**	**7.97**	**209**	P	**Pn**	**10 04 21.5**	**+1.8**
PNHZ	**Pukenui**	**8.15**	**213**	P	**Pn**	**10 04 22.0**	**-0.3**
PRHZ	**Porangahau**	**8.26**	**209**	P	**Pn**	**10 04 25.5**	**+2.0**
TSZ	**Takapari Road**	**8.38**	**213**	P	**Pn**	**10 04 25.8**	**+0.6**
DVHZ	**Dannevirke**	**8.48**	**211**	P	**Pn**	**10 04 26.9**	**+0.4**
ANWZ	**Angora Road**	**8.49**	**209**	P	**Pn**	**10 04 28.5**	**+2.0**
POWZ	**Post Office Ro**	**8.73**	**212**	P	**Pn**	**10 04 29.3**	**-0.5**
BFZ	**Birch Farm**	**8.77**	**209**	P	**Pn**	**10 04 31.6**	**+1.4**
BFZ	**Birch Farm**	**8.77**	**209**	P	**Pn**	**10 04 31.6**	**+1.4**
TIWZ	**Tintock**	**9.00**	**211**	P	**Pn**	**10 04 33.9**	**+0.7**
MRZ	**Mangatainoka R**	**9.04**	**212**	P	**Pn**	**10 04 33.3**	**-0.4**
HOWZ	**Holdsworth Sta**	**9.26**	**212**	P	**Pn**	**10 04 35.9**	**-0.6**
TMWZ	**Te Maipa**	**9.27**	**209**	P	**Pn**	**10 04 37.7**	**+0.9**
OGWZ	**Otaki Gorge**	**9.35**	**213**	P	**Pn**	**10 04 35.8**	**-1.9**
MTW	**Mount Morrison**	**9.48**	**211**	P	**Pn**	**10 04 38.9**	**-0.5**
KIW	**Kapiti Island**	**9.50**	**214**	P	**Pn**	**10 04 38.3**	**-1.5**
CAW	**Cannon Point**	**9.63**	**212**	P	**Pn**	**10 04 39.9**	**-1.4**
PAWZ	**Paruwai Farm**	**9.69**	**210**	P	**Pn**	**10 04 41.7**	**-0.6**
MSWZ	**Moikau Station**	**9.80**	**211**	P	**Pn**	**10 04 42.5**	**-1.0**
PLWZ	**Palliser**	**9.92**	**210**	P	**Pn**	**10 04 44.5**	**-0.6**
SNZO	**South Karori**	**9.95**	**213**	P	**Pn**	**10 04 43.7**	**-1.8**
TUWZ	**Tuamarina**	**10.40**	**215**	P	Pn	10 04 48.1	-3.3
CTZ	**Chatham Island**	**10.63**	**174**	P	**Pn**	**10 04 53.8**	**-0.4**

*BJI **07** 10:03:03.5, 1°.79N×128°.97E, h46km, mB5.4/56, mb5.2/91, Ms4.8/81, Ms7 4.6/79*

*NEIC **07** 10:03:04.3, 2°.18N×128°.73E, h20km*

*NEIC **07** 10:03:04.3, 1°.98N×128°.63E, h20km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}7.42; $M_{\theta\theta}$2.13; $M_{\phi\phi}$-9.55; $M_{r\theta}$2.39; $M_{\theta\phi}$-0.71; $M_{\phi r}$-2.19; Fault plane solution: $M_0$9.23000×1016 NP1:φ=24.16000°, δ42.17000°, λ122.00000°. NP2:φ=164.02000°, δ55.29000°, λ64.35000°. Principal axes: T 8.6271, Plg68.0000°, Azm20.0000°; N 1.2124, Plg21.0000°, Azm179.0000°; P -9.8396, Plg7.0000°, Azm272.0000°;*

*MOS **07** 10:03:06.9±0.9, 2°.32N×128°.67E, h41km, mb5.5/79, MS4.7/4 Error ellipse: s-maj=8.0km s-min=4.0km az=115.3*

*DJA **07** 10:03:06.3±0.2, 2°N±2°×12°9E±°, h22km±1km, M5.2/96, mb5.4/96, mB5.7/61, MLv5.4/19, Mw(mB)5.2/61, MwMwp5.1/42, Mwp5.3/42*

*NEIC **07** 10:03:06.7±2.4, 2°.30N±0°.05×128°.77E±0°.06, h21km±3km, mb5.3/264, Mww5.2/23, Error ellipse: s-maj=9.6km s-min=4.6km az=124.0*

*GCMT **07** 10:03:08.7±0.1, 2°.29N±0°.01×128°.69E±0°.01, h18km, MW5.3/137, Moment Tensor Solution. s120,c196; s137,c249; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.95±.02; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$-0.97±.01; $M_{r\theta}$0.28±.03; $M_{\theta\phi}$0.10±.01; $M_{\phi r}$0.57±.03; Best double couple: $M_0$1.15300×10^{17} NP1:φ=159.00000°, δ32.00000°, λ63.00000°. NP2:φ=11.00000°, δ62.00000°, λ106.00000°. Principal axes: T 1.1780, Plg69.0000°, Azm314.0000°; N -0.0500, Plg14.0000°, Azm183.0000°; P -1.1270, Plg15.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **07** 10:03:10.2±1.7, 2°.28N×128°.73E, h60km±15km, mb4.8/39, mbtmp5.1/42, MS4.4/52 Error ellipse: s-maj=13.7km s-min=8.9km az=77.0*

ISC 07 10:03:07.7±0.2, 2°.22N±0°.03×128°.73E±0°.04, h35km, h35km:pP-P, n861, σ1§40/788, mb5.3/267, MS4.5/80, 28C-14D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.98**	**224**	Pn	**Pn**	**10 03 39.9**	**+1.2**
TNTI	**Ternate**	**1.98**	**224**	P	**Pn**	**10 03 40.5**	**+1.8**
TNTI	**Ternate**	**1.98**	**224**	P	**Pn**	**10 03 39.1**	**+0.4**
LBMI	**Labuha**	**3.09**	**203**	P	**Pn**	**10 03 56.0**	**+2.0**
SGSI	**Sangihe**	**3.52**	**295**	P	**Pn**	**10 04 00.6**	**+0.7**
SWI	**Sorong**	**3.97**	**140**	P	**Pn**	**10 04 05.5**	**-0.6**
KMSI	**Cibinong**	**5.02**	**251**	P	**Pn**	**10 04 22.8**	**+2.2**
SANI	**Sanana**	**5.05**	**213**	P	**Pn**	**10 04 24.3**	**+3.4**
SANI	**Sanana**	**5.05**	**213**	P	**Pn**	**10 04 22.7**	**+1.8**
	11μm4μm266nm,1.0s						
MSAI	**Masohi**	**5.53**	**178**	P	**Pn**	**10 04 30.8**	**+3.2**
	1.4nm8μm5μm396nm,0.7s						
NLAI	**Namlea**	**5.66**	**197**	P	**Pn**	**10 04 31.3**	**+2.0**
	1.0nm9μm3μm243nm,0.5s						
DAV	**Davao City (W)**	**5.75**	**327**	Pn	**Pn**	**10 04 29.8**	**-0.9**
DAV	**Davao City (W)**	**5.75**	**327**	P	Pn	10 04 35.4	+4.7
	450nm,0.6s,baz=99,slow=5.1,SNR=8.4						
DAV	**Davao City (W)**	**5.75**	**327**	P	**Pn**	**10 04 33.0**	**+2.3**
AAI	**Ambon**	**5.89**	**185**	P	**Pn**	**10 04 33.4**	**+0.9**
	0.8nm150nm,0.6s						
FAKI	**Fak Fak**	**6.20**	**145**	Pn	**Pn**	**10 04 37.6**	**+0.9**
FAKI	**Fak Fak**	**6.20**	**145**	P	**Pn**	**10 04 38.4**	**+1.6**
FAKI	**Fak Fak**	**6.20**	**145**	P	**Pn**	**10 04 36.9**	**+0.1**
	0.8nm12μm3μm209nm,0.8s						
RKPI	**Ransiki, Papua**	**6.58**	**124**	P	**Pn**	**10 04 45.5**	**+3.4**
	2.7nm11μm503nm,0.8s						
LUWI	**Luwuk**	**6.78**	**242**	Pn	**Pn**	**10 04 46.0**	**+1.2**
LUWI	**Luwuk**	**6.78**	**242**	P	**Pn**	**10 04 47.6**	**+2.8**
LUWI	**Luwuk**	**6.78**	**242**	P	**Pn**	**10 04 46.7**	**+1.9**
MRSI	**Marisa**	**7.00**	**256**	P	**Pn**	**10 04 48.8**	**+1.0**
	1.3nm9μm6μm363nm,1.3s						
APSI	**Ampana**	**7.73**	**246**	P	**Pn**	**10 04 59.6**	**+1.8**
	2.2nm4μm286nm,0.8s						
I39PW	**PALAU INFRASON**	**7.84**	**47**	I	I	10 50 00.0	
	baz=228,slow=313,SNR=1.6						
TOLI2	**Tolitoli**	**8.02**	**262**	Pn	**Pn**	**10 05 03.0**	**+1.2**
TOLI2	**Tolitoli**	**8.02**	**262**	P	**Pn**	**10 05 03.0**	**+1.2**
BAKI	**Biak**	**8.12**	**115**	P	**Pn**	**10 05 05.9**	**+2.8**
	6μm541nm,0.9s						
SRPI	**Serui, Papua**	**8.54**	**118**	P	**Pn**	**10 05 10.9**	**+2.0**
	5μm261nm,0.6s						
KDI	**Kendari**	**8.65**	**225**	P	**Pn**	**10 05 12.1**	**+1.6**
	4μm346nm,0.9s						
BBSI	**Bau Bau**	**9.82**	**219**	P	**Pn**	**10 05 30.0**	**+3.5**
	5μm353nm,1.2s						
TTSI	**Tana Toraja**	**10.33**	**240**	P	**Pn**	**10 05 35.2**	**+1.7**
SPSI	**Sidrap Palu**	**10.86**	**236**	P	**Pn**	**10 05 42.8**	**+2.1**
BKSI	**Bulukumba**	**11.40**	**229**	P	**Pn**	**10 05 50.0**	**+1.8**
KAPI	**Kappang**	**11.49**	**231**	Pn	**Pn**	**10 05 51.1**	**+1.7**
KAPI	**Kappang**	**11.49**	**231**	P	**Pn**	**10 05 52.9**	**+3.5**
	97nm,0.6s,baz=105,slow=1.9,SNR=35						
KAPI	**Kappang**	**11.49**	**231**	P	**Pn**	**10 05 53.3**	**+3.9**
BSSI	**Bau Bau, Buton**	**11.69**	**225**	P	**Pn**	**10 05 53.9**	**+1.8**
	3μm207nm,0.9s						
SMKI	**Samarinda**	**11.82**	**257**	P	**Pn**	**10 05 55.9**	**+2.0**
	7μm180nm,0.8s						
GENI	**Genyem**	**12.39**	**113**	P	**Pn**	**10 06 04.0**	**+2.3**
SOEI	**Soe**	**12.70**	**200**	Pn	**Pn**	**10 06 06.7**	**+0.7**
SOEI	**Soe**	**12.70**	**200**	P	**Pn**	**10 06 06.7**	**+0.7**
	4μm4μm117nm,1.0s						
JAY	**Jayapura**	**12.86**	**111**	P	**Pn**	**10 06 10.8**	**+2.6**
	27nm,1.1s,baz=294,slow=17,SNR=2.1						
KKM	**Kota Kinabalu**	**13.05**	**287**	Pn	**Pn**	**10 06 12.7**	**+1.9**
KKM	**Kota Kinabalu**	**13.05**	**287**

PMG	**Port Moresby**	**21.69 122**	P	**P**	**10 07 57.2 +1.5**
	comp=Z,12nm,0.7s,baz=50,slow=7.2,SNR=12				
PMG			LR	LR	10 17 29.0
	comp=Z,2μm,20.3s,baz=306,slow=40				
	comp=Z,12nm,0.7s				
TWGBT	**Beinan**	**21.78 341**	P	**P**	**10 07 54.1 -2.5**
KPJI	**Karang Pucung**	**21.92 244**	P	**P**	**10 08 00.4 +2.2**
	comp=Z,3μmcomp=Z,3μmcomp=Z,166nm,0.8s				
YULB	**Yu-li**	**22.25 342**	P	**P**	**10 07 59.0 -2.7**
YULB			IAmb	IAmb	10 08 09.6
	comp=Z,187nm,1.6s				
YULB	**Yu-li**	**22.25 342**	P	**P**	**10 07 59.1 -2.6**
TPUB	**Ta-pu**	**22.38 340**	P	**P**	**10 08 01.0 -2.1**
TPUB			IAmb	IAmb	10 08 04.5
	comp=Z,123nm,0.7s				
TPUB	**Ta-pu**	**22.38 340**	P	**P**	**10 08 00.6 -2.5**
CMJI	**Cimerak**	**22.54 244**	P	**P**	**10 08 04.3 -0.6**
	comp=Z,3μmcomp=Z,2μmcomp=Z,123nm,0.9s				
WB0	**Warramunga Arr**	**22.54 166**	P	**P**	**10 08 05.3 +0.5**
WB0			IAmb	IAmb	10 08 17.4
	comp=Z,93nm,0.7s				
WRAB	**Tennant Creek**	**22.69 166**	P	**P**	**10 08 07.2 +0.8**
WRAB	**Tennant Creek**	**22.69 166**⇓	*e*P	**P**	**10 08 07.3 +0.8**
WRAB			pmax	pmax	
	comp=Z,224nm,1.8s				
WRA	**Warramunga Arr**	**22.70 166**	P	**P**	**10 08 07.4 +0.9**
	comp=Z,23nm,0.6s,baz=343,slow=10,SNR=64				
WRA			LR	LR	10 18 28.7
	comp=Z,924nm,19.2s,baz=3.0,slow=40				
	comp=Z,23nm,0.6s				
SSLB	**Suanglung**	**22.73 341**	P	**P**	**10 08 05.0 -1.7**
SSLB			IAmb	IAmb	10 08 29.4
	comp=Z,51nm,0.7s				
SSLB	**Suanglung**	**22.73 341**	P	**P**	**10 08 05.1 -1.7**
YOJ	**Yonaguni jima**	**22.80 346**	IAmb	IAmb	10 08 14.3
	comp=Z,206nm,1.2s				
YOJ	**Yonaguni jima**	**22.80 346**	P	**P**	**10 08 07.7 +0.3**
YOJ	**Yonaguni jima**	**22.80 346**	P	**P**	**10 08 07.8 +0.3**
YOJ			pmax	pmax	
	comp=Z,159nm,1.0s				
NACB	**Ninganchiao**	**22.89 343**	IAmb	IAmb	10 08 18.7
	comp=Z,230nm,1.8s				
NACB	**Ninganchiao**	**22.89 343**	P	**P**	**10 08 09.1 +0.6**
LEM	**Lembang**	**22.91 247**	P	**P**	**10 08 10.3 +1.4**
	comp=Z,3μmcomp=Z,173nm,0.9s				
PPBI	**Pangkal Pinang**	**23.00 259**	P	**P**	**10 08 10.6 +0.9**
BBJI	**Bungbulang**	**23.13 245**	P	**P**	**10 08 10.3 -0.8**
YHNB	**Yeheng**	**23.43 343**	IAmb	IAmb	10 08 25.3
	comp=Z,116nm,0.9s				
YHNB	**Yeheng**	**23.43 343**	P	**P**	**10 08 13.9 0.0**
CNJI	**Cibinong**	**23.54 246**	P	**P**	**10 08 14.4 -0.6**
	comp=Z,82nm,0.8s				
SKJI	**Sukabumi**	**23.95 247**	P	**P**	**10 08 19.6 +0.7**
SBJI	**Serang**	**24.04 250**	P	**P**	**10 08 21.7 +2.0**
	comp=Z,357nm,1.8s				
KRVT	**Keravat (AS076**	**24.16 106**	LR	LR	10 15 57.8
	comp=Z,2μm,21.9s,baz=15,slow=32				
KNMB	**Chin-men Tao**	**24.27 337**	P	**P**	**10 08 22.0 +0.2**
KNMB			IAmb	IAmb	10 08 26.0
	comp=Z,92nm,0.7s				
HKPS	**Hong Kong Po S**	**24.47 326**	P	**P**	**10 08 23.1 -0.5**
HKPS			IAmb	IAmb	10 08 34.3
	comp=Z,167nm,1.3s				
HKPS	**Hong Kong Po S**	**24.47 326**	P	**P**	**10 08 25.1 +1.5**
JOW	**Kunigami**	**24.48 359**	LR	LR	10 16 06.7
	comp=Z,1μm,21.4s,baz=152,slow=32				
JOW	**Kunigami**	**24.48 359**	P	**P**	**10 08 24.7 +1.1**
CGJI	**Cibinong**	**24.61 249**	P	**P**	**10 08 24.0 -1.0**
CGJI			pP	**pP**	**10 08 30.9 -4.1**
QZH	**Quanzhou**	**24.62 337**⇑	*i*P	**P**	**10 08 24.3 -0.6**
QZH			S	**S**	**10 12 42.6 -1.4**
QZH			sS	**sS**	**10 13 00.9 +0.9**
QZH			pmax	pmax	
	comp=Z,130nm,0.8s				
QZH			pmax	pmax	
	comp=Z,1μm,9.3s				
QZH			LR	LR	
	comp=Z,1μm,15.8s				
QZH			LR	LR	
	comp=Z,890nm,17.9s				
QZH			LR	LR	
	comp=Z,2μm,18.0s				
MBWA	**Marble Bar**	**24.85 200**	P	**P**	**10 08 25.9 -1.1**
MBWA	**Marble Bar**	**24.85 200**	P	**P**	**10 08 26.8 -0.2**
	comp=Z,33nm,1.1s				
MBWA	**Marble Bar**	**24.85 200**	P	**P**	**10 08 27.4 +0.4**
MYKOM	**Kota Tinggi**	**24.87 269**	IAmb	IAmb	10 08 32.4
	comp=Z,67nm,0.8s				
MYKOM	**Kota Tinggi**	**24.87 269**	P	**P**	**10 08 28.1 +0.8**
QIZ	**Qiongzhong**	**24.92 313**	IAmb	IAmb	10 08 30.7
	comp=Z,76nm,1.0s				
QIZ	**Qiongzhong**	**24.92 313**	P	**P**	**10 08 27.3 -0.5**
QIZ			PP	**PnPn**	**10 09 04.0 +2.5**
QIZ			S	**S**	**10 12 51.6 +2.5**
QIZ			pmax	pmax	
	comp=Z,77nm,1.0s				
QIZ			pmax	pmax	
	comp=Z,730nm,5.6s				
QIZ			LR	LR	
	comp=Z,1μm,15.7s				
QIZ			LR	LR	
	comp=Z,750nm,17.1s				
QIZ			LR	LR	
	comp=Z,890nm,19.6s				
QIZ	**Qiongzhong**	**24.92 313**	P	**P**	**10 08 28.7 +0.9**
QIS	**Mount Isa**	**25.02 155**	P	**P**	**10 08 29.6 +1.0**
	comp=Z,242nm,0.9s				
QIS	**Mount Isa**	**25.02 155**	P	**P**	**10 08 29.7 +1.1**
PSAC1	**Pilbara Seismi**	**25.17 200**	P	**P**	**10 08 29.8 -0.1**
	comp=Z,41nm,1.5s				
PSA00	**Pilbara Seismi**	**25.19 200**	P	**P**	**10 08 29.6 -0.5**
PSA00	**Pilbara Seismi**	**25.19 200**	P	**P**	**10 08 30.1 -0.1**
	comp=Z,51nm,1.1s				
PSA00	**Pilbara Seismi**	**25.19 200**	P	**P**	**10 08 30.5 +0.4**
MTSU	**Mount Surprise**	**25.39 143**	P	**P**	**10 08 34.1 +2.1**
MTSU	**Mount Surprise**	**25.39 143**	P	**P**	**10 08 33.8 +1.8**
MDSI	**Maura Dua**	**25.42 255**	P	**P**	**10 08 32.3 0.0**
	comp=Z,1μmcomp=Z,63nm,1.1s				
GZH	**Guangzhou**	**25.55 326**	P	**P**	**10 08 36.2 +2.8**
GZH			S	S	10 13 07.7 +8.7
GZH			pmax	pmax	
	comp=Z,62nm,0.7s				
GZH			LR	LR	
	comp=Z,1μm,17.3s				
GZH			LR	LR	
	comp=Z,1μm,17.5s				
GZH			LR	LR	
	comp=Z,2μm,17.6s				
XMI	**Christmas Isla**	**26.16 241**	P	**P**	**10 08 38.2 -0.8**
XMIS	**Christmas Isla**	**26.21 241**	P	**P**	**10 08 37.9 -1.5**
XMIS	**Christmas Isla**	**26.21 241**	P	**P**	**10 08 38.6 -0.9**
ASAR	**Alice Springs**	**26.21 169**	P	**P**	**10 08 40.1 +0.7**
	comp=Z,5.9nm,0.5s,baz=353,slow=7.2,SNR=170				
ASAR			PcP	**PcP**	**10 12 05.2 -0.7**
	comp=Z,1.6nm,0.4s,baz=339,slow=2.3,SNR=4.6				
ASAR			ScP	**ScP**	**10 15 41.3 -1.9**
	comp=Z,2.9nm,0.9s,baz=340,slow=2.7,SNR=7.3				
ASAR			LR	LR	10 20 46.2
	comp=Z,1μm,20.3s,baz=5.0,slow=40				
	comp=Z,5.9nm,0.5s				
UBPT	**Khong Chiam**	**26.36 301**	P	**P**	**10 08 40.9 +0.1**
UBPT			IAmb	IAmb	10 08 51.0
	comp=Z,49nm,0.7s				
UBPT	**Khong Chiam**	**26.36 301**	P	**P**	**10 08 40.8 +0.1**
KSI	**Kapahiang**	**26.77 257**	P	**P**	**10 08 44.2 -0.4**
WRKA	**Warakurna**	**27.09 181**	P	**P**	**10 08 47.8 +0.4**
	comp=Z,78nm,1.7s				
WRKA	**Warakurna**	**27.09 181**	P	**P**	**10 08 47.8 +0.4**
IPM	**Ipoh**	**27.75 275**	P	**P**	**10 08 55.9 +2.5**
JCJ	**Chichijima**	**27.90 26**	P	**P**	**10 08 54.4 -0.1**
JCJ	**Chichijima**	**27.90 26**	LR	LR	10 17 22.0
	comp=Z,849nm,21.5s,baz=246,slow=31				
JCJ	**Chichijima**	**27.90 26**	P	**P**	**10 08 55.8 +1.3**
PPI	**Padang Panjang**	**28.45 265**	P	**P**	**10 09 00.6 +1.0**
	comp=Z,962nmcomp=Z,22nm,0.7s				
GULI	**GuiLin**	**28.97 324**	P	**P**	**10 09 06.2 +2.1**
GULI			pmax	pmax	
	comp=Z,30nm,1.3s				
GULI			pmax	pmax	
	comp=Z,420nm,8.1s				
GULI			LR	LR	
	comp=Z,440nm,16.5s				
GULI			LR	LR	
	comp=Z,970nm,18.4s				
GULI			LR	LR	
	comp=Z,1μm,19.5s				
MNSI	**Mandailing Nat**	**29.17 268**	P	**P**	**10 09 06.2 +0.1**
	comp=Z,49nm,0.6s				
SSE	**Sheshan**	**29.60 347**	P	P	10 09 12.5 +3.0
SSE			S	**S**	**10 14 08.2 +5.7**
SSE			pmax	pmax	
	comp=Z,12nm,0.9s				
SSE			pmax	pmax	
	comp=Z,380nm,4.3s				
SSE			LR	LR	
	comp=Z,240nm,5.1s				
SSE			LR	LR	
	comp=Z,440nm,9.8s				
NAYO	**Nakonayok**	**29.62 295**	P	**P**	**10 09 10.1 +0.1**
NONG	**Nongkai**	**29.63 304**	P	**P**	**10 09 10.6 +0.6**
SRIT	**Nakonsritamara**	**29.67 283**	P	**P**	**10 09 12.3 +1.9**
PSI	**Prapat**	**29.78 272**	P	**P**	**10 09 12.2 +0.6**
	comp=Z,6.7nm,0.6s,baz=109,slow=5.0,SNR=10				
	comp=Z,6.7nm,0.6s				
PSI	**Prapat**	**29.78 272**	P	**P**	**10 09 12.5 +0.9**
OOD	**Oodnadatta**	**30.58 168**	P	**P**	**10 09 19.3 +1.0**
SLVN	**Son La**	**30.75 310**	P	**P**	**10 09 21.8 +1.8**
JNU	**Nakatsue**	**30.81 4**	IAmb	IAmb	10 09 31.3
	comp=Z,148nm,1.8s				
JNU	**Nakatsue**	**30.81 4**	LR	LR	10 23 40.7
	comp=Z,913nm,18.0s,baz=179,slow=40				
NJ2	**Nanjing**	**31.10 344**	⇓P	**P**	**10 09 24.3 +1.5**
NJ2			pmax	pmax	
	comp=Z,21nm,1.0s				
GSI	**Gunungsitoli**	**31.15 269**	P	**P**	**10 09 22.9 -0.6**
GSI	**Gunungsitoli**	**31.15 269**	P	**P**	**10 09 23.0 -0.6**
	comp=Z,121nm,1.1s				
WHN	**Wuhan**	**31.29 336**	P	**P**	**10 09 27.0 +2.4**
WHN			pmax	pmax	
	comp=Z,80nm,0.7s				
SRDT	**SRDT**	**31.63 294**	P	**P**	**10 09 29.3 +1.6**
INKA	**Innaminka**	**31.95 160**	P	**P**	**10 09 31.8 +1.4**
GYA	**Guiyang**	**32.09 321**	P	**P**	**10 09 34.1 +2.3**
GYA			pP	sP	10 09 43.0 -3.2
GYA			PcP	**PcP**	**10 12 22.0 +1.2**
GYA			S	**S**	**10 14 45.8 +3.8**
GYA			pmax	pmax	
	comp=Z,19nm,0.9s				
GYA			LR	LR	
	comp=Z,750nm,16.1s				
GYA			LR	LR	
	comp=Z,1μm,18.2s				
GYA			LR	LR	
	comp=Z,2μm,18.0s				
QLP	**Quilpie**	**32.31 153**	P	**P**	**10 09 33.9 +0.3**
TATA	**Tatamba Isabel**	**32.73 109**	P	**P**	**10 09 38.8 +1.4**
FORT	**Forrest**	**32.82 181**	IAmb	IAmb	10 09 48.1
	comp=Z,49nm,0.8s				
FORT	**Forrest**	**32.82 181**	P	**P**	**10 09 38.4 +0.5**
RK1H	**Rockhampton Ha**	**33.12 141**	P	**P**	**10 09 42.6 +1.9**
HNR	**Honiara**	**33.18 111**	LR	LR	10 23 22.1
	comp=Z,580nm,22.0s,baz=282,slow=36				
CMAR	**Chiang Mai Arr**	**33.36 301**	P	**P**	**10 09 43.7 +0.8**
	comp=Z,7.4nm,0.7s,baz=114,slow=6.9,SNR=42				
CMAR			PcP	**PcP**	**10 12 23.8 -0.5**
	comp=Z,2.7nm,0.3s,baz=129,slow=2.3,SNR=8.9				
CMAR			ScP	**ScP**	**10 16 04.5 -1.9**
	comp=Z,1.0nm,0.3s,baz=141,slow=2.3,SNR=6.0				
CMAR			LR	LR	10 23 27.3
	comp=Z,349nm,20.1s,baz=120,slow=36				
	comp=Z,7.4nm,0.7s				
CHTO	**Chiang Mai**	**33.51 302**	P	**P**	**10 09 44.8 +0.6**
CHTO			IAmb	IAmb	10 09 56.4
	comp=Z,27nm,0.9s				
CHTO	**Chiang Mai**	**33.51 302**	P	**P**	**10 09 44.8 +0.6**
CHTO			pmax	pmax	
	comp=Z,27nm,1.0s				
LCRK	**Leigh Creek**	**33.72 165**	P	**P**	**10 09 47.2 +1.4**
INU	**Inuyama**	**33.85 12**	P	**P**	**10 09 46.6 -0.3**
KMI	**Kunming**	**33.86 315**	⇑P	**P**	**10 09 48.1 +0.7**
KMI			PP	**PP**	**10 11 07.8 +3.4**
KMI			pmax	pmax	
	comp=Z,23nm,2.2s				
KMI			pmax	pmax	
	comp=Z,330nm,7.6s				
KMI			LR	LR	
	comp=Z,550nm,19.5s				
KMI			LR	LR	
	comp=Z,790nm,15.3s				
KMI			LR	LR	
	comp=Z,1μm,21.1s				
TJN	**Taejon**	**34.02 358**	P	**P**	**10 09 48.8 +0.5**
TJN	**Taejon**	**34.02 358**	*d i*P	**P**	**10 09 49.3 +1.0**
KMBL	**Kambalda**	**34.03 191**	P	**P**	**10 09 48.3 -0.2**
JGF	**Kuroka**	**34.17 13**	IAmb	IAmb	10 09 50.9
	comp=Z,19nm,0.6s				
JGF	**Kuroka**	**34.17 13**	P	**P**	**10 09 50.0 +0.3**
EIDS	**Eidsvold**	**34.94 143**	P	**P**	**10 09 56.3 -0.2**
EIDS			IAmb	IAmb	10 10 08.8
	comp=Z,23nm,0.7s				
EIDS	**Eidsvold**	**34.94 143**	P	**P**	**10 09 57.9 +1.4**
KSAR	**Wonju Array Be**	**35.06 359**	P	**P**	**10 09 56.6 -0.8**
KSAR	**Wonju Array Be**	**35.06 359**	P	**P**	**10 09 56.6 -0.8**
KSRS	**Korea Array**	**35.08 359**	P	**P**	**10 09 57.8 +0.3**
	comp=Z,29nm,0.7s,baz=177,slow=9.7,SNR=72				
KSRS			LR	LR	10 22 49.9
	comp=Z,445nm,20.5s,baz=180,slow=34				
	comp=Z,29nm,0.7s				
KS19	**Wonju Array Si**	**35.12 359**	IAmb	IAmb	10 09 59.6
	comp=Z,45nm,0.8s				
KLBR	**Kellerberrin**	**35.20 196**	P	**P**	**10 09 58.6 -0.1**
MAJO	**Matsushiro**	**35.26 13**	P	**P**	**10 09 57.3 -1.8**
MAJO			IAmb	IAmb	10 10 00.2
	comp=Z,56nm,0.8s				
MAJO	**Matsushiro**	**35.26 13**	P	**P**	**10 09 57.3 -1.8**
MAJO	**Matsushiro**	**35.26 13**	*c i*P	**P**	**10 09 57.7 -1.4**
MAJO			pmax	pmax	
	comp=Z,63nm,0.9s				
MJAR	**Matsushiro Arr**	**35.26 13**	P	**P**	**10 09 57.2 -1.9**
	comp=Z,43nm,0.8s,baz=184,slow=9.3,SNR=78				
MJAR			LR	LR	10 22 11.0
	comp=Z,1μm,20.9s,baz=194,slow=32				
	comp=Z,43nm,0.8s				
MJB9	**Matsu-Tunnel**	**35.27 13**	IAmb	IAmb	10 10 01.2
	comp=Z,57nm,0.8s				
PZH	**PanZhiHua**	**35.41 315**	P	**P**	**10 10 00.4 -0.3**
PZH			PP	**PP**	**10 11 26.3 +4.8**
PZH			S	**S**	**10 15 36.5 +3.0**
PZH			pmax	pmax	
	comp=Z,20nm,1.8s				
PZH			pmax	pmax	
	comp=Z,240nm,7.3s				
PZH			LR	LR	
	comp=Z,500nm,15.5s				
PZH			LR	LR	
	comp=Z,630nm,19.6s				
PZH			LR	LR	
	comp=Z,910nm,20.2s				
TIA	**Tai'an**	**35.49 344**	P	**P**	**10 10 00.5 -0.6**
TIA			pmax	pmax	
	comp=Z,22nm,0.6s				
TIA			pmax	pmax	
	comp=Z,370nm,5.8s				
TIA			LR	LR	
	comp=Z,490nm,14.4s				
TIA			LR	LR	
	comp=Z,500nm,13.1s				
BBOO	**Buckleboo**	**35.52 169**	IAmb	IAmb	10 10 03.4
	comp=Z,123nm,1.8s				
BBOO	**Buckleboo**	**35.52 169**	P	**P**	**10 10 02.1 +0.7**
LYN	**LuoYang**	**35.56 337**	P	**P**	**10 10 01.7 0.0**
LYN			PP	**PP**	**10 11 26.9 +4.0**
LYN			S	**S**	**10 15 40.4 +5.1**
LYN			pmax	pmax	
	comp=Z,60nm,0.8s				
LYN			pmax	pmax	
	comp=Z,550nm,6.0s				
LYN			LR	LR	
	comp=Z,1μm,12.8s				
LYN			LR	LR	
	comp=Z,380nm,9.4s				
LYN			LR	LR	
	comp=Z,1μm,15.1s				
STKA	**Stephens Creek**	**36.04 161**	P	**P**	**10 10 06.8 +0.9**
	comp=Z,20nm,0.5s,baz=335,slow=9.2,SNR=37				
	comp=Z,20nm,0.5s				
WHYH	**Whyalla**	**36.04 167**	P	**P**	**10 10 06.8 +1.0**
AULRC	**Lightning Ridg**	**36.47 151**	P	**P**	**10 10 10.9 +1.4**
NWAO	**Narrogin (SRO)**	**36.61 196**	LR	LR	10 26 52.7
	comp=Z,688nm,19.1s,baz=37,slow=39				
XAN	**Xi'an**	**36.67 332**	⇓P	**P**	**10 10 10.4 -0.9**
XAN			PP	**PP**	**10 11 39.3 +4.1**
XAN			S	**S**	**10 15 52.3 -0.1**
XAN			pmax	pmax	
	comp=Z,67nm,0.8s				
XAN			pmax	pmax	
	comp=Z,600nm,4.1s				
XAN			LR	LR	
	comp=Z,580nm,13.6s				
XAN			LR	LR	
	comp=Z,640nm,13.2s				
XAN			LR	LR	
	comp=Z,1μm,15.6s				
JSD	**Sado**	**36.71 13**	P	**P**	**10 10 10.0 -1.4**
JSD			IAmb	IAmb	10 10 11.7
	comp=Z,47nm,0.7s				
HTT	**Hallett**	**36.74 166**	P	**P**	**10 10 13.9 +2.1**
TNCH	**TengChong**	**36.91 311**	⇑P	**P**	**10 10 12.4 -1.2**
TNCH			pP	pP	10 10 20.9 -2.9
TNCH			pmax	pmax	
	comp=Z,31nm,1.9s				
TNCH			pmax	pmax	
	comp=Z,360nm,6.4s				
CD2	**Chengdu**	**37.04 323**	P	**P**	**10 10 13.9 -0.6**
CD2			S	**S**	**10 15 57.8 -0.3**
CD2			pmax	pmax	
	comp=Z,30nm,0.6s				
CD2			pmax	pmax	
	comp=Z,350nm,3.5s				
CD2			LR	LR	
	comp=Z,830nm,15.2s				
CD2			LR	LR	
	comp=Z,900nm,19.0s				
CD2			LR	LR	
	comp=Z,1μm,19.0s				
DL2	**Dalian**	**37.09 351**	P	**P**	**10 10 15.6 +0.9**
DL2			pmax	pmax	
	comp=Z,76nm,0.9s				
TW1H	**Toowoomba 1 Ha**	**37.10 144**	P	**P**	**10 10 18.5 +3.5**
JMM	**Marumori**	**37.17 16**	P	**P**	**10 10 16.0 +0.6**
CMSA	**Cobar Meteorol**	**37.24 156**	P	**P**	**10 10 17.6 +1.5**
HNS	**HongShan**	**37.31 341**	⇑P	**P**	**10 10 15.7 -0.9**
HNS			sP	sP	10 10 38.2 +7.5
HNS			PcP	**PcP**	**10 12 35.5 0.0**
HNS			S	**S**	**10 16 05.1 +3.2**
HNS			sS	**ScP**	**10 16 27.4 +7.2**
HNS			pmax	pmax	
	comp=Z,66nm,0.7s				
HNS			LR	LR	
	comp=Z,800nm,14.9s				
HNS			LR	LR	
	comp=Z,580nm,17.2s				
HNS			LR	LR	
	comp=Z,1μm,17.3s				
TIY	**Taiyuan**	**38.37 339**	*e*P	**P**	**10 10 26.6 +1.0**
TIY			sP	**sP**	**10 10 43.8 +4.1**
TIY			PP	**PnPn**	**10 11 56.5 +0.7**
TIY			SS	SS	10 19 05.8 -2.1
TIY			ScS	**ScS**	**10 20 28.3 -6.0**
TIY			pmax	pmax	
	comp=Z,48nm,0.8s				
TIY			pmax	pmax	
	comp=Z,120nm,5.3s				
TIY			LR	LR	
	comp=Z,520nm,13.7s				
TIY			LR	LR	
	comp=Z,250nm,12.4s				
TIY			LR	LR	
	comp=Z,440nm,17.9s				
AUMBR	**Murray Bridge**	**38.45 166**	P	**P**	**10 10 28.6 +2.4**
AUDCS	**Dubbo College**	**39.11 153**	P	**P**	**10 10 33.9 +2.1**
ARMA	**Armidale**	**39.12 148**	P	**P**	**10 10 32.3 +0.3**
ARMA			IAmb	IAmb	10 10 34.9
	comp=Z,177nm,1.9s				
ARMA	**Armidale**	**39.12 148**	P	**P**	**10 10 33.7 +1.6**
BJT	**Baijiatuau**	**39.32 345**	IAmb	IAmb	10 10 34.8
	comp=Z,67nm,0.7s				
BJT	**Baijiatuau**	**39.32 345**	P	**P**	**10 10 32.4 -1.1**
BJT	**Baijiatuau**	**39.32 345**	P	**P**	**10 10 33.0 -0.5**
BJT			pmax	pmax	
	comp=Z,111nm,0.8s				
BJI	**Beijing**	**39.34 345**	P	**P**	**10 10 32.5 -1.1**
BJI			pmax	pmax	
	comp=Z,49nm,0.7s				
BJI			LR	LR	
	comp=Z,190nm,15.3s				
BJI			LR	LR	
	comp=Z,160nm,15.5s				
BJI			LR	LR	
	comp=Z,290nm,16.6s				
SNY	**Shenyang**	**39.71 354**	⇓P	**P**	**10 10 36.6 0.0**
SNY			PP	**PnPn**	**10 12 11.1 -0.5**
SNY			S	**S**	**10 16 35.8 -2.1**
SNY			pmax	pmax	
	comp=Z,24nm,0.6s				
SNY			pmax	pmax	
	comp=Z,270nm,4.9s				
SNY			LR	LR	
	comp=Z,400nm,20.8s				
SNY			LR	LR	
	comp=Z,460nm,16.9s				
SNY			LR	LR	
	comp=Z,680nm,19.6s				
JTM	**Tenmabayashi**	**39.98 15**	P	**P**	**10 10 39.6 +0.6**
JTM			IAmb	IAmb	10 10 42.0
	comp=Z,71nm,0.8s				
MSHR	**Mys Shultsa**	**40.24 3**⇑	*e*P	**P**	**10 10 41.4 +0.3**
MSHR			pmax	pmax	
	comp=Z,101nm,1.5s				
PSTR	**Posyet**	**40.30 2**	*d i*P	**P**	**10 10 42.7 +1.2**
H11S3	**WAKE ISLAND Hy**	**40.55 64**	T	T	10 53 58.5
	baz=251,slow=74,SNR=528				
H11S2	**WAKE ISLAND Hy**	**40.57 64**	T	T	10 54 06.7
	baz=251,slow=74,SNR=217				
H11S1	**WAKE ISLAND Hy**	**40.57 64**	T	T	10 54 02.3
	baz=251,slow=74,SNR=209				
ARPS	**Mount Arapiles**	**40.66 164**	P	**P**	**10 10 46.5 +1.9**
LZH	**Lanzhou**	**40.82 329**	*e*P	**P**	**10 10 46.6 +0.4**
LZH			PP	**PnPn**	**10 12 23.8 -1.2**
LZH			S	**S**	**10 16 55.9 +0.8**
LZH			pmax	pmax	
	comp=Z,110nm,1.0s				
LZH			pmax	pmax	
	comp=Z,440nm,3.8s				
LZH			LR	LR	
	comp=Z,900nm,16.0s				
LZH			LR	LR	
	comp=Z,770nm,16.3s				
LZH			LR	LR	
	comp=Z,2μm,17.3s				
H11N1	**WAKE ISLAND Hy**	**41.14 62**	T	T	10 54 44.2
	baz=250,slow=75,SNR=613				
H11N2	**WAKE ISLAND Hy**	**41.15 62**	T	T	10 54 45.0
	baz=250,slow=75,SNR=485				
H11N3	**WAKE ISLAND Hy**	**41.16 62**	T	T	10 54 45.5
	baz=250,slow=75,SNR=610				
BRDH	**Bariadhala**	**41.33 302**	P	**P**	**10 10 51.0 +0.6**
	comp=Z,100nm,0.3s,baz=58,slow=4.8,SNR=6.0				
HHC	**Hu-ho-hao-te**	**41.47 340**⇑	*i*P	**P**	**10 10 51.4 0.0**
HHC			pP	pP	10 11 00.6 -0.9
HHC			S	**S**	**10 17 07.2 +2.6**
HHC			pmax	pmax	
	comp=Z,51nm,0.7s				
HHC			pmax	pmax	
	comp=Z,200nm,6.7s				
HHC			LR	LR	
	comp=Z,620nm,17.2s				
HHC			LR	LR	
	comp=Z,270nm,10.1s				
HHC			LR	LR	
	comp=Z,640nm,16.0s				
CN2	**Changchun**	**41.51 356**	*e*P	**P**	**10 10 51.4 -0.1**
CN2			*e*PP	**PnPn**	**10 12 31.3 -1.5**
CN2			*e*S	**S**	**10 17 05.2 +0.4**
CN2			pmax	pmax	
	comp=Z,10.0nm,1.7s				
CN2			LR	LR	
	comp=Z,310nm,13.0s				
CN2			LR	LR	
	comp=Z,130nm,13.0s				
BTO	**Baotou**	**41.80 339**	*e*P	**P**	**10 10 55.2 +1.1**
BTO			pP	**sP**	**10 11 04.7 -3.6**
BTO			sP	**pP**	**10 11 10.0 +5.8**
BTO			PP	**PnPn**	**10 12 35.7 -0.6**
BTO			S	**S**	**10 17 13.2 +3.8**
BTO			SS	**SS**	**10 20 13.3 -3.0**
BTO			pmax	pmax	
	comp=Z,33nm,0.7s				

BTO pmax pmax
comp=Z,290nm,5.3s
BTO LR LR
comp=Z,750nm,17.4s
BTO LR LR
comp=Z,830nm,14.3s
BTO LR LR
comp=Z,530nm,12.7s
CAN Canberra 41.89 155 P **P 10 10 56.7 +1.9**
CAN IAmb IAmb 10 10 58.1
comp=Z,97nm,1.8s
CAN Canberra 41.89 155 P **P 10 10 56.7 +1.9**
CAN pmax pmax
comp=Z,97nm,1.8s
USA0B Ussuriysk Arra 41.91 4 IAmb IAmb 10 10 57.2
comp=Z,39nm,0.8s
USA0B Ussuriysk Arra 41.91 4 *ce*P **P 10 10 55.0 +0.3**
USRK Ussuriysk Ar. 41.91 4 P **P 10 10 55.1 +0.4**
comp=Z,36nm,0.7s,baz=179,slow=7.2,SNR=52
USRK LR LR 10 28 11.5
comp=Z,274nm,20.6s,baz=178,slow=36
comp=Z,36nm,0.7s
BRAT Ballarat 42.00 162 P **P 10 10 57.3 +1.7**
MDJ Mudanjiang 42.23 1 IAmb IAmb 10 11 00.2
comp=Z,55nm,1.1s
MDJ Mudanjiang 42.23 1 P **P 10 10 57.4 0.0**
MDJ S **S 10 17 20.2 +4.8**
MDJ pmax pmax
comp=Z,42nm,1.9s
MDJ pmax pmax
comp=Z,460nm,4.1s
MDJ LR LR
comp=Z,700nm,20.6s
MDJ LR LR
comp=Z,380nm,15.1s
MDJ LR LR
comp=Z,800nm,20.6s
MDJ Mudanjiang 42.23 1 P **P 10 10 58.8 +1.4**
SHL Shillong 42.38 307 P **P 10 10 59.0 -0.1**
SHL IAmb IAmb 10 11 00.8
comp=Z,73nm,0.7s
SHL Shillong 42.38 307 P **P 10 10 59.0 -0.1**
SHL pmax pmax
comp=Z,73nm,0.7s
XLT XiLinHaoTe 43.00 347 *e*P **P 10 11 03.6 -0.2**
XLT pmax pmax
comp=Z,64nm,0.8s
XLT pmax pmax
comp=Z,360nm,9.2s
XLT LR LR
comp=Z,520nm,14.8s
XLT LR LR
comp=Z,370nm,15.8s
BNX BinXian 43.36 359 ⇓P **P 10 11 07.9 +1.4**
BNX pmax pmax
comp=Z,12nm,0.8s
ASAJ Asahikawa 43.50 15 LR LR 10 28 12.8
comp=Z,878nm,19.3s,baz=202,slow=35
ASAJ Asahikawa 43.50 15 P **P 10 11 08.8 +1.1**
ASAJ pmax pmax
comp=Z,60nm,1.3s
JKA Kamikawa-asahi 43.50 15 P **P 10 11 08.8 +1.1**
JKA IAmb IAmb 10 11 37.2
comp=Z,60nm,1.3s
LSA Lhasa 44.93 311 P **P 10 11 20.8 +0.9**
LSA IAmb IAmb 10 11 23.9
comp=Z,26nm,0.7s
LSA Lhasa 44.93 311 P **P 10 11 20.9 +0.9**
LSA S **S 10 18 00.8 +4.5**
LSA LR LR
comp=Z,120nm,3.7s
LSA LR LR
comp=Z,150nm,8.0s
LSA Lhasa 44.93 311 P **P 10 11 20.8 +0.9**
LSA pmax pmax
comp=Z,26nm,0.7s
GTA Gaotai 45.42 328 P **P 10 11 23.2 -0.1**
GTA PcP **PcP 10 13 03.4 +1.2**
GTA PP **PP 10 13 11.1 +1.1**
GTA S **S 10 18 05.0 +2.5**
GTA pmax pmax
comp=Z,17nm,1.3s
GTA pmax pmax
comp=Z,290nm,6.4s
GTA LR LR
comp=Z,580nm,19.1s
GTA LR LR
comp=Z,510nm,17.5s
GTA LR LR
comp=Z,900nm,18.7s
GOMU GeErMu 46.10 321 P **P 10 11 29.3 +0.2**
GOMU PP **PP 10 13 15.0 -2.6**
GOMU S **S 10 18 15.7 +2.8**
GOMU pmax pmax
comp=Z,40nm,1.1s
GOMU pmax pmax
comp=Z,520nm,6.1s
GOMU LR LR
comp=Z,770nm,16.9s
GOMU LR LR
comp=Z,460nm,17.1s
GOMU LR LR
comp=Z,1μm,17.9s
YSS Yuzhno-Sakhali 46.20 13 P **P 10 11 30.1 +0.9**
YSS Yuzhno-Sakhali 46.20 13 *e*P **P 10 11 28.0 -1.2**
YSS *e* 10 13 05.6
YSS *e*S **S 10 18 11.4 -1.8**
YSS pmax pmax
comp=Z,200nm,3.8s
YSS pmax pmax
comp=Z,20nm,0.9s
YSS smax smax
comp=N,200nm,4.8s
YSS smax smax
comp=E,200nm,4.3s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS MLR MLR
comp=E,400nm,15.0s
KLR Kul'dur 46.91 3 P **P 10 11 34.6 -0.1**
comp=E,11nm,0.6s,baz=207,slow=8.8,SNR=24
KLR LR LR 10 33 17.4
comp=E,486nm,18.1s,baz=192,slow=39
comp=E,11nm,0.6s
KLR Kul'dur 46.91 3 *c i*P **P 10 11 34.9 +0.2**
KLR pmax pmax
comp=Z,51nm,1.6s
HIA Hailar 47.50 352 P **P 10 11 39.5 +0.1**
HIA IAmb IAmb 10 11 41.6
comp=Z,17nm,0.8s
HIA Hailar 47.50 352 P **P 10 11 39.4 +0.1**
HIA Hailar 47.50 352 *c i*P **P 10 11 38.6 -0.8**
HIA pmax pmax
comp=Z,40nm,1.5s
HEH HeiHe 47.88 359 *e*P **P 10 11 41.6 -0.6**
HEH S **S 10 18 32.2 -4.7**
HEH pmax pmax
comp=Z,40nm,1.2s
HEH LR LR
comp=Z,570nm,18.3s
HEH LR LR
comp=Z,430nm,20.2s
HEH LR LR
comp=Z,1μm,19.4s
PALK Pallekele 48.10 278 P **P 10 11 45.2 +0.6**
PALK IAmb IAmb 10 11 56.3
comp=Z,26nm,0.8s
PALK Pallekele 48.10 278 P **P 10 11 45.3 +0.6**
comp=Z,11nm,0.6s,baz=86,slow=5.7,SNR=11
PALK PcP **PcP 10 13 11.5 -0.6**
comp=Z,3.0nm,0.4s,baz=119,slow=2.8,SNR=4.1
PALK LR LR 10 33 33.9
comp=Z,344nm,21.1s,baz=114,slow=38
comp=Z,11nm,0.6s
PALK Pallekele 48.10 278 P **P 10 11 45.2 +0.6**
PALK pmax pmax
comp=Z,26nm,0.9s
GRNR Gornyy 48.81 6 ⇑*i*P **P 10 11 49.7 +0.3**
GRNR pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 49.18 341 P **P 10 11 52.7 +0.3**
ULN Ulaanbaatar 49.18 341 *d i*P **P 10 11 52.1 -0.4**
ULN pmax pmax
comp=Z,110nm,1.0s

SONM Songino Array 49.37 340 P **P 10 11 53.1 -0.8**
SONM IAmb IAmb 10 11 55.5
comp=Z,36nm,0.7s
SONM Songino Array 49.37 340 P **P 10 11 53.3 -0.6**
comp=Z,34nm,0.7s,baz=156,slow=7.3,SNR=148
SONM PcP **PcP 10 13 15.6 -0.5**
comp=Z,5.1nm,0.7s,baz=131,slow=2.3,SNR=2.1
SONM LR LR 10 36 02.3
comp=Z,263nm,18.3s,baz=180,slow=40
comp=Z,34nm,0.7s
SONM Songino Array 49.37 340 P **P 10 11 53.1 -0.8**
SONM pmax pmax
comp=Z,37nm,0.7s
TYV Tymovskoe 49.88 12 *e*P **P 10 11 58.1 +0.6**
TYV *e*S **S 10 19 05.7 +0.6**
TYV pmax pmax
comp=Z,12nm,0.9s
TYV pmax pmax
comp=Z,400nm,4.4s
TYV smax smax
comp=N,500nm,6.5s
TYV smax smax
comp=E,400nm,6.5s
CIT Chita 51.23 348 *e*P **P 10 12 08.8 +1.0**
CIT *e* 10 12 18.2
CIT pmax pmax
comp=Z,159nm,2.2s
ZEA Zeya 51.37 359 *e*P **P 10 12 08.5 -0.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
ZEA MLR MLR
comp=N,300nm,16.0s
HYB Hyderabad 51.51 290 *e*P **P 10 12 10.6 +0.1**
HYB IVmB_BB 10 12 11.0
comp=Z,763nm,2.5s
ZAK Zakamensk 52.62 340 *e*P **P 10 12 18.6 +0.4**
ZAK pmax pmax
comp=Z,11nm,0.9s
SKR Severo-Kuril's 53.55 21 *e*P **P 10 12 25.4 +0.5**
IRK Irkutsk 53.87 342 *e*P **P 10 12 27.4 +0.1**
IRK pmax pmax
comp=Z,85nm,2.1s
MOY Mondy 54.49 339 *e*P **P 10 12 31.7 -0.2**
MOY pmax pmax
comp=Z,72nm,2.1s
WMQ Urumqi 55.10 325 *e*P **P 10 12 36.8 +0.3**
WMQ pP pP 10 12 46.8 -0.3
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ pmax pmax
comp=Z,370nm,5.5s
WMQ LR LR
comp=Z,710nm,17.9s
WMQ LR LR
comp=Z,670nm,21.3s
WMQ LR LR
comp=Z,490nm,21.3s
PEA0B Petropavlovsk- 56.10 21 ⇓*e*P **P 10 12 45.1 +1.7**
PETK Petropavlovsk- 56.10 21 P **P 10 12 43.7 +0.3**
comp=Z,24nm,0.7s,baz=193,slow=4.1,SNR=27
comp=Z,24nm,0.7s
PET Petropavlovsk 56.37 21 *e*P **P 10 12 45.2 -0.1**
PET *e*S **S 10 20 29.6 -3.8**
PET pmax pmax
comp=Z,900nm,5.0s
PET pmax pmax
comp=Z,500nm,6.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,700nm,14.0s
BOD Bodaibo 56.66 351 *e*P **P 10 12 46.7 -0.5**
BOD pmax pmax
comp=Z,73nm,1.6s
H08S2 Diego Garcia H 56.95 259 P **P 10 12 50.4 +0.6**
baz=37,slow=8.3,SNR=10
H08S3 Diego Garcia H 56.95 259 P **P 10 12 51.0 +1.1**
baz=37,slow=8.3,SNR=20
DGAR Diego Garcia 56.96 260 ⇑*e*P **P 10 12 50.9 +0.7**
DGAR pmax pmax
comp=Z,116nm,1.7s
H08S1 Diego Carcia H 56.97 259 P **P 10 12 51.0 +1.1**
baz=37,slow=8.3,SNR=9.3
JCZ Jackson Bay 58.35 147 P **P 10 13 01.7 +2.1**
ZSN Zaisan 58.86 327 *e*P **P 10 13 02.4 -0.6**
ZSN pmax pmax
comp=Z,15nm,1.3s
ZSN Zaisan 58.86 327 *e*P **P 10 13 02.4 -0.6**
comp=Z,15nm,1.3s
DGZ Jazzator, Alta 58.89 330 *c i*P **P 10 13 03.6 +0.3**
DGZ pmax pmax
comp=Z,23nm,1.1s
WUS Wushi 59.02 318 P **P 10 13 03.8 -0.6**
WUS IAmb IAmb 10 13 06.2
comp=Z,15nm,0.6s
THZ Tophouse 59.29 143 P **P 10 13 06.9 +0.8**
LBZ Lake Benmore 59.32 147 P **P 10 13 06.8 +0.6**
RPZ Rata Peaks 59.39 145 LR LR 10 39 40.8
comp=Z,970nm,19.2s,baz=310,slow=37
YAK Yakutsk 59.67 1 P **P 10 13 08.0 -0.3**
YAK Yakutsk 59.67 1 P **P 10 13 08.0 -0.3**
comp=Z,80nm,0.6s,baz=212,slow=1.5,SNR=27
YAK LR LR 10 40 56.2
comp=Z,310nm,18.3s,baz=151,slow=38
comp=Z,80nm,0.6s
YAK Yakutsk 59.67 1 *e*P **P 10 13 07.8 -0.4**
YAK pmax pmax
comp=Z,73nm,0.9s
MA2 Magadan 59.70 13 P **P 10 13 09.1 +0.6**
MA2 Magadan 59.70 13 P **P 10 13 08.9 +0.4**
comp=Z,22nm,0.9s,baz=210,slow=5.7,SNR=17
MA2 LR LR 10 36 35.1
comp=Z,365nm,21.5s,baz=210,slow=34
comp=Z,22nm,0.9s
MA2 Magadan 59.70 13 P **P 10 13 09.0 +0.4**
MA2 Magadan 59.70 13 *de*P **P 10 13 09.6 +1.1**
MA2 pmax pmax
comp=Z,27nm,1.0s
MA2 Magadan 59.70 13 P **P 10 13 08.8 +0.3**
comp=Z,39nm,1.1s
OXZ Oxford 59.71 145 IAmb IAmb 10 15 11.1
comp=Z,80nm,1.8s
SHLS Shalkode 59.78 320 *e*P **P 10 13 06.9 -2.6**
SHLS pmax pmax
comp=Z,20nm,1.0s
SHLS Shalkode 59.78 320 *e*P **P 10 13 07.0 -2.6**
comp=Z,20nm,1.0s
PDGK Podgornoye 59.84 320 P **P 10 13 09.2 -0.8**
MK31 Makanchi Array 59.93 325 IAmb IAmb 10 13 17.9
comp=Z,18nm,0.9s
MK31 Makanchi Array 59.93 325 *e*P **P 10 13 09.8 -0.6**
MKAR Makanchi Array 59.93 325 P **P 10 13 09.8 -0.6**
MKAR Makanchi Array 59.93 325 P **P 10 13 10.2 -0.2**
comp=Z,14nm,0.5s,baz=117,slow=8.3,SNR=408
MKAR PcP **PcP 10 13 55.5 -1.0**
comp=Z,15nm,0.7s,baz=114,slow=4.0,SNR=7.3
MKAR LR LR 10 41 14.6
comp=Z,439nm,18.5s,baz=113,slow=38
MKAR PKP2ab 10 42 53.2
comp=Z,0.7nm,1.0s,baz=310,slow=4.9,SNR=3.9
comp=Z,14nm,0.5s
UZB Uzynbulak 60.06 320 *e*P **P 10 13 10.6 -0.9**
UZB pmax pmax
comp=Z,10.0nm,0.6s
UZB Uzynbulak 60.06 320 *e*P **P 10 13 10.7 -0.9**
comp=Z,10.0nm,0.6s
URZ Urewera 60.08 137 LR LR 10 40 03.8
comp=Z,822nm,18.3s,baz=34,slow=37
MAKZ Makanchi 60.12 325 P **P 10 13 11.2 -0.5**
MAKZ IAmb IAmb 10 13 19.1
comp=Z,28nm,0.8s
MAKZ Makanchi 60.12 325 P **P 10 13 11.2 -0.5**
MAKZ pmax pmax
comp=Z,28nm,0.9s
BKZ Black Stump Fm 60.13 138 P **P 10 13 12.5 +0.6**
BKZ Black Stump Fm 60.13 138 P **P 10 13 12.3 +0.4**
RTZ Ruatahuna 60.17 138 P **P 10 13 12.3 +0.1**
RTZ IAmb IAmb 10 13 39.2
comp=Z,37nm,1.0s
MTHZ Maungataniwha 60.20 138 P **P 10 13 13.0 +0.6**

TARG Taragay, Kyrgy 60.20 318 IAmb IAmb 10 13 28.4
comp=Z,12nm,0.7s
KWHZ Kaweka Forest 60.22 139 P **P 10 13 13.5 +0.9**
RAHZ Arahi 60.40 138 P **P 10 13 14.6 +0.9**
MCHZ McNeill Hill 60.41 139 P **P 10 13 14.1 +0.3**
SATY Saty 60.41 320 *e*P **P 10 13 13.1 -0.8**
SATY pmax pmax
comp=Z,15nm,0.6s
SATY Saty 60.41 320 *e*P **P 10 13 13.2 -0.8**
comp=Z,15nm,0.6s
NIL Nilore 60.42 308 P **P 10 13 15.0 +0.9**
NIL IAmb IAmb 10 13 25.4
comp=Z,23nm,0.8s
NIL Nilore 60.42 308 P **P 10 13 15.0 +0.9**
NIL pmax pmax
comp=Z,23nm,0.8s
KPKS Kokpek 60.43 320 *e*P **P 10 13 13.2 -0.7**
KPKS pmax pmax
comp=Z,11nm,0.6s
KPKS Kokpek 60.43 320 *e*P **P 10 13 13.3 -0.7**
comp=Z,11nm,0.6s
SNGZ Shannon Statio 60.50 138 P **P 10 13 15.2 +0.8**
KSH Kashi 60.52 315 P **P 10 13 14.8 +0.1**
KSH sP sP 10 13 34.7 +5.2
KSH PcP **PcP 10 14 00.8 +1.7**
KSH pmax pmax
comp=Z,19nm,0.6s
KSH LR LR
comp=Z,340nm,13.7s
KSH LR LR
comp=Z,520nm,16.8s
KSH LR LR
comp=Z,660nm,18.9s
KAHZ Kahuranaki 60.71 139 P **P 10 13 16.7 +0.8**
KDJ Kajisay 60.80 318 IAmb IAmb 10 13 29.2
comp=Z,25nm,0.9s
KDJ Kajisay 60.80 318 P **P 10 13 17.2 +0.6**
KDJ pmax pmax
comp=Z,30nm,0.6s
CNGZ Carnagh Statio 60.94 137 P **P 10 13 17.9 +0.6**
NRN Naryn 61.29 317 IAmb IAmb 10 13 21.8
comp=Z,12nm,0.6s
TDK Taldyqorghan 61.34 322 *e*P **P 10 13 19.4 -0.6**
TDK pmax pmax
comp=Z,12nm,0.6s
TDK Taldyqorghan 61.34 322 *e*P **P 10 13 19.5 -0.6**
comp=Z,12nm,0.6s
MDOK Medeo 61.35 319 *e*P **P 10 13 19.4 -0.8**
MDOK Medeo 61.35 319 *e*P **P 10 13 19.5 -0.8**
BOOM Boomskoye usch 61.78 318 IAmb IAmb 10 14 05.5
comp=Z,11nm,0.6s
BOOM Boomskoye usch 61.78 318 P **P 10 13 23.5 +0.2**
BOOM pmax pmax
comp=Z,20nm,1.6s
TKM2 Tokmak 2 62.20 318 P **P 10 13 25.4 -0.7**
SNR=34
KBK Karagaybulak 62.52 318 P **P 10 13 28.4 +0.2**
SNR=9.6
ARLS Aral 62.61 317 P **P 10 13 29.6 +0.8**
ARLS pmax pmax
comp=Z,29nm,0.9s
SHEM Shemya Is, Ala 62.78 29 LR LR 10 37 36.6
comp=Z,325nm,20.0s,baz=313,slow=33
AAK Ala-Archa 62.81 318 P **P 10 13 29.9 -0.2**
AAK Ala-Archa 62.81 318 P **P 10 13 30.2 +0.1**
comp=Z,3.8nm,0.5s,baz=123,slow=5.1,SNR=18
AAK PcP **PcP 10 14 07.7 -0.7**
comp=Z,7.3nm,0.6s,baz=14,slow=16,SNR=6.3
AAK LR LR 10 43 10.2
comp=Z,738nm,21.1s,baz=101,slow=38
comp=Z,3.8nm,0.5s
AAK Ala-Archa 62.81 318 P **P 10 13 30.3 +0.1**
SNR=7.3
AAK Ala-Archa 62.81 318 *c i*P **P 10 13 30.1 -0.1**
AAK pmax pmax
comp=Z,19nm,1.7s
ZAA0 Zalesovo Array 62.84 333 IAmb IAmb 10 13 30.9
comp=Z,28nm,1.2s
ZALV Zalesovo Beam 62.84 333 P **P 10 13 28.9 -0.9**
ZALV Zalesovo Beam 62.84 333 P **P 10 13 28.5 -1.4**
comp=Z,5.5nm,0.5s,baz=120,slow=5.8,SNR=33
ZALV LR LR 10 42 54.5
comp=Z,306nm,18.2s,baz=131,slow=38
comp=Z,5.5nm,0.5s
ZALV Zalesovo Beam 62.84 333 P **P 10 13 28.9 -0.9**
SGDS Sogindy 63.06 319 *e*P **P 10 13 30.8 -0.8**
SGDS Sogindy 63.06 319 *e*P **P 10 13 30.9 -0.8**
USP Ospenovka 63.07 318 P **P 10 13 31.1 -0.6**
SNR=27
SEY Seymchan 63.07 12 P **P 10 13 31.7 +0.5**
comp=Z,22nm,0.6s,baz=216,slow=5.4,SNR=69
SEY LR LR 10 39 03.5
comp=Z,184nm,21.9s,baz=190,slow=34
comp=Z,22nm,0.6s
SEY Seymchan 63.07 12 ⇑*i*P **P 10 13 32.0 +0.8**
SEY pmax pmax
comp=Z,30nm,0.8s
AML Almayashu 63.15 317 P **P 10 13 33.2 +0.5**
SNR=22
OHH Osh 63.16 315 P **P 10 13 32.7 +0.3**
OHH pmax pmax
comp=Z,27nm,0.9s
EKS2 Erkin-Say 63.31 317 P **P 10 13 33.3 -0.1**
SNR=16
DRK Karamyk 63.49 314 IAmb IAmb 10 13 37.3
comp=Z,31nm,0.7s
KBL Kabul 64.02 308 P **P 10 13 38.3 -0.1**
KBL IAmb IAmb 10 13 41.2
comp=Z,16nm,0.7s
KBL Kabul 64.02 308 P **P 10 13 38.3 -0.1**
KBL pmax pmax
comp=Z,16nm,0.7s
KURBB Kurchatov Arra 64.08 327 P **P 10 13 37.5 -0.6**
comp=Z,29nm,0.7s,baz=127,slow=6.1,SNR=145
comp=Z,29nm,0.7s
KURK Kurchatov 64.08 327 P **P 10 13 37.6 -0.5**
KURK Kurchatov 64.08 327 *c i*P **P 10 13 37.3 -0.9**
KURK pmax pmax
comp=Z,38nm,0.6s
BTLS Baital 64.11 320 *e*P **P 10 13 37.7 -0.8**
BTLS pmax pmax
comp=Z,25nm,2.7s
BTLS Baital 64.11 320 *e*P **P 10 13 37.7 -0.8**
ARK Arkit 64.22 316 P **P 10 13 39.6 +0.2**
ARK pmax pmax
comp=Z,32nm,0.7s
BTK Batken 64.40 314 P **P 10 13 40.9 +0.3**
BTK pmax pmax
comp=Z,22nm,0.6s
TRKS Terek-Say 64.69 315 P **P 10 13 42.3 -0.3**
TRKS pmax pmax
comp=Z,26nm,0.9s
DZA Taraz 65.06 317 *e*P **P 10 13 43.9 -0.8**
DZA Taraz 65.06 317 *e*P **P 10 13 43.9 -0.8**
CHGR Chuyangaron 65.16 312 P **P 10 13 45.5 -0.1**
CHGR *e*AP **sP 10 13 57.3 -3.1**
CHGR pmax pmax
comp=Z,44nm,0.6s
SIMJ Simiganj 65.27 312 P **P 10 13 45.8 -0.5**
SIMJ IAmb IAmb 10 13 59.0
comp=Z,49nm,1.6s
DZET Dzherino 65.45 312 P **P 10 13 47.1 -0.4**
DZET pmax pmax
comp=Z,43nm,0.6s
IUG Iuzhnay 65.69 316 *e*P **P 10 13 48.0 -0.9**
IUG pmax pmax
comp=Z,12nm,0.5s
IUG Iuzhnay 65.69 316 *e*P **P 10 13 48.1 -0.9**
comp=Z,12nm,0.5s
KK31 Karatay Array 65.69 317 IAmb IAmb 10 14 00.7
comp=Z,21nm,0.8s
KK31 Karatay Array 65.69 317 *e*P **P 10 13 48.1 -0.8**
KKAR Karatay Array 65.69 317 P **P 10 13 47.9 -0.9**
KKAR Karatay Array 65.69 317 P **P 10 13 47.9 -0.9**
CHM Chimkent 66.04 316 *e*P **P 10 13 50.4 -0.7**
CHM pmax pmax
comp=Z,7.0nm,0.5s
CHM Chimkent 66.04 316 *e*P **P 10 13 50.5 -0.7**
comp=Z,7.4nm,0.5s
BRLS Borolday 66.13 317 *e*P **P 10 13 51.3 -0.4**
BRLS pmax pmax
comp=Z,7.0nm,0.6s
BRLS Borolday 66.13 317 *e*P **P 10 13 50.9 -0.8**
OTUK Ortayu 66.53 323 P **P 10 13 53.2 -0.9**
BRZS Berezniki 67.07 324 *e*P **P 10 13 57.0 -0.5**
BRZS pmax pmax

comp=Z,17nm,1.7s
BRZS Berezniki 67.07 324 *e*P **P 10 13 56.9 -0.5**
TIXI Tiksi 69.33 0 P **P 10 14 10.4 -0.8**
TIXI IAmb IAmb 10 14 19.1
comp=Z,34nm,0.9s
TIXI Tiksi 69.33 0 P **P 10 14 10.6 -0.6**
comp=Z,15nm,0.4s,baz=192,slow=4.7,SNR=42
TIXI LR LR 10 46 08.9
comp=Z,548nm,18.8s,baz=190,slow=37
comp=Z,15nm,0.4s
TIXI Tiksi 69.33 0⇑ *e*P **P 10 14 09.9 -1.3**
TIXI pmax pmax
comp=Z,68nm,1.7s
HRA Herat 69.43 306 IAmb IAmb 10 14 14.6
comp=Z,13nm,0.8s
BVA0 Borovoye Array 69.67 327 P **P 10 14 12.6 -1.1**
BVAR Borovoye Array 69.67 327 P **P 10 14 12.9 -0.7**
comp=Z,25nm,0.7s,baz=135,slow=7.3,SNR=78
BVAR LR LR 10 48 08.5
comp=Z,246nm,18.1s,baz=107,slow=39
comp=Z,25nm,0.7s
BVAR Borovoye Array 69.67 327 P **P 10 14 13.0 -0.7**
BRVK Borovoye 69.74 327 P **P 10 14 13.4 -0.7**
BRVK IAmb IAmb 10 14 15.8
comp=Z,51nm,1.2s
BRVK Borovoye 69.74 327 P **P 10 14 13.4 -0.7**
BRVK pmax pmax
comp=Z,51nm,1.2s
BILL Bilibino 70.51 14 P **P 10 14 17.6 -0.9**
BILL Bilibino 70.51 14⇑ *i*P **P 10 14 19.7 +1.2**
BILL pmax pmax
comp=Z,21nm,1.7s
WSAR Wadi Sarin 70.86 294 LR LR 10 47 29.3
comp=Z,60nm,21.1s,baz=109,slow=38
NRIK Noril'sk 72.37 346 IAmb IAmb 10 14 30.9
comp=Z,31nm,0.8s
NRIK Noril'sk 72.37 346 P **P 10 14 28.8 -1.0**
comp=Z,26nm,0.6s,baz=125,slow=7.3,SNR=49
NRIK LR LR 10 47 01.3
comp=Z,249nm,21.7s,baz=141,slow=36
comp=Z,26nm,0.6s
SPIA Saint Paul Isl 72.79 30 P **P 10 14 32.9 +0.5**
baz=246
P08K Saint George I 72.91 31 P **P 10 14 34.1 +0.9**
baz=247
UOSS Minazif 73.23 295 P **P 10 14 34.5 -1.3**
UNV Unalaska Valle 73.54 34 P **P 10 14 37.6 +0.7**
baz=250
RAR Rarotonga 73.62 113 LR LR 10 45 31.7
comp=Z,75nm,20.0s,baz=282,slow=34
AB31 Akbulak array 74.58 321 *i*P **P 10 14 41.9 -1.2**
ABKAR Akbulak array 74.58 321 P **P 10 14 41.9 -1.2**
ABKAR Akbulak array 74.58 321 IAmb IAmb 10 14 44.4
comp=Z,17nm,0.8s
GAMB Gambell 74.97 23 IAmb IAmb 10 14 47.7
comp=Z,20nm,0.8s
GAMB Gambell 74.97 23 P **P 10 14 46.0 +0.9**
baz=243
FALS False Pass 75.57 34 P **P 10 14 49.4 +0.7**
baz=253
M11K Mekoryuk 75.96 28 P **P 10 14 51.6 +0.8**
baz=249
AKTO Aktyubinsk 76.08 322 P **P 10 14 51.3 -0.4**
comp=Z,14nm,0.6s,baz=108,slow=6.3,SNR=46
AKTO LR LR 10 51 17.0
comp=Z,496nm,20.5s,baz=67,slow=38
comp=Z,14nm,0.6s
SVE Sverdlovsk 76.29 328 *e*P **P 10 14 52.2 -0.6**
SVE pmax pmax
comp=Z,38nm,0.8s
S12K Black Hills 76.56 33 P **P 10 14 55.5 +1.2**
baz=254
K13K Kusilvak Mount 77.21 26 IAmb IAmb 10 15 01.3
comp=Z,25nm,0.8s
K13K Kusilvak Mount 77.21 26 P **P 10 14 58.8 +1.0**
baz=250
M13K Dall Lake 77.31 28 P **P 10 14 59.3 +0.9**
baz=252
ARTI Arti 77.36 328 P **P 10 14 57.8 -1.0**
ARTI IAmb IAmb 10 14 59.5
comp=Z,69nm,1.6s
ARTI Arti 77.36 328 P **P 10 14 57.6 -1.2**
comp=Z,15nm,0.6s,baz=118,slow=3.2,SNR=23
comp=Z,15nm,0.6s
ARTI Arti 77.36 328 *c i*P **P 10 14 57.3 -1.5**
ARTI S **S 10 24 45.9 -0.7**
ARTI pmax pmax
comp=Z,45nm,1.6s
CHNA Chernabura Isl 77.70 34 P **P 10 15 01.1 +0.4**
baz=256
F14K Arctic Creek 77.78 23 P **P 10 15 01.7 +0.7**
baz=248
ANM Nome 77.83 24 P **P 10 15 02.2 +1.0**
baz=249
L14K Kuka Creek 77.91 27 IAmb IAmb 10 15 15.8
comp=Z,30nm,0.8s
L14K Kuka Creek 77.91 27 P **P 10 15 02.7 +1.0**
baz=252
J14K Nanvaranak Lak 77.96 26 P **P 10 15 02.8 +0.8**
baz=251
O14K Tigyukauivet M 77.97 30 P **P 10 15 03.1 +1.0**
baz=254
M14K Bethel 78.06 28 P **P 10 15 03.4 +0.8**
baz=253
S14K Fog Glacier 78.07 33 P **P 10 15 03.2 +0.3**
baz=256
G15K Niukluk 78.51 24 P **P 10 15 05.8 +0.7**
baz=250
F15K North Star Dit 78.52 23 IAmb IAmb 10 15 07.8
comp=Z,30nm,1.4s
F15K North Star Dit 78.52 23 P **P 10 15 05.9 +0.7**
baz=249
L15K Ungalak Mounta 78.55 27 P **P 10 15 06.1 +0.7**
baz=253
M15K Kasigluk River 78.64 28 P **P 10 15 07.0 +1.1**
baz=254
O15K Ungalikthiuk R 78.66 30 P **P 10 15 05.2 -0.8**
baz=255
CHGN Chignik 78.69 33 P **P 10 15 05.9 -0.3**
baz=257
K15K Wolf Creek Mou 78.72 27 IAmb IAmb 10 15 10.0
comp=Z,52nm,1.3s
K15K Wolf Creek Mou 78.72 27 P **P 10 15 07.0 +0.8**
baz=253
N15K Kwethluk River 78.79 29 P **P 10 15 07.3 +0.6**
baz=255
H16K Elim 79.12 24 P **P 10 15 08.7 +0.3**
baz=252
C16K Lisburne Hills 79.20 20 IAmb IAmb 10 15 17.8
comp=Z,44nm,1.3s
C16K Lisburne Hills 79.20 20 P **P 10 15 09.4 +0.7**
baz=248
G16K Koyuk River 79.31 23 P **P 10 15 10.0 +0.6**
baz=252
J16K Anvik River 79.41 26 IAmb IAmb 10 15 13.4
comp=Z,19nm,0.8s
J16K Anvik River 79.41 26 P **P 10 15 11.2 +1.2**
baz=254
R16K Pilot Point 79.42 32 P **P 10 15 10.6 +0.4**
baz=257
L16K Owhat River 79.48 27 IAmb IAmb 10 15 24.4
comp=Z,40nm,1.2s
L16K Owhat River 79.48 27 P **P 10 15 11.4 +0.9**
baz=255
I17K Unalakleet 79.54 25 P **P 10 15 11.1 +0.4**
baz=253
M16K Timber Creek 79.55 28 IAmb IAmb 10 15 27.2
comp=Z,39nm,1.1s
M16K Timber Creek 79.55 28 P **P 10 15 11.7 +0.9**
baz=255
O16K Kokwok River B 79.62 30 P **P 10 15 12.0 +0.8**
baz=256
D17K Noatak River 79.79 21 P **P 10 15 13.1 +1.1**
baz=250
RDOG Red Dog Mine 79.97 21 IAmb IAmb 10 15 25.1
comp=Z,44nm,1.3s
RDOG Red Dog Mine 79.97 21 P **P 10 15 13.7 +0.7**
baz=251
C17K DeLong Mountai 80.02 20 P **P 10 15 13.9 +0.7**
baz=250
G17K Kiwalik Mounta 80.03 24 P **P 10 15 13.7 +0.3**
baz=253
E17K Hotham Inlet 80.05 22 P **P 10 15 14.0 +0.6**
baz=252
F17K Baldwin Pennin 80.07 23 P **P 10 15 14.1 +0.6**
baz=252
J17K VABM Dome 80.10 26 IAmb IAmb 10 15 17.5
comp=Z,20nm,0.7s
J17K VABM Dome 80.10 26 P **P 10 15 14.4 +0.6**
baz=255
CHIR Chirikof Islan 80.12 34 P **P 10 15 14.2 +0.2**
baz=259
L17K Donlin 80.13 27 P **P 10 15 14.3 +0.3**
baz=256
O17K Koliganek Bris 80.15 30 P **P 10 15 14.4 +0.3**
baz=257
H17K Granite Mounta 80.17 24 IAmb IAmb 10 15 18.2
comp=Z,16nm,0.6s
H17K Granite Mounta 80.17 24 P **P 10 15 15.2 +1.1**
baz=254
K17K Iditarod 80.27 27 IAmb IAmb 10 15 24.6
comp=Z,28nm,1.1s
K17K Iditarod 80.27 27 P **P 10 15 15.9 +1.2**
baz=256
N17K Nushagak Hills 80.28 29 P **P 10 15 15.5 +0.8**
baz=257
M17K Holitna River 80.35 28 P **P 10 15 16.6 +1.4**
baz=257
P17K Kvichak River 80.36 30 P **P 10 15 16.4 +1.2**
baz=258
E18K Tukpahlearik C 80.61 22 IAmb IAmb 10 15 20.0
comp=Z,30nm,0.8s
E18K Tukpahlearik C 80.61 22 P **P 10 15 17.3 +0.8**
baz=253
F18K Selawik 80.73 23 P **P 10 15 17.9 +0.9**
baz=254
C18K Utukok River 80.77 20 IAmb IAmb 10 15 19.9
comp=Z,16nm,0.7s
C18K Utukok River 80.77 20 P **P 10 15 17.8 +0.5**
baz=252
B18K Kokolik River 80.78 20 P **P 10 15 18.5 +1.2**
baz=251
H18K Honhosa River 80.86 24 P **P 10 15 18.7 +0.9**
baz=255
L18K Granite Mounta 80.89 27 IAmb IAmb 10 15 22.5
comp=Z,19nm,0.7s
L18K Granite Mounta 80.89 27 P **P 10 15 19.4 +1.4**
baz=257
G18K Tagagawik 80.93 23 P **P 10 15 19.2 +1.0**
baz=255
N18K Kilae Creek 80.93 29 P **P 10 15 19.3 +1.0**
baz=258
P18K Big Mountain, 81.00 30 P **P 10 15 19.0 +0.3**
baz=259
SII Sitkinak Islan 81.05 33 P **P 10 15 19.7 +0.7**
baz=260
O18K Koktuh Hills 81.10 30 P **P 10 15 20.0 +0.8**
baz=259
M18K Stony River 81.13 28 P **P 10 15 20.3 +1.0**
baz=258
J18K Innoko River 81.15 26 P **P 10 15 19.9 +0.5**
baz=257
TTA Tatalina 81.34 27 P **P 10 15 20.9 +0.4**
baz=258
TTA Tatalina 81.34 27 P **P 10 15 21.6 +1.1**
GCSA Galena City Sc 81.37 25 P **P 10 15 21.2 +0.7**
baz=257
F19K Shaleruckik Mo 81.51 23 P **P 10 15 21.9 +0.7**
baz=256
O19K Port Alsworth 81.61 29 P **P 10 15 22.3 +0.5**
baz=260
G19K Purcell Mounta 81.61 23 P **P 10 15 22.7 +0.9**
baz=256
N19K Bonanza Creek 81.64 29 IAmb IAmb 10 15 36.2
comp=Z,30nm,0.9s
N19K Bonanza Creek 81.64 29 P **P 10 15 23.0 +0.9**
baz=259
OHAK Old Harbor 81.64 33 P **P 10 15 22.9 +0.9**
baz=261
VNDA Vanda 81.69 173 P **P 10 15 22.1 +0.1**
comp=Z,5.1nm,0.7s,baz=308,slow=6.7,SNR=6.6
VNDA LR LR 10 50 59.5
comp=Z,264nm,18.9s,baz=344,slow=35
comp=Z,5.1nm,0.7s
L19K White Mountain 81.72 27 P **P 10 15 23.3 +0.8**
baz=259
H19K Roundabout Mou 81.72 24 IAmb IAmb 10 15 25.6
comp=Z,38nm,0.7s
H19K Roundabout Mou 81.72 24 P **P 10 15 23.5 +1.2**
baz=257
Q19K Cape Douglas, 81.73 31 P **P 10 15 22.9 +0.3**
baz=260
J19K Poorman 81.74 26 P **P 10 15 23.4 +0.9**
baz=258
D19K Kuna River 81.81 21 IAmb IAmb 10 15 26.2
comp=Z,38nm,0.8s
D19K Kuna River 81.81 21 P **P 10 15 23.8 +0.9**
baz=255
E19K Redstone River 81.87 22 P **P 10 15 24.1 +0.9**
baz=256
M19K Big River Lodg 81.88 28 P **P 10 15 24.2 +0.9**
baz=259
P19K Oil Pt 82.05 30 P **P 10 15 24.4 +0.1**
baz=261
KDAK Kodiak Island 82.10 32 P **P 10 15 25.2 +0.7**
KDAK IAmb IAmb 10 15 28.3
comp=Z,31nm,0.8s
KDAK Kodiak Island 82.10 32 LR LR 10 47 20.0
comp=Z,345nm,21.2s,baz=99,slow=32
KDAK Kodiak Island 82.10 32 P **P 10 15 25.0 +0.5**
baz=262
KDAK Kodiak Island 82.10 32 P **P 10 15 25.2 +0.7**
KDAK pmax pmax
comp=Z,31nm,0.8s
L20K Farewell, AK 82.22 27 P **P 10 15 25.9 +0.8**
baz=260
K20K Telida 82.29 26 IAmb IAmb 10 15 35.4
comp=Z,32nm,1.2s
K20K Telida 82.29 26 P **P 10 15 26.7 +1.3**
baz=260
Q20K Shuyak Island 82.32 31 P **P 10 15 26.8 +1.2**
baz=262
F20K Avaraart Lake 82.35 23 IAmb IAmb 10 15 28.8
comp=Z,18nm,0.8s
F20K Avaraart Lake 82.35 23 P **P 10 15 26.4 +0.8**
baz=258
H20K Anotleneega Mo 82.36 24 P **P 10 15 26.5 +0.8**
baz=258
I20K Naaghedeneel 82.39 25 P **P 10 15 26.9 +1.0**
baz=259
D20K Etivluk River 82.40 21 P **P 10 15 27.1 +1.1**
baz=256
J20K Nowinta River 82.41 26 IAmb IAmb 10 15 30.1
comp=Z,75nm,1.6s
J20K Nowinta River 82.41 26 P **P 10 15 27.0 +1.0**
baz=259
O20K Slope Mountain 82.42 30 P **P 10 15 26.8 +0.6**
baz=261
E20K Nigu River 82.44 21 P **P 10 15 26.9 +0.7**
baz=257
M20K Styx River 82.47 28 IAmb IAmb 10 15 29.5
comp=Z,21nm,0.7s
M20K Styx River 82.47 28 P **P 10 15 26.9 +0.4**
baz=260
KIRV Kirov 82.54 329 P **P 10 15 25.4 -1.4**
comp=Z,48nm,0.7s,baz=325,slow=0.8,SNR=19
KIRV LR LR 10 55 41.9
comp=Z,266nm,18.6s,baz=89,slow=38
comp=Z,48nm,0.7s
SPCR Spurr Chakacha 82.79 29 P **P 10 15 28.1 -0.1**
baz=261
BELG Belogornoye 82.82 322 P **P 10 15 27.6 -0.7**
comp=Z,86nm,1.0s,baz=109,slow=2.2,SNR=26
comp=Z,86nm,1.0s
BELG Belogornoye 82.82 322 *ce*P **P 10 15 28.2 -0.1**
BELG pmax pmax
comp=Z,18nm,1.1s
SPU Mount Spurr 82.87 29 IAmb IAmb 10 15 39.5
comp=Z,38nm,1.8s
RAYN Ar Rayn 82.91 293 P **P 10 15 28.9 -0.7**
RAYN IAmb IAmb 10 15 41.2
comp=Z,15nm,0.8s
RAYN Ar Rayn 82.91 293 P **P 10 15 28.9 -0.7**
RAYN pmax pmax
comp=Z,15nm,0.8s
A21K Barrow 83.02 18 P **P 10 15 29.7 +0.7**
baz=256,SNR=7.7
STLK Strandline Lak 83.02 28 IAmb IAmb 10 15 36.5
comp=Z,31nm,1.8s
PPLA Purkeypile 83.06 27 P **P 10 15 29.8 +0.2**
baz=261,SNR=6.5
G21K Allakaket 83.10 23 IAmb IAmb 10 15 35.2
comp=Z,22nm,0.7s
G21K Allakaket 83.10 23 P **P 10 15 30.3 +0.7**
baz=260
C21K Knifeblade Rid 83.14 21 P **P 10 15 31.0 +1.2**
baz=258
CHUM Lake Minchumin 83.16 26 P **P 10 15 30.8 +0.9**
baz=261,SNR=17
CAST Castle Rocks 83.19 26 IAmb IAmb 10 15 33.1
comp=Z,23nm,0.7s
CAST Castle Rocks 83.19 26 P **P 10 15 30.6 +0.5**
baz=261,SNR=25
SKT Skwentna 83.23 28 IAmb IAmb 10 15 38.4
comp=Z,47nm,1.4s
SKT Skwentna 83.23 28 P **P 10 15 29.9 -0.5**
baz=262,SNR=12
H21K Melozitna River 83.24 24 IAmb IAmb 10 15 33.4
comp=Z,21nm,0.7s
H21K Melozitna Rive 83.24 24 P **P 10 15 31.0 +0.7**
baz=260
F21K Alatna River 83.24 23 IAmb IAmb 10 15 32.9
comp=Z,12nm,0.8s
F21K Alatna River 83.24 23 P **P 10 15 30.8 +0.5**
baz=260
CAPN Captain Cook N 83.24 29 P **P 10 15 31.0 +0.6**
baz=262
BRLK Bradley Lake 83.25 30 IAmb IAmb 10 15 32.4
comp=Z,20nm,0.6s
E21K Killik River 83.29 21 P **P 10 15 31.3 +0.8**
baz=259
B21K Ikpikpuk River 83.30 20 P **P 10 15 31.0 +0.5**
baz=258
BRSE Bradley Lake S 83.32 30 P **P 10 15 31.1 +0.3**
baz=263,SNR=6.9
VOI Vohitsoka 83.34 248 P **P 10 15 31.8 -0.1**
I21K Tanana 83.50 25 P **P 10 15 32.2 +0.6**
baz=261
SUA Susitna One 83.53 28 IAmb IAmb 10 15 41.6
comp=Z,30nm,1.0s
SUA Susitna One 83.53 28 P **P 10 15 31.4 -0.6**
baz=263,SNR=16
BPAW Bear Paw Mtn. 83.77 26 P **P 10 15 33.4 +0.3**
baz=262,SNR=11
D22K Ayikyak River 83.83 21 P **P 10 15 34.0 +0.7**
baz=260
B22K Teshekpuk Lake 83.84 19 P **P 10 15 34.1 +0.8**
baz=259
H22K Ishtalitna Cre 83.86 24 P **P 10 15 34.6 +1.1**
baz=262
M22K Willow 83.86 28 P **P 10 15 32.8 -0.7**
baz=263,SNR=19
CUT Chulitna 83.87 28 P **P 10 15 33.0 -0.6**
baz=263
O22K Cooper Landing 83.91 30 P **P 10 15 33.6 -0.2**
baz=264,SNR=11
G22K Bettles 83.95 23 P **P 10 15 34.6 +0.7**
baz=261
RC01 Rabbit Creek A 83.97 29 P **P 10 15 34.2 +0.1**
baz=264,SNR=20
TRF Thorofare Moun 83.99 27 IAmb IAmb 10 15 36.7
comp=Z,31nm,1.1s
TRF Thorofare Moun 83.99 27 P **P 10 15 33.8 -0.6**
baz=263,SNR=12
SEW Seward 84.00 30 P **P 10 15 34.2 -0.1**
baz=264,SNR=6.7
E22K Anaktuvuk Pass 84.02 22 P **P 10 15 35.4 +1.0**
baz=261
PMR Palmer 84.31 28 P **P 10 15 35.6 -0.3**
PMR Palmer 84.31 28 P **P 10 15 35.6 -0.3**
baz=264,SNR=23
PMR Palmer 84.31 28 P **P 10 15 35.5 -0.3**
PMR Palmer 84.31 28 P **P 10 15 35.6 -0.3**
PMR pmax pmax
comp=Z,46nm,1.2s
GHO Glory Hole Cre 84.43 28 IAmb IAmb 10 15 57.4
comp=Z,26nm,0.9s
COLD Coldfoot 84.50 23 P **P 10 15 37.8 +1.1**
baz=263,SNR=57
G23K Bananza Creek 84.51 23 P **P 10 15 38.0 +1.2**
baz=263
D23K Nanushuk River 84.56 21 P **P 10 15 38.4 +1.4**
baz=262
I23K Minto, Yukon-K 84.59 25 P **P 10 15 37.3 +0.1**
baz=264,SNR=20
KNK Knik Glacier 84.62 29 P **P 10 15 37.4 -0.1**
baz=265,SNR=23
MCK McKinley 84.62 26 P **P 10 15 36.7 -0.7**
baz=264,SNR=22
PWL Port Wells 84.63 29 P **P 10 15 37.4 -0.1**
baz=265,SNR=26
RND Reindeer 84.63 27 P **P 10 15 37.2 -0.3**
RND Reindeer 84.63 27 P **P 10 15 37.2 -0.3**
RND pmax pmax
comp=Z,37nm,0.7s
NEA2 Nenana 84.66 25 P **P 10 15 37.1 -0.5**
baz=264
C23K Itkillik River 84.70 20 P **P 10 15 38.1 +0.5**
baz=262
SML Sawmill 84.71 28 P **P 10 15 37.7 -0.3**
baz=265,SNR=24
E23K Chandalar 84.83 22 P **P 10 15 39.5 +1.0**
baz=263
TOLK Toolik Lake Re 84.92 21 IAmb IAmb 10 15 42.6
comp=Z,21nm,0.8s
TOLK Toolik Lake Re 84.92 21 P **P 10 15 39.7 +0.8**
baz=263,SNR=28
M23K Glacier View 85.00 28 P **P 10 15 39.5 +0.2**
baz=265,SNR=51
P23K Montague Islan 85.02 30 P **P 10 15 39.6 +0.2**
baz=266,SNR=5.3
WRH Wood River Hil 85.06 26 IAmb IAmb 10 15 47.7
comp=Z,44nm,1.4s
SCM Sheep Creek Mo 85.19 28 P **P 10 15 40.2 -0.2**
baz=266,SNR=24
CCB Clear Creek Bu 85.20 25 IAmb IAmb 10 15 48.8
comp=Z,22nm,1.3s
COLA College 85.20 25 P **P 10 15 40.8 +0.5**
COLA College 85.20 25 P **P 10 15 41.1 +0.9**
baz=265
COLA College 85.20 25 P **P 10 15 41.9 +1.7**
COLA College 85.20 25 P **P 10 15 40.8 +0.5**
COLA pmax pmax
comp=Z,10.0nm,1.1s
GLI Glacier Island 85.23 29 P **P 10 15 40.3 -0.2**
baz=266,SNR=16
GEVA Gevas 85.24 308 IAmb IAmb 10 15 53.9
comp=Z,28nm,1.0s
D24K Happy Valley 85.25 21 P **P 10 15 41.2 +0.8**
baz=264
H24K Noodor Dome 85.28 24 IAmb IAmb 10 15 58.0
comp=Z,33nm,1.4s
H24K Noodor Dome 85.28 24 P **P 10 15 41.3 +0.6**
baz=265,SNR=6.3
C24K Franklin Bluff 85.35 20 IAmb IAmb 10 15 46.2
comp=Z,17nm,0.8s
C24K Franklin Bluff 85.35 20 P **P 10 15 40.9 0.0**
baz=264
GOF Gofitskoye 85.39 315 *ce*P **P 10 15 41.5 -0.2**
POKR Poker Plat Res 85.40 25 P **P 10 15 40.9 -0.4**
baz=265
F24K Squaw Lake 85.43 23 IAmb IAmb 10 15 51.2
comp=Z,55nm,1.8s
F24K Squaw Lake 85.43 23 P **P 10 15 42.3 +0.9**
baz=265
KBZ Khabaz 85.46 314 P **P 10 15 41.8 -0.2**
comp=Z,5.8nm,0.8s,baz=139,slow=7.2,SNR=9.7
KBZ LR LR 10 58 31.1
comp=Z,158nm,19.9s,baz=64,slow=39
comp=Z,5.8nm,0.8s
KBZ Khabaz 85.46 314⇑ *i*P **P 10 15 43.1 +1.1**
KBZ pmax pmax
comp=Z,18nm,1.4s
G24K Hadweenzic Riv 85.51 23 IAmb IAmb 10 15 51.4
comp=Z,17nm,1.0s
G24K Hadweenzic Riv 85.51 23 P **P 10 15 41.9 +0.1**
baz=265
HDA Harding Lake 85.55 26 P **P 10 15 41.6 -0.4**
baz=266
IL31 85.61 25 P **P 10 15 41.5 -0.7**
ILAR Eielson Array 85.61 25 P **P 10 15 41.1 -1.2**
comp=Z,4.2nm,0.6s,baz=245,slow=5.3,SNR=96
ILAR LR LR 10 48 14.1
comp=Z,114nm,21.6s,baz=258,slow=32
comp=Z,4.2nm,0.6s
KIV Kislovodsk 85.62 314 *e*P **P 10 15 43.0 0.0**
KIV pmax pmax
comp=Z,11nm,1.1s
SHA1 Shidzhatmaz 85.64 314 *de*P **P 10 15 43.7 +0.5**
M24K Tolsona, Glenn 85.75 28 P **P 10 15 43.8 +0.6**
baz=267,SNR=20
KLU Klutina 85.84 29 P **P 10 15 44.1 +0.5**
baz=267,SNR=22
EYAK Cordova Ski Ar 85.87 30 IAmb IAmb 10 15 59.9

comp=Z,40nm,1.2s
EYAK Cordova Ski Ar 85.87 30 P P 10 15 44.3 +0.6
baz=267
EYAK Cordova Ski Ar 85.87 30 P P 10 15 44.7 +1.0
K24K Donnelly Dome 86.03 26 P P 10 15 44.7 +0.2
baz=267,SNR=9.5
PAX Paxson 86.12 27 IAmb IAmb 10 16 02.7
comp=Z,27nm,1.3s
PAX Paxson 86.12 27 P P 10 15 45.3 +0.3
baz=267,SNR=9.5
D25K Kavik River 86.13 21 P P 10 15 44.7 -0.2
baz=266
H25L Birch Creek 86.15 24 P P 10 15 45.4 +0.5
baz=267
PRP Porcupine Dome 86.23 25 P P 10 15 45.6 +0.1
baz=267
HARP HAARP 86.24 28 P P 10 15 46.0 +0.5
baz=268,SNR=8.2
J25K Salcha River, 86.25 26 P P 10 15 45.3 -0.3
baz=267
F25K Christian River 86.29 23 P P 10 15 46.4 +0.7
baz=267
E25K Arctic Village 86.35 22 P P 10 15 46.4 +0.5
baz=267,SNR=15
FYU Fort Yukon 86.40 24 IAmb IAmb 10 16 14.3
comp=Z,73nm,2.0s
RAGM Ragged Mountai 86.40 30 IAmb IAmb 10 16 38.8
comp=Z,46nm,1.4s
VRH Novokhopyorsk 86.41 321 *e*P **P 10 15 44.9 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
RIDG Independent Ri 86.44 26 IAmb IAmb 10 15 49.1
comp=Z,10nm,0.8s
RIDG Independent Ri 86.44 26 P P 10 15 46.2 -0.3
baz=268,SNR=5.9
BMRM Bremner River 86.45 29 IAmb IAmb 10 15 49.7
comp=Z,23nm,0.7s
BMRM Bremner River 86.45 29 P P 10 15 46.9 +0.3
baz=268,SNR=11
N25K Chitina, Valde 86.48 29 IAmb IAmb 10 15 49.6
comp=Z,16nm,0.6s
N25K Chitina, Valde 86.48 29 P P 10 15 47.6 +0.8
baz=268,SNR=16
KAIM Kayak Island 86.51 30 P P 10 15 47.8 +0.9
baz=268
C26K Camden Bay 86.68 20 P P 10 15 48.6 +1.2
baz=267
BMAR Burnt Mountain 86.69 23 P P 10 15 49.3 +1.6
SCRK Sand Creek 86.83 26 P P 10 15 48.8 +0.3
baz=268
GLB Gilahina Butte 86.85 29 IAmb IAmb 10 15 58.5
comp=Z,38nm,1.4s
F26K Sheenjek River 86.87 22 P P 10 15 49.2 +0.7
baz=268
MENT Mentasta 86.92 27 P P 10 15 50.6 +1.7
G26K Porcupine Rive 86.99 23 P P 10 15 50.0 +1.0
baz=268
VRDI Verde Repeater 87.02 29 P P 10 15 49.8 +0.3
J26L Joseph Creek 87.02 26 P P 10 15 49.6 +0.2
baz=269
MARD Mardin 87.04 307 IAmb IAmb 10 15 51.6
comp=Z,21nm,0.7s
C27K Jago River 87.08 21 IAmb IAmb 10 15 51.9
comp=Z,11nm,0.8s
C27K Jago River 87.08 21 P P 10 15 50.3 +0.8
baz=268
L26K Log Cabin Wild 87.09 27 P P 10 15 50.3 +0.6
baz=269
I26K Coal Creek Min 87.21 25 P P 10 15 50.4 +0.2
baz=269
KOPT Kop Dagi 87.23 310 IAmb IAmb 10 16 04.4
comp=Z,31nm,1.1s
M26K Nabesna, AK 87.25 28 IAmb IAmb 10 16 19.6
comp=Z,22nm,1.6s
M26K Nabesna, AK 87.25 28 P P 10 15 51.3 +0.8
baz=270
KLMR Klimovskoe 87.69 331 *e*P **P 10 15 49.8 -2.8**
KLMR pmax pmax
comp=Z,23nm,0.8s
M27K Edge Creek, AK 87.77 28 P P 10 15 53.2 +0.1
baz=270
SOC Sochi 87.77 313 *e*P **P 10 15 49.0 -4.3**
SOC *e* 10 19 14.4
SOC *e*S **SKSac 10 26 13.2 -5.8**
SOC *e*SS **SS 10 32 17.8 -2.8**
SOC *e*SSS SSS 10 35 51.6
SOC pmax pmax
comp=Z,14nm,0.8s
L27K Beaver Creek, 87.79 27 P P 10 15 53.6 +0.6
baz=270
BCAR Beaver Creek A 87.81 27 P P 10 15 52.8 -0.4
G27K Doyon Strip 87.83 23 P P 10 15 53.5 +0.3
baz=270
I27K Kandik River 87.85 25 P P 10 15 53.3 -0.1
baz=271
H27K Steamboat Moun 87.88 24 P P 10 15 54.2 +0.7
baz=271
VORD Divnogorie 87.94 321 *e*P **P 10 15 50.8 -3.1**
VORD pmax pmax
comp=Z,9.0nm,0.9s
VORR Voronezh 87.98 321 *e*P **P 10 15 52.6 -1.5**
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 88.01 321 *e*P **P 10 15 51.6 -2.7**
VSR pmax pmax
comp=Z,9.0nm,1.0s
D27M Malcolm River 88.05 21 P P 10 15 54.9 +0.7
baz=271
LPSR Galich'ya Gora 88.14 322 *e*P **P 10 15 52.0 -2.8**
LPSR pmax pmax
comp=Z,40nm,0.9s
BVCY Beaver Creek 88.24 28 P P 10 15 55.6 +0.3
baz=271
YUK3 Moose Creek 88.45 28 P P 10 15 56.9 +0.5
baz=272
F28M Old Crow 88.50 23 P P 10 15 56.6 +0.3
baz=272
I28M Miner Creek 88.56 25 IAmb IAmb 10 15 58.9
comp=Z,12nm,0.7s
I28M Miner Creek 88.56 25 P P 10 15 56.8 0.0
baz=272
E28M Babbage River 88.59 22 IAmb IAmb 10 16 05.1
comp=Z,19nm,1.5s
E28M Babbage River 88.59 22 P P 10 15 56.8 +0.1
baz=272
PINM Pinnacle 88.60 30 P P 10 15 57.7 +0.6
baz=272
O28M Mount Upton 88.61 29 P P 10 15 57.9 +0.6
baz=272
YUK8 Steele Glacier 88.80 29 P P 10 15 58.8 +0.6
baz=272
MOS Moscow 88.81 326 *e*P **P 10 15 57.3 -0.6**
MOS pmax pmax
comp=Z,35nm,0.6s
D28M Stokes Point 88.84 21 P P 10 15 58.6 +0.8
baz=273
DAWY Dawson 88.85 26 P P 10 15 57.8 -0.3
DAWY Dawson 88.85 26 P P 10 15 58.3 +0.3
baz=273
H29M Whitestone 89.16 24 IAmb IAmb 10 16 06.6
comp=Z,32nm,1.9s
H29M Whitestone 89.16 24 P P 10 15 59.8 +0.4
baz=274
E29M Blow River 89.20 22 P P 10 15 59.5 -0.1
baz=274
G29M Pine Creek 89.26 23 IAmb IAmb 10 16 17.0
comp=Z,14nm,1.0s
G29M Pine Creek 89.26 23 P P 10 16 00.3 +0.4
baz=274
YUK4 Talbot Arm 89.33 29 P P 10 16 00.3 -0.3
baz=273
J29N Klondike Camp 89.34 26 P P 10 16 01.1 +0.7
baz=274
M29M Somme Creek 89.36 28 P P 10 16 00.4 -0.2
baz=274
ANN Anapa 89.38 315 *e*P **P 10 15 57.0 -3.9**
ANN *e**PP **pP 10 16 06.4 -5.2**
ANN *e*S **SKSac 10 26 24.8 -3.7**
ANN pmax pmax
comp=Z,28nm,0.8s
O29M Mount Kennedy 89.43 30 P P 10 16 01.1 +0.1
baz=273
OBN Obninsk 89.44 325 LR LR 10 58 39.0
comp=Z,330nm,19.7s,baz=3.5,slow=37
OBN Obninsk 89.44 325 *ce*P **P 10 16 00.8 -0.1**
OBN *e**PP **pP 10 16 10.9 -0.7**
OBN *e**SP **sP 10 16 15.0 -0.5**
OBN *e* 10 19 31.3
OBN *e*S **S 10 26 50.9 +2.2**
OBN *e*SS **SS 10 32 44.5 +0.4**
OBN pmax pmax
comp=Z,36nm,0.7s
OBN MLR MLR
comp=Z,322nm,19.0s
L29M L29M 89.47 27 P P 10 16 01.2 +0.2
baz=274
YUK6 Outpost Mounta 89.50 29 P P 10 16 01.4 0.0
baz=274
LVZ Lovozero 89.50 338 P P 10 15 60.0 -1.1
LVZ Lovozero 89.50 338 *ce*P **P 10 16 00.5 -0.5**
LVZ pmax pmax
comp=Z,74nm,1.5s
K29M Barlow Dome 89.69 26 P P 10 16 02.0 -0.1
baz=274
EPYK Eagle Plains 89.82 24 P P 10 16 02.3 -0.2
baz=275
HYT Haines Junctio 89.92 29 IAmb IAmb 10 19 27.5
comp=Z,26nm,1.8s
HYT Haines Junctio 89.92 29 P P 10 16 02.7 -0.6
baz=274
G30M tAoh Zraii Nji 89.96 23 P P 10 16 02.2 -1.0
baz=276
APA Apatity 90.01 338 ⇓*i*P **P 10 16 01.9 -1.4**
APA *i* 10 19 44.1
APA pmax pmax
comp=Z,14nm,1.0s
I30M Mount Dempster 90.06 25 P P 10 16 03.7 -0.2
baz=275
F30M Barrier River 90.06 22 P P 10 16 03.4 -0.2
baz=276
N30M Aishikik Lake 90.07 29 P P 10 16 04.4 +0.5
baz=275
M30M Minto, Yukon 90.12 27 P P 10 16 03.6 -0.5
baz=275
J30M Hart River 90.14 25 P P 10 16 03.9 -0.3
baz=275
P30M Million Dollar 90.25 30 P P 10 16 04.2 -0.6
baz=275
ASF Jabal al Asfar 90.39 302 LR LR 11 02 19.2
comp=Z,82nm,21.0s,baz=128,slow=39
MAYO Mayo, Yukon 90.43 26 P P 10 16 05.5 +0.1
baz=276
PLBC Pleasant Camp 90.61 31 P P 10 16 06.1 -0.2
baz=275
O30N Mendenhall 90.62 29 P P 10 16 06.1 -0.3
baz=276
N31M Braeburn, Yuko 90.70 29 P P 10 16 06.9 +0.2
baz=276
G31M Satah River 90.73 23 P P 10 16 06.2 -0.5
baz=277
S31K Pelican 90.82 32 P P 10 16 07.8 +0.6
baz=275
INK Inuvik 90.83 22 P P 10 16 06.5 -0.6
baz=278
H31M Peel River 90.84 24 P P 10 16 07.8 +0.4
baz=277
F31M Tsiigehtchic 90.86 22 IAmb IAmb 10 16 14.9
comp=Z,24nm,1.6s
F31M Tsiigehtchic 90.86 22 P P 10 16 06.8 -0.5
baz=278
SKAG Skagway 91.13 31 P P 10 16 08.9 +0.2
baz=276
WHY Whitehorse 91.22 29 IAmb IAmb 10 16 12.9
comp=Z,22nm,1.6s
WHY Whitehorse 91.22 29 P P 10 16 09.0 -0.3
baz=277
M31M Drury Creek, Y 91.27 28 P P 10 16 09.5 +0.1
baz=277
SIT Sitka 91.40 33 P P 10 16 09.8 -0.1
baz=276
KMBO Kilima Mbogo 91.52 269 P P 10 16 11.4 -0.4
KMBO Kilima Mbogo 91.52 269 P P 10 16 11.4 -0.4
KMBO pmax pmax
comp=Z,8.0nm,1.2s
MMAI Mount Meron Ar 91.60 303 P P 10 16 11.2 -0.4
comp=Z,2.5nm,0.6s,baz=96,slow=8.0,SNR=4.4
MMAI LR LR 11 03 25.0
comp=Z,97nm,19.8s,baz=83,slow=40
comp=Z,2.5nm,0.6s
R32K Eaglecrest 91.69 32 P P 10 16 11.2 -0.2
baz=277
SYO Syowa Base 91.74 201 ⇑*e*P **P 10 16 12.2 +0.9**
SYO Syowa Base 91.74 201 ⇑*ep*P pP 10 16 20.8 -1.1
FARO Faro, Yukon 91.75 28 IAmb IAmb 10 16 14.4
comp=Z,9.8nm,0.8s
FARO Faro, Yukon 91.75 28 P P 10 16 11.6 -0.1
baz=278
P32M Atlin 91.94 30 P P 10 16 12.1 -0.5
baz=278
N32M Quiet Lake 92.03 29 IAmb IAmb 10 18 00.9
comp=Z,9.2nm,0.8s
N32M Quiet Lake 92.03 29 P P 10 16 12.8 -0.2
baz=278
QSPA South Pole Qui 92.13 180 P P 10 16 13.4 0.0
QSPA IAmb IAmb 10 16 39.4
comp=Z,17nm,1.3s
QSPA South Pole Qui 92.13 180 P P 10 16 13.5 +0.2
comp=Z,1.9nm,0.6s,baz=230,slow=0.7,SNR=19
QSPA LR LR 10 59 03.6
comp=Z,448nm,18.6s,baz=358,slow=36
comp=Z,1.9nm,0.6s
EIL Elat 92.20 300 LR LR 11 03 47.2
comp=Z,62nm,19.7s,baz=70,slow=40
P33M Teslin, Yukon 92.30 30 P P 10 16 14.4 +0.2
baz=278
SPITS Spitsbergen Ar 92.34 349 P P 10 16 13.0 -1.0
comp=Z,6.6nm,0.7s,baz=73,slow=14,SNR=9.0
SPITS LR LR 11 02 26.7
comp=Z,241nm,21.1s,baz=26,slow=38
comp=Z,6.6nm,0.7s
BR131 Keskin Array S 92.52 310 ⇑*e*P **P 10 16 14.6 -1.2**
BRTR Keskin Array B 92.52 310 P P 10 16 15.0 -0.8
comp=Z,1.9nm,0.9s,baz=97,slow=5.1,SNR=7.3
BRTR LR LR 11 03 03.6
comp=Z,90nm,21.5s,baz=68,slow=39
comp=Z,1.9nm,0.9s
BR106 Keskin Array S 92.53 310 P P 10 16 15.5 -0.4
comp=Z,3.4nm,0.9s
BR105 Keskin Array S 92.53 310 P P 10 16 14.6 -1.3
comp=Z,4.1nm,1.1s
ARCES ARCESS Array B 92.55 340 P P 10 16 13.0 -2.1
comp=Z,15nm,0.7s,baz=83,slow=5.3,SNR=34
ARCES LR LR 11 01 25.0
comp=Z,284nm,21.7s,baz=94,slow=38
comp=Z,15nm,0.7s
U33K Whale Pass 92.72 34 P P 10 16 16.5 +0.4
baz=278
Q32M Nakina River 92.76 31 P P 10 16 16.3 -0.2
baz=279
CRAG Craig 92.81 34 P P 10 16 16.7 +0.2
baz=278
A36M Sachs Harbour 92.83 17 P P 10 16 16.2 -0.1
baz=286
WRAK Wrangell Islan 93.11 33 P P 10 16 18.1 +0.2
baz=279
R33M Jennings River 93.35 30 IAmb IAmb 10 16 28.5
comp=Z,18nm,1.4s
R33M Jennings River 93.35 30 P P 10 16 19.6 +0.4
baz=280
S34M Telegraph Cree 93.52 32 P P 10 16 19.6 -0.2
baz=280
C36M Paulatuk 93.95 20 IAmb IAmb 10 16 29.4
comp=Z,20nm,1.3s
C36M Paulatuk 93.95 20 P P 10 16 20.6 -0.9
baz=287
DLBC Dease Lake 94.00 31 LR LR 10 53 57.1
comp=Z,186nm,20.2s,baz=273,slow=32
DLBC Dease Lake 94.00 31 P P 10 16 22.4 +0.3
baz=281
FINES FINESS Array B 94.10 332 P P 10 16 20.2 -2.1
comp=Z,4.3nm,0.6s,baz=54,slow=6.2,SNR=22
comp=Z,4.3nm,0.6s
T35M Bob Quinn 94.15 33 P P 10 16 23.7 +0.9
baz=280
WTLY Watson Lake, Y 94.29 29 IAmb IAmb 10 16 27.0
comp=Z,15nm,1.1s
WTLY Watson Lake, Y 94.29 29 P P 10 16 24.0 +0.6
baz=282
AK09 Malin Array Si 94.29 321 P P 10 16 21.6 -1.9
AK08 Malin Array Si 94.31 321 P P 10 16 23.0 -0.6
AKASG Malin Array Be 94.32 321 P P 10 16 21.1 -2.6
comp=Z,2.0nm,0.7s,baz=77,slow=3.6,SNR=9.3
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 94.32 321 *de*P **P 10 16 22.6 -1.1**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 94.32 321 P P 10 16 22.5 -1.1
KIEV Kiev 94.33 321 P P 10 16 22.6 -1.1
comp=Z,31nm,2.9s
VSU Vasula 94.39 329 ⇑*i*P **P 10 16 21.5 -2.2**
VSU pmax pmax
comp=Z,25nm,0.8s
MNK Minsk 94.50 325 *i*P **P 10 16 22.1 -2.3**
MNK *i* 10 20 10.0
MNK *i* PPP PPP 10 22 12.1
MNK *i* S **SKSac 10 26 54.4 -2.6**
MNK *i* SS **SS 10 33 57.1 +0.2**
MNK *i* SSS SSS 10 37 38.9
MNK pmax pmax
comp=E,29nm,0.8s
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=E,278nm,18.0s
MNK MLR MLR
comp=N,460nm,21.0s
MI28 Mi28,Pidlybu 95.25 321 P P 10 16 27.2 -0.7
comp=N,197nm,0.8s
KLYT Kilyos 95.83 312 P P 10 16 30.6 -0.1
comp=N,155nm,1.3s
WRGLY Wrigley 95.98 26 IAmb IAmb 10 16 32.8
comp=Z,9.3nm,1.0s
WRGLY Wrigley 95.98 26 P P 10 16 30.7 -0.2
baz=287
BBB Bella Bella 96.30 37 LR LR 10 52 36.4
comp=Z,58nm,20.9s,baz=264,slow=31
TOAD Toad River Com 96.35 30 P P 10 16 33.0 +0.1
baz=285
KMPD K-Podol'skiy 96.45 319 P P 10 16 32.0 -1.4
comp=Z,2μm,1.0s
KOTAN Kotaneelee Air 96.59 29 P P 10 16 33.9 +0.1
baz=286
TESR Tescani 96.70 317 P P 10 16 33.8 -0.8
comp=Z,14nm,0.8s
ELIB Princess Elisa 96.84 198 *d*P **P 10 16 36.1 +1.3**
ISR Istrita 97.02 316 P P 10 16 34.3 -1.9
comp=Z,88nm,0.8s
MLR Muntele Rosu 97.37 316 LR LR 11 07 05.1
comp=Z,261nm,19.0s,baz=60,slow=39
BUR08 Bucovina Ar. S 97.46 318 P Pdif 10 16 37.2 -1.0
STNU Starunia 97.69 320 P Pdif 10 16 38.4 -0.7
MORS Morshin 98.00 320 P Pdif 10 16 40.4 0.0
MORS Morshin 98.00 320 P Pdif 10 16 40.4 0.0
KWP Kalwaria Pacla 98.64 321 P Pdif 10 16 42.7 -0.6
comp=Z,14nm,1.2s
RES Resolute Bay 98.93 11 IAmb IAmb 10 16 52.7
comp=Z,6.3nm,0.8s
RES Resolute Bay 98.93 11 LR LR 11 02 41.9
comp=Z,100nm,20.2s,baz=259,slow=36
RES Resolute Bay 98.93 11 P Pdif 10 16 43.8 -0.2
RES pmax pmax
comp=Z,11nm,0.7s
DAG Danmarks Havn 99.00 353 P Pdif 10 16 44.8 +0.5
DAG pmax pmax
comp=Z,15nm,0.9s
KOLS Kolonicke sedl 99.08 320 *e*P **Pdif 10 16 45.9 +0.6**
STHS Stebnicka Huta 99.61 321 *e*P **Pdif 10 16 47.8 +0.1**
YKA Yellowknife Ar 100.03 25 P Pdif 10 16 48.9 -0.3
comp=Z,1.7nm,0.8s,baz=293,slow=4.4,SNR=20
YKA PKKPbc **PKKPbc 10 33 07.8 -2.5**
comp=Z,0.4nm,0.8s,baz=129,slow=2.4,SNR=4.2
comp=Z,1.7nm,0.8s
HFS Hagfors 100.28 333 P Pdif 10 16 48.6 -1.7
comp=Z,6.0nm,0.6s,baz=104,slow=3.7,SNR=16
NB2 NORSAR Subarra101.02 334 P Pdif 10 16 50.9 -2.8
comp=Z,5.8nm,0.9s,baz=65,slow=4.4
NB2 PP **PKiKP 10 21 17.3 -1.5**
comp=Z,0.9nm,0.8s,baz=44,slow=7.9
NB2 NORSAR Subarra101.02 334 P Pdif 10 16 50.9 -2.8
baz=65,slow=4.4
NOA NORSAR Array B101.02 334 P Pdif 10 16 51.4 -2.3
comp=Z,2.4nm,0.7s,baz=62,slow=4.4,SNR=7.8
CLL Collm 104.03 324 *e*P Pdif **Pdif 10 17 06.0 -1.2**
NVAR Mina Array Bea 106.41 49 Pdiff Pdif 10 17 17.2 -1.2
comp=Z,0.1nm,0.4s,baz=0.5,slow=38,SNR=2.0
PDAR Pinedale Array 111.15 42 PKiKP **PKiKP 10 21 39.6 +1.3**
comp=Z,0.4nm,0.9s,baz=350,slow=7.6,SNR=3.6
ECSD EROS Data Cent 118.86 36 PKiKP 10 21 53.8 +1.0
ESDC Sonseca Array 119.90 319 PKP PKiKP 10 21 54.1 -1.0
comp=Z,0.3nm,0.3s,baz=51,slow=0.6,SNR=4.3
TXAR Lajitas Array 120.91 54 PKP PKiKP 10 21 56.1 -1.3
comp=Z,0.5nm,0.6s,baz=332,slow=1.6,SNR=7.9
TXAR PKKPab **PKKPab 10 32 01.5 -0.8**
comp=Z,0.5nm,0.8s,baz=112,slow=8.6,SNR=3.8
SCHQ Schefferville 121.71 11 PKP PKPdf 10 21 56.4 -1.5
comp=Z,1.4nm,0.5s,baz=285,slow=3.0,SNR=9.1
DRIO Del Rio 123.31 52 PKPdf PKiKP 10 22 00.7 -1.3
JCT Junction City 123.50 51 PKPdf PKiKP 10 22 02.0 -0.3
JCT Junction City 123.50 51 PKIKP PKiKP 10 22 02.0 -0.3
TORD Torodi Ar. Bea 125.28 288 PKPdf PKPdf 10 22 04.3 -1.6
TORD Torodi Ar. Bea 125.28 288 PKP PKiKP 10 22 04.7 -1.5
comp=Z,4.8nm,0.7s,baz=26,slow=2.6,SNR=30
CCM Cathedral Cave 125.52 39 PKiKP 10 22 05.7 -0.4
CCM Cathedral Cave 125.52 39 PKIKP PKiKP 10 22 05.7 -0.4
FCAR Ozark Folk Cen 126.25 41 PKiKP 10 22 07.2 -0.4
BG3 Lake Jocassee 132.56 36 PKPpre 10 22 13.1
DBIC Dimbokro 132.84 281 PKP PKPdf 10 22 19.0 -1.3
comp=Z,4.8nm,0.7s,baz=110,slow=7.5,SNR=5.9
PLCA Paso Flores 137.88 158 PKP PKPdf 10 22 28.2 -0.9
comp=Z,1.4nm,0.8s,baz=8.0,slow=1.6,SNR=3.9
MT13 San Alfonso 143.94 153 PKPdf 10 22 38.9 -1.3
MT08 Bocatoma Ro 144.32 153 PKPdf 10 22 40.1 -0.9
LCO Las Campanas 147.56 147 PKPbc 10 22 49.0 -0.4
LCO Las Campanas 147.56 147 PKP2 PKPbc 10 22 49.0 -0.4
SACV Santiago Islan 147.73 303 PKPbc PKiKP 10 22 49.6 -2.3
AC04 Llanos de Chal 147.98 146 PKPbc PKiKP 10 22 50.7 -1.3
TBOT Tacuaremb 150.36 172 *e*P **PKPdf 10 22 51.2 +0.4**
PB14 IPOC Station P 151.06 142 PKiKP 10 22 58.0 -0.9
OTAV Otavalo 152.72 85 *e*P **PKPdf 10 22 54.8 -0.7**
CPUP Villa Florida 155.33 167 PKPdf 10 23 04.0 +5.7
CPUP Villa Florida 155.33 167 PKP PKPdf 10 22 56.6 -1.6
comp=Z,0.6nm,0.4s,baz=186,slow=19,SNR=1.5
CPUP Villa Florida 155.33 167 *e*P **PKPdf 10 22 57.8 -0.4**
CZSB Cruzeiro do Su 157.96 105 *e*P **PKPdf 10 23 01.8 -0.2**
LPAZ La Paz 158.30 131 PKP PKPdf 10 23 01.9 -1.2
comp=Z,0.3nm,0.3s,baz=278,slow=1.9,SNR=0.9
LPAZ La Paz 158.30 131 *e*P **PKPdf 10 23 04.1 +1.1**

---

*SOME **07** 10:04:33.2,43.67N×69.73E*
NNC 07 10:04:33.6±3.5,43.69N×69.76E,h0km,mb3.5,mpv2.7, 2C,Error ellipse: s-maj=22.9km s-min=7.6km az=138.0, Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.66**	**175**	P	Pn	10 04 49.9	-0.3
	1.1nm,0.2s						
BRLS				S	Sn	10 05 02.5	+1.2
	6.1nm,0.2s						
KK31	**Karatay Array**	**0.80**	**136**	⇑P	Pg	10 04 48.8	-0.1
	0.5nm,0.2s,baz=322,slow=16,SNR=32						
KK31				⇑S	Sg	10 05 00.3	+0.9
	4.9nm,0.3s,baz=316,slow=34,SNR=104						
IUG	**luzhnay**	**1.55**	**172**	P	Pg	10 05 03.4	+0.1
	21nm,0.5s						
IUG				S	Sb	10 05 24.8	+1.3
	92nm,0.5s						
DGS	**Degeres**	**4.40**	**94**	Pg	Pg	10 05 55.4	-2.6
	2.2nm,0.5s						
DGS				Lg	Lg	10 06 54.7	
	4.8nm,0.8s						

---

*IDC **07** 10:11:06.5±0.5,2.20S×139.03E,h0km,mb4.3/20, mbtmp4.3/22,ML4.5/1,MS4.3/2,Error ellipse: s-maj=18.0km s-min=12.3km az=62.0*
*DJA **07** 10:11:08.7±0.5,2.5S±5.5×13.9E±.5,h18km±3km,M4.8/29, mb4.9/29,mB5.5/1,MLv4.8/7,Mw(mB)4.9/1*
*NEIC **07** 10:11:11.9±2.5,2.24S±0.07×138.98E±0.06,h33km±4km, mb4.9/60,Error ellipse: s-maj=10.5km s-min=7.8km az=215.0*
ISC 07 10:11:12.0±0.4,2.33S±0.05×138.89E±0.05,h37km,n127, σ1.9**94**/102,**mb4.8**/62,**MS4.4**/5,**2C-2D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.38**	**331**	P	**Pn**	**10 11 17.2**	**-3.6**

SMPI			S	Sn	10 11 21.9	-5.7
GENI	Genyem	1.30 102	P	Pn	10 11 31.4	-2.2
JAY	Jayapura	1.82 96	Pn	Pn	10 11 38.3	-2.5
	145nm,0.3s,baz=245,slow=10,SNR=203					
JAY			Sn	Sn	10 12 00.5	-2.1
	87nm,0.3s,baz=263,slow=20,SNR=6.3					
JAY	Jayapura	1.82 96	P	Pn	10 11 37.7	-3.1
SRPI	Serui, Papua	2.69 280	P	Pn	10 11 51.9	-0.9
BAKI	Biak	3.01 292	P	Pn	10 11 54.5	-2.6
RKPI	Ransiki, Papua	4.78 280	P	Pn	10 12 20.2	-1.4
FAKI	Fak Fak	6.66 265	Pn	Pn	10 12 49.0	+1.5
FAKI	Fak Fak	6.66 265	P	Pn	10 12 48.3	+0.9
	0.6nm116nm,0.9s					
SAUI	Saumlaki	9.42 233	Pn	Pn	10 13 24.2	-1.1
PMG	Port Moresby	10.81 131	Pn	Pn	10 13 42.9	-1.5
	3.7nm,0.4s,baz=309,slow=20,SNR=1.0					
TNTI	Ternate	11.93 285	P	Pn	10 14 03.7	+4.1
COEN	Coen	12.30 160	Pn	Pn	10 14 07.2	+2.4
SANI	Sanana	12.90 271	P	Pn	10 14 12.9	0.0
	40nm,1.0s					
MTN	Manton Dam	12.97 216		Pn	10 14 13.0	-0.8
SOEI	Soe	16.30 242	P	Pn	10 14 56.7	-1.7
SOEI			IAmb	IAmb	10 15 08.0	
	comp=Z,69nm,0.9s					
SOEI	Soe	16.30 242	P	P	10 15 02.3	+1.3
KNRA	Kununurra	16.60 216	Pn	Pn	10 15 01.9	-0.2
MRSI	Marisa	17.18 279	P	Pn	10 15 09.8	+0.5
APSI	Ampana	17.30 274	P	Pn	10 15 08.6	-2.2
	comp=Z,56nm,1.4s					
WB0	Warramunga Arr	17.88 194	P	P	10 15 19.2	+0.9
WB0				Sn	10 18 33.7	-2.7
WRAB	Tennant Creek	18.05 194	P	Pn	10 15 20.2	+0.1
WB2	Warramunga Arr	18.06 194	P	Pn	10 15 20.1	-0.1
WRA	Warramunga Arr	18.06 194	P	P	10 15 21.3	+1.0
	comp=Z,1.7nm,0.3s,baz=16,slow=13,SNR=22					
WRA			S	Sn	10 18 31.5	-9.3
	comp=Z,2.5nm,0.8s,baz=4.0,slow=22,SNR=2.6					
	comp=Z,11nm,0.6s					
TOLI2	Tolitoli	18.43 280	P	P	10 15 23.9	-0.6
TTSI	Tana Toraja	19.07 267	P	Pn	10 15 32.1	-0.4
	comp=Z,41nm,0.9s					
SPSI	Sidrap Palu	19.16 265	P	P	10 15 32.2	-0.3
FITZ	Fitzroy Crossi	20.36 219	P	P	10 15 46.7	+1.2
	comp=Z,4.5nm,0.8s,baz=74,slow=18,SNR=9.4					
FITZ			S	S	10 19 24.7	-7.1
	comp=Z,9.5nm,0.8s,baz=161,slow=11,SNR=3.7					
	comp=Z,4.5nm,0.8s					
WBSI	Waikabubak, Su	20.70 249	P	P	10 15 49.4	+0.1
	comp=Z,49nm,0.8s					
AS31	Alice Springs	21.75 192	P	P	10 16 02.1	+1.6
ASAR	Alice Springs	21.75 192	P	P	10 16 01.7	+1.2
	comp=Z,9.7nm,0.9s,baz=25,slow=9.5,SNR=14					
ASAR			S	S	10 19 57.1	-2.2
	comp=Z,3.1nm,0.9s,baz=11,slow=19,SNR=5.5					
	comp=Z,9.7nm,0.9s					
PLAI	Plampang	21.98 252	P	P	10 16 04.8	+1.8
	comp=Z,45nm,1.0s					
TGY	Tagaytay City	24.15 313	P	P	10 16 24.9	-0.1
	comp=Z,112nm,0.3s,baz=0.9,slow=5.1,SNR=3.8					
KMMI	Kalianget	25.28 258	P	P	10 16 37.7	+2.6
	comp=Z,86nm,1.4s					
EIDS	Eidsvold	25.74 154	P	P	10 16 40.9	+1.7
EIDS			IAmb	IAmb	10 16 48.4	
	comp=Z,34nm,1.1s					
MBWA	Marble Bar	26.43 223	P	P	10 16 45.2	-0.3
MBWA			IAmb	IAmb	10 16 51.0	
	comp=Z,21nm,0.8s					
PSA00	Pilbara Seismi	26.64 223	P	P	10 16 49.4	+2.0
STKA	Stephens Creek	29.50 175	P	P	10 17 14.1	+1.3
	comp=Z,6.3nm,0.8s,baz=344,slow=9.0,SNR=5.1					
	comp=Z,6.3nm,0.8s					
FORT	Forrest	30.10 199	P	P	10 17 20.6	+2.5
BBOO	Buckleboo	30.44 185	P	P	10 17 22.7	+1.6
BBOO			IAmb	IAmb	10 17 23.6	
	comp=Z,19nm,1.1s					
NOUC	Port Laguerre	33.10 129	P	P	10 17 46.4	+1.7
CGJI	Cibinong	33.36 262	P	P	10 17 47.1	0.0
	comp=Z,16nm,0.9s					
PMBI	Palembang	34.09 268	P	P	10 17 53.7	+0.3
CAN	Canberra	34.14 165	P	P	10 17 56.4	+2.8
MORW	Morawa	34.35 217	P	P	10 17 57.3	+1.8
MDSI	Maura Dua	34.72 266	P	P	10 17 59.7	+0.9
	comp=Z,8.9nm,0.9s					
QIZ	Qiongzhong	35.59 308	P	P	10 18 06.1	-0.2
UBPT	Khong Chiam	37.41 299	P	P	10 18 21.9	+0.1
IPM	Ipoh	38.44 280	P	P	10 18 30.6	0.0
IPM			IAmb	IAmb	10 19 04.7	
	comp=Z,23nm,1.3s					
NJ2	Nanjing	39.12 333	*e*P	P	10 18 40.4	+4.4
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.6s					
RPSI	Rantau Prapat	40.27 277	P	P	10 18 46.2	+0.3
RPSI	Rantau Prapat	40.27 277	P	P	10 18 45.5	-0.4
RPSI			IAmb	IAmb	10 18 53.5	
	comp=Z,22nm,0.9s					
PSI	Prapat	40.28 277	P	P	10 18 46.2	+0.1
	comp=Z,16nm,0.8s,baz=121,slow=5.7,SNR=6.8					
	comp=Z,16nm,0.8s					
TAU	Tasmania Unive	41.10 171	P	P	10 18 43.5	-8.7
MSVF	Nonsavu	41.35 114	LR	LR	10 36 05.8	
	comp=Z,482nm,18.6s,baz=316,slow=36					
GSI	Gunungsitoli	41.47 275	P	P	10 18 55.3	-0.5
GSI	Gunungsitoli	41.47 275	P	P	10 18 55.7	-0.1
SLVN	Son La	41.53 306	IAmb	IAmb	10 19 04.5	
	comp=Z,38nm,1.7s					
LYN	LuoYang	44.30 328	P	P	10 19 24.1	+5.8
LYN			pP	sP	10 19 36.1	+2.6
LYN			pmax	pmax		
	comp=Z,12nm,0.9s					
LYN			LR	LR		
	comp=Z,400nm,15.5s					
LYN			LR	LR		
	comp=Z,630nm,13.1s					
LYN			LR	LR		
	comp=Z,700nm,12.4s					
CMAR	Chiang Mai Arr	44.41 299	P	P	10 19 19.4	-0.2
CMAR	Chiang Mai Arr	44.41 299	P	P	10 19 20.1	+0.6
	comp=Z,4.5nm,0.8s,baz=120,slow=6.5,SNR=26					
	comp=Z,4.5nm,0.8s					
CHTO	Chiang Mai	44.55 300	P	P	10 19 21.0	+0.4
CHTO			IAmb	IAmb	10 19 28.6	
	comp=Z,33nm,1.6s					
HNS	HongShan	45.45 333	⇑P	P	10 19 33.1	+5.6
HNS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
XAN	Xi'an	45.87 325	P	P	10 19 35.9	+5.0
XAN			pmax	pmax		
	comp=Z,22nm,1.3s					
PZH	PanZhiHua	45.91 311	P	P	10 19 34.7	+3.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.4s					
USRK	Ussuriysk Ar.	46.73 353	P	P	10 19 36.3	-1.2
	comp=Z,1.5nm,0.6s,baz=187,slow=10,SNR=4.3					
	comp=Z,1.5nm,0.6s					
CD2	Chengdu	47.03 317	P	P	10 19 40.5	+0.4
CD2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
TNCH	TengChong	47.66 307	⇓P	P	10 19 51.8	+6.6
TNCH			pP	sP	10 19 58.7	-1.9
TNCH			pmax	pmax		
	comp=Z,85nm,3.9s					
BNX	BinXian	48.94 349	⇑P	P	10 20 00.8	+6.3
BNX			pmax	pmax		
	comp=Z,17nm,1.3s					
HHC	Hu-ho-hao-te	49.68 333	⇓*i*P	P	10 20 08.0	+7.6
HHC			sP	sP	10 20 22.2	+6.5
HHC			pmax	pmax		
	comp=Z,6.0nm,1.1s					
HHC			pmax	pmax		
	comp=Z,140nm,5.9s					
HHC			LR	LR		
	comp=Z,270nm,13.5s					
HHC			LR	LR		
	comp=Z,200nm,15.2s					
HHC			LR	LR		
	comp=Z,330nm,17.6s					
LZH	Lanzhou	50.29 323	*e*P	P	10 20 12.1	+6.9
LZH			pP	sP	10 20 20.3	-0.2
LZH			pmax	pmax		
	comp=Z,24nm,1.2s					
XLT	XiLinHaoTe	50.37 339	*e*P	P	10 20 13.1	+7.6
XLT			pmax	pmax		
	comp=Z,7.0nm,0.9s					
KLR	Kul'dur	51.73 354	P	P	10 20 14.7	-0.8
	comp=Z,1.2nm,0.6s,baz=316,slow=2.9,SNR=5.9					
	comp=Z,1.2nm,0.6s					
HEH	HeiHe	53.30 351	*e*P	P	10 20 33.3	+6.1
HEH			pmax	pmax		
	comp=Z,10.0nm,1.1s					
GTA	Gaotai	54.88 323	*e*P	P	10 20 40.0	+0.9
GTA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
GTA			LR	LR		
	comp=Z,250nm,15.5s					
GTA			LR	LR		
	comp=Z,190nm,14.3s					
GTA			LR	LR		
	comp=Z,330nm,16.7s					
SONM	Songino Array	57.46 335	P	P	10 20 57.1	-0.2
	comp=Z,0.3nm,0.4s,baz=157,slow=7.9,SNR=4.0					
	comp=Z,0.3nm,0.4s					
WMQ	Urumqi	64.83 321	*e*P	P	10 21 50.2	+2.9
WMQ			PcP	PcP	10 22 23.2	+2.7
MK31	Makanchi Array	69.60 322	IAmb	IAmb	10 22 26.0	
	comp=Z,12nm,1.1s					
MKAR	Makanchi Array	69.60 322	P	P	10 22 17.8	+0.3
MKAR	Makanchi Array	69.60 322	P	P	10 22 18.1	+0.5
	comp=Z,2.3nm,0.6s,baz=99,slow=8.4,SNR=24					
	comp=Z,2.3nm,0.6s					
MAKZ	Makanchi	69.80 322	P	P	10 22 18.6	-0.1
MAKZ			IAmb	IAmb	10 22 27.1	
	comp=Z,14nm,0.9s					
MAKZ	Makanchi	69.80 322	P	P	10 22 19.1	+0.4
KSH	Kashi	70.96 313	P	P	10 22 28.6	+2.5
KSH			pmax	pmax		
	comp=Z,4.0nm,0.9s					
NIL	Nilore	71.25 307	P	P	10 22 27.9	+0.1
NIL	Nilore	71.25 307	P	P	10 22 28.0	+0.1
ZALV	Zalesovo Beam	71.70 330	P	P	10 22 30.0	-0.1
	comp=Z,0.9nm,0.6s,baz=132,slow=6.2,SNR=7.4					
	comp=Z,0.9nm,0.6s					
AAK	Ala-Archa	73.06 316	P	P	10 22 39.1	+0.4
	comp=Z,1.0nm,0.5s,baz=222,slow=9.8,SNR=3.9					
	comp=Z,1.0nm,0.5s					
KURBB	Kurchatov Arra	73.53 325	P	P	10 22 41.3	+0.3
	comp=Z,1.4nm,0.6s,baz=112,slow=5.3,SNR=11					
	comp=Z,1.4nm,0.6s					
KBL	Kabul	74.85 307	P	P	10 22 48.7	-0.7
SIMJ	Simiganj	75.88 311	P	P	10 22 53.5	-1.7
KK31	Karatay Array	75.99 315	IAmb	IAmb	10 23 03.9	
	comp=Z,17nm,1.4s					
KKAR	Karatay Array	75.99 315	P	P	10 22 53.7	-1.8
VNDA	Vanda	76.14 175	P	P	10 22 56.8	+1.1
	comp=Z,3.1nm,0.7s,baz=280,slow=1.8,SNR=5.1					
	comp=Z,3.1nm,0.7s					
BVAR	Borovoye Array	79.11 325	P	P	10 23 13.0	+0.4
	comp=Z,5.9nm,0.6s,baz=114,slow=6.8,SNR=22					
	comp=Z,5.9nm,0.6s					
BRVK	Borovoye	79.18 325	P	P	10 23 12.8	-0.2
BRVK			IAmb	IAmb	10 23 22.0	
	comp=Z,22nm,1.2s					
NRIK	Noril'sk	79.41 344	IAmb	IAmb	10 23 22.7	
	comp=Z,9.3nm,1.0s					
NRIK	Noril'sk	79.41 344	P	P	10 23 14.0	0.0
	comp=Z,2.6nm,0.5s,baz=127,slow=2.3,SNR=5.2					
	comp=Z,2.6nm,0.5s					
RC01	Rabbit Creek A	83.12 28	IAmb	IAmb	10 23 46.5	
	comp=Z,11nm,1.0s					
RND	Reindeer	84.20 26	IAmb	IAmb	10 23 47.7	
	comp=Z,3.1nm,1.2s					
ABKAR	Abkulak array	84.55 320	P	P	10 23 41.1	-0.2
ABKAR	Abkulak array	84.55 320	IAmb	IAmb	10 23 50.0	
	comp=Z,10.0nm,1.1s					
WRH	Wood River Hil	84.83 25	P	P	10 23 42.1	-0.4
WRH			IAmb	IAmb	10 23 56.1	
	comp=Z,7.7nm,1.1s					
DIV	Divide	84.98 28	IAmb	IAmb	10 23 58.1	
	comp=Z,11nm,1.0s					
CCB	Clear Creek Bu	85.00 24	IAmb	IAmb	10 23 56.7	
	comp=Z,8.1nm,1.0s					
D23K	Nanushuk River	85.23 20	IAmb	IAmb	10 24 18.1	
	comp=Z,17nm,1.6s					
IL31		85.41 24	IAmb	IAmb	10 23 55.6	
	comp=Z,7.1nm,1.1s					
ILAR	Eielson Array	85.41 24	P	P	10 23 43.9	-1.5
ILAR	Eielson Array	85.41 24	P	P	10 23 44.2	-1.2
	comp=Z,1.7nm,0.8s,baz=262,slow=4.9,SNR=15					
	comp=Z,1.7nm,0.8s					
F24K	Squaw Lake	85.77 22	IAmb	IAmb	10 23 49.7	
	comp=Z,9.3nm,1.4s					
D24K	Happy Valley	85.92 20	IAmb	IAmb	10 23 58.0	
	comp=Z,11nm,1.4s					
AKTO	Aktyubinsk	85.97 321	P	P	10 23 48.6	+0.2
	comp=Z,1.6nm,0.8s,baz=158,slow=5.7,SNR=3.5					
	comp=Z,1.6nm,0.8s					
ARTI	Arti	86.67 327	P	P	10 23 50.8	-1.0
	comp=Z,2.7nm,0.6s,baz=140,slow=1.7,SNR=4.7					
	comp=Z,2.7nm,0.6s					
J26L	Joseph Creek	86.74 25	IAmb	IAmb	10 24 33.1	
	comp=Z,6.8nm,1.4s					
BMAR	Burnt Mountain	86.98 22	P	P	10 23 53.8	+0.6
QSPA	South Pole Qui	87.61 180	P	P	10 23 56.3	0.0
QSPA			IAmb	IAmb	10 24 06.1	
	comp=Z,11nm,1.1s					
QSPA	South Pole Qui	87.61 180	P	P	10 23 56.8	+0.5
	comp=Z,4.6nm,1.0s,baz=294,slow=0.8,SNR=9.2					
	comp=Z,4.6nm,1.0s					
DAWY	Dawson	88.45 26	P	P	10 24 00.1	-0.1
M29M	Somme Creek	88.64 27	IAmb	IAmb	10 24 16.6	
	comp=Z,8.7nm,1.2s					
L29M	L29M	88.88 27	IAmb	IAmb	10 24 04.9	
	comp=Z,6.3nm,0.9s					
I29M	Ogilvie Camp,	89.09 25	IAmb	IAmb	10 24 18.1	
	comp=Z,10nm,1.2s					
K29M	Barlow Dome	89.24 26	IAmb	IAmb	10 24 19.5	
	comp=Z,8.2nm,1.1s					
COR	Corvallis	97.19 46	P	Pdif	10 24 40.7	-0.3
YKA	Yellowknife Ar	99.64 27	P	Pdif	10 24 50.4	-1.1
	comp=Z,0.3nm,0.8s,baz=347,slow=22,SNR=3.2					
YKA			LR	LR	11 04 46.6	
	comp=Z,104nm,19.8s,baz=307,slow=32					
	comp=Z,0.3nm,0.8s					
TORD	Torodi Ar. Bea	136.33 287	PKP	PKPdf	10 30 31.1	+0.3
	comp=Z,2.0nm,1.2s,baz=91,slow=2.8,SNR=4.0					
DBIC	Dimbokro	143.62 278	PKhKP	PKPpre	10 30 41.2	
	comp=Z,2.8nm,0.7s,baz=338,slow=2.0,SNR=4.6					
CPUP	Villa Florida	147.48 152	PKPbc	PKPbc	10 30 52.4	-0.5
	comp=Z,3.1nm,0.9s,baz=231,slow=3.1,SNR=4.4					
LPAZ	La Paz	147.52 126	PKPbc	PKPbc	10 30 53.6	-0.4
	comp=Z,5.2nm,1.0s,baz=188,slow=3.3,SNR=7.2					

DJA 07 10:16:50.3±0.6, 7°S±16°×10°E±°, h71km±5km, M2.5/6, MLv2.5/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.39	294	P	Pn	10 17 03.3	+1.0
CNJI				S	Sn	10 17 13.4	+2.4
CMJI	Cimerak	1.00	108	P	Pn	10 17 08.9	+0.1
CMJI				S	Sn	10 17 23.7	+1.1
SKJI	Sukabumi	1.03	296	P	Pn	10 17 09.2	-0.1
SKJI				S	Sn	10 17 24.1	+0.7
KPJI	Karang Pucung	1.44	85	P	Pn	10 17 14.2	-0.2
CGJI	Cibinong	1.98	295	P	Pn	10 17 21.5	-0.2
SMRI	Semarang	2.96	82	P	Pn	10 17 35.0	0.0

*IDC **07** 10:48:09.4±1.5, 2°41N×129°02E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=135.9km s-min=19.4km az=70.0*
*DJA **07** 10:48:13.4±0.5, 2°N±5°×12°9E±°, h10km, M4.0/7, mb4.0/3, MLv4.0/7*

ISC 07 10:48:14.8±1.0, 2°4N±0°1×128°89E±0°10, h35km, n9, σ0°59/11, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.19	224	P	Pn	10 48 48.6	-0.2
TNTI				S	Sn	10 49 15.4	+0.7
SWI	Sorong	3.98	143	P	Pn	10 49 13.6	+0.2
FAKI	Fak Fak	6.22	147	P	Pn	10 49 44.5	+0.3
	0.1nm18nm,1.6s						
KDI	Kendari	8.87	225	P	Pn	10 50 20.4	-0.2
WRA	Warramunga Arr	22.80	167	P	P	10 53 14.3	-0.4
	0.5nm,0.4s,baz=347,slow=10.0,SNR=6.6						
	0.5nm,0.4s						
ASAR	Alice Springs	26.32	170	P	P	10 53 46.7	-0.9
	0.5nm,0.9s,baz=345,slow=7.2,SNR=8.9						
ASAR				PcP	PcP	10 57 12.6	-0.7
	0.2nm,0.7s,baz=1.4,slow=3.7,SNR=1.6						
	0.5nm,0.9s						
SONM	Songino Array	49.30	340	P	P	10 57 00.2	-0.2
	0.2nm,0.3s,baz=144,slow=6.4,SNR=4.0						
	0.2nm,0.3s						
MKAR	Makanchi Array	59.91	325	P	P	10 58 17.6	+0.2
	0.4nm,0.4s,baz=112,slow=8.2,SNR=14						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	64.05	327	P	P	10 58 45.9	+0.8
	0.6nm,0.2s,baz=128,slow=6.3,SNR=7.1						
	0.6nm,0.2s						

*SJA **07** 11:00:30.0, 30°18S×71°54W, h10km, ML2.7*
*GUC **07** 11:00:32.8±0.5, 30°26S×71°29W, h63km±2km, ML2.8*

ISC 07 11:00:33.3±1.6, 30°21S±0°04×71°38W±0°06, h51km±12km, n19, σ1°21/25, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.32	23	⇓*i*P	Pn	11 00 42.9	+0.3
CO05				*i*S	Sn	11 00 50.8	+1.5
CO05				IAML		11 00 51.4	
	comp=E,603nm,0.1s						
CO05				IAML		11 00 51.8	
	comp=N,481nm,0.1s						
GO04	Tololo Observa	0.50	86	*i*P	Pn	11 00 43.5	-1.3
GO04	Tololo Observa	0.50	86	*i*P	Pn	11 00 44.1	-0.8
GO04				*i*S	Sn	11 00 53.2	-0.1
CO06	Fray Jorge	0.51	205	⇓*i*P	Pn	11 00 44.8	+0.1
CO06				*i*S	Sn	11 00 54.0	+1.0
CO03	El Pedregal	0.86	137	*i*P	Pn	11 00 47.3	-2.0
CO03	El Pedregal	0.86	137	⇓*i*P	Pn	11 00 48.0	-1.4
CO03				*i*S	Sn	11 00 59.5	-1.5
CO03				IAML		11 01 00.2	
	comp=E,1μm,0.1s						
CO01	Juntas del Tor	1.14	79	⇑*i*P	Pn	11 00 52.5	-0.6
CO01				*i*S	Sn	11 01 07.2	-0.6
LCO	Las Campanas	1.33	27	*i*P	Pn	11 00 54.6	-1.2
AROD	Rodeo	1.65	89	*i*P	Pn	11 01 00.8	+0.7
CO04	Los Peladeros	1.86	169	*i*P	Pn	11 01 02.2	-0.7
CO04				*i*S	Sn	11 01 25.0	-0.4
CO04				IAML		11 01 26.4	
	comp=E,211nm,0.2s						
ACDV	Cuesta del Vie	1.96	89	*i*P	Pn	11 01 05.5	+1.3
AC04	Llanos de Chal	2.02	8	*i*P	Pn	11 01 03.7	-1.2
ACCO	Cerro Coronel	2.04	101	*i*P	Pn	11 01 06.7	+1.3
DOCA	Reserva Natura	2.11	111	*i*P	Pn	11 01 06.4	-0.1
RTLS	Leoncito	2.39	132	*i*P	Pn	11 01 11.5	+1.2
AGUA	GUANDACOL	2.61	75	*i*P	Pn	11 01 15.5	+2.4
VA03	San Esteban	2.64	165	*i*P	Pn	11 01 13.7	+0.1
MT01	Popeta	3.65	178	*i*P	Pn	11 01 28.0	+0.8
AC02	Maricunga	3.90	31	*i*P	Pn	11 01 30.5	-0.6

IDC 07 11:03:14.3±1.7, 6°54S×129°90E, h0km, mb3.5/1, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=50.4km s-min=31.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	11.49	70	Pn	Pn	11 05 59.6	-0.1
	0.4nm,0.3s,baz=225,slow=4.3,SNR=3.8						
WRA	Warramunga Arr	14.00	162	Pn	Pn	11 06 33.4	-0.8
	0.1nm,0.3s,baz=340,slow=15,SNR=6.8						
WRA				Sn	Sn	11 08 58.6	-12
	0.2nm,0.3s,baz=332,slow=23,SNR=6.9						
	0.3nm,0.5s						
ASAR	Alice Springs	17.46	168	P	Pn	11 07 20.0	+0.6
	0.1nm,0.3s,baz=345,slow=8.8,SNR=7.1						
ASAR				S	Sn	11 10 24.7	-10
	0.2nm,0.6s,baz=338,slow=14,SNR=2.7						
	0.3nm,0.7s						
MKAR	Makanchi Array	67.79	327	P	P	11 14 14.1	0.0
	0.2nm,0.4s,baz=111,slow=7.6,SNR=7.5						
	0.2nm,0.4s						

NOU 07 11:04:45.5, 13°99S×167°52E, h12km, mb4.6/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	3.77	170	P	Pn	11 05 43.9	+0.4
KOUNC	Koumac, New Ca	7.22	205	P	Pn	11 06 30.8	-0.1
	0.2nm,0.7s						
YATNC	Mamie plateau,	8.05	184	P	Pn	11 06 42.4	+0.1
	43nm,0.6s						
DZM	Mont Dzumac	8.10	187	P	Pn	11 06 43.3	+0.2
	24nm,0.5s						
ONTNC	Ouen Toro	8.33	187	P	Pn	11 06 46.4	+0.2
	47nm,0.5s						
OUENC	Ouen Island, N	8.41	184	P	Pn	11 06 46.4	-0.8
PINNC	Pines Island,	8.58	180	P	Pn	11 06 49.7	+0.2
	121nm,0.8s						

*ISN **07** 11:21:19.1±0.6, 34°59N×46°44E, h8km±8km, ML2.6*
*TEH **07** 11:21:19.9, 34°60N×46°44E, h8km±37km*

ISC 07 11:21:19.9±1.1, 34°59N±0°04×46°44E±0°03, h11km±11km, n12, σ0°75/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.12	338	Pg	Pg	11 21 23.1	-0.1
IGHG	Ghaleghazi	0.28	158	Pg	Pb	11 21 26.4	-0.7
ILIN	Lien	0.54	52	Pg	Pg	11 21 30.3	-0.2
KCHF	Cheshme Sefid,	0.58	122	Pg	Pg	11 21 31.3	-0.1
GLG1	Gilan-e-Gharb	0.65	223	Pg	Pg	11 21 32.3	-0.1
SNQR	Sonqor, Kerman	1.01	74	Pg	Pb	11 21 39.7	0.0
IBDR	Badra	1.53	196	*e*Pn	Pg	11 21 49.0	-0.3
IBDR				*e*Sn	Sg	11 22 10.0	+0.8
IDOB	Doab	1.65	118	Pg	Pg	11 21 51.1	-0.4
HSAM	Samen	1.82	101	Pn	Pg	11 21 54.0	-0.9
IKRK	Kirkuk	1.91	296	*e*Pn	Pb	11 21 53.5	-1.2
IKRK				*e*Sn	Sb	11 22 19.0	+0.4
BDRS	Dareh Seyedi	2.12	107	Pn	Pb	11 21 58.1	-0.4
BHD	Baghdad	2.16	233	*e*Pn	Pn	11 21 57.0	+1.2
BHD				*e*Sn	Sb	11 22 25.0	-0.8

*NAO **07** 11:26:05.0±1.3, 77°81N×19°31E, h14km±13km, ML2.8*
*KOLA **07** 11:26:07.5, 78°37N×19°04E, h0km, ML2.8, Error ellipse: s-maj=14.1km s-min=8.8km az=130.0, Spitsbergen, Barentz Sea*
*FCIAR **07** 11:26:08.0, 78°12N×19°75E, h10km, station OMEGA has station magnitude of 3.10*

BER 07 11:26:07.5±2.4, 77°80N×19°24E, h15km±11km, ML2.7, ML2.8(NAO), 1D, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	0.71	304	Pg	Pg	11 26 19.4	-2.0
	baz=130,slow=22						
SPA0				Lg	Lg	11 26 28.6	
	baz=127,slow=37						
SPA0	Spitsbergen Ar	0.71	304	Pg	Pg	11 26 19.4	-2.0
	baz=130,slow=22						
SPA0				Sg	Sg	11 26 28.6	-2.1

HOPEN	**Hopen**	1.83 132	Pn	Pn	11 26 36.2	-2.1
HOPEN			Pg	Pb	11 26 39.1	-1.5
HOPEN			Sn	Sn	11 26 58.5	-2.6
HOPEN			Lg	Lg	11 27 02.4	
HOPEN	**Hopen**	1.83 132	*e*P	Pn	11 26 36.4	-1.9
HOPEN			*e*Pg	Pb	11 26 39.3	-1.2
HOPEN			*e*Sg	Sb	11 27 02.5	-0.7
HOPEN			IAML		11 27 03.5	
	comp=Z,181nm,0.3s					
HOPEN	**Hopen**	1.83 132	*e*P	Pn	11 26 39.1	+0.8
HOPEN			*e*S	Sn	11 27 01.8	+0.7
KBS	**Kingsbay**	1.86 311	Pn	Pn	11 26 36.2	-2.6
KBS			Pg	Pb	11 26 39.6	-1.5
KBS			Lg	Lg	11 27 03.4	
KBS	**Kingsbay**	1.86 311	*e*P	Pn	11 26 36.3	-2.5
KBS			*e*Pg	Pb	11 26 39.7	-1.5
KBS			*e*Sg	Sb	11 27 03.1	-1.0
KBS			IAML		11 27 04.1	
	comp=Z,158nm,0.4s					
KBS	**Kingsbay**	1.86 311	P	Pn	11 26 36.3	-2.5
KBS			S	Sn	11 26 55.2	-6.8
KBS	**Kingsbay**	1.86 311	*e*P	Pn	11 26 36.3	-2.5
KBS			*i*S	Sn	11 26 58.5	-3.5
BJO1	**Bjornoya**	3.32 181	*e*Sg	Sb	11 27 48.1	+2.1
BJO1			IAML		11 28 01.3	
	comp=Z,21nm,0.7s					
BJO1	**Bjornoya**	3.32 181	P	Pb	11 27 07.2	+1.3
BJO1			S	Sb	11 27 49.0	+3.0
ZFI2	**Zemlya Franca-**	6.02 47	*e*P	Pn	11 27 31.6	-4.2
ZFI2			*e*S	Sn	11 28 34.5	-10
OMEGA	**Omega**	6.03 47	*e*P	Pn	11 27 31.9	-3.9
OMEGA			*e*S	Sn	11 28 34.5	-10
	comp=Z,9.7nm,3.2s					
VADS	**Vadso**	8.19 155	P	Pn	11 28 03.4	-2.2
VADS			S	Sn	11 29 29.0	-8.7
JETT	**Jettan, Norway**	8.30 177	Pn	Pn	11 28 03.6	-3.5
ARA0	**ARCESS Array S**	8.49 165	Pn	Pn	11 28 07.2	-2.5
	baz=356,slow=10					
ARA0			Sn	Sn	11 29 33.9	-11
	baz=357,slow=22					
ARA0	**ARCESS Array S**	8.49 165	Pn	Pn	11 28 07.2	-2.5
	baz=356,slow=10					
ARA0			Sn	Sn	11 29 33.9	-11
	baz=357,slow=22					
ARCES	**ARCESS Array B**	8.49 165	P	Pn	11 28 07.6	-2.1
ARCES			S	Sn	11 29 36.4	-8.6
PRVG	**Vayda Guba**	8.83 149	P	Pn	11 28 11.7	-2.6
PRVG			S	Sn	11 29 43.6	-10

ATH 07 12:02:04.8, 37°.66N×20°.73E, h17km±4km, ML2.2/6, Manual Solution by N.Liadopoulou First location: 2019/02/07 12:03:03, This location: 2019/02/07 14:32:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	0.10	61	P	Pg	12 02 08.3	0.0
LTHK				S	Sg	12 02 10.2	-0.5
LTHK	**Lithakia**	0.10	61	P	Pg	12 02 08.3	0.0
LTHK				S	Sg	12 02 10.0	-0.7
KYPS	**Kipseli, Zakin**	0.17	26	P	Pb	12 02 09.9	+0.3
KYPS				S	Sb	12 02 13.3	+0.5
KYPS	**Kipseli, Zakin**	0.17	26	P	Pb	12 02 09.8	+0.2
KYPS				S	Sg	12 02 12.5	+0.2
ORTH	**Orthonies,Zaky**	0.19	353	P	Pg	12 02 09.5	0.0
ORTH				S	Sb	12 02 13.2	-0.2
ORTH	**Orthonies,Zaky**	0.19	353	P	Pg	12 02 09.7	+0.2
ORTH				S	Sg	12 02 12.8	0.0
CLEM	**Kyllini,Ilia,G**	0.40	54	P	Pg	12 02 12.9	0.0
PSDA	**Pessada-Kefalo**	0.47	346	P	Pg	12 02 14.4	+0.2
PSDA	**Pessada-Kefalo**	0.47	346	P	Pb	12 02 14.5	0.0
PSDA				S	Sb	12 02 21.3	+0.1
VLS	**Valsamata**	0.53	348	P	Pg	12 02 15.2	-0.2
VLS	**Valsamata**	0.53	348	P	Pg	12 02 15.2	-0.1
VLS				S	Sg	12 02 22.6	+0.1
SMHA	**Samh**	0.59	354	P	Pg	12 02 16.3	-0.2
DMLN	**Damoulianata-K**	0.64	334	P	Pb	12 02 17.6	+0.1
DMLN				S	Sg	12 02 26.1	0.0
RLS	**Riolos of Patr**	0.71	56	P	Pg	12 02 19.0	+0.3
AXS	**Araxos**	0.74	44	P	Pb	12 02 18.9	-0.4
AMT	**Artemida-Makis**	0.79	99	P	Pb	12 02 20.1	0.0
FSK	**Fiskardo**	0.81	351	P	Pb	12 02 19.9	-0.5
FSK	**Fiskardo**	0.81	351	P	Pb	12 02 20.3	-0.1
FSK				S	Sb	12 02 30.2	-0.8
EVGI	**Lefkada island**	0.96	357	P	Pb	12 02 23.2	+0.2
EVGI				S	Sb	12 02 35.7	+0.3
LKD2	**Lefkada island**	1.13	357	P	Pn	12 02 25.5	-0.3

IDC 07 12:09:40.0±1.8, 2°.22N×128°.60E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=160.9km s-min=20.5km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	22.74	166	P	P	12 14 42.4	-1.4
	0.2nm,0.4s,baz=344,slow=9.6,SNR=5.2						
	0.2nm,0.4s						
ASAR	**Alice Springs**	26.25	169	P	P	12 15 17.1	+0.1
	0.3nm,0.6s,baz=349,slow=9.4,SNR=4.3						
	0.3nm,0.6s						
SONM	**Songino Array**	49.32	340	P	P	12 18 31.4	+0.3
	0.6nm,0.6s,baz=155,slow=8.4,SNR=5.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	59.85	325	P	P	12 19 47.8	+0.3
	0.4nm,0.4s,baz=115,slow=8.3,SNR=17						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	64.01	327	P	P	12 20 15.2	-0.1
	0.3nm,0.4s,baz=124,slow=5.8,SNR=9.2						
	0.3nm,0.4s						

*IDC **07** 12:22:19.9±0.8, 52°.37N×169°.65W, h0km, mb4.0/21, mbtmp4.0/23, ML3.7/2, MS3.3/4, Error ellipse: s-maj=23.7km s-min=14.8km az=169.0*
*AEIC **07** 12:22:19.5±2.5, 52°.08N±0°.10×169°.4W±0°.1, h0km±7km, Error ellipse: s-maj=15.4km s-min=7.9km az=150.0*
*NEIC **07** 12:22:19.9±2.7, 51°.92N±0°.06×169°.3W±0°.1, h10km±2km, mb3.8/35, ML4.1/8, ML3.7(AEIC), Error ellipse: s-maj=14.9km s-min=5.6km az=127.0*
*MOS **07** 12:22:20.8±1.0, 52°.26N×169°.59W, h19km, mb4.4/13, Error ellipse: s-maj=14.2km s-min=9.0km az=94.1*

ISC 07 12:22:20.5±0.6, 52°.07N±0°.08×169°.47W±0°.06, h10km, n128, σ1§23/122, mb4.0/35, MS3.3/3, 4C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	1.57	30		Pn	12 22 48.1	-0.3
OKCE					Sb	12 23 11.4	+1.9
OKTU	**Okmok Mt. Tuli**	1.57	33		Pn	12 22 48.0	-0.4
OKWE	**Okmok W'ng Wal**	1.59	28		Pn	12 22 48.4	-0.2
OKNC	**Okmok New Cone**	1.61	30		Pn	12 22 48.9	-0.1
OKNC					Sb	12 23 13.0	+2.4
OKRE	**Okmok R'deer P**	1.65	28		Pn	12 22 49.5	0.0
MAPS	**Pakushin South**	2.31	40		Pn	12 22 58.5	-0.1
MAPS					Sn	12 23 26.9	-0.3
MGOD	**Makushin Gods**	2.33	41		Pn	12 22 58.8	-0.2
MSW	**Makushin Switc**	2.46	40		Pn	12 23 00.8	+0.2
UNV	**Unalaska Valle**	2.52	44	Pn	Pn	12 23 01.6	+0.2
UNV	**Unalaska Valle**	2.52	44		Sn	12 23 31.7	-0.5
ATKA	**Atka Island**	2.92	274		Pn	12 23 07.9	+1.1
ZRO	**Akutan Zero**	2.92	45		Pn	12 23 08.0	+1.0
LVA	**Lava Point**	2.94	43		Pn	12 23 08.2	+0.9
LVA				IAML		12 24 09.9	
	comp=E,468nm,1.0s						
AKBBA	**Akutan Broad B**	2.94	45		Pn	12 23 09.1	+1.9
GSTR	**Great Sitkin T**	4.07	273	Pn	Pn	12 23 23.7	+1.1
ADK	**Adak**	4.46	270		Pn	12 23 28.5	+0.4
ADK				IAML		12 24 43.8	
	comp=E,203nm,1.0s						
ADK				IAML		12 24 47.4	
	comp=E,158nm,1.5s						
ADK	**Adak**	4.46	270	P	Pn	12 23 28.5	+0.4
P08K	**Saint George I**	4.54	359	Pn	Pn	12 23 30.4	+1.3
P08K				IAML		12 26 02.8	
	comp=E,138nm,1.4s						
KIWB	**Kanaga Island**	4.76	270	Pn	Pn	12 23 34.4	+2.3
SPIA	**Saint Paul Isl**	5.13	355	Pn	Pn	12 23 38.8	+1.5
CHGN	**Chignik**	7.74	53	Pn	Pn	12 24 14.4	+1.4
M11K	**Mekoryuk**	8.53	11	Pn	Pn	12 24 26.2	+2.4
O14K	**Tigyukauivet M**	8.55	30	Pn	Pn	12 24 26.8	+2.6
M13K	**Dall Lake**	9.02	20	Pn	Pn	12 24 32.0	+1.4
M14K	**Bethel**	9.63	23	Pn	Pn	12 24 41.1	+2.1
N15K	**Kwethluk River**	9.65	29	Pn	Pn	12 24 40.0	+0.8
M16K	**Timber Creek**	10.67	29	Pn	Pn	12 24 56.6	+3.5
O18K	**Koktuh Hills**	11.14	40	Pn	Pn	12 25 01.6	+2.0
KDAK	**Kodiak Island**	11.26	53	Pn	Pn	12 25 00.5	-0.7
KDAK	**Kodiak Island**	11.26	53	Pn	Pn	12 25 00.6	-0.6
	comp=E,0.5nm,0.3s,baz=170,slow=6.1,SNR=12						
KDAK	**Kodiak Island**	11.26	53	*e*P	Pn	12 25 01.1	-0.1
SYI	**Shuyak Island**	11.70	49	Pn	Pn	12 25 06.5	-0.7
GAMB	**Gambell**	11.79	355	Pn	Pn	12 25 10.2	+1.7
J16K	**Anvik River**	12.18	19	Pn	Pn	12 25 16.6	+2.7
K17K	**Iditarod**	12.23	25	Pn	Pn	12 25 17.0	+2.5
CNPM	**China Poot**	12.65	47	Pn	Pn	12 25 20.6	+0.3
BRLK	**Bradley Lake**	12.92	46	Pn	Pn	12 25 24.1	+0.1
SLKM	**Skilak Lake**	13.58	44	Pn	Pn	12 25 32.8	-0.1
O22K	**Cooper Landing**	13.78	45		Pn	12 25 35.5	-0.1
G16K	**Koyuk River**	13.85	13	Pn	Pn	12 25 38.5	+2.0
SUA	**Susitna One**	13.87	40	Pn	Pn	12 25 37.6	+0.7
SML	**Sawmill**	15.03	41	Pn	Pn	12 25 53.5	+0.8
SML				IAmb	IAmb	12 26 12.6	
	comp=E,11nm,1.3s						
SML	**Sawmill**	15.03	41	P	Pn	12 25 53.5	+0.8
KTH	**Kantishna Hill**	15.09	33	Pn	Pn	12 25 54.9	+1.4
KTH				IAmb	IAmb	12 26 39.5	
	comp=Z,7.8nm,1.3s						
BPAW	**Bear Paw Mtn.**	15.43	32	P	P	12 26 01.1	-1.4
BPAW				IAmb	IAmb	12 26 05.6	
	comp=Z,4.1nm,0.8s						
H21K	**Melozitna Rive**	16.03	25	P	P	12 26 08.9	-0.3
I23K	**Minto, Yukon-K**	16.66	30	Pn	Pn	12 26 13.9	+0.2
I23K				IAmb	IAmb	12 26 44.3	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	17.23	34	Pn	Pn	12 26 19.0	-2.0
	comp=Z,0.1nm,0.3s,baz=229,slow=12,SNR=8.1						
ILAR				PcP	PcP	12 31 03.8	+0.1
	comp=Z,0.2nm,0.6s,baz=237,slow=2.5,SNR=4.6						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	17.23	34	*e*P	Pn	12 26 21.4	+0.5
M26K	**Nabesna, AK**	17.53	44	IAmb	IAmb	12 26 36.8	
	comp=Z,12nm,1.5s						
G23K	**Bananza Creek**	17.57	26	P	Pn	12 26 25.6	+0.4
H24K	**Noodor Dome**	17.58	30	IAmb	IAmb	12 26 47.9	
	comp=Z,6.8nm,1.2s						
J25K	**Salcha River,**	17.67	35	P	Pn	12 26 25.8	-0.7
COLD	**Coldfoot**	17.91	25	P	Pn	12 26 29.6	+0.2
J26L	**Joseph Creek**	18.27	37	P	Pn	12 26 32.9	-1.0
J26L				IAmb	IAmb	12 26 39.5	
	comp=Z,3.9nm,0.6s						
BCAR	**Beaver Creek A**	18.31	42	P	Pn	12 26 33.8	-0.5
I26K	**Coal Creek Min**	18.84	35	P	P	12 26 38.6	-1.6
I26K				IAmb	IAmb	12 26 52.2	
	comp=Z,5.3nm,1.1s						
B21K	**Ikpikpuk River**	18.93	16	P	P	12 26 40.6	-0.5
TOLK	**Toolik Lake Re**	19.14	22	P	P	12 26 43.8	+0.3
M29M	**Somme Creek**	19.51	46	P	P	12 26 48.1	+0.4
M29M				IAmb	IAmb	12 26 53.3	
	comp=Z,7.0nm,1.3s						
HYT	**Haines Junctio**	19.53	51	P	Pn	12 26 49.1	-0.1
BMAR	**Burnt Mountain**	19.62	29	P	P	12 26 47.2	-1.5
E25K	**Arctic Village**	19.79	27	P	P	12 26 51.8	+1.3
E25K				IAmb	IAmb	12 27 00.9	
	comp=Z,4.7nm,1.2s						
BILL	**Bilibino**	19.84	333	*e*P	P	12 26 51.7	+0.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.9s						
N30M	**Aishikik Lake**	19.87	49	P	Pn	12 26 53.0	-0.1
PEA0B	**Petropavlovsk-**	19.88	286	P	P	12 26 52.1	+0.5
PEA0B	**Petropavlovsk-**	19.88	286	P	P	12 26 52.1	+0.5
PEA0B				pmax	pmax		
	comp=Z,47nm,1.3s						
PETK	**Petropavlovsk-**	19.88	286	P	P	12 26 51.4	-0.3
	comp=Z,2.4nm,0.3s,baz=84,slow=14,SNR=73						
PETK				LR	LR	12 34 54.0	
	comp=Z,41nm,20.2s,baz=97,slow=38						
	comp=Z,7.4nm,0.5s						
I28M	**Miner Creek**	20.08	37	IAmb	IAmb	12 27 14.5	
	comp=Z,2.9nm,0.8s						
O30N	**Mendenhall**	20.20	51	P	Pn	12 26 56.9	-0.1
K29M	**Barlow Dome**	20.38	42	P	P	12 26 56.8	-0.3
N31M	**Braeburn, Yuko**	20.49	49	P	P	12 26 58.5	+0.3
WHY	**Whitehorse**	20.77	52	P	P	12 27 02.0	+0.6
WHY				IAmb	IAmb	12 27 10.3	
	comp=Z,4.3nm,1.0s						
J30M	**Hart River**	21.12	41	P	P	12 27 05.8	+0.6
J30M				IAmb	IAmb	12 27 17.2	
	comp=Z,5.3nm,1.4s						
C27K	**Jago River**	21.31	25	P	P	12 27 05.8	-1.1
C27K				IAmb	IAmb	12 27 27.1	
	comp=Z,2.4nm,0.8s						
I30M	**Mount Dempster**	21.34	39	P	P	12 27 05.6	-1.9
EPYK	**Eagle Plains**	21.68	36	P	P	12 27 09.0	-1.9
P33M	**Teslin, Yukon**	21.73	54	P	P	12 27 12.6	+0.9
P33M				IAmb	IAmb	12 27 35.0	
	comp=Z,6.0nm,0.9s						
D27M	**Malcolm River**	21.80	27	P	P	12 27 13.4	+1.1
D27M				IAmb	IAmb	12 27 15.6	
	comp=Z,7.0nm,1.5s						
G30M	**tAoh Zraii Nji**	22.12	35	P	P	12 27 14.0	-1.7
G30M				IAmb	IAmb	12 27 41.6	
	comp=Z,2.7nm,0.7s						
G31M	**Satah River**	22.79	36	P	P	12 27 21.5	-1.4
G31M				IAmb	IAmb	12 27 39.7	
	comp=Z,6.1nm,1.3s						
SEY	**Seymchan**	22.83	313	*ce*P	P	12 27 22.9	-0.3
SEY				pmax	pmax		
	comp=Z,12nm,2.7s						
INK	**Inuvik**	23.63	33	P	P	12 27 29.2	-2.0
INK				IAmb	IAmb	12 27 35.1	
	comp=Z,1.9nm,0.7s						
INK	**Inuvik**	23.63	33	P	P	12 27 29.2	-2.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BBB	**Bella Bella**	25.15	73	LR	LR	12 35 48.2	
	comp=Z,82nm,19.3s,baz=34,slow=32						
YKA	**Yellowknife Ar**	30.48	48	P	P	12 28 33.6	+0.5
	comp=Z,0.5nm,0.5s,baz=274,slow=8.9,SNR=13						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	30.48	48	*e*P	P	12 28 35.3	+2.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YAK	**Yakutsk**	33.32	311	LR	LR	12 43 53.7	
	comp=Z,56nm,18.1s,baz=52,slow=39						
KLR	**Kul'dur**	36.50	290	LR	LR	12 44 39.4	
	comp=Z,48nm,19.2s,baz=7.5,slow=37						
KLR	**Kul'dur**	36.50	290	*e*P	P	12 29 24.3	-1.3
H11N2	**WAKE ISLAND Hy**	37.18	219	T	T	13 09 21.1	
	baz=24,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	37.19	219	T	T	13 09 24.7	
	baz=24,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	37.20	219	T	T	13 09 28.1	
	baz=24,slow=76,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	38.37	218	T	T	13 10 54.6	
	baz=23,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	38.38	218	T	T	13 10 51.9	
	baz=23,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	38.39	218	T	T	13 10 53.4	
	baz=23,slow=76,SNR=37						
PDAR	**Pinedale Array**	40.52	79	P	P	12 30 01.1	+1.4
	comp=Z,0.7nm,0.5s,baz=290,slow=4.5,SNR=14						
	comp=Z,0.7nm,0.5s						
KSRS	**Korea Array**	45.38	277	P	P	12 30 38.3	-0.5
	comp=Z,0.8nm,0.5s,baz=52,slow=7.9,SNR=2.7						
	comp=Z,0.8nm,0.5s						
NRIK	**Noril'sk**	46.66	332	P	P	12 30 45.1	-3.4
	comp=Z,0.8nm,0.3s,baz=95,slow=12,SNR=1.6						
	comp=Z,0.8nm,0.3s						
NRIK	**Noril'sk**	46.66	332	*e*P	P	12 30 48.6	+0.1
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
SPITS	**Spitsbergen Ar**	49.96	358	P	P	12 31 12.4	-1.5
	comp=Z,7.1nm,0.9s,baz=38,slow=9.9,SNR=1.9						
	comp=Z,7.1nm,0.9s						
SONM	**Songino Array**	51.40	301	P	P	12 31 24.8	-0.5
	comp=Z,0.3nm,0.4s,baz=57,slow=6.4,SNR=4.1						
SONM				PcP	PcP	12 32 40.2	+0.4
	comp=Z,0.6nm,0.8s,baz=88,slow=2.1,SNR=3.6						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	52.81	89	P	P	12 31 37.4	+1.4
	comp=Z,0.4nm,0.8s,baz=295,slow=5.0,SNR=5.3						
	comp=Z,0.4nm,0.8s						
SCHQ	**Schefferville**	55.69	43	P	P	12 31 56.0	-0.5
	comp=Z,4.0nm,0.9s,baz=323,slow=4.9,SNR=4.4						
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	58.21	354	P	P	12 32 12.6	-1.5
	comp=Z,0.7nm,0.5s,baz=31,slow=7.3,SNR=8.2						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	58.21	354	*e*P	P	12 32 14.1	0.0
KURK	**Kurchatov**	62.55	318	*e*P	P	12 32 43.8	-0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
KURBB	**Kurchatov Arra**	62.66	318	P	P	12 32 44.0	-0.7
	comp=Z,1.9nm,0.8s,baz=46,slow=7.3,SNR=21						
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	63.91	324	P	P	12 32 52.5	-0.5
	comp=Z,3.5nm,0.5s,baz=53,slow=6.2,SNR=25						
	comp=Z,3.5nm,0.5s						
BRVK	**Borovoye**	63.92	325	*i*P	P	12 32 52.2	-0.9
BRVK				pmax	pmax		
	comp=Z,14nm,3.5s						
MK31	**Makanchi Array**	63.96	313	*e*P	P	12 32 52.8	-0.7
MKAR	**Makanchi Array**	63.96	313	P	P	12 32 52.4	-1.2
	comp=Z,0.3nm,0.4s,baz=52,slow=6.0,SNR=9.3						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	63.96	313	*e*P	P	12 32 52.2	-1.3
ARTI	**Arti**	64.94	333	*c i*P	P	12 32 59.7	0.0
ARTI						12 35 18.6	
ARTI				S	S	12 41 42.3	+1.4
ARTI				SS	SS	12 45 51.3	-0.2
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
FINES	**FINESS Array B**	66.15	352	P	P	12 33 06.3	-1.2
	comp=Z,2.2nm,0.6s,baz=13,slow=5.5,SNR=11						
	comp=Z,2.2nm,0.6s						
NOA	**NORSAR Array B**	67.23	360	P	P	12 33 13.4	-1.1
	comp=Z,1.3nm,0.9s,baz=335,slow=12,SNR=2.2						
	comp=Z,1.3nm,0.9s						
HFS	**Hagfors**	68.12	358	P	P	12 33 18.5	-1.4
	comp=Z,1.0nm,0.4s,baz=15,slow=2.3,SNR=10						
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	70.67	315	*i*P	P	12 33 36.4	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	71.01	345	*e*P	P	12 33 38.6	+0.7
OBN				*e*		12 33 58.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BELG	**Belogornoye**	71.33	337	*e*P	P	12 33 40.5	+0.6
BELG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
EKA	**Eskdalemuir Ar**	72.36	8	P	P	12 33 45.7	-0.3
	comp=Z,0.8nm,0.5s,baz=352,slow=5.8,SNR=1.6						
	comp=Z,0.8nm,0.5s						
AKASG	**Malin Array Be**	76.38	348	P	P	12 34 08.0	-1.5
	comp=Z,0.8nm,0.5s,baz=18,slow=5.8,SNR=4.8						
	comp=Z,0.8nm,0.5s						
AKASG	**Malin Array Be**	76.38	348	*i*P	P	12 34 08.8	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	76.62	283	P	P	12 34 12.3	+0.9
	comp=Z,2.2nm,0.3s,baz=26,slow=6.7,SNR=21						
	comp=Z,2.2nm,0.3s						
KIV	**Kislovodsk**	80.40	337	*e*P	P	12 34 31.4	-0.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	86.77	232	P	P	12 35 06.7	+2.0
	comp=Z,0.2nm,0.6s,baz=28,slow=5.3,SNR=1.1						
	comp=Z,0.2nm,0.6s						
ESDC	**Sonseca Array**	87.76	11	P	P	12 35 09.6	+0.1
	comp=Z,0.7nm,0.8s,baz=349,slow=3.8,SNR=4.3						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	90.16	230	P	P	12 35 21.1	+0.4
	comp=Z,0.5nm,0.8s,baz=26,slow=5.7,SNR=4.7						
	comp=Z,0.5nm,0.8s						

ATH 07 12:40:02.2, 39°.01N×20°.67E, h10km±2km, ML1.5/5, Manual Solution by G.Panopoulou First location: 2019/02/07 12:41:10, This location: 2019/02/07 15:07:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	0.18	183	P	Pg	12 40 06.5	+0.3
TSLK				S	Sg	12 40 08.9	+0.1
LKD2	**Lefkada island**	0.22	182	P	Pg	12 40 06.8	+0.1
LKD2				S	Sg	12 40 10.5	+0.6
DRAG	**Dragano-Lefkad**	0.33	193	P	Pg	12 40 08.9	0.0
DRAG				S	Sg	12 40 13.9	+0.7
EVGI	**Lefkada island**	0.39	181	P	Pg	12 40 09.5	-0.3
EVGI				S	Sg	12 40 14.8	-0.1
FSK	**Fiskardo**	0.56	189	P	Pg	12 40 12.2	-0.8
FSK				S	Sg	12 40 20.0	-0.2
TETR	**Tetrakomo, Epi**	0.58	54	P	Pg	12 40 13.6	+0.1
TETR				S	Sg	12 40 21.9	+0.8
IGT	**Igoumenitsa**	0.58	334	P	Pg	12 40 13.6	0.0
IGT				S	Sg	12 40 21.6	+0.3
DMLN	**Damoulianata-K**	0.80	197	P	Pg	12 40 17.7	0.0
VLS	**Valsamata**	0.83	184	P	Pg	12 40 17.8	-0.5
VLS				S	Sb	12 40 29.7	-0.2
MSVA	**Metsovo**	0.86	27	P	Pb	12 40 19.3	0.0
EVR	**Evrytania**	0.89	96	P	Pg	12 40 19.4	-0.1
KEK	**Kerkira**	0.97	316	P	Pn	12 40 21.6	-0.3
AXS	**Araxos**	0.98	145	P	Pg	12 40 20.2	-0.9
AXS				S

```
VOIR                                  ⇑S    Sb   12 42 40.8 -0.2
MDVR Moldovita          1.86 213      ⇓P    Pn   12 42 23.3 +0.7
MDVR                                  ⇓S    Sb   12 42 48.1  0.0
MDVR Moldovita          1.86 213      ⇓P    Pn   12 42 23.3 +0.7
MDVR                                  ⇓S    Sb   12 42 48.1  0.0
BURAR Bucovina Array    1.91  47      ⇑P    Pn   12 42 23.5 +0.2
BURAR                                 ⇑S    Sb   12 42 49.6 +0.1
BURAR Bucovina Array    1.91  47      ⇑P    Pn   12 42 23.5 +0.2
BURAR                                 ⇑S    Sb   12 42 49.6 +0.1
```

*BER **07** 12:55:00.8±2.4, 79°.16N×3°.08E, h26km±23km, mb(Pn)3.5, ML1.4(DNK), Confirmed Earthquake*
*DNK **07** 12:55:00.6±4.2, 79°.12N×3°.55E, h36km±31km, ML1.4*
*KOLA **07** 12:55:02.4, 78°.87N×4°.97E, h0km, ML2.3, Greenland sea, Knipovich ridge, north*
*FCIAR **07** 12:55:02.0, 79°.20N×4°.66E, h10km, station ZFI2 has station magnitude of 3.30 station OMEGA has station magnitude of 3.30*

ISC 07 12:54:55.5±1.7, 79°.12N±0°.06×3°.20E±0°.04, h13km±13km, n24, σ2§29/44, 3C, Greenland Sea

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
KBS   Kingsbay            1.69  92  ⇑iP   Pg                12 55 26.8 -1.0
KBS                                 eS    Sn                12 55 45.5 -0.5
KBS                                 IAML                    12 55 47.0
      comp=Z,70nm,0.2s
KBS   Kingsbay            1.69  92  P     Pb                12 55 26.4 +0.2
KBS                                 S     Sn                12 55 45.2 -0.8
KBS   Kingsbay            1.69  92  ⇑iP   Pg                12 55 26.8 -1.0
KBS                                 iS    Sn                12 55 44.9 -1.1
KBS   Kingsbay            1.69  92  iP    Pb                12 55 26.4 +0.2
KBS                                 iS    Sn                12 55 45.1 -0.9
BRBB  Barentsburg B       2.42 110  eP    Pb                12 55 37.4 -1.3
BRBB                                eS    Sn                12 56 03.8 -0.1
BRBB  Barentsburg B       2.42 110  P     Pb                12 55 67.5 -1.1
BRBB                                S     Sn                12 56 04.0 +0.1
BRBA  Barentsburg A       2.43 110  eP    Pb                12 55 38.8 -0.2
BRBA                                eS    Sn                12 56 05.8 +1.4
BRBA                                IAML                    12 56 09.2
      comp=Z,28nm,0.2s
SPA0  Spitsbergen Ar      2.77 103  eP    Pb                12 55 42.9 -1.9
SPA0                                eS    Sn                12 56 13.6 +0.9
SPA0                                IAML                    12 56 19.1
      comp=Z,18nm,0.5s
SPA0  Spitsbergen Ar      2.77 103  ⇑iP   Pb                12 55 42.8 -1.9
SPA0                                iS    Sn                12 56 13.0 +0.3
SPITS Spitsbergen Ar      2.77 103  P     Pb                12 55 42.4 -2.4
SPITS                               S     Sn                12 56 12.2 -0.5
NOR   Nord                4.14 316  iP    Pn                12 55 59.6 +1.3
NOR                                 iS    Sn                12 56 45.3 -1.2
NOR                                 IAML                    12 56 46.8
      comp=Z,0.6nm,0.3s
NOR   Nord                4.14 316  iP    Pn                12 55 59.6 +1.3
NOR                                 iS    Sn                12 56 45.3 -1.2
NOR                                 IAML                    12 56 46.8
      comp=Z,0.6nm,0.3s
DAG   Danmarks Havn       5.12 254  iP    Pn                12 56 13.4 +1.7
DAG                                 iS    Sn                12 57 05.8 -4.8
DAG                                 IAML                    12 57 10.6
      comp=Z,6.0nm,0.2s
DAG   Danmarks Havn       5.12 254  iP    Pn                12 56 13.4 +1.7
DAG                                 iS    Sn                12 57 05.8 -4.8
DAG                                 IAML                    12 57 10.6
      comp=Z,6.0nm,0.2s
HOPEN Hopen               5.28 109  eP    Pn                12 56 16.6 +2.7
HOPEN                               eS    Sn                12 57 13.4 -1.0
HOPEN                               IAML                    12 57 14.0
      comp=Z,9.2nm,1.2s
HOPEN Hopen               5.28 109  eP    Pn                12 56 16.3 +2.4
HOPEN                               eS    Sn                12 57 12.9 -1.6
DBG   Daneborg            7.17 240  eP    Pn                12 56 41.9 +2.1
DBG                                 iS    Sn                12 57 56.5 -4.5
DBG                                 IAML                    12 58 02.3
      comp=Z,1.2nm,0.4s
DBG   Daneborg            7.17 240  eP    Pn                12 56 41.9 +2.1
DBG                                 iS    Sn                12 57 56.5 -4.5
DBG                                 IAML                    12 58 02.3
      comp=Z,1.2nm,0.4s
ZFI2  Zemlya Franca-      7.77  56  eP    Pn                12 56 50.2 +2.2
ZFI2                                eS    Sn                12 58 10.9 -4.8
      comp=Z,8.4nm,2.2s
OMEGA Omega               7.79  57  eP    Pn                12 56 50.4 +2.1
OMEGA                               eS    Sn                12 58 11.1 -5.0
      comp=Z,8.9nm,2.6s
NEEM  North Greenlan      10.80 289  iP    Pn                12 57 30.0 +0.2
NEEM                                iS    Sn                12 59 20.9 -10
NEEM                                IAML                    12 59 25.5
      comp=Z,0.9nm,0.2s
NEEM  North Greenlan      10.80 289  iP    Pn                12 57 30.0 +0.2
NEEM                                iS    Sn                12 59 20.9 -10
NEEM                                IAML                    12 59 25.5
      comp=Z,0.9nm,0.2s
SUMG  Summit              11.78 259  iP    Pn                12 57 44.7 +1.5
SUMG                                iS    Sn                12 59 44.7 -10
SUMG                                IAML                    12 59 49.6
      comp=Z,0.5nm,0.3s
SUMG  Summit              11.78 259  iP    Pn                12 57 44.7 +1.5
SUMG                                iS    Sn                12 59 44.7 -10
SUMG                                IAML                    12 59 49.6
      comp=Z,0.5nm,0.3s
```

*IDC **07** 13:04:08.3±1.4, 2°.46N×128°.77E, h0km, mb3.3/5, mbtmp3.3/5, ML4.6/1, Error ellipse: s-maj=58.5km s-min=21.1km az=75.0*
*DJA **07** 13:04:12.4±0.9, 2°N±6°×12°9E±°, h11km±5km, M3.7/6, mb3.9/1, MLv3.6/6*

ISC 07 13:04:13.3±1.1, 2°.4N±0°.1×128°.8E±0°.1, h35km, n11, σ0§75/8, mb3.3/5, Halmahera

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
TNTI  Ternate             2.15 221  P     Pn                13 04 46.0 -0.7
FAKI  Fak Fak             6.33 147  P     Pn                13 05 43.9 -0.3
KAPI  Kappang             11.65 231 Pn    Pn                13 06 57.8 +0.7
      3.7nm,0.3s,baz=71,slow=18,SNR=4.1
WRA   Warramunga Arr      22.87 166 P     P                 13 09 14.7 +0.8
      0.4nm,0.6s,baz=344,slow=11,SNR=5.1
      0.4nm,0.6s
ASAR  Alice Springs       26.39 169 P     P                 13 09 45.7 -1.0
      0.5nm,0.9s,baz=354,slow=9.6,SNR=1.9
      0.5nm,0.9s
H11N1 WAKE ISLAND Hy 41.01  62  T     T                     13 55 47.3
      baz=250,slow=75,SNR=31
H11N2 WAKE ISLAND Hy 41.02  62  T     T                     13 55 46.6
      baz=250,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 41.03  62  T     T                     13 55 48.6
      baz=250,slow=75,SNR=24
SONM  Songino Array       49.21 340 P     P                 13 12 58.1 -0.2
      0.3nm,0.6s,baz=145,slow=5.3,SNR=1.8
      0.3nm,0.6s
MKAR  Makanchi Array      59.80 325 P     P                 13 14 14.9 -0.2
      0.2nm,0.4s,baz=113,slow=8.5,SNR=11
      0.2nm,0.4s
KURBB Kurchatov Arra      63.95 327 P     P                 13 14 43.4 +0.5
      0.1nm,0.4s,baz=122,slow=6.4,SNR=4.6
      0.1nm,0.4s
```

*IDC **07** 13:16:07.5±12.0, 0°.64N×124°.69E, h214km±202km, mb3.7/3, mbtmp4.2/5, ML4.1/2, Error ellipse: s-maj=215.4km s-min=29.1km az=90.0*
*DJA **07** 13:16:08.7±0.3, 1°N±4°×12°4E±°, h269km±4km, M3.8/13, mb4.0/6, MLv3.8/13*

ISC 07 13:16:09.4±1.2, 0°.8N±0°.1×124°.06E±0°.07, h250km, n18, σ2§01/20, mb4.0/3, Minahassa Peninsula, Sulawesi

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
KMSI  Cibinong            0.24 198  P     Pn                13 16 45.4 +3.7
MRSI  Marisa              2.14 261  P     Pn                13 16 53.9 +0.8
MRSI                                S     S                 13 17 29.3 +1.7
LUWI  Luwuk               2.24 215  P     Pn                13 16 55.5 +1.4
LUWI                                S     S                 13 17 31.9 +2.5
APSI  Ampana              2.95 235  P     Pn                13 17 02.5 +1.2
SGSI  Sangihe             3.22  27  P     Pn                13 17 04.8 +0.5
TNTI  Ternate             3.31  90  P     Pn                13 17 07.0 +1.7
SANI  Sanana              3.43 146  P     Pn                13 17 08.6 +2.0
SANI                                S     S                 13 17 54.3 +2.2
PCI   Palu                4.55 248  P     Pn                13 17 20.1 +0.4
SPSI  Sidrap Palu         6.38 222  P     Pn                13 17 42.8 +0.4
      0.1nm25nm,0.7s
KAPI  Kappang             7.20 217  P     Pn                13 17 53.9 +1.3
      1.5nm,0.3s,baz=38,slow=4.4,SNR=5.1
      12nm,0.7s
SOEI  Soe                 10.49 179 P     P                 13 18 39.4  0.0
      14nm,1.5s
WBSI  Waikabubak, Su      11.37 204 P     Pn                13 18 48.0 +2.8
PLAI  Plampang            11.43 213 P     Pn                13 18 46.7 +0.7
TGY   Tagaytay City       13.57 347 P     P                 13 19 15.6 +2.1
      448nm,0.3s,baz=150,slow=20,SNR=12
FITZ  Fitzroy Crossi      18.85 175 P     P                 13 20 09.3 -1.9
      0.8nm,0.3s,baz=294,slow=20,SNR=3.7
      3.2nm,0.5s
WRA   Warramunga Arr      22.95 154 P     P                 13 20 49.7 -2.5
      5.0nm,0.5s,baz=336,slow=9.7,SNR=63
      5.0nm,0.5s
ASAR  Alice Springs       26.14 159 P     P                 13 21 18.7 -2.3
      1.0nm,0.3s,baz=334,slow=7.1,SNR=21
      1.0nm,0.3s
STKA  Stephens Creek      36.50 154 P     P                 13 22 48.9 -2.2
      1.6nm,0.3s,baz=322,slow=12,SNR=7.9
      1.6nm,0.3s
```

*IDC **07** 13:16:52.4±1.4, 17°.63N×85°.22W, h0km, mb3.4/6, mbtmp3.6/10, ML3.3/3, MS3.4/15, Error ellipse: s-maj=29.6km s-min=15.7km az=90.0*
*NEIC **07** 13:16:53.0±2.0, 16°.94N±0°.07×85°.63W±0°.08, h39km±9km, mb4.3/17, Error ellipse: s-maj=11.8km s-min=9.3km az=65.0*
*GCG **07** 13:17:06.7±3.4, 17°.19N×86°.72W, h35km±999km, MD5.2, Hypocentre not reviewed by the ISC*

ISC 07 13:16:53.0±0.8, 16°.95N±0°.07×85°.70W±0°.07, h35km, n67, σ1§84/50, mb3.7/8, MS3.3/10, North of Honduras

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
NISHN Nisperales Com      2.40 241  eP                      13 17 28.9
NISHN                               iS                      13 17 57.4
TGUH  Tegucigalpa,Un      3.25 208  Pn    Pn                13 17 42.2 +0.7
TEIG  Tepich              4.08 324  P     Pn                13 17 54.1 +1.3
TEIG                                Sn    Sn                13 18 38.6 -0.8
TEIG  Tepich              4.08 324  Pn    Pn                13 17 53.4 +0.6
      1.1nm,0.3s,baz=151,slow=24,SNR=406
TEIG                                Sn    Sn                13 18 38.8 -0.6
      0.5nm,0.3s,baz=80,slow=24,SNR=23
      2.0nm,0.4s
ESQI  Esquipulas          4.23 236  Pn    Pn                13 17 56.9 +1.7
MTO3  Montecristo         4.34 235          Pn                13 17 57.4 +0.7
CRIN  San Cristobal       4.42 197  Pn    Pn                13 17 58.4 +0.7
BOAB  BOACO BROADBAN      4.47 180  Pn    Pn                13 17 58.0 -0.3
ESPN  Las Esperanzas      4.91 164          Pn                13 18 04.2 -0.2
ACON  Acoyapa             4.97 174          Pn                13 18 04.2 -1.0
PRVC  Isla de Provid      5.49 130  Pn    Pn                13 18 10.8 -1.5
SCIG  Sabancuy            5.59 292  eP                      13 18 13.5
CCIG  Comitan             6.21 265          Pn                13 18 23.0 +0.7
CCIG  Comitan             6.21 265  eP                      13 18 23.9
SOR   Soroa               6.34  23  Pn    Pn                13 18 24.3 +0.2
JTS   Las Juntas de       6.66 174  Pn    Pn                13 18 41.1 +13
      4.3nm,0.3s,baz=339,slow=17,SNR=1.0
JTS                                 Sn    Sn                13 20 04.8 +22
      1.8nm,0.3s,baz=270,slow=16,SNR=4.3
TGIG                      7.11 270  eP                      13 18 34.9
CMIG  Matias Romero       8.79 272  Pn    Pn                13 18 59.0 +1.4
      1.5nm,0.3s,baz=58,slow=12,SNR=9.1
CMIG                                Sn    Sn                13 20 32.5 -2.9
      2.8nm,0.3s,baz=270,slow=23,SNR=4.9
CMIG                                LR    LR                13 22 48.8
      comp=Z,254nm,20.5s,baz=99,slow=38
HBVL  Hebbronville        15.67 312 Pn    Pn                13 20 31.0 -0.3
HBVL                                IAmb  IAmb              13 20 58.8
      comp=Z,14nm,0.8s
HKT   Hockley             15.92 326 P     P                 13 20 37.2 -0.4
HKT                                 IAmb  IAmb              13 20 39.8
      comp=Z,16nm,0.8s
LRAL  Lakeview Retre      16.06 356 Pn    Pn                13 20 35.3 -0.9
LRAL                                IAmb  IAmb              13 20 43.8
      comp=Z,25nm,1.4s
ROSC  El Rosal            16.41 136 LR    LR                13 28 09.4
      comp=Z,72nm,19.1s,baz=54,slow=41
SNAG  San Augustine       16.43 334 S     Sn                13 23 28.4  -14
ET01  Chireno             16.46 333 S     Sn                13 23 28.7  -14
MLDN  Muldoon             16.48 323 P     P                 13 21 06.8  +23
SDV   Santo Domingo       16.72 117 Pn    P                 13 20 46.1 -0.7
      comp=Z,0.4nm,0.3s,baz=299,slow=10,SNR=3.5
SDV                                 LR    LR                13 28 49.7
      comp=Z,42nm,18.1s,baz=269,slow=43
      comp=Z,2.5nm,0.5s
EF01  Eagle Ford 01       16.81 318 P     P                 13 20 49.9 +2.4
435B  Jarrell             17.53 324         Pn                13 20 54.1 -0.5
435B                                IAmb  IAmb              13 21 00.5
      comp=Z,29nm,0.7s
435B  Jarrell             17.53 324 S     Sn                13 23 52.9  -16
435B  Jarrell             17.53 324 P     P                 13 20 56.7 +1.2
HNDO  Hondo               17.66 318 P     Pn                13 20 56.3  0.0
HNDO  Hondo               17.66 318 P     P                 13 20 58.0 +1.0
BG3   Lake Jocassee       18.14  7  P     Pn                13 21 02.2  0.0
DRIO  Del Rio             18.48 315         P                 13 21 06.0  0.0
DRIO  Del Rio             18.48 315 P     P                 13 21 06.0  0.0
DRIO                                S     Sn                13 24 13.8  -18
JCT   Junction City       18.63 319 P     P                 13 21 08.4 +0.7
SJG   San Juan            18.68  84 LR    LR                13 27 38.7
      comp=Z,76nm,20.8s,baz=275,slow=36
BRDY  Brady               18.71 322 P     Pn                13 21 09.9 +0.8
BRDY                                IAmb  IAmb              13 21 17.9
      comp=Z,24nm,0.9s
BRDY  Brady               18.71 322 P     Pn                13 21 11.2 +2.1
TKL   Tuckaleechee C      18.72  5  P     P                 13 21 05.5 -3.1
      comp=Z,0.6nm,0.3s,baz=184,slow=9.7,SNR=7.7
TKL                                 S     Sn                13 24 26.6  -11
      comp=Z,6.6nm,0.7s,baz=96,slow=7.8,SNR=4.2
TKL                                 LR    LR                13 27 57.6
      comp=Z,91nm,18.8s,baz=232,slow=37
      comp=Z,1.2nm,0.7s
V53A  Saluda              18.83  7  P     Pn                13 21 10.3 -0.2
PLPT  Palo Pinto          19.48 327 P     P                 13 21 15.9 -1.1
PLPT                                IAmb  IAmb              13 21 37.5
      comp=Z,27nm,1.0s
PLPT  Palo Pinto          19.48 327 P     Pn                13 21 26.4 +8.1
OZNA  Ozona               19.78 317         P                 13 21 19.6 -0.6
OZNA  Ozona               19.78 317 P     Pn                13 21 23.2 +1.2
TX31  Lajitas Ar. Si      20.58 310         P                 13 21 30.3 +1.2
TX31  Lajitas Ar. Si      20.58 310 P     Pn                13 21 32.0 +0.5
TXAR  Lajitas Array       20.58 310         P                 13 21 29.7 +0.6
TXAR  Lajitas Array       20.58 310 P     Pn                13 21 32.4 +0.9
      comp=Z,3.9nm,0.8s,baz=128,slow=11,SNR=42
TXAR                                S     S                 13 25 09.2 -8.3
      comp=Z,0.4nm,0.4s,baz=125,slow=22,SNR=8.1
      comp=Z,3.9nm,0.8s
MNHN  Monahans            21.12 316 P     P                 13 21 36.0 +1.2
MNHN                                IAmb  IAmb              13 21 39.5
      comp=Z,13nm,0.7s
ALPN  Alpine              21.14 312 P     P                 13 21 34.4 -0.8
ALPN                                IAmb  IAmb              13 21 50.5
      comp=Z,12nm,0.8s
ALPN  Alpine              21.14 312 P     P                 13 21 38.0 +2.9
POST  Post                21.46 321 P     P                 13 21 54.8  +16
DKNS  Dickens             21.56 323 P     P                 13 21 54.6  +15
VHRN  Van Horn            22.33 312 P     P                 13 21 48.2 +0.3
CLN7  Carlsbad 7          22.48 317 P     P                 13 21 48.8 -0.7
AMTX  Amarillo            22.87 324 P     P                 13 21 52.5 -1.1
AMTX                                IAmb  IAmb              13 22 12.0
      comp=Z,7.5nm,0.8s
LPIG  La Paz              24.10 291 LR    LR                13 32 29.6
      comp=Z,107nm,18.1s,baz=45,slow=39
ATAH  Atahualpa           24.99 163 LR    LR                13 31 52.3
      comp=Z,86nm,18.1s,baz=325,slow=35
ANMO  Albuquerque         25.79 318 P     P                 13 22 23.5 +2.6
      comp=Z,0.7nm,0.5s,baz=135,slow=4.3,SNR=3.8
      comp=Z,0.7nm,0.5s
PFO   Pinyon Flats O      32.22 307 LR    LR                13 38 58.9
      comp=Z,51nm,19.0s,baz=118,slow=41
PDAR  Pinedale Array      32.80 327 P     P                 13 23 24.6 +1.3
      comp=Z,0.1nm,0.6s,baz=146,slow=10,SNR=2.2
      comp=Z,0.1nm,0.6s
MDP   Montagnes des       34.45 106 LR    LR                13 40 28.4
      comp=Z,48nm,18.2s,baz=273,slow=41
NVAR  Mina Array Bea      35.65 313 P     P                 13 23 51.9 +3.8
      comp=Z,0.5nm,0.8s,baz=157,slow=11,SNR=3.6
NVAR                                LR    LR                13 41 39.6
      comp=Z,68nm,19.0s,baz=210,slow=42
      comp=Z,0.5nm,0.8s
LPAZ  La Paz              37.29 151 LR    LR                13 41 52.4
      comp=Z,31nm,18.1s,baz=311,slow=40
BBB   Bella Bella         48.45 326 LR    LR                13 47 43.8
      comp=Z,59nm,18.5s,baz=254,slow=38
YKA   Yellowknife Ar      49.79 343 P     P                 13 25 42.3 +0.3
      comp=Z,0.1nm,0.3s,baz=143,slow=9.3,SNR=2.3
      comp=Z,0.1nm,0.3s
DLBC  Dease Lake          52.66 332 LR    LR                13 50 35.5
      comp=Z,92nm,18.3s,baz=3.5,slow=39
RCBR  Riachuelo           54.17 110 LR    LR                13 51 10.5
      comp=Z,19nm,18.5s,baz=240,slow=38
ILAR  Eielson Array       62.65 335 P     P                 13 27 15.7 +1.9
      comp=Z,0.8nm,0.8s,baz=124,slow=4.8,SNR=10
      comp=Z,0.8nm,0.8s
KDAK  Kodiak Island       63.52 327 LR    LR                13 57 17.4
      comp=Z,115nm,18.6s,baz=87,slow=38
```

*HEL **07** 13:34:01.5±0.1, 62°.26N×23°.83E, h0km, ML1.7, Explosion*
*DNK **07** 13:34:01.5±0.4, 62°.25N×24°.14E, h0km, ML2.5(UPP), Suspected explosion*
*UPP **07** 13:34:02.8±2.1, 62°.30N×23°.98E, h0km, ML2.5*
*IDC **07** 13:34:06.0±0.9, 62°.53N×25°.33E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=13.0km s-min=5.9km az=70.0*

ISC 07 13:34:01.4±0.7, 62°.19N±0°.02×23°.87E±0°.02, h0km, n48, σ1§70/71, Finland

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
KEF   Keuruu              0.47  92  eP    Pg                13 34 10.5 +0.1
KEF   Keuruu              0.47  92  PG    Pg                13 34 10.1 -0.3
KEF                                 SG    Sg                13 34 16.8 +0.3
KEF                                 MSG                     13 34 17.6
      comp=Z,32nm,0.2s
KPF   Kankaanpaa          0.92 248  PG    Pg                13 34 18.4 -0.7
KPF                                 SB    Sg                13 34 30.9 -0.1
VAF   Ylistaro            1.02 328  eP    Pg                13 34 19.9 -1.0
VAF   Ylistaro            1.02 328  PB    Pg                13 34 19.8 -1.1
      baz=146
VAF                                 MSG                     13 34 31.1
      comp=Z,5.2nm,0.2s
VAF                                 SB    Sg                13 34 32.1 -2.0
KAF   Kangasniemi         1.15  93  PG    Pg                13 34 22.7 -0.7
      baz=274
KAF                                 MSG                     13 34 37.0
      comp=Z,4.4nm,0.2s
KAF                                 SG    Sg                13 34 38.0 -0.2
FIA0  FINESS Array S      1.29 125  PG    Pb                13 34 25.8 -0.7
FIA0                                MSG                     13 34 41.9
      comp=Z,5.0nm,0.2s
FIA0                                SN    Sn                13 34 46.3 +1.8
FINES FINESS Array B      1.29 125  Pg    Pb                13 34 26.1 -0.4
      comp=Z,2.0nm,0.3s,baz=315,slow=18,SNR=51
FINES                               Lg    Lg                13 34 43.1
      comp=Z,2.4nm,0.3s,baz=310,slow=30,SNR=28
RAF   Rauma               1.54 222  eP    Pb                13 34 30.2 -0.6
RAF   Rauma               1.54 222  PN    Pb                13 34 30.1 -0.7
      baz=37
RAF                                 MSG                     13 34 48.9
      comp=Z,7.7nm,0.2s
RAF                                 SN    Sn                13 34 51.1 +0.3
NUR   Nurmijarvi          1.73 167  MSG                     13 34 55.1
      comp=Z,3.0nm,0.2s
NUR                                 SN    Sg                13 34 57.9 +1.1
PVF   Pernaja             1.91 149  PG    Pg                13 34 37.1 -0.8
PVF                                 MSG                     13 35 00.1
      comp=Z,4.2nm,0.2s
PVF                                 SG    Sg                13 35 02.9 +0.2
MEF   Metsahovi           2.00 172  MSG                     13 35 02.7
      comp=Z,4.6nm,0.2s
MEF                                 SG    Sg                13 35 05.0 -0.4
NIF   Nilsia              2.17  55  PG    Pn                13 34 39.5 +0.7
      baz=235
NIF                                 SG    Sn                13 35 07.8 +1.3
OUF   Merijarvi           2.22  10  PG    Pn                13 34 40.2 +0.8
OUF                                 MSG                     13 35 05.5
      comp=Z,2.4nm,0.2s
OUF                                 SG    Sn                13 35 08.6 +1.1
UMAU  Umeaa               2.24 321  P     Pn                13 34 40.5 +0.9
UMAU                                S     Sn                13 35 08.8 +0.8
UMAU  Umeaa               2.24 321  P     Pn                13 34 40.5 +0.9
UMAU                                S     Sn                13 35 08.8 +0.8
UMAU  Umeaa               2.24 321  PG    Pn                13 34 40.6 +0.9
UMAU                                SG    Sn                13 35 08.6 +0.7
OBF0  Syolatti, Pyha      2.32  4   PG    Pn                13 34 42.0 +1.1
      baz=186
OBF0                                MSG                     13 35 08.4
      comp=Z,2.5nm,0.2s
OBF0                                SG    Sn                13 35 11.9 +1.8
VJF   Virojoki            2.43 131  MSG                     13 35 14.8
      comp=Z,3.8nm,0.2s
VJF                                 SG    Sg                13 35 17.2 -2.1
HUSU  Husum               2.43 300  P     Pn                13 34 43.9 +1.5
HUSU                                S     Sn                13 35 14.6 +1.9
HUSU  Husum               2.43 300  P     Pn                13 34 43.9 +1.5
HUSU                                S     Sn                13 35 14.6 +1.9
HUSU  Husum               2.43 300  SG    Sn                13 35 15.3 +2.6
RUF   Ruokolahti          2.53 105  MSG                     13 35 17.2
      comp=Z,2.0nm,0.2s
RUF                                 SG    Sb                13 35 19.7 +0.4
ODEU  Stanfors            2.64 329  P     Pn                13 34 45.8 +0.5
ODEU                                S     Sn                13 35 18.3 +0.3
ODEU  Stanfors            2.64 329  P     Pn                13 34 45.8 +0.5
ODEU                                S     Sn                13 35 18.3 +0.3
BURU  Burvik              2.65 336  P     Pn                13 34 45.4  0.0
BURU  Burvik              2.65 336  P     Pn                13 34 45.4  0.0
BURU  Burvik              2.65 336  SG    Sn                13 35 19.5 +1.3
OBF4  Vikkela, Lumij      2.69  11  MSG                     13 35 19.0
      comp=Z,1.1nm,0.2s
OBF4                                SG    Sb                13 35 23.4 -0.5
HEMU  Hemsoen             2.76 283  PB    Pn                13 34 48.8 +2.0
HEMU                                SG    Sb                13 35 24.1 -1.7
SJUU  Sjulsmark           3.48 344  P     Pn                13 34 57.0 +0.3
SJUU  Sjulsmark           3.48 344  P     Pn                13 34 57.0 +0.3
MTSE  Matsula             3.49 180  SG    Sg                13 35 52.0 -1.3
JOF   Joensuu             3.52  75  PG    Pb                13 35 04.8 +0.2
JOF                                 SB    Sb                13 35 44.8 -3.0
LILU  Lilltraesk          3.59 332  P     Pn                13 34 58.7 +0.5
LILU  Lilltraesk          3.59 332  P     Pn                13 34 58.7 +0.5
KALU  Kalix               3.69 357  SG    Sb                13 35 55.0 +2.3
TOF   Tornio              3.91  3   SN    Sn                13 35 48.4 -0.8
VSU   Vasula              4.00 158  SG    Sg                13 36 08.4 -1.4
RANF  Ranua               4.05  17  SG    Sb                13 36 05.3 +2.4
ERTU  Ertsjaerv           4.44 351  PN    Pn                13 35 10.4 +0.4
      baz=171
ERTU                                SN    Sn                13 36 00.2 -2.1
RNF   Rovaniemi           4.54  11  PN    Pn                13 35 11.7 +0.5
RNF                                 SG    Sb                13 36 20.4 +3.5
KU6   Riekki              4.67  32  SG    Sb                13 36 23.1 +2.4
OLKF  Oulanka, Finla      4.80  28  SG    Sb                13 36 29.4 +5.0
HFS   Hagfors             5.34 252  Pn    Pb                13 35 36.1 +0.6
      comp=Z,0.1nm,0.3s,baz=110,slow=7.8,SNR=1.1
HFS                                 Sn    Sb                13 36 42.5 +2.5
      comp=Z,0.1nm,0.3s,baz=64,slow=33,SNR=2.7
      comp=Z,0.3nm,0.4s
NOA   NORSAR Array B      6.15 265  Pn    Pb                13 35 46.9 -2.4
      baz=121,slow=22,SNR=5.5
      comp=Z,0.2nm,0.4s
ARCES ARCESS Array B      7.41  4   Pn    Pn                13 35 48.5 -2.2
      comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=6.2
ARCES                               Sn    Sn                13 37 08.3 -7.0
      comp=Z,0.1nm,0.3s,baz=184,slow=24,SNR=5.4
ARCES                               Lg    Lg                13 37 46.7
      comp=Z,0.1nm,0.3s,baz=185,slow=23,SNR=1.4
      comp=Z,0.6nm,0.6s
```

*MOS **07** 13:38:19.4±1.3, 46°.37N×150°.25E, h183km, mb4.0/1, Error ellipse: s-maj=21.1km s-min=12.4km az=53.5*
*SKHL **07** 13:38:20.3±0.2, 45°.80N×150°.50E, h192km±3km, mb4.6/3, msha5.1/3*
*IDC **07** 13:38:22.8±2.3, 46°.48N×150°.10E, h191km±21km, mb3.0/8, mbtmp3.6/12, Error ellipse: s-maj=28.5km s-min=16.6km az=145.0*

ISC 07 13:38:19.4±1.2, 45°.8N±0°.2×150°.6E±0°.1, h200km, n24, σ1§40/29, mb3.1/8, Kuril Islands

```
Code  Station Name        Δ°   AZ°  Phase ID                Time      Res
                                    Op    ISC               h m s     ISC
KUR   Kuril'sk            2.01 253  ePN   Pn                13 38 57.8 -0.2
KUR                                 eS    Sn                13 39 28.2 +0.2
KUR                                 pmax  pmax
      comp=Z,61nm,0.4s
KUR                                 smax  smax
```

comp=E,163nm,0.6s
KUR smax smax
comp=N,130nm,0.3s
KUR Kuril'sk 2.01 253 eP **Pn 13 38 57.8 -0.2**
KUR AMB AMB 13 38 58.4
comp=N,90nm,0.4s
KUR eS **Sn 13 39 27.2 -0.8**
KUR A A 13 39 29.7
comp=N,250nm,0.4s
KUR A A 13 39 29.7
comp=N,260nm,0.4s
SHO Shikotan 3.32 235 ePN **Pn 13 39 13.1 +0.2**
SHO eS **Sn 13 39 51.8 -2.9**
SHO pmax pmax
comp=N,6.0nm,0.2s
SHO pmax pmax
comp=E,12nm,0.2s
SHO pmax pmax
comp=Z,17nm,0.2s
SHO smax smax
comp=N,64nm,0.5s
SHO smax smax
comp=E,94nm,0.4s
SHO Shikotan 3.32 235 eP **Pn 13 39 13.3 +0.4**
SHO AMB AMB 13 39 14.9
comp=E,20nm,0.2s
SHO eS **Sn 13 39 52.1 -2.6**
SHO A A 13 39 57.3
comp=E,70nm,0.3s
SHO A A 13 39 57.3
comp=E,110nm,0.3s
YUK Yuzh-Kuril'sk 3.82 243 eP **Pn 13 39 19.3 +0.4**
YUK AMB AMB 13 39 21.7
comp=E,140nm,0.6s
YUK eS **Sn 13 40 05.2 -0.3**
YUK A A 13 40 10.1
comp=E,110nm,0.6s
YUK A A 13 40 10.1
comp=E,80nm,0.6s
RUSJ Misakicho 4.17 247 ePN **Pn 13 39 25.3 +2.0**
RUSJ eS **Sn 13 40 16.9 +3.4**
NMR Nemuro--Hokkai 4.26 236 ePN **Pn 13 39 24.6 +0.1**
NMR Nemuro--Hokkai 4.26 236 eP **Pn 13 39 24.6 +0.1**
AKK Akkeshi 4.99 238 eP **Pn 13 39 34.3 +0.6**
JKA Kamikawa-asahi 5.93 256 eP **Pn 13 39 47.2 +1.5**
ASAJ Asahikawa 5.93 256 P **Pn 13 39 47.1 +1.4**
comp=E,4.2nm,0.7s,baz=90,slow=16,SNR=7.4
PETK Petropavlovsk- 8.62 30 P **Pn 13 40 19.6 -0.9**
comp=E,8.0nm,1.1s,baz=134,slow=10,SNR=3.6
USRK Ussuriysk Ar. 13.27 270 P **Pn 13 41 19.4 -0.7**
comp=E,1.8nm,0.7s,baz=70,slow=10,SNR=4.8
SEY Seymchan 17.16 3 P **P 13 42 03.3 -2.4**
comp=E,0.9nm,0.5s,baz=163,slow=19,SNR=5.5
SONM Songino Array 30.00 290 P **P 13 44 09.0 -0.2**
comp=E,0.2nm,0.7s,baz=72,slow=9.3,SNR=1.9
comp=E,0.2nm,0.7s
ILAR Eielson Array 38.34 38 P **P 13 45 21.6 +1.0**
comp=E,0.1nm,0.7s,baz=267,slow=7.6,SNR=1.4
comp=E,0.1nm,0.7s
MKAR Makanchi Array 45.80 297 P **P 13 46 20.2 -0.9**
comp=E,0.4nm,0.6s,baz=74,slow=6.7,SNR=4.2
comp=E,0.4nm,0.6s
KURK Kurchatov 46.41 303 P **P 13 46 25.1 -0.5**
KURK Kurchatov 46.41 303 eP **P 13 46 25.1 -0.5**
KURBB Kurchatov Arra 46.50 303 P **P 13 46 25.1 -1.2**
comp=E,0.6nm,0.5s,baz=71,slow=8.4,SNR=5.3
comp=E,0.6nm,0.5s
YKA Yellowknife Ar 52.69 36 P **P 13 47 14.4 +1.6**
comp=E,0.1nm,0.7s,baz=301,slow=7.4,SNR=2.1
comp=E,0.1nm,0.7s
FINES FINESS Array B 64.10 334 P **P 13 48 31.5 -0.1**
comp=E,2.8nm,0.7s,baz=32,slow=11,SNR=11
comp=E,2.8nm,0.7s
ASAR Alice Springs 70.82 196 P P 13 49 21.8 +7.7
comp=E,0.5nm,0.9s,baz=12,slow=8.3,SNR=3.3
comp=E,0.5nm,0.9s
ESDC Sonseca Array 91.86 341 P **P 13 51 05.9 +1.2**
comp=E,0.2nm,0.5s,baz=25,slow=2.4,SNR=2.4
comp=E,0.2nm,0.5s

*KOLA **07** 13:49:52.0, 67°.65N×34°.28E, h0km, ML2.4, Error ellipse: s-maj=5.2km s-min=2.3km az=110.0, Murmansk region, Kirovsk district*
*HEL **07** 13:49:51.9±0.2, 67°.93N×34°.02E, h0km, ML2.2, Explosion*
ISC 07 13:49:51.1±1.0, 67°.69N±0°.03×34°.20E±0°.05, h0km, n30, σ1§27/50, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.27**	**39**	PG	**Pg**	**13 49 56.5**	**+0.2**
APA	**Apatity**	**0.33**	**249**	P	**Pg**	**13 49 57.5**	**+0.2**
APA				S	**Sg**	**13 50 01.9**	**+0.4**
APA0	**Apatity Array**	**0.47**	**260**	P	**Pg**	**13 50 00.6**	**+0.6**
APA0				S	**Sb**	**13 50 08.2**	**-1.4**
KVDA	**Kovda**	**1.13**	**208**	P	**Pg**	**13 50 11.5**	**-1.1**
KVDA				S	**Sg**	**13 50 26.3**	**-0.9**
TERR	**Teriberka**	**1.56**	**12**	P	**Pn**	**13 50 19.6**	**-0.3**
TERR				S	**Sg**	**13 50 42.0**	**+0.9**
VRF	**Varrio**	**1.75**	**274**	PG	**Pn**	**13 50 22.5**	**-0.2**
	baz=80						
VRF				MSG		13 50 42.2	
	comp=Z,24nm,0.2s						
VRF				SN	**Sn**	**13 50 44.8**	**-0.9**
PRVG	**Vayda Guba**	**2.19**	**341**	P	**Pb**	**13 50 30.8**	**-0.8**
PRVG				S	**Sb**	**13 50 59.4**	**+0.1**
OLKF	**Oulanka, Finla**	**2.33**	**236**	PN	**Pn**	**13 50 31.6**	**+0.9**
OLKF				SB	**Sb**	**13 51 02.8**	**-0.4**
OLKF				MSG		13 51 03.4	
	comp=Z,8.6nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.35**	**292**	PG	**Pn**	**13 50 31.3**	**+0.4**
RAJF				SG	**Sn**	**13 51 00.7**	**+0.4**
KU6	**Riekki**	**2.38**	**228**	PN	**Pn**	**13 50 32.0**	**+0.6**
KU6				SN	**Sb**	**13 51 03.9**	**-0.9**
KU6				MSG		13 51 06.0	
	comp=Z,6.7nm,0.2s						
MSF	**Maaselka**	**2.71**	**231**	PN	**Pn**	**13 50 37.2**	**+1.3**
MSF				SN	**Sb**	**13 51 12.4**	**-1.7**
KU1	**Kurvinen**	**2.82**	**223**	PN	**Pn**	**13 50 38.1**	**+0.8**
VADS	**Vadso**	**3.00**	**327**	eP	**Pn**	**13 50 40.4**	**+0.5**
VADS	**Vadso**	**3.00**	**327**	P	**Pn**	**13 50 40.6**	**+0.8**
VADS				S	**Sn**	**13 51 16.2**	**-0.3**
KMNF	**Kaamanen**	**3.04**	**302**	PB	**Pn**	**13 50 40.6**	**+0.3**
KU2	**Taivalkoski**	**3.10**	**233**	PN	**Pn**	**13 50 42.7**	**+1.6**
	baz=43						
KEV	**Kevo**	**3.34**	**312**	eP	**Pn**	**13 50 45.5**	**+1.0**
KEV	**Kevo**	**3.34**	**312**	PB	**Pn**	**13 50 44.9**	**+0.4**
	baz=120						
KEV				MSG		13 51 23.9	
	comp=Z,7.4nm,0.2s						
KEV				SB	**Sn**	**13 51 24.5**	**-0.3**
RNF	**Rovaniemi**	**3.37**	**255**	PN	**Pn**	**13 50 44.7**	**-0.2**
RNF				SN	**Sn**	**13 51 25.6**	**+0.1**
RANF	**Ranua**	**3.38**	**244**	PN	**Pn**	**13 50 45.7**	**+0.7**
RANF				SB	**Sb**	**13 51 33.3**	**+0.1**
ARCES	**ARCESS Array B**	**3.69**	**304**	P	**Pn**	**13 50 49.0**	**-0.2**
ARCES				S	**Sn**	**13 51 33.9**	**+0.6**
KLF	**Kolari**	**3.97**	**268**	PG	**Pb**	**13 51 02.0**	**+0.3**
KLF				SG	**Sb**	**13 51 53.4**	**+3.1**
HEF	**Hetta**	**4.02**	**285**	PN	**Pn**	**13 50 53.4**	**-0.5**
	baz=90						
TOF	**Tornio**	**4.21**	**252**	PG	**Pb**	**13 51 08.2**	**+2.3**
TOF				SN	**Sn**	**13 51 44.9**	**-1.4**
OUL	**Oulu**	**4.24**	**236**	PB	**Pb**	**13 51 07.2**	**+0.8**
OUL				SN	**Sn**	**13 51 48.9**	**+2.0**
KTK1	**Kautokeino**	**4.27**	**293**	PG	**Pb**	**13 51 07.1**	**+0.1**
PAJU	**Pajala**	**4.34**	**266**	PN	**Pn**	**13 50 59.2**	**+1.0**
PAJU				SN	**Sn**	**13 51 48.4**	**-1.0**
LANU	**Lannavaara**	**4.63**	**280**	PN	**Pn**	**13 51 01.3**	**-0.9**
LANU				SN	**Sn**	**13 51 54.5**	**-2.1**
KALU	**Kalix**	**4.67**	**252**	SN	**Sn**	**13 51 55.4**	**-2.0**
FAUS	**Fauske**	**7.25**	**276**	S	**Sn**	**13 52 56.2**	**-4.7**

DJA 07 14:03:28.3±0.5, 0°N±3°×12°7E±°, h112km±11km, M4.0/13, mB4.8/1, mb4.5/1, MLv3.7/13, Mw(mB)4.1/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.48**	**28**	P	Pn	14 03 46.7	+1.5
SANI	**Sanana**	**2.65**	**206**	P	Pn	14 04 09.1	-0.6
KMSI	**Cibinong**	**3.17**	**274**	P	Pn	14 04 17.0	+0.4
KMSI				S	Sn	14 04 54.9	+1.1
NLAI	**Namlea**	**3.56**	**181**	P	Pn	14 04 21.6	-0.3
MSAI	**Masohi**	**4.08**	**154**	P	Pn	14 04 29.2	+0.3
LUWI	**Luwuk**	**4.58**	**252**	P	Pn	14 04 34.9	-0.6
APSI	**Ampana**	**5.63**	**257**	P	Pn	14 04 49.7	0.0

ISC 07 14:12:37.7±0.9, 60°.84N±0°.03×138°.15W±0°.02, h15km±7km, n14, σ0§52/27, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK6	**Outpost Mounta**	**0.15**	**316**	P	**Pg**	**14 12 41.9**	**0.0**
	baz=135,SNR=935						
YUK6				S	**Sg**	**14 12 44.5**	**-0.1**
	baz=135						
HYT	**Haines Junctio**	**0.32**	**92**	P	**Pg**	**14 12 44.4**	**0.0**
	baz=272,SNR=39						
HYT				S	**Sg**	**14 12 48.9**	**-0.1**
	baz=272						
YUK4	**Talbot Arm**	**0.56**	**335**	P	**Pb**	**14 12 50.5**	**+1.1**
	baz=162,SNR=134						
YUK4				S	**Sb**	**14 12 58.3**	**+1.0**
	baz=162						
O29M	**Mount Kennedy**	**0.57**	**202**	P	**Pg**	**14 12 49.1**	**0.0**
	baz=22						
O29M				S	**Sg**	**14 12 56.8**	**0.0**
	baz=22						
N30M	**Aishikik Lake**	**0.81**	**39**	P	**Pb**	**14 12 53.7**	**+0.2**
	baz=220						
N30M				S	**Sb**	**14 13 04.4**	**+0.1**
	baz=220						
YUK8	**Steele Glacier**	**0.90**	**301**	P	**Pb**	**14 12 55.1**	**-0.1**
	baz=119						
YUK8				S	**Sg**	**14 13 06.9**	**-0.3**
	baz=119						
P30M	**Million Dollar**	**0.93**	**140**	P	**Pg**	**14 12 55.6**	**-0.1**
	baz=321						
P30M				S	**Sg**	**14 13 08.1**	**+0.2**
	baz=321						
O28M	**Mount Upton**	**1.00**	**267**	P	**Pb**	**14 12 56.7**	**-0.2**
	baz=86						
O28M				S	**Sb**	**14 13 10.0**	**0.0**
	baz=86						
O30N	**Mendenhall**	**1.01**	**93**	P	**Pb**	**14 12 57.0**	**0.0**
	baz=274						
O30N				S	**Sb**	**14 13 10.2**	**+0.1**
	baz=274						
PINM	**Pinnacle**	**1.28**	**235**	P	**Pn**	**14 13 00.4**	**-0.7**
	baz=54						
PINM				Sg	**Sg**	**14 13 19.7**	**+0.7**
	baz=54						
N31M	**Braeburn, Yuko**	**1.32**	**59**	Pg	**Pg**	**14 13 03.0**	**-0.2**
	baz=241						
N31M				S	**Sn**	**14 13 19.6**	**+0.7**
	baz=241						
WHY	**Whitehorse**	**1.62**	**95**	Pb	**Pb**	**14 13 07.5**	**+0.2**
	baz=278						
WHY				Sb	**Sg**	**14 13 29.1**	**-0.7**
	baz=278						
M29M	**Somme Creek**	**1.62**	**355**	Pg	**Pg**	**14 13 08.3**	**-0.5**
	baz=174						
M29M				Sb	**Sb**	**14 13 28.4**	**+0.8**
	baz=174						
L29M	**L29M**	**2.28**	**0**	Pg	**Pg**	**14 13 20.5**	**-0.9**
	baz=180						

*IDC **07** 14:20:38.7±1.2, 20°.46N×146°.16E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=49.8km s-min=21.3km az=88.0*
ISC 07 14:20:45.1±1.3, 20°.4N±0°.2×146°.2E±0°.4, h44km, n8, σ0§91/8, mb3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**30.97**	**341**	P	**P**	**14 26 58.6**	**+0.6**
	1.6nm,0.6s,baz=183,slow=6.7,SNR=5.1						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**41.77**	**197**	P	**P**	**14 28 31.5**	**+1.1**
	0.4nm,0.7s,baz=17,slow=8.6,SNR=1.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**45.44**	**196**	P	**P**	**14 28 58.9**	**-1.0**
	0.3nm,1.0s,baz=86,slow=9.1,SNR=14						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**57.61**	**313**	P	**P**	**14 30 30.2**	**-0.4**
	0.4nm,0.5s,baz=91,slow=8.2,SNR=6.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**60.35**	**317**	P	**P**	**14 30 49.0**	**-0.6**
	0.2nm,0.4s,baz=94,slow=7.6,SNR=4.1						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**65.44**	**320**	P	**P**	**14 31 22.6**	**-0.8**
	0.7nm,0.4s,baz=101,slow=7.7,SNR=9.4						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**76.25**	**28**	P	**P**	**14 32 28.4**	**-0.3**
	0.1nm,0.4s,baz=292,slow=5.3,SNR=5.2						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**85.51**	**335**	P	**P**	**14 33 18.8**	**+0.6**
	3.2nm,0.9s,baz=49,slow=4.2,SNR=5.0						
	3.2nm,0.9s						

KRSC 07 14:23:02.1±1.2, 54°.87N×164°.63E, h49km±26km, MI4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**66**	eP	Pn	14 23 18.9	+1.2
BKI				eS	Sn	14 23 29.1	+0.1
KBTR	**Krutoberegovo**	**1.69**	**323**	eP	Pn	14 23 30.7	+1.5
KBTR				eS	Sn	14 23 50.6	+1.0
KBG	**Krutoberegovo**	**1.77**	**323**	eP	Pn	14 23 32.0	+1.8
KBG				eS	Sn	14 23 53.0	+1.6
SMKR	**Semkarok**	**2.48**	**315**	eP	Pn	14 23 44.4	+4.4
KMNR	**Kamenistaya**	**2.66**	**291**	eP	Pn	14 23 47.1	+4.6
KIRR	**Kirishev**	**2.67**	**296**	eP	Pn	14 23 47.5	+4.7
KRSR	**Krestovskiy**	**2.67**	**302**	eP	Pn	14 23 46.4	+3.7
KLY	**Klyuchi**	**2.68**	**304**	eP	Pn	14 23 45.0	+2.3
KLY				eS	Sn	14 24 16.6	+2.7
KOZ	**Kozyrevsk**	**2.96**	**296**	eP	Pn	14 23 51.7	+5.2
SRDR	**Sredinnyy**	**3.14**	**299**	eP	Pn	14 23 54.2	+5.1
ESO	**Esso**	**3.54**	**290**	eP	Pn	14 23 58.8	+4.2
NLC	**Nalytchevo**	**3.55**	**243**	eP	Pn	14 23 58.6	+3.9
NLC				eS	Sn	14 24 37.7	+2.3
UGLR	**Uglovaya**	**3.81**	**246**	eP	Pn	14 24 03.2	+5.0
AVH	**Avacha**	**3.83**	**248**	eP	Pn	14 24 03.5	+4.9
AVH				eS	Sn	14 24 46.0	+3.8
KRX	**Arik**	**3.83**	**249**	eP	Pn	14 24 03.4	+4.8
KOK	**Koryaka**	**3.87**	**248**	eP	Pn	14 24 04.1	+5.0
DALK	**Dalny**	**3.93**	**244**	eP	Pn	14 24 04.0	+4.1
DALK				eS	Sn	14 24 46.7	+2.1
PET	**Petropavlovsk**	**3.99**	**245**	eP	Pn	14 24 04.9	+4.3
PET				eS	Sn	14 24 47.9	+1.8
INSR	**Institute**	**3.99**	**246**	eS	Sn	14 24 49.1	+2.9
GNL	**Ganaly**	**4.09**	**256**	eP	Pn	14 24 07.6	+5.4
KRMR	**Karymshinskiy**	**4.36**	**245**	eP	Pn	14 24 10.5	+4.8
KRMR				eS	Sn	14 24 57.9	+2.7
RUS	**Russkaya**	**4.38**	**239**	eP	Pn	14 24 10.1	+4.0
OSSR	**Ossora**	**4.47**	**350**	eP	Pn	14 24 10.1	+2.9
MTVR	**Mutnovka**	**4.52**	**241**	eP	Pn	14 24 12.6	+4.5
MTVR				eS	Sn	14 25 01.7	+2.4
GRL	**Gorelyy**	**4.54**	**242**	eP	Pn	14 24 13.1	+4.8
APC	**Apacha**	**4.83**	**249**	eP	Pn	14 24 17.7	+5.5
PALN	**Palana**	**4.94**	**331**	eP	Pn	14 24 17.3	+3.7
KDTR	**Khodutka, Kamc**	**4.98**	**235**	eP	Pn	14 24 17.7	+3.5
TILK	**Tilichiki**	**5.65**	**8**	eP	Pn	14 24 27.5	+4.1
PAU	**Pauzhetka**	**5.81**	**237**	eP	Pn	14 24 29.6	+4.1
KMSK	**Kamenskaya**	**7.66**	**6**	eP	Pn	14 24 55.3	+4.3

*DNK **07** 14:24:35.1±3.1, 71°.32N×11°.70W, h36km±31km, ML1.2*
*BER **07** 14:24:36.9±0.3, 71°.57N×10°.74W, h0km±359km, mb(Pn)3.5, Confirmed Earthquake*
ISC 07 14:24:34.2±1.9, 71°.6N±0°.1×11°.5W±0°.2, h32km±17km, n9, σ2§02/17, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.08**	**125**	eP	**Pb**	**14 24 54.1**	**-0.2**
JMI				eS	**Sn**	**14 25 06.7**	**-0.3**
JMI				IAML		14 25 08.7	
	comp=Z,83nm,0.2s						
JNW	**Jan Mayen West**	**1.11**	**117**	eP	**Pb**	**14 24 54.1**	**-0.7**
JNW				eS	**Sn**	**14 25 07.0**	**-0.7**
JNW				IAML		14 25 09.4	
	comp=Z,168nm,0.3s						
JMIC	**Jan Mayen**	**1.11**	**120**	eP	**Pb**	**14 24 54.3**	**-0.5**
JMIC				eS	**Sn**	**14 25 06.8**	**-0.8**
JMIC				IAML		14 25 08.2	
	comp=Z,152nm,0.3s						
JMIC	**Jan Mayen**	**1.11**	**120**	i P	**Pn**	**14 24 51.5**	**-2.0**
JMIC				i S	**Sn**	**14 25 06.6**	**-1.1**
JNE	**Jan Mayen East**	**1.17**	**118**	eP	**Pb**	**14 24 55.0**	**-0.7**
JNE				eS	**Sn**	**14 25 07.9**	**-1.1**
JNE				IAML		14 25 09.6	
	comp=Z,120nm,0.3s						
DBG	**Daneborg**	**3.78**	**321**	i P	**Pn**	**14 25 32.4**	**+2.3**
DBG				i S	**Sn**	**14 26 11.9**	**-1.4**
DBG				IAML		14 26 15.6	
	comp=Z,1.2nm,0.2s						
DAG	**Danmarks Havn**	**5.59**	**343**	i P	**Pn**	**14 25 58.0**	**+3.1**
DAG				i P	**Pn**	**14 25 58.0**	**+3.1**
DAG				i P	**Sn**	**14 26 54.0**	**-3.9**
DAG				i S	Sb	14 26 56.3	-21
DAG				IAML		14 26 59.3	
	comp=Z,1.2nm,0.4s						
KBS	**Kingsbay**	**9.39**	**28**	i P	**Pn**	**14 26 47.4**	**+0.4**
NOR	**Nord**	**10.16**	**356**	i P	**Pn**	**14 26 59.1**	**+1.6**
NOR				IAML		14 28 55.8	
	comp=Z,0.5nm,0.4s						

*NEIC **07** 14:26:44.5±2.3, 10°.06S±0°.10×152°.07E±0°.09, h10km±1km, mb4.3/9, Error ellipse: s-maj=16.7km s-min=15.1km az=7.0*
*IDC **07** 14:26:44.0±0.9, 10°.18S×152°.23E, h0km, mb3.9/8, mbtmp3.9/10, ML4.0/1, MS3.6/37, Error ellipse: s-maj=22.0km s-min=21.4km az=140.0*
ISC 07 14:26:48.8±0.7, 10°.33S±0°.10×152°.21E±0°.08, h35km, n52, σ1§81/24, mb3.8/8, MS3.6/32, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.06**	**280**	Pn	**Pn**	**14 27 59.8**	**-2.3**
	14nm,0.7s,baz=106,slow=7.4,SNR=7.9						
PMG				Sn	**Sn**	**14 29 03.1**	**+3.7**
	1.3nm,0.3s,baz=42,slow=23,SNR=2.0						
PMG				Lg	Lg	14 29 25.1	
	3.3nm,0.3s,baz=211,slow=20,SNR=7.0						
PMG				LR	LR	14 30 10.4	
	comp=Z,1μm,18.4s,baz=95,slow=41						
KRVT	**Keravat (AS076**	**5.98**	**358**	LR	LR	14 29 36.0	
	comp=Z,81nm,21.8s,baz=256,slow=29						
RABL	**Rabaul**	**6.10**	**360**	Pn	Pn	14 28 10.5	-6.0
HNR	**Honiara**	**7.68**	**84**	Pn	**Pn**	**14 28 37.3**	**-1.0**
HNR	**Honiara**	**7.68**	**84**	LR	LR	14 30 57.7	
	comp=Z,340nm,21.9s,baz=307,slow=33						
COEN	**Coen**	**9.54**	**247**	Pn	**Pn**	**14 29 01.3**	**-2.5**
EIDS	**Eidsvold**	**15.00**	**184**	Pn	**Pn**	**14 30 18.2**	**-0.1**
EIDS				IAmb	IAmb	14 30 23.6	
	comp=Z,18nm,1.1s						
DZM	**Mont Dzumac**	**17.96**	**132**	LR	LR	14 37 06.2	
	comp=Z,737nm,18.5s,baz=344,slow=34						
WB0	**Warramunga Arr**	**19.58**	**239**	P	**Pn**	**14 31 14.8**	**-0.7**
WB0				IAmb	IAmb	14 31 31.8	
	comp=Z,26nm,1.2s						
WB2	**Warramunga Arr**	**19.69**	**239**	P	**P**	**14 31 11.9**	**-3.3**
WB2				IAmb	IAmb	14 31 42.9	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**19.70**	**239**	P	**P**	**14 31 13.5**	**-1.8**
WRA	**Warramunga Arr**	**19.70**	**239**	P	**Pn**	**14 31 16.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=62,slow=11,SNR=16						
WRA				LR	LR	14 38 16.6	
	comp=Z,130nm,18.4s,baz=68,slow=35						
	comp=Z,3.1nm,0.8s						
ARMA	**Armidale**	**20.00**	**181**	P	**Pn**	**14 31 21.6**	**+1.1**
ARMA				IAmb	IAmb	14 31 58.0	
	comp=Z,5.8nm,1.1s						
MTN	**Manton Dam**	**20.79**	**261**	P	**P**	**14 31 25.0**	**-2.2**
AS31	**Alice Springs**	**21.92**	**230**	P	**P**	**14 31 39.6**	**+0.3**
ASAR	**Alice Springs**	**21.92**	**230**	P	**P**	**14 31 39.3**	**-0.1**
ASAR	**Alice Springs**	**21.92**	**230**	P	**P**	**14 31 40.0**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=56,slow=9.0,SNR=29						
ASAR				LR	LR	14 39 48.1	
	comp=Z,118nm,18.9s,baz=58,slow=36						
	comp=Z,2.5nm,0.7s						
KNRA	**Kununurra**	**23.44**	**254**	P	**P**	**14 31 52.4**	**-2.8**
STKA	**Stephens Creek**	**23.59**	**203**	P	**P**	**14 31 58.9**	**+2.4**
	comp=Z,2.3nm,1.0s,baz=28,slow=9.4,SNR=4.1						
STKA				LR	LR	14 41 28.3	
	comp=Z,170nm,18.3s,baz=20,slow=37						
	comp=Z,2.3nm,1.0s						
GUMO	**Guam**	**24.85**	**343**	LR	LR	14 40 01.6	
	comp=Z,76nm,20.5s,baz=162,slow=32						
MSVF	**Nonsavu**	**26.11**	**109**	LR	LR	14 40 25.4	
	comp=Z,110nm,21.9s,baz=280,slow=31						
FITZ	**Fitzroy Crossi**	**26.86**	**250**	LR	LR	14 43 38.7	
	comp=Z,138nm,18.6s,baz=85,slow=38						
DAV	**Davao City (W)**	**31.65**	**302**	LR	LR	14 46 55.0	
	comp=Z,23nm,18.1s,baz=122,slow=38						
KAPI	**Kappang**	**32.58**	**277**	LR	LR	14 48 34.2	
	comp=Z,54nm,21.1s,baz=98,slow=40						
URZ	**Urewera**	**35.66**	**145**	LR	LR	14 47 18.7	
	comp=Z,244nm,18.4s,baz=44,slow=34						
RPZ	**Rata Peaks**	**37.07**	**157**	LR	LR	14 47 33.3	
	comp=Z,324nm,20.4s,baz=326,slow=34						
JCJ	**Chichijima**	**38.45**	**346**	LR	LR	14 47 20.0	
	comp=Z,156nm,20.6s,baz=93,slow=32						
NWAO	**Narrogin (SRO)**	**39.24**	**230**	LR	LR	14 50 01.8	
	comp=Z,79nm,19.0s,baz=205,slow=36						
JOW	**Kunigami**	**43.64**	**328**	LR	LR	14 49 11.3	
	comp=Z,79nm,21.2s,baz=112,slow=31						
JNU	**Nakatsue**	**47.75**	**336**	LR	LR	14 53 52.6	
	comp=Z,37nm,19.5s,baz=132,slow=34						
ASAJ	**Asahikawa**	**54.88**	**352**	LR	LR	14 55 31.9	
	comp=Z,27nm,21.3s,baz=148,slow=32						
PPT	**Papeete**	**56.78**	**104**	LR	LR	14 57 33.6	
	comp=Z,48nm,18.5s,baz=26,slow=33						
USRK	**Ussuriysk Ar.**	**57.29**	**343**	LR	LR	14 59 10.5	
	comp=Z,55nm,19.2s,baz=42,slow=34						
CMAR	**Chiang Mai Arr**	**59.83**	**298**	P	**P**	**14 36 51.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=131,slow=4.7,SNR=7.4						
CMAR				LR	LR	15 04 10.0	
	comp=Z,9.5nm,19.4s,baz=130,slow=38						
	comp=Z,0.4nm,0.5s						
KLR	**Kul'dur**	**61.97**	**345**	LR	LR	15 02 37.6	
	comp=Z,48nm,19.2s,baz=38,slow=35						
PETK	**Petropavlovsk-**	**63.36**	**4**	LR	LR	15 02 37.2	
	comp=Z,54nm,18.4s,baz=130,slow=34						
SHEM	**Shemya Is, Ala**	**65.55**	**14**	LR	LR	15 00 02.6	
	comp=Z,84nm,21.4s,baz=117,slow=31						
MA2	**Magadan**	**69.68**	**359**	LR	LR	15 07 57.3	
	comp=Z,22nm,18.9s,baz=156,slow=36						
SONM	**Songino Array**	**70.70**	**329**	P	**P**	**14 38 02.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=162,slow=4.3,SNR=9.3						
	comp=Z,0.6nm,0.8s						
PALK	**Pallekele**	**73.30**	**281**	LR	LR	15 11 41.0	
	comp=Z,26nm,21.0s,baz=107,slow=37						
QSPA	**South Pole Qui**	**79.67**	**180**	P	**P**	**14 38 54.2**	**+1.5**
QSPA				IAmb	IAmb	14 39 00.6	
	comp=Z,5.0nm,0.9s						
QSPA	**South Pole Qui**	**79.67**	**180**	P	**P**	**14 38 54.4**	**+1.7**
	comp=Z,6.8nm,1.1s,baz=337,slow=3.2,SNR=11						
QSPA				LR	LR	15 12 19.4	
	comp=Z,48nm,19.1s,baz=88,slow=34

*FUNV **07** 14:33:49.8, 9°.05N×69°.99W, h5km, MW4.1*
*RSNC **07** 14:34:06.0±0.0, 9°.N±6°.×7°.0W×°, h0km±5km, M3.4, ML3.4*
ISC 07 14:33:48.2±0.8,**9°.04N**±0°.05×**69°.98W**±0°.03,**h10**km,**n17,**
σ1°**94**/34,**1C, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.67**	**257**	P	**Pg**	**14 33 59.3**	**-1.9**
SDV				S	**Sg**	**14 34 07.1**	**-2.8**
SDV	**Santo Domingo**	**0.67**	**257**	P		14 33 59.3	
SDV				S		14 34 07.1	
SOCV	**Socops**	**1.15**	**229**	*e*P	**Pb**	**14 34 10.4**	**+0.2**
SOCV				*e*S	**Sg**	**14 34 26.4**	**+1.1**
MAPV	**Macapo**	**1.69**	**62**	*e*P	**Pb**	**14 34 19.5**	**0.0**
MAPV				*e*S	**Sb**	**14 34 42.0**	**+1.1**
BAUV	**El Baul**	**1.91**	**93⇑**	*e*P	**Pn**	**14 34 22.1**	**+1.2**
BAUV				*e*S	**Sb**	**14 34 47.3**	**+0.1**
JACV	**Jacura**	**2.33**	**29**	*e*P	**Pn**	**14 34 26.9**	**+0.3**
JACV				*e*S	**Sn**	**14 34 56.5**	**+1.2**
BENV	**Beln**	**2.52**	**68**	*e*P	**Pn**	**14 34 31.0**	**+1.8**
BENV				*e*S	**Sn**	**14 35 01.7**	**+1.6**
CAPV	**Capacho**	**2.59**	**243**	*e*P	**Pn**	**14 34 32.4**	**+2.0**
CAPV				*e*S	**Sn**	**14 35 02.7**	**+0.6**
MCQV	**Machiques**	**2.72**	**292**	*e*P	**Pn**	**14 34 32.8**	**+0.9**
MCQV				*e*S	**Sn**	**14 35 05.8**	**+0.9**
TACV	**Tcata**	**3.11**	**69**	*e*P	**Pn**	**14 34 38.2**	**+0.9**
TACV				*e*S	**Sn**	**14 35 14.9**	**+0.3**
TAMC	**Tame, Arauca**	**3.15**	**215**	P	**Pg**	**14 34 48.6**	**0.0**
TAMC				S	**Sg**	**14 35 29.9**	**+0.4**
TAMC	**Tame, Arauca**	**3.15**	**215**	P		14 34 48.6	
TAMC				S		14 35 29.9	
OCAC	**Ocana**	**3.40**	**257**	P	**Pg**	**14 34 53.7**	**+0.3**
OCAC				S	**Sb**	**14 35 32.5**	**+2.3**
OCAC	**Ocana**	**3.40**	**257**	P		14 34 53.7	
OCAC				S		14 35 32.5	
FUNV	**FUNVISIS**	**3.43**	**65**	*e*P	**Pn**	**14 34 42.9**	**+1.1**
FUNV				*e*S	**Sn**	**14 35 22.9**	**+0.2**
MERV	**Las Mercedes**	**3.64**	**86**	*e*P	**Pn**	**14 34 45.5**	**+0.8**
MERV				*e*S	**Sn**	**14 35 26.8**	**-0.9**
CACV	**CAICARA DEL OR**	**3.70**	**113**	*e*P	**Pb**	**14 34 53.9**	**+0.1**
CACV				*e*S	**Sb**	**14 35 42.0**	**+3.2**
ARGC	**Ariguani, Magd**	**4.29**	**281**	P	**Pg**	**14 35 08.0**	**-2.5**
ARGC				S	**Sb**	**14 35 57.8**	**+2.1**
ARGC	**Ariguani, Magd**	**4.29**	**281**	P		14 35 08.0	
ARGC				S		14 35 57.8	
PCRV	**Puerto La Cruz**	**5.39**	**77**	*e*P	**Pn**	**14 35 09.4**	**+0.7**
PCRV				*e*S	**Sn**	**14 36 09.2**	**-1.7**
LUEV	**Luepa**	**9.02**	**110**	*e*P	**Pn**	**14 35 58.0**	**-0.8**
LUEV				*e*S	**Sn**	**14 37 33.3**	**-7.3**

*IDC **07** 15:06:35.4±2.5, 23°.85S×179°.85W, h530km±30km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=28.9km s-min=25.5km az=25.0*
ISC 07 15:06:33.3±1.1,**23°.96S**±0°.09×**179°.8W**±0°.2,**h500**km,**n23,**
σ1°**78**/27,**mb3.9**/4,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.54**	**163**	P	**P**	**15 08 09.0**	**+3.8**
GLKZ				S	**S**	**15 09 15.6**	**-4.7**
MSVF	**Nonsavu**	**6.51**	**342**	P	**P**	**15 08 15.6**	**+0.8**
	4.7nm,0.3s,baz=181,slow=16,SNR=4.5						
WCZ	**Waipu Caves**	**12.96**	**202**	P	**P**	**15 09 22.8**	**+0.9**
RUGZ	**Raukumara Rang**	**14.12**	**188**	P	**P**	**15 09 34.8**	**+0.5**
RUGZ				S	**S**	**15 12 05.3**	**+1.8**
CNGZ	**Carnagh Statio**	**14.58**	**186**	P	**P**	**15 09 39.5**	**+0.7**
RAGZ	**Rawiri**	**14.68**	**189**	P	**P**	**15 09 39.1**	**-0.9**
MUGZ	**Murupara**	**14.76**	**191**	P	**P**	**15 09 39.7**	**-1.2**
RIGZ	**Rimuhau**	**14.84**	**187**	P	**P**	**15 09 43.0**	**+1.3**
RIGZ				S	**S**	**15 12 17.9**	**+0.8**
TMVZ	**Te Maari**	**15.58**	**193**	P	**P**	**15 09 49.4**	**-0.1**
ETVZ	**East Tongariro**	**15.60**	**193**	P	**P**	**15 09 49.5**	**-0.2**
WTVZ	**West Tongariro**	**15.61**	**193**	P	**P**	**15 09 50.4**	**+0.7**
OTVZ	**Oturere**	**15.63**	**193**	P	**P**	**15 09 48.4**	**-1.7**
MCHZ	**McNeill Hill**	**15.72**	**190**	P	**P**	**15 09 50.5**	**-0.3**
TUVZ	**Tukino**	**15.74**	**193**	P	**P**	**15 09 50.9**	**-0.3**
WNVZ	**Wahianoa**	**15.81**	**193**	P	**P**	**15 09 51.1**	**-0.8**
MOVZ	**Moawhango**	**15.85**	**193**	P	**P**	**15 09 52.3**	**0.0**
PNHZ	**Pukenui**	**16.26**	**191**	P	**P**	**15 09 54.0**	**-2.5**
PNHZ				S	**S**	**15 12 41.1**	**-2.8**
STKA	**Stephens Creek**	**34.87**	**248**	P	**P**	**15 12 42.3**	**+0.2**
	1.3nm,0.5s,baz=83,slow=7.0,SNR=9.4						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**42.20**	**261**	P	**P**	**15 13 41.7**	**-0.2**
	3.0nm,0.8s,baz=94,slow=7.5,SNR=60						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**15 13 44.4**	**-0.6**
	6.2nm,0.6s,baz=98,slow=8.1,SNR=98						
	6.2nm,0.6s						
QSPA	**South Pole Qui**	**66.12**	**180**	P	**P**	**15 16 31.0**	**+0.7**
	2.4nm,0.6s,baz=12,slow=2.4,SNR=21						
	2.4nm,0.6s						
HFS	**Hagfors**		**142.64**	**349**	PKP	**PKPdf**	**15 25 05.6**	**-3.0**
	1.5nm,0.7s,baz=64,slow=3.4,SNR=1.0						
AKASG	**Malin Array Be**		**145.12**	**327**	PKPbc	**PKPbc**	**15 25 11.9**	**-1.2**
	0.3nm,0.5s,baz=50,slow=4.7,SNR=4.1						

*IDC **07** 15:21:54.6±0.6, 12°.82S×45°.34E, h0km, mb3.9/14, mbtmp4.0/15, ML5.2/2, Error ellipse: s-maj=20.6km s-min=16.9km az=120.0*
*NEIC **07** 15:21:55.5±2.1, 12°.82S±0°.07×45°.4E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=17.9km s-min=12.4km az=82.0*
ISC 07 15:21:55.0±0.5,**12°.91S**±0°.06×**45°.34E**±0°.07,**h10**km,**n44,**
σ1°**81**/45,**mb4.3**/19,**1D, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.91**	**163**	Pn	**Pn**	**15 23 24.5**	**+1.7**
	14nm,0.3s,baz=336,slow=12,SNR=720						
OPO				Sn	**Sn**	**15 24 25.8**	**-5.0**
	17nm,0.3s,baz=238,slow=9.1,SNR=13						
ABPO	**Ambohimpanom**	**6.34**	**164**		**Pn**	**15 23 29.1**	**+0.2**
ABPO				Sn	**Sn**	**15 24 36.4**	**-5.1**
VOI	**Vohitsoka**	**9.06**	**171**		**Pn**	**15 24 06.5**	**+0.4**
FOMA	**Nahampoana Res**	**12.11**	**173**	Pn	**Pn**	**15 24 48.2**	**+0.5**
KIBK	**Kibwezi**	**12.74**	**325**	Pn	**Pn**	**15 24 52.8**	**-3.7**
KIBK					Sn	15 27 06.1	-12
RER	**Riviere de l'E**	**12.90**	**131**		**Pn**	**15 24 58.7**	**+0.1**
MSEY	**Mahe Island**	**12.93**	**52**	Pn	**Pn**	**15 24 56.4**	**-2.7**
LSZ	**Lusaka**	**16.80**	**260**	P	**Pn**	**15 25 52.0**	**+1.2**
LSZ				IAmb	IAmb	15 25 57.2	
	comp=Z,33nm,0.9s						
LSZ	**Lusaka**	**16.80**	**260**	Pn	**Pn**	**15 25 51.9**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=87,slow=7.6,SNR=22						
LSZ				Sn	**Sn**	**15 28 53.1**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=344,slow=13,SNR=2.6						
	comp=Z,27nm,0.8s						
LODK	**Lodwar**	**19.01**	**328**	P	**P**	**15 26 15.6**	**-1.7**
POGA	**Pongola**	**19.21**	**220**		**P**	**15 26 19.2**	**-0.1**
LBTB	**Lobatse**	**22.18**	**234**	P	**P**	**15 26 52.7**	**+1.1**
LBTB				IAmb	IAmb	15 26 56.9	
	comp=Z,10nm,0.8s						
LBTB	**Lobatse**	**22.18**	**234**	P	**P**	**15 26 53.6**	**+2.0**
	comp=Z,7.8nm,0.6s,baz=71,slow=9.7,SNR=10						
	comp=Z,7.8nm,0.6s						
BOSA	**Boshof**	**24.37**	**227**	P	**P**	**15 27 14.6**	**+1.0**
BOSA				IAmb	IAmb	15 27 17.9	
	comp=Z,8.7nm,0.8s						
BOSA	**Boshof**	**24.37**	**227**	P	**P**	**15 27 15.1**	**+1.4**
	comp=Z,6.5nm,0.6s,baz=58,slow=9.3,SNR=20						
	comp=Z,6.5nm,0.6s						
SUR	**Sutherland**	**29.67**	**225**	P	**P**	**15 28 03.0**	**+1.7**
PAF	**Port-aux-Franc**	**41.72**	**156**	P	**P**	**15 29 44.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**50.41**	**299**	P	**P**	**15 30 54.6**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=145,slow=5.4,SNR=3.6						
	comp=Z,0.4nm,0.8s						
BRTR	**Keskin Array B**	**53.48**	**349**	P	**P**	**15 31 16.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=172,slow=7.6,SNR=2.1						
	comp=Z,0.5nm,0.7s						
BZK	**Bozkurt**	**55.58**	**350**	P	**P**	**15 31 30.3**	**-0.5**
SIMJ	**Simiganj**	**55.87**	**22**	P	**P**	**15 31 32.7**	**-0.4**
SIMJ				IAmb	IAmb	15 31 47.0	
	comp=Z,2.8nm,0.8s						
CHGR	**Chuyangaron**	**55.92**	**22**	P	**P**	**15 31 32.7**	**-0.7**
CHGR				IAmb	IAmb	15 31 45.3	
	comp=Z,8.1nm,0.9s						
SYO	**Syowa Base**	**56.18**	**182⇓**	*e*sP	sP	15 31 41.5	+2.5
KK31	**Karatay Array**	**60.32**	**21**	P	**P**	**15 32 04.1**	**0.0**
KK31				IAmb	IAmb	15 32 06.5	
	comp=Z,5.6nm,1.5s						
KKAR	**Karatay Array**	**60.32**	**21**	P	**P**	**15 32 03.3**	**-0.7**
KKAR	**Karatay Array**	**60.32**	**21**	P	**P**	**15 32 04.1**	**0.0**
KKAR				IAmb	IAmb	15 32 06.4	
	comp=Z,3.6nm,1.5s						
CMAR	**Chiang Mai Arr**	**61.36**	**61**	P	**P**	**15 32 13.3**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=256,slow=10.0,SNR=5.0						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**63.22**	**11**	P	**P**	**15 32 22.6**	**-0.8**
ABKAR	**Akbulak array**	**63.22**	**11**	P	**P**	**15 32 22.0**	**-1.5**
ABKAR				IAmb	IAmb	15 32 26.5	
	comp=Z,4.4nm,0.9s						
GERES	**GERESS Array B**	**67.55**	**338**	P	**P**	**15 32 52.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=143,slow=9.9,SNR=1.9						
	comp=Z,0.6nm,0.6s						
MK31	**Makanchi Array**	**68.03**	**26**	P	**P**	**15 32 54.6**	**0.0**
MKAR	**Makanchi Array**	**68.03**	**26**	P	**P**	**15 32 55.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=193,slow=5.0,SNR=7.5						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**69.10**	**16**	P	**P**	**15 33 01.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=182,slow=3.8,SNR=3.3						
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**69.53**	**321**	P	**P**	**15 33 05.2**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=111,slow=6.8,SNR=3.3						
	comp=Z,0.7nm,0.7s						
ARTI	**Arti**	**69.89**	**8**	P	**P**	**15 33 06.7**	**+0.7**
ARTI				IAmb	IAmb	15 33 09.1	
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**74.58**	**23**	P	**P**	**15 33 34.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=197,slow=4.4,SNR=4.1						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**77.19**	**180**	P	**P**	**15 33 51.3**	**+2.3**
QSPA	**South Pole Qui**	**77.19**	**180**	P	**P**	**15 33 51.1**	**+2.0**
	comp=Z,4.3nm,1.1s,baz=268,slow=4.9,SNR=6.5						
	comp=Z,4.3nm,1.1s						
SONM	**Songino Array**	**81.15**	**37**	P	**P**	**15 34 12.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=256,slow=6.0,SNR=4.2						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**83.63**	**113**	P	**P**	**15 34 25.9**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=261,slow=4.7,SNR=26						
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**84.77**	**109**	P	**P**	**15 34 31.1**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=264,slow=3.6,SNR=9.7						
	comp=Z,3.1nm,0.9s						
ELIS	**Ellis County**	**140.83**	**312**		PKPpre	15 41 16.0	
BMO	**Blue Mountains**	**144.88**	**338**		**PKPab**	**15 41 31.8**	**0.0**
NVAR	**Mina Array Bea**	**150.71**	**333**	PKPbc	**PKPbc**	**15 41 47.3**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=61,slow=3.1,SNR=3.6						

DJA 07 15:22:50.0±0.4,**2°N**±3°×**12°7E**±°,**h102**km±7km,**M4.0**/15,
mB4.7/2,**mb4.1**/5,**MLv4.0**/15,**Mw(mB)3.9**/2,**MwMwp4.8**/1,
Mwp5.2/1,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.94**	**156**	P	Pn	15 23 10.8	+0.9
SGSI	**Sangihe**	**2.50**	**325**	P	Pn	15 23 28.0	-1.3
KMSI	**Cibinong**	**3.18**	**251**	P	Pn	15 23 39.3	+1.1
SANI	**Sanana**	**3.79**	**195**	P	Pn	15 23 44.7	-1.7
NLAI	**Namlea**	**4.84**	**179**	P	Pn	15 23 59.6	-1.0
LUWI	**Luwuk**	**4.97**	**238**	P	Pn	15 24 01.6	-0.8
MRSI	**Marisa**	**5.17**	**257**	P	Pn	15 24 05.2	+0.2
	0.1nm606nm13nm,0.7s						
APSI	**Ampana**	**5.90**	**245**	P	Pn	15 24 15.6	+0.6
	0.1nm19nm,0.6s						
KDI	**Kendari**	**7.06**	**218**	P	Pn	15 24 30.0	-0.7
BKSI	**Bulukumba**	**9.73**	**225**	P	Pn	15 25 07.9	+0.9

*AZER **07** 15:32:56.3, 40°.92N×48°.59E, h6km, ml2.6*
*MOS **07** 15:32:58.9, 40°.91N×48°.30E, h4km, MPVA3.7*
*DRS **07** 15:32:58.2, 40°.83N×48°.43E, h18km*
ISC 07 15:32:58.7±1.0,**40°.92N**±0°.02×**48°.50E**±0°.02,**h5**km±9km,
n38,σ1°**43**/76,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.14**	**150**	P	**Pg**	**15 33 01.2**	**-0.4**
PQL				S	**Sg**	**15 33 04.0**	**+0.4**
IML	**Ismayilli**	**0.27**	**243**	P	**Pg**	**15 33 05.4**	**+1.5**
IML				S	**Sg**	**15 33 11.4**	**+3.9**
ATGJ	**Altiaghaj**	**0.34**	**99**	P	**Pg**	**15 33 04.3**	**-1.0**
ATGJ				S	**Sg**	**15 33 09.8**	**0.0**
SIZA	**Siyzn**	**0.34**	**62**	P	**Pg**	**15 33 05.2**	**-0.2**
SIZA				S	**Sg**	**15 33 11.5**	**+1.5**
XNQ	**Khinaliq**	**0.37**	**314**	P	**Pb**	**15 33 06.8**	**-1.2**
XNQ				S	**Sb**	**15 33 13.3**	**-0.9**
QUBA	**Quba, Azerbaij**	**0.44**	**360**	P	**Pb**	**15 33 08.8**	**-0.3**
QUBA				S	**Sb**	**15 33 16.1**	**+0.1**
QBL	**Gabala**	**0.50**	**274**	P	**Pb**	**15 33 09.8**	**-0.3**
QBL				S	**Sb**	**15 33 19.5**	**+1.8**
GBS	**Qobustan**	**0.51**	**138**	P	**Pb**	**15 33 09.4**	**-0.8**
GBS				S	**Sb**	**15 33 19.9**	**+2.0**
QSAR	**Qusar**	**0.62**	**344**	P	**Pb**	**15 33 12.1**	**-0.1**
QSAR				S	**Sb**	**15 33 22.1**	**+0.8**
KSMR	**Kasumkent**	**0.74**	**338**	*e*Pg	**Pb**	**15 33 14.2**	**0.0**
KSMR				*e*Sg	**Sn**	**15 33 27.4**	**-0.3**
AKT	**Akhty**	**0.81**	**315**	*e*Pg	**Pn**	**15 33 15.0**	**-1.9**
AKT				*e*Sg	**Sn**	**15 33 27.0**	**-2.4**
ZRD	**Zardab**	**0.89**	**225**	P	**Pn**	**15 33 17.5**	**-0.3**
ZRD				S	**Sn**	**15 33 32.1**	**+1.0**
SEKA	**Sheki**	**1.02**	**287**	P	**Pn**	**15 33 19.1**	**-0.7**
SEKA				S	**Sn**	**15 33 35.8**	**+1.1**
ALIB	**&Aumlli-Bayram**	**1.03**	**158**	P	**Pn**	**15 33 22.6**	**+2.8**
ALIB				S	**Sn**	**15 33 37.0**	**+2.4**
MNGR	**Mingechevir, A**	**1.08**	**263**	P	**Pn**	**15 33 21.2**	**+0.6**
MNGR				S	**Sn**	**15 33 37.5**	**+1.7**
BRDA	**Brd**	**1.20**	**237**	P	**Pn**	**15 33 23.0**	**+0.9**
BRDA				S	**Sn**	**15 33 41.1**	**+2.4**
AGDM	**Agdam**	**1.33**	**233**	Pn	**Pg**	**15 33 24.4**	**+0.2**
AGDM				Sn	**Sn**	**15 33 45.1**	**+3.0**
BLQ	**Beylaqan**	**1.39**	**211**	Pn	**Pg**	**15 33 24.7**	**-0.7**
BLQ				Sn	**Sn**	**15 33 45.3**	**+1.7**
URKR	**Urkarakh**	**1.41**	**333**	*e*Pg	**Pg**	**15 33 26.1**	**+0.4**
URKR				*e*Sg	**Sn**	**15 33 45.6**	**+1.4**
ZKTA	**Zakatala**	**1.59**	**298**	Pn	**Pg**	**15 33 29.2**	**0.0**
ZKTA				Sn	**Sg**	**15 33 52.1**	**+2.4**
KMKR	**Kumukh**	**1.61**	**320**	*e*Pg	**Pg**	**15 33 29.4**	**-0.1**
KMKR				*e*Sg	**Sg**	**15 33 53.2**	**+2.9**
SGKR	**Sergokala**	**1.67**	**338**	*e*Pg	**Pg**	**15 33 30.8**	**+0.1**
SGKR				*e*Sg	**Sg**	**15 33 54.3**	**+2.0**
GANJ	**Ganja**	**1.67**	**261**	Pn	**Pb**	**15 33 28.7**	**-1.4**
GANJ				Sn	**Sg**	**15 33 51.7**	**-0.8**
GLBA	**Clilabad**	**1.67**	**183**	Pn	**Pb**	**15 33 29.2**	**-0.8**
GLBA				Sn	**Sg**	**15 33 52.5**	**0.0**
QRD	**Qoradiz**	**1.71**	**212**	Pn	**Pb**	**15 33 29.6**	**-1.1**
QRD				Sn	**Sg**	**15 33 52.6**	**-1.0**
GNBR	**Gunib**	**1.87**	**323**	*e*Pg	**Pg**	**15 33 34.6**	**+0.1**
GNBR				*e*Sg	**Sg**	**15 34 00.1**	**+1.4**
YRD	**Yardimli**	**2.01**	**186**	Pn	**Pn**	**15 33 33.7**	**+0.2**
YRD				Sn	**Sg**	**15 34 01.8**	**-1.4**
ARKR	**Arakani**	**2.03**	**327**	*e*Pg	**Pg**	**15 33 36.8**	**-0.7**
ARKR				*e*Sg	**Sg**	**15 34 04.9**	**+1.1**
GDB	**GEDABAY**	**2.09**	**266**	Pn	**Pb**	**15 33 35.6**	**-1.6**
GDB				Sn	**Sg**	**15 34 03.9**	**-2.0**
UNCR	**Uncukul**	**2.20**	**325**	*e*Pg	**Pg**	**15 33 40.5**	**-0.5**
UNCR				*e*Sg	**Sg**	**15 34 09.1**	**-0.4**
LKRN	**Lenkeran, Azer**	**2.21**	**174**	Pn	**Pn**	**15 33 36.5**	**+0.5**
LKRN				Sn	**Sb**	**15 34 04.8**	**-2.1**
KRNR	**Karanay**	**2.25**	**329**	*e*Pg	**Pg**	**15 33 40.8**	**-1.0**
KRNR				*e*Sg	**Sg**	**15 34 10.6**	**-0.3**
LRK	**Lerik**	**2.27**	**183**	Pn	**Pb**	**15 33 38.6**	**-1.7**
LRK				Sn	**Sb**	**15 34 08.8**	**0.0**
ASTR	**Astara**	**2.36**	**174**	Pn	**Pn**	**15 33 37.4**	**-0.8**
ASTR				Sn	**Sb**	**15 34 09.8**	**-1.4**
QZX	**Qazax, Azerbai**	**2.37**	**274**	Pn	**Pb**	**15 33 40.6**	**-1.3**
QZX				Sn	**Sb**	**15 34 10.7**	**-0.8**
DBC	**Dubki**	**2.44**	**330**	*e*Pn	**Pg**	**15 33 44.3**	**-1.2**
DBC				*e*Sn	**Sg**	**15 34 15.2**	**-2.0**
SBZ	**Shahbuz**	**2.72**	**237**	Pn	**Pb**	**15 33 45.4**	**-2.5**
SBZ				Sn	**Sb**	**15 34 20.2**	**-1.4**
ORD	**Ordubad**	**2.76**	**225**	Pn	**Pn**	**15 33 44.7**	**+1.0**
ORD				Sn	**Sn**	**15 34 18.3**	**+0.7**

*IDC **07** 15:36:12.4±2.1, 6°.47S×129°.78E, h0km, mb3.6/1, mbtmp3.6/4, ML3.8/2, MS3.2/1, Error ellipse: s-maj=91.4km s-min=27.2km az=76.0*
ISC 07 15:36:27.2±1.1,**7°.15S**±0°.07×**129°.8E**±0°.1,**h150**km,**n10,**
σ3°**35**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.87**	**31**	P	**Pn**	**15 37 37.0**	**-2.0**
DRS	**Darwin Rock St**	**5.37**	**168**	P	**Pn**	**15 37 49.9**	**+4.4**
MTN	**Manton Dam**	**5.82**	**167**	P	**Pn**	**15 37 55.3**	**+3.8**
SOEI	**Soe**	**6.03**	**244**	P	**Pn**	**15 37 56.2**	**+1.8**
KDU	**Kakadu**	**6.12**	**154**	P	**Pn**	**15 37 58.8**	**+3.3**
FITZ	**Fitzroy Crossi**	**11.61**	**200**	Pn	**Pn**	**15 39 08.5**	**+0.1**
	1.9nm,0.4s,baz=115,slow=5.9						
FITZ				Sn	**Sn**	**15 41 13.9**	**-2.8**
WRA	**Warramunga Arr**	**13.47**	**161**	Pn	**Pn**	**15 39 33.3**	**+0.8**
	0.5nm,0.3s,baz=344,slow=13,SNR=22						
WRA				Sn	**Sn**	**15 41 56.7**	**-5.0**
	0.7nm,0.3s,baz=336,slow=21,SNR=8.5						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**16.90**	**167**	P	**Pn**	**15 40 18.6**	**+3.7**
	0.2nm,0.3s,baz=346,slow=10,SNR=35						
ASAR				S	**S**	**15 43 21.4**	**-1.6**
	0.6nm,0.6s,baz=344,slow=23,SNR=6.6						
	0.8nm,0.7s						
KSRS	**Korea Array**	**44.40**	**358**	LR	LR	16 03 01.5	
	comp=Z,30nm,19.5s,baz=140,slow=37						
MKAR	**Makanchi Array**	**68.22**	**327**	P	**P**	**15 47 11.4**	**-0.2**
	0.4nm,0.5s,baz=124,slow=7.7,SNR=10						
	0.4nm,0.5s						

*SJA **07** 15:38:26.4±1.0, 21°.05S×68°.58W, h153km±7km, ML3.5, MW3.5*
*GUC **07** 15:38:28.1±0.7, 21°.07S×68°.54W, h144km±4km, ML3.5*
*IDC **07** 15:38:29.0±2.1, 21°.09S×68°.03W, h132km±19km, mb3.6/4, mbtmp3.9/9, Error ellipse: s-maj=21.2km s-min=15.8km az=82.0*
ISC 07 15:38:26.9±0.7,**21°.05S**±0°.05×**68°.29W**±0°.06,**h124**km±7km,
n31,σ1°**65**/43,**mb3.9**/4,**5C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.11**	**270**	*e*P	**Pn**	**15 38 50.7**	**+0.2**
PB01				*e*S	**Sn**	**15 39 09.1**	**+0.7**
PB01				IAML		15 39 09.4	
	comp=Z,653nm,0.5s						
PB01	**IPOC Station P**	**1.11**	**270⇑**	*i*P	**Pn**	**15 38 50.7**	**+0.2**
PB01				*e*S	**Sn**	**15 39 08.0**	**-0.3**
PB01				IAML		15 39 09.2	
	comp=N,773nm,0.2s						
PB09	**IPOC Station P**	**1.16**	**230**	*e*P	**Pn**	**15 38 52.2**	**+1.2**
PB09				*e*S	**Sn**	**15 39 10.2**	**+0.9**
PB09				IAML		15 39 11.6	
	comp=Z,905nm,1.0s						
PB09	**IPOC Station P**	**1.16**	**230⇑**	*i*P	**Pn**	**15 38 52.0**	**+1.0**
PB09				*e*S	**Sn**	**15 39 10.1**	**+0.9**
PB09				IAML		15 39 12.4	
	comp=E,708nm,0.2s						
PB08	**IPOC Station P**	**1.21**	**318**	*e*P	**Pn**	**15 38 53.7**	**+1.9**
PB08				*e*S	**Sn**	**15 39 12.2**	**+1.6**
PB08				IAML		15 39 13.7	
	comp=Z,804nm,0.7s						
PB08	**IPOC Station P**	**1.21**	**318⇑**	*i*P	**Pn**	**15 38 53.5**	**+1.8**
PB08				*e*S	**Sn**	**15 39 12.2**	**+1.6**
PB08				IAML		15 39 13.9	
	comp=N,1μm,0.4s						
HMBC	**Humberstone**	**1.68**	**297**	*e*P	**Pn**	**15 38 56.6**	**-0.1**
HMBC				*e*S	**Sn**	**15 39 18.3**	**-1.2**
HMBC				IAML		15 39 19.9	
	comp=Z,1μm,0.3s						
HMBC	**Humberstone**	**1.68**	**297⇑**	*i*P	**Pn**	**15 38 56.6**	**-0.1**
HMBC				*e*S	**Sn**	**15 39 18.0**	**-1.5**
HMBC				IAML		15 39 18.6	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**1.83**	**285**	*e*P	**Pn**	**15 38 57.7**	**-0.7**
TA01				*e*S	**Sn**	**15 39 20.6**	**-1.8**
TA01				IAML		15 39 22.2	
	comp=Z,274nm,0.3s						
TA01	**Diego Aracena**	**1.83**	**285⇑**	*i*P	**Pn**	**15 38 57.7**	**-0.7**
TA01				*e*S	**Sn**	**15 39 20.0**	**-2.5**
TA02	**Huaiquique**	**1.89

SALU	**Saltoluokta**	**0.80**	**239**	*eP*	**Pg**	**15 48 45.7**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**239**	P	**Pg**	**15 48 45.9**	**+0.1**
SALU	**Saltoluokta**	**0.80**	**239**	*i* P	**Pg**	**15 48 45.9**	**+0.1**
KIF	**Kilpisjarvi**	**1.22**	**9**	*eP*	**Pg**	**15 48 52.9**	**-1.0**
KIF	**Kilpisjarvi**	**1.22**	**9**	*eP*	**Pg**	**15 48 53.7**	**-0.2**
KIF				*eS*	**Sg**	**15 49 10.0**	**+0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**15 48 56.4**	**+0.1**
PAJU	**Pajala**	**1.35**	**124**	*eP*	**Pg**	**15 48 56.4**	**+0.1**
HEF	**Hetta**	**1.41**	**63**	*eP*	**Pn**	**15 48 56.6**	**-0.7**
HEF	**Hetta**	**1.41**	**63**	*eP*	**Pn**	**15 48 57.1**	**-0.3**
HEF				*eS*	**Sg**	**15 49 15.5**	**-0.1**
ERTU	**Ertsjaerv**	**1.46**	**148**	P	**Pb**	**15 48 58.7**	**+0.1**
ERTU	**Ertsjaerv**	**1.46**	**148**	*eP*	**Pg**	**15 48 58.5**	**0.0**
ERTU				*eS*	**Sg**	**15 49 17.5**	**+0.1**
KLF	**Kolari**	**1.53**	**110**	*eP*	**Pb**	**15 48 59.6**	**-0.1**
KLF				*eS*	**Sn**	**15 49 19.4**	**-0.3**
KLF				MSG		15 49 22.5	
	comp=Z,3.7nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**41**	*eP*	**Pn**	**15 49 00.7**	**+0.2**
KTK1				IAML		15 49 27.2	
	comp=Z,15nm,0.3s						
KTK1	**Kautokeino**	**1.63**	**41**	*eP*	**Pn**	**15 49 00.5**	**0.0**
KTK1				*eS*	**Sn**	**15 49 21.7**	**-0.6**
HARU	**Harads**	**1.67**	**170**	P	**Pb**	**15 49 02.1**	**0.0**
HARU	**Harads**	**1.67**	**170**	*eP*	**Pb**	**15 49 02.1**	**0.0**
JETT	**Jettan, Norway**	**1.76**	**2**	*eP*	**Pn**	**15 49 01.8**	**-0.5**
JETT				IAML		15 49 28.1	
	comp=Z,57nm,0.6s						
JETT	**Jettan, Norway**	**1.76**	**2**	*eP*	**Pn**	**15 49 01.8**	**-0.5**
JETT				IAML		15 49 28.1	
	comp=Z,57nm,0.6s						
FAUS	**Fauske**	**1.96**	**260**	*eP*	**Pb**	**15 49 06.2**	**-0.9**
FAUS				IAML		15 49 36.7	
	comp=Z,24nm,0.7s						
FAUS	**Fauske**	**1.96**	**260**	*eP*	**Pb**	**15 49 06.2**	**-0.9**
FAUS				IAML		15 49 36.7	
	comp=Z,24nm,0.7s						
KALU	**Kalix**	**2.30**	**147**	*eP*	**Pb**	**15 49 11.8**	**-1.0**
KALU				*eS*	**Sb**	**15 49 41.3**	**-0.5**
KALU				MSG		15 49 45.8	
	comp=Z,4.1nm,0.2s						
TOF	**Tornio**	**2.35**	**136**	*eP*	**Pb**	**15 49 13.0**	**-0.8**
TOF				*eS*	**Sb**	**15 49 42.7**	**-0.6**
TOF				MSG		15 49 45.7	
	comp=Z,4.9nm,0.2s						
ARCES	**ARCESS Array B**	**2.58**	**45**	Pn	**Pn**	**15 49 14.5**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=225,slow=15,SNR=36						
ARCES				Lg	Lg	15 49 47.3	
	comp=Z,2.1nm,0.3s,baz=228,slow=25,SNR=18						
	comp=Z,1.7nm,0.3s						
ARA0	**ARCESS Array S**	**2.58**	**45**	*eP*	**Pn**	**15 49 14.8**	**+1.2**
ARA0				IAML		15 49 51.4	
	comp=Z,8.0nm,0.5s						
ARA0	**ARCESS Array S**	**2.58**	**45**	*eP*	**Pn**	**15 49 14.8**	**+1.2**
ARA0				IAML		15 49 51.4	
	comp=Z,8.0nm,0.5s						
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**15 50 12.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=3.7						
FINES				Sn	**Sn**	**15 51 28.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=24,SNR=1.6						
FINES				Lg	Lg	15 52 02.3	
	comp=Z,0.4nm,0.3s,baz=345,slow=30,SNR=7.3						
	comp=Z,1.9nm,0.7s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**15 50 28.6**	**+3.0**
	baz=18,slow=16,SNR=2.3						
NOA				Sn	**Sn**	**15 51 55.6**	**+0.7**
	baz=81,slow=18,SNR=1.3						
NOA				Lg	Lg	15 52 42.8	
	baz=51,slow=24,SNR=4.1						
	comp=Z,1.2nm,1.0s						
HFS	**Hagfors**	**8.22**	**204**	Pn	**Pn**	**15 50 31.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=1.5						
HFS				Sn	**Sn**	**15 52 02.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=17,slow=20,SNR=2.0						
HFS				Lg	Lg	15 52 52.9	
	comp=Z,0.1nm,0.3s,baz=35,slow=21,SNR=3.0						
	comp=Z,1.2nm,0.9s						
SPITS	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**15 51 03.5**	**+1.7**
	baz=166,slow=13						
	comp=Z,11nm,1.0s						

*SJA **07** 15:51:08.8±0.6,30.°12S×71.°43W,h16km±3km,ML2.6, MW2.7*
*GUC **07** 15:51:11.9±0.4,30.°14S×71.°29W,h63km±2km,ML2.7*
ISC 07 15:51:12.2±1.5,**30.°09S**±0.°04×**71.°49W**±0.°06,**h47**km±11km, **n27**,σ1°**75**/41,**2C-1D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.28**	**52**	*i* P	**Pn**	**15 51 21.1**	**+0.2**
CO05				*i* S	**Sn**	**15 51 28.2**	**+1.2**
CO05				IAML		15 51 29.6	
	comp=N,1μm,0.2s						
CO06	**Fray Jorge**	**0.59**	**192**	*eP*	**Pn**	**15 51 25.1**	**+0.6**
CO06				*eS*	**Sn**	**15 51 35.0**	**+1.6**
GO04	**Tololo Observa**	**0.60**	**98**	*eP*	**Pn**	**15 51 23.4**	**-1.5**
GO04	**Tololo Observa**	**0.60**	**98**	↑*i* P	**Pn**	**15 51 23.3**	**-1.5**
GO04				*i* S	**Sn**	**15 51 32.2**	**-1.7**
CO03	**El Pedregal**	**1.02**	**137**	*eP*	**Pn**	**15 51 27.4**	**-2.8**
CO03				IAML		15 51 43.7	
	comp=Z,75nm,0.4s						
CO03	**El Pedregal**	**1.02**	**137**	*eP*	**Pn**	**15 51 28.1**	**-2.1**
CO03				*eS*	**Sn**	**15 51 40.8**	**-2.7**
CO03				IAML		15 51 41.7	
	comp=E,277nm,0.1s						
CO01	**Juntas del Tor**	**1.22**	**85**	*eP*	**Pn**	**15 51 31.2**	**-1.9**
CO01	**Juntas del Tor**	**1.22**	**85**	↑*i* P	**Pn**	**15 51 31.2**	**-1.9**
CO01				*eS*	**Sn**	**15 51 45.5**	**-3.0**
CO01				IAML		15 51 46.3	
	comp=N,286nm,0.4s						
LCO	**Las Campanas**	**1.28**	**33**	*eP*	**Pn**	**15 51 32.9**	**-1.0**
LCO				IAML		15 51 52.7	
	comp=Z,97nm,0.3s						
AROD	**Rodeo**	**1.75**	**93**	*eP*	**Pn**	**15 51 39.8**	**-0.6**
AC04	**Llanos de Chal**	**1.91**	**11**	*eP*	**Pn**	**15 51 40.0**	**-2.4**
AC04				IAML		15 52 10.1	
	comp=Z,18nm,1.4s						
CO04	**Los Peladeros**	**2.00**	**167**	*i* P	**Pn**	**15 51 42.9**	**-0.9**
CO04				*eS*	**Sn**	**15 52 06.8**	**-1.0**
CO04				IAML		15 52 11.6	
	comp=E,141nm,0.2s						
ACDV	**Cuesta del Vie**	**2.06**	**93**	*eP*	**Pn**	**15 51 44.8**	**+0.3**
ACDV				IAML		15 52 55.5	
	comp=Z,49nm,0.2s						
ACCO	**Cerro Coronel**	**2.15**	**104**	*eP*	**Pn**	**15 51 46.2**	**+0.2**
DOCA	**Reserva Natura**	**2.25**	**113**	*eP*	**Pn**	**15 51 47.3**	**0.0**
DOCA				*eS*	**Sn**	**15 52 15.0**	**+1.0**
RTLS	**Leoncito**	**2.54**	**133**	*eP*	**Pn**	**15 51 51.8**	**+0.6**
RTLS				IAML		15 52 25.6	
	comp=Z,39nm,0.2s						
AGUA	**GUANDACOL**	**2.67**	**78**	*eP*	**Pn**	**15 51 54.0**	**+1.1**
AGUA				IAML		15 52 29.7	
	comp=Z,24nm,3.5s						
VA03	**San Esteban**	**2.78**	**163**	*eP*	**Pn**	**15 51 54.2**	**-0.2**
VA03				*eS*	**Sn**	**15 52 27.8**	**+1.0**
VA03				IAML		15 52 29.8	
	comp=Z,24nm,0.4s						
ZON	**Zonda**	**2.82**	**122**	*eP*	Pn	15 52 09.0	+14
ZON				*eS*	**Sn**	**15 52 29.3**	**+1.7**
ROCH	**El Roble**	**2.90**	**172**	*eP*	**Pn**	**15 51 55.6**	**-0.5**
ROCH				*eS*	**Sn**	**15 52 28.4**	**-1.5**
ROCH				IAML		15 52 39.1	
	comp=N,15nm,0.3s						
ROC1	**El Roble**	**2.91**	**172**	*eP*	**Pn**	**15 51 57.1**	**+0.9**
ROC1				*eS*	**Sn**	**15 52 28.7**	**-1.4**
VCA	**Vinchina**	**3.17**	**66**	*eP*	**Pn**	**15 52 01.1**	**+1.4**
VCA				*eS*	**Sn**	**15 52 40.4**	**+4.1**
VCA				IAML		15 52 41.0	
	comp=Z,10nm,0.3s						
MT02	**Curacav**	**3.17**	**175**	*eP*	**Pn**	**15 51 58.9**	**-0.8**
MT02				*eS*	**Sn**	**15 52 34.0**	**-2.3**
MT02				IAML		15 53 03.0	
	comp=Z,21nm,2.8s						
ASAL	**Salagasta**	**3.37**	**138**	*eP*	**Pn**	**15 52 03.4**	**+0.9**
ASAL				*eS*	**Sn**	**15 52 44.4**	**+3.1**
MT03	**Universidad Ad**	**3.49**	**166**	*eP*	Pn	15 51 47.5	-17
MT03				IAML		15 52 46.3	
	comp=Z,24nm,0.5s						
MT04	**Ro Olivares**	**3.50**	**161**	*eP*	**Pn**	**15 52 05.6**	**+1.2**
MT04				*eS*	**Sn**	**15 52 46.8**	**+2.1**
MT04				IAML		15 52 56.1	
	comp=Z,14nm,2.7s						
MT01	**Popeta**	**3.77**	**177**	*eP*	**Pn**	**15 52 09.1**	**+1.3**
MT01				*eS*	**Sn**	**15 52 49.2**	**-1.7**
MT01				IAML		15 53 15.6	
	comp=Z,21nm,4.0s						

*NEIC **07** 15:54:11.6±0.5,36.°80N±0.°01×98.°32W±0.°02,h4km±4km, mb_Lg2.9/62,ML3.2/40,Error ellipse: s-maj=2.1km s-min=1.5km az=129.0*
ISC 07 15:54:10.1±1.3,**36.°82N**±0.°02×**98.°35W**±0.°02,**h7**km±12km, **n88**,σ1°**20**/94,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.34**	**66**		**Pb**	**15 54 18.5**	**+0.1**
KAN14				Sg	**Sb**	**15 54 21.8**	**-2.3**
CROK	**Carrier**	**0.43**	**137**		**Pb**	**15 54 19.8**	**-0.3**
CROK				Sg	**Sg**	**15 54 25.3**	**+1.2**
CROK				IAML		15 54 27.7	
	comp=N,3μm,0.3s						
CROK				IAML		15 54 28.6	
	comp=E,3μm,0.3s						
KAN05	**Bluff City Nor**	**0.47**	**53**	Pg	**Pb**	**15 54 21.1**	**+0.3**
KAN08	**Anthony NE Sta**	**0.50**	**36**		**Pb**	**15 54 22.0**	**+0.7**
KAN08				Sg	**Sb**	**15 54 29.0**	**+0.1**
KAN08				IAML		15 54 29.3	
	comp=N,2μm,0.4s						
NOKA	**Waynoka**	**0.51**	**248**		**Pb**	**15 54 22.2**	**+0.8**
NOKA				Sg	**Sb**	**15 54 29.6**	**+0.6**
NOKA				IAML		15 54 30.1	
	comp=N,2μm,0.2s						
NOKA				IAML		15 54 37.4	
	comp=E,2μm,0.3s						
KAN17	**Caldwell West**	**0.52**	**64**		**Pb**	**15 54 21.8**	**+0.3**
KAN17				Sg	**Sb**	**15 54 28.7**	**-0.5**
KAN17				IAML		15 54 36.3	
	comp=N,1μm,0.3s						
KAN17				IAML		15 54 37.8	
	comp=E,2μm,0.3s						
KAN12	**Harper NE Stat**	**0.55**	**30**		**Pb**	**15 54 22.6**	**+0.4**
KAN12				Sg	**Sb**	**15 54 30.3**	**0.0**
KAN01	**Argonia South**	**0.57**	**55**		**Pb**	**15 54 23.0**	**+0.5**
KAN01				Sg	**Sb**	**15 54 30.7**	**-0.3**
KAN01				IAML		15 54 31.1	
	comp=E,1μm,0.2s						
KAN09	**Caldwell North**	**0.66**	**62**		**Pb**	**15 54 24.5**	**+0.4**
KAN09				IAML		15 54 36.9	
	comp=N,2μm,0.2s						
KAN13	**South Haven SW**	**0.72**	**74**		**Pb**	**15 54 25.4**	**+0.3**
KAN13				Sg	**Sb**	**15 54 34.7**	**-0.5**
KAN13				IAML		15 54 38.5	
	comp=E,1μm,0.3s						
KAN13				IAML		15 54 42.6	
	comp=N,1μm,0.3s						
BLOK	**Blackwell**	**0.91**	**94**		**Pb**	**15 54 28.6**	**+0.3**
BLOK				Sg	**Sb**	**15 54 40.0**	**-0.7**
ELIS	**Ellis County**	**1.15**	**229**		**Pn**	**15 54 33.6**	**+0.9**
ELIS				Sg	**Sb**	**15 54 49.1**	**+1.6**
ELIS				IAML		15 54 56.0	
	comp=E,713nm,0.2s						
CSTR	**Hydro, Custer**	**1.21**	**193**		**Pn**	**15 54 34.4**	**+0.9**
CSTR				Sg	**Sn**	**15 54 50.8**	**+0.6**
OK029	**Liberty Lake**	**1.25**	**145**		**Pb**	**15 54 34.4**	**+0.3**
OK029				Sg	**Sb**	**15 54 51.0**	**+0.6**
OK029				IAML		15 54 55.5	
	comp=E,454nm,0.4s						
OK029				IAML		15 54 55.6	
	comp=E,518nm,0.3s						
OK051	**E0350 and S346**	**1.25**	**104**		**Pn**	**15 54 34.7**	**+0.5**
OK051				Sg	**Sb**	**15 54 50.9**	**+0.4**
ADOK	**Arcadia Dam**	**1.41**	**146**		**Pg**	**15 54 37.2**	**+0.1**
QUOK	**Quay**	**1.47**	**116**		**Pg**	**15 54 38.3**	**0.0**
QUOK					**Sg**	**15 54 57.2**	**-0.2**
OK004	**Okla Sci Mus**	**1.48**	**151**		**Pg**	**15 54 38.4**	**0.0**
OK031	**S. Brethren Rd**	**1.49**	**125**		**Pg**	**15 54 38.6**	**-0.1**
OK031					**Sg**	**15 54 58.1**	**0.0**
OK052	**Battle Ridge R**	**1.49**	**123**		**Pg**	**15 54 38.7**	**-0.1**
OK052					**Sg**	**15 54 58.2**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.59**	**152**		**Pb**	**15 54 39.9**	**0.0**
R32A	**Long Quarter,**	**1.62**	**350**		**Pg**	**15 54 42.0**	**+0.8**
FNO	**Franklin**	**1.74**	**154**		**Pb**	**15 54 42.4**	**0.0**
DEOK	**Depew**	**1.78**	**123**		**Pb**	**15 54 42.8**	**-0.3**
W35A	**Tecumseh**	**2.05**	**144**		**Pb**	**15 54 46.8**	**-0.9**
WMOK	**Wichita Mounta**	**2.11**	**190**		**Pb**	**15 54 47.9**	**-0.9**
WMOK	**Wichita Mounta**	**2.11**	**190**		**Pb**	**15 54 48.3**	**-0.4**
WMOK	**Wichita Mounta**	**2.11**	**190**	P	**Pb**	**15 54 48.4**	**-0.4**
X34A	**Smith Ranch, M**	**2.26**	**169**		**Pb**	**15 54 50.5**	**-0.7**
CBKS	**Cedar Bluff**	**2.27**	**331**		**Pb**	**15 54 50.4**	**-1.2**
CBKS				IAmb_Lg		15 55 25.3	
	comp=Z,56nm,0.9s						
SMWD	**Samnorwood**	**2.30**	**222**		**Pb**	**15 54 51.5**	**-0.6**
SMWD	**Samnorwood**	**2.30**	**222**	P	**Pb**	**15 54 52.4**	**+0.3**
KSU1	**Kansas State U**	**2.66**	**31**		**Pb**	**15 54 55.8**	**-2.2**
WTFS	**Witchita Falls**	**3.05**	**182**		**Pn**	**15 55 00.8**	**+2.0**
WTFS	**Witchita Falls**	**3.05**	**182**	P	**Pb**	**15 55 03.7**	**-1.1**
AMTX	**Amarillo**	**3.33**	**235**		**Pn**	**15 55 04.2**	**+1.4**
AMTX				IAmb_Lg		15 56 05.6	
	comp=Z,49nm,0.7s						
AMTX	**Amarillo**	**3.33**	**235**	P	**Pb**	**15 55 07.7**	**-1.9**
RTBA	**Rita Blanca**	**3.55**	**265**		**Pn**	**15 55 07.0**	**+1.2**
RTBA	**Rita Blanca**	**3.55**	**265**	P	**Pn**	**15 55 09.7**	**+3.8**
HHAR	**Hobbs**	**3.59**	**97**		**Pn**	**15 55 08.1**	**+1.9**
APMT	**Aspermont**	**3.78**	**203**	Pn	**Pn**	**15 55 09.3**	**+0.4**
APMT	**Aspermont**	**3.78**	**203**	P	**Pb**	**15 55 14.0**	**-3.3**
FW03	**Perrin-Whitt E**	**3.78**	**176**	Pn	**Pn**	**15 55 10.7**	**+1.8**
DKNS	**Dickens**	**3.79**	**215**		**Pn**	**15 55 08.8**	**-0.3**
DKNS	**Dickens**	**3.79**	**215**	P	**Pb**	**15 55 14.1**	**-3.4**
FW06	**Azle**	**3.90**	**170**	Pn	**Pn**	**15 55 11.0**	**+0.5**
FW06				IAmb_Lg		15 56 21.6	
	comp=Z,23nm,0.8s						
PLPT	**Palo Pinto**	**4.00**	**180**	Pn	**Pn**	**15 55 11.7**	**-0.2**
PLPT	**Palo Pinto**	**4.00**	**180**	P	**Pn**	**15 55 14.2**	**+2.3**
KSCO	**Kaye Shedlock'**	**4.03**	**304**		**Pn**	**15 55 13.4**	**+0.9**
KSCO				IAmb_Lg		15 56 25.2	
	comp=Z,26nm,0.7s						
SN07	**Snyder 07**	**4.27**	**210**	Pn	**Pn**	**15 55 16.3**	**+0.7**
SN07				IAmb_Lg		15 56 34.7	
	comp=Z,31nm,0.9s						
SN05	**Snyder 5**	**4.45**	**209**		**Pn**	**15 55 17.7**	**-0.5**
SN05				IAmb_Lg		15 56 42.1	
	comp=Z,26nm,0.8s						
N35A	**Tabor**	**4.55**	**27**	Pn	**Pn**	**15 55 20.5**	**+1.1**
POST	**Post**	**4.56**	**216**	Pn	**Pn**	**15 55 20.1**	**+0.5**
POST				IAmb_Lg		15 56 42.6	
	comp=Z,18nm,0.7s						
BGNE	**Belgrade**	**4.58**	**2**	Pn	**Pn**	**15 55 19.0**	**-0.9**
T25A	**Trinidad**	**4.87**	**276**		**Pn**	**15 55 24.4**	**+0.4**
MGMO	**Mountain Grove**	**4.88**	**84**		**Pn**	**15 55 23.3**	**-0.6**
MGMO				IAmb_Lg		15 56 44.0	
	comp=Z,26nm,0.7s						
OGNE	**Ogallala**	**5.02**	**326**		**Pn**	**15 55 25.4**	**-0.6**
OGNE				IAmb_Lg		15 56 53.3	
	comp=Z,17nm,0.8s						
X40A	**Basin Creek Fa**	**5.06**	**116**	Pn	**Pn**	**15 55 27.8**	**+1.4**
X40A				IAmb_Lg		15 56 56.9	
	comp=Z,31nm,0.7s						
FCAR	**Ozark Folk Cen**	**5.11**	**99**	Pn	**Pn**	**15 55 29.0**	**+1.9**
WHAR	**Wooly Hollow**	**5.14**	**106**	Pn	**Pn**	**15 55 29.1**	**+1.6**
WHAR				IAmb_Lg		15 57 00.4	
	comp=Z,23nm,0.8s						
UALR	**University of**	**5.29**	**111**	Pn	**Pn**	**15 55 31.7**	**+2.1**
UALR				IAmb_Lg		15 57 04.9	
	comp=Z,23nm,0.7s						
WLAR	**White Oak Lake**	**5.30**	**125**	IAmb_Lg		15 57 01.9	
	comp=Z,25nm,0.8s						
SGCY	**Sterling City**	**5.41**	**206**	IAmb_Lg		15 57 15.4	
	comp=Z,30nm,0.8s						
BRDY	**Brady**	**5.55**	**186**		**Pn**	**15 55 34.7**	**+1.5**
BRDY				IAmb_Lg		15 57 10.5	
	comp=Z,19nm,1.0s						
N38A	**Joes South For**	**5.62**	**44**		**Pn**	**15 55 34.1**	**-0.1**
N38A				IAmb_Lg		15 57 20.7	
	comp=Z,22nm,0.8s						
Z41A	**Richland Creek**	**5.77**	**126**	IAmb_Lg		15 57 25.9	
	comp=Z,20nm,0.8s						
CCM	**Cathedral Cave**	**5.78**	**76**	Pn	**Pn**	**15 55 37.8**	**+1.4**
CCM				IAmb_Lg		15 57 21.0	
	comp=Z,17nm,0.7s						
Q24A	**Divide**	**5.79**	**294**	IAmb_Lg		15 57 24.9	
	comp=Z,16nm,0.8s						
T42A	**Van Buren**	**5.81**	**86**	Pn	**Pn**	**15 55 38.5**	**+1.7**
T42A				IAmb_Lg		15 57 18.5	
	comp=Z,20nm,0.8s						
LCAR	**Lake Charles**	**5.84**	**95**	Pn	**Pn**	**15 55 36.9**	**-0.3**
LCAR				IAmb_Lg		15 57 17.5	
	comp=Z,18nm,0.7s						
K30B	**Basset**	**5.92**	**351**	IAmb_Lg		15 57 34.5	
	comp=Z,26nm,0.8s						
BRIGG	**Briggsdale**	**5.99**	**311**	IAmb_Lg		15 57 32.0	
	comp=Z,21nm,0.8s						
435B	**Jarrell**	**6.06**	**174**	IAmb_Lg		15 57 34.5	
	comp=Z,17nm,0.8s						
OZNA	**Ozona**	**6.32**	**202**	Pn	**Pn**	**15 55 42.6**	**-1.2**
PBMO	**Poplar Bluff**	**6.35**	**88**	Pn	**Pn**	**15 55 42.9**	**-1.3**
FVM	**French Village**	**6.41**	**77**	Pn	**Pn**	**15 55 44.1**	**-0.9**
FVM				IAmb_Lg		15 57 44.4	
	comp=Z,19nm,0.9s						
ISCO	**Idaho Springs**	**6.44**	**300**	Pn	**Pn**	**15 55 44.9**	**-0.9**
JCT	**Junction City**	**6.44**	**191**	Pn	**Pn**	**15 55 44.2**	**-1.3**
CGM3	**Cape Girardeau**	**6.96**	**83**	IAmb_Lg		15 57 50.8	
	comp=Z,17nm,0.9s						
N41A	**Harden Midland**	**7.02**	**54**	IAmb_Lg		15 58 06.3	
	comp=Z,13nm,0.7s						
ECSD	**EROS Data Cent**	**7.03**	**10**	Pn	**Pn**	**15 55 52.5**	**-1.0**
N23A	**Red Feather La**	**7.19**	**307**	Pn	**Pn**	**15 55 58.9**	**+3.0**
SIUC	**Southern Illin**	**7.33**	**80**	Pn	**Pn**	**15 55 58.6**	**+0.9**
L40A	**Anamosa**	**7.60**	**44**	Pn	**Pn**	**15 56 00.3**	**-1.0**
VHRN	**Van Horn**	**8.17**	**224**	Pn	**Pn**	**15 56 08.7**	**-0.6**
RSSD	**Black Hills**	**8.48**	**331**	Pn	**Pn**	**15 56 14.2**	**+0.6**
WVT	**Waverly**	**8.50**	**92**	Pn	**Pn**	**15 56 14.1**	**+0.4**
K22A	**Casper**	**8.57**	**315**	IAmb_Lg		15 59 03.1	
	comp=Z,12nm,1.0s						

*NEIC **07** 16:14:54.6±2.0,34.°715N±0.°010×116.°28W±0.°01, h5km±3km,Error ellipse: s-maj=1.6km s-min=1.5km az=61.0*
*PAS **07** 16:14:55.3±2.0,34.°708N±0.°010×116.°29W±0.°01, h2km±3km,Mwr3.5/4,ML3.2/97(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=68.0*
ISC 07 16:14:55.1±0.9,**34.°70N**±0.°02×**116.°29W**±0.°02,**h11**km±8km, **n118**,σ0°**66**/139,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.13**	**342**		**Pg**	**16 14 58.2**	**-0.2**
HEC					**Sg**	**16 15 00.5**	**-0.2**
GTM	**Goat Mountain**	**0.41**	**188**		**Pg**	**16 15 03.3**	**+0.1**
GTM					**Sg**	**16 15 09.5**	**+0.8**
DSCC	**Desert Studies**	**0.46**	**19**		**Pg**	**16 15 04.2**	**0.0**
DSCC					**Sg**	**16 15 10.6**	**+0.3**
GMRC	**Granite Mounta**	**0.52**	**81**		**Pg**	**16 15 05.2**	**-0.1**
GMRC					**Sg**	**16 15 12.6**	**+0.3**
RRX	**Edison Barstow**	**0.61**	**287**		**Sg**	**16 15 15.6**	**+0.6**
TPC	**Twentynine Pal**	**0.63**	**162**		**Pg**	**16 15 07.4**	**+0.1**
BLAC	**Blackrock camp**	**0.64**	**188**		**Sg**	**16 15 16.6**	**+0.7**
GSC	**Goldstone, Bar**	**0.73**	**325**		**Pg**	**16 15 09.2**	**-0.1**
GSC				Sg	**Sg**	**16 15 18.1**	**-0.9**
GSC				IAML		16 15 23.0	
	comp=E,1μm,0.5s						
GSC				IAML		16 15 23.3	
	comp=N,982nm,0.3s						
BELC	**Belle Mtn. Jos**	**0.74**	**161**		**Sg**	**16 15 19.8**	**+0.7**
EW2	**E Wide Canyon**	**0.77**	**188**		**Sg**	**16 15 20.5**	**+0.5**
TUQ	**Turquoise Moun**	**0.79**	**22**		**Pg**	**16 15 10.1**	**-0.2**
DEVC	**Devers**	**0.80**	**198**		**Sb**	**16 15 22.1**	**+0.1**
VTV	**Victorville**	**0.87**	**261**		**Pg**	**16 15 11.3**	**-0.6**
VTV					**Sg**	**16 15 23.1**	**-0.2**
SVD	**Seven Oaks Dam**	**0.90**	**229**		**Sb**	**16 15 24.9**	**+0.2**
CFT	**Crafton Hills**	**0.95**	**226**		**Pg**	**16 15 13.3**	**-0.2**
ADO	**Adelanto Recei**	**0.96**	**261**		**Pb**	**16 15 14.2**	**+0.4**
ADO					**Sb**	**16 15 27.1**	**+0.6**
CSP	**Cedar Springs**	**0.97**	**246**		**Sg**	**16 15 26.6**	**0.0**
MTPC	**Mountain Pass**	**0.98**	**37**		**Pg**	**16 15 13.6**	**-0.5**
PMD	**Palm Desert**	**1.06**	**184**		**Pg**	**16 15 14.6**	**-0.8**
HYS	**Haystack Butte**	**1.07**	**279**		**Pg**	**16 15 15.1**	**-0.6**
HYS					**Sg**	**16 15 29.1**	**-0.4**
CTCC	**Cactus City**	**1.07**	**167**		**Pg**	**16 15 15.3**	**-0.5**
CTW	**Cottonwood Mou**	**1.08**	**161**		**Pg**	**16 15 15.8**	**-0.1**
CTW					**Sb**	**16 15 31.7**	**+1.7**
PEC	**Perris**	**1.09**	**222**		**Pg**	**16 15 15.5**	**-0.5**
IRM	**Iron Mountain**	**1.09**	**120**		**Sg**	**16 15 30.3**	**+0.1**
PFO	**Pinyon Flats O**	**1.10**	**188**		**Pg**	**16 15 15.6**	**-0.7**
PFO					**Sg**	**16 15 30.3**	**-0.2**
PFO	**Pinyon Flats O**	**1.10**	**188**		**Pg**	**16 15 15.5**	**-0.7**
PFO				Sg	**Sg**	**16 15 30.1**	**-0.5**
PFO				IAML		16 15 34.3	
	comp=N,361nm,0.3s						
PFO				IAML		16

CBX	**Cerro Bola**	**2.41 188**		**Pn**	**16 15 34.5**	**0.0**
CBX			IAML		16 16 17.8	
comp=N,195nm,2.2s						
CPBX	**Cerro Prieto**	**2.42 160**		**Pb**	**16 15 37.5**	**-1.1**
CPBX	**Cerro Prieto**	**2.42 160**	Pn	**Pn**	**16 15 35.0**	**+0.4**
CPBX			IAML		16 16 45.5	
comp=E,249nm,0.6s						
CPBX			IAML		16 16 48.8	
comp=N,196nm,0.5s						
GRAC	**Grapevine Rang**	**2.45 339**		**Pn**	**16 15 35.5**	**+0.4**
GRAC			IAML		16 16 17.2	
comp=E,170nm,0.5s						
GRAC			IAML		16 16 23.1	
comp=N,130nm,0.5s						
ESJX	**Sierra Juarez**	**2.71 174**		**Pn**	**16 15 38.7**	**0.0**
GMN	**Gold Mountain**	**2.71 343**		**Pn**	**16 15 39.0**	**+0.1**
Y14A	**Wickenburg**	**2.82 105**	Pn	**Pn**	**16 15 39.4**	**-0.8**
Y14A			IAML		16 16 32.4	
comp=E,118nm,0.4s						
Y14A			IAML		16 16 34.7	
comp=N,109nm,0.5s						
113A	**Mohawk Valley,**	**2.85 132**		**Pn**	**16 15 40.3**	**-0.2**
PRN	**Pahroc Range**	**2.88 20**	Pn	**Pn**	**16 15 41.4**	**+0.4**
S11A	**Rachel**	**2.97 8**		**Pn**	**16 15 42.9**	**+0.6**
DSP	**Deep Springs**	**2.99 333**		**Pn**	**16 15 42.9**	**+0.5**
SNCC	**San Nicolas Is**	**3.06 243**	Pn	**Pn**	**16 15 44.6**	**+1.2**
SNCC			IAML		16 17 10.8	
comp=N,84nm,1.9s						
SNCC			IAML		16 17 27.8	
comp=E,67nm,4.2s						
MZP	**Montezuma Peak**	**3.12 344**		**Pn**	**16 15 44.8**	**+0.3**
R11B	**Troy Canyon, C**	**3.68 9**		**Pn**	**16 15 52.1**	**0.0**
U15A	**North Rim**	**3.68 61**	Pn	**Pn**	**16 15 52.2**	**-0.1**
U15A			IAML		16 16 53.5	
comp=N,36nm,0.5s						
U15A			IAML		16 17 01.1	
comp=E,43nm,0.5s						
PIX	**Pinacate**	**3.93 142**	Pn	**Pn**	**16 15 55.9**	**+0.5**
PIX			IAML		16 16 55.2	
comp=N,23nm,3.1s						
PIX			IAML		16 17 06.1	
comp=E,24nm,1.6s						
LHV	**Little Huntoon**	**3.97 334**		**Pn**	**16 15 56.9**	**+1.1**
LHV			IAML		16 17 07.3	
comp=E,38nm,2.0s						
LHV			IAML		16 17 08.2	
comp=N,32nm,1.9s						
PMPB	**Monarch Peak**	**3.98 294**	Pn	**Pn**	**16 15 56.3**	**+0.1**
PMPB			IAML		16 17 17.2	
comp=N,44nm,2.1s						
X16A	**Lo Mia Camp, P**	**4.01 93**		**Pn**	**16 15 56.2**	**-0.5**
X16A			IAML		16 17 11.9	
comp=E,25nm,0.5s						
X16A			IAML		16 17 16.3	
comp=N,24nm,1.5s						
NV11	**Mina Array Sit**	**4.01 339**		**Pn**	**16 15 56.1**	**-0.6**
NVAR	**Mina Array Bea**	**4.06 337**		**Pn**	**16 15 57.7**	**+0.3**
WUAZ	**Wupatki**	**4.11 77**	Pn	**Pn**	**16 15 58.6**	**+0.7**
WUAZ			IAML		16 17 14.6	
comp=N,48nm,0.5s						
Q09A	**Carvers**	**4.18 350**	Pn	**Pn**	**16 16 00.2**	**+1.1**
BBGB	**Big Mountain B**	**4.30 297**	Pn	**Pn**	**16 16 00.4**	**-0.2**
RYN	**Ryan**	**4.31 336**		**Pn**	**16 15 59.8**	**-1.0**
WAKR	**Walker**	**4.56 327**		**Pn**	**16 16 04.9**	**+0.6**
SPR3	**Spring Creek 3**	**4.56 20**		**Pn**	**16 16 03.9**	**-0.5**
SAO	**San Andreas Ge**	**4.67 298**	Pn	**Pn**	**16 16 06.8**	**+1.2**
YERR	**Yerington**	**4.89 332**		**Pn**	**16 16 09.1**	**+0.4**
MVU	**Marysvale**	**5.01 40**	Pn	**Pn**	**16 16 12.2**	**+1.7**
PNTR	**Pine Nut**	**5.12 330**		**Pn**	**16 16 12.3**	**+0.3**
TUC	**Tucson**	**5.18 116**	Pn	**Pn**	**16 16 11.7**	**-1.0**
TUC			IAML		16 17 36.4	
comp=N,7.7nm,4.9s						
TUC			IAML		16 17 47.1	
comp=N,10nm,1.8s						
X18A	**Snowflake**	**5.23 90**		**Pn**	**16 16 13.3**	**-0.1**
AFDM	**Forest Hills D**	**5.66 320**	Pn	**Pn**	**16 16 18.7**	**-0.5**
ELK	**Elko**	**6.09 8**		**Pn**	**16 16 25.2**	**-0.1**
DUG	**Dugway, Tooele**	**6.14 26**		**Pn**	**16 16 25.1**	**-0.7**
DUN6	**Lazy B Ranch**	**6.37 108**		**Pn**	**16 16 28.8**	**-0.3**
PV05	**Paradox Valley**	**6.70 58**	Pn	**Pn**	**16 16 34.7**	**+1.0**
MVCO	**Mesa Verde**	**6.79 66**		**Pn**	**16 16 33.2**	**-1.8**
PV10	**Paradox Valley**	**6.89 56**	Pn	**Pn**	**16 16 35.7**	**-0.5**
PV19	**Morning Glory**	**6.89 56**	Pn	**Pn**	**16 16 35.9**	**-0.4**
PV17	**East Wray Mesa**	**6.89 57**	Pn	**Pn**	**16 16 35.2**	**-1.1**
PV14	**Lion Creek, Pa**	**6.90 56**	Pn	**Pn**	**16 16 36.8**	**+0.5**
PV18	**Skein Mesa, Pa**	**6.91 57**	Pn	**Pn**	**16 16 36.7**	**+0.1**
PV20	**West Nyswonger**	**6.92 56**	Pn	**Pn**	**16 16 37.4**	**+0.8**
HOPS	**Hopland Field**	**6.92 310**	Pn	**Pn**	**16 16 37.3**	**+0.8**
PV13	**Radium Mtn., P**	**6.94 58**		**Pn**	**16 16 36.1**	**-0.8**
PV16	**Nyswonger Mesa**	**6.94 57**	Pn	**Pn**	**16 16 35.7**	**-1.3**
PV23	**Carpenter Ridg**	**6.95 55**	Pn	**Pn**	**16 16 35.6**	**-1.4**
PV03	**Paradox Valley**	**6.96 57**	Pn	**Pn**	**16 16 36.5**	**-0.8**
PV11	**David Mesa, Pa**	**6.96 57**	Pn	**Pn**	**16 16 38.0**	**+0.8**
PV04	**Paradox Valley**	**6.99 56**	Pn	**Pn**	**16 16 37.0**	**-0.6**
PV02	**Paradox Valley**	**7.01 58**	Pn	**Pn**	**16 16 38.0**	**0.0**
PV12	**Saucer Basin,**	**7.02 57**	Pn	**Pn**	**16 16 38.3**	**+0.2**
PV21	**Cone Mtn., Par**	**7.03 55**	Pn	**Pn**	**16 16 38.2**	**+0.1**
PV01	**Paradox Valley**	**7.10 59**	Pn	**Pn**	**16 16 39.6**	**+0.5**
PV07	**Paradox Valley**	**7.19 57**	Pn	**Pn**	**16 16 42.5**	**+2.2**
121A	**Cookes Peak, D**	**7.41 105**	Pn	**Pn**	**16 16 44.3**	**+0.9**

DJA 07 16:20:04.2±0.9, 10°S±5°×11°9E±°, h14km±5km, M3.8/11, mb4.1/5, MLv3.7/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.64**	**25**	P	Pg	16 20 16.8	0.0
WBSI				S	Sb	16 20 27.1	+1.0
WSI	**Waingapu**	**1.29**	**64**	P	Pn	16 20 27.3	-0.5
WSI				S	Sg	16 20 46.3	+0.5
BASI	**Baing, Sumba**	**1.44**	**90**	P	Pn	16 20 28.4	-1.4
PLAI	**Plampang**	**1.92**	**316**	P	Pn	16 20 35.3	-1.2
PLAI				S	Sn	16 20 59.9	-0.7
TWSI	**Taliwang, Sumb**	**2.66**	**304**	P	Pn	16 20 46.1	-0.6
MMRI	**Maumere**	**3.46**	**63**	P	Pn	16 20 56.7	-1.0
BSSI	**Bau Bau, Buton**	**4.28**	**19**	P	Pn	16 21 10.0	+1.0
BKSI	**Bulukumba**	**4.98**	**12**	P	Pn	16 21 19.1	+0.5
	0.1nm11nm,0.5s						
SOEI	**Soe**	**5.09**	**85**	P	Pn	16 21 20.0	-0.3
JAGI	**Jajag, Banyuwa**	**5.21**	**289**	P	Pn	16 21 24.3	+2.6
	0.2nm32nm,1.3s						
GMJI	**Gumukmas**	**5.93**	**289**	P	Pn	16 21 31.5	-0.2

*IDC **07** 16:29:10.9±0.9, 29°.84N×105°.41E, h0km, mb3.9/7, mbtmp3.8/8, ML3.1/2, Error ellipse: s-maj=53.4km s-min=16.2km az=61.0*

ISC 07 16:29:15.9±1.1, 29°.8N±0°.1×105°.3E±0°.2, h35km, n9, σ0s72/9, mb3.5/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.73**	**209**	Pn	**Pn**	**16 32 14.4**	**-0.2**
	0.1nm,0.3s,baz=33,slow=13,SNR=2.2						
	0.3nm,0.6s						
SONM	**Songino Array**	**18.00**	**2**	P	**Pn**	**16 33 22.3**	**-1.1**
	baz=186,slow=13,SNR=1.1						
MKAR	**Makanchi Array**	**24.64**	**320**	P	**P**	**16 34 32.6**	**-0.6**
	0.8nm,0.5s,baz=123,slow=11,SNR=13						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**28.33**	**334**	P	**P**	**16 35 07.2**	**+0.9**
	0.7nm,0.6s,baz=124,slow=9.5,SNR=3.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**28.90**	**324**	P	**P**	**16 35 11.4**	**+0.1**
	0.7nm,0.6s,baz=129,slow=9.5,SNR=8.2						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**34.45**	**322**	P	**P**	**16 36 00.1**	**-0.1**
	0.3nm,0.5s,baz=117,slow=8.2,SNR=2.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**56.82**	**147**	P	**P**	**16 38 56.9**	**-0.2**
	2.5nm,0.7s,baz=339,slow=7.8,SNR=40						
	2.5nm,0.7s						
FINES	**FINESS Array B**	**59.22**	**327**	P	**P**	**16 39 14.2**	**+0.9**
	1.7nm,0.9s,baz=127,slow=8.2,SNR=4.4						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**59.85**	**150**	P	**P**	**16 39 18.3**	**+0.1**
	3.4nm,1.1s,baz=336,slow=6.9,SNR=20						
	3.4nm,1.1s						

*SDD **07** 16:32:46.6±1.7, 19°.43N×68°.08W, h15km±624km, MD3.6, ML2.1, MW2.4*
*RSPR **07** 16:32:49.8, 19°.28N×68°.20W, h93km±5km, MD3.3/6*

*NEIC **07** 16:32:49.5±1.8, 19°.30N±0°.06×68°.19W±0°.04, h35km±2km, ML2.2/22, Md3.3/6(RSPR), Error ellipse: s-maj=11.0km s-min=6.5km az=173.0*

ISC 07 16:32:48.9±1.8, 19°.21N±0°.09×68°.20W±0°.05, h17km±12km, n36, σ1s14/42, 8C-7D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.72 194**			**Pg**	**16 33 02.9**	**0.0**
PCDR				IAML		16 33 12.1	
comp=N,103nm,2.1s							
PCDR					**Sn**	**16 33 14.4**	**-0.5**
PCDR				IAML		16 33 18.0	
comp=E,53nm,1.3s							
PCDR	**Punta Cana, DR**	**0.72 194**	⇓*e*P		**Pg**	**16 33 03.0**	**+0.1**
SMDR	**Samana, DR**	**0.93 275**	*e*S		**Sn**	**16 33 22.8**	**+2.5**
DR12	**Loma Pena Alta**	**1.19 249**	Pn		**Pg**	**16 33 11.1**	**-0.9**
HATOM	**Hato Mayor del**	**1.19 249**	⇑*e*Pg		**Pg**	**16 33 11.6**	**-0.3**
HATOM			⇑*e*Sg		**Sg**	**16 33 27.9**	**+0.4**
HATOM				IAML		16 33 39.5	
comp=N,17nm,3.0s							
AGPR	**Aguadilla, PR**	**1.27 126**			**Pn**	**16 33 11.9**	**-0.1**
AGPR					**Sn**	**16 33 26.1**	**-2.6**
AGPR				IAML		16 33 56.6	
comp=E,47nm,3.0s							
AGPR				IAML		16 33 57.0	
comp=N,53nm,2.2s							
AGPR	**Aguadilla, PR**	**1.27 126**	⇓*e*Pg		**Pn**	**16 33 10.3**	**-1.6**
AGPR			⇓*e*Sg		**Sn**	**16 33 27.1**	**-1.6**
AGPR				IAML		16 33 55.7	
comp=N,35nm,1.7s							
AGPR	**Aguadilla, PR**	**1.27 126**	⇑*e*P		**Pb**	**16 33 12.9**	**+0.5**
AGPR	**Aguadilla, PR**	**1.27 126**	*e*S		**Sb**	**16 33 30.2**	**+1.6**
PRSN	**Puerto Rico Se**	**1.41 135**	Pn		**Pn**	**16 33 13.8**	**0.0**
LSP	**Las Mesas**	**1.48 134**			**Sb**	**16 33 35.6**	**+1.1**
LSP	**Las Mesas**	**1.48 134**	*e*S		**Sb**	**16 33 35.6**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.59 139**			**Pn**	**16 33 15.6**	**-0.7**
CRPR				IAML		16 33 28.6	
comp=E,22nm,1.7s							
CRPR				IAML		16 33 31.4	
comp=N,26nm,2.1s							
CRPR					**Sn**	**16 33 34.9**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.59 139**	⇓*e*P		**Pn**	**16 33 16.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.59 139**	*e*S		**Sb**	**16 33 38.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.62 122**			**Sb**	**16 33 39.0**	**+0.4**
AOPR	**Arecibo Observ**	**1.62 122**			**Pn**	**16 33 16.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.62 122**		IAML		16 33 41.7	
comp=N,33nm,0.3s							
AOPR				IAML		16 33 45.1	
comp=E,55nm,0.3s							
AOPR	**Arecibo Observ**	**1.62 122**	⇑*e*Pg		**Pn**	**16 33 14.7**	**-2.1**
AOPR			⇓*e*Sg		**Sn**	**16 33 35.9**	**-1.4**
AOPR				IAML		16 33 41.6	
comp=N,32nm,0.3s							
AOPR	**Arecibo Observ**	**1.62 122**	⇓*e*P		**Pn**	**16 33 16.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.62 122**	*e*S		**Sb**	**16 33 39.0**	**+0.4**
MLPR	**Magueyes Islan**	**1.66 138**			**Pn**	**16 33 17.2**	**0.0**
MLPR					**Sn**	**16 33 36.8**	**-1.4**
MLPR				IAML		16 34 11.3	
comp=N,18nm,2.5s							
MLPR	**Magueyes Islan**	**1.66 138**	⇑*e*Pg		**Pn**	**16 33 15.9**	**-1.3**
MLPR			⇑*e*Sg		**Sb**	**16 33 39.7**	**+0.1**
MLPR				IAML		16 33 43.3	
comp=N,14nm,0.9s							
MLPR	**Magueyes Islan**	**1.66 138**	⇓*e*P		**Pn**	**16 33 17.4**	**+0.2**
MLPR	**Magueyes Islan**	**1.66 138**	*e*S		**Sn**	**16 33 38.9**	**+0.8**
CELP	**Cerrillos**	**1.91 126**			**Sn**	**16 33 45.1**	**+0.6**
CELP	**Cerrillos**	**1.91 126**			**Pn**	**16 33 19.8**	**-1.0**
CELP	**Cerrillos**	**1.91 126**		IAML		16 33 52.7	
comp=E,12nm,0.3s							
CELP				IAML		16 33 53.3	
comp=N,14nm,2.3s							
CELP	**Cerrillos**	**1.91 126**	⇑*e*P		**Pn**	**16 33 21.6**	**+0.9**
CELP	**Cerrillos**	**1.91 126**	*e*S		**Sn**	**16 33 45.1**	**+0.6**
ECPR	**Experimental S**	**1.96 117**	⇑*e*P		**Pn**	**16 33 21.9**	**+0.5**
ECPR	**Experimental S**	**1.96 117**	*e*S		**Sn**	**16 33 46.6**	**+1.0**
IGPR	**InterUniversit**	**2.34 122**	Pn		**Pn**	**16 33 25.9**	**-0.8**
IGPR				IAML		16 34 01.8	
comp=E,21nm,0.3s							
IGPR				IAML		16 34 02.1	
comp=N,19nm,0.2s							
PDPR	**Patillas Dam,**	**2.39 120**	Pn		**Pn**	**16 33 25.8**	**-1.4**
PDPR	**Patillas Dam,**	**2.39 120**	*e*S		**Sn**	**16 33 57.6**	**+1.5**
SDDR	**Presa de Saban**	**2.93 266**	Pn		**Pn**	**16 33 33.2**	**-1.6**

IDC 07 16:38:33.0±2.6, 30°.35N×106°.35E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=411.8km s-min=25.7km az=53.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.82**	**318**	P	P	16 43 56.8	0.0
	0.5nm,0.5s,baz=122,slow=11,SNR=10						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**56.80**	**148**	P	P	16 48 19.1	-0.1
	0.7nm,0.5s,baz=335,slow=7.4,SNR=21						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**59.87**	**151**	P	P	16 48 40.7	0.0
	0.3nm,0.6s,baz=337,slow=6.9,SNR=11						
	0.3nm,0.6s						

*NEIC **07** 16:41:23.2±2.8, 34°.70N±0°.01×116°.28W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=275.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.62; $M_{\theta\theta}$-2.65; $M_{\phi\phi}$4.27; $M_{r\theta}$0.00; $M_{\theta\phi}$7.84; $M_{\phi r}$0.88; Fault plane solution: $M_0$8.73000×10^{14} NP1:ϕ_s78.10000°, δ84.16000°, λ-0.45000°. NP2:ϕ_s168.15000°, δ89.55000°, λ-174.16000°. Principal axes: T 9.4297, Plg4.0000°, Azm303.0000°; N -1.6358, Plg84.0000°, Azm173.0000°; P -7.7939, Plg4.0000°, Azm33.0000°;*

*IDC **07** 16:41:23.9±0.6, 34°.66N×116°.17W, h0km, mb3.4/3, mbtmp3.5/10, ML3.4/6, MS3.0/8 Error ellipse: s-maj=11.0km s-min=5.7km az=89.0*

*PAS **07** 16:41:24.5±2.5, 34°.704N±0°.009×116°.286W±0°.010, h2km±2km, Mwr4.0/6, mb4.0/3(NEIC), ML4.1/102(NEIC), Mwr3.9/55(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=139.0*

*NEIC **07** 16:41:24.5, 34°.70N×116°.29W, h2km*

ISC 07 16:41:24.8±0.9, 34°.69N±0°.02×116°.27W±0°.02, h11km±8km, n134, σ1s29/153, mb3.2/3, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEC	**Hector,Ludlow**	**0.15 338**			**Pg**	**16 41 29.8**	**+1.5**
GTM	**Goat Mountain**	**0.40 190**			**Pb**	**16 41 32.6**	**-1.4**
GTM					**Sb**	**16 41 38.7**	**-1.5**
DSCC	**Desert Studies**	**0.47 17**			**Pb**	**16 41 33.5**	**-1.6**
DSCC					**Sb**	**16 41 40.4**	**-1.7**
GMRC	**Granite Mounta**	**0.51 79**			**Pb**	**16 41 34.6**	**-1.2**
GMRC					**Sb**	**16 41 41.9**	**-1.5**
TPC	**Twentynine Pal**	**0.61 163**			**Pb**	**16 41 36.6**	**-0.9**
BLAC	**Blackrock camp**	**0.63 189**			**Pb**	**16 41 36.7**	**-1.1**
BLAC					**Sb**	**16 41 45.7**	**-1.0**
RRX	**Edison Barstow**	**0.63 287**			**Pg**	**16 41 36.4**	**-0.6**
BBRC	**Big Bear Solar**	**0.69 232**			**Sb**	**16 41 47.4**	**-1.1**
DANC	**Danby, Needles**	**0.73 94**			**Pb**	**16 41 39.0**	**-0.6**
GSC	**Goldstone, Bar**	**0.75 324**			**Pg**	**16 41 38.5**	**-0.9**
GSC				Sg	**Sg**	**16 41 47.9**	**-1.4**
GSC				IAML		16 41 53.8	
comp=N,10μm,0.8s							
DEVC	**Devers**	**0.80 199**			**Pb**	**16 41 40.0**	**-0.6**
TUQ	**Turquoise Moun**	**0.80 21**			**Pb**	**16 41 39.5**	**-1.3**
TUQ					**Sb**	**16 41 50.4**	**-1.2**
VTV	**Victorville**	**0.89 262**			**Pg**	**16 41 40.9**	**-1.0**
CFT	**Crafton Hills**	**0.95 227**			**Sb**	**16 41 56.0**	**-0.1**
BBSC	**Beaumont Base**	**0.97 218**			**Sb**	**16 41 56.7**	**+0.3**
HLNC	**Highland**	**0.97 234**			**Pg**	**16 41 42.8**	**-0.6**
ADO	**Adelanto Recei**	**0.97 262**			**Pg**	**16 41 42.8**	**-0.7**
ADO					**Sg**	**16 41 55.5**	**-0.6**
CSP	**Cedar Springs**	**0.98 247**			**Sg**	**16 41 55.8**	**-0.7**
MTPC	**Mountain Pass**	**0.99 36**			**Pb**	**16 41 42.9**	**-1.1**
MTPC					**Sb**	**16 41 56.9**	**-0.3**
PMD	**Palm Desert**	**1.04 185**			**Sb**	**16 41 58.2**	**-0.4**
CLTC	**Calectric**	**1.05 236**			Pn	16 41 59.4	+14
CTCC	**Cactus City**	**1.06 167**			**Pb**	**16 41 45.0**	**-0.2**
CTCC					**Sb**	**16 41 59.9**	**+0.8**
CTW	**Cottonwood Mou**	**1.06 162**			**Pb**	**16 41 45.0**	**-0.2**
CTW					**Sb**	**16 41 59.7**	**+0.6**
IRM	**Iron Mountain**	**1.07 119**			**Sb**	**16 41 59.6**	**+0.3**

GVDA	**Garner Valley**	**1.07 198**		**Pg**	**16 41 44.4**	**-1.0**
GVDA				**Sg**	**16 41 59.1**	**-0.3**
HYS	**Haystack Butte**	**1.08 280**		**Pg**	**16 41 44.4**	**-1.2**
HYS				**Sg**	**16 41 58.5**	**-1.3**
PEC	**Perris**	**1.09 223**		**Sb**	**16 41 59.5**	**-0.3**
PFO	**Pinyon Flats O**	**1.09 188**		**Sg**	**16 41 59.5**	**-0.3**
PFO	**Pinyon Flats O**	**1.09 188**	Pg	**Pg**	**16 41 44.5**	**-1.2**
PFO			Sg	**Sg**	**16 41 59.2**	**-0.6**
PFO			IAML		16 42 05.7	
comp=N,4μm,0.9s						
PFO	**Pinyon Flats O**	**1.09 188**	Pg	**Pg**	**16 41 44.8**	**-0.9**
comp=N,377nm,0.3s,baz=7.4,slow=16,SNR=606						
PFO			Lg	Lg	16 42 00.3	
comp=N,514nm,0.3s,baz=90,slow=15,SNR=20						
XPFO	**Pinon Flat**	**1.09 188**		**Sb**	**16 41 59.9**	**-0.1**
HAY	**Hayfield**	**1.09 154**		**Pb**	**16 41 45.4**	**-0.4**
POB	**Polly Butte**	**1.14 209**		**Pg**	**16 41 45.9**	**-0.8**
RVR	**Riverside**	**1.15 233**		**Pg**	**16 41 45.7**	**-1.2**
RVR				**Sg**	**16 42 00.7**	**-1.1**
HMTC	**Hemet**	**1.15 212**		**Sg**	**16 42 01.4**	**-0.5**
SNDA	**J Saunders Pla**	**1.17 194**		**Pg**	**16 41 46.3**	**-1.0**
SNDA				**Sg**	**16 42 02.0**	**-0.5**
CRY	**Cary Ranch**	**1.19 199**		**Sg**	**16 42 02.4**	**-0.7**
SHOC	**Shoshone, Teco**	**1.21 360**		**Pg**	**16 41 46.4**	**-1.5**
SHOC				**Sb**	**16 42 02.8**	**-0.5**
CCCA	**Chr Cany lake**	**1.23 313**		**Pg**	**16 41 47.0**	**-1.3**
BC3	**Big Chuckawall**	**1.23 147**		**Pg**	**16 41 47.0**	**-1.5**
BFSC	**Mount Baldy Ra**	**1.23 249**		**Sg**	**16 42 03.5**	**-1.1**
BZNA	**Buzz No.'s Pla**	**1.24 196**		**Pg**	**16 41 47.6**	**-1.0**
BACC	**Bachelor Mtn.**	**1.25 211**		**Pg**	**16 41 47.7**	**-1.1**
SBB	**Saddle Back Bu**	**1.28 270**		**Pg**	**16 41 47.4**	**-2.0**
SBB				**Sg**	**16 42 04.4**	**-1.7**
HOLC	**Holcomb Ridge**	**1.32 260**		**Pg**	**16 41 48.6**	**-1.6**
NEE2	**Needles Airpor**	**1.36 86**		**Pn**	**16 41 48.6**	**-1.2**
LRMC	**Laurel Mtn Rad**	**1.40 305**		**Pn**	**16 41 49.5**	**-1.0**
ELS	**Elsinore Mount**	**1.42 223**		**Pn**	**16 41 50.3**	**-0.3**
ELS			Sg	**Sg**	**16 42 08.7**	**-1.7**
CCAC	**Calif City Air**	**1.51 288**		**Pn**	**16 41 50.4**	**-1.4**
CCAC			Sg	**Sg**	**16 42 12.1**	**-1.3**
CCAC			IAML		16 42 14.7	
comp=E,3μm,0.8s						
GWY	**Greenwater Val**	**1.53 348**		**Pn**	**16 41 50.8**	**-1.4**
GWY			Sg	**Sn**	**16 42 12.3**	**+0.1**
V12A	**Nelson**	**1.55 48**		**Pn**	**16 41 51.5**	**-1.0**
V12A			Sg	**Sg**	**16 42 14.0**	**-0.8**
V12A			IAML		16 42 15.6	
comp=E,2μm,0.5s						
V12A			IAML		16 42 15.6	
comp=N,2μm,0.7s						
PASC	**Pasadena Art C**	**1.67 252**		**Pn**	**16 41 54.0**	**+0.1**
PASC			IAML		16 42 22.2	
comp=N,1μm,0.8s						
PASC			IAML		16 42 23.6	
comp=E,1μm,0.8s						
BLYC	**Blythe**	**1.72 122**		**Pn**	**16 41 53.1**	**-1.6**
BLYC			IAML		16 42 23.6	
comp=N,2μm,0.7s						
BLYC			IAML		16 42 23.6	
comp=E,2μm,0.8s						
PDMCI	**Parker Dam,Lak**	**1.80 102**		**Pn**	**16 41 54.7**	**-1.1**
W13A	**Hualapai Mount**	**2.00 78**		**Pn**	**16 41 57.8**	**-1.0**
W13A			IAML		16 42 37.8	
comp=E,1μm,0.6s						
RUN	**Ruthven**	**2.02 148**		**Pn**	**16 41 58.0**	**-0.9**
SHPR	**Sheep Range**	**2.02 26**	Pn	**Pn**	**16 41 58.4**	**-0.6**
GLA	**Glamis**	**2.03 143**		**Pn**	**16 41 57.5**	**-1.4**
ISA	**Isabella, Lake**	**2.05 299**	Pn	**Pn**	**16 41 57.9**	**-1.5**
ISA			IAML		16 42 31.7	
comp=N,994nm,0.6s						
ISA			IAML		16 42 34.8	
comp=E,856nm,0.7s						
YUH	**Yuha Desert**	**2.06 172**		**Pn**	**16 41 58.1**	**-1.2**
WCT	**Wildcat Mounta**	**2.12 352**		**Pn**	**16 41 59.2**	**-1.1**
WCT			IAML		16 42 33.9	
comp=E,1μm,0.4s						
WCT			IAML		16 42 34.5	
comp=N,827nm,1.0s						
TKX	**Tecate**	**2.13 188**		**Pn**	**16 41 59.2**	**-1.2**
TKX			IAML		16 42 32.2	
comp=E,786nm,0.8s						
TPNV	**Topopah Spring**	**2.25 0**		**Pn**	**16 42 01.8**	**-0.4**
TPNV			IAML		16 42 38.8	
comp=E,2μm,0.5s						
TPNV			IAML		16 42 41.8	
comp=E,2μm,0.6s						
TJX	**Tijuana**	**2.27 197**		**Pn**	**16 42 02.5**	**+0.2**
TJX			IAML		16 42 49.3	
comp=N,2μm,1.6s						
CBX	**Cerro Bola**	**2.39 188**		**Pn**	**16 42 03.5**	**-0.5**
CBX			IAML		16 42 48.3	
comp=E,1μm,0.9s						
CBX			IAML		16 42 49.6	
comp=N,1μm,1.2s						
CPBX	**Cerro Prieto**	**2.40 160**		**Pn**	**16 42 02.9**	**-1.2**
CPBX			IAML

SPR3	Spring Creek 3	4.57	19		Pn	16 42 32.6	-1.6
WAKR	Walker	4.58	327		Pn	16 42 34.3	+0.1
SAO	San Andreas Ge	4.69	298		Pn	16 42 34.5	-1.0
YERR	Yerington	4.91	332		Pn	16 42 38.9	+0.3
MVU	Marysvale	5.01	39	Pn	Pn	16 42 40.6	+0.4
PNTR	Pine Nut	5.14	330	Pn	Pn	16 42 42.9	+1.0
TUC	Tucson	5.16	116		Pn	16 42 41.0	-1.0
TUC	Tucson	5.16	116	IAML		16 44 13.6	
	comp=E,62nm,0.8s						
TUC				IAML		16 44 13.9	
	comp=E,52nm,1.3s						
PAHR	Pah Rah Range	5.59	335		Pn	16 42 46.8	-1.3
AFDM	Forest Hills D	5.68	320		Pn	16 42 47.7	-1.5
ELK	Elko	6.10	7		Pn	16 42 53.9	-1.2
ELK	Elko	6.10	7	Pn	Pn	16 42 55.9	+0.8
	comp=E,0.4nm,0.3s,baz=202,slow=12,SNR=12						
ELK				Pg	Pb	16 43 15.2	+4.0
	comp=E,4.1nm,0.3s,baz=212,slow=16,SNR=34						
ELK				Lg	Lg	16 44 34.4	
	comp=E,2.3nm,0.3s,baz=109,slow=4.9,SNR=6.2						
ELK				LR	LR	16 44 55.5	
	comp=E,90nm,21.0s,baz=180,slow=35						
	comp=E,2.5nm,0.6s						
DUN6	Lazy B Ranch	6.36	108	Pn	Pn	16 42 58.2	-0.4
ORV	Oroville	6.41	321	Pn	Pn	16 42 56.8	-2.3
319A	Douglas	6.73	117	Pn	Pn	16 43 03.3	-0.5
PV11	David Mesa, Pa	6.96	57		Pn	16 43 03.9	-3.0
PV07	Paradox Valley	7.18	56	Pn	Pn	16 43 10.8	+0.8
121A	Cookes Peak, D	7.40	105		Pn	16 43 13.0	+0.1
O02D	Mt. Diablo Mer	7.54	318	Pn	Pn	16 43 13.7	-1.0
BNM	Barren Site	7.99	91		Pn	16 43 19.4	-1.6
ANMO	Albuquerque	8.07	85	Pn	Pn	16 43 23.1	+0.9
	comp=E,0.1nm,0.3s,baz=270,slow=11,SNR=1.4						
ANMO				Pg	Pb	16 43 50.5	+5.8
	comp=E,0.2nm,0.3s,baz=302,slow=7.1,SNR=3.1						
ANMO				Lg	Lg	16 45 37.3	
	comp=E,0.6nm,0.3s,baz=268,slow=13,SNR=7.8						
ANMO				LR	LR	16 46 54.1	
	comp=E,62nm,20.8s,baz=88,slow=41						
	comp=E,0.5nm,0.6s						
O20A	White River Ci	8.38	47		Pn	16 43 26.1	-0.3
YBH	Yreka Blue Hor	8.66	326	Pn	Pn	16 43 34.5	+4.3
	comp=E,0.1nm,0.3s,baz=125,slow=6.9,SNR=3.8						
YBH				Lg	Lg	16 45 56.7	
	comp=E,0.2nm,0.3s,baz=5.1,slow=4.7,SNR=3.4						
	comp=E,1.2nm,0.6s						
MFID	Camas Ranch	8.72	2		Pn	16 43 30.1	-0.8
J08A	Circle Bar Ran	8.82	349		Pn	16 43 32.0	-0.3
HLID	Hailey	8.98	9		Pn	16 43 33.5	-1.0
PD31	Pinedale Array	9.62	31	Pn	Pn	16 43 41.8	-1.6
PDAR	Pinedale Array	9.62	31	Pn	Pn	16 43 46.3	+3.0
	comp=E,0.2nm,0.3s,baz=202,slow=13,SNR=15						
PDAR				Lg	Lg	16 46 24.9	
	baz=214,slow=26						
PDAR				LR	LR	16 47 51.0	
	comp=E,51nm,21.1s,baz=298,slow=40						
	comp=E,1.5nm,0.7s						
LOHW	Long Hollow	9.93	25	Pn	Pn	16 43 47.5	-0.2
VHRN	Van Horn	10.27	109	Pn	Pn	16 43 53.1	+0.9
ALPN	Alpine	11.49	108	Pn	Pn	16 44 09.8	+0.8
LPIG	La Paz	11.76	152	LR	LR	16 48 06.5	
	comp=E,93nm,21.0s,baz=20,slow=34						
TXAR	Lajitas Array	11.95	113	Pn	Pn	16 44 16.9	+1.6
	comp=E,1.5nm,0.3s,baz=292,slow=13,SNR=19						
TXAR				Lg	Lg	16 47 42.5	
	comp=E,0.1nm,0.3s,baz=284,slow=26,SNR=6.1						
TXAR				LR	LR	16 48 56.9	
	comp=E,63nm,21.6s,baz=299,slow=38						
MSO	Missoula	12.25	8	Pn	Pn	16 44 20.3	+1.0
NEW	Newport	13.58	358	Pn	Pn	16 44 40.6	+3.3
	comp=E,0.2nm,0.3s,baz=125,slow=5.6,SNR=3.1						
	comp=E,1.1nm,0.5s						
EGMT	Eagleton	14.18	18	Pn	Pn	16 44 48.0	+2.3
WMOK	Wichita Mounta	14.39	85	Pn	Pn	16 44 50.5	+2.0
KAN17	Caldwell West	15.19	76	Pn	Pn	16 44 59.0	-0.2
AGMN	Agassiz Nation	20.37	42	P	P	16 45 57.6	-3.7
AGMN				IAmb	IAmb	16 46 03.9	
	comp=Z,10nm,1.1s						
ULM	Lac du Bonnet	21.53	38	P	P	16 46 11.8	-2.0
ULM				IAmb	IAmb	16 46 18.6	
	comp=Z,6.4nm,0.8s						
ULM	Lac du Bonnet	21.53	38	P	P	16 46 14.8	+1.1
	comp=Z,5.5nm,0.8s,baz=236,slow=10,SNR=13						
ULM				LR	LR	16 55 16.5	
	comp=Z,125nm,19.3s,baz=301,slow=39						
	comp=Z,5.5nm,0.8s						
CMIG	Matias Romero	25.93	127	LR	LR	16 58 31.8	
	comp=Z,89nm,18.3s,baz=338,slow=40						
YKA	Yellowknife Ar	27.84	2	P	P	16 47 14.3	+0.3
	comp=Z,0.1nm,0.3s,baz=191,slow=10,SNR=4.5						
	comp=Z,0.1nm,0.3s						
ILAR	Eielson Array	35.33	338	P	P	16 48 21.2	+1.5
	comp=Z,0.3nm,0.8s,baz=155,slow=7.6,SNR=4.2						
	comp=Z,0.3nm,0.8s						

NEIC ***07*** *16:52:02.2,23°.30N×120°.46E,h2km*
IDC ***07*** *16:52:02.2±0.5,23°.23N×120°.67E,h0km,mb4.3/26, mbtmp4.4/28,ML3.8/2,MS3.8/31,Error ellipse: s-maj=17.5km s-min=11.8km az=70.0*
NIED ***07*** *16:52:03.9,23°.31N×120°.60E,h0km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.16; Mθθ5.94; Mφφ-6.11; Mrθ-1.29; Mθφ1.08; Mφr-1.14; Fault plane solution: Mo6.36000×10^15^ NP1: φs310.00000°,δ74.00000°,λ3.00000°. NP2:φs220.00000°, δ87.00000°,λ164.00000°.*
NEIC ***07*** *16:52:03.3±1.9,23°.28N±0°.07×120°.50E±0°.04,h10km±1km, mb4.6/91,Mwr4.4/24 Error ellipse: s-maj=12.6km s-min=5.5km az=164.0,Moment Tension Solution. Moment tensor: Scale 10^15^Nm; Mrr3.61; Mθθ1.06; Mφφ-4.67; Mrθ3.22; Mθφ-2.13; Mφr1.57; Fault plane solution: Mo5.94000×10^15^ NP1:φs168.78000°,δ38.91000°, λ38.97000°. NP2:φs46.59000°,δ66.73000°,λ122.11000°. Principal axes: T 5.7986, Plg56.0000°, Azm359.0000°; N 0.2803, Plg29.0000°, Azm213.0000°; P -6.0790, Plg16.0000°, Azm114.0000°;*
JMA ***07*** *16:52:03.3±0.1,23°.3N±0°.2×120°.6E±0°.3,h0km,MD4.7/18, MV5.0/18,TAIWAN REGION*
BJI ***07*** *16:52:03.7,23°.28N×120°.62E,h9km,mB4.8/24,mb4.3/65, ML4.7/7,Ms4.6/69,Ms7 4.5/65*
ASIES ***07*** *16:52:04.8,23°.26N×120°.61E,h14km,ML5.1,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^22^Nm; Mrr6.42; Mθθ0.74; Mφφ-4.14; Mrθ2.90; Mθφ-1.48; Mφr2.63; Fault plane solution: Mo6.85563×10^22^ NP1: φs180.15000°,δ31.39000°,λ61.27000°. NP2:φs32.86000°, δ62.82000°,λ106.35000°. Principal axes: T Plg67.9080°, Azm334.8040°; N Plg14.4990°, Azm205.2270°; P Plg16.2990°, Azm110.8900°;*
TAP ***07*** *16:52:04.8,23°.26N×120°.61E,h14km,ML5.1,B*
ISC 07 16:52:04.9±0.5,23°.27N±0°.01×120°.57E±0°.01,h18km±2km, n586,σ1$28/690,mb4.6/94,MS4.0/36,45C-49D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	Ta-pu	0.05	123	⇑iP	Pg	16 52 07.7	-0.4
WTP				i S	Sg	16 52 09.8	-0.5
TPUB	Ta-pu	0.06	64	Pg	Pg	16 52 06.5	-1.7
TPUB				Sg	Sg	16 52 09.5	-0.9
TPUB	Ta-pu	0.06	64	P	Pg	16 52 06.0	-2.2
TPUB	Ta-pu	0.06	64	⇑iP	Pg	16 52 07.6	-0.6
TPUB				i S	Sg	16 52 09.6	-0.8
TWK	Hsinying	0.07	265	⇓iP	Pg	16 52 08.4	+0.1
TWK				i S	Sg	16 52 11.2	+0.6
SNST	Tainan City	0.08	231	⇓iP	Pg	16 52 08.5	+0.1
SNST				i S	Sg	16 52 11.1	+0.5
CHN1	Nanshi	0.10	203	⇑iP	Pg	16 52 08.5	0.0
CHN1				i S	Sg	16 52 11.0	+0.2
WCKO	Fanlu	0.17	11	⇓iP	Pb	16 52 09.5	0.0
WCKO				i S	Sb	16 52 13.1	+0.5
SGST	Jiashian	0.19	176	⇑iP	Pb	16 52 08.8	-1.1
SGST				i S	Sb	16 52 12.9	-0.3
STYH	Taoyuan	0.22	118	⇑iP	Pb	16 52 09.7	-0.6
STYH				i S	Sb	16 52 13.1	-0.8
CHY	Chiayi	0.26	329	⇓iP	Pb	16 52 11.9	+0.8
CHY				eS	Sn	16 52 17.2	-2.3
CHN2	Minshiung	0.27	342	⇓iP	Pb	16 52 12.2	+0.9
CHN2				i S	Sn	16 52 17.8	-1.9
ICHU	Yijhu	0.28	288	⇓iP	Pn	16 52 12.3	-1.9
ICHU				S	Sn	16 52 18.5	-1.4
SSHA	Shanhua	0.29	242	⇓P	Pn	16 52 12.9	-1.4
ALS	Alishan	0.32	43	⇓iP	Pb	16 52 11.9	-0.4
ALS				i S	Sb	16 52 17.2	-0.1
SHHT	Tainan City	0.32	219	⇓iP	Pn	16 52 13.4	-1.3
SHHT				eS	Sn	16 52 20.2	-0.8
CHN8	Yiju	0.34	283	⇓iP	Pb	16 52 13.0	+0.6
CHN8				eS	Sn	16 52 19.7	-1.7
SCLT	Jiali	0.36	254	⇓iP	Pn	16 52 13.7	-1.5
SCLT				eS	Sn	16 52 21.2	-0.6
TAI1	Yung-k'ang	0.39	234	⇓iP	Pn	16 52 14.6	-1.0
TAI1				eS	Sn	16 52 20.2	-2.4
SCST	Cishan	0.39	190	⇑iP	Pn	16 52 14.1	-1.6
SCST				eS	Sn	16 52 21.3	-1.4
WSL	Shuilin Townsh	0.40	309	⇓iP	Pn	16 52 14.2	-1.6
WSL				S	Sn	16 52 21.8	-1.1
WGK	Gukeng	0.41	359	⇑iP	Pb	16 52 14.3	+0.6
WGK				i S	Sn	16 52 21.8	-1.4
WDLH	Douliu	0.41	356	⇑iP	Pn	16 52 14.5	-1.5
WDLH				i S	Sn	16 52 22.4	-0.9
ELDTW	Lidau	0.42	101	⇓iP	Pb	16 52 13.4	-0.5
ELDTW				i S	Sb	16 52 19.3	-0.7
WDL	Douliou City	0.44	356	⇑P	Pn	16 52 15.0	-1.4
WDL				S	Sn	16 52 23.1	-0.9
WTK	Tuku	0.45	338	⇑iP	Pn	16 52 15.0	-1.4
WTK				S	Sn	16 52 23.2	-0.9
TSCK	Chigu Township	0.46	254	⇓iP	Pn	16 52 15.5	-1.1
TSCK				i S	Sn	16 52 24.5	+0.1
TWM1	Shoushan	0.47	197	⇑P	Pn	16 52 16.4	-0.4
TWM1				eS	Sn	16 52 23.7	-0.9
WHYT	Xinyi Township	0.50	32	⇓iP	Pb	16 52 15.1	0.0
WHYT				S	Sb	16 52 22.3	+0.2
SGLT	Jiouru	0.55	187	⇑iP	Pn	16 52 17.6	-0.2
SGLT				eS	Sn	16 52 26.6	0.0
SNJT	Kaohsiung City	0.56	203	P	Pn	16 52 18.4	+0.5
SNJT				eS	Sn	16 52 28.9	+2.1
WJS	Zhushan	0.57	15	⇑iP	Pn	16 52 16.9	-1.2
WJS				i S	Sn	16 52 25.4	-1.6
TSMG	Majia	0.57	173	eP	Pn	16 52 16.8	-1.4
TSMG				S	Sb	16 52 24.5	+0.3
EHD	Haiduan	0.60	102	⇓iP	Pb	16 52 16.4	-0.4
EHD				i S	Sb	16 52 24.3	-0.7
WNT	Mingjian	0.61	10	⇑iP	Pn	16 52 17.9	-0.9
WNT				i S	Sn	16 52 27.2	-0.9
SSLB	Suanglong	0.62	35		Pg	16 52 16.4	-0.8
SSLB				Sg	Sb	16 52 25.1	-0.6
SSLB	Suanglong	0.62	35	P	Pb	16 52 17.3	0.0
SSLB	Suanglong	0.62	35	⇓eP	Pb	16 52 17.0	-0.3
SSLB				S	Sb	16 52 26.2	+0.5
ECS	Chishang	0.62	106	⇓iP	Pb	16 52 17.2	-0.1
ECS				S	Sb	16 52 26.2	+0.4
LONT	Longtian	0.63	125	⇓iP	Pb	16 52 17.3	-0.1
LONT				i S	Sb	16 52 26.3	+0.3
WTCT	Ta-ch'eng	0.65	336	⇑iP	Pn	16 52 18.0	-1.2
WTCT				i S	Sn	16 52 28.3	-0.7
TWG	Pinlang	0.65	134		Pb	16 52 17.1	-0.6
TWG				Sg	Sb	16 52 26.4	+0.1
TWG	Pinlang	0.65	134	⇓iP	Pb	16 52 17.6	-0.1
TWG				i S	Sb	16 52 26.6	+0.3
WRL	Guolierlin Hig	0.65	344	⇑eP	Pn	16 52 18.2	-1.1
WRL				i S	Sn	16 52 28.9	-0.3
TWGBT	Beinan	0.65	134	P	Pn	16 52 17.9	-1.4
TWGBT	Beinan	0.65	134	⇓iP	Pb	16 52 17.6	-0.2
TWGBT				i S	Sb	16 52 26.6	+0.1
MASBT	Mashibuluo	0.66	175	⇑iP	Pn	16 52 18.1	-1.3
MASBT				i S	Sn	16 52 28.3	-1.1
FULB	Fuli	0.67	96	⇓iP	Pn	16 52 18.4	-1.1
FULB				i S	Sn	16 52 28.1	-1.6
TWF1	Yuli	0.67	83	⇓iP	Pb	16 52 17.8	-0.4
SMLT	Sun Moon Lake	0.68	27	⇑iP	Pg	16 52 17.6	-0.7
SMLT				S	Sb	16 52 27.8	+0.4
YULB	Yu-li	0.68	80		Pg	16 52 17.1	-1.1
YULB				Sg	Sg	16 52 25.6	-1.7
YULB	Yu-li	0.68	80	P	Pg	16 52 17.4	-0.9
YULB	Yu-li	0.68	80	⇓iP	Pb	16 52 17.7	-0.5
YULB				S	Sg	16 52 26.1	-1.3
TYC	Yuchr	0.68	23	⇑iP	Pn	16 52 18.7	-1.0
TYC				i S	Sn	16 52 29.0	-0.9
WSSB	Gushan	0.69	204	eP	Pn	16 52 19.4	-0.4
WSSB				eS	Sn	16 52 31.8	+1.7
EYUL	Yuli	0.69	84	⇓P	Pb	16 52 18.1	-0.4
VWDT	VWDT	0.71	48	⇓iP	Pb	16 52 18.8	+0.1
VWDT				S	Sb	16 52 28.0	-0.2
EHY	Hungye	0.73	71	⇓iP	Pb	16 52 18.9	-0.2
EHY				S	Sg	16 52 28.0	-0.9
EDH	Donghe	0.74	114	⇓iP	Pn	16 52 19.4	-1.0
EDH				eS	Sb	16 52 29.4	+0.3
KAU	Kaohsiung	0.74	199	eP	Pn	16 52 19.4	-1.0
TTN	Taitung	0.74	134	⇓iP	Pn	16 52 20.2	-0.3
TTN				eS	Sn	16 52 30.3	-1.1
EHYH	Wanrong	0.75	73	⇓iP	Pb	16 52 19.1	-0.2
EHYH				eS	Sb	16 52 29.7	+0.4
ECL	Taimali	0.76	152	⇓iP	Pn	16 52 19.8	-1.0
ECL				eS	Sn	16 52 30.9	-0.9
CHKH	Chenggong	0.77	96	⇓iP	Pn	16 52 19.9	-0.9
CHKH				eS	Sb	16 52 30.2	+0.4
WCH1	Changhua City	0.80	359	eP	Pn	16 52 20.8	-0.5
WCH1				eS	Sn	16 52 32.8	+0.1
WCHH	Zhanghua	0.80	359	eP	Pn	16 52 20.9	-0.4
WCHH				eS	Sn	16 52 33.0	+0.1
ECBN	Changbin	0.81	87	⇓iP	Pn	16 52 21.4	-0.1
ECBN				eS	Sn	16 52 33.5	+0.4
HGSD	Ruisui	0.82	74	⇓iP	Pn	16 52 20.9	-0.6
HGSD				eS	Sn	16 52 31.7	+0.4
WDGT	Dungji	0.84	269	⇓iP	Pn	16 52 21.1	-0.7
WDGT				eS	Sn	16 52 33.6	-0.1
WCS	Beigang Elemen	0.84	22	⇑P	Pn	16 52 21.1	-0.8
WCS				eS	Sn	16 52 33.1	-0.8
WARBT	Fenglin Townsh	0.87	59	⇓iP	Pg	16 52 21.4	-0.5
WARBT				eS	Sb	16 52 32.3	-0.6
WUSB	Renai	0.88	35	⇑iP	Pg	16 52 21.5	-0.4
WUSB				eS	Sn	16 52 33.9	-0.9
TCU	Taichung	0.88	6	⇑iP	Pn	16 52 22.1	-0.3
TCU				eS	Sn	16 52 34.8	+0.1
OWD	Renai	0.88	39	⇓P	Pn	16 52 21.7	-0.9
OWD				eS	Sn	16 52 33.9	-1.0
EGFH	Guangfu	0.88	63	eP	Pn	16 52 22.1	-0.4
EGFH				eS	Sg	16 52 33.4	-0.3
SCZT	Fangliau	0.90	177	⇑eP	Pn	16 52 22.2	-0.4
SCZT				eS	Sn	16 52 33.8	-1.4
EAST	Anshuo	0.92	164	⇓iP	Pn	16 52 22.9	-0.1
EAST				eS	Sn	16 52 35.6	-0.3
WLCH	Liuqiu	0.93	191	eP	Pn	16 52 24.3	+1.2
TWP	Hsiaoliuchiu	0.94	192	eP	Pn	16 52 25.5	+2.2
PHUB	P'eng-hu	0.95	285	⇓iP	Pn	16 52 22.6	-0.8
ESL	Shilin	0.96	56	⇓iP	Pn	16 52 22.9	-0.6
ESL				eS	Sn	16 52 36.9	+0.2
TAW	Tawu	0.96	162	eP	Pn	16 52 23.6	+0.1
TAW				eS	Sn	16 52 36.7	0.0
TAWH	Dawu Township	0.97	162	⇓iP	Pn	16 52 23.8	+0.1
TAWH				eS	Sn	16 52 37.3	+0.2
PNG	Penghu	0.98	288	i P	Pn	16 52 23.3	-0.5
PNG				S	Sn	16 52 37.8	+0.7
LDUT	Ludao	1.02	126	⇓iP	Pn	16 52 23.7	-0.7
LDUT				eS	Sn	16 52 39.2	+0.9
SHUL	Shoufeng	1.05	60	⇓iP	Pg	16 52 25.1	-0.1
SHUL				S	Sn	16 52 39.2	+0.3
VCHM	Qimei	1.05	267	P	Pg	16 52 24.2	-1.0
VCHM				eS	Sn	16 52 38.8	-0.2
WHP	Taichung City	1.06	19	⇑iP	Pg	16 52 24.9	-0.6
WHP				eS	Sn	16 52 40.8	+1.4
WDJ	Dajia District	1.07	4	⇑iP	Pg	16 52 25.7	0.0
WDJ				i S	Sn	16 52 41.2	+1.7
SLIU	Shizi	1.07	169	⇓iP	Pg	16 52 25.5	-0.1
SLIU				eS	Sn	16 52 40.5	+0.9
LXIB	Xiulin Townshi	1.07	46	⇑P	Pg	16 52 24.9	-0.9
LXIB				eS	Sn	16 52 39.6	-0.2
WHF	Hehuan Shan	1.08	36	P	Pg	16 52 25.4	-0.4
WHF				eS	Sn	16 52 40.6	+0.3
TWQ1	Liyutan	1.09	10	⇑iP	Pg	16 52 25.7	-0.3
TWQ1				S	Sn	16 52 41.2	+1.3
ETM	Tongmen	1.09	51	⇑P	Pg	16 52 25.3	-0.7
ETM				eS	Sg	16 52 39.4	-1.0
TDCB	Techi	1.11	29	eP	Pn	16 52 25.4	-0.4
TDCB				eS	Sn	16 52 41.2	+0.4
TEYL	Yanliau Villag	1.11	58	eP	Pg	16 52 26.6	+0.1
TEYL				S	Sg	16 52 41.9	+0.8
TWT	Tachien	1.12	30	⇑P	Pg	16 52 26.1	-0.6
TWT				eS	Sn	16 52 41.5	+0.4
FUSS	Fushou	1.15	32	⇑P	Pn	16 52 26.0	-0.4
FUSS				eS	Sn	16 52 42.0	+0.2
NSY	Sanyi	1.15	9	⇑iP	Pg	16 52 27.0	-0.2
NSY				eS	Sg	16 52 43.6	+1.3
HWA	Hwalien	1.18	53	eP	Pg	16 52 27.2	-0.5
HWA				eS	Sg	16 52 43.4	+0.2
TWD	Chiawan	1.24	49	eP	Pg	16 52 27.6	-1.2
TWD				eS	Sg	16 52 43.8	-1.2
ETLH	Xiulin Townshi	1.25	42	P	Pg	16 52 28.0	-1.1
ETLH				eS	Sg	16 52 45.2	-0.3
HEN	Hengchun	1.27	173	eP	Pg	16 52 28.4	-1.0
HEN				eS	Sg	16 52 47.8	+1.8
SMST	Manzhou Townsh	1.27	169	eP	Pg	16 52 28.3	-1.1
NMLH	Miaoli	1.27	9	eP	Pg	16 52 28.5	-1.0
NMLH				eS	Sg	16 52 46.9	+0.7
NACB	Ninganchiao	1.30	46		Pb	16 52 28.1	-0.7
NACB					Sn	16 52 45.2	+0.1
NACB	Ninganchiao	1.30	46	P	Pg	16 52 28.8	-1.2
NACB	Ninganchiao	1.30	46	⇑iP	Pb	16 52 28.3	-0.5
NACB				eS	Sg	16 52 46.4	-0.6
ETL	Fush Village	1.31	47	eP	Pg	16 52 29.0	-1.2
ETL				eS	Sg	16 52 46.3	-1.0
TWK1	Hengchun	1.34	171	eP	Pg	16 52 29.7	-1.1
TWKBT	Hengchun	1.34	170	⇓eP	Pg	16 52 29.2	-1.6
NNSB	Datong	1.37	33	⇑P	Pb	16 52 29.6	-0.5
NNSB				eS	Sb	16 52 47.3	-0.1
NNS	Nan Shan	1.38	32	eP	Pb	16 52 29.8	-0.4
NNS				eS	Sg	16 52 48.6	-0.8
TSEB	Hengchuen, Pin	1.40	167	eP	Pg	16 52 30.3	-1.6
LIOB	Emei	1.43	17	⇑P	Pb	16 52 30.6	-0.5
LIOB				eS	Sg	16 52 50.1	-0.9
NFF	Wufeng Townshi	1.44	20	⇑P	Pb	16 52 30.8	-0.5
NFF				eS	Sg	16 52 50.2	-1.4
EAHA	Aohua	1.50	45	eP	Pb	16 52 32.0	-0.3
EAHA				eS	Sg	16 52 52.4	-1.2
LAY	Lan-yu	1.53	143	eP	Pn	16 52 31.1	-0.3
LAY				eS	Sg	16 52 52.8	-1.4
LATG	Datong	1.53	35	⇑eP	Pb	16 52 32.4	-0.5
LATG				eS	Sg	16 52 53.8	-0.7
SBCB	Hsinchu	1.56	14	⇑P	Pb	16 52 32.4	-0.8
SBCB				eS	Sb	16 52 52.9	+0.2
HSN	Hsinchu	1.57	13	⇑P	Pb	16 52 32.8	-0.5
HSN				eS	Sg	16 52 55.2	-0.3
NSK	Sanguang	1.57	27	⇑iP	Pb	16 52 32.9	-0.7
NSK				eS	Sg	16 52 54.2	-1.5
ENA	Nanau	1.57	43	eP	Pb	16 52 33.3	-0.2
ENA				eS	Sb	16 52 52.9	-0.2
YHNB	Yeheng	1.57	28		Pb	16 52 32.8	-0.8
YHNB				Sg	Sg	16 52 54.0	-1.7
YHNB	Yeheng	1.57	28	P	Pb	16 52 33.3	-0.3
YHNB	Yeheng	1.57	28	eP	Pb	16 52 32.9	-0.6
YHNB				eS	Sg	16 52 54.6	-1.2
LYUB	Lan-yu	1.57	143	⇓eP	Pb	16 52 30.4	-1.6
LYUB				eS	Sb	16 52 51.8	-1.3
KSHI	Guanxi Townshi	1.60	20	⇑P	Pb	16 52 33.2	-0.7
KSHI				eS	Sb	16 52 53.9	+0.2
EWUT	Wuta	1.61	43	eP	Pb	16 52 33.7	-0.4
EWUT				eS	Sb	16 52 54.4	+0.3
ENTT	Nioudou	1.64	34	⇑P	Pb	16 52 34.7	0.0
ENTT				eS	Sg	16 52 58.3	+0.5
NDS	Dongshan	1.71	38	eP	Pb	16 52 36.0	+0.1
NDS				eS	Sg	16 53 00.1	-0.1
NWLT	Wulai	1.72	30	eP	Pb	16 52 35.2	-0.8
NWLT				eS	Sb	16 52 57.8	+0.3
ESAO	Su ao	1.75	42	P	Pb	16 52 36.2	-0.2
ESAO				eS	Sg	16 52 59.6	-1.6
FUSB	Fushanzhiwuyua	1.75	32	eP	Pb	16 52 35.9	-0.7
FUSB				eS	Sg	16 53 00.2	-1.1
TWE	Neicheng	1.76	35	⇑eP	Pg	16 52 37.1	-1.6
TWE				eS	Sg	16 53 01.6	0.0
TWC	Suao	1.77	41	P	Pb	16 52 36.7	-0.2
TWC				eS	Sg	16 53 00.9	-1.1
NCUH	Zhongli	1.78	18	eP	Pb	16 52 35.5	-1.5
NCUH				eS	Sb	16 52 57.9	-1.2
EOS4	EOS4	1.81	62	eP	Pb	16 52 36.0	-1.3
EOS4				eS	Sb	16 52 58.6	-1.0
ILA	Ilan	1.84	36	eP	Pg	16 52 38.4	-1.8
TATO	Taipei	1.89	26		Pn	16 52 36.9	+0.5
TATO	Taipei	1.89	26	P	Pb	16 52 37.7	-1.2
EOS3	EOS3	1.89	57	eP	Pb	16 52 38.1	-0.7
EOS2	EOS2	1.90	53	eP	Pb	16 52 37.9	-1.1
NTC	Toucheng	1.95	36	eP	Pb	16 52 40.0	+0.1
TWS1	Kuangyinshan	1.98	23	eP	Pn	16 52 37.4	-0.1
TWS1	

comp=E,920nm,0.9s
GZH smax smax
comp=E,520nm,0.9s
SSE Sheshan 7.81 4 P Pn 16 53 56.6 -1.1
SSE smax smax
comp=E,93nm,1.2s
SSE smax smax
comp=E,160nm,1.0s
SSE LR LR
comp=E,1μm,9.6s
SSE LR LR
comp=E,640nm,7.6s
JOW Kunigami 7.83 62 Pn Pn 16 53 57.5 -0.5
JOW Kunigami 7.83 62 Pn Pn 16 53 57.3 -0.7
comp=E,4.1nm,0.3s,baz=164,slow=10,SNR=22
JOW Sn **Sn 16 55 24.1 -2.3**
comp=E,0.7nm,0.3s,baz=310,slow=27,SNR=1.5
comp=E,15nm,0.4s
JOW Kunigami 7.83 62 P Pn 16 53 58.9 +0.9
CNSH ChangSha 8.44 307 P Pn 16 54 07.1 +0.7
CNSH S **Sn 16 55 42.6 +1.3**
CNSH pmax pmax
comp=E,10.0nm,0.4s
NJ2 Nanjing 8.88 351 ⇑P Pn 16 54 11.7 -0.6
NJ2 pmax pmax
comp=E,43nm,0.8s
NJ2 LR LR
comp=E,2μm,6.0s
NJ2 LR LR
comp=E,770nm,5.3s
NJ2 LR LR
comp=E,1μm,7.3s
WHN Wuhan 9.12 324 P Pn 16 54 15.7 0.0
WHN pmax pmax
comp=E,76nm,0.6s
WHN LR LR
comp=E,4μm,4.8s
WHN LR LR
comp=E,6μm,3.9s
WHN LR LR
comp=E,9μm,10.3s
GULI GuiLin 9.52 284 P Pn 16 54 22.6 +1.4
GULI S Sn 16 56 16.5 +8.7
GULI LR LR
comp=E,930nm,10.3s
GULI LR LR
comp=E,3μm,11.4s
GULI LR LR
comp=E,3μm,11.5s
JMZ Minamidaito 2 10.03 73 Pn Pn 16 54 26.2 -1.8
QIZ Qiongzhong 10.86 249 Pn Pn 16 54 38.7 -0.9
QIZ Qiongzhong 10.86 249 P Pn 16 54 39.8 +0.2
QIZ S **Sn 16 56 42.9 +2.1**
QIZ LR LR
comp=E,990nm,17.0s
QIZ LR LR
comp=E,680nm,13.0s
QIZ LR LR
comp=E,1μm,14.6s
QIZ Qiongzhong 10.86 249 P Pn 16 54 41.4 +1.8
GYA Guiyang 13.02 287 P Pn 16 55 09.8 +0.7
GYA pmax pmax
comp=E,6.0nm,0.8s
GYA LR LR
comp=E,2μm,8.4s
GYA LR LR
comp=E,3μm,10.2s
GYA LR LR
comp=E,3μm,10.5s
TIA Tai'an 13.23 348 P P 16 55 16.7 -5.1
TIA pmax pmax
comp=E,8.0nm,0.9s
TIA pmax pmax
comp=E,130nm,4.5s
TIA LR LR
comp=E,600nm,3.9s
TIA LR LR
comp=E,410nm,5.5s
TIA LR LR
comp=E,520nm,5.5s
LYN LuoYang 13.28 330 P P 16 55 17.6 -4.7
LYN pP Pn 16 55 22.0 +9.4
LYN sP 16 55 26.0
LYN S **Sn 16 57 44.8 +4.9**
LYN pmax pmax
comp=E,16nm,0.6s
LYN pmax pmax
comp=E,270nm,5.8s
LYN LR LR
comp=E,2μm,9.0s
LYN LR LR
comp=E,870nm,7.7s
LYN LR LR
comp=E,3μm,9.8s
JNU Nakatsue 13.37 41 Pn Pn 16 55 09.1 -4.7
JNU Nakatsue 13.37 41 Pn Pn 16 55 15.5 +1.7
comp=E,0.3nm,0.3s,baz=245,slow=14,SNR=3.6
JNU LR LR 17 01 23.7
comp=E,396nm,18.0s,baz=227,slow=42
TJN Taejon 14.32 23 Pn Pn 16 55 24.2 -2.6
XAN Xi'an 14.80 319 P Pn 16 55 35.2 +1.7
XAN pP P 16 55 41.9 +2.6
XAN S **Sn 16 58 20.0 +2.9**
XAN pmax pmax
comp=E,7.0nm,1.5s
XAN pmax pmax
comp=E,240nm,3.7s
XAN LR LR
comp=E,2μm,8.6s
XAN LR LR
comp=E,2μm,10.7s
XAN LR LR
comp=E,3μm,12.0s
HNS HongShan 14.96 342 ⇓P P 16 55 39.2 -1.7
HNS *e*S **Sn 16 58 28.2 +7.6**
HNS pmax pmax
comp=E,21nm,1.2s
HNS LR LR
comp=E,1μm,11.3s
HNS LR LR
comp=E,1μm,10.6s
HNS LR LR
comp=E,1μm,12.3s
KSAR Wonju Array Be 15.46 22 Pn Pn 16 55 42.6 +0.5
KSRS Korea Array 15.48 22 Pn Pn 16 55 43.5 +1.1
comp=E,0.3nm,0.3s,baz=207,slow=12,SNR=14
KSRS LR LR 17 02 12.8
comp=E,258nm,18.6s,baz=200,slow=40
comp=E,10nm,0.9s
KS19 Wonju Array Si 15.51 22 Pn Pn 16 55 42.9 +0.1
KS19 IAmb IAmb 16 55 48.3
comp=Z,54nm,1.3s
SLVN Son La 15.54 266 P Pn 16 55 44.3 +1.0
TIY Taiyuan 16.00 336 *e*P **P 16 55 52.7 +0.2**
TIY PP **sP 16 56 00.8 +0.8**
TIY S **Sn 16 58 44.0 -2.1**
TIY pmax pmax
comp=Z,26nm,0.6s
TIY pmax pmax
comp=Z,240nm,3.6s
TIY LR LR
comp=Z,3μm,11.6s
TIY LR LR
comp=Z,1μm,11.6s
TIY LR LR
comp=Z,2μm,11.0s
UBPT Khong Chiam 16.31 244 Pn 16 55 53.1 -0.1
KMI Kunming 16.37 280 ⇓P Pn 16 55 54.0 -0.1
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI LR LR
comp=Z,480nm,8.2s
KMI LR LR
comp=Z,1μm,13.5s
KMI LR LR
comp=Z,1μm,15.7s
CD2 Chengdu 16.78 301 P Pn 16 55 58.4 -0.7
CD2 pP pP 16 56 03.0 -3.3
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 LR LR
comp=Z,2μm,6.7s
CD2 LR LR
comp=Z,2μm,11.0s
CD2 LR LR
comp=Z,2μm,11.6s

DAV Davao City (W) 16.82 163 LR LR 17 03 00.7
comp=Z,320nm,18.8s,baz=334,slow=39
BJT Baijiatuau 17.11 348 P Pn 16 56 01.7 -1.4
BJI Beijing 17.13 348 P P 16 56 05.4 +0.5
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,120nm,7.8s
BJI LR LR
comp=Z,400nm,15.1s
BJI LR LR
comp=Z,200nm,9.4s
BJI LR LR
comp=Z,480nm,13.9s
PZH PanZhiHua 17.38 285 P P 16 56 12.0 +4.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,160nm,5.2s
PZH LR LR
comp=Z,440nm,10.6s
PZH LR LR
comp=Z,1μm,13.7s
PZH LR LR
comp=Z,2μm,11.9s
KKM Kota Kinabalu 17.64 194 P Pn 16 56 08.2 -1.7
INU Inuyama 18.69 46 P P 16 56 20.0 -2.3
JGF Kuroka 19.06 46 P P 16 56 24.8 -1.6
JGF IAmb IAmb 16 56 46.0
comp=Z,50nm,1.5s
HHC Hu-ho-hao-te 19.09 339 *e*P **P 16 56 26.6 -0.2**
HHC pP pP 16 56 30.1 -1.7
HHC S **Sn 16 59 53.5 -7.6**
HHC pmax pmax
comp=Z,3.0nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.7s
HHC LR LR
comp=Z,1μm,12.1s
HHC LR LR
comp=Z,400nm,10.1s
HHC LR LR
comp=Z,1μm,12.7s
LZH Lanzhou 19.31 315 *e*P **Pn 16 56 31.8 +1.5**
LZH sP sP 16 56 39.1 +2.4
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,450nm,4.3s
LZH LR LR
comp=Z,680nm,10.6s
LZH LR LR
comp=Z,1μm,9.8s
LZH LR LR
comp=Z,2μm,11.3s
BTO Baotou 19.43 335 *e*P **Pn 16 56 35.0 +3.3**
BTO pP **sP 16 56 40.4 +2.5**
BTO sP pP 16 56 42.6 +7.0
BTO PP PnPn 16 56 55.9 +11
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,290nm,4.3s
BTO LR LR
comp=Z,2μm,14.4s
BTO LR LR
comp=Z,1μm,7.8s
BTO LR LR
comp=Z,2μm,9.4s
PHRA Phrae 19.58 260 P 16 56 29.9 -2.3
JCJ Chichijima 19.93 75 LR LR 17 04 03.9
comp=Z,66nm,18.0s,baz=162,slow=36
MJAR Matsushiro Arr 20.17 45 P Pn 16 56 40.1 -0.3
comp=Z,8.2nm,0.8s,baz=226,slow=7.4,SNR=15
comp=Z,8.2nm,0.8s
TNCH TengChong 20.20 279 ⇑P Pn 16 56 41.4 +0.5
TNCH pP sP 16 56 46.3 -0.2
TNCH sP pP 16 56 48.5 +4.4
TNCH PP **PnPn 16 56 58.3 +2.7**
TNCH SS Sn 17 00 47.9 +20
TNCH pmax pmax
comp=Z,16nm,1.2s
TNCH pmax pmax
comp=Z,76nm,4.6s
TNCH LR LR
comp=Z,250nm,10.0s
TNCH LR LR
comp=Z,460nm,10.7s
TNCH LR LR
comp=Z,710nm,13.4s
CHTO Chiang Mai 20.66 262 P P 16 56 39.9 -4.0
CM31 Chiang Mai Arr 20.76 261 P P 16 56 41.2 -3.8
CMAR Chiang Mai Arr 20.76 261 P P 16 56 41.5 -3.5
CMAR Chiang Mai Arr 20.76 261 P Pn 16 56 47.1 -0.3
comp=Z,3.5nm,0.8s,baz=61,slow=7.9,SNR=23
CMAR PcP **PcP 17 00 55.6 +1.4**
comp=Z,0.5nm,0.7s,baz=60,slow=0.5,SNR=4.9
CMAR LR LR 17 05 50.8
comp=Z,226nm,19.1s,baz=80,slow=40
comp=Z,3.5nm,0.8s
CN2 Changchun 20.87 10 *e*P **P 16 56 46.3 +0.4**
CN2 *e*PP **PnPn 16 57 08.2 +3.6**
CN2 *e*S **S 17 00 34.1 -3.8**
CN2 *e*SS **SnSn 17 01 04.5 +5.8**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,770nm,11.0s
CN2 LR LR
comp=Z,530nm,11.0s
XLT XiLinHaoTe 20.90 351 *e*P Pn 16 56 47.9 -1.1
XLT sP sP 16 56 54.5 +0.6
XLT pmax pmax
comp=Z,26nm,1.1s
XLT LR LR
comp=Z,66nm,11.9s
XLT LR LR
comp=Z,290nm,12.3s
XLT LR LR
comp=Z,630nm,13.6s
TOLI2 Tolitoli 22.03 179 P P 16 56 57.5 -1.1
TOLI2 IAmb IAmb 16 57 14.5
comp=Z,18nm,1.0s
SBUM Sibu 22.23 203 P P 16 56 58.1 -2.6
MDJ Mudanjiang 22.54 17 P P 16 57 02.4 -1.4
MDJ Mudanjiang 22.54 17 P P 16 57 04.8 +0.9
MDJ pmax pmax
comp=Z,19nm,1.4s
MDJ LR LR
comp=Z,760nm,13.7s
MDJ LR LR
comp=Z,500nm,13.1s
MDJ LR LR
comp=Z,940nm,14.4s
MRSI Marisa 22.70 176 P P 16 57 09.4 +3.6
comp=Z,74nm,1.0s
KMSI Cibinong 22.80 171 P P 16 57 11.4 +4.5
USA0B Ussuriysk Arra 22.89 21 P P 16 57 06.2 -1.3
USRK Ussuriysk Ar. 22.89 21 P P 16 57 08.3 +0.8
comp=Z,3.8nm,0.7s,baz=212,slow=9.3,SNR=8.3
comp=Z,3.8nm,0.7s
GTA Gaotai 23.85 317 P P 16 57 16.5 -0.9
GTA sP sP 16 57 25.9 +0.9
GTA pmax pmax
comp=Z,2.0nm,1.7s
GTA LR LR
comp=Z,380nm,13.5s
GTA LR LR
comp=Z,290nm,13.1s
GTA LR LR
comp=Z,540nm,14.7s
PCI Palu 24.04 182 P P 16 57 22.4 +3.2
comp=Z,31nm,1.0s
APSI Ampana 24.06 177 P P 16 57 23.0 +3.7
comp=Z,749nmcomp=Z,100nm,0.9s
LUWI Luwuk 24.26 175 P P 16 57 18.9 -2.2
LUWI Luwuk 24.26 175 P P 16 57 25.4 +4.2
BKB Balikpapan 24.65 189 P P 16 57 21.7 -3.0
GUMO Guam 24.95 108 LR LR 17 06 29.1
comp=Z,134nm,19.3s,baz=229,slow=35
GOMU GeErMu 25.72 306 P P 16 57 34.9 +0.2
GOMU S **S 17 02 04.5 +1.4**
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU LR LR
comp=Z,640nm,10.4s

GOMU LR LR
comp=Z,2μm,10.9s
GOMU LR LR
comp=Z,2μm,11.1s
SANI Sanana 25.72 167 P P 16 57 35.8 +1.4
comp=Z,63nm,0.8s
HIA Hailar 25.95 359 P P 16 57 33.9 -2.4
HIA IAmb IAmb 16 57 38.0
comp=Z,14nm,0.9s
SHL Shillong 26.20 281 P P 16 57 37.5 -1.5
SHL IAmb IAmb 16 58 07.4
comp=Z,28nm,1.3s
IPM Ipoh 26.56 228 P P 16 57 41.6 -0.5
IPM IAmb IAmb 16 57 43.9
comp=Z,10nm,1.0s
ULN Ulaanbaatar 26.81 340 P P 16 57 42.8 -1.4
ULN IAmb IAmb 16 57 46.2
comp=Z,11nm,1.1s
SONM Songino Array 27.00 339 P P 16 57 44.9 -1.0
SONM IAmb IAmb 16 57 47.7
comp=Z,12nm,1.0s
SONM Songino Array 27.00 339 P P 16 57 46.6 +0.7
comp=Z,9.1nm,0.9s,baz=158,slow=10,SNR=59
SONM PcP **PcP 17 01 06.8 -0.3**
comp=Z,0.5nm,0.7s,baz=146,slow=6.1,SNR=2.1
SONM LR LR 17 09 43.0
comp=Z,509nm,18.7s,baz=152,slow=39
comp=Z,9.1nm,0.9s
LSA Lhasa 27.05 290 P P 16 57 49.1 +2.1
LSA LR LR
comp=Z,640nm,10.5s
LSA LR LR
comp=Z,130nm,8.6s
NLAI Namlea 27.11 166 P P 16 57 49.5 +2.5
KLR Kul'dur 27.37 16 LR LR 17 09 37.8
comp=Z,253nm,18.5s,baz=202,slow=38
HEH HeiHe 27.46 10 *e*P **P 16 57 49.7 -0.1**
HEH pmax pmax
comp=Z,8.0nm,1.2s
HEH LR LR
comp=Z,590nm,16.6s
HEH LR LR
comp=Z,180nm,14.6s
HEH LR LR
comp=Z,850nm,15.3s
ASAJ Asahikawa 27.56 36 LR LR 17 09 36.3
comp=Z,221nm,19.7s,baz=122,slow=38
JKA Kamikawa-asahi 27.56 36 P P 16 57 51.2 +0.4
KAPI Kappang 28.13 182 LR LR 17 10 48.9
comp=Z,73nm,20.0s,baz=7.0,slow=40
PSI Prapat 29.21 229 LR LR 17 09 36.4
comp=Z,111nm,19.6s,baz=348,slow=36
JAY Jayapura 32.28 140 LR LR 17 09 13.4
comp=Z,154nm,21.2s,baz=338,slow=32
WMQ Urumqi 33.89 315 *e*P **P 16 58 46.8 0.0**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 38.61 317 P P 16 59 25.7 -1.4
MKAR Makanchi Array 38.61 317 P P 16 59 26.2 -0.9
MKAR Makanchi Array 38.61 317 P P 16 59 28.1 +1.1
comp=Z,6.3nm,0.8s,baz=108,slow=10,SNR=56
MKAR PcP **PcP 17 01 39.8 +0.6**
comp=Z,0.5nm,0.8s,baz=120,slow=5.2,SNR=1.9
MKAR LR LR 17 15 50.1
comp=Z,74nm,18.3s,baz=99,slow=37
comp=Z,6.3nm,0.8s
MAKZ Makanchi 38.81 317 P P 16 59 27.2 -1.5
MAKZ IAmb IAmb 16 59 31.2
comp=Z,13nm,1.1s
YAK Yakutsk 39.24 7 P P 16 59 30.8 -1.2
YAK IAmb IAmb 16 59 32.0
comp=Z,14nm,0.8s
YAK Yakutsk 39.24 7 LR LR 17 16 35.9
comp=Z,104nm,20.0s,baz=221,slow=38
ZAA0 Zalesovo Array 40.71 328 P P 16 59 42.9 -1.4
ZAA0 IAmb IAmb 16 59 45.9
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 40.71 328 P P 16 59 43.4 -0.9
ZALV Zalesovo Beam 40.71 328 P P 16 59 45.1 +0.8
comp=Z,16nm,0.8s,baz=116,slow=8.1,SNR=62
ZALV LR LR 17 16 10.8
comp=Z,85nm,20.2s,baz=104,slow=36
comp=Z,16nm,0.8s
KSH Kashi 40.93 304 P P 16 59 51.1 +4.5
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH LR LR
comp=Z,280nm,15.1s
KSH LR LR
comp=Z,420nm,14.8s
KSH LR LR
comp=Z,440nm,15.5s
PETK Petropavlovsk- 40.94 34 P P 16 59 47.0 +0.7
comp=Z,3.6nm,0.9s,baz=243,slow=4.7,SNR=1.2
PETK LR LR 17 19 19.6
comp=Z,89nm,18.3s,baz=211,slow=40
comp=Z,3.6nm,0.9s
FITZ Fitzroy Crossi 41.42 173 P P 16 59 50.6 +0.1
comp=Z,2.4nm,0.8s,baz=357,slow=11,SNR=1.7
comp=Z,2.4nm,0.8s
PALK Pallekele 41.44 254 LR LR 17 18 45.9
comp=Z,98nm,18.0s,baz=56,slow=39
KURK Kurchatov 42.43 321 P P 16 59 57.2 -1.3
KURBB Kurchatov Arra 42.45 321 P P 16 59 59.5 +0.9
comp=Z,6.1nm,1.0s,baz=120,slow=7.2,SNR=29
comp=Z,6.1nm,1.0s
AAK Ala-Archa 42.62 308 P P 16 59 58.9 -1.5
AAK Ala-Archa 42.62 308 LR LR 17 20 28.9
comp=Z,147nm,18.8s,baz=92,slow=40
H11N1 WAKE ISLAND Hy 43.11 86 T T 17 45 21.7
baz=282,slow=74,SNR=8.4
H11N2 WAKE ISLAND Hy 43.11 86 T T 17 45 23.6
baz=282,slow=74,SNR=9.5
H11N3 WAKE ISLAND Hy 43.13 86 T T 17 45 23.2
baz=282,slow=74,SNR=9.4
H11S3 WAKE ISLAND Hy 43.22 87 T T 17 45 28.1
baz=284,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 43.22 87 T T 17 45 29.1
baz=284,slow=75,SNR=7.0
H11S2 WAKE ISLAND Hy 43.23 87 T T 17 45 31.5
baz=284,slow=75,SNR=5.9
PSAC1 Pilbara Seismi 44.54 181 P P 17 00 16.7 +0.9
PSA00 Pilbara Seismi 44.58 181 P P 17 00 19.8 +3.7
comp=Z,20nm,0.8s
WRA Warramunga Arr 45.01 162 P P 17 00 17.9 -1.7
comp=Z,4.8nm,0.9s,baz=344,slow=8.7,SNR=23
WRA PcP **PcP 17 01 59.7 -0.8**
comp=Z,1.1nm,0.9s,baz=338,slow=4.5,SNR=1.8
comp=Z,4.8nm,0.9s
SEY Seymchan 45.02 20 LR LR 17 19 03.7
comp=Z,178nm,18.7s,baz=188,slow=36
KK31 Karatay Array 45.58 308 P P 17 00 21.2 -2.8
KK31 IAmb IAmb 17 00 26.5
comp=Z,6.2nm,1.1s
KKAR Karatay Array 45.58 308 P P 17 00 20.8 -3.1
KKAR Karatay Array 45.58 308 P P 17 00 21.6 -2.3
KKAR IAmb IAmb 17 00 26.4
comp=Z,4.4nm,1.1s
MTSU Mount Surprise 47.24 149 P P 17 00 40.4 +3.2
comp=Z,12nm,0.8s
QIS Mount Isa 47.35 155 P P 17 00 40.5 +2.5
comp=Z,34nm,0.9s
BVAR Borovoye Array 48.02 321 P P 17 00 44.0 +1.0
comp=Z,6.0nm,0.7s,baz=112,slow=8.7,SNR=27
BVAR PcP **PcP 17 02 10.5 -0.2**
comp=Z,0.9nm,0.7s,baz=127,slow=3.8,SNR=1.9
comp=Z,6.0nm,0.7s
BRVK Borovoye 48.09 321 P P 17 00 42.1 -1.3
AS31 Alice Springs 48.42 164 P P 17 00 45.1 -1.2
ASAR Alice Springs 48.42 164 P P 17 00 45.9 -0.4
comp=Z,1.5nm,0.5s,baz=342,slow=7.6,SNR=25
ASAR PcP **PcP 17 02 11.9 -0.6**
comp=Z,0.8nm,0.7s,baz=341,slow=3.0,SNR=2.2
comp=Z,1.5nm,0.5s
WRKA Warakurna 48.60 171 P P 17 00 49.7 +2.0
comp=Z,24nm,1.0s
TIXI Tiksi 48.63 3 P P 17 00 45.9 -1.4
NRIK Noril'sk 50.13 345 P P 17 00 57.4 -1.4
NRIK IAmb IAmb 17 01 06.5
comp=Z,4.5nm,0.8s
NRIK PcP **PcP 17 02 18.6 +0.6**
NRIK Noril'sk 50.13 345 P P 17 00 58.5 -0.4
comp=Z,3.1nm,0.6s,baz=118,slow=9.7,SNR=9.0
NRIK PcP **PcP 17 02 18.8 +0.8**
comp=Z,4.2nm,0.7s,baz=109,slow=3.1,SNR=5.0
NRIK LR LR 17 25 31.1
comp=Z,126nm,19.0s,baz=148,slow=40

comp=Z,3.1nm,0.6s
ABKAR **Akbulak array** 53.68 315 P **P** 17 01 23.8 -1.7
AKTO **Aktyubinsk** 55.03 316 LR LR 17 26 55.0
comp=Z,118nm,18.3s,baz=32,slow=38
ARTI **Arti** 55.59 323 P **P** 17 01 37.6 -1.7
ARTI **Arti** 55.59 323 LR LR 17 26 32.3
comp=Z,102nm,21.9s,baz=48,slow=37
BBOO **Buckleboo** 57.70 165 P **P** 17 01 56.9 +2.4
comp=Z,26nm,1.1s
STKA **Stephens Creek** 58.41 159 P **P** 17 01 59.2 -0.3
STKA **Stephens Creek** 58.41 159 P **P** 17 01 59.9 +0.4
comp=Z,3.8nm,0.6s,baz=328,slow=7.9,SNR=12
comp=Z,3.8nm,0.6s
SPIA **Saint Paul Isl** 59.50 36 P **P** 17 02 07.0 +0.2
baz=266
CMSA **Cobar Meteorol** 59.57 155 P **P** 17 02 09.3 +1.7
comp=Z,20nm,1.2s
P08K **Saint George I** 59.85 37 P **P** 17 02 09.7 +0.5
baz=267
KIRV **Kirov** 60.64 325 LR LR 17 30 39.2
comp=Z,160nm,20.0s,baz=69,slow=38
UNV **Unalaska Valle** 61.55 40 P **P** 17 02 21.0 +0.2
baz=271
M11K **Mekoryuk** 61.79 33 P **P** 17 02 21.7 -0.6
baz=268
F14K **Arctic Creek** 62.06 27 P **P** 17 02 24.1 0.0
baz=265
ANM **Nome** 62.39 28 P **P** 17 02 25.4 -1.0
baz=266
C16K **Lisburne Hills** 62.71 24 P **P** 17 02 27.4 -1.0
baz=264
G15K **Niukluk** 62.99 27 P **P** 17 02 29.2 -1.1
baz=267
ARPS **Mount Arapiles** 63.00 161 P **P** 17 02 33.4 +2.7
comp=Z,35nm,0.7s
DZM **Mont Dzumac** 63.44 132 LR LR 17 27 04.2
comp=Z,86nm,18.7s,baz=112,slow=33
D17K **Noatak River** 63.52 24 P **P** 17 02 32.4 -1.3
baz=267
RDOG **Red Dog Mine** 63.60 24 P **P** 17 02 33.6 -0.8
baz=267
G16K **Koyuk River** 63.71 27 P **P** 17 02 35.1 0.0
baz=269
H16K **Elim** 63.74 28 P **P** 17 02 34.9 -0.4
baz=269
M14K **Bethel** 63.88 32 P **P** 17 02 35.5 -0.8
baz=271
E17K **Hotham Inlet** 63.97 25 P **P** 17 02 35.7 -1.1
baz=268
B18K **Kokolik River** 64.08 23 P **P** 17 02 36.8 -0.7
baz=267
C18K **Utukok River** 64.26 23 P **P** 17 02 38.4 -0.4
baz=268
G17K **Kiwalik Mounta** 64.42 27 P **P** 17 02 39.5 -0.4
baz=270
E18K **Tukpahlearik C** 64.46 25 IAmb IAmb 17 02 41.6
comp=Z,4.9nm,0.8s
E18K **Tukpahlearik C** 64.46 25 P **P** 17 02 39.4 -0.6
baz=269
F18K **Selawik** 64.83 26 P **P** 17 02 42.1 -0.3
baz=271,SNR=5.9
GNI **Garni** 64.86 305 LR LR 17 35 40.4
comp=Z,49nm,18.4s,baz=54,slow=40
TOO **Toolangi** 64.91 158 P P 17 02 48.1 +4.8
L16K **Owhat River** 65.05 31 P **P** 17 02 43.6 -0.4
baz=273
J17K **VABM Dome** 65.15 29 P **P** 17 02 44.1 -0.5
baz=273
G18K **Tagagawik** 65.25 27 P **P** 17 02 45.0 -0.2
baz=272
H18K **Honhosa River** 65.39 27 P **P** 17 02 46.0 -0.2
baz=272
D19K **Kuna River** 65.39 24 P **P** 17 02 45.8 -0.3
baz=271
CHNA **Chernabura Isl** 65.53 39 P **P** 17 02 46.8 -0.3
baz=276
KBZ **Khabaz** 65.61 309 P **P** 17 02 49.3 +1.5
comp=Z,7.3nm,0.8s,baz=113,slow=5.5,SNR=15
comp=Z,7.3nm,0.8s
E19K **Redstone River** 65.76 25 P **P** 17 02 48.5 0.0
E19K IAmb IAmb 17 02 50.0
comp=Z,4.9nm,0.8s
E19K **Redstone River** 65.76 25 P **P** 17 02 47.8 -0.6
baz=272,SNR=5.7
A21K **Barrow** 65.86 21 P **P** 17 02 48.7 -0.3
baz=271
G19K **Purcell Mounta** 65.87 26 P **P** 17 02 48.5 -0.7
baz=273
D20K **Etivluk River** 65.94 23 P **P** 17 02 49.1 -0.5
baz=272
CHGN **Chignik** 66.03 37 P **P** 17 02 49.6 -0.7
baz=276
M17K **Holitna River** 66.04 31 P **P** 17 02 48.8 -1.6
baz=275
E20K **Nigu River** 66.11 24 P **P** 17 02 50.1 -0.7
baz=273
H19K **Roundabout Mou** 66.17 27 P **P** 17 02 51.9 +0.8
H19K **Roundabout Mou** 66.17 27 P **P** 17 02 50.8 -0.4
baz=274,SNR=6.7
F20K **Avaraart Lake** 66.36 25 P **P** 17 02 52.1 -0.2
baz=274
C21K **Knifeblade Rid** 66.58 23 P **P** 17 02 53.3 -0.4
baz=274
B21K **Ikpikpuk River** 66.61 22 P **P** 17 02 53.3 -0.5
baz=274
J19K **Poorman** 66.65 29 P **P** 17 02 53.0 -1.2
baz=275
H20K **Anotleneega Mo** 66.83 27 P **P** 17 02 54.7 -0.7
baz=275
E21K **Killik River** 66.92 24 P **P** 17 02 56.0 0.0
baz=275
B22K **Teshekpuk Lake** 66.96 22 P **P** 17 02 56.6 +0.6
B22K IAmb IAmb 17 03 12.3
comp=Z,5.5nm,1.0s
B22K **Teshekpuk Lake** 66.96 22 P **P** 17 02 56.4 +0.3
baz=275
Q17K **Contact Creek** 67.16 35 P **P** 17 02 57.7 0.0
baz=278
F21K **Alatna River** 67.22 25 P **P** 17 02 57.7 -0.1
baz=276
J20K **Nowinta River** 67.28 28 P **P** 17 02 58.2 0.0
baz=277
P18K **Big Mountain,** 67.35 33 P **P** 17 02 58.7 -0.2
baz=278
D22K **Ayikyak River** 67.35 23 P **P** 17 02 58.5 -0.1
baz=276
N19K **Bonanza Creek** 67.53 32 P **P** 17 03 00.0 0.0
baz=278
H21K **Melozitna Rive** 67.67 27 IAmb IAmb 17 03 34.5
comp=Z,3.6nm,0.9s
H21K **Melozitna Rive** 67.67 27 P **P** 17 03 00.5 -0.2
baz=277
E22K **Anaktuvuk Pass** 67.75 24 P **P** 17 03 01.3 +0.1
baz=277,SNR=8.0
OBN **Obninsk** 67.86 322 LR LR 17 34 44.3
comp=Z,111nm,19.9s,baz=22,slow=38
C23K **Itkillik River** 67.97 22 P **P** 17 03 02.7 +0.2
baz=277
G22K **Bettles** 68.03 25 P **P** 17 03 02.9 +0.1
baz=278
M20K **Styx River** 68.03 31 P **P** 17 03 02.4 -0.7
baz=278
D23K **Nanushuk River** 68.06 23 IAmb IAmb 17 03 25.6
comp=Z,6.0nm,1.1s
D23K **Nanushuk River** 68.06 23 P **P** 17 03 02.8 -0.3
baz=278
I21K **Tanana** 68.07 27 P **P** 17 03 02.5 -0.6
baz=278
CHUM **Lake Minchumin** 68.11 28 P **P** 17 03 02.9 -0.5
baz=278
H22K **Ishtalitna Cre** 68.22 26 P **P** 17 03 03.9 -0.2
baz=278,SNR=5.7
Q19K **Cape Douglas,** 68.23 34 P **P** 17 03 04.0 -0.3
baz=279
CAST **Castle Rocks** 68.28 29 P **P** 17 03 04.6 0.0
baz=279
PPLA **Purkeypile** 68.31 29 P **P** 17 03 04.8 -0.2
baz=279
P19K **Oil Pt** 68.32 33 P **P** 17 03 04.6 -0.3
baz=279
SII **Sitkinak Islan** 68.32 36 P **P** 17 03 04.7 -0.3
baz=280
COLD **Coldfoot** 68.49 25 P **P** 17 03 05.6 -0.2
baz=279
TOLK **Toolik Lake Re** 68.51 23 P **P** 17 03 06.4 +0.4
baz=279
SPCR **Spurr Chakacha** 68.57 31 P **P** 17 03 05.8 -0.7
baz=279

E23K **Chandalar** 68.58 24 IAmb IAmb 17 03 08.3
comp=Z,5.0nm,0.9s
E23K **Chandalar** 68.58 24 P **P** 17 03 06.3 -0.2
baz=279
G23K **Bananza Creek** 68.64 25 P **P** 17 03 06.7 -0.1
G23K IAmb IAmb 17 03 08.5
comp=Z,8.1nm,1.2s
G23K **Bananza Creek** 68.64 25 P **P** 17 03 05.7 -1.1
baz=279
C24K **Franklin Bluff** 68.65 22 P **P** 17 03 06.1 -0.6
baz=279
BPAW **Bear Paw Mtn.** 68.66 28 P **P** 17 03 06.6 -0.4
baz=279
D24K **Happy Valley** 68.69 23 IAmb IAmb 17 03 08.6
comp=Z,4.6nm,0.8s
D24K **Happy Valley** 68.69 23 P **P** 17 03 06.4 -0.6
baz=279
OHAK **Old Harbor** 68.70 36 P **P** 17 03 06.5 -0.7
baz=280
SKT **Skwentna** 68.76 30 P **P** 17 03 07.2 -0.4
baz=280
E24K **Your Creek** 69.00 24 P **P** 17 03 08.4 -0.6
baz=280
TRF **Thorofare Moun** 69.07 29 P **P** 17 03 08.9 -0.8
baz=280
HOM **Homer** 69.11 33 P **P** 17 03 09.4 -0.4
baz=280
I23K **Minto, Yukon-K** 69.17 27 P **P** 17 03 09.8 -0.2
baz=280
SUA **Susitna One** 69.22 31 P **P** 17 03 10.8 +0.2
baz=281
CUT **Chulitna** 69.27 30 P **P** 17 03 10.6 -0.1
baz=281
F24K **Squaw Lake** 69.32 24 P **P** 17 03 10.2 -0.8
F24K IAmb IAmb 17 03 13.2
comp=Z,5.3nm,0.9s
F24K **Squaw Lake** 69.32 24 P **P** 17 03 11.1 +0.1
baz=281
NEA2 **Nenana** 69.39 27 P **P** 17 03 11.5 0.0
baz=281
D25K **Kavik River** 69.52 22 IAmb IAmb 17 03 13.6
comp=Z,5.2nm,0.9s
D25K **Kavik River** 69.52 22 P **P** 17 03 11.6 -0.6
baz=282
BRSE **Bradley Lake S** 69.55 33 P **P** 17 03 12.0 -0.5
baz=281
MCK **McKinley** 69.62 28 P **P** 17 03 12.4 -0.5
baz=281
G24K **Hadweenzic Riv** 69.64 25 IAmb IAmb 17 03 15.4
comp=Z,4.8nm,0.9s
G24K **Hadweenzic Riv** 69.64 25 P **P** 17 03 12.7 -0.2
baz=282
H24K **Noodor Dome** 69.65 26 P **P** 17 03 13.0 -0.1
baz=281
RND **Reindeer** 69.72 29 P **P** 17 03 12.7 -0.8
RC01 **Rabbit Creek A** 69.77 31 P **P** 17 03 13.6 -0.3
baz=282
PMR **Palmer** 69.96 31 P **P** 17 03 15.5 +0.6
baz=282
POKR **Poker Plat Res** 69.98 27 P **P** 17 03 15.2 +0.2
baz=282
E25K **Arctic Village** 70.06 23 P **P** 17 03 15.6 +0.1
baz=283
SEW **Seward** 70.11 32 P **P** 17 03 16.1 +0.2
baz=282
PLTM **Poltava** 70.13 316 P **P** 17 03 18.5 +2.3
F25K **Christian Rive** 70.15 24 IAmb IAmb 17 03 18.7
comp=Z,3.9nm,0.8s
F25K **Christian Rive** 70.15 24 P **P** 17 03 16.2 0.0
baz=283,SNR=6.0
ARCES **ARCESS Array B** 70.17 338 P **P** 17 03 16.4 +0.3
comp=Z,2.0nm,0.7s,baz=51,slow=9.7,SNR=4.4
comp=Z,2.0nm,0.7s
SPITS **Spitsbergen Ar** 70.25 348 P **P** 17 03 16.5 -0.1
comp=Z,4.5nm,0.8s,baz=76,slow=9.1,SNR=1.2
comp=Z,4.5nm,0.8s
ILAR **Eielson Array** 70.28 27 P **P** 17 03 16.1 -0.8
comp=Z,0.3nm,0.5s,baz=289,slow=6.2,SNR=10
comp=Z,0.3nm,0.5s
SML **Sawmill** 70.28 30 P **P** 17 03 17.2 +0.1
baz=282
KNK **Knik Glacier** 70.31 31 P **P** 17 03 16.9 -0.3
baz=282
HDA **Harding Lake** 70.33 27 P **P** 17 03 17.3 +0.1
baz=283
C27K **Jago River** 70.37 22 IAmb IAmb 17 03 19.3
comp=Z,5.3nm,1.0s
C27K **Jago River** 70.37 22 P **P** 17 03 17.5 +0.1
baz=284
H25L **Birch Creek** 70.38 25 P **P** 17 03 17.7 +0.2
baz=283
PWL **Port Wells** 70.49 31 P **P** 17 03 19.1 +0.8
baz=283
M23K **Glacier View** 70.57 30 P **P** 17 03 18.8 0.0
baz=283
BMAR **Burnt Mountain** 70.58 24 P **P** 17 03 19.1 +0.4
PRP **Porcupine Dome** 70.67 26 P **P** 17 03 19.6 +0.1
baz=284
F26K **Sheenjek River** 70.68 24 IAmb IAmb 17 03 21.9
comp=Z,4.0nm,0.9s
F26K **Sheenjek River** 70.68 24 P **P** 17 03 19.4 0.0
baz=284
SCM **Sheep Creek Mo** 70.74 30 P **P** 17 03 20.0 +0.1
baz=283
J25K **Salcha River,** 70.95 27 P **P** 17 03 21.4 +0.3
baz=284
K24K **Donnelly Dome** 70.97 28 P **P** 17 03 21.3 +0.1
baz=284
G26K **Porcupine Rive** 71.00 24 P **P** 17 03 21.0 -0.2
baz=285
GLI **Glacier Island** 71.08 31 P **P** 17 03 22.3 +0.5
baz=284
P23K **Montague Islan** 71.14 32 P **P** 17 03 22.2 0.0
baz=284
M24K **Tolsona, Glenn** 71.21 30 P **P** 17 03 22.5 -0.1
baz=284
PAX **Paxson** 71.31 29 P **P** 17 03 23.0 -0.3
baz=284
RIDG **Independent Ri** 71.39 28 P **P** 17 03 23.3 -0.5
baz=285
KLU **Klutina** 71.48 30 P **P** 17 03 23.7 -0.6
baz=285
DIKM **Dikmen** 71.55 308 P **P** 17 03 27.0 +1.9
comp=Z,35nm,1.6s
I26K **Coal Creek Min** 71.68 26 IAmb IAmb 17 03 27.0
comp=Z,3.6nm,0.8s
I26K **Coal Creek Min** 71.68 26 P **P** 17 03 25.5 +0.1
baz=286
SCRK **Sand Creek** 71.69 28 P **P** 17 03 25.3 -0.3
baz=286
J26L **Joseph Creek** 71.73 27 IAmb IAmb 17 03 26.9
comp=Z,6.2nm,1.1s
J26L **Joseph Creek** 71.73 27 P **P** 17 03 25.7 -0.2
baz=286
EYAK **Cordova Ski Ar** 71.80 31 P **P** 17 03 25.7 -0.5
baz=285
G27K **Doyon Strip** 71.85 24 P **P** 17 03 26.5 0.0
baz=287
FINES **FINESS Array B** 71.94 330 P **P** 17 03 27.9 +0.9
comp=Z,3.8nm,0.6s,baz=46,slow=5.7,SNR=14
comp=Z,3.8nm,0.6s
N25K **Chitina, Valde** 72.06 30 P **P** 17 03 27.4 -0.4
baz=286
H27K **Steamboat Moun** 72.07 25 P **P** 17 03 27.8 0.0
baz=287
E28M **Babbage River** 72.09 22 P **P** 17 03 28.0 +0.2
baz=286
I27K **Kandik River** 72.22 26 P **P** 17 03 28.3 -0.4
baz=287
BMRM **Bremner River** 72.23 31 P **P** 17 03 27.9 -0.9
baz=286
F28M **Old Crow** 72.28 23 P **P** 17 03 28.5 -0.5
F28M IAmb IAmb 17 03 30.6
comp=Z,7.2nm,1.1s
F28M **Old Crow** 72.28 23 P **P** 17 03 28.8 -0.2
baz=288,SNR=6.7
BZK **Bozkurt** 72.37 309 P **P** 17 03 30.9 +0.9
comp=Z,67nm,1.4s
M26K **Nabesna, AK** 72.56 29 IAmb IAmb 17 03 32.2
comp=Z,5.9nm,0.9s
M26K **Nabesna, AK** 72.56 29 P **P** 17 03 30.4 -0.4
baz=287
KAIM **Kayak Island** 72.61 32 P **P** 17 03 30.5 -0.5
baz=286
EGAK **Eagle** 72.65 26 P **P** 17 03 30.7 -0.5
baz=288
E29M **Blow River** 72.73 22 P **P** 17 03 30.9 -0.7
baz=289

L27K **Beaver Creek,** 72.88 28 P **P** 17 03 32.3 -0.4
baz=288
BCAR **Beaver Creek A** 72.90 28 P **P** 17 03 32.9 +0.1
I28M **Miner Creek** 72.93 26 P **P** 17 03 32.4 -0.5
baz=288
M27K **Edge Creek, AK** 73.07 29 P **P** 17 03 33.1 -0.8
baz=288
AK09 **Malin Array Si** 73.16 318 P **P** 17 03 34.9 +0.4
AK08 **Malin Array Si** 73.17 318 P **P** 17 03 35.5 +1.0
AKASG **Malin Array Be** 73.17 318 P **P** 17 03 34.8 +0.3
comp=Z,0.2nm,0.4s,baz=57,slow=6.6,SNR=8.6
comp=Z,0.2nm,0.4s
AKBB **Malin Array Si** 73.17 318 P **P** 17 03 34.5 0.0
AK01 **Malin Array Si** 73.18 318 P **P** 17 03 35.5 +0.9
KIEV **Kiev** 73.18 318 P **P** 17 03 34.5 -0.1
comp=Z,19nm,2.0s
G29M **Pine Creek** 73.19 24 P **P** 17 03 33.7 -0.7
baz=290
AK12 **Malin Array Si** 73.23 318 P **P** 17 03 35.9 +1.0
BRTR **Keskin Array B** 73.26 306 P **P** 17 03 36.5 +1.0
comp=Z,2.8nm,0.9s,baz=99,slow=7.9,SNR=11
comp=Z,2.8nm,0.9s
BR106 **Keskin Array S** 73.27 306 P **P** 17 03 37.1 +1.6
comp=Z,4.9nm,1.1s
BR105 **Keskin Array S** 73.28 306 P **P** 17 03 37.1 +1.5
comp=Z,3.8nm,1.3s
H29M **Whitestone** 73.29 25 IAmb IAmb 17 04 08.5
comp=Z,7.6nm,1.2s
H29M **Whitestone** 73.29 25 P **P** 17 03 34.2 -0.8
baz=290
AK20 **Malin Array Si** 73.29 318 P **P** 17 03 36.1 +0.9
AK13 **Malin Array Si** 73.30 318 P **P** 17 03 36.4 +1.1
BVCY **Beaver Creek** 73.51 29 P **P** 17 03 36.1 -0.3
baz=289
DAWY **Dawson** 73.60 27 P **P** 17 03 36.8 -0.1
DAWY IAmb IAmb 17 03 38.7
comp=Z,6.8nm,1.1s
DAWY **Dawson** 73.60 27 P **P** 17 03 36.2 -0.7
baz=289
I29M **Ogilvie Camp,** 73.60 25 P **P** 17 03 36.7 -0.1
baz=290
MESA **MESA** 73.71 31 P **P** 17 03 37.7 -0.1
baz=288
F30M **Barrier River** 73.75 23 P **P** 17 03 37.1 -0.5
baz=292
G30M **tAoh Zraii Nji** 73.83 23 P **P** 17 03 37.8 -0.4
baz=291
EPYK **Eagle Plains** 73.86 24 IAmb IAmb 17 03 39.5
comp=Z,7.7nm,1.1s
EPYK **Eagle Plains** 73.86 24 P **P** 17 03 38.4 0.0
baz=291
YUK3 **Moose Creek** 73.89 29 P **P** 17 03 37.9 -1.0
baz=289
J29N **Klondike Camp** 73.95 26 P **P** 17 03 38.2 -0.8
baz=290
MI28 **Mi28,Pidlybu** 74.05 319 P **P** 17 03 40.1 +0.4
comp=Z,64nm,0.9s
INK **Inuvik** 74.28 22 P **P** 17 03 40.2 -0.5
baz=293,SNR=5.6
O28M **Mount Upton** 74.35 30 P **P** 17 03 41.3 -0.4
baz=290
YUK8 **Steele Glacier** 74.37 30 P **P** 17 03 40.9 -0.8
baz=290
I30M **Mount Dempster** 74.41 25 IAmb IAmb 17 03 42.9
comp=Z,8.7nm,1.2s
I30M **Mount Dempster** 74.41 25 P **P** 17 03 40.9 -0.8
baz=292
K29M **Barlow Dome** 74.45 27 IAmb IAmb 17 03 43.7
comp=Z,5.6nm,1.1s
K29M **Barlow Dome** 74.45 27 P **P** 17 03 40.7 -1.3
baz=291
L29M **L29M** 74.46 28 IAmb IAmb 17 03 44.1
comp=Z,4.7nm,0.8s
L29M **L29M** 74.46 28 P **P** 17 03 41.0 -1.0
baz=291
F31M **Tsiigehtchic** 74.54 23 IAmb IAmb 17 03 42.9
comp=Z,5.7nm,0.8s
F31M **Tsiigehtchic** 74.54 23 P **P** 17 03 42.2 0.0
baz=293,SNR=6.0
PINM **Pinnacle** 74.54 31 P **P** 17 03 42.2 -0.3
baz=290
M29M **Somme Creek** 74.55 28 P **P** 17 03 42.5 0.0
baz=291
G31M **Satah River** 74.56 23 IAmb IAmb 17 03 42.8
comp=Z,5.7nm,0.9s
G31M **Satah River** 74.56 23 P **P** 17 03 42.5 +0.2
baz=293
J30M **Hart River** 74.67 26 P **P** 17 03 43.0 -0.3
baz=292
YUK4 **Talbot Arm** 74.85 29 P **P** 17 03 44.5 0.0
baz=291
RNPP9 **Sopachiv** 74.97 320 P **P** 17 03 46.4 +1.4
H31M **Peel River** 74.97 24 P **P** 17 03 43.5 -1.3
H31M IAmb IAmb 17 03 46.1
comp=Z,4.8nm,0.9s
H31M **Peel River** 74.97 24 P **P** 17 03 44.9 +0.1
baz=293
RNPP5 **Staryi Chortor** 75.03 320 P **P** 17 03 46.8 +1.4
RNPP1 **Kostyukhnivka** 75.06 320 P **P** 17 03 46.7 +1.1
YUK6 **Outpost Mounta** 75.13 30 P **P** 17 03 45.5 -0.5
baz=291
A36M **Sachs Harbour** 75.16 17 P **P** 17 03 44.8 -0.9
A36M IAmb IAmb 17 03 46.4
comp=Z,7.9nm,1.0s
A36M **Sachs Harbour** 75.16 17 P **P** 17 03 45.4 -0.3
baz=300,SNR=6.6
M30M **Minto, Yukon** 75.22 28 IAmb IAmb 17 03 49.0
comp=Z,8.8nm,1.2s
M30M **Minto, Yukon** 75.22 28 P **P** 17 03 46.3 -0.1
baz=292
O29M **Mount Kennedy** 75.26 30 P **P** 17 03 46.9 +0.2
baz=291
N30M **Aishikik Lake** 75.51 29 P **P** 17 03 48.1 0.0
baz=292
HYT **Haines Junctio** 75.56 30 IAmb IAmb 17 03 50.5
comp=Z,5.7nm,1.0s
HYT **Haines Junctio** 75.56 30 P **P** 17 03 48.0 -0.4
baz=292
GHRR 75.72 314 P **P** 17 03 51.5 +2.0
YLV **Yalova** 76.12 308 P **P** 17 03 53.2 +1.2
comp=Z,31nm,1.8s
O30N **Mendenhall** 76.22 29 P **P** 17 03 52.2 +0.1
baz=293
VRI **Vrincioaia** 76.23 314 P **P** 17 03 54.1 +1.7
comp=Z,12nm,1.5s
PLOR5 **Plostina Array** 76.28 314 P **P** 17 03 52.7 0.0
comp=Z,14nm,1.8s
PLBC **Pleasant Camp** 76.61 31 P **P** 17 03 54.0 -0.3
baz=293
WHY **Whitehorse** 76.81 29 P **P** 17 03 55.1 -0.4
baz=294
FARO **Faro, Yukon** 76.83 28 P **P** 17 03 54.6 -0.9
baz=295
C36M **Paulatuk** 76.85 19 P **P** 17 03 54.0 -1.4
C36M **Paulatuk** 76.85 19 P **P** 17 03 55.0 -0.4
baz=302,SNR=5.2
MLR **Muntele Rosu** 76.87 314 LR LR 17 40 37.8
comp=Z,134nm,21.5s,baz=20,slow=38
MLR **Muntele Rosu** 76.87 314 P **P** 17 03 56.6 +0.4
comp=Z,6.8nm,1.1s
SKAG **Skagway** 77.09 31 P **P** 17 03 56.7 -0.2
baz=294
S31K **Pelican** 77.26 32 P **P** 17 03 57.8 -0.1
baz=294
KWP **Kalwaria Pacla** 77.48 319 P **P** 17 04 00.5 +1.1
comp=Z,16nm,1.3s
P32M **Atlin** 77.79 30 P **P** 17 04 01.2 +0.2
baz=295
P33M **Teslin, Yukon** 77.93 29 P **P** 17 04 01.5 -0.3
baz=296
R32K **Eaglecrest** 77.97 31 P **P** 17 04 01.3 -0.6
baz=295
HFS **Hagfors** 78.08 331 P **P** 17 04 02.5 0.0
comp=Z,4.7nm,0.9s,baz=166,slow=2.4,SNR=5.2
HFS LR LR 17 43 02.9
comp=Z,130nm,18.3s,baz=16,slow=39
comp=Z,4.7nm,0.9s
S32K **Killisnoo** 78.28 32 P **P** 17 04 03.6 0.0
baz=295
Q32M **Nakina River** 78.73 30 P **P** 17 04 05.8 -0.6
baz=296
NB2 **NORSAR Subarra** 78.76 332 P **P** 17 04 06.7 +0.4
comp=Z,0.9nm,0.6s,baz=61,slow=5.3
NOA **NORSAR Array B** 78.76 332 P **P** 17 04 06.6 +0.3
comp=Z,1.6nm,0.8s,baz=62,slow=5.4,SNR=6.2
NOA LR LR 17 42 11.7
comp=Z,162nm,18.1s,baz=45,slow=38
comp=Z,1.6nm,0.8s

R33M	Jennings River	79.13	30	P	P	17 04 08.4	0.0
	baz=298						
RES	Resolute Bay	79.65	9	P	P	17 04 10.5	-0.3
RES				IAmb	IAmb	17 04 12.7	
	comp=Z,6.5nm,1.1s						
S34M	Telegraph Cree	79.74	31	P	P	17 04 12.1	+0.5
	baz=298						
DLBC	Dease Lake	80.01	30	P	P	17 04 12.5	-0.7
	baz=298						
VYHS	Vyhne	80.27	319	eP	P	17 04 16.0	+1.3
WRGLY	Wrigley	80.33	24	IAmb	IAmb	17 04 15.9	
	comp=Z,7.4nm,0.9s						
WRGLY	Wrigley	80.33	24	P	P	17 04 15.3	+0.6
	baz=303						
KSP	Ksiaz	80.79	322	P	P	17 04 19.2	+1.8
URZ	Urewera	80.98	138	LR	LR	17 38 55.1	
	comp=Z,48nm,19.2s,baz=58,slow=35						
MODS	Modra-Piesok	81.27	319	eP	P	17 04 23.5	+3.4
MODS				ePP	PP	17 07 29.7	+4.5
MORH	Mrgy, Hungar	81.33	317	P	P	17 04 21.6	+1.2
KOTAN	Kotaneelee Air	81.79	27	P	P	17 04 22.5	-0.1
	baz=303						
TOAD	Toad River Com	81.97	29	P	P	17 04 23.7	+0.1
	baz=302						
GERES	GERESS Array B	83.18	320	P	P	17 04 30.5	+0.3
	comp=Z,1.9nm,1.0s,baz=49,slow=4.1,SNR=4.8						
	comp=Z,1.9nm,1.0s						
SUMG	Summit	83.34	354	P	P	17 04 30.9	0.0
YKA	Yellowknife Ar	84.02	23	P	P	17 04 33.9	-0.2
	comp=Z,3.0nm,0.7s,baz=313,slow=4.9,SNR=45						
	comp=Z,3.0nm,0.7s						
BORG	Borgarnes	87.45	345	LR	LR	17 50 10.4	
	comp=Z,116nm,18.6s,baz=55,slow=40						
B08A	Colville Reser	90.85	35	IAmb	IAmb	17 05 09.2	
	comp=Z,4.5nm,0.9s						
KEST	Kesra	92.43	311	P	P	17 05 16.1	+0.9
	comp=Z,2.2nm,0.5s,baz=90,slow=3.6,SNR=5.2						
	comp=Z,2.2nm,0.5s						
FFC	Flin Flon	94.19	23	P	P	17 05 22.0	-0.7

WEL 07 16:58:49.0±0.6, 35°S±4°×17°9E±°, h100km, M4.2/29, ML4.4/14, MLv4.2/29, Error ellipse: s-maj=10.0km s-min=5.3km az=103.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.69	194	P	Pn	16 59 31.6	+1.0
MXZ				S	Sn	17 00 01.5	-1.1
WMGZ	Waiomatatini S	2.92	191	P	Pn	16 59 34.8	+1.1
WMGZ				S	Sn	17 00 09.9	+1.8
HAZ	Te Kaha	3.00	200	P	Pn	16 59 34.8	+0.1
HAZ				S	Sn	17 00 11.8	+1.8
PKGZ	Pakihiroa	3.03	195	P	Pn	16 59 35.9	+0.7
PUZ	Puketiti	3.19	192	P	Pn	16 59 37.3	0.0
RUGZ	Raukumara Rang	3.23	200	P	Pn	16 59 37.7	-0.2
RUGZ				S	Sn	17 00 15.1	-0.4
GRZ	Great Barrier	3.24	245	P	Pn	16 59 37.7	-0.2
KUZ	Kuaotunu	3.28	236	P	Pn	16 59 38.3	-0.1
TWGZ	Tauwhareparae	3.35	195	P	Pn	16 59 39.5	+0.1
OPRZ	Ohinepanea	3.55	215	P	Pn	16 59 42.9	+0.8
TGRZ	Tauranga	3.60	219	P	Pn	16 59 44.8	+2.1
CNGZ	Carnagh Station	3.60	191	P	Pn	16 59 42.8	0.0
MARZ	Manawahe	3.61	212	P	Pn	16 59 44.6	+1.6
MWZ	Matawai	3.61	200	P	Pn	16 59 42.5	-0.4
TKGZ	Te Karaka	3.63	196	P	Pn	16 59 42.4	-0.7
URZ	Urewera	3.67	205	P	Pn	16 59 43.1	-0.6
RAGZ	Rawiri	3.79	200	P	Pn	16 59 44.8	-0.6
TARZ	Mount Tarawera	3.89	212	P	Pn	16 59 48.7	+2.0
RIGZ	Rimuhau	3.90	196	P	Pn	16 59 45.5	-1.4
MUGZ	Murupara	3.99	207	P	Pn	16 59 47.2	-0.8
WCZ	Waipu Caves	4.01	254	P	Pn	16 59 47.7	-0.5
TOZ	Tahuroa Road	4.02	225	P	Pn	16 59 51.5	+3.1
RTZ	Ruatahuna	4.04	204	P	Pn	16 59 47.2	-1.5
SNGZ	Shannon Statio	4.08	200	P	Pn	16 59 48.4	-0.9
PRGZ	Paritu Road	4.09	193	P	Pn	16 59 47.7	-1.6
RAHZ	Arahi	4.28	202	P	Pn	16 59 50.2	-1.7
MTHZ	Maungataniwha	4.30	204	P	Pn	16 59 50.5	-1.7
MHGZ	Mahia Peninsul	4.31	192	P	Pn	16 59 50.6	-1.7
MRHZ	Matea Rd	4.44	208	P	Pn	16 59 52.6	-1.4
OUZ	Omahuta	4.52	265	P	Pn	16 59 54.3	-0.8
NMHZ	Naumai	4.53	203	P	Pn	16 59 53.5	-1.9
WATZ	Wairara	4.62	215	P	Pn	16 59 56.6	0.0
ARHZ	Aropaoanui	4.63	201	P	Pn	16 59 54.4	-2.2
BKZ	Black Stump Fm	4.70	206	P	Pn	16 59 55.3	-2.4
MCHZ	McNeill Hill	4.88	202	P	Pn	16 59 57.4	-2.7
HIZ	Hauiti	4.93	223	P	Pn	17 00 01.8	+1.1
KWHZ	Kaweka Forest	4.96	205	P	Pn	16 59 58.6	-2.6
NTVZ	North Tongarir	4.97	212	P	Pn	16 59 59.8	-1.6
TMVZ	Te Maari	4.97	212	P	Pn	16 59 59.3	-2.1
ETVZ	East Tongariro	4.98	212	P	Pn	16 59 59.4	-2.2
WTVZ	West Tongariro	5.02	213	P	Pn	16 59 60.0	-2.1
NNVZ	North Ngauruho	5.02	213	P	Pn	17 00 00.7	-1.4
OTVZ	Oturere	5.03	212	P	Pn	17 00 00.0	-2.2
SNVZ	South Ngauruho	5.06	212	P	Pn	17 00 00.7	-1.9
NGZ	Ngauruhoe	5.07	212	P	Pn	17 00 01.0	-1.7
TUVZ	Tukino	5.12	212	P	Pn	17 00 01.4	-2.0
FWVZ	Far West T-bar	5.15	212	P	Pn	17 00 01.8	-2.1
KAHZ	Kahuranaki	5.15	199	P	Pn	17 00 00.5	-3.3
KRHZ	Kereru	5.17	204	P	Pn	17 00 00.1	-3.9
WNVZ	Wahianoa	5.19	212	P	Pn	17 00 02.1	-2.3
MOVZ	Moawhango	5.19	210	P	Pn	17 00 01.6	-2.8
PKVZ	Pokaka	5.27	214	P	Pn	17 00 03.5	-1.9
MTVZ	Mangateitei	5.29	212	P	Pn	17 00 04.1	-1.6
PXZ	Pawanui	5.38	199	P	Pn	17 00 02.5	-4.3
VRZ	Vera Road	5.43	218	P	Pn	17 00 06.9	-0.6
PNHZ	Pukenui	5.47	204	P	Pn	17 00 03.7	-4.4
WPHZ	Waipukurau	5.53	202	P	Pn	17 00 05.9	-2.9
PRHZ	Porangahau	5.66	199	P	Pn	17 00 06.3	-4.3
ANWZ	Angora Road	5.88	200	P	Pn	17 00 09.6	-4.1
PRWZ	Pori Road	6.12	203	P	Pn	17 00 12.4	-4.5
GLKZ	Green Lake	6.20	25	S	Sn	17 01 28.5	+0.9
CTZ	Chatham Island	9.38	161	P	Pn	17 01 01.0	-0.2

*IDC **07** 17:03:01.6±1.7, 0°38N×126°28E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=176.3km s-min=21.3km az=66.0*
*DJA **07** 17:03:04.8±0.3, 0°N±3°×12°6E±°, h10km, M3.5/8, mB5.0/1, mb3.9/1, MLv3.2/8, Mw(mB)4.3/1*

ISC 07 17:03:07.5±1.1, 0°31N±0°09×126°24E±0°07, h44km, n8, σ1§00/9, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.22	68	P	Pn	17 03 27.0	-1.1
TNTI				S	Sn	17 03 44.8	+1.4
KMSI	Cibinong	2.27	277	P	Pn	17 03 41.9	-0.7
SANI	Sanana	2.35	186	P	Pn	17 03 42.9	-0.7
KDI	Kendari	5.57	220	P	Pn	17 04 27.8	0.0
WRA	Warramunga Arr	21.63	159	P	P	17 07 53.3	-0.9
	0.6nm,0.5s,baz=337,slow=11,SNR=6.9						
	0.6nm,0.5s						
ASAR	Alice Springs	24.96	163	P	P	17 08 28.1	+1.0
	0.5nm,0.5s,baz=344,slow=11,SNR=13						
	0.5nm,0.5s						
MKAR	Makanchi Array	60.10	327	P	P	17 13 10.3	-0.1
	0.3nm,0.6s,baz=118,slow=8.3,SNR=7.8						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	64.36	328	P	P	17 13 39.0	+0.3
	0.2nm,0.5s,baz=127,slow=6.3,SNR=7.1						
	0.2nm,0.5s						

*NEIC **07** 17:05:03.1±2.0, 31°21N±0°03×103°23W±0°05, h5km±2km, mb_Lg2.8/34, ML2.8/16, Error ellipse: s-maj=7.7km s-min=5.5km az=91.0*
*TXNET **07** 17:05:04.2, 31°1N±0°9×103°2W±0°8, h9km±2km, ML3.0/12, Error ellipse: s-maj=1.4km s-min=1.2km az=147.8, final*

ISC 07 17:05:04.8±0.9, 31°13N±0°02×103°20W±0°02, h13km±7km, n81, σ1§23/108, 5C-3D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB05	Hovey Rd	0.23	209	⇑P	Pg	17 05 09.9	+0.1
TPB05				S	Sg	17 05 14.1	+0.9
TPB03	Saragosa	0.28	261	P	Pb	17 05 10.8	-0.9
TPB03				S	Sb	17 05 16.0	-0.3
TPB08	Permian Basin	0.34	133	⇓P	Pg	17 05 11.7	0.0
TPB08				S	Sg	17 05 16.8	+0.4
PCOS	Crockett Middl	0.39	316	P	Pn	17 05 14.2	-2.0
PCOS				S	Sb	17 05 21.8	+2.2
MNHN	Monahans	0.43	60	P	Pg	17 05 12.2	-1.1
MNHN				IAML		17 05 21.1	
	1μm,0.4s						
MNHN				IAML		17 05 23.8	
	1μm,0.3s						
MNHN	Monahans	0.43	60	P	Pg	17 05 12.5	-0.8
MNHN	Monahans	0.43	60	⇑P	Pg	17 05 12.4	-0.9
MNHN				Pn	Pb	17 05 13.2	-1.0
MNHN				S	Sg	17 05 18.5	-0.6
TPB10	Southeast of T	0.51	288	P	Pb	17 05 14.9	-0.7
TPB10				S	Sb	17 05 23.1	+0.3
TPB06	Permian Basin	0.52	358	P	Pb	17 05 15.0	-0.8
TPB06				Pn	Pn	17 05 17.3	-0.7
TPB06				S	Sb	17 05 23.3	-0.1
TPB06				Sn	Sg	17 05 27.2	+5.2
TPB01	Permian Basin	0.54	250	P	Pg	17 05 15.0	-0.3
TPB01				Pn	Pn	17 05 17.5	-0.7
TPB01				S	Sb	17 05 23.0	-0.7
TPB01				Sn	Sn	17 05 26.4	-0.8
TPB07	Mentone	0.61	318	S	Sn	17 05 31.4	+2.5
PECS	Pecos	0.62	293		Pg	17 05 16.4	-0.6
PECS	Pecos	0.62	293	P	Pb	17 05 17.7	0.0
PECS	Pecos	0.62	293	⇓P	Pb	17 05 16.6	-1.0
PECS				S	Sb	17 05 26.4	0.0
TPB12	Southwest of T	0.66	278	P	Pb	17 05 17.7	-0.5
TPB12				S	Sb	17 05 27.2	-0.1
ALPN	Alpine	0.84	207		Pg	17 05 19.4	-1.6
ALPN				IAML		17 05 44.9	
	320nm,0.7s						
ALPN				IAML		17 05 45.5	
	323nm,0.9s						
ALPN	Alpine	0.84	207	P	Pg	17 05 20.4	-0.7
ALPN	Alpine	0.84	207	⇑P	Pg	17 05 20.2	-0.9
ALPN				S	Sg	17 05 32.1	0.0
TMB02	Rankin	0.99	86	P	Pg	17 05 22.5	-1.5
TMB02				S	Sg	17 05 35.5	-1.4
TPB11	China Draw	1.08	319	P	Pn	17 05 25.1	-0.6
TPB11				S	Sn	17 05 42.1	+1.5
ODSA	Odessa	1.13	29		Pg	17 05 24.7	-2.0
ODSA	Odessa	1.13	29	P	Pb	17 05 25.6	-0.7
ODSA	Odessa	1.13	29	P	Pg	17 05 25.4	-1.3
ODSA				S	Sn	17 05 41.4	-0.6
NM01	Eunice	1.24	352	P	Pg	17 05 28.0	-0.6
NM01				S	Sn	17 05 47.6	+3.0
CLNB	Carlsbad	1.28	333	P	Pg	17 05 29.8	+0.5
CLNB				S	Sn	17 05 47.4	+1.9
CLN7	Carlsbad 7	1.39	338		Pg	17 05 30.6	-0.8
HTMS	Hat Mesa	1.39	345		Pg	17 05 30.8	-0.8
HTMS	Hat Mesa	1.39	345	P	Pg	17 05 31.0	-0.6
HTMS				S	Sg	17 05 52.2	+2.4
GDL2	Guadalupe Moun	1.46	317	Pn	Pn	17 05 30.2	-0.8
GDL2	Guadalupe Moun	1.46	317	P	Pg	17 05 32.5	-0.4
SAND	Sanderson	1.49	141		Pn	17 05 31.5	+0.2
SAND	Sanderson	1.49	141	P	Pn	17 05 31.6	+0.3
SAND	Sanderson	1.49	141	P	Pn	17 05 31.4	+0.1
SAND				S	Sn	17 05 51.1	+0.4
VHRN	Van Horn	1.57	258		Pb	17 05 33.0	-0.8
VHRN				IAML		17 05 59.5	
	168nm,0.7s						
VHRN				IAML		17 05 60.0	
	164nm,0.9s						
VHRN	Van Horn	1.57	258	P	Pb	17 05 33.9	0.0
VHRN	Van Horn	1.57	258	⇑P	Pb	17 05 33.8	-0.1
VHRN				S	Sg	17 05 55.4	-0.1
TMB04	Seminole	1.61	22	P	Pn	17 05 32.6	-0.4
TMB04				S	Sg	17 05 56.5	-0.2
OZNA	Ozona	1.79	96	Pn	Pn	17 05 36.0	+0.6
OZNA				IAmb_Lg		17 06 05.6	
	comp=Z,74nm,0.7s						
OZNA	Ozona	1.79	96	P	Pb	17 05 37.6	+0.1
OZNA	Ozona	1.79	96	P	Pn	17 05 36.3	+0.9
OZNA				S	Sb	17 06 00.1	+0.3
TX31	Lajitas Ar. Si	1.83	193		Pb	17 05 37.5	-0.7
TX31	Lajitas Ar. Si	1.83	193	P	Pb	17 05 37.8	-0.4
TX31	Lajitas Ar. Si	1.83	193	⇑P	Pb	17 05 37.6	-0.7
TX31				S	Sb	17 06 02.8	+1.7
TXAR	Lajitas Array	1.83	193		Pb	17 05 37.5	-0.7
SGCY	Sterling City	1.93	65	Pn	Pb	17 05 38.7	-1.3
SGCY	Sterling City	1.93	65	⇓P	Pb	17 05 38.8	-1.1
SGCY				S	Sb	17 06 04.3	+0.3
MNTX	Cornudas Mount	1.96	288	P	Pb	17 05 39.4	-0.8
MNTX				S	Sg	17 06 07.0	-0.6
CPRX	Cap Rock	1.98	343	Pn	Pn	17 05 37.5	-0.7
CPRX	Cap Rock	1.98	343	P	Pb	17 05 40.2	-0.6
POST	Post	2.41	36		Pn	17 05 44.0	0.0
POST				IAmb_Lg		17 06 21.4	
	comp=Z,27nm,0.8s						
SN05	Snyder 5	2.63	48	Pn	Pn	17 05 47.4	+0.4
SN05				IAmb_Lg		17 06 26.6	
	comp=Z,38nm,0.8s						
SN07	Snyder 07	2.77	44		Pn	17 05 49.5	+0.6
DRIO	Del Rio	2.80	127		Pn	17 05 51.1	+1.8
JCT	Junction City	2.99	102	Pn	Pn	17 05 51.9	0.0
JCT	Junction City	2.99	102	P	Pb	17 05 55.9	-2.0
DKNS	Dickens	3.18	37		Pn	17 05 54.4	-0.2
DKNS				IAmb_Lg		17 06 48.9	
	comp=Z,54nm,0.9s						
DKNS	Dickens	3.18	37	P	Pn	17 05 55.8	+1.2
ABTX	Abilene, Hawle	3.37	63	P	Pn	17 05 55.4	-1.8
APMT	Aspermont	3.41	49	Pn	Pn	17 05 56.7	-1.0
APMT				IAmb_Lg		17 06 53.8	
	comp=Z,22nm,0.9s						
BRDY	Brady	3.60	86		Pn	17 06 01.2	+0.9
BRDY	Brady	3.60	86	P	Pn	17 06 02.2	+1.9
HNDO	Hondo	3.74	114		Pn	17 06 02.9	+0.7
HNDO				IAmb_Lg		17 07 13.3	
	comp=Z,36nm,0.7s						
HNDO	Hondo	3.74	114	P	Pn	17 06 06.5	+4.2
AMTX	Amarillo	3.96	18	Pn	Pn	17 06 04.6	-0.7
AMTX				IAmb_Lg		17 07 13.8	
	comp=Z,32nm,0.8s						
CRNM	Carthage	4.11	314	Pn	Pn	17 06 06.2	-1.3
121A	Cookes Peak, D	4.15	291		Pn	17 06 05.9	-2.1
121A				IAmb_Lg		17 07 20.1	
	comp=Z,15nm,1.0s						
BNM	Barren Site	4.18	317		Pn	17 06 08.2	-0.3
LENM	Lemitar	4.40	315	Pn	Pn	17 06 10.5	-0.9
PLPT	Palo Pinto	4.47	67	Pn	Pn	17 06 12.7	+0.4
ANMO	Albuquerque	4.69	325	Pn	Pn	17 06 14.3	-1.2
FW03	Perrin-Whitt E	4.75	65	Pn	Pn	17 06 15.7	-0.5
WTFS	Witchita Falls	4.79	55	Pn	Pn	17 06 16.4	-0.3
WTFS	Witchita Falls	4.79	55	P	Pn	17 06 15.9	-0.8
FW07	Weatherford	4.86	70	IAmb_Lg		17 07 44.8	
	comp=Z,23nm,0.8s						
EF68	Kenedy	5.10	116	P	Pb	17 06 34.5	+0.7
WMOK	Wichita Mounta	5.17	45		Pn	17 06 21.5	-0.4
WMOK				IAmb_Lg		17 08 01.0	
	comp=Z,12nm,0.7s						
RTBA	Rita Blanca	5.31	4		Pn	17 06 23.9	0.0
FW12	Venus	5.33	74	P	Pn	17 06 22.0	-2.0
FW11	UT at Arlingto	5.40	71	P	Pn	17 06 25.4	+0.4
T25A	Trinidad	6.08	351	Pg	Pb	17 06 52.6	+1.9
FNO	Franklin	6.37	48	IAmb_Lg		17 08 33.3	
	comp=Z,21nm,0.8s						

*IDC **07** 17:06:08.7±1.3, 0°56N×126°67E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=139.1km s-min=19.2km az=68.0*
*DJA **07** 17:06:13.1±0.3, 0°N±3°×12°6E±°, h10km, M3.8/13, mb4.1/3, MLv3.7/13*

ISC 07 17:06:15.2±0.9, 0°31N±0°08×126°28E±0°06, h47km, n13, σ1§32/14, mb3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.18	67	P	Pn	17 06 35.0	-0.3
TNTI				S	Sn	17 06 49.9	-0.4
KMSI	Cibinong	2.31	277	P	Pn	17 06 50.3	-0.5
SANI	Sanana	2.36	187	P	Pn	17 06 50.3	-1.2
LUWI	Luwuk	3.75	249	P	Pn	17 07 13.6	+3.0
AAI	Ambon	4.41	154	P	Pn	17 07 20.4	+0.8
KDI	Kendari	5.60	221	P	Pn	17 07 35.4	-0.6
	0.1nm15nm,0.8s						
FAKI	Fak Fak	6.78	118	P	Pn	17 07 53.9	+1.7
	17nm,1.5s						
SPSI	Sidrap Palu	7.77	237	P	Pn	17 08 06.8	+1.0
WRA	Warramunga Arr	21.62	159	P	P	17 11 01.0	-0.5
	1.2nm,0.5s,baz=338,slow=11,SNR=19						
	1.2nm,0.5s						
ASAR	Alice Springs	24.96	163	P	P	17 11 35.7	+1.2
	1.4nm,0.8s,baz=344,slow=11,SNR=26						
	1.4nm,0.8s						
SONM	Songino Array	50.39	343	P	P	17 15 06.8	-1.1
	0.6nm,1.0s,baz=159,slow=9.3,SNR=2.6						
	0.6nm,1.0s						
MKAR	Makanchi Array	60.12	327	P	P	17 16 18.4	+0.5
	0.6nm,0.5s,baz=120,slow=8.6,SNR=14						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	64.38	328	P	P	17 16 46.2	-0.1
	0.9nm,0.7s,baz=131,slow=6.0,SNR=12						
	0.9nm,0.7s						

ISC 07 17:06:43.4±1.1, 59°88N±0°03×136°68W±0°03, h15km±10km, n17, σ1§00/27, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P30M	Million Dollar	0.28	329	P	Pb	17 06 49.7	-0.4
	baz=154						
P30M				S	Sg	17 06 53.2	-0.2
	baz=154						
PLBC	Pleasant Camp	0.46	160	P	Pb	17 06 53.2	+0.1
	baz=337,SNR=139						
PLBC				S	Sb	17 06 59.3	-0.4
	baz=337						
SKAG	Skagway	0.81	121	P	Pn	17 06 59.6	-0.5
	baz=301						
SKAG				S	Sb	17 07 09.8	+0.1
	baz=301						
O30N	Mendenhall	0.94	18	P	Pn	17 07 01.9	-0.1
	baz=199,SNR=98						
O30N				S	Sg	17 07 14.0	+0.2
	baz=199						
HYT	Haines Junctio	1.03	337	P	Pb	17 07 03.1	+0.1
	baz=157						
HYT				S	Sn	17 07 17.3	-0.3
	baz=157						
O29M	Mount Kennedy	1.04	295	P	Pn	17 07 03.3	-0.2
	baz=114						
O29M				S	Sg	17 07 16.9	-0.2
	baz=114						
WHY	Whitehorse	1.19	48	P	Pg	17 07 06.2	0.0
	baz=230,SNR=165						
WHY				S	Sg	17 07 21.8	+0.1
	baz=230						
P32M	Atlin	1.53	100	Pb	Pb	17 07 11.9	+0.5
	baz=282,SNR=29						
P32M				Sb	Sg	17 07 32.6	+0.1
	baz=282						
N30M	Aishikik Lake	1.59	353	Pg	Pg	17 07 13.8	-0.2
	baz=173						
N30M				Sb	Sg	17 07 34.1	-0.6
	baz=173						
N31M	Braeburn, Yuko	1.67	15	Sb	Sg	17 07 36.3	-0.7
	baz=196						
YUK4	Talbot Arm	1.76	327	Sg	Sg	17 07 42.8	+2.8
	baz=149						
PINM	Pinnacle	1.81	278	Sg	Sg	17 07 42.5	+0.9
	baz=96						
S31K	Pelican	1.94	173	Sb	Sg	17 07 44.1	-1.7
	baz=353						
O28M	Mount Upton	1.96	299	Sg	Sg	17 07 47.1	+0.6
	baz=116						
P33M	Teslin, Yukon	1.96	79	P	Pn	17 07 17.4	+1.3
	baz=262,SNR=13						
P33M				Sb	Sg	17 07 45.8	-0.7
	baz=262						
Q32M	Nakina River	2.44	110	Sg	Sg	17 08 03.5	+1.8
	baz=294						
M31M	Drury Creek, Y	2.58	25	Sb	Sg	17 08 04.3	-1.8
	baz=207						

*IDC **07** 17:13:47.7±0.6, 0°25N×126°05E, h0km, mb4.2/16, mbtmp4.1/17, ML3.5/1, Error ellipse: s-maj=34.3km s-min=13.5km az=74.0*
*DJA **07** 17:13:51.6±0.2, 0°N±3°×12°6E±°, h10km, M4.1/19, mB4.6/1, mb4.4/6, MLv4.0/19, Mw(mB)3.8/1*
*NEIC **07** 17:13:53.7±2.6, 0°3N±0°1×126°46E±0°03, h38km±10km, mb4.3/20, Error ellipse: s-maj=14.7km s-min=4.6km az=173.0*

ISC 07 17:13:53.3±0.5, 0°29N±0°06×126°27E±0°06, h35km, n61, σ1§46/64, mb4.3/25, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.20	66	Pn	Pn	17 14 11.6	-2.0
TNTI	Ternate	1.20	66	P	Pn	17 14 12.9	-0.7
TNTI				S	Sn	17 14 31.4	+2.7
KMSI	Cibinong	2.30	277	P	Pn	17 14 28.7	-0.1
SANI	Sanana	2.34	187	P	Pn	17 14 28.8	-0.5
NLAI	Namlea	3.60	167	P	Pn	17 14 47.6	+0.9
LUWI	Luwuk	3.74	249	Pn	Pn	17 14 51.8	+3.3
LUWI	Luwuk	3.74	249	P	Pn	17 14 51.1	+2.6
AAI	Ambon	4.39	154	P	Pn	17 14 59.3	+1.7
MSAI	Masohi	4.49	144	P	Pn	17 15 01.7	+2.9
APSI	Ampana	4.77	256	P	Pn	17 15 03.3	+0.6
SWI	Sorong	5.12	103	P	Pn	17 15 09.4	+1.8
	0.1nm18nm,0.7s						
TOLI2	Tolitoli	5.54	279		Pn	17 15 16.8	+3.4
KDI	Kendari	5.57	221	P	Pn	17 15 13.9	+0.1
	0.1nm24nm,0.7s						
FAKI	Fak Fak	6.78	118	P	Pn	17 15 32.1	+1.8
BBSI	Bau Bau	6.82	213	P	Pn	17 15 30.0	-1.0
	40nm,1.1s						
TTSI	Tana Toraja	7.25	243	P	Pn	17 15 36.8	0.0
	0.1nm24nm,0.5s						
SPSI	Sidrap Palu	7.75	237	P	Pn	17 15 45.2	+1.6
BKSI	Bulukumba	8.29	228	P	Pn	17 15 52.4	+1.3
	19nm,0.7s						
KAPI	Kappang	8.37	231	Pn	Pn	17 15 54.4	+2.2
KSM	Kuching	16.00	274	P	Pn	17 17 39.0	+3.1
KSM				IAmb	IAmb	17 17 40.0	
	comp=Z,22nm,0.8s						
FITZ	Fitzroy Crossi	18.28	182	P	P	17 18 03.7	-0.5
	comp=Z,0.1nm,0.3s,baz=4.4,slow=12,SNR=2.5						
	comp=Z,2.7nm,0.7s						
WB0	Warramunga Arr	21.46	159	P	P	17 18 38.0	-0.9
WB0				IAmb

comp=Z,4.5nm,0.9s
MK31 Makanchi Array 60.13 327 P **P** **17 23 55.9 -1.5**
MK31 IAmb IAmb 17 23 59.3
comp=Z,2.7nm,1.1s
MKAR Makanchi Array 60.13 327 P **P** **17 23 55.5 -1.8**
MKAR Makanchi Array 60.13 327 P **P** **17 23 56.2 -1.2**
comp=Z,3.1nm,0.7s,baz=120,slow=8.3,SNR=45
comp=Z,3.1nm,0.7s
MAKZ Makanchi 60.31 326 P **P** **17 23 56.8 -1.8**
MAKZ IAmb IAmb 17 24 01.6
comp=Z,2.5nm,0.7s
YAK Yakutsk 61.64 2 P **P** **17 24 07.2 -0.1**
comp=Z,5.0nm,0.6s,baz=177,slow=1.2,SNR=4.4
comp=Z,5.0nm,0.6s
MA2 Magadan 62.13 14 P **P** **17 24 11.2 +0.5**
comp=Z,2.4nm,0.6s,baz=198,slow=14,SNR=3.5
comp=Z,2.4nm,0.6s
ZALV Zalesovo Beam 63.44 334 P **P** **17 24 18.3 -1.1**
comp=Z,0.9nm,0.7s,baz=131,slow=6.8,SNR=5.4
comp=Z,0.9nm,0.7s
GAR Garm 63.93 314 P **P** **17 24 23.3 +0.1**
KURBB Kurchatov Arra 64.39 328 P **P** **17 24 24.6 -1.2**
comp=Z,2.6nm,0.7s,baz=132,slow=6.0,SNR=34
comp=Z,2.6nm,0.7s
KURK Kurchatov 64.40 329 P **P** **17 24 23.2 -2.6**
KK31 Karatay Array 65.45 318 P **P** **17 24 31.4 -1.4**
KKAR Karatay Array 65.45 318 P **P** **17 24 31.6 -1.2**
SEY Seymchan 65.47 13 P **P** **17 24 34.5 +1.9**
comp=Z,0.9nm,0.7s,baz=198,slow=6.8,SNR=3.6
comp=Z,0.9nm,0.7s
BVAR Borovoye Array 69.95 328 P **P** **17 24 59.8 -1.2**
comp=Z,1.7nm,0.6s,baz=122,slow=7.4,SNR=7.7
comp=Z,1.7nm,0.6s
BRVK Borovoye 70.02 328 P **P** **17 25 00.7 -0.7**
BRVK IAmb IAmb 17 25 06.2
comp=Z,5.9nm,1.2s
NRIK Noril'sk 73.64 347 P **P** **17 25 22.3 -0.6**
NRIK IAmb IAmb 17 25 52.6
comp=Z,2.7nm,0.9s
NRIK Noril'sk 73.64 347 P **P** **17 25 22.3 -0.6**
comp=Z,1.2nm,0.5s,baz=119,slow=4.7,SNR=5.7
comp=Z,1.2nm,0.5s
ABKAR Akbulak array 74.52 321 P **P** **17 25 26.7 -1.7**
ARTI Arti 77.67 328 P **P** **17 25 45.3 -0.9**
ARTI IAmb IAmb 17 25 46.8
comp=Z,3.6nm,1.0s
D19K Kuna River 84.48 21 P **P** **17 26 22.7 +0.5**
QSPA South Pole Qui 90.22 180 P **P** **17 26 49.8 -0.3**
comp=Z,2.0nm,1.0s,baz=341,slow=4.3,SNR=3.6
comp=Z,2.0nm,1.0s

*IDC **07** 17:19:07.3±0.4, 29°.39S×179°.00W, h302km±4km, mb3.6/10, mbtmp4.3/12, Error ellipse: s-maj=17.1km s-min=15.1km az=120.0*

ISC 07 17:19:07.0±0.6, 29°.62S±0°.07×179°.0W±0°.1, h300km, n53, σ1§81/67, mb3.7/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.03**	**69**	P	**Pn**	**17 19 48.5**	**+0.9**
GLKZ	**Green Lake**	**1.03**	**70**	P	**Pn**	**17 19 48.5**	**+1.0**
GLKZ				S	**S**	**17 20 20.5**	**+0.7**
RAO	**Raoul Island**	**1.04**	**69**	P	**Pn**	**17 19 48.2**	**+0.6**
	2µm,0.3s,baz=245,slow=2.5,SNR=18						
RAO				S	**S**	**17 20 19.9**	**+0.1**
	559nm,0.3s,baz=94,slow=22,SNR=8.6						
MXZ	**Matakaoa Point**	**8.22**	**195**	P	**Pn**	**17 21 05.4**	**+2.2**
MXZ				S	**S**	**17 22 35.9**	**-1.6**
WMGZ	**Waiomatatini S**	**8.45**	**194**	P	**Pn**	**17 21 05.2**	**-0.8**
WMGZ				S	**S**	**17 22 39.7**	**-2.8**
HAZ	**Te Kaha**	**8.54**	**197**	P	**Pn**	**17 21 06.7**	**-0.4**
HAZ				S	**S**	**17 22 45.3**	**+0.7**
PKGZ	**Pakihiroa**	**8.57**	**196**	P	Pn	17 21 03.2	-4.3
PKGZ				S	**S**	**17 22 42.0**	**-3.4**
RUGZ	**Raukumara Rang**	**8.76**	**197**	P	**Pn**	**17 21 09.6**	**-0.4**
RUGZ				S	**S**	**17 22 46.5**	**-3.3**
TWGZ	**Tauwhareparae**	**8.88**	**195**	P	Pn	17 21 09.1	-2.3
TWGZ				S	**S**	**17 22 51.8**	**-0.8**
CNGZ	**Carnagh Statio**	**9.13**	**194**	P	**Pn**	**17 21 13.0**	**-1.3**
CNGZ				S	**S**	**17 22 57.1**	**-0.9**
TKGZ	**Te Karaka**	**9.17**	**196**	P	Pn	17 21 12.5	-2.3
TKGZ				S	**S**	**17 22 55.8**	**-3.0**
URZ	**Urewera**	**9.19**	**199**	P	**Pn**	**17 21 17.7**	**+2.6**
	4.7nm,0.3s,baz=354,slow=3.6,SNR=16						
URZ				S	**S**	**17 22 59.6**	**+0.2**
	18nm,0.5s,baz=203,slow=18,SNR=16						
RAGZ	**Rawiri**	**9.33**	**197**	P	Pn	17 21 13.3	-3.6
RAGZ				S	**S**	**17 22 59.8**	**-2.9**
RIGZ	**Rimuhau**	**9.44**	**195**	P	**Pn**	**17 21 20.1**	**+1.9**
RIGZ				S	**S**	**17 23 02.1**	**-3.0**
MUGZ	**Murupara**	**9.49**	**200**	P	**Pn**	**17 21 17.9**	**-0.9**
PRGZ	**Paritu Road**	**9.62**	**195**	P	**Pn**	**17 21 18.8**	**-1.7**
PRGZ				S	S	17 23 04.6	-4.6
MTHZ	**Maungataniwha**	**9.82**	**199**	P	**Pn**	**17 21 25.4**	**+2.5**
MTHZ				S	**S**	**17 23 11.0**	**-2.7**
NMHZ	**Naumai**	**10.06**	**199**	P	Pn	17 21 23.1	-2.7
NMHZ				S	**S**	**17 23 16.6**	**-2.5**
ARHZ	**Aropaoanui**	**10.16**	**198**	P	**Pn**	**17 21 29.4**	**+2.5**
ARHZ				S	**S**	**17 23 18.1**	**-3.2**
BKZ	**Black Stump Fm**	**10.21**	**200**	P	**Pn**	**17 21 27.7**	**0.0**
BKZ				S	S	17 23 18.1	-4.5
NTVZ	**North Tongarir**	**10.41**	**203**	P	**Pn**	**17 21 32.8**	**+2.6**
TMVZ	**Te Maari**	**10.42**	**203**	P	**Pn**	**17 21 32.9**	**+2.6**
ETVZ	**East Tongariro**	**10.43**	**203**	P	**Pn**	**17 21 32.7**	**+2.2**
KWHZ	**Kaweka Forest**	**10.47**	**200**	S	**S**	**17 23 26.1**	**-2.4**
OTVZ	**Oturere**	**10.47**	**203**	P	**Pn**	**17 21 33.0**	**+1.9**
OTVZ				S	**S**	**17 23 31.5**	**+2.8**
SNVZ	**South Ngauruho**	**10.50**	**203**	P	**Pn**	**17 21 33.6**	**+2.2**
SNVZ				S	**S**	**17 23 29.2**	**-0.1**
TUVZ	**Tukino**	**10.57**	**203**	P	**Pn**	**17 21 33.3**	**+1.1**
TUVZ				S	**S**	**17 23 29.1**	**-1.8**
KAHZ	**Kahuranaki**	**10.69**	**197**	P	Pn	17 21 29.4	-4.1
KAHZ				S	**S**	**17 23 30.3**	**-3.1**
PNHZ	**Pukenui**	**10.99**	**200**	P	Pn	17 21 33.5	-3.7
PNHZ				S	S	17 23 34.5	-5.6
MSVF	**Nonsavu**	**12.13**	**347**	P	**P**	**17 21 50.3**	**-2.4**
	19nm,0.6s,baz=194,slow=18,SNR=14						
STKA	**Stephens Creek**	**33.79**	**256**	P	**P**	**17 25 22.9**	**+1.4**
	2.7nm,0.8s,baz=99,slow=9.6,SNR=5.0						
	2.7nm,0.8s						
ASAR	**Alice Springs**	**42.26**	**267**	P	**P**	**17 26 31.7**	**-0.2**
	2.2nm,0.5s,baz=104,slow=6.8,SNR=68						
ASAR				PcP	**PcP**	**17 28 19.5**	**-0.2**
	0.3nm,0.5s,baz=94,slow=3.6,SNR=2.4						
ASAR				ScP	**ScP**	**17 31 39.4**	**-1.8**
	0.4nm,0.9s,baz=105,slow=3.2,SNR=2.1						
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**43.18**	**272**	P	**P**	**17 26 38.8**	**-0.4**
	1.6nm,0.4s,baz=109,slow=6.1,SNR=35						
WRA				PcP	**PcP**	**17 28 22.4**	**-0.3**
	0.7nm,0.8s,baz=112,slow=6.7,SNR=1.8						
	1.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.47**	**270**	P	**P**	**17 27 43.4**	**+0.8**
	2.9nm,0.8s,baz=104,slow=4.2,SNR=2.2						
	2.9nm,0.8s						
QSPA	**South Pole Qui**	**60.48**	**180**	P	**P**	**17 28 48.2**	**+2.6**
	1.2nm,0.6s,baz=348,slow=1.5,SNR=11						
	1.2nm,0.6s						
SNAA	**Sanae**	**78.95**	**179**	P	**P**	**17 30 38.2**	**+0.9**
	1.9nm,1.0s,baz=180,slow=16,SNR=1.4						
	1.9nm,1.0s						
PETK	**Petropavlovsk-**	**84.84**	**346**	P	**P**	**17 31 07.2**	**-0.6**
	3.5nm,0.6s,baz=103,slow=8.0,SNR=12						
	3.5nm,0.6s						
NVAR	**Mina Array Bea**	**88.28**	**43**	P	**P**	**17 31 25.5**	**+0.6**
	0.6nm,0.7s,baz=252,slow=4.5,SNR=2.7						
	0.6nm,0.7s						
KLR	**Kul'dur**	**89.92**	**330**	P	**P**	**17 31 32.3**	**+0.3**
	1.4nm,0.7s,baz=121,slow=3.2,SNR=5.0						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.30**	**290**	P	**P**	**17 31 45.2**	**+1.4**
	0.2nm,0.3s,baz=106,slow=4.7,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**116.59**	**311**	PKP	**PKPdf**	**17 37 13.9**	**-1.4**
	0.2nm,0.4s,baz=111,slow=0.3,SNR=7.8						
KURBB	**Kurchatov Arra**	**119.91**	**314**	PKP	**PKPdf**	**17 37 19.8**	**-1.6**
	1.2nm,0.7s,baz=112,slow=1.8,SNR=10						
BVAR	**Borovoye Array**	**125.23**	**316**	PKP	**PKPdf**	**17 37 30.9**	**-0.7**
	1.3nm,0.4s,baz=93,slow=3.6,SNR=6.5						
ARCES	**ARCESS Array B**	**137.64**	**347**	PKhKP	PKPpre	17 37 44.1	
	3.4nm,1.0s,baz=76,slow=3.5,SNR=6.7						
ARCES				PKP	**PKPdf**	**17 37 54.8**	**+0.3**
	1.5nm,0.5s,baz=9.4,slow=1.5,SNR=10						
KBZ	**Khabaz**	**143.94**	**305**	PKP	PKPbc	17 38 05.1	-0.2
	1.1nm,0.7s,baz=90,slow=1.0,SNR=4.9						
FINES	**FINESS Array B**	**144.11**	**340**	PKP	PKPab	17 38 03.9	-1.0
	6.6nm,0.4s,baz=54,slow=4.1,SNR=82						
NB2	**NORSAR Subarra**	**147.85**	**351**	PKP	**PKPbc**	**17 38 15.2**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**147.85**	**351**	PKPbc	**PKPbc**	**17 38 14.8**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=16,slow=4.3,SNR=8.5						
HFS	**Hagfors**	**148.30**	**348**	PKPbc	**PKPbc**	**17 38 15.9**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=39,slow=5.5,SNR=22						
AKASG	**Malin Array Be**	**150.14**	**323**	PKPbc	**PKPbc**	**17 38 21.1**	**-1.0**
	comp=Z,2.0nm,0.4s,baz=47,slow=2.9,SNR=22						
MMAI	**Mount Meron Ar**	**150.47**	**285**	PKPbc	**PKiKP**	**17 38 24.2**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=74,slow=6.2,SNR=14						
BRTR	**Keskin Array B**	**151.44**	**299**	PKPbc	**PKPbc**	**17 38 24.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=130,slow=4.0,SNR=7.4						
TORD	**Torodi Ar. Bea**	**163.59**	**182**	PKPab	**PKPab**	**17 39 28.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=178,slow=2.3,SNR=5.7						

*VAO **07** 17:24:45.9±1.0, 15°.91S×69°.85W, h248km, mb4.0*
*NEIC **07** 17:24:46.7±1.0, 15°.75±0°.1×69°.8W±0°.2, h239km±8km, mb4.4/11, Error ellipse: s-maj=22.2km s-min=17.7km az=92.0*
*IDC **07** 17:24:46.0±0.9, 15°.61S×69°.67W, h235km±7km, mb3.5/11, mbtmp4.1/12, Error ellipse: s-maj=18.2km s-min=14.9km az=82.0*

ISC 07 17:24:44.7±0.7, 15°.85S±0°.05×69°.90W±0°.07, h229km±6km, n70, σ1§68/79, mb4.0/11, 5C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.76**	**105**		**Pn**	**17 25 26.2**	**+2.3**
LPAZ				Sn	**S**	**17 25 54.4**	**0.0**
LPAZ	**La Paz**	**1.76**	**105**	P	**Pn**	**17 25 25.8**	**+1.8**
	110nm,0.3s,baz=313,slow=6.6,SNR=583						
LPAZ				S	**S**	**17 25 55.1**	**+0.7**
	73nm,0.6s,baz=140,slow=18,SNR=31						
LPAZ	**La Paz**	**1.76**	**105**	*e*P	**Pn**	**17 25 25.9**	**+2.0**
PB18	**Visviri**	**1.78**	**167**	Pn	**Pn**	**17 25 27.6**	**+3.6**
PB18	**Visviri**	**1.78**	**167**	⇑*i*P	**Pn**	**17 25 27.6**	**+3.6**
AP01	**Chacalluta**	**2.54**	**189**	Pn	**Pn**	**17 25 31.7**	**+0.8**
AP01				Sn	**S**	**17 26 04.8**	**-2.4**
AP01	**Chacalluta**	**2.54**	**189**	⇑*i*P	**Pn**	**17 25 32.1**	**+1.2**
AP01				*e*S	**S**	**17 26 07.1**	**-0.1**
AP01				IAML		17 26 12.8	
	comp=E,805nm,0.3s						
PB12	**IPOC Station P**	**2.78**	**188**	Pn	**Pn**	**17 25 34.4**	**+0.8**
PB12				Sn	**S**	**17 26 10.0**	**-1.9**
PB12	**IPOC Station P**	**2.78**	**188**	⇑*i*P	**Pn**	**17 25 34.5**	**+0.9**
PB12				*e*S	**S**	**17 26 11.2**	**-0.8**
PB12				IAML		17 26 13.8	
	comp=E,537nm,0.2s						
PX02	**IPOC Station P**	**3.11**	**185**	*e*P	**Pn**	**17 25 37.3**	**+0.1**
PB08	**IPOC Station P**	**4.33**	**171**	Pn	**Pn**	**17 25 53.6**	**+1.7**
PB08				Sn	**S**	**17 26 42.9**	**-2.2**
PB08	**IPOC Station P**	**4.33**	**171**	⇑*i*P	**Pn**	**17 25 53.7**	**+1.8**
TA02	**Huaiquique**	**4.40**	**183**	Pn	**Pn**	**17 25 52.8**	**+0.3**
HMBC	**Humberstone**	**4.41**	**180**	Pn	**Pn**	**17 25 53.0**	**+0.4**
HMBC				Sn	**S**	**17 26 40.1**	**-6.2**
HMBC	**Humberstone**	**4.41**	**180**	⇑*i*P	**Pn**	**17 25 53.1**	**+0.5**
HMBC				*e*S	**S**	**17 26 43.7**	**-2.6**
TA01	**Diego Aracena**	**4.70**	**183**	Pn	**Pn**	**17 25 56.4**	**+0.3**
PATCX	**Punta Patache**	**4.95**	**183**		**Pn**	**17 25 59.8**	**+0.5**
PB01	**IPOC Station P**	**5.18**	**176**	Pn	**Pn**	**17 26 03.0**	**+0.9**
PB09	**IPOC Station P**	**5.95**	**174**	Pn	**Pn**	**17 26 14.3**	**+2.4**
ETMB	**Extrema**	**6.99**	**31**		**Pn**	**17 26 25.4**	**+0.3**
ETMB	**Extrema**	**6.99**	**31**	*e*P	**Pn**	**17 26 25.7**	**+0.6**
NNA	**Nana**	**7.75**	**299**	S	**S**	**17 28 01.0**	**-2.1**
	comp=E,10nm,0.3s,baz=200,slow=12,SNR=4.5						
SIV	**San Ignacio**	**8.50**	**92**	P	**Pn**	**17 26 42.4**	**-2.0**
	comp=E,0.7nm,0.5s,baz=282,slow=12,SNR=3.9						
PB14	**IPOC Station P**	**8.75**	**183**	Pn	**Pn**	**17 26 48.6**	**+0.8**
GO02	**Mina Guanaco**	**9.27**	**178**	Pn	**Pn**	**17 26 56.1**	**+1.6**
AC01	**Pan de Azucar**	**10.27**	**184**	Pn	**Pn**	**17 27 08.9**	**+2.0**
AC02	**Maricunga**	**10.96**	**176**	Pn	**P**	**17 27 18.8**	**-2.6**
LCO	**Las Campanas**	**13.12**	**183**	Pn	**P**	**17 27 44.4**	**-0.8**
TEFE	**Tefe**	**13.31**	**23**	*e*P	**P**	**17 27 47.6**	**+0.5**
CO01	**Juntas del Tor**	**14.06**	**181**	P	**P**	**17 27 58.9**	**+3.2**
CO06	**Fray Jorge**	**14.84**	**186**	P	**P**	**17 28 05.6**	**+1.6**
CO06				IAmb	IAmb	17 28 41.8	
	comp=Z,33nm,1.4s						
CO03	**El Pedregal**	**14.94**	**183**	P	**P**	**17 28 07.1**	**+1.9**
CO03				IAmb	IAmb	17 28 27.2	
	comp=Z,24nm,1.5s						
MACA	**Manacapuru-AM**	**15.53**	**37**	P	**P**	**17 28 09.3**	**-2.5**
MACA	**Manacapuru-AM**	**15.53**	**37**	*e*P	**P**	**17 28 11.8**	**0.0**
CPUP	**Villa Florida**	**15.69**	**134**	P	**Pn**	**17 28 14.5**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=317,slow=15,SNR=4.1						
NPGB	**Novo Progresso**	**16.72**	**60**	*e*P	**P**	**17 28 25.1**	**+0.3**
MT02	**Curacav**	**17.37**	**183**	P	**Pn**	**17 28 34.2**	**+0.4**
MT02				IAmb	IAmb	17 28 46.0	
	comp=Z,32nm,1.4s						
ARAG	**Araguaiana, MT**	**17.41**	**92**	*e*P	**P**	**17 28 32.3**	**-0.1**
ITTB	**Itatuba**	**18.00**	**52**	*e*P	**P**	**17 28 38.9**	**+0.2**
SNDB	**Serra Nova Dou**	**18.47**	**80**	*e*P	**P**	**17 28 44.5**	**+0.7**
BO02	**Sierra Bellavi**	**18.88**	**182**	P	**Pn**	**17 28 51.4**	**-0.2**
BO02				IAmb	IAmb	17 28 52.5	
	comp=Z,11nm,0.7s						
BOAV	**Boa Vista**	**20.36**	**28**	P	**P**	**17 29 04.5**	**+0.3**
BOAV				IAmb	IAmb	17 29 05.6	
	comp=Z,6.7nm,1.0s						
BOAV	**Boa Vista**	**20.36**	**28**	*e*P	**P**	**17 29 03.8**	**-0.3**
BI02	**San Fabin de**	**20.77**	**183**	P	Pn	17 29 11.5	-2.8
BI02				IAmb	IAmb	17 29 21.8	
	comp=Z,9.7nm,1.2s						
IPMB	**Ipameri, GO**	**20.86**	**99**	*e*P	**P**	**17 29 08.1**	**-1.4**
CPSB	**Cacapava Do Su**	**20.92**	**137**	*e*P	**P**	**17 29 09.8**	**-0.1**
BDFB	**Brasilia**	**21.07**	**92**	P	**P**	**17 29 10.8**	**-0.9**
BDFB	**Brasilia**	**21.07**	**92**	P	**P**	**17 29 10.9**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=203,slow=20,SNR=3.7						
	comp=Z,2.4nm,0.5s						
PLTB	**Pedras Altas**	**21.71**	**140**	*e*P	**P**	**17 29 16.0**	**-1.7**
BAUV	**El Baul**	**24.70**	**4**	P	**P**	**17 29 44.1**	**-0.9**
PLCA	**Paso Flores**	**24.80**	**181**	P	**P**	**17 29 48.2**	**+2.3**
	comp=Z,2.1nm,0.5s,baz=15,slow=8.0,SNR=6.7						
	comp=Z,2.1nm,0.5s						
NBPB	**Pedra_Branca-C**	**31.46**	**74**	*e*P	**P**	**17 30 44.6**	**-0.5**
NBLA	**Lagarto - SE**	**31.59**	**85**	*e*P	**P**	**17 30 44.2**	**-2.0**
NBAN	**Anadia - AL**	**33.34**	**84**	*e*P	**P**	**17 31 00.4**	**-1.1**
TXAR	**Lajitas Array**	**55.50**	**324**	P	**P**	**17 33 56.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=112,slow=5.4,SNR=2.1						
	comp=Z,0.3nm,0.5s						
DBIC	**Dimbokro**	**68.16**	**76**	P	**P**	**17 35 19.4**	**-1.4**
	comp=Z,2.6nm,0.5s,baz=239,slow=6.4,SNR=6.0						
	comp=Z,2.6nm,0.5s						
PDAR	**Pinedale Array**	**68.77**	**330**	P	**P**	**17 35 24.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=123,slow=8.7,SNR=5.8						
	comp=Z,0.3nm,0.4s						
ULM	**Lac du Bonnet**	**69.67**	**343**	P	**P**	**17 35 27.5**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=164,slow=7.8,SNR=5.2						
	comp=Z,1.7nm,0.5s						
QSPA	**South Pole Qui**	**74.31**	**180**	P	**P**	**17 35 59.0**	**+2.2**
QSPA	**South Pole Qui**	**74.31**	**180**	P	**P**	**17 35 59.1**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=163,slow=5.4,SNR=11						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.43**	**72**	P	**P**	**17 36 08.4**	**-1.2**
TORD				IAmb	IAmb	17 36 52.0	
	comp=Z,8.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.43**	**72**	P	**P**	**17 36 08.1**	**-1.5**
	comp=Z,2.4nm,0.3s,baz=265,slow=4.8,SNR=28						
	comp=Z,2.4nm,0.3s						
VNDA	**Vanda**	**82.22**	**190**	P	**P**	**17 36 42.1**	**+2.3**
	comp=Z,7.2nm,1.2s,baz=125,slow=3.7,SNR=9.9						
	comp=Z,7.2nm,1.2s						
ESDC	**Sonseca Array**	**82.52**	**45**	P	**P**	**17 36 41.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=250,slow=5.6,SNR=3.8						
	comp=Z,0.4nm,0.5s						
YKA	**Yellowknife Ar**	**85.57**	**341**	P	**P**	**17 36 56.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=138,slow=5.0,SNR=9.0						
	comp=Z,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**137.02**	**29**	PKP	**PKPdf**	**17 43 40.3**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=312,slow=3.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**137.17**	**22**	PKP	**PKPdf**	**17 43 41.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=336,slow=3.2,SNR=4.1						
ZALV				SKPbc	**SKPbc**	**17 46 52.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=270,slow=5.3,SNR=3.8						
WRA	**Warramunga Arr**	**137.19**	**215**	PKP	**PKiKP**	**17 43 44.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=133,slow=2.1,SNR=4.7						
MKAR	**Makanchi Array**	**141.46**	**31**	PKiKP	PKPpre	17 43 44.2	
	comp=Z,0.1nm,0.3s,baz=327,slow=2.6,SNR=1.6						
MKAR				SKPbc	**SKiKP**	**17 47 04.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=287,slow=3.2,SNR=3.6						
SONM	**Songino Array**	**147.96**	**5**	PKPbc	**PKPbc**	**17 44 03.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=335,slow=2.2,SNR=10						

*NEIC **07** 17:28:18.3±0.9, 17°.3S±0°.2×178°.8W±0°.2, h535km±9km, mb4.2/36, Error ellipse: s-maj=37.6km s-min=21.0km az=144.0*
*IDC **07** 17:28:23.6±1.1, 17°.84S×178°.63W, h616km±10km, mb3.5/13, mbtmp4.4/15, Error ellipse: s-maj=33.2km s-min=10.6km az=151.0*

ISC 07 17:28:21.4±0.9, 18°.0S±0°.2×178°.5W±0°.1, h600km, n65, σ1§13/63, mb4.2/32, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.33**	**275**	P	P	17 29 33.2	-9.4
MSVF	**Nonsavu**	**3.33**	**275**	P	**P**	**17 29 44.1**	**+1.5**
	31nm,0.7s,baz=124,slow=10.0,SNR=13						
MSVF				S	**S**	**17 30 52.4**	**+3.7**
	1.5nm,0.3s,baz=233,slow=22,SNR=0.8						
PINNC	**Pines Island,**	**13.97**	**249**	P	**P**	**17 31 17.2**	**-2.8**
DZM	**Mont Dzumac**	**14.73**	**252**	P	**P**	**17 31 23.7**	**-3.5**
DZM	**Mont Dzumac**	**14.73**	**252**	P	**P**	**17 31 27.5**	**+0.2**
	8.2nm,0.7s,baz=253,slow=21,SNR=7.2						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**17 34 55.3**	**+1.3**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**17 34 55.4**	**+1.4**
	5.1nm,0.6s,baz=75,slow=9.1,SNR=9.8						
	5.1nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**17 35 41.5**	**-0.1**
	4.6nm,0.5s,baz=96,slow=7.1,SNR=78						
WRA				S	**S**	**17 41 32.9**	**-2.1**
	0.7nm,0.9s,baz=94,slow=11,SNR=1.3						
	4.6nm,0.5s						
AS31	**Alice Springs**	**44.70**	**254**	P	**P**	**17 35 43.0**	**+0.3**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**17 35 43.3**	**+0.6**
	22nm,0.6s,baz=87,slow=9.1,SNR=561						
ASAR				PcP	**PcP**	**17 37 11.5**	**-0.4**
	0.4nm,0.7s,baz=95,slow=4.1,SNR=1.8						
ASAR				S	**S**	**17 41 38.0**	**+1.0**
	0.4nm,0.7s,baz=90,slow=15,SNR=2.9						
	22nm,0.6s						
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**17 38 21.6**	**-0.3**
	1.2nm,0.6s,baz=162,slow=6.3,SNR=4.4						
	1.2nm,0.6s						
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**	**17 38 55.5**	**0.0**
	2.3nm,0.6s,baz=114,slow=7.0,SNR=7.9						
	2.3nm,0.6s						
YBH	**Yreka Blue Hor**	**78.66**	**39**	P	**P**	**17 39 23.6**	**+1.0**
	2.4nm,0.6s,baz=236,slow=3.6,SNR=4.8						
	2.4nm,0.6s						
O16K	**Kokwok River B**	**79.12**	**10**	P	**P**	**17 39 23.5**	**-0.9**
M13K	**Dall Lake**	**79.13**	**8**	P	**P**	**17 39 23.2**	**-1.2**
L04D	**Klamath Falls**	**79.19**	**39**	P	**P**	**17 39 26.0**	**+0.6**
L04D				IAmb	IAmb	17 39 59.6	
	comp=Z,14nm,1.4s						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**17 39 27.9**	**+0.3**
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**17 39 28.5**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=222,slow=8.5,SNR=9.7						
	comp=Z,1.4nm,0.7s						
J04A	**Umpqua Nationa**	**79.92**	**38**	P	**P**	**17 39 30.1**	**+0.9**
J05D	**Fort Rock, OR**	**80.46**	**39**	P	**P**	**17 39 33.0**	**+1.0**
J05D				IAmb	IAmb	17 39 34.1	
	comp=Z,7.3nm,0.9s						
H04A	**Detroit Lake**	**80.73**	**37**	P	**P**	**17 39 33.5**	**+0.2**
H04A				IAmb	IAmb	17 39 34.4	
	comp=Z,4.8nm,0.6s						
W13A	**Hualapai Mount**	**80.87**	**49**	P	**P**	**17 39 33.7**	**-0.8**
PINE	**Pine Mountain**	**80.93**	**38**	P	**P**	**17 39 35.8**	**+1.3**
PINE				IAmb	IAmb	17 39 36.6	
	comp=Z,6.4nm,0.9s						
K15K	**Wolf Creek Mou**	**81.18**	**8**	P	**P**	**17 39 36

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**44.57**	**133**	T	T	18 40 31.1	
	baz=318,slow=74,SNR=68						
H10N3	**ASCENSION HYDR**	**44.57**	**133**	T	T	18 40 31.0	
	baz=318,slow=74,SNR=54						
H10N1	**ASCENSION HYDR**	**44.59**	**133**	T	T	18 40 32.4	
	baz=318,slow=74,SNR=84						
H10S3	**ASCENSION HYDR**	**45.30**	**135**	T	T	18 41 22.4	
	baz=317,slow=74,SNR=19						
H10S2	**ASCENSION HYDR**	**45.31**	**135**	T	T	18 41 23.6	
	baz=263,slow=74,SNR=21						
TORD	**Torodi Ar. Bea**	**45.91**	**96**	P	**P**	**17 53 01.6**	**-0.4**
	0.5nm,0.6s,baz=304,slow=9.4,SNR=4.8						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**54.70**	**306**	P	**P**	**17 54 09.0**	**+0.4**
	0.2nm,0.6s,baz=90,slow=8.9,SNR=6.7						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**58.35**	**329**	P	**P**	**17 54 33.2**	**-0.7**
	0.1nm,0.5s,baz=97,slow=6.6,SNR=2.0						
	0.1nm,0.5s						
AKASG	**Malin Array Be**	**61.39**	**44**	P	**P**	**17 54 54.6**	**-0.4**
	0.8nm,0.7s,baz=273,slow=6.0,SNR=5.4						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**66.32**	**56**	P	**P**	**17 55 28.9**	**+1.0**
	0.5nm,0.5s,baz=266,slow=6.6,SNR=2.2						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**72.21**	**334**	P	**P**	**17 56 03.9**	**+0.2**
	0.3nm,0.8s,baz=57,slow=6.6,SNR=2.7						
	0.3nm,0.8s						

*BJI **07** 17:47:30.3,26˚.65N×129˚.80E,h23km,mB4.8/15,mb4.4/53,Ms4.1/21,Ms7 3.9/22*

*NEIC **07** 17:47:32.0±2.5,26˚.62N±0˚.08×129˚.68E±0˚.05,h10km±1km,mb4.6/31,Error ellipse: s-maj=13.5km s-min=7.2km az=200.0*

*IDC **07** 17:47:31.0±0.6,26˚.75N×129˚.62E,h0km,mb4.2/24,mbtmp4.2/28,ML4.3/3,MS3.5/21,Error ellipse: s-maj=18.6km s-min=12.5km az=83.0*

*MOS **07** 17:47:31.3±1.5,26˚.65N×129˚.51E,h12km,mb4.7/33,Error ellipse: s-maj=10.4km s-min=5.5km az=107.2*

*NIED **07** 17:47:33.8,26˚.71N×129˚.67E,h48km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}=2.44; $M_{\theta\theta}$1.20; $M_{\varphi\varphi}$1.25; $M_{r\theta}$1.00; $M_{r\varphi}$1.46; $M_{\theta\varphi}$0.35; Fault plane solution: $M_0$2.78000×10^15^ NP1:φ_s34.00000°, δ36.00000°,λ-107.00000°. NP2:φ_s235.00000°, δ56.00000°,λ-78.00000°.*

*JMA **07** 17:47:33.8±0.1,26˚.7N±0˚.7×129˚.7E±0˚.6,h48km,MD4.3/26,MV4.3/26,NEAR OKINAWAJIMA ISLAND*

ISC 07 17:47:31.6±1.0,26˚.75N±0˚.03×129˚.66E±0˚.03,h6km±5km,n210,σ1$68/221,mb4.5/74,MS3.8/23,9C-17D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.11**	**284**	*i* P	**Pb**	**17 47 53.5**	**+0.3**
JYRO				*e*S	**Sb**	**17 48 08.1**	**0.0**
JOKE	**Okinoerabujima**	**1.14**	**302**	*i* P	**Pn**	**17 47 54.5**	**+0.3**
JOKE				*e*S	**Sb**	**17 48 08.6**	**-0.4**
JTK	**Tokunoshima**	**1.21**	**329**	P	**Pn**	**17 47 55.5**	**+0.4**
JTK				*e*S	**Sb**	**17 48 09.6**	**-1.1**
JOW	**Kunigami**	**1.24**	**274**	Pn	**Pg**	**17 47 55.4**	**+0.1**
JOW	**Kunigami**	**1.24**	**274**	Pn	**Pg**	**17 47 55.3**	**-0.1**
	654nm,0.3s,baz=108,slow=24,SNR=3352						
JOW				Sn	**Sg**	**17 48 09.8**	**-1.7**
	497nm,0.3s,baz=268,slow=28,SNR=6.6						
JOW				LR	LR	17 48 31.9	
	comp=Z,754nm,21.3s,baz=226,slow=50						
JOW	**Kunigami**	**1.24**	**274**	P	**Pg**	**17 47 55.5**	**+0.1**
JOW	**Kunigami**	**1.24**	**274**	P	**Pg**	**17 47 55.5**	**+0.1**
JOW				*e*S	**Sg**	**17 48 10.2**	**-1.3**
JOW	**Kunigami**	**1.24**	**274**	A	A	17 47 55.5	
	comp=N,7.0nm,0.9s,comp=E,10.0nm,0.9s						
JNTH	**Nagotoyohara**	**1.48**	**261**	P	**Pn**	**17 47 58.5**	**-0.3**
JNTH				*e*S	**Sn**	**17 48 15.8**	**-2.8**
JIH	**Iheya**	**1.54**	**281**	P	**Pn**	**17 47 59.9**	**+0.4**
JIH				*e*S	**Sn**	**17 48 18.4**	**-1.5**
JIH	**Iheya**	**1.54**	**281**	A	A	17 47 59.9	
	comp=N,7.0nm,0.6s,comp=E,7.0nm,0.5s						
JAMN	**Amaminishikomi**	**1.55**	**344**	*i* P	**Pb**	**17 47 59.9**	**-0.8**
JAMN				*e*S	**Sn**	**17 48 18.4**	**-1.7**
JZK	**Kikaishima**	**1.58**	**10**	P	**Pg**	**17 48 01.1**	**-0.9**
JZK				*e*S	**Sg**	**17 48 21.3**	**-1.2**
JAM	**Amami Oshima**	**1.65**	**358**	P	**Pb**	**17 48 01.3**	**-1.2**
JAM				*e*S	**Sn**	**17 48 20.3**	**-2.4**
JKDJ	**Kitadaitoujima**	**1.67**	**118**	*i* P	**Pn**	**17 48 01.1**	**-0.4**
JKDJ				S	**Sn**	**17 48 20.5**	**-2.7**
JKDJ	**Kitadaitoujima**	**1.67**	**118**	A	A	17 48 01.1	
	comp=N,11nm,1.7s,comp=E,13nm,0.5s						
JMZ	**Minamidaito 2**	**1.68**	**123**	Pn	**Pn**	**17 48 00.6**	**-1.0**
JMZ				Sn	**Sn**	**17 48 19.7**	**-3.8**
JMZ	**Minamidaito 2**	**1.68**	**123**	P	**Pn**	**17 48 00.7**	**-0.9**
JMZ	**Minamidaito 2**	**1.68**	**123**	P	**Pn**	**17 48 00.8**	**-0.9**
JMZ				*e*S	**Sn**	**17 48 19.4**	**-4.0**
JJT3	**Tamagusuku3**	**1.79**	**251**	*e*P	**Pn**	**17 48 03.2**	**+0.2**
JJT3				*e*S	**Sn**	**17 48 24.4**	**-1.7**
JAGN	**Aguni-jima**	**2.17**	**266**	P	**Pn**	**17 48 08.5**	**+0.3**
JAGN				*e*S	**Sn**	**17 48 33.4**	**-2.0**
JTAJ	**Takarajima**	**2.43**	**351**	P	**Pn**	**17 48 11.8**	**0.0**
JTAJ				*e*S	**Sn**	**17 48 39.0**	**-2.8**
JKE	**Kume jima 2**	**2.61**	**261**	*e*P	**Pn**	**17 48 13.7**	**-0.6**
JKE				*e*S	**Sn**	**17 48 43.6**	**-2.7**
JNN	**Nakanoshima**	**3.08**	**3**	P	**Pn**	**17 48 21.1**	**+0.2**
JNN				*e*S	**Sn**	**17 48 55.7**	**-2.4**
JYAK	**Yakushimahirau**	**3.55**	**12**	P	**Pn**	**17 48 27.4**	**+0.1**
JYAK				*e*S	**Sn**	**17 49 06.3**	**-3.3**
JKC	**Kuchinoerabu**	**3.73**	**7**	*e*P	**Pn**	**17 48 29.6**	**0.0**
JKC				*e*S	**Sn**	**17 49 10.3**	**-3.6**
JMTN	**Minamitane**	**3.79**	**16**	*e*P	**Pn**	**17 48 30.7**	**+0.1**
JMTN				*e*S	**Sn**	**17 49 13.1**	**-2.4**
JTN	**Tanegashima 3**	**4.06**	**16**	*e*P	**Pn**	**17 48 34.4**	**+0.1**
JMJ	**Miyako jima 2**	**4.38**	**245**	P	**Pn**	**17 48 41.0**	**+2.3**
JNU	**Nakatsue**	**6.43**	**9**	Pn	**Pn**	**17 49 08.5**	**+1.5**
JNU	**Nakatsue**	**6.43**	**9**	Pn	**Pn**	**17 49 08.6**	**+1.6**
	comp=E,21nm,0.3s,baz=243,slow=3.2,SNR=180						
JNU				Sn	**Sn**	**17 50 15.9**	**-4.9**
	comp=E,5.5nm,0.3s,baz=240,slow=22,SNR=6.9						
	comp=E,67nm,0.4s						
JNU	**Nakatsue**	**6.43**	**9**	P	**Pn**	**17 49 08.8**	**+1.8**
NACB	**Ninganchiao**	**7.73**	**252**	Pn	**Pn**	**17 49 23.4**	**-1.3**
NACB	**Ninganchiao**	**7.73**	**252**	P	**Pn**	**17 49 24.3**	**-0.4**
JTU	**Tsushima**	**7.75**	**358**	P	**Pn**	**17 49 27.6**	**+2.6**
YHNB	**Yeheng**	**7.75**	**256**	Pn	**Pn**	**17 49 24.1**	**-1.0**
YHNB	**Yeheng**	**7.75**	**256**	P	**Pn**	**17 49 27.8**	**+2.7**
JMN	**Monobe**	**7.85**	**27**	Pn	**Pn**	**17 49 26.0**	**-0.4**
JMN	**Monobe**	**7.85**	**27**	P	**Pn**	**17 49 26.8**	**+0.4**
YULB	**Yu-li**	**8.29**	**248**	Pn	**Pn**	**17 49 30.3**	**-2.1**
SSLB	**Suanglung**	**8.41**	**251**	Pn	**Pn**	**17 49 34.0**	**-0.2**
SSLB	**Suanglung**	**8.41**	**251**	P	**Pn**	**17 49 34.7**	**+0.5**
TWG	**Pinlang**	**8.73**	**245**	Pn	**Pn**	**17 49 35.9**	**-2.6**
TPUB	**Ta-pu**	**8.88**	**249**	Pn	**Pn**	**17 49 40.8**	**+0.3**
TJN	**Taejon**	**9.79**	**349**⇓	*e*P	Pn	17 49 57.3	+4.3
KSRS	**Korea Array**	**10.77**	**353**	Pn	**Pn**	**17 50 07.9**	**+1.6**
	comp=E,0.7nm,0.3s,baz=178,slow=14,SNR=12						
KSRS				LR	LR	17 54 53.7	
	comp=E,142nm,18.7s,baz=180,slow=41						
	comp=E,6.8nm,0.7s						
NJ2	**Nanjing**	**10.80**	**302**	*e*P	**Pn**	**17 50 08.2**	**+1.4**
NJ2				pmax	pmax		
	comp=E,7.0nm,0.6s						
KS19	**Wonju Array Si**	**10.82**	**352**	Pn	**Pn**	**17 50 07.9**	**+0.7**
JCJ	**Chichijima**	**11.18**	**85**	LR	LR	17 53 26.6	
	comp=E,74nm,20.1s,baz=190,slow=32						
MJAR	**Matsushiro Arr**	**12.17**	**35**	Pn	**Pn**	**17 50 27.3**	**+1.7**
	comp=E,0.7nm,0.4s,baz=217,slow=20,SNR=1.9						
TIA	**Tai'an**	**14.25**	**314**	P	**P**	**17 51 01.5**	**+0.1**
TIA				pmax	pmax		
	comp=Z,37nm,0.7s						
HNS	**HongShan**	**16.51**	**314**	⇑P	**P**	**17 51 27.3**	**+0.8**
HNS				pmax	pmax		
	comp=Z,67nm,0.8s						
HNS				LR	LR		
	comp=Z,330nm,10.0s						
HNS				LR	LR		
	comp=Z,370nm,8.8s						
HNS				LR	LR		
	comp=Z,380nm,11.1s						
LYN	**LuoYang**	**16.70**	**302**	P	**P**	**17 51 29.6**	**+1.0**
LYN				PP	pwP	17 51 42.4	+8.2
LYN				pmax	pmax		
	comp=Z,62nm,1.2s						
LYN				LR	LR		
	comp=Z,380nm,11.8s						
LYN				LR	LR		
	comp=Z,510nm,13.9s						
LYN				LR	LR		
	comp=Z,860nm,13.5s						
BJT	**Baijiatuau**	**17.35**	**323**		**P**	**17 51 36.3**	**+0.5**
BJT				IAmb	IAmb	17 51 37.8	
	comp=Z,21nm,0.6s						
BJT	**Baijiatuau**	**17.35**	**323**	P	**P**	**17 51 36.3**	**+0.5**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
CN2	**Changchun**	**17.35**	**350**	*e*P	**Pn**	**17 51 31.4**	**-3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=Z,210nm,11.0s						
CN2				LR	LR		
	comp=Z,240nm,11.0s						
BJI	**Beijing**	**17.36**	**323**	P	**P**	**17 51 35.8**	**-0.1**
BJI				pP	**pwP**	**17 51 39.8**	**-1.7**
BJI				pmax	pmax		
	comp=Z,14nm,0.6s						
BJI				LR	LR		
	comp=Z,140nm,10.9s						
BJI				LR	LR		
	comp=Z,81nm,11.2s						
BJI				LR	LR		
	comp=Z,130nm,13.4s						
USA0B	**Ussuriysk Arra**	**17.51**	**6**	*de*P	**P**	**17 51 39.9**	**+2.4**
USRK	**Ussuriysk Ar.**	**17.51**	**6**	P	**P**	**17 51 38.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=178,slow=9.7,SNR=9.5						
	comp=Z,8.4nm,0.9s						
XAN	**Xi'an**	**19.29**	**297**	P	**P**	**17 51 57.6**	**+0.3**
XAN				pmax	pmax		
	comp=Z,89nm,1.0s						
XAN				pmax	pmax		
	comp=Z,190nm,4.5s						
XAN				LR	LR		
	comp=Z,490nm,16.0s						
XAN				LR	LR		
	comp=Z,420nm,15.1s						
XAN				LR	LR		
	comp=Z,380nm,16.5s						
GUMO	**Guam**	**19.35**	**130**	LR	LR	17 57 43.8	
	comp=Z,50nm,18.1s,baz=28,slow=32						
QIZ	**Qiongzhong**	**19.79**	**251**	P	**P**	**17 52 01.0**	**-1.8**
QIZ				S	**S**	**17 55 44.5**	**-1.8**
QIZ				pmax	pmax		
	comp=Z,170nm,4.5s						
QIZ				LR	LR		
	comp=Z,120nm,8.1s						
QIZ				LR	LR		
	comp=Z,120nm,6.9s						
QIZ				LR	LR		
	comp=Z,160nm,12.8s						
DAV	**Davao City (W)**	**19.96**	**192**	LR	LR	18 00 58.2	
	comp=Z,52nm,18.2s,baz=9.0,slow=40						
ASAJ	**Asahikawa**	**20.24**	**28**	P	Pn	17 52 11.1	+1.8
	comp=Z,11nm,0.5s,baz=242,slow=10.0,SNR=19						
XLT	**XiLinHaoTe**	**20.34**	**331**	*e*P	**P**	**17 52 08.1**	**-0.5**
XLT				pmax	pmax		
	comp=Z,35nm,0.8s						
HHC	**Hu-ho-hao-te**	**20.53**	**318**	*e*P	Pn	17 52 12.5	-0.5
HHC				pP	pwP	17 52 16.2	-0.2
HHC				S	**S**	**17 55 58.5**	**-2.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,85nm,8.4s						
HHC				LR	LR		
	comp=Z,280nm,15.0s						
HHC				LR	LR		
	comp=Z,320nm,12.8s						
HHC				LR	LR		
	comp=Z,520nm,14.2s						
GYA	**Guiyang**	**20.56**	**274**	P	**P**	**17 52 11.4**	**+0.1**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GYA				LR	LR		
	comp=Z,300nm,11.8s						
KLR	**Kul'dur**	**22.50**	**4**	P	**P**	**17 52 30.4**	**-1.4**
	comp=Z,3.4nm,0.7s,baz=173,slow=9.8,SNR=7.6						
	comp=Z,3.4nm,0.7s						
KLR	**Kul'dur**	**22.50**	**4**⇓	*e*P	**P**	**17 52 30.7**	**-1.1**
YSS	**Yuzhno-Sakhali**	**22.66**	**24**⇓	*e*P	**P**	**17 52 38.0**	**+4.5**
YSS				pmax	pmax		
	comp=Z,44nm,2.5s						
CD2	**Chengdu**	**23.05**	**286**	P	**P**	**17 52 35.4**	**-2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**23.86**	**299**	*e*P	**P**	**17 52 45.2**	**-0.8**
LZH				pP	pwP	17 52 51.2	-0.4
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=Z,390nm,15.5s						
KMI	**Kunming**	**24.25**	**272**	⇓P	**P**	**17 52 51.0**	**+1.2**
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI				LR	LR		
	comp=Z,190nm,15.3s						
KMI				LR	LR		
	comp=Z,210nm,16.5s						
KMI				LR	LR		
	comp=Z,200nm,12.6s						
PZH	**PanZhiHua**	**24.94**	**276**	P	**P**	**17 52 55.1**	**-0.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
TYV	**Tymovskoe**	**26.04**	**19**	*e*P	**P**	**17 53 07.2**	**+1.7**
TYV				pmax	pmax		
	comp=Z,300nm,4.1s						
TYV				pmax	pmax		
	comp=Z,13nm,0.7s						
ZEA	**Zeya**	**27.02**	**357**	*e*P	**P**	**17 53 16.3**	**+2.0**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ULN	**Ulaanbaatar**	**27.52**	**326**	P	**P**	**17 53 20.3**	**+1.2**
ULN	**Ulaanbaatar**	**27.52**	**326**	*d* P	**P**	**17 53 20.8**	**+1.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SONM	**Songino Array**	**27.83**	**325**	P	**P**	**17 53 23.9**	**+2.0**
SONM	**Songino Array**	**27.83**	**325**	P	**P**	**17 53 22.0**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=142,slow=11,SNR=39						
SONM				LR	LR	18 05 20.6	
	comp=Z,82nm,18.1s,baz=336,slow=38						
	comp=Z,3.7nm,0.6s						
SONM	**Songino Array**	**27.83**	**325**	P	**P**	**17 53 23.9**	**+2.0**
SONM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	**Gaotai**	**27.88**	**304**	P	**P**	**17 53 21.9**	**-0.5**
GTA				sP	pwP	17 53 33.6	+5.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=Z,190nm,15.9s						
GTA				LR	LR		
	comp=Z,170nm,15.9s						
GTA				LR	LR		
	comp=Z,310nm,14.3s						
TNCH	**TengChong**	**28.03**	**273**	*e*P	**P**	**17 53 25.8**	**+1.8**
TNCH				sP	pwP	17 53 30.2	+0.7
TNCH				PP	**PnPn**	**17 54 13.7**	**+2.8**
TNCH				S	**S**	**17 58 04.9**	**-4.2**
TNCH				pmax	pmax		
	comp=Z,74nm,3.8s						
TNCH				LR	LR		
	comp=Z,150nm,4.9s						
TNCH				LR	LR		
	comp=Z,240nm,13.0s						
TNCH				LR	LR		
	comp=Z,280nm,14.5s						
PHRA	**Phrae**	**28.33**	**259**	P	**P**	**17 53 24.7**	**-1.7**
CHTO	**Chiang Mai**	**29.34**	**261**	P	**P**	**17 53 35.3**	**-0.2**
CHTO	**Chiang Mai**	**29.34**	**261**	P	**P**	**17 53 35.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.48**	**260**	P	**P**	**17 53 37.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=54,slow=7.8,SNR=5.2						
CMAR				PcP	**PcP**	**17 56 42.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=111,slow=2.8,SNR=4.2						
CMAR				LR	LR	18 06 59.0	
	comp=Z,50nm,18.1s,baz=70,slow=40						
	comp=Z,0.5nm,0.6s						
JAY	**Jayapura**	**30.99**	**158**	LR	LR	18 05 19.9	
	comp=Z,28nm,19.5s,baz=280,slow=34						
GOMU	**GeErMu**	**31.04**	**296**	P	**P**	**17 53 51.0**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,16nm,0.8s						
SHL	**Shillong**	**33.85**	**277**	P	**P**	**17 54 15.2**	**-0.1**
SHL				IAmb	IAmb	17 54 17.5	
	comp=Z,8.3nm,0.8s						
SHL	**Shillong**	**33.85**	**277**	P	**P**	**17 54 15.2**	**-0.1**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**33.95**	**284**	P	**P**	**17 54 16.9**	**+0.4**
LSA	**Lhasa**	**33.95**	**284**	P	**P**	**17 54 16.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK	**Yakutsk**	**35.27**	**0**	P	**P**	**17 54 26.7**	**-0.2**
YAK	**Yakutsk**	**35.27**	**0**	P	**P**	**17 54 26.9**	**+0.1**
	comp=Z,14nm,0.8s,baz=240,slow=1.8,SNR=12						
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**35.27**	**0**	*d i* P	**P**	**17 54 27.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,23nm,1.1s						
MA2	**Magadan**	**35.91**	**18**	LR	LR	18 08 39.0	
	comp=Z,40nm,19.8s,baz=86,slow=35						
WMQ	**Urumqi**	**37.80**	**308**	*e*P	**P**	**17 54 48.9**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	**Seymchan**	**39.16**	**16**⇓	*e*P	P	17 55 04.5	+4.7
SEY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PMG	**Port Moresby**	**39.76**	**152**	LR	LR	18 09 45.2	
	comp=Z,64nm,21.3s,baz=20,slow=34						
MK31	**Makanchi Array**	**42.15**	**311**	P	**P**	**17 55 22.9**	**-2.0**
MK31	**Makanchi Array**	**42.15**	**311**	P	**P**	**17 55 22.9**	**-2.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**42.15**	**311**	P	**P**	**17 55 23.8**	**-1.1**
MKAR	**Makanchi Array**	**42.15**	**311**	P	**P**	**17 55 24.0**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=89,slow=12,SNR=24						
MKAR				PP	**PP**	**17 57 04.5**	**+2.2**
	comp=Z,1.7nm,1.1s,baz=101,slow=11,SNR=3.8						
MKAR				PcP	**PcP**	**17 57 19.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=93,slow=2.6,SNR=4.6						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.62**	**322**	P	**P**	**17 55 27.2**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=115,slow=8.9,SNR=9.2						
ZALV				PcP	**PcP**	**17 57 20.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=85,slow=4.8,SNR=2.5						
ZALV				LR	LR	18 15 26.6	
	comp=Z,82nm,19.1s,baz=24,slow=39						
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.62**	**322**	*i* P	**P**	**17 55 27.5**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	**44.94**	**360**	LR	LR	18 15 30.3	
	comp=Z,59nm,18.1s,baz=84,slow=37						
TIXI	**Tiksi**	**44.94**	**360**⇑	*e*P	**P**	**17 55 48.9**	**+2.0**
KURK	**Kurchatov**	**45.33**	**316**⇑	*e*P	**P**	**17 55 49.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURBB	**Kurchatov Arra**	**45.37**	**316**	P	**P**	**17 55 49.7**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=102,slow=8.8,SNR=28						
KURBB				PcP	**PcP**	**17 57 29.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=114,slow=4.5,SNR=1.3						
KURBB				LR	LR	18 16 58.0	
	comp=Z,114nm,20.1s,baz=175,slow=39						
	comp=Z,2.0nm,0.5s						
KSH	**Kashi**	**46.10**	**300**	P	**P**	**17 56 01.0**	**+4.2**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.1s						
HNR	**Honiara**	**46.45**	**137**	LR	LR	18 11 50.2	
	comp=Z,44nm,19.8s,baz=307,slow=31						
WRAB	**Tennant Creek**	**46.63**	**174**⇓	*e*P	**P**	**17 56 00.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,59nm,2.7s						
WRA	**Warramunga Arr**	**46.64**	**174**	P	**P**	**17 56 00.8**	**-0.2**
	comp=Z,5.5nm,0.6s,baz=354,slow=8.4,SNR=40						
	comp=Z,5.5nm,0.6s						
BILL	**Bilibino**	**46.78**	**18**⇓	*e*P	P	17 56 06.7	+5.2
AAK	**Ala-Archa**	**47.23**	**304**	LR	LR	18 17 26.4	
	comp=Z,52nm,20.4s,baz=42,slow=38						
AAK	**Ala-Archa**	**47.23**	**304**⇑	*e*P	**P**	**17 56 05.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.3s						
NIL	**Nilore**	**48.73**	**292**	P	**P**	**17 56 16.9**	**-0.3**
NIL	**Nilore**	**48.73**	**292**	P	**P**	**17 56 16.9**	**-0.3**
NIL				pmax	pmax		
	comp=Z,14nm,1.0s						
NRIK	**Noril'sk**	**49.15**	**342**	P	**P**	**17 56 19.5**	**-0.4**
NRIK				IAmb	IAmb	17 56 20.8	
	comp=Z,7.6nm,1.0s						
NRIK	**Noril'sk**	**49.15**	**342**	P	**P**	**17 56 19.8**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=111,slow=7.9,SNR=11						
	comp=Z,4.0nm,0.7s						
NRIK	**Noril'sk**	**49.15**	**342**	*d i* P	**P**	**17 56 20.0**	**+0.1**
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KKAR	**Karatay Array**	**50.16**	**305**	P	**P**	**17 56 28.0**	**0.0**
KKAR	**Karatay Array**	**50.16**	**305**	P	**P**	**17 56 28.0**	**0.0**
AS31	**Alice Springs**	**50.29**	**175**	P	**P**	**17 56 26.3**	**-2.8**
ASAR	**Alice Springs**	**50.29**	**175**	P	**P**	**17 56 29.3**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=6.2,slow=14,SNR=65						
ASAR				PcP	**PcP**	**17 57 47.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=14,slow=5.2,SNR=2.9						
ASAR				LR	LR	18 18 01.9	
	comp=Z,23nm,19.0s,baz=121,slow=36						
	comp=Z,5.0nm,0.9s						
GAR	**Garm**	**50.51**	**300**	P	**P**	**17 56 30.4**	**-0.5**
GAR				IAmb	IAmb	17 56 32.8	
	comp=Z,10nm,1.0s						
BVAR	**Borovoye Array**	**50.74**	**318**	P	**P**	**17 56 32.2**	**0.0**
	comp=Z,2.9nm,0.8s,baz=97,slow=9.4,SNR=12						
BVAR				PcP	**PcP**	**17 57 49.6**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=76,slow=4.5,SNR=4.4						
BVAR				LR	LR	18 19 40.4	
	comp=Z,172nm,18.8s,baz=86,slow=38						
	comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**50.81**	**318**	P	**P**	**17 56 31.9**	**-0.9**
BRVK	**Borovoye**	**50.81**	**318**⇓	*i* P	**P**	**17 56 32.6**	**-0.1**
BRVK			

E28M Babbage River 65.68 24 P **P** **17 58 16.2 -0.3**
E28M IAmb IAmb 17 58 47.3
comp=Z,3.2nm,1.1s
BCAR Beaver Creek A 65.87 30 P **P** **17 58 15.5 -2.4**
KLMR Klimovskoe 67.09 328 *eP* **P** **17 58 23.3 -2.3**
KLMR pmax pmax
comp=Z,21nm,1.4s
VRH Novokhopyorsk 68.39 317 *eP* P 17 58 45.7 +12
VRH pmax pmax
comp=Z,13nm,1.0s
SPITS Spitsbergen Ar 68.58 348 P **P** **17 58 35.5 +0.7**
comp=Z,5.7nm,0.8s,baz=85,slow=3.5,SNR=5.7
comp=Z,5.7nm,0.8s
GNI Garni 69.62 305 ⇓*eP* **P** **17 58 43.8 +1.7**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI Garni 69.62 305 P **P** **17 58 43.4 +1.3**
comp=Z,16nm,1.5s
LPSR Galich'ya Gora 69.64 319 *eP* P 17 58 52.5 +11
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 69.76 318 *eP* **P** **17 58 43.6 +1.1**
KBZ Khabaz 69.82 310 P **P** **17 58 44.5 +1.5**
comp=Z,5.4nm,0.8s,baz=64,slow=3.5,SNR=12
comp=Z,5.4nm,0.8s
KBZ Khabaz 69.82 310 *deP* **P** **17 58 44.6 +1.6**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 69.89 310 P **P** **17 58 44.7 +1.1**
KIV Kislovodsk 69.89 310 *eP* **P** **17 58 42.1 -1.5**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 69.89 310 P **P** **17 58 45.0 +1.4**
comp=Z,11nm,1.2s
SHA1 Shidzhatmaz 69.98 310 ⇑*eP* **P** **17 58 46.9 +2.5**
ARCES ARCESS Array B 69.99 339 P **P** **17 58 45.1 +1.5**
comp=Z,2.2nm,0.8s,baz=51,slow=4.8,SNR=5.1
ARCES LR LR 18 33 57.5
comp=Z,79nm,18.8s,baz=306,slow=40
comp=Z,2.2nm,0.8s
OBN Obninsk 70.20 322 *eP* **P** **17 58 45.5 +0.4**
OBN *e* 17 59 07.9
OBN *e* 18 01 21.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 73.04 331 P **P** **17 59 02.1 0.0**
comp=Z,4.4nm,0.8s,baz=63,slow=5.4,SNR=16
comp=Z,4.4nm,0.8s
FINES FINESS Array B 73.04 331 *i* P **P** **17 59 03.0 +0.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 74.79 11 P **P** **17 59 14.2 +2.0**
RES IAmb IAmb 17 59 19.6
comp=Z,6.8nm,0.7s
RES Resolute Bay 74.79 11 P **P** **17 59 14.2 +2.0**
RES pmax pmax
comp=Z,7.0nm,0.7s
RAYN Ar Rayn 74.86 289 P **P** **17 59 10.9 -2.7**
RAYN IAmb IAmb 17 59 27.9
comp=Z,13nm,1.3s
RAYN Ar Rayn 74.86 289 P **P** **17 59 10.9 -2.7**
RAYN pmax pmax
comp=Z,13nm,1.3s
DIKM Dikmen 75.82 310 P **P** **17 59 22.4 +3.7**
comp=Z,47nm,1.1s
AK03 Malin Array Si 75.95 320 P **P** **17 59 22.8 +3.5**
AKASG Malin Array Be 75.96 320 P **P** **17 59 19.2 -0.2**
comp=Z,0.7nm,0.5s,baz=59,slow=6.6,SNR=6.6
AKASG LR LR 18 33 29.1
comp=Z,104nm,18.8s,baz=8.5,slow=36
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 75.96 320 *ceP* **P** **17 59 21.5 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 75.96 320 ⇑*eP* **P** **17 59 19.3 -0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 75.96 320 P **P** **17 59 22.0 +2.6**
AK08 Malin Array Si 75.97 320 P **P** **17 59 22.3 +2.9**
AK10 Malin Array Si 75.99 320 P **P** **17 59 22.4 +2.9**
AK02 Malin Array Si 75.99 320 P **P** **17 59 21.9 +2.4**
AK23 Malin Array Si 75.99 320 P **P** **17 59 22.2 +2.7**
AK07 Malin Array Si 76.04 320 P **P** **17 59 21.4 +1.6**
AK14 Malin Array Si 76.06 320 P **P** **17 59 21.4 +1.5**
AK20 Malin Array Si 76.07 320 P **P** **17 59 22.8 +2.8**
MI28 Mi28,Pidlybu 76.75 321 P **P** **17 59 27.9 +4.0**
comp=Z,74nm,0.8s
LUBAR Lubar, Ukraine 77.15 320 P **P** **17 59 27.3 +1.2**
YKA Yellowknife Ar 77.51 25 P **P** **17 59 28.7 +0.9**
comp=Z,0.3nm,0.6s,baz=295,slow=5.4,SNR=6.3
comp=Z,0.3nm,0.6s
RNPP9 Sopachiv 77.54 321 P **P** **17 59 30.4 +2.2**
RNPP2 Kostyukhnivka 77.58 321 P **P** **17 59 30.7 +2.2**
SORM Soroca 77.58 318 P **P** **17 59 30.7 +2.1**
comp=Z,9.2nm,1.1s
RNPP8 Varash 77.59 321 P **P** **17 59 30.5 +1.9**
BR131 Keskin Array S 77.72 308 ⇓*eP* **P** **17 59 30.6 +0.9**
BRTR Keskin Array B 77.72 308 P **P** **17 59 30.3 +0.6**
comp=Z,1.5nm,0.7s,baz=78,slow=4.4,SNR=7.6
comp=Z,1.5nm,0.7s
BRTR Keskin Array B 77.72 308 *ceP* **P** **17 59 31.1 +1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BR104 Keskin Array S 77.73 308 P **P** **17 59 30.8 +1.1**
comp=Z,4.4nm,1.2s
KMPD K-Podol'skiy 78.52 319 P **P** **17 59 34.7 +1.0**
comp=Z,2μm,1.1s
HFS Hagfors 78.95 333 P **P** **17 59 35.8 -0.1**
comp=Z,1.5nm,0.6s,baz=105,slow=5.1,SNR=7.4
comp=Z,1.5nm,0.6s
LVV L'vov 79.33 321 P **P** **17 59 40.5 +2.3**
LVV L'vov 79.33 321 P **P** **17 59 40.5 +2.3**
NB2 NORSAR Subarra 79.41 334 P **P** **17 59 38.7 +0.2**
comp=Z,5.4nm,1.0s,baz=52,slow=5.9
NOA NORSAR Array B 79.41 334 P **P** **17 59 38.9 +0.5**
comp=Z,1.3nm,0.6s,baz=52,slow=5.7,SNR=7.0
comp=Z,1.3nm,0.6s
MLR Muntele Rosu 80.26 316 LR LR 18 40 10.8
comp=Z,120nm,19.3s,baz=346,slow=39
MLR Muntele Rosu 80.26 316 P **P** **17 59 45.3 +1.8**
MLR Muntele Rosu 80.26 316 P **P** **17 59 45.3 +1.8**
BRG Berggiesshubel 84.23 325 *eP* **P** **18 00 07.3 +3.3**
BRG Amp 18 00 08.1
comp=Z,63nm,2.5s
CLL Collm 84.45 326 *i* P **P** **18 00 06.7 +1.6**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 84.45 326 *i* P **P** **18 00 06.7 +1.6**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 85.55 323 P **P** **18 00 11.3 +0.4**
comp=Z,0.6nm,0.7s,baz=108,slow=4.3,SNR=4.2
comp=Z,0.6nm,0.7s
EKA Eskdalemuir Ar 88.84 335 P **P** **18 00 28.6 +2.1**
comp=Z,0.5nm,0.3s,baz=46,slow=4.2,SNR=7.7
comp=Z,0.5nm,0.3s

*IDC **07** 17:54:19.2±0.8, 60°.65S×25°.85W, h0km, mb4.1/6, mbtmp4.0/6, MS3.3/2, Error ellipse: s-maj=39.6km s-min=23.1km az=64.0*

ISC 07 17:54:23.4±0.7, 60°.9S±0°.2×25°.4W±0°.2, h35km, n21, σ2°05/19, mb4.0/6, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.98**	**152**	P	**Pn**	**17 57 11.5**	**+0.2**
VNA1	**Neumayer--Stat**	**11.98**	**152**	⇓P	**Pn**	**17 57 11.5**	**+0.2**
	comp=Z,8.4nm,0.4s						
VNA3	**Neumayer Olymp**	**12.12**	**155**	P	**Pn**	**17 57 12.4**	**-0.8**
VNA3	**Neumayer Olymp**	**12.12**	**155**	⇑P	**Pn**	**17 57 12.4**	**-0.8**
	comp=Z,21nm,0.7s						
SNAA	**Sanae**	**13.97**	**150**	P	**Pn**	**17 57 37.9**	**-0.6**
SNAA	**Sanae**	**13.97**	**150**	⇓P	**Pn**	**17 57 37.9**	**-0.6**
	comp=Z,54nm,0.4s						
SNAA	**Sanae**	**13.97**	**150**	Pn	**Pn**	**17 57 37.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=306,slow=15,SNR=12						
SNAA				Sn	**Sn**	**18 00 07.5**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=342,slow=23,SNR=2.0						
SNAA				LR	LR	18 01 55.1	
	comp=Z,98nm,18.4s,baz=325,slow=32						
QSPA	**South Pole Qui**	**29.32**	**180**	P	**P**	**18 00 25.8**	**+3.5**
	comp=Z,2.3nm,0.6s,baz=199,slow=1.5,SNR=15						
QSPA				LR	LR	18 12 01.8	
	comp=Z,60nm,18.0s,baz=194,slow=36						
	comp=Z,2.3nm,0.6s						
CPUP	**Villa Florida**	**40.79**	**313**	P	**P**	**18 01 58.9**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=180,slow=3.0,SNR=3.9						
	comp=Z,2.2nm,0.9s						
H04S2	**CROZET ISLANDS**	**44.90**	**108**	T	T	18 51 22.5	
	baz=223,slow=75,SNR=6.2						
H04S3	**CROZET ISLANDS**	**44.91**	**108**	T	T	18 51 16.5	
	baz=223,slow=75,SNR=4.5						
H04S1	**CROZET ISLANDS**	**44.92**	**108**	T	T	18 51 17.6	
	baz=223,slow=75,SNR=5.2						
SIV	**San Ignacio**	**51.63**	**314**	P	**P**	**18 03 23.8**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=190,slow=12,SNR=4.0						
	comp=Z,1.2nm,0.7s						
LPAZ	**La Paz**	**53.99**	**306**	P	**P**	**18 03 42.8**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=152,slow=11,SNR=3.8						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.91**	**27**	P	**P**	**18 06 12.5**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=193,slow=5.1,SNR=8.0						
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**94.06**	**161**	P	**P**	**18 07 39.7**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=187,slow=5.8,SNR=4.7						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**122.43**	**112**	PKP	**PKiKP**	**18 13 16.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=235,slow=4.2,SNR=4.1						
FINES	**FINESS Array B**	**128.24**	**29**	PKP	**PKiKP**	**18 13 25.1**	**+0.3**
	comp=Z,2.7nm,1.1s,baz=243,slow=1.6,SNR=3.4						
YKA	**Yellowknife Ar**	**140.31**	**313**	PKP	**PKPdf**	**18 13 44.8**	**-2.0**
	comp=Z,0.1nm,0.7s,baz=138,slow=2.3,SNR=5.8						
SONM	**Songino Array**	**149.79**	**93**	PKPbc	**PKiKP**	**18 14 09.7**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=219,slow=3.0,SNR=7.5						
ILAR	**Eielson Array**	**153.85**	**304**	PKPbc	**PKiKP**	**18 14 19.9**	**+2.8**
	comp=Z,1.8nm,1.1s,baz=179,slow=1.1,SNR=6.7						

*IDC **07** 17:56:53.8±0.7, 25°.13N×45°.44W, h0km, mb4.0/19, mbtmp4.0/19, MS3.6/22, Error ellipse: s-maj=22.2km s-min=16.6km az=174.0*
*NEIC **07** 17:56:55.6±1.6, 25°.0N±0°.1×45°.4W±0°.2, h10km±1km, mb4.6/19, Error ellipse: s-maj=28.3km s-min=22.5km az=126.0*

ISC 07 17:56:55.2±0.6, 25°.1N±0°.1×45°.5W±0°.1, h10km, n60, σ0°63/36, mb4.3/26, MS3.7/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDPR	**Patillas Dam,**	**20.37**	**254**	P	**P**	**18 01 32.9**	**+0.8**
SJG	**San Juan**	**20.44**	**254**	LR	LR	18 07 53.9	
	comp=Z,80nm,21.5s,baz=12,slow=32						
OBIP	**Obispado Ponce**	**20.87**	**255**	P	**P**	**18 01 37.7**	**+0.2**
OBIP				IAmb	IAmb	18 01 49.1	
	comp=Z,42nm,1.4s						
PCRV	**Puerto La Cruz**	**23.49**	**234**	LR	LR	18 11 04.8	
	comp=Z,56nm,20.0s,slow=36						
SDDR	**Presa de Saban**	**24.68**	**261**	P	**P**	**18 02 16.9**	**+0.4**
SDDR				IAmb	IAmb	18 02 25.0	
	comp=Z,22nm,1.1s						
BAUV	**El Baul**	**26.84**	**237**	P	**P**	**18 02 35.0**	**-1.0**
SDV	**Santo Domingo**	**28.88**	**241**	LR	LR	18 12 48.4	
	comp=Z,64nm,21.8s,baz=118,slow=33						
BBTS	**Babate**	**29.04**	**105**	LR	LR	18 10 58.9	
	comp=Z,238nm,20.5s,baz=188,slow=29						
SADO	**Sadowa**	**33.56**	**314**	LR	LR	18 15 46.7	
	comp=Z,122nm,18.4s,baz=72,slow=34						
SCHQ	**Schefferville**	**33.66**	**338**	LR	LR	18 16 50.6	
	comp=Z,75nm,18.3s,baz=300,slow=36						
ROSC	**El Rosal**	**34.24**	**239**	LR	LR	18 17 40.8	
	comp=Z,56nm,19.6s,baz=94,slow=36						
TKL	**Tuckaleechee C**	**34.52**	**297**	LR	LR	18 14 41.3	
	comp=Z,145nm,21.9s,baz=112,slow=31						
MDT	**Midelt**	**36.39**	**68**	LR	LR	18 15 27.5	
	comp=Z,103nm,19.9s,baz=312,slow=31						
JTS	**Las Juntas de**	**40.23**	**256**	LR	LR	18 22 16.5	
	comp=Z,49nm,18.2s,baz=1.5,slow=38						
DBIC	**Dimbokro**	**42.89**	**108**	LR	LR	18 19 42.6	
	comp=Z,110nm,18.6s,baz=267,slow=32						
H10N2	**ASCENSION HYDR**	**44.48**	**133**	T	T	18 52 43.4	
	baz=318,slow=74,SNR=17						
H10N3	**ASCENSION HYDR**	**44.48**	**133**	T	T	18 52 43.8	
	baz=318,slow=74,SNR=16						
H10N1	**ASCENSION HYDR**	**44.50**	**133**	T	T	18 52 44.0	
	baz=318,slow=74,SNR=22						
H10S3	**ASCENSION HYDR**	**45.21**	**135**	T	T	18 53 39.3	
	baz=318,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**45.23**	**135**	T	T	18 53 40.6	
	baz=262,slow=74,SNR=10						
TORD	**Torodi Ar. Bea**	**45.89**	**96**	P	**P**	**18 05 18.1**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=302,slow=10.0,SNR=10						
TORD				LR	LR	18 23 07.3	
	comp=Z,129nm,18.2s,baz=268,slow=34						
	comp=Z,1.8nm,0.7s						
ULM	**Lac du Bonnet**	**46.05**	**317**	P	**P**	**18 05 18.4**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=117,slow=9.0,SNR=3.1						
ULM				LR	LR	18 22 59.6	
	comp=Z,74nm,18.3s,baz=104,slow=34						
	comp=Z,1.6nm,0.8s						
CMIG	**Matias Romero**	**46.60**	**270**	LR	LR	18 23 14.3	
	comp=Z,48nm,19.4s,baz=6.5,slow=34						
LPAZ	**La Paz**	**46.68**	**211**	P	**P**	**18 05 25.4**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=12,slow=8.2,SNR=6.6						
	comp=Z,3.3nm,1.0s						
PB08	**IPOC Station P**	**50.51**	**209**	P	**P**	**18 05 54.1**	**-0.1**
FFC	**Flin Flon**	**50.70**	**321**	P	**P**	**18 05 55.6**	**+0.8**
GERES	**GERESS Array B**	**51.42**	**47**	P	**P**	**18 06 00.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=232,slow=4.6,SNR=3.9						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**51.50**	**288**	P	**P**	**18 06 01.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=62,slow=7.1,SNR=1.2						
	comp=Z,0.6nm,0.7s						
ANMO	**Albuquerque**	**53.03**	**296**	LR	LR	18 27 10.8	
	comp=Z,70nm,19.4s,baz=240,slow=34						
PD31	**Pinedale Array**	**54.78**	**306**	P	**P**	**18 06 24.9**	**-0.6**
PD31				IAmb	IAmb	18 06 31.9	
	comp=Z,4.4nm,1.0s						
PDAR	**Pinedale Array**	**54.78**	**306**	P	**P**	**18 06 24.5**	**-1.0**
PDAR	**Pinedale Array**	**54.78**	**306**	P	**P**	**18 06 25.6**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=91,slow=8.9,SNR=9.9						
PDAR				LR	LR	18 27 20.3	
	comp=Z,51nm,20.1s,baz=66,slow=33						
	comp=Z,2.6nm,1.1s						
PB14	**IPOC Station P**	**55.00**	**208**	P	**P**	**18 06 26.4**	**-0.8**
TPAW	**Teton Pass**	**55.76**	**307**	P	**P**	**18 06 32.9**	**+0.4**
TPAW				IAmb	IAmb	18 06 35.1	
	comp=Z,11nm,1.4s						
U15A	**North Rim**	**57.53**	**298**	P	**P**	**18 06 46.6**	**+1.3**
YKA	**Yellowknife Ar**	**58.46**	**329**	P	**P**	**18 06 50.3**	**-0.7**
	comp=Z,0.8nm,1.0s,baz=100,slow=7.6,SNR=7.0						
	comp=Z,0.8nm,1.0s						
BURAR	**Bucovina Array**	**59.10**	**48**	P	**P**	**18 06 56.3**	**+0.4**
ELK	**Elko**	**59.20**	**304**	P	**P**	**18 06 57.4**	**+0.5**
ELK				IAmb	IAmb	18 06 59.1	
	comp=Z,7.1nm,1.4s						
ELK	**Elko**	**59.20**	**304**	P	**P**	**18 06 57.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=72,slow=4.8,SNR=3.7						
ELK				LR	LR	18 30 16.8	
	comp=Z,64nm,20.7s,baz=74,slow=34						
	comp=Z,1.3nm,0.9s						
PLID	**Pearl Lake**	**59.24**	**309**	P	**P**	**18 06 56.6**	**-0.4**
PLID				IAmb	IAmb	18 07 03.2	
	comp=Z,4.1nm,1.1s						
MFID	**Camas Ranch**	**59.30**	**307**	IAmb	IAmb	18 06 59.8	
	comp=Z,3.5nm,0.9s						
NEW	**Newport**	**59.73**	**313**	IAmb	IAmb	18 07 01.7	
	comp=Z,8.4nm,1.4s						
NEW	**Newport**	**59.73**	**313**	P	**P**	**18 07 00.6**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=85,slow=8.3,SNR=4.0						
NEW				LR	LR	18 30 21.7	
	comp=Z,96nm,20.5s,baz=56,slow=34						
	comp=Z,2.3nm,0.8s						
ARCES	**ARCESS Array B**	**60.09**	**23**	P	**P**	**18 07 01.0**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=306,slow=2.9,SNR=5.6						
	comp=Z,2.4nm,0.8s						
PFO	**Pinyon Flats O**	**61.41**	**296**	LR	LR	18 31 45.7	
	comp=Z,55nm,20.2s,baz=57,slow=34						
AKASG	**Malin Array Be**	**61.46**	**44**	P	**P**	**18 07 11.1**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=270,slow=6.2,SNR=9.4						
	comp=Z,1.6nm,0.7s						
NVAR	**Mina Array Bea**	**61.91**	**302**	P	**P**	**18 07 15.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=49,slow=5.0,SNR=2.0						
	comp=Z,0.3nm,0.6s						
A36M	**Sachs Harbour**	**63.22**	**340**	P	**P**	**18 07 23.7**	**+0.4**
A36M				IAmb	IAmb	18 07 24.6	
	comp=Z,5.8nm,1.1s						
YBH	**Yreka Blue Hor**	**64.58**	**306**	LR	LR	18 36 35.3	
	comp=Z,48nm,18.1s,baz=66,slow=37						
BRTR	**Keskin Array B**	**66.38**	**56**	P	**P**	**18 07 45.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=255,slow=5.7,SNR=6.9						
	comp=Z,1.8nm,0.7s						
G31M	**Satah River**	**66.75**	**335**	P	**P**	**18 07 45.6**	**-0.7**
G31M				IAmb	IAmb	18 07 46.8	
	comp=Z,6.4nm,1.2s						
PLCA	**Paso Flores**	**69.51**	**200**	P	**P**	**18 08 04.1**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=14,slow=4.2,SNR=3.7						
	comp=Z,2.9nm,1.0s						
EIL	**Elat**	**70.17**	**66**	LR	LR	18 38 17.3	
	comp=Z,31nm,20.7s,baz=252,slow=35						
E25K	**Arctic Village**	**70.67**	**337**	P	**P**	**18 08 11.5**	**+0.8**
E25K				IAmb	IAmb	18 08 13.0	
	comp=Z,9.7nm,1.4s						
ILAR	**Eielson Array**	**72.32**	**334**	P	**P**	**18 08 20.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=74,slow=5.4,SNR=6.1						
	comp=Z,0.6nm,0.7s						
BELG	**Belogornoye**	**72.35**	**40**	P	**P**	**18 08 21.0**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=303,slow=1.6,SNR=3.7						
	comp=Z,4.6nm,0.6s						
BVAR	**Borovoye Array**	**84.42**	**33**	P	**P**	**18 09 28.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=338,slow=3.1,SNR=2.4						
	comp=Z,0.4nm,0.4s						
LBTB	**Lobatse**	**84.84**	**121**	LR	LR	18 41 30.8	
	comp=Z,38nm,19.3s,baz=240,slow=32						
KURBB	**Kurchatov Arra**	**89.88**	**32**	P	**P**	**18 09 54.9**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=302,slow=4.9,SNR=6.9						
	comp=Z,0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**90.37**	**27**	P	**P**	**18 09 56.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=306,slow=5.0,SNR=5.4						
	comp=Z,1.1nm,0.9s						

*HEL **07** 18:01:26.6±0.2, 67°.07N×20°.95E, h0km, ML2.0, Explosion*
*UPP **07** 18:01:26.3±0.1, 67°.04N×20°.96E, h0km, ML2.6, Unknown*
*IDC **07** 18:01:26.5±0.8, 67°.01N×21°.39E, h0km, mbtmp3.2/5, ML2.0/4, Error ellipse: s-maj=14.1km s-min=6.3km az=110.0*

ISC 07 18:01:26.3±0.8, 67°.03N±0°.02×20°.97E±0°.02, h0km, n49, σ1°08/72, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**299**	P	**Pg**	**18 01 29.8**	**+0.1**
DUNU				S	**Sg**	**18 01 32.6**	**+0.6**
MASU	**Masugnsbyn**	**0.58**	**43**	P	**Pg**	**18 01 37.4**	**-0.1**
MASU				S	**Sg**	**18 01 45.4**	**+0.4**
ERTU	**Ertsjaerv**	**0.68**	**134**	P	**Pg**	**18 01 39.2**	**0.0**
ERTU				S	**Sg**	**18 01 48.6**	**+0.5**
ERTU	**Ertsjaerv**	**0.68**	**134**	PG	**Pg**	**18 01 38.3**	**-1.0**
ERTU				SG	**Sg**	**18 01 48.4**	**+0.3**
PAJU	**Pajala**	**0.84**	**90**	P	**Pg**	**18 01 41.9**	**-0.4**
HARU	**Harads**	**0.88**	**180**	P	**Pg**	**18 01 42.8**	**-0.2**
KUA	**Kurravaara**	**0.96**	**345**	P	**Pg**	**18 01 44.1**	**-0.5**
RATU	**Laukkuluspa**	**0.96**	**327**	P	**Pg**	**18 01 43.7**	**-0.8**
SALU	**Saltoluokta**	**1.02**	**291**	*eP*	**Pg**	**18 01 44.7**	**-1.1**
SALU	**Saltoluokta**	**1.02**	**291**	P	**Pg**	**18 01 45.4**	**-0.4**
KLF	**Kolari**	**1.19**	**79**	PG	**Pg**	**18 01 47.4**	**-1.6**
KLF				MSG		18 02 02.6	
	comp=Z,13nm,0.2s						
KLF				SG	**Sg**	**18 02 04.2**	**-0.1**
KALU	**Kalix**	**1.52**	**140**	P	**Pn**	**18 01 54.2**	**-0.4**
KALU	**Kalix**	**1.52**	**140**	PG	**Pn**	**18 01 53.8**	**-0.8**
	baz=320						
KALU				SN	**Sn**	**18 02 15.3**	**+0.2**
SJUU	**Sjulsmark**	**1.55**	**170**	P	**Pn**	**18 01 55.1**	**0.0**
TOF	**Tornio**	**1.65**	**124**	PG	**Pn**	**18 01 55.9**	**-0.5**
TOF				MSG		18 02 16.9	
	comp=Z,10nm,0.2s						
TOF				SG	**Sn**	**18 02 18.3**	**+0.1**
HEF	**Hetta**	**1.72**	**35**	*eP*	**Pn**	**18 01 56.9**	**-0.5**
HEF	**Hetta**	**1.72**	**35**	PG	**Pn**	**18 01 56.5**	**-0.9**
	baz=215						
HEF				MSG		18 02 17.1	
	comp=Z,21nm,0.2s						
HEF				SN	**Sn**	**18 02 19.8**	**-0.2**
KIF	**Kilpisjarvi**	**1.98**	**358**	PG	**Pn**	**18 02 01.9**	**+1.0**
KIF				MSG		18 02 25.4	
	comp=Z,38nm,0.2s						
RNF	**Rovaniemi**	**2.04**	**100**	PG	**Pn**	**18 02 02.1**	**+0.3**
	baz=289						
RNF				SG	**Sb**	**18 02 30.4**	**+0.4**
KTK1	**Kautokeino**	**2.16**	**22**	PG	**Pn**	**18 02 04.3**	**+0.8**
KTK1				SG	**Sb**	**18 02 33.7**	**+0.1**
I37NO	**I37NO**	**2.23**	**338**	I	I	18 17 20.0	
	baz=148,slow=325,SNR=2.0						
BURU	**Burvik**	**2.47**	**176**	PB	**Pn**	**18 02 08.6**	**+1.0**
	baz=354						
BURU				SG	**Sb**	**18 02 43.3**	**+1.0**
RANF	**Ranua**	**2.54**	**111**	PN	**Pn**	**18 02 09.3**	**+0.6**
	baz=302						
RANF				SG	**Sb**	**18 02 45.0**	**+0.5**
TRO	**Tromso**	**2.72**	**345**	PB	**Pn**	**18 02 12.1**	**+1.0**
	baz=159						
OBF4	**Vikkela, Lumij**	**2.80**	**141**	PN	**Pn**	**18 02 13.0**	**+0.8**
OBF4				MSG		18 02 50.0	
	comp=Z,3.7nm,0.2s						
OUL	**Oulu**	**2.80**	**132**	PN	**Pn**	**18 02 13.3**	**+1.0**
OUL				SG	**Sb**	**18 02 53.6**	**+1.6**
OBF0	**Syolatti, Pyha**	**2.88**	**151**	PN	**Pn**	**18 02 14.0**	**+0.7**
OBF0				MSG		18 02 52.6	
	comp=Z,2.7nm,0.2s						
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 02 14.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=76						
ARCES				Sn	**Sn**	**18 02 52.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=212,slow=22,SNR=8.6						
ARCES				Lg	Lg	18 02 57.2	
	comp=Z,0.7nm,0.3s,baz=204,slow=30,SNR=4.2						
	comp=Z,1.1nm,0.2s						
OUF	**Merijarvi**	**3.10**	**148**	PN	**Pn**	**18 02 17.2**	**+1.0**
OUF				MSG		18 02 58.6	
	comp=Z,2.7nm,0.2s						
KMNF	**Kaamanen**	**3.10**	**44**	PN	**Pn**	**18 02 15.8**	**-0.5**
KMNF				SB	**Sn**	**18 02 54.3**	**+0.3**
RAJF	**Raja-Jooseppi**	**3.15**	**59**	PN	**Pn**	**18 02 17.7**	**+0.7**
RAJF				SG	**Sb**	**18 03 03.2**	**+1.4**
UMAU	**Umeaa**	**3.17**	**182**	PN	**Pn**	**18 02 18.0**	**+0.8**
UMAU				SN	**Sn**	**18 02 56.3**	**+0.6**
KU2	**Taivalkoski**	**3.21**	**111**	PN	**Pn**	**18 02 18.2**	**+0.3**
VRF	**Varrio**	**3.41**	**74**	PN	**Pn**	**18 02 20.7**	**0.0**
VRF				SG	**Sb**	**18 03 09.5**	**0.0**
MSF	**Maaselka**	**3.43**	**105**	PN	**Pn**	**18 02 21.3**	**+0.4**
MSF				SG	**Sb**	**18 03 12.0**	**+2.1**
OLKF	**Oulanka, Finla**	**3.43**	**98**	PN	**Pn

I56US	NEWPORT INFRASI	17.03	359	I		I	20 12 30.0
	baz=179,slow=334,SNR=0.9						
I20EC	Galapagos	40.36	137	I		I	22 30 00.0
	baz=323,slow=316,SNR=1.0						

NEIC ***07*** *18:25:29.9±2.3, 53°.07S±0°.05×140°.4E±0°.3, h10km±1km, mb4.5/12, Error ellipse: s-maj=34.5km s-min=8.9km az=90.0*
IDC ***07*** *18:25:30.1±0.8, 53°.12S×140°.69E, h0km, mb4.0/8, mbtmp4.1/8, MS3.7/8, Error ellipse: s-maj=37.9km s-min=17.1km az=85.0*

ISC 07 18:25:30.5±0.6, 53°.08S±0°.08×140°.5E±0°.2, h10km, n40, σ1§36/25, mb4.2/11, MS3.7/8, 1D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	Toolangi	15.89	15		Pn	18 29 13.6	-0.5
CAN	Canberra	18.74	22	P	P	18 29 47.4	-1.9
CASY	Casey	19.82	217	P	P	18 29 59.5	-1.4
CASY				IAmb	IAmb	18 30 03.4	
	comp=Z,17nm,1.1s						
STKA	Stephens Creek	21.20	3	P	P	18 30 15.9	-0.2
STKA				IAmb	IAmb	18 30 24.9	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	21.20	3	P	P	18 30 17.8	+1.7
	comp=Z,5.5nm,0.8s,baz=175,slow=14,SNR=7.8						
	comp=Z,5.5nm,0.8s						
RPZ	Rata Peaks	22.19	77	P	P	18 30 26.9	+0.3
	comp=Z,8.3nm,0.9s,baz=209,slow=13,SNR=2.0						
	comp=Z,8.3nm,0.9s						
GVZ	Greta Valley S	23.79	78	P	P	18 30 43.1	-0.1
FORT	Forrest	24.06	333	P	P	18 30 42.8	-2.9
FORT				IAmb	IAmb	18 30 50.9	
	comp=Z,19nm,0.8s						
VNDA	Vanda	25.75	170	P	P	18 31 00.6	-0.2
	comp=Z,4.9nm,1.1s,baz=328,slow=10,SNR=3.1						
	comp=Z,4.9nm,1.1s						
H01W1	Cape Leeuwin H	26.04	304	T	T	18 58 17.9	
	baz=141,slow=75,SNR=12						
H01W2	Cape Leeuwin H	26.04	304	T	T	18 58 19.8	
	baz=141,slow=75,SNR=9.6						
H01W3	Cape Leeuwin H	26.05	304	T	T	18 58 19.6	
	baz=141,slow=75,SNR=11						
URZ	Urewera	29.18	74	LR	LR	18 42 46.2	
	Z,99nm,18.1s,baz=306,slow=36						
ASAR	Alice Springs	29.80	348	P	P	18 31 38.1	+0.7
	comp=Z,0.9nm,0.9s,baz=166,slow=10,SNR=9.9						
ASAR				PcP	PcP	18 34 43.1	+2.4
	comp=Z,0.3nm,0.6s,baz=160,slow=3.0,SNR=1.9						
	comp=Z,0.9nm,0.9s						
WRA	Warramunga Arr	33.42	349	P	P	18 32 07.1	-2.2
WRA	Warramunga Arr	33.42	349	P	P	18 32 09.7	+0.4
	comp=Z,1.9nm,0.8s,baz=171,slow=7.4,SNR=8.9						
	comp=Z,1.9nm,0.8s						
WRAB	Tennant Creek	33.43	349	P	P	18 32 09.3	0.0
WRAB				IAmb	IAmb	18 32 17.0	
	comp=Z,6.7nm,0.9s						
WB0	Warramunga Arr	33.59	350	P	P	18 32 10.3	-0.4
QSPA	South Pole Qui	37.03	180	P	P	18 32 39.3	-0.9
QSPA				IAmb	IAmb	18 32 59.5	
	comp=Z,16nm,1.4s						
QSPA	South Pole Qui	37.03	180	P	P	18 32 40.9	+0.8
	comp=Z,5.4nm,1.0s,baz=343,slow=4.1,SNR=8.8						
QSPA				LR	LR	18 46 48.0	
	comp=Z,96nm,19.8s,baz=7.0,slow=34						
	comp=Z,5.4nm,1.0s						
MAW	Mawson	38.18	217	LR	LR	18 46 24.9	
	comp=Z,121nm,21.4s,baz=104,slow=33						
PMG	Port Moresby	43.88	9	LR	LR	18 52 12.9	
	comp=Z,62nm,18.1s,baz=18,slow=36						
SYO	Syowa Base	45.35	210	↓iSP	sP	18 33 52.0	+0.8
BELA	Belgrano 2	49.28	181	P	P	18 34 17.6	-1.1
BELA				IAmb	IAmb	18 34 31.8	
	comp=Z,11nm,1.4s						
SNAA	Sanae	52.88	194	P	P	18 34 46.0	+0.1
SNAA	Sanae	52.88	194	P	P	18 34 46.3	+0.4
	comp=Z,2.9nm,0.9s,baz=152,slow=11,SNR=2.3						
SNAA				LR	LR	18 56 42.9	
	comp=Z,141nm,18.8s,baz=168,slow=35						
	comp=Z,2.9nm,0.9s						
H04S1	CROZET ISLANDS	53.84	238	T	T	19 33 34.5	
	baz=130,slow=75,SNR=3.4						
H04S2	CROZET ISLANDS	53.84	238	T	T	19 33 35.9	
	baz=130,slow=75,SNR=3.9						
H04S3	CROZET ISLANDS	53.86	238	T	T	19 33 37.3	
	baz=130,slow=75,SNR=4.3						
H08S2	Diego Garcia H	70.78	283	T	T	19 54 03.6	
	baz=144,slow=75						
H08S1	Diego Carcia H	70.79	283	T	T	19 54 09.6	
	baz=144						
H08S3	Diego Garcia H	70.80	283	T	T	19 54 13.3	
	baz=144,slow=75						
PALK	Pallekele	78.42	299	LR	LR	19 04 56.1	
	comp=Z,33nm,20.8s,baz=103,slow=30						
CMAR	Chiang Mai Arr	79.78	320	P	P	18 37 40.5	+1.9
	comp=Z,0.2nm,0.4s,baz=169,slow=7.9,SNR=5.2						
	comp=Z,0.2nm,0.4s						
SUR	Sutherland	80.09	228	LR	LR	19 07 51.4	
	comp=Z,52nm,18.3s,baz=168,slow=32						
BOSA	Boshof	81.16	234	LR	LR	19 05 45.9	
	comp=Z,43nm,21.9s,baz=155,slow=30						
TORD	Torodi Ar. Bea	128.50	235	PKP	PKPdf	18 44 37.7	+0.1
	comp=Z,0.4nm,0.8s,baz=81,slow=0.8,SNR=2.3						
FINES	FINESS Array B	145.02	310	PKPbc	PKPdf	18 45 08.0	+1.5
	comp=Z,0.6nm,0.5s,baz=97,slow=5.6,SNR=3.8						
ARCES	ARCESS Array B	146.75	324	PKPbc	PKiKP	18 45 13.6	-0.2
	comp=Z,5.3nm,1.1s,baz=46,slow=5.2,SNR=4.1						
ESDC	Sonseca Array	152.38	255	PKPbc	PKiKP	18 45 28.1	+1.7
	comp=Z,0.4nm,0.6s,baz=141,slow=0.8,SNR=5.5						

VAO ***07*** *18:26:47.6±0.4, 21°.20S×48°.15W, h1km±2km, mbR2.5*
OSUNB ***07*** *18:26:51.4±0.3, 21°.42S×48°.39W, h0km, mR2.5/9, Error ellipse: s-maj=2.2km s-min=2.7km az=0.0*

ISC 07 18:26:49.4±1.2, 21°.35S±0°.03×48°.41W±0°.04, h5km±10km, n20, σ2§78/29, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BB19B	Bebedouro	0.30	338	P	Pg	18 26 55.2	0.0
BB19B				S	Sg	18 27 00.2	+0.9
BB19B	Bebedouro	0.30	338	eP	Pg	18 26 54.7	-0.6
BB19B				eS	Sg	18 26 59.6	+0.3
VABB	Valinhos	2.12	141	P	Pb	18 27 27.4	-1.0
VABB				S	Sb	18 27 53.1	-1.8
FRTB	Fartura	2.25	208	P	Pb	18 27 29.8	-0.9
FRTB	Fartura	2.25	208	eP	Pb	18 27 29.8	-0.9
FRTB				eS	Sg	18 28 01.7	-0.2
SPB	Sao Paulo	2.41	158	eS	Sb	18 28 00.6	-2.7
ITRB	Iturama	2.45	311	P	Pn	18 27 32.5	+2.3
ITRB				S	Sg	18 28 08.6	+0.4
ITRB	Iturama	2.45	311	eS	Sn	18 28 02.9	+2.3
ITU3	Corumbazu	3.14	352	P	Pn	18 27 41.9	+2.2
LDASE	Londrina, Braz	3.23	230	eS	Sb	18 28 25.1	-1.8
PARB	Paraibuna	3.25	128	P	Pn	18 27 41.8	+0.6
PARB				S	Sn	18 28 21.1	+0.7
IPMB	Ipameri, GO	3.35	3	P	Pb	18 27 47.8	-1.6
IPMB				S	Sb	18 28 29.4	-1.2
IPMB	Ipameri, GO	3.35	3	eS	Sn	18 28 18.4	-4.4
PMNB	Patos De Minas	3.35	34	P	Pn	18 27 46.8	+4.2
PMNB	Patos De Minas	3.35	34	eP	Pn	18 27 37.6	-5.0
PMNB				eS	Sn	18 28 15.9	-7.1
BSCB	Bom Sucesso	3.41	85	P	Pn	18 27 45.4	+2.0
BSCB				S	Sn	18 28 25.8	+1.5
SFA1	Serra Facao	3.43	11	P	Pn	18 27 47.0	+3.4
SFA1				S	Sb	18 28 31.4	-1.3
BAT3	Ipameri	4.01	12	P	Pn	18 27 54.8	+3.1
BAT2	UHE Batalha	4.07	13	P	Pn	18 27 56.9	+4.5
MAN01	Angra dos Reis	4.39	111	S	Sn	18 28 52.6	+4.3

IDC ***07*** *18:40:10.6±1.1, 2°.44N×128°.81E, h0km, mb3.4/7, mbtmp3.4/7, Error ellipse: s-maj=76.9km s-min=20.5km az=71.0*
DJA ***07*** *18:40:15.1±0.5, 2°.N±5°×12°.9E±°, h10km, M3.6/8, mb3.7/2, MLv3.6/8*

ISC 07 18:40:15.6±0.8, 2°.36N±0°.09×128°.82E±0°.10, h35km, n16, σ0§66/12, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.15	223	P	Pn	18 40 49.7	+0.7
TNTI				S	Sn	18 41 13.4	-1.0
SWI	Sorong	4.03	143	P	Pn	18 41 15.0	+0.2
FAKI	Fak Fak	6.26	147	P	Pn	18 41 46.1	+0.5
WRA	Warramunga Arr	22.82	167	P	P	18 45 15.8	+0.2
	1.0nm,0.7s,baz=343,slow=9.5,SNR=4.7						
	1.0nm,0.7s						
ASAR	Alice Springs	26.34	169	P	P	18 45 48.9	+0.4
	0.2nm,0.4s,baz=343,slow=7.9,SNR=4.4						
	0.2nm,0.4s						
H11S3	WAKE ISLAND Hy 40.41	64		T	T	19 31 08.7	
	baz=251,slow=75,SNR=24						
H11S2	WAKE ISLAND Hy 40.42	64		T	T	19 31 06.3	
	baz=251,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy 40.42	64		T	T	19 31 07.0	
	baz=251,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy 40.99	62		T	T	19 31 50.6	
	baz=250,slow=75,SNR=34						
H11N2	WAKE ISLAND Hy 41.00	62		T	T	19 31 53.4	
	baz=250,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy 41.01	62		T	T	19 31 54.7	
	baz=250,slow=75,SNR=26						
SONM	Songino Array	49.27	340	P	P	18 49 01.7	+0.7
	0.4nm,0.6s,baz=155,slow=7.8,SNR=3.7						
	0.4nm,0.6s						
MKAR	Makanchi Array	59.87	325	P	P	18 50 18.1	+0.2
	0.2nm,0.4s,baz=118,slow=8.7,SNR=8.6						
MKAR				PcP	PcP	18 51 03.0	-1.1
	0.4nm,0.8s,baz=111,slow=3.2,SNR=3.6						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	64.01	327	P	P	18 50 45.5	-0.1
	0.2nm,0.4s,baz=127,slow=6.2,SNR=5.9						
	0.2nm,0.4s						
BVAR	Borovoye Array	69.60	327	P	P	18 51 21.1	-0.1
	0.4nm,0.7s,baz=112,slow=6.7,SNR=2.5						
	0.4nm,0.7s						
ILAR	Eielson Array	85.44	25	P	P	18 52 48.9	-0.5
	0.2nm,0.7s,baz=262,slow=6.2,SNR=1.5						
	0.2nm,0.7s						

VAO ***07*** *18:42:14.5±2.5, 36°.99S×72°.73W, h6km±16km, mb4.4*
GUC ***07*** *18:42:17.8±0.6, 37°.24S×72°.78W, h56km±5km, ML4.3*
IDC ***07*** *18:42:19.4±3.5, 37°.09S×72°.55W, h51km±30km, mb3.9/10, mbtmp4.1/12, ML4.2/2, MS3.2/4, Error ellipse: s-maj=30.5km s-min=17.0km az=88.0*
NEIC ***07*** *18:42:19.0±2.0, 37°.13S±0°.06×72°.77W±0°.09, h37km±12km, mb4.3/9, Error ellipse: s-maj=11.2km s-min=8.0km az=110.0*

ISC 07 18:42:18.3±0.5, 37°.18S±0°.04×72°.78W±0°.04, h50km, n110, σ1§02/114, mb4.2/13, 3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	Punta Hualpn	0.54	322		Pn	18 42 29.7	-0.4
BI05	Punta Hualpn	0.54	322	↑iP	Pn	18 42 29.7	-0.4
BI05				eS	Sn	18 42 40.2	+1.7
BI05				IAML		18 42 42.0	
	comp=E,21μm,0.2s						
BI02	San Fabin de	1.31	67		Pn	18 42 40.4	0.0
BI02	San Fabin de	1.31	67	↓iP	Pn	18 42 40.3	0.0
BI02				eS	Sn	18 42 57.4	+0.6
BI02				IAML		18 43 00.2	
	comp=E,10μm,0.1s						
BI04	Isla Mocha	1.51	215	iP	Pn	18 42 41.7	-1.3
BI04				IAML		18 43 10.2	
	comp=N,7μm,0.3s						
LC02	Puerto Saavedr	1.68	196		Pn	18 42 45.9	+0.6
ML02	Panimavida	1.79	38		Pn	18 42 47.0	+0.2
LC01	Cunco	1.86	158	eP	Pn	18 42 47.2	-0.5
LC01				IAML		18 43 10.3	
	comp=E,3μm,0.2s						
GO05	Hualane	2.27	18	eP	Pn	18 42 54.8	+1.4
GO06	Curarrehue	2.61	157	eP	Pn	18 42 58.6	+0.4
BO03	Pichilemu	2.76	14	iP	Pn	18 43 00.5	+0.4
BO03				IAML		18 43 46.7	
	comp=N,935nm,0.6s						
BO02	Sierra Bellavi	2.88	35	Pn	Pn	18 43 03.1	+1.3
BO02	Sierra Bellavi	2.88	35	↑iP	Pn	18 43 03.3	+1.5
BO01	Tunca	3.10	27	Pn	Pn	18 43 05.4	+0.6
BO01	Tunca	3.10	27	eP	Pn	18 43 05.3	+0.6
BO01				IAML		18 43 57.9	
	comp=E,849nm,0.3s						
LR05	Currie	3.11	169	Pn	Pn	18 43 05.5	+0.7
LR05	Currie	3.11	169	eP	Pn	18 43 05.7	+0.8
LR05				IAML		18 43 55.8	
	comp=N,980nm,0.1s						
MT01	Popeta	3.53	21		Pn	18 43 11.3	+0.6
MT01	Popeta	3.53	21	eP	Pn	18 43 11.3	+0.6
VA05	Santo Domingo	3.64	15		Pn	18 43 12.1	-0.1
VA05	Santo Domingo	3.64	15	eP	Pn	18 43 11.7	-0.4
BO04	La Punta	3.64	30		Pn	18 43 12.7	+0.4
BO04	La Punta	3.64	30	eP	Pn	18 43 12.6	+0.4
MT09	Talagante	3.69	24		Pn	18 43 13.6	+0.5
MT09	Talagante	3.69	24	eP	Pn	18 43 13.6	+0.5
LL04	Puerto Octay	3.74	176		Pn	18 43 13.4	-0.1
LL04	Puerto Octay	3.74	176	eP	Pn	18 43 13.3	-0.2
MT12	Pirque	3.89	29	eP	Pn	18 43 16.2	+0.6
LMEL	Las Melosas	3.93	33		Pn	18 43 17.8	+1.5
LMEL	Las Melosas	3.93	33	eP	Pn	18 43 18.1	+1.8
PLCA	Paso Flores	3.95	155	Pn	Pn	18 43 17.4	+0.9
PLCA	Paso Flores	3.95	155	P	Pn	18 43 18.1	+1.6
	comp=N,3.6nm,0.3s,baz=326,slow=11,SNR=58						
PLCA				LR	LR	18 44 46.9	
	comp=N,108nm,19.5s,baz=338,slow=37						
	comp=N,8.0nm,0.4s						
PLCA	Paso Flores	3.95	155	eP	Pn	18 43 17.7	+1.2
MT13	San Alfonso	3.98	31		Pn	18 43 18.4	+1.5
MT13	San Alfonso	3.98	31	eP	Pn	18 43 18.5	+1.5
MT15	Las Vizcachas	4.02	28	eP	Pn	18 43 18.2	+0.7
MT03	Universidad Ad	4.12	27	Pn	Pn	18 43 19.4	+0.5
MT03	Universidad Ad	4.12	27	eP	Pn	18 43 19.2	+0.4
MT05	Renca	4.13	24	Pn	Pn	18 43 19.5	+0.6
MT05	Renca	4.13	24	eP	Pn	18 43 19.7	+0.7
MT02	Curacav	4.13	19	Pn	Pn	18 43 18.9	-0.1
MT02	Curacav	4.13	19	iP	Pn	18 43 18.9	-0.1
MT16	CCHEN	4.17	27		Pn	18 43 20.1	+0.6
MT16	CCHEN	4.17	27	eP	Pn	18 43 20.3	+0.7
MT14	Cerro Calı¡n	4.19	27	iP	Pn	18 43 20.5	+0.6
VA01	Torpederas	4.25	13		Pn	18 43 20.6	+0.1
MT10	Hacienda Santa	4.30	26	iP	Pn	18 43 21.8	+0.3
MT04	Ro Olivares	4.34	31	iP	Pn	18 43 23.2	+1.2
FCH	Farellones	4.35	29	iP	Pn	18 43 22.9	+0.7
PEL	Peldehue	4.37	24	iP	Pn	18 43 22.7	+0.4
ROCH	El Roble	4.44	20	↑iP	Pn	18 43 23.6	+0.3
VA06	Catapilco	4.76	15	Pn	Pn	18 43 27.4	-0.1
H03S1	Juan Fernandez	6.00	302	P	Pn	18 43 45.1	+0.8
	baz=87,slow=12,SNR=38						
H03S1				T	T	18 49 29.9	
	baz=123,slow=75,SNR=267						
H03S3	Juan Fernandez	6.01	302	P	Pn	18 43 45.2	+0.8
	baz=87,slow=12,SNR=24						
H03S3				T	T	18 49 31.2	
	baz=123,slow=75,SNR=296						
H03S2	Juan Fernandez	6.02	302	P	Pn	18 43 45.1	+0.5
	baz=87,slow=12,SNR=30						
H03S2				T	T	18 49 17.7	
	baz=123,slow=75,SNR=251						
LL02	Futaleuf	6.05	174	Pn	Pn	18 43 46.2	+1.0
VA04	Juan Fernndez	6.07	304	Pn	Pn	18 43 46.3	+0.8
H03N3	Juan Fernandez	6.25	305	P	Pn	18 43 49.3	+1.6
	baz=141,slow=26,SNR=52						
H03N3				S	Sn	18 44 58.8	+1.2
H03N1	Juan Fernandez	6.25	305	P	Pn	18 43 48.6	+1.0
	baz=141,slow=26,SNR=97						
H03N1				S	Sn	18 44 56.2	-1.4
H03N2	Juan Fernandez	6.26	305	P	Pn	18 43 49.5	+1.7
	baz=141,slow=26,SNR=30						
H03N2				S	Sn	18 44 57.0	-1.0
TRQA	Tornquist	8.62	99	Pn	Pn	18 44 21.7	+1.3
GO02	Mina Guanaco	12.28	14	Pn	Pn	18 45 06.4	-4.4
TBOT	Tacuaremb	14.93	73	eP	Pn	18 45 45.4	-0.8
PB09	IPOC Station P	15.63	12	P	P	18 45 57.8	-1.1
PLTB	Pedras Altas	16.70	77	eP	Pn	18 46 07.7	-1.1
CPUP	Villa Florida	16.99	55	P	Pn	18 46 10.7	-1.8
	comp=N,0.3nm,0.3s,baz=214,slow=10,SNR=4.4						
CPUP				LR	LR	18 53 31.3	
	comp=N,120nm,18.9s,baz=226,slow=40						
	comp=N,1.0nm,0.3s						
HMBC	Humberstone	17.03	9		Pn	18 46 12.2	-0.9
ITAB	Concordia	20.05	66	P	P	18 46 46.8	-0.5
ITAB				IAmb	IAmb	18 46 47.9	
	comp=Z,14nm,0.5s						
MURT	Porto Murtinho	20.30	45	eP	P	18 46 49.6	-0.4
LPAZ	La Paz	21.21	12	P	P	18 46 59.9	-0.6
LPAZ				IAmb	IAmb	18 47 22.2	
	comp=Z,6.5nm,0.9s						
LPAZ	La Paz	21.21	12	P	P	18 47 01.3	+0.7
	comp=Z,2.3nm,0.9s,baz=165,slow=7.4,SNR=6.6						
	comp=Z,2.3nm,0.9s						
LPAZ	La Paz	21.21	12	eP	P	18 46 59.7	-0.9
BDQN	Bodoquena, MS	21.74	44	eP	P	18 47 04.7	-0.9
MAJ01	Sao Joao Batis	22.28	71	eP	P	18 47 09.9	-1.5
AQDB	Aquidauana	22.32	46	eP	P	18 47 11.2	-0.5
LDASE	Londrina, Braz	23.14	60	eP	P	18 47 19.8	-0.5
FRTB	Fartura	24.25	62	eP	P	18 47 29.7	-1.0
PTLB	Pontes e Lacer	24.80	33	P	P	18 47 35.5	-0.2
PTLB				IAmb	IAmb	18 47 52.3	
	comp=Z,4.1nm,0.6s						
PTLB	Pontes e Lacer	24.80	33	eP	P	18 47 35.2	-0.5
SPB	Sao Paulo	25.62	65	P	P	18 47 43.2	+0.1
SPB	Sao Paulo	25.62	65	eP	P	18 47 44.3	+1.2
ITRB	Iturama	26.19	54	eP	P	18 47 49.7	+1.3
VAO	Valinhos	26.32	65	P	P	18 47 49.5	0.0
VAO	Valinhos	26.32	65	eP	P	18 47 51.7	+2.1
BB19B	Bebedouro	26.47	59	eP	P	18 47 52.0	+1.1
ETMB	Extrema	27.88	14		P	18 48 04.0	+0.6
ETMB				IAmb	IAmb	18 48 21.4	
	comp=Z,8.3nm,1.3s						
ATAH	Atahualpa	30.34	349	LR	LR	18 57 36.3	
	comp=Z,52nm,20.8s,baz=0.6,slow=30						
BDFB	Brasilia	30.69	52	P	P	18 48 26.6	-1.9
	comp=Z,2.1nm,0.7s						
	comp=Z,2.1nm,0.7s						
BSFB	Barra de Sao F	33.38	66	eP	P	18 48 52.9	+0.9
RIB01	Linhares ES	33.40	67	eP	P	18 48 52.9	+0.7
JANB	Januaria	33.52	56	eP	P	18 48 52.3	-1.1
SDBA	SAO DESIDERIO	35.09	53	eP	P	18 49 06.0	-1.0
GUA01	Guaratinga, BA	35.59	64	eP	P	18 49 12.1	+0.9
SMTB	Santa Maria do	36.26	45	eP	P	18 49 16.9	0.0
ROSC	El Rosal	41.82	358	P	P	18 50 03.2	-0.6
	comp=Z,9.7nm,0.5s,baz=208,slow=23,SNR=1.6						
	comp=Z,9.7nm,0.5s						
RUSC	La Rusia	42.85	360	P	P	18 50 14.2	+2.0
RUSC				IAmb	IAmb	18 50 14.9	
	comp=Z,5.4nm,0.6s						
RCBR	Riachuelo	45.87	56	LR	LR	19 11 13.2	
	comp=Z,44nm,18.5s,baz=250,slow=38						
SNAA	Sanae	48.89	157	P	P	18 50 59.5	+0.8
	comp=Z,2.6nm,0.8s,baz=236,slow=12,SNR=9.2						
	comp=Z,2.6nm,0.8s						
QSPA	South Pole Qui	53.07	180	P	P	18 51 31.5	+1.3
	comp=Z,1.1nm,0.5s,baz=141,slow=3.7,SNR=6.7						
	comp=Z,1.1nm,0.5s						
TXAR	Lajitas Array	72.23	332	P	P	18 53 40.0	+1.8
	comp=Z,0.4nm,0.4s,baz=144,slow=7.6,SNR=3.1						
	comp=Z,0.4nm,0.4s						
DBIC	Dimbokro	76.77	71	P	P	18 54 05.0	+0.2
	comp=Z,3.2nm,0.5s,baz=213,slow=4.9,SNR=11						
	comp=Z,3.2nm,0.5s						
BOSA	Boshof	79.13	118	P	P	18 54 18.3	+0.3
	comp=Z,2.7nm,0.9s,baz=229,slow=4.1,SNR=4.9						
	comp=Z,2.7nm,0.9s						
TORD	Torodi Ar. Bea	85.86	70	P	P	18 54 52.2	-0.7
	comp=Z,1.2nm,0.9s,baz=226,slow=5.3,SNR=4.9						
	comp=Z,1.2nm,0.9s						
NVAR	Mina Array Bea	86.16	326	P	P	18 54 53.4	-0.8
	comp=Z,0.2nm,0.3s,baz=143,slow=4.0,SNR=1.5						
	comp=Z,0.2nm,0.3s						
BRTR	Keskin Array B	123.86	63	PKP	PKiKP	19 01 11.0	0.0
	comp=Z,0.6nm,0.7s,baz=225,slow=0.4,SNR=2.1						
BVAR	Borovoye Array	149.96	46	PKPbc	PKPbc	19 02 02.4	-0.1
	comp=Z,1.0nm,0.6s,baz=294,slow=2.9,SNR=2.6						
KURBB	Kurchatov Arra	155.52	48	PKPab	PKPab	19 02 32.0	+0.2
	comp=Z,0.8nm,0.8s,baz=283,slow=4.3,SNR=4.8						
ZALV	Zalesovo Beam	157.19	36	PKPab	PKPab	19 02 39.4	+0.5
	comp=Z,0.5nm,0.5s,baz=305,slow=5.1,SNR=2.6						
MKAR	Makanchi Array	159.20	55	PKP	PKPdf	19 02 11.6	+1.0
	comp=Z,0.6nm,0.9s,baz=0.0,slow=2.2,SNR=2.6						
MKAR				PKPab	PKPab	19 02 47.9	-0.1
	comp=Z,1.0nm,0.8s,baz=279,slow=3.2,SNR=6.5						
SONM	Songino Array	169.33	3	PKPab	PKPab	19 03 33.0	+0.6
	comp=Z,0.1nm,0.5s,baz=248,slow=1.6,SNR=4.1						

JMA 07 18:42:47.7±0.1, 24°.3N±0°.8×123°.6E±0°.4, h50km±1km, MV1.9/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.12	82	eP	Pn	18 42 55.4	-0.2
IRIF				eS	Sn	18 43 01.3	+0.2
HATJ	Hateruma jima	0.32	144	eP	Pn	18 42 56.8	-0.2
HATJ				eS	Sn	18 43 03.5	-0.1
JKRS	Kuro-shima	0.38	102	eP	Pn	18 42 57.9	+0.3
JKRS				eS	Sn	18 43 05.3	+0.6
JIJ	Ishigaki jima	0.50	85	P	Pn	18 42 58.8	-0.1
JIJ				eS	Sn	18 43 06.9	0.0
YOJ	Yonaguni jima	0.56	285	eP	Pn	18 42 59.7	+0.1
YOJ				eS	Sn	18 43 08.0	-0.2
JYNG	Yonagunijimaku	0.61	283	eP	Pn	18 43 00.4	+0.1
JYNG				eS	Sn	18 43 09.3	0.0
JISG	Ishigakijimahi	0.70	67	eP	Pn	18

FUSS				eS		Sb	18 43 35.5 +0.6
LIOB	**Emei**	**1.00 260**		eP		Pn	18 43 23.6 +0.6
TWT	**Tachien**	**1.01 236**		eP		Pn	18 43 23.2 -0.1
TWT				eS		Sn	18 43 37.6 -0.3
LXIB	**Xiulin Townshi**	**1.01 218**		eP		Pb	18 43 22.6 +0.1
LXIB				eS		Sb	18 43 36.7 +0.6
WHF	**Hehuan Shan**	**1.02 228**		eP		Pb	18 43 22.7 0.0
WHF				eS		Sb	18 43 36.6 +0.1
ESL	**Shilin**	**1.18 211**		eP		Pn	18 43 25.5 +0.1
WHP	**Taichung City**	**1.18 243**		eP		Pn	18 43 26.0 +0.4
WHP				eS		Sn	18 43 42.4 +0.5
OWD	**Renai**	**1.21 224**		eP		Pn	18 43 25.9 -0.1
OWD				eS		Sb	18 43 42.0 +0.3
WUSB	**Renai**	**1.22 227**		eP		Pn	18 43 26.6 +0.5
WUSB				eS		Sn	18 43 43.4 +0.5
WARBT	**Fenglin Townsh**	**1.28 211**		eP		Pn	18 43 26.8 0.0
WARBT				eS		Sb	18 43 43.5 -0.2
WCS	**Beigang Elemen**	**1.32 235**		eP		Pg	18 43 27.8 -0.1
DPDB	**Guoxing**	**1.33 234**		eP		Pn	18 43 27.4 -0.1
VWDT	**VWDT**	**1.38 219**		eP		Pb	18 43 28.6 0.0
VWDT				eS		Sb	18 43 45.4 -1.0
HGSD	**Ruisui**	**1.46 205**		eP		Pn	18 43 29.3 0.0
HGSD				eS		Sb	18 43 49.2 +0.3
SSLB	**Suanglung**	**1.47 225**		eP		Pn	18 43 29.7 +0.3

TAP 07 18:43:12.0, 24°.05N×121°.67E, h31km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**295**	P	Pb	18 43 17.5	+0.2
ETM	**Tongmen**	**0.18**	**242**	eP	Pb	18 43 18.3	+0.2
ETM				eS	Sb	18 43 22.4	+0.1
ETLH	**Xiulin Townshi**	**0.23**	**313**	eS	Sn	18 43 24.0	-0.1
LXIB	**Xiulin Townshi**	**0.23**	**263**	i P	Pb	18 43 18.9	+0.1
LXIB				S	Sn	18 43 24.2	0.0
SHUL	**Shoufeng**	**0.28**	**200**	eP	Pb	18 43 19.5	+0.3
SHUL				eS	Sn	18 43 25.2	0.0
WARBT	**Fenglin Townsh**	**0.42**	**218**	eP	Pb	18 43 19.7	-1.6
FUSS	**Fushou**	**0.43**	**297**	eS	Sn	18 43 29.3	-0.1
NNSH	**Datong**	**0.46**	**326**	eP	Pb	18 43 22.2	+0.3
NNSH				eS	Sn	18 43 29.8	0.0
OWD	**Renai**	**0.46**	**258**	i P	Pb	18 43 22.3	+0.3
OWD				S	Sb	18 43 29.3	+0.5
TWT	**Tachien**	**0.49**	**294**	eP	Pn	18 43 24.0	+0.9
WUSB	**Renai**	**0.50**	**263**	P	Pn	18 43 23.5	+0.2
WUSB				eS	Sn	18 43 31.1	+0.2
TDCB	**Techi**	**0.51**	**294**	eP	Pn	18 43 24.3	+1.0
VWDT	**VWDT**	**0.56**	**238**	P	Pb	18 43 23.2	-0.4
VWDT				eS	Sn	18 43 31.9	-0.3

*IDC **07** 18:52:17.0±0.7, 22°.38N×125°.64E, h0km, mb3.9/14, mbtmp3.9/16, ML3.9/2, MS3.3/17, Error ellipse: s-maj=23.6km s-min=13.7km az=80.0*
*NEIC **07** 18:52:18.5±2.7, 22°.44N±0°.07×125°.48E±0°.05, h10km±1km, mb4.4/21, Error ellipse: s-maj=12.1km s-min=7.3km az=199.0*
*NIED **07** 18:52:21.5, 22°.71N×125°.37E, h127km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; M_{rr}=0.10; $M_{\theta\theta}$=2.90; $M_{\phi\phi}$=-2.80; $M_{r\theta}$=1.26; $M_{\theta\phi}$=-0.30; $M_{\phi r}$=-1.11; Fault plane solution: M_0=3.32000×10^15 NP1:φs=47.00000°, δ60.00000°, λ179.00000°. NP2:φs=138.00000°, δ89.00000°, λ30.00000°.*

ISC 07 18:52:18.2±0.6, 22°.45N±0°.07×125°.47E±0°.06, h10km, n78, σ2§02/72, mb4.2/26, MS3.2/11, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**2.37**	**356**	P	**Pn**	**18 52 55.9**	**-1.2**
YOJ	**Yonaguni jima**	**3.02**	**312**	Pn	**Pn**	**18 53 05.3**	**-0.8**
YOJ	**Yonaguni jima**	**3.02**	**312**	P	**Pn**	**18 53 05.7**	**-0.4**
NACB	**Ninganchiao**	**3.95**	**297**	Pn	**Pn**	**18 53 17.3**	**-1.6**
NACB	**Ninganchiao**	**3.95**	**297**	P	**Pn**	**18 53 17.4**	**-1.6**
YULB	**Yu-li**	**3.96**	**285**	Pn	**Pn**	**18 53 16.8**	**-2.2**
YULB				Sn	**Sn**	**18 53 58.8**	**-6.7**
YULB	**Yu-li**	**3.96**	**285**	P	**Pn**	**18 53 17.0**	**-2.0**
TWGBT	**Beinan**	**4.07**	**276**	P	**Pn**	**18 53 18.6**	**-2.0**
TWG	**Pinlang**	**4.08**	**276**	Pn	**Pn**	**18 53 18.4**	**-2.2**
TWG				Sn	**Sn**	**18 54 03.1**	**-5.4**
YHNB	**Yeheng**	**4.36**	**301**		**Pn**	**18 53 24.6**	**+0.1**
YHNB	**Yeheng**	**4.36**	**301**	P	**Pn**	**18 53 24.7**	**+0.1**
SSLB	**Suanglung**	**4.36**	**289**		**Pn**	**18 53 23.4**	**-1.2**
SSLB	**Suanglung**	**4.36**	**289**	P	**Pn**	**18 53 23.5**	**-1.2**
TATO	**Taipei**	**4.43**	**305**	Pn	**Pn**	**18 53 25.9**	**+0.3**
TPUB	**Ta-pu**	**4.54**	**282**		**Pn**	**18 53 26.7**	**-0.4**
TPUB	**Ta-pu**	**4.54**	**282**	P	**Pn**	**18 53 26.7**	**-0.4**
JOW	**Kunigami**	**5.06**	**30**	Pn	**Pn**	**18 53 33.0**	**-1.2**
	9.9nm,0.3s,baz=93,slow=25,SNR=46						
JOW				Sn	**Sn**	**18 54 28.9**	**-3.8**
	8.4nm,0.3s,baz=124,slow=28,SNR=6.1						
JOW				LR	LR	18 54 60.0	
	comp=Z,97nm,21.4s,baz=248,slow=32						
	23nm,0.3s						
JOW	**Kunigami**	**5.06**	**30**	P	**Pn**	**18 53 32.9**	**-1.2**
JMZ	**Minamidaito 2**	**6.24**	**56**	Pn	**Pn**	**18 53 47.1**	**-3.3**
JMZ				Sn	**Sn**	**18 54 53.7**	**-8.1**
KNMB	**Chin-men Tao**	**6.80**	**289**	Pn	**Pn**	**18 53 56.5**	**-1.6**
TGY	**Tagaytay City**	**9.35**	**208**	Pn	**Pn**	**18 54 33.1**	**0.0**
	19nm,0.3s,baz=156,slow=12,SNR=4.5						
TGY				LR	LR	18 58 27.6	
	comp=Z,175nm,18.7s,baz=296,slow=40						
SSE	**Sheshan**	**9.43**	**337**	Pn	**Pn**	**18 54 32.8**	**-1.3**
JNU	**Nakatsue**	**11.66**	**23**	Pn	**Pn**	**18 55 05.1**	**+0.3**
	0.5nm,0.3s,baz=215,slow=16,SNR=1.7						
JNU				LR	LR	18 59 51.2	
	comp=Z,134nm,19.6s,baz=208,slow=39						
	5.5nm,0.8s						
JMN	**Monobe**	**13.46**	**32**	Pn	**Pn**	**18 55 27.9**	**-1.5**
KSRS	**Korea Array**	**15.11**	**8**	LR	LR	19 02 04.2	
	comp=Z,96nm,19.2s,baz=200,slow=39						
DAV	**Davao City (W)**	**15.29**	**180**	LR	LR	19 02 32.9	
	comp=Z,104nm,19.2s,baz=343,slow=40						
JCJ	**Chichijima**	**15.87**	**70**	LR	LR	19 00 28.6	
	comp=Z,76nm,20.1s,baz=160,slow=31						
MJAR	**Matsushiro Arr**	**17.87**	**35**	P	**P**	**18 56 31.4**	**+3.7**
	7.2nm,0.8s,baz=214,slow=9.0,SNR=13						
USRK	**Ussuriysk Ar.**	**22.36**	**12**	P	**P**	**18 57 17.9**	**+1.5**
	3.5nm,0.7s,baz=203,slow=9.1,SNR=5.2						
USRK				LR	LR	19 05 22.4	
	comp=Z,81nm,20.1s,baz=202,slow=35						
	3.5nm,0.7s						
SBUM	**Sibu**	**23.67**	**215**	P	**P**	**18 57 30.0**	**-0.2**
SBUM				IAmb	IAmb	18 57 30.6	
	comp=Z,7.8nm,1.1s						
PHRA	**Phrae**	**23.96**	**265**	P	**P**	**18 57 34.5**	**+1.6**
CHTO	**Chiang Mai**	**25.07**	**267**	P	**P**	**18 57 41.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**25.15**	**266**	P	**P**	**18 57 42.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**25.15**	**266**	P	**P**	**18 57 45.8**	**+2.0**
	comp=Z,2.2nm,0.9s,baz=75,slow=11,SNR=21						
CMAR				LR	LR	19 08 22.1	
	comp=Z,63nm,18.3s,baz=85,slow=38						
	comp=Z,2.2nm,0.9s						
KLR	**Kul'dur**	**27.19**	**9**	LR	LR	19 07 39.1	
	comp=Z,76nm,21.8s,baz=188,slow=34						
KAPI	**Kappang**	**27.86**	**192**	LR	LR	19 08 36.2	
	comp=Z,59nm,21.9s,baz=358,slow=35						
SONM	**Songino Array**	**29.59**	**334**	P	**P**	**18 58 25.2**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=157,slow=9.6,SNR=6.9						
SONM				LR	LR	19 11 29.2	
	comp=Z,74nm,19.1s,baz=212,slow=39						
	comp=Z,0.8nm,0.7s						
YAK	**Yakutsk**	**39.67**	**3**	LR	LR	19 16 07.5	
	comp=Z,79nm,18.4s,baz=140,slow=36						
FITZ	**Fitzroy Crossi**	**40.29**	**180**	LR	LR	19 18 08.7	
	comp=Z,24nm,18.9s,baz=359,slow=39						
MA2	**Magadan**	**41.20**	**19**	LR	LR	19 16 39.2	
	comp=Z,33nm,21.4s,baz=156,slow=36						
MK31	**Makanchi Array**	**42.32**	**316**	P	**P**	**19 00 13.5**	**+1.2**
MKAR	**Makanchi Array**	**42.32**	**316**	P	**P**	**19 00 12.7**	**+0.4**
MKAR	**Makanchi Array**	**42.32**	**316**	P	**P**	**19 00 13.9**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=98,slow=9.1,SNR=15						
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**42.53**	**316**	P	**P**	**19 00 15.2**	**+1.2**
WB0	**Warramunga Arr**	**42.85**	**168**	P	**P**	**19 00 15.7**	**-1.1**
WRAB	**Tennant Creek**	**43.00**	**168**	P	**P**	**19 00 16.8**	**-1.2**
WRA	**Warramunga Arr**	**43.01**	**168**	P	**P**	**19 00 17.2**	**-0.9**
WRA	**Warramunga Arr**	**43.01**	**168**	P	**P**	**19 00 16.9**	**-1.1**
	comp=Z,12nm,0.8s,baz=347,slow=9.1,SNR=38						
WB2	**Warramunga Arr**	**43.01**	**168**	P	**P**	**19 00 15.8**	**-2.3**
WB2				IAmb	IAmb	19 00 18.2	
	comp=Z,9.4nm,0.8s						
WR0	**Warramunga Arr**	**43.07**	**167**	P	**P**	**19 00 17.0**	**-1.5**
ZALV	**Zalesovo Beam**	**43.85**	**326**	P	**P**	**19 00 24.3**	**-0.2**
ZALV	**Zalesovo Beam**	**43.85**	**326**	P	**P**	**19 00 25.6**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=5.0						
	comp=Z,0.9nm,0.5s						
PALK	**Pallekele**	**45.62**	**258**	LR	LR	19 20 11.4	
	comp=Z,16nm,18.3s,baz=28,slow=37						
KURBB	**Kurchatov Arra**	**45.97**	**320**	P	**P**	**19 00 42.5**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=111,slow=7.7,SNR=9.5						
	comp=Z,0.7nm,0.6s						
AS31	**Alice Springs**	**46.56**	**169**	P	**P**	**19 00 45.5**	**-0.8**
AS31				IAmb	IAmb	19 00 47.9	
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**46.56**	**169**	P	**P**	**19 00 45.4**	**-1.0**
ASAR	**Alice Springs**	**46.56**	**169**	P	**P**	**19 00 46.3**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=348,slow=8.9,SNR=28						
ASAR				PcP	**PcP**	**19 02 20.4**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=339,slow=3.7,SNR=4.4						
	comp=Z,2.7nm,0.7s						
DRK	**Karamyk**	**48.35**	**303**	P	**P**	**19 01 02.4**	**+1.9**
DRK				IAmb	IAmb	19 01 04.9	
	comp=Z,3.4nm,0.8s						
TIXI	**Tiksi**	**49.26**	**1**	P	**P**	**19 01 08.6**	**+2.0**
TIXI				IAmb	IAmb	19 01 10.5	
	comp=Z,6.7nm,1.4s						
TIXI	**Tiksi**	**49.26**	**1**	LR	LR	19 23 38.4	
	comp=Z,95nm,18.4s,baz=177,slow=38						
KKAR	**Karatay Array**	**49.64**	**308**	P	**P**	**19 01 09.1**	**-1.0**
BVAR	**Borovoye Array**	**51.51**	**321**	P	**P**	**19 01 25.8**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=99,slow=8.9,SNR=4.4						
	comp=Z,0.5nm,0.5s						
NRIK	**Noril'sk**	**52.12**	**344**	LR	LR	19 24 39.7	
	comp=Z,83nm,18.3s,baz=350,slow=37						
STKA	**Stephens Creek**	**56.18**	**163**	P	**P**	**19 01 58.0**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=308,slow=10,SNR=3.9						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**57.46**	**315**	P	**P**	**19 02 08.6**	**+1.3**
ABKAR				IAmb	IAmb	19 02 42.9	
	comp=Z,5.9nm,1.5s						
D23K	**Nanushuk River**	**67.06**	**23**	P	**P**	**19 03 12.0**	**+0.6**
F24K	**Squaw Lake**	**68.21**	**24**	P	**P**	**19 03 20.0**	**+1.4**
F24K				IAmb	IAmb	19 03 32.0	
	comp=Z,1.8nm,0.7s						
BMAR	**Burnt Mountain**	**69.48**	**24**	P	**P**	**19 03 27.8**	**+1.1**
F26K	**Sheenjek River**	**69.61**	**24**	P	**P**	**19 03 28.7**	**+1.4**
F26K				IAmb	IAmb	19 04 06.9	
	comp=Z,4.1nm,1.4s						
BCAR	**Beaver Creek A**	**71.47**	**29**	P	**P**	**19 03 40.3**	**+1.5**
I28M	**Miner Creek**	**71.71**	**26**	P	**P**	**19 03 40.6**	**+0.3**
I28M				IAmb	IAmb	19 04 20.3	
	comp=Z,6.1nm,1.5s						
L29M	**L29M**	**73.07**	**28**	P	**P**	**19 03 49.3**	**+0.9**
L29M				IAmb	IAmb	19 04 07.5	
	comp=Z,7.2nm,1.3s						
INK	**Inuvik**	**73.34**	**22**	P	**P**	**19 03 49.3**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=230,slow=3.3,SNR=2.7						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**74.91**	**331**	P	**P**	**19 04 00.1**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=127,slow=16,SNR=1.3						
	comp=Z,1.5nm,0.9s						
M31M	**Drury Creek, Y**	**74.99**	**29**	P	**P**	**19 04 00.0**	**+0.4**
M31M				IAmb	IAmb	19 04 25.3	
	comp=Z,3.6nm,1.3s						
HFS	**Hagfors**	**80.97**	**332**	P	**P**	**19 04 33.8**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=5.7,slow=1.4,SNR=1.4						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**81.57**	**333**	P	**P**	**19 04 37.3**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=126,slow=3.7,SNR=1.9						
	comp=Z,0.7nm,0.9s						
YKA	**Yellowknife Ar**	**83.00**	**24**	P	**P**	**19 04 44.7**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=298,slow=5.7,SNR=3.7						
	comp=Z,0.2nm,0.6s						

TAP 07 18:53:07.8, 23°.24N×120°.61E, h11km, ML0.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.01**	**70**	i P	Pg	18 53 10.1	+0.2
WTP				i S	Sg	18 53 12.2	+0.9
TPUB	**Ta-pu**	**0.06**	**19**	i P	Pg	18 53 10.3	+0.2
TPUB				S	Sg	18 53 12.1	+0.2
CHN1	**Nanshi**	**0.09**	**231**	eP	Pg	18 53 11.0	+0.5
CHN1				eS	Sg	18 53 13.4	+0.9
TWK	**Hsinying**	**0.11**	**282**	eP	Pg	18 53 11.3	+0.5
TWK				eS	Sg	18 53 13.7	+0.7
SGST	**Jiashian**	**0.16**	**188**	eP	Pg	18 53 12.0	+0.5
SGST				eS	Sg	18 53 15.2	+1.2

TAP 07 18:53:11.9, 23°.26N×120°.61E, h12km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.01**	**176**	i P	Pg	18 53 14.5	+0.3
WTP				i S	Sg	18 53 16.5	+0.8
TPUB	**Ta-pu**	**0.04**	**21**	i P	Pg	18 53 14.5	+0.2
TPUB				i S	Sg	18 53 16.4	+0.4
CHN1	**Nanshi**	**0.11**	**226**	i P	Pg	18 53 15.4	+0.5
CHN1				i S	Sg	18 53 18.2	+1.0
SNST	**Tainan City**	**0.11**	**249**	eP	Pb	18 53 15.6	-0.4
SNST				eS	Sg	18 53 18.3	+1.1
TWK	**Hsinying**	**0.12**	**273**	P	Pg	18 53 15.3	+0.2
TWK				eS	Sg	18 53 18.1	+0.7
STYH	**Taoyuan**	**0.17**	**121**	eP	Pg	18 53 16.4	+0.6
STYH				eS	Sg	18 53 19.7	+1.1
WCKO	**Fanlu**	**0.18**	**358**	eP	Pg	18 53 16.5	+0.5
WCKO				eS	Sg	18 53 20.0	+1.2
SGST	**Jiashian**	**0.18**	**189**	eP	Pg	18 53 15.9	-0.1
SGST				eS	Sg	18 53 19.8	+1.0

*IDC **07** 18:56:59.9±0.8, 25°.10N×45°.51W, h0km, mb4.0/17, mbtmp4.0/17, MS3.5/13, Error ellipse: s-maj=22.6km s-min=18.7km az=164.0*

ISC 07 18:57:01.4±0.7, 25°.1N±0°.1×45°.5W±0°.1, h10km, n32, σ0§60/17, mb4.1/17, MS3.5/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.39**	**254**	LR	LR	19 07 48.4	
	comp=Z,90nm,21.4s,baz=52,slow=32						
SDV	**Santo Domingo**	**28.84**	**240**	LR	LR	19 13 55.3	
	comp=Z,51nm,18.7s,baz=84,slow=35						
BBTS	**Babate**	**29.10**	**105**	LR	LR	19 11 48.6	
	comp=Z,76nm,21.0s,baz=176,slow=30						
SADO	**Sadowa**	**33.51**	**314**	LR	LR	19 14 57.2	
	comp=Z,96nm,20.2s,baz=205,slow=32						
TKL	**Tuckaleechee C**	**34.45**	**297**	LR	LR	19 14 47.3	
	comp=Z,92nm,20.2s,baz=103,slow=31						
BDFB	**Brasília**	**40.56**	**184**	LR	LR	19 19 01.3	
	comp=Z,50nm,18.9s,slow=33						
DBIC	**Dimbokro**	**42.95**	**108**	LR	LR	19 20 36.9	
	comp=Z,59nm,21.6s,baz=310,slow=33						
H10N2	**ASCENSION HYDR**	**44.54**	**133**	T	T	19 52 52.9	
	baz=318,slow=74,SNR=106						
H10N3	**ASCENSION HYDR**	**44.54**	**133**	T	T	19 52 51.4	
	baz=318,slow=74,SNR=94						
H10N1	**ASCENSION HYDR**	**44.56**	**133**	T	T	19 52 54.2	
	baz=318,slow=74,SNR=121						
H10S3	**ASCENSION HYDR**	**45.27**	**135**	T	T	19 53 46.3	
	baz=317,slow=74,SNR=28						
H10S2	**ASCENSION HYDR**	**45.28**	**134**	T	T	19 53 47.6	
	baz=263,slow=74,SNR=33						
TORD	**Torodi Ar. Bea**	**45.95**	**96**	P	**P**	**19 05 24.6**	**-0.4**
	1.4nm,0.7s,baz=305,slow=8.5,SNR=12						
	1.4nm,0.7s						
ULM	**Lac du Bonnet**	**45.99**	**317**	P	**P**	**19 05 25.0**	**+0.2**
	1.4nm,0.7s,baz=120,slow=7.2,SNR=3.9						
ULM				LR	LR	19 22 04.7	
	comp=Z,69nm,21.6s,baz=57,slow=33						
	1.4nm,0.7s						
CMIG	**Matias Romero**	**46.54**	**270**	LR	LR	19 22 39.7	
	comp=Z,40nm,19.8s,baz=18,slow=33						
LPAZ	**La Paz**	**46.67**	**211**	P	**P**	**19 05 30.9**	**-0.3**
	2.0nm,0.8s,baz=24,slow=6.5,SNR=5.1						
LPAZ				LR	LR	19 24 12.4	
	comp=Z,47nm,18.8s,baz=116,slow=35						
	2.0nm,0.8s						
DAVOX	**Davos/Dischmat**	**48.68**	**49**	LR	LR	19 22 36.1	
	comp=Z,119nm,18.1s,baz=268,slow=32						
NOA	**NORSAR Array B**	**52.37**	**31**	P	**P**	**19 06 13.3**	**-0.3**
	1.5nm,0.9s,baz=259,slow=4.8,SNR=3.6						
NOA				LR	LR	19 24 29.3	
	comp=Z,45nm,18.8s,baz=15,slow=32						
	1.5nm,0.9s						
HFS	**Hagfors**	**53.31**	**32**	P	**P**	**19 06 20.5**	**0.0**
	1.2nm,0.7s,baz=220,slow=13,SNR=1.3						
	1.2nm,0.7s						
PDAR	**Pinedale Array**	**54.72**	**306**	P	**P**	**19 06 31.8**	**+0.4**
	1.0nm,0.8s,baz=98,slow=7.6,SNR=9.4						
	1.0nm,0.8s						
YKA	**Yellowknife Ar**	**58.41**	**329**	P	**P**	**19 06 56.1**	**-0.8**
	0.6nm,0.8s,baz=96,slow=8.1,SNR=6.3						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**60.10**	**23**	P	**P**	**19 07 08.1**	**-0.4**
	2.8nm,0.9s,baz=270,slow=2.4,SNR=6.3						
	2.8nm,0.9s						
AKASG	**Malin Array Be**	**61.49**	**44**	P	**P**	**19 07 17.6**	**-0.8**
	1.3nm,0.6s,baz=282,slow=5.5,SNR=9.5						
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**61.85**	**302**	P	**P**	**19 07 21.3**	**0.0**
	0.2nm,0.5s,baz=82,slow=5.4,SNR=1.9						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**66.42**	**56**	P	**P**	**19 07 52.0**	**+0.8**
	1.9nm,0.8s,baz=284,slow=4.5,SNR=6.7						
	1.9nm,0.8s						
PLCA	**Paso Flores**	**69.51**	**200**	P	**P**	**19 08 10.4**	**+0.2**
	2.0nm,0.9s,baz=100,slow=6.1,SNR=3.4						
	2.0nm,0.9s						
KBZ	**Khabaz**	**72.02**	**50**	P	**P**	**19 08 26.8**	**+1.2**
	1.8nm,0.9s,baz=301,slow=5.9,SNR=2.5						
	1.8nm,0.9s						
ILAR	**Eielson Array**	**72.27**	**334**	P	**P**	**19 08 27.1**	**+0.3**
	0.6nm,0.8s,baz=74,slow=6.4,SNR=6.4						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**84.44**	**33**	P	**P**	**19 09 35.1**	**+0.9**
	0.9nm,0.7s,baz=333,slow=5.0,SNR=3.8						
	0.9nm,0.7s						
BOSA	**Boshof**	**86.47**	**124**	LR	LR	19 43 13.3	
	comp=Z,22nm,19.4s,baz=215,slow=32						
KURBB	**Kurchatov Arra**	**89.89**	**32**	P	**P**	**19 10 00.7**	**-0.1**
	0.4nm,0.3s,baz=317,slow=4.8,SNR=5.2						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**90.38**	**27**	P	**P**	**19 10 02.8**	**-0.1**
	0.6nm,0.5s,baz=316,slow=4.0,SNR=4.3						
	0.6nm,0.5s						

*IDC **07** 19:06:54.5±0.9, 18°.70N×156°.50W, h0km, mb3.8/10, mbtmp3.8/10, MS3.4/19, Error ellipse: s-maj=41.4km s-min=14.7km az=134.0*
*HVO **07** 19:06:58.1±1.5, 18°.49N±0°.08×156°.30W±0°.09, h29km±7km, ML4.6/53, mb4.4/24(NEIC), ML4.6/54(NEIC), Error ellipse: s-maj=13.3km s-min=10.7km az=113.0*
*NEIC **07** 19:06:58.9±2.4, 18°.61N±0°.07×156°.20W±0°.07, h45km±7km, Error ellipse: s-maj=9.7km s-min=9.3km az=120.0*

ISC 07 19:06:55.3±1.8, 18°.66N±0°.07×156°.27W±0°.05, h11km±10km, n106, σ1§24/87, mb4.3/23, MS3.4/19, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.85**	**47**		**Pn**	**19 07 13.6**	**+0.1**
KHU	**Kahuku**	**0.85**	**47**		**Sn**	**19 07 25.2**	**-0.8**
CPH	**Captain Cook**	**0.89**	**22**		**Pn**	**19 07 14.2**	**+0.4**
I59US	**HAWAII INFRASO**	**0.99**	**21**	Pg	**Pn**	**19 07 15.0**	**-0.3**
	baz=219,slow=14						
HTC	**Hot Caves**	**1.00**	**55**		**Pg**	**19 07 15.5**	**+0.8**
KKH	**Kailua Kona**	**1.02**	**13**		**Pn**	**19 07 16.1**	**+0.5**
KKH					**Sn**	**19 07 28.8**	**-1.1**
MWH	**Mokuaweoweo**	**1.03**	**38**		**Pn**	**19 07 16.3**	**0.0**
MWH				IAML		19 07 34.9	
	comp=E,12μm,0.5s						
MWH				IAML		19 07 51.0	
	comp=N,13μm,0.6s						
MWH	**Mokuaweoweo**	**1.03**	**38**		**Sn**	**19 07 30.0**	**-1.1**
ALEP	**Alea Permanent**	**1.05**	**34**		**Pn**	**19 07 16.9**	**+0.5**
ALEP					**Sn**	**19 07 30.9**	**-0.4**
MLOA	**Mauna Loa Obse**	**1.09**	**37**		**Pn**	**19 07 17.0**	**+0.1**
MLOA					**Sn**	**19 07 30.6**	**-1.6**
HUH	**Hualalai**	**1.09**	**22**		**Pn**	**19 07 17.1**	**+0.2**
HUH				IAML		19 07 46.6	
	comp=N,9μm,0.5s						
HUH				IAML		19 07 52.4	
	comp=E,10μm,0.6s						
HUH	**Hualalai**	**1.09**	**22**		**Sn**	**19 07 31.1**	**-1.1**
HLP	**Hilina Pali**	**1.10**	**55**		**Pb**	**19 07 16.9**	**+0.4**
HLP				IAML		19 07 36.7	
	comp=E,16μm,0.6s						
HLP				IAML		19 07 39.7	
	comp=N,14μm,0.7s						
HLP	**Hilina Pali**	**1.10**	**55**		**Sg**	**19 07 30.8**	**-0.2**
SDHHI	**Sand Hill**	**1.17**	**52**		**Pb**	**19 07 17.6**	**-0.1**
SDHHI					**Sb**

comp=Z,3.9nm,0.9s
NVAR Mina Array Bea 38.38 51 P **P 19 14 19.1 +2.2**
comp=Z,0.9nm,0.7s,baz=242,slow=12,SNR=4.9
comp=Z,0.9nm,0.7s
PFO Pinyon Flats O 38.46 59 LR LR 19 25 27.4
comp=Z,108nm,20.9s,baz=275,slow=29
I07A Izee 39.84 42 P **P 19 14 28.2 -0.7**
F10A Beach Ranch, E 42.14 41 P **P 19 14 46.3 -1.6**
F10A IAmb IAmb 19 15 06.9
comp=Z,8.9nm,1.4s
PLID Pearl Lake 42.53 43 P **P 19 14 50.1 -1.1**
MVU Marysvale 42.96 53 P 19 14 58.2 +3.3
HLID Hailey 42.97 45 P **P 19 14 56.9 +2.1**
MSU Marysvale 42.99 53 P **P 19 14 52.1 -3.0**
LPIG La Paz 42.99 74 LR LR 19 29 37.5
comp=Z,53nm,20.3s,baz=52,slow=32
HVU Hansel Valley 43.49 48 P **P 19 14 57.7 -1.2**
HVU IAmb IAmb 19 15 02.3
comp=Z,5.4nm,0.7s
TMUT Trail Mountain 43.92 52 P **P 19 15 00.4 -2.3**
MSVF Nonsavu 44.11 216 LR LR 19 31 29.7
comp=Z,74nm,18.6s,baz=353,slow=34
SRU San Rafael Swe 44.39 53 P **P 19 15 03.4 -2.9**
SRU IAmb IAmb 19 15 09.7
comp=Z,4.9nm,0.8s
M26K Nabesna, AK 44.66 9 P **P 19 15 06.5 -1.5**
M26K IAmb IAmb 19 15 19.0
comp=Z,7.7nm,1.3s
KTH Kantishna Hill 45.00 3 P **P 19 15 10.0 -0.6**
PV23 Carpenter Ridg 45.40 54 P **P 19 15 12.7 -1.7**
PD31 Pinedale Array 46.06 48 P **P 19 15 17.9 -1.7**
PD31 IAmb IAmb 19 15 21.6
comp=Z,4.0nm,1.3s
PDAR Pinedale Array 46.06 48 P **P 19 15 17.9 -1.7**
PDAR Pinedale Array 46.06 48 P **P 19 15 21.2 +1.6**
comp=Z,1.2nm,0.9s,baz=251,slow=4.5,SNR=7.9
comp=Z,1.2nm,0.9s
WRH Wood River Hil 46.11 5 P **P 19 15 19.4 +0.2**
ILAR Eielson Array 46.51 6 P **P 19 15 23.6 +1.2**
comp=Z,1.2nm,0.8s,baz=200,slow=8.0,SNR=10
comp=Z,1.2nm,0.8s
I30M Mount Dempster 48.38 11 P **P 19 15 35.8 -1.4**
I30M IAmb IAmb 19 15 40.1
comp=Z,3.4nm,0.8s
TX31 Lajitas Ar. Si 48.87 67 P **P 19 15 42.2 +0.7**
TX31 IAmb IAmb 19 15 45.1
comp=Z,4.1nm,1.1s
TXAR Lajitas Array 48.87 67 P **P 19 15 43.0 +1.5**
TXAR Lajitas Array 48.87 67 P **P 19 15 44.3 +2.9**
comp=Z,2.3nm,0.9s,baz=262,slow=8.3,SNR=14
TXAR LR LR 19 31 35.4
comp=Z,35nm,21.9s,baz=249,slow=30
comp=Z,2.3nm,0.9s
H29M Whitestone 48.96 10 P 19 15 42.7 +1.2
E22K Anaktuvuk Pass 49.53 2 P **P 19 15 47.5 +1.6**
E22K IAmb IAmb 19 15 56.6
comp=Z,11nm,1.5s
G30M tAoh Zraii Nji 50.01 10 P **P 19 15 50.4 +0.9**
G30M IAmb IAmb 19 16 32.2
comp=Z,7.8nm,1.4s
HNR Honiara 51.42 241 LR LR 19 33 38.6
comp=Z,32nm,21.0s,baz=354,slow=31
INK Inuvik 51.66 11 P **P 19 16 01.2 -0.6**
INK IAmb IAmb 19 16 03.9
comp=Z,6.9nm,1.0s
YKA Yellowknife Ar 52.37 23 P **P 19 16 08.3 +1.1**
comp=Z,1.2nm,1.0s,baz=234,slow=8.0,SNR=15
comp=Z,1.2nm,1.0s
MA2 Magadan 55.64 331 LR LR 19 36 49.2
comp=Z,35nm,21.1s,baz=102,slow=32
GUMO Guam 56.57 274 LR LR 19 36 12.8
comp=Z,27nm,21.9s,baz=82,slow=31
ASAJ Asahikawa 56.61 311 LR LR 19 35 09.1
comp=Z,40nm,21.6s,baz=308,slow=30
ULM Lac du Bonnet 57.01 42 P **P 19 16 41.1 +0.1**
comp=Z,0.9nm,0.6s,baz=251,slow=6.2,SNR=3.1
comp=Z,0.9nm,0.6s
PMG Port Moresby 62.37 248 LR LR 19 42 01.5
comp=Z,34nm,18.8s,baz=352,slow=34
USRK Ussuriysk Ar. 64.24 311 LR LR 19 43 24.1
comp=Z,28nm,19.1s,baz=44,slow=34
KLR Kul'dur 64.38 316 LR LR 19 43 42.4
comp=Z,23nm,18.5s,baz=90,slow=34
TKL Tuckaleechee C 65.36 59 LR LR 19 43 57.7
comp=Z,66nm,18.1s,baz=304,slow=34
JNU Nakatsue 65.95 299 LR LR 19 40 05.0
comp=Z,26nm,21.2s,baz=70,slow=30
KSRS Korea Array 67.82 304 LR LR 19 44 46.2
comp=Z,18nm,19.3s,baz=75,slow=34
NJ2 Nanjing 76.12 299 *eP* **P 19 18 44.5 +0.9**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
DAV Davao City (W) 76.58 273 LR LR 19 46 16.2
comp=Z,23nm,21.7s,baz=26,slow=31
STKA Stephens Creek 77.89 230 P **P 19 18 54.2 +0.7**
comp=Z,2.4nm,1.0s,baz=82,slow=15,SNR=2.0
comp=Z,2.4nm,1.0s
WRA Warramunga Arr 78.11 244 P **P 19 18 55.4 +0.4**
comp=Z,0.6nm,0.7s,baz=64,slow=5.9,SNR=2.4
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 79.63 310 *eP* **P 19 19 04.4 +1.3**
HHC pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 80.05 241 P **P 19 19 05.0 -0.5**
comp=Z,0.7nm,0.8s,baz=66,slow=6.1,SNR=5.5
comp=Z,0.7nm,0.8s
SONM Songino Array 81.17 317 P **P 19 19 11.5 +0.1**
comp=Z,0.3nm,0.7s,baz=57,slow=5.3,SNR=2.8
SONM LR LR 19 51 01.4
comp=Z,25nm,21.9s,baz=141,slow=33
comp=Z,0.3nm,0.7s
SJG San Juan 84.47 73 LR LR 19 55 56.9
comp=Z,15nm,18.3s,baz=185,slow=35
H03N2 Juan Fernandez 90.04 125 T T 20 59 27.4
baz=298,slow=76,SNR=17
H03N3 Juan Fernandez 90.05 125 T T 20 59 27.4
baz=298,slow=76,SNR=20
H03N1 Juan Fernandez 90.06 125 T T 20 59 28.2
baz=298,slow=76,SNR=16
PZH PanZhiHua 92.02 299 P **P 19 20 05.6 +0.5**
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.5s
CMAR Chiang Mai Arr 97.45 292 LR LR 20 01 29.0
comp=Z,14nm,20.0s,baz=95,slow=34

*NEIC **07** 19:25:34.2±1.2,23°.0S±0°.1×179°.4W±0°.2,h434km±13km, mb4.4/33,Error ellipse: s-maj=26.9km s-min=14.4km az=107.0*
*IDC **07** 19:25:46.6±3.5,23°.42S×179°.89W,h563km±35km,mb3.5/7, mbtmp4.4/8,Error ellipse: s-maj=30.0km s-min=19.0km az=25.0*
ISC 07 19:25:41.2±1.0,**23°.4S**±0°.1×**179°.8W**±0°.1,**h500**km,**n51,**
σ1§**62**/53,**mb4.4**/21,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.06**	**189**	P		**19 28 54.0**	**+2.1**
	12nm,0.8s,baz=45,slow=7.1,SNR=2.6						
URZ				S		**19 31 26.1**	**-2.9**
	3.3nm,0.5s,baz=291,slow=23,SNR=7.4						
BKZ	**Black Stump Fm**	**16.04**	**191**	P		**19 29 00.7**	**-1.5**
MRZ	**Mangatainoka R**	**17.66**	**192**	P		**19 29 15.9**	**-2.3**
MRZ				IAmb	IAmb	19 29 16.9	
	comp=Z,28nm,1.2s						
QRZ	**Quartz Range**	**18.55**	**199**	P		**19 29 28.3**	**+1.9**
MRNZ	**Matariki Terra**	**19.01**	**197**	P		**19 29 31.0**	**+0.3**
THZ	**Tophouse**	**19.31**	**197**	P		**19 29 33.6**	**+0.2**
THZ				IAmb	IAmb	19 29 36.9	
	comp=Z,18nm,1.1s						
GVZ	**Greta Valley S**	**20.41**	**195**	P		**19 29 44.0**	**+0.6**
LTZ	**Lake Taylor**	**20.43**	**197**	P		**19 29 43.6**	**0.0**
RPZ	**Rata Peaks**	**21.63**	**198**	P		**19 29 54.8**	**+0.3**
FOZ	**Fox Glacier**	**21.85**	**201**	P		**19 29 57.0**	**+0.6**
FOZ				IAmb	IAmb	19 30 02.0	
	comp=Z,22nm,1.0s						
MLZ	**Mavora Lakes**	**24.03**	**201**	P		**19 30 17.9**	**+1.9**
MLZ				IAmb	IAmb	19 30 58.6	
	comp=Z,15nm,1.3s						
DCZ	**Deep Cove**	**24.45**	**203**	P		**19 30 20.4**	**+0.8**
DCZ				IAmb	IAmb	19 31 02.9	
	comp=Z,12nm,1.0s						
WHZ	**Wether Hill Ro**	**24.55**	**201**	P		**19 30 21.6**	**+1.1**
ARMA	**Armidale**	**26.39**	**248**	P		**19 30 34.6**	**-2.5**
ARMA				IAmb	IAmb	19 31 13.6	
	comp=Z,21nm,1.5s						
EIDS	**Eidsvold**	**26.59**	**260**	P		**19 30 38.6**	**-0.3**
EIDS				IAmb	IAmb	19 31 00.7	
	comp=Z,14nm,1.2s						
CAN	**Canberra**	**29.57**	**239**	P		**19 31 06.6**	**+1.7**
CAN				IAmb	IAmb	19 31 20.6	
	comp=Z,23nm,1.4s						
TOO	**Toolangi**	**32.89**	**236**	P		**19 31 34.8**	**+1.4**
STKA	**Stephens Creek**	**35.09**	**247**	P		**19 31 53.2**	**+1.2**
STKA	**Stephens Creek**	**35.09**	**247**	P		**19 31 52.8**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=99,slow=11,SNR=8.8						
	comp=Z,2.8nm,0.6s						
BBOO	**Buckleboo**	**39.82**	**246**	P		**19 32 31.0**	**+0.2**
BBOO				IAmb	IAmb	19 33 13.6	
	comp=Z,35nm,1.4s						
AS31	**Alice Springs**	**42.31**	**260**	P		**19 32 50.9**	**+0.2**
ASAR	**Alice Springs**	**42.31**	**260**	P		**19 32 50.5**	**-0.2**
ASAR	**Alice Springs**	**42.31**	**260**	P		**19 32 51.0**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=97,slow=7.0,SNR=73						
ASAR				PcP	**pwP**	**19 34 31.6**	**+4.8**
	comp=Z,0.4nm,0.5s,baz=99,slow=3.6,SNR=2.7						
ASAR				S	**S**	**19 38 31.2**	**-4.0**
	comp=Z,0.3nm,0.7s,baz=94,slow=13,SNR=2.7						
	comp=Z,4.3nm,0.5s						
WR0	**Warramunga Arr**	**42.45**	**266**	P		**19 32 51.6**	**-0.2**
WB2	**Warramunga Arr**	**42.63**	**266**	P		**19 32 53.1**	**-0.2**
WB2				IAmb	IAmb	19 32 53.4	
	comp=Z,6.2nm,0.5s						
WB0	**Warramunga Arr**	**42.63**	**266**	P		**19 32 52.9**	**-0.4**
WRA	**Warramunga Arr**	**42.64**	**266**	P		**19 32 53.0**	**-0.3**
WRA	**Warramunga Arr**	**42.64**	**266**	P		**19 32 53.0**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=93,slow=8.4,SNR=91						
	comp=Z,5.2nm,0.6s						
FORT	**Forrest**	**46.67**	**249**	P		**19 33 24.0**	**-0.3**
MTN	**Manton Dam**	**47.61**	**274**	P		**19 33 30.6**	**-1.0**
KNRA	**Kununurra**	**48.88**	**269**	P		**19 33 41.2**	**+0.1**
KNRA				IAmb	IAmb	19 34 09.9	
	comp=Z,24nm,1.4s						
VNDA	**Vanda**	**54.90**	**185**	P		**19 34 25.1**	**+1.5**
VNDA				IAmb	IAmb	19 34 25.7	
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**54.90**	**185**	P		**19 34 24.9**	**+1.3**
	comp=Z,6.6nm,1.1s,baz=20,slow=8.1,SNR=3.3						
	comp=Z,6.6nm,1.1s						
SOEI	**Soe**	**55.00**	**274**	P		**19 34 25.6**	**+0.2**
SOEI				IAmb	IAmb	19 34 36.3	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**55.45**	**259**	P		**19 34 27.2**	**-1.1**
NWAO	**Narrogin (SRO)**	**55.62**	**245**	P		**19 34 27.5**	**-1.9**
NWAO				IAmb	IAmb	19 34 32.4	
	comp=Z,28nm,1.1s						
MBWA	**Marble Bar**	**55.65**	**260**	P		**19 34 28.6**	**-1.2**
MBWA				IAmb	IAmb	19 34 58.1	
	comp=Z,18nm,1.1s						
MORW	**Morawa**	**57.23**	**250**	P		**19 34 39.3**	**-1.3**
MORW				IAmb	IAmb	19 34 56.1	
	comp=Z,32nm,1.4s						
TOLI2	**Tolitoli**	**62.64**	**284**	P		**19 35 17.6**	**+0.8**
TOLI2				IAmb	IAmb	19 35 41.5	
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**66.69**	**180**	P		**19 35 42.2**	**+0.5**
QSPA	**South Pole Qui**	**66.69**	**180**	P		**19 35 42.1**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=18,slow=2.4,SNR=6.4						
	comp=Z,2.9nm,0.5s						
SNAA	**Sanae**	**85.17**	**179**	P		**19 37 21.9**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=211,slow=5.9,SNR=1.6						
	comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P		**19 37 46.4**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=130,slow=4.0,SNR=7.1						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**120.19**	**319**	PKP	**PKPdf**	**19 43 32.3**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=82,slow=2.7,SNR=2.5						
HFS	**Hagfors**	**142.09**	**349**	PKhKP	PKPpre	19 44 09.6	
	comp=Z,3.6nm,0.9s,baz=35,slow=5.3,SNR=14						
AKASG	**Malin Array Be**	**144.65**	**328**	PKP	**PKPdf**	**19 44 17.7**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.3,SNR=8.3						
AKBB	**Malin Array Si**	**144.65**	**328**		**PKPdf**	**19 44 18.2**	**-2.1**
KIEV	**Kiev**	**144.66**	**328**		**PKPdf**	**19 44 18.1**	**-2.2**
ASF	**Jabal al Asfar**	**146.51**	**293**	PKPbc	**PKPdf**	**19 44 24.9**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=114,slow=2.8,SNR=3.6						
BRTR	**Keskin Array B**	**147.42**	**308**	PKPbc	**PKPdf**	**19 44 26.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=58,slow=3.9,SNR=3.8						
MMAI	**Mount Meron Ar**	**147.66**	**295**	PKPbc	**PKPdf**	**19 44 28.3**	**+2.3**
	comp=Z,1.3nm,0.4s,baz=64,slow=7.5,SNR=7.6						

*NAO **07** 19:26:32.1±2.4,71°.50N×3°.28W,ML2.8*
*BER **07** 19:26:35.7±3.9,71°.53N×3°.45W,h10km,mb(Pn)4.1, ML2.8(NAO),Confirmed Earthquake*
ISC 07 19:26:38.4±2.5,**71°.5N**±0°.1×**1°.7W**±0°.2,**h10**km,**n33,**
σ1§**43**/35,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**6.13**	**306**	Pn	Pn	19 27 57.1	-12
DBG				Sn	Sn	19 28 55.3	-24
DBG	**Daneborg**	**6.13**	**306**	*eP*	Pn	19 27 57.3	-12
DBG				*eS*	Sn	19 28 55.9	-23
DBG	**Daneborg**	**6.13**	**306**	*i P*	Pn	19 27 56.2	-13
DBG				*i S*	Sn	19 28 55.0	-24
LOF	**Lofoten**	**6.26**	**115**	Pn	**Pn**	**19 28 12.4**	**+1.9**
LOF	**Lofoten**	**6.26**	**115**	*eP*	**Pn**	**19 28 12.6**	**+2.0**
STEI	**Steigen**	**6.88**	**113**	Pn	**Pn**	**19 28 20.7**	**+1.6**
STEI				Sn	**Sn**	**19 29 38.6**	**+1.3**
STEI	**Steigen**	**6.88**	**113**	*eP*	**Pn**	**19 28 20.8**	**+1.6**
STEI				*eS*	**Sn**	**19 29 37.6**	**+0.4**
STEI				IAML		19 29 40.3	
	comp=Z,2.2nm,0.6s						
DAG	**Danmarks Havn**	**7.02**	**327**	*eP*	Pn	19 28 11.5	-10
DAG				*eS*	Sn	19 29 16.1	-25
DAG	**Danmarks Havn**	**7.02**	**327**	*i P*	Pn	19 28 11.1	-10
DAG				*i S*	Sn	19 29 16.4	-24
TRO	**Tromso**	**7.13**	**95**	Pn	**Pn**	**19 28 22.8**	**+0.2**
TRO	**Tromso**	**7.13**	**95**	*eP*	**Pn**	**19 28 22.7**	**+0.2**
FAUS	**Fauske**	**7.25**	**116**	*eP*	**Pn**	**19 28 25.6**	**+1.4**
FAUS				*eS*	**Sn**	**19 29 45.1**	**-1.3**
FAUS				IAML		19 29 47.2	
	comp=Z,1.8nm,1.2s						
KONS	**Konsvik**	**7.29**	**126**	Pn	**Pn**	**19 28 26.0**	**+1.2**
KONS				Sn	**Sn**	**19 29 47.2**	**-0.3**
KONS	**Konsvik**	**7.29**	**126**	*eP*	**Pn**	**19 28 27.0**	**+2.2**
KONS				*eS*	**Sn**	**19 29 44.4**	**-3.0**
KONS				IAML		19 29 46.1	
	comp=Z,4.0nm,0.7s						
STOK	**Stokkvaagen**	**7.40**	**127**	Pn	**Pn**	**19 28 27.2**	**+1.0**
STOK				Sn	**Sn**	**19 29 48.0**	**-2.0**
STOK	**Stokkvaagen**	**7.40**	**127**	*eP*	**Pn**	**19 28 27.4**	**+1.3**
LEIR	**Leirfjorden**	**7.59**	**128**	*eP*	**Pn**	**19 28 30.0**	**+1.1**
LEIR				*eS*	**Sn**	**19 29 52.5**	**-2.4**
LEIR				IAML		19 29 55.8	
	comp=Z,1.9nm,0.4s						
JETT	**Jettan, Norway**	**7.63**	**94**	Pn	**Pn**	**19 28 30.2**	**+0.7**
JETT	**Jettan, Norway**	**7.63**	**94**	Pn	**Pn**	**19 28 30.2**	**+0.7**
BRBB	**Barentsburg B**	**7.82**	**25**	*eP*	**Pn**	**19 28 32.3**	**+0.3**
KIF	**Kilpisjarvi**	**8.00**	**97**	Pn	**Pn**	**19 28 35.8**	**+1.3**
KIF	**Kilpisjarvi**	**8.00**	**97**	*eP*	**Pn**	**19 28 35.6**	**+1.1**
KIF				Pn	Pb	19 28 35.8	-21
SPA0	**Spitsbergen Ar**	**8.19**	**27**	Pn	**Pn**	**19 28 36.1**	**-0.9**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.19**	**27**	Pn	**Pn**	**19 28 36.1**	**-0.9**
	baz=207,slow=18						
SALU	**Saltoluokta**	**8.20**	**110**	*eP*	**Pn**	**19 28 39.3**	**+2.1**
NSS	**Namsos**	**8.64**	**137**	*eP*	**Pn**	**19 28 44.7**	**+1.5**
KTK1	**Kautokeino**	**8.78**	**94**	*eP*	**Pn**	**19 28 46.9**	**+1.8**
HEF	**Hetta**	**9.21**	**97**	Pn	**Pn**	**19 28 51.8**	**+0.8**
HEF	**Hetta**	**9.21**	**97**	*eP*	**Pn**	**19 28 52.0**	**+1.0**
ARA0	**ARCESS Array S**	**9.27**	**89**	Pn	**Pn**	**19 28 52.6**	**+0.7**
	baz=292,slow=12						
ARA0	**ARCESS Array S**	**9.27**	**89**	Pn	**Pn**	**19 28 52.6**	**+0.7**
	baz=292,slow=12						
AKN	**Aaknes**	**9.93**	**156**	Pn	**Pn**	**19 29 01.4**	**+0.4**
AKN	**Aaknes**	**9.93**	**156**	Pn	**Pn**	**19 29 01.4**	**+0.4**

*OMAN **07** 19:26:51.3±1.6,24°.68N×62°.33E,h10km,mb4.2/8,ml3.3/7, Error ellipse: s-maj=12.2km s-min=8.3km az=87.0*
*IDC **07** 19:26:51.8±2.9,25°.94N×62°.92E,h0km,mb3.6/7, mbtmp3.6/7,Error ellipse: s-maj=66.4km s-min=28.3km az=158.0*
ISC 07 19:26:47.8±1.0,**24°.74N**±0°.07×**62°.76E**±0°.08,**h35**km,**n25,**
σ1§**70**/37,**mb3.7**/7,**Off coast of Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.60**	**293**	P	**Pn**	**19 27 15.1**	**+1.5**
	SNR=17						
NGCH				S	**Sn**	**19 27 35.6**	**+2.6**
JLN	**Jalan Bani Buh**	**4.02**	**231**	P	**Pn**	**19 27 47.0**	**+0.2**
	SNR=35						
JLN				S	**Sn**	**19 28 31.7**	**-1.0**
WBK	**Wadi Bani Khal**	**4.07**	**239**	P	**Pn**	**19 27 48.2**	**+0.5**
	SNR=244						
WBK				S	**Sn**	**19 28 32.6**	**-1.6**
BIDO	**Bidbid**	**4.41**	**255**	P	**Pn**	**19 27 52.4**	**+0.2**
BIDO				S	**Sn**	**19 28 42.1**	**-0.2**
SMDO	**Samad**	**4.63**	**250**	P	**Pn**	**19 27 56.0**	**+0.6**
	SNR=9.2						
SMDO				S	**Sn**	**19 28 45.3**	**-2.7**
JMDO	**Jabal Madar**	**4.88**	**242**	P	**Pn**	**19 28 00.7**	**+1.9**
	SNR=64						
JMDO				S	**Sn**	**19 28 53.5**	**-0.7**
HOQ	**Hoqain**	**5.11**	**258**	P	**Pn**	**19 28 03.2**	**+1.2**
BSY	**Bisya**	**5.47**	**250**	P	**Pn**	**19 28 08.9**	**+2.0**
BSY				S	**Sn**	**19 29 09.7**	**+1.1**
SOHO	**SOHO**	**5.71**	**265**	P	**Pn**	**19 28 10.3**	**+0.2**
SOHO				S	**Sn**	**19 29 12.0**	**-2.4**
ARQ	**Araqi**	**5.87**	**258**	P	**Pn**	**19 28 15.7**	**+3.3**
	SNR=37						
ARQ				S	**Sn**	**19 29 20.3**	**+1.7**
MDH	**Madha**	**5.89**	**277**	P	**Pn**	**19 28 12.7**	**+0.1**
MDH				S	**Sn**	**19 29 16.1**	**-2.8**
UOSS	**Minazif**	**5.96**	**273**	P	**Pn**	**19 28 13.8**	**+0.2**
UOSS				S	**Sn**	**19 29 19.6**	**-1.1**
BANOM	**Banah**	**5.96**	**283**	P	**Pn**	**19 28 14.5**	**+0.8**
MASF	**Masafi**	**6.02**	**277**	P	**Pn**	**19 28 14.7**	**+0.3**
ASHO	**Ashiyiah**	**6.10**	**271**	P	**Pn**	**19 28 16.5**	**+1.0**
	SNR=13						
SHME	**Shamm**	**6.13**	**284**	P	**Pn**	**19 28 17.7**	**+1.9**
	SNR=7.7						
SHME				S	**Sn**	**19 29 20.0**	**-4.8**
ALNE	**Al Ain**	**6.43**	**265**	P	**Pn**	**19 28 22.7**	**+2.6**
	SNR=6.7						
ALNE				S	**Sn**	**19 29 32.1**	**-0.1**
ASUD	**Al Ashush, Dub**	**6.76**	**271**	P	**Pn**	**19 28 25.0**	**+0.4**
	SNR=39						
KBZ	**Khabaz**	**24.96**	**324**	P	**P**	**19 32 08.8**	**+1.0**
	1.9nm,0.7s,baz=90,slow=10,SNR=3.9						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**26.97**	**30**	P	**P**	**19 32 25.7**	**-0.5**
	1.1nm,0.6s,baz=210,slow=9.4,SNR=20						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**28.83**	**10**	P	**P**	**19 32 42.6**	**0.0**
	0.3nm,0.5s,baz=185,slow=7.2,SNR=3.9						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**33.50**	**24**	P	**P**	**19 33 22.3**	**-1.4**
	0.6nm,0.5s,baz=223,slow=9.3,SNR=4.4						
	0.6nm,0.5s						
SONM	**Songino Array**	**41.33**	**45**	P	**P**	**19 34 30.6**	**+0.4**
	0.2nm,0.5s,baz=248,slow=7.6,SNR=2.1						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**44.33**	**336**	P	**P**	**19 34 53.7**	**-0.4**
	1.5nm,0.9s,baz=185,slow=8.1,SNR=1.2						
	1.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**58.50**	**271**	P	P	19 36 51.6	+11
	0.4nm,1.0s,baz=56,slow=7.3,SNR=2.6						
	0.4nm,1.0s						

*NOU **07** 19:30:48.8,22°.14S×169°.49E,h0km,MLv3.4/11, Southeast of Loyalty Islands*
*IDC **07** 19:30:50.9±2.5,20°.71S×168°.86E,h0km,mb3.7/3, mbtmp3.6/4,ML2.8/1,Error ellipse: s-maj=119.7km s-min=28.2km az=150.0*
ISC 07 19:30:50.0±1.5,**22°.1S**±0°.1×**169°.42E**±0°.09,**h10**km,**n14,**
σ1§**01**/15,**mb3.6**/3,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.44**	**296**	P	**Pn**	**19 31 15.2**	**-1.0**
MARNC	**Mare, Loyalty**	**1.44**	**296**	S	**Sb**	**19 31 36.3**	**+0.9**
PINNC	**Pines Island,**	**1.89**	**255**	P	**Pn**	**19 31 22.4**	**+0.1**
PINNC	**Pines Island,**	**1.89**	**255**	S	**Sb**	**19 31 48.2**	**0.0**
YATNC	**Mamie plateau,**	**2.34**	**271**	P	**Pn**	**19 31 29.5**	**+0.9**
YATNC	**Mamie plateau,**	**2.34**	**271**	S	**Sb**	**19 32 00.4**	**-1.0**
OUENC	**Ouen Island, N**	**2.40**	**263**	P	**Pn**	**19 31 30.0**	**+0.6**
ONTNC	**Ouen Toro**	**2.75**	**266**	P	**Pn**	**19 31 35.7**	**+1.5**
DZM	**Mont Dzumac**	**2.76**	**271**	Pn	**Pn**	**19 31 35.1**	**+0.6**
	1.8nm,0.3s,baz=60,slow=20,SNR=179						
DZM				Sn	**Sn**	**19 32 07.0**	**-0.8**
	5.5nm,0.3s,baz=128,slow=23,SNR=20						
	6.7nm,0.2s						
DZM	**Mont Dzumac**	**2.76**	**271**	P	**Pn**	**19 31 35.0**	**+0.6**
KOUNC	**Koumac, New Ca**	**5.04**	**287**	P	**Pn**	**19 32 07.6**	**+2.0**
ASAR	**Alice Springs**	**32.70**	**260**	P	**P**	**19 37 22.9**	**0.0**
	0.6nm,0.7s,baz=83,slow=8.8,SNR=7.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**32.77**	**267**	P	**P**	**19 37 22.6**	**-0.9**
	0.9nm,1.0s,baz=97,slow=8.1,SNR=2.6						
	0.9nm,1.0s						
NVAR	**Mina Array Bea**	**90.58**	**48**	P	**P**	**19 43 52.8**	**-0.1**
	0.3nm,0.5s,baz=253,slow=5.9,SNR=2.2						
	0.3nm,0.5s						

*NAO **07** 19:32:36.3±3.3,71°.38N×3°.48W,ML2.7*
*BER **07** 19:32:40.8±3.1,71°.55N×3°.44W,h10km,mb(Pn)3.6, ML2.7(NAO),Confirmed Earthquake*
ISC 07 19:32:37.5±1.2,**71°.7N**±0°.1×**3°.61W**±0°.09,**h10**km,**n23,**
σ2§**52**/26,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.54**	**306**	Pn	**Pn**	**19 34 02.4**	**+2.6**
DBG				Sn	**Sn**	**19 35 00.7**	**-2.8**
DBG	**Daneborg**	**5.54**	**306**	*eP*	**Pn**	**19 34 02.2**	**+2.4**
DBG				*eS*	**Sn**	**19 35 02.0**	**-1.4**
DAG	**Danmarks Havn**	**6.55**	**328**	*eP*	**Pn**	**19 34 16.9**	**+3.3**
DAG				*eS*	**Sn**	**19 35 21.7**	**-6.4**
LOF	**Lofoten**	**6.88**	**113**	Pn	**Pn**	**19 34 17.4**	**-0.7**
LOF	**Lofoten**	**6.88**	**113**	*eP*	**Pn**	**19 34 16.7**	**-1.5**
LOF				IAML		19 34 21.1	
	comp=Z,3.1nm,1.6s						
HSPB	**Hornsund (broa**	**7.41**	**35**	*eP*	**Pn**	**19 34 28.2**	**+2.8**
STEI	**Steigen**	**7.50**	**111**	Pn	**Pn**	**19 34 25.7**	**-1.0**
STEI	**Steigen**	**7.50**	**111**	*eP*	**Pn**	**19 34 25.7**	**-1.0**

TRO				IAML		19 34 47.4	
	comp=Z,1.0nm,0.2s						
FAUS	**Fauske**	**7.98**	**113**	*e*P	Pn	19 34 50.1	-3.5
FAUS				IAML		19 34 51.5	
	comp=Z,1.2nm,0.6s						
KONS	**Konsvik**	**7.99**	**122**	*e*P	Pn	19 34 51.5	-2.2
SPA0	**Spitsbergen Ar**	**8.40**	**30**	*e*P	Pn	19 35 00.3	+0.9

*NEIC **07** 19:43:04.3±0.5, 19°.33N±0°.02×154°.983W±0°.009, h6km±5km, Error ellipse: s-maj=2.8km s-min=0.8km az=160.0*

HVO 07 19:43:04.1±0.6, 19°.36N±0°.02×154°.99W±0°.01, h3km±6km, ML2.1/26, ML2.3/34(NEIC), Error ellipse: s-maj=3.8km s-min=0.9km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.08**	**350**	Pg	Pg	19 43 06.4	+0.6
JOKA				IAML		19 43 08.2	
	comp=N,2μm,0.6s						
JOKA				IAML		19 43 08.3	
	comp=E,2μm,0.3s						
NPOC	**North of Pu'u**	**0.12**	**288**		Pg	19 43 09.5	+3.0
STCH	**Steam Cracks**	**0.13**	**283**		Pg	19 43 07.4	+0.6
STCH					Sg	19 43 09.9	+1.4
STCH	**Steam Cracks**	**0.13**	**283**	IAML		19 43 11.0	
	comp=E,751nm,0.1s						
STCH				IAML		19 43 11.3	
	comp=N,674nm,0.3s						
PAH	**Pahoa**	**0.14**	**16**		Pg	19 43 07.6	+0.6
PAH					Sg	19 43 10.2	+1.3
KNHH	**Kane Nui o Ham**	**0.17**	**278**		Pg	19 43 08.1	+0.6
PUH	**Pauahi**	**0.21**	**275**		Pg	19 43 08.7	+0.4
PUH					Sg	19 43 12.3	+1.1
PUH	**Pauahi**	**0.21**	**275**	IAML		19 43 14.6	
	comp=N,241nm,0.4s						
PUH				IAML		19 43 15.9	
	comp=E,202nm,0.2s						
BYL	**Byron's Ledge**	**0.26**	**283**		Pg	19 43 09.4	+0.2
BYL					Sg	19 43 13.7	+1.1
BYL	**Byron's Ledge**	**0.26**	**283**	IAML		19 43 14.1	
	comp=N,246nm,3.0s						
BYL				IAML		19 43 15.8	
	comp=E,284nm,0.2s						
HATHI	**Halema'uma'u T**	**0.27**	**285**		Pg	19 43 09.4	+0.2
HATHI					Sg	19 43 13.9	+1.1
HATHI	**Halema'uma'u T**	**0.27**	**285**	IAML		19 43 15.3	
	comp=N,335nm,0.2s						
HATHI				IAML		19 43 18.4	
	comp=E,256nm,0.2s						
KKO	**Keanakako'i**	**0.27**	**279**		Pg	19 43 09.5	+0.3
KKO					Sg	19 43 14.0	+1.2
RIM	**Rim**	**0.27**	**278**		Pg	19 43 09.6	+0.2
RIM					Sg	19 43 14.4	+1.5
SBLHI	**Steaming Bluff**	**0.27**	**285**		Pg	19 43 09.5	+0.1
SBLHI					Sg	19 43 14.2	+1.2
UWB	**Uwekahuna Bluf**	**0.28**	**284**		Pg	19 43 10.3	+0.7
OBL	**Observatory Le**	**0.28**	**283**		Pg	19 43 09.2	-0.4
SDHHI	**Sand Hill**	**0.29**	**277**		Pg	19 43 09.8	+0.1
SDHHI					Sg	19 43 14.6	+1.0
RSD	**Rainshed**	**0.29**	**292**		Pg	19 43 10.1	+0.3
RSD	**Rainshed**	**0.29**	**292**	IAML		19 43 17.0	
	comp=N,471nm,0.5s						
RSD				IAML		19 43 17.4	
	comp=E,395nm,1.2s						
UWE	**Uwekahuna**	**0.29**	**283**		Pg	19 43 10.1	+0.2
UWE	**Uwekahuna**	**0.29**	**283**	IAML		19 43 16.8	
	comp=N,434nm,0.3s						
UWE				IAML		19 43 19.5	
	comp=E,505nm,0.8s						
WRMHI	**West Rim**	**0.30**	**280**		Pg	19 43 09.5	-0.4
WRMHI					Sg	19 43 15.0	+1.2
HLP	**Hilina Pali**	**0.31**	**259**		Pg	19 43 10.5	+0.4
HLP	**Hilina Pali**	**0.31**	**259**	IAML		19 43 17.0	
	comp=E,708nm,0.1s						
HLP				IAML		19 43 17.0	
	comp=N,949nm,0.2s						
MLH	**Mauna Loa**	**0.40**	**290**		Pg	19 43 12.2	+0.3
MLH	**Mauna Loa**	**0.40**	**290**	IAML		19 43 21.8	
	comp=E,226nm,0.2s						
MLH				IAML		19 43 24.9	
	comp=N,269nm,0.6s						
HTC	**Hot Caves**	**0.40**	**253**		Pg	19 43 12.8	+0.9
HMH	**Humu'ula Sheep**	**0.53**	**298**		Pg	19 43 14.7	+0.4
HMH					Sg	19 43 22.0	+0.9
HMH	**Humu'ula Sheep**	**0.53**	**298**	IAML		19 43 23.0	
	comp=N,438nm,0.5s						
HMH				IAML		19 43 29.9	
	comp=E,212nm,0.3s						
MWH	**Mokuaweoweo**	**0.59**	**283**		Pg	19 43 15.3	-0.1
MWH	**Mokuaweoweo**	**0.59**	**283**		Sg	19 43 23.9	+0.8
MWH	**Mokuaweoweo**	**0.59**	**283**	IAML		19 43 18.4	
	comp=N,219nm,3.8s						
KHU	**Kahuku**	**0.60**	**260**		Pg	19 43 15.4	-0.3
KHU					Sg	19 43 24.6	+1.1
KHU	**Kahuku**	**0.60**	**260**	IAML		19 43 36.7	
	comp=N,189nm,3.0s						
ALEP	**Alea Permanent**	**0.65**	**287**		Pg	19 43 16.1	-0.4
ALEP					Sg	19 43 25.6	+0.7

NEIC 07 19:44:55.9±0.4, 36°.30N±0°.01×97°.02W±0°.02, h6km±2km, mb_Lg2.4/26, ML2.7/44, Error ellipse: s-maj=2.3km s-min=1.6km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.26**	**35**		Pg	19 45 01.5	+0.6
OK051				Sg	Sg	19 45 05.1	+0.7
OK051				IAML		19 45 07.2	
	1μm,0.2s						
QUOK	**Quay**	**0.28**	**116**		Pg	19 45 01.9	+0.5
OK052	**Battle Ridge R**	**0.35**	**150**		Pg	19 45 03.3	+0.6
OK052				IAML		19 45 08.4	
	906nm,0.3s						
OK031	**S. Brethren Rd**	**0.37**	**157**		Pg	19 45 03.6	+0.5
OK031				IAML		19 45 09.1	
	645nm,0.2s						
BLOK	**Blackwell**	**0.49**	**341**		Pg	19 45 05.5	+0.1
BLOK				IAML		19 45 14.3	
	comp=N,715nm,0.2s						
BLOK				IAML		19 45 17.5	
	comp=E,525nm,0.2s						
OK029	**Liberty Lake**	**0.61**	**215**		Pg	19 45 07.8	+0.1
OK029				IAML		19 45 20.5	
	comp=E,377nm,0.5s						
DEOK	**Depew**	**0.62**	**137**		Pg	19 45 08.2	+0.4
DEOK				IAML		19 45 17.5	
	comp=N,374nm,0.2s						
DEOK				IAML		19 45 17.8	
	comp=E,497nm,0.1s						
ADOK	**Arcadia Dam**	**0.70**	**204**		Pg	19 45 09.8	+0.4
CROK	**Carrier**	**0.81**	**285**		Pg	19 45 11.4	0.0
CROK				IAML		19 45 24.4	
	comp=E,424nm,0.4s						
CROK				IAML		19 45 28.7	
	comp=N,345nm,0.3s						
KAN13	**South Haven SW**	**0.81**	**333**	Pg	Pg	19 45 10.8	-0.6
KAN13				IAML		19 45 25.2	
	comp=N,357nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.95**	**201**	IAML		19 45 33.9	
	comp=N,276nm,0.2s						
KAN14	**Manchester OK**	**1.01**	**311**		Pg	19 45 14.9	-0.3
KAN01	**Argonia South**	**1.04**	**325**		Pg	19 45 15.7	-0.2
FNO	**Franklin**	**1.08**	**197**		Pg	19 45 15.9	-0.7
FNO				IAML		19 45 34.6	
	comp=E,178nm,0.2s						
FNO				IAML		19 45 34.7	
	comp=N,154nm,0.2s						
W35A	**Tecumseh**	**1.15**	**174**		Pg	19 45 17.0	-0.9
W35A				IAML		19 45 38.2	
	comp=E,142nm,0.3s						
NOKA	**Waynoka**	**1.58**	**283**		Pn	19 45 25.0	+0.5
X34A	**Smith Ranch, M**	**1.82**	**202**	IAmb_Lg		19 45 56.2	
	comp=Z,26nm,0.9s						
WMOK	**Wichita Mounta**	**2.12**	**223**		Pn	19 45 32.0	+0.1
WMOK	**Wichita Mounta**	**2.12**	**223**	P	Pb	19 45 33.4	-1.4
WMOK				S	Sb	19 46 01.3	0.0
DRZT	**Darrouzett**	**2.65**	**274**	P	Pn	19 45 31.6	-7.7
KSU1	**Kansas State U**	**2.82**	**7**	IAmb_Lg		19 46 31.1	
	comp=Z,13nm,0.9s						
MGMO	**Mountain Grove**	**3.91**	**76**	IAmb_Lg		19 47 00.7	
	comp=Z,7.9nm,0.8s						
AMTX	**Amarillo**	**4.05**	**251**	IAmb_Lg		19 47 08.9	
	comp=Z,8.0nm,0.8s						
AMTX	**Amarillo**	**4.05**	**251**	P	Pb	19 46 06.8	-1.0
AMTX				S	Sn	19 46 48.8	+2.3
UALR	**University of**	**4.10**	**110**	IAmb_Lg		19 47 08.5	
	comp=Z,9.7nm,0.8s						
DKNS	**Dickens**	**4.14**	**232**	IAmb_Lg		19 47 09.7	
	comp=Z,6.8nm,0.9s						
DKNS	**Dickens**	**4.14**	**232**	S	Sn	19 46 48.7	0.0
SN07	**Snyder 07**	**4.52**	**226**	IAmb_Lg		19 47 22.3	
	comp=Z,7.0nm,0.8s						
RTBA	**Rita Blanca**	**4.62**	**273**	P	Pn	19 46 07.1	+0.7
RTBA				S	Sn	19 47 01.8	+1.4
SN05	**Snyder 5**	**4.67**	**224**	IAmb_Lg		19 47 22.7	
	comp=Z,8.8nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.21**	**303**	IAmb_Lg		19 47 45.7	
	comp=Z,7.9nm,0.8s						
BRDY	**Brady**	**5.26**	**199**	IAmb_Lg		19 47 48.5	
	comp=Z,5.6nm,1.0s						
T25A	**Trinidad**	**6.00**	**280**	IAmb_Lg		19 48 15.3	
	comp=Z,4.6nm,0.8s						
JCT	**Junction City**	**6.25**	**203**	IAmb_Lg		19 48 19.0	
	comp=Z,5.1nm,0.8s						

*NEIC **07** 19:47:08.8±0.5, 36°.297N±0°.009×97°.02W±0°.01, h6km±3km, Error ellipse: s-maj=1.6km s-min=1.3km az=93.0*

NEIC 07 19:47:08.9±0.4, 36°.290N±0°.009×97°.02W±0°.02, h5km±2km, mb_Lg2.3/7, ML2.5/44, ML3.0/24, Error ellipse: s-maj=2.0km s-min=1.3km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.26**	**35**		Pg	19 47 14.5	+0.5
OK051					Sg	19 47 18.0	+0.6
OK051				IAML		19 47 20.1	
	828nm,0.2s						
QUOK	**Quay**	**0.28**	**115**		Pg	19 47 15.0	+0.7
QUOK					Sg	19 47 18.8	+0.8
OK052	**Battle Ridge R**	**0.34**	**149**		Pg	19 47 16.2	+0.6
OK052					Sg	19 47 20.9	+0.8
OK052				IAML		19 47 21.2	
	495nm,0.3s						
OK031	**S. Brethren Rd**	**0.37**	**157**		Pg	19 47 16.6	+0.6
OK031					Sg	19 47 21.7	+0.9
BLOK	**Blackwell**	**0.49**	**341**		Pg	19 47 18.7	+0.2
BLOK					Sg	19 47 25.2	+0.3
BLOK				IAML		19 47 27.1	
	comp=N,420nm,0.2s						
BLOK				IAML		19 47 30.4	
	comp=E,310nm,0.2s						
OK029	**Liberty Lake**	**0.61**	**216**		Pg	19 47 20.7	+0.2
OK029					Sg	19 47 29.1	+0.7
OK029				IAML		19 47 33.3	
	comp=E,210nm,0.5s						
DEOK	**Depew**	**0.61**	**136**		Pg	19 47 21.2	+0.5
DEOK					Sg	19 47 29.4	+0.7
DEOK				IAML		19 47 30.4	
	comp=N,230nm,0.2s						
DEOK				IAML		19 47 30.6	
	comp=E,292nm,0.1s						
CROK	**Carrier**	**0.81**	**286**		Pg	19 47 24.4	0.0
CROK					Sg	19 47 35.1	+0.3
CROK				IAML		19 47 41.5	
	comp=N,203nm,0.4s						
KAN13	**South Haven SW**	**0.81**	**333**		Pg	19 47 24.9	+0.5
KAN13					Sg	19 47 35.3	+0.3
KAN13				IAML		19 47 38.1	
	comp=N,252nm,0.2s						
OK004	**Okla Sci Mus**	**0.85**	**206**		Pg	19 47 25.4	+0.2
OKCSW	**OKLAHOMA CITY**	**0.95**	**201**		Pg	19 47 26.9	-0.1
OKCSW					Sb	19 47 40.2	-0.4
OKCSW				IAML		19 47 43.1	
	comp=N,148nm,0.3s						
KAN09	**Caldwell North**	**0.97**	**330**		Pg	19 47 27.4	-0.2
KAN09					Sg	19 47 40.1	0.0
KAN14	**Manchester OK**	**1.01**	**312**		Pg	19 47 28.2	0.0
KAN14					Sg	19 47 41.3	0.0
KAN01	**Argonia South**	**1.05**	**326**		Sg	19 47 43.0	+0.4
FNO	**Franklin**	**1.08**	**197**		Pg	19 47 29.0	-0.5
FNO					Sb	19 47 44.1	-0.2
FNO				IAML		19 47 47.6	
	comp=N,85nm,0.2s						
FNO				IAML		19 47 50.4	
	comp=E,114nm,0.3s						
W35A	**Tecumseh**	**1.14**	**174**		Pg	19 47 29.9	-0.9
W35A				IAML		19 47 51.0	
	comp=E,79nm,0.3s						
NOKA	**Waynoka**	**1.58**	**283**		Pn	19 47 36.5	-1.1
X34A	**Smith Ranch, M**	**1.81**	**202**		Pb	19 47 42.0	-0.6
ELIS	**Ellis County**	**1.95**	**264**		Pb	19 47 44.3	-0.7
ELIS				IAmb_Lg		19 48 09.6	
	comp=Z,8.0nm,1.0s						
WMOK	**Wichita Mounta**	**2.11**	**223**		Pn	19 47 45.0	+0.1
X40A	**Basin Creek Fa**	**3.86**	**117**	IAmb_Lg		19 49 17.8	
	comp=Z,6.1nm,0.9s						
WHAR	**Wooly Hollow**	**3.97**	**103**	IAmb_Lg		19 49 18.0	
	comp=Z,7.0nm,0.8s						
T42A	**Van Buren**	**4.82**	**79**	IAmb_Lg		19 49 42.3	
	comp=Z,5.7nm,0.7s						

*IDC **07** 21:00:08.8±1.0, 43°.55N×105°.21W, h0km, mb3.7/4, mbtmp3.6/9, ML3.4/5, MS2.2/1, Error ellipse: s-maj=15.4km s-min=7.2km az=142.0*

*NEIC **07** 21:00:09.6±2.3, 43°.71N±0°.05×105°.37W±0°.08, h0km±1km, ML3.3/80, Error ellipse: s-maj=12.6km s-min=3.0km az=48.0*

ISC 07 21:00:10.2±0.8, 43°.77N±0°.05×105°.20W±0°.06, h0km, n42, σ1§51/35, mb3.7/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**67**		**Pn**	**21 00 30.2**	**-0.4**
K22A	**Casper**	**1.48**	**221**	Pn	**Pn**	**21 00 36.2**	**-2.0**
K22A				IAML		21 01 07.6	
	comp=N,417nm,0.3s						
K22A				IAML		21 01 08.7	
	comp=E,373nm,0.3s						
N23A	**Red Feather La**	**2.92**	**191**	Pn	**Pn**	**21 00 55.1**	**-3.1**
N23A				IAML		21 01 48.4	
	comp=E,113nm,0.7s						
LAO	**LASA Array**	**3.01**	**346**	Pn	**Pn**	**21 00 58.8**	**-0.4**
RLMT	**Red Lodge**	**3.21**	**296**		**Pn**	**21 01 00.4**	**-1.8**
RLMT				IAML		21 01 52.1	
	comp=E,59nm,0.7s						
RLMT				IAML		21 02 03.6	
	comp=E,64nm,0.8s						
BRIGG	**Briggsdale**	**3.25**	**168**		**Pn**	**21 01 02.9**	**+0.3**
PD31	**Pinedale Array**	**3.33**	**254**		**Pn**	**21 01 03.7**	**-0.2**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**21 01 03.3**	**-0.6**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**21 01 04.0**	**+0.1**
	comp=E,3.2nm,0.3s,baz=66,slow=16,SNR=39						
PDAR				Pg	**Pb**	**21 01 11.9**	**+1.6**
	comp=E,11nm,0.3s,baz=73,slow=18,SNR=29						
PDAR				Lg	Lg	21 01 49.7	
	comp=E,13nm,0.3s,baz=74,slow=28,SNR=5.2						
PDAR				LR	LR	21 02 30.0	
	comp=E,36nm,20.9s,baz=256,slow=43						
	comp=E,6.7nm,0.3s						
YNE	**Yellowstone No**	**3.66**	**291**		**Pn**	**21 01 07.9**	**-0.5**
OGNE	**Ogallala**	**3.67**	**139**	Pn	**Pn**	**21 01 10.1**	**+1.8**
YMP	**Mirror Lake PI**	**3.69**	**287**		**Pn**	**21 01 08.3**	**-0.5**
GCMT	**Greycliff**	**3.77**	**304**		**Pn**	**21 01 09.5**	**-0.2**
LOHW	**Long Hollow**	**3.92**	**270**	Pn	**Pn**	**21 01 11.3**	**-0.6**
LOHW				IAML		21 02 21.0	
	comp=E,31nm,0.7s						
H17A	**Grant Village**	**3.92**	**281**		**Pn**	**21 01 10.9**	**-1.0**
H17A				IAML		21 02 14.7	
	comp=N,44nm,0.7s						
ISCO	**Idaho Springs**	**3.97**	**185**		**Pn**	**21 01 12.9**	**+0.2**
ISCO				Pg	**Pg**	**21 01 24.9**	**-1.6**
FLWY	**Flagg Ranch**	**3.98**	**276**		**Pn**	**21 01 11.6**	**-1.2**
FLWY				Pg	**Pb**	**21 01 23.0**	**+1.5**
FLWY				IAML		21 02 24.4	
	comp=N,56nm,1.7s						
FLWY				IAML		21 02 55.3	
	comp=N,38nm,1.4s						
MOOW	**Moose Ponds**	**4.02**	**272**		**Pn**	**21 01 13.7**	**+0.5**
SNOW	**Snow King Moun**	**4.04**	**268**	Pn	**Pn**	**21 01 11.8**	**-1.8**
SNOW					**Pb**	**21 01 22.8**	**+0.3**
SNOW				IAML		21 02 30.1	
	comp=N,49nm,1.4s						
SNOW				IAML		21 02 34.9	
	comp=N,57nm,1.2s						
YNR	**Norris Junctio**	**4.05**	**285**	Pn	**Pn**	**21 01 11.1**	**-2.6**
YNR					**Pb**	**21 01 23.7**	**+1.1**
YFT	**Old Faithful**	**4.12**	**282**		**Pb**	**21 01 24.7**	**+1.0**
TPAW	**Teton Pass**	**4.18**	**268**		**Pn**	**21 01 12.7**	**-2.9**
TPAW				IAML		21 02 36.5	
	comp=N,26nm,1.1s						
TPAW				IAML		21 02 47.4	
	comp=N,50nm,0.9s						
YMR	**Madison River**	**4.24**	**284**	IAML		21 02 44.8	
	comp=N,39nm,1.1s						
O20A	**White River Ci**	**4.28**	**213**	IAML		21 03 06.5	
	comp=N,45nm,1.8s						
YHB	**Horse Butte**	**4.42**	**285**	IAML		21 02 31.2	
	comp=N,30nm,1.1s						
AHID	**Auburn Hatcher**	**4.42**	**259**	IAML		21 02 36.5	
	comp=N,44nm,1.2s						
AHID				IAML		21 02 46.7	
	comp=N,33nm,1.1s						
YHL	**Hebgen Lake**	**4.43**	**286**	IAML		21 02 34.0	
	comp=N,36nm,1.1s						
YHL				IAML		21 02 42.3	
	comp=E,35nm,0.8s						
RDMU	**Red Mountain**	**4.55**	**227**	IAML		21 02 38.1	
	comp=N,34nm,1.2s						
DGMT	**Dagmar**	**4.76**	**8**	IAML		21 02 45.9	
	comp=N,105nm,0.6s						
DGMT				IAML		21 02 59.0	
	comp=N,116nm,0.7s						
Q24A	**Divide**	**4.80**	**180**	IAML		21 02 44.8	
	comp=E,31nm,0.4s						
Q24A				IAML		21 02 48.9	
	comp=N,19nm,0.8s						
BOZ	**Bozeman (W)**	**4.94**	**294**	IAML		21 02 46.5	
	comp=N,17nm,0.8s						
BOZ				IAML		21 02 51.7	
	comp=N,19nm,1.0s						
BSUT	**Blindstream Ca**	**5.24**	**234**	IAML		21 02 55.9	
	comp=N,16nm,0.8s						
BSUT				IAML		21 03 06.3	
	comp=E,17nm,1.3s						
ELK	**Elko**	**8.03**	**251**	Pn	**Pn**	**21 02 09.1**	**+0.7**
	comp=E,0.3nm,0.3s,baz=72,slow=12,SNR=4.2						
	comp=E,0.7nm,0.3s						
I10CA	**LAC DU BONNET**	**8.98**	**41**	I	I	21 54 40.0	
	baz=226,slow=328,SNR=2.0						
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**21 02 21.1**	**-1.5**
	comp=E,2.7nm,0.3s,baz=226,slow=12,SNR=28						
ULM				Lg	Lg	21 04 53.0	
	comp=E,0.7nm,0.3s,baz=130,slow=21,SNR=3.4						
	comp=E,5.8nm,0.3s						
NEW	**Newport**	**9.43**	**303**	Lg	Lg	21 05 04.1	
	comp=E,0.4nm,0.3s,baz=65,slow=6.8,SNR=4.0						
YBH	**Yreka Blue Hor**	**13.03**	**267**	Pn	**Pn**	**21 03 20.3**	**+3.6**
	comp=E,0.2nm,0.3s,baz=39,slow=9.9,SNR=4.0						
	comp=E,1.3nm,0.6s						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**21 04 38.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=8.1						
YKA				Lg	Lg	21 10 26.7	
	baz=162,slow=29,SNR=4.2						
	comp=E,0.4nm,0.6s						
ILAR	**Eielson Array**	**31.28**	**327**	P	**P**	**21 06 33.2**	**+1.7**
	comp=E,0.2nm,0.7s,baz=101,slow=9.1,SNR=1.9						
	comp=E,0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**82.28**	**354**	P	**P**	**21 12 32.2**	**-1.0**
	comp=E,1.1nm,0.6s,baz=3.3,slow=6.7,SNR=6.3						
	comp=E,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**85.94**	**358**	P	**P**	**21 12 51.5**	**-0.3**
	comp=E,0.1nm,0.4s,baz=1.7,slow=4.1,SNR=5.6						
	comp=E,0.1nm,0.4s						
MKAR	**Makanchi Array**	**89.58**	**355**	P	**P**	**21 13 09.0**	**-0.5**
	comp=E,0.7nm,0.7s,baz=14,slow=4.6,SNR=11						
	comp=E,0.7nm,0.7s						

*IDC **07** 21:03:16.6±0.7, 30°.08S×71°.12W, h0km, mb4.0/5, mbtmp4.0/9, ML3.9/4, MS2.9/2, Error ellipse: s-maj=29.2km s-min=14.8km az=147.0*

*SJA **07** 21:03:23.7±1.5, 30°.12S×71°.33W, h54km±13km, ML4.2, MW3.7*

*GUC **07** 21:03:24.2±0.6, 30°.13S×71°.26W, h60km±2km, ML4.3*

ISC 07 21:03:23.4±0.8, 30°.12S±0°.04×71°.36W±0°.04, h58km±6km, n40, σ1§59/49, mb4.0/5, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**28**	⇑*i*P	**Pn**	**21 03 34.0**	**+1.2**
CO05				*e*S	**Sn**	**21 03 41.0**	**+1.4**
CO05				IAML		21 03 42.6	
	comp=N,50μm,0.3s						
GO04	**Tololo Observa**	**0.49**	**96**	*e*P	**Pn**	**21 03 36.3**	**+0.9**
GO04				*e*S	**Sn**	**21 03 45.1**	**+1.1**
GO04	**Tololo Observa**	**0.49**	**96**	*e*P	**Pn**	**21 03 36.2**	**+0.9**
GO04				*i* S	**Sn**	**21 03 45.0**	**+0.9**
CO06	**Fray Jorge**	**0.60**	**203**	⇓*i*P	**Pn**	**21 03 38.0**	**+1.7**
CO06				*i* S	**Sn**	**21 03 48.2**	**+2.4**
CO06				IAML		21 03 49.1	
	comp=N,22μm,0.3s						
CO03	**El Pedregal**	**0.92**	**141**	*e*P	**Pn**	**21 03 41.3**	**+0.8**
CO03				*e*S	**Sn**	**21 03 53.9**	**+0.9**
CO03				IAML		21 03 54.2	
	comp=Z,12μm,0.1s						
CO03	**El Pedregal**	**0.92**	**141**	⇓*i*P	**Pn**	**21 03 41.2**	**+0.8**
CO03				*i* S	**Sn**	**21 03 53.6**	**+0.6**
CO03				IAML		21 03 54.4	
	comp=E,33μm,0.3s						
CO01	**Juntas del Tor**	**1.11**	**83**	*e*P	**Pn**	**21 03 44.2**	**+1.2**
CO01				*e*S	**Sn**	**21 03 58.9**	**+1.3**
CO01				IAML		21 03 59.0	
	comp=Z,7μm,0.4s						
CO01	**Juntas del Tor**	**1.11**	**83**	⇑*i*P	**Pn**	**21 03 44.1**	**+1.2**
CO01				*i* S	**Sn**	**21 03 58.1**	**+0.5**
CO01				IAML		21 03 59.0	
	comp=E,8μm,0.1s						
LCO	**Las Campanas**	**1.25**	**28**	*e*P	**Pn**	**21 03 45.7**	**+0.8**
LCO				*e*S	**Sn**	**21 04 02.7**	**+1.8**
LCO				IAML		21 04 03.3	
	comp=Z,13μm,0.2s						
AROD	**Rodeo**	**1.64**	**92**	*e*P	**Pn**	**21 03 52.6**	**+2.4**
AROD				*e*S	**Sn**	**21 04 12.8**	**+2.4**
AC04	**Llanos de Chal**	**1.93**	**8**	*e*P	**Pn**	**21 03 54.8**	**+1.0**
AC04				*e*S	**Sn**	**21 04 20.0**	**+3.1**
AC04				IAML		21 04 25.9	
	comp=Z,2μm,0.5s						
AC04	**Llanos de Chal**	**1.93**	**8**	⇓*i*P	**Pn**	**21 03 54.8**	**+1.0**
AC04				*i* S	**Sn**	**21 04 18.1**	**+1.2**
AC04				IAML		21 04 26.5	
	comp=N,2μm,0.3s						
ACDV	**Cuesta del Vie**	**1.94**	**92**	*e*P	**Pn**	**21 03 57.1**	**+2.9**
ACDV				IAML		21 04 27.5	
	comp=Z,470nm,0.4s						
VA06	**Catapilco**	**2.43**	**179**	⇑*i*P	**Pn**	**21 04 02.1**	**+1.4**
VA06				IAML		21 04 39.8	
	comp=E,3μm,0.4s						
RTLS	**Leoncito**	**2.44**	**134**	*e*P	**Pn**	**21 04 04.1**

baz=52
PLCA Paso Flores 10.61 177 Pn Pn 21 05 51.2 -1.5
comp=E,0.1nm,0.3s,baz=342,slow=19,SNR=2.0
PLCA LR LR 21 09 53.6
comp=E,62nm,18.3s,baz=342,slow=37
comp=E,1.5nm,0.9s
CPUP Villa Florida 12.94 76 Pn Pn 21 06 20.0 -4.4
comp=E,0.2nm,0.3s,baz=298,slow=12,SNR=1.4
CPUP LR LR 21 10 47.1
comp=E,43nm,19.3s,baz=221,slow=35
comp=E,1.0nm,0.4s
LPAZ La Paz 14.09 13 Pn Pn 21 06 38.3 -2.3
comp=E,0.8nm,0.3s,baz=192,slow=7.3,SNR=17
comp=E,4.9nm,0.6s
SIV San Ignacio 16.94 36 Pn Pn 21 07 14.6 -1.9
baz=209,slow=9.8,SNR=20
comp=E,4.8nm,0.8s
BDFB Brasilia 25.82 61 P P 21 08 48.8 -0.7
comp=E,2.8nm,0.5s,baz=220,slow=12,SNR=5.7
comp=E,2.8nm,0.5s
TXAR Lajitas Array 66.67 329 P P 21 14 10.0 +1.8
comp=E,0.4nm,0.5s,baz=148,slow=7.7,SNR=3.6
comp=E,0.4nm,0.5s
PDAR Pinedale Array 80.58 333 P P 21 15 30.5 +0.8
comp=E,0.2nm,0.5s,baz=124,slow=4.8,SNR=1.9
comp=E,0.2nm,0.5s
BOSA Boshof 81.37 118 P P 21 15 34.4 +0.1
comp=E,4.4nm,1.2s,baz=233,slow=5.1,SNR=1.8
comp=E,4.4nm,1.2s
TORD Torodi Ar. Bea 82.35 70 P P 21 15 39.1 -0.2
comp=E,0.8nm,0.5s,baz=286,slow=6.2,SNR=17
comp=E,0.8nm,0.5s
H11S2 WAKE ISLAND Hyl 26.32 272 T T 23 41 19.0
baz=116,slow=75,SNR=30
H11S1 WAKE ISLAND Hyl 26.33 272 T T 23 41 13.3
baz=116,slow=75,SNR=27
H11S3 WAKE ISLAND Hyl 26.34 272 T T 23 41 18.5
baz=116,slow=75,SNR=29
KURBB Kurchatov Arra 149.58 39 PKPbc PKiKP 21 23 06.8 -0.1
comp=E,1.6nm,0.5s,baz=304,slow=3.1,SNR=31
ZALV Zalesovo Beam 150.61 29 PKPbc PKiKP 21 23 09.1 +0.2
comp=E,4.8nm,0.6s,baz=296,slow=3.4,SNR=28
MKAR Makanchi Array 153.67 43 PKPbc PKiKP 21 23 15.9 +0.4
comp=E,0.5nm,0.7s,baz=295,slow=2.4,SNR=5.6
MKAR PKPab PKPab 21 23 29.6 +1.2
comp=E,0.5nm,0.4s,baz=292,slow=3.1,SNR=9.0

IDC 07 21:21:39.4±5.0, 13°.56S×166°.90E, h0km, mb3.9/5, mbtmp3.8/5, MS3.3/1, Error ellipse: s-maj=141.5km s-min=38.5km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**26.22**	**162**	LR	LR	21 35 55.1	
	comp=Z,60nm,18.7s,baz=53,slow=33						
STKA	**Stephens Creek**	**29.49**	**228**	P	P	21 27 45.4	-0.1
	0.8nm,0.4s,baz=52,slow=12,SNR=3.2						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**31.78**	**254**	P	P	21 28 05.8	-0.1
	0.7nm,0.6s,baz=84,slow=9.3,SNR=7.5						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**32.77**	**247**	P	P	21 28 14.6	+0.1
	0.6nm,0.4s,baz=78,slow=9.1,SNR=12						
	0.6nm,0.4s						
SONM	**Songino Array**	**81.35**	**324**	P	P	21 33 58.5	+0.5
	0.2nm,0.4s,baz=138,slow=7.1,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**96.11**	**317**	P	P	21 35 08.4	-0.7
	0.3nm,0.6s,baz=96,slow=4.3,SNR=4.0						
	0.3nm,0.6s						

IDC 07 21:30:34.8±3.6, 11°.23S×159°.07E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=110.5km s-min=33.2km az=134.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**26**	Pn	Pn	21 31 10.2	+0.5
	36nm,0.3s,baz=216,slow=8.7,SNR=11						
HNR				Sn	Sn	21 31 35.3	0.0
	162nm,0.3s,baz=147,slow=22,SNR=7.2						
HNR				LR	LR	21 32 02.0	
	comp=Z,123nm,21.2s,baz=150,slow=44						
SONM	**Songino Array**	**75.06**	**326**	P	P	21 42 18.8	+0.2
	0.9nm,0.7s,baz=138,slow=5.1,SNR=7.8						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**85.87**	**20**	P	P	21 43 16.1	-0.1
	0.6nm,0.9s,baz=246,slow=4.9,SNR=6.8						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**89.22**	**318**	P	P	21 43 32.5	-0.3
	0.3nm,0.5s,baz=93,slow=6.2,SNR=7.2						
	0.3nm,0.5s						

---

*IDC **07** 21:34:06.0±1.2, 35°.01N×138°.33E, h0km, mb3.8/10, mbtmp3.8/11, ML2.7/1, MS3.0/2, Error ellipse: s-maj=30.4km s-min=15.2km az=98.0*
*NIED **07** 21:34:10.2, 35°.15N×138°.43E, h21km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.14; $M_{\theta\theta}$=-4.67; $M_{\phi\phi}$=0.54; $M_{r\theta}$=1.58; $M_{\theta\phi}$=-1.34; $M_{r\phi}$=1.41; Fault plane solution: M_0=5.06000×10^{14} NP1: ϕ_s=271.00000°, δ=36.00000°, λ=114.00000°. NP2: ϕ_s=63.00000°, δ=58.00000°, λ=74.00000°.*
*JMA **07** 21:34:10.2±0.1, 35°.2N±0°.2×138°.4E±0°.2, h21km, MD4.0/20, MV3.9/20, CENTRAL SHIZUOKA PREF*
JMA Felt III J1 at CENTRAL SHIZUOKA PREF .
*NEIC **07** 21:34:11.6±2.3, 35°.15N±0°.04×138°.35E±0°.06, h26km±6km, mb4.3/20, Error ellipse: s-maj=6.7km s-min=6.1km az=107.0*

ISC 07 21:34:09.8±0.9, 35°.15N±0°.03×138°.42E±0°.03, h18km±5km, n70, σ1$07/67, mb4.2/22, 10D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.19**	**243**	P	**Pb**	**21 34 15.2**	**+0.4**
SHZ3				S	**Sg**	**21 34 19.2**	**+1.3**
SHZ3	**Shizuoka 3**	**0.19**	**243**	A	A	21 34 15.2	
	comp=N,27nm,0.4s,comp=E,36nm,0.5s						
JFNN	**Fujinakano**	**0.22**	**80**	P	**Pb**	**21 34 15.6**	**+0.2**
JFNN				S	**Sg**	**21 34 19.7**	**+1.1**
JFNN	**Fujinakano**	**0.22**	**80**	A	A	21 34 15.6	
	comp=N,20nm,1.0s,comp=E,38nm,4.0s						
JYN	**Shimob**	**0.36**	**17**	⇓P	**Pb**	**21 34 17.7**	**-0.1**
JYN				⇓S	**Sb**	**21 34 23.5**	**+0.4**
JYN	**Shimob**	**0.36**	**17**	A	A	21 34 17.7	
	comp=N,13nm,0.4s,comp=E,41nm,0.3s						
JNY	**Yasuok**	**0.50**	**294**	⇓P	**Pb**	**21 34 20.3**	**+0.2**
JNY				⇓S	**Sb**	**21 34 27.7**	**+0.6**
JNY	**Yasuok**	**0.50**	**294**	A	A	21 34 20.3	
	comp=N,32nm,0.3s,comp=E,16nm,0.4s						
JSG	**Sagara**	**0.52**	**202**	Pg	**Pb**	**21 34 20.9**	**+0.6**
JSG				Sg	**Sn**	**21 34 29.6**	**-1.0**
JSG	**Sagara**	**0.52**	**202**	A	A	21 34 20.3	
	comp=N,19nm,0.6s,comp=E,21nm,0.4s						
JHTM	**Izuhatsuma**	**0.52**	**112**	A	A	21 34 20.3	
	comp=N,40nm,1.2s,comp=E,70nm,0.6s						
JKKS	**Kakegawashinom**	**0.54**	**222**	A	A	21 34 20.7	
	comp=N,12nm,0.3s,comp=E,19nm,0.3s						
JOD2	**Odawara 2**	**0.56**	**79**	*i* P	**Pg**	**21 34 20.7**	**-0.3**
JOD2				S	**Sg**	**21 34 27.8**	**-0.7**
JOD2	**Odawara 2**	**0.56**	**79**	A	A	21 34 20.7	
	comp=N,4.0nm,1.0s,comp=E,4.0nm,1.2s						
JIZS	**Izushimoda**	**0.58**	**139**	⇓*i* P	**Pg**	**21 34 20.8**	**-0.5**
JIZS				⇓S	**Sg**	**21 34 28.6**	**-0.3**
JIZS	**Izushimoda**	**0.58**	**139**	A	A	21 34 20.8	
	comp=N,13nm,0.8s,comp=E,6.0nm,0.6s						
KTJ3	**Kamata3**	**0.58**	**112**	⇓*i* P	**Pg**	**21 34 20.9**	**-0.4**
JNT	**Takato**	**0.76**	**342**	⇓*i* P	**Pb**	**21 34 24.6**	**+0.1**
JSSY	**Shinshiroyabe**	**0.78**	**252**	A	A	21 34 25.0	
	comp=N,10.0nm,0.2s,comp=E,17nm,0.2s						
JIM2	**Oshima 3**	**0.94**	**117**	P	**Pg**	**21 34 26.9**	**-1.1**
JIM2	**Oshima 3**	**0.94**	**117**	A	A	21 34 26.9	
	comp=N,13nm,1.5s,comp=E,11nm,0.5s						
JRY	**Ryogami san**	**0.95**	**24**	⇓*i* P	**Pg**	**21 34 27.5**	**-0.7**
JRY				⇓S	**Sg**	**21 34 39.9**	**-0.8**
JGF	**Kuroka**	**0.97**	**298**		**Pb**	**21 34 28.0**	**-0.2**
JGF					**Sb**	**21 34 40.6**	**-0.2**
INU	**Inuyama**	**1.16**	**280**		**Pb**	**21 34 30.6**	**-0.7**
INU					**Sb**	**21 34 44.9**	**-1.2**
MJAR	**Matsushiro Arr**	**1.40**	**353**	Pg	**Pn**	**21 34 34.8**	**+0.4**
	comp=E,20nm,0.3s,baz=182,slow=14,SNR=182						
MJAR				Lg	Lg	21 34 54.0	
	comp=E,35nm,0.3s,baz=348,slow=30,SNR=8.2						
MAJO	**Matsushiro**	**1.40**	**353**	Pn	**Pn**	**21 34 34.4**	**0.0**
MJB9	**Matsu-Tunnel**	**1.40**	**353**	Pn	**Pb**	**21 34 35.4**	**-0.1**
JHJ2	**Mitsune**	**2.34**	**150**		**Pn**	**21 34 47.4**	**-0.1**
JMM	**Marumori**	**3.31**	**35**	Pn	**Pn**	**21 35 02.5**	**+1.7**
JMN	**Monobe**	**4.01**	**251**	Pn	**Pn**	**21 35 11.1**	**+0.7**
JTM	**Tenmabayashi**	**6.00**	**20**	Pn	**Pn**	**21 35 38.5**	**+0.9**
JNU	**Nakatsue**	**6.57**	**254**	Pn	**Pn**	**21 35 44.7**	**-0.9**
	comp=E,0.2nm,0.3s,baz=126,slow=19,SNR=1.5						
	comp=E,6.8nm,1.0s						
KSRS	**Korea Array**	**8.78**	**288**	LR	LR	21 39 26.5	
	comp=E,59nm,20.4s,baz=105,slow=36						
HHC	**Hu-ho-hao-te**	**21.87**	**293**	*eP*	**P**	**21 39 03.9**	**+2.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	**Magadan**	**25.74**	**15**	P	**P**	**21 39 39.4**	**+0.3**
	comp=Z,4.1nm,0.4s,baz=202,slow=5.9,SNR=7.0						
	comp=Z,4.1nm,0.4s						
SONM	**Songino Array**	**26.92**	**308**	P	**P**	**21 39 50.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=115,slow=11,SNR=2.0						
	comp=Z,0.2nm,0.5s						
PZH	**PanZhiHua**	**32.51**	**265**	P	**P**	**21 40 41.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
MK31	**Makanchi Array**	**43.09**	**303**	P	**P**	**21 42 08.5**	**-0.3**
MKAR	**Makanchi Array**	**43.09**	**303**	P	**P**	**21 42 06.7**	**-2.2**
MKAR	**Makanchi Array**	**43.09**	**303**	P	**P**	**21 42 06.0**	**-2.8**
	comp=Z,0.2nm,0.6s,baz=85,slow=10,SNR=4.9						
	comp=Z,0.2nm,0.6s						
MAKZ	**Makanchi**	**43.30**	**303**	P	**P**	**21 42 10.3**	**-0.2**
KURK	**Kurchatov**	**45.21**	**309**	P	**P**	**21 42 25.4**	**-0.2**
KURBB	**Kurchatov Arra**	**45.27**	**309**	P	**P**	**21 42 24.6**	**-1.5**
	comp=Z,0.9nm,0.2s,baz=86,slow=7.8,SNR=6.9						
	comp=Z,0.9nm,0.2s						
E18K	**Tukpahlearik C**	**46.98**	**28**	P	**P**	**21 42 40.5**	**+1.1**
E18K				IAmb	IAmb	21 42 43.4	
	comp=Z,2.9nm,0.9s						
B21K	**Ikpikpuk River**	**49.52**	**25**	P	**P**	**21 43 00.5**	**+1.5**
CAST	**Castle Rocks**	**50.13**	**33**	P	**P**	**21 43 05.0**	**+1.3**
CAST				IAmb	IAmb	21 43 18.4	
	comp=Z,6.1nm,1.3s						
E22K	**Anaktuvuk Pass**	**50.39**	**27**	P	**P**	**21 43 05.6**	**0.0**
H24K	**Noodor Dome**	**51.90**	**30**	P	**P**	**21 43 18.7**	**+1.6**
H24K				IAmb	IAmb	21 43 29.6	
	comp=Z,5.3nm,1.5s						
KKAR	**Karatay Array**	**51.98**	**301**	P	**P**	**21 43 18.4**	**+0.6**
G24K	**Hadweenzic Riv**	**52.04**	**29**	P	**P**	**21 43 19.4**	**+1.4**
G24K				IAmb	IAmb	21 43 30.9	
	comp=Z,3.8nm,1.5s						
E25K	**Arctic Village**	**52.73**	**27**	P	**P**	**21 43 25.4**	**+2.3**
BMAR	**Burnt Mountain**	**53.14**	**28**	P	**P**	**21 43 27.0**	**+0.8**
C27K	**Jago River**	**53.33**	**25**	P	**P**	**21 43 29.0**	**+1.5**
C27K				IAmb	IAmb	21 43 43.2	
	comp=Z,4.3nm,1.4s						
F28M	**Old Crow**	**54.92**	**28**	P	**P**	**21 43 40.9**	**+1.8**
WRA	**Warramunga Arr**	**54.93**	**185**	P	**P**	**21 43 37.8**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=3.2,slow=7.3,SNR=2.9						
	comp=Z,0.9nm,0.9s						
G30M	**tAoh Zraii Nji**	**56.42**	**28**	P	**P**	**21 43 50.8**	**+0.8**
G31M	**Satah River**	**57.19**	**28**	P	**P**	**21 43 55.5**	**+0.3**
G31M				IAmb	IAmb	21 44 03.4	
	comp=Z,6.5nm,1.2s						
ABKAR	**Akbulak array**	**57.30**	**310**	P	**P**	**21 43 55.3**	**-1.1**
ABKAR				IAmb	IAmb	21 44 09.6	
	comp=Z,2.6nm,1.2s						
YKA	**Yellowknife Ar**	**66.64**	**29**	P	**P**	**21 44 59.0**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=300,slow=6.6,SNR=4.5						
	comp=Z,0.3nm,0.8s						
STKA	**Stephens Creek**	**66.74**	**177**	LR	LR	22 12 55.2	
	comp=Z,22nm,19.5s,baz=27,slow=35						
FIA1	**FINESS Array S**	**69.33**	**332**	P	**P**	**21 45 14.7**	**-1.1**
FINES	**FINESS Array B**	**69.33**	**332**	P	**P**	**21 45 14.9**	**-0.9**
FINES	**FINESS Array B**	**69.33**	**332**	P	**P**	**21 45 15.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=49,slow=6.0,SNR=14						
	comp=Z,0.7nm,0.4s						
SUMG	**Summit**	**72.54**	**359**	P	**P**	**21 45 35.5**	**-0.1**
SUMG				IAmb	IAmb	21 45 37.5	
	comp=Z,3.9nm,0.8s						
PINE	**Pine Mountain**	**73.40**	**48**	P	**P**	**21 45 42.5**	**+1.4**
PINE				IAmb	IAmb	21 45 44.4	
	comp=Z,2.3nm,0.9s						
AKASG	**Malin Array Be**	**74.27**	**321**	P	**P**	**21 45 44.5**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=47,slow=6.3,SNR=4.3						
	comp=Z,0.5nm,0.5s						
NC204	**NORSAR Array S**	**74.93**	**337**	P	**P**	**21 45 48.9**	**-0.5**
NOA	**NORSAR Array B**	**74.95**	**336**	P	**P**	**21 45 49.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=40,slow=5.7,SNR=3.3						
	comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**78.25**	**310**	P	**P**	**21 46 09.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=68,slow=3.3,SNR=4.1						
	comp=Z,0.9nm,0.7s						
RAYN	**Ar Rayn**	**79.09**	**291**	P	**P**	**21 46 13.5**	**0.0**
RAYN				IAmb	IAmb	21 46 14.5	
	comp=Z,2.8nm,0.8s						

---

*IDC **07** 21:39:16.5±1.7, 38°.57N×142°.82E, h0km, mb3.6/8, mbtmp3.5/10, ML2.8/2, Error ellipse: s-maj=44.1km s-min=21.7km az=70.0*
*JMA **07** 21:39:25.2±0.1, 38°.4N±0°.3×142°.2E±0°.6, h44km±1km, MD3.9/39, MV4.1/39, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .

ISC 07 21:39:23.0±2.0, 38°.39N±0°.05×142°.28E±0°.10, h29km±13km, n33, σ1$05/35, mb3.6/8, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.65**	**263**	P	**Pn**	**21 39 37.0**	**+0.8**
JIKH				S	**Sn**	**21 39 45.1**	**-0.3**
JIO	**Ouri**	**0.74**	**275**	*i* P	**Pn**	**21 39 38.2**	**+0.7**
JIO				S	**Sn**	**21 39 47.3**	**-0.4**
JKMT	**Kesennumamotoy**	**0.76**	**304**	*i* P	**Pn**	**21 39 38.5**	**+0.8**
JKMT				S	**Sn**	**21 39 47.9**	**-0.4**
OFUJ	**Ofunato**	**0.84**	**325**	⇓*i* P	**Pb**	**21 39 39.8**	**+0.7**
OFUJ				⇓S	**Sn**	**21 39 50.2**	**-0.1**
OFUJ	**Ofunato**	**0.84**	**325**	A	A	21 39 39.8	
	comp=N,5.0nm,1.8s,comp=E,5.0nm,1.1s						
JMK	**Ichinoseki**	**1.00**	**304**	⇓*i* P	**Pn**	**21 39 41.9**	**+0.8**
JMK				⇓S	**Sn**	**21 39 54.1**	**-0.2**
JOFO	**Osakifurukawao**	**1.10**	**282**	A	A	21 39 43.2	
	comp=N,20nm,3.5s,comp=E,20nm,3.8s						
JOU	**Okura**	**1.27**	**269**	*i* P	**Pn**	**21 39 45.9**	**+1.0**
JOU				S	**Sn**	**21 40 01.2**	**+0.2**
JOU	**Okura**	**1.27**	**269**	A	A	21 39 45.9	
	comp=N,5.0nm,0.6s,comp=E,3.0nm,3.5s						
JMM	**Marumori**	**1.29**	**247**	*i* P	**Pn**	**21 39 45.6**	**+0.6**
JOM	**Ohasama**	**1.33**	**325**	⇓*i* P	**Pb**	**21 39 46.9**	**-0.4**
JOM				⇓S	**Sn**	**21 40 02.9**	**+0.5**
JOM	**Ohasama**	**1.33**	**325**	A	A	21 39 46.9	
	comp=N,3.0nm,0.3s,comp=E,4.0nm,0.7s						
JFK	**Kawauchi**	**1.51**	**228**	*i* P	**Pn**	**21 39 49.0**	**+0.9**
JFK				S	**Sn**	**21 40 06.6**	**-0.3**
JYK	**Kaneyama**	**1.60**	**290**	⇓*i* P	**Pn**	**21 39 50.6**	**+1.3**
JYK				⇓S	**Sn**	**21 40 09.6**	**+0.7**
JRG	**Rokugo**	**1.63**	**309**	P	**Pn**	**21 39 51.1**	**+1.3**
JOTO	**OTAMA OYAMA**	**1.75**	**242**	P	**Pn**	**21 39 52.9**	**+1.5**
JOTO				S	**Sn**	**21 40 13.7**	**+0.9**
JYS	**Shiratake**	**1.75**	**265**	P	**Pn**	**21 39 52.7**	**+1.2**
JYS				*e*S	**Sn**	**21 40 13.8**	**+0.9**
MJAR	**Matsushiro Arr**	**3.73**	**242**	Pn	**Pn**	**21 40 21.4**	**+2.8**
	comp=E,0.3nm,0.3s,baz=54,slow=10,SNR=6.0						
MJAR				Sn	**Sb**	**21 41 10.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=22,slow=30,SNR=4.5						
	comp=E,3.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.68**	**310**	Pn	**Pn**	**21 41 41.4**	**+1.2**
	comp=E,0.1nm,0.3s,baz=122,slow=13,SNR=1.5						
	comp=E,1.0nm,0.5s						
SONM	**Songino Array**	**27.63**	**302**	P	**P**	**21 45 07.9**	**-0.2**
	comp=E,0.1nm,0.4s,baz=106,slow=10,SNR=1.7						
	comp=E,0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.29**	**124**	T	T	22 15 12.3	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**28.30**	**124**	T	T	22 15 16.2	
	baz=318,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	22 15 54.7	
	baz=318,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	22 16 31.0	
	baz=318,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	22 16 48.8	
	baz=318,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**29.07**	**126**	T	T	22 16 32.7	
	baz=318,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**41.53**	**311**	P	**P**	**21 47 06.1**	**-1.4**
	comp=E,0.6nm,0.4s,baz=86,slow=7.7,SNR=3.0						
	comp=E,0.6nm,0.4s						
MKAR	**Makanchi Array**	**44.00**	**301**	P	**P**	**21 47 28.4**	**+0.8**
	comp=E,0.4nm,0.7s,baz=88,slow=10.0,SNR=5.7						
	comp=E,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.73**	**307**	P	**P**	**21 47 40.7**	**-0.6**
	comp=E,0.9nm,0.4s,baz=82,slow=8.2,SNR=6.9						
	comp=E,0.9nm,0.4s						
BVAR	**Borovoye Array**	**50.18**	**312**	P	**P**	**21 48 14.5**	**-1.3**
	comp=E,0.3nm,0.5s,baz=78,slow=7.2,SNR=1.7						
	comp=E,0.3nm,0.5s						
AKTO	**Aktyubinsk**	**58.29**	**312**	P	**P**	**21 49 14.2**	**-0.6**
	comp=E,0.5nm,0.4s,baz=80,slow=6.1,SNR=2.4						
	comp=E,0.5nm,0.4s						
WRA	**Warramunga Arr**	**58.50**	**189**	P	**P**	**21 49 16.0**	**-0.5**
	comp=E,0.3nm,0.5s,baz=5.9,slow=7.1,SNR=6.3						
	comp=E,0.3nm,0.5s						
ASAR	**Alice Springs**	**62.23**	**189**	P	**P**	**21 49 41.8**	**-0.1**
	comp=E,0.1nm,0.4s,baz=11,slow=6.1,SNR=1.7						
	comp=E,0.1nm,0.4s						

DRS 07 21:45:48.5, 40°.48N×46°.80E, h39km, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**1.23**	**35**	*e*Pg	Pn	21 46 11.1	+1.9
	5.0nm,1.4s						
AKT				*e*Sg	Sn	21 46 30.8	+6.1
	16nm,0.4s						
AKT	**Akhty**	**1.23**	**35**	*e*Pg	Pn	21 46 10.6	+1.4
	5.0nm,1.4s						
AKT				*e*Sg	Sn	21 46 29.1	+4.5
	16nm,0.4s						
KSMR	**Kasumkent**	**1.51**	**41**	*e*Pg	Pn	21 46 16.1	+3.1
	13nm,1.4s						
KSMR				*e*Sg	Sn	21 46 39.2	+7.7
	27nm,0.5s						
KSMR	**Kasumkent**	**1.51**	**41**	*e*Pg	Pn	21 46 13.2	+0.1
	11nm,1.4s						
KSMR				*e*Sg	Sn	21 46 34.6	+3.1
	34nm,1.2s						
KMKR	**Kumukh**	**1.67**	**8**	*e*Pg	Pn	21 46 15.4	0.0
	7.0nm,1.2s						
KMKR				*e*Sg	Sn	21 46 37.9	+2.3
	13nm,0.2s						
KMKR	**Kumukh**	**1.67**	**8**	*e*Pg	Pn	21 46 15.0	-0.4
	6.0nm,1.6s						
KMKR				*e*Sg	Sn	21 46 37.7	+2.0
	13nm,0.2s						
URKR	**Urkarakh**	**1.80**	**20**	*e*Pg	Pn	21 46 19.0	+1.8
	6.0nm,1.2s						
URKR				*e*Sg	Sn	21 46 43.1	+4.3
	14nm,1.2s						
URKR	**Urkarakh**	**1.80**	**20**	*e*Pg	Pn	21 46 16.4	-0.7
	8.0nm,2.1s						
URKR				*e*Sg	Sn	21 46 40.4	+1.6
	21nm,0.1s						
GNBR	**Gunib**	**1.92**	**4**	*e*Pg	Pn	21 46 18.1	-0.5
	4.0nm,1.2s						
GNBR				*e*Sg	Sn	21 46 42.4	+0.8
	6.0nm,1.4s						
GNBR	**Gunib**	**1.92**	**4**	*e*Pg	Pn	21 46 17.9	-0.8
	4.0nm,1.8s						
GNBR				*e*Sg	Sn	21 46 42.8	+1.3
	9.0nm,1.8s						
DRN	**Derbent**	**1.93**	**36**	*e*Pg	Pn	21 46 18.1	-0.7
	64nm,1.7s						
DRN				*e*Sg	Sn	21 46 43.0	+1.2
	74nm,0.3s						
SGKR	**Sergokala**	**2.08**	**18**	*e*Pg	Pn	21 46 22.3	+1.4
	11nm,1.0s						
SGKR				*e*Sg	Sn	21 46 50.1	+4.4
	21nm,1.0s						

---

*IDC **07** 21:49:39.9±5.6, 36°.13N×71°.58E, h151km±51km, mb3.3/7, mbtmp3.8/11, Error ellipse: s-maj=41.5km s-min=24.3km az=30.0*
*NNC **07** 21:49:52.2±2.4, 37°.19N×71°.35E, h202km±30km, mb2.8, mpv3.9, Error ellipse: s-maj=23.5km s-min=13.5km az=9.0*

ISC 07 21:49:40.2±1.2, 36°.5N±0°.1×71°.7E±0°.1, h150km, n15, σ1$85/17, mb3.6/6, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.54**	**18**	P	Pn	21 51 19.0	+4.9
	5.8nm,0.3s,baz=168,slow=5.7,SNR=56						
AAK				S	**Sn**	**21 52 27.2**	**-0.6**
	8.4nm,0.6s,baz=134,slow=19,SNR=16						
KK31	**Karatay Array**	**6.71**	**352**	⇓P	**Pn**	**21 51 18.8**	**+2.6**
	6.4nm,0.3s,baz=172,slow=17,SNR=107						
KK31				⇑S	**Sn**	**21 52 27.7**	**-3.8**
	6.0nm,0.4s,baz=171,slow=20,SNR=12						
TKM2	**Tokmak 2**	**7.12**	**24**	⇑P	Pn	21 51 27.2	+5.2
	2.0nm,0.4s						
TKM2				⇑S	**Sn**	**21 52 43.0**	**+1.2**
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**13.00**	**34**	P	**P**	**21 52 44.2**	**+0.1**
	0.2nm,0.3s,baz=208,slow=9.0,SNR=9.8						
MKAR				S	**Sn**	**21 55 01.3**	**-1.8**
	0.6nm,0.5s,baz=168,slow=25,SNR=2.3						
AB31	**Akbulak array**	**15.41**	**330**	P	**P**	**21 53 08.7**	**-2.0**
	0.5nm,0.4s,baz=147,slow=12,SNR=25						
BVAR	**Borovoye Array**	**16.60**	**357**	P	**Pn**	**21 53 25.3**	**+1.4**
	0.7nm,0.4s,baz=155,slow=11,SNR=8.8				

RLMT IAML 21 53 38.0
comp=E,26nm,4.5s
YMP Mirror Lake Pl 3.96 294 Pg **Pg 21 51 42.2 -0.6**
YNE Yellowstone No 3.97 298 Pn 21 51 29.6 +0.5
LOHW Long Hollow 4.05 277 Pg 21 51 42.0 -2.4
LOHW IAML 21 52 41.1
comp=E,10nm,2.3s
H17A Grant Village 4.15 288 Pb 21 51 41.2 +0.4
H17A IAML 21 52 32.1
comp=E,8.2nm,0.4s
MOOW Moose Ponds 4.16 279 Pb 21 51 42.2 +1.2
FLWY Flagg Ranch 4.17 284 Pb 21 51 42.0 +0.8
FLWY IAML 21 52 42.9
comp=E,15nm,2.8s
RDMU Red Mountain 4.29 233 Pg 21 51 48.3 -0.7
RDMU IAML 21 52 56.6
comp=E,11nm,1.1s
RDMU IAML 21 52 58.1
comp=N,8.3nm,1.1s
FXWY Fox Creek 4.35 277 Pn **Pb 21 51 44.4 +0.1**
YHL Hebgen Lake 4.69 292 Pn **Pb 21 51 46.7 -3.4**
YHL IAML 21 53 04.3
comp=N,11nm,1.4s
YHL IAML 21 53 06.3
comp=E,9.3nm,1.2s
BOZ Bozeman (W) 5.25 299 Pn Pb 21 51 53.3 -6.3
BOZ IAML 21 53 45.1
comp=E,6.3nm,4.0s
EGMT Eagleton 5.80 327 Pn **Pn 21 51 54.6 +0.5**
I10CA LAC DU BONNET 9.32 39 I I 22 48 50.0
baz=224,slow=318,SNR=1.6
ULM Lac du Bonnet 9.43 39 Pn **Pn 21 52 44.4 +0.6**
comp=E,0.3nm,0.3s,baz=227,slow=12,SNR=2.1
comp=E,0.8nm,0.4s

---

*JMA **07** 21:55:23.4±0.2,43.°3N±0.°6×14.°7E±.°, h54km±1km,*
MV3.5/35,OFF NEMURO PENINSULA
*SKHL **07** 21:55:23.4±0.1,43.°30N×146.°70E,h42km±6km,mb4.7/2*
ISC 07 21:55:22.7±2.0,43.°25N±0.°09×146.°64E±0.°08,h46km±24km,
n15,σ0.°51/28,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.64**	**12**	*i* P	**Pn**	**21 55 35.8**	**+0.4**
SHO				AMB	AMB	21 55 36.2	
	200nm,0.2s						
SHO				*e*S	**Sn**	**21 55 44.6**	**0.0**
SHO				A	A	21 55 46.4	
	1μm,0.2s						
SHO				A	A	21 55 46.4	
	1μm,0.2s						
NEM2	**Nemuro 2**	**0.67**	**280**	P	**Pn**	**21 55 36.0**	**+0.2**
NEM2				*e*S	**Sn**	**21 55 45.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.68**	**281**	*i* P	**Pn**	**21 55 36.0**	**0.0**
NMR				*e*S	**Sn**	**21 55 45.4**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.97**	**324**	*e*P	**Pn**	**21 55 39.7**	**-0.2**
YUK				AMB	AMB	21 55 40.5	
	590nm,0.2s						
YUK				*e*S	**Sn**	**21 55 51.8**	**-0.7**
YUK				A	A	21 55 52.9	
	1μm,0.4s						
YUK				A	A	21 55 52.9	
	3μm,0.4s						
JKHN	**Kushirohamanak**	**1.10**	**262**	*e*P	**Pn**	**21 55 42.0**	**+0.4**
JKHN				*e*S	**Sn**	**21 55 55.5**	**-0.1**
JRA	**Rausu**	**1.30**	**302**	P	**Pn**	**21 55 44.7**	**+0.3**
JRA				S	**Sn**	**21 56 00.7**	**+0.1**
JNSB	**Nemuroshibetsu**	**1.30**	**294**	P	**Pn**	**21 55 44.5**	**+0.1**
JNSB				*e*S	**Sn**	**21 56 00.5**	**-0.2**
AKK	**Akkeshi**	**1.34**	**261**	*e*P	**Pn**	**21 55 45.3**	**+0.4**
JNK	**Nakash**	**1.44**	**284**	P	**Pn**	**21 55 46.0**	**-0.3**
JNK				S	**Sn**	**21 56 03.4**	**-0.7**
JAK	**Akkeshi**	**1.45**	**261**	*e*P	**Pn**	**21 55 46.4**	**0.0**
JAK				S	**Sn**	**21 56 03.3**	**-0.9**
JOB	**Onbets**	**2.09**	**261**	*e*P	**Pn**	**21 55 55.4**	**+0.3**
JOB				*e*S	**Sn**	**21 56 18.8**	**-1.0**
JAR	**Ashorobuto**	**2.10**	**272**	P	**Pn**	**21 55 55.9**	**+0.6**
JAR				*e*S	**Sn**	**21 56 20.1**	**-0.1**
JTKR	**Abashiri--Toko**	**2.11**	**291**	P	**Pn**	**21 55 56.3**	**+0.8**
JTKR				*e*S	**Sn**	**21 56 20.6**	**+0.1**
KUR	**Kuril'sk**	**2.17**	**23**	*e*P	**Pn**	**21 55 56.5**	**+0.2**
KUR				*e*S	**Sn**	**21 56 21.3**	**-0.7**
KUR				A	A	21 56 23.8	
	330nm,0.2s						
KUR				A	A	21 56 23.8	
	110nm,0.2s						
JMP	**Maruseppu**	**2.50**	**289**	P	**Pn**	**21 56 01.9**	**+1.0**

---

*NEIC **07** 21:56:35.3±1.4,10.°66S±0.°08×78.°51W±0.°06,h40km±8km,*
mb4.9/57,Error ellipse: s-maj=12.8km s-min=6.3km
az=150.0
*RSNC **07** 21:56:35.8±2.5,11.°S±10.°×7.°9W±1.°0,h39km,M4.4,mb4.7,*
mB5.1,mBc6.2,Mjma4.7,ML5.0,Ms(BB)4.3,Mw(mB)4.9,
MwMwp5.0,Mwp5.3,Hypocentre not reviewed by the ISC
*IDC **07** 21:56:37.0±0.5,10.°58S×78.°27W,h60km±3km,mb4.0/16,*
mbtmp4.3/18,MS3.7/26,Error ellipse: s-maj=19.5km
s-min=6.3km az=53.0
*VAO **07** 21:56:39.1±0.8,10.°62S×78.°13W,h69km±6km,mb5.1*
ISC 07 21:56:37.0±0.4,10.°61S±0.°05×78.°30W±0.°06,h60km±3km,
h60km:pP-P,n165,σ0.°98/157,mb4.7/39,MS3.9/23,1D,
Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.98**	**134**	P	**Pn**	**21 57 08.1**	**-0.1**
	152nm,0.3s,baz=328,slow=13,SNR=94						
NNA				S	**Sn**	**21 57 31.8**	**-0.2**
	2μm,0.3s,baz=203,slow=23,SNR=12						
ATAH	**Atahualpa**	**3.46**	**358**	P	**Pn**	**21 57 31.7**	**+2.9**
	117nm,0.3s,baz=130,slow=1.6,SNR=226						
ATAH				S	**Sn**	**21 58 05.5**	**-3.2**
	192nm,0.6s,baz=256,slow=23,SNR=4.9						
ATAH				LR	LR	21 58 44.4	
	comp=Z,267nm,21.8s,baz=183,slow=37						
CZSB	**Cruzeiro do Su**	**6.22**	**63**	Pn	**Pn**	**21 58 07.3**	**+1.0**
CZSB	**Cruzeiro do Su**	**6.22**	**63**	*e*P	**Pn**	**21 58 06.5**	**+0.2**
CZSB				*e*S	**Sn**	**21 59 16.1**	**0.0**
TBTG	**Tabatinga, AM**	**10.48**	**53**		**Pn**	**21 59 05.3**	**+0.6**
TBTG	**Tabatinga, AM**	**10.48**	**53**	*e*P	**Pn**	**21 59 05.3**	**+0.6**
OTAV	**Otavalo**	**10.78**	**359**	*e*P	**Pn**	**21 59 11.1**	**+1.9**
LPAZ	**La Paz**	**11.38**	**121**	P	**Pn**	**21 59 17.1**	**-0.5**
	1.5nm,0.7s,baz=336,slow=8.7,SNR=5.1						
LPAZ	**La Paz**	**11.38**	**121**	*e*P	**Pn**	**21 59 17.0**	**-0.5**
TEFE	**Tefe**	**15.28**	**63**	*e*P	**Pn**	**22 00 07.9**	**-1.3**
ROSC	**El Rosal**	**15.85**	**15**	P	**P**	**22 00 22.0**	**+2.4**
	7.6nm,0.3s,baz=132,slow=5.7,SNR=8.4						
ROSC				LR	LR	22 07 46.8	
	comp=Z,330nm,18.3s,baz=207,slow=42						
SIV	**San Ignacio**	**17.59**	**110**	P	**Pn**	**22 00 38.3**	**+0.1**
	21nm,0.9s,baz=286,slow=11,SNR=54						
SIV				LR	LR	22 07 54.4	
	comp=Z,286nm,19.9s,baz=289,slow=39						
VILB	**Vilhena**	**17.87**	**99**	*e*P	**Pn**	**22 00 41.9**	**+0.3**
MACA	**Manacapuru-AM**	**18.98**	**68**	P	**P**	**22 00 54.2**	**+0.5**
MACA	**Manacapuru-AM**	**18.98**	**68**	*e*P	**Pn**	**22 00 54.6**	**-0.4**
PTLB	**Pontes e Lacer**	**19.27**	**106**	P	**P**	**22 00 57.4**	**+0.4**
PTLB	**Pontes e Lacer**	**19.27**	**106**	*e*P	**P**	**22 00 57.3**	**+0.4**
LCO	**Las Campanas**	**19.64**	**160**	P	**Pn**	**22 01 02.5**	**-0.5**
GO04	**Tololo Observa**	**20.68**	**161**	P	**P**	**22 01 09.8**	**-2.6**
GO04				IAmb	IAmb	22 01 10.9	
	comp=Z,39nm,0.5s						
SDV	**Santo Domingo**	**20.82**	**22**	P	**P**	**22 01 15.2**	**+1.2**
SDV				IAmb	IAmb	22 01 16.5	
	comp=Z,42nm,0.9s						
SDV	**Santo Domingo**	**20.82**	**22**	P	**P**	**22 01 13.9**	**0.0**
	comp=Z,37nm,0.9s,baz=209,slow=9.5,SNR=39						
SDV				LR	LR	22 11 12.3	
	comp=Z,315nm,18.4s,baz=248,slow=42						
	comp=Z,37nm,0.9s						
SDV	**Santo Domingo**	**20.82**	**22**	*e*P	**P**	**22 01 14.4**	**+0.5**
CO06	**Fray Jorge**	**20.90**	**164**	P	**P**	**22 01 13.2**	**-1.3**
PDRB	**Porto dos Gac**	**21.19**	**95**	*e*P	**P**	**22 01 17.5**	**-0.3**
CO03	**El Pedregal**	**21.33**	**162**	P	**P**	**22 01 18.7**	**-0.5**
JTS	**Las Juntas de**	**21.80**	**342**	LR	LR	22 09 26.7	
	comp=Z,54nm,18.5s,baz=90,slow=35						
BOAV	**Boa Vista**	**21.91**	**55**	P	**P**	**22 01 26.3**	**+0.9**
BOAV				IAmb	IAmb	22 01 27.7	
	comp=Z,33nm,1.0s						
BOAV	**Boa Vista**	**21.91**	**55**	*e*P	**P**	**22 01 26.1**	**+0.6**
BAUV	**El Baul**	**21.95**	**28**	P	**P**	**22 01 27.1**	**+1.3**
CLDB	**Colider**	**22.11**	**93**	*e*P	**P**	**22 01 26.8**	**-0.8**
PANT	**Pantanal (Braz**	**22.54**	**114**	*e*P	**P**	**22 01 33.2**	**+1.0**
SALV	**Santo Antonio**	**22.61**	**106**	*e*P	**P**	**22 01 31.9**	**-1.1**
H03N2	**Juan Fernandez**	**22.73**	**181**	T	T	22 25 39.5	
	baz=0.8,slow=75,SNR=488						
H03N1	**Juan Fernandez**	**22.73**	**181**	T	T	22 25 38.9	
	baz=0.8,slow=75,SNR=513						
H03N3	**Juan Fernandez**	**22.74**	**181**	T	T	22 25 37.7	
	baz=0.8,slow=75,SNR=460						
BDQN	**Bodoquena, MS**	**22.92**	**118**	*e*P	**P**	**22 01 35.3**	**-0.9**
NPGB	**Novo Progresso**	**22.94**	**83**	*e*P	**P**	**22 01 35.1**	**-1.4**
ITTB	**Itaituba**	**23.20**	**76**	*e*P	**P**	**22 01 38.6**	**-0.5**
MT02	**Curacav**	**23.48**	**165**	P	**P**	**22 01 42.7**	**+1.2**
MT02				IAmb	IAmb	22 02 00.2	
	comp=Z,57nm,1.5s						
AQDB	**Aquidauana**	**23.85**	**117**	*e*P	**P**	**22 01 46.3**	**+1.4**
MT08	**Bocatoma Ro**	**23.96**	**163**	P	**P**	**22 01 48.7**	**+2.5**
PCRV	**Puerto La Cruz**	**24.72**	**34**	LR	LR	22 13 04.1	
	comp=Z,484nm,19.5s,slow=40						
CPUP	**Villa Florida**	**25.23**	**131**	P	**P**	**22 01 58.3**	**+0.8**
CPUP	**Villa Florida**	**25.23**	**131**	P	**P**	**22 01 59.0**	**+1.5**
	comp=Z,9.2nm,0.8s,baz=316,slow=11,SNR=24						
	comp=Z,9.2nm,0.8s						
CPUP	**Villa Florida**	**25.23**	**131**	*e*P	**P**	**22 01 59.3**	**+1.8**
MAL2	**Monte Alegre,**	**25.42**	**72**	P	**P**	**22 02 00.8**	**+1.5**
MAL2				IAmb	IAmb	22 02 01.7	
	comp=Z,53nm,1.2s						
RPRD	**Ribas do Rio P**	**25.61**	**115**	*e*P	**P**	**22 02 02.1**	**+1.0**
ARAG	**Araguaiana, MT**	**26.27**	**104**	*e*P	**P**	**22 02 06.2**	**-0.8**
SNDB	**Serra Nova Dou**	**26.51**	**96**	*e*P	**P**	**22 02 09.3**	**+0.1**
BI02	**San Fabin de**	**26.70**	**167**	P	**P**	**22 02 10.4**	**-0.3**
ITRB	**Iturama**	**28.40**	**112**	*e*P	**P**	**22 02 26.7**	**+0.5**
PTGB	**Pitanga**	**28.59**	**123**	*e*P	**P**	**22 02 28.0**	**+0.2**
LDASE	**Londrina, Braz**	**28.87**	**120**	*e*P	**P**	**22 02 30.7**	**+0.5**
BDFB	**Brasilia**	**29.89**	**103**	P	**P**	**22 02 39.1**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=268,slow=9.1,SNR=9.1						
BDFB				LR	LR	22 15 36.8	
	comp=Z,256nm,19.5s,slow=38						
	comp=Z,7.9nm,0.9s						
MDP	**Montagnes des**	**29.94**	**60**	LR	LR	22 15 21.7	
	comp=Z,456nm,18.0s,baz=300,slow=38						
IPMB	**Ipameri, GO**	**30.03**	**108**	*e*P	**P**	**22 02 39.4**	**-1.3**
FRTB	**Fartura**	**30.18**	**118**	*e*P	**P**	**22 02 41.2**	**-0.7**
SMTB	**Santa Maria do**	**30.31**	**89**	*e*P	**P**	**22 02 43.4**	**+0.3**
CELP	**Cerrillos**	**30.76**	**22**	P	**P**	**22 02 47.9**	**+1.0**
CELP				IAmb	IAmb	22 02 48.5	
	comp=Z,16nm,0.8s						
PLCA	**Paso Flores**	**30.77**	**168**	P	**P**	**22 02 46.6**	**-0.3**
	comp=Z,7.2nm,1.0s,baz=348,slow=11,SNR=11						
PLCA				pP	**pP**	**22 03 03.0**	**+1.4**
	comp=Z,10.0nm,1.1s,baz=337,slow=11,SNR=8.3						
	comp=Z,7.2nm,1.0s						
PLCA	**Paso Flores**	**30.77**	**168**	*e*P	**P**	**22 02 47.1**	**+0.1**
PLCA	**Paso Flores**	**30.77**	**168**	P	**P**	**22 02 47.0**	**+0.1**
PLCA				pP	**pP**	**22 03 02.6**	**+1.0**
PDPR	**Patillas Dam,**	**30.92**	**23**	P	**P**	**22 02 48.5**	**+0.2**
AOPR	**Arecibo Observ**	**30.95**	**22**	P	**P**	**22 02 49.1**	**+0.5**
AOPR				IAmb	IAmb	22 02 49.8	
	comp=Z,31nm,0.9s						
SJG	**San Juan**	**30.96**	**23**	P	**P**	**22 02 48.7**	**+0.1**
SJG				IAmb	IAmb	22 02 49.2	
	comp=Z,16nm,0.8s						
TRQA	**Tornquist**	**31.00**	**154**	P	P	22 02 55.1	+6.1
TMAB	**Tom-Àu,PA,Br**	**31.08**	**77**	*e*P	**P**	**22 02 46.7**	**-3.1**
HUMP	**Col San Antoni**	**31.10**	**23**	P	**P**	**22 02 50.7**	**+0.8**
SDBA	**SAO DESIDERIO**	**32.76**	**96**	*e*P	**P**	**22 03 04.0**	**-0.7**
JANB	**Januaria**	**33.41**	**101**	*e*P	**P**	**22 03 09.8**	**-0.6**
PARB	**Paraibuna**	**33.62**	**116**	*e*P	**P**	**22 03 12.4**	**+0.3**
BSFB	**Barra de Sao F**	**37.07**	**107**	*e*P	**P**	**22 03 41.0**	**-0.7**
RIB01	**Linhares ES**	**37.56**	**108**	*e*P	**P**	**22 03 45.4**	**-0.4**
CMC01	**Camacan, BA**	**38.04**	**101**	*e*P	**P**	**22 03 49.2**	**-0.8**
NBPB	**Pedra_Branca-C**	**38.64**	**86**	*e*P	**P**	**22 03 55.3**	**+0.2**
NBLA	**Lagarto - SE**	**39.77**	**94**	*e*P	**P**	**22 04 03.6**	**-0.8**
NBLV	**Livramento - P**	**40.98**	**89**	*e*P	**P**	**22 04 15.2**	**+0.7**
NBAN	**Anadia - AL**	**41.36**	**93**	*e*P	**P**	**22 04 17.1**	**-0.5**
NBCA	**Caruaru-PE**	**41.76**	**90**	*e*P	**P**	**22 04 20.4**	**-0.5**
RCBR	**Riachuelo**	**42.20**	**87**	LR	LR	22 22 30.4	
	comp=Z,92nm,18.1s,baz=248,slow=37						
USHA	**Ushuaia**	**44.80**	**172**	LR	LR	22 20 23.2	
	comp=Z,53nm,21.4s,baz=31,slow=32						
TXAR	**Lajitas Array**	**46.65**	**329**	P	**P**	**22 04 59.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=133,slow=7.3,SNR=7.0						
TXAR				pP	**pP**	**22 05 16.0**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=154,slow=9.7,SNR=4.4						
	comp=Z,1.0nm,0.7s						
WVT	**Waverly**	**47.35**	**349**	P	**P**	**22 05 02.7**	**-2.4**
WVT				pP	**pP**	**22 05 18.7**	**-1.8**
T57A	**Hurt**	**47.37**	**359**	P	**P**	**22 05 05.2**	**+0.1**
T57A				IAmb	IAmb	22 05 05.7	
	comp=Z,9.1nm,0.8s						
FCAR	**Ozark Folk Cen**	**48.06**	**345**	P	**P**	**22 05 11.6**	**+1.1**
FCAR				IAmb	IAmb	22 05 19.5	
	comp=Z,15nm,1.1s						
APMT	**Aspermont**	**48.39**	**335**	P	**P**	**22 05 11.8**	**-1.4**
APMT				IAmb	IAmb	22 05 14.5	
	comp=Z,8.9nm,0.7s						
CCM	**Cathedral Cave**	**49.91**	**347**	P	**P**	**22 05 24.5**	**-0.1**
CCM				pP	**pP**	**22 05 39.9**	**-0.3**
ANMO	**Albuquerque**	**52.58**	**331**	P	**P**	**22 05 45.5**	**+0.5**
ANMO				pP	**pP**	**22 06 01.9**	**+1.3**
SCIA	**State Center**	**54.03**	**346**	P	**P**	**22 05 55.4**	**+0.1**
PDAR	**Pinedale Array**	**60.33**	**334**	P	**P**	**22 06 40.3**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=144,slow=8.6,SNR=2.9						
PDAR				pP	**pP**	**22 06 55.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=155,slow=3.0,SNR=2.8						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**61.43**	**325**	P	**P**	**22 06 47.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=145,slow=8.3,SNR=4.8						
	comp=Z,0.5nm,0.5s						
DRLN	**Deer Lake**	**62.36**	**15**	P	**P**	**22 06 53.9**	**+0.7**
DRLN				IAmb	IAmb	22 06 54.4	
	comp=Z,13nm,0.8s						
ULM	**Lac du Bonnet**	**62.52**	**347**	P	**P**	**22 06 53.3**	**-1.1**
ULM				IAmb	IAmb	22 07 11.4	
	comp=Z,12nm,1.0s						
ULM	**Lac du Bonnet**	**62.52**	**347**	P	**P**	**22 06 53.3**	**-1.1**
	comp=Z,4.1nm,0.8s,baz=166,slow=6.6,SNR=10						
ULM				pP	**pP**	**22 07 09.5**	**-0.9**
	comp=Z,7.3nm,0.9s,baz=165,slow=5.7,SNR=7.9						
	comp=Z,4.1nm,0.8s						
SCHQ	**Schefferville**	**65.91**	**7**	P	**P**	**22 07 16.0**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=220,slow=7.9,SNR=4.3						
SCHQ				pP	**pP**	**22 07 31.8**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=169,slow=5.1,SNR=4.6						
SCHQ				LR	LR	22 36 25.4	
	comp=Z,42nm,20.9s,baz=332,slow=36						
	comp=Z,2.7nm,0.9s						
BBTS	**Babate**	**66.16**	**69**	LR	LR	22 33 59.6	
	comp=Z,69nm,20.8s,baz=143,slow=34						
PPT	**Papeete**	**69.15**	**255**	LR	LR	22 31 45.8	
	comp=Z,75nm,18.3s,baz=222,slow=30						
FRB	**Frobisher Bay**	**74.51**	**4**	LR	LR	22 43 36.5	
	comp=Z,49nm,18.7s,slow=38						
DBIC	**Dimbokro**	**75.10**	**80**	P	**P**	**22 08 13.9**	**+0.6**
DBIC				IAmb	IAmb	22 08 31.9	
	comp=Z,12nm,0.9s						
DBIC	**Dimbokro**	**75.10**	**80**	P	**P**	**22 08 13.2**	**-0.1**
	comp=Z,7.9nm,0.8s,baz=256,slow=5.1,SNR=11						
DBIC				pP	**pP**	**22 08 30.9**	**+1.2**
	comp=Z,10nm,0.9s,baz=234,slow=4.0,SNR=6.5						
DBIC				LR	LR	22 38 53.9	
	comp=Z,101nm,20.3s,baz=263,slow=34						
	comp=Z,7.9nm,0.8s						
SNAA	**Sanae**	**75.42**	**162**	P	**P**	**22 08 14.4**	**+0.2**
SNAA	**Sanae**	**75.42**	**162**	P	**P**	**22 08 14.4**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=338,slow=6.2,SNR=5.1						
SNAA				pP	**pP**	**22 08 31.2**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=278,slow=11,SNR=2.9						
	comp=Z,2.1nm,0.7s						
BBB	**Bella Bella**	**75.74**	**331**	P	**P**	**22 08 17.7**	**+1.6**
YKAB2	**New Yellowknif**	**78.07**	**344**	P	**P**	**22 08 28.8**	**-0.3**
YKA	**Yellowknife Ar**	**78.12**	**344**	P	**P**	**22 08 28.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=146,slow=6.0,SNR=19						
YKA				pP	**pP**	**22 08 45.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=147,slow=5.9,SNR=8.6						
	comp=Z,1.1nm,0.5s						
RAR	**Rarotonga**	**78.36**	**250**	LR	LR	22 34 16.4	
	comp=Z,31nm,20.3s,baz=269,slow=29						
QSPA	**South Pole Qui**	**79.51**	**180**	P	**P**	**22 08 37.3**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=71,slow=4.1,SNR=4.8						
	comp=Z,4.1nm,0.8s						
SFJD	**Kangerlussuaq**	**79.98**	**11**	LR	LR	22 42 54.8	
	comp=Z,55nm,21.7s,baz=181,slow=35						
MDT	**Midelt**	**82.31**	**55**	LR	LR	22 42 01.6	
	comp=Z,67nm,21.5s,baz=304,slow=33						
TORD	**Torodi Ar. Bea**	**82.81**	**75**	P	**P**	**22 08 55.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**82.81**	**75**	P	**P**	**22 08 55.1**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=290,slow=5.1,SNR=30						
TORD				pP	**pP**	**22 09 13.0**	**+0.8**
	comp=Z,5.9nm,0.9s,baz=284,slow=4.3,SNR=12						
	comp=Z,5.3nm,0.9s						
ESDC	**Sonseca Array**	**84.92**	**48**	P	**P**	**22 09 07.2**	**+1.3**
ESDC	**Sonseca Array**	**84.92**	**48**	P	**P**	**22 09 06.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=252,slow=5.1,SNR=11						
ESDC				LR	LR	22 44 43.8	
	comp=Z,66nm,18.4s,baz=251,slow=34						
	comp=Z,1.7nm,0.9s						
VNDA	**Vanda**	**85.86**	**191**	LR	LR	22 38 58.7	
	comp=Z,48nm,20.0s,baz=178,slow=30						
M29M	**Somme Creek**	**86.25**	**336**	P	**P**	**22 09 12.2**	**+0.2**
M29M				IAmb	IAmb	22 09 30.4	
	comp=Z,5.1nm,0.9s						
L29M	**L29M**	**86.46**	**337**	P	**P**	**22 09 13.2**	**+0.2**
L29M				IAmb	IAmb	22 09 31.6	
	comp=Z,5.3nm,0.9s						
J30M	**Hart River**	**86.58**	**338**	P	**P**	**22 09 14.9**	**+1.3**
J30M				IAmb	IAmb	22 10 42.8	
	comp=Z,16nm,1.9s						
H31M	**Peel River**	**86.58**	**340**	P	**P**	**22 09 13.2**	**-0.2**
H31M				IAmb	IAmb	22 09 46.0	
	comp=Z,27nm,1.9s						
K29M	**Barlow Dome**	**86.62**	**338**	P	**P**	**22 09 13.7**	**-0.1**
I30M	**Mount Dempster**	**86.95**	**339**	P	**P**	**22 09 15.7**	**+0.3**
I30M				IAmb	IAmb	22 09 39.6	
	comp=Z,6.6nm,1.2s						
G31M	**Satah River**	**87.21**	**341**	P	**P**	**22 09 16.4**	**0.0**
G31M				IAmb	IAmb	22 09 34.1	
	comp=Z,5.1nm,0.9s						
F31M	**Tsiigehtchic**	**87.34**	**341**	P	**P**	**22 09 16.9**	**-0.1**
DAWY	**Dawson**	**87.44**	**337**	P	**P**	**22 09 17.4**	**-0.3**
M27K	**Edge Creek, AK**	**87.58**	**335**	P	**P**	**22 09 18.4**	**-0.1**
M27K				IAmb	IAmb	22 09 37.2	
	comp=Z,5.5nm,1.0s						
L27K	**Beaver Creek,**	**87.90**	**336**	P	**P**	**22 09 20.1**	**+0.2**
L27K				IAmb	IAmb	22 09 38.6	
	comp=Z,4.4nm,0.8s						
GLB	**Gilahina Butte**	**87.97**	**334**	P	**P**	**22 09 20.5**	**+0.2**
GLB				IAmb	IAmb	22 11 06.6	
	comp=Z,18nm,1.7s						
A36M	**Sachs Harbour**	**88.00**	**347**	P	**P**	**22 09 19.4**	**-0.7**
A36M				IAmb	IAmb	22 09 37.1	
	comp=Z,4.1nm,0.8s						
G29M	**Pine Creek**	**88.43**	**340**	P	**P**	**22 09 22.0**	**-0.3**
G29M				IAmb	IAmb	22 09 40.1	
	comp=Z,5.9nm,0.8s						
SYO	**Syowa Base**	**89.72**	**161**	↓*e*P	**P**	**22 09 26.4**	**-2.0**
ILAR	**Eielson Array**	**90.66**	**336**	P	**P**	**22 09 30.9**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=139,slow=3.2,SNR=6.0						
ILAR				pP	**pP**	**22 09 48.4**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=141,slow=2.4,SNR=6.4						
	comp=Z,0.5nm,0.8s						
TRF	**Thorofare Moun**	**91.54**	**335**	P	**P**	**22 09 37.0**	**-0.1**
STLK	**Strandline Lak**	**91.54**	**333**	P	**P**	**22 09 38.7**	**+1.7**
E25K	**Arctic Village**	**91.56**	**340**	P	**P**	**22 09 37.4**	**+0.5**
E25K				IAmb	IAmb	22 11 51.6	
	comp=Z,12nm,1.9s						
SKT	**Skwentna**	**91.57**	**333**	P	**P**	**22 09 38.0**	**+1.0**
G24K	**Hadweenzic Riv**	**91.65**	**338**	P	**P**	**22 09 37.8**	**+0.5**
I23K	**Minto, Yukon-K**	**91.78**	**336**	P	**P**	**22 09 37.0**	**-0.9**
KTH	**Kantishna Hill**	**91.84**	**335**	P	**P**	**22 09 38.3**	**0.0**
SUR	**Sutherland**	**91.96**	**123**	LR	LR	22 48 22.0	
	comp=Z,32nm,20.3s,baz=252,slow=34						
TSUM	**Tsumeb**	**92.03**	**110**	LR	LR	22 47 54.6	
	comp=Z,23nm,20.5s,baz=264,slow=33						
BPAW	**Bear Paw Mtn.**	**92.06**	**335**	P	**P**	**22 09 38.5**	**-0.8**
F24K	**Squaw Lake**	**92.12**	**339**	P	**P**	**22 09 39.6**	**+0.1**
F24K				IAmb	IAmb	22 09 58.5	
	comp=Z,4.0nm,1.1s						
PPLA	**Purkeypile**	**92.16**	**334**	P	**P**	**22 09 39.4**	**-0.5**
CAST	**Castle Rocks**	**92.29**	**334**	P	**P**	**22 09 39.7**	**-0.6**
CAST				IAmb	IAmb	22 09 58.0	
	comp=Z,5.2nm,0.9s						
J20K	**Nowinta River**	**93.39**	**335**	P	**P**	**22 09 44.4**	**-1.0**
KEST	**Kesra**	**94.22**	**55**	LR	LR	22 51 47.3	
	comp=Z,46nm,18.9s,baz=283,slow=35						
URZ	**Urewera**	**94.71**	**230**	LR	LR	22 42 53.3	
	comp=Z,45nm,20.7s,baz=146,slow=29	

ESO	Esso	3.47	344	eP		Pn	22 12 00.1 +1.9
KBTR	Krutoberegovo	3.88	21	eP		Pn	22 12 08.5 +4.7
SMKR	Semkarok	4.03	9	eP		Pn	22 12 09.0 +2.9
MA2	Magadan	8.80	326	LR		LR	22 16 44.0
	comp=Z,42nm,18.6s,baz=111,slow=38						
HEH	HeiHe	20.59	277	eP		Pn	22 15 48.7 +3.8
H11N2	WAKE ISLAND Hy	33.20	169	T		T	22 53 01.9
	baz=353,slow=74						
H11N3	WAKE ISLAND Hy	33.22	169	T		T	22 53 43.8
	baz=353						
H11N1	WAKE ISLAND Hy	33.22	169	T		T	22 53 04.6
	baz=353,slow=74						
H11S1	WAKE ISLAND Hy	34.39	169	T		T	22 55 29.1
	baz=351,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	34.40	169	T		T	22 55 33.3
	baz=351,slow=76,SNR=19						
H11S2	WAKE ISLAND Hy	34.41	169	T		T	22 55 30.9
	baz=351,slow=76,SNR=6.6						
KURBB	Kurchatov Arra	48.24	302	P		P	22 19 42.9 -1.0
	0.6nm,0.2s,baz=61,slow=7.4,SNR=1.4						
	0.6nm,0.2s						
MKAR	Makanchi Array	48.52	296	P		P	22 19 43.8 -2.4
	0.3nm,0.5s,baz=55,slow=7.7,SNR=5.1						
	0.3nm,0.5s						
BVAR	Borovoye Array	50.82	309	P		P	22 20 02.0 -1.6
	0.5nm,0.4s,baz=66,slow=7.0,SNR=5.6						
	0.5nm,0.4s						
ARCES	ARCESS Array B	53.80	342	P		P	22 20 23.2 -2.3
	2.6nm,0.8s,baz=31,slow=11,SNR=2.1						
	2.6nm,0.8s						
FINES	FINESS Array B	60.63	337	P		P	22 21 13.5 -0.3
	1.4nm,0.7s,baz=35,slow=7.0,SNR=8.0						
	1.4nm,0.7s						
TXAR	Lajitas Array	70.67	67	P		P	22 22 20.3 +1.1
	0.3nm,0.6s,baz=308,slow=2.5,SNR=3.5						
	0.3nm,0.6s						
MLR	Muntele Rosu	74.75	329	LR		LR	23 00 17.8
	comp=Z,77nm,18.6s,baz=320,slow=39						

SJA 07 22:15:14.0, 32.°03S×70.°31W, h133km, ML3.1
GUC 07 22:15:15.6±0.9, 32.°02S×70.°38W, h118km±4km, ML3.1
ISC 07 22:15:14.4±1.6, 32.°01S±0.°03×70.°32W±0.°05, h131km±11km, n53, σ0°68/78, 12D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	San Esteban	0.78	194	iP		Pn	22 15 35.1 -0.6
VA03	San Esteban	0.78	194	⇓iP		Pn	22 15 35.8 +0.1
VA03				eS		Sn	22 15 50.9 -0.9
VA03				IAML			22 15 52.5
	comp=E,2μm,0.1s						
RTLS	Leoncito	0.90	77	iP		Pn	22 15 36.1 -0.8
VA06	Catapilco	0.99	236	⇓iP		Pn	22 15 37.3 0.0
VA06				eS		Sn	22 15 53.8 -1.0
VA06				IAML			22 15 56.2
	comp=N,457nm,0.2s						
ROCH	El Roble	1.12	211	⇓iP			22 15 39.1
ROCH				⇓iP		Pn	22 15 39.1 +0.2
ROCH				eS		Sn	22 15 57.0 -0.4
ROCH				eS			22 15 57.1
ROCH				IAML			22 16 00.4
	comp=N,538nm,0.4s						
ROCH				IAML			22 16 00.4
	comp=N,260nm,0.5s						
PEL	Peldehue	1.17	195	eP		Pn	22 15 39.1 0.0
PEL				eS		Sn	22 15 57.6 -0.4
PEL				IAML			22 15 58.1
	comp=N,458nm,0.2s						
CO03	El Pedregal	1.21	345	iP		Pn	22 15 39.8 +0.1
CO03	El Pedregal	1.21	345	eP		Pn	22 15 40.4 +0.7
CO03				eS		Sn	22 15 58.7 0.0
CO03				IAML			22 16 01.1
	comp=E,297nm,0.2s						
MT10	Hacienda Santa	1.27	188	⇓iP		Pn	22 15 41.0 +0.7
MT10				eS		Sn	22 16 00.3 +0.2
MT10				IAML			22 16 02.1
	comp=N,1μm,0.6s						
FCH	Farellones	1.31	179	eP		Pn	22 15 41.8 +0.8
FCH				eS		Sn	22 16 01.9 +0.7
FCH				IAML			22 16 03.2
	comp=E,396nm,0.3s						
ASAL	Salagasta	1.39	115	iP		Pn	22 15 41.7 +0.2
MT14	Cerro Calın	1.39	187	eP		Pn	22 15 42.2 +0.7
MT14				eS		Sn	22 16 02.6 +0.4
MT14				IAML			22 16 08.1
	comp=E,533nm,0.7s						
MT04	Ro Olivares	1.40	174	iP		Pn	22 15 42.3 +0.6
MT04	Ro Olivares	1.40	174	eP		Pn	22 15 42.5 +0.8
MT04				eS		Sn	22 16 03.2 +0.6
MT04				IAML			22 16 07.5
	comp=N,204nm,0.3s						
MT05	Renca	1.42	194	iP		Pn	22 15 41.8 -0.1
MT05	Renca	1.42	194	eP		Pn	22 15 42.3 +0.4
MT05				eS		Sn	22 16 03.0 +0.3
MT05				IAML			22 16 04.5
	comp=E,1μm,0.3s						
MT02	Curacav	1.42	209	iP		Pn	22 15 41.0 -0.7
MT02	Curacav	1.42	209	eP		Pn	22 15 41.8 0.0
MT02				eS		Sn	22 16 02.2 -0.4
MT02				IAML			22 16 04.3
	comp=N,131nm,0.2s						
MT16	CCHEN	1.43	187	⇓iP		Pn	22 15 42.5 +0.6
MT16				iS		Sn	22 16 03.1 +0.3
MT16				IAML			22 16 04.6
	comp=N,192nm,0.2s						
ARCO	CERRO ARCO	1.44	126	iP		Pn	22 15 42.8 +0.6
MT08	Bocatoma Ro	1.45	170	iP		Pn	22 15 43.1 +0.7
MT08	Bocatoma Ro	1.45	170	⇓iP		Pn	22 15 43.5 +1.1
MT08				iS		Sn	22 16 04.1 +0.4
MT08				IAML			22 16 12.2
	comp=N,76nm,0.5s						
ZON	Zonda	1.47	72	iP		Pn	22 15 41.1 -1.3
MT03	Universidad Ad	1.49	186	iP		Pn	22 15 42.8 +0.2
MT03	Universidad Ad	1.49	186	⇓iP		Pn	22 15 43.4 +0.8
MT03				eS		Sn	22 16 04.4 +0.3
MT03				IAML			22 16 06.3
	comp=E,785nm,0.2s						
VA01	Torpederas	1.51	228	iP		Pn	22 15 42.5 -0.1
VA01	Torpederas	1.51	228	iP		Pn	22 15 43.0 +0.3
VA01				eS		Sn	22 16 03.7 -0.5
VA01				IAML			22 16 04.9
	comp=E,233nm,0.1s						
AAGR	Agrelo	1.66	131	iP		Pn	22 15 45.6 +1.1
MT12	Pirque	1.73	186	iP		Pn	22 15 45.6 +0.3
MT12				iS		Sn	22 16 09.3 +0.4
MT12				IAML			22 16 12.0
	comp=N,295nm,0.2s						
MT13	San Alfonso	1.73	179	iP		Pn	22 15 46.0 +0.6
MT13	San Alfonso	1.73	179	iP		Pn	22 15 46.5 +1.1
MT13				eS		Sn	22 16 09.3 +0.3
MT13				IAML			22 16 10.8
	comp=N,302nm,0.2s						
CO06	Fray Jorge	1.74	320	eP		Pn	22 15 46.9 +1.5
CO06				eS		Sn	22 16 09.0 0.0
CO06				IAML			22 16 29.2
	comp=E,58nm,0.2s						
ACCO	Cerro Coronel	1.78	38	iP		Pn	22 15 46.3 +0.1
LMEL	Las Melosas	1.84	177	iP		Pn	22 15 47.3 +0.7
LMEL	Las Melosas	1.84	177	eP		Pn	22 15 47.7 +1.0
LMEL				eS		Sn	22 16 12.6 +1.2
LMEL				IAML			22 16 16.6
	comp=N,330nm,0.1s						
MT09	Talagante	1.85	197	⇓iP		Pn	22 15 46.8 +0.1
MT09				eS		Sn	22 16 10.7 -0.9
MT09				IAML			22 16 15.2
	comp=N,204nm,0.2s						
GO04	Tololo Observa	1.88	347	iP		Pn	22 15 47.3 0.0
GO04	Tololo Observa	1.88	347	⇓iP		Pn	22 15 47.8 +0.5
GO04				iS		Sn	22 16 11.7 -0.7
GO04				IAML			22 16 16.4
	comp=N,487nm,0.4s						
AROD	Rodeo	1.98	22	iP		Pn	22 15 49.9 +1.3
BO04	La Punta	1.99	187	⇓iP		Pn	22 15 48.8 +0.4
BO04				eS		Sn	22 16 14.4 -0.1
BO04				IAML			22 16 15.2
	comp=E,145nm,0.3s						
MT01	Popeta	2.01	203	iP		Pn	22 15 48.0 -0.5
MT01	Popeta	2.01	203	eP		Pn	22 15 48.7 +0.2
MT01				eS		Sn	22 16 13.5 -1.3
MT01				IAML			22 16 15.1
	comp=E,173nm,0.1s						
CO01	Juntas del Tor	2.04	6	iP		Pn	22 15 50.2 +1.0
ACDV	Cuesta del Vie	2.10	30	iP		Pn	22 15 50.8 +0.9
BO01	Tunca	2.46	195	iP		Pn	22 15 53.5 -0.6
BO01	Tunca	2.46	195	⇓iP		Pn	22 15 54.2 0.0
BO01				eS		Sn	22 16 23.5 -1.3
BO01				IAML			22 16 25.0
	comp=N,80nm,0.2s						
BO02	Sierra Bellavi	2.80	188	iP		Pn	22 15 58.6 0.0
BO02	Sierra Bellavi	2.80	188	iP		Pn	22 15 59.2 +0.6
BO02				eS		Sn	22 16 32.5 -0.2
BO02				IAML			22 16 36.0
	comp=N,135nm,0.3s						
AGUA	GUANDACOL	2.97	33	iP		Pn	22 16 01.7 +0.9
LCO	Las Campanas	3.01	354	iP		Pn	22 16 01.4 -0.1
RFA	San Rafael	3.16	151	iP		Pn	22 16 02.9 -0.3
APLL	PUNTA DE LOS L	3.63	65	iP		Pn	22 16 08.4 -1.0
ACLC	CERRO LA CRUZ	3.88	49	iP		Pn	22 16 12.1 -0.8

CATAC 07 22:23:40.9±0.8, 13.°N×88.°9W±.°, h32km±9km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=18.8km s-min=5.4km az=24.1, rejected
SNET 07 22:23:41.0±1.0, 12.°89N×88.°68W, h45km±21km, ML3.7
ISC 07 22:23:40.5±1.6, 12.°81N±0.°10×88.67W±0.°05, h42km±50km, n62, σ0°70/70, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	Tecapa	0.70	13	eP		Pn	22 23 54.2 0.0
TECA				eP		Pn	22 23 54.2 0.0
TECA				eS		Sn	22 24 04.3 +0.2
TECA				IAML			22 24 06.3
	comp=Z,4μm,0.2s						
LCY	Lacayo	0.71	30	eP		Pn	22 23 54.2 -0.1
RANC	El Ranchito	0.72	30	eP		Pn	22 23 54.4 0.0
RANC	El Ranchito	0.72	30	P		Pn	22 23 54.7 +0.2
RANC	El Ranchito	0.72	30	P		Pn	22 23 54.5 0.0
TECO	Alcaldia de Te	0.74	351	eP		Pn	22 23 54.3 -0.2
TECO	Alcaldia de Te	0.74	351	P		Pn	22 23 54.3 -0.2
TECO	Alcaldia de Te	0.74	351	P		Pn	22 23 54.4 -0.2
PACA	Pacayal	0.74	27	eP		Pn	22 23 54.7 +0.1
PACA				eS		Sn	22 24 05.3 +0.5
PACA	Pacayal	0.74	27	P		Pn	22 23 55.1 +0.4
PACA	Pacayal	0.74	27	P		Pn	22 23 54.8 +0.1
BLLM	Bellamira	0.76	33	eP		Pn	22 23 54.9 0.0
BLLM				eS		Sn	22 24 05.9 +0.7
PQSS	Presa 15 de Se	0.82	7	eP		Pn	22 23 55.7 0.0
PQSS	Presa 15 de Se	0.82	7	P		Pn	22 23 55.7 0.0
SNVI	San Vicente	0.82	348	eP		Pn	22 23 56.0 +0.2
CNRM	Centro Naciona	0.82	36	eP		Pn	22 23 55.6 0.0
CNRM	Centro Naciona	0.82	36	P		Pn	22 23 50.9 -4.8
UESV	Universidad de	0.83	352	P		Pn	22 23 56.1 +0.2
UESV	Universidad de	0.83	352	P		Pn	22 23 55.8 -0.1
COEG	Centro de Oper	0.84	345	eP		Pn	22 23 55.3 -0.6
COEG				eS		Sn	22 24 07.2 0.0
COEG				IAML			22 24 14.4
	comp=Z,2μm,0.3s						
COEG	Centro de Oper	0.84	345	P		Pn	22 23 55.8 -0.1
COEG	Centro de Oper	0.84	345	P		Pn	22 23 55.4 -0.6
SCLA	Alcaldia de Sa	0.89	356	eP		Pn	22 23 56.7 0.0
SCLA	Alcaldia de Sa	0.89	356	P		Pn	22 23 56.8 0.0
SCLA	Alcaldia de Sa	0.89	356	P		Pn	22 23 56.8 0.0
LFRS	El Faro	0.90	335	eP		Pn	22 23 56.1 -0.7
LFRS				eS		Sn	22 24 08.3 -0.5
LCND	La Caada	0.91	56	eP		Pn	22 23 56.5 -0.3
LCND				IAML			22 24 11.7
	comp=Z,3μm,0.2s						
LCND	La Caada	0.91	56	P		Pn	22 23 56.8 0.0
LCND	La Caada	0.91	56	P		Pn	22 23 56.5 -0.3
LALI	Alcalda de L	0.93	317	eP		Pn	22 23 56.9 -0.2
LALI				eS		Sn	22 24 08.4 -1.0
LALI	Alcalda de L	0.93	317	P		Pn	22 23 57.3 +0.2
CNCH	Conchagua	0.94	60	eP		Pn	22 23 57.0 -0.3
CNCH	Conchagua	0.94	60	P		Pn	22 23 54.0 -3.4
CNCH	Conchagua	0.94	60	P		Pn	22 23 57.1 -0.3
PAVA	Las Pavas	0.94	344	eP		Pn	22 23 57.2 -0.2
PAVA	Las Pavas	0.94	344	P		Pn	22 23 57.4 0.0
PAVA	Las Pavas	0.94	344	P		Pn	22 23 57.2 -0.2
CAHU	Cacacuatique	1.06	25	eP		Pn	22 23 58.8 -0.3
CAHU				eS		Sn	22 24 13.3 +0.6
UEES	Universidad Ev	1.06	328	P		Pn	22 23 59.4 +0.4
AMPH	Amapala	1.09	64	P		Pn	22 23 57.0 -2.3
PIC2	El Picacho	1.10	328	eP		Pn	22 23 59.7 0.0
BOQS	Boqueron	1.10	327	eP		Pn	22 23 59.9 +0.2
BOQS				eS		Sn	22 24 13.8 0.0
PMON	Piamonte	1.10	325	eP		Pn	22 23 59.0 -0.6
PMON	Piamonte	1.10	325	P		Pn	22 23 59.9 +0.4
PMON	Piamonte	1.10	325	P		Pn	22 23 59.3 -0.3
JAYA	Jayaque - finc	1.14	318	eP		Pn	22 23 59.8 -0.4
JAYA				IAML			22 24 16.0
	comp=Z,1μm,0.2s						
JAYA	Jayaque - finc	1.14	318	P		Pn	22 24 00.5 +0.4
JAYA	Jayaque - finc	1.14	318	P		Pn	22 23 59.7 -0.4
LLGN	La Laguna	1.38	349	P		Pn	22 24 02.8 -0.6
CEVE	Cerro Verde	1.38	318	eP		Pn	22 24 04.5 +0.9
CEVE	Cerro Verde	1.38	318	P		Pn	22 24 04.4 +0.9
SBLS	San Blas	1.39	318	eP		Pn	22 24 03.8 +0.1
NUBE	Las Nubes	1.54	315	eP		Pn	22 24 05.1 -0.6
NUBE	Las Nubes	1.54	315	P		Pn	22 24 06.3 +0.7
PKGN	Cerro Pekin	1.65	95	P		Pn	22 24 07.9 +0.9
PKGN	Cerro Pekin	1.65	95	P		Pn	22 24 07.2 +0.2
MTO3	Montecristo	1.72	337	P		Pn	22 24 07.5 -0.7
ROCN	Rota Cerro Neg	1.90	98	P		Pn	22 24 09.2 -1.2
COMHN	El Horno	1.95	33	P		Pn	22 24 10.6 -0.7
MACN	El Madrono	1.97	100	P		Pn	22 24 11.6 +0.2
MOMN	Momotombo	2.11	101	P		Pn	22 24 13.0 -0.3
RCPN	Sur Rio San Ju	2.60	74	P		Pn	22 24 22.2 +2.0

NEIC 07 22:28:01.0±1.5, 15.°61N±0.°1×120.°8E±0.°1, h156km±11km, mb4.3/28, Error ellipse: s-maj=19.0km s-min=15.3km az=84.0
IDC 07 22:28:02.8±0.6, 15.°61N×120.°84E, h190km±8km, mb3.4/17, mbtmp4.0/18, Error ellipse: s-maj=20.3km s-min=12.3km az=72.0
ISC 07 22:28:00.2±0.5, 15.°74N±0.°06×120.°72E±0.°10, h150km, n64, σ1°64/65, mb4.0/28, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.64	172	P		Pn	22 28 35.5 +4.1
	2μm,0.5s,baz=303,slow=2.2,SNR=59						
TGY				S		Sn	22 29 01.6 +6.4
	1μm,0.8s,baz=227,slow=23,SNR=8.4						
TGY				LR	LR		22 29 24.9
	comp=Z,146nm,19.2s,baz=161,slow=54						
TWGBT	Beinan	7.05	3	P		Pn	22 29 41.9 +1.0
TWG	Pinlang	7.05	3			Pn	22 29 41.6 +0.7
TPUB	Ta-pu	7.52	359	Pn		Pn	22 29 49.4 +2.2
YULB	Yu-li	7.63	4			Pn	22 29 50.5 +1.8
YULB	Yu-li	7.63	4	P		Pn	22 29 50.7 +2.0
SSLB	Suanglung	8.01	2	Pn		Pn	22 29 55.9 +2.2
SSLB	Suanglung	8.01	2	P		Pn	22 29 56.2 +2.5
NACB	Ninganchiao	8.43	5	Pn		Pn	22 29 59.9 +0.6
NACB	Ninganchiao	8.43	5	P		Pn	22 30 00.2 +0.9
YHNB	Yeheng	8.91	4	Pn		Pn	22 30 08.2 +2.5
YHNB	Yeheng	8.91	4	P		Pn	22 30 08.1 +2.4
KNMB	Chin-men Tao	8.95	346	Pn		Pn	22 30 07.6 +1.4
TATO	Taipei	9.22	4	Pn		Pn	22 30 10.6 +0.9
JOW	Kunigami	13.09	31	Pn		Pn	22 31 00.6 +0.1
JOW	Kunigami	13.09	31	P		Pn	22 31 02.8 +2.3
	16nm,0.7s,baz=224,slow=13,SNR=5.9						
TOLI2	Tolitoli	14.54	180			P	22 31 20.2 -1.1
UBPT	Khong Chiam	14.70	270			P	22 31 25.5 +2.3
SLVN	Son La	16.88	292			P	22 31 48.5 +1.3
JNU	Nakatsue	19.60	26	P		Pn	22 32 21.0 +1.3
JNU				IAmb	IAmb		22 32 42.1
	comp=Z,25nm,1.2s						
PHRA	Phrae	19.77	281	P		P	22 32 18.8 +0.1
CMAR	Chiang Mai Arr	20.98	281	P		P	22 32 33.4 +1.6
	comp=Z,5.0nm,1.0s,baz=90,slow=8.0,SNR=22						
	comp=Z,5.0nm,1.0s						
JMN	Monobe	21.50	31	P		P	22 32 38.5 +1.3
MYKOM	Kota Tinggi	21.65	232	P		P	22 32 38.2 -0.7
MYKOM				IAmb	IAmb		22 33 15.3
	comp=Z,26nm,1.5s						
FAKI	Fak Fak	21.77	147	P		P	22 32 39.4 -0.8
KULM	Kulim	22.27	244	P		P	22 32 44.3 -0.9
KULM				IAmb	IAmb		22 32 46.8
	comp=Z,8.2nm,1.1s						
IPM	Ipoh	22.35	242	P		P	22 32 44.3 -1.8
IPM				IAmb	IAmb		22 32 46.5
	comp=Z,14nm,1.0s						
KSRS	Korea Array	22.55	15	P		P	22 32 46.7 -1.0
	comp=Z,3.4nm,0.7s,baz=198,slow=11,SNR=8.6						
	comp=Z,3.4nm,0.7s						
GSI	Gunungsitoli	26.95	240	P		P	22 33 27.4 -0.5
GSI				IAmb	IAmb		22 33 39.1
	comp=Z,12nm,1.1s						
USRK	Ussuriysk Ar.	29.94	16	P		P	22 33 54.4 +0.3
USRK	Ussuriysk Ar.	29.94	16	P		P	22 33 54.9 +0.8
	comp=Z,3.6nm,0.8s,baz=198,slow=7.0,SNR=7.9						
	comp=Z,3.6nm,0.8s						
USA0B	Ussuriysk Arra	29.94	16	P		P	22 33 54.5 +0.5
USA0B				IAmb	IAmb		22 33 56.0
	comp=Z,6.0nm,0.8s						
ULN	Ulaanbaatar	33.96	343	P		P	22 34 29.5 +0.1
SONM	Songino Array	34.12	343	P		P	22 34 30.5 -0.2
SONM	Songino Array	34.12	343	P		P	22 34 29.8 -0.9
	comp=Z,0.7nm,0.5s,baz=167,slow=10,SNR=10						
	comp=Z,0.7nm,0.5s						
WB0	Warramunga Arr	37.76	159	P		P	22 34 59.5 -2.3
WRA	Warramunga Arr	37.90	159	P		P	22 35 00.0 -3.0
	comp=Z,1.1nm,0.9s,baz=347,slow=8.7,SNR=10						
	comp=Z,1.1nm,0.9s						
WB2	Warramunga Arr	37.91	159	P		P	22 35 00.6 -2.5
WB2				IAmb	IAmb		22 35 00.7
	comp=Z,11nm,1.3s						
ASAR	Alice Springs	41.23	161	P		P	22 35 28.4 -2.2
	comp=Z,0.6nm,0.7s,baz=342,slow=7.0,SNR=5.6						
	comp=Z,0.6nm,0.7s						
MK31	Makanchi Array	44.42	322	P		P	22 35 56.5 +0.5
MKAR	Makanchi Array	44.42	322	P		P	22 35 56.5 +0.5
	comp=Z,0.8nm,0.6s,baz=109,slow=9.7,SNR=17						
	comp=Z,0.8nm,0.6s						
MAKZ	Makanchi	44.61	322	P		P	22 35 57.9 +0.3
TARG	Taragay, Kyrgy	45.03	314	P		P	22 35 60.0 -1.4
TARG				IAmb	IAmb		22 36 39.4
	comp=Z,13nm,1.4s						
KDJ	Kajisay	45.62	314	P		P	22 36 05.0 -0.7
NRN	Naryn	46.19	313	P		P	22 36 11.0 +0.6
NRN				IAmb	IAmb		22 36 12.2
	comp=Z,3.5nm,0.8s						
ZALV	Zalesovo Beam	47.27	332	P		P	22 36 17.6 -0.6
	comp=Z,0.9nm,0.5s,baz=134,slow=4.2,SNR=4.8						
	comp=Z,0.9nm,0.5s						
KURK	Kurchatov	48.52	325	P		P	22 36 28.4 +0.6
KURK				IAmb	IAmb		22 36 29.2
	comp=Z,3.4nm,0.8s						
KURBB	Kurchatov Arra	48.52	325	P		P	22 36 28.3 +0.5
	comp=Z,1.1nm,0.5s,baz=122,slow=8.3,SNR=19						
	comp=Z,1.1nm,0.5s						
BTK	Batken	49.54	310	P		P	22 36 36.3 +0.4
BTK				IAmb	IAmb		22 37 03.9
	comp=Z,4.8nm,1.4s						
GAR	Garm	49.66	308	P		P	22 36 36.9 0.0
KBL	Kabul	49.82	302	P		P	22 36 38.8 +0.5
CHGR	Chuyangaron	50.47	307	P		P	22 36 42.7 -0.3
CHGR				IAmb	IAmb		22 36 44.7
	comp=Z,6.2nm,0.7s						
KKAR	Karatay Array	50.58	313	P		P	22 36 44.2 +0.6
SIMJ	Simiganj	50.59	307	P		P	22 36 43.9 0.0
BVAR	Borovoye Array	54.11	325	P		P	22 37 09.0 -0.4
	comp=Z,0.6nm,0.6s,baz=126,slow=7.5,SNR=3.9						
	comp=Z,0.6nm,0.6s						
NRIK	Noril'sk	57.44	347	P		P	22 37 32.4 -0.5
	comp=Z,1.3nm,0.5s,baz=145,slow=6.4,SNR=3.6						
	comp=Z,1.3nm,0.5s						
ABKAR	Akbulak array	59.22	318	P		P	22 37 45.4 -0.1
ABKAR	Akbulak array	59.22	318	P		P	22 37 45.6 0.0
ABKAR				IAmb	IAmb		22 37 46.4
	comp=Z,3.1nm,1.1s						
ARCES	ARCESS Array B	77.20	339	P		P	22 39 36.4 -0.8
	comp=Z,2.1nm,0.8s,baz=78,slow=5.1,SNR=5.8						
	comp=Z,2.1nm,0.8s						
BRTR	Keskin Array B	77.91	308	P		P	22 39 40.8 -1.1
	comp=Z,0.3nm,0.5s,baz=53,slow=3.9,SNR=1.6						
	comp=Z,0.3nm,0.5s						
FINES	FINESS Array B	78.52	331	P		P	22 39 43.4 -1.2
	comp=Z,3.8nm,1.1s,baz=66,slow=6.3,SNR=11						
	comp=Z,3.8nm,1.1s						
HFS	Hagfors	84.70	331	P		P	22 40 15.8 -1.3
	comp=Z,1.0nm,0.4s,baz=104,slow=6.1,SNR=10						
	comp=Z,1.0nm,0.4s						
NOA	NORSAR Array B	85.47	333	P		P	22 40 18.7 -2.2
	comp=Z,0.4nm,0.5s,baz=65,slow=5.1,SNR=3.3						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	90.89	22	P		P	22 40 45.4 -1.2
	comp=Z,0.3nm,0.6s,baz=303,slow=4.4,SNR=6.2						
	comp=Z,0.3nm,0.6s						

IDC 07 22:37:07.9±4.0, 17.°36S×177.°58W, h0km, mb4.3/4, mbtmp4.3/4, MS3.4/2, Error ellipse: s-maj=175.0km s-min=33.1km az=139.0
NEIC 07 22:38:02.4±0.8, 17.°7S±0.°2×178.°1W±0.°2, h536km±13km, mb4.2/15, Error ellipse: s-maj=29.3km s-min=23.9km az=54.0
ISC 07 22:37:59.8±1.3, 17.°8S±0.°2×178.°2W±0.°2, h500km, n22, σ0°91/21, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.09	251	P		P	22 41 13.0 +1.9
DZM				IAmb	IAmb		22 41 20.9
	comp=Z,11nm,1.1s						
THZ	Tophouse	25.11	196	P		P	22 42 42.5 -1.6
THZ				IAmb	IAmb		22 42 56.3
	comp=Z,11nm,1.1s						
ARMA	Armidale	30.21	240	P		P	22 43 29.7 +0.6
ARMA				IAmb	IAmb		22 43 38.1
	comp=Z,7.0nm,1.1s						
COEN	Coen	37.33	270	P		P	22 44 30.1 +0.8
TOO	Toolangi	37.44	231	P		P	22 44 29.6 -0.3

K22A	Casper	1.22 236	Pn	Pn	23 03 38.7	-0.6
PD31	Pinedale Array	3.28 262	Pn	Pn	23 04 03.0	-4.8
PDAR	Pinedale Array	3.28 262	Pn	Pn	23 04 02.6	-5.2
PDAR	Pinedale Array	3.28 262	Pn	Pn	23 04 09.8	+2.0
	2.4nm,0.3s,baz=72,slow=15,SNR=10					
PDAR			Lg	Lg	23 04 55.1	
	4.8nm,0.3s,baz=80,slow=28,SNR=3.8					
	1.9nm,0.4s					
OGNE	Ogallala	3.32 135	Pn	Pn	23 04 08.5	+0.3
RLMT	Red Lodge	3.46 303	Pn	Pn	23 04 08.9	-1.3
RLMT			IAML		23 05 04.6	
	44nm,0.6s					
RLMT			IAML		23 05 12.5	
	34nm,1.1s					
YMP	Mirror Lake Pl	3.88 293	Pn	Pn	23 04 14.8	-1.2
YNE	Yellowstone No	3.88 297	Pn	Pn	23 04 14.1	-1.9
YNE			IAML		23 05 16.8	
	comp=E,40nm,0.5s					
O20A	White River Ci	3.95 217	Pn	Pn	23 04 15.0	-1.9
O20A			IAML		23 05 39.6	
	comp=E,34nm,2.3s					
LOHW	Long Hollow	3.98 276	Pn	Pn	23 04 16.2	-1.2
LOHW			IAML		23 05 20.8	
	comp=E,20nm,1.0s					
GCMT	Greycliff	4.06 309	Pn	Pn	23 04 18.4	0.0
H17A	Grant Village	4.07 287	Pn	Pn	23 04 18.0	-0.6
H17A			IAML		23 05 24.5	
	comp=E,25nm,1.9s					
H17A			IAML		23 05 28.7	
	comp=N,23nm,1.4s					
MOOW	Moose Ponds	4.09 278	Pg	Pb	23 04 29.7	+1.8
FLWY	Flagg Ranch	4.09 282	Pg	Pb	23 04 30.2	+2.2
FLWY			IAML		23 05 31.6	
	comp=N,34nm,1.7s					
YNR	Norris Junctio	4.22 291	Pg	Pb	23 04 31.5	+1.3
YNR			IAML		23 05 35.2	
	comp=N,14nm,2.1s					
YNR			IAML		23 05 40.6	
	comp=E,17nm,1.1s					
TPAW	Teton Pass	4.23 274		Pn	23 04 22.4	+1.5
TPAW			IAML		23 05 40.1	
	comp=E,18nm,0.9s					
TPAW			IAML		23 05 46.9	
	comp=E,30nm,0.9s					
YHB	Horse Butte	4.59 290	Pn	Pn	23 04 26.1	+0.4
YHB			IAML		23 05 52.6	
	comp=N,17nm,0.5s					
YHB			IAML		23 06 00.3	
	comp=E,17nm,1.7s					
YHL	Hebgen Lake	4.61 291	Pn	Pn	23 04 24.0	-2.0
YHL			IAML		23 05 49.1	
	comp=N,20nm,1.4s					
YHL			IAML		23 06 05.4	
	comp=E,20nm,1.2s					
I10CA	LAC DU BONNET	9.29 39	I	I	23 58 10.0	
	comp=E,0.1nm,1.2s,baz=224,slow=329,SNR=2.3					
ULM	Lac du Bonnet	9.39 39	Pn	Pn	23 05 29.4	-2.0
	comp=E,0.4nm,0.3s,baz=231,slow=13,SNR=2.9					
ULM			Lg	Lg	23 08 06.2	
	comp=E,0.2nm,0.3s,baz=317,slow=22,SNR=1.9					
	comp=E,0.7nm,0.3s					
YKA	Yellowknife Ar	19.98 347	P	P	23 07 48.6	+0.1
	comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=2.3					
	comp=E,0.2nm,0.6s					

NIED ***07*** *23:06:18.1,28°.24N×128°.70E,h65km,MW3.8,Moment Tensor Solution. s2 Moment tensor: Scale 10^14^Nm; M_{rr}=5.57; $M_{\theta\theta}$2.41; $M_{\phi\phi}$3.16; $M_{r\theta}$1.76; $M_{\theta\phi}$2.78; $M_{\phi r}$1.04; Fault plane solution: $M_0$5.94000×10^14^ NP1:ϕ_s35.00000°, δ36.00000°,λ-100.00000°. NP2:ϕ_s227.00000°, δ55.00000°,λ-83.00000°.*

IDC ***07*** *23:06:18.5±1.1,28°.11N×128°.56E,h92km±13km,mb3.4/8, mbtmp3.7/10 Error ellipse: s-maj=26.6km s-min=14.7km az=91.0*

JMA ***07*** *23:06:18.1±0.2,28°.2N±0°.9×12°9E±°,h65km±2km, MD3.5/21,MV3.6/21,NEAR AMAMI-OSHIMA ISLAND*

JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.

ISC 07 23:06:17.4±0.8,28°.15N±0°.04×128°.83E±0°.05,h81km±6km, n33,σ1°33/45,mb3.6/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	Amaminishikomi	0.32	74	*i* P	Pn	23 06 29.8	-0.1
JAMN				S	Sn	23 06 38.4	-0.7
JAMN	Amaminishikomi	0.32	74	A	A	23 06 29.8	
	comp=N,6.0nm,0.2s,comp=E,9.0nm,0.3s						
JTK	Tokunoshima	0.38	164	*i* P	Pn	23 06 30.6	+0.2
JTK				*e*S	Sn	23 06 39.8	-0.1
JTK	Tokunoshima	0.38	164	A	A	23 06 30.6	
	comp=N,9.0nm,0.8s,comp=E,4.0nm,0.7s						
JAM	Amami Oshima	0.73	69	*i* P	Pn	23 06 33.7	+0.3
JAM				S	Sn	23 06 45.1	-0.3
JOKE	Okinoerabujima	0.82	196	P	Pn	23 06 35.1	+0.6
JOKE				*e*S	Sn	23 06 47.3	+0.1
JZK	Kikaishima	1.02	81	P	Pn	23 06 39.3	+2.5
JZK				S	Sn	23 06 55.8	+4.6
JTAJ	Takarajima	1.05	18	P	Pn	23 06 36.8	-0.3
JTAJ				S	Sn	23 06 50.8	-1.1
JYRO	Yoronjima	1.17	197	*e*P	Pn	23 06 39.5	+0.8
JYRO				*e*S	Sn	23 06 55.5	+0.9
JIH	Iheya	1.35	215	P	Pn	23 06 41.6	+0.8
JIH				*e*S	Sn	23 06 58.9	+0.3
JOW	Kunigami	1.41	201	P	Pn	23 06 42.5	+0.8
	comp=E,108nm,0.3s,baz=86,slow=12,SNR=105						
JOW				S	Sn	23 06 59.1	-0.7
	comp=E,324nm,0.3s,baz=102,slow=24,SNR=10						
JOW	Kunigami	1.41	201	*i* P	Pn	23 06 42.4	+0.8
JOW				*e*S	Sn	23 07 00.7	+0.9
JNTH	Nagotoyohara	1.78	204	P	Pn	23 06 47.5	+1.1
JNTH				*e*S	Sn	23 07 09.3	+0.9
JNN	Nakanoshima	1.91	28	*e*P	Pn	23 06 48.7	+0.5
JAGN	Aguni-jima	2.10	223	*e*P	Pn	23 06 51.9	+1.1
JAGN				S	Sn	23 07 17.1	+0.9
JJT3	Tamagusuku3	2.21	205	*e*P	Pn	23 06 53.8	+1.6
JJT3				*e*S	Sn	23 07 20.1	+1.5
JYAK	Yakushimahirau	2.54	35	P	Pn	23 06 57.6	+1.0
JYAK				*e*S	Sn	23 07 27.4	+0.7
JKE	Kume jima 2	2.58	225	*e*P	Pn	23 06 57.7	+0.7
JKE				*e*S	Sn	23 07 28.4	+1.0
JKDJ	Kitadaitoujima	3.11	134	*e*P	Pn	23 07 04.6	+0.4
JKDJ				*e*S	Sn	23 07 39.0	-1.4
JMZ	Minamidaito 2	3.16	137	P	Pn	23 07 05.1	+0.2
JMZ				*e*S	Sn	23 07 39.7	-1.9
JNU	Nakatsue	5.26	19	P	Pn	23 07 36.5	+3.0
	comp=E,17nm,0.5s,baz=194,slow=12,SNR=16						
KSRS	Korea Array	9.31	356	P	Pn	23 08 29.6	+0.9
	comp=E,2.3nm,0.8s,baz=179,slow=12,SNR=5.1						
SONM	Songino Array	26.27	324	P	P	23 11 45.2	0.0
	comp=E,1.3nm,0.8s,baz=141,slow=10,SNR=13						
	comp=E,1.3nm,0.8s						
H11N2	WAKE ISLAND Hy	35.67	95	T	T	23 50 55.3	
	baz=295						
H11N1	WAKE ISLAND Hy	35.67	95	T	T	23 51 02.5	
	baz=295						
H11N3	WAKE ISLAND Hy	35.69	95	T	T	23 51 02.1	
	baz=295						
MKAR	Makanchi Array	40.68	310	P	P	23 13 49.0	-0.8
	comp=E,0.4nm,0.7s,baz=92,slow=10,SNR=5.3						
	comp=E,0.4nm,0.7s						
ZALV	Zalesovo Beam	41.06	321	P	P	23 13 51.8	-1.0
	comp=E,0.6nm,0.5s,baz=106,slow=11,SNR=3.6						
	comp=E,0.6nm,0.5s						
KURBB	Kurchatov Arra	43.85	315	P	P	23 14 13.4	-2.0
	comp=E,0.4nm,0.4s,baz=100,slow=9.0,SNR=9.3						
	comp=E,0.4nm,0.4s						
WRA	Warramunga Arr	48.11	173	P	P	23 14 49.4	+0.1
	comp=E,0.9nm,0.6s,baz=354,slow=8.4,SNR=6.1						
	comp=E,0.9nm,0.6s						
ILAR	Eielson Array	62.50	29	P	P	23 16 33.4	+1.3
	comp=E,0.4nm,0.7s,baz=289,slow=7.9,SNR=7.6						
	comp=E,0.4nm,0.7s						
FINES	FINESS Array B	71.46	330	P	P	23 17 27.2	-1.7
	comp=E,2.8nm,1.1s,baz=9.8,slow=9.0,SNR=2.0						
	comp=E,2.8nm,1.1s						
YKA	Yellowknife Ar	76.56	25	P	P	23 17 58.3	-0.3
	comp=E,0.1nm,0.3s,baz=297,slow=6.9,SNR=3.1						
	comp=E,0.1nm,0.3s						

AFAD ***07*** *23:22:08.7,39°.52N×23°.37E,h4km±4km,ML3.3*
TIR ***07*** *23:22:10.2,39°.26N×23°.59E,h17km±6km,Md3.6/3,Ml3.7/7*
ATH ***07*** *23:22:11.1,39°.20N×23°.53E,h10km,ML3.4/38,Manual*

Solution by A.Andreou First location: 2019/02/07 23:22:37, This location: 2021/03/22 14:26:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km

PDG ***07*** *23:22:11.9±0.7,39°.22N×23°.51E,h15km±1km,ML3.5/10, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*

IDC ***07*** *23:22:11.3±1.1,39°.25N×23°.23E,h0km,mb3.4/5, mbtmp3.5/8,ML1.8/2,MS3.1/3,Error ellipse: s-maj=23.8km s-min=14.9km az=127.0*

ISK ***07*** *23:22:12.0,39°.21N×23°.49E,h16km,ML3.4/21*

THE ***07*** *23:22:12.1,39°.20N×23°.51E,h15km±1km,ML3.4/32,Error ellipse: s-maj=1.2km s-min=0.7km az=79.0*

BEO ***07*** *23:22:16.2±0.7,39°.54N×23°.49E,h5km±5km,ML3.0/6*

ISC 07 23:22:11.6±0.9,39°.21N±0°.01×23°.53E±0°.01,h10km±6km, n212,σ1°11/300,mb3.3/5,30C-14D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.26	292	P	Pg	23 22 16.8	-0.1
NEO				S	Sg	23 22 20.2	-0.2
	52μm,0.2s						
NEO	Neokhori	0.26	292	P	Pg	23 22 16.8	-0.1
NEO				S	Sg	23 22 20.0	-0.5
AOS	Alonnisos	0.27	98	P	Pg	23 22 17.4	+0.2
AOS				S	Sg	23 22 21.9	+1.0
	14μm,0.4s						
XOR	Xorichti	0.31	301	P	Pg	23 22 17.6	-0.2
XOR				S	Sg	23 22 21.8	-0.1
	30μm,0.3s						
XOR	Xorichti	0.31	301	P	Pg	23 22 17.8	0.0
XOR				S	Sg	23 22 21.6	-0.3
LKR	Lokris	0.70	217	P	Pg	23 22 24.7	-0.4
LKR				S	Sg	23 22 33.6	-0.6
PAIG	Paliouri	0.72	9	Pg	Pn	23 22 26.9	-1.0
PAIG				Sg	Sn	23 22 37.8	-1.3
PAIG	Paliouri	0.72	9	P	Pn	23 22 26.8	-1.1
PAIG				S	Sn	23 22 38.4	-0.7
	3μm,0.5s						
KYMI	Kymi, Euboea I	0.73	142	P	Pg	23 22 25.8	+0.1
KYMI				S	Sg	23 22 36.1	+0.9
	4μm,0.4s						
KYMI	Kymi, Euboea I	0.73	142	P	Pg	23 22 25.5	-0.1
KYMI				S	Sg	23 22 35.0	-0.1
AXAR	Agios Charalam	0.81	237	P	Pg	23 22 27.2	-0.1
AXAR	Agios Charalam	0.81	237	P	Pg	23 22 26.7	-0.5
AXAR				S	Sg	23 22 37.4	-0.4
SKY	Skiros Island	0.86	112	P	Pb	23 22 29.1	+0.5
SKY				S	Sg	23 22 40.3	+0.9
	5μm,0.3s						
LRSO	Larissa Observ	0.99	298	P	Pg	23 22 30.7	-0.1
LRSO				S	Sb	23 22 44.6	+0.5
	5μm,0.4s						
LRSO	Larissa Observ	0.99	298	P	Pg	23 22 30.6	-0.2
GINA	Giannouli	1.00	298	P	Pg	23 22 30.6	-0.2
VIL2	Platees	1.02	192	P	Pg	23 22 31.2	0.0
VILL	Villia	1.06	189	P	Pg	23 22 30.6	-1.4
VILL				S	Sg	23 22 47.0	+1.3
	4μm,0.5s						
MAKR	Makrakomi, Fth	1.11	260	P	Pg	23 22 31.5	-1.4
MAKR				S	Sg	23 22 47.5	+0.2
	4μm,0.4s						
MAKR	Makrakomi, Fth	1.11	260	P	Pg	23 22 32.1	-0.8
MAKR				S	Sg	23 22 47.3	0.0
TYRN	Tyrnavos	1.12	297	P	Pg	23 22 32.1	-1.1
TYRN				S	Sg	23 22 47.4	-0.4
	2μm,0.4s						
PLG	Polygyros	1.16	357	P	Pb	23 22 33.4	-0.5
PLG				S	Sb	23 22 48.2	-0.9
	1μm,0.4s						
PLG	Polygyros	1.16	357	P	Pb	23 22 33.5	-0.5
PLG				S	Sn	23 22 48.9	-1.1
DION	Dionisos Attik	1.17	164	P	Pb	23 22 33.7	-0.3
DION				S	Sb	23 22 48.9	-0.4
	1μm,0.5s						
DION	Dionisos Attik	1.17	164	P	Pb	23 22 33.7	-0.3
OUR	Ouranopolis	1.18	17	Pn	Pn	23 22 34.1	-0.1
OUR	Ouranopolis	1.18	17	P	Pn	23 22 34.0	-0.1
OUR				S	Sn	23 22 49.4	-0.8
	2μm,0.5s						
OUR	Ouranopolis	1.18	17	P	Pn	23 22 34.0	-0.1
PTL	Penteli	1.19	167	P	Pn	23 22 33.5	-0.8
PTL				S	Sb	23 22 49.4	-0.3
	955nm,0.9s						
PTL	Penteli	1.19	167	P	Pn	23 22 33.9	-0.5
PTL				S	Sb	23 22 49.2	-0.5
LIT	Litokhoron	1.20	318	P	Pb	23 22 33.5	-1.0
LIT				S	Sb	23 22 50.1	+0.1
	3μm,0.3s						
LIT	Litokhoron	1.20	318	P	Pn	23 22 34.4	-0.1
LIT				S	Sn	23 22 50.2	-0.6
ATHP	Athens-Neo Psi	1.22	171	P	Pn	23 22 34.8	0.0
THL	Klokotos Trika	1.23	287	P	Pb	23 22 33.6	-1.3
THL				S	Sb	23 22 51.1	+0.3
	922nm,0.4s						
THL	Klokotos Trika	1.23	287	P	Pb	23 22 34.1	-0.8
THL				S	Sb	23 22 50.8	0.0
NOAC	Athens-Thissio	1.24	173	P	Pn	23 22 35.0	-0.1
ATH	Athens Observa	1.25	173	P	Pn	23 22 34.6	-0.5
ATH				S	Sb	23 22 49.3	-2.0
	702nm,0.3s						
ATH	Athens Observa	1.25	173	P	Pn	23 22 34.8	-0.3
ATH				S	Sb	23 22 50.8	-0.5
ATHU	Athens Univers	1.26	171	P	Pn	23 22 34.6	-0.7
DRPA	Athens-Drapets	1.26	176	P	Pn	23 22 34.3	-1.0
LTK	Loutraki	1.27	201	P	Pn	23 22 34.8	-0.6
KALE	Kalithea	1.36	233	P	Pn	23 22 36.3	-0.4
VLY	Voula,Athens	1.37	171	P	Pn	23 22 36.4	-0.4
VLY				S	Sb	23 22 54.0	-0.9
	1μm,0.6s						
VLY	Voula,Athens	1.37	171	P	Pn	23 22 36.2	-0.6
EVR	Evrytania	1.37	258	P	Pn	23 22 36.6	-0.3
KARY	Karystos	1.37	149	P	Pn	23 22 36.8	0.0
KARY				S	Sb	23 22 53.9	-1.1
	570nm,0.5s						
KARY	Karystos	1.37	149	P	Pn	23 22 36.5	-0.4
ANX	Ano Chora	1.40	244	P	Pn	23 22 36.8	-0.5
HORT	Hortiatis	1.43	347	Pn	Pb	23 22 38.0	-0.4
HORT				Sn	Sg	23 22 56.8	-0.7
HORT	Hortiatis	1.43	347	P	Pn	23 22 37.3	-0.4
HORT				S	Sg	23 22 56.2	-1.3
	2μm,0.3s						
HORT	Hortiatis	1.43	347	P	Pn	23 22 37.5	-0.1
LIA	Limnos Island	1.45	61	P	Pn	23 22 37.7	-0.2
LIA				S	Sg	23 22 59.6	+1.3
	2μm,0.5s						
LIA	Limnos Island	1.45	61	P	Pn	23 22 37.6	-0.2
THE	Thessaloniki	1.49	343	⇓*i*Pn	Pn	23 22 38.0	-0.4
THE				Sn	Sg	23 22 58.3	-1.1
THE				AML	AML	23 22 59.5	
	1.6nm,0.3s						
THE	Thessaloniki	1.49	343	⇓*i*Pn	Pn	23 22 38.0	-0.4
THE				Sn	Sg	23 22 58.3	-1.1
THE				AML	AML	23 22 59.5	
	1.6nm,0.3s						
THE	Thessaloniki	1.49	343	P	Pn	23 22 38.0	-0.4
THE				S	Sn	23 22 57.0	-0.8
	372nm,0.4s						
THE	Thessaloniki	1.49	343	P	Pn	23 22 37.9	-0.5
EFP	Efpalio	1.49	239	P	Pn	23 22 38.4	0.0
EFP				S	Sn	23 22 57.2	-0.8
	692nm,0.6s						
EFP	Efpalio	1.49	239	P	Pn	23 22 38.5	0.0
GUR	Goura	1.58	217	P	Pn	23 22 39.1	-0.6
GUR				S	Sn	23 22 58.3	-2.0
	2μm,0.5s						
GUR	Goura	1.58	217	P	Pn	23 22 39.4	-0.4
VERN	Vergina	1.58	324	P	Pn	23 22 39.2	-0.4
KLV	Kalavryta, Ach	1.59	223	P	Pn	23 22 39.7	-0.2
KLV				S	Sn	23 22 59.9	-0.6
	512nm,0.7s						
KLV	Kalavryta, Ach	1.59	223	P	Pn	23 22 39.6	-0.2
KTI	Kastanea	1.61	318	P	Pn	23 22 40.0	-0.2
SOH	Sokhos	1.61	355	P	Pn	23 22 40.3	+0.1
SOH				S	Sn	23 22 59.7	-1.5
	510nm,0.6s						
KOKK	Kokkinochori,	1.65	12	P	Pn	23 22 40.4	-0.2
KOKK				S	Sn	23 23 00.8	-1.0
	162nm,0.5s						
KOKK	Kokkinochori,	1.65	12	P	Pn	23 22 40.2	-0.4
THAS	Thassos island	1.67	33	P	Pn	23 22 40.1	-0.8
THAS				S	Sn	23 23 01.0	-1.3
	415nm,0.4s						
THAS	Thassos island	1.67	33	P	Pn	23 22 40.2	-0.6
KZN	Kozani	1.74	309	P	Pn	23 22 42.2	+0.2
KZN				S	Sn	23 23 03.2	-1.2
	955nm,0.5s						
KZN	Kozani	1.74	309	P	Pn	23 22 42.3	+0.3
SIGR	SIGRI	1.81	89	Pn	Pb	23 22 44.1	-0.7
KPRO	Kipourio	1.83	295	P	Pn	23 22 43.3	+0.1
KPRO				S	Sn	23 23 06.1	-0.5
	685nm,0.8s						
KPRO	Kipourio	1.83	295	P	Pn	23 22 43.5	+0.3
KVLA	Kavala	1.84	21	P	Pn	23 22 42.7	-0.6
KRND	KRANIDI	1.85	189	P	Pn	23 22 43.0	-0.4
DRO	Drossia	1.90	229	P	Pn	23 22 44.2	+0.1
SRS	Serrai	1.91	1	P	Pn	23 22 44.0	-0.2
SRS				S	Sn	23 23 07.6	-0.7
	208nm,0.6s						
SRS	Serrai	1.91	1	*e*Pg	Pn	23 22 44.0	-0.2
SRS				*e*Sg	Sn	23 23 06.2	-2.1
KAVA	Kavala	1.94	23	P	Pn	23 22 44.1	-0.5
KAVA				S	Sn	23 23 06.5	-2.5
	438nm,0.5s						
KAVA	Kavala	1.94	23	P	Pn	23 22 44.1	-0.5
GRG	Griva	1.95	334	Pn	Pn	23 22 45.0	+0.2
GRG				Sn	Sn	23 23 09.1	-0.2
GRG	Griva	1.95	334	P	Pn	23 22 45.0	+0.2
RLS	Riolos of Patr	1.98	235	P	Pn	23 22 45.3	0.0
SMTH	Samothraki Isl	1.99	50	P	Pn	23 22 44.9	-0.5
KOCA	Canakkale, Ayv	2.04	81	P	Pb	23 22 47.8	-1.0
KOCA				S	Sb	23 23 13.9	-0.4
KOCA				*i* AML	AML	23 23 38.0	
	comp=E,159nm,0.7s						
BOZC	Bozcaada	2.05	71	Pn	Pb	23 22 47.5	-1.4
BOZC	Bozcaada	2.05	71	P	Pg	23 22 50.0	-0.9
BOZC				S	Sg	23 23 16.7	-0.8
GOAD	anakkale-G¶	2.07	62	P	Pn	23 22 46.4	0.0
GOAD				S	Sb	23 23 14.1	-0.8
GOAD				*i* AML	AML	23 23 22.0	
	comp=E,268nm,0.6s						
GOAD				*i* AML	AML	23 23 24.0	
	comp=N,349nm,0.4s						
GADA	Gvkgeada	2.07	61	Pn	Pn	23 22 47.6	+1.1
PENT	Pentalofos	2.09	299	P	Pn	23 22 47.1	+0.3
TNSA	Tinos	2.10	142	P	Pn	23 22 46.9	0.0
NVR	Nevrokopi	2.15	7	P	Pn	23 22 48.1	+0.4
ECEA	Canakkale, Ece	2.21	67	P	Pg	23 22 53.9	0.0
ECEA				S	Sg	23 23 20.8	-1.7
VAY	Valandovo	2.23	341	*i* Pn	Pn	23 22 48.8	+0.2
VAY	Valandovo	2.23	341	*e*Pn	Pn	23 22 49.3	+0.6
VAY				*e*Sn	Sn	23 23 14.1	-2.2
EZN	Ezine	2.25	73	Pn	Pn	23 22 50.1	+1.3
NEST	Nestorio	2.26	303	⇓*i*Pn	Pn	23 22 50.4	+1.3
NEST				Sn	Sb	23 23 21.8	+1.2
NEST				AML	AML	23 23 34.2	
	1.0nm,0.7s						
NEST				AMd		23 24 24.2	
NEST	Nestorio	2.26	303	⇓*i*Pn	Pn	23 22 50.4	+1.3
NEST				Sn	Sb	23 23 21.8	+1.2
NEST				AML	AML	23 23 34.2	
	1.0nm,0.7s						
NEST				AMd		23 24 24.2	
NEST	Nestorio	2.26	303	P	Pn	23 22 49.2	+0.1
LKD2	Lefkada island	2.28	260	⇑*i*Pn	Pb	23 22 51.7	-1.1
LKD2				Sn	Sb	23 23 22.7	+1.6
LKD2				AML	AML	23 23 34.1	
	1.1nm,1.0s						
LKD2	Lefkada island	2.28	260	⇑*i*Pn	Pb	23 22 51.7	-1.1
LKD2				Sn	Sb	23 23 22.7	+1.6
LKD2				AML	AML	23 23 34.1	
	1.1nm,1.0s						
FNA	Florina	2.28	314	Pn	Pn	23 22 49.7	+0.3
FNA	Florina	2.28	314	⇑*i*P	Pn	23 22 50.9	+1.5
FNA				Sn	Sb	23 23 21.2	0.0
FNA				AML	AML	23 23 31.1	
	1.1nm,0.5s						
FNA				AMd		23 24 29.5	
FNA	Florina	2.28	314	⇑*i*P	Pn	23 22 50.9	+1.5
FNA				Sn	Sb	23 23 21.2	0.0
FNA				AML	AML	23 23 31.1	
	1.1nm,0.5s						
FNA				AMd		23 24 29.5	
FNA	Florina	2.28	314	*e*Pn	Pn	23 22 50.0	+0.6
FNA				*e*Sn	Sn	23 23 16.7	-0.9
FNA	Florina	2.28	314	P	Pn	23 22 49.4	-0.1
CNKL	anakkale-Mer	2.37	68	P	Pb	23 22 55.0	+0.7
CNKL				S	Sb	23 23 22.9	-0.7
ITM	Ithomi	2.39	212	Pn	Pn	23 22 51.4	+0.6
ITM	Ithomi	2.39	212	P	Pn	23 22 50.7	-0.1
BAYC	CANAKKALE_Bayr	2.39	76	P	Pn	23 22 50.6	-0.3
FSK	Fiskardo	2.44	253	P	Pn	23 22 51.4	-0.1
COMU	Canakkale	2.44	68	Pn	Pn	23 22 52.6	+1.1
LSK	Leskovik	2.45	293	⇑*i*Pn	Pn	23 22 53.7	+1.9
LSK				Sn	Sb	23 23 26.1	0.0
LSK				AML	AML	23 23 31.8	
	1.7nm,0.8s						
LSK				AMd		23 24 35.2	
LSK	Leskovik	2.45	293	⇑*i*Pn	Pn	23 22 53.7	+1.9
LSK				Sn	Sb	23 23 26.1	0.0
LSK				AML	AML	23 23 31.8	
	1.7nm,0.8s						
LSK				AMd		23 24 35.2	
AYVA	Ayvalik	2.45	87	P	Pn	23 22 53.5	+1.8
AYVA				S	Sb	23 23 25.7	-0.4
AYVA				*i* AML	AML	23 23 33.0	
	comp=N,157nm,0.8s						
AYVA				*i* AML	AML	23 23 38.0	
	comp=E,127nm,1.2s						
RDO	Rodhopi	2.47	38	Pn	Pn	23 22 51.7	-0.2
RDO	Rodhopi	2.47	38	P	Pn	23 22 51.4	-0.6
IGT	Igoumenitsa	2.50	278	⇑*i*Pn	Pn	23 22 54.8	+2.5
IGT				Sn	Sb	23 23 27.0	-0.5
IGT				AML	AML	23 23 43.9	
	0.5nm,1.0s						
IGT	Igoumenitsa	2.50	278	⇑*i*Pn	Pn	23 22 54.8	+2.5
IGT				Sn	Sb	23 23 27.0	-0.5
IGT				AML	AML	23 23 43.9	
	0.5nm,1.0s						
ENEZ	Enez	2.53	52	Pn	Pn	23 22 53.8	+1.1
VLI	Veliai	2.53	191	P	Pn	23 22 52.7	-0.1
KBN	Korca	2.54	305	⇓*i*Pn	Pn	23 22 54.4	+1.5
KBN				Sn	Sn	23 23 24.8	+0.8
KBN				AML	AML	23 23

ZAPS Zavoj 4.12 351 *e*Pn **Pn 23 23 15.6 +1.0**
ZAPS *e*Sn **Sn 23 23 58.9 -3.9**
PVY Plav 4.33 322 *e*Pn **Pn 23 23 18.5 +0.9**
PVY *e*Sn **Sn 23 24 07.4 -0.8**
SELS Selova 4.40 336 *e*Pn **Pn 23 23 19.2 +0.7**
SELS *e*Sn **Sn 23 24 06.2 -3.6**
DRME Dracevica, Mon 4.45 313 ⇓*i*Pn **Pn 23 23 21.3 +2.2**
DRME *e*Sn **Sn 23 24 12.2 +1.3**
PDG Podgorica 4.57 316 *e*Pn **Pn 23 23 22.4 +1.6**
PDG *e*Sn **Sn 23 24 11.3 -2.6**
PDG Podgorica 4.57 316 ⇑*i*Pn **Pn 23 23 22.4 +1.6**
PDG *e*Sn **Sn 23 24 14.3 +0.4**
IVA Berane 4.58 324 *e*Pn **Pn 23 23 21.7 +0.7**
IVA *i* Sn **Sn 23 24 14.8 +0.6**
MESG Mesagne 4.58 289 P **Pn 23 23 21.0 +0.1**
KARP Karpathos 4.66 141 P **Pn 23 23 22.1 0.0**
BUM Brajici-Budva 4.68 313 *e*Pn **Pn 23 23 24.2 +1.8**
BUM *e*Sn **Sn 23 24 17.9 +1.1**
ZAGS Zajecar 4.70 348 *e*Pn **Pn 23 23 22.7 +0.1**
KOME Kolasin 4.74 321 ⇑*i*Pn **Pn 23 23 24.2 +1.0**
KOME *e*Sn **Sn 23 24 18.2 0.0**
GOCS Kraljevo Serbi 4.79 336 *e*Pn **Pn 23 23 24.8 +0.9**
VLAD Vladila 4.83 8 ⇓P **Pn 23 23 24.9 +0.6**
CEME Cevo 4.83 315 ⇓*i*Pn **Pn 23 23 26.0 +1.6**
CEME *e*Sn **Sn 23 24 20.9 +0.4**
SJES Sjenica 4.86 328 *e*Pn **Pn 23 23 25.8 +1.0**
HCY Herceg Novi 5.00 312 *e*Pn **Pn 23 23 27.7 +0.9**
HCY *i* Sn **Sn 23 24 24.8 +0.1**
BORS2 Bor- Borsko je 5.01 347 *e*Pn **Pn 23 23 25.8 -1.0**
IVAS Ivanjica 5.05 331 *e*Pn **Pn 23 23 28.1 +0.7**
GRUS Gruza 5.13 337 *e*Pn **Pn 23 23 28.7 +0.2**
TIP Timpagrande 5.26 272 ⇑P **Pn 23 23 31.2 +0.8**
BRY Bratogost 5.28 316 *e*Pn **Pn 23 23 32.6 +2.0**
BRY *i* Sn **Sn 23 24 31.9 +0.3**
UPM Unac-Piva 5.30 320 *e*Pn **Pn 23 23 32.3 +1.3**
UPM *e*Sn **Sn 23 24 32.4 +0.2**
KUBS Kucevo 5.38 346 *e*Pn **Pn 23 23 30.7 -1.2**
HUMR Humele 5.42 11 ⇑P **Pn 23 23 33.1 +0.6**
MATE Matera 5.44 287 ⇑P **Pn 23 23 33.7 +1.0**
DIVS Divibare 5.56 333 *e*Pn **Pn 23 23 35.7 +1.3**
BBLS Lazi&#263i 5.59 328 *e*Pn **Pn 23 23 36.3 +1.5**
HERR Herculane 5.73 352 ⇑P **Pn 23 23 36.7 0.0**
MDVR Moldovita 5.73 347 ⇑P **Pn 23 23 36.9 +0.1**
MTUR Matau 6.12 10 ⇑P **Pn 23 23 43.3 +1.2**
GZR Gura Zlata 6.20 355 ⇑P **Pn 23 23 43.5 +0.2**
LOT Lotru 6.24 2 ⇑P **Pn 23 23 44.0 +0.2**
VOIR 6.32 10 ⇑P **Pn 23 23 46.0 +1.1**
MLR Muntele Rosu 6.53 15 Pn **Pn 23 23 48.6 +0.8**
7.4nm,0.5s,baz=176,slow=17
MLR Sn **Sn 23 25 03.4 +1.1**
0.5nm,0.3s,baz=254,slow=6.0,SNR=3.2
MLR LR LR 23 27 00.8
comp=Z,123nm,21.7s,baz=312,slow=44
MLR Muntele Rosu 6.53 15 ⇑P **Pn 23 23 49.4 +1.6**
BZS Buzias 6.56 348 ⇓P **Pn 23 23 48.2 +0.1**
SURR Surduc 6.62 351 ⇑P **Pn 23 23 49.4 +0.5**
BISRR Bisoca 6.76 19 ⇓P **Pn 23 23 53.0 +2.1**
DOPR Dopca 6.89 11 ⇑P **Pn 23 23 54.1 +1.4**
COVR Voineasa-Covas 6.92 16 ⇑P **Pn 23 23 54.7 +1.6**
SPBR Spulber 6.95 19 ⇑P **Pn 23 23 54.9 +1.4**
PLOR Plostina 7.02 18 ⇑P **Pn 23 23 56.8 +2.2**
VRI Vrincioaia 7.06 18 ⇓P **Pn 23 23 56.9 +2.0**
OZUR 7.08 13 ⇓P **Pn 23 23 56.7 +1.5**
SIRR Siria 7.19 350 ⇑P **Pn 23 23 56.6 -0.2**
VAE Valguarnera 7.37 259 Pn **Pn 23 23 57.7 -1.7**
1.0nm,0.3s,baz=49,slow=16,SNR=2.1
VAE Sn **Sn 23 25 20.9 -2.2**
0.4nm,0.3s,baz=203,slow=23,SNR=2.2
4.5nm,0.9s
MARR Marisel-Cluj 7.47 358 ⇑P **Pn 23 24 00.7 0.0**
TESR Tescani 7.65 16 ⇑P **Pn 23 24 04.7 +1.7**
BRTR Keskin Array B 7.84 83 Pn **Pn 23 24 07.5 +1.7**
0.1nm,0.3s,baz=249,slow=12,SNR=2.1
MORH Mrgy, Hungar 7.87 334 ⇑P **Pn 23 24 07.1 +1.0**
BURAR Bucovina Array 8.49 8 ⇑P **Pn 23 24 16.1 +1.4**
MODS Modra-Piesok 10.21 336 *e*PN **Pn 23 24 34.4 -3.8**
VRAC Vranov 11.25 336 LR LR 23 30 12.1
comp=Z,76nm,18.3s,baz=14,slow=43
MMAI Mount Meron Ar 11.41 119 Pn **Pn 23 24 55.4 +0.6**
0.5nm,0.3s,baz=287,slow=15,SNR=3.7
DAVOX Davos/Dischmat 12.52 312 LR LR 23 30 51.4
comp=Z,127nm,18.0s,baz=258,slow=42
ESDC Sonseca Array 21.21 280 P **P 23 26 57.9 +0.3**
0.7nm,0.7s,baz=85,slow=10,SNR=7.0
0.7nm,0.7s
EKA Eskdalemuir Ar 24.03 321 P **P 23 27 25.4 -1.2**
1.0nm,0.6s,baz=120,slow=9.8,SNR=1.9
1.0nm,0.6s
TORD Torodi Ar. Bea 32.35 223 P **P 23 28 40.9 -0.3**
0.3nm,0.7s,baz=31,slow=9.4,SNR=5.9
0.3nm,0.7s
KURBB Kurchatov Arra 39.72 55 P **P 23 29 46.9 +2.9**
0.2nm,0.4s,baz=269,slow=8.3,SNR=1.8
0.2nm,0.4s
MKAR Makanchi Array 42.75 60 P **P 23 30 12.7 +3.6**
0.8nm,0.6s,baz=281,slow=7.5,SNR=8.1
0.8nm,0.6s

*IDC **07** 23:22:35.4±1.1, 34°.55N×45°.29E, h0km, mb3.8/10,*
mbtmp3.7/15, ML3.4/5, MS3.1/6, Error ellipse:
s-maj=19.8km s-min=16.4km az=171.0
*ISN **07** 23:22:37.2±0.4, 34°.55N×45°.21E, h6km±8km, ML3.8*
*TEH **07** 23:22:37.3, 34°.53N×45°.14E, h13km±32km*
*AFAD **07** 23:22:40.5, 34°.73N×45°.21E, h7km±9km, ML3.6*
ISC 07 23:22:37.1±0.6, 34°.55N±0°.03×45°.18E±0°.04, h10km, n75,
σ1°79/79, mb3.9/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.34**	**98**	Pg	**Pg**	**23 22 45.0**	**+1.1**
GLG1	**Gilan-e-Gharb**	**0.75**	**126**	Pg	**Pg**	**23 22 52.2**	**+0.7**
IDHR	**Dehrash**	**1.00**	**81**	Pg	**Pg**	**23 22 56.8**	**+0.3**
IKRK	**Kirkuk**	**1.09**	**321**	*e*Pg	**Pn**	**23 22 58.7**	**+0.2**
IKRK				*e*Sg	**Sn**	**23 23 14.0**	**+0.4**
IGHG	**Ghaleghazi**	**1.17**	**101**	Pg	**Pb**	**23 22 60.0**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.26**	**137**	Pg	**Pb**	**23 23 01.3**	**+0.3**
BHD	**Baghdad**	**1.44**	**208**	*e*Pn	**Pg**	**23 23 05.7**	**+0.9**
BHD				*e*Sn	**Sg**	**23 23 26.5**	**+3.0**
BHD				AML	AML	23 23 28.9	
comp=E,1μm,0.6s							
ILIN	**Lien**	**1.51**	**76**	Pg	**Pb**	**23 23 06.7**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.56**	**100**	Pg	**Pb**	**23 23 06.9**	**+0.6**
SDS1	**Sardasht. Az.**	**1.61**	**9**	Pg	**Pb**	**23 23 07.7**	**+0.7**
SNQR	**Sonqor, Kerman**	**2.04**	**81**	Pn	**Pn**	**23 23 13.9**	**+2.1**
MAHB	**Mahabad**	**2.25**	**11**	Pn	**Pn**	**23 23 16.2**	**+1.7**
IDOB	**Doab**	**2.60**	**106**	Pn	**Pn**	**23 23 20.9**	**+1.5**
HSAM	**Samen**	**2.85**	**96**	Pn	**Pn**	**23 23 24.8**	**+1.9**
RAFI	**Al-Rafai**	**2.93**	**164**	*e*Pn	**Pn**	**23 23 26.0**	**+2.3**
RAFI				*e*Sn	**Sb**	**23 24 02.0**	**-3.3**
RAFI				AML	AML	23 24 24.4	
comp=N,441nm,0.7s							
RAFI				AML	AML	23 24 34.7	
comp=E,514nm,0.7s							
CUKT	**Cukurca**	**2.98**	**335**	P	**Pn**	**23 23 24.5**	**0.0**
CUKT				S	**Sn**	**23 23 58.9**	**-1.4**
CUKT				*i* AML	AML	23 24 40.0	
comp=E,284nm,1.1s							
CUKT				*i* AML	AML	23 24 45.0	
comp=E,244nm,0.8s							
YOVA	**Hakkari_Yksek**	**3.11**	**347**	P	**Pn**	**23 23 28.8**	**+2.4**
YOVA				S	**Sn**	**23 24 05.1**	**+1.3**
YOVA	**Hakkari_Yksek**	**3.11**	**347**	Pn	**Pn**	**23 23 28.8**	**+2.4**
BDRS	**Dareh Seyedi**	**3.12**	**100**	Pn	**Pn**	**23 23 28.6**	**+1.9**
HGHA	**Hamedan- Ghaye**	**3.16**	**72**	Pn	**Pn**	**23 23 29.4**	**+2.4**
IHSH	**Hashtrud**	**3.22**	**31**	Pn	**Pn**	**23 23 30.4**	**+2.3**
HAKT	**HAKKARI**	**3.23**	**339**	P	**Pn**	**23 23 29.6**	**+1.5**
HAKT				S	**Sn**	**23 24 04.1**	**-2.6**
HAKT				*i* AML	AML	23 24 47.0	
comp=E,166nm,1.2s							
HAKT	**HAKKARI**	**3.23**	**339**	Pn	**Pn**	**23 23 29.6**	**+1.5**
HAGD	**Aghdareh**	**3.27**	**84**	Pn	**Pn**	**23 23 31.2**	**+2.5**
SIRN	**Sirnak**	**3.69**	**323**	P	**Pn**	**23 23 35.6**	**+1.3**
SIRN				S	**Sn**	**23 24 19.3**	**+1.3**
SIRN				*i* AML	AML	23 24 49.0	
comp=E,113nm,1.0s							
SIRN				*i* AML	AML	23 24 57.0	
comp=E,101nm,0.8s							
SIRN	**Sirnak**	**3.69**	**323**	Pn	**Pn**	**23 23 35.6**	**+1.3**
ITBZ	**Tabriz**	**3.75**	**12**	Pn	**Pn**	**23 23 37.5**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.79**	**71**	Pn	**Pn**	**23 23 38.2**	**+2.5**
ISRB	**Sarab**	**3.83**	**31**	Pn	**Pn**	**23 23 38.8**	**+2.4**
IRAZ	**Razeghan**	**3.99**	**76**	Pn	**Pn**	**23 23 40.8**	**+2.3**
PERV	**Siirt/Pervari-**	**4.00**	**329**	P	**Pn**	**23 23 41.3**	**+2.6**
PERV				*i* AML	AML	23 24 59.0	
comp=E,89nm,1.0s							
GEVA	**Gevas**	**4.12**	**336**	P	**Pn**	**23 23 42.3**	**+2.0**
IMRD	**Marand**	**4.17**	**6**	Pn	**Pn**	**23 23 43.8**	**+2.7**
MIDY	**Mardin/Midyat-**	**4.18**	**314**	P	**Pn**	**23 23 41.2**	**+0.1**
MIDY				S	**Sb**	**23 24 40.1**	**-1.4**
TVAN	**Van**	**4.22**	**341**	P	**Pn**	**23 23 42.9**	**+1.3**
SRTM	**Siirt_Merkez**	**4.32**	**323**	P	**Pn**	**23 23 45.0**	**+2.0**
JIR1	**Jirandeh**	**4.33**	**59**	Pn	**Pn**	**23 23 45.2**	**+2.0**
MARD	**Mardin**	**4.51**	**309**	P	**Pn**	**23 23 46.8**	**+1.2**
MARD				*i* AML	AML	23 25 14.0	
comp=E,110nm,0.6s							
BLIS	**Bitlis-Merkez**	**4.58**	**328**	P	**Pn**	**23 23 48.7**	**+2.2**
BTMN	**Batman**	**4.59**	**318**	P	Pn	23 23 52.0	+5.3
BTMN				*i* AML	AML	23 25 31.0	
comp=E,80nm,1.6s							
BTMN				*i* AML	AML	23 25 42.0	
comp=E,97nm,1.3s							
VMUR	**Van-Muradiye**	**4.61**	**344**	P	**Pb**	**23 23 59.0**	**+0.8**
VMUR				S	**Sb**	**23 24 52.7**	**-1.2**
IMHD	**Mahdasht**	**4.64**	**74**	Pn	**Pn**	**23 23 49.2**	**+1.9**
LHJ2	**Lahijan - Gila**	**4.74**	**55**	Pn	**Pn**	**23 23 51.5**	**+2.8**
GRMI	**Germi**	**4.77**	**26**	Pn	**Pn**	**23 23 51.6**	**+2.4**
SVAN	**Silvan-Diyarba**	**4.82**	**319**	P	Pn	23 23 55.2	+5.5
GAS1	**Astara - Iran**	**4.83**	**37**	Pn	**Pn**	**23 23 51.9**	**+2.1**
IQOM	**Qom**	**4.86**	**85**	Pn	**Pn**	**23 23 51.8**	**+1.2**
MUSM	**Mu-Merkez**	**5.10**	**326**	P	**Pn**	**23 23 54.2**	**+0.5**
ZNGN	**Zangian**	**5.33**	**116**	Pn	**Pn**	**23 23 59.7**	**+2.6**
IVRN	**Varamin**	**5.41**	**83**	Pn	**Pn**	**23 23 59.4**	**+1.6**
IKLH	**Kolahrood**	**5.46**	**101**	Pn	**Pn**	**23 24 00.7**	**+2.0**
KOTA	**Agri, Merkez-K**	**5.47**	**344**	P	**Pn**	**23 24 01.0**	**+2.2**
GNI	**Garni**	**5.60**	**357**	Pn	**Pn**	**23 24 02.7**	**+2.2**
comp=E,0.1nm,0.3s,baz=235,slow=19,SNR=1.2							
GNI				Lg	Lg	23 25 35.2	
baz=18,slow=17							
GNI				LR	LR	23 26 47.5	
comp=E,157nm,21.0s,baz=154,slow=45							
comp=E,5.6nm,1.1s							
IDMV	**Damavand**	**5.71**	**78**	Pn	**Pn**	**23 24 05.1**	**+2.8**
ISFB	**Sefidab**	**5.84**	**90**	Pn	**Pn**	**23 24 05.0**	**+1.3**
IZEF	**Zefreh**	**6.18**	**104**	Pn	**Pn**	**23 24 10.7**	**+2.0**
IFIR	**Firoozkooh**	**6.30**	**78**	Pn	**Pn**	**23 24 12.1**	**+1.7**
IRAM	**Ramesheh**	**6.63**	**112**	Pn	**Pn**	**23 24 16.3**	**+1.5**
ASF	**Jabal al Asfar**	**7.33**	**253**	Pn	**Pn**	**23 24 25.0**	**+0.7**
comp=E,0.3nm,0.3s,baz=360,slow=4.9,SNR=6.3							
ASF				Lg	Lg	23 26 32.2	
comp=E,0.7nm,0.3s,baz=82,slow=17,SNR=4.3							
comp=E,0.4nm,0.3s							
MMAI	**Mount Meron Ar**	**8.28**	**262**	Lg	Lg	23 27 00.9	
comp=E,0.6nm,0.3s,baz=108,slow=42,SNR=1.4							
MMAI				LR	LR	23 28 28.4	
comp=E,104nm,19.8s,baz=70,slow=42							
EIL	**Elat**	**9.95**	**243**	Lg	Lg	23 27 48.5	
comp=E,0.2nm,0.3s,baz=52,slow=17,SNR=1.5							
EIL				LR	LR	23 29 42.0	
comp=E,91nm,21.9s,baz=68,slow=43							
BRTR	**Keskin Array B**	**10.56**	**303**	LR	LR	23 29 23.6	
comp=E,91nm,18.9s,baz=114,slow=38							
WSAR	**Wadi Sarin**	**16.29**	**130**	Pn	**Pn**	**23 26 23.2**	**-2.8**
comp=E,0.3nm,0.3s,baz=312,slow=15,SNR=5.1							
WSAR				LR	LR	23 33 37.0	
comp=E,74nm,20.4s,baz=250,slow=41							
comp=E,7.2nm,0.9s							
AKTO	**Aktyubinsk**	**18.43**	**27**	P	**P**	**23 26 51.0**	**-1.6**
comp=E,0.2nm,0.3s,baz=208,slow=11,SNR=3.6							
comp=E,1.2nm,0.8s							
AKASG	**Malin Array Be**	**19.89**	**329**	P	**P**	**23 27 08.1**	**-0.4**
comp=E,0.6nm,0.3s,baz=141,slow=10,SNR=2.5							
comp=E,0.3nm,0.4s							
AAK	**Ala-Archa**	**24.20**	**62**	P	**P**	**23 27 51.2**	**-2.8**
comp=E,1.0nm,0.7s,baz=238,slow=13,SNR=3.6							
comp=E,1.0nm,0.7s							
BVAR	**Borovoye Array**	**25.70**	**36**	P	**P**	**23 28 07.7**	**+0.3**
comp=E,0.7nm,0.5s,baz=239,slow=10,SNR=5.0							
BVAR				LR	LR	23 38 58.2	
comp=E,72nm,18.0s,baz=276,slow=38							
comp=E,0.7nm,0.5s							
KURBB	**Kurchatov Arra**	**29.02**	**46**	P	**P**	**23 28 37.8**	**+0.7**
comp=E,0.5nm,0.7s,baz=251,slow=8.9,SNR=4.8							
comp=E,0.5nm,0.7s							
FINES	**FINESS Array B**	**29.55**	**341**	P	**P**	**23 28 40.6**	**-1.1**
comp=E,2.6nm,1.0s,baz=142,slow=7.7,SNR=3.6							
comp=E,2.6nm,1.0s							
MKAR	**Makanchi Array**	**30.41**	**55**	P	**P**	**23 28 49.4**	**0.0**
comp=E,1.5nm,0.9s,baz=257,slow=11,SNR=11							
comp=E,1.5nm,0.9s							
HFS	**Hagfors**	**32.75**	**331**	P	**P**	**23 29 09.9**	**0.0**
comp=E,2.0nm,0.7s,baz=129,slow=8.3,SNR=7.7							
comp=E,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**36.69**	**349**	P	**P**	**23 29 43.9**	**+0.1**
comp=E,1.6nm,0.8s,baz=170,slow=11,SNR=1.4							
comp=E,1.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**44.69**	**252**	P	**P**	**23 30 51.4**	**+0.9**
comp=E,0.2nm,0.7s,baz=57,slow=7.6,SNR=2.9							
comp=E,0.2nm,0.7s							
SPITS	**Spitsbergen Ar**	**45.45**	**352**	P	**P**	**23 30 55.2**	**-0.5**
comp=E,5.9nm,1.0s,baz=137,slow=11,SNR=8.2							
comp=E,5.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**50.15**	**94**	P	**P**	**23 31 31.9**	**-1.1**
comp=E,0.8nm,0.3s,baz=294,slow=6.0,SNR=4.8							
comp=E,0.8nm,0.3s							

*NEIC **07** 23:37:22.9±1.5, 12°.63S±0°.06×167°.0E±0°.2, h248km±7km,*
mb4.3/103, Error ellipse: s-maj=22.1km s-min=8.3km
az=77.0
*IDC **07** 23:37:22.2±3.7, 12°.67S×167°.07E, h246km±36km,*
mb3.6/14, mbtmp4.1/15, Error ellipse: s-maj=22.3km
s-min=18.5km az=170.0
ISC 07 23:37:19.7±0.5, 12°.55S±0°.07×167°.0E±0°.1, h220km, n128,
σ0°82/130, mb4.3/66, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.48**	**183**	Pn	**Pn**	**23 39 33.9**	**+1.7**
DZM	**Mont Dzumac**	**9.48**	**183**	P	**Pn**	**23 39 34.4**	**+2.2**
2.5nm,0.3s,baz=30,slow=20,SNR=7.5							
DZM				S	**S**	**23 41 18.4**	**-0.5**
14nm,1.1s,baz=268,slow=17,SNR=2.0							
EIDS	**Eidsvold**	**19.73**	**227**	P	**P**	**23 41 34.1**	**+1.3**
LBZ	**Lake Benmore**	**31.84**	**176**	P	**P**	**23 43 23.4**	**-0.6**
LBZ				IAmb	IAmb	23 43 41.6	
comp=Z,23nm,1.4s							
WB0	**Warramunga Arr**	**32.12**	**253**	P	**P**	**23 43 25.9**	**-0.9**
WB2	**Warramunga Arr**	**32.18**	**253**	P	**P**	**23 43 26.6**	**-0.8**
WB2				IAmb	IAmb	23 43 36.4	
comp=Z,16nm,1.4s							
WRAB	**Tennant Creek**	**32.18**	**253**	P	**P**	**23 43 27.6**	**+0.3**
WRA	**Warramunga Arr**	**32.19**	**253**	P	**P**	**23 43 26.4**	**-1.0**
comp=Z,0.4nm,0.4s,baz=82,slow=9.0,SNR=5.3							
comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**33.29**	**246**	P	**P**	**23 43 36.0**	**-0.9**
comp=Z,1.0nm,0.7s,baz=72,slow=9.3,SNR=14							
ASAR				PcP	**PcP**	**23 46 12.9**	**-0.9**
comp=Z,0.2nm,0.3s,baz=67,slow=3.0,SNR=1.7							
comp=Z,1.0nm,0.7s							
BBOO	**Buckleboo**	**34.77**	**229**	P	**P**	**23 43 48.3**	**-1.2**
BBOO				IAmb	IAmb	23 44 07.8	
comp=Z,18nm,1.2s							
KNRA	**Kununurra**	**37.21**	**261**	P	**P**	**23 44 10.3**	**0.0**
FITZ	**Fitzroy Crossi**	**40.24**	**257**	P	**P**	**23 44 35.2**	**-0.2**
comp=Z,1.3nm,0.6s,baz=72,slow=6.4,SNR=1.4							
comp=Z,1.3nm,0.6s							
MJAR	**Matsushiro Arr**	**55.88**	**332**	P	**P**	**23 46 34.8**	**+0.1**
comp=Z,1.2nm,0.3s,baz=164,slow=8.8,SNR=5.0							
comp=Z,1.2nm,0.3s							
CASY	**Casey**	**65.45**	**202**	P	**P**	**23 47 38.2**	**-0.5**
CASY				IAmb	IAmb	23 47 39.5	
comp=Z,5.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**73.87**	**294**	P	**P**	**23 48 32.5**	**+1.4**
comp=Z,1.4nm,0.3s,baz=117,slow=4.1,SNR=7.6							
comp=Z,1.4nm,0.3s							
QSPA	**South Pole Qui**	**77.46**	**180**	P	**P**	**23 48 50.4**	**-0.3**
comp=Z,1.7nm,0.6s,baz=304,slow=3.0,SNR=4.6							
comp=Z,1.7nm,0.6s							
BILL	**Bilibino**	**80.38**	**360**	P	**P**	**23 49 06.7**	**+0.6**
BILL				IAmb	IAmb	23 49 07.9	
comp=Z,5.4nm,0.8s							
SLKM	**Skilak Lake**	**80.38**	**20**	P	**P**	**23 49 06.0**	**-0.3**
M20K	**Styx River**	**80.50**	**18**	P	**P**	**23 49 07.2**	**+0.2**
TTA	**Tatalina**	**80.50**	**16**	P	**P**	**23 49 07.0**	**0.0**
TTA				IAmb	IAmb	23 49 14.7	
comp=Z,7.5nm,1.4s							
SONM	**Songino Array**	**80.62**	**323**	P	**P**	**23 49 08.6**	**+0.5**
SONM	**Songino Array**	**80.62**	**323**	P	**P**	**23 49 08.8**	**+0.8**
comp=Z,0.6nm,0.7s,baz=111,slow=3.5,SNR=6.6							
comp=Z,0.6nm,0.7s							
SUA	**Susitna One**	**80.92**	**19**	P	**P**	**23 49 08.8**	**-0.4**
SUA				IAmb	IAmb	23 49 10.9	
comp=Z,14nm,1.3s							
RC01	**Rabbit Creek A**	**80.97**	**20**	P	**P**	**23 49 09.7**	**+0.2**
RC01				IAmb	IAmb	23 49 27.8	
comp=Z,14nm,1.3s							
SKT	**Skwentna**	**81.06**	**18**	P	**P**	**23 49 10.0**	**+0.1**
SKT				IAmb	IAmb	23 49 26.5	
comp=Z,8.2nm,1.5s							
PWL	**Port Wells**	**81.27**	**20**	P	**P**	**23 49 11.5**	**+0.4**
K20K	**Telida**	**81.38**	**17**	P	**P**	**23 49 11.5**	**-0.1**
K20K				IAmb	IAmb	23 49 27.9	
comp=Z,7.1nm,1.5s							
J19K	**Poorman**	**81.47**	**16**	P	**P**	**23 49 12.7**	**+0.7**
J19K				IAmb	IAmb	23 49 28.6	
comp=Z,11nm,1.5s							
PPLA	**Purkeypile**	**81.56**	**18**	P	**P**	**23 49 13.8**	**+1.1**
PPLA				IAmb	IAmb	23 49 23.6	
comp=Z,17nm,1.4s							
HIN	**Hinchinbrook I**	**81.58**	**21**	P	**P**	**23 49 13.2**	**+0.6**
KNK	**Knik Glacier**	**81.63**	**20**	P	**P**	**23 49 13.5**	**+0.6**
KNK				IAmb	IAmb	23 49 14.1	
comp=Z,5.1nm,0.6s							
GLI	**Glacier Island**	**81.71**	**21**	P	**P**	**23 49 13.3**	**+0.1**
GHO	**Glory Hole Cre**	**81.73**	**20**	P	**P**	**23 49 13.7**	**+0.2**
GHO				IAmb	IAmb	23 49 15.4	
comp=Z,4.7nm,0.8s							
CUT	**Chulitna**	**81.77**	**19**	P	**P**	**23 49 13.5**	**0.0**
EYAK	**Cordova Ski Ar**	**81.95**	**21**	P	**P**	**23 49 14.9**	**+0.4**
EYAK				IAmb	IAmb	23 49 29.7	
comp=Z,11nm,1.4s							
SML	**Sawmill**	**81.95**	**20**	P	**P**	**23 49 15.3**	**+0.7**
SML				IAmb	IAmb	23 49 26.6	
comp=Z,8.2nm,1.2s							
CAST	**Castle Rocks**	**81.99**	**17**	P	**P**	**23 49 14.7**	**-0.1**
CAST				IAmb	IAmb	23 49 16.3	
comp=Z,5.2nm,0.8s							
J20K	**Nowinta River**	**82.01**	**16**	P	**P**	**23 49 15.8**	**+1.1**
KAIM	**Kayak Island**	**82.01**	**22**	P	**P**	**23 49 15.1**	**+0.2**
RAGM	**Ragged Mountai**	**82.23**	**22**	P	**P**	**23 49 16.5**	**+0.4**
SCM	**Sheep Creek Mo**	**82.31**	**20**	P	**P**	**23 49 17.2**	**+0.7**
DIV	**Divide**	**82.34**	**21**	P	**P**	**23 49 17.2**	**+0.6**
DIV				IAmb	IAmb	23 49 18.1	
comp=Z,5.4nm,0.8s							
KTH	**Kantishna Hill**	**82.44**	**18**	P	**P**	**23 49 16.8**	**-0.3**
KTH				IAmb	IAmb	23 49 17.5	
comp=Z,4.3nm,0.8s							
H19K	**Roundabout Mou**	**82.50**	**14**	P	**P**	**23 49 18.1**	**+0.8**
H19K				IAmb	IAmb	23 49 21.7	
comp=Z,8.5nm,1.5s							
KLU	**Klutina**	**82.54**	**21**	P	**P**	**23 49 18.4**	**+0.7**
KLU				IAmb	IAmb	23 49 34.7	
comp=Z,5.3nm,1.1s							
TRF	**Thorofare Moun**	**82.55**	**18**	P	**P**	**23 49 17.7**	**-0.1**
TRF				IAmb	IAmb	23 49 18.7	
comp=Z,5.9nm,1.0s							
BMRM	**Bremner River**	**82.65**	**22**	P	**P**	**23 49 18.7**	**+0.4**
BMRM				IAmb	IAmb	23 49 19.2	
comp=Z,10nm,1.0s							
BPAW	**Bear Paw Mtn.**	**82.83**	**17**	P	**P**	**23 49 19.1**	**+0.1**
M24K	**Tolsona, Glenn**	**82.89**	**20**	P	**P**	**23 49 20.9**	**+1.4**
RND	**Reindeer**	**82.95**	**18**	P	**P**	**23 49 20.1**	**+0.3**
N25K	**Chitina, Valde**	**83.08**	**21**	P	**P**	**23 49 21.2**	**+0.7**
N25K				IAmb	IAmb	23 49 22.1	
comp=Z,4.9nm,0.7s							
MESA	**MESA**	**83.11**	**23**	P	**P**	**23 49 21.9**	**+1.1**
MCK	**McKinley**	**83.17**	**18**	P	**P**	**23 49 20.9**	**+0.1**
MCK				IAmb	IAmb	23 49 21.9	
comp=Z,4.9nm,0.7s							
VRDI	**Verde Repeater**	**83.24**	**22**	P	**P**	**23 49 21.4**	**0.0**
GLB	**Gilahina Butte**	**83.25**	**21**	P	**P**	**23 49 21.7**	**+0.3**
GLB				IAmb	IAmb	23 49 22.7	
comp=Z,5.6nm,0.9s							
I21K	**Tanana**	**83.37**	**16**	P	**P**	**23 49 23.3**	**+1.6**
I21K				IAmb	IAmb	23 49 23.7	
comp=Z,3.6nm,0.7s							
H21K	**Melozitna Rive**	**83.52**	**16**	P	**P**	**23 49 23.9**	**+1.4**
PCA	**Pinnacle**	**83.71**	**24**	P	**P**	**23 49 24.2**	**+0.4**
WRH	**Wood River Hil**	**83.96**	**18**	P	**P**	**23 49 24.6**	**-0.1**
I23K	**Minto, Yukon-K**	**84.08**	**17**	P	**P**

```
I29M                                    IAmb   IAmb   23 49 44.3
     comp=Z,6.4nm,1.3s
D25K  Kavik River        87.91  15      P      P      23 49 42.9 -1.2
D25K                                    IAmb   IAmb   23 49 45.7
     comp=Z,3.8nm,1.0s
I30M  Mount Dempster     88.24  21      P      P      23 49 46.3 +0.5
SPR3  Spring Creek 3     89.16  50      P      P      23 49 51.5 +0.6
SPR3                                    IAmb   IAmb   23 49 52.5
     comp=Z,3.6nm,0.9s
F10A  Beach Ranch, E     89.25  43      P      P      23 49 51.6 +0.6
F10A                                    IAmb   IAmb   23 49 52.2
     comp=Z,3.1nm,0.9s
H31M  Peel River         89.27  21      P      P      23 49 50.1 -0.3
H31M                                    IAmb   IAmb   23 49 51.3
     comp=Z,8.4nm,1.4s
D27M  Malcolm River      89.28  16      P      P      23 49 52.1 +1.6
D27M                                    IAmb   IAmb   23 50 09.0
     comp=Z,3.8nm,1.2s
PLID  Pearl Lake         89.79  44      P      P      23 49 54.5 +0.8
PLID                                    IAmb   IAmb   23 49 54.8
     comp=Z,2.7nm,0.9s
G31M  Satah River        89.91  20      P      P      23 49 52.3 -1.1
U15A  North Rim          90.00  53      P      P      23 49 56.4 +1.5
U15A                                    IAmb   IAmb   23 49 57.1
     comp=Z,4.7nm,0.8s
MSU   Marysvale          90.65  51      P      P      23 49 58.0 +0.2
Q16A  Castle Valley      91.51  51      P      P      23 50 00.8 -1.0
BSUT  Blindstream Ca     92.23  49      P      P      23 50 06.0 +0.7
BSUT                                    IAmb   IAmb   23 50 16.8
     comp=Z,5.0nm,1.4s
PV23  Carpenter Ridg     93.04  51      P      P      23 50 09.2 +0.3
PDAR  Pinedale Array     93.64  47      P      P      23 50 10.0 -1.6
     comp=Z,0.1nm,0.4s,baz=254,slow=6.2,SNR=1.4
     comp=Z,0.1nm,0.4s
TXAR  Lajitas Array      95.44  61      P      P      23 50 19.7 -0.2
     comp=Z,0.4nm,0.8s,baz=230,slow=5.9,SNR=4.9
     comp=Z,0.4nm,0.8s
MKAR  Makanchi Array     95.47 317      P      P      23 50 20.2 +0.6
     comp=Z,1.3nm,0.5s,baz=83,slow=6.5,SNR=22
     comp=Z,1.3nm,0.5s
ZALV  Zalesovo Beam      95.51 324      P      P      23 50 19.5 +0.1
     comp=Z,0.9nm,0.7s,baz=116,slow=3.4,SNR=4.6
     comp=Z,0.9nm,0.7s
YKA   Yellowknife Ar     95.73  27      P      P      23 50 19.5 -0.7
     comp=Z,0.5nm,0.5s,baz=254,slow=5.3,SNR=7.5
     comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 118.10 346        PKP    PKPdf  23 55 39.6 -0.3
     comp=Z,1.3nm,0.5s,baz=77,slow=2.5,SNR=16
FINES FINESS Array B 123.62 339        PKP    PKPdf  23 55 49.4 -1.3
     comp=Z,1.2nm,0.8s,baz=116,slow=3.2,SNR=4.3
NOA   NORSAR Array B 128.47 345        PKP    PKPdf  23 55 57.2 -2.9
     comp=Z,0.3nm,0.6s,baz=59,slow=4.3,SNR=1.2
ESDC  Sonseca Array  151.84 345        PKPbc  PKPbc  23 56 48.8  0.0
     comp=Z,1.0nm,0.7s,baz=358,slow=2.3,SNR=9.3
TORD  Torodi Ar. Bea 165.69 274        PKP    PKPdf  23 56 57.9 -1.2
     comp=Z,0.4nm,0.6s,baz=341,slow=2.5,SNR=4.4
```

*NEIC **07** 23:43:31.5±0.8, 61°.31N±0°.01×150°.91W±0°.05, h64km±7km, Error ellipse: s-maj=3.6km s-min=1.7km az=78.0*

AEIC 07 23:43:32.4±0.9, 61°.31N±0°.03×150°.91W±0°.02, h60km±6km, ML2.2, ML2.5/88(NEIC), Error ellipse: s-maj=4.4km s-min=0.5km az=192.0, Southern Alaska

```
Code  Station Name       Δ°   AZ°      Phase ID          Time      Res
                                      Op    ISC       h m  s    ISC
SUA   Susitna One        0.18  27            Pn     23 43 41.1 -0.8
SUA                                           Sn     23 43 48.7 -0.2
SUA                                     IAML         23 43 49.3
     comp=N,222nm,0.2s
FIS   Fire Island        0.37 116            Pn     23 43 43.2 +0.1
FIS                                     IAML         23 43 53.8
     comp=N,339nm,0.6s
STLK  Strandline Lak     0.48 294            Pn     23 43 43.8 -0.5
STLK                                          Sn     23 43 52.8 -0.1
STLK                                    IAML         23 43 53.5
     comp=E,286nm,0.2s
STLK                                    IAML         23 43 53.6
     comp=N,167nm,0.2s
SPCG  Spurr Capps Gl     0.53 269            Pn     23 43 44.2 -0.7
SPCG                                          Sn     23 43 53.8 -0.1
CAPN  Captain Cook N     0.55 192            Pn     23 43 44.3 -0.6
SPU   Mount Spurr        0.56 258            Pn     23 43 44.4 -0.8
SPU                                     IAML         23 43 55.7
     comp=E,148nm,0.1s
SPU                                     IAML         23 43 55.0
     comp=N,129nm,0.2s
SPU   Mount Spurr        0.56 258            Sn     23 43 54.3 -0.1
M22K  Willow             0.59  40            Pn     23 43 44.6 -0.7
M22K                                          Sn     23 43 54.6  0.0
RC01  Rabbit Creek A     0.61 110            Pn     23 43 44.8 -0.8
RC01  Rabbit Creek A     0.61 110            Sn     23 43 55.2  0.0
RC01  Rabbit Creek A     0.61 110       IAML        23 43 56.6
     comp=E,196nm,0.4s
RC01                                    IAML         23 43 56.8
     comp=N,202nm,0.2s
SPCR  Spurr Chakacha     0.64 261            Pn     23 43 45.1 -0.8
SPCR                                          Sn     23 43 55.4 -0.4
SPBG  Spurr Blockage     0.70 267            Sn     23 43 57.1 -0.2
SKT   Skwentna           0.74 337            Pn     23 43 46.3 -0.8
SKT                                     IAML         23 43 58.0
     comp=E,118nm,0.3s
SKT   Skwentna           0.74 337            Sn     23 43 57.2 -0.7
SLKM  Skilak Lake        0.87 157            Pn     23 43 47.9 -0.9
SLKM                                    IAML         23 44 02.6
     comp=N,146nm,0.2s
SLKM                                    IAML         23 44 05.0
     comp=E,110nm,0.2s
PMR   Palmer             0.90  71            Pn     23 43 48.2 -0.9
PMR                                     IAML         23 44 01.9
     comp=N,120nm,0.3s
PMR                                     IAML         23 44 02.1
     comp=E,134nm,0.3s
O22K  Cooper Landing     1.01 144            Pn     23 43 49.1 -1.4
GHO   Glory Hole Cre     1.06  63            Pn     23 43 50.4 -0.9
GHO                                     IAML         23 44 06.1
     comp=N,135nm,0.3s
GHO                                     IAML         23 44 07.2
     comp=E,106nm,0.4s
GHO   Glory Hole Cre     1.06  63            Sn     23 44 05.1 -0.2
CUT   Chulitna           1.14  15       Pn   Pn     23 43 50.9 -1.4
RDJH  Redoubt Jeurge     1.17 233            Pn     23 43 52.2 -0.6
KNK   Knik Glacier       1.19  84            Pn     23 43 52.2 -0.7
KNK                                     IAML         23 44 09.8
     comp=E,82nm,0.3s
KNK                                     IAML         23 44 11.2
     comp=N,76nm,0.4s
M20K  Styx River         1.21 300            Pn     23 43 52.7 -0.5
M20K  Styx River         1.21 300       IAML        23 44 13.6
     comp=E,45nm,0.9s
RDWB  Redoubt West       1.25 230            Pn     23 43 53.5 -0.3
PWL   Port Wells         1.33 109            Pn     23 43 53.7 -1.1
SML   Sawmill            1.33  67       Pn   Pn     23 43 53.7 -1.2
SML                                     IAML         23 44 12.3
     comp=N,70nm,0.7s
SML                                     IAML         23 44 13.9
     comp=E,45nm,0.5s
SEW   Seward             1.41 149            Pn     23 43 56.6 +0.9
BRLK  Bradley Lake       1.55 179       Pn   Pn     23 43 57.4 -0.3
BRLK                                    IAML         23 44 20.8
     comp=N,69nm,0.1s
BRSE  Bradley Lake S     1.57 177            Pn     23 43 57.2 -0.8
PPLA  Purkeypile         1.70 340       Pn   Pn     23 43 59.7 -0.2
ILS   Iliamna Low So     1.72 219            Pn     23 44 00.2  0.0
ILSW  Iliamna Southw     1.72 221       Pn   Pn     23 44 00.1  0.0
ILSW                                    IAML         23 44 24.8
     comp=N,25nm,1.2s
CNPM  China Poot         1.79 185            Pn     23 44 00.9 -0.2
CNPM                                    IAML         23 44 24.0
     comp=E,29nm,0.4s
CNPM                                    IAML         23 44 28.1
     comp=N,50nm,0.4s
SCM   Sheep Creek Mo     1.79  71            Pn     23 44 00.1 -1.0
SCM                                     IAML         23 44 23.5
     comp=E,58nm,0.9s
SCM                                     IAML         23 44 23.7
     comp=N,43nm,0.7s
N19K  Bonanza Creek      1.81 256            Pn     23 44 00.3 -1.0
L20K  Farewell, AK       1.83 311            Pn     23 44 00.5 -1.0
GLI   Glacier Island     1.90 101            Pn     23 44 00.9 -1.6
P19K  Oil Pt             2.02 216       Pn   Pn     23 44 03.0 -1.1
P19K                                    IAML         23 45 21.3
     comp=N,43nm,1.2s
L19K  White Mountain     2.07 297            Pn     23 44 04.3 -0.5
TRF   Thorofare Moun     2.17   7            Pn     23 44 06.4 +0.1
TRF                                     IAML         23 44 37.6
     comp=E,19nm,0.5s
TRF                                     IAML         23 44 37.6
     comp=N,30nm,0.4s
P23K  Montague Islan     2.17 126            Pn     23 44 04.0 -2.1
CAST  Castle Rocks       2.19 346            Pn     23 44 05.8 -0.6
KTH   Kantishna Hill     2.25 360       Pn   Pn     23 44 07.7 +0.3
KTH                                     IAML         23 44 37.0
     comp=E,18nm,1.1s
KTH                                     IAML         23 44 37.1
     comp=N,31nm,1.1s
RND   Reindeer           2.31  24       Pn   Pn     23 44 08.6 +0.4
HIN   Hinchinbrook I     2.34 111       Pn   Pn     23 44 10.1 +1.6
HIN                                     IAML         23 44 50.5
     comp=E,26nm,1.2s
HIN                                     IAML         23 44 59.3
     comp=N,19nm,1.2s
M18K  Stony River        2.37 277            Pn     23 44 08.1 -0.7
M24K  Tolsona, Glenn     2.40  68            Pn     23 44 09.5 +0.3
KLU   Klutina            2.41  83            Pn     23 44 07.9 -1.5
KLU                                     IAML         23 44 37.4
     comp=E,18nm,0.4s
KLU                                     IAML         23 44 47.2
     comp=N,22nm,0.4s
DIV   Divide             2.50  92            Pn     23 44 08.9 -1.7
N18K  Kilae Creek        2.50 258       Pn   Pn     23 44 09.4 -1.3
K20K  Telida             2.53 326            Pn     23 44 10.4 -0.6
K20K  Telida             2.53 326       IAML         23 44 46.5
     comp=E,12nm,0.6s
O18K  Koktuh Hills       2.57 237       Pn   Pn     23 44 10.9 -0.7
MCK   McKinley           2.60  20       Pn   Pn     23 44 12.1 +0.1
EYAK  Cordova Ski Ar     2.63 105       Pn   Pn     23 44 12.4  0.0
Q19K  Cape Douglas,      2.75 211       Pn   Pn     23 44 13.3 -0.8
BPAW  Bear Paw Mtn.      2.80 359       Pn   Pn     23 44 13.6 -1.1
BPAW                                    IAML         23 44 51.4
     comp=E,9.7nm,0.4s
SYI   Shuyak Island      2.81 196       Pn   Pn     23 44 14.2 -0.6
SYI                                     IAML         23 44 54.0
     comp=E,15nm,1.2s
SYI                                     IAML         23 44 56.5
     comp=N,21nm,1.0s
P18K  Big Mountain,      2.88 230            Pn     23 44 15.2 -0.6
P18K  Big Mountain,      2.88 230       IAML         23 45 02.7
     comp=N,11nm,1.1s
P18K                                    IAML         23 45 23.8
     comp=E,9.8nm,1.1s
L18K  Granite Mounta     2.89 291            Pn     23 44 15.1 -0.8
TTA   Tatalina           2.90 306       Pn   Pn     23 44 15.4 -0.7
N25K  Chitina, Valde     3.05  82            Pn     23 44 18.8 +0.6
N25K                                    IAML         23 45 05.2
     comp=N,8.7nm,0.4s
J20K  Nowinta River      3.24 334            Pn     23 44 19.9 -0.8
J20K  Nowinta River      3.24 334       IAML         23 44 57.4
     comp=E,12nm,0.4s
J20K                                    IAML         23 44 58.4
     comp=N,13nm,0.5s
```

*RSNC **07** 23:52:16.6±0.0, 8°N±1°×7°3W±°, h140km±2km, M3.2, mB4.6, mb3.9, ML3.1, Mw(mB)3.8*

*IDC **07** 23:52:16.7±1.0, 8°.22N×72°.95W, h160km±16km, mb3.2/5, mbtmp3.7/8, Error ellipse: s-maj=27.2km s-min=9.1km az=137.0*

ISC 07 23:52:15.6±0.8, 8°.30N±0°.03×73°.19W±0°.04, h141km±7km, n40, σ1§42/72, mb3.7/5, Northern Colombia

```
Code  Station Name       Δ°   AZ°      Phase ID          Time      Res
                                      Op    ISC       h m  s    ISC
OCAC  Ocana              0.14 245       P      Pn     23 52 35.9 +1.1
OCAC                                          S      Sn     23 52 50.2 +0.8
PAMC  Pamplona, Colo     1.07 153       P      Pn     23 52 41.3 +0.6
PAMC                                          S      Sn     23 52 59.7  0.0
BRJC  Barrancabermej     1.43 203       P      Pn     23 52 44.0 +0.3
BRJC                                          S      Sn     23 53 04.9 -0.3
BARC  Barichara          1.70 180       P      Pn     23 52 47.2 +0.3
BARC                                          S      Sn     23 53 10.5 -0.4
ZARC  Zaragoza, Cauc     1.84 244       P      Pn     23 52 48.6 +0.3
ZARC                                          S      Sn     23 53 13.3  0.0
ARGC  Ariguani, Magd     1.87 326       P      Pn     23 52 50.9 +2.3
ARGC                                          S      Sn     23 53 14.8 +0.8
PTBC  PUERTO BERRIO,     2.15 216       P      Pn     23 52 52.0 -0.1
PTBC                                          S      Sn     23 53 18.9 -1.2
TAMC  Tame, Arauca       2.31 143       P      Pn     23 52 54.3 +0.3
TAMC                                          S      Sn     23 53 23.3 -0.2
UREC  San Jos de Ur      2.39 257       P      Pn     23 52 54.3 -0.6
UREC                                          S      Sn     23 53 23.4 -1.7
RUSC  La Rusia           2.39 178       P      Pn     23 52 54.8 -0.7
RUSC                                          S      Sn     23 53 25.6 -0.5
SJCC  San Jacinto, C     2.53 309       P      Pn     23 52 57.3 +0.6
SJCC                                          S      Sn     23 53 27.2 -1.1
SDV   Santo Domingo      2.59  77       P      Pn     23 52 58.4 +0.9
     23nm,0.3s,baz=201,slow=20,SNR=6.8
SDV                                           S      Sn     23 53 28.6 -1.3
     86nm,0.4s,baz=34,slow=15,SNR=16
SDV   Santo Domingo      2.59  77       P      Pn     23 52 58.5 +0.9
SDV                                           S      Sn     23 53 29.3 -0.6
CRJC  Cerrejon, Guaj     2.72   6       P      Pn     23 52 59.1  0.0
CRJC                                          S      Sn     23 53 31.6 -1.1
SPBC  San Pablo de B     2.77 199       P      Pn     23 53 00.2 +0.4
SPBC                                          S      Sn     23 53 33.9  0.0
NORC  Norcasia           3.19 212       P      Pn     23 53 05.2 +0.1
NORC                                          S      Sn     23 53 40.5 -2.9
LCBC  Los crdobas,       3.19 280       P      Pn     23 53 05.9 +0.8
LCBC                                          S      Sn     23 53 43.7 +0.4
DBBC  Dabeiba            3.26 247       P      Pn     23 53 05.9 -0.1
DBBC                                          S      Sn     23 53 42.1 -2.8
APAC  Apartado, Choc     3.38 263       P      Pn     23 53 07.2 -0.3
APAC                                          S      Sn     23 53 48.0 +0.3
URIC  Uribia, Colomb     3.58  19       P      Pn     23 53 09.4 -0.7
URIC                                          S      Sn     23 53 50.3 -2.0
ROSC  El Rosal           3.62 198       P      Pn     23 53 13.9 +3.0
     16nm,0.3s,baz=354,slow=19,SNR=6.0
ROSC                                          S      Sn     23 53 56.4 +2.6
     41nm,0.6s,baz=16,slow=8.7,SNR=7.8
ROSC  El Rosal           3.62 198       P      Pn     23 53 13.2 +2.2
ROSC                                          S      Sn     23 53 52.0 -1.8
CHIC  Chingaza           3.69 188       P      Pn     23 53 12.1 +0.2
CHIC                                          S      Sn     23 53 57.7 +2.2
CBOC  Ciudad Bolivar     3.70 229       P      Pn     23 53 12.8 +0.9
CBOC                                          S      Sn     23 53 53.9 -1.6
GUY2C Guyana, Caldas     3.74 215       P      Pn     23 53 13.2 +0.5
GUY2C                                         S      Sn     23 53 54.4 -2.5
VILC  Villavicencio,     4.19 187       P      Pn     23 53 18.7 +0.4
VILC                                          S      Sn     23 54 06.9 -0.1
PLMC  San Jos del P      4.56 223       P      Pn     23 53 24.0 +0.8
PLMC                                          S      Sn     23 54 14.6 -1.1
PTAC  Punta Ardita,      4.72 256       P      Pn     23 53 25.1  0.0
PTAC                                          S      Sn     23 54 17.6 -1.7
ORTC  Ortega, Tolima     4.82 205       P      Pn     23 53 29.1 +2.6
ORTC                                          S      Sn     23 54 23.5 +1.7
PRAC  Prado              4.86 200       P      Pn     23 53 27.8 +0.7
PRAC                                          S      Sn     23 54 24.4 +1.7
URMC  La Uribe, Meta     5.16 193       P      Pn     23 53 32.0 +0.9
     1µm31nm,0.8s
URMC                                          S      Sn     23 54 30.4 +0.5
     1µm31nm,0.8s
YOTC  Yotoco, Valle      5.32 216       P      Pn     23 53 33.3 +0.1
     3.8nm,0.8s
MACC  Macarena, Meta     6.15 186       P      Pn     23 53 42.7 -1.6
     469nm29nm,0.5s
MACC                                          S      Sn     23 54 49.2 -4.4
     469nm29nm,0.5s
POPC  Popayan, Colom     6.69 211       P      Pn     23 53 53.7 +1.9
     6.7nm,0.9s
PCRV  Puerto La Cruz     8.64  77       P      Pn     23 54 17.2 -0.5
     18nm,1.0s,baz=2.0,slow=16,SNR=2.3
PCRV                                          S      Sn     23 55 50.6 -3.2
     6.6nm,0.8s,baz=31,slow=22,SNR=1.2
TXAR  Lajitas Array      35.45 310      P      P      23 58 58.9 +0.3
     0.2nm,0.5s,baz=133,slow=10,SNR=3.7
     0.2nm,0.5s
ULM   Lac du Bonnet      45.88 340      P      P      00 00 23.9 +0.2
     0.8nm,0.4s,baz=170,slow=5.7,SNR=2.2
     0.8nm,0.4s
SCHQ  Schefferville      46.68   5      P      P      00 00 29.8 -0.2
     2.1nm,1.1s,baz=211,slow=18,SNR=2.1
     2.1nm,1.1s
YKA   Yellowknife Ar     61.86 340      P      P      00 02 19.9 +0.3
     0.5nm,0.5s,baz=136,slow=6.5,SNR=12
     0.5nm,0.5s
TORD  Torodi Ar. Bea     73.51  79      P      P      00 03 31.2 -2.4
     0.3nm,0.8s,baz=289,slow=4.4,SNR=4.2
     0.3nm,0.8s
```

WEL 08 00:01:13.7±1.0, 35°S±19°×17°9E±2°2, h203km±22km, M3.6/11, ML3.8/6, MLv3.6/11, Error ellipse: s-maj=35.8km s-min=12.0km az=128.6, confirmed, South of Kermadec Islands

```
Code  Station Name       Δ°   AZ°      Phase ID          Time      Res
                                      Op    ISC       h m  s    ISC
MXZ   Matakaoa Point     2.70 196       P      Pn     00 01 59.9 -0.1
MXZ                                           S      S      00 02 34.8 -0.9
WMGZ  Waiomatatini S     2.93 193       P      Pn     00 02 03.2 +0.6
WMGZ                                          S      S      00 02 40.6 +0.2
HAZ   Te Kaha            3.03 203       P      Pn     00 02 04.6 +0.8
HAZ                                           S      S      00 02 43.9 +1.5
PKGZ  Pakihiroa          3.04 198       P      Pn     00 02 04.8 +0.8
PKGZ                                          S      S      00 02 44.8 +1.9
PUZ   Puketiti           3.20 194       P      Pn     00 02 05.7 -0.1
PUZ                                           S      S      00 02 46.6 +0.4
RUGZ  Raukumara Rang     3.25 202       P      Pn     00 02 07.1 +0.5
RUGZ                                          S      S      00 02 47.9 +0.5
TWGZ  Tauwhareparae      3.36 197       P      Pn     00 02 08.2 +0.4
TWGZ                                          S      S      00 02 52.1 +2.4
CNGZ  Carnagh Statio     3.61 193       P      Pn     00 02 11.2 +0.4
MWZ   Matawai            3.64 202       P      Pn     00 02 11.3 +0.2
MWZ                                           S      S      00 02 55.2 -0.4
TKGZ  Te Karaka          3.65 197       P      Pn     00 02 10.6 -0.5
TKGZ                                          S      S      00 02 56.7 +0.9
URZ   Urewera            3.71 207       P      Pn     00 02 12.5 +0.6
URZ                                           S      S      00 02 58.0 +0.8
RAGZ  Rawiri             3.82 202       P      Pn     00 02 13.3  0.0
RAGZ                                          S      S      00 03 00.4 +0.6
RIGZ  Rimuhau            3.92 197       P      Pn     00 02 14.3 -0.3
RIGZ                                          S      S      00 03 02.8 +0.9
MUGZ  Murupara           4.03 209       P      Pn     00 02 15.5 -0.4
MUGZ                                          S      S      00 03 05.4 +1.0
RTZ   Ruatahuna          4.07 206       S      S      00 03 06.5 +1.1
SNGZ  Shannon Statio     4.11 201       S      S      00 03 07.6 +1.5
KNZ   Kokohu             4.24 197       P      Pn     00 02 17.6 -0.9
RAHZ  Arahi              4.31 203       P      Pn     00 02 18.5 -0.9
RAHZ                                          S      S      00 03 11.2 +0.5
NMHZ  Naumai             4.56 205       P      Pn     00 02 22.3 -0.4
NMHZ                                          S      S      00 03 19.0 +2.4
ARHZ  Aropaoanui         4.65 202       S      S      00 03 19.8 +1.4
BKZ   Black Stump Fm     4.74 207       P      Pn     00 02 24.3 -0.5
BKZ                                           S      S      00 03 19.6 -0.9
OTVZ  Oturere            5.08 213       P      Pn     00 02 28.8 -0.5
```

*NEIC **08** 00:05:20.7±1.3, 51°.8N±0°.2×178°.2E±0°.1, h127km±12km, mb4.0/152, ML3.5(AEIC), Error ellipse: s-maj=25.4km s-min=11.3km az=164.0*

*IDC **08** 00:05:20.4±1.5, 52°.07N×178°.32E, h113km±12km, mb3.7/25, mbtmp4.1/28, Error ellipse: s-maj=16.2km s-min=9.9km az=170.0*

*AEIC **08** 00:05:21.3±2.1, 51°.9N±0°.1×178°.6E±0°.1, h156km±7km, Error ellipse: s-maj=20.6km s-min=11.6km az=167.0*

*MOS **08** 00:05:22.0±1.2, 52°.03N×178°.30E, h141km, mb4.1/24, Error ellipse: s-maj=10.7km s-min=7.6km az=87.1*

ISC 08 00:05:21.8±0.8, 51°.95N±0°.09×178°.27E±0°.04, h127km±6km, n255, σ0§99/267, mb4.0/86, 7C-10D, Rat Islands

```
Code  Station Name       Δ°   AZ°      Phase ID          Time      Res
                                      Op    ISC       h m  s    ISC
GANO  Gareloi North      1.82  93            Pn     00 05 52.9 -0.4
GANO                                          Sn     00 06 17.4 -0.1
GANE  Gareloi Northe     1.84  93            Pn     00 05 53.5  0.0
GALAA Gareloi Lava P     1.84  95            Pn     00 05 53.4 -0.2
TANO  Tanaga North       2.24  89            Pn     00 05 58.0 -0.5
TANO                                          Sn     00 06 26.8 +0.2
TASE  Tanaga Southea     2.29  91            Pn     00 05 58.7 -0.5
TAFP  Tanaga Falls P     2.32  90            Pn     00 05 58.8 -0.7
TAFP                                          Sn     00 06 27.2 -1.3
SHEM  Shemya Is, Ala     2.67 289       P    Pn     00 06 02.6 -1.4
     144nm,0.3s,baz=127,slow=2.5,SNR=66
SHEM                                          S      Sn     00 06 34.2 -2.3
     133nm,0.3s,baz=74,slow=21,SNR=8.3
KIKV  Kanaga Island      2.83  90            Pn     00 06 05.5 -0.5
KIWB  Kanaga Island      2.84  90            Pn     00 06 05.2 -0.9
KIWB                                          Sn     00 06 39.9 -0.4
KINC  Kanaga Island      2.85  89            Pn     00 06 05.6 -0.7
KINC                                          Sn     00 06 39.6 -1.0
ADK   Adak               3.13  89            Pn     00 06 08.6 -1.3
ADK                                           Sn     00 06 45.5 -1.4
ADK   Adak               3.13  89       P    Pn     00 06 08.6 -1.3
ADK                                           Sn     00 06 45.5
ADAG  Mount Adagdak      3.17  87            Pn     00 06 09.6 -0.9
GSCK  Great Sitkin C     3.44  87            Pn     00 06 13.1 -0.9
GSCK                                          Sn     00 06 54.3 -0.2
GSTR  Great Sitkin T     3.51  85       Pn   Pn     00 06 14.4 -0.5
ATKA  Atka Island        4.66  84       Pn   Pn     00 06 29.1 -0.9
SPIA  Saint Paul Isl     8.48  47       Pn   Pn     00 07 22.0 +0.6
MAPS  Pakushin South     9.14  72            Pn     00 07 30.6 +0.2
MSW   Makushin Switc     9.24  72            Pn     00 07 32.6 +0.8
UNV   Unalaska Valle     9.40  72            Pn     00 07 33.5 -0.3
LVA   Lava Point         9.71  71       Pn   Pn     00 07 38.0  0.0
PET   Petropavlovsk     12.01 283‖eP          Pn     00 08 10.5 +1.9
M11K  Mekoryuk          12.07  40       Pn   Pn     00 08 11.7 +2.4
PEA0B Petropavlovsk-    12.58 283‖eP          Pn     00 08 18.7 +2.6
PETK  Petropavlovsk-    12.58 283       Pn   Pn     00 08 15.7 -0.3
PETK  Petropavlovsk-    12.58 283       P    Pn     00 08 16.2 +0.2
     3.4nm,0.7s,baz=92,slow=18,SNR=9.4
M13K  Dall Lake         13.25  43       P    P      00 08 30.0 +0.2
K13K  Kusilvak Mount    13.62  36       Pn   Pn     00 08 30.6 +1.2
O14K  Tigyukauivet M    13.65  50       P    P      00 08 34.6 +0.4
M14K  Bethel            14.01  43       P    P      00 08 38.8 +0.5
L14K  Kuka Creek        14.03  40       Pn   Pn     00 08 35.3 +0.7
J14K  Nanvaranak Lak    14.54  35       Pn   Pn     00 08 41.8 +0.6
K15K  Wolf Creek Mou    15.01  39       P    P      00 08 50.8 +1.4
ANM   Nome              15.23  28       Pn   Pn     00 08 50.4 +0.7
ANM   Nome              15.23  28       P    Pn     00 08 50.4 +0.7
ANM                                     pmax pmax
     comp=Z,4.0nm,1.2s
Q16K  Kokwok River B    15.28  51       Pn   Pn     00 08 50.9 +0.5
Q16K                                    IAmb IAmb   00 08 52.9
     comp=Z,12nm,1.1s
M16K  Timber Creek      15.44  45       Pn   Pn     00 08 51.5 -0.8
M16K                                    IAmb IAmb   00 08 55.6
     comp=Z,6.8nm,0.8s
L16K  Owhat River       15.53  42       P    P      00 08 55.6 +0.5
L16K                                    IAmb IAmb   00 08 57.5
     comp=Z,8.3nm,0.9s
N17K  Nushagak Hills    16.03  48       Pn   Pn     00 08 59.5 -0.3
N17K                                    IAmb IAmb   00 09 03.8
     comp=Z,8.6nm,0.9s
M17K  Holitna River     16.26  45       P    P      00 09 03.8 +0.6
F15K  North Star Dit    16.29  26            Pn     00 09 03.2 +0.3
K17K  Iditarod          16.51  40            P      00 09 06.3 +0.4
K17K                                    IAmb IAmb   00 09 09.7
     comp=Z,6.3nm,0.8s
J17K  VABM Dome         16.57  37            Pn     00 09 06.5 +0.3
P18K  Big Mountain,     16.61  53            P      00 09 07.0 -0.2
N18K  Kilae Creek       16.69  48            P      00 09 08.7 +0.7
N18K                                    IAmb IAmb   00 09 14.1
     comp=Z,11nm,0.7s
G16K  Koyuk River       16.71  29       P    P      00 09 08.7 +0.6
G16K                                    IAmb IAmb   00 09 11.5
     comp=Z,6.3nm,1.0s
Q18K  Koktuh Hills      16.75  51       P    P      00 09 09.5 +0.8
L18K  Granite Mounta    16.94  43       P    Pn     00 09 11.4 +0.6
BILL  Bilibino          17.16 345            P      00 09 13.9 +0.9
BILL                                    IAmb IAmb   00 09 15.4
     comp=Z,6.9nm,0.8s
BILL  Bilibino          17.16 345‖eP          P      00 09 14.2 +1.2
BILL                                    pmax pmax
     comp=Z,8.0nm,0.9s
OHAK  Old Harbor        17.23  61       P    P      00 09 12.1 -1.8
OHAK                                    IAmb IAmb   00 09 25.4
     comp=Z,17nm,1.2s
Q19K  Port Alsworth     17.27  51       P    Pn     00 09 17.7 +2.9
Q19K  Cape Douglas,     17.30  55       P    P      00 09 13.8 -0.9
N19K  Bonanza Creek     17.38  49       P    Pn     00 09 16.5 +0.3
TTA   Tatalina          17.53  41       P    Pn     00 09 18.5 +0.5
TTA                                     IAmb IAmb   00 09 19.5
     comp=Z,9.8nm,1.0s
TTA   Tatalina          17.53  41       P    Pn     00 09 18.5 +0.5
TTA                                     pmax pmax
     comp=Z,10.0nm,1.0s
P19K  Oil Pt            17.66  53       P    Pn     00 09 19.3 -0.3
KDAK  Kodiak Island     17.67  59       P    P      00 09 16.9 -1.9
KDAK                                    IAmb IAmb   00 09 19.8
     comp=Z,12nm,0.8s
```

KDAK Kodiak Island 17.67 59 P **P 00 09 16.5 -2.2**
comp=Z,9.4nm,0.5s,baz=117,slow=4.3,SNR=36
KDAK Kodiak Island 17.67 59⇑ *eP* **P 00 09 17.4 -1.3**
KDAK pmax pmax
comp=Z,66nm,1.6s
L19K White Mountain 17.70 44 P **Pn 00 09 20.2 +0.2**
L19K IAmb IAmb 00 09 23.7
comp=Z,7.6nm,0.8s
ILSW Iliamna Southw 17.79 52 P **Pn 00 09 21.4 +0.3**
ILSW IAmb IAmb 00 09 35.8
comp=Z,20nm,1.2s
M19K Big River Lodg 17.80 45 P **Pn 00 09 20.9 -0.2**
M19K IAmb IAmb 00 09 24.2
comp=Z,7.1nm,0.8s
H18K Honhosa River 17.83 33 P **Pn 00 09 21.5 0.0**
SYI Shuyak Island 17.89 57 P **P 00 09 20.2 -0.9**
SYI IAmb IAmb 00 09 37.7
comp=Z,14nm,1.0s
C16K Lisburne Hills 18.18 20 P **P 00 09 24.7 +0.5**
J19K Poorman 18.19 38 P **P 00 09 24.9 +0.5**
G18K Tagagawik 18.19 31 P **P 00 09 25.3 +0.9**
M20K Styx River 18.35 46 P **Pn 00 09 27.4 -0.4**
M20K IAmb IAmb 00 09 35.7
comp=Z,9.3nm,0.7s
K20K Telida 18.52 41 P **P 00 09 28.8 +0.9**
RDOG Red Dog Mine 18.55 22 Pn **Pn 00 09 30.5 +0.6**
RDOG IAmb IAmb 00 09 33.1
comp=Z,5.0nm,0.6s
SPU Mount Spurr 18.62 49 P **Pn 00 09 30.9 -0.1**
SPU IAmb IAmb 00 09 35.7
comp=Z,5.9nm,0.8s
CNPM China Poot 18.63 54 P **P 00 09 29.3 0.0**
E18K Tukpahlearik C 18.66 26 Pn **Pn 00 09 34.9 +3.7**
H19K Roundabout Mou 18.70 34 P **P 00 09 30.1 +0.2**
STLK Strandline Lak 18.82 48 P **Pn 00 09 32.5 -0.7**
STLK IAmb IAmb 00 09 37.6
comp=Z,6.9nm,0.6s
J20K Nowinta River 18.85 39 P **P 00 09 32.1 +0.5**
J20K IAmb IAmb 00 09 35.6
comp=Z,6.7nm,0.8s
BRLK Bradley Lake 18.85 53 P **P 00 09 31.1 -0.5**
G19K Purcell Mounta 18.85 32 Pn **Pn 00 09 36.3 +2.7**
F19K Shaleruckik Mo 19.07 29 P **P 00 09 33.4 -0.5**
F19K IAmb IAmb 00 09 38.0
comp=Z,4.2nm,0.9s
SKT Skwentna 19.10 47 P **P 00 09 35.4 +1.1**
PPLA Purkeypile 19.12 44 P **Pn 00 09 36.3 -0.5**
SUA Susitna One 19.31 48 P **P 00 09 37.1 +0.5**
SLKM Skilak Lake 19.33 51 P **P 00 09 36.8 0.0**
CAST Castle Rocks 19.36 42 P **P 00 09 37.9 +0.8**
CAST IAmb IAmb 00 09 39.0
comp=Z,6.4nm,0.8s
C18K Utukok River 19.41 23 P **P 00 09 38.5 +0.8**
SEW Seward 19.62 53 P **P 00 09 39.5 -0.5**
E19K Redstone River 19.63 28 P **P 00 09 40.8 +0.7**
RC01 Rabbit Creek A 19.69 50 P **P 00 09 41.6 +1.0**
RC01 IAmb IAmb 00 09 44.4
comp=Z,7.8nm,1.0s
F20K Avaraart Lake 19.83 30 P **P 00 09 42.5 +0.3**
KTH Kantishna Hill 19.89 42 P **P 00 09 43.8 +0.9**
H21K Melozitna Rive 20.06 36 P **P 00 09 45.2 +0.6**
H21K IAmb IAmb 00 09 50.1
comp=Z,7.9nm,1.1s
BPAW Bear Paw Mtn. 20.07 41 P **P 00 09 44.8 0.0**
BPAW IAmb IAmb 00 09 57.8
comp=Z,3.6nm,0.6s
TRF Thorofare Moun 20.12 43 P **P 00 09 45.9 +0.4**
TRF IAmb IAmb 00 09 48.6
comp=Z,5.7nm,0.6s
GHO Glory Hole Cre 20.23 48 P **P 00 09 48.2 +1.6**
GHO IAmb IAmb 00 09 48.6
comp=Z,8.7nm,0.7s
G21K Allakaket 20.25 33 P **P 00 09 47.1 +0.4**
G21K IAmb IAmb 00 09 48.0
comp=Z,4.8nm,1.0s
PWL Port Wells 20.31 51 P **P 00 09 47.4 0.0**
KNK Knik Glacier 20.36 49 P **P 00 09 48.9 +1.0**
KNK IAmb IAmb 00 09 50.4
comp=Z,6.6nm,0.6s
SML Sawmill 20.51 48 P **P 00 09 50.3 +0.8**
SML Sawmill 20.51 48 P **P 00 09 50.3 +0.8**
SML pmax pmax
comp=Z,12nm,0.7s
F21K Alatna River 20.65 32 P **P 00 09 51.5 +0.5**
F21K IAmb IAmb 00 09 51.7
comp=Z,4.1nm,1.0s
RND Reindeer 20.72 44 P **P 00 09 52.0 +0.2**
RND IAmb IAmb 00 10 09.2
comp=Z,6.8nm,1.1s
RND Reindeer 20.72 44 P **P 00 09 52.0 +0.2**
RND pmax pmax
comp=Z,7.0nm,1.1s
MCK McKinley 20.79 43 P **P 00 09 52.6 +0.1**
MCK IAmb IAmb 00 09 55.2
comp=Z,4.3nm,1.0s
MCK McKinley 20.79 43 P **P 00 09 52.6 +0.1**
MCK pmax pmax
comp=Z,4.0nm,1.0s
GLI Glacier Island 20.91 51 P **P 00 09 53.1 -0.7**
SCM Sheep Creek Mo 20.98 48 P **P 00 09 54.6 0.0**
SCM Sheep Creek Mo 20.98 48 P **P 00 09 54.6 0.0**
SCM pmax pmax
comp=Z,14nm,1.0s
NEA2 Nenana 21.03 40 P **P 00 09 55.0 -0.1**
NEA2 IAmb IAmb 00 09 55.4
comp=Z,6.1nm,0.5s
HIN Hinchinbrook I 21.12 53 P **P 00 09 55.2 -0.9**
I23K Minto, Yukon-K 21.13 39 P **P 00 09 56.6 +0.5**
WRH Wood River Hil 21.38 41 P **P 00 09 57.5 -1.3**
EYAK Cordova Ski Ar 21.51 52 P **P 00 10 00.7 +0.5**
EYAK IAmb IAmb 00 10 17.4
comp=Z,8.6nm,1.1s
G23K Bananza Creek 21.56 35 P **P 00 10 01.2 +0.5**
G23K IAmb IAmb 00 10 02.6
comp=Z,4.5nm,1.1s
M24K Tolsona, Glenn 21.57 48 P **P 00 10 01.3 +0.3**
KLU Klutina 21.57 50 P **P 00 10 00.9 0.0**
KLU IAmb IAmb 00 10 07.1
comp=Z,7.0nm,1.0s
DIV Divide 21.58 51 P **P 00 10 00.4 -0.7**
DIV IAmb IAmb 00 10 01.3
comp=Z,5.0nm,0.5s
COLA College 21.62 40⇑ *eP* **P 00 10 01.0 -0.3**
COLA pmax pmax
comp=Z,5.0nm,0.8s
E22K Anaktuvuk Pass 21.69 30 P **P 00 10 02.3 +0.2**
B21K Ikpikpuk River 21.77 25 P **P 00 10 03.7 +0.8**
HDA Harding Lake 21.83 42 P **P 00 10 03.1 -0.4**
HDA IAmb IAmb 00 10 04.5
comp=Z,3.8nm,0.5s
H24K Noodor Dome 21.97 38 P **P 00 10 05.8 +0.8**
H24K IAmb IAmb 00 10 08.1
comp=Z,2.9nm,0.7s
IL31 21.97 41 P **P 00 10 03.8 -1.2**
ILAR Eielson Array 21.97 41 P **P 00 10 03.1 -1.9**
comp=Z,0.6nm,0.5s,baz=246,slow=8.4,SNR=18
ILAR ScP **ScP 00 17 21.8 -1.6**
comp=Z,0.4nm,0.7s,baz=279,slow=3.6,SNR=5.3
comp=Z,0.6nm,0.5s
ILAR Eielson Array 21.97 41 *eP* **P 00 10 04.1 -1.0**
ILAR pmax pmax
comp=Z,1.0nm,0.4s
PAX Paxson 22.08 46 P **P 00 10 06.6 +0.4**
PAX IAmb IAmb 00 10 07.1
comp=Z,4.6nm,0.8s
PAX Paxson 22.08 46 P **P 00 10 06.6 +0.4**
PAX pmax pmax
comp=Z,5.0nm,0.8s
BMRM Bremner River 22.12 51 P **P 00 10 06.0 -0.7**
BMRM IAmb IAmb 00 10 18.9
comp=Z,7.1nm,1.0s
N25K Chitina, Valde 22.22 50 P **P 00 10 07.2 -0.5**
N25K IAmb IAmb 00 10 10.1
comp=Z,4.2nm,0.9s
HMT Hamilton 22.22 53 P **P 00 10 07.3 -0.4**
E23K Chandalar 22.35 32 P **P 00 10 08.9 -0.1**
E23K IAmb IAmb 00 10 10.6
comp=Z,3.5nm,0.7s
SUCK Suckling Hills 22.44 54 P **P 00 10 09.5 -0.3**
G24K Hadweenzic Riv 22.46 36 P **P 00 10 09.9 -0.1**
G24K IAmb IAmb 00 10 12.4
comp=Z,8.3nm,1.1s
D23K Nanushuk River 22.50 29 P **P 00 10 10.2 -0.1**
RIDG Independent Ri 22.53 44 P **P 00 10 09.7 -1.0**
RIDG IAmb IAmb 00 10 12.2
comp=Z,4.8nm,0.9s
J25K Salcha River, 22.55 42 P **P 00 10 09.5 -1.4**
B22K Teshekpuk Lake 22.55 25 P **P 00 10 10.7 -0.1**
B22K IAmb IAmb 00 10 12.7
comp=Z,3.2nm,0.8s
GLB Gilahina Butte 22.57 50 P **P 00 10 11.6 +0.5**
GLB IAmb IAmb 00 10 18.6
comp=Z,6.2nm,1.1s
TOLK Toolik Lake Re 22.66 30 P **P 00 10 12.4 +0.4**
F24K Squaw Lake 22.67 34 P **P 00 10 12.8 +0.8**
F24K IAmb IAmb 00 10 14.8
comp=Z,2.9nm,0.7s
VRDI Verde Repeater 22.71 51 P **P 00 10 11.8 -0.8**
E24K Your Creek 22.73 32 P **P 00 10 13.0 +0.4**
PRP Porcupine Dome 22.76 40 P **P 00 10 12.5 -0.5**
SCRK Sand Creek 22.96 44 P **P 00 10 13.5 -1.4**
C23K Itkillik River 23.01 27 P **P 00 10 15.6 +0.5**
M26K Nabesna, AK 23.09 48 P **P 00 10 16.9 +0.8**
D24K Happy Valley 23.16 30 P **P 00 10 16.7 +0.1**
D24K IAmb IAmb 00 10 19.5
comp=Z,3.1nm,0.7s
FYU Fort Yukon 23.24 37 P **P 00 10 16.5 -0.7**
FYU IAmb IAmb 00 10 30.1
comp=Z,3.3nm,0.8s
J26L Joseph Creek 23.27 43 P **P 00 10 16.8 -0.9**
J26L IAmb IAmb 00 10 17.4
comp=Z,5.4nm,0.7s
MESA MESA 23.36 54 P **P 00 10 18.6 -0.1**
F25K Christian Rive 23.48 35 P **P 00 10 20.1 +0.4**
M27K Edge Creek, AK 23.59 48 P **P 00 10 21.9 +1.0**
M27K IAmb IAmb 00 10 22.9
comp=Z,3.9nm,0.8s
L27K Beaver Creek, 23.72 47 P **P 00 10 22.3 +0.5**
L27K IAmb IAmb 00 10 24.3
comp=Z,9.1nm,0.8s
E25K Arctic Village 23.73 33 P **P 00 10 22.4 +0.6**
BCAR Beaver Creek A 23.74 47 P **P 00 10 22.4 +0.4**
BMAR Burnt Mountain 23.79 35 P **P 00 10 22.7 +0.2**
D25K Kavik River 24.00 30 P **P 00 10 24.4 +0.1**
F26K Sheenjek River 24.05 35 P **P 00 10 25.3 +0.5**
F26K IAmb IAmb 00 10 28.1
comp=Z,2.7nm,0.8s
PCA Pinnacle 24.20 54 P **P 00 10 26.4 +0.2**
EGAK Eagle 24.34 43 P **P 00 10 27.4 +0.1**
G27K Doyon Strip 24.66 38 P **P 00 10 30.8 +0.5**
DAWY Dawson 24.96 45 P **P 00 10 33.1 +0.1**
DAWY IAmb IAmb 00 10 35.9
comp=Z,5.9nm,0.7s
C27K Jago River 24.98 31 P **P 00 10 33.6 +0.5**
I28M Miner Creek 24.99 41 P **P 00 10 32.5 -0.9**
I28M IAmb IAmb 00 10 36.2
comp=Z,3.8nm,1.1s
O29M Mount Kennedy 25.05 54 P **P 00 10 35.1 +1.2**
O29M IAmb IAmb 00 10 37.1
comp=Z,4.1nm,0.5s
M29M Somme Creek 25.19 49 P **P 00 10 35.5 +0.3**
L29M L29M 25.40 47 P **P 00 10 37.1 +0.1**
L29M IAmb IAmb 00 10 43.4
comp=Z,5.4nm,1.1s
F28M Old Crow 25.56 36 P **P 00 10 38.6 +0.1**
HYT Haines Junctio 25.58 52 P **P 00 10 40.9 +2.1**
I29M Ogilvie Camp, 25.64 42 P **P 00 10 39.2 +0.1**
I29M IAmb IAmb 00 10 41.9
comp=Z,3.8nm,0.7s
D27M Malcolm River 25.72 32 P **P 00 10 40.9 +1.1**
D27M IAmb IAmb 00 10 44.3
comp=Z,3.6nm,1.1s
K29M Barlow Dome 25.75 45 P **P 00 10 40.3 +0.1**
K29M IAmb IAmb 00 10 48.4
comp=Z,3.5nm,0.7s
H29M Whitestone 25.78 40 P **P 00 10 39.3 -1.1**
H29M IAmb IAmb 00 10 55.6
comp=Z,2.7nm,0.8s
N30M Aishikik Lake 25.79 51 P **P 00 10 43.0 +2.5**
M30M Minto, Yukon 25.97 48 P **P 00 10 45.8 +3.7**
M30M IAmb IAmb 00 10 47.6
comp=Z,5.0nm,0.6s
G29M Pine Creek 26.07 38 P **P 00 10 43.3 +0.3**
O30N Mendenhall 26.27 52 P **P 00 10 46.9 +2.0**
O30N IAmb IAmb 00 10 49.6
comp=Z,2.8nm,1.0s
J30M Hart River 26.35 44 P **P 00 10 46.0 +0.3**
J30M IAmb IAmb 00 10 57.4
comp=Z,3.0nm,0.8s
N31M Braeburn, Yuko 26.41 51 P **P 00 10 49.1 +2.9**
N31M IAmb IAmb 00 11 04.1
comp=Z,4.9nm,0.7s
I30M Mount Dempster 26.42 42 P **P 00 10 46.1 -0.2**
G30M tAoh Zraii Nji 26.78 39 P **P 00 10 49.0 -0.4**
H31M Peel River 27.34 41 P **P 00 10 53.8 -0.5**
H31M IAmb IAmb 00 10 56.1
comp=Z,1.9nm,0.8s
G31M Satah River 27.53 39 P **P 00 10 55.7 -0.2**
G31M IAmb IAmb 00 10 57.1
comp=Z,2.2nm,0.6s
F31M Tsiigehtchic 27.82 38 P **P 00 10 58.5 0.0**
F31M IAmb IAmb 00 10 59.8
comp=Z,1.7nm,0.8s
INK Inuvik 28.05 36 P **P 00 11 00.9 +0.3**
INK Inuvik 28.05 36 P **P 00 11 00.9 +0.3**
INK pmax pmax
comp=Z,1.0nm,1.1s
Q32M Nakina River 28.33 56 P **P 00 11 03.9 +0.5**
Q32M IAmb IAmb 00 11 13.6
comp=Z,3.7nm,1.1s
KLR Kul'dur 29.27 283 *diP* **P 00 11 11.7 +0.1**
KLR pmax pmax
comp=Z,6.0nm,0.8s
ZEA Zeya 30.33 294 *eP* **P 00 11 20.1 -0.8**
USA0B Ussuriysk Arra 31.42 274 P **P 00 11 27.0 -3.6**
USA0B Ussuriysk Arra 31.42 274 P **P 00 11 27.0 -3.6**
USA0B pmax pmax
comp=Z,6.0nm,0.9s
USRK Ussuriysk Ar. 31.42 274 P **P 00 11 30.2 -0.4**
comp=Z,3.7nm,0.6s,baz=59,slow=8.0,SNR=5.6
comp=Z,3.7nm,0.6s
H11N2 WAKE ISLAND Hy 33.37 200 T T 00 47 16.7
baz=11,slow=76,SNR=24
H11N3 WAKE ISLAND Hy 33.38 200 T T 00 47 11.9
baz=11,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 33.38 200 T T 00 47 17.4
baz=11,slow=76,SNR=22
BNX BinXian 33.46 280 ⇑P **P 00 11 47.8 -0.6**
BNX pmax pmax
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 36.16 46 P **P 00 12 10.8 -0.5**
comp=Z,0.9nm,0.6s,baz=283,slow=8.7,SNR=10
YKA pP **pP 00 12 39.0 +0.3**
comp=Z,0.4nm,0.7s,baz=285,slow=8.9,SNR=3.7
comp=Z,0.9nm,0.6s
YKA Yellowknife Ar 36.16 46 *eP* **P 00 12 11.7 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
NRIK Noril'sk 42.98 329 P **P 00 13 07.9 +0.2**
comp=Z,2.6nm,0.7s,baz=67,slow=9.6,SNR=6.1
comp=Z,2.6nm,0.7s
NRIK Noril'sk 42.98 329⇓ *eP* **P 00 13 08.0 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 44.37 294 *iP* **P 00 13 19.6 +0.3**
ULN pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 44.75 295 P **P 00 13 22.8 +0.5**
comp=Z,1.7nm,0.5s,baz=65,slow=7.8,SNR=23
SONM PcP **PcP 00 15 01.9 -0.3**
comp=Z,0.7nm,0.6s,baz=44,slow=1.5,SNR=5.7
comp=Z,1.7nm,0.5s
NVAR Mina Array Bea 45.28 81 P **P 00 13 26.3 -0.4**
comp=Z,0.6nm,0.5s,baz=294,slow=8.0,SNR=7.1
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 47.86 71 P **P 00 13 46.0 -0.9**
comp=Z,0.5nm,0.6s,baz=323,slow=2.3,SNR=6.6
comp=Z,0.5nm,0.6s
LYN LuoYang 49.24 276 ⇓P **P 00 13 57.9 +0.7**
LYN pmax pmax
comp=Z,18nm,0.6s
SPITS Spitsbergen Ar 49.66 355 P **P 00 13 58.6 -1.2**
comp=Z,1.9nm,0.5s,baz=40,slow=6.6,SNR=14
comp=Z,1.9nm,0.5s
ZALV Zalesovo Beam 52.30 312 P **P 00 14 18.9 -0.9**
comp=Z,0.4nm,0.3s,baz=27,slow=6.7,SNR=4.3
ZALV PcP **PcP 00 15 29.6 +0.4**
comp=Z,1.0nm,0.6s,baz=29,slow=3.4,SNR=6.8
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 52.30 312 *eP* **P 00 14 22.5 +2.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
GTA Gaotai 53.66 290 P **P 00 14 30.5 +0.4**
GTA pmax pmax
comp=Z,9.0nm,0.6s
GTA LR LR
comp=N,130nm,12.4s
GTA LR LR
comp=E,70nm,11.2s
GTA LR LR
comp=Z,91nm,15.9s
ARCES ARCESS Array B 57.20 349 P **P 00 14 54.1 -0.7**
comp=Z,4.7nm,0.9s,baz=33,slow=7.5,SNR=8.1
comp=Z,4.7nm,0.9s
KURK Kurchatov 57.29 312 **P 00 14 55.2 -0.5**
KURK Kurchatov 57.29 312 *ceP* **P 00 14 55.7 0.0**
KURK pmax pmax
comp=Z,6.0nm,1.7s
KURBB Kurchatov Arra 57.40 312 P **P 00 14 56.2 -0.3**
comp=Z,2.6nm,0.5s,baz=42,slow=6.6,SNR=32
KURBB PcP **PcP 00 15 48.9 0.0**
comp=Z,1.2nm,0.8s,baz=47,slow=3.4,SNR=5.0
comp=Z,2.6nm,0.5s
MK31 Makanchi Array 58.24 307 P **P 00 15 01.4 -1.1**
MK31 IAmb IAmb 00 15 02.4
comp=Z,1.3nm,0.6s
MK31 Makanchi Array 58.24 307 P **P 00 15 01.4 -1.1**
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 58.24 307 P **P 00 15 01.7 -0.8**
comp=Z,1.5nm,0.5s,baz=48,slow=6.3,SNR=39
comp=Z,1.5nm,0.5s
MAKZ Makanchi 58.38 307 **P 00 15 02.5 -1.0**
MAKZ Makanchi 58.38 307 P **P 00 15 02.5 -1.0**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 59.26 318 P **P 00 15 09.5 +0.1**
comp=Z,4.8nm,0.4s,baz=53,slow=6.5,SNR=44
BVAR PcP **PcP 00 15 56.5 +0.3**
comp=Z,2.7nm,0.5s,baz=72,slow=3.3,SNR=9.4
comp=Z,4.8nm,0.4s
BRVK Borovoye 59.28 318 **P 00 15 09.5 0.0**
BRVK Borovoye 59.28 318 *deP* **P 00 15 09.2 -0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 60.36 79 P **P 00 15 17.4 0.0**
comp=Z,0.3nm,0.5s,baz=312,slow=6.1,SNR=12
comp=Z,0.3nm,0.5s
SCHQ Schefferville 60.67 37 P **P 00 15 18.2 -0.8**
comp=Z,0.5nm,0.4s,baz=317,slow=7.3,SNR=5.2
comp=Z,0.5nm,0.4s
ARTI Arti 61.23 327 P **P 00 15 22.3 -0.5**
ARTI Arti 61.23 327 *diP* **P 00 15 23.2 +0.4**
ARTI 00 15 58.1
ARTI S **S 00 23 33.6 +1.4**
ARTI SS **SS 00 27 31.1 -2.4**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
PZH PanZhiHua 61.45 277 P **P 00 15 23.6 -1.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
FINES FINESS Array B 64.80 346 P **P 00 15 45.1 -1.1**
comp=Z,0.9nm,0.5s,baz=26,slow=7.8,SNR=11
comp=Z,0.9nm,0.5s
FINES FINESS Array B 64.80 346 *eP* **P 00 15 45.9 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
AAK Ala-Archa 65.08 308⇓ *iP* **P 00 15 49.0 +0.4**
AAK pmax pmax
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 66.36 321 P **P 00 15 56.9 +0.4**
ABKAR IAmb IAmb 00 16 03.6
comp=Z,1.7nm,1.1s
KKAR Karatay Array 66.64 311 P **P 00 15 58.3 -0.1**
KKAR Karatay Array 66.64 311 IAmb IAmb 00 15 59.1
comp=Z,2.1nm,0.8s
KKAR Karatay Array 66.64 311 P **P 00 15 58.3 -0.1**
NOA NORSAR Array B 66.89 353 P **P 00 15 58.6 -1.1**
comp=Z,1.2nm,1.0s,baz=0.5,slow=5.8,SNR=4.0
comp=Z,1.2nm,1.0s
HFS Hagfors 67.58 352 P **P 00 16 02.8 -1.2**
comp=Z,1.9nm,0.9s,baz=349,slow=1.5,SNR=5.0
comp=Z,1.9nm,0.9s
BELG Belogornoye 68.06 330⇑ *eP* **P 00 16 07.6 +0.5**
BELG pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 69.15 273 P **P 00 16 15.2 +0.9**
comp=Z,1.6nm,0.3s,baz=24,slow=7.0,SNR=6.5
comp=Z,1.6nm,0.3s
SIMJ Simiganj 70.80 308 P **P 00 16 24.5 +0.1**
SIMJ IAmb IAmb 00 16 26.8
comp=Z,3.9nm,0.9s
KBL Kabul 74.03 306 P **P 00 16 43.5 -0.2**
KBL IAmb IAmb 00 16 43.9
comp=Z,3.0nm,0.8s
KBL Kabul 74.03 306 P **P 00 16 43.5 -0.2**
KBL pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 74.42 340 P **P 00 16 45.0 -0.3**
comp=Z,2.0nm,0.4s,baz=24,slow=6.2,SNR=15
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 74.42 340 *eP* **P 00 16 45.5 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 74.42 340⇑ *eP* **P 00 16 45.2 -0.1**
AKBB pmax pmax
comp=Z,18nm,2.8s
KIV Kislovodsk 77.06 329 *eP* **P 00 17 00.9 +0.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
NCK Nalchik 77.17 328⇓ *eP* **P 00 17 02.1 +0.9**
NCK pmax pmax
comp=Z,25nm,1.8s
BUR08 Bucovina Ar. S 78.14 342 P **P 00 17 07.0 +0.4**
BUR08 IAmb IAmb 00 17 08.9
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 81.20 221 P **P 00 17 23.0 -0.2**
comp=Z,1.5nm,0.6s,baz=32,slow=6.2,SNR=10
comp=Z,1.5nm,0.6s
WRA Warramunga Arr 81.20 221 *eP* **P 00 17 24.3 +1.1**
WRA pmax pmax
comp=Z,2.0nm,0.6s
FITZ Fitzroy Crossi 83.41 230 P **P 00 17 35.6 +0.9**
comp=Z,3.1nm,0.8s,baz=0.0,slow=9.1,SNR=1.8
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 83.64 333 P **P 00 17 36.2 +0.2**
comp=Z,0.4nm,0.8s,baz=48,slow=3.1,SNR=1.5
comp=Z,0.4nm,0.8s
ASAR Alice Springs 84.71 220 P **P 00 17 41.9 +0.6**
comp=Z,1.0nm,0.7s,baz=23,slow=4.8,SNR=6.2
comp=Z,1.0nm,0.7s
STKA Stephens Creek 89.45 211 P **P 00 18 05.3 +1.5**
comp=Z,0.9nm,0.3s,baz=355,slow=10,SNR=3.2
comp=Z,0.9nm,0.3s
STKA Stephens Creek 89.45 211 *eP* **P 00 18 06.4 +2.5**
STKA pmax pmax
comp=Z,1.0nm,0.3s
TORD Torodi Ar. Bea 115.11 356 PKP **PKiKP 00 23 47.5 -0.5**
comp=Z,0.3nm,0.4s,baz=350,slow=2.9,SNR=6.1
BOSA Boshof 149.22 309 PKPbc **PKPbc 00 24 55.0 -0.1**
comp=Z,2.1nm,0.7s,baz=48,slow=1.6,SNR=7.7

IDC 08 00:07:13.8±645.0, 33°.34N×116°.89W, h0km, Error ellipse: s-maj=243.9km s-min=9.9km az=53.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	0.45	53	I	I	00 09 20.0	
	baz=234,slow=328,SNR=4.6						
I56US	NEWPORT INFRAS	14.91	359	I	I	01 38 30.0	
	baz=181,slow=336,SNR=2.6						
I10CA	LAC DU BONNET	22.81	36	I	I	02 26 30.0	
	baz=224,slow=350,SNR=1.9						

*IDC **08** 00:16:32.0±1.5, 3°.51N×127°.84E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=135.4km s-min=20.9km az=70.0*

ISC 08 00:16:42.1±1.8, 3°.5N±0°.5×12°8E±°, h84km, n6, σ1§47/6, mb3.4/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.12**	**165**	P	**P**	**00 21 49.9**	**-0.4**
	0.4nm,0.6s,baz=344,slow=10,SNR=5.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**27.61**	**168**	P	**P**	**00 22 22.0**	**+0.2**
	0.2nm,0.5s,baz=1.6,slow=8.0,SNR=1.5						
	0.2nm,0.5s						
SONM	**Songino Array**	**47.90**	**341**	P	**P**	**00 25 10.8**	**-1.2**
	0.1nm,0.4s,baz=147,slow=6.1,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**58.38**	**325**	P	**P**	**00 26 29.0**	**+0.2**
	0.3nm,0.4s,baz=111,slow=7.4,SNR=11						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**61.31**	**333**	P	**P**	**00 26 50.9**	**+2.2**
	0.2nm,0.3s,baz=149,slow=6.1,SNR=1.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.54**	**327**	P	**P**	**00 26 57.0**	**0.0**
	0.4nm,0.5s,baz=122,slow=6.5,SNR=4.1						
	0.4nm,0.5s						

WEL 08 00:19:38.5±0.7, 37°S±6°×17°9W±°, h33km, M3.6/18, ML3.9/24, MLv3.6/18, Error ellipse: s-maj=8.2km s-min=5.1km az=159.4, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.10**	**259**	P	Pn	00 20 11.8	+0.6
WMGZ				S	Sn	00 20 36.3	+0.2
MXZ	**Matakaoa Point**	**2.15**	**266**	P	Pn	00 20 11.2	-0.8
MXZ				S	Sn	00 20 36.9	-0.6
PUZ	**Puketiti**	**2.27**	**253**	P	Pn	00 20 14.0	+0.3
PUZ				S	Sn	00 20 41.1	+0.5
PKGZ	**Pakihiroa**	**2.36**	**259**	P	Pn	00 20 14.9	0.0
PKGZ				S	Sn	00 20 43.0	+0.2
CNGZ	**Carnagh Statio**	**2.45**	**244**	P	Pn	00 20 17.2	+1.1
CNGZ				S	Sn	00 20 46.1	+1.3
TWGZ	**Tauwhareparae**	**2.51**	**252**	P	Pn	00 20 17.6	+0.6
TWGZ				S	Sn	00 20 48.6	+2.1
HAZ	**Te Kaha**	**2.58**	**262**	P	Pn	00 20 17.7	-0.2
TKGZ	**Te Karaka**	**2.69**	**247**	P	Pn	00 20 20.2	+0.8
TKGZ				S	Sn	00 20 53.2	+2.3
RUGZ	**Raukumara Rang**	**2.69**	**258**	P	Pn	00 20 20.1	+0.5
RIGZ	**Rimuhau**	**2.86**	**243**	P	Pn	00 20 22.2	+0.5
PRGZ	**Paritu Road**	**2.87**	**238**	P	Pn	00 20 22.6	+0.7
MWZ	**Matawai**	**2.90**	**251**	P	Pn	00 20 22.5	+0.2
MWZ				S	Sn	00 20 57.0	+1.0
MHGZ	**Mahia Peninsul**	**2.98**	**234**	P	Pn	00 20 24.1	+0.7
RAGZ	**Rawiri**	**3.03**	**249**	P	Pn	00 20 24.8	+0.7
KNZ	**Kokohu**	**3.06**	**238**	P	Pn	00 20 24.9	+0.4
SNGZ	**Shannon Statio**	**3.19**	**244**	P	Pn	00 20 24.7	-1.6
SNGZ				S	Sn	00 21 03.9	+0.7
URZ	**Urewera**	**3.19**	**254**	P	Pn	00 20 26.8	+0.4
URZ				S	Sn	00 21 03.5	+0.2
RTZ	**Ruatahuna**	**3.39**	**249**	P	Pn	00 20 30.1	+1.0
RTZ				S	Sn	00 21 10.4	+2.1
WHHZ	**Waihua**	**3.39**	**240**	S	Sn	00 21 10.8	+2.6
RAHZ	**Arahi**	**3.42**	**243**	P	Pn	00 20 29.4	-0.2
RAHZ				S	Sn	00 21 10.9	+1.9
MUGZ	**Murupara**	**3.51**	**252**	P	Pn	00 20 30.3	-0.3
MUGZ				S	Sn	00 21 11.3	+0.3
MTHZ	**Maungataniwha**	**3.58**	**246**	P	Pn	00 20 32.2	+0.6
MTHZ				S	Sn	00 21 14.0	+1.2
ARHZ	**Aropaoanui**	**3.64**	**239**	P	Pn	00 20 33.9	+1.4
ARHZ				S	Sn	00 21 16.8	+2.4
NMHZ	**Naumai**	**3.70**	**242**	P	Pn	00 20 31.7	-1.7
NMHZ				S	Sn	00 21 17.6	+1.7
CKHZ	**Cape Kidnapper**	**3.80**	**233**	S	Sn	00 21 20.4	+2.3
MRHZ	**Matea Rd**	**3.88**	**248**	S	Sn	00 21 21.2	+0.9
MCHZ	**McNeill Hill**	**3.93**	**238**	P	Pn	00 20 37.3	+0.8
MCHZ				S	Sn	00 21 23.6	+2.1
BKZ	**Black Stump Fm**	**3.95**	**243**	P	Pn	00 20 36.8	+0.1
BKZ				S	Sn	00 21 23.4	+1.4
KAHZ	**Kahuranaki**	**4.00**	**233**	P	Pn	00 20 37.1	-0.4
KWHZ	**Kaweka Forest**	**4.11**	**240**	P	Pn	00 20 39.4	+0.4
KWHZ				S	Sn	00 21 25.3	-0.7
PXZ	**Pawanui**	**4.15**	**230**	P	Pn	00 20 38.9	-0.6
PXZ				S	Sn	00 21 28.2	+1.4
KRHZ	**Kereru**	**4.25**	**237**	P	Pn	00 20 39.1	-1.9
KRHZ				S	Sn	00 21 31.8	+2.4
PRHZ	**Porangahau**	**4.43**	**229**	P	Pn	00 20 42.4	-0.9
PRHZ				S	Sn	00 21 32.8	-1.0
WPHZ	**Waipukurau**	**4.43**	**232**	P	Pn	00 20 42.1	-1.2
WPHZ				S	Sn	00 21 34.3	+0.6
PNHZ	**Pukenui**	**4.50**	**235**	P	Pn	00 20 42.8	-1.6
PNHZ				S	Sn	00 21 35.9	+0.3
NGZ	**Ngauruhoe**	**4.59**	**246**	S	Sn	00 21 36.9	-1.1
TSZ	**Takapari Road**	**4.73**	**235**	P	Pn	00 20 46.9	-0.6
TSZ				S	Sn	00 21 41.3	0.0
DVHZ	**Dannevirke**	**4.74**	**231**	P	Pn	00 20 45.5	-2.1
DVHZ				S	Sn	00 21 39.4	-1.9
MRZ	**Mangatainoka R**	**5.31**	**231**	P	Pn	00 20 54.1	-1.3
MRZ				S	Sn	00 21 54.2	-1.3
CTZ	**Chatham Island**	**6.54**	**165**	P	Pn	00 21 14.9	+2.6
CTZ				S	Sn	00 22 23.2	-2.6
THZ	**Tophouse**	**7.60**	**233**	S	Sn	00 22 50.5	-1.4

*IDC **08** 00:23:43.6±0.7, 4°.03N×128°.98E, h0km, mb4.1/13, mbtmp4.1/14, ML4.3/1, MS3.2/7, Error ellipse: s-maj=36.4km s-min=14.2km az=74.0*
*NEIC **08** 00:23:44.9±1.0, 4°.0N±0°.1×128°.9E±0°.1, h10km±1km, mb4.6/34, Error ellipse: s-maj=19.8km s-min=14.4km az=41.0*
*DJA **08** 00:23:49.6±0.6, 4°N±4°×12°9E±°, h10km, M4.5/9, mB5.0/1, mb4.6/5, MLv4.5/9, Mw(mB)4.2/1*

ISC 08 00:23:48.4±0.5, 3°95N±0°.07×128°.83E±0°.10, h35km, n74, σ1§00/66, mb4.4/34, MS3.2/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.36**	**153**	P	**Pn**	**00 25 06.8**	**+0.9**
	0.3nm1μm33nm,0.8s						
KMSI	**Cibinong**	**5.90**	**235**	P	**Pn**	**00 25 13.4**	**+0.1**
SANI	**Sanana**	**6.60**	**206**	P	**Pn**	**00 25 21.2**	**-1.8**
FAKI	**Fak Fak**	**7.63**	**153**	Pn	**Pn**	**00 25 35.0**	**-2.2**
LUWI	**Luwuk**	**7.83**	**231**	Pn	**Pn**	**00 25 39.2**	**-0.6**
LUWI	**Luwuk**	**7.83**	**231**	P	**Pn**	**00 25 39.3**	**-0.6**
	0.4nm66nm,1.0s						
TOLI2	**Tolitoli**	**8.52**	**251**	Pn	**Pn**	**00 25 47.8**	**-1.6**
BKSI	**Bulukumba**	**12.67**	**223**	P	**Pn**	**00 26 45.4**	**-0.8**
KAPI	**Kappang**	**12.71**	**226**	Pn	**Pn**	**00 26 46.7**	**-0.1**
KAPI	**Kappang**	**12.71**	**226**	Pn	**Pn**	**00 26 49.1**	**+2.3**
	1.8nm,0.3s,baz=160,slow=21,SNR=2.3						
	4.1nm,0.3s						
SBUM	**Sibu**	**16.66**	**265**	Pn	**Pn**	**00 27 38.5**	**-0.8**
GUMO	**Guam**	**18.50**	**58**	LR	LR	00 35 11.3	
	comp=Z,67nm,18.0s,baz=84,slow=38						
KNRA	**Kununurra**	**19.50**	**180**	P	**P**	**00 28 12.2**	**-0.5**
KNRA				IAmb	IAmb	00 28 47.9	
	comp=Z,36nm,1.2s						
TPUB	**Ta-pu**	**20.81**	**338**	P	**P**	**00 28 25.2**	**-1.7**
TPUB				IAmb	IAmb	00 28 37.3	
	comp=Z,31nm,0.9s						
SSLB	**Suanglung**	**21.14**	**340**	P	**P**	**00 28 29.8**	**-0.7**
SSLB				IAmb	IAmb	00 28 42.7	
	comp=Z,37nm,1.1s						
FITZ	**Fitzroy Crossi**	**22.13**	**188**	P	**P**	**00 28 41.8**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=0.0,slow=7.1,SNR=2.0						
	comp=Z,2.4nm,0.7s						
KNMB	**Chin-men Tao**	**22.74**	**335**	P	**P**	**00 28 46.8**	**-0.8**
COEN	**Coen**	**22.78**	**142**	P	**P**	**00 28 46.4**	**-1.7**
COEN				IAmb	IAmb	00 29 24.2	
	comp=Z,23nm,1.2s						
QIZ	**Qiongzhong**	**23.85**	**310**	P	**P**	**00 28 56.9**	**-1.7**
QIZ				IAmb	IAmb	00 29 24.4	
	comp=Z,30nm,1.3s						
WB0	**Warramunga Arr**	**24.19**	**167**	P	**P**	**00 29 02.4**	**+0.6**
WB0				IAmb	IAmb	00 29 11.6	
	comp=Z,8.8nm,0.7s						
WRAB	**Tennant Creek**	**24.34**	**167**	P	**P**	**00 29 03.7**	**+0.5**
WRA	**Warramunga Arr**	**24.35**	**167**	P	**P**	**00 29 02.1**	**-1.1**
WRA	**Warramunga Arr**	**24.35**	**167**	P	**P**	**00 29 03.9**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=341,slow=10,SNR=8.5						
	comp=Z,3.3nm,0.8s						
WB2	**Warramunga Arr**	**24.36**	**167**	P	**P**	**00 29 03.4**	**+0.2**
WB2				IAmb	IAmb	00 29 17.5	
	comp=Z,12nm,0.9s						
KRVT	**Keravat (AS076**	**24.58**	**109**	LR	LR	00 36 31.2	
	comp=Z,97nm,21.1s,baz=14,slow=31						
UBPT	**Khong Chiam**	**25.60**	**298**	P	**P**	**00 29 13.6**	**-1.0**
UBPT				IAmb	IAmb	00 29 19.3	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**27.89**	**170**	P	**P**	**00 29 35.1**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=353,slow=6.9,SNR=8.4						
ASAR				PcP	**PcP**	**00 32 52.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=349,slow=2.2,SNR=4.1						
	comp=Z,0.8nm,0.6s						
PHRA	**Phrae**	**31.49**	**300**	P	**P**	**00 30 07.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**32.59**	**299**	P	**P**	**00 30 17.0**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=121,slow=6.5,SNR=5.9						
CMAR				LR	LR	00 43 46.5	
	comp=Z,38nm,19.7s,baz=115,slow=37						
	comp=Z,1.3nm,0.3s						
MJAR	**Matsushiro Arr**	**33.56**	**14**	LR	LR	00 42 06.6	
	comp=Z,39nm,19.6s,baz=108,slow=33						
HNR	**Honiara**	**33.73**	**113**	LR	LR	00 43 28.4	
	comp=Z,54nm,19.0s,baz=305,slow=35						
XAN	**Xi'an**	**35.21**	**331**	P	**P**	**00 30 39.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
STKA	**Stephens Creek**	**37.64**	**162**	P	**P**	**00 31 01.1**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=347,slow=11,SNR=3.8						
	comp=Z,1.2nm,0.4s						
LZH	**Lanzhou**	**39.41**	**327**	*e*P	**P**	**00 31 17.4**	**+2.2**
LZH				sP	pwP	00 31 31.4	-0.4
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**39.72**	**66**	T	T	01 14 24.9	
	baz=253,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**39.74**	**66**	T	T	01 14 26.6	
	baz=253,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**39.74**	**66**	T	T	01 14 26.2	
	baz=253,slow=75,SNR=15						
GTA	**Gaotai**	**44.02**	**327**	*e*P	**P**	**00 31 54.6**	**+1.8**
GTA				pP	pP	00 31 59.7	-1.5
GTA				sP	sP	00 32 03.0	-1.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GOMU	**GeErMu**	**44.84**	**320**	P	**P**	**00 31 58.2**	**-1.5**
GOMU				pP	pwP	00 32 14.4	-1.7
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**47.59**	**340**	P	**P**	**00 32 20.5**	**-0.4**
ULN				IAmb	IAmb	00 32 23.5	
	comp=Z,6.1nm,0.8s						
SONM	**Songino Array**	**47.79**	**340**	P	**P**	**00 32 22.8**	**+0.4**
SONM	**Songino Array**	**47.79**	**340**	P	**P**	**00 32 23.9**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=154,slow=8.5,SNR=21						
	comp=Z,2.0nm,0.8s						
PALK	**Pallekele**	**48.00**	**276**	LR	LR	00 53 42.8	
	comp=Z,16nm,19.8s,baz=128,slow=37						
MA2	**Magadan**	**58.00**	**13**	LR	LR	00 56 34.1	
	comp=Z,24nm,21.6s,baz=66,slow=34						
MK31	**Makanchi Array**	**58.59**	**324**	P	**P**	**00 33 42.6**	**+0.8**
MKAR	**Makanchi Array**	**58.59**	**324**	P	**P**	**00 33 42.7**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=114,slow=7.9,SNR=48						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**58.78**	**324**	P	**P**	**00 33 43.7**	**+0.5**
MAKZ				IAmb	IAmb	00 33 52.8	
	comp=Z,5.9nm,1.1s						
KSH	**Kashi**	**59.38**	**314**	P	**P**	**00 33 49.8**	**+2.2**
KSH				sP	pP	00 33 58.5	+2.1
KSH				pmax	pmax		
	comp=Z,5.0nm,1.6s						
NIL	**Nilore**	**59.46**	**307**	P	**P**	**00 33 47.8**	**-0.4**
ZALV	**Zalesovo Beam**	**61.36**	**332**	P	**P**	**00 34 00.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=116,slow=6.8,SNR=7.2						
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**62.70**	**327**	P	**P**	**00 34 09.9**	**+0.2**
KURBB	**Kurchatov Arra**	**62.70**	**327**	P	**P**	**00 34 09.9**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=125,slow=6.0,SNR=33						
	comp=Z,2.8nm,0.6s						
KBL	**Kabul**	**63.06**	**307**	P	**P**	**00 34 12.4**	**-0.3**
KBL				IAmb	IAmb	00 34 13.2	
	comp=Z,3.1nm,0.9s						
BTK	**Batken**	**63.29**	**313**	P	**P**	**00 34 13.9**	**-0.1**
BTK				IAmb	IAmb	00 34 15.1	
	comp=Z,6.5nm,1.2s						
GAR	**Garm**	**63.33**	**312**	P	**P**	**00 34 14.2**	**-0.1**
CHGR	**Chuyangaron**	**64.09**	**311**	P	**P**	**00 34 18.8**	**-0.5**
KK31	**Karatay Array**	**64.51**	**316**	P	**P**	**00 34 22.1**	**+0.2**
KK31				IAmb	IAmb	00 34 22.8	
	comp=Z,3.4nm,1.0s						
KKAR	**Karatay Array**	**64.51**	**316**	P	**P**	**00 34 21.6**	**-0.3**
KKAR	**Karatay Array**	**64.51**	**316**	P	**P**	**00 34 21.8**	**-0.1**
KKAR				IAmb	IAmb	00 34 22.7	
	comp=Z,2.4nm,1.1s						
BVAR	**Borovoye Array**	**68.29**	**326**	P	**P**	**00 34 46.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=126,slow=7.5,SNR=9.5						
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**68.36**	**326**	P	**P**	**00 34 46.3**	**0.0**
BRVK				IAmb	IAmb	00 34 47.8	
	comp=Z,5.7nm,1.2s						
HRA	**Herat**	**68.51**	**305**	P	**P**	**00 34 48.1**	**+0.2**
HRA				IAmb	IAmb	00 35 09.1	
	comp=Z,6.7nm,1.4s						
NRIK	**Noril'sk**	**70.73**	**346**	P	**P**	**00 34 59.8**	**-0.7**
NRIK	**Noril'sk**	**70.73**	**346**	P	**P**	**00 35 01.4**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=164,slow=6.5,SNR=3.9						
	comp=Z,0.7nm,0.3s						
ABKAR	**Akbulak array**	**73.31**	**320**	P	**P**	**00 35 16.3**	**-0.1**
ABKAR	**Akbulak array**	**73.31**	**320**	P	**P**	**00 35 16.2**	**-0.2**
ABKAR				IAmb	IAmb	00 35 17.5	
	comp=Z,8.1nm,1.5s						
E18K	**Tukpahlearik C**	**78.97**	**22**	P	**P**	**00 35 48.5**	**+0.3**
E18K				IAmb	IAmb	00 36 02.1	
	comp=Z,3.7nm,0.8s						
ACHA	**Angle Creek He**	**79.21**	**32**	P	**P**	**00 35 49.1**	**-0.7**
G19K	**Purcell Mounta**	**79.99**	**23**	P	**P**	**00 35 53.5**	**-0.3**
F20K	**Avaraart Lake**	**80.72**	**23**	P	**P**	**00 35 56.5**	**-1.2**
B21K	**Ikpikpuk River**	**81.64**	**20**	P	**P**	**00 36 02.3**	**-0.2**
B21K				IAmb	IAmb	00 36 16.7	
	comp=Z,5.8nm,0.8s						
ILAR	**Eielson Array**	**84.00**	**25**	P	**P**	**00 36 13.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=259,slow=5.3,SNR=4.6						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**98.42**	**25**	P	**P**	**00 37 22.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=296,slow=4.6,SNR=5.1						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**124.84**	**289**	PKP	**PKiKP**	**00 42 47.4**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=40,slow=2.3,SNR=2.6						

*VAO **08** 00:33:42.7±0.8, 21°.38S×69°.97W, h10km, mb4.4*
*SJA **08** 00:34:00.8±0.6, 21°.23S×68°.85W, h132km±4km, ML3.8, MW3.8*
*NEIC **08** 00:34:03.1±1.1, 21°.23S±0°.04×68°.96W±0°.09, h123km±7km, mb4.1/6, Error ellipse: s-maj=12.9km s-min=5.1km az=72.0*
*IDC **08** 00:34:03.3±2.9, 21°.25S×68°.70W, h112km±24km, mb3.6/4, mbtmp3.9/8, MS2.1/1, Error ellipse: s-maj=32.2km s-min=22.3km az=87.0*
*GUC **08** 00:34:04.2±0.7, 21°.20S×68°.88W, h112km±3km, ML3.8*

ISC 08 00:34:02.4±0.6, 21°22S±0°.03×68°92W±0°.06, h120km±6km, n72, σ1§37/87, mb3.8/4, 4C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.56**	**288**		**Pn**	**00 34 21.5**	**+0.6**
PB01	**IPOC Station P**	**0.56**	**288**	⇑*i*P	**Pn**	**00 34 21.3**	**+0.4**
PB01				*i* S	**Sn**	**00 34 34.8**	**0.0**
PB01				IAML		00 34 35.9	
	comp=E,5μm,0.2s						
PB09	**IPOC Station P**	**0.65**	**207**		**Pn**	**00 34 22.7**	**+1.0**
PB09				Sn	**Sn**	**00 34 36.9**	**+0.8**
PB09	**IPOC Station P**	**0.65**	**207**	*e*P	**Pn**	**00 34 22.3**	**+0.6**
PB09				*e*S	**Sn**	**00 34 37.4**	**+1.2**
PB09				IAML		00 34 37.6	
	comp=Z,2μm,0.5s						
PB09	**IPOC Station P**	**0.65**	**207**	⇑*i*P	**Pn**	**00 34 22.2**	**+0.6**
PB09				*i* S	**Sn**	**00 34 37.1**	**+0.9**
PX03	**IPOC Station P**	**1.05**	**321**	*e*P	**Pn**	**00 34 24.9**	**-0.2**
PX03				*i* S	**Sn**	**00 34 42.5**	**+0.3**
PX03				IAML		00 34 43.3	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.09**	**348**		**Pn**	**00 34 26.9**	**+1.0**
PB08	**IPOC Station P**	**1.09**	**348**	⇓*i*P	**Pn**	**00 34 26.8**	**+0.9**
PB08				*i* S	**Sn**	**00 34 44.5**	**+0.9**
PB08				IAML		00 34 46.1	
	comp=N,1μm,0.2s						
HMBC	**Humberstone**	**1.30**	**316**		**Pn**	**00 34 28.3**	**+0.5**
HMBC				Sn	**Sn**	**00 34 47.9**	**+0.9**
HMBC	**Humberstone**	**1.30**	**316**	*e*P	**Pn**	**00 34 28.1**	**+0.3**
HMBC				IAML		00 34 50.9	
	comp=Z,2μm,0.6s						
HMBC	**Humberstone**	**1.30**	**316**	⇑*i*P	**Pn**	**00 34 28.1**	**+0.3**
HMBC				*i* S	**Sn**	**00 34 47.1**	**+0.1**
HMBC				IAML		00 34 49.0	
	comp=N,4μm,0.6s						
TA01	**Diego Aracena**	**1.34**	**299**	Pn	**Pn**	**00 34 28.6**	**+0.6**
TA01				Sn	**Sn**	**00 34 48.8**	**+1.2**
TA01	**Diego Aracena**	**1.34**	**299**	*e*P	**Pn**	**00 34 28.7**	**+0.6**
TA01	**Diego Aracena**	**1.34**	**299**	⇑*i*P	**Pn**	**00 34 28.7**	**+0.6**
TA01				*i* S	**Sn**	**00 34 47.9**	**+0.3**
TA01				IAML		00 34 49.7	
	comp=N,5μm,0.4s						
TA02	**Huaiquique**	**1.47**	**310**	Pn	**Pn**	**00 34 30.1**	**+0.6**
TA02				Sn	**Sn**	**00 34 50.9**	**+0.7**
TA02	**Huaiquique**	**1.47**	**310**	*e*P	**Pn**	**00 34 30.0**	**+0.4**
TA02				*e*S	**Sn**	**00 34 51.9**	**+1.7**
TA02				IAML		00 34 52.4	
	comp=Z,898nm,0.1s						
TA02	**Huaiquique**	**1.47**	**310**	*e*P	**Pn**	**00 34 30.0**	**+0.4**
TA02				*i* S	**Sn**	**00 34 50.5**	**+0.3**
TA02				IAML		00 34 54.6	
	comp=N,4μm,0.2s						
AF01	**San Pedro de A**	**1.86**	**158**		**Pn**	**00 34 36.0**	**+1.5**
AF01	**San Pedro de A**	**1.86**	**158**	*e*P	**Pn**	**00 34 36.5**	**+2.1**
AF01				*e*S	Sn	00 34 46.0	-13
AF01				IAML		00 35 23.5	
	comp=Z,557nm,0.7s						
AF01	**San Pedro de A**	**1.86**	**158**	*e*P	**Pn**	**00 34 35.8**	**+1.3**
AF01				*i* S	**Sn**	**00 34 60.0**	**+1.1**
AF01				IAML		00 35 17.1	
	comp=E,711nm,0.5s						
PB12	**IPOC Station P**	**2.91**	**333**	Pn	**Pn**	**00 34 47.0**	**-0.6**
PB12	**IPOC Station P**	**2.91**	**333**	*e*P	**Pn**	**00 34 47.2**	**-0.4**
PB12				IAML		00 35 27.1	
	comp=Z,115nm,0.6s						
PB12	**IPOC Station P**	**2.91**	**333**	*e*P	**Pn**	**00 34 47.1**	**-0.6**
AP01	**Chacalluta**	**3.13**	**334**	*e*P	**Pn**	**00 34 51.0**	**+0.5**
AP01				IAML		00 35 57.2	
	comp=Z,216nm,0.7s						
PB14	**IPOC Station P**	**3.66**	**202**	Pn	**Pn**	**00 34 58.4**	**+0.7**
PB14	**IPOC Station P**	**3.66**	**202**	*e*P	**Pn**	**00 34 57.0**	**-0.7**
PB14				*e*S	**Sn**	**00 35 40.0**	**-0.4**
PB14				IAML		00 36 10.1	
	comp=Z,114nm,0.6s						
GO02	**Mina Guanaco**	**3.97**	**189**	*e*P	**Pn**	**00 35 01.8**	**-0.1**
AZAP	**Zapla**	**4.65**	**131**	*e*P	Pn	00 35 06.2	-4.6
LPAZ	**La Paz**	**4.96**	**9**	P	**Pn**	**00 35 17.9**	**+2.4**
	comp=Z,2.4nm,0.5s,baz=182,slow=8.5,SNR=10						
LPAZ				S	**Sn**	**00 36 09.9**	**-2.3**
	comp=Z,8.8nm,0.7s,baz=184,slow=7.4,SNR=6.2						
LPAZ				LR	LR	00 37 33.3	
	comp=Z,22nm,21.4s,baz=68,slow=42						
AC01	**Pan de Azucar**	**5.14**	**197**	*e*P	**Pn**	**00 35 15.7**	**-1.7**
AC01				*e*S	**Sn**	**00 36 11.8**	**-3.8**
AC01				IAML		00 36 50.3	
	comp=Z,44nm,0.7s						
AC02	**Maricunga**	**5.59**	**182**	Pn	**Pn**	**00 35 24.3**	**+0.4**
SIV	**San Ignacio**	**9.08**	**56**	P	**Pn**	**00 36 07.5**	**-3.0**
	comp=Z,16nm,0.3s,baz=247,slow=9.6,SNR=161						
PTLB	**Pontes e Lacer**	**10.92**	**60**	Pn	**Pn**	**00 36 32.4**	**-2.9**
PTLB	**Pontes e Lacer**	**10.92**	**60**	*e*P	**Pn**	**00 36 31.1**	**-4.2**
BDQN	**Bodoquena, MS**	**11.41**	**88**	*e*P	**Pn**	**00 36 38.6**	**-3.3**
VILB	**Vilhena**	**11.70**	**47**	Pn	**Pn**	**00 36 43.1**	**-2.8**
VILB	**Vilhena**	**11.70**	**47**	*e*P	**Pn**	**00 36 42.7**	**-3.1**
CPUP	**Villa Florida**	**11.77**	**118**	P	**Pn**	**00 36 44.6**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=294,slow=14,SNR=3.5						
AQDB	**Aquidauana**	**12.38**	**89**	*e*P	**Pn**	**00 36 53.3**	**-1.4**
SALV	**Santo Antonio**	**13.61**	**69**	*e*P	**Pn**	**00 37 10.5**	**-0.1**
RPRD	**Ribas do Rio P**	**14.25**	**90**	*e*P	**Pn**	**00 37 19.0**	**+0.2**
PTGB	**Pitanga**	**15.91**	**106**	*e*P	**Pn**	**00 37 39.8**	**+0.1**
ITAB	**Concordia**	**16.44**	**115**		**Pn**	**00 37 45.9**	**-0.2**
ITAB				IAmb	IAmb	00 37 47.9	
	comp=Z,9.5nm,1.0s						
ITAB	**Concordia**	**16.44**	**115**	*e*P	**Pn**	**00 37 44.1**	**-2.0**
LDASE	**Londrina, Braz**	**16.62**	**101**	*e*P	**P**	**00 37 49.4**	**+0.7**
PLTB	**Pedras Altas**	**17.25**	**131**		**Pn**	**00 37 57.3**	**+1.4**
FRTB	**Fartura**	**18.04**	**100**	*e*P	**P**	**00 38 04.3**	**-0.1**
BB19B	**Bebedouro**	**19.02**	**93**	*e*P	**P**	**00 38 14.5**	**-0.7**
MAJ01	**Sao Joao Batis**	**19.15**	**113**	*e*P	**

ATHAL AML AML 00 49 00.7
6.1nm,0.4s
PAR1C Paralimni Civi 0.42 55 P **Pn 00 48 48.6 +1.1**
PAR1C S **Sn 00 48 57.3 +2.7**
PARAL Paralimni 0.45 63 P **Pn 00 48 48.7 +0.9**
PARAL S **Sn 00 48 58.2 +3.1**
PARAL AML AML 00 48 59.2
2.0nm,0.9s
PARAL AML AML 00 49 00.2
1.9nm,0.5s
LFK Lefkose 0.49 358 Pg **Pn 00 48 48.8 +0.4**
LFK Sg **Sn 00 48 57.6 +1.4**
APOL The Sanctuary 0.58 259 ⇓*i*P **Pn 00 48 49.3 -0.2**
APOL S **Sn 00 48 57.3 -0.8**
APOL AML AML 00 49 01.0
4.6nm,0.2s
APOL AML AML 00 49 01.1
2.5nm,0.2s
LEF Lefka 0.64 301 Pg **Pn 00 48 50.4 +0.1**
LEF Sg **Sn 00 49 00.5 +1.1**
LEF Lefka 0.64 301 P **Pn 00 48 51.3 +1.0**
LEF S **Sn 00 48 59.2 -0.2**
AKDN Akdeniz- Kıbrı 0.70 317 Pg **Pn 00 48 51.2 +0.1**
AKDN Sg **Sn 00 49 02.2 +1.4**
NATA Nata 0.81 270 P **Pn 00 48 52.8 +0.2**
NATA S **Sn 00 49 05.4 +1.8**
NATA AML AML 00 49 07.0
2.0nm,0.3s
NATA AML AML 00 49 07.3
3.5nm,0.5s
ALFC Alefka 0.87 295 P **Pn 00 48 53.1 -0.2**
ALFC S **Sn 00 49 04.3 -0.6**
ALFC AML AML 00 49 10.2
2.0nm,0.4s
ALFC AML AML 00 49 11.2
1.4nm,0.7s
EREN Erenkoy 0.90 34 Pg **Pn 00 48 54.6 +0.9**
EREN Erenkoy 0.90 34 P **Pn 00 48 54.8 +1.1**
EREN S **Sn 00 49 07.0 +1.5**
AKMS Akamas 1.03 283 P **Pn 00 48 56.3 +0.8**
AKMS S **Sn 00 49 11.1 +2.3**
AKMS AML AML 00 49 15.3
0.6nm,0.4s
AKMS AML AML 00 49 19.1
0.9nm,0.4s
AKK1 Akkuyu-Mersin 1.35 360 Pn **Pn 00 49 00.8 +0.9**
AKKU Akkuyu-Mersin 1.37 360 Pn **Pn 00 49 01.1 +0.9**
YORU Yoruktepe-Mers 1.37 355 Pn **Pn 00 49 01.4 +1.2**
TISA Tisan-Mersin 1.37 4 Pn **Pn 00 49 01.3 +1.1**
GULN MERSIN_Gulnar 1.39 360 P **Pn 00 49 01.2 +0.7**
GULN S **Sn 00 49 17.1 -0.6**
GULN *i* AML AML 00 49 19.0
comp=N,99nm,0.6s
BOZY Bozyazi-Mersin 1.40 340 Pn **Pn 00 49 01.3 +0.7**
YESI Yesilovacik-Me 1.41 3 Pn **Pn 00 49 01.8 +1.1**
KARG Kargicak-Mersi 1.42 5 Pn **Pn 00 49 02.2 +1.3**
OREN Orenkoy-Mersin 1.42 357 Pn **Pn 00 49 01.8 +1.0**
TEPK Tepekoy-MERSIN 1.43 360 Pn **Pn 00 49 01.6 +0.5**
IKL Isikli 1.45 4 Pn **Pn 00 49 02.4 +1.1**
BERE Bereket-Mersin 1.58 350 Pn **Pn 00 49 04.0 +0.8**
SILI Silifke-Mersin 1.60 11 Pn **Pn 00 49 04.5 +1.1**
TEVE Tevekalti-Mers 1.65 357 Pn **Pn 00 49 05.2 +1.1**
KIZK Mersin 1.75 16 Pn **Pn 00 49 06.8 +1.3**
KIZK Mersin 1.75 16 P **Pn 00 49 07.9 +2.5**
KIZK S **Sn 00 49 26.1 -0.5**
GAZI Gazipasa 1.76 325 Pn **Pn 00 49 05.9 +0.3**
BHL Bhannes 1.95 116 *e*P **Pn 00 49 08.5 +0.3**
DQRL Deir Qamar 1.99 122 *e*P **Pn 00 49 09.0 +0.2**
HWQ Hawqa 2.04 104 *e*P **Pn 00 49 09.6 +0.1**
HWQ *e*S **Sn 00 49 32.4 -1.4**
ZAHL Zahle 2.14 115 *e*P **Pn 00 49 11.0 +0.1**
QRWL Qaraoun 2.15 124 *e*P **Pn 00 49 11.3 +0.3**
HNTI Hanita 2.17 141 ⇑P **Pn 00 49 11.2 0.0**
HNTI Hanita 2.17 141 S **Sn 00 49 36.3 -0.5**
HNTI Hanita 2.17 141 P 00 49 11.2
BEIL Beino 2.18 96 *e*P **Pn 00 49 11.7 +0.4**
BEIL *e*S **Sn 00 49 36.2 -1.0**
RCY Rachaya 2.29 124 *e*P **Pn 00 49 13.3 +0.3**
SHBL Chebaa 2.32 128 *e*P **Pn 00 49 13.7 +0.4**
MMC1 Mount Meron ar 2.33 138 P 00 49 13.6
HDMB Hadim 2.34 339 Pn **Pn 00 49 14.9 +1.2**
MMA0B Mount Meron ar 2.34 138 P **Pn 00 49 13.7 +0.1**
MMA0B Mount Meron ar 2.34 138 S **Sn 00 49 40.7 -0.5**
MMB1 Mount Meron ar 2.35 138 P 00 49 13.8
GEM Giv'at Ha'Em 2.35 131 ⇑P **Pn 00 49 14.1 +0.4**
GEM Giv'at Ha'Em 2.35 131 S **Sn 00 49 40.3 -1.1**
GEM Giv'at Ha'Em 2.35 131 P 00 49 14.1
NATI Neve Ativ 2.37 129 ⇑P **Pn 00 49 14.2 +0.3**
NATI Neve Ativ 2.37 129 S **Sn 00 49 41.1 -0.6**
NATI Neve Ativ 2.37 129 P 00 49 14.3
DED Mersin 2.39 25 P **Pn 00 49 15.1 +0.8**
DED S **Sn 00 49 39.3 -3.1**
FKH Fakeheh 2.42 102 *e*P **Pn 00 49 15.1 +0.4**
BLGI Bet Lehem HaGe 2.46 146 P **Pn 00 49 15.6 +0.4**
BLGI Bet Lehem HaGe 2.46 146 S **Sn 00 49 43.2 -0.8**
BLGI Bet Lehem HaGe 2.46 146 P 00 49 15.5
OFRI `Ofer 2.47 151 P **Pn 00 49 15.3 0.0**
OFRI `Ofer 2.47 151 S **Sn 00 49 43.4 -0.8**
OFRI `Ofer 2.47 151 P 00 49 15.0
KSHT Keshet 2.60 133 P **Pn 00 49 18.1 +0.9**
KSHT Keshet 2.60 133 S **Sn 00 49 47.6 0.0**
KERG Konya-Eregli 2.66 10 P **Pn 00 49 19.9 +1.8**
KERG S **Sn 00 49 48.7 -0.4**
KERG *i* AML AML 00 50 49.0
comp=N,44nm,3.0s
TAHT Tahtakopru-Hat 2.67 53 Pn **Pn 00 49 19.3 +1.3**
GULE Gulek 2.68 21 P **Pn 00 49 21.0 +2.6**
GULE S **Sn 00 49 46.5 -3.1**
KARA Karaisali 2.75 26 Pn **Pn 00 49 20.9 +1.8**
SHMJ Saham 2.76 138 P 00 49 20.5
MMLI Mount Malkishu 2.81 146 P **Pn 00 49 20.5 +0.5**
MMLI Mount Malkishu 2.81 146 S **Sn 00 49 52.4 -0.4**
SLTI Sal'it 2.83 154 P **Pn 00 49 20.1 -0.2**
SLTI Sal'it 2.83 154 S **Sn 00 49 52.8 -0.3**
SLTI Sal'it 2.83 154 P 00 49 20.1
CEYT Ceyhan 2.84 38 Pn **Pn 00 49 21.2 +0.8**
RHAN Hatay/Reyhanl 2.89 59 P **Pn 00 49 21.5 +0.5**
RHAN S **Sn 00 49 51.6 -2.9**
SEYD Seydisehir-KON 2.96 332 Pn **Pn 00 49 23.9 +1.8**
QRNJ Al-Qirein 2.97 145 P 00 49 23.1
YESY Yesilyurt 2.99 3 Pn **Pn 00 49 24.5 +1.9**
HMDT Nahal Hemdat 3.02 146 ⇑P **Pn 00 49 23.8 +0.9**
HMDT Nahal Hemdat 3.02 146 S **Sn 00 49 57.7 0.0**
HMDT Nahal Hemdat 3.02 146 P 00 49 23.9
SEDI Konya, Seydise 3.03 332 P **Pn 00 49 25.6 +2.5**
SEDI S **Sn 00 49 55.4 -2.8**
SEDI *i* AML AML 00 50 07.0
comp=E,24nm,1.0s
SALP Salfit 3.04 153 ⇑P **Pn 00 49 23.5 +0.4**
SALP Salfit 3.04 153 S **Sn 00 49 57.8 -0.5**
SALP Salfit 3.04 153 P 00 49 23.5
AKO Adana 3.08 29 P **Pn 00 49 24.6 +1.0**
AKO S **Sn 00 49 51.8 -7.3**
AKO *i* AML AML 00 50 20.0
comp=E,19nm,2.5s
HASA Hatay-Hassa-Ha 3.08 50 P **Pn 00 49 23.6 -0.1**
HASA S **Sn 00 49 54.8 -4.6**
HASA *i* AML AML 00 50 30.0
comp=E,29nm,1.5s
CMRD Camardi-Nigde 3.09 22 Pn **Pn 00 49 25.9 +1.9**
UJAP Al Uja 3.25 150 P **Pn 00 49 26.6 +0.6**
UJAP Al Uja 3.25 150 S **Sn 00 50 03.4 +0.1**
KONT Konya--Tatoy 3.29 343 Pn **Pn 00 49 28.3 +1.7**
KONT Konya--Tatoy 3.29 343 P **Pn 00 49 28.1 +1.4**
NIDE Nigde/Merkez-G 3.35 17 P **Pn 00 49 30.2 +2.6**
NIDE S **Sn 00 50 05.2 -0.9**
KORT Korkueli 3.41 311 Pn **Pn 00 49 29.9 +1.6**
AMAZ Amatzia 3.44 160 P **Pn 00 49 29.0 +0.4**
AMAZ Amatzia 3.44 160 S **Sn 00 50 07.5 -0.7**
HSUJ Al Zarqa 3.47 140 P 00 49 30.6
KAMA Osmaniye 3.48 46 P **Pn 00 49 29.7 +0.5**
KUZU Kuzuini 3.48 54 P **Pn 00 49 29.4 +0.2**
KUZU *i* AML AML 00 50 26.0
comp=N,20nm,1.1s
BSIR Belisirma, Guz 3.52 9 P **Pn 00 49 31.5 +1.7**
BSIR *i* AML AML 00 50 27.0
comp=N,36nm,2.2s
BSIR *i* AML AML 00 51 00.0
comp=E,32nm,2.9s
LADK Ladik-KONYA 3.54 345 Pn **Pn 00 49 32.1 +2.1**
ALIN Konya, Altinte 3.54 351 P **Pn 00 49 32.3 +2.1**

DSI Dead Sea 3.56 154 P 00 49 31.3
DSI Dead Sea 3.56 154 ⇑P **Pn 00 49 31.2 +1.0**
DSI Dead Sea 3.56 154 S **Sn 00 50 11.2 +0.2**
YAHY KAYSERI_Yahyal 3.61 23 P **Pn 00 49 33.6 +2.6**
YAHY S **Sn 00 50 09.9 -2.5**
DOGA KONYA_Doganhis 3.64 336 P **Pn 00 49 33.8 +2.2**
DOGA S **Sn 00 50 12.2 -1.1**
YTIR Yattir 3.66 159 P **Pn 00 49 32.8 +1.0**
YTIR Yattir 3.66 159 S **Sn 00 50 13.7 0.0**
YTIR Yattir 3.66 159 P 00 49 32.8
MDBI Mazsada 3.78 156 P **Pn 00 49 34.4 +1.1**
MDBI Mazsada 3.78 156 S **Sn 00 50 16.2 -0.3**
MSBI Mazada 3.78 156 ⇑P **Pn 00 49 33.9 +0.6**
MSBI Mazada 3.78 156 S **Sn 00 50 16.6 +0.1**
ASF Jabal al Asfar 3.82 132 P 00 49 35.8
GHAJ Ghor Haditha 3.87 154 P **Pn 00 49 36.0 +1.5**
GHAJ Ghor Haditha 3.87 154 S **Sn 00 50 18.7 +0.1**
GHAJ Ghor Haditha 3.87 154 P 00 49 36.0
LISJ El Lisan 3.89 155 P 00 49 36.7
KDHN Kadinhani 3.90 343 P **Pn 00 49 37.0 +2.0**
KZIT Kziot 3.94 169 P **Pn 00 49 35.7 +0.3**
KZIT Kziot 3.94 169 S **Sn 00 50 19.6 -0.8**
YVAC Isparta, Yalva 3.94 332 P **Pn 00 49 37.2 +1.6**
YVAC S **Sn 00 50 22.0 +1.4**
YVAC *i* AML AML 00 50 45.0
comp=N,16nm,2.9s
KARJ KARJ 4.06 154 P 00 49 27.3
UCKU Afyonkarahisar 4.20 337 P **Pn 00 49 42.2 +3.1**
UCKU *i* AML AML 00 50 55.0
comp=E,12nm,3.4s
UCKU *i* AML AML 00 51 38.0
comp=N,9.8nm,2.3s
KKUL Konya-Kulu 4.40 354 P **Pn 00 49 43.6 +1.7**
KKUL *i* AML AML 00 51 43.0
comp=N,15nm,2.5s
KKUL *i* AML AML 00 51 48.0
comp=E,18nm,3.1s
DNZT Denizli-Tavas- 4.43 305 P **Pn 00 49 42.8 +0.5**
DNZT S **Sn 00 50 27.6 -5.1**
DNZT *i* AML AML 00 50 55.0
comp=E,18nm,3.3s
DNZT *i* AML AML 00 51 51.0
comp=N,17nm,3.1s
ZFRI Zfri 4.44 162 P **Pn 00 49 43.0 +0.7**
ZFRI Zfri 4.44 162 S **Sn 00 50 32.4 -0.3**
PRNI Paran 4.59 164 P **Pn 00 49 44.9 +0.4**
PRNI Paran 4.59 164 S **Sn 00 50 36.2 -0.3**
PRNI Paran 4.59 164 P 00 49 45.3
TAVA DENIZLI_Tavas 4.61 307 P **Pn 00 49 42.6 -2.2**
TAVA S **Sn 00 50 32.9 -4.1**
TAVA *i* AML AML 00 51 14.0
comp=N,18nm,3.5s
TAVA *i* AML AML 00 51 30.0
comp=E,26nm,3.4s
HRFI Mount Harif 4.90 165 P **Pn 00 49 49.2 +0.5**
HRFI Mount Harif 4.90 165 S **Sn 00 50 44.2 0.0**
HRFI Mount Harif 4.90 165 P 00 49 49.4
MBRI Mt Berech 5.11 167 P **Pn 00 49 52.6 +0.9**
MBRI Mt Berech 5.11 167 S **Sn 00 50 49.5 0.0**
MBRI Mt Berech 5.11 167 P 00 49 52.8
EIL Elat 5.24 167 P **Pn 00 49 53.6 +0.3**
EIL Elat 5.24 167 S **Sn 00 50 52.2 -0.2**

RSNC 08 00:52:08.9±0.0, 7°N±1°×7°3W±°, h144km±1km, M2.4, mb3.0, mB6.2, ML2.1, Mw(mB)5.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	00 52 28.1	-0.8
BARC				S	Sn	00 52 43.1	-0.9
BRJC	**Barrancabermej**	**0.60**	**285**	P	Pn	00 52 29.7	-0.4
BRJC				S	Sn	00 52 46.1	-0.1
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	00 52 30.8	-0.5
PAMC				S	Sn	00 52 47.5	-0.8
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	00 52 32.0	-1.1
RUSC				S	Sn	00 52 50.3	-1.1
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	00 52 34.8	-1.3
PTBC				S	Sn	00 52 55.9	-1.0
TAMC	**Tame, Arauca**	**1.41**	**106**	P	Pn	00 52 36.5	-0.6
TAMC				S	Sn	00 52 58.4	-0.3
OCAC	**Ocana**	**1.42**	**354**	P	Pn	00 52 36.5	-0.8
OCAC				S	Sn	00 52 57.8	-1.3
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	00 52 37.3	-0.5
SPBC				S	Sn	00 52 58.8	-1.1
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	00 52 41.5	0.0
ZARC				S	Sn	00 53 06.5	0.0
NORC	**Norcasia**	**2.11**	**234**	P	Pn	00 52 44.5	-0.5
NORC				S	Sn	00 53 12.4	-0.4
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	00 52 46.3	-0.8
CHIC				S	Sn	00 53 15.6	-0.8
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	00 52 48.1	+0.6
ROSC				S	Sn	00 53 17.3	+0.3
UREC	**San Jos de Ur**	**2.53**	**292**	P	Pn	00 52 49.4	-0.7
UREC				S	Sn	00 53 21.3	-0.6
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	00 52 52.6	-0.2
GUY2C				S	Sn	00 53 26.7	+0.2
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	00 52 51.7	-1.2
VILC				S	Sn	00 53 26.9	0.0
CBOC	**Ciudad Bolivar**	**2.99**	**252**	P	Pn	00 52 56.5	+0.4
CBOC				S	Sn	00 53 31.6	-0.9
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	00 52 56.3	-0.3
DBBC				S	Sn	00 53 33.4	0.0
PRAC	**Prado**	**3.53**	**209**	P	Pn	00 53 01.9	-1.1
PRAC				S	Sn	00 53 44.7	-0.2
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	00 53 03.1	-0.2
ORTC				S	Sn	00 53 45.8	+0.3
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	00 53 02.3	-2.2
SJCC				S	Sn	00 53 45.2	-2.5
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	00 53 05.3	-0.6
URMC				S	Sn	00 53 49.8	-0.3
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	00 53 08.1	-3.4
CRJC				S	Sn	00 53 57.6	-2.6
MACC	**Macarena, Meta**	**4.69**	**188**	P	Pn	00 53 15.4	-2.8
MACC				S	Sn	00 54 08.7	-3.5
MALC	**Bahia Malaga**	**5.00**	**236**	P	Pn	00 53 23.8	+1.5
MALC				S	Sn	00 54 18.2	-1.3
FLOC	**Florencia**	**5.77**	**206**	P	Pn	00 53 31.2	-1.3
FLOC				S	Sn	00 54 37.8	0.0

*IDC **08** 01:04:32.8±1.4, 37°.79N×20°.00E, h0km, mb3.7/4, mbtmp3.5/7, ML3.1/2, Error ellipse: s-maj=42.6km s-min=19.0km az=155.0*
*THE **08** 01:04:35.8, 37°.82N×19°.96E, h0km±6km, ML2.9/6, Error ellipse: s-maj=7.2km s-min=1.9km az=244.0*
*ATH **08** 01:04:35.6, 37°.81N×19°.90E, h5km±1km, ML3.0/22, Manual Solution by A.Agalos First location: 2019/02/08 01:04:55, This location: 2019/02/08 01:54:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 08 01:04:35.0±1.4, 37°.79N±0°.03×19°.91E±0°.04, h7km±9km, n63, σ1°.01/88, mb3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.57**	**39**	P	Pg	01 04 45.9	-0.2
DMLN				S	Sg	01 04 53.2	-0.4
1μm,0.4s							
DMLN	**Damoulianata-K**	**0.57**	**39**	P	Pg	01 04 46.3	+0.2
DMLN				S	Sg	01 04 54.0	+0.4
PSDA	**Pessada-Kefalo**	**0.62**	**59**	P	Pg	01 04 46.5	-0.4
PSDA				S	Sg	01 04 54.5	-0.5
2μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.62**	**59**	P	Pg	01 04 47.3	+0.4
PSDA				S	Sg	01 04 55.5	+0.6
ORTH	**Orthonies,Zaky**	**0.62**	**84**	P	Pg	01 04 47.5	+0.5
ORTH				S	Sb	01 04 56.3	-0.8
VLS	**Valsamata**	**0.66**	**54**	P	Pg	01 04 47.1	-0.5
VLS				S	Sg	01 04 56.3	+0.1
2μm,0.5s							
VLS	**Valsamata**	**0.66**	**54**	P	Pg	01 04 48.3	+0.6
VLS				S	Sg	01 04 56.9	+0.7
KYPS	**Kipseli, Zakin**	**0.72**	**88**	P	Pb	01 04 50.0	+0.2
KYPS				S	Sb	01 04 59.4	-0.6
RTZL	**Ratzakli, Kefa**	**0.73**	**67**	P	Pg	01 04 48.3	-0.8
RTZL				S	Sb	01 05 00.1	-0.2
LTHK	**Lithakia**	**0.74**	**96**	P	Pg	01 04 48.7	-0.4
LTHK				S	Sg	01 04 58.7	0.0
1μm,0.7s							
LTHK	**Lithakia**	**0.74**	**96**	P	Pb	01 04 50.2	+0.1
LTHK				S	Sb	01 05 00.1	-0.2
SMHA	**Samh**	**0.74**	**51**	P	Pb	01 04 49.9	-0.2
FSK	**Fiskardo**	**0.84**	**37**	P	Pg	01 04 49.8	-1.3
FSK	**Fiskardo**	**0.84**	**37**	P	Pb	01 04 52.0	+0.1
FSK				S	Sg	01 05 02.6	+0.6
CLEM	**Kyllini,Ilia,G**	**0.97**	**84**	P	Pb	01 04 54.6	+0.5
CLEM				S	Sb	01 05 07.3	+0.2
EVGI	**Lefkada island**	**1.01**	**35**	P	Pg	01 04 53.1	-1.3
EVGI	**Lefkada island**	**1.01**	**35**	P	Pg	01 04 54.9	+0.5
EVGI				S	Sb	01 05 08.6	+0.2
DRAG	**Dragano-Lefkad**	**1.03**	**30**	P	Pb	01 04 55.6	+0.4
DRAG				S	Sb	01 05 09.9	+1.0
132nm,0.4s							
DRAG	**Dragano-Lefkad**	**1.03**	**30**	P	Pb	01 04 55.5	+0.4
LCHA	**Lechaina**	**1.08**	**82**	P	Pb	01 04 56.5	+0.6
LKD2	**Lefkada island**	**1.16**	**30**	P	Pb	01 04 58.1	+0.9
LKD2				S	Sb	01 05 12.9	+0.4
TSLK	**Tsoukalades, L**	**1.19**	**29**	P	Pg	01 04 56.2	-1.5
TSLK				S	Sb	01 05 14.6	+1.3
468nm,0.6s							
TSLK	**Tsoukalades, L**	**1.19**	**29**	P	Pb	01 04 58.4	+0.7
TSLK				S	Sb	01 05 13.8	+0.5
AXS	**Araxos**	**1.22**	**70**	P	Pn	01 04 59.4	+0.9
RLS	**Riolos of Patr**	**1.26**	**77**	P	Pg	01 04 58.1	-0.9
RLS	**Riolos of Patr**	**1.26**	**77**	P	Pn	01 04 60.0	+1.0
RLS				S	Sb	01 05 16.1	+0.8
DRO	**Drossia**	**1.43**	**83**	P	Pb	01 05 02.7	+0.7
DRO	**Drossia**	**1.43**	**83**	P	Pb	01 05 02.7	+0.7
DRO				S	Sn	01 05 21.8	+1.4
AMT	**Artemida-Makis**	**1.45**	**100**	P	Pg	01 05 02.8	+0.1
AMT				S	Sn	01 05 22.2	+1.3
EFP	**Efpalio**	**1.69**	**67**	P	Pn	01 05 05.9	+1.0
EFP	**Efpalio**	**1.69**	**67**	P	Pb	01 05 06.4	0.0
EFP				S	Sn	01 05 27.9	+1.1
ITM	**Ithomi**	**1.71**	**110**	P	Pn	01 05 06.2	+1.0
IGT	**Igoumenitsa**	**1.77**	**11**	P	Pn	01 05 06.1	+0.1
IGT	**Igoumenitsa**	**1.77**	**11**	P	Pn	01 05 06.7	+0.7
ANX	**Ano Chora**	**1.77**	**63**	P	Pn	01 05 07.5	+1.4
ANX	**Ano Chora**	**1.77**	**63**	P	Pn	01 05 07.4	+1.2
ANX				S	Sb	01 05 30.6	+0.2
KLV	**Kalavryta, Ach**	**1.79**	**81**	P	Pn	01 05 07.2	+0.9
KALE	**Kalithea**	**1.85**	**71**	P	Pn	01 05 08.3	+1.1
KALE	**Kalithea**	**1.85**	**71**	P	Pn	01 05 08.1	+0.9
EVR	**Evrytania**	**1.86**	**52**	P	Pn	01 05 08.5	+1.1
KEK	**Kerkira**	**1.92**	**357**	P	Pn	01 05 09.1	+1.0
KEK				S	Sn	01 05 33.8	+1.3
GUR	**Goura**	**1.93**	**85**	P	Pn	01 05 09.0	+0.7
GUR	**Goura**	**1.93**	**85**	P	Pn	01 05 09.3	+1.1
MAKR	**Makrakomi, Fth**	**2.13**	**54**	P	Pn	01 05 12.5	+1.6
AXAR	**Agios Charalam**	**2.37**	**65**	P	Pn	01 05 15.7	+1.4
THL	**Klokotos Trika**	**2.42**	**42**	P	Pn	01 05 15.9	+1.1
LTK	**Loutraki**	**2.43**	**84**	P	Pn	01 05 15.9	+0.9
SCTE	**Santa Cesarea**	**2.54**	**334**	P	Pn	01 05 17.6	+1.1
LKR	**Lokris**	**2.58**	**70**	P	Pn	01 05 18.0	+0.9
KRND	**KRANIDI**	**2.60**	**98**	P	Pn	01 05 18.6	+1.2
VIL2	**Platees**	**2.68**	**80**	P	Pn	01 05 20.5	+1.9
NEST	**Nestorio**	**2.76**	**18**	P	Pn	01 05 20.5	+0.7
NEO	**Neokhori**	**3.00**	**59**	P	Pn	01 05 23.8	+0.8
LIT	**Litokhoron**	**3.06**	**40**	P	Pn	01 05 24.7	+1.0
DION	**Dionisos Attik**	**3.19**	**84**	P	Pn	01 05 26.3	+0.8
FNA	**Florina**	**3.20**	**20**	P	Pn	01 05 26.4	+0.7
VAE	**Valguarnera**	**4.38**	**268**	Pn	Pn	01 05 43.0	+1.1
5.6nm,0.7s,baz=127,slow=5.1,SNR=2.1							
VAE				Sn	Sn	01 06 37.5	+4.2
0.5nm,0.3s,baz=351,slow=16,SNR=1.4							
KEST	**Kesra**	**8.73**	**260**	Pn	Pn	01 06 40.1	-1.5
0.1nm,0.3s,baz=7.1,slow=8.1,SNR=2.3							
2.2nm,0.8s							
ESDC	**Sonseca Array**	**18.71**	**283**	P	P	01 08 53.1	-1.0
baz=90,slow=12,SNR=2.1							
0.4nm,0.9s							
FINES	**FINESS Array B**	**23.99**	**7**	P	P	01 09 48.8	-1.1
2.1nm,0.9s,baz=205,slow=8.4,SNR=3.5							
2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.43**	**218**	P	P	01 10 38.7	-0.6
0.7nm,0.9s,baz=27,slow=4.8,SNR=3.7							
0.7nm,0.9s							
MKAR	**Makanchi Array**	**45.91**	**58**	P	P	01 12 56.3	-1.8
0.3nm,0.3s,baz=278,slow=7.4,SNR=10							
0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**46.30**	**48**	P	P	01 12 59.6	-1.4
0.6nm,0.4s,baz=289,slow=8.8,SNR=4.4							
0.6nm,0.4s							

*PRE **08** 01:06:21.3±0.9, 22°.76S×24°.94E, h5km, ML2.4*
*BGSI **08** 01:06:25.2±1.1, 22°.77S×24°.98E, h0km±4km, ML2.6*

ISC 08 01:06:23.8±3.2, 22°.82S±0°.03×25°.01E±0°.03, h13km±23km, n29, σ0°.95/51, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDWAN	**Kaudwane**	**0.65**	**209**	*i* P	Pb	01 06 37.0	0.0
KDWAN				*i* S	Sb	01 06 46.3	+0.2
KDWAN				IAML		01 06 48.5	
comp=N,251nm,0.5s							
KDWAN	**Kaudwane**	**0.65**	**209**	*i* P	Pb	01 06 37.0	0.0
KDWAN				*i* S	Sb	01 06 46.2	+0.2
KDWAN				IAML		01 06 48.5	
comp=N,250nm,0.4s							
LPHEP	**Lephephe**	**0.96**	**125**	*i* P	Pn	01 06 42.8	-0.2
LPHEP				*i* S	Sn	01 06 56.5	-0.1
LPHEP				IAML		01 07 05.2	
comp=N,75nm,0.5s							
LPHEP	**Lephephe**	**0.96**	**125**	*i* P	Pn	01 06 42.9	-0.2
LPHEP				IAML		01 07 05.2	
comp=N,73nm,0.5s							
CKGRV	**CKGRV**	**1.81**	**321**	*i* P	Pn	01 06 54.6	-0.2
CKGRV				*i* S	Sn	01 07 17.6	-0.1
CKGRV				IAML		01 07 19.6	
comp=E,158nm,0.6s							
CKGRV	**CKGRV**	**1.81**	**321**	*i* P	Pn	01 06 54.6	-0.2
CKGRV				*i* S	Sn	01 07 17.6	-0.1
CKGRV				IAML		01 07 19.6	
comp=E,160nm,0.7s							
SKOMA	**Sekoma**	**1.96**	**210**	*i* P	Pb	01 06 58.6	-0.7
SKOMA				*i* S	Sb	01 07 23.2	-0.5
SKOMA				IAML		01 07 26.1	
comp=E,156nm,0.4s							
SKOMA	**Sekoma**	**1.96**	**210**	*i* P	Pb	01 06 58.5	-0.9
SKOMA				*i* S	Sb	01 07 23.7	0.0
SKOMA				IAML		01 07 26.3	
comp=E,156nm,0.4s							
LBTB	**Lobatse**	**2.26**	**166**	*e*P	Pn	01 07 01.4	+0.4
LBTB				*e*S	Sn	01 07 29.8	+1.1
LBTB				IAML		01 07 36.6	
comp=Z,36nm,0.2s							
KGCAE	**Kacgae**	**2.58**	**269**	*i* P	Pn	01 07 06.5	+1.1
KGCAE				IAML		01 07 44.4	
comp=N,36nm,0.3s							
KGCAE	**Kacgae**	**2.58**	**269**	*i* P	Pn	01 07 06.9	+1.4
KGCAE				*i* S	Sn	01 07 37.1	+0.3
KGCAE				IAML		01 07 45.6	
comp=E,54nm,0.6s							
BROLN	**Tlhalogang**	**2.75**	**52**	*i* P	Pn	01 07 08.6	+0.8
BROLN				*i* S	Sn	01 07 41.5	+0.5
BROLN				IAML		01 07 49.4	
comp=N,20nm,0.4s							
BROLN	**Tlhalogang**	**2.75**	**52**	*i* P	Pn	01 07 08.4	+0.7
BROLN				*i* S	Sn	01 07 41.6	+0.5
BROLN				IAML		01 07 47.2	
comp=N,19nm,0.2s							
LEPH	**Lephalale, Lim**	**

comp=N,34nm,0.2s
HRAO HartRAO 3.92 142 *e*P **Pn 01 07 24.2 +0.4**
HRAO *e*S **Sn 01 08 10.3 +0.5**
HRAO IAML 01 08 31.7
comp=Z,14nm,0.3s
SWZ Schweizer 4.36 176 *e*P **Pn 01 07 30.0 +0.1**
SWZ *e*S **Sn 01 08 19.9 -0.8**
SWZ IAML 01 08 43.0
comp=Z,12nm,0.3s
KOOLE Kule 4.44 267 *i* P **Pn 01 07 31.2 +0.2**
KOOLE IAML 01 08 50.1
comp=N,19nm,0.9s
KOOLE Kule 4.44 267 *i* P **Pn 01 07 31.1 +0.2**
KOOLE *i* S **Sn 01 08 22.1 -0.5**
KOOLE IAML 01 08 52.1
comp=E,17nm,0.8s
MUSN Musina, Limpop 4.52 84 *e*P **Pn 01 07 31.4 -0.6**
MUSN *e*S **Sn 01 08 23.9 -0.5**
MUSN IAML 01 08 50.7
comp=Z,5.6nm,0.2s
PRYS Parys 4.62 153 *e*P **Pn 01 07 34.3 +0.9**
PRYS *e*S **Sn 01 08 27.7 +0.6**
PRYS IAML 01 08 58.0
comp=Z,9.2nm,0.3s
BOSA Boshof 5.78 178 *e*P **Pn 01 07 50.1 +0.7**
BOSA *e*S **Sn 01 08 53.8 -1.9**
BOSA IAML 01 09 32.6
comp=Z,5.9nm,0.5s
MOPA Mopani 5.92 98 *e*P **Pn 01 07 51.0 -0.3**
MOPA *e*S **Sn 01 08 57.5 -1.6**
MOPA IAML 01 09 33.4
comp=Z,12nm,0.3s
UPI Upington 6.48 211 *e*P **Pn 01 07 58.5 -0.4**
UPI *e*S **Sn 01 09 09.8 -3.0**
UPI IAML 01 09 47.0
comp=Z,5.3nm,0.5s

*IDC **08** 01:21:29.4±0.6,31°.03N×41°.54W,h0km,mb4.0/24, mbtmp4.0/24,MS3.5/32,Error ellipse: s-maj=17.8km s-min=14.2km az=176.0*
*NEIC **08** 01:21:31.9±1.8,31°.0N±0°.1×41°.6W±0°.1,h10km±1km, mb4.5/26,Error ellipse: s-maj=23.7km s-min=10.2km az=146.0*
ISC 08 01:21:31.3±0.5,31°.00N±0°.10×41°.57W±0°.08,h13km,n78, σ0°.96/44,mb4.2/36,MS3.5/32,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.70**	**246**	LR	LR	01 34 48.4	
	comp=Z,36nm,21.8s,baz=64,slow=31						
MDP	**Montagnes des**	**27.78**	**204**	LR	LR	01 35 35.6	
	comp=Z,55nm,22.0s,baz=109,slow=30						
BBTS	**Babate**	**28.13**	**120**	LR	LR	01 36 57.8	
	comp=Z,126nm,19.3s,baz=180,slow=33						
SCHQ	**Schefferville**	**29.86**	**330**	P	**P**	**01 27 37.4**	**-0.8**
	2.4nm,0.9s,baz=157,slow=13,SNR=2.7						
SCHQ				LR	LR	01 38 23.2	
	comp=Z,108nm,20.7s,baz=97,slow=34						
	2.4nm,0.9s						
MDT	**Midelt**	**31.33**	**77**	LR	LR	01 37 35.2	
	comp=Z,139nm,21.9s,baz=274,slow=31						
ESDC	**Sonseca Array**	**31.69**	**64**	P	**P**	**01 27 55.0**	**+0.4**
	0.2nm,0.3s,baz=268,slow=8.3,SNR=2.7						
ESDC				LR	LR	01 38 16.1	
	comp=Z,57nm,18.9s,baz=270,slow=32						
	0.2nm,0.3s						
SADO	**Sadowa**	**32.38**	**306**	LR	LR	01 39 41.5	
	comp=Z,63nm,20.7s,baz=234,slow=34						
SDV	**Santo Domingo**	**34.88**	**237**	LR	LR	01 40 03.4	
	comp=Z,30nm,20.0s,baz=68,slow=32						
TKL	**Tuckaleechee C**	**35.37**	**289**	LR	LR	01 40 06.9	
	comp=Z,94nm,19.1s,baz=110,slow=32						
EKA	**Eskdalemuir Ar**	**36.39**	**37**	P	**P**	**01 28 34.5**	**-0.6**
	2.4nm,0.9s,baz=217,slow=9.2,SNR=3.5						
	2.4nm,0.9s						
RCBR	**Riachuelo**	**37.02**	**171**	LR	LR	01 41 23.4	
	comp=Z,17nm,18.9s,baz=359,slow=32						
ROSC	**El Rosal**	**40.30**	**236**	LR	LR	01 44 38.2	
	comp=Z,56nm,21.1s,baz=37,slow=34						
DBIC	**Dimbokro**	**42.02**	**117**	P	**P**	**01 29 23.9**	**+1.3**
	3.5nm,0.8s,baz=273,slow=11,SNR=3.2						
DBIC				LR	LR	01 44 18.8	
	comp=Z,65nm,21.3s,baz=338,slow=33						
	3.5nm,0.8s						
TAM	**Tamanrasset**	**42.53**	**89**	P	**P**	**01 29 27.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**43.54**	**104**	P	**P**	**01 29 34.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**43.54**	**104**	P	**P**	**01 29 34.0**	**-1.0**
	2.3nm,0.9s,baz=312,slow=7.2,SNR=9.4						
TORD				LR	LR	01 46 46.9	
	comp=Z,52nm,18.2s,baz=286,slow=35						
	2.3nm,0.9s						
U38A	**Gravette**	**43.81**	**292**	P	**P**	**01 29 35.1**	**-1.9**
U38A				IAmb	IAmb	01 29 44.2	
	comp=Z,8.1nm,1.1s						
ULM	**Lac du Bonnet**	**44.39**	**312**	P	**P**	**01 29 40.7**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=96,slow=8.9,SNR=5.8						
ULM				LR	LR	01 47 46.4	
	comp=Z,45nm,18.5s,baz=66,slow=36						
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**44.94**	**50**	P	**P**	**01 29 44.7**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=294,slow=7.2,SNR=4.2						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**46.49**	**35**	P	**P**	**01 29 56.6**	**-1.3**
	comp=Z,5.8nm,1.1s,baz=236,slow=10,SNR=2.9						
	comp=Z,5.8nm,1.1s						
H10N2	**ASCENSION HYDR**	**46.51**	**142**	T	T	02 19 23.7	
	baz=328,slow=75,SNR=263						
H10N3	**ASCENSION HYDR**	**46.52**	**142**	T	T	02 19 18.3	
	baz=328,slow=75,SNR=214						
H10N1	**ASCENSION HYDR**	**46.53**	**142**	T	T	02 19 19.5	
	baz=328,slow=75,SNR=297						
BDFB	**Brasília**	**46.78**	**189**	P	**P**	**01 30 00.3**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=327,slow=4.3,SNR=4.8						
	comp=Z,2.6nm,0.7s						
H10S3	**ASCENSION HYDR**	**47.37**	**143**	T	T	02 20 23.1	
	baz=253,slow=74,SNR=95						
H10S2	**ASCENSION HYDR**	**47.38**	**143**	T	T	02 20 22.8	
	baz=327,slow=74,SNR=120						
WMOK	**Wichita Mounta**	**47.65**	**290**	P	**P**	**01 30 08.3**	**+0.9**
WMOK				IAmb	IAmb	01 30 14.1	
	comp=Z,3.2nm,0.8s						
FFC	**Flin Flon**	**48.44**	**318**	P	**P**	**01 30 14.2**	**+1.1**
BRDY	**Brady**	**48.65**	**286**	P	**P**	**01 30 15.9**	**+0.7**
BRDY				IAmb	IAmb	01 30 21.9	
	comp=Z,4.4nm,0.9s						
CZSB	**Cruzeiro do Su**	**48.70**	**223**	P	**P**	**01 30 15.0**	**-0.6**
CMIG	**Matias Romero**	**50.18**	**267**	LR	LR	01 50 10.6	
	comp=Z,45nm,19.5s,baz=357,slow=34						
FINES	**FINESS Array B**	**52.68**	**34**	P	**P**	**01 30 45.1**	**+0.1**
FINES	**FINESS Array B**	**52.68**	**34**	P	**P**	**01 30 44.5**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=235,slow=8.4,SNR=8.1						
	comp=Z,1.8nm,0.6s						
FIA1	**FINESS Array S**	**52.68**	**34**	P	**P**	**01 30 44.8**	**-0.3**
TXAR	**Lajitas Array**	**53.08**	**285**	P	**P**	**01 30 49.5**	**+0.8**
TXAR	**Lajitas Array**	**53.08**	**285**	P	**P**	**01 30 49.3**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=108,slow=8.0,SNR=5.0						
	comp=Z,0.7nm,1.0s						
ARCES	**ARCESS Array B**	**53.32**	**24**	P	**P**	**01 30 50.3**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=275,slow=9.5,SNR=3.0						
	comp=Z,3.9nm,0.9s						
LPAZ	**La Paz**	**53.50**	**212**	P	**P**	**01 30 52.5**	**+0.2**
LPAZ	**La Paz**	**53.50**	**212**	P	**P**	**01 30 52.9**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=1.8,slow=6.6,SNR=11						
LPAZ				LR	LR	01 52 30.1	
	comp=Z,33nm,18.7s,baz=321,slow=35						
	comp=Z,2.8nm,0.7s						
ANMO	**Albuquerque**	**53.73**	**293**	LR	LR	01 52 29.2	
	comp=Z,47nm,18.0s,baz=233,slow=35						
PD31	**Pinedale Array**	**54.29**	**303**	P	**P**	**01 30 57.9**	**+0.4**
PD31				IAmb	IAmb	01 30 58.9	
	comp=Z,5.6nm,0.8s						
PDAR	**Pinedale Array**	**54.29**	**303**	P	**P**	**01 30 57.8**	**+0.3**
PDAR	**Pinedale Array**	**54.29**	**303**	P	**P**	**01 30 58.2**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=86,slow=8.2,SNR=36						
PDAR				LR	LR	01 52 14.8	
	comp=Z,68nm,20.5s,baz=93,slow=34						
	comp=Z,3.5nm,0.7s						
AKASG	**Malin Array Be**	**54.89**	**47**	P	**P**	**01 31 00.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=282,slow=5.9,SNR=7.2						
AKASG				LR	LR	01 52 15.7	
	comp=Z,35nm,18.7s,baz=338,slow=34						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**55.23**	**327**	P	**P**	**01 31 02.8**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=93,slow=7.0,SNR=8.6						
YKA				LR	LR	01 54 08.4	
	comp=Z,66nm,18.6s,baz=340,slow=36						
	comp=Z,0.5nm,0.8s						
PB18	**Visviri**	**55.26**	**213**	P	**P**	**01 31 04.0**	**-1.0**
P18A	**Preston Nutter**	**55.48**	**299**	P	**P**	**01 31 05.4**	**-0.8**
SRU	**San Rafael Swe**	**55.81**	**299**	IAmb	IAmb	01 31 16.0	
	comp=Z,5.1nm,1.0s						
DUG	**Dugway, Tooele**	**57.25**	**300**	IAmb	IAmb	01 31 26.4	
	comp=Z,6.2nm,1.2s						
PB08	**IPOC Station P**	**57.33**	**211**	IAmb	IAmb	01 31 20.5	
	comp=Z,4.7nm,0.9s						
NEW	**Newport**	**58.37**	**311**	LR	LR	01 56 41.9	
	comp=Z,40nm,18.0s,baz=45,slow=36						
MFID	**Camas Ranch**	**58.62**	**305**	IAmb	IAmb	01 31 30.2	
	comp=Z,4.0nm,0.9s						
SPR3	**Spring Creek 3**	**58.70**	**299**	IAmb	IAmb	01 31 32.9	
	comp=Z,5.8nm,1.2s						
PRN	**Pahroc Range**	**59.71**	**298**	IAmb	IAmb	01 31 46.6	
	comp=Z,5.0nm,1.2s						
BRTR	**Keskin Array B**	**60.31**	**59**	P	**P**	**01 31 39.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=257,slow=6.0,SNR=5.5						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**61.84**	**300**	P	**P**	**01 31 49.3**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=73,slow=5.6,SNR=6.1						
NVAR				LR	LR	01 58 11.0	
	comp=Z,88nm,18.3s,baz=130,slow=36						
	comp=Z,1.0nm,0.6s						
PFO	**Pinyon Flats O**	**62.02**	**294**	LR	LR	01 56 47.0	
	comp=Z,67nm,21.2s,baz=68,slow=34						
PAHR	**Pah Rah Range**	**62.23**	**302**	P	**P**	**01 31 54.1**	**+1.1**
PAHR				IAmb	IAmb	01 32 00.1	
	comp=Z,4.6nm,1.1s						
INK	**Inuvik**	**62.30**	**335**	P	**P**	**01 31 53.4**	**+0.7**
INK				IAmb	IAmb	01 31 54.4	
	comp=Z,3.1nm,0.8s						
YBH	**Yreka Blue Hor**	**63.97**	**305**	LR	LR	01 58 11.5	
	comp=Z,44nm,20.4s,baz=38,slow=34						
BBB	**Bella Bella**	**64.17**	**317**	LR	LR	01 59 43.7	
	comp=Z,98nm,19.2s,baz=348,slow=36						
ASF	**Jabal al Asfar**	**65.35**	**66**	LR	LR	02 00 33.5	
	comp=Z,12nm,20.7s,baz=265,slow=36						
KBZ	**Khabaz**	**65.61**	**52**	P	**P**	**01 32 15.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=231,slow=5.0,SNR=4.7						
	comp=Z,1.3nm,0.8s						
BELG	**Belogornoye**	**65.65**	**42**	LR	LR	01 57 36.8	
	comp=Z,58nm,21.0s,baz=270,slow=33						
PRP	**Porcupine Dome**	**67.69**	**334**	IAmb	IAmb	01 32 35.9	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**68.54**	**334**	P	**P**	**01 32 35.0**	**+1.7**
ILAR	**Eielson Array**	**68.54**	**334**	P	**P**	**01 32 34.7**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=57,slow=4.3,SNR=20						
	comp=Z,1.4nm,0.8s						
CCB	**Clear Creek Bu**	**68.95**	**334**	P	**P**	**01 32 37.0**	**+1.3**
WRH	**Wood River Hil**	**69.14**	**334**	P	**P**	**01 32 38.4**	**+1.4**
NRIK	**Noril'sk**	**73.34**	**17**	P	**P**	**01 33 03.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=339,slow=3.0,SNR=3.5						
	comp=Z,0.6nm,0.3s						
KDAK	**Kodiak Island**	**74.47**	**329**	LR	LR	02 05 32.9	
	comp=Z,96nm,18.3s,baz=60,slow=36						
BVAR	**Borovoye Array**	**77.62**	**35**	P	**P**	**01 33 27.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=318,slow=2.0,SNR=5.3						
	comp=Z,0.9nm,0.7s						
LSZ	**Lusaka**	**81.23**	**114**	LR	LR	02 06 38.2	
	comp=Z,33nm,21.8s,baz=146,slow=33						
KURBB	**Kurchatov Arra**	**83.07**	**34**	P	**P**	**01 33 56.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=318,slow=5.4,SNR=2.0						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**83.56**	**29**	P	**P**	**01 33 59.9**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=306,slow=12,SNR=2.1						
	comp=Z,0.4nm,0.4s						
LBTB	**Lobatse**	**85.02**	**123**	LR	LR	02 09 56.2	
	comp=Z,31nm,18.8s,baz=211,slow=34						
AAK	**Ala-Archa**	**86.14**	**42**	LR	LR	02 11 10.9	
	comp=Z,19nm,18.6s,baz=21,slow=35						
BOSA	**Boshof**	**86.97**	**126**	LR	LR	02 10 34.2	
	comp=Z,13nm,18.4s,baz=225,slow=34						

IDC 08 01:23:44.7±12.0,19°.59S×177°.18W,h536km±67km, mb2.6/3,mbtmp3.6/4,Error ellipse: s-maj=276.4km s-min=32.8km az=140.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.88**	**291**	P	P	01 25 12.7	-0.1
	9.7nm,0.5s,baz=132,slow=14,SNR=8.6						
ASAR	**Alice Springs**	**45.48**	**256**	P	P	01 31 16.9	+0.5
	0.9nm,0.5s,baz=89,slow=8.9,SNR=12						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**45.49**	**261**	P	P	01 31 15.4	-1.1
	0.3nm,0.6s,baz=96,slow=8.0,SNR=5.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**87.26**	**13**	P	P	01 35 33.5	-0.3
	0.1nm,0.4s,baz=223,slow=4.2,SNR=4.9						
	0.1nm,0.4s						

*IDC **08** 01:31:40.0±1.0,2°.30N×128°.72E,h0km,mb3.8/9, mbtmp3.8/10,ML4.4/1,Error ellipse: s-maj=39.7km s-min=16.7km az=79.0*
*DJA **08** 01:31:45.0±0.7,2°N±6°×12°.9E±°,h10km,M4.0/7,MLv4.0/7*
*NEIC **08** 01:31:48.4±1.2,2°.18N±0°.10×128°.69E±0°.04,h64km±11km, mb4.4/8,Error ellipse: s-maj=14.8km s-min=3.7km az=162.0*
ISC 08 01:31:44.7±0.7,2°.31N±0°.07×128°.77E±0°.09,h35km,n32, σ1°.24/27,mb4.1/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.07**	**223**		**Pn**	**01 32 18.4**	**+1.4**
TNTI				Sn	**Sn**	**01 32 42.5**	**+0.9**
TNTI	**Ternate**	**2.07**	**223**	P	**Pn**	**01 32 18.3**	**+1.3**
SGSI	**Sangihe**	**3.51**	**293**	P	**Pn**	**01 32 38.2**	**+1.3**
FAKI	**Fak Fak**	**6.25**	**146**	Pn	**Pn**	**01 33 15.9**	**+1.4**
TOLI2	**Tolitoli**	**8.07**	**262**	Pn	**Pn**	**01 33 41.1**	**+1.5**
KAPI	**Kappang**	**11.58**	**231**	Pn	**Pn**	**01 34 26.2**	**-1.4**
	2.3nm,0.3s,baz=74,slow=9.4,SNR=4.6						
	2.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.51**	**189**	P	**P**	**01 36 19.3**	**-0.7**
	2.3nm,1.0s,baz=342,slow=11,SNR=1.4						
	2.3nm,1.0s						
WB0	**Warramunga Arr**	**22.62**	**166**	P	**P**	**01 36 43.2**	**+0.5**
WB0				IAmb	IAmb	01 36 58.0	
	comp=Z,20nm,1.2s						
WRA	**Warramunga Arr**	**22.78**	**166**	P	**P**	**01 36 44.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=344,slow=10,SNR=9.9						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**22.78**	**166**	P	**P**	**01 36 43.5**	**-0.9**
WB2				IAmb	IAmb	01 37 27.9	
	comp=Z,16nm,1.4s						
YHNB	**Yeheng**	**23.35**	**343**	P	**P**	**01 36 52.2**	**+2.0**
YHNB				IAmb	IAmb	01 37 29.1	
	comp=Z,92nm,1.5s						
ASAR	**Alice Springs**	**26.30**	**169**	P	**P**	**01 37 17.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=357,slow=7.7,SNR=6.1						
	comp=Z,0.5nm,0.6s						
BKNI	**Bangkinang**	**27.79**	**266**	P	**P**	**01 37 28.1**	**-2.7**
CMAR	**Chiang Mai Arr**	**33.34**	**301**	P	**P**	**01 38 18.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**33.34**	**301**	P	**P**	**01 38 18.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=104,slow=9.5,SNR=4.5						
	comp=Z,0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**35.16**	**13**	P	**P**	**01 38 35.0**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=186,slow=9.8,SNR=4.5						
	comp=Z,0.8nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.48**	**64**	T	T	02 22 34.5	
	baz=251,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**40.49**	**64**	T	T	02 22 40.1	
	baz=251,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**40.49**	**64**	T	T	02 22 40.0	
	baz=251,slow=75,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**41.06**	**62**	T	T	02 23 23.9	
	baz=250,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**41.08**	**62**	T	T	02 23 26.8	
	baz=250,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**41.08**	**62**	T	T	02 23 25.0	
	baz=250,slow=75,SNR=31						
ULN	**Ulaanbaatar**	**49.11**	**341**	P	**P**	**01 40 29.9**	**+1.0**
ULN				IAmb	IAmb	01 40 30.9	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**49.30**	**340**	P	**P**	**01 40 31.2**	**+0.8**
SONM	**Songino Array**	**49.30**	**340**	P	**P**	**01 40 31.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=156,slow=7.3,SNR=7.4						
	comp=Z,0.8nm,0.6s						
RAO	**Raoul Island**	**59.85**	**126**	P	**P**	**01 41 46.9**	**-0.3**
MK31	**Makanchi Array**	**59.88**	**325**	P	**P**	**01 41 47.8**	**+0.7**
MK31				IAmb	IAmb	01 42 27.1	
	comp=Z,5.1nm,1.5s						
MKAR	**Makanchi Array**	**59.88**	**325**	P	**P**	**01 41 47.8**	**+0.7**
	comp=Z,6.0nm,0.6s,baz=113,slow=8.1,SNR=16						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**62.78**	**333**	P	**P**	**01 42 05.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=120,slow=5.7,SNR=1.7						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.03**	**327**	P	**P**	**01 42 16.2**	**+1.4**
	comp=Z,1.2nm,0.2s,baz=115,slow=6.5,SNR=1.6						
	comp=Z,1.2nm,0.2s						
ABKAR	**Akbulak array**	**74.53**	**321**	P	**P**	**01 43 19.2**	**-0.7**

*IDC **08** 01:32:53.8±1.0,2°.47N×98°.98E,h138km±7km,mb2.8/3, mbtmp3.2/3,Error ellipse: s-maj=33.4km s-min=23.4km az=20.0*
*DJA **08** 01:32:54.0±0.5,2°N±4°×9°9E±°,h137km±5km,M3.5/10, MLv3.5/10*
ISC 08 01:32:53.8±1.1,2°.43N±0°.09×99°.0E±0°.1,h150km,n9, σ1°.10/10,mb3.0/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.38**	**351**	P	**Pn**	**01 33 14.2**	**-0.6**
	30nm,0.3s,baz=170,slow=6.0,SNR=20						
PSI				S	**Sn**	**01 33 28.5**	**-2.2**
	54nm,0.5s,baz=333,slow=2.9,SNR=19						
GSI	**Gunungsitoli**	**1.80**	**232**	P	**Pn**	**01 33 26.2**	**-0.4**
PBSI	**Pulau Batu**	**2.56**	**196**	P	**Pn**	**01 33 34.9**	**-0.8**
SNSI	**Sinabang, Aceh**	**2.66**	**270**	P	**Pn**	**01 33 37.0**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.16**	**305**	P	**Pn**	**01 33 42.8**	**-0.3**
BSI	**Banda Aceh**	**4.78**	**310**	P	**Pn**	**01 34 04.1**	**-0.2**
WRA	**Warramunga Arr**	**41.21**	**124**	P	**P**	**01 40 25.0**	**+0.9**
	0.5nm,0.8s,baz=301,slow=8.0,SNR=5.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**42.75**	**129**	P	**P**	**01 40 37.6**	**+1.0**
	0.2nm,0.5s,baz=303,slow=8.8,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**46.52**	**344**	P	**P**	**01 41 06.6**	**+0.5**
	0.1nm,0.4s,baz=145,slow=8.7,SNR=1.8						
	0.1nm,0.4s						

IDC 08 01:44:07.5±2.4,4°.64S×129°.22E,h0km,mb3.6/2, mbtmp3.5/3,ML2.9/1,Error ellipse: s-maj=170.1km s-min=44.8km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.01**	**162**	Pn	Pn	01 47 54.2	0.0
	0.1nm,0.3s,baz=342,slow=10,SNR=1.4						
	0.6nm,1.1s						
MKAR	**Makanchi Array**	**65.83**	**327**	P	P	01 54 54.5	-0.3
	0.4nm,0.6s,baz=119,slow=7.3,SNR=7.5						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**69.13**	**334**	P	P	01 55 15.9	+0.5
	0.3nm,0.4s,baz=151,slow=3.3,SNR=2.1						
	0.3nm,0.4s						

IDC 08 01:49:21.8±6.9,6°.19S×141°.48E,h0km,mb3.2/1, mbtmp3.3/3,ML3.5/2,MS3.3/2,Error ellipse: s-maj=246.3km s-min=36.6km az=94.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**10.67**	**80**	LR	LR	01 57 03.8	
	comp=Z,60nm,19.7s,baz=179,slow=43						
WRA	**Warramunga Arr**	**15.33**	**206**	Pn	Pn	01 52 59.3	-0.4
	0.1nm,0.3s,baz=29,slow=12,SNR=4.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**18.84**	**202**	P	Pn	01 53 43.8	-0.1
	0.3nm,0.3s,baz=32,slow=12,SNR=15						
	0.7nm,0.4s						
JNU	**Nakatsue**	**40.37**	**346**	LR	LR	02 11 14.4	
	comp=Z,96nm,20.5s,baz=176,slow=32						
MKAR	**Makanchi Array**	**74.21**	**322**	P	P	02 01 00.5	-0.1
	0.2nm,0.8s,baz=126,slow=7.3,SNR=2.0						
	0.2nm,0.8s						

TXNET 08 01:58:30.1,31°.2N±0°.5×103°.6W±0°.5,h6km±1km,ML1.6/7, 1C-1D,Error ellipse: s-maj=0.9km s-min=0.6km az=49.5, final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB10	**Southeast of T**	**0.12**	**291**	⇑P	Pg	01 58 33.5	+0.7
TPB10				S	Sg	01 58 35.3	+0.8
TPB03	**Saragosa**	**0.18**	**150**	P	Pg	01 58 34.4	+0.7
TPB03				S	Sg	01 58 37.5	+1.3
PCOS	**Crockett Middl**	**0.19**	**29**	P	Pg	01 58 34.4	+0.4
PCOS				S	Sg	01 58 37.9	+1.3
PECS	**Pecos**	**0.25**	**302**	⇓P	Pg	01 58 35.7	+0.6
PECS				S	Sg	01 58 39.7	+1.3
PECS	**Pecos**	**0.25**	**302**	P	Pg	01 58 35.7	+0.7
TPB12	**Southwest of T**	**0.29**	**265**	P	Pg	01 58 36.5	+0.6
TPB12				S	Sg	01 58 41.4	+1.6
TPB01	**Permian Basin**	**0.33**	**205**	P	Pg	01 58 37.1	+0.6
TPB01				S	Sg	01 58 42.3	+1.5
TPB05	**Hovey Rd**	**0.41**	**142**	P	Pg	01 58 38.4	+0.4
TPB05				S	Sg	01 58 44.8	+1.5
MNHN	**Monahans**	**0.74**	**82**	P	Pb	01 58 45.2	-0.3
ALPN	**Alpine**	**0.86**	**181**	P	Pg	01 58 46.5	-0.2
ALPN				S	Sb	01 58 59.4	-0.1
ALPN	**Alpine**	**0.86**	**181**	P	Pg	01 58 46.6	-0.1
HTMS	**Hat Mesa**	**1.23**	**359**	S	Sn	01 59 12.2	+1.2
VHRN	**Van Horn**	**1.26**	**249**	P	Pg	01 58 53.7	-0.6
VHRN				S	Sb	01 59 10.8	-0.1
VHRN	**Van Horn**	**1.26**	**249**	P	Pg	01 58 54.0	-0.3
TMB02	**Rankin**	**1.35**	**91**	S	Sb	01 59 13.3	-0.3
MNTX	**Cornudas Mount**	**1.57

RHSSO ***08*** *02:07:02.0±0.2,43°97N×17°16E,h6km×1km,ML2.1/15*
ISC 08 02:07:01.2±1.1,**43°95N**±0°02×**17°14E**±0°01,**h1**km±9km,
n66,σ1§**11**/130,**12C,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.46**	**181**	*e*Pg	**Pg**	**02 07 10.1**	**+0.1**
RICI				Sg	**Sb**	02 07 17.0	-2.4
KIJV	**Kijevo**	**0.53**	**276**	*i* Pg	**Pg**	**02 07 11.3**	**0.0**
KIJV				Sg	**Sg**	02 07 19.5	+1.3
MAKA	**Makarska**	**0.67**	**187**	*e*Pg	**Pg**	**02 07 13.8**	**-0.2**
MAKA				Sg	**Sb**	02 07 24.5	-0.9
A050A	**Klekovaca**	**0.69**	**321**	⇑*i*Pg	**Pg**	**02 07 13.7**	**-0.6**
A050A				*e*Sg	**Sg**	02 07 24.0	+0.8
BLY	**Banja Luka**	**0.80**	**2**	⇑*i*Pg	**Pg**	**02 07 15.8**	**-0.6**
BLY				*e*Sg	**Sg**	02 07 27.3	+0.6
BLY	**Banja Luka**	**0.80**	**2**	*e*Pg	**Pg**	**02 07 16.9**	**+0.5**
BLY				*e*Sg	**Sg**	02 07 28.1	+1.4
SLATY	**Slatina**	**0.88**	**7**	*e*Pg	**Pg**	**02 07 17.8**	**-0.3**
SLATY				*e*Sg	**Sg**	02 07 29.8	+0.3
HVAR	**Hvar**	**0.92**	**213**	*e*Pg	**Pg**	**02 07 18.2**	**-0.7**
HVAR				*e*Sg	**Sb**	02 07 32.0	-0.7
MORI	**Morici**	**1.04**	**266**	*i* Pg	**Pg**	**02 07 20.5**	**-0.5**
MORI				Sg	**Sb**	02 07 35.4	-0.6
DOB	**Doboj**	**1.04**	**41**	*e*Pg	**Pg**	**02 07 19.9**	**-1.2**
DOB				*e*Sg	**Sg**	02 07 33.8	-0.8
KALIN	**Kalinovik**	**1.05**	**115**	⇑*i*Pg	**Pg**	**02 07 21.1**	**-0.2**
KALIN				*e*Sg	**Sb**	02 07 35.6	-0.9
PRIJ	**Prijedor**	**1.07**	**344**	*e*Pg	**Pg**	**02 07 21.1**	**-0.5**
PRIJ				*e*Sg	**Sg**	02 07 35.8	+0.4
A051A	**Mrakovica**	**1.07**	**351**	⇑*i*Pg	**Pg**	**02 07 20.9**	**-0.8**
A051A				*e*Sg	**Sg**	02 07 35.6	0.0
ZIRJ	**Zirje**	**1.12**	**255**	*e*Pg	**Pg**	**02 07 21.9**	**-0.7**
ZIRJ				Sg	**Sb**	02 07 38.5	0.0
UDBI	**Udbina**	**1.14**	**301**	*i* Pg	**Pg**	**02 07 22.3**	**-0.7**
UDBI				Sg	**Sg**	02 07 38.5	+0.6
STON	**Ston**	**1.16**	**159**	*e*Pg	**Pg**	**02 07 22.6**	**-0.7**
STON				*e*Sg	**Sb**	02 07 38.4	-1.0
STON	**Ston**	**1.16**	**159**	*e*Pg	**Pg**	**02 07 23.1**	**-0.2**
STON				Sg	**Sn**	02 07 40.6	-0.2
STON	**Ston**	**1.16**	**159**	*e*Pg	**Pb**	**02 07 23.3**	**-0.6**
STON				*e*Sg	**Sn**	02 07 40.1	-0.8
LSTV	**Lastovo**	**1.20**	**189**	*i* Pn	**Pg**	**02 07 23.3**	**-0.8**
LSTV				Sg	**Sn**	02 07 42.3	+0.4
KLINJ	**Klinje**	**1.31**	**126**	*e*Pg	**Pg**	**02 07 25.7**	**-0.6**
KLINJ				*e*Sg	**Sb**	02 07 43.7	-0.3
HAPS	**Han Pijesak,Bl**	**1.31**	**84**	⇑*i*Pg	**Pg**	**02 07 26.0**	**-0.3**
HAPS				*e*Sg	**Sg**	02 07 43.7	+0.3
HAPS	**Han Pijesak,Bl**	**1.31**	**84**	*e*Pg	**Pn**	**02 07 26.8**	**+0.1**
HAPS				*e*Sg	**Sn**	02 07 46.3	+1.3
PLIT	**Plitvice**	**1.43**	**311**	*e*Pg	**Pn**	**02 07 27.7**	**-0.6**
PLIT				Sg	**Sn**	02 07 48.0	+0.4
BRY	**Bratogost**	**1.47**	**135**	*e*Pg	**Pn**	**02 07 28.2**	**-0.7**
BRY				*e*Sg	**Sn**	02 07 48.5	-0.2
BRY	**Bratogost**	**1.47**	**135**	*e*Pg	**Pb**	**02 07 29.4**	**+0.1**
BRY				*i* Sg	**Sn**	02 07 53.4	+4.7
DBRK	**Dubrovnik**	**1.48**	**150**	*e*Pn	**Pn**	**02 07 28.6**	**-0.4**
DBRK				Sn	**Sn**	02 07 51.2	+2.3
UPM	**Unac-Piva**	**1.49**	**120**	⇑*i*Pg	**Pn**	**02 07 28.1**	**-1.1**
UPM				*e*Sg	**Sn**	02 07 49.4	+0.1
UPM	**Unac-Piva**	**1.49**	**120**	⇑*i*Pn	**Pb**	**02 07 30.0**	**+0.3**
UPM				*e*Sn	**Sn**	02 07 53.2	+3.9
DUGI	**Dugi Otok**	**1.50**	**272**	*e*Pn	**Pn**	**02 07 29.1**	**-0.2**
DUGI				Sn	**Sn**	02 07 51.6	+2.1
VIRC	**Vir**	**1.54**	**283**	*i* Pn	**Pn**	**02 07 29.9**	**+0.2**
VIRC				Sn	**Sg**	02 07 52.3	+1.7
BBLS	**Lazi&#263i**	**1.64**	**92**	⇑*i*Pn	**Pn**	**02 07 31.3**	**+0.1**
BBLS				*e*Sn	**Sn**	02 07 52.4	-0.6
BBLS	**Lazi&#263i**	**1.64**	**92**	*e*Pg	**Pg**	**02 07 33.3**	**+0.7**
BBLS				*e*Sg	**Sg**	02 07 56.8	+3.0
RUDO	**Rudo**	**1.65**	**101**	⇑*i*Pn	**Pn**	**02 07 30.5**	**-0.8**
RUDO				*e*Sn	**Sn**	02 07 52.5	-0.6
MOSL	**Moslavina**	**1.68**	**351**	*e*Pn	**Pb**	**02 07 32.8**	**-0.1**
MOSL				Sn	**Sb**	02 07 54.8	+0.2
NVLJ	**Novalja**	**1.74**	**291**	*i* Pn	**Pb**	**02 07 34.0**	**+0.1**
NVLJ				Sn	**Sg**	02 07 58.7	+1.7
NKME	**Niksic**	**1.78**	**131**	*e*Pn	**Pg**	**02 07 35.0**	**-0.2**
NKME				*i* Sn	**Sg**	02 08 02.0	+3.8
HCY	**Herceg Novi**	**1.80**	**146**	*e*Pn	**Pb**	**02 07 33.9**	**-1.1**
HCY				*e*Sn	**Sn**	02 07 56.7	-0.2
HCY	**Herceg Novi**	**1.80**	**146**	*e*Pn	**Pg**	**02 07 35.0**	**-0.7**
HCY				*i* Sn	**Sg**	02 08 01.8	+2.7
TEKS	**Tekeris**	**1.82**	**70**	*e*Pn	**Pn**	**02 07 33.5**	**-0.1**
TEKS				*e*Sn	**Sn**	02 07 56.1	-1.2
TEKS	**Tekeris**	**1.82**	**70**	*e*Pn	**Pn**	**02 07 33.2**	**-0.4**
TEKS				*e*Sn	**Sg**	02 08 01.0	+1.5
RABC	**Rab**	**1.87**	**296**	*i* Pn	**Pb**	**02 07 36.1**	**+0.1**
RABC				Sn	**Sg**	02 08 00.7	-0.5
CEME	**Cevo**	**1.92**	**137**	*e*Pn	**Pb**	**02 07 36.9**	**0.0**
CEME				*i* Sn	**Sg**	02 08 05.1	+2.4
BOJS	**Bojanci**	**2.05**	**320**	⇑*i*Pn	**Pn**	**02 07 36.6**	**-0.2**
BOJS				*e*Sn	**Sn**	02 08 02.9	-0.1
KOME	**Kolasin**	**2.05**	**122**	⇑*i*Pn	**Pb**	**02 07 39.1**	**-0.2**
KOME				*i* Sn	**Sg**	02 08 09.0	+1.9
DIVS	**Divibare**	**2.06**	**85**	*e*Pn	**Pb**	**02 07 40.0**	**+0.6**
DIVS				*e*Sn	**Sg**	02 08 07.4	0.0
BUM	**Brajici-Budva**	**2.09**	**142**	⇑*i*Pn	**Pb**	**02 07 39.1**	**-0.8**
BUM				*i* Sn	**Sg**	02 08 09.1	+0.7
PDG	**Podgorica**	**2.17**	**134**	*e*Pn	**Pn**	**02 07 38.8**	**+0.4**
PDG				*e*Sn	**Sn**	02 08 05.2	-0.7
PDG	**Podgorica**	**2.17**	**134**	*e*Pn	**Pb**	**02 07 40.5**	**-0.7**
PDG				*i* Sn	**Sg**	02 08 11.3	+0.4
SJES	**Sjenica**	**2.17**	**108**	*e*Pn	**Pn**	**02 07 38.6**	**+0.1**
SJES				*e*Sn	**Sn**	02 08 06.0	-0.1
SJES	**Sjenica**	**2.17**	**108**	*e*Pn	**Pb**	**02 07 41.1**	**-0.2**
SJES				*e*Sn	**Sg**	02 08 10.2	-0.7
IVAS	**Ivanjica**	**2.22**	**99**	*e*Pn	**Pb**	**02 07 41.7**	**-0.3**
IVAS				*e*Sn	**Sg**	02 08 12.7	+0.4
CRES	**Cresnjevec Ost**	**2.22**	**328**	*e*Pn	**Pn**	**02 07 39.7**	**+0.6**
CRES				*e*Sn	**Sn**	02 08 06.9	-0.3
KALN	**Kalnik**	**2.23**	**348**	*i* Pn	**Pn**	**02 07 39.3**	**0.0**
KALN				Sn	**Sn**	02 08 09.0	+1.5
FRGS	**Fruska Gora**	**2.26**	**57**	*e*Pn	**Pn**	**02 07 39.4**	**-0.2**
FRGS				*e*Sn	**Sn**	02 08 07.2	-0.9
FRGS	**Fruska Gora**	**2.26**	**57**	*e*Pn	**Pb**	**02 07 42.6**	**-0.1**
FRGS				*e*Sn	**Sb**	02 08 12.4	+1.3
IVA	**Berane**	**2.28**	**117**	*e*Pn	**Pb**	**02 07 42.4**	**-0.7**
IVA				*i* Sn	**Sg**	02 08 14.6	+0.2
DRME	**Dracevica, Mon**	**2.32**	**139**	*e*Pn	**Pn**	**02 07 41.3**	**+0.9**
DRME				*e*Sn	**Sn**	02 08 09.7	+0.2
DRME	**Dracevica, Mon**	**2.32**	**139**	*e*Pn	**Pb**	**02 07 42.4**	**-1.3**
DRME				*i* Sn	**Sg**	02 08 14.7	-0.9
LOBO	**Lobor**	**2.33**	**341**	*e*Pn	**Pn**	**02 07 41.7**	**+1.1**
LOBO				Sn	**Sn**	02 08 10.7	+0.8
PVY	**Plav**	**2.47**	**122**	*e*Pn	**Pb**	**02 07 44.9**	**-1.5**
PVY				*i* Sn	**Sg**	02 08 18.9	-1.5
MORH	**Mrgy, Hungar**	**2.50**	**25**	*e*Pn	**Pn**	**02 07 42.5**	**-0.4**
MORH				*e*Sn	**Sn**	02 08 13.5	-0.5
GRUS	**Gruza**	**2.58**	**90**	*e*Pn	**Pb**	**02 07 47.2**	**-1.1**
CEY	**Cerknica**	**2.63**	**314**	*e*Pn	**Pn**	**02 07 44.9**	**+0.2**
CEY				*e*Sn	**Sn**	02 08 17.4	+0.1
SKDS	**Skadanscina**	**2.74**	**307**	*e*Pn	**Pn**	**02 07 46.5**	**+0.3**
SKDS				*e*Sn	**Sn**	02 08 19.1	-0.8
SELS	**Selova**	**2.98**	**103**	*e*Pn	**Pn**	**02 07 51.6**	**+2.0**
OBKA	**Obir**	**3.14**	**325**	*e*Pn	**Pn**	**02 07 52.5**	**+0.6**
OBKA				*e*Sn	**Sn**	**02 08 28.8**	**-1.2**

BGR ***08*** *02:10:12.5±0.6,50°01N×18°61E,h1km,ML3.7/21,Error ellipse: s-maj=15.6km s-min=8.9km az=22.0*
IDC ***08*** *02:10:13.7±0.7,49°91N×18°56E,h0km,mb3.5/3, mbtmp3.5/9,ML2.8/6,Error ellipse: s-maj=14.3km s-min=6.4km az=153.0*
IPEC ***08*** *02:10:13.8±0.1,50°05N×18°53E,h1km,ML3.3/5,Error ellipse: s-maj=1.6km s-min=0.8km az=1.0*
VIE ***08*** *02:10:13.7±0.6,50°07N×18°45E,h0km,mb2.8/18, ml2.9/13,ms3.8/4,Error ellipse: s-maj=6.1km s-min=3.4km az=158.0,Suspected Mining induced.*
MCSM ***08*** *02:10:14.2±0.2,50°N±2°×1°8E±°,h5km,mb4.2,MLv3.7*
ISC 08 02:10:13.3±0.5,**50°09N**±0°02×**18°49E**±0°01,**h0**km,**n144,**
σ1§**39**/220,**mb3.6/3,9C-7D,Poland**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.19**	**268**	*e*PG	**Pg**	**02 10 19.4**	**+2.5**
RAC				*e*SG	**Sg**	02 10 23.3	+3.9
OKC	**Ostrava-Krasne**	**0.34**	**222**	*e*PG	**Pg**	**02 10 20.7**	**+1.0**
OKC				*e*SG	**Sg**	02 10 25.1	+1.1
	comp=Z,863nm,0.7s						
STEB	**Steborice**	**0.49**	**252**	*e*PG	**Pb**	**02 10 23.9**	**-0.9**
STEB				*e*SG	**Sb**	02 10 30.7	-1.8
MORC	**Moravsky Berou**	**0.69**	**243**	*e*Pg	**Pg**	**02 10 27.0**	**+0.6**
	baz=67						
MORC				*e*Sg	**Sg**	02 10 35.6	+0.2
	599nm,1.1s,baz=67						
MORC	**Moravsky Berou**	**0.69**	**243**	*e*PG	**Pg**	**02 10 27.1**	**+0.6**
MORC				*e*SG	**Sg**	02 10 35.6	+0.2
MORC	**Moravsky Berou**	**0.69**	**243**	⇑P	**Pb**	**02 10 28.3**	**+0.1**
ANAC	**Anensky vrch**	**0.72**	**269**	*e*Pg	**Pb**	**02 10 28.1**	**-0.6**
	baz=92						
ANAC				*e*Sg	**Sg**	02 10 37.3	+1.0
	657nm,0.7s,baz=92						
OJC	**Ojcow**	**0.85**	**81**	*i* Pg	**Pg**	**02 10 29.8**	**+0.3**
OJC				*e*Sg	**Sg**	02 10 41.7	+1.1
OJC	**Ojcow**	**0.85**	**81**	Pg	**Pg**	**02 10 29.9**	**+0.3**
OJC				Sg	**Sb**	02 10 41.9	-1.0
KRLC	**Kraliky**	**1.10**	**270**	*e*PG	**Pg**	**02 10 34.4**	**0.0**
KRLC				*e*SG	**Sb**	02 10 50.1	-0.1
LANS	**Liptovska Anna**	**1.13**	**146**	*e*PG	**Pg**	**02 10 34.8**	**-0.2**
LANS				*e*SG	**Sg**	02 10 49.7	+0.1
JAVC	**Velka Javorina**	**1.34**	**204**	*e*Pg	**Pg**	**02 10 38.8**	**-0.2**
	baz=25						
JAVC	**Velka Javorina**	**1.34**	**204**	*e*PG	**Pg**	**02 10 38.8**	**-0.2**
NIE	**Niedzica**	**1.35**	**119**	*e*Pg	**Pg**	**02 10 38.8**	**-0.4**
NIE				*e*Sg	**Sb**	02 10 57.5	+0.2
NIE	**Niedzica**	**1.35**	**119**	P	**Pg**	**02 10 38.8**	**-0.4**
NIE				Sg	**Sn**	02 10 58.5	+0.4
DPC	**Dobruska-Polom**	**1.42**	**281**	*e*PG	**Pb**	**02 10 40.9**	**+0.3**
DPC				*e*SG	**Sn**	02 11 00.5	+0.7
	comp=Z,402nm,0.6s						
VRAC	**Vranov**	**1.46**	**238**	Pg	**Pn**	**02 10 40.4**	**-0.5**
	14nm,0.3s,baz=60,slow=13,SNR=273						
VRAC				Lg	Lg	02 11 00.3	
	33nm,0.3s,baz=344,slow=22,SNR=18						
VRAC	**Vranov**	**1.46**	**238**	*e*Pg	**Pn**	**02 10 40.3**	**-0.6**
	baz=59						
VRAC				*e*Sg	**Sg**	02 10 59.3	-0.8
	426nm,1.2s,baz=59						
VRAC	**Vranov**	**1.46**	**238**	*e*PG	**Pn**	**02 10 40.4**	**-0.5**
VRAC				*e*SG	**Sg**	02 10 59.3	-0.8
VRAC	**Vranov**	**1.46**	**238**	⇑P	**Pn**	**02 10 40.5**	**-0.5**
OSTC	**Ostas**	**1.53**	**289**	*e*SG	**Sn**	**02 11 04.2**	**+1.7**
	comp=Z,298nm,0.8s						
KSP	**Ksiaz**	**1.59**	**299**	*e*Pg	**Pn**	**02 10 43.1**	**+0.4**
KSP				*e*SG	**Sg**	02 11 05.0	+0.5
KSP	**Ksiaz**	**1.59**	**299**	Pn	**Pn**	**02 10 42.9**	**+0.2**
KSP				Sg	**Sg**	02 11 07.6	+3.1
VYHS	**Vyhne**	**1.61**	**172**	*e*PG	**Pb**	**02 10 43.7**	**-0.2**
VYHS				*e*SG	**Sg**	02 11 05.6	+0.6
CHVC	**Chvalec**	**1.64**	**289**	*e*PG	**Pg**	**02 10 44.5**	**-0.2**
UPC	**Upice**	**1.65**	**286**	*e*PG	**Pb**	**02 10 44.1**	**-0.4**
KRUC	**Moravsky**	**1.71**	**234**	*e*Pn	**Pn**	**02 10 44.6**	**+0.3**
	baz=54						
KRUC				*e*Sg	**Sb**	02 11 07.4	-0.2
	217nm,1.0s,baz=54						
KRUC	**Moravsky**	**1.71**	**234**	*e*PN	**Pn**	**02 10 44.7**	**+0.4**
KRUC				*e*SG	**Sb**	02 11 07.4	-0.2
MODS	**Modra-Piesok**	**1.89**	**205**	*e*PN	**Pn**	**02 10 45.9**	**-0.9**
MODS				*e*SG	**Sg**	02 11 13.6	-0.4
STHS	**Stebnicka Huta**	**1.91**	**110**	*e*PG	**Pb**	**02 10 48.5**	**0.0**
STHS				*e*SG	**Sg**	02 11 14.3	-0.2
KECS	**Kecovo**	**2.07**	**140**	*e*PN	**Pn**	**02 10 47.9**	**-1.4**
SRO	**Srobarova**	**2.28**	**183**	*e*PG	**Pb**	**02 10 55.8**	**+0.5**
SRO				*e*SG	**Sg**	02 11 27.6	+1.1
PSZ	**Piszkesteto**	**2.36**	**156**	⇓P	**Pn**	**02 10 52.8**	**-0.6**
GOPC	**GO Pecny, Ondr**	**2.40**	**267**	*e*PG	**Pb**	**02 10 56.8**	**-0.5**
PRU	**Pruhonice**	**2.55**	**269**	*e*SG	**Sg**	**02 11 34.1**	**-1.0**
	comp=Z,127nm,1.1s						
KOLS	**Kolonicke sedl**	**2.72**	**114**	*e*PN	**Pn**	**02 10 57.5**	**-0.7**
KOLS				*e*SG	**Sg**	02 11 40.1	-0.6
CONA	**Conrad Observa**	**2.77**	**220**	*e*Pn	**Pn**	**02 10 58.2**	**-0.8**
	13nm,0.5s,SNR=13						
CONA				*e*Sn	**Sn**	**02 11 34.2**	**+1.1**
	22nm,0.6s						
RONA	**Rosalia, Austr**	**2.80**	**212**	*e*Pn	**Pn**	**02 10 58.8**	**-0.5**
	8.3nm,0.5s,SNR=12						
RONA				*e*Sn	**Sn**	**02 11 32.3**	**-1.4**
	17nm,0.7s						
ZVC	**Zvikov**	**2.86**	**259**	*e*PN	**Pn**	**02 10 59.9**	**-0.3**
ZVC				*e*PG	**Pg**	**02 11 07.2**	**-0.9**
HOLU	**Holmets**	**2.99**	**120**	Pg	**Pg**	**02 11 11.1**	**+0.6**
HOLU				Pn	**Pn**	**02 11 02.0**	**+0.1**
MPLH	**Magyarpolny**	**2.99**	**193**	Pg	**Pg**	**02 11 11.3**	**+0.8**
MPLH				Pn	**Pn**	**02 11 02.0**	**+0.1**
BRG	**Berggiesshubel**	**3.01**	**287**	Pg	**Pg**	**02 11 09.7**	**-1.2**
BRG				Sg	**Sg**	**02 11 50.2**	**+0.3**
BRG				Amp		02 11 54.5	
	comp=Z,74nm,0.8s						
BRG	**Berggiesshubel**	**3.01**	**287**	*e*Pn	**Pn**	**02 11 03.5**	**+1.4**
BRG				*e*Pg	**Pg**	**02 11 09.6**	**-1.3**
BRG				*e*Sg	**Sg**	**02 11 49.5**	**-0.4**
CKRC	**Cesky Krumlov**	**3.01**	**247**	*e*PN	**Pn**	**02 11 02.2**	**0.0**
CKRC				*e*PG	**Pb**	**02 11 09.2**	**+1.5**
CKRC				*e*SG	**Sb**	**02 11 46.4**	**+1.4**
	comp=Z,110nm,0.9s						
MUKU	**Mukachevo**	**3.20**	**119**	Pn	**Pn**	**02 11 05.0**	**+0.3**
SHIU	**Shidnytsya**	**3.28**	**103**	Pn	**Pn**	**02 11 06.2**	**+0.3**
BERU	**Beregovo**	**3.30**	**123**	Pn	**Pn**	**02 11 04.9**	**-1.2**
KHC	**Kasperske Hory**	**3.34**	**255**	*e*PN	**Pn**	**02 11 06.4**	**-0.3**
KHC				*e*PG	**Pb**	**02 11 14.8**	**+1.5**
KHC				*e*SG	**Sg**	**02 11 59.6**	**-0.8**
	comp=Z,53nm,0.6s						
GEC2	**GERESS Array S**	**3.36**	**250**	*e*Pn	**Pn**	**02 11 07.7**	**+0.6**
GEC2				*e*Pg	**Pg**	**02 11 15.9**	**-1.8**
GEC2				*e*Sg	**Sg**	**02 12 00.6**	**-0.6**
GERES	**GERESS Array B**	**3.36**	**250**	Pn	**Pn**	**02 11 06.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=66,slow=15,SNR=14						
GERES				Pg	**Pb**	**02 11 14.4**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=73,slow=18,SNR=32						
GERES				Lg	Lg	02 12 00.1	
	comp=Z,8.0nm,0.3s,baz=68,slow=28,SNR=12						
	comp=Z,1.7nm,0.4s						
FBE	**Freiberg**	**3.38**	**286**	*e*Sg	**Sg**	**02 12 01.6**	**-0.3**
ARSA	**Arzberg**	**3.46**	**216**	*i* Pn	**Pn**	**02 11 08.3**	**-0.1**
	comp=Z,3.1nm,0.5s,SNR=4.3						
ARSA				Sg	**Sg**	**02 12 05.9**	**+1.6**
	comp=Z,22nm,1.1s						
MOA	**Molln**	**3.57**	**233**	*i* Pn	**Pn**	**02 11 09.3**	**-0.7**
	comp=Z,8.4nm,0.5s						
MOA				Sg	**Sg**	**02 12 07.2**	**-0.8**
	comp=Z,39nm,0.8s						
LVV	**L'vov**	**3.59**	**92**	Pg	**Pg**	**02 11 23.2**	**+1.2**
LVV				Pn	**Pn**	**02 11 10.3**	**+0.2**
KORU	**Korolevo**	**3.61**	**121**	Pg	**Pg**	**02 11 22.8**	**+0.4**
KORU				Pn	**Pn**	**02 11 10.5**	**+0.1**
MEZ	**Mezhgor'ye**	**3.65**	**114**	Pg	**Pg**	**02 11 24.2**	**+1.1**
MEZ				Pn	**Pn**	**02 11 11.2**	**+0.3**
CLL	**Collm**	**3.70**	**291**	*e*Pg	**Pg**	**02 11 23.2**	**-0.9**
CLL				*e*Sg	**Sg**	**02 12 14.0**	**+2.0**
CLL	**Collm**	**3.70**	**291**	*e*Pg	**Pg**	**02 11 24.0**	**-0.1**
CLL				*ex*	x	02 11 28.0	
CLL				*ex*	x	02 11 31.0	
CLL				*e*Sg	**Sg**	**02 12 14.0**	**+2.0**
	comp=Z,61nm,0.6s						
ABG1	**Leinawald**	**3.88**	**285**	*e*Sg	**Sg**	**02 12 18.4**	**+0.6**
MORH	**Mrgy, Hungar**	**3.88**	**178**	⇓P	**Pn**	**02 11 13.4**	**-0.7**
TANN	**Tannenbergstha**	**3.88**	**277**	*e*Pn	**Pn**	**02 11 15.2**	**+1.0**
TANN				*e*Pg	**Pg**	**02 11 25.6**	**-2.1**
MULD	**Muldenberg**	**3.92**	**277**	*e*Pg	**Pg**	**02 11 26.1**	**-2.3**
WERN	**Wernitzgruen**	**3.94**	**275**	*e*Pn	**Pn**	**02 11 15.6**	**+0.6**
WERN				*e*Pg	**Pg**	**02 11 26.9**	**-1.7**
WERN				*e*Sg	**Sg**	**02 12 19.6**	**0.0**
MODW	**Modelwitz**	**3.94**	**285**	*e*Sg	**Sg**	**02 12 20.7**	**+1.0**
SCHF	**Schoenfels**	**3.94**	**281**	*e*Sg	**Sg**	**02 12 20.0**	**+0.2**
GUNZ	**Gunzen**	**3.96**	**276**	*e*Pg	**Pb**	**02 11 26.5**	**+2.5**
ROHR	**Rohrbach**	**3.97**	**274**	*e*Sg	**Sg**	**02 12 20.7**	**-0.1**
WERD	**Werda**	**3.98**	**278**	*e*Pg	**Pg**	**02 11 27.0**	**-2.5**
BIOA	**Bad Ischl, Aus**	**4.00**	**235**	*i* Pn	**Pn**	**02 11 15.8**	**0.0**
	comp=Z,7.1nm,0.3s						
BIOA				*e*Sn	**Sn**	**02 12 04.5**	**+1.1**
	comp=Z,27nm,0.5s						
GRZ1	**Mausoleum Wald**	**4.06**	**281**	*e*Pg	**Pg**	**02 11 28.8**	**-2.2**
ROTZ	**Rotzenmuhle**	**4.07**	**268**	*e*Sg	**Sg**	**02 12 25.6**	**+1.5**
PLN	**Plauen**	**4.08**	**278**	*e*Pg	**Pg**	**02 11 29.9**	**-1.5**
TRIB	**Obertriebel**	**4.09**	**276**	*e*Pn	**Pn**	**02 11 17.5**	**+0.5**
TRIB				*e*Pg	**Pg**	**02 11 29.7**	**-1.9**
BMR	**Baia Mare**	**4.09**	**124**	⇓P	**Pn**	**02 11 16.5**	**-0.5**
SOKA	**Soboth**	**4.12**	**215**	*i* Pn	**Pn**	**02 11 17.6**	**+0.1**
	comp=Z,0.3nm,0.2s						
SOKA				*e*Sn	**Sn**	**02 12 09.7**	**+3.3**
	comp=Z,4.1nm,0.8s						
MLFH	**Mildenfurth**	**4.16**	**282**	*e*Sg	**Sg**	**02 12 26.5**	**-0.2**
MESR	**Meseneni**	**4.17**	**133**	⇓P	**Pn**	**02 11 18.4**	**+0.3**
RAKU	**Rahkiv**	**4.26**	**117**	Pg	**Pg**	**02 11 33.9**	**-1.0**
RAKU				Pn	**Pn**	**02 11 18.5**	**-0.9**
DRGR		**4.33**	**138**	⇑P	**Pn**	**02 11 20.1**	**-0.3**
SIRR	**Siria**	**4.37**	**150**	⇑P	**Pn**	**02 11 20.2**	**-0.7**
NEUB	**Neuenburg**	**4.42**	**287**	*e*Sg	**Sg**	**02 12 37.9**	**+2.8**
OBKA	**Obir**	**4.45**	**218**	*i* Pn	**Pn**	**02 11 22.1**	**+0.1**
	comp=Z,1.5nm,0.4s						
OBKA				*e*Sn	**Sn**	**02 12 12.9**	**-1.5**
	comp=Z,10nm,0.9s						
KBA	**Koelnbreinsper**	**4.55**	**231**	*e*Pn	**Pn**	**02 11 24.0**	**+0.4**
	comp=Z,1.2nm,0.4s						
KBA				*i* Sn	**Sn**	**02 12 16.7**	**-0.5**
	comp=Z,7.1nm,0.7s						
MARR	**Marisel-Cluj**	**4.60**	**136**	⇑P	**Pn**	**02 11 23.5**	**-0.6**
WIMM	**Wimmelburg**	**4.66**	**291**	*e*Sg	**Sg**	**02 12 44.4**	**+1.7**
LESA	**Schwarzleotal**	**4.68**	**237**	*e*Pn	**Pn**	**02 11 25.3**	**+0.1**
	comp=Z,8.0nm,0.6s						
LESA				*e*Sn	**Sn**	**02 12 18.8**	**-1.4**
	comp=Z,22nm,0.5s						
MYKA	**Terra Mystica**	**4.74**	**225**	*e*Pn	**Pn**	**02 11 26.5**	**+0.5**
	comp=Z,2.0nm,0.4s						
MYKA				*i* Sn	**Sn**	**02 12 23.9**	**+2.3**
	comp=Z,1.1nm,0.3s						
RNPP1	**Kostyukhnivka**	**4.79**	**72**	Pn	**Pn**	**02 11 27.9**	**+1.3**
RNPP5	**Staryi Chortor**	**4.84**	**74**	Pb	**Pb**	**02 11 39.7**	**+0.8**
RNPP5				Pg	**Pg**	**02 11 45.7**	**-0.3**
RNPP8	**Varash**	**4.84**	**72**	Pg	**Pg**	**02 11 46.7**	**+0.7**
RNPP9	**Sopachiv**	**4.88**	**71**	Pg	**Pg**	**02 11 46.8**	**+0.1**
BZS	**Buzias**	**4.94**	**154**	⇑P	**Pn**	**02 11 28.5**	**-0.3**
SURR	**Surduc**	**4.98**	**149**	⇓P	**Pn**	**02 11 28.1**	**-1.1**
BURAR	**Bucovina Array**	**5.08**	**117**	⇑P	**Pn**	**02 11 31.3**	**+0.5**
DEV	**Deva**	**5.14**	**143**	⇓P	**Pn**	**02 11 31.1**	**-0.4**
CHRU	**Chernivtsi**	**5.19**	**107**	Pb	**Pb**	**02 11 44.4**	**-0.5**
	comp=Z,0.1nmcomp=Z,25nm,0.8s						
CHRU				Pn	**Pn**	**02 11 32.2**	**+0.1**
	comp=Z,0.1nmcomp=Z,25nm,0.8s				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.54**	**143**	P	**Pn**	**02 11 57.7**	**-1.4**
NLAI				S	**Sn**	**02 12 06.2**	**-1.0**
SANI	**Sanana**	**1.08**	**314**	P	**Pn**	**02 12 05.2**	**-1.3**
SANI				S	**Sn**	**02 12 21.0**	**+0.7**
AAI	**Ambon**	**1.67**	**122**	P	**Pn**	**02 12 15.1**	**+0.6**
MSAI	**Masohi**	**2.22**	**104**	P	**Pn**	**02 12 21.1**	**-1.0**
WRA	**Warramunga Arr**	**18.57**	**157**	P	**Pn**	**02 16 01.2**	**-0.8**
	0.1nm,0.3s,baz=334,slow=12,SNR=2.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**21.86**	**162**	P	**P**	**02 16 39.8**	**+2.7**
	0.7nm,0.5s,baz=343,slow=12,SNR=7.0						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**62.98**	**327**	P	P	02 22 18.1	+7.7
	0.2nm,0.7s,baz=130,slow=5.8,SNR=2.9						
	0.2nm,0.7s						

NAO ***08*** *02:13:48.8±2.1, 71°.53N×3°.23W, ML2.8*
IDC ***08*** *02:13:50.5±1.4, 71°.41N×2°.88W, h0km, mb3.4/3, mbtmp3.6/8, ML2.7/5, MS3.2/4, Error ellipse: s-maj=29.0km s-min=21.3km az=55.0*
BER ***08*** *02:13:52.0±3.8, 71°.52N×3°.45W, h10km, mb(Pn)4.2, ML2.8(NAO), Confirmed Earthquake*
DNK ***08*** *02:13:57.2±3.2, 71°.98N×4°.26W, h10km, ML1.0*
ISC 08 02:13:48.8±0.8, 71°.62N±0°.08×3°.45W±0°.06, h10km, n51, σ2§02/54, mb3.5/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.61**	**306**	Pn	**Pn**	**02 15 13.3**	**+1.3**
DBG				Sn	**Sn**	**02 16 12.1**	**-4.3**
DBG	**Daneborg**	**5.61**	**306**	*e*P	**Pn**	**02 15 13.5**	**+1.5**
DBG				*e*S	**Sn**	**02 16 12.8**	**-3.5**
DBG	**Daneborg**	**5.61**	**306**	*i* P	**Pn**	**02 15 12.7**	**+0.7**
DBG				*i* S	**Sn**	**02 16 12.4**	**-3.9**
DBG				IAML		02 16 14.9	
	comp=Z,1.0nm,0.2s						
SCO	**Scoresbysund**	**6.12**	**268**	*i* P	**Pn**	**02 15 22.7**	**+3.6**
SCO				*i* S	**Sn**	**02 16 27.2**	**-1.9**
SCO				IAML		02 16 30.9	
	comp=Z,0.1nm,0.2s						
DAG	**Danmarks Havn**	**6.61**	**328**	*e*P	**Pn**	**02 15 27.7**	**+2.0**
DAG				*e*S	Sn	02 16 32.4	-8.5
DAG	**Danmarks Havn**	**6.61**	**328**	*i* P	**Pn**	**02 15 27.4**	**+1.7**
DAG				*i* S	Sn	02 16 31.9	-8.9
DAG				IAML		02 16 34.4	
	comp=Z,1.8nm,0.4s						
LOF	**Lofoten**	**6.81**	**113**	Pn	**Pn**	**02 15 28.8**	**+0.2**
LOF				Sn	**Sn**	**02 16 39.2**	**-6.8**
LOF	**Lofoten**	**6.81**	**113**	*e*P	**Pn**	**02 15 28.6**	**0.0**
LOF				*e*S	Sn	02 16 37.0	-9.1
LOF				IAML		02 16 39.8	
	comp=Z,3.4nm,0.7s						
HSPB	**Hornsund (broa**	**7.41**	**35**	*e*P	**Pn**	**02 15 39.5**	**+2.8**
STEI	**Steigen**	**7.44**	**111**	Pn	**Pn**	**02 15 37.3**	**+0.1**
STEI	**Steigen**	**7.44**	**111**	*e*P	**Pn**	**02 15 37.2**	**+0.1**
STEI				IAML		02 16 57.9	
	comp=Z,3.2nm,0.9s						
TRO	**Tromso**	**7.68**	**94**	Pn	**Pn**	**02 15 39.1**	**-1.3**
TRO	**Tromso**	**7.68**	**94**	*e*P	**Pn**	**02 15 39.1**	**-1.3**
FAUS	**Fauske**	**7.81**	**114**	*e*P	**Pn**	**02 15 42.1**	**-0.1**
FAUS				*e*S	Sn	02 16 59.8	-11
FAUS				IAML		02 17 06.5	
	comp=Z,2.8nm,0.7s						
KONS	**Konsvik**	**7.83**	**123**	Pn	**Pn**	**02 15 42.3**	**-0.1**
KONS	**Konsvik**	**7.83**	**123**	*e*P	**Pn**	**02 15 43.0**	**+0.6**
KONS				IAML		02 17 03.6	
	comp=Z,3.1nm,0.6s						
STOK	**Stokkvaagen**	**7.92**	**124**	Pn	**Pn**	**02 15 43.6**	**-0.2**
STOK				Sn	Sn	02 17 04.0	-9.3
STOK	**Stokkvaagen**	**7.92**	**124**	*e*P	**Pn**	**02 15 44.1**	**+0.3**
STOK				*e*S	Sn	02 17 03.9	-9.4
STOK				IAML		02 17 06.1	
	comp=Z,4.2nm,1.2s						
LEIR	**Leirfjorden**	**8.12**	**125**	*e*P	**Pn**	**02 15 46.4**	**-0.1**
LEIR				*e*S	Sn	02 17 09.3	-8.9
LEIR				IAML		02 17 15.1	
	comp=Z,3.1nm,0.8s						
JETT	**Jettan, Norway**	**8.18**	**93**	Pn	**Pn**	**02 15 46.6**	**-0.8**
JETT	**Jettan, Norway**	**8.18**	**93**	Pn	**Pn**	**02 15 46.6**	**-0.8**
SPA0	**Spitsbergen Ar**	**8.31**	**29**	Pn	**Pn**	**02 15 52.8**	**+3.8**
	baz=209,slow=18						
SPA0	**Spitsbergen Ar**	**8.31**	**29**	Pn	**Pn**	**02 15 52.8**	**+3.8**
	baz=209,slow=18						
SPITS	**Spitsbergen Ar**	**8.31**	**29**	Pn	**Pn**	**02 15 52.2**	**+3.2**
	baz=208,slow=15						
	comp=Z,6.0nm,0.8s						
MOR8	**Moi Rana**	**8.43**	**122**	*e*P	**Pn**	**02 15 51.5**	**+0.8**
KIF	**Kilpisjarvi**	**8.56**	**96**	Pn	**Pn**	**02 15 51.9**	**-0.5**
KIF	**Kilpisjarvi**	**8.56**	**96**	*e*P	**Pn**	**02 15 51.8**	**-0.7**
SALU	**Saltoluokta**	**8.76**	**108**	*e*P	**Pn**	**02 15 55.7**	**+0.4**
NSS	**Namsos**	**9.13**	**134**	*e*P	**Pn**	**02 16 01.9**	**+1.6**
KTK1	**Kautokeino**	**9.33**	**93**	*e*P	**Pn**	**02 16 03.0**	**-0.1**
HEF	**Hetta**	**9.76**	**96**	Pn	**Pn**	**02 16 08.7**	**-0.3**
HEF	**Hetta**	**9.76**	**96**	*e*P	**Pn**	**02 16 08.7**	**-0.3**
ARA0	**ARCESS Array S**	**9.81**	**88**	Pn	**Pn**	**02 16 08.9**	**-0.7**
	baz=291,slow=12						
ARA0	**ARCESS Array S**	**9.81**	**88**	Pn	**Pn**	**02 16 08.9**	**-0.7**
	baz=291,slow=12						
ARCES	**ARCESS Array B**	**9.81**	**88**	Pn	**Pn**	**02 16 09.3**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=290,slow=12,SNR=10						
	comp=Z,2.5nm,0.8s						
AKN	**Aaknes**	**10.31**	**152**	Pn	**Pn**	**02 16 17.9**	**+1.5**
AKN				Sn	Sn	02 18 00.9	-11
AKN	**Aaknes**	**10.31**	**152**	Pn	**Pn**	**02 16 17.9**	**+1.5**
AKN				Sn	Sn	02 18 00.9	-11
NOR	**Nord**	**10.44**	**349**	Pn	**Pn**	**02 16 21.1**	**+3.0**
NOR	**Nord**	**10.44**	**349**	Pn	**Pn**	**02 16 21.1**	**+3.0**
NOA	**NORSAR Array B**	**12.09**	**144**	Pn	**Pn**	**02 16 40.7**	**-0.2**
	baz=329,slow=14,SNR=2.6						
NOA				LR	LR	02 20 44.3	
	comp=Z,81nm,18.6s,baz=330,slow=35						
	comp=Z,0.8nm,0.8s						
HFS	**Hagfors**	**13.41**	**140**	Pn	**Pn**	**02 17 00.3**	**+1.5**
	baz=329,slow=12						
HFS	**Hagfors**	**13.41**	**140**	Pn	**Pn**	**02 17 00.3**	**+1.5**
	baz=329,slow=12						
HFS	**Hagfors**	**13.41**	**140**	Pn	**Pn**	**02 17 00.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=341,slow=13,SNR=8.8						
HFS				LR	LR	02 22 17.9	
	comp=Z,78nm,21.2s,baz=326,slow=39						
	comp=Z,1.9nm,0.5s						
NEEM	**North Greenlan**	**13.55**	**316**	*e*P	**Pn**	**02 17 01.0**	**+0.1**
FIA0	**FINESS Array S**	**15.35**	**117**	P	**Pn**	**02 17 25.1**	**0.0**
	baz=333,slow=10						
FIA0	**FINESS Array S**	**15.35**	**117**	P	**Pn**	**02 17 25.1**	**0.0**
	baz=333,slow=10						
FINES	**FINESS Array B**	**15.35**	**117**	Pn	**Pn**	**02 17 25.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=313,slow=17,SNR=2.4						
	comp=Z,3.7nm,1.0s						
RES	**Resolute Bay**	**24.20**	**320**	LR	LR	02 28 22.0	
	comp=Z,66nm,18.4s,baz=358,slow=36						
AKASG	**Malin Array Be**	**25.62**	**127**	P	**P**	**02 19 19.4**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=334,slow=10.0,SNR=4.1						
AKASG				LR	LR	02 29 37.6	
	comp=Z,60nm,19.4s,baz=336,slow=37						
	comp=Z,0.9nm,0.6s						
ESDC	**Sonseca Array**	**32.02**	**181**	P	**P**	**02 20 15.3**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=348,slow=12,SNR=2.4						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**38.11**	**315**	P	P	02 21 12.9	+5.7
	comp=Z,0.2nm,0.9s,baz=22,slow=8.9,SNR=3.6						
	comp=Z,0.2nm,0.9s						

IDC 08 02:34:08.5±1.6, 1°.86N×127°.93E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=147.0km s-min=20.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.56**	**164**	P	P	02 39 10.7	+0.2
	0.6nm,0.5s,baz=344,slow=10,SNR=5.1						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.03**	**167**	P	P	02 39 43.6	0.0
	0.2nm,0.4s,baz=348,slow=8.7,SNR=2.5						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**35.97**	**160**	P	P	02 41 10.4	-0.7
	0.8nm,0.3s,baz=325,slow=12,SNR=1.6						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**59.77**	**325**	P	P	02 44 15.8	+0.4
	0.6nm,0.3s,baz=116,slow=8.2,SNR=17						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**63.95**	**327**	P	P	02 44 43.2	-0.3
	0.8nm,0.4s,baz=125,slow=5.7,SNR=4.5						
	0.8nm,0.4s						

NEIC ***08*** *02:35:10.7±0.4, 19°.380N±0°.007×155°.598W±0°.008, h10km±1km, Error ellipse: s-maj=2.2km s-min=1.2km az=351.0*
HVO 08 02:35:10.4±0.2, 19°.376N±0°.007×155°.594W±0°.008, h11km±1km, ML2.5/30, ML2.5/38(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=104.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.11**	**358**		Pg	02 35 13.8	+0.1
MWH					Sg	02 35 16.6	+0.5
MWH	**Mokuaweoweo**	**0.11**	**358**	IAML		02 35 16.7	
	comp=N,1μm,0.2s						
MWH				IAML		02 35 18.3	
	comp=E,780nm,0.3s						
KHU	**Kahuku**	**0.13**	**189**		Pg	02 35 14.1	+0.4
KHU					Sg	02 35 16.8	+0.7
KHU	**Kahuku**	**0.13**	**189**	IAML		02 35 17.1	
	comp=N,3μm,0.2s						
KHU				IAML		02 35 17.1	
	comp=E,8μm,0.2s						
MLOA	**Mauna Loa Obse**	**0.16**	**6**		Pg	02 35 14.5	+0.2
MLOA					Sg	02 35 17.4	+0.3
ALEP	**Alea Permanent**	**0.17**	**344**		Pg	02 35 14.6	+0.2
ALEP					Sg	02 35 17.5	+0.2
MLH	**Mauna Loa**	**0.23**	**59**		Pg	02 35 15.6	+0.2
MLH					Sg	02 35 19.5	+0.8
MLH	**Mauna Loa**	**0.23**	**59**	IAML		02 35 20.3	
	comp=E,820nm,0.1s						
MLH				IAML		02 35 20.9	
	comp=N,1000nm,0.1s						
HTC	**Hot Caves**	**0.23**	**127**		Pg	02 35 15.4	+0.2
HMH	**Humu'ula Sheep**	**0.25**	**25**		Pg	02 35 15.9	+0.2
HMH					Sg	02 35 19.8	+0.5
HMH	**Humu'ula Sheep**	**0.25**	**25**	IAML		02 35 21.8	
	comp=N,846nm,0.2s						
HMH				IAML		02 35 22.1	
	comp=E,748nm,0.2s						
WRMHI	**West Rim**	**0.28**	**84**		Pg	02 35 16.2	+0.1
WRMHI					Sg	02 35 20.8	+0.8
HLP	**Hilina Pali**	**0.28**	**106**		Pg	02 35 16.4	+0.2
HLP					Sg	02 35 21.1	+1.1
HLP	**Hilina Pali**	**0.28**	**106**	IAML		02 35 24.4	
	comp=E,1μm,0.6s						
HLP				IAML		02 35 25.6	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**0.28**	**87**		Pg	02 35 16.3	+0.1
SDHHI					Sg	02 35 20.7	+0.5
UWE	**Uwekahuna**	**0.29**	**81**		Pg	02 35 16.4	+0.1
UWE					Sg	02 35 21.2	+0.9
UWE	**Uwekahuna**	**0.29**	**81**	IAML		02 35 23.1	
	comp=E,2μm,0.3s						
UWE				IAML		02 35 26.3	
	comp=N,1μm,0.4s						
OBL	**Observatory Le**	**0.29**	**82**		Pg	02 35 16.4	0.0
OBL					Sg	02 35 21.0	+0.5
RIM	**Rim**	**0.30**	**86**		Pg	02 35 16.6	0.0
RIM					Sg	02 35 21.4	+0.7
UWB	**Uwekahuna Bluf**	**0.30**	**81**		Pg	02 35 16.5	-0.1
UWB					Sg	02 35 20.9	+0.2
KKO	**Keanakako'i**	**0.31**	**86**		Pg	02 35 16.7	0.0
KKO					Sg	02 35 21.4	+0.5
RSD	**Rainshed**	**0.31**	**74**		Pg	02 35 16.9	+0.1
RSD					Sg	02 35 21.8	+0.8
RSD	**Rainshed**	**0.31**	**74**	IAML		02 35 22.6	
	comp=E,1μm,0.2s						
RSD				IAML		02 35 24.0	
	comp=N,920nm,0.2s						
SBLHI	**Steaming Bluff**	**0.31**	**81**		Pg	02 35 16.6	-0.2
SBLHI					Sg	02 35 21.4	+0.4
BYL	**Byron's Ledge**	**0.32**	**83**		Pg	02 35 16.8	0.0
BYL					Sg	02 35 21.6	+0.5
BYL	**Byron's Ledge**	**0.32**	**83**	IAML		02 35 23.8	
	comp=E,613nm,0.5s						
BYL				IAML		02 35 26.4	
	comp=N,392nm,1.6s						
HATHI	**Halema'uma'u T**	**0.32**	**82**		Pg	02 35 16.7	-0.2
HATHI					Sg	02 35 21.6	+0.4
HATHI	**Halema'uma'u T**	**0.32**	**82**	IAML		02 35 23.0	
	comp=E,641nm,0.6s						
HATHI				IAML		02 35 24.0	
	comp=N,586nm,0.4s						
CPH	**Captain Cook**	**0.33**	**290**		Pg	02 35 16.9	0.0
PUH	**Pauahi**	**0.36**	**90**		Pg	02 35 17.1	-0.4
PUH					Sg	02 35 22.5	+0.2
PUH	**Pauahi**	**0.36**	**90**	IAML		02 35 22.9	
	comp=E,640nm,0.5s						
PUH				IAML		02 35 25.2	
	comp=N,384nm,0.4s						
HUH	**Hualalai**	**0.38**	**323**		Pg	02 35 18.3	+0.2
HUH				IAML		02 35 27.2	
	comp=E,860nm,0.4s						
POHA	**Pohakuloa**	**0.38**	**9**		Pg	02 35 18.1	-0.1
POHA					Sg	02 35 23.5	+0.2
POHA	**Pohakuloa**	**0.38**	**9**	IAML		02 35 23.2	
	comp=E,195nm,3.0s						
POHA				IAML		02 35 30.3	
	comp=E,165nm,0.2s						
KNHH	**Kane Nui o Ham**	**0.40**	**89**		Pg	02 35 17.7	-0.7
STCH	**Steam Cracks**	**0.44**	**89**		Pg	02 35 18.3	-0.9
STCH	**Steam Cracks**	**0.44**	**89**	IAML		02 35 26.6	
	comp=E,286nm,0.2s						
STCH				IAML		02 35 27.6	
	comp=N,218nm,0.2s						
NPOC	**North of Pu'u**	**0.46**	**88**		Pg	02 35 18.5	-0.9
JCUZ	**Jacuzzi**	**0.46**	**89**		Pg	02 35 18.7	-0.9
JCUZ					Sg	02 35 25.6	-0.1
JOKA	**Jonika Flow**	**0.56**	**84**		Pg	02 35 19.8	-1.6

SJA ***08*** *03:05:15.0, 30°.07S×71°.65W, h10km, ML2.9*
GUC ***08*** *03:05:18.4±0.9, 30°.16S×71°.22W, h60km±4km, ML2.6*
ISC 08 03:05:19.5±1.4, 30°.10S±0°.04×71°.42W±0°.06, h43km, n24, σ1§57/29, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.24**	**41**	⇑*i*P	**Pn**	**03 05 28.8**	**+1.4**
CO05				*i* S	**Sn**	**03 05 36.2**	**+3.3**
CO05				IAML		03 05 36.5	
	comp=E,625nm,0.1s						
GO04	**Tololo Observa**	**0.54**	**98**	*i* P	**Pn**	**03 05 30.0**	**-1.1**
GO04	**Tololo Observa**	**0.54**	**98**	*e*P	**Pn**	**03 05 30.6**	**-0.5**
GO04				*i* S	**Sn**	**03 05 39.6**	**+0.2**
GO04				IAML		03 05 41.1	
	comp=E,2μm,0.4s						
CO06	**Fray Jorge**	**0.60**	**198**	*e*P	**Pn**	**03 05 32.6**	**+0.9**
CO06				*i* S	**Sn**	**03 05 42.8**	**+2.4**
CO06				IAML		03 05 43.9	
	comp=N,166nm,0.1s						
CO03	**El Pedregal**	**0.97**	**140**	*i* P	**Pn**	**03 05 34.9**	**-1.8**
CO03	**El Pedregal**	**0.97**	**140**	*e*P	**Pn**	**03 05 35.6**	**-1.1**
CO03				*i* S	**Sn**	**03 05 47.9**	**-1.4**
CO03				IAML		03 05 48.8	
	comp=E,344nm,0.1s						
CO01	**Juntas del Tor**	**1.16**	**84**	*i* P	**Pn**	**03 05 37.8**	**-1.6**
CO01	**Juntas del Tor**	**1.16**	**84**	⇑*i*P	**Pn**	**03 05 38.5**	**-0.8**
CO01				*i* S	**Sn**	**03 05 52.8**	**-1.3**
CO01				IAML		03 05 53.2	
	comp=N,235nm,0.2s						
LCO	**Las Campanas**	**1.25**	**30**	*i* P	**Pn**	**03 05 39.6**	**-1.1**
AROD	**Rodeo**	**1.69**	**93**	*i* P	**Pn**	**03 05 47.1**	**+0.4**
AC04	**Llanos de Chal**	**1.91**	**9**	*i* P	**Pn**	**03 05 48.7**	**-0.9**
AC04	**Llanos de Chal**	**1.91**	**9**	*e*P	**Pn**	**03 05 49.4**	**-0.2**
ACCO	**Cerro Coronel**	**2.09**	**104**	*i* P	**Pn**	**03 05 53.5**	**+1.1**
RTLS	**Leoncito**	**2.49**	**133**	*i* P	**Pn**	**03 05 60.0**	**+2.2**
AGUA	**GUANDACOL**	**2.62**	**77**	*i* P	**Pn**	**03 06 01.8**	**+2.5**
VA03	**San Esteban**	**2.75**	**165**	*i* P	**Pn**	**03 06 00.9**	**-0.3**
VCA	**Vinchina**	**3.12**	**65**	*i* P	**Pn**	**03 06 07.7**	**+1.4**
MT02	**Curacav**	**3.16**	**176**	*i* P	**Pn**	**03 06 05.0**	**-1.7**
MT01	**Popeta**	**3.75**	**178**	*i* P	**Pn**	**03 06 13.2**	**-1.6**
AC02	**Maricunga**	**3.83**	**32**	*i* P	**Pn**	**03 06 15.3**	**-1.0**
AC01	**Pan de Azucar**	**4.00**	**11**	*i* P	**Pn**	**03 06 15.7**	**-2.6**
APLL	**PUNTA DE LOS L**	**4.24**	**95**	*i* P	**Pn**	**03 06 21.4**	**-0.2**
BO01	**Tunca**	**4.29**	**176**	*i* P	**Pn**	**03 06 21.5**	**-0.7**
BO02	**Sierra Bellavi**	**4.71**	**174**	*i* P	**Pn**	**03 06 27.6**	**-0.4**

IDC ***08*** *03:11:02.4±0.4, 32°.90S×57°.19E, h0km, mb4.8/25, mbtmp4.8/25, ML5.7/1, MS4.5/67, Error ellipse: s-maj=15.7km s-min=13.2km az=59.0*
MOS ***08*** *03:11:03.8±1.3, 32°.92S×57°.37E, h10km, mb5.4/58, MS4.4/5, Error ellipse: s-maj=11.5km s-min=5.6km az=96.2*
BJI ***08*** *03:11:04.0, 32°.80S×57°.10E, h10km, mB5.5/32, mb5.1/68, Ms5.1/51, Ms7 4.8/51*
NEIC ***08*** *03:11:05.2, 32°.83S×57°.12E, h22km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10^17Nm; Mrr=0.38; Mθθ0.35; Mφφ0.03; Mrθ0.45; Mθφ1.61; Mφr-1.16; Fault plane solution: M0 2.05000×10^17 NP1: φs267.58000°, δ56.59000°, λ-15.68000°. NP2:φs6.37000°, δ76.96000°, λ-145.58000°. Principal axes: T 1.9127, Plg13.0000°, Azm133.0000°; N 0.2812, Plg53.0000°, Azm25.0000°; P -2.1938, Plg33.0000°, Azm232.0000°;*
NEIC ***08*** *03:11:05.1±2.3, 32°.84S±0°.08×57°.12E±0°.10, h10km±1km, mb5.4/119, Ms_20 5.0/51, Mww5.5/17 Error ellipse: s-maj=14.2km s-min=13.5km az=273.0*
NEIC ***08*** *03:11:05.2, 32°.83S×57°.12E, h22km*
GCMT ***08*** *03:11:06.1±0.1, 32°.89S±0°.01×57°.05E±0°.01, h12km, MW5.4/153, Moment Tensor Solution. s125,c208; s153,c285; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.02; Mθθ0.05±.02; Mφφ0.11±.02; Mrθ0.03±.04; Mθφ1.71±.02; Mφr0.13±.05; Best double couple: M0 1.71500×10^17 NP1:φs89.00000°, δ86.00000°, λ0.00000°. NP2:φs359.00000°, δ90.00000°, λ176.00000°. Principal axes: T 1.7970, Plg3.0000°, Azm314.0000°; N -0.1630, Plg86.0000°, Azm176.0000°; P -1.6340, Plg3.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***08*** *03:11:08.2, 31°.96S×57°.81E, h33km, mb5.2, Ms4.7*
ISC 08 03:11:04.7±0.2, 32°.90S±0°.05×57°.11E±0°.05, h10km, n779, σ1§52/724, mb5.3/196, MS4.7/108, 36C-32D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**11.75**	**354**	Pn	**Pn**	**03 13 49.2**	**-3.5**
FOMA	**Nahampoana Res**	**11.87**	**309**	Pn	**Pn**	**03 13 52.1**	**-2.0**
H04N2	**CROZET ISLANDS**	**13.87**	**196**	T	T	03 28 52.6	
	baz=21,slow=75						
H04N1	**CROZET ISLANDS**	**13.87**	**196**	T	T	03 28 53.7	
	baz=21,slow=75						
H04N3	**CROZET ISLANDS**	**13.88**	**196**	T	T	03 28 52.6	
	baz=21,slow=75						
VOI	**Vohitsoka**	**14.27**	**318**	Pn	**Pn**	**03 14 24.8**	**-2.2**
VOI	**Vohitsoka**	**14.27**	**318**	P	**Pn**	**03 14 25.1**	**-1.9**
	SNR=14						
H04S1	**CROZET ISLANDS**	**14.48**	**194**	T	T	03 29 33.9	
	baz=21,slow=76,SNR=7.5						
H04S3	**CROZET ISLANDS**	**14.48**	**194**	T	T	03 29 32.7	
	baz=21,slow=76,SNR=5.9						
H04S2	**CROZET ISLANDS**	**14.50**	**194**	T	T	03 29 27.7	
	baz=21,slow=76,SNR=5.7						
ABPO	**Ambohimpanom**	**16.42**	**325**		**Pn**	**03 14 54.4**	**-1.1**
ABPO				IAmb	IAmb	03 14 56.4	
	comp=Z,146nm,0.7s						
ABPO	**Ambohimpanom**	**16.42**	**325**	P	**Pn**	**03 14 54.4**	**-1.1**
ABPO				pmax	pmax		
	comp=Z,146nm,0.7s						
OPO	**Ambohidratompo**	**16.82**	**326**	Pn	**Pn**	**03 15 00.5**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=145,slow=13,SNR=116						
OPO				Sn	**Sn**	**03 18 06.5**	**-1.1**
	baz=291,slow=7.0						
AIS	**Amsterdam Isla**	**17.38**	**112**		**P**	**03 15 08.7**	**0.0**
PAF	**Port-aux-Franc**	**19.13**	**153**	P	**Pn**	**03 15 29.5**	**+0.9**
PAF	**Port-aux-Franc**	**19.13**	**153**	P	**Pn**	**03 15 29.5**	**+0.9**
PAF				pmax	pmax		
	comp=Z,1μm,1.6s						
SBV	**Sambava**	**20.43**	**340**	P	Pn	03 15 43.4	-1.0
	SNR=8.3						
POGA	**Pongola**	**22.64**	**277**	P	**P**	**03 16 04.8**	**-1.2**
POGA				IAmb	IAmb	03 16 21.4	
	comp=Z,179nm,0.9s						
GRHM	**Grahamstown, E**	**25.71**	**261**	P	**P**	**03 16 36.1**	**+0.8**
GRHM				IAmb	IAmb	03 16 52.3	
	comp=Z,68nm,1.1s						
BOSA	**Boshof**	**27.65**	**270**	P	**P**	**03 16 55.2**	**+2.3**
BOSA	**Boshof**	**27.65**	**270**	P	**P**	**03 16 53.2**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=78,slow=8.3,SNR=7.6						
BOSA				LR	LR	03 26 20.7	
	comp=Z,2μm,18.5s,baz=111,slow=33						
	comp=Z,6.4nm,0.8s						
BOSA	**Boshof**	**27.65**	**270**	P	**P**	**03 16 55.2**	**+2.3**
BOSA				pmax	pmax		
	comp=Z,53nm,1.2s						
LBTB	**Lobatse**	**28.59**	**278**	P	**P**	**03 16 59.1**	**-2.3**
LBTB				IAmb	IAmb	03 17 41.5	
	comp=Z,45nm,0.9s						
LBTB	**Lobatse**	**28.59**	**278**	LR	LR	03 26 49.2	
	comp=Z,1μm,18.3s,baz=114,slow=33						
LBTB	**Lobatse**	**28.59**	**278**	P	**P**	**03 16 59.1**	**-2.3**
LBTB				pmax	pmax		
	comp=Z,45nm,1.0s						
H08S1	**Diego Carcia H**	**28.89**	**33**	T	T	03 46 57.3	
	baz=206,slow=76,SNR=226						
H08S2	**Diego Garcia H**	**28.89**	**33**	T	T	03 46 56.5	
	baz=206,slow=76,SNR=192						
H08S3	**Diego Garcia H**	**28.91**	**33**	T	T	03 46 57.2	
	baz=206,slow=76,SNR=274						
BROLN	**Tlhalogang**	**28.92**	**286**	*i* P	**P**	**03 17 01.7**	**-2.5**
MAKGR	**Makgori**	**28.96**	**276**	*i* P	**P**	**03 17 02.0**	**-2.6**
LPHEP	**Lephephe**	**29.06**	**281**	*i* P	**P**	**03 17 03.2**	**-2.2**
DGAR	**Diego Garcia**	**29.08**	**33

comp=Z,2μm,20.0s
TSUM Tsumeb 37.82 281 LR LR 03 32 31.8
comp=Z,2μm,19.3s,baz=118,slow=34
MBAR Mbarara 40.59 317 P **P** **03 18 45.3 +0.2**
MBAR Mbarara 40.59 317 P **P** **03 18 45.2 +0.2**
MBAR P **P** **03 18 45.2 +0.2**
MBAR Mbarara 40.59 317 *c i*P **P** **03 18 45.0 0.0**
MBAR pmax pmax
comp=Z,25nm,1.5s
LODK Lodwar 41.58 326 P **P** **03 18 53.5 +0.5**
LODK Lodwar 41.58 326 P **P** **03 18 54.1 +1.1**
SNR=11
ELIB Princess Elisa 42.98 195 *d*P **P** **03 19 03.1 -0.7**
comp=Z,25nm,1.0s
NVL N'lazarevskaya 45.08 199 *e*P **P** **03 19 18.1 -2.4**
NVL pmax pmax
comp=Z,30nm,0.8s
NVL MLR MLR
comp=Z,482nm,18.0s
CASY Casey 45.80 153 P **P** **03 19 26.2 -0.1**
CASY IAmb IAmb 03 19 27.3
comp=Z,67nm,1.2s
CASY Casey 45.80 153 IAMs_20 IAMs_20 03 34 24.3
comp=Z,2μm,22.0s
PALK Pallekele 45.82 34 LR LR 03 34 21.3
comp=Z,394nm,19.8s,baz=198,slow=31
PALK Pallekele 45.82 34 P **P** **03 19 27.5 +0.5**
H01W2 Cape Leeuwin H 46.82 109 T T 04 09 29.5
baz=255,slow=75,SNR=250
H01W3 Cape Leeuwin H 46.83 109 T T 04 09 29.6
baz=255,slow=75,SNR=284
H01W1 Cape Leeuwin H 46.84 109 T T 04 09 30.8
baz=255,slow=75,SNR=245
TROLL Troll, Antarti 48.30 200 P **P** **03 19 45.3 -0.6**
TROLL Troll, Antarti 48.30 200 ⇓P **P** **03 19 45.3 -0.6**
comp=Z,479nm,0.8s
MUN Mundaring 49.30 106 P **P** **03 19 53.8 -0.2**
comp=Z,49nm,1.3s
MUN Mundaring 49.30 106 P **P** **03 19 54.2 +0.2**
SNAA Sanae 49.76 201 P **P** **03 19 56.2 -0.8**
SNAA Sanae 49.76 201 P **P** **03 19 56.2 -0.8**
SNAA IAmb IAmb 03 19 57.2
comp=Z,34nm,0.9s
SNAA Sanae 49.76 201 ⇓P **P** **03 19 56.2 -0.8**
comp=Z,660nm,0.8s
SNAA Sanae 49.76 201 P **P** **03 19 56.4 -0.6**
comp=Z,29nm,0.9s,baz=82,slow=6.6,SNR=30
SNAA LR LR 03 36 55.3
comp=Z,608nm,21.3s,baz=92,slow=31
comp=Z,29nm,0.9s
SNAA Sanae 49.76 201 P **P** **03 19 56.2 -0.8**
SNAA pmax pmax
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 49.84 107 P **P** **03 19 57.9 -0.2**
NWAO Narrogin (SRO) 49.84 107 IAMs_20 IAMs_20 03 35 31.9
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 49.84 107 LR LR 03 35 44.4
comp=Z,1μm,21.3s,baz=222,slow=30
NWAO Narrogin (SRO) 49.84 107 P **P** **03 19 57.8 -0.4**
NWAO P **P** **03 19 57.8 -0.4**
NWAO Narrogin (SRO) 49.84 107 P **P** **03 19 58.4 +0.3**
NWAO Narrogin (SRO) 49.84 107 P **P** **03 19 57.9 -0.2**
NWAO pmax pmax
comp=Z,117nm,1.3s
ABTO Aybut 50.10 355 P **P** **03 20 02.8 +2.7**
ABTO P **P** **03 20 02.8 +2.7**
MORW Morawa 50.10 102 P **P** **03 20 00.0 -0.2**
MORW IAmb IAmb 03 20 01.4
comp=Z,41nm,1.2s
MORW Morawa 50.10 102 P **P** **03 19 59.6 -0.6**
comp=Z,34nm,1.2s
MORW Morawa 50.10 102 P **P** **03 20 00.4 +0.2**
BLDU Ballidu 50.13 104 P **P** **03 19 59.5 -0.9**
comp=Z,45nm,1.2s
BLDU Ballidu 50.13 104 P **P** **03 20 00.3 -0.1**
SISI Saibi 50.38 60 P **P** **03 20 05.4 +3.1**
comp=Z,50nm,1.4s
KLBR Kellerberrin 50.67 106 P **P** **03 20 03.8 -0.6**
comp=Z,40nm,1.4s
GIRL Giralia 51.03 94 P **P** **03 20 07.7 +0.5**
comp=Z,122nm,1.0s
GSI Gunungsitoli 51.12 56 P **P** **03 20 09.0 +1.1**
comp=Z,4μmcomp=Z,20nm,0.5s
DOK Doka 51.30 356 P **P** **03 20 08.7 -0.4**
SNR=9.0
DOK P **P** **03 20 08.7 -0.4**
SNR=9.0
VNA3 Neumayer Olymp 51.77 202 P **P** **03 20 11.5 -0.6**
VNA3 Neumayer Olymp 51.77 202 ⇓P **P** **03 20 11.5 -0.6**
comp=Z,29nm,0.8s
PPI Padang Panjang 51.92 61 P **P** **03 20 14.4 +0.4**
comp=Z,31nm,1.2s
MNSI Mandailing Nat 52.19 59 P **P** **03 20 18.2 +2.3**
DQM DQM 52.53 1 P **P** **03 20 20.1 +1.9**
DQM P **P** **03 20 20.1 +1.9**
BSI Banda Aceh 52.63 51 P **P** **03 20 18.8 -0.4**
comp=Z,17nm,1.1s
CNJI Cibinong 52.80 73 P **P** **03 20 20.0 -0.5**
comp=Z,1μmcomp=Z,22nm,0.8s
RPSI Rantau Prapat 53.05 56 P **P** **03 20 23.7 +1.5**
MEEK Meekatharra 53.10 100 P **P** **03 20 21.8 -0.9**
comp=Z,81nm,1.1s
MEEK Meekatharra 53.10 100 P **P** **03 20 22.4 -0.3**
MEEK Meekatharra 53.10 100 S **S** **03 27 56.7 +3.5**
PSI Prapat 53.12 56 P **P** **03 20 23.6 +0.6**
PSI Prapat 53.12 56 P **P** **03 20 23.7 +0.7**
PSI pmax pmax
comp=Z,32nm,1.1s
LEM Lembang 53.47 72 LR LR 03 39 33.3
comp=Z,107nm,18.4s,baz=164,slow=32
HYB Hyderabad 54.07 26⇑ *e*P **P** **03 20 29.4 -0.3**
KMBL Kambalda 54.07 107 P **P** **03 20 28.7 -1.0**
comp=Z,130nm,1.5s
JLN Jalan Bani Buh 54.78 3 P **P** **03 20 38.2 +3.4**
JLN P **P** **03 20 38.2 +3.4**
JMDO Jabal Madar 54.96 1 P **P** **03 20 39.1 +3.0**
JMDO P **P** **03 20 39.1 +3.0**
WBK Wadi Bani Khal 55.22 2 P **P** **03 20 38.4 +0.5**
WBK P **P** **03 20 38.4 +0.5**
BSY Bisya 55.33 0 P **P** **03 20 38.3 -0.4**
SNR=8.0
BSY P **P** **03 20 38.3 -0.4**
SNR=8.0
UMZA Um Al Zommool 55.33 358 P **P** **03 20 38.2 -0.5**
UMZA P **P** **03 20 38.2 -0.5**
SMDO Samad 55.65 1 P **P** **03 20 40.6 -0.5**
SMDO P **P** **03 20 40.6 -0.5**
MZR Muzera 55.69 356 P **P** **03 20 41.6 +0.3**
SNR=12
MZR P **P** **03 20 41.6 +0.3**
SNR=12
MZR Muzera 55.69 356 *i*P **P** **03 20 41.0 -0.3**
SNR=11
IPM Ipoh 55.78 57 P **P** **03 20 42.8 +0.6**
IPM Ipoh 55.78 57 P **P** **03 20 43.2 +1.0**
WSAR Wadi Sarin 55.84 2 LR LR 03 39 06.7
comp=Z,684nm,20.2s,baz=208,slow=30
ARQ Araqi 55.92 359 P **P** **03 20 44.9 +2.0**
ARQ P **P** **03 20 44.9 +2.0**
ARQ P **P** **03 20 45.0 +2.0**
ARQ P **P** **03 20 45.0 +2.0**
KULM Kulim 56.09 56 P **P** **03 20 44.4 0.0**
BIDO Bidbid 56.11 1 P **P** **03 20 45.1 +0.8**
HOQ Hoqain 56.16 0 P **P** **03 20 46.7 +2.0**
SNR=8.1
HOQ P **P** **03 20 46.7 +2.0**
SNR=8.1
PSAC1 Pilbara Seismi 56.18 95 P **P** **03 20 44.1 -1.0**
comp=Z,71nm,1.3s
PSA00 Pilbara Seismi 56.20 95 IAmb IAmb 03 20 45.3
comp=Z,31nm,0.8s
PSA00 Pilbara Seismi 56.20 95 P **P** **03 20 43.9 -1.3**
comp=Z,56nm,0.9s
PSA00 Pilbara Seismi 56.20 95 P **P** **03 20 44.8 -0.4**
MBWA Marble Bar 56.28 95 P **P** **03 20 44.8 -0.9**
MBWA IAmb IAmb 03 20 46.0
comp=Z,45nm,0.8s
MBWA Marble Bar 56.28 95 P **P** **03 20 45.0 -0.7**
comp=Z,69nm,1.0s
MBWA Marble Bar 56.28 95 P **P** **03 20 45.0 -0.7**
MBWA P **P** **03 20 45.0 -0.7**
MBWA Marble Bar 56.28 95 P **P** **03 20 45.4 -0.4**
ALNE Al Ain 56.65 359 P **P** **03 20 50.7 +2.6**
SNR=8.6
GHWR Ruwais 56.69 355 P **P** **03 20 51.0 +2.7**
GHWR P **P** **03 20 51.0 +2.7**
SOHO SOHO 56.71 359 P **P** **03 20 47.9 -0.7**
SOHO P **P** **03 20 47.9 -0.7**
SOHO SOHO 56.71 359 *i*P **P** **03 20 47.8 -0.7**
SNR=19
SLWR Sila 56.88 354 P **P** **03 20 52.3 +2.5**
SLWR P **P** **03 20 52.3 +2.5**
RAYN Ar Rayn 57.19 347 P **P** **03 20 52.1 +0.1**
RAYN IAmb IAmb 03 20 57.4
comp=Z,70nm,1.2s
RAYN Ar Rayn 57.19 347 P **P** **03 20 52.4 +0.4**
RAYN Ar Rayn 57.19 347 P **P** **03 20 52.1 +0.1**
RAYN pmax pmax
comp=Z,70nm,1.2s
RAYN Ar Rayn 57.19 347 *i*P **P** **03 20 51.7 -0.3**
SNR=33
ASUD Al Ashush, Dub 57.23 358 P **P** **03 20 54.8 +2.6**
SNR=9.4
ASUD P **P** **03 20 54.8 +2.6**
SNR=9.4
ASHO Ashiyiah 57.27 359 P **P** **03 20 52.0 -0.5**
SNR=15
ASHO P **P** **03 20 52.0 -0.5**
SNR=15
ASHO Ashiyiah 57.27 359 *i*P **P** **03 20 52.0 -0.5**
SNR=26
QSPA South Pole Qui 57.28 180 P **P** **03 20 51.1 -1.3**
QSPA IAmb IAmb 03 20 52.2
comp=Z,49nm,1.1s
QSPA South Pole Qui 57.28 180 P **P** **03 20 51.0 -1.3**
comp=Z,39nm,1.0s,baz=261,slow=3.5,SNR=42
QSPA LR LR 03 44 33.3
comp=Z,522nm,18.2s,baz=279,slow=35
comp=Z,39nm,1.0s
FAQ Al Faqa, Dubai 57.34 358 P **P** **03 20 52.8 -0.2**
FAQ P **P** **03 20 52.8 -0.2**
HATD Hatta, Dubai 57.41 359 P **P** **03 20 53.1 -0.5**
SNR=9.1
HATD P **P** **03 20 53.1 -0.5**
SNR=9.1
HATD Hatta, Dubai 57.41 359 *i*P **P** **03 20 52.8 -0.7**
SNR=21
UOSS Minazif 57.53 359 P **P** **03 20 53.0 -1.3**
UOSS Minazif 57.53 359 P **P** **03 20 53.0 -1.3**
UOSS Minazif 57.53 359 P **P** **03 20 52.9 -1.5**
NAZ Nazwa, Dubai 57.58 358 P **P** **03 20 54.5 -0.1**
SNR=11
NAZ P **P** **03 20 54.5 -0.1**
SNR=11
NAZ Nazwa, Dubai 57.58 358 *i*P **P** **03 20 53.8 -0.9**
SNR=23
SMRA Abu-Samra 57.63 353 P **P** **03 20 55.2 +0.2**
SNR=8.3
JRN Qarnain Island 57.66 355 P **P** **03 20 55.3 0.0**
JRN P **P** **03 20 55.3 0.0**
SRIT Nakonsritamara 57.77 52 IAmb IAmb 03 20 56.5
comp=Z,30nm,0.8s
MSFE Esma-Masafi 57.94 359 *i*P **P** **03 20 56.4 -0.9**
SNR=9.3
MASF Masafi 57.95 359 P **P** **03 20 56.7 -0.6**
SNR=23
MASF P **P** **03 20 56.7 -0.6**
SNR=23
BELA Belgrano 2 58.47 194 P **P** **03 20 59.2 -1.2**
BANOM Banah 58.50 359 P **P** **03 20 59.9 -1.2**
BANOM P **P** **03 20 59.9 -1.2**
SHME Shamm 58.63 359 P **P** **03 21 01.7 -0.3**
SHME P **P** **03 21 01.7 -0.3**
SHMA Al-Shehemyia 58.72 354 P **P** **03 21 04.9 +2.3**
SAKB Bahrain 58.88 353 P **P** **03 21 06.1 +2.3**
FORT Forrest 59.23 109 P **P** **03 21 06.2 -0.1**
comp=Z,128nm,1.0s
VNDA Vanda 61.25 166 P **P** **03 21 19.4 -0.1**
VNDA IAmb IAmb 03 21 20.0
comp=Z,58nm,1.3s
VNDA Vanda 61.25 166 P **P** **03 21 18.1 -1.3**
comp=Z,24nm,1.1s,baz=259,slow=6.9,SNR=15
VNDA LR LR 03 46 50.9
comp=Z,738nm,18.0s,baz=246,slow=35
comp=Z,24nm,1.1s
VNDA Vanda 61.25 166 P **P** **03 21 19.4 -0.1**
VNDA pmax pmax
comp=Z,58nm,1.3s
WRKA Warakurna 61.73 103 P **P** **03 21 23.1 -0.5**
comp=Z,119nm,1.2s
WRKA Warakurna 61.73 103 P **P** **03 21 23.5 -0.1**
SRDT SRDT 61.79 47 P **P** **03 21 23.9 0.0**
FITZ Fitzroy Crossi 62.62 95 LR LR 03 43 17.0
comp=Z,389nm,21.3s,baz=258,slow=31
NAYO Nakonayok 63.14 49 P **P** **03 21 32.8 -0.2**
BRDH Bariadhala 64.34 36 LR LR 03 45 06.3
comp=Z,694nm,21.7s,baz=209,slow=32
KAPI Kappang 64.40 79 LR LR 03 43 41.8
comp=Z,185nm,22.0s,baz=230,slow=30
KAPI Kappang 64.40 79⇑ *e*P **P** **03 21 41.5 +0.1**
KAPI pmax pmax
comp=Z,28nm,1.7s
MMRI Maumere 64.50 84 P **P** **03 21 42.4 +0.4**
comp=Z,57nm,0.9s
BKSI Bulukumba 64.53 79 P **P** **03 21 41.8 -0.5**
comp=Z,15nm,1.0s
BBOO Buckleboo 64.70 114 P **P** **03 21 42.3 -0.9**
BBOO Buckleboo 64.70 114 P **P** **03 21 41.5 -1.6**
comp=Z,39nm,1.3s
BBOO Buckleboo 64.70 114 P **P** **03 21 42.7 -0.5**
CMAR Chiang Mai Arr 64.85 44 P **P** **03 21 43.4 -0.8**
CMAR Chiang Mai Arr 64.85 44 P **P** **03 21 43.8 -0.5**
comp=Z,28nm,0.8s,baz=231,slow=7.0,SNR=143
CMAR LR LR 03 44 40.7
comp=Z,658nm,21.8s,baz=220,slow=31
comp=Z,28nm,0.8s
CMAR Chiang Mai Arr 64.85 44 *i*P **P** **03 21 43.7 -0.5**
CMAR pmax pmax
comp=Z,32nm,0.8s
SPSI Sidrap Palu 65.00 78 P **P** **03 21 46.0 +0.7**
CHTO Chiang Mai 65.13 44 P **P** **03 21 45.4 -0.6**
CHTO IAmb IAmb 03 21 46.5
comp=Z,42nm,1.4s
CHTO IAMs_20 IAMs_20 03 44 15.1
comp=Z,743nm,22.0s
CHTO Chiang Mai 65.13 44 P **P** **03 21 45.4 -0.6**
CHTO pmax pmax
comp=Z,42nm,1.4s
TTSI Tana Toraja 65.56 77 P **P** **03 21 49.0 +0.1**
comp=Z,33nm,0.7s
EIL Elat 65.68 339 LR LR 03 48 25.1
comp=Z,418nm,18.4s,baz=160,slow=34
KNRA Kununurra 66.40 94 P **P** **03 21 53.4 -0.9**
KNRA Kununurra 66.40 94 P **P** **03 21 53.4 -0.9**
comp=Z,59nm,1.1s
OOD Oodnadatta 66.52 109 P **P** **03 21 54.2 -0.8**
HTT Hallett 66.63 116 P **P** **03 21 54.8 -0.9**
comp=Z,40nm,1.3s
HTT Hallett 66.63 116 P **P** **03 21 55.0 -0.7**
SHL Shillong 66.91 34 P **P** **03 21 57.1 -0.4**
SHL Shillong 66.91 34 P **P** **03 21 57.2 -0.3**
SNR=15
SHL Shillong 66.91 34 P **P** **03 21 57.1 -0.4**
SHL pmax pmax
comp=Z,139nm,1.6s
ASAR Alice Springs 66.92 104 P **P** **03 21 56.7 -1.0**
comp=Z,30nm,0.8s,baz=237,slow=6.1,SNR=171
ASAR LR LR 03 46 50.5
comp=Z,255nm,20.1s,baz=254,slow=32
comp=Z,30nm,0.8s
AS19 Alice Springs 66.95 104 P **P** **03 21 56.5 -1.4**
comp=Z,43nm,0.9s
AS01 Alice Springs 66.96 104 P **P** **03 21 57.2 -0.7**
AS06 Alice Springs 66.98 104 P **P** **03 21 56.8 -1.2**
comp=Z,56nm,0.9s
KDI Kendari 67.35 80 P **P** **03 22 00.2 -0.2**
comp=Z,23nm,0.9s
LCRK Leigh Creek 67.36 112 P **P** **03 22 00.4 +0.1**
ARPS Mount Arapiles 67.40 120 P **P** **03 21 59.9 -0.5**
comp=Z,116nm,0.8s
ARPS Mount Arapiles 67.40 120 P **P** **03 22 00.3 -0.2**
ASF Jabal al Asfar 67.47 342 LR LR 03 47 21.0
comp=Z,330nm,20.9s,baz=222,slow=32
BALJ Balqa 67.74 340 IAmb IAmb 03 22 22.5
comp=Z,32nm,1.0s
KBL Kabul 68.01 11 P **P** **03 22 04.0 -0.3**
KBL IAmb IAmb 03 22 17.4
comp=Z,18nm,0.8s
KBL Kabul 68.01 11 P **P** **03 22 04.7 +0.4**
SNR=16
KBL P **P** **03 22 04.7 +0.4**
SNR=16
KBL Kabul 68.01 11 P **P** **03 22 04.0 -0.3**
KBL pmax pmax
comp=Z,18nm,0.8s
MMAI Mount Meron Ar 68.68 341 P **P** **03 22 08.6 +0.2**
comp=Z,18nm,0.8s,baz=136,slow=8.7,SNR=21
MMAI LR LR 03 48 40.4
comp=Z,357nm,21.8s,baz=155,slow=33
comp=Z,18nm,0.8s
TOLI2 Tolitoli 68.73 74 P **P** **03 22 11.5 +2.4**
TOLI2 IAmb IAmb 03 22 22.3
comp=Z,24nm,1.1s
TOLI2 Tolitoli 68.73 74 P **P** **03 22 10.0 +0.9**
WRA Warramunga Arr 69.00 101 P **P** **03 22 10.0 -0.8**
comp=Z,51nm,0.9s,baz=240,slow=5.3,SNR=124
WRA LR LR 03 48 37.7
comp=Z,346nm,19.2s,baz=243,slow=33
comp=Z,51nm,0.9s
WRA Warramunga Arr 69.00 101 P **P** **03 22 10.0 -0.8**
WRAB Tennant Creek 69.02 101 P **P** **03 22 10.6 -0.3**
WRAB Tennant Creek 69.02 101 P **P** **03 22 10.6 -0.3**
WRAB pmax pmax
comp=Z,71nm,1.0s
STKA Stephens Creek 69.33 115 P **P** **03 22 11.7 -0.9**
comp=Z,16nm,1.0s
STKA Stephens Creek 69.33 115 P **P** **03 22 12.0 -0.6**
comp=Z,42nm,0.8s,baz=262,slow=5.3,SNR=55
STKA LR LR 03 46 27.7
comp=Z,821nm,20.9s,baz=235,slow=31
comp=Z,42nm,0.8s
STKA Stephens Creek 69.33 115 P **P** **03 22 12.1 -0.6**
STKA Stephens Creek 69.33 115 *c i*P **P** **03 22 11.8 -0.9**
TOO Toolangi 69.69 122 P **P** **03 22 14.6 -0.2**
TOO Toolangi 69.69 122 P **P** **03 22 14.5 -0.3**
comp=Z,14nm,1.2s
TOO Toolangi 69.69 122 P **P** **03 22 14.6 -0.2**
TOO pmax pmax
comp=Z,18nm,1.2s
TNCH TengChong 69.82 40 ⇓P **P** **03 22 15.1 -0.6**
TNCH pP sP 03 22 20.0 +2.1
TNCH PcP **PcP** **03 22 37.0 -1.3**
TNCH S **S** **03 31 20.0 -5.4**
TNCH pmax pmax
comp=Z,27nm,1.0s
TNCH pmax pmax
comp=Z,100nm,2.9s
TNCH LR LR
comp=Z,260nm,21.4s
TNCH LR LR
comp=Z,190nm,21.4s
TNCH LR LR
comp=Z,790nm,24.5s
TORD Torodi Ar. Bea 69.94 301 P **P** **03 22 15.8 -0.7**
TORD Torodi Ar. Bea 69.94 301 P **P** **03 22 15.5 -1.0**
comp=Z,6.6nm,0.7s,baz=105,slow=4.2,SNR=27
comp=Z,6.6nm,0.7s
SLVN Son La 70.03 46 IAmb IAmb 03 22 18.0
comp=Z,27nm,0.9s
LSA Lhasa 70.11 31 IAmb IAmb 03 22 49.1
comp=Z,26nm,1.1s
LSA Lhasa 70.11 31 P **P** **03 22 17.5 -0.3**
LSA Lhasa 70.11 31 P **P** **03 22 18.3 +0.4**
DBIC Dimbokro 70.71 292 P **P** **03 22 21.5 +0.2**
DBIC IAmb IAmb 03 22 33.9
comp=Z,31nm,0.8s
DBIC Dimbokro 70.71 292 P **P** **03 22 20.5 -0.8**
comp=Z,13nm,0.7s,baz=116,slow=7.4,SNR=15
DBIC LR LR 03 52 23.8
comp=Z,1μm,18.3s,baz=126,slow=35
comp=Z,13nm,0.7s
DBIC Dimbokro 70.71 292 P **P** **03 22 21.5 +0.2**
DBIC pmax pmax
comp=Z,31nm,0.9s
KMSI Cibinong 71.03 77 P **P** **03 22 22.3 -0.9**
CSS Mathiatis 71.10 340 IAMs_20 IAMs_20 03 49 15.6
comp=Z,691nm,21.0s
MARD Mardin 71.49 346 IAmb IAmb 03 22 41.2
comp=Z,19nm,0.7s
LKRN Lenkeran, Azer 71.66 353 P **P** **03 22 30.3 +3.9**
GEVA Gevas 72.04 348 IAmb IAmb 03 22 35.1
comp=Z,35nm,1.0s
SIMJ Simiganj 72.05 10 P **P** **03 22 28.9 0.0**
CHGR Chuyangaron 72.06 10 P **P** **03 22 29.7 +0.7**
QIZ Qiongzhong 72.13 52 P **P** **03 22 29.2 -0.5**
QIZ S **S** **03 31 52.8 +0.6**
QIZ ScS **ScS** **03 32 36.6 +0.4**
QIZ SS **SS** **03 36 25.7 -4.3**
QIZ LR LR
comp=Z,340nm,17.0s
QIZ LR LR
comp=Z,300nm,20.7s
QIZ LR LR
comp=Z,490nm,31.8s
GAZ Gaziantep 72.14 343 IAmb IAmb 03 22 41.5
comp=Z,26nm,0.9s
KMI Kunming 72.23 43 ⇓P **P** **03 22 29.7 -0.8**
KMI pP sP 03 22 34.4 +1.7
KMI S **S** **03 31 50.7 -2.9**
KMI SKS **SKSac** **03 32 27.6 -7.7**
KMI pmax pmax
comp=Z,15nm,1.1s
KMI LR LR
comp=Z,450nm,18.5s
KMI LR LR
comp=Z,650nm,18.9s
KMI LR LR
comp=Z,510nm,14.2s
PMSA Palmer Station 72.43 203 LR LR 03 47 15.2
comp=Z,422nm,20.0s,baz=132,slow=30
NAX Nakhchivan 72.51 351 P **P** **03 22 35.1 +3.5**
GAR Garm 72.58 11 IAmb IAmb 03 23 04.8
comp=Z,38nm,1.0s
CMSA Cobar Meteorol 72.59 117 P **P** **03 22 32.2 -0.2**
comp=Z,81nm,1.2s
PZH PanZhiHua 72.75 41 P **P** **03 22 31.9 -1.5**
PZH S **S** **03 31 58.4 -0.8**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,80nm,4.7s
PZH LR LR
comp=Z,250nm,22.4s
PZH LR LR
comp=Z,220nm,21.1s
PZH LR LR
comp=Z,290nm,21.6s
QIS Mount Isa 73.04 104 P **P** **03 22 34.5 -0.8**
comp=Z,55nm,1.3s
CAN Canberra 73.23 121 P **P** **03 22 36.5 +0.2**
CAN Canberra 73.23 121 P **P** **03 22 36.0 -0.3**
comp=Z,78nm,1.1s
CAN Canberra 73.23 121 P **P** **03 22 36.5 +0.2**
CAN pmax pmax
comp=Z,64nm,1.0s
YNG Young 73.28 120 P **P** **03 22 36.3 -0.3**
comp=Z,415nm,1.2s
CNB Canberra Magne 73.50 122 P **P** **03 22 37.6 -0.2**
comp=Z,49nm,1.9s
GNI Garni 73.58 350 P **P** **03 22 41.3 +3.3**
GNI Garni 73.58 350 IAMs_20 IAMs_20 03 51 49.6
comp=Z,581nm,21.0s
GNI Garni 73.58 350 LR LR 03 52 12.5
comp=Z,357nm,21.6s,baz=181,slow=34
GNI Garni 73.58 350 P **P** **03 22 41.4 +3.3**
GNI P **P** **03 22 41.4 +3.3**
GNI Garni 73.58 350 P **P** **03 22 41.3 +3.3**
GNI pmax pmax
comp=Z,149nm,1.6s
GNI Garni 73.58 350 P **P** **03 22 40.6 +2.6**
KARP Karpathos 73.64 335 P **P** **03 22 40.5 +2.1**
comp=Z,220nm,0.9s
BTK Batken 73.69 11 IAmb IAmb 03 22 45.5
comp=Z,39nm,1.0s
BTK Batken 73.69 11 P **P** **03 22 39.1 +0.5**
QLP Quilpie 73.83 111 P **P** **03 22 39.6 -0.3**
comp=Z,162nm,1.0s
GANJ Ganja 73.85 351 P **P** **03 22 43.6 +4.1**
MNGR Mingechevir, A 73.89 352 P **P** **03 22 43.3 +3.7**
TNTI Ternate 73.92 78 P **P** **03 22 41.0 +0.5**
BNN Bunyan 74.07 343 IAmb IAmb 03 22 52.7
comp=Z,48nm,0.8s
TAM Tamanrasset 74.09 311 P **P** **03 22 40.5 -0.9**
TAM Tamanrasset 74.09 311 P **P** **03 22 40.5 -0.9**
TAM pmax pmax
comp=Z,17nm,1.7s
TAM MLR MLR

comp=Z,2μm,20.0s
KSH Kashi 74.14 15 P **P 03 22 38.1 -3.2**
KSH pP pP 03 22 43.2 +0.2
KSH sP pwP 03 22 49.6 +0.2
KSH S **SKiKP 03 32 05.7 -3.6**
KSH pmax pmax
comp=Z,28nm,0.8s
KSH pmax pmax
comp=Z,210nm,3.8s
KSH LR LR
comp=Z,380nm,16.1s
KSH LR LR
comp=Z,280nm,11.4s
KSH LR LR
comp=Z,510nm,16.9s
KOPT Kop Dagi 74.16 347 IAmb IAmb 03 23 04.1
comp=Z,22nm,0.8s
IDI Anoyia 74.25 333 LR LR 03 56 48.4
comp=Z,209nm,19.3s,baz=152,slow=37
KARS Kars 74.30 349 P **P 03 22 46.7 +4.5**
KARS pmax pmax
comp=Z,40nm,1.0s
SEKA Sheki 74.30 352 P **P 03 22 45.9 +3.8**
AKT Akhty 74.51 353 *e*P **P 03 22 46.0 +2.6**
AKT *e* 03 23 00.5
AKT *e* 03 25 31.6
AKT pmax pmax
comp=Z,79nm,1.4s
KIRS Kirsehir-Merke 74.83 341 ⇑P **P 03 22 47.2 +1.9**
TRLG Trialeti 75.03 350 P **P 03 22 49.1 +2.6**
BCA Borcka 75.34 348 ⇓P **P 03 22 49.8 +1.7**
BR104 Keskin Array S 75.44 341 P **P 03 22 48.2 -0.6**
comp=Z,154nmcomp=Z,20nm,0.8s
BR131 Keskin Array S 75.46 341 IAmb IAmb 03 23 00.4
comp=Z,20nm,0.8s
BR131 Keskin Array S 75.46 341 *d i*P **P 03 22 48.2 -0.7**
BRTR Keskin Array B 75.46 341 P **P 03 22 48.1 -0.9**
BRTR Keskin Array B 75.46 341 P **P 03 22 48.2 -0.7**
comp=Z,6.2nm,0.9s,baz=166,slow=8.1,SNR=18
BRTR LR LR 03 51 59.1
comp=Z,148nm,22.0s,baz=148,slow=32
comp=Z,6.2nm,0.9s
BR106 Keskin Array S 75.47 341 P **P 03 22 50.3 +1.3**
comp=Z,161nmcomp=Z,25nm,0.8s
GYA Guiyang 75.54 45 ⇓P **P 03 22 52.5 +2.8**
GYA S **S 03 32 29.4 -1.1**
GYA pmax pmax
comp=Z,13nm,0.6s
GYA pmax pmax
comp=Z,180nm,4.3s
GYA LR LR
comp=Z,240nm,5.8s
GYA LR LR
comp=Z,160nm,3.9s
GYA LR LR
comp=Z,510nm,20.6s
CHM Chimkent 75.72 10 *e*P **P 03 22 50.5 +0.3**
CHM pmax pmax
comp=Z,15nm,0.9s
CHM Chimkent 75.72 10 *e*P **P 03 22 50.6 +0.3**
comp=Z,15nm,0.9s
MGCD Mangrove Creek 75.79 120 P **P 03 22 50.9 -0.2**
comp=Z,46nm,0.9s
ANTO Ankara 75.82 341 ⇑P **P 03 22 53.1 +2.1**
ANTO Ankara 75.82 341 P **P 03 22 53.0 +2.1**
MANT Manisa 75.83 337 IAmb IAmb 03 23 03.4
comp=Z,27nm,0.8s
MAK Makhachkala 76.00 353 *e*P **P 03 22 48.5 -3.2**
MAK *e* 03 25 38.7
MAK *e*S **S 03 32 31.2 -3.5**
MAK *e*SSS SSS 03 40 44.4
MAK pmax pmax
comp=Z,195nm,1.1s
DAV Davao City (W) 76.09 72 LR LR 03 50 20.1
comp=Z,177nm,22.0s,baz=324,slow=31
SWI Sorong 76.24 82 P **P 03 22 54.0 +0.1**
comp=Z,37nm,1.0s
BRLS Borolday 76.45 10 *e*P **P 03 22 52.9 -1.5**
BRLS Borolday 76.45 10 *e*P **P 03 22 53.0 -1.5**
BORA Eskisehir 76.51 339 IAmb IAmb 03 23 07.1
comp=Z,30nm,0.7s
KK31 Karatay Array 76.62 10 IAmb IAmb 03 23 01.9
comp=Z,43nm,1.1s
KK31 Karatay Array 76.62 10 *i*P **P 03 22 54.7 -0.6**
KKAR Karatay Array 76.62 10 P **P 03 22 55.4 0.0**
KKAR Karatay Array 76.62 10 IAmb IAmb 03 23 01.9
comp=Z,27nm,1.1s
KKAR Karatay Array 76.62 10 P **P 03 22 55.4 0.0**
TGY Tagaytay City 76.75 63 LR LR 03 52 55.9
comp=Z,189nm,21.6s,baz=33,slow=33
AAK Ala-Archa 76.84 13 P **P 03 22 57.5 +0.7**
AAK IAmb IAmb 03 23 03.9
comp=Z,74nm,1.5s
AAK Ala-Archa 76.84 13 LR LR 03 55 06.2
comp=Z,217nm,19.5s,baz=204,slow=34
AAK Ala-Archa 76.84 13 P **P 03 22 57.8 +1.0**
AAK P **P 03 22 57.8 +1.0**
AAK Ala-Archa 76.84 13 *de*P **P 03 22 57.0 +0.2**
AAK pmax pmax
comp=Z,63nm,1.6s
AAK Ala-Archa 76.84 13 *i*P **P 03 22 57.0 +0.2**
SNR=11
GULI GuiLin 76.94 48 P **P 03 22 57.3 -0.2**
NCK Nalchik 77.02 350 ⇑*e*P **P 03 22 59.5 +1.9**
NCK pmax pmax
comp=Z,17nm,0.5s
ITM Ithomi 77.06 332 IAmb IAmb 03 23 23.8
comp=Z,46nm,1.1s
GOMU GeErMu 77.26 30 P **P 03 22 59.2 -0.3**
GOMU pP sP 03 23 03.7 +1.9
GOMU S **S 03 32 48.2 -1.3**
GOMU SS **SS 03 37 49.4 +1.1**
GOMU pmax pmax
comp=Z,12nm,1.6s
GOMU pmax pmax
comp=Z,260nm,5.2s
GOMU LR LR
comp=Z,590nm,21.8s
GOMU LR LR
comp=Z,400nm,22.0s
GOMU LR LR
comp=Z,1μm,21.2s
CD2 Chengdu 77.28 40 P **P 03 22 58.3 -1.1**
CD2 S **S 03 32 49.0 -0.4**
CD2 SS **SS 03 37 45.0 -3.2**
CD2 pmax pmax
comp=Z,30nm,0.8s
CD2 LR LR
comp=Z,300nm,11.4s
CD2 LR LR
comp=Z,240nm,11.0s
CD2 LR LR
comp=Z,310nm,14.0s
KBZ Khabaz 77.36 349 P **P 03 22 59.2 -0.2**
comp=Z,3.7nm,1.0s,baz=162,slow=6.0,SNR=9.2
KBZ LR LR 03 56 05.0
comp=Z,331nm,19.5s,baz=166,slow=35
comp=Z,3.7nm,1.0s
KBZ Khabaz 77.36 349 ⇑*e*P **P 03 23 01.6 +2.2**
KBZ pmax pmax
comp=Z,27nm,1.0s
SHA1 Shidzhatmaz 77.40 349 ⇓*e*P **P 03 23 01.4 +1.4**
ARMA Armidale 77.58 118 P **P 03 23 01.1 -0.3**
comp=Z,54nm,1.1s
VSLR Vesyoloye 77.58 347 ⇓*e*P **P 03 23 03.5 +2.8**
VSLR pmax pmax
comp=Z,51nm,1.3s
KIV Kislovodsk 77.61 349 P **P 03 23 02.1 +1.1**
KIV Kislovodsk 77.61 349 P **P 03 23 03.2 +2.3**
KIV P **P 03 23 03.2 +2.3**
KIV Kislovodsk 77.61 349 ⇑P **P 03 23 02.3 +1.4**
KIV Kislovodsk 77.61 349 *e*P **P 03 23 01.4 +0.4**
KIV *e*S **S 03 32 54.2 +1.7**
KIV *e*SS **SS 03 37 53.5 +0.7**
KIV pmax pmax
comp=Z,22nm,1.1s
TNSS Tian-Shan 77.72 15 *e*P **P 03 23 01.7 -0.3**
TNSS Tian-Shan 77.72 15 *e*P **P 03 23 01.7 -0.3**
SOC Sochi 77.76 347 *e*P **P 03 23 02.6 +1.0**
SOC *e* 03 25 55.6
SOC *e*PPP PPP 03 27 47.0
SOC *e*S **S 03 32 56.8 +3.0**
SOC *e*SS **SS 03 37 54.9 +0.1**
SOC *e*SSS SSS 03 41 17.7
SOC MLR MLR
comp=Z,225nm,17.0s
MDOK Medeo 77.86 15 *e*P **P 03 23 02.6 +0.1**
MDOK Medeo 77.86 15 *e*P **P 03 23 02.6 +0.1**
SATY Saty 78.06 16 *e*P **P 03 23 03.7 +0.1**
SATY pmax pmax
comp=Z,21nm,1.5s
SATY Saty 78.06 16 *e*P **P 03 23 03.7 +0.1**
comp=Z,21nm,1.5s
MTSU Mount Surprise 78.10 104 P **P 03 23 04.1 -0.3**
comp=Z,30nm,1.1s
ZHN Zhinishke 78.17 16 *e*P **P 03 23 04.0 -0.1**
ZHN Zhinishke 78.17 16 *e*P **P 03 23 04.1 -0.1**
SHLS Shalkode 78.40 17 *e*P **P 03 23 06.0 +0.6**
SHLS pmax pmax
comp=Z,20nm,1.1s
SHLS Shalkode 78.40 17 *e*P **P 03 23 06.0 +0.6**
comp=Z,20nm,1.1s
KPKS Kokpek 78.52 16 *e*P **P 03 23 05.4 -0.6**
KPKS Kokpek 78.52 16 *e*P **P 03 23 05.4 -0.6**
PDGK Podgornoye 78.57 16 P **P 03 23 05.3 -1.1**
GOF Gofitskoye 78.63 350 *ce*P P 03 23 18.4 +12
WHZ Wether Hill Ro 79.75 138 IAmb IAmb 03 23 13.9
comp=Z,62nm,1.1s
WHZ IAMs_20 IAMs_20 03 48 15.2
comp=Z,914nm,20.0s
EIDS Eidsvold 79.77 113 IAmb IAmb 03 23 14.2
comp=Z,56nm,0.9s
EIDS Eidsvold 79.77 113 P **P 03 23 12.8 -0.6**
comp=Z,68nm,1.1s
TDK Taldyqorghan 79.91 15 *e*P **P 03 23 13.8 +0.3**
TDK Taldyqorghan 79.91 15 *e*P **P 03 23 13.8 +0.3**
MLZ Mavora Lakes 80.17 138 IAMs_20 IAMs_20 03 54 32.1
comp=Z,1μm,18.0s
SIM Simferopol' 80.25 344 *e*P **P 03 23 15.6 +0.3**
SIM *e* 03 23 23.0
SIM *e*S **S 03 33 20.0 -0.4**
SIM pmax pmax
comp=Z,20nm,0.6s
SIM MLR MLR
comp=Z,100nm,18.0s
VAY Valandovo 80.42 334 *i*P **P 03 23 15.1 -1.2**
KBN Korca 80.48 333 IAmb IAmb 03 23 45.1
comp=Z,48nm,1.2s
CEL Celeste 80.51 328 IAMs_20 IAMs_20 03 58 53.9
comp=Z,557nm,22.0s
CEL Celeste 80.51 328 P **P 03 23 18.1 +1.1**
comp=Z,22nm,1.1s
VAE Valguarnera 80.54 327 LR LR 03 57 43.0
comp=Z,447nm,22.0s,baz=160,slow=35
PEHC Pehcevo 80.70 335 *i*P **P 03 23 17.3 -0.7**
OHR Ohrid 80.90 333 *i*P **P 03 23 20.4 +1.5**
USHA Ushuaia 80.92 208 LR LR 03 51 39.0
comp=Z,236nm,20.5s,baz=115,slow=30
WMQ Urumqi 81.30 22 *e*P **P 03 23 21.2 +0.2**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=Z,310nm,18.5s
TIRR Tirgusor 81.31 340 ⇑P **P 03 23 22.4 +1.5**
TIRR Tirgusor 81.31 340 P **P 03 23 22.4 +1.5**
TIRR Tirgusor 81.31 340 P **P 03 23 22.0 +1.1**
comp=Z,42nm,0.9s
LZH Lanzhou 81.37 37 ⇑P **P 03 23 20.6 -1.1**
LZH pP sP 03 23 25.2 +1.2
LZH sP PcP 03 23 29.0 +1.2
LZH pmax pmax
comp=Z,23nm,1.1s
LZH LR LR
comp=Z,240nm,15.6s
LZH LR LR
comp=Z,340nm,15.3s
LZH LR LR
comp=Z,470nm,17.4s
TIR Tirane 81.46 333 ⇑P **P 03 23 23.0 +1.1**
TIR Tirane 81.46 333 P **P 03 23 23.0 +1.1**
KEST Kesra 81.62 322 P **P 03 23 22.3 -0.6**
comp=Z,2.4nm,0.9s,baz=210,slow=2.4,SNR=5.7
KEST LR LR 03 59 34.2
comp=Z,689nm,20.1s,baz=134,slow=36
comp=Z,2.4nm,0.9s
ODZ Otahua Downs 81.77 139 IAMs_20 IAMs_20 03 49 27.3
comp=Z,806nm,18.0s
AB31 Akbulak array 81.83 2 *i*P **P 03 23 22.9 -0.7**
ABKAR Akbulak array 81.83 2 P **P 03 23 22.9 -0.7**
ABKAR Akbulak array 81.83 2 P **P 03 23 23.1 -0.5**
ABKAR IAmb IAmb 03 23 36.3
comp=Z,31nm,1.2s
SGRR Singureni 81.83 338 ⇓P **P 03 23 25.1 +1.4**
CFR Carcaliu 82.04 340 ⇑P **P 03 23 25.0 +0.1**
CFR Carcaliu 82.04 340 P **P 03 23 24.9 +0.1**
PUK Puka 82.05 333 IAmb IAmb 03 23 40.6
comp=Z,35nm,0.8s
GTA Gaotai 82.11 32 P **P 03 23 25.2 -0.3**
GTA pP sP 03 23 29.7 +1.9
GTA S **S 03 33 40.2 -0.1**
GTA pmax pmax
comp=Z,21nm,0.8s
GTA LR LR
comp=Z,310nm,17.1s
GTA LR LR
comp=Z,190nm,16.7s
GTA LR LR
comp=Z,230nm,18.3s
MAKZ Makanchi 82.44 17 P **P 03 23 26.6 -0.4**
MAKZ Makanchi 82.44 17 P **P 03 23 26.6 -0.4**
MAKZ pmax pmax
comp=Z,13nm,1.1s
ISR Istrita 82.47 339 ⇓P **P 03 23 29.1 +2.0**
ISR Istrita 82.47 339 P **P 03 23 29.1 +2.0**
XAN Xi'an 82.48 41 ⇓P **P 03 23 26.6 -0.9**
XAN pP sP 03 23 31.0 +1.2
XAN S **S 03 33 43.1 -1.1**
XAN SS **SS 03 39 10.0 +3.9**
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,300nm,3.8s
XAN LR LR
comp=Z,580nm,20.4s
XAN LR LR
comp=Z,730nm,20.4s
XAN LR LR
comp=Z,640nm,22.3s
MK31 Makanchi Array 82.51 17 *de*P **P 03 23 26.4 -0.9**
MKAR Makanchi Array 82.51 17 P **P 03 23 26.8 -0.5**
MKAR Makanchi Array 82.51 17 P **P 03 23 26.1 -1.1**
comp=Z,2.2nm,0.7s,baz=197,slow=3.8,SNR=26
MKAR PKKPbc **PKKPbc 03 41 52.1 -3.1**
comp=Z,0.4nm,0.8s,baz=35,slow=4.4,SNR=4.4
MKAR LR LR 03 57 22.7
comp=Z,177nm,20.8s,baz=176,slow=34
comp=Z,2.2nm,0.7s
MKAR Makanchi Array 82.51 17 *ce*P **P 03 23 26.7 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
PDG Podgorica 82.62 333 IAmb IAmb 03 23 49.3
comp=Z,24nm,1.0s
PDG Podgorica 82.62 333 *e*P P 03 23 33.2 +5.3
PDG Podgorica 82.62 333 ⇓P **P 03 23 28.5 +0.6**
RPZ Rata Peaks 82.84 138 LR LR 03 53 31.6
comp=Z,615nm,18.2s,baz=217,slow=31
ODBI Odobesti 82.89 339 P **P 03 23 29.7 +0.5**
comp=Z,14nm,1.0s
HCY Herceg Novi 82.93 332 *e*P **P 03 23 28.5 -1.1**
AKTO Aktyubinsk 82.97 1 LR LR 03 58 59.7
comp=Z,226nm,19.8s,baz=196,slow=35
MLR Muntele Rosu 82.98 338 IAmb IAmb 03 23 49.5
comp=Z,25nm,0.9s
MLR Muntele Rosu 82.98 338 LR LR 03 59 35.9
comp=Z,133nm,19.1s,baz=146,slow=35
MLR Muntele Rosu 82.98 338 ⇑P **P 03 23 30.6 +0.7**
MLR Muntele Rosu 82.98 338 P **P 03 23 30.6 +0.7**
SJES Sjenica 83.06 334 *e*P **P 03 23 29.7 -0.7**
VRI Vrincioaia 83.08 339 ⇓P **P 03 23 30.9 +0.6**
VRI Vrincioaia 83.08 339 P **P 03 23 30.8 +0.6**
VRI Vrincioaia 83.08 339 P **P 03 23 30.4 +0.1**
comp=Z,957nmcomp=Z,91nm,0.9s
PLOR Plostina 83.09 339 ⇓P **P 03 23 31.0 +0.6**
PLOR Plostina 83.09 339 P **P 03 23 30.9 +0.6**
WHN Wuhan 83.14 47 P **P 03 23 33.4 +2.5**
WHN pmax pmax
comp=Z,430nm,2.1s
VOIR 83.22 338 ⇓P **P 03 23 32.7 +1.6**
VOIR 83.22 338 P **P 03 23 32.6 +1.6**
COVR Voineasa-Covas 83.22 339 ⇑P **P 03 23 32.5 +1.5**
BRY Bratogost 83.30 333 *e*P **P 03 23 31.3 -0.3**
UPM Unac-Piva 83.42 333 *e*P **P 03 23 32.0 -0.3**
MILM Milestii Mici 83.44 341 *e*P P 03 23 42.0 +10
comp=Z,110nm,1.4s
MILM Milestii Mici 83.44 341 *e*P P 03 23 42.0 +10
MILM pmax pmax
comp=N,150nm,1.4s
OZUR 83.58 339 ⇓P **P 03 23 34.3 +1.4**
DOPR Dopca 83.58 338 ⇑P **P 03 23 32.7 -0.1**
HERR Herculane 83.59 336 ⇑P **P 03 23 34.3 +1.4**
RUDO Rudo 83.59 333 *e*P **P 03 23 31.9 -1.1**
STON Ston 83.60 332 *e*P **P 03 23 32.2 -0.8**
ONER Baraj Valea Uz 83.61 339 ⇑P **P 03 23 34.8 +1.8**
OXZ Oxford 83.64 138 IAMs_20 IAMs_20 03 55 19.9
comp=Z,824nm,19.0s
LOT Lotru 83.64 337 ⇓P **P 03 23 33.1 -0.2**
BRZS Berezniki 83.66 10 *e*P **P 03 23 33.6 +0.5**
BRZS Berezniki 83.66 10 *e*P **P 03 23 33.6 +0.5**
MQZ McQueen's Vall 83.73 139 IAMs_20 IAMs_20 03 52 06.5
comp=Z,649nm,20.0s
MDVR Moldovita 83.75 335 ⇑P **P 03 23 35.3 +1.5**
ZSN Zaisan 83.78 19 *e*P **P 03 23 33.8 0.0**
ZSN pmax pmax
comp=Z,28nm,1.3s
ZSN Zaisan 83.78 19 *e*P **P 03 23 33.9 0.0**
comp=Z,28nm,1.3s
BBLS Lazi&#263i 83.79 334 *e*P **P 03 23 33.5 -0.6**
GZR Gura Zlata 83.92 336 ⇑P **P 03 23 35.8 +1.2**
GZR Gura Zlata 83.92 336 P **P 03 23 35.8 +1.2**
HAPS Han Pijesak,BI 84.15 333 *e*P **P 03 23 36.9 +1.0**
BAL3X Bal3x, Balta 84.16 342 P **P 03 23 36.6 +0.9**
SURR Surduc 84.45 336 ⇑P **P 03 23 37.8 +0.6**
INTR Introdacqua 84.46 329 IAmb IAmb 03 23 42.0
comp=Z,39nm,1.3s
BZS Buzias 84.51 336 ⇓P **P 03 23 38.3 +0.7**
BZS Buzias 84.51 336 P **P 03 23 38.3 +0.7**
VSL Villasalto 84.53 325 IAMs_20 IAMs_20 04 05 58.3
comp=Z,556nm,22.0s
KHAM Kharkiv 84.58 347 P **P 03 23 38.4 +0.5**
BBTS Babate 84.65 291 LR LR 03 58 24.8
comp=Z,493nm,21.3s,baz=7.0,slow=34
SORM Soroca 84.68 341 ⇓P **P 03 23 39.4 +1.0**
SORM Soroca 84.68 341 P **P 03 23 39.3 +1.0**
FRGS Fruska Gora 84.75 334 *e*P **P 03 23 35.3 -3.5**
VRH Novokhopyorsk 84.83 350 *e*P **P 03 23 41.0 +2.0**
VRH pmax pmax
comp=Z,44nm,1.3s
LYN LuoYang 84.86 43 ⇑P **P 03 23 40.0 +0.4**
LYN pP pwP 03 23 44.3 -3.6
LYN SS SS 03 39 44.6 +3.5
LYN pmax pmax
comp=Z,27nm,0.8s
LYN pmax pmax
comp=Z,260nm,5.8s
LYN LR LR
comp=Z,350nm,20.6s
LYN LR LR
comp=Z,440nm,18.9s
LYN LR LR
comp=Z,630nm,21.3s
MARR Marisel-Cluj 84.93 337 ⇓P **P 03 23 41.2 +1.4**
VORD Divnogorie 84.97 349 *e*P **P 03 23 42.2 +2.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 85.00 98 LR LR 04 00 08.0
comp=Z,278nm,18.1s,baz=224,slow=35
SIRR Siria 85.06 336 ⇓P **P 03 23 40.8 +0.4**
KHZ Kahutara 85.07 138 P **P 03 23 40.2 -0.5**
CAMP Campotosto 85.10 329 IAmb IAmb 03 24 00.3
comp=Z,18nm,1.0s
BURAR Bucovina Array 85.11 339 ⇑P **P 03 23 42.7 +2.0**
BURAR Bucovina Array 85.11 339 P **P 03 23 42.6 +2.0**
DRGR 85.17 337 ⇑P **P 03 23 41.8 +0.8**
DRGR 85.17 337 P **P 03 23 41.7 +0.8**
VSR Storozhevoye 85.23 349 *e*P **P 03 23 41.0 0.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
KURBB Kurchatov Arra 85.28 13 P **P 03 23 40.9 -0.4**
comp=Z,3.6nm,0.8s,baz=209,slow=5.6,SNR=55
KURBB LR LR 03 59 31.0
comp=Z,141nm,18.9s,baz=182,slow=34
comp=Z,3.6nm,0.8s
BELG Belogornoye 85.33 354 LR LR 04 04 34.3
comp=Z,127nm,18.2s,baz=131,slow=38
BELG Belogornoye 85.33 354 *de*P **P 03 23 42.0 +0.5**
BELG pmax pmax
comp=Z,11nm,1.3s
BLY Banja Luka 85.39 333 *e*P **P 03 23 40.7 -1.3**
KURK Kurchatov 85.39 14 P **P 03 23 41.7 -0.1**
KURK IAmb IAmb 03 23 48.1
comp=Z,39nm,1.1s
KURK Kurchatov 85.39 14 P **P 03 23 41.8 -0.1**
KURK P **P 03 23 41.8 -0.1**
KURK Kurchatov 85.39 14 P **P 03 23 41.7 -0.1**
KURK pmax pmax
comp=Z,39nm,1.2s
A050A Klekovaca 85.42 332 *e*P **P 03 23 40.9 -1.4**
NRCA Norcia 85.47 329 IAmb IAmb 03 23 47.1
comp=Z,34nm,1.6s
VORR Voronezh 85.67 349 *e*P **P 03 23 44.1 +0.9**
VORR pmax pmax
comp=Z,30nm,1.4s
A051A Mrakovica 85.71 333 *e*P **P 03 23 41.8 -1.9**
RIB01 Linhares ES 85.76 250 *e*P **P 03 23 48.0 +3.3**
MORH Mrgy, Hungar 86.08 334 ⇑P **P 03 23 45.7 +0.3**
BVAR Borovoye Array 86.34 8 P **P 03 23 45.8 -0.7**
comp=Z,7.0nm,0.8s,baz=178,slow=5.7,SNR=28
BVAR LR LR 03 57 02.0
comp=Z,138nm,21.9s,baz=191,slow=32
comp=Z,7.0nm,0.8s
BRVK Borovoye 86.36 8 P **P 03 23 46.4 -0.2**
BRVK IAmb IAmb 03 23 52.8
comp=Z,31nm,1.1s
BRVK Borovoye 86.36 8 P **P 03 23 46.4 -0.2**
BRVK P **P 03 23 46.4 -0.2**
BRVK Borovoye 86.36 8 *ce*P **P 03 23 46.5 -0.2**
BRVK pmax pmax
comp=Z,42nm,1.2s
LUBAR Lubar, Ukraine 86.47 341 P **P 03 23 49.4 +2.2**
LPSR Galich'ya Gora 86.61 349 *e*P **P 03 23 49.5 +1.7**
LPSR pmax pmax
comp=Z,36nm,1.5s
AK05 Malin Array Si 86.74 343 P **P 03 23 49.4 +0.9**
BOJS Bojanci 86.77 332 *e*P **P 03 23 49.0 +0.2**
AK14 Malin Array Si 86.77 343 P **P 03 23 49.2 +0.5**
AK11 Malin Array Si 86.80 343 P **P 03 23 49.9 +1.1**
KIEV Kiev 86.81 343 P **P 03 23 50.2 +1.4**
KIEV IAmb IAmb 03 23 54.9
comp=Z,61nm,1.9s
KIEV Kiev 86.81 343 ⇓P **P 03 23 49.0 +0.1**
KIEV Kiev 86.81 343 P **P 03 23 50.2 +1.4**
KIEV pmax pmax
comp=Z,61nm,1.9s
KIEV Kiev 86.81 343 P **P 03 23 50.9 +2.1**
comp=Z,47nm,1.1s
AKASG Malin Array Be 86.81 343 P **P 03 23 47.3 -1.5**
comp=Z,2.5nm,0.6s,baz=174,slow=4.6,SNR=19
comp=Z,2.5nm,0.6s
AKASG Malin Array Be 86.81 343 *ce*P **P 03 23 49.4 +0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 86.81 343 IAmb IAmb 03 23 54.9
comp=Z,68nm,1.9s
AKBB Malin Array Si 86.81 343 *ce*P **P 03 23 51.3 +2.5**
AKBB pmax pmax
comp=Z,33nm,1.9s
AKBB Malin Array Si 86.81 343 P **P 03 23 50.8 +2.0**
AK16 Malin Array Si 86.81 343 P **P 03 23 50.2 +1.4**
AK04 Malin Array Si 86.84 343 P **P 03 23 49.8 +0.8**
AK20 Malin Array Si 86.90 343 P **P 03 23 50.4 +1.1**
CRES Cresnjevec Ost 86.96 332 *e*P **P 03 23 50.1 +0.4**
NJ2 Nanjing 86.97 49 *e*P **P 03 23 51.2 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.8s
TIY Taiyuan 87.11 41 *e*P **P 03 23 54.3 +3.5**
TIY S **S 03 34 31.0 +0.9**
TIY SS **SS 03 40 11.6 -2.7**
TIY pmax pmax
comp=Z,17nm,1.0s
TIY pmax pmax
comp=Z,150nm,3.9s
TIY LR LR
comp=Z,210nm,14.4s
TIY LR LR

comp=Z,140nm,14.4s
TIY LR LR
comp=Z,180nm,17.2s
CEY Cerknica 87.29 332 *e*P **P 03 23 53.3 +1.9**
SKDS Skadanscina 87.30 331 *e*P **P 03 23 52.4 +1.0**
MI28 Mi28,Pidlybu 87.42 342 P **P 03 23 53.3 +1.5**
comp=Z,161nm,1.1s
MDT Midelt 87.47 312 LR LR 04 04 57.6
comp=Z,911nm,18.3s,baz=149,slow=37
SABO M.te Sabotino 87.82 331 IAmb IAmb 03 24 13.3
comp=Z,19nm,0.9s
SOKA Soboth 87.83 332 *e*P **P 03 23 55.8 +1.8**
comp=Z,14nm,1.5s,SNR=9.4
OBKA Obir 87.88 332 *i* P **P 03 23 53.7 -0.6**
comp=Z,30nm,1.7s
OBKA Obir 87.88 332 *e*P **P 03 23 51.9 -2.4**
CNLB Canela 87.90 236 *e*P **P 03 23 58.5 +3.5**
STHS Stebnicka Huta 87.94 337 *e*P P 03 24 01.0 +6.6
STHS Stebnicka Huta 87.94 337 *e*P P 03 24 01.0 +6.6
BTO Baotou 87.94 37 *e*P **P 03 23 57.0 +2.2**
BTO pP **pwP 03 24 01.9 -1.1**
BTO sP **sP 03 24 04.2 +7.1**
BTO PP **PP 03 27 26.7 +5.2**
BTO S **S 03 34 38.7 +0.7**
BTO sS **ScS 03 34 48.2 +3.8**
BTO SS **SS 03 40 31.0 +4.5**
BTO pmax pmax
comp=Z,35nm,1.2s
BTO pmax pmax
comp=Z,300nm,5.3s
BTO LR LR
comp=Z,720nm,20.8s
BTO LR LR
comp=Z,730nm,16.3s
BTO LR LR
comp=Z,870nm,21.5s
VYHS Vyhne 87.95 336 *e*P **P 03 23 57.9 +3.4**
VYHS Vyhne 87.95 336 *e*P **P 03 23 57.9 +3.4**
ARSA Arzberg 88.11 333 *e*pP pP 03 24 00.5 +3.4
comp=Z,12nm,1.5s
HNS HongShan 88.16 42 ⇓P **P 03 23 54.8 -0.9**
HNS S **S 03 34 39.6 -0.3**
HNS pmax pmax
comp=Z,33nm,1.3s
HNS LR LR
comp=Z,520nm,22.7s
HNS LR LR
comp=Z,390nm,19.9s
HNS LR LR
comp=Z,570nm,21.4s
RONA Rosalia, Austr 88.19 334 *e*P **P 03 23 55.8 +0.1**
comp=Z,23nm,1.8s
BSCB Bom Sucesso 88.25 246 *e*P **P 03 23 58.5 +1.7**
NIE Niedzica 88.25 337 *e*P **P 03 23 55.1 -0.8**
RNPP2 Kostyukhnivka 88.25 341 P **P 03 23 56.2 +0.4**
LANS Liptovska Anna 88.30 336 *e*P **P 03 23 58.8 +2.7**
LANS pmax pmax
comp=Z,14nm,1.6s
LANS Liptovska Anna 88.30 336 *e*P **P 03 23 58.8 +2.7**
PLTB Pedras Altas 88.30 233 *e*P **P 03 24 00.1 +3.3**
RNPP1 Kostyukhnivka 88.31 341 P **P 03 23 56.0 0.0**
MYKA Terra Mystica 88.33 332 *i* pP pP 03 24 01.2 +2.9
comp=Z,7.0nm,1.1s
MODS Modra-Piesok 88.40 335 *e*P **P 03 23 59.8 +3.2**
MODS pmax pmax
comp=Z,45nm,1.5s
MODS Modra-Piesok 88.40 335 *e*P **P 03 23 59.8 +3.2**
CONA Conrad Observa 88.55 334 *e*P **P 03 23 58.8 +1.4**
comp=Z,30nm,1.9s
JAVC Velka Javorina 88.67 335 *e*P **P 03 23 57.7 -0.2**
CTI Castel Tesino 88.68 330 IAmb IAmb 03 24 11.5
comp=Z,15nm,0.8s
TIA Tai'an 88.73 44 P **P 03 23 57.5 -1.0**
TIA pmax pmax
comp=Z,9.0nm,0.7s
TIA pmax pmax
comp=Z,240nm,3.7s
KBA Koelnbreinsper 88.82 332 *i* P **P 03 23 58.4 -0.4**
comp=Z,14nm,1.5s
ABTA Abfaltersbach 88.89 331 *i* P **P 03 23 59.3 +0.3**
comp=Z,37nm,1.7s,SNR=8.7
HHC Hu-ho-hao-te 88.92 38⇑*i*P **P 03 23 59.3 -0.1**
HHC pP sP 03 24 02.7 +1.0
HHC S **S 03 34 45.5 -1.8**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,140nm,4.1s
HHC LR LR
comp=Z,270nm,14.3s
HHC LR LR
comp=Z,130nm,14.3s
HHC LR LR
comp=Z,360nm,18.5s
ARTI Arti 88.94 1 P **P 03 23 58.2 -0.7**
ARTI IAmb IAmb 03 24 11.0
comp=Z,25nm,1.1s
ARTI Arti 88.94 1 LR LR 04 02 11.2
comp=Z,151nm,20.5s,baz=189,slow=34
ARTI Arti 88.94 1*c i*P **P 03 23 58.6 -0.3**
ARTI S **SKSac 03 34 27.6 -0.4**
ARTI pmax pmax
comp=Z,15nm,1.4s
CPSB Cacapava Do Su 89.02 234 *e*P **P 03 24 03.0 +2.7**
MOA Molln 89.09 333 *e*PcP **PcP 03 24 03.4 +2.1**
comp=Z,19nm,1.5s
OJC Ojcow 89.11 337 *e*P **P 03 23 59.7 -0.2**
OJC Ojcow 89.11 337 IAmb IAmb 03 24 06.3
comp=Z,33nm,1.4s
BIOA Bad Ischl, Aus 89.20 332 *e*PcP **PcP 03 24 03.7 +1.8**
comp=Z,20nm,1.4s,SNR=6.9
KRUC Moravsky 89.30 335 *e*P **P 03 23 59.3 -1.5**
TOZ Tahuroa Road 89.30 136 IAms_20 IAms_20 03 54 33.9
comp=Z,739nm,22.0s
LESA Schwarzleotal 89.36 332 *e*P **P 03 24 00.5 -0.7**
comp=Z,21nm,0.9s
RCBR Riachuelo 89.40 264 IAms_20 IAms_20 03 58 42.2
comp=Z,533nm,19.0s
RCBR Riachuelo 89.40 264 LR LR 03 59 11.7
comp=Z,169nm,18.0s,baz=98,slow=32
OBN Obninsk 89.42 348 LR LR 04 05 14.3
comp=Z,117nm,18.1s,baz=166,slow=36
OBN Obninsk 89.42 348⇓*e*P **P 03 24 04.5 +3.4**
OBN *e* 03 27 35.4
OBN *e*PPP PPP 03 29 28.2
OBN *i* S **S 03 34 49.5 -1.4**
OBN pmax pmax
comp=Z,51nm,1.7s
OBN MLR MLR
comp=Z,119nm,15.0s
SVE Sverdlovsk 89.42 2 *e*P **P 03 24 03.5 +2.4**
SVE pmax pmax
comp=Z,18nm,1.1s
VRAC Vranov 89.43 335 LR LR 04 04 53.3
comp=Z,76nm,19.7s,baz=172,slow=36
VRAC Vranov 89.43 335 *e*P **P 03 24 00.7 -0.7**
MORC Moravsky Berou 89.49 336 IAmb IAmb 03 24 07.7
comp=Z,26nm,1.5s
MORC Moravsky Berou 89.49 336 *e*P **P 03 24 00.6 -1.1**
MORC Moravsky Berou 89.49 336 P P 03 24 07.4 +5.7
MORC pmax pmax
comp=Z,13nm,1.6s
STEB Steborice 89.55 336 *e*P **P 03 24 06.2 +4.3**
STEB *ex* x 03 24 12.7
RTZ Ruatahuna 89.56 137 IAms_20 IAms_20 03 53 41.6
comp=Z,945nm,21.0s
WTTA Wattenberg 89.66 331 *e*P **P 03 24 02.4 -0.3**
comp=Z,33nm,1.9s
WATA Walderalm 89.74 331 *e*P **P 03 24 04.4 +1.4**
comp=Z,13nm,1.0s,SNR=5.3
ZALV Zalesovo Beam 89.75 16 P **P 03 24 00.9 -1.9**
ZALV Zalesovo Beam 89.75 16 P **P 03 24 00.8 -2.0**
comp=Z,0.9nm,0.7s,baz=186,slow=4.5,SNR=8.7
ZALV LR LR 04 01 04.1
comp=Z,241nm,20.6s,baz=218,slow=34
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 89.75 16 *i* P **P 03 24 04.0 +1.2**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
SQTA Sankt Quirin 89.80 331 *e*P **P 03 24 05.5 +2.1**
comp=Z,18nm,1.2s
TREC Trest 89.82 334 *e*P **P 03 24 04.9 +1.6**
TREC *ex* x 03 24 11.6
TREC Trest 89.82 334 *e*P **P 03 24 04.9 +1.6**
TREC *e* 03 24 11.6

FETA Feichten 89.84 330 *e*PcP **PcP 03 24 06.2 +1.4**
comp=Z,13nm,1.2s
MOS Moscow 89.84 349 *e*P **P 03 24 07.4 +4.3**
MOS *e* 03 27 43.5
MOS pmax pmax
comp=Z,25nm,0.6s
URZ Urewera 89.87 137 LR LR 03 56 17.6
comp=Z,468nm,21.5s,baz=288,slow=30
TBOT Tacuaremb 89.90 232 *e*P **P 03 24 06.6 +2.3**
MOTA Moosalm 89.94 331 *e*P **P 03 24 05.7 +1.6**
comp=Z,15nm,1.2s
JOW Kunigami 90.00 58 LR LR 03 58 07.2
comp=Z,193nm,19.6s,baz=150,slow=31
DAVOX Davos/Dischmat 90.00 330 LR LR 04 05 02.6
comp=Z,137nm,21.8s,baz=150,slow=36
ITAB Concordia 90.05 237 P **P 03 24 08.3 +3.2**
ITAB IAmb IAmb 03 24 11.7
comp=Z,32nm,1.5s
ITAB Concordia 90.05 237 *e*P **P 03 24 08.2 +3.2**
GERES GERESS Array B 90.12 333 P **P 03 24 05.8 +1.0**
GERES GERESS Array B 90.12 333 P **P 03 24 04.3 -0.5**
comp=Z,1.0nm,0.7s,baz=342,slow=0.4,SNR=3.9
GERES LR LR 04 06 18.7
comp=Z,96nm,19.9s,baz=168,slow=37
comp=Z,1.0nm,0.7s
GERES GERESS Array B 90.12 333 P **P 03 24 05.8 +1.0**
RETA Reutte 90.19 331 *e*pP pP 03 24 09.3 +2.3
comp=Z,11nm,0.8s
KHC Kasperske Hory 90.40 333 *e*P **P 03 24 07.5 +1.5**
KHC *ex* x 03 24 17.3
KHC *ex* x 03 24 24.7
KHC Kasperske Hory 90.40 333⇓*e*P **P 03 24 08.6 +2.6**
KHC pmax pmax
comp=Z,29nm,1.6s
DPC Dobruska-Polom 90.40 335 *e*P **P 03 24 08.5 +2.5**
DPC Dobruska-Polom 90.40 335 *e*P **P 03 24 08.5 +2.5**
DAVA Damuels 90.40 330 *e*P **P 03 24 04.6 -1.7**
comp=Z,11nm,1.0s
ZVC Zvikov 90.42 334 *e*P **P 03 24 10.3 +4.3**
ZVC *ex* x 03 24 18.0
OSTC Ostas 90.61 335 *e*P P 03 24 11.8 +4.9
OSTC Ostas 90.61 335 *e*P P 03 24 11.8 +4.9
MNK Minsk 90.62 343 *i* P **P 03 24 06.3 -0.5**
MNK *i* 03 27 41.2
MNK *i* PPP PPP 03 29 38.8
MNK *i* S **SKSac 03 34 37.5 -0.4**
MNK *i* PS **PS 03 36 08.8 -2.1**
MNK *i* SS **SS 03 41 05.3 +0.7**
MNK *i* SSS SSS 03 44 42.2
MNK pmax pmax
comp=N,14nm,1.0s
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=E,618nm,19.0s
MNK MLR MLR
comp=N,667nm,21.0s
MNK MLR MLR
comp=Z,150nm,16.0s
BJT Baijiatuan 90.80 41 IAms_20 IAms_20 04 01 03.8
comp=Z,519nm,22.0s
KSP Ksiaz 90.82 336 *e*P **P 03 24 09.3 +1.4**
PMNB Patos De Minas 90.93 247 *e*P **P 03 24 13.0 +3.6**
JANB Januaria 91.23 251 *e*P **P 03 24 14.1 +3.2**
KIRV Kirov 91.36 356 LR LR 04 06 44.6
comp=Z,129nm,18.6s,baz=178,slow=37
KIRV Kirov 91.36 356⇑*e*P **P 03 24 13.3 +3.2**
PTGB Pitanga 91.52 239 *e*P **P 03 24 14.8 +2.7**
LDASE Londrina, Braz 91.63 241 *e*P **P 03 24 17.1 +4.6**
BRG Berggiesshubel 91.69 334 *e*P **P 03 24 16.0 +4.1**
BRG Amp 03 24 19.3
comp=Z,4.2nm,0.9s
SONM Songino Array 91.70 31 P **P 03 24 12.3 +0.1**
SONM Songino Array 91.70 31 P **P 03 24 10.4 -1.8**
comp=Z,2.3nm,1.0s,baz=212,slow=4.5,SNR=15
SONM LR LR 04 03 46.4
comp=Z,328nm,19.4s,baz=204,slow=34
comp=Z,2.3nm,1.0s
SONM Songino Array 91.70 31 P **P 03 24 12.3 +0.1**
SONM pmax pmax
comp=Z,15nm,1.5s
ESDC Sonseca Array 91.70 317 P **P 03 24 12.0 -0.3**
ESDC IAmb IAmb 03 24 26.8
comp=Z,15nm,1.1s
ESDC Sonseca Array 91.70 317 P **P 03 24 11.0 -1.3**
comp=Z,1.6nm,1.0s,baz=137,slow=3.7,SNR=7.8
ESDC PP **PP 03 27 51.9 +0.5**
comp=Z,2.7nm,1.2s,baz=134,slow=6.6,SNR=4.6
ESDC LR LR 04 06 17.7
comp=Z,397nm,19.1s,baz=132,slow=36
comp=Z,1.6nm,1.0s
GRF Grafenberg Arr 91.76 332 *e*P **P 03 24 11.8 -0.5**
comp=Z,20nm,1.4s,baz=137,slow=5.5
GRF *e*L L 04 03 25.7
comp=Z,230nm,20.5s
KRVT Keravat (AS076 91.81 96 LR LR 04 01 17.4
comp=Z,157nm,20.0s,baz=5.1,slow=33
ULN Ulaanbaatar 92.01 31 P **P 03 24 12.0 -1.6**
ULN IAmb IAmb 03 24 28.5
comp=Z,23nm,1.7s
ULN Ulaanbaatar 92.01 31 P **P 03 24 12.0 -1.6**
ULN pmax pmax
comp=Z,23nm,1.7s
PLCA Paso Flores 92.25 217 LR LR 03 58 17.2
comp=Z,237nm,21.5s,baz=134,slow=31
MOX Moxa 92.37 333 *e*L L 04 14 45.3
comp=Z,311nm,18.5s
CLL Collm 92.39 334 *e*P **P 03 24 18.0 +2.9**
CLL pmax pmax
comp=Z,45nm,2.0s
CLL Collm 92.39 334 P **P 03 24 15.1 0.0**
IPMB Ipameri, GO 92.62 247 *e*P **P 03 24 20.6 +3.3**
DL2 Dalian 93.19 45 P **P 03 24 16.7 -2.4**
DL2 pmax pmax
comp=Z,26nm,0.8s
SDBA SAO DESIDERIO 93.19 253 *e*P **P 03 24 23.6 +3.7**
DZM Mont Dzumac 93.23 119 LR LR 04 01 55.0
comp=Z,168nm,18.5s,baz=238,slow=33
XLT XiLinHaoTe 93.44 38 *e*P **P 03 24 22.0 +1.7**
XLT pP pwP 03 24 27.4 -1.1
XLT sP sP 03 24 30.7 +8.1
XLT pmax pmax
comp=Z,11nm,1.4s
BDFB Brasilia 93.83 249 P **P 03 24 23.4 +0.5**
comp=Z,3.4nm,1.0s,baz=118,slow=5.0,SNR=3.7
BDFB LR LR 03 58 12.9
comp=Z,336nm,21.6s,baz=141,slow=30
comp=Z,3.4nm,1.0s
CPUP Villa Florida 94.24 235 P **P 03 24 27.3 +2.8**
CPUP Villa Florida 94.24 235 P **P 03 24 23.6 -0.8**
comp=Z,2.1nm,0.7s,baz=122,slow=4.3,SNR=6.6
CPUP LR LR 03 59 54.8
comp=Z,226nm,20.4s,baz=138,slow=31
comp=Z,2.1nm,0.7s
CPUP Villa Florida 94.24 235 P **P 03 24 27.3 +2.8**
CPUP pmax pmax
comp=Z,7.0nm,1.3s
KLMR Klimovskoe 94.52 351 *e*P **P 03 24 25.2 +0.5**
KLMR *e* 03 28 12.3
KLMR pmax pmax
comp=Z,21nm,1.6s
HNR Honiara 95.53 105 LR LR 04 04 54.5
comp=Z,165nm,18.7s,baz=223,slow=34
JNU Nakatsue 95.54 54 LR LR 04 04 20.3
comp=Z,125nm,20.1s,baz=238,slow=34
KSRS Korea Array 96.16 49 P **P 03 24 31.7 -1.0**
comp=Z,1.4nm,0.6s,baz=250,slow=6.5,SNR=4.9
KSRS LR LR 04 04 27.9
comp=Z,174nm,22.0s,baz=240,slow=33
comp=Z,1.4nm,0.6s
FINES FINESS Array B 97.33 346 LR LR 04 09 23.2
comp=Z,120nm,19.1s,baz=165,slow=36
CN2 Changchun 98.51 43 *e*P Pdif 03 24 45.9 +2.7
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 98.92 36 IAms_20 IAms_20 04 07 10.5
comp=Z,444nm,21.0s
HFS Hagfors 99.33 340 LR LR 04 09 04.5
comp=Z,121nm,19.6s,baz=142,slow=35
PATS Pohnpei 103.07 90 IAms_20 IAms_20 04 12 50.4
comp=Z,528nm,20.0s
YAK Yakutsk 110.97 29 IAms_20 IAms_20 04 11 42.7
comp=Z,315nm,22.0s
TIXI Tiksi 115.42 19 IAms_20 IAms_20 04 16 37.8

comp=Z,447nm,20.0s
SEY Seymchan 121.06 32 *i* PKIKP **PKPdf 03 29 55.7 -1.1**
SEY pmax pmax
comp=Z,3.0nm,0.9s
PETK Petropavlovsk- 121.63 44 PKP **PKPdf 03 29 55.2 -2.9**
comp=Z,6.7nm,1.0s,baz=353,slow=7.5,SNR=3.6
SDV Santo Domingo 126.29 256 IAms_20 IAms_20 04 18 45.8
comp=Z,314nm,20.0s
BILL Bilibino 127.21 26⇓*i*PKIKP **PKiKP 03 30 10.9 +1.9**
SOCE Pocosol 138.30 246 **PKPdf 03 30 27.4 -3.6**
M16K Timber Creek 143.44 29 P PKPbc 03 30 36.4 +0.4
baz=304
G26K Porcupine Rive 143.74 14 P PKPbc 03 30 37.9 +1.2
baz=330
H24K Noodor Dome 143.76 17 P **PKPdf 03 30 38.6 -0.6**
baz=323
K20K Telida 143.80 23 P PKPbc 03 30 38.2 +1.1
baz=312
F28M Old Crow 143.85 11 P PKPbc 03 30 37.0 -0.1
baz=335
I23K Minto, Yukon-K 143.92 19 P PKPbc 03 30 37.3 +0.1
baz=320
CHUM Lake Minchumin 144.00 22 P PKPbc 03 30 37.9 +0.3
baz=315,SNR=17
INK Inuvik 144.02 7 P PKPbc 03 30 37.4 0.0
baz=345,SNR=9.8
T57A Hurt 144.23 289 **PKPab 03 30 38.5 -0.3**
BPAW Bear Paw Mtn. 144.25 21 P **PKPab 03 30 38.0 0.0**
baz=317,SNR=12
G27K Doyon Strip 144.27 13 P **PKPab 03 30 38.4 +0.3**
baz=332
L19K White Mountain 144.31 25 P **PKPab 03 30 38.4 +0.1**
baz=310
M18K Stony River 144.39 27 P PKPbc 03 30 38.9 0.0
baz=308
CAST Castle Rocks 144.41 22 P **PKPab 03 30 38.3 -0.3**
baz=315,SNR=11
NEA2 Nenana 144.43 19 P **PKPab 03 30 38.7 0.0**
baz=320
F30M Barrier River 144.44 8 P **PKPab 03 30 38.5 0.0**
baz=341,SNR=17
POKR Poker Plat Res 144.44 18 P PKPbc 03 30 39.0 0.0
baz=323
L20K Farewell, AK 144.46 24 P **PKPab 03 30 39.0 +0.1**
baz=312
W57A Gilead 144.58 286 IAms_20 IAms_20 04 39 01.6
comp=Z,376nm,19.0s
PRP Porcupine Dome 144.58 16 P PKPbc 03 30 39.8 +0.3
baz=326
O16K Kokwok River B 144.59 30 P **PKPab 03 30 39.5 +0.1**
baz=303
M19K Big River Lodg 144.66 25 P PKPbc 03 30 40.2 +0.4
baz=311
PPLA Purkeypile 144.74 23 P **PKPab 03 30 39.9 -0.2**
baz=314
G29M Pine Creek 144.79 10 P **PKPab 03 30 39.1 -0.8**
baz=338
H27K Steamboat Moun 144.81 13 P **PKPab 03 30 39.4 -0.7**
baz=332
F31M Tsiigehtchic 144.83 7 P **PKPab 03 30 39.3 -0.7**
baz=344,SNR=36
ILAR Eielson Array 144.86 18 PKPdf **PKPab 03 30 38.6 -1.6**
ILAR Eielson Array 144.86 18 PKP **PKPab 03 30 38.5 -1.8**
comp=Z,4.8nm,0.7s,baz=312,slow=3.7,SNR=60
ILAR Eielson Array 144.86 18 PKIKP **PKPab 03 30 38.6 -1.6**
N18K Kilae Creek 144.87 28 P **PKPab 03 30 40.0 -0.4**
baz=307
O17K Koliganek Bris 144.91 30 P **PKPab 03 30 39.8 -0.7**
baz=305
TRF Thorofare Moun 144.94 21 P **PKPab 03 30 39.9 -0.8**
baz=318,SNR=16
G30M tAoh Zraii Nji 144.98 9 P **PKPab 03 30 40.4 -0.3**
baz=340,SNR=14
M20K Styx River 145.12 25 P **PKPbc 03 30 40.3 -1.0**
baz=312
MCK McKinley 145.13 20 P **PKPbc 03 30 40.0 -1.2**
baz=320,SNR=20
HDA Harding Lake 145.14 18 P **PKPbc 03 30 39.7 -1.5**
baz=323,SNR=13
BLA Blacksburg 145.18 289 **PKPbc 03 30 41.5 -0.8**
BLA Blacksburg 145.18 289 PKP2 **PKPbc 03 30 41.5 -0.8**
G31M Satah River 145.28 8 P **PKPbc 03 30 40.8 -0.8**
baz=343
I26K Coal Creek Min 145.29 15 P **PKPbc 03 30 41.1 -0.5**
baz=329
N19K Bonanza Creek 145.32 27 P **PKPbc 03 30 41.2 -0.8**
baz=309
I27K Kandik River 145.35 14 P **PKPbc 03 30 41.3 -0.6**
baz=332
J25K Salcha River, 145.37 17 P **PKPbc 03 30 41.1 -1.0**
baz=326
H29M Whitestone 145.38 11 P **PKPbc 03 30 41.1 -0.8**
baz=337
EPYK Eagle Plains 145.49 10 P **PKPbc 03 30 42.2 -0.1**
baz=339,SNR=14
P17K Kvichak River 145.52 30 P **PKPdf 03 30 42.2 -0.2**
baz=305
S14K Fog Glacier 145.59 36 P **PKPab 03 30 43.9 +0.6**
baz=297
SKT Skwentna 145.60 24 P **PKPdf 03 30 42.4 -0.1**
baz=314
O18K Koktuh Hills 145.64 29 P **PKPdf 03 30 42.8 +0.1**
baz=307
CUT Chulitna 145.71 22 P **PKPdf 03 30 42.4 -0.2**
baz=317
Q16K King Salmon 145.72 31 P **PKPdf 03 30 42.3 -0.4**
baz=304
O19K Port Alsworth 145.78 28 P **PKPdf 03 30 42.9 +0.1**
baz=309
I28M Miner Creek 145.81 13 P **PKPdf 03 30 42.9 0.0**
baz=334
J26L Joseph Creek 145.89 16 P **PKPdf 03 30 43.5 +0.5**
baz=328
P18K Big Mountain, 145.91 29 P **PKPdf 03 30 43.1 0.0**
baz=307
SPCR Spurr Chakacha 145.91 25 P **PKPdf 03 30 43.0 -0.2**
baz=313
K24K Donnelly Dome 145.93 18 P **PKPdf 03 30 42.9 -0.2**
baz=324,SNR=8.0
EGAK Eagle 146.17 14 **PKPab 03 30 45.0 -0.1**
EGAK Eagle 146.17 14 P **PKPdf 03 30 44.0 +0.6**
baz=332
I29M Ogilvie Camp, 146.18 12 P **PKPbc 03 30 44.2 -0.3**
baz=336,SNR=17
RIDG Independent Ri 146.22 17 P **PKPdf 03 30 43.7 +0.1**
baz=326
SUA Susitna One 146.23 24 P **PKPdf 03 30 44.4 +0.7**
baz=315
M22K Willow 146.24 23 P **PKPdf 03 30 44.1 +0.6**
baz=316
SCRK Sand Creek 146.24 17 P **PKPdf 03 30 44.1 +0.4**
baz=327,SNR=18
Q17K Contact Creek 146.28 31 P **PKPdf 03 30 44.5 +0.6**
baz=304
H31M Peel River 146.34 8 P **PKPbc 03 30 44.9 0.0**
baz=342
I30M Mount Dempster 146.61 10 P **PKPbc 03 30 45.4 -0.5**
baz=339
PMR Palmer 146.68 23 **PKPbc 03 30 45.4 -0.6**
PMR Palmer 146.68 23 P **PKPbc 03 30 45.5 -0.4**
baz=317
PMR Palmer 146.68 23 PKP2 **PKPbc 03 30 45.4 -0.6**
PAX Paxson 146.69 19 P **PKPbc 03 30 45.7 -0.5**
baz=324,SNR=14
SML Sawmill 146.77 22 P **PKPbc 03 30 45.9 -0.4**
baz=319
RC01 Rabbit Creek A 146.84 24 P **PKPbc 03 30 46.2 -0.2**
baz=316
M23K Glacier View 146.97 21 P **PKPbc 03 30 46.9 +0.1**
baz=320
J29N Klondike Camp 147.03 12 P **PKPbc 03 30 47.9 +0.9**
baz=336,SNR=7.1
KNK Knik Glacier 147.03 22 P **PKPbc 03 30 47.5 +0.4**
baz=318
SCM Sheep Creek Mo 147.06 21 P **PKPbc 03 30 47.7 +0.6**
baz=320
DAWY Dawson 147.16 13 P **PKPbc 03 30 48.0 +0.6**
baz=334,SNR=9.6
M24K Tolsona, Glenn 147.19 20 P **PKPab 03 30 48.7 -0.5**
baz=322
J30M Hart River 147.23 11 P **PKPbc 03 30 47.5 -0.1**
baz=339
HARP HAARP 147.24 19 P **PKPbc 03 30 48.1 +0.5**
baz=324
BRSE Bradley Lake S 147.44 26 P **PKPbc 03 30 48.6 +0.4**
baz=313
PWL Port Wells 147.48 23 P **PKPbc 03 30 48.2 -0.1**
baz=318

L27K	Beaver Creek, baz=329	147.53	16	P		PKPbc	03 30 49.1	+0.7
Q20K	Shuyak Island baz=310	147.55	29	P		PKPbc	03 30 49.5	+1.0
SEW	Seward baz=315	147.65	25	P		PKPbc	03 30 48.8	+0.1
K29M	Barlow Dome baz=337	147.71	12	P		PKPbc	03 30 49.6	+0.6
FCC	Fort Churchill	147.73	332			PKPdf	03 30 47.1	+1.0
FCC	Fort Churchill	147.73	332		PKIKP	PKPdf	03 30 47.1	+1.0
CHIR	Chirikof Islan baz=302	147.74	35	P		PKPbc	03 30 49.7	+0.6
KLU	Klutina baz=322	147.75	21	P		PKPbc	03 30 49.7	+0.6
M26K	Nabesna, AK baz=327	147.81	17	P		PKPbc	03 30 49.6	+0.4
GLI	Glacier Island baz=320	147.87	22	P		PKPbc	03 30 49.6	+0.3
352A	Blakely	147.96	278			PKPdf	03 30 49.3	+1.9
KDAK	Kodiak Island baz=308	147.99	30	P		PKPbc	03 30 49.6	-0.1
OHAK	Old Harbor baz=307	148.03	31	P		PKPbc	03 30 50.6	+0.8
N25K	Chitina, Valde baz=324	148.04	20	P		PKPbc	03 30 50.7	+0.8
M27K	Edge Creek, AK baz=329	148.12	17	P		PKPbc	03 30 49.4	-0.8
MAYO	Mayo, Yukon baz=339	148.21	11	P		PKiKP	03 30 51.9	0.0
L29M	L29M baz=335	148.27	13	P		PKPbc	03 30 50.4	0.0
BVCY	Beaver Creek baz=330	148.31	16	P		PKPbc	03 30 51.3	+0.7
P23K	Montague Islan baz=318	148.43	23	P		PKiKP	03 30 52.0	-0.4
EYAK	Cordova Ski Ar baz=321	148.54	22	P		PKiKP	03 30 52.2	-0.4
BMRM	Bremner River baz=323	148.55	20	P		PKPbc	03 30 52.1	+0.9
M29M	Somme Creek baz=334	148.81	14	P		PKPbc	03 30 52.7	+0.8
YUK3	Moose Creek baz=330	148.96	16	P		PKPbc	03 30 52.1	-0.4
O48B	Farmland baz=88	149.00	295	P		PKPbc	03 30 53.0	0.0
M30M	Minto, Yukon baz=337	149.01	12	P		PKiKP	03 30 53.5	-0.1
250A	Grady	149.18	278			PKPbc	03 30 52.6	-1.0
YUK8	Steele Glacier baz=331	149.56	16	P		PKPbc	03 30 54.6	+0.6
WRGLY	Wrigley baz=359	149.65	1	P		PKPbc	03 30 53.9	+0.2
YUK4	Talbot Arm baz=333	149.76	15	P		PKPbc	03 30 54.0	-0.4
M31M	Drury Creek, Y baz=340	149.76	11	P		PKPbc	03 30 53.9	-0.3
FARO	Faro, Yukon baz=342	149.89	10	P		PKPbc	03 30 54.9	+0.4
YKA	Yellowknife Ar comp=Z,3.6nm,1.0s,baz=359,slow=1.5,SNR=4.8	149.92	352	PKP		PKPdf	03 30 49.3	-0.3
YKA	comp=Z,3.8nm,1.0s,baz=349,slow=2.0,SNR=18			PKPbc		sPKPdf	03 30 53.4	+1.2
N30M	Aishikik Lake baz=336	149.98	14	P		PKPbc	03 30 55.4	+0.6
LRAL	Lakeview Retre	149.98	280			PKPbc	03 30 55.1	-0.4
N31M	Braeburn, Yuko baz=338	150.20	12	P		PKPbc	03 30 54.8	-0.4
CMIG	Matias Romero comp=Z,7.9nm,0.8s,baz=82,slow=2.0,SNR=14	150.26	245	PKPbc		PKPbc	03 30 55.2	-1.5
HYT	Haines Junctio baz=334	150.47	15	P		PKPbc	03 30 56.3	+0.2
PINM	Pinnacle baz=329	150.47	18	P		PKPbc	03 30 56.0	0.0
O30N	Mendenhall baz=337	150.81	13	P		PKPbc	03 30 57.0	+0.3
N32M	Quiet Lake baz=342	150.96	10	P		PKPbc	03 30 57.3	+0.3
WVT	Waverly	151.03	286			PKPbc	03 30 56.1	-1.8
WVT	Waverly	151.03	286	PKIKP		PKPbc	03 30 56.1	-1.8
WHY	Whitehorse baz=339	151.13	12	P		PKiKP	03 30 59.1	+1.0
P30M	Million Dollar baz=335	151.22	15	P		PKPbc	03 30 58.0	+0.2
P33M	Teslin, Yukon baz=342	151.90	11	P		PKiKP	03 31 00.0	+0.3
PLBC	Pleasant Camp baz=335	151.95	15	P		PKiKP	03 31 00.2	+0.5
SKAG	Skagway baz=337	152.16	14	P		PKiKP	03 31 00.6	+0.5
P32M	Atlin baz=340	152.34	12	P		PKPbc	03 31 00.4	+0.2
WTLY	Watson Lake, Y baz=349	152.50	6	P		PKPbc	03 31 00.8	+0.2
R33M	Jennings River baz=345	152.95	9	P		PKPbc	03 31 01.7	-0.1
Q32M	Nakina River baz=342	153.18	11	P		PKPbc	03 31 01.1	-1.3
ULM	Lac du Bonnet comp=Z,6.4nm,1.1s,baz=136,slow=4.8,SNR=3.7	153.59	319	PKPbc		PKPbc	03 31 02.8	-0.5
FFC	Flin Flon	153.66	332			PKPbc	03 31 01.8	-1.5
FFC	Flin Flon	153.66	332	PKIKP		PKPbc	03 31 01.8	-1.5
CCM	Cathedral Cave	153.80	290			PKPbc	03 31 03.0	-1.1
CCM	Cathedral Cave	153.80	290	PKIKP		PKPbc	03 31 03.0	-1.1
TXAR	Lajitas Array comp=Z,1.6nm,1.0s,baz=5.7,slow=2.5,SNR=5.2	163.16	263	PKP		PKPdf	03 31 07.2	-0.7
TXAR	comp=Z,1.2nm,0.8s,baz=82,slow=2.3,SNR=2.7			PKPab		PKPab	03 31 59.2	+1.1
NEW	Newport comp=Z,2.1nm,0.8s,baz=11,slow=2.1,SNR=6.0	164.04	346	PKP		PKPdf	03 31 07.8	-0.2
NEW	comp=Z,3.9nm,0.9s,baz=358,slow=3.4,SNR=5.0			PKPab		PKPab	03 32 00.9	-0.2
PDAR	Pinedale Array comp=Z,0.7nm,0.9s,baz=243,slow=1.0,SNR=5.4	165.59	317	PKP		PKPdf	03 31 09.4	-0.4
ANMO	Albuquerque comp=Z,1.3nm,0.9s,baz=238,slow=3.7,SNR=3.6	166.20	283	PKP		PKPdf	03 31 10.4	-0.1
PLID	Pearl Lake	166.71	338			PKPdf	03 31 09.6	-1.0
ELK	Elko comp=Z,0.4nm,0.4s,baz=90,slow=3.7,SNR=3.8	170.06	324	PKP		PKPdf	03 31 13.3	+0.3
NVAR	Mina Array Bea comp=Z,2.2nm,1.0s,baz=175,slow=1.7,SNR=11	173.34	327	PKP		PKPdf	03 31 14.7	+0.1
NVAR	comp=Z,0.8nm,0.8s,baz=43,slow=3.1,SNR=3.8			PKPab		PKPab	03 32 43.4	+0.6

IDC 08 03:41:33.1±1.5, 51°.34N×81°.78E, h0km, mbtmp1.7/1, ML1.8/1, Error ellipse: s-maj=16.1km s-min=13.1km az=139.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra baz=71,slow=17,SNR=1.7	2.17	252	Pg	Pb	03 42 12.1	-1.3
KURBB	0.1nm,0.3s,baz=71,slow=33,SNR=2.5			Lg	Lg	03 42 43.2	
I46RU	ZALESOVO INFRA baz=217,slow=351,SNR=16	3.20	34	I	I	03 59 40.0	
ZALV	Zalesovo Beam 0.2nm,0.3s,baz=213,slow=16,SNR=2.6	3.20	34	Pg	Pb	03 42 30.6	-0.3
ZALV	0.2nm,0.3s,baz=216,slow=25,SNR=2.3			Lg	Lg	03 43 16.1	
MKAR	Makanchi Array baz=7.9,slow=11,SNR=8.7	4.56	176	Pn	Pn	03 42 44.2	+0.8
MKAR	0.1nm,0.3s,baz=350,slow=24,SNR=5.6			Lg	Lg	03 43 58.8	

*HLW **08** 03:44:04.0, 27°.52N×34°.23E, h20km±2km, Md2.9, Ml2.3*
*SGS **08** 03:44:05.8, 27°.66N×34°.40E, h12km, Ml1.4*
ISC 08 03:44:01.1±1.0, 27°.52N±0°.04×34°.30E±0°.04, h12km, n18, σ0°91/19, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.57	328	P	Pn	03 44 14.7	-0.4
HHRG	Al Ghardaqah	0.71	245	P	Pn	03 44 18.0	+1.1
HHRG				S	Sn	03 44 28.9	+1.1
RSHS		0.90	30	P	Pn	03 44 19.6	0.0
KRABS	KRABS	1.03	55	P	Pn	03 44 22.1	+0.7
KRABS	KRABS	1.03	55	S	Sb	03 44 34.0	-0.3
HKAT	Jabal Katrina	1.04	345	P	Pn	03 44 22.5	+0.9
MWLHS	Almuwaylih	1.11	78	P	Pg	03 44 23.5	+1.1
TAYS	Tayyib Ism	1.15	26	P	Pg	03 44 23.1	-0.1
TAYS	Tayyib Ism	1.15	26	S	Sb	03 44 36.7	-1.1
BDAS	Al Bad'	1.16	38	S	Sg	03 44 37.9	-0.5
BDAS	Al Bad'	1.16	38	P	Pg	03 44 23.7	+0.4
WTBKS	WTBKS	1.54	68	S	Sb	03 44 48.8	-0.3
WTBKS	WTBKS	1.54	68	P	Pg	03 44 30.5	-0.2
HAQS	Haql	1.62	20	P	Pb	03 44 30.6	-0.4
TBKS	Tabuk	2.11	70	P	Pb	03 44 39.2	0.0
NADB	Abo Dabab	2.18	175	P	Pb	03 44 38.7	-1.7
BIDS	Bi'r al Bayda'	2.46	105	S	Sn	03 45 12.2	+1.3
BIDS	Bi'r al Bayda'	2.46	105	P	Pb	03 44 43.8	-1.4

*SJA **08** 03:46:45.6±0.8, 36°.88S×68°.51W, h13km±4km, ML3.6, MW3.4*
ISC 08 03:46:46.7±2.7, 36°.89S±0°.04×68°.54W±0°.05, h0km±19km, n21, σ1°44/30, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDS3	Malargue	1.31	328	*i* P	Pn	03 47 10.1	-2.3
EDS3				*i* S	Sg	03 47 29.5	+0.5
RFA	San Rafael	2.11	2	*i* P	Pn	03 47 23.2	-0.1
RFA				*i* S	Sn	03 47 50.0	-0.4
RFA	comp=Z,844nm,0.3s			IAML		03 47 55.0	
BI02	San Fabin de	2.21	275	*i* P	Pn	03 47 24.2	-0.4
BI02				*i* S	Sn	03 47 53.4	+0.7
BI02	San Fabin de	2.21	275	*e*P	Pn	03 47 23.1	-1.6
BI02				*e*S	Sn	03 47 53.0	+0.3
BI02	comp=N,211nm,0.4s			IAML		03 47 55.9	
CANA	Caviahue	2.25	243	*i* P	Pn	03 47 23.6	-1.7
CANA				*i* S	Sn	03 47 55.0	+1.2
CANA	comp=Z,165nm,1.0s			IAML		03 48 06.8	
ML02	Panimavida	2.58	295	*i* P	Pn	03 47 31.9	+2.2
ML02	comp=Z,157nm,0.6s			IAML		03 48 11.0	
ML02	Panimavida	2.58	295	*e*P	Pn	03 47 30.6	+0.8
ML02	comp=E,247nm,0.7s			IAML		03 48 12.5	
BO02	Sierra Bellavi	2.77	318	*i* P	Pn	03 47 32.6	+0.2
BO02				*i* S	Sb	03 48 12.4	+0.6
BO02	comp=Z,298nm,0.2s			IAML		03 48 14.2	
BO02	Sierra Bellavi	2.77	318	*e*P	Pn	03 47 32.6	+0.2
BO01	Tunca	3.24	319	*i* P	Pn	03 47 39.3	+0.5
BO01	comp=Z,68nm,1.1s			IAML		03 48 27.4	
BO01	Tunca	3.24	319	*e*P	Pn	03 47 40.0	+1.2
LMEL	Las Melosas	3.33	335	*i* P	Pb	03 47 46.6	0.0
LMEL				*i* S	Sb	03 48 29.8	+2.1
LMEL	Las Melosas	3.33	335	*e*P	Pn	03 47 41.2	+1.1
BO04	La Punta	3.35	329	*e*P	Pn	03 47 42.3	+1.9
AVIZ	Vizcacheras	3.41	0	*i* P	Pn	03 47 37.1	-4.1
AVIZ				*i* S	Sb	03 48 27.9	-2.1
GO06	Curarrehue	3.55	220	*e*P	Pn	03 47 40.8	-2.3
MT08	Bocatoma Ro	3.64	340	*i* P	Pn	03 47 44.9	+0.4
MT08				*i* S	Sb	03 48 33.8	-3.2
MT08	comp=Z,88nm,0.8s			IAML		03 48 45.6	
AAGR	Agrelo	3.80	356	*i* P	Pn	03 47 45.3	-1.3
AAGR	comp=Z,203nm,0.4s			IAML		03 48 48.9	
PLCA	Paso Flores	4.15	202	*i* P	Pn	03 47 52.1	+0.8
PLCA				*i* S	Sn	03 48 41.2	+0.6
PLCA	comp=Z,66nm,0.3s			IAML		03 48 55.4	
RTLS	Leoncito	5.12	353	*i* P	Pn	03 48 04.9	0.0
TRQA	Tornquist	5.34	105	*i* P	Pn	03 48 08.8	+1.0
TRQA	comp=Z,28nm,0.8s			IAML		03 49 44.5	

IDC 08 03:54:12.2±3.2, 6°.40S×147°.62E, h0km, mb3.3/1, mbtmp3.8/3, ML3.2/2, MS3.4/1, Error ellipse: s-maj=79.9km s-min=33.9km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.02	189	Pn	Pn	03 55 02.2	+0.8
PMG	43nm,0.3s,baz=2.0,slow=8.8,SNR=32			Sn	Sn	03 55 38.5	+0.2
WRA	Warramunga Arr 39nm,0.3s,baz=157,slow=23,SNR=7.9	18.64	223	P	P	03 58 31.0	-0.7
ASAR	Alice Springs 117nm,0.3s	21.65	216	P	P	03 59 04.0	-0.4
JOW	Kunigami 0.3nm,0.5s,baz=50,slow=9.1,SNR=16	37.98	331	LR	LR	04 15 34.8	
TORD	Torodi Ar. Bea comp=Z,54nm,21.2s,baz=153,slow=34	145.78	284	PKPbc	PKPdf	04 13 53.9	-0.1
TORD	0.3nm,0.6s,baz=72,slow=3.8,SNR=5.6						

*IDC **08** 04:03:05.2±0.8, 12°.86S×45°.41E, h0km, mb3.8/8, mbtmp3.9/9, ML4.7/2, Error ellipse: s-maj=25.6km s-min=23.0km az=60.0*
ISC 08 04:03:06.9±0.7, 12°.95±0°.1×45°.4E±0°.1, h10km, n12, σ1°06/12, mb4.0/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo 3.9nm,0.3s,baz=336,slow=12,SNR=46	5.94	163	Pn	Pn	04 04 35.5	+0.3
LSZ	Lusaka 0.2nm,0.3s,baz=89,slow=11,SNR=13	16.85	260	Pn	Pn	04 07 03.3	+0.1
BOSA	Boshof 2.9nm,0.8s,baz=58,slow=8.6,SNR=7.6	24.43	227	P	P	04 08 26.6	+0.4
TORD	Torodi Ar. Bea 0.4nm,0.8s,baz=119,slow=7.4,SNR=2.1	50.43	299	P	P	04 12 05.6	+0.5
GERES	GERESS Array B 0.3nm,0.4s,baz=138,slow=8.8,SNR=3.7	67.53	338	P	P	04 14 03.3	-0.1
MKAR	Makanchi Array 0.4nm,0.9s,baz=224,slow=6.0,SNR=2.3	67.97	26	P	P	04 14 06.6	+0.5
BVAR	Borovoye Array 2.7nm,1.2s,baz=226,slow=6.0,SNR=3.8	69.04	16	P	P	04 14 13.5	+0.8
ESDC	Sonseca Array 1.0nm,0.8s,baz=137,slow=6.0,SNR=7.3	69.53	321	P	P	04 14 16.4	+0.3
ASAR	Alice Springs 0.8nm,0.6s,baz=263,slow=5.2,SNR=8.2	83.61	113	P	P	04 15 36.1	-0.1
WRA	Warramunga Arr 1.8nm,1.1s,baz=259,slow=3.9,SNR=4.6	84.74	109	P	P	04 15 41.8	-0.2
TXAR	Lajitas Array 0.3nm,0.6s,baz=48,slow=1.8,SNR=2.4	146.94	305	PKPbc	PKPbc	04 22 49.5	-1.1
NVAR	Mina Array Bea 0.4nm,0.6s,baz=106,slow=4.9,SNR=5.2	150.69	333	PKPbc	PKPbc	04 22 57.4	-2.7

*NEIC **08** 04:54:33.5±0.5, 18°.96N±0°.07×155°.48W±0°.04, h43km±4km, Error ellipse: s-maj=11.1km s-min=3.0km az=157.0*
HVO 08 04:54:35.3±0.8, 18°.95N±0°.08×155°.48W±0°.05, h34km±7km, ML2.9/47, ML3.0/46(NEIC), Error ellipse: s-maj=12.8km s-min=2.9km az=153.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.29	15		Pn	04 54 42.5	-0.6
KHU	Kahuku	0.32	336		Pn	04 54 42.5	-1.1
KHU					Sn	04 54 48.1	-0.6
KHU	comp=N,2μm,0.4s			IAML		04 54 48.3	
KHU	comp=E,986nm,0.3s			IAML		04 54 48.6	
HLP	Hilina Pali	0.38	25		Pb	04 54 43.5	-0.8
HLP					Sn	04 54 49.5	-0.8
HLP	comp=N,1μm,0.3s			IAML		04 54 51.3	
SDHHI	Sand Hill	0.47	22		Pb	04 54 44.2	-1.5
SDHHI					Sb	04 54 50.8	-1.9
RIM	Rim	0.48	24		Pb	04 54 44.3	-1.5
RIM					Sb	04 54 51.0	-2.1
WRMHI	West Rim	0.48	20		Pb	04 54 44.3	-1.6
WRMHI					Sb	04 54 51.0	-2.1
KKO	Keanakako'i	0.48	24		Pb	04 54 44.4	-1.5
KKO					Sb	04 54 51.1	-2.1
PUH	Pauahi	0.49	31		Pb	04 54 44.3	-1.6
PUH	Pauahi	0.49	31		Sb	04 54 50.9	-2.3
OBL	Observatory Le	0.50	22		Pb	04 54 44.5	-1.6
OBL					Sb	04 54 51.4	-2.1
UWE	Uwekahuna	0.50	21		Pb	04 54 44.5	-1.6
UWE	Uwekahuna	0.50	21		Sb	04 54 51.3	-2.2
UWE	Uwekahuna	0.50	21	IAML		04 54 54.1	
UWE	comp=E,1μm,0.3s			IAML		04 55 00.7	
BYL	Byron's Ledge	0.50	24		Sb	04 54 51.3	-2.3
BYL	Byron's Ledge	0.50	24		Pb	04 54 44.5	-1.6
BYL	Byron's Ledge comp=N,973nm,0.5s	0.50	24	IAML		04 54 51.5	
BYL	comp=E,681nm,0.4s			IAML		04 54 56.3	
UWB	Uwekahuna Bluf	0.51	22		Pb	04 54 44.4	-1.8
UWB					Sb	04 54 51.3	-2.4
HATHI	Halema'uma'u T	0.51	24		Pb	04 54 44.5	-1.7
HATHI	comp=E,793nm,0.4s			IAML		04 54 51.9	
HATHI	comp=N,604nm,0.2s			IAML		04 54 53.1	
SBLHI	Steaming Bluff	0.51	23		Pb	04 54 44.5	-1.8
SBLHI					Sb	04 54 51.6	-2.2
MWH	Mokuaweoweo	0.54	348		Pn	04 54 45.1	-1.9
MWH	Mokuaweoweo	0.54	348		Sb	04 54 52.5	-2.6
MWH	Mokuaweoweo comp=E,663nm,0.2s	0.54	348	IAML		04 54 53.1	
MWH	comp=N,487nm,0.4s			IAML		04 54 55.5	
RSD	Rainshed	0.54	20		Sb	04 54 52.5	-2.1
RSD	Rainshed	0.54	20		Pn	04 54 44.9	-1.8
RSD	comp=N,402nm,0.5s			IAML		04 54 52.2	
RSD	Rainshed comp=E,380nm,0.1s	0.54	20	IAML		04 54 53.6	
STCH	Steam Cracks	0.54	38		Pn	04 54 45.0	-1.7
STCH	comp=N,778nm,0.4s			IAML		04 54 52.5	
STCH	comp=E,571nm,0.2s			IAML		04 54 53.4	
MLH	Mauna Loa	0.55	9		Pn	04 54 45.3	-1.5
MLH	comp=E,718nm,0.4s			IAML		04 54 53.0	
MLH	comp=N,830nm,0.3s			IAML		04 54 58.8	
MLH	Mauna Loa	0.55	9		Sb	04 54 52.7	-2.2
JCUZ	Jacuzzi	0.56	40		Pn	04 54 45.1	-1.7
JCUZ					Sn	04 54 52.6	-2.4
NPOC	North of Pu'u	0.56	38		Pn	04 54 45.2	-1.7
NPOC					Sn	04 54 52.7	-2.3
MLOA	Mauna Loa Obse	0.59	351		Pn	04 54 45.8	-1.8
MLOA					Sb	04 54 53.9	-2.3
ALEP	Alea Permanent	0.61	345		Pn	04 54 45.8	-2.0
ALEP					Sn	04 54 54.0	-2.6
HMH	Humu'ula Sheep	0.65	360		Pn	04 54 46.8	-1.5
HMH	comp=E,968nm,0.3s			IAML		04 54 55.4	
HMH	Humu'ula Sheep	0.65	360		Sn	04 54 55.2	-2.3
JOKA	Jonika Flow	0.65	43		Pn	04 54 46.3	-1.8
JOKA	comp=N,613nm,0.2s			IAML		04 54 58.1	
JOKA	Jonika Flow	0.65	43		Sn	04 54 54.6	-2.7
CPH	Captain Cook	0.68	322		Pn	04 54 46.4	-2.0
PAH	Pahoa	0.74	43		Pn	04 54 47.5	-1.8
HUH	Hualalai	0.80	335		Pn	04 54 48.7	-1.7
HUH	Hualalai	0.80	335		Sn	04 54 58.8	-2.5
HUH	Hualalai comp=N,949nm,0.1s	0.80	335	IAML		04 55 02.3	
HUH	comp=E,815nm,0.2s			IAML		04 55 05.2	
POHA	Pohakuloa	0.80	356		Sn	04 54 57.8	-3.4
POHA	Pohakuloa	0.80	356		Pn	04 54 48.3	-2.1
POHA	comp=E,303nm,0.4s			IAML		04 55 04.4	
POHA	comp=E,304nm,0.5s			IAML		04 55 08.7	
KKH	Kailua Kona	0.87	324		Pn	04 54 49.0	-2.1
KKH					Sn	04 54 59.4	-3.1
HPAH	Hawaii Prepara	1.09	349		Pn	04 54 52.1	-2.2
MHA	Mahukona	1.29	342		Pn	04 54 54.8	-2.1
MHA					Sn	04 55 09.5	-3.6
HLK	Haleakala	1.94	338		Pn	04 55 03.6	-2.5
HLK					Sn	04 55 25.3	-4.0
KHLH	Kahului Airpor	2.13	335		Pn	04 55 06.6	-1.8
KHLH					Sn	04 55 30.2	-3.5
WMR	Waimanalo Ridg	3.14	319		Sn	04 55 53.2	-5.4
HON	Honolulu	3.34	315		Pn	04 55 22.6	-2.6
HON					Sn	04 55 59.0	-4.8

*ASRS **08** 04:57:48.0±0.4, 53°.92N×86°.63E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 04:57:52.0±2.5, 53°.93N×86°.52E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=20.3km s-min=12.3km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=89,slow=355,SNR=5.5	1.00	272	I	I	05 03 50.0	
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=89,slow=18,SNR=10	1.00	272	Pg	Pg	04 58 10.7	-0.5
ZALV	0.7nm,0.3s,baz=95,slow=28,SNR=5.5			Lg	Lg	04 58 25.2	
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=58,slow=14,SNR=4.4	5.91	239	Pn	Pn	04 59 21.5	+0.8
KURBB	baz=64,slow=29,SNR=1.8 0.3nm,0.3s			Lg	Lg	05 01 01.4	
MKAR	Makanchi Array 0.1nm,0.3s,baz=26,slow=13,SNR=8.0	7.63	202	Pn	Pn	04 59 45.5	+1.1
MKAR	baz=22,slow=27,SNR=3.1 0.1nm,0.3s			Lg	Lg	05 01 54.4	

*PRE **08** 05:18:40.8±0.7, 20°.67S×32°.78E, h5km, ML3.3*
*BUL **08** 05:18:43.2±0.7, 20°.65S×33°.06E, h19km±13km, MD3.6*
ISC 08 05:18:45.4±2.0, 20°.87S±0°.07×32°.54E±0°.10, h10km, n26, σ2°19/49, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.85	202	*e*P	Pn	05 19 30.9	0.0
MOPA				*e*S	Sn	05 20 08.0	+2.8
MOPA	comp=Z,435nm,0.4s			IAML		05 20 26.8	
MOPA	Mopani	2.85	202	*i* P	Pb	05 19 35.1	-1.2
MUSN	Musina, Limpop	2.87	240	*e*P	Pn	05 19 31.8	+0.5
MUSN				*e*S	Sn	05 20 09.4	+3.4
MUSN	comp=Z,350nm,0.5s			IAML		05 20 20.9	
MUSN	Musina, Limpop	2.87	240	*i* P	Pb	05 19 35.3	-1.5
MUSN				*i* S	Sb	05 20 13.0	+1.0
BLWY	Bulawayo	3.76	280	*i* P	Pn	05 19 46.1	+2.5
BLWY				*i* S	Sn	05 20 31.7	+3.7
PILG	Pilgrimsrest,	4.39	202	*e*P	Pn	05 19 53.4	+1.1
PILG				*e*S	Sn	05 20 45.4	+1.7
PILG	comp=Z,58nm,0.6s			IAML		05 21 16.7	
BROLN	Tlhalogang	4.87	266	*i* P	Pn	05 20 02.6	+3.7
BROLN				*i* S	Sn	05 20 58.9	+3.4
BROLN	comp=N,316nm,0.8s			IAML		05 21 22.8	
LEPH	Lephalale, Lim	5.31	235	*e*P	Pn	05 20 05.5	+0.6
LEPH				*e*S	Sn	05 21 07.9	+1.8
LEPH	comp=Z,139nm,0.4s			IAML		05 21 43.4	
CRLN	Carolina, Mapu	5.61	204	*e*P	Pn	05 20 09.5	+0.4
CRLN				*e*S	Sn	05 21 14.6	+0.9
CRLN	comp=Z,25nm,0.5s			IAML		05 21 53.9	
POGA	Pongola	6.50	187	*e*P	Pn	05 20 20.7	-0.4
POGA				*e*S	Sn	05 21 34.7	-0.6
POGA	comp=Z,42nm,0.6s			IAML		05 22 22.0	
LPHEP	Lephephe	6.68	247	*i* P	Pn	05 20 25.9	+2.3
LPHEP				*i* S	Sn	05 21 39.7	-0.3
LPHEP	comp=E,71nm,0.5s			IAML		05 22 27.8	
HRAO	HartRAO	6.70	221	*e*P	Pn	05 20 24.9	+0.8
HRAO				*e*S	Sn	05 21 40.8	+0.2
HRAO				IAML		05 22 25.2	

comp=Z,57nm,0.6s
LSZ Lusaka 6.93 323 *i* P **Pn 05 20 25.1 -2.1**
LSZ *i* S **Sn 05 21 39.2 -7.0**
NWCL Newcastle 7.26 199 *eP* **Pn 05 20 32.0 +0.4**
NWCL *eS* **Sn 05 21 53.9 -0.3**
NWCL IAML 05 22 44.9
comp=Z,36nm,0.5s
PHDHD Phuduhudu 7.53 274 *i* P **Pn 05 20 37.1 +1.7**
PHDHD *i* S **Sn 05 21 59.4 -1.7**
PHDHD IAML 05 22 46.8
comp=E,366nm,0.6s
KSANE Kasane 7.61 292 *i* P **Pn 05 20 37.3 +0.9**
KSANE IAML 05 22 46.7
comp=N,203nm,0.6s
LBTB Lobatse 7.62 236 *eP* **Pn 05 20 38.7 +2.1**
LBTB *eS* **Sn 05 22 03.8 +0.7**
LBTB IAML 05 22 47.6
comp=Z,24nm,0.6s
LBTB Lobatse 7.62 236 *i* P **Pn 05 20 39.3 +2.7**
LBTB *i* S **Sn 05 22 03.7 +0.7**
PRYS Parys 7.67 217 *eP* **Pn 05 20 39.0 +1.6**
PRYS *eS* **Sn 05 22 05.0 +0.5**
PRYS IAML 05 22 42.3
comp=Z,9.9nm,0.4s
KDWAN Kaudwane 7.72 250 *i* P **Pn 05 20 39.4 +1.3**
KDWAN *i* S **Sn 05 22 04.1 -1.6**
KDWAN IAML 05 23 00.2
comp=E,130nm,0.7s
CKGRV CKGRV 8.21 265 *i* P **Pn 05 20 47.8 +3.1**
CKGRV *i* S **Sn 05 22 17.3 -0.3**
CKGRV IAML 05 23 27.3
comp=N,565nm,0.7s
SKOMA Sekoma 8.74 244 *i* P **Pn 05 20 52.9 +0.9**
SKOMA *i* S **Sn 05 22 27.0 -3.7**
SKOMA IAML 05 23 28.9
comp=N,102nm,1.0s
SWZ Schweizer 9.11 225 *eP* **Pn 05 20 58.7 +1.6**
SWZ *eS* **Sn 05 22 38.1 -1.7**
SWZ IAML 05 23 51.6
comp=Z,19nm,0.5s
KGCAE Kacgae 9.80 256 *i* P **Pn 05 21 07.5 +0.9**
KGCAE *i* S **Sn 05 22 53.5 -3.4**
KGCAE IAML 05 24 03.9
comp=E,160nm,0.8s
BOSA Boshof 10.16 219 *eP* **Pn 05 21 13.0 +1.5**
BOSA *eS* **Sn 05 23 03.7 -2.0**
BOSA IAML 05 23 26.8
comp=Z,5.0nm,0.6s
BOSA Boshof 10.16 219 *i* P **Pn 05 21 12.5 +1.0**
BOSA *i* S **Sn 05 23 01.2 -4.5**

---

*SOME **08** 05:30:23.6, 39°.10N×74°.73E, h10km*
NNC 08 05:30:26.1±3.1, 39°.14N×75°.06E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=96.6km s-min=20.5km az=99.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KST	**Kastek**	**3.96**	**10**	Pg	Pb	05 31 37.9	+1.1
	1.1nm,0.2s						
KST				Lg	Lg	05 32 31.0	
	7.4nm,1.2s						
KST	**Kastek**	**3.96**	**10**	*eP*	Pb	05 31 37.9	+1.1
	0.8nm,0.2s						
KST				*eS*	Sg	05 32 31.4	-1.9
	1.3nm,0.1s						
DGS	**Degeres**	**4.13**	**7**	Pg	Pb	05 31 42.4	+2.7
	4.1nm,0.6s						
DGS				Lg	Lg	05 32 38.9	
	3.6nm,0.4s						
KRBS	**Karabastau**	**4.58**	**6**	Pg	Pb	05 31 48.8	+1.6
	1.2nm,0.5s						
KRBS				Lg	Lg	05 32 50.9	
	2.1nm,0.4s						
KTBS	**Karatobe**	**4.73**	**14**	Pg	Pb	05 31 52.4	+2.6
	2.2nm,0.9s						
KTBS				Lg	Lg	05 32 56.5	
	4.4nm,0.7s						
KPKS	**Kokpek**	**5.11**	**31**	*eP*	Pn	05 31 40.5	-3.4
	2.7nm,0.5s						
KPKS				*eS*	Sn	05 32 36.1	-7.7
	5.4nm,0.7s						

---

*NNC **08** 05:36:53.4±1.0, 43°.03N×80°.04E, h4km±3km, mb4.0, mpv3.9, Error ellipse: s-maj=7.6km s-min=3.8km az=151.0*
*SOME **08** 05:36:53.5, 43°.07N×80°.03E, h25km*
*KRNET **08** 05:36:54.8±0.1, 43°.13N×80°.01E, h24km, mb3.7*
ISC 08 05:36:54.2±0.8, 43°.08N±0°.03×80°.03E±0°.03, h10km, n57, σ1°.64/97, 25C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.42 281**		P	**Pg**	**05 36 59.4**	**-3.2**
	3μm,0.1s						
SHLS				S	**Sg**	**05 37 03.4**	**-4.8**
	6μm,0.2s						
SHLS	**Shalkode**	**0.42 281**		*eP*	**Pg**	**05 36 59.4**	**-3.2**
SHLS				*eS*	**Sg**	**05 37 03.4**	**-4.8**
SHLS	**Shalkode**	**0.42 281**		*eP*	**Pg**	**05 36 59.4**	**-3.2**
	3μm,0.1s						
SHLS				*eS*	**Sg**	**05 37 03.4**	**-4.8**
	6μm,0.2s						
KTMS	**Ketmen**	**0.43**	**33**	P	**Pb**	**05 37 03.2**	**-0.9**
	219nm,0.1s						
KTMS				S	**Sb**	**05 37 09.9**	**-0.9**
	512nm,0.1s						
KTMS	**Ketmen**	**0.43**	**33**	*eP*	**Pb**	**05 37 03.2**	**-0.9**
KTMS				*eS*	**Sb**	**05 37 09.9**	**-0.9**
KTMS	**Ketmen**	**0.43**	**33**	*eP*	**Pb**	**05 37 03.2**	**-0.9**
	219nm,0.1s						
KTMS				*eS*	**Sb**	**05 37 09.9**	**-0.9**
	512nm,0.1s						
PDGK	**Podgornoye**	**0.47 302**		⇑P	**Pb**	**05 37 04.0**	**-0.6**
	31nm,0.2s						
PDGK				⇓S	**Sb**	**05 37 10.9**	**-0.8**
	119nm,0.2s						
KPKS	**Kokpek**	**1.05 292**		P	**Pg**	**05 37 13.8**	**-0.8**
	98nm,0.2s						
KPKS				S	**Sb**	**05 37 28.1**	**-0.5**
	328nm,0.3s						
KPKS	**Kokpek**	**1.05 292**		*eP*	**Pg**	**05 37 13.8**	**-0.8**
KPKS				*eS*	**Sb**	**05 37 28.1**	**-0.5**
KPKS	**Kokpek**	**1.05 292**		*eP*	**Pg**	**05 37 13.8**	**-0.8**
	98nm,0.2s						
KPKS				*eS*	**Sb**	**05 37 28.1**	**-0.5**
	328nm,0.3s						
ZHN	**Zhinishke**	**1.17 275**		P	**Pb**	**05 37 15.9**	**-0.7**
	77nm,0.3s						
ZHN				S	**Sg**	**05 37 31.5**	**-0.4**
	316nm,0.2s						
ZHN	**Zhinishke**	**1.17 275**		*eP*	**Pb**	**05 37 15.9**	**-0.7**
ZHN				*eS*	**Sg**	**05 37 31.5**	**-0.4**
ZHN	**Zhinishke**	**1.17 275**		*eP*	**Pb**	**05 37 15.9**	**-0.7**
	77nm,0.3s						
ZHN				*eS*	**Sg**	**05 37 31.5**	**-0.4**
	316nm,0.2s						
SATY	**Saty**	**1.19 270**		P	**Pb**	**05 37 16.2**	**-0.8**
	66nm,0.1s						
SATY				S	**Sb**	**05 37 31.8**	**-0.6**
	520nm,0.2s						
SATY	**Saty**	**1.19 270**		*eP*	**Pb**	**05 37 16.2**	**-0.8**
SATY				*eS*	**Sb**	**05 37 31.9**	**-0.6**
DJR	**Jarkent**	**1.26 352**		P	**Pg**	**05 37 17.8**	**-0.7**
	38nm,0.1s						
DJR				S	**Sn**	**05 37 35.2**	**0.0**
	826nm,0.3s						
DJR	**Jarkent**	**1.26 352**		*eP*	**Pg**	**05 37 17.8**	**-0.7**
	38nm,0.1s						
DJR				*eS*	**Sn**	**05 37 35.2**	**0.0**
	826nm,0.3s						
PRZ	**Przheval'sk**	**1.34 244**		⇑*iP*	**Pg**	**05 37 19.5**	**-0.5**
PRZ				⇑*iS*	**Sg**	**05 37 37.6**	**+0.2**
KURS	**Kuram**	**1.42 287**		P	**Pb**	**05 37 20.3**	**-0.5**
	38nm,0.6s						
KURS				S	**Sg**	**05 37 39.4**	**-0.4**
	23nm,0.3s						
KNOS	**Konyrlen**	**1.42 335**		P	**Pg**	**05 37 21.0**	**-0.5**
	111nm,0.1s						
KNOS				S	**Sg**	**05 37 40.0**	**+0.1**
	630nm,0.2s						
BLB	**Baldybastay**	**1.52 313**		P	**Pb**	**05 37 21.9**	**-0.6**
	435nm,0.3s						
BLB				S	**Sg**	**05 37 42.4**	**-0.7**
	629nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**1.76 261**		⇑*iP*	**Pb**	**05 37 26.4**	**-0.3**
ANVS				⇑*iS*	**Sb**	**05 37 48.6**	**-0.3**
ARXS	**Arharly**	**1.96 306**		Pg	**Pb**	**05 37 29.1**	**-0.9**
	13nm,0.1s						
ARXS				Lg	Lg	05 37 55.4	
	210nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.13 231**		⇑*iP*	**Pb**	**05 37 32.3**	**-0.9**
TARG				⇑*iS*	**Sb**	**05 37 58.8**	**-1.0**
KOTS	**Kotyrbulak**	**2.14 275**		Pg	**Pb**	**05 37 32.2**	**-0.9**
	105nm,0.2s						
KOTS				Lg	Lg	05 38 00.4	
	201nm,0.5s						
KOTS	**Kotyrbulak**	**2.14 275**		*eP*	**Pb**	**05 37 32.2**	**-0.9**
	105nm,0.2s						
KOTS				*eS*	**Sb**	**05 38 00.5**	**+0.6**
	201nm,0.5s						
MDOK	**Medeo**	**2.18 273**		⇑Pn	**Pb**	**05 37 32.3**	**-1.6**
	25nm,0.4s						
MDOK				Pg	**Pb**	**05 37 32.8**	**-1.1**
	52nm,0.3s						
MDOK				Lg	Lg	05 38 01.8	
	83nm,0.4s						
MDOK				⇑Sn	**Sg**	**05 38 02.6**	**-1.9**
	49nm,0.5s						
MDOK	**Medeo**	**2.18 273**		*eP*	**Pb**	**05 37 32.8**	**-1.1**
	52nm,0.3s						
MDOK				*eS*	**Sb**	**05 38 01.8**	**+0.7**
	83nm,0.4s						
KNDC	**Almaty**	**2.25 275**		⇑Pn	**Pn**	**05 37 32.0**	**+0.4**
	36nm,0.4s						
KNDC				⇑Sn	**Sb**	**05 38 04.0**	**+1.2**
	81nm,0.4s						
TDK	**Taldyqorghan**	**2.25 329**		Pg	**Pb**	**05 37 34.8**	**-0.1**
	41nm,0.2s						
TDK				Lg	Lg	05 38 04.7	
	338nm,0.5s						
TDK	**Taldyqorghan**	**2.25 329**		*eP*	**Pb**	**05 37 34.9**	**-0.1**
	41nm,0.2s						
TDK				*eS*	**Sg**	**05 38 04.7**	**-1.8**
	338nm,0.5s						
TNSS	**Tian-Shan**	**2.26 270**		Pg	**Pb**	**05 37 34.3**	**-1.1**
	115nm,0.3s						
TNSS				Lg	Lg	05 38 03.5	
	71nm,0.5s						
TNSS	**Tian-Shan**	**2.26 270**		*eP*	**Pb**	**05 37 34.3**	**-1.1**
	115nm,0.3s						
TNSS				*eS*	**Sb**	**05 38 03.5**	**0.0**
	71nm,0.5s						
KDJ	**Kajisay**	**2.31 247**		⇑*eP*	**Pb**	**05 37 34.3**	**-1.8**
KDJ				⇑*eS*	**Sn**	**05 38 02.1**	**+1.1**
KTBS	**Karatobe**	**2.52 286**		Pg	**Pb**	**05 37 37.7**	**-1.8**
	7.4nm,0.4s						
KTBS				Lg	Lg	05 38 10.8	
	78nm,0.2s						
MTBS	**Maitube**	**2.64 272**		Pg	**Pb**	**05 37 40.7**	**-0.9**
	24nm,0.3s						
MTBS				Lg	Lg	05 38 14.4	
	61nm,0.3s						
MTBS	**Maitube**	**2.64 272**		*eP*	**Pb**	**05 37 40.7**	**-0.9**
	24nm,0.3s						
MTBS				*eS*	**Sb**	**05 38 14.4**	**+0.3**
	61nm,0.3s						
ULHL	**Ulahol**	**2.92 255**		⇑*iP*	**Pn**	**05 37 42.9**	**+2.0**
ULHL				⇑*iS*	**Sn**	**05 38 16.7**	**+0.6**
KST	**Kastek**	**2.98 271**		Pg	**Pb**	**05 37 47.4**	**-0.1**
	23nm,0.4s						
KST				Lg	Lg	05 38 25.9	
	69nm,0.4s						
KST	**Kastek**	**2.98 271**		*eP*	**Pb**	**05 37 47.4**	**-0.1**
	23nm,0.4s						
KST				*eS*	**Sb**	**05 38 25.9**	**+1.9**
	69nm,0.4s						
BOOM	**Boomskoye usch**	**3.07 260**		⇓*eP*	**Pn**	**05 37 44.9**	**+2.0**
BOOM				⇓*iS*	**Sn**	**05 38 20.0**	**+0.2**
DGS	**Degeres**	**3.12 274**		Pg	**Pb**	**05 37 48.8**	**-1.0**
	16nm,0.3s						
DGS				Lg	Lg	05 38 28.3	
	70nm,0.4s						
KRBS	**Karabastau**	**3.23 282**		Pg	**Pb**	**05 37 51.6**	**-0.1**
	4.1nm,0.3s						
KRBS				Lg	Lg	05 38 33.9	
	19nm,0.3s						
SGDS	**Sogindy**	**3.96 277**		Pg	**Pb**	**05 38 04.8**	**+0.6**
	3.7nm,0.3s						
SGDS				Lg	Lg	05 38 56.4	
	9.4nm,0.6s						
MAKZ	**Makanchi**	**3.98**	**20**	⇑Pn	**Pn**	**05 37 57.0**	**+1.8**
	0.8nm,0.2s						
MAKZ				⇑Pg	**Pb**	**05 38 05.8**	**+1.4**
	0.5nm,0.2s						
MAKZ				⇓Sn	**Sn**	**05 38 43.2**	**+1.2**
	2.2nm,0.3s						
MAKZ				⇑Lg	Lg	05 38 58.7	
	5.2nm,0.5s						
MK31	**Makanchi Array**	**4.04**	**23**	⇑Pn	**Pn**	**05 37 57.8**	**+1.5**
	0.2nm,0.2s,baz=204,slow=13,SNR=116						
MK31				⇓Pg	**Pg**	**05 38 08.7**	**-3.0**
	1.0nm,0.3s,baz=194,slow=12,SNR=18						
MK31				⇓Sn	**Sn**	**05 38 45.1**	**+1.4**
	2.5nm,0.3s,baz=209,slow=16,SNR=6.6						
MK31				⇓Lg	Lg	05 39 05.9	
	3.6nm,0.3s,baz=207,slow=29,SNR=5.6						
ARLS	**Aral**	**4.39 256**		⇑*eP*	**Pn**	**05 38 03.0**	**+1.9**
ARLS				⇑*eS*	**Sn**	**05 38 52.0**	**-0.4**
KSH	**Kashi**	**4.69 222**		Pn	**Pg**	**05 38 21.7**	**-2.4**
KSH				Sn	**Sg**	**05 39 26.4**	**+1.6**
KSH				smax	smax		
	comp=N,13nm,0.9s						
KSH				smax	smax		
	comp=E,10.0nm,0.8s						
BTLS	**Baital**	**4.74 296**		Pg	**Pb**	**05 38 18.3**	**+1.0**
	comp=E,2.1nm,0.4s						
BTLS				Lg	Lg	05 39 19.0	
	comp=E,3.7nm,0.4s						
BTLS	**Baital**	**4.74 296**		*eP*	**Pb**	**05 38 18.3**	**+1.0**
	comp=E,2.1nm,0.4s						
BTLS				*eS*	**Sb**	**05 39 19.0**	**+4.7**
	comp=E,3.7nm,0.4s						
MRKS	**Merke**	**5.01 268**		Pg	**Pb**	**05 38 23.3**	**+1.3**
	comp=E,4.2nm,0.8s						
MRKS				Lg	Lg	05 39 27.5	
	comp=E,8.5nm,0.6s						
MRKS	**Merke**	**5.01 268**		*eP*	**Pb**	**05 38 23.4**	**+1.3**
	comp=E,4.2nm,0.8s						
MRKS				*eS*	**Sb**	**05 39 27.5**	**+5.2**
	comp=E,8.5nm,0.6s						
KK31	**Karatay Array**	**6.97 273**		⇓Pg	**Pb**	**05 38 58.1**	**+2.7**
	comp=E,0.4nm,0.3s,baz=84,slow=16,SNR=4.5						
KK31				⇑Lg	Lg	05 40 37.7	
	comp=E,1.8nm,0.5s,baz=82,slow=29,SNR=6.8						
OTUK	**Ortayu**	**7.46 316**		⇓Pg	Pg	05 39 09.8	-7.2
	comp=E,0.6nm,0.4s						
OTUK				⇑Lg	Lg	05 40 55.2	
	comp=E,6.7nm,0.7s						
KURBB	**Kurchatov Arra**	**7.61 353**		⇑Lg	Lg	05 40 54.5	
	comp=E,23nm,0.7s						
KURK	**Kurchatov**	**7.70 353**		⇑Lg	Lg	05 40 54.4	
	comp=E,12nm,0.8s						
XLT	**XiLinHaoTe**	**26.04**	**76**	*eP*	**P**	**05 42 28.0**	**+0.3**
XLT				pP	sP	05 42 33.7	+0.8
XLT				pmax	pmax		
	comp=Z,3.0nm,0.8s						

---

*ASRS **08** 05:56:23.0±1.9, 54°.17N×86°.49E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 05:56:23.6±2.5, 54°.14N×86°.44E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=21.1km s-min=12.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97 260**		I	I	06 02 10.0	
	baz=79,slow=352,SNR=14						
ZALV	**Zalesovo Beam**	**0.97 260**		Pg	Pg	05 56 40.8	-1.4
	0.6nm,0.3s,baz=80,slow=16,SNR=15						
ZALV				Lg	Lg	05 56 56.4	
	1.0nm,0.3s,baz=77,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**5.99 237**		Pn	Pn	05 57 54.5	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=6.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.81 201**		Pn	Pn	05 58 19.4	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=13						
MKAR				Lg	Lg	06 00 32.6	
	baz=7.0,slow=25,SNR=2.8						
	0.2nm,0.2s						

---

*ASRS **08** 05:59:13.0±1.8, 53°.95N×86°.57E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 05:59:11.1±2.5, 53°.95N×86°.66E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=21.3km s-min=13.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.09 271**		I	I	06 05 10.0	
	baz=89,slow=354,SNR=8.4						
ZALV	**Zalesovo Beam**	**1.09 271**		Pg	Pg	05 59 30.8	-1.1
	0.9nm,0.3s,baz=85,slow=16,SNR=6.8						
ZALV				Lg	Lg	05 59 47.8	
	2.7nm,0.3s,baz=92,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.00 240**		Pn	Pn	06 00 41.2	+0.2
	0.1nm,0.3s,baz=56,slow=14,SNR=6.2						
KURBB				Lg	Lg	06 02 20.1	
	baz=54,slow=31,SNR=3.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.69 203**		Pn	Pn	06 01 05.7	+1.5
	0.2nm,0.3s,baz=24,slow=14,SNR=8.5						
MKAR				Lg	Lg	06 03 15.6	
	0.1nm,0.3s,baz=25,slow=26,SNR=5.3						
	0.2nm,0.3s						

---

*ASRS **08** 06:10:11.0±1.3, 54°.33N×86°.74E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 06:10:13.0±3.5, 54°.35N×86°.79E, h0km, mbtmp2.3/2, ML2.1/2, Error ellipse: s-maj=29.5km s-min=16.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23 252**		I	I	06 16 40.0	
	baz=68,slow=351,SNR=9.1						
ZALV	**Zalesovo Beam**	**1.23 252**		Pg	Pg	06 10 36.1	-0.4
	0.4nm,0.3s,baz=66,slow=18,SNR=5.3						
ZALV				Lg	Lg	06 10 52.7	
	0.8nm,0.3s,baz=72,slow=30,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.28 237**		Pn	Pn	06 11 48.5	+1.7
	baz=51,slow=14,SNR=2.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.09 203**		Pn	Pn	06 12 12.0	+0.3
	0.1nm,0.3s,baz=22,slow=14,SNR=4.1						
	0.1nm,0.3s						

DJA 08 06:11:20.2±0.3, 0°.N±3°.×9°.8E±°, h11km±5km, M3.6/8, mb3.8/1, MLv3.5/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.34 200**		P	Pg	06 11 27.7	+0.6
PBSI				S	Sb	06 11 34.0	+0.2
PBSI	**Pulau Batu**	**0.34 200**		P	Pg	06 11 27.2	+0.1
MNSI	**Mandailing Nat**	**1.29 66**		P	Pn	06 11 43.6	-0.6
MNSI				S	Sb	06 12 01.1	0.0
MNSI	**Mandailing Nat**	**1.29 66**		P	Pn	06 11 44.0	-0.2
MNSI				S	Sb	06 12 00.6	-0.5
GSI	**Gunungsitoli**	**1.32 321**		P	Pn	06 11 44.1	-0.5
GSI	**Gunungsitoli**	**1.32 321**		P	Pn	06 11 44.2	-0.4
SISI	**Saibi**	**1.73 157**		P	Pn	06 11 50.4	+0.2
SISI	**Saibi**	**1.73 157**		P	Pn	06 11 50.8	+0.6
PPI	**Padang Panjang**	**2.12 110**		P	Pn	06 11 55.6	-0.1
PPI	**Padang Panjang**	**2.12 110**		P	Pn	06 11 54.6	-1.1
BKNI	**Bangkinang**	**2.64 89**		P	Pn	06 12 04.0	+1.2
BSI	**Banda Aceh**	**6.05 329**		P	Pn	06 12 48.7	-1.0

---

*ASRS **08** 06:55:26.0±1.0, 54°.22N×86°.38E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 06:55:29.5±2.6, 54°.18N×86°.35E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=20.7km s-min=12.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93 257**		I	I	07 01 10.0	
	baz=74,slow=352,SNR=18						
ZALV	**Zalesovo Beam**	**0.93 257**		Pg	Pg	06 55 46.1	-1.3
	1.6nm,0.3s,baz=73,slow=17,SNR=18						
ZALV				Lg	Lg	06 56 01.1	
	3.5nm,0.3s,baz=79,slow=29,SNR=18						
KURBB	**Kurchatov Arra**	**5.96 237**		Pn	Pn	06 56 59.7	+0.7
	0.1nm,0.3s,baz=53,slow=13,SNR=5.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.83 201**		Pn	Pn	06 57 25.9	+1.2
	0.1nm,0.3s,baz=22,slow=13,SNR=7.6						
	0.2nm,0.4s						

ASRS 08 06:56:18.0±1.0, 53°.58N×87°.94E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

---

*IDC **08** 06:58:23.3±7.3, 22°.08N×143°.38E, h217km±71km, mb2.9/7, mbtmp3.4/7, Error ellipse: s-maj=44.5km s-min=18.8km az=81.0*
ISC 08 06:58:21.4±1.3, 22°.1N±0°.2×143°.4E±0°.3, h200km, n7, σ0°.98/7, mb3.0/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.33 322**		P	**P**	**07 02 43.2**	**+1.0**
	1.9nm,0.5s,baz=143,slow=8.4,SNR=8.8						
	1.9nm,0.5s						
SONM	**Songino Array**	**39.17 320**		P	**P**	**07 05 28.4**	**-1.6**
	0.3nm,0.5s,baz=120,slow=8.5,SNR=4.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.69 193**		P	**P**	**07 05 58.8**	**0.0**
	0.1nm,0.3s,baz=13,slow=8.9,SNR=1.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.40 192**		P	**P**	**07 06 28.1**	**+0.1**
	0.2nm,0.8s,baz=9.6,slow=6.3,SNR=1.4						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**54.58 312**		P	**P**	**07 07 29.6**	**+0.5**
	0.2nm,0.5s,baz=94,slow=9.0,SNR=5.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**61.62**	**27**	P	**P**	**07 08 17.6**	**+0.1**
	0.2nm,0.8s,baz=240,slow=11,SNR=1.3						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**62.51 319**		P	**P**	**07 08 23.9**	**+0.3**
	0.9nm,0.5s,baz=93,slow=8.0,SNR=5.4						
	0.9nm,0.5s						

---

*OSPL **08** 07:00:22.6±0.8, 19°.10N×68°.21W, h0km±7km, ML2.1, Hypocentre not reviewed by the ISC*
*RSPR **08** 07:00:24.8, 18°.81N×68°.40W, h65km±4km, MD2.8/12*
*NEIC **08** 07:00:25.1±1.9, 18°.9N±0°.3×68°.35W±0°.06, h54km±21km, ML2.2/26, Md2.8/12(RSPR), Error ellipse: s-maj=44.4km s-min=5.4km az=188.0*
*SDD **08** 07:00:27.2±0.9, 18°.60N×68°.43W, h41km±10km, MD3.2, ML2.0, MW2.6*
ISC 08 07:00:25.0±1.3, 18°.84N±0°.09×68°.34W±0°.04, h46km±14km, n61, σ1°.24/60, 5C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.33 187**			**Pn**	**07 00 33.3**	**-0.8**
PCDR					**Sn**	**07 00 41.7**	**+1.2**
PCDR	**Punta Cana, DR**	**0.33 187**		IAML		07 00 44.3	
	comp=N,191nm,1.9s						
PCDR	**Punta Cana, DR**	**0.33 187**		*eP*g	**Pn**	**07 00 33.3**	**-0.8**
PCDR				IAML		07 00 42.0	
	comp=N,165nm,1.0s						
PCDR	**Punta Cana, DR**	**0.33 187**		⇑*eP*	**Pn**	**07 00 33.3**	**-0.8**
PCDR	**Punta Cana, DR**	**0.33 187**		*eS*	**Sn**	**07 00 41.7**	**+1.2**
PCDR	**Punta Cana, DR**	**0.33 187**		*i* P		07 00 33.2	
PCDR				*eS*		07 00 41.6	
PCDR				IAML		07 00 43.3	
	comp=Z,72nm,0.9s						
HIDR	**Higuey Centro**	**0.43 235**		⇓*eP*	**Pn**	**07 00 34.5**	**-0.7**
HIDR	**Higuey Centro**	**0.43 235**		*eS*	**Sn**	**07 00 43.6**	**+1.1**
SADR	**Isla Saona**	**0.77 213**		⇑*eP*g	**Pn**	**07 00 37.7**	**-1.8**
SMDR	**Samana, D

IDE Sn 07 00 52.6 -1.5
IDE Isla Desecheo 0.94 119‖ eP Pn 07 00 39.3 -2.5
IDE Isla Desecheo 0.94 119 eS Sn 07 00 52.6 -1.5
DR12 Loma Pena Alta 0.99 267 Pn **Pn 07 00 42.4 -0.1**
HATOM Hato Mayor del 0.99 267 ePg Pn 07 00 42.6 +0.1
HATOM IAML 07 01 01.9
comp=N,16nm,0.2s
AGPR Aguadilla, PR 1.22 107 Sn 07 01 02.4 +1.4
AGPR Aguadilla, PR 1.22 107 Pn **Pn 07 00 45.5 -0.2**
AGPR IAML 07 01 35.1
comp=E,57nm,2.3s
AGPR Aguadilla, PR 1.22 107 eS Sn 07 01 02.4 +1.4
AGPR Aguadilla, PR 1.22 107 i P 07 00 44.0
AGPR IAML 07 01 07.2
comp=Z,37nm,1.1s
PRSN Puerto Rico Se 1.29 118 Pn 07 00 47.4 +0.8
PRSN Puerto Rico Se 1.29 118 Sn 07 01 04.3 +1.6
PRSN Puerto Rico Se 1.29 118 IAML 07 01 08.6
comp=E,40nm,0.3s
PRSN IAML 07 01 11.9
comp=N,64nm,0.3s
PRSN Puerto Rico Se 1.29 118⇑ eP Pn 07 00 43.9 -2.7
PRSN Puerto Rico Se 1.29 118 eS Sn 07 01 04.3 +1.6
LSP Las Mesas 1.36 119 Pn 07 00 46.9 -0.7
LSP **Sn 07 01 05.8 +1.3**
LSP Las Mesas 1.36 119‖ eP Pn 07 00 46.9 -0.7
LSP Las Mesas 1.36 119 eS Sn 07 01 05.8 +1.3
CRPR Cabo Rojo, PR 1.43 125 Pn 07 00 48.9 +0.4
CRPR Cabo Rojo, PR 1.43 125 Sn 07 01 07.0 +0.8
CRPR Cabo Rojo, PR 1.43 125 IAML 07 01 05.1
comp=E,25nm,2.8s
CRPR Cabo Rojo, PR 1.43 125 IAML 07 01 40.7
comp=N,25nm,2.0s
CRPR Cabo Rojo, PR 1.43 125‖ eP Pn 07 00 48.9 +0.4
CRPR Cabo Rojo, PR 1.43 125 eS Sn 07 01 07.0 +0.8
CRPR Cabo Rojo, PR 1.43 125 i P 07 00 49.4
CRPR eS 07 01 08.3
CRPR IAML 07 01 11.7
comp=Z,26nm,1.3s
MLPR Magueyes Islan 1.50 125 Pn 07 00 48.3 -1.2
MLPR **Sn 07 01 08.8 +0.9**
MLPR Magueyes Islan 1.50 125 IAML 07 01 13.2
comp=E,24nm,1.0s
MLPR Magueyes Islan 1.50 125 ePg Pn 07 00 49.3 -0.2
MLPR IAML 07 01 31.6
comp=N,17nm,2.2s
MLPR Magueyes Islan 1.50 125‖ eP Pn 07 00 48.3 -1.2
MLPR Magueyes Islan 1.50 125 eS Sn 07 01 08.8 +0.9
SDD Santo Domingo 1.54 256 Pn **Pn 07 00 50.0 0.0**
AOPR Arecibo Observ 1.58 108 Pn 07 00 50.1 -0.5
AOPR **Sn 07 01 10.8 +0.9**
AOPR Arecibo Observ 1.58 108 IAML 07 01 15.5
comp=N,36nm,0.7s
AOPR Arecibo Observ 1.58 108 ePg Pn 07 00 52.5 +1.9
AOPR IAML 07 01 16.9
comp=N,31nm,0.2s
AOPR Arecibo Observ 1.58 108‖ eP Pn 07 00 50.1 -0.5
AOPR Arecibo Observ 1.58 108 eS Sn 07 01 10.8 +0.9
OBIP Obispado Ponce 1.83 115 Pn 07 00 54.4 +0.4
OBIP IAML 07 01 46.7
comp=N,15nm,2.9s
OBIP Obispado Ponce 1.83 115 Sn 07 01 17.5 +1.7
OBIP Obispado Ponce 1.83 115 IAML 07 01 09.0
comp=E,15nm,2.7s
OBIP Obispado Ponce 1.83 115‖ eP Pn 07 00 54.4 +0.4
OBIP Obispado Ponce 1.83 115 eS Sn 07 01 17.5 +1.7
CELP Cerrillos 1.83 114 Pn 07 00 54.1 0.0
CELP **Sn 07 01 16.6 +0.5**
CELP Cerrillos 1.83 114 IAML 07 01 21.0
comp=E,21nm,1.7s
CELP IAML 07 01 23.0
comp=N,19nm,0.7s
CELP Cerrillos 1.83 114⇑ ePg Pn 07 00 55.5 +1.4
CELP IAML 07 01 39.6
comp=N,14nm,3.0s
CELP Cerrillos 1.83 114‖ eP Pn 07 00 54.1 0.0
CELP Cerrillos 1.83 114 eS Sn 07 01 16.6 +0.5
ECPR Experimental S 1.94 105‖ eP Pn 07 00 54.2 -1.4
ECPR Experimental S 1.94 105 eS Sn 07 01 18.1 -0.7
BANI BANI 1.97 257 Pn **Pn 07 00 54.6 -1.4**
IGPR InterUniversit 2.29 112 Pn **Pn 07 01 00.9 +0.6**
IGPR **Sn 07 01 30.0 +2.7**
IGPR IAML 07 01 36.5
comp=N,18nm,0.3s
IGPR IAML 07 01 45.7
comp=E,12nm,0.6s
IGPR InterUniversit 2.29 112 eS Sn 07 01 26.7 -0.6
PDPR Patillas Dam, 2.35 110 Pn **Pn 07 01 00.2 -0.9**
PDPR Patillas Dam, 2.35 110‖ eP Pn 07 00 59.9 -1.2
PDPR Patillas Dam, 2.35 110 eS Sn 07 01 26.9 -1.7

NEIC ***08*** *07:23:37.3±1.2, 46°.51N±0°.06×81°.17W±0°.08, h2km±5km, mb_Lg3.1/57, mb_Lg3.6(OTT), Error ellipse: s-maj=8.8km s-min=7.6km az=140.0*
IDC ***08*** *07:23:38.9±2.7, 46°.84N×81°.34W, h0km, mb2.9/2, mbtmp3.5/4, ML2.5/2, MS3.0/1, Error ellipse: s-maj=39.6km s-min=11.8km az=168.0*
OTT ***08*** *07:23:38.1±0.1, 46°.46N×81°.17W, h2km, MN3.6/25*
OTT Mining related event, Sudbury, Ontario Felt 3km northwest from Lively, On Felt in Sudbury, Ontario Mining induced.
ISC 08 07:23:35.3±0.6, 46°.49N±0°.02×81°.18W±0°.03, h0km, n100, σ1§38/113, Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUBO	**Sudbury**	**0.13**	**16**	PG	**Pg**	**07 23 40.8**	**+3.0**
SUBO				SG	**Sg**	**07 23 41.9**	**+2.4**
SUBO				Trac		07 23 42.1	
	comp=Z,1μm,0.0s						
TOBO	**Tobermory, Bru**	**1.28**	**191**	PG	**Pg**	**07 24 00.2**	**+0.3**
TOBO				Trac		07 24 18.6	
	comp=Z,150nm,0.2s						
KLBO	**Killbear Provi**	**1.32**	**149**	PG	**Pg**	**07 24 00.9**	**+0.4**
KLBO				SG	**Sg**	**07 24 18.0**	**+0.4**
KLBO				Trac		07 24 19.1	
	comp=Z,74nm,0.1s						
KIPQ	**Kipawa,Quebec**	**1.50**	**77**	PG	**Pb**	**07 24 04.8**	**+0.8**
KIPQ				SG	**Sn**	**07 24 25.0**	**+1.3**
KIPQ				Trac		07 24 26.1	
	comp=Z,218nm,0.2s						
BUKO	**Buck Lake**	**1.62**	**129**	PG	**Pn**	**07 24 06.3**	**+1.1**
BUKO				SG	**Sn**	**07 24 27.6**	**+0.8**
BUKO				Trac		07 24 30.2	
	comp=Z,134nm,0.1s						
BMRO	**Meriville Lake**	**1.89**	**181**	PN	**Pn**	**07 24 10.6**	**+1.7**
BMRO				SN	**Sn**	**07 24 34.9**	**+1.5**
BMRO				Trac		07 24 36.9	
	comp=Z,384nm,0.6s						
CLWO	**Collingwood**	**2.13**	**163**	PN	**Pn**	**07 24 13.8**	**+1.7**
CLWO				SN	**Sn**	**07 24 40.5**	**+1.1**
CLWO				Trac		07 24 47.4	
	comp=Z,97nm,0.1s						
E46A	**Sault Ste Mari**	**2.16**	**268**		**Pb**	**07 24 15.3**	**0.0**
E46A					**Sb**	**07 24 42.8**	**+0.1**
E46A	**Sault Ste Mari**	**2.16**	**268**	PN	**Pb**	**07 24 14.9**	**-0.4**
E46A				SN	**Sb**	**07 24 42.3**	**-0.4**
E46A				Trac		07 24 45.3	
	comp=Z,340nm,0.3s						
SADO	**Sadowa**	**2.24**	**139**		**Pn**	**07 24 15.4**	**+1.9**
SADO					**Sn**	**07 24 43.9**	**+2.0**
SADO	**Sadowa**	**2.24**	**139**	PN	**Pn**	**07 24 15.2**	**+1.6**
SADO				SN	**Sn**	**07 24 43.1**	**+1.2**
SADO				Trac		07 24 46.9	
	comp=Z,89nm,0.1s						
KILO	**Kirkland Lake**	**2.24**	**26**	PN	**Pb**	**07 24 16.4**	**-0.3**
KILO				SN	**Sb**	**07 24 44.2**	**-0.7**
KILO				Trac		07 24 46.2	
	comp=Z,72nm,0.1s						
BRCO	**Bruce Peninsul**	**2.25**	**185**	SN	**Sn**	**07 24 44.0**	**+1.7**
BWLO	**Walkerton**	**2.37**	**179**	PN	**Pn**	**07 24 17.2**	**+1.7**
BWLO				SN	**Sn**	**07 24 46.4**	**+1.1**
BWLO				Trac		07 24 52.2	
	comp=Z,78nm,0.2s						
BASO	**Ashfield**	**2.50**	**188**	PN	**Pn**	**07 24 18.7**	**+1.5**
BASO				SN	**Sn**	**07 24 49.4**	**+1.1**
BASO				Trac		07 24 55.5	
	comp=Z,155nm,0.2s						
CHRO	**Chalk River**	**2.68**	**98**	PN	**Pn**	**07 24 21.6**	**+2.0**
CHRO				SN	**Sn**	**07 24 53.7**	**+1.0**
CHRO				Trac		07 25 00.3	
	comp=Z,99nm,0.2s						
I49A	**Point Hope**	**2.80**	**205**	Pn	**Pn**	**07 24 24.1**	**+2.7**
I49A					**Sn**	**07 24 56.9**	**+1.1**
PEMO	**Pembroke**	**2.86**	**105**	PN	**Pn**	**07 24 23.8**	**+1.6**
PEMO				SN	**Sn**	**07 24 58.4**	**+1.2**
PEMO				LG	Lg	07 25 06.4	
PEMO				Trac		07 25 08.5	
	comp=Z,56nm,0.2s						
GLMI	**Grayling**	**2.93**	**237**	Pn	**Pn**	**07 24 24.4**	**+1.3**
GLMI					**Sn**	**07 24 58.3**	**-0.7**
PKRO	**Pickering**	**2.93**	**149**	PN	**Pn**	**07 24 25.4**	**+2.3**
PKRO				SN	**Sn**	**07 24 59.7**	**+0.7**
PKRO				LG	Lg	07 25 08.4	
PKRO				Trac		07 25 16.1	
	comp=Z,153nm,0.2s						
VLDQ	**Val d'Or**	**3.01**	**56**		**Pn**	**07 24 23.9**	**-0.3**
VLDQ					**Sn**	**07 24 56.6**	**-4.4**
VLDQ				IAmb_Lg		07 25 10.3	
	comp=Z,57nm,0.8s						
VLDQ	**Val d'Or**	**3.01**	**56**	PN	**Pn**	**07 24 24.6**	**+0.3**
VLDQ				SN	**Sn**	**07 24 59.5**	**-1.5**
VLDQ				LG	Lg	07 25 06.7	
VLDQ				Trac		07 25 07.0	
	comp=Z,92nm,0.2s						
KAPO	**Kapuskasing**	**3.10**	**344**	PN	**Pn**	**07 24 26.9**	**+1.5**
KAPO				SN	**Sn**	**07 25 04.9**	**+1.8**
KAPO				LG	Lg	07 25 14.5	
KAPO				Trac		07 25 18.1	
	comp=Z,43nm,0.2s						
DELO	**Deloro Mine**	**3.19**	**127**	Pn	**Pn**	**07 24 27.5**	**+0.8**
DELO	**Deloro Mine**	**3.19**	**127**	PN	**Pn**	**07 24 28.4**	**+1.7**
DELO				SN	**Sn**	**07 25 05.8**	**+0.5**
DELO				Trac		07 25 17.7	
	comp=Z,32nm,0.2s						
PLVO	**Plevna**	**3.22**	**115**	PN	**Pn**	**07 24 28.4**	**+1.3**
PLVO				SN	**Sn**	**07 25 06.5**	**+0.4**
PLVO				Trac		07 25 18.8	
	comp=Z,38nm,0.1s						
WLVO	**Wesleyville**	**3.23**	**141**	SN	**Sn**	**07 25 05.4**	**-1.0**
WLVO				Trac		07 25 14.9	
	comp=Z,54nm,0.2s						
ELFO	**Elginfield**	**3.30**	**182**	PN	**Pn**	**07 24 29.8**	**+1.7**
ELFO				SN	**Sn**	**07 25 07.6**	**-0.4**
ELFO				Trac		07 25 20.7	
	comp=Z,74nm,0.2s						
STCO	**Saint Catharin**	**3.58**	**156**	SN	**Sn**	**07 25 14.8**	**-0.1**
STCO				Trac		07 25 25.5	
	comp=Z,80nm,0.3s						
MALO	**McAlpine Lake**	**3.66**	**14**	PN	**Pn**	**07 24 35.2**	**+2.0**
MALO				SN	**Sn**	**07 25 18.0**	**+0.9**
MALO				Trac		07 25 32.1	
	comp=Z,81nm,0.4s						
MALO				LG	Lg	07 25 33.0	
GRQ	**Grand Remous**	**3.67**	**86**	PN	**Pn**	**07 24 35.1**	**+1.8**
GRQ				SN	**Sn**	**07 25 17.2**	**-0.1**
GRQ				LG	Lg	07 25 32.8	
GRQ				Trac		07 25 37.0	
	comp=Z,28nm,0.2s						
MEDO	**Medina**	**3.85**	**149**	Pn	**Pn**	**07 24 36.6**	**+0.9**
PECO	**Prince Edward**	**3.91**	**129**	Pn	**Pn**	**07 24 37.2**	**+0.7**
PECO				IAmb_Lg		07 25 50.6	
	comp=Z,39nm,1.0s						
PECO	**Prince Edward**	**3.91**	**129**	PN	**Pn**	**07 24 37.9**	**+1.3**
PECO				SN	**Sn**	**07 25 22.8**	**-0.3**
PECO				Trac		07 25 41.9	
	comp=Z,63nm,0.4s						
OTT	**Ottawa**	**3.97**	**104**	SN	**Sn**	**07 25 25.3**	**+0.8**
OTT				Trac		07 25 47.9	
	comp=Z,31nm,0.2s						
J55A	**Hilton**	**4.01**	**142**	Pn	**Pn**	**07 24 39.4**	**+1.4**
J55A				IAmb_Lg		07 25 54.6	
	comp=Z,33nm,1.1s						
GAC	**Glen Almond**	**4.04**	**99**	PN	**Pn**	**07 24 39.3**	**+0.9**
GAC				SN	**Sn**	**07 25 26.5**	**0.0**
GAC				LG	Lg	07 25 44.7	
GAC				Trac		07 25 47.4	
	comp=Z,58nm,0.4s						
J47A	**Sunmer**	**4.15**	**220**	Pn	**Pn**	**07 24 41.7**	**+1.7**
WBO	**Williamsburg**	**4.39**	**108**	Pn	**Pn**	**07 24 44.3**	**+1.1**
MMNY	**Mt. Morris Dam**	**4.42**	**147**	Pn	**Pn**	**07 24 44.4**	**+0.7**
ERPA	**Erie**	**4.45**	**168**	Pn	**Pn**	**07 24 44.6**	**+0.6**
WVNY	**West Valley, N**	**4.48**	**155**		**Pn**	**07 24 46.4**	**+1.9**
WVNY				IAmb_Lg		07 26 04.4	
	comp=Z,42nm,0.9s						
AAM	**Ann Arbor**	**4.55**	**204**	IAmb_Lg		07 26 07.9	
	comp=Z,38nm,0.8s						
TRQ	**Mont Tremblant**	**4.60**	**91**	Pn	**Pn**	**07 24 47.2**	**+1.1**
J57A	**Williamstown**	**4.80**	**128**	Pn	**Pn**	**07 24 49.5**	**+0.7**
J57A				IAmb_Lg		07 26 11.3	
	comp=Z,42nm,1.1s						
ALLY	**Alegheny Colle**	**4.89**	**171**	Pn	**Pn**	**07 24 52.4**	**+2.2**
M52A	**Chesterland**	**4.95**	**182**	Pn	**Pn**	**07 24 52.0**	**+1.1**
M52A				IAmb_Lg		07 26 23.0	
	comp=Z,31nm,0.7s						
K57A	**Scipio Center**	**5.02**	**137**	Pn	**Pn**	**07 24 52.4**	**+0.5**
K57A				IAmb_Lg		07 26 23.8	
	comp=Z,37nm,0.7s						
H43A	**Windswept, Lux**	**5.05**	**249**	Pn	**Pn**	**07 24 53.3**	**+1.0**
L56A	**Greenwood**	**5.07**	**148**	Pn	**Pn**	**07 24 53.0**	**+0.4**
L56A				IAmb_Lg		07 26 16.0	
	comp=Z,26nm,0.8s						
L48A	**N Adams**	**5.11**	**208**		**Pn**	**07 24 53.9**	**+0.8**
L48A				IAmb_Lg		07 26 18.4	
	comp=Z,30nm,0.8s						
M50A	**Fremont**	**5.26**	**195**	IAmb_Lg		07 26 27.7	
	comp=Z,39nm,0.8s						
NCB	**Newcomb**	**5.52**	**115**	Pn	**Pn**	**07 24 58.8**	**0.0**
FRNY	**Flat Rock**	**5.57**	**105**	Pn	**Pn**	**07 25 00.1**	**+0.7**
FRNY				IAmb_Lg		07 26 43.3	
	comp=Z,35nm,1.1s						
J59A	**Piesco**	**5.62**	**120**	Pn	**Pn**	**07 25 00.4**	**+0.3**
N51A	**Ashland**	**5.63**	**189**	Pn	**Pn**	**07 25 00.2**	**-0.1**
N51A				IAmb_Lg		07 26 33.3	
	comp=Z,33nm,0.9s						
BINY	**Binghamton**	**5.68**	**137**	Pn	**Pn**	**07 25 01.1**	**+0.2**
N53A	**Lisbon**	**5.69**	**177**	Pn	**Pn**	**07 25 01.3**	**+0.3**
N53A				IAmb_Lg		07 26 35.8	
	comp=Z,24nm,0.8s						
M57A	**Sunshine Farm,**	**5.92**	**149**	Pn	**Pn**	**07 25 04.6**	**+0.3**
M57A				IAmb_Lg		07 26 42.0	
	comp=Z,25nm,1.0s						
N49A	**Columbus Grove**	**5.97**	**202**	IAmb_Lg		07 26 48.9	
	comp=Z,26nm,0.8s						
I42A	**Draeger Farm,**	**6.05**	**247**	Pn	**Pn**	**07 25 06.8**	**+0.8**
L59A	**Walton**	**6.15**	**132**	Pn	**Pn**	**07 25 07.9**	**+0.5**
L59A				IAmb_Lg		07 26 53.5	
	comp=Z,25nm,0.8s						
ACCN	**Adirondack Com**	**6.17**	**117**	IAmb_Lg		07 26 49.6	
	comp=Z,26nm,0.9s						
KSPA	**Keystone Colle**	**6.29**	**140**	Pn	**Pn**	**07 25 10.4**	**+1.2**
VT1	**Waterbury**	**6.31**	**107**	IAmb_Lg		07 26 52.7	
	comp=Z,28nm,0.7s						
SSPA	**Standing Stone**	**6.32**	**157**	Pn	**Pn**	**07 25 10.4**	**+0.7**
K43A	**Burlington**	**6.35**	**236**	Pn	**Pn**	**07 25 11.7**	**+1.6**
O52A	**Adamsville**	**6.39**	**185**	Pn	**Pn**	**07 25 10.6**	**-0.1**
ACSO	**Alum Creek Sta**	**6.39**	**192**	IAmb_Lg		07 27 00.3	
	comp=Z,28nm,0.9s						
G40A	**Rib Lake**	**6.41**	**262**	Pn	**Pn**	**07 25 11.2**	**+0.2**
O49A	**Covington**	**6.70**	**201**	IAmb_Lg		07 27 05.5	
	comp=Z,27nm,0.8s						
O48B	**Farmland**	**6.87**	**206**	IAmb_Lg		07 27 15.1	
	comp=Z,19nm,0.9s						
J61A	**Chester**	**6.88**	**114**	Pn	**Pn**	**07 25 19.0**	**+1.6**
LDAQ	**Lac Daran**	**6.93**	**74**	IAmb_Lg		07 27 11.4	
	comp=Z,24nm,1.0s						
P53A	**Whipple**	**7.00**	**181**	IAmb_Lg		07 27 14.2	
	comp=Z,22nm,0.9s						
M44A	**Midewin, Midew**	**7.11**	**227**	Pn	**Pn**	**07 25 22.9**	**+2.5**
P51A	**Williamsport**	**7.14**	**192**	IAmb_Lg		07 27 18.7	
	comp=Z,24nm,0.8s						
I40A	**Norwalk**	**7.15**	**252**	Pn	**Pn**	**07 25 21.9**	**+0.7**
EYMN	**Ely**	**7.17**	**285**	Pn	**Pn**	**07 25 20.9**	**-0.6**
ODNJ	**Ogdensburg**	**7.20**	**136**	Pn	**Pn**	**07 25 22.9**	**+1.2**
KSCT	**Kent School, K**	**7.30**	**128**	Pn	**Pn**	**07 25 23.7**	**+0.6**
JFWS	**Jewell Farm**	**7.38**	**244**	Pn	**Pn**	**07 25 25.5**	**+1.2**
MVL	**Millersville**	**7.38**	**150**	Pn	**Pn**	**07 25 26.0**	**+1.7**
P49A	**Miami Univ. Ec**	**7.42**	**202**	IAmb_Lg		07 27 35.9	
	comp=Z,19nm,0.9s						
I62A	**Tamworth**	**7.43**	**107**	Pn	**Pn**	**07 25 27.1**	**+2.1**
LMQ	**La Malbaie**	**7.50**	**78**	Pn	**Pn**	**07 25 23.1**	**-2.7**
G62A	**West of Eustis**	**7.54**	**96**	Pn	**Pn**	**07 25 26.8**	**+0.3**
Q51A	**Peebles**	**7.62**	**193**	IAmb_Lg		07 27 41.2	
	comp=Z,17nm,0.7s						
E62A	**Clayton Lake**	**8.04**	**85**	Pn	**Pn**	**07 25 32.2**	**-1.1**
SPMN	**Marine on St.**	**8.21**	**265**	Pn	**Pn**	**07 25 35.7**	**0.0**
D62A	**Allapoint, All**	**8.35**	**82**	Pn	**Pn**	**07 25 36.5**	**-1.1**
HDIL	**Hopedale**	**8.36**	**228**	IAmb_Lg		07 28 00.3	
	comp=Z,16nm,0.7s						
L40A	**Anamosa**	**8.45**	**242**	Pn	**Pn**	**07 25 38.8**	**-0.2**
R50A	**Paris**	**8.52**	**197**	Pn	**Pn**	**07 25 39.2**	**-0.7**
F64A	**Sherman**	**8.93**	**89**	Pn	**Pn**	**07 25 44.1**	**-1.4**
ULM	**Lac du Bonnet**	**10.47**	**296**	Pn	**Pn**	**07 26 03.9**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=102,slow=11,SNR=9.8						
ULM				Sn	Sn	07 27 51.5	-13
	comp=Z,0.8nm,0.3s,baz=19,slow=22,SNR=6.7						
ULM				Lg	Lg	07 28 55.2	
	comp=Z,1.3nm,0.3s,baz=3.4,slow=22,SNR=6.5						
	comp=Z,1.9nm,0.3s						
SCHQ	**Schefferville**	**12.34**	**42**	Pn	**Pn**	**07 26 28.4**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=229,slow=9.3,SNR=6.0						
SCHQ				Sn	Sn	07 28 39.0	-11
	comp=Z,0.7nm,0.3s,baz=161,slow=19,SNR=5.7						
SCHQ				Lg	Lg	07 29 54.8	
	comp=Z,1.2nm,0.3s,baz=133,slow=19,SNR=4.8						
	comp=Z,0.9nm,0.2s						
PDAR	**Pinedale Array**	**20.49**	**270**	P	**P**	**07 28 15.4**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=75,slow=13,SNR=5.0						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**24.52**	**234**	LR	LR	07 38 29.7	
	comp=Z,38nm,21.5s,baz=138,slow=36						
YKA	**Yellowknife Ar**	**24.77**	**322**	P	**P**	**07 28 59.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=116,slow=9.6,SNR=5.6						
	comp=Z,0.2nm,0.5s						

IDC ***08*** *07:26:07.5±0.8, 24°.95N×142°.54E, h0km, mb4.0/13, mbtmp4.0/15, ML3.3/3, MS3.3/7, Error ellipse: s-maj=30.1km s-min=16.7km az=78.0*
NEIC ***08*** *07:26:09.3±2.7, 24°.96N±0°.10×142°.6E±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=28.1km s-min=15.8km az=80.0*
ISC 08 07:26:12.3±0.7, 25°.01N±0°.08×142°.6E±0°.1, h32km, n43, σ1§10/41, mb4.5/19, MS3.5/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.10**	**351**	Pn	**Pn**	**07 26 45.2**	**-0.2**
JCJ	**Chichijima**	**2.10**	**351**	Pn	**Pn**	**07 26 43.2**	**-2.2**
	11nm,0.3s,baz=272,slow=15,SNR=4.9						
JCJ				Sn	**Sn**	**07 27 12.0**	**+1.5**
	32nm,0.3s,baz=319,slow=20,SNR=7.6						
JHJ2	**Mitsune**	**8.42**	**344**	Pn	**Pn**	**07 28 13.8**	**+1.6**
MJAR	**Matsushiro Arr**	**12.09**	**343**	Pn	**Pn**	**07 29 02.8**	**+0.4**
	0.1nm,0.3s,baz=160,slow=10,SNR=5.1						
MJAR				LR	LR	07 33 20.9	
	comp=Z,39nm,19.2s,baz=146,slow=36						
	1.6nm,0.5s						
JMM	**Marumori**	**12.90**	**354**	Pn	**Pn**	**07 29 11.2**	**-2.3**
JOW	**Kunigami**	**13.00**	**281**	LR	LR	07 33 31.9	
	comp=Z,122nm,21.4s,baz=325,slow=34						
KSRS	**Korea Array**	**17.60**	**318**	Pn	**P**	**07 30 16.3**	**+0.4**
	0.2nm,0.3s,baz=123,slow=13,SNR=8.6						
KSRS				LR	LR	07 37 09.9	
	comp=Z,81nm,18.1s,baz=130,slow=38						
	3.8nm,0.8s						
YULB	**Yu-li**	**19.47**	**270**	P	**P**	**07 30 34.8**	**-1.8**
YULB				IAmb	IAmb	07 30 47.9	
	comp=Z,49nm,1.4s						
USRK	**Ussuriysk Ar.**	**21.00**	**338**	P	**P**	**07 30 53.7**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=119,slow=12,SNR=2.5						
USRK				LR	LR	07 39 28.2	
	comp=Z,87nm,18.2s,baz=125,slow=38						
	comp=Z,2.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**40.91**	**270**	LR	LR	07 51 09.5	
	comp=Z,32nm,19.2s,baz=85,slow=37						
WB2	**Warramunga Arr**	**45.39**	**191**	P	**P**	**07 34 26.1**	**-1.9**
WB2				IAmb	IAmb	07 34 43.9	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**45.40**	**191**	P	**P**	**07 34 27.0**	**-1.1**
WRA	**Warramunga Arr**	**45.40**	**191**	P	**P**	**07 34 26.6**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=12,slow=8.6,SNR=6.1						
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**49.11**	**191**	P	**P**	**07 34 56.1**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=12,slow=14,SNR=2.0						
	comp=Z,0.5nm,0.9s						
MK31	**Makanchi Array**	**52.08**	**311**	P	**P**	**07 35 18.6**	**-0.6**
MKAR	**Makanchi Array**	**52.08**	**311**	P	**P**	**07 35 18.3**	**-0.9**
MKAR	**Makanchi Array**	**52.08**	**311**	P	**P**	**07 35 19.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=91,slow=9.4,SNR=7.1						
MKAR				PcP	**PcP**	**07 36 31.9**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=80,slow=5.4,SNR=6.0						
	comp=Z,0.5nm,0.6s						
NRIK	**Noril'sk**	**54.71**	**339**	P	**P**	**07 35 38.5**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=85,slow=6.4,SNR=3.6						
	comp=Z,1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**54.75**	**315**	P	**P**	**07 35 38.5**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=92,slow=7.9,SNR=22						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**56.58**	**181**	P	**P**	**07 35 52.6**	**+0.7**
STKA				IAmb	IAmb	07 36 23.3	
	comp=Z,5.7nm,1.1s						
B22K	**Teshekpuk Lake**	**57.98**	**21**	P	**P**	**07 36 02.5**	**+1.1**
B22K				IAmb	IAmb	07 36 04.2	
	comp=Z,4.6nm,1.1s						
RND	**Reindeer**	**58.36**	**29**	P	**P**	**07 36 03.5**	**-0.7**
RND				IAmb	IAmb	07 36 47.5	
	comp=Z,7.1nm,1.4s						
D23K	**Nanushuk River**	**58.57**	**23**	P	**P**	**07 36 07.2**	**+1.6**
D23K				IAmb	IAmb	07 36 19.2	
	comp=Z,5.9nm,1.2s						
C23K	**Itkillik River**	**58.78**	**22**	P	**P**	**07 36 08.5**	**+1.5**
ILAR	**Eielson Array**	**59.37**	**28**	P	**P**	**07 36 11.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=257,slow=3.6,SNR=4.6						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**59.82**	**318**	P	**P**	**07 36 14.2**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=94,slow=7.6,SNR=11						
	comp=Z,3.2nm,0.7s						
D25K	**Kavik River**	**60.15**	**23**	P	**P**	**07 36 17.5**	**+1.0**
KK31	**Karatay Array**	**60.60**	**307**	P	**P**	**07 36 19.7**	**-0.3**
KK31				IAmb	IAmb	07 36 24.3	
	comp=Z,6.6nm,1.5s					

0.4nm,0.3s
MKAR Makanchi Array 8.14 205 Pn Pn 07 31 41.5 +1.3
0.1nm,0.3s,baz=26,slow=14,SNR=5.6
MKAR Sn Sn 07 33 13.6 +0.7
baz=15,slow=30,SNR=3.8
0.1nm,0.3s

---

*ASRS **08** 07:33:27.0±1.1, 54.°00N×86.°57E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 07:33:30.9±2.5, 53.°97N×86.°42E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=20.4km s-min=12.3km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**269**	I	I	07 39 20.0	
	baz=87,slow=351,SNR=5.3						
ZALV	**Zalesovo Beam**	**0.94**	**269**	Pg	Pg	07 33 48.2	-0.7
	0.4nm,0.3s,baz=87,slow=17,SNR=5.4						
ZALV				Lg	Lg	07 34 02.3	
	1.3nm,0.3s,baz=90,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**5.88**	**238**	Pn	Pn	07 35 00.2	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=4.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.65**	**202**	Pn	Pn	07 35 24.6	+1.0
	0.1nm,0.3s,baz=25,slow=14,SNR=7.3						
	0.2nm,0.5s						

---

*ASRS **08** 07:34:51.0±1.3, 54.°68N×83.°68E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 07:34:54.1±2.5, 54.°63N×83.°81E, h0km, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=19.6km s-min=11.7km az=173.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**139**	I	I	07 40 00.0	
	0.1nm,2.2s,baz=317,slow=335,SNR=8.1						
ZALV	**Zalesovo Beam**	**0.91**	**139**	Pg	Pg	07 35 10.9	-0.5
	3.1nm,0.3s,baz=324,slow=16,SNR=18						
ZALV				Lg	Lg	07 35 25.1	
	9.7nm,0.3s,baz=322,slow=30,SNR=21						
KURBB	**Kurchatov Arra**	**5.14**	**221**	Pn	Pn	07 36 12.7	+0.3
	baz=59,slow=9.0,SNR=1.4						
KURBB				Lg	Lg	07 37 37.8	
	0.1nm,0.3s,baz=43,slow=31,SNR=6.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.91**	**188**	Pn	Pn	07 36 50.2	-0.1
	0.1nm,0.3s,baz=13,slow=12,SNR=4.0						
MKAR				Lg	Lg	07 39 03.3	
	0.1nm,0.3s,baz=13,slow=27,SNR=6.8						
	0.1nm,0.4s						

---

*SDD **08** 07:44:44.9±2.4, 18.°12N×68.°75W, h152km±30km, MD3.5, ML2.4, MW3.4*
*OSPL **08** 07:44:44.3±1.4, 18.°17N×68.°72W, h163km±13km, ML2.7, Hypocentre not reviewed by the ISC*
*NEIC **08** 07:44:45.0±1.8, 17.°8N±0.°2×68.°78W±0.°05, h134km±16km, ML2.5/28, Md3.5/5(RSPR), Error ellipse: s-maj=33.9km s-min=3.7km az=190.0*
*RSPR **08** 07:44:46.0, 18.°03N×68.°72W, h140km±5km, MD3.5/5*
ISC 08 07:44:43.3±1.4, 18.°0N±0.°1×68.°81W±0.°05, h150km, n43, σ1.9 12/42, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.62**	**41**		**Pn**	**07 45 05.7**	**+0.3**
PCDR	**Punta Cana, DR**	**0.62**	**41**		**Sn**	**07 45 22.5**	**+0.4**
PCDR	**Punta Cana, DR**	**0.62**	**41**	IAML		07 45 19.0	
	comp=N,155nm,1.7s						
PCDR				IAML		07 45 19.5	
	comp=E,80nm,2.1s						
PCDR	**Punta Cana, DR**	**0.62**	**41**	⇑*e*Pg	**Pn**	**07 45 05.5**	**+0.2**
PCDR				⇑*e*Sg	**Sn**	**07 45 22.6**	**+0.4**
PCDR				IAML		07 45 31.8	
	comp=N,147nm,2.9s						
PCDR	**Punta Cana, DR**	**0.62**	**41**	⇑*e*P	**Pn**	**07 45 05.7**	**+0.3**
PCDR	**Punta Cana, DR**	**0.62**	**41**	*e*S	**Sn**	**07 45 22.5**	**+0.4**
PCDR	**Punta Cana, DR**	**0.62**	**41**	*i* P		07 45 05.6	
PCDR				*e*S		07 45 22.2	
PCDR				IAML		07 45 25.2	
	comp=Z,82nm,1.1s						
DR12	**Loma Pena Alta**	**0.92**	**324**	Pn	**Pn**	**07 45 06.8**	**-0.7**
HATOM	**Hato Mayor del**	**0.92**	**324**	⇑*e*Pg	**Pn**	**07 45 07.0**	**-0.5**
HATOM				⇑*e*Sg	**Sn**	**07 45 23.8**	**-2.2**
HATOM				IAML		07 45 26.7	
	comp=N,16nm,0.6s						
BANI	**BANI**	**1.51**	**284**	Pn	**Pn**	**07 45 13.9**	**+0.8**
BANI				IAML		07 45 38.0	
	comp=N,44nm,0.8s						
BANI				IAML		07 45 47.9	
	comp=E,37nm,1.7s						
CRPR	**Cabo Rojo, PR**	**1.62**	**91**		**Sn**	**07 45 36.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.62**	**91**		**Pn**	**07 45 14.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.62**	**91**	IAML		07 46 30.1	
	comp=E,27nm,2.2s						
CRPR				IAML		07 46 35.4	
	comp=N,26nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.62**	**91**	⇑*e*Pg	**Pn**	**07 45 14.4**	**+0.3**
CRPR				⇑*e*Sg	**Sn**	**07 45 34.6**	**-3.1**
CRPR				IAML		07 46 19.4	
	comp=N,26nm,1.8s						
CRPR	**Cabo Rojo, PR**	**1.62**	**91**	⇑*e*P	**Pn**	**07 45 15.7**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.62**	**91**	*e*S	**Sn**	**07 45 36.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.62**	**91**	*i* P		07 45 14.5	
CRPR				IAML		07 45 37.4	
	comp=Z,24nm,2.0s						
AGPR	**Aguadilla, PR**	**1.67**	**75**		**Sn**	**07 45 39.5**	**+0.7**
AGPR	**Aguadilla, PR**	**1.67**	**75**	Pn	**Pn**	**07 45 15.1**	**+0.4**
AGPR	**Aguadilla, PR**	**1.67**	**75**	IAML		07 45 45.9	
	comp=N,58nm,1.7s						
AGPR				IAML		07 46 19.4	
	comp=E,64nm,2.5s						
AGPR	**Aguadilla, PR**	**1.67**	**75**	*e*S	**Sn**	**07 45 39.5**	**+0.7**
AGPR	**Aguadilla, PR**	**1.67**	**75**	*i* P		07 45 13.1	
AGPR				IAML		07 45 44.5	
	comp=Z,98nm,1.1s						
MLPR	**Magueyes Islan**	**1.68**	**92**		**Pn**	**07 45 15.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.68**	**92**		**Sn**	**07 45 38.0**	**-1.0**
MLPR	**Magueyes Islan**	**1.68**	**92**	IAML		07 45 31.7	
	comp=N,24nm,2.5s						
MLPR				IAML		07 46 36.0	
	comp=E,20nm,2.9s						
MLPR	**Magueyes Islan**	**1.68**	**92**	⇑*e*Pg	**Pn**	**07 45 15.0**	**+0.2**
MLPR				⇑*e*Sg	**Sn**	**07 45 35.8**	**-3.2**
MLPR				IAML		07 46 14.9	
	comp=N,22nm,2.5s						
MLPR	**Magueyes Islan**	**1.68**	**92**	⇑*e*P	**Pn**	**07 45 15.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.68**	**92**	*e*S	**Sn**	**07 45 38.0**	**-1.0**
AOPR	**Arecibo Observ**	**1.98**	**81**		**Pn**	**07 45 19.3**	**+1.0**
AOPR				IAML		07 45 56.0	
	comp=E,29nm,0.9s						
AOPR	**Arecibo Observ**	**1.98**	**81**	IAML		07 45 41.8	
	comp=N,32nm,1.9s						
AOPR	**Arecibo Observ**	**1.98**	**81**		**Sn**	**07 45 45.7**	**+0.7**
AOPR	**Arecibo Observ**	**1.98**	**81**	⇑*e*Pg	**Pn**	**07 45 18.2**	**0.0**
AOPR				IAML		07 46 16.2	
	comp=N,20nm,0.8s						
AOPR	**Arecibo Observ**	**1.98**	**81**	⇑*e*P	**Pn**	**07 45 19.3**	**+1.0**
AOPR	**Arecibo Observ**	**1.98**	**81**	*e*S	**Sn**	**07 45 45.7**	**+0.7**
OBIP	**Obispado Ponce**	**2.10**	**90**	Pn	**Pn**	**07 45 19.1**	**-0.5**
OBIP				IAML		07 46 09.4	
	comp=N,29nm,1.9s						
CELP	**Cerrillos**	**2.12**	**89**		**Pn**	**07 45 21.0**	**+1.0**
CELP				IAML		07 45 49.1	
	comp=E,15nm,2.5s						
CELP	**Cerrillos**	**2.12**	**89**		**Sn**	**07 45 48.4**	**+0.4**
CELP	**Cerrillos**	**2.12**	**89**	⇑*e*P	**Pn**	**07 45 21.0**	**+1.0**
CELP	**Cerrillos**	**2.12**	**89**	*e*S	**Sn**	**07 45 48.4**	**+0.4**
LOBA2	**Hotel Casa Bon**	**2.17**	**271**	⇑*e*Pg	**Pn**	**07 45 21.8**	**+1.3**
EMPR	**Esperanza - Ma**	**2.21**	**78**	Pn	**Pn**	**07 45 22.2**	**+1.3**
LOVI	**El Cajuil, Ovi**	**2.45**	**265**	*i* P		07 45 24.9	
LOVI				*e*S		07 45 55.2	
LOVI				IAML		07 45 58.1	
	comp=Z,80nm,1.0s						
SJG	**San Juan**	**2.53**	**88**	Pn	**Pn**	**07 45 24.6**	**-0.3**
SJG				IAML		07 45 52.9	
	comp=Z,30nm,0.3s						
LODU1	**El Espartillar**	**2.55**	**277**	*i* P		07 45 26.9	
LODU1				IAML		07 45 55.3	
	comp=Z,33nm,1.8s						
LONE3	**El Aguacate, B**	**2.58**	**283**	*i* P		07 45 26.3	
LONE3				IAML		07 46 05.0	
	comp=Z,16nm,4.2s						
PDPR	**Patillas Dam,**	**2.65**	**90**	Pn	**Pn**	**07 45 24.3**	**-2.0**
PDPR	**Patillas Dam,**	**2.65**	**90**	⇑*e*P	**Pn**	**07 45 26.8**	**+0.5**
PDPR	**Patillas Dam,**	**2.65**	**90**	*e*S	**Sn**	**07 46 00.1**	**+0.6**
LOBH	**Bahia de las A**	**2.70**	**267**	*i* P		07 45 28.2	
LOBH				IAML		07 46 12.3	
	comp=Z,42nm,3.9s						
HUMP	**Col San Antoni**	**2.82**	**87**	Pn	**Pn**	**07 45 28.1**	**-0.3**
HUMP				IAML		07 46 24.7	
	comp=N,10.0nm,3.8s						
HUMP				IAML		07 46 46.0	
	comp=E,9.6nm,3.1s						

---

*NEIC **08** 07:49:17.5±1.3, 59.°98N±0.°03×152.°65W±0.°04, h108km±4km, Error ellipse: s-maj=5.0km s-min=1.1km az=210.0*
AEIC 08 07:49:19.2±1.0, 59.°98N±0.°03×152.°67W±0.°06, h99km±3km, ML2.3, ML2.5/126(NEIC), Error ellipse: s-maj=4.9km s-min=3.3km az=127.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.10**	**14**		Pn	07 49 32.6	-0.5
O20K					Sn	07 49 43.3	-0.2
ILS	**Iliamna Low So**	**0.20**	**263**		Pn	07 49 32.8	-0.6
ILS					Sn	07 49 43.5	-0.5
ILSW	**Iliamna Southw**	**0.24**	**270**		Pn	07 49 32.9	-0.6
ILSW				IAML		07 49 44.5	
	comp=N,80nm,0.7s						
ILSW				IAML		07 49 45.6	
	comp=E,82nm,0.6s						
ILSW	**Iliamna Southw**	**0.24**	**270**		Sn	07 49 44.0	-0.3
OPT	**Oil Point**	**0.44**	**221**		Pn	07 49 33.9	-0.5
P19K	**Oil Pt**	**0.44**	**221**	Pn	Pn	07 49 33.4	-1.1
P19K				IAML		07 49 46.2	
	comp=N,147nm,0.5s						
P19K				IAML		07 49 46.9	
	comp=E,141nm,0.4s						
RDWB	**Redoubt West**	**0.51**	**351**		Pn	07 49 34.2	-0.9
RDWB					Sn	07 49 46.0	-1.0
RDT	**Redoubt**	**0.61**	**12**		Pn	07 49 34.8	-1.0
RDT					Sn	07 49 47.2	-1.0
HOM	**Homer**	**0.61**	**122**	Pn	Pn	07 49 34.5	-1.2
HOM				IAML		07 49 48.6	
	comp=E,232nm,1.1s						
RDJH	**Redoubt Jeurge**	**0.61**	**354**		Pn	07 49 35.1	-0.8
AU22	**Augustine Moun**	**0.71**	**210**		Pn	07 49 35.9	-0.6
AU22					Sn	07 49 48.7	-0.8
AUL	**Augustine Lava**	**0.72**	**213**		Pn	07 49 36.2	-0.5
AUL					Sn	07 49 49.4	-0.3
O19K	**Port Alsworth**	**0.85**	**285**		Sn	07 49 51.8	-0.2
O19K	**Port Alsworth**	**0.85**	**285**		Pn	07 49 36.7	-1.2
O19K				IAML		07 49 53.0	
	comp=N,167nm,0.4s						
CNPM	**China Poot**	**0.86**	**122**		Pn	07 49 36.9	-1.2
CNPM	**China Poot**	**0.86**	**122**		Sn	07 49 51.1	-1.1
BRLK	**Bradley Lake**	**0.93**	**103**	Pn	Pn	07 49 37.2	-1.6
BRLK				IAML		07 49 53.7	
	comp=E,193nm,0.3s						
BRSE	**Bradley Lake S**	**1.00**	**103**		Pn	07 49 38.4	-1.2
CAPN	**Captain Cook N**	**1.09**	**43**		Pn	07 49 40.4	0.0
Q19K	**Cape Douglas,**	**1.17**	**206**	Pn	Pn	07 49 39.9	-1.5
Q19K				IAML		07 50 12.2	
	comp=N,92nm,1.0s						
Q19K				IAML		07 50 23.8	
	comp=E,140nm,1.1s						
N19K	**Bonanza Creek**	**1.23**	**314**	Pn	Pn	07 49 41.1	-1.1
N19K				IAML		07 49 59.4	
	comp=E,45nm,1.1s						
CKL	**Chakachamna La**	**1.23**	**8**		Pn	07 49 41.5	-0.7
SPU	**Mount Spurr**	**1.24**	**14**	Pn	Pn	07 49 41.2	-1.1
SPU				IAML		07 50 01.4	
	comp=E,32nm,0.6s						
SPU				IAML		07 50 01.4	
	comp=N,28nm,0.3s						
SPCN	**Chakachatna No**	**1.27**	**11**		Pn	07 49 42.1	-0.5
O18K	**Koktuh Hills**	**1.28**	**265**	Pn	Pn	07 49 41.5	-1.2
SPBG	**Spurr Blockage**	**1.29**	**6**		Pn	07 49 42.4	-0.5
SLKM	**Skilak Lake**	**1.33**	**66**		Pn	07 49 41.9	-1.4
SLKM				IAML		07 50 02.2	
	comp=E,142nm,0.2s						
SPCG	**Spurr Capps Gl**	**1.35**	**13**		Pn	07 49 43.1	-0.5
SYI	**Shuyak Island**	**1.39**	**174**		Pn	07 49 42.5	-1.4
SYI				IAML		07 50 02.5	
	comp=N,86nm,0.5s						
SYI				IAML		07 50 02.5	
	comp=E,115nm,0.4s						
SPNN	**North Nagishla**	**1.39**	**359**		Pn	07 49 43.6	-0.6
P18K	**Big Mountain,**	**1.43**	**247**		Pn	07 49 43.5	-1.0
STLK	**Strandline Lak**	**1.58**	**15**		Pn	07 49 45.4	-1.0
SEW	**Seward**	**1.62**	**84**		Pn	07 49 44.9	-1.9
N18K	**Kilae Creek**	**1.75**	**295**	Pn	Pn	07 49 47.0	-1.4
SUA	**Susitna One**	**1.76**	**32**		Pn	07 49 47.7	-1.0
SUA				IAML		07 50 12.8	
	comp=N,72nm,0.9s						
KAHG	**Katmai Hook Gl**	**1.78**	**214**		Pn	07 49 48.3	-0.6
RC01	**Rabbit Creek A**	**1.83**	**51**		Pn	07 49 48.4	-1.1
M20K	**Styx River**	**1.92**	**353**	Pn	Pn	07 49 49.8	-0.9
P17K	**Kvichak River**	**2.07**	**249**		Pn	07 49 52.3	-0.2
SKT	**Skwentna**	**2.08**	**15**		Pn	07 49 51.6	-1.1
SKT				IAML		07 50 19.9	
	comp=E,18nm,0.4s						
SKT				IAML		07 50 25.5	
	comp=N,15nm,0.4s						
M19K	**Big River Lodg**	**2.10**	**337**		Pn	07 49 52.6	-0.4
M18K	**Stony River**	**2.17**	**316**		Pn	07 49 53.0	-0.7
M22K	**Willow**	**2.17**	**34**		Pn	07 49 53.2	-0.6
KDAK	**Kodiak Island**	**2.21**	**179**	Pn	Pn	07 49 51.7	-2.6
KDAK				IAML		07 50 19.4	
	comp=N,30nm,0.7s						
KDAK				IAML		07 50 19.6	
	comp=N,38nm,0.3s						
O17K	**Koliganek Bris**	**2.24**	**267**		Pn	07 49 54.2	-0.5
ACHA	**Angle Creek He**	**2.24**	**219**	Pn	Pn	07 49 54.4	-0.5
ANCK	**Angle Creek**	**2.31**	**220**		Pn	07 49 55.2	-0.5
N17K	**Nushagak Hills**	**2.32**	**286**		Pn	07 49 55.0	-0.8
PWL	**Port Wells**	**2.32**	**66**	Pn	Pn	07 49 53.7	-2.2
PWL				IAML		07 50 21.6	
	comp=E,58nm,0.3s						
PMR	**Palmer**	**2.37**	**46**		Pn	07 49 54.8	-1.6
PMR				IAML		07 50 24.2	
	comp=N,20nm,0.3s						
PMR				IAML		07 50 24.3	
	comp=E,22nm,0.3s						
CNTC	**Contact Creek**	**2.39**	**225**		Pn	07 49 56.2	-0.7
L19K	**White Mountain**	**2.45**	**335**		Pn	07 49 57.0	-0.6
L19K	**White Mountain**	**2.45**	**335**	IAML		07 50 27.5	
	comp=E,11nm,0.8s						
KNK	**Knik Glacier**	**2.52**	**53**		Pn	07 49 56.0	-2.4
KNK				IAML		07 50 26.3	
	comp=E,48nm,0.8s						
GHO	**Glory Hole Cre**	**2.56**	**44**	Pn	Pn	07 49 56.8	-2.3
GHO				IAML		07 50 29.6	
	comp=N,28nm,0.5s						
GHO				IAML		07 50 29.9	
	comp=E,36nm,0.4s						
L20K	**Farewell, AK**	**2.57**	**347**		Pn	07 49 58.8	-0.4
P23K	**Montague Islan**	**2.65**	**87**		Pn	07 49 58.7	-1.4
CUT	**Chulitna**	**2.69**	**25**	Pn	Pn	07 49 59.6	-1.1
CUT				IAML		07 50 37.0	
	comp=E,37nm,0.4s						
CUT				IAML		07 50 38.1	
	comp=N,32nm,0.5s						
M17K	**Holitna River**	**2.74**	**303**	Pn	Pn	07 50 00.5	-0.9
M17K				IAML		07 50 34.6	
	comp=N,12nm,0.8s						
M17K				IAML		07 50 59.6	
	comp=E,10nm,1.1s						
OHAK	**Old Harbor**	**2.79**	**187**		Pn	07 49 59.4	-2.5
OHAK	**Old Harbor**	**2.79**	**187**	IAML		07 50 31.2	
	comp=N,6.7nm,0.3s						
OHAK				IAML		07 50 34.2	
	comp=E,7.7nm,0.9s						
SML	**Sawmill**	**2.80**	**47**		Pn	07 50 00.3	-1.9
SML	**Sawmill**	**2.80**	**47**	IAML		07 50 40.6	
	comp=E,21nm,0.9s						
SML				IAML		07 50 40.7	
	comp=N,22nm,1.0s						
GLI	**Glacier Island**	**2.91**	**70**		Pn	07 50 01.9	-1.7
GLI	**Glacier Island**	**2.91**	**70**	IAML		07 50 35.4	
	comp=N,16nm,0.3s						
GLI				IAML		07 50 37.2	
	comp=E,26nm,0.5s						
PPLA	**Purkeypile**	**2.93**	**4**	Pn	Pn	07 50 03.7	-0.3
M23K	**Glacier View**	**3.02**	**51**		Pn	07 50 03.4	-1.7
HIN	**Hinchinbrook I**	**3.11**	**80**	Pn	Pn	07 50 04.0	-2.3
HIN				IAML		07 50 41.9	
	comp=E,19nm,0.7s						
HIN				IAML		07 50 42.7	
	comp=N,17nm,1.1s						
FID	**Port Fidalgo**	**3.17**	**73**		Pn	07 50 04.6	-2.5
FID	**Port Fidalgo**	**3.17**	**73**	IAML		07 50 41.9	
	comp=N,29nm,0.3s						
FID				IAML		07 50 43.2	
	comp=E,20nm,0.5s						
SCM	**Sheep Creek Mo**	**3.20**	**52**	IAML		07 50 44.0	
	comp=E,22nm,1.1s						
SCM				IAML		07 50 46.8	
	comp=N,27nm,0.9s						
Q23K	**Middleton Isla**	**3.25**	**97**		Pn	07 50 06.8	-1.4
M16K	**Timber Creek**	**3.28**	**291**	Pn	Pn	07 50 07.5	-1.0
K20K	**Telida**	**3.45**	**349**		Pn	07 50 10.7	-0.2
CAST	**Castle Rocks**	**3.46**	**4**		Pn	07 50 10.0	-1.0
EYAK	**Cordova Ski Ar**	**3.50**	**78**	Pn	Pn	07 50 09.8	-1.6
KLU	**Klutina**	**3.64**	**63**	Pn	Pn	07 50 11.3	-2.1
TRF	**Thorofare Moun**	**3.66**	**17**		Pn	07 50 13.4	-0.4
TRF				IAML		07 51 00.9	
	comp=N,5.7nm,0.8s						
TRF				IAML		07 51 13.1	
	comp=E,4.3nm,1.2s						
KTH	**Kantishna Hill**	**3.68**	**12**		Pn	07 50 13.5	-0.4
KTH	**Kantishna Hill**	**3.68**	**12**	IAML		07 51 28.6	
	comp=N,5.2nm,1.0s						
KTH				IAML		07 51 29.0	
	comp=E,3.9nm,0.9s						
M24K	**Tolsona, Glenn**	**3.81**	**53**	Pn	Pn	07 50 14.0	-1.8
M24K				IAML		07 50 59.1	
	comp=E,17nm,0.6s						
M24K				IAML		07 50 59.6	
	comp=N,16nm,0.7s						
K17K	**Iditarod**	**3.86**	**318**	Pn	Pn	07 50 16.0	-0.2
K17K				IAML		07 52 42.5	
	comp=N,3.5nm,1.1s						
K17K				IAML		07 52 48.6	
	comp=E,4.7nm,1.1s						
RND	**Reindeer**	**3.89**	**26**		Pn	07 50 15.7	-1.1
RND				IAML		07 51 01.2	
	comp=N,4.1nm,0.6s						
RND				IAML		07 51 02.0	
	comp=E,4.2nm,1.0s						
CHUM	**Lake Minchumin**	**3.92**	**2**		Pn	07 50 16.1	-0.9
GOAT	**Goat Mountain**	**4.00**	**78**		Pn	07 50 16.7	-1.6
BMRM	**Bremner River**	**4.11**	**73**		Pn	07 50 18.4	-1.4
KAIM	**Kayak Island**	**4.15**	**87**	Pn	Pn	07 50 19.2	-1.1
MCK	**McKinley**	**4.16**	**24**	Pn	Pn	07 50 19.1	-1.3
BPAW	**Bear Paw Mtn.**	**4.21**	**10**		Pn	07 50 20.5	-0.6
J19K	**Poorman**	**4.26**	**342**	Pn	Pn	07 50 21.6	-0.1
J20K	**Nowinta River**	**4.27**	**351**	Pn	Pn	07 50 21.4	-0.4
PAX	**Paxson**	**4.57**	**46**		Pn	07 50 24.9	-1.1
GLB	**Gilahina Butte**	**4.59**	**68**		Pn	07 50 25.4	-0.9
GLB	**Gilahina Butte**	**4.59**	**68**	IAML		07 51 16.7	
	comp=N,4.3nm,1.1s						
GLB				IAML		07 51 30.9	
	comp=E,2.6nm,1.1s						
VRDI	**Verde Repeater**	**4.71**	**71**		Pn	07 50 26.6	-1.5
VRDI	**Verde Repeater**	**4.71**	**71**	IAML		07 51 19.3	
	comp=N,2.5nm,1.0s						
VRDI				IAML		07 51 39.7	
	comp=E,1.6nm,0.7s						
K15K	**Wolf Creek Mou**	**4.88**	**302**	Pn	Pn	07 50 29.3	-0.8
K15K				IAML		07 51 49.2	
	comp=N,2.9nm,1.0s						
K15K				IAML		07 52 07.3	
	comp=E,2.6nm,1.1s						
WRH	**Wood River Hil**	**4.99**	**23**	Pn	Pn	07 50 29.8	-1.8
WRH				IAML		07 51 26.4	
	comp=N,1.2nm,0.7s						
WRH				IAML		07 51 32.7	
	comp=E,1.5nm,1.1s						
K24K	**Donnelly Dome**	**5.03**	**37**		Pn	07 50 31.7	-0.5
HDA	**Harding Lake**	**5.19**	**29**	Pn	Pn	07 50 33.0	-1.3
CCB	**Clear Creek Bu**	**5.20**	**24**	Pn	Pn	07 50 32.7	-1.7
CCB				IAML		07 51 53.0	
	comp=E,1.3nm,1.1s						
I23K	**Minto, Yukon-K**	**5.41**	**15**	Pn	Pn	07 50 36.1	-1.1
IL31		**5.51**	**27**		Pn	07 50 37.1	-1.5
ILAR	**Eielson Array**	**5.51**	**27**	Pn	Pn	07 50 36.5	-2.1
J25K	**Salcha River,**	**5.76**	**33**	Pn	Pn	07 50 40.6	-1.5
J26L	**Joseph Creek**	**6.21**	**39**	Pn	Pn	07 50 47.2	-1.0
O28M	**Mount Upton**	**6.24**	**77**		Pn	07 50 47.8	-1.1

---

*ASRS **08** 07:49:49.0±1.2, 54.°45N×86.°74E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 07:49:51.5±3.2, 54.°44N×86.°76E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.7km s-min=15.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**248**	I	I	07 56 50.0	
	baz=66,slow=349,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.24**	**248**	Pg	Pg	07 50 13.7	-1.7
	0.6nm,0.3s,baz=64,slow=18,SNR=7.0						
ZALV				Lg	Lg	07 50 32.4	
	0.5nm,0.3s,baz=66,slow=27,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.31**	**236**	Pn	Pn	07 51 27.0	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=4.0						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**8.16**	**202**	Pn	Pn	07 51 52.2	+1.0
	0.1nm,0.3s,baz=20,slow=11,SNR=8.6						
MKAR				Sn	Sn	07 53 23.6	-0.5
	baz=31,slow=25,SNR=4.3						
MKAR				Lg	Lg	07 54 07.6	
	0.1nm,0.3s,baz=22,slow=37,SNR=3.2						
	0.1nm,0.4s						

---

*ASRS **08** 07:56:35.0±1.1, 54.°22N×86.°54E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
**IDC 08 07:56:37.9±2.7, 54.°12N×86.°46E, h0km, mbtmp3.3/2, ML2.5/2, Error ellipse: s-maj=22.0km s-min

MKAR Makanchi Array 7.66 202 Pn Pn 08 01 39.7 +0.5
0.3nm,0.3s,baz=26,slow=11,SNR=6.1
0.4nm,0.4s

---

*IDC **08** 08:02:50.9±2.4, 14°.14S×170°.00E, h592km±26km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=31.0km s-min=21.9km az=144.0*
*NEIC **08** 08:02:51.4±2.1, 14°.2S±0°.1×170°.2E±0°.2, h596km±12km, mb4.3/15, Error ellipse: s-maj=24.9km s-min=15.5km az=76.0*
ISC 08 08:02:51.6±0.7, 14°.2S±0°.1×170°.0E±0°.2, h600km, n31, σ1902/32, mb4.1/15, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.55**	**203**	P	**P**	**08 04 57.1**	**+0.9**
	4.1nm,0.6s,baz=310,slow=15,SNR=10						
PINNC	**Pines Island,**	**8.73**	**196**	P	**P**	**08 04 58.1**	**+0.3**
ONTNC	**Ouen Toro**	**8.76**	**202**	P	**P**	**08 04 59.1**	**+1.1**
ARMA	**Armidale**	**23.41**	**223**	P	**P**	**08 07 16.3**	**+0.4**
ARMA				IAmb	IAmb	08 07 18.0	
	comp=Z,20nm,1.5s						
BKZ	**Black Stump Fm**	**25.52**	**168**	P	**P**	**08 07 32.7**	**-1.6**
BKZ				IAmb	IAmb	08 07 54.7	
	comp=Z,24nm,1.4s						
TKNZ	**Takaka Hill**	**26.86**	**175**	P	**P**	**08 07 45.5**	**-0.5**
STKA	**Stephens Creek**	**31.39**	**231**	P	**P**	**08 08 24.9**	**-0.4**
STKA				IAmb	IAmb	08 08 27.3	
	comp=Z,6.1nm,1.1s						
STKA	**Stephens Creek**	**31.39**	**231**	P	**P**	**08 08 25.9**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=61,slow=8.7,SNR=9.3						
	comp=Z,1.4nm,0.3s						
WB0	**Warramunga Arr**	**34.49**	**256**	P	**P**	**08 08 49.5**	**-2.0**
WB0				IAmb	IAmb	08 08 49.8	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**34.55**	**255**	P	**P**	**08 08 50.8**	**-1.2**
WRA	**Warramunga Arr**	**34.55**	**255**	P	**P**	**08 08 50.4**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=82,slow=7.1,SNR=7.0						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**35.36**	**249**	P	**P**	**08 08 57.0**	**-1.6**
ASAR	**Alice Springs**	**35.37**	**249**	P	**P**	**08 08 57.3**	**-1.4**
ASAR	**Alice Springs**	**35.37**	**249**	P	**P**	**08 08 57.1**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=75,slow=9.7,SNR=7.7						
ASAR				ScP	**ScP**	**08 14 02.1**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=76,slow=4.4,SNR=5.0						
	comp=Z,0.8nm,0.4s						
BBOO	**Buckleboo**	**36.03**	**233**	P	**P**	**08 09 03.9**	**-0.1**
MCQ	**Macquarie Isla**	**41.14**	**190**	P	**P**	**08 09 45.6**	**+1.0**
YOJ	**Yonaguni jima**	**59.86**	**310**	P	**P**	**08 12 01.5**	**+0.6**
QSPA	**South Pole Qui**	**75.83**	**180**	P	**P**	**08 13 37.1**	**-0.1**
QSPA				IAmb	IAmb	08 13 46.1	
	comp=Z,6.1nm,1.4s						
QSPA	**South Pole Qui**	**75.83**	**180**	P	**P**	**08 13 36.8**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=18,slow=2.5,SNR=3.9						
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**77.19**	**293**	P	**P**	**08 13 45.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.19**	**293**	P	**P**	**08 13 46.2**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=119,slow=3.2,SNR=7.7						
	comp=Z,1.3nm,0.3s						
CHTO	**Chiang Mai**	**77.31**	**293**	P	**P**	**08 13 46.5**	**+0.5**
ACHA	**Angle Creek He**	**77.54**	**18**	P	**P**	**08 13 44.7**	**-1.7**
ACHA				IAmb	IAmb	08 13 45.6	
	comp=Z,6.7nm,0.8s						
J16K	**Anvik River**	**80.52**	**13**	P	**P**	**08 14 02.5**	**+0.6**
J16K				IAmb	IAmb	08 14 36.5	
	comp=Z,15nm,1.4s						
L19K	**White Mountain**	**80.97**	**16**	P	**P**	**08 14 05.0**	**+0.8**
L19K				IAmb	IAmb	08 14 15.4	
	comp=Z,16nm,1.5s						
SUA	**Susitna One**	**81.54**	**18**	P	**P**	**08 14 06.9**	**-0.4**
SUA				IAmb	IAmb	08 14 16.9	
	comp=Z,12nm,1.4s						
NVAR	**Mina Array Bea**	**84.90**	**48**	P	**P**	**08 14 25.1**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=257,slow=5.5,SNR=3.6						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**85.21**	**17**	P	**P**	**08 14 24.1**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=235,slow=5.0,SNR=12						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**98.67**	**316**	P	**P**	**08 15 27.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=102,slow=3.5,SNR=2.3						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**120.39**	**346**	PKP	**PKiKP**	**08 20 34.7**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=57,slow=2.8,SNR=12						
FINES	**FINESS Array B**	**126.19**	**339**	PKP	**PKiKP**	**08 20 46.5**	**-0.4**
	comp=Z,3.1nm,1.0s,baz=134,slow=4.0,SNR=4.8						

---

*ASRS **08** 08:19:43.0±0.9, 54°.32N×86°.86E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 08:19:44.7±3.0, 54°.39N×87°.01E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=18.6km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**252**	I	I	08 27 10.0	
	0.1nm,0.9s,baz=72,slow=350,SNR=18						
ZALV	**Zalesovo Beam**	**1.36**	**252**	Pg	Pg	08 20 08.6	-2.2
	1.2nm,0.3s,baz=72,slow=16,SNR=12						
ZALV				Lg	Lg	08 20 28.1	
	1.5nm,0.3s,baz=72,slow=19,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	Pn	08 21 20.7	+0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=6.1						
KURBB				Lg	Lg	08 23 08.7	
	0.1nm,0.3s,baz=60,slow=37,SNR=4.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn	08 21 46.1	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=8.5						
MKAR				Lg	Lg	08 24 06.8	
	baz=27,slow=30,SNR=2.4						
	0.2nm,0.2s						

---

*IDC **08** 08:22:58.6±1.9, 28°.51N×77°.12E, h0km, mb3.5/5, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=63.9km s-min=15.8km az=85.0*
*NDI **08** 08:23:00.5±3.1, 28°.22N×76°.35E, h5km, ML3.8, MW3.8*
ISC 08 08:22:59.9±0.9, 28°.20N±0°.04×76°.42E±0°.04, h23km±6km, n44, σ2943/68, mb3.5/5, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUDL	**Kundal**	**0.08**	**135**	*eP*	**Pb**	**08 23 03.6**	**-0.5**
KUDL				*eS*	**Sb**	**08 23 06.5**	**-0.4**
KUDL				IAML		08 23 06.7	
	comp=N,14μm,0.1s						
KUDL				IAML		08 23 06.8	
	comp=E,9μm,0.2s						
SONA	**Sohna**	**0.58**	**85**	*eP*	**Pb**	**08 23 12.4**	**+0.9**
SONA				*eS*	**Sn**	**08 23 21.3**	**-0.4**
SONA				IAML		08 23 22.4	
	comp=N,71μm,0.2s						
SONA				IAML		08 23 22.4	
	comp=E,93μm,0.1s						
BHGR	**Bahadurgarh**	**0.66**	**43**	*eS*	**Sn**	**08 23 24.9**	**+1.2**
BHGR				IAML		08 23 28.5	
	comp=E,5μm,0.2s						
BHGR				IAML		08 23 28.5	
	comp=N,5μm,0.1s						
AYAN	**Aya Nagar**	**0.68**	**66**	*eP*	**Pn**	**08 23 14.4**	**+0.2**
NPLP	**NPLP New Delhi**	**0.79**	**56**	*eP*	**Pn**	**08 23 16.3**	**+0.6**
NPLP				*eS*	**Sn**	**08 23 26.8**	**+0.1**
NPLP				IAML		08 23 32.2	
	comp=N,7μm,0.1s						
NPLP				IAML		08 23 34.3	
	comp=E,5μm,0.1s						
RTK	**Rohtak**	**0.83**	**359**	*eP*	**Pb**	**08 23 15.2**	**-0.4**
RTK				*eS*	**Sn**	**08 23 27.4**	**-0.4**
RTK				IAML		08 23 29.6	
	comp=N,7μm,0.2s						
RTK				IAML		08 23 30.0	
	comp=E,10μm,0.1s						
NDI	**New Delhi**	**0.85**	**55**	*eP*	**Pn**	**08 23 17.3**	**+0.8**
NDI				*eS*	**Sn**	**08 23 29.5**	**+1.3**
NDI				IAML		08 23 31.2	
	comp=E,1μm,0.1s						
NDI				IAML		08 23 31.4	
	comp=N,1μm,0.1s						
UGON	**Onchagaon**	**1.31**	**85**	*eP*	Pb	08 23 29.9	+5.9
UGON				*eS*	**Sb**	**08 23 48.1**	**+7.7**
UGON				IAML		08 23 53.0	
	comp=N,4μm,0.4s						
UGON				IAML		08 23 53.1	
	comp=E,2μm,0.3s						
MERT	**Meerut**	**1.39**	**56**	*eS*	**Sb**	**08 23 46.7**	**+4.3**
KKR	**Kurukshetra**	**1.79**	**11**	*eP*	**Pb**	**08 23 33.1**	**+1.1**
KKR				*eS*	**Sb**	**08 23 57.4**	**+3.3**
AJM	**Ajmer**	**2.33**	**223**	*eP*	**Pn**	**08 23 37.7**	**+0.7**
AJM				*eS*	**Sn**	**08 24 07.0**	**+2.0**
AJM				IAML		08 24 10.9	
	comp=E,1μm,0.4s						
AJM				IAML		08 24 11.2	
	comp=N,556nm,0.1s						
DDI	**Dehra Dun**	**2.55**	**34**	*ex*	x	08 23 47.3	
DDI				*ex*	x	08 24 21.5	
DDI				IAML		08 24 24.7	
	comp=N,1μm,0.6s						
DDI				IAML		08 24 27.6	
	comp=E,1μm,0.3s						
BKNR	**BIKANER**	**2.79**	**267**	*eP*	**Pn**	**08 23 46.6**	**+3.4**
BKNR				*eS*	**Sn**	**08 24 19.4**	**+3.4**
SMLA	**Simla**	**2.99**	**12**	*eP*	**Pn**	**08 23 47.4**	**+1.5**
SMLA				*eS*	**Sn**	**08 24 22.4**	**+1.4**
SMLA				*eS*	**Sb**	**08 24 27.2**	**-1.3**
SMLA				IAML		08 24 32.3	
	comp=N,315nm,0.2s						
SMLA				IAML		08 24 32.6	
	comp=E,370nm,0.1s						
BHK	**Bhakra**	**3.20**	**360**	*eP*	**Pn**	**08 23 51.0**	**+2.0**
BHK				*eS*	**Sn**	**08 24 28.4**	**+1.9**
BHK				IAML		08 24 45.0	
	comp=E,350nm,0.2s						
BHK				IAML		08 24 45.3	
	comp=N,276nm,0.3s						
JHNI	**Jhansi**	**3.32**	**145**	*eP*	**Pn**	**08 23 52.8**	**+2.3**
JHNI				IAML		08 24 45.5	
	comp=N,162nm,0.2s						
JHNI				IAML		08 24 46.8	
	comp=E,164nm,0.2s						
LGTI	**Lohaghat**	**3.58**	**69**	*eP*	**Pn**	**08 23 54.0**	**0.0**
LGTI				*eS*	**Sn**	**08 24 34.6**	**-1.0**
LGTI				IAML		08 24 36.9	
	comp=E,98nm,0.4s						
LGTI				IAML		08 24 39.2	
	comp=N,99nm,0.1s						
PTH	**Pithoragarh**	**3.59**	**67**	*eP*	**Pn**	**08 23 57.5**	**+3.1**
PTH				*eS*	**Sn**	**08 24 39.0**	**+2.8**
PTH				IAML		08 24 41.2	
	comp=N,328nm,0.3s						
PTH				IAML		08 24 42.0	
	comp=E,298nm,0.2s						
GUNA	**GUNA**	**3.63**	**167**	*eP*	Pn	08 24 01.0	+6.2
GUNA				IAML		08 24 52.5	
	comp=E,245nm,0.2s						
GUNA				IAML		08 24 55.4	
	comp=N,178nm,0.1s						
TLWR	**Talawar**	**3.76**	**354**	*eP*	**Pn**	**08 23 59.0**	**+2.4**
TLWR				*eS*	**Sn**	**08 24 42.5**	**+2.2**
DHRM	**DHARAMSHALA**	**4.04**	**359**	*eP*	**Pn**	**08 24 03.2**	**+2.6**
DHRM				*eS*	**Sn**	**08 24 49.2**	**+1.9**
DHRM				IAML		08 25 06.6	
	comp=N,298nm,0.4s						
THN	**Thein Dam**	**4.26**	**352**	*eP*	**Pn**	**08 24 05.7**	**+2.3**
THN				*eS*	**Sn**	**08 24 55.0**	**+2.5**
THN				IAML		08 24 55.8	
	comp=E,184nm,0.4s						
THN				IAML		08 24 57.0	
	comp=N,135nm,0.3s						
TSSA	**Tissa**	**4.63**	**357**	*eP*	**Pn**	**08 24 10.1**	**+1.4**
JMU	**Jammu**	**4.69**	**344**	*eS*	**Sn**	**08 25 04.9**	**+1.9**
HNLY	**HANLEY**	**5.06**	**25**	*eP*	**Pn**	**08 24 17.8**	**+2.8**
ALBI	**Allahabad**	**5.61**	**120**	IAML		08 25 59.8	
	comp=E,98nm,0.4s						
ALBI				IAML		08 25 59.9	
	comp=N,99nm,0.4s						
PYUN	**Piuthan**	**5.80**	**89**	Pg	**Pn**	**08 24 26.6**	**+1.8**
	baz=85,slow=0.0						
PYUN				Sg	**Sn**	**08 25 30.7**	**0.0**
	comp=N,192nm,0.4s,baz=85,slow=0.0						
KOLN	**Koldanda**	**6.36**	**92**	Pg	**Pn**	**08 24 34.9**	**+2.4**
	baz=88,slow=0.0						
KOLN				Sg	**Sn**	**08 25 43.6**	**-1.0**
	comp=N,72nm,0.3s,baz=88,slow=0.0						
DANN	**Dangsing**	**6.47**	**87**	Pg	**Pn**	**08 24 36.4**	**+2.3**
	baz=83,slow=0.0						
DANN				Sg	**Sn**	**08 25 47.6**	**+0.2**
	comp=N,86nm,0.3s,baz=83,slow=0.0						
GKN	**Gorkha**	**7.26**	**90**	Pg	**Pn**	**08 24 46.8**	**+2.0**
	baz=86,slow=0.0						
GKN				Sg	**Sn**	**08 26 04.2**	**-2.4**
	comp=N,85nm,0.2s,baz=86,slow=0.0						
DMN	**Daman**	**7.71**	**92**	Pg	**Pn**	**08 24 52.9**	**+1.9**
	baz=89,slow=0.0						
KKN	**Kakani**	**7.84**	**91**	Pg	**Pn**	**08 24 54.3**	**+1.4**
	baz=88,slow=0.0						
KKN				Sg	**Sn**	**08 26 18.2**	**-2.8**
	comp=N,44nm,0.2s,baz=88,slow=0.0						
PKIN	**Phulchoki**	**7.96**	**92**	Pg	**Pn**	**08 24 55.9**	**+1.3**
	baz=89,slow=0.0						
PKIN				Sg	**Sn**	**08 26 21.4**	**-2.8**
	baz=89,slow=0.0						
PKI	**Pulchoki**	**7.98**	**92**	Pg	**Pn**	**08 24 56.4**	**+1.6**
	baz=89,slow=0.0						
PKI				Sg	**Sn**	**08 26 21.4**	**-3.1**
	baz=89,slow=0.0						
GUN	**Gumba**	**8.36**	**90**	Pg	**Pn**	**08 25 01.5**	**+1.4**
	baz=87,slow=0.0						
GUN				Sg	**Sn**	**08 26 31.2**	**-2.8**
	baz=87,slow=0.0						
RAMN	**Ramite**	**9.12**	**95**	Pg	**Pn**	**08 25 11.7**	**+1.3**
	baz=93,slow=0.0						
RAMN				Sg	**Sn**	**08 26 48.2**	**-4.3**
	baz=93,slow=0.0						
TAPN	**Taplejung**	**10.03**	**92**	Pg	**Pn**	**08 25 24.9**	**+1.9**
	baz=90,slow=0.0						
TAPN				Sg	**Sn**	**08 27 11.2**	**-3.8**
	comp=N,26nm,0.5s,baz=90,slow=0.0						
AAK	**Ala-Archa**	**14.49**	**354**	Pn	**Pn**	**08 26 20.2**	**-3.6**
	comp=N,0.3nm,0.3s,baz=164,slow=9.6,SNR=4.4						
	comp=N,0.9nm,0.5s						
MKAR	**Makanchi Array**	**19.12**	**12**	P	**P**	**08 27 19.1**	**-2.3**
	comp=N,0.1nm,0.3s,baz=191,slow=13,SNR=6.3						
MKAR				S	**Sn**	**08 30 49.5**	**-6.3**
	comp=N,0.3nm,0.7s,baz=198,slow=23,SNR=3.5						
	comp=N,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**22.45**	**4**	P	**P**	**08 27 55.8**	**-1.4**
	comp=N,0.8nm,0.3s,baz=191,slow=11,SNR=6.8						
	comp=N,0.8nm,0.3s						
BVAR	**Borovoye Array**	**25.20**	**351**	P	**P**	**08 28 23.4**	**-0.3**
	comp=N,0.4nm,0.5s,baz=165,slow=13,SNR=2.5						
	comp=N,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**26.45**	**11**	P	**P**	**08 28 33.4**	**-1.7**
	comp=N,0.9nm,0.6s,baz=207,slow=8.7,SNR=3.6						
	comp=N,0.9nm,0.6s						
WRA	**Warramunga Arr**	**73.64**	**124**	P	**P**	**08 34 31.8**	**-0.2**
	comp=N,0.3nm,0.6s,baz=312,slow=5.9,SNR=1.5						
	comp=N,0.3nm,0.6s						
ASAR	**Alice Springs**	**75.68**	**127**	P	**P**	**08 34 44.8**	**+1.1**
	comp=N,0.3nm,0.8s,baz=309,slow=6.2,SNR=5.3						
	comp=N,0.3nm,0.8s						

---

*ASRS **08** 08:25:30.0±0.6, 54°.57N×86°.40E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 08:24:49.9±2.9, 54°.05N×86°.58E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=23.8km s-min=14.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**265**	I	I	08 30 40.0	
	baz=84,slow=351,SNR=10						
ZALV	**Zalesovo Beam**	**1.04**	**265**	Pg	Pg	08 25 08.7	-1.2
	0.6nm,0.3s,baz=83,slow=18,SNR=7.9						
ZALV				Lg	Lg	08 25 24.8	
	1.6nm,0.3s,baz=84,slow=28,SNR=10						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	08 26 21.4	+1.4
	baz=69,slow=15,SNR=1.6						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**7.76**	**202**	Pn	Pn	08 26 44.9	+0.9
	0.1nm,0.3s,baz=25,slow=13,SNR=6.2						
	0.1nm,0.3s						

---

*ASRS **08** 08:29:35.0±0.7, 55°.66N×86°.17E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 08 08:29:40.0±3.4, 55°.50N×86°.21E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=27.0km s-min=24.9km az=30.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**208**	I	I	08 39 55.0	
	baz=24,slow=349,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.75**	**208**	Pn	Pn	08 30 10.2	-1.4
	2.1nm,0.3s,baz=32,slow=17,SNR=25						
ZALV				Lg	Lg	08 30 35.3	
	1.5nm,0.3s,baz=26,slow=25,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.73**	**227**	Pn	Pn	08 31 20.2	+0.2
	baz=45,slow=14,SNR=2.1						
KURBB				Lg	Lg	08 33 15.3	
	baz=45,slow=32,SNR=3.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**9.05**	**197**	Pn	Pn	08 31 52.4	+0.5
	baz=19,slow=18,SNR=1.8						
MKAR				Lg	Lg	08 34 27.7	
	baz=16,slow=29,SNR=3.1						
	0.1nm,0.5s						

---

*AEIC **08** 08:30:04.5±2.2, 52°.4N±0°.1×169°.6W±0°.1, h16km±7km, Error ellipse: s-maj=19.3km s-min=2.6km az=146.0*
NEIC 08 08:30:02.4±2.4, 52°.5N±0°.1×169°.8W±0°.1, h10km±1km, mb3.7/13, ML3.7/8, ML3.0(AEIC), Error ellipse: s-maj=21.5km s-min=5.0km az=146.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**1.18**	**48**		Pb	08 30 24.1	-0.8
OKSP					Sb	08 30 39.3	-0.9
OKCE	**Okmok Cone E**	**1.35**	**44**		Pn	08 30 27.1	-0.2
OKCE					Sb	08 30 44.9	-0.3
OKWE	**Okmok W'ng Wal**	**1.35**	**42**		Pn	08 30 27.3	-0.1
OKWE					Sb	08 30 45.2	0.0
OKTU	**Okmok Mt. Tuli**	**1.38**	**48**		Pn	08 30 27.3	-0.4
OKNC	**Okmok New Cone**	**1.39**	**44**		Pn	08 30 27.8	-0.1
OKRE	**Okmok R'deer P**	**1.42**	**42**		Pn	08 30 28.4	+0.1
OKFG	**Magazine Ridge**	**1.45**	**49**		Pn	08 30 28.5	-0.2
OKFG					Sn	08 30 46.4	-1.4
MAPS	**Pakushin South**	**2.15**	**51**		Pn	08 30 38.3	0.0
MAPS					Sn	08 31 03.0	-2.1
MGOD	**Makushin Gods**	**2.18**	**51**		Pn	08 30 38.4	-0.3
MSW	**Makushin Switc**	**2.29**	**50**		Pn	08 30 40.6	+0.4
MSW					Sn	08 31 07.6	-1.0
UNV	**Unalaska Valle**	**2.39**	**54**		Sn	08 31 09.1	-1.7
UNV	**Unalaska Valle**	**2.39**	**54**		Pn	08 30 41.1	-0.4
ATKA	**Atka Island**	**2.74**	**266**		Pn	08 30 46.9	+0.5
AKRB	**Akutan Reef Bi**	**2.76**	**52**		Pn	08 30 47.0	+0.3
AKMO	**Akutan Morgan**	**2.77**	**53**		Pn	08 30 47.0	+0.2
LVA	**Lava Point**	**2.80**	**51**	Pn	Pn	08 30 47.9	+0.7
LVA				IAML		08 31 26.2	
	comp=N,219nm,0.8s						
LVA				IAML		08 31 40.5	
	comp=E,171nm,1.7s						
AKBBA	**Akutan Broad B**	**2.81**	**53**		Pn	08 30 48.0	+0.7
AKGG	**Akutan Green G**	**2.84**	**51**		Pn	08 30 48.6	+0.8
P08K	**Saint George I**	**4.14**	**2**	Pn	Pn	08 31 05.5	0.0
ADK	**Adak**	**4.31**	**265**	Pn	Pn	08 31 07.7	-0.2
ADK				IAML		08 32 07.8	
	comp=E,126nm,2.9s						
ADK				IAML		08 32 15.8	
	comp=E,103nm,3.5s						
FALS	**False Pass**	**4.46**	**55**	Pn	Pn	08 31 09.9	0.0
M11K	**Mekoryuk**	**8.17**	**12**	Pn	Pn	08 32 01.3	+0.5
O14K	**Tigyukauivet M**	**8.30**	**32**	Pn	Pn	08 32 03.6	+1.0
M13K	**Dall Lake**	**8.71**	**21**	Pn	Pn	08 32 09.8	+1.6
M14K	**Bethel**	**9.34**	**24**	Pn	Pn	08 32 17.7	+0.9
N15K	**Kwethluk River**	**9.38**	**31**	Pn	Pn	08 32 18.8	+1.3
O16K	**Kokwok River B**	**9.65**	**38**	Pn	Pn	08 32 22.5	+1.3
L14K	**Kuka Creek**	**9.69**	**21**	Pn	Pn	08 32 23.3	+1.7
K13K	**Kusilvak Mount**	**9.87**	**14**	Pn	Pn	08 32 23.9	-0.3
K15K	**Wolf Creek Mou**	**10.79**	**21**	Pn	Pn	08 32 37.4	+0.7
L16K	**Owhat River**	**10.80**	**27**	Pn	Pn	08 32 39.2	+2.3
N19K	**Bonanza Creek**	**11.82**	**39**	Pn	Pn	08 32 53.2	+2.2
K17K	**Iditarod**	**11.94**	**26**	Pn	Pn	08 32 53.7	+1.3
L18K	**Granite Mounta**	**12.02**	**31**	Pn	Pn	08 32 54.8	+1.3
H17K	**Granite Mounta**	**13.48**	**18**	Pn	Pn	08 33 15.7	+2.3
G16K	**Koyuk River**	**13.49**	**13**	Pn	Pn	08 33 14.9	+1.3
J20K	**Nowitna River**	**14.25**	**29**	Pn	Pn	08 33 23.8	-0.2
CAST	**Castle Rocks**	**14.37**	**33**	Pn	Pn	08 33 27.4	+1.8
PWL	**Port Wells**	**14.40**	**46**	Pn	Pn	08 33 25.2	-0.8
HIN	**Hinchinbrook I**	**15.04**	**49**	Pn	Pn	08 33 32.8	-2.0
BPAW	**Bear Paw Mtn.**	**15.18**	**33**	Pn	Pn	08 33 38.5	+1.9
BPAW				IAmb	IAmb	08 34 05.2	
	comp=Z,4.2nm,1.4s						
SCM	**Sheep Creek Mo**	**15.27**	**43**	Pn	Pn	08 33 37.3	-0.6
KLU	**Klutina**	**15.73**	**46**	Pn	Pn	08 33 42.5	-1.4
KLU				IAmb	IAmb	08 33 55.8	
	comp=Z,8.7nm,1.4s						
CCB	**Clear Creek Bu**	**16.60**	**34**	Pn	Pn	08 33 54.1	-0.8
J25K	**Salcha River,**	**17.45**	**36**	P	Pn	08 34 05.0	-0.6
SCRK	**Sand Creek**	**17.64**	**39**	P	Pn	08 34 06.0	-2.1
J26L	**Joseph Creek**	**18.06**	**38**	P	Pn	08 34 12.7	-0.5
J26L				IAmb	IAmb	08 34 27.8	
	comp=Z,4.7nm,1.4s						
BCAR	**Beaver Creek A**	**18.13**	**43**	P	Pn	08 34 12.4	-1.6
O29M	**Mount Kennedy**	**18.80**	**53**	P	P	08 34 21.2	-0.6
O29M				IAmb	IAmb	08 34 57.1	
	comp=Z,9.2nm,1.4s						
HYT	**Haines Junctio**	**19.42**	**52**	P	P	08 34 27.6	-1.0
HYT				IAmb	IAmb	08 34 51.6	
	comp=Z,7.5nm,1.3s						
SKAG	**Skagway**	**20.31**	**56**	P	P	08 34 37.5	-0.6
H29M	**Whitestone**	**20.79**	**37**	P	P	08 34 40.6	-2.7
H29M				IAmb	IAmb	08 35 03.6	
	comp=Z,7.0nm,1.5s						
G29M	**Pine Creek**	**21.22**	**35**	P	P	08 34 45.4	-2.6
G29M				IAmb	IAmb	08 35 13.4	
	comp=Z,6.4nm,1.3s						

IDC 08 08:40:08.2±11.0, 8°.81S×113°.56E, h0km, mb3.7/3, mbtmp3.8/3, Error ellipse: s-maj=218.7km s-min=139.5km az=3.0, Jawa

| Code | Station

*ASRS **08** 09:01:43.0±1.2, 54°.71N×83°.71E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **08** 09:01:43.7±1.6, 54°.72N×83°.78E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=15.1km s-min=10.0km az=10.0*
ISC 08 09:01:44.4±2.1, 54°.6N±0°.1×83°.60E±0°.09, h0km, n8, σ1§91/8, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94 130**		I	I	09 07 22.0	
	0.1nm,2.2s,baz=317,slow=337,SNR=4.7						
ZAA0	**Zalesovo Array**	**0.94 130**		⇓P	**Pg**	**09 02 01.5**	**-0.9**
	0.3nm,0.3s						
ZAA0				⇓S	**Sb**	**09 02 17.2**	**+0.6**
	3.2nm,0.3s						
ZALV	**Zalesovo Beam**	**0.94 130**		Pg	**Pg**	**09 02 02.2**	**-0.2**
	2.2nm,0.3s,baz=323,slow=16,SNR=19						
ZALV				Lg	Lg	09 02 16.5	
	7.5nm,0.3s,baz=325,slow=27,SNR=21						
KURBB	**Kurchatov Arra**	**5.01 220**		Pn	**Pn**	**09 03 02.9**	**+2.1**
	0.1nm,0.3s,baz=40,slow=13,SNR=7.8						
KURBB				Lg	Lg	09 04 29.6	
	0.1nm,0.3s,baz=38,slow=33,SNR=5.1						
	0.3nm,0.3s						
MK31	**Makanchi Array**	**7.82 187**		⇓Pn	Pn	09 03 33.9	-5.5
	0.1nm,0.3s,baz=13,slow=13,SNR=6.7						
MK31				⇓Sn	**Sn**	**09 05 08.6**	**0.0**
	0.1nm,0.6s						
MK31				⇑Lg	Lg	09 05 50.1	
	2.0nm,1.1s,baz=15,slow=28,SNR=2.6						
MKAR	**Makanchi Array**	**7.82 187**		Pn	**Pn**	**09 03 41.2**	**+1.8**
	0.1nm,0.3s,baz=12,slow=13,SNR=6.2						
MKAR				Lg	Lg	09 05 56.9	
	0.1nm,0.3s,baz=14,slow=32,SNR=3.8						
	0.2nm,0.4s						
MAKZ	**Makanchi**	**7.83 188**		⇑Pn	Pn	09 03 32.8	-6.7
	0.2nm,0.4s						
MAKZ				⇓Sn	**Sn**	**09 05 05.8**	**-3.1**
	0.4nm,0.5s						
MAKZ				⇑Lg	Lg	09 05 53.6	
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**7.98 264**		Pn	**Pn**	**09 03 41.2**	**-0.3**
	0.1nm,0.3s,baz=69,slow=16,SNR=5.1						
	0.7nm,0.3s						

*EST **08** 09:19:02.4±0.0, 59°.27N×27°.70E, h0km, ML1.7(HEL), Explosion*
*HEL **08** 09:19:02.0±0.2, 59°.24N×27°.72E, h0km, ML1.8, Suspected explosion*
*IDC **08** 09:19:03.6±4.9, 59°.36N×27°.45E, h0km, mbtmp3.6/1, ML1.6/2, Error ellipse: s-maj=44.4km s-min=39.9km az=179.0*
*LVSN **08** 09:19:04.2±2.0, 59°.18N×27°.63E, h0km±46km, ML2.0*
ISC 08 09:19:01.5±0.9, 59°.25N±0°.03×27°.66E±0°.03, h0km, n34, σ0§89/50, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**43**	*e*P	**Pg**	**09 19 05.0**	**+0.4**
EE04				*e*S	**Sg**	**09 19 06.8**	**+0.1**
EE03	**Tooma soojaam,**	**0.81 242**		*e*P	**Pg**	**09 19 17.3**	**+0.3**
EE03				*e*S	**Sb**	**09 19 28.6**	**-1.3**
ARBE	**Arbavere**	**0.88 283**		AML	AML	09 19 40.4	
	comp=E,132nm,0.2s						
ARBE				AML	AML	09 19 42.5	
	comp=Z,82nm,0.5s						
ARBE				AML	AML	09 19 45.0	
	comp=N,170nm,0.1s						
ARBE	**Arbavere**	**0.88 283**		*e*P	**Pg**	**09 19 18.4**	**+0.1**
ARBE				*e*S	**Sg**	**09 19 29.9**	**+0.3**
VSU	**Vasula**	**0.93 212**		*e*P	**Pg**	**09 19 19.7**	**+0.4**
VSU	**Vasula**	**0.93 212**		*e*P	**Pg**	**09 19 19.0**	**-0.2**
VSU				*e*S	**Sg**	**09 19 30.5**	**-0.8**
VSU				AML	AML	09 19 40.4	
	comp=N,26nm,0.4s						
VSU				AML	AML	09 19 42.9	
	comp=Z,13nm,0.1s						
VSU				AML	AML	09 20 16.0	
	comp=E,21nm,0.8s						
VSU	**Vasula**	**0.93 212**		*e*P	**Pg**	**09 19 18.8**	**-0.5**
VJF	**Virojoki**	**1.29 358**		*e*P	**Pg**	**09 19 25.2**	**-1.0**
VJF				*e*SB	**Sg**	**09 19 42.6**	**-0.3**
VJF				MSG		09 19 48.0	
	comp=Z,6.6nm,0.1s						
EE08	**Sarghaua, Vand**	**1.39 246**		*e*P	**Pg**	**09 19 27.8**	**-0.3**
EE08				*e*S	**Sg**	**09 19 45.8**	**-0.3**
EE07	**Piusa Caves, O**	**1.42 184**		*e*P	**Pb**	**09 19 28.8**	**-0.1**
EE07				*e*S	**Sg**	**09 19 46.6**	**-0.5**
EE02	**Kiisa, Saku**	**1.52 269**		*e*P	**Pg**	**09 19 30.5**	**-0.2**
EE02				*e*S	**Sg**	**09 19 49.4**	**-1.0**
PVF	**Pernaja**	**1.58 326**		*e*PG	**Pn**	**09 19 30.9**	**+0.1**
PVF				MSG		09 19 50.2	
	comp=Z,4.3nm,0.2s						
PVF				*e*SG	**Sn**	**09 19 51.2**	**-0.6**
HEL1	**Helsinki**	**1.68 305**		*e*PG	**Pn**	**09 19 32.8**	**+0.6**
HEL1				*e*SG	**Sn**	**09 19 54.6**	**+0.2**
HEL1				MSG		09 19 56.0	
	comp=Z,5.0nm,0.1s						
MEF	**Metsahovi**	**1.91 302**		*e*P	**Pb**	**09 19 37.1**	**-0.1**
MEF	**Metsahovi**	**1.91 302**		*e*P	**Pb**	**09 19 37.2**	**-0.1**
MEF				AML	AML	09 19 38.1	
	comp=Z,5.3nm,0.3s						
MEF				AML	AML	09 19 38.5	
	comp=E,7.1nm,0.3s						
MEF				*e*S	**Sb**	**09 20 01.3**	**-0.3**
MEF				AML	AML	09 20 02.1	
	comp=N,21nm,0.2s						
MEF	**Metsahovi**	**1.91 302**		*e*PG	**Pb**	**09 19 37.0**	**-0.1**
MEF				*e*SG	**Sb**	**09 20 01.4**	**-0.2**
MEF				MSG		09 20 02.9	
	comp=Z,4.7nm,0.1s						
NUR	**Nurmijarvi**	**1.97 311**		*e*PG	**Pb**	**09 19 37.8**	**-0.4**
NUR				MSG		09 20 01.6	
	comp=Z,5.1nm,0.2s						
NUR				*e*SB	**Sb**	**09 20 02.7**	**-0.6**
MTSE	**Matsula**	**2.06 256**		*e*P	**Pb**	**09 19 38.7**	**-1.0**
MTSE	**Matsula**	**2.06 256**		*e*P	**Pb**	**09 19 39.8**	**0.0**
MTSE	**Matsula**	**2.06 256**		*e*PG	**Pb**	**09 19 39.6**	**-0.1**
MTSE				*e*SG	**Sg**	**09 20 06.5**	**-1.2**
RUF	**Ruokolahti**	**2.27**	**16**	*e*P	**Pn**	**09 19 41.0**	**+0.8**
RUF				MSG		09 20 09.1	
	comp=Z,3.4nm,0.2s						
RUF				*e*SG	**Sb**	**09 20 11.6**	**-0.3**
FIA0	**FINESS Array S**	**2.33 341**		*e*P	**Pn**	**09 19 41.7**	**+0.6**
FIA0				MSG		09 20 11.7	
	comp=Z,3.3nm,0.2s						
FIA0				*e*SG	**Sb**	**09 20 13.9**	**+0.2**
FIA1	**FINESS Array S**	**2.33 341**		*e*P	**Pn**	**09 19 41.7**	**+0.6**
FIA1				*e*SG	**Sb**	**09 20 13.7**	**-0.1**
FIA1				MSG		09 20 15.2	
	comp=Z,1.8nm,0.1s						
FINES	**FINESS Array B**	**2.33 341**		Pn	**Pn**	**09 19 41.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=158,slow=15,SNR=13						
FINES				Sn	**Sn**	**09 20 11.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=159,slow=26,SNR=5.2						
EE06	**Soera, Palade,**	**2.50 266**		*e*SB	**Sb**	**09 20 18.4**	**0.0**
KAF	**Kangasniemi**	**2.94 348**		*e*PB	**Pb**	**09 19 53.2**	**-1.6**
KAF				MSG		09 20 29.1	
	comp=Z,2.0nm,0.2s						
KAF				*e*SG	**Sb**	**09 20 32.5**	**+1.2**
SLIT	**Slitere, Latvi**	**3.26 242**		AML	AML	09 20 44.4	
	comp=N,92nm,0.7s						
SLIT				AML	AML	09 20 48.4	
	comp=Z,85nm,0.6s						
SLIT				AML	AML	09 20 50.2	
	comp=E,98nm,0.7s						
RAF	**Rauma**	**3.44 304**		*e*P	**Pn**	**09 19 58.3**	**+2.0**
RAF	**Rauma**	**3.44 304**		*e*P	**Pn**	**09 19 58.2**	**+1.9**
RAF				AML	AML	09 20 49.4	
	comp=Z,5.3nm,0.8s						
RAF				AML	AML	09 21 10.2	
	comp=E,3.1nm,0.7s						
RAF				AML	AML	09 21 19.1	
	comp=N,4.3nm,0.8s						
RAF	**Rauma**	**3.44 304**		*e*P	**Pn**	**09 19 58.2**	**+1.9**
JOF	**Joensuu**	**4.08**	**24**	*e*P	**Pn**	**09 20 06.3**	**+1.2**
VAF	**Ylistaro**	**4.50 330**		*e*P	**Pn**	**09 20 13.3**	**+2.4**
I43RU	**DUBNA INFRASON**	**5.68 112**		I	I	09 54 00.0	
	comp=N,0.1nm,2.2s,baz=303,slow=316,SNR=5.8						
ARCES	**ARCESS Array B**	**10.37 356**		Pn	**Pn**	**09 21 29.7**	**-1.5**
	baz=172,slow=13,SNR=1.9						
	comp=N,2.5nm,1.0s						

*NEIC **08** 09:20:08.0±1.2, 18°.92N±0°.10×145°.4E±0°.1, h179km±6km, mb4.0/7, Error ellipse: s-maj=19.4km s-min=12.1km az=117.0*
*IDC **08** 09:20:09.8±2.7, 18°.84N×145°.55E, h206km±27km, mb3.1/8, mbtmp3.7/9, Error ellipse: s-maj=34.1km s-min=18.6km az=100.0*
ISC 08 09:20:10.5±0.6, 18°.83N±0°.08×145°.5E±0°.2, h214km, n27, σ0§90/27, mb3.5/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.25 187**		P	**Pn**	**09 21 27.4**	**-1.0**
	22nm,0.3s,baz=185,slow=23,SNR=1.7						
GUMO				S	**S**	**09 22 30.0**	**+0.1**
	69nm,0.8s,baz=355,slow=24,SNR=1.6						
WB0	**Warramunga Arr**	**39.88 196**		P	**P**	**09 27 24.1**	**+0.5**
WB0				IAmb	IAmb	09 27 40.7	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**40.05 196**		P	**P**	**09 27 25.6**	**+0.5**
WRA	**Warramunga Arr**	**40.06 196**		P	**P**	**09 27 25.0**	**-0.2**
WRA	**Warramunga Arr**	**40.06 196**		P	**P**	**09 27 25.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=19,slow=8.2,SNR=11						
	comp=Z,0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.56 209**		P	**P**	**09 27 38.0**	**+0.6**
FITZ				IAmb	IAmb	09 27 38.6	
	comp=Z,2.6nm,1.4s						
AS31	**Alice Springs**	**43.73 195**		P	**P**	**09 27 55.0**	**+0.2**
ASAR	**Alice Springs**	**43.73 195**		P	**P**	**09 27 53.6**	**-1.2**
ASAR	**Alice Springs**	**43.73 195**		P	**P**	**09 27 55.0**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=8.6,slow=7.3,SNR=6.0						
	comp=Z,0.3nm,0.8s						
MBWA	**Marble Bar**	**47.08 214**		P	**P**	**09 28 23.1**	**+2.0**
MBWA				IAmb	IAmb	09 28 49.3	
	comp=Z,19nm,1.2s						
MK31	**Makanchi Array**	**58.23 314**		P	**P**	**09 29 41.0**	**-1.5**
MK31				IAmb	IAmb	09 30 20.2	
	comp=Z,1.6nm,1.5s						
KURBB	**Kurchatov Arra**	**61.09 318**		P	**P**	**09 30 02.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=95,slow=7.5,SNR=5.0						
	comp=Z,0.3nm,0.6s						
C23K	**Itkillik River**	**63.55**	**20**	P	**P**	**09 30 18.5**	**+0.7**
C23K				IAmb	IAmb	09 30 30.6	
	comp=Z,6.1nm,1.5s						
ILAR	**Eielson Array**	**63.61**	**26**	P	**P**	**09 30 17.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=254,slow=4.8,SNR=4.2						
	comp=Z,0.3nm,0.8s						
F24K	**Squaw Lake**	**63.85**	**23**		PcP	09 30 42.3	-11
BVAR	**Borovoye Array**	**66.25 320**		P	**P**	**09 30 36.6**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=81,slow=9.2,SNR=3.5						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**73.11 317**		P	**P**	**09 31 17.6**	**+0.1**
YKA	**Yellowknife Ar**	**77.96**	**28**	P	**P**	**09 31 45.5**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=286,slow=5.6,SNR=1.8						
	comp=Z,0.2nm,0.8s						
NVAR	**Mina Array Bea**	**83.21**	**52**	P	**P**	**09 32 14.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=279,slow=5.0,SNR=4.7						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**86.68 335**		P	**P**	**09 32 28.7**	**-1.2**
	comp=Z,4.2nm,1.1s,baz=46,slow=5.5,SNR=6.3						
	comp=Z,4.2nm,1.1s						
L61B	**Northampton**	**109.59**	**29**	Pdif	**Pdif**	**09 34 12.8**	**-1.3**
JSC	**Jenkinsville**	**110.94**	**40**	Pdif	**Pdif**	**09 34 19.1**	**-1.2**
VA01	**Torpederas**	**143.93 121**		PKPdf	**PKPdf**	**09 39 20.5**	**-0.3**
HOPE	**Hope Point**	**144.58 178**		PKPbc	**PKPdf**	**09 39 21.4**	**+0.2**
PB14	**IPOC Station P**	**146.22 106**		PKPdf	**PKPdf**	**09 39 25.0**	**-0.3**
BOAV	**Boa Vista**	**146.84**	**53**	PKPbc	**PKPdf**	**09 39 27.0**	**+0.7**
AC02	**Maricunga**	**147.19 110**		PKPbc	**PKPbc**	**09 39 29.0**	**-0.7**

*NAO **08** 09:30:40.5±2.7, 71°.49N×3°.31W, ML2.7*
*BER **08** 09:30:44.6±3.4, 71°.69N×3°.31W, h10km, mb(Pn)3.9, ML2.7(NAO), Confirmed Earthquake*
ISC 08 09:30:41.4±1.2, 71°.6N±0°.1×3°.63W±0°.10, h10km, n28, σ1§83/30, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.58 307**		Pn	**Pn**	**09 32 05.9**	**+1.6**
DBG				Sn	**Sn**	**09 33 05.2**	**-3.1**
DBG	**Daneborg**	**5.58 307**		*e*P	**Pn**	**09 32 06.0**	**+1.7**
DBG				*e*S	**Sn**	**09 33 05.4**	**-2.9**
DAG	**Danmarks Havn**	**6.60 329**		*e*P	**Pn**	**09 32 20.7**	**+2.4**
DAG				*e*S	Sn	09 33 25.1	-8.4
LOF	**Lofoten**	**6.86 112**		Pn	**Pn**	**09 32 21.4**	**-0.4**
LOF	**Lofoten**	**6.86 112**		*e*P	**Pn**	**09 32 21.8**	**0.0**
LOF				IAML		09 32 22.8	
	comp=Z,2.2nm,0.3s						
HSPB	**Hornsund (broa**	**7.47**	**35**	*e*P	**Pn**	**09 32 31.9**	**+1.7**
STEI	**Steigen**	**7.48 110**		Pn	**Pn**	**09 32 29.2**	**-1.2**
STEI	**Steigen**	**7.48 110**		*e*P	**Pn**	**09 32 29.4**	**-1.0**
STEI				IAML		09 32 29.6	
	comp=Z,5.8nm,0.3s						
TRO	**Tromso**	**7.74**	**94**	Pn	**Pn**	**09 32 32.0**	**-1.8**
TRO	**Tromso**	**7.74**	**94**	*e*P	**Pn**	**09 32 32.5**	**-1.4**
TRO				IAML		09 32 32.6	
	comp=Z,4.0nm,0.3s						
FAUS	**Fauske**	**7.85 113**		*e*P	**Pn**	**09 32 34.2**	**-1.2**
FAUS				IAML		09 32 36.2	
	comp=Z,2.3nm,0.7s						
STOK	**Stokkvaagen**	**7.96 123**		*e*P	**Pn**	**09 32 36.3**	**-0.5**
STOK				IAML		09 32 36.6	
	comp=Z,3.1nm,0.7s						
LEIR	**Leirfjorden**	**8.15 124**		*e*P	**Pn**	**09 32 38.5**	**-1.1**
LEIR				IAML		09 32 40.6	
	comp=Z,2.6nm,0.7s						
JETT	**Jettan, Norway**	**8.24**	**93**	Pn	**Pn**	**09 32 38.5**	**-2.3**
JETT	**Jettan, Norway**	**8.24**	**93**	Pn	**Pn**	**09 32 38.5**	**-2.3**
SPA0	**Spitsbergen Ar**	**8.36**	**29**	Pn	**Pn**	**09 32 44.9**	**+2.5**
	baz=214,slow=18						
SPA0	**Spitsbergen Ar**	**8.36**	**29**	Pn	**Pn**	**09 32 44.9**	**+2.5**
	baz=214,slow=18						
KIF	**Kilpisjarvi**	**8.62**	**96**	Pn	**Pn**	**09 32 44.2**	**-1.7**
KIF	**Kilpisjarvi**	**8.62**	**96**	*e*P	**Pn**	**09 32 44.2**	**-1.7**
SALU	**Saltoluokta**	**8.81 108**		*e*P	**Pn**	**09 32 47.8**	**-0.8**
NSS	**Namsos**	**9.15 133**		*e*P	**Pn**	**09 32 53.7**	**+0.5**
KTK1	**Kautokeino**	**9.38**	**93**	*e*P	**Pn**	**09 32 54.9**	**-1.6**
KTK1				IAML		09 33 01.6	
	comp=Z,1.1nm,0.4s						
HEF	**Hetta**	**9.82**	**96**	Pn	**Pn**	**09 33 00.8**	**-1.6**
HEF	**Hetta**	**9.82**	**96**	*e*P	**Pn**	**09 33 00.9**	**-1.5**
ARA0	**ARCESS Array S**	**9.87**	**88**	Pn	**Pn**	**09 33 00.8**	**-2.2**
	baz=295,slow=12						
ARA0	**ARCESS Array S**	**9.87**	**88**	Pn	**Pn**	**09 33 00.8**	**-2.2**
	baz=295,slow=12						
HFS	**Hagfors**	**13.42 140**		Pn	**Pn**	**09 33 51.2**	**-0.4**
	baz=326,slow=7.4						
HFS	**Hagfors**	**13.42 140**		Pn	**Pn**	**09 33 51.2**	**-0.4**
	baz=326,slow=7.4						

*SSNC **08** 09:41:52.9±2.9, 19°.63N×71°.15W, h0km±22km, MD3.2, ML2.3*
*OSPL **08** 09:41:52.9±1.4, 19°.66N×71°.27W, h0km±9km, ML2.3, Hypocentre not reviewed by the ISC*
*SDD **08** 09:41:54.5±2.3, 19°.56N×71°.23W, h22km±22km, MD3.2, ML2.8, MW3.3*
ISC 08 09:41:52.9±1.2, 19°.58N±0°.04×71°.21W±0°.03, h33km±6km, n16, σ1§09/30, 13C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDR	**Restauracion**	**0.45 203**		⇑*e*Pg	**Pn**	**09 42 03.4**	**+0.4**
REDR				⇓*e*Sg	**Sn**	**09 42 11.4**	**+1.5**
REDR				IAML		09 42 12.2	
	comp=N,358nm,0.1s						
LODA1	**ITESIL, Dajabo**	**0.47 265**		*i* P		09 41 44.1	
LODA1				*e*S		09 41 51.0	
LODA1				IAML		09 41 52.6	
	comp=Z,1μm,2.5s						
SC01	**Santiago de lo**	**0.48 109**		⇑*e*Pg	**Pn**	**09 42 02.6**	**-0.9**
SC01				⇑*e*Sg	**Sn**	**09 42 11.4**	**+0.7**
SC01				IAML		09 42 12.0	
	comp=N,398nm,0.2s						
SC01	**Santiago de lo**	**0.48 109**		*i* P		09 42 02.6	
SC01				*e*S		09 42 11.2	
SC01				IAML		09 42 15.2	
	comp=Z,280nm,0.5s						
MCDR	**Montecristi**	**0.52 306**		⇑*e*Pg	**Pn**	**09 42 03.5**	**-0.5**
MCDR				⇑*e*Sg	**Sn**	**09 42 12.6**	**+0.8**
MCDR				IAML		09 42 14.4	
	comp=N,653nm,0.2s						
SDDR	**Presa de Saban**	**0.60 187**		*e*P	**Pb**	**09 42 04.5**	**-0.6**
SDDR				*e*S	**Sn**	**09 42 13.6**	**-0.2**
SDDR				IAML		09 42 14.6	
	comp=N,149nm,0.2s						
SDDR				IAML		09 42 14.7	
	comp=N,178nm,0.3s						
SDDR	**Presa de Saban**	**0.60 187**		⇓*e*Pg	**Pb**	**09 42 04.6**	**-0.6**
SDDR				⇑*e*Sg	**Sn**	**09 42 14.3**	**+0.5**
SDDR				IAML		09 42 15.5	
	comp=N,202nm,0.3s						
SDDR	**Presa de Saban**	**0.60 187**		*i* P		09 42 04.5	
SDDR				*e*S		09 42 13.9	
SDDR				IAML		09 42 14.6	
	comp=Z,106nm,0.4s						
ABDR	**Alto Bandera**	**0.94 144**		⇑*e*Pg	**Pb**	**09 42 09.9**	**-1.2**
ABDR				⇑*e*Sg	**Sn**	**09 42 22.6**	**-0.1**
ABDR				IAML		09 42 24.0	
	comp=N,127nm,0.2s						
LONE3	**El Aguacate, B**	**1.00 194**		*i* P		09 42 11.7	
LONE3				*e*S		09 42 26.0	
LONE3				IAML		09 42 28.9	
	comp=Z,51nm,0.5s						
LODU1	**El Espartillar**	**1.25 192**		*i* P		09 42 16.3	
LODU1				IAML		09 42 41.6	
	comp=Z,65nm,0.9s						
DR08	**Loma La Naviza**	**1.28 119**		⇑*e*Pg	**Pb**	**09 42 15.8**	**-0.7**
DR08				⇓*e*Sg	**Sb**	**09 42 33.6**	**+1.0**
DR08				IAML		09 42 38.6	
	comp=N,2μm,0.1s						
NADR	**Nagua**	**1.30 100**		⇓*e*Pg	**Pb**	**09 42 16.4**	**-0.3**
NADR				⇑*e*Sg	**Sb**	**09 42 34.9**	**+1.9**
NADR				IAML		09 42 39.1	
	comp=N,276nm,0.2s						
PODR	**Polo**	**1.41 183**		*i* P		09 42 18.9	
PODR				*e*S		09 42 39.0	
BANI	**BANI**	**1.43 146**		⇑*e*Pg	**Pb**	**09 42 18.5**	**-0.6**
BANI				⇑*e*Sg	**Sb**	**09 42 37.0**	**-0.1**
BANI				IAML		09 42 46.6	
	comp=N,82nm,0.3s						
PAPH	**Port-au-Prince**	**1.47 225**		*e*P	**Pb**	**09 42 19.2**	**-0.5**
PAPH				*e*S	**Sb**	**09 42 40.7**	**+2.6**
PAPH	**Port-au-Prince**	**1.47 225**		*i* P		09 42 19.5	
LOBH	**Bahia de las A**	**1.76 193**		*i* P		09 42 24.1	
LOBH				IAML		09 42 54.2	
	comp=Z,52nm,1.6s						
GRTK	**Grand Turk**	**1.92**	**2**	*e*P	**Pn**	**09 42 23.7**	**+0.4**
GRTK				*e*S	**Sn**	**09 42 46.7**	**+0.4**
GRTK	**Grand Turk**	**1.92**	**2**	*i* P		09 42 23.7	
GRTK				*e*S		09 42 47.0	
GRTK				IAML		09 42 50.5	
	comp=Z,21nm,0.8s						
SMDR	**Samana, DR**	**1.93**	**98**	⇓*e*Pg	**Pb**	**09 42 26.9**	**-0.6**
SMDR				⇑*e*Sg	**Sb**	**09 42 52.0**	**+0.9**
SMDR				IAML		09 42 58.4	
	comp=N,61nm,0.8s						
MASC	**Masc**	**2.90 282**		*e*P	**Pn**	**09 42 36.0**	**-0.8**
MASC				*e*S	**Sn**	**09 43 11.3**	**+0.8**
QMBU	**Quimbuelo**	**3.44 281**		*e*P	**Pn**	**09 42 43.2**	**-1.1**
QMBU				*e*S	**Sn**	**09 43 23.9**	**-0.1**
GTBY	**Guantanamo Bay**	**3.69 276**		*e*P	**Pn**	**09 42 46.9**	**-0.7**
RCC	**Rio Carpintero**	**4.24 276**		*e*P	**Pn**	**09 42 52.5**	**-2.7**

*NNC **08** 09:46:43.0±2.5, 54°.17N×87°.83E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=19.5km s-min=12.8km az=36.0, Suspected Mining explosion.*
*ASRS **08** 09:46:47.0±0.9, 54°.22N×87°.07E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **08** 09:46:48.0±2.9, 54°.23N×87°.22E, h0km, mbtmp2.6/2, ML2.7/2, Error ellipse: s-maj=26.2km s-min=18.1km az=55.0*
ISC 08 09:46:41.8±4.0, 54°.3N±0°.2×87°.9E±0°.2, h0km, n9, σ1§44/12, 7C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84 261**		I	I	09 54 40.0	
	0.1nm,0.7s,baz=78,slow=348,SNR=33						
ZAA0	**Zalesovo Array**	**1.84 261**		⇑Pn	**Pn**	**09 47 14.5**	**-0.1**
	0.1nm,0.3s						
ZAA0				⇓Sn	**Sb**	**09 47 39.7**	**-0.1**
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**1.84 261**		Pg	**Pn**	**09 47 13.3**	**-1.3**
	1.1nm,0.3s,baz=78,slow=13,SNR=18						
ZALV				Lg	Lg	09 47 33.9	
	1.3nm,0.3s,baz=80,slow=28,SNR=6.8						
KURK	**Kurchatov**	**6.69 242**		⇓Pn	**Pn**	**09 48 21.9**	**+0.7**
	0.2nm,0.5s						
KURK				⇑Sn	**Sn**	**09 49 37.7**	**-0.3**
	0.4nm,0.5s						
KURK				⇑Lg	Lg	09 50 12.2	
	2.5nm,1.0s						
KURBB	**Kurchatov Arra**	**6.79 241**		Pn	**Pn**	**09 48 24.5**	**+1.9**
	0.1nm,0.3s,baz=54,slow=13,SNR=7.5						
KURBB				Lg	Lg	09 50 13.1	
	baz=58,slow=33,SNR=4.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**6.79 241**		⇑Pn	**Pn**	**09 48 24.7**	**+2.2**
	1.1nm,0.5s						
KURBB				⇑Sn	**Sn**	**09 49 39.9**	**-0.6**
	1.3nm,0.8s						
KURBB				⇓Lg	Lg	09 50 14.5	
	3.3nm,0.8s						
MK31	**Makanchi Array**	**8.29 208**		⇑Pn	**Pn**	**09 48 42.7**	**-0.5**
	0.2nm,0.5s,baz=30,slow=15,SNR=11						
MK31				⇑Sn	**Sn**	**09 50 19.1**	**+1.6**
	0.2nm,0.5s,baz=268,slow=18,SNR=4.1						
MK31				⇓Lg	Lg	09 51 04.7	
	1.3nm,0.8s,baz=21,slow=34						
MKAR	**Makanchi Array**	**8.29 208**		Pn	Pn	09 48 47.8	+4.6
	0.2nm,0.3s,baz=25,slow=12,SNR=6.6						
MK

n161,σ1°27/144,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.89**	**5**	P	**Pn**	**09 59 58.0**	**-0.4**
VLI				S	**Sn**	**10 00 12.5**	**+0.9**
IMMV	**Iera Moni Meta**	**1.00**	**111**	P	**Pn**	**09 59 58.5**	**-1.2**
IMMV				S	**Sn**	**10 00 14.5**	**+0.6**
IMMV	**Iera Moni Meta**	**1.00**	**111**	P	**Pn**	**09 59 58.6**	**-1.1**
IMMV				S	**Sn**	**10 00 14.7**	**+0.8**
CHAN	**Chania**	**1.03**	**107**	P	**Pn**	**09 59 59.2**	**-0.9**
CHAN				S	**Sn**	**10 00 15.3**	**+0.9**
ITM	**Ithomi**	**1.53**	**332**	P	**Pn**	**10 00 05.4**	**-1.0**
ITM				S	**Sn**	**10 00 24.7**	**-1.2**
KRND	**KRANIDI**	**1.57**	**9**	P	**Pn**	**10 00 06.4**	**-0.5**
KRND				S	**Sn**	**10 00 28.4**	**+1.7**
IDI	**Anoyia**	**1.76**	**107**	P	**Pn**	**10 00 08.4**	**-1.0**
IDI	**Anoyia**	**1.76**	**107**	Pn	**Pn**	**10 00 09.0**	**-0.4**
	3.0nm,0.3s,baz=247,slow=9.0,SNR=23						
IDI				Sn	**Sn**	**10 00 32.2**	**+1.0**
	11nm,0.3s,baz=327,slow=21,SNR=6.2						
IDI	**Anoyia**	**1.76**	**107**	P	**Pn**	**10 00 08.5**	**-0.9**
GUR	**Goura**	**2.14**	**349**	P	**Pn**	**10 00 14.7**	**+0.1**
GUR	**Goura**	**2.14**	**349**	P	**Pn**	**10 00 14.9**	**+0.3**
VLY	**Voula,Athens**	**2.16**	**20**	P	**Pn**	**10 00 11.2**	**-3.5**
KLV	**Kalavryta, Ach**	**2.27**	**346**	P	**Pn**	**10 00 16.6**	**+0.2**
ANX	**Ano Chora**	**2.85**	**345**	P	**Pn**	**10 00 23.5**	**-0.7**
AXAR	**Agios Charalam**	**2.93**	**357**	P	**Pn**	**10 00 25.5**	**+0.3**
BRTR	**Keskin Array B**	**9.39**	**62**	Pn	**Pn**	**10 01 51.1**	**-2.2**
	0.1nm,0.3s,baz=246,slow=10,SNR=4.2						
	0.5nm,0.9s						
FINES	**FINESS Array B**	**25.71**	**4**	P	**P**	**10 05 03.0**	**-0.3**
	1.5nm,0.8s,baz=180,slow=7.8,SNR=1.3						
	1.5nm,0.8s						
ARCES	**ARCESS Array B**	**33.79**	**2**	P	**P**	**10 06 14.7**	**0.0**
	1.9nm,0.9s,baz=175,slow=11,SNR=4.1						
	1.9nm,0.9s						
KURBB	**Kurchatov Arra**	**42.18**	**52**	P	**P**	**10 07 25.9**	**+0.5**
	0.2nm,0.3s,baz=275,slow=9.0,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.99**	**57**	P	**P**	**10 07 48.9**	**+0.8**
	0.6nm,0.5s,baz=269,slow=7.7,SNR=12						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**45.91**	**47**	P	**P**	**10 07 55.7**	**+0.5**
	0.5nm,0.4s,baz=264,slow=9.4,SNR=2.0						
	0.5nm,0.4s						

*IDC **08** 10:00:44.0±1.0,29°.03N×102°.54E,h0km,mb3.5/6, mbtmp3.6/8,ML3.7/1,MS3.1/4,Error ellipse: s-maj=30.1km s-min=17.2km az=74.0*

ISC 08 10:00:46.5±0.7,28°.96N±0°.04×102°.60E±0°.06,h10km,n17, σ2°19/22,mb3.5/6,MS2.9/3,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.19**	**27**	⇑Pg	**Pn**	**10 01 25.0**	**+2.0**
CD2				Sg	**Sn**	**10 01 54.0**	**+3.7**
CD2				smax	smax		
	comp=N,6μm,0.6s						
CD2				smax	smax		
	comp=E,5μm,0.9s						
PZH	**PanZhiHua**	**2.56**	**198**	Pg	**Pn**	**10 01 32.0**	**+3.8**
PZH				Sg	**Sb**	**10 02 06.8**	**+2.6**
PZH				smax	smax		
	comp=N,830nm,1.2s						
PZH				smax	smax		
	comp=E,970nm,1.0s						
TNCH	**TengChong**	**5.34**	**224**	Pn	Pn	10 02 03.6	-2.9
TNCH				Pg	Pb	10 02 26.4	+6.3
TNCH				Sn	**Sn**	**10 03 06.3**	**-2.0**
TNCH				Sg	**Sg**	**10 03 36.8**	**-1.4**
TNCH				smax	smax		
	comp=N,230nm,1.5s						
TNCH				smax	smax		
	comp=E,140nm,1.6s						
TNCH				LR	LR		
	comp=N,370nm,2.2s						
TNCH				LR	LR		
	comp=E,600nm,2.9s						
TNCH				LR	LR		
	comp=Z,330nm,7.1s						
LZH	**Lanzhou**	**7.19**	**8**	Pg	Pg	10 03 01.4	-2.7
LZH				Sg	**Sg**	**10 04 36.3**	**-0.9**
LZH				smax	smax		
	comp=N,31nm,1.4s						
LZH				smax	smax		
	comp=E,59nm,1.2s						
LZH				LR	LR		
	comp=N,420nm,6.4s						
LZH				LR	LR		
	comp=E,610nm,7.2s						
LZH				LR	LR		
	comp=Z,450nm,8.9s						
XAN	**Xi'an**	**7.40**	**45**	Pn	**Pn**	**10 02 34.9**	**+0.3**
XAN				P*	Pb	10 02 43.0	-12
XAN				Pg	Pg	10 03 05.7	-2.5
XAN				Sn	**Sn**	**10 03 56.4**	**-2.3**
XAN				S*	Sb	10 04 12.8	-11
XAN				Sg	**Sg**	**10 04 42.6**	**-1.5**
XAN				smax	smax		
	comp=N,370nm,1.0s						
XAN				smax	smax		
	comp=E,380nm,0.9s						
XAN				LR	LR		
	comp=N,2μm,11.3s						
XAN				LR	LR		
	comp=E,1μm,10.5s						
XAN				LR	LR		
	comp=Z,440nm,9.1s						
GULI	**GuiLin**	**7.82**	**116**	P	**Pn**	**10 02 43.8**	**+3.4**
GULI				Sg	**Sn**	**10 04 06.1**	**-2.9**
GULI				smax	smax		
	comp=N,100nm,1.1s						
GULI				smax	smax		
	comp=E,40nm,1.4s						
CMAR	**Chiang Mai Arr**	**10.97**	**199**	Pn	**Pn**	**10 03 24.1**	**+0.4**
	comp=E,1.1nm,0.3s,baz=8.8,slow=14,SNR=5.9						
CMAR				Lg	Lg	10 06 36.1	
	comp=E,1.2nm,0.3s,baz=23,slow=28,SNR=4.3						
HNS	**HongShan**	**13.17**	**47**	*e*P	**Pn**	**10 03 55.3**	**+1.7**
HNS				*e*S	**Sn**	**10 06 19.2**	**-0.9**
HNS				LR	LR		
	comp=N,660nm,13.7s						
HNS				LR	LR		
	comp=E,580nm,11.4s						
HNS				LR	LR		
	comp=Z,230nm,9.7s						
WMQ	**Urumqi**	**19.04**	**325**	*e*P	**P**	**10 05 11.0**	**+2.3**
SONM	**Songino Array**	**19.08**	**8**	P	**P**	**10 05 08.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=190,slow=15,SNR=7.0						
SONM				LR	LR	10 13 24.3	
	comp=Z,87nm,19.9s,baz=52,slow=40						
	comp=Z,0.5nm,0.4s						
KSRS	**Korea Array**	**22.77**	**62**	P	**P**	**10 05 48.0**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=246,slow=9.9,SNR=5.6						
KSRS				LR	LR	10 15 52.0	
	comp=Z,70nm,18.5s,baz=125,slow=40						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**23.84**	**324**	P	**P**	**10 05 57.6**	**-2.2**
	comp=Z,0.3nm,0.5s,baz=129,slow=9.4,SNR=5.6						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**28.14**	**337**	P	**P**	**10 06 38.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=145,slow=10,SNR=1.9						
ZALV				LR	LR	10 18 09.8	
	comp=Z,28nm,19.2s,baz=71,slow=37						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**28.24**	**327**	P	P	10 06 36.6	-2.9
	comp=Z,0.3nm,0.6s,baz=134,slow=10,SNR=4.3						
	comp=Z,0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**30.76**	**66**	LR	LR	10 21 35.1	
	comp=Z,26nm,18.9s,baz=167,slow=41						
WRA	**Warramunga Arr**	**57.46**	**144**	P	**P**	**10 10 34.9**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=326,slow=8.5,SNR=11						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**60.38**	**147**	P	**P**	**10 10 55.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=329,slow=7.4,SNR=7.2						
	comp=Z,0.3nm,0.4s						

*AEIC **08** 10:16:50.4±1.8,69°.12N±0°.03×144°.74W±0°.09,h17km±6km, ML3.2,ML3.3/118(NEIC),Error ellipse: s-maj=4.9km s-min=4.0km az=140.0*

*NEIC **08** 10:16:52.6±1.7,69°.21N±0°.03×144°.66W±0°.05,h24km±8km, Error ellipse: s-maj=3.8km s-min=2.6km az=193.0*

*IDC **08** 10:16:54.0±1.8,68°.99N×144°.28W,h0km,mb4.2/1, mbtmp3.6/4,ML3.2/3,Error ellipse: s-maj=24.1km s-min=15.0km az=171.0*

ISC 08 10:16:50.9±0.8,69°.13N±0°.03×144°.68W±0°.03,h10km,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.61**	**34**		**Pg**	**10 17 01.7**	**-0.9**
C27K	**Jago River**	**0.61**	**34**	IAML		10 17 10.6	
	comp=N,768nm,0.5s						
C27K				IAML		10 17 10.8	
	comp=E,792nm,0.5s						
C27K	**Jago River**	**0.61**	**34**	P	**Pg**	**10 17 01.7**	**-0.9**
	baz=216						
D25K	**Kavik River**	**0.64**	**289**		**Pg**	**10 17 01.9**	**-1.3**
D25K					**Sg**	**10 17 11.2**	**-0.4**
D25K	**Kavik River**	**0.64**	**289**	IAML		10 17 13.0	
	comp=E,2μm,0.4s						
D25K	**Kavik River**	**0.64**	**289**	P	**Pg**	**10 17 01.9**	**-1.3**
	baz=108						
D25K				S	**Sg**	**10 17 11.2**	**-0.4**
	baz=108						
C26K	**Camden Bay**	**0.80**	**354**		**Pg**	**10 17 06.0**	**-0.2**
C26K					**Sg**	**10 17 17.1**	**+0.5**
C26K	**Camden Bay**	**0.80**	**354**	P	**Pg**	**10 17 06.0**	**-0.2**
	baz=176						
C26K				S	**Sg**	**10 17 17.1**	**+0.5**
	baz=176						
E25K	**Arctic Village**	**1.06**	**198**		**Pg**	**10 17 10.5**	**-0.8**
E25K	**Arctic Village**	**1.06**	**198**		**Sg**	**10 17 24.3**	**-0.8**
E25K	**Arctic Village**	**1.06**	**198**	P	**Pg**	**10 17 10.5**	**-0.8**
	baz=16						
E25K				S	**Sg**	**10 17 24.3**	**-0.8**
	baz=16						
D27M	**Malcolm River**	**1.33**	**83**		**Pn**	**10 17 15.3**	**-0.3**
D27M					**Sg**	**10 17 34.5**	**+0.9**
D27M	**Malcolm River**	**1.33**	**83**	P	**Pn**	**10 17 15.3**	**-0.3**
	baz=266						
D27M				S	**Sg**	**10 17 34.5**	**+0.9**
	baz=266						
F26K	**Sheenjek River**	**1.45**	**172**		**Pn**	**10 17 18.5**	**+1.2**
F26K	**Sheenjek River**	**1.45**	**172**	IAML		10 17 39.2	
	comp=N,399nm,0.4s						
F26K				IAML		10 17 39.6	
	comp=E,582nm,0.7s						
F26K	**Sheenjek River**	**1.45**	**172**	P	**Pn**	**10 17 18.5**	**+1.2**
	baz=352						
D24K	**Happy Valley**	**1.49**	**273**		**Pn**	**10 17 18.6**	**+1.0**
D24K	**Happy Valley**	**1.49**	**273**	P	**Pn**	**10 17 18.6**	**+1.0**
	baz=89						
C24K	**Franklin Bluff**	**1.54**	**295**		**Pn**	**10 17 18.9**	**+0.6**
C24K	**Franklin Bluff**	**1.54**	**295**	IAML		10 17 45.0	
	comp=N,348nm,0.8s						
C24K	**Franklin Bluff**	**1.54**	**295**	P	**Pn**	**10 17 18.9**	**+0.6**
	baz=111						
F25K	**Christian Rive**	**1.58**	**194**	Pn	**Pn**	**10 17 19.5**	**+0.5**
F25K				IAML		10 17 45.1	
	comp=E,404nm,0.5s						
F25K				IAML		10 17 45.3	
	comp=N,508nm,0.7s						
F25K	**Christian Rive**	**1.58**	**194**	P	**Pn**	**10 17 19.6**	**+0.6**
	baz=12						
BMAR	**Burnt Mountain**	**1.71**	**179**		**Pn**	**10 17 21.9**	**+1.2**
TOLK	**Toolik Lake Re**	**1.84**	**257**	Pn	**Pn**	**10 17 23.8**	**+1.3**
TOLK				IAML		10 17 53.4	
	comp=N,288nm,1.2s						
TOLK				IAML		10 17 55.0	
	comp=E,379nm,0.8s						
TOLK	**Toolik Lake Re**	**1.84**	**257**	P	**Pn**	**10 17 24.0**	**+1.5**
	baz=72						
E28M	**Babbage River**	**1.94**	**103**		**Pn**	**10 17 24.5**	**+0.7**
E28M	**Babbage River**	**1.94**	**103**	IAML		10 17 59.4	
	comp=N,210nm,1.0s						
E28M	**Babbage River**	**1.94**	**103**	P	**Pn**	**10 17 24.5**	**+0.7**
	baz=288						
F24K	**Squaw Lake**	**2.01**	**218**		**Pn**	**10 17 25.7**	**+0.8**
F24K	**Squaw Lake**	**2.01**	**218**	P	**Pn**	**10 17 25.7**	**+0.8**
	baz=34						
E23K	**Chandalar**	**2.11**	**242**		**Pn**	**10 17 27.7**	**+1.5**
E23K	**Chandalar**	**2.11**	**242**	IAML		10 18 03.8	
	comp=E,295nm,0.9s						
E23K				IAML		10 18 04.6	
	comp=N,192nm,0.8s						
E23K	**Chandalar**	**2.11**	**242**	P	**Pn**	**10 17 27.7**	**+1.5**
	baz=57						
D28M	**Stokes Point**	**2.13**	**82**		**Pn**	**10 17 28.9**	**+2.5**
D28M	**Stokes Point**	**2.13**	**82**	P	**Pn**	**10 17 28.9**	**+2.5**
	baz=267						
D23K	**Nanushuk River**	**2.17**	**268**		**Pn**	**10 17 28.2**	**+1.3**
D23K	**Nanushuk River**	**2.17**	**268**	IAML		10 18 04.4	
	comp=N,210nm,0.9s						
D23K				IAML		10 18 04.5	
	comp=E,274nm,0.9s						
D23K	**Nanushuk River**	**2.17**	**268**	P	**Pn**	**10 17 28.2**	**+1.3**
	baz=83						
C23K	**Itkillik River**	**2.21**	**292**		**Pn**	**10 17 28.1**	**+0.6**
C23K	**Itkillik River**	**2.21**	**292**	IAML		10 18 01.8	
	comp=E,254nm,0.7s						
C23K	**Itkillik River**	**2.21**	**292**	P	**Pn**	**10 17 28.1**	**+0.6**
	baz=106						
G26K	**Porcupine Rive**	**2.21**	**171**		**Pn**	**10 17 29.2**	**+1.6**
G26K	**Porcupine Rive**	**2.21**	**171**	P	**Pn**	**10 17 29.2**	**+1.6**
	baz=351						
F28M	**Old Crow**	**2.34**	**128**		**Pn**	**10 17 29.9**	**+0.5**
F28M	**Old Crow**	**2.34**	**128**	IAML		10 18 14.3	
	comp=E,154nm,0.6s						
F28M	**Old Crow**	**2.34**	**128**	P	**Pn**	**10 17 29.9**	**+0.5**
	baz=312						
E29M	**Blow River**	**2.58**	**104**		**Pn**	**10 17 33.5**	**+0.9**
E29M	**Blow River**	**2.58**	**104**	IAML		10 18 12.6	
	comp=E,144nm,0.5s						
E29M				IAML		10 18 18.0	
	comp=N,160nm,0.8s						
E29M	**Blow River**	**2.58**	**104**	P	**Pn**	**10 17 33.5**	**+0.9**
	baz=290						
FYU	**Fort Yukon**	**2.58**	**185**	Pn	**Pn**	**10 17 33.9**	**+1.3**
G27K	**Doyon Strip**	**2.59**	**153**		**Pn**	**10 17 33.2**	**+0.4**
G27K	**Doyon Strip**	**2.59**	**153**	P	**Pn**	**10 17 33.2**	**+0.4**
	baz=335						
G24K	**Hadweenzic Riv**	**2.66**	**205**		**Pn**	**10 17 34.4**	**+0.6**
G24K	**Hadweenzic Riv**	**2.66**	**205**	IAML		10 18 20.9	
	comp=N,170nm,0.6s						
G24K				IAML		10 18 23.4	
	comp=E,123nm,0.8s						
G24K	**Hadweenzic Riv**	**2.66**	**205**	P	**Pn**	**10 17 34.4**	**+0.6**
	baz=22						
E22K	**Anaktuvuk Pass**	**2.80**	**252**	Pn	**Pn**	**10 17 36.7**	**+1.0**
E22K				IAML		10 18 22.1	
	comp=N,108nm,0.6s						
E22K				IAML		10 18 33.3	
	comp=E,99nm,0.8s						
E22K	**Anaktuvuk Pass**	**2.80**	**252**	P	**Pn**	**10 17 36.8**	**+1.1**
	baz=66						
COLD	**Coldfoot**	**2.81**	**230**		**Pn**	**10 17 37.3**	**+1.5**
COLD	**Coldfoot**	**2.81**	**230**	P	**Pn**	**10 17 37.3**	**+1.5**
	baz=44						
D22K	**Ayikyak River**	**2.90**	**269**	Pn	**Pn**	**10 17 37.1**	**+0.1**
D22K				IAML		10 18 35.2	
	comp=N,138nm,0.7s						
G23K	**Bananza Creek**	**3.16**	**222**		**Pn**	**10 17 41.0**	**+0.4**
G23K				IAML		10 18 37.7	
	comp=E,67nm,0.5s						
B22K	**Teshekpuk Lake**	**3.28**	**296**		**Pn**	**10 17 42.9**	**+0.7**
B22K	**Teshekpuk Lake**	**3.28**	**296**	P	**Pn**	**10 17 42.9**	**+0.7**
	baz=108						
G29M	**Pine Creek**	**3.35**	**129**		**Pn**	**10 17 44.8**	**+1.5**
G29M	**Pine Creek**	**3.35**	**129**	P	**Pn**	**10 17 44.8**	**+1.5**
	baz=314						
H24K	**Noodor Dome**	**3.53**	**202**		**Pn**	**10 17 46.1**	**+0.4**
H24K	**Noodor Dome**	**3.53**	**202**	P	**Pn**	**10 17 46.1**	**+0.4**
	baz=19						
B21K	**Ikpikpuk River**	**3.55**	**283**	Pn	**Pn**	**10 17 47.2**	**+1.3**
B21K				IAML		10 18 50.2	
	comp=E,75nm,1.1s						
B21K				IAML		10 18 50.6	
	comp=N,81nm,1.1s						
C21K	**Knifeblade Rid**	**3.62**	**275**		**Pn**	**10 17 48.4**	**+1.5**
C21K	**Knifeblade Rid**	**3.62**	**275**	P	**Pn**	**10 17 48.4**	**+1.5**
	baz=86						
F30M	**Barrier River**	**3.63**	**111**		**Pn**	**10 17 48.8**	**+1.8**
F30M	**Barrier River**	**3.63**	**111**	P	**Pn**	**10 17 48.8**	**+1.8**
	baz=299						
PRP	**Porcupine Dome**	**3.64**	**186**		**Pn**	**10 17 48.9**	**+1.5**
PRP	**Porcupine Dome**	**3.64**	**186**	IAML		10 18 49.1	
	comp=E,48nm,0.7s						
PRP				IAML		10 18 51.9	
	comp=N,54nm,0.7s						
PRP	**Porcupine Dome**	**3.64**	**186**	P	**Pn**	**10 17 48.9**	**+1.5**
	baz=4.5						
I27K	**Kandik River**	**3.73**	**160**		**Pn**	**10 17 50.0**	**+1.5**
I27K	**Kandik River**	**3.73**	**160**	P	**Pn**	**10 17 50.0**	**+1.5**
	baz=343						
H29M	**Whitestone**	**3.78**	**138**		**Pn**	**10 17 50.9**	**+1.7**
H29M	**Whitestone**	**3.78**	**138**	IAML		10 18 54.3	
	comp=N,47nm,0.7s						
H29M				IAML		10 19 01.8	
	comp=E,39nm,0.8s						
H29M	**Whitestone**	**3.78**	**138**	P	**Pn**	**10 17 50.9**	**+1.7**
	baz=323						
F21K	**Alatna River**	**3.81**	**244**		**Pn**	**10 17 51.0**	**+1.5**
F21K	**Alatna River**	**3.81**	**244**	IAML		10 18 56.3	
	comp=E,62nm,0.9s						
F21K				IAML		10 19 02.7	
	comp=N,57nm,0.8s						
F21K	**Alatna River**	**3.81**	**244**	P	**Pn**	**10 17 51.0**	**+1.5**
	baz=56						
G30M	**tAoh Zraii Nji**	**3.84**	**120**		**Pn**	**10 17 50.5**	**+0.6**
G30M	**tAoh Zraii Nji**	**3.84**	**120**	P	**Pn**	**10 17 50.5**	**+0.6**
	baz=308						
I26K	**Coal Creek Min**	**3.88**	**171**		**Pn**	**10 17 51.9**	**+1.3**
I26K	**Coal Creek Min**	**3.88**	**171**	P	**Pn**	**10 17 51.9**	**+1.3**
	baz=352						
EPYK	**Eagle Plains**	**4.10**	**129**		**Pn**	**10 17 54.3**	**+0.7**
EPYK	**Eagle Plains**	**4.10**	**129**	P	**Pn**	**10 17 54.6**	**+1.0**
	baz=316						
I28M	**Miner Creek**	**4.13**	**151**	Pn	**Pn**	**10 17 54.7**	**+0.7**
I28M				IAML		10 19 10.1	
	comp=E,40nm,1.9s						
I28M				IAML		10 19 14.7	
	comp=N,39nm,0.8s						
I28M	**Miner Creek**	**4.13**	**151**	P	**Pn**	**10 17 55.0**	**+1.1**
	baz=335						
H22K	**Ishtalitna Cre**	**4.14**	**222**		**Pn**	**10 17 55.1**	**+1.0**
H22K	**Ishtalitna Cre**	**4.14**	**222**	P	**Pn**	**10 17 55.1**	**+1.0**
	baz=35						
INK	**Inuvik**	**4.15**	**96**		**Pn**	**10 17 55.5**	**+1.4**
INK	**Inuvik**	**4.15**	**96**	Pn	**Pn**	**10 17 55.8**	**+1.7**
	comp=N,1.2nm,0.3s,baz=285,slow=16,SNR=42						
INK				Sn	**Sn**	**10 18 42.7**	**+0.1**
	comp=N,1.2nm,0.3s,baz=208,slow=25,SNR=3.1						
INK				Lg	Lg	10 18 58.0	
	comp=N,1.9nm,0.3s,baz=21,slow=30,SNR=7.0						
	comp=N,2.8nm,0.4s						
INK	**Inuvik**	**4.15**	**96**	P	**Pn**	**10 17 55.5**	**+1.4**
	baz=286						
POKR	**Poker Plat Res**	**4.17**	**196**		**Pn**	**10 17 51.7**	**-2.8**
POKR				IAML		10 19 12.7	
	comp=N,30nm,0.9s						
POKR				IAML		10 19 15.9	
	comp=E,41nm,1.1s						
G21K	**Allakaket**	**4.25**	**236**		**Pn**	**10 17 56.3**	**+0.7**
G21K				IAML		10 19 21.4	
	comp=N,38nm,1.1s						
I23K	**Minto, Yukon-K**	**4.39**	**207**		**Pn**	**10 17 58.5**	**+1.0**
I23K	**Minto, Yukon-K**	**4.39**	**207**	IAML		10 19 22.7	
	comp=E,27nm,0.9s						
I23K	**Minto, Yukon-K**	**4.39**	**207**	P	**Pn**	**10 17 58.5**	**+1.0**
	baz=22						
F31M	**Tsiigehtchic**	**4.40**	**107**		**Pn**	**10 17 58.6**	**+1.0**
F31M	**Tsiigehtchic**	**4.40**	**107**	IAML		10 19 21.6	
	comp=E,26nm,0.8s						
F31M	**Tsiigehtchic**	**4.40**	**107**	P	**Pn**	**10 17 58.6**	**+1.0**
	baz=298						
COLA	**College**	**4.45**	**198**		**Pn**	**10 17 56.9**	**-1.4**
IL31		**4.46**	**192**		**Pn**	**10 18 00.3**	**+1.8**
ILAR	**Eielson Array**	**4.46**	**192**	Pn	**Pn**	**10 18 00.9**	**+2.5**
ILAR	**Eielson Array**	**4.46**	**192**	Pn	**Pn**	**10 17 60.0**	**+1.5**
	comp=E,0.7nm,0.3s,baz=5.1,slow=13,SNR=30						
ILAR				Sn	**Sn**	**10 18 51.7**	**+1.3**
	comp=E,2.1nm,0.3s,baz=13,slow=18,SNR=4.9						
ILAR				Lg	Lg	10 19 09.8	
	comp=E,2.8nm,0.3s,baz=7.3,slow=33,SNR=4.5						
	comp=E,2.2nm,0.4s						
G31M	**Satah River**	**4.49**	**115**		**Pn**	**10 17 59.3**	**+0.5**
G31M				IAML		10 19 21.7	
	comp=E,35nm,0.7s						
G31M				IAML		10 19 22.4	
	comp=N,32nm,0.7s						
I29M	**Ogilvie Camp,**	**4.52**	**144**		**Pn**	**10 17 58.4**	**-0.9**
I29M				IAML		10 19 23.7	
	comp=E,29nm,1.2s						
I29M				IAML		10 19 26.3	
	comp=N,34nm,0.8s						
J25K	**Salcha River,**	**4.54**	**184**		**Pn**	**10 18 01.1**	**+1.4**
J25K	**Salcha River,**	**4.54**	**184**	IAML		10 19 24.8	
	comp=E,30nm,0.8s						
J25K	**Salcha River,**	**4.54**	**184**	P	**Pn**	**10 18 01.0**	**+1.4**
	baz=2.9						
EGAK	**Eagle**	**4.58**	**161**		**Pn**	**10 18 00.9**	**+0.8**
EGAK				IAML		10 19 19.8	
	comp=E,23nm,1.2s						
EGAK				IAML		10 19 28.8	
	comp=E,29nm,1.0s						
F20K	**Avaraart Lake**	**4.63**	**248**	IAML		10 19 25.6	
	comp=N,26nm,0.9s						
F20K				IAML		10 19 29.7	
	comp=E,27nm,0.9s						
CCB	**Clear Creek Bu**	**4.67**	**197**	IAML		10 19 22.2	
	comp=E,21nm,1.4s						
J26L	**Joseph Creek**	**4.67**	**174**		**Pn**	**10 18 03.2**	**+1.8**
J26L				IAML		10 19 28.5	
	comp=E,23nm,1.0s						
H21K	**Melozitna Rive**	**4.69**	**226**	IAML		10 19 29.4	
	comp=N,24nm,2.0s						
H21K				IAML		10 19 31.4	
	comp=E,21nm,1.4s						
HDA	**Harding Lake**	**4.83**	**192**		**Pn**	**10 18 04.9**	**+1.4**
HDA				IAML		10 19 32.2	
	comp=N,32nm,0.8s						
WRH	**Wood River Hil**	**4.87**	**198**	IAML		10 19 32.3	
	comp=N,18nm,1.3s						
WRH				IAML		10 19 42.6	
	comp=E,18nm,2.4s						
NEA2	**Nenana**	**4.87**	**203**		**Pn**	**10 18 04.8**	**+0.7**
I21K	**Tanana**	**4.88**	**219**		**Pn**	**10 18 04.7**	**+0.5**
D19K	**Kuna River**	**4.92**	**269**	IAML		10 19 38.2	
	comp=N,30nm,1.9s						
I30M	**Mount Dempster**	**5.08**	**137**	IAML		10 19 09.2	
	comp=E,21nm,0.5s						
I30M				IAML		10 19 42.2	
	comp=N,16nm,1.2s						
SCRK	**Sand Creek**	**5.18**	**177**	IAML		10 19 40.1	
	comp=E,22nm,1.0s						
SCRK	**Sand Creek**	**5.18**	**177**	P	**Pn**	**10 18 10.7**	**+2.2**
	baz=357						
H31M	**Peel River**	**5.18**	**125**		**Pn**	**10 18 08.2**	**-0.2**
H31M	**Peel River**	**5.18**	**125**	IAML		10 20 02.2	
	comp=N,17nm,1.4s						
H31M				IAML		10 20 02.2	
	comp=E,16nm,0.9s						
H31M	**Peel River**	**5.18**	**125**	P

C36M	Paulatuk	7.32	79	Pn	Pn	10 18 36.6	-1.0
YUK2	White River	7.54	166		Pn	10 18 42.4	+1.6
C16K	Lisburne Hills	7.56	273	P	Pn	10 18 41.9	+0.9
	baz=74						
YUK4	Talbot Arm	8.21	159	P	Pn	10 18 50.0	-0.1
	baz=344						
YKA	Yellowknife Ar	13.87	104	Pn	Pn	10 20 04.4	-2.8
	comp=E,0.2nm,0.3s,baz=308,slow=13,SNR=11						
YKA				Sn	Sn	10 22 31.5	-9.4
	comp=E,0.1nm,0.3s,baz=312,slow=22,SNR=5.4						
	comp=E,0.5nm,0.5s						
RES	Resolute Bay	15.95	48	Pn	Pn	10 20 34.6	-0.2
	comp=E,0.2nm,0.3s,baz=270,slow=8.1,SNR=9.0						
PETK	Petropavlovsk-	30.62	268	P	P	10 23 11.0	+6.3
	comp=E,1.4nm,0.5s,baz=55,slow=8.1,SNR=15						
	comp=E,1.4nm,0.5s						

*NNC **08** 10:17:58.1±1.8, 52°.03N×75°.52E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=45.1km s-min=11.0km az=27.0, Suspected Mining explosion.*
*IDC **08** 10:18:00.3±1.4, 51°.73N×75°.60E, h0km, mbtmp2.3/3, ML1.7/3, Error ellipse: s-maj=33.9km s-min=11.7km az=30.0*

ISC 08 10:17:53.4±1.1, 52°.39N±0°.09×75°.86E±0°.06, h0km, n10, σ1§22/11, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	2.40	133	⇑Pn	Pb	10 18 38.2	+0.7
	2.5nm,0.7s						
KURK				⇓Sn	Sb	10 19 06.2	-1.4
	3.2nm,0.8s						
KURBB	Kurchatov Arra	2.43	136	Pg	Pb	10 18 38.3	+0.3
	0.1nm,0.3s,baz=303,slow=18,SNR=8.4						
KURBB				Lg	Lg	10 19 10.2	
	0.2nm,0.3s,baz=303,slow=32,SNR=8.2						
KURBB	Kurchatov Arra	2.43	136	⇑Pn	Pg	10 18 39.2	-0.8
	0.7nm,0.5s,baz=310,slow=17						
KURBB				⇑Sn	Sg	10 19 10.3	-1.1
	5.1nm,0.5s,baz=306,slow=30						
BVA0	Borovoye Array	3.39	283	⇓Pg	Pg	10 18 56.9	-1.4
	0.3nm,0.3s						
BVA0				⇑Lg	Lg	10 19 43.2	
	3.6nm,0.9s,baz=110,slow=28,SNR=3.6						
BVAR	Borovoye Array	3.39	283	Pn	Pb	10 18 54.9	+0.6
	baz=104,slow=14,SNR=3.0						
BVAR				Lg	Lg	10 19 44.3	
	0.1nm,0.3s,baz=110,slow=28,SNR=7.2						
	0.4nm,0.4s						
BRVK	Borovoye	3.46	283	⇓Pg	Pg	10 18 58.9	-0.7
	0.7nm,0.5s						
BRVK				⇑Lg	Lg	10 19 46.5	
	4.1nm,1.1s						
I46RU	ZALESOVO INFRA	5.61	70	I	I	10 53 40.0	
	baz=255,slow=352,SNR=6.4						
ZALV	Zalesovo Beam	5.61	70	Pn	Pb	10 19 32.3	+0.2
	0.1nm,0.3s,baz=261,slow=13,SNR=1.9						
	0.3nm,0.4s						
MK31	Makanchi Array	6.98	141	⇑Lg	Lg	10 21 36.3	
	0.5nm,0.6s,baz=330,slow=26,SNR=4.4						
MKAR	Makanchi Array	6.98	141	Pn	Pn	10 19 39.0	+2.1
	baz=317,slow=12,SNR=1.8						
MKAR				Sn	Sn	10 20 56.8	-0.2
	0.1nm,0.3s,baz=342,slow=23,SNR=6.0						
MKAR				Lg	Lg	10 21 28.7	
	0.2nm,0.3s,baz=323,slow=26,SNR=6.1						
	0.1nm,0.6s						

*IDC **08** 10:18:03.4±0.9, 10°.03S×119°.01E, h0km, mb4.3/8, mbtmp4.2/12, ML3.9/4, MS3.2/7, Error ellipse: s-maj=41.7km s-min=17.0km az=63.0*
*DJA **08** 10:18:07.2±0.3, 10°.5±5°.×11°.9E±°., h10km, M4.5/22, mb4.6/13, mB5.0/3, MLv4.5/22, Mw(mB)4.3/3*
*NEIC **08** 10:18:08.7±1.1, 10°.16S±0°.08×118°.86E±0°.07, h35km±2km, mb4.5/20, Error ellipse: s-maj=13.3km s-min=11.2km az=206.0*

ISC 08 10:18:08.1±0.4, 10°.20S±0°.05×118°.96E±0°.04, h33km, n105, σ1§84/99, mb4.5/22, MS3.1/3, 1C, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.70	37	P	Pn	10 18 19.8	-1.9
WSI	Waingapu	1.42	68	P	Pn	10 18 33.0	+1.5
BASI	Baing, Sumba	1.59	91	P	Pb	10 18 36.4	-0.5
PLAI	Plampang	1.80	319	P	Pn	10 18 36.1	-0.7
PLAI	Plampang	1.80	319	P	Pn	10 18 35.6	-1.2
TWSI	Taliwang, Sumb	2.52	305	P	Pn	10 18 47.4	+0.7
MMRI	Maumere	3.58	65	Pn	Pn	10 19 02.9	+1.5
MMRI	Maumere	3.58	65	P	Pn	10 19 03.8	+2.4
MMRI	Maumere	3.58	65	P	Pn	10 19 03.4	+2.0
DNP	Denpasar	4.00	292	P	Pn	10 19 07.3	+0.2
SRBI	Singaraja	4.26	299	P	Pn	10 19 11.8	+1.1
BSSI	Bau Bau, Buton	4.30	21	P	Pn	10 19 11.6	+0.3
BATI	Baumata	4.63	90	P	Pn	10 19 18.0	+2.2
BKSI	Bulukumba	4.98	13	P	Pn	10 19 21.0	+0.4
JAGI	Jajag, Banyuwa	5.05	290	Pn	Pn	10 19 19.1	-2.5
JAGI	Jajag, Banyuwa	5.05	290	P	Pn	10 19 22.1	+0.5
JAGI	Jajag, Banyuwa	5.05	290	P	Pn	10 19 20.5	-1.1
KAPI	Kappang	5.21	9	Pn	Pn	10 19 23.0	-0.8
KAPI	Kappang	5.21	9	Pn	Pn	10 19 22.0	-1.7
	5.1nm,0.3s,baz=179,slow=15,SNR=4.5						
KAPI				Sn	Sn	10 20 21.2	-1.6
	11nm,0.3s,baz=41,slow=23,SNR=9.2						
KAPI				LR	LR	10 21 38.0	
	comp=Z,137nm,20.2s,baz=156,slow=43						
	14nm,0.3s						
SOEI	Soe	5.24	86	Pn	Pn	10 19 25.7	+1.3
SOEI	Soe	5.24	86	P	Pn	10 19 27.0	+2.7
SOEI	Soe	5.24	86	S	Sn	10 20 28.8	+5.1
SOEI	Soe	5.24	86	P	Pn	10 19 26.4	+2.1
ABJI	Asem Bagus	5.25	297	P	Pn	10 19 26.1	+1.8
	0.3nm76nm,0.8s						
GMJI	Gumukmas	5.78	289	P	Pn	10 19 32.2	+0.7
	0.2nm67nm,0.9s						
KMMI	Kalianget	5.85	302	P	Pn	10 19 34.3	+1.8
	0.2nm36nm,0.8s						
BBSI	Bau Bau	5.89	38	P	Pn	10 19 35.1	+2.0
	0.2nm56nm,0.9s						
SPSI	Sidrap Palu	6.25	7	P	Pn	10 19 39.5	+1.5
	0.1nm33nm,0.7s						
KDI	Kendari	7.18	31	P	Pn	10 19 53.0	+2.1
PCJI	Pacitan	7.94	284	P	Pn	10 20 01.6	+0.3
	0.2nm43nm,1.5s						
UGM	Wanagama	8.64	285	Pn	Pn	10 20 09.7	-1.3
UGM	Wanagama	8.64	285	P	Pn	10 20 13.9	+3.0
UGM	Wanagama	8.64	285	S	Sn	10 21 51.4	+4.1
UGM	Wanagama	8.64	285	P	Pn	10 20 11.9	+1.0
LUWI	Luwuk	9.86	23	Pn	Pn	10 20 26.5	-1.1
FITZ	Fitzroy Crossi	10.17	141	Pn	Pn	10 20 32.0	+0.1
	0.7nm,0.3s,baz=349,slow=8.3,SNR=14						
FITZ				Sn	Sn	10 22 21.8	-3.2
	1.4nm,0.3s,baz=3.5,slow=23,SNR=7.0						
FITZ				LR	LR	10 24 38.0	
	comp=Z,131nm,19.6s,baz=308,slow=38						
	4.2nm,0.6s						
MBWA	Marble Bar	10.92	176	Pn	Pn	10 20 41.8	-0.4
MBWA	Marble Bar	10.92	176	P	Pn	10 20 41.2	-0.9
KNRA	Kununurra	10.99	121	Pn	Pn	10 20 45.2	+2.1
PSA00	Pilbara Seismi	11.34	176	Pn	Pn	10 20 46.9	-1.0
PSA00	Pilbara Seismi	11.34	176	P	Pn	10 20 47.9	0.0
MTN	Manton Dam	12.21	104	Pn	Pn	10 20 58.7	-1.1
MTN	Manton Dam	12.21	104	P	Pn	10 20 59.4	-0.4
GIRL	Giralia	13.18	200	Pn	Pn	10 21 11.4	-1.6
GIRL	Giralia	13.18	200	P	Pn	10 21 14.4	+1.4
KDU	Kakadu	13.47	102	P	Pn	10 21 18.7	+1.7
KSM	Kuching	14.45	323	Pn	Pn	10 21 26.3	-4.1
FAKI	Fak Fak	15.04	62	Pn	Pn	10 21 39.3	+0.8
FAKI				IAmb	IAmb	10 21 50.4	
	comp=Z,47nm,1.5s						
FAKI	Fak Fak	15.04	62	P	Pn	10 21 40.0	+1.6
MEEK	Meekatharra	16.35	181	P	P	10 21 56.7	-1.2
WRKA	Warakurna	17.21	150	P	P	10 22 08.4	+0.9
WB0	Warramunga Arr	17.67	124	Pn	Pn	10 22 11.7	-0.1
WRA	Warramunga Arr	17.71	125	P	Pn	10 22 11.5	-0.9
	comp=Z,0.3nm,0.3s,baz=297,slow=13,SNR=14						
WRA				S	Sn	10 25 21.5	-7.4
	comp=Z,0.7nm,0.6s,baz=292,slow=20,SNR=4.6						
WRA				LR	LR	10 29 40.8	
	comp=Z,102nm,19.0s,baz=318,slow=39						
	comp=Z,2.7nm,0.7s						
WRAB	Tennant Creek	17.71	125		P	10 22 13.1	+0.1
WB2	Warramunga Arr	17.72	125		P	10 22 12.9	-0.2
MORW	Morawa	18.97	188	P	Pn	10 22 27.0	-0.6
MORW	Morawa	18.97	188	P	Pn	10 22 29.8	+2.2
AS31	Alice Springs	19.56	135	P	Pn	10 22 34.1	-0.7
ASAR	Alice Springs	19.56	135	P	Pn	10 22 34.6	-0.1
	comp=Z,0.4nm,0.3s,baz=317,slow=10,SNR=34						
ASAR				S	S	10 26 06.8	-5.8
	comp=Z,1.6nm,1.0s,baz=306,slow=19,SNR=4.5						
ASAR				LR	LR	10 30 19.3	
	comp=Z,97nm,18.8s,baz=312,slow=38						
	comp=Z,4.3nm,0.6s						
BLDU	Ballidu	20.42	186	P	Pn	10 22 44.7	-0.1
QIS	Mount Isa	22.38	120	P	P	10 23 05.9	+2.1
NWAO	Narrogin (SRO)	22.67	184	P	P	10 23 06.5	-0.3
NWAO				IAmb	IAmb	10 23 48.0	
	comp=Z,20nm,0.8s						
OOD	Oodnadatta	23.54	140	P	P	10 23 18.4	+2.9
RPSI	Rantau Prapat	23.71	302	P	P	10 23 16.3	-1.0
RPSI				IAmb	IAmb	10 23 35.2	
	comp=Z,19nm,1.1s						
PSI	Prapat	23.77	302	LR	LR	10 33 45.6	
	comp=Z,53nm,19.8s,baz=193,slow=40						
COEN	Coen	23.96	101	P	P	10 23 20.4	+0.7
COEN				IAmb	IAmb	10 24 04.0	
	comp=Z,19nm,1.4s						
CMAR	Chiang Mai Arr	34.66	325	P	P	10 24 54.7	-0.1
	comp=Z,0.7nm,0.4s,baz=152,slow=6.8,SNR=5.2						
	comp=Z,0.7nm,0.4s						
ARMA	Armidale	36.44	128	P	P	10 25 10.3	+0.2
PZH	PanZhiHua	40.14	336	P	P	10 25 43.4	+2.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
NJ2	Nanjing	42.01	360	eP	P	10 25 59.7	+3.3
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CD2	Chengdu	43.40	341	P	P	10 26 07.5	-0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	45.02	348	P	P	10 26 20.3	-0.4
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
H08S2	Diego Garcia H	45.95	269	T	T	11 15 44.7	
	baz=95,slow=76,SNR=71						
H08S3	Diego Garcia H	45.96	269	T	T	11 15 45.3	
	baz=95,slow=76,SNR=74						
H08S1	Diego Garcia H	45.97	269	T	T	11 15 46.7	
	baz=95,slow=76,SNR=99						
MJAR	Matsushiro Arr	49.90	20	LR	LR	10 51 08.7	
	comp=Z,16nm,18.4s,baz=160,slow=40						
HHC	Hu-ho-hao-te	51.25	353	eP	P	10 27 11.9	+3.1
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,85nm,5.3s						
GTA	Gaotai	52.47	341	eP	P	10 27 18.9	+0.9
GTA				sP	pP	10 27 27.0	-0.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
USRK	Ussuriysk Ar.	55.42	11	P	P	10 27 37.8	-1.4
	comp=Z,1.4nm,0.7s,baz=168,slow=8.1,SNR=4.1						
	comp=Z,1.4nm,0.7s						
SONM	Songino Array	58.85	350	P	P	10 28 03.0	-0.6
SONM				IAmb	IAmb	10 28 04.8	
	comp=Z,2.2nm,0.7s						
SONM	Songino Array	58.85	350	P	P	10 28 03.1	-0.5
	comp=Z,3.2nm,0.8s,baz=166,slow=7.9,SNR=25						
	comp=Z,3.2nm,0.8s						
HEH	HeiHe	60.65	6	eP	P	10 28 15.2	-0.6
KSH	Kashi	63.55	324	P	P	10 28 35.7	+0.1
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBL	Kabul	64.92	316	P	P	10 28 43.7	-1.1
MK31	Makanchi Array	65.50	333	P	P	10 28 47.7	-0.5
MKAR	Makanchi Array	65.50	333	P	P	10 28 47.5	-0.6
MKAR	Makanchi Array	65.50	333	P	P	10 28 48.0	-0.2
	comp=Z,4.2nm,0.6s,baz=144,slow=7.8,SNR=59						
	comp=Z,4.2nm,0.6s						
MAKZ	Makanchi	65.66	333	P	P	10 28 48.5	-0.6
MAKZ				IAmb	IAmb	10 28 49.5	
	comp=Z,2.7nm,0.8s						
AAK	Ala-Archa	66.44	326	P	P	10 28 53.5	-1.0
AAK				IAmb	IAmb	10 28 59.7	
	comp=Z,2.7nm,0.9s						
GAR	Garm	66.64	320	P	P	10 28 56.0	+0.3
H04N2	CROZET ISLANDS	66.92	224	T	T	11 42 12.5	
	baz=85,slow=75,SNR=4.2						
H04N1	CROZET ISLANDS	66.93	224	T	T	11 42 12.5	
	baz=85,slow=75,SNR=12						
H04N3	CROZET ISLANDS	66.93	224	T	T	11 42 12.5	
	baz=85,slow=75,SNR=18						
KKAR	Karatay Array	69.00	324	P	P	10 29 10.0	-0.4
KURBB	Kurchatov Arra	70.02	334	P	P	10 29 15.9	-0.6
	comp=Z,2.4nm,0.7s,baz=146,slow=5.5,SNR=32						
	comp=Z,2.4nm,0.7s						
KURK	Kurchatov	70.05	334	P	P	10 29 16.1	-0.5
KURK				IAmb	IAmb	10 29 17.2	
	comp=Z,3.5nm,0.8s						
ZAA0	Zalesovo Array	70.14	339	P	P	10 29 16.2	-1.0
ZALV	Zalesovo Beam	70.14	339	P	P	10 29 16.0	-1.1
ZALV	Zalesovo Beam	70.14	339	P	P	10 29 16.3	-0.9
	comp=Z,6.4nm,0.7s,baz=146,slow=4.5,SNR=25						
	comp=Z,6.4nm,0.7s						
BVAR	Borovoye Array	75.33	332	P	P	10 29 47.2	-0.8
	comp=Z,2.5nm,0.8s,baz=133,slow=8.3,SNR=8.1						
	comp=Z,2.5nm,0.8s						
SYO	Syowa Base	76.73	201⇑	eP	P	10 29 56.8	+1.1
ABKAR	Akbulak array	78.52	325	P	P	10 30 05.6	-0.4
ABKAR				IAmb	IAmb	10 30 06.8	
	comp=Z,3.8nm,0.9s						
QSPA	South Pole Qui	79.80	180	P	P	10 30 13.8	+0.8
QSPA				IAmb	IAmb	10 30 48.6	
	comp=Z,6.9nm,1.4s						
QSPA	South Pole Qui	79.80	180	P	P	10 30 15.2	+2.2
	comp=Z,0.7nm,0.7s,baz=357,slow=1.3,SNR=1.7						
	comp=Z,0.7nm,0.7s						
EIL	Elat	89.84	300	LR	LR	11 14 01.9	
	comp=Z,13nm,18.9s,baz=278,slow=37						

*IDC **08** 10:49:43.9±1.3, 5°.67S×152°.02E, h0km, mb4.1/4, mbtmp4.1/5, ML2.2/1, Error ellipse: s-maj=64.6km s-min=26.0km az=128.0*

ISC 08 10:49:50.4±1.3, 5°.6S±0°.4×151°.8E±0°.3, h45km, n6, σ0§74/7, mb4.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.93	230	Pn	Pn	10 51 16.7	+0.9
	4.2nm,0.3s,baz=49,slow=9.1,SNR=20						
PMG				Sn	Sn	10 52 21.8	-0.7
	18nm,0.3s,baz=174,slow=22,SNR=9.8						
	18nm,0.5s						
WRA	Warramunga Arr	22.15	228	P	P	10 54 41.8	-0.8
	9.2nm,0.6s,baz=53,slow=9.8,SNR=47						
	9.2nm,0.6s						
ASAR	Alice Springs	24.87	222	P	P	10 55 09.4	+0.3
	4.6nm,0.6s,baz=57,slow=9.0,SNR=57						
	4.6nm,0.6s						
ILAR	Eielson Array	83.27	22	P	P	11 02 12.1	0.0
	0.2nm,0.5s,baz=253,slow=5.5,SNR=5.0						
	0.2nm,0.5s						
QSPA	South Pole Qui	84.39	180	P	P	11 02 17.7	-0.2
	1.3nm,0.7s,baz=14,slow=4.1,SNR=6.4						
	1.3nm,0.7s						
TORD	Torodi Ar. Bea	149.54	286	PKPbc	PKiKP	11 09 36.8	-0.3
	2.7nm,0.7s,baz=77,slow=2.5,SNR=18						

*IDC **08** 11:06:56.4±1.5, 2°.14N×128°.05E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=125.5km s-min=20.0km az=70.0*
*DJA **08** 11:06:57.0±1.4, 2°.4N±0°.1×128°.9E±°.3, h10km, M3.8/6, MLv3.8/6*

ISC 08 11:06:57.0±1.4, 2°.4N±0°.1×128°.9E±0°.3, h10km, n6, σ0§63/6, mb3.5/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.21	223	P	Pn	11 07 33.9	+0.1
WRA	Warramunga Arr	22.85	167	P	P	11 12 00.4	-0.2
	0.8nm,0.7s,baz=344,slow=10,SNR=7.7						
	0.8nm,0.7s						
ASAR	Alice Springs	26.38	170	P	P	11 12 33.9	+0.2
	0.5nm,0.8s,baz=355,slow=8.1,SNR=9.2						
	0.5nm,0.8s						
SONM	Songino Array	49.24	340	P	P	11 15 46.5	+0.7
	0.4nm,0.7s,baz=162,slow=6.7,SNR=4.2						
	0.4nm,0.7s						
MKAR	Makanchi Array	59.86	325	P	P	11 17 02.2	-0.7
	0.2nm,0.5s,baz=118,slow=8.4,SNR=7.7						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	64.00	327	P	P	11 17 30.2	-0.5
	0.2nm,0.4s,baz=127,slow=6.1,SNR=4.4						
	0.2nm,0.4s						

*HEL **08** 11:14:02.9±0.1, 62°.83N×27°.32E, h0km, ML1.4, Explosion*
*IDC **08** 11:14:03.5±1.4, 62°.80N×27°.34E, h0km, mbtmp3.2/1, ML2.0/1, Error ellipse: s-maj=22.9km s-min=7.6km az=102.0*

ISC 08 11:14:01.2±0.8, 62°.87N±0°.02×27°.35E±0°.03, h0km, n23, σ1§02/36, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	Nilsia	0.56	22	PG	Pb	11 14 13.8	-0.1
	baz=198						
NIF				SG	Sb	11 14 21.6	-0.9
SUF	Sumiainen	0.57	255	PG	Pg	11 14 12.8	+0.7
SUF				MSG		11 14 20.6	
	comp=Z,2.2nm,0.2s						
SUF				SG	Sg	11 14 20.6	+1.1
KAF	Kangasniemi	0.90	213	PG	Pg	11 14 18.4	-0.1
	baz=29						
KAF				MSG		11 14 29.6	
	comp=Z,3.2nm,0.2s						
KAF				SG	Sg	11 14 29.8	-0.3
FIA0	FINESS Array S	1.55	203	PG	Pn	11 14 30.1	0.0
FIA0				MSG		11 14 48.3	
	comp=Z,2.7nm,0.2s						
FIA0				SG	Sn	11 14 49.6	-1.3
FINES	FINESS Array B	1.55	203	Pg	Pb	11 14 30.5	-0.3
	comp=Z,0.6nm,0.3s,baz=25,slow=19,SNR=17						
FINES				Lg	Lg	11 14 49.9	
	comp=Z,2.3nm,0.3s,baz=23,slow=29,SNR=38						
RUF	Ruokolahti	1.64	152	PG	Pb	11 14 31.9	-0.3
	baz=334						
RUF				MSG		11 14 50.9	
	comp=Z,2.3nm,0.2s						
RUF				SN	Sb	11 14 53.2	-0.2
RMF	Romuvaara	1.78	39	PG	Pg	11 14 35.8	+0.5
RMF				MSG		11 14 57.1	
	comp=Z,2.0nm,0.2s						
RMF				SG	Sg	11 14 59.0	+0.7
JOF	Joensuu	1.82	87	PG	Pb	11 14 35.6	+0.3
JOF				SN	Sg	11 14 59.4	-0.1
OUF	Merijarvi	1.90	323	PG	Pg	11 14 37.7	+0.1
OUF				MSG		11 15 00.2	
	comp=Z,2.6nm,0.2s						
OUF				SG	Sg	11 15 03.1	+0.8
OBF0	Syolatti, Pyha	2.14	321	MSG		11 15 07.2	
	comp=Z,1.2nm,0.2s						
OBF0				SG	Sg	11 15 11.2	+1.3
VAF	Ylistaro	2.14	277	PG	Pb	11 14 40.8	-0.1
VAF				MSG		11 15 06.4	
	comp=Z,1.6nm,0.2s						
VAF				SG	Sg	11 15 09.1	-0.8
OBF4	Vikkela, Lumij	2.19	334	PG	Pg	11 14 42.9	-0.2
OBF4				MSG		11 15 08.7	
	comp=Z,1.2nm,0.2s						
OBF4				SG	Sg	11 15 12.7	+1.3
OUL	Oulu	2.31	345	PG	Pg	11 14 45.0	-0.5
	baz=162						
OUL				SG	Sg	11 15 15.3	-0.1
VJF	Virojoki	2.34	177	MSG		11 15 11.1	
	comp=Z,1.9nm,0.2s						
VJF				SG	Sb	11 15 13.4	-0.3
KPF	Kankaanpaa	2.67	249	PG	Pb	11 14 49.5	-0.3
KPF				SG	Sb	11 15 23.7	+0.6
KU2	Taivalkoski	2.88	7	PB	Pb	11 14 51.9	-1.4
KU2				SB	Sb	11 15 29.6	+0.6
RANF	Ranua	3.17	356	SN	Sb	11 15 34.6	-2.8
KU6	Riekki	3.35	18	SG	Sg	11 15 48.9	+0.1
RNF	Rovaniemi	3.80	352	SG	Sg	11 16 03.0	0.0
ERTU	Ertsjaerv	4.31	331	SG	Sg	11 16 17.0	-2.4
KLF	Kolari	4.61	343	SN	Sn	11 16 07.3	+1.2
ARCES	ARCESS Array B	6.73	354	Pn	Pn	11 15 43.4	+2.2
	baz=176,slow=14,SNR=1.9						
ARCES				Sn	Sn	11 16 57.3	-1.2
	baz=171,slow=24,SNR=3.0						
	comp=Z,2.1nm,1.0s						
I43RU	DUBNA INFRASON	7.92	137	I	I	12 04 20.0	
	baz=323,slow=302,SNR=1.4						

IDC 08 11:27:11.2±999.0, 57°.03N×34°.72E, h0km, Error ellipse: s-maj=712.1km s-min=38.5km az=101.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	1.41	102	I	I	11 35 52.4	
	0.5nm,1.3s,baz=284,slow=303,SNR=3.6						
I31KZ	AKTYUBINSK INF	15.26	106	I	I	12 57 59.0	
	baz=302,slow=314,SNR=3.3						
I46RU	ZALESOVO INFRA	28.04	75	I	I	14 18 20.0	
	baz=296,slow=346,SNR=1.6						

*NAO **08** 11:39:00.3±2.4, 78°.26N×7°.39E, ML2.8*
*DNK **08** 11:39:03.6±3.7, 78°.09N×7°.71E, h36km±32km, ML1.5*
*BER **08** 11:39:04.4±3.0, 78°.16N×7°.23E, h27km±27km, mb(Pn)3.5, ML2.8(NAO), Confirmed Earthquake*
*KOLA **08** 11:39:04.2, 78°.25N×8°.34E, h0km, ML2.6, Error ellipse: s-maj=18.2km s-min=11.3km az=70.0, Greenland sea, Knipovich ridge, middle*
*FCIAR **08** 11:39:06.0, 78°.04N×8°.27E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.60*

ISC 08 11:38:58.4±0.9, 78°.14N±0°.05×7°.00E±0°.04, h10km, n30, σ2§26/56, 2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.27	49	Pn	Pn	11 39 23.2	+1.2
KBS				Lg	Lg	11 39 37.2	
KBS	Kingsbay	1.27	49	⇓iP	Pn	11 39 23.4	+1.2
KBS				eS	Sb	11 39 36.9	-1.9
KBS				IAML		11 39 39.5	
	comp=Z,201nm,0.5s						
KBS	Kingsbay	1.27	49	P	Pn	11 39 23.1	+0.9
KBS				S	Sb	11 39 37.0	-1.7
KBS	Kingsbay	1.27	49	⇓iP	Pn	11 39 23.3	+1.2
KBS				i S	Sb	11 39 36.4	-2.3
KBS	Kingsbay	1.27	49	i P	Pn	11 39 23.3	+1.2
KBS				i S

HOPEN				IAML		11 40 54.2
	comp=Z,10nm,0.2s					
HOPEN	**Hopen**	**4.28 103**	*e*P		**Pn**	**11 40 05.8 +2.3**
HOPEN			*e*S		**Sn**	**11 40 50.0 -3.3**
NOR	**Nord**	**5.38 321**	Pn		**Pn**	**11 40 21.2 +2.6**
NOR	**Nord**	**5.38 321**	*i* P		**Pn**	**11 40 21.0 +2.4**
NOR			*i* S		**Sn**	**11 41 19.0 -1.5**
NOR				IAML		11 41 29.8
	comp=Z,1.0nm,0.3s					
NOR	**Nord**	**5.38 321**	*i* P		**Pn**	**11 40 21.0 +2.4**
NOR			*i* S		**Sn**	**11 41 19.0 -1.5**
NOR				IAML		11 41 29.8
	comp=Z,1.0nm,0.3s					
DAG	**Danmarks Havn**	**5.72 269**	*i* P		**Pn**	**11 40 25.7 +2.4**
DAG			*i* S		**Sn**	**11 41 24.3 -4.6**
DAG				IAML		11 41 27.9
	comp=Z,5.2nm,0.2s					
DAG	**Danmarks Havn**	**5.72 269**	*i* P		**Pn**	**11 40 25.7 +2.4**
DAG			*i* S		**Sn**	**11 41 24.3 -4.6**
DAG				IAML		11 41 27.9
	comp=Z,5.2nm,0.2s					
DBG	**Daneborg**	**7.47 253**	*i* P		**Pn**	**11 40 49.9 +2.6**
DBG			*i* S		**Sn**	**11 42 08.6 -3.3**
DBG				IAML		11 42 17.3
	comp=Z,0.9nm,0.2s					
DBG	**Daneborg**	**7.47 253**	*i* P		**Pn**	**11 40 49.9 +2.6**
DBG			*i* S		**Sn**	**11 42 08.6 -3.3**
DBG				IAML		11 42 17.3
	comp=Z,0.9nm,0.2s					
ZFI2	**Zemlya Franca-**	**7.75 51**	*e*P		**Pn**	**11 40 53.0 +2.0**
ZFI2			*e*S		**Sn**	**11 42 12.5 -6.2**
	comp=Z,12nm,2.4s					
OMEGA	**Omega**	**7.76 51**	*e*P		**Pn**	**11 40 53.4 +2.2**
OMEGA			*e*S		**Sn**	**11 42 12.7 -6.3**
	comp=Z,16nm,2.6s					
NEEM	**North Greenlan**	**11.87 296**	*i* P		**Pn**	**11 41 48.0 +0.3**
NEEM			*i* S		Sn	11 43 50.5 -10
NEEM				IAML		11 43 56.7
	comp=Z,1.1nm,0.2s					
NEEM	**North Greenlan**	**11.87 296**	*i* P		**Pn**	**11 41 48.0 +0.3**
NEEM			*i* S		Sn	11 43 50.5 -10
NEEM				IAML		11 43 56.7
	comp=Z,1.1nm,0.2s					

TRN 08 11:54:34.4, 18°.22N×62°.35W, h10km, MD3.7, Far North-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.76**	**135**	*e*P	Pn	11 54 51.5	+0.3
ANWB				*e*S	Sn	11 55 05.2	+2.4
ANWB	**Willy Bob**	**0.76**	**135**	*e*P	Pn	11 54 51.5	+0.3
ANWB				*e*S	Sn	11 55 05.2	+2.4
SKI	**Saint Kitts**	**0.95**	**203**	*e*P	Pn	11 54 55.3	+1.4
SKI				*e*S	Sn	11 55 10.8	+3.2
SKI	**Saint Kitts**	**0.95**	**203**	*e*P	Pn	11 54 55.3	+1.4
SKI				*e*S	Sn	11 55 10.8	+3.2
ANBD	**Bethesda, Anti**	**1.29**	**154**	*e*P	Pg	11 54 59.6	+0.5
ANBD				*e*S	Sg	11 55 18.4	+2.5
ANBD	**Bethesda, Anti**	**1.29**	**154**	*e*P	Pg	11 54 59.6	+0.5
ANBD				*e*S	Sg	11 55 18.4	+2.5
MBFL	**Flemmings, Mon**	**1.47**	**175**	*e*P	Pb	11 55 02.0	+0.2
MBFL	**Flemmings, Mon**	**1.47**	**175**	*e*P	Pb	11 55 02.0	+0.2
MBWH		**1.47**	**174**	*e*P	Pg	11 55 04.4	+1.7
MBWH				*e*S	Sg	11 55 26.3	+4.4
MBWH		**1.47**	**174**	*e*P	Pg	11 55 04.4	+1.7
MBWH				*e*S	Sg	11 55 26.3	+4.4

*BJI **08** 11:55:02.2, 9°.33N×126°.51E, h27km, mB5.9/77, mb5.7/92, Ms5.9/99, Ms7 5.7/99*
*MOS **08** 11:55:04.4±1.1, 9°.85N×126°.39E, h11km, mb6.3/123, MS5.6/49, Error ellipse: s-maj=6.0km s-min=3.3km az=116.4*
*MAN **08** 11:55:05.3, 9°.83N×126°.60E, h8km, mb6.2, ML5.3, MS5.9*
MAN INTENSITY V - DEL CARMEN GENERAL LUNA MAINIT PILAR AND SURIGAO CITY SURIGAO DEL NORTE; BAYABAS CARRASCAL AND CORTES SURIGAO DEL SUR; TALACOGON AGUSAN DEL SUR; BUTUAN ; CITY; INTENSITY IV - HINATUAN AND TANDAG CITY SURIGAO DEL SUR; HINUNANGAN LIMASAWA SAN FRANCISCO SAN JUAN AND SAN RICARDO SOUTHERN LEYTE; GINGOOG CITY MISAMIS ORIENTAL; INTENSITY III - TACLOBAN CITY; ABUYOG BATO HILONGOS; JULITA PALO SAN MIGUEL AND TANAUAN LEYTE; GENERAL MACARTHUR EASTERN SAMAR; CAGAYAN DE ORO CITY; JASAAN MEDINA ; SALAY AND TAGOLOAN MISAMIS ORIENTAL; ILIGAN CITY; KALILANGAN AND LIBONA BUKIDNON; SAN FRANCISCO AND SANTA JOSEFA AGUSAN DEL SUR; NABUNTURAN COMPOSTELLA VALLEY; ; DAVAO CITY; INTENSITY II - JARO AND LEYTE LEYTE; MAMBAJAO CAMIGUIN; EL SALVADOR CITY MISAMIS ORIENTAL; MANOLO FORTICH BUKIDNON; BISLIG CITY SURIGAO DEL SUR; LOAC AND LOAY BOHOL; INTENSITY I - CEBU CITY; MANDAUE CITY; DIPOLOG CITY ZAMBOANGA DEL NORTE; TAGBILARAN CITY BOHOL.
*NEIC **08** 11:55:06.1, 9°.83N×126°.55E, h26km*
*IDC **08** 11:55:06.4±1.7, 9°.84N×126°.36E, h13km±10km, mb5.7/39, mbtmp5.8/43, ML5.0/5, MS5.5/72, Error ellipse: s-maj=12.4km s-min=8.5km az=87.0*
*NEIC **08** 11:55:06.1, 9°.83N×126°.66E, h26km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.69; $M_{\theta\theta}$3.96; $M_{\phi\phi}$2.74; $M_{r\theta}$4.73; $M_{\theta\phi}$-4.46; $M_{\phi r}$-1.35; Fault plane solution: $M_0$8.82000×10^{17} NP1: ϕ_s147.57000°, δ31.36000°, λ-62.54000°. NP2: ϕ_s296.24000°, δ62.50000°, λ-105.70000°. Principal axes: T 9.1390, Plg16.0000°, Azm38.0000°; N -0.6349, Plg14.0000°, Azm304.0000°; P -8.5042, Plg68.0000°, Azm175.0000°;*
*NEIC **08** 11:55:06.1, 9°.83N×126°.55E, h10km*
*NEIC **08** 11:55:07.8±1.9, 9°.85N±0°.06×126°.58E±0°.07, h20km±1km, mb6.3/425, Ms_20 5.7/798, Mwb5.8/51, Mww5.9/62, Error ellipse: s-maj=11.1km s-min=10.0km az=273.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-5.11; $M_{\theta\theta}$2.57; $M_{\phi\phi}$2.54; $M_{r\theta}$1.61; $M_{\theta\phi}$-3.08; $M_{\phi r}$-1.81; Fault plane solution: $M_0$5.90000×10^{17} NP1: ϕ_s133.15000°, δ32.92000°, λ-92.77000°. NP2: ϕ_s316.45000°, δ57.12000°, λ-88.21000°. Principal axes: T 6.1486, Plg12.0000°, Azm45.0000°; N -0.5220, Plg2.0000°, Azm135.0000°; P -5.6266, Plg78.0000°, Azm232.0000°;*
*IPGP **08** 11:55:08.0, 9°.83N×126°.53E, h22km, Mw6.0, Fault plane solution: NP1:ϕ_s129.00000°, δ26.00000°, λ-97.00000°. NP2:ϕ_s316.00000°, δ64.00000°, λ-87.00000°.*
*GCMT **08** 11:55:11.8±0.1, 9°.85N×126°.41E, h21km, MW5.9/166, Moment Tensor Solution. s166,c325; s162,c480; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.64±.01; $M_{\theta\theta}$0.40±.00; $M_{\phi\phi}$0.23±.01; $M_{r\theta}$0.52±.01; $M_{\theta\phi}$-0.48±.00; $M_{\phi r}$-0.11±.01; Best double couple: $M_0$0.90400×10^{18} NP1:ϕ_s151.00000°, δ32.00000°, λ-56.00000°. NP2:ϕ_s292.00000°, δ64.00000°, λ-109.00000°. Principal axes: T 0.9500, Plg17.0000°, Azm36.0000°; N -0.0920, Plg17.0000°, Azm301.0000°; P -0.8580, Plg65.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*DJA **08** 11:55:13.6±0.3, 10°.N±2°.×12°.6E±°, h67km±2km, M6.1/152, mB6.5/144, mb6.2/152, MLv7.0/5, Mw5.8/109, Mw(mB)6.3/144, MwMwp5.9/132, Mwp5.9/132*
ISC 08 11:55:08.8±0.3, 9.79N±0.02×126.39E±0.03, h28km±1km, h28km;pP-P, n2454, σ1s63/2576, mb6.2/489, MS5.7/561, 102C-94D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.82**	**197**	Pn	**Pn**	**11 55 53.6**	**+1.5**
DAV	**Davao City (W)**	**2.82**	**197**	Pn	**Pn**	**11 55 52.6**	**+0.5**
	412nm,0.3s,baz=11,slow=3.4,SNR=30						
DAV				Sn	**Sb**	**11 56 32.9**	**+0.3**
	1μm,0.3s,baz=78,slow=22,SNR=8.1						
DAV				LR	LR	11 57 19.3	
	comp=Z,476μm,18.1s,baz=282,slow=46						
DAV	**Davao City (W)**	**2.82**	**197**	P	**Pb**	**11 55 57.4**	**-1.1**
DAV				S	**Sb**	**11 56 37.5**	**+4.9**
DAV	**Davao City (W)**	**2.82**	**197**	P	**Pb**	**11 55 57.2**	**-1.3**
DAV	**Davao City (W)**	**2.82**	**197**	P	**Pn**	**11 55 54.0**	**+2.0**
SGSI	**Sangihe**	**6.12**	**188**	P	Pn	11 56 45.2	+7.7
TGY	**Tagaytay City**	**6.84**	**309**	Pn	**Pn**	**11 56 50.2**	**+2.8**
	39nm,0.3s,baz=106,slow=3.6,SNR=46						
TGY				LR	LR	11 59 54.9	
	comp=Z,129μm,18.8s,baz=140,slow=42						
I39PW	**PALAU INFRASON**	**8.37**	**105**	Pn	Pn	11 57 01.4	-7.0
	baz=283,slow=23						
I39PW				I	I	12 44 20.0	
	0.1nm,0.7s,baz=281,slow=310,SNR=2.6						
TNTI	**Ternate**	**9.01**	**174**		**Pn**	**11 57 17.5**	**+0.3**
TNTI	**Ternate**	**9.01**	**174**	P	**Pn**	**11 57 21.2**	**+4.0**
TNTI	**Ternate**	**9.01**	**174**	P	Pn	11 57 23.8	+6.6
	19μm2μm,1.3s						
TNTI	**Ternate**	**9.01**	**174**	⇓P	**Pn**	**11 57 17.8**	**+0.6**
MYLDM	**Lahad Datu**	**9.06**	**240**	Pn	**Pn**	**11 57 20.7**	**+2.9**
MYLDM	**Lahad Datu**	**9.06**	**240**	P	Pn	11 57 23.6	+5.7
MYLDM	**Lahad Datu**	**9.06**	**240**	⇓P	**Pn**	**11 57 22.4**	**+4.5**
KMSI	**Cibinong**	**9.46**	**195**	P	**Pn**	**11 57 28.0**	**+4.6**
SZP	**Santa**	**9.63**	**324**	P	Pn	11 57 31.1	+5.5
MRSI	**Marisa**	**10.26**	**206**	P	**Pn**	**11 57 37.9**	**+3.7**
	16μm2μm,1.2s						
TOLI2	**Tolitoli**	**10.27**	**213**	Pn	**Pn**	**11 57 36.2**	**+1.9**
TOLI2	**Tolitoli**	**10.27**	**213**	P	**Pn**	**11 57 37.2**	**+2.8**
LBMI	**Labuha**	**10.42**	**174**	P	Pn	11 57 41.7	+5.2
	34μm2μm,1.0s						
KKM	**Kota Kinabalu**	**10.74**	**250**	Pn	**Pn**	**11 57 43.1**	**+2.1**
KKM	**Kota Kinabalu**	**10.74**	**250**	P	Pn	11 57 45.9	+4.9
KKM	**Kota Kinabalu**	**10.74**	**250**	⇑P	**Pn**	**11 57 45.0**	**+4.0**
LUWI	**Luwuk**	**11.35**	**199**	Pn	**Pn**	**11 57 52.9**	**+3.7**
LUWI	**Luwuk**	**11.35**	**199**	P	**Pn**	**11 57 51.5**	**+2.3**
LUWI	**Luwuk**	**11.35**	**199**	P	Pn	11 57 54.3	+5.1
LUWI	**Luwuk**	**11.35**	**199**	P	Pn	11 57 54.6	+5.4
	57μm40μm3μm,1.1s						
LUWI	**Luwuk**	**11.35**	**199**	⇓P	**Pn**	**11 57 52.8**	**+3.7**
APSI	**Ampana**	**11.63**	**204**	P	**Pn**	**11 57 57.4**	**+4.3**
	29μm2μm,0.9s						
SWI	**Sorong**	**11.64**	**155**	P	**Pn**	**11 57 57.2**	**+4.0**
	530nm,0.9s						
SANI	**Sanana**	**11.77**	**182**	P	**Pn**	**11 57 51.0**	**-3.9**
SANI	**Sanana**	**11.77**	**182**	P	**Pn**	**11 57 54.5**	**-0.4**
	35μm11μm841nm,0.7s						
SANI	**Sanana**	**11.77**	**182**	⇓P	**Pn**	**11 57 51.9**	**-3.1**
PCI	**Palu**	**12.47**	**212**	P	P	11 58 10.4	-5.6
	17μm1μm,1.1s						
NLAI	**Namlea**	**12.96**	**177**	P	**Pn**	**11 58 11.3**	**0.0**
	25μm754nm,0.8s						
MSAI	**Masohi**	**13.29**	**169**	P	**P**	**11 58 21.3**	**-3.9**
	20μm19μm2μm,1.4s						
AAI	**Ambon**	**13.51**	**172**	P	**Pn**	**11 58 23.2**	**+4.5**
	24μm11μm697nm,1.8s						
RKPI	**Ransiki, Papua**	**13.64**	**145**	P	**Pn**	**11 58 24.7**	**+4.1**
	28μm1μm,1.5s						
SMKI	**Samarinda**	**13.67**	**222**	P	**P**	**11 58 27.5**	**-1.9**
	39μm2μm,1.4s						
FAKI	**Fak Fak**	**13.91**	**155**	Pn	**Pn**	**11 58 23.4**	**-0.9**
FAKI	**Fak Fak**	**13.91**	**155**	P	**Pn**	**11 58 25.0**	**+0.8**
FAKI	**Fak Fak**	**13.91**	**155**	P	**Pn**	**11 58 26.0**	**+1.8**
	18μm43μm824nm,0.9s						
FAKI	**Fak Fak**	**13.91**	**155**	⇑P	**Pn**	**11 58 23.2**	**-1.0**
TWGBT	**Beinan**	**13.92**	**339**	P	**Pn**	**11 58 27.9**	**+3.6**
TWG	**Pinlang**	**13.92**	**339**		**Pn**	**11 58 24.7**	**+0.3**
KDI	**Kendari**	**14.16**	**196**	P	**Pn**	**11 58 29.6**	**+1.9**
	27μm490nm,1.2s						
TTSI	**Tana Toraja**	**14.33**	**207**	P	**P**	**11 58 35.6**	**-1.2**
	37μm28μm2μm,0.9s						
YULB	**Yu-li**	**14.38**	**341**		**Pn**	**11 58 29.9**	**-0.7**
YULB	**Yu-li**	**14.38**	**341**	P	**P**	**11 58 34.4**	**-2.8**
BKB	**Balikpapan**	**14.48**	**221**	Pn	**Pn**	**11 58 33.2**	**+1.1**
BKB	**Balikpapan**	**14.48**	**221**	P	**Pn**	**11 58 34.5**	**+2.4**
BKB	**Balikpapan**	**14.48**	**221**	P	**P**	**11 58 36.2**	**-2.3**
	45μm3μm,1.3s						
BKB	**Balikpapan**	**14.48**	**221**	⇓P	**Pn**	**11 58 34.9**	**+2.8**
TPUB	**Ta-pu**	**14.52**	**338**	Pn	**Pn**	**11 58 31.6**	**-1.0**
TPUB	**Ta-pu**	**14.52**	**338**	P	**P**	**11 58 38.6**	**-0.3**
BAKI	**Biak**	**14.58**	**138**	P	**Pn**	**11 58 33.3**	**-0.1**
	18μm25μm2μm,1.5s						
SSLB	**Suanglung**	**14.86**	**340**	Pn	**Pn**	**11 58 35.3**	**-1.8**
SSLB	**Suanglung**	**14.86**	**340**	P	**P**	**11 58 41.3**	**-1.3**
YOJ	**Yonaguni jima**	**14.94**	**348**	Pn	**Pn**	**11 58 35.9**	**-2.3**
YOJ	**Yonaguni jima**	**14.94**	**348**	P	**P**	**11 58 42.8**	**-0.7**
YOJ	**Yonaguni jima**	**14.94**	**348**	P	**Pn**	**11 58 35.9**	**-2.3**
NACB	**Ninganchiao**	**15.02**	**343**	Pn	**Pn**	**11 58 38.1**	**-1.1**
NACB	**Ninganchiao**	**15.02**	**343**	P	**P**	**11 58 42.8**	**-1.6**
SPSI	**Sidrap Palu**	**15.17**	**206**	P	**P**	**11 58 46.8**	**+0.7**
	32μm1μm,1.1s						
SRPI	**Serui, Papua**	**15.18**	**139**	P	**Pn**	**11 58 43.2**	**+1.8**
	545nm,1.0s						
KMPI	**Kaimana, Papua**	**15.22**	**151**	P	**Pn**	**11 58 44.0**	**+2.0**
	21μm2μm,1.7s						
YHNB	**Yeheng**	**15.55**	**343**	Pn	**Pn**	**11 58 44.5**	**-1.7**
YHNB	**Yeheng**	**15.55**	**343**	P	**P**	**11 58 49.5**	**-0.8**
MTKI	**Muara Teweh, K**	**15.64**	**228**	P	**P**	**11 58 55.2**	**+3.9**
BBSI	**Bau Bau**	**15.65**	**194**	P	**P**	**11 58 51.7**	**+0.3**
	26μm1μm,1.0s						
TATO	**Taipei**	**15.81**	**343**	Pn	**Pn**	**11 58 48.7**	**-0.8**
TATO	**Taipei**	**15.81**	**343**	P	**Pn**	**11 58 48.8**	**-0.7**
TATO				S	**Sn**	**12 01 45.5**	**+1.6**
TATO	**Taipei**	**15.81**	**343**	P	**P**	**11 58 53.0**	**-0.1**
SBUM	**Sibu**	**15.85**	**244**	Pn	**P**	**11 58 52.4**	**-1.3**
SBUM	**Sibu**	**15.85**	**244**	P	**P**	**11 58 52.8**	**-0.9**
SBUM	**Sibu**	**15.85**	**244**	⇓P	**P**	**11 58 52.5**	**-1.2**
KAPI	**Kappang**	**16.12**	**204**	Pn	**Pn**	**11 58 54.1**	**+0.4**
KAPI	**Kappang**	**16.12**	**204**	Pn	**Pn**	**11 58 54.8**	**+1.2**
	1.7nm,0.3s,baz=19,slow=8.5,SNR=32						
KAPI				LR	LR	12 06 19.1	
	comp=Z,30μm,19.4s,baz=15,slow=42						
	624nm,1.2s						
KAPI	**Kappang**	**16.12**	**204**	P	**P**	**11 58 55.9**	**-0.8**
KAPI				P	**P**	**11 58 55.9**	**-0.8**
KAPI				S	**S**	**12 02 01.2**	**-3.3**
KAPI				S	**S**	**12 02 01.2**	**-3.3**
KAPI	**Kappang**	**16.12**	**204**	P	**P**	**11 58 56.3**	**-0.4**
KAPI	**Kappang**	**16.12**	**204**	*i* P	**Pn**	**11 58 54.9**	**+1.2**
KAPI				pmax	pmax		
	comp=Z,1μm,1.2s						
BKSI	**Bulukumba**	**16.26**	**203**	P	**P**	**11 59 00.7**	**+2.5**
	comp=Z,37μmcomp=Z,13μmcomp=Z,876nm,0.9s						
KNMB	**Chin-men Tao**	**16.46**	**333**	Pn	**Pn**	**11 58 57.2**	**-0.7**
JMZ	**Minamidaito 2**	**16.59 15**		Pn	**Pn**	**11 58 57.3**	**-2.2**
JMZ	**Minamidaito 2**	**16.59 15**		P	**P**	**11 59 04.7**	**+2.9**
QZH	**Quanzhou**	**16.80**	**335**	P	**P**	**11 59 03.9**	**-0.2**
QZH				S	**Sn**	**12 02 12.5**	**+4.5**
QZH				pmax	pmax		
	comp=Z,660nm,1.6s						
QZH				pmax	pmax		
	comp=Z,6μm,9.8s						
QZH				LR	LR		
	comp=Z,23μm,17.2s						
QZH				LR	LR		
	comp=Z,7μm,16.5s						
QZH				LR	LR		
	comp=Z,32μm,17.5s						
BSSI	**Bau Bau, Buton**	**16.88**	**201**	P	**P**	**11 59 06.9**	**+1.8**
	comp=Z,34μmcomp=Z,23μmcomp=Z,565nm,0.8s						
SMPI	**Sarmi**	**16.96**	**133**	P	**P**	**11 59 06.1**	**+0.2**
	comp=Z,26μmcomp=Z,29μmcomp=Z,2μm,1.5s						
JOW	**Kunigami**	**17.05 6**		Pn	**Pn**	**11 59 02.4**	**-2.9**
JOW				IAmb	IAmb	11 59 12.9	
	comp=Z,3μm,1.8s						
JOW	**Kunigami**	**17.05 6**		P	**Pn**	**11 59 05.5**	**+0.2**
	comp=Z,14nm,0.3s,baz=202,slow=8.7,SNR=19						
JOW				LR	LR	12 05 23.1	
	comp=Z,13μm,18.2s,baz=176,slow=36						
	comp=Z,172nm,1.3s						
JOW	**Kunigami**	**17.05 6**		P	**P**	**11 59 09.0**	**+2.1**
JOW	**Kunigami**	**17.05 6**		⇑P	**P**	**11 59 07.5**	**+0.7**
HKC	**Hong Kong Obse**	**17.09**	**318**	⇑P	**P**	**11 59 08.0**	**+0.7**
HKPS	**Hong Kong Po S**	**17.09**	**318**	P	**P**	**11 59 09.7**	**+2.3**
MCO	**Taipa Grande**	**17.38**	**316**	P	**P**	**11 59 12.0**	**+1.5**
STKI	**Sintang**	**17.70**	**238**	P	**P**	**11 59 18.2**	**+4.0**
	comp=Z,29μmcomp=Z,1μm,2.1s						
KSM	**Kuching**	**18.00**	**244**	P	**P**	**11 59 18.6**	**+1.2**
KSM	**Kuching**	**18.00**	**244**	P	**P**	**11 59 20.3**	**+2.8**
KSM	**Kuching**	**18.00**	**244**	⇓P	**P**	**11 59 18.4**	**+0.9**
GZH	**Guangzhou**	**18.18**	**318**	P	**P**	**11 59 22.2**	**+2.8**
GZH				S	**S**	**12 02 49.4**	**+3.1**
GZH				LR	LR		
	comp=Z,33μm,19.6s						
GZH				LR	LR		
	comp=Z,21μm,17.1s						
GZH				LR	LR		
	comp=Z,58μm,18.4s						
SAUI	**Saumlaki**	**18.32**	**164**	P	**P**	**11 59 19.5**	**-1.5**
SAUI	**Saumlaki**	**18.32**	**164**	P	**Pn**	**11 59 23.5**	**+2.4**
SAUI	**Saumlaki**	**18.32**	**164**	S	**S**	**12 02 49.8**	**+0.7**
SAUI	**Saumlaki**	**18.32**	**164**	P	**Pn**	**11 59 26.1**	**+5.0**
	comp=Z,27μmcomp=Z,29μmcomp=Z,2μm,1.6s						
SAUI	**Saumlaki**	**18.32**	**164**	⇓P	**P**	**11 59 20.9**	**-0.1**
GENI	**Genyem**	**18.43**	**131**	P	**Pn**	**11 59 25.0**	**+2.6**
GENI	**Genyem**	**18.43**	**131**	P	**Pn**	**11 59 26.3**	**+3.9**
	comp=Z,35μmcomp=Z,43μmcomp=Z,2μm,0.8s						
GENI	**Genyem**	**18.43**	**131**	⇑P	**P**	**11 59 21.4**	**-0.8**
QIZ	**Qiongzhong**	**18.45**	**302**	P	**Pn**	**11 59 23.3**	**+0.6**
QIZ	**Qiongzhong**	**18.45**	**302**	P	**Pn**	**11 59 23.5**	**+0.8**
QIZ				S	**S**	**12 02 51.2**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,6μm,6.0s						
QIZ				LR	LR		
	comp=Z,9μm,16.2s						
QIZ				LR	LR		
	comp=Z,23μm,18.5s						
QIZ				LR	LR		
	comp=Z,31μm,18.0s						
QIZ	**Qiongzhong**	**18.45**	**302**	P	**Pn**	**11 59 24.7**	**+2.0**
GUMO	**Guam**	**18.49 76**		P	**P**	**11 59 22.7**	**-0.1**
	comp=Z,8.3nm,0.3s,baz=193,slow=8.6,SNR=10.0						
GUMO				LR	LR	12 07 12.5	
	comp=Z,16μm,18.2s,baz=247,slow=39						
	comp=Z,92nm,0.8s						
MMRI	**Maumere**	**18.77**	**193**	P	**Pn**	**11 59 27.0**	**+0.5**
MMRI				IAmb	IAmb	11 59 39.1	
	comp=Z,1μm,0.7s						
MMRI	**Maumere**	**18.77**	**193**	P	**Pn**	**11 59 29.7**	**+3.2**
MMRI	**Maumere**	**18.77**	**193**	P	**Pn**	**11 59 29.1**	**+2.6**
	comp=Z,39μmcomp=Z,39μmcomp=Z,2μm,0.9s						
MMRI	**Maumere**	**18.77**	**193**	⇑P	**P**	**11 59 26.1**	**+0.2**
JAY	**Jayapura**	**18.78**	**130**	P	**P**	**11 59 25.1**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=305,slow=8.8,SNR=20						
JAY				LR	LR	12 06 26.9	
	comp=Z,16μm,18.2s,baz=304,slow=36						
	comp=Z,147nm,1.1s						
JAY	**Jayapura**	**18.78**	**130**	P	**P**	**11 59 26.4**	**+0.2**
SOEI	**Soe**	**19.53**	**186**	P	**P**	**11 59 33.2**	**-1.2**
SOEI				IAmb	IAmb	11 59 46.9	
	comp=Z,3μm,1.3s						
SOEI	**Soe**	**19.53**	**186**	P	**P**	**11 59 31.4**	**-3.0**
SOEI	**Soe**	**19.53**	**186**	P	**Pn**	**11 59 38.0**	**+2.2**
SOEI	**Soe**	**19.53**	**186**	S	**S**	**12 03 14.0**	**+0.3**
SOEI	**Soe**	**19.53**	**186**	P	**Pn**	**11 59 38.5**	**+2.7**
SOEI	**Soe**	**19.53**	**186**	⇓P	**Pn**	**11 59 35.3**	**-0.5**
WSI	**Waingapu**	**20.26**	**198**	P	Pn	11 59 45.2	+0.9
	comp=Z,29μmcomp=Z,21μmcomp=Z,1μm,0.7s						
PLAI	**Plampang**	**20.39**	**205**	P	Pn	11 59 45.5	-0.3
PLAI	**Plampang**	**20.39**	**205**	P	Pn	11 59 46.6	+0.8
	comp=Z,26μmcomp=Z,1μm,1.3s						
WBSI	**Waikabubak, Su**	**20.52**	**200**	P	Pn	11 59 49.1	+1.7
	comp=Z,26μmcomp=Z,781nm,0.8s						
TWSI	**Taliwang, Sumb**	**20.70**	**208**	P	Pn	11 59 49.2	-0.2
	comp=Z,14μmcomp=Z,2μm,0.9s						
BASI	**Baing, Sumba**	**20.70**	**196**	P	Pn	11 59 49.6	+0.2
	comp=Z,25μmcomp=Z,15μmcomp=Z,2μm,0.8s						
KMMI	**Kalianget**	**20.81**	**217**	P	Pn	11 59 53.1	+2.4
	comp=Z,21μmcomp=Z,1μm,1.1s						
SRBI	**Singaraja**	**20.96**	**212**	P	Pn	11 59 53.5	+1.1
	comp=Z,29μmcomp=Z,14μmcomp=Z,1μm,1.2s						
TABU	**Tabubil**	**21.03**	**135**	P	**P**	**11 59 52.7**	**+2.0**
UBPT	**Khong Chiam**	**21.13**	**287**	P	**P**	**11 59 51.9**	**+0.2**
UBPT	**Khong Chiam**	**21.13**	**287**	P	**P**	**11 59 52.6**	**+0.9**
UBPT	**Khong Chiam**	**21.13**	**287**	⇓P	**P**	**11 59 52.0**	**+0.3**
ABJI	**Asem Bagus**	**21.25**	**215**	P	**P**	**11 59 56.6**	**+3.6**
DNP	**Denpasar**	**21.46**	**212**	P	**P**	**11 59 57.9**	**+2.7**
	comp=Z,33μmcomp=Z,2μm,1.0s						
GRJI	**Gresik**	**21.62**	**220**	P	**P**	**12 00 00.8**	**+3.9**
	comp=Z,32μmcomp=Z,27μmcomp=Z,2μm,1.1s						
GULI	**GuiLin**	**21.66**	**317**	P	**P**	**11 59 57.6**	**+0.3**
GULI				S	**S**	**12 03 58.1**	**+2.1**
GULI				pmax	pmax		
	comp=Z,300nm,1.0s						
GULI				LR	LR		
	comp=Z,20μm,16.3s						
GULI				LR	LR		
	comp=Z,22μm,15.9s						
GULI				LR	LR		
	comp=Z,40μm,16.1s						
SSE	**Sheshan**	**21.75**	**348**	P	**P**	**11 59 59.1**	**+1.0**
SSE				S	**S**	**12 03 57.9**	**+0.5**
SSE				pmax	pmax		
	comp=Z,640nm,1.2s						
SSE				pmax	pmax		
	comp=Z,3μm,3.5s						
SSE				LR	LR		
	comp=Z,8μm,17.8s						
SSE				LR	LR		
	comp=Z,2μm,18.2s						
JAGI	**Jajag, Banyuwa**	**21.85**	**214**	P	**P**	**12 00 00.3**	**+0.9**
JAGI	**Jajag, Banyuwa**	**21.85**	**214**	P	**P**	**12 00 01.5**	**+

WHN LR LR
comp=Z,44µm,16.5s
JNU Nakatsue 23.59 9 P **P 12 00 16.9 -0.5**
JNU IAmb IAmb 12 00 21.4
comp=Z,2µm,1.8s
JNU Nakatsue 23.59 9 P **P 12 00 16.1 -1.3**
comp=Z,75nm,0.8s,baz=177,slow=3.1,SNR=29
JNU ScP **ScP 12 07 40.4 +1.8**
comp=Z,16nm,0.9s,baz=346,slow=1.0,SNR=4.3
JNU LR LR 12 11 20.4
comp=Z,6µm,18.3s,baz=178,slow=41
comp=Z,75nm,0.8s
JNU Nakatsue 23.59 9 P **P 12 00 17.5 +0.1**
JNU Nakatsue 23.59 9 ⇑P **P 12 00 16.9 -0.5**
UGM Wanagama 23.64 222 P **P 12 00 18.9 +0.9**
UGM IAMs_20 IAMs_20 12 10 31.2
comp=Z,28µm,19.0s
UGM Wanagama 23.64 222 P **P 12 00 20.0 +2.0**
UGM Wanagama 23.64 222 P **P 12 00 20.5 +2.5**
comp=Z,26µmcomp=Z,27µmcomp=Z,1µm,2.2s
YOGI Yogyakarta 23.72 223 P **P 12 00 21.0 +2.2**
comp=Z,21µmcomp=Z,20µmcomp=Z,681nm,0.9s
MYKOM Kota Tinggi 23.77 252 P **P 12 00 21.0 +1.8**
MYKOM IAmb IAmb 12 00 25.0
comp=Z,924nm,0.8s
MYKOM Kota Tinggi 23.77 252 P **P 12 00 21.5 +2.2**
MYKOM Kota Tinggi 23.77 252 ⇓P **P 12 00 20.1 +0.8**
MANU Manus Island 23.97 118 P **P 12 00 18.7 -2.5**
MANU IAmb IAmb 12 00 41.6
comp=Z,1µm,1.6s
NONG Nongkai 23.99 293 P **P 12 00 21.0 -0.3**
JCJI Jatiwangi 24.23 229 P **P 12 00 26.8 +3.2**
comp=Z,28µmcomp=Z,33µmcomp=Z,2µm,1.6s
KPJI Karang Pucung 24.32 226 P **P 12 00 25.2 +0.8**
comp=Z,16µmcomp=Z,1µm,1.3s
SLVN Son La 24.47 301 P **P 12 00 25.2 -0.6**
SLVN IAMs_20 IAMs_20 12 09 55.7
comp=Z,23µm,20.0s
SLVN Son La 24.47 301 P **P 12 00 26.7 +0.9**
JTU Tsushima 24.77 6 P **P 12 00 30.5 +2.2**
JTU Tsushima 24.77 6 ⇑P **P 12 00 29.0 +0.7**
JMN Monobe 24.80 15 P **P 12 00 27.0 -1.6**
JMN IAmb IAmb 12 00 35.1
comp=Z,616nm,1.0s
JMN Monobe 24.80 15 P **P 12 00 31.5 +2.9**
JMN Monobe 24.80 15 ⇑P **P 12 00 29.0 +0.4**
NAYO Nakonayok 24.91 283 P **P 12 00 31.8 +2.0**
LEM Lembang 24.94 229 P **P 12 00 30.6 +0.5**
comp=Z,121nm,0.8s,baz=62,slow=8.2,SNR=30
comp=Z,121nm,0.8s
LEM Lembang 24.94 229 P **P 12 00 33.7 +3.5**
comp=Z,28µmcomp=Z,18µmcomp=Z,812nm,1.0s
GYA Guiyang 24.96 314 ⇑P **P 12 00 31.0 +0.8**
GYA pmax pmax
comp=Z,43nm,1.2s
GYA pmax pmax
comp=Z,1µm,4.0s
GYA LR LR
comp=Z,17µm,17.4s
GYA LR LR
comp=Z,19µm,18.4s
GYA LR LR
comp=Z,33µm,17.5s
PMBI Palembang 24.96 241 P **P 12 00 32.6 +2.4**
PMBI IAmb IAmb 12 00 48.5
comp=Z,726nm,0.9s
PMBI IAMs_20 IAMs_20 12 12 06.5
comp=Z,23µm,18.0s
PMBI Palembang 24.96 241 P **P 12 00 33.1 +2.9**
PMBI Palembang 24.96 241 P **P 12 00 33.5 +3.3**
comp=Z,23µmcomp=Z,24µmcomp=Z,875nm,0.9s
CMJI Cimerak 24.98 226 P **P 12 00 30.4 +0.1**
comp=Z,22µmcomp=Z,10µmcomp=Z,427nm,1.2s
TNG Tangerang 25.26 232 P **P 12 00 35.9 +3.0**
comp=Z,27µmcomp=Z,1µm,1.1s
BBJI Bungbulang 25.34 228 P **P 12 00 34.8 +1.1**
KNRA Kununurra 25.41 175 P **P 12 00 33.0 -1.2**
KNRA Kununurra 25.41 175 P **P 12 00 33.7 -0.5**
comp=Z,0.0nmcomp=Z,2µm,0.8s
CNJI Cibinong 25.62 229 P **P 12 00 38.5 +2.4**
comp=Z,11µmcomp=Z,6µmcomp=Z,467nm,1.2s
SBJI Serang 25.63 233 P **P 12 00 38.3 +2.0**
IPM Ipoh 25.70 260 P **P 12 00 38.0 +1.0**
IPM IAmb IAmb 12 00 49.2
comp=Z,941nm,0.9s
IPM Ipoh 25.70 260 P **P 12 00 38.6 +1.6**
IPM Ipoh 25.70 260 ⇓P **P 12 00 37.1 +0.1**
SKJI Šukabumi 25.86 231 P **P 12 00 40.5 +2.2**
comp=Z,22µmcomp=Z,25µmcomp=Z,2µm,1.6s
BLSI Bandar Lampung 25.89 235 P **P 12 00 41.6 +2.9**
comp=Z,12µmcomp=Z,807nm,0.7s
KULM Kulim 25.90 262 P **P 12 00 40.1 +1.5**
KULM IAmb IAmb 12 00 51.5
comp=Z,660nm,1.0s
KULM IAMs_20 IAMs_20 12 12 49.2
comp=Z,19µm,18.0s
KULM Kulim 25.90 262 P **P 12 00 40.5 +1.8**
KULM Kulim 25.90 262 ⇓P **P 12 00 38.8 +0.1**
CGJI Cibinong 26.28 232 P **P 12 00 42.9 +0.8**
comp=Z,11µmcomp=Z,702nm,1.3s
MDSI Maura Dua 26.28 238 P **P 12 00 42.4 +0.2**
comp=Z,22µmcomp=Z,7µmcomp=Z,484nm,1.1s
SRIT Nakonsritamara 26.47 270 P **P 12 00 45.5 +1.6**
SRIT Nakonsritamara 26.47 270 P **P 12 00 45.8 +2.0**
TJN Taejon 26.48 2 P **P 12 00 43.0 -0.7**
TJN IAmb IAmb 12 00 55.7
comp=Z,482nm,0.9s
TJN Taejon 26.48 2 P **P 12 00 45.8 +2.1**
TJN Taejon 26.48 2 P **P 12 00 43.0 -0.7**
TJN pmax pmax
comp=Z,482nm,0.9s
TJN MLR MLR
comp=Z,40µm,20.0s
LWLI Liwa 26.67 237 P **P 12 00 48.1 +2.3**
PHRA Phrae 26.77 292 P **P 12 00 46.4 -0.2**
BKNI Bangkinang 26.91 251 P **P 12 00 50.2 +2.3**
BKNI IAmb IAmb 12 00 55.5
comp=Z,617nm,0.9s
BKNI Bangkinang 26.91 251 P **P 12 00 44.9 -3.0**
BKNI Bangkinang 26.91 251 P **P 12 00 50.0 +2.1**
BKNI Bangkinang 26.91 251 P **P 12 00 49.1 +1.2**
comp=Z,18µmcomp=Z,14µmcomp=Z,743nm,0.8s
SRDT SRDT 27.04 282 P **P 12 00 51.3 +2.3**
KMI Kunming 27.16 307 ⇓P **P 12 00 49.9 -0.3**
KMI sP pwP 12 01 00.0 -1.0
KMI S **S 12 05 26.9 -0.5**
KMI ScS **ScS 12 11 39.6 -1.1**
KMI pmax pmax
comp=Z,77nm,1.3s
KMI pmax pmax
comp=Z,1µm,9.4s
KMI LR LR
comp=Z,12µm,19.3s
KMI LR LR
comp=Z,16µm,20.1s
KMI LR LR
comp=Z,17µm,14.0s
KSI Kapahiang 27.21 242 P **P 12 00 51.7 +1.1**
comp=Z,21µmcomp=Z,857nm,0.9s
INU Inuyama 27.23 19 P **P 12 00 50.0 -0.5**
INU Inuyama 27.23 19 P **P 12 00 51.3 +0.8**
MNAI Manna 27.25 240 P **P 12 00 51.2 +0.3**
MNAI IAmb IAmb 12 00 55.6
comp=Z,856nm,0.9s
MNAI Manna 27.25 240 P **P 12 00 53.2 +2.3**
MNAI Manna 27.25 240 P **P 12 00 51.9 +1.0**
comp=Z,17µmcomp=Z,14µmcomp=Z,1µm,1.1s
MNAI Manna 27.25 240 ⇓P **P 12 00 51.1 +0.2**
KSAR Wonju Array Be 27.56 3 P **P 12 00 53.2 -0.2**
KSAR Wonju Array Be 27.56 3 P **P 12 00 53.2 -0.2**
JGF Kuroka 27.57 20 P **P 12 00 52.3 -1.3**
JGF Kuroka 27.57 20 P **P 12 00 54.4 +0.8**
JGF Kuroka 27.57 20 ⇓P **P 12 00 53.4 -0.2**
INCN Inchon 27.57 0 P **P 12 00 52.0 -1.5**
INCN S **S 12 05 32.2 -1.1**
INCN Inchon 27.57 0 P **P 12 00 55.9 +2.3**
KSRS Korea Array 27.58 3 P **P 12 00 53.5 0.0**
comp=Z,76nm,1.0s,baz=183,slow=9.7,SNR=42
KSRS PcP **PcP 12 04 11.2 +0.2**
comp=Z,14nm,0.9s,baz=182,slow=2.2,SNR=5.6
KSRS ScP **ScP 12 07 51.5 +1.7**
comp=Z,7.0nm,0.9s,baz=183,slow=2.7,SNR=7.5
KSRS PKiKP **PKiKP 12 11 47.8 -0.1**
comp=Z,2.0nm,0.9s,baz=101,slow=0.7,SNR=4.6
KSRS LR LR 12 14 14.3
comp=Z,9µm,18.2s,baz=185,slow=42
comp=Z,76nm,1.0s
TIA Tai'an 27.62 344 P **P 12 00 53.5 -0.5**
TIA S **S 12 05 33.7 -0.3**
TIA pmax pmax
comp=Z,33nm,0.9s
TIA pmax pmax
comp=Z,2µm,4.2s
TIA LR LR
comp=Z,9µm,15.6s
TIA LR LR
comp=Z,8µm,14.0s
TIA LR LR
comp=Z,16µm,17.0s
KS19 Wonju Array Si 27.62 3 P **P 12 00 52.4 -1.6**
FITZ Fitzroy Crossi 27.72 182 LR LR 12 15 24.5
comp=Z,5µm,18.4s,baz=21,slow=44
LYN LuoYang 27.75 335 ⇑P **P 12 00 54.8 -0.3**
LYN pP pP 12 00 58.4 -4.6
LYN S **S 12 05 36.5 +0.4**
LYN sS sS 12 05 47.5 -0.9
LYN pmax pmax
comp=Z,220nm,0.8s
LYN pmax pmax
comp=Z,3µm,6.8s
LYN LR LR
comp=Z,5µm,15.8s
LYN LR LR
comp=Z,7µm,15.5s
LYN LR LR
comp=Z,25µm,16.2s
PPI Padang Panjang 27.80 250 P **P 12 00 58.0 +2.2**
comp=Z,17µmcomp=Z,9µmcomp=Z,624nm,1.6s
CM31 Chiang Mai Arr 27.94 291 P **P 12 00 57.3 +0.2**
CMAR Chiang Mai Arr 27.94 291 P **P 12 00 56.7 -0.4**
CMAR Chiang Mai Arr 27.94 291 P **P 12 00 57.1 0.0**
comp=Z,75nm,0.8s,baz=107,slow=7.0,SNR=169
CMAR PcP **PcP 12 04 13.3 +1.1**
comp=Z,26nm,0.9s,baz=15,slow=0.5,SNR=6.1
CMAR PKiKP **PKiKP 12 11 48.2 -0.4**
comp=Z,2.5nm,0.6s,baz=269,slow=1.2,SNR=6.7
CMAR LR LR 12 12 34.7
comp=Z,9µm,18.3s,baz=105,slow=38
CMAR P3KPbc 12 33 26.5
comp=Z,2.5nm,0.6s,baz=282,slow=6.0,SNR=21
comp=Z,75nm,0.8s
CMAR Chiang Mai Arr 27.94 291 *ce*P **P 12 00 57.0 0.0**
CMAR pmax pmax
comp=Z,74nm,0.8s
CHTO Chiang Mai 28.03 292 P **P 12 00 57.5 -0.4**
CHTO Chiang Mai 28.03 292 P **P 12 00 57.5 -0.4**
CHTO pmax pmax
comp=Z,262nm,1.3s
MNSI Mandailing Nat 28.12 253 P **P 12 00 58.5 -0.2**
PMG Port Moresby 28.13 132 LR LR 12 13 06.5
comp=Z,5µm,21.0s,baz=316,slow=38
PSI Prapat 28.15 258 P **P 12 00 59.5 +0.4**
comp=Z,148nm,0.9s,baz=66,slow=4.1,SNR=56
PSI PcP **PcP 12 04 14.1 +1.1**
comp=Z,29nm,0.7s,baz=176,slow=1.3,SNR=4.1
PSI ScP **ScP 12 07 51.1 -1.1**
comp=Z,25nm,0.7s,baz=32,slow=3.9,SNR=7.6
PSI LR LR 12 14 54.2
comp=Z,15µm,18.9s,baz=92,slow=42
comp=Z,148nm,0.9s
PSI Prapat 28.15 258 P **P 12 01 01.1 +2.0**
PSI Prapat 28.15 258 P **P 12 01 00.3 +1.2**
PSI pmax pmax
comp=Z,605nm,1.2s
RPSI Rantau Prapat 28.18 257 P **P 12 01 00.3 +1.1**
RPSI IAmb IAmb 12 01 10.9
comp=Z,605nm,1.2s
TSI Tuntungan 28.32 259 P **P 12 01 04.4 +3.9**
comp=Z,16µmcomp=Z,10µmcomp=Z,477nm,1.4s
PZH PanZhiHua 28.63 309 P **P 12 01 01.5 -1.8**
PZH pP **pP 12 01 10.0 -0.7**
PZH sP **sP 12 01 16.1 +2.0**
PZH PP **PnPn 12 01 59.0 +5.1**
PZH S **S 12 05 51.7 +1.3**
PZH SS **SnSn 12 07 20.2 +8.7**
PZH pmax pmax
comp=Z,350nm,5.3s
PZH LR LR
comp=Z,10µm,23.0s
PZH LR LR
comp=Z,10µm,21.1s
PZH LR LR
comp=Z,18µm,22.5s
MAJO Matsushiro 28.71 20 P **P 12 01 02.6 -1.1**
MAJO Matsushiro 28.71 20 P **P 12 01 03.9 +0.2**
MAJO Matsushiro 28.71 20 P **P 12 01 02.6 -1.1**
MAJO pmax pmax
comp=Z,79nm,1.0s
MAJO MLR MLR
comp=Z,11µm,18.0s
MJAR Matsushiro Arr 28.71 20 P **P 12 01 01.6 -2.2**
comp=Z,34nm,1.0s,baz=190,slow=9.5,SNR=15
MJAR PcP **PcP 12 04 14.9 +1.0**
comp=Z,22nm,0.8s,baz=188,slow=2.9,SNR=7.5
MJAR LR LR 12 13 35.8
comp=Z,11µm,18.1s,baz=207,slow=39
MJAR P3KPbc 12 33 19.5
comp=Z,2.8nm,0.8s,baz=98,slow=5.8,SNR=4.3
comp=Z,34nm,1.0s
MJB9 Matsu-Tunnel 28.71 20 P **P 12 01 02.5 -1.3**
XMI Christmas Isla 28.78 226 P **P 12 01 05.7 +1.2**
XMIS Christmas Isla 28.83 226 P **P 12 01 04.8 -0.2**
XMIS IAmb IAmb 12 01 35.2
comp=Z,505nm,1.5s
XMIS Christmas Isla 28.83 226 P **P 12 01 06.5 +1.5**
COEN Coen 28.88 145 P **P 12 01 03.0 -2.5**
COEN Coen 28.88 145 P **P 12 01 03.7 -1.7**
comp=Z,0.0nmcomp=Z,319nm,1.7s
COEN Coen 28.88 145 P **P 12 01 04.5 -0.9**
COEN Coen 28.88 145 ⇓P **P 12 01 04.1 -1.3**
XAN Xi'an 28.97 329 ⇑P **P 12 01 04.6 -1.5**
XAN S **S 12 05 54.8 -0.7**
XAN PcS **PcS 12 07 55.3 -2.1**
XAN ScS **ScS 12 11 47.1 -1.2**
XAN pmax pmax
comp=Z,490nm,0.7s
XAN pmax pmax
comp=Z,2µm,3.6s
XAN LR LR
comp=Z,15µm,17.9s
XAN LR LR
comp=Z,10µm,16.0s
XAN LR LR
comp=Z,20µm,17.4s
KCSI Kotacane, Aceh 29.08 260 P **P 12 01 08.0 +0.7**
comp=Z,4µmcomp=Z,295nm,0.8s
PPSI Pulau Pagai 29.08 246 P **P 12 01 10.2 +2.9**
comp=Z,19µmcomp=Z,9µmcomp=Z,412nm,0.9s
KRVT Keravat (AS076 29.13 118 LR LR 12 14 27.1
comp=Z,6µm,18.0s,baz=16,slow=40
PYAG Pyongyang 29.14 359 P **P 12 01 08.1 +0.6**
PYAG S **S 12 06 00.5 +2.6**
PYAG AmB
comp=Z,2µm,3.6s
PYAG AMS AMS
comp=Z,6µm,14.1s
DL2 Dalian 29.30 352 P **P 12 01 09.3 +0.4**
DL2 S **S 12 06 00.2 -0.2**
DL2 pmax pmax
comp=Z,360nm,1.6s
DL2 pmax pmax
comp=Z,2µm,9.4s
DL2 LR LR
comp=Z,9µm,17.4s
DL2 LR LR
comp=Z,8µm,14.1s
DL2 LR LR
comp=Z,9µm,19.8s
SISI Saibi 29.34 249 P **P 12 01 11.9 +2.4**
comp=Z,17µmcomp=Z,10µmcomp=Z,542nm,1.2s
HNS HongShan 29.44 341 ⇑P **P 12 01 10.1 -0.1**
HNS S **S 12 06 02.2 -0.4**
HNS pmax pmax
comp=Z,620nm,1.0s
HNS pmax pmax
comp=Z,3µm,3.7s
HNS LR LR
comp=Z,14µm,16.5s
HNS LR LR
comp=Z,2µm,13.7s
HNS LR LR
comp=Z,17µm,18.0s
LHMI Lhok Sumawe 29.53 263 P **P 12 01 12.3 +1.1**
LHMI Lhok Sumawe 29.53 263 P **P 12 01 13.1 +1.9**
LHMI Lhok Sumawe 29.53 263 P **P 12 01 14.6 +3.4**
LHMI Lhok Sumawe 29.53 263 ⇓P **P 12 01 12.1 +0.9**
PBSI Pulau Batu 29.63 252 P **P 12 01 14.5 +2.4**
comp=Z,13µmcomp=Z,12µmcomp=Z,460nm,1.0s
CD2 Chengdu 29.74 318 P **P 12 01 11.8 -1.2**
CD2 S **S 12 06 08.2 +0.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,1µm,8.0s
CD2 LR LR
comp=Z,23µm,15.9s
CD2 LR LR
comp=Z,24µm,17.1s
CD2 LR LR
comp=Z,34µm,14.6s
GSI Gunungsitoli 29.86 255 P **P 12 01 13.9 -0.3**
GSI IAmb IAmb 12 01 18.5
comp=Z,474nm,0.7s
GSI Gunungsitoli 29.86 255 P **P 12 01 15.8 +1.6**
GSI Gunungsitoli 29.86 255 P **P 12 01 15.0 +0.8**
comp=Z,14µmcomp=Z,11µmcomp=Z,747nm,0.8s
GSI Gunungsitoli 29.86 255 ⇓P **P 12 01 14.7 +0.5**
HHU Hamhung 30.03 2 P **P 12 01 15.8 +0.5**
HHU AmB
comp=Z,3µm,3.3s
HHU AMS AMS
comp=Z,2µm,10.8s
SUJ Sinuiju 30.23 357 P **P 12 01 17.4 +0.3**
SUJ S **S 12 06 17.5 +2.5**
SUJ AmB
comp=Z,2µm,3.2s
SUJ AMS AMS
comp=Z,6µm,11.1s
MLSI Meulaboh, Aceh 30.25 262 P **P 12 01 16.1 -1.5**
comp=Z,8µmcomp=Z,166nm,0.9s
WB0 Warramunga Arr 30.41 165 P **P 12 01 16.4 -2.5**
WB0 IAmb IAmb 12 01 49.2
comp=Z,294nm,0.9s
TNCH TengChong 30.51 303 ⇓P **P 12 01 19.5 -0.6**
TNCH pP P 12 01 22.2 +2.1
TNCH PcP **PcP 12 04 20.1 +1.2**
TNCH S **S 12 06 20.0 -0.2**
TNCH pmax pmax
comp=Z,58nm,1.4s
TNCH pmax pmax
comp=Z,780nm,3.0s
TNCH LR LR
comp=Z,3µm,13.5s
TNCH LR LR
comp=Z,5µm,15.9s
TNCH LR LR
comp=Z,12µm,18.9s
TIY Taiyuan 30.51 338 *e*P **P 12 01 20.0 +0.2**
TIY sP **pwP 12 01 33.4 +1.4**
TIY PP **PP 12 02 24.9 -4.1**
TIY S **S 12 06 20.1 +0.4**
TIY sS **sS 12 06 35.2 +3.1**
TIY SS **ScP 12 08 09.9 +11**
TIY ScS **ScS 12 11 53.9 -1.6**
TIY pmax pmax
comp=Z,96nm,0.9s
TIY pmax pmax
comp=Z,1µm,4.7s
TIY LR LR
comp=Z,8µm,15.8s
TIY LR LR
comp=Z,3µm,13.1s
TIY LR LR
comp=Z,9µm,17.2s
WRAB Tennant Creek 30.56 165 P **P 12 01 18.2 -2.1**
WRAB Tennant Creek 30.56 165 *d i*P **P 12 01 20.7 +0.5**
WRAB pmax pmax
comp=Z,270nm,1.4s
WRA Warramunga Arr 30.57 165 P **P 12 01 19.2 -1.0**
comp=Z,56nm,0.7s,baz=341,slow=8.7,SNR=43
WRA LR LR 12 17 20.1
comp=Z,5µm,18.6s,baz=336,slow=44
WRA P3KPbc 12 33 09.8
comp=Z,3.1nm,0.8s,baz=172,slow=4.0,SNR=13
comp=Z,56nm,0.7s
WB2 Warramunga Arr 30.57 165 P **P 12 01 18.1 -2.2**
SNSI Sinabang, Aceh 30.75 258 P **P 12 01 23.9 +1.8**
comp=Z,8µmcomp=Z,375nm,0.9s
JMM Marumori 30.82 23 P **P 12 01 21.1 -1.3**
JMM IAmb IAmb 12 01 26.1
comp=Z,331nm,1.1s
JMM Marumori 30.82 23 P **P 12 01 22.6 +0.3**
JMM Marumori 30.82 23 ⇑P **P 12 01 21.4 -1.0**
BSI Banda Aceh 31.10 264 P **P 12 01 24.1 -1.0**
comp=Z,17µmcomp=Z,4µmcomp=Z,150nm,1.1s
MBWA Marble Bar 31.44 192 P **P 12 01 26.9 -1.1**
MBWA IAmb IAmb 12 01 33.9
comp=Z,328nm,0.8s
MBWA Marble Bar 31.44 192 P **P 12 01 27.2 -0.8**
comp=Z,0.0nmcomp=Z,429nm,0.8s
MBWA Marble Bar 31.44 192 P **P 12 01 27.8 -0.1**
MBWA S **S 12 06 30.9 -3.4**
MBWA Marble Bar 31.44 192 P **P 12 01 27.3 -0.7**
BJT Baijiatuau 31.45 345 P **P 12 01 27.5 -0.4**
BJT IAmb IAmb 12 01 32.4
comp=Z,857nm,1.5s
BJT Baijiatuau 31.45 345 P **P 12 01 28.5 +0.6**
BJT Baijiatuau 31.45 345 P **P 12 01 27.5 -0.4**
BJT pmax pmax
comp=Z,857nm,1.5s
BJT MLR MLR
comp=Z,6µm,20.0s
BJI Beijing 31.47 345 P **P 12 01 27.8 -0.2**
BJI S **S 12 06 33.1 -1.2**
BJI pmax pmax
comp=Z,190nm,1.5s
BJI pmax pmax
comp=Z,1µm,4.0s
BJI LR LR
comp=Z,4µm,15.9s
BJI LR LR
comp=Z,1µm,12.6s
BJI LR LR
comp=Z,4µm,18.6s
PSAC1 Pilbara Seismi 31.79 192 P **P 12 01 30.3 -0.7**
comp=Z,1µm,0.9s
PSA00 Pilbara Seismi 31.82 192 P **P 12 01 30.7 -0.6**
PSA00 Pilbara Seismi 31.82 192 P **P 12 01 30.6 -0.7**
comp=Z,1µm,0.9s
PSA00 Pilbara Seismi 31.82 192 P **P 12 01 31.1 -0.2**
SNY Shenyang 32.01 356 ⇑P **P 12 01 33.2 +0.5**
SNY S **S 12 06 43.4 +0.7**
SNY SS **SnSn 12 08 44.7 +11**
SNY pmax pmax
comp=Z,380nm,1.5s
SNY LR LR
comp=Z,2µm,14.2s
SNY LR LR
comp=Z,4µm,13.5s
SNY LR LR
comp=Z,8µm,14.9s
CMBY CAMPBELL BAY 32.22 268 *e*P **P 12 01 33.0 -2.0**
CMBY IAmb IAmb 12 01 46.3
comp=Z,404nm,1.0s
CMBY IAMs_20 IAMs_20 12 16 27.6
comp=Z,20µm,18.2s
QIS Mount Isa 32.84 157 P **P 12 01 38.2 -2.1**
comp=Z,0.0nmcomp=Z,624nm,1.2s
QIS Mount Isa 32.84 157 P **P 12 01 39.0 -1.3**
MTSU Mount Surprise 32.91 147 P **P 12 01 40.5 -0.5**
comp=Z,192nm,0.6s
MTSU Mount Surprise 32.91 147 P **P 12 01 41.1 +0.1**
MSHR Mys Shultsa 32.93 6 *i* P **P 12 01 41.0 +0.2**
MSHR pmax pmax
comp=Z,84nm,1.2s
MSHR MLR MLR
comp=Z,7µm,19.0s
PSTR Posyet 32.96 6 *i* P **P 12 01 41.1 0.0**
PBA Port Blair 33.10 276 P **P 12 01 43.8 +1.1**
PBA IAmb IAmb 12 02 25.6
comp=Z,244nm,1.0s
PBA Port Blair 33.10 276 P **P 12 01 44.8 +2.1**
SNR=9.4
PBA Port Blair 33.10 276 *e*P **P 12 01 43.6 +0.9**
PBA IAmb IAmb 12 01 51.1
comp=Z,132nm,0.7s
PBA IAMs_20 IAMs_20 12 15 19.9

comp=Z,19μm,19.3s
LZH Lanzhou 33.24 325 *e*P **P 12 01 43.4 -0.4**
LZH sP pP 12 01 52.5 +0.9
LZH S **S 12 07 01.2 -1.2**
LZH pmax pmax
comp=Z,250nm,1.2s
LZH pmax pmax
comp=Z,1μm,4.5s
LZH LR LR
comp=Z,12μm,14.1s
LZH LR LR
comp=Z,6μm,14.6s
LZH LR LR
comp=Z,23μm,18.2s
VLA Vladivostok 33.55 7 *i* P **P 12 01 46.3 +0.1**
VLA pmax pmax
comp=Z,148nm,1.3s
VLA MLR MLR
comp=Z,6μm,19.0s
HHC Hu-ho-hao-te 33.60 339⇑*i*P **P 12 01 47.4 +0.5**
HHC pP sP 12 01 56.2 -0.8
HHC S **S 12 07 10.5 +2.6**
HHC SS **SnSn 12 09 16.1 +3.8**
HHC pmax pmax
comp=Z,610nm,1.1s
HHC pmax pmax
comp=Z,2μm,6.7s
HHC LR LR
comp=Z,12μm,17.2s
HHC LR LR
comp=Z,6μm,14.9s
HHC LR LR
comp=Z,14μm,16.3s
LKP Lekhapani 33.66 305 *e*P **P 12 01 45.6 -1.8**
LKP IAMs_20 IAMs_20 12 16 24.4
comp=Z,9μm,21.5s
CN2 Changchun 33.89 359⇑P **P 12 01 49.3 +0.1**
CN2 *e*S **S 12 07 13.0 +1.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,1μm,4.0s
CN2 LR LR
comp=Z,4μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,3μm,14.0s
BTO Baotou 33.95 337 *e*P **P 12 01 51.9 +2.0**
BTO pP **pP 12 01 56.3 -0.7**
BTO sP **sP 12 01 58.9 -1.1**
BTO PP **PP 12 03 07.0 -0.1**
BTO S **S 12 07 16.0 +2.8**
BTO sS **sS 12 07 25.6 -0.1**
BTO SS **SnSn 12 09 25.2 +4.6**
BTO pmax pmax
comp=Z,90nm,0.8s
BTO pmax pmax
comp=Z,6μm,6.7s
BTO LR LR
comp=Z,12μm,16.0s
BTO LR LR
comp=Z,13μm,15.6s
BTO LR LR
comp=Z,13μm,19.0s
AS06 Alice Springs 34.05 168 P **P 12 01 49.5 -1.4**
comp=Z,176nm,0.8s
AS31 Alice Springs 34.05 168 P **P 12 01 49.1 -1.8**
AS31 Alice Springs 34.05 168 P **P 12 01 49.3 -1.6**
comp=Z,0.0nmcomp=Z,44nm,0.5s
ASAR Alice Springs 34.05 168 P **P 12 01 49.5 -1.4**
comp=Z,43nm,0.8s,baz=354,slow=6.8,SNR=103
ASAR PcP **PcP 12 04 29.4 +1.1**
comp=Z,48nm,0.7s,baz=334,slow=2.4,SNR=9.2
ASAR S **S 12 07 15.3 +0.4**
comp=Z,12nm,0.8s,baz=346,slow=17,SNR=4.8
ASAR P3KPbc 12 32 57.5
comp=Z,1.6nm,0.7s,baz=164,slow=4.5,SNR=18
comp=Z,43nm,0.8s
AS01 Alice Springs 34.06 168 P **P 12 01 50.4 -0.6**
AS19 Alice Springs 34.10 168 P **P 12 01 49.5 -1.8**
comp=Z,155nm,0.8s
IMP Imphal 34.27 300 *e*P **P 12 01 48.9 -4.0**
IMP IAmb IAmb 12 01 57.2
comp=Z,70nm,0.5s
IMP IAMs_20 IAMs_20 12 18 57.1
comp=Z,13μm,17.9s
GIRL Giralia 34.36 200 P **P 12 01 55.7 +2.2**
GIRL IAmb IAmb 12 01 58.9
comp=Z,510nm,1.0s
GIRL Giralia 34.36 200 P **P 12 01 54.3 +0.8**
comp=Z,0.0nmcomp=Z,564nm,1.0s
GIRL Giralia 34.36 200 P **P 12 01 54.8 +1.3**
GIRL Giralia 34.36 200⇑P **P 12 01 54.2 +0.8**
KOHI KOHIMA 34.45 302 *e*P **P 12 01 51.5 -3.0**
KOHI IAmb IAmb 12 02 00.9
comp=Z,138nm,0.7s
KOHI IAMs_20 IAMs_20 12 16 42.0
comp=Z,14μm,18.9s
USA0B Ussuriysk Arra 34.62 7 P **P 12 01 54.4 -1.2**
USA0B IAmb IAmb 12 02 00.4
comp=Z,472nm,1.4s
USA0B Ussuriysk Arra 34.62 7 P **P 12 01 54.4 -1.2**
USA0B pmax pmax
comp=Z,472nm,1.4s
USRK Ussuriysk Ar. 34.62 7 P **P 12 01 55.3 -0.3**
USRK Ussuriysk Ar. 34.62 7 P **P 12 01 54.9 -0.7**
comp=Z,100nm,0.9s,baz=184,slow=7.6,SNR=45
USRK PcP **PcP 12 04 30.2 +0.7**
comp=Z,17nm,0.7s,baz=200,slow=2.2,SNR=4.3
USRK LR LR 12 17 23.0
comp=Z,4μm,19.0s,baz=182,slow=39
comp=Z,100nm,0.9s
WRKA Warakurna 34.66 177 P **P 12 01 55.8 -0.4**
comp=Z,0.0nmcomp=Z,589nm,1.3s
WRKA Warakurna 34.66 177 P **P 12 01 55.6 -0.6**
WRKA Warakurna 34.66 177⇑P **P 12 01 55.0 -1.2**
MDJ Mudanjiang 34.81 4 P **P 12 01 56.6 -0.6**
MDJ IAmb IAmb 12 02 02.4
comp=Z,739nm,1.4s
MDJ Mudanjiang 34.81 4 P **P 12 01 57.8 +0.6**
MDJ pP pP 12 02 05.8 +1.5
MDJ S **S 12 07 26.8 +0.7**
MDJ pmax pmax
comp=Z,410nm,1.3s
MDJ pmax pmax
comp=Z,3μm,3.5s
MDJ LR LR
comp=Z,5μm,14.4s
MDJ LR LR
comp=Z,3μm,11.0s
MDJ LR LR
comp=Z,11μm,16.1s
MDJ Mudanjiang 34.81 4 P **P 12 01 59.1 +1.9**
AZL Aizawl 35.01 298 *e*P **P 12 01 58.2 -1.1**
AZL IAmb IAmb 12 02 13.2
comp=Z,131nm,0.7s
AZL *e*S **S 12 07 26.7 -3.2**
XLT XiLinHaoTe 35.14 347⇑*i*P **P 12 02 00.0 -0.2**
XLT pP pP 12 02 03.5 -3.6
XLT sP sP 12 02 09.3 -1.0
XLT PcP **PcP 12 04 28.3 -2.9**
XLT S **S 12 07 28.7 -2.8**
XLT pmax pmax
comp=Z,420nm,1.2s
XLT pmax pmax
comp=Z,3μm,3.2s
XLT LR LR
comp=Z,850nm,17.9s
XLT LR LR
comp=Z,3μm,15.3s
XLT LR LR
comp=Z,10μm,18.3s
TV1H Townsville Har 35.19 145 P **P 12 02 01.0 +0.3**
ERM Erimo 35.32 22 P **P 12 02 00.5 -1.1**
ERM Erimo 35.32 22 IAMs_20 IAMs_20 12 14 38.6
comp=Z,10μm,20.0s
ERM Erimo 35.32 22 P **P 12 02 00.5 -1.1**
ERM pmax pmax
comp=Z,123nm,1.0s
ZIRO ZIRO 35.36 304 *e*P **P 12 01 59.4 -3.0**
ZIRO IAmb IAmb 12 02 15.4
comp=Z,113nm,0.7s
BRDH Bariadhala 35.63 295 P **P 12 02 05.2 +0.6**
comp=Z,236nm,0.3s,baz=74,slow=8.8,SNR=39
BRDH LR LR 12 18 03.1
comp=Z,12μm,19.8s,baz=118,slow=39
comp=Z,236nm,0.3s
BNX BinXian 35.83 1⇑P **P 12 02 05.3 -0.6**
BNX S **S 12 07 45.5 +3.7**
BNX pmax pmax
comp=Z,130nm,1.4s
BNX pmax pmax
comp=Z,2μm,7.9s
BNX LR LR
comp=Z,10μm,19.5s
BNX LR LR
comp=Z,4μm,15.2s
BNX LR LR
comp=Z,12μm,20.6s
TEY Ternei 36.21 12⇑*e*P **P 12 02 08.9 -0.2**
TEY *e* 12 03 45.1
TEY 12 07 43.9
TEY pmax pmax
comp=N,20nm,1.7s
TEY pmax pmax
comp=Z,30nm,1.8s
TEY MLR MLR
comp=E,100nm,12.0s
TEY MLR MLR
comp=N,200nm,17.0s
TEY MLR MLR
comp=Z,300nm,15.0s
SHL Shillong 36.28 300 P **P 12 02 09.2 -1.0**
SHL IAmb IAmb 12 02 15.7
comp=Z,330nm,0.7s
SHL Shillong 36.28 300 P **P 12 02 09.6 -0.8**
SNR=139
SHL Shillong 36.28 300 *e*P **P 12 02 08.4 -1.9**
SHL IAmb IAmb 12 02 15.6
comp=Z,264nm,0.7s
SHL IAMs_20 IAMs_20 12 20 41.2
comp=Z,7μm,17.3s
SHL Shillong 36.28 300 P **P 12 02 09.3 -1.0**
SHL pmax pmax
comp=Z,330nm,0.7s
COCO West Island 36.59 234 P **P 12 02 12.3 -0.4**
COCO IAmb IAmb 12 02 16.6
comp=Z,423nm,1.0s
COCO West Island 36.59 234 P **P 12 02 13.6 +0.8**
COCO P **P 12 02 13.6 +0.8**
COCO West Island 36.59 234 P **P 12 02 14.9 +2.1**
COCO West Island 36.59 234 P **P 12 02 12.4 -0.4**
COCO pmax pmax
comp=Z,423nm,1.0s
ASAJ Asahikawa 36.98 20 P **P 12 02 15.7 -0.1**
comp=Z,35nm,0.7s,baz=229,slow=11,SNR=20
ASAJ LR LR 12 18 09.0
comp=Z,8μm,18.5s,baz=202,slow=37
comp=Z,35nm,0.7s
ASAJ Asahikawa 36.98 20 P **P 12 02 15.0 -0.7**
ASAJ pmax pmax
comp=Z,607nm,1.5s
ASAJ MLR MLR
comp=Z,8μm,19.0s
JKA Kamikawa-asahi 36.98 20 P **P 12 02 15.0 -0.7**
JKA IAmb IAmb 12 02 21.4
comp=Z,607nm,1.5s
JKA IAMs_20 IAMs_20 12 18 07.5
comp=Z,8μm,19.0s
MEEK Meekatharra 36.99 192 P **P 12 02 15.4 -0.7**
comp=Z,0.0nmcomp=Z,2μm,1.2s
MEEK Meekatharra 36.99 192 P **P 12 02 15.6 -0.5**
TAWA Tawang 37.01 303 *e*P **P 12 02 16.4 -0.3**
TAWA IAmb IAmb 12 02 29.7
comp=Z,381nm,0.7s
TAWA *e*S **S 12 07 52.9 -8.1**
TAWA IAMs_20 IAMs_20 12 18 46.6
comp=Z,5μm,19.2s
GTA Gaotai 37.84 326 P **P 12 02 23.2 -0.1**
GTA PP **PnPn 12 03 55.4 +4.1**
GTA S **S 12 08 12.9 0.0**
GTA ScP **ScP 12 08 26.5 +1.2**
GTA SS **SnSn 12 10 54.5 -0.4**
GTA ScS **ScS 12 12 32.1 -2.2**
GTA pmax pmax
comp=Z,110nm,0.6s
GTA pmax pmax
comp=Z,960nm,7.2s
GTA LR LR
comp=Z,8μm,19.1s
GTA LR LR
comp=Z,10μm,19.5s
GTA LR LR
comp=Z,16μm,19.5s
TATA Tatamba Isabel 37.86 117 P **P 12 02 26.3 +2.7**
YUK Yuzh-Kuril'sk 38.07 23*d*/*i*P **P 12 02 24.5 -0.5**
YUK *e* 12 03 56.9
YUK *e*S **S 12 08 17.2 +1.2**
YUK pmax pmax
comp=Z,2μm,2.4s
YUK pmax pmax
comp=N,710nm,1.4s
YUK pmax pmax
comp=E,768nm,1.4s
YUK pmax pmax
comp=Z,906nm,1.4s
LSA Lhasa 38.40 306 P **P 12 02 28.5 -0.1**
LSA IAMs_20 IAMs_20 12 19 00.8
comp=Z,8μm,20.0s
LSA Lhasa 38.40 306 P **P 12 02 28.5 -0.1**
LSA S **S 12 08 18.2 -4.1**
LSA LR LR
comp=Z,6μm,19.2s
LSA LR LR
comp=Z,8μm,19.6s
LSA Lhasa 38.40 306 P **P 12 02 28.5 -0.1**
LSA pmax pmax
comp=Z,80nm,0.7s
LSA MLR MLR
comp=Z,8μm,20.0s
LSA Lhasa 38.40 306 P **P 12 02 29.0 +0.4**
OOD Oodnadatta 38.43 167 P **P 12 02 26.9 -1.3**
HNR Honiara 38.48 119 IAMs_20 IAMs_20 12 15 33.7
comp=Z,9μm,22.0s
HNR Honiara 38.48 119 LR LR 12 16 07.4
comp=Z,6μm,21.9s,baz=293,slow=33
ALEG Aligegeo Malai 38.81 117 P **P 12 02 33.4 +1.8**
GOMU GeErMu 38.87 318 P **P 12 02 32.3 0.0**
GOMU pP pP 12 02 40.0 -0.1
GOMU PP **PP 12 04 04.1 +2.5**
GOMU PcP **PcP 12 04 44.4 +1.3**
GOMU S **S 12 08 32.7 +3.6**
GOMU pmax pmax
comp=Z,130nm,1.3s
GOMU pmax pmax
comp=Z,2μm,7.2s
GOMU LR LR
comp=Z,14μm,16.3s
GOMU LR LR
comp=Z,29μm,15.7s
GOMU LR LR
comp=Z,41μm,16.1s
YSS Yuzhno-Sakhali 39.57 18 P **P 12 02 37.0 -0.5**
YSS IAmb IAmb 12 02 42.5
comp=Z,604nm,1.6s
YSS Yuzhno-Sakhali 39.57 18 P **P 12 02 38.3 +0.8**
YSS Yuzhno-Sakhali 39.57 18*αe*P **P 12 02 37.8 +0.3**
YSS *e* 12 04 16.8
YSS *e* 12 04 46.3
YSS *e*S **S 12 08 36.7 -1.7**
YSS pmax pmax
comp=Z,140nm,1.1s
YSS pmax pmax
comp=N,900nm,3.5s
YSS pmax pmax
comp=Z,2μm,3.5s
YSS pmax pmax
comp=E,800nm,3.0s
YSS pmax pmax
comp=Z,2μm,5.8s
YSS pmax pmax
comp=N,1μm,6.3s
YSS pmax pmax
comp=E,1μm,5.4s
YSS smax smax
comp=N,2μm,6.7s
YSS smax smax
comp=E,2μm,7.2s
YSS MLR MLR
comp=Z,5μm,17.0s
YSS MLR MLR
comp=N,4μm,16.0s
YSS MLR MLR
comp=E,4μm,15.0s
KLR Kul'dur 39.57 6 P **P 12 02 37.8 +0.3**
comp=E,59nm,0.8s,baz=205,slow=6.2,SNR=90
KLR PcP **PcP 12 04 44.5 +0.1**
comp=E,46nm,0.7s,baz=226,slow=2.5,SNR=5.1
KLR LR LR 12 20 30.1
comp=E,5μm,18.8s,baz=200,slow=38
comp=E,59nm,0.8s
KLR Kul'dur 39.57 6*c*e*P **P 12 02 36.4 -1.1**
KLR pmax pmax
comp=Z,255nm,1.3s
KLR MLR MLR
comp=Z,6μm,17.0s
NGOA Tingoa Renbel 39.63 122 P **P 12 02 40.3 +1.9**
GTK Tadong 39.63 301 *e*P **P 12 02 37.8 -0.7**
GTK *e*S **S 12 08 37.4 -2.9**
GTK IAMs_20 IAMs_20 12 20 25.8
comp=Z,6μm,16.1s
HIA Hailar 39.74 353 P **P 12 02 39.1 +0.1**
HIA Hailar 39.74 353 P **P 12 02 39.9 +0.9**
HIA Hailar 39.74 353 P **P 12 02 39.1 +0.1**
HIA pmax pmax
comp=Z,205nm,1.2s
SHBG Sahibganj 39.81 298 *e*P **P 12 02 40.5 +0.6**
INKA Innaminka 39.82 160 P **P 12 02 40.7 +0.9**
MORW Morawa 39.90 194 P **P 12 02 40.1 -0.4**
MORW IAmb IAmb 12 02 44.6
comp=Z,632nm,0.7s
MORW Morawa 39.90 194 P **P 12 02 40.2 -0.4**
comp=Z,0.0nmcomp=Z,1μm,1.5s
MORW Morawa 39.90 194 P **P 12 02 39.9 -0.6**
MORW Morawa 39.90 194⇑P **P 12 02 39.9 -0.6**
QLP Quilpie 40.10 155 P **P 12 02 40.0 -2.1**
comp=Z,0.0nmcomp=Z,455nm,1.7s
QLP Quilpie 40.10 155 P **P 12 02 42.0 -0.1**
QLP Quilpie 40.10 155⇑P **P 12 02 40.0 -2.1**
H11N1 WAKE ISLAND Hy 40.30 71 T T 12 46 15.8
baz=265,slow=74,SNR=5714
H11N2 WAKE ISLAND Hy 40.31 71 T T 12 46 16.3
baz=265,slow=74,SNR=3955
H11N3 WAKE ISLAND Hy 40.32 71 T T 12 46 17.1
baz=265,slow=74,SNR=6639
HEH HeiHe 40.35 1 *e*P **P 12 02 43.8 -0.1**
HEH PcP **PcP 12 04 47.3 +0.4**
HEH pmax pmax
comp=Z,100nm,1.6s
HEH pmax pmax
comp=Z,3μm,6.1s
HEH LR LR
comp=Z,8μm,19.5s
HEH LR LR
comp=Z,4μm,20.2s
HEH LR LR
comp=Z,12μm,18.4s
FORT Forrest 40.37 178 P **P 12 02 43.3 -1.0**
FORT Forrest 40.37 178 P **P 12 02 43.6 -0.7**
comp=Z,0.0nmcomp=Z,2μm,0.8s
FORT Forrest 40.37 178 P **P 12 02 44.6 +0.3**
FORT Forrest 40.37 178⇑P **P 12 02 43.5 -0.9**
BOK Bokaro 41.04 295 *e*P **P 12 02 50.0 -0.1**
BOK IAmb IAmb 12 02 57.3
comp=Z,214nm,1.1s
BOK IAMs_20 IAMs_20 12 21 23.9
comp=Z,6μm,19.8s
BOK IAMs_20 IAMs_20 12 22 07.1
comp=Z,5μm,16.7s
KMBL Kambalda 41.15 186 P **P 12 02 50.0 -0.7**
comp=Z,0.0nmcomp=Z,2μm,1.2s
KMBL Kambalda 41.15 186 P **P 12 02 50.7 -0.1**
BLDU Ballidu 41.23 193 P **P 12 02 50.7 -0.8**
comp=Z,0.0nmcomp=Z,2μm,1.1s
BLDU Ballidu 41.23 193 P **P 12 02 51.0 -0.5**
GD1S Gladstone Soft 41.28 144 P **P 12 02 52.5 +0.6**
UGL Uglegorsk 41.30 16⇑*i*P **P 12 02 53.0 +1.2**
UGL *e* 12 04 22.5
UGL *e*S **S 12 08 56.0 -8.2**
UGL pmax pmax
comp=Z,300nm,1.1s
UGL pmax pmax
comp=Z,4μm,11.0s
UGL smax smax
comp=E,8μm,16.0s
UGL smax smax
comp=N,4μm,9.0s
UGL MLR MLR
comp=N,4μm,16.0s
UGL MLR MLR
comp=E,4μm,16.0s
UGL MLR MLR
comp=Z,5μm,16.0s
ULN Ulaanbaatar 41.31 340 P **P 12 02 51.9 -0.2**
ULN Ulaanbaatar 41.31 340 IAMs_20 IAMs_20 12 22 32.5
comp=Z,10μm,18.0s
ULN Ulaanbaatar 41.31 340 P **P 12 02 52.5 +0.4**
ULN S **S 12 09 03.7 -1.2**
ULN Ulaanbaatar 41.31 340 P **P 12 02 51.9 -0.2**
ULN pmax pmax
comp=Z,284nm,0.9s
ULN MLR MLR
comp=Z,10μm,18.0s
KNTI KHUNTI 41.42 294 *e*P **P 12 02 53.7 +0.4**
KNTI IAMs_20 IAMs_20 12 22 34.2
comp=Z,6μm,17.1s
SONM Songino Array 41.51 340 P **P 12 02 53.3 -0.4**
SONM IAmb IAmb 12 02 58.0
comp=Z,927nm,1.9s
SONM Songino Array 41.51 340 P **P 12 02 53.3 -0.4**
comp=Z,82nm,0.8s,baz=158,slow=9.3,SNR=173
SONM PcP **PcP 12 04 50.7 -0.2**
comp=Z,18nm,0.8s,baz=169,slow=4.9,SNR=3.6
SONM ScP **ScP 12 08 40.4 +1.0**
comp=Z,9.2nm,0.8s,baz=167,slow=5.1,SNR=4.1
SONM LR LR 12 22 48.3
comp=Z,8μm,19.0s,baz=156,slow=40
SONM PKPPKP 12 34 58.3
comp=Z,2.0nm,1.1s,baz=242,slow=0.8,SNR=4.5
comp=Z,82nm,0.8s
LCRK Leigh Creek 41.59 165 P **P 12 02 54.0 -0.4**
GRNR Gornyy 41.69 10⇑*i*P **P 12 02 56.0 +1.0**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,70nm,1.2s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,4μm,18.0s
KLBR Kellerberrin 41.97 191 P **P 12 02 57.1 -0.3**
comp=Z,2μm,1.0s
KLBR Kellerberrin 41.97 191 P **P 12 02 57.3 -0.2**
EIDS Eidsvold 42.43 146 P **P 12 02 60.0 -1.3**
EIDS IAmb IAmb 12 03 05.1
comp=Z,983nm,1.9s
EIDS IAMs_20 IAMs_20 12 21 04.9
comp=Z,9μm,18.0s
EIDS Eidsvold 42.43 146 P **P 12 03 00.0 -1.3**
comp=Z,0.0nmcomp=Z,262nm,2.2s
EIDS Eidsvold 42.43 146 P **P 12 03 01.0 -0.3**
EIDS Eidsvold 42.43 146⇓P **P 12 03 00.4 -0.9**
VIS Vishakhapatnam 42.48 286 IAMs_20 IAMs_20 12 21 33.2
comp=Z,4μm,18.0s
RAGD RAYAGADA 42.51 288 *e*P **P 12 03 02.4 +0.2**
RAGD IAmb IAmb 12 03 07.0
comp=Z,181nm,0.8s
RAGD IAMs_20 IAMs_20 12 23 38.0
comp=Z,5μm,17.6s
JHSG JHARSUGUGA 42.56 291 *e*P **P 12 03 02.6 +0.1**
JHSG IAmb IAmb 12 03 09.5
comp=Z,537nm,0.9s
MUN Mundaring 42.66 193 P **P 12 03 02.7 -0.4**
comp=Z,0.0nmcomp=Z,3μm,0.8s
MUN Mundaring 42.66 193 P **P 12 03 03.0 -0.1**
MTKN Mount Kenneth 42.71 193 P **P 12 03 05.7 +2.2**
comp=Z,3μm,0.8s
MTKN Mount Kenneth 42.71 193 P **P 12 03 05.5 +2.0**
TYV Tymovskoe 43.09 15 *e*P **P 12 03 08.5 +2.1**
TYV *e*S **S 12 09 37.1 +6.5**
TYV pmax pmax
comp=Z,118nm,1.5s
TYV pmax pmax
comp=Z,2μm,4.2s
TYV smax smax
comp=N,12nm,2.0s
TYV smax smax

comp=E,23nm,2.0s
TYV smax smax
comp=N,2μm,7.2s
TYV smax smax
comp=E,4μm,7.2s
TYV MLR MLR
comp=N,3μm,15.0s
TYV MLR MLR
comp=Z,4μm,16.0s
BBOO Buckleboo 43.35 168 P P 12 03 07.6 -1.2
BBOO IAMs_20 IAMs_20 12 20 44.6
comp=Z,7μm,21.0s
BBOO Buckleboo 43.35 168 P P 12 03 07.5 -1.2
comp=Z,0.0nmcomp=Z,757nm,0.7s
BBOO Buckleboo 43.35 168 P P 12 03 07.5 -1.2
NWAO Narrogin (SRO) 43.37 191 P P 12 03 09.0 +0.2
NWAO Narrogin (SRO) 43.37 191 LR LR 12 22 21.3
comp=Z,4μm,21.9s,baz=328,slow=38
NWAO Narrogin (SRO) 43.37 191 P P 12 03 08.7 -0.1
NWAO S **S 12 09 34.8 -0.2**
NWAO Narrogin (SRO) 43.37 191 P P 12 03 08.9 +0.2
NWAO Narrogin (SRO) 43.37 191 P P 12 03 09.0 +0.2
NWAO pmax pmax
comp=Z,3μm,1.1s
CIT Chita 43.39 348 *e*P **P 12 03 09.2 +0.3**
CIT *e* 12 03 18.8
CIT *e* 12 04 56.6
CIT *e* 12 05 23.0
CIT *e* 12 09 29.8
CIT *e*S **SnSn 12 13 00.2 -7.9**
CIT pmax pmax
comp=Z,2μm,2.3s
VLK Valmikinagar 43.66 299 *e*P **P 12 03 11.2 -0.1**
VLK IAmb IAmb 12 03 25.8
comp=Z,294nm,1.2s
VLK IAMs_20 IAMs_20 12 23 22.7
comp=Z,9μm,20.8s
AUHAR St Anne's Scho 43.80 193 P **P 12 03 13.4 +1.1**
ZEA Zeya 43.83 1 *e*P **P 12 03 12.5 +0.2**
ZEA *e* 12 05 02.4
ZEA *e*S **S 12 09 45.5 +4.1**
ZEA *e*SS **ScS 12 13 11.0 +1.6**
ZEA pmax pmax
comp=Z,800nm,6.1s
ZEA pmax pmax
comp=N,60nm,1.7s
ZEA pmax pmax
comp=Z,100nm,1.5s
ZEA pmax pmax
comp=E,200nm,3.0s
ZEA pmax pmax
comp=N,600nm,6.4s
ZEA smax smax
comp=E,400nm,6.4s
ZEA smax smax
comp=N,1μm,7.8s
ZEA MLR MLR
comp=N,4μm,16.0s
ZEA MLR MLR
comp=Z,5μm,18.0s
WHYH Whyalla 43.90 166 P **P 12 03 13.2 +0.1**
STKA Stephens Creek 43.91 161 P **P 12 03 11.9 -1.3**
STKA Stephens Creek 43.91 161 P **P 12 03 11.7 -1.5**
comp=Z,0.0nmcomp=Z,76nm,1.0s
STKA Stephens Creek 43.91 161 P **P 12 03 11.9 -1.3**
comp=Z,193nm,0.9s,baz=342,slow=8.0,SNR=53
STKA PP **PcP 12 05 02.1 +3.1**
comp=Z,179nm,1.1s,baz=333,slow=12,SNR=4.9
STKA LR LR 12 25 58.1
comp=Z,3μm,19.2s,baz=319,slow=42
comp=Z,193nm,0.9s
STKA Stephens Creek 43.91 161 P **P 12 03 12.1 -1.1**
STKA Stephens Creek 43.91 161 *i*P **P 12 03 12.5 -0.7**
BLSP Bilaspur 44.12 292 *e*P **P 12 03 14.5 -0.7**
BLSP IAmb IAmb 12 03 20.6
comp=Z,122nm,0.7s
BLSP IAMs_20 IAMs_20 12 23 20.4
comp=Z,6μm,20.3s
PTPS Port Pirie 44.13 166 P **P 12 03 16.3 +1.4**
AULRC Lightning Ridg 44.20 153 P **P 12 03 16.4 +0.8**
LUES Luesalemba Tem 44.26 116 P **P 12 03 19.5 +3.2**
HTT Hallett 44.61 165 P **P 12 03 18.2 -0.6**
comp=Z,0.0nmcomp=Z,391nm,0.8s
HTT Hallett 44.61 165 P **P 12 03 19.1 +0.3**
HTT Hallett 44.61 165 ⇑P **P 12 03 18.1 -0.8**
TW1H Toowoomba 1 Ha 44.63 147 P **P 12 03 20.3 +1.2**
ZAK Zakamensk 44.75 339 *e*P **P 12 03 19.6 -0.3**
ZAK *e* 12 05 01.8
ZAK pmax pmax
comp=Z,92nm,1.4s
NKL Nikolayevsk 44.76 12 *e*P **P 12 03 16.0 -3.7**
NKL *e*S **S 12 09 54.8 0.0**
NKL pmax pmax
comp=N,322nm,1.5s
NKL pmax pmax
comp=E,259nm,1.4s
NKL pmax pmax
comp=Z,983nm,1.4s
NKL smax smax
comp=E,617nm,6.2s
NKL smax smax
comp=N,1μm,6.1s
NKL MLR MLR
comp=E,6μm,12.0s
NKL MLR MLR
comp=N,13μm,16.0s
NKL MLR MLR
comp=Z,18μm,17.0s
ALBI Allahabad 44.99 296 *e*P **P 12 03 21.6 -0.4**
ALBI IAmb IAmb 12 03 25.2
comp=Z,259nm,0.9s
ALBI IAMs_20 IAMs_20 12 21 31.9
comp=Z,4μm,18.3s
RKGY Rocky Gully 45.05 191 P **P 12 03 23.3 +1.0**
comp=Z,4μm,1.0s
RKGY Rocky Gully 45.05 191 P **P 12 03 23.4 +1.1**
CMSA Cobar Meteorol 45.06 156 P **P 12 03 21.3 -1.1**
comp=Z,0.0nmcomp=Z,200nm,1.1s
CMSA Cobar Meteorol 45.06 156 P **P 12 03 21.9 -0.5**
AUWSH Wavell State H 45.10 146 P **P 12 03 25.5 +2.7**
PALK Pallekele 45.22 271 P **P 12 03 24.0 -0.1**
PALK IAmb IAmb 12 03 37.4
comp=Z,531nm,1.9s
PALK Pallekele 45.22 271 LR LR 12 24 16.7
comp=Z,6μm,18.2s,baz=78,slow=39
PALK Pallekele 45.22 271 P **P 12 03 25.7 +1.6**
PALK P **P 12 03 25.7 +1.6**
PALK S **S 12 10 03.9 +1.1**
PALK S **S 12 10 03.9 +1.1**
PALK Pallekele 45.22 271 *i*P **P 12 03 24.7 +0.6**
PALK pmax pmax
comp=Z,133nm,1.1s
PALK Pallekele 45.22 271 ⇓P **P 12 03 25.4 +1.3**
AUALB St Joseph's Co 45.26 190 P **P 12 03 25.6 +1.7**
MALK Mahakanadarawa 45.26 272 P **P 12 03 23.5 -0.9**
MALK Mahakanadarawa 45.26 272 ⇑P **P 12 03 24.7 +0.3**
HALK Hakmana 45.39 269 ⇑P **P 12 03 26.5 +1.1**
H01W3 Cape Leeuwin H 45.92 194 P **P 12 03 31.4 +2.5**
baz=27,slow=5.4,SNR=22
H01W1 Cape Leeuwin H 45.92 194 P **P 12 03 31.0 +2.1**
baz=27,slow=5.4,SNR=17
H01W2 Cape Leeuwin H 45.93 194 P **P 12 03 31.2 +2.2**
baz=27,slow=5.4,SNR=25
GHSS Government Hou 45.95 166 P **P 12 03 30.3 +1.0**
IRK Irkutsk 46.00 341 *e*P **P 12 03 29.8 +0.2**
IRK *e* 12 05 06.9
IRK *e* 12 10 14.3
IRK pmax pmax
comp=Z,711nm,2.2s
AUMBR Murray Bridge 46.32 165 P **P 12 03 33.6 +1.4**
BNDA BANDA 46.33 296 *e*P **P 12 03 32.6 -0.1**
BNDA IAMs_20 IAMs_20 12 24 07.6
comp=Z,4μm,19.8s
MOY Mondy 46.63 338 *e*P **P 12 03 34.9 +0.2**
MOY pmax pmax
comp=Z,595nm,2.4s
ARMA Armidale 46.76 150 P **P 12 03 35.9 -0.1**
ARMA IAmb IAmb 12 03 39.7
comp=Z,534nm,1.9s
ARMA IAMs_20 IAMs_20 12 23 48.1
comp=Z,6μm,19.0s
ARMA Armidale 46.76 150 P **P 12 03 35.9 -0.1**
comp=Z,0.0nmcomp=Z,94nm,1.0s
ARMA Armidale 46.76 150 P **P 12 03 37.7 +1.7**
ARMA Armidale 46.76 150 ⇑P **P 12 03 36.2 +0.2**

NGP Nagpur 46.84 290 *e*P **P 12 03 36.2 -0.5**
NGP IAmb IAmb 12 03 43.5
comp=Z,312nm,1.1s
AUDCS Dubbo College 46.88 154 P **P 12 03 38.1 +1.3**
AUPHS Peel High Scho 46.96 151 P **P 12 03 38.4 +1.0**
HYB Hyderabad 47.01 285 *e*P **P 12 03 38.7 +0.6**
HYB IVmB_BB 12 03 41.2
comp=Z,4μm,3.2s
HYB IVMs_BB IVMs_BB 12 23 12.6
comp=Z,2μm,20.4s
LGTI Lohaghat 47.29 301 *e*P **P 12 03 38.7 -1.4**
LGTI IAmb IAmb 12 03 52.3
comp=Z,60nm,0.7s
SALM Salem 47.34 277 *e*P **P 12 03 41.8 +1.1**
SALM IAmb IAmb 12 03 44.7
comp=Z,408nm,1.1s
SALM IAMs_20 IAMs_20 12 21 58.4
comp=Z,7μm,20.8s
PTH Pithoragarh 47.34 301 *e*P **P 12 03 37.8 -3.0**
PTH IAmb IAmb 12 03 45.5
comp=Z,110nm,1.1s
SKR Severo-Kuril's 47.56 25 *e*P **P 12 03 42.6 +0.8**
SKR *e* 12 05 35.0
SKR *e*S **S 12 10 29.2 -6.0**
SKR pmax pmax
comp=Z,272nm,1.5s
SKR pmax pmax
comp=Z,800nm,8.2s
SKR MLR MLR
comp=Z,3μm,17.0s
WMQ Urumqi 47.67 322 *e*P **P 12 03 42.3 -0.6**
WMQ PcP **PcP 12 05 14.3 +2.2**
WMQ ScP **ScP 12 09 05.2 +0.5**
WMQ S **S 12 10 35.2 -2.0**
WMQ ScS **ScS 12 13 31.6 -3.2**
WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,960nm,4.5s
WMQ LR LR
comp=Z,17μm,20.1s
WMQ LR LR
comp=Z,17μm,15.1s
WMQ LR LR
comp=Z,13μm,22.1s
JHNI Jhansi 47.92 295 *e*P **P 12 03 42.7 -2.4**
JHNI IAmb IAmb 12 03 49.2
comp=Z,204nm,0.7s
KOUNC Koumac, New Ca 47.94 129 P **P 12 03 48.0 +2.8**
KOUNC Koumac, New Ca 47.94 129 ⇓P **P 12 03 48.0 +2.8**
ARPS Mount Arapiles 48.54 163 P **P 12 03 49.1 -0.4**
comp=Z,593nm,0.8s
ARPS Mount Arapiles 48.54 163 P **P 12 03 49.9 +0.4**
YNG Young 48.57 156 P **P 12 03 49.5 -0.4**
comp=Z,864nm,1.3s
YNG Young 48.57 156 P **P 12 03 50.8 +1.0**
BHPL Bhopal 48.59 292 *e*P **P 12 03 49.5 -0.7**
BHPL IAmb IAmb 12 03 56.5
comp=Z,216nm,0.9s
BHPL IAMs_20 IAMs_20 12 23 52.8
comp=Z,3μm,17.8s
AKL Akola 48.68 289 *e*P **P 12 03 51.2 +0.2**
AKL IAmb IAmb 12 03 55.1
comp=Z,1μm,1.8s
NRDN NARMADA NAGAR 48.76 292 *e*P **P 12 03 55.6 +4.1**
NRDN IAmb IAmb 12 04 02.8
comp=Z,362nm,0.7s
NRDN IAMs_20 IAMs_20 12 24 03.8
comp=Z,4μm,19.5s
TRD Trivandrum 48.78 273 *e*P **P 12 03 52.2 +0.4**
TRD IAmb IAmb 12 03 55.3
comp=Z,249nm,1.0s
AUMAG Moama Anglican 48.81 160 P **P 12 03 53.2 +1.5**
MGCD Mangrove Creek 48.82 152 P **P 12 03 52.4 +0.7**
comp=Z,62nm,0.6s
MGCD Mangrove Creek 48.82 152 P **P 12 03 53.8 +2.1**
NTLH Newcastle Hard 48.83 151 P **P 12 03 53.3 +1.4**
BOD Bodaibo 48.86 351 *e*P **P 12 03 52.0 +0.3**
BOD pmax pmax
comp=Z,908nm,1.1s
GUNA GUNA 48.87 294 *e*P **P 12 03 51.2 -1.2**
GUNA IAmb IAmb 12 03 58.3
comp=Z,326nm,0.7s
GUNA IAMs_20 IAMs_20 12 24 12.4
comp=Z,6μm,21.5s
MGBR Mount Gambier 49.10 165 P **P 12 03 53.8 -0.1**
SYDH Sydney Hard Ro 49.11 153 P **P 12 03 55.9 +1.9**
DDI Dehra Dun 49.35 302 *e*P **P 12 03 56.1 +0.1**
RIV Riverview 49.36 153 P **P 12 03 57.3 +1.4**
comp=Z,347nm,1.8s
RIV Riverview 49.36 153 P **P 12 03 57.7 +1.9**
RIV Riverview 49.36 153 ⇑P **P 12 03 59.3 +3.5**
DVP Devils Point 49.52 123 P **P 12 03 59.2 +1.8**
CAN Canberra 49.70 156 P **P 12 03 57.6 -0.9**
CAN Canberra 49.70 156 P **P 12 03 58.3 -0.3**
comp=Z,0.0nmcomp=Z,408nm,2.0s
CAN Canberra 49.70 156 P **P 12 03 59.8 +1.3**
CAN Canberra 49.70 156 P **P 12 03 57.6 -0.9**
CAN pmax pmax
comp=Z,1μm,1.8s
WOLH Wollongong Har 49.71 153 P **P 12 03 59.9 +1.3**
SONA Sohna 49.72 299 *e*P **P 12 03 57.2 -1.6**
SONA IAmb IAmb 12 04 03.5
comp=Z,236nm,0.6s
SONA IAMs_20 IAMs_20 12 21 19.8
comp=Z,2μm,19.1s
NPLP NPLP New Delhi 49.73 299 *e*P **P 12 03 57.0 -1.9**
NPLP IAmb IAmb 12 04 00.6
comp=Z,194nm,0.5s
CNB Canberra Magne 49.84 155 P **P 12 03 59.4 -0.2**
comp=Z,0.0nmcomp=Z,451nm,1.5s
CNB Canberra Magne 49.84 155 P **P 12 04 00.5 +0.9**
BRAT Ballarat 49.88 162 P **P 12 04 00.5 +0.8**
AUHPC Hawkesdale P12 49.92 164 P **P 12 04 03.2 +3.1**
PEA0B Petropavlovsk- 50.02 24 P **P 12 03 59.4 -1.4**
PEA0B IAmb IAmb 12 04 22.0
comp=Z,379nm,1.2s
PEA0B Petropavlovsk- 50.02 24 P **P 12 03 59.4 -1.4**
PEA0B pmax pmax
comp=Z,379nm,1.2s
PETK Petropavlovsk- 50.02 24 P **P 12 04 00.0 -0.7**
PETK Petropavlovsk- 50.02 24 P **P 12 03 59.9 -0.9**
comp=Z,33nm,0.9s,baz=187,slow=1.8,SNR=40
PETK S **S 12 11 07.5 -2.4**
comp=Z,5.1nm,0.9s,baz=235,slow=5.2,SNR=2.4
PETK LR LR 12 26 21.0
comp=Z,5μm,18.6s,baz=209,slow=38
comp=Z,33nm,0.9s
KUDL Kundal 50.21 298 *e*P **P 12 04 00.4 -2.2**
KUDL IAmb IAmb 12 04 08.1
comp=Z,151nm,0.7s
KUDL IAMs_20 IAMs_20 12 24 06.2
comp=Z,2μm,18.0s
AUUHS Ulladulla High 50.34 154 P **P 12 04 05.0 +1.7**
PET Petropavlovsk 50.35 25 *e*P **P 12 04 01.7 -1.5**
PET Petropavlovsk 50.35 25 P **P 12 04 04.9 +1.7**
PET Petropavlovsk 50.35 25 *e*P **P 12 04 03.9 +0.7**
PET *e*S **S 12 11 13.7 -0.7**
PET *e*PS **sS 12 11 25.8 +0.1**
PET *e*SS **SS 12 14 49.6 +1.3**
PET pmax pmax
comp=Z,269nm,1.7s
PET pmax pmax
comp=Z,2μm,10.7s
PET pmax pmax
comp=Z,2μm,6.8s
PET MLR MLR
comp=Z,4μm,17.0s
PET MLR MLR
comp=Z,3μm,16.0s
PET Petropavlovsk 50.35 25 P **P 12 04 03.7 +0.5**
comp=Z,6μmcomp=Z,284nm,1.9s
TOO Toolangi 50.40 160 P **P 12 04 02.7 -1.1**
TOO IAmb IAmb 12 04 09.0
comp=Z,349nm,1.6s
TOO Toolangi 50.40 160 P **P 12 04 02.9 -0.9**
comp=Z,0.0nmcomp=Z,130nm,1.4s
TOO Toolangi 50.40 160 P **P 12 04 02.7 -1.1**
TOO pmax pmax
comp=Z,349nm,1.6s
MLBS Spotswood, Mel 50.44 161 P **P 12 04 05.1 +1.1**
RTK Rohtak 50.45 300 *e*P **P 12 04 03.2 -1.1**
DZM Mont Dzumac 50.46 129 P **P 12 04 03.2 -1.3**
DZM Mont Dzumac 50.46 129 LR LR 12 25 58.8
comp=Z,2μm,18.4s,baz=312,slow=37

DZM Mont Dzumac 50.46 129 P **P 12 04 05.4 +0.8**
AUSMG Snowy Mountain 50.50 157 P **P 12 04 06.2 +1.6**
MNGI Mangalore 50.59 279 *e*P **P 12 04 05.6 0.0**
MNGI IAmb IAmb 12 04 11.9
comp=Z,133nm,0.8s
GEXS Deakin Univers 50.59 162 P **P 12 04 06.3 +1.2**
ONTNC Ouen Toro 50.60 130 P **P 12 04 03.6 -1.9**
ONTNC Ouen Toro 50.60 130 P **P 12 04 09.3 +3.8**
ONTNC Ouen Toro 50.60 130 ⇓P **P 12 04 05.9 +0.4**
YATNC Mamie plateau, 50.79 129 P **P 12 04 08.0 +1.0**
OUENC Ouen Island, N 50.95 129 P **P 12 04 09.4 +1.2**
BHK Bhakra 50.98 303 *e*P **P 12 04 08.0 -0.3**
BHK IAmb IAmb 12 04 12.5
comp=Z,168nm,0.9s
KAD Karad 51.17 284 *e*P **P 12 04 09.3 -0.8**
KAD IAmb IAmb 12 04 16.4
comp=Z,271nm,1.0s
KAD IAMs_20 IAMs_20 12 23 59.2
comp=Z,7μm,21.6s
MILA Mila 51.27 157 P **P 12 04 10.2 -0.2**
comp=Z,80nm,1.3s
DHRM DHARAMSHALA 51.28 304 *e*P **P 12 04 09.5 -1.4**
DHRM IAmb IAmb 12 04 16.1
comp=Z,193nm,0.6s
DHRM IAMs_20 IAMs_20 12 23 10.8
comp=Z,1μm,19.8s
ZSN Zaisan 51.33 325 *e*P **P 12 04 10.3 -0.3**
ZSN *e*S **S 12 11 30.8 +2.7**
ZSN Zaisan 51.33 325 *e*P **P 12 04 10.4 -0.3**
ZSN *e*S **S 12 11 30.8 +2.7**
MARNC Mare, Loyalty 51.35 128 P **P 12 04 15.1 +3.9**
GOA Goa 51.50 282 IAMs_20 IAMs_20 12 23 43.1
comp=Z,4μm,19.8s
PINNC Pines Island, 51.53 129 P **P 12 04 11.7 -0.8**
PINNC Pines Island, 51.53 129 P **P 12 04 16.2 +3.7**
POO Poona 51.53 286 *e*P **P 12 04 12.4 -0.3**
POO IAmb IAmb 12 04 18.9
comp=Z,218nm,1.0s
AJM Ajmer 51.55 296 *e*P **P 12 04 11.7 -1.0**
AJM IAmb IAmb 12 04 17.8
comp=Z,146nm,0.9s
LHI Lord Howe Isla 51.64 144 P **P 12 04 11.5 -1.6**
LHI IAmb IAmb 12 04 17.3
comp=Z,359nm,1.4s
LHI Lord Howe Isla 51.64 144 P **P 12 04 13.8 +0.7**
comp=Z,0.0nmcomp=Z,137nm,0.7s
THN Thein Dam 51.80 304 *e*P **P 12 04 12.8 -1.6**
THN IAmb IAmb 12 04 17.9
comp=Z,146nm,0.8s
WUS Wushi 51.94 315 P **P 12 04 14.6 -1.0**
YAK Yakutsk 52.20 2 P **P 12 04 16.7 -0.2**
YAK IAmb IAmb 12 04 25.0
comp=Z,454nm,0.8s
YAK Yakutsk 52.20 2 LR LR 12 28 29.3
comp=Z,4μm,19.4s,baz=188,slow=38
YAK Yakutsk 52.20 2*c i*P **P 12 04 16.8 -0.1**
YAK *e**PP **pP 12 04 21.3 -3.2**
YAK *e* 12 05 30.2
YAK *e*S **S 12 11 41.0 +1.4**
YAK *e**SS **pS 12 11 48.5 +0.5**
YAK *e* 12 14 03.0
YAK *e*SSS SSS 12 17 01.4
YAK pmax pmax
comp=Z,164nm,0.9s
YAK pmax pmax
comp=E,27nm,1.2s
YAK pmax pmax
comp=N,95nm,1.2s
YAK smax smax
comp=N,1μm,3.0s
YAK smax smax
comp=E,600nm,3.1s
MK31 Makanchi Array 52.48 323 P **P 12 04 18.7 -0.6**
MK31 Makanchi Array 52.48 323 P **P 12 04 18.7 -0.6**
MK31 pmax pmax
comp=Z,143nm,0.7s
MKAR Makanchi Array 52.48 323 P **P 12 04 18.6 -0.7**
MKAR Makanchi Array 52.48 323 P **P 12 04 18.3 -1.1**
comp=Z,156nm,0.7s,baz=121,slow=7.9,SNR=501
MKAR ScP **ScP 12 09 24.8 -0.4**
comp=Z,14nm,0.8s,baz=123,slow=4.5,SNR=4.3
MKAR PKPPKP **P'P'df 12 34 49.7 -2.4**
comp=Z,2.6nm,0.9s,baz=304,slow=2.2,SNR=7.9
MKAR P4KPbc 12 41 45.3
comp=Z,1.0nm,0.6s,baz=119,slow=4.5,SNR=5.2
comp=Z,156nm,0.7s
MKAR Makanchi Array 52.48 323*c e*P **P 12 04 18.2 -1.1**
MKAR pmax pmax
comp=Z,159nm,0.7s
SHLS Shalkode 52.58 318 *e*P **P 12 04 17.4 -2.8**
SHLS pmax pmax
comp=Z,223nm,2.1s
SHLS Shalkode 52.58 318 *e*P **P 12 04 18.0 -2.2**
PDGK Podgornoye 52.63 318 P **P 12 04 19.0 -1.6**
MNCI Minicoy 52.64 273 P **P 12 04 20.7 -0.3**
MNCI Minicoy 52.64 273 ⇑P **P 12 04 19.8 -1.2**
MAKZ Makanchi 52.67 323 P **P 12 04 20.0 -0.7**
MAKZ IAMs_20 IAMs_20 12 29 08.6
comp=Z,7μm,18.0s
MAKZ Makanchi 52.67 323 P **P 12 04 20.0 -0.7**
MAKZ pmax pmax
comp=Z,131nm,0.8s
MAKZ MLR MLR
comp=Z,7μm,18.0s
MNCY Minicoy 52.67 273 *e*P **P 12 04 24.4 +3.2**
HMDM Hanimaadhoo 52.69 271 IAmb IAmb 12 04 25.5
comp=Z,343nm,0.9s
HMDM IAMs_20 IAMs_20 12 26 19.3
comp=Z,6μm,21.0s
HMDM Hanimaadhoo 52.69 271 P **P 12 04 22.8 +1.5**
HMDM Hanimaadhoo 52.69 271 ⇑P **P 12 04 23.0 +1.7**
MA2 Magadan 52.97 15 P **P 12 04 22.3 -0.3**
MA2 Magadan 52.97 15 P **P 12 04 21.4 -1.2**
comp=Z,22nm,0.7s,baz=208,slow=8.0,SNR=25
MA2 PcP **PcP 12 05 32.4 +1.2**
comp=Z,101nm,0.8s,baz=319,slow=0.7,SNR=7.2
MA2 LR LR 12 27 14.8
comp=Z,2μm,19.1s,baz=192,slow=36
comp=Z,22nm,0.7s
MA2 Magadan 52.97 15 P **P 12 04 23.3 +0.7**
MA2 Magadan 52.97 15*c e*P **P 12 04 22.7 +0.1**
MA2 pmax pmax
comp=Z,420nm,2.5s
MA2 Magadan 52.97 15 P **P 12 04 22.5 -0.1**
comp=Z,4μmcomp=Z,169nm,1.6s
BKNR BIKANER 52.98 298 *e*P **P 12 04 22.4 -0.9**
BKNR IAmb IAmb 12 04 29.0
comp=Z,580nm,0.5s
TARG Taragay, Kyrgy 53.12 315 P **P 12 04 24.2 -0.5**
TARG Taragay, Kyrgy 53.12 315 P **P 12 04 24.2 -0.5**
TARG pmax pmax
comp=Z,74nm,1.0s
KPKS Kokpek 53.22 318 *e*P **P 12 04 24.6 -0.3**
KPKS *e*S **S 12 11 56.9 +2.5**
KPKS Kokpek 53.22 318 *e*P **P 12 04 24.6 -0.3**
KPKS *e*S **S 12 11 56.9 +2.5**
SATY Saty 53.24 317 *e*P **P 12 04 25.0 -0.1**
SATY Saty 53.24 317 *e*P **P 12 04 25.1 -0.1**
ZHN Zhinishke 53.26 317 *e*P **P 12 04 24.1 -1.2**
ZHN pmax pmax
comp=Z,65nm,1.1s
ZHN Zhinishke 53.26 317 *e*P **P 12 04 25.0 -0.3**
KSH Kashi 53.64 312 P **P 12 04 29.4 +1.3**
KSH pP pP 12 04 37.3 +1.2
KSH S **S 12 12 00.9 +0.6**
KSH pmax pmax
comp=Z,99nm,1.5s
KSH LR LR
comp=Z,10μm,17.9s
KSH LR LR
comp=Z,6μm,18.5s
KSH LR LR
comp=Z,8μm,16.5s
KDJ Kajisay 53.71 316 P **P 12 04 28.5 -0.2**
KAAM Kaadhehdhoo 53.90 263 P **P 12 04 30.8 +0.6**
KAAM IAmb IAmb 12 04 44.7
comp=Z,369nm,1.1s
KAAM IAMs_20 IAMs_20 12 29 52.4
comp=Z,5μm,18.0s
KAAM Kaadhehdhoo 53.90 263 P **P 12 04 32.3 +2.0**
SNR=14
KAAM Kaadhehdhoo 53.90 263 ⇑P **P 12 04 31.7 +1.5**
TDK Taldyqorghan 54.05 319 *e*P **P 12 04 30.8 -0.1**
TDK pmax pmax
comp=Z,149nm,0.9s

TDK MLR MLR
comp=Z,6µm,16.0s
TDK Taldyqorghan 54.05 319 *eP* **P 12 04 30.9 -0.1**
comp=Z,149nm,0.9s
TDK LR LR 12 28 25.6
comp=Z,6µm,16.2s
NIL Nilore 54.10 305 P **P 12 04 30.7 -0.8**
NIL IAmb IAmb 12 04 36.0
comp=Z,230nm,0.8s
NIL Nilore 54.10 305 P **P 12 04 30.8 -0.6**
NIL Nilore 54.10 305 P **P 12 04 30.7 -0.8**
NIL pmax pmax
comp=Z,230nm,0.8s
MDOK Medeo 54.19 317 *eP* **P 12 04 31.8 -0.3**
MDOK *eS* **S 12 12 10.2 +2.5**
MDOK MLR MLR
comp=Z,4µm,19.0s
MDOK Medeo 54.19 317 *eP* **P 12 04 31.9 -0.3**
MDOK *eS* **S 12 12 10.3 +2.5**
MDOK LR LR 12 29 02.5
comp=Z,4µm,19.0s
TNSS Tian-Shan 54.21 317 *eP* **P 12 04 32.1 -0.4**
TNSS Tian-Shan 54.21 317 *eP* **P 12 04 32.2 -0.4**
AAA Alma-Ata 54.30 317 *eP* **P 12 04 32.8 0.0**
AAA pmax pmax
comp=Z,81nm,0.9s
AAA Alma-Ata 54.30 317 *eP* **P 12 04 32.8 0.0**
comp=Z,81nm,0.9s
ULHL Ulahol 54.40 315 P **P 12 04 33.9 +0.2**
SNR=22
CORO Coronation Par 54.45 161 P **P 12 04 36.0 +2.3**
BOOM Boomskoye usch 54.70 316 P **P 12 04 36.2 +0.4**
BOOM pmax pmax
comp=Z,45nm,2.0s
JASL Jaisalmer 54.92 296 *eP* **P 12 04 37.1 -0.4**
JASL IAmb IAmb 12 04 39.6
comp=Z,407nm,0.8s
TKM2 Tokmak 2 55.09 316 P **P 12 04 38.0 -0.7**
SNR=60
TKM2 Tokmak 2 55.09 316 *i* P **P 12 04 37.4 -1.3**
TKM2 pmax pmax
comp=Z,92nm,0.9s
ZAA0 Zalesovo Array 55.10 331 P **P 12 04 36.8 -1.5**
ZALV Zalesovo Beam 55.10 331 P **P 12 04 36.7 -1.6**
comp=Z,74nm,0.6s,baz=119,slow=6.4,SNR=126
ZALV ScP **ScP 12 09 36.8 +0.4**
comp=Z,8.2nm,0.7s,baz=144,slow=2.8,SNR=4.6
ZALV S **S 12 12 18.0 -1.2**
comp=Z,9.0nm,1.1s,baz=128,slow=11,SNR=3.6
ZALV LR LR 12 30 37.6
comp=Z,4µm,18.7s,baz=128,slow=39
ZALV PKPPKP **P'P'df 12 34 45.0 -2.9**
comp=Z,2.3nm,0.9s,baz=282,slow=2.9,SNR=4.8
comp=Z,74nm,0.6s
MOO Moorlands 55.36 161 P **P 12 04 40.2 0.0**
comp=Z,144nm,1.1s
MOO Moorlands 55.36 161 P **P 12 04 42.1 +1.8**
KBK Karagaybulak 55.44 316 P **P 12 04 40.9 -0.3**
SNR=50
UCH Uchtor 55.59 315 P **P 12 04 42.7 +0.1**
SNR=41
ARLS Aral 55.60 314 P **P 12 04 42.9 +0.5**
ARLS pmax pmax
comp=Z,112nm,0.9s
BHUJ Bhuj 55.70 291 *eP* **P 12 04 43.8 +0.7**
FRU1 Bishkek 55.71 316 P **P 12 04 43.5 +0.5**
FRU1 pmax pmax
comp=Z,80nm,1.2s
AAK Ala-Archa 55.75 315 P **P 12 04 42.6 -0.8**
AAK IAmb IAmb 12 04 47.0
comp=Z,331nm,1.9s
AAK Ala-Archa 55.75 315 LR LR 12 30 39.6
comp=Z,8µm,21.8s,baz=95,slow=38
AAK Ala-Archa 55.75 315 P **P 12 04 43.5 +0.1**
AAK P **P 12 04 43.5 +0.1**
AAK S **S 12 12 29.6 +1.0**
AAK S **S 12 12 29.6 +1.0**
AAK Ala-Archa 55.75 315 P **P 12 04 43.5 +0.1**
SNR=28
AAK Ala-Archa 55.75 315 *ceP* **P 12 04 42.8 -0.6**
AAK pmax pmax
comp=Z,235nm,2.5s
AAK Ala-Archa 55.75 315 *i* P **P 12 04 42.6 -0.8**
SNR=31
AAK Ala-Archa 55.75 315 ⇓P **P 12 04 43.3 -0.1**
TAU Tasmania Unive 55.82 162 P **P 12 04 43.2 -0.4**
TAU IAmb IAmb 12 04 48.4
comp=Z,487nm,1.6s
TAU Tasmania Unive 55.82 162 P **P 12 04 45.5 +1.9**
TAU Tasmania Unive 55.82 162 P **P 12 04 43.2 -0.4**
TAU pmax pmax
comp=Z,487nm,1.6s
TAU Tasmania Unive 55.82 162 ⇓P **P 12 04 44.5 +0.9**
AUTAR Taroona High S 55.86 161 P **P 12 04 45.3 +1.5**
SGDS Sogindy 55.94 316 *eP* **P 12 04 44.4 -0.2**
SGDS Sogindy 55.94 316 *eP* **P 12 04 44.5 -0.2**
USP Ospenovka 55.96 316 P **P 12 04 43.7 -1.1**
SNR=66
AML Almayashu 56.13 315 P **P 12 04 45.8 -0.7**
SNR=123
SEY Seymchan 56.26 14 P **P 12 04 47.1 +0.7**
comp=Z,43nm,0.8s,baz=225,slow=7.2,SNR=54
SEY LR LR 12 31 35.2
comp=Z,2µm,18.1s,baz=205,slow=39
comp=Z,43nm,0.8s
SEY Seymchan 56.26 14 *ceP* **P 12 04 47.7 +1.3**
SEY pmax pmax
comp=Z,446nm,1.7s
OHH Osh 56.28 312 P **P 12 04 47.2 +0.1**
OHH pmax pmax
comp=Z,127nm,1.5s
DGAR Diego Garcia 56.37 254 P **P 12 04 47.9 -0.2**
DGAR IAmb IAmb 12 04 59.1
comp=Z,354nm,1.1s
DGAR Diego Garcia 56.37 254 P **P 12 04 49.8 +1.7**
DGAR P **P 12 04 49.8 +1.7**
DGAR Diego Garcia 56.37 254 *ceP* **P 12 04 48.2 +0.1**
DGAR pmax pmax
comp=Z,229nm,1.0s
DGAR Diego Garcia 56.37 254 ⇓P **P 12 04 48.8 +0.8**
KURK Kurchatov 56.53 326 P **P 12 04 47.5 -1.1**
KURK IAmb IAmb 12 04 51.5
comp=Z,265nm,0.9s
KURK Kurchatov 56.53 326 IAMs_20 IAMs_20 12 31 23.4
comp=Z,5µm,18.0s
KURK Kurchatov 56.53 326 P **P 12 04 47.6 -1.0**
KURK P **P 12 04 47.6 -1.0**
KURK Kurchatov 56.53 326 P **P 12 04 47.5 -1.1**
KURK P **P 12 04 50.4 +1.8**
KURK pmax pmax
comp=Z,265nm,0.9s
KURK Kurchatov 56.53 326 ⇑P **P 12 04 47.4 -1.2**
KURBB Kurchatov Arra 56.53 326 P **P 12 04 47.5 -1.2**
comp=Z,113nm,0.7s,baz=127,slow=6.7,SNR=313
KURBB S **S 12 12 36.2 -2.1**
comp=Z,1.8nm,0.4s,baz=118,slow=12,SNR=7.1
KURBB LR LR 12 31 45.1
comp=Z,3µm,18.4s,baz=136,slow=39
KURBB PKPPKP **P'P'df 12 34 41.6 -4.4**
comp=Z,3.1nm,1.0s,baz=266,slow=4.0,SNR=7.2
comp=Z,113nm,0.7s
KURBB Kurchatov Arra 56.53 326 P **P 12 04 47.0 -1.6**
BTLS Baital 56.90 318 *eP* **P 12 04 50.3 -1.1**
BTLS pmax pmax
comp=Z,120nm,1.9s
BTLS Baital 56.90 318 *eP* **P 12 04 51.0 -0.4**
ARK Arkit 57.25 314 P **P 12 04 53.9 -0.2**
ARK pmax pmax
comp=Z,156nm,0.8s
SHEM Shemya Is, Ala 57.49 32 P **P 12 04 56.0 +0.7**
comp=Z,166nm,1.0s,baz=238,slow=23,SNR=6.6
SHEM LR LR 12 33 05.5
comp=Z,1µm,18.0s,baz=249,slow=40
comp=Z,166nm,1.0s
BTK Batken 57.59 311 IAmb IAmb 12 04 59.6
comp=Z,485nm,1.8s
BTK Batken 57.59 311 P **P 12 04 55.9 -0.5**
BTK pmax pmax
comp=Z,150nm,1.7s
KBU Kabul Universi 57.62 305 P P 12 04 52.1 -4.8
GAR Garm 57.69 310 P **P 12 04 56.1 -1.1**
GAR IAmb IAmb 12 05 00.1
comp=Z,364nm,1.1s
KBL Kabul 57.70 305 P **P 12 04 56.2 -1.3**
KBL IAmb IAmb 12 05 03.1
comp=Z,144nm,0.8s
KBL Kabul 57.70 305 P **P 12 04 56.4 -1.1**
SNR=111
KBL P **P 12 04 56.4 -1.1**
SNR=111
KBL S **S 12 12 52.9 -1.9**
KBL S **S 12 12 52.9 -1.9**
KBL Kabul 57.70 305 P **P 12 04 56.2 -1.3**
KBL pmax pmax
comp=Z,144nm,0.8s
TRKS Terek-Say 57.76 313 P **P 12 04 57.1 -0.6**
TRKS pmax pmax
comp=Z,54nm,1.1s
MSVF Nonsavu 57.89 118 P **P 12 04 56.5 -2.3**
MSVF IAmb IAmb 12 05 07.0
comp=Z,210nm,0.9s
MSVF Nonsavu 57.89 118 IAMs_20 IAMs_20 12 29 03.2
comp=Z,4µm,20.0s
MSVF Nonsavu 57.89 118 LR LR 12 29 23.8
comp=Z,3µm,18.7s,baz=297,slow=36
MSVF Nonsavu 57.89 118 P **P 12 05 01.7 +2.9**
MSVF Nonsavu 57.89 118 P **P 12 04 58.8 0.0**
MSVF pmax pmax
comp=Z,249nm,1.5s
MSVF Nonsavu 57.89 118 ⇑P **P 12 04 59.9 +1.0**
DZA Taraz 58.03 315 *eP* **P 12 04 59.2 -0.2**
DZA Taraz 58.03 315 *eP* **P 12 04 59.2 -0.2**
CHGR Chuyangaron 58.48 309 IAmb IAmb 12 05 07.0
comp=Z,380nm,1.1s
CHGR Chuyangaron 58.48 309 P **P 12 05 02.3 -0.4**
CHGR pmax pmax
comp=Z,353nm,1.0s
SIMJ Simiganj 58.59 309 P **P 12 05 02.4 -1.1**
KK31 Karatay Array 58.67 315 P **P 12 05 02.4 -1.5**
KK31 Karatay Array 58.67 315 P **P 12 05 02.4 -1.5**
KK31 pmax pmax
comp=Z,89nm,0.8s
KKAR Karatay Array 58.67 315 P **P 12 05 02.3 -1.6**
KKAR Karatay Array 58.67 315 P **P 12 05 02.3 -1.6**
KKAR Karatay Array 58.67 315 ⇑P **P 12 05 02.4 -1.4**
DZET Dzherino 58.77 310 P **P 12 05 03.5 -1.2**
DZET pmax pmax
comp=Z,127nm,1.0s
DGTI Dogotuki 58.81 116 P **P 12 05 06.9 +1.7**
CHM Chimkent 59.09 314 *eP* **P 12 05 06.6 -0.1**
CHM MLR MLR
comp=Z,2µm,16.0s
CHM Chimkent 59.09 314 *eP* **P 12 05 06.7 -0.1**
CHM LR LR 12 32 10.9
comp=Z,2µm,16.4s
BRLS Borolday 59.12 315 *eP* **P 12 05 06.7 -0.3**
BRLS pmax pmax
comp=Z,92nm,1.2s
BRLS Borolday 59.12 315 *eP* **P 12 05 06.9 -0.1**
BRZS Berezniki 59.63 323 *eP* **P 12 05 10.2 -0.2**
BRZS pmax pmax
comp=Z,108nm,1.0s
BRZS Berezniki 59.63 323 *eP* **P 12 05 10.2 -0.2**
FUTU Fugatoga 60.01 113 P **P 12 05 11.0 -2.5**
LKBA Tubou, Lakemba 60.83 117 P **P 12 05 19.6 +0.6**
TIXI Tiksi 61.83 1 P **P 12 05 24.3 -0.6**
TIXI Tiksi 61.83 1 LR LR 12 32 57.8
comp=Z,6µm,21.4s,baz=194,slow=37
TIXI Tiksi 61.83 1 *ceP* **P 12 05 24.0 -0.9**
TIXI pmax pmax
comp=Z,363nm,1.1s
KIWB Kanaga Island 61.95 36 P **P 12 05 24.4 -1.6**
BVA0 Borovoye Array 62.12 325 *i* P **P 12 05 25.7 -1.6**
BVAR Borovoye Array 62.12 325 P **P 12 05 25.9 -1.3**
comp=Z,71nm,0.8s,baz=124,slow=9.3,SNR=161
BVAR PcP **PcP 12 06 08.5 +1.2**
comp=Z,106nm,0.8s,baz=105,slow=3.2,SNR=6.4
BVAR PKPPKP **P'P'df 12 34 36.6 -0.7**
comp=Z,2.8nm,1.0s,baz=299,slow=1.5,SNR=6.1
BVAR PKP2ab 12 34 52.2
comp=Z,1.9nm,0.8s,baz=0.0,slow=1.4,SNR=5.0
BVAR LR LR 12 35 13.7
comp=Z,4µm,19.0s,baz=121,slow=39
comp=Z,71nm,0.8s
BRVK Borovoye 62.20 326 P **P 12 05 26.5 -1.2**
BRVK IAmb IAmb 12 05 30.6
comp=Z,133nm,0.8s
BRVK Borovoye 62.20 326 IAMs_20 IAMs_20 12 34 53.3
comp=Z,4µm,18.0s
BRVK Borovoye 62.20 326 P **P 12 05 26.6 -1.1**
BRVK P **P 12 05 26.6 -1.1**
BRVK S **S 12 13 49.1 -2.4**
BRVK S **S 12 13 49.1 -2.4**
BRVK Borovoye 62.20 326 P **P 12 05 26.5 -1.2**
BRVK pmax pmax
comp=Z,133nm,0.8s
BRVK MLR MLR
comp=Z,4µm,18.0s
BRVK Borovoye 62.20 326 ⇑P **P 12 05 26.5 -1.2**
OUZ Omahuta 63.18 138 P **P 12 05 35.9 +1.4**
OUZ Omahuta 63.18 138 ⇓P **P 12 05 37.7 +3.2**
HRA Herat 63.23 304 IAmb IAmb 12 05 37.4
comp=Z,165nm,0.8s
NGCH Negor - Chabah 63.56 293 P **P 12 05 38.4 +1.1**
SNR=10.0
NGCH S **S 12 14 08.5 -1.0**
ATKA Atka Island 63.78 36 P **P 12 05 41.6 +3.3**
BILL Bilibino 63.83 16 P **P 12 05 38.2 -0.1**
BILL Bilibino 63.83 16 *ceP* **P 12 05 37.9 -0.4**
BILL pmax pmax
comp=Z,590nm,1.7s
BILL MLR MLR
comp=Z,2µm,16.0s
WCZ Waipu Caves 64.09 138 P **P 12 05 41.5 +1.0**
NRIK Noril'sk 64.51 346 P **P 12 05 42.3 -0.5**
NRIK Noril'sk 64.51 346 P **P 12 05 41.7 -1.0**
comp=Z,253nm,1.1s,baz=128,slow=6.0,SNR=86
NRIK S **S 12 14 19.8 0.0**
comp=Z,7.7nm,0.9s,baz=339,slow=21,SNR=8.2
NRIK PKP2bc 12 34 39.8
comp=Z,4.0nm,0.9s,baz=303,slow=3.0,SNR=6.4
NRIK LR LR 12 37 07.7
comp=Z,9µm,19.0s,baz=145,slow=39
comp=Z,253nm,1.1s
NRIK Noril'sk 64.51 346 *ceP* **P 12 05 42.2 -0.5**
NRIK pmax pmax
comp=Z,313nm,1.1s
MBAZ Motutapu North 64.94 138 P **P 12 05 49.6 +3.5**
WIAZ Waiheke Island 65.10 138 P **P 12 05 48.5 +1.3**
JLN Jalan Bani Buh 65.12 290 P **P 12 05 47.2 -0.4**
SNR=12
JLN S **S 12 14 26.5 -2.5**
MKAZ Moumakai 65.30 139 P **P 12 05 47.9 -0.5**
WBK Wadi Bani Khal 65.52 290 P **P 12 05 50.0 -0.2**
SNR=12
AFI Afiamalu 65.71 110 P **P 12 05 53.2 +1.7**
WSAR Wadi Sarin 65.83 291 LR LR 12 37 50.4
comp=Z,1µm,19.9s,baz=106,slow=39
NMEZ Namu Road 65.85 141 P **P 12 05 55.0 +3.1**
KHEZ Kahui Hut 65.86 141 P **P 12 05 54.7 +2.6**
TOZ Tahuroa Road 65.88 139 IAMs_20 IAMs_20 12 36 01.8
comp=Z,4µm,18.0s
TOZ Tahuroa Road 65.88 139 P **P 12 05 53.6 +1.5**
QRZ Quartz Range 65.91 143 IAMs_20 IAMs_20 12 34 45.5
comp=Z,4µm,20.0s
QRZ Quartz Range 65.91 143 P **P 12 05 52.6 +0.3**
DREZ Durham Road 65.92 141 P **P 12 05 55.6 +3.2**
MSZ Milford Sound 65.92 149 P **P 12 05 53.1 +0.9**
HIZ Hauiti 65.93 140 P **P 12 05 53.2 +0.8**
JCZ Jackson Bay 65.95 148 P **P 12 05 55.6 +3.0**
JCZ Jackson Bay 65.95 148 P **P 12 05 53.8 +1.2**
PREZ Palmer Road 65.98 141 P **P 12 05 57.2 +4.4**
DSZ Denniston Nort 66.07 144 IAMs_20 IAMs_20 12 31 47.8
comp=Z,5µm,22.0s
DSZ Denniston Nort 66.07 144 P **P 12 05 55.3 +2.0**
DCZ Deep Cove 66.09 150 IAmb IAmb 12 05 57.4
comp=Z,132nm,0.9s
DCZ IAMs_20 IAMs_20 12 37 57.7
comp=Z,3µm,18.0s
DCZ Deep Cove 66.09 150 P **P 12 05 53.2 0.0**
FOZ Fox Glacier 66.13 147 IAMs_20 IAMs_20 12 39 21.6
comp=Z,4µm,18.0s
FOZ Fox Glacier 66.13 147 P **P 12 05 53.6 0.0**
RAO Raoul Island 66.21 128 LR LR 12 33 55.0
comp=Z,768nm,19.4s,baz=348,slow=35
VRZ Vera Road 66.22 141 P **P 12 05 55.8 +1.5**
TLZ Tolley Road 66.25 139 P **P 12 05 56.9 +2.3**
GCSZ Gaunt Creek Bo 66.26 146 P **P 12 05 58.0 +3.5**
BIDO Bidbid 66.29 291 P **P 12 05 54.3 -0.8**
SNR=34
TKNZ Takaka Hill 66.29 143 P **P 12 05 54.2 -0.6**
JMDO Jabal Madar 66.33 290 P **P 12 05 54.9 -0.5**
SNR=13
JMDO S **S 12 14 40.7 -3.1**
WVZ Waitaha Valley 66.33 146 P **P 12 05 55.3 +0.4**
PYZ Puysegur Point 66.36 151 P **P 12 05 53.8 -1.3**
PYZ IAmb IAmb 12 06 06.7
comp=Z,199nm,1.1s
PYZ IAMs_20 IAMs_20 12 32 59.9
comp=Z,4µm,22.0s
PYZ Puysegur Point 66.36 151 P **P 12 05 57.4 +2.4**
PYZ Puysegur Point 66.36 151 P **P 12 05 56.1 +1.1**
SMDO Samad 66.37 291 P **P 12 05 55.0 -0.8**
SNR=17
SMDO P **P 12 05 55.0 -0.8**
SNR=17
TGRZ Tauranga 66.38 139 P **P 12 05 56.6 +1.3**
MRNZ Matariki Terra 66.40 144 P **P 12 05 55.2 -0.2**
MHTO MHTO 66.49 289 P **P 12 05 55.9 -0.5**
SNR=51
MHTO S **S 12 14 40.6 -5.1**
INZ Inchbonnie 66.49 145 IAMs_20 IAMs_20 12 32 11.1
comp=Z,3µm,20.0s
INZ Inchbonnie 66.49 145 P **P 12 05 58.2 +2.3**
MLZ Mavora Lakes 66.50 149 P **P 12 05 54.2 -1.8**
MLZ IAMs_20 IAMs_20 12 32 53.6
comp=Z,5µm,22.0s
MLZ Mavora Lakes 66.50 149 P **P 12 05 56.5 +0.5**
KUTZ Kaahu Road 66.53 139 P **P 12 05 57.9 +1.6**
WKZ Wanaka 66.59 148 IAMs_20 IAMs_20 12 36 15.8
comp=Z,5µm,21.0s
WKZ Wanaka 66.59 148 P **P 12 05 58.4 +1.8**
WATZ Wairara 66.60 140 P **P 12 05 59.8 +3.0**
NNZ Nelson 66.65 143 IAmb IAmb 12 06 01.4
comp=Z,443nm,1.4s
NNZ Nelson 66.65 143 P **P 12 05 57.3 +0.3**
OMRZ Omania 66.66 139 P **P 12 05 58.7 +1.5**
PKVZ Pokaka 66.69 140 P **P 12 05 59.2 +1.8**
HSRZ Hossack Road 66.70 139 P **P 12 05 57.8 +0.4**
RATZ Rangitukua 66.71 140 P **P 12 05 59.4 +1.8**
THZ Tophouse 66.71 144 IAmb IAmb 12 06 08.9
comp=Z,203nm,0.6s
THZ IAMs_20 IAMs_20 12 31 56.9
comp=Z,5µm,22.0s
THZ Tophouse 66.71 144 P **P 12 05 57.4 0.0**
WHTZ Whakaora 66.72 140 P **P 12 06 01.1 +3.5**
DUWZ D'Urville Isla 66.72 142 P **P 12 05 59.3 +1.8**
KATZ Kakaramea 66.73 140 P **P 12 06 00.9 +3.2**
HLRZ Highlands Stat 66.73 139 P **P 12 05 59.5 +1.9**
WAZ Wanganui 66.74 141 P **P 12 05 59.7 +2.0**
COVZ Chateau Observ 66.76 140 P **P 12 05 58.5 +0.6**
KRVZ Karewarewa 66.76 140 P **P 12 05 59.2 +1.3**
HRRZ Handcock Road 66.77 139 P **P 12 05 58.6 +0.7**
NNVZ North Ngauruho 66.77 140 P **P 12 05 59.3 +1.3**
NGZ Ngauruhoe 66.78 140 P **P 12 05 59.2 +1.1**
WHZ Wether Hill Ro 66.78 150 IAmb IAmb 12 06 25.2
comp=Z,313nm,1.7s
WHZ IAMs_20 IAMs_20 12 39 04.1
comp=Z,3µm,19.0s
WHZ Wether Hill Ro 66.78 150 P **P 12 06 00.6 +2.8**
NTVZ North Tongariр 66.79 140 P **P 12 05 59.2 +1.1**
MARZ Manawahe 66.79 139 P **P 12 05 59.5 +1.4**
FWVZ Far West T-bar 66.80 140 P **P 12 05 59.0 +0.7**
MAVZ Matarangi 66.81 140 P **P 12 05 59.0 +0.5**
SNVZ South Ngauruho 66.82 140 P **P 12 05 59.4 +1.1**
TMVZ Te Maari 66.82 140 P **P 12 05 59.3 +1.0**
OTVZ Oturere 66.82 140 P **P 12 05 59.2 +0.9**
TARZ Mount Tarawera 66.82 139 P **P 12 05 59.5 +1.2**
TRVZ Turoa 66.82 140 P **P 12 05 59.1 +0.7**
MTVZ Mangateitei 66.83 140 P **P 12 05 58.9 +0.6**
ETVZ East Tongariro 66.83 140 P **P 12 05 59.1 +0.8**
RITZ Rihia Road 66.83 140 P **P 12 05 59.5 +1.3**
WHVZ Whangaehu Hut 66.84 140 P **P 12 05 58.9 +0.4**
WSRZ White Island S 66.86 138 P **P 12 06 03.1 +4.6**
TUVZ Tukino 66.87 140 P **P 12 05 59.2 +0.5**
WIZ White Island 66.87 138 P **P 12 06 00.2 +1.7**
WNVZ Wahianoa 66.87 140 P **P 12 05 59.5 +0.9**
RRRZ Republican Roa 66.89 139 P **P 12 05 59.3 +0.6**
LBZ Lake Benmore 66.90 147 P **P 12 05 58.4 -0.1**
LBZ IAMs_20 IAMs_20 12 36 17.0
comp=Z,3µm,20.0s
LBZ Lake Benmore 66.90 147 P **P 12 05 58.6 0.0**
PRRZ Plateau Road 66.90 139 P **P 12 05 59.5 +0.9**
ALRZ Allen Road 66.90 139 P **P 12 06 01.2 +2.5**
WHRZ Whale Island 66.92 138 P P 12 06 04.3 +5.5
RPZ Rata Peaks 66.92 146 P **P 12 05 58.3 -0.5**
RPZ IAmb IAmb 12 06 13.2
comp=Z,184nm,0.8s
RPZ IAMs_20 IAMs_20 12 34 50.6
comp=Z,4µm,20.0s
RPZ Rata Peaks 66.92 146 LR LR 12 34 51.9
comp=Z,4µm,21.3s,baz=307,slow=36
RPZ Rata Peaks 66.92 146 P **P 12 05 59.0 +0.3**
DQM DQM 66.93 287 P **P 12 05 59.1 -0.1**
SNR=21
DQM S **S 12 14 49.3 -1.8**
LTZ Lake Taylor 67.00 145 P **P 12 05 58.4 -0.8**
LTZ IAMs_20 IAMs_20 12 32 40.4
comp=Z,4µm,22.0s
LTZ Lake Taylor 67.00 145 P **P 12 06 02.2 +2.9**
EAZ Earnscleugh 67.02 148 P **P 12 06 01.7 +2.5**
MOVZ Moawhango 67.02 140 P **P 12 05 59.3 -0.2**
HOQ Hoqain 67.04 291 P **P 12 05 59.2 -0.7**
SNR=37
HOQ P **P 12 05 59.2 -0.7**
SNR=37
MHCZ Mount Hutt 67.09 146 P **P 12 06 00.8 +1.0**
TUWZ Tuamarina 67.12 143 P **P 12 05 59.3 -0.7**
TUWZ Tuamarina 67.12 143 P **P 12 05 59.7 -0.2**
MUGZ Murupara 67.13 139 P **P 12 06 00.3 +0.1**
ARCZ Arundel 67.14 146 P **P 12 06 00.0 -0.1**
BSY Bisya 67.16 291 P **P 12 06 00.3 -0.4**
SNR=22
TCW Tory Channel 67.18 143 P **P 12 05 59.5 -0.9**
OHWZ Ohakea 67.21 141 P **P 12 06 04.5 +3.9**
OXZ Oxford 67.21 146 IAmb IAmb 12 06 12.8
comp=Z,120nm,0.7s
OXZ IAMs_20 IAMs_20 12 40 18.8
comp=Z,3µm,20.0s
OXZ Oxford 67.21 146 P **P 12 06 01.1 +0.5**
URZ Urewera 67.23 139 LR LR 12 37 56.2
comp=Z,2µm,18.7s,baz=30,slow=38
URZ Urewera 67.23 139 P **P 12 06 01.0 +0.3**
URZ Urewera 67.23 139 ⇓P **P 12 06 00.7 -0.1**
BSWZ Blackbirch Sta 67.25 143 P **P 12 06 02.1 +1.2**
AB31 Akbulak array 67.31 319 *i* P **P 12 05 59.2 -2.0**
ABKAR Akbulak array 67.31 319 P **P 12 05 59.6 -1.5**
ABKAR Akbulak array 67.31 319 ⇑P **P 12 06 00.3 -0.9**
BKZ Black Stump Fm 67.34 140 IAMs_20 IAMs_20 12 38 48.4
comp=Z,3µm,18.0s
BKZ Black Stump Fm 67.34 140 P **P 12 06 01.9 +0.3**
BKZ Black Stump Fm 67.34 140 P **P 12 06 01.6 +0.1**
RTZ Ruatahuna 67.34 139 IAMs_20 IAMs_20 12 37 16.4
comp=Z,3µm,19.0s
RTZ Ruatahuna 67.34 139 P **P 12 06 01.2 -0.4**
MTHZ Maungataniwha 67.39 139 P **P 12 06 01.3 -0.5**
HAZ Te Kaha 67.39 138 P **P 12 06 01.1 -0.7**
RUGZ Raukumara Rang 67.44 138 P **P 12 06 02.7 +0.5**
KWHZ Kaweka Forest 67.45 140 P **P 12 06 02.8 +0.6**
AMCZ Amberley 67.46 145 P **P 12 06 03.5 +1.3**
APZ The Paps 67.47 150 P **P 12 06 02.3 +0.2**
CMWZ Cape Campbell 67.47 143 P **P 12 06 04.9 +2.7**
OGWZ Otaki Gorge 67.48 142 P **P 12 06 01.3 -1.0**
KHZ Kahutara 67.49 144 P **P 12 06 02.5 +0.3**
KHZ Kahutara 67.49 144 ⇓P **P 12 06 02.3 0.0**
SNZO South Karori 67.50 142 P **P 12 06 00.2 -2.2**
SNZO South Karori 67.50 142 IAMs_20 IAMs_20 12 32 04.6
comp=Z,5µm,22.0s
SNZO South Karori 67.50 142 P **P 12 06 04.3 +1.9**
WACZ Wakanui South 67.50 146 P **P 12 06 04.7 +2.3**
NMHZ Naumai 67.51 140 P **P 12 06 03.4 +0.8**
SPIA Saint Paul Isl 67.52 32 P **P 12 06 02.5 +0.2**
baz=252
TSZ Takapari Road 67.53 141 P **P 12 06 02.3 -0.4**
RACZ Rakaia 67.53 146 P **P 12 06 04.1 +1.6**
KRHZ Kereru 67.54 140 P **P 12 06 02.8 +0.1**
MWZ Matawai 67.54 138 P **P 12 06 03.1 +0.3**
GVZ Greta Valley S 67.55 145 P **P 12 06 00.3 -2.4**
GVZ IAMs_20 IAMs_20 12 32 56.0
comp=Z,5µm,21.0s
GVZ Greta Valley S 67.55 145 P **P 12 06 02.3 -0.4**
RAGZ Rawiri 67.56 139 P **P 12 06 02.7 -0.2**
RAHZ Arahi 67.58 139 P **P 12 06 03.5 +0.4**
ODZ Otahua Downs 67.58 148 IAMs_20 IAMs_20 12 36 02.2

comp=Z,4μm,20.0s
ODZ Otahua Downs 67.58 148 P **P** **12 06 06.2 +3.4**
ODZ Otahua Downs 67.58 148 ⇓P **P** **12 06 06.1 +3.2**
PNHZ Pukenui 67.59 141 P **P** **12 06 03.1 0.0**
POWZ Post Office Ro 67.60 141 P **P** **12 06 04.0 +0.9**
MXZ Matakaoa Point 67.63 137 P **P** **12 06 02.2 -1.1**
MXZ IAMs_20 IAMs_20 12 37 55.0
comp=Z,3μm,18.0s
MXZ Matakaoa Point 67.63 137 P **P** **12 06 04.3 +1.0**
MXZ Matakaoa Point 67.63 137 P **P** **12 06 04.1 +0.7**
MCHZ McNeill Hill 67.63 140 P **P** **12 06 04.1 +0.7**
MRZ Mangatainoka R 67.64 141 P **P** **12 06 02.4 -1.0**
MRZ Mangatainoka R 67.64 141 P **P** **12 06 03.2 -0.2**
PKGZ Pakihiroa 67.65 138 P **P** **12 06 03.8 +0.3**
BHW Baring Head 67.66 142 IAmb IAmb 12 06 13.4
comp=Z,115nm,0.8s
SNGZ Shannon Statio 67.67 139 P **P** **12 06 03.9 +0.3**
TUZ Tuapeka 67.67 149 P **P** **12 06 04.2 +0.8**
P08K Saint George I 67.72 33 P **P** **12 06 03.6 +0.1**
baz=253
ARHZ Aropaoanui 67.72 140 P **P** **12 06 06.0 +2.1**
SOHO SOHO 67.74 292 P **P** **12 06 03.3 -1.0**
SOHO S **S** **12 14 57.1 -3.6**
SOHO SOHO 67.74 292 *i* P **P** **12 06 02.6 -1.7**
SNR=35
HOWZ Holdsworth Sta 67.74 142 P **P** **12 06 03.3 -0.7**
TWGZ Tauwhareparae 67.75 138 P **P** **12 06 04.5 +0.4**
ARQ Araqi 67.77 291 P **P** **12 06 04.0 -0.5**
SNR=28
ARQ P **P** **12 06 04.0 -0.5**
SNR=28
ARQ S **S** **12 14 58.5 -2.6**
ARQ S **S** **12 14 58.5 -2.6**
WHHZ Waihua 67.77 139 P **P** **12 06 04.5 +0.3**
DVHZ Dannevirke 67.79 141 P **P** **12 06 03.9 -0.5**
MQZ McQueen's Vall 67.80 146 P **P** **12 06 05.3 +1.0**
TKGZ Te Karaka 67.81 138 P **P** **12 06 04.6 +0.2**
PRWZ Pori Road 67.82 141 P **P** **12 06 03.7 -0.8**
SYZ Scrubby Hill 67.83 150 P **P** **12 06 07.1 +2.8**
WPHZ Waipukurau 67.83 141 P **P** **12 06 04.7 +0.2**
WMGZ Waiomatatini S 67.84 138 P **P** **12 06 05.0 +0.3**
PUZ Puketiti 67.88 138 P **P** **12 06 05.4 +0.5**
MSWZ Moikau Station 67.89 142 P **P** **12 06 05.1 +0.2**
TIWZ Tintock 67.90 141 P **P** **12 06 04.6 -0.3**
RIGZ Rimuhau 67.90 139 P **P** **12 06 06.0 +1.0**
BANOM Banah 67.93 294 P **P** **12 06 05.6 0.0**
BANOM Banah 67.93 294 *i* P **P** **12 06 04.8 -0.8**
SNR=23
MDH Madha 67.94 293 P **P** **12 06 05.7 +0.1**
MDH S **S** **12 14 58.8 -4.2**
MDH Madha 67.94 293 *i* P **P** **12 06 03.4 -2.2**
SNR=10
KAHZ Kahuranaki 67.95 140 P **P** **12 06 05.7 +0.4**
PAWZ Paruwai Farm 67.98 142 P **P** **12 06 05.0 -0.5**
PLWZ Palliser 67.99 142 P **P** **12 06 05.8 +0.2**
KNZ Kokohu 68.02 139 P **P** **12 06 06.7 +1.0**
UOSS Minazif 68.03 293 P **P** **12 06 05.0 -1.2**
UOSS Minazif 68.03 293 P **P** **12 06 06.5 +0.4**
UOSS P **P** **12 06 06.5 +0.4**
UOSS Minazif 68.03 293 *i* P **P** **12 06 04.1 -2.0**
SNR=30
OKCZ Okains Bay 68.04 145 P P 12 06 11.1 +5.3
AKCZ Akaroa Harbour 68.05 146 P **P** **12 06 08.9 +3.1**
MASF Masafi 68.06 293 P **P** **12 06 06.3 -0.1**
SNR=14
MASF P **P** **12 06 06.3 -0.1**
SNR=14
MASF S **S** **12 15 01.4 -3.3**
MASF S **S** **12 15 01.4 -3.3**
MSFE Esma-Masafi 68.06 293 *i* P **P** **12 06 06.1 -0.3**
SNR=9.9
BFZ Birch Farm 68.07 141 IAmb IAmb 12 06 16.0
comp=Z,168nm,0.9s
BFZ Birch Farm 68.07 141 P **P** **12 06 09.0 +3.0**
BFZ Birch Farm 68.07 141 P **P** **12 06 06.1 +0.1**
PRHZ Porangahau 68.07 141 P **P** **12 06 06.2 +0.1**
CNGZ Carnagh Statio 68.07 138 P **P** **12 06 04.7 -1.4**
SHME Shamm 68.07 294 P **P** **12 06 06.6 +0.2**
SNR=19
SHME S **S** **12 15 02.6 -2.1**
SHME Shamm 68.07 294 *i* P **P** **12 06 05.5 -0.9**
SNR=16
ANWZ Angora Road 68.08 141 P **P** **12 06 06.2 +0.1**
HATD Hatta, Dubai 68.09 293 P **P** **12 06 07.0 +0.4**
SNR=27
HATD S **S** **12 15 02.2 -2.8**
HATD Hatta, Dubai 68.09 293 *i* P **P** **12 06 05.7 -0.9**
SNR=42
TMWZ Te Maipa 68.10 142 P **P** **12 06 06.0 -0.2**
PRGZ Paritu Road 68.10 139 P **P** **12 06 08.9 +2.6**
HHSZ Highcliff Hill 68.12 148 P **P** **12 06 08.3 +2.0**
TRWZ Traveller 68.14 142 P **P** **12 06 06.3 -0.2**
ASHO Ashiyiah 68.16 293 P **P** **12 06 06.9 -0.2**
SNR=24
ASHO Ashiyiah 68.16 293 *i* P **P** **12 06 06.4 -0.7**
SNR=52
CPWZ Castlepoint 68.17 141 P **P** **12 06 09.4 +2.7**
MHGZ Mahia Peninsul 68.25 139 P **P** **12 06 06.9 -0.3**
ALNE Al Ain 68.46 292 P **P** **12 06 07.9 -1.0**
SNR=69
ALNE S **S** **12 15 05.6 -3.7**
ALNE Al Ain 68.46 292 *i* P **P** **12 06 07.7 -1.2**
SNR=113
UMQ Umm Al-Quwin 68.51 294 P **P** **12 06 10.3 +1.2**
SNR=6.6
UMQ Umm Al-Quwin 68.51 294 *i* P **P** **12 06 10.0 +0.8**
SNR=10
NAZ Nazwa, Dubai 68.52 293 P **P** **12 06 08.9 -0.3**
SNR=16
NAZ P **P** **12 06 08.9 -0.3**
SNR=16
NAZ S **S** **12 15 06.6 -3.4**
NAZ S **S** **12 15 06.6 -3.4**
NAZ Nazwa, Dubai 68.52 293 *i* P **P** **12 06 07.9 -1.3**
SNR=18
FAQ Al Faqa, Dubai 68.58 293 P **P** **12 06 09.0 -0.6**
SNR=20
FAQ P **P** **12 06 09.0 -0.6**
SNR=20
FAQ S **S** **12 15 07.6 -3.2**
FAQ S **S** **12 15 07.6 -3.2**
FAQ Al Faqa, Dubai 68.58 293 *i* P **P** **12 06 08.7 -1.0**
SNR=19
SVE Sverdlovsk 68.67 327 *ce*P **P** **12 06 09.4 -0.2**
SVE *e*S **S** **12 15 09.2 -1.5**
SVE pmax pmax
comp=Z,204nm,1.1s
SVE MLR MLR
comp=Z,4μm,18.0s
UNV Unalaska Valle 68.70 36 P **P** **12 06 09.2 -0.6**
UNV Unalaska Valle 68.70 36 P **P** **12 06 09.2 -0.6**
baz=257
AKTO Aktyubinsk 68.77 320 LR LR 12 39 14.5
comp=Z,12μm,19.6s,baz=102,slow=38
AKTO Aktyubinsk 68.77 320 P **P** **12 06 07.7 -2.6**
ASUD Al Ashush, Dub 68.83 293 P **P** **12 06 12.0 +0.8**
SNR=18
ASUD P **P** **12 06 12.0 +0.8**
SNR=18
ASUD S **S** **12 15 10.3 -3.4**
ASUD S **S** **12 15 10.3 -3.4**
ASUD Al Ashush, Dub 68.83 293 *i* P **P** **12 06 09.9 -1.3**
SNR=18
LVA Lava Point 69.04 36 P **P** **12 06 10.3 -1.6**
LVA IAmb IAmb 12 06 16.2
comp=Z,528nm,1.5s
GAMB Gambell 69.05 25 P **P** **12 06 10.9 -0.8**
GAMB Gambell 69.05 25 P **P** **12 06 11.5 -0.2**
baz=248
GAMB S **S** **12 15 16.4 +1.5**
baz=248
AJN Ajban 69.14 293 P **P** **12 06 12.8 -0.3**
SNR=15
AJN S **S** **12 15 12.7 -4.6**
AJN Ajban 69.14 293 *i* P **P** **12 06 11.7 -1.3**
SNR=9.0
DMTO DMTO 69.50 285 P **P** **12 06 15.0 -0.5**
SNR=15
DMTO S **S** **12 15 21.3 -0.6**
MCQ Macquarie Isla 69.68 160 P **P** **12 06 17.5 +1.8**
ARTI Arti 69.78 327 P **P** **12 06 14.7 -1.7**
ARTI IAmb IAmb 12 06 19.1
comp=Z,622nm,2.0s
ARTI IAMs_20 IAMs_20 12 38 33.6
comp=Z,3μm,22.0s
ARTI Arti 69.78 327 LR LR 12 38 55.1
comp=Z,3μm,18.8s,baz=110,slow=38
ARTI Arti 69.78 327 *d* P **P** **12 06 14.2 -2.2**
ARTI 12 06 38.9
ARTI PPP PPP 12 10 30.3
ARTI S **S** **12 15 23.4 -0.3**
ARTI SS **SS** **12 19 59.1 +6.7**
ARTI pmax pmax
comp=Z,63nm,0.7s
ARTI MLR MLR
comp=Z,3μm,19.0s
ARTI Arti 69.78 327 ⇑P **P** **12 06 14.5 -1.9**
ARTI ⇑P **P** **12 06 18.0 +1.6**
MZWR Madinat Zayed 70.18 292 P **P** **12 06 18.9 -0.6**
MZWR S **S** **12 15 25.0 -4.5**
DOK Doka 70.22 286 P **P** **12 06 20.0 +0.1**
SNR=59
DOK S **S** **12 15 27.3 -2.9**
RBK Rabkut 70.23 285 P **P** **12 06 20.1 +0.1**
SNR=38
RBK S **S** **12 15 28.0 -2.4**
M11K Mekoryuk 70.45 29 P **P** **12 06 19.4 -1.0**
M11K Mekoryuk 70.45 29 P **P** **12 06 21.6 +1.2**
baz=255
MZR Muzera 70.58 291 P **P** **12 06 21.5 -0.5**
SNR=83
MZR S **S** **12 15 30.4 -3.9**
MZR Muzera 70.58 291 *i* P **P** **12 06 20.7 -1.3**
SNR=82
WHFO Wadi Hawf 70.61 286 P **P** **12 06 22.0 -0.3**
SNR=23
WHFO S **S** **12 15 32.1 -2.8**
FALS False Pass 70.68 35 P **P** **12 06 19.7 -2.2**
FALS IAmb IAmb 12 06 37.8
comp=Z,255nm,0.9s
FALS False Pass 70.68 35 P **P** **12 06 21.1 -0.8**
baz=259
FALS False Pass 70.68 35 P **P** **12 06 22.8 +0.9**
JRN Qarnain Island 71.07 293 P **P** **12 06 23.7 -1.2**
SNR=40
JRN S **S** **12 15 35.1 -4.9**
GHWR Ruwais 71.09 292 P **P** **12 06 24.9 -0.1**
GHWR S **S** **12 15 36.4 -3.8**
ABTO Aybut 71.10 285 P **P** **12 06 25.1 -0.2**
SNR=52
ABTO S **S** **12 15 38.6 -2.1**
K13K Kusilvak Mount 71.56 28 P **P** **12 06 27.0 -0.2**
baz=256
K13K S **S** **12 15 46.6 +2.3**
baz=256
S12K Black Hills 71.59 34 P **P** **12 06 26.9 -0.6**
baz=260
F14K Arctic Creek 71.80 24 P **P** **12 06 29.1 +0.6**
baz=253
F14K S **S** **12 15 50.4 +3.4**
baz=253
M13K Dall Lake 71.83 29 P **P** **12 06 30.2 +1.4**
baz=257
ANM Nome 71.93 25 IAmb IAmb 12 06 35.0
comp=Z,342nm,1.8s
ANM Nome 71.93 25 P **P** **12 06 30.3 +0.9**
baz=254,SNR=26
ANM S **S** **12 15 50.8 +2.3**
baz=254
MSEY Mahe Island 72.08 262 P **P** **12 06 30.8 -0.5**
MSEY IAmb IAmb 12 06 34.0
comp=Z,264nm,1.4s
MSEY Mahe Island 72.08 262 P **P** **12 06 32.6 +1.3**
MSEY Mahe Island 72.08 262 P **P** **12 06 30.8 -0.5**
MSEY pmax pmax
comp=Z,263nm,1.4s
MSEY Mahe Island 72.08 262 *i* P **P** **12 06 31.2 -0.1**
SNR=5.8
SLWR Sila 72.16 292 P **P** **12 06 31.0 -0.5**
SLWR S **S** **12 15 49.9 -2.7**
J14K Nanvaranak Lak 72.26 27 IAmb IAmb 12 06 37.0
comp=Z,617nm,1.9s
J14K Nanvaranak Lak 72.26 27 P **P** **12 06 31.2 -0.1**
baz=256
J14K S **S** **12 15 53.7 +1.4**
baz=256
L14K Kuka Creek 72.35 29 P **P** **12 06 32.7 +0.8**
baz=258
L14K S **S** **12 15 55.9 +2.5**
baz=258
F15K North Star Dit 72.53 24 P **P** **12 06 33.9 +0.9**
baz=254
F15K S **S** **12 15 56.6 +1.2**
baz=254
N14K Kuskokwak Cree 72.55 30 P **P** **12 06 33.9 +0.8**
baz=259
N14K S **S** **12 15 58.0 +2.3**
baz=259
TRNA Turayna 72.57 293 P **P** **12 06 34.0 +0.1**
SNR=41
M14K Bethel 72.57 29 P **P** **12 06 33.0 -0.2**
M14K Bethel 72.57 29 P **P** **12 06 33.8 +0.6**
baz=259
M14K S **S** **12 15 56.8 +0.9**
baz=259
G15K Niukluk 72.60 25 P **P** **12 06 33.7 +0.3**
baz=255
G15K S **S** **12 15 58.0 +1.9**
baz=255
O14K Tigyukauivet M 72.63 31 P **P** **12 06 33.5 -0.2**
baz=260
O14K S **S** **12 15 58.5 +1.8**
baz=260
SHMA Al-Shehemyia 72.74 294 P **P** **12 06 35.0 +0.1**
SNR=34
SHMA S **S** **12 15 56.7 -2.4**
CNBA Chernabura Isl 72.86 36 IAMs_20 IAMs_20 12 33 18.2
comp=Z,4μm,22.0s
CHNA Chernabura Isl 72.86 36 P **P** **12 06 34.7 -0.3**
baz=262
CHNA S **S** **12 16 00.7 +1.3**
baz=262
SMRA Abu-Samra 72.92 293 P **P** **12 06 36.0 0.0**
SNR=68
SMRA S **S** **12 15 59.5 -1.6**
L15K Ungalak Mounta 72.98 28 P **P** **12 06 36.3 +0.6**
baz=259,SNR=33
L15K S **S** **12 16 02.2 +1.6**
baz=259
C16K Lisburne Hills 72.98 21 IAmb IAmb 12 06 40.8
comp=Z,566nm,1.4s
C16K Lisburne Hills 72.98 21 P **P** **12 06 36.2 +0.7**
baz=253
C16K S **S** **12 16 02.7 +2.3**
baz=253
S14K Fog Glacier 73.07 34 P **P** **12 06 36.8 +0.4**
baz=262
S14K S **S** **12 16 03.6 +1.6**
baz=262
K15K Wolf Creek Mou 73.08 28 P **P** **12 06 37.4 +1.1**
baz=258
K15K S **S** **12 16 02.1 +0.4**
baz=258
KIP Kipapa 73.16 71 P **P** **12 06 35.0 -2.5**
KIP IAmb IAmb 12 06 44.6
comp=Z,581nm,1.6s
KIP Kipapa 73.16 71 P **P** **12 06 39.3 +1.8**
KIP Kipapa 73.16 71 P **P** **12 06 39.2 +1.8**
KIP Kipapa 73.16 71 P **P** **12 06 35.0 -2.5**
KIP pmax pmax
comp=Z,581nm,1.6s
M15K Kasigluk River 73.17 29 P **P** **12 06 37.6 +0.8**
baz=260
M15K S **S** **12 16 04.6 +1.8**
baz=260
H16K Elim 73.26 25 P **P** **12 06 37.8 +0.5**
baz=257,SNR=38
H16K S **SKiKP** **12 16 05.5 -1.5**
baz=257
O15K Ungalikthiuk R 73.35 31 P **P** **12 06 38.6 +0.7**
baz=261
O15K S **S** **12 16 05.3 +0.4**
baz=261
N15K Kwethluk River 73.38 30 IAMs_20 IAMs_20 12 44 46.1
comp=Z,3μm,18.0s
N15K Kwethluk River 73.38 30 P **P** **12 06 38.4 +0.4**
baz=260
N15K S **S** **12 16 05.8 +0.6**
baz=260
G16K Koyuk River 73.38 24 P **P** **12 06 38.6 +0.7**
baz=257
G16K S **SKiKP** **12 16 06.6 -0.6**
baz=257
D17K Noatak River 73.65 22 P **P** **12 06 40.6 +1.1**
baz=255,SNR=258
D17K S **S** **12 16 11.4 +3.5**
baz=255
J16K Anvik River 73.69 27 IAmb IAmb 12 06 45.8
comp=Z,835nm,1.9s
J16K Anvik River 73.69 27 P **P** **12 06 41.1 +1.3**
baz=259,SNR=40
J16K S **S** **12 16 10.3 +1.7**
baz=259
CHGN Chignik 73.70 34 IAmb IAmb 12 06 44.0
comp=Z,565nm,1.4s
CHGN IAMs_20 IAMs_20 12 34 45.6
comp=Z,4μm,22.0s
CHGN Chignik 73.70 34 P **P** **12 06 41.1 +1.1**
baz=263
CHGN S **SKiKP** **12 16 08.3 +0.4**
baz=263
I17K Unalakleet 73.76 26 P **P** **12 06 41.7 +1.4**
baz=259
RDOG Red Dog Mine 73.80 22 P **P** **12 06 41.5 +1.1**
baz=256,SNR=81
RDOG S **S** **12 16 09.7 0.0**
baz=256
C17K DeLong Mountai 73.81 21 P **P** **12 06 41.4 +1.0**
baz=255
C17K S **S** **12 16 12.1 +2.2**
baz=255
L16K Owhat River 73.93 28 P **P** **12 06 42.2 +1.0**
baz=260,SNR=63
L16K S **S** **12 16 12.0 +0.7**
baz=260
E17K Hotham Inlet 73.97 23 P **P** **12 06 42.4 +1.0**
baz=257,SNR=148
E17K S **S** **12 16 13.3 +1.6**
baz=257
F17K Baldwin Pennin 74.06 23 P **P** **12 06 41.7 -0.2**
F17K IAmb IAmb 12 06 47.5
comp=Z,766nm,1.8s
F17K Baldwin Pennin 74.06 23 P **P** **12 06 42.6 +0.7**
baz=258
F17K S **S** **12 16 14.7 +2.2**
baz=258
M16K Timber Creek 74.06 29 IAmb IAmb 12 06 47.6
comp=Z,309nm,1.1s
M16K Timber Creek 74.06 29 P **P** **12 06 43.1 +1.0**
baz=261,SNR=51
M16K S **S** **12 16 13.7 +0.8**
baz=261
G17K Kiwalik Mounta 74.10 24 P **P** **12 06 43.1 +0.9**
baz=258
G17K S **S** **12 16 14.7 +1.5**
baz=258
CTZ Chatham Island 74.17 141 P **P** **12 06 45.4 +2.5**
P16K Nushagak River 74.27 31 P **P** **12 06 44.1 +0.8**
baz=263
O16K Kokwok River B 74.29 31 P **P** **12 06 43.1 -0.3**
O16K IAmb IAmb 12 06 48.7
comp=Z,415nm,1.2s
O16K Kokwok River B 74.29 31 P **P** **12 06 44.2 +0.8**
baz=262
O16K S **S** **12 16 18.6 +3.2**
baz=262
LKRN Lenkeran, Azer 74.30 307 P **P** **12 06 45.0 +1.2**
H17K Granite Mounta 74.30 25 P **P** **12 06 44.7 +1.3**
baz=259
H17K S **S** **12 16 17.1 +1.7**
baz=259
R16K Pilot Point 74.31 33 P **P** **12 06 45.0 +1.5**
baz=263
J17K VABM Dome 74.39 27 P **P** **12 06 45.4 +1.5**
baz=260
J17K S **S** **12 16 17.0 +0.6**
baz=260
J17K S **S** **12 16 17.0 +0.6**
baz=260
E18K Tukpahlearik C 74.51 23 P **P** **12 06 45.7 +1.1**
baz=258,SNR=197
E18K S **S** **12 16 19.4 +1.7**
baz=258
B18K Kokolik River 74.51 20 P **P** **12 06 45.7 +1.2**
baz=256
B18K S **S** **12 16 20.0 +2.4**
baz=256
L17K Donlin 74.54 28 P **P** **12 06 46.3 +1.4**
baz=262
L17K S **S** **12 16 20.4 +2.2**
baz=262
C18K Utukok River 74.56 21 P **P** **12 06 45.7 +0.8**
baz=257
C18K S **S** **12 16 20.0 +1.6**
baz=257
K17K Iditarod 74.63 28 P **P** **12 06 46.4 +1.1**
baz=261
K17K S **S** **12 16 21.9 +2.8**
baz=261
F18K Selawik 74.71 23 P **P** **12 06 46.5 +0.8**
baz=259,SNR=110
F18K S **S** **12 16 20.2 +0.3**
baz=259
O17K Koliganek Bris 74.81 31 P **P** **12 06 47.1 +0.7**
baz=263
O17K S **S** **12 16 23.9 +2.6**
baz=263
M17K Holitna River 74.85 29 IAmb IAmb 12 06 52.6
comp=Z,330nm,1.1s
M17K Holitna River 74.85 29 P **P** **12 06 47.7 +1.1**
baz=262,SNR=55
M17K S **S** **12 16 23.2 +1.5**
baz=262
N17K Nushagak Hills 74.86 30 P **P** **12 06 47.8 +1.2**
baz=263
N17K S **S** **12 16 24.2 +2.4**
baz=263
KIRV Kirov 74.91 328 LR LR 12 43 07.3
comp=Z,3μm,18.6s,baz=102,slow=38
KIRV Kirov 74.91 328 *ce*P **P** **12 06 45.7 -1.3**
Q16K King Salmon 74.92 32 P **P** **12 06 48.3 +1.3**
baz=264
Q16K S **S** **12 16 23.5 +1.1**
baz=264
H18K Honhosa River 74.98 25 P **P** **12 06 47.4 0.0**
H18K IAmb IAmb 12 06 52.5
comp=Z,881nm,1.9s
H18K IAMs_20 IAMs_20 12 42 17.6
comp=Z,3μm,19.0s
H18K Honhosa River 74.98 25 P **P** **12 06 48.0 +0.6**
baz=261,SNR=62
H18K S **S** **12 16 24.6 +1.6**
baz=261
G18K Tagagawik 74.98 24 P **P** **12 06 46.7 -0.7**
G18K IAmb IAmb 12 06 51.6
comp=Z,307nm,1.6s
G18K Tagagawik 74.98 24 P **P** **12 06 48.2 +0.8**
baz=260
G18K S **S** **12 16 23.2 +0.1**
baz=260
P17K Kvichak River 75.08 31 P **P** **12 06 48.2 +0.2**
baz=264,SNR=30
P17K S **S** **12 16 25.1 +0.9**
baz=264
P17K S **S** **12 16 25.1 +0.9**
baz=264
AKT Akhty 75.10 310 *d* P **P** **12 06 48.3 -0.3**
AKT *e* 12 07 01.6
AKT *e* 12 09 38.6
AKT *e*S **S** **12 16 25.3 -0.2**
AKT pmax pmax
comp=Z,265nm,0.9s
AKT MLR MLR
comp=Z,4μm,20.0s
CHIR Chirikof Islan 75.22 35 IAMs_20 IAMs_20 12 33 54.6
comp=Z,4μm,21.0s
CHIR Chirikof Islan 75.22 35 P **P** **12 06 48.5 -0.3**
baz=266
CHIR S **S** **12 16 26.8 +0.9**
baz=266
CHIR Chirikof Islan 75.22 35 P **P** **12 06 51.6 +2.8**
MAK Makhachkala 75.27 312 *e*P **P** **12 06 45.4 -4.0**
MAK *e*PPP PPP 12 11 27.5
MAK *e*S **S** **12 16 24.3 -2.7**
MAK *e*SS **SS** **12 21 16.8 -0.1**
MAK *e*SSS SSS 12 24 37.6
MAK pmax pmax
comp=Z,144nm,0.8s

Q17K	**Contact Creek**	**75.28**	**32**	P	**P**	**12 06 48.4**	**-0.9**
	baz=265,SNR=24						
Q17K				S	**S**	**12 16 25.9**	**-0.8**
	baz=265						
L18K	**Granite Mounta**	**75.30**	**28**	P	**P**	**12 06 50.2**	**+1.0**
	baz=263						
L18K				S	**S**	**12 16 28.1**	**+1.4**
	baz=263						
L18K				S	**S**	**12 16 28.1**	**+1.4**
	baz=263						
J18K	**Innoko River**	**75.45**	**27**	P	**P**	**12 06 50.6**	**+0.5**
	baz=262						
J18K				S	**S**	**12 16 29.9**	**+1.6**
	baz=262						
BELG	**Belogornoye**	**75.45**	**322**	PKPPKP		12 34 14.9	
	comp=Z,3.9nm,0.5s,baz=286,slow=6.7,SNR=3.7						
BELG				LR	LR	12 42 07.7	
	comp=Z,2μm,19.8s,baz=93,slow=37						
BELG	**Belogornoye**	**75.45**	**322**	*i* P	**P**	**12 06 48.8**	**-1.4**
BELG				pmax	pmax		
	comp=Z,83nm,1.0s						
F19K	**Shaleruckik Mo**	**75.49**	**23**	P	**P**	**12 06 50.4**	**+0.2**
	baz=261						
F19K				S	**S**	**12 16 29.2**	**+0.6**
	baz=261						
SEKA	**Sheki**	**75.50**	**310**	P	**P**	**12 06 51.9**	**+1.0**
N18K	**Kilae Creek**	**75.51**	**30**	IAmb	IAmb	12 06 56.2	
	comp=Z,311nm,1.4s						
N18K	**Kilae Creek**	**75.51**	**30**	P	**P**	**12 06 51.3**	**+0.8**
	baz=264						
N18K				S	**S**	**12 16 31.5**	**+2.4**
	baz=264						
N18K				S	**S**	**12 16 31.5**	**+2.4**
	baz=264						
GCSA	**Galena City Sc**	**75.55**	**26**	P	**P**	**12 06 51.2**	**+0.7**
	baz=262,SNR=78						
GCSA				S	**S**	**12 16 30.5**	**+1.2**
	baz=262						
ACHA	**Angle Creek He**	**75.57**	**32**	P	**P**	**12 06 50.2**	**-0.7**
MNGR	**Mingechevir, A**	**75.59**	**310**	P	**P**	**12 06 52.5**	**+1.2**
POHA	**Pohakuloa**	**75.61**	**72**	P	**P**	**12 06 55.4**	**+3.3**
M18K	**Stony River**	**75.63**	**29**	P	**P**	**12 06 52.2**	**+1.1**
	baz=264						
M18K				S	**S**	**12 16 33.5**	**+3.2**
	baz=264						
D19K	**Kuna River**	**75.64**	**22**	P	**P**	**12 06 52.2**	**+1.1**
	baz=260						
D19K				S	**S**	**12 16 31.2**	**+0.9**
	baz=260						
G19K	**Purcell Mounta**	**75.66**	**24**	IAMs_20	IAMs_20	12 42 49.5	
	comp=Z,3μm,19.0s						
G19K	**Purcell Mounta**	**75.66**	**24**	P	**P**	**12 06 51.9**	**+0.7**
	baz=262,SNR=121						
G19K				S	**S**	**12 16 30.5**	**0.0**
	baz=262						
TTA	**Tatalina**	**75.70**	**27**	P	**P**	**12 06 52.0**	**+0.4**
	baz=263,SNR=32						
TTA				S	**S**	**12 16 32.0**	**+0.7**
	baz=263						
TTA	**Tatalina**	**75.70**	**27**	P	**P**	**12 06 53.0**	**+1.4**
TTA	**Tatalina**	**75.70**	**27**	⇑P	**P**	**12 06 52.1**	**+0.6**
P18K	**Big Mountain,**	**75.72**	**31**	IAmb	IAmb	12 07 04.4	
	comp=Z,345nm,1.6s						
P18K	**Big Mountain,**	**75.72**	**31**	P	**P**	**12 06 51.9**	**+0.1**
	baz=265,SNR=5.2						
P18K				S	**S**	**12 16 30.7**	**-0.8**
	baz=265						
O18K	**Koktuh Hills**	**75.77**	**31**	P	**P**	**12 06 53.2**	**+1.2**
	baz=265,SNR=61						
O18K				S	**S**	**12 16 33.0**	**+1.0**
	baz=265						
O18K				S	**S**	**12 16 33.0**	**+1.0**
	baz=265						
E19K	**Redstone River**	**75.80**	**23**	P	**P**	**12 06 53.1**	**+1.1**
	baz=261						
E19K				S	**S**	**12 16 31.3**	**-0.7**
	baz=261						
H19K	**Roundabout Mou**	**75.83**	**25**	P	**P**	**12 06 53.0**	**+0.9**
	baz=262						
H19K				S	**S**	**12 16 33.7**	**+1.4**
	baz=262						
KNHH	**Kane Nui o Ham**	**75.99**	**72**	P	**P**	**12 06 52.1**	**-2.0**
J19K	**Poorman**	**75.99**	**26**	IAmb	IAmb	12 06 58.6	
	comp=Z,282nm,1.6s						
J19K	**Poorman**	**75.99**	**26**	P	**P**	**12 06 53.9**	**+0.8**
	baz=263						
J19K				S	**S**	**12 16 35.0**	**+0.7**
	baz=263						
J19K				S	**S**	**12 16 35.0**	**+0.7**
	baz=263						
XMAS	**Kiritimati**	**76.03**	**90**	P	**P**	**12 06 52.1**	**-2.2**
XMAS	**Kiritimati**	**76.03**	**90**	P	**P**	**12 06 56.7**	**+2.4**
SII	**Sitkinak Islan**	**76.07**	**34**	IAMs_20	IAMs_20	12 35 04.1	
	comp=Z,4μm,20.0s						
SII	**Sitkinak Islan**	**76.07**	**34**	P	**P**	**12 06 53.8**	**+0.1**
	baz=266						
SII				S	**S**	**12 16 36.9**	**+1.5**
	baz=266						
L19K	**White Mountain**	**76.15**	**28**	P	**P**	**12 06 54.8**	**+0.7**
	baz=264						
L19K				S	**S**	**12 16 38.8**	**+2.6**
	baz=264						
L19K				S	**S**	**12 16 38.8**	**+2.6**
	baz=264						
GANJ	**Ganja**	**76.17**	**309**	P	**P**	**12 06 55.9**	**+1.2**
N19K	**Bonanza Creek**	**76.21**	**30**	P	**P**	**12 06 55.5**	**+0.9**
	baz=265						
N19K				S	**S**	**12 16 38.7**	**+1.8**
	baz=265						
N19K				S	**S**	**12 16 38.7**	**+1.8**
	baz=265						
D20K	**Etivluk River**	**76.22**	**21**	P	**P**	**12 06 55.3**	**+0.9**
	baz=261,SNR=161						
D20K				S	**S**	**12 16 36.6**	**0.0**
	baz=261						
O19K	**Port Alsworth**	**76.24**	**30**	IAmb	IAmb	12 06 59.1	
	comp=Z,384nm,1.3s						
O19K	**Port Alsworth**	**76.24**	**30**	P	**P**	**12 06 55.0**	**+0.4**
	baz=266,SNR=36						
O19K				S	**S**	**12 16 38.3**	**+1.2**
	baz=266						
O19K				S	**S**	**12 16 38.3**	**+1.2**
	baz=266						
E20K	**Nigu River**	**76.31**	**22**	P	**P**	**12 06 55.8**	**+0.8**
	baz=262,SNR=220						
E20K				S	**S**	**12 16 39.7**	**+2.0**
	baz=262						
F20K	**Avaraart Lake**	**76.32**	**23**	P	**P**	**12 06 56.5**	**+1.6**
	baz=262						
F20K				S	**S**	**12 16 38.1**	**+0.4**
	baz=262						
M19K	**Big River Lodg**	**76.35**	**29**	P	**P**	**12 06 55.6**	**+0.4**
	baz=265						
M19K				S	**S**	**12 16 41.2**	**+2.9**
	baz=265						
M19K				S	**S**	**12 16 41.2**	**+2.9**
	baz=265						
H20K	**Anotleneega Mo**	**76.47**	**25**	P	**P**	**12 06 56.2**	**+0.3**
	baz=264,SNR=153						
H20K				S	**S**	**12 16 42.3**	**+2.7**
	baz=264						
Q19K	**Cape Douglas,**	**76.50**	**32**	IAmb	IAmb	12 07 17.7	
	comp=Z,225nm,1.1s						
Q19K				IAMs_20	IAMs_20	12 39 21.5	
	comp=Z,3μm,20.0s						
Q19K	**Cape Douglas,**	**76.50**	**32**	P	**P**	**12 06 55.5**	**-0.7**
	baz=266						
I20K	**Naaghedeneel**	**76.57**	**26**	P	**P**	**12 06 55.9**	**-0.5**
I20K				IAmb	IAmb	12 07 02.1	
	comp=Z,442nm,1.1s						
I20K	**Naaghedeneel**	**76.57**	**26**	P	**P**	**12 06 57.3**	**+1.0**
	baz=264						
I20K				S	**S**	**12 16 44.1**	**+3.6**
	baz=264						
OHAK	**Old Harbor**	**76.59**	**33**	P	**P**	**12 06 55.6**	**-1.0**
OHAK	**Old Harbor**	**76.59**	**33**	P	**P**	**12 06 56.7**	**0.0**
	baz=267,SNR=13						
OHAK				S	**S**	**12 16 41.9**	**+0.8**
	baz=267						
OHAK	**Old Harbor**	**76.59**	**33**	P	**P**	**12 06 59.3**	**+2.7**
K20K	**Telida**	**76.62**	**27**	IAMs_20	IAMs_20	12 43 50.8	
	comp=Z,2μm,19.0s						
K20K	**Telida**	**76.62**	**27**	P	**P**	**12 06 57.6**	**+0.8**
	baz=265						
K20K				S	**S**	**12 16 41.7**	**+0.5**
	baz=265						
K20K				S	**S**	**12 16 41.7**	**+0.5**
	baz=265						
A21K	**Barrow**	**76.62**	**19**	P	**P**	**12 06 57.9**	**+1.4**
	baz=261,SNR=8.3						
A21K				S	**S**	**12 16 42.8**	**+2.0**
	baz=261						
A21K				S	**S**	**12 16 42.8**	**+2.0**
	baz=261						
L20K	**Farewell, AK**	**76.63**	**28**	P	**P**	**12 06 57.4**	**+0.6**
	baz=265						
L20K				S	**S**	**12 16 41.2**	**-0.3**
	baz=265						
L20K				S	**S**	**12 16 41.2**	**-0.3**
	baz=265						
J20K	**Nowinta River**	**76.66**	**26**	P	**P**	**12 06 56.9**	**0.0**
J20K				IAmb	IAmb	12 07 02.7	
	comp=Z,559nm,1.6s						
J20K	**Nowinta River**	**76.66**	**26**	P	**P**	**12 06 57.7**	**+0.8**
	baz=265						
J20K				S	**S**	**12 16 42.6**	**+1.1**
	baz=265						
J20K				S	**S**	**12 16 42.6**	**+1.1**
	baz=265						
P19K	**Oil Pt**	**76.75**	**31**	P	**P**	**12 06 57.4**	**-0.2**
	baz=267						
P19K				S	**S**	**12 16 39.2**	**-3.6**
	baz=267						
CASY	**Casey**	**76.76**	**187**	IAMs_20	IAMs_20	12 38 29.7	
	comp=Z,4μm,20.0s						
ILSW	**Iliamna Southw**	**76.82**	**31**	IAmb	IAmb	12 07 01.9	
	comp=Z,505nm,2.0s						
NAX	**Nakhchivan**	**76.85**	**308**	P	**P**	**12 06 59.3**	**+0.7**
C21K	**Knifeblade Rid**	**76.93**	**21**	P	**P**	**12 06 59.3**	**+0.9**
	baz=263						
C21K				S	**S**	**12 16 44.9**	**+0.4**
	baz=263						
M20K	**Styx River**	**76.94**	**29**	P	**P**	**12 06 59.2**	**+0.6**
	baz=266						
M20K				S	**S**	**12 16 46.1**	**+1.2**
	baz=266						
M20K				S	**S**	**12 16 46.1**	**+1.2**
	baz=266						
KDAK	**Kodiak Island**	**77.00**	**33**	P	**P**	**12 06 57.7**	**-1.2**
KDAK				IAmb	IAmb	12 07 03.2	
	comp=Z,356nm,1.2s						
KDAK	**Kodiak Island**	**77.00**	**33**	LR	LR	12 36 39.7	
	comp=Z,3μm,21.4s,baz=92,slow=32						
KDAK	**Kodiak Island**	**77.00**	**33**	P	**P**	**12 06 59.1**	**+0.2**
	baz=268						
KDAK				S	**S**	**12 16 44.1**	**-1.3**
	baz=268						
KDAK	**Kodiak Island**	**77.00**	**33**	P	**P**	**12 06 57.7**	**-1.2**
KDAK				pmax	pmax		
	comp=Z,356nm,1.3s						
B21K	**Ikpikpuk River**	**77.05**	**21**	IAmb	IAmb	12 07 04.5	
	comp=Z,429nm,1.1s						
B21K	**Ikpikpuk River**	**77.05**	**21**	P	**P**	**12 06 59.7**	**+0.7**
	baz=263						
B21K				S	**S**	**12 16 46.8**	**+1.2**
	baz=263						
O20K	**Slope Mountain**	**77.08**	**31**	P	**P**	**12 06 59.1**	**-0.4**
	baz=267						
O20K				S	**S**	**12 16 46.3**	**-0.2**
	baz=267						
O20K				S	**S**	**12 16 46.3**	**-0.2**
	baz=267						
Q20K	**Shuyak Island**	**77.13**	**32**	P	**P**	**12 06 59.4**	**-0.3**
	baz=268,SNR=6.5						
Q20K				S	**S**	**12 16 47.2**	**+0.3**
	baz=268						
SYI	**Shuyak Island**	**77.13**	**32**	P	**P**	**12 06 58.2**	**-1.5**
SYI				IAmb	IAmb	12 07 05.2	
	comp=Z,173nm,0.9s						
				IAMs_20	IAMs_20	12 38 10.3	
	comp=Z,3μm,21.0s						
G21K	**Allakaket**	**77.14**	**24**	P	**P**	**12 07 00.5**	**+0.9**
	baz=265						
G21K				S	**S**	**12 16 47.6**	**+0.9**
	baz=265						
E21K	**Killik River**	**77.15**	**22**	P	**P**	**12 07 00.6**	**+1.0**
	baz=264						
E21K				S	**S**	**12 16 47.7**	**+0.9**
	baz=264						
F21K	**Alatna River**	**77.21**	**23**	P	**P**	**12 07 00.5**	**+0.5**
	baz=265						
F21K				S	**S**	**12 16 48.4**	**+0.9**
	baz=265						
SPCR	**Spurr Chakacha**	**77.34**	**29**	P	**P**	**12 07 00.9**	**0.0**
	baz=267						
SPCR				S	**S**	**12 16 49.0**	**-0.3**
	baz=267						
H21K	**Melozitna Rive**	**77.35**	**25**	P	**P**	**12 07 01.4**	**+0.6**
	baz=266						
H21K				S	**S**	**12 16 51.1**	**+2.0**
	baz=266						
H21K				S	**S**	**12 16 51.1**	**+2.0**
	baz=266						
GNI	**Garni**	**77.39**	**309**	P	**P**	**12 07 01.5**	**-0.3**
GNI				IAmb	IAmb	12 07 21.5	
	comp=Z,321nm,1.1s						
GNI	**Garni**	**77.39**	**309**	LR	LR	12 45 35.5	
	comp=Z,3μm,21.4s,baz=66,slow=39						
GNI	**Garni**	**77.39**	**309**	P	**P**	**12 07 01.4**	**-0.3**
GNI	**Garni**	**77.39**	**309**	*ce*P	**P**	**12 07 02.1**	**+0.3**
GNI				pmax	pmax		
	comp=Z,385nm,1.7s						
GNI	**Garni**	**77.39**	**309**	P	**P**	**12 07 02.3**	**+0.5**
	comp=Z,4μmcomp=Z,243nm,1.2s						
SPU	**Mount Spurr**	**77.42**	**29**	P	**P**	**12 07 01.1**	**-0.3**
PPLA	**Purkeypile**	**77.44**	**28**	P	**P**	**12 07 00.9**	**-0.6**
PPLA				IAmb	IAmb	12 07 06.8	
	comp=Z,746nm,1.9s						
PPLA	**Purkeypile**	**77.44**	**28**	P	**P**	**12 07 01.6**	**+0.1**
	baz=267,SNR=35						
PPLA				S	**S**	**12 16 52.5**	**+2.1**
	baz=267						
CHUM	**Lake Minchumin**	**77.44**	**27**	P	**P**	**12 07 02.2**	**+0.9**
	baz=266,SNR=41						
CHUM				S	**S**	**12 16 49.9**	**-0.1**
	baz=266						
CAST	**Castle Rocks**	**77.52**	**27**	P	**P**	**12 07 01.4**	**-0.4**
CAST				IAmb	IAmb	12 07 06.2	
	comp=Z,876nm,2.0s						
CAST	**Castle Rocks**	**77.52**	**27**	P	**P**	**12 07 02.3**	**+0.5**
	baz=267,SNR=106						
CAST				S	**S**	**12 16 50.0**	**-1.0**
	baz=267						
STLK	**Strandline Lak**	**77.54**	**29**	P	**P**	**12 07 01.0**	**-1.0**
B22K	**Teshekpuk Lake**	**77.54**	**20**	IAmb	IAmb	12 07 07.0	
	comp=Z,371nm,1.1s						
B22K	**Teshekpuk Lake**	**77.54**	**20**	P	**P**	**12 07 02.5**	**+0.8**
	baz=264						
B22K				S	**S**	**12 16 53.1**	**+2.3**
	baz=264						
HOM	**Homer**	**77.56**	**31**	P	**P**	**12 07 03.5**	**+1.4**
	baz=268						
D22K	**Ayikyak River**	**77.66**	**21**	IAmb	IAmb	12 07 08.3	
	comp=Z,683nm,1.6s						
D22K	**Ayikyak River**	**77.66**	**21**	P	**P**	**12 07 03.3**	**+0.9**
	baz=265						
D22K				S	**S**	**12 16 54.4**	**+2.1**
	baz=265						
I21K	**Tanana**	**77.66**	**25**	IAMs_20	IAMs_20	12 43 59.0	
	comp=Z,3μm,19.0s						
I21K	**Tanana**	**77.66**	**25**	P	**P**	**12 07 03.4**	**+0.9**
	baz=266						
I21K				S	**S**	**12 16 53.6**	**+1.2**
	baz=266						
I21K				S	**S**	**12 16 53.6**	**+1.2**
	baz=266						
SKT	**Skwentna**	**77.70**	**29**	P	**P**	**12 07 02.0**	**-0.8**
SKT				IAmb	IAmb	12 07 06.9	
	comp=Z,336nm,1.5s						
SKT	**Skwentna**	**77.70**	**29**	P	**P**	**12 07 02.3**	**-0.5**
	baz=268,SNR=47						
SKT				S	**S**	**12 16 53.6**	**+0.6**
	baz=268						
CNPM	**China Poot**	**77.76**	**31**	P	**P**	**12 07 02.9**	**-0.3**
TRLG	**Trialeti**	**77.82**	**310**	P	**P**	**12 07 04.5**	**+0.4**
CAPN	**Captain Cook N**	**77.84**	**30**	IAmb	IAmb	12 07 18.3	
	comp=Z,446nm,1.4s						
CAPN	**Captain Cook N**	**77.84**	**30**	P	**P**	**12 07 03.3**	**-0.2**
	baz=268						
CAPN				S	**S**	**12 16 53.7**	**-0.7**
	baz=268						
RAYN	**Ar Rayn**	**77.86**	**292**	P	**P**	**12 07 03.0**	**-1.5**
RAYN				IAmb	IAmb	12 07 06.8	
	comp=Z,178nm,0.8s						
RAYN	**Ar Rayn**	**77.86**	**292**	P	**P**	**12 07 03.8**	**-0.7**
RAYN	**Ar Rayn**	**77.86**	**292**	P	**P**	**12 07 03.0**	**-1.5**
RAYN				pmax	pmax		
	comp=Z,178nm,0.9s						
RAYN	**Ar Rayn**	**77.86**	**292**	*i* P	**P**	**12 07 03.2**	**-1.3**
	SNR=160						
E22K	**Anaktuvuk Pass**	**77.92**	**22**	P	**P**	**12 07 04.4**	**+0.4**
E22K				IAmb	IAmb	12 07 09.6	
	comp=Z,336nm,1.2s						
E22K	**Anaktuvuk Pass**	**77.92**	**22**	P	**P**	**12 07 04.8**	**+0.9**
	baz=266,SNR=244						
E22K				S	**S**	**12 16 56.2**	**+1.0**
	baz=266						
BRLK	**Bradley Lake**	**77.94**	**31**	P	**P**	**12 07 03.5**	**-0.8**
H22K	**Ishtalitna Cre**	**77.95**	**25**	P	**P**	**12 07 05.1**	**+0.9**
	baz=267						
H22K				S	**S**	**12 16 57.0**	**+1.4**
	baz=267						
H22K				S	**S**	**12 16 57.0**	**+1.4**
	baz=267						
BRSE	**Bradley Lake S**	**78.02**	**31**	P	**P**	**12 07 04.2**	**-0.4**
	baz=269,SNR=31						
BRSE				S	**S**	**12 16 55.0**	**-1.5**
	baz=269						
BPAW	**Bear Paw Mtn.**	**78.03**	**26**	P	**P**	**12 07 04.7**	**+0.1**
BPAW				IAmb	IAmb	12 07 09.7	
	comp=Z,419nm,1.2s						
BPAW	**Bear Paw Mtn.**	**78.03**	**26**	P	**P**	**12 07 05.1**	**+0.4**
	baz=268,SNR=160						
BPAW				S	**S**	**12 16 56.8**	**+0.2**
	baz=268						
KTH	**Kantishna Hill**	**78.04**	**27**	P	**P**	**12 07 04.5**	**-0.3**
SUA	**Susitna One**	**78.06**	**29**	P	**P**	**12 07 04.5**	**-0.4**
	baz=268,SNR=88						
SUA				S	**S**	**12 16 56.9**	**-0.2**
	baz=268						
NCK	**Nalchik**	**78.12**	**312**	*i* P	**P**	**12 07 06.7**	**+1.1**
NCK				pmax	pmax		
	comp=Z,163nm,0.9s						
SLKM	**Skilak Lake**	**78.29**	**30**	IAmb	IAmb	12 07 14.5	
	comp=Z,323nm,1.3s						
SLKM				IAMs_20	IAMs_20	12 46 24.9	
	comp=Z,3μm,19.0s						
FIS	**Fire Island**	**78.30**	**29**	IAmb	IAmb	12 07 10.9	
	comp=Z,224nm,1.0s						
CUT	**Chulitna**	**78.31**	**28**	IAmb	IAmb	12 07 14.2	
	comp=Z,408nm,1.4s						
CUT	**Chulitna**	**78.31**	**28**	P	**P**	**12 07 05.6**	**-0.5**
	baz=269,SNR=13						
CUT				S	**S**	**12 16 59.1**	**-0.4**
	baz=269						
TRF	**Thorofare Moun**	**78.32**	**27**	P	**P**	**12 07 06.1**	**-0.3**
TRF				IAmb	IAmb	12 07 21.0	
	comp=Z,238nm,1.2s						
TRF	**Thorofare Moun**	**78.32**	**27**	P	**P**	**12 07 06.5**	**0.0**
	baz=268,SNR=95						
TRF				S	**S**	**12 17 00.3**	**+0.3**
	baz=268						
M22K	**Willow**	**78.36**	**29**	P	**P**	**12 07 06.1**	**-0.3**
	baz=269						
D23K	**Nanushuk River**	**78.39**	**21**	P	**P**	**12 07 07.8**	**+1.3**
	baz=267						
D23K				S	**S**	**12 17 01.1**	**+0.9**
	baz=267						
GOF	**Gofitskoye**	**78.45**	**314**	*ce*P	**P**	**12 07 05.7**	**-1.6**
GOF				*e*S	**S**	**12 16 57.6**	**-4.1**
C23K	**Itkillik River**	**78.46**	**21**	P	**P**	**12 07 07.5**	**+0.7**
	baz=267						
C23K				S	**S**	**12 17 01.8**	**+1.0**
	baz=267						
COLD	**Coldfoot**	**78.48**	**23**	IAmb	IAmb	12 07 12.0	
	comp=Z,638nm,1.7s						
COLD	**Coldfoot**	**78.48**	**23**	P	**P**	**12 07 08.1**	**+1.1**
	baz=268,SNR=163						
COLD				S	**S**	**12 17 01.9**	**+0.7**
	baz=268						
G23K	**Bananza Creek**	**78.54**	**24**	IAmb	IAmb	12 07 13.2	
	comp=Z,709nm,1.6s						
G23K	**Bananza Creek**	**78.54**	**24**	P	**P**	**12 07 08.7**	**+1.3**
	baz=268						
G23K				S	**S**	**12 17 03.5**	**+1.6**
	baz=268						
RC01	**Rabbit Creek A**	**78.54**	**30**	IAmb	IAmb	12 07 11.6	
	comp=Z,595nm,2.0s						
RC01	**Rabbit Creek A**	**78.54**	**30**	P	**P**	**12 07 07.0**	**-0.5**
	baz=269,SNR=33						
RC01				S	**S**	**12 17 00.5**	**-1.5**
	baz=269						
O22K	**Cooper Landing**	**78.54**	**30**	IAmb	IAmb	12 07 31.9	
	comp=Z,236nm,0.8s						
O22K				IAMs_20	IAMs_20	12 46 33.4	
	comp=Z,3μm,19.0s						
O22K	**Cooper Landing**	**78.54**	**30**	P	**P**	**12 07 07.0**	**-0.5**
	baz=270,SNR=43						
O22K				S	**S**	**12 16 57.9**	**-4.1**
	baz=270						
KBZ	**Khabaz**	**78.62**	**313**	P	**P**	**12 07 07.1**	**-1.1**
	comp=Z,134nm,1.0s,baz=106,slow=3.4,SNR=66						
KBZ				S	**S**	**12 17 03.5**	**0.0**
	comp=Z,3.8nm,1.0s,baz=5.6,slow=22,SNR=7.3						
KBZ				PKPPKP		12 34 07.0	
	comp=Z,1.9nm,0.9s,baz=46,slow=4.4,SNR=3.6						
KBZ				LR	LR	12 46 23.5	
	comp=Z,4μm,18.6s,baz=68,slow=39						
	comp=Z,134nm,1.0s						
KBZ	**Khabaz**	**78.62**	**313**	*ce*P	**P**	**12 07 06.5**	**-1.7**
KBZ				pmax	pmax		
	comp=Z,112nm,1.0s						
KARS	**Kars**	**78.64**	**310**	P	**P**	**12 07 09.3**	**+0.6**
KARS				*e*AP	**pP**	**12 07 15.1**	**-1.9**
KARS				pmax	pmax		
	comp=Z,446nm,1.0s						
SEW	**Seward**	**78.67**	**31**	IAmb	IAmb	12 07 19.1	
	comp=Z,297nm,1.2s						
SEW	**Seward**	**78.67**	**31**	P	**P**	**12 07 08.0**	**-0.1**
	baz=270,SNR=30						
SEW				S	**S**	**12 17 03.2**	**-0.2**
	baz=270						
E23K	**Chandalar**	**78.74**	**22**	P	**P**	**12 07 09.9**	**+1.3**
	baz=268						
E23K				S	**S**	**12 17 05.6**	**+1.5**
	baz=268						
RAR	**Rarotonga**	**78.74**	**114**	LR	LR	12 36 34.7	
	comp=Z,2μm,20.8s,baz=280,slow=32						
KIV	**Kislovodsk**	**78.76**	**313**	P	**P**	**12 07 08.6**	**-0.5**
KIV				IAmb	IAmb	12 07 12.5	
	comp=Z,340nm,0.9s						
KIV	**Kislovodsk**	**78.76**	**313**	P	**P**	**12 07 08.5**	**-0.7**
KIV	**Kislovodsk**	**78.76**	**313**	*e*P	**P**	**12 07 07.5**	**-1.7**
KIV				*e*S	**S**	**12 17 03.7**	**-1.5**
KIV				*e*SS	**SS**	**12 22 07.9**	**-1.9**
KIV				*e*SSS	SSS	12 25 33.3	
				pmax	pmax		
	comp=Z,348nm,1.1s						
KIV				pmax	pmax		
	comp=Z,154nm,4.1s						
KIV				MLR	MLR		
	comp=Z,4μm,19.0s						
KIV	**Kislovodsk**	**78.76**	**313**	*i* P	**P**	**12 07 08.7**	**-0.5**
	SNR=42						
KIV	**Kislovodsk**	**78.76**	**313**	P	**P**	**12 07 09.2**	**0.0**
	comp=Z,3μmcomp=Z,333nm,0.9s						
I23K	**Minto, Yukon-K**	**78.77**	**25**	IAmb	IAmb	12 07 21.9	
	comp=Z,557nm,1.6s						
I23K	**Minto, Yukon-K**	**78.77**	**25**	P	**P**	**12 07 09.3**	**+0.7**
	baz=269,SNR=122						
I23K				S	**S**	**12 17 04.1**	**-0.2**
	baz=269						
I23K				S	**S**	**12 17 04.1**	**-0.2**
	baz=269						
TOLK	**Toolik Lake Re**	**78.77**	**22**	P	**P**	**12 07 09.6**	**+0.9**
TOLK				IAmb	IAmb	12 07 13.5	
	comp=Z,279nm,1.1s						
TOLK	**Toolik Lake Re**	**78.77**	**22**	P	**P**	**12 07 09.7**	**+1.0**
	baz=268,SNR=163						
TOLK				S	**S**	**12 17 04.5**	**+0.1**
	baz=268						
TOLK				S	**S**	**12 17 04.5**	**+0.1**
	baz=268						
SHA1	**Shidzhatmaz**	**78.79**	**313**	*i* P	**P**	**12 07 08.6**	**-0.9**
PMR	**Palmer**	**78.83**	**29**	P	**P**	**12 07 08.3**	**-0.7**
PMR	**Palmer**	**78.83**	**29**	P	**P**	**12 07 08.5**	**-0.5**
	baz=270,SNR=78						
PMR				S	**S**	**12 17 02.8**	**-2.3**
	baz=270						
PMR	**Palmer**	**78.83**	**29**	P	**P**	**12 07 10.3**	**+1.3**
PMR	**Palmer**	**78.83**	**29**	P	**P**	**12 07 08.3**	**-0.7**
PMR				pmax	pmax		

comp=Z,184nm,1.1s
PMR MLR MLR
comp=Z,2µm,21.0s
NEA2 Nenana 78.88 26 P P 12 07 09.4 0.0
baz=269,SNR=110
NEA2 S **S 12 17 05.0 -0.6**
baz=269
GHO Glory Hole Cre 78.93 29 P P 12 07 09.4 -0.3
GHO IAmb IAmb 12 07 23.4
comp=Z,302nm,1.4s
MCK McKinley 78.93 27 P P 12 07 08.9 -0.7
MCK IAmb IAmb 12 07 17.2
comp=Z,214nm,1.0s
MCK McKinley 78.93 27 P P 12 07 09.4 -0.2
baz=270,SNR=156
MCK S **S 12 17 04.6 -1.6**
baz=270
MCK McKinley 78.93 27 P P 12 07 08.9 -0.7
MCK pmax pmax
comp=Z,214nm,1.0s
RND Reindeer 78.97 27 IAmb IAmb 12 07 14.0
comp=Z,681nm,1.7s
RND IAMs_20 IAMs_20 12 45 34.7
comp=Z,3µm,19.0s
D24K Happy Valley 79.06 21 IAmb IAmb 12 07 15.1
comp=Z,304nm,1.1s
D24K Happy Valley 79.06 21 P P 12 07 11.1 +0.9
baz=268
D24K S **S 12 17 08.0 +0.7**
baz=268
VRH Novokhopyorsk 79.11 320 *e*P **P 12 07 09.5 -1.3**
VRH *e*S **S 12 17 02.1 -6.3**
VRH pmax pmax
comp=Z,287nm,0.8s
C24K Franklin Bluff 79.12 21 P P 12 07 11.2 +0.7
baz=268,SNR=195
C24K S **S 12 17 08.3 +0.5**
baz=268
KNK Knik Glacier 79.16 29 P P 12 07 10.8 -0.1
baz=270,SNR=63
KNK S **S 12 17 07.8 -0.9**
baz=270
E24K Your Creek 79.16 22 P P 12 07 12.1 +1.2
baz=269
E24K S **S 12 17 09.5 +0.9**
baz=269
SML Sawmill 79.21 29 P P 12 07 10.8 -0.5
SML IAmb IAmb 12 07 15.8
comp=Z,477nm,1.3s
SML Sawmill 79.21 29 P P 12 07 11.1 -0.1
baz=270,SNR=70
SML S **S 12 17 07.8 -1.5**
baz=270
PWL Port Wells 79.22 30 IAmb IAmb 12 07 15.7
comp=Z,303nm,1.0s
PWL Port Wells 79.22 30 P P 12 07 11.1 -0.2
baz=271,SNR=96
PWL S **S 12 17 08.5 -0.9**
baz=271
WRH Wood River Hil 79.31 26 IAmb IAmb 12 07 15.9
comp=Z,409nm,1.5s
SBV Sambava 79.32 254 P P 12 07 13.0 +0.4
SIRT Sirnak 79.34 306 P P 12 07 12.0 -0.5
F24K Squaw Lake 79.39 23 IAmb IAmb 12 07 17.1
comp=Z,214nm,1.1s
F24K Squaw Lake 79.39 23 P P 12 07 13.3 +1.2
baz=270
F24K S **S 12 17 10.1 -0.9**
baz=270
H24K Noodor Dome 79.39 25 P P 12 07 12.7 +0.6
baz=270
H24K S **S 12 17 10.7 -0.3**
baz=270
H24K S **S 12 17 10.7 -0.3**
baz=270
COLA College 79.41 26 P P 12 07 11.3 -0.7
COLA College 79.41 26 P P 12 07 11.7 -0.4
baz=270
COLA S **S 12 17 08.8 -2.2**
baz=270
COLA College 79.41 26 P P 12 07 14.1 +2.0
COLA College 79.41 26 P P 12 07 11.4 -0.7
COLA pmax pmax
comp=Z,78nm,1.0s
COLA MLR MLR
comp=Z,2µm,20.0s
CCB Clear Creek Bu 79.43 26 P P 12 07 11.6 -0.7
CCB IAmb IAmb 12 07 16.3
comp=Z,692nm,1.9s
M23K Glacier View 79.50 29 P P 12 07 12.6 -0.2
baz=271,SNR=48
M23K S **S 12 17 11.9 -0.4**
baz=271
G24K Hadweenzic Riv 79.55 24 P P 12 07 14.3 +1.3
baz=270
G24K S **S 12 17 13.9 +1.3**
baz=270
GURO Guroymak-BITLI 79.58 307 P P 12 07 13.8 0.0
GURO IAmb IAmb 12 07 17.9
comp=Z,327nm,0.8s
POKR Poker Plat Res 79.58 25 IAMs_20 IAMs_20 12 45 17.1
comp=Z,3µm,19.0s
POKR Poker Plat Res 79.58 25 P P 12 07 12.8 -0.3
baz=271,SNR=56
POKR S **S 12 17 13.1 0.0**
baz=271
POKR S **S 12 17 13.1 0.0**
baz=271
SCM Sheep Creek Mo 79.69 29 P P 12 07 13.4 -0.5
SCM IAmb IAmb 12 07 18.7
comp=Z,521nm,1.2s
SCM Sheep Creek Mo 79.69 29 P P 12 07 13.8 0.0
baz=271,SNR=86
SCM S **S 12 17 14.6 +0.2**
baz=271
SCM Sheep Creek Mo 79.69 29 P P 12 07 13.4 -0.5
SCM pmax pmax
comp=Z,521nm,1.2s
BCA Borcka 79.69 310 ⇑P **P 12 07 13.8 -0.4**
P23K Montague Islan 79.70 31 P P 12 07 13.8 -0.1
baz=272,SNR=35
P23K S **S 12 17 13.0 -1.4**
baz=272
P23K S **S 12 17 13.0 -1.4**
baz=272
HDA Harding Lake 79.80 26 P P 12 07 13.4 -0.9
baz=271,SNR=96
HDA S **S 12 17 12.6 -2.7**
baz=271
IL31 79.82 26 P P 12 07 12.7 -1.6
IL31 IAmb IAmb 12 07 17.0
comp=Z,372nm,1.9s
ILAR Eielson Array 79.82 26 P P 12 07 13.0 -1.4
ILAR Eielson Array 79.82 26 P P 12 07 12.9 -1.4
comp=Z,24nm,0.8s,baz=238,slow=5.2,SNR=106
ILAR PP **PP 12 10 18.9 +3.3**
comp=Z,5.2nm,1.0s,baz=287,slow=7.4,SNR=4.2
ILAR PKKP **PKKPdf 12 25 51.0 -0.3**
comp=Z,0.9nm,0.7s,baz=5.4,slow=2.3,SNR=7.1
ILAR PKKPbc **PKKPbc 12 26 02.5 -0.6**
comp=Z,1.0nm,0.6s,baz=115,slow=3.2,SNR=11
ILAR PKP2ab 12 33 50.8
comp=Z,0.5nm,0.9s,baz=194,slow=1.3,SNR=4.9
ILAR PKPPKP **P'P'df 12 34 11.1 +4.8**
comp=Z,0.9nm,1.0s,baz=80,slow=0.5,SNR=4.4
ILAR LR LR 12 43 06.9
comp=Z,1µm,20.0s,baz=243,slow=36
comp=Z,24nm,0.8s
ILAR Eielson Array 79.82 26 P P 12 07 13.0 -1.4
GLI Glacier Island 79.83 30 IAmb IAmb 12 07 18.4
comp=Z,172nm,1.0s
GLI Glacier Island 79.83 30 P P 12 07 14.7 +0.2
baz=272,SNR=42
GLI S **S 12 17 14.7 -1.1**
baz=272
IL03 Eielson Array 79.83 26 P P 12 07 12.9 -1.6
D25K Kavik River 79.93 21 P P 12 07 15.9 +0.9
baz=271
D25K S **S 12 17 16.0 -0.7**
baz=271
KLMR Klimovskoe 80.00 330 *e*P **P 12 07 12.7 -2.7**
KLMR S **S 12 17 14.9 -2.6**
KLMR pmax pmax
comp=Z,336nm,1.6s
LABN Labinsk 80.12 314 *e*P **P 12 07 14.5 -2.0**
LABN *e*S **S 12 17 19.1 -0.4**
LABN *e* 12 17 31.9
LABN pmax pmax
comp=Z,146nm,1.0s
FID Port Fidalgo 80.13 30 IAMs_20 IAMs_20 12 47 32.9
comp=Z,3µm,19.0s
HIN Hinchinbrook I 80.14 30 P P 12 07 15.9 -0.4
HIN IAMs_20 IAMs_20 12 39 13.7
comp=Z,3µm,19.0s
ERBR Yeremizino-Bor 80.22 315 *e*P **P 12 07 16.0 -1.0**
ERBR *e*S **S 12 17 21.6 +1.1**
ERBR pmax pmax
comp=Z,389nm,1.1s
M24K Tolsona, Glenn 80.22 28 IAmb IAmb 12 07 21.4
comp=Z,368nm,1.2s
M24K Tolsona, Glenn 80.22 28 P P 12 07 17.6 +0.9
baz=272,SNR=39
M24K S **S 12 17 20.4 +0.4**
baz=272
F25K Christian Rive 80.25 23 P P 12 07 18.1 +1.4
baz=272,SNR=146
F25K S **S 12 17 22.2 +2.1**
baz=272
Q23K Middleton Isla 80.26 31 P P 12 07 17.2 +0.4
baz=273
Q23K S **S 12 17 20.3 0.0**
baz=273
Q23K S **S 12 17 20.3 0.0**
baz=273
E25K Arctic Village 80.26 22 IAmb IAmb 12 07 22.5
comp=Z,314nm,1.2s
E25K Arctic Village 80.26 22 P P 12 07 18.0 +1.2
baz=272,SNR=180
E25K S **S 12 17 20.0 -0.1**
baz=272
K24K Donnelly Dome 80.33 27 P P 12 07 17.1 -0.1
baz=272,SNR=75
K24K S **S 12 17 21.3 +0.3**
baz=272
K24K S **S 12 17 21.3 +0.3**
baz=272
KLU Klutina 80.37 29 IAmb IAmb 12 07 22.7
comp=Z,475nm,1.8s
KLU Klutina 80.37 29 P P 12 07 17.8 +0.3
baz=273,SNR=37
KLU S **S 12 17 20.2 -1.4**
baz=273
PRP Porcupine Dome 80.37 25 P P 12 07 16.4 -1.2
PRP IAMs_20 IAMs_20 12 46 52.0
comp=Z,2µm,19.0s
PRP Porcupine Dome 80.37 25 P P 12 07 16.9 -0.7
baz=272,SNR=12
PRP S **S 12 17 19.4 -2.2**
baz=272
C26K Camden Bay 80.43 20 P P 12 07 19.1 +1.6
baz=272
C26K S **S 12 17 22.2 +0.5**
baz=272
DIV Divide 80.46 29 P P 12 07 18.4 +0.3
DIV IAmb IAmb 12 07 24.3
comp=Z,692nm,1.6s
J25K Salcha River, 80.48 26 P P 12 07 16.9 -1.2
baz=272,SNR=44
J25K S **S 12 17 20.2 -2.4**
baz=272
J25K S **S 12 17 20.2 -2.4**
baz=272
EYAK Cordova Ski Ar 80.50 30 P P 12 07 16.6 -1.5
EYAK IAmb IAmb 12 07 24.6
comp=Z,819nm,1.9s
EYAK Cordova Ski Ar 80.50 30 P P 12 07 18.6 +0.5
baz=273,SNR=26
EYAK S **S 12 17 22.2 -0.6**
baz=273
EYAK Cordova Ski Ar 80.50 30 P P 12 07 22.0 +3.9
PAX Paxson 80.51 28 P P 12 07 16.9 -1.4
PAX IAmb IAmb 12 07 24.5
comp=Z,643nm,1.8s
PAX Paxson 80.51 28 P P 12 07 18.6 +0.3
baz=273,SNR=89
PAX S **S 12 17 22.3 -0.8**
baz=273
PAX Paxson 80.51 28 P P 12 07 16.9 -1.4
PAX pmax pmax
comp=Z,643nm,1.8s
VORD Divnogorie 80.65 320 *e*P **P 12 07 17.6 -1.5**
VORD pmax pmax
comp=Z,360nm,1.1s
VORD MLR MLR
comp=Z,2µm,17.0s
KOPT Kop Dagi 80.65 309 P P 12 07 19.7 -0.1
KOPT IAmb IAmb 12 07 30.3
comp=Z,234nm,1.0s
VORR Voronezh 80.66 321 P P 12 07 18.2 -0.9
VORR S **S 12 17 20.1 -4.6**
VORR pmax pmax
comp=Z,282nm,0.7s
BMAR Burnt Mountain 80.66 23 P P 12 07 19.2 +0.2
MARD Mardin 80.67 306 P P 12 07 19.3 -0.4
MARD IAmb IAmb 12 07 22.6
comp=Z,173nm,0.8s
HARP HAARP 80.69 28 P P 12 07 19.9 +0.7
baz=273,SNR=35
HARP S **S 12 17 24.2 -0.6**
baz=273
HARP S **S 12 17 24.2 -0.6**
baz=273
VSLR Vesyoloye 80.71 313 *i* P **P 12 07 19.8 +0.1**
VSR Storozhevoye 80.71 320 *e*P **P 12 07 17.4 -2.1**
VSR *e* 12 07 19.3
VSR pmax pmax
comp=Z,190nm,0.8s
VSR MLR MLR
comp=Z,3µm,17.0s
RIDG Independent Ri 80.75 27 P P 12 07 19.2 -0.3
RIDG IAmb IAmb 12 07 23.9
comp=Z,305nm,1.0s
RIDG Independent Ri 80.75 27 P P 12 07 19.5 0.0
baz=273,SNR=95
RIDG S **S 12 17 25.8 +0.4**
baz=273
LPSR Galich'ya Gora 80.76 322 *e*P **P 12 07 18.5 -1.2**
LPSR *e*S **S 12 17 20.9 -4.9**
LPSR pmax pmax
comp=Z,382nm,0.8s
F26K Sheenjek River 80.81 23 P P 12 07 19.1 -0.6
F26K Sheenjek River 80.81 23 P P 12 07 21.4 +1.6
baz=273
F26K S **S 12 17 27.2 +1.3**
baz=273
C27K Jago River 80.86 21 IAMs_20 IAMs_20 12 46 51.1
comp=Z,2µm,19.0s
C27K Jago River 80.86 21 P P 12 07 20.9 +0.9
baz=273
C27K S **S 12 17 27.3 +0.9**
baz=273
SOC Sochi 80.93 313 *e*P **P 12 07 18.9 -1.9**
SOC *e* 12 10 25.5
SOC *e*PPP PPP 12 12 11.4
SOC *e*S **S 12 17 27.7 -0.2**
SOC *e*SS **SS 12 22 42.7 +0.6**
SOC *e*SSS SSS 12 26 09.2
SOC pmax pmax
comp=Z,102nm,0.8s
N25K Chitina, Valde 81.00 29 IAmb IAmb 12 07 26.3
comp=Z,548nm,1.8s
N25K Chitina, Valde 81.00 29 P P 12 07 21.4 +0.5
baz=274,SNR=62
N25K S **S 12 17 27.1 -1.1**
baz=274
G26K Porcupine Rive 81.00 23 P P 12 07 22.1 +1.5
baz=274
G26K S **S 12 17 29.3 +1.6**
baz=274
BMRM Bremner River 81.04 30 IAmb IAmb 12 07 26.2
comp=Z,591nm,1.6s
BMRM Bremner River 81.04 30 P P 12 07 21.5 +0.4
baz=274,SNR=41
BMRM S **S 12 17 27.7 -0.8**
baz=274
RAGM Ragged Mountai 81.04 30 IAMs_20 IAMs_20 12 45 05.6
comp=Z,2µm,20.0s
SCRK Sand Creek 81.12 27 IAmb IAmb 12 07 26.2
comp=Z,313nm,1.5s
SCRK Sand Creek 81.12 27 P P 12 07 21.5 0.0
baz=274,SNR=121
SCRK S **S 12 17 28.8 -0.7**
baz=274
KTUT Trabzon 81.12 310 ⇓P **P 12 07 21.4 -0.5**

KAIM Kayak Island 81.20 31 P P 12 07 20.7 -1.2
KAIM IAmb IAmb 12 07 27.5
comp=Z,339nm,1.1s
KAIM Kayak Island 81.20 31 P P 12 07 22.6 +0.7
baz=274
J26L Joseph Creek 81.26 26 P P 12 07 22.1 -0.1
baz=274
J26L S **S 12 17 29.3 -1.5**
baz=274
J26L S **S 12 17 29.3 -1.5**
baz=274
MOS Moscow 81.30 325 *e*P **P 12 07 20.1 -2.4**
MOS *e* 12 10 27.9
MOS *e*S **S 12 17 26.0 -5.2**
MOS pmax pmax
comp=Z,221nm,0.7s
MOS pmax pmax
comp=Z,655nm,1.4s
MOS MLR MLR
comp=E,3µm,18.0s
MOS MLR MLR
comp=Z,3µm,18.0s
I26K Coal Creek Min 81.37 25 P P 12 07 22.6 -0.1
baz=274
I26K S **S 12 17 33.2 +1.4**
baz=274
I26K S **S 12 17 33.2 +1.4**
baz=274
GLB Gilahina Butte 81.39 29 P P 12 07 23.2 +0.2
GLB IAmb IAmb 12 07 28.1
comp=Z,381nm,1.5s
L26K Log Cabin Wild 81.47 27 IAMs_20 IAMs_20 12 47 02.1
comp=Z,3µm,19.0s
L26K Log Cabin Wild 81.47 27 P P 12 07 23.9 +0.6
baz=275,SNR=31
L26K S **S 12 17 33.8 +0.8**
baz=275
L26K S **S 12 17 33.8 +0.8**
baz=275
VRDI Verde Repeater 81.58 29 IAmb IAmb 12 07 29.1
comp=Z,260nm,1.5s
LVZ Lovozero 81.66 338 P P 12 07 24.1 -0.2
LVZ Lovozero 81.66 338 *ce*P **P 12 07 24.9 +0.7**
LVZ pmax pmax
comp=Z,804nm,2.5s
LVZ Lovozero 81.66 338 P P 12 07 24.7 +0.5
comp=Z,6µmcomp=Z,272nm,0.6s
M26K Nabesna, AK 81.69 28 P P 12 07 25.4 +0.9
baz=275
M26K S **S 12 17 35.6 +0.3**
baz=275
M26K S **S 12 17 35.6 +0.3**
baz=275
BGLC Bering Glacier 81.76 30 P P 12 07 26.3 +1.5
baz=275
G27K Doyon Strip 81.85 24 P P 12 07 26.7 +1.5
baz=276
D27M Malcolm River 81.86 21 IAmb IAmb 12 07 30.9
comp=Z,290nm,1.2s
D27M Malcolm River 81.86 21 P P 12 07 26.4 +1.1
baz=276,SNR=195
D27M S **S 12 17 36.7 -0.1**
baz=276
OBN Obninsk 81.95 325 P P 12 07 24.9 -1.0
OBN Obninsk 81.95 325 LR LR 12 46 59.6
comp=Z,3µm,19.9s,baz=86,slow=38
OBN Obninsk 81.95 325 *d i* P **P 12 07 25.2 -0.7**
OBN *e* 12 10 41.5
OBN *i* S **S 12 17 32.1 -5.9**
OBN *e*SS **SS 12 23 00.3 +3.7**
OBN pmax pmax
comp=Z,343nm,1.3s
OBN MLR MLR
comp=Z,3µm,19.0s
OBN Obninsk 81.95 325 P P 12 07 25.1 -0.8
comp=Z,4µmcomp=Z,223nm,1.3s
H27K Steamboat Moun 81.96 24 P P 12 07 27.0 +1.1
baz=276
H27K S **S 12 17 40.5 +2.6**
baz=276
SNH Sunshine Point 81.97 30 IAmb IAmb 12 07 31.8
comp=Z,450nm,1.4s
I27K Kandik River 81.99 25 P P 12 07 26.8 +0.7
baz=276
I27K S **S 12 17 39.2 +1.0**
baz=276
I27K S **S 12 17 39.2 +1.0**
baz=276
L27K Beaver Creek, 82.16 27 IAMs_20 IAMs_20 12 47 32.2
comp=Z,2µm,19.0s
L27K Beaver Creek, 82.16 27 P P 12 07 28.0 +1.0
baz=276
L27K S **S 12 17 41.8 +1.7**
baz=276
APA Apatity 82.17 337 ⇓ *i* P **P 12 07 26.1 -0.7**
APA *i* 12 07 35.0
APA *i* 12 10 31.0
APA *i* S **S 12 17 40.0 +0.2**
APA *i* PS **PnS 12 18 29.0 -2.0**
APA *i* SS **SS 12 23 06.0 +6.7**
APA pmax pmax
comp=Z,148nm,1.1s
APA MLR MLR
comp=Z,8µm,18.0s
BCAR Beaver Creek A 82.18 27 P P 12 07 27.5 +0.4
M27K Edge Creek, AK 82.21 28 IAMs_20 IAMs_20 12 40 13.7
comp=Z,3µm,22.0s
M27K Edge Creek, AK 82.21 28 P P 12 07 27.8 +0.4
baz=276
M27K S **S 12 17 41.4 +0.6**
baz=276
M27K S **S 12 17 41.4 +0.6**
baz=276
EGAK Eagle 82.27 26 P P 12 07 27.1 -0.3
EGAK IAMs_20 IAMs_20 12 46 59.1
comp=Z,2µm,19.0s
EGAK Eagle 82.27 26 P P 12 07 27.8 +0.4
baz=276,SNR=49
EGAK S **S 12 17 42.7 +1.8**
baz=276
MESA MESA 82.41 30 P P 12 07 27.1 -1.5
MESA IAmb IAmb 12 07 33.5
comp=Z,329nm,1.3s
MESA MESA 82.41 30 P P 12 07 29.5 +1.0
baz=276,SNR=19
MESA S **S 12 17 44.3 +1.2**
baz=276
ANN Anapa 82.45 314 *d i* P **P 12 07 27.6 -1.2**
ANN *e*S **S 12 17 38.2 -5.3**
ANN pmax pmax
comp=Z,478nm,1.1s
ANN MLR MLR
comp=Z,4µm,19.0s
E28M Babbage River 82.45 22 P P 12 07 29.7 +1.3
baz=277
F28M Old Crow 82.45 23 IAmb IAmb 12 07 33.7
comp=Z,156nm,0.9s
F28M Old Crow 82.45 23 P P 12 07 29.3 +0.9
baz=277,SNR=191
F28M S **S 12 17 44.6 +1.7**
baz=277
D28M Stokes Point 82.64 21 P P 12 07 30.2 +0.9
baz=278
D28M S **S 12 17 46.2 +1.6**
baz=278
BVCY Beaver Creek 82.68 28 P P 12 07 30.9 +1.2
baz=277,SNR=75
BVCY S **S 12 17 46.7 +1.4**
baz=277
I28M Miner Creek 82.70 25 IAmb IAmb 12 07 37.5
comp=Z,264nm,0.8s
I28M IAMs_20 IAMs_20 12 47 22.6
comp=Z,2µm,19.0s
I28M Miner Creek 82.70 25 P P 12 07 30.8 +1.0
baz=277
I28M S **S 12 17 47.3 +1.7**
baz=277
YUK3 Moose Creek 82.94 29 P P 12 07 32.3 +0.9
baz=277,SNR=105
YUK3 S **S 12 17 47.7 -0.8**
baz=277
ABPO Ambohimpanom 83.07 249 P P 12 07 31.2 -1.5
ABPO IAmb IAmb 12 07 35.9
comp=Z,148nm,0.9s
ABPO Ambohimpanom 83.07 249 P P 12 07 31.2 -1.5
ABPO pmax pmax
comp=Z,148nm,1.0s

E29M	Blow River	83.08	22	P	P	12 07 32.3	+0.8
	baz=279						
E29M				S	S	12 17 47.8	-1.3
	baz=279						
DAWY	Dawson	83.12	26	IAMs_20	IAMs_20	12 46 23.5	
	comp=Z,2μm,20.0s						
DAWY	Dawson	83.12	26	P	P	12 07 32.7	+0.8
	baz=278,SNR=221						
DAWY				S	S	12 17 48.8	-1.0
	baz=278						
HOPEN	Hopen	83.19	347	eP	P	12 07 34.0	+2.0
HOPEN				eSKSac	SKSac	12 17 52.0	+0.1
HOPEN				IAMs_20	IAMs_20	12 54 43.7	
	comp=Z,4μm,18.6s						
O28M	Mount Upton	83.21	30	P	P	12 07 33.7	+1.0
	baz=278						
O28M				S	S	12 17 50.8	-0.5
	baz=278						
H29M	Whitestone	83.23	24	P	P	12 07 33.4	+1.0
	baz=279						
H29M				S	SKSac	12 17 52.1	-0.4
	baz=279						
VADS	Vadso	83.25	340	eP	P	12 07 32.8	+0.4
VADS				eS	S	12 17 49.6	-1.2
VADS				IAMs_20	IAMs_20	12 49 10.0	
	comp=Z,4μm,21.7s						
G29M	Pine Creek	83.26	23	P	P	12 07 33.5	+0.9
	baz=279						
PINM	Pinnacle	83.27	30	P	P	12 07 33.7	+0.9
	baz=278,SNR=40						
PINM				S	S	12 17 50.6	-0.9
	baz=278						
YUK8	Steele Glacier	83.34	29	P	P	12 07 34.4	+1.0
	baz=278,SNR=100						
YUK8				S	S	12 17 52.6	0.0
	baz=278						
I29M	Ogilvie Camp,	83.39	25	P	P	12 07 33.7	+0.4
I29M	Ogilvie Camp,	83.39	25	P	P	12 07 34.0	+0.7
	baz=279,SNR=222						
I29M				S	SKSac	12 17 53.2	-0.3
	baz=279						
GAZ	Gaziantep	83.51	307	P	P	12 07 35.0	+0.4
GAZ				IAmb	IAmb	12 07 37.8	
	comp=Z,244nm,1.0s						
J29N	Klondike Camp	83.57	26	P	P	12 07 35.7	+1.4
	baz=279,SNR=116						
J29N				S	SKSac	12 17 55.3	+0.4
	baz=279						
JOF	Joensuu	83.67	333	eP	P	12 07 34.2	-0.5
TOKA	Tokat	83.68	310	P	P	12 07 35.4	0.0
TOKA				IAmb	IAmb	12 07 38.8	
	comp=Z,308nm,1.7s						
M29M	Somme Creek	83.78	28	IAMs_20	IAMs_20	12 47 11.0	
	comp=Z,2μm,19.0s						
M29M	Somme Creek	83.78	28	P	P	12 07 37.0	+1.6
	baz=279						
M29M				S	SKSac	12 17 57.0	+0.6
	baz=279						
L29M	L29M	83.82	27	P	P	12 07 37.0	+1.4
	baz=279						
L29M				S	SKSac	12 17 57.1	+0.5
	baz=279						
EPYK	Eagle Plains	83.86	24	P	P	12 07 36.1	+0.4
	baz=280,SNR=151						
EPYK				S	SKSac	12 17 56.0	-0.6
	baz=280						
YUK4	Talbot Arm	83.86	29	P	P	12 07 37.4	+1.3
	baz=279,SNR=76						
YUK4				S	SKSac	12 17 57.7	+0.4
	baz=279						
G30M	tAoh Zraii Nji	83.95	23	P	P	12 07 35.6	-0.5
G30M	tAoh Zraii Nji	83.95	23	P	P	12 07 36.2	+0.1
	baz=280						
G30M				S	SKSac	12 17 57.2	0.0
	baz=280						
K29M	Barlow Dome	83.97	26	P	P	12 07 36.9	+0.4
K29M	Barlow Dome	83.97	26	P	P	12 07 37.4	+1.0
	baz=280						
K29M				S	SKSac	12 17 57.3	-0.3
	baz=280						
F30M	Barrier River	84.00	22	P	P	12 07 36.9	+0.6
	baz=281						
F30M				S	SKSac	12 17 56.5	-1.0
	baz=281						
O29M	Mount Kennedy	84.06	30	P	P	12 07 38.2	+1.2
	baz=279						
O29M				S	S	12 17 59.5	-0.1
	baz=279						
YUK6	Outpost Mounta	84.06	29	P	P	12 07 38.4	+1.3
	baz=279,SNR=95						
YUK6				S	SKSac	12 17 59.0	+0.4
	baz=279						
VOI	Vohitsoka	84.11	247	P	P	12 07 37.1	-0.8
VOI				IAmb	IAmb	12 07 39.5	
	comp=Z,135nm,0.8s						
VOI				IAMs_20	IAMs_20	12 39 08.6	
	comp=Z,3μm,21.0s						
VOI	Vohitsoka	84.11	247	P	P	12 07 37.8	-0.1
	SNR=8.6						
KEV	Kevo	84.12	340	P	P	12 07 36.1	-0.8
KEV				IAmb	IAmb	12 07 39.9	
	comp=Z,191nm,1.1s						
KEV				IAMs_20	IAMs_20	12 49 48.2	
	comp=Z,3μm,19.0s						
KEV	Kevo	84.12	340	P	P	12 07 36.1	-0.8
KEV				pmax	pmax		
	comp=Z,191nm,1.1s						
MSF	Maaselka	84.13	336	P	P	12 07 36.2	-0.8
MSF				pmax	pmax		
	comp=Z,572nm,1.3s						
I30M	Mount Dempster	84.21	25	P	P	12 07 38.0	+0.3
I30M	Mount Dempster	84.21	25	P	P	12 07 38.2	+0.6
	baz=281						
I30M				S	S	12 18 00.6	-0.4
	baz=281						
J30M	Hart River	84.35	25	P	P	12 07 39.2	+0.9
	baz=281,SNR=222						
J30M				S	SKSac	12 18 00.5	+0.4
	baz=281						
BNN	Bunyan	84.36	308	P	P	12 07 38.5	-0.5
DIKM	Dikmen	84.42	311	⇑P	P	12 07 39.1	+0.1
DIKM	Dikmen	84.42	311	P	P	12 07 39.9	+0.9
	comp=Z,2μmcomp=Z,119nm,0.9s						
HYT	Haines Junctio	84.50	29	P	P	12 07 40.5	+1.3
	baz=280,SNR=167						
HYT				S	SKSac	12 18 02.2	+1.1
	baz=280						
SPA0	Spitsbergen Ar	84.51	349	eP	P	12 07 38.5	-0.3
SPA0				eSKSac	SKSac	12 18 00.8	+0.4
SPA0				IAMs_20	IAMs_20	12 51 22.3	
	comp=Z,6μm,20.2s						
SPITS	Spitsbergen Ar	84.51	349	P	P	12 07 37.2	-1.5
	comp=Z,295nm,0.8s,baz=84,slow=7.6,SNR=57						
SPITS				LR	LR	12 51 48.6	
	comp=Z,5μm,19.1s,baz=43,slow=40						
	comp=Z,295nm,0.8s						
SPITS	Spitsbergen Ar	84.51	349	P	P	12 07 37.7	-1.1
SPITS				pmax	pmax		
	comp=Z,779nm,1.1s						
SPA3	Spitsbergen Ar	84.51	349	P	P	12 07 38.2	-0.6
SPB3	Spitsbergen Ar	84.51	349	P	P	12 07 37.9	-0.8
M30M	Minto, Yukon	84.52	28	P	P	12 07 40.5	+1.3
	baz=280,SNR=245						
M30M				S	SKSac	12 18 01.3	+0.3
	baz=280						
PUL	Pulkovo	84.66	330	ceP	P	12 07 39.6	-0.2
PUL				pmax	pmax		
	comp=Z,164nm,0.7s						
ARA0	ARCESS Array S	84.68	340	eP	P	12 07 39.7	0.0
ARA0				eSKSac	SKSac	12 18 02.0	+0.2
ARA0				IAMs_20	IAMs_20	12 52 53.3	
	comp=Z,3μm,17.5s						
ARCES	ARCESS Array B	84.68	340	P	P	12 07 38.6	-1.2
	comp=Z,189nm,0.9s,baz=79,slow=6.1,SNR=137						
ARCES				LR	LR	12 50 15.2	
	comp=Z,2μm,18.1s,baz=82,slow=39						
	comp=Z,189nm,0.9s						
INK	Inuvik	84.69	22	LR	LR	12 49 11.2	
	comp=Z,1μm,18.9s,baz=265,slow=38						
INK	Inuvik	84.69	22	P	P	12 07 40.1	+0.3
	baz=283,SNR=200						
INK				S	SKSac	12 18 03.5	+1.8
	baz=283						
G31M	Satah River	84.71	23	P	P	12 07 39.9	0.0
	baz=282,SNR=223						
G31M				S	SKSac	12 18 03.1	+1.2
	baz=282						
MAYO	Mayo, Yukon	84.73	26	P	P	12 07 41.4	+1.3
	baz=281,SNR=83						
MAYO				S	S	12 18 05.7	-0.2
	baz=281						
SIM	Simferopol'	84.77	315	cP	P	12 07 39.9	-0.8
SIM				e		12 07 44.0	
SIM				e		12 10 56.0	
SIM				eS	SKSac	12 18 06.0	+2.8
SIM				pmax	pmax		
	comp=Z,340nm,1.1s						
F31M	Tsiigehtchic	84.80	22	P	P	12 07 40.5	+0.2
	baz=283,SNR=185						
F31M				S	SKSac	12 18 04.3	+1.8
	baz=283						
P30M	Million Dollar	84.89	30	P	P	12 07 42.2	+1.1
	baz=280						
P30M				S	S	12 18 06.8	-1.0
	baz=280						
H31M	Peel River	84.92	24	P	P	12 07 41.6	+0.5
	baz=282						
H31M				S	SKSac	12 18 05.2	+1.7
	baz=282						
HWQ	Hawqa	84.93	304	eP	P	12 07 42.0	+0.1
HAMF	Hammerfest	85.01	341	eP	P	12 07 40.7	-0.7
HAMF				eSKSac	SKSac	12 18 03.7	0.0
HAMF				IAMs_20	IAMs_20	12 52 31.3	
	comp=Z,4μm,19.7s						
KBS	Kingsbay	85.02	350	P	P	12 07 40.6	-0.7
KBS				IAmb	IAmb	12 07 44.4	
	comp=Z,161nm,0.9s						
KBS	Kingsbay	85.02	350	eP	P	12 07 41.3	0.0
KBS				eSKSac	SKSac	12 18 03.8	+0.2
KBS				IAMs_20	IAMs_20	12 51 35.5	
	comp=Z,6μm,18.3s						
KBS	Kingsbay	85.02	350	P	P	12 07 40.6	-0.7
KBS				pmax	pmax		
	comp=Z,161nm,1.0s						
KBS	Kingsbay	85.02	350	i P	P	12 07 40.9	-0.4
HSPB	Hornsund (broa	85.12	348	eP	P	12 07 41.9	+0.1
HSPB	Hornsund (broa	85.12	348	eP	P	12 07 41.8	0.0
O30N	Mendenhall	85.19	29	IAmb	IAmb	12 07 47.5	
	comp=Z,222nm,1.2s						
O30N	Mendenhall	85.19	29	P	P	12 07 43.7	+1.1
	baz=281,SNR=90						
O30N				S	S	12 18 09.5	-1.2
	baz=281						
N31M	Braeburn, Yuko	85.20	28	IAMs_20	IAMs_20	12 41 13.5	
	comp=Z,4μm,22.0s						
N31M	Braeburn, Yuko	85.20	28	P	P	12 07 43.7	+1.1
	baz=281,SNR=176						
N31M				S	S	12 18 10.3	-0.4
	baz=281						
BJO1	Bjornoya	85.21	345	eP	P	12 07 43.5	+1.2
BJO1				eSKSac	SKSac	12 18 04.9	0.0
BJO1				IAMs_20	IAMs_20	12 51 55.1	
	comp=Z,2μm,16.2s						
BHL	Bhannes	85.22	303	eP	P	12 07 43.6	+0.2
BZK	Bozkurt	85.30	312	⇑P	P	12 07 43.6	+0.2
BZK	Bozkurt	85.30	312	P	P	12 07 43.5	+0.1
	comp=Z,4μmcomp=Z,325nm,0.9s						
PLBC	Pleasant Camp	85.31	31	P	P	12 07 44.1	+1.0
	baz=281,SNR=52						
PLBC				S	S	12 18 11.9	+0.1
	baz=281						
BALJ	Balqa	85.50	302	P	P	12 07 45.2	+0.5
BALJ				IAmb	IAmb	12 07 48.5	
	comp=Z,273nm,1.0s						
MMAI	Mount Meron Ar	85.56	303	P	P	12 07 44.8	-0.2
	comp=Z,81nm,0.7s,baz=81,slow=7.0,SNR=46						
	comp=Z,81nm,0.7s						
KTK1	Kautokeino	85.60	339	eP	P	12 07 43.8	-0.6
S31K	Pelican	85.67	32	IAMs_20	IAMs_20	12 39 01.1	
	comp=Z,3μm,22.0s						
S31K	Pelican	85.67	32	P	P	12 07 45.9	+1.0
	baz=281,SNR=7.8						
S31K				S	S	12 18 14.2	-1.2
	baz=281						
S31K				S	S	12 18 14.2	-1.2
	baz=281						
GHAJ	Ghor Haditha	85.68	301	IAMs_20	IAMs_20	12 52 12.8	
	comp=Z,2μm,19.0s						
M31M	Drury Creek, Y	85.69	28	P	P	12 07 44.8	-0.2
M31M				IAmb	IAmb	12 07 50.2	
	comp=Z,155nm,1.1s						
M31M				IAMs_20	IAMs_20	12 43 03.5	
	comp=Z,2μm,21.0s						
M31M	Drury Creek, Y	85.69	28	P	P	12 07 45.6	+0.6
	baz=283,SNR=119						
M31M				S	S	12 18 16.3	+0.8
	baz=283						
WHY	Whitehorse	85.80	29	IAMs_20	IAMs_20	12 51 32.3	
	comp=Z,2μm,18.0s						
WHY	Whitehorse	85.80	29	P	P	12 07 46.8	+1.1
	baz=282,SNR=156						
WHY				S	S	12 18 16.3	-0.5
	baz=282						
KIRS	Kirsehir-Merke	85.81	309	⇓P	P	12 07 45.6	-0.6
SKAG	Skagway	85.83	30	P	P	12 07 45.6	0.0
SKAG				IAmb	IAmb	12 07 50.8	
	comp=Z,287nm,1.3s						
SKAG	Skagway	85.83	30	P	P	12 07 47.0	+1.3
	baz=282,SNR=36						
SKAG				S	S	12 18 17.0	+0.1
	baz=282						
SKAG	Skagway	85.83	30	P	P	12 07 48.2	+2.5
R31K	City Hall, Gus	85.84	32	P	P	12 07 46.8	+1.1
	baz=282,SNR=6.4						
R31K				S	S	12 18 16.8	-0.2
	baz=282						
BR131	Keskin Array S	85.92	309	i P	P	12 07 45.3	-1.5
BRTR	Keskin Array B	85.92	309	P	P	12 07 45.2	-1.6
BRTR	Keskin Array B	85.92	309	P	P	12 07 45.0	-1.8
	comp=Z,37nm,0.9s,baz=109,slow=3.7,SNR=68						
BRTR				PKKPbc	PKKPbc	12 25 51.1	+2.8
	comp=Z,1.7nm,1.0s,baz=183,slow=2.5,SNR=4.7						
BRTR				LR	LR	12 52 25.9	
	comp=Z,1μm,18.4s,baz=66,slow=40						
	comp=Z,37nm,0.9s						
BRTR	Keskin Array B	85.92	309	P	P	12 07 45.2	-1.6
BR104	Keskin Array S	85.92	309	P	P	12 07 45.3	-1.5
	comp=Z,793nmcomp=Z,109nm,0.9s						
BR106	Keskin Array S	85.94	309	P	P	12 07 45.4	-1.4
	comp=Z,521nmcomp=Z,64nm,0.8s						
BR105	Keskin Array S	85.94	309	P	P	12 07 45.5	-1.4
	comp=Z,727nmcomp=Z,93nm,0.9s						
FARO	Faro, Yukon	86.16	28	IAMs_20	IAMs_20	12 43 27.9	
	comp=Z,2μm,20.0s						
FARO	Faro, Yukon	86.16	28	P	P	12 07 48.2	+0.9
	baz=284,SNR=328						
FARO				S	S	12 18 19.4	-0.7
	baz=284						
BESE	Bessie Mountai	86.26	31	P	P	12 07 46.3	-1.6
BESE				IAmb	IAmb	12 07 53.0	
	comp=Z,344nm,1.4s						
A36M	Sachs Harbour	86.33	17	P	P	12 07 47.3	-0.6
A36M	Sachs Harbour	86.33	17	P	P	12 07 48.4	+0.5
	baz=290						
SIT	Sitka	86.34	33	P	P	12 07 46.8	-1.4
SIT				IAMs_20	IAMs_20	12 54 00.7	
	comp=Z,2μm,18.0s						
SIT	Sitka	86.34	33	P	P	12 07 49.0	+0.8
	baz=282,SNR=6.2						
SIT				S	S	12 18 20.8	-1.1
	baz=282						
SIT	Sitka	86.34	33	P	P	12 07 50.6	+2.4
SIT	Sitka	86.34	33	P	P	12 07 46.8	-1.4
SIT				pmax	pmax		
	comp=Z,489nm,1.5s						
FIA1	FINESS Array S	86.36	332	P	P	12 07 47.1	-1.2
FINES	FINESS Array B	86.37	332	P	P	12 07 47.2	-1.1
FINES	FINESS Array B	86.37	332	P	P	12 07 47.1	-1.2
	comp=Z,158nm,0.6s,baz=69,slow=5.3,SNR=155						
FINES				S	SKSac	12 18 13.6	+1.0
	comp=Z,7.2nm,0.9s,baz=50,slow=6.0,SNR=4.3						
FINES				PKKPbc	PKKPbc	12 25 52.7	+4.9
	comp=Z,1.3nm,0.6s,baz=208,slow=6.5,SNR=3.8						
FINES				LR	LR	12 50 36.4	
	comp=Z,3μm,20.5s,baz=82,slow=39						
	comp=Z,158nm,0.6s						
FINES	FINESS Array B	86.37	332	P	P	12 07 47.2	-1.1
JETT	Jettan, Norway	86.40	340	eP	P	12 07 49.8	+1.5
EIL	Elat	86.46	299	LR	LR	12 53 20.4	
	comp=Z,3μm,19.7s,baz=84,slow=40						
R32K	Eaglecrest	86.50	32	P	P	12 07 47.9	-1.1
R32K				IAmb	IAmb	12 07 54.1	
	comp=Z,251nm,1.6s						
R32K	Eaglecrest	86.50	32	P	P	12 07 50.1	+1.1
	baz=283,SNR=12						
N32M	Quiet Lake	86.54	29	IAMs_20	IAMs_20	12 50 04.1	
	comp=Z,2μm,19.0s						
N32M	Quiet Lake	86.54	29	P	P	12 07 50.0	+0.7
	baz=284						
N32M				S	S	12 18 22.3	-1.6
	baz=284						
ANTO	Ankara	86.54	310	P	P	12 07 49.4	-0.3
ANTO				IAmb	IAmb	12 07 52.5	
	comp=Z,229nm,1.4s						
ANTO	Ankara	86.54	310	P	P	12 07 48.9	-0.8
ANTO	Ankara	86.54	310	⇓P	P	12 07 49.2	-0.6
ANTO	Ankara	86.54	310	P	P	12 07 49.4	-0.3
ANTO				pmax	pmax		
	comp=Z,229nm,1.4s						
ANTO	Ankara	86.54	310	P	P	12 07 49.0	-0.8
	comp=Z,971nmcomp=Z,49nm,1.1s						
CRZF	Crozet Islands	86.57	222	IAMs_20	IAMs_20	12 42 29.5	
	comp=Z,2μm,20.0s						
JIS	Juneau Island	86.57	31	P	P	12 07 53.0	+3.7
P32M	Atlin	86.60	30	P	P	12 07 48.8	-0.8
P32M	Atlin	86.60	30	P	P	12 07 50.3	+0.7
	baz=283,SNR=10						
P32M				S	S	12 18 23.3	-1.2
	baz=283						
S32K	Killisnoo	86.65	32	P	P	12 07 47.7	-2.0
S32K				IAmb	IAmb	12 07 54.5	
	comp=Z,356nm,2.0s						
S32K				IAMs_20	IAMs_20	12 54 12.8	
	comp=Z,2μm,18.0s						
S32K	Killisnoo	86.65	32	P	P	12 07 50.5	+0.8
	baz=283,SNR=5.1						
S32K				S	S	12 18 25.3	+0.4
	baz=283						
S32K				S	S	12 18 25.3	+0.4
	baz=283						
VSU	Vasula	86.74	329	ceP	P	12 07 49.1	-1.1
VSU				pmax	pmax		
	comp=Z,564nm,1.7s						
VSU				MLR	MLR		
	comp=Z,3μm,16.0s						
VSU	Vasula	86.74	329	eP	P	12 07 49.5	-0.6
TRO	Tromso	86.86	340	eP	P	12 07 51.0	+0.4
TRO				eSKSac	SKSac	12 18 16.6	+1.2
TRO				IAMs_20	IAMs_20	12 52 41.0	
	comp=Z,3μm,18.5s						
ARBE	Arbavere	86.89	330	eP	P	12 07 50.2	-0.6
P33M	Teslin, Yukon	86.89	29	P	P	12 07 50.8	-0.2
P33M				IAMs_20	IAMs_20	12 42 14.4	
	comp=Z,3μm,22.0s						
P33M	Teslin, Yukon	86.89	29	P	P	12 07 51.7	+0.7
	baz=284,SNR=33						
P33M				S	S	12 18 24.5	-2.9
	baz=284						
CSS	Mathiatis	86.95	305	P	P	12 07 51.3	-0.5
CSS	Mathiatis	86.95	305	P	P	12 07 51.5	-0.3
	comp=Z,4μmcomp=Z,414nm,0.8s						
AK09	Malin Array Si	86.99	321	P	P	12 07 50.9	-0.6
AK08	Malin Array Si	87.00	321	P	P	12 07 50.7	-0.9
AKASG	Malin Array Be	87.01	321	P	P	12 07 50.0	-1.7
	comp=Z,45nm,0.7s,baz=64,slow=4.5,SNR=91						
AKASG				S	SKSac	12 18 20.5	+3.5
	comp=Z,1.6nm,0.7s,baz=68,slow=11,SNR=5.0						
	comp=Z,45nm,0.7s						
AKASG	Malin Array Be	87.01	321	ceP	P	12 07 50.7	-0.9
AKASG				pmax	pmax		
	comp=Z,39nm,0.6s						
AKBB	Malin Array Si	87.01	321	IAmb	IAmb	12 07 54.2	
	comp=Z,310nm,1.1s						
AKBB	Malin Array Si	87.01	321	ceP	P	12 07 50.1	-1.5
AKBB				pmax	pmax		
	comp=Z,367nm,1.3s						
AKBB	Malin Array Si	87.01	321	P	P	12 07 51.0	-0.6
MNK	Minsk	87.01	325	i P	P	12 07 50.4	-1.2
MNK				i		12 11 13.7	
MNK				i PPP	PPP	12 13 08.3	
MNK				i S	SKSac	12 18 17.1	+0.2
MNK				i		12 18 37.1	
MNK				i SS	SS	12 24 14.8	+3.6
MNK				i SSS	SSS	12 27 47.7	
MNK				pmax	pmax		
	comp=E,32nm,0.9s						
MNK				pmax	pmax		
	comp=N,18nm,0.8s						
MNK				pmax	pmax		
	comp=Z,76nm,0.8s						
MNK				MLR	MLR		
	comp=N,3μm,18.0s						
MNK				MLR	MLR		
	comp=Z,4μm,18.0s						
MNK				MLR	MLR		
	comp=E,2μm,17.0s						
KIEV	Kiev	87.02	321	P	P	12 07 50.4	-1.3
KIEV				IAmb	IAmb	12 07 54.2	
	comp=Z,279nm,1.1s						
KIEV	Kiev	87.02	321	IAMs_20	IAMs_20	12 52 12.1	
	comp=Z,3μm,18.0s						
KIEV	Kiev	87.02	321	⇑P	P	12 07 50.8	-0.8
KIEV	Kiev	87.02	321	P	P	12 07 50.4	-1.3
KIEV				pmax	pmax		
	comp=Z,279nm,1.2s						
KIEV	Kiev	87.02	321	i P	P	12 07 50.9	-0.8
	SNR=83						
KIEV	Kiev	87.02	321	P	P	12 07 50.8	-0.8
	comp=Z,15μmcomp=Z,881nm,1.4s						
AK05	Malin Array Si	87.04	321	P	P	12 07 51.1	-0.7
NOR	Nord	87.06	355	i P	P	12 07 51.6	+0.2
NOR				IAmb	IAmb	12 07 55.1	
	comp=Z,449nm,1.3s						
PPT	Papeete	87.31	108	P	P	12 07 54.0	+0.3
	comp=Z,20nm,0.8s,baz=312,slow=8.3,SNR=6.2						
PPT				LR	LR	12 39 17.4	
	comp=Z,3μm,21.5s,baz=264,slow=30						
	comp=Z,20nm,0.8s						
PPTF	Pamatai, Papee	87.32	108	P	P	12 07 56.2	+2.3
PURM	Purcari	87.42	317	⇓P	P	12 07 53.0	-0.7
PURM	Purcari	87.42	317	P	P	12 07 53.4	-0.3
	comp=Z,221nm,0.5s						
MEF	Metsahovi	87.47	331	eP	P	12 07 53.6	0.0
Q32M	Nakina River	87.48	31	P	P	12 07 55.0	+0.9
	baz=285						
Q32M				S	S	12 18 30.1	-3.3
	baz=285						
VAF	Ylistaro	87.49	334	eP	P	12 07 53.6	-0.1
NACGM	Naroch	87.54	325	⇓i P	P	12 07 53.7	-0.5
	baz=76						
MDUB	Mudurnu	87.64	311	P	P	12 07 54.5	-0.6
C36M	Paulatuk	87.65	20	P	P	12 07 52.7	-1.6
C36M	Paulatuk	87.65	20	P	P	12 07 53.9	-0.4
	baz=292						
C36M				S	S	12 18 32.5	-1.6
	baz=292						
T33K	Petersburg	87.66	33	P	P	12 07 55.4	+0.8
	baz=284						
T33K				S	S	12 18 33.0	-1.7
	baz=284						
U33K	Whale Pass	87.74	33	P	P	12 07 54.9	-0.2
	baz=284						
U33K				S	S	12 18 35.9	+0.5
	baz=284						
U33K				S	S	12 18 35.9	+0.5
	baz=284						
IIGN	Ignalina	87.75	326	eP	P	12 07 54.4	-0.7
CRAG	Craig	87.90	34	P	P	12 07 55.7	-0.1
	baz=284						
CRAG				S	S	12 18 36.4	-0.6
	baz=284						
CRAG	Craig	87.90	34	P	P	12 07 58.5	+2.7
MI28	Mi28,Pidlybu	87.92	321	P	P	12 07 54.8	-1.2
	comp=Z,29μmcomp=Z,2μm,0.8s						
R33M	Jennings River	88.01	30	P	P	12 07 56.9	+0.5
	baz=286						
R33M				S	S	12 18 37.0	-1.3
	baz=286						
MILM	Milestii Mici	88.06	317	⇓P	P	12 07 55.5	-1.3
MILM	Milestii Mici	88.06	317	P	P	12 07 55.5	-1.3
WRAK	Wrangell Islan	88.08	33	P	P	12 07 56.6	-0.1
	baz=285						
WRAK				S	S	12 18 38.8	+0.1
	baz=285						
MTSE	Matsula	88.16	329	eP	P	12 07 56.9	0.0
S34M	Telegraph Cree	88.33	31	P	P	12 07 58.3	+0.5
	baz=286,SNR=12						
S34M				S	S	12 18 39.0	-2.1
	baz=286						

TLCR 88.42 315 ⇓P P 12 07 57.1 -1.4
TLCR 88.42 315 P P 12 07 57.1 -1.4
RAF Rauma 88.49 332 *e*P P 12 07 58.8 +0.3
NDNU Novodnistrovsk 88.64 319 P P 12 07 57.8 -1.7
ISP Isparta 88.66 308 P P 12 07 59.7 -0.3
ISP IAmb IAmb 12 08 07.4
comp=Z,97nm,0.7s
ISP Isparta 88.66 308 *ce*P P 12 07 59.7 -0.3
ISP pmax pmax
comp=Z,122nm,1.0s
EUNU Eureka 88.72 5 P P 12 07 57.7 -1.7
STEI Steigen 88.74 339 *e*P P 12 07 58.5 -1.1
STEI *e*SKSac **SKSac** 12 18 27.9 +1.1
STEI IAMs_20 IAMs_20 12 52 41.7
comp=Z,3μm,16.8s
DLBC Dease Lake 88.75 31 LR LR 12 44 46.2
comp=Z,890nm,20.9s,baz=289,slow=34
DLBC Dease Lake 88.75 31 P P 12 08 00.4 +0.5
baz=286,SNR=17
DLBC S S 12 18 43.7 -1.5
baz=286
KIBK Kibwezi 88.76 267 IAmb IAmb 12 08 04.1
comp=Z,183nm,0.9s
KIBK IAMs_20 IAMs_20 12 51 27.4
comp=Z,2μm,18.0s
KIBK Kibwezi 88.76 267 P P 12 07 59.6 -1.3
KIBK Kibwezi 88.76 267 P P 12 08 01.0 +0.1
SNR=52
TPGR Topolog 88.76 315 ⇓P P 12 07 59.6 -0.6
V35K Ketchikan 88.77 34 P P 12 08 00.4 +0.5
baz=285
V35K S S 12 18 44.3 -0.9
baz=285
V35K S S 12 18 44.3 -0.9
baz=285
VLDR Vladesti 88.78 316 ⇓P P 12 08 00.8 +0.6
DIB Dawson Inlet, 88.83 36 P P 12 07 59.3 -1.0
VSVD Vaisvydziai 88.84 327 *e*P P 12 07 59.6 -0.6
TIRR Tirgusor 88.86 315 IAMs_20 IAMs_20 12 53 42.6
comp=Z,3μm,20.0s
TIRR Tirgusor 88.86 315 P P 12 08 00.1 -0.5
comp=Z,2μmcomp=Z,101nm,0.8s
WTLY Watson Lake, Y 88.86 29 P P 12 08 00.2 -0.2
WTLY IAmb IAmb 12 08 05.0
comp=Z,136nm,1.0s
WTLY Watson Lake, Y 88.86 29 P P 12 08 01.1 +0.8
baz=288,SNR=59
WTLY S S 12 18 44.7 -1.3
baz=288
SCTR Scanteiesti 88.88 316 ⇑P P 12 08 00.8 +0.1
CFR Carcaliu 88.89 316 ⇑P P 12 08 00.5 -0.3
CFR Carcaliu 88.89 316 P P 12 08 00.4 -0.3
RNPP9 Sopachiv 88.90 322 P P 12 08 00.3 -0.3
FAUS Fauske 88.94 339 *e*P P 12 07 58.9 -1.6
FAUS *e*SKSac **SKSac** 12 18 25.8 -2.2
FAUS IAMs_20 IAMs_20 12 52 34.3
comp=Z,5μm,19.8s
PABE Paberze 88.95 326 *e*P P 12 08 01.0 +0.2
NEGRR Negrea 88.99 316 ⇑P P 12 08 02.8 +1.6
T35M Bob Quinn 89.05 32 IAMs_20 IAMs_20 12 54 19.3
comp=Z,2μm,18.0s
T35M Bob Quinn 89.05 32 P P 12 08 01.8 +0.5
baz=286,SNR=10
T35M S S 12 18 48.2 +0.2
baz=286
TUDR 89.12 316 ⇑P P 12 08 01.6 -0.2
HARR Harsova 89.14 315 ⇓P P 12 08 01.4 -0.6
HARR Harsova 89.14 315 P P 12 08 01.3 -0.6
PSN Preselentsi 89.23 314 *i*P P 12 08 03.8 +1.4
KMPD K-Podol'skiy 89.23 319 P P 12 08 00.5 -1.8
LOF Lofoten 89.24 340 *e*P P 12 08 01.7 -0.2
LOF *e*SKSac **SKSac** 12 18 29.1 -0.7
LOF IAMs_20 IAMs_20 12 54 56.3
comp=Z,4μm,16.1s
MAW Mawson 89.29 200 P P 12 08 01.3 -0.7
comp=Z,127nm,1.1s,baz=60,slow=4.6,SNR=13
MAW LR LR 12 44 37.3
comp=Z,2μm,20.6s,baz=54,slow=33
comp=Z,127nm,1.1s
COSR Cosmesti PH 89.30 316 ⇑P P 12 08 05.0 +2.3
KMBO Kilima Mbogo 89.34 269 P P 12 08 03.2 -0.6
KMBO IAmb IAmb 12 08 07.7
comp=Z,194nm,1.1s
KMBO Kilima Mbogo 89.34 269 P P 12 08 04.2 +0.4
KMBO Kilima Mbogo 89.34 269 P P 12 08 03.2 -0.6
KMBO pmax pmax
comp=Z,194nm,1.1s
KMBO MLR MLR
comp=Z,3μm,18.0s
KMBO Kilima Mbogo 89.34 269 *i*P P 12 08 03.1 -0.6
SNR=26
ELL Elmali 89.35 307 P P 12 08 02.5 -0.8
ELL Elmali 89.35 307 P P 12 08 02.5 -0.8
ELL pmax pmax
comp=Z,288nm,0.8s
PANC Panciu 89.41 316 ⇑P P 12 08 04.0 +0.9
VNDA Vanda 89.44 173 P P 12 08 01.3 -1.3
VNDA Vanda 89.44 173 P P 12 08 01.1 -1.4
comp=Z,45nm,0.9s,baz=309,slow=6.7,SNR=29
VNDA PP **PP** 12 11 36.8 +2.8
comp=Z,21nm,1.0s,baz=327,slow=9.2,SNR=4.8
VNDA PKKPbc **PKKPbc** 12 25 42.0 +0.7
comp=Z,3.4nm,0.7s,baz=214,slow=3.7,SNR=4.4
VNDA LR LR 12 48 09.1
comp=Z,2μm,19.2s,baz=341,slow=36
comp=Z,45nm,0.9s
VNDA Vanda 89.44 173 P P 12 08 01.3 -1.3
VNDA pmax pmax
comp=Z,62nm,0.9s
U35K Hyder 89.47 33 IAMs_20 IAMs_20 12 40 04.5
comp=Z,2μm,22.0s
U35K Hyder 89.47 33 P P 12 08 03.2 0.0
baz=287
U35K S S 12 18 51.7 -0.1
baz=287
TESR Tescani 89.60 317 ⇓P P 12 08 03.6 -0.5
TESR Tescani 89.60 317 P P 12 08 02.8 -1.3
comp=Z,2μmcomp=Z,149nm,1.2s
PRAR RASCA 89.67 318 ⇑P P 12 08 04.8 +0.4
VRI Vrincioaia 89.70 316 ⇓P P 12 08 04.5 -0.1
VRI Vrincioaia 89.70 316 P P 12 08 05.1 +0.5
VRI pmax pmax
comp=Z,124nm,1.1s
VRI Vrincioaia 89.70 316 P P 12 08 04.8 +0.2
comp=Z,2μmcomp=Z,124nm,1.1s
MOR8 Moi Rana 89.73 338 *e*P P 12 08 02.0 -2.3
MOR8 *e*SKSac **SKSac** 12 18 33.2 +0.5
MOR8 IAMs_20 IAMs_20 12 53 00.6
comp=Z,3μm,19.1s
PLOR Plostina 89.75 316 ⇓P P 12 08 05.2 +0.3
PLOR Plostina 89.75 316 P P 12 08 06.4 +1.5
PLOR3 Plostina Array 89.76 316 P P 12 08 04.7 -0.2
comp=Z,2μmcomp=Z,64nm,1.1s
BISRR Bisoca 89.78 316 ⇑P P 12 08 05.1 0.0
BISRR Bisoca 89.78 316 P P 12 08 05.2 +0.1
comp=Z,4μmcomp=Z,280nm,1.2s
SUW Suwalki 89.80 325 *e*P P 12 08 04.4 -0.4
SUW Suwalki 89.80 325 P P 12 08 03.8 -1.0
SUW Suwalki 89.80 325 P P 12 08 03.8 -1.0
SUW pmax pmax
comp=Z,346nm,1.1s
SUW MLR MLR
comp=Z,5μm,19.0s
SUW Suwalki 89.80 325 *e*P P 12 08 04.8 0.0
ONER Baraj Valea Uz 89.81 317 ⇓P P 12 08 05.3 +0.2
HG4B Hotspring 89.82 37 P P 12 08 03.9 -1.1
PRD Provadia 89.85 314 *i*P P 12 08 06.3 +1.0
ISR Istrita 90.00 316 ⇑P P 12 08 07.4 +1.3
ISR Istrita 90.00 316 P P 12 08 07.3 +1.3
KONS Konsvik 90.08 338 *e*P P 12 08 05.3 -0.5
NEHR Nehoiu 90.10 316 ⇓P P 12 08 07.2 +0.7
WRGLY Wrigley 90.18 25 P P 12 08 05.1 -1.3
WRGLY Wrigley 90.18 25 P P 12 08 06.6 +0.2
baz=292
WRGLY S S 12 18 56.5 -1.6
baz=292
STOK Stokkvaagen 90.19 338 *e*P P 12 08 04.2 -2.1
STOK *e*SKSac **SKSac** 12 18 36.9 +1.6
STOK IAMs_20 IAMs_20 12 53 20.5
comp=Z,5μm,23.4s
LEIR Leirfjorden 90.25 338 *e*P P 12 08 05.0 -1.6
LEIR *e*SKSac **SKSac** 12 18 39.0 +3.3
LEIR IAMs_20 IAMs_20 12 53 24.4
comp=Z,5μm,17.9s
BUR08 Bucovina Ar. S 90.28 318 P P 12 08 06.2 -1.2

OZUR 90.28 317 ⇓P P 12 08 10.4 +3.1
MLR Muntele Rosu 90.32 316 P P 12 08 06.4 -1.2
MLR Muntele Rosu 90.32 316 LR LR 12 53 55.0
comp=Z,4μm,19.4s,baz=56,slow=39
MLR Muntele Rosu 90.32 316 ⇓P P 12 08 06.8 -0.9
MLR Muntele Rosu 90.32 316 P P 12 08 06.4 -1.2
MLR pmax pmax
comp=Z,55nm,0.9s
MLR Muntele Rosu 90.32 316 P P 12 08 07.2 -0.4
comp=Z,1μmcomp=Z,69nm,0.8s
LODK Lodwar 90.44 274 P P 12 08 07.5 -1.2
LODK IAMs_20 IAMs_20 12 48 09.4
comp=Z,3μm,21.0s
LODK Lodwar 90.44 274 P P 12 08 08.7 0.0
SNR=15
STNU Starunia 90.45 320 P P 12 08 07.4 -0.6
YER Yerkesik 90.55 308 P P 12 08 09.8 +1.0
DOPR Dopca 90.58 317 ⇑P P 12 08 08.7 0.0
JMB Yambol 90.64 313 *i*P P 12 08 10.2 +1.2
MORS Morshin 90.73 320 P P 12 08 09.1 -0.2
MORS Morshin 90.73 320 P P 12 08 09.1 -0.2
SZH Strazhitsa 90.84 314 *i*P P 12 08 11.5 +1.5
ARG Arkhangelos 90.87 307 P P 12 08 09.7 -0.5
ARG IAmb IAmb 12 08 25.9
comp=Z,131nm,0.9s
ARG Arkhangelos 90.87 307 P P 12 08 09.7 -0.5
ARG pmax pmax
comp=Z,131nm,0.9s
VOIR 90.94 316 ⇑P P 12 08 11.7 +1.2
VOIR 90.94 316 P P 12 08 11.6 +1.2
ARCR ARCALIA 90.98 318 ⇑P P 12 08 11.9 +1.4
TOAD Toad River Com 90.99 30 P P 12 08 10.0 -0.3
baz=291
TOAD S S 12 19 03.3 -2.6
baz=291
SHIU Shidnytsya 91.04 320 P P 12 08 10.6 -0.2
KOTAN Kotaneelee Air 91.08 28 P P 12 08 10.8 +0.1
baz=292
KOTAN S S 12 19 05.8 -0.9
baz=292
DAG Danmarks Havn 91.24 352 P P 12 08 06.3 -4.8
DAG Danmarks Havn 91.24 352 P P 12 08 10.1 -1.0
DAG pmax pmax
comp=Z,432nm,1.6s
DAG Danmarks Havn 91.24 352 *i*P P 12 08 09.5 -1.6
DAG IAmb IAmb 12 08 13.9
comp=Z,238nm,0.9s
ARR Arges 91.25 316 ⇓P P 12 08 12.2 +0.3
KWP Kalwaria Pacla 91.33 321 P P 12 08 11.3 -0.8
KWP Kalwaria Pacla 91.33 321 P P 12 08 11.3 -0.8
KWP Kalwaria Pacla 91.33 321 P P 12 08 11.9 -0.2
comp=Z,4μmcomp=Z,372nm,1.1s
NSS Namsos 91.37 337 *e*P P 12 08 10.6 -1.3
NSS *e*SKSac **SKSac** 12 18 42.6 +0.4
NSS IAMs_20 IAMs_20 12 54 11.0
comp=Z,5μm,17.6s
BMR Baia Mare 91.38 319 ⇑P P 12 08 13.8 +1.5
BMR Baia Mare 91.38 319 P P 12 08 13.8 +1.5
TNR Turnu Rosu 91.41 317 ⇑P P 12 08 13.6 +0.9
TNR Turnu Rosu 91.41 317 P P 12 08 13.5 +0.9
EZN Ezine 91.42 311 P P 12 08 11.2 -1.5
PVL Pavlikeni 91.45 314 *i*P P 12 08 14.9 +2.1
R9F13 Warsaw-Wawer 91.50 324 *e*P P 12 08 14.0 +1.2
SMG Samos 91.54 309 P P 12 08 14.5 +1.2
CJR Cluj-Napoca 91.58 318 ⇓P P 12 08 14.4 +1.0
CJR Cluj-Napoca 91.58 318 P P 12 08 14.3 +1.0
BBB Bella Bella 91.67 36 LR LR 12 44 13.7
comp=Z,1μm,21.1s,baz=284,slow=32
VLAD Vladila 91.76 315 ⇓P P 12 08 14.0 -0.2
KARP Karpathos 91.78 306 *e*P P 12 08 13.7 -0.8
KARP Karpathos 91.78 306 P P 12 08 13.7 -0.8
comp=Z,288nm,1.4s
KOLS Kolonicke sedl 91.81 320 *e*P P 12 08 14.3 0.0
KOLS pmax pmax
comp=Z,34nm,0.7s
KOLS Kolonicke sedl 91.81 320 *e*P P 12 08 14.3 0.0
LOT Lotru 91.81 317 ⇑P P 12 08 14.4 -0.2
BEL Belsk 91.83 323 *e*P P 12 08 14.2 -0.1
HOLU Holmets 91.85 320 P P 12 08 15.4 +0.9
UZHM Uzhgorod 91.88 320 P P 12 08 14.2 -0.4
MARR Marisel-Cluj 91.91 318 ⇑P P 12 08 14.5 -0.5
RES Resolute Bay 91.95 10 IAmb IAmb 12 08 19.0
comp=Z,155nm,1.0s
RES Resolute Bay 91.95 10 LR LR 12 55 27.7
comp=Z,1μm,18.2s,baz=330,slow=39
RES Resolute Bay 91.95 10 P P 12 08 14.7 +0.3
RES pmax pmax
comp=Z,213nm,1.4s
PLD Plovdiv 92.00 313 *i*P P 12 08 17.4 +2.1
DRGR 92.14 318 ⇓P P 12 08 15.7 -0.2
DRGR 92.14 318 P P 12 08 15.8 -0.2
DRGR pmax pmax
comp=Z,44nm,0.8s
DEV Deva 92.27 317 ⇑P P 12 08 15.7 -0.9
DEV Deva 92.27 317 P P 12 08 15.6 -0.9
STHS Stebnicka Huta 92.31 321 *e*P P 12 08 16.7 +0.1
STHS pmax pmax
comp=Z,63nm,0.8s
STHS Stebnicka Huta 92.31 321 *e*P P 12 08 16.7 +0.1
PGB Panagyurishte 92.32 314 *i*P P 12 08 17.9 +1.1
MPEP Malo Peshtene 92.40 315 *i*P P 12 08 19.1 +1.9
GZR Gura Zlata 92.50 317 ⇓P P 12 08 17.9 +0.2
GZR Gura Zlata 92.50 317 P P 12 08 17.8 +0.2
VALD Valchedram 92.52 315 *i*P P 12 08 17.4 -0.3
HFS Hagfors 92.53 332 P P 12 08 15.8 -1.5
comp=Z,105nm,0.7s,baz=90,slow=4.4,SNR=71
HFS LR LR 12 54 47.6
comp=Z,3μm,19.2s,baz=66,slow=39
comp=Z,105nm,0.7s
TBLU Trondheim 92.62 336 *e*P P 12 08 16.2 -1.5
TBLU IAMs_20 IAMs_20 12 54 20.8
comp=Z,5μm,16.5s
ZKR Zakros 92.63 306 P P 12 08 19.7 +1.3
SURR Surduc 92.83 317 ⇑P P 12 08 18.1 -1.0
NVR Nevrokopi 92.85 313 P P 12 08 18.9 -0.4
PLNA Plana 92.86 314 *i*P P 12 08 18.7 -0.8
MMB Musomishta 92.88 313 *i*P P 12 08 20.0 +0.5
HERR Herculane 92.89 316 ⇓P P 12 08 19.5 +0.1
NIE Niedzica 92.89 321 *e*P P 12 08 20.4 +1.1
NIE Niedzica 92.89 321 P P 12 08 19.4 +0.1
comp=Z,1μmcomp=Z,58nm,1.2s
NEEM North Greenlan 92.90 359 *i*P P 12 08 19.3 +0.1
NEEM IAmb IAmb 12 08 22.6
comp=Z,910nm,1.5s
OJC Ojcow 92.94 322 *e*P P 12 08 19.4 -0.1
OJC Ojcow 92.94 322 IAmb IAmb 12 08 22.1
comp=Z,102nm,1.0s
OJC Ojcow 92.94 322 P P 12 08 19.7 +0.2
OJC pmax pmax
comp=Z,105nm,1.0s
OJC Ojcow 92.94 322 P P 12 08 19.1 -0.4
comp=Z,2μmcomp=Z,105nm,1.0s
VTS Vitosha 92.96 314 *i*P P 12 08 21.7 +1.8
SIRR Siria 92.99 318 ⇑P P 12 08 19.3 -0.6
BLEU Blekinge 93.03 328 *i*P P 12 08 19.8 +0.1
BLEU IAmb IAmb 12 08 21.2
comp=Z,31nm,0.9s
KECS Kecovo 93.07 320 *e*P P 12 08 20.8 +0.7
KECS Kecovo 93.07 320 *e*P P 12 08 20.8 +0.7
NC303 NORSAR Array S 93.09 334 P P 12 08 18.0 -1.9
BZS Buzias 93.21 317 ⇓P P 12 08 19.9 -1.0
BZS Buzias 93.21 317 P P 12 08 19.8 -1.0
NC602 NORSAR Array S 93.23 333 P P 12 08 19.8 -0.8
NC602 IAmb IAmb 12 08 22.2
comp=Z,134nm,1.4s
NC602 NORSAR Array S 93.23 333 *e*P P 12 08 20.6 0.0
NB2 NORSAR Subarra 93.24 334 P P 12 08 19.4 -1.3
comp=Z,68nm,0.8s,baz=67,slow=4.6
NB2 PKKP **PKKPbc** 12 25 30.4 -0.4
comp=Z,0.9nm,0.7s,baz=232,slow=2.0
NB2 NORSAR Subarra 93.24 334 P P 12 08 19.4 -1.3
baz=67,slow=4.6
NOA NORSAR Array B 93.24 334 P P 12 08 19.6 -1.1
comp=Z,31nm,0.7s,baz=64,slow=4.5,SNR=41
NOA PKKPbc **PKKPbc** 12 25 30.3 -0.5
comp=Z,1.2nm,0.8s,baz=70,slow=2.8,SNR=5.1
NOA LR LR 12 54 30.8
comp=Z,3μm,18.7s,baz=60,slow=38
comp=Z,31nm,0.7s
NC204 NORSAR Array S 93.33 334 IAmb IAmb 12 08 23.0
comp=Z,99nm,0.9s
TULEG Thule 93.36 4 P P 12 08 20.8 -0.1
TULEG IAmb IAmb 12 08 24.9
comp=Z,122nm,1.2s

TULEG IAMs_20 IAMs_20 12 56 25.0
comp=Z,2μm,19.0s
TULEG Thule 93.36 4 *i*P P 12 08 22.4 +1.5
TULEG IAmb IAmb 12 08 23.9
comp=Z,134nm,1.3s
SOH Sokhos 93.36 312 P P 12 08 20.7 -1.0
PAIG Paliouri 93.37 311 P P 12 08 20.0 -1.7
GKP Gorka Klasztor 93.39 325 *e*P P 12 08 23.0 +1.5
GKP Gorka Klasztor 93.39 325 *e*P P 12 08 21.2 -0.3
PLG Polygyros 93.42 312 P P 12 08 20.7 -1.3
PEHC Pehcevo 93.43 313 *i*P P 12 08 21.9 -0.2
NBO00 NORSAR Array S 93.43 334 IAmb IAmb 12 08 24.2
comp=Z,277nm,1.8s
LANS Liptovska Anna 93.49 321 *e*P P 12 08 22.9 +0.8
LANS pmax pmax
comp=Z,14nm,0.8s
LANS Liptovska Anna 93.49 321 *e*P P 12 08 22.9 +0.8
DBG Daneborg 93.52 351 *i*P P 12 08 21.1 -0.5
DBG IAmb IAmb 12 08 25.0
comp=Z,552nm,1.6s
HORT Hortiatis 93.61 312 P P 12 08 20.9 -2.0
PSZ Piszkesteto 93.62 320 IAmb IAmb 12 08 26.0
comp=Z,122nm,1.5s
PSZ Piszkesteto 93.62 320 ⇓P P 12 08 22.8 -0.1
PSZ Piszkesteto 93.62 320 P P 12 08 22.7 -0.1
PSZ Piszkesteto 93.62 320 *e*P P 12 08 23.1 +0.3
IDI Anoyia 93.64 307 IAmb IAmb 12 08 25.3
comp=Z,90nm,1.0s
IDI Anoyia 93.64 307 P P 12 08 22.9 -0.3
IDI Anoyia 93.64 307 P P 12 08 21.5 -1.7
DOMB Dombas 93.68 335 *e*P P 12 08 20.6 -2.1
DOMB *e*SKSac **SKSac** 12 18 58.6 +3.3
DOMB IAMs_20 IAMs_20 12 54 43.5
comp=Z,6μm,18.0s
BOVS Bovan 93.74 315 ⇓P P 12 08 22.8 -0.5
VAY Valandovo 93.80 313 *i*P P 12 08 21.8 -1.8
JMIC Jan Mayen 93.92 347 LR LR 12 57 04.8
comp=Z,1μm,18.5s,baz=68,slow=40
DEL Delary 93.95 329 *i*P P 12 08 22.0 -2.0
OSL Oslo 93.95 333 *e*P P 12 08 23.3 -0.6
OSL *e*SKSac **SKSac** 12 19 00.7 +4.0
OSL IAMs_20 IAMs_20 12 53 06.0
comp=Z,57μm,96.4s
BSD Bornholm Skovb 93.96 328 *e*P P 12 08 23.4 -0.7
BSD Bornholm Skovb 93.96 328 *i*P P 12 08 22.7 -1.4
BSD IAmb IAmb 12 08 26.1
comp=Z,91nm,0.8s
CBB Campbell River 94.01 38 IAmb IAmb 12 08 43.0
comp=Z,184nm,2.0s
GRG Griva 94.02 313 P P 12 08 23.8 -0.9
MOL Molde 94.04 336 *e*P P 12 08 24.1 -0.2
MOL IAMs_20 IAMs_20 12 55 18.4
comp=Z,6μm,18.2s
OKC Ostrava-Krasne 94.07 322 *e*P P 12 08 24.8 +0.1
OKC *e*S S 12 19 35.7 +2.0
OKC AMS AMS 12 56 00.0
comp=Z,2μm,19.2s
OKC Ostrava-Krasne 94.07 322 *e*P P 12 08 24.8 +0.1
OKC *e* 12 19 35.7
OKC MLR MLR
comp=Z,2μm,19.2s
VYHS Vyhne 94.11 321 *e*P P 12 08 24.9 0.0
VYHS pmax pmax
comp=Z,94nm,1.5s
VYHS Vyhne 94.11 321 *e*P P 12 08 24.9 0.0
YKA Yellowknife Ar 94.15 24 P P 12 08 24.0 -0.8
YKA Yellowknife Ar 94.15 24 P P 12 08 24.6 -0.1
comp=Z,62nm,0.8s,baz=297,slow=4.4,SNR=157
YKA PKiKP **PKiKP** 12 13 09.0 +0.3
comp=Z,1.1nm,0.6s,baz=311,slow=1.9,SNR=5.5
YKA S **SKSac** 12 18 58.5 +0.7
comp=Z,2.2nm,1.1s,baz=309,slow=5.4,SNR=5.3
YKA PKKPbc **PKKPdf** 12 25 26.4 -0.3
comp=Z,1.8nm,0.8s,baz=130,slow=2.5,SNR=14
YKA PKPPKP **P'P'df** 12 33 42.3 +2.6
comp=Z,0.4nm,0.8s,baz=128,slow=1.9,SNR=4.0
YKA LR LR 12 51 31.6
comp=Z,1μm,21.7s,baz=297,slow=36
comp=Z,62nm,0.8s
STRU Stroemstad 94.15 332 *i*P P 12 08 23.3 -1.6
LIT Litokhoron 94.20 312 IAmb IAmb 12 08 26.7
comp=Z,114nm,1.3s
LIT Litokhoron 94.20 312 P P 12 08 24.0 -1.6
STEB Steborice 94.27 322 *e*P P 12 08 24.8 -0.8
FABU Falkenberg 94.31 330 *i*P P 12 08 23.5 -2.1
IMMV Iera Moni Meta 94.32 307 P P 12 08 25.9 -0.3
KTI Kastanea 94.39 312 P P 12 08 24.3 -2.3
TJOU Tjoern 94.39 331 *i*P P 12 08 24.3 -1.6
GVD Gavdhos 94.40 306 P P 12 08 27.6 +1.1
MAUC Maruska 94.43 322 *e*P P 12 08 26.8 +0.4
MAUC *e*S S 12 19 37.5 +0.6
KRND KRANIDI 94.45 309 P P 12 08 24.0 -2.7
AKN Aaknes 94.46 336 *e*P P 12 08 25.5 -0.8
AKN *e*SKSac **SKSac** 12 19 04.4 +4.9
AKN IAMs_20 IAMs_20 12 55 21.0
comp=Z,7μm,18.7s
MORC Moravsky Berou 94.46 322 P P 12 08 25.2 -1.4
MORC Moravsky Berou 94.46 322 *e*P P 12 08 25.9 -0.7
MORC Moravsky Berou 94.46 322 ⇓P P 12 08 25.9 -0.7
MORC Moravsky Berou 94.46 322 P P 12 08 25.2 -1.4
MORC pmax pmax
comp=Z,47nm,1.0s
TYRN Tyrnavos 94.50 311 P P 12 08 25.3 -1.6
LUNU Lund 94.52 328 *i*P P 12 08 24.8 -1.8
ONAU Onsala 94.53 330 *i*P P 12 08 24.7 -1.9
BJUU Bjuv 94.55 329 *i*P P 12 08 25.4 -1.3
KONO Kongsberg 94.59 333 *ce*P P 12 08 26.6 -0.3
KONO pmax pmax
comp=Z,277nm,2.5s
SKAR Skarslia 94.66 334 *e*P P 12 08 26.1 -1.2
SKAR *e*SKSac **SKSac** 12 19 01.3 +0.5
SKAR IAMs_20 IAMs_20 12 55 07.7
comp=Z,4μm,21.0s
SRO Srobarova 94.66 320 P P 12 08 28.1 +0.6
SRO pmax pmax
comp=Z,80nm,1.1s
SRO Srobarova 94.66 320 *e*P P 12 08 29.4 +1.9
JAVC Velka Javorina 94.70 321 *e*P P 12 08 28.2 +0.5
KRLC Kraliky 94.81 322 *e*P P 12 08 27.9 -0.3
KRLC AMS AMS 12 54 40.0
comp=Z,2μm,18.1s
KRLC Kraliky 94.81 322 *e*P P 12 08 27.9 -0.3
KRLC MLR MLR
comp=Z,2μm,18.1s
FNA Florina 94.81 313 P P 12 08 26.2 -2.2
KSP Ksiaz 94.82 323 *e*P P 12 08 27.3 -0.8
KSP Ksiaz 94.82 323 P P 12 08 28.0 -0.1
KSP pmax pmax
comp=Z,84nm,1.7s
KSP Ksiaz 94.82 323 P P 12 08 28.2 +0.1
comp=Z,2μmcomp=Z,84nm,1.7s
GUR Goura 94.92 310 P P 12 08 26.6 -2.4
OSTC Ostas 94.97 323 *e*P P 12 08 29.3 +0.4
OSTC *e*S S 12 19 44.7 +3.1
OSTC AMS AMS 12 55 00.0
comp=Z,3μm,19.0s
OSTC Ostas 94.97 323 *e*P P 12 08 29.3 +0.4
OSTC *e* 12 19 44.7
OSTC MLR MLR
comp=Z,3μm,19.0s
DPC Dobruska-Polom 94.99 323 *e*P P 12 08 28.8 -0.2
DPC *e*S S 12 19 39.4 -2.3
DPC AMS AMS 12 55 00.0
comp=Z,3μm,17.1s
DPC Dobruska-Polom 94.99 323 *e*P P 12 08 28.8 -0.2
DPC *e* 12 19 39.4
DPC MLR MLR
comp=Z,3μm,17.1s
DPC Dobruska-Polom 94.99 323 P P 12 08 29.0 0.0
comp=Z,1μmcomp=Z,48nm,2.1s
MORH Mrgy, Hungar 94.99 318 P P 12 08 28.5 -0.5
comp=Z,24nm,1.4s
RGN Rugen 95.03 327 *e*P P 12 08 29.3 +0.4
baz=64,slow=4.5
KLV Kalavryta, Ach 95.03 310 P P 12 08 27.4 -2.1
EVR Evrytania 95.04 311 P P 12 08 29.8 +0.3
CHVC Chvalec 95.06 323 *e*P P 12 08 29.8 +0.5
CHVC Chvalec 95.06 323 *e*P P 12 08 29.8 +0.5
KPRO Kipourio 95.07 312 P P 12 08 27.1 -2.5
EFP Efpalio 95.11 310 P P 12 08 27.1 -2.6
UPC Upice 95.11 323 *e*P P 12 08 29.6 +0.1
UPC AMS AMS 12 55 00.0
comp=Z,4μm,19.4s
UPC Upice 95.11 323 *e*P P 12 08 29.6 +0.1

UPC MLR MLR
comp=Z,4µm,19.4s
OHR Ohrid 95.13 313 *i* P **P 12 08 27.7 -2.1**
NEST Nestorio 95.16 312 P **P 12 08 28.1 -2.0**
PENT Pentalofos 95.16 312 P **P 12 08 28.8 -1.3**
CLRS Cowichan Lake 95.19 39 IAms_20 IAms_20 12 42 23.0
comp=Z,2µm,22.0s
VRAC Vranov 95.21 322 LR LR 12 55 09.6
comp=Z,2µm,19.2s,baz=74,slow=38
VRAC Vranov 95.21 322 *e*P **P 12 08 29.0 -1.0**
PHP Peshkopia 95.22 314 P **P 12 08 28.9 -1.3**
IVA Berane 95.23 315 ||*i*P **P 12 08 28.1 -2.2**
HYA Hoyanger 95.31 335 *e*P **P 12 08 29.9 -0.2**
HYA *e*SKSac **SKSac 12 19 03.8 -0.2**
HYA IAms_20 IAms_20 12 55 36.8
comp=Z,4µm,18.2s
MPLH Magyarpolny 95.38 320 P **P 12 08 30.3 -0.5**
comp=Z,3µmcomp=Z,196nm,1.4s
DRO Drossia 95.39 310 P **P 12 08 30.1 -1.0**
OVD Ostervraa, Den 95.40 331 *i* P **P 12 08 32.5 +1.9**
OVD IAmb IAmb 12 08 34.0
comp=Z,110nm,0.6s
KRUC Moravsky 95.42 322 *e*P **P 12 08 30.2 -0.7**
PLE Pljevlja 95.44 315 ||*i*P **P 12 08 30.4 -0.9**
ITM Ithomi 95.45 309 IAmb IAmb 12 08 32.7
comp=Z,195nm,1.5s
ITM Ithomi 95.45 309 P **P 12 08 29.5 -1.8**
PUK Puka 95.49 314 IAmb IAmb 12 08 33.9
comp=Z,174nm,1.7s
KOME Kolasin 95.50 315 ||*i*P **P 12 08 28.9 -2.7**
RLS Riolos of Patr 95.55 310 P **P 12 08 30.6 -1.1**
FOO Floro 95.55 336 *e*P **P 12 08 30.5 -0.7**
FOO IAms_20 IAms_20 12 56 03.5
comp=Z,7µm,17.8s
LSK Leskovik 95.57 312 P **P 12 08 30.5 -1.4**
RUE Ruedersdorf 95.63 325 *e*P **P 12 08 32.7 +1.0**
RUE Ruedersdorf 95.63 325 *e*P **P 12 08 32.1 +0.4**
comp=Z,137nm,1.0s,baz=64,slow=4.5
MBAR Mbarara 95.67 270 P **P 12 08 31.8 -1.2**
MBAR Mbarara 95.67 270 P **P 12 08 32.3 -0.6**
MBAR Mbarara 95.67 270 *i* P **P 12 08 32.1 -0.9**
MBAR pmax pmax
comp=Z,17nm,0.9s
PGC Sidney 95.67 39 IAms_20 IAms_20 12 43 00.8
comp=Z,2µm,22.0s
TIR Tirane 95.73 313 IAmb IAmb 12 08 46.6
comp=Z,99nm,1.1s
TIR IAms_20 IAms_20 12 58 48.9
comp=Z,3µm,20.0s
HOMB Homborsund 95.75 332 *i* P **P 12 08 33.0 +0.9**
KULLO Kullorsuaq 95.76 1 *i* P **P 12 08 31.1 -0.8**
KULLO IAmb IAmb 12 08 35.4
comp=Z,232nm,0.9s
ODD1 Odda 95.77 334 *e*P **P 12 08 32.1 -0.3**
PDG Podgorica 95.82 315 P **P 12 08 31.5 -1.4**
PDG IAms_20 IAms_20 12 56 42.9
comp=Z,3µm,21.0s
PDG Podgorica 95.82 315 ||*i*P **P 12 08 31.7 -1.2**
NLWA Neilton Lookou 95.87 40 IAms_20 IAms_20 12 43 04.1
comp=Z,3µm,22.0s
LLLB Lillooet 95.87 37 IAmb IAmb 12 08 38.1
comp=Z,132nm,1.5s
TREC Trest 95.88 322 *e*P **P 12 08 30.4 -2.7**
TREC Trest 95.88 322 *e*P **P 12 08 30.4 -2.7**
NKME Niksic 95.92 315 ||*i*P **P 12 08 30.6 -2.8**
NYDR Nydri-Lefkada 95.93 311 P **P 12 08 32.4 -1.0**
LKD2 Lefkada island 95.94 311 P **P 12 08 31.8 -1.7**
DRME Dracevica, Mon 95.95 314 ||*i*P **P 12 08 30.9 -2.6**
IGT Igoumenitsa 95.95 312 P **P 12 08 31.7 -1.9**
PVCC Panska Ves 95.96 323 AMS AMS 12 55 50.0
comp=Z,3µm,20.3s
SUE Sulen 95.96 335 *e*P **P 12 08 33.5 +0.5**
ULC Ulcinj 95.98 314 ||*i*P **P 12 08 31.7 -1.9**
RONA Rosalia, Austr 95.98 320 *i* PcP **P 12 08 33.5 0.0**
comp=Z,33nm,1.1s,SNR=13
EVGI Lefkada island 95.99 311 P **P 12 08 32.6 -1.1**
GOET G??ttrup 96.00 331 *i* P **P 12 08 33.0 -0.3**
GOET IAmb IAmb 12 08 35.5
comp=Z,297nm,1.3s
CEME Cevo 96.02 315 ||*i*P **P 12 08 30.9 -3.0**
WISH Wishkah 96.03 40 IAmb IAmb 12 08 39.5
comp=Z,107nm,1.1s
WISH IAms_20 IAms_20 12 52 13.4
comp=Z,3µm,20.0s
RTZL Ratzakli, Kefa 96.06 310 P **P 12 08 34.5 +0.4**
GOPC GO Pecny, Ondr 96.07 323 *e*P **P 12 08 34.2 +0.3**
GOPC *e*S **S 12 19 56.4 +5.3**
GOPC AMS AMS 12 58 30.0
comp=Z,2µm,14.8s
GOPC GO Pecny, Ondr 96.07 323 *e*P **P 12 08 34.2 +0.3**
GOPC *e* 12 19 56.4
GOPC MLR MLR
comp=Z,2µm,14.8s
ASK Askoy 96.09 335 *e*P **P 12 08 34.2 +0.5**
ASK IAms_20 IAms_20 12 56 05.8
comp=Z,4µm,19.0s
BLS5 Blasjo 96.10 334 *e*P **P 12 08 32.4 -1.4**
FSK Fiskardo 96.11 311 P **P 12 08 32.8 -1.5**
BUM Brajici-Budva 96.11 315 ||*i*P **P 12 08 32.2 -2.1**
BEHE Becsehely 96.12 319 IAms_20 IAms_20 13 00 58.4
comp=Z,2µm,20.0s
BRY Bratogost 96.17 315 ||*i*P **P 12 08 32.1 -2.5**
CONA Conrad Observa 96.17 321 *i* PcP **PcP 12 08 34.7 0.0**
comp=Z,66nm,1.3s,SNR=25
VLS Valsamata 96.17 310 P **P 12 08 34.7 +0.1**
PRU Pruhonice 96.18 323 *e*P **P 12 08 34.6 +0.2**
PRU *e*S **S 12 19 48.7 -3.3**
PRU AMS AMS 12 57 00.0
comp=Z,3µm,18.2s
PRU Pruhonice 96.18 323 *e*P **P 12 08 34.6 +0.2**
PRU *e* 12 19 48.7
PRU MLR MLR
comp=Z,3µm,18.2s
BRG Berggiesshubel 96.18 324 *e*P **P 12 08 33.7 -0.6**
BRG Amp 12 08 37.8
comp=Z,68nm,1.2s
BRG Berggiesshubel 96.18 324 Amp 12 12 26.9
comp=Z,18nm,1.3s
BRG PP **PP 12 12 24.6 -2.5**
BRG Berggiesshubel 96.18 324 S **S 12 19 53.0 +1.0**
BRG Berggiesshubel 96.18 324 SS SS 12 26 20.0 -3.3
BRG Berggiesshubel 96.18 324 *e*P **P 12 08 34.6 +0.3**
comp=Z,178nm,1.7s,baz=64,slow=4.5
PSDA Pessada-Kefalo 96.19 310 P **P 12 08 33.0 -1.6**
PRA Prague 96.22 323 AMS AMS 12 55 40.0
comp=Z,3µm,18.5s
RICC Richard 96.23 324 AMS AMS 12 56 00.0
comp=Z,3µm,19.0s
RADR Rader Ridge 96.27 41 IAmb IAmb 12 08 40.2
comp=Z,83nm,1.0s
RADR IAms_20 IAms_20 12 45 45.6
comp=Z,2µm,22.0s
MUD Monsted U'grnd 96.30 330 *i* P **P 12 08 35.5 +0.8**
MUD IAmb IAmb 12 08 37.3
comp=Z,271nm,1.6s
SNART Snartemo 96.31 332 *e*P **P 12 08 33.3 -1.4**
SNART Snartemo 96.31 332 *i* P **P 12 08 35.0 +0.3**
DMLN Damoulianata-K 96.31 310 P **P 12 08 34.2 -1.1**
HCY Herceg Novi 96.35 315 ||*i*P **P 12 08 33.1 -2.2**
KOGS Kog 96.46 319 *i* P **P 12 08 35.3 -0.4**
GNW Green Mountain 96.47 40 IAmb IAmb 12 08 41.0
comp=Z,86nm,1.2s
CLL Collm 96.55 325 *i* P **P 12 08 35.7 -0.3**
CLL *i* 12 08 41.2
CLL *e*S **S 12 19 54.0 -1.1**
CLL pmax pmax
comp=Z,95nm,1.4s
CLL MLR MLR
comp=Z,4µm,20.6s
CLL Collm 96.55 325 P **P 12 08 35.6 -0.4**
comp=Z,58nm,2.1s
CLL Collm 96.55 325 *i* P **P 12 08 35.7 -0.3**
comp=Z,95nm,1.4s
CLL *i* pP **pP 12 08 41.2 -2.5**
CLL *e*x x 12 09 31.0
CLL *e*PP **PP 12 12 25.0 -4.9**
CLL *e*PPIp 12 12 38.0
CLL *e*S **S 12 19 54.0 -1.1**
CLL *e*PS **PS 12 21 19.0 +0.5**
CLL *e*PPS PPS 12 22 06.0
CLL *e*SS **SS 12 26 36.0 +7.6**
CLL *e*SSS SSS 12 30 18.0
CLL *e*SSSS 12 33 36.0
CLL AMS AMS 12 57 00.0
comp=N,2µm,18.5s
CLL AMS AMS 12 57 00.0
comp=E,2µm,20.7s
CLL AMS AMS 12 57 00.0
comp=Z,4µm,20.6s
CLL Collm 96.55 325 *e*P **P 12 08 35.9 -0.1**
comp=Z,68nm,1.2s,baz=64,slow=4.5
HSKC Hora Svate Kat 96.59 324 *e*P **P 12 08 37.3 +1.1**
HSKC *e*S **S 12 19 51.3 -4.3**
F03A Seaside 96.60 41 IAmb IAmb 12 08 41.4
comp=Z,83nm,0.8s
F03A IAms_20 IAms_20 12 52 33.4
comp=Z,2µm,18.0s
ZVC Zvikov 96.61 323 *e*P **P 12 08 36.2 -0.1**
ARSA Arzberg 96.63 320 *i* PcP **P 12 08 36.5 0.0**
comp=Z,42nm,1.5s,SNR=11
ARSA Arzberg 96.63 320 P **P 12 08 36.1 -0.4**
GORT1 Trebel 96.78 327 *e*P **P 12 08 37.5 +0.6**
comp=Z,411nm,1.8s,baz=64,slow=4.5
GORT1 *e*pP **sP 12 08 47.6 -0.2**
CKRC Cesky Krumlov 96.78 322 *e*P **P 12 08 36.5 -0.6**
CKRC *e*S **S 12 19 53.4 -3.9**
CKRC AMS AMS 13 00 30.0
comp=Z,3µm,16.6s
CKRC Cesky Krumlov 96.78 322 *e*P **P 12 08 36.5 -0.6**
CKRC *e* 12 19 53.4
CKRC MLR MLR
comp=Z,3µm,16.6s
BSEG Bad Segeberg 96.89 328 *e*P **P 12 08 37.7 +0.3**
comp=Z,66nm,0.9s,baz=64,slow=4.5
SCO Scoresbysund 97.06 350 *i* P Pdif 12 08 38.3 +0.4
SCO IAmb IAmb 12 08 41.9
comp=Z,335nm,1.8s
I02E Swisshome, OR 97.06 43 P **P 12 08 37.3 -1.2**
KHC Kasperske Hory 97.10 322 *e*P **P 12 08 37.9 -0.7**
KHC *e*x x 12 08 50.0
KHC *e*S **S 12 19 53.0 -7.0**
KHC AMS AMS 12 58 50.0
comp=Z,4µm,18.3s
KHC Kasperske Hory 97.10 322 *c e*P **P 12 08 38.1 -0.5**
KHC pmax pmax
comp=Z,262nm,2.5s
KHC Kasperske Hory 97.10 322 P **P 12 08 38.4 -0.2**
comp=Z,51nm,1.4s
FLTG Flechtingen 97.11 326 *e*P **P 12 08 38.2 -0.2**
comp=Z,60nm,1.1s,baz=64,slow=4.5
PERS Pernice 97.12 320 *e*P **P 12 08 38.1 -0.6**
PERS *i* 12 08 40.2
D05A Enumclaw 97.13 40 P **P 12 08 37.9 -0.8**
D05A IAmb IAmb 12 08 44.2
comp=Z,250nm,1.8s
D05A IAms_20 IAms_20 12 43 55.5
comp=Z,2µm,21.0s
GEC2 GERESS Array S 97.14 322 IAmb IAmb 12 08 41.4
comp=Z,60nm,0.9s
GEC2 GERESS Array S 97.14 322 *e*P Pdif 12 08 39.0 +0.1
comp=Z,1µm,3.2s,baz=64,slow=4.5
GERES GERESS Array B 97.14 322 P **P 12 08 37.7 -1.2**
comp=Z,32nm,0.8s,baz=57,slow=4.9,SNR=44
GERES PKKPbc **PKKPbc 12 25 20.4 +0.3**
comp=Z,1.7nm,0.6s,baz=241,slow=2.7,SNR=6.3
comp=Z,32nm,0.8s
SCTE Santa Cesarea 97.15 313 P **P 12 08 38.5 -0.5**
SOKA Soboth 97.16 320 *i* P **P 12 08 38.1 -0.9**
comp=Z,40nm,1.4s,SNR=12
SOKA *i* SKS **SKSac 12 19 13.0 -1.5**
comp=Z,5.4nm,1.3s
MOA Molln 97.19 321 *i* PcP **P 12 08 39.0 0.0**
comp=Z,94nm,0.9s,SNR=33
MOA *i* SKS **SKSac 12 19 13.7 -0.8**
comp=Z,13nm,1.8s
SUMG Summit 97.21 355 *i* P Pdif 12 08 40.0 +0.9
SUMG IAmb IAmb 12 08 42.2
comp=Z,92nm,1.1s
TANN Tannenbergstha 97.23 324 *e*P Pdif 12 08 39.4 +0.1
comp=Z,65nm,1.4s,baz=64,slow=4.5
LEGS Legarje 97.25 319 *e*P **P 12 08 38.9 -0.4**
LEGS *e* 12 08 40.8
COR Corvallis 97.25 42 IAms_20 IAms_20 12 58 11.8
comp=Z,2µm,19.0s
NEUB Neuenburg 97.29 325 *e*P Pdif 12 08 39.5 +0.1
comp=Z,439nm,2.0s,baz=64,slow=4.5
NKC Novy Kostel 97.32 324 *e*P Pdif 12 08 41.3 +1.7
NKC AMS AMS 12 56 30.0
comp=Z,4µm,21.5s
NKC Novy Kostel 97.32 324 P Pdif 12 08 40.1 +0.5
NKC pmax pmax
comp=Z,42nm,1.7s
J01E Myrtle Point 97.34 44 IAms_20 IAms_20 12 42 51.2
comp=Z,2µm,20.0s
PLN Plauen 97.38 324 *e*P Pdif 12 08 40.1 +0.2
comp=Z,22nm,1.2s,baz=64,slow=4.5
LON Longmire 97.42 40 IAms_20 IAms_20 12 49 58.0
comp=Z,2µm,20.0s
KBO Bosley Butte 97.47 45 IAms_20 IAms_20 12 46 22.6
comp=Z,2µm,21.0s
OBKA Obir 97.53 320 *i* PcP **P 12 08 40.6 -0.1**
comp=Z,28nm,1.2s,SNR=6.9
OBKA *i* SKS **SKSac 12 19 15.2 -1.3**
comp=Z,7.6nm,1.3s
UPNV Upernavik 97.58 1 *i* P **P 12 08 39.0 -1.2**
UPNV IAmb IAmb 12 08 43.1
comp=Z,119nm,1.1s
BUCK Buck Mountain 97.61 43 P **P 12 08 40.4 -0.6**
BUCK IAmb IAmb 12 08 46.2
comp=Z,70nm,1.1s
BUCK IAms_20 IAms_20 12 43 40.2
comp=Z,2µm,20.0s
MANZ Manzenberg 97.62 324 *e*P Pdif 12 08 41.4 +0.4
comp=Z,64nm,2.1s,baz=64,slow=4.5
MOX Moxa 97.62 324 P **P 12 08 40.8 -0.1**
MOX pmax pmax
comp=Z,45nm,1.7s
MOX Moxa 97.62 324 *e*P Pdif 12 08 41.2 +0.2
comp=Z,43nm,1.1s,baz=64,slow=4.5
MOX *e*L L 12 56 29.9
comp=Z,3µm,20.3s
BIOA Bad Ischl, Aus 97.64 321 *e*PcP **P 12 08 40.6 -0.4**
comp=Z,49nm,1.1s,SNR=15
NRDL Niedersach Rie 97.65 326 *e*P Pdif 12 08 41.6 +0.7
comp=Z,163nm,1.4s,baz=64,slow=4.5
H04D Lebanon 97.65 42 P **P 12 08 40.0 -1.2**
H04D IAmb IAmb 12 08 46.3
comp=Z,173nm,1.7s
H04D IAms_20 IAms_20 12 43 28.4
comp=Z,2µm,22.0s
ROTZ Rotzenmuhle 97.65 323 *e*P Pdif 12 08 41.7 +0.6
comp=Z,18nm,1.3s,baz=64,slow=4.5
K02D Willamette Mer 97.69 44 P **P 12 08 40.2 -1.2**
CLZ Clausthal 97.80 326 *e*P Pdif 12 08 42.3 +0.5
comp=Z,97nm,1.1s,baz=64,slow=4.5
DBO Dodson Butte 97.83 44 P **P 12 08 41.4 -0.7**
DBO IAms_20 IAms_20 12 50 40.0
comp=Z,2µm,20.0s
KSXB Camp Six Broad 97.84 45 IAms_20 IAms_20 12 46 54.6
comp=Z,3µm,21.0s
SYO Syowa Base 97.92 201 ||*i*P Pdif 12 08 43.8 +2.1
SYO Syowa Base 97.92 201 ||*i*sP sP 12 08 53.0 +0.5
LTY Liberty 97.93 39 IAmb IAmb 12 08 47.0
comp=Z,93nm,1.6s
RETH Rethem/Aller, 97.94 327 *e*P Pdif 12 08 42.5 +0.3
comp=Z,667nm,1.6s,baz=64,slow=4.5
L02F Cave Junction 97.96 45 IAms_20 IAms_20 12 46 59.5
comp=Z,3µm,20.0s
H04A Detroit Lake 97.96 42 P **P 12 08 41.4 -1.2**
H04A IAmb IAmb 12 08 47.0
comp=Z,171nm,2.0s
H04A IAms_20 IAms_20 12 44 10.5
comp=Z,2µm,22.0s
MYKA Terra Mystica 98.06 320 *i* PcP **P 12 08 42.7 -0.3**
comp=Z,19nm,0.9s
HOOD Mount Hood Mea 98.07 41 IAms_20 IAms_20 12 54 16.3
comp=Z,2µm,18.0s
KBA Koelnbreinsper 98.07 321 *e*PcP **P 12 08 42.6 -0.6**
comp=Z,53nm,1.3s,SNR=18
KBA *e*SKS **SKSac 12 19 16.7 -2.7**
comp=Z,23nm,1.9s
KBA Koelnbreinsper 98.07 321 *e*P Pdif 12 08 43.9 +0.7
baz=64,slow=4.5
I04A Tendick Farm, 98.14 43 P **P 12 08 43.2 -0.2**
RJOB Jochberg 98.14 321 *e*P **P 12 08 43.3 0.0**
comp=Z,56nm,1.1s,baz=64,slow=4.5
GTTG Gottingen 98.16 326 *e*P Pdif 12 08 43.7 +0.4
comp=Z,70nm,0.9s,baz=64,slow=4.5
MATE Matera 98.22 314 *e*P **P 12 08 40.1 -3.6**
GRA1 Grafenberg Arr 98.26 324 IAmb IAmb 12 08 46.8
comp=Z,134nm,1.6s
GRF Grafenberg Arr 98.26 324 *e*P Pdif 12 08 44.4 +0.6
comp=Z,154nm,1.6s,baz=64,slow=4.5
GRF *e*L L 12 57 18.7
comp=Z,3µm,20.4s
GRFO Grafenberg 98.27 324 P **P 12 08 43.0 -0.8**
GRFO IAmb IAmb 12 08 46.8
comp=Z,119nm,1.5s
GRFO Grafenberg 98.27 324 P **P 12 08 43.0 -0.8**
KHMM Horse Mountain 98.28 46 IAms_20 IAms_20 12 47 26.2
comp=Z,3µm,19.0s
B08A Colville Reser 98.31 38 P **P 12 08 43.6 -0.4**
B08A IAmb IAmb 12 08 48.5
comp=Z,51nm,0.9s
LESA Schwarzleotal 98.34 321 *e*PcP **P 12 08 43.5 -0.8**
comp=Z,57nm,1.5s,SNR=17
LESA *i* SKS **SKSac 12 19 18.8 -1.7**
comp=Z,16nm,1.4s
SABO M.te Sabotino 98.34 319 IAmb IAmb 12 08 48.1
comp=Z,167nm,1.9s
MXC Moxie City 98.44 40 P **P 12 08 44.4 -0.3**
UBBA Unterbreizbach 98.47 325 *e*P Pdif 12 08 45.0 +0.5
comp=Z,166nm,1.8s,baz=64,slow=4.5
KMRM Mail Ridge 98.53 47 IAms_20 IAms_20 13 01 40.9
comp=Z,3µm,19.0s
J04A Umpqua Nationa 98.55 43 IAmb IAmb 12 08 49.5
comp=Z,69nm,1.0s
J04A IAms_20 IAms_20 12 43 06.2
comp=Z,2µm,22.0s
I05D Terrebonne, OR 98.65 42 P **P 12 08 44.2 -1.5**
TIP Timpagrande 98.69 312 IAms_20 IAms_20 13 00 30.3
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 98.69 45 P **P 12 08 44.6 -1.4**
YBH IAms_20 IAms_20 12 44 27.1
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 98.69 45 LR LR 12 47 33.8
comp=Z,1µm,20.5s,baz=298,slow=32
YBH Yreka Blue Hor 98.69 45 P **P 12 08 44.6 -1.4**
YBH pmax pmax
comp=Z,39nm,1.3s
ABTA Abfaltersbach 98.72 320 *i* Pdiff **P 12 08 45.1 -0.9**
comp=Z,56nm,1.2s,SNR=13
ABTA *e*SKS **SKSac 12 19 19.5 -3.0**
comp=Z,16nm,1.6s
E07A Sunnyside 98.73 40 P **P 12 08 45.2 -0.7**
E07A IAmb IAmb 12 08 51.2
comp=Z,230nm,2.0s
E07A IAms_20 IAms_20 12 44 33.7
comp=Z,3µm,22.0s
G06A Carlson Farm, 98.76 41 IAmb IAmb 12 08 50.3
comp=Z,112nm,1.9s
G06A IAms_20 IAms_20 12 56 31.7
comp=Z,2µm,19.0s
L04D Klamath Falls 98.80 44 IAmb IAmb 12 08 51.1
comp=Z,253nm,1.9s
L04D IAms_20 IAms_20 12 47 04.8
comp=Z,2µm,20.0s
NUUG Nuugaatsiaq 98.85 360 *i* P **P 12 08 45.5 -0.3**
NUUG IAmb IAmb 12 08 49.6
comp=Z,84nm,1.2s
FUR Furstenfeldbru 98.89 322 *e*P Pdif 12 08 47.2 +0.6
comp=Z,188nm,1.5s,baz=64,slow=4.5
F07A Phinny Hill Vi 98.95 40 IAms_20 IAms_20 12 50 23.7
comp=Z,2µm,18.0s
HAWA Hanford 99.00 40 IAmb IAmb 12 08 52.3
comp=Z,123nm,1.8s
HAWA IAms_20 IAms_20 12 44 41.9
comp=Z,3µm,22.0s
IBBN Ibbenburen 99.01 327 *e*P **Pdif 12 08 47.4 +0.4**
comp=Z,389nm,1.7s,baz=64,slow=4.5
K04D Chiloquin, OR 99.03 44 IAms_20 IAms_20 12 43 53.8
comp=Z,2µm,21.0s
WTTA Wattenberg 99.05 321 *i* Pdiff **Pdif 12 08 46.9 -0.7**
comp=Z,73nm,1.0s,SNR=23
WTTA *e*SKS **SKSac 12 19 21.6 -2.7**
comp=Z,17nm,1.2s
WATA Walderalm 99.06 321 *e*Pdiff **Pdif 12 08 46.8 -0.8**
comp=Z,100nm,1.5s,SNR=16
WATA *e*SKS **SKSac 12 19 21.6 -2.7**
comp=Z,7.3nm,0.9s
CUC Castrocucco 99.09 313 IAms_20 IAms_20 13 01 02.7
comp=Z,2µm,20.0s
D08A Wollman Farm, 99.10 39 P **Pdif 12 08 47.1 -0.5**
D08A IAms_20 IAms_20 12 44 23.6
comp=Z,3µm,22.0s
J05D Fort Rock, OR 99.13 43 IAms_20 IAms_20 12 44 04.4
comp=Z,2µm,21.0s
PINE Pine Mountain 99.13 43 IAms_20 IAms_20 12 44 03.4
comp=Z,2µm,22.0s
KASTN Kahler Asten 99.18 326 *e*P **Pdif 12 08 48.4 +0.5**
comp=Z,49nm,1.1s,baz=64,slow=4.5
C09A Chrisman Ranch 99.19 38 P **Pdif 12 08 47.4 -0.5**
C09A IAms_20 IAms_20 12 45 34.7
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 99.20 47 IAmb IAmb 12 08 53.8
comp=Z,191nm,2.0s
E08A Dider Farm, El 99.26 40 IAmb IAmb 12 08 53.2
comp=Z,95nm,1.6s
SQTA Sankt Quirin 99.34 321 *i* Pdiff **Pdif 12 08 48.0 -0.8**
comp=Z,100nm,1.5s,SNR=18
SQTA *i* SKS **SKSac 12 19 23.6 -2.0**
comp=Z,28nm,1.3s
MOTA Moosalm 99.35 321 *i* Pdiff **Pdif 12 08 48.0 -0.8**
comp=Z,50nm,1.1s
MOTA *e*SKS **SKSac 12 19 23.7 -2.0**
comp=Z,20nm,1.4s
RETA Reutte 99.50 322 *i* Pdiff **Pdif 12 08 48.9 -0.5**
comp=Z,19nm,1.1s,SNR=5.7
RETA *i* SKS **SKSac 12 19 24.8 -1.5**
comp=Z,22nm,1.6s
TNS Taunus Mts 99.62 325 *e*P **Pdif 12 08 50.4 +0.5**
comp=Z,45nm,1.1s,baz=64,slow=4.5
CEL Celeste 99.64 312 IAms_20 IAms_20 13 01 38.6
comp=Z,2µm,20.0s
CEL Celeste 99.64 312 P **Pdif 12 08 49.8 -0.5**
comp=Z,973nmcomp=Z,76nm,1.2s
QSPA South Pole Qui 99.66 180 P **Pdif 12 08 49.7 0.0**
comp=Z,18nm,1.2s,baz=302,slow=7.1,SNR=3.0
QSPA PP **PP 12 12 47.5 -6.3**
comp=Z,32nm,0.8s,baz=303,slow=3.4,SNR=8.1
QSPA PKKPbc **PKKPbc 12 25 13.0 -1.4**
comp=Z,5.1nm,0.7s,baz=240,slow=1.7,SNR=14
QSPA LR LR 12 54 49.4
comp=Z,3µm,19.5s,baz=340,slow=36
comp=Z,18nm,1.2s
NEW Newport 99.68 37 P **Pdif 12 08 50.5 +0.3**
NEW pmax pmax
comp=Z,45nm,1.2s
BUG Bochum--Univer 99.70 326 *e*P **Pdif 12 08 50.3 +0.2**
comp=Z,75nm,1.0s,baz=64,slow=4.5
FETA Feichten 99.72 321 *i* Pdiff **Pdif 12 08 49.9 -0.7**
comp=Z,57nm,1.3s,SNR=18
FETA *e*SKS **SKSac 12 19 26.3 -1.3**
comp=Z,81nm,2.1s
UBR Ueberruh 99.81 322 *e*P **Pdif 12 08 50.9 +0.1**
comp=Z,152nm,1.7s,baz=64,slow=4.5
STU Stuttgart 99.86 323 IAms_20 IAms_20 13 02 22.8
comp=Z,2µm,18.0s
STU Stuttgart 99.86 323 *e*P **Pdif 12 08 51.3 +0.3**
comp=Z,179nm,1.4s,baz=64,slow=4.5
HATC Hat Creek Radi 99.91 46 IAms_20 IAms_20 12 49 00.2
comp=Z,2µm,21.0s
I07A Izee 99.96 42 IAms_20 IAms_20 12 44 07.5
comp=Z,2µm,22.0s
DAVA Damuels 100.12 322 *i* Pdiff **Pdif 12 08 52.3 -0.1**
comp=Z,43nm,1.4s,SNR=5.5
DAVA *i* SKS **SKSac 12 19 26.6 -3.0**
comp=Z,5.3nm,0.8s
DAVA Damuels 100.12 322 *e*P **Pdif 12 08 53.5 +1.2**
baz=64,slow=4.5
FUORN Ofenpass-Fuorn 100.18 321 IAms_20 IAms_20 13 00 24.6
comp=Z,2µm,20.0s
ORV Oroville 100.35 47 IAms_20 IAms_20 12 45 00.0
comp=Z,2µm,21.0s
LSZ Lusaka 100.36 256 IAms_20 IAms_20 12 54 23.8
comp=Z,3µm,19.0s
LSZ Lusaka 100.36 256 P **Pdif 12 08 52.4 -1.6**
BFO Black Forest 100.58 323 IAms_20 IAms_20 13 02 52.8
comp=Z,2µm,20.0s
BFO Black Forest 100.58 323 P **Pdif 12 08 56.3 +2.1**
BFO pmax pmax
comp=Z,24nm,2.1s
BFO Black Forest 100.58 323 *e*P **Pdif 12 08 54.2 0.0**
comp=Z,35nm,1.3s,baz=64,slow=4.5
ICESG Greenland Ices 100.70 355 *i* P **Pdif 12 08 54.4 -0.3**
BTNL Ternell 100.75 326 *d*Pdif **Pdif 12 08 56.4 +1.6**
comp=Z,22nm,1.2s
MEM Membach 100.80 326 *d*Pdif **Pdif 12 08 54.3 -0.8**
comp=Z,29nm,1.2s

OSSC	Osservatorio P	100.88	318		IAMs_20	IAMs_20	13 03 16.5	
	comp=Z,2μm,18.0s							
BHOU	Houvegnez	100.93	326	dPdif	Pdif	Pdif	12 08 55.1	-0.5
J08A	Circle Bar Ran	100.94	42		IAMs_20	IAMs_20	12 45 11.4	
	comp=Z,2μm,22.0s							
BSTI	Sart Tilman	101.06	326	dPdif	Pdif	Pdif	12 08 56.9	+0.7
	comp=Z,9.7nm,1.1s							
VLC	Villacollemand	101.17	319	P	Pdif	Pdif	12 08 56.4	-0.5
ILULI	Ilulissat	101.17	359		IAMs_20	IAMs_20	13 02 25.8	
	comp=Z,2μm,18.0s							
WLF	Walferdange	101.19	325	P	Pdif	Pdif	12 08 56.4	-0.4
WLF	Walferdange	101.19	325	dPdif	Pdif	Pdif	12 08 56.1	-0.7
	comp=Z,46nm,0.9s							
WLF	Walferdange	101.19	325	eP	Pdif	Pdif	12 08 57.7	+0.9
	comp=Z,123nm,1.2s,baz=64,slow=4.5							
WVOR	Wild Horse Val	101.22	43		IAMs_20	IAMs_20	12 44 56.7	
	comp=Z,3μm,22.0s							
BCLA	Clavier	101.28	326	dPdif	Pdif	Pdif	12 08 57.5	+0.3
SAO	San Andreas Ge	101.42	49		IAMs_20	IAMs_20	12 45 42.4	
	comp=Z,3μm,21.0s							
BGES	Gesves	101.42	326	dPdif	Pdif	Pdif	12 08 57.2	-0.6
RCHB	Rochefort	101.46	326	dPdif	Pdif	Pdif	12 08 58.3	+0.3
	comp=Z,32nm,1.0s							
BMRD	Maredsous	101.64	326	dPdif	Pdif	Pdif	12 08 58.7	-0.1
MSSA	Maissana	101.66	319		IAMs_20	IAMs_20	13 03 13.2	
	comp=Z,2μm,20.0s							
PLID	Pearl Lake	101.79	40		IAMs_20	IAMs_20	12 46 53.8	
	comp=Z,3μm,22.0s							
PAHR	Pah Rah Range	101.80	46		IAMs_20	IAMs_20	12 45 39.3	
	comp=Z,3μm,22.0s							
DOU	Dourbes	101.84	326	dPdif	Pdif	Pdif	12 08 58.8	-0.9
MFID	Camas Ranch	102.66	41		IAMs_20	IAMs_20	12 57 09.8	
	comp=Z,2μm,19.0s							
EKA	Eskdalemuir Ar	102.71	333	P	Pdif	Pdif	12 09 03.6	+0.2
	comp=Z,18nm,1.1s,baz=57,slow=3.5,SNR=9.3							
EKA				PKKPbc	PKKPbc	PKKPbc	12 25 04.0	-0.3
	comp=Z,1.7nm,0.6s,baz=240,slow=2.8,SNR=3.7							
NVAR	Mina Array Bea	103.08	47	Pdiff	Pdif	Pdif	12 09 06.1	+0.3
	comp=Z,5.8nm,0.8s,baz=280,slow=5.3,SNR=17							
NVAR				PP	PKiKP	PKiKP	12 13 29.7	+4.1
	comp=Z,2.1nm,0.7s,baz=302,slow=4.4,SNR=4.0							
NVAR				PKKPbc	PKKPbc	PKKPbc	12 25 02.5	-0.5
	comp=Z,3.7nm,0.7s,baz=127,slow=3.5,SNR=13							
NVAR				PKKP	PKKPdf		12 25 23.5	+13
	comp=Z,7.9nm,0.8s,baz=131,slow=5.0,SNR=12							
ELIB	Princess Elisa	103.29	198	dPP	PP	PP	12 13 22.4	+1.3
SFJD	Kangerlussuaq	103.39	359		IAMs_20	IAMs_20	13 03 16.4	
	comp=Z,2μm,21.0s							
SFJD	Kangerlussuaq	103.39	359	i P	Pdif	Pdif	12 09 06.5	+0.3
HLID	Hailey	103.50	41		IAMs_20	IAMs_20	13 04 42.2	
	comp=Z,2μm,18.0s							
DY2G	Dye2	103.75	357	i P	Pdif	Pdif	12 09 08.3	+0.2
ANGG	Ammassalik, Gr	103.87	353	i P	Pdif	Pdif	12 09 10.0	+1.7
ELK	Elko	104.24	44		IAMs_20	IAMs_20	12 47 01.9	
	comp=Z,2μm,22.0s							
ELK	Elko	104.24	44	PKKPbc	PKKPbc		12 24 58.9	-0.7
	comp=Z,2.2nm,0.8s,baz=85,slow=2.3,SNR=7.5							
BOZ	Bozeman (W)	104.25	38		IAMs_20	IAMs_20	12 48 41.9	
	comp=Z,2μm,21.0s							
BOSA	Boshof	104.35	243	Pdiff	Pdif	Pdif	12 09 11.4	0.0
	comp=Z,7.2nm,0.9s,baz=89,slow=3.2,SNR=8.6							
BOSA	Boshof	104.35	243	P	Pdif	Pdif	12 09 13.2	+1.8
PASC	Pasadena Art C	104.86	51		IAMs_20	IAMs_20	12 51 03.8	
	comp=Z,2μm,20.0s							
YHL	Hebgen Lake	104.91	38		IAMs_20	IAMs_20	12 50 36.1	
	comp=Z,2μm,22.0s							
YHB	Horse Butte	104.95	39		IAMs_20	IAMs_20	12 51 39.2	
	comp=Z,2μm,22.0s							
R11B	Troy Canyon, C	105.06	46		IAMs_20	IAMs_20	12 47 52.5	
	comp=Z,2μm,21.0s							
R11B	Troy Canyon, C	105.06	46	Pdiff	Pdif	Pdif	12 09 13.2	-1.3
	baz=296							
YMR	Madison River	105.13	38		IAMs_20	IAMs_20	12 52 09.1	
	comp=Z,2μm,19.0s							
TPNV	Topopah Spring	105.18	47		IAMs_20	IAMs_20	12 47 38.8	
	comp=Z,3μm,21.0s							
GWY	Greenwater Val	105.19	48		IAMs_20	IAMs_20	12 48 18.1	
	comp=Z,2μm,22.0s							
YNM	Yellowstone No	105.26	38		IAMs_20	IAMs_20	12 47 50.5	
	comp=Z,2μm,22.0s							
HVU	Hansel Valley	105.41	42		IAMs_20	IAMs_20	12 47 45.6	
	comp=Z,2μm,22.0s							
KEST	Kesra	105.45	311	PKKPbc	PKKPbc		12 24 56.8	+1.2
	comp=Z,2.1nm,0.5s,baz=233,slow=5.1,SNR=4.2							
FLWY	Flagg Ranch	105.60	39		IAMs_20	IAMs_20	12 48 44.4	
	comp=Z,3μm,22.0s							
ELS	Elsinore Mount	105.64	51		IAMs_20	IAMs_20	12 51 15.4	
	comp=Z,2μm,20.0s							
BGU	Big Grassy Mou	105.65	43		IAMs_20	IAMs_20	12 48 25.0	
	comp=Z,2μm,22.0s							
FRB	Frobisher Bay	105.80	7	PKKPbc	PKKPbc	PKKPbc	12 24 54.3	-0.9
	comp=Z,2.1nm,0.6s,baz=179,slow=5.6,SNR=7.6							
AHID	Auburn Hatcher	106.01	40		IAMs_20	IAMs_20	12 53 46.5	
	comp=Z,2μm,21.0s							
DUG	Dugway, Tooele	106.14	43		IAMs_20	IAMs_20	12 48 02.0	
	comp=Z,2μm,22.0s							
DUG	Dugway, Tooele	106.14	43	P	Pdif	Pdif	12 09 21.2	+2.0
SHPR	Sheep Range	106.16	48		IAMs_20	IAMs_20	12 48 32.8	
	comp=Z,2μm,22.0s							
PFO	Pinyon Flats O	106.40	51		IAMs_20	IAMs_20	12 51 58.4	
	comp=Z,2μm,20.0s							
TCUT	Toone Canyon	106.63	42		IAMs_20	IAMs_20	12 58 25.9	
	comp=Z,2μm,19.0s							
TKX	Tecate	106.70	52		IAMs_20	IAMs_20	12 48 38.5	
	comp=Z,3μm,22.0s							
DGMT	Dagmar	106.88	32		IAMs_20	IAMs_20	13 04 59.8	
	comp=Z,1μm,18.0s							
PDAR	Pinedale Array	106.99	40	Pdiff	Pdif	Pdif	12 09 24.1	+1.1
	comp=Z,1.4nm,0.8s,baz=274,slow=4.3,SNR=8.3							
PDAR				PKiKP	PKiKP	PKiKP	12 13 32.3	-0.4
	comp=Z,1.0nm,0.6s,baz=56,slow=0.3,SNR=5.0							
PDAR				PP	PP	PP	12 13 52.2	+3.3
	comp=Z,7.3nm,1.1s,baz=333,slow=5.5,SNR=3.6							
PDAR				PKKPbc	PKKPbc	PKKPbc	12 24 49.6	-1.7
	comp=Z,1.3nm,0.8s,baz=134,slow=4.3,SNR=5.6							
PDAR				PKKP	PKKPdf	PKKPdf	12 25 04.1	+0.7
	comp=Z,16nm,0.7s,baz=120,slow=5.6,SNR=41							
MPU	Maple Canyon	107.02	43		IAMs_20	IAMs_20	12 48 53.3	
	comp=Z,2μm,22.0s							
TCRU	Three Creeks R	107.14	45		IAMs_20	IAMs_20	12 49 27.4	
	comp=Z,3μm,22.0s							
MAHO	Mahon	107.17	317		IAMs_20	IAMs_20	13 05 23.3	
	comp=Z,2μm,18.0s							
LCMT	Little Creek M	107.31	46		IAMs_20	IAMs_20	12 49 07.3	
	comp=Z,2μm,21.0s							
KNB	Kanab	107.61	46		IAMs_20	IAMs_20	12 48 11.2	
	comp=Z,2μm,22.0s							
W13A	Hualapai Mount	107.70	48		IAMs_20	IAMs_20	12 50 13.5	
	comp=Z,3μm,22.0s							
CPBX	Cerro Prieto	107.77	51		IAMs_20	IAMs_20	12 47 30.7	
	comp=Z,2μm,18.0s							
GLA	Glamis	107.87	51		IAMs_20	IAMs_20	12 47 29.4	
	comp=Z,2μm,20.0s							
P18A	Preston Nutter	108.14	43		IAMs_20	IAMs_20	12 49 19.9	
	comp=Z,2μm,22.0s							
SRU	San Rafael Swe	108.21	43		IAMs_20	IAMs_20	13 08 54.8	
	comp=Z,2μm,18.0s							
SFX	San Felipe	108.69	53		IAMs_20	IAMs_20	12 47 43.1	
	comp=Z,2μm,22.0s							
113A	Mohawk Valley,	108.80	51		IAMs_20	IAMs_20	13 09 12.9	
	comp=Z,1μm,18.0s							
O20A	White River Ci	109.21	41		IAMs_20	IAMs_20	12 50 23.1	
	comp=Z,2μm,22.0s							
TROLL	Troll, Antarti	109.34	196	PKKPbc	PKKPbc		12 24 43.7	-0.9
TROLL	Troll, Antarti	109.34	196	⇑PKKPbc	PKKPbc		12 24 43.7	-0.9
	comp=Z,474nm,0.8s							
TROLL				⇑PKiKP	PKiKP		12 13 30.8	-5.3
	comp=Z,481nm,0.7s							
TROLL				⇓PP	PP		12 14 03.7	-1.9
WUAZ	Wupatki	109.34	47	IAMs_20	IAMs_20		12 51 28.1	
	comp=Z,2μm,21.0s							
PIX	Pinacate	109.55	52	IAMs_20	IAMs_20		13 07 51.9	
	comp=Z,2μm,19.0s							
ULM	Lac du Bonnet	109.80	27	Pdiff	Pdif		12 09 36.5	+1.4
	comp=Z,1.8nm,0.8s,baz=314,slow=6.2,SNR=3.5							
ULM				PKiKP	PKiKP		12 13 37.5	+0.1
	comp=Z,4.0nm,0.8s,baz=292,slow=3.0,SNR=5.1							
ULM				PKKPbc	PKKPbc		12 24 43.8	+1.4
	comp=Z,3.7nm,0.7s,baz=150,slow=1.1,SNR=5.9							
ULM				PKKP	PKKPab		12 24 51.2	-2.8
	comp=Z,21nm,0.7s,baz=132,slow=3.9,SNR=26							
X16A	Lo Mia Camp, P	109.81	48	IAMs_20	IAMs_20		12 52 14.3	
	comp=Z,2μm,21.0s							
N23A	Red Feather La	110.27	40	IAMs_20	IAMs_20		12 52 10.1	
	comp=Z,2μm,21.0s							
N23A	Red Feather La	110.27	40	Pdiff	PKiKP		12 13 37.6	-1.3
	baz=304							
X18A	Snowflake	110.84	47	IAMs_20	IAMs_20		12 52 41.7	
	comp=Z,2μm,21.0s							
SNAA	Sanae	110.94	195	PKKPbc	PKKPbc		12 24 38.1	-1.3
SNAA	Sanae	110.94	195	⇑PKKPbc	PKKPbc		12 24 38.1	-1.3
	comp=Z,445nm,0.8s							
SNAA				⇑PKiKP	PKiKP		12 13 40.8	+1.9
	comp=Z,185nm,0.8s							
SNAA				⇓PP	PP		12 14 14.7	-2.3
SNAA	Sanae	110.94	195	PP	PP		12 14 14.2	-2.8
	comp=Z,26nm,1.1s,baz=117,slow=4.8,SNR=4.9							
SNAA				PKKPbc	PKKPbc		12 24 39.5	+0.2
	comp=Z,16nm,0.7s,baz=311,slow=2.0,SNR=22							
AGMN	Agassiz Nation	111.19	29	IAMs_20	IAMs_20		13 03 14.5	
	comp=Z,2μm,20.0s							
TUC	Tucson	111.26	50	IAMs_20	IAMs_20		12 50 24.0	
	comp=Z,2μm,22.0s							
WIN	Windhoek	111.43	250	IAMs_20	IAMs_20		12 55 07.9	
	comp=Z,3μm,22.0s							
Q24A	Divide	111.85	41	IAMs_20	IAMs_20		12 56 00.0	
	comp=Z,2μm,22.0s							
Q24A	Divide	111.85	41	Pdiff	PKiKP		12 13 41.5	-0.5
	baz=304							
SUSD	Miller	112.23	33	IAMs_20	IAMs_20		12 55 35.7	
	comp=Z,2μm,22.0s							
SRIG	Santa Rosalia	112.30	55	IAMs_20	IAMs_20		13 11 19.8	
	comp=Z,2μm,18.0s							
VNA2	Neumayer--Watz	112.56	195	PKiKP	PKiKP		12 13 44.1	+2.2
	baz=123,slow=0.9							
VNA2	Neumayer--Watz	112.56	195	⇑PKiKP	PKiKP		12 13 44.1	+2.2
	comp=Z,19nm,0.7s,baz=123,slow=0.9							
VNA2				⇓PP	PP		12 14 26.9	-1.7
	baz=159,slow=9.7							
HSIG		112.61	53	IAMs_20	IAMs_20		12 52 58.8	
	comp=Z,2μm,20.0s							
ESDC	Sonseca Array	112.65	320	PKiKP	PKiKP		12 13 43.8	+0.6
	comp=Z,1.2nm,0.9s,baz=15,slow=3.1,SNR=4.6							
ESDC				PP	PP		12 14 29.9	+0.1
	comp=Z,4.7nm,0.9s,baz=45,slow=6.3,SNR=5.1							
ESDC				PKKPbc	PKKPbc		12 24 33.6	+0.9
	comp=Z,3.3nm,1.2s,baz=275,slow=3.5,SNR=8.0							
319A	Douglas	112.83	50	IAMs_20	IAMs_20		13 11 53.5	
	comp=Z,2μm,19.0s							
PAB	San Pablo	112.97	320	IAMs_20	IAMs_20		13 06 56.1	
	comp=Z,1μm,19.0s							
PBRG	Braganca	113.05	324	ePKPdf	PKiKP		12 13 43.1	-0.8
ANMO	Albuquerque	113.12	45	IAMs_20	IAMs_20		12 53 49.0	
	comp=Z,2μm,22.0s							
Y22A	Socorro	113.28	47	P	PKiKP		12 13 45.5	+0.8
T25A	Trinidad	113.35	42	IAMs_20	IAMs_20		12 54 37.7	
	comp=Z,2μm,21.0s							
T25A	Trinidad	113.35	42	Pdiff	PKiKP		12 13 42.5	-2.3
	baz=304							
121A	Cookes Peak, D	113.39	48	IAMs_20	IAMs_20		12 51 49.2	
	comp=Z,2μm,22.0s							
121A	Cookes Peak, D	113.39	48	Pdiff	PKiKP		12 13 43.5	-1.4
	baz=300							
EYMN	Ely	113.45	27	IAMs_20	IAMs_20		13 06 19.7	
	comp=Z,2μm,20.0s							
MVO	Moncorvo	113.62	323	eLQ	LQ		12 56 42.3	
MVO				eLR	LR		13 02 40.6	
MVO				i AMs_20			13 08 54.0	
	comp=Z,2μm,18.0s							
TAM	Tamanrasset	113.67	300	IAMs_20	IAMs_20		13 05 06.2	
	comp=Z,2μm,21.0s							
PGAV	Gavieira, Arco	113.83	325	eLQ	LQ		12 58 57.4	
PGAV				eLR	LR		13 03 10.3	
PGAV				i AMs_20			13 08 34.7	
	comp=Z,2μm,18.0s							
POLO	Lamas de Olo	113.94	324	ePKPdf	PKiKP		12 13 44.8	-0.8
ECSD	EROS Data Cent	113.96	33	IAMs_20	IAMs_20		12 57 14.5	
	comp=Z,2μm,22.0s							
MTE	Manteigas	114.40	323	ePKPdf	PKPdf		12 13 48.0	+1.4
MTE				eLQ	LQ		12 57 25.9	
MTE				eLR	LR		13 05 45.3	
MTE				i AMs_20			13 09 31.5	
	comp=Z,2μm,20.0s							
PVIS	Viseu	114.41	323	ePKPdf	PKPdf		12 13 49.1	+2.6
BGNE	Belgrade	114.66	35	IAMs_20	IAMs_20		13 02 02.0	
	comp=Z,2μm,20.0s							
SCHQ	Schefferville	114.67	8	PKP	PKiKP		12 13 46.4	-0.2
	comp=Z,4.2nm,0.9s,baz=11,slow=3.8,SNR=7.7							
SCHQ				PP	PP		12 14 44.5	+1.4
	comp=Z,18nm,1.0s,baz=357,slow=9.0,SNR=7.7							
SCHQ				PKKPbc	PKKPbc		12 24 27.6	+1.2
	comp=Z,3.1nm,0.8s,baz=232,slow=8.8,SNR=5.7							
EPT	El Paso	114.70	48	IAMs_20	IAMs_20		12 53 56.1	
	comp=Z,2μm,22.0s							
PCBR	Castelo Branco	114.71	322	ePKPdf	PKPdf		12 13 47.7	+0.7
PMRV	Marv??o	114.92	322	ePKPdf	PKPdf		12 13 50.3	+2.8
PMRV				eLR	LR		13 02 04.5	
PMRV				i AMs_20			13 09 32.7	
	comp=Z,926nm,20.0s							
COI	Coimbra	115.04	323	IAMs_20	IAMs_20		13 06 08.5	
	comp=Z,2μm,22.0s							
LIJA	Lijar	115.18	319	PKP	PKPdf		12 13 49.4	+1.2
PCAS	Casmilo, Conde	115.19	323	ePKPdf	PKPdf		12 13 50.7	+2.7
CBKS	Cedar Bluff	115.36	39	IAMs_20	IAMs_20		13 03 51.7	
	comp=Z,2μm,19.0s							
PESTR	Estremoz	115.39	322	ePKPdf	PKPdf		12 13 48.9	+0.4
I37A	Lemond, Waseca	115.43	31	IAMs_20	IAMs_20		13 08 28.4	
	comp=Z,1μm,20.0s							
PBAR	Barrancos	115.47	321	ePKPdf	PKiKP		12 13 48.3	-0.2
MNTX	Cornudas Mount	115.57	48	P	PKPdf		12 13 50.2	+1.2
PMTG	Montargil	115.65	322	ePKPdf	PKPdf		12 13 51.0	+2.1
EVO	Evora	115.85	321	ePKPdf	PKPdf		12 13 49.5	+0.2
G40A	Rib Lake	116.06	28	IAMs_20	IAMs_20		13 09 06.7	
	comp=Z,1μm,19.0s							
PBEJ	Beja	116.08	321	ePKPdf	PKPdf		12 13 50.4	+0.6
R32A	Long Quarter,	116.23	38	IAMs_20	IAMs_20		13 05 58.8	
	comp=Z,2μm,20.0s							
VHRN	Van Horn	116.33	49	P	PKiKP		12 13 50.7	+0.1
CLN7	Carlsbad 7	116.33	46	P	PKiKP		12 13 50.7	+0.2
CLNB	Carlsbad	116.36	47	P	PKiKP		12 13 52.6	+2.0
PVAQ	Vaqueiros	116.36	320	eLR	LR		13 02 28.1	
PVAQ				i AMs_20			13 19 55.8	
	comp=Z,1μm,18.0s							
MESJ	Messejana	116.41	321	ePKPdf	PKiKP		12 13 51.5	+1.1
TPB11	China Draw	116.42	47	P	PKiKP		12 13 51.1	+0.4
HTMS	Hat Mesa	116.42	46	P	PKiKP		12 13 54.0	+3.2
PCVE	Castro Verde	116.43	321	ePKPdf	PKiKP		12 13 53.4	+2.9
N35A	Tabor	116.44	35	IAMs_20	IAMs_20		12 55 56.1	
	comp=Z,2μm,22.0s							
AMTX	Amarillo	116.44	43	IAMs_20	IAMs_20		12 55 38.8	
	comp=Z,2μm,21.0s							
PBDV	Barranco-do-Ve	116.60	320	ePKPdf	PKiKP		12 13 51.0	+0.2
F42A	Maple Grove Fa	116.61	26	IAMs_20	IAMs_20		13 03 13.3	
	comp=Z,2μm,20.0s							
PECS	Pecos	116.84	47	P	PKPdf		12 13 51.2	-0.3
IFR	Ifrane	116.93	315	PKP	PKiKP		12 13 53.9	+2.2
MORF	Marmelete	117.01	321	ePKPdf	PKiKP		12 13 52.8	+1.1
KSU1	Kansas State U	117.05	37	IAMs_20	IAMs_20		13 02 19.5	
	comp=Z,1μm,22.0s							
TPB01	Permian Basin	117.13	48	P	PKPdf		12 13 51.5	-0.6
TPB06	Permian Basin	117.17	47	P	PKiKP		12 13 53.5	+1.4
PFVI	Vila Bisbo	117.23	321	ePKPdf	PKiKP		12 13 55.0	+3.0
TPB05	Hovey Rd	117.47	48	P	PKiKP		12 13 53.5	+0.7
MNHN	Monahans	117.66	47	P	PKPdf		12 13 52.6	-0.5
I42A	Draeger Farm,	117.70	28	IAMs_20	IAMs_20		13 09 55.2	
	comp=Z,2μm,19.0s							
HPIG		117.71	53	IAMs_20	IAMs_20		12 54 23.0	
	comp=Z,2μm,22.0s							
E46A	Sault Ste Mari	117.71	24	IAMs_20	IAMs_20		13 10 28.4	
	comp=Z,2μm,19.0s							
H43A	Windswept, Lux	117.78	27	IAMs_20	IAMs_20		13 01 58.2	
	comp=Z,1μm,22.0s							
TPB08	Permian Basin	117.79	47	P	PKiKP		12 13 54.1	+0.7
JFWS	Jewell Farm	117.80	30	IAMs_20	IAMs_20		13 09 32.0	
	comp=Z,2μm,19.0s							
L40A	Amonsa	117.95	31	IAMs_20	IAMs_20		13 12 25.9	
	comp=Z,2μm,18.0s							
TXAR	Lajitas Array	118.05	49	PKP	PKPdf		12 13 53.6	-0.3
	comp=Z,9.9nm,0.7s,baz=227,slow=1.3,SNR=38							
TXAR				PKKPbc	PKKPbc		12 24 13.6	-0.3
	comp=Z,1.8nm,1.0s,baz=150,slow=5.7,SNR=4.6							
WMOK	Wichita Mounta	118.45	42	PKIKP	PKiKP		12 13 55.1	+0.6
L42A	Oliver, Polo	118.77	30	IAMs_20	IAMs_20		13 09 53.6	
	comp=Z,1μm,19.0s							
I45A	Fountain	118.80	26	IAMs_20	IAMs_20		13 14 23.2	
	comp=Z,2μm,19.0s							
K43A	Burlington	118.88	29	IAMs_20	IAMs_20		13 06 08.5	
	comp=Z,1μm,20.0s							
QUOK	Quay	118.89	39	IAMs_20	IAMs_20		13 13 56.2	
	comp=Z,2μm,21.0s							
FNO	Franklin	119.03	40	IAMs_20	IAMs_20		13 01 01.0	
	comp=Z,2μm,20.0s							
N41A	Harden Midland	119.13	32	IAMs_20	IAMs_20		13 04 22.1	
	comp=Z,1μm,20.0s							
W35A	Tecumseh	119.43	40	IAMs_20	IAMs_20		13 14 46.6	
	comp=Z,1μm,19.0s							
L44A	Lake County Fo	119.49	29	IAMs_20	IAMs_20		13 15 46.5	
	comp=Z,1μm,19.0s							
L44A	Lake County Fo	119.49	29	Pdiff	PKPdf		12 13 55.3	-0.9
	baz=320							
ICQ	Pointe Anglais	119.74	10	IAMs_20	IAMs_20		13 11 17.0	
	comp=Z,2μm,20.0s							
HQIL	Hanson Quary C	119.81	29	IAMs_20	IAMs_20		13 14 43.9	
	comp=Z,2μm,19.0s							
TIO	Tiouine	119.88	314	PKP	PKiKP		12 13 59.0	+1.5
FW03	Perrin-Whitt E	119.95	43	IAMs_20	IAMs_20		12 56 51.7	
	comp=Z,2μm,22.0s							
M44A	Midewin, Midew	120.03	29	IAMs_20	IAMs_20		13 10 33.9	
	comp=Z,1μm,19.0s							
HDIL	Hopedale	120.04	31	IAMs_20	IAMs_20		13 10 55.2	
	comp=Z,2μm,20.0s							
J47A	Sunmer	120.05	26	IAMs_20	IAMs_20		13 11 50.3	
	comp=Z,2μm,19.0s							
JCT	Junction City	120.25	46	IAMs_20	IAMs_20		12 59 32.8	
	comp=Z,1μm,20.0s							
I49A	Point Hope	120.31	24	IAMs_20	IAMs_20		13 12 04.1	
	comp=Z,2μm,20.0s							
L46A	Eue Claire	120.37	28	IAMs_20	IAMs_20		13 15 43.8	
	comp=Z,2μm,18.0s							
LDAQ	Lac Daran	120.41	14	IAMs_20	IAMs_20		13 17 07.8	
	comp=Z,1μm,19.0s							
HHAR	Hobbs	120.50	37	IAMs_20	IAMs_20		12 57 23.9	
	comp=Z,2μm,21.0s							
TORD	Torodi Ar. Bea	120.55	292	PKPdf	PKPdf		12 13 56.9	-2.0
TORD	Torodi Ar. Bea	120.55	292	PKP	PKPdf		12 13 57.1	-1.8
	comp=Z,15nm,0.7s,baz=24,slow=2.9,SNR=38							
TORD				PP	PP		12 15 27.9	+1.9
	comp=Z,7.9nm,0.8s,baz=49,slow=7.0,SNR=4.3							
TORD				PKKPbc	PKKPab		12 24 05.6	-0.6
	comp=Z,8.3nm,0.8s,baz=284,slow=2.1,SNR=17							
TORD				SKKPbc	SKKPbc		12 27 52.7	+2.5
	comp=Z,1.6nm,0.9s,baz=280,slow=3.7,SNR=3.7							
CCM	Cathedral Cave	120.83	34		PKPdf		12 13 57.3	-1.6
CCM	Cathedral Cave	120.83	34	IAMs_20	IAMs_20		13 04 41.3	
	comp=Z,1μm,21.0s							
CCM	Cathedral Cave	120.83	34	PKIKP	PKPdf		12 13 57.3	-1.6
CCM				MLR	MLR			
	comp=Z,1μm,21.0s							
MGMO	Mountain Grove	120.89	36		PKPdf		12 13 57.1	-1.9
MGMO				IAMs_20	IAMs_20		13 09 13.9	
	comp=Z,1μm,21.0s							
FW14	Alvarado	120.93	43	IAMs_20	IAMs_20		12 57 17.4	
	comp=Z,1μm,22.0s							
SLM	Saint Louis	120.96	33	IAMs_20	IAMs_20		12 58 10.8	
	comp=Z,1μm,21.0s							
TRQ	Mont Tremblant	121.17	17	IAMs_20	IAMs_20		13 06 56.9	
	comp=Z,2μm,21.0s							
SFIN	Lafayette	121.26	30	IAM

comp=Z,2μm,20.0s
J61A Chester 124.37 17 IAMs_20 IAMs_20 13 15 07.5
comp=Z,1μm,19.0s
GBN Guysborough 124.60 7 IAMs_20 IAMs_20 13 15 16.8
comp=Z,2μm,19.0s
P53A Whipple 124.60 26 IAMs_20 IAMs_20 13 15 22.8
comp=Z,1μm,18.0s
PMSA Palmer Station 124.61 175 *eP* **PKiKP 12 14 06.9 +1.3**
L59A Walton 124.67 19 IAMs_20 IAMs_20 13 12 14.4
comp=Z,1μm,21.0s
M57A Sunshine Farm, 124.71 21 IAMs_20 IAMs_20 13 18 20.5
comp=Z,2μm,19.0s
PLAL Pickwick Lake 124.81 34 IAMs_20 IAMs_20 13 11 37.7
comp=Z,1μm,21.0s
U49A Red Boiling Sp 124.90 32 IAMs_20 IAMs_20 13 14 13.8
comp=Z,2μm,18.0s
CLTN Cedars of Leba 124.93 32 IAMs_20 IAMs_20 13 04 22.8
comp=Z,1μm,22.0s
V48A Smith Brothers 124.94 33 IAMs_20 IAMs_20 13 18 45.9
comp=Z,1μm,19.0s
SSPA Standing Stone 125.04 22 IAMs_20 IAMs_20 13 16 07.3
comp=Z,2μm,20.0s
MCWV Mont Chateau 125.11 25 IAMs_20 IAMs_20 13 13 13.1
comp=Z,2μm,20.0s
L61B Northampton 125.16 17 IAMs_20 IAMs_20 13 15 42.4
comp=Z,1μm,19.0s
N58A Sunbury 125.30 21 IAMs_20 IAMs_20 13 09 28.0
comp=Z,1μm,21.0s
HRV Adam Dziewonsk 125.43 16 IAMs_20 IAMs_20 13 16 58.4
comp=Z,2μm,20.0s
WES Weston 125.60 16 IAMs_20 IAMs_20 13 19 17.1
comp=Z,2μm,20.0s
SWET Sewanee 125.81 33 IAMs_20 IAMs_20 13 01 32.9
comp=Z,2μm,20.0s
ODNJ Ogdensburg 125.81 20 IAMs_20 IAMs_20 13 09 35.5
comp=Z,2μm,20.0s
TRNY Table Rock, Ra 125.87 19 IAMs_20 IAMs_20 13 17 34.3
comp=Z,2μm,19.0s
UCCT U. Connecticut 125.89 17 IAMs_20 IAMs_20 13 15 55.9
comp=Z,1μm,20.0s
LUPA Lehigh Univers 125.98 20 IAMs_20 IAMs_20 13 13 54.2
comp=Z,1μm,20.0s
TZTN Tazewell 125.99 30 IAMs_20 IAMs_20 13 18 52.8
comp=Z,2μm,18.0s
PAL Palisades 126.10 19 IAMs_20 IAMs_20 13 16 28.3
comp=Z,2μm,20.0s
WSPT Westport, CT 126.14 18 IAMs_20 IAMs_20 13 15 27.2
comp=Z,1μm,20.0s
R55A Marlinton 126.15 26 IAMs_20 IAMs_20 13 16 43.8
comp=Z,2μm,19.0s
L64A Middleborough 126.15 16 IAMs_20 IAMs_20 13 14 48.7
comp=Z,1μm,20.0s
MVL Millersville 126.17 22 IAMs_20 IAMs_20 13 14 48.1
comp=Z,2μm,20.0s
M63A Gales Ferry 126.31 17 IAMs_20 IAMs_20 13 05 06.8
comp=Z,1μm,20.0s
WUPA West Chester U 126.49 21 IAMs_20 IAMs_20 13 14 29.7
comp=Z,1μm,19.0s
M65A Busby, Falmout 126.55 16 IAMs_20 IAMs_20 13 16 05.3
comp=Z,2μm,19.0s
LRAL Lakeview Retre 126.85 35 IAMs_20 IAMs_20 13 14 48.5
comp=Z,2μm,20.0s
BLA Blacksburg 126.91 27 IAMs_20 IAMs_20 13 15 57.0
comp=Z,2μm,20.0s
S57A Dark Hollow, R 127.08 25 IAMs_20 IAMs_20 13 03 25.5
comp=Z,2μm,20.0s
CBN Corbin Frederi 127.35 24 IAMs_20 IAMs_20 13 14 46.4
comp=Z,2μm,20.0s
BG3 Lake Jocassee 127.53 30 IAMs_20 IAMs_20 13 05 20.4
comp=Z,2μm,21.0s
BRAL Brewton 128.17 37 IAMs_20 IAMs_20 13 07 11.9
comp=Z,2μm,20.0s
KMSC Kings Mountain 128.19 29 IAMs_20 IAMs_20 13 22 36.9
comp=Z,2μm,18.0s
PAULI Pauline 128.22 30 IAMs_20 IAMs_20 13 19 58.6
comp=Z,1μm,19.0s
T59A Double "B" Far 128.34 24 IAMs_20 IAMs_20 13 16 56.6
comp=Z,2μm,19.0s
GOGA Godfrey 128.49 32 IAMs_20 IAMs_20 13 15 21.7
comp=Z,2μm,20.0s
DBIC Dimbokro 128.75 287 PKP **PKPdf 12 14 14.8 +0.2**
comp=Z,14nm,0.7s,baz=70,slow=1.7,SNR=19
DBIC PP **PP 12 16 23.6 +2.5**
comp=Z,7.0nm,0.8s,baz=67,slow=6.6,SNR=3.1
DBIC SKPbc SKPbc 12 17 34.0
comp=Z,12nm,0.9s,baz=21,slow=5.7,SNR=3.0
JSC Jenkinsville 128.92 30 IAMs_20 IAMs_20 13 18 05.2
comp=Z,2μm,20.0s
BIRD Birdtown, Kers 129.01 29 IAMs_20 IAMs_20 13 19 27.5
comp=Z,1μm,20.0s
Y57A Sumter 129.55 29 IAMs_20 IAMs_20 13 06 51.0
comp=Z,1μm,21.0s
V61A Roper 129.75 24 IAMs_20 IAMs_20 13 16 14.0
comp=Z,1μm,19.0s
Y58A Scranton 129.99 28 IAMs_20 IAMs_20 13 07 28.5
comp=Z,1μm,20.0s
NHSC New Hope 130.40 30 IAMs_20 IAMs_20 13 22 02.4
comp=Z,2μm,19.0s
CSU Charleston Sou 130.55 30 IAMs_20 IAMs_20 13 22 14.3
comp=Z,2μm,19.0s
Y60A Bolivia 130.57 27 IAMs_20 IAMs_20 13 19 36.9
comp=Z,1μm,20.0s
USHA Ushuaia 133.56 168 PKP **PKiKP 12 14 24.1 +0.4**
comp=Z,18nm,0.9s,baz=193,slow=4.6,SNR=6.9
USHA SKPbc **SKPab 12 17 50.8 -0.7**
comp=Z,29nm,1.2s,baz=251,slow=4.0,SNR=4.9
DWPF Disney Wildern 133.70 35 IAMs_20 IAMs_20 13 15 55.0
comp=Z,2μm,21.0s
TEIG Tepich 134.69 49 IAMs_20 IAMs_20 13 17 50.4
comp=Z,1μm,21.0s
060A Indiantown 135.13 35 IAMs_20 IAMs_20 13 19 49.9
comp=Z,2μm,20.0s
061Z Ochoppi 135.71 36 IAMs_20 IAMs_20 13 11 34.5
comp=Z,2μm,21.0s
SOR Soroa 136.67 41 **PKPdf 12 14 26.4 -3.0**
SOR IAMs_20 IAMs_20 13 28 03.2
comp=Z,1μm,19.0s
SOR Soroa 136.67 41 PKIKP **PKPdf 12 14 26.4 -3.0**
MGAN Managua 140.93 57 IAMs_20 IAMs_20 13 17 06.5
comp=Z,1μm,21.0s
COYC Coyhaique 140.98 159 **PKPdf 12 14 35.5 -1.0**
ASCN Ascension 141.19 269 **PKPdf 12 14 35.1 -2.7**
BOAB BOACO BROADBAN 141.24 56 **PKPdf 12 14 34.5 -3.4**
AY01 Puyuhuapi 141.76 158 IAMs_20 IAMs_20 13 20 11.9
comp=Z,1μm,20.0s
LL07 Hotel Espejo d 142.78 156 IAMs_20 IAMs_20 13 08 07.8
comp=Z,1μm,20.0s
CHIV Chivirico 142.87 37 IAMs_20 IAMs_20 13 07 30.1
comp=Z,569nm,20.0s
JTS Las Juntas de 142.99 58 PKIKP **PKPdf 12 14 39.2 -1.9**
LL02 Futaleuf 143.12 158 PKPbc 12 14 38.9 +1.5
LL02 IAMs_20 IAMs_20 13 11 11.7
comp=Z,1μm,20.0s
LL06 Loncomilla 143.23 155 PKPdf **PKPdf 12 14 40.0 -0.6**
NMDO Nuevo Mundo 143.24 35 IAMs_20 IAMs_20 13 26 10.8
comp=Z,2μm,18.0s
GTBY Guantanamo Bay 143.67 36 IAMs_20 IAMs_20 13 25 42.2
comp=Z,1μm,19.0s
HDC Heredia 143.84 58 IAMs_20 IAMs_20 13 05 22.8
comp=Z,1μm,19.0s
HDC Heredia 143.84 58 *eP* **PKPdf 12 14 43.3 +0.5**
LL03 Petrohue 144.63 155 IAMs_20 IAMs_20 13 16 07.9
comp=Z,1μm,21.0s
LR05 Currie 145.56 155 IAMs_20 IAMs_20 13 23 37.4
comp=Z,1μm,20.0s
BRU2 Volcan 145.66 58 IAMs_20 IAMs_20 13 11 02.3
comp=Z,1μm,21.0s
PLCA Paso Flores 145.72 157 PKPbc **PKPdf 12 14 45.4 +0.2**
comp=Z,185nm,0.9s,baz=239,slow=3.0,SNR=102
PLCA Paso Flores 145.72 157 *eP* **PKPbc 12 14 45.7 +0.1**
SDDR Presa de Saban 146.52 31 IAMs_20 IAMs_20 13 28 25.4
comp=Z,1μm,21.0s
BCIP Isla Barro Col 147.81 55 IAMs_20 IAMs_20 13 11 01.8
comp=Z,1μm,22.0s
BCIP Isla Barro Col 147.81 55 PKP2 **PKPbc 12 14 52.7 +0.5**
BI05 Punta Hualpn 147.84 150 IAMs_20 IAMs_20 13 25 13.7
comp=Z,1μm,20.0s
PCDR Punta Cana, DR 148.32 27 IAMs_20 IAMs_20 13 27 23.0
comp=Z,942nm,20.0s
BI02 San Fabin de 148.83 152 IAMs_20 IAMs_20 13 22 06.9
comp=Z,1μm,20.0s
AGPR Aguadilla, PR 148.92 25 PKPbc **PKPbc 12 14 54.3 -0.7**
EMPR Esperanza - Ma 149.16 24 PKPbc **PKPbc 12 14 54.3 -1.3**
MLPR Magueyes Islan 149.39 26 IAMs_20 IAMs_20 13 33 34.3
comp=Z,932nm,20.0s
ML02 Panimavida 149.49 151 IAMs_20 IAMs_20 13 22 21.4
comp=Z,1μm,21.0s
CELP Cerrillos 149.50 25 IAMs_20 IAMs_20 13 22 04.0
comp=Z,934nm,22.0s
OBIP Obispado Ponce 149.51 25 IAMs_20 IAMs_20 13 35 11.4
comp=Z,1μm,21.0s
SJG San Juan 149.64 24 PKP2 **PKPbc 12 14 55.3 -1.5**
PDPR Patillas Dam, 149.77 24 **PKPdf 12 14 54.3 +1.9**
PDPR PKPab **pPKPdf 12 15 00.1 -0.7**
IGPR InterUniversit 149.79 24 **PKPdf 12 14 54.1 +1.7**
IGPR PKPab **pPKPdf 12 14 59.9 -1.0**
BO02 Sierra Bellavi 150.57 150 IAMs_20 IAMs_20 13 25 52.2
comp=Z,1μm,20.0s
TRQA Tornquist 150.87 166 **PKPdf 12 14 56.3 +2.7**
TRQA PKPab **sPKPdf 12 15 05.4 +0.6**
TRQA Tornquist 150.87 166 PKIKP **PKPdf 12 14 54.4 +0.8**
BO04 La Punta 151.30 150 IAMs_20 IAMs_20 13 19 17.6
comp=Z,1μm,22.0s
ANWB Willy Bob 151.55 17 *eP* **PKPbc 12 14 59.5 -1.9**
MT02 Curacav 151.61 148 **PKPbc 12 14 59.2 -1.9**
MT02 PKPab **pPKPbc 12 15 08.0 -1.5**
LMEL Las Melosas 151.62 150 PKPdf **PKPdf 12 14 51.3 -3.7**
LMEL **PKPbc 12 14 59.4 -1.9**
LMEL PKPab **pPKPbc 12 15 09.5 -0.2**
MT03 Universidad Ad 151.75 149 IAMs_20 IAMs_20 13 20 08.3
comp=Z,1μm,19.0s
MT16 CCHEN 151.79 149 IAMs_20 IAMs_20 13 20 08.5
comp=Z,1μm,20.0s
PEL Peldehue 151.93 148 PKIKP **PKPdf 12 14 57.6 +2.2**
VA06 Catapilco 152.06 147 **PKPdf 12 14 58.2 +2.7**
VA06 PKPab **pPKPbc 12 15 10.5 0.0**
ANBD Bethesda, Anti 152.14 17 *eP* **PKPdf 12 14 58.9 +2.9**
MBWH 152.31 18 *eP* **PKPdf 12 14 52.9 -3.4**
CO06 Fray Jorge 153.29 144 **PKPbc 12 15 04.0 -0.9**
CO06 PKPab **pPKPbc 12 15 13.7 +0.3**
TBG Guadaloupe-3 153.31 17 *eP* **PKPbc 12 15 01.9 -3.4**
TDBA Terre de Bas, 153.32 17 PKPbc **PKPbc 12 15 04.2 -1.1**
TDBA PKPab **pPKPbc 12 15 14.5 +0.7**
OTAV Otavalo 153.35 69 PKPab **PKPab 12 15 14.6 -3.5**
OTAV Otavalo 153.35 69 IAMs_20 IAMs_20 13 10 43.9
comp=Z,1μm,22.0s
OTAV Otavalo 153.35 69 PKIKP **PKPdf 12 14 59.8 +1.2**
OTAV Otavalo 153.35 69 *eP* **PKPdf 12 14 58.6 0.0**
HATO Hato, Curacao 153.38 35 IAMs_20 IAMs_20 13 37 29.4
comp=Z,912nm,22.0s
DSLB Salisbury 153.77 17 *eP* **PKPdf 12 14 58.8 +0.3**
SVN Savane Anatole 154.41 17 IAMs_20 IAMs_20 13 23 48.0
comp=Z,1μm,21.0s
FDF Fort de France 154.51 17 IAMs_20 IAMs_20 13 23 38.8
comp=Z,1μm,22.0s
ILAM Ilet Lapin Mar 154.56 17 IAMs_20 IAMs_20 13 30 12.8
comp=Z,1μm,19.0s
CO01 Juntas del Tor 154.69 145 PKPdf **PKPdf 12 14 57.8 -1.9**
CO01 PKPbc **pPKPdf 12 15 07.0 -1.1**
CO01 PKPab **sPKPbc 12 15 19.9 +0.4**
BIM Bigot 154.74 17 IAMs_20 IAMs_20 13 30 21.8
comp=Z,1μm,21.0s
ROSC El Rosal 154.76 56 PKPab **PKPab 12 15 19.1 -4.9**
ROSC El Rosal 154.76 56 PKP **PKPdf 12 15 00.9 +0.4**
comp=Z,41nm,1.1s,baz=22,slow=2.6,SNR=13
MPOM Morne Pois Mar 154.87 17 PKPdf **PKPdf 12 14 57.4 -2.7**
MPOM PKPbc **pPKPdf 12 15 08.2 -0.3**
MPOM PKPab **sPKPbc 12 15 21.9 +1.9**
MPOM IAMs_20 IAMs_20 13 30 33.2
comp=Z,1μm,20.0s
SDV Santo Domingo 154.87 43 *eP* **PKPdf 12 15 00.6 +0.2**
LCO Las Campanas 155.05 142 PKPdf **PKPdf 12 14 56.8 -3.5**
LCO PKPbc **pPKPdf 12 15 08.6 -0.1**
LCO PKPab sPKPbc 12 15 20.6 +0.2
LCO Las Campanas 155.05 142 IAMs_20 IAMs_20 13 25 19.2
comp=Z,1μm,21.0s
LCO Las Campanas 155.05 142 PKIKP **PKPdf 12 14 56.8 -3.5**
LCO 12 15 20.6
BAUV El Baul 156.49 38 PKPdf **PKPdf 12 15 00.2 -2.0**
BAUV PKPab **PKPab 12 15 26.6 -4.1**
GRGR Grenville 156.80 20 IAMs_20 IAMs_20 13 29 30.4
comp=Z,1μm,22.0s
NNA Nana 157.09 98 PKIKP **PKPdf 12 15 05.0 +2.0**
AC01 Pan de Azucar 157.12 138 PKPdf **PKPdf 12 15 00.9 -1.9**
AC01 PKPab **PKPab 12 15 31.9 -1.4**
TOSP Speyside 157.95 18 *eP* **PKPdf 12 15 04.8 +0.8**
TBOT Tacuaremb 158.11 175 *eP* **PKPdf 12 15 04.2 +0.4**
PLTB Pedras Altas 158.13 180 PKPdf **PKPdf 12 15 01.8 -2.1**
PLTB PKPab **PKPab 12 15 36.6 -0.8**
PLTB Pedras Altas 158.13 180 *eP* **PKPdf 12 15 03.8 -0.1**
GO02 Mina Guanaco 158.45 137 PKPdf **PKPdf 12 15 02.1 -2.7**
GO02 PKPab **PKPab 12 15 36.1 -3.3**
CPSB Cacapava Do Su 159.49 180 *eP* **PKPdf 12 15 05.5 +0.1**
CNLB Canela 160.40 187 *eP* **PKPdf 12 15 08.5 +1.9**
TER01 Tubaro-SC 160.88 192 *eP* **PKPdf 12 15 06.3 -0.8**
CZSB Cruzeiro do Su 161.02 85 *eP* **PKPdf 12 15 07.7 +0.1**
PB01 IPOC Station P 161.06 128 PKPdf **PKPdf 12 15 05.6 -2.0**
PB01 PKPab **PKPab 12 15 49.0 -1.6**
HMBC Humberstone 161.16 125 PKPdf **PKPdf 12 15 03.4 -4.4**
HMBC PKPab **PKPab 12 15 48.6 -2.5**
PB12 IPOC Station P 161.59 120 PKPdf **PKPdf 12 15 05.9 -2.3**
PB12 PKPab **PKPab 12 15 50.4 -2.6**
MAJ01 Sao Joao Batis 161.96 193 *eP* **PKPdf 12 15 07.3 -0.9**
RCBR Riachuelo 162.02 281 PKPdf **PKPdf 12 15 06.3 -2.4**
RCBR PKPab **PKPab 12 15 54.2 -0.9**
RCBR Riachuelo 162.02 281 PKP **PKPdf 12 15 08.1 -0.7**
comp=Z,5.6nm,0.8s,baz=190,slow=11,SNR=4.4
RCBR PKPab **PKPab 12 15 54.7 -0.4**
comp=Z,14nm,0.8s,baz=48,slow=12,SNR=11
RCBR Riachuelo 162.02 281 *eP* **PKPdf 12 15 09.1 +0.4**
NBCA Caruaru-PE 162.55 274 *eP* **PKPdf 12 15 10.3 +1.0**
ITAB Concordia 162.59 184 PKPdf **PKPdf 12 15 07.5 -1.4**
ITAB PKPab **PKPab 12 15 54.6 -2.2**
ITAB Concordia 162.59 184 *eP* **PKPdf 12 15 09.3 +0.4**
TBTG Tabatinga, AM 162.90 72 *eP* **PKPdf 12 15 08.9 -0.7**
NBAN Anadia - AL 162.91 269 *eP* **PKPdf 12 15 09.3 -0.2**
CPUP Villa Florida 163.18 168 PKPdf **PKPdf 12 15 07.8 -1.7**
CPUP PKPab **PKPab 12 15 58.0 -1.4**
CPUP Villa Florida 163.18 168 PKP **PKPdf 12 15 08.5 -0.9**
comp=Z,6.3nm,0.9s,baz=245,slow=1.6,SNR=16
CPUP **PKPab 12 16 00.1 +0.7**
comp=Z,9.4nm,0.9s,baz=250,slow=0.6,SNR=3.2
CPUP PP **PP 12 19 47.3 +4.4**
comp=Z,12nm,1.1s,baz=199,slow=6.6,SNR=2.9
CPUP SKKPbc 12 25 04.7
comp=Z,3.0nm,0.8s,baz=36,slow=4.8,SNR=3.9
CPUP Villa Florida 163.18 168 *eP* **PKPdf 12 15 09.5 +0.1**
NBLV Livramento - P 163.32 277 *eP* **PKPdf 12 15 11.1 +1.1**
CAM01 Campos-RJ 163.41 222 *eP* **PKPdf 12 15 11.5 +1.7**
ALF01 Guarapari-ES 163.57 228 *eP* **PKPdf 12 15 12.2 +2.2**
DUB01 Friburgo-RJ 163.70 220 *eP* **PKPdf 12 15 09.2 -1.0**
NBCL Cascavel-CE 163.82 289 *eP* **PKPdf 12 15 11.2 +0.7**
MAN01 Angra dos Reis 164.05 214 *eP* **PKPdf 12 15 13.2 +2.7**
RIB01 Linhares ES 164.09 232 *eP* **PKPdf 12 15 12.0 +1.4**
NBLA Lagarto - SE 164.39 264 *eP* **PKPdf 12 15 11.5 +0.5**
LPAZ La Paz 164.46 116 PKP **PKPdf 12 15 11.6 -0.1**
comp=Z,30nm,1.2s,baz=29,slow=1.4,SNR=21
LPAZ PKPab **PKPab 12 16 06.5 +0.2**
comp=Z,32nm,0.9s,baz=227,slow=3.3,SNR=5.7
LPAZ PP **PP 12 19 56.2 +3.8**
comp=Z,8.6nm,1.1s,baz=160,slow=2.3,SNR=4.2
LPAZ SKKPbc 12 24 59.5
comp=Z,4.2nm,0.8s,baz=152,slow=7.1,SNR=3.9
LPAZ La Paz 164.46 116 *eP* **PKPdf 12 15 12.4 +0.8**
PARB Paraibuna 164.51 209 *eP* **PKPdf 12 15 11.8 +0.9**
BSFB Barra de Sao F 164.72 233 *eP* **PKPdf 12 15 11.7 +0.6**
GUA01 Guaratinga, BA 164.96 242 *eP* **PKPdf 12 15 12.7 +1.3**
SJMB Sao Joao De Ma 165.06 232 *eP* **PKPdf 12 15 12.2 +0.8**
SPB Sao Paulo 165.06 203 PKPdf **PKPdf 12 15 08.1 -3.1**
SPB PKPab **PKPab 12 16 07.2 -0.5**
SPB Sao Paulo 165.06 203 *eP* **PKPdf 12 15 12.2 +0.9**
PTGB Pitanga 165.08 185 *eP* **PKPdf 12 15 12.0 +0.6**
PAPY Pozo Azul 165.11 163 *eP* **PKPdf 12 15 12.3 +1.1**
CMC01 Camacan, BA 165.18 247 *eP* **PKPdf 12 15 13.4 +1.9**
VAO Valinhos 165.40 205 *eP* **PKPdf 12 15 13.4 +1.8**
NBPB Pedra_Branca-C 165.47 286 *eP* **PKPdf 12 15 13.3 +1.4**
GDU01 Guandu, BA 165.71 253 *eP* **PKPdf 12 15 12.6 +0.5**
FRTB Fartura 165.98 196 *eP* **PKPdf 12 15 12.2 +0.2**
BSCB Bom Sucesso 165.98 216 *eP* **PKPdf 12 15 12.6 +0.4**
BOAV Boa Vista 166.07 30 PKPdf **PKPdf 12 15 11.5 -0.9**
BOAV PKPab **PKPab 12 16 10.1 -2.4**
BOAV Boa Vista 166.07 30 *eP* **PKPdf 12 15 12.8 +0.4**
LDASE Londrina, Braz 166.26 190 *eP* **PKPdf 12 15 13.2 +0.9**
TEFE Tefe 167.40 61 *eP* **PKPdf 12 15 13.3 -0.1**
ETMB Extrema 167.58 91 PKPdf **PKPdf 12 15 11.4 -2.1**
ETMB PKPab **PKPab 12 16 15.0 -4.5**
SIV San Ignacio 170.47 131 PKP **PKPdf 12 15 14.8 -0.4**
comp=Z,20nm,1.0s,baz=182,slow=1.1,SNR=45
SIV PKPab **PKPab 12 16 32.6 +0.5**
comp=Z,11nm,0.9s,baz=225,slow=5.1,SNR=5.8
SIV PP **PP 12 20 23.6 +1.7**
comp=Z,3.1nm,0.8s,baz=206,slow=6.2,SNR=4.2
BDFB Brasilia 172.02 223 PKPdf **PKPdf 12 15 13.1 -3.1**
BDFB PKPab **PKPab 12 16 38.3 -0.7**
BDFB Brasilia 172.02 223 PKP **PKPdf 12 15 16.1 0.0**
comp=Z,12nm,0.8s,baz=27,slow=1.3,SNR=11
BDFB PKPab **PKPab 12 16 39.7 +0.7**
comp=Z,44nm,0.9s,baz=131,slow=2.4,SNR=13
BDFB PP **PP 12 20 31.7 +2.3**
comp=Z,18nm,1.0s,baz=130,slow=5.8,SNR=5.8
PTLB Pontes e Lacer 172.21 137 PKPdf **PKPdf 12 15 14.5 -1.6**
PTLB PKPab **PKPab 12 16 36.4 -3.3**
MAL2 Monte Alegre, 172.26 4 PKPdf **PKPdf 12 15 14.0 -2.3**
MAL2 PKPab **PKPab 12 16 39.5 -0.2**

ISC 08 11:59:04.2±1.9, 59°.84N±0°.08×139°.11W±0°.03, h6km±14km, n11, σ0°74/21, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O29M	**Mount Kennedy**	**0.53**	**30**	P	**Pg**	**11 59 14.8**	**+0.4**
	baz=217						
O29M				S	**Sg**	**11 59 21.3**	**-0.1**
	baz=217						
PINM	**Pinnacle**	**0.63**	**294**	P	**Pb**	**11 59 17.7**	**+0.1**
	baz=106,SNR=48						
PINM				S	**Sb**	**11 59 26.3**	**-0.4**
	baz=106						
O28M	**Mount Upton**	**1.08**	**330**	P	**Pg**	**11 59 24.1**	**-0.8**
	baz=148						
O28M				S	**Sg**	**11 59 38.2**	**-0.6**
	baz=148						
P30M	**Million Dollar**	**1.11**	**75**	P	**Pg**	**11 59 25.5**	**-0.1**
	baz=261						
P30M				S	**Sb**	**11 59 40.5**	**-0.2**
	baz=261						
YUK6	**Outpost Mounta**	**1.16**	**18**	P	**Pg**	**11 59 26.1**	**-0.4**
	baz=201,SNR=122						
YUK6				S	**Sg**	**11 59 41.0**	**-0.6**
	baz=201						
HYT	**Haines Junctio**	**1.27**	**38**	P	**Pg**	**11 59 28.0**	**-0.5**
	baz=223,SNR=26						
HYT				S	**Sg**	**11 59 44.1**	**-0.8**
	baz=223						
PLBC	**Pleasant Camp**	**1.45**	**104**	P	**Pn**	**11 59 31.3**	**+0.5**
	baz=290,SNR=20						
PLBC				S	**Sn**	**11 59 50.2**	**+0.1**
	baz=290						
MESA	**MESA**	**1.47**	**284**	Pb	**Pb**	**11 59 32.3**	**+0.3**
	baz=99,SNR=10						
MESA				S	**Sn**	**11 59 51.0**	**0.0**
	baz=99						
YUK8	**Steele Glacier**	**1.48**	**348**	Pb	**Pn**	**11 59 31.5**	**-0.1**
	baz=167,SNR=24						
YUK4	**Talbot Arm**	**1.52**	**8**	Pg	**Pg**	**11 59 34.9**	**+1.5**
	baz=191						
YUK4				Sb	**Sg**	**11 59 55.1**	**+2.0**
	baz=191						
O30N	**Mendenhall**	**1.77**	**57**	Pb	**Pb**	**11 59 36.6**	**-0.4**
	baz=242						
O30N				Sb	**Sb**	**11 59 59.2**	**-0.2**
	baz=242						

---

*IDC **08** 11:59:30.1±1.1, 9°.92N×126°.35E, h0km, mb4.5/9, mbtmp4.5/9, Error ellipse: s-maj=94.9km s-min=22.2km az=70.0*
*NEIC **08** 11:59:31.0±1.2, 9°.90N±0°.05×126°.3E±0°.2, h10km±1km, mb4.6/12, Error ellipse: s-maj=27.4km s-min=5.5km az=103.0*

ISC 08 11:59:35.6±0.6, 9°.81N±0°.08×126°.3E±0°.2, h42km, n24, σ1°14/24, mb4.5/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**194**	Pn	**Pn**	**12 00 17.2**	**-0.9**
MYKOM	**Kota Tinggi**	**23.68**	**252**	P	**P**	**12 04 46.5**	**+2.8**
WRA	**Warramunga Arr**	**30.61**	**165**	P	**P**	**12 05 46.8**	**+0.9**
	7.4nm,0.8s,baz=327,slow=9.4,SNR=1.2						
	7.4nm,0.8s						
ASAR	**Alice Springs**	**34.10**	**167**	P	**P**	**12 06 18.1**	**+1.6**
	7.1nm,0.9s,baz=341,slow=8.3,SNR=1.2						
	7.1nm,0.9s						
SONM	**Songino Array**	**41.45**	**340**	P	**P**	**12 07 19.7**	**+1.3**
	7.6nm,1.0s,baz=156,slow=9.5,SNR=1.6						
	7.6nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**	**12 07 32.9**	**-1.0**
BBOO	**Buckleboo**	**43.40**	**168**	P	**P**	**12 07 34.8**	**+0.6**
TOO	**Toolangi**	**50.45**	**160**	P	**P**	**12 08 28.5**	**-0.8**
MKAR	**Makanchi Array**	**52.40**	**323**	P	**P**	**12 08 43.9**	**+0.1**
	2.5nm,0.7s,baz=119,slow=8.7,SNR=1.6						
	2.5nm,0.7s						
MAKZ	**Makanchi**	**52.59**	**323**	P	**P**	**12 08 44.0**	**-1.2**
MAKZ				IAmb	IAmb	12 08 47.5	
	comp=Z,12nm,1.0s						
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**12 09 02.7**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=122,slow=5.4,SNR=0.9						
	comp=Z,1.3nm,0.6s						
KKAR	**Karatay Array**	**58.58**	**315**	P	**P**	**12 09 27.0**	**-1.3**
RPZ	**Rata Peaks**	**67.00**	**146**	P	**P**	**12 10 24.8**	**+0.6**
ABKAR	**Akbulak array**	**67.23**	**319**	P	**P**	**12 10 24.5**	**-1.1**
ABKAR				IAmb	IAmb	12 10 25.0	
	comp=Z,6.3nm,0.9s						
BKZ	**Black Stump Fm**	**67.43**	**140**	P	**P**	**12 10 26.4**	**-0.7**
M16K	**Timber Creek**	**74.09**	**29**	P	**P**	**12 11 08.4**	**+1.2**
O16K	**Kokwok River B**	**74.32**	**31**	P	**P**	**12 11 10.1**	**+1.5**
RIDG	**Independent Ri**	**80.78**	**27**	P	**P**	**12 11 43.8**	**-0.8**
RIDG				IAmb	IAmb	12 11 48.7	
	comp=Z,10nm,1.0s						
SCRK	**Sand Creek**	**81.14**	**27**	P	**P**	**12 11 45.5**	**-1.1**
SCRK				IAmb	IAmb	12 11 54.0	
	comp=Z,1.7nm,0.9s						
GLB	**Gilahina Butte**	**81.42**	**29**	P	**P**	**12 11 48.3**	**+0.3**
GLB				IAmb	IAmb	12 11 56.5	
	comp=Z,4.2nm,0.9s						
ARCES	**ARCESS Array B**	**84.62**	**340**	P	**P**	**12 12 04.9**	**+0.5**
	comp=Z,7.8nm,0.9s,baz=86,slow=6.1,SNR=3.5						
	comp=Z,7.8nm,0.9s						
FINES	**FINESS Array B**	**86.30**	**332**	P	**P**	**12 12 13.1**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=75,slow=8.1,SNR=4.4						
	comp=Z,3.8nm,0.6s						
AKASG	**Malin Array Be**	**86.92**	**321**	P	**P**	**12 12 15.7**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=65,slow=4.7,SNR=1.6						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**94.17**	**24**	P	**P**	**12 12 49.4**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=293,slow=4.5,SNR=2.2						
	comp=Z,2.6nm,0.9s						

---

*IDC **08** 12:02:18.2±1.2, 9°.92N×126°.45E, h0km, mb4.3/11, mbtmp4.3/11, Error ellipse: s-maj=47.7km s-min=28.6km az=71.0*

ISC 08 12:02:24.3±1.0, 9°.9N±0°.2×126°.5E±0°.3, h42km, n11, σ0°68/11, mb4.4/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.16**	**168**	P	**P**	**12 09 05.9**	**+0.2**
	2.1nm,0.5s,baz=346,slow=8.5,SNR=1.4						
	2.1nm,0.5s						
SONM	**Songino Array**	**41.42**	**340**	P	**P**	**12 10 08.1**	**+1.3**
	1.3nm,0.4s,baz=154,slow=9.8,SNR=4.7						
	1.3nm,0.4s						
PETK	**Petropavlovsk-**	**49.88**	**24**	P	**P**	**12 11 13.2**	**-0.2**
	7.5nm,1.1s,baz=228,slow=7.1,SNR=4.2						
	7.5nm,1.1s						
MKAR	**Makanchi Array**	**52.42**	**323**	P	**P**	**12 11 32.4**	**-0.3**
	3.5nm,0.8s,baz=119,slow=7.2,SNR=5.8						
	3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**12 11 50.6**	**-0.9**
	0.8nm,0.4s,baz=125,slow=6.9,SNR=1.2						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**12 14 27.2**	**-0.1**
	1.4nm,1.1s,baz=252,slow=4.8,SNR=1.5						
	1.4nm,1.1s						

	5.9nm,1.0s						
YKA	**Yellowknife Ar**	94.00	24	P	P	12 15 37.8	+0.1
	1.4nm,0.8s,baz=295,slow=4.5,SNR=3.6						
	1.4nm,0.8s						

*IDC **08** 12:02:53.6±0.9, 9.°80N×126.°30E, h0km, mb4.4/10, mbtmp4.3/10, Error ellipse: s-maj=47.1km s-min=20.7km az=74.0*
*NEIC **08** 12:02:55.9±1.4, 9.°83N±0.°07×126.°3E±0.°1, h10km±1km, mb4.9/29, Error ellipse: s-maj=17.5km s-min=12.4km az=80.0*

ISC 08 12:02:59.5±0.5, 9.°72N±0.°07×126.°3E±0.°1, h43km, n47, σ1°00/46, mb4.7/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	2.71	194	Pn	Pn	12 03 39.3	-1.3
MYLDM	**Lahad Datu**	8.91	240	Pn	Pn	12 05 04.8	-0.9
TNTI	**Ternate**	8.96	173	Pn	Pn	12 05 04.9	-1.5
FAKI	**Fak Fak**	13.90	154	Pn	Pn	12 06 11.2	-2.9
TWG	**Pinlang**	13.94	340	Pn	Pn	12 06 09.0	-5.6
KSM	**Kuching**	17.85	244	P	P	12 07 05.2	+0.1
FITZ	**Fitzroy Crossi**	27.64	181	P	P	12 08 44.2	+0.8
FITZ				IAmb	IAmb	12 09 04.2	
	comp=Z,30nm,1.4s						
COEN	**Coen**	28.90	144	P	P	12 08 54.2	-0.4
WRA	**Warramunga Arr**	30.53	165	P	P	12 09 10.0	+1.0
	comp=Z,5.2nm,0.7s,baz=342,slow=8.4,SNR=4.7						
	comp=Z,5.2nm,0.7s						
WR0	**Warramunga Arr**	30.60	165	P	P	12 09 10.6	+1.0
JMM	**Marumori**	30.93	23	P	P	12 09 11.2	-1.1
PSA00	**Pilbara Seismi**	31.73	191	P	P	12 09 20.6	+1.1
AS31	**Alice Springs**	34.01	167	P	P	12 09 42.0	+2.5
ASAR	**Alice Springs**	34.01	167	P	P	12 09 40.0	+0.5
	comp=Z,3.2nm,0.8s,baz=348,slow=8.7,SNR=1.6						
	comp=Z,3.2nm,0.8s						
MORW	**Morawa**	39.80	194	P	P	12 10 29.4	+0.9
ULN	**Ulaanbaatar**	41.34	340	P	P	12 10 39.3	-1.9
SONM	**Songino Array**	41.53	340	P	P	12 10 43.5	+0.7
	comp=Z,1.5nm,0.5s,baz=160,slow=9.3,SNR=9.1						
	comp=Z,1.5nm,0.5s						
EIDS	**Eidsvold**	42.44	146	P	P	12 10 51.1	+0.7
EIDS				IAmb	IAmb	12 11 14.5	
	comp=Z,34nm,1.4s						
BBOO	**Buckleboo**	43.31	168	P	P	12 10 57.9	+0.6
STKA	**Stephens Creek**	43.89	161	P	P	12 11 02.9	+1.0
STKA				IAmb	IAmb	12 11 12.6	
	comp=Z,31nm,1.2s						
ARMA	**Armidale**	46.77	149	P	P	12 11 26.2	+1.3
ARMA				IAmb	IAmb	12 11 36.3	
	comp=Z,9.4nm,1.0s						
PETK	**Petropavlovsk-**	50.15	24	P	P	12 11 50.8	+0.3
	comp=Z,2.9nm,0.8s,baz=197,slow=5.5,SNR=5.4						
	comp=Z,2.9nm,0.8s						
DZM	**Mont Dzumac**	50.51	129	P	P	12 11 54.5	+0.7
DZM				IAmb	IAmb	12 12 07.5	
	comp=Z,34nm,1.4s						
MK31	**Makanchi Array**	52.46	323	P	P	12 12 08.1	+0.1
MKAR	**Makanchi Array**	52.46	323	P	P	12 12 08.5	+0.5
MKAR	**Makanchi Array**	52.46	323	P	P	12 12 07.8	-0.2
	comp=Z,1.5nm,0.5s,baz=113,slow=6.9,SNR=7.9						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	52.65	323	P	P	12 12 09.1	-0.4
MAKZ				IAmb	IAmb	12 12 14.9	
	comp=Z,27nm,1.4s						
ZALV	**Zalesovo Beam**	55.10	332	P	P	12 12 26.7	-0.5
	comp=Z,3.1nm,0.8s,baz=123,slow=6.0,SNR=2.3						
	comp=Z,3.1nm,0.8s						
AAK	**Ala-Archa**	55.71	315	P	P	12 12 31.4	-0.6
ARSB	**Arslanbob**	56.34	314	P	P	12 12 37.1	+0.6
ARSB				IAmb	IAmb	12 12 54.8	
	comp=Z,22nm,1.4s						
KURK	**Kurchatov**	56.51	326	P	P	12 12 37.7	+0.4
KURK				IAmb	IAmb	12 12 43.8	
	comp=Z,26nm,1.2s						
KKAR	**Karatay Array**	58.63	315	P	P	12 12 52.7	+0.2
ABKAR	**Akbulak array**	67.28	319	P	P	12 13 49.9	+0.2
K15K	**Wolf Creek Mou**	73.20	28	P	P	12 14 27.0	+1.3
K15K				IAmb	IAmb	12 14 34.3	
	comp=Z,22nm,1.4s						
L16K	**Owhat River**	74.05	28	P	P	12 14 30.8	+0.1
L16K				IAmb	IAmb	12 14 32.3	
	comp=Z,14nm,1.2s						
M16K	**Timber Creek**	74.19	29	P	P	12 14 31.4	-0.2
E18K	**Tukpahlearik C**	74.63	23	P	P	12 14 35.5	+1.6
E18K				IAmb	IAmb	12 14 54.9	
	comp=Z,17nm,1.4s						
C18K	**Utukok River**	74.67	21	P	P	12 14 34.6	+0.3
O18K	**Koktuh Hills**	75.90	31	P	P	12 14 41.6	+0.2
CAST	**Castle Rocks**	77.64	27	P	P	12 14 52.2	+1.0
CAST				IAmb	IAmb	12 15 20.4	
	comp=Z,11nm,1.3s						
BRLK	**Bradley Lake**	78.07	31	P	P	12 14 53.2	-0.5
BRLK				IAmb	IAmb	12 15 08.8	
	comp=Z,18nm,1.2s						
BPAW	**Bear Paw Mtn.**	78.16	26	P	P	12 14 53.7	-0.4
BPAW				IAmb	IAmb	12 15 08.2	
	comp=Z,8.9nm,1.1s						
C23K	**Itkillik River**	78.57	21	P	P	12 14 57.2	+1.0
C23K				IAmb	IAmb	12 14 58.2	
	comp=Z,6.9nm,0.8s						
ILAR	**Eielson Array**	79.94	26	P	P	12 15 03.2	-0.6
	comp=Z,1.2nm,0.8s,baz=229,slow=5.6,SNR=4.6						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	84.70	340	P	P	12 15 28.6	0.0
	comp=Z,3.9nm,0.8s,baz=76,slow=6.3,SNR=7.7						
	comp=Z,3.9nm,0.8s						
FINES	**FINESS Array B**	86.37	332	P	P	12 15 37.0	0.0
	comp=Z,3.9nm,0.7s,baz=63,slow=4.8,SNR=6.0						
	comp=Z,3.9nm,0.7s						
YKA	**Yellowknife Ar**	94.27	24	P	P	12 16 13.5	-0.5
	comp=Z,1.1nm,0.6s,baz=296,slow=4.9,SNR=5.2						
	comp=Z,1.1nm,0.6s						

*NEIC **08** 12:04:26.7±1.5, 52.°16N±0.°09×170.°1W±0.°1, h10km±1km, ML3.5/8, ML3.4(AEIC), Error ellipse: s-maj=19.7km s-min=3.8km az=141.0*
*AEIC **08** 12:04:27.5±1.9, 51.°9N±0.°1×170.°0W±0.°1, h25km±8km, Error ellipse: s-maj=17.2km s-min=8.0km az=156.0*

ISC 08 12:04:28.5±2.0, 52.°2N±0.°2×170.°29W±0.°07, h31km, n31, σ1°32/34, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKWE	**Okmok W'ng Wal**	1.76	44		Pn	12 04 57.8	+1.0
OKCE	**Okmok Cone E**	1.76	46		Pn	12 04 57.6	+0.7
OKTU	**Okmok Mt. Tuli**	1.79	49		Pn	12 04 57.4	+0.1
OKTU					Sb	12 05 21.8	-0.9
OKRE	**Okmok R'deer P**	1.83	44		Pn	12 04 59.0	+1.2
OKFG	**Magazine Ridge**	1.87	50		Pn	12 04 58.4	+0.1
OKFG					Sn	12 05 21.6	+0.8
ATKA	**Atka Island**	2.40	271		Pn	12 05 07.3	+1.7
MAPS	**Pakushin South**	2.57	51		Pn	12 05 08.0	+0.1
MAPS					Sn	12 05 39.4	+1.3
MGOD	**Makushin Gods**	2.59	51		Pn	12 05 08.0	-0.3
MGOD					Sn	12 05 39.7	+1.0
MSW	**Makushin Switc**	2.71	50		Pn	12 05 10.1	+0.2
UNV	**Unalaska Valle**	2.80	53		Pn	12 05 10.9	-0.1
UNV	**Unalaska Valle**	2.80	53		Sn	12 05 44.4	+0.6
AKRB	**Akutan Reef Bi**	3.18	51		Pn	12 05 16.9	+0.7
ZRO	**Akutan Zero**	3.20	53		Pn	12 05 17.2	+0.6
LVA	**Lava Point**	3.21	51		Pn	12 05 17.1	+0.4
LVA				IAML		12 06 39.9	
	comp=N,184nm,0.8s						
LVA				IAML		12 06 58.8	
	comp=E,123nm,0.9s						
AKBBA	**Akutan Broad B**	3.22	53		Pn	12 05 17.1	+0.2
GSTR	**Great Sitkin T**	3.55	270	Pn	Pn	12 05 23.3	+1.8
ADK	**Adak**	3.96	268		Pn	12 05 26.3	-0.7
ADK	**Adak**	3.96	268	IAML		12 06 03.8	
	comp=E,45nm,1.0s						
ADK				IAML		12 06 22.2	
	comp=E,42nm,1.1s						
ADK	**Adak**	3.96	268	P	Pn	12 05 30.7	+3.7
ADK	**Adak**	3.96	268	P	Pn	12 05 26.3	-0.7
KIWB	**Kanaga Island**	4.25	268	Pn	Pn	12 05 29.8	-1.2
P08K	**Saint George I**	4.40	5	Pn	Pn	12 05 31.7	-1.4
FALS	**False Pass**	4.87	55	Pn	Pn	12 05 38.1	-1.4
SPIA	**Saint Paul Isl**	4.96	0	Pn	Pn	12 05 40.0	-0.7
S12K	**Black Hills**	5.97	51	Pn	Pn	12 05 53.0	-1.7
CNBA	**Chernabura Isl**	6.89	64	Pn	Pn	12 06 05.2	-2.0
CHGN	**Chignik**	8.06	55	Pn	Pn	12 06 22.0	-1.2
O14K	**Tigyukauivet M**	8.68	32		Pn	12 06 31.8	+0.1
CHIR	**Chirikof Islan**	9.35	62	Pn	Pn	12 06 39.1	-1.9
SII	**Sitkinak Islan**	10.34	59	Pn	Pn	12 06 52.9	-1.6
SII	**Sitkinak Islan**	10.34	59	P	Pn	12 06 56.6	+2.1

*SJA **08** 12:05:23.4±0.6, 22.°25S×67.°43W, h205km±8km, ML3.1, MW3.2*
*GUC **08** 12:05:25.2±0.6, 22.°10S×67.°80W, h218km±8km, ML3.5*
*SCB **08** 12:05:25.7±1.1, 22.°23S×67.°32W, h159km±13km, ML3.3/2, MW3.2, Error ellipse: s-maj=11.9km s-min=7.9km az=0.0*

ISC 08 12:05:22.6±1.7, 22.°23S±0.°04×67.°38W±0.°05, h203km±15km, n29, σ1°78/45, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	1.78	284	*eP*	Pn	12 06 00.5	+1.2
PB09				*eS*	Sn	12 06 27.8	-0.1
PB09				IAML		12 06 30.6	
	comp=Z,53nm,0.3s						
PB09	**IPOC Station P**	1.78	284	*i P*	Pn	12 06 00.6	+1.2
PB09				*eS*	Sn	12 06 27.8	-0.1
PB09	**IPOC Station P**	1.78	284	Pg	Pn	12 06 00.6	+1.2
MOCB	**Mochara**	1.89	59	Pg	Pn	12 06 00.9	+0.2
MOCB				Sg	Sn	12 06 27.2	-3.1
MOCB				IAML		12 06 28.8	
	comp=Z,183nm,0.8s						
SALTA		2.21	155	*eP*	Pn	12 06 05.6	+1.6
PB01	**IPOC Station P**	2.29	301	*eP*	Pn	12 06 05.5	+0.9
PB01				*eS*	Sn	12 06 36.7	-0.4
PB01				IAML		12 06 39.4	
	comp=Z,106nm,0.2s						
PB01	**IPOC Station P**	2.29	301	*eP*	Pn	12 06 05.4	+0.9
PB01				*eS*	Sn	12 06 36.4	-0.7
PB01				IAML		12 06 38.2	
	comp=E,152nm,0.1s						
PB01	**IPOC Station P**	2.29	301	Pg	Pn	12 06 05.6	+1.1
PB01				Sg	Sn	12 06 36.1	-1.0
PB01				IAML		12 06 37.1	
	comp=E,86nm,0.3s						
PB08	**IPOC Station P**	2.65	321	*eP*	Pn	12 06 11.1	+2.2
PB08				*eS*	Sn	12 06 46.0	+1.1
PB08				IAML		12 06 49.2	
	comp=Z,28nm,0.2s						
PB08	**IPOC Station P**	2.65	321	↓*iP*	Pn	12 06 10.9	+2.1
PB08				*eS*	Sn	12 06 45.1	+0.2
PB08				IAML		12 06 49.6	
	comp=E,50nm,0.2s						
PB08	**IPOC Station P**	2.65	321	Pg	Pn	12 06 11.0	+2.2
AZAP	**Zapla**	2.91	134	*eP*	Pn	12 06 12.2	+0.6
PATCX	**Punta Patache**	2.94	298	*eP*	Pn	12 06 08.2	-3.6
PATCX				*eS*	Sn	12 06 47.8	-2.4
PATCX				IAML		12 06 50.9	
	comp=Z,84nm,0.3s						
PATCX	**Punta Patache**	2.94	298	*eP*	Pn	12 06 12.7	+0.9
PATCX				*eS*	Sn	12 06 47.9	-2.2
PATCX				IAML		12 06 49.9	
	comp=E,170nm,0.4s						
TA01	**Diego Aracena**	3.09	302	*eP*	Pn	12 06 15.4	+2.0
TA01				*eS*	Sn	12 06 51.1	-2.1
TA01				IAML		12 06 52.3	
	comp=Z,29nm,0.3s						
TA01	**Diego Aracena**	3.09	302	*eP*	Pn	12 06 14.0	+0.5
TA01				*eS*	Sn	12 06 50.8	-2.5
TA01				IAML		12 06 52.3	
	comp=E,134nm,0.2s						
GO02	**Mina Guanaco**	3.56	214	*eP*	Pn	12 06 20.6	+1.3
GO02				*eS*	Sn	12 07 03.1	-0.8
GO02	**Mina Guanaco**	3.56	214	*i P*	Pn	12 06 20.5	+1.2
PB14	**IPOC Station P**	3.66	229	*eP*	Pn	12 06 21.7	+1.0
PB14				*eS*	Sn	12 07 04.7	-1.6
PB14				IAML		12 07 04.7	
	comp=Z,32nm,0.1s						
PB14	**IPOC Station P**	3.66	229	*eP*	Pn	12 06 21.5	+0.9
SOET	**ToroToro**	4.35	20	Pg	Pn	12 06 30.9	+1.7
AOEA	**Aiguile**	4.50	27	Pg	Pn	12 06 32.4	+1.3
PB12	**IPOC Station P**	4.53	322	*eP*	Pn	12 06 31.5	+0.2
PB12				*eS*	Sn	12 07 23.1	-2.3
PB12				IAML		12 07 23.7	
	comp=Z,16nm,0.4s						
PB12	**IPOC Station P**	4.53	322	*eP*	Pn	12 06 31.1	-0.2
AC02	**Maricunga**	4.86	199	*eP*	Pn	12 06 26.1	-10
AC02				*eS*	Sn	12 07 34.1	+0.7
AC02				IAML		12 07 38.4	
	comp=Z,11nm,0.8s						
AC01	**Pan de Azucar**	4.89	216	*eP*	Pn	12 06 36.0	+0.3
AC01				*eS*	Sn	12 07 30.2	-3.0
AC01				IAML		12 07 53.1	
	comp=Z,12nm,1.1s						
BBOE	**La Paz, Chanca**	5.42	354	Pg	Pn	12 06 46.2	+3.2
BBOD	**La Paz, Gloria**	5.68	348	Pg	Pn	12 06 49.1	+2.8
LPAZ	**La Paz**	5.95	353	Pg	Pn	12 06 52.6	+2.7

*IDC **08** 12:06:38.4±1.1, 9.°88N×126.°24E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=100.9km s-min=22.4km az=72.0*
*NEIC **08** 12:06:40.0±1.7, 9.°8N±0.°1×126.°2E±0.°1, h10km±1km, mb4.5/14, Error ellipse: s-maj=20.1km s-min=16.1km az=63.0*

ISC 08 12:06:43.1±0.6, 9.°75N±0.°08×126.°1E±0.°1, h35km, n26, σ0°81/26, mb4.4/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	8.80	240	Pn	Pn	12 08 47.2	-0.8
TNTI	**Ternate**	9.00	172	Pn	Pn	12 08 49.9	-0.9
KKM	**Kota Kinabalu**	10.47	250	Pn	Pn	12 09 10.0	-0.9
LUWI	**Luwuk**	11.22	197	Pn	Pn	12 09 20.6	-0.5
MTN	**Manton Dam**	22.99	167	P	P	12 11 44.4	-0.6
MTN				IAmb	IAmb	12 11 59.8	
	comp=Z,24nm,1.0s						
KNRA	**Kununurra**	25.40	174	P	P	12 12 07.6	+0.2
FITZ	**Fitzroy Crossi**	27.67	181	P	P	12 12 28.9	+0.9
WRA	**Warramunga Arr**	30.59	165	P	P	12 12 55.6	+1.7
	comp=Z,1.3nm,0.7s,baz=345,slow=7.4,SNR=1.5						
	comp=Z,1.3nm,0.7s						
WR0	**Warramunga Arr**	30.66	164	P	P	12 12 54.0	-0.5
WR0				IAmb	IAmb	12 13 13.8	
	comp=Z,3.6nm,0.8s						
PSA00	**Pilbara Seismi**	31.73	191	P	P	12 13 04.3	+0.4
PSA00				IAmb	IAmb	12 13 05.6	
	comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	34.07	167	P	P	12 13 24.6	+0.2
ASAR	**Alice Springs**	34.07	167	P	P	12 13 25.3	+0.9
	comp=Z,0.5nm,0.3s,baz=346,slow=7.6,SNR=4.3						
	comp=Z,0.5nm,0.3s						
MORW	**Morawa**	39.79	194	P	P	12 14 13.6	+0.6
MORW				IAmb	IAmb	12 14 15.4	
	comp=Z,17nm,1.1s						
FORT	**Forrest**	40.34	177	P	P	12 14 18.1	+0.7
SONM	**Songino Array**	41.45	340	P	P	12 14 27.3	+0.7
	comp=Z,1.0nm,1.0s,baz=157,slow=7.8,SNR=1.3						
	comp=Z,1.0nm,1.0s						
NWAO	**Narrogin (SRO)**	43.27	191	P	P	12 14 43.3	+1.9
NWAO				IAmb	IAmb	12 14 43.5	
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	43.37	168	P	P	12 14 42.4	+0.2
CAN	**Canberra**	49.77	155	P	P	12 15 32.2	-0.2
CAN				IAmb	IAmb	12 15 50.4	
	comp=Z,6.8nm,1.0s						
MK31	**Makanchi Array**	52.35	323	P	P	12 15 52.0	+0.3
MKAR	**Makanchi Array**	52.35	323	P	P	12 15 51.9	+0.2
MKAR	**Makanchi Array**	52.35	323	P	P	12 15 52.2	+0.5
	comp=Z,1.1nm,0.7s,baz=132,slow=7.8,SNR=3.1						
	comp=Z,1.1nm,0.7s						
BKZ	**Black Stump Fm**	67.49	140	P	P	12 17 35.1	-0.6
BKZ				IAmb	IAmb	12 17 40.5	
	comp=Z,4.0nm,0.8s						
C16K	**Lisburne Hills**	73.12	21	P	P	12 18 08.5	-1.2
C16K				IAmb	IAmb	12 18 26.7	
	comp=Z,2.6nm,1.1s						
ARCES	**ARCESS Array B**	84.63	340	P	P	12 19 12.9	+0.1
	comp=Z,2.9nm,0.9s,baz=77,slow=5.9,SNR=9.3						
	comp=Z,2.9nm,0.9s						
FINES	**FINESS Array B**	86.27	332	P	P	12 19 20.9	-0.2
	comp=Z,1.6nm,0.7s,baz=60,slow=5.5,SNR=6.4						
	comp=Z,1.6nm,0.7s						
YKA	**Yellowknife Ar**	94.30	24	P	P	12 19 58.7	-0.1
	comp=Z,0.4nm,0.6s,baz=289,slow=4.5,SNR=2.6						
	comp=Z,0.4nm,0.6s						

*IDC **08** 12:08:30.4±1.3, 9.°78N×126.°41E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=94.7km s-min=31.8km az=69.0*

ISC 08 12:08:36.6±1.1, 9.°7N±0.°2×126.°4E±0.°5, h43km, n6, σ0°69/6, mb3.8/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	33.99	168	P	P	12 15 16.4	-0.1
	0.8nm,0.9s,baz=345,slow=8.6,SNR=1.4						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	52.52	323	P	P	12 17 45.0	-0.6
	0.4nm,0.7s,baz=128,slow=7.2,SNR=5.2						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	84.74	340	P	P	12 21 06.4	+0.5
	0.6nm,0.4s,baz=77,slow=5.4,SNR=4.7						
	0.6nm,0.4s						
FINES	**FINESS Array B**	86.42	332	P	P	12 21 14.1	-0.3
	1.3nm,0.5s,baz=65,slow=4.7,SNR=3.4						
	1.3nm,0.5s						
AKASG	**Malin Array Be**	87.05	321	P	P	12 21 18.5	+0.8
	0.3nm,0.5s,baz=64,slow=4.7,SNR=2.0						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	94.22	24	P	P	12 21 50.7	-0.2
	0.3nm,0.8s,baz=297,slow=4.2,SNR=1.8						
	0.3nm,0.8s						

*IDC **08** 12:16:34.7±0.6, 9.°73N×126.°35E, h0km, mb4.1/18, mbtmp4.1/18, Error ellipse: s-maj=28.5km s-min=13.4km az=78.0*
*NEIC **08** 12:16:38.1±1.5, 9.°71N±0.°07×126.°20E±0.°09, h10km±1km, mb4.6/62, Error ellipse: s-maj=15.9km s-min=11.8km az=81.0*

ISC 08 12:16:40.8±0.4, 9.°74N±0.°06×126.°18E±0.°10, h35km, n99, σ1°09/95, mb4.5/47, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	2.72	193	Pn	Pn	12 17 21.0	-1.1
DAV	**Davao City (W)**	2.72	193	Pg	Pn	12 17 24.6	+2.5
	100nm,0.3s,baz=30,slow=7.6,SNR=4.2						
DAV				Lg	Lg	12 18 06.5	
	92nm,0.3s,baz=331,slow=23,SNR=5.6						
MYLDM	**Lahad Datu**	8.86	240	Pn	Pn	12 18 45.7	-0.7
TNTI	**Ternate**	8.99	172	Pn	Pn	12 18 46.2	-2.0
TOLI2	**Tolitoli**	10.11	212	Pn	Pn	12 19 02.6	-1.1
FAKI	**Fak Fak**	13.96	154	Pn	Pn	12 19 56.1	-0.2
TPUB	**Ta-pu**	14.49	339	Pn	Pn	12 20 03.1	-0.4
SBUM	**Sibu**	15.65	243	Pn	Pn	12 20 17.4	-1.4
MMRI	**Maumere**	18.67	192	P	Pn	12 20 57.2	+0.6
MMRI				IAmb	IAmb	12 21 10.5	
	comp=Z,46nm,1.2s						
SOEI	**Soe**	19.46	186	P	P	12 21 06.0	+1.1
SOEI				IAmb	IAmb	12 21 19.4	
	comp=Z,62nm,1.4s						
MTN	**Manton Dam**	22.97	168	P	P	12 21 42.2	-0.3
MYKOM	**Kota Tinggi**	23.56	252	P	P	12 21 49.8	+1.4
MYKOM				IAmb	IAmb	12 21 53.2	
	comp=Z,28nm,1.4s						
KNRA	**Kununurra**	25.39	174	P	P	12 22 04.5	-0.5
IPM	**Ipoh**	25.49	260	P	P	12 22 05.3	-0.8
KSRS	**Korea Array**	27.64	3	P	P	12 22 25.0	-0.1
	comp=Z,1.1nm,0.9s,baz=186,slow=8.7,SNR=4.3						
	comp=Z,1.1nm,0.9s						
FITZ	**Fitzroy Crossi**	27.67	181	P	P	12 22 25.7	+0.1
CMAR	**Chiang Mai Arr**	27.76	291	P	P	12 22 28.6	+2.0
	comp=Z,0.7nm,0.3s,baz=103,slow=4.2,SNR=5.3						
	comp=Z,0.7nm,0.3s						
COEN	**Coen**	28.96	144	P	P	12 22 36.7	-0.5
WB0	**Warramunga Arr**	30.42	165	P	P	12 22 48.7	-1.4
WRA	**Warramunga Arr**	30.57	165	P	P	12 22 50.3	-1.1
WRA	**Warramunga Arr**	30.57	165	P	P	12 22 49.8	-1.7
	comp=Z,1.5nm,1.1s,baz=345,slow=7.9,SNR=12						
	comp=Z,1.5nm,1.1s						
WB2	**Warramunga Arr**	30.58	165	P	P	12 22 49.8	-1.7
WB2				IAmb	IAmb	12 22 50.8	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	30.64	164	P	P	12 22 51.1	-1.0
WR0				IAmb	IAmb	12 23 30.5	
	comp=Z,18nm,1.4s						
AS31	**Alice Springs**	34.05	167	P	P	12 23 20.5	-1.5
ASAR	**Alice Springs**	34.05	167	P	P	12 23 22.1	+0.1
ASAR	**Alice Springs**	34.05	167	P	P	12 23 20.2	-1.7
	comp=Z,1.0nm,0.3s,baz=346,slow=7.3,SNR=35						
ASAR				PcP	**PcP**	12 25 58.6	-0.7
	comp=Z,0.7nm,0.7s,baz=344,slow=2.8,SNR=2.5						
	comp=Z,1.0nm,0.3s						
JKA	**Kamikawa-asahi**	37.09	20	P	P	12 23 48.8	+1.0
MORW	**Morawa**	39.80	194	P	P	12 24 11.6	+0.8
MORW				IAmb	IAmb	12 24 16.6	
	comp=Z,6.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	40.16	73	T	T	13 07 07.1	
	baz=262,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	40.17	73	T	T	13 07 18.8	
	baz=262,slow=75,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	40.18	73	T	T	13 07 04.9	
	baz=262,slow=75,SNR=9.5						
FORT	**Forrest**	40.33	177	P	P	12 24 15.1	0.0
H11N1	**WAKE ISLAND Hy**	40.51	71	T	T	13 07 42.3	
	baz=265,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hy**	40.52	71	T	T	13 07 39.6	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	40.53	71	T	T	13 07 37.2	
	baz=265,slow=74,SNR=20						
ULN	**Ulaanbaatar**	41.29	340	P	P	12 24 22.9	-0.1
SONM	**Songino Array**	41.48	340	P	P	12 24 25.6	+1.1
SONM	**Songino Array**	41.48	340	P	P	12 24 24.1	-0.5
	comp=Z,0.6nm,0.5s,baz=151,slow=10,SNR=8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**78.09**	**31**	P	**P**	**12 28 35.3**	**-0.8**
BPAW	**Bear Paw Mtn.**	**78.17**	**26**	P	**P**	**12 28 37.0**	**+0.6**
BPAW				IAmb	IAmb	12 28 39.4	
	comp=Z,7.7nm,1.3s						
E23K	**Chandalar**	**78.86**	**22**	P	**P**	**12 28 41.8**	**+1.5**
E23K				IAmb	IAmb	12 28 42.0	
	comp=Z,8.4nm,1.2s						
TOLK	**Toolik Lake Re**	**78.90**	**22**	P	**P**	**12 28 41.8**	**+1.4**
I23K	**Minto, Yukon-K**	**78.90**	**25**	P	**P**	**12 28 40.9**	**+0.5**
MCK	**McKinley**	**79.07**	**27**	P	**P**	**12 28 41.4**	**+0.1**
MCK				IAmb	IAmb	12 28 53.5	
	comp=Z,5.5nm,1.2s						
C24K	**Franklin Bluff**	**79.23**	**21**	P	**P**	**12 28 42.6**	**+0.5**
C24K				IAmb	IAmb	12 28 43.8	
	comp=Z,12nm,1.4s						
PWL	**Port Wells**	**79.37**	**30**	P	**P**	**12 28 43.2**	**+0.1**
PWL				IAmb	IAmb	12 29 03.7	
	comp=Z,13nm,1.4s						
F24K	**Squaw Lake**	**79.51**	**23**	P	**P**	**12 28 45.1**	**+1.4**
G24K	**Hadweenzic Riv**	**79.68**	**24**	P	**P**	**12 28 45.6**	**+1.0**
G24K				IAmb	IAmb	12 28 46.7	
	comp=Z,6.2nm,1.3s						
ILAR	**Eielson Array**	**79.95**	**26**	P	**P**	**12 28 44.9**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=246,slow=4.3,SNR=6.2						
	comp=Z,0.5nm,0.7s						
D25K	**Kavik River**	**80.05**	**21**	P	**P**	**12 28 47.6**	**+0.9**
E25K	**Arctic Village**	**80.38**	**22**	P	**P**	**12 28 49.9**	**+1.5**
J25K	**Salcha River,**	**80.61**	**26**	P	**P**	**12 28 49.2**	**-0.5**
J25K				IAmb	IAmb	12 28 54.9	
	comp=Z,5.4nm,1.4s						
BMAR	**Burnt Mountain**	**80.79**	**23**	P	**P**	**12 28 52.4**	**+1.8**
SCRK	**Sand Creek**	**81.25**	**27**	P	**P**	**12 28 53.8**	**+0.5**
SCRK				IAmb	IAmb	12 28 59.0	
	comp=Z,5.8nm,1.4s						
GLB	**Gilahina Butte**	**81.53**	**29**	P	**P**	**12 28 56.6**	**+1.9**
GLB				IAmb	IAmb	12 29 19.2	
	comp=Z,7.5nm,1.4s						
D27M	**Malcolm River**	**81.98**	**21**	P	**P**	**12 28 58.4**	**+1.5**
BCAR	**Beaver Creek A**	**82.32**	**27**	P	**P**	**12 29 00.8**	**+2.0**
F28M	**Old Crow**	**82.57**	**23**	P	**P**	**12 29 01.4**	**+1.4**
F28M				IAmb	IAmb	12 29 10.9	
	comp=Z,5.3nm,1.3s						
DAWY	**Dawson**	**83.25**	**26**	P	**P**	**12 29 04.9**	**+1.3**
DAWY				IAmb	IAmb	12 29 34.4	
	comp=Z,5.4nm,1.4s						
H29M	**Whitestone**	**83.36**	**24**	P	**P**	**12 29 05.1**	**+1.0**
H29M				IAmb	IAmb	12 29 46.5	
	comp=Z,4.6nm,1.4s						
G29M	**Pine Creek**	**83.39**	**23**	P	**P**	**12 29 05.5**	**+1.3**
G29M				IAmb	IAmb	12 29 19.7	
	comp=Z,7.7nm,1.2s						
M29M	**Somme Creek**	**83.92**	**28**	P	**P**	**12 29 08.6**	**+1.5**
M29M				IAmb	IAmb	12 29 09.8	
	comp=Z,5.6nm,1.3s						
K29M	**Barlow Dome**	**84.10**	**26**	P	**P**	**12 29 08.1**	**0.0**
K29M				IAmb	IAmb	12 29 10.4	
	comp=Z,5.4nm,1.3s						
SPITS	**Spitsbergen Ar**	**84.51**	**349**	P	**P**	**12 29 09.3**	**-0.5**
	comp=Z,13nm,1.0s,baz=83,slow=4.5,SNR=2.2						
	comp=Z,13nm,1.0s						
ARCES	**ARCESS Array B**	**84.65**	**340**	P	**P**	**12 29 10.6**	**0.0**
	comp=Z,1.0nm,0.4s,baz=79,slow=6.2,SNR=15						
	comp=Z,1.0nm,0.4s						
M30M	**Minto, Yukon**	**84.66**	**27**	P	**P**	**12 29 12.2**	**+1.4**
M30M				IAmb	IAmb	12 29 12.6	
	comp=Z,3.0nm,0.8s						
M31M	**Drury Creek, Y**	**85.83**	**28**	P	**P**	**12 29 18.1**	**+1.4**
M31M				IAmb	IAmb	12 29 37.5	
	comp=Z,4.7nm,1.2s						
WHY	**Whitehorse**	**85.94**	**29**	P	**P**	**12 29 18.6**	**+1.3**
WHY				IAmb	IAmb	12 29 19.0	
	comp=Z,4.1nm,1.0s						
FIA1	**FINESS Array S**	**86.31**	**332**	P	**P**	**12 29 19.0**	**+0.1**
FINES	**FINESS Array B**	**86.31**	**332**	P	**P**	**12 29 19.0**	**0.0**
FINES	**FINESS Array B**	**86.31**	**332**	P	**P**	**12 29 18.6**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=71,slow=4.9,SNR=18						
	comp=Z,1.7nm,0.4s						
AKASG	**Malin Array Be**	**86.91**	**321**	P	**P**	**12 29 21.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=64,slow=4.8,SNR=2.7						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**92.47**	**332**	P	**P**	**12 29 46.8**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=93,slow=7.8,SNR=8.3						
	comp=Z,1.3nm,0.4s						
YKA	**Yellowknife Ar**	**94.27**	**24**	P	**P**	**12 29 56.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=296,slow=4.6,SNR=7.2						
	comp=Z,0.8nm,0.6s						

*IDC **08** 12:27:25.1±1.1, 9°.84N×126°.03E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=97.0km s-min=22.9km az=71.0*

ISC 08 12:27:32.4±1.0, 9°.8N±0°.2×126°.0E±0°.5, h54km, n6, σ0.97/6, mb3.7/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.67**	**164**	P	**P**	**12 33 42.2**	**+0.1**
	0.5nm,0.8s,baz=338,slow=10,SNR=1.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**34.14**	**167**	P	**P**	**12 34 12.2**	**-0.3**
	0.3nm,0.3s,baz=344,slow=7.3,SNR=8.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**12 36 37.3**	**-0.8**
	0.3nm,0.5s,baz=116,slow=6.6,SNR=7.3						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**84.54**	**340**	P	**P**	**12 40 00.1**	**+0.7**
	1.7nm,0.7s,baz=79,slow=6.3,SNR=5.3						
	1.7nm,0.7s						
FINES	**FINESS Array B**	**86.18**	**332**	P	**P**	**12 40 08.8**	**+1.2**
	1.2nm,0.7s,baz=54,slow=7.5,SNR=3.9						
	1.2nm,0.7s						
YKA	**Yellowknife Ar**	**94.31**	**24**	P	**P**	**12 40 45.4**	**-0.4**
	0.2nm,0.7s,baz=295,slow=4.6,SNR=2.5						
	0.2nm,0.7s						

TXNET 08 12:28:23.6, 31°.2N±0°.4×103°.5W±0°.5, h4km±1km, ML1.9/6, Error ellipse: s-maj=0.9km s-min=0.6km az=65.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.15**	**175**	P	Pg	12 28 27.0	+0.4
TPB03				S	Sg	12 28 29.8	+1.2
PCOS	**Crockett Middl**	**0.17**	**5**	P	Pg	12 28 27.6	+0.5
PCOS				S	Sg	12 28 30.6	+1.2
TPB10	**Southeast of T**	**0.20**	**284**	P	Pg	12 28 28.7	+1.2
TPB10				S	Sg	12 28 32.1	+2.0
PECS	**Pecos**	**0.32**	**295**	P	Pg	12 28 30.4	+0.6
PECS				S	Sb	12 28 35.9	-1.6
TPB05	**Hovey Rd**	**0.36**	**151**	P	Pg	12 28 31.3	+0.7
TPB05				S	Sb	12 28 37.3	-1.3
TPB01	**Permian Basin**	**0.36**	**217**	P	Pg	12 28 31.2	+0.6
TPB01				S	Sb	12 28 37.5	-1.2
TPB07	**Mentone**	**0.36**	**341**	P	Pb	12 28 32.0	-0.7
TPB07				S	Sb	12 28 37.2	-1.6
TPB12	**Southwest of T**	**0.37**	**267**	P	Pg	12 28 31.4	+0.7
TPB12				S	Sb	12 28 37.4	-1.5
TPB06	**Permian Basin**	**0.49**	**33**	P	Pb	12 28 34.1	-0.8
TPB08	**Permian Basin**	**0.63**	**122**	S	Sb	12 28 46.2	-0.3
TPB11	**China Draw**	**0.82**	**328**	S	Sg	12 28 50.9	+0.8
ALPN	**Alpine**	**0.86**	**186**	P	Pg	12 28 39.6	-0.5
ALPN				S	Sg	12 28 51.6	+0.3
CLNB	**Carlsbad**	**1.07**	**344**	S	Sg	12 28 58.6	+0.5
CLN7	**Carlsbad 7**	**1.20**	**349**	P	Pg	12 28 46.6	0.0
ODSA	**Odessa**	**1.22**	**43**	P	Pg	12 28 45.8	-1.1
ODSA				S	Sg	12 29 02.7	0.0
HTMS	**Hat Mesa**	**1.24**	**356**	P	Pb	12 28 47.6	0.0
TMB02	**Rankin**	**1.28**	**91**	P	Pg	12 28 47.3	-0.8
TMB02				S	Sg	12 29 04.1	-0.6
VHRN	**Van Horn**	**1.33**	**251**	P	Pg	12 28 48.6	-0.5
VHRN				S	Sn	12 29 07.0	-0.2
TMB04	**Seminole**	**1.65**	**32**	P	Pn	12 28 53.6	+0.2
TMB04				S	Sb	12 29 16.1	+0.4
MNTX	**Cornudas Mount**	**1.65**	**287**	P	Pb	12 28 54.8	+0.2
MNTX				S	Sg	12 29 17.1	+0.5
SAND	**Sanderson**	**1.76**	**136**	P	Pb	12 28 56.3	-0.2
SAND				S	Sg	12 29 20.1	-0.1
TX31	**Lajitas Ar. Si**	**1.90**	**184**	P	Pn	12 28 57.8	+0.9
TX31				S	Sg	12 29 24.3	-0.3
OZNA	**Ozona**	**2.08**	**98**	P	Pb	12 29 01.0	-1.0
OZNA				S	Sb	12 29 28.5	+0.2
SGCY	**Sterling City**	**2.16**	**71**	P	Pb	12 29 02.4	-0.9
SGCY				S	Sb	12 29 30.5	+0.1
POST	**Post**	**2.51**	**43**	S	Sb	12 29 38.9	-1.6

*THE **08** 12:28:49.3, 35°.36N×31°.16E, h15km±22km, ML3.3/2, Error ellipse: s-maj=29.0km s-min=2.5km az=107.0*
*IDC **08** 12:28:52.8±1.4, 35°.91N×30°.59E, h0km, mb4.2/2, mbtmp3.7/8, ML3.3/5, Error ellipse: s-maj=23.2km s-min=16.4km az=59.0*
*AFAD **08** 12:28:55.3, 35°.90N×30°.77E, h7km±4km, ML3.0*
*NIC **08** 12:28:55.9, 35°.66N×30°.52E, h0km±2km, Ml3.0/6*
*ISK **08** 12:28:56.3, 35°.87N×30°.54E, h12km, ML3.0/31*
*ATH **08** 12:28:56.2±0.3, 35°.95N×30°.66E, h10km, ML3.2/4, Manual Solution by N.Liadopoulou First location: 2019/02/08 12:30:24, This location: 2020/07/01 10:31:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km*

ISC 08 12:28:55.6±1.1, 35°.86N±0°.03×30°.62E±0°.02, h11km±8km, n78, σ1.53/104, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.52**	**334**	P	**Pg**	**12 29 05.4**	**-0.3**
AKUM				S	**Sb**	**12 29 14.3**	**+0.1**
AKUM				*i* AML	AML	12 29 17.0	
	comp=N,2μm,0.4s						
AKUM				*i* AML	AML	12 29 21.0	
	comp=E,2μm,0.5s						
DEMR	**Demre-Antalya**	**0.69**	**303**	Pg	**Pg**	**12 29 09.1**	**+0.1**
DEMR				Sg	**Sg**	**12 29 18.4**	**+0.2**
KEMT	**Kemer-ANTALYA**	**0.75**	**356**	Pg	**Pb**	**12 29 10.8**	**+0.3**
KEMT				Sg	**Sb**	**12 29 21.5**	**+0.8**
KSL	**Kastellorizon**	**0.89**	**289**	P	**Pb**	**12 29 13.8**	**+0.7**
KSL				S	**Sn**	**12 29 28.6**	**+1.7**
KSL	**Kastellorizon**	**0.89**	**289**	P	**Pb**	**12 29 13.8**	**+0.7**
KSL				S	**Sn**	**12 29 33.0**	**+6.1**
	780nm,0.5s						
KSL	**Kastellorizon**	**0.89**	**289**	P	**Pb**	**12 29 13.7**	**+0.7**
KSL				S	**Sn**	**12 28 29.9**	**+2.0**
KSL				AML	AML	12 29 32.0	
	1.7nm,0.5s						
KSL				AML	AML	12 29 32.9	
	1.4nm,0.6s						
KSL	**Kastellorizon**	**0.89**	**289**	P	**Pg**	**12 29 13.5**	**+0.7**
KSL				S	**Sb**	**12 29 26.6**	**+1.7**
AKAS	**Kas**	**0.91**	**295**	Pg	**Pg**	**12 29 13.1**	**0.0**
AKAS				Sg	**Sg**	**12 29 24.9**	**0.0**
AKAS	**Kas**	**0.91**	**295**	P	**Pb**	**12 29 13.9**	**+0.6**
AKAS				S	**Sn**	**12 29 29.6**	**+2.2**
AKAS				*i* AML	AML	12 29 37.0	
	comp=N,1μm,0.4s						
AKAS				*i* AML	AML	12 29 37.0	
	comp=E,547nm,0.5s						
ANTB	**Antalya**	**1.04**	**1**	Pg	**Pn**	**12 29 16.8**	**+0.8**
ANTB				Sg	**Sn**	**12 29 31.2**	**+0.7**
ELL	**Elmali**	**1.06**	**327**	Pg	**Pg**	**12 29 15.3**	**-0.7**
ELL				Sg	**Sn**	**12 29 30.8**	**-0.5**
ELL	**Elmali**	**1.06**	**327**	S	**Sn**	**12 29 37.4**	**+6.1**
ELL				AML	AML	12 29 39.2	
	3.4nm,0.5s						
ELL				AML	AML	12 29 43.8	
	2.6nm,0.4s						
ELL	**Elmali**	**1.06**	**327**	P	**Pg**	**12 29 14.3**	**-1.7**
ELL				S	**Sb**	**12 29 29.8**	**-0.1**
MNVG	**Manavgat-Antal**	**1.13**	**34**	Pn	**Pn**	**12 29 19.0**	**+1.7**
KORT	**Korkueli**	**1.16**	**349**	Pn	**Pn**	**12 29 18.7**	**+0.8**
KORT	**Korkueli**	**1.16**	**349**	P	**Pn**	**12 29 17.9**	**+0.1**
KORT				S	**Sn**	**12 29 33.5**	**-0.3**
KORT				*i* AML	AML	12 29 49.0	
	comp=E,275nm,1.0s						
IZZE	**Mula-Seydike**	**1.27**	**297**	P	**Pn**	**12 29 19.5**	**+0.2**
IZZE				*i* AML	AML	12 29 39.0	
	comp=E,207nm,0.4s						
IZZE				*i* AML	AML	12 29 48.0	
	comp=N,387nm,0.6s						
KNIK	**Mula-Seydike**	**1.30**	**320**	P	**Pg**	**12 29 21.0**	**+0.4**
KNIK				S	**Sn**	**12 29 40.7**	**+3.5**
ALAN	**Alanya-ANTALYA**	**1.34**	**58**	Pn	**Pg**	**12 29 21.8**	**+0.6**
GAZI	**Gazipasa**	**1.42**	**74**	Pn	**Pn**	**12 29 20.7**	**-0.6**
GAZI	**Gazipasa**	**1.42**	**74**	P	**Pn**	**12 29 20.4**	**-0.9**
GAZI				S	**Sg**	**12 29 42.6**	**+1.2**
GAZI				*i* AML	AML	12 29 48.0	
	comp=N,217nm,0.5s						
FETY	**Fethiye**	**1.47**	**302**	Pn	**Pn**	**12 29 22.2**	**+0.2**
CAME	**Cameli-Denizli**	**1.52**	**316**	Pn	**Pn**	**12 29 23.4**	**+0.6**
BCK	**Bucak**	**1.60**	**359**	Pn	**Pb**	**12 29 25.2**	**0.0**
AKMS	**Akamas**	**1.63**	**120**	P	**Pg**	**12 29 26.8**	**0.0**
AKMS				S	**Sg**	**12 29 48.1**	**+0.2**
AKMS				AML	AML	12 29 56.2	
	0.4nm,0.8s						
AKMS				AML	AML	12 30 03.7	
	0.4nm,0.4s						
AKMS	**Akamas**	**1.63**	**120**	P	**Pn**	**12 29 25.1**	**+0.9**
CAEL	**Denizli, Camel**	**1.64**	**321**	*i* AML	AML	12 29 54.0	
	comp=E,111nm,0.6s						
CAEL				*i* AML	AML	12 29 58.0	
	comp=N,146nm,0.6s						
ALFC	**Alefka**	**1.76**	**113**	P	**Pn**	**12 29 27.0**	**+1.1**
ALFC				S	**Sg**	**12 29 53.1**	**+1.0**
ALFC				AML	AML	12 29 58.7	
	0.3nm,1.0s						
ALFC				AML	AML	12 30 09.5	
	0.4nm,0.6s						
ALFC	**Alefka**	**1.76**	**113**	P	**Pn**	**12 29 26.8**	**+0.9**
SEYD	**Seydisehir-KON**	**1.83**	**32**	Pn	**Pb**	**12 29 29.2**	**+0.1**
SEDI	**Konya, Seydise**	**1.83**	**29**	P	**Pb**	**12 29 29.1**	**0.0**
SEDI				S	**Sg**	**12 29 56.0**	**+1.5**
DALY	**Dalyan (Mula)**	**1.86**	**302**	Pn	**Pn**	**12 29 27.7**	**+0.4**
HDMB	**Hadim**	**1.86**	**53**	Pn	**Pb**	**12 29 29.5**	**-0.2**
DNZT	**Denizli-Tavas-**	**1.92**	**318**	P	**Pn**	**12 29 29.3**	**+1.2**
NATA	**Nata**	**1.92**	**124**	P	**Pn**	**12 29 29.3**	**+1.2**
NATA				S	**Sb**	**12 29 55.5**	**+1.0**
NATA				AML	AML	12 30 13.5	
	1.2nm,1.1s						
NATA				AML	AML	12 30 20.0	
	1.3nm,0.8s						
NATA	**Nata**	**1.92**	**124**	P	**Pn**	**12 29 29.6**	**+1.4**
ARG	**Arkhangelos**	**2.06**	**281**	Pn	**Pn**	**12 29 30.6**	**+0.6**
ARG	**Arkhangelos**	**2.06**	**281**	P	**Pn**	**12 29 29.6**	**-0.4**
ARG	**Arkhangelos**	**2.06**	**281**	P	**Pn**	**12 29 29.6**	**-0.4**
ARG	**Arkhangelos**	**2.06**	**281**	P	**Pn**	**12 29 30.3**	**+0.3**
BASM	**Basmaki-Afyon**	**2.11**	**348**	Pn	**Pn**	**12 29 32.3**	**+1.5**
TAVA	**DENIZLI_Tavas**	**2.11**	**320**	P	**Pn**	**12 29 32.2**	**+1.3**
TURN	**Turunc**	**2.13**	**296**	Pn	**Pn**	**12 29 31.6**	**+0.6**
TURN	**Turunc**	**2.13**	**296**	P	**Pn**	**12 29 31.1**	**+0.1**
BERE	**Bereket-Mersin**	**2.16**	**76**	Pn	**Pb**	**12 29 34.3**	**-0.4**
YER	**Yerkesik**	**2.28**	**305**	Pn	**Pn**	**12 29 34.1**	**+1.0**
CSS	**Mathiatis**	**2.38**	**111**	P	**Pn**	**12 29 35.9**	**+1.4**
CSS				AML	AML	12 30 24.8	
	0.2nm,1.2s						
CSS				AML	AML	12 30 29.9	
	0.2nm,1.0s						
CSS	**Mathiatis**	**2.38**	**111**	P	**Pn**	**12 29 35.4**	**+0.8**
ASGA	**Asgata**	**2.40**	**116**	P	**Pn**	**12 29 36.1**	**+1.4**
KONT	**Konya--Tatoy**	**2.51**	**33**	Pn	**Pb**	**12 29 39.2**	**-1.4**
MVOU	**Mavrovouni**	**2.59**	**108**	P	**Pn**	**12 29 38.9**	**+1.5**
MVOU				S	**Sb**	**12 30 15.3**	**+1.4**
MVOU	**Mavrovouni**	**2.59**	**108**	P	**Pn**	**12 29 38.8**	**+1.3**
SHUT	**Suhut-Afyon**	**2.69**	**359**	Pn	**Pn**	**12 29 40.6**	**+1.7**
MLSB	**Milas**	**2.70**	**303**	Pn	**Pn**	**12 29 40.0**	**+1.0**
LADK	**Ladik-KONYA**	**2.72**	**30**	Pn	**Pb**	**12 29 41.8**	**-2.5**
NAZL	**Nazilli-Aydin**	**2.81**	**319**	Pn	**Pn**	**12 29 41.1**	**+0.6**
KARP	**Karpathos**	**2.84**	**265**	Pn	**Pn**	**12 29 41.8**	**+1.0**
KARP	**Karpathos**	**2.84**	**265**	P	**Pn**	**12 29 38.8**	**-2.0**
KARP	**Karpathos**	**2.84**	**265**	P	**Pn**	**12 29 38.8**	**-2.0**
KARP				S	**Sn**	**12 30 16.5**	**+1.6**
	162nm,1.4s						
KARP	**Karpathos**	**2.84**	**265**	P	**Pn**	**12 29 42.3**	**+1.6**
KARP				S	**Sn**	**12 30 16.5**	**+1.6**
KARP	**Karpathos**	**2.84**	**265**	P	**Pn**	**12 29 41.9**	**+1.2**
BODT	**Bodrum**	**2.93**	**295**	Pn	**Pn**	**12 29 43.2**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**3.02**	**314**	Pn	**Pn**	**12 29 44.2**	**+0.7**
KIZT	**Kizilcal**	**3.18**	**18**	Pn	**Pn**	**12 29 47.2**	**+1.6**
GCAM	**G?zelcaml?**	**3.29**	**305**	Pn	**Pn**	**12 29 47.4**	**+0.5**
SIMA	**Simav-Kutahya**	**3.48**	**338**	Pn	**Pn**	**12 29 51.6**	**+2.0**
SMG	**Samos**	**3.56**	**302**	P	**Pn**	**12 29 50.8**	**+0.1**
SMG	**Samos**	**3.56**	**302**	P	**Pn**	**12 29 50.8**	**+0.1**
ZKR	**Zakros**	**3.67**	**260**	P	**Pn**	**12 29 48.6**	**-3.6**
ZKR	**Zakros**	**3.67**	**260**	P	**Pn**	**12 29 48.6**	**-3.6**
BRTR	**Keskin Array B**	**4.54**	**31**	Pn	**Pn**	**12 30 05.6**	**+1.3**
	0.8nm,0.3s,baz=199,slow=13,SNR=23						
BRTR				Sn	**Sn**	**12 30 56.9**	**-0.2**
	0.4nm,0.3s,baz=198,slow=24,SNR=5.8						
	4.3nm,0.6s						
IDI	**Anoyia**	**4.71**	**265**	Pn	**Pn**	**12 30 06.8**	**+0.2**
	7.6nm,0.3s,baz=64,slow=18,SNR=13						
IDI				Sn	**Sn**	**12 31 00.3**	**-0.8**
	1.7nm,0.3s,baz=8.3,slow=15,SNR=2.0						
MMAI	**Mount Meron Ar**	**4.86**	**124**	Pn	**Pn**	**12 30 08.4**	**-0.3**
	2.7nm,0.3s,baz=302,slow=12,SNR=9.6						
MMAI				Sn	**Sn**	**12 31 06.8**	**+1.9**
	2.8nm,0.3s,baz=289,slow=28,SNR=1.5						
	2.4nm,0.3s						
ASF	**Jabal al Asfar**	**6.37**	**123**	Pn	**Pn**	**12 30 30.3**	**+0.8**
	0.1nm,0.3s,baz=275,slow=10.0,SNR=2.1						
ASF				Sn	**Sn**	**12 31 41.9**	**-0.4**
	0.3nm,0.3s,baz=38,slow=1.3,SNR=1.5						
	1.9nm,0.7s						
EIL	**Elat**	**7.17**	**148**	Pn	**Pn**	**12 30 39.2**	**-1.1**
	0.6nm,0.3s,baz=212,slow=4.1,SNR=5.8						
EIL				Sn	**Sn**	**12 32 01.6**	**0.0**
	0.3nm,0.3s,baz=343,slow=13,SNR=2.4						
	1.7nm,0.4s						
AKASG	**Malin Array Be**	**14.87**	**357**	Pn	**Pn**	**12 32 23.4**	**-2.2**
	0.4nm,0.3s,baz=179,slow=9.6,SNR=4.4						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**25.77**	**355**	P	**P**	**12 34 23.2**	**-2.7**
	3.6nm,0.8s,baz=149,slow=9.3,SNR=4.6						
	3.6nm,0.8s						
ARCES	**ARCESS Array B**	**33.85**	**357**	P	**P**	**12 35 35.6**	**-2.0**
	3.5nm,1.0s,baz=163,slow=9.0,SNR=4.0						
	3.5nm,1.0s						

*IDC **08** 12:28:52.1±0.7, 9°.88N×126°.63E, h0km, mb4.1/13, mbtmp4.1/14, ML4.9/2, MS4.4/1, Error ellipse: s-maj=39.7km s-min=15.0km az=73.0*
*NEIC **08** 12:28:53.4±1.5, 9°.87N±0°.07×126°.61E±0°.08, h10km±1km, mb4.6/39, Error ellipse: s-maj=15.1km s-min=9.2km az=235.0*

ISC 08 12:28:57.2±0.5, 9°.82N±0°.06×126°.51E±0°.09, h42km, n71, σ1.12/64, mb4.4/31, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.88**	**199**	Pn	**Pn**	**12 29 40.9**	**+0.2**
DAV	**Davao City (W)**	**2.88**	**199**	Pn	**Pn**	**12 29 41.8**	**+1.1**
	42nm,0.3s,baz=20,slow=22,SNR=1.5						
	156nm,0.3s						
TGY	**Tagaytay City**	**6.92**	**309**	Pn	**Pn**	**12 30 36.5**	**+0.3**
	100nm,0.3s,baz=172,slow=9.9,SNR=3.7						
TNTI	**Ternate**	**9.03**	**175**	Pn	**Pn**	**12 31 03.6**	**-1.5**
MYLDM	**Lahad Datu**	**9.18**	**240**	Pn	**Pn**	**12 31 06.8**	**-0.4**
KKM	**Kota Kinabalu**	**10.86**	**251**	Pn	**Pn**	**12 31 28.0**	**-2.4**
FAKI	**Fak Fak**	**13.88**	**155**	Pn	**Pn**	**12 32 08.2**	**-3.3**
YULB	**Yu-li**	**14.39**	**340**	Pn	**Pn**	**12 32 16.4**	**-2.0**
JOW	**Kunigami**	**17.01**	**5**	LR	LR	12 38 20.1	
	comp=Z,1μm,20.2s,baz=161,slow=34						
QIZ	**Qiongzhong**	**18.54**	**301**	P	**P**	**12 33 09.6**	**-1.0**
QIZ				IAmb	IAmb	12 33 22.4	
	comp=Z,37nm,1.4s						
SOEI	**Soe**	**19.57**	**187**	P	**P**	**12 33 21.1**	**-0.9**
SOEI				IAmb	IAmb	12 33 23.7	
	comp=Z,31nm,1.3s						
MTN	**Manton Dam**	**22.98**	**168**	P	**P**	**12 33 58.3**	**-0.1**
KNRA	**Kununurra**	**25.43**	**175**	P	**P**	**12 34 20.6**	**-0.6**
KNRA				IAmb	IAmb	12 34 38.4	
	comp=Z,20nm,1.0s						
IPM	**Ipoh**	**25.83**	**260**	P	**P**	**12 34 26.5**	**+1.5**
IPM				IAmb	IAmb	12 34 29.2	
	comp=Z,6.5nm,0.9s						
KULM	**Kulim**	**26.02**	**262**	P	**P**	**12 34 29.0**	**+2.3**
KULM				IAmb	IAmb	12 34 36.7	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.75**	**182**	P	**P**	**12 34 42.0**	**-0.1**
COEN	**Coen**	**28.83**	**145**	P	**P**	**12 34 52.2**	**+0.3**
COEN				IAmb	IAmb	12 35 11.7	
	comp=Z,38nm,1.4s						
WB0	**Warramunga Arr**	**30.41**	**165**	P	**P**	**12 35 04.1**	**-1.6**
WB0				IAmb	IAmb	12 35 15.9	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**30.56**	**165**	P	**P**	**12 35 05.2**	**-1.9**
WRA	**Warramunga Arr**	**30.56**	**165**	P	**P**	**12 35 07.2**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=328,slow=9.3,SNR=9.2						
	comp=Z,0.7nm,0.7s						
WB2	**Warramunga Arr**	**30.56**	**165**	P	**P**	**12 35 06.8**	**-0.3**
WB2				IAmb	IAmb	12 35 18.2	
	comp=Z,9.3nm,1.2s						
WR0	**Warramunga Arr**	**30.63**	**165**	P	**P**	**12 35 06.4**	**-1.3**
WR0				IAmb	IAmb	12 35

WRH	Wood River Hil	79.23	26	P	P	12 40 56.9	-0.9
ILAR	Eielson Array	79.74	26	P	P	12 41 01.4	+0.8
	comp=Z,0.3nm,0.9s,baz=232,slow=4.8,SNR=6.3						
	comp=Z,0.3nm,0.9s						
SPITS	Spitsbergen Ar	84.50	349	P	P	12 41 26.0	+0.7
	comp=Z,9.8nm,1.1s,baz=80,slow=10,SNR=1.5						
	comp=Z,9.8nm,1.1s						
ARCES	ARCESS Array B	84.70	340	P	P	12 41 27.3	+0.9
ARCES	ARCESS Array B	84.70	340	P	P	12 41 27.2	+0.8
	comp=Z,3.2nm,0.9s,baz=78,slow=5.5,SNR=8.5						
	comp=Z,3.2nm,0.9s						
H31M	Peel River	84.85	24	P	P	12 41 28.2	+0.9
H31M				IAmb	IAmb	12 41 41.0	
	comp=Z,3.7nm,1.1s						
FIA1	FINESS Array S	86.40	332	P	P	12 41 36.5	+1.5
FINES	FINESS Array B	86.40	332	P	P	12 41 34.8	-0.2
FINES	FINESS Array B	86.40	332	P	P	12 41 35.1	+0.1
	comp=Z,1.2nm,0.4s,baz=80,slow=5.2,SNR=10.0						
	comp=Z,1.2nm,0.4s						
HFS	Hagfors	92.56	332	P	P	12 42 05.3	+1.2
	comp=Z,3.1nm,1.0s,baz=90,slow=7.2,SNR=4.3						
	comp=Z,3.1nm,1.0s						
YKA	Yellowknife Ar	94.07	24	P	P	12 42 12.3	+1.3
	comp=Z,0.4nm,0.6s,baz=296,slow=4.7,SNR=8.2						
	comp=Z,0.4nm,0.6s						

*IDC **08** 12:29:20.9±0.5, 9°.81N×126°.34E, h0km, mb4.6/31, mbtmp4.6/35, ML4.4/4, MS4.1/2, Error ellipse: s-maj=17.3km s-min=11.1km az=87.0*
*MOS **08** 12:29:21.9±1.0, 9°.88N×126°.26E, h14km, mb5.0/43, Error ellipse: s-maj=9.3km s-min=5.2km az=108.3*
*NEIC **08** 12:29:24.1±1.6, 9°.91N±0°.06×126°.21E±0°.08, h10km±1km, mb5.0/157, Error ellipse: s-maj=13.5km s-min=9.6km az=80.0*
*DJA **08** 12:29:37.2±1.9, 9°N±15°×12°6E±°, h78km±16km, M5.2/11, mB5.8/1, mb4.8/11, MLv5.5/2, Mw(mB)5.3/1*
ISC 08 12:29:26.9±0.3, 9°.84N±0°.04×126°.21E±0°.06, h35km, n564, σ0=93/543, mb4.9/164, MS5.1/3, 14C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.82	193	Pn	Pn	12 30 09.9	+0.3
DAV				Sn	Sn	12 30 42.6	+0.3
DAV	Davao City (W)	2.82	193	Pn	Pn	12 30 08.8	-0.8
	75nm,0.3s,baz=85,slow=13,SNR=1.7						
DAV				Sn	Sn	12 30 42.7	+0.3
	68nm,0.3s,baz=268,slow=19,SNR=7.2						
	283nm,0.5s						
TGY	Tagaytay City	6.67	310	Pn	Pn	12 31 04.0	+1.5
	120nm,0.3s,baz=162,slow=2.3,SNR=6.4						
TGY				LR	LR	12 33 43.4	
	comp=Z,2μm,21.8s,baz=137,slow=39						
MYLDM	Lahad Datu	8.93	239	Pn	Pn	12 31 32.9	-0.7
TNTI	Ternate	9.09	173	Pn	Pn	12 31 34.6	-1.0
TNTI	Ternate	9.09	173	P	Pn	12 31 39.7	+4.1
	67nm,1.3s						
MRSI	Marisa	10.23	205	P	Pn	12 31 57.2	+5.9
	50nm,1.1s						
KKM	Kota Kinabalu	10.59	250	Pn	Pn	12 31 55.0	-1.4
LUWI	Luwuk	11.34	198	Pn	Pn	12 32 06.2	-0.3
LUWI	Luwuk	11.34	198	P	Pn	12 32 13.5	+6.9
APSI	Ampana	11.61	203	P	Pn	12 32 17.6	+7.4
	84nm,1.3s						
SANI	Sanana	11.82	181	P	Pn	12 32 14.2	+1.1
	30nm,0.9s						
FAKI	Fak Fak	14.04	154	Pn	Pn	12 32 43.8	+0.4
YULB	Yu-li	14.27	341	Pn	Pn	12 32 43.8	-2.8
TTSI	Tana Toraja	14.30	207	P	P	12 32 53.2	-0.5
	50nm,1.2s						
SSLB	Suanglung	14.75	341	Pn	Pn	12 32 49.2	-3.8
SPSI	Sidrap Palu	15.14	205	P	P	12 33 06.0	+2.9
	31nm,1.0s						
YHNB	Yeheng	15.45	343	Pn	Pn	12 32 59.3	-3.0
KAPI	Kappang	16.10	204	Pn	Pn	12 33 11.1	+0.4
KAPI	Kappang	16.10	204	Pn	Pn	12 33 10.2	-0.5
	2.3nm,0.3s,baz=10,slow=2.7,SNR=4.4						
	6.4nm,0.3s						
KAPI	Kappang	16.10	204	P	Pn	12 33 11.1	+0.4
KAPI				pmax	pmax		
	comp=Z,24nm,1.1s						
JOW	Kunigami	17.01	6	P	Pn	12 33 22.1	-0.1
	comp=Z,1.7nm,0.3s,baz=179,slow=8.0,SNR=5.1						
	comp=Z,56nm,1.1s						
SMPI	Sarmi	17.12	133	P	P	12 33 26.7	+1.6
KSM	Kuching	17.86	243		Pn	12 33 30.6	-2.2
QIZ	Qiongzhong	18.27	302	P	Pn	12 33 40.9	+3.0
QIZ				S	Sn	12 37 02.5	+1.5
MMRI	Maumere	18.78	192	P	Pn	12 33 44.3	+0.4
JAY	Jayapura	18.95	130	P	P	12 33 44.0	-1.3
	comp=Z,0.9nm,0.3s,baz=102,slow=3.6,SNR=4.3						
	comp=Z,36nm,0.9s						
JAY	Jayapura	18.95	130	P	P	12 33 44.0	-1.3
SOEI	Soe	19.57	186	P	P	12 33 52.1	+0.1
UBPT	Khong Chiam	20.94	287	P	P	12 34 05.6	-1.3
JCJ	Chichijima	22.85	39	LR	LR	12 42 22.0	
	comp=Z,474nm,21.3s,baz=273,slow=34						
NJ2	Nanjing	23.13	344	eP	P	12 34 30.8	+0.8
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
WHN	Wuhan	23.37	333	P	P	12 34 33.8	+1.3
WHN				pmax	pmax		
	comp=Z,120nm,1.5s						
JNU	Nakatsue	23.57	10	P	P	12 34 32.6	-1.7
JNU				IAmb	IAmb	12 34 35.5	
	comp=Z,54nm,1.1s						
JNU	Nakatsue	23.57	10	P	P	12 34 33.3	-1.1
	comp=Z,23nm,0.9s,baz=180,slow=7.1,SNR=7.6						
	comp=Z,23nm,0.9s						
MYKOM	Kota Tinggi	23.62	252	P	P	12 34 36.9	+1.9
MYKOM				IAmb	IAmb	12 34 42.7	
	comp=Z,32nm,0.9s						
SLVN	Son La	24.29	301	P	P	12 34 41.6	+0.3
JMN	Monobe	24.80	15	P	P	12 34 45.8	+0.1
LEM	Lembang	24.84	229	P	P	12 34 46.0	-0.5
	comp=Z,8.7nm,0.4s,baz=39,slow=13,SNR=5.2						
	comp=Z,8.7nm,0.4s						
LEM	Lembang	24.84	229	P	P	12 34 46.0	-0.5
KNRA	Kununurra	25.48	174	P	P	12 34 52.5	+0.6
IPM	Ipoh	25.54	260	P	P	12 34 52.6	0.0
IPM				IAmb	IAmb	12 34 57.9	
	comp=Z,31nm,0.8s						
KULM	Kulim	25.73	262	P	P	12 34 53.8	-0.5
KULM				IAmb	IAmb	12 35 00.2	
	comp=Z,33nm,1.2s						
SRIT	Nakonsritamara	26.29	270	P	P	12 35 00.1	+0.7
SRIT				IAmb	IAmb	12 35 32.5	
	comp=Z,66nm,1.9s						
PHRA	Phrae	26.59	292	P	P	12 35 03.8	+1.7
TIA	Tai'an	27.52	344	P	P	12 35 10.7	+0.5
TIA				pmax	pmax		
	comp=Z,14nm,1.2s						
KSAR	Wonju Array Be	27.52	3	P	P	12 35 08.6	-1.6
KSAR	Wonju Array Be	27.52	3	P	P	12 35 08.6	-1.6
KSRS	Korea Array	27.53	3	P	P	12 35 09.8	-0.5
	comp=Z,5.0nm,0.8s,baz=186,slow=10,SNR=14						
	comp=Z,5.0nm,0.8s						
KS19	Wonju Array Si	27.58	3	P	P	12 35 09.8	-1.0
KS19				IAmb	IAmb	12 35 22.5	
	comp=Z,73nm,1.6s						
LYN	LuoYang	27.62	335	⇓P	P	12 35 12.0	+0.8
LYN				pmax	pmax		
	comp=Z,18nm,0.8s						
CM31	Chiang Mai Arr	27.76	291	P	P	12 35 11.2	-1.4
CM31				IAmb	IAmb	12 35 23.8	
	comp=Z,38nm,1.4s						
CMAR	Chiang Mai Arr	27.76	291	P	P	12 35 12.1	-0.5
CMAR	Chiang Mai Arr	27.76	291	P	P	12 35 13.8	+1.2
	comp=Z,9.2nm,1.1s,baz=100,slow=6.9,SNR=16						
	comp=Z,9.2nm,1.1s						
FITZ	Fitzroy Crossi	27.77	181	P	P	12 35 13.7	+1.1
CHTO	Chiang Mai	27.84	292	P	P	12 35 12.2	-1.2
CHTO	Chiang Mai	27.84	292	P	P	12 35 12.2	-1.2
CHTO				pmax	pmax		
	comp=Z,14nm,1.1s						
PSI	Prapat	27.99	257	P	P	12 35 15.8	+0.9
	comp=Z,6.0nm,0.3s,baz=61,slow=8.8,SNR=5.4						
	comp=Z,6.0nm,0.3s						
PSI	Prapat	27.99	257	P	P	12 35 15.2	+0.4
PSI						12 35 15.8	
RPSI	Rantau Prapat	28.01	257	P	P	12 35 15.2	+0.2
RPSI				IAmb	IAmb	12 35 24.2	
	comp=Z,23nm,1.1s						
RPSI	Rantau Prapat	28.01	257	P	P	12 35 15.8	+0.8
PZH	PanZhiHua	28.46	309	P	P	12 35 21.1	+2.2
PZH				pmax	pmax		
	comp=Z,30nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.2s						
MJAR	Matsushiro Arr	28.72	20	P	P	12 35 18.1	-2.9
	comp=Z,4.5nm,0.9s,baz=195,slow=8.0,SNR=5.0						
	comp=Z,4.5nm,0.9s						
XAN	Xi'an	28.84	329	⇓P	P	12 35 21.6	-0.5
XAN				pmax	pmax		
	comp=Z,47nm,0.6s						
DL2	Dalian	29.23	353	P	P	12 35 12.9	-13
DL2				pmax	pmax		
	comp=Z,12nm,1.0s						
HNS	HongShan	29.33	341	⇑P	P	12 35 26.9	+0.5
HNS				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2	Chengdu	29.58	318	P	P	12 35 28.9	+0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GSI	Gunungsitoli	29.70	255	P	P	12 35 29.7	-0.3
GSI				IAmb	IAmb	12 35 33.9	
	comp=Z,26nm,1.0s						
JSD	Sado	30.09	19	P	P	12 35 30.8	-2.3
TIY	Taiyuan	30.40	338	eP	P	12 35 36.8	+0.9
TIY				pmax	pmax		
	comp=Z,12nm,0.6s						
WRA	Warramunga Arr	30.66	165	P	P	12 35 35.6	-2.7
	comp=Z,1.3nm,0.6s,baz=350,slow=9.5,SNR=4.9						
	comp=Z,1.3nm,0.6s						
WB2	Warramunga Arr	30.66	165	P	P	12 35 38.2	-0.2
WB2				IAmb	IAmb	12 36 27.9	
	comp=Z,56nm,1.9s						
JMM	Marumori	30.84	23	P	P	12 35 37.4	-2.3
BJT	Baijiatuan	31.35	345	P	P	12 35 42.9	-1.3
BJT				IAmb	IAmb	12 35 46.0	
	comp=Z,45nm,1.6s						
BJT	Baijiatuan	31.35	345	P	P	12 35 42.9	-1.3
BJT				pmax	pmax		
	comp=Z,45nm,1.6s						
BJI	Beijing	31.37	345	P	P	12 35 45.0	+0.7
BJI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MBWA	Marble Bar	31.46	192	P	P	12 35 46.9	+1.6
MBWA				IAmb	IAmb	12 35 48.5	
	comp=Z,23nm,1.1s						
PSA00	Pilbara Seismi	31.84	191	P	P	12 35 48.7	+0.1
PSA00				IAmb	IAmb	12 35 51.9	
	comp=Z,31nm,1.1s						
LZH	Lanzhou	33.09	326	eP	P	12 35 59.4	-0.3
LZH				sP	pP	12 36 06.8	-2.9
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC	Hu-ho-hao-te	33.49	340	⇑iP	P	12 36 03.6	+0.5
HHC				pmax	pmax		
	comp=Z,25nm,1.2s						
HHC				pmax	pmax		
	comp=Z,430nm,5.1s						
BTO	Baotou	33.83	338	eP	P	12 36 11.0	+4.9
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
CN2	Changchun	33.84	359	eP	P	12 36 07.6	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AS31	Alice Springs	34.14	167	P	P	12 36 09.4	+0.5
ASAR	Alice Springs	34.14	167	P	P	12 36 06.6	-2.2
	comp=Z,0.9nm,0.4s,baz=354,slow=6.9,SNR=7.6						
ASAR				PcP	PcP	12 38 45.1	-0.5
	comp=Z,1.2nm,0.8s,baz=320,slow=3.6,SNR=2.5						
	comp=Z,0.9nm,0.4s						
USA0B	Ussuriysk Arra	34.59	7	P	P	12 36 11.4	-1.1
USA0B	Ussuriysk Arra	34.59	7	P	P	12 36 11.4	-1.1
USA0B				pmax	pmax		
	comp=Z,14nm,1.1s						
USRK	Ussuriysk Ar.	34.59	7	P	P	12 36 12.4	-0.1
	comp=Z,5.4nm,0.8s,baz=193,slow=6.9,SNR=7.3						
	comp=Z,5.4nm,0.8s						
MDJ	Mudanjiang	34.77	4	P	P	12 36 14.7	+0.7
MDJ				IAmb	IAmb	12 36 15.9	
	comp=Z,29nm,1.2s						
MDJ	Mudanjiang	34.77	4	P	P	12 36 14.9	+0.9
MDJ				sP	pP	12 36 19.1	-4.4
MDJ				PcP	PcP	12 38 48.7	+1.7
MDJ				S	S	12 41 43.9	+1.8
MDJ				PcS	PcS	12 42 34.6	+1.1
MDJ				pmax	pmax		
	comp=Z,25nm,1.4s						
XLT	XiLinHaoTe	35.05	347	eP	P	12 36 16.2	-0.3
XLT				pP	pP	12 36 20.8	-5.8
XLT				sP	sP	12 36 22.4	-8.4
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
BNX	BinXian	35.78	1	⇓P	P	12 36 22.5	-0.2
BNX				pmax	pmax		
	comp=Z,12nm,1.2s						
SHL	Shillong	36.10	300	P	P	12 36 24.7	-1.2
SHL	Shillong	36.10	300	P	P	12 36 24.7	-1.2
SHL				pmax	pmax		
	comp=Z,33nm,0.7s						
ASAJ	Asahikawa	36.99	20	P	P	12 36 32.0	-1.0
ASAJ				pmax	pmax		
	comp=Z,125nm,1.8s						
JKA	Kamikawa-asahi	36.99	20	P	P	12 36 32.0	-1.0
GTA	Gaotai	37.70	326	P	P	12 36 40.5	+1.2
GTA				pP	pP	12 36 45.4	-3.9
GTA				sP	sP	12 36 47.7	-5.8
GTA				ScP	ScP	12 42 43.1	+2.1
GTA				pmax	pmax		
	comp=Z,11nm,0.7s						
GOMU	GeErMu	38.71	318	P	P	12 36 47.6	-0.5
GOMU				sP	pP	12 36 52.4	-5.8
KLR	Kul'dur	39.53	6	ceP	P	12 36 52.9	-1.5
KLR				pmax	pmax		
	comp=Z,16nm,1.7s						
YSS	Yuzhno-Sakhali	39.57	18	iP	P	12 36 54.0	-0.7
YSS				pmax	pmax		
	comp=Z,12nm,1.1s						
HIA	Hailar	39.67	353	P	P	12 36 54.2	-1.3
HIA	Hailar	39.67	353	P	P	12 36 54.2	-1.3
HIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MORW	Morawa	39.91	194	P	P	12 36 58.2	+0.5
HEH	HeiHe	40.30	1	eP	P	12 37 00.9	+0.2
HEH				pmax	pmax		
	comp=Z,16nm,1.0s						
FORT	Forrest	40.43	178	P	P	12 37 02.9	+0.9
H11N1	WAKE ISLAND Hy	40.45	71	T	T	13 20 26.7	
	baz=264,slow=74,SNR=36						
H11N2	WAKE ISLAND Hy	40.46	71	T	T	13 20 27.3	
	baz=264,slow=74,SNR=25						
H11N3	WAKE ISLAND Hy	40.47	71	T	T	13 20 28.1	
	baz=264,slow=74,SNR=32						
ULN	Ulaanbaatar	41.20	340	P	P	12 37 08.0	-0.4
ULN	Ulaanbaatar	41.20	340	P	P	12 37 08.0	-0.4
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONM	Songino Array	41.40	340	P	P	12 37 10.7	+0.7
SONM	Songino Array	41.40	340	P	P	12 37 10.9	+1.0
	comp=Z,5.4nm,0.8s,baz=157,slow=9.3,SNR=13						
SONM				ScP	ScP	12 42 57.9	+2.8
	comp=Z,0.9nm,1.0s,baz=133,slow=2.4,SNR=4.1						
	comp=Z,5.4nm,0.8s						
SONM	Songino Array	41.40	340	P	P	12 37 10.7	+0.7
SONM				pmax	pmax		
	comp=Z,24nm,1.6s						
GRNR	Gornyy	41.66	10	⇑iP	P	12 37 12.8	+0.8
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TYV	Tymovskoe	43.09	15	eP	P	12 37 23.6	+0.1
TYV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CIT	Chita	43.31	349	eP	P	12 37 26.2	+0.9
CIT				e		12 37 33.2	
CIT				e		12 39 21.0	
CIT				e		12 47 02.4	
NWAO	Narrogin (SRO)	43.38	191	P	P	12 37 27.3	+1.2
NWAO	Narrogin (SRO)	43.38	191	P	P	12 37 27.3	+1.2
NWAO				pmax	pmax		
	comp=Z,56nm,1.0s						
BBOO	Buckleboo	43.44	168	P	P	12 37 26.4	-0.1
BBOO				IAmb	IAmb	12 37 30.3	
	comp=Z,22nm,0.8s						
ZEA	Zeya	43.78	1	eP	P	12 37 29.2	+0.1
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
STKA	Stephens Creek	44.02	161	P	P	12 37 30.9	-0.4
STKA	Stephens Creek	44.02	161	P	P	12 37 30.7	-0.5
	comp=Z,4.7nm,0.7s,baz=330,slow=13,SNR=2.9						
	comp=Z,4.7nm,0.7s						
STKA	Stephens Creek	44.02	161	P	P	12 37 30.9	-0.4
STKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK	Zakamensk	44.64	339	eP	P	12 37 35.6	-0.5
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOY	Mondy	46.52	339	eP	P	12 37 52.4	+1.4
MOY				pmax	pmax		
	comp=Z,35nm,2.1s						
WMQ	Urumqi	47.52	322	eP	P	12 37 59.3	+0.4
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MGBR	Mount Gambier	49.20	165	P	P	12 38 11.6	-0.1
PETK	Petropavlovsk-	50.05	24	P	P	12 38 17.1	-1.0
PETK	Petropavlovsk-	50.05	24	P	P	12 38 18.0	0.0
	comp=Z,10.0nm,0.9s,baz=200,slow=4.3,SNR=9.1						
	comp=Z,10.0nm,0.9s						
DZM	Mont Dzumac	50.63	129	P	P	12 38 23.0	0.0
DZM				IAmb	IAmb	12 38 23.7	
	comp=Z,26nm,1.2s						
YAK	Yakutsk	52.16	2	P	P	12 38 34.0	+0.4
YAK	Yakutsk	52.16	2	eP	P	12 38 34.1	+0.4
YAK				e*PP	pP	12 38 38.2	-5.6
YAK				eS	S	12 45 58.8	+3.3
YAK				e*SS	pS	12 46 09.9	+3.1
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				pmax	pmax		
	comp=E,10.0nm,1.4s						
YAK				smax	smax		
	comp=E,114nm,4.2s						
YAK				smax	smax		
	comp=N,817nm,12.1s						
MK31	Makanchi Array	52.33	323	P	P	12 38 35.0	-0.3
MK31	Makanchi Array	52.33	323	P	P	12 38 35.0	-0.3
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MKAR	Makanchi Array	52.33	323	P	P	12 38 35.2	-0.2
MKAR	Makanchi Array	52.33	323	P	P	12 38 35.5	+0.2
	comp=Z,8.8nm,0.7s,baz=121,slow=8.3,SNR=31						
	comp=Z,8.8nm,0.7s						
MAKZ	Makanchi	52.52	323	P	P	12 38 36.6	-0.1
MAKZ	Makanchi	52.52	323	P	P	12 38 36.6	-0.1
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	Magadan	52.96	15	P	P	12 38 39.1	-0.6
MA2	Magadan	52.96	15	ceP	P	12 38 39.6	-0.1
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MA2	Magadan	52.96	15	P	P	12 38 39.2	-0.6
	comp=Z,15nm,0.8s						
KSH	Kashi	53.47	312	P	P	12 38 45.6	+1.6
KSH				pmax	pmax		
	comp=Z,6.0nm,1.8s						
NIL	Nilore	53.92	305	P	P	12 38 47.1	-0.2
NIL	Nilore	53.92	305	P	P	12 38 47.1	-0.2
NIL				pmax	pmax		
	comp=Z,23nm,0.9s						
ZAA0	Zalesovo Array	54.97	331	P	P	12 38 53.7	-0.7
ZALV	Zalesovo Beam	54.97	331	P	P	12 38 53.6	-0.9
ZALV	Zalesovo Beam	54.97	331	P	P	12 38 53.9	-0.6
	comp=Z,2.5nm,0.5s,baz=117,slow=6.8,SNR=7.4						
	comp=Z,2.5nm,0.5s						
ZALV	Zalesovo Beam	54.97	331	iP	P	12 38 53.5	-1.0
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	Ala-Archa	55.58	315	iP	P	12 38 59.0	-0.3
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SEY	Seymchan	56.25	14	ceP	P	12 39 03.5	0.0
SEY				pmax	pmax		
	comp=Z,24nm,2.5s						
KURK	Kurchatov	56.38	326	P	P	12 39 04.5	-0.1
KURK				IAmb	IAmb	12 39 08.6	
	comp=Z,13nm,0.8s						
KURK	Kurchatov	56.38	326	ceP	P	12 39 04.6	-0.1
KURK				pmax	pmax		
	comp=Z,13nm,0.8s						
KURBB	Kurchatov Arra	56.39	326	P	P	12 39 04.8	0.0
	comp=Z,5.8nm,0.7s,baz=126,slow=6.8,SNR=22						
	comp=Z,5.8nm,0.7s						
GAR	Garm	57.52	310	P	P	12 39 13.3	+0.2
GAR				IAmb	IAmb	12 40 07.8	
	comp=Z,9.6nm,0.7s						
KBL	Kabul	57.52	305	P	P	12 39 13.3	0.0
KBL	Kabul	57.52	305	P	P	12 39 13.3	0.0
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MSVF	Nonsavu	58.07	118	P	P	12 39 17.7	+0.5
MSVF	Nonsavu	58.07	118	P	P	12 39 17.7	+0.5
MSVF				pmax	pmax		
	comp=Z,79nm,1.7s						
CHGR	Chuyangaron	58.31	309	P	P	12 39 18.7	+0.1
CHGR				IAmb	IAmb	12 39 25.1	
	comp=Z,10nm,0.9s						
CHGR	Chuyangaron	58.31	309	P	P	12 39 18.7	+0.1
CHGR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SIMJ	Simiganj	58.42	309	P	P	12 39 19.0	-0.5
KK31	Karatay Array	58.51	315	P	P	12 39 19.6	-0.2
KK31	Karatay Array	58.51	315	P	P	12 39 19.6	-0.2
KK31				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KKAR	Karatay Array	58.51	315	P	P	12 39 19.7	-0.1
KKAR	Karatay Array	58.51	315	P	P	12 39 19.6	-0.2
KKAR				IAmb	IAmb	12 39 23.7	
	comp=Z,4.6nm,1.2s						
KKAR	Karatay Array	58.51	315	P	P	12 39 19.6	-0.2
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	Tiksi	61.78	1	P	P	12 39 41.2	-0.5
TIXI	Tiksi	61.78	1	ceP	P	12 39 41.7	0.0
TIXI				pmax	pmax		
	comp=Z,55nm,2.5s						
BVAR	Borovoye Array	61.98	326	P	P	12 39 43.3	-0.1
	comp=Z,4.8nm,0.9s,baz=123,slow=10,SNR=13						
	comp=Z,4.8nm,0.9s						
BRVK	Borovoye	62.05	326	P	P	12 39 43.4	-0.4
BRVK				IAmb	IAmb	12 39 46.4	
	comp=Z,5.8nm,0.8s						
BRVK	Borovoye	62.05	326	P	P	12 39 43.4	-0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HRA	Herat	63.05	304	P	P	12 39 50.1	-1.1
HRA				IAmb	IAmb	12 39 53.7	
	comp=Z,7.2nm,0.7s						
BILL	Bilibino	63.83	16	P	P	12 39 55.2	-0.2
BILL	Bilibino	63.83	16	ceP	P	12 39 55.2	-0.2
BILL				pmax	pmax		
	comp=Z,21nm,1.7s						
NRIK	Noril'sk	64.41	346	P	P	12 39 59.2	0.0
NRIK	Noril'sk	64.41	346	P	P	12 39 59.4	+0.1
	comp=Z,7.3nm,0.8s,baz=136,slow=8.4,SNR=10						
	comp=Z,7.3nm,0.8s						
NRIK	Noril'sk	64.41	346

baz=260
K13K **Kusilvak Mount** 71.60 28 P P 12 40 44.7 +0.2
baz=256
S12K **Black Hills** 71.65 34 P P 12 40 45.1 +0.1
baz=260
F14K **Arctic Creek** 71.82 24 P P 12 40 46.0 +0.2
baz=253
M13K **Dall Lake** 71.87 29 P P 12 40 46.7 +0.5
baz=258
ANM **Nome** 71.96 25 P P 12 40 47.0 +0.4
baz=254
J14K **Nanvaranak Lak** 72.29 27 P P 12 40 49.1 +0.5
baz=257
L14K **Kuka Creek** 72.39 29 P P 12 40 50.1 +0.9
L14K **Kuka Creek** 72.39 29 P P 12 40 50.0 +0.8
baz=258
F15K **North Star Dit** 72.56 24 P P 12 40 49.9 -0.3
F15K IAmb IAmb 12 40 52.1
comp=Z,33nm,1.7s
F15K **North Star Dit** 72.56 24 P P 12 40 50.6 +0.4
baz=255
N14K **Kuskokwak Cree** 72.59 30 P P 12 40 50.8 +0.4
baz=259
M14K **Bethel** 72.61 29 P P 12 40 51.0 +0.4
baz=259
G15K **Niukluk** 72.62 25 P P 12 40 50.6 0.0
baz=256
O14K **Tigyukauivet M** 72.68 31 P P 12 40 51.2 +0.2
baz=260
CHNA **Chernabura Isl** 72.92 36 P P 12 40 52.6 +0.1
baz=263
C16K **Lisburne Hills** 73.00 21 IAmb IAmb 12 40 54.4
comp=Z,22nm,1.2s
C16K **Lisburne Hills** 73.00 21 P P 12 40 53.2 +0.5
baz=253
L15K **Ungalak Mounta** 73.02 28 P P 12 40 53.3 +0.4
baz=259
K15K **Wolf Creek Mou** 73.11 28 P P 12 40 53.7 +0.2
baz=259
S14K **Fog Glacier** 73.13 34 P P 12 40 53.8 -0.1
baz=262
M15K **Kasigluk River** 73.22 29 P P 12 40 54.8 +0.6
baz=260
H16K **Elim** 73.29 25 P P 12 40 54.9 +0.4
baz=257
O15K **Ungalikthiuk R** 73.40 31 P P 12 40 55.9 +0.6
baz=261
G16K **Koyuk River** 73.41 24 P P 12 40 55.9 +0.7
baz=257
N15K **Kwethluk River** 73.42 30 P P 12 40 56.0 +0.6
baz=261
D17K **Noatak River** 73.67 22 P P 12 40 56.9 +0.3
baz=256
J16K **Anvik River** 73.72 27 P P 12 40 57.8 +0.7
baz=259
CHGN **Chignik** 73.76 34 P P 12 40 58.0 +0.6
baz=263
I17K **Unalakleet** 73.80 26 P P 12 40 58.3 +0.8
baz=259
RDOG **Red Dog Mine** 73.82 22 P P 12 40 58.2 +0.6
RDOG IAmb IAmb 12 41 10.7
comp=Z,9.4nm,1.0s
RDOG **Red Dog Mine** 73.82 22 P P 12 40 58.2 +0.6
baz=256
C17K **DeLong Mountai** 73.83 21 P P 12 40 58.4 +0.7
baz=255
L16K **Owhat River** 73.97 29 P P 12 40 59.2 +0.7
baz=261
E17K **Hotham Inlet** 73.99 23 P P 12 40 59.1 +0.5
baz=257
F17K **Baldwin Pennin** 74.08 23 P P 12 40 59.7 +0.7
F17K IAmb IAmb 12 41 19.3
comp=Z,13nm,1.2s
F17K **Baldwin Pennin** 74.08 23 P P 12 40 59.8 +0.7
baz=258
M16K **Timber Creek** 74.11 29 P P 12 40 59.6 +0.2
baz=262
G17K **Kiwalik Mounta** 74.13 25 P P 12 40 59.8 +0.4
baz=259
H17K **Granite Mounta** 74.32 25 P P 12 41 01.4 +0.8
baz=260
O16K **Kokwok River B** 74.33 31 P P 12 41 00.4 -0.3
baz=263
R16K **Pilot Point** 74.36 33 P P 12 41 01.1 +0.2
baz=264
J17K **VABM Dome** 74.42 27 P P 12 41 02.1 +0.9
J17K IAmb IAmb 12 41 26.5
comp=Z,17nm,1.3s
J17K **VABM Dome** 74.42 27 P P 12 41 01.2 +0.1
baz=261
B18K **Kokolik River** 74.53 20 P P 12 41 02.5 +0.8
baz=256
E18K **Tukpahlearik C** 74.53 23 P P 12 41 02.6 +0.8
E18K IAmb IAmb 12 41 03.2
comp=Z,11nm,1.0s
E18K **Tukpahlearik C** 74.53 23 P P 12 41 02.8 +1.0
baz=258
C18K **Utukok River** 74.58 21 IAmb IAmb 12 41 27.9
comp=Z,16nm,1.3s
C18K **Utukok River** 74.58 21 P P 12 41 02.9 +0.8
baz=257
L17K **Donlin** 74.58 28 P P 12 41 02.5 +0.4
baz=262
K17K **Iditarod** 74.66 28 P P 12 41 02.4 -0.2
baz=262
F18K **Selawik** 74.74 23 P P 12 41 03.2 +0.3
baz=259
KIRV **Kirov** 74.77 328 *ce*P P 12 41 04.9 +1.6
O17K **Koliganek Bris** 74.86 31 P P 12 41 03.9 +0.1
baz=264
M17K **Holitna River** 74.89 29 P P 12 41 04.0 +0.1
baz=263
N17K **Nushagak Hills** 74.90 30 P P 12 41 04.5 +0.4
baz=263
Q16K **King Salmon** 74.97 32 P P 12 41 04.8 +0.5
baz=264
H18K **Honhosa River** 75.01 25 P P 12 41 04.6 0.0
H18K IAmb IAmb 12 41 07.0
comp=Z,16nm,1.2s
H18K **Honhosa River** 75.01 25 P P 12 41 05.2 +0.7
baz=261
G18K **Tagagawik** 75.01 24 P P 12 41 04.6 +0.1
baz=260
P17K **Kvichak River** 75.13 31 P P 12 41 05.9 +0.6
baz=264
CHIR **Chirikof Islan** 75.27 35 P P 12 41 06.7 +0.5
baz=266
BELG **Belogornoye** 75.30 322 P P 12 41 05.3 -1.1
comp=Z,18nm,0.9s,baz=84,slow=2.4,SNR=7.4
comp=Z,18nm,0.9s
BELG **Belogornoye** 75.30 322 *i*P P 12 41 06.3 -0.1
BELG pmax pmax
comp=Z,3.0nm,0.9s
Q17K **Contact Creek** 75.33 32 P P 12 41 06.6 0.0
baz=265
L18K **Granite Mounta** 75.34 28 P P 12 41 06.7 +0.2
baz=263
J18K **Innoko River** 75.48 27 P P 12 41 07.8 +0.5
baz=263
F19K **Shaleruckik Mo** 75.51 23 P P 12 41 08.0 +0.6
baz=261
N18K **Kilae Creek** 75.55 30 P P 12 41 07.8 0.0
baz=264
GCSA **Galena City Sc** 75.57 26 P P 12 41 08.3 +0.6
baz=262
D19K **Kuna River** 75.66 22 P P 12 41 08.7 +0.5
D19K IAmb IAmb 12 41 10.1
comp=Z,22nm,1.2s
D19K **Kuna River** 75.66 22 P P 12 41 08.5 +0.2
baz=260
M18K **Stony River** 75.67 29 P P 12 41 09.2 +0.8
baz=264
G19K **Purcell Mounta** 75.68 24 IAmb IAmb 12 41 37.2
comp=Z,19nm,1.4s
G19K **Purcell Mounta** 75.68 24 P P 12 41 09.3 +0.8
baz=262
TTA **Tatalina** 75.73 27 P P 12 41 09.4 +0.5
baz=264
P18K **Big Mountain,** 75.77 31 P P 12 41 09.6 +0.5
baz=265
O18K **Koktuh Hills** 75.82 31 P P 12 41 09.8 +0.5
O18K **Koktuh Hills** 75.82 31 P P 12 41 10.0 +0.7
baz=265
E19K **Redstone River** 75.82 23 P P 12 41 09.8 +0.6
E19K IAmb IAmb 12 41 19.5
comp=Z,12nm,0.9s
E19K **Redstone River** 75.82 23 P P 12 41 09.8 +0.6
baz=261

H19K **Roundabout Mou** 75.86 25 P P 12 41 09.8 +0.5
baz=263
J19K **Poorman** 76.03 26 P P 12 41 11.4 +1.0
baz=264
SII **Sitkinak Islan** 76.12 34 P P 12 41 11.7 +0.6
baz=267
L19K **White Mountain** 76.19 28 P P 12 41 12.0 +0.6
baz=265
D20K **Etivluk River** 76.23 22 P P 12 41 12.2 +0.7
baz=262
N19K **Bonanza Creek** 76.25 30 P P 12 41 12.7 +0.8
N19K **Bonanza Creek** 76.25 30 P P 12 41 12.1 +0.2
baz=266
O19K **Port Alsworth** 76.29 30 IAmb IAmb 12 41 13.4
comp=Z,19nm,0.9s
O19K **Port Alsworth** 76.29 30 P P 12 41 12.7 +0.8
baz=266
E20K **Nigu River** 76.33 22 P P 12 41 12.6 +0.5
baz=262
F20K **Avaraart Lake** 76.34 23 P P 12 41 12.4 +0.2
baz=263
M19K **Big River Lodg** 76.39 29 P P 12 41 12.9 +0.4
baz=265
H20K **Anotleneega Mo** 76.50 25 P P 12 41 13.7 +0.6
baz=264
I20K **Naaghedeneel** 76.60 26 P P 12 41 14.9 +1.3
baz=265
A21K **Barrow** 76.63 19 P P 12 41 14.8 +1.1
baz=261
OHAK **Old Harbor** 76.65 33 P P 12 41 14.0 0.0
baz=267
K20K **Telida** 76.65 27 P P 12 41 14.2 +0.2
baz=265
L20K **Farewell, AK** 76.67 28 P P 12 41 14.1 0.0
baz=266
J20K **Nowinta River** 76.69 26 IAmb IAmb 12 41 27.5
comp=Z,19nm,1.5s
J20K **Nowinta River** 76.69 26 P P 12 41 14.3 +0.2
baz=265
C21K **Knifeblade Rid** 76.95 21 P P 12 41 16.0 +0.4
baz=263
M20K **Styx River** 76.98 29 P P 12 41 16.1 +0.1
baz=266
KDAK **Kodiak Island** 77.05 33 P P 12 41 16.1 -0.2
baz=268
B21K **Ikpikpuk River** 77.06 21 IAmb IAmb 12 41 18.1
comp=Z,17nm,0.9s
B21K **Ikpikpuk River** 77.06 21 P P 12 41 16.3 +0.2
baz=263
O20K **Slope Mountain** 77.13 31 P P 12 41 17.0 +0.2
baz=267
G21K **Allakaket** 77.16 24 P P 12 41 17.5 +0.7
G21K IAmb IAmb 12 41 18.6
comp=Z,14nm,1.1s
G21K **Allakaket** 77.16 24 P P 12 41 17.2 +0.4
baz=265
E21K **Killik River** 77.16 22 P P 12 41 17.4 +0.6
baz=264
Q20K **Shuyak Island** 77.18 32 P P 12 41 17.0 0.0
baz=268
F21K **Alatna River** 77.23 23 P P 12 41 17.7 +0.5
baz=265
H21K **Melozitna Rive** 77.38 25 P P 12 41 18.8 +0.7
H21K IAmb IAmb 12 41 19.4
comp=Z,11nm,1.1s
H21K **Melozitna Rive** 77.38 25 P P 12 41 18.3 +0.3
baz=266
SPCR **Spurr Chakacha** 77.38 29 P P 12 41 18.4 +0.2
baz=267
CHUM **Lake Minchumin** 77.47 27 P P 12 41 18.9 +0.4
baz=267
PPLA **Purkeypile** 77.47 28 P P 12 41 18.6 -0.2
baz=267
CAST **Castle Rocks** 77.55 27 IAmb IAmb 12 41 21.5
comp=Z,9.7nm,1.0s
CAST **Castle Rocks** 77.55 27 P P 12 41 19.5 +0.4
baz=267
B22K **Teshekpuk Lake** 77.55 20 P P 12 41 19.5 +0.6
B22K IAmb IAmb 12 41 20.6
comp=Z,15nm,0.9s
B22K **Teshekpuk Lake** 77.55 20 P P 12 41 19.4 +0.6
baz=264,SNR=5.1
RAYN **Ar Rayn** 77.67 292 P P 12 41 20.3 -0.2
RAYN IAmb IAmb 12 41 27.0
comp=Z,16nm,1.1s
RAYN **Ar Rayn** 77.67 292 P P 12 41 20.3 -0.2
RAYN pmax pmax
comp=Z,16nm,1.2s
D22K **Ayikyak River** 77.67 22 IAmb IAmb 12 41 21.2
comp=Z,13nm,1.2s
D22K **Ayikyak River** 77.67 22 P P 12 41 20.1 +0.4
baz=265
I21K **Tanana** 77.69 25 P P 12 41 20.5 +0.7
baz=267
SKT **Skwentna** 77.74 29 P P 12 41 20.2 +0.1
baz=268
CAPN **Captain Cook N** 77.88 30 P P 12 41 21.1 +0.2
baz=268
E22K **Anaktuvuk Pass** 77.94 22 P P 12 41 21.8 +0.6
E22K IAmb IAmb 12 41 23.2
comp=Z,11nm,1.1s
E22K **Anaktuvuk Pass** 77.94 22 P P 12 41 21.4 +0.2
baz=266,SNR=6.6
H22K **Ishalitna Cre** 77.98 25 P P 12 41 21.2 -0.2
baz=267
BRSE **Bradley Lake S** 78.06 31 P P 12 41 22.2 +0.2
baz=269
BPAW **Bear Paw Mtn.** 78.07 26 IAmb IAmb 12 41 23.3
comp=Z,12nm,0.9s
BPAW **Bear Paw Mtn.** 78.07 26 P P 12 41 22.2 +0.3
baz=268
SUA **Susitna One** 78.10 29 IAmb IAmb 12 41 27.7
comp=Z,16nm,1.0s
SUA **Susitna One** 78.10 29 P P 12 41 21.8 -0.5
baz=269
CUT **Chulitna** 78.34 28 P P 12 41 23.2 -0.2
baz=269
TRF **Thorofare Moun** 78.36 27 P P 12 41 23.5 -0.2
TRF IAmb IAmb 12 41 23.9
comp=Z,28nm,1.4s
TRF **Thorofare Moun** 78.36 27 P P 12 41 23.5 -0.2
baz=269
D23K **Nanushuk River** 78.40 21 P P 12 41 24.3 +0.6
baz=267
M22K **Willow** 78.40 29 P P 12 41 23.0 -0.8
baz=269
KBZ **Khabaz** 78.45 313 P P 12 41 23.9 -0.5
comp=Z,3.6nm,0.8s,baz=104,slow=8.3,SNR=7.9
comp=Z,3.6nm,0.8s
KBZ **Khabaz** 78.45 313 *ce*P P 12 41 24.9 +0.5
C23K **Itkillik River** 78.47 21 P P 12 41 24.2 +0.2
baz=267
COLD **Coldfoot** 78.51 23 P P 12 41 24.7 +0.4
baz=268,SNR=9.7
G23K **Bananza Creek** 78.56 24 P P 12 41 25.1 +0.4
baz=268
RC01 **Rabbit Creek A** 78.58 30 P P 12 41 24.9 +0.1
baz=270
O22K **Cooper Landing** 78.58 30 P P 12 41 24.7 0.0
baz=270
KIV **Kislovodsk** 78.59 313 *e*P P 12 41 25.4 +0.1
KIV pmax pmax
comp=Z,13nm,1.1s
GEVA **Gevas** 78.62 307 P P 12 41 24.9 -0.8
GEVA IAmb IAmb 12 41 32.3
comp=Z,15nm,1.0s
SHA1 **Shidzhatmaz** 78.62 313 *i*P P 12 41 25.6 -0.1
SEW **Seward** 78.72 31 P P 12 41 26.1 +0.6
baz=270
E23K **Chandalar** 78.76 22 P P 12 41 26.2 +0.4
baz=268
TOLK **Toolik Lake Re** 78.79 22 P P 12 41 26.4 +0.6
TOLK IAmb IAmb 12 41 27.3
comp=Z,12nm,1.1s
TOLK **Toolik Lake Re** 78.79 22 P P 12 41 26.4 +0.6
baz=268,SNR=6.8
I23K **Minto, Yukon-K** 78.80 25 P P 12 41 26.3 +0.5
I23K IAmb IAmb 12 41 27.8
comp=Z,45nm,2.0s
I23K **Minto, Yukon-K** 78.80 25 P P 12 41 26.0 +0.2
baz=269
PMR **Palmer** 78.87 29 P P 12 41 25.9 -0.4
baz=270
NEA2 **Nenana** 78.91 26 P P 12 41 26.7 +0.2
baz=270
VRH **Novokhopyorsk** 78.95 320 P P 12 41 25.1 -1.9
VRH pmax pmax
comp=Z,10.0nm,0.9s

MCK **McKinley** 78.97 27 IAmb IAmb 12 41 28.6
comp=Z,13nm,0.9s
MCK **McKinley** 78.97 27 P P 12 41 27.0 +0.1
baz=270
RND **Reindeer** 79.00 27 IAmb IAmb 12 41 29.7
comp=Z,22nm,1.4s
D24K **Happy Valley** 79.08 21 IAmb IAmb 12 41 29.3
comp=Z,12nm,0.9s
D24K **Happy Valley** 79.08 21 P P 12 41 28.3 +1.0
baz=269,SNR=9.2
C24K **Franklin Bluff** 79.13 21 IAmb IAmb 12 41 56.5
comp=Z,16nm,1.1s
C24K **Franklin Bluff** 79.13 21 P P 12 41 28.6 +0.9
baz=269,SNR=5.9
E24K **Your Creek** 79.18 22 P P 12 41 28.7 +0.7
baz=269
KNK **Knik Glacier** 79.20 29 P P 12 41 28.5 +0.4
KNK IAmb IAmb 12 41 31.3
comp=Z,37nm,1.6s
KNK **Knik Glacier** 79.20 29 P P 12 41 28.0 -0.2
baz=271
SML **Sawmill** 79.25 29 P P 12 41 28.6 +0.1
SML **Sawmill** 79.25 29 P P 12 41 28.4 -0.1
baz=271
SML **Sawmill** 79.25 29 P P 12 41 28.6 +0.1
SML pmax pmax
comp=Z,49nm,1.7s
PWL **Port Wells** 79.26 30 IAmb IAmb 12 41 29.3
comp=Z,17nm,0.9s
PWL **Port Wells** 79.26 30 P P 12 41 28.3 -0.3
baz=271
GURO **Guroymak-BITLI** 79.41 307 IAmb IAmb 12 41 37.4
comp=Z,19nm,1.2s
F24K **Squaw Lake** 79.41 23 P P 12 41 29.6 +0.3
baz=270,SNR=9.6
H24K **Noodor Dome** 79.42 25 P P 12 41 30.1 +0.7
baz=270
COLA **College** 79.44 26 P P 12 41 30.1 +0.8
baz=271
M23K **Glacier View** 79.54 29 P P 12 41 30.4 +0.4
baz=271
G24K **Hadweenzic Riv** 79.57 24 P P 12 41 30.8 +0.7
baz=271
POKR **Poker Plat Res** 79.61 25 P P 12 41 31.0 +0.6
baz=271
SCM **Sheep Creek Mo** 79.73 29 IAmb IAmb 12 41 34.3
comp=Z,30nm,1.4s
SCM **Sheep Creek Mo** 79.73 29 P P 12 41 32.1 +0.9
baz=272
P23K **Montague Islan** 79.75 31 P P 12 41 31.7 +0.5
baz=272
HDA **Harding Lake** 79.83 26 P P 12 41 31.9 +0.3
baz=272
IL31 79.85 26 P P 12 41 31.3 -0.3
ILAR **Eielson Array** 79.85 26 P P 12 41 31.9 +0.2
ILAR **Eielson Array** 79.85 26 P P 12 41 30.1 -1.6
comp=Z,2.1nm,0.8s,baz=241,slow=6.4,SNR=17
comp=Z,2.1nm,0.8s
ILAR **Eielson Array** 79.85 26 P P 12 41 31.9 +0.2
KLMR **Klimovskoe** 79.86 330 *e*P P 12 41 27.2 -4.6
KLMR pmax pmax
comp=Z,31nm,1.8s
GLI **Glacier Island** 79.87 30 P P 12 41 31.9 +0.1
baz=272
D25K **Kavik River** 79.95 21 P P 12 41 32.4 +0.2
D25K **Kavik River** 79.95 21 P P 12 41 32.8 +0.7
baz=271
M24K **Tolsona, Glenn** 80.26 28 IAmb IAmb 12 41 46.2
comp=Z,19nm,1.1s
M24K **Tolsona, Glenn** 80.26 28 P P 12 41 34.7 +0.7
baz=273
F25K **Christian Rive** 80.27 23 P P 12 41 34.7 +0.7
baz=272
E25K **Arctic Village** 80.28 22 P P 12 41 34.5 +0.6
baz=272,SNR=9.1
Q23K **Middleton Isla** 80.30 31 P P 12 41 34.4 +0.3
baz=273
K24K **Donnelly Dome** 80.37 27 P P 12 41 34.6 +0.1
baz=273
PRP **Porcupine Dome** 80.40 25 P P 12 41 35.2 +0.4
baz=273
KLU **Klutina** 80.41 29 P P 12 41 35.0 +0.1
baz=273
C26K **Camden Bay** 80.44 20 P P 12 41 35.0 +0.3
baz=272
KOPT **Kop Dagi** 80.48 309 IAmb IAmb 12 41 45.3
comp=Z,17nm,1.2s
VORR **Voronezh** 80.50 321 P P 12 41 36.1 +0.7
VORR pmax pmax
comp=Z,16nm,1.0s
J25K **Salcha River,** 80.51 26 P P 12 41 35.2 -0.1
baz=273
EYAK **Cordova Ski Ar** 80.55 30 P P 12 41 35.2 -0.2
baz=273
PAX **Paxson** 80.55 28 P P 12 41 35.2 -0.3
baz=273
LPSR **Galich'ya Gora** 80.61 322 P P 12 41 33.9 -2.1
LPSR pmax pmax
comp=Z,12nm,1.0s
BMAR **Burnt Mountain** 80.68 23 P P 12 41 37.1 +0.9
HARP **HAARP** 80.72 28 P P 12 41 36.5 +0.1
baz=273
RIDG **Independent Ri** 80.78 27 P P 12 41 36.5 -0.3
RIDG IAmb IAmb 12 41 39.4
comp=Z,12nm,1.0s
RIDG **Independent Ri** 80.78 27 P P 12 41 37.1 +0.3
baz=274
F26K **Sheenjek River** 80.83 23 P P 12 41 37.4 +0.4
baz=274
C27K **Jago River** 80.88 21 P P 12 41 37.7 +0.6
baz=274
G26K **Porcupine Rive** 81.02 23 P P 12 41 38.6 +0.7
baz=274
N25K **Chitina, Valde** 81.04 29 P P 12 41 38.8 +0.6
baz=274
BMRM **Bremner River** 81.08 30 P P 12 41 38.6 +0.2
BMRM IAmb IAmb 12 41 41.3
comp=Z,9.7nm,1.0s
BMRM **Bremner River** 81.08 30 P P 12 41 39.0 +0.6
baz=274
SCRK **Sand Creek** 81.15 27 IAmb IAmb 12 41 53.0
comp=Z,26nm,1.8s
SCRK **Sand Creek** 81.15 27 P P 12 41 39.5 +0.7
baz=274
KAIM **Kayak Island** 81.25 31 P P 12 41 40.1 +0.8
baz=274
J26L **Joseph Creek** 81.29 26 P P 12 41 40.3 +0.8
baz=274
I26K **Coal Creek Min** 81.40 25 P P 12 41 40.0 +0.1
baz=275,SNR=5.7
GLB **Gilahina Butte** 81.43 29 IAmb IAmb 12 41 43.1
comp=Z,13nm,1.1s
M26K **Nabesna, AK** 81.73 28 P P 12 41 42.4 +0.6
baz=275
BGLC **Bering Glacier** 81.80 30 P P 12 41 42.3 +0.2
baz=275
OBN **Obninsk** 81.80 325⇑ *e*P P 12 41 41.6 -0.6
OBN *i* 12 44 54.7
OBN *i* PPP PPP 12 46 38.3
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,590nm,15.0s
G27K **Doyon Strip** 81.87 24 P P 12 41 43.3 +0.8
baz=276
D27M **Malcolm River** 81.88 21 P P 12 41 43.3 +0.8
baz=276
H27K **Steamboat Moun** 81.98 24 P P 12 41 44.1 +1.0
baz=276
I27K **Kandik River** 82.01 25 P P 12 41 44.4 +1.1
baz=276
APA **Apatity** 82.05 337 ⇓ *i*P P 12 41 40.0 -3.3
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,800nm,18.0s
L27K **Beaver Creek,** 82.20 27 P P 12 41 44.4 +0.2
baz=276
BCAR **Beaver Creek A** 82.21 27 P P 12 41 44.6 +0.2
M27K **Edge Creek, AK** 82.25 28 P P 12 41 45.2 +0.5
baz=276
EGAK **Eagle** 82.30 26 P P 12 41 45.5 +0.9
baz=277
MESA **MESA** 82.46 30 P P 12 41 46.1 +0.2
baz=277
E28M **Babbage River** 82.47 22 P P 12 41 46.5 +1.0
baz=278

F28M Old Crow 82.47 23 P P 12 41 46.2 +0.6
F28M IAmb IAmb 12 41 59.9
comp=Z,12nm,1.1s
F28M Old Crow 82.47 23 P P 12 41 45.9 +0.3
baz=277,SNR=9.9
D28M Stokes Point 82.65 21 P P 12 41 47.1 +0.7
baz=278
BVCY Beaver Creek 82.71 28 P P 12 41 47.3 +0.3
baz=277
I28M Miner Creek 82.73 25 P P 12 41 47.7 +0.6
baz=278
YUK3 Moose Creek 82.98 29 P P 12 41 48.8 +0.2
baz=278,SNR=7.5
E29M Blow River 83.09 22 P P 12 41 49.2 +0.5
baz=279
DAWY Dawson 83.15 26 IAmb IAmb 12 41 50.5
comp=Z,7.4nm,1.0s
DAWY Dawson 83.15 26 P P 12 41 49.7 +0.5
baz=278,SNR=8.1
O28M Mount Upton 83.25 30 P P 12 41 50.3 +0.2
baz=278
H29M Whitestone 83.25 24 P P 12 41 50.0 +0.4
baz=279
G29M Pine Creek 83.28 23 P P 12 41 50.3 +0.5
baz=279
PINM Pinnacle 83.31 30 P P 12 41 50.2 +0.1
baz=278
YUK8 Steele Glacier 83.38 29 P P 12 41 50.7 0.0
baz=278
I29M Ogilvie Camp, 83.42 25 P P 12 41 51.5 +1.0
baz=279,SNR=6.9
J29N Klondike Camp 83.60 26 P P 12 41 52.3 +0.7
baz=279,SNR=5.2
M29M Somme Creek 83.81 28 P P 12 41 54.0 +1.2
M29M IAmb IAmb 12 41 54.6
comp=Z,11nm,1.2s
M29M Somme Creek 83.81 28 P P 12 41 52.8 +0.1
baz=279,SNR=5.7
L29M L29M 83.86 27 P P 12 41 53.0 +0.2
baz=280
EPYK Eagle Plains 83.89 24 IAmb IAmb 12 41 54.3
comp=Z,15nm,1.1s
EPYK Eagle Plains 83.89 24 P P 12 41 53.1 +0.2
baz=280,SNR=6.7
YUK4 Talbot Arm 83.91 29 P P 12 41 53.3 0.0
baz=279
G30M tAoh Zraii Nji 83.97 23 P P 12 41 53.6 +0.3
baz=281,SNR=5.5
K29M Barlow Dome 84.00 26 IAmb IAmb 12 41 55.8
comp=Z,14nm,1.1s
K29M Barlow Dome 84.00 26 P P 12 41 53.9 +0.2
baz=280
MSF Maaselka 84.01 336 P P 12 41 52.7 -0.8
F30M Barrier River 84.01 22 P P 12 41 53.9 +0.4
baz=281
YUK6 Outpost Mounta 84.11 29 P P 12 41 54.0 -0.4
baz=280
O29M Mount Kennedy 84.11 30 P P 12 41 54.4 +0.1
baz=279
I30M Mount Dempster 84.24 25 IAmb IAmb 12 41 56.4
comp=Z,13nm,0.9s
I30M Mount Dempster 84.24 25 P P 12 41 55.2 +0.3
baz=281
J30M Hart River 84.38 25 P P 12 41 55.8 +0.2
baz=281
SPITS Spitsbergen Ar 84.42 349 P P 12 41 55.5 +0.1
comp=Z,22nm,0.9s,baz=95,slow=9.3,SNR=7.1
comp=Z,22nm,0.9s
HYT Haines Junctio 84.54 29 P P 12 41 56.7 +0.3
baz=280,SNR=11
M30M Minto, Yukon 84.55 27 P P 12 41 57.0 +0.6
M30M IAmb IAmb 12 41 58.8
comp=Z,15nm,1.1s
M30M Minto, Yukon 84.55 27 P P 12 41 56.2 -0.2
baz=281,SNR=13
ARCES ARCESS Array B 84.57 340 P P 12 41 56.4 +0.1
comp=Z,6.2nm,0.7s,baz=76,slow=6.0,SNR=13
comp=Z,6.2nm,0.7s
SIM Simferopol' 84.60 315 *e*P **P 12 41 58.0 +1.1**
SIM *e* 12 42 03.0
SIM pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 84.70 22 P P 12 41 56.8 -0.1
INK IAmb IAmb 12 41 58.2
comp=Z,12nm,1.1s
INK Inuvik 84.70 22 P P 12 41 57.4 +0.5
baz=283
INK Inuvik 84.70 22 P P 12 41 56.8 -0.1
INK pmax pmax
comp=Z,12nm,1.1s
G31M Satah River 84.73 23 P P 12 41 57.3 +0.2
G31M IAmb IAmb 12 41 58.2
comp=Z,14nm,1.0s
G31M Satah River 84.73 23 P P 12 41 57.1 0.0
baz=283
MAYO Mayo, Yukon 84.76 26 P P 12 41 57.7 +0.3
MAYO Mayo, Yukon 84.76 26 P P 12 41 57.7 +0.3
baz=282,SNR=7.8
F31M Tsiigehtchic 84.82 22 P P 12 41 57.7 +0.2
baz=283
P30M Million Dollar 84.93 30 P P 12 41 58.4 0.0
baz=281
H31M Peel River 84.95 24 P P 12 41 58.9 +0.6
baz=283
O30N Mendenhall 85.23 29 IAmb IAmb 12 42 01.9
comp=Z,9.8nm,1.0s
O30N Mendenhall 85.23 29 P P 12 42 00.5 +0.7
baz=282,SNR=6.6
N31M Braeburn, Yuko 85.23 28 P P 12 41 60.0 +0.2
baz=282,SNR=8.4
PLBC Pleasant Camp 85.36 31 P P 12 42 00.7 +0.3
baz=281
MMAI Mount Meron Ar 85.38 303 P P 12 42 01.5 +0.3
comp=Z,1.6nm,0.6s,baz=98,slow=12,SNR=3.9
comp=Z,1.6nm,0.6s
S31K Pelican 85.72 32 P P 12 42 03.1 +0.9
baz=282
M31M Drury Creek, Y 85.73 28 IAmb IAmb 12 42 03.8
comp=Z,8.4nm,1.0s
M31M Drury Creek, Y 85.73 28 P P 12 42 03.2 +1.0
baz=283,SNR=7.6
BRTR Keskin Array B 85.75 309 P P 12 42 02.5 -0.5
comp=Z,1.6nm,0.8s,baz=111,slow=3.6,SNR=7.3
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 85.75 309 *i* P **P 12 42 04.5 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR105 Keskin Array S 85.77 309 P P 12 42 02.6 -0.5
comp=Z,3.3nm,0.8s
WHY Whitehorse 85.84 29 IAmb IAmb 12 42 05.0
comp=Z,16nm,0.9s
WHY Whitehorse 85.84 29 P P 12 42 03.9 +0.9
baz=283,SNR=12
SKAG Skagway 85.88 30 P P 12 42 03.7 +0.8
baz=282
FARO Faro, Yukon 86.19 27 P P 12 42 05.6 +1.1
FARO Faro, Yukon 86.19 27 P P 12 42 05.3 +0.7
baz=284,SNR=20
FINES FINESS Array B 86.23 332 P P 12 42 04.6 -0.1
FINES FINESS Array B 86.23 332 P P 12 42 04.5 -0.2
comp=Z,4.1nm,0.6s,baz=57,slow=5.1,SNR=9.4
comp=Z,4.1nm,0.6s
A36M Sachs Harbour 86.34 17 P P 12 42 05.7 +0.7
A36M Sachs Harbour 86.34 17 P P 12 42 06.0 +1.1
baz=291
R32K Eaglecrest 86.55 31 P P 12 42 07.1 +0.8
baz=283
N32M Quiet Lake 86.58 29 P P 12 42 07.2 +0.7
baz=284
AKASG Malin Array Be 86.85 321 P P 12 42 07.5 -0.5
AKASG Malin Array Be 86.85 321 P P 12 42 07.2 -0.8
comp=Z,0.6nm,0.5s,baz=62,slow=4.7,SNR=8.8
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 86.85 321 P P 12 42 07.5 -0.5
AKASG pmax pmax
comp=Z,7.0nm,1.2s
AK10 Malin Array Si 86.86 321 P P 12 42 08.3 +0.3
KIEV Kiev 86.86 321 P P 12 42 07.2 -0.8
KIEV IAmb IAmb 12 42 58.3
comp=Z,20nm,1.4s
KIEV Kiev 86.86 321 P P 12 42 07.2 -0.8
KIEV pmax pmax
comp=Z,19nm,1.4s
AK06 Malin Array Si 86.89 321 P P 12 42 08.2 0.0
P33M Teslin, Yukon 86.94 29 P P 12 42 08.8 +0.5
baz=284
C36M Paulatuk 87.66 20 P P 12 42 12.1 +0.6
baz=292

R33M Jennings River 88.05 30 P P 12 42 13.9 +0.2
baz=286
S34M Telegraph Cree 88.38 31 P P 12 42 15.6 +0.5
baz=286
DLBC Dease Lake 88.79 31 P P 12 42 16.7 -0.4
baz=287
WTLY Watson Lake, Y 88.89 29 P P 12 42 18.1 +0.5
baz=288
KMPD K-Podol'skiy 89.08 319 P P 12 42 17.7 -0.9
T35M Bob Quinn 89.10 32 P P 12 42 19.1 +0.5
baz=287
BUR08 Bucovina Ar. S 90.12 318 P P 12 42 23.6 -0.1
WRGLY Wrigley 90.21 25 P P 12 42 24.2 +0.6
WRGLY IAmb IAmb 12 42 29.8
comp=Z,7.1nm,1.1s
WRGLY Wrigley 90.21 25 P P 12 42 24.2 +0.6
baz=292
TOAD Toad River Com 91.03 30 P P 12 42 27.9 +0.3
baz=291
KOTAN Kotaneelee Air 91.12 28 P P 12 42 28.6 +0.6
baz=292
DAG Danmarks Havn 91.16 352 P P 12 42 27.8 0.0
DAG pmax pmax
comp=Z,17nm,1.2s
RES Resolute Bay 91.93 10 P P 12 42 31.5 +0.2
RES IAmb IAmb 12 42 32.7
comp=Z,7.0nm,0.9s
RES Resolute Bay 91.93 10 P P 12 42 31.5 +0.2
RES pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 92.40 332 P P 12 42 33.0 -0.8
comp=Z,2.7nm,0.6s,baz=108,slow=4.8,SNR=7.0
comp=Z,2.7nm,0.6s
HFS Hagfors 92.40 332 P P 12 42 33.0 -0.8
NB2 NORSAR Subarra 93.11 334 P P 12 42 35.8 -1.4
comp=Z,7.9nm,1.0s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.11 334 P P 12 42 35.8 -1.4
baz=66,slow=4.6
NOA NORSAR Array B 93.11 334 P P 12 42 36.2 -0.9
comp=Z,1.0nm,0.5s,baz=62,slow=4.7,SNR=5.6
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 94.17 24 P P 12 42 41.8 -0.1
comp=Z,4.4nm,0.8s,baz=298,slow=4.8,SNR=40
comp=Z,4.4nm,0.8s
CLL Collm 96.40 325 *e*Px Px 12 42 49.0
GERES GERESS Array B 96.99 322 P **P 12 42 54.7 -0.5**
comp=Z,1.4nm,0.8s,baz=16,slow=6.0,SNR=3.6
comp=Z,1.4nm,0.8s
NEW Newport 99.74 37 P Pdif 12 43 08.1 +0.6
comp=Z,2.2nm,0.8s,baz=295,slow=5.8,SNR=5.7
comp=Z,2.2nm,0.8s
NVAR Mina Array Bea 103.18 47 Pdiff **Pdif 12 43 23.5 +0.2**
comp=Z,0.7nm,0.8s,baz=278,slow=10,SNR=4.2
R11B Troy Canyon, C 105.15 46 P Pdif 12 43 31.4 -0.6
baz=296
TORD Torodi Ar. Bea 120.36 292 PKP **PKPdf 12 48 14.9 -0.7**
comp=Z,0.7nm,0.8s,baz=337,slow=1.9,SNR=4.5
PLCA Paso Flores 145.84 157 PKPbc 12 49 03.4 +0.4
PLCA Paso Flores 145.84 157 PKPbc **PKPdf 12 49 02.3 -0.1**
comp=Z,4.2nm,0.9s,baz=212,slow=5.8,SNR=7.0
PLCA Paso Flores 145.84 157 PKP2 **PKPbc 12 49 03.4 +0.4**
PLCA Paso Flores 145.84 157 *e*P **PKPbc 12 49 03.5 +0.5**
SDDR Presa de Saban 146.56 31 PKPbc **PKPbc 12 49 05.7 0.0**
DR12 Loma Pena Alta 147.66 28 PKPbc **PKPbc 12 49 09.6 +0.8**
BI02 San Fabin de 148.96 152 PKPbc **PKPbc 12 49 12.4 +0.7**
BO02 Sierra Bellavi 150.71 151 PKPbc **PKiKP 12 49 17.4 +0.7**
TRQA Tornquist 150.96 167 *e*P **PKPdf 12 49 10.8 0.0**
OTAV Otavalo 153.50 69 *e*P **PKPdf 12 49 15.6 -0.2**
SDV Santo Domingo 154.96 43 *e*P **PKPdf 12 49 17.5 0.0**
RUSC La Rusia 155.23 52 PKPdf **PKPdf 12 49 16.6 -1.6**
RUSC PKPab sPKPbc 12 49 41.7 -0.6
NNA Nana 157.27 98 PKPdf **PKPdf 12 49 19.3 -1.0**
NNA PKPab **PKPab 12 49 49.6 -1.9**
NNA Nana 157.27 98 PKIKP **PKPdf 12 49 19.3 -1.0**
TBOT Tacuaremb 158.18 175 *e*P **PKPdf 12 49 21.4 +0.5**
GO02 Mina Guanaco 158.61 137 PKPdf **PKPdf 12 49 21.2 -0.8**
GO02 PKPab **PKPab 12 49 57.4 +0.2**
CNLB Canela 160.43 188 *e*P **PKPdf 12 49 21.8 -1.9**
CZSB Cruzeiro do Su 161.19 85 PKPdf **PKPdf 12 49 24.4 -0.5**
CZSB **PKPab 12 50 09.2 +0.7**
CZSB Cruzeiro do Su 161.19 85 *e*P **PKPdf 12 49 25.0 +0.2**
PB18 Visviri 162.94 119 PKPdf **PKPdf 12 49 23.9 -3.2**
PB18 PKPab **PKPab 12 50 15.4 -1.2**
TBTG Tabatinga, AM 163.05 72 PKPdf **PKPdf 12 49 27.1 +0.3**
TBTG PKPab **PKPab 12 50 18.0 +1.4**
TBTG Tabatinga, AM 163.05 72 *e*P **PKPdf 12 49 26.7 0.0**
NBLA Lagarto - SE 164.22 264 *e*P **PKPdf 12 49 28.5 +0.7**
BSFB Barra de Sao F 164.61 233 *e*P **PKPdf 12 49 28.7 +0.7**
LPAZ La Paz 164.64 116 *e*P **PKPdf 12 49 28.6 -0.3**
GUA01 Guaratinga, BA 164.83 242 *e*P **PKPdf 12 49 29.0 +0.7**
SJMB Sao Joao De Ma 164.94 233 *e*P **PKPdf 12 49 27.1 -1.2**
CMC01 Camacan, BA 165.03 247 *e*P **PKPdf 12 49 29.1 +0.7**
SPB Sao Paulo 165.04 203 *e*P **PKPdf 12 49 29.0 +0.7**
VAO Valinhos 165.37 206 *e*P **PKPdf 12 49 30.9 +2.2**
TEFE Tefe 167.53 60 *e*P **PKPdf 12 49 32.2 +1.7**
BDQN Bodoquena, MS 169.08 165 *e*P **PKPdf 12 49 31.7 +0.4**
VILB Vilhena 173.00 117 *e*P **PKPdf 12 49 33.8 +0.2**

TXNET 08 12:31:48.7, 31.7N±0.7×104.3W±0.8, h5km±2km, ML1.2/5, 2C, Error ellipse: s-maj=1.2km s-min=1.0km az=73.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**33**	⇑P	Pg	12 31 55.3	-0.1
TPB11				S	Sg	12 31 60.0	0.0
PECS	**Pecos**	**0.43**	**130**	⇑P	Pg	12 31 57.3	+0.3
PECS				S	Sg	12 32 02.7	+0.1
TPB12	**Southwest of T**	**0.50**	**150**	P	Pg	12 31 58.6	+0.2
TPB12				S	Sg	12 32 05.4	+0.5
TPB07	**Mentone**	**0.50**	**98**	S	Sg	12 32 05.4	+0.4
CLNB	**Carlsbad**	**0.69**	**27**	S	Sg	12 32 11.4	+0.3
TPB01	**Permian Basin**	**0.81**	**150**	P	Pg	12 32 03.6	-0.7
TPB01				S	Sg	12 32 14.4	-0.4
MNTX	**Cornudas Mount**	**0.96**	**273**	P	Pg	12 32 07.4	+0.1
MNTX				S	Sg	12 32 20.3	+0.6
VHRN	**Van Horn**	**1.06**	**216**	P	Pg	12 32 08.8	-0.3
VHRN				S	Sb	12 32 23.5	-0.5
ALPN	**Alpine**	**1.37**	**157**	P	Pn	12 32 13.3	-1.3
ALPN				S	Sg	12 32 30.9	-2.0
CPRX	**Cap Rock**	**1.42**	**13**	P	Pn	12 32 14.9	-0.4
ODSA	**Odessa**	**1.52**	**72**	S	Sn	12 32 36.9	-0.1
TMB04	**Seminole**	**1.79**	**56**	S	Sb	12 32 44.9	+0.1

BJI ***08*** *12:35:37.9, 9.42N×126.24E, h10km, mB5.4/6, mb4.5/41, Ms5.0/2, Ms7 4.8/2*
IDC ***08*** *12:35:40.3±0.5, 9.87N×126.30E, h0km, mb4.4/29, mbtmp4.4/29, Error ellipse: s-maj=21.0km s-min=11.5km az=80.0*
NEIC ***08*** *12:35:42.8±1.7, 9.87N±0.07×126.34E±0.09, h10km±1km, mb4.7/64, Error ellipse: s-maj=14.8km s-min=11.8km az=87.0*
DJA ***08*** *12:35:46.1±1.3, 10.N±8.°×12.6E±.°, h51km±16km, M5.2/12, mB5.7/3, mb4.9/12, MLv5.3/1, Mw(mB)5.2/3*
ISC 08 12:35:46.5±0.4, 9.86N±0.05×126.33E±0.08, h42km, n126, σ19/01/119, mb4.6/71, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.87**	**195**	Pn	**Pn**	**12 36 28.0**	**-1.8**
DAV	**Davao City (W)**	**2.87**	**195**	Pn	**Pn**	**12 36 31.7**	**+1.9**
	92nm,0.3s,baz=266,slow=8.2,SNR=1.7						
DAV				Sn	**Sn**	**12 37 06.8**	**+3.7**
	92nm,0.3s,baz=276,slow=23,SNR=5.7						
TGY	**Tagaytay City**	**6.76**	**309**	Pn	**Pn**	**12 37 25.1**	**+1.9**
	51nm,0.3s,baz=272,slow=3.4,SNR=4.7						
MYLDM	**Lahad Datu**	**9.05**	**240**	Pn	**Pn**	**12 37 54.0**	**-0.7**
TNTI	**Ternate**	**9.08**	**173**	Pn	**Pn**	**12 37 52.9**	**-2.3**
TOLI2	**Tolitoli**	**10.29**	**213**	Pn	**Pn**	**12 38 12.2**	**+0.5**
KKM	**Kota Kinabalu**	**10.71**	**250**	Pn	**Pn**	**12 38 15.5**	**-2.1**
LUW1	**Luwuk**	**11.39**	**198**	Pn	**Pn**	**12 38 24.2**	**-2.5**
LUW1	**Luwuk**	**11.39**	**198**	P	**Pn**	**12 38 27.8**	**+1.0**
	75nm,0.9s						
SANI	**Sanana**	**11.83**	**182**	P	**Pn**	**12 38 30.0**	**-2.8**
	24nm,0.7s						
FAKI	**Fak Fak**	**13.99**	**155**	Pn	**Pn**	**12 39 02.6**	**+0.2**
TTSI	**Tana Toraja**	**14.36**	**207**	P	**Pn**	**12 39 05.7**	**-1.7**
	2μm27nm,0.7s						
TPUB	**Ta-pu**	**14.44**	**339**	Pn	**Pn**	**12 39 06.1**	**-2.3**
SBUM	**Sibu**	**15.83**	**243**	Pn	**Pn**	**12 39 26.4**	**-0.2**
KAPI	**Kappang**	**16.16**	**204**	Pn	**P**	**12 39 33.4**	**-0.1**

0.4nm,0.3s,baz=11,slow=20,SNR=4.2
KSM Kuching 17.98 243 Pn 12 39 53.0 -0.5
SOEI Soe 19.59 186 P **P 12 40 11.9 +0.5**
SOEI IAmb IAmb 12 40 48.0
comp=Z,75nm,1.2s
UBPT Khong Chiam 21.05 287 P **P 12 40 27.4 +0.1**
NJ2 Nanjing 23.15 344 *e*P **P 12 40 50.5 +1.2**
NJ2 pmax pmax
comp=Z,15nm,0.8s
WHN Wuhan 23.42 333 P **P 12 40 52.5 +0.6**
MYKOM Kota Tinggi 23.74 252 P **P 12 40 55.9 +0.7**
SLVN Son La 24.39 301 P **P 12 41 00.7 -0.5**
LEM Lembang 24.94 229 P **P 12 41 06.5 +0.1**
comp=Z,7.8nm,0.4s,baz=276,slow=18,SNR=1.3
comp=Z,7.8nm,0.4s
KNRA Kununurra 25.48 175 P **P 12 41 11.6 +0.6**
IPM Ipoh 25.66 260 P **P 12 41 11.5 -1.3**
KULM Kulim 25.85 262 P **P 12 41 14.0 -0.5**
KULM IAmb IAmb 12 41 25.3
comp=Z,14nm,0.9s
PHRA Phrae 26.70 292 P **P 12 41 22.2 +0.2**
KSRS Korea Array 27.51 3 P **P 12 41 29.1 0.0**
comp=Z,1.8nm,0.9s,baz=181,slow=11,SNR=5.0
comp=Z,1.8nm,0.9s
LYN LuoYang 27.66 335 ⇓P **P 12 41 31.5 +1.0**
LYN sP pP 12 41 41.3 -0.1
LYN pmax pmax
comp=Z,16nm,0.7s
FITZ Fitzroy Crossi 27.79 181 P **P 12 41 31.3 -0.4**
comp=Z,8.8nm,0.6s,baz=6.5,slow=11,SNR=18
comp=Z,8.8nm,0.6s
CMAR Chiang Mai Arr 27.87 291 P **P 12 41 32.8 +0.2**
comp=Z,3.2nm,0.8s,baz=104,slow=7.4,SNR=15
comp=Z,3.2nm,0.8s
CHTO Chiang Mai 27.95 292 P **P 12 41 32.7 -0.7**
MNSI Mandailing Nat 28.09 253 P **P 12 41 35.3 +0.7**
PSI Prapat 28.11 257 P **P 12 41 34.5 -0.4**
comp=Z,3.5nm,0.3s,baz=127,slow=10,SNR=3.8
comp=Z,3.5nm,0.3s
PZH PanZhiHua 28.54 309 P **P 12 41 40.6 +2.0**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.3s
MJB9 Matsu-Tunnel 28.67 20 P **P 12 41 38.3 -1.2**
MJB9 IAmb IAmb 12 41 40.9
comp=Z,10nm,1.1s
XAN Xi'an 28.89 329 ⇓P **P 12 41 41.0 -0.5**
XAN pP pP 12 41 44.1 -8.2
XAN pmax pmax
comp=Z,36nm,0.7s
COEN Coen 28.97 144 P **P 12 41 42.3 0.0**
HNS HongShan 29.36 341 ⇓P **P 12 41 46.8 +1.2**
HNS pmax pmax
comp=Z,18nm,0.7s
CD2 Chengdu 29.66 318 P **P 12 41 47.5 -0.9**
GSI Gunungsitoli 29.83 255 P **P 12 41 49.6 -0.4**
comp=Z,31nm,1.1s
WB0 Warramunga Arr 30.49 165 P **P 12 41 55.1 -0.7**
WB0 IAmb IAmb 12 42 08.6
comp=Z,23nm,1.4s
WRA Warramunga Arr 30.64 165 P **P 12 41 56.4 -0.7**
comp=Z,1.0nm,0.4s,baz=347,slow=8.5,SNR=16
comp=Z,1.0nm,0.4s
WB2 Warramunga Arr 30.65 165 P **P 12 41 56.5 -0.7**
BJT Baijiatuau 31.37 345 P **P 12 42 03.9 +0.6**
BJT IAmb IAmb 12 42 06.2
comp=Z,6.2nm,0.8s
BJI Beijing 31.39 345 P **P 12 42 04.6 +1.1**
BJI pmax pmax
comp=Z,3.0nm,1.1s
LZH Lanzhou 33.15 325 *e*P **P 12 42 18.8 -0.4**
LZH sP pP 12 42 26.6 -3.4
LZH pmax pmax
comp=Z,9.0nm,1.2s
HHC Hu-ho-hao-te 33.52 340 ⇑*i*P **P 12 42 23.5 +1.2**
HHC pP pP 12 42 26.7 -6.0
HHC pmax pmax
comp=Z,14nm,0.9s
AS31 Alice Springs 34.13 168 P **P 12 42 27.6 -0.1**
ASAR Alice Springs 34.13 168 P **P 12 42 27.6 -0.1**
comp=Z,1.1nm,0.3s,baz=349,slow=7.3,SNR=23
comp=Z,1.1nm,0.3s
MDJ Mudanjiang 34.75 4 P **P 12 42 35.5 +2.8**
MDJ pmax pmax
comp=Z,11nm,1.6s
XLT XiLinHaoTe 35.07 347 *e*P **P 12 42 37.0 +1.4**
XLT sP pP 12 42 43.6 -2.5
XLT pmax pmax
comp=Z,9.0nm,0.6s
SHL Shillong 36.20 300 P **P 12 42 45.9 +0.2**
SHL IAmb IAmb 12 42 50.6
comp=Z,11nm,0.6s
ASAJ Asahikawa 36.93 20 P **P 12 42 52.1 +0.7**
comp=Z,4.0nm,0.7s,baz=168,slow=9.3,SNR=2.1
comp=Z,4.0nm,0.7s
JKA Kamikawa-asahi 36.94 20 P **P 12 42 52.5 +1.0**
GTA Gaotai 37.75 326 P **P 12 42 59.4 +0.7**
GTA pP pP 12 43 03.0 -6.6
GTA PcP **PcP 12 45 14.6 -0.4**
GTA pmax pmax
comp=Z,11nm,0.6s
KLR Kul'dur 39.51 6 P **P 12 43 13.4 +0.3**
comp=Z,1.5nm,0.6s,baz=198,slow=6.4,SNR=5.8
comp=Z,1.5nm,0.6s
MORW Morawa 39.95 194 P **P 12 43 16.6 -0.4**
MORW IAmb IAmb 12 43 23.8
comp=Z,9.6nm,0.6s
H11N1 WAKE ISLAND Hy 40.33 71 T T 13 26 35.4
baz=264,slow=74,SNR=30
H11N2 WAKE ISLAND Hy 40.34 71 T T 13 26 38.1
baz=264,slow=74,SNR=20
H11N3 WAKE ISLAND Hy 40.35 71 T T 13 26 36.7
baz=264,slow=74,SNR=27
FORT Forrest 40.44 178 P **P 12 43 21.2 +0.3**
ULN Ulaanbaatar 41.23 340 P **P 12 43 28.5 +1.0**
SONM Songino Array 41.43 340 P **P 12 43 30.0 +0.9**
comp=Z,2.9nm,0.8s,baz=154,slow=8.8,SNR=14
comp=Z,2.9nm,0.8s
NWAO Narrogin (SRO) 43.42 191 P **P 12 43 45.6 +0.3**
BBOO Buckleboo 43.43 168 P **P 12 43 45.4 0.0**
BBOO IAmb IAmb 12 43 58.3
comp=Z,15nm,0.7s
STKA Stephens Creek 43.99 161 P **P 12 43 49.4 -0.6**
STKA Stephens Creek 43.99 161 P **P 12 43 50.7 +0.7**
comp=Z,4.0nm,0.6s,baz=345,slow=7.0,SNR=8.0
comp=Z,4.0nm,0.6s
WMQ Urumqi 47.58 322 *e*P **P 12 44 19.8 +1.5**
WMQ pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 49.99 24 P **P 12 44 36.9 +0.4**
comp=Z,2.5nm,0.9s,baz=220,slow=2.3,SNR=5.5
comp=Z,2.5nm,0.9s
MK31 Makanchi Array 52.39 323 P **P 12 44 54.6 0.0**
MK31 IAmb IAmb 12 44 55.7
comp=Z,5.7nm,0.7s
MKAR Makanchi Array 52.39 323 P **P 12 44 54.8 +0.1**
MKAR Makanchi Array 52.39 323 P **P 12 44 54.7 0.0**
comp=Z,7.0nm,0.6s,baz=120,slow=8.3,SNR=52
comp=Z,7.0nm,0.6s
MAKZ Makanchi 52.59 323 P **P 12 44 56.1 0.0**
MAKZ IAmb IAmb 12 44 56.7
comp=Z,4.7nm,0.7s
KSH Kashi 53.55 312 P **P 12 45 04.4 +0.9**
KSH pmax pmax
comp=Z,2.0nm,0.9s
NIL Nilore 54.02 304 P **P 12 45 07.2 +0.3**
NIL IAmb IAmb 12 45 28.3
comp=Z,9.7nm,0.9s
ZAA0 Zalesovo Array 55.02 331 P **P 12 45 13.2 -0.5**
ZALV Zalesovo Beam 55.02 331 P **P 12 45 12.9 -0.8**
comp=Z,3.1nm,0.7s,baz=118,slow=6.7,SNR=15
comp=Z,3.1nm,0.7s
KURK Kurchatov 56.44 326 P **P 12 45 23.8 -0.2**
KURK IAmb IAmb 12 45 24.5
comp=Z,8.7nm,0.7s
KURBB Kurchatov Arra 56.45 326 P **P 12 45 23.6 -0.4**
comp=Z,4.4nm,0.7s,baz=128,slow=6.7,SNR=34
comp=Z,4.4nm,0.7s
GAR Garm 57.60 310 P **P 12 45 32.6 0.0**
GAR IAmb IAmb 12 46 01.4
comp=Z,6.0nm,0.8s
KBL Kabul 57.62 305 P **P 12 45 32.8 0.0**
KBL IAmb IAmb 12 45 33.1
comp=Z,4.4nm,0.7s
KK31 Karatay Array 58.58 315 P **P 12 45 38.9 -0.4**

KKAR	Karatay Array	58.58	315	P	P	12 45 38.9	-0.4
TIXI	Tiksi	61.76	1	P	P	12 46 01.0	+0.6
BVAR	Borovoye Array	62.04	325	P	P	12 46 02.4	-0.3
	comp=Z,2.7nm,0.7s,baz=120,slow=9.0,SNR=13						
	comp=Z,2.7nm,0.7s						
BRVK	Borovoye	62.11	325	P	P	12 46 03.0	-0.2
BRVK				IAmb	IAmb	12 46 03.7	
	comp=Z,4.0nm,0.7s						
HRA	Herat	63.14	304	P	P	12 46 09.9	-0.8
HRA				IAmb	IAmb	12 46 10.8	
	comp=Z,4.5nm,0.7s						
NRIK	Noril'sk	64.43	346	P	P	12 46 19.0	+0.8
NRIK				IAmb	IAmb	12 46 19.2	
	comp=Z,4.0nm,0.8s						
NRIK	Noril'sk	64.43	346	P	P	12 46 17.6	-0.6
	comp=Z,3.9nm,0.7s,baz=124,slow=6.0,SNR=5.6						
	comp=Z,3.9nm,0.7s						
ABKAR	Akbulak array	67.23	319	P	P	12 46 36.2	-0.4
UOSS	Minazif	67.95	293	P	P	12 46 40.9	-0.7
UOSS				IAmb	IAmb	12 46 55.0	
	comp=Z,5.0nm,0.9s						
ARTI	Arti	69.69	327	P	P	12 46 51.2	-0.7
ARTI				IAmb	IAmb	12 46 51.6	
	comp=Z,3.6nm,0.6s						
L16K	Owhat River	73.89	28	P	P	12 47 17.1	+0.1
L16K				IAmb	IAmb	12 47 45.5	
	comp=Z,13nm,1.4s						
D19K	Kuna River	75.60	22	IAmb	IAmb	12 47 43.6	
	comp=Z,5.3nm,1.1s						
O18K	Koktuh Hills	75.74	31	P	P	12 47 27.0	-0.7
B21K	Ikpikpuk River	77.01	21	IAmb	IAmb	12 47 41.9	
	comp=Z,4.7nm,0.7s						
RAYN	Ar Rayn	77.78	292	P	P	12 47 39.7	-0.3
RAYN				IAmb	IAmb	12 47 40.2	
	comp=Z,6.0nm,0.8s						
BRLK	Bradley Lake	77.92	31	P	P	12 47 39.9	-0.1
COLD	Coldfoot	78.45	23	P	P	12 47 42.4	-0.3
KBZ	Khabaz	78.53	313	P	P	12 47 43.2	-0.4
	comp=Z,2.6nm,0.9s,baz=129,slow=6.7,SNR=4.0						
	comp=Z,2.6nm,0.9s						
E23K	Chandalar	78.70	22	IAmb	IAmb	12 47 54.7	
	comp=Z,13nm,1.4s						
I23K	Minto, Yukon-K	78.73	25	P	P	12 47 45.9	+1.6
D24K	Happy Valley	79.02	21	P	P	12 47 45.8	0.0
F24K	Squaw Lake	79.35	23	P	P	12 47 48.3	+0.6
GURO	Guroymak-BITLI	79.50	307	P	P	12 47 50.3	+1.0
ILAR	Eielson Array	79.78	26	P	P	12 47 49.6	-0.5
	comp=Z,0.6nm,1.0s,baz=228,slow=5.2,SNR=7.1						
	comp=Z,0.6nm,1.0s						
I28M	Miner Creek	82.66	25	IAmb	IAmb	12 48 16.9	
	comp=Z,4.1nm,0.8s						
L29M	L29M	83.79	27	IAmb	IAmb	12 48 21.9	
	comp=Z,8.4nm,1.2s						
I30M	Mount Dempster	84.17	25	IAmb	IAmb	12 48 37.6	
	comp=Z,9.9nm,1.5s						
SPITS	Spitsbergen Ar	84.43	349	P	P	12 48 13.8	-0.5
	comp=Z,11nm,0.9s,baz=90,slow=6.1,SNR=2.5						
	comp=Z,11nm,0.9s						
ARCES	ARCESS Array B	84.60	340	P	P	12 48 15.3	+0.1
	comp=Z,4.3nm,0.6s,baz=76,slow=6.6,SNR=10						
ARCES				ScP		12 52 25.6	
	comp=Z,2.6nm,0.8s,baz=83,slow=6.4,SNR=5.8						
	comp=Z,4.3nm,0.6s						
BRTR	Keskin Array B	85.84	309	P	P	12 48 21.4	-0.8
	comp=Z,1.3nm,0.9s,baz=104,slow=5.2,SNR=6.9						
	comp=Z,1.3nm,0.9s						
FARO	Faro, Yukon	86.13	28	P	P	12 48 25.3	+2.2
FARO				IAmb	IAmb	12 48 26.1	
	comp=Z,5.9nm,1.1s						
FINES	FINESS Array B	86.28	332	P	P	12 48 23.6	-0.1
	comp=Z,5.6nm,0.7s,baz=55,slow=4.9,SNR=14						
FINES				ScP		12 52 32.4	
	comp=Z,2.2nm,0.6s,baz=93,slow=4.2,SNR=5.0						
	comp=Z,5.6nm,0.7s						
AKASG	Malin Array Be	86.92	321	P	P	12 48 26.9	-0.2
AKASG				IAmb	IAmb	12 48 31.4	
	comp=Z,3.6nm,1.1s						
AKASG	Malin Array Be	86.92	321	P	P	12 48 26.5	-0.6
	comp=Z,1.2nm,0.6s,baz=67,slow=3.8,SNR=6.1						
	comp=Z,1.2nm,0.6s						
AKBB	Malin Array Si	86.92	321	P	P	12 48 27.2	+0.1
AKBB				IAmb	IAmb	12 48 27.6	
	comp=Z,7.1nm,1.2s						
KIEV	Kiev	86.93	321	P	P	12 48 27.2	0.0
KIEV				IAmb	IAmb	12 48 27.6	
	comp=Z,5.8nm,1.1s						
VNDA	Vanda	89.51	173	P	P	12 48 38.9	+0.1
	comp=Z,3.5nm,1.0s,baz=333,slow=5.1,SNR=2.1						
	comp=Z,3.5nm,1.0s						
HFS	Hagfors	92.44	332	P	P	12 48 51.8	-1.0
	comp=Z,2.2nm,0.6s,baz=98,slow=5.1,SNR=7.1						
	comp=Z,2.2nm,0.6s						
NB2	NORSAR Subarra	93.15	334	P	P	12 48 55.1	-1.1
	comp=Z,1.9nm,0.9s,baz=59,slow=5.3						
NOA	NORSAR Array B	93.15	334	P	P	12 48 55.0	-1.1
	comp=Z,1.2nm,0.7s,baz=65,slow=4.5,SNR=5.5						
	comp=Z,1.2nm,0.7s						
YKA	Yellowknife Ar	94.11	24	P	P	12 48 59.4	-1.0
	comp=Z,0.8nm,0.8s,baz=297,slow=4.7,SNR=9.7						
	comp=Z,0.8nm,0.8s						
GERES	GERESS Array B	97.05	322	P	P	12 49 13.7	-0.7
	comp=Z,0.9nm,0.7s,baz=16,slow=7.3,SNR=3.9						
	comp=Z,0.9nm,0.7s						
PLCA	Paso Flores	145.81	157	PKPbc	PKPbc	12 55 21.3	-0.3
	comp=Z,2.1nm,0.8s,baz=202,slow=4.6,SNR=4.3						

*IDC **08** 12:37:54.5±0.6, 9.76N×126.30E, h0km, mb4.3/20, mbtmp4.2/20, Error ellipse: s-maj=31.0km s-min=13.7km az=75.0*

*NEIC **08** 12:37:58.7±1.9, 9.82N±0.08×126.53E±0.10, h10km±1km, mb4.7/76, Error ellipse: s-maj=16.2km s-min=13.2km az=86.0*

ISC 08 12:38:01.5±0.4, 9.76N±0.05×126.45E±0.09, h42km, n116, σ1.21/113, mb4.6/56, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.80	198	Pn	Pn	12 38 45.7	+1.8
MYLDM	Lahad Datu	9.10	241	Pn	Pn	12 40 11.7	+1.4
LUWI	Luwuk	11.33	199	Pn	Pn	12 40 41.1	+0.1
FAKI	Fak Fak	13.85	155	Pn	Pn	12 41 14.9	-0.5
TPUB	Ta-pu	14.57	338		P	12 41 29.6	-1.2
SOEI	Soe	19.50	186	P	Pn	12 42 25.8	-1.2
SOEI				IAmb	IAmb	12 42 50.4	
	comp=Z,69nm,1.3s						
MYKOM	Kota Tinggi	23.82	252	P	P	12 43 12.4	+1.5
MYKOM				IAmb	IAmb	12 43 16.3	
	comp=Z,18nm,0.8s						
SLVN	Son La	24.54	301	P	P	12 43 18.9	+1.4
KNRA	Kununurra	25.37	175	P	P	12 43 25.6	+0.7
IPM	Ipoh	25.76	260	P	P	12 43 29.9	+1.3
IPM				IAmb	IAmb	12 43 32.4	
	comp=Z,25nm,1.1s						
KULM	Kulim	25.95	262	P	P	12 43 30.5	+0.2
FITZ	Fitzroy Crossi	27.69	182	P	P	12 43 46.5	+0.6
FITZ	Fitzroy Crossi	27.69	182	P	P	12 43 44.7	-1.1
	comp=Z,23nm,0.7s,baz=6.0,slow=8.1,SNR=11						
	comp=Z,23nm,0.7s						
CMAR	Chiang Mai Arr	28.01	291	P	P	12 43 47.5	-1.3
	comp=Z,0.4nm,0.3s,baz=101,slow=9.0,SNR=1.1						
	comp=Z,0.4nm,0.3s						
MAJO	Matsushiro	28.72	20	P	P	12 43 55.6	+0.7
MAJO				IAmb	IAmb	12 44 20.6	
	comp=Z,16nm,1.2s						
MJB9	Matsu-Tunnel	28.72	20	P	P	12 43 54.8	-0.1
MJB9				IAmb	IAmb	12 44 21.6	
	comp=Z,15nm,1.2s						
COEN	Coen	28.82	145	P	P	12 43 55.7	-0.2
COEN				IAmb	IAmb	12 43 59.9	
	comp=Z,18nm,1.5s						
GSI	Gunungsitoli	29.91	255	P	P	12 44 06.7	+1.0
GSI				IAmb	IAmb	12 44 08.9	
	comp=Z,11nm,0.8s						
JSD	Sado	30.10	19	P	P	12 44 07.5	+0.4
JSD				IAmb	IAmb	12 44 29.7	
	comp=Z,20nm,0.9s						
WB0	Warramunga Arr	30.36	165	P	P	12 44 08.8	-0.8
WRA	Warramunga Arr	30.52	165	P	P	12 44 10.9	-0.1
WRA	Warramunga Arr	30.52	165	P	P	12 44 10.2	-0.8
	comp=Z,0.9nm,0.5s,baz=340,slow=7.6,SNR=1.7						
	comp=Z,0.9nm,0.5s						
WB2	Warramunga Arr	30.52	165	P	P	12 44 10.7	-0.3
WB2				IAmb	IAmb	12 44 25.9	
	comp=Z,19nm,1.4s						
WR0	Warramunga Arr	30.58	165	P	P	12 44 12.3	+0.8
WR0				IAmb	IAmb	12 44 18.4	
	comp=Z,11nm,1.1s						
PSA00	Pilbara Seismi	31.80	192	P	P	12 44 22.1	-0.2
PSA00				IAmb	IAmb	12 44 33.6	
	comp=Z,20nm,1.1s						
AS31	Alice Springs	34.01	168	P	P	12 44 41.1	-0.5
ASAR	Alice Springs	34.01	168	P	P	12 44 41.3	-0.3
ASAR	Alice Springs	34.01	168	P	P	12 44 39.9	-1.7
	comp=Z,1.2nm,0.3s,baz=348,slow=8.6,SNR=9.7						
	comp=Z,1.2nm,0.3s						
JKA	Kamikawa-asahi	36.99	19	P	P	12 45 06.1	-0.8
KLR	Kul'dur	39.60	5	P	P	12 45 27.9	-0.9
	comp=Z,2.2nm,0.6s,baz=190,slow=4.9,SNR=8.0						
	comp=Z,2.2nm,0.6s						
MORW	Morawa	39.88	194	P	P	12 45 31.1	-0.3
MORW				IAmb	IAmb	12 45 33.2	
	comp=Z,11nm,0.6s						
H11N1	WAKE ISLAND Hy	40.25	71	T	T	13 28 55.4	
	baz=265,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	40.26	71	T	T	13 28 55.7	
	baz=265,slow=75,SNR=8.6						
H11N3	WAKE ISLAND Hy	40.27	71	T	T	13 28 52.2	
	baz=265,slow=75,SNR=12						
FORT	Forrest	40.33	178	P	P	12 45 35.0	-0.1
ULN	Ulaanbaatar	41.36	340	P	P	12 45 44.6	+1.0
SONM	Songino Array	41.56	340	P	P	12 45 43.3	-1.9
	comp=Z,0.6nm,0.4s,baz=155,slow=10,SNR=7.7						
	comp=Z,0.6nm,0.4s						
EIDS	Eidsvold	42.36	146	P	P	12 45 51.6	-0.3
EIDS				IAmb	IAmb	12 45 56.4	
	comp=Z,17nm,1.4s						
BBOO	Buckleboo	43.31	168	P	P	12 45 58.7	-0.7
NWAO	Narrogin (SRO)	43.34	191	P	P	12 45 59.6	-0.1
STKA	Stephens Creek	43.86	161	P	P	12 46 03.1	-0.7
STKA				IAmb	IAmb	12 46 23.5	
	comp=Z,19nm,1.5s						
STKA	Stephens Creek	43.86	161	P	P	12 46 02.7	-1.2
	comp=Z,2.5nm,0.5s,baz=336,slow=10.0,SNR=4.0						
	comp=Z,2.5nm,0.5s						
PETK	Petropavlovsk-	50.03	24	P	P	12 46 52.1	+0.3
PETK	Petropavlovsk-	50.03	24	P	P	12 46 52.3	+0.5
	comp=Z,2.3nm,0.7s,baz=164,slow=2.6,SNR=1.8						
	comp=Z,2.3nm,0.7s						
TOO	Toolangi	50.35	160	P	P	12 46 54.2	-0.2
TOO				IAmb	IAmb	12 47 19.8	
	comp=Z,6.5nm,1.1s						
DZM	Mont Dzumac	50.39	129	P	P	12 46 55.1	+0.1
YAK	Yakutsk	52.23	2	P	P	12 47 10.7	+2.6
YAK				IAmb	IAmb	12 47 32.3	
	comp=Z,9.4nm,0.6s						
MK31	Makanchi Array	52.54	323	P	P	12 47 10.3	-0.5
MKAR	Makanchi Array	52.54	323	P	P	12 47 10.1	-0.7
MKAR	Makanchi Array	52.54	323	P	P	12 47 10.0	-0.8
	comp=Z,1.5nm,0.5s,baz=122,slow=6.6,SNR=8.6						
	comp=Z,1.5nm,0.5s						
MAKZ	Makanchi	52.73	323	P	P	12 47 11.2	-1.0
BOOM	Boomskoye usch	54.76	316	P	P	12 47 28.6	+1.3
ZALV	Zalesovo Beam	55.16	331	P	P	12 47 30.0	+0.3
ZALV	Zalesovo Beam	55.16	331	P	P	12 47 27.7	-2.0
	comp=Z,1.0nm,0.6s,baz=143,slow=7.4,SNR=3.0						
	comp=Z,1.0nm,0.6s						
KURBB	Kurchatov Arra	56.59	326	P	P	12 47 37.3	-2.7
	comp=Z,1.3nm,0.5s,baz=123,slow=6.9,SNR=3.5						
	comp=Z,1.3nm,0.5s						
GAR	Garm	57.76	310	P	P	12 47 48.9	+0.2
GAR				IAmb	IAmb	12 48 00.1	
	comp=Z,10nm,1.4s						
KKAR	Karatay Array	58.74	315	P	P	12 47 56.0	+0.7
TIXI	Tiksi	61.86	1	P	P	12 48 17.3	+1.3
TIXI				IAmb	IAmb	12 48 19.4	
	comp=Z,4.3nm,0.8s						
BVAR	Borovoye Array	62.19	325	P	P	12 48 15.7	-2.9
	comp=Z,0.7nm,0.5s,baz=93,slow=7.2,SNR=1.9						
	comp=Z,0.7nm,0.5s						
LBZ	Lake Benmore	66.84	147	P	P	12 48 50.5	+1.4
RPZ	Rata Peaks	66.86	146	P	P	12 48 49.6	+0.3
LTZ	Lake Taylor	66.93	145	P	P	12 48 51.1	+1.4
BKZ	Black Stump Fm	67.28	140	P	P	12 48 53.1	+1.1
ABKAR	Akbulak array	67.38	319	P	P	12 48 52.5	0.0
ABKAR				IAmb	IAmb	12 49 05.8	
	comp=Z,6.0nm,1.5s						
KHZ	Kahutara	67.43	144	P	P	12 48 52.8	-0.1
L14K	Kuka Creek	72.35	29	P	P	12 49 24.5	+1.7
L14K				IAmb	IAmb	12 49 36.8	
	comp=Z,14nm,1.2s						
M14K	Bethel	72.57	29	P	P	12 49 25.9	+1.8
N15K	Kwethluk River	73.38	30	P	P	12 49 30.4	+1.5
L16K	Owhat River	73.93	28	P	P	12 49 33.2	+1.1
L16K				IAmb	IAmb	12 49 33.8	
	comp=Z,11nm,1.3s						
M16K	Timber Creek	74.06	29	P	P	12 49 34.1	+1.1
M16K				IAmb	IAmb	12 49 54.3	
	comp=Z,17nm,1.4s						
O16K	Kokwok River B	74.29	31	P	P	12 49 35.8	+1.6
O16K				IAmb	IAmb	12 49 37.1	
	comp=Z,12nm,1.1s						
E18K	Tukpahlearik C	74.52	23	P	P	12 49 37.1	+1.6
M17K	Holitna River	74.85	29	P	P	12 49 39.1	+1.6
D19K	Kuna River	75.65	22	P	P	12 49 43.6	+1.6
D19K				IAmb	IAmb	12 49 58.2	
	comp=Z,12nm,1.5s						
G19K	Purcell Mounta	75.66	24	P	P	12 49 43.3	+1.2
O18K	Koktuh Hills	75.77	31	P	P	12 49 44.7	+1.8
E19K	Redstone River	75.81	23	P	P	12 49 44.2	+1.3
E19K				IAmb	IAmb	12 49 46.9	
	comp=Z,5.8nm,1.3s						
H19K	Roundabout Mou	75.84	25	P	P	12 49 44.9	+1.9
B21K	Ikpikpuk River	77.06	21	P	P	12 49 51.1	+1.2
B21K				IAmb	IAmb	12 49 52.1	
	comp=Z,4.7nm,0.8s						
H21K	Melozitna River	77.36	25	P	P	12 49 53.4	+1.7
B22K	Teshekpuk Lake	77.55	20	P	P	12 49 53.9	+1.3
B22K				IAmb	IAmb	12 49 54.5	
	comp=Z,7.0nm,0.8s						
E22K	Anaktuvuk Pass	77.93	22	P	P	12 49 56.0	+1.1
SUA	Susitna One	78.06	29	P	P	12 49 56.3	+0.5
SUA				IAmb	IAmb	12 49 57.3	
	comp=Z,4.5nm,0.9s						
TOLK	Toolik Lake Re	78.78	22	P	P	12 50 00.9	+1.3
TOLK				IAmb	IAmb	12 50 01.6	
	comp=Z,4.0nm,0.8s						
MCK	McKinley	78.94	27	P	P	12 50 01.3	+0.8
MCK				IAmb	IAmb	12 50 01.7	
	comp=Z,4.0nm,0.7s						
F24K	Squaw Lake	79.39	23	P	P	12 50 04.7	+1.7
SCM	Sheep Creek Mo	79.69	29	P	P	12 50 03.8	-1.0
SCM				IAmb	IAmb	12 50 08.1	
	comp=Z,5.9nm,0.9s						
ILAR	Eielson Array	79.82	26	P	P	12 50 05.1	-0.2
ILAR	Eielson Array	79.82	26	P	P	12 50 04.4	-0.9
	comp=Z,0.7nm,0.7s,baz=245,slow=5.5,SNR=10						
	comp=Z,0.7nm,0.7s						
D25K	Kavik River	79.94	21	P	P	12 50 07.0	+1.0
M24K	Tolsona, Glenn	80.22	28	P	P	12 50 09.1	+1.5
M24K				IAmb	IAmb	12 50 31.8	
	comp=Z,25nm,1.5s						
E25K	Arctic Village	80.27	22	P	P	12 50 09.4	+1.7
BMAR	Burnt Mountain	80.67	23	P	P	12 50 11.7	+1.8
J26L	Joseph Creek	81.27	26	P	P	12 50 13.4	+0.3
D27M	Malcolm River	81.87	21	P	P	12 50 18.0	+1.8
BCAR	Beaver Creek A	82.18	27	P	P	12 50 19.6	+1.6
I28M	Miner Creek	82.70	25	P	P	12 50 22.6	+1.9
I28M				IAmb	IAmb	12 50 25.1	
	comp=Z,6.1nm,0.7s						
H29M	Whitestone	83.24	24	P	P	12 50 24.5	+1.2
EPYK	Eagle Plains	83.87	24	P	P	12 50 28.3	+1.7
EPYK				IAmb	IAmb	12 50 30.0	
	comp=Z,6.5nm,1.2s						
I30M	Mount Dempster	84.22	25	P	P	12 50 29.9	+1.4
I30M				IAmb	IAmb	12 50 30.3	
	comp=Z,3.5nm,0.8s						
HYT	Haines Junctio	84.50	29	P	P	12 50 31.6	+1.6
HYT				IAmb	IAmb	12 50 32.6	
	comp=Z,4.6nm,0.8s						
SPITS	Spitsbergen Ar	84.55	349	P	P	12 50 29.1	-0.8
	comp=Z,9.1nm,0.9s,baz=81,slow=8.9,SNR=5.3						
	comp=Z,9.1nm,0.9s						
ARCES	ARCESS Array B	84.73	340	P	P	12 50 30.5	-0.4
ARCES	ARCESS Array B	84.73	340	P	P	12 50 30.3	-0.6
	comp=Z,3.4nm,0.7s,baz=59,slow=4.7,SNR=10						
	comp=Z,3.4nm,0.7s						
N31M	Braeburn, Yuko	85.20	28	P	P	12 50 35.0	+1.6
N31M				IAmb	IAmb	12 50 35.5	
	comp=Z,6.2nm,0.9s						
FARO	Faro, Yukon	86.16	28	P	P	12 50 39.6	+1.4
FARO				IAmb	IAmb	12 50 40.3	
	comp=Z,5.3nm,0.8s						
FIA1	FINESS Array S	86.42	332	P	P	12 50 38.5	-0.9
FINES	FINESS Array B	86.42	332	P	P	12 50 38.7	-0.7
FINES	FINESS Array B	86.42	332	P	P	12 50 38.5	-0.9
	comp=Z,3.2nm,0.5s,baz=60,slow=4.4,SNR=12						
	comp=Z,3.2nm,0.5s						
AKASG	Malin Array Be	87.07	321	P	P	12 50 41.5	-1.3
	comp=Z,0.2nm,0.3s,baz=62,slow=5.2,SNR=4.1						
	comp=Z,0.2nm,0.3s						
HFS	Hagfors	92.58	332	P	P	12 51 06.6	-1.8
	comp=Z,1.9nm,0.6s,baz=104,slow=6.3,SNR=7.1						
	comp=Z,1.9nm,0.6s						
NOA	NORSAR Array B	93.29	334	P	P	12 51 10.0	-1.8
	comp=Z,0.7nm,0.6s,baz=93,slow=5.3,SNR=2.6						
	comp=Z,0.7nm,0.6s						
YKA	Yellowknife Ar	94.15	24	P	P	12 51 15.6	-0.1
	comp=Z,1.4nm,0.6s,baz=297,slow=4.8,SNR=17						
	comp=Z,1.4nm,0.6s						
SCHQ	Schefferville	114.69	8	PKP	PKiKP	12 56 36.9	-0.4
	comp=Z,1.8nm,0.6s,baz=353,slow=7.3,SNR=7.5						
TORD	Torodi Ar. Bea	120.62	292	PKP	PKPdf	12 56 48.9	-1.0
	comp=Z,0.3nm,0.4s,baz=66,slow=1.7,SNR=5.1						
PLCA	Paso Flores	145.67	157	PKPbc	PKPdf	12 57 35.6	-0.3
	comp=Z,2.8nm,0.6s,baz=244,slow=2.6,SNR=7.0						

*TXNET **08** 12:38:55.9, 32.0N±0.7×102.3W±0.7, h7km±1km, ML2.6/13, Error ellipse: s-maj=1.2km s-min=0.9km az=48.2, final*

*NEIC **08** 12:38:56.1±1.3, 32.01N±0.02×102.32W±0.02, h10km±8km, mb_Lg2.5/15, ML2.1/12, Error ellipse: s-maj=3.3km s-min=2.5km az=192.0*

ISC 08 12:38:56.0±1.0, 31.98N±0.02×102.30W±0.02, h9km±9km, n52, σ0.66/75, 2C-3D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	Odessa	0.25	304	Pg	Pg	12 39 01.3	+0.2
ODSA				Sg	Sg	12 39 05.0	+0.5
ODSA				IAML		12 39 08.1	
	299nm,0.6s						
ODSA	Odessa	0.25	304	⇑P	Pg	12 39 01.2	+0.1
ODSA				S	Sg	12 39 04.9	+0.5
TMB04	Seminole	0.66	346	⇑P	Pg	12 39 08.8	0.0
TMB04				S	Sg	12 39 17.9	+0.4
MNHN	Monahans	0.75	211		Pg	12 39 10.2	-0.2
MNHN				Sg	Sg	12 39 19.8	-0.4
MNHN	Monahans	0.75	211	⇓P	Pg	12 39 10.0	-0.5
MNHN				S	Sg	12 39 19.7	-0.4
TMB02	Rankin	0.81	164	P	Pg	12 39 11.5	-0.2
TMB02				S	Sg	12 39 22.4	+0.1
TPB06	Permian Basin	0.85	247	P	Pg	12 39 12.1	-0.2
TPB06				S	Sg	12 39 23.3	0.0
NM01	Eunice	1.00	292	P	Pg	12 39 14.8	-0.4
NM01				S	Sg	12 39 28.2	0.0
SGCY	Sterling City	1.00	94	Pg	Pg	12 39 14.7	-0.6
SGCY				Sg	Sg	12 39 28.3	0.0
SGCY				IAML		12 39 31.9	
	54nm,1.0s						
SGCY				IAML		12 39 33.2	
	49nm,0.3s						
SGCY	Sterling City	1.00	94	P	Pg	12 39 14.8	-0.4
SGCY				S	Sg	12 39 28.2	-0.1
TPB08	Permian Basin	1.20	206	P	Pb	12 39 18.8	-0.2
TPB08				S	Sg	12 39 34.9	+0.2
HTMS	Hat Mesa	1.23	294	Pg	Pb	12 39 19.0	-0.5
HTMS	Hat Mesa	1.23	294	P	Pb	12 39 19.0	-0.5
HTMS				S	Sg	12 39 35.3	-0.3
TPB07	Mentone	1.23	251	P	Pb	12 39 19.2	-0.3
TPB07				S	Sn	12 39 36.4	+0.1
POST	Post	1.28	32	Pn	Pn	12 39 19.2	-0.8
POST					Sb	12 39 36.5	-0.4
POST	Post	1.28	32	P	Pn	12 39 19.3	-0.8
POST				S	Sb	12 39 36.2	-0.7
SN08	Arah	1.32	52	P	Pn	12 39 20.4	-0.3
SN08				S	Sg	12 39 38.3	-0.2
SN08	Arah	1.32	52	P	Pn	12 39 20.8	0.0
CLN7	Carlsbad 7	1.35	289	Pn	Pn	12 39 21.2	+0.1
CLN7	Carlsbad 7	1.35	289	P	Pn	12 39 21.2	+0.1
CLNB	Carlsbad	1.37	282	P	Pb	12 39 21.6	-0.2
CLNB				S	Sn	12 39 39.8	+0.1
TPB03	Saragosa	1.37	229	P	Pn	12 39 21.3	0.0
TPB03				S	Sn	12 39 40.0	+0.3
TPB05	Hovey Rd	1.37	220	⇓P	Pn	12 39 21.3	-0.2
TPB05				S	Sb	12 39 39.8	+0.3
TPB10	Southeast of T	1.42	241	P	Pn	12 39 22.1	0.0
TPB10				Pg	Pg	12 39 23.2	0.0
OZNA	Ozona	1.46	136	Pn	Pb	12 39 23.3	-0.1
OZNA					Sg	12 39 42.8	-0.1
OZNA	Ozona	1.46	136	P	Pb	12 39 23.2	-0.2
OZNA				S	Sg	12 39 42.8	-0.1
PECS	Pecos	1.47	246		Pn	12 39 22.8	+0.1
PECS					Sn	12 39 41.4	-0.7
PECS	Pecos	1.47	246	⇓P	Pn	12 39 22.8	+0.1
TPB11	China Draw	1.47	269	P	Pn	12 39 23.2	+0.4
TPB11				S	Sb	12 39 42.8	+0.3
SN01	Snyder 1	1.48	53	P	Pb	12 39 23.6	-0.2
SN03	Snyder 3	1.49	50	P	Pb	12 39 23.8	-0.1
SN05	Snyder 5	1.50	53		Pn	12 39 23.5	+0.4
SN05	Snyder 5	1.50	53	P

n746,σ1§28/684,mb5.1/226,MS4.5/7,21C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.89	197		Pn	12 46 24.3	-0.2
DAV	Davao City (W)	2.89	197	Pn	Pn	12 46 20.9	-3.6
	73nm,0.3s,baz=250,slow=23,SNR=1.5						
DAV				Sn	Sn	12 47 01.6	+2.7
	145nm,0.3s,baz=182,slow=19,SNR=7.5						
	185nm,0.3s						
DAV	Davao City (W)	2.89	197	P	Pg	12 46 35.0	+0.3
TGY	Tagaytay City	6.83	309	Pn	Pn	12 47 17.9	-0.9
	73nm,0.3s,baz=144,slow=5.3,SNR=6.2						
TGY				LR	LR	12 50 34.6	
	comp=Z,2μm,18.5s,baz=150,slow=44						
	90nm,0.3s						
TNTI	Ternate	9.07	174	Pn	Pn	12 47 48.2	-1.4
TNTI	Ternate	9.07	174	P	Pn	12 48 05.5	+16
MYLDM	Lahad Datu	9.12	240	Pn	Pn	12 47 50.0	-0.1
MRSI	Marisa	10.33	206	P	Pn	12 48 12.0	+5.3
	63nm,1.1s						
TOLI2	Tolitoli	10.34	213	Pn	Pn	12 48 06.3	-0.6
KKM	Kota Kinabalu	10.79	250	Pn	Pn	12 48 13.2	0.0
LUWI	Luwuk	11.42	199	Pn	Pn	12 48 21.0	-0.6
LUWI	Luwuk	11.42	199	P	Pn	12 48 31.5	+10
	134nm,1.0s						
APSI	Ampana	11.70	204	P	Pn	12 48 48.9	+23
SANI	Sanana	11.83	182	P	Pn	12 48 29.3	+1.9
	43nm,1.1s						
MSAI	Masohi	13.35	169	P	P	12 48 59.4	+1.8
TWG	Pinlang	13.87	339		Pn	12 48 54.5	-0.7
FAKI	Fak Fak	13.95	155	Pn	Pn	12 48 55.1	-1.3
FAKI	Fak Fak	13.95	155	P	Pn	12 48 58.8	+2.4
	51nm,0.9s						
KDI	Kendari	14.23	196	P	P	12 49 14.3	+6.9
YULB	Yu-li	14.33	341	Pn	Pn	12 49 00.2	-1.2
TTSI	Tana Toraja	14.40	207	P	P	12 49 08.9	-0.4
	44nm,0.8s						
TPUB	Ta-pu	14.47	338	Pn	Pn	12 49 03.1	-0.3
SSLB	Suanglung	14.81	340	Pn	Pn	12 49 06.5	-1.6
SPSI	Sidrap Palu	15.24	206	P	P	12 49 24.0	+5.3
YHNB	Yeheng	15.50	343	Pn	Pn	12 49 16.4	-0.8
YHNB				IAmb	IAmb	12 49 18.5	
	comp=Z,180nm,1.8s						
BBSI	Bau Bau	15.71	194	P	P	12 49 31.5	+7.6
SBUM	Sibu	15.91	243	Pn	Pn	12 49 22.7	+0.1
KAPI	Kappang	16.20	205		Pn	12 49 27.1	+0.9
KAPI	Kappang	16.20	205	Pn	Pn	12 49 23.2	-3.0
	comp=Z,0.4nm,0.3s,baz=129,slow=17,SNR=1.7						
KAPI				LR	LR	12 55 54.3	
	comp=Z,761nm,20.5s,baz=36,slow=39						
	comp=Z,6.1nm,0.9s						
KAPI	Kappang	16.20	205	P	P	12 49 33.9	+4.6
KNMB	Chin-men Tao	16.42	333	Pn	Pn	12 49 29.1	+0.1
SMPI	Sarmi	16.98	133	P	P	12 49 39.1	+1.1
	comp=Z,107nm,1.4s						
JOW	Kunigami	16.98	6	Pn	Pn	12 49 35.0	-1.1
JOW				IAmb	IAmb	12 49 44.9	
	comp=Z,221nm,1.4s						
JOW	Kunigami	16.98	6	P	Pn	12 49 37.5	+1.4
	comp=Z,2.3nm,0.3s,baz=196,slow=10.0,SNR=7.6						
	comp=Z,15nm,0.8s						
STKI	Sintang	17.77	238	P	P	12 49 51.6	+4.9
	comp=Z,42nm,0.9s						
KSM	Kuching	18.05	244	P	Pn	12 49 49.7	+0.2
GUMO	Guam	18.44	77	LR	LR	12 55 11.4	
	comp=Z,264nm,20.5s,baz=156,slow=31						
QIZ	Qiongzhong	18.45	301	P	Pn	12 49 55.7	+1.4
QIZ				S	Sn	12 53 22.4	+2.2
GENI	Genyem	18.45	131	P	Pn	12 50 05.5	+11
JAY	Jayapura	18.80	130	P	P	12 49 56.0	-2.1
	comp=Z,0.7nm,0.3s,baz=329,slow=5.9,SNR=4.3						
	comp=Z,21nm,0.8s						
MMRI	Maumere	18.83	193	P	P	12 49 56.8	-1.6
MMRI	Maumere	18.83	193	P	Pn	12 50 08.3	+9.3
SOEI	Soe	19.60	186	P	P	12 50 06.7	-0.3
SOEI				IAmb	IAmb	12 50 18.0	
	comp=Z,68nm,0.8s						
SOEI	Soe	19.60	186	P	Pn	12 50 13.6	+5.3
SOEI	Soe	19.60	186	P	Pn	12 50 13.0	+4.7
	comp=Z,122nm,0.8s						
PLAI	Plampang	20.46	205	P	Pn	12 50 25.1	+6.8
TWSI	Taliwang, Sumb	20.77	208	P	Pn	12 50 26.5	+4.5
	comp=Z,39nm,1.1s						
KMMI	Kalianget	20.88	217	P	Pn	12 50 26.1	+2.9
	comp=Z,51nm,1.1s						
UBPT	Khong Chiam	21.14	287	P	P	12 50 23.5	0.0
TPI	Tanjungpandan	22.50	237	P	P	12 50 47.7	+9.5
NGJI	Ngawi	22.69	222	P	P	12 50 55.9	+16
JCJ	Chichijima	22.71	39	P	P	12 50 39.8	-0.5
MTN	Manton Dam	23.03	168	P	P	12 50 43.6	-0.1
MTN				IAmb	IAmb	12 50 49.4	
	comp=Z,108nm,1.2s						
SMRI	Semarang	23.14	224	P	P	12 50 45.4	+0.5
SMRI				IAmb	IAmb	12 51 05.9	
	comp=Z,113nm,1.1s						
NJ2	Nanjing	23.18	343	⇓P	P	12 50 46.8	+1.7
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
WHN	Wuhan	23.46	333	P	P	12 50 49.5	+1.6
WHN				pmax	pmax		
	comp=Z,80nm,0.9s						
PPBI	Pangkal Pinang	23.46	240	P	P	12 50 52.8	+4.6
JNU	Nakatsue	23.52	9	P	P	12 50 48.9	+0.3
JNU				IAmb	IAmb	12 50 51.1	
	comp=Z,167nm,1.9s						
JNU	Nakatsue	23.52	9	P	P	12 50 48.7	+0.1
	comp=Z,20nm,0.9s,baz=177,slow=18,SNR=8.1						
	comp=Z,20nm,0.9s						
UGM	Wanagama	23.71	222	P	P	12 50 51.0	+0.5
MYKOM	Kota Tinggi	23.82	252	P	P	12 50 52.8	+1.2
MYKOM				IAmb	IAmb	12 50 56.2	
	comp=Z,78nm,0.8s						
SLVN	Son La	24.47	300	P	P	12 50 56.8	-0.8
JMN	Monobe	24.73	15	P	P	12 50 59.3	-0.6
GYA	Guiyang	24.94	314	⇑P	P	12 51 04.9	+2.9
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KNRA	Kununurra	25.47	175	P	P	12 51 06.9	+0.3
IPM	Ipoh	25.75	260	P	P	12 51 09.6	+0.3
IPM				IAmb	IAmb	12 51 13.8	
	comp=Z,58nm,0.9s						
KULM	Kulim	25.94	262	P	P	12 51 11.4	+0.5
CGJI	Cibinong	26.34	232	P	P	12 51 26.0	+11
MDSI	Maura Dua	26.34	238	P	P	12 51 15.5	+0.9
	comp=Z,51nm,1.1s						
SRIT	Nakonsritamara	26.50	270	P	P	12 51 16.3	+0.3
PHRA	Phrae	26.78	292	P	P	12 51 18.2	-0.3
INU	Inuyama	27.16	19	P	P	12 51 22.6	+0.9
KSAR	Wonju Array Be	27.50	3	P	P	12 51 24.6	-0.2
KSAR	Wonju Array Be	27.50	3	P	P	12 51 24.6	-0.2
KSRS	Korea Array	27.51	3	P	P	12 51 25.8	+0.9
	comp=Z,9.5nm,0.9s,baz=181,slow=10,SNR=24						
KSRS				LR	LR	13 04 32.0	
	comp=Z,281nm,18.1s,baz=205,slow=41						
	comp=Z,9.5nm,0.9s						
KS19	Wonju Array Si	27.56	2	P	P	12 51 25.9	+0.6
KS19				IAmb	IAmb	12 51 26.8	
	comp=Z,49nm,1.4s						
TIA	Tai'an	27.56	344	P	P	12 51 26.2	+0.8
TIA				pmax	pmax		
	comp=Z,33nm,0.9s						
LYN	LuoYang	27.70	335	⇑P	P	12 51 27.2	+0.5
LYN				pP	sP	12 51 31.2	-1.7
LYN				pmax	pmax		
	comp=Z,30nm,0.8s						
FITZ	Fitzroy Crossi	27.78	182	P	P	12 51 25.9	-1.6
FITZ	Fitzroy Crossi	27.78	182	P	P	12 51 25.9	-1.6
	comp=Z,31nm,0.6s,baz=351,slow=10,SNR=25						
	comp=Z,31nm,0.6s						
PPI	Padang Panjang	27.85	250	P	P	12 51 28.7	+0.5
	comp=Z,1μmcomp=Z,41nm,1.1s						
CM31	Chiang Mai Arr	27.95	291	P	P	12 51 30.2	+1.1
CMAR	Chiang Mai Arr	27.95	291	P	P	12 51 29.2	+0.1
	comp=Z,2.3nm,0.3s,baz=103,slow=7.2,SNR=24						
CMAR				PcP	PcP	12 54 44.8	+0.4
	comp=Z,0.7nm,0.4s,baz=87,slow=1.5,SNR=5.3						
CMAR				ScP	ScP	12 58 26.7	+2.1
	comp=Z,0.4nm,0.3s,baz=88,slow=3.4,SNR=1.5						
	comp=Z,2.3nm,0.3s						
CMAR	Chiang Mai Arr	27.95	291	*i* P	P	12 51 29.7	+0.6
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHTO	Chiang Mai	28.04	292	P	P	12 51 29.7	-0.2
CHTO	Chiang Mai	28.04	292	P	P	12 51 29.7	-0.2
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MNSI	Mandailing Nat	28.17	253	P	P	12 51 31.4	+0.3
PSI	Prapat	28.19	257	P	P	12 51 31.9	+0.5
PSI				pmax	pmax		
	comp=Z,26nm,1.1s						
RPSI	Rantau Prapat	28.22	257	P	P	12 51 31.9	+0.3
PZH	PanZhiHua	28.61	309	P	P	12 51 37.3	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
MJAR	Matsushiro Arr	28.64	20	P	P	12 51 34.4	-0.7
	comp=Z,5.6nm,1.0s,baz=184,slow=8.1,SNR=6.7						
MJAR				LR	LR	13 03 11.7	
	comp=Z,449nm,19.0s,baz=220,slow=37						
	comp=Z,5.6nm,1.0s						
COEN	Coen	28.91	145	P	P	12 51 36.4	-1.2
XAN	Xi'an	28.93	329	⇑P	P	12 51 37.1	-0.6
XAN				pP	pP	12 51 40.6	-1.2
XAN				pmax	pmax		
	comp=Z,64nm,0.7s						
XAN				LR	LR		
	comp=Z,1μm,9.6s						
XAN				LR	LR		
	comp=Z,1μm,10.8s						
XAN				LR	LR		
	comp=Z,2μm,10.1s						
DL2	Dalian	29.25	352	P	P	12 51 42.6	+2.3
DL2				pmax	pmax		
	comp=Z,15nm,0.8s						
SISI	Saibi	29.39	249	P	P	12 51 41.8	-0.1
	comp=Z,56nm,1.0s						
HNS	HongShan	29.39	341	⇑P	P	12 51 42.6	+1.0
HNS				pmax	pmax		
	comp=Z,59nm,1.0s						
CD2	Chengdu	29.72	318	P	P	12 51 43.3	-1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GSI	Gunungsitoli	29.91	255	P	P	12 51 46.3	-0.2
GSI				IAmb	IAmb	12 51 49.5	
	comp=Z,31nm,0.7s						
GSI	Gunungsitoli	29.91	255	P	P	12 51 46.7	+0.1
	comp=Z,42nm,0.9s						
WB0	Warramunga Arr	30.46	165	P	P	12 51 49.0	-2.3
TIY	Taiyuan	30.47	338	*e*P	P	12 51 52.4	+1.1
TIY				pmax	pmax		
	comp=Z,24nm,0.9s						
WRAB	Tennant Creek	30.61	165	P	P	12 51 49.8	-2.8
WRA	Warramunga Arr	30.62	165	P	P	12 51 51.2	-1.5
WRA	Warramunga Arr	30.62	165	P	P	12 51 49.9	-2.8
	comp=Z,1.5nm,0.5s,baz=345,slow=8.0,SNR=14						
	comp=Z,1.5nm,0.5s						
WRA	Warramunga Arr	30.62	165	P	P	12 51 51.2	-1.5
WB2	Warramunga Arr	30.62	165	P	P	12 51 50.9	-1.8
WB2				IAmb	IAmb	12 51 52.3	
	comp=Z,78nm,1.9s						
WR0	Warramunga Arr	30.69	165	P	P	12 51 51.2	-2.1
WR0				IAmb	IAmb	12 52 33.0	
	comp=Z,51nm,1.7s						
JMM	Marumori	30.75	23	P	P	12 51 52.9	-0.7
BJT	Baijiatuau	31.39	345	P	P	12 52 00.0	+0.7
BJT				IAmb	IAmb	12 52 01.8	
	comp=Z,71nm,1.5s						
BJT	Baijiatuau	31.39	345	P	P	12 52 00.0	+0.7
BJT				pmax	pmax		
	comp=Z,71nm,1.5s						
BJI	Beijing	31.41	345	P	P	12 52 00.3	+0.8
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
MBWA	Marble Bar	31.51	192	P	P	12 51 59.4	-1.1
MBWA				IAmb	IAmb	12 52 00.1	
	comp=Z,48nm,1.3s						
PSA00	Pilbara Seismi	31.89	192	P	P	12 52 02.6	-1.2
PSA00				IAmb	IAmb	12 52 03.4	
	comp=Z,44nm,1.1s						
PSA00	Pilbara Seismi	31.89	192	P	P	12 52 03.3	-0.6
MSHR	Mys Shultsa	32.86	6	*i* P	P	12 52 12.0	-0.2
MSHR				pmax	pmax		
	comp=Z,14nm,0.9s						
QIS	Mount Isa	32.89	157	P	P	12 52 11.0	-1.7
MTSU	Mount Surprise	32.95	147	P	P	12 52 12.9	-0.3
LZH	Lanzhou	33.20	325	*e*P	P	12 52 15.7	+0.2
LZH				sP	pwP	12 52 22.9	-2.2
LZH				PcP	PcP	12 54 58.6	+0.5
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC	Hu-ho-hao-te	33.56	339	⇑*i*P	P	12 52 19.9	+1.5
HHC				pP	pwP	12 52 25.4	-2.4
HHC				pmax	pmax		
	comp=Z,36nm,1.1s						
CN2	Changchun	33.83	359	*e*P	P	12 52 22.9	+2.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BTO	Baotou	33.90	337	*e*P	P	12 52 17.9	-3.5
AS31	Alice Springs	34.11	168	P	P	12 52 21.8	-1.5
ASAR	Alice Springs	34.11	168	P	P	12 52 22.1	-1.2
ASAR	Alice Springs	34.11	168	P	P	12 52 20.9	-2.4
	comp=Z,1.6nm,0.4s,baz=353,slow=7.1,SNR=33						
ASAR				PcP	PcP	12 54 59.2	-1.4
	comp=Z,2.7nm,0.7s,baz=348,slow=2.9,SNR=6.6						
	comp=Z,1.6nm,0.4s						
USA0B	Ussuriysk Arra	34.56	7	P	P	12 52 27.9	+1.0
USA0B				IAmb	IAmb	12 52 29.6	
	comp=Z,36nm,1.3s						
USA0B	Ussuriysk Arra	34.56	7	P	P	12 52 27.9	+1.0
USA0B				pmax	pmax		
	comp=Z,36nm,1.3s						
USRK	Ussuriysk Ar.	34.56	7	P	P	12 52 27.2	+0.3
USRK	Ussuriysk Ar.	34.56	7	P	P	12 52 27.0	+0.1
	comp=Z,10nm,0.8s,baz=191,slow=7.8,SNR=16						
	comp=Z,10nm,0.8s						
USRK	Ussuriysk Ar.	34.56	7	P	P	12 52 27.2	+0.3
WRKA	Warakurna	34.73	177	P	P	12 52 27.8	-0.8
MDJ	Mudanjiang	34.74	4	P	P	12 52 29.7	+1.2
MDJ				IAmb	IAmb	12 52 31.7	
	comp=Z,49nm,1.2s						
MDJ	Mudanjiang	34.74	4	P	P	12 52 29.9	+1.4
MDJ				SS	SS	13 00 17.7	-11
MDJ				pmax	pmax		
	comp=Z,42nm,1.2s						
XLT	XiLinHaoTe	35.09	347	*e*P	P	12 52 32.8	+1.2
XLT				pmax	pmax		
	comp=Z,31nm,0.7s						
BNX	BinXian	35.77	1	⇓P	P	12 52 38.4	+1.1
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
SHL	Shillong	36.28	300	P	P	12 52 41.4	-0.8
SHL				IAmb	IAmb	12 52 47.4	
	comp=Z,28nm,0.8s						
SHL	Shillong	36.28	300	P	P	12 52 41.4	-0.8
SHL				pmax	pmax		
	comp=Z,28nm,0.8s						
ASAJ	Asahikawa	36.91	20	P	P	12 52 48.3	+1.2
	comp=Z,16nm,0.9s,baz=237,slow=7.6,SNR=5.0						
	comp=Z,16nm,0.9s						
MEEK	Meekatharra	37.06	192	P	P	12 52 47.4	-1.2
GTA	Gaotai	37.81	326	P	P	12 52 55.5	+0.5
GTA				pP	sP	12 52 58.8	-2.4
GTA				PcP	PcP	12 55 11.8	+0.3
GTA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	Lhasa	38.39	306	P	P	12 52 59.9	-0.5
LSA	Lhasa	38.39	306	P	P	12 52 59.9	-0.5
LSA				pmax	pmax		
	comp=Z,12nm,1.2s						
GOMU	GeErMu	38.85	317	P	P	12 53 03.8	-0.3
GOMU				sP	pwP	12 53 10.9	-2.1
GOMU				PcP	PcP	12 55 14.7	-0.4
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
YSS	Yuzhno-Sakhali	39.50	18	P	P	12 53 09.9	+1.1
YSS	Yuzhno-Sakhali	39.50	18	*e*P	P	12 53 10.2	+1.3
YSS				pmax	pmax		
	comp=Z,19nm,0.7s						
KLR	Kul'dur	39.50	5	P	P	12 53 09.4	+0.5
	comp=Z,7.8nm,0.8s,baz=204,slow=5.4,SNR=26						
KLR				PcP	PcP	12 55 16.3	-0.1
	comp=Z,3.1nm,1.0s,baz=172,slow=1.3,SNR=4.3						
	comp=Z,7.8nm,0.8s						
KLR	Kul'dur	39.50	5	*e*P	P	12 53 08.9	0.0
KLR				pmax	pmax		
	comp=Z,23nm,1.5s						
HIA	Hailar	39.68	353	P	P	12 53 11.1	+0.7
HIA	Hailar	39.68	353	P	P	12 53 11.1	+0.7
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
INKA	Innaminka	39.87	160	P	P	12 53 12.5	+0.4
	comp=Z,30nm,0.7s						
H11S3	WAKE ISLAND Hy	39.90	73	T	T	13 36 09.5	
	baz=262,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy	39.91	73	T	T	13 36 07.8	
	baz=262,slow=75,SNR=21						
H11S2	WAKE ISLAND Hy	39.92	73	T	T	13 36 08.9	
	baz=262,slow=75,SNR=23						
MORW	Morawa	39.97	194	P	P	12 53 12.3	-0.7
MORW				IAmb	IAmb	12 53 13.0	
	comp=Z,56nm,1.1s						
MORW	Morawa	39.97	194	P	P	12 53 12.1	-0.9
H11N1	WAKE ISLAND Hy	40.25	71	T	T	13 36 36.2	
	baz=264,slow=74,SNR=69						
H11N2	WAKE ISLAND Hy	40.26	71	T	T	13 36 36.7	
	baz=264,slow=74,SNR=45						
H11N3	WAKE ISLAND Hy	40.27	71	T	T	13 36 37.3	
	baz=264,slow=74,SNR=58						
HEH	HeiHe	40.28	1	*e*P	P	12 53 15.9	+0.5
HEH				pmax	pmax		
	comp=Z,17nm,1.0s						
FORT	Forrest	40.43	178	P	P	12 53 15.9	-0.9
FORT	Forrest	40.43	178	P	P	12 53 16.9	+0.1
KMBL	Kambalda	41.22	186	P	P	12 53 22.5	-0.8
ULN	Ulaanbaatar	41.26	340	P	P	12 53 24.0	+0.3
ULN	Ulaanbaatar	41.26	340	*ce*P	P	12 53 24.8	+1.1
ULN				pmax	pmax		
	comp=Z,27nm,1.7s						
BLDU	Ballidu	41.30	193	P	P	12 53 23.0	-1.0
SONM	Songino Array	41.46	340	P	P	12 53 26.0	+0.7
SONM	Songino Array	41.46	340	P	P	12 53 25.6	+0.3
	comp=Z,3.4nm,0.5s,baz=156,slow=9.6,SNR=20						
	comp=Z,3.4nm,0.5s						
SONM	Songino Array	41.46	340	P	P	12 53 26.0	+0.7
SONM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GRNR	Gornyy	41.62	10	⇑*i*P	P	12 53 28.4	+2.0
GRNR				pmax	pmax		
	comp=Z,20nm,1.2s						
KLBR	Kellerberrin	42.04	191	P	P	12 53 28.9	-1.1
EIDS	Eidsvold	42.46	146	P	P	12 53 33.0	-0.5
EIDS				IAmb	IAmb	12 53 33.7	
	comp=Z,96nm,1.9s						
TYV	Tymovskoe	43.02	15	*e*P	P	12 53 40.2	+2.4
TYV				pmax	pmax		
	comp=Z,11nm,1.4s						
TYV				pmax	pmax		
	comp=Z,500nm,4.6s						
CIT	Chita	43.34	348	*e*P	P	12 53 42.0	+1.6
CIT				*e*		12 53 52.2	
CIT				pmax	pmax		
	comp=Z,128nm,1.6s						
BBOO	Buckleboo	43.41	168	P	P	12 53 40.0	-1.2
BBOO				IAmb	IAmb	12 53 46.5	
	comp=Z,34nm,0.8s						
BBOO	Buckleboo	43.41	168	P	P	12 53 39.9	-1.2
NWAO	Narrogin (SRO)	43.43	191	P	P	12 53 40.9	-0.4
NWAO	Narrogin (SRO)	43.43	191	P	P	12 53 40.9	-0.4
NWAO				pmax	pmax		
	comp=Z,100nm,1.1s						
ZEA	Zeya	43.77	1	*e*P	P	12 53 44.6	+0.8
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
STKA	Stephens Creek	43.96	161	P	P	12 53 44.3	-1.3
STKA	Stephens Creek	43.96	161	P	P	12 53 44.0	-1.6
	comp=Z,14nm,1.0s,baz=339,slow=6.9,SNR=10						
	comp=Z,14nm,1.0s						
STKA	Stephens Creek	43.96	161	P	P	12 53 44.3	-1.3
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAK	Zakamensk	44.70	339	*e*P	P	12 53 51.6	+0.1
ZAK				*e*		12 55 33.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
IRK	Irkutsk	45.95	341	*e*P	P	12 54 02.2	+1.0
IRK				pmax	pmax		
	comp=Z,25nm,1.5s						
MOY	Mondy	46.58	338	*e*P	P	12 54 07.0	+0.7
MOY				pmax	pmax		
	comp=Z,18nm,1.8s						
HYB	Hyderabad	47.02	285	*e*P	P	12 54 09.7	-0.5
HYB				IVmB_BB		12 54 10.6	
	comp=Z,264nm,1.3s						
WMQ	Urumqi	47.64	322	*e*P	P	12 54 17.2	+2.5
WMQ				PcP	PcP	12 55 42.8	-1.4
WMQ				ScP	ScP	12 59 36.1	-1.7
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
PETK	Petropavlovsk-	49.95	24	P	P	12 54 32.3	+0.1
PETK	Petropavlovsk-	49.95	24	P	P	12 54 33.2	+1.0
	comp=Z,9.9nm,0.8s,baz=193,slow=2.7,SNR=16						
PETK				LR	LR	13 17 57.3	
	comp=Z,147nm,18.0s,baz=248,slow=39						
	comp=Z,9.9nm,0.8s						
PET	Petropavlovsk	50.28	25	P	P	12 54 35.4	+0.7
TOO	Toolangi	50.45	160	P	P	12 54 36.4	+0.3
TOO				IAmb	IAmb	12 54 47.9	
	comp=Z,37nm,1.9s						
TOO	Toolangi	50.45	160	P	P	12 54 36.4	+0.3
TOO				pmax	pmax		
	comp=Z,37nm,1.9s						
DZM	Mont Dzumac	50.47	129	P	P	12 54 36.3	-0.4
DZM	Mont Dzumac	50.47	129	P	P	12 54 36.0	-0.7
	comp=Z,5.7nm,0.6s,baz=299,slow=13,SNR=6.1						
	comp=Z,5.7nm,0.6s						
ZSN	Zaisan	51.29	325	*e*P	P	12 54 41.6	-0.8
ZSN	Zaisan	51.29	325	*e*P	P	12 54 41.6	-0.8
WUS	Wushi	51.92	315	P	P	12 54 47.5	+0.1
YAK	Yakutsk	52.14	2	P	P	12 54 49.1	+0.7
YAK	Yakutsk	52.14	2	*c i*P	P	12 54 49.3	+0.9
YAK				*e**PP	sP	12 54 52.0	-1.9
YAK				*e*S	S	13 02 23.8	+12
YAK				*e**SS	sS	13 02 32.9	+15
YAK				pmax	pmax		
	comp=Z,45nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.4s						
MK31	Makanchi Array	52.45	323	P	P	12 54 50.9	-0.2
MK31	Makanchi Array	52.45	323	*ce*P	P	12 54 50.9	-0.2
MKAR	Makanchi Array	52.45	323	P	P	12 54 50.8	-0.3
	comp=E,10nm,0.6s,baz=123,slow=8.1,SNR=128						
MKAR				PcP	PcP	12 56 01.1	-0.6
	comp=E,3.8nm,0.7s,baz=101,slow=4.2,SNR=4.2						
MKAR				ScP	ScP	12 59 57.0	-1.3
	comp=E,1.8nm,1.0s,baz=123,slow

KSH LR LR
comp=Z,660nm,13.1s
TDK Taldyqorghan 54.02 319 *eP* **P 12 55 01.6 -1.1**
TDK pmax pmax
comp=Z,10.0nm,1.4s
TDK Taldyqorghan 54.02 319 *eP* **P 12 55 01.6 -1.1**
comp=Z,10nm,1.4s
NIL Nilore 54.09 304 P **P 12 55 03.1 -0.3**
NIL lAmb lAmb 12 55 18.0
comp=Z,18nm,0.8s
NIL Nilore 54.09 304 P **P 12 55 03.1 -0.3**
NIL pmax pmax
comp=Z,18nm,0.8s
MDOK Medeo 54.17 317 *eP* **P 12 55 02.7 -1.3**
MDOK Medeo 54.17 317 *eP* **P 12 55 02.7 -1.3**
AAA Alma-Ata 54.28 317 *eP* **P 12 55 03.1 -1.5**
AAA pmax pmax
comp=Z,17nm,0.8s
AAA Alma-Ata 54.28 317 *eP* **P 12 55 03.2 -1.5**
comp=Z,17nm,0.8s
ZAA0 Zalesovo Array 55.06 331 P **P 12 55 09.3 -0.7**
ZALV Zalesovo Beam 55.06 331 P **P 12 55 09.0 -1.0**
ZALV Zalesovo Beam 55.06 331 P **P 12 55 09.2 -0.9**
comp=Z,3.5nm,0.4s,baz=117,slow=6.8,SNR=28
comp=Z,3.5nm,0.4s
AAK Ala-Archa 55.72 315 P **P 12 55 15.5 +0.2**
AAK Ala-Archa 55.72 315 P **P 12 55 15.5 +0.2**
AAK pmax pmax
comp=Z,22nm,1.8s
SEY Seymchan 56.19 14*ceP* **P 12 55 19.9 +2.0**
SEY pmax pmax
comp=Z,27nm,1.7s
ARSB Arslanbob 56.36 313 P **P 12 55 18.9 -0.9**
ARSB Arslanbob 56.36 313 P **P 12 55 18.9 -0.9**
ARSB pmax pmax
comp=Z,5.0nm,1.4s
KURK Kurchatov 56.49 326 P **P 12 55 20.0 -0.3**
KURK lAmb lAmb 12 55 20.9
comp=Z,17nm,0.8s
KURK Kurchatov 56.49 326*ceP* **P 12 55 20.1 -0.3**
KURK pmax pmax
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 56.50 325 P **P 12 55 19.9 -0.5**
comp=Z,7.9nm,0.7s,baz=128,slow=6.6,SNR=77
comp=Z,7.9nm,0.7s
KURBB Kurchatov Arra 56.50 325 P **P 12 55 18.8 -1.6**
DRK Karamyk 56.68 311 P **P 12 55 22.2 -0.1**
DRK Karamyk 56.68 311 P **P 12 55 22.2 -0.1**
DRK pmax pmax
comp=Z,7.0nm,0.6s
BTLS Baital 56.88 318 *eP* **P 12 55 22.1 -1.1**
BTLS Baital 56.88 318 *eP* **P 12 55 22.2 -1.1**
BTK Batken 57.57 311 P **P 12 55 28.4 +0.1**
BTK Batken 57.57 311 P **P 12 55 28.4 +0.1**
BTK pmax pmax
comp=Z,9.0nm,1.1s
GAR Garm 57.67 310 P **P 12 55 28.6 -0.5**
GAR lAmb lAmb 12 55 29.3
comp=Z,18nm,0.7s
KBL Kabul 57.69 305 P **P 12 55 28.6 -0.8**
KBL lAmb lAmb 12 55 29.4
comp=Z,12nm,0.8s
KBL Kabul 57.69 305 P **P 12 55 28.6 -0.8**
KBL pmax pmax
comp=Z,12nm,0.8s
DZA Taraz 58.01 315 *eP* **P 12 55 29.9 -1.4**
DZA Taraz 58.01 315 *eP* **P 12 55 29.9 -1.4**
CHGR Chuyangaron 58.46 309 P **P 12 55 33.9 -0.7**
CHGR lAmb lAmb 12 55 38.4
comp=Z,23nm,1.1s
CHGR Chuyangaron 58.46 309 P **P 12 55 33.9 -0.7**
CHGR pmax pmax
comp=Z,23nm,1.1s
SIMJ Simiganj 58.58 309 P **P 12 55 34.7 -0.8**
KK31 Karatay Array 58.65 315 P **P 12 55 35.0 -0.7**
KK31 Karatay Array 58.65 315 P **P 12 55 35.0 -0.7**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 58.65 315 P **P 12 55 35.0 -0.8**
KKAR Karatay Array 58.65 315 P **P 12 55 35.0 -0.8**
BRLS Borolday 59.10 314 *eP* **P 12 55 38.2 -0.7**
BRLS pmax pmax
comp=Z,8.0nm,1.2s
BRLS Borolday 59.10 314 *eP* **P 12 55 38.2 -0.7**
comp=Z,7.9nm,1.2s
BRZS Berezniki 59.60 323 *eP* **P 12 55 41.3 -0.8**
BRZS Berezniki 59.60 323 *eP* **P 12 55 41.4 -0.8**
TIXI Tiksi 61.76 1 P **P 12 55 56.9 +0.4**
TIXI Tiksi 61.76 1*ceP* **P 12 55 57.1 +0.6**
TIXI pmax pmax
comp=Z,25nm,1.0s
BVAR Borovoye Array 62.09 325 P **P 12 55 58.9 -0.2**
comp=Z,6.8nm,0.8s,baz=140,slow=9.5,SNR=8.6
comp=Z,6.8nm,0.8s
BRVK Borovoye 62.16 325 P **P 12 55 59.2 -0.3**
BRVK lAmb lAmb 12 55 60.0
comp=Z,10nm,0.8s
BRVK Borovoye 62.16 325*ceP* **P 12 55 59.3 -0.3**
BRVK pmax pmax
comp=Z,36nm,2.5s
HRA Herat 63.22 304 P **P 12 56 06.3 -0.9**
HRA lAmb lAmb 12 56 07.1
comp=Z,9.0nm,0.7s
BILL Bilibino 63.76 16 P **P 12 56 10.7 +0.8**
BILL lAmb lAmb 12 56 12.1
comp=Z,31nm,1.3s
BILL Bilibino 63.76 16*ceP* **P 12 56 11.0 +1.1**
BILL pmax pmax
comp=Z,34nm,1.5s
NRIK Noril'sk 64.45 346 P **P 12 56 14.9 +0.5**
NRIK Noril'sk 64.45 346 P **P 12 56 14.9 +0.5**
comp=Z,16nm,0.9s,baz=124,slow=6.8,SNR=22
comp=Z,16nm,0.9s
NRIK Noril'sk 64.45 346*ceP* **P 12 56 14.9 +0.5**
NRIK pmax pmax
comp=Z,42nm,1.4s
MRNZ Matariki Terra 66.43 144 P **P 12 56 27.5 -0.1**
RPZ Rata Peaks 66.96 146 P **P 12 56 30.3 -0.7**
comp=Z,6.8nm,0.5s,baz=330,slow=3.3,SNR=9.7
comp=Z,6.8nm,0.5s
OXZ Oxford 67.25 146 P **P 12 56 32.7 -0.1**
URZ Urewera 67.26 139 P **P 12 56 32.0 -1.0**
comp=Z,6.5nm,0.7s,baz=342,slow=3.2,SNR=1.8
comp=Z,6.5nm,0.7s
AB31 Akbulak array 67.28 319 *i* P **P 12 56 31.7 -1.3**
ABKAR Akbulak array 67.28 319 P **P 12 56 32.4 -0.7**
BKZ Black Stump Fm 67.37 140 P **P 12 56 33.8 0.0**
RTZ Ruatahuna 67.37 139 P **P 12 56 33.6 -0.2**
SPIA Saint Paul Isl 67.45 32 P **P 12 56 35.3 +1.4**
baz=252
P08K Saint George I 67.65 33 P **P 12 56 37.0 +1.8**
baz=253
UOSS Minazif 68.03 293 P **P 12 56 36.7 -1.5**
UNV Unalaska Valle 68.63 36 P **P 12 56 42.5 +1.1**
baz=257
SVE Sverdlovsk 68.64 327 *eP* **P 12 56 40.7 -0.7**
SVE pmax pmax
comp=Z,16nm,1.3s
AKTO Aktyubinsk 68.74 320 P **P 12 56 39.8 -2.4**
LVA Lava Point 68.97 36 P **P 12 56 42.9 -0.7**
GAMB Gambell 68.98 25 P **P 12 56 45.1 +1.7**
baz=249
ARTI Arti 69.74 327 P **P 12 56 47.0 -1.3**
ARTI lAmb lAmb 12 56 47.5
comp=Z,7.1nm,0.6s
ARTI Arti 69.74 327*c i* P **P 12 56 47.5 -0.7**
ARTI 12 59 20.4
ARTI S **S 13 05 57.4 +1.0**
ARTI SS **SS 13 10 22.3 -2.4**
ARTI pmax pmax
comp=Z,12nm,1.4s
M11K Mekoryuk 70.38 29 P **P 12 56 52.5 +0.5**
baz=255
FALS False Pass 70.61 35 P **P 12 56 54.0 +0.4**
baz=259
K13K Kusilvak Mount 71.50 28 P **P 12 57 00.7 +1.9**
baz=256
F14K Arctic Creek 71.73 24 P **P 12 57 01.4 +1.3**
baz=253
M13K Dall Lake 71.76 29 P **P 12 57 01.7 +1.3**
baz=258
ANM Nome 71.86 25 P **P 12 57 02.7 +1.7**
baz=254
J14K Nanvaranak Lak 72.19 27 P **P 12 57 03.9 +0.9**
J14K lAmb lAmb 12 57 05.9
comp=Z,28nm,1.4s
J14K Nanvaranak Lak 72.19 27 P **P 12 57 04.5 +1.6**
baz=257
L14K Kuka Creek 72.28 29 P **P 12 57 05.2 +1.7**
L14K Kuka Creek 72.28 29 P **P 12 57 05.1 +1.6**
baz=258
F15K North Star Dit 72.46 24 P **P 12 57 05.2 +0.6**
F15K lAmb lAmb 12 57 07.3
comp=Z,36nm,1.6s
F15K North Star Dit 72.46 24 P **P 12 57 05.7 +1.1**
baz=255
N14K Kuskokwak Cree 72.47 30 P **P 12 57 05.6 +0.9**
baz=259
M14K Bethel 72.50 29 P **P 12 57 06.5 +1.7**
M14K Bethel 72.50 29 P **P 12 57 06.1 +1.2**
baz=259
G15K Niukluk 72.53 25 P **P 12 57 06.0 +1.0**
baz=256
O14K Tigyukauivet M 72.56 31 P **P 12 57 06.7 +1.4**
baz=260
CHNA Chernabura Isl 72.79 36 P **P 12 57 07.6 +1.0**
baz=263
L15K Ungalak Mounta 72.91 28 P **P 12 57 09.3 +2.0**
baz=259
C16K Lisburne Hills 72.91 21 P **P 12 57 08.7 +1.5**
C16K lAmb lAmb 12 57 09.8
comp=Z,34nm,1.3s
C16K Lisburne Hills 72.91 21 P **P 12 57 08.9 +1.8**
baz=253
S14K Fog Glacier 73.00 34 P **P 12 57 09.1 +1.1**
baz=262
K15K Wolf Creek Mou 73.01 28 P **P 12 57 08.9 +1.0**
K15K lAmb lAmb 12 57 49.3
comp=Z,41nm,1.4s
K15K Wolf Creek Mou 73.01 28 P **P 12 57 09.2 +1.3**
baz=259
M15K Kasigluk River 73.10 29 P **P 12 57 10.1 +1.6**
baz=260
H16K Elim 73.19 25 P **P 12 57 10.2 +1.3**
baz=257
O15K Ungalikthiuk R 73.28 31 P **P 12 57 10.8 +1.2**
baz=261
N15K Kwethluk River 73.31 30 P **P 12 57 11.0 +1.3**
baz=261
G16K Koyuk River 73.31 24 P **P 12 57 10.4 +0.8**
G16K Koyuk River 73.31 24 P **P 12 57 11.2 +1.6**
baz=257
D17K Noatak River 73.58 22 P **P 12 57 13.0 +1.9**
baz=256,SNR=20
J16K Anvik River 73.62 27 P **P 12 57 12.9 +1.4**
baz=259
I17K Unalakleet 73.69 26 P **P 12 57 13.3 +1.4**
baz=259
RDOG Red Dog Mine 73.73 22 P **P 12 57 13.5 +1.5**
baz=256,SNR=7.8
C17K DeLong Mountai 73.74 21 P **P 12 57 13.9 +1.8**
baz=255
L16K Owhat River 73.86 28 P **P 12 57 13.9 +1.0**
L16K Owhat River 73.86 28 P **P 12 57 14.6 +1.7**
baz=261,SNR=8.8
E17K Hotham Inlet 73.90 23 P **P 12 57 14.1 +1.0**
baz=257,SNR=9.8
F17K Baldwin Pennin 73.98 23 P **P 12 57 14.2 +0.7**
F17K lAmb lAmb 12 57 16.3
comp=Z,50nm,1.6s
F17K Baldwin Pennin 73.98 23 P **P 12 57 15.2 +1.7**
baz=258
M16K Timber Creek 73.99 29 lAmb lAmb 12 57 16.4
comp=Z,37nm,1.2s
M16K Timber Creek 73.99 29 P **P 12 57 15.3 +1.6**
baz=261,SNR=6.6
G17K Kiwalik Mounta 74.03 24 P **P 12 57 15.0 +1.2**
baz=258
P16K Nushagak River 74.20 31 P **P 12 57 16.0 +1.1**
baz=263
O16K Kokwok River B 74.22 31 P **P 12 57 16.1 +1.1**
baz=262
H17K Granite Mounta 74.22 25 P **P 12 57 16.0 +1.0**
baz=259
R16K Pilot Point 74.24 33 P **P 12 57 16.2 +1.0**
baz=264
J17K VABM Dome 74.31 27 lAmb lAmb 12 57 18.5
comp=Z,34nm,1.4s
J17K VABM Dome 74.31 27 P **P 12 57 16.9 +1.4**
baz=260
E18K Tukpahlearik C 74.44 23 P **P 12 57 17.6 +1.4**
E18K lAmb lAmb 12 57 18.5
comp=Z,15nm,0.9s
E18K Tukpahlearik C 74.44 23 P **P 12 57 17.9 +1.7**
baz=258
B18K Kokolik River 74.44 20 P **P 12 57 17.7 +1.5**
baz=256
L17K Donlin 74.47 28 P **P 12 57 18.2 +1.7**
baz=262
C18K Utukok River 74.49 21 P **P 12 57 17.7 +1.2**
baz=257
K17K Iditarod 74.56 28 P **P 12 57 18.0 +1.0**
baz=261
F18K Selawik 74.64 23 P **P 12 57 18.4 +1.0**
baz=259,SNR=14
O17K Koliganek Bris 74.74 31 P **P 12 57 19.3 +1.2**
baz=263
M17K Holitna River 74.78 29 P **P 12 57 20.1 +1.8**
M17K lAmb lAmb 12 57 21.5
comp=Z,38nm,1.1s
M17K Holitna River 74.78 29 P **P 12 57 20.1 +1.8**
baz=263
N17K Nushagak Hills 74.79 30 P **P 12 57 19.6 +1.2**
N17K Nushagak Hills 74.79 30 P **P 12 57 20.0 +1.7**
baz=263
KIRV Kirov 74.88 328*ceP* **P 12 57 18.4 -0.4**
H18K Honhosa River 74.91 25 lAmb lAmb 12 57 21.3
comp=Z,37nm,1.7s
H18K Honhosa River 74.91 25 P **P 12 57 20.1 +1.1**
baz=261
G18K Tagagawik 74.91 24 P **P 12 57 19.8 +0.8**
baz=260
P17K Kvichak River 75.01 31 P **P 12 57 21.0 +1.3**
baz=264
AKT Akhty 75.08 310 *eP* **P 12 57 20.0 -0.6**
AKT *e* 12 57 34.8
AKT pmax pmax
comp=Z,26nm,1.0s
Q17K Contact Creek 75.21 32 P **P 12 57 21.5 +0.6**
baz=265
L18K Granite Mounta 75.23 28 lAmb lAmb 12 57 23.9
comp=Z,34nm,1.4s
L18K Granite Mounta 75.23 28 P **P 12 57 22.1 +1.2**
baz=263
J18K Innoko River 75.38 27 lAmb lAmb 12 57 24.9
comp=Z,23nm,1.6s
J18K Innoko River 75.38 27 P **P 12 57 22.5 +0.8**
baz=263
F19K Shaleruckik Mo 75.42 23 lAmb lAmb 12 57 24.0
comp=Z,21nm,1.5s
F19K Shaleruckik Mo 75.42 23 P **P 12 57 22.8 +1.0**
baz=261
BELG Belogornoye 75.42 322 *i* P **P 12 57 22.8 +0.7**
BELG pmax pmax
comp=Z,8.0nm,1.0s
N18K Kilae Creek 75.44 30 P **P 12 57 23.2 +1.1**
baz=264
GCSA Galena City Sc 75.47 26 P **P 12 57 23.5 +1.4**
baz=262,SNR=10
M18K Stony River 75.56 29 P **P 12 57 23.6 +0.9**
baz=264
D19K Kuna River 75.57 22 P **P 12 57 23.9 +1.2**
baz=260
G19K Purcell Mounta 75.59 24 P **P 12 57 23.9 +1.0**
G19K Purcell Mounta 75.59 24 P **P 12 57 24.0 +1.2**
baz=262
TTA Tatalina 75.63 27 P **P 12 57 24.3 +1.0**
baz=264
P18K Big Mountain, 75.65 31 P **P 12 57 24.4 +1.0**
baz=265
O18K Koktuh Hills 75.70 31 P **P 12 57 24.9 +1.3**
baz=265,SNR=7.9
E19K Redstone River 75.73 23 lAmb lAmb 12 57 26.4
comp=Z,29nm,1.2s
E19K Redstone River 75.73 23 P **P 12 57 24.8 +1.2**
baz=261
H19K Roundabout Mou 75.76 25 lAmb lAmb 12 57 26.7
comp=Z,20nm,0.9s
H19K Roundabout Mou 75.76 25 P **P 12 57 25.0 +1.2**
baz=262
J19K Poorman 75.92 26 lAmb lAmb 12 57 27.5
comp=Z,19nm,1.4s
J19K Poorman 75.92 26 P **P 12 57 26.2 +1.4**
baz=264
KNHH Kane Nui o Ham 75.94 72 P **P 12 57 25.8 -0.1**
SII Sitkinak Islan 76.00 34 P **P 12 57 26.4 +1.0**
baz=267
L19K White Mountain 76.08 28 P **P 12 57 27.0 +1.2**
baz=265
N19K Bonanza Creek 76.14 30 lAmb lAmb 12 57 29.1
comp=Z,24nm,0.9s
N19K Bonanza Creek 76.14 30 P **P 12 57 27.3 +1.1**
baz=265
D20K Etivluk River 76.15 21 P **P 12 57 27.3 +1.3**
baz=261
O19K Port Alsworth 76.17 30 lAmb lAmb 12 57 28.6
comp=Z,24nm,1.1s
O19K Port Alsworth 76.17 30 P **P 12 57 27.1 +0.9**
baz=266
E20K Nigu River 76.24 22 P **P 12 57 27.9 +1.3**
baz=262
F20K Avaraart Lake 76.25 23 P **P 12 57 28.1 +1.5**
baz=263
M19K Big River Lodg 76.28 29 lAmb lAmb 12 57 30.5
comp=Z,25nm,1.4s
M19K Big River Lodg 76.28 29 P **P 12 57 28.2 +1.3**
baz=265
H20K Anotleneega Mo 76.41 25 P **P 12 57 28.7 +1.1**
baz=264,SNR=12
Q19K Cape Douglas, 76.43 32 P **P 12 57 28.6 +0.8**
baz=267
I20K Naaghedeneel 76.50 26 P **P 12 57 27.8 -0.2**
I20K lAmb lAmb 12 57 31.0
comp=Z,23nm,0.8s
I20K Naaghedeneel 76.50 26 P **P 12 57 29.6 +1.5**
baz=264
OHAK Old Harbor 76.52 33 P **P 12 57 29.2 +0.9**
baz=267
K20K Telida 76.55 27 P **P 12 57 28.3 -0.1**
K20K lAmb lAmb 12 57 32.1
comp=Z,35nm,1.7s
K20K Telida 76.55 27 P **P 12 57 29.1 +0.7**
baz=265
A21K Barrow 76.55 19 P **P 12 57 29.5 +1.3**
baz=261
L20K Farewell, AK 76.56 28 P **P 12 57 29.4 +0.9**
baz=266
J20K Nowinta River 76.59 26 P **P 12 57 29.6 +1.0**
J20K lAmb lAmb 12 57 32.2
comp=Z,19nm,1.2s
J20K Nowinta River 76.59 26 P **P 12 57 29.6 +1.0**
baz=265,SNR=6.9
P19K Oil Pt 76.68 31 P **P 12 57 30.6 +1.3**
baz=267
C21K Knifeblade Rid 76.86 21 P **P 12 57 31.6 +1.5**
baz=263
M20K Styx River 76.87 29 P **P 12 57 31.6 +1.3**
baz=266
KDAK Kodiak Island 76.93 33 P **P 12 57 31.4 +0.8**
baz=268
B21K Ikpikpuk River 76.98 21 P **P 12 57 32.1 +1.5**
baz=263
Q20K Shuyak Island 77.06 32 P **P 12 57 31.8 +0.5**
baz=268
G21K Allakaket 77.07 24 lAmb lAmb 12 57 33.9
comp=Z,26nm,1.1s
G21K Allakaket 77.07 24 P **P 12 57 32.4 +1.1**
baz=265
E21K Killik River 77.08 22 lAmb lAmb 12 57 33.8
comp=Z,22nm,1.0s
E21K Killik River 77.08 22 P **P 12 57 32.9 +1.6**
baz=264
F21K Alatna River 77.14 23 P **P 12 57 33.0 +1.3**
baz=265
SPCR Spurr Chakacha 77.27 29 P **P 12 57 33.3 +0.7**
baz=267
H21K Melozitna Rive 77.28 25 lAmb lAmb 12 57 35.2
comp=Z,32nm,1.5s
H21K Melozitna Rive 77.28 25 P **P 12 57 33.2 +0.8**
baz=266,SNR=11
CHUM Lake Minchumin 77.37 27 P **P 12 57 33.8 +0.9**
baz=267
PPLA Purkeypile 77.37 28 P **P 12 57 33.7 +0.5**
baz=267
CAST Castle Rocks 77.44 27 P **P 12 57 34.5 +1.1**
CAST Castle Rocks 77.44 27 P **P 12 57 34.3 +0.8**
baz=267,SNR=12
B22K Teshekpuk Lake 77.47 20 P **P 12 57 34.9 +1.5**
B22K lAmb lAmb 12 57 35.8
comp=Z,27nm,0.9s
B22K Teshekpuk Lake 77.47 20 P **P 12 57 34.5 +1.1**
baz=264
D22K Ayikyak River 77.59 21 P **P 12 57 35.2 +1.0**
baz=265
I21K Tanana 77.59 25 lAmb lAmb 12 57 36.9
comp=Z,17nm,0.9s
I21K Tanana 77.59 25 P **P 12 57 35.2 +1.0**
baz=267
SKT Skwentna 77.63 29 lAmb lAmb 12 57 35.8
comp=Z,18nm,1.4s
SKT Skwentna 77.63 29 P **P 12 57 35.1 +0.6**
baz=268,SNR=6.1
CAPN Captain Cook N 77.77 30 P **P 12 57 35.4 +0.2**
baz=268
E22K Anaktuvuk Pass 77.85 22 lAmb lAmb 12 57 38.4
comp=Z,20nm,1.2s
E22K Anaktuvuk Pass 77.85 22 P **P 12 57 36.7 +1.1**
baz=266,SNR=17
RAYN Ar Rayn 77.86 292 P **P 12 57 35.9 -0.7**
RAYN lAmb lAmb 12 57 36.4
comp=Z,14nm,0.8s
RAYN Ar Rayn 77.86 292 P **P 12 57 35.9 -0.7**
RAYN pmax pmax
comp=Z,14nm,0.9s
H22K Ishtalitna Cre 77.88 25 P **P 12 57 36.9 +1.1**
baz=267
BRSE Bradley Lake S 77.95 31 P **P 12 57 37.1 +0.8**
baz=269
BPAW Bear Paw Mtn. 77.96 26 lAmb lAmb 12 57 38.6
comp=Z,26nm,1.0s
BPAW Bear Paw Mtn. 77.96 26 P **P 12 57 36.9 +0.6**
baz=268,SNR=18
KTH Kantishna Hill 77.97 27 lAmb lAmb 12 57 44.8
comp=Z,23nm,1.6s
SUA Susitna One 77.98 29 lAmb lAmb 12 57 37.8
comp=Z,20nm,1.0s
SUA Susitna One 77.98 29 P **P 12 57 36.5 -0.1**
baz=268,SNR=7.8
SLKM Skilak Lake 78.22 30 lAmb lAmb 12 57 39.8
comp=Z,30nm,1.2s
CUT Chulitna 78.23 28 P **P 12 57 38.4 +0.6**
CUT Chulitna 78.23 28 P **P 12 57 38.9 +1.1**
baz=269
TRF Thorofare Moun 78.25 27 P **P 12 57 38.1 0.0**
TRF Thorofare Moun 78.25 27 P **P 12 57 38.4 +0.3**
baz=268
M22K Willow 78.29 29 P **P 12 57 38.6 +0.5**
M22K Willow 78.29 29 P **P 12 57 38.6 +0.5**
baz=269
D23K Nanushuk River 78.31 21 lAmb lAmb 12 57 41.2
comp=Z,30nm,1.2s
D23K Nanushuk River 78.31 21 P **P 12 57 39.8 +1.6**
baz=267
C23K Itkillik River 78.39 21 P **P 12 57 39.4 +0.8**
baz=267
COLD Coldfoot 78.41 23 lAmb lAmb 12 57 41.5
comp=Z,13nm,0.9s
COLD Coldfoot 78.41 23 P **P 12 57 40.1 +1.3**
baz=268,SNR=16
G23K Bananza Creek 78.47 24 lAmb lAmb 12 57 42.0
comp=Z,22nm,1.2s
G23K Bananza Creek 78.47 24 P **P 12 57 40.6 +1.5**
baz=268,SNR=11
RC01 Rabbit Creek A 78.47 30 P **P 12 57 39.9 +0.8**
baz=270
O22K Cooper Landing 78.47 30 P **P 12 57 40.5 +1.4**
baz=270
KBZ Khabaz 78.60 313 P **P 12 57 38.8 -1.4**
comp=Z,6.8nm,1.0s,baz=121,slow=5.9,SNR=6.7
comp=Z,6.8nm,1.0s
KBZ Khabaz 78.60 313*ceP* **P 12 57 39.2 -1.0**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
SEW Seward 78.60 31 lAmb lAmb 12 57 49.2
comp=Z,42nm,1.3s
SEW Seward 78.60 31 P **P 12 57 41.0 +1.2**
baz=270
BWN Browne 78.63 26 P **P 12 57 40.9 +0.9**
E23K Chandalar 78.67 22 P **P 12 57 42.0 +1.7**
E23K lAmb lAmb 12 57 43.3
comp=Z,34nm,1.1s

E23K	Chandalar	78.67	22	P	P	12 57 41.9	+1.7
	baz=268						
I23K	Minto, Yukon-K	78.69	25	P	P	12 57 41.6	+1.3
I23K				IAmb	IAmb	12 57 46.6	
	comp=Z,50nm,1.8s						
I23K	Minto, Yukon-K	78.69	25	P	P	12 57 41.3	+1.0
	baz=269,SNR=9.6						
TOLK	Toolik Lake Re	78.70	22	IAmb	IAmb	12 57 42.6	
	comp=Z,14nm,0.8s						
TOLK	Toolik Lake Re	78.70	22	P	P	12 57 41.2	+0.8
	baz=268,SNR=15						
KIV	Kislovodsk	78.74	313	P	P	12 57 41.4	+0.3
KIV				IAmb	IAmb	12 57 42.2	
	comp=Z,21nm,1.0s						
KIV	Kislovodsk	78.74	313	*e*P	P	12 57 40.2	-0.9
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
PMR	Palmer	78.76	29	IAmb	IAmb	12 57 42.0	
	comp=Z,16nm,1.0s						
PMR	Palmer	78.76	29	P	P	12 57 41.3	+0.6
	baz=270,SNR=9.6						
SHA1	Shidzhatmaz	78.77	313	*i* P	P	12 57 40.8	-0.7
NEA2	Nenana	78.81	26	P	P	12 57 41.9	+0.9
	baz=269,SNR=5.8						
MCK	McKinley	78.86	27	P	P	12 57 41.7	+0.4
MCK				IAmb	IAmb	12 57 42.8	
	comp=Z,26nm,1.0s						
MCK	McKinley	78.86	27	P	P	12 57 41.7	+0.4
	baz=270,SNR=15						
MCK	McKinley	78.86	27	P	P	12 57 41.7	+0.4
MCK				pmax	pmax		
	comp=Z,26nm,1.0s						
RND	Reindeer	78.90	27	P	P	12 57 42.0	+0.4
RND				IAmb	IAmb	12 57 42.9	
	comp=Z,48nm,1.6s						
RND	Reindeer	78.90	27	P	P	12 57 42.0	+0.4
RND				pmax	pmax		
	comp=Z,48nm,1.6s						
D24K	Happy Valley	78.99	21	IAmb	IAmb	12 57 44.1	
	comp=Z,16nm,0.7s						
D24K	Happy Valley	78.99	21	P	P	12 57 43.0	+1.1
	baz=269,SNR=21						
C24K	Franklin Bluff	79.05	21	P	P	12 57 43.4	+1.3
	baz=269						
VRH	Novokhopyorsk	79.08	320	*e*P	P	12 57 38.8	-3.9
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KNK	Knik Glacier	79.08	29	IAmb	IAmb	12 57 44.4	
	comp=Z,38nm,1.3s						
KNK	Knik Glacier	79.08	29	P	P	12 57 43.1	+0.5
	baz=270,SNR=9.2						
E24K	Your Creek	79.09	22	IAmb	IAmb	12 57 45.2	
	comp=Z,15nm,0.9s						
E24K	Your Creek	79.09	22	P	P	12 57 44.0	+1.5
	baz=269						
SML	Sawmill	79.14	29	P	P	12 57 43.5	+0.6
SML				IAmb	IAmb	12 57 44.6	
	comp=Z,37nm,1.2s						
SML	Sawmill	79.14	29	P	P	12 57 43.6	+0.7
	baz=271,SNR=9.5						
PWL	Port Wells	79.15	30	IAmb	IAmb	12 57 44.5	
	comp=Z,31nm,1.0s						
PWL	Port Wells	79.15	30	P	P	12 57 43.1	+0.2
	baz=271,SNR=10						
F24K	Squaw Lake	79.32	23	P	P	12 57 45.5	+1.7
F24K				IAmb	IAmb	12 57 46.6	
	comp=Z,16nm,0.8s						
F24K	Squaw Lake	79.32	23	P	P	12 57 45.0	+1.3
	baz=270						
H24K	Noodor Dome	79.32	25	P	P	12 57 44.9	+1.1
	baz=270,SNR=11						
COLA	College	79.33	26	P	P	12 57 44.6	+0.8
	baz=270						
M23K	Glacier View	79.43	29	P	P	12 57 45.2	+0.7
	baz=271						
G24K	Hadweenzic Riv	79.48	24	IAmb	IAmb	12 57 47.4	
	comp=Z,18nm,1.1s						
G24K	Hadweenzic Riv	79.48	24	P	P	12 57 46.1	+1.5
	baz=270						
POKR	Poker Plat Res	79.51	25	P	P	12 57 46.0	+1.1
	baz=271						
GURO	Guroymak-BITLI	79.57	307	IAmb	IAmb	12 57 47.2	
	comp=Z,21nm,0.9s						
SCM	Sheep Creek Mo	79.62	29	IAmb	IAmb	12 57 47.0	
	comp=Z,24nm,1.0s						
SCM	Sheep Creek Mo	79.62	29	P	P	12 57 46.4	+0.9
	baz=271,SNR=8.7						
P23K	Montague Islan	79.63	31	P	P	12 57 46.4	+0.9
	baz=272						
HDA	Harding Lake	79.73	26	P	P	12 57 46.6	+0.6
	baz=271,SNR=6.5						
ILAR	Eielson Array	79.75	26	P	P	12 57 45.6	-0.5
ILAR	Eielson Array	79.75	26	P	P	12 57 45.2	-0.9
	comp=Z,2.8nm,0.8s,baz=239,slow=5.0,SNR=39						
	comp=Z,2.8nm,0.8s						
ILAR	Eielson Array	79.75	26	P	P	12 57 45.6	-0.5
GLI	Glacier Island	79.76	30	P	P	12 57 46.6	+0.4
GLI				IAmb	IAmb	12 57 47.9	
	comp=Z,15nm,0.9s						
GLI	Glacier Island	79.76	30	P	P	12 57 46.8	+0.6
	baz=272,SNR=6.0						
D25K	Kavik River	79.86	21	P	P	12 57 47.9	+1.1
D25K				IAmb	IAmb	12 57 49.1	
	comp=Z,21nm,1.1s						
D25K	Kavik River	79.86	21	P	P	12 57 47.8	+1.1
	baz=271						
KLMR	Klimovskoe	79.96	330	*e*P	P	12 57 42.6	-4.7
KLMR				pmax	pmax		
	comp=Z,48nm,1.7s						
HIN	Hinchinbrook I	80.07	30	P	P	12 57 49.1	+1.2
HIN				IAmb	IAmb	12 58 01.0	
	comp=Z,15nm,0.9s						
M24K	Tolsona, Glenn	80.15	28	IAmb	IAmb	12 57 50.9	
	comp=Z,21nm,1.0s						
M24K	Tolsona, Glenn	80.15	28	P	P	12 57 49.1	+0.7
	baz=272						
F25K	Christian Rive	80.18	23	P	P	12 57 50.2	+1.8
	baz=272						
E25K	Arctic Village	80.19	22	P	P	12 57 50.0	+1.6
E25K	Arctic Village	80.19	22	P	P	12 57 50.0	+1.6
	baz=272,SNR=16						
K24K	Donnelly Dome	80.26	27	P	P	12 57 49.6	+0.6
	baz=272						
KLU	Klutina	80.30	29	P	P	12 57 50.1	+0.9
	baz=273						
PRP	Porcupine Dome	80.30	25	P	P	12 57 49.4	+0.2
	baz=272						
C26K	Camden Bay	80.36	21	P	P	12 57 51.0	+1.7
	baz=272,SNR=22						
FYU	Fort Yukon	80.38	24	IAmb	IAmb	12 57 53.2	
	comp=Z,72nm,1.9s						
DIV	Divide	80.39	29	IAmb	IAmb	12 57 52.0	
	comp=Z,25nm,1.2s						
J25K	Salcha River,	80.41	26	P	P	12 57 49.5	-0.2
J25K	Salcha River,	80.41	26	P	P	12 57 50.8	+1.0
	baz=273						
EYAK	Cordova Ski Ar	80.43	30	P	P	12 57 50.7	+0.9
	baz=273						
PAX	Paxson	80.44	28	IAmb	IAmb	12 57 54.5	
	comp=Z,39nm,1.7s						
PAX	Paxson	80.44	28	P	P	12 57 50.5	+0.5
	baz=273,SNR=11						
BMAR	Burnt Mountain	80.59	23	P	P	12 57 52.1	+1.4
HARP	HAARP	80.61	28	P	P	12 57 51.3	+0.5
	baz=273						
VORR	Voronezh	80.62	321	*e*P	P	12 57 42.7	-8.4
VORR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MARD	Mardin	80.66	306	P	P	12 57 51.9	+0.1
RIDG	Independent Ri	80.68	27	P	P	12 57 51.9	+0.7
RIDG				IAmb	IAmb	12 57 52.8	
	comp=Z,25nm,1.1s						
RIDG	Independent Ri	80.68	27	P	P	12 57 52.5	+1.3
	baz=273,SNR=9.8						
VSR	Storozhevoye	80.68	320	*e*P	P	12 57 45.5	-5.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
F26K	Sheenjek River	80.74	23	IAmb	IAmb	12 57 54.6	
	comp=Z,24nm,1.6s						
F26K	Sheenjek River	80.74	23	P	P	12 57 53.2	+1.8
	baz=273						
C27K	Jago River	80.79	21	P	P	12 57 53.4	+1.8
C27K				IAmb	IAmb	12 57 54.5	
	comp=Z,17nm,1.1s						
C27K	Jago River	80.79	21	P	P	12 57 53.0	+1.4
	baz=273,SNR=16						
N25K	Chitina, Valde	80.93	29	IAmb	IAmb	12 57 55.9	
	comp=Z,28nm,1.5s						
N25K	Chitina, Valde	80.93	29	P	P	12 57 53.7	+1.1
	baz=274						
G26K	Porcupine Rive	80.93	24	P	P	12 57 53.9	+1.5
	baz=274						
BMRM	Bremner River	80.97	30	P	P	12 57 53.8	+1.0
BMRM				IAmb	IAmb	12 57 56.5	
	comp=Z,25nm,1.2s						
BMRM	Bremner River	80.97	30	P	P	12 57 53.7	+0.9
	baz=274						
SCRK	Sand Creek	81.05	27	IAmb	IAmb	12 57 56.0	
	comp=Z,46nm,1.9s						
SCRK	Sand Creek	81.05	27	P	P	12 57 54.3	+1.0
	baz=274,SNR=10.0						
KAIM	Kayak Island	81.13	31	P	P	12 57 54.5	+0.9
	baz=274						
J26L	Joseph Creek	81.19	26	P	P	12 57 54.8	+0.9
	baz=274						
MENT	Mentasta	81.24	28	P	P	12 57 55.4	+1.2
MENT				IAmb	IAmb	12 57 57.3	
	comp=Z,39nm,1.8s						
MOS	Moscow	81.26	325	*e*P	P	12 57 55.0	+0.6
I26K	Coal Creek Min	81.30	25	IAmb	IAmb	12 57 59.6	
	comp=Z,16nm,1.1s						
I26K	Coal Creek Min	81.30	25	P	P	12 57 55.3	+0.9
	baz=275,SNR=12						
GLB	Gilahina Butte	81.31	29	IAmb	IAmb	12 57 58.2	
	comp=Z,20nm,1.1s						
L26K	Log Cabin Wild	81.40	27	P	P	12 57 56.4	+1.4
	baz=275						
BERG	Berg Lake	81.45	30	IAmb	IAmb	12 57 59.1	
	comp=Z,25nm,1.0s						
M26K	Nabesna, AK	81.62	28	IAmb	IAmb	12 57 58.6	
	comp=Z,18nm,1.2s						
M26K	Nabesna, AK	81.62	28	P	P	12 57 57.7	+1.4
	baz=275						
BGLC	Bering Glacier	81.69	30	P	P	12 57 57.5	+1.0
	baz=275						
G27K	Doyon Strip	81.78	24	P	P	12 57 58.4	+1.4
	baz=276						
D27M	Malcolm River	81.79	21	IAmb	IAmb	12 57 59.8	
	comp=Z,21nm,1.1s						
D27M	Malcolm River	81.79	21	P	P	12 57 58.6	+1.6
	baz=276						
H27K	Steamboat Moun	81.89	24	P	P	12 57 59.0	+1.4
	baz=276						
I27K	Kandik River	81.92	25	P	P	12 57 59.0	+1.2
	baz=276						
OBN	Obninsk	81.92	325↑	*e*P	P	12 57 56.7	-1.1
OBN				*e*		13 01 06.4	
OBN				*e*PPP	PPP	13 02 53.6	
OBN				*e*SS	SS	13 13 36.6	+7.6
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN				MLR	MLR		
	comp=Z,185nm,16.0s						
L27K	Beaver Creek,	82.09	27	IAmb	IAmb	12 58 02.1	
	comp=Z,14nm,1.0s						
L27K	Beaver Creek,	82.09	27	P	P	12 57 59.9	+1.2
	baz=276						
BCAR	Beaver Creek A	82.11	27	P	P	12 58 00.3	+1.6
M27K	Edge Creek, AK	82.14	28	P	P	12 57 59.6	+0.5
	baz=276						
EGAK	Eagle	82.20	26	P	P	12 57 59.9	+0.7
	baz=276						
MESA	MESA	82.34	30	P	P	12 58 00.7	+0.4
	baz=276						
E28M	Babbage River	82.38	22	P	P	12 58 01.6	+1.5
E28M				IAmb	IAmb	12 58 02.7	
	comp=Z,15nm,1.1s						
E28M	Babbage River	82.38	22	P	P	12 58 01.3	+1.2
	baz=277						
F28M	Old Crow	82.38	23	IAmb	IAmb	12 58 02.6	
	comp=Z,16nm,0.9s						
F28M	Old Crow	82.38	23	P	P	12 58 01.3	+1.2
	baz=277,SNR=19						
BVCY	Beaver Creek	82.61	28	P	P	12 58 02.6	+1.2
	baz=277,SNR=7.4						
I28M	Miner Creek	82.63	25	P	P	12 58 02.8	+1.3
	baz=278						
YUK3	Moose Creek	82.87	29	P	P	12 58 04.0	+1.0
	baz=278,SNR=7.8						
E29M	Blow River	83.01	22	IAmb	IAmb	12 58 06.4	
	comp=Z,18nm,1.6s						
E29M	Blow River	83.01	22	P	P	12 58 04.5	+1.2
	baz=279						
DAWY	Dawson	83.05	26	P	P	12 58 04.7	+1.1
	baz=278,SNR=13						
O28M	Mount Upton	83.14	30	P	P	12 58 05.6	+1.1
	baz=278						
H29M	Whitestone	83.16	24	IAmb	IAmb	12 58 06.1	
	comp=Z,8.9nm,0.8s						
H29M	Whitestone	83.16	24	P	P	12 58 05.4	+1.3
	baz=279						
G29M	Pine Creek	83.19	23	P	P	12 58 05.5	+1.1
G29M	Pine Creek	83.19	23	P	P	12 58 05.5	+1.1
	baz=279						
PINM	Pinnacle	83.20	30	P	P	12 58 06.1	+1.6
	baz=278,SNR=5.9						
VADS	Vadso	83.20	340	*e*P	P	12 58 04.7	+0.4
YUK8	Steele Glacier	83.27	29	P	P	12 58 06.7	+1.6
	baz=278,SNR=11						
I29M	Ogilvie Camp,	83.32	25	P	P	12 58 06.2	+1.2
I29M	Ogilvie Camp,	83.32	25	P	P	12 58 06.2	+1.2
	baz=279,SNR=10.0						
J29N	Klondike Camp	83.50	26	P	P	12 58 07.5	+1.4
J29N	Klondike Camp	83.50	26	P	P	12 58 07.4	+1.4
	baz=279,SNR=11						
M29M	Somme Creek	83.71	28	IAmb	IAmb	12 58 10.5	
	comp=Z,15nm,0.9s						
M29M	Somme Creek	83.71	28	P	P	12 58 08.8	+1.6
	baz=279						
L29M	L29M	83.75	27	P	P	12 58 08.8	+1.5
	baz=279						
EPYK	Eagle Plains	83.79	24	P	P	12 58 08.0	+0.5
	baz=280,SNR=15						
YUK4	Talbot Arm	83.79	29	P	P	12 58 08.3	+0.5
	baz=279,SNR=7.6						
G30M	tAoh Zraii Nji	83.88	23	IAmb	IAmb	12 58 09.6	
	comp=Z,23nm,1.1s						
G30M	tAoh Zraii Nji	83.88	23	P	P	12 58 08.6	+0.8
	baz=281						
K29M	Barlow Dome	83.90	26	IAmb	IAmb	12 58 11.0	
	comp=Z,22nm,1.1s						
K29M	Barlow Dome	83.90	26	P	P	12 58 09.1	+1.0
	baz=280						
F30M	Barrier River	83.92	22	P	P	12 58 09.2	+1.2
	baz=281						
O29M	Mount Kennedy	83.99	30	IAmb	IAmb	12 58 11.7	
	comp=Z,30nm,1.6s						
O29M	Mount Kennedy	83.99	30	P	P	12 58 10.1	+1.4
	baz=279						
YUK6	Outpost Mounta	83.99	29	P	P	12 58 10.2	+1.3
	baz=279,SNR=5.9						
I30M	Mount Dempster	84.14	25	IAmb	IAmb	12 58 11.6	
	comp=Z,20nm,0.9s						
I30M	Mount Dempster	84.14	25	P	P	12 58 10.3	+1.0
	baz=281,SNR=22						
J30M	Hart River	84.28	25	P	P	12 58 11.4	+1.3
	baz=281,SNR=19						
HYT	Haines Junctio	84.43	29	P	P	12 58 12.0	+1.1
	baz=280,SNR=15						
M30M	Minto, Yukon	84.45	28	P	P	12 58 12.8	+1.9
M30M				IAmb	IAmb	12 58 13.9	
	comp=Z,20nm,1.0s						
M30M	Minto, Yukon	84.45	28	P	P	12 58 12.4	+1.6
	baz=281,SNR=21						
SPA0	Spitsbergen Ar	84.45	349	*e*P	P	12 58 10.1	-0.4
SPITS	Spitsbergen Ar	84.45	349	P	P	12 58 10.7	+0.2
	comp=Z,7.8nm,0.5s,baz=93,slow=7.5,SNR=30						
	comp=Z,7.8nm,0.5s						
SPITS	Spitsbergen Ar	84.45	349	P	P	12 58 10.8	+0.2
SPITS				pmax	pmax		
	comp=Z,138nm,1.5s						
INK	Inuvik	84.61	22	P	P	12 58 12.3	+0.8
	baz=283,SNR=17						
ARA0	ARCESS Array S	84.63	340	*e*P	P	12 58 11.6	0.0
ARCES	ARCESS Array B	84.63	340	P	P	12 58 11.3	-0.3
	comp=Z,13nm,0.7s,baz=78,slow=6.7,SNR=59						
	comp=Z,13nm,0.7s						
G31M	Satah River	84.64	23	P	P	12 58 12.7	+1.1
	baz=282,SNR=18						
MAYO	Mayo, Yukon	84.66	26	P	P	12 58 13.2	+1.3
	baz=281,SNR=5.6						
F31M	Tsiigehtchic	84.73	22	P	P	12 58 12.7	+0.7
	baz=283,SNR=21						
SIM	Simferopol'	84.75	315	*e*P	P	12 58 12.1	-0.6
SIM				*e*		12 58 17.0	
SIM				pmax	pmax		
	comp=Z,37nm,1.3s						
P30M	Million Dollar	84.82	30	P	P	12 58 14.0	+1.2
	baz=281						
H31M	Peel River	84.85	24	P	P	12 58 13.5	+0.7
H31M	Peel River	84.85	24	P	P	12 58 13.8	+1.0
	baz=282						
KBS	Kingsbay	84.96	350	*e*P	P	12 58 13.1	0.0
O30N	Mendenhall	85.12	29	IAmb	IAmb	12 58 17.0	
	comp=Z,13nm,1.0s						
O30N	Mendenhall	85.12	29	P	P	12 58 15.3	+1.0
	baz=281,SNR=7.2						
N31M	Braeburn, Yuko	85.12	28	P	P	12 58 15.6	+1.3
	baz=282,SNR=18						
PLBC	Pleasant Camp	85.24	31	P	P	12 58 15.9	+1.0
	baz=281,SNR=5.1						
KTK1	Kautokeino	85.55	339	*e*P	P	12 58 16.2	0.0
MMAI	Mount Meron Ar	85.55	303	P	P	12 58 16.5	-0.6
	comp=Z,12nm,1.1s,baz=68,slow=6.7,SNR=5.9						
	comp=Z,12nm,1.1s						
S31K	Pelican	85.60	32	P	P	12 58 17.8	+1.2
	baz=282						
M31M	Drury Creek, Y	85.62	28	IAmb	IAmb	12 58 19.1	
	comp=Z,12nm,0.9s						
M31M	Drury Creek, Y	85.62	28	P	P	12 58 17.4	+0.7
	baz=283,SNR=13						
GHAJ	Ghor Haditha	85.68	301	IAmb	IAmb	12 58 18.3	
	comp=Z,20nm,0.9s						
WHY	Whitehorse	85.72	29	P	P	12 58 18.6	+1.2
	baz=282,SNR=16						
SKAG	Skagway	85.76	30	P	P	12 58 18.6	+1.2
	baz=282						
R31K	City Hall, Gus	85.77	32	P	P	12 58 17.9	+0.5
	baz=282						
BR131	Keskin Array S	85.91	309	P	P	12 58 17.5	-1.3
BR131	Keskin Array S	85.91	309	P	P	12 58 17.5	-1.3
BR131				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRTR	Keskin Array B	85.91	309	P	P	12 58 17.5	-1.3
	comp=Z,1.7nm,0.7s,baz=117,slow=5.0,SNR=12						
	comp=Z,1.7nm,0.7s						
BR104	Keskin Array S	85.91	309	P	P	12 58 17.2	-1.6
	comp=Z,2.9nm,0.9s						
BR106	Keskin Array S	85.92	309	P	P	12 58 17.0	-1.9
	comp=Z,3.8nm,0.8s						
FARO	Faro, Yukon	86.09	28	P	P	12 58 20.0	+1.0
	baz=284,SNR=24						
A36M	Sachs Harbour	86.27	17	P	P	12 58 20.7	+1.1
	baz=290						
SIT	Sitka	86.27	33	P	P	12 58 21.3	+1.4
	baz=282						
FINES	FINESS Array B	86.33	332	P	P	12 58 19.6	-0.6
	comp=Z,12nm,0.6s,baz=72,slow=4.9,SNR=82						
	comp=Z,12nm,0.6s						
JETT	Jettan, Norway	86.35	340	*e*P	P	12 58 19.7	-0.5
R32K	Eaglecrest	86.43	32	P	P	12 58 21.5	+0.7
	baz=283						
N32M	Quiet Lake	86.47	29	P	P	12 58 22.1	+1.2
	baz=284,SNR=12						
P32M	Atlin	86.53	30	P	P	12 58 22.1	+0.8
	baz=284						
S32K	Killisnoo	86.58	32	P	P	12 58 22.5	+1.0
	baz=283						
TRO	Tromso	86.81	340	*e*P	P	12 58 21.4	-1.0
P33M	Teslin, Yukon	86.82	29	P	P	12 58 24.1	+1.3
	baz=284						
AK09	Malin Array Si	86.96	321	P	P	12 58 21.7	-1.8
AK08	Malin Array Si	86.97	321	P	P	12 58 22.1	-1.5
MNK	Minsk	86.97	325	*i* P	P	12 58 20.0	-3.5
MNK				*i*		13 01 43.0	
MNK				*i* S	SKSac	13 08 46.5	-3.4
MNK				*i*		13 09 06.3	
MNK				*i* SS	SS	13 14 43.3	-0.3
MNK				*i* SSS	SSS	13 18 16.1	
MNK				pmax	pmax		
	comp=E,19nm,0.7s						
MNK				pmax	pmax		
	comp=N,14nm,0.8s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MNK				MLR	MLR		
	comp=Z,260nm,18.0s						
MNK				MLR	MLR		
	comp=N,277nm,18.0s						
MNK				MLR	MLR		
	comp=E,229nm,20.0s						
AKASG	Malin Array Be	86.98	321	P	P	12 58 22.6	-1.0
AKASG				IAmb	IAmb	12 58 23.7	
	comp=Z,18nm,1.4s						
AKASG	Malin Array Be	86.98	321	P	P	12 58 22.2	-1.4
	comp=Z,2.3nm,0.5s,baz=65,slow=4.1,SNR=18						
	comp=Z,2.3nm,0.5s						
AKASG	Malin Array Be	86.98	321	P	P	12 58 22.6	-1.0
AKASG				pmax	pmax		
	comp=Z,18nm,1.4s						
AKBB	Malin Array Si	86.98	321	P	P	12 58 22.5	-1.1
AKBB				IAmb	IAmb	12 58 23.4	
	comp=Z,19nm,1.2s						
AKBB	Malin Array Si	86.98	321	P	P	12 58 22.5	-1.1
AKBB				pmax	pmax		
	comp=Z,19nm,1.3s						
AKBB	Malin Array Si	86.98	321	P	P	12 58 22.1	-1.5
KIEV	Kiev	86.99	321	P	P	12 58 22.4	-1.2
KIEV				IAmb	IAmb	12 58 23.4	
	comp=Z,19nm,1.3s						
KIEV	Kiev	86.99	321	P	P	12 58 22.4	-1.2
KIEV				pmax	pmax		
	comp=Z,19nm,1.3s						
KIEV	Kiev	86.99	321	P	P	12 58 21.9	-1.7
	comp=Z,50nm,1.3s						
Q32M	Nakina River	87.41	31	P	P	12 58 26.4	+0.6
	baz=285						
C36M	Paulatuk	87.58	20	P	P	12 58 26.8	+0.7
	baz=292						
U33K	Whale Pass	87.67	33	P	P	12 58 27.4	+0.6
	baz=284						
CRAG	Craig	87.83	34	P	P	12 58 28.3	+0.7
	baz=284						
MI28	Mi28,Pidlybu	87.89	321	P	P	12 58 26.3	-1.7
	comp=Z,130nm,0.7s						
R33M	Jennings River	87.94	30	IAmb	IAmb	13 00 04.8	
	comp=Z,18nm,1.8s						
R33M	Jennings River	87.94	30	P	P	12 58 28.9	+0.7
	baz=286						
WRAK	Wrangell Islan	88.01	33	P	P	12 58 29.5	+1.1
	baz=285						
S34M	Telegraph Cree	88.26	31	P	P	12 58 30.5	+0.9
	baz=286						
DLBC	Dease Lake	88.67	31	P	P	12 58 32.2	+0.6
	baz=287						
STEI	Steigen	88.69	339	*e*P	P	12 58 30.1	-1.3
V35K	Ketchikan	88.70	34	P	P	12 58 32.4	+0.7
	baz=285						
WTLY	Watson Lake, Y	88.78	29	IAmb	IAmb	12 58 34.4	
	comp=Z,7.7nm,0.8s						
WTLY	Watson Lake, Y	88.78	29	P	P	12 58 32.9	+0.8
	baz=288,SNR=6.0						
KIBK	Kibwezi	88.79	267	P	P	12 58 30.4	-2.7
KIBK				IAmb	IAmb	12 58 33.6	
	comp=Z,27nm,1.4s						
FAUS	Fauske	88.89	339	*e*P	P	12 58 31.1	-1.2
PABE	Paberze	88.91	326	P	P	12 58 31.8	-0.9
T35M	Bob Quinn	88.98	32	P	P	12 58 33.7	+0.6
	baz=286						
KMPD	K-Podol'skiy	89.20	319	P	P	12 58 32.8	-1.4
	comp=Z,3μm,0.9s						
KMBO	Kilima Mbogo	89.37	269	P	P	12 58 35.1	-0.9
KMBO				IAmb	IAmb	12 58 36.6	
	comp=Z,9.7nm,1.0s						
KMBO	Kilima Mbogo	89.37	269	P	P	12 58 35.1	-0.9
KMBO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
U35K	Hyder	89.40	33	P	P	12 58 35.9	+0.9
	baz=287						
VNDA	Vanda	89.50	173	P	P	12 58 32.7	-2.2
	comp=Z,2.9nm,0.7s,baz=331,slow=7.7,SNR=6.4						

comp=Z,12nm,1.4s
TOAD Toad River Com 90.92 30 P **P 12 58 42.5 +0.5**
baz=291
KOTAN Kotaneelee Air 91.01 28 P **P 12 58 43.3 +0.9**
baz=292
NSS Namsos 91.32 337 *e*P **P 12 58 42.2 -1.6**
RES Resolute Bay 91.88 10 IAmb IAmb 12 58 49.4
comp=Z,11nm,1.0s
HFS Hagfors 92.48 332 P **P 12 58 48.0 -1.3**
comp=Z,6.0nm,0.6s,baz=98,slow=4.5,SNR=30
comp=Z,6.0nm,0.6s
NB2 NORSAR Subarra 93.19 334 P **P 12 58 50.9 -1.7**
comp=Z,5.0nm,0.8s,baz=67,slow=4.6
NB2 NORSAR Subarra 93.19 334 P **P 12 58 50.9 -1.7**
baz=67,slow=4.6
NOA NORSAR Array B 93.19 334 P **P 12 58 50.9 -1.7**
comp=Z,3.2nm,0.8s,baz=65,slow=4.6,SNR=11
comp=Z,3.2nm,0.8s
YKA Yellowknife Ar 94.08 24 P **P 12 58 57.1 +0.5**
comp=Z,5.8nm,0.7s,baz=297,slow=4.7,SNR=87
comp=Z,5.8nm,0.7s
AKN Aaknes 94.42 336 *e*P **P 12 58 58.0 -0.2**
VRAC Vranov 95.18 322 P **P 12 59 01.1 -0.8**
comp=Z,2.7nm,0.7s,baz=97,slow=8.1,SNR=1.7
comp=Z,2.7nm,0.7s
CLL Collm 96.52 325 *e*Px Px 12 59 06.0
GERES GERESS Array B 97.11 322 P **P 12 59 09.8 -1.0**
comp=Z,1.8nm,0.8s,baz=93,slow=7.1,SNR=6.0
comp=Z,1.8nm,0.8s
B08A Colville Reser 98.23 38 IAmb IAmb 12 59 16.9
comp=Z,4.6nm,0.8s
D08A Wollman Farm, 99.03 39 IAmb IAmb 12 59 21.1
comp=Z,5.9nm,1.0s
NVAR Mina Array Bea 103.02 47 Pdiff **Pdif 12 59 37.3 -0.3**
comp=Z,0.3nm,0.5s,baz=275,slow=4.9,SNR=4.0
R11B Troy Canyon, C 104.99 46 P **Pdif 12 59 46.1 -0.2**
baz=296
N23A Red Feather La 110.20 40 P **PKiKP 13 04 11.0 0.0**
baz=304
TXAR Lajitas Array 117.98 49 PKP **PKPdf 13 04 25.5 -0.5**
comp=Z,1.1nm,0.7s,baz=1.6,slow=2.4,SNR=6.0
SN05 Snyder 5 118.06 44 PKPdf 13 04 25.3 -0.6
JCT Junction City 120.19 46 PKPdf **PKPdf 13 04 29.3 -0.8**
JCT Junction City 120.19 46 PKIKP **PKPdf 13 04 29.3 -0.8**
DRIO Del Rio 120.19 48 PKPdf **PKPdf 13 04 29.8 -0.3**
TORD Torodi Ar. Bea 120.56 292 PKP **PKPdf 13 04 29.1 -2.0**
comp=Z,0.7nm,0.7s,baz=17,slow=4.7,SNR=7.1
T42A Van Buren 121.57 35 PKPdf 13 04 31.7 -0.8
833A Chaparral WMA, 121.69 48 P **PKPdf 13 04 32.9 -0.1**
baz=304
O48B Farmland 122.21 28 P **PKPdf 13 04 34.1 +0.4**
baz=323
L61B Northampton 125.09 17 P **PKPdf 13 04 39.7 +0.6**
baz=337
M65A Busby, Falmout 126.48 16 P **PKPdf 13 04 42.2 +0.5**
baz=339
TKL Tuckaleechee C 126.51 31 PKP **PKPdf 13 04 42.2 +0.2**
comp=Z,4.7nm,0.7s,baz=158,slow=4.4,SNR=5.5
CMIG Matias Romero 131.17 57 PKP **PKPdf 13 04 52.1 +0.8**
comp=Z,2.4nm,0.6s,baz=256,slow=4.8,SNR=4.2
LR05 Currie 145.60 155 PKPdf 13 05 16.4 -0.6
PLCA Paso Flores 145.77 157 PKPdf **PKPdf 13 05 17.8 +0.4**
PLCA Paso Flores 145.77 157 PKPbc **PKPdf 13 05 17.6 +0.2**
comp=Z,9.0nm,0.7s,baz=230,slow=3.7,SNR=21
PLCA Paso Flores 145.77 157 PKP2 **PKPdf 13 05 17.8 +0.4**
BO02 Sierra Bellavi 150.61 150 PKPbc **PKPbc 13 05 31.2 +0.3**
TRQA Tornquist 150.92 166 PKPbc **PKPbc 13 05 31.4 -0.1**
TRQA Tornquist 150.92 166 PKIKP **PKPbc 13 05 31.4 -0.1**
BO04 La Punta 151.34 150 PKPbc **PKPbc 13 05 33.0 +0.4**
SDV Santo Domingo 154.81 43 PKPbc **PKPbc 13 05 40.8 -0.2**
RUSC La Rusia 155.06 52 PKPdf 13 05 40.1 +7.0
GO02 Mina Guanaco 158.48 137 PKPdf **PKPdf 13 05 35.5 -1.5**
GO02 PKPab **PKPab 13 06 11.6 0.0**
PATCX Punta Patache 160.67 126 PKPdf **PKPdf 13 05 36.4 -3.0**
PATCX PKPab **PKPab 13 06 19.1 -1.9**
TA01 Diego Aracena 160.78 126 PKPdf **PKPdf 13 05 36.8 -2.6**
TA01 PKPab **PKPab 13 06 20.6 -0.8**
PB09 IPOC Station P 160.84 130 PKPdf **PKPdf 13 05 37.5 -2.1**
PB09 PKPab **PKPab 13 06 19.7 -2.1**
CZSB Cruzeiro do Su 160.98 85 PKPdf **PKPdf 13 05 38.7 -1.0**
CZSB PKPab **PKPab 13 06 21.8 -0.9**
PB01 IPOC Station P 161.08 128 PKPdf **PKPdf 13 05 37.5 -2.3**
PB01 PKPab **PKPab 13 06 23.4 +0.6**
HMBC Humberstone 161.17 125 PKPdf **PKPdf 13 05 38.1 -1.8**
HMBC PKPab **PKPab 13 06 23.7 +0.4**
LPAZ La Paz 164.46 116 PKPdf **PKPdf 13 05 41.9 -2.0**
LPAZ PKPab **PKPab 13 06 36.3 -2.2**
LPAZ La Paz 164.46 116 PKP **PKPdf 13 05 45.0 +1.1**
comp=Z,0.9nm,0.3s,baz=144,slow=2.8,SNR=5.9
LPAZ La Paz 164.46 116 PKIKP **PKPdf 13 05 41.9 -2.0**
LPAZ 13 06 36.3
BOAV Boa Vista 166.00 30 PKPdf **PKPdf 13 05 43.7 -0.8**
BOAV PKPab **PKPab 13 06 44.2 -0.2**
ETMB Extrema 167.55 91 PKPdf **PKPdf 13 05 44.7 -0.9**
ETMB PKPab **PKPab 13 06 50.2 -1.3**

*SSNC **08** 12:56:18.0±1.5, 18°.96N×80°.95W, h7km±11km, MD3.9, ML3.8*
*JSN **08** 12:56:22.4±2.1, 17°.49N×80°.70W, h50km±999km, MD4.8*
ISC 08 12:56:14.3±2.5, 18°.85N±0°.09×80°.9W±0°.1, h10km, n13, σ2§68/25, 2C-1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBCY	**The Bluff, Cay**	**1.42**	**51**	*i* P	**Pn**	**12 56 41.3**	**+1.2**
CBCY				*i* S	**Sb**	**12 56 57.2**	**-1.7**
CBCY				IAML		12 57 13.3	
	comp=N,490nm,0.9s						
CBCY				IAML		12 57 20.1	
	comp=E,403nm,1.0s						
MTDJ	**Mount Denham**	**3.28**	**100**	*e*P	**Pn**	**12 57 07.6**	**+1.7**
MTDJ				*e*S	**Sn**	**12 57 41.1**	**-4.0**
MTDJ	**Mount Denham**	**3.28**	**100**	⇓*i*P	**Pn**	**12 57 07.9**	**+2.0**
MTDJ				*i* S	**Sn**	**12 57 42.6**	**-2.5**
LMGC	**Las Mercedes**	**3.90**	**71**	*i* P	**Pn**	**12 57 16.1**	**+1.9**
LMGC				⇑*e*S	**Sn**	**12 57 58.9**	**-1.1**
LMGC				*e*Sg	**Sb**	**12 58 07.6**	**-2.7**
STH	**Stony Hill**	**3.99**	**101**	⇑*i*P	**Pn**	**12 57 17.7**	**+2.2**
HOJ	**Hope**	**4.06**	**101**	*i* P	**Pn**	**12 57 16.2**	**-0.3**
CHIV	**Chivirico**	**4.41**	**75**	*i* P	**Pn**	**12 57 24.8**	**+3.6**
CHIV				*e*S	**Sn**	**12 58 11.2**	**-1.5**
HLGC	**Holguin**	**5.01**	**65**	*i* P	**Pn**	**12 57 33.4**	**+3.8**
HLGC				*i* S	**Sn**	**12 58 29.9**	**+2.3**
RCC	**Rio Carpintero**	**5.07**	**76**	*e*P	**Pn**	**12 57 32.7**	**+2.4**
RCC				*i* S	**Sn**	**12 58 26.6**	**-2.4**
PINC	**Pinares de May**	**5.11**	**71**	*i* P	**Pn**	**12 57 32.8**	**+1.9**
PINC				*i* S	**Sn**	**12 58 30.4**	**+0.4**
GTBY	**Guantanamo Bay**	**5.60**	**78**	*i* P	**Pn**	**12 57 41.7**	**+4.1**
GTBY				*i* S	**Sn**	**12 58 41.2**	**-0.8**
QMBU	**Quimbuelo**	**5.92**	**76**	*e*P	**Pn**	**12 57 43.4**	**+1.3**
QMBU				*e*S	**Sn**	**12 58 52.6**	**+2.5**
061Z	**Ochoppi**	**6.98**	**0**	*e*P	**Pn**	**12 57 59.2**	**+2.7**
061Z				*e*S	**Sn**	**12 59 10.9**	**-5.1**

*IDC **08** 12:59:19.6±0.7, 9°.82N×126°.50E, h0km, mb3.9/13, mbtmp3.9/14, ML4.2/1, MS4.1/1, Error ellipse: s-maj=32.1km s-min=14.1km az=75.0*
*NEIC **08** 12:59:22.2±2.2, 9°.79N±0°.08×126°.2E±0°.1, h10km±1km, mb4.5/39, Error ellipse: s-maj=18.0km s-min=13.0km az=83.0*
ISC 08 12:59:25.0±0.5, 9°.82N±0°.05×126°.3E±0°.1, h35km, n73, σ1§30/68, mb4.3/33, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**194**	Pn	**Pn**	**13 00 07.8**	**+0.2**
	35nm,0.3s,baz=71,slow=21,SNR=1.2						
DAV				Sn	**Sn**	**13 00 43.9**	**+3.6**
	36nm,0.3s,baz=269,slow=23,SNR=1.6						
	170nm,0.3s						
MYLDM	**Lahad Datu**	**8.97**	**240**	Pn	**Pn**	**13 01 29.7**	**-2.5**
TNTI	**Ternate**	**9.05**	**173**	Pn	**Pn**	**13 01 31.6**	**-1.7**
TOLI2	**Tolitoli**	**10.23**	**213**	Pn	**Pn**	**13 01 47.7**	**-1.7**
FAKI	**Fak Fak**	**13.99**	**154**	Pn	**Pn**	**13 02 39.3**	**-1.6**
YULB	**Yu-li**	**14.31**	**341**	Pn	**Pn**	**13 02 43.3**	**-1.9**
TPUB	**Ta-pu**	**14.45**	**339**	Pn	**Pn**	**13 02 44.7**	**-2.5**
YHNB	**Yeheng**	**15.49**	**343**	Pn	**Pn**	**13 02 59.0**	**-2.0**
YHNB				IAmb	IAmb	13 03 14.8	
	comp=Z,57nm,1.3s						
SBUM	**Sibu**	**15.76**	**243**		**Pn**	**13 03 02.3**	**-2.2**
SOEI	**Soe**	**19.55**	**186**	P	**P**	**13 03 49.6**	**-0.3**
SOEI				IAmb	IAmb	13 04 10.7	
	comp=Z,36nm,1.2s						
MTN	**Manton Dam**	**23.03**	**168**	P	**P**	**13 04 26.5**	**-0.8**
MYKOM	**Kota Tinggi**	**23.67**	**252**	P	**P**	**13 04 33.8**	**+0.2**
MYKOM				IAmb	IAmb	13 04 40.8	
	comp=Z,12nm,1.0s						
KNRA	**Kununurra**	**25.45**	**174**	P	**P**	**13 04 50.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.75**	**181**	P	**P**	**13 05 11.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**27.82**	**291**	P	**P**	**13 05 13.1**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=103,slow=9.6,SNR=4.5						
	comp=Z,0.4nm,0.3s						
COEN	**Coen**	**28.97**	**144**	P	**P**	**13 05 21.5**	**0.0**
COEN				IAmb	IAmb	13 05 41.6	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**30.47**	**165**	P	**P**	**13 05 34.0**	**-0.7**
WB0				IAmb	IAmb	13 05 43.7	
	comp=Z,9.8nm,1.2s						
WRA	**Warramunga Arr**	**30.62**	**165**	P	**P**	**13 05 36.7**	**+0.6**
WRA	**Warramunga Arr**	**30.62**	**165**	P	**P**	**13 05 33.9**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=350,slow=8.8,SNR=1.7						
	comp=Z,0.7nm,0.8s						
WB2	**Warramunga Arr**	**30.63**	**165**	P	**P**	**13 05 36.2**	**+0.1**
WB2				IAmb	IAmb	13 05 55.3	
	comp=Z,6.0nm,1.0s						
WR0	**Warramunga Arr**	**30.69**	**165**	P	**P**	**13 05 35.8**	**-0.9**
WR0				IAmb	IAmb	13 06 02.0	
	comp=Z,9.4nm,1.4s						
MBWA	**Marble Bar**	**31.45**	**192**	P	**P**	**13 05 41.9**	**-1.4**
PSA00	**Pilbara Seismi**	**31.83**	**191**	P	**P**	**13 05 47.6**	**+0.9**
PSA00				IAmb	IAmb	13 05 49.8	
	comp=Z,4.8nm,0.9s						
AS31	**Alice Springs**	**34.11**	**167**	P	**P**	**13 06 07.5**	**+0.8**
ASAR	**Alice Springs**	**34.11**	**167**	P	**P**	**13 06 07.5**	**+0.8**
ASAR	**Alice Springs**	**34.11**	**167**	P	**P**	**13 06 04.9**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.1,SNR=12						
ASAR				PcP	**PcP**	**13 08 43.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=340,slow=3.2,SNR=5.1						
	comp=Z,0.5nm,0.3s						
JKA	**Kamikawa-asahi**	**36.99**	**20**	P	**P**	**13 06 30.4**	**-0.7**
MORW	**Morawa**	**39.90**	**194**	P	**P**	**13 06 54.8**	**-1.0**
MORW				IAmb	IAmb	13 07 01.0	
	comp=Z,9.5nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.05**	**73**	T	T	13 50 03.9	
	baz=262,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**40.07**	**73**	T	T	13 49 59.2	
	baz=262,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**40.07**	**73**	T	T	13 49 57.3	
	baz=262,slow=75,SNR=6.9						
FORT	**Forrest**	**40.40**	**178**	P	**P**	**13 06 59.8**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**40.40**	**71**	T	T	13 50 17.3	
	baz=263,slow=74,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	13 50 18.2	
	baz=263,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	13 50 23.1	
	baz=263,slow=74,SNR=1.9						
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**13 07 08.2**	**-0.2**
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**13 07 08.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=161,slow=9.3,SNR=7.7						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**43.41**	**168**	P	**P**	**13 07 24.1**	**-0.4**
STKA	**Stephens Creek**	**43.98**	**161**	P	**P**	**13 07 28.9**	**-0.2**
STKA	**Stephens Creek**	**43.98**	**161**	P	**P**	**13 07 28.4**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=0.7,slow=12,SNR=3.9						
	comp=Z,2.4nm,0.7s						
MK31	**Makanchi Array**	**52.38**	**323**	P	**P**	**13 08 34.8**	**+1.0**
MKAR	**Makanchi Array**	**52.38**	**323**	P	**P**	**13 08 34.8**	**+0.9**
MKAR	**Makanchi Array**	**52.38**	**323**	P	**P**	**13 08 34.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=123,slow=8.0,SNR=12						
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**52.58**	**323**	P	**P**	**13 08 34.8**	**-0.5**
ZALV	**Zalesovo Beam**	**55.02**	**331**	P	**P**	**13 08 53.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=105,slow=5.1,SNR=2.2						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**56.44**	**326**	P	**P**	**13 09 03.9**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=127,slow=6.6,SNR=8.2						
	comp=Z,0.7nm,0.7s						
SHEM	**Shemya Is, Ala**	**57.53**	**32**	LR	LR	13 29 10.8	
	comp=Z,165nm,20.9s,baz=239,slow=31						
BVAR	**Borovoye Array**	**62.03**	**326**	P	**P**	**13 09 42.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=106,slow=9.1,SNR=2.3						
	comp=Z,0.5nm,0.7s						
RAYN	**Ar Rayn**	**77.73**	**292**	P	**P**	**13 11 20.3**	**+1.3**
RAYN				IAmb	IAmb	13 11 24.0	
	comp=Z,2.5nm,0.9s						
C23K	**Itkillik River**	**78.47**	**21**	P	**P**	**13 11 24.0**	**+1.9**
C23K				IAmb	IAmb	13 11 24.5	
	comp=Z,2.9nm,0.6s						
PWL	**Port Wells**	**79.25**	**30**	P	**P**	**13 11 27.7**	**+1.0**
PWL				IAmb	IAmb	13 11 50.6	
	comp=Z,8.6nm,1.4s						
F24K	**Squaw Lake**	**79.41**	**23**	P	**P**	**13 11 27.9**	**+0.5**
F24K				IAmb	IAmb	13 11 30.5	
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**79.84**	**26**	P	**P**	**13 11 29.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=239,slow=4.7,SNR=7.6						
	comp=Z,0.3nm,0.6s						
D25K	**Kavik River**	**79.95**	**21**	P	**P**	**13 11 32.1**	**+1.8**
D25K				IAmb	IAmb	13 11 56.6	
	comp=Z,5.1nm,1.4s						
E25K	**Arctic Village**	**80.28**	**22**	P	**P**	**13 11 33.9**	**+1.8**
BMAR	**Burnt Mountain**	**80.68**	**23**	P	**P**	**13 11 35.0**	**+0.7**
BCAR	**Beaver Creek A**	**82.21**	**27**	P	**P**	**13 11 42.2**	**-0.3**
I28M	**Miner Creek**	**82.72**	**25**	P	**P**	**13 11 47.6**	**+2.4**
I28M				IAmb	IAmb	13 11 48.5	
	comp=Z,3.4nm,0.8s						
H29M	**Whitestone**	**83.25**	**24**	P	**P**	**13 11 50.0**	**+2.3**
H29M				IAmb	IAmb	13 11 50.2	
	comp=Z,1.5nm,0.8s						
G29M	**Pine Creek**	**83.28**	**23**	P	**P**	**13 11 50.0**	**+2.1**
G29M				IAmb	IAmb	13 11 59.8	
	comp=Z,4.6nm,1.2s						
J30M	**Hart River**	**84.38**	**25**	P	**P**	**13 11 54.8**	**+1.1**
J30M				IAmb	IAmb	13 12 11.0	
	comp=Z,2.3nm,1.1s						
SPB2	**Spitsbergen Ar**	**84.45**	**349**	P	**P**	**13 11 54.6**	**+0.9**
SPITS	**Spitsbergen Ar**	**84.45**	**349**	P	**P**	**13 11 53.2**	**-0.5**
	comp=Z,12nm,1.0s,baz=63,slow=8.7,SNR=2.2						
M30M	**Minto, Yukon**	**84.55**	**27**	P	**P**	**13 11 55.4**	**+0.9**
M30M				IAmb	IAmb	13 12 16.9	
	comp=Z,6.1nm,1.4s						
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**13 11 55.9**	**+1.2**
ARCES	**ARCESS Array B**	**84.61**	**340**	P	**P**	**13 11 54.4**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=77,slow=5.1,SNR=8.3						
	comp=Z,2.2nm,0.8s						
H31M	**Peel River**	**84.95**	**24**	P	**P**	**13 11 55.6**	**-0.8**
H31M				IAmb	IAmb	13 11 58.7	
	comp=Z,3.2nm,0.9s						
FIA1	**FINESS Array S**	**86.28**	**332**	P	**P**	**13 12 04.0**	**+1.0**
FINES	**FINESS Array B**	**86.28**	**332**	P	**P**	**13 12 04.1**	**+1.1**
FINES	**FINESS Array B**	**86.28**	**332**	P	**P**	**13 12 03.5**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=78,slow=4.7,SNR=10						
	comp=Z,1.6nm,0.6s						
A36M	**Sachs Harbour**	**86.34**	**17**	P	**P**	**13 12 02.8**	**-0.4**
A36M				IAmb	IAmb	13 12 16.7	
	comp=Z,7.5nm,1.2s						
YKA	**Yellowknife Ar**	**94.17**	**24**	P	**P**	**13 12 41.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=297,slow=4.7,SNR=15						
	comp=Z,0.7nm,0.7s						
PLCA	**Paso Flores**	**145.80**	**157**	PKPbc	**PKPab**	**13 19 02.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=246,slow=6.2,SNR=6.5						

*IDC **08** 13:01:16.1±1.2, 9°.87N×126°.49E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=89.5km s-min=22.9km az=70.0*
ISC 08 13:01:22.0±1.1, 9°.8N±0°.2×126°.4E±0°.5, h42km, n9, σ0§59/6, mb3.4/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.59**	**165**	P	**P**	**13 07 32.2**	**+0.1**
	0.2nm,0.4s,baz=347,slow=9.2,SNR=1.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**34.08**	**168**	P	**P**	**13 08 02.6**	**-0.1**
	0.2nm,0.3s,baz=352,slow=7.3,SNR=1.1						
	0.2nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	13 52 15.9	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	13 52 20.1	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.29**	**71**	T	T	13 52 15.9	
	baz=265						
SONM	**Songino Array**	**41.48**	**340**	P	**P**	**13 09 04.9**	**-0.1**
	0.3nm,0.6s,baz=158,slow=8.9,SNR=2.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.46**	**323**	P	**P**	**13 10 31.3**	**+0.7**
	0.3nm,0.6s,baz=118,slow=7.8,SNR=3.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.51**	**325**	P	**P**	**13 10 59.2**	**-0.7**
	0.2nm,0.5s,baz=135,slow=7.4,SNR=1.5						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**94.11**	**24**	P	**P**	**13 14 36.0**	**+0.1**
	0.2nm,0.7s,baz=291,slow=4.6,SNR=2.1						
	0.2nm,0.7s						

NEIC 08 13:02:09.8±0.5, 36°.551N±0°.009×98°.15W±0°.01, h6km±3km, mb_Lg2.5/28, ML2.8/50, Error ellipse: s-maj=2.0km s-min=0.9km az=122.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.14**	**109**	Pg	Pg	13 02 13.2	+0.4
CROK				Sg	Sg	13 02 15.7	+1.0
CROK				IAML		13 02 16.3	
	comp=E,3μm,0.3s						
KAN14	**Manchester OK**	**0.43**	**20**		Pg	13 02 18.5	+0.3
KAN14				Sg	Sg	13 02 24.6	+0.7
KAN14				IAML		13 02 24.9	
	comp=E,1μm,0.1s						
OK038	**West end E0370**	**0.48**	**262**		Pg	13 02 19.2	0.0
OK038				Sg	Sg	13 02 26.0	+0.6
OK038				IAML		13 02 33.5	
	comp=E,1μm,0.3s						
KAN17	**Caldwell West**	**0.58**	**32**		Pg	13 02 21.1	+0.1
KAN17				Sg	Sg	13 02 29.1	+0.5
KAN17				IAML		13 02 29.4	
	comp=E,456nm,0.2s						
KAN05	**Bluff City Nor**	**0.60**	**22**	Pg	Pg	13 02 21.6	+0.2
KAN05				Sg	Sg	13 02 29.9	+0.6
KAN05				IAML		13 02 30.1	
	comp=E,572nm,0.2s						
NOKA	**Waynoka**	**0.63**	**278**		Pg	13 02 22.0	-0.1
NOKA				Sg	Sg	13 02 30.8	+0.5
NOKA				IAML		13 02 33.5	
	comp=E,501nm,0.3s						
KAN01	**Argonia South**	**0.68**	**28**		Pg	13 02 22.9	0.0
KAN01				Sg	Sg	13 02 32.1	+0.3
KAN08	**Anthony NE Sta**	**0.69**	**12**		Pg	13 02 23.1	0.0
KAN08				Sg	Sg	13 02 32.6	+0.5
KAN08				IAML		13 02 32.8	
	comp=E,690nm,0.2s						
KAN08				IAML		13 02 33.0	
	comp=N,368nm,0.1s						
KAN13	**South Haven SW**	**0.71**	**49**	Pg	Pg	13 02 23.5	0.0
KAN13				Sg	Sg	13 02 32.9	+0.2
KAN13				IAML		13 02 39.3	
	comp=E,364nm,0.2s						
KAN13				IAML		13 02 43.6	
	comp=N,374nm,0.3s						
KAN09	**Caldwell North**	**0.72**	**36**		Pg	13 02 23.7	-0.1
KAN09				Sg	Sg	13 02 33.6	+0.4
KAN09				IAML		13 02 34.7	
	comp=N,622nm,0.2s						
KAN09				IAML		13 02 36.7	
	comp=E,670nm,0.2s						
BLOK	**Blackwell**	**0.78**	**74**		Pg	13 02 24.8	-0.1
BLOK				Sg	Sg	13 02 35.3	+0.3
BLOK				IAML		13 02 36.7	
	comp=N,652nm,0.2s						
BLOK				IAML		13 02 37.0	
	comp=E,513nm,0.2s						
CSTR	**Hydro, Custer**	**1.00**	**206**		Pg	13 02 28.7	-0.3
OK051	**E0350 and S346**	**1.06**	**92**		Pg	13 02 29.7	-0.5
ADOK	**Arcadia Dam**	**1.10**	**145**	Pg	Pg	13 02 30.2	-0.6
ELIS	**Ellis County**	**1.13**	**245**		Pg	13 02 31.1	-0.4
ELIS				IAML		13 02 55.3	
	comp=E,209nm,0.2s						
ELIS				IAML		13 02 55.4	
	comp=N,198nm,0.2s						
OK031	**S. Brethren Rd**	**1.22**	**119**		Pg	13 02 32.6	-0.5
OK031				IAML		13 02 49.9	
	comp=N,218nm,0.2s						
OK031				IAML		13 02 52.4	
	comp=N,209nm,0.3s						
OK052	**Battle Ridge R**	**1.22**	**117**		Pg	13 02 32.5	-0.8
OK052				IAML		13 02 55.1	
	comp=N,216nm,0.3s						
QUOK	**Quay**	**1.23**	**108**		Pg	13 02 32.8	-0.5
FNO	**Franklin**	**1.43**	**154**		Pn	13 02 36.0	-0.3
DEOK	**Depew**	**1.51**	**117**		Pn	13 02 37.5	+0.1
W35A	**Tecumseh**	**1.74**	**143**		Pn	13 02 41.0	+0.5
WMOK	**Wichita Mounta**	**1.88**	**196**		Pn	13 02 42.8	+0.3
WMOK				IAmb_Lg		13 03 13.7	
	comp=Z,12nm,0.9s						
R32A	**Long Quarter,**	**1.92**	**347**	Pn	Pn	13 02 44.0	+0.9
X34A	**Smith Ranch, M**	**1.96**	**172**	Pn	Pn	13 02 44.5	+0.8
X34A				IAmb_Lg		13 03 13.5	
	comp=Z,26nm,0.8s						
SMWD	**Samnorwood**	**2.23**	**230**	Pn	Pn	13 02 47.9	+0.6
CBKS	**Cedar Bluff**	**2.59**	**331**	Pn	Pn	13 02 53.1	+0.9
WTFS	**Witchita Falls**	**2.79**	**185**	Pn	Pn	13 02 55.4	+0.4
DKNS	**Dickens**	**3.67**	**219**	IAmb_Lg		13 04 10.4	
	comp=Z,21nm,1.2s						
RTBA	**Rita Blanca**	**3.70**	**270**		Pn	13 03 08.9	+1.3
PLPT	**Palo Pinto**	**3.73**	**182**	Pn	Pn	13 03 08.6	+0.6
POST	**Post**	**4.43**	**219**	IAmb_Lg		13 04 34.6	
	comp=Z,8.7nm,0.9s						
MGMO	**Mountain Grove**	**4.76**	**81**	IAmb_Lg		13 04 41.5	
	comp=Z,9.5nm,0.8s						
X40A	**Basin Creek Fa**	**4.80**	**114**	IAmb_Lg		13 04 45.0	
	comp=Z,8.8nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.92**	**96**	IAmb_Lg		13 04 51.9	
	comp=Z,11nm,0.8s						
T25A	**Trinidad**	**5.05**	**279**	IAmb_Lg		13 04 55.5	
	comp=Z,10nm,0.8s						

KLR Kul'dur 39.82 6 P P 13 21 19.3 -0.2
comp=Z,0.9nm,0.6s,baz=262,slow=3.2,SNR=3.9
comp=Z,0.9nm,0.6s
H11S3 WAKE ISLAND Hy 40.26 73 T T 14 04 22.3
baz=262,slow=73
H11S1 WAKE ISLAND Hy 40.27 73 T T 14 04 17.7
baz=262,slow=73
H11S2 WAKE ISLAND Hy 40.28 73 T T 14 04 16.8
baz=262,slow=73
H11N1 WAKE ISLAND Hy 40.61 71 T T 14 04 47.7
baz=264,slow=75
H11N2 WAKE ISLAND Hy 40.62 71 T T 14 04 48.0
baz=264,slow=75,SNR=9.5
H11N3 WAKE ISLAND Hy 40.63 71 T T 14 04 49.1
baz=264,slow=75
SONM Songino Array 41.63 340 P P 13 21 35.1 +0.4
comp=Z,0.3nm,0.3s,baz=155,slow=9.3,SNR=5.5
comp=Z,0.3nm,0.3s
MK31 Makanchi Array 52.51 323 P P 13 23 00.4 +1.0
MKAR Makanchi Array 52.51 323 P P 13 23 00.1 +0.7
MKAR Makanchi Array 52.51 323 P P 13 23 00.3 +0.9
comp=Z,0.5nm,0.6s,baz=123,slow=7.4,SNR=7.4
comp=Z,0.5nm,0.6s
KURK Kurchatov 56.57 326 P P 13 23 29.6 +0.8
KURK IAmb IAmb 13 23 36.2
comp=Z,2.1nm,1.1s
KURBB Kurchatov Arra 56.58 326 P P 13 23 29.1 +0.3
comp=Z,0.3nm,0.5s,baz=126,slow=6.5,SNR=5.0
comp=Z,0.3nm,0.5s
B21K Ikpikpuk River 77.36 21 P P 13 25 39.0 -1.6
B21K IAmb IAmb 13 25 43.5
comp=Z,6.4nm,1.4s
B22K Teshekpuk Lake 77.84 20 P P 13 25 43.3 0.0
B22K IAmb IAmb 13 25 58.9
comp=Z,14nm,1.5s
BRLK Bradley Lake 78.27 31 P P 13 25 45.7 -0.2
I23K Minto, Yukon-K 79.08 25 P P 13 25 50.8 +0.6
D24K Happy Valley 79.37 21 P P 13 25 52.1 +0.4
D24K IAmb IAmb 13 25 54.0
comp=Z,6.4nm,1.4s
F24K Squaw Lake 79.70 23 P P 13 25 52.0 -1.6
ILAR Eielson Array 80.14 26 P P 13 25 54.8 -1.2
comp=Z,0.2nm,0.8s,baz=254,slow=4.8,SNR=2.3
comp=Z,0.2nm,0.8s
BMAR Burnt Mountain 80.97 23 P P 13 26 01.7 +1.3
BCAR Beaver Creek A 82.50 27 P P 13 26 08.0 -0.6
I28M Miner Creek 83.02 25 P P 13 26 11.7 +0.4
I28M IAmb IAmb 13 26 13.8
comp=Z,1.8nm,0.8s
SPITS Spitsbergen Ar 84.68 349 P P 13 26 19.4 -0.1
comp=Z,7.7nm,1.1s,baz=102,slow=15,SNR=1.2
comp=Z,7.7nm,1.1s
ARCES ARCESS Array B 84.81 340 P P 13 26 20.2 0.0
ARCES ARCESS Array B 84.81 340 P P 13 26 19.8 -0.5
comp=Z,2.5nm,0.9s,baz=79,slow=6.3,SNR=5.7
comp=Z,2.5nm,0.9s
FINES FINESS Array B 86.45 332 P P 13 26 27.6 -0.8
FINES FINESS Array B 86.45 332 P P 13 26 28.2 -0.3
comp=Z,2.0nm,0.7s,baz=329,slow=2.2,SNR=7.4
comp=Z,2.0nm,0.7s
HFS Hagfors 92.61 332 P P 13 26 56.9 -0.7
comp=Z,3.3nm,0.8s,baz=69,slow=4.8,SNR=2.7
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 94.46 24 P P 13 27 06.1 +0.1
comp=Z,0.3nm,0.6s,baz=297,slow=4.7,SNR=6.4
comp=Z,0.3nm,0.6s
PLCA Paso Flores 145.61 157 PKPbc PKPdf 13 33 25.1 +0.3
comp=Z,1.0nm,0.8s,baz=209,slow=13,SNR=1.8

*IDC **08** 13:18:27.6±0.8, 9°.81N×126°.45E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=83.0km s-min=16.9km az=70.0*

ISC 08 13:18:33.6±0.8, 9°.8N±0°.2×126°.4E±0°.5, h42km, n17, σ0s54/11, mb3.7/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.55	165	P	P	13 24 42.6	-0.8
	0.4nm,0.9s,baz=344,slow=8.0,SNR=5.2						
	0.4nm,0.9s						
ASAR	Alice Springs	34.04	168	P	P	13 25 13.7	-0.3
	0.3nm,0.3s,baz=346,slow=7.7,SNR=15						
	0.3nm,0.3s						
H11S3	WAKE ISLAND Hy	39.92	73	T	T	14 09 06.2	
	baz=262						
H11S1	WAKE ISLAND Hy	39.94	73	T	T	14 09 07.2	
	baz=262						
H11S2	WAKE ISLAND Hy	39.94	73	T	T	14 09 10.9	
	baz=262						
H11N1	WAKE ISLAND Hy	40.27	71	T	T	14 09 30.4	
	baz=265,slow=74,SNR=5.8						
H11N2	WAKE ISLAND Hy	40.28	71	T	T	14 09 30.0	
	baz=265,slow=74,SNR=4.8						
H11N3	WAKE ISLAND Hy	40.29	71	T	T	14 09 35.2	
	baz=265,slow=74,SNR=6.3						
SONM	Songino Array	41.52	340	P	P	13 26 17.4	+0.4
	0.4nm,0.6s,baz=155,slow=11,SNR=4.0						
	0.4nm,0.6s						
STKA	Stephens Creek	43.90	161	P	P	13 26 37.0	+0.8
	0.9nm,0.6s,baz=320,slow=7.9,SNR=1.3						
	0.9nm,0.6s						
MKAR	Makanchi Array	52.50	323	P	P	13 27 42.5	-0.1
	0.3nm,0.5s,baz=121,slow=8.8,SNR=5.5						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	55.12	331	P	P	13 28 00.9	-0.6
	0.3nm,0.3s,baz=140,slow=11,SNR=1.1						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	56.55	326	P	P	13 28 11.6	-0.3
	0.3nm,0.5s,baz=125,slow=7.4,SNR=4.8						
	0.3nm,0.5s						
SPITS	Spitsbergen Ar	84.52	349	P	P	13 31 02.1	+0.3
	3.9nm,0.8s,baz=256,slow=6.8,SNR=1.1						
	3.9nm,0.8s						
ARCES	ARCESS Array B	84.70	340	P	P	13 31 03.2	+0.4
	0.9nm,0.6s,baz=72,slow=7.8,SNR=4.7						
	0.9nm,0.6s						
FINES	FINESS Array B	86.39	332	P	P	13 31 11.2	-0.1
	1.6nm,0.8s,baz=60,slow=5.0,SNR=6.7						
	1.6nm,0.8s						
YKA	Yellowknife Ar	94.14	24	P	P	13 31 47.2	-0.4
	0.2nm,0.7s,baz=296,slow=4.9,SNR=4.2						
	0.2nm,0.7s						

*IDC **08** 13:23:04.0±2.2, 17°.59S×178°.20W, h660km±15km, mb3.0/6, mbtmp4.0/7, Error ellipse: s-maj=95.5km s-min=17.2km az=151.0*

ISC 08 13:23:02.8±1.6, 17°.9S±0°.6×178°.0W±0°.3, h650km, n7, σ1s18/9, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.74	271	P	P	13 24 29.3	-1.2
	98nm,0.7s,baz=120,slow=5.4,SNR=50						
MSVF				S	S	13 25 44.0	+2.1
	2.3nm,0.4s,baz=174,slow=22,SNR=1.0						
WRA	Warramunga Arr	45.00	259	P	P	13 30 23.3	0.0
	0.9nm,0.4s,baz=96,slow=7.3,SNR=32						
	0.9nm,0.4s						
ASAR	Alice Springs	45.16	254	P	P	13 30 24.4	-0.1
	1.1nm,0.4s,baz=89,slow=8.2,SNR=49						
ASAR				PcP	PcP	13 31 49.9	-0.4
	0.3nm,0.7s,baz=101,slow=3.4,SNR=1.4						
	1.1nm,0.4s						
NVAR	Mina Array Bea	79.13	44	P	P	13 34 03.0	+0.5
	0.7nm,0.7s,baz=225,slow=9.5,SNR=7.3						
	0.7nm,0.7s						
TXAR	Lajitas Array	85.66	57	P	P	13 34 36.3	+1.1
	1.3nm,0.7s,baz=217,slow=3.9,SNR=7.9						
	1.3nm,0.7s						
ILAR	Eielson Array	85.76	13	P	P	13 34 33.9	-0.9
	0.4nm,0.4s,baz=218,slow=4.9,SNR=19						
	0.4nm,0.4s						
PDAR	Pinedale Array	87.06	43	P	P	13 34 41.5	-0.3
	0.5nm,0.6s,baz=221,slow=3.5,SNR=6.9						
	0.5nm,0.6s						

IDC 08 13:25:17.0±1.8, 9°.31N×125°.18E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=197.9km s-min=23.3km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.43	163	P	P	13 31 30.9	-0.5
	0.5nm,0.8s,baz=338,slow=9.3,SNR=1.9						
	0.5nm,0.8s						
ASAR	Alice Springs	33.86	166	P	P	13 32 01.9	+0.4
	0.1nm,0.3s,baz=346,slow=7.2,SNR=6.8						
	0.1nm,0.3s						
H11N1	WAKE ISLAND Hy	41.58	71	T	T	14 16 13.0	
	baz=265						
H11N2	WAKE ISLAND Hy	41.59	71	T	T	14 16 13.8	
	baz=265						
H11N3	WAKE ISLAND Hy	41.60	71	T	T	14 16 21.1	
	baz=265						
MKAR	Makanchi Array	52.15	324	P	P	13 34 29.9	+0.6
	0.1nm,0.5s,baz=111,slow=9.2,SNR=1.6						
	0.1nm,0.5s						
KURBB	Kurchatov Arra	56.26	326	P	P	13 34 59.4	+0.2
	0.2nm,0.5s,baz=123,slow=7.5,SNR=2.2						
	0.2nm,0.5s						
ARCES	ARCESS Array B	84.72	340	P	P	13 37 51.6	-1.1
	3.1nm,1.0s,baz=78,slow=4.9,SNR=1.4						
	3.1nm,1.0s						

*IDC **08** 13:25:53.2±0.6, 9°.72N×126°.27E, h0km, mb4.0/18, mbtmp4.0/18, Error ellipse: s-maj=24.3km s-min=11.3km az=84.0*

*NEIC **08** 13:25:56.8±1.3, 9°.85N±0°.08×126°.3E±0°.1, h10km±1km, mb4.5/44, Error ellipse: s-maj=16.8km s-min=14.0km az=84.0*

ISC 08 13:25:60.0±0.4, 9°.79N±0°.06×126°.31E±0°.09, h42km, n80, σ0s93/74, mb4.3/37, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.80	195	Pn	Pn	13 26 42.8	+0.4
DAV	Davao City (W)	2.80	195	Pg	Pn	13 26 41.9	-0.4
	34nm,0.3s,baz=3.4,slow=6.4,SNR=1.3						
DAV				Lg	Lg	13 27 21.0	
	37nm,0.3s,baz=112,slow=12,SNR=5.0						
MYLDM	Lahad Datu	9.00	240	Pn	Pn	13 28 07.1	-0.4
KKM	Kota Kinabalu	10.67	250	Pn	Pn	13 28 30.9	+0.4
FAKI	Fak Fak	13.94	155	Pn	Pn	13 29 14.2	-0.9
SBUM	Sibu	15.79	243		Pn	13 29 39.2	-0.4
KAPI	Kappang	16.09	204		Pn	13 29 44.3	+0.9
KAPI				IAmb	IAmb	13 29 50.3	
	comp=Z,29nm,0.4s						
SOEI	Soe	19.52	186	P	Pn	13 30 25.9	+0.2
SOEI				IAmb	IAmb	13 30 50.5	
	comp=Z,21nm,0.9s						
MYKOM	Kota Tinggi	23.70	252	P	P	13 31 08.8	+0.5
MYKOM				IAmb	IAmb	13 31 12.7	
	comp=Z,8.6nm,0.9s						
IPM	Ipoh	25.63	260	P	P	13 31 26.4	+0.5
IPM				IAmb	IAmb	13 31 30.9	
	comp=Z,11nm,0.9s						
KSRS	Korea Array	27.58	3	P	P	13 31 43.6	+0.4
	comp=Z,0.5nm,0.5s,baz=183,slow=12,SNR=2.3						
	comp=Z,0.5nm,0.5s						
FITZ	Fitzroy Crossi	27.72	181	P	P	13 31 44.8	+0.2
CMAR	Chiang Mai Arr	27.87	291	P	P	13 31 45.7	-0.4
	comp=Z,0.5nm,0.6s,baz=99,slow=7.4,SNR=6.8						
	comp=Z,0.5nm,0.6s						
COEN	Coen	28.92	144	P	P	13 31 54.0	-1.3
COEN				IAmb	IAmb	13 31 57.8	
	comp=Z,24nm,1.5s						
WB0	Warramunga Arr	30.43	165	P	P	13 32 08.2	-0.5
WRA	Warramunga Arr	30.59	165	P	P	13 32 11.3	+1.3
WRA	Warramunga Arr	30.59	165	P	P	13 32 07.5	-2.5
	comp=Z,4.4nm,0.5s,baz=343,slow=8.0,SNR=6.9						
	comp=Z,0.4nm,0.5s						
WB2	Warramunga Arr	30.59	165	P	P	13 32 10.8	+0.7
WB2				IAmb	IAmb	13 32 35.2	
	comp=Z,9.0nm,1.3s						
WR0	Warramunga Arr	30.65	165	P	P	13 32 11.0	+0.3
PSA00	Pilbara Seismi	31.81	191	P	P	13 32 21.0	+0.2
AS31	Alice Springs	34.07	168	P	P	13 32 41.5	+0.9
ASAR	Alice Springs	34.07	168	P	P	13 32 41.4	+0.8
ASAR	Alice Springs	34.07	168	P	P	13 32 38.9	-1.7
	comp=Z,0.5nm,0.3s,baz=348,slow=7.0,SNR=13						
	comp=Z,0.5nm,0.3s						
KLR	Kul'dur	39.58	6	P	P	13 33 27.5	+0.4
	comp=Z,0.9nm,0.6s,baz=110,slow=2.1,SNR=4.9						
	comp=Z,0.9nm,0.6s						
MORW	Morawa	39.88	194	P	P	13 33 30.1	+0.2
MORW				IAmb	IAmb	13 33 56.1	
	comp=Z,15nm,1.2s						
H11S3	WAKE ISLAND Hy	40.02	73	T	T	14 16 26.2	
	baz=262,slow=75						
H11S1	WAKE ISLAND Hy	40.03	73	T	T	14 16 36.6	
	baz=262,slow=75						
H11S2	WAKE ISLAND Hy	40.03	73	T	T	14 16 33.0	
	baz=262,slow=75						
H11N1	WAKE ISLAND Hy	40.37	71	T	T	14 16 58.6	
	baz=264,slow=74						
FORT	Forrest	40.37	178	P	P	13 33 33.9	0.0
H11N2	WAKE ISLAND Hy	40.38	71	T	T	14 16 49.8	
	baz=264,slow=74						
H11N3	WAKE ISLAND Hy	40.39	71	T	T	14 16 57.3	
	baz=264,slow=74						
ULN	Ulaanbaatar	41.28	340	P	P	13 33 41.1	-0.4
SONM	Songino Array	41.48	340	P	P	13 33 43.7	+0.7
SONM	Songino Array	41.48	340	P	P	13 33 43.7	+0.7
	comp=Z,0.3nm,0.4s,baz=148,slow=8.7,SNR=3.8						
	comp=Z,0.3nm,0.4s						
NWAO	Narrogin (SRO)	43.35	191	P	P	13 33 59.1	+0.9
BBOO	Buckleboo	43.37	168	P	P	13 33 58.3	-0.1
BBOO				IAmb	IAmb	13 34 04.3	
	comp=Z,16nm,1.1s						
STKA	Stephens Creek	43.94	161	P	P	13 34 04.8	+1.8
STKA				IAmb	IAmb	13 34 05.1	
	comp=Z,5.9nm,1.1s						
STKA	Stephens Creek	43.94	161	P	P	13 34 01.8	-1.2
	comp=Z,1.3nm,0.4s,baz=339,slow=8.0,SNR=5.5						
	comp=Z,1.3nm,0.4s						
PETK	Petropavlovsk-	50.05	24	P	P	13 34 50.6	+0.2
PETK	Petropavlovsk-	50.05	24	P	P	13 34 49.6	-0.8
	comp=Z,2.5nm,0.8s,baz=198,slow=0.5,SNR=2.1						
	comp=Z,2.5nm,0.8s						
DZM	Mont Dzumac	50.51	129	P	P	13 34 55.2	+0.7
DZM	Mont Dzumac	50.51	129	P	P	13 34 54.3	-0.2
	comp=Z,4.1nm,0.7s,baz=61,slow=23,SNR=1.9						
	comp=Z,4.1nm,0.7s						
MKAR	Makanchi Array	52.43	323	P	P	13 35 07.9	-0.5
MKAR	Makanchi Array	52.43	323	P	P	13 35 07.8	-0.7
	comp=Z,1.3nm,0.6s,baz=120,slow=7.7,SNR=11						
	comp=Z,1.3nm,0.6s						
MAKZ	Makanchi	52.62	323	P	P	13 35 09.3	-0.5
KURBB	Kurchatov Arra	56.49	326	P	P	13 35 36.1	-1.6
	comp=Z,0.9nm,0.6s,baz=126,slow=7.1,SNR=8.7						
	comp=Z,0.9nm,0.6s						
BVAR	Borovoye Array	62.08	326	P	P	13 36 15.4	-1.0
	comp=Z,0.9nm,0.7s,baz=145,slow=5.4,SNR=4.4						
	comp=Z,0.9nm,0.7s						
ABKAR	Akbulak array	67.26	319	P	P	13 36 49.5	-0.7
BKZ	Black Stump Fm	67.39	140	P	P	13 36 52.1	+0.8
C18K	Utukok River	74.59	21	P	P	13 37 35.6	+1.2
C18K				IAmb	IAmb	13 37 39.1	
	comp=Z,7.8nm,1.4s						
O18K	Koktuh Hills	75.81	31	P	P	13 37 42.6	+1.0
E19K	Redstone River	75.83	23	P	P	13 37 42.9	+1.4
E19K				IAmb	IAmb	13 38 03.7	
	comp=Z,4.4nm,1.2s						
H19K	Roundabout Mou	75.86	25	P	P	13 37 43.4	+1.8
F20K	Avaraart Lake	76.35	23	P	P	13 37 45.9	+1.5
F20K				IAmb	IAmb	13 37 48.2	
	comp=Z,4.8nm,1.5s						
B21K	Ikpikpuk River	77.08	21	P	P	13 37 49.7	+1.3
B21K				IAmb	IAmb	13 37 49.8	
	comp=Z,6.6nm,1.4s						
CAST	Castle Rocks	77.55	27	P	P	13 37 52.3	+1.0
B22K	Teshekpuk Lake	77.56	20	P	P	13 37 52.5	+1.3
D22K	Ayikyak River	77.68	21	P	P	13 37 53.1	+1.1
D22K				IAmb	IAmb	13 37 58.5	
	comp=Z,8.9nm,1.5s						
BPAW	Bear Paw Mtn.	78.07	26	P	P	13 37 55.5	+1.3
BPAW				IAmb	IAmb	13 37 55.7	
	comp=Z,3.6nm,1.0s						
SUA	Susitna One	78.09	29	P	P	13 37 54.9	+0.4
SUA				IAmb	IAmb	13 37 55.8	
	comp=Z,4.9nm,1.1s						
C23K	Itkillik River	78.48	21	P	P	13 37 57.5	+1.2
C23K				IAmb	IAmb	13 37 57.8	
	comp=Z,3.9nm,0.7s						
I23K	Minto, Yukon-K	78.80	25	P	P	13 37 59.0	+0.9
MCK	McKinley	78.97	27	P	P	13 37 59.5	+0.3
MCK				IAmb	IAmb	13 37 59.5	
	comp=Z,3.8nm,0.9s						
D24K	Happy Valley	79.09	21	P	P	13 38 00.9	+1.3
D24K				IAmb	IAmb	13 38 01.3	
	comp=Z,3.3nm,0.7s						
PWL	Port Wells	79.26	30	P	P	13 38 01.3	+0.5
PWL				IAmb	IAmb	13 38 01.9	
	comp=Z,5.3nm,1.0s						
G24K	Hadweenzic Riv	79.58	24	P	P	13 38 03.9	+1.5
ILAR	Eielson Array	79.85	26	P	P	13 38 03.0	-0.9
	comp=Z,0.6nm,0.9s,baz=237,slow=4.8,SNR=5.3						
	comp=Z,0.6nm,0.9s						
H29M	Whitestone	83.26	24	P	P	13 38 22.8	+0.8
G29M	Pine Creek	83.29	23	P	P	13 38 23.3	+1.2
G29M				IAmb	IAmb	13 38 29.6	
	comp=Z,9.1nm,1.5s						
SPITS	Spitsbergen Ar	84.49	349	P	P	13 38 27.9	-0.1
	comp=Z,2.8nm,0.8s,baz=70,slow=7.2,SNR=1.0						
	comp=Z,2.8nm,0.8s						
ARCES	ARCESS Array B	84.66	340	P	P	13 38 28.8	-0.2
	comp=Z,2.3nm,0.8s,baz=77,slow=5.2,SNR=5.9						
	comp=Z,2.3nm,0.8s						
H31M	Peel River	84.95	24	P	P	13 38 31.2	+0.7
M31M	Drury Creek, Y	85.72	28	P	P	13 38 34.2	-0.2
M31M				IAmb	IAmb	13 38 51.9	
	comp=Z,2.1nm,1.1s						
FIA1	FINESS Array S	86.33	332	P	P	13 38 37.1	-0.3
FINES	FINESS Array B	86.33	332	P	P	13 38 37.1	-0.3
FINES	FINESS Array B	86.33	332	P	P	13 38 36.7	-0.7
	comp=Z,2.6nm,0.8s,baz=56,slow=4.8,SNR=7.2						
	comp=Z,2.6nm,0.8s						
HFS	Hagfors	92.49	332	P	P	13 39 05.3	-1.2
	comp=Z,1.3nm,0.5s,baz=180,slow=40,SNR=1.7						
	comp=Z,1.3nm,0.5s						
YKA	Yellowknife Ar	94.17	24	P	P	13 39 14.6	+0.4
	comp=Z,0.7nm,0.7s,baz=297,slow=4.7,SNR=12						
	comp=Z,0.7nm,0.7s						
PLCA	Paso Flores	145.75	157	PKPbc	PKPdf	13 45 34.5	0.0
	comp=Z,2.1nm,1.0s,baz=237,slow=6.1,SNR=3.3						

*IDC **08** 13:27:28.1±0.8, 9°.78N×126°.28E, h0km, mb4.0/14, mbtmp3.9/14, MS4.2/2, Error ellipse: s-maj=40.0km s-min=16.7km az=71.0*

ISC 08 13:27:34.2±0.7, 9°.7N±0°.1×126°.3E±0°.2, h43km, n24, σ0s87/15, mb3.9/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.73	194	Lg	Lg	13 28 56.8	
	35nm,0.3s,baz=338,slow=16,SNR=1.1						
KSRS	Korea Array	27.64	3	P	P	13 33 17.8	0.0
	0.8nm,0.9s,baz=181,slow=11,SNR=1.8						
	0.8nm,0.9s						
CMAR	Chiang Mai Arr	27.84	291	P	P	13 33 19.9	0.0
	0.3nm,0.3s,baz=98,slow=7.2,SNR=4.2						
	0.3nm,0.3s						
WRA	Warramunga Arr	30.55	165	P	P	13 33 44.3	+0.4
	0.7nm,0.6s,baz=346,slow=8.6,SNR=2.5						
	0.7nm,0.6s						
ASAR	Alice Springs	34.03	167	P	P	13 34 14.8	+0.3
	0.5nm,0.3s,baz=343,slow=7.4,SNR=8.0						
	0.5nm,0.3s						
H11S3	WAKE ISLAND Hy	40.09	73	T	T	14 18 08.7	
	baz=262						
H11S1	WAKE ISLAND Hy	40.10	73	T	T	14 18 04.2	
	baz=262						
H11S2	WAKE ISLAND Hy	40.10	73	T	T	14 18 08.9	
	baz=262						
H11N1	WAKE ISLAND Hy	40.44	71	T	T	14 18 30.1	
	baz=266						
H11N2	WAKE ISLAND Hy	40.45	71	T	T	14 18 26.9	
	baz=266						
H11N3	WAKE ISLAND Hy	40.46	71	T	T	14 18 30.2	
	baz=266						
SONM	Songino Array	41.51	340	P	P	13 35 17.7	+0.2
	0.5nm,0.5s,baz=154,slow=10,SNR=4.3						
	0.5nm,0.5s						
STKA	Stephens Creek	43.91	161	P	P	13 35 36.4	-0.5
	2.9nm,0.6s,baz=341,slow=7.3,SNR=3.6						
	2.9nm,0.6s						
MKAR	Makanchi Array	52.44	323	P	P	13 36 41.9	-0.7
	1.5nm,0.8s,baz=120,slow=7.6,SNR=5.0						
	1.5nm,0.8s						
ZALV	Zalesovo Beam	55.08	332	P	P	13 37 01.9	+0.2
	0.4nm,0.4s,baz=131,slow=5.9,SNR=1.8						
	0.4nm,0.4s						
AAK	Ala-Archa	55.69	315	LR	LR	14 01 58.3	
	comp=Z,152nm,18.7s,baz=354,slow=37						
KURBB	Kurchatov Arra	56.50	326	P	P	13 37 10.8	-1.1
	0.6nm,0.5s,baz=127,slow=6.8,SNR=4.6						
	0.6nm,0.5s						
ILAR	Eielson Array	79.92	26	P	P	13 39 37.1	-1.3
	0.2nm,0.6s,baz=318,slow=33,SNR=1.8						
	0.2nm,0.6s						
SPITS	Spitsbergen Ar	84.53	349	P	P	13 40 04.1	+1.7
	6.5nm,0.8s,baz=111,slow=6.6,SNR=1.9						
	6.5nm,0.8s						
ARCES	ARCESS Array B	84.69	340	P	P	13 40 04.2	+1.0
	2.9nm,0.8s,baz=72,slow=5.3,SNR=6.6						
	2.9nm,0.8s						
FINES	FINESS Array B	86.35	332	P	P	13 40 10.8	-0.9
	1.9nm,0.5s,baz=58,slow=4.0,SNR=5.4						
	1.9nm,0.5s						
MAW	Mawson	89.20	200	LR	LR	14 20 39.7	
	comp=Z,144nm,18.2s,baz=262,slow=36						
YKA	Yellowknife Ar	94.25	24	P	P	13 40 48.9	+0.2
	0.3nm,0.6s,baz=289,slow=4.7,SNR=4.1						
	0.3nm,0.6s						
TORD	Torodi Ar. Bea	120.45	291	PKP	PKPdf	13 46 21.9	-0.2
	0.2nm,0.4s,baz=66,slow=1.8,SNR=3.6						

*AFAD **08** 13:29:26.6, 38°.39N×45°.64E, h2km±3km, ML2.2*
*TEH **08** 13:29:31.0, 38°.38N×45°.20E, h12km±373km*
*NSSP **08** 13:29:31.7, 38°.45N×45°.30E, h10km, Ms3.0*
*AZER **08** 13:29:32.6, 38°.59N×45°.25E, h2km, ml2.9*

ISC 08 13:29:33.0±1.0, 38°.48N±0°.03×45°.33E±0°.02, h13km±9km, n42, σ1s33/73, 4C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	Shabestar	0.30	131	Pg	Pg	13 29 38.2	-1.1
IMRD	Marand	0.38	51	Pg	Pb	13 29 41.7	+0.1
ITBZ	Tabriz	0.69	110	Pg	Pg	13 29 45.5	-0.9
ITBZ				Sg	Sb	13 29 56.4	+0.1
ORD	Ordubad	0.69	49	P	Pn	13 29 47.5	-1.0
ORD				S	Sn	13 29 58.8	-0.3
NAX	Nakhchivan	0.71	10	P	Pb	13 29 47.7	+0.4
NAX				S	Sn	13 29 58.8	-0.8
SBZ	Shahbuz	0.94	11	P	Pn	13 29 51.5	-0.4
SBZ				S	Sn	13 30 05.6	+0.4
IAZR	Azarshahr	0.95	147	Pg	Pg	13 29 50.2	-1.1
MAKU	Maku	1.01	330	Pg	Pb	13 29 51.0	-1.5
OZAP	Van, Ozalp-Mer	1.07	280	P	Pb	13 29 51.7	-1.7
OZAP				S	Sn	13 30 11.7	+3.1
OZAP				*i* AML	AML	13 30 14.0	
	comp=N,110nm,0.6s						
VAYK	Vayk	1.22	3	*i* P	Pg	13 29 56.1	-0.4
VAYK				*i* S	Sg	13 30 14.0	+1.6
GRS	Goris	1.29	37	⇑*i* P	Pn	13 29 56.0	-0.8
GRS				⇓*i* S	Sn	13 30 14.0	+0.1
HYR	Heyderabad	1.30	343

VNNZ *e*S **Sg** **13 30 41.1 +3.7**
GRMI Germi 2.03 80 Pn **Pg** **13 30 10.8 -1.2**
ARUZ Aruch 2.04 332 *e*P **Pg** **13 30 11.0 -1.3**
ARUZ *e*S **Sg** **13 30 40.3 +1.5**
AMBZ Amberd 2.08 337 *e*P **Pb** **13 30 11.1 +0.3**
AMBZ *e*S **Sg** **13 30 40.5 +0.5**
KOTA Agri, Merkez-K 2.12 309 P **Pb** **13 30 10.9 -0.4**
KOTA S **Sg** **13 30 41.4 +0.3**
KOTA *i* AML AML 13 30 52.0
comp=E,7.6nm,1.1s
BLQ Beylaqan 2.13 54 S **Sg** **13 30 42.8 +1.3**
AGDM Agdam 2.13 40 P **Pg** **13 30 13.2 -0.7**
AGDM S **Sg** **13 30 42.8 +1.2**
DORK Agr/Tutak/Do 2.19 295 P **Pn** **13 30 09.1 -0.1**
DORK S **Sn** **13 30 36.5 +0.3**
DORK *i* AML AML 13 30 50.0
comp=N,10.0nm,0.6s
GDB GEDABAY 2.27 8 P **Pb** **13 30 14.3 +0.4**
GDB S **Sg** **13 30 44.5 -1.4**
BRDA Brd 2.29 38 P **Pb** **13 30 14.7 +0.6**
BRDA S **Sg** **13 30 49.5 +2.9**
GANJ Ganja 2.30 19 P **Pb** **13 30 13.5 -0.8**
GANJ S **Sg** **13 30 48.0 +1.1**
YRD Yardimli 2.32 78 P **Pg** **13 30 16.0 -1.5**
YRD S **Sg** **13 30 49.0 +1.5**
LRK Lerik 2.36 85 P **Pb** **13 30 15.6 +0.1**
LRK S **Sg** **13 30 49.8 +0.8**
QZX Qazax, Azerbai 2.58 1 P **Pb** **13 30 19.7 +0.6**
QZX S **Sg** **13 30 55.7 -0.2**
EATA Eleskirt 2.60 303 P **Pb** **13 30 18.4 -1.4**
EATA S **Sg** **13 30 59.7 +2.9**
EATA *i* AML AML 13 31 03.0
comp=N,5.6nm,0.7s
ASTR Astara 2.71 87 P **Pg** **13 30 23.2 -1.9**
ASTR S **Sg** **13 31 05.0 +4.8**
SRTM Siirt_Merkez 2.73 261 P **Pn** **13 30 16.3 -0.3**
SRTM S **Sb** **13 30 56.6 +1.5**
SRTM *i* AML AML 13 31 15.0
comp=N,18nm,0.8s
PQL Pirkuli 3.42 46 S **Sg** **13 31 22.3 -0.5**
XNQ Khinaliq 3.45 38 S **Sg** **13 31 24.3 +0.4**

---

*IDC **08** 13:33:45.9±0.8, 9°75N×126°24E, h0km, mb3.7/11, mbtmp3.7/11, Error ellipse: s-maj=41.1km s-min=17.2km az=71.0*
ISC 08 13:33:54.5±0.8, 9°7N±0°1×126°1E±0°3, h67km, n20, σ0°84/13, mb3.7/12, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.65**	**192**	Lg	Lg	13 35 13.3	
	48nm,0.3s,baz=289,slow=18,SNR=1.1						
FITZ	**Fitzroy Crossi**	**27.61**	**181**	P	**P**	**13 39 36.0**	**+0.3**
	4.0nm,1.0s,baz=311,slow=7.7,SNR=2.2						
	4.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**27.74**	**291**	P	**P**	**13 39 37.5**	**+0.5**
	0.2nm,0.3s,baz=111,slow=7.3,SNR=4.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**30.53**	**165**	P	**P**	**13 40 01.0**	**-0.7**
	0.6nm,0.9s,baz=296,slow=26,SNR=2.1						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**34.00**	**167**	P	**P**	**13 40 31.6**	**-0.6**
	0.2nm,0.3s,baz=349,slow=7.1,SNR=10						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.22**	**73**	T	T	14 24 16.9	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	14 24 23.1	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	14 24 22.9	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**40.58**	**71**	T	T	14 24 51.1	
	baz=265,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.58**	**71**	T	T	14 24 47.9	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.59**	**71**	T	T	14 24 48.7	
	baz=265,slow=74,SNR=12						
SONM	**Songino Array**	**41.52**	**340**	P	**P**	**13 41 33.8**	**-1.6**
	0.1nm,0.3s,baz=149,slow=6.2,SNR=1.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**13 42 59.8**	**-0.4**
	0.4nm,0.6s,baz=120,slow=7.7,SNR=8.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.48**	**326**	P	**P**	**13 43 29.0**	**-0.5**
	0.4nm,0.5s,baz=123,slow=7.1,SNR=3.5						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**80.03**	**26**	P	**P**	**13 45 56.3**	**-0.2**
	0.3nm,0.8s,baz=261,slow=6.7,SNR=2.6						
	0.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.56**	**349**	P	**P**	**13 46 20.4**	**+0.4**
	11nm,0.9s,baz=66,slow=3.5,SNR=2.2						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**	**13 46 21.9**	**+1.1**
	3.7nm,1.0s,baz=80,slow=7.1,SNR=7.8						
	3.7nm,1.0s						
FINES	**FINESS Array B**	**86.34**	**332**	P	**P**	**13 46 30.1**	**+1.0**
	0.9nm,0.4s,baz=64,slow=6.6,SNR=6.9						
	0.9nm,0.4s						
YKA	**Yellowknife Ar**	**94.35**	**24**	P	**P**	**13 47 07.3**	**+0.7**
	0.3nm,0.6s,baz=284,slow=8.8,SNR=5.6						
	0.3nm,0.6s						
PLCA	**Paso Flores**	**145.72**	**157**	PKPbc	**PKPbc**	**13 53 26.6**	**+0.3**
	1.1nm,0.8s,baz=177,slow=4.2,SNR=3.0						

---

*IDC **08** 13:38:11.5±0.6, 9°86N×126°46E, h0km, mb4.1/16, mbtmp4.0/16, Error ellipse: s-maj=27.1km s-min=11.0km az=84.0*
ISC 08 13:38:17.5±0.7, 9°89N±0°09×126°5E±0°2, h42km, n24, σ0°75/18, mb3.9/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.96**	**198**	Pg	**Pn**	**13 39 03.1**	**+1.1**
	73nm,0.3s,baz=340,slow=4.4,SNR=5.9						
DAV				Lg	Lg	13 39 44.5	
	34nm,0.3s,baz=32,slow=14,SNR=3.9						
KSRS	**Korea Array**	**27.47**	**2**	P	**P**	**13 43 59.7**	**0.0**
	1.7nm,1.0s,baz=180,slow=9.8,SNR=4.1						
	1.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.83**	**182**	P	**P**	**13 44 02.6**	**-0.5**
	9.6nm,0.7s,baz=9.6,slow=7.8,SNR=15						
	9.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.03**	**291**	P	**P**	**13 44 04.8**	**-0.1**
	0.5nm,0.3s,baz=16,slow=17,SNR=4.6						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**30.63**	**165**	P	**P**	**13 44 26.7**	**-1.3**
	0.7nm,0.6s,baz=342,slow=8.2,SNR=16						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**34.13**	**168**	P	**P**	**13 44 58.2**	**-0.5**
	0.5nm,0.3s,baz=347,slow=7.3,SNR=35						
	0.5nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.79**	**73**	T	T	14 28 42.6	
	baz=262,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**39.81**	**73**	T	T	14 28 48.0	
	baz=262,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**39.81**	**73**	T	T	14 28 48.2	
	baz=262,slow=74,SNR=19						
H11N1	**WAKE ISLAND Hy**	**40.14**	**71**	T	T	14 29 02.2	
	baz=265,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.15**	**71**	T	T	14 29 02.6	
	baz=265,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	14 29 03.5	
	baz=265,slow=75,SNR=33						
SONM	**Songino Array**	**41.46**	**340**	P	**P**	**13 45 59.2**	**-1.2**
	0.4nm,0.4s,baz=153,slow=9.4,SNR=8.8						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**43.97**	**161**	P	**P**	**13 46 20.3**	**-0.5**
	1.5nm,0.5s,baz=336,slow=8.0,SNR=5.5						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**13 47 26.2**	**0.0**
	0.9nm,0.6s,baz=122,slow=8.5,SNR=14						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**55.07**	**331**	P	**P**	**13 47 44.2**	**-0.9**
	0.5nm,0.4s,baz=129,slow=5.5,SNR=2.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**56.52**	**325**	P	**P**	**13 47 55.6**	**0.0**
	0.8nm,0.7s,baz=127,slow=6.8,SNR=8.8						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**62.11**	**325**	P	**P**	**13 48 33.5**	**-0.6**
	0.9nm,0.7s,baz=117,slow=4.0,SNR=2.1						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**79.67**	**26**	P	**P**	**13 50 21.1**	**+0.7**
	0.5nm,0.8s,baz=241,slow=5.1,SNR=8.0						
	0.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.43**	**349**	P	**P**	**13 50 45.7**	**+0.4**
	3.6nm,0.8s,baz=96,slow=7.4,SNR=1.5						
	3.6nm,0.8s						
ARCES	**ARCESS Array B**	**84.63**	**340**	P	**P**	**13 50 47.2**	**+0.8**
	1.9nm,0.6s,baz=76,slow=6.2,SNR=9.2						
	1.9nm,0.6s						
FINES	**FINESS Array B**	**86.34**	**332**	P	**P**	**13 50 55.5**	**+0.5**
	1.4nm,0.5s,baz=71,slow=6.0,SNR=9.0						
	1.4nm,0.5s						
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**13 51 31.8**	**+0.9**
	0.8nm,0.7s,baz=298,slow=4.8,SNR=13						
	0.8nm,0.7s						
PLCA	**Paso Flores**	**145.76**	**157**	PKPbc	**PKPab**	**13 57 52.9**	**0.0**
	1.7nm,0.9s,baz=358,slow=3.8,SNR=3.4						

---

*IDC **08** 13:41:08.0±1.1, 9°69N×126°28E, h0km, mb3.7/8, mbtmp3.6/8, Error ellipse: s-maj=94.2km s-min=22.1km az=70.0*
ISC 08 13:41:13.3±1.0, 9°7N±0°2×126°3E±0°5, h35km, n8, σ0°74/8, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.47**	**165**	P	**P**	**13 47 23.5**	**+0.4**
	0.3nm,0.6s,baz=338,slow=6.4,SNR=1.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.95**	**167**	P	**P**	**13 47 53.5**	**-0.1**
	0.3nm,0.6s,baz=360,slow=3.6,SNR=1.3						
	0.3nm,0.6s						
SONM	**Songino Array**	**41.59**	**340**	P	**P**	**13 48 59.0**	**+1.1**
	0.3nm,0.4s,baz=163,slow=9.7,SNR=4.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.50**	**323**	P	**P**	**13 50 23.1**	**+0.1**
	0.3nm,0.6s,baz=118,slow=7.9,SNR=3.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.56**	**326**	P	**P**	**13 50 51.6**	**-0.7**
	0.3nm,0.4s,baz=128,slow=7.0,SNR=1.8						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**13 53 43.4**	**-0.2**
	2.0nm,0.9s,baz=74,slow=5.0,SNR=1.5						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**86.42**	**332**	P	**P**	**13 53 51.2**	**-0.8**
	1.8nm,0.9s,baz=249,slow=1.6,SNR=3.8						
	1.8nm,0.9s						
YKA	**Yellowknife Ar**	**94.33**	**24**	P	**P**	**13 54 28.7**	**-0.3**
	0.1nm,0.6s,baz=305,slow=5.2,SNR=2.7						
	0.1nm,0.6s						

---

*IDC **08** 13:43:20.3±0.5, 9°70N×126°25E, h0km, mb4.3/23, mbtmp4.2/23, Error ellipse: s-maj=24.2km s-min=10.4km az=86.0*
*NEIC **08** 13:43:21.2±1.6, 9°64N±0°08×126°1E±0°1, h10km±1km, mb4.6/67, Error ellipse: s-maj=17.3km s-min=13.4km az=87.0*
ISC 08 13:43:24.9±0.4, 9°57N±0°06×126°07E±0°10, h35km, n114, σ1°07/102, mb4.5/56, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.53**	**191**	Pn	**Pn**	**13 44 02.8**	**-0.7**
DAV	**Davao City (W)**	**2.53**	**191**	Pg	Pn	13 44 10.2	+6.6
	47nm,0.3s,baz=292,slow=13,SNR=1.4						
DAV				Lg	Lg	13 44 45.4	
	86nm,0.3s,baz=277,slow=7.6,SNR=5.2						
MYLDM	**Lahad Datu**	**8.69**	**240**	Pn	**Pn**	**13 45 27.9**	**-0.3**
KKM	**Kota Kinabalu**	**10.38**	**251**	Pn	**Pn**	**13 45 51.3**	**-0.1**
SAUI	**Saumlaki**	**18.20**	**163**		**P**	**13 47 33.1**	**-1.8**
MMRI	**Maumere**	**18.49**	**192**	P	**P**	**13 47 37.5**	**-0.5**
MMRI				IAmb	IAmb	13 47 57.1	
	comp=Z,17nm,0.6s						
SOEI	**Soe**	**19.28**	**185**	P	**P**	**13 47 46.1**	**-0.9**
MYKOM	**Kota Tinggi**	**23.41**	**252**	P	**P**	**13 48 31.2**	**+0.2**
MYKOM				IAmb	IAmb	13 48 38.5	
	comp=Z,16nm,0.8s						
KNRA	**Kununurra**	**25.23**	**174**	P	**P**	**13 48 47.8**	**+0.2**
KNRA				IAmb	IAmb	13 49 02.5	
	comp=Z,16nm,0.9s						
IPM	**Ipoh**	**25.36**	**260**	P	**P**	**13 48 47.2**	**-1.8**
IPM				IAmb	IAmb	13 49 06.2	
	comp=Z,7.9nm,0.8s						
KULM	**Kulim**	**25.56**	**262**	P	**P**	**13 48 49.0**	**-1.8**
KULM				IAmb	IAmb	13 49 00.7	
	comp=Z,8.1nm,0.9s						
PHRA	**Phrae**	**26.57**	**292**	P	**P**	**13 48 59.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.50**	**181**	P	**P**	**13 49 08.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.50**	**181**	P	**P**	**13 49 11.4**	**+3.2**
	comp=Z,16nm,0.8s,baz=2.1,slow=8.6,SNR=14						
	comp=Z,16nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.73**	**292**	P	**P**	**13 49 09.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.73**	**292**	P	**P**	**13 49 13.6**	**+3.2**
	comp=Z,1.5nm,0.9s,baz=107,slow=7.0,SNR=11						
	comp=Z,1.5nm,0.9s						
KSAR	**Wonju Array Be**	**27.80**	**3**	P	**P**	**13 49 07.6**	**-3.1**
KSRS	**Korea Array**	**27.81**	**3**	P	**P**	**13 49 10.5**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=178,slow=12,SNR=9.2						
	comp=Z,3.3nm,1.0s						
KS19	**Wonju Array Si**	**27.86**	**3**	P	**P**	**13 49 07.9**	**-3.3**
GSI	**Gunungsitoli**	**29.51**	**256**	P	**P**	**13 49 27.1**	**+0.9**
GSI				IAmb	IAmb	13 49 36.1	
	comp=Z,8.8nm,0.7s						
WB0	**Warramunga Arr**	**30.28**	**164**	P	**P**	**13 49 33.2**	**+0.2**
WRAB	**Tennant Creek**	**30.43**	**164**	P	**P**	**13 49 33.6**	**-0.7**
WRA	**Warramunga Arr**	**30.44**	**165**	P	**P**	**13 49 33.6**	**-0.7**
WRA	**Warramunga Arr**	**30.44**	**165**	P	**P**	**13 49 34.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=348,slow=9.2,SNR=4.4						
	comp=Z,1.1nm,0.9s						
WB2	**Warramunga Arr**	**30.44**	**164**	P	**P**	**13 49 33.2**	**-1.1**
WR0	**Warramunga Arr**	**30.51**	**164**	P	**P**	**13 49 34.6**	**-0.3**
JMM	**Marumori**	**31.14**	**23**	P	**P**	13 49 37.5	-2.9
MBWA	**Marble Bar**	**31.17**	**191**	P	**P**	**13 49 40.9**	**+0.2**
MBWA				IAmb	IAmb	13 49 47.3	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**31.55**	**191**	P	**P**	**13 49 42.8**	**-1.3**
BJT	**Baijiatuau**	**31.58**	**345**	P	P	13 49 42.2	-1.9
BJT				IAmb	IAmb	13 49 46.6	
	comp=Z,5.0nm,0.8s						
AS31	**Alice Springs**	**33.91**	**167**	P	**P**	**13 50 04.5**	**-0.3**
ASAR	**Alice Springs**	**33.91**	**167**	P	**P**	**13 50 04.0**	**-0.8**
ASAR	**Alice Springs**	**33.91**	**167**	P	**P**	**13 50 05.3**	**+0.5**
	comp=Z,2.9nm,1.3s,baz=354,slow=7.3,SNR=8.5						
ASAR				PcP	**PcP**	**13 52 44.0**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=352,slow=3.0,SNR=4.7						
	comp=Z,2.9nm,1.3s						
USRK	**Ussuriysk Ar.**	**34.88**	**7**	P	P	13 50 10.3	-2.6
USRK	**Ussuriysk Ar.**	**34.88**	**7**	P	**P**	**13 50 12.8**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=185,slow=8.7,SNR=3.3						
	comp=Z,2.9nm,0.9s						
MDJ	**Mudanjiang**	**35.05**	**4**	P	P	13 50 11.6	-2.8
MDJ				IAmb	IAmb	13 50 16.5	
	comp=Z,9.1nm,1.0s						
FORT	**Forrest**	**40.16**	**177**	P	**P**	**13 50 58.5**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**40.31**	**73**	T	T	14 33 53.4	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**40.32**	**73**	T	T	14 34 02.2	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**40.33**	**73**	T	T	14 33 57.8	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.66**	**71**	T	T	14 34 23.2	
	baz=265,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.67**	**71**	T	T	14 34 25.1	
	baz=265,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**40.68**	**71**	T	T	14 34 24.4	
	baz=265,slow=75,SNR=8.5						
ULN	**Ulaanbaatar**	**41.41**	**341**	P	**P**	**13 51 07.4**	**-0.7**
SONM	**Songino Array**	**41.60**	**340**	P	P	13 51 07.8	-1.9
SONM	**Songino Array**	**41.60**	**340**	P	**P**	**13 51 10.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=156,slow=9.1,SNR=9.2						
	comp=Z,1.1nm,0.5s						
NWAO	**Narrogin (SRO)**	**43.09**	**191**	P	**P**	**13 51 22.4**	**+0.6**
BBOO	**Buckleboo**	**43.21**	**168**	P	**P**	**13 51 23.7**	**+1.0**
BBOO				IAmb	IAmb	13 51 25.9	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**43.81**	**161**	P	**P**	**13 51 28.1**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=323,slow=10,SNR=2.1						
	comp=Z,1.8nm,0.7s						
PEA0B	**Petropavlovsk-**	**50.35**	**24**	P	P	13 52 16.5	-1.8
PETK	**Petropavlovsk-**	**50.35**	**24**	P	P	13 52 16.1	-2.2
PETK	**Petropavlovsk-**	**50.35**	**24**	P	**P**	**13 52 18.6**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=305,slow=1.5,SNR=5.5						
	comp=Z,3.3nm,0.8s						
YAK	**Yakutsk**	**52.43**	**2**	P	**P**	**13 52 34.2**	**+0.5**
MK31	**Makanchi Array**	**52.47**	**323**	P	**P**	**13 52 35.2**	**+0.9**
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**13 52 34.5**	**+0.2**
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**13 52 35.4**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=121,slow=8.1,SNR=28						
MKAR				PcP	**PcP**	**13 53 45.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=105,slow=4.9,SNR=1.6						
	comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**52.66**	**323**	P	**P**	**13 52 36.2**	**+0.4**
NIL	**Nilore**	**53.97**	**305**	P	**P**	**13 52 46.5**	**+0.9**
NIL				IAmb	IAmb	13 52 49.8	
	comp=Z,4.0nm,0.8s						
ZAA0	**Zalesovo Array**	**55.14**	**332**	P	**P**	**13 52 52.5**	**-1.2**
ZALV	**Zalesovo Beam**	**55.14**	**332**	P	**P**	**13 52 53.2**	**-0.5**
ZALV	**Zalesovo Beam**	**55.14**	**332**	P	**P**	**13 52 52.5**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=175,slow=3.7,SNR=4.2						
	comp=Z,0.6nm,0.4s						
KURK	**Kurchatov**	**56.53**	**326**	P	**P**	**13 53 02.4**	**-1.3**
KURK				IAmb	IAmb	13 53 05.3	
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**56.54**	**326**	P	**P**	**13 53 02.7**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=125,slow=6.7,SNR=11						
	comp=Z,1.7nm,0.6s						
KBL	**Kabul**	**57.57**	**305**	P	**P**	**13 53 10.9**	**-0.8**
GAR	**Garm**	**57.59**	**310**	P	**P**	**13 53 11.5**	**-0.2**
GAR				IAmb	IAmb	13 53 13.7	
	comp=Z,5.1nm,0.9s						
CHGR	**Chuyangaron**	**58.38**	**310**	P	**P**	**13 53 15.6**	**-1.6**
CHGR				IAmb	IAmb	13 53 20.6	
	comp=Z,5.2nm,0.9s						
KKAR	**Karatay Array**	**58.60**	**315**	P	**P**	**13 53 18.6**	**+0.1**
TIXI	**Tiksi**	**62.05**	**1**	P	**P**	**13 53 41.0**	**-0.5**
BVAR	**Borovoye Array**	**62.13**	**326**	P	**P**	**13 53 43.5**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=126,slow=7.5,SNR=6.6						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**62.20**	**326**	P	**P**	**13 53 43.5**	**+0.6**
BRVK				IAmb	IAmb	13 53 50.8	
	comp=Z,3.4nm,1.0s						
BILL	**Bilibino**	**64.12**	**16**	P	**P**	**13 53 54.8**	**-0.5**
NRIK	**Noril'sk**	**64.64**	**346**	P	**P**	**13 53 59.0**	**+0.3**
NRIK				IAmb	IAmb	13 54 01.0	
	comp=Z,6.3nm,1.0s						
NRIK	**Noril'sk**	**64.64**	**346**	P	**P**	**13 53 59.6**	**+0.9**
	comp=Z,6.4nm,1.0s,baz=115,slow=6.4,SNR=7.9						
	comp=Z,6.4nm,1.0s						
ABKAR	**Akbulak array**	**67.28**	**319**	P	**P**	**13 54 16.1**	**0.0**
UNV	**Unalaska Valle**	**69.06**	**36**	P	**P**	**13 54 27.8**	**+0.7**
ARTI	**Arti**	**69.79**	**327**	P	**P**	**13 54 31.9**	**+0.3**
ARTI				IAmb	IAmb	13 54 47.8	
	comp=Z,5.6nm,1.1s						
L14K	**Kuka Creek**	**72.69**	**29**	P	**P**	**13 54 50.0**	**+1.0**
L14K				IAmb	IAmb	13 55 05.1	
	comp=Z,8.7nm,1.0s						
N15K	**Kwethluk River**	**73.72**	**30**	P	**P**	**13 54 53.5**	**-1.7**
N15K				IAmb	IAmb	13 55 12.1	
	comp=Z,5.7nm,0.9s						
J17K	**VABM Dome**	**74.72**	**27**	P	**P**	**13 55 00.2**	**-0.7**
E18K	**Tukpahlearik C**	**74.83**	**23**	P	**P**	**13 55 00.2**	**-1.2**
E18K				IAmb	IAmb	13 55 03.3	
	comp=Z,5.0nm,0.9s						
C18K	**Utukok River**	**74.88**	**21**	P	**P**	**13 55 01.2**	**-0.6**
C18K				IAmb	IAmb	13 55 03.2	
	comp=Z,5.4nm,1.0s						
K17K	**Iditarod**	**74.96**	**28**	P	**P**	**13 55 01.2**	**-1.1**
N18K	**Kilae Creek**	**75.85**	**30**	P	**P**	**13 55 06.5**	**-1.0**
N18K				IAmb	IAmb	13 55 13.4	
	comp=Z,7.1nm,1.1s						
O18K	**Koktuh Hills**	**76.11**	**31**	P	**P**	**13 55 07.5**	**-1.5**
H19K	**Roundabout Mou**	**76.16**	**25**	P	**P**	**13 55 08.0**	**-1.0**
H19K				IAmb	IAmb	13 55 11.0	
	comp=Z,4.3nm,0.8s						
F20K	**Avaraart Lake**	**76.64**	**23**	P	**P**	**13 55 11.1**	**-0.7**
F20K				IAmb	IAmb	13 55 13.6	
	comp=Z,3.5nm,0.9s						
KDAK	**Kodiak Island**	**77.35**	**33**	P	**P**	**13 55 14.9**	**-1.1**
B21K	**Ikpikpuk River**	**77.36**	**21**	P	**P**	**13 55 15.8**	**0.0**
G21K	**Allakaket**	**77.46**	**24**	P	**P**	**13 55 15.6**	**-0.9**
G21K				IAmb	IAmb	13 55 18.3	
	comp=Z,8.0nm,1.1s						
H21K	**Melozitna Rive**	**77.68**	**25**	P	**P**	**13 55 16.7**	**-1.0**
B22K	**Teshekpuk Lake**	**77.85**	**20**	P	**P**	**13 55 19.5**	**+0.9**
CAST	**Castle Rocks**	**77.85**	**27**	P	**P**	**13 55 17.7**	**-1.0**
E22K	**Anaktuvuk Pass**	**78.24**	**22**	P	**P**	**13 55 21.2**	**+0.4**
E22K				IAmb	IAmb	13 55 26.5	
	comp=Z,5.1nm,1.1s						
GEVA	**Gevas**	**78.68**	**307**	P	**P**	**13 55 22.6**	**-1.5**
GEVA				IAmb	IAmb	13 55 26.9	
	comp=Z,6.6nm,1.0s						
D23K	**Nanushuk River**	**78.70**	**21**	P	**P**	**13 55 22.5**	**-0.8**
D23K				IAmb	IAmb	13 55 25.2	
	comp=Z,5.7nm,1.0s						
C23K	**Itkillik River**	**78.77**	**21**	P	**P**	**13 55 22.9**	**-0.7**
C23K				IAmb	IAmb	13 55 25.4	
	comp=Z,6.4nm,0.8s						
COLD	**Coldfoot**	**78.81**	**23**	P	**P**	**13 55 22.8**	**-1.1**
COLD				IAmb	IAmb	13 55 26.4	
	comp=Z,5.8nm,1.0s						
E23K	**Chandalar**	**79.06**	**22**	P	**P**	**13 55 26.1**	**+0.7**
E23K				IAmb	IAmb	13 55 27.6	
	comp=Z,7.8nm,1.0s						
TOLK	**Toolik Lake Re**	**79.09**	**22**	P	**P**	**13 55 24.8**	**-0.7**
TOLK				IAmb	IAmb	13 55 27.4	
	comp=Z,5.8nm,1.0s						
PMR	**Palmer**	**79.17**	**29**	P	**P**	**13 55 25.1**	**-0.9**
PMR				IAmb	IAmb	13 55 26.2	

KMSI Cibinong 9.47 194 P Pn 13 53 42.9 +4.9
104nm,0.9s
TOLI2 Tolitoli 10.24 213 Pn **Pn 13 53 47.6 -1.0**
MRSI Marisa 10.24 205 P **Pn 13 53 51.6 +3.0**
28nm,0.5s
KKM Kota Kinabalu 10.66 250 Pn **Pn 13 53 54.1 -0.3**
LUWI Luwuk 11.34 198 P **Pn 13 54 07.7 +4.0**
1um55nm,0.9s
APSI Ampana 11.62 204 P Pn 13 54 12.4 +5.0
848nm53nm,0.9s
SANI Sanana 11.79 181 P **Pn 13 54 14.0 +4.1**
25nm,0.7s
TWG Pinlang 13.86 340 Pn **Pn 13 54 35.3 -2.7**
FAKI Fak Fak 13.98 155 Pn **Pn 13 54 35.3 -4.4**
TTSI Tana Toraja 14.31 207 P **P 13 54 48.9 -1.6**
33nm,1.1s
YULB Yu-li 14.32 341 Pn **Pn 13 54 42.0 -2.2**
TPUB Ta-pu 14.46 339 Pn **Pn 13 54 44.4 -1.8**
SPSI Sidrap Palu 15.16 206 P **P 13 54 58.8 -1.1**
29nm,1.0s
YHNB Yeheng 15.49 343 Pn **Pn 13 54 58.7 -1.1**
SBUM Sibu 15.78 243 P **P 13 55 08.2 +1.4**
KAPI Kappang 16.11 204 LR LR 14 02 17.5
comp=Z,426nm,20.0s,baz=26,slow=41
HKPS Hong Kong Po S 17.00 318 P **P 13 55 19.7 -0.7**
HKPS IAmb IAmb 13 55 57.0
comp=Z,62nm,1.0s
JOW Kunigami 17.03 6 LR LR 14 00 57.6
comp=Z,297nm,19.3s,baz=144,slow=34
STKI Sintang 17.64 238 P P 13 55 47.4 +20
GUMO Guam 18.57 77 LR LR 14 01 09.7
comp=Z,363nm,19.6s,baz=214,slow=32
JAY Jayapura 18.88 130 P **P 13 55 40.0 -1.1**
comp=Z,0.7nm,0.3s,baz=57,slow=4.0,SNR=3.6
comp=Z,44nm,1.2s
SOEI Soe 19.55 186 P **P 13 55 48.2 -0.3**
SOEI Soe 19.55 186 P **Pn 13 55 51.7 +1.6**
comp=Z,80nm,1.1s
UBPT Khong Chiam 21.03 287 P **P 13 56 05.0 +0.6**
JCJ Chichijima 22.82 39 LR LR 14 03 07.0
comp=Z,315nm,21.8s,baz=275,slow=31
MTN Manton Dam 23.02 168 P **P 13 56 25.7 0.0**
JNU Nakatsue 23.57 10 LR LR 14 06 33.8
comp=Z,151nm,19.2s,baz=164,slow=38
LEM Lembang 24.89 229 LR LR 14 07 59.0
comp=Z,395nm,18.6s,baz=122,slow=40
KNRA Kununurra 25.45 174 P **P 13 56 49.8 +1.5**
IPM Ipoh 25.61 260 P **P 13 56 51.2 +1.4**
IPM IAmb IAmb 13 56 55.6
comp=Z,13nm,0.8s
KULM Kulim 25.80 262 P **P 13 56 52.8 +1.2**
KULM IAmb IAmb 13 57 02.5
comp=Z,12nm,1.1s
PHRA Phrae 26.67 292 P **P 13 57 00.0 +0.6**
MNAI Manna 27.18 240 P **P 13 57 03.3 -0.7**
KSRS Korea Array 27.55 3 P **P 13 57 07.8 +0.7**
comp=Z,1.5nm,0.9s,baz=185,slow=13,SNR=5.2
KSRS LR LR 14 10 31.5
comp=Z,177nm,18.1s,baz=180,slow=42
comp=Z,1.5nm,0.9s
FITZ Fitzroy Crossi 27.75 181 P **P 13 57 09.5 +0.5**
FITZ Fitzroy Crossi 27.75 181 P **P 13 57 09.2 +0.3**
comp=Z,16nm,0.7s,baz=10,slow=7.3,SNR=20
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 27.84 291 P **P 13 57 10.1 +0.2**
CMAR Chiang Mai Arr 27.84 291 P **P 13 57 11.0 +1.1**
comp=Z,2.9nm,0.9s,baz=101,slow=7.6,SNR=16
CMAR LR LR 14 09 41.2
comp=Z,201nm,18.2s,baz=110,slow=40
comp=Z,2.9nm,0.9s
CHTO Chiang Mai 27.93 292 P **P 13 57 11.0 +0.3**
PSI Prapat 28.06 257 LR LR 14 10 19.4
comp=Z,231nm,18.9s,baz=94,slow=41
RPSI Rantau Prapat 28.09 257 P **P 13 57 12.8 +0.6**
RPSI IAmb IAmb 13 57 28.5
comp=Z,10.0nm,1.1s
MJAR Matsushiro Arr 28.71 20 LR LR 14 09 37.8
comp=Z,327nm,18.1s,baz=193,slow=38
COEN Coen 28.96 144 P **P 13 57 19.4 -0.4**
COEN IAmb IAmb 13 57 29.6
comp=Z,27nm,1.4s
KRVT Keravat (AS076 29.23 118 LR LR 14 09 33.6
comp=Z,80nm,18.2s,baz=204,slow=37
WB0 Warramunga Arr 30.46 165 P **P 13 57 33.4 +0.3**
WRA Warramunga Arr 30.62 165 P **P 13 57 34.2 -0.2**
WRA Warramunga Arr 30.62 165 P **P 13 57 32.5 -1.9**
comp=Z,1.1nm,0.6s,baz=346,slow=8.2,SNR=14
comp=Z,1.1nm,0.6s
WB2 Warramunga Arr 30.62 165 P **P 13 57 34.0 -0.5**
WB2 IAmb IAmb 13 57 50.7
comp=Z,11nm,1.1s
WR0 Warramunga Arr 30.69 165 P **P 13 57 33.7 -1.4**
JMM Marumori 30.83 23 P **P 13 57 35.2 -0.9**
BJT Baijiatuau 31.39 345 P **P 13 57 42.4 +1.3**
MBWA Marble Bar 31.45 192 P **P 13 57 41.3 -0.5**
PSA00 Pilbara Seismi 31.83 191 P **P 13 57 44.9 -0.2**
AS31 Alice Springs 34.10 167 P **P 13 58 06.2 +1.2**
ASAR Alice Springs 34.10 167 P **P 13 58 04.5 -0.4**
comp=Z,0.7nm,0.3s,baz=350,slow=7.1,SNR=35
ASAR PcP **PcP 14 00 42.5 +0.6**
comp=Z,0.7nm,0.7s,baz=340,slow=3.2,SNR=2.8
comp=Z,0.7nm,0.3s
USA0B Ussuriysk Arra 34.61 7 P **P 13 58 09.0 -0.1**
USA0B IAmb IAmb 13 58 25.4
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 34.61 7 P **P 13 58 08.3 -0.8**
USRK Ussuriysk Ar. 34.61 7 LR LR 14 11 31.3
comp=Z,187nm,21.8s,baz=171,slow=35
BRDH Bariadhala 35.53 295 LR LR 14 15 18.8
comp=Z,172nm,18.5s,baz=164,slow=40
SHL Shillong 36.18 300 P **P 13 58 22.4 -0.7**
ASAJ Asahikawa 36.98 20 P **P 13 58 31.1 +1.7**
comp=Z,3.8nm,0.8s,baz=324,slow=27,SNR=1.2
ASAJ LR LR 14 15 20.8
comp=Z,219nm,18.0s,baz=224,slow=39
comp=Z,3.8nm,0.8s
HNR Honiara 38.58 119 LR LR 14 15 10.2
comp=Z,46nm,18.8s,baz=322,slow=37
KLR Kul'dur 39.55 6 P **P 13 58 52.3 +1.3**
comp=Z,0.7nm,0.5s,baz=160,slow=9.0,SNR=2.9
KLR LR LR 14 16 12.8
comp=Z,129nm,18.8s,baz=121,slow=38
comp=Z,0.7nm,0.5s
MORW Morawa 39.91 194 P **P 13 58 54.9 +0.7**
MORW IAmb IAmb 13 59 01.9
comp=Z,13nm,0.9s
H11S3 WAKE ISLAND Hy 40.03 73 T T 14 41 50.7
baz=262,slow=74,SNR=43
H11S1 WAKE ISLAND Hy 40.05 73 T T 14 41 51.5
baz=262,slow=74,SNR=22
H11S2 WAKE ISLAND Hy 40.05 73 T T 14 41 57.4
baz=262,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 40.38 71 T T 14 42 27.5
baz=265,slow=74,SNR=83
H11N2 WAKE ISLAND Hy 40.39 71 T T 14 42 28.0
baz=265,slow=74,SNR=49
H11N3 WAKE ISLAND Hy 40.40 71 T T 14 42 25.9
baz=265,slow=74,SNR=70
FORT Forrest 40.40 178 P **P 13 58 57.8 -0.5**
ULN Ulaanbaatar 41.25 340 P **P 13 59 06.3 +1.0**
SONM Songino Array 41.45 340 P **P 13 59 06.8 0.0**
SONM Songino Array 41.45 340 P **P 13 59 07.8 +1.0**
comp=Z,2.0nm,0.6s,baz=156,slow=9.7,SNR=13
SONM PcP **PcP 14 01 05.0 +0.9**
comp=Z,0.2nm,0.3s,baz=161,slow=4.9,SNR=1.5
SONM LR LR 14 18 53.4
comp=Z,156nm,18.1s,baz=42,slow=40
comp=Z,2.0nm,0.6s
NWAO Narrogin (SRO) 43.38 191 P **P 13 59 24.0 +1.5**
NWAO Narrogin (SRO) 43.38 191 LR LR 14 20 07.3
comp=Z,83nm,19.6s,baz=255,slow=40
BBOO Buckleboo 43.40 168 P **P 13 59 23.0 +0.3**
STKA Stephens Creek 43.97 161 P **P 13 59 27.0 -0.4**
STKA IAmb IAmb 14 00 01.0
comp=Z,8.4nm,1.1s
STKA Stephens Creek 43.97 161 P **P 13 59 26.5 -0.9**
comp=Z,2.1nm,0.4s,baz=346,slow=8.2,SNR=6.6
comp=Z,2.1nm,0.4s
PETK Petropavlovsk- 50.04 24 P **P 14 00 16.0 +1.6**
PETK Petropavlovsk- 50.04 24 P **P 14 00 14.0 -0.4**
comp=Z,9.4nm,1.1s,baz=228,slow=8.2,SNR=6.2
PETK LR LR 14 22 12.0
comp=Z,132nm,18.8s,baz=74,slow=37
comp=Z,9.4nm,1.1s
YAK Yakutsk 52.17 2 P **P 14 00 29.9 -0.4**
comp=Z,4.4nm,0.5s,baz=190,slow=5.1,SNR=5.7
comp=Z,4.4nm,0.5s

MK31 Makanchi Array 52.40 323 P **P 14 00 32.6 +0.3**
MKAR Makanchi Array 52.40 323 P **P 14 00 32.3 0.0**
MKAR Makanchi Array 52.40 323 P **P 14 00 32.1 -0.2**
comp=Z,3.5nm,0.6s,baz=121,slow=8.1,SNR=45
MKAR PcP **PcP 14 01 42.7 0.0**
comp=Z,1.2nm,0.8s,baz=138,slow=4.2,SNR=1.9
MKAR ScP **ScP 14 05 35.7 -1.1**
comp=Z,1.4nm,1.1s,baz=116,slow=3.4,SNR=5.1
comp=Z,3.5nm,0.6s
MAKZ Makanchi 52.59 323 P **P 14 00 33.6 -0.1**
TARG Taragay, Kyrgy 53.03 315 P **P 14 00 36.8 -0.7**
ZALV Zalesovo Beam 55.03 331 P **P 14 00 49.8 -1.5**
ZALV Zalesovo Beam 55.03 331 P **P 14 00 50.8 -0.5**
comp=Z,0.7nm,0.3s,baz=128,slow=4.3,SNR=4.1
ZALV PcP **PcP 14 01 53.0 +0.5**
comp=Z,1.3nm,0.8s,baz=121,slow=4.2,SNR=1.8
comp=Z,0.7nm,0.3s
AAK Ala-Archa 55.66 315 LR LR 14 24 39.2
comp=Z,162nm,21.4s,baz=35,slow=36
KURK Kurchatov 56.45 326 P **P 14 01 01.2 -0.4**
KURK IAmb IAmb 14 01 05.3
comp=Z,4.7nm,0.8s
KURBB Kurchatov Arra 56.45 326 P **P 14 01 01.6 0.0**
comp=Z,2.0nm,0.6s,baz=125,slow=6.8,SNR=23
comp=Z,2.0nm,0.6s
SHEM Shemya Is, Ala 57.52 32 LR LR 14 25 58.8
comp=Z,28nm,19.2s,baz=302,slow=36
GAR Garm 57.59 310 P **P 14 01 10.2 +0.1**
GAR IAmb IAmb 14 01 44.7
comp=Z,8.1nm,1.1s
KBL Kabul 57.60 305 P **P 14 01 08.5 -1.9**
KBL IAmb IAmb 14 01 15.5
comp=Z,3.4nm,0.6s
CHGR Chuyangaron 58.39 309 P **P 14 01 15.0 -0.7**
CHGR IAmb IAmb 14 01 59.0
comp=Z,6.9nm,1.0s
KK31 Karatay Array 58.58 315 P **P 14 01 16.8 0.0**
KK31 IAmb IAmb 14 01 43.5
comp=Z,5.8nm,1.4s
KKAR Karatay Array 58.58 315 P **P 14 01 16.8 0.0**
TIXI Tiksi 61.80 1 P **P 14 01 39.0 +0.7**
KIWB Kanaga Island 61.98 36 P **P 14 01 40.7 +0.8**
BVAR Borovoye Array 62.04 326 P **P 14 01 39.0 -1.3**
comp=Z,1.4nm,0.7s,baz=127,slow=9.4,SNR=7.9
comp=Z,1.4nm,0.7s
BRVK Borovoye 62.12 326 P **P 14 01 41.2 +0.5**
BRVK IAmb IAmb 14 01 46.4
comp=Z,4.7nm,1.1s
BILL Bilibino 63.83 16 P **P 14 01 52.9 +1.0**
BILL IAmb IAmb 14 02 27.4
comp=Z,10nm,1.5s
NRIK Noril'sk 64.45 346 P **P 14 01 56.4 +0.5**
NRIK IAmb IAmb 14 01 58.9
comp=Z,8.3nm,1.2s
NRIK Noril'sk 64.45 346 P **P 14 01 55.9 0.0**
comp=Z,2.7nm,0.7s,baz=142,slow=6.7,SNR=5.6
comp=Z,2.7nm,0.7s
ABKAR Akbulak array 67.23 319 P **P 14 02 13.7 -0.5**
M13K Dall Lake 71.85 29 P **P 14 02 42.1 -0.3**
L14K Kuka Creek 72.37 29 P **P 14 02 47.4 +1.9**
C16K Lisburne Hills 72.99 21 P **P 14 02 49.8 +0.8**
C16K IAmb IAmb 14 03 19.6
comp=Z,8.1nm,1.4s
L16K Owhat River 73.95 28 P **P 14 02 55.5 +0.7**
L16K IAmb IAmb 14 03 05.3
comp=Z,13nm,1.4s
M16K Timber Creek 74.08 29 P **P 14 02 55.5 -0.1**
E18K Tukpahlearik C 74.52 23 P **P 14 02 57.7 -0.4**
E18K IAmb IAmb 14 03 01.0
comp=Z,7.4nm,1.3s
C18K Utukok River 74.57 21 P **P 14 02 58.0 -0.4**
D19K Kuna River 75.65 22 IAmb IAmb 14 03 12.4
comp=Z,1nm,1.5s
E19K Redstone River 75.81 23 IAmb IAmb 14 03 16.2
comp=Z,5.1nm,1.1s
B21K Ikpikpuk River 77.06 21 IAmb IAmb 14 03 15.3
comp=Z,9.5nm,1.2s
G21K Allakaket 77.15 24 IAmb IAmb 14 03 23.2
comp=Z,6.3nm,1.2s
BPAW Bear Paw Mtn. 78.05 26 P **P 14 03 17.9 -0.3**
BPAW IAmb IAmb 14 03 20.5
comp=Z,8.7nm,1.2s
SUA Susitna One 78.08 29 P **P 14 03 17.9 -0.6**
SUA IAmb IAmb 14 03 56.8
comp=Z,10.0nm,1.2s
D23K Nanushuk River 78.39 21 IAmb IAmb 14 03 22.4
comp=Z,7.3nm,1.4s
C23K Itkillik River 78.46 21 IAmb IAmb 14 03 26.2
comp=Z,11nm,1.2s
E23K Chandalar 78.75 22 IAmb IAmb 14 03 49.1
comp=Z,6.2nm,1.1s
MCK McKinley 78.95 27 P **P 14 03 21.9 -1.3**
MCK IAmb IAmb 14 03 24.7
comp=Z,14nm,1.4s
RND Reindeer 78.99 27 P **P 14 03 23.7 +0.3**
RND IAmb IAmb 14 03 24.1
comp=Z,8.2nm,1.4s
D24K Happy Valley 79.07 21 P **P 14 03 23.8 +0.1**
D24K IAmb IAmb 14 03 51.6
comp=Z,9.2nm,1.4s
C24K Franklin Bluff 79.12 21 P **P 14 03 23.5 -0.4**
SML Sawmill 79.23 29 P **P 14 03 24.7 -0.1**
SML IAmb IAmb 14 03 45.1
comp=Z,8.7nm,1.2s
PWL Port Wells 79.24 30 P **P 14 03 23.9 -0.9**
PWL IAmb IAmb 14 03 28.2
comp=Z,8.3nm,1.0s
ILAR Eielson Array 79.83 26 P **P 14 03 28.6 +0.7**
comp=Z,0.7nm,1.1s,baz=258,slow=4.3,SNR=6.2
comp=Z,0.7nm,1.1s
PAX Paxson 80.53 28 P **P 14 03 31.2 -0.7**
BMAR Burnt Mountain 80.67 23 P **P 14 03 32.7 +0.2**
RIDG Independent Ri 80.77 27 P **P 14 03 32.3 -0.8**
RIDG IAmb IAmb 14 03 44.3
comp=Z,13nm,1.5s
C27K Jago River 80.87 21 P **P 14 03 33.9 +0.4**
BMRM Bremner River 81.06 30 P **P 14 03 35.2 +0.5**
SCRK Sand Creek 81.13 27 P **P 14 03 35.0 -0.1**
J26L Joseph Creek 81.28 26 P **P 14 03 36.1 +0.3**
MENT Mentasta 81.33 28 P **P 14 03 35.8 -0.3**
MENT IAmb IAmb 14 04 14.9
comp=Z,8.0nm,1.5s
D27M Malcolm River 81.87 21 P **P 14 03 39.8 +1.0**
D27M IAmb IAmb 14 03 41.7
comp=Z,9.0nm,1.3s
L27K Beaver Creek, 82.18 27 P **P 14 03 40.3 -0.2**
L27K IAmb IAmb 14 03 43.5
comp=Z,5.6nm,1.4s
E28M Babbage River 82.46 22 P **P 14 03 41.6 -0.2**
E28M IAmb IAmb 14 03 43.9
comp=Z,12nm,1.5s
F28M Old Crow 82.46 23 P **P 14 03 42.4 +0.5**
I28M Miner Creek 82.71 25 P **P 14 03 44.9 +1.6**
I28M IAmb IAmb 14 03 56.4
comp=Z,3.5nm,0.8s
H29M Whitestone 83.24 24 P **P 14 03 46.2 +0.3**
H29M IAmb IAmb 14 04 29.0
comp=Z,9.2nm,1.4s
L29M L29M 83.84 27 P **P 14 03 50.1 +1.0**
SPB2 Spitsbergen Ar 84.46 349 P **P 14 03 51.9 -0.1**
SPITS Spitsbergen Ar 84.46 349 P **P 14 03 52.0 0.0**
comp=Z,9.9nm,0.9s,baz=95,slow=8.5,SNR=9.7
comp=Z,9.9nm,0.9s
HYT Haines Junctio 84.52 29 P **P 14 03 52.5 -0.3**
HYT IAmb IAmb 14 04 06.5
comp=Z,4.2nm,1.0s
ARCES ARCESS Array B 84.62 340 P **P 14 03 52.8 -0.1**
comp=Z,3.0nm,0.7s,baz=83,slow=5.5,SNR=12
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 85.83 309 P **P 14 03 59.2 -0.5**
comp=Z,1.1nm,0.8s,baz=103,slow=5.3,SNR=5.6
comp=Z,1.1nm,0.8s
FINES FINESS Array B 86.29 332 P **P 14 04 01.5 +0.2**
comp=Z,5.5nm,0.9s,baz=67,slow=5.5,SNR=19
comp=Z,5.5nm,0.9s
AKASG Malin Array Be 86.92 321 P **P 14 04 04.2 -0.5**
comp=Z,1.0nm,0.6s,baz=63,slow=4.7,SNR=7.5
comp=Z,1.0nm,0.6s
HFS Hagfors 92.45 332 P **P 14 04 30.1 -0.4**
comp=Z,4.2nm,0.8s,baz=79,slow=7.7,SNR=8.4
comp=Z,4.2nm,0.8s
NOA NORSAR Array B 93.17 334 P **P 14 04 32.3 -1.5**
comp=Z,1.1nm,0.8s,baz=65,slow=4.5,SNR=3.4
NOA LR LR 14 48 51.9
comp=Z,61nm,18.2s,baz=250,slow=37
comp=Z,1.1nm,0.8s

YKA Yellowknife Ar 94.16 24 P **P 14 04 39.1 +0.9**
comp=Z,1.2nm,0.9s,baz=300,slow=4.7,SNR=8.6
comp=Z,1.2nm,0.9s
YBH Yreka Blue Hor 98.74 45 LR LR 14 40 17.4
comp=Z,80nm,21.9s,baz=339,slow=30
PLCA Paso Flores 145.79 157 PKPbc **PKPbc 14 10 59.4 +0.3**
comp=Z,2.2nm,0.8s,baz=150,slow=4.9,SNR=5.4

DJA 08 13:51:42.4±2.2, 5°S±4°×13°1E±°, h35km±50km, M3.9/10, mb4.1/2, MLv3.7/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.02**	**34**	P	Pn	Pn	13 52 14.2	+0.2
FAKI				S	Sn	Sn	13 52 39.1	+1.0
MSAI	**Masohi**	**2.52**	**300**	P	Pn	Pn	13 52 21.3	+0.4
KMPI	**Kaimana, Papua**	**2.74**	**70**	P	Pn	Pn	13 52 23.8	-0.2
SAUI	**Saumlaki**	**3.35**	**177**	P	Pn	Pn	13 52 32.4	0.0
SWI	**Sorong**	**3.73**	**2**	P	Pn	Pn	13 52 37.4	-0.1
RKPI	**Ransiki, Papua**	**4.34**	**45**	P	Pn	Pn	13 52 45.8	-0.1
SANI	**Sanana**	**5.72**	**296**	P	Pn	Pn	13 53 04.9	0.0
	0.1nm9.7nm,0.9s							
BAKI	**Biak**	**6.03**	**56**	P	Pn	Pn	13 53 09.8	+0.7

---

*IDC **08** 13:56:44.2±10.0, 14°.32S×167°.15E, h83km±110km, mb3.4/4, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=116.4km s-min=36.9km az=149.0*
*NOU **08** 13:56:49.0, 14°.89S×166°.90E, h0km, ML4.3/12, Vanuatu Islands*
ISC 08 13:56:43.4±1.3, 14°.34S±0°.10×167°.1E±0°.1, h67km, n14, σ2°22/15, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.53**	**162**	P	**Pn**		**13 57 38.0**	**+2.1**
DVP	**Devils Point**	**3.53**	**162**	S	**Sn**		**13 58 17.5**	**+1.0**
KOUNC	**Koumac, New Ca**	**6.72**	**203**	P	**Pn**		**13 58 23.0**	**+3.5**
KOUNC	**Koumac, New Ca**	**6.72**	**203**	S	**Sn**		**13 59 33.2**	**-1.4**
YATNC	**Mamie plateau,**	**7.68**	**181**	P	**Pn**		**13 58 33.5**	**+0.9**
YATNC	**Mamie plateau,**	**7.68**	**181**	S	**Sn**		**13 59 57.4**	**-0.7**
DZM	**Mont Dzumac**	**7.71**	**184**	P	**Pn**		**13 58 34.3**	**+1.1**
	2.6nm,0.3s,baz=350,slow=12,SNR=34							
DZM				S	**Sn**		**13 59 54.1**	**-5.0**
	3.6nm,0.4s,baz=142,slow=16,SNR=1.1							
	8.3nm,0.4s							
ONTNC	**Ouen Toro**	**7.94**	**184**	P	**Pn**		**13 58 38.3**	**+2.1**
OUENC	**Ouen Island, N**	**8.04**	**181**	P	**Pn**		**13 58 39.5**	**+2.0**
PINNC	**Pines Island,**	**8.23**	**178**	P	**Pn**		**13 58 41.2**	**+1.0**
STKA	**Stephens Creek**	**29.09**	**229**	P	**P**		**14 02 37.4**	**-0.5**
	1.9nm,0.7s,baz=60,slow=8.5,SNR=5.0							
	1.9nm,0.7s							
WRA	**Warramunga Arr**	**31.72**	**255**	P	**P**		**14 03 02.0**	**+0.8**
	0.3nm,0.8s,baz=83,slow=9.1,SNR=1.1							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**32.62**	**248**	P	**P**		**14 03 08.7**	**-0.4**
	0.4nm,0.4s,baz=77,slow=9.7,SNR=6.7							
	0.4nm,0.4s							
ILAR	**Eielson Array**	**86.22**	**18**	P	**P**		**14 09 15.9**	**-1.3**
	0.5nm,0.9s,baz=211,slow=6.7,SNR=2.3							
	0.5nm,0.9s							

IDC 08 14:03:39.4±2.7, 9°.38N×125°.30E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=206.3km s-min=22.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.31**	**179**	P	P	P	14 09 26.1	+0.1
	2.2nm,0.8s,baz=358,slow=10.0,SNR=1.7							
	2.2nm,0.8s							
WRA	**Warramunga Arr**	**30.47**	**163**	P	P		14 09 53.6	-0.6
	0.3nm,0.8s,baz=341,slow=7.6,SNR=1.6							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**33.91**	**166**	P	P		14 10 24.8	+0.4
	0.1nm,0.3s,baz=349,slow=8.5,SNR=1.6							
	0.1nm,0.3s							
H11S3	**WAKE ISLAND Hy 41.10**		**73**	T	T		14 54 09.1	
	baz=261							
H11S1	**WAKE ISLAND Hy 41.11**		**73**	T	T		14 54 13.0	
	baz=261							
H11S2	**WAKE ISLAND Hy 41.11**		**73**	T	T		14 54 14.6	
	baz=261							
H11N1	**WAKE ISLAND Hy 41.45**		**71**	T	T		14 54 39.4	
	baz=267							
H11N2	**WAKE ISLAND Hy 41.46**		**71**	T	T		14 54 36.1	
	baz=267							
H11N3	**WAKE ISLAND Hy 41.47**		**71**	T	T		14 54 34.8	
	baz=267							
MKAR	**Makanchi Array**	**52.16**	**324**	P	P		14 12 52.0	+0.2
	0.4nm,0.6s,baz=126,slow=8.4,SNR=6.9							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**56.26**	**326**	P	P		14 13 21.2	-0.4
	0.3nm,0.6s,baz=123,slow=7.2,SNR=3.1							
	0.3nm,0.6s							

---

*IDC **08** 14:05:24.4±0.9, 9°.91N×126°.55E, h0km, mb3.8/10, mbtmp3.9/11, ML4.6/1, Error ellipse: s-maj=38.9km s-min=15.8km az=78.0*
ISC 08 14:05:30.4±0.9, 9°.87N±0°.08×126°.6E±0°.2, h42km, n17, σ0°87/12, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.94**	**199**	Pn	**Pn**		**14 06 14.5**	**-0.2**
	89nm,0.3s,baz=112,slow=20,SNR=2.5							
DAV				Sn	**Sn**		**14 06 49.7**	**+0.8**
	baz=34,slow=18							
	316nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.80**	**182**	P	**P**		**14 11 15.1**	**-0.7**
	4.0nm,0.9s,baz=1.0,slow=3.3,SNR=2.7							
	4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**28.06**	**291**	P	**P**		**14 11 18.2**	**0.0**
	0.3nm,0.3s,baz=108,slow=6.5,SNR=4.5							
	0.3nm,0.3s							
WRA	**Warramunga Arr**	**30.60**	**165**	P	**P**		**14 11 39.7**	**-1.0**
	0.5nm,0.7s,baz=342,slow=8.4,SNR=5.0							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**34.10**	**168**	P	**P**		**14 12 12.3**	**+1.1**
	0.3nm,0.3s,baz=351,slow=7.3,SNR=6.4							
	0.3nm,0.3s							
H11S3	**WAKE ISLAND Hy 39.77**		**73**	T	T		14 56 05.1	
	baz=260							
H11S1	**WAKE ISLAND Hy 39.79**		**73**	T	T		14 55 58.7	
	baz=260							
H11S2	**WAKE ISLAND Hy 39.79**		**73**	T	T		14 56 05.1	
	baz=260							
H11N1	**WAKE ISLAND Hy 40.12**		**71**	T	T		14 56 27.3	
	baz=265,slow=75,SNR=6.7							
H11N2	**WAKE ISLAND Hy 40.13**		**71**	T	T		14 56 22.5	
	baz=265,slow=75,SNR=4.2							
H11N3	**WAKE ISLAND Hy 40.14**		**71**	T	T		14 56 21.3	
	baz=265,slow=75,SNR=6.0							
SONM	**Songino Array**	**41.49**	**339**	P	**P**		**14 13 14.7**	**+1.2**
	0.2nm,0.5s,baz=157,slow=10,SNR=2.6							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**52.51**	**323**	P	**P**		**14 14 38.9**	**-0.6**
	1.0nm,0.7s,baz=118,slow=8.0,SNR=10							
	1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**56.56**	**325**	P	**P**		**14 15 07.6**	**-1.1**
	0.7nm,0.7s,baz=124,slow=7.1,SNR=7.3							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**		**14 17 33.9**	**+0.4**
	0.3nm,0.8s,baz=246,slow=5.7,SNR=2.2							
	0.3nm,0.8s							
ARCES	**ARCESS Array B**	**84.66**	**340**	P	**P**		**14 17 59.5**	**0.0**
	3.5nm,1.0s,baz=78,slow=4.8,SNR=1.7							
	3.5nm,1.0s							
FINES	**FINESS Array B**	**86.37**	**332**	P	**P**		**14 18 07.7**	**-0.4**
	2.7nm,0.8s,baz=45,slow=3.8,SNR=5.5							
	2.7nm,0.8s							

---

*IDC **08** 14:10:09.8±1.8, 9°.67N×125°.79E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=195.3km s-min=22.4km az=68.0*
ISC 08 14:10:15.2±1.8, 9°.8N±0°.5×12°6E±°, h42km, n12, σ0°86/6, mb3.2/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**		**14 16 24.8**	**-0.9**
	0.3nm,0.8s,baz=341,slow=8.2,SNR=2.0							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**34.12**	**167**	P	**P**		**14 16 57.2**	**+1.0**

0.3nm,0.8s,baz=344,slow=8.5,SNR=1.8
0.3nm,0.8s
H11S3 WAKE ISLAND Hy 40.04 73 T T 15 00 43.7
baz=262
H11S1 WAKE ISLAND Hy 40.05 73 T T 15 00 43.2
baz=262
H11S2 WAKE ISLAND Hy 40.05 73 T T 15 00 46.0
baz=262
H11N1 WAKE ISLAND Hy 40.38 71 T T 15 01 13.2
baz=265
H11N2 WAKE ISLAND Hy 40.39 71 T T 15 01 11.8
baz=265
H11N3 WAKE ISLAND Hy 40.40 71 T T 15 01 13.0
baz=265
SONM Songino Array 41.43 340 P **P** **14 17 58.2 +0.5**
0.2nm,0.5s,baz=141,slow=7.1,SNR=2.3
0.2nm,0.5s
MKAR Makanchi Array 52.38 323 P **P** **14 19 23.1 -0.1**
0.4nm,0.6s,baz=131,slow=7.4,SNR=6.4
0.4nm,0.6s
KURBB Kurchatov Arra 56.43 326 P **P** **14 19 52.0 -0.6**
0.1nm,0.4s,baz=114,slow=5.7,SNR=2.6
0.1nm,0.4s
FINES FINESS Array B 86.28 332 P **P** **14 22 52.2 -0.1**
2.2nm,0.9s,baz=111,slow=7.6,SNR=3.4
2.2nm,0.9s

---

*IDC **08** 14:11:20.0±0.6,9.°86N×126.°34E,h0km,mb3.9/18, mbtmp3.9/18,MS3.4/1,Error ellipse: s-maj=31.0km s-min=14.0km az=72.0*
*NEIC **08** 14:11:22.7±1.5,9.°80N±0.°08×126.°2E±0.°2,h10km±1km, mb4.4/23,Error ellipse: s-maj=25.5km s-min=12.9km az=90.0*
ISC 08 14:11:26.2±0.5,9.°83N±0.°06×126.°3E±0.°1,h42km,n58, σ1§28/52,mb4.1/32,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.82**	**194**	Pn	**Pn**	**14 12 05.4**	**-3.4**
DAV	**Davao City (W)**	**2.82**	**194**	Sn	**Sn**	**14 12 46.8**	**+5.1**
	9.6nm,0.3s,baz=290,slow=18,SNR=1.0						
LUWI	**Luwuk**	**11.34**	**198**	Pn	**Pn**	**14 14 02.9**	**-2.8**
TPUB	**Ta-pu**	**14.43**	**339**	Pn	**Pn**	**14 14 48.3**	**+0.4**
MTN	**Manton Dam**	**23.04**	**168**	P	**P**	**14 16 28.0**	**0.0**
KNRA	**Kununurra**	**25.47**	**174**	P	**P**	**14 16 50.7**	**+0.3**
KNRA				IAmb	IAmb	14 17 19.5	
	comp=Z,23nm,1.2s						
IPM	**Ipoh**	**25.58**	**260**	P	**P**	**14 16 52.9**	**+1.3**
IPM				IAmb	IAmb	14 17 12.1	
	comp=Z,4.3nm,1.0s						
KULM	**Kulim**	**25.77**	**262**	P	**P**	**14 16 53.2**	**-0.1**
KULM				IAmb	IAmb	14 17 01.6	
	comp=Z,12nm,1.4s						
KSRS	**Korea Array**	**27.54**	**3**	P	**P**	**14 17 08.8**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=187,slow=9.4,SNR=2.1						
	comp=Z,0.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.76**	**181**	P	**P**	**14 17 10.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.76**	**181**	P	**P**	**14 17 11.8**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=330,slow=14,SNR=2.8						
	comp=Z,1.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.80**	**291**	P	**P**	**14 17 13.1**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=93,slow=8.4,SNR=5.7						
	comp=Z,0.6nm,0.6s						
COEN	**Coen**	**28.99**	**144**	P	**P**	**14 17 21.0**	**-1.2**
KRVT	**Keravat (AS076**	**29.27**	**118**	LR	LR	14 30 29.3	
	comp=Z,68nm,18.0s,baz=206,slow=39						
WB0	**Warramunga Arr**	**30.48**	**165**	P	**P**	**14 17 35.1**	**-0.3**
WB0				IAmb	IAmb	14 17 43.7	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**	**14 17 36.5**	**-0.3**
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**	**14 17 34.6**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=345,slow=8.2,SNR=6.9						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**34.12**	**167**	P	**P**	**14 18 06.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=352,slow=7.4,SNR=10						
	comp=Z,0.3nm,0.4s						
H11S3	**WAKE ISLAND Hy 40.06 73**			T	T	15 01 51.6	
	baz=262,slow=74,SNR=8.0						
H11S1	**WAKE ISLAND Hy 40.08 73**			T	T	15 01 51.8	
	baz=262,slow=74,SNR=6.3						
H11S2	**WAKE ISLAND Hy 40.08 73**			T	T	15 01 52.4	
	baz=262,slow=74,SNR=5.3						
H11N1	**WAKE ISLAND Hy 40.41 71**			T	T	15 02 19.4	
	baz=265,slow=74,SNR=17						
FORT	**Forrest**	**40.41**	**178**	P	**P**	**14 19 00.8**	**+0.3**
FORT				IAmb	IAmb	14 19 14.3	
	comp=Z,17nm,0.9s						
H11N2	**WAKE ISLAND Hy 40.42 71**			T	T	15 02 22.2	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy 40.43 71**			T	T	15 02 21.2	
	baz=265,slow=74,SNR=16						
SONM	**Songino Array**	**41.42**	**340**	P	**P**	**14 19 08.6**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=158,slow=9.0,SNR=5.6						
	comp=Z,0.6nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.38**	**191**	P	**P**	**14 19 24.9**	**+0.2**
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**14 19 30.4**	**+0.7**
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**14 19 30.6**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=5.0,slow=13,SNR=2.8						
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**14 20 17.1**	**+0.5**
PETK	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**14 20 17.0**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=221,slow=7.5,SNR=1.6						
	comp=Z,3.2nm,0.9s						
PET	**Petropavlovsk**	**50.37**	**25**	P	**P**	**14 20 19.9**	**+1.0**
MK31	**Makanchi Array**	**52.36**	**323**	P	**P**	**14 20 34.2**	**+0.1**
MKAR	**Makanchi Array**	**52.36**	**323**	P	**P**	**14 20 34.0**	**-0.1**
MKAR	**Makanchi Array**	**52.36**	**323**	P	**P**	**14 20 34.4**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=121,slow=7.8,SNR=17						
MKAR				PcP	**PcP**	**14 21 44.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=118,slow=5.5,SNR=1.9						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**52.56**	**323**	P	**P**	**14 20 35.6**	**+0.1**
ZALV	**Zalesovo Beam**	**55.00**	**331**	P	**P**	**14 20 52.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=2.0						
	comp=Z,0.4nm,0.4s						
KURK	**Kurchatov**	**56.42**	**326**	P	**P**	**14 21 02.7**	**-0.8**
KURK				IAmb	IAmb	14 21 04.8	
	comp=Z,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**56.42**	**326**	P	**P**	**14 21 02.9**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=125,slow=6.8,SNR=9.8						
	comp=Z,1.0nm,0.7s						
GAR	**Garm**	**57.56**	**310**	P	**P**	**14 21 11.2**	**-0.8**
GAR				IAmb	IAmb	14 21 37.3	
	comp=Z,4.9nm,1.3s						
BVAR	**Borovoye Array**	**62.02**	**326**	P	**P**	**14 21 42.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=138,slow=10.0,SNR=3.7						
	comp=Z,0.6nm,0.6s						
ABKAR	**Akbulak array**	**67.19**	**319**	P	**P**	**14 22 15.2**	**-0.8**
L14K	**Kuka Creek**	**72.37**	**29**	P	**P**	**14 22 48.8**	**+1.2**
L14K				IAmb	IAmb	14 23 00.1	
	comp=Z,10.0nm,1.3s						
M16K	**Timber Creek**	**74.09**	**29**	P	**P**	**14 22 58.8**	**+1.0**
M16K				IAmb	IAmb	14 23 05.6	
	comp=Z,12nm,1.4s						
E18K	**Tukpahlearik C**	**74.52**	**23**	P	**P**	**14 23 01.1**	**+0.9**
E18K				IAmb	IAmb	14 23 28.5	
	comp=Z,1.9nm,1.0s						
C18K	**Utukok River**	**74.57**	**21**	P	**P**	**14 23 01.2**	**+0.7**
C18K				IAmb	IAmb	14 23 06.2	
	comp=Z,3.8nm,1.2s						
K17K	**Iditarod**	**74.65**	**28**	P	**P**	**14 23 02.6**	**+1.6**
K17K				IAmb	IAmb	14 23 11.2	
	comp=Z,8.7nm,1.2s						
L18K	**Granite Mounta**	**75.33**	**28**	P	**P**	**14 23 06.7**	**+1.8**
E19K	**Redstone River**	**75.81**	**23**	P	**P**	**14 23 08.5**	**+0.9**
E19K				IAmb	IAmb	14 23 35.5	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**79.84**	**26**	P	**P**	**14 23 28.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=236,slow=4.7,SNR=6.7						
	comp=Z,0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.44**	**349**	P	**P**	**14 23 54.4**	**+0.4**
	comp=Z,22nm,1.1s,baz=67,slow=11,SNR=2.0						
ARCES	**ARCESS Array B**	**84.60**	**340**	P	**P**	**14 23 55.4**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=82,slow=6.3,SNR=11						
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**86.27**	**332**	P	**P**	**14 24 03.2**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=70,slow=6.3,SNR=7.8						
	comp=Z,1.6nm,0.5s						
AKASG	**Malin Array Be**	**86.89**	**321**	P	**P**	**14 24 05.1**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=63,slow=4.7,SNR=1.0						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**92.43**	**332**	P	**P**	**14 24 31.7**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=84,slow=13,SNR=2.8						
	comp=Z,4.6nm,1.0s						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**14 24 41.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=298,slow=4.7,SNR=7.9						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**118.12**	**49**	PKP	**PKiKP**	**14 30 10.2**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=27,slow=5.8,SNR=4.9						
PLCA	**Paso Flores**	**145.81**	**157**	PKPbc	**PKPdf**	**14 31 00.6**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=242,slow=7.7,SNR=3.3						

---

*WEL **08** 14:16:07.6±0.8,32.°S±5.°×17.°8W±1.°7,h33km,M4.5/9, mB4.8/7,ML4.9/12,MLv4.9/9,Mw(mB)4.1/7,Error ellipse: s-maj=22.4km s-min=3.1km az=106.2,confirmed*
*NEIC **08** 14:16:08.1±1.2,30.°9S±0.°1×179.°1W±0.°1,h131km±5km, mb4.8/38,Error ellipse: s-maj=19.0km s-min=14.0km az=127.0*
*IDC **08** 14:16:09.9±1.1,30.°86S×179.°00W,h163km±9km,mb4.1/11, mbtmp4.5/12,Error ellipse: s-maj=17.8km s-min=14.5km az=121.0*
ISC 08 14:16:07.9±0.4,31.°10S±0.°05×178.°97W±0.°09,h150km, n160,σ1§51/178,mb4.7/30,2D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.05**	**27**	P	**Pn**	**14 16 43.8**	**+0.2**
GLKZ				S	**Sn**	**14 17 10.3**	**-0.7**
RAO	**Raoul Island**	**2.06**	**27**	Pn	**Pn**	**14 16 40.9**	**-2.8**
RAO	**Raoul Island**	**2.06**	**27**	P	**Pn**	**14 16 44.0**	**+0.2**
	328nm,0.3s,baz=246,slow=20,SNR=1.6						
RAO				S	**Sn**	**14 17 10.9**	**-0.4**
	3μm,0.3s,baz=136,slow=16,SNR=8.2						
RIZ	**Raoul Island**	**2.06**	**26**	P	**Pn**	**14 16 44.0**	**+0.2**
RIZ				S	**Sn**	**14 17 12.8**	**+1.5**
WMGZ	**Waiomatatini S**	**7.04**	**197**	P	**Pn**	**14 17 47.8**	**-0.5**
WMGZ				S	**Sn**	**14 19 07.9**	**+0.7**
HAZ	**Te Kaha**	**7.16**	**201**	P	**Pn**	**14 17 49.5**	**-0.5**
HAZ				S	**Sn**	**14 19 09.3**	**-0.7**
PKGZ	**Pakihiroa**	**7.17**	**199**	P	**Pn**	**14 17 48.8**	**-1.4**
PKGZ				S	**Sn**	**14 19 11.2**	**+0.7**
PUZ	**Puketiti**	**7.32**	**197**	P	**Pn**	**14 17 50.5**	**-1.6**
PUZ				S	**Sn**	**14 19 13.1**	**-0.9**
WCZ	**Waipu Caves**	**7.37**	**227**	P	Pn	14 17 58.1	+5.2
OUZ	**Omahuta**	**7.46**	**235**	P	Pn	14 17 59.1	+5.0
MWZ	**Matawai**	**7.77**	**201**	P	**Pn**	**14 17 56.2**	**-2.0**
MWZ				S	**Sn**	**14 19 24.9**	**+0.1**
TKGZ	**Te Karaka**	**7.77**	**199**	P	**Pn**	**14 17 55.6**	**-2.6**
URZ	**Urewera**	**7.83**	**203**	P	**Pn**	**14 17 57.2**	**-1.7**
	4.5nm,0.3s,baz=344,slow=4.4,SNR=18						
URZ				S	**Sn**	**14 19 25.0**	**-1.3**
	12nm,0.3s,baz=61,slow=17,SNR=11						
URZ	**Urewera**	**7.83**	**203**	P	**Pn**	**14 17 57.4**	**-1.6**
URZ				S	**Sn**	**14 19 26.4**	**+0.2**
RAGZ	**Rawiri**	**7.95**	**201**	P	**Pn**	**14 17 58.2**	**-2.4**
RAGZ				S	**Sn**	**14 19 29.0**	**-0.3**
RIGZ	**Rimuhau**	**8.04**	**199**	P	**Pn**	**14 17 59.5**	**-2.3**
RIGZ				S	**Sn**	**14 19 26.5**	**-5.0**
MUGZ	**Murupara**	**8.14**	**204**	P	**Pn**	**14 17 59.1**	**-4.1**
MUGZ				S	**Sn**	**14 19 32.4**	**-1.5**
RTZ	**Ruatahuna**	**8.20**	**203**	P	**Pn**	**14 18 01.7**	**-2.3**
RTZ				S	**Sn**	**14 19 33.8**	**-1.4**
SNGZ	**Shannon Statio**	**8.23**	**201**	P	**Pn**	**14 18 01.9**	**-2.5**
SNGZ				S	**Sn**	**14 19 34.9**	**-1.2**
ALRZ	**Allen Road**	**8.38**	**206**	P	**Pn**	**14 18 08.8**	**+2.5**
ALRZ				S	**Sn**	**14 19 40.4**	**+1.0**
RAHZ	**Arahi**	**8.44**	**201**	P	**Pn**	**14 18 05.0**	**-2.1**
RAHZ				S	**Sn**	**14 19 38.5**	**-2.3**
MTHZ	**Maungataniwha**	**8.46**	**203**	P	**Pn**	**14 18 06.3**	**-1.1**
MTHZ				S	**Sn**	**14 19 41.1**	**-0.3**
TLZ	**Tolley Road**	**8.51**	**211**	P	**Pn**	**14 18 11.4**	**+3.4**
BKZ	**Black Stump Fm**	**8.86**	**204**	P	**Pn**	**14 18 09.6**	**-3.1**
BKZ				S	**Sn**	**14 19 47.9**	**-3.2**
MCHZ	**McNeill Hill**	**9.04**	**202**	P	**Pn**	**14 18 13.7**	**-1.4**
NTVZ	**North Tongarir**	**9.10**	**207**	P	**Pn**	**14 18 16.8**	**+0.8**
TMVZ	**Te Maari**	**9.10**	**207**	P	**Pn**	**14 18 17.5**	**+1.5**
KWHZ	**Kaweka Forest**	**9.11**	**203**	P	**Pn**	**14 18 14.8**	**-1.3**
ETVZ	**East Tongariro**	**9.12**	**207**	P	**Pn**	**14 18 16.5**	**+0.3**
SNVZ	**South Ngauruho**	**9.19**	**207**	P	**Pn**	**14 18 17.2**	**-0.1**
NGZ	**Ngauruhoe**	**9.20**	**207**	P	**Pn**	**14 18 19.9**	**+2.6**
TUVZ	**Tukino**	**9.25**	**207**	P	**Pn**	**14 18 19.8**	**+1.7**
FWVZ	**Far West T-bar**	**9.28**	**207**	P	**Pn**	**14 18 19.6**	**+1.0**
KAHZ	**Kahuranaki**	**9.31**	**200**	P	**Pn**	**14 18 15.5**	**-3.1**
WNVZ	**Wahianoa**	**9.33**	**207**	P	**Pn**	**14 18 20.2**	**+1.1**
KRHZ	**Kereru**	**9.33**	**203**	P	**Pn**	**14 18 17.3**	**-1.7**
VRZ	**Vera Road**	**9.50**	**211**	P	Pn	14 18 24.7	+3.4
PXZ	**Pawanui**	**9.53**	**200**	P	**Pn**	**14 18 20.3**	**-1.2**
PNHZ	**Pukenui**	**9.63**	**203**	P	**Pn**	**14 18 19.0**	**-4.0**
WPHZ	**Waipukurau**	**9.69**	**201**	P	**Pn**	**14 18 23.3**	**-0.4**
PRHZ	**Porangahau**	**9.81**	**200**	P	**Pn**	**14 18 20.8**	**-4.6**
TSZ	**Takapari Road**	**9.84**	**203**	P	**Pn**	**14 18 23.2**	**-2.5**
NEZ	**North Egmont**	**9.92**	**213**	P	Pn	14 18 31.9	+5.0
WAZ	**Wanganui**	**9.94**	**208**	P	**Pn**	**14 18 28.2**	**+1.2**
DVHZ	**Dannevirke**	**9.99**	**202**	P	**Pn**	**14 18 26.0**	**-1.6**
ANWZ	**Angora Road**	**10.04**	**200**	P	**Pn**	**14 18 29.4**	**+1.1**
POWZ	**Post Office Ro**	**10.20**	**203**	P	**Pn**	**14 18 29.0**	**-1.5**
PRWZ	**Pori Road**	**10.28**	**202**	P	**Pn**	**14 18 32.0**	**+0.5**
BFZ	**Birch Farm**	**10.31**	**201**	P	**Pn**	**14 18 31.9**	**-0.1**
TIWZ	**Tintock**	**10.51**	**202**	P	**Pn**	**14 18 33.8**	**-0.8**
HOWZ	**Holdsworth Sta**	**10.74**	**203**	P	**Pn**	**14 18 34.3**	**-3.3**
MTW	**Mount Morrison**	**10.98**	**202**	P	**Pn**	**14 18 39.1**	**-1.6**
CTZ	**Chatham Island**	**12.75**	**172**	P	**P**	**14 19 09.3**	**+0.3**
MSVF	**Nonsavu**	**13.58**	**348**	P	**P**	**14 19 15.6**	**-3.0**
MSVF	**Nonsavu**	**13.58**	**348**	P	**Pn**	**14 19 14.8**	**+0.1**
	6.7nm,0.5s,baz=169,slow=10.0,SNR=6.0						
PINNC	**Pines Island,**	**14.77**	**302**	Pn	**Pn**	**14 19 28.3**	**-1.2**
RPZ	**Rata Peaks**	**14.86**	**209**	P	**Pn**	**14 19 26.6**	**-3.8**
	14nm,1.0s,baz=18,slow=9.6,SNR=16						
RPZ				S	Sn	14 22 00.6	-15
	6.3nm,0.8s,baz=69,slow=21,SNR=1.8						
AFI	**Afiamalu**	**18.35**	**23**	P	**P**	**14 20 10.5**	**-0.6**
AFI				IAmb	IAmb	14 20 21.4	
	comp=Z,56nm,1.0s						
TOO	**Toolangi**	**29.92**	**248**	P	**P**	**14 22 03.9**	**+2.2**
STKA	**Stephens Creek**	**33.51**	**258**	P	**P**	**14 22 34.7**	**+1.5**
STKA				IAmb	IAmb	14 22 36.8	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**33.51**	**258**	P	**P**	**14 22 34.9**	**+1.7**
	comp=Z,15nm,0.9s,baz=92,slow=11,SNR=17						
	comp=Z,15nm,0.9s						
BBOO	**Buckleboo**	**37.97**	**255**	P	**P**	**14 23 11.9**	**+0.7**
BBOO				IAmb	IAmb	14 23 12.7	
	comp=Z,20nm,1.1s						
COEN	**Coen**	**38.67**	**288**	P	**P**	**14 23 17.2**	**0.0**
COEN				IAmb	IAmb	14 23 26.2	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**42.24**	**268**	P	**P**	**14 23 46.9**	**+0.3**
ASAR	**Alice Springs**	**42.24**	**268**	P	**P**	**14 23 46.6**	**+0.1**
	comp=Z,11nm,0.8s,baz=109,slow=7.7,SNR=66						
ASAR				PcP	**PcP**	**14 25 37.0**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=130,slow=4.6,SNR=4.1						
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**43.11**	**274**	P	**P**	**14 23 53.8**	**+0.2**
WR0				IAmb	IAmb	14 23 54.3	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**43.28**	**273**	P	**P**	**14 23 55.0**	**+0.1**
WB2				IAmb	IAmb	14 23 55.7	
	comp=Z,25nm,1.0s						
WRAB	**Tennant Creek**	**43.29**	**273**	P	**P**	**14 23 55.1**	**+0.1**
WRAB				IAmb	IAmb	14 23 56.3	
	comp=Z,30nm,1.2s						
WRA	**Warramunga Arr**	**43.29**	**273**	P	**P**	**14 23 55.2**	**+0.2**
WRA	**Warramunga Arr**	**43.29**	**273**	P	**P**	**14 23 54.9**	**-0.1**
	comp=Z,16nm,0.8s,baz=112,slow=7.8,SNR=39						
	comp=Z,16nm,0.8s						
WB0	**Warramunga Arr**	**43.32**	**274**	P	**P**	**14 23 55.1**	**-0.1**
WB0				IAmb	IAmb	14 23 56.0	
	comp=Z,23nm,0.9s						
FORT	**Forrest**	**45.06**	**256**	P	**P**	**14 24 09.4**	**+0.5**
FORT				IAmb	IAmb	14 24 17.2	
	comp=Z,20nm,0.9s						
HMH	**Humu'ula Sheep**	**55.24**	**27**	P	**P**	**14 25 26.3**	**+0.5**
QSPA	**South Pole Qui**	**59.01**	**180**	P	P	14 25 55.5	+3.8
QSPA				IAmb	IAmb	14 25 57.1	
	comp=Z,9.8nm,0.8s						
QSPA	**South Pole Qui**	**59.01**	**180**	P	**P**	**14 25 54.9**	**+3.3**
	comp=Z,7.2nm,0.7s,baz=27,slow=0.7,SNR=33						
	comp=Z,7.2nm,0.7s						
SYO	**Syowa Base**	**76.24**	**193**	↓iP	P	14 27 43.9	+4.6
SNAA	**Sanae**	**77.47**	**179**	P	**P**	**14 27 48.7**	**+2.4**
SNAA	**Sanae**	**77.47**	**179**	P	**P**	**14 27 47.8**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=162,slow=6.4,SNR=2.2						
	comp=Z,2.1nm,0.7s						
JGF	**Kuroka**	**78.01**	**325**	P	**P**	**14 27 49.9**	**+0.2**
JGF				IAmb	IAmb	14 28 06.7	
	comp=Z,20nm,1.3s						
MJAR	**Matsushiro Arr**	**78.35**	**326**	P	**P**	**14 27 49.8**	**-1.7**
	comp=Z,3.8nm,0.9s,baz=156,slow=5.8,SNR=4.7						
	comp=Z,3.8nm,0.9s						
JNU	**Nakatsue**	**79.53**	**319**	P	**P**	**14 27 58.5**	**+0.4**
JNU				IAmb	IAmb	14 27 59.0	
	comp=Z,9.9nm,0.9s						
H03S2	**Juan Fernandez**	**80.77**	**124**	T	T	15 57 32.7	
	baz=237,slow=74						
H03S1	**Juan Fernandez**	**80.78**	**124**	T	T	15 57 33.0	
	baz=237						
H03S3	**Juan Fernandez**	**80.79**	**124**	T	T	15 57 32.0	
	baz=237,slow=74						
H03N3	**Juan Fernandez**	**80.97**	**124**	T	T	15 57 39.8	
	baz=243,slow=74						
H03N2	**Juan Fernandez**	**80.97**	**124**	T	T	15 57 57.3	
	baz=243						
H03N1	**Juan Fernandez**	**80.99**	**124**	T	T	15 57 39.7	
	baz=243,slow=74						
KIWB	**Kanaga Island**	**82.61**	**1**	P	**P**	**14 28 14.8**	**+0.9**
ADK	**Adak**	**82.66**	**1**	P	**P**	**14 28 14.9**	**+0.8**
JKA	**Kamikawa-asahi**	**82.68**	**333**	P	**P**	**14 28 16.2**	**+1.9**
KSRS	**Korea Array**	**84.34**	**320**	P	**P**	**14 28 23.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=149,slow=6.0,SNR=5.6						
	comp=Z,1.7nm,0.8s						
YSS	**Yuzhno-Sakhali**	**85.02**	**335**	P	**P**	**14 28 27.0**	**+0.9**
PETK	**Petropavlovsk-**	**86.29**	**346**	P	**P**	**14 28 32.9**	**+0.6**
PETK	**Petropavlovsk-**	**86.29**	**346**	P	**P**	**14 28 32.1**	**-0.2**
	comp=Z,4.1nm,0.7s,baz=114,slow=5.7,SNR=13						
	comp=Z,4.1nm,0.7s						
USA0B	**Ussuriysk Arra**	**87.29**	**327**	P	**P**	**14 28 38.1**	**+0.7**
USA0B				IAmb	IAmb	14 28 54.1	
	comp=Z,6.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**87.29**	**327**	P	**P**	**14 28 37.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**87.29**	**327**	P	**P**	**14 28 38.5**	**+1.2**
	comp=Z,4.0nm,0.8s,baz=89,slow=12,SNR=5.7						
	comp=Z,4.0nm,0.8s						
CCAC	**Calif City Air**	**87.33**	**46**	P	**P**	**14 28 39.4**	**+1.5**
ISA	**Isabella, Lake**	**87.39**	**45**	P	**P**	**14 28 39.6**	**+1.4**
S12K	**Black Hills**	**87.66**	**9**	P	**P**	**14 28 40.4**	**+1.5**
CMB	**Columbia Colle**	**87.84**	**42**	P	**P**	**14 28 41.4**	**+1.2**
O02D	**Mt. Diablo Mer**	**87.97**	**40**	P	**P**	**14 28 43.0**	**+2.2**
NVAR	**Mina Array Bea**	**89.32**	**43**	P	**P**	**14 28 48.5**	**+1.1**
NVAR	**Mina Array Bea**	**89.32**	**43**	P	**P**	**14 28 47.9**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=230,slow=7.6,SNR=6.4						
	comp=Z,0.7nm,0.8s						
CN2	**Changchun**	**90.20**	**323**	*e*P	P	14 28 55.5	+4.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**90.61**	**326**	↓P	**P**	**14 28 52.2**	**-0.7**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PINE	**Pine Mountain**	**91.47**	**38**	P	**P**	**14 28 58.9**	**+1.7**
PINE				IAmb	IAmb	14 28 59.6	
	comp=Z,5.7nm,0.9s						
U15A	**North Rim**	**91.72**	**48**	P	**P**	**14 29 00.6**	**+1.9**
N15K	**Kwethluk River**	**92.26**	**9**	P	**P**	**14 29 02.6**	**+2.4**
I07A	**Izee**	**92.43**	**38**	P	**P**	**14 29 03.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**92.84**	**290**	P	**P**	**14 29 03.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=154,slow=3.8,SNR=4.6						
	comp=Z,0.3nm,0.3s						
CNPM	**China Poot**	**93.17**	**14**	P	**P**	**14 29 03.9**	**-0.6**
L16K	**Owhat River**	**93.83**	**9**	P	**P**	**14 29 08.4**	**+1.1**
L16K				IAmb	IAmb	14 29 13.6	
	comp=Z,8.7nm,1.2s						
K15K	**Wolf Creek Mou**	**94.13**	**8**	P	**P**	**14 29 10.2**	**+1.4**
STLK	**Strandline Lak**	**94.87**	**13**	P	**P**	**14 29 12.6**	**+0.3**
STLK				IAmb	IAmb	14 29 33.7	
	comp=Z,4.4nm,1.5s						
J16K	**Anvik River**	**95.20**	**8**	P	**P**	**14 29 16.0**	**+2.3**
GHO	**Glory Hole Cre**	**95.69**	**14**	P	**P**	**14 29 18.1**	**+2.0**
GHO				IAmb	IAmb	14 29 35.9	
	comp=Z,8.3nm,1.3s						
CAST	**Castle Rocks**	**96.60**	**12**	P	**P**	**14 29 21.1**	**+1.1**
CAST				IAmb	IAmb	14 29 37.1	
	comp=

az=113.0

ISC 08 14:16:34.7±0.6, 9°74N±0°06×126°4E±0°1, h43km, n44, σ1°49/38, mb4.1/20, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.77**	**197**	Pn	**Pn**	**14 17 14.9**	**-1.7**
DAV	**Davao City (W)**	**2.77**	**197**	Sn	**Sn**	**14 17 54.2**	**+5.3**
	39nm,0.3s,baz=55,slow=15,SNR=3.7						
MYLDM	**Lahad Datu**	**9.04**	**240**	Pn	**Pn**	**14 18 41.5**	**-1.2**
LUWI	**Luwuk**	**11.30**	**199**	Pn	**Pn**	**14 19 11.6**	**-2.1**
TPUB	**Ta-pu**	**14.57**	**338**	Pn	**Pn**	**14 19 59.4**	**+1.3**
SBUM	**Sibu**	**15.84**	**244**	Pn	**Pn**	**14 20 12.6**	**-2.2**
MTN	**Manton Dam**	**22.93**	**168**	P	**P**	**14 21 33.9**	**-1.3**
MTN				IAmb	IAmb	14 21 45.8	
	comp=Z,46nm,1.2s						
KNRA	**Kununurra**	**25.36**	**175**	P	**P**	**14 21 58.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.67**	**182**	P	**P**	**14 22 18.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**27.96**	**291**	P	**P**	**14 22 21.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=84,slow=5.9,SNR=4.3						
	comp=Z,0.3nm,0.3s						
WB0	**Warramunga Arr**	**30.36**	**165**	P	**P**	**14 22 41.8**	**-0.8**
WB0				IAmb	IAmb	14 22 50.4	
	comp=Z,5.2nm,1.2s						
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**14 22 44.6**	**+0.6**
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**14 22 42.3**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=341,slow=8.4,SNR=5.5						
	comp=Z,0.6nm,0.8s						
JMM	**Marumori**	**30.86**	**23**	P	**P**	**14 22 47.1**	**+0.3**
ASAR	**Alice Springs**	**34.01**	**168**	P	**P**	**14 23 15.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=348,slow=7.0,SNR=6.7						
	comp=Z,0.4nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**39.96**	**73**	T	T	15 07 06.1	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**39.97**	**73**	T	T	15 07 09.5	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**39.97**	**73**	T	T	15 07 06.5	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**40.31**	**71**	T	T	15 07 41.7	
	baz=264,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	15 07 40.7	
	baz=264,slow=74,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	15 07 43.9	
	baz=264,slow=74,SNR=9.3						
SONM	**Songino Array**	**41.55**	**340**	P	**P**	**14 24 18.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=176,slow=11,SNR=3.1						
	comp=Z,0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**43.32**	**191**	P	**P**	**14 24 32.7**	**+0.2**
MK31	**Makanchi Array**	**52.52**	**323**	P	**P**	**14 25 44.0**	**+0.3**
MKAR	**Makanchi Array**	**52.52**	**323**	P	**P**	**14 25 44.0**	**+0.3**
MKAR	**Makanchi Array**	**52.52**	**323**	P	**P**	**14 25 44.6**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=128,slow=7.4,SNR=13						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**52.71**	**323**	P	**P**	**14 25 45.3**	**+0.2**
KURK	**Kurchatov**	**56.57**	**326**	P	**P**	**14 26 13.4**	**+0.5**
KURK				IAmb	IAmb	14 26 48.1	
	comp=Z,3.4nm,1.2s						
KURBB	**Kurchatov Arra**	**56.57**	**326**	P	**P**	**14 26 12.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=128,slow=6.5,SNR=6.0						
	comp=Z,0.3nm,0.4s						
BKZ	**Black Stump Fm**	**67.31**	**140**	P	**P**	**14 27 25.9**	**+0.7**
MXZ	**Matakaoa Point**	**67.59**	**137**	P	**P**	**14 27 27.9**	**+0.9**
L19K	**White Mountain**	**76.19**	**28**	P	**P**	**14 28 19.7**	**+1.4**
L19K				IAmb	IAmb	14 28 20.4	
	comp=Z,10.0nm,1.5s						
B21K	**Ikpikpuk River**	**77.09**	**21**	P	**P**	**14 28 24.4**	**+1.2**
B21K				IAmb	IAmb	14 28 30.5	
	comp=Z,9.7nm,1.5s						
B22K	**Teshekpuk Lake**	**77.58**	**20**	P	**P**	**14 28 26.0**	**+0.2**
B22K				IAmb	IAmb	14 28 27.5	
	comp=Z,8.0nm,1.4s						
C23K	**Itkillik River**	**78.50**	**21**	P	**P**	**14 28 31.8**	**+0.8**
C23K				IAmb	IAmb	14 29 07.5	
	comp=Z,3.3nm,1.2s						
I23K	**Minto, Yukon-K**	**78.81**	**25**	P	**P**	**14 28 33.5**	**+0.8**
I23K				IAmb	IAmb	14 29 10.2	
	comp=Z,3.4nm,1.4s						
F24K	**Squaw Lake**	**79.43**	**23**	P	**P**	**14 28 38.4**	**+2.2**
F24K				IAmb	IAmb	14 28 58.2	
	comp=Z,3.1nm,1.4s						
ILAR	**Eielson Array**	**79.86**	**26**	P	**P**	**14 28 38.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=261,slow=6.7,SNR=3.0						
	comp=Z,0.4nm,0.8s						
D25K	**Kavik River**	**79.98**	**21**	P	**P**	**14 28 40.7**	**+1.5**
D25K				IAmb	IAmb	14 28 54.5	
	comp=Z,3.2nm,1.4s						
BMAR	**Burnt Mountain**	**80.70**	**23**	P	**P**	**14 28 44.5**	**+1.4**
BCAR	**Beaver Creek A**	**82.22**	**27**	P	**P**	**14 28 53.3**	**+2.1**
ARCES	**ARCESS Array B**	**84.73**	**340**	P	**P**	**14 29 03.8**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=78,slow=6.0,SNR=5.1						
	comp=Z,2.3nm,1.0s						
FINES	**FINESS Array B**	**86.41**	**332**	P	**P**	**14 29 11.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=160,slow=4.4,SNR=5.2						
	comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**94.19**	**24**	P	**P**	**14 29 46.5**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=298,slow=5.0,SNR=4.9						
	comp=Z,0.2nm,0.6s						

*IDC **08** 14:20:20.4±0.6, 9°97N×126°30E, h0km, mb4.1/22, mbtmp4.1/23, ML4.6/1, MS3.5/3, Error ellipse: s-maj=26.4km s-min=13.4km az=80.0*

*NEIC **08** 14:20:21.9±1.7, 9°92N±0°08×126°2E±0°1, h10km±1km, mb4.6/39, Error ellipse: s-maj=18.6km s-min=14.1km az=91.0*

ISC 08 14:20:27.2±0.4, 9°89N±0°06×126°1E±0°1, h54km, n80, σ1°15/72, mb4.3/42, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**190**	Pn	**Pn**	**14 21 08.4**	**-1.7**
DAV	**Davao City (W)**	**2.84**	**190**	Pn	**Pn**	**14 21 08.7**	**-1.5**
	77nm,0.3s,baz=50,slow=7.9,SNR=1.7						
DAV				Sn	**Sn**	**14 21 46.6**	**+3.4**
	111nm,0.3s,baz=46,slow=16,SNR=4.2						
	197nm,0.4s						
TGY	**Tagaytay City**	**6.55**	**310**	LR	LR	14 25 04.8	
	comp=Z,292nm,20.4s,baz=120,slow=43						
MYLDM	**Lahad Datu**	**8.85**	**239**	Pn	**Pn**	**14 22 29.8**	**-2.7**
SBUM	**Sibu**	**15.63**	**243**		**Pn**	**14 24 02.3**	**-1.8**
KAPI	**Kappang**	**16.09**	**203**	LR	LR	14 31 00.3	
	comp=Z,98nm,21.2s,baz=18,slow=39						
SOEI	**Soe**	**19.60**	**185**	P	**P**	**14 24 49.4**	**-1.8**
SOEI				IAmb	IAmb	14 25 25.5	
	comp=Z,83nm,1.4s						
MYKOM	**Kota Tinggi**	**23.51**	**251**	P	**P**	**14 25 32.7**	**+0.1**
MYKOM				IAmb	IAmb	14 25 40.5	
	comp=Z,8.6nm,0.8s						
IPM	**Ipoh**	**25.42**	**260**	P	**P**	**14 25 49.6**	**-0.5**
IPM				IAmb	IAmb	14 26 05.5	
	comp=Z,7.9nm,0.7s						
KNRA	**Kununurra**	**25.54**	**174**	P	**P**	**14 25 51.0**	**+0.1**
KULM	**Kulim**	**25.61**	**262**	P	**P**	**14 25 50.9**	**-0.9**
PHRA	**Phrae**	**26.45**	**292**	P	**P**	**14 25 58.8**	**-0.6**
PHRA				IAmb	IAmb	14 26 07.6	
	comp=Z,27nm,0.8s						
KSRS	**Korea Array**	**27.50**	**3**	P	**P**	**14 26 08.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=186,slow=9.0,SNR=2.3						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.62**	**291**	P	**P**	**14 26 09.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.62**	**291**	P	**P**	**14 26 13.0**	**+3.1**
	comp=Z,2.0nm,0.9s,baz=102,slow=6.7,SNR=12						
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 26 37.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=345,slow=9.4,SNR=2.1						
	comp=Z,0.4nm,0.3s						
PSA00	**Pilbara Seismi**	**31.86**	**191**	P	**P**	**14 26 47.7**	**+0.4**
ASAR	**Alice Springs**	**34.21**	**167**	P	**P**	**14 27 07.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=350,slow=6.9,SNR=4.3						
	comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**34.57**	**7**	P	**P**	**14 27 09.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=144,slow=5.2,SNR=1.7						
	comp=Z,1.3nm,0.8s						
MORW	**Morawa**	**39.92**	**194**	P	**P**	**14 27 56.3**	**+0.1**
MORW				IAmb	IAmb	14 28 37.9	
	comp=Z,24nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**40.21**	**73**	T	T	15 11 04.6	
	baz=261,slow=73,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.22**	**73**	T	T	15 11 06.3	
	baz=261,slow=73,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**40.23**	**73**	T	T	15 10 52.4	
	baz=261,slow=73,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	15 11 25.5	
	baz=265,slow=74,SNR=40						
H11N2	**WAKE ISLAND Hy**	**40.56**	**71**	T	T	15 11 26.0	
	baz=265,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**40.57**	**71**	T	T	15 11 26.9	
	baz=265,slow=74,SNR=36						
ULN	**Ulaanbaatar**	**41.12**	**340**	P	**P**	**14 28 04.7**	**-1.4**
SONM	**Songino Array**	**41.31**	**340**	P	**P**	**14 28 05.9**	**-1.8**
SONM	**Songino Array**	**41.31**	**340**	P	**P**	**14 28 09.1**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=158,slow=8.6,SNR=5.3						
	comp=Z,0.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.40**	**191**	P	**P**	**14 28 23.8**	**-0.8**
BBOO	**Buckleboo**	**43.51**	**168**	P	**P**	**14 28 24.4**	**-1.1**
BBOO				IAmb	IAmb	14 28 40.7	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**44.10**	**161**	P	**P**	**14 28 28.6**	**-1.6**
STKA				IAmb	IAmb	14 28 46.0	
	comp=Z,7.7nm,1.1s						
STKA	**Stephens Creek**	**44.10**	**161**	P	**P**	**14 28 30.9**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=2.8,slow=10,SNR=3.5						
	comp=Z,2.4nm,0.7s						
PEA0B	**Petropavlovsk-**	**50.06**	**24**	P	**P**	**14 29 15.3**	**-1.1**
PETK	**Petropavlovsk-**	**50.06**	**24**	P	**P**	**14 29 15.1**	**-1.4**
PETK	**Petropavlovsk-**	**50.06**	**24**	P	**P**	**14 29 16.4**	**-0.1**
	comp=Z,5.4nm,1.0s,baz=197,slow=3.8,SNR=5.0						
	comp=Z,5.4nm,1.0s						
MK31	**Makanchi Array**	**52.22**	**323**	P	**P**	**14 29 33.3**	**+0.5**
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**14 29 33.2**	**+0.4**
MKAR	**Makanchi Array**	**52.22**	**323**	P	**P**	**14 29 33.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=118,slow=8.2,SNR=17						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**52.41**	**323**	P	**P**	**14 29 34.5**	**+0.3**
ZALV	**Zalesovo Beam**	**54.87**	**332**	P	**P**	**14 29 51.3**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=120,slow=6.9,SNR=4.8						
	comp=Z,0.8nm,0.3s						
SEY	**Seymchan**	**56.24**	**14**	LR	LR	14 52 10.6	
	comp=Z,142nm,21.7s,baz=348,slow=34						
KURK	**Kurchatov**	**56.28**	**326**	P	**P**	**14 30 02.5**	**+0.4**
KURK				IAmb	IAmb	14 30 06.0	
	comp=Z,2.6nm,0.8s						
KURBB	**Kurchatov Arra**	**56.28**	**326**	P	**P**	**14 30 02.0**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=126,slow=6.7,SNR=13						
	comp=Z,1.6nm,0.6s						
KKAR	**Karatay Array**	**58.39**	**315**	P	**P**	**14 30 17.1**	**-0.1**
TIXI	**Tiksi**	**61.74**	**1**	P	**P**	**14 30 39.7**	**+0.1**
TIXI				IAmb	IAmb	14 30 42.0	
	comp=Z,5.4nm,1.1s						
BVAR	**Borovoye Array**	**61.87**	**326**	P	**P**	**14 30 41.8**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=140,slow=6.4,SNR=5.7						
	comp=Z,0.5nm,0.4s						
BRVK	**Borovoye**	**61.95**	**326**	P	**P**	**14 30 42.4**	**+1.1**
NRIK	**Noril'sk**	**64.34**	**346**	P	**P**	**14 30 57.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=167,slow=6.3,SNR=3.8						
	comp=Z,1.2nm,0.5s						
ABKAR	**Akbulak array**	**67.04**	**319**	P	**P**	**14 31 15.2**	**+0.5**
BKZ	**Black Stump Fm**	**67.61**	**140**	P	**P**	**14 31 17.4**	**-1.1**
UNV	**Unalaska Valle**	**68.80**	**36**	P	**P**	**14 31 24.8**	**-0.9**
ARTI	**Arti**	**69.53**	**327**	P	**P**	**14 31 29.5**	**-0.7**
ARTI				IAmb	IAmb	14 31 35.3	
	comp=Z,5.8nm,1.4s						
L14K	**Kuka Creek**	**72.41**	**29**	P	**P**	**14 31 46.8**	**-0.7**
L14K				IAmb	IAmb	14 31 58.0	
	comp=Z,9.7nm,1.1s						
M14K	**Bethel**	**72.64**	**29**	P	**P**	**14 31 48.4**	**-0.4**
K15K	**Wolf Creek Mou**	**73.13**	**28**	P	**P**	**14 31 51.9**	**+0.1**
F17K	**Baldwin Pennin**	**74.09**	**24**	P	**P**	**14 31 57.0**	**-0.3**
F17K				IAmb	IAmb	14 32 31.6	
	comp=Z,12nm,1.4s						
M16K	**Timber Creek**	**74.13**	**29**	P	**P**	**14 31 57.1**	**-0.6**
M16K				IAmb	IAmb	14 32 07.3	
	comp=Z,20nm,1.5s						
E18K	**Tukpahlearik C**	**74.54**	**23**	P	**P**	**14 32 00.1**	**+0.2**
M17K	**Holitna River**	**74.91**	**29**	P	**P**	**14 32 00.9**	**-1.2**
M17K				IAmb	IAmb	14 32 15.0	
	comp=Z,16nm,1.4s						
N18K	**Kilae Creek**	**75.58**	**30**	P	**P**	**14 32 06.2**	**+0.1**
N18K				IAmb	IAmb	14 32 24.7	
	comp=Z,16nm,1.4s						
E19K	**Redstone River**	**75.83**	**23**	P	**P**	**14 32 07.6**	**+0.3**
E19K				IAmb	IAmb	14 32 30.9	
	comp=Z,3.3nm,1.0s						
O18K	**Koktuh Hills**	**75.84**	**31**	P	**P**	**14 32 08.2**	**+0.7**
F20K	**Avaraart Lake**	**76.35**	**23**	P	**P**	**14 32 10.5**	**+0.2**
F20K				IAmb	IAmb	14 32 22.5	
	comp=Z,6.7nm,1.5s						
B21K	**Ikpikpuk River**	**77.07**	**21**	P	**P**	**14 32 15.3**	**+1.0**
B21K				IAmb	IAmb	14 32 29.9	
	comp=Z,6.7nm,1.2s						
G21K	**Allakaket**	**77.17**	**24**	P	**P**	**14 32 15.3**	**+0.3**
G21K				IAmb	IAmb	14 32 25.1	
	comp=Z,4.0nm,1.2s						
C23K	**Itkillik River**	**78.47**	**21**	P	**P**	**14 32 22.6**	**+0.5**
C23K				IAmb	IAmb	14 32 23.6	
	comp=Z,4.6nm,0.7s						
E23K	**Chandalar**	**78.77**	**22**	P	**P**	**14 32 25.0**	**+1.1**
E23K				IAmb	IAmb	14 32 37.2	
	comp=Z,4.2nm,1.1s						
F24K	**Squaw Lake**	**79.42**	**23**	P	**P**	**14 32 28.6**	**+1.2**
ILAR	**Eielson Array**	**79.86**	**26**	P	**P**	**14 32 29.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=247,slow=4.8,SNR=7.3						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**84.35**	**349**	P	**P**	**14 32 53.8**	**+0.7**
	comp=Z,6.2nm,0.9s,baz=96,slow=8.5,SNR=7.3						
	comp=Z,6.2nm,0.9s						
ARCES	**ARCESS Array B**	**84.49**	**340**	P	**P**	**14 32 55.7**	**+1.8**
	comp=Z,1.7nm,0.6s,baz=69,slow=6.8,SNR=19						
	comp=Z,1.7nm,0.6s						
BRTR	**Keskin Array B**	**85.63**	**309**	P	**P**	**14 33 00.3**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=100,slow=3.6,SNR=2.6						
	comp=Z,0.9nm,1.0s						
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**14 33 02.7**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=60,slow=11,SNR=25						
	comp=Z,2.3nm,0.4s						
AKASG	**Malin Array Be**	**86.74**	**321**	P	**P**	**14 33 05.6**	**+0.1**
	comp=Z,4.4nm,0.4s,baz=62,slow=4.8,SNR=4.1						
	comp=Z,0.4nm,0.4s						
MAW	**Mawson**	**89.28**	**200**	P	**P**	**14 33 20.4**	**+3.4**
	comp=Z,15nm,0.9s,baz=18,slow=9.6,SNR=2.2						
HFS	**Hagfors**	**92.30**	**332**	P	**P**	**14 33 32.8**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=84,slow=4.6,SNR=11						
	comp=Z,1.5nm,0.5s						
NOA	**NORSAR Array B**	**93.02**	**334**	P	**P**	**14 33 35.9**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=82,slow=5.8,SNR=2.5						
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**94.18**	**24**	P	**P**	**14 33 40.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=298,slow=4.5,SNR=9.2						
	comp=Z,0.8nm,0.6s						
PLCA	**Paso Flores**	**145.93**	**157**	PKPbc	**PKPab**	**14 40 01.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=246,slow=5.0,SNR=4.2						

*IDC **08** 14:21:59.0±5.4, 31°37S×179°69E, h422km±48km, mb3.0/2, mbtmp3.9/3, Error ellipse: s-maj=68.5km s-min=33.5km az=54.0*

*WEL **08** 14:22:04.8±1.2, 32°S±13°×18°0E±2°4, h413km±38km, M4.3/7, mB4.0/3, ML4.4/1, MLv4.4/7, Mw(mB)3.1/3, Error ellipse: s-maj=31.1km s-min=16.7km az=96.8, confirmed*

ISC 08 14:22:02.3±1.5, 31°8S±0°1×179°6E±0°2, h450km, n17, σ1°43/27, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**6.10**	**234**	P	**P**	**14 23 39.1**	**+1.7**
WMGZ	**Waiomatatini S**	**6.10**	**189**	P	**P**	**14 23 38.2**	**+0.7**
WMGZ				S	**S**	**14 24 54.9**	**-0.5**
HAZ	**Te Kaha**	**6.15**	**194**	P	**P**	**14 23 37.9**	**0.0**
HAZ				S	**S**	**14 24 56.3**	**+0.1**
MWZ	**Matawai**	**6.76**	**194**	P	**P**	**14 23 42.3**	**-2.1**
MWZ				S	**S**	**14 25 06.3**	**-1.7**
URZ	**Urewera**	**6.78**	**197**	P	**P**	**14 23 45.1**	**+0.6**
	6.7nm,0.3s,baz=356,slow=3.4,SNR=11						
URZ				S	**S**	**14 25 05.8**	**-2.5**
	13nm,0.5s,baz=292,slow=21,SNR=18						
URZ	**Urewera**	**6.78**	**197**	P	**P**	**14 23 45.2**	**+0.7**
URZ				S	**S**	**14 25 05.6**	**-2.7**
TKGZ	**Te Karaka**	**6.80**	**192**	P	**P**	**14 23 46.0**	**+1.3**
TKGZ				S	**S**	**14 25 07.3**	**-1.3**
RAGZ	**Rawiri**	**6.94**	**195**	P	**P**	**14 23 46.9**	**+0.6**
RIGZ	**Rimuhau**	**7.07**	**192**	P	**P**	**14 23 48.6**	**+1.0**
RIGZ				S	**S**	**14 25 12.9**	**-1.1**
SNGZ	**Shannon Statio**	**7.23**	**194**	P	**P**	**14 23 50.9**	**+1.6**
MTHZ	**Maungataniwha**	**7.41**	**197**	P	**P**	**14 23 52.4**	**+1.1**
MTHZ				S	**S**	**14 25 20.9**	**+0.3**
RAHZ	**Arahi**	**7.41**	**196**	P	**P**	**14 23 52.3**	**+1.1**
RAHZ				S	**S**	**14 25 19.3**	**-1.3**
NMHZ	**Naumai**	**7.65**	**197**	P	**P**	**14 23 55.1**	**+1.2**
NMHZ				S	**S**	**14 25 27.3**	**+1.9**
ASAR	**Alice Springs**	**41.04**	**270**	P	**P**	**14 29 04.2**	**-0.9**
	0.6nm,0.6s,baz=102,slow=6.9,SNR=3.5						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**14 31 14.4**	**+1.8**
	2.1nm,1.1s,baz=51,slow=6.5,SNR=5.8						
	2.1nm,1.1s						
FINES	**FINESS Array B**	**145.70**	**338**	PKPbc	**PKPdf**	**14 40 46.8**	**-0.9**
	2.3nm,0.7s,baz=48,slow=2.8,SNR=5.4						
BRTR	**Keskin Array B**	**151.42**	**296**	PKPbc	**PKPbc**	**14 41 03.5**	**-0.9**
	0.3nm,0.6s,baz=8.1,slow=5.1,SNR=1.6						

*NEIC **08** 14:22:10.4±1.6, 6°15S±0°07×130°66E±0°08, h102km±12km, mb4.3/10, Error ellipse: s-maj=12.4km s-min=8.5km az=58.0*

*IDC **08** 14:22:10.8±11.0, 6°29S×130°47E, h118km±112km, mb3.5/4, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=170.9km s-min=36.3km az=66.0*

ISC 08 14:22:11.0±0.6, 6°11S±0°05×130°69E±0°07, h124km, n47, σ2°36/47, mb4.0/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.96**	**162**	Pn	**Pn**	**14 22 42.3**	**-2.0**
SAUI	**Saumlaki**	**1.96**	**162**	P	**Pn**	**14 22 44.7**	**+0.5**
SAUI	**Saumlaki**	**1.96**	**162**	S	**Sn**	**14 23 09.1**	**-0.5**
FAKI	**Fak Fak**	**3.53**	**26**		**Pn**	**14 23 03.8**	**-0.7**
FAKI	**Fak Fak**	**3.53**	**26**	P	**Pn**	**14 23 04.0**	**-0.4**
FAKI	**Fak Fak**	**3.53**	**26**	S	**Sn**	**14 23 43.7**	**-2.0**
DRS	**Darwin Rock St**	**6.29**	**178**	P	**Pn**	**14 23 41.3**	**-0.1**
MTN	**Manton Dam**	**6.71**	**176**		**Pn**	**14 23 46.5**	**-0.6**
MTN	**Manton Dam**	**6.71**	**176**	P	**Pn**	**14 23 47.0**	**-0.1**
KDU	**Kakadu**	**6.77**	**165**	P	**Pn**	**14 23 47.0**	**-1.0**
SOEI	**Soe**	**7.32**	**240**	Pn	**Pn**	**14 23 52.7**	**-2.8**
SOEI	**Soe**	**7.32**	**240**	P	**Pn**	**14 23 58.5**	**+3.0**
KNRA	**Kununurra**	**9.70**	**191**	Pn	**Pn**	**14 24 25.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**12.90**	**202**	Pn	**Pn**	**14 25 06.4**	**-3.5**
PLAI	**Plampang**	**13.08**	**257**	P	**P**	**14 25 14.8**	**-3.1**
WB0	**Warramunga Arr**	**14.05**	**165**	Pn	**Pn**	**14 25 22.0**	**-2.7**
WRAB	**Tennant Creek**	**14.20**	**166**	Pn	**Pn**	**14 25 24.9**	**-1.7**
WRA	**Warramunga Arr**	**14.21**	**166**	Pn	**Pn**	**14 25 23.3**	**-3.4**
WRA	**Warramunga Arr**	**14.21**	**166**	P	**Pn**	**14 25 24.0**	**-2.8**
	0.7nm,0.3s,baz=333,slow=12,SNR=8.7						
WRA				S	Sn	14 27 51.5	-12
	1.9nm,0.4s,baz=346,slow=24,SNR=7.4						
	0.6nm,0.3s						
WB2	**Warramunga Arr**	**14.21**	**166**	Pn	**Pn**	**14 25 23.6**	**-3.1**
WR0	**Warramunga Arr**	**14.27**	**165**	Pn	**Pn**	**14 25 24.6**	**-3.0**
COEN	**Coen**	**14.56**	**123**	Pn	**Pn**	**14 25 30.9**	**-0.3**
COEN	**Coen**	**14.56**	**123**	P	**Pn**	**14 25 31.6**	**+0.4**
QIS	**Mount Isa**	**16.77**	**150**	P	**P**	**14 25 59.8**	**+1.0**
MANU	**Manus Island**	**17.12**	**77**	P	**P**	**14 26 02.9**	**+0.3**
AS31	**Alice Springs**	**17.73**	**170**	P	**P**	**14 26 09.4**	**+0.1**
ASAR	**Alice Springs**	**17.73**	**170**	P	**Pn**	**14 26 10.4**	**+0.2**
ASAR	**Alice Springs**	**17.73**	**170**	P	**P**	**14 26 09.6**	**+0.2**
	0.5nm,0.3s,baz=352,slow=9.9,SNR=15						
ASAR				S	S	14 29 15.8	-12
	1.1nm,0.7s,baz=358,slow=25,SNR=6.1						
	2.4nm,0.8s						
AS01	**Alice Springs**	**17.74**	**170**	P	**Pn**	**14 26 10.7**	**+0.4**
MTSU	**Mount Surprise**	**17.88**	**133**	P	**Pn**	**14 26 13.6**	**+1.5**
MBWA	**Marble Bar**	**18.35**	**214**	P	**Pn**	**14 26 17.0**	**-0.5**
MBWA				IAmb	IAmb	14 26 41.8	
	comp=Z,44nm,1.5s						
PSA00	**Pilbara Seismi**	**18.61**	**213**	P	**Pn**	**14 26 19.8**	**-1.0**
PSA00				IAmb	IAmb	14 26 50.2	
	comp=Z,12nm,1.0s						
KKM	**Kota Kinabalu**	**18.82**	**310**	P	**P**	**14 26 22.1**	**+0.7**
KKM				IAmb	IAmb	14 27 02.2	
	comp=Z,28nm,1.4s						
WRKA	**Warakurna**	**18.96**	**187**	P	**Pn**	**14 26 24.1**	**-0.8**
FORT	**Forrest**	**24.67**	**185**	P	**P**	**14 27 21.5**	**+1.1**
STKA	**Stephens Creek**	**27.59**	**160**	P	**P**	**14 27 47.9**	**+1.2**
STKA				IAmb	IAmb	14 28 01.0	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**27.59**	**160**	P	**P**	**14 27 45.8**	**-0.9**
	comp=Z,2.9nm,1.0s,baz=332,slow=11,SNR=3.7						
	comp=Z,2.9nm,1.0s						
UBPT	**Khong Chiam**	**32.80**	**311**	P	**P**	**14 28 32.7**	**-0.1**
UBPT				IAmb	IAmb	14 29 04.8	
	comp=Z,8.7nm,1.2s					

1.5nm,0.7s,baz=76,slow=5.5,SNR=6.1
1.5nm,0.7s
FINES FINESS Array B 86.36 332 P P 14 38 38.3 0.0
1.2nm,0.5s,baz=48,slow=6.6,SNR=3.9
1.2nm,0.5s
HFS Hagfors 92.52 333 P P 14 39 08.6 +1.2
4.4nm,1.0s,baz=98,slow=5.1,SNR=2.2
4.4nm,1.0s
YKA Yellowknife Ar 93.96 24 P P 14 39 14.8 +0.8
0.3nm,0.7s,baz=295,slow=4.4,SNR=4.2
0.3nm,0.7s

TAP 08 14:29:18.2, 23°.46N×121°.32E, h19km, ML2.5, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHYH	**Wanrong**	**0.05**	**34**	*i* P	Pg	14 29 22.2	+0.6
EHYH				*e*S	Sg	14 29 24.4	+0.5
EHY	**Hungye**	**0.05**	**5**	*i* P	Pg	14 29 22.1	+0.4
EHY				*e*S	Sg	14 29 24.2	+0.2
YULB	**Yu-li**	**0.07**	**196**	P	Pg	14 29 21.9	+0.2
YULB	**Yu-li**	**0.07**	**196**	*i* P	Pg	14 29 22.1	+0.4
YULB				*e*S	Sg	14 29 24.0	0.0
TWF1	**Yuli**	**0.10**	**190**	*i* P	Pg	14 29 22.4	+0.4
TWF1				*e*S	Sg	14 29 24.7	+0.1
HGSD	**Ruisui**	**0.10**	**69**	P	Pg	14 29 23.2	+1.1
HGSD				*e*S	Sg	14 29 26.6	+2.0
EYUL	**Yuli**	**0.11**	**179**	*i* P	Pg	14 29 22.6	+0.6
EYUL				*e*S	Sg	14 29 25.3	+0.6
ECBN	**Changbin**	**0.18**	**138**	*e*P	Pg	14 29 24.4	+1.4
EGFH	**Guangfu**	**0.24**	**25**	*e*S	Sg	14 29 27.9	+0.4
FULB	**Fuli**	**0.26**	**185**	*e*P	Pb	14 29 25.0	+0.8
FULB				*e*S	Sn	14 29 30.4	-2.2
WARBT	**Fenglin Townsh**	**0.27**	**14**	P	Pb	14 29 24.6	+0.1
WARBT				*e*S	Sb	14 29 28.7	+0.2
CHKH	**Chenggong**	**0.27**	**165**	*i* P	Pb	14 29 25.3	+0.9
EHD	**Haiduan**	**0.32**	**199**	P	Pg	14 29 25.1	-0.1
EHD				S	Sb	14 29 30.2	-0.1
VWDT	**VWDT**	**0.34**	**332**	P	Pb	14 29 26.4	+0.6
VWDT				*e*S	Sb	14 29 31.2	+0.4
ECS	**Chishang**	**0.37**	**194**	*e*P	Pb	14 29 26.5	+0.2
ECS				*e*S	Sb	14 29 33.1	+1.4
ESL	**Shilin**	**0.37**	**17**	*e*P	Pg	14 29 26.2	+0.1
ESL				*e*S	Sb	14 29 31.8	-0.1
ELDTW	**Lidau**	**0.38**	**226**	*i* P	Pg	14 29 26.2	0.0
ELDTW				*e*S	Sg	14 29 31.8	+0.1
SHUL	**Shoufeng**	**0.40**	**34**	*e*S	Sb	14 29 33.4	+0.8
SSLB	**Suanglung**	**0.47**	**315**	P	Pb	14 29 28.0	0.0
SSLB	**Suanglung**	**0.47**	**315**	P	Pb	14 29 28.1	+0.1
SSLB				*e*S	Sb	14 29 34.5	-0.2
ALS	**Alishan**	**0.47**	**277**	P	Pb	14 29 28.8	+0.6
ALS				*e*S	Sb	14 29 35.5	+0.5
EDH	**Donghe**	**0.48**	**181**	*e*P	Pb	14 29 28.1	0.0
WHYT	**Xinyi Township**	**0.49**	**300**	*i* P	Pb	14 29 29.0	+0.7
WHYT				*i* S	Sb	14 29 35.9	+0.7
OWD	**Renai**	**0.51**	**345**	*i* P	Pb	14 29 29.1	+0.3
OWD				S	Sg	14 29 35.6	-0.1
ETM	**Tongmen**	**0.53**	**18**	*e*P	Pb	14 29 29.5	+0.5
WUSB	**Renai**	**0.56**	**341**	P	Pg	14 29 30.1	+0.5
WUSB				*e*S	Sb	14 29 37.3	0.0
LXIB	**Xiulin Townshi**	**0.57**	**9**	*e*P	Pb	14 29 29.5	-0.2
LXIB				*e*S	Sb	14 29 38.3	+0.9
LONT	**Longtian**	**0.57**	**198**	*e*P	Pg	14 29 30.0	+0.3
SMLT	**Sun Moon Lake**	**0.57**	**318**	*i* P	Pb	14 29 29.3	-0.4
SMLT				*e*S	Sb	14 29 36.9	-0.5
STYH	**Taoyuan**	**0.57**	**240**	*i* P	Pg	14 29 30.0	+0.3
STYH				*e*S	Sg	14 29 37.7	+0.3
TYC	**Yuchr**	**0.61**	**317**	*e*P	Pg	14 29 30.9	+0.5
TPUB	**Ta-pu**	**0.65**	**256**	P	Pn	14 29 31.9	-0.6
TPUB	**Ta-pu**	**0.65**	**256**	S	Sn	14 29 41.1	-1.2
TPUB	**Ta-pu**	**0.65**	**256**	*e*P	Pn	14 29 31.9	-0.6
TPUB				*i* S	Sg	14 29 40.9	+1.0
WJS	**Zhushan**	**0.65**	**304**	*i* P	Pn	14 29 32.7	+0.2
WJS				*i* S	Sn	14 29 42.6	+0.3
WCKO	**Fanlu**	**0.65**	**269**	*i* S	Sn	14 29 41.8	-0.6
TWG	**Pinlang**	**0.67**	**200**	P	Pg	14 29 31.6	+0.1
TWG				S	Sg	14 29 40.9	+0.4
TWGBT	**Beinan**	**0.67**	**199**	P	Pg	14 29 31.8	+0.3
TWGBT	**Beinan**	**0.67**	**199**	S	Sn	14 29 42.3	-0.5
TWGBT	**Beinan**	**0.67**	**199**	*e*P	Pg	14 29 31.6	+0.1
TWGBT				*e*S	Sg	14 29 41.0	+0.5
TWD	**Chiawan**	**0.67**	**22**	*e*P	Pn	14 29 32.2	-0.6
WTP	**Ta-pu**	**0.68**	**252**	P	Pn	14 29 32.5	-0.5
WTP				*i* S	Sn	14 29 41.9	-1.1
WHF	**Hehuan Shan**	**0.69**	**356**	*i* P	Pg	14 29 32.4	+0.4
WHF				*e*S	Sg	14 29 41.8	+0.5
WCS	**Beigang Elemen**	**0.70**	**328**	*e*P	Pn	14 29 32.8	-0.5
WNT	**Mingjian**	**0.72**	**306**	*e*P	Pn	14 29 33.4	0.0
WGK	**Gukeng**	**0.73**	**289**	*e*S	Sn	14 29 44.7	+0.5
WDLH	**Douliu**	**0.75**	**288**	*e*P	Pn	14 29 34.2	+0.3
WDLH				*e*S	Sn	14 29 45.4	+0.6
NACB	**Ninganchiao**	**0.76**	**20**	P	Pn	14 29 33.7	-0.3
NACB	**Ninganchiao**	**0.76**	**20**	S	Sn	14 29 44.6	-0.4
NACB	**Ninganchiao**	**0.76**	**20**	*e*P	Pg	14 29 33.5	+0.4
ETLH	**Xiulin Townshi**	**0.76**	**11**	*i* P	Pn	14 29 33.9	-0.2
ETLH				*e*S	Sg	14 29 44.0	+0.5
SGST	**Jiashian**	**0.77**	**241**	*e*P	Pg	14 29 33.5	+0.1
CHN1	**Nanshi**	**0.77**	**250**	*e*P	Pn	14 29 34.6	+0.4
CHN1				*e*S	Sn	14 29 45.6	+0.2
TWK	**Hsinying**	**0.79**	**256**	*e*P	Pn	14 29 34.4	0.0
TWK				*e*S	Sn	14 29 46.0	+0.3
SNST	**Tainan City**	**0.79**	**253**	*e*S	Sn	14 29 45.7	0.0
FUSS	**Fushou**	**0.79**	**355**	P	Pg	14 29 34.2	+0.3
FUSS				*e*S	Sb	14 29 44.0	0.0
WHP	**Taichung City**	**0.89**	**338**	*e*P	Pn	14 29 36.6	+0.7
ECL	**Taimali**	**0.92**	**201**	*e*P	Pb	14 29 35.7	+0.2
SCST	**Cishan**	**0.95**	**233**	*e*P	Pg	14 29 37.9	+1.2
TSMG	**Majia**	**0.97**	**220**	*e*P	Pb	14 29 36.6	+0.2
NNS	**Nan Shan**	**0.98**	**3**	*e*P	Pg	14 29 37.7	+0.3
NNS				*e*S	Sg	14 29 50.5	+0.1
TWQ1	**Liyutan**	**1.02**	**331**	*e*P	Pg	14 29 38.9	+0.9
MASBT	**Mashibuluo**	**1.05**	**217**	*e*P	Pn	14 29 38.1	+0.2
EWUT	**Wuta**	**1.07**	**23**	*e*P	Pg	14 29 38.8	-0.3
LATG	**Datong**	**1.09**	**10**	*e*P	Pg	14 29 39.5	0.0
EAST	**Anshuo**	**1.15**	**202**	*e*P	Pb	14 29 39.9	+0.3
ENTT	**Nioudou**	**1.20**	**11**	*e*P	Pg	14 29 41.1	-0.4
YHNB	**Yeheng**	**1.21**	**3**	P	Pg	14 29 41.9	+0.2
YHNB	**Yeheng**	**1.21**	**3**	S	Sn	14 29 56.5	+0.3
YHNB	**Yeheng**	**1.21**	**3**	*e*P	Pb	14 29 41.1	+0.5
NSK	**Sanguang**	**1.22**	**2**	*e*P	Pg	14 29 41.5	-0.3
LIOB	**Emei**	**1.22**	**347**	*e*P	Pg	14 29 42.0	+0.2
SCZT	**Fangliau**	**1.25**	**211**	*e*P	Pb	14 29 41.5	+0.2
TWE	**Neicheng**	**1.30**	**14**	*e*P	Pg	14 29 42.9	-0.4
FUSB	**Fushanzhiwuyua**	**1.32**	**11**	*e*P	Pb	14 29 43.1	+0.6
NWLT	**Wulai**	**1.33**	**7**	*e*P	Pg	14 29 43.5	-0.4

---

*IDC **08** 14:29:48.0±0.7, 9°.97N×126°.51E, h0km, mb4.0/18, mbtmp4.0/19, ML4.6/1, MS3.4/4, Error ellipse: s-maj=29.4km s-min=14.4km az=79.0*
*NEIC **08** 14:29:50.2±1.2, 10°.12N±0°.08×126°.62E±0°.09, h10km±1km, mb4.5/24, Error ellipse: s-maj=17.4km s-min=11.7km az=54.0*
ISC 08 14:29:54.1±0.5, 10°.00N±0°.06×126°.5E±0°.1, h42km, n61, σ0°99/55, mb4.2/29, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.06**	**198**	Pn	**Pn**	**14 30 39.1**	**-0.9**
DAV	**Davao City (W)**	**3.06**	**198**	Pn	**Pn**	**14 30 38.6**	**-1.4**
	71nm,0.3s,baz=66,slow=12,SNR=2.0						
DAV				Sn	**Sn**	**14 31 15.5**	**+0.1**
	89nm,0.3s,baz=286,slow=15,SNR=3.7						
DAV				LR	LR	14 32 02.1	
	comp=Z,716nm,21.7s,baz=6.0,slow=44						
	158nm,0.4s						
TGY	**Tagaytay City**	**6.81**	**307**	LR	LR	14 34 29.5	
	comp=Z,564nm,18.4s,baz=105,slow=41						
TNTI	**Ternate**	**9.21**	**175**	Pn	**Pn**	**14 32 02.7**	**-1.8**
MYLDM	**Lahad Datu**	**9.28**	**239**	Pn	**Pn**	**14 32 04.4**	**-1.1**
TOLI2	**Tolitoli**	**10.52**	**213**	Pn	**Pn**	**14 32 22.9**	**+0.5**
KKM	**Kota Kinabalu**	**10.93**	**250**	Pn	**Pn**	**14 32 28.2**	**0.0**
SBUM	**Sibu**	**16.06**	**243**		**P**	**14 33 38.8**	**-1.2**
GUMO	**Guam**	**18.31**	**77**	LR	LR	14 41 49.5	
	comp=Z,82nm,18.0s,baz=117,slow=39						
UBPT	**Khong Chiam**	**21.19**	**286**	P	**P**	**14 34 35.9**	**-0.4**
MTN	**Manton Dam**	**23.16**	**168**	P	**P**	**14 34 59.4**	**+2.4**
MTN				IAmb	IAmb	14 35 41.6	
	comp=Z,55nm,1.5s						
MYKOM	**Kota Tinggi**	**23.96**	**252**	P	**P**	**14 35 05.3**	**+0.5**
MYKOM				IAmb	IAmb	14 35 06.1	
	comp=Z,13nm,0.9s						
IPM	**Ipoh**	**25.87**	**260**	P	**P**	**14 35 23.7**	**+1.5**
IPM				IAmb	IAmb	14 35 24.5	
	comp=Z,25nm,1.4s						
KULM	**Kulim**	**26.05**	**262**	P	**P**	**14 35 24.2**	**+0.4**
KULM				IAmb	IAmb	14 35 32.5	
	comp=Z,8.1nm,1.0s						
KSRS	**Korea Array**	**27.36**	**2**	P	**P**	**14 35 33.8**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=186,slow=10,SNR=1.4						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.98**	**291**	P	**P**	**14 35 41.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.98**	**291**	P	**P**	**14 35 39.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=106,slow=6.9,SNR=5.4						
CMAR				LR	LR	14 46 40.4	
	comp=Z,65nm,20.3s,baz=275,slow=36						
	comp=Z,0.4nm,0.3s						
WRAB	**Tennant Creek**	**30.73**	**165**	P	**P**	**14 36 05.5**	**0.0**
WRAB				IAmb	IAmb	14 36 38.5	
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 36 06.3**	**+0.7**
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 36 04.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=345,slow=9.1,SNR=2.7						
	comp=Z,0.4nm,0.6s						
WB2	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 36 04.8**	**-0.8**
WB2				IAmb	IAmb	14 36 24.0	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**32.06**	**192**	P	**P**	**14 36 19.1**	**+2.0**
AS31	**Alice Springs**	**34.23**	**168**	P	**P**	**14 36 34.6**	**-1.5**
ASAR	**Alice Springs**	**34.23**	**168**	P	**P**	**14 36 35.8**	**-0.4**
ASAR	**Alice Springs**	**34.23**	**168**	P	**P**	**14 36 34.3**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=348,slow=7.6,SNR=8.6						
	comp=Z,0.7nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**39.76**	**73**	T	T	15 20 22.8	
	baz=262,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.78**	**73**	T	T	15 20 28.0	
	baz=262,slow=75,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	**39.78**	**73**	T	T	15 20 23.3	
	baz=262,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.11**	**71**	T	T	15 20 50.2	
	baz=265,slow=74,SNR=39						
H11N2	**WAKE ISLAND Hy**	**40.12**	**71**	T	T	15 20 51.3	
	baz=265,slow=74,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.13**	**71**	T	T	15 20 51.5	
	baz=265,slow=74,SNR=31						
SONM	**Songino Array**	**41.35**	**339**	P	**P**	**14 37 37.3**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=155,slow=11,SNR=4.9						
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**43.54**	**168**	P	**P**	**14 37 53.5**	**-0.3**
STKA	**Stephens Creek**	**44.07**	**161**	P	**P**	**14 38 00.0**	**+1.8**
STKA				IAmb	IAmb	14 38 08.0	
	comp=Z,6.9nm,1.1s						
STKA	**Stephens Creek**	**44.07**	**161**	P	**P**	**14 37 58.8**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=308,slow=7.0,SNR=3.2						
	comp=Z,1.5nm,0.7s						
PETK	**Petropavlovsk-**	**49.78**	**24**	P	**P**	**14 38 41.6**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=222,slow=7.7,SNR=1.5						
	comp=Z,3.5nm,1.0s						
MK31	**Makanchi Array**	**52.38**	**323**	P	**P**	**14 39 02.0**	**-0.2**
MKAR	**Makanchi Array**	**52.38**	**323**	P	**P**	**14 39 01.8**	**-0.4**
MKAR	**Makanchi Array**	**52.38**	**323**	P	**P**	**14 39 02.4**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=120,slow=8.2,SNR=29						
MKAR				PcP	**PcP**	**14 40 13.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=107,slow=5.0,SNR=1.0						
	comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**52.58**	**323**	P	**P**	**14 39 03.8**	**+0.1**
ZALV	**Zalesovo Beam**	**54.97**	**331**	P	**P**	**14 39 20.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=128,slow=9.6,SNR=5.9						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**56.42**	**326**	P	**P**	**14 39 31.0**	**-0.4**
KURK				IAmb	IAmb	14 39 32.2	
	comp=Z,2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**56.43**	**325**	P	**P**	**14 39 31.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=128,slow=6.7,SNR=16						
	comp=Z,1.6nm,0.6s						
KKAR	**Karatay Array**	**58.61**	**315**	P	**P**	**14 39 47.1**	**+0.1**
BVAR	**Borovoye Array**	**62.02**	**325**	P	**P**	**14 40 10.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=125,slow=7.4,SNR=5.6						
	comp=Z,0.9nm,0.7s						
ABKAR	**Akbulak array**	**67.23**	**319**	P	**P**	**14 40 43.8**	**-0.4**
E18K	**Tukpahlearik C**	**74.27**	**23**	P	**P**	**14 41 26.6**	**0.0**
E18K				IAmb	IAmb	14 41 36.6	
	comp=Z,6.4nm,1.3s						
TOLK	**Toolik Lake Re**	**78.53**	**22**	P	**P**	**14 41 49.8**	**-1.1**
TOLK				IAmb	IAmb	14 41 58.8	
	comp=Z,2.1nm,0.9s						
RND	**Reindeer**	**78.72**	**27**	P	**P**	**14 41 50.9**	**-1.1**
RND				IAmb	IAmb	14 42 22.3	
	comp=Z,4.0nm,1.3s						
PWL	**Port Wells**	**78.97**	**30**	P	**P**	**14 41 53.4**	**0.0**
PWL				IAmb	IAmb	14 42 28.6	
	comp=Z,5.1nm,0.9s						
ILAR	**Eielson Array**	**79.57**	**26**	P	**P**	**14 41 58.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=246,slow=4.2,SNR=4.3						
	comp=Z,0.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.32**	**349**	P	**P**	**14 42 22.3**	**+1.0**
	comp=Z,6.9nm,0.8s,baz=106,slow=5.2,SNR=1.9						
	comp=Z,6.9nm,0.8s						
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**14 42 23.7**	**+1.2**
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**14 42 23.3**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=79,slow=6.8,SNR=11						
	comp=Z,1.1nm,0.4s						
S31K	**Pelican**	**85.42**	**32**	P	**P**	**14 42 26.7**	**-0.4**
FIA1	**FINESS Array S**	**86.24**	**332**	P	**P**	**14 42 31.0**	**-0.1**
FINES	**FINESS Array B**	**86.24**	**332**	P	**P**	**14 42 31.6**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=67,slow=3.9,SNR=12						
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**86.92**	**321**	P	**P**	**14 42 35.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=63,slow=4.9,SNR=1.5						
	comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**92.39**	**333**	P	**P**	**14 43 00.0**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=99,slow=9.2,SNR=4.3						
	comp=Z,3.8nm,1.0s						
NB201	**NORSAR Array S**	**93.06**	**334**	P	**P**	**14 43 03.1**	**-0.2**
YKA	**Yellowknife Ar**	**93.90**	**24**	P	**P**	**14 43 06.5**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.6,SNR=4.4						
	comp=Z,0.3nm,0.7s						

---

*TIR **08** 14:33:24.8, 37°.44N×20°.33E, h18km±1km, Md3.3/5, Ml3.7/6*
ATH 08 14:33:45.9, 38°.88N×20°.89E, h11km±3km, ML2.1/19, Manual Solution by N.Liadopoulou First location: 2019/02/08 14:34:04, This location: 2019/02/08 15:54:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.19**	**254**	P	Pg	14 33 50.0	0.0
TSLK				S	Sg	14 33 53.5	+0.7
LKD2	**Lefkada island**	**0.20**	**244**	P	Pg	14 33 50.6	+0.4
LKD2				S	Sg	14 34 10.3	+17
LKD2				AML	AML	14 34 12.5	
	28nm,0.7s						
LKD2				AMd		14 34 36.7	
LKD2	**Lefkada island**	**0.20**	**244**	P	Pg	14 33 50.6	+0.4
LKD2				S	Sg	14 34 10.3	+17
LKD2				AML	AML	14 34 12.5	
	28nm,0.7s						
LKD2				AMd		14 34 36.7	
LKD2	**Lefkada island**	**0.20**	**244**	P	Pg	14 33 50.3	+0.2
LKD2				S	Sg	14 33 53.7	+0.6
DRAG	**Dragano-Lefkad**	**0.31**	**232**	P	Pg	14 33 52.2	0.0
DRAG				S	Sg	14 33 56.9	+0.5
EVGI	**Lefkada island**	**0.31**	**216**	P	Pg	14 33 52.2	0.0
EVGI				S	Sg	14 33 56.8	+0.4
FSK	**Fiskardo**	**0.49**	**212**	P	Pg	14 33 55.1	-0.3
TETR	**Tetrakomo, Epi**	**0.56**	**33**	P	Pg	14 33 56.2	-0.5
EVR	**Evrytania**	**0.72**	**87**	P	Pg	14 34 00.1	+0.3
VLS	**Valsamata**	**0.74**	**199**	P	Pg	14 33 59.8	-0.4
DMLN	**Damoulianata-K**	**0.76**	**213**	P	Pg	14 34 00.2	-0.3
JAN	**Janina**	**0.78**	**358**	P	Pg	14 34 01.1	+0.1
AXS	**Araxos**	**0.78**	**150**	P	Pb	14 34 01.3	-0.1
IGT	**Igoumenitsa**	**0.78**	**327**	P	Pn	14 34 02.5	-0.4
IGT				S	Sn	14 34 30.9	+16
IGT				AML	AML	14 34 35.6	
	1.0nm,0.9s						
IGT				AMd		14 35 12.9	
IGT	**Igoumenitsa**	**0.78**	**327**	P	Pn	14 34 02.5	-0.4
IGT				S	Sn	14 34 30.9	+16
IGT				AML	AML	14 34 35.6	
	1.0nm,0.9s						
IGT				AMd		14 35 12.9	
IGT	**Igoumenitsa**	**0.78**	**327**	P	Pg	14 34 00.5	-0.6
PSDA	**Pessada-Kefalo**	**0.80**	**198**	P	Pg	14 34 00.7	-0.6
ANX	**Ano Chora**	**0.86**	**109**	P	Pg	14 34 02.6	+0.1
EFP	**Efpalio**	**0.91**	**119**	P	Pb	14 34 03.7	-0.1
RLS	**Riolos of Patr**	**0.94**	**151**	P	Pb	14 34 04.1	-0.1
MAKR	**Makrakomi, Fth**	**0.98**	**82**	P	Pn	14 34 05.8	+0.1
ORTH	**Orthonies,Zaky**	**1.03**	**188**	P	Pn	14 34 06.6	+0.2
KALE	**Kalithea**	**1.09**	**116**	P	Pn	14 34 07.3	+0.1
THL	**Klokotos Trika**	**1.11**	**52**	P	Pb	14 34 07.0	-0.1
DRO	**Drossia**	**1.13**	**145**	P	Pb	14 34 07.2	-0.2
KPRO	**Kipourio**	**1.14**	**19**	P	Pn	14 34 08.1	+0.2
KEK	**Kerkira**	**1.19**	**315**	P	Pb	14 34 08.2	-0.2
SRN	**Sarande**	**1.22**	**326**	P	Pn	14 34 08.2	-0.6
SRN				S	Sn	14 34 40.9	+16
SRN				AML	AML	14 34 43.9	
	0.3nm,0.6s						
SRN				AMd		14 35 25.3	
SRN	**Sarande**	**1.22**	**326**	P	Pn	14 34 08.2	-0.6
SRN				S	Sn	14 34 40.9	+16
SRN				AML	AML	14 34 43.9	
	0.3nm,0.6s						
SRN				AMd		14 35 25.3	
LSK	**Leskovik**	**1.29**	**350**	P	Pg	14 34 11.6	+0.9
LSK				S	Sg	14 34 46.8	+19
LSK				AML	AML	14 34 55.0	
	2.0nm,0.7s						
LSK				AMd		14 35 27.6	
LSK	**Leskovik**	**1.29**	**350**	P	Pg	14 34 11.6	+0.9
LSK				S	Sg	14 34 46.8	+19
LSK				AML	AML	14 34 55.0	
	2.0nm,0.7s						
LSK				AMd		14 35 27.6	
KLV	**Kalavryta, Ach**	**1.29**	**130**	P	Pn	14 34 09.6	-0.4
AXAR	**Agios Charalam**	**1.39**	**94**	P	Pn	14 34 11.3	+0.1
GUR	**Goura**	**1.48**	**129**	P	Pb	14 34 13.2	-0.3
AMT	**Artemida-Makis**	**1.49**	**154**	P	Pn	14 34 12.5	-0.2
NEST	**Nestorio**	**1.54**	**5**	P	Pg	14 34 15.6	+0.1
NEST				S	Sg	14 34 54.9	+19
NEST				AML	AML	14 35 04.2	
	0.7nm,0.8s						
NEST	**Nestorio**	**1.54**	**5**	P	Pg	14 34 15.6	+0.1
NEST				S	Sg	14 34 54.9	+19
NEST				AML	AML	14 35 04.2	
	0.7nm,0.8s						
NEST	**Nestorio**	**1.54**	**5**	P	Pb	14 34 14.2	-0.4
LTK	**Loutraki**	**1.84**	**117**	P	Pn	14 34 18.2	+0.7
XOR	**Xorichti**	**1.86**	**74**	P	Pb	14 34 19.1	-0.8
FNA	**Florina**	**1.94**	**11**	P	Pg	14 34 22.4	-0.7
FNA				S	Sg	14 35 05.6	+17
FNA				AML	AML	14 35 12.8	
	0.4nm,0.6s						
FNA				AMd		14 35 34.9	
FNA	**Florina**	**1.94**	**11**	P	Pg	14 34 22.4	-0.7
FNA				S	Sg	14 35 05.6	+17
FNA				AML	AML	14 35 12.8	
	0.4nm,0.6s						
FNA				AMd		14 35 34.9	

---

*OSPL **08** 14:36:21.8±1.3, 18°.95N×65°.74W, h33km±25km, ML3.3, Hypocentre not reviewed by the ISC*
*NEIC **08** 14:36:22.4±0.6, 18°.79N±0°.07×65°.83W±0°.05, h57km±15km, ML3.6/42, Md3.0/15(RSPR), Error ellipse: s-maj=10.8km s-min=6.3km az=208.0*
*RSPR **08** 14:36:23.5, 18°.76N×65°.85W, h59km±2km, MD3.0/15*
ISC 08 14:36:21.6±1.6, 18°.81N±0°.09×65°.82W±0°.05, h64km±14km, n59, σ0°57/73, 6C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.55**	**207**		**Pn**	**14 36 34.5**	**+0.1**
GCPR					**Sn**	**14 36 43.1**	**-0.7**
GCPR				IAML		14 36 43.9	
	comp=N,2μm,0.6s						
GCPR	**Guaynabo City**	**0.55**	**207**	*e*P	**Pn**	**14 36 34.6**	**+0.1**
GCPR	**Guaynabo City**	**0.55**	**207**	*e*S	**Sn**	**14 36 43.2**	**-0.7**
HUMP	**Col San Antoni**	**0.66**	**182**		**Pn**	**14 36 36.0**	**+0.3**
HUMP					**Sn**	**14 36 45.9**	**-0.1**
HUMP				IAML		14 36 46.6	
	comp=E,4μm,0.3s						
HUMP				IAML		14 36 46.6	
	comp=N,2μm,0.3s						
HUMP	**Col San Antoni**	**0.66**	**182**	*e*P	**Pn**	**14 36 35.8**	**+0.2**
HUMP	**Col San Antoni**	**0.66**	**182**	*e*S	**Sn**	**14 36 45.7**	**-0.3**

CRPR	**Cabo Rojo, PR**	**1.46 237**⇑	*e*P	**Pn**	**14 36 46.8**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.46 237**	*e*S	**Sn**	**14 37 04.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.46 237**	*i* P		14 36 46.9	
CRPR			*e*S		14 37 04.9	
CRPR			IAML		14 37 13.1	
	comp=Z,346nm,0.3s					
IDE	**Isla Desecheo**	**1.62 255**		**Pn**	**14 36 48.6**	**+0.6**
IDE				**Sn**	**14 37 07.8**	**-0.2**
IDE	**Isla Desecheo**	**1.62 255**⇓	*i* P	**Pn**	**14 36 48.6**	**+0.6**
IDE	**Isla Desecheo**	**1.62 255**	*e*S	**Sn**	**14 37 07.8**	**-0.2**
PCDR	**Punta Cana, DR**	**2.44 264**		**Pn**	**14 36 58.6**	**-0.5**
PCDR			IAML		14 37 37.9	
	comp=N,244nm,1.4s					
PCDR	**Punta Cana, DR**	**2.44 264**⇑	*e*P	**Pn**	**14 36 58.6**	**-0.5**
PCDR	**Punta Cana, DR**	**2.44 264**	*e*S	**Sn**	**14 37 26.6**	**-1.3**
PCDR	**Punta Cana, DR**	**2.44 264**	*i* P		14 37 00.3	
PCDR			IAML		14 37 44.2	
	comp=Z,141nm,2.5s					
SMRT	**St. Maarten**	**2.71 106**	Pn	**Pn**	**14 37 03.6**	**+0.7**
SMRT			IAML		14 37 37.0	
	comp=E,336nm,0.2s					
SMRT			IAML		14 37 39.6	
	comp=N,277nm,0.2s					
DR12	**Loma Pena Alta**	**3.37 270**		**Pn**	**14 37 12.4**	**+0.6**
DR12			IAML		14 37 58.0	
	comp=E,57nm,0.3s					
DR12			IAML		14 37 59.2	
	comp=N,58nm,0.8s					
BANI	**BANI**	**4.32 265**	Pn	**Pn**	**14 37 25.5**	**+0.6**
GDHS	**Morne Mazeau,**	**4.62 122**	Pn	**Pn**	**14 37 28.8**	**-0.2**
GDHS			IAML		14 38 30.7	
	comp=N,95nm,0.5s					
SDDR	**Presa de Saban**	**5.18 273**	Pn	**Pn**	**14 37 37.0**	**+0.4**
SDDR			IAML		14 38 44.7	
	comp=N,35nm,0.5s					
SDDR			IAML		14 38 57.2	
	comp=N,35nm,1.3s					
LOVI	**El Cajuil, Ovi**	**5.36 260**	*i* P		14 37 39.6	
LOVI			*e*S		14 38 37.1	
LOVI			IAML		14 38 41.1	
	comp=Z,46nm,0.9s					
LOBH	**Bahia de las A**	**5.60 261**	*i* P		14 37 43.0	
LOBH			*e*S		14 38 42.5	
GRTK	**Grand Turk**	**5.67 299**	Pn	**Pn**	**14 37 41.7**	**-1.5**
GRTK	**Grand Turk**	**5.67 299**	*i* P		14 37 41.8	
GRTK			*e*S		14 38 40.4	
GRTK			IAML		14 38 47.1	
	comp=Z,33nm,1.9s					

NAO ***08*** *14:43:26.8±0.7, 77°.04N×16°.26E, h14km±7km, ML3.5*
IDC ***08*** *14:43:27.4±0.9, 77°.11N×17°.56E, h0km, mb3.4/2, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=19.3km s-min=5.9km az=72.0*
KOLA ***08*** *14:43:28.4, 77°.13N×16°.52E, h0km, ML3.5, Error ellipse: s-maj=28.8km s-min=20.5km az=50.0, Spitsbergen, Barentz Sea*
BER ***08*** *14:43:29.4±3.9, 77°.04N×16°.29E, h15km±9km, ML2.9, ML3.5(NAO), Confirmed Earthquake*
FCIAR ***08*** *14:43:30.0, 77°.19N×17°.37E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*

ISC 08 14:43:25.5±0.6, 77°.03N±0°.03×16°.68E±0°.03, h10km, n64, σ2§78/105, 1C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.26 265**		Pg	**Pg**	**14 43 31.6**	**+0.9**
HSPB				Lg	Lg	14 43 34.6	
HSPB	**Hornsund (broa**	**0.26 265**⇓	*i* P		**Pg**	**14 43 31.6**	**+0.9**
HSPB			*e*S		**Sg**	**14 43 34.6**	**+0.3**
HSPB			IAML			14 43 34.8	
	comp=Z,3μm,0.3s						
SPA0	**Spitsbergen Ar**	**1.16 357**		Pn	**Pn**	**14 43 47.8**	**+0.1**
	baz=173,slow=28						
SPA0				Pg	**Pg**	**14 43 48.8**	**+1.1**
	baz=170,slow=22						
SPA0				Lg	Lg	14 44 05.0	
	baz=170,slow=37						
SPA0	**Spitsbergen Ar**	**1.16 357**		Pn	**Pn**	**14 43 47.8**	**+0.1**
	baz=173,slow=28						
SPA0				Pg	**Pg**	**14 43 48.8**	**+1.1**
	baz=170,slow=22						
SPA0				Sg	**Sn**	**14 44 05.0**	**+1.4**
	baz=170,slow=37						
SPA0	**Spitsbergen Ar**	**1.16 357**⇑	*i* P		**Pn**	**14 43 48.0**	**+0.2**
SPA0			*i* S		**Sg**	**14 44 01.8**	**-1.0**
SPITS	**Spitsbergen Ar**	**1.16 357**	Pg		**Pn**	**14 43 47.9**	**+0.2**
	baz=166,slow=18						
SPITS			Lg		Lg	14 44 03.0	
	baz=164,slow=29						
SPITS	**Spitsbergen Ar**	**1.16 357**	P		**Pb**	**14 43 47.4**	**-0.2**
SPITS			S		**Sn**	**14 44 03.9**	**+0.3**
BRBA	**Barentsburg A**	**1.17 334**	Pn		**Pb**	**14 43 47.4**	**-0.3**
BRBA			Lg		Lg	14 44 03.5	
BRBA	**Barentsburg A**	**1.17 334**	*e*P		**Pb**	**14 43 47.4**	**-0.3**
BRBA			*e*S		**Sn**	**14 44 03.5**	**-0.3**
BRBA			IAML			14 44 08.2	
	comp=Z,757nm,0.2s						
BRBB	**Barentsburg B**	**1.20 335**	Pn		**Pb**	**14 43 48.1**	**-0.2**
BRBB			Lg		Lg	14 44 04.0	
BRBB	**Barentsburg B**	**1.20 335**	*e*P		**Pb**	**14 43 48.0**	**-0.2**
BRBB			*e*S		**Sg**	**14 44 03.8**	**-0.3**
BRBB	**Barentsburg B**	**1.20 335**	P		**Pn**	**14 43 50.3**	**+2.0**
BRBB			S		**Sn**	**14 44 04.1**	**-0.4**
HOPEN	**Hopen**	**1.98 101**	Pn		**Pn**	**14 44 01.3**	**+2.1**
HOPEN			Sn		**Sn**	**14 44 25.8**	**+1.9**
HOPEN			Lg		Lg	14 44 32.1	
HOPEN	**Hopen**	**1.98 101**	*e*P		**Pn**	**14 44 01.2**	**+2.1**
HOPEN			*e*Pg		**Pg**	**14 44 06.7**	**+3.2**
HOPEN			*e*S		**Sn**	**14 44 25.7**	**+1.8**
HOPEN			*e*Sg		**Sg**	**14 44 32.0**	**+2.8**
HOPEN			IAML			14 44 35.0	
	comp=Z,526nm,0.7s						
HOPEN	**Hopen**	**1.98 101**	*e*P		**Pn**	**14 44 01.1**	**+2.1**
HOPEN			*e*S		**Sn**	**14 44 25.6**	**+1.7**
KBS	**Kingsbay**	**2.15 335**	Pn		**Pn**	**14 44 01.2**	**-0.2**
KBS			Pg		**Pb**	**14 44 05.3**	**+0.8**
KBS			Lg		Lg	14 44 33.2	
KBS	**Kingsbay**	**2.15 335**	*e*P		**Pn**	**14 44 01.2**	**-0.2**
KBS			*e*Pg		**Pb**	**14 44 05.4**	**+0.9**
KBS			*e*Sg		**Sg**	**14 44 33.7**	**-0.9**
KBS			IAML			14 44 39.7	
	comp=Z,399nm,0.6s						
KBS	**Kingsbay**	**2.15 335**	P		**Pb**	**14 44 04.5**	**+0.1**
KBS			S		**Sb**	**14 44 30.3**	**-0.9**
KBS	**Kingsbay**	**2.15 335**	*e*P		**Pn**	**14 44 01.2**	**-0.2**
KBS			*e*S		**Sn**	**14 44 27.8**	**-0.3**
BJO1	**Bjornoya**	**2.60 166**	Pn		**Pn**	**14 44 09.1**	**+1.5**
BJO1			Pg		**Pg**	**14 44 15.8**	**+0.5**
BJO1			Sn		**Sn**	**14 44 39.0**	**-0.1**
BJO1			Lg		Lg	14 44 49.4	
BJO1	**Bjornoya**	**2.60 166**	*e*P		**Pn**	**14 44 11.1**	**+3.5**
BJO1			*e*Sg		**Sg**	**14 44 49.1**	**+0.1**
BJO1			IAML			14 44 59.1	
	comp=Z,123nm,0.3s						
BJO1	**Bjornoya**	**2.60 166**	*e*P		**Pg**	**14 44 15.8**	**+0.5**
BJO1			*e*S		**Sg**	**14 44 49.5**	**+0.6**
HAMF	**Hammerfest**	**6.70 160**	Pn		**Pn**	**14 45 05.2**	**+1.4**
HAMF			Sn		**Sn**	**14 46 14.0**	**-6.0**
HAMF	**Hammerfest**	**6.70 160**	*e*P		**Pn**	**14 45 05.5**	**+1.7**
HAMF			*e*S		**Sn**	**14 46 14.2**	**-5.8**
HAMF			IAML			14 46 19.3	
	comp=Z,11nm,0.6s						
ZFI2	**Zemlya Franca-**	**6.97 43**	*e*P		**Pn**	**14 45 08.7**	**+1.3**
ZFI2			*e*S		**Sn**	**14 46 21.6**	**-4.9**
	comp=Z,16nm,2.5s						
ZFI2			*i* tx		tx	14 48 51.7	
OMEGA	**Omega**	**6.97 43**	*e*P		**Pn**	**14 45 08.8**	**+1.3**
OMEGA			*e*S		**Sn**	**14 46 22.7**	**-4.0**
	comp=Z,16nm,3.0s						
NOR	**Nord**	**7.56 322**	*e*P		**Pn**	**14 45 16.4**	**+0.8**
JETT	**Jettan, Norway**	**7.59 170**	Pn		**Pn**	**14 45 18.1**	**+2.2**
JETT			Sn		**Sn**	**14 46 38.8**	**-3.0**
JETT	**Jettan, Norway**	**7.59 170**	Pn		**Pn**	**14 45 18.1**	**+2.2**
JETT			Sn		**Sn**	**14 46 38.8**	**-3.0**
VADS	**Vadso**	**7.79 146**	*e*P		**Pn**	**14 45 21.3**	**+2.6**
VADS			*e*S		**Sn**	**14 46 42.8**	**-3.9**
VADS			IAML			14 46 44.9	
	comp=Z,11nm,0.5s						
VADS	**Vadso**	**7.79 146**	S		**Sn**	**14 46 42.7**	**-3.9**
VADS	**Vadso**	**7.79 146**	P		**Pn**	**14 45 21.1**	**+2.4**
KEV	**Kevo**	**7.86 153**	Pn		**Pn**	**14 45 21.2**	**+1.5**
KEV			Sn		**Sn**	**14 46 44.1**	**-4.5**
KEV	**Kevo**	**7.86 153**	*e*P		**Pn**	**14 45 21.4**	**+1.8**
KEV			*e*S		**Sn**	**14 46 42.8**	**-5.8**
ARA0	**ARCESS Array S**	**7.93 157**	Pn		**Pn**	**14 45 21.6**	**+0.9**
	baz=349,slow=12						
ARA0			Sn		**Sn**	**14 46 45.6**	**-4.8**
	baz=1.9,slow=22						
ARA0	**ARCESS Array S**	**7.93 157**	Pn		**Pn**	**14 45 21.6**	**+0.9**
	baz=349,slow=12						
ARA0			Sn		**Sn**	**14 46 45.6**	**-4.8**
	baz=1.9,slow=22						
ARA0			IAML		14 46 51.2		
	comp=Z,6.4nm,0.3s						
ARCES	**ARCESS Array B**	**7.93 157**	Pn		**Pn**	**14 45 22.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=25						
ARCES			Sn		**Sn**	**14 46 43.6**	**-6.8**
	comp=Z,1.2nm,0.3s,baz=1.1,slow=20,SNR=10						
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**7.93 157**	S		**Sn**	**14 46 44.9**	**-5.5**
ARCES	**ARCESS Array B**	**7.93 157**	P		**Pn**	**14 45 22.3**	**+1.6**
DAG	**Danmarks Havn**	**7.94 285**	*e*P		**Pn**	**14 45 21.2**	**+0.4**
KIF	**Kilpisjarvi**	**8.15 169**	Pn		**Pn**	**14 45 24.0**	**+0.3**
KIF			Sn		**Sn**	**14 46 53.0**	**-2.6**
KIF	**Kilpisjarvi**	**8.15 169**	Pn		**Pn**	**14 45 24.0**	**+0.3**
KIF			Sn		**Sn**	**14 46 53.0**	**-2.6**
KTK1	**Kautokeino**	**8.27 163**	*e*P		**Pn**	**14 45 27.1**	**+1.8**
KTK1			IAML		14 47 00.9		
	comp=Z,2.7nm,0.4s						
PRVG	**Vayda Guba**	**8.51 141**	S		**Sn**	**14 46 58.2**	**-6.3**
PRVG	**Vayda Guba**	**8.51 141**	P		**Pn**	**14 45 30.9**	**+2.3**
HEF	**Hetta**	**8.90 163**	Pn		**Pn**	**14 45 34.6**	**+0.7**
HEF			Sn		**Sn**	**14 47 09.4**	**-4.6**
HEF	**Hetta**	**8.90 163**	*e*P		**Pn**	**14 45 35.0**	**+1.1**
LOF	**Lofoten**	**8.99 188**	Pn		**Pn**	**14 45 37.2**	**+2.1**
LOF			Sn		**Sn**	**14 47 13.1**	**-3.1**
LOF	**Lofoten**	**8.99 188**	*e*P		**Pn**	**14 45 36.9**	**+1.7**
DBG	**Daneborg**	**9.41 272**	Pn		**Pn**	**14 45 42.0**	**+1.1**
DBG	**Daneborg**	**9.41 272**	Pn		**Pn**	**14 45 42.0**	**+1.1**
TERR	**Teriberka**	**9.44 137**	S		**Sn**	**14 47 20.3**	**-7.0**
TERR	**Teriberka**	**9.44 137**	P		**Pn**	**14 45 41.2**	**0.0**
FAUS	**Fauske**	**9.71 183**	S		**Sn**	**14 47 32.9**	**-0.8**
FAUS	**Fauske**	**9.71 183**	P		**Pn**	**14 45 48.6**	**+3.8**
APA0	**Apatity Array**	**10.62 144**	Pn		**Pn**	**14 45 57.4**	**0.0**
	baz=338,slow=12						
APA0			Sn		**Sn**	**14 47 49.5**	**-6.6**
	baz=331,slow=37						
APA0	**Apatity Array**	**10.62 144**	Pn		**Pn**	**14 45 57.4**	**0.0**
	baz=338,slow=12						
APA0			Sn		**Sn**	**14 47 49.5**	**-6.6**
	baz=331,slow=37						
APA0	**Apatity Array**	**10.62 144**	S		**Sn**	**14 47 50.8**	**-5.2**
APA0	**Apatity Array**	**10.62 144**	P		**Pn**	**14 45 58.0**	**+0.6**
KVDA	**Kovda**	**11.47 146**	S		**Sn**	**14 48 10.3**	**-6.5**
KVDA	**Kovda**	**11.47 146**	P		**Pn**	**14 46 09.6**	**+0.6**
FINES	**FINESS Array B**	**15.97 163**	Pn		**Pn**	**14 47 09.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=0.8						
FINES			Sn		Sn	14 49 57.6	-8.9
	comp=Z,0.1nm,0.3s,baz=354,slow=22,SNR=2.5						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**35.03 102**	P		**P**	**14 50 20.4**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=334,slow=7.7,SNR=3.5						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**39.47 100**	P		**P**	**14 50 57.6**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=327,slow=6.5,SNR=5.0						
	comp=Z,0.3nm,0.6s						

IDC ***08*** *14:46:21.2±0.6, 9°.67N×126°.37E, h0km, mb4.0/19, mbtmp4.0/20, ML4.6/1, MS3.0/1, Error ellipse: s-maj=28.8km s-min=13.8km az=79.0*
NEIC ***08*** *14:46:24.1±1.9, 9°.84N±0°.08×126°.2E±0°.1, h10km±1km, mb4.5/32, Error ellipse: s-maj=24.5km s-min=13.1km az=87.0*

ISC 08 14:46:27.2±0.5, 9°.73N±0°.05×126°.2E±0°.1, h35km, n65, σ1§10/63, mb4.3/34, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.70 192**		Pn	**Pn**	**14 47 07.4**	**-0.8**
DAV	**Davao City (W)**	**2.70 192**		Pn	**Pn**	**14 47 06.6**	**-1.6**
	105nm,0.3s,baz=100,slow=6.1,SNR=2.1						
DAV				Sn	**Sn**	**14 47 39.1**	**-0.7**
	71nm,0.3s,baz=94,slow=13,SNR=4.1						
	229nm,0.4s						
TGY	**Tagaytay City**	**6.71 311**		LR	LR	14 50 40.0	
	comp=Z,117nm,19.0s,baz=317,slow=38						
FAKI	**Fak Fak**	**13.95 154**		Pn	**Pn**	**14 49 43.8**	**+1.2**
TPUB	**Ta-pu**	**14.50 339**		Pn	**Pn**	**14 49 48.1**	**-1.9**
SBUM	**Sibu**	**15.62 243**			**P**	**14 50 08.0**	**-0.8**
KSM	**Kuching**	**17.77 243**			**Pn**	**14 50 31.5**	**-0.5**
MTN	**Manton Dam**	**22.96 167**		P	**P**	**14 51 30.8**	**+2.1**
KNRA	**Kununurra**	**25.37 174**		P	**P**	**14 51 52.9**	**+1.6**
IPM	**Ipoh**	**25.47 260**		P	**P**	**14 51 53.9**	**+1.5**
IPM				IAmb	IAmb	14 51 58.6	
	comp=Z,7.5nm,0.8s						
KULM	**Kulim**	**25.66 262**		P	**P**	**14 51 53.2**	**-0.9**
KULM				IAmb	IAmb	14 52 00.8	
	comp=Z,7.4nm,1.0s						
KSRS	**Korea Array**	**27.65 3**		P	**P**	**14 52 10.3**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=184,slow=9.3,SNR=1.6						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.65 181**		P	**P**	**14 52 12.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**27.75 291**		P	**P**	**14 52 14.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=96,slow=7.2,SNR=4.3						
	comp=Z,0.4nm,0.3s						
WRA	**Warramunga Arr**	**30.57 165**		P	**P**	**14 52 37.6**	**-0.2**
WRA	**Warramunga Arr**	**30.57 165**		P	**P**	**14 52 37.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=348,slow=9.3,SNR=1.7						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**30.57 165**		P	**P**	**14 52 37.0**	**-0.7**
WB2				IAmb	IAmb	14 52 52.9	
	comp=Z,6.2nm,1.2s						
WR0	**Warramunga Arr**	**30.63 164**		P	**P**	**14 52 38.9**	**+0.5**
WR0				IAmb	IAmb	14 52 49.0	
	comp=Z,8.6nm,1.4s						
PSA00	**Pilbara Siesmi**	**31.72 191**		P	**P**	**14 52 47.3**	**-0.5**
AS31	**Alice Springs**	**34.04 167**		P	**P**	**14 53 09.5**	**+1.3**
ASAR	**Alice Springs**	**34.04 167**		P	**P**	**14 53 08.8**	**+0.6**
ASAR	**Alice Springs**	**34.04 167**		P	**P**	**14 53 06.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=350,slow=7.3,SNR=25						
	comp=Z,0.4nm,0.3s						
MORW	**Morawa**	**39.79 194**		P	**P**	**14 53 58.1**	**+1.2**
MORW				IAmb	IAmb	14 54 37.8	
	comp=Z,20nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**40.53 71**		T	T	15 37 26.0	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**40.54 71**		T	T	15 37 28.2	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**40.55 71**		T	T	15 37 26.9	
	baz=264						
SONM	**Songino Array**	**41.49 340**		P	**P**	**14 54 12.7**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=157,slow=10.0,SNR=5.1						
	comp=Z,0.4nm,0.4s						
NWAO	**Narrogin (SRO)**	**43.26 191**		P	**P**	**14 54 27.1**	**+1.7**
STKA	**Stephens Creek**	**43.93 161**		P	**P**	**14 54 31.9**	**+1.1**
STKA				IAmb	IAmb	14 54 51.6	
	comp=Z,6.8nm,1.2s						
STKA	**Stephens Creek**	**43.93 161**		P	**P**	**14 54 27.9**	**-2.9**
	comp=Z,1.8nm,0.7s,baz=259,slow=1.9,SNR=2.9						
	comp=Z,1.8nm,0.7s						
PETK	**Petropavlovsk-**	**50.17 24**		P	**P**	**14 55 19.6**	**+0.3**
	comp=Z,4.7nm,1.0s,baz=224,slow=6.9,SNR=1.6						
	comp=Z,4.7nm,1.0s						
MKAR	**Makanchi Array**	**52.39 323**		P	**P**	**14 55 36.9**	**+0.8**
MKAR	**Makanchi Array**	**52.39 323**		P	**P**	**14 55 36.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=126,slow=7.9,SNR=17						
MKAR				PcP	**PcP**	**14 56 48.0**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=116,slow=5.0,SNR=4.4						
	comp=Z,0.8nm,0.6s						
MAKZ	**Makanchi**	**52.58 323**		P	**P**	**14 55 37.8**	**+0.3**
ZALV	**Zalesovo Beam**	**55.05 332**		P	**P**	**14 55 54.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=10,SNR=2.3						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**56.45 326**		P	**P**	**14 56 06.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=125,slow=6.9,SNR=4.6						
	comp=Z,0.4nm,0.3s						
GAR	**Garm**	**57.55 310**		P	**P**	**14 56 14.1**	**+0.4**
GAR				IAmb	IAmb	14 56 19.7	
	comp=Z,3.1nm,0.7s						
TIXI	**Tiksi**	**61.89 1**		P	**P**	**14 56 43.9**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=133,slow=7.8,SNR=4.0						
	comp=Z,3.7nm,0.3s						
BVAR	**Borovoye Array**	**62.05 326**		P	**P**	**14 56 45.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=114,slow=5.0,SNR=2.8						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**67.21 319**		P	**P**	**14 57 17.7**	**-0.2**
ARTI	**Arti**	**69.70 327**		P	**P**	**14 57 34.5**	**+1.2**
ARTI				IAmb	IAmb	14 57 53.3	
	comp=Z,5.1nm,1.3s						
C18K	**Utukok River**	**74.70 21**		P	**P**	**14 58 02.7**	**-0.4**
B21K	**Ikpikpuk River**	**77.19 21**		P	**P**	**14 58 16.7**	**-0.5**
B21K				IAmb	IAmb	14 58 26.8	
	comp=Z,4.9nm,1.1s						
C23K	**Itkillik River**	**78.59 21**		P	**P**	**14 58 25.1**	**+0.1**
TOLK	**Toolik Lake Re**	**78.92 22**		P	**P**	**14 58 26.9**	**+0.1**
TOLK				IAmb	IAmb	14 58 43.5	
	comp=Z,6.8nm,1.5s						
I23K	**Minto, Yukon-K**	**78.92 25**		P	**P**	**14 58 26.6**	**-0.2**
I23K				IAmb	IAmb	14 58 57.9	
	comp=Z,5.9nm,1.5s						
PWL	**Port Wells**	**79.39 30**		P	**P**	**14 58 28.1**	**-1.4**
F24K	**Squaw Lake**	**79.53 23**		P	**P**	**14 58 29.7**	**-0.5**
ILAR	**Eielson Array**	**79.97 26**		P	**P**	**14 58 30.7**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=232,slow=4.6,SNR=7.2						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**80.81 23**		P	**P**	**14 58 36.6**	**-0.5**
I28M	**Miner Creek**	**82.85 25**		P	**P**	**14 58 47.9**	**-0.1**
I28M				IAmb	IAmb	14 59 05.6	
	comp=Z,3.1nm,0.9s						
H29M	**Whitestone**	**83.38 24**		P	**P**	**14 58 49.2**	**-1.3**
H29M				IAmb	IAmb	14 58 56.0	
	comp=Z,6.1nm,1.5s						
M29M	**Somme Creek**	**83.94 28**		P	**P**	**14 58 52.5**	**-1.2**
M29M				IAmb	IAmb	14 59 28.6	
	comp=Z,3.7nm,1.3s						
ARCES	**ARCESS Array B**	**84.66 340**		P	**P**	**14 58 57.5**	**+0.4**
ARCES	**ARCESS Array B**	**84.66 340**		P	**P**	**14 58 56.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=79,slow=6.5,SNR=12						
	comp=Z,2.3nm,0.7s						
HYT	**Haines Junctio**	**84.66 29**		P	**P**	**14 58 56.5**	**-0.9**
HYT				IAmb	IAmb	14 59 20.6	
	comp=Z,3.9nm,1.2s						
H31M	**Peel River**	**85.07 24**		P	**P**	**14 58 58.3**	**-0.9**
H31M				IAmb	IAmb	14 59 00.1	
	comp=Z,3.0nm,0.9s						
FIA1	**FINESS Array S**	**86.31 332**		P	**P**	**14 59 04.9**	**-0.5**
FINES	**FINESS Array B**	**86.31 332**		P	**P**	**14 59 05.5**	**+0.1**
FINES	**FINESS Array B**	**86.31 332**		P	**P**	**14 59 04.7**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=74,slow=5.3,SNR=19						
	comp=Z,1.8nm,0.5s						
AKASG	**Malin Array Be**	**86.91 321**		P	**P**	**14 59 08.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=65,slow=4.7,SNR=2.9						
	comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**92.47 332**		P	**P**	**14 59 34.5**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=111,slow=6.5,SNR=7.4						
	comp=Z,1.2nm,0.5s						
NOA	**NORSAR Array B**	**93.19 334**		P	**P**	**14 59 37.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=55,slow=5.8,SNR=1.3						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**94.29 24**		P	**P**	**14 59 42.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.7,SNR=5.8						
	comp=Z,0.3nm,0.6s						
PLCA	**Paso Flores**	**145.75 157**		PKPbc	**PKPdf**	**15 06 00.0**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=252,slow=19,SNR=3.0						

IDC ***08*** *14:58:02.6±1.0, 9°.80N×126°.41E, h0km, mb3.7/9, mbtmp3.7/10, ML4.3/1, Error ellipse: s-maj=42.7km s-min=17.0km az=77.0*

ISC 08 14:58:08.6±1.0, 9°.77N±0°.08×126°.4E±0°.2, h42km, n16, σ1§06/11, mb3.6/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.80 197**		Pn	**Pn**	**14 58 49.6**	**-1.3**
	45nm,0.3s,baz=110,slow=13,SNR=1.6						
DAV				Sn	**Sn**	**14 59 25.1**	**+1.7**
	35nm,0.3s,baz=70,slow=12,SNR=1.4						
	152nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.96 291**		P	**P**	**15 03 55.7**	**+0.3**
	0.2nm,0.3s,baz=106,slow=14,SNR=1.4						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**30.54 165**		P	**P**	**15 04 17.5**	**-0.8**
	0.7nm,1.1s,baz=359,slow=7.3,SNR=5.0						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**34.03 168**		P	**P**	**15 04 49.3**	**+0.5**
	0.2nm,0.3s,baz=345,slow=7.2,SNR=15						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.95 73**		T	T	15 48 37.7	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**39.96 73**		T	T	15 48 39.7	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**39.97 73**		T	T	15 48 44.4	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**40.30 71**		T	T	15 49 02.9	

YUK				A	A	14 59 35.5	
	comp=N,2μm,0.4s						
NEM2	**Nemuro 2**	**1.43**	**262**	*e*P	**Pn**	**14 59 16.3**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.44**	**262**	*e*PN	**Pn**	**14 59 16.0**	**-0.9**
NMR				S	**Sn**	**14 59 36.3**	**+1.4**
NMR	**Nemuro--Hokkai**	**1.44**	**262**	*e*P	**Pn**	**14 59 17.1**	**+0.2**
NMR				*e*S	**Sn**	**14 59 34.3**	**-0.6**
KUR	**Kuril'sk**	**1.66**	**4**	*e*PN	**Pb**	**14 59 21.0**	**-1.7**
KUR				*e*S	**Sn**	**14 59 41.1**	**+0.8**
KUR				pmax	pmax		
	comp=Z,223nm,0.4s						
KUR				smax	smax		
	comp=N,346nm,0.2s						
KUR				smax	smax		
	comp=E,225nm,0.3s						
KUR	**Kuril'sk**	**1.66**	**4**	*e*P	**Pb**	**14 59 21.4**	**-1.3**
KUR				AMB	AMB	14 59 24.2	
	comp=E,180nm,0.4s						
KUR				*e*S	**Sn**	**14 59 40.5**	**+0.2**
KUR				A	A	14 59 42.8	
	comp=E,270nm,0.2s						
KUR				A	A	14 59 42.8	
	comp=E,180nm,0.2s						
RUSJ	**Misakicho**	**1.84**	**287**	⇓*i*PN	**Pn**	**14 59 23.2**	**+0.7**
RUSJ				S	**Sn**	**14 59 43.2**	**-1.6**
JRA	**Rausu**	**1.89**	**282**	*e*P	**Pn**	**14 59 23.6**	**+0.4**
JKHN	**Kushirohamanak**	**1.91**	**256**	*e*P	**Pn**	**14 59 23.8**	**+0.4**
JNSB	**Nemuroshibetsu**	**1.96**	**277**	*e*P	**Pn**	**14 59 24.7**	**+0.7**
AKK	**Akkeshi**	**2.15**	**256**	*e*P	**Pn**	**14 59 27.1**	**+0.4**
JNK	**Nakash**	**2.16**	**271**	*e*P	**Pn**	**14 59 27.1**	**+0.3**
JAK	**Akkeshi**	**2.26**	**256**	*e*P	**Pn**	**14 59 28.6**	**+0.4**
JTKR	**Abashiri--Toko**	**2.77**	**279**	*e*P	**Pn**	**14 59 36.5**	**+1.4**
JTKR				*e*S	**Sn**	**15 00 09.6**	**+2.0**
JAR	**Ashorobuto**	**2.87**	**266**	*e*P	**Pn**	**14 59 37.8**	**+1.3**
JOB	**Onbets**	**2.90**	**258**	*e*P	**Pn**	**14 59 38.0**	**+1.0**
JMP	**Maruseppu**	**3.16**	**279**	*e*P	**Pn**	**14 59 42.3**	**+1.7**
JCH	**Churui**	**3.31**	**255**	*e*P	**Pn**	**14 59 43.4**	**+0.8**
YSS	**Yuzhno-Sakhali**	**4.85**	**316**	*e*PN	**Pn**	**15 00 05.8**	**+2.0**
YSS				*e*S	**Sn**	**15 00 58.1**	**-0.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,10.0nm,0.5s						
YSS				smax	smax		
	comp=E,10.0nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.85**	**316**	*e*P	**Pn**	**15 00 05.8**	**+2.0**
YSS				*e*S	**Sn**	**15 00 58.1**	**-0.8**
PETK	**Petropavlovsk-**	**11.62**	**31**	P	**Pn**	**15 01 38.3**	**+1.7**
	comp=E,0.2nm,0.3s,baz=205,slow=11,SNR=7.2						
	comp=E,1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.72**	**140**	T	T	15 35 30.6	
	baz=330,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**28.73**	**140**	T	T	15 35 36.8	
	baz=330,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.73**	**140**	T	T	15 35 35.2	
	baz=330,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**29.69**	**141**	T	T	15 36 45.1	
	baz=331,slow=76,SNR=117						
H11S3	**WAKE ISLAND Hy**	**29.69**	**141**	T	T	15 36 43.4	
	baz=331,slow=76,SNR=81						
H11S2	**WAKE ISLAND Hy**	**29.70**	**141**	T	T	15 36 45.9	
	baz=331,slow=76,SNR=48						
ILAR	**Eielson Array**	**41.40**	**36**	P	**P**	**15 06 36.5**	**+0.4**
	comp=E,0.6nm,0.7s,baz=276,slow=9.2,SNR=7.4						
	comp=E,0.6nm,0.7s						
MKAR	**Makanchi Array**	**45.01**	**298**	P	**P**	**15 07 05.7**	**+0.1**
	comp=E,0.1nm,0.4s,baz=70,slow=7.6,SNR=2.0						
	comp=E,0.1nm,0.4s						
WRA	**Warramunga Arr**	**64.38**	**194**	P	P	15 09 32.9	+6.9
	comp=E,0.6nm,1.0s,baz=8.1,slow=6.8,SNR=2.0						
	comp=E,0.6nm,1.0s						
FINES	**FINESS Array B**	**65.20**	**333**	P	**P**	**15 09 30.5**	**-0.4**
	comp=E,1.4nm,0.7s,baz=35,slow=5.1,SNR=6.9						
	comp=E,1.4nm,0.7s						
PDAR	**Pinedale Array**	**69.72**	**50**	P	**P**	**15 09 59.8**	**-0.4**
	comp=E,0.2nm,0.5s,baz=303,slow=9.3,SNR=2.3						
	comp=E,0.2nm,0.5s						
NOA	**NORSAR Array B**	**69.90**	**339**	P	**P**	**15 09 59.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=33,slow=6.5,SNR=3.9						
	comp=E,0.1nm,0.3s						
HFS	**Hagfors**	**70.00**	**337**	P	**P**	**15 10 00.8**	**-0.4**
	comp=E,0.6nm,0.4s,baz=25,slow=3.9,SNR=6.7						
	comp=E,0.6nm,0.4s						
AKASG	**Malin Array Be**	**71.95**	**324**	P	**P**	**15 10 12.4**	**-0.8**
	comp=E,0.2nm,0.3s,baz=35,slow=6.8,SNR=2.4						
	comp=E,0.2nm,0.3s						
H03N2	**Juan Fernandez**	**142.57**	**90**	T	T	17 57 29.3	
	baz=305,slow=77,SNR=3.4						
H03N3	**Juan Fernandez**	**142.59**	**90**	T	T	17 57 33.1	
	baz=305,slow=77,SNR=4.8						
H03N1	**Juan Fernandez**	**142.59**	**90**	T	T	17 57 30.6	
	baz=305,slow=77,SNR=5.0						

*IDC **08** 15:02:04.0±2.2, 9°.92N×126°.37E, h0km, mb3.5/5, mbtmp3.5/5, MS2.8/1, Error ellipse: s-maj=207.5km s-min=22.4km az=67.0*

ISC 08 15:02:09.4±1.3, 10°.0N±0°.1×126°.7E±0°.3, h42km, n7, σ0°.36/6, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.12**	**200**		Sn	**Sn**	**15 03 32.1**	**0.0**
	56nm,0.3s,baz=305,slow=19,SNR=1.9							
KSRS	**Korea Array**	**27.35**	**2**	LR		LR	15 17 47.7	
	comp=Z,23nm,21.2s,baz=155,slow=34							
WRA	**Warramunga Arr**	**30.71**	**166**	P		**P**	**15 08 20.9**	**+0.3**
	0.4nm,0.8s,baz=345,slow=8.0,SNR=5.8							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**34.21**	**168**	P		**P**	**15 08 51.0**	**-0.2**
	0.2nm,0.3s,baz=348,slow=7.4,SNR=11							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**52.47**	**323**	P		**P**	**15 11 18.6**	**+0.4**
	0.2nm,0.7s,baz=120,slow=8.6,SNR=1.7							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**56.51**	**325**	P		**P**	**15 11 47.1**	**-0.2**
	0.2nm,0.6s,baz=126,slow=6.6,SNR=1.7							
	0.2nm,0.6s							
FINES	**FINESS Array B**	**86.31**	**332**	P		**P**	**15 14 46.6**	**-0.2**
	2.2nm,0.9s,baz=94,slow=21,SNR=1.6							
	2.2nm,0.9s							

IDC 08 15:02:41.5±3.2, 7°.68N×126°.39E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=299.5km s-min=23.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.55**	**164**	P		P	15 08 38.9	-0.3
	0.3nm,0.5s,baz=344,slow=9.2,SNR=2.3							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**32.01**	**167**	P		P	15 09 10.1	+0.2
	0.5nm,0.5s,baz=342,slow=8.3,SNR=9.0							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**54.16**	**324**	P		P	15 12 08.9	+0.2
	0.2nm,0.5s,baz=114,slow=7.3,SNR=5.4							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**58.26**	**326**	P		P	15 12 37.5	-0.4
	0.3nm,0.6s,baz=132,slow=5.1,SNR=4.3							
	0.3nm,0.6s							

*IDC **08** 15:05:40.6±2.4, 9°.87N×126°.63E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=230.9km s-min=23.6km az=68.0*

ISC 08 15:05:46.8±1.3, 9°.8N±0°.1×126°.4E±0°.3, h42km, n6, σ1°.39/6, mb3.4/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**197**	Sn		**Sn**	**15 07 01.6**	**+0.1**
	49nm,0.3s,baz=98,slow=7.1,SNR=1.6							
WRA	**Warramunga Arr**	**30.53**	**165**	P		**P**	**15 11 56.4**	**0.0**
	0.3nm,0.7s,baz=347,slow=9.8,SNR=1.6							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**34.02**	**168**	P		**P**	**15 12 26.9**	**-0.1**
	0.3nm,0.4s,baz=347,slow=7.1,SNR=5.1							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**52.51**	**323**	P		**P**	**15 14 54.6**	**-1.2**
	0.3nm,0.7s,baz=124,slow=5.8,SNR=3.6							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**56.57**	**326**	P		**P**	**15 15 27.1**	**+2.0**
	0.2nm,0.5s,baz=124,slow=7.5,SNR=2.6							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**86.40**	**332**	P		**P**	**15 18 24.1**	**-0.5**
	1.8nm,0.8s,baz=74,slow=4.4,SNR=4.3							
	1.8nm,0.8s							

*KRSC **08** 15:08:10.5±1.1, 53°.60N×160°.77E, h40km±17km, Ml4.0*
*IDC **08** 15:08:14.6±4.1, 53°.47N×160°.59E, h95km±29km, mb3.5/10, mbtmp3.9/12, Error ellipse: s-maj=40.2km s-min=19.5km az=97.0*

ISC 08 15:08:11.2±1.2, 53°.54N±0°.05×160°.78E±0°.07, h58km±10km, n48, σ1°.52/56, mb3.7/10, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.63**	**226**	*e*P		**Pn**	**15 08 24.3**	**-0.2**
SPN				*e*S		**Sn**	**15 08 33.7**	**-0.5**
KII	**Karymskiy**	**0.93**	**303**	*e*P		**Pn**	**15 08 27.9**	**-0.5**
NLC	**Nalytchevo**	**0.93**	**247**	*e*P		**Pn**	**15 08 28.3**	**+0.1**
NLC				*e*S		**Sn**	**15 08 40.8**	**0.0**
UGLR	**Uglovaya**	**1.22**	**255**	*e*P		**Pn**	**15 08 32.8**	**+0.7**
UGLR				*e*S		**Sn**	**15 08 48.3**	**+0.6**
AVH	**Avacha**	**1.25**	**258**	*e*P		**Pn**	**15 08 33.4**	**+0.9**
AVH				*e*S		**Sn**	**15 08 49.2**	**+0.7**
KRX	**Arik**	**1.28**	**263**	*e*P		**Pn**	**15 08 33.5**	**+0.4**
KRX				*e*S		**Sn**	**15 08 49.6**	**+0.2**
KOK	**Koryaka**	**1.30**	**260**	*e*P		**Pn**	**15 08 33.9**	**+0.7**
KOK				*e*S		**Sn**	**15 08 50.5**	**+0.7**
DALK	**Dalny**	**1.32**	**248**	*e*P		**Pn**	**15 08 33.8**	**+0.4**
DALK				*e*S		**Sn**	**15 08 50.2**	**+0.4**
PET	**Petropavlovsk**	**1.38**	**249**	*e*P		**Pn**	**15 08 34.9**	**+0.8**
PET				*e*S		**Sn**	**15 08 52.3**	**+1.0**
INSR	**Institute**	**1.39**	**251**	*e*P		**Pn**	**15 08 35.1**	**+0.9**
INSR				*e*S		**Sn**	**15 08 52.5**	**+1.0**
TUMD	**Tumrok D**	**1.68**	**353**	*e*P		**Pn**	**15 08 38.3**	**0.0**
TUMD				*e*S		**Sn**	**15 08 58.2**	**-0.6**
GNL	**Ganaly**	**1.70**	**276**	*e*P		**Pn**	**15 08 39.6**	**+1.0**
KRMR	**Karymshinskiy**	**1.74**	**247**	*e*P		**Pn**	**15 08 40.1**	**+1.0**
KRMR				*e*S		**Sn**	**15 09 01.1**	**+0.9**
RUS	**Russkaya**	**1.76**	**232**	*e*P		**Pn**	**15 08 40.1**	**+0.8**
RUS				*e*S		**Sn**	**15 09 01.0**	**+0.4**
PETK	**Petropavlovsk-**	**1.90**	**258**	P		**Pn**	**15 08 42.1**	**+0.9**
	52nm,0.6s,baz=96,slow=17,SNR=303							
PETK				S		**Sn**	**15 09 06.9**	**+2.9**
	34nm,0.4s,baz=90,slow=23,SNR=13							
GRL	**Gorelyy**	**1.91**	**240**	*e*P		**Pn**	**15 08 43.0**	**+1.6**
KMNR	**Kamenistaya**	**2.25**	**352**	*e*P		**Pn**	**15 08 47.5**	**+1.5**
APC	**Apacha**	**2.26**	**256**	*e*P		**Pn**	**15 08 48.3**	**+2.2**
APC				*e*S		**Sn**	**15 09 17.5**	**+4.7**
KDTR	**Khodutka, Kamc**	**2.39**	**225**	*e*P		**Pn**	**15 08 50.6**	**+2.7**
KDTR				*e*S		**Sn**	**15 09 18.7**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**2.41**	**359**	*e*P		**Pn**	**15 08 50.2**	**+1.9**
BZGR				*e*S		**Sn**	**15 09 19.0**	**+2.4**
KIRR	**Kirishev**	**2.43**	**354**	*e*P		**Pn**	**15 08 49.8**	**+1.2**
KOZ	**Kozyrevsk**	**2.58**	**349**	*e*P		**Pn**	**15 08 51.6**	**+1.1**
ESO	**Esso**	**2.68**	**334**	*e*P		**Pn**	**15 08 52.4**	**+0.6**
KRSR	**Krestovskiy**	**2.69**	**357**	*e*P		**Pn**	**15 08 50.1**	**-1.9**
SRDR	**Sredinnyy**	**2.85**	**348**	*e*P		**Pn**	**15 08 55.6**	**+1.3**
KBTR	**Krutoberegovo**	**2.92**	**23**	*e*P		**Pn**	**15 08 56.5**	**+1.3**
KBG	**Krutoberegovo**	**2.94**	**21**	*e*P		**Pn**	**15 08 58.7**	**+3.3**
SMKR	**Semkarok**	**3.08**	**7**	*e*P		**Pn**	**15 08 59.0**	**+1.7**
PAU	**Pauzhetka**	**3.19**	**231**	*e*P		Pn	15 09 04.2	+5.4
SKR	**Severo-Kuril's**	**4.05**	**227**	*e*P		Pn	15 09 17.5	+6.8
MA2	**Magadan**	**8.19**	**322**	P		**Pn**	**15 10 10.0**	**+2.8**
	1.4nm,0.4s,baz=141,slow=10.0,SNR=4.1							
YAK	**Yakutsk**	**18.46**	**310**	P		**P**	**15 12 21.3**	**-0.5**
	6.5nm,0.3s,baz=154,slow=0.7,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**34.07**	**170**	T		T	15 51 09.8	
	baz=354,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**34.09**	**170**	T		T	15 51 08.3	
	baz=354,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**34.09**	**170**	T		T	15 51 14.3	
	baz=354,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**35.26**	**170**	T		T	15 52 36.6	
	baz=352,slow=74							
H11S3	**WAKE ISLAND Hy**	**35.27**	**170**	T		T	15 52 40.3	
	baz=352,slow=74							
H11S2	**WAKE ISLAND Hy**	**35.28**	**170**	T		T	15 52 46.0	
	baz=352							
SPITS	**Spitsbergen Ar**	**46.76**	**351**	P		**P**	**15 16 34.6**	**+0.7**
	7.6nm,1.0s,baz=48,slow=4.3,SNR=1.2							
	7.6nm,1.0s							
KURBB	**Kurchatov Arra**	**47.95**	**302**	P		**P**	**15 16 41.8**	**-1.7**
	0.4nm,0.5s,baz=60,slow=7.5,SNR=4.2							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**48.33**	**296**	P		**P**	**15 16 44.8**	**-1.8**
	0.1nm,0.5s,baz=48,slow=8.1,SNR=5.2							
	0.1nm,0.5s							
BVAR	**Borovoye Array**	**50.43**	**308**	P		**P**	**15 17 01.0**	**-1.5**
	0.2nm,0.3s,baz=49,slow=7.3,SNR=2.3							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**59.87**	**337**	P		**P**	**15 18 10.5**	**+0.3**
	3.3nm,0.9s,baz=19,slow=8.1,SNR=4.1							
	3.3nm,0.9s							
NOA	**NORSAR Array B**	**63.23**	**344**	P		**P**	**15 18 33.1**	**+0.2**
	1.0nm,0.8s,baz=19,slow=6.8,SNR=3.6							
	1.0nm,0.8s							
HFS	**Hagfors**	**63.65**	**342**	P		**P**	**15 18 35.6**	**-0.1**
	1.2nm,0.5s,baz=345,slow=4.6,SNR=5.1							
	1.2nm,0.5s							
AKASG	**Malin Array Be**	**68.44**	**329**	P		**P**	**15 19 06.0**	**-0.5**
	0.2nm,0.3s,baz=32,slow=6.9,SNR=2.7							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**76.66**	**205**	P		**P**	**15 19 54.5**	**-1.0**
	0.9nm,1.1s,baz=14,slow=6.1,SNR=5.2							
	0.9nm,1.1s							
ASAR	**Alice Springs**	**80.33**	**205**	P		**P**	**15 20 14.5**	**-1.3**
	0.5nm,0.8s,baz=24,slow=7.1,SNR=4.1							
	0.5nm,0.8s							

*FUNV **08** 15:13:20.5, 7°.78N×71°.81W, h5km, MW3.4*
*RSNC **08** 15:13:21.5±0.0, 8°.N±2°.×7°.2W±°, h11km±4km, M2.7, mb3.5, ML2.5*

ISC 08 15:13:18.4±1.3, 7°.63N±0°.03×71°.73W±0°.03, h4km±11km, n24, σ1°.47/46, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.62**	**292**	⇑*i*P		**Pg**	**15 13 29.9**	**-0.5**
CAPV				*e*S		**Sg**	**15 13 37.9**	**-0.6**
PAMC	**Pamplona, Colo**	**1.01**	**253**	P		**Pg**	**15 13 36.5**	**-1.2**
PAMC				S		**Sn**	**15 13 55.0**	**+0.5**
PAMC	**Pamplona, Colo**	**1.01**	**253**	P			15 13 36.5	
PAMC				S			15 13 55.0	
SOCV	**Socops**	**1.08**	**53**	*e*P		**Pb**	**15 13 40.1**	**+0.5**
SOCV				*e*S		**Sg**	**15 13 54.5**	**+1.4**
TAMC	**Tame, Arauca**	**1.19**	**183**	P		**Pn**	**15 13 41.3**	**-0.6**
TAMC				S		**Sb**	**15 13 58.0**	**+0.6**
TAMC	**Tame, Arauca**	**1.19**	**183**	P			15 13 41.3	
TAMC				S			15 13 58.0	
SDV	**Santo Domingo**	**1.65**	**41**	P		**Pb**	**15 13 50.2**	**+0.7**
SDV				S		**Sb**	**15 14 11.0**	**+0.3**
SDV	**Santo Domingo**	**1.65**	**41**	P			15 13 50.2	
SDV				S			15 14 11.0	
OCAC	**Ocana**	**1.69**	**291**	P		**Pn**	**15 13 49.3**	**+0.6**
OCAC				S		**Sb**	**15 14 10.7**	**-1.0**
OCAC	**Ocana**	**1.69**	**291**	P			15 13 49.3	
OCAC				S			15 14 10.7	
BARC	**Barichara**	**1.77**	**234**	P		**Pn**	**15 13 51.2**	**+1.1**
BARC				S		**Sg**	**15 14 16.8**	**+1.3**
BARC	**Barichara**	**1.77**	**234**	P			15 13 51.2	
BARC				S			15 14 16.8	
BRJC	**Barrancabermej**	**2.10**	**252**	P		**Pn**	**15 13 55.9**	**+1.5**
BRJC				S		**Sb**	**15 14 23.8**	**+0.2**
BRJC	**Barrancabermej**	**2.10**	**252**	P			15 13 55.9	
BRJC				S			15 14 23.8	
RUSC	**La Rusia**	**2.19**	**218**	P			15 13 56.4	
RUSC				S			15 14 25.8	
RUSC	**La Rusia**	**2.19**	**218**	P		**Pn**	**15 13 56.4**	**+0.4**
RUSC				S		**Sn**	**15 14 25.8**	**+2.0**
PTBC	**PUERTO BERRIO,**	**2.92**	**248**	P		**Pn**	**15 14 05.7**	**+0.1**
PTBC				S		**Sn**	**15 14 41.1**	**0.0**
PTBC	**PUERTO BERRIO,**	**2.92**	**248**	P			15 14 05.7	
PTBC				S			15 14 41.1	
ZARC	**Zaragoza, Cauc**	**3.10**	**268**	P		**Pn**	**15 14 08.4**	**+0.2**
ZARC				S		**Sb**	**15 14 48.9**	**-3.5**
ZARC	**Zaragoza, Cauc**	**3.10**	**268**	P			15 14 08.4	
ZARC				S			15 14 48.9	
CRJC	**Cerrejon, Guaj**	**3.55**	**341**	P		**Pn**	**15 14 16.1**	**+1.7**
CRJC				S		**Sb**	**15 15 00.8**	**-4.6**
CRJC	**Cerrejon, Guaj**	**3.55**	**341**	P			15 14 16.1	
CRJC				S			15 15 00.8	
CHIC	**Chingaza**	**3.59**	**214**	P		**Pn**	**15 14 15.6**	**+0.4**
CHIC				S		**Sn**	**15 14 56.1**	**-2.1**
CHIC	**Chingaza**	**3.59**	**214**	P			15 14 15.6	
CHIC				S			15 14 56.1	
NORC	**Norcasia**	**3.74**	**237**	P		**Pn**	**15 14 17.4**	**+0.5**
NORC				S		**Sn**	**15 15 01.1**	**-0.3**
NORC	**Norcasia**	**3.74**	**237**	P			15 14 17.4	
NORC				S			15 15 01.1	
UREC	**San Jos de Ur**	**3.77**	**272**	P		**Pn**	**15 14 20.3**	**+3.0**
UREC				S		**Sn**	**15 15 03.4**	**+1.2**
UREC	**San Jos de Ur**	**3.77**	**272**	P			15 14 20.3	
UREC				S			15 15 03.4	
BAUV	**El Baul**	**3.87**	**70**	*e*P		**Pn**	**15 14 19.5**	**+0.8**
BAUV				*e*S		**Sn**	**15 15 04.0**	**-0.7**
MAPV	**Macapo**	**3.90**	**56**	*e*P		**Pn**	**15 14 20.7**	**+1.6**
MAPV				*e*S		**Sn**	**15 15 03.9**	**-1.5**
VILC	**Villavicencio,**	**4.01**	**209**	P		**Pn**	**15 14 20.9**	**+0.2**
VILC	**Villavicencio,**	**4.01**	**209**	P			15 14 20.9	
URIC	**Uribia, Colomb**	**4.05**	**356**	P		**Pn**	**15 14 20.2**	**-0.9**
URIC				S		**Sn**	**15 15 08.4**	**-0.6**
URIC	**Uribia, Colomb**	**4.05**	**356**	P			15 14 20.2	
URIC				S			15 15 08.4	
SJCC	**San Jacinto, C**	**4.08**	**304**	P		**Pn**	**15 14 23.9**	**+2.2**
SJCC				S		**Sn**	**15 15 12.0**	**+2.0**
SJCC	**San Jacinto, C**	**4.08**	**304**	P			15 14 23.9	
SJCC				S			15 15 12.0	
GUY2C	**Guyana, Caldas**	**4.33**	**237**	P		**Pn**	**15 14 26.4**	**+0.9**
GUY2C				S		**Sn**	**15 15 18.2**	**+1.5**
GUY2C	**Guyana, Caldas**	**4.33**	**237**	P			15 14 26.4	
GUY2C				S			15 15 18.2	
PRAC	**Prado**	**5.00**	**219**	P		**Pn**	**15 14 34.6**	**+0.3**
PRAC				S		**Sn**	**15 15 32.6**	**-0.1**
PRAC	**Prado**	**5.00**	**219**	P			15 14 34.6	
PRAC				S			15 15 32.6	
ORTC	**Ortega, Tolima**	**5.09**	**224**	P		**Pn**	**15 14 35.7**	**+0.2**
ORTC	**Ortega, Tolima**	**5.09**	**224**	P			15 14 35.7	
URMC	**La Uribe, Meta**	**5.09**	**211**	P		**Pn**	**15 14 35.7**	**+0.1**
URMC				S		**Sn**	**15 15 33.2**	**-1.8**
URMC	**La Uribe, Meta**	**5.09**	**211**	P			15 14 35.7	
URMC				S			15 15 33.2	

IDC 08 15:21:11.6±999.0, 53°.82N×41°.93E, h0km, Error ellipse: s-maj=937.3km s-min=206.6km az=94.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**10.48**	**103**	I		I	16 23 50.6	
	0.1nm,1.0s,baz=295,slow=311,SNR=8.2							
I46RU	**ZALESOVO INFRA**	**25.00**	**72**	I		I	17 54 20.0	
	baz=289,slow=345,SNR=2.0							
I34MN	**SONGINO INFRAS**	**39.92**	**71**	I		I	19 25 00.0	
	1.9nm,0.9s,baz=301,slow=346,SNR=0.4							

*IDC **08** 15:28:28.8±0.5, 9°.81N×126°.33E, h0km, mb4.3/24, mbtmp4.3/27, ML4.1/2, MS3.6/28, Error ellipse: s-maj=24.6km s-min=11.3km az=72.0*
*NEIC **08** 15:28:31.1±2.3, 9°.96N±0°.07×126°.3E±0°.1, h10km±1km, mb4.7/41, Error ellipse: s-maj=19.2km s-min=12.0km az=82.0*
*DJA **08** 15:28:42.7±1.0, 10°.N±7°.×12°.7E±°, h127km±8km, M5.0/23, mb4.7/23, mB5.2/3, MLv5.2/5, Mw(mB)4.5/3*

ISC 08 15:28:35.1±0.4, 9°.86N±0°.04×126°.40E±0°.07, h42km, n131, σ1°.50/105, mb4.5/52, MS3.5/23, 4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.88**	**196**	Pn		**Pn**	**15 29 21.8**	**+3.2**
DAV	**Davao City (W)**	**2.88**	**196**	Pn		**Pn**	**15 29 18.8**	**+0.1**
	94nm,0.3s,baz=66,slow=4.2,SNR=14							
DAV				Sn		**Sn**	**15 29 52.3**	**+0.2**
	158nm,0.3s,baz=42,slow=17,SNR=5.7							
DAV				LR		LR	15 30 15.2	
	comp=Z,872nm,19.1s,baz=8.5,slow=38							
SGSI	**Sangihe**	**6.19**	**188**	P		**Pn**	**15 30 08.5**	**+4.4**
SGSI				S		**Sn**	**15 31 16.1**	**+2.5**
TGY	**Tagaytay City**	**6.81**	**309**	Pn		**Pn**	**15 30 10.7**	**-1.9**
	84nm,0.3s,baz=222,slow=16,SNR=1.0							
TGY				LR		LR	15 33 12.8	
	comp=Z,655nm,18.3s,baz=170,slow=42							
TNTI	**Ternate**	**9.08**	**174**	Pn		**Pn**	**15 30 42.5**	**-1.2**
TNTI	**Ternate**	**9.08**	**174**	P		**Pn**	**15 30 46.9**	**+3.2**
	59nm,1.2s							
KMSI	**Cibinong**	**9.53**	**195**	P		**Pn**	**15 30 53.2**	**+3.3**
MRSI	**Marisa**	**10.32**	**206**	P		Pn	15 31 05.4	+4.7
	41nm,0.8s							
LUWI

FITZ Fitzroy Crossi 27.79 182 P **P 15 34 20.0 -0.3**
comp=Z,16nm,0.7s,baz=8.8,slow=8.0,SNR=21
comp=Z,16nm,0.7s
CMAR Chiang Mai Arr 27.93 291 P **P 15 34 21.9 +0.2**
comp=Z,2.8nm,0.9s,baz=103,slow=6.8,SNR=18
CMAR LR LR 15 45 53.2
comp=Z,82nm,18.5s,baz=110,slow=38
comp=Z,2.8nm,0.9s
CHTO Chiang Mai 28.01 292 P **P 15 34 22.2 -0.3**
PSI Prapat 28.17 257 LR LR 15 47 52.3
comp=Z,126nm,18.8s,baz=94,slow=41
PZH PanZhiHua 28.59 309 P **P 15 34 29.4 +1.7**
PZH pmax pmax
comp=Z,11nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.2s
MJAR Matsushiro Arr 28.64 20 LR LR 15 46 03.9
comp=Z,117nm,18.2s,baz=193,slow=37
XAN Xi'an 28.92 329 ⇓P **P 15 34 31.0 +0.6**
XAN pP pP 15 34 39.7 -1.1
XAN pmax pmax
comp=Z,19nm,1.0s
COEN Coen 28.93 145 P **P 15 34 29.6 -0.9**
KRVT Keravat (AS076 29.15 118 LR LR 15 47 10.6
comp=Z,62nm,18.1s,baz=190,slow=38
HNS HongShan 29.38 341 ⇓P **P 15 34 35.2 +0.8**
HNS pmax pmax
comp=Z,10.0nm,0.9s
WB0 Warramunga Arr 30.47 165 P **P 15 34 43.5 -0.7**
WB0 IAmb IAmb 15 35 05.9
comp=Z,12nm,1.2s
TNCH TengChong 30.48 303 *e*P **P 15 34 45.8 +1.3**
TNCH pP pP 15 34 48.3 -7.2
TNCH pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 30.62 165 P **P 15 34 46.2 +0.7**
WRAB IAmb IAmb 15 35 20.4
comp=Z,13nm,1.1s
WRA Warramunga Arr 30.63 165 P **P 15 34 43.3 -2.3**
comp=Z,0.9nm,0.6s,baz=335,slow=8.8,SNR=17
comp=Z,0.9nm,0.6s
WB2 Warramunga Arr 30.63 165 P **P 15 34 45.0 -0.6**
WB2 IAmb IAmb 15 35 24.1
comp=Z,6.6nm,1.1s
WR0 Warramunga Arr 30.69 165 P **P 15 34 47.0 +0.8**
WR0 IAmb IAmb 15 35 15.0
comp=Z,19nm,1.4s
MBWA Marble Bar 31.51 192 P **P 15 34 51.9 -1.5**
MBWA IAmb IAmb 15 35 16.7
comp=Z,19nm,1.1s
PSA00 Pilbara Seismi 31.89 192 P **P 15 34 55.2 -1.4**
LZH Lanzhou 33.19 325 *e*P **P 15 35 10.6 +2.5**
LZH sP pP 15 35 18.4 -0.1
LZH pmax pmax
comp=Z,9.0nm,1.0s
HHC Hu-ho-hao-te 33.55 339 ⇓*i*P **P 15 35 12.2 +1.1**
HHC sP pP 15 35 20.6 -1.1
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,100nm,5.9s
AS31 Alice Springs 34.12 168 P **P 15 35 15.4 -0.8**
ASAR Alice Springs 34.12 168 P **P 15 35 15.8 -0.3**
ASAR Alice Springs 34.12 168 P **P 15 35 14.6 -1.6**
comp=Z,0.7nm,0.3s,baz=351,slow=7.4,SNR=32
comp=Z,0.7nm,0.3s
USRK Ussuriysk Ar. 34.56 7 P **P 15 35 20.3 +0.6**
comp=Z,3.2nm,0.9s,baz=189,slow=11,SNR=4.1
USRK LR LR 15 48 19.3
comp=Z,64nm,21.1s,baz=182,slow=34
comp=Z,3.2nm,0.9s
XLT XiLinHaoTe 35.08 347 *e*P **P 15 35 24.4 +0.1**
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,110nm,4.7s
ASAJ Asahikawa 36.91 20 LR LR 15 51 12.2
comp=Z,102nm,18.7s,baz=191,slow=37
JKA Kamikawa-asahi 36.91 20 P **P 15 35 39.8 -0.1**
JKA IAmb IAmb 15 36 14.2
comp=Z,33nm,1.4s
GTA Gaotai 37.79 326 *e*P **P 15 35 48.0 +0.4**
GTA sP pP 15 35 59.1 +1.0
GTA pmax pmax
comp=Z,5.0nm,0.9s
HNR Honiara 38.50 119 LR LR 15 52 42.0
comp=Z,38nm,18.8s,baz=317,slow=38
KLR Kul'dur 39.50 6 LR LR 15 54 18.6
comp=Z,53nm,18.0s,baz=174,slow=39
H11S3 WAKE ISLAND Hy 39.92 73 T T 16 18 59.8
baz=261,slow=74,SNR=34
H11S1 WAKE ISLAND Hy 39.93 73 T T 16 19 04.8
baz=261,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 39.94 73 T T 16 19 01.5
baz=261,slow=74,SNR=13
MORW Morawa 39.97 194 P **P 15 36 05.6 -0.1**
MORW IAmb IAmb 15 36 13.6
comp=Z,14nm,0.9s
H11N1 WAKE ISLAND Hy 40.27 71 T T 16 19 34.4
baz=265,slow=74,SNR=72
H11N2 WAKE ISLAND Hy 40.28 71 T T 16 19 29.7
baz=265,slow=74,SNR=40
H11N3 WAKE ISLAND Hy 40.29 71 T T 16 19 35.8
baz=265,slow=74,SNR=55
FORT Forrest 40.43 178 P **P 15 36 08.6 -0.9**
ULN Ulaanbaatar 41.25 340 P **P 15 36 16.1 -0.3**
SONM Songino Array 41.45 340 P **P 15 36 16.6 -1.3**
SONM Songino Array 41.45 340 P **P 15 36 18.5 +0.6**
comp=Z,2.0nm,0.8s,baz=154,slow=8.3,SNR=14
SONM LR LR 15 56 03.7
comp=Z,84nm,18.6s,baz=147,slow=40
comp=Z,2.0nm,0.8s
BBOO Buckleboo 43.42 168 P **P 15 36 33.5 -0.4**
BBOO IAmb IAmb 15 36 40.5
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 43.43 191 P **P 15 36 34.1 +0.1**
STKA Stephens Creek 43.97 161 P **P 15 36 37.4 -1.0**
STKA IAmb IAmb 15 36 41.4
comp=Z,8.5nm,0.8s
STKA Stephens Creek 43.97 161 P **P 15 36 38.7 +0.3**
comp=Z,6.0nm,0.7s,baz=331,slow=6.1,SNR=8.5
comp=Z,6.0nm,0.7s
PALK Pallekele 45.23 270 LR LR 15 56 27.7
comp=Z,37nm,18.2s,baz=80,slow=37
PETK Petropavlovsk- 49.96 24 P **P 15 37 24.3 -0.6**
PETK Petropavlovsk- 49.96 24 P **P 15 37 26.4 +1.5**
comp=Z,6.5nm,1.0s,baz=216,slow=5.1,SNR=6.7
PETK LR LR 15 59 04.4
comp=Z,67nm,18.6s,baz=198,slow=37
comp=Z,6.5nm,1.0s
TOO Toolangi 50.46 160 P **P 15 37 29.2 +0.4**
TOO IAmb IAmb 15 37 45.5
comp=Z,9.2nm,1.4s
DZM Mont Dzumac 50.49 129 P **P 15 37 30.5 +1.0**
YAK Yakutsk 52.13 2 LR LR 16 02 35.1
comp=Z,44nm,18.6s,baz=158,slow=39
MK31 Makanchi Array 52.43 323 P **P 15 37 42.8 -0.8**
MKAR Makanchi Array 52.43 323 P **P 15 37 42.7 -0.9**
MKAR Makanchi Array 52.43 323 P **P 15 37 43.1 -0.5**
comp=Z,3.8nm,0.8s,baz=126,slow=7.8,SNR=29
comp=Z,3.8nm,0.8s
MAKZ Makanchi 52.62 323 P **P 15 37 43.3 -1.7**
MA2 Magadan 52.90 15 LR LR 16 01 13.1
comp=Z,33nm,18.8s,baz=145,slow=37
ZALV Zalesovo Beam 55.05 331 P **P 15 38 01.1 -1.4**
comp=Z,1.7nm,0.7s,baz=123,slow=7.3,SNR=6.4
comp=Z,1.7nm,0.7s
AAK Ala-Archa 55.71 315 LR LR 16 03 35.4
comp=Z,107nm,18.8s,baz=77,slow=38
KURK Kurchatov 56.48 326 P **P 15 38 12.1 -0.7**
KURK IAmb IAmb 15 38 15.5
comp=Z,6.1nm,0.9s
KURBB Kurchatov Arra 56.48 325 P **P 15 38 12.5 -0.4**
comp=Z,1.1nm,0.4s,baz=126,slow=6.6,SNR=7.9
comp=Z,1.1nm,0.4s
MSVF Nonsavu 57.91 118 LR LR 16 01 23.3
comp=Z,50nm,20.6s,baz=24,slow=34
CHGR Chuyangaron 58.45 309 P **P 15 38 26.8 -0.3**
CHGR IAmb IAmb 15 38 29.6
comp=Z,6.5nm,0.8s
TIXI Tiksi 61.76 1 LR LR 16 06 17.7
comp=Z,72nm,21.8s,baz=189,slow=37
BVAR Borovoye Array 62.07 325 P **P 15 38 51.4 -0.1**
comp=Z,2.1nm,0.8s,baz=109,slow=8.0,SNR=10
comp=Z,2.1nm,0.8s
NRIK Noril'sk 64.44 346 P **P 15 39 07.1 +0.2**
comp=Z,2.7nm,0.8s,baz=109,slow=5.0,SNR=7.0
NRIK LR LR 16 12 01.3
comp=Z,62nm,18.0s,baz=142,slow=40
comp=Z,2.7nm,0.8s
DCZ Deep Cove 66.14 150 P **P 15 39 18.2 0.0**
ABKAR Akbulak array 67.27 319 P **P 15 39 24.4 -1.1**
URZ Urewera 67.27 139 LR LR 16 12 20.3
comp=Z,45nm,18.1s,baz=76,slow=39
BKZ Black Stump Fm 67.39 140 P **P 15 39 26.2 -0.2**
ARTI Arti 69.72 327 LR LR 16 12 27.9
comp=Z,36nm,18.5s,baz=68,slow=38
KDAK Kodiak Island 76.94 33 LR LR 16 09 27.8
comp=Z,58nm,21.8s,baz=44,slow=32
B21K Ikpikpuk River 76.98 21 IAmb IAmb 15 40 28.8
comp=Z,5.0nm,0.9s
D23K Nanushuk River 78.32 21 P **P 15 40 32.1 +1.5**
D23K IAmb IAmb 15 40 49.9
comp=Z,8.4nm,1.4s
C23K Itkillik River 78.39 21 IAmb IAmb 15 40 36.4
comp=Z,7.5nm,1.1s
MCK McKinley 78.87 27 P **P 15 40 33.2 -0.6**
MCK IAmb IAmb 15 40 36.3
comp=Z,15nm,1.4s
E24K Your Creek 79.10 22 **P 15 40 39.6 +4.6**
F24K Squaw Lake 79.32 23 P **P 15 40 38.1 +1.9**
ILAR Eielson Array 79.76 26 P **P 15 40 37.2 -1.4**
comp=Z,0.3nm,0.6s,baz=232,slow=5.5,SNR=8.2
comp=Z,0.3nm,0.6s
I30M Mount Dempster 84.15 25 P **P 15 41 02.2 +0.5**
I30M IAmb IAmb 15 41 10.9
comp=Z,3.9nm,1.0s
SPITS Spitsbergen Ar 84.44 349 P **P 15 41 02.7 -0.2**
comp=Z,5.8nm,0.9s,baz=88,slow=7.6,SNR=12
comp=Z,5.8nm,0.9s
ARCES ARCESS Array B 84.62 340 P **P 15 41 04.0 0.0**
comp=Z,1.8nm,0.6s,baz=77,slow=6.8,SNR=15
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 85.89 309 P **P 15 41 11.2 +0.1**
comp=Z,0.7nm,0.8s,baz=120,slow=3.4,SNR=3.9
comp=Z,0.7nm,0.8s
FINES FINESS Array B 86.31 332 P **P 15 41 11.6 -0.8**
comp=Z,1.6nm,0.4s,baz=63,slow=4.7,SNR=14
comp=Z,1.6nm,0.4s
AKASG Malin Array Be 86.96 321 P **P 15 41 14.8 -1.1**
comp=Z,0.7nm,0.6s,baz=75,slow=2.9,SNR=6.7
comp=Z,0.7nm,0.6s
VNDA Vanda 89.51 173 P **P 15 41 27.8 +0.5**
comp=Z,2.1nm,0.8s,baz=304,slow=3.6,SNR=1.9
comp=Z,2.1nm,0.8s
HFS Hagfors 92.47 332 P **P 15 41 39.9 -1.6**
comp=Z,2.7nm,0.8s,baz=101,slow=5.3,SNR=5.9
comp=Z,2.7nm,0.8s
NOA NORSAR Array B 93.18 334 P **P 15 41 45.2 +0.4**
comp=Z,0.9nm,0.8s,baz=66,slow=4.6,SNR=3.2
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 94.08 24 P **P 15 41 49.3 +0.4**
comp=Z,0.5nm,0.6s,baz=285,slow=8.1,SNR=9.0
comp=Z,0.5nm,0.6s
PLCA Paso Flores 145.78 157 PKPbc **PKPab 15 48 10.9 +0.4**
comp=Z,1.9nm,0.7s,baz=245,slow=7.6,SNR=6.1

*IDC **08** 15:45:18.9±0.9, 9°.63N×126°.46E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=58.2km s-min=21.0km az=71.0*
ISC 08 15:45:25.2±0.9, 9°.64N±0°.10×126°.5E±0°.2, h43km, n14, σ0°.90/11, mb3.5/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71**	**200**	Sn		**Sn**	**15 46 38.4**	**+0.5**
	79nm,0.3s,baz=302,slow=8.3,SNR=1.8							
WRA	**Warramunga Arr**	**30.38**	**165**	P		**P**	**15 51 32.0**	**-1.3**
	0.3nm,0.9s,baz=341,slow=7.4,SNR=1.1							
	0.3nm,0.9s							
ASAR	**Alice Springs**	**33.88**	**168**	P		**P**	**15 52 04.4**	**+0.4**
	0.2nm,0.5s,baz=349,slow=7.3,SNR=6.4							
	0.2nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**40.23**	**71**	T		T	16 36 18.9	
	baz=265,slow=74,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**40.24**	**71**	T		T	16 36 19.2	
	baz=265,slow=74,SNR=4.8							
H11N3	**WAKE ISLAND Hy**	**40.25**	**71**	T		T	16 36 20.6	
	baz=265,slow=74,SNR=6.6							
SONM	**Songino Array**	**41.70**	**340**	P		**P**	**15 53 09.8**	**-0.1**
	0.2nm,0.5s,baz=132,slow=4.1,SNR=1.9							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**52.68**	**323**	P		**P**	**15 54 34.2**	**-1.1**
	0.5nm,0.6s,baz=112,slow=8.6,SNR=6.2							
	0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**56.73**	**326**	P		**P**	**15 55 05.6**	**+1.1**
	1.0nm,0.2s,baz=134,slow=6.6,SNR=1.6							
	1.0nm,0.2s							
ILAR	**Eielson Array**	**79.90**	**26**	P		**P**	**15 57 29.5**	**+0.2**
	0.3nm,0.8s,baz=280,slow=6.3,SNR=1.9							
	0.3nm,0.8s							
ARCES	**ARCESS Array B**	**84.87**	**340**	P		**P**	**15 57 54.7**	**-0.4**
	3.2nm,0.9s,baz=89,slow=9.3,SNR=2.0							
	3.2nm,0.9s							
BRTR	**Keskin Array B**	**86.12**	**309**	P		**P**	**15 58 02.5**	**+0.4**
	0.1nm,0.5s,baz=73,slow=11,SNR=3.7							
	0.1nm,0.5s							
FINES	**FINESS Array B**	**86.56**	**332**	P		**P**	**15 58 02.7**	**-0.9**
	3.9nm,1.0s,baz=60,slow=8.3,SNR=3.5							
	3.9nm,1.0s							
YKA	**Yellowknife Ar**	**94.23**	**24**	P		**P**	**15 58 40.4**	**+0.9**
	0.2nm,0.5s,baz=297,slow=4.8,SNR=4.5							
	0.2nm,0.5s							

IDC 08 16:04:05.1±1.6, 9°.65N×125°.95E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=178.4km s-min=22.6km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.54**	**164**	P		P	16 10 20.9	+0.4
	0.1nm,0.3s,baz=343,slow=8.5,SNR=5.4							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**34.01**	**167**	P		P	16 10 50.6	-0.3
	0.3nm,0.4s,baz=347,slow=7.2,SNR=18							
	0.3nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**40.41**	**73**	T		T	16 54 35.8	
	baz=262,slow=76,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**40.42**	**73**	T		T	16 54 37.1	
	baz=262,slow=76,SNR=9.4							
H11S2	**WAKE ISLAND Hy**	**40.42**	**73**	T		T	16 54 36.9	
	baz=262,slow=76,SNR=6.9							
H11N1	**WAKE ISLAND Hy**	**40.76**	**71**	T		T	16 55 05.4	
	baz=264,slow=74,SNR=20							
H11N2	**WAKE ISLAND Hy**	**40.76**	**71**	T		T	16 55 05.6	
	baz=264,slow=74,SNR=15							
H11N3	**WAKE ISLAND Hy**	**40.77**	**71**	T		T	16 55 06.6	
	baz=264,slow=74,SNR=18							
MKAR	**Makanchi Array**	**52.33**	**323**	P		P	16 13 19.3	+0.5
	0.3nm,0.6s,baz=121,slow=7.1,SNR=3.9							
	0.3nm,0.6s							
ARCES	**ARCESS Array B**	**84.67**	**340**	P		P	16 16 40.5	-0.1
	1.1nm,0.7s,baz=73,slow=4.7,SNR=3.6							
	1.1nm,0.7s							
FINES	**FINESS Array B**	**86.29**	**332**	P		P	16 16 48.3	-0.4
	3.8nm,0.9s,baz=66,slow=6.2,SNR=4.8							
	3.8nm,0.9s							

*MOS **08** 16:09:23.2±1.0, 9°.74N×126°.32E, h13km, mb5.1/53, Error ellipse: s-maj=10.0km s-min=4.8km az=116.8*
*NEIC **08** 16:09:25.6±2.5, 9°.89N±0°.07×126°.37E±0°.07, h10km±1km, mb5.0/166, Error ellipse: s-maj=14.0km s-min=10.4km az=43.0*
*IDC **08** 16:09:27.5±2.9, 9°.74N×126°.41E, h28km±20km, mb4.5/29, mbtmp4.7/31, ML4.4/2, MS3.8/26, Error ellipse: s-maj=18.4km s-min=9.8km az=80.0*
*DJA **08** 16:09:32.2±0.5, 10°N±4°×12°6E±°, h62km±5km, M4.9/44, mb4.9/44, mB5.2/13, MLv5.4/4, Mw(mB)4.6/13*
ISC 08 16:09:27.8±0.6, 9.77N±0°.03×126°.38E±0°.05, h26km±4km, n707, σ1$27/647, mb4.9/184, MS4.0/38, 24C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**197**			**Pb**	**16 10 14.2**	**-2.8**
DAV	**Davao City (W)**	**2.79**	**197**	Pn		**Pn**	**16 10 11.6**	**+0.8**
	111nm,0.3s,baz=303,slow=6.1,SNR=7.3							
DAV				Sn		**Sn**	**16 10 47.2**	**+3.5**
	122nm,0.3s,baz=80,slow=11,SNR=7.3							
DAV				Lg	Lg		16 10 56.9	
	127nm,0.3s,baz=300,slow=23,SNR=6.4							
DAV				LR	LR		16 11 18.8	
	comp=Z,2μm,21.8s,baz=32,slow=40							
	203nm,0.5s							
DAV	**Davao City (W)**	**2.79**	**197**	P		**Pn**	**16 10 10.0**	**-0.8**
SGSI	**Sangihe**	**6.10**	**188**	P		Pn	16 11 01.5	+5.2
TGY	**Tagaytay City**	**6.85**	**310**	Pn		Pn	16 11 12.4	+5.8
	26nm,0.3s,baz=140,slow=3.3,SNR=7.0							
I39PW	**PALAU INFRASON**	**8.38**	**105**	I		I	17 03 40.0	
	baz=285,slow=309,SNR=0.8							
TNTI	**Ternate**	**8.99**	**174**			**Pn**	**16 11 36.2**	**+0.3**
TNTI	**Ternate**	**8.99**	**174**	P		**Pn**	**16 11 38.9**	**+2.9**
KMSI	**Cibinong**	**9.44**	**195**	P		Pn	16 11 47.7	+5.6
	180nm,1.5s							
MRSI	**Marisa**	**10.23**	**206**	P		Pn	16 11 59.1	+6.1
	48nm,0.9s							
KKM	**Kota Kinabalu**	**10.72**	**251**			**Pn**	**16 11 59.9**	**0.0**
LUWI	**Luwuk**	**11.32**	**199**	P		Pn	16 12 14.0	+6.1
	111nm,0.9s							
APSI	**Ampana**	**11.61**	**204**	P		Pn	16 12 16.8	+5.0
	777nm69nm,1.0s							
SWI	**Sorong**	**11.62**	**155**	P		**Pn**	**16 12 16.6**	**+4.5**
	36nm,0.8s							
SANI	**Sanana**	**11.74**	**182**	P		Pn	16 12 19.3	+5.6
SANI	**Sanana**	**11.74**	**182**	P		**Pn**	**16 12 15.1**	**+1.4**
	39nm,0.9s							
PCI	**Palu**	**12.44**	**212**	P		P	16 12 29.2	-5.7
	41nm,1.3s							
MSAI	**Masohi**	**13.27**	**169**	P		**P**	**16 12 40.8**	**-3.3**
	823nm60nm,0.9s							
AAI	**Ambon**	**13.49**	**172**	P		**P**	**16 12 46.0**	**-0.5**
	50nm,0.9s							
RKPI	**Ransiki, Papua**	**13.63**	**145**	P		**Pn**	**16 12 43.8**	**+4.3**
	1μm80nm,1.6s							
FAKI	**Fak Fak**	**13.89**	**155**	Pn		**Pn**	**16 12 45.5**	**+2.4**
FAKI	**Fak Fak**	**13.89**	**155**	P		**Pn**	**16 12 45.0**	**+1.9**
FAKI	**Fak Fak**	**13.89**	**155**	P		**Pn**	**16 12 46.8**	**+3.7**
	935nm34nm,0.8s							
TWGBT	**Beinan**	**13.94**	**339**	P		**P**	**16 12 50.2**	**-1.3**
TTSI	**Tana Toraja**	**14.31**	**207**	P		**P**	**16 12 54.9**	**-0.7**
	39nm,1.2s							
YULB	**Yu-li**	**14.39**	**341**	P		**P**	**16 12 56.3**	**-0.3**
YULB	**Yu-li**	**14.39**	**341**	P		**P**	**16 12 55.8**	**-0.8**
TPUB	**Ta-pu**	**14.54**	**338**			**P**	**16 12 58.5**	**+0.3**
TPUB	**Ta-pu**	**14.54**	**338**	P		**P**	**16 12 58.2**	**0.0**
SSLB	**Suanglung**	**14.88**	**340**			**P**	**16 13 01.8**	**-0.2**
SSLB	**Suanglung**	**14.88**	**340**	P		**P**	**16 13 01.7**	**-0.2**
YOJ	**Yonaguni jima**	**14.96**	**348**	P		**P**	**16 13 04.2**	**+1.3**
NACB	**Ninganchiao**	**15.04**	**343**	P		**P**	**16 13 04.2**	**+0.5**
SPSI	**Sidrap Palu**	**15.15**	**206**	P		**P**	**16 13 07.8**	**+2.8**
	35nm,0.9s							
YHNB	**Yeheng**	**15.57**	**343**	P		**P**	**16 13 11.3**	**+1.6**
YHNB	**Yeheng**	**15.57**	**343**	P		**P**	**16 13 12.0**	**+2.3**
BBSI	**Bau Bau**	**15.62**	**194**	P		**P**	**16 13 11.7**	**+1.4**
	29nm,0.9s							
SBUM	**Sibu**	**15.84**	**244**			**P**	**16 13 11.2**	**-1.5**
SBUM	**Sibu**	**15.84**	**244**	P		**P**	**16 13 13.1**	**+0.4**
KAPI	**Kappang**	**16.10**	**204**	Pn		**P**	**16 13 14.6**	**-1.0**
	0.9nm,0.3s,baz=34,slow=9.2,SNR=5.0							
KAPI				LR	LR		16 19 53.2	
	comp=Z,295nm,20.5s,baz=5.0,slow=39							
BKSI	**Bulukumba**	**16.23**	**203**	P		**P**	**16 13 19.5**	**+2.4**
QZH	**Quanzhou**	**16.81**	**335**	*e*P		**P**	**16 13 30.4**	**+7.0**
QZH				LR	LR			
	comp=Z,940nm,18.4s							
SMPI	**Sarmi**	**16.95**	**133**	P		**P**	**16 13 25.6**	**+0.6**
	comp=Z,60nm,1.3s							
JOW	**Kunigami**	**17.07**	**6**	P		**P**	**16 13 28.4**	**+2.1**
	comp=Z,25nm,0.9s,baz=184,slow=14,SNR=4.3							
JOW				LR	LR		16 19 02.4	
	comp=Z,216nm,21.9s,baz=147,slow=34							
JOW	**Kunigami**	**17.07**	**6**	P		**P**	**16 13 28.8**	**+2.5**
STKI	**Sintang**	**17.68**	**238**	P		**P**	**16 13 38.7**	**+5.5**
KSM	**Kuching**	**17.98**	**244**			**Pn**	**16 13 35.5**	**-0.6**
SAUI	**Saumlaki**	**18.30**	**164**	P		**Pn**	**16 13 44.3**	**+4.3**
GENI	**Genyem**	**18.42**	**131**	P		**Pn**	**16 13 44.9**	**+3.4**
	comp=Z,84nm,1.2s							
QIZ	**Qiongzhong**	**18.46**	**302**	P		**Pn**	**16 13 42.9**	**+1.0**
QIZ				S		**Sn**	**16 17 08.3**	**+0.7**
QIZ				PcP		**PcP**	**16 18 12.7**	**+1.0**
QIZ				pmax	pmax			
	comp=Z,220nm,6.9s							
QIZ				LR	LR			
	comp=Z,270nm,13.5s							
QIZ				LR	LR			
	comp=Z,450nm,17.5s							
QIZ				LR	LR			
	comp=Z,640nm,17.0s							
GUMO	**Guam**	**18.50**	**76**	LR		LR	16 19 03.3	
	comp=Z,358nm,19.9s,baz=212,slow=31							
MMRI	**Maumere**	**18.74**	**193**	P		**Pn**	**16 13 46.8**	**+1.5**
MMRI	**Maumere**	**18.74**	**193**	P		**Pn**	**16 13 50.6**	**+5.3**
	comp=Z,77nm,0.7s							
JAY	**Jayapura**	**18.77**	**130**	P		**P**	**16 13 43.5**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=308,slow=3.2,SNR=5.0							
JAY				LR	LR		16 20 25.0	
	comp=Z,492nm,19.1s,baz=352,slow=35							
	comp=Z,32nm,0.9s							
JAY	**Jayapura**	**18.77**	**130**	P		**P**	**16 13 45.4**	**+0.2**
	comp=Z,38nm,1.1s							
SOEI	**Soe**	**19.51**	**186**	P		**Pn**	**16 13 55.1**	**+0.5**
SOEI	**Soe**	**19.51**	**186**	P		**Pn**	**16 13 55.1**	**+0.5**
SOEI	**Soe**	**19.51**	**186**	P		**Pn**	**16 13 56.1**	**+1.4**
	comp=Z,1μmcomp=Z,105nm,0.8s							
WSI	**Waingapu**	**20.23**	**198**	P		Pn	16 14 04.1	+1.0
	comp=Z,83nm,0.7s							
PLAI	**Plampang**	**20.36**	**205**	P		Pn	16 14 04.7	+0.1
PLAI	**Plampang**	**20.36**	**205**	P		Pn	16 14 07.7	+3.1
	comp=Z,31nm,0.8s							
WBSI	**Waikabubak, Su**	**20.50**	**200**	P		Pn	16 14 07.9	+1.6
	comp=Z,38nm,0.8s							
TWSI	**Taliwang, Sumb**	**20.67**	**208**	P		Pn	16 14 09.0	+0.7
	comp=Z,34nm,0.9s							
TABU	**Tabubil**	**21.02**	**135**	P		**P**	**16 14 11.1**	**+1.4**
UBPT	**Khong Chiam**	**21.13**	**287**	P		**P**	**16 14 09.7**	**-1.1**
TPI	**Tanjungpandan**	**22.42**	**237**	P		**P**	**16 14 23.4**	**-1.3**
	comp=Z,25nm,0.7s							
JCJ	**Chichijima**	**22.80**	**39**	LR		LR	16 21 22.5	
	comp=Z,203nm,21.3s,baz=214,slow=31							
MTN	**Manton Dam**	**22.95**	**168**	P		**P**	**16 14 28.5**	**-1.8**
MTN				IAmb		IAmb	16 14 45.7	
	comp=Z,52nm,1.1s							
MTN	**Manton Dam**	**22.95**	**168**	P		**P**	**16 14 30.5**	**+0.2**
SMRI	**Semarang**	**23.05**	**224**	P		**P**	**16 14 33.8**	**+2.5**
	comp=Z,49nm,0.4s							
KDU	**Kakadu**	**23.11**	**165**	P		**P**	**16 14 31.3**	**-0.6**
NJ2	**Nanjing**	**23.25**	**344**	⇓P		**P**	**16 14 34.0**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,30nm,0.8s							
WHN	**Wuhan**	**23.52**	**333**	P		**P**	**16 14 37.4**	**+1.6**
WHN				pmax	pmax			
	comp=Z,56nm,0.9s							
JNU	**Nakatsue**	**23.61**	**9**	P		**P**	**16 14 34.9**	**-1.9**
JNU				IAmb		IAmb	16 14 39.6	
	comp=Z,24nm,0.9s							
JNU	**Nakatsue**	**23.61**	**9**	P		**P**	**16 14 35.4**	**-1.4**
	comp=Z,14nm,0.8s,baz=107,slow=2.4,SNR=8.5							
JNU				LR	LR		16 25 07.3	
	comp=Z,98nm,18.5s,baz=164,slow=40							
	comp=Z,14nm,0.8s							
JNU	**Nakatsue**	**23.61**	**9**	P		**P**	**16 14 38.1**	**+1.3**
UGM	**Wanagama**	**23.62**	**222**	P		**P**	**16 14 39.4**	**+2.4**
MYKOM	**Kota Tinggi**	**23.76**	**252**	P		**P**	**16 14 39.7**	**+1.4**
MYKOM	**Kota Tinggi**	**23.76**	**252**	P		**P**	**16 14 40.5**	**+2.2**
KPJI	**Karang Pucung**	**24.30**	**226**	P		**P**	**16 14 45.7**	**+2.3**
	comp=Z,35nm,1.2s							
SLVN	**Son La**	**24.48**	**301**	P		**P**	**16 14 44.4**	**-0.6**
JMN	**Monobe**	**24.83**	**15**	P		**P**	**16 14 46.5**	**-1.5**
JMN				IAmb		IAmb	16 14 51.6	
	comp=Z,52nm,1.2s							
JMN	**Monobe**	**24.83**	**15**	P		**P**	**16 14 49.5**	**+1.5**
GYA	**Guiyang**	**24.97**	**314**	⇑P		**P**	**16 14 50.5**	**+1.0**
GYA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KNRA	**Kununurra**	**25.39**	**175**

comp=Z,5.2nm,1.0s,baz=180,slow=12,SNR=12
KSRS LR LR 16 28 37.1
comp=Z,144nm,18.1s,baz=190,slow=42
comp=Z,5.2nm,1.0s
TIA Tai'an 27.64 344 P **P 16 15 13.8 +0.5**
TIA pmax pmax
comp=Z,24nm,0.9s
FITZ Fitzroy Crossi 27.70 182 P **P 16 15 12.7 -1.3**
LYN LuoYang 27.77 335 ⇑P **P 16 15 14.9 +0.4**
LYN sP pP 16 15 21.0 -0.7
LYN pmax pmax
comp=Z,27nm,0.8s
LYN LR LR
comp=Z,270nm,10.8s
LYN LR LR
comp=Z,250nm,11.0s
LYN LR LR
comp=Z,400nm,16.5s
CM31 Chiang Mai Arr 27.94 291 P **P 16 15 14.2 -2.1**
CMAR Chiang Mai Arr 27.94 291 P **P 16 15 14.7 -1.6**
CMAR Chiang Mai Arr 27.94 291 P **P 16 15 16.8 +0.5**
comp=Z,4.3nm,0.8s,baz=95,slow=7.7,SNR=23
CMAR PcP **PcP 16 18 32.2 +0.7**
comp=Z,0.9nm,0.8s,baz=292,slow=0.4,SNR=4.4
CMAR LR LR 16 27 56.6
comp=Z,265nm,18.3s,baz=115,slow=40
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 28.03 292 P **P 16 15 16.6 -0.5**
CHTO Chiang Mai 28.03 292 P **P 16 15 16.6 -0.5**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
PSI Prapat 28.14 258 LR LR 16 28 15.2
comp=Z,200nm,20.4s,baz=154,slow=40
PSI Prapat 28.14 258 P **P 16 15 17.9 -0.3**
PSI pmax pmax
comp=Z,18nm,0.9s
RPSI Rantau Prapat 28.16 257 P **P 16 15 17.9 -0.4**
RPSI IAmb IAmb 16 15 23.7
comp=Z,18nm,0.9s
PZH PanZhiHua 28.64 309 P **P 16 15 19.5 -3.0**
PZH S **S 16 20 10.4 +0.5**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,900nm,5.4s
PZH LR LR
comp=Z,200nm,21.4s
PZH LR LR
comp=Z,260nm,20.4s
PZH LR LR
comp=Z,360nm,17.8s
MJAR Matsushiro Arr 28.73 20 P **P 16 15 21.4 -1.7**
comp=Z,2.3nm,0.8s,baz=194,slow=9.4,SNR=5.4
MJAR LR LR 16 26 59.6
comp=Z,207nm,18.1s,baz=210,slow=37
comp=Z,2.3nm,0.8s
COEN Coen 28.87 144 P **P 16 15 22.0 -2.5**
COEN IAmb IAmb 16 15 41.1
comp=Z,45nm,1.3s
COEN Coen 28.87 144 P **P 16 15 24.1 -0.4**
XAN Xi'an 28.99 329 ⇑P **P 16 15 24.3 -1.2**
XAN pP pP 16 15 30.2 -2.4
XAN S **S 16 20 16.1 +1.0**
XAN pmax pmax
comp=Z,48nm,0.7s
XAN pmax pmax
comp=Z,150nm,5.0s
XAN LR LR
comp=Z,500nm,13.1s
XAN LR LR
comp=Z,260nm,14.4s
XAN LR LR
comp=Z,590nm,16.1s
KRVT Keravat (AS076 29.13 118 LR LR 16 26 42.8
comp=Z,165nm,18.8s,baz=178,slow=36
HNS HongShan 29.46 341 ⇑P **P 16 15 30.0 +0.5**
HNS S **S 16 20 30.0 +7.7**
HNS pmax pmax
comp=Z,40nm,0.9s
HNS LR LR
comp=Z,280nm,17.2s
HNS LR LR
comp=Z,210nm,13.7s
HNS LR LR
comp=Z,340nm,16.1s
CD2 Chengdu 29.75 318 P **P 16 15 31.0 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,600nm,17.1s
CD2 LR LR
comp=Z,300nm,17.3s
CD2 LR LR
comp=Z,520nm,15.2s
GSI Gunungsitoli 29.85 255 P **P 16 15 34.1 +0.8**
WB0 Warramunga Arr 30.39 165 P **P 16 15 35.4 -2.5**
TIY Taiyuan 30.53 338 *e*P **P 16 15 39.8 +0.7**
TIY S **S 16 20 45.3 +6.0**
TIY pmax pmax
comp=Z,12nm,1.0s
TIY pmax pmax
comp=Z,83nm,4.9s
TIY LR LR
comp=Z,170nm,12.4s
TIY LR LR
comp=Z,140nm,13.1s
TIY LR LR
comp=Z,220nm,13.7s
WRAB Tennant Creek 30.54 165 P **P 16 15 36.6 -2.6**
WRAB Tennant Creek 30.54 165 P **P 16 15 36.6 -2.6**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 30.54 165 P **P 16 15 37.2 -2.1**
comp=Z,1.8nm,0.7s,baz=355,slow=9.6,SNR=14
WRA LR LR 16 30 18.0
comp=Z,46nm,18.8s,baz=355,slow=41
comp=Z,1.8nm,0.7s
WB2 Warramunga Arr 30.55 165 P **P 16 15 36.7 -2.7**
JMM Marumori 30.84 23 P **P 16 15 40.3 -1.5**
JMM IAmb IAmb 16 15 42.1
comp=Z,32nm,1.0s
JMM Marumori 30.84 23 P **P 16 15 42.9 +1.1**
MBWA Marble Bar 31.42 192 P **P 16 15 45.2 -1.8**
MBWA IAmb IAmb 16 15 46.9
comp=Z,16nm,0.6s
MBWA Marble Bar 31.42 192 P **P 16 15 47.1 +0.1**
BJT Baijiatuau 31.47 345 P **P 16 15 48.7 +1.4**
BJI Beijing 31.49 345 P **P 16 15 47.8 +0.4**
BJI pmax pmax
comp=Z,9.0nm,0.6s
PSA00 Pilbara Seismi 31.80 192 P **P 16 15 48.4 -1.9**
PSA00 Pilbara Seismi 31.80 192 P **P 16 15 50.7 +0.4**
QIS Mount Isa 32.82 157 P **P 16 15 58.8 -0.6**
MTSU Mount Surprise 32.90 147 P **P 16 16 00.3 +0.3**
MSHR Mys Shultsa 32.95 6 *i*P **P 16 16 00.0 -0.2**
MSHR pmax pmax
comp=Z,17nm,1.3s
LZH Lanzhou 33.25 326 *e*P **P 16 16 03.4 +0.2**
LZH sP pP 16 16 09.6 -0.7
LZH PcP **PcP 16 18 46.0 +0.7**
LZH pmax pmax
comp=Z,9.0nm,1.0s
LZH LR LR
comp=Z,200nm,15.5s
LZH LR LR
comp=Z,260nm,14.4s
LZH LR LR
comp=Z,390nm,14.1s
HHC Hu-ho-hao-te 33.62 339 ⇑*i*P **P 16 16 07.2 +0.9**
HHC S **S 16 21 27.7 +0.2**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,140nm,4.1s
HHC LR LR
comp=Z,250nm,16.0s
HHC LR LR
comp=Z,95nm,11.8s
HHC LR LR
comp=Z,250nm,15.0s
CN2 Changchun 33.92 359 *e*P **P 16 16 08.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BTO Baotou 33.97 337 *e*P **P 16 16 12.4 +3.1**
BTO pP **pP 16 16 17.0 +0.4**
BTO sP **sP 16 16 19.6 +1.1**
BTO PP **PP 16 17 27.0 +0.6**
BTO S **S 16 21 37.6 +4.7**
BTO sS **sS 16 21 44.9 +1.1**
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,300nm,4.8s
BTO LR LR
comp=Z,330nm,13.0s
BTO LR LR
comp=Z,480nm,14.6s
BTO LR LR
comp=Z,480nm,17.5s
AS31 Alice Springs 34.03 168 P **P 16 16 08.5 -1.4**
ASAR Alice Springs 34.03 168 P **P 16 16 07.6 -2.3**
ASAR PcP **PcP 16 18 47.0 -0.5**
ASAR Alice Springs 34.03 168 P **P 16 16 08.2 -1.6**
comp=Z,1.8nm,0.4s,baz=353,slow=7.1,SNR=81
ASAR PcP **PcP 16 18 47.0 -0.5**
comp=Z,1.5nm,0.6s,baz=354,slow=2.9,SNR=6.8
ASAR LR LR 16 32 43.8
comp=Z,106nm,18.5s,baz=274,slow=41
comp=Z,1.8nm,0.4s
AS01 Alice Springs 34.04 168 P **P 16 16 09.7 -0.3**
GIRL Giralia 34.34 200 P **P 16 16 13.6 +1.1**
WRKA Warakurna 34.64 177 P **P 16 16 14.9 -0.3**
USRK Ussuriysk Ar. 34.65 7 P **P 16 16 14.4 -0.6**
USRK Ussuriysk Ar. 34.65 7 P **P 16 16 15.4 +0.5**
comp=Z,8.1nm,0.8s,baz=189,slow=6.6,SNR=18
USRK LR LR 16 28 49.9
comp=Z,77nm,22.0s,baz=194,slow=34
comp=Z,8.1nm,0.8s
MDJ Mudanjiang 34.83 4 P **P 16 16 18.1 +1.5**
MDJ PcP **PcP 16 18 53.2 +3.8**
MDJ S **S 16 21 47.6 +1.7**
MDJ PcS **PcS 16 22 41.3 +5.4**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ LR LR
comp=Z,130nm,5.9s
MDJ LR LR
comp=Z,280nm,4.9s
MDJ LR LR
comp=Z,320nm,5.5s
XLT XiLinHaoTe 35.16 347 ⇑*i*P **P 16 16 20.0 +0.4**
XLT pP pP 16 16 25.4 -0.8
XLT sP sP 16 16 28.5 -0.4
XLT pmax pmax
comp=Z,24nm,0.7s
BNX BinXian 35.86 1 ⇓P **P 16 16 25.7 +0.4**
BNX pmax pmax
comp=Z,8.0nm,1.1s
SHL Shillong 36.28 300 P **P 16 16 28.7 -0.8**
SHL pmax pmax
comp=Z,49nm,0.6s
COCO West Island 36.57 234 P **P 16 16 32.7 +0.9**
MEEK Meekatharra 36.96 192 P **P 16 16 35.5 +0.5**
ASAJ Asahikawa 37.00 20 LR LR 16 32 16.6
comp=Z,135nm,18.1s,baz=194,slow=37
ASAJ Asahikawa 37.00 20 P **P 16 16 34.9 -0.3**
ASAJ pmax pmax
comp=Z,14nm,1.0s
JKA Kamikawa-asahi 37.00 20 P **P 16 16 34.9 -0.2**
GTA Gaotai 37.85 326 P **P 16 16 43.0 +0.4**
GTA pP pP 16 16 49.2 -0.6
GTA sP pwP 16 16 52.0 -0.4
GTA PcP **PcP 16 18 59.4 +0.6**
GTA pmax pmax
comp=Z,16nm,0.6s
GTA LR LR
comp=Z,170nm,17.5s
GTA LR LR
comp=Z,130nm,18.3s
GTA LR LR
comp=Z,240nm,17.1s
OOD Oodnadatta 38.41 167 P **P 16 16 46.5 -0.7**
HNR Honiara 38.47 119 LR LR 16 29 15.7
comp=Z,165nm,21.8s,baz=315,slow=31
GOMU GeErMu 38.88 318 P **P 16 16 50.8 -0.8**
GOMU S **S 16 22 50.9 +2.3**
GOMU pmax pmax
comp=Z,6.0nm,1.3s
GOMU LR LR
comp=Z,350nm,16.6s
GOMU LR LR
comp=Z,480nm,18.9s
GOMU LR LR
comp=Z,810nm,19.0s
YSS Yuzhno-Sakhali 39.59 18 P **P 16 16 58.3 +1.4**
YSS Yuzhno-Sakhali 39.59 18 *ce*P **P 16 16 53.5 -3.4**
YSS pmax pmax
comp=Z,39nm,2.5s
KLR Kul'dur 39.59 6 LR LR 16 31 24.3
comp=Z,58nm,21.9s,baz=194,slow=33
KLR Kul'dur 39.59 6 *ce*P **P 16 16 55.6 -1.3**
KLR pmax pmax
comp=Z,6.0nm,0.6s
INKA Innaminka 39.80 160 P **P 16 16 58.1 -0.7**
MORW Morawa 39.88 194 P **P 16 16 59.4 -0.1**
MORW IAmb IAmb 16 17 00.3
comp=Z,41nm,0.9s
MORW Morawa 39.88 194 P **P 16 16 59.7 +0.2**
H11S3 WAKE ISLAND Hy 39.96 73 T T 17 00 04.7
baz=262,slow=74,SNR=70
H11S1 WAKE ISLAND Hy 39.98 73 T T 17 00 05.4
baz=262,slow=74,SNR=44
H11S2 WAKE ISLAND Hy 39.98 73 T T 17 00 02.3
baz=262,slow=74,SNR=36
H11N1 WAKE ISLAND Hy 40.31 71 T T 17 00 31.9
baz=265,slow=74,SNR=243
H11N2 WAKE ISLAND Hy 40.32 71 T T 17 00 29.4
baz=265,slow=74,SNR=133
H11N3 WAKE ISLAND Hy 40.33 71 T T 17 00 33.2
baz=265,slow=74,SNR=228
FORT Forrest 40.34 178 P **P 16 17 02.9 -0.4**
FORT Forrest 40.34 178 P **P 16 17 03.8 +0.5**
HEH HeiHe 40.37 1 *e*P **P 16 17 03.6 +0.3**
HEH pmax pmax
comp=Z,11nm,1.0s
KMBL Kambalda 41.12 186 P **P 16 17 09.8 0.0**
BLDU Ballidu 41.21 193 P **P 16 17 10.7 +0.2**
ULN Ulaanbaatar 41.33 340 P **P 16 17 10.4 -1.1**
ULN Ulaanbaatar 41.33 340 P **P 16 17 10.4 -1.1**
ULN pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 41.53 340 P **P 16 17 12.0 -1.1**
SONM Songino Array 41.53 340 P **P 16 17 13.4 +0.3**
comp=Z,4.3nm,0.5s,baz=158,slow=11,SNR=28
SONM PcP **PcP 16 19 09.5 -0.8**
comp=Z,1.1nm,0.4s,baz=187,slow=6.5,SNR=2.4
SONM LR LR 16 36 21.7
comp=Z,93nm,18.6s,baz=88,slow=39
comp=Z,4.3nm,0.5s
SONM Songino Array 41.53 340 P **P 16 17 12.0 -1.1**
SONM pmax pmax
comp=Z,5.0nm,0.6s
LCRK Leigh Creek 41.57 165 P **P 16 17 13.2 -0.2**
GRNR Gornyy 41.71 10 ⇑*i*P **P 16 17 15.8 +1.4**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,150nm,15.0s
GRNR MLR MLR
comp=N,120nm,17.0s
GRNR MLR MLR
comp=Z,150nm,17.0s
KLBR Kellerberrin 41.94 191 P **P 16 17 16.8 +0.3**
MUN Mundaring 42.63 193 P **P 16 17 22.0 -0.1**
BBOO Buckleboo 43.33 168 P **P 16 17 27.2 -0.6**
BBOO Buckleboo 43.33 168 P **P 16 17 27.3 -0.5**
NWAO Narrogin (SRO) 43.34 191 P **P 16 17 27.8 0.0**
NWAO Narrogin (SRO) 43.34 191 P **P 16 17 28.0 +0.2**
NWAO Narrogin (SRO) 43.34 191 P **P 16 17 27.8 0.0**
NWAO pmax pmax
comp=Z,85nm,1.0s
CIT Chita 43.41 348 *e*P **P 16 17 29.0 +0.7**
CIT *e* 16 17 35.0
CIT pmax pmax
comp=Z,58nm,1.2s
ZEA Zeya 43.86 1 *e*P **P 16 17 32.3 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 43.89 161 P **P 16 17 31.0 -1.3**
comp=Z,8.3nm,0.9s,baz=342,slow=8.8,SNR=16
comp=Z,8.3nm,0.9s
STKA Stephens Creek 43.89 161 P **P 16 17 31.6 -0.7**
STKA Stephens Creek 43.89 161 *i*P **P 16 17 33.2 +0.9**
HTT Hallett 44.59 165 P **P 16 17 37.7 -0.2**
ZAK Zakamensk 44.77 339 *e*P **P 16 17 40.0 +0.8**
ZAK *e* 16 19 19.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
RKGY Rocky Gully 45.02 191 P **P 16 17 42.6 +1.3**
CMSA Cobar Meteorol 45.04 156 P **P 16 17 40.9 -0.6**
PALK Pallekele 45.22 271 LR LR 16 36 24.0
comp=Z,69nm,19.5s,baz=85,slow=36
MOY Mondy 46.65 338 *e*P **P 16 17 54.9 +0.8**
MOY pmax pmax
comp=Z,23nm,1.8s
ARMA Armidale 46.75 150 P **P 16 17 54.5 -0.6**
ARMA IAmb IAmb 16 18 03.8
comp=Z,16nm,1.3s
ARMA Armidale 46.75 150 P **P 16 17 55.1 0.0**
HYB Hyderabad 47.00 285 *e*P **P 16 17 57.2 0.0**
WMQ Urumqi 47.68 322 *e*P **P 16 18 02.3 +0.1**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=Z,160nm,20.5s
ARPS Mount Arapiles 48.52 163 P **P 16 18 08.9 +0.3**
YNG Young 48.55 156 P **P 16 18 08.5 -0.4**
BOD Bodaibo 48.88 351 *e*P **P 16 18 11.5 +0.4**
BOD pmax pmax
comp=Z,22nm,1.1s
CAN Canberra 49.68 156 P **P 16 18 16.6 -1.0**
CAN IAmb IAmb 16 18 22.9
comp=Z,34nm,1.5s
CAN Canberra 49.68 156 P **P 16 18 18.1 +0.5**
CAN Canberra 49.68 156 P **P 16 18 16.6 -1.0**
CAN pmax pmax
comp=Z,34nm,1.5s
CNB Canberra Magne 49.82 155 P **P 16 18 19.9 +1.2**
PEA0B Petropavlovsk- 50.05 24 P **P 16 18 20.8 +0.7**
PEA0B Petropavlovsk- 50.05 24 P **P 16 18 20.8 +0.7**
PEA0B pmax pmax
comp=Z,60nm,1.3s
PETK Petropavlovsk- 50.05 24 P **P 16 18 20.5 +0.4**
PETK Petropavlovsk- 50.05 24 P **P 16 18 20.1 -0.1**
comp=Z,5.8nm,0.6s,baz=198,slow=2.7,SNR=21
PETK PcP **PcP 16 19 39.2 -0.5**
comp=Z,2.6nm,0.7s,baz=231,slow=7.0,SNR=1.4
comp=Z,5.8nm,0.6s
PET Petropavlovsk 50.38 25 P **P 16 18 21.7 -0.9**
PET Petropavlovsk 50.38 25 *ce*P **P 16 18 20.2 -2.4**
PET pmax pmax
comp=Z,50nm,2.5s
TOO Toolangi 50.38 160 P **P 16 18 23.0 +0.2**
TOO Toolangi 50.38 160 P **P 16 18 23.0 +0.2**
TOO pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 50.45 129 P **P 16 18 23.4 -0.3**
DZM IAmb IAmb 16 18 25.5
comp=Z,12nm,0.7s
DZM Mont Dzumac 50.45 129 P **P 16 18 23.3 -0.4**
ZSN Zaisan 51.34 325 *e*P **P 16 18 28.6 -1.4**
ZSN Zaisan 51.34 325 *e*P **P 16 18 28.7 -1.4**
YAK Yakutsk 52.23 2 P **P 16 18 36.2 -0.1**
YAK Yakutsk 52.23 2 *ce*P **P 16 18 36.2 -0.1**
YAK pmax pmax
comp=Z,32nm,0.8s
MK31 Makanchi Array 52.49 323 *ce*P **P 16 18 37.6 -1.0**
MKAR Makanchi Array 52.49 323 P **P 16 18 37.8 -0.8**
MKAR PcP **PcP 16 19 48.8 -0.2**
MKAR Makanchi Array 52.49 323 P **P 16 18 38.2 -0.4**
comp=Z,9.9nm,0.7s,baz=122,slow=8.1,SNR=120
MKAR PcP **PcP 16 19 48.0 -0.9**
comp=Z,2.0nm,0.6s,baz=101,slow=6.4,SNR=4.4
MKAR ScP **ScP 16 23 43.5 -1.1**
comp=Z,0.3nm,0.6s,baz=95,slow=4.8,SNR=2.1
comp=Z,9.9nm,0.7s
SHLS Shalkode 52.59 318 *e*P **P 16 18 36.2 -3.3**
SHLS Shalkode 52.59 318 *e*P **P 16 18 36.3 -3.3**
MAKZ Makanchi 52.69 323 P **P 16 18 39.1 -0.9**
MAKZ Makanchi 52.69 323 P **P 16 18 39.1 -0.9**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MA2 Magadan 52.99 15 P **P 16 18 43.0 +1.0**
MA2 IAmb IAmb 16 18 43.3
comp=Z,10nm,0.9s
MA2 Magadan 52.99 15 *ce*P **P 16 18 41.1 -0.9**
MA2 pmax pmax
comp=Z,18nm,1.7s
MA2 Magadan 52.99 15 P **P 16 18 42.6 +0.6**
comp=Z,12nm,1.9s
KPKS Kokpek 53.23 318 *e*P **P 16 18 43.2 -1.0**
KPKS Kokpek 53.23 318 *e*P **P 16 18 43.2 -1.0**
SATY Saty 53.25 317 *e*P **P 16 18 43.4 -1.0**
SATY Saty 53.25 317 *e*P **P 16 18 43.4 -1.0**
KSH Kashi 53.65 312 P **P 16 18 49.0 +1.6**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,320nm,16.1s
KSH LR LR
comp=Z,210nm,12.4s
KSH LR LR
comp=Z,220nm,16.8s
TDK Taldyqorghan 54.06 319 *e*P **P 16 18 49.3 -0.8**
TDK Taldyqorghan 54.06 319 *e*P **P 16 18 49.4 -0.8**
NIL Nilore 54.10 305 P **P 16 18 49.4 -1.3**
NIL IAmb IAmb 16 19 05.5
comp=Z,17nm,0.9s
NIL Nilore 54.10 305 P **P 16 18 49.4 -1.3**
NIL pmax pmax
comp=Z,17nm,1.0s
MDOK Medeo 54.20 317 *e*P **P 16 18 50.3 -1.1**
MDOK Medeo 54.20 317 *e*P **P 16 18 50.4 -1.1**
TNSS Tian-Shan 54.22 317 *e*P **P 16 18 50.6 -1.2**
TNSS Tian-Shan 54.22 317 *e*P **P 16 18 50.7 -1.2**
BOOM Boomskoye usch 54.71 316 P **P 16 18 53.9 -1.2**
BOOM Boomskoye usch 54.71 316 P **P 16 18 53.9 -1.2**
ZALV Zalesovo Beam 55.12 331 P **P 16 18 55.4 -2.3**
ZALV Zalesovo Beam 55.12 331 P **P 16 18 56.5 -1.1**
comp=Z,3.9nm,0.5s,baz=117,slow=6.8,SNR=19
comp=Z,3.9nm,0.5s
AAK Ala-Archa 55.76 315 P **P 16 19 01.8 -0.9**
AAK Ala-Archa 55.76 315 LR LR 16 45 42.6
comp=Z,194nm,18.8s,baz=86,slow=39
AAK Ala-Archa 55.76 315 P **P 16 19 01.8 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.7s
SGDS Sogindy 55.95 316 *e*P **P 16 19 03.0 -0.9**
SGDS Sogindy 55.95 316 *e*P **P 16 19 03.1 -0.9**
SEY Seymchan 56.28 14 *ce*P **P 16 19 06.5 +0.7**
SEY pmax pmax
comp=Z,15nm,1.7s
KURK Kurchatov 56.54 326 P **P 16 19 06.8 -1.1**
KURK IAmb IAmb 16 19 08.2
comp=Z,13nm,0.8s
KURK Kurchatov 56.54 326 *ce*P **P 16 19 07.1 -0.8**
KURK pmax pmax
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 56.55 326 P **P 16 19 07.3 -0.6**
comp=Z,6.6nm,0.7s,baz=126,slow=6.7,SNR=68
comp=Z,6.6nm,0.7s
DRK Karamyk 56.71 311 P **P 16 19 09.5 -0.2**
BTLS Baital 56.91 318 *e*P **P 16 19 09.6 -1.0**
BTLS Baital 56.91 318 *e*P **P 16 19 09.7 -1.0**
GAR Garm 57.70 310 IAmb IAmb 16 19 16.6
comp=Z,12nm,0.6s
KBL Kabul 57.70 305 P **P 16 19 15.1 -1.6**
KBL IAmb IAmb 16 19 16.7
comp=Z,10nm,0.8s
KBL Kabul 57.70 305 P **P 16 19 15.1 -1.6**
KBL pmax pmax
comp=Z,11nm,0.8s
MSVF Nonsavu 57.89 118 LR LR 16 42 19.1
comp=Z,75nm,20.6s,baz=349,slow=34
DZA Taraz 58.04 315 *e*P **P 16 19 17.8 -0.9**
DZA Taraz 58.04 315 *e*P **P 16 19 17.9 -0.9**
CHGR Chuyangaron 58.49 309 IAmb IAmb 16 19 23.3
comp=Z,20nm,1.1s
CHGR Chuyangaron 58.49 309 P **P 16 19 21.4 -0.6**
CHGR pmax pmax
comp=Z,17nm,0.8s
SIMJ Simiganj 58.60 309 P **P 16 19 21.7 -1.1**
KKAR Karatay Array 58.68 315 P **P 16 19 21.6 -1.6**
KKAR Karatay Array 58.68 315 IAmb IAmb 16 19 23.2
comp=Z,5.2nm,1.1s

KKAR **Karatay Array** 58.68 315 P **P** 16 19 21.6 -1.6
DZET **Dzherino** 58.77 310 P **P** 16 19 23.3 -0.7
DZET pmax pmax
comp=Z,6.0nm,0.7s
BRLS **Borolday** 59.13 315 *e*P **P** 16 19 25.5 -0.8
BRLS **Borolday** 59.13 315 *e*P **P** 16 19 25.6 -0.8
BRZS **Berezniki** 59.64 323 *e*P **P** 16 19 28.8 -0.9
BRZS **Berezniki** 59.64 323 *e*P **P** 16 19 28.8 -0.9
TIXI **Tiksi** 61.85 1 P **P** 16 19 44.5 +0.2
TIXI **Tiksi** 61.85 1 LR LR 16 49 03.8
comp=Z,74nm,18.8s,baz=184,slow=38
TIXI **Tiksi** 61.85 1 *ce*P **P** 16 19 44.4 +0.2
TIXI pmax pmax
comp=Z,34nm,1.7s
BVAR **Borovoye Array** 62.14 326 P **P** 16 19 46.0 -0.6
comp=Z,5.1nm,0.8s,baz=127,slow=9.4,SNR=18
comp=Z,5.1nm,0.8s
BVAR **Borovoye Array** 62.14 326 P **P** 16 19 46.0 -0.6
BRVK **Borovoye** 62.21 326 *ce*P **P** 16 19 46.7 -0.3
BRVK pmax pmax
comp=Z,8.0nm,1.0s
OUZ **Omahuta** 63.17 138 P **P** 16 19 55.3 +1.7
ATKA **Atka Island** 63.81 36 P **P** 16 19 57.5 -0.1
ATKA **Atka Island** 63.81 36 P **P** 16 19 58.5 +0.9
BILL **Bilibino** 63.86 16 P **P** 16 19 56.5 -1.2
BILL IAmb IAmb 16 19 58.8
comp=Z,12nm,1.1s
BILL **Bilibino** 63.86 16 *ce*P **P** 16 19 57.0 -0.7
BILL pmax pmax
comp=Z,21nm,1.7s
NRIK **Noril'sk** 64.53 346 P **P** 16 20 01.4 -0.6
NRIK **Noril'sk** 64.53 346 P **P** 16 20 02.2 +0.1
comp=Z,14nm,0.9s,baz=133,slow=5.5,SNR=24
comp=Z,14nm,0.9s
NRIK **Noril'sk** 64.53 346 *ce*P **P** 16 20 01.9 -0.2
NRIK pmax pmax
comp=Z,21nm,1.1s
QRZ **Quartz Range** 65.89 143 P **P** 16 20 12.6 +1.3
MSZ **Milford Sound** 65.90 149 P **P** 16 20 12.0 +0.6
HIZ **Hauiti** 65.91 140 P **P** 16 20 12.5 +0.9
JCZ **Jackson Bay** 65.93 148 P **P** 16 20 12.9 +1.2
DSZ **Denniston Nort** 66.05 144 P **P** 16 20 13.4 +0.9
DCZ **Deep Cove** 66.07 150 P **P** 16 20 12.9 +0.5
VRZ **Vera Road** 66.21 141 P **P** 16 20 15.2 +1.7
WVZ **Waitaha Valley** 66.31 146 P **P** 16 20 13.9 -0.1
PYZ **Puysegur Point** 66.34 151 P **P** 16 20 16.5 +2.3
NNZ **Nelson** 66.64 143 P **P** 16 20 16.5 +0.4
THZ **Tophouse** 66.70 144 P **P** 16 20 15.3 -1.4
NNVZ **North Ngauruho** 66.76 140 P **P** 16 20 19.2 +2.1
NGZ **Ngauruhoe** 66.77 140 P **P** 16 20 19.1 +1.9
TMVZ **Te Maari** 66.80 140 P **P** 16 20 19.6 +2.2
OTVZ **Oturere** 66.81 140 P **P** 16 20 19.5 +2.0
ETVZ **East Tongariro** 66.82 140 P **P** 16 20 19.8 +2.3
LBZ **Lake Benmore** 66.89 147 P **P** 16 20 18.4 +0.7
RPZ **Rata Peaks** 66.91 146 P **P** 16 20 18.0 +0.1
RPZ **Rata Peaks** 66.91 146 P **P** 16 20 18.9 +1.0
RPZ **Rata Peaks** 66.91 146 P **P** 16 20 17.9 +0.1
LTZ **Lake Taylor** 66.98 145 P **P** 16 20 18.2 -0.1
OXZ **Oxford** 67.20 146 P **P** 16 20 18.7 -1.0
URZ **Urewera** 67.22 139 LR LR 16 51 52.5
comp=Z,75nm,18.4s,baz=35,slow=38
URZ **Urewera** 67.22 139 P **P** 16 20 21.3 +1.4
URZ **Urewera** 67.22 139 P **P** 16 20 20.2 +0.3
ABKAR **Akbulak array** 67.33 319 P **P** 16 20 18.7 -1.8
BKZ **Black Stump Fm** 67.33 140 P **P** 16 20 20.8 +0.1
BKZ **Black Stump Fm** 67.33 140 P **P** 16 20 21.5 +0.8
BKZ **Black Stump Fm** 67.33 140 P **P** 16 20 21.0 +0.3
RTZ **Ruatahuna** 67.33 139 P **P** 16 20 20.6 -0.2
MTHZ **Maungataniwha** 67.38 139 P **P** 16 20 21.5 +0.5
HAZ **Te Kaha** 67.38 138 P **P** 16 20 21.2 +0.3
KWHZ **Kaweka Forest** 67.44 140 P **P** 16 20 22.0 +0.6
KHZ **Kahutara** 67.48 144 P **P** 16 20 20.8 -0.6
KHZ **Kahutara** 67.48 144 P **P** 16 20 20.8 -0.6
NMHZ **Naumai** 67.49 140 P **P** 16 20 23.3 +1.5
TSZ **Takapari Road** 67.51 141 P **P** 16 20 22.9 +1.1
MWZ **Matawai** 67.53 138 P **P** 16 20 22.3 +0.4
SPIA **Saint Paul Isl** 67.55 32 P **P** 16 20 21.5 -0.1
baz=252
MCHZ **McNeill Hill** 67.62 140 P **P** 16 20 24.1 +1.7
MRZ **Mangatainoka R** 67.63 141 P **P** 16 20 23.6 +1.2
P08K **Saint George I** 67.74 33 P **P** 16 20 22.8 -0.2
baz=253
BFZ **Birch Farm** 68.05 141 P **P** 16 20 24.9 -0.2
PXZ **Pawanui** 68.06 140 P **P** 16 20 26.5 +1.4
SVE **Sverdlovsk** 68.69 327 *e*P **P** 16 20 28.6 -0.3
SVE pmax pmax
comp=Z,10.0nm,1.0s
UNV **Unalaska Valle** 68.72 36 P **P** 16 20 29.5 +0.4
baz=257
GAMB **Gambell** 69.08 25 P **P** 16 20 31.3 +0.2
baz=249
ARTI **Arti** 69.79 327 P **P** 16 20 33.4 -2.3
ARTI IAmb IAmb 16 20 34.8
comp=Z,6.0nm,0.5s
ARTI **Arti** 69.79 327 *c i*P **P** 16 20 34.3 -1.4
ARTI 16 23 06.4
ARTI S **S** 16 29 43.7 +0.4
ARTI pmax pmax
comp=Z,4.0nm,0.5s
M11K **Mekoryuk** 70.47 29 P **P** 16 20 38.9 -0.9
baz=255
FALS **False Pass** 70.70 35 P **P** 16 20 40.9 -0.4
baz=259
K13K **Kusilvak Mount** 71.59 28 P **P** 16 20 46.5 -0.1
baz=256
F14K **Arctic Creek** 71.82 24 P **P** 16 20 47.9 0.0
baz=253
M13K **Dall Lake** 71.86 29 P **P** 16 20 48.2 0.0
baz=258
ANM **Nome** 71.96 25 P **P** 16 20 48.7 0.0
baz=254
J14K **Nanvaranak Lak** 72.28 27 P **P** 16 20 50.7 0.0
baz=257
L14K **Kuka Creek** 72.37 29 P **P** 16 20 51.9 +0.6
baz=258
F15K **North Star Dit** 72.56 24 P **P** 16 20 52.9 +0.5
baz=255
N14K **Kuskokwak Cree** 72.57 30 P **P** 16 20 52.6 +0.1
baz=259
M14K **Bethel** 72.60 29 P **P** 16 20 52.6 0.0
baz=259
G15K **Niukluk** 72.62 25 P **P** 16 20 52.7 0.0
baz=255
O14K **Tigyukauivet M** 72.66 31 P **P** 16 20 53.0 0.0
baz=260
CHNA **Chernabura Isl** 72.88 36 P **P** 16 20 55.0 +0.6
baz=263
L15K **Ungalak Mounta** 73.00 28 P **P** 16 20 55.1 +0.1
baz=259
C16K **Lisburne Hills** 73.01 21 IAmb IAmb 16 20 57.1
comp=Z,20nm,1.3s
C16K **Lisburne Hills** 73.01 21 P **P** 16 20 55.2 +0.3
baz=253,SNR=8.7
K15K **Wolf Creek Mou** 73.10 28 P **P** 16 20 54.9 -0.7
baz=259
M15K **Kasigluk River** 73.20 29 P **P** 16 20 56.2 0.0
baz=260
H16K **Elim** 73.28 25 P **P** 16 20 56.5 -0.2
baz=257
N15K **Kwethluk River** 73.40 30 P **P** 16 20 57.7 +0.3
baz=260
G16K **Koyuk River** 73.41 24 P **P** 16 20 57.5 +0.2
baz=257
D17K **Noatak River** 73.67 22 P **P** 16 20 59.1 +0.2
baz=256,SNR=9.3
J16K **Anvik River** 73.71 27 P **P** 16 20 59.6 +0.4
baz=259
CHGN **Chignik** 73.73 34 P **P** 16 20 59.3 0.0
baz=263
I17K **Unalakleet** 73.79 26 P **P** 16 20 60.0 +0.4
baz=259
RDOG **Red Dog Mine** 73.83 22 IAmb IAmb 16 21 03.0
comp=Z,25nm,1.5s
RDOG **Red Dog Mine** 73.83 22 P **P** 16 21 00.1 +0.3
baz=256,SNR=6.3
C17K **DeLong Mountai** 73.84 21 P **P** 16 20 59.7 -0.1
baz=255
L16K **Owhat River** 73.95 28 P **P** 16 21 00.5 -0.1
L16K IAmb IAmb 16 21 02.4
comp=Z,10nm,0.8s
L16K **Owhat River** 73.95 28 P **P** 16 21 00.5 -0.1
baz=261
E17K **Hotham Inlet** 74.00 23 P **P** 16 21 00.9 +0.1
baz=257,SNR=6.8
F17K **Baldwin Pennin** 74.08 23 P **P** 16 21 01.4 +0.1
baz=258
M16K **Timber Creek** 74.09 29 P **P** 16 21 01.6 +0.2
baz=261
G17K **Kiwalik Mounta** 74.12 24 P **P** 16 21 01.3 -0.3
baz=258
CTZ **Chatham Island** 74.16 141 P **P** 16 21 02.7 +0.7
O16K **Kokwok River B** 74.31 31 P **P** 16 21 02.7 0.0
baz=262
H17K **Granite Mounta** 74.32 25 P **P** 16 21 02.9 +0.2
baz=259
J17K **VABM Dome** 74.41 27 IAmb IAmb 16 21 05.3
comp=Z,16nm,1.1s
J17K **VABM Dome** 74.41 27 P **P** 16 21 03.2 -0.1
baz=260
E18K **Tukpahlearik C** 74.54 23 IAmb IAmb 16 21 06.3
comp=Z,11nm,0.8s
E18K **Tukpahlearik C** 74.54 23 P **P** 16 21 04.7 +0.8
baz=258,SNR=12
B18K **Kokolik River** 74.54 20 P **P** 16 21 04.3 +0.4
baz=256
L17K **Donlin** 74.57 28 P **P** 16 21 03.7 -0.5
baz=262
C18K **Utukok River** 74.59 21 IAmb IAmb 16 21 05.8
comp=Z,9.7nm,0.8s
C18K **Utukok River** 74.59 21 P **P** 16 21 04.1 -0.2
baz=257,SNR=11
K17K **Iditarod** 74.65 28 P **P** 16 21 04.4 -0.2
baz=261
F18K **Selawik** 74.74 23 P **P** 16 21 04.8 -0.2
baz=259,SNR=7.7
O17K **Koliganek Bris** 74.84 31 P **P** 16 21 05.5 -0.3
baz=263
M17K **Holitna River** 74.87 29 P **P** 16 21 05.9 0.0
baz=263
N17K **Nushagak Hills** 74.88 30 IAmb IAmb 16 21 08.8
comp=Z,30nm,1.3s
N17K **Nushagak Hills** 74.88 30 P **P** 16 21 06.5 +0.4
baz=263
KIRV **Kirov** 74.93 328 *ce*P **P** 16 21 05.5 -0.8
H18K **Honhosa River** 75.01 25 P **P** 16 21 06.5 -0.2
baz=261
G18K **Tagagawik** 75.01 24 P **P** 16 21 06.6 -0.1
baz=260
P17K **Kvichak River** 75.11 31 P **P** 16 21 06.9 -0.4
baz=264
AKT **Akhty** 75.11 310 *e*P **P** 16 21 07.1 -0.8
AKT *e* 16 21 20.7
AKT *e*PPP PPP 16 25 40.2
AKT pmax pmax
comp=Z,16nm,1.0s
CHIR **Chirikof Islan** 75.24 35 P **P** 16 21 07.7 -0.5
baz=266
Q17K **Contact Creek** 75.30 32 P **P** 16 21 06.9 -1.7
baz=265
L18K **Granite Mounta** 75.33 28 P **P** 16 21 08.2 -0.4
baz=263
BELG **Belogornoye** 75.47 322 *i* P **P** 16 21 09.2 -0.3
BELG pmax pmax
comp=Z,5.0nm,0.9s
J18K **Innoko River** 75.47 27 P **P** 16 21 08.6 -0.8
baz=263
F19K **Shaleruckik Mo** 75.52 23 P **P** 16 21 08.7 -0.8
baz=261
N18K **Kilae Creek** 75.54 30 P **P** 16 21 09.2 -0.7
baz=264
GCSA **Galena City Sc** 75.57 26 P **P** 16 21 09.3 -0.6
baz=262
M18K **Stony River** 75.65 29 P **P** 16 21 10.9 +0.4
baz=264
D19K **Kuna River** 75.66 22 P **P** 16 21 10.4 -0.1
baz=260
G19K **Purcell Mounta** 75.68 24 P **P** 16 21 10.4 -0.2
baz=262
TTA **Tatalina** 75.72 27 P **P** 16 21 10.7 -0.2
baz=263
P18K **Big Mountain,** 75.74 31 P **P** 16 21 10.7 -0.4
baz=265
O18K **Koktuh Hills** 75.80 31 P **P** 16 21 11.1 -0.2
baz=265,SNR=6.3
E19K **Redstone River** 75.82 23 IAmb IAmb 16 21 26.8
comp=Z,11nm,0.9s
E19K **Redstone River** 75.82 23 P **P** 16 21 12.1 +0.7
baz=261,SNR=12
H19K **Roundabout Mou** 75.86 25 P **P** 16 21 11.7 +0.2
baz=262
J19K **Poorman** 76.02 26 P **P** 16 21 12.4 -0.1
baz=264
SII **Sitkinak Islan** 76.09 34 P **P** 16 21 13.0 -0.1
baz=267
L19K **White Mountain** 76.18 28 P **P** 16 21 13.6 +0.1
baz=265
N19K **Bonanza Creek** 76.23 30 IAmb IAmb 16 21 16.4
comp=Z,12nm,0.8s
N19K **Bonanza Creek** 76.23 30 P **P** 16 21 13.4 -0.5
baz=265,SNR=5.6
D20K **Etivluk River** 76.24 21 P **P** 16 21 13.3 -0.4
baz=261,SNR=12
O19K **Port Alsworth** 76.27 30 IAmb IAmb 16 21 15.9
comp=Z,10nm,0.8s
O19K **Port Alsworth** 76.27 30 P **P** 16 21 14.0 +0.1
baz=266
E20K **Nigu River** 76.33 22 P **P** 16 21 14.4 +0.1
baz=262
F20K **Avaraart Lake** 76.34 23 P **P** 16 21 14.5 +0.2
baz=263
H20K **Anotleneega Mo** 76.50 25 P **P** 16 21 14.9 -0.3
baz=264
Q19K **Cape Douglas,** 76.52 32 P **P** 16 21 15.1 -0.4
baz=266
OHAK **Old Harbor** 76.62 33 P **P** 16 21 15.5 -0.5
baz=267
OHAK **Old Harbor** 76.62 33 P **P** 16 21 16.9 +0.9
A21K **Barrow** 76.65 19 P **P** 16 21 15.6 -0.3
baz=261
L20K **Farewell, AK** 76.66 28 P **P** 16 21 15.6 -0.7
baz=266
J20K **Nowinta River** 76.68 26 P **P** 16 21 16.3 0.0
baz=265
P19K **Oil Pt** 76.78 31 P **P** 16 21 16.7 -0.2
baz=267
C21K **Knifeblade Rid** 76.96 21 P **P** 16 21 17.7 0.0
baz=263,SNR=7.0
M20K **Styx River** 76.96 29 P **P** 16 21 17.6 -0.4
baz=266
KDAK **Kodiak Island** 77.02 33 P **P** 16 21 17.7 -0.6
baz=268
B21K **Ikpikpuk River** 77.08 21 P **P** 16 21 18.6 +0.2
baz=263
O20K **Slope Mountain** 77.11 31 P **P** 16 21 17.7 -1.1
baz=267
Q20K **Shuyak Island** 77.16 32 P **P** 16 21 17.7 -1.3
baz=268
E21K **Killik River** 77.17 22 P **P** 16 21 18.8 -0.2
baz=264
F21K **Alatna River** 77.23 23 P **P** 16 21 19.3 -0.1
baz=265
SPCR **Spurr Chakacha** 77.37 29 P **P** 16 21 19.9 -0.4
baz=267
H21K **Melozitna Rive** 77.38 25 P **P** 16 21 19.6 -0.6
baz=266
PPLA **Purkeypile** 77.46 28 P **P** 16 21 20.1 -0.8
baz=267
CHUM **Lake Minchumin** 77.46 27 P **P** 16 21 20.6 0.0
baz=266
CAST **Castle Rocks** 77.54 27 IAmb IAmb 16 21 35.5
comp=Z,8.2nm,0.9s
CAST **Castle Rocks** 77.54 27 P **P** 16 21 21.3 +0.2
baz=267,SNR=9.3
B22K **Teshekpuk Lake** 77.56 20 P **P** 16 21 21.4 +0.4
baz=264
D22K **Ayikyak River** 77.68 21 P **P** 16 21 22.3 +0.5
baz=265
SKT **Skwentna** 77.72 29 P **P** 16 21 21.5 -0.7
baz=268
RAYN **Ar Rayn** 77.86 292 P **P** 16 21 22.4 -1.4
RAYN IAmb IAmb 16 21 23.8
comp=Z,12nm,0.8s
RAYN **Ar Rayn** 77.86 292 P **P** 16 21 22.4 -1.4
RAYN pmax pmax
comp=Z,12nm,0.8s
E22K **Anaktuvuk Pass** 77.94 22 IAmb IAmb 16 21 25.8
comp=Z,12nm,1.2s
E22K **Anaktuvuk Pass** 77.94 22 P **P** 16 21 23.3 0.0
baz=266,SNR=9.4
BRLK **Bradley Lake** 77.97 31 IAmb IAmb 16 21 23.8
comp=Z,9.7nm,0.7s
H22K **Ishtalitna Cre** 77.98 25 P **P** 16 21 24.0 +0.4
baz=267
BRSE **Bradley Lake S** 78.04 31 P **P** 16 21 23.6 -0.4
baz=269
BPAW **Bear Paw Mtn.** 78.06 26 IAmb IAmb 16 21 25.9
comp=Z,14nm,0.8s
BPAW **Bear Paw Mtn.** 78.06 26 P **P** 16 21 24.0 -0.1
baz=268,SNR=15
SUA **Susitna One** 78.08 29 IAmb IAmb 16 21 25.1
comp=Z,12nm,0.9s
SUA **Susitna One** 78.08 29 P **P** 16 21 24.2 -0.1
baz=268,SNR=11
SLKM **Skilak Lake** 78.32 30 IAmb IAmb 16 21 26.3
comp=Z,26nm,1.5s
CUT **Chulitna** 78.33 28 P **P** 16 21 25.7 +0.2
baz=269
TRF **Thorofare Moun** 78.35 27 P **P** 16 21 25.4 -0.4
baz=268
M22K **Willow** 78.39 29 P **P** 16 21 25.5 -0.3
baz=269
D23K **Nanushuk River** 78.41 21 P **P** 16 21 26.7 +0.8
baz=267
C23K **Itkillik River** 78.48 21 P **P** 16 21 26.5 +0.3
baz=267,SNR=29
COLD **Coldfoot** 78.51 23 IAmb IAmb 16 21 28.9
comp=Z,9.5nm,0.9s
COLD **Coldfoot** 78.51 23 P **P** 16 21 27.0 +0.6
baz=268,SNR=13
G23K **Bananza Creek** 78.56 24 P **P** 16 21 27.2 +0.4
baz=268
RC01 **Rabbit Creek A** 78.56 30 IAmb IAmb 16 21 30.7
comp=Z,6.5nm,0.6s
RC01 **Rabbit Creek A** 78.56 30 P **P** 16 21 27.4 +0.6
baz=269
O22K **Cooper Landing** 78.56 30 P **P** 16 21 27.4 +0.6
baz=270
KBZ **Khabaz** 78.63 313 P **P** 16 21 25.8 -1.7
comp=Z,4.7nm,0.9s,baz=195,slow=0.4,SNR=10
comp=Z,4.7nm,0.9s
KBZ **Khabaz** 78.63 313 *ce*P **P** 16 21 26.9 -0.6
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SEW **Seward** 78.70 31 P **P** 16 21 27.7 +0.2
baz=270
RAR **Rarotonga** 78.74 114 LR LR 16 54 35.8
comp=Z,70nm,18.8s,baz=276,slow=34
E23K **Chandalar** 78.76 22 IAmb IAmb 16 21 30.6
comp=Z,20nm,1.1s
E23K **Chandalar** 78.76 22 P **P** 16 21 28.2 +0.2
baz=268,SNR=16
KIV **Kislovodsk** 78.77 313 *e*P **P** 16 21 27.9 -0.5
KIV pmax pmax
comp=Z,12nm,1.0s
I23K **Minto, Yukon-K** 78.79 25 IAmb IAmb 16 21 30.4
comp=Z,6.9nm,0.7s
I23K **Minto, Yukon-K** 78.79 25 P **P** 16 21 28.3 +0.3
baz=269,SNR=8.6
SHA1 **Shidzhatmaz** 78.80 313 *i* P **P** 16 21 29.4 +0.6
TOLK **Toolik Lake Re** 78.80 22 IAmb IAmb 16 21 29.9
comp=Z,11nm,0.8s
TOLK **Toolik Lake Re** 78.80 22 P **P** 16 21 28.5 +0.4
baz=268,SNR=11
PMR **Palmer** 78.86 29 IAmb IAmb 16 21 29.2
comp=Z,7.7nm,0.7s
PMR **Palmer** 78.86 29 P **P** 16 21 28.2 -0.2
baz=270
NEA2 **Nenana** 78.91 26 IAmb IAmb 16 21 30.4
comp=Z,9.3nm,0.8s
NEA2 **Nenana** 78.91 26 P **P** 16 21 28.5 -0.2
baz=269,SNR=7.0
MCK **McKinley** 78.96 27 P **P** 16 21 29.2 +0.2
baz=270,SNR=11
RND **Reindeer** 78.99 27 IAmb IAmb 16 21 40.4
comp=Z,12nm,1.3s
D24K **Happy Valley** 79.09 21 P **P** 16 21 30.2 +0.6
baz=269
VRH **Novokhopyorsk** 79.12 320 *e*P **P** 16 21 34.3 +4.2
VRH pmax pmax
comp=Z,14nm,0.3s
C24K **Franklin Bluff** 79.14 21 P **P** 16 21 30.0 +0.2
baz=269
KNK **Knik Glacier** 79.18 29 IAmb IAmb 16 21 31.7
comp=Z,12nm,0.8s
KNK **Knik Glacier** 79.18 29 P **P** 16 21 30.7 +0.4
baz=270,SNR=5.2
E24K **Your Creek** 79.19 22 P **P** 16 21 30.8 +0.6
baz=269
SML **Sawmill** 79.24 29 IAmb IAmb 16 21 31.9
comp=Z,27nm,1.3s
SML **Sawmill** 79.24 29 P **P** 16 21 30.4 -0.2
baz=270,SNR=5.1
PWL **Port Wells** 79.25 30 IAmb IAmb 16 21 31.9
comp=Z,24nm,1.0s
PWL **Port Wells** 79.25 30 P **P** 16 21 30.5 -0.1
baz=271,SNR=12
F24K **Squaw Lake** 79.41 23 IAmb IAmb 16 21 33.9
comp=Z,11nm,0.8s
F24K **Squaw Lake** 79.41 23 P **P** 16 21 32.0 +0.6
baz=270
H24K **Noodor Dome** 79.42 25 P **P** 16 21 30.9 -0.6
baz=270,SNR=8.0
COLA **College** 79.43 26 P **P** 16 21 31.3 -0.1
baz=270
M23K **Glacier View** 79.53 29 P **P** 16 21 32.5 +0.4
baz=271,SNR=5.7
G24K **Hadweenzic Riv** 79.57 24 IAmb IAmb 16 21 34.7
comp=Z,13nm,1.1s
G24K **Hadweenzic Riv** 79.57 24 P **P** 16 21 32.4 +0.1
baz=270
GURO **Guroymak-BITLI** 79.59 308 IAmb IAmb 16 21 34.5
comp=Z,16nm,0.8s
POKR **Poker Plat Res** 79.61 25 P **P** 16 21 32.0 -0.4
baz=271
SCM **Sheep Creek Mo** 79.71 29 IAmb IAmb 16 21 34.8
comp=Z,16nm,1.0s
SCM **Sheep Creek Mo** 79.71 29 P **P** 16 21 33.2 0.0
baz=271
P23K **Montague Islan** 79.73 31 P **P** 16 21 33.0 -0.2
baz=272
HDA **Harding Lake** 79.83 26 IAmb IAmb 16 21 36.2
comp=Z,7.6nm,0.7s
HDA **Harding Lake** 79.83 26 P **P** 16 21 33.3 -0.4
baz=271,SNR=8.2
ILAR **Eielson Array** 79.84 26 P P 16 21 28.7 -5.1
ILAR **Eielson Array** 79.84 26 P **P** 16 21 32.9 -0.9
comp=Z,2.7nm,0.8s,baz=236,slow=5.3,SNR=54
comp=Z,2.7nm,0.8s
GLI **Glacier Island** 79.85 30 IAmb IAmb 16 21 34.8
comp=Z,11nm,0.7s
GLI **Glacier Island** 79.85 30 P **P** 16 21 34.0 +0.1
baz=272
D25K **Kavik River** 79.96 21 P **P** 16 21 34.8 +0.4
baz=271
KLMR **Klimovskoe** 80.02 330 *e*P **P** 16 21 32.7 -2.0
KLMR pmax pmax
comp=Z,22nm,1.3s
M24K **Tolsona, Glenn** 80.25 28 IAmb IAmb 16 21 38.2
comp=Z,22nm,1.1s
M24K **Tolsona, Glenn** 80.25 28 P **P** 16 21 36.8 +0.7
baz=272
F25K **Christian Rive** 80.27 23 P **P** 16 21 36.5 +0.4
baz=272
E25K **Arctic Village** 80.28 22 IAmb IAmb 16 21 38.7
comp=Z,9.6nm,0.9s
E25K **Arctic Village** 80.28 22 P **P** 16 21 36.1 -0.1
baz=272,SNR=16
K24K **Donnelly Dome** 80.36 27 P **P** 16 21 36.7 +0.1
baz=272
KLU **Klutina** 80.40 29 IAmb IAmb 16 21 40.4
comp=Z,6.5nm,0.6s
KLU **Klutina** 80.40 29 P **P** 16 21 37.2 +0.3
baz=273
PRP **Porcupine Dome** 80.40 25 P **P** 16 21 37.2 +0.3
baz=272
C26K **Camden Bay** 80.46 20 P **P** 16 21 37.6 +0.6
baz=272
DIV **Divide** 80.49 29 IAmb IAmb 16 21 41.1
comp=Z,10nm,0.7s
J25K **Salcha River,** 80.50 26 P **P** 16 21 37.3 -0.1
baz=273
EYAK **Cordova Ski Ar** 80.53 30 P **P** 16 21 37.5 0.0
baz=273
PAX **Paxson** 80.54 28 P **P** 16 21 37.9 +0.2
baz=273
KOPT **Kop Dagi** 80.66 309 P **P** 16 21 37.0 -2.0
VORD **Divnogorie** 80.66 320 *e*P **P** 16 21 36.4 -2.0
VORD pmax pmax
comp=Z,8.0nm,0.9s
VORR **Voronezh** 80.67 321 P **P** 16 21 37.8 -0.6
VORR pmax pmax

comp=Z,9.0nm,0.6s
BMAR Burnt Mountain 80.69 23 P **P 16 21 39.4 +1.1**
HARP HAARP 80.71 28 P **P 16 21 39.0 +0.5**
baz=273
VSR Storozhevoye 80.72 320 *e*P **P 16 21 36.1 -2.7**
VSR pmax pmax
comp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 80.78 322 *e*P **P 16 21 38.2 -0.8**
LPSR pmax pmax
comp=Z,17nm,0.9s
RIDG Independent Ri 80.78 27 IAmb IAmb 16 21 40.1
comp=Z,17nm,1.1s
RIDG Independent Ri 80.78 27 P **P 16 21 39.2 +0.3**
baz=273,SNR=7.1
F26K Sheenjek River 80.84 23 P **P 16 21 39.4 +0.3**
baz=273
C27K Jago River 80.89 21 P **P 16 21 39.3 0.0**
baz=273
N25K Chitina, Valde 81.02 29 IAmb IAmb 16 21 42.6
comp=Z,17nm,1.4s
N25K Chitina, Valde 81.02 29 P **P 16 21 40.5 +0.2**
baz=274
G26K Porcupine Rive 81.03 23 P **P 16 21 40.4 +0.3**
baz=274
BMRM Bremner River 81.06 30 P **P 16 21 40.6 +0.1**
baz=274
SCRK Sand Creek 81.14 27 P **P 16 21 40.8 -0.2**
baz=274,SNR=6.2
KAIM Kayak Island 81.23 31 P **P 16 21 41.7 +0.4**
baz=274
J26L Joseph Creek 81.29 26 P **P 16 21 42.3 +0.7**
baz=274
MENT Mentasta 81.34 28 IAmb IAmb 16 21 45.2
comp=Z,6.6nm,0.6s
I26K Coal Creek Min 81.40 25 P **P 16 21 42.6 +0.5**
baz=274
GLB Gilahina Butte 81.41 29 IAmb IAmb 16 21 45.1
comp=Z,19nm,1.4s
L26K Log Cabin Wild 81.50 27 P **P 16 21 43.0 +0.3**
baz=275
VRDI Verde Repeater 81.60 29 IAmb IAmb 16 21 46.4
comp=Z,6.1nm,0.7s
M26K Nabesna, AK 81.71 28 P **P 16 21 44.0 +0.1**
baz=275
G27K Doyon Strip 81.88 24 P **P 16 21 44.9 +0.2**
baz=276
D27M Malcolm River 81.89 21 IAmb IAmb 16 21 47.1
comp=Z,11nm,0.8s
D27M Malcolm River 81.89 21 P **P 16 21 45.0 +0.3**
baz=276
OBN Obninsk 81.96 325 *e*P **P 16 21 43.7 -1.5**
OBN *e* 16 24 54.3
OBN *e*PPP PPP 16 26 39.4
OBN *e*S **S 16 32 00.5 +3.0**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,78nm,14.0s
H27K Steamboat Moun 81.98 24 P **P 16 21 45.4 +0.2**
baz=276
I27K Kandik River 82.01 25 P **P 16 21 46.0 +0.6**
baz=276,SNR=22
L27K Beaver Creek, 82.19 27 P **P 16 21 47.0 +0.7**
baz=276
BCAR Beaver Creek A 82.20 27 P **P 16 21 46.0 -0.4**
M27K Edge Creek, AK 82.24 28 P **P 16 21 46.9 +0.1**
baz=276
EGAK Eagle 82.29 26 P **P 16 21 47.0 +0.2**
EGAK IAmb IAmb 16 21 49.4
comp=Z,7.4nm,0.7s
EGAK Eagle 82.29 26 P **P 16 21 46.5 -0.3**
baz=276
MESA MESA 82.44 30 P **P 16 21 48.2 +0.2**
baz=276
ANN Anapa 82.46 314 *e*P **P 16 21 46.9 -1.1**
ANN *e*PPP PPP 16 26 44.2
ANN pmax pmax
comp=Z,67nm,1.0s
ANN MLR MLR
comp=Z,599nm,21.0s
E28M Babbage River 82.47 22 P **P 16 21 48.4 +0.7**
baz=277
F28M Old Crow 82.47 23 IAmb IAmb 16 21 49.9
comp=Z,11nm,0.8s
F28M Old Crow 82.47 23 P **P 16 21 48.4 +0.7**
baz=277,SNR=18
BVCY Beaver Creek 82.70 28 P **P 16 21 50.1 +1.1**
baz=277
I28M Miner Creek 82.72 25 P **P 16 21 49.3 +0.1**
baz=277,SNR=28
YUK3 Moose Creek 82.97 29 P **P 16 21 51.2 +0.6**
baz=277,SNR=7.4
E29M Blow River 83.10 22 P **P 16 21 51.8 +0.9**
baz=279
DAWY Dawson 83.14 26 IAmb IAmb 16 21 53.0
comp=Z,6.7nm,0.9s
DAWY Dawson 83.14 26 P **P 16 21 51.9 +0.6**
baz=278,SNR=7.5
O28M Mount Upton 83.23 30 P **P 16 21 52.2 +0.1**
baz=278
H29M Whitestone 83.25 24 IAmb IAmb 16 21 53.5
comp=Z,8.5nm,0.7s
H29M Whitestone 83.25 24 P **P 16 21 52.4 +0.6**
baz=279
G29M Pine Creek 83.28 23 P **P 16 21 52.3 +0.3**
baz=279
PINM Pinnacle 83.29 30 P **P 16 21 53.1 +1.0**
baz=278
YUK8 Steele Glacier 83.36 29 P **P 16 21 53.3 +0.5**
baz=278,SNR=8.5
I29M Ogilvie Camp, 83.41 25 P **P 16 21 53.1 +0.4**
baz=279,SNR=14
J29N Klondike Camp 83.59 26 P **P 16 21 54.2 +0.6**
baz=279,SNR=5.1
M29M Somme Creek 83.80 28 P **P 16 21 55.4 +0.6**
baz=279
L29M L29M 83.85 27 P **P 16 21 54.9 0.0**
baz=279
EPYK Eagle Plains 83.89 24 P **P 16 21 54.3 -0.7**
baz=280,SNR=9.1
YUK4 Talbot Arm 83.89 29 P **P 16 21 55.6 +0.2**
baz=279
G30M tAoh Zraii Nji 83.97 23 IAmb IAmb 16 21 56.9
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 83.97 23 P **P 16 21 54.8 -0.7**
baz=281
K29M Barlow Dome 83.99 26 P **P 16 21 55.5 -0.3**
baz=280
F30M Barrier River 84.02 22 P **P 16 21 56.6 +0.9**
baz=281
O29M Mount Kennedy 84.09 30 P **P 16 21 56.5 +0.2**
baz=279
YUK6 Outpost Mounta 84.09 29 P **P 16 21 56.4 -0.1**
baz=279,SNR=5.4
I30M Mount Dempster 84.24 25 P **P 16 21 57.2 +0.3**
baz=281
J30M Hart River 84.38 25 P **P 16 21 58.2 +0.5**
baz=281
HYT Haines Junctio 84.52 29 P **P 16 21 59.4 +0.9**
baz=280,SNR=11
SPITS Spitsbergen Ar 84.53 349 P **P 16 21 58.0 -0.1**
comp=Z,8.9nm,0.5s,baz=91,slow=7.5,SNR=29
comp=Z,8.8nm,0.5s
SPITS Spitsbergen Ar 84.53 349 P **P 16 21 58.0 -0.1**
M30M Minto, Yukon 84.54 28 IAmb IAmb 16 22 01.2
comp=Z,13nm,0.9s
M30M Minto, Yukon 84.54 28 P **P 16 21 59.3 +0.8**
baz=281,SNR=10
ARCES ARCESS Array B 84.70 340 P **P 16 21 59.2 +0.1**
comp=Z,6.2nm,0.5s,baz=80,slow=6.2,SNR=47
comp=Z,6.2nm,0.5s
INK Inuvik 84.71 22 IAmb IAmb 16 22 00.7
comp=Z,14nm,1.1s
INK Inuvik 84.71 22 P **P 16 21 59.6 +0.5**
baz=283,SNR=11
G31M Satah River 84.74 23 P **P 16 21 59.4 +0.2**
baz=282
SIM Simferopol' 84.78 315 *e*P **P 16 21 57.5 -2.5**
SIM *e* 16 22 02.0
SIM S **SKSac 16 32 25.0 +2.2**
SIM pmax pmax
comp=Z,20nm,1.0s
F31M Tsiigehtchic 84.82 22 P **P 16 21 59.7 +0.1**
baz=283,SNR=10.0
P30M Million Dollar 84.92 30 P **P 16 22 01.1 +0.7**
baz=281
H31M Peel River 84.95 24 P **P 16 22 00.3 -0.2**
baz=282,SNR=18

O30N Mendenhall 85.22 29 IAmb IAmb 16 22 04.3
comp=Z,11nm,1.0s
O30N Mendenhall 85.22 29 P **P 16 22 02.3 +0.4**
baz=281,SNR=6.6
N31M Braeburn, Yuko 85.22 28 P **P 16 22 02.9 +1.0**
baz=282,SNR=10.0
PLBC Pleasant Camp 85.34 31 P **P 16 22 02.0 -0.5**
baz=281
MMAI Mount Meron Ar 85.57 303 P **P 16 22 04.9 +0.6**
comp=Z,2.3nm,0.6s,baz=66,slow=8.1,SNR=4.9
comp=Z,2.3nm,0.6s
S31K Pelican 85.70 32 P **P 16 22 04.8 +0.6**
baz=281
M31M Drury Creek, Y 85.72 28 IAmb IAmb 16 22 06.4
comp=Z,6.5nm,0.8s
M31M Drury Creek, Y 85.72 28 P **P 16 22 05.2 +0.9**
baz=283,SNR=7.6
WHY Whitehorse 85.82 29 P **P 16 22 05.9 +0.9**
baz=282,SNR=12
SKAG Skagway 85.86 30 P **P 16 22 05.6 +0.6**
baz=282
BR131 Keskin Array S 85.93 309 *i* P **P 16 22 05.3 -0.8**
BRTR Keskin Array B 85.93 309 P **P 16 22 04.8 -1.2**
comp=Z,2.0nm,0.8s,baz=98,slow=3.4,SNR=11
comp=Z,2.0nm,0.8s
BR104 Keskin Array S 85.93 309 P **P 16 22 04.8 -1.2**
comp=Z,3.1nm,0.9s
BR106 Keskin Array S 85.95 309 P **P 16 22 05.0 -1.1**
comp=Z,2.6nm,0.8s
BR105 Keskin Array S 85.95 309 P **P 16 22 05.0 -1.1**
comp=Z,3.5nm,0.8s
FARO Faro, Yukon 86.18 28 P **P 16 22 07.3 +0.6**
baz=284,SNR=15
A36M Sachs Harbour 86.36 17 P **P 16 22 07.5 +0.2**
baz=290,SNR=7.0
SIT Sitka 86.36 33 P **P 16 22 08.4 +0.9**
baz=282
FINES FINESS Array B 86.38 332 P **P 16 22 06.4 -1.2**
FINES FINESS Array B 86.38 332 P **P 16 22 06.9 -0.7**
comp=Z,11nm,0.6s,baz=74,slow=4.7,SNR=94
comp=Z,11nm,0.6s
N32M Quiet Lake 86.56 29 P **P 16 22 08.6 0.0**
baz=284
P32M Atlin 86.63 30 P **P 16 22 08.8 -0.1**
baz=284
S32K Killisnoo 86.67 32 P **P 16 22 09.6 +0.6**
baz=283
P33M Teslin, Yukon 86.92 29 P **P 16 22 10.9 +0.5**
baz=284
AK09 Malin Array Si 87.00 321 P **P 16 22 09.7 -1.1**
AK08 Malin Array Si 87.01 321 P **P 16 22 09.7 -1.2**
AK03 Malin Array Si 87.02 321 P **P 16 22 09.7 -1.2**
AKASG Malin Array Be 87.02 321 P **P 16 22 09.8 -1.2**
AKASG IAmb IAmb 16 22 10.9
comp=Z,6.3nm,1.1s
AKASG Malin Array Be 87.02 321 P **P 16 22 09.5 -1.4**
comp=Z,1.5nm,0.5s,baz=63,slow=5.0,SNR=15
comp=Z,1.5nm,0.5s
AKASG Malin Array Be 87.02 321 P **P 16 22 09.8 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,1.1s
AKBB Malin Array Si 87.02 321 IAmb IAmb 16 22 10.7
comp=Z,6.6nm,0.7s
AKBB Malin Array Si 87.02 321 *ce*P **P 16 22 09.7 -1.2**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
MNK Minsk 87.02 325 *i* P **P 16 22 08.7 -2.2**
MNK *i* 16 25 31.3
MNK *i* PPP PPP 16 27 25.8
MNK *i* S **SKSac 16 32 35.0 -1.4**
MNK *i* 16 32 54.7
MNK *i* SS **SS 16 38 28.6 -2.2**
MNK *i* SSS SSS 16 42 03.8
MNK pmax pmax
comp=E,22nm,0.8s
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,71nm,15.0s
MNK MLR MLR
comp=E,98nm,17.0s
MNK MLR MLR
comp=N,153nm,18.0s
KIEV Kiev 87.03 321 P **P 16 22 09.6 -1.4**
KIEV IAmb IAmb 16 22 10.6
comp=Z,5.9nm,0.7s
KIEV Kiev 87.03 321 P **P 16 22 09.6 -1.4**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
NOR Nord 87.09 355 *i* P **P 16 22 09.7 -1.0**
NOR IAmb IAmb 16 22 11.6
comp=Z,11nm,1.0s
C36M Paulatuk 87.68 20 P **P 16 22 13.8 +0.1**
baz=292
CRAG Craig 87.92 34 P **P 16 22 15.3 +0.2**
baz=284
LUBAR Lubar, Ukraine 88.10 320 P **P 16 22 14.8 -1.4**
WRAK Wrangell Islan 88.11 33 P **P 16 22 15.6 -0.5**
baz=285
SORM Soroca 88.11 318 P **P 16 22 14.9 -1.3**
S34M Telegraph Cree 88.36 31 P **P 16 22 16.5 -0.7**
baz=286
NDNU Novodnistrovsk 88.65 319 P **P 16 22 18.9 +0.1**
EUNU Eureka 88.75 5 IAmb IAmb 16 22 19.5
comp=Z,4.9nm,0.8s
KIBK Kibwezi 88.75 267 P P 16 22 15.1 -5.0
KIBK IAmb IAmb 16 22 20.5
comp=Z,8.4nm,0.8s
DLBC Dease Lake 88.77 31 P **P 16 22 19.1 -0.2**
baz=287
T35M Bob Quinn 89.07 32 P **P 16 22 20.2 -0.4**
baz=286
KMPD K-Podol'skiy 89.25 319 P **P 16 22 19.9 -1.7**
KMBO Kilima Mbogo 89.33 269 P **P 16 22 22.2 -0.8**
KMBO IAmb IAmb 16 22 23.9
comp=Z,6.9nm,1.0s
KMBO Kilima Mbogo 89.33 269 P **P 16 22 22.2 -0.8**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
VNDA Vanda 89.42 173 P **P 16 22 20.4 -1.3**
comp=Z,5.8nm,0.9s,baz=305,slow=2.8,SNR=3.8
VNDA LR LR 17 01 57.8
comp=Z,44nm,20.5s,baz=305,slow=35
comp=Z,5.8nm,0.9s
WRGLY Wrigley 90.21 25 IAmb IAmb 16 22 27.4
comp=Z,11nm,1.0s
WRGLY Wrigley 90.21 25 P **P 16 22 25.0 -0.7**
baz=292
STNU Starunia 90.47 320 P **P 16 22 26.6 -0.7**
MORS Morshin 90.74 320 P **P 16 22 28.4 -0.1**
MORS Morshin 90.74 320 P **P 16 22 28.4 -0.1**
TOAD Toad River Com 91.01 30 P **P 16 22 29.5 -0.2**
baz=291
KOTAN Kotaneelee Air 91.11 28 P **P 16 22 29.5 -0.6**
baz=292
DAG Danmarks Havn 91.26 352 P **P 16 22 29.6 -0.8**
DAG pmax pmax
comp=Z,21nm,1.4s
DAG Danmarks Havn 91.26 352 *i* P **P 16 22 29.0 -1.4**
DAG IAmb IAmb 16 22 30.4
comp=Z,15nm,0.4s
KWP Kalwaria Pacla 91.34 321 P **P 16 22 31.1 -0.3**
comp=Z,3μmcomp=Z,18nm,1.3s
HOLU Holmets 91.87 320 P **P 16 22 34.0 +0.2**
RES Resolute Bay 91.97 10 IAmb IAmb 16 22 35.3
comp=Z,7.8nm,0.8s
HFS Hagfors 92.54 332 P **P 16 22 35.5 -1.1**
comp=Z,6.2nm,0.6s,baz=96,slow=4.5,SNR=36
comp=Z,6.2nm,0.6s
NEEM North Greenlan 92.92 359 *i* P **P 16 22 38.0 -0.5**
NEEM IAmb IAmb 16 22 39.7
comp=Z,13nm,0.7s
NB2 NORSAR Subarra 93.25 334 P **P 16 22 38.4 -1.6**
comp=Z,7.2nm,1.2s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.25 334 P **P 16 22 38.4 -1.6**
baz=66,slow=4.6
NOA NORSAR Array B 93.25 334 P **P 16 22 38.6 -1.3**
comp=Z,2.9nm,0.8s,baz=65,slow=4.5,SNR=7.7
comp=Z,2.9nm,0.8s
DBG Daneborg 93.54 351 *i* P **P 16 22 39.8 -1.2**
DBG IAmb IAmb 16 22 52.7
comp=Z,34nm,1.6s
YKA Yellowknife Ar 94.17 24 P **P 16 22 44.5 +0.4**
comp=Z,4.9nm,0.6s,baz=298,slow=4.7,SNR=64
YKA PKKPbc **PKKPbc 16 39 49.4 +1.9**
comp=Z,0.3nm,0.5s,baz=135,slow=2.6,SNR=5.7
comp=Z,4.9nm,0.6s
MBAR Mbarara 95.66 270 *i* P **P 16 22 52.6 +0.4**
MBAR pmax pmax
comp=Z,2.0nm,0.9s
KULLO Kullorsuaq 95.79 1 *i* P **P 16 22 51.1 -0.2**
KULLO IAmb IAmb 16 22 52.3
comp=Z,14nm,1.0s
GERES GERESS Array B 97.15 322 P **P 16 22 57.7 -0.4**
comp=Z,1.9nm,0.9s,baz=54,slow=6.8,SNR=5.4
comp=Z,1.9nm,0.9s
SUMG Summit 97.23 355 *i* P Pdif 16 22 59.1 +0.7
SUMG IAmb IAmb 16 23 00.1
comp=Z,4.3nm,0.9s
QSPA South Pole Qui 99.63 180 P **Pdif 16 23 08.8 0.0**
comp=Z,1.6nm,1.0s,baz=294,slow=1.6,SNR=5.2
comp=Z,1.6nm,1.0s
NVAR Mina Array Bea 103.11 47 Pdiff **Pdif 16 23 24.9 -0.3**
comp=Z,0.6nm,0.6s,baz=280,slow=6.8,SNR=4.1
R11B Troy Canyon, C 105.08 46 P **Pdif 16 23 31.9 -2.0**
baz=296
N23A Red Feather La 110.29 40 P **PKiKP 16 27 57.1 -1.2**
baz=304
Q24A Divide 111.87 41 P **PKiKP 16 27 59.9 -1.4**
baz=304
T25A Trinidad 113.37 42 P **PKiKP 16 28 03.2 -0.9**
baz=304
121A Cookes Peak, D 113.41 48 P **PKiKP 16 28 03.5 -0.7**
baz=300
TXAR Lajitas Array 118.07 49 PKP **PKPdf 16 28 12.7 -0.5**
comp=Z,0.7nm,0.6s,baz=133,slow=0.6,SNR=6.6
TORD Torodi Ar. Bea 120.55 292 PKP **PKPdf 16 28 16.9 -1.2**
comp=Z,1.1nm,0.8s,baz=31,slow=3.2,SNR=6.5
833A Chaparral WMA, 121.78 48 P **PKPdf 16 28 19.3 -0.9**
baz=304
O48B Farmland 122.31 28 P **PKPdf 16 28 19.8 -1.1**
baz=322
L61B Northampton 125.19 17 P **PKPdf 16 28 25.4 -1.0**
baz=337
DBIC Dimbokro 128.75 287 PKP **PKiKP 16 28 35.1 +0.6**
comp=Z,2.0nm,0.6s,baz=343,slow=4.8,SNR=3.7
PLCA Paso Flores 145.70 157 PKPbc **PKPab 16 29 05.0 0.0**
comp=Z,7.6nm,0.7s,baz=228,slow=3.8,SNR=27
SDDR Presa de Saban 146.54 31 **PKPab 16 29 08.3 -0.4**
CPUP Villa Florida 163.15 168 PKPab **PKPab 16 30 17.1 -1.4**
comp=Z,2.0nm,1.0s,baz=170,slow=6.9,SNR=3.3
LPAZ La Paz 164.45 116 PKP **PKPdf 16 29 29.9 -0.9**
comp=Z,0.5nm,0.4s,baz=320,slow=4.1,SNR=3.7
LPAZ La Paz 164.45 116 PKIKP **PKPdf 16 29 30.0 -0.9**

JMA 08 16:11:27.1±0.1, 33°.0N±0°.4×130°.6E±0°.5, h10km±1km, MV-0.2/10, NORTHERN ARIAKEKAI REG, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.06**	**216**	P	Pg	16 11 29.1	0.0
JTA				*e*S	Sg	16 11 30.5	-0.1

---

*IDC **08** 16:15:55.7±0.6, 9°.84N×126°.44E, h0km, mb4.1/17, mbtmp4.1/17, Error ellipse: s-maj=26.8km s-min=11.6km az=84.0*
*NEIC **08** 16:15:57.3±2.8, 10°.0N±0°.1×126°.5E±0°.1, h10km±1km, mb4.6/31, Error ellipse: s-maj=22.3km s-min=14.2km az=216.0*

ISC 08 16:16:01.6±0.5, 9°.89N±0°.07×126°.4E±0°.1, h42km, n59, σ1s37/46, mb4.3/33, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.93**	**197**	Pg	**Pn**	**16 16 48.0**	**+2.4**
	87nm,0.3s,baz=331,slow=6.1,SNR=2.1						
DAV				Lg	Lg	16 17 27.7	
	92nm,0.3s,baz=37,slow=20,SNR=5.1						
SBUM	**Sibu**	**15.94**	**243**	P	**P**	**16 19 47.9**	**+1.8**
MTN	**Manton Dam**	**23.06**	**168**	P	**P**	**16 21 04.4**	**+0.9**
MYKOM	**Kota Tinggi**	**23.85**	**252**	P	**P**	**16 21 12.8**	**+1.6**
MYKOM				IAmb	IAmb	16 21 16.5	
	comp=Z,16nm,0.8s						
KNRA	**Kununurra**	**25.50**	**175**	P	**P**	**16 21 26.9**	**+0.7**
IPM	**Ipoh**	**25.77**	**260**	P	**P**	**16 21 29.4**	**+0.6**
IPM				IAmb	IAmb	16 21 37.3	
	comp=Z,9.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.82**	**182**	P	**P**	**16 21 46.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.95**	**291**	P	**P**	**16 21 49.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=102,slow=7.7,SNR=5.1						
	comp=Z,0.6nm,0.7s						
GSI	**Gunungsitoli**	**29.93**	**255**	P	**P**	**16 22 04.8**	**-1.2**
GSI				IAmb	IAmb	16 22 10.8	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**30.49**	**165**	P	**P**	**16 22 14.8**	**+4.0**
WB0				IAmb	IAmb	16 22 18.4	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**30.65**	**165**	P	**P**	**16 22 12.5**	**+0.3**
WRA	**Warramunga Arr**	**30.65**	**165**	P	**P**	**16 22 11.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=342,slow=8.2,SNR=7.0						
	comp=Z,0.5nm,0.6s						
WR0	**Warramunga Arr**	**30.71**	**165**	P	**P**	**16 22 12.6**	**-0.2**
WR0				IAmb	IAmb	16 22 49.4	
	comp=Z,6.1nm,1.2s						
PSA00	**Pilbara Seismi**	**31.93**	**192**	P	**P**	**16 22 21.4**	**-2.0**
AS31	**Alice Springs**	**34.14**	**168**	P	**P**	**16 22 41.6**	**-1.1**
ASAR	**Alice Springs**	**34.14**	**168**	P	**P**	**16 22 42.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=348,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**16 25 18.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=351,slow=2.4,SNR=4.4						
	comp=Z,0.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.52**	**7**	P	**P**	**16 22 47.8**	**+2.0**
	comp=Z,1.7nm,0.9s,baz=224,slow=6.0,SNR=2.5						
	comp=Z,1.7nm,0.9s						
H11S3	**WAKE ISLAND Hy 39.87**	**73**		T	T	17 06 26.3	
	baz=262,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy 39.89**	**73**		T	T	17 06 28.1	
	baz=262,slow=74,SNR=7.5						
H11S2	**WAKE ISLAND Hy 39.89**	**73**		T	T	17 06 29.1	
	baz=262,slow=74,SNR=7.3						
H11N1	**WAKE ISLAND Hy 40.22**	**71**		T	T	17 06 56.3	
	baz=265,slow=74,SNR=31						
H11N2	**WAKE ISLAND Hy 40.23**	**71**		T	T	17 06 58.9	
	baz=265,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy 40.24**	**71**		T	T	17 06 57.7	
	baz=265,slow=74,SNR=26						
FORT	**Forrest**	**40.46**	**178**	P	**P**	**16 23 35.6**	**-0.6**
ULN	**Ulaanbaatar**	**41.23**	**340**	P	**P**	**16 23 38.6**	**-4.1**
SONM	**Songino Array**	**41.43**	**340**	P	**P**	**16 23 45.7**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=156,slow=9.4,SNR=5.7						
	comp=Z,1.0nm,0.6s						
BBOO	**Buckleboo**	**43.44**	**168**	P	**P**	**16 23 59.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**43.47**	**191**	P	**P**	**16 24 00.4**	**-0.3**
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**16 24 03.7**	**-1.3**
STKA				IAmb	IAmb	16 24 12.7	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**16 24 03.8**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=336,slow=10,SNR=4.8						
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**52.43**	**323**	P	**P**	**16 25 09.6**	**-0.4**
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**16 25 09.0**	**-1.0**
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**16 25 10.5**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=122,slow=8.2,SNR=20						
MKAR				PcP	**PcP**	**16 26 20.8**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=113,slow=5.1,SNR=2.3						
	comp=Z,2.1nm,0.6s						
MAKZ	**Makanchi**	**52.62**	**323**	P	**P**	**16 25 11.4**	**0.0**
ZALV	**Zalesovo Beam**	**55.04**	**331**	P	**P**	**16 25 28.6**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=116,slow=5.5,SNR=1.2						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**56.47**	**326**	P	**P**	**16 25 37.0**	**-2.3**
KURBB	**Kurchatov Arra**	**56.48**	**325**	P	**P**	**16 25 39.6**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=127,slow=6.8,SNR=14						
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**62.07**	**325**	P	**P**	**16 26 18.1**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=129,slow=12,SNR=4.4						
	comp=Z,0.9nm,0.4s						
NRIK	**Noril'sk**	**64.42**	**346**	P	**P**	**16 26 33.2**	**0.0**
	comp=Z,2.9nm,0.7s,baz=149,slow=2.2,SNR=7.1						
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**67.27**	**319**	P	**P**	**16 26 50.2**	**-1.7**
L14K	**Kuka Creek**	**72.24**	**29**	P	**P**	**16 27 23.3**	**+1.1**
B21K	**Ikpikpuk River**	**76.94**	**21**	IAmb	IAmb	16 27 56.4	
	comp=Z,6.1nm,1.2s						
BPAW	**Bear Paw Mtn.**	**77.92**	**26**	IAmb	IAmb	16 27 57.6	
	comp=Z,2.8nm,1.0s						
C23K	**Itkillik River**	**78.35**	**21**	IAmb	IAmb	16 28 00.4	
	comp=Z,8.7nm,1.0s						
COLD	**Coldfoot**	**78.38**	**23**	IAmb	IAmb	16 28 01.1	
	comp=Z,3.5nm,1.0s						

E23K	**Chandalar**	78.63	22	IAmb	IAmb	16 28 02.8
	comp=Z,8.0nm,1.1s					
F24K	**Squaw Lake**	79.28	23	IAmb	IAmb	16 28 06.0
	comp=Z,3.3nm,0.9s					
ILAR	**Eielson Array**	79.71	26	P	P	16 28 04.3 -0.4
	comp=Z,0.6nm,0.8s,baz=228,slow=4.7,SNR=6.6					
	comp=Z,0.6nm,0.8s					
F28M	**Old Crow**	82.34	23	IAmb	IAmb	16 28 22.4
	comp=Z,3.3nm,0.9s					
I28M	**Miner Creek**	82.59	25	P	P	16 28 19.4 -0.8
I28M				IAmb	IAmb	16 28 26.3
	comp=Z,3.3nm,0.8s					
L29M	**L29M**	83.71	27	IAmb	IAmb	16 28 30.2
	comp=Z,7.0nm,1.1s					
I30M	**Mount Dempster**	84.10	25	IAmb	IAmb	16 28 32.7
	comp=Z,3.5nm,0.9s					
ARCES	**ARCESS Array B**	84.61	340	P	P	16 28 31.1 +0.8
	comp=Z,3.3nm,0.7s,baz=76,slow=5.6,SNR=14					
	comp=Z,3.3nm,0.7s					
H31M	**Peel River**	84.81	24	P	P	16 28 31.6 +0.2
H31M				IAmb	IAmb	16 28 36.5
	comp=Z,4.8nm,0.9s					
FINES	**FINESS Array B**	86.30	332	P	P	16 28 39.3 +0.5
	comp=Z,2.4nm,0.5s,baz=74,slow=5.0,SNR=21					
	comp=Z,2.4nm,0.5s					
AKASG	**Malin Array Be**	86.96	321	P	P	16 28 41.6 -0.7
	comp=Z,0.3nm,0.4s,baz=66,slow=5.3,SNR=4.2					
	comp=Z,0.3nm,0.4s					
HFS	**Hagfors**	92.46	332	P	P	16 29 07.7 -0.2
	comp=Z,1.1nm,0.5s,baz=86,slow=8.0,SNR=7.3					
	comp=Z,1.1nm,0.5s					
YKA	**Yellowknife Ar**	94.04	24	P	P	16 29 16.9 +1.7
	comp=Z,0.8nm,0.7s,baz=298,slow=4.7,SNR=11					
	comp=Z,0.8nm,0.7s					
PLCA	**Paso Flores**	145.79	157	PKPbc	PKPab	16 35 37.0 0.0
	comp=Z,1.6nm,0.9s,baz=272,slow=6.3,SNR=3.7					

*UCR **08** 16:16:17.3±1.0, 10°.98N×85°.10W, h215km±10km, MW3.9*
*CATAC **08** 16:16:18.6±0.6, 11°.N±4°.×8°.5W±°., h207km±5km, M3.6/10, MLv3.6/10, Error ellipse: s-maj=12.5km s-min=4.5km az=46.4, confirmed*

ISC 08 16:16:19.7±1.8, 10°.90N±0°.06×85°.08W±0°.07, h204km±11km, n66, σ0°.85/69, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HORNC	**Hornillas**	0.21	208	*e*P	Pn	16 16 46.5	-0.2
TENO	**El Achiote**	0.22	153	*e*P	Pn	16 16 47.0	+0.3
CUI	**Cuipilapa**	0.25	200	*e*P	Pn	16 16 46.5	-0.2
VRLE	**La Escondida,**	0.30	249	*e*P	Pn	16 16 46.6	-0.3
GPS2	**Hotel Rincn d**	0.31	242	*e*P	Pn	16 16 46.3	-0.6
ARE1	**Arenal 1**	0.56	141	*e*P	Pn	16 16 47.7	+0.1
VARE2	**V. Arenal**	0.56	141	*e*P	Pn	16 16 47.7	0.0
LCRUZ	**La Cruz**	0.57	288	*e*P	Pn	16 16 46.9	-0.7
VACR	**Volcan Arenal**	0.58	137	*e*P	Pn	16 16 47.7	0.0
PLVR	**Palo Verde**	0.61	206	*e*P	Pn	16 16 47.6	-0.5
JTS	**Las Juntas de**	0.61	168	*e*P	Pn	16 16 47.3	-0.6
SOCE	**Pocosol**	0.68	139	*e*P	Pn	16 16 48.0	-0.3
SOCE	**Pocosol**	0.68	139	P	Pn	16 16 47.9	-0.3
SOCE	**Pocosol**	0.68	139	P	Pn	16 16 48.2	0.0
COVE	**Coope Vega, Sa**	0.69	105	P	Pn	16 16 47.0	-1.1
COVE	**Coope Vega, Sa**	0.69	105	S	S	16 17 10.1	+0.1
COVE	**Coope Vega, Sa**	0.69	105	P	Pn	16 16 46.9	-1.2
NICO	**Nicoya**	0.84	206	*e*P	Pn	16 16 48.3	-0.7
JAPN	**Al SSO del Vol**	0.86	317	P	Pn	16 16 49.1	+0.1
ACON	**Acoyapa**	1.07	355	*e*P	Pn	16 16 50.1	-0.2
ACON	**Acoyapa**	1.07	355	P	Pn	16 16 49.9	-0.5
INDI	**Punta indio, G**	1.11	202	P	Pn	16 16 49.8	-0.9
INDI	**Punta indio, G**	1.11	202	P	Pn	16 16 49.8	-0.9
INDI	**Punta indio, G**	1.11	202	S	S	16 17 12.3	-2.3
TCS1	**Tacares**	1.14	138	*e*P	Pn	16 16 50.6	-0.4
VBV1	**V. Barva**	1.24	129	*e*P	Pn	16 16 51.5	-0.5
NADN	**Granada**	1.26	312	P	Pn	16 16 50.8	-1.0
SANTA	**Santa Ana**	1.30	137	*e*P	Pn	16 16 51.8	-0.5
CBL1	**Cabuya**	1.30	181	*e*P	Pn	16 16 52.5	+0.4
TRT2	**Tortugero**	1.36	104	P	Pn	16 16 52.0	-0.7
LUJA	**Lujan**	1.38	134	*e*P	Pn	16 16 53.8	+0.9
AMPA	**Desamparados**	1.41	135	*e*P	Pn	16 16 52.7	-0.5
ACOS	**Acosta**	1.42	141	*e*P	Pn	16 16 53.1	-0.2
CVTG	**V. Turrialba,**	1.48	120	*e*P	Pn	16 16 53.4	-0.3
ESPN	**Las Esperanzas**	1.50	30	P	Pn	16 16 52.9	-0.9
ESPN	**Las Esperanzas**	1.50	30	P	Pn	16 16 53.2	-0.6
VICA	**Volcano Irazu**	1.52	127	*e*P	Pn	16 16 53.9	-0.6
PICV	**PH. Pirrs**	1.53	145	*e*P	Pn	16 16 54.5	+0.3
ABE2	**San Pablo**	1.56	140	*e*P	Pn	16 16 54.5	-0.1
RAFA	**San Farael, Vo**	1.56	127	P	Pn	16 16 53.9	-0.8
RAFA	**San Farael, Vo**	1.56	127	P	Pn	16 16 55.3	+0.6
LCR2	**La Lucha 2**	1.56	137	*e*P	Pn	16 16 54.3	-0.3
CVTR	**Volcan Turrial**	1.56	124	*e*P	Pn	16 16 54.1	-0.7
CVTQ	**Turrialba Volc**	1.56	124	*e*P	Pn	16 16 54.7	-0.1
PISJ	**San Jernim**	1.57	143	*e*P	Pn	16 16 54.5	-0.1
CVTV	**Tajo**	1.58	124	*e*P	Pn	16 16 54.3	-0.6
BOAB	**BOACO BROADBAN**	.65	340	P	Pn	16 16 54.1	-1.0
VERB	**Verbena**	1.66	125	*e*P	Pn	16 16 55.2	-0.2
COPN	**Copaltepe**	1.96	311	P	Pn	16 16 57.7	-0.4
MOM2	**El Cardon**	2.06	318	P	Pn	16 16 58.8	-0.4
MOMN	**Momotombo**	2.08	316	P	Pn	16 16 59.2	-0.2
MOMN				S	S	16 17 31.4	+1.6
LEVN	**Ruinas Leon Vi**	2.12	315	P	Pn	16 16 58.5	-1.3
LEVN				S	S	16 17 33.1	+2.6
MACN	**El Madrono**	2.21	315	P	Pn	16 17 00.1	-0.6
OCHAL	**Ojochal**	2.28	142	S	S	16 17 33.9	+0.4
OCHAL	**Ojochal**	2.28	142	P	Pn	16 17 01.6	+0.1
OCHAL	**Ojochal**	2.28	142	P	Pn	16 17 02.5	+1.0
LIMN	**Finca el Limon**	2.49	330	P	Pn	16 17 03.1	-0.8
PKGN	**Cerro Pekin**	2.56	314	P	Pn	16 17 04.5	0.0
PKGN				S	S	16 17 40.5	+1.4
CRIN	**San Cristobal**	2.63	313	S	S	16 17 42.2	+1.6
CRIN	**San Cristobal**	2.63	313	P	Pn	16 17 04.9	-0.6
EDAD	**Golfito**	2.92	140	*e*P	Pn	16 17 08.0	-0.8
ALCO	**Alturas Coton,**	2.94	131	*e*P	Pn	16 17 08.6	-0.5
PIRO	**Carate, Puerto**	3.01	145	*e*P	Pn	16 17 10.6	+0.8
CHOHN	**Orocuina**	3.27	322	P	Pn	16 17 11.1	-1.9
CNCH	**Conchagua**	3.59	312	P	Pn	16 17 14.9	-1.8
PACA	**Pacayal**	4.08	309	P	Pn	16 17 22.2	-0.5

*IDC **08** 16:21:49.2±1.0, 9°.85N×126°.65E, h0km, mb3.5/8, mbtmp3.5/8, MS3.0/1, Error ellipse: s-maj=42.4km s-min=20.7km az=68.0*

ISC 08 16:21:55.3±1.0, 9°.8N±0°.2×126°.6E±0°.2, h42km, n15, σ1°.36/8, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	2.90	201	LR	LR	16 23 35.8	
	comp=Z,235nm,20.0s,baz=33,slow=36						
CMAR	**Chiang Mai Arr**	28.17	291	P	P	16 27 45.0	+1.0
	0.2nm,0.3s,baz=104,slow=8.7,SNR=4.4						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	30.51	166	P	P	16 28 04.0	-0.6
	0.7nm,0.9s,baz=347,slow=8.7,SNR=1.4						
	0.7nm,0.9s						
ASAR	**Alice Springs**	34.01	168	P	P	16 28 35.8	+0.4
	0.2nm,0.3s,baz=346,slow=7.3,SNR=8.2						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	39.71	73	T	T	17 12 23.1	
	baz=261						
H11S1	**WAKE ISLAND Hy**	39.73	73	T	T	17 12 23.8	
	baz=261						
H11S2	**WAKE ISLAND Hy**	39.73	73	T	T	17 12 24.8	
	baz=261						
H11N1	**WAKE ISLAND Hy**	40.07	71	T	T	17 12 43.4	
	baz=265,slow=74,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	40.07	71	T	T	17 12 46.5	
	baz=265,slow=74,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	40.08	71	T	T	17 12 49.6	
	baz=265						
SONM	**Songino Array**	41.59	339	P	P	16 29 40.1	+1.0
	0.4nm,0.5s,baz=176,slow=5.6,SNR=3.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	52.62	323	P	P	16 31 03.4	-1.7
	0.4nm,0.6s,baz=112,slow=8.0,SNR=3.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	56.67	325	P	P	16 31 32.4	-1.9
	0.4nm,0.7s,baz=117,slow=6.9,SNR=5.4						
	0.4nm,0.7s						
ILAR	**Eielson Array**	79.71	26	P	P	16 33 58.8	+0.3
	0.2nm,0.7s,baz=268,slow=7.9,SNR=4.4						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	94.04	24	P	P	16 35 09.2	+0.3
	0.2nm,0.6s,baz=301,slow=4.9,SNR=5.3						
	0.2nm,0.6s						

*FCIAR **08** 16:30:12.7, 71°.02N×4°.85W, h0km, station SPA0 has station magnitude of 4.60*
*NAO **08** 16:30:18.5±2.1, 71°.54N×3°.12W, ML4.1*
*NEIC **08** 16:30:20.0±1.3, 71°.56N±0°.09×3°.08W±0°.09, h10km±2km, mb4.6/13, Error ellipse: s-maj=14.9km s-min=3.9km az=169.0*
*IDC **08** 16:30:20.6±0.6, 71°.53N×2°.96W, h0km, mb3.7/18, mbtmp3.8/23, ML3.6/5, MS3.8/41, Error ellipse: s-maj=15.9km s-min=11.8km az=42.0*
*BER **08** 16:30:22.2±3.7, 71°.53N×3°.26W, h10km, mb(Pn)4.5, ML4.1(NAO), Confirmed Earthquake*
*GCMT **08** 16:30:32.0±0.3, 71°.60N±0°.03×3°.04W±0°.09, h18km±1km, MW4.8/99, Moment Tensor Solution. s20,c20; s99,c132; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.30±.15; $M_{\theta\theta}$1.15±.10; $M_{\phi\phi}$1.14±.09; $M_{r\theta}$-0.27±.28; $M_{\theta\phi}$0.64±.06; $M_{\phi r}$-0.10±.23; Best double couple: $M_0$2.06400×10^16^ NP1:φb223.00000°, δ41.00000°, λ-94.00000°. NP2: φs48.00000°, δ49.00000°, λ-87.00000°. Principal axes: T 1.8060, Plg4.0000°, Azm136.0000°; N 0.5060, Plg2.0000°, Azm226.0000°; P -2.3220, Plg86.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **08** 16:31:46.0±1.4, 68°.80N×14°.04E, h0km, ML2.8(UPP), Suspected explosion*
*UPP **08** 16:31:47.1±2.3, 68°.82N×14°.21E, h0km, ML2.8*

ISC 08 16:30:21.2±0.4, 71°.51N±0°.05×3°.00W±0°.04, h10km, n211, σ2°.12/183, mb4.2/35, MS3.7/37, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	1.79	256	*e*P	Pn	16 30 49.5	-2.6
JNE				*e*S	Sn	16 31 10.0	-4.8
JNE				IAML		16 31 31.9	
	comp=Z,108nm,0.5s						
JNW	**Jan Mayen West**	1.82	257	*e*P	Pn	16 30 50.7	-1.7
JNW				IAML		16 31 43.4	
	comp=Z,97nm,0.4s						
JMIC	**Jan Mayen**	1.85	256	*e*S	Sn	16 31 14.6	-1.8
JMIC				IAML		16 31 41.0	
	comp=Z,84nm,0.5s						
JMIC	**Jan Mayen**	1.85	256	Pn	Pn	16 30 53.7	+0.7
	comp=Z,11nm,0.3s,baz=158,slow=10,SNR=2.0						
JMIC				Sn	Sn	16 31 11.3	-5.1
	comp=Z,7.8nm,0.3s,baz=161,slow=20,SNR=1.8						
DBG	**Daneborg**	5.79	307	Pn	Pn	16 31 43.1	-3.9
DBG	**Daneborg**	5.79	307	*e*P	Pn	16 31 42.9	-4.1
DBG				*e*S	Sn	16 32 42.3	-11
DBG	**Daneborg**	5.79	307	*i* P	Pn	16 31 42.7	-4.2
DBG				*i* S	Sn	16 32 42.5	-11
DBG				IAML		16 32 56.2	
	comp=Z,7.4nm,0.3s						
SCO	**Scoresbysund**	6.27	270	Pn	Pn	16 31 51.4	-2.1
SCO	**Scoresbysund**	6.27	270	*i* P	Pn	16 31 51.0	-2.5
LOF	**Lofoten**	6.63	113	Pn	Pn	16 31 57.2	-1.4
LOF	**Lofoten**	6.63	113	Pn	Pg	16 32 24.5	-3.6
LOF	**Lofoten**	6.63	113	*e*P	Pn	16 31 57.2	-1.4
LOF				IAML		16 31 59.7	
	comp=Z,17nm,0.5s						
DAG	**Danmarks Havn**	6.78	328	*e*P	Pn	16 31 57.4	-3.1
DAG				*e*S	Sn	16 33 10.1	-7.5
DAG	**Danmarks Havn**	6.78	328	*i* P	Pn	16 31 57.2	-3.4
DAG				*i* S	Sn	16 33 03.7	-14
DAG				IAML		16 33 12.8	
	comp=Z,19nm,0.3s						
STEI	**Steigen**	7.26	111	Pn	Pn	16 32 06.6	-0.6
STEI	**Steigen**	7.26	111	Pn	Pg	16 32 33.7	-6.4
STEI	**Steigen**	7.26	111	*e*P	Pn	16 32 06.1	-1.0
STEI				IAML		16 32 07.0	
	comp=Z,38nm,0.5s						
HSPB	**Hornsund (broa**	7.43	34	Pn	Pn	16 32 08.8	-0.6
HSPB	**Hornsund (broa**	7.43	34	Pn	Pb	16 32 35.9	+5.9
HSPB	**Hornsund (broa**	7.43	34	*e*P	Pn	16 32 08.6	-0.8
HSPB				IAML		16 32 09.3	
	comp=Z,4.7nm,0.2s						
TRO	**Tromso**	7.53	94	Pn	Pn	16 32 08.5	-2.3
TRO	**Tromso**	7.53	94	Pn	Pb	16 32 35.3	+3.6
TRO	**Tromso**	7.53	94	*e*P	Pn	16 32 08.8	-2.0
TRO				IAML		16 32 09.8	
	comp=Z,13nm,0.5s						
FAUS	**Fauske**	7.63	114	*e*P	Pn	16 32 11.4	-0.8
FAUS				IAML		16 32 15.9	
	comp=Z,16nm,0.5s						
KONS	**Konsvik**	7.64	123	Pn	Pn	16 32 11.6	-0.8
KONS	**Konsvik**	7.64	123	Pn	Pb	16 32 39.0	+5.4
KONS	**Konsvik**	7.64	123	*e*P	Pn	16 32 11.6	-0.8
KONS				IAML		16 32 13.6	
	comp=Z,16nm,0.5s						
KONS				*e*S	Sn	16 33 32.4	-6.4
STOK	**Stokkvaagen**	7.74	124	Pn	Pn	16 32 12.8	-0.9
STOK	**Stokkvaagen**	7.74	124	Pn	Pb	16 32 40.6	+5.3
STOK	**Stokkvaagen**	7.74	124	*e*P	Pn	16 32 12.9	-0.8
STOK				*e*S	Sn	16 33 32.8	-8.5
LEIR	**Leirfjorden**	7.94	125	*e*P	Pn	16 32 15.2	-1.2
LEIR				IAML		16 32 16.6	
	comp=Z,31nm,0.7s						
LEIR				*e*S	Sn	16 33 37.9	-8.2
BRBA	**Barentsburg A**	7.94	26	*e*P	Pn	16 32 16.9	+0.5
BRBB	**Barentsburg B**	7.96	26	Pn	Pn	16 32 16.3	-0.4
BRBB	**Barentsburg B**	7.96	26	*e*P	Pn	16 32 16.7	0.0
JETT	**Jettan, Norway**	8.03	93	Pn	Pn	16 32 16.2	-1.6
JETT	**Jettan, Norway**	8.03	93	Pn	Pb	16 32 43.6	+3.3
JETT	**Jettan, Norway**	8.03	93	Pn	Pn	16 32 16.2	-1.6
MOR8	**Moi Rana**	8.24	122	Pn	Pn	16 32 20.7	+0.1
MOR8	**Moi Rana**	8.24	122	Pn	Pb	16 32 48.2	+4.4
MOR8	**Moi Rana**	8.24	122	*e*P	Pn	16 32 20.8	+0.1
KBS	**Kingsbay**	8.33	20	Pn	Pn	16 32 18.3	-3.5
KBS	**Kingsbay**	8.33	20	*e*P	Pn	16 32 22.3	+0.5
KBS	**Kingsbay**	8.33	20	*e*P	Pn	16 32 20.4	-1.5
SPA0	**Spitsbergen Ar**	8.34	28	Pn	Pn	16 32 22.1	+0.2
	baz=205,slow=14						
SPA0	**Spitsbergen Ar**	8.34	28	Pn	Pb	16 32 49.4	+3.9
	baz=218,slow=14						
SPA0	**Spitsbergen Ar**	8.34	28	Pn	Pn	16 32 22.1	+0.2
	baz=205,slow=14						
SPA0	**Spitsbergen Ar**	8.34	28	*e*P	Pn	16 32 21.8	-0.1
SPB2	**Spitsbergen Ar**	8.34	28		Pn	16 32 19.9	-2.0
SPITS	**Spitsbergen Ar**	8.34	28	Pn	Pn	16 32 22.2	+0.2
	baz=205,slow=15						
	comp=Z,3.3nm,0.3s						
KIF	**Kilpisjarvi**	8.41	96	Pn	Pn	16 32 21.5	-1.3
KIF	**Kilpisjarvi**	8.41	96	Pn	Pb	16 32 48.6	+2.0
KIF	**Kilpisjarvi**	8.41	96	Pn	Pn	16 32 21.5	-1.3
SALU	**Saltoluokta**	8.59	108	*e*P	Pn	16 32 25.4	+0.1
SALU	**Saltoluokta**	8.59	108	P	Pn	16 32 25.0	-0.4
SALU				S	Pg	16 32 52.4	-13
SALU	**Saltoluokta**	8.59	108	P	Pn	16 32 25.0	-0.4
SALU				S	Pg	16 32 52.4	-13
RATU	**Laukkuluspa**	8.65	104	P	Pn	16 32 25.6	-0.6
RATU				S	Pg	16 32 52.8	-14
RATU	**Laukkuluspa**	8.65	104	P	Pn	16 32 25.6	-0.6
RATU				S	Pg	16 32 52.8	-14
KUA	**Kurravaara**	8.81	102	P	Pn	16 32 27.7	-0.6
KUA	**Kurravaara**	8.81	102	P	Pn	16 32 27.7	-0.6
NSS	**Namsos**	8.94	134	*e*P	Pn	16 32 30.1	-0.1
NSS				IAML		16 34 17.9	
	comp=Z,11nm,0.4s						
HOPEN	**Hopen**	9.12	44	*e*P	Pn	16 32 32.6	+0.1
HOPEN	**Hopen**	9.12	44	*e*P	Pn	16 32 32.7	+0.2
KTK1	**Kautokeino**	9.18	93	*e*P	Pn	16 32 32.5	-0.9
KTK1				IAML		16 32 33.4	
	comp=Z,6.2nm,0.6s						
DUNU	**Dundret**	9.38	106	P	Pn	16 32 35.4	-0.8
DUNU	**Dundret**	9.38	106	P	Pn	16 32 35.4	-0.8
BORG	**Borgarnes**	9.58	234	LR	LR	16 35 48.0	
	comp=Z,239nm,21.2s,baz=322,slow=34						
HEF	**Hetta**	9.61	96	Pn	Pn	16 32 37.9	-1.5
HEF	**Hetta**	9.61	96	Pn	Pn	16 33 04.9	+26
HEF	**Hetta**	9.61	96	Pn	Pn	16 32 37.9	-1.5
ARA0	**ARCESS Array S**	9.67	88	Pn	Pn	16 32 38.4	-1.7
	baz=292,slow=12						
ARA0	**ARCESS Array S**	9.67	88	Pn	Pn	16 32 38.4	-1.7
	baz=292,slow=12						
ARA0				IAML		16 32 40.1	
	comp=Z,2.3nm,0.3s						
ARCES	**ARCESS Array B**	9.67	88	Pn	Pn	16 32 38.9	-1.2
ARCES	**ARCESS Array B**	9.67	88	Pn	Pn	16 32 38.2	-1.9
	comp=Z,0.7nm,0.3s,baz=291,slow=12,SNR=99						
TBLU	**Trondheim**	9.70	142	*e*P	Pn	16 32 39.5	-1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	10.05	86	Pn	Pn	16 32 43.4	-2.0
KEV	**Kevo**	10.05	86	Pn	Pn	16 32 44.0	-1.4
KEV	**Kevo**	10.05	86	Pn	Pn	16 32 43.4	-2.0
HARU	**Harads**	10.12	110	P	Pn	16 32 45.2	-1.1
HARU	**Harads**	10.12	110	P	Pn	16 32 45.2	-1.1
AKN	**Aaknes**	10.14	152	Pn	Pn	16 32 46.1	-0.5
AKN	**Aaknes**	10.14	152	Pn	Pn	16 32 46.1	-0.5
PAJU	**Pajala**	10.22	103	P	Pn	16 32 46.4	-1.4
PAJU	**Pajala**	10.22	103	P	Pn	16 32 46.4	-1.4
ERTU	**Ertsjaerv**	10.23	107	P	Pn	16 32 47.0	-0.9
ERTU	**Ertsjaerv**	10.23	107	P	Pn	16 32 47.0	-0.9
LILU	**Lilltraesk**	10.41	115	P	Pn	16 32 50.5	+0.2
LILU	**Lilltraesk**	10.41	115	P	Pn	16 32 50.5	+0.2
NOR	**Nord**	10.58	349	*i* P	Pn	16 32 50.0	-2.5
SJUU	**Sjulsmark**	10.77	112	P	Pn	16 32 54.3	-0.8
SJUU	**Sjulsmark**	10.77	112	P	Pn	16 32 54.3	-0.8
SUMG	**Summit**	10.89	292		Pn	16 32 54.9	-2.3
SUMG	**Summit**	10.89	292	*i* P	Pn	16 32 55.9	-1.2
SUE	**Sulen**	10.93	160	*e*P	Pn	16 32 56.5	-0.9
KALU	**Kalix**	11.05	108	P	Pn	16 32 57.6	-1.4
KALU	**Kalix**	11.05	108	P	Pn	16 32 57.6	-1.4
NC204	**NORSAR Array S**	11.61	145	Pn	Pn	16 33 06.1	-0.7
NC303	**NORSAR Array S**	11.77	144		Pn	16 33 08.4	-0.5
NBO00	**NORSAR Array S**	11.84	146	Pn	Pn	16 33 08.2	-1.7
NB2	**NORSAR Subarra**	11.91	145	Pn	Pn	16 33 11.2	+0.3
NB2	**NORSAR Subarra**	11.91	145	Pn	Pn	16 33 11.2	+0.3
NOA	**NORSAR Array B**	11.91	145	Pn	Pn	16 33 10.7	-0.2
	comp=Z,0.1nm,0.3s,baz=337,slow=13,SNR=9.7						
NOA				LR	LR	16 37 54.6	
	comp=Z,655nm,20.8s,baz=335,slow=38						
	comp=Z,4.7nm,0.9s						
NC405	**NORSAR Array S**	11.94	143	Pn	Pn	16 33 10.4	-0.8
NRA0	**NORESS Array S**	12.26	144	Pn	Pn	16 33 16.0	+0.5
	baz=326,slow=14						
NRA0	**NORESS Array S**	12.26	144	Pn	Pn	16 33 16.0	+0.5
	baz=326,slow=14						
VAF	**Ylistaro**	12.93	118	*e*P	Pn	16 33 24.6	-0.1
APA0	**Apatity Array**	13.01	90	Pn	Pn	16 33 23.9	-1.8
	baz=291,slow=12						
APA0	**Apatity Array**	13.01	90	Pn	P	16 33 50.6	+14
	baz=307,slow=11						
APA0	**Apatity Array**	13.01	90	Pn	Pn	16 33 23.9	-1.8
	baz=291,slow=12						
HFS	**Hagfors**	13.23	141	Pn	Pn	16 33 28.5	-0.2
	baz=342,slow=12						
HFS	**Hagfors**	13.23	141	Pn	P	16 33 55.6	+17
	baz=336,slow=14						
HFS	**Hagfors**	13.23	141	Pn	Pn	16 33 28.5	-0.2
	baz=342,slow=12						
HFS	**Hagfors**	13.23	141	Pn	Pn	16 33 28.6	-0.2
	comp=Z,1.7nm,0.3s,baz=338,slow=11,SNR=45						
HFS				LR	LR	16 38 45.7	
	comp=Z,673nm,20.3s,baz=350,slow=38						
	comp=Z,16nm,0.6s						
KEF	**Keuruu**	14.24	117	*e*P	Pn	16 33 41.8	-0.8
ZFI2	**Zemlya Franca-**	14.55	30	*e*P	Pn	16 33 47.6	+0.8
	comp=Z,37nm,1.9s						
OMEGA	**Omega**	14.56	30	*e*P	Pn	16 33 47.6	+0.7
	comp=Z,22nm,1.4s						
FIA0	**FINESS Array S**	15.17	117	P	Pn	16 33 53.6	-1.5
	baz=329,slow=8.6						
FIA0	**FINESS Array S**	15.17	117	P	P	16 34 20.4	+20
FIA0	**FINESS Array S**	15.17	117	P	Pn	16 33 53.6	-1.5
	baz=329,slow=8.6						
FIA1	**FINESS Array S**	15.17	117		Pn	16 33 54.4	-0.7
FINES	**FINESS Array B**	15.17	117		Pn	16 33 53.0	-2.1
FINES	**FINESS Array B**	15.17	117	Pn	Pn	16 33 54.0	-1.1
	comp=Z,0.3nm,0.3s,baz=336,slow=11,SNR=16						
FINES				LR	LR	16 39 29.7	
	comp=Z,811nm,18.2s,baz=344,slow=36						
	comp=Z,16nm,0.9s						
JOF	**Joensuu**	15.58	106	*e*P	Pn	16 33 57.6	-2.9
EKA	**Eskdalemuir Ar**	16.24	180	Pn	Pn	16 34 09.8	+0.8
	baz=357,slow=12						
	comp=Z,0.7nm,0.3s

comp=Z,237nm,21.1s,baz=322,slow=35
SCHQ Schefferville 31.31 272 LR LR 16 48 42.6
comp=Z,266nm,18.0s,baz=26,slow=35
ESDC Sonseca Array 31.91 181 P **P** **16 36 49.0 +2.6**
comp=Z,1.3nm,1.0s,baz=347,slow=11,SNR=4.4
ESDC LR LR 16 49 05.0
comp=Z,104nm,18.2s,baz=9.0,slow=35
comp=Z,1.3nm,1.0s
ALN Alexandroupoli 33.94 139 P **P** **16 37 03.9 -0.3**
ALN IAmb IAmb 16 37 42.3
comp=Z,12nm,1.1s
VAE Valguarnera 35.27 156 LR LR 16 50 19.1
comp=Z,113nm,21.2s,baz=22,slow=34
KBZ Khabaz 35.53 116 P **P** **16 37 19.8 +2.0**
comp=Z,1.8nm,0.8s,baz=335,slow=8.0,SNR=5.4
comp=Z,1.8nm,0.8s
BVAR Borovoye Array 35.87 81 P **P** **16 37 22.3 +1.6**
comp=Z,1.4nm,0.7s,baz=331,slow=12,SNR=6.6
comp=Z,1.4nm,0.7s
KEST Kesra 36.42 163 LR LR 16 53 06.8
comp=Z,154nm,18.3s,baz=20,slow=38
BRTR Keskin Array B 36.80 130 P **P** **16 37 31.4 +2.6**
comp=Z,1.7nm,0.7s,baz=351,slow=6.5,SNR=10.0
BRTR LR LR 16 53 58.7
comp=Z,119nm,19.6s,baz=332,slow=38
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 38.30 316 P **P** **16 37 42.7 +1.6**
comp=Z,0.7nm,1.0s,baz=28,slow=8.3,SNR=6.5
YKA PcP **PcP** **16 39 55.2 +0.5**
comp=Z,0.7nm,0.7s,baz=26,slow=2.4,SNR=10
YKA LR LR 16 52 32.5
comp=Z,165nm,20.8s,baz=358,slow=35
comp=Z,0.7nm,1.0s
G29M Pine Creek 38.57 333 P **P** **16 37 41.7 -1.8**
G29M IAmb IAmb 16 37 57.6
comp=Z,8.8nm,0.9s
MDT Midelt 38.76 182 LR LR 16 52 30.9
comp=Z,58nm,20.8s,slow=34
IDI Anoyia 39.12 143 LR LR 16 56 02.2
comp=Z,124nm,19.2s,baz=320,slow=39
ZALV Zalesovo Beam 39.50 68 LR LR 16 56 57.3
comp=Z,68nm,22.0s,baz=328,slow=40
C16K Lisburne Hills 39.97 350 P **P** **16 37 54.8 -0.3**
C16K IAmb IAmb 16 38 02.1
comp=Z,21nm,1.4s
F20K Avaraart Lake 40.49 344 P **P** **16 37 59.3 -0.1**
F20K IAmb IAmb 16 38 14.5
comp=Z,7.8nm,1.0s
KURBB Kurchatov Arra 40.49 76 P **P** **16 38 00.3 +0.8**
comp=Z,0.8nm,0.9s,baz=334,slow=7.2,SNR=6.4
comp=Z,0.8nm,0.9s
E18K Tukpahlearik C 40.51 347 P **P** **16 37 58.0 -1.6**
ILAR Eielson Array 41.78 338 P **P** **16 38 09.8 -0.2**
comp=Z,1.1nm,1.0s,baz=8.6,slow=6.2,SNR=10
ILAR PcP **PcP** **16 40 05.3 -0.6**
comp=Z,0.5nm,0.8s,baz=345,slow=5.0,SNR=4.3
ILAR LR LR 16 57 17.4
comp=Z,96nm,20.4s,baz=342,slow=39
comp=Z,1.1nm,1.0s
SADO Sadowa 43.98 275 LR LR 16 56 08.4
comp=Z,171nm,18.1s,baz=100,slow=35
ULM Lac du Bonnet 44.25 293 P **P** **16 38 32.8 +2.6**
comp=Z,0.9nm,0.6s,baz=63,slow=6.8,SNR=1.7
ULM LR LR 16 56 16.1
comp=Z,145nm,20.2s,baz=14,slow=35
comp=Z,0.9nm,0.6s
SEY Seymchan 44.77 16 LR LR 16 57 08.3
comp=Z,56nm,19.6s,baz=270,slow=36
MKAR Makanchi Array 45.04 75 P **P** **16 38 37.2 +0.6**
comp=Z,0.2nm,0.6s,baz=334,slow=4.4,SNR=4.2
comp=Z,0.2nm,0.6s
DLBC Dease Lake 45.18 324 LR LR 16 58 02.3
comp=Z,272nm,18.2s,baz=46,slow=37
BBB Bella Bella 50.67 319 LR LR 17 01 24.7
comp=Z,107nm,19.8s,baz=355,slow=37
SONM Songino Array 51.03 55 P **P** **16 39 23.9 +0.9**
comp=Z,0.1nm,0.4s,baz=307,slow=5.2,SNR=1.9
SONM LR LR 17 03 42.6
comp=Z,84nm,18.3s,baz=114,slow=39
comp=Z,0.1nm,0.4s
TKL Tuckaleechee C 53.72 274 LR LR 17 01 42.6
comp=Z,117nm,18.6s,baz=0.0,slow=35
PDAR Pinedale Array 54.96 300 LR LR 17 03 35.8
comp=Z,109nm,18.4s,baz=334,slow=36
TORD Torodi Ar. Bea 58.40 175 P **P** **16 40 15.7 -0.8**
comp=Z,0.6nm,0.8s,baz=358,slow=8.2,SNR=4.1
comp=Z,0.6nm,0.8s
WSAR Wadi Sarin 59.25 110 LR LR 17 10 17.6
comp=Z,45nm,18.9s,baz=26,slow=40
USRK Ussuriysk Ar. 60.26 36 P **P** **16 40 29.0 -0.1**
comp=Z,1.8nm,0.8s,baz=28,slow=8.9,SNR=5.3
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 61.35 306 P **P** **16 40 39.1 +2.2**
comp=Z,0.4nm,0.9s,baz=354,slow=9.2,SNR=1.5
NVAR LR LR 17 06 55.7
comp=Z,96nm,18.8s,baz=235,slow=36
comp=Z,0.4nm,0.9s
SJG San Juan 64.54 250 LR LR 17 04 23.4
comp=Z,40nm,21.6s,baz=348,slow=32
DBIC Dimbokro 64.77 182 LR LR 17 09 01.8
comp=Z,34nm,18.0s,baz=0.0,slow=36
PFO Pinyon Flats O 65.41 303 LR LR 17 08 14.6
comp=Z,46nm,20.2s,baz=2.5,slow=35
TXAR Lajitas Array 65.78 290 P **P** **16 41 06.7 +0.6**
comp=Z,0.6nm,0.7s,baz=66,slow=4.3,SNR=4.1
TXAR LR LR 17 09 11.8
comp=Z,90nm,21.2s,baz=335,slow=35
comp=Z,0.6nm,0.7s
MJAR Matsushiro Arr 68.81 33 P **P** **16 41 25.6 +0.5**
comp=Z,2.4nm,0.9s,baz=3.2,slow=6.1,SNR=4.1
comp=Z,2.4nm,0.9s
PCRV Puerto La Cruz 71.60 246 LR LR 17 06 59.4
comp=Z,32nm,21.5s,slow=31
LPIG La Paz 72.66 294 LR LR 17 14 53.1
comp=Z,142nm,18.6s,baz=28,slow=37
MDP Montagnes des 73.17 232 LR LR 17 06 24.1
comp=Z,42nm,20.4s,baz=68,slow=30
SDV Santo Domingo 74.61 251 LR LR 17 10 47.4
comp=Z,41nm,22.0s,baz=83,slow=32
CMAR Chiang Mai Arr 76.38 73 P **P** **16 42 11.9 +1.5**
comp=Z,0.1nm,0.3s,baz=323,slow=3.1,SNR=2.1
comp=Z,0.1nm,0.3s
ASAR Alice Springs 126.30 51 PKP **PKPdf** **16 49 22.6 -0.8**
comp=Z,0.2nm,0.7s,baz=351,slow=2.2,SNR=1.5

IDC 08 16:32:41.4±3.6, 9°.28N×124°.88E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=370.2km s-min=24.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.50**	**162**	P	P	16 38 56.2	-0.2
	0.5nm,1.0s,baz=341,slow=7.4,SNR=1.1 0.5nm,1.0s						
ASAR	**Alice Springs**	**33.91**	**165**	P	P	16 39 26.4	0.0
	0.1nm,0.3s,baz=344,slow=7.1,SNR=11 0.1nm,0.3s						
MKAR	**Makanchi Array**	**51.99**	**324**	P	P	16 41 53.3	+0.7
	0.2nm,0.6s,baz=117,slow=7.2,SNR=1.8 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**56.12**	**326**	P	P	16 42 21.8	-0.8
	0.1nm,0.5s,baz=120,slow=6.3,SNR=2.0 0.1nm,0.5s						

---

*IDC **08** 16:33:33.5±1.1, 9°.96N×126°.00E, h0km, mb3.6/7, mbtmp3.6/7, MS2.7/2, Error ellipse: s-maj=53.5km s-min=14.6km az=84.0*

ISC 08 16:33:40.7±1.0, 10°.0N±0°.1×126°.1E±0°.4, h54km, n12, σ0s33/8, mb3.6/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.93**	**189**	Pg	**Pn**	**16 34 24.5**	**-0.3**
	28nm,0.3s,baz=81,slow=16,SNR=1.2						
DAV				Lg	Lg	16 35 05.9	
	55nm,0.3s,baz=285,slow=10,SNR=1.8						
DAV				LR	LR	16 35 11.4	
	comp=Z,82nm,20.4s,baz=334,slow=34						
TGY	**Tagaytay City**	**6.47**	**310**	LR	LR	16 37 33.5	
	comp=Z,96nm,18.5s,baz=80,slow=37						
WRA	**Warramunga Arr**	**30.83**	**165**	P	**P**	**16 39 52.0**	**+0.2**
	0.3nm,0.8s,baz=343,slow=9.0,SNR=1.6 0.3nm,0.8s						
ASAR	**Alice Springs**	**34.31**	**167**	P	**P**	**16 40 22.6**	**+0.4**
	0.2nm,0.7s,baz=342,slow=8.2,SNR=1.6 0.2nm,0.7s						
H11N1	**WAKE ISLAND Hy 40.55**	**71**		T	T	17 24 35.4	
	baz=265						
H11N2	**WAKE ISLAND Hy 40.56**	**71**		T	T	17 24 38.1	
	baz=265						
H11N3	**WAKE ISLAND Hy 40.57**	**71**		T	T	17 24 35.6	
	baz=265						
SONM	**Songino Array**	**41.22**	**340**	P	**P**	**16 41 20.1**	**-0.2**
	0.3nm,0.6s,baz=164,slow=11,SNR=1.7 0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.13**	**323**	P	**P**	**16 42 45.8**	**+0.2**
	0.5nm,0.5s,baz=113,slow=9.1,SNR=13 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**56.19**	**326**	P	**P**	**16 43 15.4**	**+0.3**
	0.5nm,0.7s,baz=126,slow=6.7,SNR=4.3 0.5nm,0.7s						
FINES	**FINESS Array B**	**86.05**	**332**	P	**P**	**16 46 15.4**	**+0.1**
	3.8nm,1.0s,baz=90,slow=8.3,SNR=5.2 3.8nm,1.0s						
YKA	**Yellowknife Ar**	**94.11**	**24**	P	**P**	**16 46 52.9**	**-0.3**
	0.2nm,0.7s,baz=301,slow=4.3,SNR=3.0 0.2nm,0.7s						

---

*IDC **08** 16:43:28.2±0.9, 9°.75N×126°.32E, h0km, mb3.7/10, mbtmp3.6/10, MS3.3/2, Error ellipse: s-maj=45.0km s-min=20.0km az=68.0*

ISC 08 16:43:33.4±0.9, 9°.69N±0°.09×126°.3E±0°.2, h35km, n15, σ0s58/11, mb3.5/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.69**	**195**	Sn	**Sn**	**16 44 45.4**	**-0.2**
	39nm,0.3s,baz=257,slow=9.8,SNR=1.5						
DAV				LR	LR	16 45 23.5	
	comp=Z,160nm,20.3s,baz=328,slow=42						
CMAR	**Chiang Mai Arr**	**27.87**	**291**	P	**P**	**16 49 20.7**	**+0.5**
	0.1nm,0.3s,baz=95,slow=8.3,SNR=2.1 0.1nm,0.3s						
WRA	**Warramunga Arr**	**30.50**	**165**	P	**P**	**16 49 42.8**	**-0.6**
	0.2nm,0.6s,baz=343,slow=8.2,SNR=1.2 0.2nm,0.6s						
ASAR	**Alice Springs**	**33.98**	**167**	P	**P**	**16 50 14.8**	**+0.9**
	0.4nm,0.8s,baz=349,slow=7.1,SNR=7.6 0.4nm,0.8s						
H11N1	**WAKE ISLAND Hy 40.44**	**71**		T	T	17 34 27.8	
	baz=265,slow=74,SNR=4.0						
H11N2	**WAKE ISLAND Hy 40.45**	**71**		T	T	17 34 33.0	
	baz=265						
H11N3	**WAKE ISLAND Hy 40.45**	**71**		T	T	17 34 26.6	
	baz=265,slow=74,SNR=3.4						
SONM	**Songino Array**	**41.56**	**340**	P	**P**	**16 51 18.2**	**+0.4**
	0.4nm,0.5s,baz=155,slow=9.9,SNR=5.4 0.4nm,0.5s						
PETK	**Petropavlovsk-**	**50.16**	**24**	LR	LR	17 10 59.1	
	comp=Z,92nm,20.8s,baz=146,slow=33						
MKAR	**Makanchi Array**	**52.49**	**323**	P	**P**	**16 52 42.3**	**-0.7**
	0.6nm,0.6s,baz=124,slow=7.8,SNR=8.9 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**56.55**	**326**	P	**P**	**16 53 11.7**	**-0.7**
	0.3nm,0.4s,baz=126,slow=6.8,SNR=6.9 0.3nm,0.4s						
ILAR	**Eielson Array**	**79.96**	**26**	P	**P**	**16 55 38.7**	**0.0**
	0.4nm,0.9s,baz=255,slow=4.8,SNR=2.9 0.4nm,0.9s						
ARCES	**ARCESS Array B**	**84.74**	**340**	P	**P**	**16 56 03.9**	**+0.3**
	1.2nm,0.8s,baz=84,slow=5.9,SNR=5.1 1.2nm,0.8s						
FINES	**FINESS Array B**	**86.40**	**332**	P	**P**	**16 56 12.0**	**0.0**
	2.6nm,0.9s,baz=67,slow=6.4,SNR=8.6 2.6nm,0.9s						
YKA	**Yellowknife Ar**	**94.28**	**24**	P	**P**	**16 56 48.9**	**-0.1**
	0.3nm,0.7s,baz=301,slow=5.0,SNR=4.3 0.3nm,0.7s						

---

*FUNV **08** 16:44:36.6, 8°.26N×71°.95W, h13km, MW2.9*
*RSNC **08** 16:44:38.7±0.0, 8°.N±2°.×7°.2W±°, h4km±5km, M1.9, ML1.6*

ISC 08 16:44:35.5±1.6, 7°.66N±0°.06×71°.73W±0°.04, h5km±14km, n8, σ1s42/16, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.61**	**290**	*e*P	**Pg**	**16 44 46.1**	**-1.2**
CAPV				*e*S	**Sg**	**16 44 54.8**	**-0.5**
PAMC	**Pamplona, Colo**	**1.01**	**252**	P	**Pb**	**16 44 56.7**	**+0.9**
PAMC				S	**Sn**	**16 45 12.0**	**+0.4**
PAMC	**Pamplona, Colo**	**1.01**	**252**	P		16 44 56.7	
PAMC				S		16 45 12.0	
SOCV	**Socops**	**1.07**	**54**	*e*P	**Pb**	**16 44 56.5**	**+0.1**
SOCV				*e*S	**Sb**	**16 45 10.9**	**+0.1**
TAMC	**Tame, Arauca**	**1.22**	**183**	P	**Pn**	**16 44 58.4**	**-0.8**
TAMC				S	**Sb**	**16 45 14.5**	**-0.6**
TAMC	**Tame, Arauca**	**1.22**	**183**	P		16 44 58.4	
TAMC				S		16 45 14.5	
SDV	**Santo Domingo**	**1.63**	**42**	P	**Pb**	**16 45 07.3**	**+1.1**
SDV				S	**Sg**	**16 45 30.7**	**+2.7**
SDV	**Santo Domingo**	**1.63**	**42**	P		16 45 07.3	
SDV				S		16 45 30.7	
OCAC	**Ocana**	**1.68**	**290**	P	**Pb**	**16 45 06.8**	**-0.1**
OCAC				S	**Sb**	**16 45 28.3**	**-0.1**
OCAC	**Ocana**	**1.68**	**290**	P		16 45 06.8	
OCAC				S		16 45 28.3	
RUSC	**La Rusia**	**2.21**	**217**	P	**Pn**	**16 45 14.2**	**+0.9**
RUSC				S	**Sn**	**16 45 42.6**	**+1.4**
RUSC	**La Rusia**	**2.21**	**217**	P		16 45 14.2	
RUSC				S		16 45 42.6	
BAUV	**El Baul**	**3.87**	**70**	*e*P	**Pn**	**16 45 35.8**	**+0.2**
BAUV				*e*S	**Sn**	**16 46 18.4**	**-3.1**

---

*IDC **08** 16:47:59.4±2.6, 22°.80N×11°.89W, h0km, mb3.9/7, mbtmp3.9/9, ML3.8/2, MS4.1/1, Error ellipse: s-maj=88.1km s-min=28.1km az=82.0*

ISC 08 16:48:00.6±1.5, 22°.6N±0°.2×11°.7W±0°.3, h10km, n15, σ0s88/12, mb3.8/7, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**9.18**	**211**	Lg	Lg	16 52 43.4	
	1.7nm,0.3s,baz=196,slow=21,SNR=1.3						
MDT	**Midelt**	**11.90**	**30**	Lg	Lg	16 54 11.3	
TORD	**Torodi Ar. Bea**	**15.82**	**124**	Pn	**P**	**16 51 47.0**	**-0.3**
	0.2nm,0.3s,baz=317,slow=13,SNR=8.1						
TORD				Sn	**Sn**	**16 54 39.0**	**0.0**
	0.1nm,0.3s,baz=302,slow=23,SNR=2.9 0.5nm,0.5s						
I17CI	**DIMBOKRO INFRA**	**17.18**	**157**	I	I	18 38 20.0	
	0.1nm,1.2s,baz=339,slow=320,SNR=7.6						
DBIC	**Dimbokro**	**17.18**	**157**	P	**P**	**16 52 02.6**	**+0.2**
	0.4nm,0.3s,baz=339,slow=7.5,SNR=4.8 1.2nm,0.4s						
I48TN	**KESRA INFRASON**	**22.47**	**50**	I	I	19 04 50.0	
	baz=242,slow=319,SNR=3.0						
GERES	**GERESS Array B**	**32.98**	**31**	P	**P**	**16 54 35.3**	**-0.4**
	0.3nm,0.3s,baz=212,slow=9.2,SNR=2.1 0.3nm,0.3s						
HFS	**Hagfors**	**41.48**	**19**	P	**P**	**16 55 46.6**	**-0.9**
	3.1nm,0.7s,baz=200,slow=11,SNR=6.0 3.1nm,0.7s						
ASF	**Jabal al Asfar**	**43.83**	**67**	LR	LR	17 16 06.2	
	comp=Z,225nm,21.4s,baz=330,slow=38						
FINES	**FINESS Array B**	**46.63**	**24**	P	**P**	**16 56 28.7**	**-0.1**
	6.0nm,1.1s,baz=222,slow=5.4,SNR=2.6 6.0nm,1.1s						
ARCES	**ARCESS Array B**	**51.89**	**16**	P	**P**	**16 57 08.2**	**-0.7**
	1.7nm,0.8s,baz=239,slow=7.0,SNR=1.7 1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**72.96**	**42**	P	**P**	**16 59 30.6**	**+0.3**
	0.6nm,0.7s,baz=279,slow=6.9,SNR=7.1 0.6nm,0.7s						
MKAR	**Makanchi Array**	**76.44**	**45**	P	**P**	**16 59 51.9**	**+1.2**
	0.3nm,0.5s,baz=284,slow=5.6,SNR=13 0.3nm,0.5s						
SONM	**Songino Array**	**90.57**	**36**	P	**P**	**17 01 04.6**	**+1.3**
	0.2nm,0.6s,baz=308,slow=7.2,SNR=2.3 0.2nm,0.6s						
ASAR	**Alice Springs**	**148.36**	**99**	PKP	**PKPdf**	**17 07 43.2**	**-1.3**
	0.1nm,0.6s,baz=266,slow=1.9,SNR=0.8						
ASAR				PKPbc	**PKiKP**	**17 07 49.4**	**-0.2**
	0.5nm,0.7s,baz=293,slow=2.6,SNR=8.0						

---

*BER **08** 16:50:19.8±1.7, 71°.42N×3°.79W, h10km, mb(Pn)3.9, Confirmed Earthquake*

ISC 08 16:50:17.1±1.3, 71°.5N±0°.1×3°.7W±0°.1, h10km, n15, σ1s56/15, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.59**	**308**	*e*P	**Pn**	**16 51 41.5**	**+1.4**
DBG				*e*S	**Sn**	**16 52 41.2**	**-3.0**
DBG	**Daneborg**	**5.59**	**308**	*i* P	**Pn**	**16 51 41.4**	**+1.4**
DBG				*i* S	Sn	16 52 36.3	-7.9
DAG	**Danmarks Havn**	**6.64**	**329**	*e*P	**Pn**	**16 51 56.0**	**+1.5**
DAG				*e*S	Sn	16 53 00.7	-9.3
DAG	**Danmarks Havn**	**6.64**	**329**	*i* P	**Pn**	**16 51 55.8**	**+1.3**
DAG				*i* S	Sn	16 53 00.6	-9.4
LOF	**Lofoten**	**6.86**	**111**	*e*P	**Pn**	**16 51 57.0**	**-0.6**
LOF				IAML		16 53 10.6	
	comp=Z,2.3nm,0.6s						
STEI	**Steigen**	**7.50**	**110**	*e*P	**Pn**	**16 52 05.3**	**-0.9**
STEI				IAML		16 53 25.3	
	comp=Z,1.7nm,1.1s						
TRO	**Tromso**	**7.77**	**93**	*e*P	**Pn**	**16 52 08.4**	**-1.5**
FAUS	**Fauske**	**7.85**	**113**	*e*P	**Pn**	**16 52 11.0**	**-0.1**
FAUS				IAML		16 52 11.3	
	comp=Z,1.8nm,1.0s						
FAUS				*e*S	Sn	16 53 29.8	-10
STOK	**Stokkvaagen**	**7.95**	**123**	*e*P	**Pn**	**16 52 11.8**	**-0.6**
STOK				*e*S	Sn	16 53 32.8	-9.5
STOK				IAML		16 53 42.8	
	comp=Z,2.1nm,0.6s						
LEIR	**Leirfjorden**	**8.14**	**124**	*e*P	**Pn**	**16 52 14.6**	**-0.6**
LEIR				IAML		16 53 40.1	
	comp=Z,1.7nm,0.8s						
JETT	**Jettan, Norway**	**8.27**	**92**	*e*P	Pn	16 52 14.9	-2.0
SPA0	**Spitsbergen Ar**	**8.43**	**29**	*e*P	**Pn**	**16 52 20.7**	**+1.6**
KIF	**Kilpisjarvi**	**8.64**	**95**	*e*P	**Pn**	**16 52 20.2**	**-1.7**
SALU	**Saltoluokta**	**8.82**	**107**	*e*P	**Pn**	**16 52 23.8**	**-0.6**
HEF	**Hetta**	**9.85**	**95**	*e*P	**Pn**	**16 52 36.9**	**-1.5**

---

*IDC **08** 16:51:32.0±0.9, 9°.87N×126°.38E, h0km, mb3.7/10, mbtmp3.7/11, ML4.6/1, MS4.1/1, Error ellipse: s-maj=33.9km s-min=14.3km az=87.0*

ISC 08 16:51:38.0±0.8, 9°.8N±0°.1×126°.4E±0°.2, h42km, n18, σ0s55/11, mb3.6/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.83**	**196**	Pn	**Pn**	**16 52 20.8**	**0.0**
	83nm,0.3s,baz=25,slow=22,SNR=3.7						
DAV				Lg	Lg	16 53 02.8	
	56nm,0.3s,baz=108,slow=24,SNR=6.2 219nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.89**	**291**	P	**P**	**16 57 24.4**	**+0.1**
	0.3nm,0.8s,baz=107,slow=7.9,SNR=1.8 0.3nm,0.8s						
WRA	**Warramunga Arr**	**30.60**	**165**	P	**P**	**16 57 47.7**	**-0.5**
	0.6nm,0.9s,baz=344,slow=8.8,SNR=1.4 0.6nm,0.9s						
ASAR	**Alice Springs**	**34.09**	**168**	P	**P**	**16 58 19.3**	**+0.5**
	0.4nm,0.4s,baz=348,slow=7.1,SNR=13 0.4nm,0.4s						
H11S3	**WAKE ISLAND Hy 39.98**	**73**		T	T	17 42 02.2	
	baz=262,slow=74,SNR=7.7						
H11S1	**WAKE ISLAND Hy 39.99**	**73**		T	T	17 42 01.7	
	baz=262,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hy 40.00**	**73**		T	T	17 41 58.3	
	baz=262,slow=74,SNR=3.8						
H11N1	**WAKE ISLAND Hy 40.33**	**71**		T	T	17 42 31.6	
	baz=265,slow=74,SNR=7.7						
H11N2	**WAKE ISLAND Hy 40.34**	**71**		T	T	17 42 29.0	
	baz=265,slow=74,SNR=6.0						
H11N3	**WAKE ISLAND Hy 40.35**	**71**		T	T	17 42 31.3	
	baz=265,slow=74,SNR=8.1						
SONM	**Songino Array**	**41.47**	**340**	P	**P**	**16 59 21.6**	**+0.7**
	0.2nm,0.4s,baz=150,slow=8.0,SNR=4.1 0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**17 00 46.3**	**-0.1**
	0.4nm,0.6s,baz=119,slow=8.7,SNR=6.8 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.48**	**326**	P	**P**	**17 01 14.7**	**-1.0**
	0.3nm,0.5s,baz=122,slow=7.8,SNR=4.6 0.3nm,0.5s						
SHEM	**Shemya Is, Ala**	**57.49**	**32**	LR	LR	17 21 41.7	
	comp=Z,179nm,21.3s,baz=284,slow=32						
ILAR	**Eielson Array**	**79.81**	**26**	P	**P**	**17 03 41.5**	**-0.3**
	0.3nm,0.9s,baz=232,slow=4.4,SNR=1.9 0.3nm,0.9s						
ARCES	**ARCESS Array B**	**84.64**	**340**	P	**P**	**17 04 06.5**	**-0.4**
	3.5nm,1.0s,baz=72,slow=4.5,SNR=4.1 3.5nm,1.0s						
FINES	**FINESS Array B**	**86.32**	**332**	P	**P**	**17 04 15.5**	**+0.1**
	1.5nm,0.5s,baz=45,slow=5.3,SNR=5.9 1.5nm,0.5s						
YKA	**Yellowknife Ar**	**94.14**	**24**	P	**P**	**17 04 52.4**	**+0.4**
	0.2nm,0.6s,baz=294,slow=4.9,SNR=2.9 0.2nm,0.6s						

IDC 08 16:53:33.1±2.3, 6°.75S×129°.76E, h0km, mb3.7/1, mbtmp3.4/3, ML3.3/2, MS3.8/2, Error ellipse: s-maj=167.1km s-min=31.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.85**	**162**	Pn	Pn	16 56 49.9	-0.9
	0.1nm,0.3s,baz=344,slow=13,SNR=8.0						
WRA				Sn	Sn	16 59 11.7	-14
	0.3nm,0.3s,baz=334,slow=22,SNR=6.0						
WRA				LR	LR	17 03 09.4	
	comp=Z,56nm,18.2s,baz=99,slow=42 0.2nm,0.4s						
ASAR	**Alice Springs**	**17.28**	**167**	P	Pn	16 57 36.8	+0.7
	0.1nm,0.3s,baz=342,slow=9.1,SNR=20						
ASAR				S	Sn	17 00 38.6	-10
	0.6nm,1.1s,baz=360,slow=28,SNR=4.3 0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	17 04 33.5	0.0
	0.4nm,0.5s,baz=133,slow=6.9,SNR=9.5 0.4nm,0.5s						
BELG	**Belogornoye**	**90.52**	**323**	LR	LR	17 51 19.5	
	comp=Z,45nm,20.2s,baz=98,slow=38						
BRTR	**Keskin Array B**	**98.98**	**309**	LR	LR	17 59 43.6	
	comp=Z,48nm,19.1s,baz=108,slow=40						

---

*NAO **08** 17:00:15.1±2.3, 71°.49N×3°.37W, ML3.1*
*IDC **08** 17:00:18.5±1.3, 71°.53N×2°.74W, h0km, mb3.4/6, mbtmp3.6/10, ML3.5/4, MS3.2/10, Error ellipse: s-maj=32.1km s-min=20.0km az=62.0*
*BER **08** 17:00:19.0±3.6, 71°.49N×3°.49W, h10km, mb(Pn)4.3, ML3.1(NAO), Confirmed Earthquake*

ISC 08 17:00:19.6±0.7, 71°.44N±0°.07×2°.41W±0°.06, h10km, n59, σ1s82/54, mb3.4/6, MS3.2/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**1.99**	**261**	*e*	**Pg**	**17 00 57.1**	**-0.6**
JNW				IAML		17 01 19.9	
	comp=Z,19nm,0.9s						
DBG	**Daneborg**	**5.98**	**307**	Pn	Pn	17 01 40.0	-8.0
DBG				Sn	Sn	17 02 39.5	-17
DBG	**Daneborg**	**5.98**	**307**	*e*P	Pn	17 01 40.2	-7.8
DBG				*e*S	Sn	17 02 39.4	-17
DBG	**Daneborg**	**5.98**	**307**	*i* P	Pn	17 01 39.5	-8.5
DBG				*i* S	Sn	17 02 38.1	-18
DBG				IAML		17 02 42.2	
	comp=Z,1.3nm,0.2s						
LOF	**Lofoten**	**6.44**	**113**	Pn	**Pn**	**17 01 55.0**	**+0.7**
LOF	**Lofoten**	**6.44**	**113**	*e*P	**Pn**	**17 01 55.6**	**+1.3**
LOF				IAML		17 01 58.5	
	comp=Z,5.1nm,0.4s						
DAG	**Danmarks Havn**	**6.93**	**328**	*e*P	Pn	17 01 54.8	-6.3
DAG				*e*S	Sn	17 02 59.1	-21
DAG	**Danmarks Havn**	**6.93**	**328**	*i* P	Pn	17 01 54.0	-7.0
DAG				*i* P	Pn	17 01 54.0	-7.0
DAG				*i* S	Sn	17 02 59.1	-21
DAG				IAML		17 03 08.1	
	comp=Z,1.2nm,0.2s						
STEI	**Steigen**	**7.07**	**111**	Pn	**Pn**	**17 02 04.3**	**+1.4**
STEI				Sn	**Sn**	**17 03 22.5**	**-0.6**
STEI	**Steigen**	**7.07**	**111**	*e*P	**Pn**	**17 02 04.1**	**+1.2**
STEI				IAML		17 02 07.2	
	comp=Z,10n

HSPB	Hornsund (broa	7.38	33	eP		Pn	17 02 06.3 -0.8
FAUS	Fauske	7.43	115	eP		Pn	17 02 09.2 +1.2
FAUS				IAML			17 03 36.5
comp=Z,3.1nm,0.5s							
KONS	Konsvik	7.45	124	eP		Pn	17 02 09.1 +0.9
KONS				eS		Sn	17 03 29.0 -3.6
KONS				IAML			17 03 32.9
comp=Z,3.8nm,0.8s							
STOK	Stokkvaagen	7.55	125	eP		Pn	17 02 10.4 +0.9
STOK				eS		Sn	17 03 29.4 -5.6
STOK				IAML			17 03 35.3
comp=Z,4.4nm,0.7s							
LEIR	Leirfjorden	7.75	126	eP		Pn	17 02 13.5 +1.3
LEIR				eS		Sn	17 03 36.0 -3.9
LEIR				IAML			17 03 39.7
comp=Z,6.2nm,0.4s							
JETT	Jettan, Norway	7.84	93	Pn		Pn	17 02 13.7 +0.1
JETT	Jettan, Norway	7.84	93	Pn		Pn	17 02 13.7 +0.1
BRBB	Barentsburg B	7.94	25	Pn		Pn	17 02 12.8 -2.0
BRBB	Barentsburg B	7.94	25	eP		Pn	17 02 13.0 -1.8
MOR8	Moi Rana	8.05	123	eP		Pn	17 02 18.3 +1.9
KIF	Kilpisjarvi	8.21	96	Pn		Pn	17 02 19.3 +0.6
KIF	Kilpisjarvi	8.21	96	eP		Pn	17 02 19.2 +0.6
SPA0	Spitsbergen Ar	8.31	27	Pn		Pn	17 02 19.0 -0.9
baz=208,slow=16							
SPA0	Spitsbergen Ar	8.31	27	Pn		Pn	17 02 19.0 -0.9
baz=208,slow=16							
SPITS	Spitsbergen Ar	8.31	27	Pn		Pn	17 02 19.1 -0.9
baz=225,slow=14							
comp=Z,1.1nm,0.3s							
KBS	Kingsbay	8.33	19	eP		Pn	17 02 18.9 -1.3
SALU	Saltoluokta	8.39	109	eP		Pn	17 02 22.8 +1.7
NSS	Namsos	8.77	135	eP		Pn	17 02 27.9 +1.8
NSS				IAML			17 04 08.6
comp=Z,5.6nm,0.6s							
ARA0	ARCESS Array S	9.48	88	Pn		Pn	17 02 36.3 +0.3
baz=292,slow=12							
ARA0	ARCESS Array S	9.48	88	Pn		Pn	17 02 36.3 +0.3
baz=292,slow=12							
ARCES	ARCESS Array B	9.48	88	Pn		Pn	17 02 35.7 -0.3
comp=Z,0.1nm,0.3s,baz=294,slow=12,SNR=7.8							
ARCES				LR		LR	17 05 47.7
comp=Z,131nm,19.0s,baz=167,slow=34							
BORG	Borgarnes	9.70	236	LR		LR	17 05 35.8
comp=Z,81nm,20.7s,baz=12,slow=33							
AKN	Aaknes	10.00	154	Pn		Pn	17 02 44.1 +0.9
AKN				Sn		Sn	17 04 30.8 -4.4
AKN	Aaknes	10.00	154	Pn		Pn	17 02 44.1 +0.9
AKN				Sn		Sn	17 04 30.8 -4.4
AKN				IAML			17 04 38.3
comp=Z,6.1nm,0.5s							
DOMB	Dombas	10.45	149	eP		Pn	17 02 50.8 +1.5
NOA	NORSAR Array B	11.76	146	Pn		Pn	17 03 07.3 +0.2
baz=340,slow=12,SNR=3.0							
HFS	Hagfors	13.06	142	Pn		Pn	17 03 25.7 +0.7
baz=337,slow=11							
HFS	Hagfors	13.06	142	Pn		Pn	17 03 25.7 +0.7
baz=337,slow=11							
HFS	Hagfors	13.06	142	Pn		Pn	17 03 26.3 +1.3
comp=Z,0.7nm,0.3s,baz=338,slow=11,SNR=20							
HFS				LR		LR	17 07 31.0
comp=Z,117nm,18.0s,baz=22,slow=33							
comp=Z,3.6nm,0.6s							
FIA0	FINESS Array S	14.97	117	P		Pn	17 03 51.7 +0.7
baz=328,slow=14							
FIA0	FINESS Array S	14.97	117	P		Pn	17 03 51.7 +0.7
baz=328,slow=14							
FINES	FINESS Array B	14.97	117	Pn		Pn	17 03 51.9 +0.9
comp=Z,0.1nm,0.3s,baz=329,slow=13,SNR=5.1							
comp=Z,3.6nm,0.8s							
EKA	Eskdalemuir Ar	16.18	182	Pn		P	17 04 09.2 -0.7
baz=6.7,slow=13							
comp=Z,0.9nm,0.5s							
SFJD	Kangerlussuaq	17.26	279	LR		LR	17 10 47.3
comp=Z,72nm,20.9s,baz=4.5,slow=37							
GERES	GERESS Array B	23.88	153	P		P	17 05 35.5 +2.5
comp=Z,0.3nm,0.3s,baz=4.8,slow=13,SNR=2.7							
comp=Z,0.3nm,0.3s							
KIRV	Kirov	24.41	95	LR		LR	17 13 45.0
comp=Z,60nm,18.0s,baz=352,slow=33							
RES	Resolute Bay	24.55	320	LR		LR	17 14 49.2
comp=Z,92nm,18.7s,baz=356,slow=36							
FRB	Frobisher Bay	25.02	286	LR		LR	17 14 57.9
comp=Z,48nm,20.6s,baz=348,slow=35							
AKASG	Malin Array Be	25.25	129	P		P	17 05 46.2 +0.9
comp=Z,1.6nm,0.6s,baz=339,slow=9.4,SNR=6.1							
AKASG				LR		LR	17 15 20.9
comp=Z,58nm,19.9s,baz=22,slow=36							
comp=Z,1.6nm,0.6s							
AKTO	Aktyubinsk	33.97	95	LR		LR	17 20 38.9
comp=Z,62nm,18.2s,baz=197,slow=36							
BVAR	Borovoye Array	35.69	82	P		P	17 07 19.3 +1.7
comp=Z,0.6nm,0.6s,baz=316,slow=6.2,SNR=3.6							
comp=Z,0.6nm,0.6s							
BRTR	Keskin Array B	36.61	130	P		P	17 07 28.0 +2.2
comp=Z,0.7nm,0.8s,baz=16,slow=5.5,SNR=4.6							
comp=Z,0.7nm,0.8s							
YKA	Yellowknife Ar	38.47	316	P		P	17 07 40.4 -0.6
comp=Z,0.3nm,0.7s,baz=29,slow=6.5,SNR=4.2							
comp=Z,0.3nm,0.7s							
MKAR	Makanchi Array	44.87	76	P		P	17 08 33.7 0.0
comp=Z,0.1nm,0.6s,baz=327,slow=7.2,SNR=1.8							
comp=Z,0.1nm,0.6s							
SJG	San Juan	64.69	251	LR		LR	17 37 44.7
comp=Z,21nm,18.7s,baz=82,slow=35							
ASAR	Alice Springs	126.19	52	PKP		PKPdf	17 19 20.3 -1.3
comp=Z,0.3nm,0.8s,baz=10,slow=2.1,SNR=1.4							

HEL 08 17:00:53.1±0.3, 69°.40N×30°.86E, h0km, ML1.2, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	Raja-Jooseppi	1.31	226	PG	Pg	17 01 16.5	-1.6
RAJF				SG	Sg	17 01 33.4	-1.5
KMNF	Kaamanen	1.40	262	PG	Pn	17 01 18.2	-1.6
KMNF				SG	Sg	17 01 35.6	-2.3
KEV	Kevo	1.40	287	eP	Pn	17 01 17.4	-2.4
KEV	Kevo	1.40	287	PG	Pn	17 01 18.3	-1.5
baz=102							
KEV				MSG		17 01 35.4	
comp=Z,1.6nm,0.2s							
KEV				SG	Sg	17 01 36.0	-2.0
VRF	Varrio	1.72	196	MSG		17 01 44.4	
comp=Z,1.5nm,0.2s							
VRF				SN	Sg	17 01 48.2	0.0
ARA0	ARCESS Array S	1.89	277	eP	Pn	17 01 26.4	-0.3
KTK1	Kautokeino	2.75	265	SB	Sb	17 02 15.7	-1.5
HEF	Hetta	2.79	253	MSG		17 02 15.2	
comp=Z,0.8nm,0.2s							
HEF				SB	Sn	17 02 15.6	+2.4
LANU	Lannavaara	3.50	251	SG	Sb	17 02 40.1	+1.2
PAJU	Pajala	3.74	234	SB	Sb	17 02 43.7	-2.1
TOF	Tornio	4.16	220	PB	Pb	17 02 03.6	-3.3
TOF				SN	Sn	17 02 43.5	-3.3
ERTU	Ertsjaerv	4.33	233	SB	Sb	17 03 01.1	-1.7
KALU	Kalix	4.56	222	SN	Sn	17 02 54.6	-2.2

*BJI **08** 17:01:29.7, 9°.36N×126°.33E, h32km, mB4.9/6, mb4.5/30, Ms4.6/5, Ms7 4.3/7*
*IDC **08** 17:01:29.1±0.5, 9°.69N×126°.23E, h0km, mb4.3/25, mbtmp4.3/25, MS4.0/5, Error ellipse: s-maj=24.0km s-min=11.9km az=80.0*
*NEIC **08** 17:01:31.8±1.1, 9°.79N±0°.07×126°.2E±0°.1, h10km±1km, mb4.7/81, Error ellipse: s-maj=17.6km s-min=11.3km az=265.0*

ISC 08 17:01:34.8±0.3, 9.73N±0°.05×126°.20E±0°.09, h35km, n136, σ1§00/117, mb4.6/73, MS4.1/8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.71	193		Pn	17 02 16.0	+0.1
DAV	Davao City (W)	2.71	193	Pg	Pn	17 02 19.7	+3.8
66nm,0.3s,baz=340,slow=2.8,SNR=11							
TOLI2	Tolitoli	10.11	213	Pn	Pn	17 03 57.2	-0.5
LUWI	Luwuk	11.23	198		Pn	17 04 10.9	-2.0
TWG	Pinlang	13.92	340	Pn	Pn	17 04 46.8	-2.8
FAKI	Fak Fak	13.93	154	Pn	Pn	17 04 49.8	-0.1
YULB	Yu-li	14.38	342	Pn	Pn	17 04 54.7	-1.2
TPUB	Ta-pu	14.51	339	Pn	Pn	17 04 56.3	-1.5
YHNB	Yeheng	15.56	343	Pn	Pn	17 05 09.0	-2.7
YHNB				IAmb	IAmb	17 05 25.0	
comp=Z,39nm,1.1s							
SBUM	Sibu	15.66	243		Pn	17 05 13.8	+0.8
QIZ	Qiongzhong	18.33	302	P	P	17 05 45.3	-1.0
MMRI	Maumere	18.66	192	P	P	17 05 49.1	-0.9
MMRI				IAmb	IAmb	17 06 01.1	
comp=Z,21nm,0.7s							
SOEI	Soe	19.45	186	P	P	17 05 57.8	-0.9
SOEI				IAmb	IAmb	17 06 16.2	
comp=Z,30nm,0.8s							
UBPT	Khong Chiam	20.97	287	P	P	17 06 13.9	-1.2
JAGI	Jajag, Banyuwa	21.70	214	P	P	17 06 22.4	-0.5
JAGI				IAmb	IAmb	17 06 23.1	
comp=Z,27nm,1.1s							
NJ2	Nanjing	23.24	344	eP	P	17 06 40.2	+1.2
NJ2				pmax	pmax		
comp=Z,11nm,0.8s							
WHN	Wuhan	23.48	334	P	P	17 06 43.2	+1.9
WHN				pmax	pmax		
comp=Z,37nm,0.8s							
MYKOM	Kota Tinggi	23.58	252	P	P	17 06 41.8	-0.7
KNRA	Kununurra	25.37	174	P	P	17 06 59.2	+0.3
KNRA				IAmb	IAmb	17 07 07.7	
comp=Z,21nm,0.9s							
IPM	Ipoh	25.51	260	P	P	17 07 00.3	0.0
IPM				IAmb	IAmb	17 07 05.2	
comp=Z,10nm,1.0s							
KULM	Kulim	25.70	262	P	P	17 07 01.0	-1.1
KULM				IAmb	IAmb	17 07 13.2	
comp=Z,15nm,1.5s							
KSRS	Korea Array	27.65	3	P	P	17 07 19.3	0.0
comp=Z,1.3nm,0.8s,baz=184,slow=10,SNR=3.9							
comp=Z,1.3nm,0.8s							
FITZ	Fitzroy Crossi	27.65	181	P	P	17 07 19.8	+0.3
LYN	LuoYang	27.73	335	∥P	P	17 07 20.5	+0.5
LYN				pP	pP	17 07 30.5	+0.5
LYN				pmax	pmax		
comp=Z,13nm,0.8s							
CMAR	Chiang Mai Arr	27.79	291	P	P	17 07 21.9	+1.0
comp=Z,0.9nm,0.6s,baz=98,slow=7.3,SNR=12							
comp=Z,0.9nm,0.6s							
PMG	Port Moresby	28.22	132	LR	LR	17 19 59.9	
comp=Z,167nm,18.9s,baz=322,slow=39							
PZH	PanZhiHua	28.52	309	P	P	17 07 29.6	+2.2
PZH				pmax	pmax		
comp=Z,6.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,5.3s							
XAN	Xi'an	28.93	329	P	P	17 07 29.5	-1.4
XAN				pmax	pmax		
comp=Z,19nm,0.8s							
COEN	Coen	28.94	144	P	P	17 07 29.5	-1.5
COEN				IAmb	IAmb	17 07 56.4	
comp=Z,21nm,1.3s							
HNS	HongShan	29.44	341	∥P	P	17 07 35.6	+0.4
HNS				pmax	pmax		
comp=Z,18nm,0.8s							
GSI	Gunungsitoli	29.67	255	P	P	17 07 37.9	+0.3
WB0	Warramunga Arr	30.40	165	P	P	17 07 42.4	-1.5
WB0				IAmb	IAmb	17 08 18.1	
comp=Z,12nm,1.4s							
WRA	Warramunga Arr	30.55	165	P	P	17 07 43.4	-1.9
comp=Z,0.6nm,0.7s,baz=333,slow=10,SNR=13							
comp=Z,0.6nm,0.7s							
WB2	Warramunga Arr	30.55	165	P	P	17 07 43.8	-1.5
WB2				IAmb	IAmb	17 07 55.9	
comp=Z,14nm,1.4s							
MBWA	Marble Bar	31.34	192	P	P	17 07 52.4	+0.2
BJT	Baijiatuau	31.46	345	P	P	17 07 52.9	-0.1
BJT				IAmb	IAmb	17 07 55.3	
comp=Z,5.1nm,0.7s							
BJI	Beijing	31.48	345	P	P	17 07 54.0	+0.8
BJI				pmax	pmax		
comp=Z,4.0nm,1.1s							
PSA00	Pilbara Seismi	31.72	191	P	P	17 07 56.0	+0.4
LZH	Lanzhou	33.18	326	eP	P	17 08 09.0	+0.6
LZH				sP	pP	17 08 18.8	+0.3
LZH				pmax	pmax		
comp=Z,6.0nm,1.1s							
LZH				LR	LR		
comp=Z,510nm,14.1s							
LZH				LR	LR		
comp=Z,380nm,14.4s							
LZH				LR	LR		
comp=Z,870nm,15.1s							
HHC	Hu-ho-hao-te	33.60	340	eP	P	17 08 13.5	+1.6
HHC				pmax	pmax		
comp=Z,13nm,1.0s							
HHC				pmax	pmax		
comp=Z,120nm,5.1s							
HHC				LR	LR		
comp=Z,360nm,16.8s							
HHC				LR	LR		
comp=Z,270nm,12.6s							
HHC				LR	LR		
comp=Z,400nm,13.7s							
AS31	Alice Springs	34.03	167	P	P	17 08 14.9	-0.8
ASAR	Alice Springs	34.03	167	P	P	17 08 14.8	-1.0
comp=Z,1.0nm,0.4s,baz=350,slow=7.2,SNR=32							
ASAR				PcP	PcP	17 10 52.8	-0.5
comp=Z,1.3nm,0.6s,baz=354,slow=3.7,SNR=4.7							
comp=Z,1.0nm,0.4s							
USRK	Ussuriysk Ar.	34.71	7	P	P	17 08 20.8	-0.6
comp=Z,4.3nm,0.9s,baz=164,slow=6.6,SNR=5.3							
comp=Z,4.3nm,0.9s							
XLT	XiLinHaoTe	35.16	347	eP	P	17 08 26.1	+0.7
XLT				pP	pP	17 08 35.1	-0.5
XLT				pmax	pmax		
comp=Z,11nm,0.7s							
ASAJ	Asahikawa	37.10	20	P	P	17 08 42.6	+0.8
comp=Z,10.0nm,1.0s,baz=226,slow=14,SNR=5.1							
comp=Z,10.0nm,1.0s							
JKA	Kamikawa-asahi	37.10	20	P	P	17 08 40.9	-1.0
JKA				IAmb	IAmb	17 08 58.1	
comp=Z,19nm,1.2s							
GTA	Gaotai	37.79	326	P	P	17 08 48.8	+0.9
GTA				pmax	pmax		
comp=Z,8.0nm,0.6s							
KLR	Kul'dur	39.65	6	P	P	17 09 04.5	+1.3
comp=Z,1.6nm,0.7s,baz=189,slow=5.3,SNR=6.9							
comp=Z,1.6nm,0.7s							
MORW	Morawa	39.79	194	P	P	17 09 05.2	+0.6
MORW				IAmb	IAmb	17 09 18.1	
comp=Z,26nm,1.3s							
FORT	Forrest	40.31	178	P	P	17 09 09.4	+0.5
ULN	Ulaanbaatar	41.31	340	P	P	17 09 17.6	+0.5
SONM	Songino Array	41.50	340	P	P	17 09 19.0	+0.3
SONM	Songino Array	41.50	340	P	P	17 09 20.0	+1.3
comp=Z,0.6nm,0.3s,baz=158,slow=11,SNR=14							
comp=Z,0.6nm,0.3s							
NWAO	Narrogin (SRO)	43.27	191	P	P	17 09 34.3	+1.2
BBOO	Buckleboo	43.33	168	P	P	17 09 33.1	-0.4
BBOO				IAmb	IAmb	17 09 38.5	
comp=Z,17nm,1.1s							
STKA	Stephens Creek	43.91	161	P	P	17 09 37.7	-0.6
STKA	Stephens Creek	43.91	161	P	P	17 09 37.6	-0.6
comp=Z,3.3nm,0.6s,baz=338,slow=8.8,SNR=4.9							
comp=Z,3.3nm,0.6s							
WMQ	Urumqi	47.61	322	eP	P	17 10 08.6	+1.1
WMQ				pmax	pmax		
comp=Z,8.0nm,0.9s							
WMQ				LR	LR		
comp=Z,200nm,17.9s							
TOO	Toolangi	50.40	160	P	P	17 10 29.5	+0.7
TOO				IAmb	IAmb	17 10 29.9	
comp=Z,15nm,1.4s							
DZM	Mont Dzumac	50.56	129	P	P	17 10 30.6	+0.3
YAK	Yakutsk	52.27	2	P	P	17 10 42.6	+0.1
comp=Z,7.8nm,0.7s,baz=172,slow=1.8,SNR=6.4							
comp=Z,7.8nm,0.7s							
MK31	Makanchi Array	52.42	323	P	P	17 10 43.6	-0.3
MKAR	Makanchi Array	52.42	323	P	P	17 10 43.6	-0.3
MKAR	Makanchi Array	52.42	323	P	P	17 10 43.9	0.0
comp=Z,4.2nm,0.6s,baz=121,slow=8.1,SNR=64							
comp=Z,4.2nm,0.6s							
MAKZ	Makanchi	52.61	323	P	P	17 10 44.9	-0.4
ZAA0	Zalesovo Array	55.07	332	P	P	17 11 01.9	-1.1
ZALV	Zalesovo Beam	55.07	332	P	P	17 11 01.6	-1.5
ZALV	Zalesovo Beam	55.07	332	P	P	17 11 02.2	-0.9
comp=Z,1.3nm,0.3s,baz=111,slow=7.4,SNR=11							
comp=Z,1.3nm,0.3s							
ARSB	Arslanbob	56.29	314	P	P	17 11 11.9	-0.4
KURK	Kurchatov	56.48	326	P	P	17 11 12.3	-0.9
KURBB	Kurchatov Arra	56.48	326	P	P	17 11 13.4	+0.1
comp=Z,2.6nm,0.5s,baz=128,slow=7.0,SNR=15							
comp=Z,2.6nm,0.5s							
KBL	Kabul	57.58	305	P	P	17 11 21.3	-0.4
KBL				IAmb	IAmb	17 11 22.4	
comp=Z,3.8nm,0.8s							
GAR	Garm	57.59	310	P	P	17 11 21.1	-0.4
GAR				IAmb	IAmb	17 11 22.3	
comp=Z,9.3nm,1.1s							
KK31	Karatay Array	58.58	315	P	P	17 11 27.9	-0.4
KKAR	Karatay Array	58.58	315	P	P	17 11 27.8	-0.5
TIXI	Tiksi	61.89	1	P	P	17 11 50.2	-0.2
BVAR	Borovoye Array	62.07	326	P	P	17 11 51.8	-0.1
comp=Z,1.8nm,0.7s,baz=126,slow=7.5,SNR=9.0							
comp=Z,1.8nm,0.7s							
BILL	Bilibino	63.94	16	P	P	17 12 03.8	-0.2
BILL				IAmb	IAmb	17 12 35.4	
comp=Z,5.7nm,0.8s							
NRIK	Noril'sk	64.52	346	P	P	17 12 08.0	+0.2
NRIK				IAmb	IAmb	17 12 08.5	
comp=Z,3.4nm,0.8s							
NRIK	Noril'sk	64.52	346	P	P	17 12 08.1	+0.2
comp=Z,2.4nm,0.6s,baz=136,slow=8.1,SNR=6.0							
comp=Z,2.4nm,0.6s							
LBZ	Lake Benmore	66.95	147	P	P	17 12 24.9	+1.1
RPZ	Rata Peaks	66.97	146	P	P	17 12 24.7	+0.7
RPZ	Rata Peaks	66.97	146	LR	LR	17 42 45.6	
comp=Z,72nm,19.1s,baz=124,slow=37							
ABKAR	Akbulak array	67.24	319	P	P	17 12 25.3	-0.4
ABKAR	Akbulak array	67.24	319	P	P	17 12 25.0	-0.7
URZ	Urewera	67.30	139	LR	LR	17 43 06.1	
comp=Z,91nm,19.2s,baz=38,slow=37							
BKZ	Black Stump Fm	67.42	140	P	P	17 12 27.3	+0.3
L14K	Kuka Creek	72.49	29	P	P	17 12 58.0	+0.3
C16K	Lisburne Hills	73.11	21	P	P	17 13 01.4	+0.2
E18K	Tukpahlearik C	74.64	23	P	P	17 13 11.2	+1.0
E18K				IAmb	IAmb	17 13 18.4	
comp=Z,6.2nm,1.3s							
C18K	Utukok River	74.69	21	P	P	17 13 10.9	+0.3
D19K	Kuna River	75.77	22	P	P	17 13 17.2	+0.4
D19K				IAmb	IAmb	17 13 18.1	
comp=Z,4.0nm,0.8s							
E19K	Redstone River	75.93	23	P	P	17 13 18.0	+0.3
E19K				IAmb	IAmb	17 13 19.6	
comp=Z,12nm,1.4s							
B21K	Ikpikpuk River	77.17	21	P	P	17 13 25.2	+0.6
BPAW	Bear Paw Mtn.	78.17	26	P	P	17 13 30.3	-0.1
BPAW				IAmb	IAmb	17 13 31.9	
comp=Z,5.6nm,0.8s							
SUA	Susitna One	78.20	29	P	P	17 13 30.6	-0.1
SUA				IAmb	IAmb	17 13 35.7	
comp=Z,4.4nm,0.9s							
D23K	Nanushuk River	78.51	21	P	P	17 13 32.7	+0.6
KBZ	Khabaz	78.53	313	P	P	17 13 31.7	-1.0
comp=Z,2.5nm,0.9s,baz=186,slow=3.1,SNR=5.2							
comp=Z,2.5nm,0.9s							
C23K	Itkillik River	78.58	21	P	P	17 13 33.1	+0.6
COLD	Coldfoot	78.62	23	IAmb	IAmb	17 13 34.9	
comp=Z,4.3nm,1.0s							
KVAR	Kislovodsk Arr	78.66	313	LR	LR	17 53 12.1	
comp=Z,94nm,21.9s,baz=154,slow=39							
E23K	Chandalar	78.87	22	P	P	17 13 35.3	+1.1
E23K				IAmb	IAmb	17 13 36.6	
comp=Z,8.0nm,1.1s							
MCK	McKinley	79.07	27	IAmb	IAmb	17 13 36.1	
comp=Z,7.6nm,0.8s							
D24K	Happy Valley	79.19	21	IAmb	IAmb	17 13 37.9	
comp=Z,5.2nm,0.8s							
PWL	Port Wells	79.37	30	P	P	17 13 36.5	-0.5
PWL				IAmb	IAmb	17 13 37.9	
comp=Z,9.2nm,0.9s							
GURO	Guroymak-BITLI	79.47	307	P	P	17 13 38.8	+0.6
GURO				IAmb	IAmb	17 13 40.2	
comp=Z,7.5nm,0.7s							
IL31		79.96	26	P	P	17 13 38.8	-1.2
ILAR	Eielson Array	79.96	26	P	P	17 13 38.3	-1.9
comp=Z,1.1nm,0.8s,baz=236,slow=5.0,SNR=16							
comp=Z,1.1nm,0.8s							
BMAR	Burnt Mountain	80.79	23	P	P	17 13 44.7	+0.1
L27K	Beaver Creek,	82.30	27	IAmb	IAmb	17 13 57.4	
comp=Z,4.7nm,1.2s							
F28M	Old Crow	82.58	23	IAmb	IAmb	17 14 03.2	
comp=Z,7.7nm,1.2s							
I28M	Miner Creek	82.83	25	P	P	17 13 55.9	+0.4
J29N	Klondike Camp	83.70	26	IAmb	IAmb	17 14 03.1	
comp=Z,5.1nm,0.9s							
M29M	Somme Creek	83.92	28	IAmb	IAmb	17 14 05.5	
comp=Z,3.4nm,0.7s							
I30M	Mount Dempster	84.34	25	P	P	17 14 03.3	0.0
I30M				IAmb	IAmb	17 14 04.9	
comp=Z,5.3nm,0.9s							
J30M	Hart River	84.49	25	IAmb	IAmb	17 14 05.6	
comp=Z,5.5nm,1.1s							
SPITS	Spitsbergen Ar	84.53	349	P	P	17 14 03.6	-0.2
comp=Z,12nm,0.9s,baz=106,slow=8.0,SNR=8.9							
comp=Z,12nm,0.9s							
M30M	Minto, Yukon	84.66	27	IAmb	IAmb	17 14 06.7	
comp=Z,5.9nm,0.9s							
ARCES	ARCESS Array B	84.68	340	P	P	17 14 04.0	-0.7
comp=Z,2.0nm,0.4s,baz=82,slow=6.4,SNR=36							
comp=Z,2.0nm,0.4s							
INK	Inuvik	84.81	22	IAmb	IAmb	17 14 06.7	
comp=Z,7.2nm,1.2s							
F31M	Tsiigehtchic	84.93	22	IAmb	IAmb	17 14 07.0	
comp=Z,5.2nm,0.9s							
BRTR	Keskin Array B	85.82	309	P	P	17 14 09.8	-1.4
comp=Z,1.1nm,0.8s,baz=101,slow=5.2,SNR=7.1							
comp=Z,1.1nm,0.8s							
WHY	Whitehorse	85.94	29	P	P	17 14 11.2	-0.1
WHY				IAmb	IAmb	17 14 13.5	
comp=Z,6.3nm,0.9s							
FARO	Faro, Yukon	86.30	27	P	P	17 14 13.3	+0.3
FINES	FINESS Array B	86.33	332	P	P	17 14 12.9	-0.1
comp=Z,4.4nm,0.5s,baz=63,slow=5.4,SNR=49							
comp=Z,4.4nm,0.5s							
AKASG	Malin Array Be	86.94	321	P	P	17 14 15.4	-0.9
comp=Z,1.2nm,0.6s,baz=64,slow=5.0,SNR=7.0							
comp=Z,1.2nm,0.6s							
MLR	Muntele Rosu	90.24	316	LR	LR	18 01 09.4	
comp=Z,111nm,18.1s,baz=58,slow=40							
HFS	Hagfors	92.50	332	P	P	17 14 41.3	-0.8
comp=Z,3.4nm,0.6s,baz=101,slow=6.2,SNR=16							
comp=Z,3.4nm,0.6s							

comp=Z,2μm,21.5s,baz=134,slow=41
I39PW PALAU INFRASON 8.44 105 I I 17 57 20.0
baz=281,slow=291,SNR=1.0
TNTI Ternate 9.00 173 Pn **Pn** **17 04 50.1 +0.2**
KKM Kota Kinabalu 10.66 250 Pn **Pn** **17 05 12.4 -0.5**
LUWI Luwuk 11.30 198 Pn **Pn** **17 05 21.9 +0.3**
TWG Pinlang 13.91 339 Pn **Pn** **17 05 53.8 -3.4**
FAKI Fak Fak 13.92 155 Pn **Pn** **17 05 55.5 -1.8**
YULB Yu-li 14.37 341 Pn **Pn** **17 06 03.9 +0.5**
TPUB Ta-pu 14.51 339 **Pn** **17 06 06.6 +1.4**
NACB Ninganchiao 15.02 343 **Pn** **17 06 12.8 +0.9**
YHNB Yeheng 15.55 343 **Pn** **17 06 17.5 -1.4**
YHNB IAmb IAmb 17 06 23.5
comp=Z,61nm,1.5s
SBUM Sibu 15.78 243 Pn **Pn** **17 06 22.1 +0.2**
KAPI Kappang 16.08 204 P **P** **17 06 29.6 +1.1**
KAPI Kappang 16.08 204 LR LR 17 13 52.3
comp=Z,760nm,19.6s,baz=14,slow=42
JOW Kunigami 17.07 6 P **Pn** **17 06 37.6 -0.5**
JOW Kunigami 17.07 6 P **P** **17 06 40.9 +1.5**
comp=Z,35nm,0.9s,baz=165,slow=7.4,SNR=4.2
QIZ Qiongzhong 18.40 302 P **Pn** **17 06 56.0 +1.4**
QIZ S **Sn** **17 10 19.2 -0.2**
QIZ pmax pmax
comp=Z,250nm,11.7s
QIZ LR LR
comp=Z,310nm,13.4s
QIZ LR LR
comp=Z,590nm,17.1s
QIZ LR LR
comp=Z,810nm,17.2s
MMRI Maumere 18.73 193 P **Pn** **17 06 59.7 +1.2**
MMRI IAmb IAmb 17 07 10.6
comp=Z,29nm,0.7s
SOEI Soe 19.50 186 P **Pn** **17 07 08.7 +0.8**
SOEI IAmb IAmb 17 07 19.2
comp=Z,33nm,0.5s
UBPT Khong Chiam 21.07 287 P **P** **17 07 23.4 +0.1**
MTN Manton Dam 22.97 168 P **P** **17 07 45.2 +1.7**
MTN IAmb IAmb 17 07 54.4
comp=Z,32nm,1.1s
NJ2 Nanjing 23.23 344 *e*P **P** **17 07 48.0 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.8s
WHN Wuhan 23.49 333 P **P** **17 07 50.4 +1.9**
WHN pmax pmax
comp=Z,280nm,2.1s
JNU Nakatsue 23.62 10 P **P** **17 07 50.5 +0.7**
comp=Z,7.9nm,0.9s,baz=111,slow=6.8,SNR=5.0
comp=Z,7.9nm,0.9s
MYKOM Kota Tinggi 23.70 252 P **P** **17 07 52.0 +1.3**
MYKOM IAmb IAmb 17 07 54.3
comp=Z,68nm,1.4s
JMN Monobe 24.84 15 P **P** **17 08 01.3 +0.3**
KNRA Kununurra 25.40 174 P **P** **17 08 06.6 +0.5**
IPM Ipoh 25.63 260 P **P** **17 08 07.8 -0.5**
IPM IAmb IAmb 17 08 12.7
comp=Z,16nm,0.8s
KULM Kulim 25.82 262 P **P** **17 08 11.0 +0.9**
SRIT Nakonsritamara 26.39 270 P **P** **17 08 16.0 +0.7**
SRIT IAmb IAmb 17 08 26.3
comp=Z,18nm,1.2s
PHRA Phrae 26.71 292 P **P** **17 08 17.8 -0.3**
KSRS Korea Array 27.60 3 P **P** **17 08 26.6 +0.8**
comp=Z,6.4nm,1.1s,baz=176,slow=11,SNR=9.5
comp=Z,6.4nm,1.1s
KS19 Wonju Array Si 27.65 3 P **P** **17 08 25.6 -0.7**
KS19 IAmb IAmb 17 08 51.5
comp=Z,20nm,1.3s
FITZ Fitzroy Crossi 27.70 181 P **P** **17 08 26.1 -0.8**
LYN LuoYang 27.73 335 P **P** **17 08 29.6 +2.5**
LYN pmax pmax
comp=Z,11nm,1.0s
LYN LR LR
comp=Z,440nm,11.5s
LYN LR LR
comp=Z,210nm,11.7s
LYN LR LR
comp=Z,290nm,14.1s
CM31 Chiang Mai Arr 27.88 291 P **P** **17 08 27.1 -1.5**
CM31 IAmb IAmb 17 08 41.1
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 27.88 291 P **P** **17 08 27.4 -1.2**
CMAR Chiang Mai Arr 27.88 291 P **P** **17 08 29.6 +0.9**
comp=Z,1.8nm,0.9s,baz=107,slow=7.8,SNR=6.1
CHTO Chiang Mai 27.97 292 P **P** **17 08 28.8 -0.6**
PSI Prapat 28.07 258 LR LR 17 22 18.7
comp=Z,420nm,18.6s,baz=132,slow=42
RPSI Rantau Prapat 28.10 257 P **P** **17 08 30.3 -0.3**
RPSI IAmb IAmb 17 08 41.5
comp=Z,22nm,1.2s
PZH PanZhiHua 28.58 309 P **P** **17 08 35.0 +0.1**
PZH S **S** **17 13 22.1 +1.5**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,210nm,5.1s
PZH LR LR
comp=Z,700nm,23.0s
PZH LR LR
comp=Z,340nm,21.6s
PZH LR LR
comp=Z,480nm,23.0s
MAJO Matsushiro 28.75 20 P **P** **17 08 36.0 -0.2**
MAJO IAmb IAmb 17 09 23.8
comp=Z,67nm,1.9s
MJAR Matsushiro Arr 28.75 20 P **P** **17 08 35.4 -0.7**
comp=Z,2.7nm,1.1s,baz=183,slow=14,SNR=4.4
comp=Z,2.7nm,1.1s
XAN Xi'an 28.95 329 P **P** **17 08 37.2 -0.8**
XAN pmax pmax
comp=Z,20nm,0.8s
XAN pmax pmax
comp=Z,150nm,4.0s
XAN LR LR
comp=Z,420nm,15.5s
XAN LR LR
comp=Z,450nm,18.7s
XAN LR LR
comp=Z,620nm,17.3s
HNS HongShan 29.44 341 ⇓P **P** **17 08 43.1 +0.9**
HNS *e*S **S** **17 13 28.2 -5.3**
HNS pmax pmax
comp=Z,7.0nm,0.8s
HNS LR LR
comp=Z,470nm,16.3s
HNS LR LR
comp=Z,500nm,16.6s
GSI Gunungsitoli 29.79 255 P **P** **17 08 45.8 +0.2**
GSI IAmb IAmb 17 08 54.0
comp=Z,30nm,1.3s
WB0 Warramunga Arr 30.41 165 P **P** **17 08 51.4 +0.5**
WRAB Tennant Creek 30.56 165 P **P** **17 08 53.3 +1.0**
WRA Warramunga Arr 30.56 165 P **P** **17 08 51.1 -1.2**
comp=Z,1.2nm,0.6s,baz=343,slow=9.5,SNR=4.6
WRA LR LR 17 22 35.2
comp=Z,122nm,21.9s,baz=1.0,slow=39
comp=Z,1.2nm,0.6s
JMM Marumori 30.86 23 P **P** **17 08 54.2 -0.6**
MBWA Marble Bar 31.41 192 P **P** **17 08 58.9 -0.9**
MBWA IAmb IAmb 17 09 03.4
comp=Z,13nm,0.9s
BJT Baijiatuau 31.45 345 **P** **17 08 58.7 -1.2**
BJT IAmb IAmb 17 09 02.1
comp=Z,31nm,1.9s
BJI Beijing 31.47 345 P **P** **17 09 01.1 +1.0**
BJI pmax pmax
comp=Z,4.0nm,1.7s
PSA00 Pilbara Seismi 31.79 191 P **P** **17 09 03.0 -0.1**
PSA00 IAmb IAmb 17 09 07.3
comp=Z,17nm,0.7s
LZH Lanzhou 33.21 326 *e*P P 17 09 20.7 +5.0
LZH sP sP 17 09 32.5 +1.1
LZH pmax pmax
comp=Z,7.0nm,1.0s
AS31 Alice Springs 34.05 168 P **P** **17 09 23.2 +0.3**
ASAR Alice Springs 34.05 168 P **P** **17 09 22.6 -0.2**
comp=Z,1.7nm,0.5s,baz=347,slow=7.3,SNR=9.3
ASAR PcP **PcP** **17 11 59.9 -0.1**
comp=Z,0.7nm,0.6s,baz=334,slow=3.1,SNR=1.8
comp=Z,1.7nm,0.5s
USRK Ussuriysk Ar. 34.65 7 P **P** **17 09 27.2 -0.6**
comp=Z,7.0nm,1.0s,baz=192,slow=6.9,SNR=6.9
comp=Z,7.0nm,1.0s
USA0B Ussuriysk Arra 34.65 7 P **P** **17 09 27.9 0.0**
USA0B IAmb IAmb 17 09 30.3
comp=Z,14nm,1.1s
MDJ Mudanjiang 34.83 4 **P** **17 09 29.9 +0.5**
MDJ IAmb IAmb 17 09 32.9
comp=Z,14nm,1.1s
MDJ Mudanjiang 34.83 4 P **P** **17 09 30.8 +1.4**
MDJ sP pwP 17 09 44.3 +1.5
MDJ S **S** **17 15 00.6 +3.2**
MDJ ScP **ScP** **17 15 44.8 +0.6**
MDJ PcS **PcS** **17 15 50.0 +1.6**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ LR LR
comp=Z,190nm,4.6s
MDJ LR LR
comp=Z,220nm,5.1s
MDJ LR LR
comp=Z,470nm,9.8s
XLT XiLinHaoTe 35.15 347 *e*P **P** **17 09 32.8 +0.6**
XLT pP pP 17 09 42.6 -0.2
XLT sP sP 17 09 45.5 -1.9
XLT pmax pmax
comp=Z,7.0nm,0.8s
BNX BinXian 35.85 1 ⇑P **P** **17 09 38.4 +0.3**
BNX pmax pmax
comp=Z,6.0nm,1.1s
ASAJ Asahikawa 37.02 20 P **P** **17 09 49.6 +1.5**
comp=Z,4.6nm,0.6s,baz=222,slow=16,SNR=4.2
comp=Z,4.6nm,0.6s
JKA Kamikawa-asahi 37.02 20 P **P** **17 09 48.7 +0.6**
GTA Gaotai 37.82 326 *e*P **P** **17 09 55.8 +0.7**
GTA S **S** **17 15 46.7 +3.3**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA LR LR
comp=Z,330nm,13.9s
GTA LR LR
comp=Z,620nm,15.1s
GTA LR LR
comp=Z,330nm,18.3s
GOMU GeErMu 38.84 318 P **P** **17 10 04.0 -0.1**
GOMU pP pP 17 10 13.9 -1.0
GOMU pmax pmax
comp=Z,2.0nm,1.0s
GOMU LR LR
comp=Z,410nm,13.9s
GOMU LR LR
comp=Z,450nm,17.1s
GOMU LR LR
comp=Z,920nm,17.9s
KLR Kul'dur 39.60 6 P **P** **17 10 10.6 +0.9**
comp=Z,2.6nm,0.7s,baz=207,slow=8.0,SNR=7.3
comp=Z,2.6nm,0.7s
MORW Morawa 39.86 194 P **P** **17 10 12.1 -0.1**
MORW IAmb IAmb 17 10 13.8
comp=Z,53nm,1.3s
FORT Forrest 40.35 178 P **P** **17 10 16.5 +0.3**
FORT IAmb IAmb 17 10 30.1
comp=Z,26nm,0.7s
HEH HeiHe 40.37 1 *e*P **P** **17 10 17.0 +0.9**
HEH pmax pmax
comp=Z,8.0nm,1.0s
H11N1 WAKE ISLAND Hy 40.37 71 T T 17 53 45.4
baz=266
H11N2 WAKE ISLAND Hy 40.38 71 T T 17 53 42.5
baz=266
H11N3 WAKE ISLAND Hy 40.39 71 T T 17 53 44.9
baz=266
ULN Ulaanbaatar 41.30 340 P **P** **17 10 23.4 -0.7**
SONM Songino Array 41.50 340 P **P** **17 10 24.9 -0.8**
SONM Songino Array 41.50 340 P **P** **17 10 26.9 +1.3**
comp=Z,1.9nm,0.8s,baz=158,slow=8.7,SNR=6.8
comp=Z,1.9nm,0.8s
NWAO Narrogin (SRO) 43.33 191 P **P** **17 10 40.9 +0.4**
BBOO Buckleboo 43.35 168 **P** **17 10 40.6 -0.1**
STKA Stephens Creek 43.92 161 P **P** **17 10 46.1 +0.9**
STKA Stephens Creek 43.92 161 P **P** **17 10 44.0 -1.2**
comp=Z,2.7nm,0.4s,baz=336,slow=9.3,SNR=5.1
comp=Z,2.7nm,0.4s
ARMA Armidale 46.78 150 P **P** **17 11 08.4 +0.3**
WMQ Urumqi 47.64 322 *e*P **P** **17 11 12.8 -1.9**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ LR LR
comp=Z,530nm,13.5s
WMQ LR LR
comp=Z,230nm,18.9s
CAN Canberra 49.71 156 P **P** **17 11 31.4 +0.9**
TOO Toolangi 50.40 160 P **P** **17 11 36.2 +0.4**
DZM Mont Dzumac 50.50 129 P **P** **17 11 37.2 +0.4**
DZM IAmb IAmb 17 13 15.5
comp=Z,32nm,1.3s
YAK Yakutsk 52.22 2 P **P** **17 11 48.7 -0.3**
YAK Yakutsk 52.22 2 P **P** **17 11 49.6 +0.6**
comp=Z,13nm,0.7s,baz=72,slow=20,SNR=11
comp=Z,13nm,0.7s
MK31 Makanchi Array 52.45 323 P **P** **17 11 50.1 -1.0**
MKAR Makanchi Array 52.45 323 P **P** **17 11 50.6 -0.5**
MKAR Makanchi Array 52.45 323 P **P** **17 11 51.0 -0.1**
comp=Z,2.6nm,0.6s,baz=119,slow=7.1,SNR=9.4
comp=Z,2.6nm,0.6s
MAKZ Makanchi 52.64 323 P **P** **17 11 51.7 -0.7**
NIL Nilore 54.05 305 P **P** **17 12 00.6 -2.5**
NIL IAmb IAmb 17 12 11.1
comp=Z,8.1nm,0.8s
ZAA0 Zalesovo Array 55.08 331 P **P** **17 12 08.4 -1.7**
ZALV Zalesovo Beam 55.08 331 P **P** **17 12 08.3 -1.8**
ZALV Zalesovo Beam 55.08 331 P **P** **17 12 09.6 -0.5**
comp=Z,2.0nm,0.7s,baz=120,slow=6.6,SNR=3.9
comp=Z,2.0nm,0.7s
ARSB Arslanbob 56.34 313 P **P** **17 12 18.1 -1.5**
KURBB Kurchatov Arra 56.51 326 P **P** **17 12 20.0 -0.4**
comp=Z,1.2nm,0.3s,baz=129,slow=6.8,SNR=5.9
comp=Z,1.2nm,0.3s
DRK Karamyk 56.66 311 P **P** **17 12 20.1 -2.0**
GAR Garm 57.64 310 P **P** **17 12 28.2 -0.6**
GAR IAmb IAmb 17 12 31.6
comp=Z,22nm,1.3s
KK31 Karatay Array 58.63 315 P **P** **17 12 34.3 -1.2**
KK31 IAmb IAmb 17 13 30.6
comp=Z,16nm,1.9s
KKAR Karatay Array 58.63 315 P **P** **17 12 34.0 -1.6**
KKAR Karatay Array 58.63 315 P **P** **17 12 34.5 -1.1**
KKAR IAmb IAmb 17 13 30.5
comp=Z,11nm,1.9s
TIXI Tiksi 61.85 1 **P** **17 12 56.6 -0.3**
BVAR Borovoye Array 62.10 326 P **P** **17 12 58.3 -0.7**
comp=Z,1.2nm,0.6s,baz=118,slow=8.8,SNR=2.2
comp=Z,1.2nm,0.6s
GSTR Great Sitkin T 62.72 36 P **P** **17 13 02.8 -0.4**
NRIK Noril'sk 64.51 346 P **P** **17 13 15.3 +0.7**
comp=Z,2.8nm,0.7s,baz=157,slow=6.0,SNR=3.6
comp=Z,2.8nm,0.7s
THZ Tophouse 66.74 144 P **P** **17 13 29.1 -0.4**
ABKAR Akbulak array 67.28 319 P **P** **17 13 32.2 -0.6**
ABKAR Akbulak array 67.28 319 P **P** **17 13 31.9 -0.9**
ABKAR IAmb IAmb 17 13 40.8
comp=Z,2.8nm,0.8s
O18K Koktuh Hills 75.82 31 P **P** **17 14 22.7 -1.4**
N19K Bonanza Creek 76.26 30 P **P** **17 14 25.7 -1.0**
N19K IAmb IAmb 17 14 30.9
comp=Z,7.3nm,0.9s
KBZ Khabaz 78.58 313 P **P** **17 14 38.9 -0.9**
comp=Z,1.9nm,0.9s,baz=104,slow=8.8,SNR=3.1
comp=Z,1.9nm,0.9s
MCK McKinley 78.98 27 P **P** **17 14 41.1 -0.6**
MCK IAmb IAmb 17 14 43.6
comp=Z,9.3nm,0.9s
RND Reindeer 79.02 27 **P** **17 14 40.9 -1.1**
RND IAmb IAmb 17 14 51.5
comp=Z,22nm,1.4s
C24K Franklin Bluff 79.16 21 P **P** **17 14 42.2 -0.3**
PWL Port Wells 79.27 30 P **P** **17 14 42.4 -1.0**
PWL IAmb IAmb 17 14 46.4
comp=Z,14nm,1.0s
H24K Noodor Dome 79.44 25 P **P** **17 14 43.1 -1.1**
EPYK Eagle Plains 83.91 24 P **P** **17 15 07.4 -0.4**
G30M tAoh Zrail Nji 83.99 23 **P** **17 15 08.1 -0.1**
G30M IAmb IAmb 17 15 13.8
comp=Z,6.2nm,0.9s
K29M Barlow Dome 84.02 26 P **P** **17 15 08.0 -0.5**
K29M IAmb IAmb 17 15 12.0
comp=Z,11nm,1.1s
SPITS Spitsbergen Ar 84.51 349 P **P** **17 15 10.7 +0.1**
comp=Z,22nm,1.2s,baz=90,slow=7.5,SNR=6.2
comp=Z,22nm,1.2s
HYT Haines Junctio 84.55 29 IAmb IAmb 17 15 20.9
comp=Z,17nm,1.3s
M30M Minto, Yukon 84.57 27 **P** **17 15 10.5 -0.7**
ARCES ARCESS Array B 84.67 340 P **P** **17 15 12.0 +0.4**
comp=Z,1.4nm,0.4s,baz=75,slow=5.4,SNR=12
comp=Z,1.4nm,0.4s
INK Inuvik 84.73 22 **P** **17 15 11.2 -0.6**
INK IAmb IAmb 17 15 20.8
comp=Z,20nm,1.6s
F31M Tsiigehtchic 84.84 22 IAmb IAmb 17 15 28.7
comp=Z,11nm,1.1s
H31M Peel River 84.97 24 **P** **17 15 13.2 +0.1**
H31M IAmb IAmb 17 15 15.8
comp=Z,17nm,1.2s
N31M Braeburn, Yuko 85.25 28 **P** **17 15 15.4 +0.8**
M31M Drury Creek, Y 85.74 28 P **P** **17 15 16.6 -0.4**
WHY Whitehorse 85.85 29 **P** **17 15 17.2 -0.5**
WHY IAmb IAmb 17 15 31.9
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 85.88 309 P **P** **17 15 17.5 -0.9**
comp=Z,0.6nm,0.7s,baz=160,slow=1.4,SNR=2.5
comp=Z,0.6nm,0.7s
FARO Faro, Yukon 86.21 28 IAmb IAmb 17 15 23.1
comp=Z,13nm,1.1s
FINES FINESS Array B 86.35 332 P **P** **17 15 19.7 -0.3**
comp=Z,2.8nm,0.4s,baz=74,slow=4.7,SNR=13
comp=Z,2.8nm,0.4s
N32M Quiet Lake 86.59 29 P **P** **17 15 21.2 -0.1**
N32M IAmb IAmb 17 15 25.0
comp=Z,11nm,0.9s
AKASG Malin Array Be 86.98 321 P **P** **17 15 22.2 -1.1**
comp=Z,0.5nm,0.4s,baz=65,slow=5.1,SNR=5.9
comp=Z,0.5nm,0.4s
RES Resolute Bay 91.98 10 **P** **17 15 46.4 0.0**
HFS Hagfors 92.51 332 P **P** **17 15 48.6 -0.5**
comp=Z,3.5nm,0.9s,baz=90,slow=5.9,SNR=6.1
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 94.19 24 P **P** **17 15 57.4 +0.6**
comp=Z,1.9nm,0.8s,baz=297,slow=4.4,SNR=13
YKA LR LR 17 58 56.2
comp=Z,65nm,21.5s,baz=288,slow=36
comp=Z,1.9nm,0.8s
PLCA Paso Flores 145.73 157 PKPdf **PKPdf** **17 22 16.9 0.0**
PLCA Paso Flores 145.73 157 PKPbc **PKPab** **17 22 18.4 +0.7**
comp=Z,2.6nm,0.8s,baz=186,slow=9.6,SNR=2.5

RSNC 08 17:07:12.3±0.0, 7°N±1°×7°4W±°, h111km±2km, M3.1, mb3.9, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.32**	**81**	P	Pn	17 07 27.9	-0.7
BARC				S	Sn	17 07 40.6	-0.1
BRJC	**Barrancabermej**	**0.49**	**331**	P	Pn	17 07 27.9	-1.3
BRJC				S	Sn	17 07 41.1	-0.9
RUSC	**La Rusia**	**0.77**	**147**	P	Pn	17 07 30.8	-1.1
RUSC				S	Sn	17 07 45.4	-1.2
PTBC	**PUERTO BERRIO,**	**0.95**	**270**	P	Pn	17 07 30.6	-2.5
PTBC				S	Sn	17 07 45.3	-3.5
SPBC	**San Pablo de B**	**1.05**	**213**	P	Pn	17 07 32.6	-1.6
SPBC				S	Sn	17 07 48.7	-2.0
PAMC	**Pamplona, Colo**	**1.12**	**45**	P	Pn	17 07 34.5	-0.9
PAMC				S	Sn	17 07 52.5	-0.3
ZARC	**Zaragoza, Cauc**	**1.65**	**305**	P	Pn	17 07 39.8	-1.2
ZARC				S	Sn	17 08 02.5	-0.3
NORC	**Norcasia**	**1.67**	**235**	P	Pn	17 07 39.3	-2.0
NORC				S	Sn	17 08 00.6	-2.8
OCAC	**Ocana**	**1.70**	**6**	P	Pn	17 07 40.2	-1.5
OCAC				S	Sn	17 08 03.2	-0.9
TAMC	**Tame, Arauca**	**1.70**	**93**	P	Pn	17 07 40.6	-1.1
TAMC				S	Sn	17 08 02.7	-1.3
ROSC	**El Rosal**	**1.88**	**206**	P	Pn	17 07 44.0	-0.2
ROSC				S	Sn	17 08 09.7	+1.3
CHIC	**Chingaza**	**1.91**	**187**	P	Pn	17 07 43.5	-1.2
CHIC				S	Sn	17 08 09.0	-0.3
GUY2C	**Guyana, Caldas**	**2.27**	**235**	P	Pn	17 07 48.6	-0.6
GUY2C				S	Sn	17 08 17.2	-0.3
UREC	**San Jos de Ur**	**2.35**	**301**	P	Pn	17 07 47.5	-2.3
UREC				S	Sn	17 08 16.0	-2.6
VILC	**Villavicencio,**	**2.42**	**185**	P	Pn	17 07 49.8	-1.1
VILC				S	Sn	17 08 19.6	-0.9
CBOC	**Ciudad Bolivar**	**2.59**	**255**	P	Pn	17 07 52.4	-0.7
CBOC				S	Sn	17 08 21.2	-3.2
DBBC	**Dabeiba**	**2.73**	**280**	P	Pn	17 07 54.0	-0.9
DBBC				S	Sn	17 08 26.3	-1.4
PRAC	**Prado**	**3.13**	**206**	P	Pn	17 07 58.4	-1.7
PRAC				S	Sn	17 08 36.1	-0.9
ORTC	**Ortega, Tolima**	**3.14**	**214**	P	Pn	17 07 59.4	-0.9
ORTC				S	Sn	17 08 37.5	+0.3
PLMC	**San Jos del P**	**3.21**	**240**	P	Pn	17 08 00.3	-0.9
PLMC				S	Sn	17 08 39.4	+0.4
APAC	**Apartado, Choc**	**3.34**	**294**	P	Pn	17 08 01.4	-1.5
APAC				S	Sn	17 08 41.5	-0.5
ARGC	**Ariguani, Magd**	**3.38**	**347**	P	Pn	17 08 04.2	+0.8
ARGC				S	Sn	17 08 47.5	+4.6
URMC	**La Uribe, Meta**	**3.39**	**195**	P	Pn	17 08 03.1	-0.5
URMC				S	Sn	17 08 43.1	-0.1
LCBC	**Los crdobas,**	**3.66**	**309**	P	Pn	17 08 05.8	-1.3
LCBC				S	Sn	17 08 49.1	-0.4
SDV	**Santo Domingo**	**3.67**	**50**	P	Pn	17 08 06.6	-0.9
SDV				S	Sn	17 08 48.2	-2.0
SJCC	**San Jacinto, C**	**3.73**	**334**	P	Pn	17 08 05.4	-2.7
SJCC				S	Sn	17 08 47.1	-4.2
YOTC	**Yotoco, Valle**	**3.81**	**228**	P	Pn	17 08 07.5	-1.7
PTAC	**Punta Ardita,**	**4.32**	**278**	P	Pn	17 08 14.8	-1.2
CRJC	**Cerrejon, Guaj**	**4.49**	**8**	P	Pn	17 08 16.4	-2.0
CRJC				S	Sn	17 09 08.5	-1.3
GARC	**Garzon, Huila**	**4.76**	**205**	P	Pn	17 08 20.1	-2.1
GARC				S	Sn	17 09 13.5	-2.9
URIC	**Uribia, Colomb**	**5.34**	**16**	P	Pn	17 08 28.7	-1.1
	19nm,1.4s						
URIC				S	Sn	17 09 28.5	-1.6
	19nm,1.4s						
FLOC	**Florencia**	**5.37**	**204**	P	Pn	17 08 28.1	-2.2
FLOC				S	Sn	17 09 29.9	-1.1

*KRSC **08** 17:08:35.2±0.9, 52°.42N×159°.05E, h59km±11km, Mc4.3, Ml5.3, Felt [IV] at river Karimshina (stationary KF GS); [III-IV] at Viluchinsk, Petropavlovsk, Termalniy, Paratunka, Noviy; [III] at Pionersky; [II-III] at Nagorniy; [II] at MGeoES-1, Ribachiy.*
*BJI **08** 17:08:35.0, 52°.60N×158°.80E, h73km, mB4.9/6, mb4.4/24, Ms4.4/2, Ms7 4.2/2*
*MOS **08** 17:08:35.4±1.1, 52°.45N×158°.91E, h74km, mb4.8/47, Error ellipse: s-maj=7.2km s-min=3.6km az=86.1*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
*NEIC **08** 17:08:37.9±1.3, 52°.67N±0°.08×158°.7E±0°.1, h76km±4km, mb4.6/275, Error ellipse: s-maj=11.9km s-min=11.5km az=63.0*
*IDC **08** 17:08:38.9±0.8, 52°.62N×158°.76E, h85km±5km, mb4.1/32, mbtmp4.4/37, MS3.5/6, Error ellipse: s-maj=12.8km s-min=9.5km az=141.0*

ISC 08 17:08:35.4±0.6, 52°.44N±0°.03×158°.97E±0°.03, h59km±4km, n744, σ1$29/727, mb4.7/241, MS4.0/7, 3C-10D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.28**	**269**	PN	**Pn**	**17 08 46.3**	**+1.1**
RUS	**Russkaya**	**0.28**	**269**	*e*P	**Pn**	**17 08 46.4**	**+1.1**
GRL	**Gorelyy**	**0.56**	**282**	PN	**Pn**	**17 08 50.4**	**+2.4**
GRL	**Gorelyy**	**0.56**	**282**	*e*P	**Pn**	**17 08 50.4**	**+2.4**
DALK	**Dalny**	**0.60**	**348**	PN	**Pn**	**17 08 49.4**	**+1.0**
DALK				S	**Sn**	**17 08 59.0**	**+1.1**
DALK	**Dalny**	**0.60**	**348**	*e*P	**Pn**	**17 08 49.4**	**+1.0**
DALK				*e*S	**Sn**	**17 08 59.1**	**+1.1**
PET	**Petropavlovsk**	**0.61**	**342**		**Pn**	**17 08 48.6**	**+0.1**
PET				Sn	**Sn**	**17 08 58.8**	**+0.7**
PET	**Petropavlovsk**	**0.61**	**342**	⇓*i*PN	**Pn**	**17 08 49.6**	**+1.1**
PET				*e*S	**Sn**	**17 08 58.8**	**+0.7**
PET				pmax	pmax		
	comp=Z,5μm,0.3s						
PET				smax	smax		
	comp=E,30μm,0.6s						
PET				smax	smax		
	comp=N,39μm,0.4s						
PET	**Petropavlovsk**	**0.61**	**342**	*e*P	**Pn**	**17 08 49.6**	**+1.1**
KRMR	**Karymshinskiy**	**0.64**	**308**	PN	**Pn**	**17 08 50.4**	**+1.6**
KRMR				S	**Sn**	**17 09 01.2**	**+2.6**
KRMR	**Karymshinskiy**	**0.64**	**308**	*e*P	**Pn**	**17 08 50.5**	**+1.6**

KRMR *e*S **Sn** **17 09 01.3 +2.6**
INSR Institute 0.66 341 PN **Pn** **17 08 50.3 +1.2**
INSR S **Sn** **17 09 00.5 +1.4**
INSR Institute 0.66 341 *e*P **Pn** **17 08 50.4 +1.2**
INSR *e*S **Sn** **17 09 00.6 +1.4**
NLC Nalytchevo 0.77 17 PN **Pn** **17 08 50.3 0.0**
NLC S **Sn** **17 09 00.7 -0.6**
NLC Nalytchevo 0.77 17 *e*P **Pn** **17 08 50.4 0.0**
NLC *e*S **Sn** **17 09 00.8 -0.6**
UGLR Uglovaya 0.77 354 PN **Pn** **17 08 51.8 +1.2**
UGLR Uglovaya 0.77 354 *e*P **Pn** **17 08 51.9 +1.2**
AVH Avacha 0.84 351 PN **Pn** **17 08 52.9 +1.6**
AVH Avacha 0.84 351 *e*P **Pn** **17 08 53.0 +1.6**
KDTR Khodutka, Kamc 0.84 221 PN **Pn** **17 08 52.4 +1.2**
KDTR S **Sn** **17 09 04.3 +1.4**
KDTR Khodutka, Kamc 0.84 221 *e*P **Pn** **17 08 52.5 +1.2**
KDTR *e*S **Sn** **17 09 04.3 +1.4**
KOK Koryaka 0.88 347 PN **Pn** **17 08 53.5 +1.6**
KOK Koryaka 0.88 347 *e*P **Pn** **17 08 53.5 +1.6**
SPN Mys Shipunski 0.92 44 PN **Pn** **17 08 53.5 +1.2**
SPN S **Sn** **17 09 06.2 +1.4**
SPN Mys Shipunski 0.92 44 *e*P **Pn** **17 08 53.5 +1.2**
SPN *e*S **Sn** **17 09 06.2 +1.4**
KRX Arik 0.94 348 PN **Pn** **17 08 54.1 +1.4**
KRX Arik 0.94 348 *e*P **Pn** **17 08 54.1 +1.4**
PEA0B Petropavlovsk- 1.02 311 Pn **Pn** **17 08 55.5 +1.9**
PEA0B Sn **Sn** **17 09 10.1 +2.9**
PEA0B Petropavlovsk- 1.02 311 *i* PN **Pn** **17 08 54.0 +0.4**
PETK Petropavlovsk- 1.02 311 Pn **Pn** **17 08 54.4 +0.8**
PETK Petropavlovsk- 1.02 311 P **Pn** **17 08 54.7 +1.0**
comp=N,4μm,0.4s,baz=109,slow=18,SNR=5293
PETK S **Sn** **17 09 10.2 +3.0**
comp=N,2μm,0.5s,baz=129,slow=21,SNR=16
APC Apacha 1.20 294 PN **Pn** **17 08 58.5 +2.5**
APC S **Sn** **17 09 14.7 +3.3**
APC Apacha 1.20 294 *e*P **Pn** **17 08 58.6 +2.5**
APC *e*S **Sn** **17 09 14.8 +3.3**
GNL Ganaly 1.40 334 PN **Pn** **17 09 00.8 +2.0**
GNL Ganaly 1.40 334 *e*P **Pn** **17 09 00.8 +2.0**
KII Karymskiy 1.62 10 PN **Pn** **17 09 03.9 +2.1**
KII Karymskiy 1.62 10 *e*P **Pn** **17 09 03.9 +2.1**
PAU Pauzhetka 1.65 235 PN **Pn** **17 09 04.1 +2.1**
PAU Pauzhetka 1.65 235 *e*P **Pn** **17 09 04.2 +2.1**
SKR Severo-Kuril's 2.50 226 PN **Pn** **17 09 15.3 +1.7**
SKR S **Sn** **17 09 44.1 +1.2**
SKR Severo-Kuril's 2.50 226 *e*P **Pn** **17 09 15.3 +1.7**
SKR *e*S **Sn** **17 09 44.2 +1.2**
TUMD Tumrok D 2.90 16 *e*P **Pn** **17 09 21.3 +2.3**
TUMD *e*S **Sn** **17 09 56.7 +4.2**
KMNR Kamenistaya 3.41 12 PN **Pn** **17 09 29.7 +3.7**
KMNR Kamenistaya 3.41 12 *e*P **Pn** **17 09 29.7 +3.7**
ESO Esso 3.50 358 PN **Pn** **17 09 30.0 +2.8**
ESO Esso 3.50 358 *e*P **Pn** **17 09 30.1 +2.8**
KPT Kopyto 3.61 11 PN **Pn** **17 09 32.6 +3.8**
KPT Kopyto 3.61 11 *e*P **Pn** **17 09 32.7 +3.8**
KIRR Kirishev 3.61 12 PN **Pn** **17 09 31.6 +2.7**
KIRR Kirishev 3.61 12 *e*P **Pn** **17 09 31.7 +2.7**
BZGR Bezymyannyi-Gr 3.65 15 PN **Pn** **17 09 33.2 +3.8**
BZGR Bezymyannyi-Gr 3.65 15 *e*P **Pn** **17 09 33.3 +3.8**
KOZ Kozyrevsk 3.66 8 PN **Pn** **17 09 32.5 +3.0**
KOZ Kozyrevsk 3.66 8 *e*P **Pn** **17 09 32.5 +3.0**
KRSR Krestovskiy 3.90 13 PN **Pn** **17 09 35.2 +2.5**
KRSR Krestovskiy 3.90 13 *e*P **Pn** **17 09 35.3 +2.5**
SRDR Sredinnyy 3.91 6 PN **Pn** **17 09 36.6 +3.7**
SRDR Sredinnyy 3.91 6 *e*P **Pn** **17 09 36.6 +3.7**
KBTR Krutoberegovo 4.40 29 PN **Pn** **17 09 41.3 +1.8**
KBTR Krutoberegovo 4.40 29 *e*P **Pn** **17 09 41.3 +1.8**
SMKR Semkarok 4.40 18 PN **Pn** **17 09 42.5 +2.9**
SMKR Semkarok 4.40 18 *e*P **Pn** **17 09 42.6 +2.9**
KBG Krutoberegovo 4.40 28 PN **Pn** **17 09 41.3 +1.8**
KBG S **Sn** **17 10 35.9 +6.5**
KBG Krutoberegovo 4.40 28 *e*P **Pn** **17 09 41.3 +1.8**
KBG *e*S **Sn** **17 10 36.0 +6.5**
OSSR Ossora 7.20 17 PN Pn 17 10 24.3 +6.5
OSSR Ossora 7.20 17 *e*P Pn 17 10 24.4 +6.5
MA2 Magadan 8.49 331 **Pn** **17 10 34.9 -0.6**
MA2 Magadan 8.49 331 P **Pn** **17 10 37.2 +1.7**
comp=N,12nm,0.7s,baz=136,slow=11,SNR=14
MA2 S **Sn** **17 12 03.8 -5.9**
comp=N,8.1nm,0.8s,baz=186,slow=8.7,SNR=4.1
MA2 LR LR 17 14 12.0
comp=N,217nm,19.7s,baz=130,slow=40
MA2 Magadan 8.49 331 *i* PN **Pn** **17 10 37.0 +1.5**
TYV Tymovskoe 10.26 268 *e*PN Pn 17 11 05.4 +5.7
TYV pmax pmax
comp=Z,11nm,1.2s
TYV pmax pmax
comp=Z,200nm,4.0s
SEY Seymchan 11.09 344 P **Pn** **17 11 13.2 +2.3**
comp=Z,4.0nm,0.9s
SEY Seymchan 11.09 344 *ce*PN **Pn** **17 11 13.5 +2.6**
SEY pmax pmax
comp=Z,9.0nm,1.7s
UGL Uglegorsk 11.22 259 *e*PN Pn 17 11 20.1 +7.3
UGL pmax pmax
comp=Z,60nm,0.8s
UGL MLR MLR
comp=N,1μm,14.0s
UGL MLR MLR
comp=Z,2μm,17.0s
SHO Shikotan 11.79 228 PN **Pn** **17 11 17.5 -3.0**
YSS Yuzhno-Sakhali 11.84 249 Pn **Pn** **17 11 23.0 +1.7**
YSS Yuzhno-Sakhali 11.84 249 *e*PN **Pn** **17 11 23.7 +2.5**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,300nm,14.0s
YUK Yuzh-Kuril'sk 12.11 231 *e*PN **Pn** **17 11 24.8 -0.2**
NMR Nemuro--Hokkai 12.68 230 *e*PN **Pn** **17 11 30.4 -2.3**
JKA Kamikawa-asahi 13.69 239 Pn **Pn** **17 11 48.3 +1.8**
ASAJ Asahikawa 13.69 239 P **Pn** **17 11 49.4 +2.8**
comp=Z,29nm,0.8s,baz=68,slow=14,SNR=25
GRNR Gornyy 14.10 272 ⇑ *i* P **P** **17 12 00.6 +2.7**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 16.04 10 P **Pn** **17 12 15.7 -1.1**
BILL Bilibino 16.04 10 *i* P **P** **17 12 19.6 +0.3**
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL MLR MLR
comp=Z,75nm,13.0s
JTM Tenmabayashi 16.89 233 Pn **Pn** **17 12 22.7 -4.9**
JTM IAmb IAmb 17 12 41.0
comp=Z,87nm,1.5s
KLR Kul'dur 17.45 270 P **P** **17 12 37.6 +2.7**
comp=Z,5.7nm,0.7s,baz=60,slow=9.6,SNR=9.7
KLR Kul'dur 17.45 270 *i* P **P** **17 12 36.4 +1.5**
KLR pmax pmax
comp=Z,6.0nm,0.8s
YAK Yakutsk 18.37 313 P **P** **17 12 42.2 -2.7**
YAK IAmb IAmb 17 13 08.5
comp=Z,22nm,0.7s
YAK Yakutsk 18.37 313 P **P** **17 12 44.6 -0.3**
comp=Z,21nm,0.8s,baz=87,slow=1.8,SNR=6.1
YAK LR LR 17 19 41.7
comp=Z,101nm,21.9s,baz=109,slow=36
YAK Yakutsk 18.37 313 *e*P **P** **17 12 45.0 +0.1**
YAK *e*S **S** **17 16 10.3 -0.8**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK smax smax
comp=E,17nm,1.4s
YAK smax smax
comp=N,204nm,5.0s
GAMB Gambell 19.00 42 P **P** **17 12 51.5 -0.4**
ZEA Zeya 19.02 287 *e*P **P** **17 12 52.6 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
JMM Marumori 19.33 228 P **P** **17 12 56.5 +0.9**
JMM IAmb IAmb 17 12 57.5
comp=Z,32nm,1.2s
USA0B Ussuriysk Arra 19.65 256 *i* P **Pn** **17 13 01.9 +0.9**
USRK Ussuriysk Ar. 19.65 256 P **P** **17 12 59.2 +0.1**
comp=Z,3.1nm,0.8s,baz=46,slow=11,SNR=4.2
VLA Vladivostok 20.34 254 *i* P Pn 17 13 09.5 +0.4
JSD Sado 20.39 233 P **P** **17 13 07.2 +0.1**
JSD IAmb IAmb 17 13 30.3
comp=Z,58nm,1.3s
UNV Unalaska Valle 20.64 72 P **P** **17 13 10.1 +0.4**
baz=281
MDJ Mudanjiang 20.86 260 P **P** **17 13 12.6 +0.4**
MDJ pmax pmax
comp=Z,7.0nm,2.2s
MSHR Mys Shultsa 21.09 253 *i* P **P** **17 13 17.3 +2.6**
MSHR pmax pmax
comp=Z,37nm,1.4s
K13K Kusilvak Mount 21.59 50 P **P** **17 13 21.0 +1.2**
K13K Kusilvak Mount 21.59 50 P **P** **17 13 19.1 -0.7**
baz=261
MJAR Matsushiro Arr 21.60 231 P **P** **17 13 21.4 +1.2**
comp=Z,14nm,0.9s,baz=20,slow=11,SNR=28
comp=Z,14nm,0.9s
MJB9 Matsu-Tunnel 21.60 231 P **P** **17 13 21.2 +1.0**
MJB9 IAmb IAmb 17 13 23.3
comp=Z,28nm,0.8s
MAJO Matsushiro 21.60 231 P **P** **17 13 21.2 +1.0**
MAJO IAmb IAmb 17 13 22.3
comp=Z,29nm,0.8s
MAJO Matsushiro 21.60 231 *i* P **P** **17 13 21.7 +1.5**
MAJO pmax pmax
comp=Z,27nm,0.9s
BNX BinXian 21.61 265 ⇓ P **P** **17 13 20.7 +0.6**
BNX pmax pmax
comp=Z,12nm,0.8s
F14K Arctic Creek 21.78 40 P **P** **17 13 20.7 -1.1**
baz=251
ANM Nome 21.88 43 P **P** **17 13 23.4 +0.5**
ANM Nome 21.88 43 P **P** **17 13 21.8 -1.1**
baz=254
ANM Nome 21.88 43 P **P** **17 13 23.4 +0.5**
ANM pmax pmax
comp=Z,20nm,1.4s
M13K Dall Lake 22.04 54 P **P** **17 13 25.4 +0.8**
M13K IAmb IAmb 17 13 27.0
comp=Z,44nm,1.3s
M13K Dall Lake 22.04 54 P **P** **17 13 23.9 -0.8**
baz=266
J14K Nanvaranak Lak 22.24 48 P **P** **17 13 26.2 -0.6**
J14K IAmb IAmb 17 13 43.7
comp=Z,29nm,1.4s
J14K Nanvaranak Lak 22.24 48 P **P** **17 13 26.3 -0.4**
baz=260
L14K Kuka Creek 22.45 52 P **P** **17 13 28.6 -0.4**
baz=265
F15K North Star Dit 22.52 40 P **P** **17 13 29.1 -0.6**
F15K North Star Dit 22.52 40 P **P** **17 13 29.1 -0.6**
baz=252
G15K Niukluk 22.55 42 P **P** **17 13 29.5 -0.6**
baz=255
M14K Bethel 22.75 53 P **P** **17 13 32.8 +0.6**
M14K IAmb IAmb 17 14 08.1
comp=Z,40nm,1.4s
M14K Bethel 22.75 53 P **P** **17 13 32.3 +0.1**
baz=267
JGF Kuroka 22.77 231 P **P** **17 13 32.8 +0.1**
JGF IAmb IAmb 17 13 42.0
comp=Z,54nm,1.5s
N14K Kuskokwak Cree 22.85 55 P **P** **17 13 33.5 +0.3**
baz=269
O14K Tigyukauivet M 23.05 57 P **P** **17 13 35.5 +0.1**
O14K Tigyukauivet M 23.05 57 P **P** **17 13 35.9 +0.6**
baz=271
K15K Wolf Creek Mou 23.10 49 P **P** **17 13 35.7 -0.1**
baz=264
INU Inuyama 23.14 231 P **P** **17 13 36.8 +0.4**
H16K Elim 23.20 43 P **P** **17 13 36.3 -0.5**
baz=258
C16K Lisburne Hills 23.22 33 P **P** **17 13 36.5 -0.4**
C16K IAmb IAmb 17 13 37.6
comp=Z,20nm,0.8s
C16K Lisburne Hills 23.22 33 P **P** **17 13 35.9 -1.0**
baz=246
G16K Koyuk River 23.34 41 P **P** **17 13 37.4 -0.6**
baz=256
M15K Kasigluk River 23.37 53 P **P** **17 13 38.6 +0.2**
baz=268
TIXI Tiksi 23.40 336 P **P** **17 13 37.9 -0.6**
TIXI IAmb IAmb 17 13 40.5
comp=Z,16nm,0.7s
TIXI **PcP** **17 17 22.6 -0.2**
TIXI Tiksi 23.40 336 LR LR 17 23 39.9
comp=Z,102nm,19.9s,baz=182,slow=39
TIXI Tiksi 23.40 336 *i* P **P** **17 13 39.7 +1.2**
TIXI pmax pmax
comp=Z,13nm,0.8s
N15K Kwethluk River 23.65 55 P **P** **17 13 42.0 +1.0**
N15K IAmb IAmb 17 14 19.7
comp=Z,34nm,1.3s
N15K Kwethluk River 23.65 55 P **P** **17 13 41.1 +0.1**
baz=270
J16K Anvik River 23.66 47 P **P** **17 13 42.3 +1.3**
J16K Anvik River 23.66 47 P **P** **17 13 41.0 0.0**
baz=262
I17K Unalakleet 23.71 45 P **P** **17 13 41.3 -0.1**
baz=261
JHJ2 Mitsune 23.76 223 P **P** **17 13 44.2 +2.1**
D17K Noatak River 23.78 36 P **P** **17 13 42.1 0.0**
baz=250,SNR=9.9
O15K Ungalikthiuk R 23.80 57 P **P** **17 13 43.2 +0.9**
baz=272
RDOG Red Dog Mine 23.97 35 P **P** **17 13 43.8 -0.1**
RDOG IAmb IAmb 17 13 46.0
comp=Z,40nm,1.0s
RDOG Red Dog Mine 23.97 35 P **P** **17 13 44.0 +0.2**
baz=249,SNR=17
L16K Owhat River 24.01 51 P **P** **17 13 44.3 +0.1**
baz=267
E17K Hotham Inlet 24.03 37 P **P** **17 13 44.8 +0.4**
baz=252,SNR=15
C17K DeLong Mountai 24.04 34 P **P** **17 13 44.6 +0.2**
baz=248
G17K Kiwalik Mounta 24.05 42 P **P** **17 13 45.5 +0.9**
baz=257
F17K Baldwin Pennin 24.06 39 P **P** **17 13 45.0 +0.4**
F17K IAmb IAmb 17 13 46.9
comp=Z,16nm,0.8s
F17K Baldwin Pennin 24.06 39 P **P** **17 13 45.2 +0.6**
baz=255
M16K Timber Creek 24.23 53 P **P** **17 13 47.5 +1.2**
baz=269
H17K Granite Mounta 24.24 43 P **P** **17 13 47.2 +0.9**
H17K Granite Mounta 24.24 43 P **P** **17 13 47.1 +0.8**
baz=259
J17K VABM Dome 24.35 47 P **P** **17 13 47.8 +0.4**
J17K VABM Dome 24.35 47 P **P** **17 13 48.4 +1.1**
baz=264
E18K Tukpahlearik C 24.59 37 P **P** **17 13 50.1 +0.6**
E18K Tukpahlearik C 24.59 37 P **P** **17 13 50.0 +0.6**
baz=253,SNR=6.8
L17K Donlin 24.59 50 P **P** **17 13 50.5 +0.9**
baz=267
K17K Iditarod 24.64 49 P **P** **17 13 50.5 +0.6**
baz=266
O16K Kokwok River B 24.67 56 P **P** **17 13 51.7 +1.5**
baz=273
F18K Selawik 24.72 39 P **P** **17 13 51.6 +1.0**
baz=256
HIA Hailar 24.75 278 P **P** **17 13 50.4 -0.8**
HIA Hailar 24.75 278 P **P** **17 13 50.4 -0.8**
HIA pmax pmax
comp=Z,15nm,1.0s
C18K Utukok River 24.78 34 IAmb IAmb 17 13 53.4
comp=Z,28nm,0.7s
C18K Utukok River 24.78 34 P **P** **17 13 51.9 +0.7**
baz=250
B18K Kokolik River 24.84 32 P **P** **17 13 52.4 +0.7**
baz=248
H18K Honhosa River 24.92 43 P **P** **17 13 52.7 +0.2**
H18K Honhosa River 24.92 43 P **P** **17 13 53.4 +0.8**
baz=261,SNR=6.0
G18K Tagagawik 24.95 41 P **P** **17 13 53.1 +0.3**
G18K Tagagawik 24.95 41 P **P** **17 13 53.0 +0.3**
baz=259
M17K Holitna River 24.97 52 P **P** **17 13 53.8 +0.8**
M17K IAmb IAmb 17 13 56.0
comp=Z,22nm,1.0s
M17K Holitna River 24.97 52 P **P** **17 13 53.5 +0.5**
baz=270,SNR=5.9
N17K Nushagak Hills 25.09 54 P **P** **17 13 54.9 +0.8**
baz=272
O17K Koliganek Bris 25.16 56 P **P** **17 13 55.5 +0.8**
baz=273
L18K Granite Mounta 25.35 50 P **P** **17 13 56.9 +0.4**
baz=268
J18K Innoko River 25.42 47 P **P** **17 13 57.1 +0.1**
J18K Innoko River 25.42 47 P **P** **17 13 57.3 +0.3**
baz=266
F19K Shaleruckik Mo 25.50 39 P **P** **17 13 58.2 +0.5**
baz=258,SNR=9.2
G19K Purcell Mounta 25.62 41 P **P** **17 13 59.1 +0.3**
G19K Purcell Mounta 25.62 41 P **P** **17 13 59.1 +0.3**
baz=260
TTA Tatalina 25.70 48 P **P** **17 13 59.1 -0.5**
TTA Tatalina 25.70 48 P **P** **17 14 00.0 +0.4**
baz=268
TTA Tatalina 25.70 48 P **P** **17 13 59.2 -0.5**
TTA pmax pmax
comp=Z,7.0nm,1.1s
N18K Kilae Creek 25.73 53 P **P** **17 14 00.5 +0.6**
baz=272
M18K Stony River 25.75 52 P **P** **17 14 00.4 +0.4**
baz=271
H19K Roundabout Mou 25.78 42 IAmb IAmb 17 14 02.0
comp=Z,11nm,0.7s
H19K Roundabout Mou 25.78 42 P **P** **17 13 59.8 -0.4**
baz=262
D19K Kuna River 25.80 35 P **P** **17 13 59.9 -0.6**
baz=254
E19K Redstone River 25.85 38 P **P** **17 14 00.1 -0.8**
baz=257
J19K Poorman 25.95 46 P **P** **17 14 01.5 -0.3**
baz=266
JMN Monobe 25.97 234 P **P** **17 14 04.2 +1.9**
JMN IAmb IAmb 17 14 15.3
comp=Z,35nm,1.2s
F20K Avaraart Lake 26.33 39 P **P** **17 14 04.4 -0.8**
baz=259
KSRS Korea Array 26.34 248 P **P** **17 14 06.4 +0.9**
comp=Z,2.4nm,0.8s,baz=48,slow=8.7,SNR=6.8
comp=Z,2.4nm,0.8s
KSAR Wonju Array Be 26.37 248 P **P** **17 14 06.4 +0.6**
KSAR Wonju Array Be 26.37 248 P **P** **17 14 06.4 +0.6**
D20K Etivluk River 26.39 35 P **P** **17 14 04.8 -1.0**
baz=255
N19K Bonanza Creek 26.42 53 P **P** **17 14 06.3 +0.2**
baz=273
H20K Anotleneega Mo 26.42 43 P **P** **17 14 05.9 -0.2**
baz=263
E20K Nigu River 26.43 36 P **P** **17 14 05.7 -0.5**
baz=256
K20K Telida 26.60 47 P **P** **17 14 07.9 +0.2**
baz=268
J20K Nowinta River 26.61 46 P **P** **17 14 07.5 -0.3**
baz=267
L20K Farewell, AK 26.67 49 P **P** **17 14 08.7 +0.3**
baz=270
M20K Styx River 27.03 51 P **P** **17 14 11.9 +0.3**
M20K Styx River 27.03 51 P **P** **17 14 12.0 +0.3**
baz=272
C21K Knifeblade Rid 27.14 35 P **P** **17 14 12.2 -0.4**
baz=256
A21K Barrow 27.20 30 P **P** **17 14 12.4 -0.5**
baz=250
F21K Alatna River 27.23 39 P **P** **17 14 13.0 -0.3**
baz=261
H21K Melozitna Rive 27.30 42 P **P** **17 14 13.4 -0.6**
baz=265
B21K Ikpikpuk River 27.32 34 IAmb IAmb 17 14 15.6
comp=Z,17nm,0.8s
B21K Ikpikpuk River 27.32 34 P **P** **17 14 13.8 -0.3**
baz=256
CHUM Lake Minchumin 27.40 46 P **P** **17 14 14.9 +0.1**
baz=269
CAST Castle Rocks 27.49 47 P **P** **17 14 16.0 +0.3**
CAST Castle Rocks 27.49 47 P **P** **17 14 15.6 -0.2**
baz=270
STLK Strandline Lak 27.66 51 P **P** **17 14 17.4 +0.1**
SKT Skwentna 27.78 50 P **P** **17 14 18.5 +0.2**
baz=273
D22K Ayikyak River 27.82 35 P **P** **17 14 18.0 -0.6**
baz=259
B22K Teshekpuk Lake 27.90 32 IAmb IAmb 17 14 36.7
comp=Z,13nm,1.1s
B22K Teshekpuk Lake 27.90 32 P **P** **17 14 19.4 +0.1**
baz=256
JNU Nakatsue 27.96 237 P **P** **17 14 21.3 +1.1**
JNU IAmb IAmb 17 15 00.1
comp=Z,24nm,1.3s
JNU Nakatsue 27.96 237 P **P** **17 14 22.1 +1.9**
comp=Z,8.8nm,0.8s,baz=17,slow=5.6,SNR=5.4
comp=Z,8.8nm,0.8s
BPAW Bear Paw Mtn. 27.99 46 P **P** **17 14 19.7 -0.5**
baz=270
E22K Anaktuvuk Pass 28.00 37 P **P** **17 14 20.2 0.0**
E22K Anaktuvuk Pass 28.00 37 P **P** **17 14 20.0 -0.3**
baz=261
CNPM China Poot 28.15 56 P **P** **17 14 21.4 -0.3**
CNPM IAmb IAmb 17 14 51.3
comp=Z,20nm,1.2s
SUA Susitna One 28.18 51 P **P** **17 14 22.0 0.0**
baz=275
BRLK Bradley Lake 28.29 55 P **P** **17 14 22.4 -0.5**
TRF Thorofare Moun 28.30 47 P **P** **17 14 22.9 -0.2**
TRF Thorofare Moun 28.30 47 P **P** **17 14 22.1 -1.0**
baz=272
COLD Coldfoot 28.49 39 P **P** **17 14 24.8 +0.2**
COLD Coldfoot 28.49 39 P **P** **17 14 24.1 -0.5**
baz=265
SLKM Skilak Lake 28.53 53 P **P** **17 14 25.3 +0.3**
SLKM IAmb IAmb 17 14 40.0
comp=Z,15nm,1.2s
D23K Nanushuk River 28.55 36 P **P** **17 14 25.2 +0.1**
D23K Nanushuk River 28.55 36 P **P** **17 14 25.0 0.0**
baz=261
RC01 Rabbit Creek A 28.70 52 P **P** **17 14 26.3 -0.2**
baz=277
C23K Itkillik River 28.73 34 IAmb IAmb 17 14 53.3
comp=Z,20nm,1.4s
C23K Itkillik River 28.73 34 P **P** **17 14 26.5 -0.1**
baz=260
E23K Chandalar 28.81 38 IAmb IAmb 17 14 44.6
comp=Z,13nm,1.1s
E23K Chandalar 28.81 38 P **P** **17 14 27.4 -0.1**
baz=264
NEA2 Nenana 28.83 45 P **P** **17 14 27.7 +0.1**
NEA2 Nenana 28.83 45 P **P** **17 14 27.3 -0.3**
baz=271
TOLK Toolik Lake Re 28.90 36 P **P** **17 14 28.2 0.0**
TOLK Toolik Lake Re 28.90 36 P **P** **17 14 27.8 -0.4**
baz=263
MCK McKinley 28.90 47 P **P** **17 14 27.9 -0.4**
baz=272
PMR Palmer 28.95 51 P **P** **17 14 28.7 +0.1**
baz=276
RND Reindeer 28.95 47 P **P** **17 14 27.8 -0.9**
RND Reindeer 28.95 47 P **P** **17 14 27.8 -0.9**
RND pmax pmax
comp=Z,22nm,1.4s
GHO Glory Hole Cre 29.03 51 P **P** **17 14 29.6 +0.2**
GHO IAmb IAmb 17 15 07.7
comp=Z,18nm,1.4s
E24K Your Creek 29.23 38 IAmb IAmb 17 14 35.4
comp=Z,6.3nm,0.6s
E24K Your Creek 29.23 38 P **P** **17 14 30.3 -0.9**
baz=265
D24K Happy Valley 29.24 35 P **P** **17 14 30.5 -0.6**
baz=263
WRH Wood River Hil 29.25 45 P **P** **17 14 31.6 +0.3**
KNK Knik Glacier 29.28 51 P **P** **17 14 31.7 0.0**
baz=266
KNK IAmb IAmb 17 14 32.8
comp=Z,17nm,0.8s
KNK Knik Glacier 29.28 51 P **P** **17 14 31.5 -0.1**
baz=277,SNR=8.1
SML Sawmill 29.30 51 P **P** **17 14 32.2 +0.3**
SML Sawmill 29.30 51 P **P** **17 14 31.5 -0.3**
baz=276,SNR=8.8
SML Sawmill 29.30 51 P **P** **17 14 32.2 +0.3**
SML pmax pmax
comp=Z,25nm,0.8s
H24K Noodor Dome 29.34 42 P **P** **17 14 31.2 -1.0**
baz=270
C24K Franklin Bluff 29.36 34 P **P** **17 14 32.2 0.0**
baz=262
CCB Clear Creek Bu 29.37 45 P **P** **17 14 31.9 -0.5**
F24K Squaw Lake 29.41 39 P **P** **17 14 32.7 0.0**
baz=266
PWL Port Wells 29.41 52 P **P** **17 14 32.9 +0.1**
baz=278
XLT XiLinHaoTe 29.47 270 *e*P **P** **17 14 31.2 -2.4**
XLT pP pP 17 14 52.1 +3.8
XLT sP sP 17 14 59.4 +4.1
XLT S **S** **17 19 16.1 -7.5**
XLT sS sS 17 19 51.0 +3.6
XLT pmax pmax
comp=Z,5.0nm,0.7s

XLT LR LR
comp=Z,190nm,13.2s
XLT LR LR
comp=Z,390nm,16.2s
POKR Poker Plat Res 29.52 44 P P 17 14 32.8 -0.9
baz=271
G24K Hadweenzic Riv 29.53 40 P P 17 14 33.4 -0.4
baz=268
M23K Glacier View 29.59 50 P P 17 14 34.2 -0.2
baz=277
HDA Harding Lake 29.75 45 P P 17 14 36.0 +0.3
baz=273,SNR=6.1
IL31 29.76 44 P P 17 14 35.1 -0.7
ILAR Eielson Array 29.76 44 P P 17 14 34.5 -1.3
ILAR Eielson Array 29.76 44 P P 17 14 35.3 -0.5
comp=Z,4.7nm,0.8s,baz=263,slow=7.9,SNR=33
comp=Z,4.7nm,0.8s
SCM Sheep Creek Mo 29.77 50 P P 17 14 35.9 -0.2
SCM IAmb IAmb 17 14 37.4
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 29.77 50 P P 17 14 36.0 -0.1
baz=277,SNR=5.4
SCM Sheep Creek Mo 29.77 50 P P 17 14 35.9 -0.2
SCM pmax pmax
comp=Z,14nm,0.8s
GLI Glacier Island 30.01 52 P P 17 14 38.3 +0.2
baz=279
D25K Kavik River 30.12 35 P P 17 14 38.3 -0.7
baz=265
F25K Christian Rive 30.27 39 P P 17 14 39.8 -0.6
baz=268
M24K Tolsona, Glenn 30.28 50 P P 17 14 40.0 -0.6
baz=278
K24K Donnelly Dome 30.30 46 P P 17 14 40.0 -0.6
baz=275
PRP Porcupine Dome 30.32 43 IAmb IAmb 17 14 42.9
comp=Z,9.2nm,0.8s
PRP Porcupine Dome 30.32 43 P P 17 14 39.9 -1.0
baz=272,SNR=5.5
E25K Arctic Village 30.33 38 IAmb IAmb 17 15 12.3
comp=Z,7.6nm,0.6s
E25K Arctic Village 30.33 38 P P 17 14 40.0 -0.9
baz=268
J25K Salcha River, 30.42 45 P P 17 14 40.6 -1.1
baz=279
KLU Klutina 30.48 51 P P 17 14 41.7 -0.7
baz=279
PAX Paxson 30.51 48 P P 17 14 42.2 -0.3
baz=277
BMAR Burnt Mountain 30.68 39 P P 17 14 44.5 +0.5
C26K Camden Bay 30.69 34 P P 17 14 43.3 -0.6
baz=265
EYAK Cordova Ski Ar 30.71 53 P P 17 14 43.8 -0.5
baz=280
RIDG Independent Ri 30.71 46 P P 17 14 43.7 -0.6
baz=276
HARP HAARP 30.72 49 P P 17 14 44.0 -0.3
baz=278
F26K Sheenjek River 30.85 39 IAmb IAmb 17 15 18.2
comp=Z,6.5nm,0.5s
F26K Sheenjek River 30.85 39 P P 17 14 45.0 -0.5
baz=270
G26K Porcupine Rive 30.99 40 P P 17 14 46.7 +0.1
baz=271
SCRK Sand Creek 31.07 46 P P 17 14 46.6 -0.9
SCRK Sand Creek 31.07 46 P P 17 14 46.9 -0.6
baz=276,SNR=7.3
C27K Jago River 31.08 35 P P 17 14 47.5 0.0
baz=267
N25K Chitina, Valde 31.09 50 P P 17 14 48.2 +0.5
N25K Chitina, Valde 31.09 50 P P 17 14 47.5 -0.3
baz=280
BMRM Bremner River 31.20 52 P P 17 14 48.8 +0.2
BMRM IAmb IAmb 17 14 50.2
comp=Z,13nm,0.9s
BMRM Bremner River 31.20 52 P P 17 14 48.5 -0.1
baz=281
J26L Joseph Creek 31.21 45 P P 17 14 48.2 -0.5
baz=276
I26K Coal Creek Min 31.32 43 P P 17 14 48.8 -0.7
baz=275
L26K Log Cabin Wild 31.46 48 P P 17 14 50.2 -0.7
baz=278
GLB Gilahina Butte 31.49 51 P P 17 14 51.2 +0.1
VRDI Verde Repeater 31.70 51 P P 17 14 53.0 -0.2
VRDI IAmb IAmb 17 15 27.8
comp=Z,11nm,1.2s
M26K Nabesna, AK 31.71 49 IAmb IAmb 17 14 56.1
comp=Z,11nm,1.0s
M26K Nabesna, AK 31.71 49 P P 17 14 53.4 +0.2
baz=280
G27K Doyon Strip 31.84 40 P P 17 14 54.2 0.0
baz=273
H27K Steamboat Moun 31.92 41 P P 17 14 55.3 +0.4
baz=274
I27K Kandik River 31.93 43 P P 17 14 55.7 +0.7
baz=275
BGLC Bering Glacier 32.00 53 P P 17 14 56.4 +0.9
baz=283
D27M Malcolm River 32.04 36 P P 17 14 56.0 +0.1
baz=270
L27K Beaver Creek, 32.15 47 P P 17 14 57.8 +0.9
baz=279
BCAR Beaver Creek A 32.16 47 P P 17 14 58.2 +1.1
EGAK Eagle 32.21 44 IAmb IAmb 17 14 57.5
comp=Z,7.6nm,0.7s
EGAK Eagle 32.21 44 P P 17 14 56.7 -0.7
baz=277,SNR=5.3
M27K Edge Creek, AK 32.24 49 IAmb IAmb 17 14 59.9
comp=Z,12nm,0.9s
M27K Edge Creek, AK 32.24 49 P P 17 14 57.8 0.0
baz=280
F28M Old Crow 32.48 39 P P 17 14 59.6 -0.2
baz=274,SNR=8.9
E28M Babbage River 32.57 37 P P 17 15 01.0 +0.5
baz=272
MESA MESA 32.64 53 P P 17 15 01.5 +0.1
baz=284
I28M Miner Creek 32.65 43 IAmb IAmb 17 15 05.3
comp=Z,8.4nm,0.8s
I28M Miner Creek 32.65 43 P P 17 15 01.2 -0.1
baz=277
BVCY Beaver Creek 32.69 48 P P 17 15 01.7 0.0
baz=281
YUK3 Moose Creek 33.00 49 P P 17 15 04.0 -0.6
baz=282,SNR=6.3
DAWY Dawson 33.07 45 P P 17 15 04.4 -0.5
baz=280,SNR=5.3
E29M Blow River 33.18 37 P P 17 15 05.4 -0.4
baz=274
H29M Whitestone 33.20 41 P P 17 15 05.5 -0.5
H29M IAmb IAmb 17 15 07.2
comp=Z,10nm,1.1s
H29M Whitestone 33.20 41 P P 17 15 05.3 -0.7
baz=277
H11N2 WAKE ISLAND Hy 33.23 166 T T 17 51 02.4
baz=352,slow=76,SNR=848
H11N3 WAKE ISLAND Hy 33.24 166 T T 17 51 01.4
baz=352,slow=76,SNR=850
H11N1 WAKE ISLAND Hy 33.24 166 T T 17 51 13.3
baz=352,slow=76,SNR=668
G29M Pine Creek 33.26 40 P P 17 15 06.0 -0.5
baz=276
I29M Ogilvie Camp, 33.33 43 P P 17 15 06.5 -0.7
baz=279
O28M Mount Upton 33.35 51 P P 17 15 07.8 +0.1
baz=284
SONM Songino Array 33.38 284 P P 17 15 06.5 -1.5
SONM Songino Array 33.38 284 P P 17 15 07.4 -0.6
comp=Z,0.6nm,0.5s,baz=67,slow=8.6,SNR=6.7
SONM PcP **PcP 17 17 48.7 +0.5**
comp=Z,2.2nm,0.8s,baz=99,slow=1.6,SNR=9.1
comp=Z,0.6nm,0.5s
SONM Songino Array 33.38 284 P P 17 15 06.5 -1.5
SONM pmax pmax
comp=Z,2.0nm,1.3s
YUK8 Steele Glacier 33.43 50 P P 17 15 08.2 -0.3
baz=284
PINM Pinnacle 33.48 52 P P 17 15 08.8 +0.2
baz=285
J29N Klondike Camp 33.51 44 IAmb IAmb 17 15 10.7
comp=Z,13nm,1.2s
J29N Klondike Camp 33.51 44 P P 17 15 08.6 -0.2
baz=280
M29M Somme Creek 33.78 48 P P 17 15 10.8 -0.4
baz=283
L29M L29M 33.79 47 P P 17 15 10.9 -0.4
baz=282

HHC Hu-ho-hao-te 33.95 269 *eP* **P 17 15 13.3 +0.4**
HHC pmax pmax
comp=Z,14nm,1.0s
I30M Mount Dempster 34.16 43 P **P 17 15 14.5 +0.1**
I30M IAmb IAmb 17 15 15.1
comp=Z,11nm,0.8s
J30M Hart River 34.29 44 IAmb IAmb 17 15 14.3
comp=Z,10nm,1.2s
H11S1 WAKE ISLAND Hy 34.40 167 T T 17 51 39.5
baz=351,slow=76,SNR=118
H11S3 WAKE ISLAND Hy 34.41 167 T T 17 51 41.5
baz=351,slow=76,SNR=176
H11S2 WAKE ISLAND Hy 34.42 167 T T 17 51 40.7
baz=351,slow=76,SNR=63
INK Inuvik 34.80 37 P **P 17 15 19.6 -0.2**
INK IAmb IAmb 17 15 21.4
comp=Z,7.4nm,1.1s
INK Inuvik 34.80 37 P **P 17 15 19.0 -0.8**
baz=278,SNR=6.4
INK Inuvik 34.80 37 P **P 17 15 19.6 -0.2**
INK pmax pmax
comp=Z,7.0nm,1.1s
MOY Mondy 34.83 292 *eP* **P 17 15 20.2 -0.2**
F31M Tsiigehtchic 34.85 39 P **P 17 15 19.3 -0.9**
baz=279
P30M Million Dollar 35.06 52 P **P 17 15 22.4 +0.1**
baz=287
N31M Braeburn, Yuko 35.24 49 P **P 17 15 23.9 +0.1**
baz=286,SNR=6.0
O30N Mendenhall 35.29 50 IAmb IAmb 17 15 26.3
comp=Z,7.3nm,0.7s
O30N Mendenhall 35.29 50 P **P 17 15 24.7 +0.5**
baz=287
NJ2 Nanjing 35.40 251 *eP* **P 17 15 25.1 -0.2**
NJ2 pmax pmax
comp=Z,13nm,1.5s
PLBC Pleasant Camp 35.55 53 P **P 17 15 27.5 +1.1**
baz=288
M31M Drury Creek, Y 35.69 48 P **P 17 15 29.1 +1.5**
M31M IAmb IAmb 17 15 29.8
comp=Z,7.7nm,0.8s
M31M Drury Creek, Y 35.69 48 P **P 17 15 28.2 +0.7**
baz=286
WHY Whitehorse 35.90 50 P **P 17 15 29.7 +0.2**
baz=288,SNR=5.6
NRIK Noril'sk 36.05 325 PcP **PcP 17 17 55.9 +0.5**
comp=Z,3.2nm,0.5s,baz=95,slow=3.5,SNR=8.0
NRIK Noril'sk 36.05 325 *i* P **P 17 15 34.2 +3.7**
NRIK pmax pmax
comp=Z,2.0nm,1.4s
SKAG Skagway 36.05 52 P **P 17 15 31.1 +0.5**
baz=289
P32M Atlin 36.79 52 P **P 17 15 37.8 +0.8**
baz=290
P33M Teslin, Yukon 37.01 50 P **P 17 15 40.1 +1.2**
P33M IAmb IAmb 17 15 41.3
comp=Z,10nm,1.1s
P33M Teslin, Yukon 37.01 50 P **P 17 15 39.5 +0.6**
baz=290
S32K Killisnoo 37.11 55 P **P 17 15 40.3 +0.7**
baz=292
Q32M Nakina River 37.70 52 P **P 17 15 44.9 -0.1**
baz=292
C36M Paulatuk 37.97 34 P **P 17 15 47.6 +0.8**
baz=285
R33M Jennings River 38.17 51 IAmb IAmb 17 15 51.8
comp=Z,8.3nm,0.9s
R33M Jennings River 38.17 51 P **P 17 15 49.1 +0.3**
baz=292
DLBC Dease Lake 38.98 52 P **P 17 15 57.7 +2.2**
DLBC IAmb IAmb 17 15 58.3
comp=Z,5.2nm,0.8s
DLBC Dease Lake 38.98 52 P **P 17 15 56.7 +1.2**
baz=294
T35M Bob Quinn 39.47 54 P **P 17 16 01.1 +1.5**
T35M IAmb IAmb 17 16 03.4
comp=Z,11nm,1.0s
T35M Bob Quinn 39.47 54 P **P 17 16 01.0 +1.5**
baz=295
GRNB Grenville Isla 41.01 59 P **P 17 16 13.5 +1.2**
GRNB IAmb IAmb 17 16 15.3
comp=Z,15nm,0.9s
KOTAN Kotaneelee Air 41.10 48 P **P 17 16 13.6 +0.7**
baz=295
TOAD Toad River Com 41.10 50 P **P 17 16 14.7 +1.7**
baz=296
LZH Lanzhou 41.65 269 *eP* **P 17 16 18.0 +0.1**
LZH sP sP 17 16 47.1 +7.2
LZH pmax pmax
comp=Z,6.0nm,1.1s
ZALV Zalesovo Beam 42.55 303 P **P 17 16 23.6 -1.2**
comp=Z,0.4nm,0.4s,baz=52,slow=9.6,SNR=3.3
ZALV PcP **PcP 17 18 16.1 -0.1**
comp=Z,1.2nm,0.4s,baz=76,slow=4.4,SNR=7.7
comp=Z,0.4nm,0.4s
EUNU Eureka 42.75 13 P **P 17 16 26.6 +0.4**
YKA Yellowknife Ar 44.11 42 P **P 17 16 37.7 +0.5**
comp=Z,1.7nm,0.8s,baz=297,slow=8.0,SNR=10
comp=Z,1.7nm,0.8s
RES Resolute Bay 44.18 21 P **P 17 16 38.2 +0.5**
RES IAmb IAmb 17 16 39.0
comp=Z,8.7nm,0.7s
RES Resolute Bay 44.18 21 LR LR 17 36 42.5
comp=Z,42nm,18.4s,baz=10.0,slow=38
RES Resolute Bay 44.18 21 P **P 17 16 38.2 +0.5**
RES pmax pmax
comp=Z,9.0nm,0.7s
WMQ Urumqi 46.54 289 *eP* **P 17 16 57.0 +0.2**
WMQ pP sP 17 17 16.7 -2.3
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=Z,670nm,17.9s
WMQ LR LR
comp=Z,280nm,17.7s
KURK Kurchatov 47.50 302 P **P 17 17 01.8 -2.3**
KURK IAmb IAmb 17 17 03.2
comp=Z,6.9nm,1.1s
KURK Kurchatov 47.50 302 P **P 17 17 01.8 -2.3**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURBB Kurchatov Arra 47.60 302 P **P 17 17 03.1 -1.8**
comp=Z,1.7nm,0.4s,baz=60,slow=7.5,SNR=13
KURBB PcP **PcP 17 18 32.6 -1.1**
comp=Z,1.5nm,0.6s,baz=54,slow=3.1,SNR=8.1
comp=Z,1.7nm,0.4s
SPA0 Spitsbergen Ar 47.66 350 *eP* **P 17 17 04.4 -0.7**
SPITS Spitsbergen Ar 47.66 350 P **P 17 17 04.0 -1.1**
comp=Z,1.8nm,0.3s,baz=58,slow=8.0,SNR=35
SPITS PcP **PcP 17 18 33.3 -0.2**
comp=Z,5.4nm,0.9s,baz=82,slow=7.8,SNR=1.6
comp=Z,1.8nm,0.3s
SPB2 Spitsbergen Ar 47.67 350 P **P 17 17 04.0 -1.1**
MK31 Makanchi Array 47.82 296 P **P 17 17 04.7 -2.0**
MK31 PcP **PcP 17 18 35.4 +0.7**
MKAR Makanchi Array 47.82 296 P **P 17 17 04.7 -2.0**
MKAR PcP **PcP 17 18 35.5 +0.8**
MKAR Makanchi Array 47.82 296 P **P 17 17 04.9 -1.8**
comp=Z,1.1nm,0.4s,baz=54,slow=6.7,SNR=28
MKAR PcP **PcP 17 18 33.5 -1.2**
comp=Z,0.7nm,0.6s,baz=70,slow=4.4,SNR=2.6
comp=Z,1.1nm,0.4s
MAKZ Makanchi 47.98 296 P **P 17 17 05.8 -2.2**
MAKZ Makanchi 47.98 296 P **P 17 17 05.8 -2.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.4s
NEEM North Greenlan 49.03 8 *i* P **P 17 17 14.5 -1.5**
NEEM IAmb IAmb 17 17 16.1
comp=Z,30nm,1.2s
LTY Liberty 49.55 62 P **P 17 17 20.4 +0.3**
B08A Colville Reser 49.60 60 P **P 17 17 20.3 0.0**
B08A IAmb IAmb 17 17 22.0
comp=Z,6.0nm,0.9s
BVAR Borovoye Array 50.26 308 P **P 17 17 23.3 -1.9**
comp=Z,2.6nm,0.4s,baz=57,slow=7.3,SNR=21
BVAR PcP **PcP 17 18 42.9 -0.4**
comp=Z,2.8nm,0.5s,baz=68,slow=2.7,SNR=6.0
comp=Z,2.6nm,0.4s
BRVK Borovoye 50.29 308 P **P 17 17 23.2 -2.2**
BRVK **PcP 17 18 42.5 -0.9**
BRVK Borovoye 50.29 308 P **P 17 17 23.2 -2.2**
BRVK 17 18 42.5
BRVK pmax pmax
comp=Z,4.0nm,0.9s
I04A Tendick Farm, 50.74 66 P **P 17 17 29.3 +0.2**
I04A IAmb IAmb 17 17 31.3
comp=Z,4.6nm,0.8s

I04A PcP **PcP 17 18 46.0 +0.6**
F07A Phinny Hill Vi 50.80 63 P **P 17 17 29.3 0.0**
NEW Newport 50.82 59 P **P 17 17 29.6 0.0**
NEW IAmb IAmb 17 17 31.1
comp=Z,5.4nm,1.1s
NEW Newport 50.82 59 P **P 17 17 29.6 0.0**
NEW pmax pmax
comp=Z,5.0nm,1.2s
KULLO Kullorsuaq 50.97 12 *i* P **P 17 17 29.3 -0.9**
KULLO IAmb IAmb 17 17 30.6
comp=Z,22nm,0.8s
DAG Danmarks Havn 51.05 359 *i* P **P 17 17 30.0 -0.8**
DAG IAmb IAmb 17 17 31.1
comp=Z,6.1nm,0.9s
J04A Umpqua Nationa 51.27 67 P **P 17 17 33.1 -0.1**
E09A Wood Farm, Sta 51.37 61 P **P 17 17 33.7 0.0**
E09A IAmb IAmb 17 17 35.3
comp=Z,6.6nm,0.8s
PINE Pine Mountain 51.57 66 P **P 17 17 36.5 +1.1**
PINE IAmb IAmb 17 17 44.0
comp=Z,8.3nm,1.4s
PINE PcP **PcP 17 18 49.9 +1.3**
J05D Fort Rock, OR 51.73 66 P **P 17 17 37.2 +0.6**
J05D IAmb IAmb 17 17 39.3
comp=Z,7.7nm,0.7s
J05D PcP **PcP 17 18 50.5 +1.3**
L04D Klamath Falls 51.81 68 P **P 17 17 38.7 +1.5**
YBH Yreka Blue Hor 51.89 69 P **P 17 17 39.7 +1.9**
YBH Yreka Blue Hor 51.89 69 P **P 17 17 39.7 +1.9**
YBH pmax pmax
comp=Z,4.0nm,1.0s
SLVN Son La 52.20 255 P **P 17 17 41.2 +1.0**
UPNV Upernavik 52.72 12 *i* P **P 17 17 41.5 -1.8**
UPNV IAmb IAmb 17 17 43.1
comp=Z,14nm,1.0s
BMO Blue Mountains 52.89 62 P **P 17 17 46.0 +0.9**
BMO Blue Mountains 52.89 62 P **P 17 17 46.0 +0.9**
BMO pmax pmax
comp=Z,2.0nm,0.8s
PLID Pearl Lake 53.44 61 P **P 17 17 50.3 +1.0**
PLID IAmb IAmb 17 17 51.5
comp=Z,4.0nm,0.8s
ARTI Arti 53.51 317 *c i* P **P 17 17 52.5 +3.1**
ARTI 17 18 58.2
ARTI 17 19 51.3
ARTI S **S 17 25 21.7 +4.2**
ARTI SS **SKiKP 17 28 59.1 +0.5**
ARTI pmax pmax
comp=Z,4.0nm,1.3s
DBG Daneborg 53.54 360 *i* P **P 17 17 48.0 -1.2**
DBG IAmb IAmb 17 17 49.9
comp=Z,5.7nm,0.7s
ARA0 ARCESS Array S 53.69 342 *eP* **P 17 17 49.4 -1.1**
ARCES ARCESS Array B 53.69 342 P **P 17 17 49.2 -1.3**
comp=Z,2.2nm,0.6s,baz=38,slow=7.3,SNR=18
ARCES PcP **PcP 17 18 55.4 -0.5**
comp=Z,1.2nm,0.7s,baz=29,slow=2.8,SNR=4.8
comp=Z,2.2nm,0.6s
WVOR Wild Horse Val 53.73 66 P **P 17 17 52.0 +0.7**
WVOR IAmb IAmb 17 17 54.0
comp=Z,8.6nm,1.3s
WVOR Wild Horse Val 53.73 66 P **P 17 17 52.0 +0.7**
WVOR pmax pmax
comp=Z,9.0nm,1.3s
BPMT Black Pine Rid 53.91 59 P **P 17 17 53.3 +0.5**
FFC Flin Flon 53.97 45 P **P 17 17 52.5 -0.2**
FFC Flin Flon 53.97 45 P **P 17 17 52.5 -0.2**
FFC pmax pmax
comp=Z,3.0nm,0.8s
LYMT Lyon Mountain 54.17 58 P **P 17 17 55.0 +0.4**
FCC Fort Churchill 54.42 38 P **P 17 17 55.3 -0.6**
FCC IAmb IAmb 17 17 56.3
comp=Z,4.3nm,0.6s
FCC Fort Churchill 54.42 38 P **P 17 17 55.3 -0.6**
FCC pmax pmax
comp=Z,4.0nm,0.6s
KTK1 Kautokeino 54.57 342 *eP* **P 17 17 55.9 -1.0**
HRY Holter Researc 54.58 58 P **P 17 17 57.7 +0.3**
JETT Jettan, Norway 54.61 343 *eP* **P 17 17 56.5 -0.8**
SUMG Summit 54.69 6 P **P 17 17 57.8 -0.4**
SUMG Summit 54.69 6 P **P 17 17 57.8 -0.4**
SUMG pmax pmax
comp=Z,30nm,1.2s
SUMG Summit 54.69 6 *i* P **P 17 17 57.1 -1.0**
SUMG IAmb IAmb 17 17 59.0
comp=Z,25nm,1.1s
AAK Ala-Archa 54.75 296 *i* P **P 17 18 02.0 +3.2**
AAK pmax pmax
comp=Z,3.0nm,1.1s
LRM Limekiln Ridge 54.84 59 P **P 17 17 58.5 -1.0**
PAHR Pah Rah Range 55.13 68 P **P 17 18 02.0 +0.4**
PAHR IAmb IAmb 17 18 04.1
comp=Z,5.1nm,0.9s
MCMT McKenzie Canyo 55.29 60 P **P 17 18 02.3 -0.5**
HLID Hailey 55.30 62 P **P 17 18 04.2 +1.4**
BOZ Bozeman (W) 55.42 59 P **P 17 18 03.7 +0.1**
BOZ IAmb IAmb 17 18 05.1
comp=Z,4.7nm,0.7s
BOZ Bozeman (W) 55.42 59 P **P 17 18 03.7 +0.1**
BOZ pmax pmax
comp=Z,5.0nm,0.7s
PNTR Pine Nut 55.42 69 P **P 17 18 04.9 +1.1**
PNTR IAmb IAmb 17 18 08.2
comp=Z,6.8nm,0.7s
YERR Yerington 55.70 69 P **P 17 18 06.6 +0.9**
YERR IAmb IAmb 17 18 10.2
comp=Z,5.5nm,0.7s
WAKR Walker 55.91 70 P **P 17 18 08.7 +1.5**
WAKR IAmb IAmb 17 18 10.1
comp=Z,5.5nm,0.8s
UBPT Khong Chiam 56.05 249 P **P 17 18 07.8 -0.4**
YHL Hebgen Lake 56.16 59 P **P 17 18 09.6 +0.6**
YHB Horse Butte 56.22 59 P **P 17 18 10.1 +0.8**
YHB IAmb IAmb 17 18 11.6
comp=Z,6.5nm,0.8s
GCMT Greycliff 56.31 57 P **P 17 18 10.3 +0.5**
RYN Ryan 56.35 69 P **P 17 18 11.4 +1.1**
RYN IAmb IAmb 17 18 12.9
comp=Z,3.7nm,0.7s
YHH Holmes Hill 56.37 59 P **P 17 18 11.1 +0.6**
YMR Madison River 56.39 59 P **P 17 18 11.4 +0.8**
YMR IAmb IAmb 17 18 13.0
comp=Z,4.7nm,0.8s
YNR Norris Junctio 56.51 59 P **P 17 18 12.6 +1.1**
YNR IAmb IAmb 17 18 16.3
comp=Z,3.1nm,0.7s
PHRA Phrae 56.58 256 P **P 17 18 12.8 +0.9**
KK31 Karatay Array 56.60 299 P **P 17 18 09.9 -1.9**
KK31 Karatay Array 56.60 299 P **P 17 18 09.9 -1.9**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 56.60 299 P **P 17 18 09.7 -2.2**
KKAR Karatay Array 56.60 299 P **P 17 18 09.8 -2.1**
KKAR Karatay Array 56.60 299 P **P 17 18 09.7 -2.2**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
YFT Old Faithful 56.61 59 P **P 17 18 13.7 +1.5**
YFT IAmb IAmb 17 18 15.7
comp=Z,5.1nm,0.8s
NVAR Mina Array Bea 56.61 69 P **P 17 18 12.9 +0.6**
NVAR Mina Array Bea 56.61 69 P **P 17 18 14.2 +2.0**
comp=Z,2.7nm,0.7s,baz=297,slow=7.4,SNR=14
comp=Z,2.7nm,0.7s
LHV Little Huntoon 56.62 69 P **P 17 18 13.6 +1.6**
LHV IAmb IAmb 17 18 15.4
comp=Z,6.6nm,0.9s
YNE Yellowstone No 56.66 58 P **P 17 18 13.2 +0.6**
YNE IAmb IAmb 17 18 17.0
comp=Z,4.2nm,0.9s
ILULI Ilulissat 56.67 12 P **P 17 18 10.9 -1.0**
ILULI Ilulissat 56.67 12 P **P 17 18 10.9 -1.0**
ILULI pmax pmax
comp=Z,19nm,0.7s
ILULI Ilulissat 56.67 12 *i* P **P 17 18 10.3 -1.5**
ILULI IAmb IAmb 17 18 11.7
comp=Z,21nm,0.8s
NV11 Mina Array Sit 56.70 69 P **P 17 18 13.3 +0.6**
ELK Elko 56.75 65 P **P 17 18 14.6 +1.4**
ELK Elko 56.75 65 P **P 17 18 14.6 +1.4**
ELK pmax pmax
comp=Z,1.0nm,0.8s
YMP Mirror Lake Pl 56.77 58 P **P 17 18 13.8 +0.4**
YMP IAmb IAmb 17 18 16.0
comp=Z,6.1nm,0.9s

H17A Grant Village 56.78 59 P P 17 18 14.9 +1.5
H17A IAmb IAmb 17 18 17.8
comp=Z,6.3nm,1.0s
FLWY Flagg Ranch 56.93 59 P P 17 18 15.3 +0.9
FLWY IAmb IAmb 17 18 19.7
comp=Z,5.4nm,0.8s
STEI Steigen 56.93 345 *eP* **P 17 18 12.7 -1.1**
RLMT Red Lodge 56.97 58 P P 17 18 15.4 +0.7
RLMT IAmb IAmb 17 18 17.3
comp=Z,7.3nm,0.8s
LOF Lofoten 57.02 345 *eP* **P 17 18 13.3 -1.1**
FXWY Fox Creek 57.06 60 P P 17 18 15.5 +0.1
FXWY IAmb IAmb 17 18 18.1
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 57.10 258 P P 17 18 15.1 -0.5
CHTO IAmb IAmb 17 18 17.4
comp=Z,3.2nm,0.6s
CHTO Chiang Mai 57.10 258 P P 17 18 15.1 -0.5
CHTO pmax pmax
comp=Z,3.0nm,0.6s
MOOW Moose Ponds 57.14 60 P P 17 18 16.4 +0.5
MOOW IAmb IAmb 17 18 18.6
comp=Z,5.3nm,1.4s
TPAW Teton Pass 57.20 60 P P 17 18 16.5 +0.1
LOHW Long Hollow 57.30 60 P P 17 18 17.6 +0.5
LOHW IAmb IAmb 17 18 20.0
comp=Z,4.9nm,0.9s
TRKS Terek-Say 57.34 297 P P 17 18 15.8 -1.5
TRKS pmax pmax
comp=Z,3.0nm,0.6s
CM31 Chiang Mai Arr 57.37 257 P P 17 18 17.5 -0.1
CM31 IAmb IAmb 17 18 19.7
comp=Z,3.1nm,0.7s
CMAR Chiang Mai Arr 57.37 257 P P 17 18 17.5 0.0
CMAR Chiang Mai Arr 57.37 257 P P 17 18 18.6 +1.0
comp=Z,1.6nm,0.6s,baz=31,slow=7.2,SNR=20
CMAR LR LR 17 46 01.6
comp=Z,39nm,18.2s,baz=15,slow=39
comp=Z,1.6nm,0.6s
FAUS Fauske 57.42 344 *eP* **P 17 18 16.4 -0.8**
LAO LASA Array 57.44 54 P P 17 18 17.4 -0.4
DSP Deep Springs 57.53 70 P P 17 18 18.9 +0.4
AHID Auburn Hatcher 57.62 61 P P 17 18 20.2 +0.9
ABKAR Akbulak array 57.69 310 P P 17 18 16.9 -2.5
ABKAR Akbulak array 57.69 310 P P 17 18 17.2 -2.3
GMN Gold Mountain 57.99 69 P P 17 18 23.4 +1.4
ICESG Greenland Ices 58.01 8 *i P* **P 17 18 21.1 -0.7**
ICESG IAmb IAmb 17 18 21.9
comp=Z,14nm,0.5s
R11B Troy Canyon, C 58.21 67 P P 17 18 24.4 +0.9
R11B IAmb IAmb 17 18 25.8
comp=Z,3.5nm,0.9s
R11B Troy Canyon, C 58.21 67 P P 17 18 25.0 +1.5
baz=315
PD31 Pinedale Array 58.44 60 P P 17 18 25.5 +0.5
PDAR Pinedale Array 58.44 60 P P 17 18 25.6 +0.5
comp=Z,7.5nm,0.8s,baz=314,slow=6.8,SNR=16
comp=Z,7.5nm,0.8s
SPR3 Spring Creek 3 58.46 66 IAmb IAmb 17 18 28.6
comp=Z,5.5nm,0.8s
DUG Dugway, Tooele 58.47 64 P P 17 18 26.1 +0.9
DUG IAmb IAmb 17 18 27.8
comp=Z,4.7nm,0.9s
DUG Dugway, Tooele 58.47 64 P P 17 18 26.1 +0.9
DUG pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 58.53 296 P P 17 18 23.8 -1.7
BTK IAmb IAmb 17 18 55.8
comp=Z,5.1nm,0.6s
BTK Batken 58.53 296 P P 17 18 23.8 -1.7
BTK pmax pmax
comp=Z,5.0nm,0.6s
S11A Rachel 58.61 68 P P 17 18 26.8 +0.6
MOR8 Moi Rana 58.67 344 *eP* **P 17 18 23.6 -2.4**
SFJD Kangerlussuaq 58.81 13 *i P* **P 17 18 25.8 -1.2**
SFJD IAmb IAmb 17 18 26.8
comp=Z,9.1nm,0.5s
TPNV Topopah Spring 58.81 69 P P 17 18 28.1 +0.5
TPNV IAmb IAmb 17 18 30.6
comp=Z,3.9nm,0.8s
TPNV Topopah Spring 58.81 69 P P 17 18 28.1 +0.5
TPNV pmax pmax
comp=Z,4.0nm,0.9s
LEIR Leirfjorden 58.94 345 *eP* **P 17 18 26.9 -1.0**
GWY Greenwater Val 59.11 70 P P 17 18 30.2 +0.5
GWY IAmb IAmb 17 18 32.0
comp=Z,3.3nm,0.7s
PRN Pahroc Range 59.17 68 IAmb IAmb 17 18 32.8
comp=Z,4.1nm,0.9s
GSC Goldstone, Bar 59.65 71 P P 17 18 34.1 +0.7
GSC IAmb IAmb 17 18 35.5
comp=Z,3.5nm,0.8s
GSC Goldstone, Bar 59.65 71 P P 17 18 34.1 +0.7
GSC pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 59.77 46 P P 17 18 34.5 +0.6
comp=Z,1.9nm,0.5s,baz=316,slow=4.6,SNR=4.8
comp=Z,1.9nm,0.5s
DY2G Dye2 59.87 11 *i P* **P 17 18 32.9 -1.7**
DY2G IAmb IAmb 17 18 34.5
comp=Z,8.1nm,0.6s
TMUT Trail Mountain 59.98 64 IAmb IAmb 17 18 38.2
comp=Z,5.5nm,0.7s
P18A Preston Nutter 60.28 63 IAmb IAmb 17 18 42.2
comp=Z,3.7nm,0.9s
RSSD Black Hills 60.34 55 P P 17 18 38.8 +0.7
RSSD Black Hills 60.34 55 P P 17 18 38.8 +0.7
RSSD pmax pmax
comp=Z,20nm,0.7s
FIA1 FINESS Array S 60.44 336 P P 17 18 37.1 -1.2
FINES FINESS Array B 60.44 336 P P 17 18 37.1 -1.1
FINES PcP PcP 17 19 21.5 -1.0
FINES FINESS Array B 60.44 336 P P 17 18 37.5 -0.7
comp=Z,3.1nm,0.7s,baz=38,slow=7.8,SNR=14
comp=Z,3.1nm,0.7s
FINES FINESS Array B 60.44 336 P P 17 18 37.1 -1.1
FINES 17 19 21.5
LCMT Little Creek M 60.47 67 IAmb IAmb 17 18 41.8
comp=Z,4.2nm,1.0s
SRDT SRDT 60.48 254 P P 17 18 40.8 +1.7
DZET Dzherino 60.51 296 P P 17 18 37.5 -1.7
DZET pmax pmax
comp=Z,9.0nm,0.6s
NSS Namsos 60.59 344 *eP* **P 17 18 38.6 -0.6**
O20A White River Ci 61.00 61 IAmb IAmb 17 18 44.6
comp=Z,6.5nm,0.9s
ISOG Isortoq, Green 61.54 8 *i P* **P 17 18 44.2 -1.4**
ISOG IAmb IAmb 17 18 45.3
comp=Z,23nm,0.5s
N23A Red Feather La 61.67 59 P P 17 18 48.2 +0.9
baz=317
NIL Nilore 61.69 289 P P 17 18 46.5 -0.7
ISCO Idaho Springs 62.64 60 IAmb IAmb 17 18 56.4
comp=Z,6.8nm,0.9s
F33A 5 Mile Ranch, 62.84 49 IAmb IAmb 17 18 56.0
comp=Z,8.6nm,1.0s
VSU Vasula 62.84 334 *i P* **P 17 18 58.4 +4.0**
VSU pmax pmax
comp=Z,14nm,1.1s
MVCO Mesa Verde 62.96 64 IAmb IAmb 17 18 58.0
comp=Z,4.3nm,0.7s
SBUM Sibu 63.09 235 P P 17 18 58.2 +1.6
DOMB Dombas 63.40 345 *eP* **P 17 18 57.4 -0.7**
S22A 4UR Ranch, Cre 63.48 62 IAmb IAmb 17 19 02.1
comp=Z,5.1nm,0.9s
S22A 4UR Ranch, Cre 63.48 62 P P 17 19 00.8 +1.4
baz=317
Q24A Divide 63.49 60 P P 17 19 00.9 +1.5
baz=318
AKN Aaknes 63.59 346 *eP* **P 17 18 59.2 -0.2**
NC405 NORSAR Array S 63.82 343 P P 17 19 00.1 -0.8
NC405 IAmb IAmb 17 19 00.7
comp=Z,10nm,0.9s
NC204 NORSAR Array S 63.83 344 P P 17 19 00.1 -0.9
NB201 NORSAR Array S 63.95 343 P P 17 19 01.1 -0.6
NB2 NORSAR Subarra 63.97 343 P P 17 19 01.2 -0.7
comp=Z,5.6nm,0.8s,baz=24,slow=6.9
NB2 NORSAR Subarra 63.97 343 P P 17 19 01.2 -0.7
baz=24,slow=6.9
NOA NORSAR Array B 63.97 343 P P 17 19 01.4 -0.6
comp=Z,8.5nm,0.8s,baz=21,slow=6.6,SNR=30
comp=Z,8.5nm,0.8s
X18A Snowflake 64.11 67 IAmb IAmb 17 19 06.1
comp=Z,6.1nm,0.9s
NC602 NORSAR Array S 64.20 343 *eP* **P 17 19 03.3 -0.1**

ECSD EROS Data Cent 64.26 51 IAmb IAmb 17 19 05.1
comp=Z,7.7nm,0.8s
HFS Hagfors 64.36 342 P P 17 19 03.7 -0.7
comp=Z,5.0nm,0.4s,baz=63,slow=6.8,SNR=41
comp=Z,5.0nm,0.4s
HYA Hoyanger 64.68 346 *eP* **P 17 19 06.4 -0.1**
SRIT Nakonsritamara 64.79 250 P P 17 19 08.5 +0.7
SKAR Skarslia 64.81 345 *eP* **P 17 19 06.7 -0.7**
ANMO Albuquerque 65.75 64 P P 17 19 14.9 +0.8
ANMO Albuquerque 65.75 64 P P 17 19 14.9 +0.8
ANMO pmax pmax
comp=Z,3.0nm,0.8s
STRU Stroemstad 65.86 342 *i P* **P 17 19 13.7 -0.4**
SCHQ Schefferville 66.54 27 P P 17 19 18.2 -0.4
comp=Z,1.7nm,0.5s,baz=316,slow=5.3,SNR=5.9
comp=Z,1.7nm,0.5s
RTBA Rita Blanca 66.65 60 IAmb IAmb 17 19 21.1
comp=Z,6.9nm,1.0s
TJOU Tjoern 66.71 342 *i P* **P 17 19 19.2 -0.4**
319A Douglas 66.82 68 IAmb IAmb 17 19 23.8
comp=Z,7.4nm,0.8s
KULM Kulim 66.89 247 P P 17 19 22.2 +0.9
KULM IAmb IAmb 17 19 51.8
comp=Z,11nm,1.3s
SNART Snartemo 67.21 344 *i P* **P 17 19 22.6 -0.1**
ONAU Onsala 67.25 341 *i P* **P 17 19 22.3 -0.7**
IPM Ipoh 67.34 246 P P 17 19 24.4 +0.2
IPM IAmb IAmb 17 19 25.5
comp=Z,10nm,0.9s
BLEU Blekinge 67.45 339 *i P* **P 17 19 23.0 -1.2**
FABU Falkenberg 67.46 341 *i P* **P 17 19 23.9 -0.4**
DEL Delary 67.72 340 *i P* **P 17 19 25.0 -1.0**
BJUU Bjuv 68.26 340 *i P* **P 17 19 28.7 -0.6**
LUNU Lund 68.58 340 *i P* **P 17 19 31.2 -0.2**
BSD Bornholm Skovb 68.75 339 *i P* **P 17 19 32.0 -0.5**
BSD IAmb IAmb 17 19 37.5
comp=Z,44nm,1.2s
AK03 Malin Array Si 68.79 328 P P 17 19 31.3 -1.5
AK21 Malin Array Si 68.81 329 P P 17 19 31.6 -1.3
AK22 Malin Array Si 68.81 328 P P 17 19 31.6 -1.3
AK04 Malin Array Si 68.81 328 P P 17 19 31.7 -1.2
AKASG Malin Array Be 68.81 328 P P 17 19 31.2 -1.8
AKASG Malin Array Be 68.81 328 P P 17 19 31.9 -1.1
comp=Z,3.8nm,0.4s,baz=32,slow=6.2,SNR=24
comp=Z,3.8nm,0.4s
AKBB Malin Array Si 68.81 328 P P 17 19 31.2 -1.7
AKBB IAmb IAmb 17 19 32.8
comp=Z,6.6nm,0.8s
AKBB Malin Array Si 68.81 328 P P 17 19 31.2 -1.7
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 68.81 328 P P 17 19 31.7 -1.2
KIEV Kiev 68.83 328 P P 17 19 31.1 -1.9
KIEV IAmb IAmb 17 19 32.8
comp=Z,6.2nm,0.8s
KIEV Kiev 68.83 328 P P 17 19 31.1 -1.9
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 68.83 328 P P 17 19 31.7 -1.3
comp=Z,40nm,0.9s
AK20 Malin Array Si 68.85 329 P P 17 19 31.9 -1.2
MI28 Mi28,Pidlybu 69.11 329 P P 17 19 33.8 -0.9
comp=Z,118nm,0.7s
RNPP9 Sopachiv 69.23 331 P P 17 19 34.7 -0.8
RNPP5 Staryi Chortor 69.39 331 P P 17 19 35.9 -0.6
KIV Kislovodsk 69.44 316 *eP* **P 17 19 39.5 +2.4**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,80nm,17.0s
KBZ Khabaz 69.53 316 P P 17 19 37.5 0.0
comp=Z,1.9nm,0.7s,baz=68,slow=3.9,SNR=7.1
comp=Z,1.9nm,0.7s
P40A Paris 69.68 51 IAmb IAmb 17 19 39.8
comp=Z,13nm,1.0s
VHRN Van Horn 69.68 66 P P 17 19 39.3 +0.5
VHRN IAmb IAmb 17 19 41.0
comp=Z,6.9nm,0.9s
LUBAR Lubar, Ukraine 69.96 329 P P 17 19 38.9 -1.1
WMOK Wichita Mounta 70.03 59 IAmb IAmb 17 19 42.0
comp=Z,8.5nm,1.1s
R40A Maddies Statio 70.55 52 IAmb IAmb 17 19 43.9
comp=Z,8.3nm,0.8s
BKNI Bangkinang 70.76 244 P P 17 19 44.5 -0.8
U38A Gravette 70.96 55 P P 17 19 45.6 -0.7
U38A IAmb IAmb 17 19 46.8
comp=Z,6.9nm,0.7s
HORU Horodok 71.00 329 P P 17 19 46.2 -0.2
HORU Horodok 71.00 329 P P 17 19 46.2 -0.2
NDNU Novodnistrovsk 71.25 328 P P 17 19 47.1 -0.8
SORM Soroca 71.33 328 P P 17 19 47.2 -1.1
comp=Z,12nm,2.0s
TX31 Lajitas Ar. Si 71.53 66 IAmb IAmb 17 19 52.0
comp=Z,8.4nm,0.7s
TXAR Lajitas Array 71.53 66 P P 17 19 50.5 +0.5
TXAR Lajitas Array 71.53 66 P P 17 19 51.2 +1.2
comp=Z,9.2nm,0.7s,baz=299,slow=4.6,SNR=69
comp=Z,9.2nm,0.7s
KMPD K-Podol'skiy 71.56 329 P P 17 19 48.5 -1.3
EKA Eskdalemuir Ar 71.58 349 P P 17 19 49.8 +0.1
comp=Z,3.1nm,0.4s,baz=15,slow=5.2,SNR=14
comp=Z,3.1nm,0.4s
ESK Eskdalemuir 71.60 349 P P 17 19 49.2 -0.7
ESK Eskdalemuir 71.60 349 P P 17 19 49.2 -0.7
ESK pmax pmax
comp=Z,76nm,1.5s
KWP Kalwaria Pacla 71.75 332 P P 17 19 51.1 +0.2
KWP Kalwaria Pacla 71.75 332 P P 17 19 51.1 +0.2
comp=Z,20nm,1.1s
SAND Sanderson 71.91 64 IAmb IAmb 17 19 54.0
comp=Z,8.2nm,1.3s
OJC Ojcow 72.03 334 P P 17 19 52.8 +0.2
OJC Ojcow 72.03 334 P P 17 19 52.8 +0.2
comp=Z,6.8nm,0.7s
KSV Kosov 72.22 330 P P 17 19 52.4 -1.3
STHS Stebnicka Huta 72.36 333 *eP* **P 17 19 54.2 -0.4**
STHS pmax pmax
comp=Z,5.0nm,0.6s
STHS Stebnicka Huta 72.36 333 *eP* **P 17 19 54.2 -0.4**
S44A Carbondale 72.47 51 IAmb IAmb 17 19 56.1
comp=Z,8.8nm,0.8s
KOLS Kolonicke sedl 72.50 332 *eP* **P 17 19 55.5 +0.1**
KOLS pmax pmax
comp=Z,7.0nm,0.6s
KOLS Kolonicke sedl 72.50 332 *eP* **P 17 19 55.5 +0.1**
FCAR Ozark Folk Cen 72.52 54 IAmb IAmb 17 19 55.6
comp=Z,6.9nm,0.7s
CLL Collm 72.71 338 P P 17 19 55.4 -1.2
CLL IAmb IAmb 17 19 57.2
comp=Z,7.4nm,0.9s
CLL Collm 72.71 338 *i P* **P 17 19 56.1 -0.5**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 72.71 338 *i P* **P 17 19 56.1 -0.5**
comp=Z,9.0nm,0.9s
BUR08 Bucovina Ar. S 72.77 329 P P 17 19 55.7 -1.5
BUR08 IAmb IAmb 17 19 57.3
comp=Z,3.9nm,0.6s
DPC Dobruska-Polom 72.82 336 *eP* **P 17 19 57.9 +0.6**
DPC Dobruska-Polom 72.82 336 *eP* **P 17 19 57.9 +0.6**
KORU Korolevo 72.94 331 P P 17 19 58.0 0.0
KRLC Kraliky 72.95 336 *eP* **P 17 19 58.2 +0.1**
KRLC Kraliky 72.95 336 *eP* **P 17 19 58.2 +0.1**
MORC Moravsky Berou 73.03 335 *eP* **P 17 19 58.5 -0.1**
LANS Liptovska Anna 73.09 334 *eP* **P 17 19 59.7 +0.7**
LANS pmax pmax
comp=Z,6.0nm,0.6s
LANS Liptovska Anna 73.09 334 *eP* **P 17 19 59.7 +0.7**
DRIO Del Rio 73.15 64 P P 17 19 59.9 +0.3
DRIO IAmb IAmb 17 20 00.8
comp=Z,6.3nm,0.7s
TESR Tescani 73.31 328 P P 17 19 59.6 -0.6
comp=Z,12nm,1.0s
VRAC Vranov 73.71 335 LR LR 17 56 05.9
comp=Z,112nm,19.2s,baz=59,slow=39
VRAC Vranov 73.71 335 *eP* **P 17 20 02.8 +0.3**
JAVC Velka Javorina 73.84 335 *eP* **P 17 20 04.3 +0.9**
VYHS Vyhne 73.86 334 *eP* **P 17 20 03.5 0.0**
VYHS pmax pmax
comp=Z,3.0nm,0.5s
VYHS Vyhne 73.86 334 *eP* **P 17 20 03.5 0.0**
KRUC Moravsky 73.99 335 *eP* **P 17 20 04.2 +0.1**
ZVC Zvikov 74.18 337 *eP* **P 17 20 05.7 +0.4**
MLR Muntele Rosu 74.44 328 IAmb IAmb 17 20 08.2
comp=Z,5.5nm,0.6s

MLR Muntele Rosu 74.44 328 P P 17 20 07.2 +0.2
comp=Z,9.8nm,1.4s
KHC Kasperske Hory 74.61 337 *eP* **P 17 20 08.3 +0.4**
KHC Kasperske Hory 74.61 337 *eP* **P 17 20 08.3 +0.4**
KHC Kasperske Hory 74.61 337 P P 17 20 08.3 +0.4
comp=Z,12nm,1.1s
833A Chaparral WMA, 74.67 64 P P 17 20 10.3 +1.8
baz=322
VOIR 74.78 328 P P 17 20 09.1 +0.2
comp=Z,6.1nm,0.7s
BTNL Ternell 74.81 342 *dP* **P 17 20 09.1 +0.2**
comp=Z,23nm,0.6s
MEM Membach 74.81 343 *dP* **P 17 20 09.1 +0.2**
comp=Z,44nm,0.8s
GERES GERESS Array B 74.85 337 P P 17 20 09.2 -0.1
comp=Z,1.6nm,0.5s,baz=35,slow=4.9,SNR=8.5
comp=Z,1.6nm,0.5s
UCC Uccle 74.92 344 *dP* **P 17 20 09.5 +0.1**
BCLA Clavier 75.12 343 *dP* **P 17 20 10.8 +0.2**
comp=Z,15nm,1.0s
CONA Conrad Observa 75.17 335 *i P* **P 17 20 11.6 +0.4**
comp=Z,1.8nm,0.5s
BGES Gesves 75.19 343 *dP* **P 17 20 11.1 0.0**
comp=Z,10nm,0.0s
WRAB Tennant Creek 75.19 204 P P 17 20 12.0 +0.7
WRAB Tennant Creek 75.19 204 P P 17 20 12.0 +0.7
WRAB pmax pmax
comp=Z,13nm,1.0s
WB2 Warramunga Arr 75.20 204 P P 17 20 11.7 +0.3
WRA Warramunga Arr 75.20 204 P P 17 20 12.1 +0.7
comp=Z,5.9nm,0.7s,baz=17,slow=5.9,SNR=12
WRA pP **sP 17 20 32.6 -1.5**
comp=Z,1.3nm,0.7s,baz=17,slow=5.8,SNR=4.6
comp=Z,5.9nm,0.7s
RONA Rosalia, Austr 75.27 335 *i P* **P 17 20 12.2 +0.6**
comp=Z,3.0nm,0.9s
BMRD Maredsous 75.33 343 *dP* **P 17 20 12.0 +0.1**
comp=Z,15nm,0.9s
RCHB Rochefort 75.39 343 *dP* **P 17 20 12.2 0.0**
comp=Z,10nm,1.0s
MPLH Magyarpolny 75.43 334 P P 17 20 13.3 +0.8
comp=Z,34nm,1.9s
DOU Dourbes 75.56 343 *dP* **P 17 20 13.2 +0.1**
comp=Z,12nm,0.9s
ARSA Arzberg 75.89 335 *eP* **P 17 20 15.1 -0.1**
comp=Z,6.9nm,1.3s
BIOA Bad Ischl, Aus 75.94 337 *i P* **P 17 20 16.2 +0.7**
comp=Z,2.2nm,0.5s
FITZ Fitzroy Crossi 75.97 213 P P 17 20 17.2 +1.4
LESA Schwarzleotal 76.42 337 *i P* **P 17 20 18.8 +0.5**
comp=Z,5.8nm,1.1s
BFO Black Forest 76.53 340 P P 17 20 18.6 -0.2
BFO IAmb IAmb 17 20 19.8
comp=Z,9.9nm,0.9s
BFO Black Forest 76.53 340 P P 17 20 18.6 -0.2
BFO pmax pmax
comp=Z,10.0nm,0.9s
SOKA Soboth 76.54 335 *i P* **P 17 20 19.2 +0.3**
comp=Z,10nm,1.2s
KBA Koelnbreinsper 76.59 337 *i P* **P 17 20 20.3 +1.0**
comp=Z,29nm,0.8s
CDF Champ du Feu 76.67 341 *eP* **P 17 20 19.3 -0.4**
CDF pmax pmax
comp=Z,12nm,0.7s
BR131 Keskin Array S 76.68 320 P P 17 20 19.1 -0.9
BR131 Keskin Array S 76.68 320 P P 17 20 19.1 -0.9
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 76.68 320 P P 17 20 19.4 -0.5
comp=Z,0.8nm,0.6s,baz=33,slow=3.0,SNR=5.9
comp=Z,0.8nm,0.6s
BR104 Keskin Array S 76.70 320 P P 17 20 19.8 -0.2
comp=Z,2.5nm,0.8s
WATA Walderalm 76.77 338 *i P* **P 17 20 21.3 +1.0**
comp=Z,12nm,1.1s
RETA Reutte 76.81 338 *i P* **P 17 20 20.5 0.0**
comp=Z,4.9nm,0.6s
WTTA Wattenberg 76.82 338 *i P* **P 17 20 21.1 +0.5**
comp=Z,16nm,1.1s
MOTA Moosalm 76.86 338 *i P* **P 17 20 20.0 -0.8**
comp=Z,22nm,1.1s
ECH Echery 76.88 341 P P 17 20 20.3 -0.5
ECH Echery 76.88 341 P P 17 20 20.3 -0.5
ECH pmax pmax
comp=Z,13nm,0.9s
MYKA Terra Mystica 76.94 336 *i P* **P 17 20 20.5 -0.7**
comp=Z,2.6nm,0.5s
SQTA Sankt Quirin 76.96 338 *i P* **P 17 20 22.0 +0.7**
comp=Z,14nm,0.9s
ABTA Abfaltersbach 77.10 337 *i P* **P 17 20 22.0 -0.1**
comp=Z,14nm,0.9s
PALK Pallekele 77.12 265 P P 17 20 22.0 -0.6
PALK IAmb IAmb 17 20 23.3
comp=Z,8.3nm,0.7s
PALK Pallekele 77.12 265 P P 17 20 22.0 -0.6
PALK pmax pmax
comp=Z,8.0nm,0.7s
DAVA Damuels 77.19 339 *i P* **P 17 20 23.0 +0.3**
comp=Z,11nm,1.1s
FETA Feichten 77.26 338 *i P* **P 17 20 23.2 +0.1**
comp=Z,9.5nm,0.8s,SNR=11
FUORN Ofenpass-Fuorn 77.74 339 P P 17 20 25.7 -0.2
FUORN IAmb IAmb 17 20 27.5
comp=Z,8.1nm,0.8s
UOSS Minazif 77.94 295 P P 17 20 25.2 -1.8
UOSS IAmb IAmb 17 20 26.7
comp=Z,3.2nm,0.5s
CTI Castel Tesino 77.96 337 P P 17 20 26.2 -0.7
CTI IAmb IAmb 17 20 27.2
comp=Z,8.4nm,0.8s
CTI Castel Tesino 77.96 337 P P 17 20 26.2 -0.7
CTI pmax pmax
comp=Z,8.0nm,0.8s
TUE Stuetta 78.08 339 P P 17 20 27.2 -0.5
TUE Stuetta 78.08 339 P P 17 20 28.2 +0.5
comp=Z,79nm,0.8s
SSF Saint Saulge 78.67 343 *eP* **P 17 20 30.4 -0.3**
SSF pmax pmax
comp=Z,11nm,0.6s
AS31 Alice Springs 78.88 203 P P 17 20 32.5 +0.4
ASAR Alice Springs 78.88 203 P P 17 20 33.5 +1.5
comp=Z,6.7nm,0.7s,baz=15,slow=5.4,SNR=30
comp=Z,6.7nm,0.7s
SMF Signal de Mont 79.02 343 *eP* **P 17 20 32.4 -0.2**
SMF pmax pmax
comp=Z,19nm,1.0s
MFF Saint Martin d 79.72 346 *eP* **P 17 20 36.5 0.0**
MFF pmax pmax
comp=Z,66nm,1.6s
SSB Saint Sauveur 80.20 342 P P 17 20 39.2 0.0
SSB Saint Sauveur 80.20 342 P P 17 20 39.2 0.0
SSB pmax pmax
comp=Z,13nm,0.7s
NRCA Norcia 80.62 335 P P 17 20 41.4 -0.1
CAMP Campotosto 80.82 335 P P 17 20 42.1 -0.5
CESX Cesi 80.97 336 P P 17 20 41.9 -1.4
CESX IAmb IAmb 17 20 43.9
comp=Z,12nm,1.0s
CAF Calviac 81.00 344 *eP* **P 17 20 44.0 +0.6**
CAF pmax pmax
comp=Z,18nm,0.8s
INTR Introdacqua 81.18 334 P P 17 20 43.0 -1.5
MMAI Mount Meron Ar 81.69 315 P P 17 20 47.4 +0.1
comp=Z,3.4nm,0.4s,baz=36,slow=6.2,SNR=24
comp=Z,3.4nm,0.4s
CUC Castrocucco 82.54 332 IAmb IAmb 17 20 52.4
comp=Z,5.9nm,0.8s
TIP Timpagrande 83.02 331 P P 17 20 55.3 +1.2
comp=Z,17nm,1.1s
ITM Ithomi 83.22 327 P P 17 20 53.3 -1.9
CEST Esterri de Car 83.39 344 P P 17 20 56.4 +0.3
VSL Villasalto 84.70 337 P P 17 21 03.1 +0.5
RAYN Ar Rayn 84.83 302 P P 17 21 01.9 -1.7
RAYN IAmb IAmb 17 21 03.5
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 84.83 302 P P 17 21 01.9 -1.7
RAYN pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 85.33 195 P P 17 21 06.5 +1.0
comp=Z,3.2nm,0.8s,baz=30,slow=5.3,SNR=3.4
comp=Z,3.2nm,0.8s
ESBB Sonseca Array 87.06 347 P P 17 21 13.5 -0.9
ESBB IAmb IAmb 17 21 50.2
comp=Z,5.6nm,1.1s
ESDC Sonseca Array 87.07 347 P P 17 21 13.2 -1.1
ESDC Sonseca Array 87.07 347 P P 17 21 13.8 -0.6
comp=Z,3.1nm,0.6s,baz=2.2,slow=4.7,SNR=15

comp=Z,3.1nm,0.6s
PAB San Pablo 87.25 347 P **P** **17 21 14.1 -1.2**
PAB San Pablo 87.25 347 P **P** **17 21 14.1 -1.2**
PAB pmax pmax
comp=Z,16nm,1.5s
KEST Kesra 88.28 336 P **P** **17 21 19.7 -0.6**
comp=Z,4.6nm,0.6s,baz=23,slow=0.3,SNR=11
comp=Z,4.6nm,0.6s
TORD Torodi Ar. Bea 111.80 336 PKiKP **PKiKP** **17 27 03.2 -0.4**
comp=Z,0.6nm,0.5s,baz=360,slow=2.7,SNR=4.0
DBIC Dimbokro 119.52 341 PKPdf **PKPdf** **17 27 18.3 -0.2**
DBIC Dimbokro 119.52 341 PKP **PKiKP** **17 27 18.4 -0.1**
comp=Z,4.4nm,0.5s,baz=11,slow=3.6,SNR=10
H03N2 Juan Fernandez 134.89 89 T T 19 58 05.6
baz=315,slow=77,SNR=231
H03N1 Juan Fernandez 134.90 89 T T 19 58 03.4
baz=315,slow=77,SNR=161
H03N3 Juan Fernandez 134.90 89 T T 19 58 06.3
baz=315,slow=77,SNR=162
QSPA South Pole Qui 142.18 180 PKPpre PKPpre 17 27 53.2
QSPA South Pole Qui 142.18 180 PKhKP PKPpre 17 27 54.3
comp=Z,1.8nm,0.6s,baz=215,slow=0.6,SNR=12
PLCA Paso Flores 144.69 91 PKPbc 17 28 04.1 +0.3
PLCA Paso Flores 144.69 91 PKP **PKPdf** **17 28 04.3 -0.4**
comp=Z,6.9nm,0.7s,baz=297,slow=4.3,SNR=23
LL02 Futaleuf 145.30 95 **PKPbc** **17 28 05.1 -0.4**
AY01 Puyuhuapi 145.48 98 **PKPab** **17 28 06.4 +0.1**
COYC Coyhaique 146.42 99 PKPbc **PKPbc** **17 28 09.0 +0.2**
TRQA Tornquist 148.26 80 PKPbc **PKPbc** **17 28 13.4 -0.7**
TRQA Tornquist 148.26 80 PKP2 **PKPbc** **17 28 13.5 -0.7**

*IDC **08** 17:09:46.9±1.1, 9°.65N×125°.91E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=46.0km s-min=13.3km az=82.0*
ISC 08 17:09:50.7±1.2, 9°.5N±0°.1×125°.7E±0°.4, h23km, n16, σ1§16/10, mb3.7/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.41**	**182**	Pg	**Pb**	**17 10 33.2**	**-0.2**
	22nm,0.3s,baz=317,slow=5.4,SNR=1.2						
DAV				Lg	Lg	17 11 10.5	
	33nm,0.3s,baz=51,slow=2.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**27.40**	**292**	P	**P**	**17 15 36.0**	**+1.2**
	0.2nm,0.4s,baz=102,slow=7.5,SNR=4.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**30.47**	**164**	P	**P**	**17 16 02.9**	**+0.9**
	0.5nm,0.8s,baz=341,slow=7.5,SNR=1.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.92**	**166**	P	**P**	**17 16 31.9**	**-0.5**
	0.2nm,0.3s,baz=350,slow=7.4,SNR=8.2						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.70**	**73**	T	T	18 00 16.5	
	baz=260						
H11S1	**WAKE ISLAND Hy**	**40.71**	**73**	T	T	18 00 25.0	
	baz=260						
H11S2	**WAKE ISLAND Hy**	**40.71**	**73**	T	T	18 00 20.9	
	baz=260						
H11N1	**WAKE ISLAND Hy**	**41.05**	**71**	T	T	18 00 45.3	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**41.06**	**71**	T	T	18 00 52.5	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**41.07**	**71**	T	T	18 00 50.5	
	baz=262						
SONM	**Songino Array**	**41.54**	**340**	P	**P**	**17 17 37.4**	**+0.8**
	0.6nm,0.7s,baz=151,slow=9.3,SNR=3.5						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**52.30**	**323**	P	**P**	**17 18 59.1**	**-1.4**
	0.9nm,0.7s,baz=121,slow=8.7,SNR=4.2						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**55.03**	**332**	P	**P**	**17 19 18.9**	**-1.5**
	0.5nm,0.7s,baz=99,slow=8.9,SNR=1.5						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.38**	**326**	P	**P**	**17 19 29.1**	**-1.1**
	0.9nm,0.8s,baz=123,slow=6.9,SNR=4.1						
	0.9nm,0.8s						
ARCES	**ARCESS Array B**	**84.71**	**340**	P	**P**	**17 22 23.4**	**+0.9**
	3.1nm,0.9s,baz=73,slow=4.2,SNR=5.1						
	3.1nm,0.9s						
FINES	**FINESS Array B**	**86.29**	**332**	P	**P**	**17 22 30.2**	**-0.4**
	1.5nm,0.9s,baz=96,slow=1.9,SNR=4.7						
	1.5nm,0.9s						

*IDC **08** 17:13:06.0±0.5, 9°.69N×126°.28E, h0km, mb4.2/26, mbtmp4.2/26, MS3.4/1, Error ellipse: s-maj=20.7km s-min=10.1km az=84.0*
*NEIC **08** 17:13:07.9±2.3, 9°.91N±0°.04×126°.36E±0°.09, h10km±1km, mb4.6/85, Error ellipse: s-maj=15.0km s-min=5.2km az=109.0*
ISC 08 17:13:11.8±0.3, 9°.82N±0°.05×126°.28E±0°.07, h42km, n160, σ1§38/139, mb4.5/68, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.82**	**194**		**Pn**	**17 13 54.5**	**+0.1**
DAV	**Davao City (W)**	**2.82**	**194**	Pg	**Pn**	**17 13 56.6**	**+2.2**
	68nm,0.3s,baz=77,slow=4.9,SNR=2.0						
DAV				Lg	Lg	17 14 31.7	
	70nm,0.3s,baz=264,slow=24,SNR=5.7						
TNTI	**Ternate**	**9.05**	**173**	Pn	**Pn**	**17 15 20.3**	**+0.2**
TOLI2	**Tolitoli**	**10.23**	**213**	Pn	**Pn**	**17 15 37.1**	**+0.9**
KKM	**Kota Kinabalu**	**10.65**	**250**	Pn	**Pn**	**17 15 42.6**	**+0.5**
SANI	**Sanana**	**11.79**	**181**	P	**Pn**	**17 16 01.1**	**+3.5**
TWG	**Pinlang**	**13.86**	**340**	Pn	**Pn**	**17 16 21.5**	**-4.3**
FAKI	**Fak Fak**	**13.98**	**155**	Pn	**Pn**	**17 16 24.4**	**-3.0**
FAKI	**Fak Fak**	**13.98**	**155**	P	**Pn**	**17 16 30.0**	**+2.5**
YHNB	**Yeheng**	**15.49**	**343**	P	**Pn**	**17 16 46.8**	**-0.8**
YHNB				IAmb	IAmb	17 17 30.5	
	comp=Z,68nm,1.3s						
SBUM	**Sibu**	**15.77**	**243**	P	**Pn**	**17 16 52.5**	**+1.3**
SBUM	**Sibu**	**15.77**	**243**	P	**Pn**	**17 16 49.7**	**-1.5**
JOW	**Kunigami**	**17.03**	**6**	Pn	**Pn**	**17 17 03.8**	**-3.2**
JOW				IAmb	IAmb	17 17 45.5	
	comp=Z,63nm,1.3s						
QIZ	**Qiongzhong**	**18.35**	**302**	P	**P**	**17 17 21.1**	**-1.9**
GUMO	**Guam**	**18.58**	**77**	LR	LR	17 23 39.0	
	comp=Z,120nm,20.9s,baz=225,slow=34						
MMRI	**Maumere**	**18.77**	**193**	P	**P**	**17 17 27.7**	**+0.1**
MMRI				IAmb	IAmb	17 17 43.6	
	comp=Z,29nm,0.9s						
SOEI	**Soe**	**19.55**	**186**	P	**Pn**	**17 17 38.1**	**+0.3**
SOEI				IAmb	IAmb	17 18 11.2	
	comp=Z,39nm,1.0s						
UBPT	**Khong Chiam**	**21.02**	**287**	P	**P**	**17 17 53.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**21.82**	**214**	P	**P**	**17 17 59.8**	**-0.9**
JAGI				IAmb	IAmb	17 18 15.0	
	comp=Z,48nm,1.5s						
MTN	**Manton Dam**	**23.02**	**168**	P	**P**	**17 18 11.9**	**-1.6**
MYKOM	**Kota Tinggi**	**23.68**	**252**	P	**P**	**17 18 21.9**	**+2.0**
MYKOM				IAmb	IAmb	17 18 27.4	
	comp=Z,17nm,0.7s						
KNRA	**Kununurra**	**25.45**	**174**	P	**P**	**17 18 36.0**	**0.0**
IPM	**Ipoh**	**25.61**	**260**	P	**P**	**17 18 39.3**	**+1.7**
IPM				IAmb	IAmb	17 18 44.0	
	comp=Z,16nm,0.8s						
IPM	**Ipoh**	**25.61**	**260**	P	**P**	**17 18 33.0**	**-4.5**
KULM	**Kulim**	**25.80**	**262**	P	**P**	**17 18 38.5**	**-0.7**
TJN	**Taejon**	**26.46**	**2**	P	**P**	**17 18 44.5**	**-0.5**
KSRS	**Korea Array**	**27.55**	**3**	P	**P**	**17 18 56.7**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=185,slow=10.0,SNR=4.5						
	comp=Z,1.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.75**	**181**	P	**P**	**17 18 56.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.84**	**291**	P	**P**	**17 18 59.1**	**+1.6**
	comp=Z,1.6nm,1.0s,baz=97,slow=7.1,SNR=7.5						
	comp=Z,1.6nm,1.0s						
CHTO	**Chiang Mai**	**27.92**	**292**	P	**P**	**17 18 56.0**	**-2.4**
BULU	**Kimbe**	**28.39**	**122**	P	**P**	**17 18 59.7**	**-2.8**
COEN	**Coen**	**28.96**	**144**	P	**P**	**17 19 06.7**	**-0.9**
COEN	**Coen**	**28.96**	**144**	P	**P**	**17 19 07.0**	**-0.6**
GSI	**Gunungsitoli**	**29.77**	**255**	P	**P**	**17 19 16.2**	**+1.4**
WB0	**Warramunga Arr**	**30.46**	**165**	P	**P**	**17 19 18.8**	**-2.1**
WB0				IAmb	IAmb	17 19 39.2	
	comp=Z,20nm,1.5s						
WRAB	**Tennant Creek**	**30.61**	**165**	P	**P**	**17 19 19.8**	**-2.3**
WRAB				IAmb	IAmb	17 19 55.9	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**30.62**	**165**	P	**P**	**17 19 19.9**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=345,slow=9.1,SNR=11						
	comp=Z,0.6nm,0.5s						
WR0	**Warramunga Arr**	**30.69**	**165**	P	**P**	**17 19 20.2**	**-2.6**
BJT	**Baijiatuau**	**31.39**	**345**	P	**P**	**17 19 29.4**	**+0.6**
BJT				IAmb	IAmb	17 19 38.4	
	comp=Z,9.7nm,1.5s						
MBWA	**Marble Bar**	**31.45**	**192**	P	**P**	**17 19 27.9**	**-1.6**
MBWA	**Marble Bar**	**31.45**	**192**	P	**P**	**17 19 30.4**	**+0.9**
	comp=Z,11nm,1.8s						
PSA00	**Pilbara Seismi**	**31.83**	**191**	P	**P**	**17 19 32.8**	**0.0**
PSA00				IAmb	IAmb	17 19 43.8	
	comp=Z,10nm,0.8s						
PSA00	**Pilbara Seismi**	**31.83**	**191**	P	**P**	**17 19 33.4**	**+0.6**
QIS	**Mount Isa**	**32.91**	**157**	P	**P**	**17 19 41.7**	**-0.6**
MTSU	**Mount Surprise**	**32.99**	**147**	P	**P**	**17 19 42.6**	**-0.5**
AS31	**Alice Springs**	**34.10**	**167**	P	**P**	**17 19 51.0**	**-1.7**
ASAR	**Alice Springs**	**34.10**	**167**	P	**P**	**17 19 50.8**	**-1.9**
ASAR	**Alice Springs**	**34.10**	**167**	P	**P**	**17 19 51.2**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=352,slow=7.2,SNR=24						
ASAR				PcP	**PcP**	**17 22 29.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=340,slow=2.2,SNR=2.4						
	comp=Z,0.9nm,0.3s						
AS01	**Alice Springs**	**34.11**	**167**	P	**P**	**17 19 53.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**34.61**	**7**	P	**P**	**17 19 58.0**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=213,slow=10,SNR=2.5						
	comp=Z,1.5nm,0.7s						
WRKA	**Warakurna**	**34.70**	**177**	P	**P**	**17 19 59.0**	**+1.1**
SHL	**Shillong**	**36.18**	**300**	P	**P**	**17 20 08.3**	**-2.6**
ASAJ	**Asahikawa**	**36.98**	**20**	P	**P**	**17 20 18.9**	**+1.7**
	comp=Z,4.7nm,0.7s,baz=243,slow=10,SNR=8.9						
	comp=Z,4.7nm,0.7s						
JKA	**Kamikawa-asahi**	**36.99**	**20**	P	**P**	**17 20 16.8**	**-0.4**
MEEK	**Meekatharra**	**36.99**	**191**	P	**P**	**17 20 18.0**	**+0.5**
GTA	**Gaotai**	**37.76**	**326**	*e*P	**P**	**17 20 25.8**	**+1.8**
GTA				pP	pP	17 20 31.3	-4.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OOD	**Oodnadatta**	**38.48**	**167**	P	**P**	**17 20 30.5**	**+0.5**
KLR	**Kul'dur**	**39.55**	**6**	P	**P**	**17 20 40.8**	**+2.0**
	comp=Z,2.9nm,0.7s,baz=207,slow=4.5,SNR=8.4						
	comp=Z,2.9nm,0.7s						
MORW	**Morawa**	**39.90**	**194**	P	**P**	**17 20 41.7**	**-0.2**
MORW				IAmb	IAmb	17 20 44.2	
	comp=Z,19nm,0.9s						
MORW	**Morawa**	**39.90**	**194**	P	**P**	**17 20 42.9**	**+1.0**
H11S3	**WAKE ISLAND Hy**	**40.04**	**73**	T	T	18 03 51.9	
	baz=262,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hy**	**40.05**	**73**	T	T	18 03 42.0	
	baz=262,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**40.05**	**73**	T	T	18 03 45.0	
	baz=262,slow=74,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**40.39**	**71**	T	T	18 04 06.9	
	baz=265,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.39**	**71**	T	T	18 04 08.1	
	baz=265,slow=74,SNR=8.6						
FORT	**Forrest**	**40.40**	**178**	P	**P**	**17 20 45.5**	**-0.5**
FORT	**Forrest**	**40.40**	**178**	P	**P**	**17 20 46.4**	**+0.4**
H11N3	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	18 04 07.7	
	baz=265,slow=74,SNR=9.7						
KMBL	**Kambalda**	**41.17**	**186**	P	**P**	**17 20 52.6**	**+0.3**
BLDU	**Ballidu**	**41.24**	**193**	P	**P**	**17 20 53.8**	**+0.9**
ULN	**Ulaanbaatar**	**41.25**	**340**	P	**P**	**17 20 52.5**	**-0.5**
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**17 20 54.4**	**-0.2**
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**17 20 56.7**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=155,slow=11,SNR=13						
	comp=Z,0.7nm,0.3s						
LCRK	**Leigh Creek**	**41.65**	**164**	P	**P**	**17 20 56.4**	**+0.2**
KLBR	**Kellerberrin**	**41.98**	**191**	P	**P**	**17 20 59.5**	**+0.6**
MUN	**Mundaring**	**42.66**	**193**	P	**P**	**17 21 05.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**	**17 21 11.1**	**+0.9**
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**	**17 21 11.3**	**+1.1**
BBOO	**Buckleboo**	**43.40**	**168**	P	**P**	**17 21 09.9**	**-0.6**
BBOO	**Buckleboo**	**43.40**	**168**	P	**P**	**17 21 10.6**	**+0.1**
STKA	**Stephens Creek**	**43.97**	**161**	P	**P**	**17 21 14.2**	**-0.9**
STKA				IAmb	IAmb	17 21 20.1	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**43.97**	**161**	P	**P**	**17 21 14.1**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=342,slow=6.2,SNR=6.3						
	comp=Z,1.7nm,0.4s						
STKA	**Stephens Creek**	**43.97**	**161**	P	**P**	**17 21 15.2**	**+0.1**
RKGY	**Rocky Gully**	**45.06**	**191**	P	**P**	**17 21 23.7**	**0.0**
CMSA	**Cobar Meteorol**	**45.13**	**156**	P	**P**	**17 21 23.6**	**-0.7**
ARMA	**Armidale**	**46.84**	**150**	P	**P**	**17 21 38.9**	**+0.9**
ARPS	**Mount Arapiles**	**48.59**	**163**	P	**P**	**17 21 51.3**	**0.0**
YNG	**Young**	**48.63**	**155**	P	**P**	**17 21 51.5**	**-0.2**
PETK	**Petropavlovsk-**	**50.04**	**24**	P	**P**	**17 22 02.9**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=207,slow=4.6,SNR=4.9						
	comp=Z,1.6nm,0.6s						
TOO	**Toolangi**	**50.46**	**160**	P	**P**	**17 22 06.5**	**+0.9**
TOO				IAmb	IAmb	17 22 14.8	
	comp=Z,14nm,1.4s						
DZM	**Mont Dzumac**	**50.55**	**129**	P	**P**	**17 22 06.5**	**-0.1**
DZM	**Mont Dzumac**	**50.55**	**129**	P	**P**	**17 22 06.6**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=262,slow=12,SNR=6.5						
	comp=Z,4.1nm,0.6s						
YAK	**Yakutsk**	**52.18**	**2**	P	**P**	**17 22 17.7**	**-0.3**
YAK				IAmb	IAmb	17 22 32.4	
	comp=Z,7.5nm,0.8s						
YAK	**Yakutsk**	**52.18**	**2**	P	**P**	**17 22 19.2**	**+1.2**
	comp=Z,7.9nm,0.8s,baz=153,slow=3.2,SNR=4.1						
	comp=Z,7.9nm,0.8s						
MK31	**Makanchi Array**	**52.39**	**323**	P	**P**	**17 22 20.0**	**0.0**
MKAR	**Makanchi Array**	**52.39**	**323**	P	**P**	**17 22 19.9**	**-0.1**
MKAR	**Makanchi Array**	**52.39**	**323**	P	**P**	**17 22 20.9**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=122,slow=6.5,SNR=24						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	**52.59**	**323**	P	**P**	**17 22 20.9**	**-0.5**
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**17 22 37.4**	**-1.6**
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**17 22 39.0**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=115,slow=6.7,SNR=5.2						
	comp=Z,0.8nm,0.4s						
ARSB	**Arslanbob**	**56.29**	**313**	P	**P**	**17 22 48.2**	**-0.3**
ARSB				IAmb	IAmb	17 23 25.7	
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**56.45**	**326**	P	**P**	**17 22 50.0**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=121,slow=7.5,SNR=13						
	comp=Z,0.9nm,0.4s						
GAR	**Garm**	**57.59**	**310**	P	**P**	**17 22 57.0**	**-0.8**
GAR				IAmb	IAmb	17 23 38.9	
	comp=Z,7.6nm,0.9s						
KK31	**Karatay Array**	**58.58**	**315**	P	**P**	**17 23 03.5**	**-1.0**
KKAR	**Karatay Array**	**58.58**	**315**	P	**P**	**17 23 03.3**	**-1.2**
KKAR	**Karatay Array**	**58.58**	**315**	P	**P**	**17 23 03.6**	**-0.9**
TIXI	**Tiksi**	**61.80**	**1**	P	**P**	**17 23 25.4**	**-0.6**
BVAR	**Borovoye Array**	**62.04**	**326**	P	**P**	**17 23 29.1**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=138,slow=6.6,SNR=5.2						
	comp=Z,1.2nm,0.7s						
BRVK	**Borovoye**	**62.11**	**326**	P	**P**	**17 23 28.6**	**+0.2**
BRVK				IAmb	IAmb	17 23 54.6	
	comp=Z,3.5nm,1.1s						
NRIK	**Noril'sk**	**64.45**	**346**	P	**P**	**17 23 43.5**	**-0.1**
NRIK				IAmb	IAmb	17 23 51.6	
	comp=Z,9.1nm,1.4s						
NRIK	**Noril'sk**	**64.45**	**346**	P	**P**	**17 23 44.8**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=153,slow=5.9,SNR=6.0						
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**67.22**	**319**	P	**P**	**17 24 01.4**	**-0.5**
BKZ	**Black Stump Fm**	**67.43**	**140**	P	**P**	**17 24 03.7**	**+0.4**
E18K	**Tukpahlearik C**	**74.53**	**23**	P	**P**	**17 24 44.6**	**-1.2**
E18K				IAmb	IAmb	17 24 48.6	
	comp=Z,3.5nm,0.8s						
C18K	**Utukok River**	**74.57**	**21**		**P**	**17 24 45.9**	**-0.3**
C18K				IAmb	IAmb	17 24 48.8	
	comp=Z,3.7nm,0.8s						
D19K	**Kuna River**	**75.65**	**22**	P	**P**	**17 24 52.0**	**-0.4**
D19K				IAmb	IAmb	17 24 58.0	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	**75.81**	**23**		**P**	**17 24 53.2**	**-0.1**
E19K				IAmb	IAmb	17 24 56.3	
	comp=Z,9.6nm,1.4s						
B21K	**Ikpikpuk River**	**77.06**	**21**	P	**P**	**17 25 00.9**	**+0.7**
B21K				IAmb	IAmb	17 25 03.3	
	comp=Z,5.7nm,0.8s						
B22K	**Teshekpuk Lake**	**77.55**	**20**	IAmb	IAmb	17 25 05.8	
	comp=Z,4.9nm,0.7s						
BPAW	**Bear Paw Mtn.**	**78.06**	**26**	IAmb	IAmb	17 25 08.5	
	comp=Z,3.5nm,0.8s						
C23K	**Itkillik River**	**78.47**	**21**	P	**P**	**17 25 09.8**	**+1.7**
E23K	**Chandalar**	**78.75**	**22**	IAmb	IAmb	17 25 13.2	
	comp=Z,6.2nm,1.1s						
TOLK	**Toolik Lake Re**	**78.79**	**22**	IAmb	IAmb	17 25 12.5	
	comp=Z,3.6nm,0.8s						
D24K	**Happy Valley**	**79.07**	**21**	IAmb	IAmb	17 25 14.4	
	comp=Z,3.9nm,0.7s						
PWL	**Port Wells**	**79.25**	**30**	IAmb	IAmb	17 25 15.3	
	comp=Z,7.0nm,1.0s						
H24K	**Noodor Dome**	**79.41**	**25**	IAmb	IAmb	17 25 16.6	
	comp=Z,5.6nm,1.1s						
HDA	**Harding Lake**	**79.82**	**26**	P	**P**	**17 25 13.9**	**-1.8**
ILAR	**Eielson Array**	**79.84**	**26**	P	**P**	**17 25 15.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=237,slow=5.2,SNR=15						
	comp=Z,1.0nm,0.7s						
C27K	**Jago River**	**80.87**	**21**	IAmb	IAmb	17 25 26.3	
	comp=Z,3.0nm,0.7s						
J26L	**Joseph Creek**	**81.28**	**26**	P	**P**	**17 25 22.7**	**-0.9**
J26L				IAmb	IAmb	17 25 55.8	
	comp=Z,6.2nm,1.4s						
I28M	**Miner Creek**	**82.72**	**25**	P	**P**	**17 25 32.1**	**+1.0**
G29M	**Pine Creek**	**83.28**	**23**	IAmb	IAmb	17 26 01.7	
	comp=Z,9.2nm,1.3s						
J29N	**Klondike Camp**	**83.59**	**26**	IAmb	IAmb	17 25 39.6	
	comp=Z,3.2nm,0.8s						
I30M	**Mount Dempster**	**84.23**	**25**	P	**P**	**17 25 39.4**	**+0.5**
I30M				IAmb	IAmb	17 25 43.7	
	comp=Z,6.5nm,1.1s						
J30M	**Hart River**	**84.37**	**25**	IAmb	IAmb	17 25 43.5	
	comp=Z,2.6nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.46**	**349**	P	**P**	**17 25 40.9**	**+1.2**
	comp=Z,2.5nm,0.5s,baz=91,slow=7.1,SNR=8.6						
	comp=Z,2.5nm,0.5s						
HYT	**Haines Junctio**	**84.53**	**29**	IAmb	IAmb	17 25 45.0	
	comp=Z,7.6nm,1.1s						
M30M	**Minto, Yukon**	**84.54**	**27**	IAmb	IAmb	17 25 43.8	
	comp=Z,3.1nm,0.8s						
ARCES	**ARCESS Array B**	**84.62**	**340**	P	**P**	**17 25 41.5**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=85,slow=6.5,SNR=22						
	comp=Z,2.5nm,0.6s						
G31M	**Satah River**	**84.72**	**23**	IAmb	IAmb	17 25 44.7	
	comp=Z,8.5nm,1.3s						
H31M	**Peel River**	**84.94**	**24**	P	**P**	**17 25 42.3**	**-0.1**
H31M				IAmb	IAmb	17 25 45.2	
	comp=Z,5.5nm,0.8s						
BRTR	**Keskin Array B**	**85.83**	**309**	P	**P**	**17 25 47.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=105,slow=4.6,SNR=2.4						
	comp=Z,0.4nm,0.7s						
FARO	**Faro, Yukon**	**86.18**	**28**	IAmb	IAmb	17 25 51.6	
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**86.29**	**332**	P	**P**	**17 25 50.0**	**+0.9**
	comp=Z,3.9nm,0.5s,baz=74,slow=4.7,SNR=31						
	comp=Z,3.9nm,0.5s						
AKASG	**Malin Array Be**	**86.92**	**321**	P	**P**	**17 25 52.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=63,slow=4.9,SNR=6.1						
	comp=Z,0.3nm,0.3s						
NOR	**Nord**	**87.03**	**355**	*i* P	**P**	**17 25 53.3**	**+0.9**
NOR				IAmb	IAmb	17 25 55.1	
	comp=Z,2.5nm,0.9s						
DAG	**Danmarks Havn**	**91.20**	**352**	*i* P	**P**	**17 26 12.0**	**-0.1**
DAG				IAmb	IAmb	17 26 15.6	
	comp=Z,4.6nm,1.1s						
RES	**Resolute Bay**	**91.94**	**10**	P	**P**	**17 26 14.8**	**-0.6**
RES				IAmb	IAmb	17 26 19.8	
	comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**92.45**	**332**	P	**P**	**17 26 17.6**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=72,slow=4.8,SNR=11						
	comp=Z,1.8nm,0.5s						
NEEM	**North Greenlan**	**92.87**	**359**	*i* P	**P**	**17 26 20.9**	**+0.7**
NEEM				IAmb	IAmb	17 26 22.7	
	comp=Z,7.3nm,1.0s						
NB2	**NORSAR Subarra**	**93.17**	**334**	P	**P**	**17 26 22.4**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=66,slow=4.4						
NB2	**NORSAR Subarra**	**93.17**	**334**	P	**P**	**17 26 22.4**	**+0.9**
	baz=66,slow=4.4						
NOA	**NORSAR Array B**	**93.17**	**334**	P	**P**	**17 26 21.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=66,slow=4.4,SNR=4.1						
	comp=Z,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**17 26 27.4**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=298,slow=4.6,SNR=21						
	comp=Z,1.5nm,0.6s						
SCO	**Scoresbysund**	**97.01**	**350**	*i* P	**P**	**17 26 41.8**	**+3.0**
SCO				IAmb	IAmb	17 26 44.0	
	comp=Z,15nm,1.2s						
ANGG	**Ammassalik, Gr**	**103.83**	**353**	*i* P	**Pdif**	**17 27 12.3**	**+3.0**
NUUK	**Nuuk**	**106.20**	**359**	*i* P	**Pdif**	**17 27 17.0**	**-2.9**
TXAR	**Lajitas Array**	**118.11**	**49**	PKP	**PKiKP**	**17 31 56.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=318,slow=1.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.44**	**292**	PKP	**PKiKP**	**17 32 01.2**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=21,slow=3.7,SNR=3.6						
PLCA	**Paso Flores**	**145.79**	**157**	PK

URZ	**Urewera**	**19.26 193**	P	P	17 26 50.7	+0.2
	5.5nm,0.8s,baz=16,slow=1.5,SNR=6.2					
ASAR	**Alice Springs**	**45.26 256**	P	P	17 30 31.5	-0.1
	0.4nm,0.4s,baz=86,slow=8.4,SNR=23					
	0.4nm,0.4s					
WRA	**Warramunga Arr**	**45.26 261**	P	P	17 30 31.6	-0.1
	0.4nm,0.3s,baz=97,slow=7.6,SNR=19					
	0.4nm,0.3s					
QSPA	**South Pole Qui**	**70.54 180**	P	P	17 33 23.0	-0.2
	0.7nm,0.7s,baz=58,slow=15,SNR=5.1					
	0.7nm,0.7s					
ILAR	**Eielson Array**	**87.25 13**	P	P	17 34 52.0	+0.1
	0.2nm,0.5s,baz=218,slow=6.9,SNR=2.0					
	0.2nm,0.5s					

*JMA **08** 17:26:25.9±0.8, 45°N±4°×14°9E±°, h30km, MV3.5/10, SE OFF ETOROFU*
*SKHL **08** 17:26:26.6±0.2, 44°.40N×149°.40E, h51km±3km, mb4.2/3*
ISC 08 17:26:24.0±4.7**, 44°.4N**±0°.1×**149°.3E**±0°.2**, h4**km±24km**, n14,** σ1°**37**/23**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**311**	*eP*	**Pn**	**17 26 48.4**	**-0.4**
KUR				AMB	AMB	17 26 51.7	
	120nm,0.3s						
KUR				*eS*	**Sg**	**17 27 04.8**	**-0.7**
KUR				A	A	17 27 06.6	
	550nm,0.5s						
KUR				A	A	17 27 06.6	
	480nm,0.5s						
SHO	**Shikotan**	**1.82**	**254**	*eP*	**Pn**	**17 26 56.1**	**0.0**
SHO				AMB	AMB	17 26 59.1	
	20nm,0.2s						
SHO				*eS*	**Sn**	**17 27 18.1**	**-1.5**
SHO				A	A	17 27 23.7	
	40nm,0.2s						
SHO				A	A	17 27 23.7	
	90nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**263**	*eP*	**Pn**	**17 27 05.2**	**+0.3**
YUK				AMB	AMB	17 27 12.2	
	70nm,0.3s						
YUK				*eS*	**Sn**	**17 27 34.3**	**-1.2**
YUK				A	A	17 27 37.1	
	50nm,0.4s						
YUK				A	A	17 27 37.1	
	100nm,0.4s						
NEM2	**Nemuro 2**	**2.74**	**249**	P	**Pn**	**17 27 08.5**	**-0.2**
NEM2				S	**Sn**	**17 27 40.6**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.75**	**249**	*i* P	**Pn**	**17 27 08.4**	**-0.4**
NMR				*eS*	**Sn**	**17 27 40.9**	**-1.5**
JRA	**Rausu**	**3.01**	**263**	*eP*	**Pn**	**17 27 13.8**	**+1.4**
JRA				*eS*	**Sn**	**17 27 50.0**	**+1.2**
JNK	**Nakash**	**3.37**	**258**	*eP*	**Pn**	**17 27 18.0**	**+0.6**
JNK				*eS*	**Sn**	**17 27 58.8**	**+1.0**
AKK	**Akkeshi**	**3.48**	**248**	*eP*	**Pn**	**17 27 18.8**	**-0.1**
JAK	**Akkeshi**	**3.59**	**249**	*eP*	**Pn**	**17 27 20.6**	**+0.2**
JTKR	**Abashiri--Toko**	**3.87**	**265**	*eP*	**Pn**	**17 27 26.8**	**+2.5**
JAR	**Ashorobuto**	**4.12**	**256**	*eP*	**Pn**	**17 27 29.4**	**+1.7**
JAR				*eS*	**Sn**	**17 28 17.4**	**+1.2**
JOB	**Onbets**	**4.21**	**251**	*eP*	**Pn**	**17 27 29.7**	**+0.8**
JCH	**Churui**	**4.64**	**249**	*eP*	**Pn**	**17 27 34.1**	**-0.7**
JCH				*eS*	**Sn**	**17 28 27.6**	**-1.5**
JNBK	**Urakawa-nobuka**	**5.19**	**248**	*eP*	**Pn**	**17 27 45.0**	**+2.6**

*NEIC **08** 17:26:32.3±1.4, 45°.06N±0°.04×106°.75W±0°.07, h0km±1km, ML3.0/54, Error ellipse: s-maj=8.6km s-min=5.2km az=241.0*
*IDC **08** 17:26:32.7±1.6, 45°.10N×106°.96W, h0km, mbtmp3.4/2, ML1.8/1, Error ellipse: s-maj=92.7km s-min=8.8km az=134.0*
ISC 08 17:26:32.7±1.2**, 45°.09N**±0°.06×**106°.67W**±0°.06**, h0km, n41,** σ0°**98**/40**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.63**	**11**	Pg	**Pb**	**17 27 03.9**	**+0.2**
LAO				IAML		17 27 34.2	
	172nm,0.9s						
LAO				IAML		17 27 48.1	
	159nm,0.8s						
RLMT	**Red Lodge**	**1.84**	**272**		**Pn**	**17 27 05.9**	**+0.2**
RLMT				IAML		17 27 31.8	
	73nm,1.9s						
RLMT				IAML		17 27 32.1	
	79nm,2.4s						
RSSD	**Black Hills**	**2.12**	**116**		**Pn**	**17 27 10.7**	**+1.2**
RSSD				IAML		17 27 41.5	
	92nm,0.9s						
RSSD				IAML		17 27 49.2	
	99nm,0.8s						
GCMT	**Greycliff**	**2.22**	**290**		**Pn**	**17 27 11.5**	**+0.6**
YNE	**Yellowstone No**	**2.37**	**269**		**Pn**	**17 27 13.1**	**+0.1**
YNE				IAML		17 27 52.7	
	comp=N,66nm,0.9s						
YNE				IAML		17 28 13.6	
	comp=E,56nm,0.9s						
K22A	**Casper**	**2.44**	**177**		**Pn**	**17 27 14.7**	**+0.8**
K22A				IAML		17 27 50.5	
	comp=N,91nm,1.0s						
K22A				IAML		17 27 51.8	
	comp=E,67nm,0.9s						
YMP	**Mirror Lake Pl**	**2.50**	**263**		**Pn**	**17 27 15.4**	**+0.6**
YMP				IAML		17 28 00.4	
	comp=E,109nm,0.7s						
YMP				IAML		17 28 02.8	
	comp=N,93nm,2.0s						
H17A	**Grant Village**	**2.87**	**257**		**Pn**	**17 27 21.2**	**+1.3**
YNR	**Norris Junctio**	**2.87**	**264**		**Pn**	**17 27 19.1**	**-0.9**
YNR				IAML		17 28 25.0	
	comp=E,26nm,2.0s						
YHH	**Holmes Hill**	**2.98**	**266**		**Pn**	**17 27 22.3**	**+0.7**
YFT	**Old Faithful**	**3.03**	**259**		**Pn**	**17 27 21.4**	**-0.8**
FLWY	**Flagg Ranch**	**3.05**	**252**		**Pn**	**17 27 21.5**	**-0.8**
FLWY				IAML		17 28 38.3	
	comp=E,47nm,1.8s						
YMR	**Madison River**	**3.08**	**264**	Pn	**Pn**	**17 27 25.2**	**+2.4**
YMR				IAML		17 28 27.7	
	comp=N,58nm,1.8s						
PD31	**Pinedale Array**	**3.12**	**223**		**Pn**	**17 27 24.1**	**+0.7**
PDAR	**Pinedale Array**	**3.12**	**223**		**Pn**	**17 27 25.4**	**+2.1**
PDAR	**Pinedale Array**	**3.12**	**223**	Pn	**Pn**	**17 27 24.6**	**+1.3**
	comp=N,1.4nm,0.3s,baz=44,slow=16,SNR=7.1						
PDAR				Lg	Lg	17 28 05.9	
	comp=N,4.2nm,0.3s,baz=51,slow=32,SNR=10						
LOHW	**Long Hollow**	**3.18**	**244**		**Pn**	**17 27 24.5**	**+0.3**
LOHW				IAML		17 28 39.5	
	comp=N,24nm,4.0s						
YHL	**Hebgen Lake**	**3.21**	**267**		**Pn**	**17 27 24.8**	**+0.2**
YHL				IAML		17 28 21.3	
	comp=N,47nm,1.7s						
YHL				IAML		17 28 32.5	
	comp=E,44nm,0.9s						
MOOW	**Moose Ponds**	**3.21**	**247**		**Pn**	**17 27 24.5**	**-0.1**
YHB	**Horse Butte**	**3.23**	**266**		**Pn**	**17 27 25.6**	**+0.7**
YHB				IAML		17 28 42.8	
	comp=E,20nm,1.1s						
YHB				IAML		17 28 43.2	
	comp=N,41nm,2.0s						
FXWY	**Fox Creek**	**3.44**	**247**		**Pn**	**17 27 28.4**	**+0.7**
TPAW	**Teton Pass**	**3.46**	**244**		**Pn**	**17 27 27.4**	**-0.7**
TPAW				IAML		17 28 40.3	
	comp=N,19nm,1.1s						
BOZ	**Bozeman (W)**	**3.53**	**280**		**Pn**	**17 27 29.1**	**+0.2**
EGMT	**Eagleton**	**3.63**	**325**		**Pn**	**17 27 31.0**	**+0.9**
DGMT	**Dagmar**	**3.79**	**26**	Pn	**Pn**	**17 27 33.5**	**+1.2**
HRY	**Holter Researc**	**3.95**	**296**	Pn	**Pn**	**17 27 34.2**	**-0.4**
AHID	**Auburn Hatcher**	**3.95**	**236**		**Pn**	**17 27 35.0**	**+0.2**
AHID				IAML		17 28 40.0	
	comp=N,25nm,1.6s						
AHID				IAML		17 29 03.0	
	comp=N,18nm,2.6s						
LRM	**Limekiln Ridge**	**4.13**	**282**	Pn	**Pn**	**17 27 36.5**	**-0.7**
DLMT	**Dillon**	**4.20**	**276**	Pn	**Pn**	**17 27 37.4**	**-0.7**
DLMT				IAML		17 29 17.6	
	comp=N,22nm,2.1s						
N23A	**Red Feather La**	**4.22**	**173**		**Pn**	**17 27 38.1**	**-0.4**
LYMT	**Lyon Mountain**	**4.34**	**298**		**Pn**	**17 27 40.4**	**+0.3**
MCMT	**McKenzie Canyo**	**4.39**	**269**		**Pn**	**17 27 39.4**	**-1.4**
BPMT	**Black Pine Rid**	**4.93**	**288**	Pn	**Pn**	**17 27 47.3**	**-0.9**
HWUT	**Hardware Ranch**	**4.98**	**227**	Pn	**Pn**	**17 27 47.4**	**-1.5**
HWUT				IAML		17 30 00.1	
	comp=N,14nm,4.7s						
ISCO	**Idaho Springs**	**5.34**	**171**	Pn	**Pn**	**17 27 52.9**	**-1.1**
ISCO				IAML		17 29 35.6	
	comp=N,7.7nm,2.8s						
ISCO				IAML		17 29 38.9	
	comp=N,8.1nm,0.8s						
OGNE	**Ogallala**	**5.36**	**139**		**Pn**	**17 27 54.4**	**+0.4**
BSUT	**Blindstream Ca**	**5.45**	**215**	Pn	**Pn**	**17 27 54.6**	**-0.9**
MDND	**Maddock**	**5.61**	**58**		**Pn**	**17 27 55.4**	**-1.9**
PV13	**Radium Mtn., P**	**7.11**	**194**		**Pn**	**17 28 17.9**	**-0.3**
I10CA	**LAC DU BONNET**	**8.82**	**51**	I	I	18 19 10.0	
	baz=235,slow=334,SNR=0.9						
ULM	**Lac du Bonnet**	**8.93**	**51**	Pn	**Pn**	**17 28 42.6**	**-0.1**
	comp=N,0.2nm,0.3s,baz=244,slow=16,SNR=8.3						
ULM				Lg	Lg	17 31 13.2	
	comp=N,0.2nm,0.3s,baz=323,slow=20,SNR=3.6						
	comp=N,1.2nm,0.2s						

*IDC **08** 17:30:12.3±11.0, 20°.49S×176°.88W, h184km±98km, mb3.3/5, mbtmp4.0/6, Error ellipse: s-maj=43.0km s-min=28.1km az=37.0*
*NOU **08** 17:30:18.0, 20°.91S×176°.31W, h230km, mb4.2/11, Fiji Islands Region*
ISC 08 17:30:16.9±0.8**, 21°.08S**±0°.09×**176°.3W**±0°.1**, h200**km**, n50,** σ2°**75**/58**, mb3.3/5, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	**Dogotuki**	**6.06**	**321**	P	**Pn**	**17 31 44.4**	**-0.6**
NIUE	**Niue**	**6.31**	**73**	S	**Sn**	**17 33 02.6**	**+2.2**
AFI	**Afiamalu**	**8.33**	**32**	P	**Pn**	**17 32 12.8**	**-1.8**
HAZ	**Te Kaha**	**17.39**	**196**	P	**P**	**17 34 05.8**	**-0.1**
HAZ				S	**S**	**17 37 13.0**	**-3.4**
MKAZ	**Moumakai**	**17.61**	**203**	P	**P**	**17 34 11.4**	**+3.0**
RUGZ	**Raukumara Rang**	**17.61**	**196**	P	**P**	**17 34 09.1**	**+0.5**
RUGZ				S	**S**	**17 37 16.6**	**-4.5**
TWGZ	**Tauwhareparae**	**17.74**	**195**	P	**P**	**17 34 13.1**	**+3.2**
TWGZ				S	**S**	**17 37 19.9**	**-3.6**
MWZ	**Matawai**	**18.00**	**196**	S	**S**	**17 37 23.1**	**-5.6**
URZ	**Urewera**	**18.04**	**197**	P	**P**	**17 34 14.3**	**+1.3**
	8.5nm,0.4s,baz=14,slow=3.4,SNR=21						
URZ	**Urewera**	**18.04**	**197**	P	**P**	**17 34 14.3**	**+1.3**
URZ	**Urewera**	**18.04**	**197**	S	**S**	**17 37 29.5**	**+0.1**
URZ	**Urewera**	**18.04**	**197**	P	**P**	**17 34 15.6**	**+2.5**
URZ				S	**S**	**17 37 26.4**	**-3.0**
RAGZ	**Rawiri**	**18.18**	**196**	P	**P**	**17 34 16.9**	**+2.2**
RAGZ				S	S	17 37 24.8	-7.6
MUGZ	**Murupara**	**18.34**	**198**	P	**P**	**17 34 19.0**	**+2.7**
MUGZ				S	**S**	**17 37 34.6**	**-0.8**
HIZ	**Hauiti**	**18.98**	**202**	P	**P**	**17 34 27.1**	**+3.9**
BKZ	**Black Stump Fm**	**19.06**	**197**	P	**P**	**17 34 24.7**	**+0.6**
BKZ	**Black Stump Fm**	**19.06**	**197**	S	**S**	**17 37 48.4**	**-1.2**
BKZ	**Black Stump Fm**	**19.06**	**197**	P	**P**	**17 34 24.5**	**+0.3**
BKZ				S	**S**	**17 37 46.7**	**-3.0**
ETVZ	**East Tongariro**	**19.26**	**199**	P	**P**	**17 34 26.6**	**+0.2**
OTVZ	**Oturere**	**19.30**	**199**	P	**P**	**17 34 26.9**	**0.0**
OTVZ				S	**S**	**17 37 55.0**	**+0.4**
KWHZ	**Kaweka Forest**	**19.32**	**197**	P	**P**	**17 34 28.9**	**+1.9**
KWHZ				S	**S**	**17 37 51.5**	**-3.3**
WNVZ	**Wahianoa**	**19.47**	**199**	P	P	17 34 24.3	-4.4
ANWZ	**Angora Road**	**20.27**	**196**	P	**P**	**17 34 40.4**	**+3.3**
ANWZ				S	**S**	**17 38 12.5**	**-0.7**
BFZ	**Birch Farm**	**20.54**	**196**	P	**P**	**17 34 42.6**	**+2.6**
BFZ	**Birch Farm**	**20.54**	**196**	S	**S**	**17 38 19.1**	**+0.7**
BFZ	**Birch Farm**	**20.54**	**196**	P	**P**	**17 34 43.1**	**+3.2**
BFZ				S	**S**	**17 38 16.7**	**-1.7**
MRZ	**Mangatainoka R**	**20.71**	**198**	P	**P**	**17 34 41.3**	**-0.4**
MRZ				S	**S**	**17 38 19.2**	**-2.2**
OGWZ	**Otaki Gorge**	**20.97**	**198**	P	**P**	**17 34 42.2**	**-2.3**
OGWZ				S	**S**	**17 38 24.2**	**-2.0**
QRZ	**Quartz Range**	**21.85**	**203**	P	**P**	**17 34 55.2**	**+1.6**
QRZ	**Quartz Range**	**21.85**	**203**	P	**P**	**17 34 54.8**	**+1.2**
TKNZ	**Takaka Hill**	**21.88**	**202**	P	**P**	**17 34 54.2**	**+0.3**
TKNZ				S	**S**	**17 38 49.0**	**+7.8**
NNZ	**Nelson**	**21.90**	**201**	P	**P**	**17 34 53.6**	**-0.4**
NNZ				S	**S**	**17 38 47.4**	**+5.9**
TUWZ	**Tuamarina**	**21.90**	**200**	P	**P**	**17 34 53.6**	**-0.4**
THZ	**Tophouse**	**22.55**	**201**	P	**P**	**17 35 00.9**	**+0.8**
THZ				S	**S**	**17 39 00.2**	**+8.2**
KHZ	**Kahutara**	**22.93**	**200**	P	**P**	**17 35 04.3**	**+0.9**
KHZ	**Kahutara**	**22.93**	**200**	P	**P**	**17 35 04.2**	**+0.8**
GVZ	**Greta Valley S**	**23.58**	**200**	P	**P**	**17 35 10.3**	**+0.9**
LTZ	**Lake Taylor**	**23.67**	**201**	P	**P**	**17 35 10.4**	**+0.2**
INZ	**Inchbonnie**	**23.91**	**203**	P	**P**	**17 35 12.7**	**+0.4**
FOZ	**Fox Glacier**	**25.21**	**204**	P	**P**	**17 35 23.5**	**-0.6**
WHZ	**Wether Hill Ro**	**27.91**	**204**	P	P	17 35 53.4	+5.1
STKA	**Stephens Creek**	**38.98**	**245**	P	P	17 37 18.6	-5.3
	1.4nm,0.6s,baz=87,slow=12,SNR=1.7						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**45.94**	**257**	P	P	17 38 13.0	-7.2
	0.8nm,0.7s,baz=97,slow=8.3,SNR=15						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**46.10**	**262**	P	P	17 38 15.6	-5.8
	0.3nm,0.3s,baz=95,slow=7.7,SNR=16						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**68.99**	**180**	P	**P**	**17 41 01.7**	**+1.3**
	1.6nm,0.9s,baz=3.6,slow=19,SNR=2.4						
	1.6nm,0.9s						
ILAR	**Eielson Array**	**88.53**	**12**	P	P	17 42 41.4	-4.9
	0.3nm,0.7s,baz=200,slow=4.7,SNR=7.1						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**129.77**	**350**	PKP	**PKPdf**	**17 48 57.2**	**-4.3**
	1.6nm,0.8s,baz=15,slow=2.4,SNR=4.3						
AKASG	**Malin Array Be**	**144.28**	**332**	PKhKP	PKPpre	17 49 20.6	
	0.2nm,0.3s,baz=45,slow=4.5,SNR=7.4						
GERES	**GERESS Array B**	**151.17**	**346**	PKPbc	**PKPdf**	**17 49 42.0**	**+1.7**
	0.3nm,0.3s,baz=12,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**171.88**	**166**	PKPab	**PKPab**	**17 51 24.9**	**-0.8**
	0.2nm,0.3s,baz=221,slow=1.3,SNR=2.3						

*NEIC **08** 17:31:13.9±1.5, 71°.34N±0°.10×3°.0W±0°.3, h10km±2km, mb4.2/3, Error ellipse: s-maj=16.7km s-min=13.5km az=202.0*
*NAO **08** 17:31:14.2±2.2, 71°.47N×3°.25W, ML2.9*
*BER **08** 17:31:17.6±3.1, 71°.58N×3°.46W, h10km, mb(Pn)4.1, ML2.9(NAO), Confirmed Earthquake*
*IDC **08** 17:31:19.2±4.3, 71°.43N×1°.80W, h0km, mb3.5/2, mbtmp3.8/7, ML2.8/5, MS3.1/1, Error ellipse: s-maj=67.0km s-min=26.4km az=88.0*
*DNK **08** 17:31:27.5±4.8, 71°.96N×6°.06W, h0km±124km, ML1.5*
ISC 08 17:31:14.7±0.7**, 71°.40N**±0°.07×**3°.22W**±0°.05**, h10**km**, n66,** σ2°**03**/72**, mb4.1**/4**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**1.70**	**259**	*i*	**Sn**	**17 32 06.1**	**+0.2**
JNW	**Jan Mayen West**	**1.73**	**260**	*i*	**Sn**	**17 32 02.0**	**-4.7**
DBG	**Daneborg**	**5.80**	**308**	Pn	**Pn**	**17 32 39.0**	**-1.6**
DBG				Sn	Sn	17 33 38.4	-8.7
DBG	**Daneborg**	**5.80**	**308**	*eP*	**Pn**	**17 32 38.8**	**-1.8**
DBG				*eS*	Sn	17 33 38.0	-9.1
DBG	**Daneborg**	**5.80**	**308**	*i* P	**Pn**	**17 32 38.6**	**-2.0**
DBG				*eS*	Sn	17 33 35.7	-11
DBG				IAML		17 33 43.9	
	comp=Z,1.9nm,0.3s						
SCO	**Scoresbysund**	**6.20**	**270**	Pn	**Pn**	**17 32 45.8**	**-0.2**
SCO	**Scoresbysund**	**6.20**	**270**	*i* P	**Pn**	**17 32 47.0**	**+1.0**
LOF	**Lofoten**	**6.66**	**111**	Pn	**Pn**	**17 32 54.2**	**+1.8**
LOF	**Lofoten**	**6.66**	**111**	*eP*	**Pn**	**17 32 54.2**	**+1.8**
LOF				IAML		17 32 57.1	
	comp=Z,3.9nm,0.7s						
DAG	**Danmarks Havn**	**6.84**	**329**	*e*	Pn	17 32 40.9	-14
	baz=147,slow=11						
DAG				*i* P	**Pn**	**17 32 53.0**	**-1.8**
DAG				*i* P	**Pn**	**17 32 53.0**	**-1.8**
DAG				*i* S	Sn	17 33 57.6	-15
DAG				IAML		17 34 06.5	
	comp=Z,2.2nm,0.4s						
STEI	**Steigen**	**7.29**	**109**	Pn	**Pn**	**17 33 02.6**	**+1.6**
STEI	**Steigen**	**7.29**	**109**	*eP*	**Pn**	**17 33 02.6**	**+1.6**
STEI				*eS*	**Sn**	**17 34 19.0**	**-4.7**
STEI				IAML		17 34 23.7	
	comp=Z,2.3nm,0.7s						
TRO	**Tromso**	**7.59**	**93**	Pn	**Pn**	**17 33 04.3**	**-0.9**
TRO	**Tromso**	**7.59**	**93**	*eP*	**Pn**	**17 33 04.7**	**-0.4**
TRO				IAML		17 33 08.1	
	comp=Z,3.0nm,0.6s						
KONS	**Konsvik**	**7.64**	**122**	Pn	**Pn**	**17 33 07.6**	**+1.8**
KONS	**Konsvik**	**7.64**	**122**	*eP*	**Pn**	**17 33 07.6**	**+1.8**
KONS				IAML		17 34 30.6	
	comp=Z,3.5nm,0.7s						
FAUS	**Fauske**	**7.65**	**113**	*eP*	**Pn**	**17 33 07.7**	**+1.8**
FAUS				IAML		17 34 32.0	
	comp=Z,2.1nm,0.8s						
STOK	**Stokkvaagen**	**7.74**	**123**	Pn	**Pn**	**17 33 08.9**	**+1.8**
STOK				Sn	**Sn**	**17 34 30.1**	**-4.5**
STOK	**Stokkvaagen**	**7.74**	**123**	*eP*	**Pn**	**17 33 09.3**	**+2.1**
STOK				IAML		17 34 37.1	
	comp=Z,3.3nm,0.8s						
LEIR	**Leirfjorden**	**7.93**	**124**	*eP*	**Pn**	**17 33 12.0**	**+2.3**
LEIR				*eS*	**Sn**	**17 34 34.3**	**-5.1**
LEIR				IAML		17 34 37.9	
	comp=Z,3.2nm,0.4s						
BRBB	**Barentsburg B**	**8.10**	**26**	Pn	**Pn**	**17 33 13.8**	**+1.8**
BRBB	**Barentsburg B**	**8.10**	**26**	*eP*	**Pn**	**17 33 13.2**	**+1.1**
JETT	**Jettan, Norway**	**8.10**	**92**	Pn	**Pn**	**17 33 12.0**	**-0.1**
JETT	**Jettan, Norway**	**8.10**	**92**	Pn	**Pn**	**17 33 12.0**	**-0.1**
MOR8	**Moi Rana**	**8.25**	**121**	*eP*	**Pn**	**17 33 17.6**	**+3.4**
MOR8				*eS*	**Sn**	**17 34 44.9**	**-2.3**
MOR8				IAML		17 34 48.4	
	comp=Z,2.6nm,0.4s						
KBS	**Kingsbay**	**8.46**	**20**	Pn	**Pn**	**17 33 16.7**	**-0.3**
KBS	**Kingsbay**	**8.46**	**20**	Pn	**Pn**	**17 33 16.2**	**-0.8**
KBS	**Kingsbay**	**8.46**	**20**	*eP*	Pn	17 33 28.0	+11
KIF	**Kilpisjarvi**	**8.47**	**95**	Pn	**Pn**	**17 33 17.3**	**+0.2**
KIF	**Kilpisjarvi**	**8.47**	**95**	*eP*	**Pn**	**17 33 17.5**	**+0.4**
SPB3	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 16.0**	**-1.1**
SPA3	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 16.6**	**-0.5**
SPB2	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 16.1**	**-1.0**
SPA0	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 17.9**	**+0.7**
	baz=208,slow=16						
SPA0	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 17.9**	**+0.7**
	baz=208,slow=16						
SPITS	**Spitsbergen Ar**	**8.47**	**28**	Pn	**Pn**	**17 33 17.9**	**+0.7**
	baz=209,slow=15						
	comp=Z,4.9nm,0.7s						
SALU	**Saltoluokta**	**8.62**	**107**	*eP*	**Pn**	**17 33 21.0**	**+1.8**
NSS	**Namsos**	**8.92**	**133**	*eP*	**Pn**	**17 33 26.0**	**+2.7**
NSS				IAML		17 35 07.1	
	comp=Z,2.7nm,0.6s						
KTK1	**Kautokeino**	**9.24**	**92**	*eP*	**Pn**	**17 33 28.4**	**+0.7**
HEF	**Hetta**	**9.67**	**95**	Pn	**Pn**	**17 33 34.2**	**+0.6**
HEF	**Hetta**	**9.67**	**95**	*eP*	**Pn**	**17 33 33.9**	**+0.3**
ARA0	**ARCESS Array S**	**9.74**	**87**	Pn	**Pn**	**17 33 34.8**	**+0.2**
	baz=292,slow=12						
ARA0	**ARCESS Array S**	**9.74**	**87**	Pn	**Pn**	**17 33 34.8**	**+0.2**
	baz=292,slow=12						
ARCES	**ARCESS Array B**	**9.74**	**87**	Pn	**Pn**	**17 33 33.5**	**-1.1**
ARCES	**ARCESS Array B**	**9.74**	**87**	Pn	**Pn**	**17 33 34.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=290,slow=12,SNR=15						
	comp=Z,4.3nm,1.0s						
AKN	**Aaknes**	**10.07**	**152**	Pn	**Pn**	**17 33 42.5**	**+3.3**
AKN				Sn	**Sn**	**17 35 31.1**	**-1.0**
AKN	**Aaknes**	**10.07**	**152**	Pn	**Pn**	**17 33 42.5**	**+3.3**
AKN				Sn	**Sn**	**17 35 31.1**	**-1.0**
KEV	**Kevo**	**10.13**	**85**	Pn	**Pn**	**17 33 38.5**	**-1.4**
SUMG	**Summit**	**10.87**	**293**	Pn	**Pn**	**17 33 50.7**	**+0.4**
NC204	**NORSAR Array S**	**11.56**	**144**	Pn	**Pn**	**17 33 57.4**	**-2.1**
NC303	**NORSAR Array S**	**11.72**	**143**	Pn	**Pn**	**17 33 59.4**	**-2.3**
NB00	**NORSAR Array S**	**11.79**	**145**	Pn	**Pn**	**17 34 01.2**	**-1.4**
NOA	**NORSAR Array B**	**11.87**	**144**	Pn	**Pn**	**17 34 06.7**	**+3.1**
	baz=337,slow=13,SNR=4.3						
NOA				LR	LR	17 38 31.8	
	comp=Z,93nm,19.2s,baz=345,slow=37						
	comp=Z,1.3nm,0.9s						
NB201	**NORSAR Array S**	**11.87**	**144**	Pn	**Pn**	**17 34 01.7**	**-2.1**
KONO	**Kongsberg**	**12.89**	**150**	Pn	**Pn**	**17 34 15.5**	**-2.0**
HFS	**Hagfors**	**13.19**	**140**	Pn	**Pn**	**17 34 24.4**	**+2.8**
	baz=342,slow=14						
HFS	**Hagfors**	**13.19**	**140**	Pn	**Pn**	**17 34 24.4**	**+2.8**
	baz=342,slow=14						
HFS	**Hagfors**	**13.19**	**140**	Pn	**Pn**	**17 34 24.5**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=338,slow=12,SNR=12						
	comp=Z,5.2nm,0.8s						
FINES	**FINESS Array B**	**15.18**	**116**	P	**Pn**	**17 34 49.9**	**+1.1**
FINES	**FINESS Array B**	**15.18**	**116**	Pn	**Pn**	**17 34 50.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=6.2,SNR=4.4						
	comp=Z,4.2nm,0.9s						
EUNU	**Eureka**	**20.07**	**330**	P	**P**	**17 35 47.2**	**-0.4**
EUNU				IAmb	IAmb	17 36 03.4	
	comp=Z,6.9nm,1.4s						
AKASG	**Malin Array Be**	**25.42**	**127**	P	**P**	**17 36 45.0**	**+3.1**
	comp=Z,2.1nm,0.6s,baz=338,slow=9.3,SNR=5.9						
	comp=Z,2.1nm,0.6s						
KIV	**Kislovodsk**	**35.27**	**116**	P	**P**	**17 38 08.5**	**-0.7**
KIV				IAmb	IAmb	17 38 23.4	
	comp=Z,4.5nm,0.5s						
TOLK	**Toolik Lake Re**	**38.43**	**341**	P	**P**	**17 38 36.6**	**+

1.9nm,0.8s
FINES FINESS Array B 86.36 332 P **P 17 52 53.9 -0.6**
1.4nm,0.6s,baz=64,slow=3.2,SNR=7.1
1.4nm,0.6s
YKA Yellowknife Ar 94.24 24 P **P 17 53 31.2 -0.3**
0.3nm,0.7s,baz=294,slow=4.5,SNR=3.7
0.3nm,0.7s

---

*IDC **08** 17:47:30.1±0.7,9.°71N×126.°32E,h0km,mb3.9/13,*
mbtmp3.9/13,MS3.3/8,Error ellipse: s-maj=33.4km
s-min=14.0km az=74.0
*NEIC **08** 17:47:38.5±1.2,9.°73N±0.°09×126.°4E±0.°1,h66km±7km,*
mb4.5/57,Error ellipse: s-maj=18.0km s-min=13.4km
az=87.0
ISC 08 17:47:35.1±0.4,9.°76N±0.°06×126.°45E±0.°10,h35km,n93,
σ1§00/81,mb4.5/39,MS3.1/4,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**198**	Pg	**Pn**	**17 48 20.3**	**+2.8**
	56nm,0.3s,baz=55,slow=7.9,SNR=5.3						
DAV				Lg	Lg	17 48 53.7	
	100nm,0.3s,baz=83,slow=3.2,SNR=6.1						
DAV				LR	LR	17 49 25.2	
	comp=Z,619nm,21.6s,baz=27,slow=42						
TGY	**Tagaytay City**	**6.91**	**309**	LR	LR	17 52 19.9	
	comp=Z,596nm,18.4s,baz=114,slow=42						
TOLI2	**Tolitoli**	**10.28**	**214**	Pn	Pn	17 50 03.6	+3.4
KKM	**Kota Kinabalu**	**10.79**	**251**	Pn	**Pn**	**17 50 08.7**	**+1.5**
YULB	**Yu-li**	**14.43**	**341**		**P**	**17 51 04.7**	**+1.5**
TPUB	**Ta-pu**	**14.57**	**338**		**P**	**17 51 04.2**	**-0.7**
YHNB	**Yeheng**	**15.60**	**343**		**P**	**17 51 14.6**	**-1.7**
YHNB				IAmb	IAmb	17 51 44.2	
	comp=Z,69nm,1.4s						
SBUM	**Sibu**	**15.89**	**244**		**P**	**17 51 19.1**	**-0.5**
KAPI	**Kappang**	**16.12**	**205**	P	**P**	**17 51 21.7**	**-0.4**
KAPI	**Kappang**	**16.12**	**205**	LR	LR	17 58 20.5	
	comp=Z,112nm,20.0s,baz=22,slow=41						
JOW	**Kunigami**	**17.07**	**6**	LR	LR	17 57 54.5	
	comp=Z,46nm,20.4s,baz=133,slow=36						
SOEI	**Soe**	**19.51**	**186**	P	**P**	**17 51 58.8**	**-0.8**
SOEI				IAmb	IAmb	17 52 41.2	
	comp=Z,30nm,1.0s						
MTN	**Manton Dam**	**22.93**	**168**	P	**P**	**17 52 35.0**	**-1.3**
MTN				IAmb	IAmb	17 53 16.7	
	comp=Z,32nm,1.2s						
MYKOM	**Kota Tinggi**	**23.82**	**252**	P	**P**	**17 52 42.9**	**-2.2**
MYKOM				IAmb	IAmb	17 52 50.0	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**25.38**	**175**	P	**P**	**17 52 58.5**	**-0.7**
KNRA				IAmb	IAmb	17 53 41.3	
	comp=Z,33nm,1.2s						
IPM	**Ipoh**	**25.76**	**260**	P	**P**	**17 53 01.3**	**-1.5**
IPM				IAmb	IAmb	17 53 08.1	
	comp=Z,9.5nm,0.9s						
KULM	**Kulim**	**25.95**	**262**	P	**P**	**17 53 02.2**	**-2.4**
KSRS	**Korea Array**	**27.61**	**3**	LR	LR	18 06 43.8	
	comp=Z,43nm,18.2s,baz=155,slow=42						
FITZ	**Fitzroy Crossi**	**27.69**	**182**	P	**P**	**17 53 19.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**28.01**	**291**	P	**P**	**17 53 23.4**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=92,slow=6.1,SNR=6.1						
	comp=Z,0.4nm,0.4s						
PSI	**Prapat**	**28.20**	**258**	LR	LR	18 06 14.5	
	comp=Z,66nm,20.4s,baz=157,slow=40						
MJAR	**Matsushiro Arr**	**28.72**	**20**	LR	LR	18 04 57.3	
	comp=Z,42nm,18.6s,baz=190,slow=36						
GSI	**Gunungsitoli**	**29.91**	**255**	P	**P**	**17 53 38.8**	**-1.2**
GSI				IAmb	IAmb	17 53 58.9	
	comp=Z,13nm,1.0s						
WB0	**Warramunga Arr**	**30.36**	**165**	P	**P**	**17 53 43.0**	**-0.8**
WRAB	**Tennant Creek**	**30.51**	**165**	P	**P**	**17 53 44.9**	**-0.3**
WRAB				IAmb	IAmb	17 54 16.9	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**17 53 44.8**	**-0.5**
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**17 53 44.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=346,slow=7.9,SNR=5.9						
	comp=Z,0.4nm,0.8s						
WB2	**Warramunga Arr**	**30.52**	**165**	P	**P**	**17 53 44.4**	**-0.8**
WB2				IAmb	IAmb	17 54 21.8	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**31.80**	**192**	P	**P**	**17 53 55.6**	**-0.9**
PSA00				IAmb	IAmb	17 53 57.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**34.01**	**168**	P	**P**	**17 54 14.9**	**-0.9**
ASAR	**Alice Springs**	**34.01**	**168**	P	**P**	**17 54 15.0**	**-0.8**
ASAR	**Alice Springs**	**34.01**	**168**	P	**P**	**17 54 14.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=7.2,SNR=25						
ASAR				PcP	**PcP**	**17 56 53.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=339,slow=3.2,SNR=2.5						
	comp=Z,0.3nm,0.3s						
MORW	**Morawa**	**39.88**	**194**	P	**P**	**17 55 05.2**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**39.90**	**73**	T	T	18 38 02.0	
	baz=262,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.91**	**73**	T	T	18 38 01.9	
	baz=262,slow=74,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**39.91**	**73**	T	T	18 38 07.4	
	baz=262,slow=74,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**40.25**	**71**	T	T	18 38 30.2	
	baz=265,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.26**	**71**	T	T	18 38 36.3	
	baz=265,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	18 38 34.9	
	baz=265,slow=74,SNR=14						
FORT	**Forrest**	**40.33**	**178**	P	**P**	**17 55 09.1**	**-0.3**
ULN	**Ulaanbaatar**	**41.36**	**340**	P	**P**	**17 55 19.1**	**+1.3**
SONM	**Songino Array**	**41.56**	**340**	P	**P**	**17 55 21.1**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=153,slow=7.1,SNR=5.1						
	comp=Z,0.9nm,0.9s						
BBOO	**Buckleboo**	**43.31**	**168**	P	**P**	**17 55 33.2**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.35**	**191**	P	**P**	**17 55 33.8**	**-0.1**
STKA	**Stephens Creek**	**43.86**	**161**	P	**P**	**17 55 37.6**	**-0.6**
STKA				IAmb	IAmb	17 55 43.5	
	comp=Z,7.1nm,1.2s						
STKA	**Stephens Creek**	**43.86**	**161**	P	**P**	**17 55 39.1**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=320,slow=6.0,SNR=4.1						
	comp=Z,3.3nm,0.9s						
PEA0B	**Petropavlovsk-**	**50.03**	**24**	P	**P**	**17 56 27.8**	**+1.8**
PETK	**Petropavlovsk-**	**50.03**	**24**	P	**P**	**17 56 27.5**	**+1.4**
YAK	**Yakutsk**	**52.23**	**2**	P	**P**	**17 56 42.0**	**-0.4**
MK31	**Makanchi Array**	**52.54**	**323**	P	**P**	**17 56 43.9**	**-1.2**
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**17 56 44.0**	**-1.1**
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**17 56 45.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=121,slow=8.3,SNR=12						
	comp=Z,1.1nm,0.8s						
MAKZ	**Makanchi**	**52.73**	**323**	P	**P**	**17 56 45.8**	**-0.7**
MAKZ				IAmb	IAmb	17 56 50.2	
	comp=Z,4.2nm,1.3s						
ZALV	**Zalesovo Beam**	**55.16**	**331**	P	**P**	**17 57 03.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=102,slow=10,SNR=1.8						
ZALV				LR	LR	18 23 03.4	
	comp=Z,46nm,18.5s,baz=83,slow=39						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**56.59**	**326**	P	**P**	**17 57 13.5**	**-0.8**
KURK				IAmb	IAmb	17 57 14.9	
	comp=Z,3.1nm,1.0s						
KURBB	**Kurchatov Arra**	**56.59**	**326**	P	**P**	**17 57 13.5**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=129,slow=6.3,SNR=5.3						
	comp=Z,0.9nm,0.8s						
CHGR	**Chuyangaron**	**58.55**	**309**	P	**P**	**17 57 27.5**	**-1.0**
SIMJ	**Simiganj**	**58.66**	**309**	P	**P**	**17 57 28.6**	**-0.7**
SIMJ				IAmb	IAmb	17 57 48.8	
	comp=Z,5.2nm,1.1s						
TIXI	**Tiksi**	**61.86**	**1**	P	**P**	**17 57 50.6**	**+0.3**
TIXI				IAmb	IAmb	17 57 52.1	
	comp=Z,6.2nm,1.1s						
BVAR	**Borovoye Array**	**62.19**	**325**	P	**P**	**17 57 52.2**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=129,slow=12,SNR=4.2						
	comp=Z,0.8nm,0.7s						
NNZ	**Nelson**	**66.59**	**143**	P	**P**	**17 58 20.8**	**-1.0**
THZ	**Tophouse**	**66.65**	**144**	P	**P**	**17 58 21.5**	**-0.9**
SPIA	**Saint Paul Isl**	**67.52**	**32**	P	**P**	**17 58 26.1**	**-1.4**
MCQ	**Macquarie Isla**	**69.63**	**160**	P	**P**	**17 58 41.3**	**+0.7**
C18K	**Utukok River**	**74.57**	**21**	P	**P**	**17 59 10.0**	**-0.2**
K17K	**Iditarod**	**74.63**	**28**	P	**P**	**17 59 09.8**	**-0.8**
K17K				IAmb	IAmb	17 59 17.2	
	comp=Z,18nm,1.5s						
M17K	**Holitna River**	**74.84**	**29**	P	**P**	**17 59 11.4**	**-0.4**
B22K	**Teshekpuk Lake**	**77.55**	**20**	P	**P**	**17 59 27.2**	**+0.2**
B22K				IAmb	IAmb	17 59 29.9	
	comp=Z,7.0nm,1.1s						
C23K	**Itkillik River**	**78.47**	**21**	P	**P**	**17 59 32.8**	**+0.7**
C23K				IAmb	IAmb	17 59 39.6	
	comp=Z,12nm,1.4s						
I23K	**Minto, Yukon-K**	**78.77**	**25**	P	**P**	**17 59 33.6**	**-0.2**
I23K				IAmb	IAmb	17 59 57.1	
	comp=Z,7.2nm,1.5s						
MCK	**McKinley**	**78.93**	**27**	P	**P**	**17 59 34.6**	**-0.2**
MCK				IAmb	IAmb	17 59 38.3	
	comp=Z,9.8nm,1.2s						
D24K	**Happy Valley**	**79.07**	**21**	P	**P**	**17 59 34.0**	**-1.5**
C24K	**Franklin Bluff**	**79.12**	**21**	P	**P**	**17 59 35.7**	**-0.1**
C24K				IAmb	IAmb	17 59 38.0	
	comp=Z,6.3nm,1.2s						
E24K	**Your Creek**	**79.17**	**22**	P	**P**	**17 59 37.0**	**+0.9**
E24K				IAmb	IAmb	17 59 59.6	
	comp=Z,5.1nm,1.4s						
PWL	**Port Wells**	**79.22**	**30**	P	**P**	**17 59 36.6**	**+0.1**
PWL				IAmb	IAmb	17 59 42.9	
	comp=Z,11nm,1.2s						
F24K	**Squaw Lake**	**79.39**	**23**	P	**P**	**17 59 37.8**	**+0.4**
ILAR	**Eielson Array**	**79.82**	**26**	P	**P**	**17 59 41.2**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=238,slow=5.1,SNR=4.7						
	comp=Z,0.5nm,0.8s						
D25K	**Kavik River**	**79.94**	**21**	P	**P**	**17 59 40.4**	**+0.1**
BMAR	**Burnt Mountain**	**80.67**	**23**	P	**P**	**17 59 45.1**	**+0.9**
D27M	**Malcolm River**	**81.87**	**21**	P	**P**	**17 59 51.3**	**+0.7**
BCAR	**Beaver Creek A**	**82.18**	**27**	P	**P**	**17 59 53.3**	**+1.0**
F28M	**Old Crow**	**82.45**	**23**	P	**P**	**17 59 54.4**	**+0.8**
I28M	**Miner Creek**	**82.70**	**25**	P	**P**	**17 59 55.7**	**+0.6**
I28M				IAmb	IAmb	17 59 59.4	
	comp=Z,2.9nm,0.8s						
H29M	**Whitestone**	**83.23**	**24**	P	**P**	**17 59 57.8**	**+0.1**
H29M				IAmb	IAmb	18 00 22.9	
	comp=Z,9.5nm,1.5s						
M29M	**Somme Creek**	**83.78**	**28**	P	**P**	**18 00 00.4**	**-0.3**
M29M				IAmb	IAmb	18 00 04.2	
	comp=Z,7.9nm,1.4s						
J30M	**Hart River**	**84.35**	**25**	P	**P**	**18 00 03.8**	**+0.2**
J30M				IAmb	IAmb	18 00 07.6	
	comp=Z,6.0nm,1.2s						
M30M	**Minto, Yukon**	**84.52**	**28**	P	**P**	**18 00 04.9**	**+0.6**
M30M				IAmb	IAmb	18 00 07.8	
	comp=Z,6.2nm,1.1s						
ARCES	**ARCESS Array B**	**84.73**	**340**	P	**P**	**18 00 05.8**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=79,slow=5.9,SNR=8.9						
	comp=Z,3.1nm,0.8s						
A36M	**Sachs Harbour**	**86.35**	**17**	P	**P**	**18 00 12.3**	**-0.9**
A36M				IAmb	IAmb	18 00 15.7	
	comp=Z,8.2nm,1.0s						
FIA1	**FINESS Array S**	**86.42**	**332**	P	**P**	**18 00 12.8**	**-1.0**
FINES	**FINESS Array B**	**86.42**	**332**	P	**P**	**18 00 12.7**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=93,slow=3.8,SNR=8.4						
	comp=Z,3.9nm,1.0s						
YKA	**Yellowknife Ar**	**94.15**	**24**	P	**P**	**18 00 51.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=299,slow=4.8,SNR=11						
	comp=Z,0.7nm,0.8s						
PLCA	**Paso Flores**	**145.67**	**157**	PKPbc	**PKPab**	**18 07 11.6**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=284,slow=3.2,SNR=4.5						

---

*NEIC **08** 18:00:04.3±0.8,47.°49N±0.°04×93.°07W±0.°03,h0km±2km,*
mb_Lg2.7/12,ML3.2/8,Error ellipse: s-maj=6.9km
s-min=3.4km az=335.0
*IDC **08** 18:00:06.8±3.2,47.°43N×93.°35W,h0km,mbtmp2.8/3,*
ML2.0/2,Error ellipse: s-maj=42.3km s-min=15.0km
az=88.0
ISC 08 18:00:02.2±0.9,47.°50N±0.°05×93.°10W±0.°05,h0km,n21,
σ1§07/23,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.17**	**67**		**Pn**	**18 00 26.0**	**+0.1**
EYMN					**Sb**	**18 00 41.5**	**+0.4**
E38A	**The Farm, Brul**	**1.38**	**130**		**Pn**	**18 00 28.7**	**0.0**
E38A					**Sg**	**18 00 47.0**	**+0.5**
E38A				IAML		18 00 52.8	
	comp=N,372nm,0.4s						
E38A				IAML		18 00 54.2	
	comp=E,391nm,0.4s						
AGMN	**Agassiz Nation**	**2.03**	**294**		**Pb**	**18 00 39.4**	**-0.5**
AGMN				IAmb_Lg		18 01 11.8	
	comp=Z,38nm,0.8s						
AGMN				IAML		18 01 17.6	
	comp=Z,235nm,1.1s						
AGMN				IAML		18 01 19.6	
	comp=Z,184nm,0.7s						
SPMN	**Marine on St.**	**2.28**	**175**	Pn	**Pn**	**18 00 42.7**	**+1.5**
SPMN				IAmb_Lg		18 01 17.5	
	comp=Z,24nm,0.9s						
F33A	**5 Mile Ranch,**	**2.75**	**234**		**Pn**	**18 00 47.9**	**+0.3**
G40A	**Rib Lake**	**3.00**	**137**	Pn	**Pn**	**18 00 52.2**	**+1.2**
ULM	**Lac du Bonnet**	**3.31**	**327**		**Pn**	**18 00 56.9**	**+1.6**
ULM				IAmb_Lg		18 01 55.4	
	comp=Z,16nm,0.9s						
ULM	**Lac du Bonnet**	**3.31**	**327**	Pn	**Pn**	**18 00 58.3**	**+3.0**
	comp=Z,0.9nm,0.3s,baz=150,slow=10,SNR=11						
ULM				Pg	**Pg**	**18 01 05.0**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=148,slow=16,SNR=6.6						
ULM				Sn	**Sn**	**18 01 36.6**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=112,slow=16,SNR=6.8						
ULM				Lg	Lg	18 01 48.1	
	comp=Z,3.4nm,0.3s,baz=241,slow=22,SNR=19						
	comp=Z,0.4nm,0.2s						
I37A	**Lemond, Waseca**	**3.49**	**184**	Pn	**Pn**	**18 00 57.7**	**0.0**
MDND	**Maddock**	**4.41**	**277**	Pn	**Pn**	**18 01 10.1**	**-0.3**
MDND				IAmb_Lg		18 02 22.8	
	comp=Z,21nm,0.8s						
ECSD	**EROS Data Cent**	**4.50**	**215**		**Pn**	**18 01 12.4**	**+0.8**
ECSD	**EROS Data Cent**	**4.50**	**215**	IAmb_Lg		18 02 29.7	
	comp=Z,8.3nm,1.0s						
I42A	**Draeger Farm,**	**4.64**	**139**	Pn	**Pn**	**18 01 13.2**	**-0.5**
H43A	**Windswept, Lux**	**4.79**	**127**	Pn	**Pn**	**18 01 14.6**	**-1.0**
JFWS	**Jewell Farm**	**5.00**	**155**	Pn	**Pn**	**18 01 18.4**	**-0.2**
E28A	**Huff**	**5.28**	**263**	IAmb_Lg		18 02 54.5	
	comp=Z,15nm,0.7s						
L40A	**Anamosa**	**5.59**	**166**	Pn	**Pn**	**18 01 27.4**	**+0.7**
L42A	**Oliver, Polo**	**6.01**	**155**	Pn	**Pn**	**18 01 33.6**	**+1.3**
E46A	**Sault Ste Mari**	**6.13**	**97**	Pn	**Pn**	**18 01 34.6**	**+0.6**
PDAR	**Pinedale Array**	**12.54**	**254**	Pn	**Pn**	**18 03 01.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=58,slow=10.0,SNR=7.4						
YKA	**Yellowknife Ar**	**19.29**	**329**	Pn	**Pn**	**18 04 29.1**	**-0.1**
	baz=135,slow=11,SNR=2.6						
YKA				Lg	Lg	18 10 01.4	
	baz=131,slow=26,SNR=4.0						
	comp=Z,0.1nm,0.3s						

---

*IDC **08** 18:02:27.6±0.8,6.°84N×73.°03W,h155km±12km,mb2.9/2,*
mbtmp3.3/5,MS3.3/1,Error ellipse: s-maj=33.4km
s-min=8.0km az=134.0
*RSNC **08** 18:02:29.6±0.0,7.°N±1.°×7.°3W±.°,h145km±2km,M3.1,ML2.9,*
MLv3.5
ISC 08 18:02:27.7±0.9,6.°88N±0.°03×73.°11W±0.°04,h152km±6km,
n33,σ1§42/61,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.30**	**194**	P	**Pn**	**18 02 48.9**	**+0.1**
BARC				S	**Sn**	**18 03 04.2**	**-0.7**
PAMC	**Pamplona, Colo**	**0.61**	**42**	P	**Pn**	**18 02 51.6**	**+1.1**
PAMC				S	**Sn**	**18 03 08.7**	**+0.9**
BRJC	**Barrancabermej**	**0.64**	**278**	P	**Pn**	**18 02 50.5**	**+0.5**
BRJC				S	**Sn**	**18 03 07.6**	**+0.6**
RUSC	**La Rusia**	**0.98**	**178**	P	**Pn**	**18 02 52.9**	**-0.3**
RUSC				S	**Sn**	**18 03 11.2**	**-1.3**
OCAC	**Ocana**	**1.36**	**351**	P	**Pn**	**18 02 56.8**	**+0.5**
OCAC				S	**Sn**	**18 03 19.0**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.38**	**256**	P	**Pn**	**18 02 55.4**	**-0.9**
PTBC				S	**Sn**	**18 03 16.3**	**-1.7**
TAMC	**Tame, Arauca**	**1.38**	**109**	P	**Pn**	**18 02 57.3**	**+1.0**
TAMC				S	**Sn**	**18 03 18.7**	**+0.6**
SPBC	**San Pablo de B**	**1.55**	**218**	P	**Pn**	**18 02 57.9**	**-0.2**
SPBC				S	**Sn**	**18 03 19.8**	**-1.6**
ZARC	**Zaragoza, Cauc**	**1.84**	**289**	P	**Pn**	**18 03 01.4**	**+0.2**
ZARC				S	**Sn**	**18 03 26.6**	**-0.2**
NORC	**Norcasia**	**2.19**	**233**	P	**Pn**	**18 03 04.9**	**-0.3**
NORC				S	**Sn**	**18 03 31.9**	**-2.2**
CHIC	**Chingaza**	**2.32**	**196**	P	**Pn**	**18 03 07.1**	**-0.1**
CHIC				S	**Sn**	**18 03 36.6**	**-1.0**
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**18 03 09.0**	**+1.3**
	26nm,0.2s,baz=121,slow=22,SNR=29						
ROSC				S	**Sn**	**18 03 38.8**	**+0.4**
	91nm,0.4s,baz=92,slow=22,SNR=14						
ROSC	**El Rosal**	**2.36**	**211**	P	**Pn**	**18 03 09.0**	**+1.3**
ROSC				S	**Sn**	**18 03 39.8**	**+1.4**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**18 03 13.2**	**+3.5**
UREC				S	**Sn**	**18 03 40.3**	**-1.7**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**18 03 15.9**	**+3.0**
GUY2C				S	**Sn**	**18 03 50.6**	**+2.8**
VILC	**Villavicencio,**	**2.81**	**192**	P	**Pn**	**18 03 12.6**	**-0.4**
VILC				S	**Sn**	**18 03 48.4**	**+0.4**
RECRC	**Villamaria, Ca**	**2.94**	**230**	P	**Pn**	**18 03 17.7**	**+2.8**
RECRC				S	**Sn**	**18 03 55.2**	**+3.9**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**18 03 17.1**	**+1.0**
CBOC				S	**Sn**	**18 03 51.6**	**-1.9**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**18 03 17.4**	**+1.1**
DBBC				S	**Sn**	**18 03 52.6**	**-1.3**
SDV	**Santo Domingo**	**3.16**	**51**	P	**Pn**	**18 03 18.4**	**+1.0**
	10nm,0.3s,baz=229,slow=9.3,SNR=13						
SDV				S	**Sn**	**18 03 55.3**	**-0.5**
	27nm,0.6s,baz=280,slow=20,SNR=9.1						
SDV	**Santo Domingo**	**3.16**	**51**	P	**Pn**	**18 03 18.3**	**+0.9**
SDV				S	**Sn**	**18 03 55.8**	**0.0**
ARGC	**Ariguani, Magd**	**3.16**	**339**	P	**Pn**	**18 03 19.6**	**+2.3**
ARGC				S	**Sn**	**18 03 57.3**	**+1.6**
ANIL	**Santa Ana**	**3.29**	**224**	P	**Pn**	**18 03 21.0**	**+1.8**
ANIL				S	**Sn**	**18 03 59.5**	**+0.4**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**18 03 22.9**	**+0.2**
APAC				S	**Sn**	**18 04 04.1**	**-1.3**
PRAC	**Prado**	**3.61**	**209**	P	**Pn**	**18 03 22.8**	**-0.3**
PRAC				S	**Sn**	**18 04 05.2**	**-0.8**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**18 03 22.6**	**-0.7**
SJCC				S	**Sn**	**18 04 04.1**	**-2.4**
ORTC	**Ortega, Tolima**	**3.64**	**216**	P	**Pn**	**18 03 23.9**	**+0.4**
ORTC				S	**Sn**	**18 04 07.1**	**+0.4**
URMC	**La Uribe, Meta**	**3.83**	**199**	P	**Pn**	**18 03 26.1**	**+0.2**
URMC				S	**Sn**	**18 04 09.7**	**-1.4**
CRJC	**Cerrejon, Guaj**	**4.12**	**3**	P	**Pn**	**18 03 29.1**	**-0.6**
CRJC				S	**Sn**	**18 04 16.4**	**-1.5**
APG	**El Apazote**	**18.84**	**297**	P	**P**	**18 06 36.9**	**+0.4**
	0.3nm,0.6s,baz=110,slow=13,SNR=1.8						
TKL	**Tuckaleechee C**	**30.27**	**343**	LR	LR	18 22 30.2	
	comp=Z,52nm,18.7s,baz=340,slow=40						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**18 12 39.5**	**0.0**
	0.2nm,0.5s,baz=140,slow=6.4,SNR=5.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.71**	**78**	P	**P**	**18 13 44.8**	**-0.9**
	0.1nm,0.3s,baz=272,slow=4.2,SNR=1.8						
	0.1nm,0.3s						

---

*IDC **08** 18:08:51.9±1.1,31.°06S×72.°10W,h0km,mb4.0/2,*
mbtmp3.9/4,ML3.8/3,MS2.8/1,Error ellipse: s-maj=55.0km
s-min=29.2km az=124.0
*SJA **08** 18:08:54.3±1.4,31.°12S×71.°84W,h15km±5km,ML3.9,*
MW3.8
*GUC **08** 18:08:57.0±0.9,31.°17S×71.°74W,h35km±3km,ML3.7*
ISC 08 18:08:54.8±2.0,31.°12S±0.°03×71.°89W±0.°06,h13km±12km,
n43,σ1§35/56,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.50**	**26**	⇓*iP*	**Pn**	**18 09 07.6**	**-0.1**
CO06				*eS*	**Sn**	**18 09 14.7**	**-1.5**
CO06				IAML		18 09 15.7	
	comp=N,5μm,0.2s						
CO03	**El Pedregal**	**1.07**	**75**	*eP*	**Pb**	**18 09 14.3**	**-1.0**
CO03				*eS*	**Sg**	**18 09 28.1**	**-1.4**
CO03				IAML		18 09 29.9	
	comp=Z,2μm,0.6s						
CO03	**El Pedregal**	**1.07**	**75**	⇓*iP*	**Pb**	**18 09 14.3**	**-1.0**
CO03				*eS*	**Sb**	**18 09 27.1**	**-2.2**
CO03				IAML		18 09 28.7	
	comp=E,4μm,0.2s						
CO05	**La Serena**	**1.33**	**25**	*eP*	**Pb**	**18 09 19.9**	**+0.4**
CO05				*eS*	**Sg**	**18 09 37.2**	**-0.4**
CO05				IAML		18 09 41.3	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**1.34**	**45**	*eP*	**Pb**	**18 09 19.7**	**-0.2**
GO04				*eS*	**Sg**	**18 09 37.1**	**-0.9**
GO04	**Tololo Observa**	**1.34**	**45**	⇓*iP*	**Pb**	**18 09 19.6**	**-0.2**
GO04				*eS*	**Sg**	**18 09 36.6**	**-1.3**
VA06	**Catapilco**	**1.52**	**161**	*iP*	**Pn**	**18 09 21.8**	**+0.1**
VA06				*eS*	**Sn**	**18 09 40.0**	**-1.3**
VA06				IAML		18 09 47.0	
	comp=N,1μm,0.4s						
CO01	**Juntas del Tor**	**1.93**	**54**	*eP*	**Pb**	**18 09 28.7**	**-1.3**
CO01				*eS*	**Sb**	**18 09 53.1**	**-0.9**
CO01				IAML		18 09 53.6	
	comp=Z,858nm,0.7s						
CO01	**Juntas del Tor**	**1.93**	**54**	⇓*iP*	**Pn**	**18 09 28.5**	**+1.0**
CO01				*eS*	**Sb**	**18 09 52.3**	**-1.7**
CO01				IAML		18 09 53.5	
	comp=E,1μm,0.3s						
**ROC

LPAZ La Paz 15.16 14 Pn **Pn 18 12 28.9 -0.5**
comp=N,0.2nm,0.3s,baz=205,slow=6.9,SNR=3.7
comp=N,1.6nm,0.7s

SIV San Ignacio 18.02 36 P **Pn 18 13 04.9 -0.2**
baz=195,slow=12,SNR=4.1

QSPA South Pole Qui 59.10 180 P **P 18 18 54.9 +0.2**
comp=N,2.0nm,1.1s,baz=124,slow=5.6,SNR=2.2
comp=N,2.0nm,1.1s

TORD Torodi Ar. Bea 83.12 70 P **P 18 21 19.8 -1.0**
comp=N,1.4nm,0.8s,baz=258,slow=4.7,SNR=8.6
comp=N,1.4nm,0.8s

WRA Warramunga Arr 123.32 210 PKP **PKPdf 18 27 50.9 -1.3**
comp=N,0.7nm,1.0s,baz=146,slow=1.8,SNR=2.4

BVAR Borovoye Array 145.05 40 PKPbc PKPbc 18 28 30.2 -0.6
comp=N,0.7nm,0.6s,baz=268,slow=3.4,SNR=2.5

KURBB Kurchatov Arra 150.64 40 PKPbc **PKPbc 18 28 45.5 -0.7**
comp=N,0.1nm,0.5s,baz=302,slow=3.1,SNR=7.3

ZALV Zalesovo Beam 151.70 30 PKPbc **PKPbc 18 28 47.6 -0.9**
comp=N,1.6nm,0.6s,baz=298,slow=3.2,SNR=8.2

MKAR Makanchi Array 154.71 44 PKPbc **PKPbc 18 28 54.7 -0.7**
comp=N,0.3nm,0.7s,baz=222,slow=1.9,SNR=3.0

---

*IDC **08** 18:40:08.4±0.7,9.78S×160.36E,h0km,mb4.2/17,*
mbtmp4.2/18,ML3.7/1,MS3.3/8,Error ellipse:
s-maj=19.1km s-min=13.8km az=50.0
*BJI **08** 18:40:13.1,9.86S×160.36E,h45km,mB5.1/5,mb4.5/21*
*NEIC **08** 18:40:14.7±1.5,9.78S±0.08×160.22E±0.09,h38km±7km,*
mb4.7/81,Error ellipse: s-maj=15.3km s-min=7.8km
az=52.0

ISC 08 18:40:13.5±0.4,9.82S±0.06×160.20E±0.09,h32km,n131,
σ0.89/121,mb4.7/62,MS3.3/5,1C,Bougainville-Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.46**	**327**		**Pb**	**18 40 23.1**	**-0.3**
HNR					**Sn**	**18 40 32.8**	**+1.9**
HNR	**Honiara**	**0.46**	**327**	Pn	**Pb**	**18 40 23.6**	**+0.3**
	585nm,0.3s,baz=152,slow=6.1,SNR=77						
HNR				Sn	**Sn**	**18 40 32.6**	**+1.8**
	2μm,0.3s,baz=270,slow=22,SNR=17						
RABL	**Rabaul**	**9.74**	**304**	Pn	**Pn**	**18 42 27.9**	**-3.6**
KRVT	**Keravat (AS076**	**9.78**	**303**	LR	LR	18 46 18.2	
	comp=Z,142nm,20.3s,baz=200,slow=37						
PMG	**Port Moresby**	**12.86**	**271**	LR	LR	18 47 57.3	
	comp=Z,204nm,20.3s,baz=104,slow=36						
DZM	**Mont Dzumac**	**13.58**	**155**	Pn	**Pn**	**18 43 23.7**	**-0.4**
DZM	**Mont Dzumac**	**13.58**	**155**	Pn	**Pn**	**18 43 22.4**	**-1.7**
	0.4nm,0.3s,baz=111,slow=6.7,SNR=8.1						
DZM				LR	LR	18 47 53.8	
	comp=Z,82nm,18.6s,baz=94,slow=34						
	4.5nm,0.7s						
ONTNC	**Ouen Toro**	**13.79**	**155**	Pn	**Pn**	**18 43 27.6**	**+0.7**
EIDS	**Eidsvold**	**17.73**	**208**		**P**	**18 44 18.9**	**+0.3**
FUTU	**Fugatoga**	**21.66**	**104**	P	**P**	**18 45 00.6**	**-1.0**
ARMA	**Armidale**	**22.00**	**200**		**P**	**18 45 04.8**	**-0.4**
WB0	**Warramunga Arr**	**26.80**	**245**	P	**P**	**18 45 49.8**	**-1.2**
WRA	**Warramunga Arr**	**26.90**	**245**	P	**P**	**18 45 52.9**	**+0.9**
	2.5nm,0.9s,baz=70,slow=8.8,SNR=7.4						
WRA				PcP	**PcP**	**18 49 14.2**	**+0.4**
	0.6nm,0.6s,baz=59,slow=2.3,SNR=3.2						
	2.5nm,0.9s						
CAN	**Canberra**	**27.37**	**200**	P	**P**	**18 45 56.5**	**+0.5**
CAN				IAmb	IAmb	18 46 26.8	
	comp=Z,32nm,1.5s						
GUMO	**Guam**	**27.79**	**327**	LR	LR	18 56 39.2	
	comp=Z,75nm,20.0s,baz=108,slow=36						
STKA	**Stephens Creek**	**27.91**	**215**	P	**P**	**18 46 01.4**	**+0.6**
STKA	**Stephens Creek**	**27.91**	**215**	P	**P**	**18 46 01.3**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=50,slow=15,SNR=5.1						
	comp=Z,3.4nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**28.85**	**13**	T	T	19 14 53.9	
	baz=194,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.85**	**13**	T	T	19 14 56.8	
	baz=194,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.87**	**13**	T	T	19 14 55.1	
	baz=194,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.08**	**13**	T	T	19 16 48.5	
	baz=193,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**30.08**	**13**	T	T	19 16 46.5	
	baz=193,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy**	**30.09**	**13**	T	T	19 16 28.0	
	baz=193,slow=76,SNR=32						
KNRA	**Kununurra**	**31.18**	**256**	P	**P**	**18 46 30.0**	**0.0**
BBOO	**Buckleboo**	**31.93**	**221**	P	**P**	**18 46 36.8**	**+0.5**
URZ	**Urewera**	**32.14**	**154**	LR	LR	18 57 47.2	
	comp=Z,51nm,18.7s,baz=111,slow=33						
RTZ	**Ruatahuna**	**32.38**	**155**	P	**P**	**18 46 40.4**	**0.0**
BKZ	**Black Stump Fm**	**32.66**	**156**	P	**P**	**18 46 42.5**	**-0.3**
BKZ				IAmb	IAmb	18 47 08.0	
	comp=Z,21nm,1.4s						
MRZ	**Mangatainoka R**	**33.61**	**159**	P	**P**	**18 46 51.7**	**+0.8**
TCW	**Tory Channel**	**33.65**	**161**	P	**P**	**18 46 50.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**34.48**	**252**	P	**P**	**18 46 57.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**34.48**	**252**	P	**P**	**18 46 58.8**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=108,slow=6.4,SNR=2.6						
	comp=Z,2.1nm,0.9s						
MQZ	**McQueen's Vall**	**35.46**	**164**	P	**P**	**18 47 07.2**	**+0.3**
RAR	**Rarotonga**	**40.09**	**111**	LR	LR	19 03 29.4	
	comp=Z,44nm,18.1s,baz=214,slow=35						
MBWA	**Marble Bar**	**40.48**	**249**	P	**P**	**18 47 49.6**	**0.0**
MBWA				IAmb	IAmb	18 48 09.8	
	comp=Z,19nm,1.2s						
TOLI2	**Tolitoli**	**40.71**	**283**	P	**P**	**18 47 50.1**	**-1.5**
TOLI2				IAmb	IAmb	18 48 05.0	
	comp=Z,11nm,1.0s						
NWAO	**Narrogin (SRO)**	**45.72**	**233**	LR	LR	19 07 34.1	
	comp=Z,77nm,18.1s,baz=289,slow=36						
GIRL	**Giralia**	**45.76**	**248**	P	**P**	**18 48 31.0**	**-1.2**
KKM	**Kota Kinabalu**	**46.56**	**288**	P	**P**	**18 48 37.4**	**-1.5**
MJAR	**Matsushiro Arr**	**50.54**	**337**	P	**P**	**18 49 07.9**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=165,slow=7.6,SNR=5.2						
	comp=Z,2.5nm,0.7s						
MAJO	**Matsushiro**	**50.54**	**337**	P	**P**	**18 49 08.0**	**-0.9**
MAJO				IAmb	IAmb	18 49 10.8	
	comp=Z,7.7nm,0.9s						
MJB9	**Matsu-Tunnel**	**50.55**	**337**	P	**P**	**18 49 08.4**	**-0.6**
MJB9				IAmb	IAmb	18 49 11.8	
	comp=Z,7.3nm,0.9s						
JNU	**Nakatsue**	**51.02**	**328**	P	**P**	**18 49 12.1**	**-0.6**
JTM	**Tenmabayashi**	**53.36**	**342**	P	**P**	**18 49 30.2**	**+0.3**
KSRS	**Korea Array**	**55.91**	**329**	P	**P**	**18 49 49.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=150,slow=8.5,SNR=2.2						
KSRS				LR	LR	19 13 14.0	
	comp=Z,15nm,19.4s,baz=165,slow=36						
	comp=Z,1.4nm,0.7s						
JKA	**Kamikawa-asahi**	**56.00**	**345**	P	**P**	**18 49 49.3**	**+0.4**
NJ2	**Nanjing**	**57.40**	**318**	*e*P	**P**	**18 50 00.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.7s						
USA0B	**Ussuriysk Arra**	**59.54**	**337**	P	**P**	**18 50 14.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**59.54**	**337**	P	**P**	**18 50 13.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**59.54**	**337**	P	**P**	**18 50 14.9**	**+1.1**
	comp=Z,7.0nm,1.0s,baz=161,slow=8.1,SNR=6.5						
	comp=Z,7.0nm,1.0s						
MDJ	**Mudanjiang**	**60.84**	**335**	P	**P**	**18 50 24.7**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BNX	**BinXian**	**62.66**	**335**	⇑P	**P**	**18 50 35.3**	**+0.3**
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**62.71**	**358**	P	**P**	**18 50 33.9**	**-1.3**
PETK	**Petropavlovsk-**	**62.71**	**358**	P	**P**	**18 50 34.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=176,slow=5.9,SNR=1.4						
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**66.64**	**295**	P	**P**	**18 51 01.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**66.64**	**295**	P	**P**	**18 51 02.7**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=128,slow=5.5,SNR=9.9						
	comp=Z,0.9nm,0.6s						
CHTO	**Chiang Mai**	**66.75**	**295**	P	**P**	**18 51 02.4**	**+0.1**
XLT	**XiLinHaoTe**	**66.77**	**327**	*e*P	**P**	**18 51 03.2**	**+1.2**
XLT				pP	sP	18 51 16.1	+0.6
XLT				sP	pP	18 51 21.0	+8.8
XLT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,5.7s						
PZH	**PanZhiHua**	**67.24**	**304**	P	**P**	**18 51 07.3**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
HHC	**Hu-ho-hao-te**	**67.44**	**322**	*e*P	**P**	**18 51 08.2**	**+1.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						

VNDA	**Vanda**	**67.69**	**180**	P	**P**	**18 51 09.1**	**+1.9**
HIA	**Hailar**	**68.70**	**333**	P	**P**	**18 51 14.3**	**+0.3**
HIA				IAmb	IAmb	18 51 15.8	
	comp=Z,5.0nm,0.8s						
MA2	**Magadan**	**69.57**	**355**	P	**P**	**18 51 17.7**	**-1.4**
MA2				IAmb	IAmb	18 51 19.7	
	comp=Z,5.3nm,0.6s						
LZH	**Lanzhou**	**69.94**	**314**	*e*P	P	18 51 29.5	+7.4
LZH				sP	PcP	18 51 45.3	+1.0
LZH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**74.17**	**326**	P	**P**	**18 51 47.5**	**+0.4**
GTA	**Gaotai**	**74.32**	**316**	*e*P	**P**	**18 51 49.6**	**+1.4**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**74.52**	**326**	P	**P**	**18 51 49.1**	**0.0**
SONM	**Songino Array**	**74.52**	**326**	P	**P**	**18 51 50.2**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=144,slow=5.2,SNR=10						
	comp=Z,1.5nm,0.6s						
YAK	**Yakutsk**	**75.47**	**346**	P	**P**	**18 51 54.3**	**+0.2**
O14K	**Tigyukauivet M**	**75.48**	**19**	P	**P**	**18 51 54.1**	**-0.1**
N15K	**Kwethluk River**	**76.56**	**19**	P	**P**	**18 52 00.3**	**-0.2**
N15K				IAmb	IAmb	18 52 30.1	
	comp=Z,15nm,1.3s						
K13K	**Kusilvak Mount**	**76.59**	**16**	P	**P**	**18 52 01.0**	**+0.5**
K13K				IAmb	IAmb	18 52 19.1	
	comp=Z,7.4nm,1.1s						
J14K	**Nanvaranak Lak**	**77.56**	**16**	P	**P**	**18 52 06.3**	**+0.5**
J14K				IAmb	IAmb	18 52 28.4	
	comp=Z,13nm,1.4s						
M16K	**Timber Creek**	**77.58**	**19**	P	**P**	**18 52 06.1**	**0.0**
M16K				IAmb	IAmb	18 52 41.1	
	comp=Z,12nm,1.4s						
K15K	**Wolf Creek Mou**	**77.77**	**17**	P	**P**	**18 52 07.7**	**+0.5**
BILL	**Bilibino**	**77.78**	**2**	P	**P**	**18 52 07.2**	**+0.1**
BILL				IAmb	IAmb	18 52 08.5	
	comp=Z,6.7nm,0.9s						
N17K	**Nushagak Hills**	**77.79**	**20**	P	**P**	**18 52 07.7**	**+0.4**
N17K				IAmb	IAmb	18 52 41.6	
	comp=Z,12nm,1.4s						
L16K	**Owhat River**	**77.94**	**18**	P	**P**	**18 52 08.5**	**+0.4**
J16K	**Anvik River**	**78.81**	**17**	P	**P**	**18 52 12.4**	**-0.4**
J17K	**VABM Dome**	**79.34**	**17**	P	**P**	**18 52 15.0**	**-0.8**
J17K				IAmb	IAmb	18 52 17.2	
	comp=Z,12nm,1.3s						
M20K	**Styx River**	**80.14**	**20**	P	**P**	**18 52 19.2**	**-1.1**
QSPA	**South Pole Qui**	**80.18**	**180**	P	**P**	**18 52 21.6**	**+1.0**
QSPA				IAmb	IAmb	18 52 27.2	
	comp=Z,9.9nm,1.3s						
QSPA	**South Pole Qui**	**80.18**	**180**	P	**P**	**18 52 20.9**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=17,slow=1.2,SNR=6.7						
	comp=Z,3.3nm,0.8s						
SLKM	**Skilak Lake**	**80.27**	**22**	P	**P**	**18 52 20.4**	**-0.5**
SLKM				IAmb	IAmb	18 52 42.6	
	comp=Z,15nm,1.3s						
SUA	**Susitna One**	**80.70**	**22**	P	**P**	**18 52 23.2**	**-0.2**
G18K	**Tagagawik**	**81.35**	**16**	P	**P**	**18 52 26.2**	**-0.4**
J20K	**Nowinta River**	**81.41**	**18**	P	**P**	**18 52 27.4**	**+0.5**
CAST	**Castle Rocks**	**81.55**	**20**	P	**P**	**18 52 26.9**	**-0.8**
G19K	**Purcell Mounta**	**81.97**	**16**	P	**P**	**18 52 29.8**	**0.0**
G19K				IAmb	IAmb	18 52 39.5	
	comp=Z,7.7nm,1.3s						
E18K	**Tukpahlearik C**	**82.03**	**14**	P	**P**	**18 52 30.0**	**-0.1**
RND	**Reindeer**	**82.64**	**21**	P	**P**	**18 52 32.4**	**-1.1**
RND				IAmb	IAmb	18 52 34.0	
	comp=Z,7.4nm,1.2s						
MCK	**McKinley**	**82.81**	**20**	P	**P**	**18 52 33.5**	**-0.8**
MCK				IAmb	IAmb	18 52 34.8	
	comp=Z,8.4nm,1.0s						
E19K	**Redstone River**	**82.90**	**15**	P	**P**	**18 52 34.3**	**-0.3**
E19K				IAmb	IAmb	18 52 36.8	
	comp=Z,7.0nm,1.1s						
CCB	**Clear Creek Bu**	**83.78**	**20**	P	**P**	**18 52 38.7**	**-0.5**
IL31		**84.17**	**20**	P	**P**	**18 52 40.9**	**-0.2**
IL31				IAmb	IAmb	18 52 41.9	
	comp=Z,8.4nm,1.4s						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**18 52 41.4**	**+0.2**
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**18 52 40.5**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=247,slow=4.7,SNR=36						
	comp=Z,1.2nm,0.5s						
G23K	**Bananza Creek**	**84.40**	**18**	P	**P**	**18 52 43.1**	**+0.7**
SCRK	**Sand Creek**	**84.71**	**21**	P	**P**	**18 52 43.6**	**-0.5**
BCAR	**Beaver Creek A**	**85.01**	**23**	P	**P**	**18 52 45.1**	**-0.5**
D22K	**Ayikyak River**	**85.11**	**15**	P	**P**	**18 52 46.4**	**+0.4**
D22K				IAmb	IAmb	18 52 47.8	
	comp=Z,4.6nm,0.7s						
B21K	**Ikpikpuk River**	**85.14**	**14**	P	**P**	**18 52 46.5**	**+0.5**
B21K				IAmb	IAmb	18 52 47.6	
	comp=Z,5.3nm,0.8s						
TOLK	**Toolik Lake Re**	**85.79**	**16**	P	**P**	**18 52 50.0**	**+0.7**
TOLK				IAmb	IAmb	18 52 50.4	
	comp=Z,3.7nm,1.0s						
O30N	**Mendenhall**	**86.18**	**26**	P	**P**	**18 52 51.8**	**+0.3**
O30N				IAmb	IAmb	18 53 13.6	
	comp=Z,7.4nm,1.4s						
O02D	**Mt. Diablo Mer**	**86.51**	**48**	P	**P**	**18 52 53.2**	**-0.4**
BMAR	**Burnt Mountain**	**86.52**	**19**	P	**P**	**18 52 53.9**	**+0.9**
M30M	**Minto, Yukon**	**86.73**	**24**	P	**P**	**18 52 54.7**	**+0.6**
M30M				IAmb	IAmb	18 53 21.7	
	comp=Z,7.0nm,1.4s						
J29N	**Klondike Camp**	**87.09**	**22**	P	**P**	**18 52 56.5**	**+0.6**
COR	**Corvallis**	**87.37**	**44**	P	**P**	**18 52 58.1**	**+0.6**
I04A	**Tendick Farm,**	**87.77**	**45**	P	**P**	**18 53 00.5**	**+1.0**
I04A				IAmb	IAmb	18 53 39.6	
	comp=Z,8.2nm,1.3s						
D27M	**Malcolm River**	**88.65**	**18**	P	**P**	**18 53 04.0**	**+0.9**
D27M				IAmb	IAmb	18 53 07.1	
	comp=Z,4.7nm,1.2s						
PINE	**Pine Mountain**	**88.79**	**45**	P	**P**	**18 53 04.8**	**+0.2**
PINE				IAmb	IAmb	18 53 23.1	
	comp=Z,6.5nm,1.5s						
MK31	**Makanchi Array**	**88.92**	**318**	P	**P**	**18 53 04.4**	**-0.5**
MKAR	**Makanchi Array**	**88.92**	**318**	P	**P**	**18 53 04.3**	**-0.6**
MKAR	**Makanchi Array**	**88.92**	**318**	P	**P**	**18 53 05.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=97,slow=6.3,SNR=5.5						
	comp=Z,0.7nm,0.7s						
PAHR	**Pah Rah Range**	**88.92**	**50**	P	**P**	**18 53 04.5**	**-0.7**
NVAR	**Mina Array Bea**	**89.45**	**51**	P	**P**	**18 53 07.1**	**-0.8**
NVAR	**Mina Array Bea**	**89.45**	**51**	P	**P**	**18 53 06.2**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=252,slow=5.2,SNR=6.2						
	comp=Z,1.6nm,0.9s						
DSP	**Deep Springs**	**89.47**	**52**	P	**P**	**18 53 07.5**	**-0.1**
DSP				IAmb	IAmb	18 53 09.5	
	comp=Z,4.6nm,1.1s						
TPNV	**Topopah Spring**	**90.73**	**53**	P	**P**	**18 53 13.9**	**+0.2**
TPNV				IAmb	IAmb	18 53 15.2	
	comp=Z,5.0nm,1.0s						
E09A	**Wood Farm, Sta**	**91.36**	**43**	P	**P**	**18 53 15.7**	**-0.5**
E09A				IAmb	IAmb	18 53 17.7	
	comp=Z,5.2nm,1.2s						
BMO	**Blue Mountains**	**91.58**	**45**	P	**P**	**18 53 17.3**	**-0.2**
BMO				IAmb	IAmb	18 53 52.8	
	comp=Z,4.6nm,1.4s						
PRN	**Pahroc Range**	**91.76**	**52**	P	**P**	**18 53 17.4**	**-1.1**
F10A	**Beach Ranch, E**	**91.87**	**44**	P	**P**	**18 53 18.5**	**-0.2**
F10A				IAmb	IAmb	18 53 19.9	
	comp=Z,3.5nm,0.9s						
ELK	**Elko**	**92.25**	**49**	P	**P**	**18 53 20.5**	**-0.3**
ELK				IAmb	IAmb	18 53 22.4	
	comp=Z,4.6nm,1.2s						
KURBB	**Kurchatov Arra**	**92.27**	**321**	P	**P**	**18 53 20.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=110,slow=3.5,SNR=1.9						
	comp=Z,0.1nm,0.3s						
PLID	**Pearl Lake**	**92.53**	**45**	P	**P**	**18 53 21.1**	**-1.0**
PLID				IAmb	IAmb	18 53 23.0	
	comp=Z,2.9nm,1.0s						
HLID	**Hailey**	**93.37**	**47**	P	**P**	**18 53 24.7**	**-1.1**
HLID				IAmb	IAmb	18 53 32.9	
	comp=Z,2.8nm,1.1s						
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**18 53 38.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=259,slow=5.0,SNR=7.4						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**96.76**	**48**	P	**P**	**18 53 41.0**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=266,slow=6.8,SNR=4.8						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**97.64**	**322**	P	**P**	**18 53 44.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=104,slow=9.1,SNR=1.9						
	comp=Z,0.4nm,0.6s						

---

*DJA **08** 18:40:25.9±0.3,2.1N±3.3×12.9E±.*,h10km,M4.3/13,*
mb4.6/13,MLv4.2/12
*NEIC **08** 18:40:28.0±1.5,2.29N±0.07×128.88E±0.08,h45km±8km,*
mb4.4/29,Error ellipse: s-maj=11.4km s-min=10.0km
az=74.0
*IDC **08** 18:40:37.8±5.3,2.32N×128.97E,h140km±52km,mb3.6/16,*
mbtmp4.0/16,Error ellipse: s-maj=30.6km s-min=12.1km
az=75.0

ISC 08 18:40:26.7±0.4,2.33N±0.05×128.85E±0.07,h35km,n78,
σ1.32/73,mb4.3/29,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.14**	**224**		**Pn**	**18 40 59.8**	**-0.2**
TNTI				Sn	**Sn**	**18 41 28.1**	**+2.7**
TNTI	**Ternate**	**2.14**	**224**	P	**Pn**	**18 41 00.4**	**+0.4**
SGSI	**Sangihe**	**3.58**	**292**	P	**Pn**	**18 41 19.9**	**+0.2**
SWI	**Sorong**	**3.99**	**143**	P	**Pn**	**18 41 26.1**	**+0.7**
KMSI	**Cibinong**	**5.17**	**250**	P	**Pn**	**18 41 42.9**	**+1.3**
	1.0nm170nm,0.8s						
SANI	**Sanana**	**5.21**	**213**	P	**Pn**	**18 41 44.1**	**+1.9**
	27nm,0.9s						
DAV	**Davao City (W)**	**5.72**	**325**	Pn	**Pn**	**18 41 50.9**	**+1.7**
NLAI	**Namlea**	**5.80**	**198**	P	**Pn**	**18 41 50.9**	**+0.6**
	0.1nm26nm,0.8s						
FAKI	**Fak Fak**	**6.23**	**147**	Pn	**Pn**	**18 41 57.6**	**+1.4**
LUWI	**Luwuk**	**6.94**	**241**	Pn	**Pn**	**18 42 09.4**	**+3.4**
TOLI2	**Tolitoli**	**8.15**	**262**	Pn	**Pn**	**18 42 23.9**	**+1.3**
KDI	**Kendari**	**8.82**	**225**	P	**Pn**	**18 42 31.2**	**-0.6**
	13nm,0.6s						
TTSI	**Tana Toraja**	**10.49**	**239**	P	**Pn**	**18 42 53.4**	**-1.3**
	20nm,0.7s						
SAUI	**Saumlaki**	**10.54**	**167**	Pn	**Pn**	**18 42 55.0**	**-0.3**
SPSI	**Sidrap Palu**	**11.02**	**235**	P	**Pn**	**18 43 00.7**	**-1.3**
	17nm,0.6s						
BKSI	**Bulukumba**	**11.57**	**229**	P	**Pn**	**18 43 09.0**	**-0.4**
	18nm,0.7s						
GENI	**Genyem**	**12.33**	**113**	P	**Pn**	**18 43 22.6**	**+2.7**
	56nm,1.0s						
BASI	**Baing, Sumba**	**14.94**	**213**	P	**Pn**	**18 43 55.1**	**-0.4**
	116nm,1.5s						
SBUM	**Sibu**	**16.61**	**271**	P	**P**	**18 44 19.7**	**+0.4**
KMMI	**Kalianget**	**17.54**	**238**	P	**P**	**18 44 31.0**	**+1.6**
	65nm,1.6s						
KNRA	**Kununurra**	**17.89**	**180**	P	**Pn**	**18 44 32.0**	**-0.9**
KNRA				IAmb	IAmb	18 44 48.0	
	comp=Z,33nm,1.2s						
PCJI	**Pacitan**	**20.49**	**239**	P	**P**	**18 45 03.1**	**+1.3**
	comp=Z,32nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.55**	**189**	P	**P**	**18 45 01.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.55**	**189**	Pn	Pn	18 45 04.7	-0.1
	comp=Z,3.1nm,0.9s,baz=354,slow=9.2,SNR=2.1						
	comp=Z,3.1nm,0.9s						
YULB	**Yu-li**	**22.18**	**341**	P	**P**	**18 45 21.0**	**+1.1**
TPUB	**Ta-pu**	**22.31**	**340**	P	**P**	**18 45 21.1**	**-0.3**
SSLB	**Suanglung**	**22.66**	**341**	P	**P**	**18 45 24.8**	**-0.2**
SSLB				IAmb	IAmb	18 45 50.5	
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**22.78**	**167**	P	**P**	**18 45 25.4**	**-0.9**
WRA	**Warramunga Arr**	**22.78**	**167**	P	**P**	**18 45 28.7**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=342,slow=10,SNR=12						
	comp=Z,2.1nm,0.8s						
WB2	**Warramunga Arr**	**22.79**	**167**	P	**P**	**18 45 23.9**	**-2.5**
WB2				IAmb	IAmb	18 46 03.5	
	comp=Z,20nm,1.4s						
NACB	**Ninganchiao**	**22.82**	**343**	P	**P**	**18 45 26.7**	**0.0**
NACB				IAmb	IAmb	18 45 39.3	
	comp=Z,23nm,1.2s						
YHNB	**Yeheng**	**23.35**	**343**	P	**P**	**18 45 32.0**	**-0.2**
ASAR	**Alice Springs**	**26.31**	**169**	P	**P**	**18 46 00.2**	**+0.9**
	comp=Z,2.0nm,1.2s,baz=355,slow=9.3,SNR=10						
	comp=Z,2.0nm,1.2s						
XMIS	**Christmas Isla**	**26.37**	**241**	P	**P**	**18 45 57.3**	**-2.6**
UBPT	**Khong Chiam**	**26.40**	**301**	P	**P**	**18 45 58.4**	**-1.8**
UBPT				IAmb	IAmb	18 46 01.4	
	comp=Z,6.4nm,1.0s						
GSI	**Gunungsitoli**	**31.27**	**269**	P	**P**	**18 46 42.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**33.40**	**301**	P	**P**	**18 47 03.5**	**+1.2**
	comp=Z,0.6nm,0.9s,baz=118,slow=8.4,SNR=4.5						
	comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**34.96**	**359**	P	**P**	**18 47 16.4**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=172,slow=10.0,SNR=7.9						
	comp=Z,2.2nm,0.7s						
MAJO	**Matsushiro**	**35.12**	**13**	P	**P**	**18 47 15.8**	**-1.1**
MJAR	**Matsushiro Arr**	**35.12**	**13**	P	**P**	**18 47 17.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=188,slow=9.4,SNR=6.5						
	comp=Z,2.5nm,0.7

comp=Z,0.5nm,0.6s
RES Resolute Bay 98.79 11 P **P 18 54 01.9 -0.5**
comp=Z,0.6nm,0.7s,baz=340,slow=3.9,SNR=4.2
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 120.75 54 PKP **PKPdf 18 59 11.8 -4.2**
comp=Z,0.2nm,0.5s,baz=237,slow=4.0,SNR=2.4
TORD Torodi Ar. Bea 125.36 288 PKP **PKPdf 18 59 23.7 -1.3**
comp=Z,0.5nm,0.8s,baz=357,slow=3.3,SNR=3.1
ACSO Alum Creek Sta 128.60 31 PKPdf 18 59 29.2 -1.3

*NAO **08** 18:49:19.1±2.2, 71°.72N×3°.06W, ML3.4*
*IDC **08** 18:49:22.0±1.6, 71°.66N×2°.27W, h0km, mb3.4/4, mbtmp3.6/8, ML2.9/4, MS3.3/4, Error ellipse: s-maj=42.7km s-min=23.0km az=41.0*
*BER **08** 18:49:22.6±3.0, 71°.75N×3°.17W, h10km, mb(Pn)4.2, ML3.4(NAO), Confirmed Earthquake*
ISC 08 18:49:19.9±0.8, 71°.66N±0°.10×2°.93W±0°.08, h10km, n65,
σ2°79/74, mb3.4/4, MS3.2/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.72**	**306**	Pn	**Pn**	**18 50 44.1**	**-0.6**
DBG				Sn	**Sn**	**18 51 43.6**	**-6.6**
DBG	**Daneborg**	**5.72**	**306**	*e*P	**Pn**	**18 50 44.0**	**-0.6**
DBG				*e*S	**Sn**	**18 51 43.5**	**-6.8**
DBG	**Daneborg**	**5.72**	**306**	*i* P	**Pn**	**18 50 43.6**	**-1.1**
DBG				*i* S	Sn	18 51 39.4	-11
DAG	**Danmarks Havn**	**6.67**	**327**	*e*P	**Pn**	**18 50 58.8**	**+1.1**
DAG				*e*S	Sn	18 52 02.5	-11
DAG	**Danmarks Havn**	**6.67**	**327**	*i* P	**Pn**	**18 50 56.9**	**-0.7**
DAG				*i* S	Sn	18 52 02.7	-11
LOF	**Lofoten**	**6.68**	**114**	Pn	**Pn**	**18 50 58.6**	**+0.8**
LOF	**Lofoten**	**6.68**	**114**	*e*P	**Pn**	**18 50 59.3**	**+1.4**
LOF				*e*S	**Sn**	**18 52 09.2**	**-4.6**
LOF				IAML		18 52 16.5	
comp=Z,3.6nm,0.6s							
STEI	**Steigen**	**7.30**	**112**	Pn	**Pn**	**18 51 08.0**	**+1.6**
STEI				Sn	**Sn**	**18 52 25.6**	**-3.5**
STEI	**Steigen**	**7.30**	**112**	*e*P	**Pn**	**18 51 07.8**	**+1.4**
STEI				*e*S	**Sn**	**18 52 24.6**	**-4.5**
STEI				IAML		18 52 28.5	
comp=Z,4.1nm,0.4s							
TRO	**Tromso**	**7.52**	**95**	Pn	**Pn**	**18 51 09.8**	**+0.4**
TRO	**Tromso**	**7.52**	**95**	*e*P	**Pn**	**18 51 09.8**	**+0.4**
FAUS	**Fauske**	**7.67**	**115**	*e*P	**Pn**	**18 51 12.6**	**+1.2**
FAUS				*e*S	**Sn**	**18 52 33.0**	**-5.2**
FAUS				IAML		18 52 34.9	
comp=Z,2.4nm,0.5s							
KONS	**Konsvik**	**7.71**	**124**	Pn	**Pn**	**18 51 12.6**	**+0.6**
KONS				Sn	Sn	18 52 32.2	-7.0
KONS	**Konsvik**	**7.71**	**124**	*e*P	**Pn**	**18 51 12.9**	**+0.9**
KONS				*e*S	**Sn**	**18 52 33.8**	**-5.4**
KONS				IAML		18 52 37.1	
comp=Z,4.7nm,0.4s							
STOK	**Stokkvaagen**	**7.81**	**125**	Pn	**Pn**	**18 51 14.4**	**+1.0**
STOK				Sn	**Sn**	**18 52 36.3**	**-5.4**
STOK	**Stokkvaagen**	**7.81**	**125**	*e*P	**Pn**	**18 51 14.7**	**+1.3**
STOK				*e*S	**Sn**	**18 52 35.3**	**-6.4**
STOK				IAML		18 52 41.4	
comp=Z,3.6nm,0.8s							
LEIR	**Leirfjorden**	**8.01**	**126**	*e*P	**Pn**	**18 51 17.2**	**+1.1**
LEIR				*e*S	**Sn**	**18 52 41.5**	**-5.0**
LEIR				IAML		18 52 42.9	
comp=Z,3.7nm,0.3s							
JETT	**Jettan, Norway**	**8.02**	**94**	Pn	**Pn**	**18 51 17.3**	**+1.0**
JETT	**Jettan, Norway**	**8.02**	**94**	Pn	**Pn**	**18 51 17.3**	**+1.0**
MOR8	**Moi Rana**	**8.31**	**123**	Pn	**Pn**	**18 51 22.2**	**+2.0**
MOR8				Sn	**Sn**	**18 52 48.2**	**-5.7**
MOR8	**Moi Rana**	**8.31**	**123**	*e*P	**Pn**	**18 51 22.0**	**+1.8**
MOR8				*e*S	**Sn**	**18 52 49.4**	**-4.6**
MOR8				IAML		18 52 54.4	
comp=Z,3.4nm,0.4s							
KIF	**Kilpisjarvi**	**8.40**	**97**	Pn	**Pn**	**18 51 23.0**	**+1.5**
KIF	**Kilpisjarvi**	**8.40**	**97**	Pn	**Pn**	**18 51 23.0**	**+1.5**
SALU	**Saltoluokta**	**8.62**	**109**	*e*P	**Pn**	**18 51 25.9**	**+1.5**
SALU				*e*S	**Sn**	**18 52 56.9**	**-4.6**
SALU	**Saltoluokta**	**8.62**	**109**	P	**Pn**	**18 51 26.3**	**+1.8**
HAMF	**Hammerfest**	**8.64**	**84**	Pn	**Pn**	**18 51 25.0**	**+0.3**
RATU	**Laukkuluspa**	**8.67**	**105**	S	Pg	18 51 59.8	-5.9
RATU	**Laukkuluspa**	**8.67**	**105**	P	**Pn**	**18 51 26.9**	**+1.7**
KUA	**Kurravaara**	**8.82**	**103**	S	Pg	18 52 04.2	-4.3
KUA	**Kurravaara**	**8.82**	**103**	P	**Pn**	**18 51 28.9**	**+1.6**
NSS	**Namsos**	**9.03**	**135**	*e*P	**Pn**	**18 51 32.3**	**+2.2**
NSS				*e*S	**Sn**	**18 53 06.0**	**-5.7**
NSS				IAML		18 53 09.1	
comp=Z,3.2nm,0.4s							
KTK1	**Kautokeino**	**9.17**	**94**	*e*P	**Pn**	**18 51 33.4**	**+1.4**
KTK1				IAML		18 51 34.6	
comp=Z,2.2nm,0.3s							
LANU	**Lannavaara**	**9.28**	**101**	P	**Pn**	**18 51 35.0**	**+1.4**
DUNU	**Dundret**	**9.40**	**107**	P	**Pn**	**18 51 36.6**	**+1.4**
HEF	**Hetta**	**9.61**	**97**	Pn	**Pn**	**18 51 39.3**	**+1.3**
HEF	**Hetta**	**9.61**	**97**	Pn	**Pn**	**18 51 39.3**	**+1.3**
MASU	**Masugnsbyn**	**9.63**	**104**	P	**Pn**	**18 51 40.0**	**+1.6**
ARA0	**ARCESS Array S**	**9.64**	**89**	Pn	**Pn**	**18 51 40.0**	**+1.5**
baz=288,slow=11							
ARA0	**ARCESS Array S**	**9.64**	**89**	Pn	**Pn**	**18 51 40.0**	**+1.5**
baz=288,slow=11							
ARCES	**ARCESS Array B**	**9.64**	**89**	Pn	**Pn**	**18 51 40.0**	**+1.5**
comp=Z,0.2nm,0.3s,baz=292,slow=12,SNR=26							
comp=Z,0.5nm,0.3s							
KEV	**Kevo**	**10.02**	**86**	*e*P	**Pn**	**18 51 44.3**	**+0.6**
PAJU	**Pajala**	**10.24**	**104**	P	**Pn**	**18 51 47.7**	**+1.1**
ERTU	**Ertsjaerv**	**10.26**	**107**	P	**Pn**	**18 51 48.2**	**+1.3**
AKN	**Aaknes**	**10.26**	**153**	Pn	**Pn**	**18 51 49.0**	**+2.0**
AKN				Sn	Sn	18 53 34.9	-7.1
AKN	**Aaknes**	**10.26**	**153**	Pn	**Pn**	**18 51 49.0**	**+2.0**
AKN				Sn	Sn	18 53 34.9	-7.1
NB2	**NORSAR Subarra**	**12.03**	**145**	Pn	**Pn**	**18 52 13.1**	**+2.0**
NB2	**NORSAR Subarra**	**12.03**	**145**	Pn	**Pn**	**18 52 13.1**	**+2.0**
NOA	**NORSAR Array B**	**12.03**	**145**	Pn	**Pn**	**18 52 12.8**	**+1.7**
baz=342,slow=13,SNR=2.5							
NOA				LR	LR	18 56 14.6	
comp=Z,80nm,18.7s,baz=340,slow=35							
comp=Z,0.9nm,0.8s							
NRA0	**NORESS Array S**	**12.37**	**145**	Pn	**Pn**	**18 52 17.4**	**+1.6**
NRA0	**NORESS Array S**	**12.37**	**145**	Pn	**Pn**	**18 52 17.4**	**+1.6**
APA0	**Apatity Array**	**12.99**	**90**	Pn	**Pn**	**18 52 26.4**	**+2.1**
baz=307,slow=11							
APA0	**Apatity Array**	**12.99**	**90**	Pn	**Pn**	**18 52 26.4**	**+2.1**
baz=307,slow=11							
HFS	**Hagfors**	**13.33**	**142**	P	**Pn**	**18 52 29.6**	**+0.7**
baz=338,slow=11							
HFS	**Hagfors**	**13.33**	**142**	P	**Pn**	**18 52 29.6**	**+0.7**
baz=338,slow=11							
HFS	**Hagfors**	**13.33**	**142**	Pn	**Pn**	**18 52 29.6**	**+0.7**
comp=Z,0.6nm,0.3s,baz=338,slow=11,SNR=18							
comp=Z,3.3nm,0.6s							
FIA0	**FINESS Array S**	**15.22**	**117**	P	**Pn**	**18 52 54.9**	**+0.4**
baz=330,slow=12							
FIA0	**FINESS Array S**	**15.22**	**117**	P	**Pn**	**18 52 54.9**	**+0.4**
baz=330,slow=12							
FINES	**FINESS Array B**	**15.22**	**117**	Pn	**Pn**	**18 52 54.8**	**+0.3**
comp=Z,0.2nm,0.3s,baz=322,slow=13,SNR=6.3							
comp=Z,5.8nm,1.0s							
GERES	**GERESS Array B**	**24.14**	**152**	P	**P**	**18 54 40.1**	**+4.3**
comp=Z,0.6nm,0.5s,baz=357,slow=11,SNR=2.6							
comp=Z,0.6nm,0.5s							
VRAC	**Vranov**	**24.15**	**148**	LR	LR	19 03 59.9	
comp=Z,40nm,19.6s,baz=337,slow=36							
AKASG	**Malin Array Be**	**25.51**	**128**	P	**P**	**18 54 49.9**	**+1.9**
comp=Z,1.3nm,0.6s,baz=339,slow=9.4,SNR=4.1							
comp=Z,1.3nm,0.6s							
MLR	**Muntele Rosu**	**29.63**	**137**	LR	LR	19 07 16.5	
comp=Z,57nm,19.1s,baz=316,slow=36							
BRTR	**Keskin Array B**	**36.88**	**130**	P	**P**	**18 56 30.2**	**+1.9**
comp=Z,0.4nm,0.7s,baz=353,slow=8.1,SNR=4.3							
comp=Z,0.4nm,0.7s							
YKA	**Yellowknife Ar**	**38.20**	**316**	P	**P**	**18 56 43.6**	**+4.5**
comp=Z,0.2nm,0.9s,baz=27,slow=7.1,SNR=2.4							
comp=Z,0.2nm,0.9s							
BRDH	**Bariadhala**	**70.11**	**78**	LR	LR	19 33 02.8	
comp=Z,37nm,20.0s,baz=214,slow=38							

*IDC **08** 18:52:52.6±14.0, 23°.71S×179°.62W, h458km±155km, mb2.9/3, mbtmp4.0/4, Error ellipse: s-maj=135.6km s-min=43.9km az=15.0*
ISC 08 18:52:55.7±1.9, 24°.0S±0°.1×179°.6W±0°.3, h500km, n19,
σ1°81/22, mb3.5/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGZ	**Tauwhareparae**	**14.31**	**188**	P	P	18 56 04.1	+5.6
TWGZ				S	**S**	**18 58 30.3**	**+1.1**
URZ	**Urewera**	**14.52**	**190**	P	**P**	**18 56 01.6**	**+1.1**
5.9nm,0.3s,baz=344,slow=5.6,SNR=10.0							
URZ				S	**S**	**18 58 32.1**	**-1.0**
16nm,1.1s,baz=175,slow=19,SNR=6.9							
MTHZ	**Maungataniwha**	**15.14**	**191**	P	**P**	**18 56 09.5**	**+2.3**
MTHZ				S	**S**	**18 58 46.0**	**+0.8**
HIZ	**Hauiti**	**15.24**	**197**	P	**P**	**18 56 11.5**	**+3.3**
BKZ	**Black Stump Fm**	**15.51**	**191**	P	**P**	**18 56 11.3**	**+0.3**
BKZ				S	**S**	**18 58 47.5**	**-4.6**
TMVZ	**Te Maari**	**15.61**	**194**	P	**P**	**18 56 11.9**	**-0.3**
ETVZ	**East Tongariro**	**15.63**	**194**	P	**P**	**18 56 13.3**	**+0.9**
OTVZ	**Oturere**	**15.67**	**194**	P	**P**	**18 56 09.9**	**-2.9**
SNVZ	**South Ngauruho**	**15.69**	**194**	P	**P**	**18 56 15.2**	**+2.1**
KWHZ	**Kaweka Forest**	**15.77**	**191**	P	**P**	**18 56 13.3**	**-0.5**
KWHZ				S	**S**	**18 58 56.1**	**-1.1**
TUVZ	**Tukino**	**15.77**	**194**	P	**P**	**18 56 15.1**	**+1.3**
WNVZ	**Wahianoa**	**15.84**	**194**	P	**P**	**18 56 16.1**	**+1.4**
STKA	**Stephens Creek**	**35.03**	**248**	P	**P**	**18 59 06.4**	**+0.6**
0.8nm,0.5s,baz=78,slow=9.5,SNR=4.4							
0.8nm,0.5s							
ASAR	**Alice Springs**	**42.38**	**261**	P	**P**	**19 00 05.6**	**-0.1**
0.5nm,0.5s,baz=98,slow=7.6,SNR=11							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**42.76**	**266**	P	**P**	**19 00 08.2**	**-0.5**
0.5nm,0.3s,baz=96,slow=8.4,SNR=28							
0.5nm,0.3s							
HFS	**Hagfors**	**142.69**	**349**	PKhKP	PKPpre	19 11 27.7	
0.4nm,0.3s,baz=80,slow=1.6,SNR=8.4							
AKASG	**Malin Array Be**	**145.22**	**327**	PKPbc	**PKPdf**	**19 11 35.6**	**-0.1**
0.3nm,0.3s,baz=54,slow=2.5,SNR=4.3							
BRTR	**Keskin Array B**	**147.91**	**307**	PKPbc	**PKiKP**	**19 11 45.2**	**-0.7**
0.3nm,0.5s,baz=51,slow=5.8,SNR=3.0							
MMAI	**Mount Meron Ar**	**148.06**	**294**	PKPbc	**PKiKP**	**19 11 45.7**	**-0.7**
0.7nm,0.4s,baz=86,slow=7.5,SNR=6.4							

*IDC **08** 19:14:04.6±0.9, 9°.53N×125°.38E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=56.5km s-min=17.3km az=74.0*
ISC 08 19:14:08.2±0.9, 9°.5N±0°.1×125°.4E±0°.3, h23km, n17,
σ0°75/11, mb3.8/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.44**	**179**	P	**P**	**19 19 53.4**	**+0.8**
3.5nm,0.9s,baz=8.1,slow=9.4,SNR=3.5							
3.5nm,0.9s							
WRA	**Warramunga Arr**	**30.58**	**163**	P	**P**	**19 20 20.6**	**+0.1**
0.1nm,0.4s,baz=344,slow=8.5,SNR=1.4							
0.1nm,0.4s							
ASAR	**Alice Springs**	**34.02**	**166**	P	**P**	**19 20 50.0**	**-0.7**
0.2nm,0.5s,baz=347,slow=8.6,SNR=7.5							
0.2nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.99**	**73**	T	T	20 04 35.8	
H11S1	**WAKE ISLAND Hy**	**41.01**	**73**	T	T	20 04 38.7	
baz=67,slow=74,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**41.01**	**73**	T	T	20 04 35.6	
baz=262,slow=74							
H11N1	**WAKE ISLAND Hy**	**41.34**	**71**	T	T	20 05 01.5	
baz=262,slow=75,SNR=6.9							
H11N2	**WAKE ISLAND Hy**	**41.35**	**71**	T	T	20 05 00.4	
baz=262,slow=75,SNR=6.2							
H11N3	**WAKE ISLAND Hy**	**41.36**	**71**	T	T	20 05 02.8	
baz=262,slow=75,SNR=6.5							
SONM	**Songino Array**	**41.42**	**341**	P	**P**	**19 21 52.6**	**-0.4**
0.2nm,0.3s,baz=142,slow=7.3,SNR=4.4							
0.2nm,0.3s							
PETK	**Petropavlovsk-**	**50.69**	**25**	P	**P**	**19 23 06.6**	**+0.7**
5.7nm,1.1s,baz=251,slow=9.0,SNR=1.8							
5.7nm,1.1s							
MKAR	**Makanchi Array**	**52.09**	**324**	P	**P**	**19 23 17.7**	**+1.2**
0.3nm,0.6s,baz=114,slow=7.1,SNR=7.7							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**56.19**	**326**	P	**P**	**19 23 46.4**	**+0.2**
0.2nm,0.3s,baz=132,slow=6.8,SNR=5.0							
0.2nm,0.3s							
NRIK	**Noril'sk**	**64.52**	**346**	P	**P**	**19 24 42.5**	**-0.4**
0.8nm,0.3s,baz=124,slow=7.3,SNR=2.2							
0.8nm,0.3s							
ARCES	**ARCESS Array B**	**84.58**	**340**	P	**P**	**19 26 38.8**	**-0.7**
1.4nm,0.8s,baz=69,slow=6.6,SNR=4.5							
1.4nm,0.8s							
BRTR	**Keskin Array B**	**85.31**	**309**	P	**P**	**19 26 44.0**	**+0.1**
0.5nm,0.7s,baz=18,slow=5.0,SNR=2.1							
0.5nm,0.7s							
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**19 26 46.5**	**-0.7**
1.2nm,0.5s,baz=64,slow=4.4,SNR=7.4							
1.2nm,0.5s							

*NEIC **08** 19:16:52.0±1.5, 2°.39N±0°.07×128°.72E±0°.03, h19km±4km, mb4.5/45, Error ellipse: s-maj=10.5km s-min=2.1km az=199.0*
*DJA **08** 19:16:52.4±0.3, 2°.1N±3°.×12°.9E±°, h10km, M4.4/21, mB5.3/1, mb4.5/21, MLv4.3/15, Mw(mB)4.7/1*
*IDC **08** 19:16:57.2±4.2, 2°.34N×128°.88E, h69km±41km, mb3.7/16, mbtmp4.0/17, ML4.5/1, MS2.9/4, Error ellipse: s-maj=28.2km s-min=13.9km az=73.0*
ISC 08 19:16:53.7±0.4, 2°.33N±0°.05×128°.84E±0°.06, h35km, n102,
σ1°31/99, mb4.4/39, MS3.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.14**	**224**		**Pn**	**19 17 26.4**	**-0.5**
TNTI				Sn	**Sn**	**19 17 52.7**	**+0.5**
TNTI	**Ternate**	**2.14**	**224**	P	**Pn**	**19 17 26.2**	**-0.8**
SGSI	**Sangihe**	**3.57**	**292**	P	**Pn**	**19 17 47.8**	**+1.1**
SGSI				S	**Sn**	**19 18 30.3**	**+2.6**
SWI	**Sorong**	**3.99**	**143**	P	**Pn**	**19 17 52.0**	**-0.4**
KMSI	**Cibinong**	**5.16**	**250**	P	**Pn**	**19 18 08.5**	**-0.1**
SANI	**Sanana**	**5.20**	**213**	P	**Pn**	**19 18 08.9**	**-0.2**
0.1nm27nm,0.7s							
MSAI	**Masohi**	**5.64**	**179**	P	**Pn**	**19 18 16.0**	**+0.8**
0.2nm43nm,0.6s							
NLAI	**Namlea**	**5.80**	**197**	P	**Pn**	**19 18 16.4**	**-0.9**
0.2nm37nm,0.7s							
FAKI	**Fak Fak**	**6.23**	**147**	Pn	**Pn**	**19 18 24.4**	**+1.2**
FAKI				Sn	**Sn**	**19 19 29.2**	**-4.1**
FAKI	**Fak Fak**	**6.23**	**147**	P	**Pn**	**19 18 22.6**	**-0.7**
0.2nm50nm,1.5s							
LUWI	**Luwuk**	**6.93**	**241**	Pn	**Pn**	**19 18 31.6**	**-1.3**
MRSI	**Marisa**	**7.14**	**255**	P	**Pn**	**19 18 36.3**	**+0.6**
0.1nm38nm,0.6s							
KMPI	**Kaimana, Papua**	**7.69**	**141**	P	**Pn**	**19 18 44.8**	**+1.5**
BAKI	**Biak**	**8.06**	**116**	P	**Pn**	**19 18 51.5**	**+3.0**
26nm,1.2s							
TOLI2	**Tolitoli**	**8.14**	**262**	Pn	Pn	19 18 45.7	-3.9
KDI	**Kendari**	**8.81**	**225**	P	**Pn**	**19 18 58.1**	**-0.6**
18nm,0.6s							
BBSI	**Bau Bau**	**9.98**	**219**	P	**Pn**	**19 19 14.1**	**-0.6**
TTSI	**Tana Toraja**	**10.48**	**239**	P	**Pn**	**19 19 20.4**	**-1.2**
43nm,0.9s							
SMPI	**Sarmi**	**10.76**	**113**	P	**Pn**	**19 19 26.2**	**+0.8**
26nm,1.1s							
SPSI	**Sidrap Palu**	**11.01**	**235**	P	**Pn**	**19 19 28.6**	**-0.3**
27nm,1.1s							
BKSI	**Bulukumba**	**11.56**	**229**	P	**Pn**	**19 19 37.5**	**+1.1**
22nm,0.8s							
KAPI	**Kappang**	**11.65**	**231**	P	**Pn**	**19 19 41.3**	**+3.7**
3.0nm,0.3s,baz=50,slow=5.2,SNR=4.1							
KAPI				LR	LR	19 24 53.5	
comp=Z,21nm,21.1s,baz=39,slow=41							
10nm,0.4s							
MTN	**Manton Dam**	**15.25**	**171**	Pn	**Pn**	**19 20 28.7**	**+2.2**
MTN				IAmb	IAmb	19 21 11.9	
comp=Z,59nm,1.4s							
PLAI	**Plampang**	**15.64**	**225**	P	**Pn**	**19 20 31.5**	**-0.1**
comp=Z,30nm,1.1s							
TWSI	**Taliwang, Sumb**	**16.22**	**227**	P	**Pn**	**19 20 37.9**	**-1.2**
comp=Z,14nm,0.8s							
SBUM	**Sibu**	**16.61**	**271**	P	**Pn**	**19 20 43.0**	**-1.0**
KNRA	**Kununurra**	**17.89**	**180**	P	**Pn**	**19 20 59.3**	**-0.7**
JAGI	**Jajag, Banyuwa**	**18.16**	**234**	P	**Pn**	**19 21 02.5**	**-0.8**
comp=Z,29nm,1.0s							
PCJI	**Pacitan**	**20.48**	**239**	P	**P**	**19 21 28.8**	**0.0**
comp=Z,47nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.54**	**189**	P	**P**	**19 21 30.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.54**	**189**	P	**P**	**19 21 30.4**	**+1.0**
comp=Z,3.2nm,1.0s,baz=44,slow=3.5,SNR=3.5							
comp=Z,3.2nm,1.0s							
KPJI	**Karang Pucung**	**22.07**	**244**	P	**P**	**19 21 46.3**	**+0.5**
YULB	**Yu-li**	**22.18**	**341**	P	**P**	**19 21 45.1**	**-1.8**
YULB				IAmb	IAmb	19 22 12.1	
comp=Z,36nm,1.4s							
TPUB	**Ta-pu**	**22.31**	**340**	P	**P**	**19 21 46.8**	**-1.6**
WB0	**Warramunga Arr**	**22.63**	**166**	P	**P**	**19 21 50.3**	**-1.5**
WB0				IAmb	IAmb	19 21 59.9	
comp=Z,8.9nm,0.8s							
SSLB	**Suanglung**	**22.66**	**341**	P	**P**	**19 21 50.7**	**-1.4**
SSLB				IAmb	IAmb	19 21 54.8	
comp=Z,32nm,1.5s							
WRAB	**Tennant Creek**	**22.78**	**167**	P	**P**	**19 21 52.0**	**-1.4**
WRA	**Warramunga Arr**	**22.78**	**167**	P	**P**	**19 21 53.2**	**-0.2**
comp=Z,1.1nm,0.6s,baz=343,slow=10,SNR=11							
comp=Z,1.1nm,0.6s							
WB2	**Warramunga Arr**	**22.79**	**167**	P	**P**	**19 21 52.7**	**-0.8**
WB2				IAmb	IAmb	19 22 14.8	
comp=Z,13nm,1.0s							
YHNB	**Yeheng**	**23.35**	**343**	P	**P**	**19 21 57.3**	**-1.9**
RABL	**Rabaul**	**24.19**	**106**	P	**P**	**19 22 08.0**	**+0.7**
AS31	**Alice Springs**	**26.31**	**169**	P	**P**	**19 22 26.5**	**+0.2**
ASAR	**Alice Springs**	**26.31**	**169**	P	**P**	**19 22 26.6**	**+0.2**
comp=Z,0.8nm,0.7s,baz=353,slow=7.6,SNR=6.9							
ASAR				PcP	**PcP**	**19 25 51.2**	**-1.0**
comp=Z,0.2nm,0.4s,baz=342,slow=2.8,SNR=2.0							
ASAR				LR	LR	19 33 42.7	
comp=Z,42nm,21.0s,baz=360,slow=38							
comp=Z,0.8nm,0.7s							
XMIS	**Christmas Isla**	**26.36**	**241**		**P**	**19 22 25.2**	**-1.7**
UBPT	**Khong Chiam**	**26.39**	**301**	P	**P**	**19 22 24.8**	**-2.3**
UBPT				IAmb	IAmb	19 22 48.2	
comp=Z,8.0nm,1.0s							
JCJ	**Chichijima**	**27.75**	**26**	P	**P**	**19 22 39.0**	**-0.2**
GSI	**Gunungsitoli**	**31.27**	**269**	P	**P**	**19 23 08.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**33.39**	**301**	P	**P**	**19 23 30.4**	**+1.2**
comp=Z,0.8nm,0.9s,baz=110,slow=8.5,SNR=5.7							
comp=Z,0.8nm,0.9s							
KSRS	**Korea Array**	**34.96**	**359**	P	**P**	**19 23 43.9**	**+1.3**
comp=Z,1.7nm,0.6s,baz=177,slow=9.7,SNR=5.8							
KSRS				LR	LR	19 37 19.2	
comp=Z,11nm,20.8s,baz=310,slow=35							
comp=Z,1.7nm,0.6s							
MAJO	**Matsushiro**	**35.13**	**13**	P	**P**	**19 23 43.0**	**-1.0**
MJAR	**Matsushiro Arr**	**35.13**	**13**	P	**P**	**19 23 43.0**	**-1.0**
comp=Z,2.5nm,0.8s,baz=189,slow=9.4,SNR=6.1							
comp=Z,2.5nm,0.8s							
MJB9	**Matsu-Tunnel**	**35.13**	**13**	P	**P**	**19 23 44.1**	**+0.1**
STKA	**Stephens Creek**	**36.11**	**161**	P	**P**	**19 23 53.2**	**+0.7**
STKA				IAmb	IAmb	19 24 27.0	
comp=Z,9.2nm,1.1s							
STKA	**Stephens Creek**	**36.11**	**161**	P	**P**	**19 23 53.5**	**+1.0**
comp=Z,1.8nm,0.6s,baz=324,slow=8.7,SNR=3.9							
comp=Z,1.8nm,0.6s							
XAN	**Xi'an**	**36.62**	**332**	P	**P**	**19 24 01.4**	**+4.5**
XAN				pmax	pmax		
comp=Z,7.0nm,0.9s							
ARMA	**Armidale**	**39.16**	**148**	P	**P**	**19 24 19.9**	**+1.4**
BJT	**Baijiatuau**	**39.24**	**345**	P	**P**	**19 24 18.6**	**-0.2**
BJT				IAmb	IAmb	19 24 19.8	
comp=Z,5.0nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**40.40**	**64**	T	T	20 07 53.4	
baz=251,slow=75,SNR=47							
H11S2	**WAKE ISLAND Hy**	**40.42**	**64**	T	T	20 07 52.6	
baz=251,slow=75,SNR=44							
H11S1	**WAKE ISLAND Hy**	**40.42**	**64**	T	T	20 07 54.8	
baz=251,slow=75,SNR=44							
LZH	**Lanzhou**	**40.78**	**328**	*e*P	**P**	**19 24 33.3**	**+1.4**
LZH				pP	pP	19 24 41.4	-0.2
LZH				pmax	pmax		
comp=Z,21nm,1.3s							
H11N1	**WAKE ISLAND Hy**	**40.99**	**62**	T	T	20 08 37.6	
baz=250,slow=75,SNR=78							
H11N2	**WAKE ISLAND Hy**	**41.00**	**62**	T	T	20 08 36.6	
baz=250,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy**	**41.01**	**62**	T	T	20 08 38.9	
baz=250,slow=75,SNR=59							
SHL	**Shillong**	**42.40**	**306**	P	**P**	**19 24 44.0**	**-1.3**
XLT	**XiLinHaoTe**	**42.91**	**346**	*e*P	**P**	**19 24 49.2**	**0.0**
XLT				sP	pP	19 24 59.9	+0.7
XLT				pmax	pmax		
comp=Z,6.0nm,0.9s							
LSA	**Lhasa**	**44.94**	**311**	P	**P**	**19 25 06.1**	**0.0**
GTA	**Gaotai**	**45.38**	**

IDC 08 19:18:45.8±1.7, 22°.99N×120°.62E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=218.3km s-min=29.7km az=73.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	41.13	173	P	P	19 26 32.2	+0.4
	2.6nm,0.8s,baz=8.7,slow=8.4,SNR=6.3						
	2.6nm,0.8s						
WRA	Warramunga Arr	44.72	162	P	P	19 26 59.2	-1.8
	0.2nm,0.5s,baz=340,slow=8.2,SNR=5.3						
	0.2nm,0.5s						
ASAR	Alice Springs	48.14	164	P	P	19 27 28.7	+0.8
	0.3nm,0.3s,baz=346,slow=7.5,SNR=10.0						
	0.3nm,0.3s						
ARCES	ARCESS Array B	70.45	338	P	P	19 30 01.7	0.0
	0.9nm,0.7s,baz=100,slow=5.8,SNR=0.8						
	0.9nm,0.7s						

DJA 08 19:29:41.1±1.1, 2°.N±6°×12°.9E±°, h12km±5km, M4.0/11, mb4.3/2, MLv3.9/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.20	219	P	Pn	19 30 18.0	+0.6
SGSI	Sangihe	3.43	290	P	Pn	19 30 33.8	-0.6
SWI	Sorong	4.17	143	P	Pn	19 30 44.8	+0.2
KMSI	Cibinong	5.13	248	P	Pn	19 30 58.6	+0.7
	75nm,0.9s						
SANI	Sanana	5.29	212	P	Pn	19 30 59.3	-0.7

*IDC **08** 19:30:54.9±1.2, 3°.68S×134°.54E, h0km, mb3.8/5, mbtmp4.0/8, ML4.2/3, Error ellipse: s-maj=33.2km s-min=26.6km az=77.0*
*NEIC **08** 19:30:59.1±0.7, 3°.6S±0°.1×134°.49E±0°.08, h26km±3km, mb4.0/8, Error ellipse: s-maj=15.3km s-min=11.8km az=190.0*
*DJA **08** 19:30:59.2±0.2, 4°.S±3°×13°.5E±°, h55km±14km, M4.3/15, mb4.5/11, MLv4.2/15*

ISC 08 19:30:57.0±0.7, 3.78S±0°.06×134°.58E±0°.07, h21km, n37, σ1§62/39, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.89	278	P	Pn	19 31 15.9	+1.7
RKPI	Ransiki, Papua	2.29	350	P	Pn	19 31 33.9	+0.3
FAKI	Fak Fak	2.48	290		Pn	19 31 35.9	-0.4
FAKI	Fak Fak	2.48	290	P	Pn	19 31 35.7	-0.6
BAKI	Biak	2.99	31	P	Pn	19 31 44.1	+0.9
BAKI				S	Sn	19 32 17.0	-1.4
SWI	Sorong	4.41	311	P	Pn	19 32 01.4	-1.3
SMPI	Sarmi	4.49	67	P	Pn	19 32 04.5	+0.6
SAUI	Saumlaki	5.30	218	P	Pn	19 32 17.7	+2.7
MSAI	Masohi	5.66	274	P	Pn	19 32 21.2	+1.2
	0.2nm53nm,0.6s						
GENI	Genyem	5.70	78	P	Pn	19 32 21.2	+0.7
	38nm,0.6s						
JAY	Jayapura	6.24	79	Pn	Pn	19 32 30.0	+2.0
	2.3nm,0.3s,baz=215,slow=13,SNR=5.2						
	11nm,0.4s						
JAY	Jayapura	6.24	79	P	Pn	19 32 27.8	-0.2
	0.2nm25nm,1.0s						
AAI	Ambon	6.38	271	P	Pn	19 32 28.4	-1.4
	0.2nm46nm,0.5s						
SANI	Sanana	8.75	281	P	Pn	19 33 02.3	-0.2
	8.8nm,0.5s						
MTN	Manton Dam	9.63	201		Pn	19 33 16.9	+2.4
SOEI	Soe	11.84	239		Pn	19 33 46.3	+1.4
SOEI	Soe	11.84	239	P	Pn	19 33 46.6	+1.7
	16nm,0.8s						
KNRA	Kununurra	13.14	205	Pn	Pn	19 34 02.5	0.0
COEN	Coen	13.20	141	Pn	Pn	19 34 04.2	+0.8
WB0	Warramunga Arr	15.89	181	Pn	Pn	19 34 37.2	-2.4
WB0				IAmb	IAmb	19 34 53.2	
	comp=Z,10nm,1.1s						
WB2	Warramunga Arr	16.07	181	Pn	Pn	19 34 39.8	-2.1
WRA	Warramunga Arr	16.07	181	Pn	Pn	19 34 40.6	-1.2
	comp=Z,0.2nm,0.3s,baz=1.0,slow=13,SNR=9.6						
WRA				Sn	Sn	19 37 33.0	-6.6
	comp=Z,0.1nm,0.3s,baz=1.3,slow=23,SNR=2.0						
FITZ	Fitzroy Crossi	16.71	211		Pn	19 34 49.5	-0.5
FITZ	Fitzroy Crossi	16.71	211	Pn	Pn	19 34 49.8	-0.2
	comp=Z,0.9nm,0.3s,baz=34,slow=13,SNR=17						
	comp=Z,4.2nm,0.4s						
AS31	Alice Springs	19.78	182	P	Pn	19 35 28.3	+0.7
AS31				IAmb	IAmb	19 35 31.0	
	comp=Z,4.7nm,0.8s						
ASAR	Alice Springs	19.78	182	P	Pn	19 35 28.5	+0.8
	comp=Z,1.0nm,0.3s,baz=8.1,slow=10,SNR=96						
	comp=Z,12nm,0.7s						
CMAR	Chiang Mai Arr	41.48	303	P	P	19 38 43.6	+0.7
	comp=Z,0.4nm,0.8s,baz=116,slow=8.9,SNR=2.0						
	comp=Z,0.4nm,0.8s						
SONM	Songino Array	57.03	338	P	P	19 40 41.7	+0.2
MK31	Makanchi Array	68.18	324	P	P	19 41 56.1	+0.2
MK31				IAmb	IAmb	19 42 02.5	
	comp=Z,2.1nm,1.2s						
MKAR	Makanchi Array	68.18	324	P	P	19 41 55.6	-0.3
MKAR	Makanchi Array	68.18	324	P	P	19 41 56.5	+0.6
	comp=Z,1.4nm,0.6s,baz=121,slow=7.4,SNR=19						
	comp=Z,1.4nm,0.6s						
MAKZ	Makanchi	68.37	324	P	P	19 41 57.2	+0.2
ZALV	Zalesovo Beam	70.84	331	P	P	19 42 11.9	-0.2
ZALV	Zalesovo Beam	70.84	331	P	P	19 42 12.6	+0.5
	comp=Z,0.7nm,0.5s,baz=123,slow=7.9,SNR=4.5						
	comp=Z,0.7nm,0.5s						
KURK	Kurchatov	72.27	326	P	P	19 42 20.0	-0.8
KURK				IAmb	IAmb	19 42 23.8	
	comp=Z,2.0nm,0.9s						
KURBB	Kurchatov Arra	72.27	326	P	P	19 42 21.8	+0.9
	comp=Z,0.4nm,0.2s,baz=124,slow=4.9,SNR=9.5						
	comp=Z,0.4nm,0.2s						
ILAR	Eielson Array	88.52	25	P	P	19 43 47.5	-0.3
	comp=Z,0.5nm,0.9s,baz=251,slow=4.5,SNR=4.4						
	comp=Z,0.5nm,0.9s						

*IDC **08** 19:42:24.6±2.9, 22°.67S×175°.12W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=121.5km s-min=33.4km az=142.0*

ISC 08 19:42:29.5±2.5, 22°.7S±0°.6×175°.1W±0°.5, h33km, n7, σ1§07/8, mb4.1/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.67	258	P	P	19 50 56.1	+0.8
	1.2nm,0.7s,baz=94,slow=8.2,SNR=15						
ASAR				PcP	PcP	19 52 29.9	+1.1
	0.4nm,0.6s,baz=98,slow=3.9,SNR=5.7						
	1.2nm,0.7s						
WRA	Warramunga Arr	46.99	263	P	P	19 50 56.5	-1.4
	0.3nm,0.3s,baz=96,slow=6.8,SNR=36						
	0.3nm,0.3s						
PETK	Petropavlovsk-	79.14	344	P	P	19 54 31.6	+1.0
	9.2nm,1.1s,baz=215,slow=9.8,SNR=3.9						
	9.2nm,1.1s						
ILAR	Eielson Array	89.92	12	P	P	19 55 24.2	-0.6
	1.8nm,1.3s,baz=209,slow=4.9,SNR=2.2						
	1.8nm,1.3s						
AKASG	Malin Array Be	146.26	332	PKPbc	PKPdf	20 02 05.0	-0.3
	0.7nm,0.4s,baz=60,slow=2.2,SNR=8.7						
BRTR	Keskin Array B	150.34	311	PKPbc	PKPbc	20 02 17.0	-0.8
	0.2nm,0.5s,baz=128,slow=6.1,SNR=2.0						
MMAI	Mount Meron Ar	151.25	298	PKPbc	PKiKP	20 02 20.6	0.0
	2.2nm,0.7s,baz=76,slow=6.1,SNR=2.1						

*NEIC **08** 19:42:39.9±1.2, 58°.8S±0°.1×25°.02W±0°.10, h10km±1km, mb4.7/10, Error ellipse: s-maj=23.0km s-min=3.4km az=200.0*
*IDC **08** 19:42:39.4±0.8, 58°.71S×25°.47W, h0km, mb4.1/5, mbtmp4.1/5, MS3.7/14, Error ellipse: s-maj=39.5km s-min=25.4km az=102.0*

ISC 08 19:42:41.3±0.6, 58°.84S±0°.10×25°.2W±0°.1, h18km, n63, σ1§15/41, mb4.4/8, MS3.6/12, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.72	301	Pn	Pn	19 44 31.9	-0.8
VNA1	Neumayer--Stat	13.80	156	P	Pn	19 45 54.9	-0.8
VNA1	Neumayer--Stat	13.80	156	⇓P	Pn	19 45 54.9	-0.8
	comp=Z,8.6nm,0.3s						
VNA3	Neumayer Olymp	14.00	159	P	Pn	19 45 56.7	-1.8
VNA3	Neumayer Olymp	14.00	159	⇓P	Pn	19 45 56.7	-1.8
	comp=Z,14nm,0.3s						
VNA2	Neumayer--Watz	14.20	156	P	Pn	19 45 59.4	-1.8
	baz=323,slow=13						
VNA2	Neumayer--Watz	14.20	156	⇓P	Pn	19 45 59.4	-1.8
	comp=Z,4.0nm,0.3s,baz=323,slow=13						
SNAA	Sanae	15.76	154	P	Pn	19 46 20.5	-1.5
SNAA	Sanae	15.76	154		Pn	19 46 20.8	-1.2
SNAA				IAmb	IAmb	19 46 39.9	
	comp=Z,46nm,1.5s						
SNAA	Sanae	15.76	154	⇓P	Pn	19 46 20.5	-1.5
	comp=Z,157nm,0.3s						
SNAA	Sanae	15.76	154	Pn	Pn	19 46 21.1	-0.9
	comp=Z,2.4nm,0.3s,baz=356,slow=8.0,SNR=45						
SNAA				Sn	Sn	19 49 02.7	-13
	comp=Z,0.1nm,0.3s,baz=69,slow=23,SNR=2.3						
SNAA				LR	LR	19 51 19.4	
	comp=Z,332nm,20.7s,baz=5.0,slow=33						
TROLL	Troll, Antarti	17.27	151	P	Pn	19 46 41.3	-0.1
TROLL	Troll, Antarti	17.27	151	⇓P	Pn	19 46 41.3	-0.1
	comp=Z,158nm,0.2s						
PMSA	Palmer Station	19.03	235	LR	LR	19 53 41.1	
	comp=Z,276nm,18.7s,baz=78,slow=35						
BELA	Belgrano 2	19.39	186	P	P	19 47 05.1	-0.6
USHA	Ushuaia	23.66	261	LR	LR	19 55 03.8	
	comp=Z,178nm,20.1s,baz=148,slow=32						
QSPA	South Pole Qui	31.40	180	P	P	19 49 03.4	+2.5
	comp=Z,1.0nm,0.4s,baz=237,slow=4.1,SNR=3.7						
	comp=Z,1.0nm,0.4s						
PLCA	Paso Flores	33.60	282	P	P	19 49 20.0	-0.3
	comp=Z,1.4nm,0.8s,baz=274,slow=13,SNR=2.5						
	comp=Z,1.4nm,0.8s						
MT09	Talagante	39.22	289	P	P	19 50 08.6	+0.2
MT09				IAmb	IAmb	19 50 49.1	
	comp=Z,14nm,1.2s						
MT01	Popeta	39.28	289	P	P	19 50 09.0	+0.3
MT01				IAmb	IAmb	19 50 27.4	
	comp=Z,29nm,1.4s						
MT02	Curacav	39.71	290	P	P	19 50 12.5	+0.2
MT02				IAmb	IAmb	19 50 21.7	
	comp=Z,34nm,1.4s						
SUR	Sutherland	40.47	70	LR	LR	20 02 29.6	
	comp=Z,82nm,21.1s,baz=196,slow=29						
CO01	Juntas del Tor	41.90	294	P	P	19 50 31.7	+1.0
VNDA	Vanda	43.83	182	P	P	19 50 45.5	0.0
VNDA				IAmb	IAmb	19 51 00.5	
	comp=Z,20nm,1.3s						
VNDA	Vanda	43.83	182	P	P	19 50 48.0	+2.5
	comp=Z,2.0nm,0.7s,baz=127,slow=6.6,SNR=1.7						
VNDA				LR	LR	20 07 04.5	
	comp=Z,63nm,21.0s,baz=144,slow=33						
	comp=Z,2.0nm,0.7s						
H04S2	CROZET ISLANDS	45.50	110	T	T	20 40 01.6	
	baz=228						
H04S3	CROZET ISLANDS	45.51	110	T	T	20 40 04.1	
	baz=228						
H04S1	CROZET ISLANDS	45.52	110	T	T	20 40 03.9	
	baz=228						
BOSA	Boshof	45.73	71	P	P	19 51 00.1	-1.3
BOSA	Boshof	45.73	71	LR	LR	20 06 42.6	
	comp=Z,68nm,21.7s,baz=182,slow=32						
LBTB	Lobatse	48.90	69	LR	LR	20 08 30.9	
	comp=Z,105nm,18.7s,baz=206,slow=32						
H10S2	ASCENSION HYDR	50.42	14	T	T	20 46 11.7	
	baz=32,slow=74,SNR=10						
H10S3	ASCENSION HYDR	50.42	14	T	T	20 45 59.0	
	baz=188,slow=74,SNR=10.0						
H10N1	ASCENSION HYDR	51.54	14	T	T	20 47 25.4	
	baz=181,slow=72,SNR=3.6						
H10N3	ASCENSION HYDR	51.54	14	T	T	20 47 36.9	
	baz=181,slow=72,SNR=9.3						
H10N2	ASCENSION HYDR	51.55	14	T	T	20 47 37.0	
	baz=181,slow=72,SNR=8.9						
RCBR	Riachuelo	53.52	347	LR	LR	20 12 08.2	
	comp=Z,19nm,18.9s,baz=144,slow=33						
LSZ	Lusaka	58.47	65	LR	LR	20 14 31.6	
	comp=Z,141nm,19.0s,baz=188,slow=33						
BOAV	Boa Vista	67.14	321	P	P	19 53 33.3	-0.5
DBIC	Dimbokro	67.31	22	P	P	19 53 36.5	+1.7
	comp=Z,0.9nm,0.4s,baz=211,slow=5.9,SNR=2.4						
	comp=Z,0.9nm,0.4s						
MDP	Montagnes des	67.40	330	LR	LR	20 22 29.9	
	comp=Z,42nm,19.3s,baz=136,slow=36						
ROSC	El Rosal	74.48	309	LR	LR	20 28 45.9	
	comp=Z,45nm,19.4s,baz=64,slow=37						
TORD	Torodi Ar. Bea	75.01	27	P	P	19 54 22.4	+1.0
	comp=Z,2.1nm,0.6s,baz=203,slow=6.0,SNR=15						
	comp=Z,2.1nm,0.6s						
PCRV	Puerto La Cruz	75.79	320	LR	LR	20 29 31.5	
	comp=Z,37nm,18.9s,slow=37						
SDV	Santo Domingo	76.73	314	LR	LR	20 31 16.1	
	comp=Z,63nm,18.5s,baz=82,slow=38						
SJG	San Juan	83.70	321	LR	LR	20 32 39.4	
	comp=Z,22nm,21.0s,baz=276,slow=36						
PDAR	Pinedale Array	122.70	299	PKP	PKPdf	20 01 34.4	-0.8
	comp=Z,0.2nm,0.7s,baz=51,slow=7.4,SNR=2.4						
YKA	Yellowknife Ar	138.94	315	PKP	PKiKP	20 02 05.9	-1.2
	comp=Z,0.7nm,0.6s,baz=141,slow=2.2,SNR=7.8						
EUNU	Eureka	142.90	345	PKPpre	PKPpre	20 02 06.5	
P33M	Teslin, Yukon	144.95	304		PKPbc	20 02 14.9	-0.3
N32M	Quiet Lake	145.53	305		PKPab	20 02 17.3	0.0
M30M	Minto, Yukon	147.74	306	PKPbc	PKPbc	20 02 23.1	-0.3
H31M	Peel River	148.05	313		PKPbc	20 02 23.6	-0.5
L29M	L29M	148.52	307		PKPbc	20 02 25.1	-0.3
G30M	tAoh Zraii Nji	149.17	314		PKPbc	20 02 26.3	-0.6
SONM	Songino Array	149.75	90	PKPbc	PKPbc	20 02 29.0	-0.1
	comp=Z,1.3nm,0.7s,baz=224,slow=2.5,SNR=8.9						
E29M	Blow River	150.19	317		PKPbc	20 02 28.6	-0.7
BMRM	Bremner River	150.48	300	PKPbc	PKiKP	20 02 31.5	+0.5
HIN	Hinchinbrook I	151.11	299	PKPbc	PKiKP	20 02 32.1	-0.2
SCM	Sheep Creek Mo	152.01	301	PKPbc	PKiKP	20 02 34.8	+0.6
ILAR	Eielson Array	152.72	307	PKPbc	PKiKP	20 02 35.9	+0.4
	comp=Z,2.3nm,0.8s,baz=148,slow=1.0,SNR=21						
E25K	Arctic Village	152.92	315		PKiKP	20 02 35.9	0.0
D25K	Kavik River	153.39	317	PKPbc	PKPbc	20 02 34.3	-2.4

*IDC **08** 19:47:34.2±1.6, 9°.24N×124°.84E, h0km, mb3.7/6, mbtmp3.7/6, MS2.4/1, Error ellipse: s-maj=183.4km s-min=20.6km az=68.0*

ISC 08 19:47:39.6±1.5, 9°.2N±0°.5×12°.5E±°, h35km, n7, σ1§20/6, mb3.5/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.26	156	LR	LR	19 49 17.4	
	comp=Z,82nm,18.8s,baz=358,slow=45						
WRA	Warramunga Arr	30.44	162	P	P	19 53 49.5	+0.5
	0.3nm,0.5s,baz=340,slow=7.4,SNR=1.6						
	0.3nm,0.5s						
ASAR	Alice Springs	33.84	165	P	P	19 54 18.9	0.0
	0.2nm,0.3s,baz=346,slow=7.3,SNR=14						
	0.2nm,0.3s						
SONM	Songino Array	41.54	341	P	P	19 55 24.6	+0.8
	0.3nm,0.6s,baz=156,slow=7.9,SNR=2.7						
	0.3nm,0.6s						
MKAR	Makanchi Array	51.98	324	P	P	19 56 46.2	+0.9
	0.3nm,0.6s,baz=141,slow=7.5,SNR=5.5						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	56.11	326	P	P	19 57 15.4	+0.1
	0.2nm,0.3s,baz=122,slow=6.7,SNR=1.4						
	0.2nm,0.3s						
FINES	FINESS Array B	86.12	332	P	P	20 00 15.1	-1.7
	4.3nm,1.0s,baz=51,slow=7.5,SNR=6.2						
	4.3nm,1.0s						

TRN 08 19:58:58.6, 15°.05N×60°.47W, h30km, MD4.1, 6D, North-east of Martinique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	Ilet Lapin Mar	0.47	235	⇓iP	Pn	19 59 11.0	+1.6
ILAM				eS	Sn	19 59 19.1	+2.5
ILAM	Ilet Lapin Mar	0.47	235	⇓iP	Pn	19 59 11.0	+1.6
ILAM				eS	Sn	19 59 19.1	+2.5
SVN	Savane Anatole	0.70	253	⇓iP	Pn	19 59 14.1	+1.5
SVN				eS	Sn	19 59 25.6	+3.1
SVN	Savane Anatole	0.70	253	⇓iP	Pn	19 59 14.1	+1.5
SVN				eS	Sn	19 59 25.6	+3.1
BIM	Bigot	0.78	228	⇓iP	Pb	19 59 15.4	+1.7
BIM				eS	Sn	19 59 27.2	+2.8
BIM	Bigot	0.78	228	⇓iP	Pb	19 59 15.4	+1.7
BIM				eS	Sn	19 59 27.2	+2.8
MDN	Morne-Daniel	0.93	287	x	x	19 59 17.0	
MDN				eS	Sb	19 59 31.0	+2.8
MDN	Morne-Daniel	0.93	287	e	Pb	19 59 16.0	-0.2
MDN	Morne-Daniel	0.93	287	e	Pb	19 59 17.0	+0.9
MDN				eS	Sb	19 59 31.0	+2.8
DSLB	Salisbury	0.99	293	eP	Pb	19 59 18.2	+0.9
DSLB				eS	Sb	19 59 31.9	+1.8
DSLB	Salisbury	0.99	293	eP	Pb	19 59 18.2	+0.9
DSLB				eS	Sb	19 59 31.9	+1.8
SLW	Petit Monier	1.12	204	eP	Pb	19 59 21.5	+2.1
SLW				eS	Sb	19 59 35.6	+2.1
SLBI	Saint Lucia, B	1.13	206	eP	Pb	19 59 19.4	-0.1
SLBI				eS	Sb	19 59 34.6	+0.7
SLBI	Saint Lucia, B	1.13	206	eP	Pb	19 59 19.4	-0.1
SLBI				eS	Sb	19 59 34.6	+0.7
SLAC	Saint Lucia, A	1.22	200	eP	Pb	19 59 20.8	-0.2
SLAC				eS	Sb	19 59 36.4	+0.1
SLAC	Saint Lucia, A	1.22	200	eP	Pb	19 59 20.8	-0.2
SLAC				eS	Sb	19 59 36.4	+0.1
SLDE	Delcer	1.36	205	eP	Pb	19 59 25.7	+2.2
SLDE				eS	Sb	19 59 42.9	+2.4
TBG	Guadaloupe-3	1.39	305	eP	Pb	19 59 22.9	-0.9
TBG				eS	Sb	19 59 40.8	-0.4
TBG	Guadaloupe-3	1.39	305	eP	Pb	19 59 22.9	-0.9
TBG				eS	Sb	19 59 40.8	-0.4
SVB	Belmont	1.92	203	eP	Pn	19 59 31.1	+1.8
SVB				eS	Sb	19 59 55.3	-1.3
SVB	Belmont	1.92	203	eP	Pn	19 59 31.1	+1.8
SVB				eS	Sb	19 59 55.3	-1.3
SVT	Saint Vincent	2.01	202	eP	Pn	19 59 31.8	+1.3
SVT				eS	Sn	19 59 55.4	+0.7
SVT	Saint Vincent	2.01	202	eP	Pn	19 59 31.8	+1.3
SVT				eS	Sn	19 59 55.4	+0.7
SVOC	Richmond Hill,	2.02	201	eP	Pn	19 59 32.0	+1.4
SVOC				eS	Sn	19 59 55.6	+0.7
SVOC	Richmond Hill,	2.02	201	eP	Pn	19 59 32.0	+1.4
SVOC				eS	Sn	19 59 55.6	+0.7
BBGH	Gun Hill	2.09	155	eP	Pn	19 59 33.5	+1.8
BBGH				eS	Sb	19 59 60.0	-1.4
BBGH	Gun Hill	2.09	155	eP	Pn	19 59 33.5	+1.8
BBGH				eS	Sb	19 59 60.0	-1.4
ANBD	Bethesda, Anti	2.35	328	eP	Pn	19 59 36.6	+1.4
ANBD				eS	Sn	20 00 04.6	+1.7
ANBD	Bethesda, Anti	2.35	328	eP	Pn	19 59 36.6	+1.4
ANBD				eS	Sn	20 00 04.6	+1.7
MBWH		2.36	316	eP	Pn	19 59 37.4	+2.1
MBWH				eS	Sn	20 00 06.1	+2.7
MBWH		2.36	316	eP	Pn	19 59 37.4	+2.1
MBWH				eS	Sn	20 00 06.1	+2.7
MBFL	Flemmings, Mon	2.38	316	eP	Pn	19 59 37.3	+1.7
MBFL				eS	Sn	20 00 05.9	+2.1
MBFL	Flemmings, Mon	2.38	316	eP	Pn	19 59 37.3	+1.7
MBFL				eS	Sn	20 00 05.9	+2.1
GCMP	Grenada, Carri	2.71	200	eP	Pn	19 59 42.2	+2.1
GCMP				eS	Sn	20 00 13.1	+1.1
GCMP	Grenada, Carri	2.71	200	eP	Pn	19 59 42.2	+2.1
GCMP				eS	Sn	20 00 13.1	+1.1
ANWB	Willy Bob	2.90	334	eP	Pn	19 59 43.6	+0.9
ANWB				eS	Sn	20 00 19.2	+2.7
ANWB	Willy Bob	2.90	334	eP	Pn	19 59 43.6	+0.9
ANWB				eS	Sn	20 00 19.2	+2.7
GRSS	Sisters	2.95	202	eP	Pn	19 59 45.7	+2.3
GRSS				eS	Sn	20 00 20.1	+2.2
GRSS	Sisters	2.95	202	eP	Pn	19 59 45.7	+2.3
GRSS				eS	Sn	20 00 20.1	+2.2
GRHS	Sauteurs	3.03	202	eP	Pn	19 59 46.1	+1.5
GRHS				eS	Sn	20 00 21.5	+1.7
GRHS	Sauteurs	3.03	202	eP	Pn	19 59 46.1	+1.5
GRHS				eS	Sn	20 00 21.5	+1.7
GRW	Mount Saint Ca	3.09	202	eP	Pn	19 59 48.0	+2.5
GRW				eS	Sn	20 00 23.7	+2.1
GRW	Mount Saint Ca	3.09	202	eP	Pn	19 59 48.0	+2.5
GRW				eS	Sn	20 00 23.7	+2.1
GRGR	Grenville	3.12	202	eP	Pn	19 59 48.1	+2.3
GRGR				eS	Sn	20 00 24.5	+2.5
GRGR	Grenville	3.12	202	eP	Pn	19 59 48.1	+2.3
GRGR				eS	Sn	20 00 24.5	+2.5
SKI	Saint Kitts	3.15	317	eP	Pn	19 59 49.0	+2.8
SKI				eS	Sn	20 00 25.0	+2.2
SKI	Saint Kitts	3.15	317	eP	Pn	19 59 49.0	+2.8
SKI				eS	Sn	20 00 25.0	+2.2
GRFF	Grenada Fort F	3.22	203	eP	Pn	19 59 49.3	+2.1
GRFF				eS	Sn	20 00 25.8	+1.1
GRFF	Grenada Fort F	3.22	203	eP	Pn	19 59 49.3	+2.1
GRFF				eS	Sn	20 00 25.8	+1.1
TOSP	Speyside	3.73	181	eP	Pn	19 59 55.8	+1.7
TOSP				eS	Sn	20 00 39.4	+2.3
TOSP	Speyside	3.73	181	eP	Pn	19 59 55.8	+1.7
TOSP				eS	Sn	20 00 39.4	+2.3
TRN	Trinidad (W)	4.47	192	eP	Pn	20 00 06.3	+2.0
TRN	Trinidad (W)	4.47	192	eP	Pn	20 00 06.3	+2.0
TRN	Trinidad (W)	4.47	192	eS	Sn	20 00 53.9	-1.4
PCRV	Puerto La Cruz	6.32	220	eS	Sn	20 01 40.4	-0.8
PCRV	Puerto La Cruz	6.32	220	eS	Sn	20 01 40.4	-0.8
BAUV	El Baul	9.57	232	eP	Pn	20 01 15.8	+1.4
BAUV				eS	Sn	20 02 57.2	-3.9
BAUV	El Baul	9.57	232	eP	Pn	20 01 15.8	+1.4

*IDC **08** 20:02:01.5±1.6, 9°.80N×125°.97E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=170.5km s-min=22.4km az=69.0*

ISC 08 20:02:08.4±1.5, 9°.9N±0°.4×12°.6E±°, h54km, n6, σ0§51/6, mb3.4/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.68	165	P	P	20 08 18.1	-0.1
	0.5nm,0.9s,baz=342,sl

WRA Warramunga Arr 52.65 128 P **P** **20 19 13.4 +0.7**
1.1nm,0.6s,baz=309,slow=7.8,SNR=8.6
1.1nm,0.6s
ASAR Alice Springs 54.55 132 P **P** **20 19 27.4 +0.7**
0.6nm,0.4s,baz=309,slow=6.8,SNR=5.6
0.6nm,0.4s
H04N2 CROZET ISLANDS 69.89 209 T T 21 37 16.2
baz=43,slow=75,SNR=9.4
H04N1 CROZET ISLANDS 69.90 209 T T 21 36 57.6
baz=43,slow=75,SNR=6.7
H04N3 CROZET ISLANDS 69.91 209 T T 21 37 14.6
baz=43,slow=75,SNR=9.8

---

*IDC **08** 20:10:19.6±0.5,9.80N×126.35E,h0km,mb4.2/26, mbtmp4.2/26,MS3.4/7, Error ellipse: s-maj=22.9km s-min=9.8km az=84.0*
*NEIC **08** 20:10:21.8±1.1,9.78N±0.06×126.30E±0.09,h10km±1km, mb4.6/81, Error ellipse: s-maj=15.2km s-min=10.1km az=75.0*
*BJI **08** 20:10:24.2,9.74N×126.40E,h48km,mB4.9/7,mb4.5/34, Ms4.0/2,Ms7 3.9/3*
ISC 08 20:10:25.7±0.3,9.74N±0.05×126.30E±0.06,h43km,n142, σ0.97/135,mb4.5/74,MS3.7/6,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.75**	**195**	Pn	**Pn**	**20 11 07.1**	**-0.3**
DAV	**Davao City (W)**	**2.75**	**195**	Pg	Pn	20 11 12.5	+5.1
	70nm,0.3s,baz=72,slow=9.6,SNR=9.1						
DAV				Lg	Lg	20 11 48.4	
	74nm,0.3s,baz=270,slow=20,SNR=4.6						
TGY	**Tagaytay City**	**6.80**	**310**	Pn	**Pn**	**20 12 07.0**	**+3.9**
	44nm,0.3s,baz=205,slow=6.3,SNR=4.5						
TGY				LR	LR	20 15 02.3	
	comp=Z,575nm,18.6s,baz=165,slow=42						
TNTI	**Ternate**	**8.98**	**173**	Pn	**Pn**	**20 12 33.2**	**+0.4**
TOLI2	**Tolitoli**	**10.18**	**213**	Pn	**Pn**	**20 12 48.7**	**-0.8**
KKM	**Kota Kinabalu**	**10.64**	**251**	Pn	**Pn**	**20 12 55.3**	**-0.6**
LUWI	**Luwuk**	**11.28**	**198**	Pn	**Pn**	**20 13 02.6**	**-1.8**
FAKI	**Fak Fak**	**13.91**	**154**	Pn	**Pn**	**20 13 41.5**	**+1.2**
TWG	**Pinlang**	**13.93**	**340**		**Pn**	**20 13 40.7**	**0.0**
YULB	**Yu-li**	**14.39**	**341**	Pn	**Pn**	**20 13 46.1**	**-0.7**
TPUB	**Ta-pu**	**14.53**	**339**		**Pn**	**20 13 50.9**	**+2.2**
SSLB	**Suanglung**	**14.87**	**341**		**Pn**	**20 13 54.8**	**+1.5**
YOJ	**Yonaguni jima**	**14.97**	**348**		**P**	**20 13 57.5**	**-1.8**
YHNB	**Yeheng**	**15.57**	**343**		**P**	**20 14 04.4**	**-1.7**
YHNB				IAmb	IAmb	20 14 33.4	
	comp=Z,64nm,1.5s						
SBUM	**Sibu**	**15.76**	**244**		**P**	**20 14 07.5**	**-0.6**
KAPI	**Kappang**	**16.05**	**204**	LR	LR	20 20 48.8	
	comp=Z,85nm,21.8s,baz=30,slow=39						
JOW	**Kunigami**	**17.10**	**6**		**Pn**	**20 14 21.6**	**-0.1**
JOW				IAmb	IAmb	20 14 29.8	
	comp=Z,42nm,1.0s						
QIZ	**Qiongzhong**	**18.41**	**302**	P	**Pn**	**20 14 37.8**	**0.0**
QIZ				S	**Sn**	**20 18 02.8**	**+0.2**
QIZ				LR	LR		
	comp=Z,94nm,9.2s						
QIZ				LR	LR		
	comp=Z,220nm,10.8s						
QIZ				LR	LR		
	comp=Z,220nm,12.4s						
GUMO	**Guam**	**18.58**	**76**	LR	LR	20 20 16.7	
	comp=Z,68nm,21.5s,baz=132,slow=32						
SOEI	**Soe**	**19.48**	**186**	P	**P**	**20 14 49.0**	**-0.3**
SOEI				IAmb	IAmb	20 15 29.2	
	comp=Z,26nm,0.8s						
UBPT	**Khong Chiam**	**21.06**	**287**	P	**P**	**20 15 05.8**	**-0.6**
MTN	**Manton Dam**	**22.95**	**168**	P	**P**	**20 15 25.8**	**-0.7**
NJ2	**Nanjing**	**23.25**	**344**	⇑P	**P**	**20 15 30.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,19nm,0.9s						
JNU	**Nakatsue**	**23.65**	**10**	P	**P**	**20 15 31.6**	**-1.6**
	comp=Z,6.3nm,0.9s,baz=203,slow=7.7,SNR=1.9						
JNU				LR	LR	20 23 57.0	
	comp=Z,49nm,21.2s,baz=154,slow=35						
	comp=Z,6.3nm,0.9s						
MYKOM	**Kota Tinggi**	**23.67**	**252**	P	**P**	**20 15 33.0**	**-0.7**
MYKOM				IAmb	IAmb	20 15 39.3	
	comp=Z,13nm,0.8s						
LEM	**Lembang**	**24.85**	**229**	P	**P**	**20 15 48.0**	**+3.4**
	comp=Z,10nm,0.7s,baz=150,slow=12,SNR=3.7						
KNRA	**Kununurra**	**25.37**	**174**	P	**P**	**20 15 48.7**	**-0.4**
IPM	**Ipoh**	**25.61**	**260**	P	**P**	**20 15 50.6**	**-0.7**
IPM				IAmb	IAmb	20 16 01.4	
	comp=Z,12nm,0.8s						
KULM	**Kulim**	**25.80**	**262**	P	**P**	**20 15 53.2**	**+0.1**
PHRA	**Phrae**	**26.71**	**292**	P	**P**	**20 16 01.7**	**+0.4**
KSRS	**Korea Array**	**27.63**	**3**	P	**P**	**20 16 08.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=187,slow=9.1,SNR=5.5						
	comp=Z,1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**27.67**	**181**	P	**P**	**20 16 09.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.67**	**181**	P	**P**	**20 16 10.4**	**+0.6**
	comp=Z,15nm,0.8s,baz=22,slow=10,SNR=12						
	comp=Z,15nm,0.8s						
LYN	**LuoYang**	**27.75**	**335**	⇓P	**P**	**20 16 10.9**	**+0.5**
LYN				pmax	pmax		
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.88**	**291**	P	**P**	**20 16 12.9**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=101,slow=7.6,SNR=7.9						
CMAR				LR	LR	20 27 40.6	
	comp=Z,42nm,19.6s,baz=95,slow=37						
	comp=Z,1.2nm,0.7s						
PZH	**PanZhiHua**	**28.59**	**309**	P	**P**	**20 16 20.1**	**+1.9**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
COEN	**Coen**	**28.89**	**144**	P	**P**	**20 16 20.2**	**-0.6**
COEN				IAmb	IAmb	20 17 01.7	
	comp=Z,16nm,1.2s						
XAN	**Xi'an**	**28.97**	**329**	⇓P	**P**	**20 16 20.5**	**-0.8**
XAN				pmax	pmax		
	comp=Z,22nm,0.7s						
HNS	**HongShan**	**29.46**	**341**	⇑P	**P**	**20 16 25.6**	**+0.1**
HNS				pmax	pmax		
	comp=Z,11nm,0.8s						
GSI	**Gunungsitoli**	**29.77**	**255**	P	**P**	**20 16 28.0**	**-0.6**
WRAB	**Tennant Creek**	**30.54**	**165**	P	**P**	**20 16 34.6**	**-0.7**
WRAB				IAmb	IAmb	20 16 48.1	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**30.54**	**165**	P	**P**	**20 16 33.9**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=342,slow=7.6,SNR=11						
	comp=Z,0.9nm,0.7s						
JMM	**Marumori**	**30.89**	**23**	P	**P**	**20 16 37.9**	**-0.4**
MBWA	**Marble Bar**	**31.38**	**192**	P	**P**	**20 16 42.0**	**-0.7**
BJT	**Baijiatuan**	**31.47**	**345**	P	**P**	**20 16 43.1**	**-0.2**
BJT				IAmb	IAmb	20 16 45.7	
	comp=Z,4.5nm,0.6s						
BJI	**Beijing**	**31.49**	**345**	P	**P**	**20 16 43.6**	**+0.2**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PSA00	**Pilbara Seismi**	**31.76**	**191**	P	**P**	**20 16 45.6**	**-0.4**
LZH	**Lanzhou**	**33.22**	**326**	*e*P	P	20 17 07.0	+8.0
LZH				pP	sP	20 17 15.1	-0.6
LZH				sP	pwP	20 17 19.5	+8.9
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LZH				LR	LR		
	comp=N,170nm,18.2s						
LZH				LR	LR		
	comp=E,200nm,19.9s						
LZH				LR	LR		
	comp=Z,210nm,21.0s						
HHC	**Hu-ho-hao-te**	**33.62**	**340**	*e*P	**P**	**20 17 04.3**	**+2.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ASAR	**Alice Springs**	**34.03**	**167**	P	**P**	**20 17 05.0**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=350,slow=7.4,SNR=14						
	comp=Z,0.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.68**	**7**	P	**P**	**20 17 12.9**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=201,slow=10,SNR=4.3						
MDJ	**Mudanjiang**	**34.86**	**4**	P	**P**	**20 17 13.9**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XLT	**XiLinHaoTe**	**35.17**	**347**	*e*P	**P**	**20 17 16.1**	**+0.5**
XLT				pP	pP	20 17 27.4	+0.3
XLT				sP	sP	20 17 33.0	+0.9
XLT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SHL	**Shillong**	**36.23**	**300**	P	**P**	**20 17 24.3**	**-0.7**
SHL				IAmb	IAmb	20 17 30.3	
	comp=Z,8.1nm,0.5s						
JKA	**Kamikawa-asahi**	**37.05**	**20**	P	**P**	**20 17 31.6**	**0.0**

GTA Gaotai 37.83 326 *e*P **P** **20 17 39.0 +0.6**
GTA pmax pmax
comp=Z,7.0nm,0.6s
GTA LR LR
comp=Z,120nm,16.3s
GTA LR LR
comp=Z,78nm,15.1s
GTA LR LR
comp=Z,140nm,16.7s
LSA Lhasa 38.36 306 P **P** **20 17 42.8 -0.6**
KLR Kul'dur 39.62 6 P **P** **20 17 53.8 +0.7**
comp=Z,1.6nm,0.5s,baz=194,slow=5.8,SNR=8.4
comp=Z,1.6nm,0.5s
MORW Morawa 39.83 194 P **P** **20 17 55.7 +0.6**
MORW IAmb IAmb 20 18 34.9
comp=Z,24nm,1.4s
FORT Forrest 40.33 178 P **P** **20 17 58.9 -0.2**
H11N1 WAKE ISLAND Hy 40.40 71 T T 21 01 15.1
baz=264,slow=74,SNR=98
H11N2 WAKE ISLAND Hy 40.40 71 T T 21 01 16.8
baz=264,slow=74,SNR=77
H11N3 WAKE ISLAND Hy 40.41 71 T T 21 01 16.4
baz=264,slow=74,SNR=99
ULN Ulaanbaatar 41.33 340 P **P** **20 18 06.6 -0.8**
SONM Songino Array 41.52 340 P **P** **20 18 09.2 +0.2**
comp=Z,1.2nm,0.4s,baz=157,slow=9.4,SNR=21
comp=Z,1.2nm,0.4s
EIDS Eidsvold 42.44 146 P **P** **20 18 16.2 -0.4**
EIDS IAmb IAmb 20 18 51.6
comp=Z,1.5nm,1.3s
NWAO Narrogin (SRO) 43.30 191 P **P** **20 18 23.0 -0.4**
BBOO Buckleboo 43.33 168 P **P** **20 18 23.3 -0.4**
STKA Stephens Creek 43.90 161 P **P** **20 18 28.3 0.0**
comp=Z,1.8nm,0.5s,baz=346,slow=12,SNR=6.0
comp=Z,1.8nm,0.5s
PETK Petropavlovsk- 50.10 24 P **P** **20 19 16.1 -0.4**
comp=Z,1.7nm,0.6s,baz=218,slow=6.9,SNR=1.5
PETK LR LR 20 40 59.5
comp=Z,48nm,19.0s,slow=37
comp=Z,1.7nm,0.6s
TOO Toolangi 50.38 160 P **P** **20 19 19.6 +0.8**
TOO IAmb IAmb 20 19 30.1
comp=Z,13nm,1.4s
DZM Mont Dzumac 50.49 129 P **P** **20 19 20.4 +0.5**
DZM IAmb IAmb 20 20 02.8
comp=Z,17nm,1.3s
YAK Yakutsk 52.25 2 P **P** **20 19 32.9 +0.5**
MKAR Makanchi Array 52.46 323 P **P** **20 19 34.1 -0.2**
comp=Z,3.1nm,0.6s,baz=121,slow=8.1,SNR=42
comp=Z,3.1nm,0.6s
MAKZ Makanchi 52.66 323 P **P** **20 19 34.9 -0.8**
MAKZ PcP **PcP** **20 20 44.9 -0.4**
TARG Taragay, Kyrgy 53.10 315 P **P** **20 19 37.8 -1.8**
TARG IAmb IAmb 20 20 07.4
comp=Z,9.3nm,1.3s
NIL Nilore 54.05 305 P **P** **20 19 45.1 -1.2**
NIL IAmb IAmb 20 20 27.2
comp=Z,4.7nm,0.9s
ZALV Zalesovo Beam 55.10 331 P **P** **20 19 52.0 -1.4**
comp=Z,1.1nm,0.3s,baz=116,slow=6.0,SNR=7.9
comp=Z,1.1nm,0.3s
AAK Ala-Archa 55.72 315 P **P** **20 19 58.1 -0.2**
AAK Ala-Archa 55.72 315 LR LR 20 47 33.1
comp=Z,71nm,18.1s,baz=94,slow=40
ARSB Arslanbob 56.35 313 P **P** **20 20 02.2 -0.6**
KURK Kurchatov 56.52 326 P **P** **20 20 02.8 -0.8**
KURK IAmb IAmb 20 20 04.0
comp=Z,4.3nm,0.7s
KURBB Kurchatov Arra 56.52 326 P **P** **20 20 03.2 -0.4**
comp=Z,2.6nm,0.7s,baz=125,slow=6.9,SNR=36
comp=Z,2.6nm,0.7s
GAR Garm 57.65 310 P **P** **20 20 11.4 -0.6**
GAR IAmb IAmb 20 20 47.6
comp=Z,4.0nm,0.7s
CHGR Chuyangaron 58.44 309 P **P** **20 20 16.3 -1.2**
CHGR IAmb IAmb 20 20 40.7
comp=Z,9.7nm,1.2s
SIMJ Simiganj 58.56 309 P **P** **20 20 17.9 -0.5**
FUTU Fugatoga 60.08 113 P **P** **20 20 28.0 -1.1**
TIXI Tiksi 61.88 1 P **P** **20 20 40.4 +0.1**
TIXI IAmb IAmb 20 20 51.6
comp=Z,6.9nm,1.1s
BVAR Borovoye Array 62.11 326 P **P** **20 20 42.0 -0.2**
comp=Z,0.9nm,0.5s,baz=134,slow=11,SNR=6.8
comp=Z,0.9nm,0.5s
BILL Bilibino 63.90 16 P **P** **20 20 53.9 0.0**
BILL IAmb IAmb 20 21 37.3
comp=Z,7.9nm,1.5s
PYZ Puysegur Point 66.36 151 P **P** **20 21 10.2 +0.1**
RPZ Rata Peaks 66.93 146 P **P** **20 21 14.3 +0.5**
RPZ Rata Peaks 66.93 146 P **P** **20 21 14.7 +0.8**
comp=Z,3.0nm,0.5s,baz=335,slow=6.5,SNR=1.4
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 67.29 319 P **P** **20 21 15.0 -1.1**
BKZ Black Stump Fm 67.37 140 P **P** **20 21 16.8 +0.1**
BHW Baring Head 67.68 142 P **P** **20 21 18.1 -0.4**
ARTI Arti 69.77 327 P **P** **20 21 29.4 -2.0**
ARTI IAmb IAmb 20 21 51.2
comp=Z,6.7nm,1.4s
L14K Kuka Creek 72.43 29 P **P** **20 21 47.6 +0.2**
M14K Bethel 72.65 29 P **P** **20 21 48.4 -0.4**
N15K Kwethluk River 73.46 30 P **P** **20 21 52.5 -1.1**
F17K Baldwin Pennin 74.13 23 P **P** **20 21 57.8 +0.4**
F17K IAmb IAmb 20 22 41.3
comp=Z,9.6nm,1.2s
O16K Kokwok River B 74.37 31 P **P** **20 21 59.8 +0.9**
O16K IAmb IAmb 20 22 04.0
comp=Z,17nm,1.5s
C18K Utukok River 74.64 21 P **P** **20 22 01.2 +0.9**
G19K Purcell Mounta 75.73 24 P **P** **20 22 07.2 +0.5**
G19K IAmb IAmb 20 22 33.4
comp=Z,6.4nm,1.4s
O18K Koktuh Hills 75.85 31 P **P** **20 22 08.7 +1.3**
E19K Redstone River 75.87 23 P **P** **20 22 08.2 +0.8**
E19K IAmb IAmb 20 22 14.5
comp=Z,2.9nm,0.7s
B21K Ikpikpuk River 77.12 21 P **P** **20 22 15.0 +0.6**
B21K IAmb IAmb 20 22 16.7
comp=Z,5.3nm,1.1s
B22K Teshekpuk Lake 77.61 20 P **P** **20 22 18.0 +0.9**
D22K Ayikyak River 77.73 21 P **P** **20 22 19.3 +1.4**
D22K IAmb IAmb 20 22 33.6
comp=Z,5.5nm,1.4s
RAYN Ar Rayn 77.79 292 P **P** **20 22 18.6 -0.6**
SLKM Skilak Lake 78.38 30 P **P** **20 22 22.1 +0.5**
SLKM IAmb IAmb 20 22 50.6
comp=Z,9.1nm,1.2s
C23K Itkillik River 78.53 21 P **P** **20 22 23.4 +1.1**
C23K IAmb IAmb 20 22 24.3
comp=Z,5.4nm,0.6s
E23K Chandalar 78.81 22 P **P** **20 22 24.9 +0.9**
E23K IAmb IAmb 20 22 28.5
comp=Z,5.7nm,1.1s
TOLK Toolik Lake Re 78.85 22 P **P** **20 22 24.9 +0.8**
D24K Happy Valley 79.14 21 IAmb IAmb 20 22 28.0
comp=Z,6.6nm,1.3s
C24K Franklin Bluff 79.19 21 P **P** **20 22 25.7 -0.2**
GURO Guroymak-BITLI 79.54 308 P **P** **20 22 28.9 +0.3**
GURO IAmb IAmb 20 22 30.4
comp=Z,4.0nm,0.7s
ILAR Eielson Array 79.90 26 P **P** **20 22 28.6 -1.2**
comp=Z,0.8nm,0.9s,baz=239,slow=5.8,SNR=6.0
comp=Z,0.8nm,0.9s
D25K Kavik River 80.01 21 P **P** **20 22 30.6 +0.2**
KLU Klutina 80.45 29 P **P** **20 22 33.4 +0.4**
RIDG Independent Ri 80.83 27 P **P** **20 22 35.6 +0.7**
RIDG IAmb IAmb 20 22 59.2
comp=Z,6.1nm,1.2s
L27K Beaver Creek, 82.24 27 **P** **20 22 43.6 +1.2**
F28M Old Crow 82.53 23 P **P** **20 22 44.1 +0.4**
F28M IAmb IAmb 20 22 47.3
comp=Z,6.6nm,1.2s
I28M Miner Creek 82.78 25 P **P** **20 22 46.1 +0.9**
I28M IAmb IAmb 20 22 48.1
comp=Z,3.3nm,0.8s
I30M Mount Dempster 84.29 25 P **P** **20 22 53.1 +0.1**
I30M IAmb IAmb 20 23 00.6
comp=Z,9.3nm,1.5s
SPITS Spitsbergen Ar 84.53 349 P **P** **20 22 54.0 +0.1**
comp=Z,8.9nm,0.9s,baz=104,slow=7.0,SNR=9.5
comp=Z,8.9nm,0.9s
ARCES ARCESS Array B 84.69 340 P **P** **20 22 55.3 +0.5**
comp=Z,1.4nm,0.4s,baz=70,slow=6.0,SNR=16
comp=Z,1.4nm,0.4s
G31M Satah River 84.79 23 P **P** **20 22 56.0 +0.8**
G31M IAmb IAmb 20 23 05.0
comp=Z,5.7nm,1.2s
BRTR Keskin Array B 85.89 309 P **P** **20 23 02.3 +0.8**
comp=Z,0.5nm,0.7s,baz=117,slow=2.3,SNR=2.4
comp=Z,0.5nm,0.7s
FARO Faro, Yukon 86.24 28 P **P** **20 23 03.2 +0.5**
FARO IAmb IAmb 20 23 06.5
comp=Z,5.1nm,1.0s
FINES FINESS Array B 86.36 332 P **P** **20 23 03.0 -0.2**
comp=Z,2.4nm,0.5s,baz=63,slow=5.3,SNR=30
comp=Z,2.4nm,0.5s
CSS Mathiatis 86.91 305 P **P** **20 23 06.1 -0.4**
AKASG Malin Array Be 86.99 321 P **P** **20 23 05.8 -0.8**
comp=Z,0.3nm,0.3s,baz=63,slow=5.2,SNR=4.9
comp=Z,0.3nm,0.3s
EUNU Eureka 88.78 5 P **P** **20 23 14.9 +0.3**
VNDA Vanda 89.41 173 P **P** **20 23 19.1 +1.7**
comp=Z,2.3nm,1.1s,baz=347,slow=5.6,SNR=1.3
comp=Z,2.3nm,1.1s
RES Resolute Bay 92.01 10 P **P** **20 23 30.2 +0.6**
comp=Z,0.7nm,0.6s,baz=320,slow=7.9,SNR=4.0
comp=Z,0.7nm,0.6s
HFS Hagfors 92.53 332 P **P** **20 23 31.4 -0.9**
comp=Z,1.1nm,0.5s,baz=91,slow=6.7,SNR=11
comp=Z,1.1nm,0.5s
NOA NORSAR Array B 93.24 334 P **P** **20 23 34.5 -1.2**
comp=Z,0.4nm,0.7s,baz=67,slow=4.7,SNR=1.9
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 94.22 24 P **P** **20 23 40.7 +0.7**
comp=Z,0.6nm,0.6s,baz=296,slow=4.7,SNR=9.4
comp=Z,0.6nm,0.6s
CLL Collm 96.54 325 P **P** **20 23 49.5 -1.4**
TORD Torodi Ar. Bea 120.49 291 PKP **PKiKP** **20 29 13.9 +0.2**
comp=Z,0.2nm,0.5s,baz=49,slow=4.7,SNR=1.3
PLCA Paso Flores 145.71 157 PKPbc **PKPab** **20 30 02.1 +1.3**
comp=Z,1.7nm,0.7s,baz=235,slow=3.3,SNR=5.3

---

*IDC **08** 20:14:08.4±0.7,9.80N×126.41E,h0km,mb4.1/15, mbtmp4.0/15,MS3.7/4, Error ellipse: s-maj=39.1km s-min=14.4km az=72.0*
*NEIC **08** 20:14:10.0±1.9,9.78N±0.08×126.1E±0.2,h10km±1km, mb5.0/34, Error ellipse: s-maj=26.9km s-min=13.0km az=267.0*
ISC 08 20:14:14.1±0.5,9.79N±0.07×126.3E±0.1,h42km,n61, σ0.93/53,mb4.7/32,MS3.8/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.78**	**194**	Pn	Pn	20 14 50.1	-6.1
DAV	**Davao City (W)**	**2.78**	**194**	Lg	Lg	20 15 38.7	
	52nm,0.3s,baz=252,slow=20,SNR=4.0						
DAV				LR	LR	20 16 21.0	
	comp=Z,1μm,18.9s,baz=31,slow=47						
YULB	**Yu-li**	**14.34**	**341**		**Pn**	**20 17 32.5**	**-2.0**
TPUB	**Ta-pu**	**14.48**	**339**		**Pn**	**20 17 35.4**	**-1.0**
SBUM	**Sibu**	**15.74**	**243**	P	**Pn**	**20 17 52.5**	**-0.5**
SOEI	**Soe**	**19.52**	**186**	P	**P**	**20 18 36.9**	**-1.3**
MTN	**Manton Dam**	**23.00**	**168**	P	**P**	**20 19 14.4**	**-1.0**
MTN				IAmb	IAmb	20 19 23.3	
	comp=Z,62nm,1.3s						
KNRA	**Kununurra**	**25.42**	**174**	P	**P**	**20 19 37.7**	**-0.2**
KNRA				IAmb	IAmb	20 19 42.5	
	comp=Z,65nm,1.6s						
FITZ	**Fitzroy Crossi**	**27.71**	**181**	P	**P**	**20 19 57.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.71**	**181**	P	**P**	**20 19 59.5**	**+0.8**
	comp=Z,8.0nm,0.6s,baz=6.0,slow=7.0,SNR=7.4						
	comp=Z,8.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.83**	**291**	P	**P**	**20 20 01.9**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=105,slow=8.9,SNR=4.6						
	comp=Z,0.3nm,0.3s						
WB0	**Warramunga Arr**	**30.44**	**165**	P	**P**	**20 20 21.4**	**-1.5**
WB0				IAmb	IAmb	20 20 41.9	
	comp=Z,36nm,1.8s						
WRA	**Warramunga Arr**	**30.59**	**165**	P	**P**	**20 20 22.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=339,slow=7.5,SNR=6.1						
	comp=Z,0.6nm,0.5s						
WB2	**Warramunga Arr**	**30.60**	**165**	P	**P**	**20 20 25.0**	**+0.7**
WB2				IAmb	IAmb	20 21 32.7	
	comp=Z,49nm,1.8s						
MBWA	**Marble Bar**	**31.41**	**192**	P	**P**	**20 20 31.1**	**-0.3**
MBWA				IAmb	IAmb	20 21 11.4	
	comp=Z,25nm,1.3s						
PSA00	**Pilbara Seismi**	**31.79**	**191**	P	**P**	**20 20 34.5**	**-0.3**
PSA00				IAmb	IAmb	20 21 18.6	
	comp=Z,18nm,1.2s						
ASAR	**Alice Springs**	**34.08**	**167**	P	**P**	**20 20 54.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=347,slow=8.7,SNR=9.6						
	comp=Z,0.5nm,0.3s						
MORW	**Morawa**	**39.87**	**194**	P	**P**	**20 21 43.8**	**-0.1**
MORW				IAmb	IAmb	20 21 48.2	
	comp=Z,80nm,1.9s						
FORT	**Forrest**	**40.37**	**178**	P	**P**	**20 21 48.2**	**+0.2**
FORT				IAmb	IAmb	20 23 02.5	
	comp=Z,44nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	21 05 04.7	
	baz=263,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	21 05 03.2	
	baz=263,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	21 05 16.2	
	baz=263,slow=74,SNR=14						
SONM	**Songino Array**	**41.47**	**340**	P	**P**	**20 21 58.0**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=158,slow=9.3,SNR=7.5						
	comp=Z,0.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**43.34**	**191**	P	**P**	**20 22 13.0**	**+0.8**
NWAO				IAmb	IAmb	20 23 06.0	
	comp=Z,57nm,1.6s						
BBOO	**Buckleboo**	**43.38**	**168**	P	**P**	**20 22 12.6**	**+0.1**
BBOO				IAmb	IAmb	20 23 06.1	
	comp=Z,52nm,1.4s						
STKA	**Stephens Creek**	**43.95**	**161**	P	**P**	**20 22 17.7**	**+0.5**
STKA				IAmb	IAmb	20 22 18.1	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**43.95**	**161**	P	**P**	**20 22 17.5**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=353,slow=8.7,SNR=3.7						
	comp=Z,2.8nm,0.8s						
DZM	**Mont Dzumac**	**50.55**	**129**	P	**P**	**20 23 09.9**	**+1.1**
YAK	**Yakutsk**	**52.21**	**2**	P	**P**	**20 23 20.2**	**-0.3**
YAK				IAmb	IAmb	20 24 34.4	
	comp=Z,7.9nm,0.6s						
YAK	**Yakutsk**	**52.21**	**2**	LR	LR	20 44 17.9	
	comp=Z,47nm,20.9s,baz=135,slow=35						
MK31	**Makanchi Array**	**52.40**	**323**	P	**P**	**20 23 21.4**	**-0.9**
MKAR	**Makanchi Array**	**52.40**	**323**	P	**P**	**20 23 22.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=133,slow=7.4,SNR=6.3						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**52.60**	**323**	P	**P**	**20 23 23.0**	**-0.7**
ZALV	**Zalesovo Beam**	**55.04**	**331**	P	**P**	**20 23 42.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=145,slow=8.6,SNR=2.8						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**56.46**	**326**	P	**P**	**20 23 50.3**	**-1.3**
KURBB	**Kurchatov Arra**	**56.46**	**326**	P	**P**	**20 23 51.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=125,slow=6.9,SNR=6.5						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**62.05**	**326**	LR	LR	20 51 35.4	
	comp=Z,70nm,18.7s,baz=91,slow=36						
BKZ	**Black Stump Fm**	**67.42**	**140**	P	**P**	**20 25 04.5**	**-1.0**
L14K	**Kuka Creek**	**72.41**	**29**	P	**P**	**20 25 35.0**	**-0.7**
N15K	**Kwethluk River**	**73.44**	**30**	P	**P**	**20 25 41.0**	**-0.9**
O16K	**Kokwok River B**	**74.35**	**31**	P	**P**	**20 25 46.3**	**-0.9**
C18K	**Utukok River**	**74.61**	**21**	P	**P**	**20 25 48.8**	**+0.1**
C18K				IAmb	IAmb	20 27 22.0	
	comp=Z,17nm,1.7s						
K17K	**Iditarod**	**74.69**	**28**	P	**P**	**20 25 49.4**	**+0.3**
L18K	**Granite Mounta**	**75.36**	**28**	P	**P**	**20 25 54.3**	**+1.3**
BELG	**Belogornoye**	**75.38**	**322**	LR	LR	21 00 58.3	
	comp=Z,42nm,18.6s,baz=87,slow=37						
G19K	**Purcell Mounta**	**75.71**	**24**	P	**P**	**20 25 54.9**	**-0.1**
G19K				IAmb	IAmb	20 28 24.2	
	comp=Z,12nm,1.6s						
B21K	**Ikpikpuk River**	**77.10**	**21**	P	**P**	**20 26 01.9**	**-0.8**
C23K	**Itkillik River**	**78.50**	**21**	P	**P**	**20 26 11.

comp=Z,4.6nm,0.8s
ARCES ARCESS Array B 84.64 340 P **P 20 26 43.4 +0.4**
comp=Z,1.2nm,0.6s,baz=76,slow=5.1,SNR=7.9
comp=Z,1.2nm,0.6s
FINES FINESS Array B 86.31 332 P **P 20 26 51.7 +0.3**
comp=Z,1.1nm,0.5s,baz=87,slow=4.2,SNR=9.2
comp=Z,1.1nm,0.5s
EUNU Eureka 88.74 5 P **P 20 27 01.5 -1.4**
EUNU IAmb IAmb 20 30 27.1
comp=Z,19nm,1.9s
HFS Hagfors 92.47 332 P **P 20 27 20.6 +0.1**
comp=Z,3.1nm,0.9s,baz=124,slow=7.4,SNR=5.3
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 94.20 24 P **P 20 27 29.7 +1.3**
comp=Z,0.5nm,0.6s,baz=296,slow=4.7,SNR=7.9
comp=Z,0.5nm,0.6s
PLCA Paso Flores 145.77 157 PKPdf **PKPdf 20 33 47.3 -1.3**
PLCA Paso Flores 145.77 157 PKPbc **PKPab 20 33 50.4 +0.9**
comp=Z,2.3nm,1.0s,baz=308,slow=0.7,SNR=3.3

IDC 08 20:26:50.0±7.0, 17°.46S×177°.29W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=307.0km s-min=37.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.77**	**259**	P	P	20 35 13.3	-0.4
	0.5nm,0.5s,baz=95,slow=7.4,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.94**	**254**	P	P	20 35 15.2	+0.1
	4.3nm,0.5s,baz=87,slow=8.5,SNR=73						
	4.3nm,0.5s						
ILAR	**Eielson Array**	**85.22**	**13**	P	P	20 39 28.0	0.0
	0.2nm,0.4s,baz=213,slow=5.2,SNR=5.2						
	0.2nm,0.4s						

---

*IDC **08** 20:32:05.6±0.9, 2°.77N×127°.10E, h0km, mb4.0/10, mbtmp4.0/10, Error ellipse: s-maj=78.7km s-min=15.2km az=66.0*
*DJA **08** 20:32:09.6±0.4, 3°.N±4°.×12°.7E±°, h10km, M4.1/16, mB5.2/2, mb4.3/9, MLv4.0/16, Mw(mB)4.6/2.*
*NEIC **08** 20:32:11.0±2.1, 2°.81N±0°.08×127°.02E±0°.07, h35km±2km, mb4.5/26, Error ellipse: s-maj=14.3km s-min=10.7km az=203.0*
ISC 08 20:32:11.4±0.5, 2°.75N±0°.06×127°.02E±0°.08, h44km, n52, σ1§35/50, mb4.4/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.76**	**302**	P	**Pn**	**20 32 39.6**	**+0.2**
TNTI	**Ternate**	**2.00**	**170**		**Pn**	**20 32 44.3**	**+1.6**
TNTI	**Ternate**	**2.00**	**170**	P	**Pn**	**20 32 45.3**	**+2.6**
KMSI	**Cibinong**	**3.73**	**235**	P	**Pn**	**20 33 10.7**	**+4.2**
SANI	**Sanana**	**4.88**	**192**	P	**Pn**	**20 33 24.1**	**+1.8**
	0.1nm17nm,0.9s						
SWI	**Sorong**	**5.55**	**130**	P	**Pn**	**20 33 32.6**	**+1.0**
	0.1nm24nm,0.8s						
MRSI	**Marisa**	**5.56**	**246**	P	Pn	20 33 36.8	+5.2
LUWI	**Luwuk**	**5.68**	**228**	Pn	**Pn**	**20 33 33.2**	**-0.1**
LUWI	**Luwuk**	**5.68**	**228**	P	Pn	20 33 40.3	+7.0
	0.2nm2μm40nm,0.7s						
MSAI	**Masohi**	**6.35**	**163**	P	**Pn**	**20 33 45.3**	**+2.8**
	0.2nm2μm36nm,0.8s						
TOLI2	**Tolitoli**	**6.45**	**255**	Pn	**Pn**	**20 33 44.7**	**+0.9**
APSI	**Ampana**	**6.49**	**236**	P	Pn	20 33 50.9	+6.5
	54nm,1.3s						
FAKI	**Fak Fak**	**7.68**	**137**	Pn	**Pn**	**20 34 01.6**	**+0.8**
FAKI	**Fak Fak**	**7.68**	**137**	P	**Pn**	**20 34 01.9**	**+1.1**
	40nm,1.8s						
KDI	**Kendari**	**7.99**	**213**	P	**Pn**	**20 34 08.2**	**+3.2**
	8.6nm,1.0s						
SBUM	**Sibu**	**14.79**	**269**		**P**	**20 35 40.9**	**-2.1**
MTN	**Manton Dam**	**16.02**	**165**	Pn	**Pn**	**20 35 53.3**	**-0.6**
MTN				IAmb	IAmb	20 36 31.3	
	comp=Z,51nm,1.3s						
JAGI	**Jajag, Banyuwa**	**17.00**	**229**	P	**Pn**	**20 36 05.4**	**-0.8**
JAGI				IAmb	IAmb	20 36 16.6	
	comp=Z,37nm,1.3s						
KNRA	**Kununurra**	**18.39**	**175**	P	**P**	**20 36 21.7**	**-1.2**
KNRA				IAmb	IAmb	20 36 36.0	
	comp=Z,52nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.77**	**184**	P	**P**	**20 36 49.9**	**+1.2**
TPUB	**Ta-pu**	**21.34**	**344**	P	**P**	**20 36 52.0**	**-3.0**
SSLB	**Suanglung**	**21.72**	**345**	P	**P**	**20 36 57.0**	**-2.0**
SSLB				IAmb	IAmb	20 37 28.7	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**23.52**	**162**	P	**P**	**20 37 17.7**	**0.0**
WRAB	**Tennant Creek**	**23.67**	**163**	P	**P**	**20 37 18.7**	**-0.4**
WRA	**Warramunga Arr**	**23.67**	**163**	P	**P**	**20 37 18.6**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=341,slow=9.7,SNR=13						
	comp=Z,2.9nm,0.7s						
JOW	**Kunigami**	**23.97**	**3**	P	**P**	**20 37 21.3**	**-0.5**
JOW				IAmb	IAmb	20 37 57.8	
	comp=Z,39nm,1.1s						
UBPT	**Khong Chiam**	**24.62**	**302**	P	**P**	**20 37 28.1**	**+0.2**
MBWA	**Marble Bar**	**24.82**	**196**	P	**P**	**20 37 29.3**	**-0.2**
MBWA				IAmb	IAmb	20 37 42.3	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**25.18**	**196**	P	**P**	**20 37 32.3**	**-0.6**
PSA00				IAmb	IAmb	20 37 46.8	
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**27.10**	**166**	P	**P**	**20 37 50.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=349,slow=7.1,SNR=8.2						
ASAR				PcP	**PcP**	**20 41 11.7**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=346,slow=2.6,SNR=4.2						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.62**	**302**	P	**P**	**20 38 31.3**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=104,slow=7.5,SNR=5.7						
	comp=Z,0.9nm,0.9s						
BBOO	**Buckleboo**	**36.39**	**167**	P	**P**	**20 39 10.6**	**-1.1**
NWAO	**Narrogin (SRO)**	**36.68**	**194**	P	**P**	**20 39 12.4**	**-1.6**
STKA	**Stephens Creek**	**37.12**	**159**	P	**P**	**20 39 18.1**	**+0.2**
STKA				IAmb	IAmb	20 39 37.8	
	comp=Z,18nm,1.2s						
STKA	**Stephens Creek**	**37.12**	**159**	P	**P**	**20 39 18.3**	**+0.5**
	comp=Z,7.6nm,0.9s,baz=323,slow=10,SNR=6.1						
	comp=Z,7.6nm,0.9s						
BJT	**Baijiatuau**	**38.38**	**347**	P	**P**	**20 39 28.9**	**+0.6**
BJT				IAmb	IAmb	20 39 46.6	
	comp=Z,5.3nm,0.9s						
JKA	**Kamikawa-asahi**	**43.44**	**16**	P	**P**	**20 40 10.7**	**+0.8**
SONM	**Songino Array**	**48.31**	**341**	P	**P**	**20 40 49.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=160,slow=8.5,SNR=7.2						
	comp=Z,0.7nm,0.7s						
MNCI	**Minicoy**	**53.95**	**278**	P	**P**	**20 41 30.7**	**-0.6**
MK31	**Makanchi Array**	**58.52**	**325**	P	**P**	**20 42 03.6**	**+0.2**
MKAR	**Makanchi Array**	**58.52**	**325**	P	**P**	**20 42 03.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=118,slow=7.9,SNR=24						
	comp=Z,0.9nm,0.5s						
TARG	**Taragay, Kyrgy**	**58.67**	**318**	P	**P**	**20 42 04.4**	**-0.6**
TARG				IAmb	IAmb	20 42 14.1	
	comp=Z,5.8nm,1.0s						
MAKZ	**Makanchi**	**58.70**	**325**	P	**P**	**20 42 04.1**	**-0.5**
ZALV	**Zalesovo Beam**	**61.58**	**333**	P	**P**	**20 42 24.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=124,slow=5.9,SNR=4.1						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.71**	**328**	P	**P**	**20 42 32.5**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=129,slow=6.4,SNR=34						
	comp=Z,0.8nm,0.4s						
KURK	**Kurchatov**	**62.72**	**328**	P	**P**	**20 42 32.0**	**+0.1**
KURK				IAmb	IAmb	20 42 33.0	
	comp=Z,1.8nm,0.6s						
BVAR	**Borovoye Array**	**68.29**	**327**	P	**P**	**20 43 09.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=144,slow=5.5,SNR=3.7						
	comp=Z,0.8nm,0.7s						
BRVK	**Borovoye**	**68.36**	**327**	P	**P**	**20 43 08.0**	**-0.2**
BRVK				IAmb	IAmb	20 43 27.2	
	comp=Z,4.7nm,1.4s						
ARTI	**Arti**	**75.99**	**328**	P	**P**	**20 43 54.4**	**+0.6**
ARTI				IAmb	IAmb	20 44 03.2	
	comp=Z,8.1nm,1.5s						
P19K	**Oil Pt**	**82.45**	**30**	P	**P**	**20 44 29.7**	**+0.7**
PPLA	**Purkeypile**	**83.36**	**27**	P	**P**	**20 44 34.1**	**+0.2**
PPLA				IAmb	IAmb	20 45 00.5	
	comp=Z,12nm,1.4s						
ARCES	**ARCESS Array B**	**91.46**	**340**	P	**P**	**20 45 12.8**	**0.0**
	comp=Z,2.5nm,0.9s,baz=54,slow=6.2,SNR=4.6						
	comp=Z,2.5nm,0.9s						

---

*HLW **08** 20:34:10.4, 25°.72N×35°.20E, h21km±1km, Md2.5, Ml2.7*
*SGS **08** 20:34:11.2, 25°.97N×35°.49E, h25km, Ml2.0*
ISC 08 20:34:03.1±0.9, 25°.98N±0°.04×35°.35E±0°.05, h10km, n23, σ0§91/24, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADB	**Abo Dabab**	**0.99**	**230**	P	**Pn**	**20 34 24.5**	**+1.4**
WJHS		**1.21**	**51**	S	**Sn**	**20 34 41.7**	**-0.8**
WJHS		**1.21**	**51**	P	**Pg**	**20 34 28.0**	**+1.7**
HAGS	**Hagol**	**1.62**	**192**	P	**Pb**	**20 34 33.2**	**+0.1**
HAGS				S	**Sn**	**20 34 51.9**	**-0.9**
BIDS	**Bi'r al Bayda'**	**1.70**	**58**	S	**Sb**	**20 34 55.2**	**-0.6**
BIDS	**Bi'r al Bayda'**	**1.70**	**58**	P	**Pg**	**20 34 35.9**	**+0.2**
MWLHS	**Almuwaylih**	**1.77**	**5**	P	**Pg**	**20 34 36.4**	**-0.7**
MWLHS	**Almuwaylih**	**1.77**	**5**	S	**Sn**	**20 34 56.3**	**-0.1**
URD06	**Shuwaq**	**1.94**	**40**	P	**Pg**	**20 34 40.5**	**+0.2**
URD06	**Shuwaq**	**1.94**	**40**	S	**Sb**	**20 35 02.6**	**-0.4**
URD03	**Al Ula**	**2.01**	**69**	P	**Pg**	**20 34 40.7**	**-1.0**
HHRG	**Al Ghardaqah**	**2.02**	**308**	P	**Pn**	**20 34 38.2**	**+1.0**
URD04	**Abu Rakah**	**2.04**	**57**	S	**Sb**	**20 35 05.6**	**-0.1**
URD04	**Abu Rakah**	**2.04**	**57**	P	**Pg**	**20 34 40.9**	**-1.3**
URD07	**Al Anba**	**2.04**	**33**	S	**Sb**	**20 35 05.0**	**-0.9**
URD07	**Al Anba**	**2.04**	**33**	P	**Pg**	**20 34 42.1**	**-0.2**
WTBKS	**WTBKS**	**2.16**	**13**	P	**Pb**	**20 34 42.8**	**+0.4**
WTBKS	**WTBKS**	**2.16**	**13**	S	**Sb**	**20 35 08.1**	**-1.2**
URD15	**Abu Rakah**	**2.27**	**56**	S	**Sb**	**20 35 13.1**	**+0.5**
URD15	**Abu Rakah**	**2.27**	**56**	P	**Pb**	**20 34 44.9**	**+0.6**
NEDF	**New Edfo**	**2.42**	**244**	P	**Pb**	**20 34 46.3**	**-0.5**
URD14	**Abu Rakah**	**2.59**	**55**	P	**Pb**	**20 34 49.8**	**0.0**
URD14	**Abu Rakah**	**2.59**	**55**	S	**Sb**	**20 35 20.1**	**-1.6**

---

*DJA **08** 20:37:42.8±0.7, 11°.N±4°.×12°.7E±°, h46km±7km, M5.2/25, mb4.7/25, mB5.7/6, MLv5.4/4, Mw(mB)5.3/6*
*IDC **08** 20:37:44.6±0.5, 9°.79N×126°.28E, h0km, mb4.4/24, mbtmp4.4/25, ML3.7/1, MS3.5/17, Error ellipse: s-maj=22.9km s-min=11.5km az=82.0*
*NEIC **08** 20:37:46.0±1.8, 9°.75N±0°.06×126°.34E±0°.10, h10km±1km, mb4.9/143, Error ellipse: s-maj=16.5km s-min=10.7km az=78.0*
*BJI **08** 20:37:48.5, 9°.66N×126°.32E, h48km, mB4.9/14, mb4.5/51, Ms4.2/9, Ms7 4.1/10*
ISC 08 20:37:49.9±0.3, 9°.75N±0°.04×126°.30E±0°.07, h43km, n215, σ1§20/176, mb4.8/113, MS3.6/16, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.75**	**195**	Pn	**Pn**	**20 38 28.6**	**-3.0**
DAV	**Davao City (W)**	**2.75**	**195**	Pg	Pn	20 38 36.7	+5.1
	31nm,0.3s,baz=96,slow=14,SNR=6.2						
DAV				Lg	Lg	20 39 08.7	
	50nm,0.3s,baz=233,slow=20,SNR=6.6						
SGSI	**Sangihe**	**6.07**	**187**	P	Pn	20 39 21.5	+4.3
TGY	**Tagaytay City**	**6.80**	**310**	Pn	Pn	20 39 31.8	+4.5
	73nm,0.3s,baz=300,slow=13,SNR=4.7						
TGY				LR	LR	20 42 23.3	
	comp=Z,792nm,18.9s,baz=130,slow=41						
MRSI	**Marisa**	**10.18**	**205**	P	Pn	20 40 18.3	+4.8
	22nm,1.1s						
LUWI	**Luwuk**	**11.28**	**198**	P	Pn	20 40 35.8	+7.2
	41nm,0.7s						
SANI	**Sanana**	**11.72**	**182**	P	Pn	20 40 38.6	+3.9
	22nm,1.1s						
SMKI	**Samarinda**	**13.58**	**222**	P	**P**	**20 41 07.5**	**-0.6**
RKPI	**Ransiki, Papua**	**13.66**	**145**	P	**Pn**	**20 40 59.3**	**-1.9**
	39nm,0.5s						
FAKI	**Fak Fak**	**13.91**	**154**	Pn	Pn	20 40 58.2	-6.4
TWG	**Pinlang**	**13.93**	**340**	Pn	Pn	20 40 57.7	-7.1
TTSI	**Tana Toraja**	**14.25**	**207**	P	**P**	**20 41 14.5**	**-1.1**
YULB	**Yu-li**	**14.39**	**341**	Pn	**Pn**	**20 41 08.6**	**-2.4**
TPUB	**Ta-pu**	**14.53**	**339**	Pn	**Pn**	**20 41 08.8**	**-4.0**
SSLB	**Suanglung**	**14.87**	**341**	Pn	**Pn**	**20 41 13.3**	**-4.1**
SPSI	**Sidrap Palu**	**15.09**	**206**	P	**P**	**20 41 27.1**	**+2.2**
MTKI	**Muara Teweh, K**	**15.54**	**228**	P	P	20 41 57.4	+27
YHNB	**Yeheng**	**15.56**	**343**		**Pn**	**20 41 26.3**	**-0.3**
SBUM	**Sibu**	**15.76**	**244**	P	**P**	**20 41 29.3**	**-3.0**
KAPI	**Kappang**	**16.05**	**204**	P	**P**	**20 41 36.7**	**+1.2**
KAPI	**Kappang**	**16.05**	**204**	LR	LR	20 48 36.3	
	comp=Z,217nm,20.1s,baz=18,slow=40						
KNMB	**Chin-men Tao**	**16.46**	**334**	P	**P**	**20 41 39.3**	**-0.8**
JOW	**Kunigami**	**17.10**	**6**	P	**P**	**20 41 46.1**	**-1.1**
JOW	**Kunigami**	**17.10**	**6**	Pn	**P**	**20 41 45.1**	**-2.0**
	0.5nm,0.3s,baz=180,slow=14,SNR=5.6						
JOW				LR	LR	20 47 11.1	
	comp=Z,156nm,19.7s,baz=152,slow=33						
	18nm,0.8s						
STKI	**Sintang**	**17.61**	**238**	P	**P**	**20 41 56.9**	**+4.1**
	2μm23nm,1.3s						
KSM	**Kuching**	**17.90**	**244**	P	**P**	**20 41 57.0**	**+1.0**
QIZ	**Qiongzhong**	**18.40**	**302**	P	**Pn**	**20 42 02.5**	**+0.5**
QIZ				S	**S**	**20 45 27.8**	**-1.9**
QIZ				LR	LR		
	comp=N,190nm,9.3s						
QIZ				LR	LR		
	comp=E,230nm,8.3s						
QIZ				LR	LR		
	comp=Z,340nm,16.6s						
GUMO	**Guam**	**18.58**	**76**	LR	LR	20 49 19.7	
	comp=Z,65nm,19.7s,baz=260,slow=37						
SOEI	**Soe**	**19.48**	**186**	P	**Pn**	**20 42 13.5**	**-1.5**
SOEI	**Soe**	**19.48**	**186**	P	**Pn**	**20 42 16.3**	**+1.3**
	53nm,1.0s						
UBPT	**Khong Chiam**	**21.06**	**287**	P	**P**	**20 42 31.2**	**+0.7**
JCJ	**Chichijima**	**22.87**	**39**	P	**P**	**20 42 49.7**	**-0.1**
MTN	**Manton Dam**	**22.95**	**168**	P	**P**	**20 42 49.0**	**-1.7**
MTN				IAmb	IAmb	20 42 60.0	
	comp=Z,39nm,1.2s						
NJ2	**Nanjing**	**23.24**	**344**	*e*P	**P**	**20 42 54.9**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,31nm,1.0s						
WHN	**Wuhan**	**23.50**	**333**	P	**P**	**20 42 57.8**	**+1.8**
WHN				pmax	pmax		
	comp=Z,48nm,1.0s						
UGM	**Wanagama**	**23.55**	**222**	P	**P**	**20 42 56.2**	**-0.5**
	comp=Z,80nm,1.5s						
JNU	**Nakatsue**	**23.64**	**10**	P	**P**	**20 42 56.6**	**-0.8**
JNU	**Nakatsue**	**23.64**	**10**	LR	LR	20 53 35.0	
	comp=Z,82nm,18.5s,baz=168,slow=40						
MYKOM	**Kota Tinggi**	**23.68**	**252**	P	**P**	**20 42 58.6**	**+0.8**
MYKOM				IAmb	IAmb	20 43 02.7	
	comp=Z,18nm,0.8s						
JMN	**Monobe**	**24.87**	**15**	P	**P**	**20 43 07.5**	**-1.1**
TNG	**Tangerang**	**25.17**	**232**	P	sP	20 43 30.2	+2.1
TNG				P	P	20 43 30.1	+19
KNRA	**Kununurra**	**25.38**	**174**	P	**P**	**20 43 14.8**	**+1.5**
IPM	**Ipoh**	**25.61**	**260**	P	**P**	**20 43 16.0**	**+0.4**
IPM				IAmb	IAmb	20 43 21.0	
	comp=Z,17nm,0.9s						
MDSI	**Maura Dua**	**26.18**	**238**	P	**P**	**20 43 22.1**	**+1.4**
	comp=Z,11nm,1.4s						
PHRA	**Phrae**	**26.71**	**292**	P	**P**	**20 43 25.1**	**-0.3**
KSRS	**Korea Array**	**27.62**	**3**	P	**P**	**20 43 34.6**	**+1.2**
	comp=Z,5.1nm,0.9s,baz=180,slow=10,SNR=11						
KSRS				LR	LR	20 56 56.4	
	comp=Z,99nm,18.1s,baz=180,slow=42						
	comp=Z,5.1nm,0.9s						
TIA	**Tai'an**	**27.63**	**344**	P	**P**	**20 43 34.5**	**+1.0**
TIA				pmax	pmax		
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.67**	**181**	P	**P**	**20 43 33.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.67**	**181**	P	**P**	**20 43 35.7**	**+1.7**
	comp=Z,18nm,1.0s,baz=10,slow=11,SNR=5.8						
FITZ				LR	LR	20 57 21.5	
	comp=Z,24nm,19.7s,baz=45,slow=42						
	comp=Z,18nm,1.0s						
PPI	**Padang Panjang**	**27.70**	**250**	P	**P**	**20 43 34.6**	**+0.2**
	comp=Z,12nm,0.6s						
LYN	**LuoYang**	**27.75**	**335**	P	**P**	**20 43 36.1**	**+1.5**
LYN				pmax	pmax		
	comp=Z,16nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.88**	**291**	P	**P**	**20 43 37.6**	**+1.7**
	comp=Z,3.9nm,1.0s,baz=102,slow=7.0,SNR=19						
	comp=Z,3.9nm,1.0s						
CHTO	**Chiang Mai**	**27.96**	**292**	P	**P**	**20 43 36.5**	**-0.2**
PZH	**PanZhiHua**	**28.59**	**309**	P	**P**	**20 43 44.7**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
MJAR	**Matsushiro Arr**	**28.78**	**20**	P	**P**	**20 43 43.1**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=172,slow=8.2,SNR=5.9						
MJAR				LR	LR	20 55 09.1	
	comp=Z,110nm,18.1s,baz=206,slow=36						
	comp=Z,2.2nm,0.9s						
COEN	**Coen**	**28.90**	**144**	P	**P**	**20 43 46.1**	**+1.2**
XAN	**Xi'an**	**28.97**	**329**	⇓P	**P**	**20 43 45.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,29nm,0.8s						
XAN				pmax	pmax		
	comp=Z,160nm,5.7s						
XAN				LR	LR		
	comp=Z,340nm,14.9s						
XAN				LR	LR		
	comp=Z,180nm,15.6s						
XAN				LR	LR		
	comp=Z,250nm,15.5s						
HNS	**HongShan**	**29.45**	**341**	⇑P	**P**	**20 43 50.7**	**+1.0**
HNS				pmax	pmax		
	comp=Z,27nm,1.0s						
HNS				LR	LR		
	comp=Z,200nm,16.1s						
HNS				LR	LR		
	comp=Z,200nm,15.3s						
CD2	**Chengdu**	**29.72**	**318**	P	**P**	**20 43 53.5**	**+1.3**
CD2				LR	LR		
	comp=Z,270nm,12.1s						
CD2				LR	LR		
	comp=Z,230nm,14.0s						
CD2				LR	LR		
	comp=Z,330nm,11.3s						
TIY	**Taiyuan**	**30.52**	**338**	*e*P	**P**	**20 44 00.6**	**+1.4**
TIY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRAB	**Tennant Creek**	**30.54**	**165**	P	**P**	**20 43 59.6**	**+0.2**
WRAB				IAmb	IAmb	20 44 54.3	
	comp=Z,41nm,1.9s						
WRA	**Warramunga Arr**	**30.55**	**165**	P	**P**	**20 43 59.4**	**-0.2**
	comp=Z,2.1nm,1.1s,baz=343,slow=8.1,SNR=6.0						
	comp=Z,2.1nm,1.1s						
JMM	**Marumori**	**30.89**	**23**	P	**P**	**20 44 01.9**	**-0.5**
MBWA	**Marble Bar**	**31.38**	**192**	P	**P**	**20 44 06.1**	**-0.8**
MBWA				IAmb	IAmb	20 45 18.5	
	comp=Z,20nm,1.2s						
BJT	**Baijiatuau**	**31.47**	**345**	P	**P**	**20 44 07.5**	**0.0**
BJT				IAmb	IAmb	20 44 10.3	
	comp=Z,8.9nm,0.9s						
BJI	**Beijing**	**31.49**	**345**	P	**P**	**20 44 09.0**	**+1.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PSA00	**Pilbara Seismi**	**31.76**	**191**	P	**P**	**20 44 09.2**	**-1.1**
PSA00				IAmb	IAmb	20 44 25.8	
	comp=Z,19nm,1.1s						
LZH	**Lanzhou**	**33.22**	**326**	*e*P	**P**	**20 44 24.5**	**+1.4**
LZH				sP	sP	20 44 38.0	-1.9
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**33.62**	**340**	⇑*i*P	**P**	**20 44 27.9**	**+1.5**
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
ASAR	**Alice Springs**	**34.03**	**167**	P	**P**	**20 44 30.5**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=353,slow=6.9,SNR=9.1						
ASAR				PcP	**PcP**	**20 47 08.2**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=336,slow=2.3,SNR=4.4						
	comp=Z,0.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**34.68**	**7**	P	**P**	**20 44 36.1**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=188,slow=8.5,SNR=6.0						
	comp=Z,4.8nm,0.8s						
MDJ	**Mudanjiang**	**34.86**	**4**	P	**P**	**20 44 36.5**	**-0.5**
MDJ				IAmb	IAmb	20 44 40.3	
	comp=Z,24nm,1.2s						
XLT	**XiLinHaoTe**	**35.17**	**347**	*e*P	**P**	**20 44 40.8**	**+1.0**
XLT				pP	pwP	20 44 51.9	+0.7
XLT				sP	sP	20 44 58.7	+2.4
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
BRDH	**Bariadhala**	**35.57**	**295**	LR	LR	20 59 48.8	
	comp=Z,113nm,18.9s,baz=170,slow=37						
BNX	**BinXian**	**35.88**	**1**	⇑P	**P**	**20 44 47.1**	**+1.4**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHL	**Shillong**	**36.23**	**300**	P	**P**	**20 44 49.3**	**+0.1**
SHL				IAmb	IAmb	20 44 56.1	
	comp=Z,9.7nm,0.6s						
JKA	**Kamikawa-asahi**	**37.05**	**20**	P	**P**	**20 44 54.7**	**-1.0**
GTA	**Gaotai**	**37.83**	**326**	*e*P	**P**	**20 45 03.3**	**+0.7**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KLR	**Kul'dur**	**39.62**	**6**	LR	LR	21 02 11.3	
	comp=Z,39nm,18.9s,baz=174,slow=37						
HIA	**Hailar**	**39.77**	**353**	P	**P**	**20 45 18.2**	**-0.4**
MORW	**Morawa**	**39.84**	**194**	P	**P**	**20 45 20.0**	**+0.6**
FORT	**Forrest**	**40.33**	**178**	P	**P**	**20 45 24.3**	**+1.0**
FORT				IAmb	IAmb	20 45 29.1	
	comp=Z,23nm,0.7s						
HEH	**HeiHe**	**40.39**	**1**	*e*P	**P**	**20 45 24.9**	**+1.2**
HEH				pmax	pmax		
	comp=Z,11nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.40**	**71**	T	T	21 28 50.4	
	baz=265,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy**	**40.40**	**71**	T	T	21 28 54.0	
	baz=265,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	21 28 51.2	
	baz=265,slow=74,SNR=14						
ULN	**Ulaanbaatar**	**41.32**	**340**	P	**P**	**20 45 32.1**	**+0.5**
SONM	**Songino Array**	**41.52**	**340**	P	**P**	**20 45 34.7**	**+1.6**
	comp=Z,4.3nm,0.9s,baz=159,slow=9.1,SNR=24						
	comp=Z,4.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.31**	**191**	P	**P**	**20 45 48.4**	**+0.7**
NWAO				IAmb	IAmb	20 45 51

ATKA Atka Island 63.87 36 P **P 20 48 19.1 +1.0**
BILL Bilibino 63.90 16 P **P 20 48 17.3 -0.7**
BILL IAmb IAmb 20 48 20.3
comp=Z,7.6nm,1.0s
NRIK Noril'sk 64.53 346 P **P 20 48 23.0 +0.9**
comp=Z,9.7nm,1.0s,baz=130,slow=6.6,SNR=11
NRIK LR LR 21 19 54.1
comp=Z,62nm,18.4s,baz=136,slow=39
comp=Z,9.7nm,1.0s
THZ Tophouse 66.73 144 P **P 20 48 35.8 -1.0**
RPZ Rata Peaks 66.94 146 P **P 20 48 37.4 -0.7**
ABKAR Akbulak array 67.29 319 P **P 20 48 40.0 -0.2**
BKZ Black Stump Fm 67.37 140 P **P 20 48 41.5 +0.6**
ARTI Arti 69.76 327 P **P 20 48 54.0 -1.5**
L14K Kuka Creek 72.43 29 P **P 20 49 11.3 -0.3**
F15K North Star Dit 72.61 24 P **P 20 49 12.8 +0.3**
F15K IAmb IAmb 20 50 20.6
comp=Z,23nm,1.7s
M14K Bethel 72.65 29 P **P 20 49 13.4 +0.5**
C16K Lisburne Hills 73.06 21 P **P 20 49 16.0 +0.8**
C16K IAmb IAmb 20 49 20.0
comp=Z,12nm,1.2s
N15K Kwethluk River 73.46 30 P **P 20 49 17.4 -0.3**
L16K Owhat River 74.01 28 P **P 20 49 21.8 +0.9**
O16K Kokwok River B 74.37 31 P **P 20 49 23.2 +0.2**
O16K IAmb IAmb 20 49 27.1
comp=Z,14nm,1.1s
E18K Tukpahlearik C 74.59 23 P **P 20 49 24.9 +0.8**
E18K IAmb IAmb 20 49 27.4
comp=Z,5.9nm,0.8s
C18K Utukok River 74.63 21 P **P 20 49 25.2 +0.7**
C18K IAmb IAmb 20 49 27.2
comp=Z,8.2nm,0.9s
K17K Iditarod 74.71 28 P **P 20 49 24.5 -0.5**
N17K Nushagak Hills 74.94 30 P **P 20 49 27.3 +1.0**
O18K Koktuh Hills 75.85 31 P **P 20 49 32.1 +0.5**
H19K Roundabout Mou 75.91 25 IAmb IAmb 20 49 34.9
comp=Z,9.8nm,1.0s
B21K Ikpikpuk River 77.12 21 P **P 20 49 39.0 +0.5**
H21K Melozitna River 77.43 25 P **P 20 49 41.3 +0.9**
H21K IAmb IAmb 20 49 44.2
comp=Z,24nm,1.8s
CAST Castle Rocks 77.59 27 P **P 20 49 42.5 +1.1**
RAYN Ar Rayn 77.79 292 P **P 20 49 44.0 +0.6**
RAYN IAmb IAmb 20 49 44.8
comp=Z,10nm,1.1s
E22K Anaktuvuk Pass 77.99 22 P **P 20 49 44.1 +0.5**
E22K IAmb IAmb 20 49 46.7
comp=Z,9.3nm,1.2s
BRLK Bradley Lake 78.03 31 P **P 20 49 44.6 +0.7**
BPAW Bear Paw Mtn. 78.11 26 IAmb IAmb 20 49 46.9
comp=Z,7.9nm,0.9s
SUA Susitna One 78.14 29 P **P 20 49 44.0 -0.5**
SUA IAmb IAmb 20 49 46.3
comp=Z,7.3nm,0.9s
SLKM Skilak Lake 78.37 30 IAmb IAmb 20 49 48.7
comp=Z,12nm,1.1s
C23K Itkillik River 78.53 21 P **P 20 49 47.5 +1.1**
C23K IAmb IAmb 20 49 49.4
comp=Z,13nm,0.8s
KBZ Khabaz 78.58 313 P **P 20 49 47.5 +0.3**
comp=Z,5.1nm,1.1s,baz=205,slow=1.6,SNR=5.5
comp=Z,5.1nm,1.1s
G23K Bananza Creek 78.61 24 P **P 20 49 48.7 +1.8**
G23K IAmb IAmb 20 49 50.3
comp=Z,10nm,1.1s
KIV Kislovodsk 78.72 313 P **P 20 49 48.4 +0.3**
KIV IAmb IAmb 20 49 51.1
comp=Z,15nm,1.3s
KIV Kislovodsk 78.72 313 P **P 20 49 49.2 +1.1**
comp=Z,7.7nm,1.1s
E23K Chandalar 78.81 22 P **P 20 49 48.3 +0.2**
E23K IAmb IAmb 20 49 51.7
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 78.84 25 P **P 20 49 48.6 +0.4**
I23K IAmb IAmb 20 49 52.3
comp=Z,28nm,1.9s
TOLK Toolik Lake Re 78.85 22 P **P 20 49 50.3 +2.0**
TOLK IAmb IAmb 20 49 51.3
comp=Z,6.8nm,0.9s
NEA2 Nenana 78.96 26 IAmb IAmb 20 49 51.4
comp=Z,7.6nm,1.0s
MCK McKinley 79.01 27 P **P 20 49 49.4 +0.2**
MCK IAmb IAmb 20 49 51.1
comp=Z,9.8nm,0.9s
RND Reindeer 79.05 27 IAmb IAmb 20 49 51.1
comp=Z,12nm,1.3s
D24K Happy Valley 79.13 21 IAmb IAmb 20 49 52.9
comp=Z,6.9nm,0.8s
C24K Franklin Bluff 79.19 21 IAmb IAmb 20 49 53.6
comp=Z,29nm,1.7s
KNK Knik Glacier 79.24 29 P **P 20 49 50.8 +0.3**
KNK IAmb IAmb 20 49 52.8
comp=Z,11nm,1.0s
SIRT Sirnak 79.29 306 P **P 20 49 51.2 -0.1**
SML Sawmill 79.29 29 P **P 20 49 50.8 -0.1**
SML IAmb IAmb 20 49 54.3
comp=Z,12nm,1.1s
PWL Port Wells 79.30 30 P **P 20 49 51.4 +0.6**
PWL IAmb IAmb 20 49 52.9
comp=Z,12nm,0.9s
GURO Guroymak-BITLI 79.54 308 P **P 20 49 52.8 0.0**
GURO IAmb IAmb 20 49 55.6
comp=Z,11nm,1.0s
HDA Harding Lake 79.88 26 IAmb IAmb 20 50 40.0
comp=Z,20nm,1.8s
ILAR Eielson Array 79.90 26 P **P 20 49 54.1 +0.1**
comp=Z,1.3nm,0.8s,baz=236,slow=5.0,SNR=13
comp=Z,1.3nm,0.8s
D25K Kavik River 80.01 21 IAmb IAmb 20 49 57.4
comp=Z,8.5nm,0.9s
F25K Christian Rive 80.32 23 P **P 20 49 58.0 +1.7**
KOPT Kop Dagi 80.61 309 P **P 20 49 59.2 +0.5**
RIDG Independent Ri 80.83 27 IAmb IAmb 20 50 01.1
comp=Z,8.1nm,1.0s
GLB Gilahina Butte 81.47 29 P **P 20 50 03.9 +1.4**
GLB IAmb IAmb 20 50 06.7
comp=Z,8.8nm,1.1s
M27K Edge Creek, AK 82.29 28 P **P 20 50 07.7 +0.8**
M27K IAmb IAmb 20 50 10.6
comp=Z,9.5nm,1.2s
F28M Old Crow 82.52 23 IAmb IAmb 20 50 11.5
comp=Z,8.0nm,0.9s
I28M Miner Creek 82.78 25 P **P 20 50 11.7 +2.3**
I28M IAmb IAmb 20 50 12.8
comp=Z,9.3nm,0.8s
DAWY Dawson 83.20 26 P **P 20 50 11.9 +0.4**
DAWY IAmb IAmb 20 50 14.7
comp=Z,19nm,1.6s
G29M Pine Creek 83.33 23 IAmb IAmb 20 50 15.2
comp=Z,8.4nm,0.8s
L29M L29M 83.90 27 P **P 20 50 16.9 +1.7**
EPYK Eagle Plains 83.94 24 IAmb IAmb 20 50 17.9
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 84.02 23 IAmb IAmb 20 50 17.9
comp=Z,7.1nm,1.1s
K29M Barlow Dome 84.05 26 P **P 20 50 16.9 +0.9**
K29M IAmb IAmb 20 50 19.4
comp=Z,9.8nm,1.1s
I30M Mount Dempster 84.29 25 IAmb IAmb 20 50 20.0
comp=Z,9.7nm,0.9s
ASF Jabal al Asfar 84.39 302 LR LR 21 33 39.2
comp=Z,206nm,18.7s,baz=220,slow=40
J30M Hart River 84.43 25 IAmb IAmb 20 50 21.2
comp=Z,12nm,1.2s
HYT Haines Junctio 84.58 29 P **P 20 50 19.8 +1.1**
M30M Minto, Yukon 84.60 27 IAmb IAmb 20 50 22.3
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 84.69 340 P **P 20 50 19.8 +0.8**
comp=Z,4.1nm,0.7s,baz=86,slow=6.4,SNR=9.8
comp=Z,4.1nm,0.7s
INK Inuvik 84.76 22 IAmb IAmb 20 50 21.7
comp=Z,11nm,1.1s
F31M Tsiigehtchic 84.87 22 IAmb IAmb 20 50 22.1
comp=Z,9.8nm,0.9s
H31M Peel River 85.00 24 P **P 20 50 21.1 +0.5**
O30N Mendenhall 85.27 29 IAmb IAmb 20 50 25.5
comp=Z,8.8nm,1.0s
WHY Whitehorse 85.88 29 P **P 20 50 25.4 +0.3**
BRTR Keskin Array B 85.88 309 P **P 20 50 25.1 -0.6**
comp=Z,1.1nm,0.9s,baz=113,slow=2.8,SNR=5.0
comp=Z,1.1nm,0.9s
FINES FINESS Array B 86.36 332 P **P 20 50 27.9 +0.5**
comp=Z,5.6nm,0.9s,baz=72,slow=6.2,SNR=11
comp=Z,5.6nm,0.9s
A36M Sachs Harbour 86.40 17 P **P 20 50 28.0 +0.7**
AK09 Malin Array Si 86.97 321 P **P 20 50 30.3 -0.3**
AK08 Malin Array Si 86.98 321 P **P 20 50 30.5 -0.1**
AKASG Malin Array Be 86.98 321 P **P 20 50 31.0 +0.3**
comp=Z,1.9nm,0.8s,baz=64,slow=4.7,SNR=8.2
comp=Z,1.9nm,0.8s
AK10 Malin Array Si 86.99 321 P **P 20 50 30.9 +0.2**
KIEV Kiev 87.00 321 P **P 20 50 29.4 -1.3**
KIEV IAmb IAmb 20 50 31.7
comp=Z,7.2nm,1.1s
AK05 Malin Array Si 87.02 321 P **P 20 50 30.7 -0.1**
NOR Nord 87.10 355 *i* P **P 20 50 30.7 0.0**
NOR IAmb IAmb 20 50 33.2
comp=Z,5.6nm,0.9s
LUBAR Lubar, Ukraine 88.07 320 P **P 20 50 35.8 -0.1**
EUNU Eureka 88.77 5 P **P 20 50 38.8 +0.1**
KMBO Kilima Mbogo 89.25 269 P **P 20 50 42.2 -0.3**
DAG Danmarks Havn 91.27 352 *i* P **P 20 50 49.6 -0.8**
DAG IAmb IAmb 20 50 51.5
comp=Z,13nm,1.1s
KWP Kalwaria Pacla 91.31 321 P **P 20 50 52.1 +1.0**
comp=Z,21nm,0.6s
RES Resolute Bay 92.00 10 P **P 20 50 54.0 +0.3**
RES IAmb IAmb 20 50 56.8
comp=Z,7.6nm,1.1s
HFS Hagfors 92.52 332 P **P 20 50 56.2 -0.3**
comp=Z,4.9nm,1.0s,baz=177,slow=3.0,SNR=4.9
comp=Z,4.9nm,1.0s
NEEM North Greenlan 92.94 359 *i* P **P 20 50 58.8 +0.4**
NEEM IAmb IAmb 20 51 00.8
comp=Z,9.4nm,0.9s
NB2 NORSAR Subarra 93.24 334 P **P 20 50 59.3 -0.5**
comp=Z,4.7nm,1.0s,baz=68,slow=4.4
NB2 NORSAR Subarra 93.24 334 P **P 20 50 59.3 -0.5**
baz=68,slow=4.4
NOA NORSAR Array B 93.24 334 P **P 20 50 59.6 -0.2**
comp=Z,2.6nm,0.9s,baz=67,slow=4.6,SNR=4.0
comp=Z,2.6nm,0.9s
YKA Yellowknife Ar 94.22 24 P **P 20 51 05.5 +1.3**
comp=Z,3.7nm,0.8s,baz=298,slow=4.7,SNR=44
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 120.48 292 PKP **PKiKP 20 56 38.5 +0.5**
comp=Z,0.5nm,0.9s,baz=43,slow=2.6,SNR=2.4
PLCA Paso Flores 145.72 157 PKPbc **PKiKP 20 57 26.6 -1.7**
comp=Z,8.2nm,1.1s,baz=213,slow=6.4,SNR=8.2
SDDR Presa de Saban 146.60 31 **PKiKP 20 57 28.2 -2.5**
DR12 Loma Pena Alta 147.70 29 PKPdf **PKPdf 20 57 25.1 -3.0**
DR12 PKPbc **PKPab 20 57 31.9 -1.2**

IDC 08 20:46:12.1±1.9, 9°.89N×126°.24E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=189.2km s-min=30.4km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.70**	**165**	P	P	20 52 28.8	-0.1
	0.6nm,0.9s,baz=346,slow=8.7,SNR=2.1						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**52.31**	**323**	P	P	20 55 26.1	+0.5
	0.4nm,0.7s,baz=122,slow=8.5,SNR=4.9						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**56.37**	**326**	P	P	20 55 54.1	-1.0
	0.2nm,0.6s,baz=131,slow=6.9,SNR=4.6						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**84.54**	**340**	P	P	20 58 47.0	+0.2
	2.3nm,0.9s,baz=73,slow=5.0,SNR=1.7						
	2.3nm,0.9s						
FINES	**FINESS Array B**	**86.21**	**332**	P	P	20 58 55.4	+0.2
	5.0nm,1.0s,baz=73,slow=6.6,SNR=2.0						
	5.0nm,1.0s						

*DJA **08** 21:07:45.7±0.5, 1°.N±3°.×12°.7E±°, h68km±14km, M3.2/10, MLv3.2/10*
*IDC **08** 21:07:46.3±2.4, 0°.48N×127°.74E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=182.1km s-min=29.8km az=67.0*
ISC 08 21:07:46.4±1.7, 0°.9N±0°.1×126°.77E±0°.07, h50km, n8, σ1$69/8, **mb3.0/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.62**	**104**	P	**Pn**	21 07 59.6	+0.5
KMSI	**Cibinong**	**2.81**	**263**	P	**Pn**	21 08 30.1	+1.3
SANI	**Sanana**	**3.05**	**195**	P	**Pn**	21 08 31.6	-0.6
SANI				S	**Sn**	21 09 08.7	+1.1
NLAI	**Namlea**	**4.15**	**175**	P	**Pn**	21 08 48.1	+0.8
MRSI	**Marisa**	**4.85**	**265**	P	**Pn**	21 08 56.1	-0.7
WRA	**Warramunga Arr**	**22.02**	**161**	P	**P**	21 12 33.9	-2.9
	0.2nm,0.4s,baz=342,slow=11,SNR=5.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**25.41**	**165**	P	**P**	21 13 10.4	+1.0
	0.4nm,0.9s,baz=345,slow=11,SNR=2.2						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	21 18 00.2	+13
	0.2nm,0.7s,baz=133,slow=8.0,SNR=1.9						
	0.2nm,0.7s						

*MOS **08** 21:09:57.7±1.0, 9°.80N×126°.21E, h19km, mb5.2/86, MS4.3/10, Error ellipse: s-maj=8.3km s-min=4.2km az=116.3*
*BJI **08** 21:09:58.8, 9°.54N×126°.33E, h41km, mB5.1/41, mb4.7/84, Ms4.7/79, Ms7 4.5/78*
*NEIC **08** 21:09:58.3±1.4, 9°.79N±0°.06×126°.40E±0°.08, h10km±1km, mb5.2/228, Mww5.0/16, Error ellipse: s-maj=13.8km s-min=10.0km az=258.0*
*IDC **08** 21:09:59.9±2.1, 9°.70N×126°.18E, h22km±13km, mb4.7/26, mbtmp4.8/27, ML4.3/1, MS4.3/62, Error ellipse: s-maj=20.1km s-min=10.1km az=76.0*
*NEIC **08** 21:10:02.3, 9°.87N×126°.39E, h16km*
*DJA **08** 21:10:02.9±0.3, 10°.N±2°.×12°.7E±°, h57km±3km, M5.0/95, mb5.2/95, mB5.5/51, MLv5.8/3, Mw(mB)4.9/51, MwMwp4.8/9, Mwp5.1/9*
*NEIC **08** 21:10:02.3, 9°.87N×126°.39E, h16km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.44; $M_{\theta\theta}$0.27; $M_{\phi\phi}$1.17; $M_{r\theta}$2.33; $M_{\theta\phi}$-1.86; $M_{\phi r}$-0.87; Fault plane solution: $M_0$3.35000×10^{16} NP1: ϕ_s176.61000°, δ31.81000°, λ-30.80000°. NP2: ϕ_s293.47000°, δ74.34000°, λ-118.05000°. Principal axes: T 3.5917, Plg24.0000°, Azm45.0000°; N -0.4899, Plg27.0000°, Azm302.0000°; P -3.1019, Plg52.0000°, Azm170.0000°;*
*GCMT **08** 21:10:04.3±0.2, 9°.82N±0°.02×126°.36E±0°.02, h20km±1km, MW5.1/103, Moment Tensor Solution. s49,c57; s103,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.84±.14; $M_{\theta\theta}$0.97±.10; $M_{\phi\phi}$0.86±.09; $M_{r\theta}$1.23±.17; $M_{\theta\phi}$-2.05±.07; $M_{\phi r}$-3.88±.38; Best double couple: $M_0$4.81400×10^{16} NP1:ϕ_s102.00000°, δ23.00000°, λ-145.00000°. NP2:ϕ_s340.00000°, δ77.00000°, λ-71.00000°. Principal axes: T 5.0240, Plg29.0000°, Azm54.0000°; N -0.4240, Plg19.0000°, Azm156.0000°; P -4.6040, Plg54.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 21:10:01.1±0.4, 9°.80N±0°.03×126°.32E±0°.05, h28km±2km, **h28**km:**pP-P, n960,** σ1$40/968, **mb5.1**/290, **MS4.4**/94, **7C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**195**	Pn	**Pn**	21 10 46.1	+2.0
DAV	**Davao City (W)**	**2.81**	**195**	Pg	**Pb**	21 10 48.3	-2.2
	165nm,0.3s,baz=42,slow=4.6,SNR=13						
DAV				Lg	Lg	21 11 26.1	
	319nm,0.3s,baz=91,slow=22,SNR=7.0						
DAV	**Davao City (W)**	**2.81**	**195**	P	**Pb**	21 10 48.1	-2.5
DAV	**Davao City (W)**	**2.81**	**195**	P	**Pb**	21 10 50.0	-0.6
SGSI	**Sangihe**	**6.12**	**187**	P	**Pn**	21 11 32.0	+2.2
TGY	**Tagaytay City**	**6.78**	**310**	Pn	Pn	21 11 43.8	+4.8
	31nm,0.3s,baz=344,slow=1.1,SNR=7.6						
TGY				LR	LR	21 14 42.1	
	comp=Z,7μm,19.1s,baz=138,slow=42						
I39PW	**PALAU INFRASON**	**8.44**	**105**	I	I	22 05 30.0	
	baz=283,slow=295,SNR=0.6						
TNTI	**Ternate**	**9.03**	**173**	Pn	**Pn**	21 12 08.7	-1.0
TNTI	**Ternate**	**9.03**	**173**	P	Pn	21 12 14.5	+4.8
	2μm195nm,1.0s						
KMSI	**Cibinong**	**9.45**	**194**	P	Pn	21 12 20.5	+5.0
	5μm365nm,1.3s						
MRSI	**Marisa**	**10.23**	**205**	P	**Pn**	21 12 30.1	+3.9
	2μm999nm123nm,1.0s						
TOLI2	**Tolitoli**	**10.23**	**213**	Pn	**Pn**	21 12 26.3	0.0
TOLI2	**Tolitoli**	**10.23**	**213**	P	**Pn**	21 12 28.2	+2.0
KKM	**Kota Kinabalu**	**10.68**	**250**	Pn	**Pn**	21 12 32.0	-0.4
KKM	**Kota Kinabalu**	**10.68**	**250**	P	**Pn**	21 12 35.1	+2.7
LUWI	**Luwuk**	**11.33**	**198**	Pn	**Pn**	21 12 43.6	+2.4
LUWI	**Luwuk**	**11.33**	**198**	P	Pn	21 12 49.0	+7.7
	2μm180nm,0.9s						
APSI	**Ampana**	**11.61**	**204**	P	**Pn**	21 12 48.3	+3.2
	1μm118nm,1.2s						
SWI	**Sorong**	**11.68**	**155**	P	**Pn**	21 12 47.9	+1.9
	1μm48nm,0.6s						
SANI	**Sanana**	**11.77**	**182**	P	**Pn**	21 12 48.3	+1.0
SANI	**Sanana**	**11.77**	**182**	P	**Pn**	21 12 48.4	+1.1
	73nm,0.8s						
PCI	**Palu**	**12.44**	**212**	P	P	21 13 03.1	-4.9
	2μm1μm62nm,1.4s						
NLAI	**Namlea**	**12.97**	**177**	P	**Pn**	21 13 05.6	+1.9
	1μm77nm,1.0s						
MSAI	**Masohi**	**13.31**	**169**	P	**P**	21 13 13.8	-4.0
	2μm135nm,0.8s						
AAI	**Ambon**	**13.53**	**172**	P	**P**	21 13 17.2	-2.9
	1μm77nm,1.0s						
SMKI	**Samarinda**	**13.63**	**222**	P	**P**	21 13 18.4	-2.9
	3μm186nm,0.9s						
RKPI	**Ransiki, Papua**	**13.69**	**145**	P	**Pn**	21 13 17.2	+3.6
	2μm138nm,1.6s						
TWG	**Pinlang**	**13.89**	**339**		**Pn**	21 13 19.6	+3.4
FAKI	**Fak Fak**	**13.95**	**155**	Pn	**Pn**	21 13 16.3	-0.7
FAKI	**Fak Fak**	**13.95**	**155**	P	**Pn**	21 13 19.1	+2.1
FAKI	**Fak Fak**	**13.95**	**155**	P	**Pn**	21 13 19.1	+2.1
	103nm,0.9s						
KDI	**Kendari**	**14.15**	**195**	P	**P**	21 13 24.3	-2.8
TTSI	**Tana Toraja**	**14.31**	**207**	P	**P**	21 13 29.8	+1.0
	1μm71nm,1.2s						
YULB	**Yu-li**	**14.35**	**341**	P	**P**	21 13 27.1	-2.1
YULB	**Yu-li**	**14.35**	**341**	P	**P**	21 13 29.3	+0.1
TPUB	**Ta-pu**	**14.49**	**339**		**P**	21 13 29.7	-1.1
TPUB	**Ta-pu**	**14.49**	**339**	P	**P**	21 13 31.0	+0.2
SSLB	**Suanglung**	**14.82**	**340**		**P**	21 13 33.6	-0.9
SSLB	**Suanglung**	**14.82**	**340**	P	**P**	21 13 35.8	+1.2
SPSI	**Sidrap Palu**	**15.15**	**206**	P	**P**	21 13 41.0	+2.9
	2μm66nm,1.0s						
SRPI	**Serui, Papua**	**15.23**	**139**	P	**Pn**	21 13 35.8	+1.4
YHNB	**Yeheng**	**15.52**	**343**	P	**P**	21 13 41.9	-0.5
YHNB	**Yeheng**	**15.52**	**343**	P	**P**	21 13 44.7	+2.4
MTKI	**Muara Teweh, K**	**15.59**	**227**	P	**P**	21 13 44.3	+1.2
	3μm63nm,1.1s						
SBUM	**Sibu**	**15.79**	**243**		**P**	21 13 45.6	+0.3
SBUM	**Sibu**	**15.79**	**243**	P	**P**	21 13 45.0	-0.3
KAPI	**Kappang**	**16.10**	**204**		**P**	21 13 48.1	-0.7
KAPI	**Kappang**	**16.10**	**204**	Pn	**P**	21 13 48.9	+0.1
	0.9nm,0.3s,baz=57,slow=5.2,SNR=5.9						
KAPI				LR	LR	21 21 22.5	
	comp=Z,776nm,19.3s,baz=16,slow=43						
KAPI	**Kappang**	**16.10**	**204**	P	**P**	21 13 48.1	-0.7
KAPI				pmax	pmax		
	comp=Z,68nm,1.1s						
BKSI	**Bulukumba**	**16.24**	**203**	P	**P**	21 13 50.4	+0.1
	comp=Z,50nm,1.0s						
QZH	**Quanzhou**	**16.76**	**335**	*e*P	**P**	21 13 58.8	+2.8
QZH				S	**S**	21 17 09.0	-0.7
QZH				pmax	pmax		
	comp=Z,65nm,1.0s						
QZH				LR	LR		
	comp=Z,2μm,19.2s						
QZH				LR	LR		
	comp=Z,1μm,18.2s						
QZH				LR	LR		
	comp=Z,3μm,17.2s						
SMPI	**Sarmi**	**17.02**	**133**	P	**Pn**	21 13 57.8	+0.6
	comp=Z,2μmcomp=Z,170nm,1.3s						
JOW	**Kunigami**	**17.05**	**6**	P	**P**	21 13 59.0	-0.2
JOW				IAmb	IAmb	21 14 05.3	
	comp=Z,184nm,1.3s						
JOW	**Kunigami**	**17.05**	**6**	P	**P**	21 14 03.6	+4.5
	comp=Z,58nm,1.0s,baz=162,slow=10,SNR=8.5						
JOW	**Kunigami**	**17.05**	**6**	P	**P**	21 14 03.8	+4.7
STKI	**Sintang**	**17.65**	**238**	P	**P**	21 14 08.4	+2.5
	comp=Z,3μmcomp=Z,3μmcomp=Z,81nm,1.0s						
KSM	**Kuching**	**17.94**	**244**	P	**P**	21 14 12.4	+3.3
QIZ	**Qiongzhong**	**18.39**	**302**	P	**Pn**	21 14 15.4	+1.2
QIZ				S	**S**	21 17 43.6	+0.7
QIZ				pmax	pmax		
	comp=Z,410nm,10.7s						
QIZ				LR	LR		
	comp=Z,660nm,15.8s						
QIZ				LR	LR		
	comp=Z,1μm,16.6s						
QIZ				LR	LR		
	comp=Z,2μm,17.5s						
GENI	**Genyem**	**18.49**	**131**	P	**Pn**	21 14 15.8	+0.3
	comp=Z,2μmcomp=Z,4μmcomp=Z,205nm,1.8s						
GUMO	**Guam**	**18.55**	**77**	LR	LR	21 19 49.7	
	comp=Z,1μm,21.6s,baz=228,slow=32						
MMRI	**Maumere**	**18.76**	**193**		**Pn**	21 14 19.9	+1.2
MMRI				IAmb	IAmb	21 14 31.0	
	comp=Z,100nm,0.7s						
MMRI	**Maumere**	**18.76**	**193**	P	**Pn**	21 14 19.0	+0.3
MMRI	**Maumere**	**18.76**	**193**	P	**Pn**	21 14 24.3	+5.6
	comp=Z,2μmcomp=Z,135nm,0.7s						
JAY	**Jayapura**	**18.84**	**130**	P	**Pn**	21 14 20.4	+0.6
	comp=Z,1.0nm,0.3s,baz=301,slow=4.8,SNR=7.0						
JAY				LR	LR	21 21 10.0	
	comp=Z,2μm,18.8s,baz=345,slow=36						
	comp=Z,61nm,0.9s						
JAY	**Jayapura**	**18.84**	**130**	P	**Pn**	21 14 20.8	+1.0
	comp=Z,65nm,1.3s						
SOEI	**Soe**	**19.53**	**186**	P	**Pn**	21 14 28.1	0.0
SOEI				IAmb	IAmb	21 14 40.6	
	comp=Z,120nm,0.7s						
SOEI	**Soe**	**19.53**	**186**	P	**Pn**	21 14 28.1	0.0
SOEI	**Soe**	**19.53**	**186**	P	**Pn**	21 14 30.4	+2.3
WSI	**Waingapu**	**20.25**	**197**	P	Pn	21 14 36.2	-0.2
	comp=Z,2μmcomp=Z,182nm,0.8s						
PLAI	**Plampang**	**20.36**	**205**	P	**P**	21 14 36.1	+0.5
PLAI	**Plampang**	**20.36**	**205**	P	**P**	21 14 36.8	+1.2
WBSI	**Waikabubak, Su**	**20.50**	**200**	P	**P**	21 14 38.2	+1.0
	comp=Z,930nmcomp=Z,1μmcomp=Z,128nm,1.0s						
BASI	**Baing, Sumba**	**20.69**	**196**	P	Pn	21 14 43.2	+1.6
	comp=Z,2μmcomp=Z,157nm,0.8s						
KMMI	**Kalianget**	**20.77**	**217**	P	Pn	21 14 44.9	+2.3
	comp=Z,2μmcomp=Z,87nm,1.0s						
SRBI	**Singaraja**	**20.92**	**212**	P	Pn	21 14 44.6	+0.2
	comp=Z,59nm,1.2s						
UBPT	**Khong Chiam**	**21.06**	**287**	P	**P**	21 14 44.3	+1.1
UBPT	**Khong Chiam**	**21.06**	**287**	P	**P**	21 14 46.2	+3.0
TABU	**Tabubil**	**21.09**	**135**	P	**P**	21 14 45.4	+1.8
ABJI	**Asem Bagus**	**21.22**	**215**	P	**P**	21 14 47.2	+2.3
	comp=Z,65nm,1.1s						
SSE	**Sheshan**	**21.72**	**348**	P	**P**	21 14 52.1	+1.9
SSE				S	**S**	21 18 53.2	+4.0
SSE				pmax	pmax		
	comp=Z,21nm,1.2s						
SSE				pmax	pmax		
	comp=Z,210nm,3.6s						
SSE				LR	LR		
	comp=Z,390nm,17.5s						
SSE				LR	LR		
	comp=Z,250nm,18.0s						
JAGI	**Jajag, Banyuwa**	**21.82**	**214**	P	**P**	21 14 53.9	+2.5
JAGI	**Jajag, Banyuwa**	**21.82**	**214**	P	**P**	21 14 52.3	+0.9
JAGI	**Jajag, Banyuwa**	**21.82**	**214**	P	**P**	21 14 55.3	+3.9
GMJI	**Gumukmas**	**22.06**	**216**	P	**P**	21 14 58.6	+4.7
CNSH	**ChangSha**	**22.20**	**327**	P	**P**	21 14 55.4	0.0
CNSH				S	**S**	21 18 56.6	-1.9
CNSH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CNSH				LR	LR		
	comp=Z,1μm,18.3s						
CNSH				LR	LR		
	comp=Z,900nm,15.9s						
CNSH				LR	LR		
	comp=Z,1μm,18.0s						
TPI	**Tanjungpandan**	**22.39**	**237**	P	**P**	21 14 58.3	+0.8
	comp=Z,64nm,0.7s						
DRS	**Darwin Rock St**	**22.55**	**168**	P	**P**	21 14 59.8	+0.6
NGJI	**Ngawi**	**22.58**	**221**	P	**P**	21 15 03.0	+3.5
	comp=Z,77nm,1.0s						
JCJ	**Chichijima**	**22.82**	**39**	P	**P**	21 15 01.0	-0.9
JCJ	**Chichijima**	**22.82**	**39**	LR	LR	21 24 16.5	
	comp=Z,762nm,19.2s,baz=244,slow=37						
MTN	**Manton Dam**	**23.00**	**168**	P	**P**	21 15 03.4	-0.5
MTN				IAmb	IAmb	21 15 09.1	
	comp

comp=Z,90nm,1.2s
SMRI Semarang 23.02 224 P **P 21 15 05.6 +1.4**
SMRI Semarang 23.02 224 P **P 21 15 08.7 +4.5**
comp=Z,184nm,1.0s
KDU Kakadu 23.16 165 P **P 21 15 04.1 -1.5**
comp=Z,118nm,0.9s
KDU Kakadu 23.16 165 P **P 21 15 05.6 +0.1**
NJ2 Nanjing 23.20 344 ⇑P **P 21 15 06.8 +1.0**
NJ2 pP **sP 21 15 14.2 -1.9**
NJ2 S **S 21 19 20.8 +4.9**
NJ2 pmax pmax
comp=Z,41nm,0.8s
NJ2 pmax pmax
comp=Z,370nm,4.5s
NJ2 LR LR
comp=Z,830nm,19.4s
NJ2 LR LR
comp=Z,440nm,15.6s
NJ2 LR LR
comp=Z,1μm,18.0s
PPBI Pangkal Pinang 23.35 240 P **P 21 15 07.6 +0.1**
PCJI Pacitan 23.38 221 P **P 21 15 10.5 +2.7**
WHN Wuhan 23.46 333 P **P 21 15 08.9 +0.5**
WHN S **S 21 19 22.7 +2.4**
WHN pmax pmax
comp=Z,100nm,1.1s
WHN pmax pmax
comp=Z,1μm,3.8s
WHN LR LR
comp=Z,2μm,14.9s
WHN LR LR
comp=Z,2μm,17.9s
WHN LR LR
comp=Z,4μm,18.8s
JNU Nakatsue 23.59 10 P **P 21 15 08.5 -1.2**
JNU IAmb IAmb 21 15 12.7
comp=Z,57nm,1.0s
JNU Nakatsue 23.59 10 LR LR 21 26 03.1
comp=Z,372nm,18.9s,baz=170,slow=41
UGM Wanagama 23.60 222 P **P 21 15 14.7 +4.8**
comp=Z,136nm,1.5s
YOGI Yogyakarta 23.68 223 P **P 21 15 14.2 +3.5**
comp=Z,105nm,1.0s
MYKOM Kota Tinggi 23.71 252 P **P 21 15 12.2 +1.2**
MYKOM Kota Tinggi 23.71 252 P **P 21 15 12.9 +1.9**
KPJI Karang Pucung 24.28 226 P **P 21 15 20.2 +3.9**
comp=Z,65nm,1.0s
SLVN Son La 24.41 301 P **P 21 15 17.8 +0.3**
JMN Monobe 24.81 15 P **P 21 15 20.1 -0.9**
JMN Monobe 24.81 15 P **P 21 15 24.1 +3.1**
GYA Guiyang 24.91 314 ⇓P **P 21 15 23.2 +1.2**
GYA S **S 21 19 41.3 -2.6**
GYA pmax pmax
comp=Z,6.0nm,1.2s
GYA pmax pmax
comp=Z,100nm,3.1s
GYA LR LR
comp=Z,840nm,11.2s
GYA LR LR
comp=Z,480nm,15.6s
GYA LR LR
comp=Z,990nm,19.5s
BBJI Bungbulang 25.29 228 P **P 21 15 26.4 +0.9**
KNRA Kununurra 25.43 175 P **P 21 15 27.0 +0.4**
KNRA Kununurra 25.43 175 P **P 21 15 27.4 +0.8**
comp=Z,91nm,0.6s
SBJI Serang 25.58 233 P **P 21 15 32.5 +4.4**
IPM Ipoh 25.63 260 P **P 21 15 28.7 +0.1**
IPM IAmb IAmb 21 15 35.8
comp=Z,61nm,0.9s
IPM Ipoh 25.63 260 P **P 21 15 30.7 +2.1**
KULM Kulim 25.83 262 P **P 21 15 31.2 +0.8**
KULM IAmb IAmb 21 15 45.9
comp=Z,49nm,1.1s
KULM Kulim 25.83 262 P **P 21 15 33.1 +2.7**
MDSI Maura Dua 26.23 238 P **P 21 15 35.6 +1.6**
comp=Z,1μmcomp=Z,636nmcomp=Z,63nm,0.9s
CGJI Cibinong 26.23 232 P **P 21 15 33.4 -0.6**
comp=Z,56nm,0.9s
SRIT Nakonsritamara 26.39 270 P **P 21 15 35.5 0.0**
PHRA Phrae 26.70 292 P **P 21 15 37.8 -0.5**
BKNI Bangkinang 26.85 251 P **P 21 15 39.4 -0.2**
KMI Kunming 27.09 307 ⇑P **P 21 15 44.8 +2.8**
KMI S **S 21 20 19.0 +0.2**
KMI pmax pmax
comp=Z,6.0nm,1.3s
KMI LR LR
comp=Z,820nm,15.5s
KMI LR LR
comp=Z,1μm,17.0s
KMI LR LR
comp=Z,1μm,17.8s
KSI Kapahiang 27.15 242 P **P 21 15 44.9 +2.5**
comp=Z,90nm,1.0s
MNAI Manna 27.19 240 P **P 21 15 43.6 +0.9**
KSRS Korea Array 27.57 3 P **P 21 15 46.6 +0.8**
comp=Z,4.3nm,0.6s,baz=183,slow=10,SNR=13
KSRS LR LR 21 28 38.1
comp=Z,338nm,18.1s,baz=185,slow=40
comp=Z,4.3nm,0.6s
KSRS Korea Array 27.57 3 *e*P **P 21 15 46.9 +1.1**
KSRS pmax pmax
comp=Z,5.0nm,0.8s
TIA Tai'an 27.59 344 P **P 21 15 46.6 +0.6**
TIA S **S 21 20 26.3 +0.4**
TIA pmax pmax
comp=Z,27nm,0.8s
TIA pmax pmax
comp=Z,310nm,4.2s
TIA LR LR
comp=Z,890nm,16.1s
TIA LR LR
comp=Z,430nm,16.0s
TIA LR LR
comp=Z,1μm,15.8s
LYN LuoYang 27.71 335 ⇓P **P 21 15 47.6 +0.5**
LYN S **S 21 20 28.4 +0.6**
LYN SS **SnSn 21 21 52.5 +11**
LYN pmax pmax
comp=Z,33nm,0.9s
LYN LR LR
comp=Z,610nm,14.8s
LYN LR LR
comp=Z,540nm,12.7s
LYN LR LR
comp=Z,2μm,16.8s
FITZ Fitzroy Crossi 27.73 181 P **P 21 15 47.3 -0.1**
FITZ Fitzroy Crossi 27.73 181 P **P 21 15 47.5 +0.1**
comp=Z,20nm,1.0s
FITZ Fitzroy Crossi 27.73 181 P **P 21 15 48.0 +0.7**
PPI Padang Panjang 27.74 250 P **P 21 15 47.9 +0.3**
comp=Z,942nmcomp=Z,66nm,1.4s
CMAR Chiang Mai Arr 27.87 291 P **P 21 15 49.4 +0.6**
comp=Z,3.5nm,0.8s,baz=101,slow=6.9,SNR=26
CMAR PcP **PcP 21 19 05.0 +0.6**
comp=Z,1.1nm,0.8s,baz=88,slow=3.4,SNR=4.2
CMAR LR LR 21 28 19.5
comp=Z,820nm,18.8s,baz=115,slow=40
comp=Z,3.5nm,0.8s
CMAR Chiang Mai Arr 27.87 291 *e*P **P 21 15 49.7 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 27.96 292 P **P 21 15 49.0 -0.6**
CHTO Chiang Mai 27.96 292 P **P 21 15 49.0 -0.6**
CHTO pmax pmax
comp=Z,19nm,1.2s
MNSI Mandailing Nat 28.06 253 P **P 21 15 51.7 +1.3**
comp=Z,1μmcomp=Z,112nm,1.0s
PSI Prapat 28.08 257 LR LR 21 28 56.7
comp=Z,527nm,21.9s,baz=154,slow=41
PSI Prapat 28.08 257 P **P 21 15 50.8 0.0**
PSI pmax pmax
comp=Z,23nm,1.0s
RPSI Rantau Prapat 28.11 257 P **P 21 15 50.8 -0.1**
PZH PanZhiHua 28.57 309 P **P 21 15 57.3 +2.3**
PZH S **S 21 20 38.7 -3.1**
PZH pmax pmax
comp=Z,7.0nm,1.2s
PZH pmax pmax
comp=Z,160nm,5.9s
PZH LR LR
comp=Z,670nm,19.4s
PZH LR LR
comp=Z,630nm,19.0s
PZH LR LR
comp=Z,1μm,19.2s

MJAR Matsushiro Arr 28.73 20 P **P 21 15 54.2 -1.9**
comp=Z,4.5nm,1.0s,baz=202,slow=9.4,SNR=7.2
MJAR PcP **PcP 21 19 07.1 +0.9**
comp=Z,1.0nm,0.7s,baz=170,slow=1.7,SNR=4.2
MJAR LR LR 21 27 34.2
comp=Z,754nm,18.2s,baz=209,slow=36
MJAR Matsushiro Arr 28.73 20 *e*P **P 21 15 54.5 -1.7**
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJA0 Matsu Arr-Jizo 28.74 20 *e*P **P 21 15 54.5 -1.8**
MJA0 pmax pmax
comp=Z,5.0nm,1.0s
COEN Coen 28.93 144 P **P 21 15 58.6 +0.4**
COEN IAmb IAmb 21 16 00.4
comp=Z,55nm,1.3s
COEN Coen 28.93 144 P **P 21 15 58.5 +0.4**
comp=Z,68nm,2.9s
XAN Xi'an 28.93 329 ⇓P **P 21 15 57.2 -0.9**
XAN S **S 21 20 44.2 -3.0**
XAN SS **SnSn 21 22 14.6 +3.6**
XAN pmax pmax
comp=Z,68nm,0.8s
XAN pmax pmax
comp=Z,170nm,4.5s
XAN LR LR
comp=Z,860nm,11.9s
XAN LR LR
comp=Z,840nm,16.3s
XAN LR LR
comp=Z,1μm,17.7s
KRVT Keravat (AS076 29.20 118 LR LR 21 27 09.6
comp=Z,439nm,18.4s,baz=6.6,slow=35
DL2 Dalian 29.29 353 P **P 21 16 02.2 +1.1**
DL2 S **S 21 20 54.7 +2.2**
DL2 pmax pmax
comp=Z,42nm,1.5s
DL2 pmax pmax
comp=Z,170nm,6.8s
DL2 LR LR
comp=Z,770nm,14.3s
DL2 LR LR
comp=Z,490nm,18.0s
DL2 LR LR
comp=Z,710nm,18.8s
HNS HongShan 29.41 341 ⇓P **P 21 16 02.8 +0.6**
HNS S **S 21 20 54.2 -0.3**
HNS pmax pmax
comp=Z,56nm,0.9s
HNS LR LR
comp=Z,990nm,16.3s
HNS LR LR
comp=Z,1μm,15.9s
LHMI Lhok Sumawe 29.46 263 P **P 21 16 01.9 -1.0**
LHMI Lhok Sumawe 29.46 263 P **P 21 16 04.9 +2.0**
CD2 Chengdu 29.69 318 P **P 21 16 05.4 +0.6**
CD2 S **S 21 21 00.5 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 pmax pmax
comp=Z,220nm,4.5s
CD2 LR LR
comp=Z,950nm,13.3s
CD2 LR LR
comp=Z,1μm,14.6s
CD2 LR LR
comp=Z,1μm,15.9s
GSI Gunungsitoli 29.80 255 P **P 21 16 05.8 -0.1**
GSI Gunungsitoli 29.80 255 P **P 21 16 07.6 +1.7**
GSI Gunungsitoli 29.80 255 P **P 21 16 05.4 -0.5**
comp=Z,67nm,0.8s
TNCH TengChong 30.45 303 *e*P **P 21 16 13.9 +2.1**
TNCH S **S 21 21 11.7 +0.2**
TNCH pmax pmax
comp=Z,150nm,4.4s
TNCH LR LR
comp=Z,360nm,11.9s
TNCH LR LR
comp=Z,360nm,15.8s
TNCH LR LR
comp=Z,750nm,14.8s
WB9 Warramunga Arr 30.46 165 P **P 21 16 10.0 -1.7**
WB8 Warramunga Arr 30.48 165 P **P 21 16 10.2 -1.7**
TIY Taiyuan 30.48 338 *e*P **P 21 16 12.2 +0.4**
TIY pP pwP 21 16 26.0 +2.6
TIY sP sP 21 16 31.8 +9.5
TIY S **S 21 21 14.0 +2.5**
TIY sS **sS 21 21 28.4 +5.2**
TIY pmax pmax
comp=Z,20nm,0.9s
TIY pmax pmax
comp=Z,120nm,5.5s
TIY LR LR
comp=Z,580nm,14.4s
TIY LR LR
comp=Z,310nm,13.7s
TIY LR LR
comp=Z,750nm,17.9s
WB7 Warramunga Arr 30.50 165 P **P 21 16 11.7 -0.4**
WB6 Warramunga Arr 30.51 165 P **P 21 16 10.5 -1.6**
WB5 Warramunga Arr 30.54 165 P **P 21 16 10.5 -1.8**
WB4 Warramunga Arr 30.56 165 P **P 21 16 12.3 -0.2**
WC1 Warramunga Arr 30.57 165 P **P 21 16 12.0 -0.7**
WRAB Tennant Creek 30.58 165 P **P 21 16 11.6 -1.1**
WRAB Tennant Creek 30.58 165 *i* P **P 21 16 12.3 -0.5**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRA Warramunga Arr 30.59 165 P **P 21 16 10.1 -2.8**
comp=Z,1.8nm,0.6s,baz=343,slow=9.5,SNR=26
comp=Z,1.8nm,0.6s
WRA Warramunga Arr 30.59 165 *e*P **P 21 16 13.3 +0.5**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WB1 Warramunga Ar. 30.61 165 P **P 21 16 12.4 -0.5**
JMM Marumori 30.84 23 P **P 21 16 12.9 -1.9**
JMM IAmb IAmb 21 16 17.7
comp=Z,56nm,1.1s
JMM Marumori 30.84 23 P **P 21 16 17.9 +3.1**
BJT Baijiatuau 31.42 345 P **P 21 16 19.0 -0.9**
BJT Baijiatuau 31.42 345 P **P 21 16 19.0 -0.9**
BJT pmax pmax
comp=Z,13nm,0.6s
MBWA Marble Bar 31.44 192 P **P 21 16 19.1 -1.2**
MBWA IAmb IAmb 21 16 31.4
comp=Z,30nm,0.8s
MBWA Marble Bar 31.44 192 P **P 21 16 21.5 +1.3**
comp=Z,52nm,1.1s
MBWA Marble Bar 31.44 192 P **P 21 16 20.8 +0.6**
BJI Beijing 31.44 345 P **P 21 16 21.0 +0.9**
BJI S **S 21 21 27.6 +1.4**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI LR LR
comp=Z,270nm,17.3s
BJI LR LR
comp=Z,130nm,13.6s
BJI LR LR
comp=Z,330nm,16.7s
PSAD1 Pilbara Seismi 31.70 192 P **P 21 16 22.4 -0.2**
comp=Z,65nm,1.1s
PSA00 Pilbara Seismi 31.82 191 P **P 21 16 22.9 -0.7**
PSA00 Pilbara Seismi 31.82 191 P **P 21 16 23.8 +0.2**
QIS Mount Isa 32.88 157 P **P 21 16 31.8 -1.1**
comp=Z,80nm,1.0s
QIS Mount Isa 32.88 157 P **P 21 16 32.6 -0.3**
MTSU Mount Surprise 32.96 147 P **P 21 16 33.5 -0.2**
comp=Z,19nm,0.8s
MTSU Mount Surprise 32.96 147 P **P 21 16 35.0 +1.3**
LZH Lanzhou 33.19 326 *e*P **P 21 16 36.3 +0.6**
LZH pP pwP 21 16 45.6 +1.8
LZH sP sP 21 16 49.9 +3.7
LZH S **S 21 21 55.8 +1.8**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,960nm,16.7s
LZH LR LR
comp=Z,1μm,17.9s
VLA Vladivostok 33.55 7 *i* P **P 21 16 36.7 -1.8**
VLA pmax pmax
comp=Z,17nm,1.3s
HHC Hu-ho-hao-te 33.57 340 ⇓*i*P **P 21 16 39.8 +0.9**
HHC S **S 21 22 01.4 +1.7**
HHC pmax pmax

comp=Z,34nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.1s
HHC LR LR
comp=Z,750nm,15.8s
HHC LR LR
comp=Z,440nm,16.0s
HHC LR LR
comp=Z,1μm,16.3s
CN2 Changchun 33.88 359 *e*P **P 21 16 43.6 +2.1**
CN2 *es*P sP 21 17 03.2 +11
CN2 *e*S **S 21 22 02.8 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,11.0s
BTO Baotou 33.91 337 *e*P **P 21 16 43.6 +1.7**
BTO PP **PP 21 18 00.3 +1.3**
BTO S **S 21 22 04.2 -0.8**
BTO SS **SnSn 21 24 17.4 +5.3**
BTO pmax pmax
comp=Z,18nm,0.8s
BTO pmax pmax
comp=Z,270nm,4.9s
BTO LR LR
comp=Z,730nm,15.8s
BTO LR LR
comp=Z,1μm,17.6s
BTO LR LR
comp=Z,1μm,17.1s
AS15 Alice Springs 34.05 167 P **P 21 16 43.4 +0.2**
comp=Z,13nm,0.8s
AS16 Alice Springs 34.05 167 P **P 21 16 43.2 0.0**
comp=Z,8.9nm,0.5s
AS13 Alice Springs 34.06 168 P **P 21 16 43.5 +0.3**
comp=Z,17nm,0.8s
ASAR Alice Springs 34.08 168 P **P 21 16 41.7 -1.7**
comp=Z,3.3nm,0.4s,baz=353,slow=6.9,SNR=41
ASAR PcP **PcP 21 19 20.8 +0.1**
comp=Z,2.7nm,0.7s,baz=347,slow=3.1,SNR=4.9
ASAR LR LR 21 33 10.1
comp=Z,320nm,18.7s,baz=356,slow=41
comp=Z,3.3nm,0.4s
AS01 Alice Springs 34.09 167 P **P 21 16 44.2 +0.7**
GIRL Giralia 34.34 200 P **P 21 16 46.6 +0.9**
comp=Z,138nm,1.5s
GIRL Giralia 34.34 200 P **P 21 16 46.4 +0.7**
USRK Ussuriysk Ar. 34.63 7 P **P 21 16 48.8 +0.9**
comp=Z,6.1nm,0.6s,baz=188,slow=7.7,SNR=12
USRK LR LR 21 31 56.0
comp=Z,244nm,19.7s,baz=185,slow=38
comp=Z,6.1nm,0.6s
WRKA Warakurna 34.68 177 P **P 21 16 48.8 +0.2**
comp=Z,46nm,0.9s
WRKA Warakurna 34.68 177 P **P 21 16 49.5 +0.9**
MDJ Mudanjiang 34.81 4 IAmb IAmb 21 16 52.2
comp=Z,43nm,1.2s
MDJ Mudanjiang 34.81 4 P **P 21 16 51.0 +1.6**
MDJ S **S 21 22 18.5 +0.1**
MDJ sS sS 21 22 34.2 +3.4
MDJ PcS **PcS 21 23 10.7 +1.8**
MDJ SS **SnSn 21 24 32.9 -0.5**
MDJ pmax pmax
comp=Z,36nm,1.3s
MDJ LR LR
comp=Z,410nm,9.8s
MDJ LR LR
comp=Z,730nm,12.4s
XLT XiLinHaoTe 35.12 347 *e*P **P 21 16 52.9 +0.6**
XLT pP sP 21 17 08.5 +5.5
XLT S **S 21 22 22.5 -1.0**
XLT pmax pmax
comp=Z,24nm,0.8s
XLT pmax pmax
comp=Z,120nm,4.0s
XLT LR LR
comp=Z,44nm,18.7s
XLT LR LR
comp=Z,220nm,11.5s
XLT LR LR
comp=Z,690nm,17.0s
BRDH Bariadhala 35.56 295 LR LR 21 31 46.9
comp=Z,803nm,21.3s,baz=144,slow=37
BNX BinXian 35.83 1 ⇓P **P 21 16 58.8 +0.6**
BNX pmax pmax
comp=Z,13nm,1.1s
SHL Shillong 36.22 300 P **P 21 17 01.0 -1.1**
SHL IAmb IAmb 21 17 07.4
comp=Z,32nm,0.6s
SHL Shillong 36.22 300 P **P 21 17 01.0 -1.1**
SHL pmax pmax
comp=Z,32nm,0.6s
MEEK Meekatharra 36.98 192 P **P 21 17 08.2 -0.1**
comp=Z,100nm,1.2s
MEEK Meekatharra 36.98 192 P **P 21 17 08.4 +0.1**
ASAJ Asahikawa 36.99 20 LR LR 21 33 09.9
comp=Z,506nm,18.0s,baz=216,slow=37
GTA Gaotai 37.79 326 P **P 21 17 15.8 +0.6**
GTA PcP **PcP 21 19 32.2 +0.5**
GTA S **S 21 23 02.0 -2.5**
GTA ScP **ScP 21 23 17.4 -0.1**
GTA ScS **ScS 21 27 24.1 -2.3**
GTA pmax pmax
comp=Z,17nm,0.6s
GTA LR LR
comp=Z,480nm,16.7s
GTA LR LR
comp=Z,280nm,16.3s
GTA LR LR
comp=Z,490nm,20.3s
TATA Tatamba Isabel 37.92 117 P **P 21 17 19.4 +2.9**
LSA Lhasa 38.34 306 P **P 21 17 19.6 -0.8**
LSA Lhasa 38.34 306 P **P 21 17 19.6 -0.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s
OOD Oodnadatta 38.46 167 P **P 21 17 21.5 +0.8**
HNR Honiara 38.54 119 LR LR 21 31 01.9
comp=Z,397nm,21.9s,baz=292,slow=33
GOMU GeErMu 38.82 318 P **P 21 17 23.9 -0.3**
GOMU pP pwP 21 17 34.0 +1.7
GOMU PcP **PcP 21 19 35.3 +0.1**
GOMU S **S 21 23 22.2 +1.6**
GOMU pmax pmax
comp=Z,15nm,1.1s
GOMU LR LR
comp=Z,670nm,17.9s
GOMU LR LR
comp=Z,910nm,19.3s
GOMU LR LR
comp=Z,2μm,19.6s
KLR Kul'dur 39.57 6 LR LR 21 35 22.5
comp=Z,349nm,19.0s,baz=189,slow=38
KLR Kul'dur 39.57 6 *i* P **P 21 17 28.4 -1.4**
KLR pmax pmax
comp=Z,11nm,1.2s
YSS Yuzhno-Sakhali 39.58 18 P **P 21 17 29.0 -0.9**
YSS Yuzhno-Sakhali 39.58 18 *oe*P **P 21 17 30.7 +0.8**
YSS *e*S **S 21 23 27.0 -4.0**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.0s
HIA Hailar 39.73 353 *i* P **P 21 17 30.9 -0.2**
HIA pmax pmax
comp=Z,13nm,1.1s
INKA Innaminka 39.85 160 P **P 21 17 32.4 +0.1**
MORW Morawa 39.89 194 P **P 21 17 32.2 -0.5**
MORW IAmb IAmb 21 17 35.8
comp=Z,60nm,0.9s
MORW Morawa 39.89 194 P **P 21 17 32.7 0.0**
comp=Z,78nm,1.0s
MORW Morawa 39.89 194 P **P 21 17 33.0 +0.3**
H11S3 WAKE ISLAND Hy 40.01 73 T T 22 00 44.1
baz=262,slow=74,SNR=86
H11S1 WAKE ISLAND Hy 40.03 73 T T 22 00 40.6
baz=262,slow=74,SNR=75
H11S2 WAKE ISLAND Hy 40.03 73 T T 22 00 37.8
baz=262,slow=74,SNR=61
QLP Quilpie 40.13 155 P **P 21 17 33.4 -1.4**
comp=Z,34nm,1.4s

HEH	**HeiHe**	40.34	1	*e*P	P		21 17 36.7 +0.5
HEH				pmax	pmax		
comp=Z,19nm,0.9s							
H11N1	**WAKE ISLAND Hy**	40.36	71	T	T		22 00 56.7
baz=263,slow=74,SNR=203							
H11N2	**WAKE ISLAND Hy**	40.37	71	T	T		22 00 57.3
baz=263,slow=74,SNR=137							
FORT	**Forrest**	40.38	178	P	P		21 17 35.9 -0.8
FORT	**Forrest**	40.38	178	P	P		21 17 36.9 +0.2
comp=Z,125nm,0.7s							
FORT	**Forrest**	40.38	178	P	P		21 17 37.8 +1.1
H11N3	**WAKE ISLAND Hy**	40.38	71	T	T		22 00 58.1
baz=263,slow=74,SNR=216							
KMBL	**Kambalda**	41.15	186	P	P		21 17 43.2 +0.1
comp=Z,63nm,1.1s							
KMBL	**Kambalda**	41.15	186	P	P		21 17 43.8 +0.7
BLDU	**Ballidu**	41.23	193	P	P		21 17 43.6 -0.1
comp=Z,92nm,1.0s							
BLDU	**Ballidu**	41.23	193	P	P		21 17 43.8 +0.1
ULN	**Ulaanbaatar**	41.28	340	P	P		21 17 44.0 -0.2
ULN	**Ulaanbaatar**	41.28	340	P	P		21 17 44.0 -0.2
ULN				pmax	pmax		
comp=Z,14nm,0.7s							
SONM	**Songino Array**	41.48	340	P	P		21 17 46.2 +0.4
comp=Z,10.0nm,0.6s,baz=153,slow=8.6,SNR=44							
SONM				ScP	ScP		21 23 32.2 +0.7
comp=Z,1.6nm,1.1s,baz=160,slow=4.6,SNR=4.7							
SONM				LR	LR		21 37 42.7
comp=Z,656nm,18.8s,baz=170,slow=40							
comp=Z,10.0nm,0.6s							
SONM	**Songino Array**	41.48	340	*e*P	P		21 17 46.8 +1.0
SONM				pmax	pmax		
comp=Z,10.0nm,0.6s							
LCRK	**Leigh Creek**	41.62	164	P	P		21 17 47.9 +1.0
GRNR	**Gornyy**	41.69	10⇑	*i*P	P		21 17 49.0 +1.7
GRNR				pmax	pmax		
comp=Z,10.0nm,1.1s							
GRNR				MLR	MLR		
comp=E,170nm,11.0s							
GRNR				MLR	MLR		
comp=N,300nm,14.0s							
KLBR	**Kellerberrin**	41.96	191	P	P		21 17 49.7 -0.1
comp=Z,105nm,0.8s							
KLBR	**Kellerberrin**	41.96	191	P	P		21 17 50.4 +0.7
EIDS	**Eidsvold**	42.47	146	P	P		21 17 52.6 -1.4
EIDS	**Eidsvold**	42.47	146	P	P		21 17 53.4 -0.6
comp=Z,24nm,2.4s							
MUN	**Mundaring**	42.65	193	P	P		21 17 55.5 +0.2
comp=Z,138nm,0.7s							
MUN	**Mundaring**	42.65	193	P	P		21 17 56.0 +0.7
MTKN	**Mount Kenneth**	42.70	193	P	P		21 17 58.2 +2.5
comp=Z,185nm,0.8s							
TYV	**Tymovskoe**	43.10	15	*e*P	P		21 18 00.2 +1.4
TYV				pmax	pmax		
comp=Z,11nm,1.0s							
TYV				pmax	pmax		
comp=Z,300nm,4.4s							
NWAO	**Narrogin (SRO)**	43.36	191	P	P		21 18 01.0 -0.1
NWAO	**Narrogin (SRO)**	43.36	191	P	P		21 18 01.6 +0.5
comp=Z,193nm,0.7s							
NWAO	**Narrogin (SRO)**	43.36	191	LR	LR		21 39 16.5
comp=Z,178nm,18.3s,baz=320,slow=41							
NWAO	**Narrogin (SRO)**	43.36	191	P	P		21 18 01.7 +0.6
NWAO	**Narrogin (SRO)**	43.36	191	P	P		21 18 01.0 -0.1
NWAO				pmax	pmax		
comp=Z,76nm,0.7s							
CIT	**Chita**	43.37	349	*e*P	P		21 18 02.8 +1.8
CIT				*e*			21 18 07.6
CIT				*e*			21 18 14.8
CIT				*e*			21 19 43.2
CIT				pmax	pmax		
comp=Z,86nm,1.6s							
BBOO	**Buckleboo**	43.38	168	P	P		21 18 00.3 -0.9
BBOO				IAmb	IAmb		21 18 04.1
comp=Z,60nm,1.0s							
BBOO	**Buckleboo**	43.38	168	P	P		21 18 01.0 -0.2
comp=Z,59nm,0.5s							
BBOO	**Buckleboo**	43.38	168	P	P		21 18 01.7 +0.5
ZEA	**Zeya**	43.83	1	*e*P	P		21 18 05.4 +0.8
ZEA				pmax	pmax		
comp=N,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,10.0nm,1.2s							
ZEA				MLR	MLR		
comp=Z,400nm,17.0s							
STKA	**Stephens Creek**	43.94	161	P	P		21 18 05.1 -0.6
comp=Z,4.3nm,0.9s							
STKA	**Stephens Creek**	43.94	161	P	P		21 18 04.7 -1.1
comp=Z,12nm,0.5s,baz=339,slow=8.4,SNR=11							
STKA				LR	LR		21 37 54.0
comp=Z,204nm,21.7s,baz=354,slow=38							
comp=Z,12nm,0.5s							
STKA	**Stephens Creek**	43.94	161	P	P		21 18 07.8 +2.0
STKA	**Stephens Creek**	43.94	161	*i*P	P		21 18 06.2 +0.4
HTT	**Hallett**	44.63	165	P	P		21 18 12.4 +1.1
comp=Z,28nm,1.1s							
HTT	**Hallett**	44.63	165	P	P		21 18 12.1 +0.8
ZAK	**Zakamensk**	44.72	339	*e*P	P		21 18 11.4 -0.5
ZAK				pmax	pmax		
comp=Z,7.0nm,1.8s							
RKGY	**Rocky Gully**	45.04	191	P	P		21 18 16.2 +1.7
CMSA	**Cobar Meteorol**	45.10	156	P	P		21 18 16.0 +1.0
PALK	**Pallekele**	45.15	271	LR	LR		21 36 45.2
comp=Z,316nm,21.6s,baz=88,slow=36							
IRK	**Irkutsk**	45.97	341	*e*P	P		21 18 21.4 -0.3
IRK				pmax	pmax		
comp=Z,37nm,1.6s							
MOY	**Mondy**	46.60	338	*e*P	P		21 18 26.8 0.0
MOY				pmax	pmax		
comp=Z,37nm,3.0s							
ARMA	**Armidale**	46.81	150	P	P		21 18 30.2 +1.5
HYB	**Hyderabad**	46.94	285	*e*P	P		21 18 30.1 +0.3
WMQ	**Urumqi**	47.62	322	*e*P	P		21 18 35.3 +0.5
WMQ				sP	pwP		21 18 48.6 +5.4
WMQ				ScP	ScP		21 23 57.2 +0.4
WMQ				pmax	pmax		
comp=Z,10.0nm,0.9s							
WMQ				LR	LR		
comp=Z,2μm,19.3s							
WMQ				LR	LR		
comp=Z,900nm,20.5s							
WMQ				LR	LR		
comp=Z,500nm,20.5s							
ARPS	**Mount Arapiles**	48.56	163	P	P		21 18 42.6 +0.5
comp=Z,57nm,1.1s							
ARPS	**Mount Arapiles**	48.56	163	P	P		21 18 43.7 +1.7
YNG	**Young**	48.60	155	P	P		21 18 42.8 +0.4
comp=Z,94nm,1.6s							
BOD	**Bodaibo**	48.84	351	*e*P	P		21 18 44.1 +0.2
BOD				pmax	pmax		
comp=Z,39nm,1.6s							
CAN	**Canberra**	49.73	156	P	P		21 18 50.5 -0.6
CAN				IAmb	IAmb		21 19 03.6
comp=Z,36nm,1.1s							
CAN	**Canberra**	49.73	156	P	P		21 18 50.5 -0.6
CAN				pmax	pmax		
comp=Z,36nm,1.1s							
CNB	**Canberra Magne**	49.88	155	P	P		21 18 53.7 +1.5
PETK	**Petropavlovsk-**	50.05	24	P	P		21 18 54.6 +1.4
comp=Z,7.5nm,0.7s,baz=180,slow=1.8,SNR=21							
PETK				LR	LR		21 41 03.5
comp=Z,265nm,18.5s,slow=37							
comp=Z,7.5nm,0.7s							
PET	**Petropavlovsk**	50.38	25	*i*P	P		21 18 55.4 -0.3
PET				pmax	pmax		
comp=Z,40nm,1.3s							
DZM	**Mont Dzumac**	50.52	129	LR	LR		21 40 51.2
comp=Z,105nm,19.1s,baz=284,slow=37							
DZM	**Mont Dzumac**	50.52	129	P	P		21 18 58.6 +1.3
ZSN	**Zaisan**	51.28	325	*e*P	P		21 19 02.0 -0.6
ZSN	**Zaisan**	51.28	325	*e*P	P		21 19 02.1 -0.6
YAK	**Yakutsk**	52.20	2	P	P		21 19 09.0 -0.2
YAK	**Yakutsk**	52.20	2	LR	LR		21 43 02.7
comp=Z,257nm,19.6s,baz=194,slow=38							
YAK	**Yakutsk**	52.20	2	*e*P	P		21 19 09.6 +0.4
YAK				*e*S	S		21 26 30.0 -1.9
YAK				*e*			21 28 51.1
YAK				*e*SSS	SSS		21 31 54.4
YAK				pmax	pmax		
comp=Z,38nm,1.1s							
YAK				pmax	pmax		
comp=N,22nm,1.3s							
YAK				pmax	pmax		
comp=E,8.0nm,1.4s							
YAK				smax	smax		
comp=E,117nm,12.8s							
YAK				smax	smax		
comp=N,86nm,15.1s							
YAK				MLR	MLR		
comp=Z,311nm,18.0s							
YAK				MLR	MLR		
comp=N,286nm,17.0s							
YAK				MLR	MLR		
comp=E,206nm,20.0s							
MK31	**Makanchi Array**	52.43	323	*i*P	P		21 19 10.3 -0.9
MKAR	**Makanchi Array**	52.43	323	P	P		21 19 10.9 -0.3
comp=E,15nm,0.7s,baz=122,slow=8.2,SNR=147							
MKAR				ScP	ScP		21 24 16.5 -0.8
comp=E,11nm,1.3s,baz=142,slow=5.4,SNR=6.2							
comp=E,15nm,0.7s							
SHLS	**Shalkode**	52.52	318	*e*P	P		21 19 09.5 -2.6
SHLS				pmax	pmax		
comp=Z,8.0nm,0.9s							
SHLS	**Shalkode**	52.52	318	*e*P	P		21 19 09.6 -2.6
comp=Z,7.5nm,0.9s							
MAKZ	**Makanchi**	52.62	323	P	P		21 19 11.5 -1.2
MAKZ	**Makanchi**	52.62	323	P	P		21 19 11.5 -1.2
MAKZ				pmax	pmax		
comp=Z,13nm,1.1s							
MA2	**Magadan**	52.98	15	P	P		21 19 13.7 -1.3
MA2	**Magadan**	52.98	15	LR	LR		21 42 17.9
comp=Z,99nm,18.6s,baz=190,slow=36							
MA2	**Magadan**	52.98	15	*i*P	P		21 19 15.6 +0.6
MA2				pmax	pmax		
comp=Z,11nm,0.9s							
KPKS	**Kokpek**	53.17	318	*e*P	P		21 19 16.1 -0.8
KPKS	**Kokpek**	53.17	318	*e*P	P		21 19 16.2 -0.7
SATY	**Saty**	53.19	317	*e*P	P		21 19 16.5 -0.5
SATY				pmax	pmax		
comp=Z,5.0nm,0.7s							
SATY	**Saty**	53.19	317	*e*P	P		21 19 16.6 -0.5
comp=Z,4.7nm,0.7s							
KSH	**Kashi**	53.58	312	P	P		21 19 20.4 +0.4
KSH				pmax	pmax		
comp=Z,5.0nm,1.2s							
KSH				LR	LR		
comp=Z,440nm,22.3s							
KSH				LR	LR		
comp=Z,580nm,19.6s							
KSH				LR	LR		
comp=Z,730nm,21.6s							
TDK	**Taldyqorghan**	53.99	319	*e*P	P		21 19 22.3 -0.5
TDK				pmax	pmax		
comp=Z,11nm,0.8s							
TDK	**Taldyqorghan**	53.99	319	*e*P	P		21 19 22.4 -0.5
comp=Z,11nm,0.8s							
NIL	**Nilore**	54.03	305	P	P		21 19 21.5 -1.8
NIL				IAmb	IAmb		21 19 38.3
comp=Z,31nm,0.9s							
NIL	**Nilore**	54.03	305	P	P		21 19 21.5 -1.8
NIL				pmax	pmax		
comp=Z,31nm,0.9s							
MDOK	**Medeo**	54.14	317	*e*P	P		21 19 23.2 -0.8
MDOK	**Medeo**	54.14	317	*e*P	P		21 19 23.3 -0.8
TNSS	**Tian-Shan**	54.16	317	*e*P	P		21 19 23.6 -0.9
TNSS	**Tian-Shan**	54.16	317	*e*P	P		21 19 23.6 -0.9
AAA	**Alma-Ata**	54.25	317	*e*P	P		21 19 24.0 -0.7
AAA				pmax	pmax		
comp=Z,7.0nm,0.5s							
AAA	**Alma-Ata**	54.25	317	*e*P	P		21 19 24.1 -0.7
comp=Z,6.9nm,0.5s							
ZALV	**Zalesovo Beam**	55.06	331	P	P		21 19 29.3 -1.0
comp=Z,3.3nm,0.3s,baz=123,slow=6.0,SNR=27							
ZALV				ScP	ScP		21 24 28.6 +0.1
comp=Z,1.7nm,0.9s,baz=132,slow=2.1,SNR=3.4							
ZALV				LR	LR		21 44 51.7
comp=Z,235nm,18.6s,baz=127,slow=38							
comp=Z,3.3nm,0.3s							
ARLS	**Aral**	55.55	314	P	P		21 19 34.3 0.0
ARLS				pmax	pmax		
comp=Z,12nm,1.0s							
AAK	**Ala-Archa**	55.69	315	P	P		21 19 34.4 -0.9
AAK	**Ala-Archa**	55.69	315	LR	LR		21 46 31.5
comp=Z,530nm,18.1s,baz=87,slow=39							
AAK	**Ala-Archa**	55.69	315	*i*P	P		21 19 35.3 0.0
AAK				pmax	pmax		
comp=Z,10.0nm,1.7s							
SEY	**Seymchan**	56.27	14	*i*P	P		21 19 38.8 0.0
SEY				pmax	pmax		
comp=Z,6.0nm,1.0s							
ARSB	**Arslanbob**	56.32	313	P	P		21 19 38.5 -1.3
ARSB	**Arslanbob**	56.32	313	P	P		21 19 38.5 -1.3
ARSB				pmax	pmax		
comp=Z,7.0nm,0.7s							
KURK	**Kurchatov**	56.48	326	P	P		21 19 39.0 -1.5
KURK				IAmb	IAmb		21 19 44.9
comp=Z,21nm,0.9s							
KURK	**Kurchatov**	56.48	326	*i*P	P		21 19 39.9 -0.7
KURK				pmax	pmax		
comp=Z,20nm,0.9s							
KURBB	**Kurchatov Arra**	56.48	326	P	P		21 19 40.1 -0.5
comp=Z,7.6nm,0.7s,baz=128,slow=6.6,SNR=74							
KURBB				S	S		21 27 22.8 -7.3
comp=Z,0.6nm,1.0s,baz=127,slow=12,SNR=4.0							
KURBB				LR	LR		21 47 07.4
comp=Z,243nm,18.3s,baz=160,slow=39							
comp=Z,7.6nm,0.7s							
DRK	**Karamyk**	56.64	311	P	P		21 19 42.3 0.0
BTLS	**Baital**	56.85	318	*e*P	P		21 19 42.6 -0.7
BTLS	**Baital**	56.85	318	*e*P	P		21 19 42.6 -0.7
BTK	**Batken**	57.53	311	P	P		21 19 47.3 -1.0
BTK				IAmb	IAmb		21 19 59.0
comp=Z,30nm,1.4s							
BTK	**Batken**	57.53	311	P	P		21 19 47.3 -1.0
BTK				pmax	pmax		
comp=Z,30nm,1.5s							
GAR	**Garm**	57.63	310	P	P		21 19 47.2 -1.9
GAR				IAmb	IAmb		21 19 59.4
comp=Z,40nm,1.1s							
TRKS	**Terek-Say**	57.71	313	P	P		21 19 49.6 -0.1
TRKS				pmax	pmax		
comp=Z,5.0nm,1.0s							
MSVF	**Nonsavu**	57.96	118	P	P		21 19 49.6 -2.0
MSVF	**Nonsavu**	57.96	118	LR	LR		21 42 43.6
comp=Z,248nm,21.0s,baz=301,slow=34							
MSVF	**Nonsavu**	57.96	118	P	P		21 19 49.6 -2.0
MSVF				pmax	pmax		
comp=Z,84nm,1.5s							
DZA	**Taraz**	57.98	315	*e*P	P		21 19 50.6 -0.7
DZA				pmax	pmax		
comp=Z,7.0nm,0.6s							
DZA	**Taraz**	57.98	315	*e*P	P		21 19 50.6 -0.7
comp=Z,7.0nm,0.6s							
CHGR	**Chuyangaron**	58.42	309	P	P		21 19 53.3 -1.3
CHGR				IAmb	IAmb		21 19 59.6
comp=Z,22nm,1.0s							
CHGR	**Chuyangaron**	58.42	309	P	P		21 19 53.3 -1.3
CHGR				pmax	pmax		
comp=Z,22nm,1.0s							
SIMJ	**Simiganj**	58.53	309	P	P		21 19 54.0 -1.5
KKAR	**Karatay Array**	58.61	315	P	P		21 19 54.8 -1.0
KKAR	**Karatay Array**	58.61	315	P	P		21 19 54.8 -1.0
KKAR				pmax	pmax		
comp=Z,6.0nm,0.8s							
DZET	**Dzherino**	58.71	310	P	P		21 19 56.0 -0.6
DZET				pmax	pmax		
comp=Z,11nm,0.7s							
BRLS	**Borolday**	59.06	315	*e*P	P		21 19 58.5 -0.4
BRLS				pmax	pmax		
comp=Z,5.0nm,1.0s							
BRLS	**Borolday**	59.06	315	*e*P	P		21 19 58.5 -0.4
comp=Z,5.1nm,1.0s							
BRZS	**Berezniki**	59.58	323	*e*P	P		21 20 01.3 -1.0
BRZS	**Berezniki**	59.58	323	*e*P	P		21 20 01.8 -0.6
TIXI	**Tiksi**	61.82	1	P	P		21 20 16.8 -0.4
TIXI	**Tiksi**	61.82	1	LR	LR		21 48 00.8
comp=Z,432nm,21.1s,baz=190,slow=37							
TIXI	**Tiksi**	61.82	1	*i*P	P		21 20 17.5 +0.3
TIXI				pmax	pmax		
comp=Z,25nm,1.0s							
BVAR	**Borovoye Array**	62.08	326	P	P		21 20 18.6 -0.7
comp=Z,5.7nm,0.8s,baz=120,slow=8.9,SNR=38							
BVAR				PcP	PcP		21 21 00.7 +1.2
comp=Z,5.1nm,0.6s,baz=115,slow=4.6,SNR=5.4							
BVAR				ScP	ScP		21 24 58.5 -1.1
comp=Z,3.4nm,1.1s,baz=97,slow=4.8,SNR=4.6							
BVAR				LR	LR		21 46 41.5
comp=Z,375nm,20.5s,baz=119,slow=36							
comp=Z,5.7nm,0.8s							
BRVK	**Borovoye**	62.15	326	P	P		21 20 18.4 -1.3
BRVK				IAmb	IAmb		21 20 31.4
comp=Z,12nm,0.8s							
BRVK	**Borovoye**	62.15	326	*i*P	P		21 20 19.8 +0.1
BRVK				pmax	pmax		
comp=Z,9.0nm,0.9s							
BILL	**Bilibino**	63.84	16	P	P		21 20 30.5 -0.2
BILL				IAmb	IAmb		21 20 33.7
comp=Z,28nm,1.2s							
BILL	**Bilibino**	63.84	16	*i*P	P		21 20 31.4 +0.7
BILL				pmax	pmax		
comp=Z,17nm,1.1s							
BILL				MLR	MLR		
comp=Z,144nm,17.0s							
NRIK	**Noril'sk**	64.48	346	P	P		21 20 35.0 +0.1
comp=Z,16nm,0.6s,baz=127,slow=5.2,SNR=22							
NRIK				LR	LR		21 52 13.3
comp=Z,458nm,18.1s,baz=148,slow=39							
comp=Z,16nm,0.6s							
WSAR	**Wadi Sarin**	65.76	291	LR	LR		21 52 46.0
comp=Z,91nm,19.0s,baz=97,slow=39							
QRZ	**Quartz Range**	65.95	143	P	P		21 20 46.0 +1.1
QRZ	**Quartz Range**	65.95	143	P	P		21 20 44.5 -0.4
JCZ	**Jackson Bay**	65.99	148	P	P		21 20 48.4 +3.2
WVZ	**Waitaha Valley**	66.37	146	P	P		21 20 48.5 +1.0
THZ	**Tophouse**	66.76	144	P	P		21 20 49.3 -0.8
NNVZ	**North Ngauruho**	66.82	140	P	P		21 20 53.7 +3.0
WHZ	**Wether Hill Ro**	66.83	150	P	P		21 20 50.1 -0.2
TMVZ	**Te Maari**	66.87	140	P	P		21 20 52.8 +1.9
OTVZ	**Oturere**	66.87	140	P	P		21 20 53.3 +2.3
ETVZ	**East Tongariro**	66.88	140	P	P		21 20 54.0 +3.0
LBZ	**Lake Benmore**	66.94	147	P	P		21 20 51.9 +0.7
RPZ	**Rata Peaks**	66.97	146	P	P		21 20 50.4 -1.0
RPZ	**Rata Peaks**	66.97	146	P	P		21 20 53.1 +1.8
LTZ	**Lake Taylor**	67.04	145	P	P		21 20 51.0 -0.8
ABKAR	**Akbulak array**	67.26	319	P	P		21 20 51.8 -1.3
URZ	**Urewera**	67.28	139	LR	LR		21 52 28.3
comp=Z,243nm,18.5s,baz=30,slow=38							
URZ	**Urewera**	67.28	139	P	P		21 20 54.9 +1.5
BKZ	**Black Stump Fm**	67.40	140	P	P		21 20 53.3 -0.9
BKZ	**Black Stump Fm**	67.40	140	P	P		21 20 55.5 +1.3
BKZ	**Black Stump Fm**	67.40	140	P	P		21 20 55.0 +0.8
RTZ	**Ruatahuna**	67.40	139	P	P		21 20 53.4 -0.9
MTHZ	**Maungataniwha**	67.44	139	P	P		21 20 55.3 +0.8
RUGZ	**Raukumara Rang**	67.49	138	P	P		21 20 55.5 +0.6
SPIA	**Saint Paul Isl**	67.55	32	P	P		21 20 55.1 +0.3
baz=252							
NMHZ	**Naumai**	67.56	139	P	P		21 20 57.2 +2.0
MWZ	**Matawai**	67.60	138	P	P		21 20 56.3 +0.8
P08K	**Saint George I**	67.75	33	P	P		21 20 56.4 +0.3
baz=253							
WMGZ	**Waiomatatini S**	67.90	138	P	P		21 20 59.1 +1.9
RIGZ	**Rimuhau**	67.95	139	P	P		21 21 00.4 +2.7
UOSS	**Minazif**	67.96	293	P	P		21 20 56.5 -1.5
UOSS				IAmb	IAmb		21 21 10.7
comp=Z,9.0nm,0.8s							
SVE	**Sverdlovsk**	68.63	327	*e*P	P		21 21 00.8 -0.8
SVE				pmax	pmax		
comp=Z,27nm,1.1s							
UNV	**Unalaska Valle**	68.73	36	P	P		21 21 03.3 +1.0
baz=257							
GAMB	**Gambell**	69.07	25	P	P		21 21 05.0 +0.8
baz=249							
ARTI	**Arti**	69.73	327	P	P		21 21 06.4 -2.0
ARTI	**Arti**	69.73	327	LR	LR		21 51 15.0
comp=Z,224nm,21.5s,baz=114,slow=36							
ARTI	**Arti**	69.73	327	*c*P	P		21 21 07.5 -0.9
ARTI				S	S		21 30 15.3 -0.2
ARTI				SS	SS		21 34 40.5 -3.5
ARTI				pmax	pmax		
comp=Z,6.0nm,0.7s							
M11K	**Mekoryuk**	70.48	29	P	P		21 21 13.0 +0.1
baz=255							
FALS	**False Pass**	70.71	35	P	P		21 21 15.5 +1.1
baz=259							
K13K	**Kusilvak Mount**	71.59	28	P	P		21 21 19.8 +0.1
baz=256							
S12K	**Black Hills**	71.62	34	P	P		21 21 20.0 0.0
baz=260							
F14K	**Arctic Creek**	71.82	24	P	P		21 21 22.0 +1.0
baz=253							
M13K	**Dall Lake**	71.86	29	P	P		21 21 22.2 +0.9
baz=258							
ANM	**Nome**	71.95	25	P	P		21 21 22.7 +0.8
baz=254							
J14K	**Nanvaranak Lak**	72.28	27	P	P		21 21 24.0 +0.2
J14K				IAmb	IAmb		21 21 27.3
comp=Z,41nm,1.4s							
J14K	**Nanvaranak Lak**	72.28	27	P	P		21 21 24.2 +0.4
baz=257							
L14K	**Kuka Creek**	72.38	29	P	P		21 21 24.7 +0.3
L14K	**Kuka Creek**	72.38	29	P	P		21 21 24.8 +0.5
baz=258							
F15K	**North Star Dit**	72.56	24	P	P		21 21 24.9 -0.5
F15K				IAmb	IAmb		21 21 35.7
comp=Z,18nm,1.1s							
F15K	**North Star Dit**	72.56	24	P	P		21 21 26.2 +0.8
baz=255							
N14K	**Kuskokwak Cree**	72.58	30	P	P		21 21 25.3 -0.3
baz=259							
M14K	**Bethel**	72.60	29	P	P		21 21 25.9 +0.2
M14K	**Bethel**	72.60	29	P	P		21 21 24.6 -1.0
baz=259,SNR=10							
G15K	**Niukluk**	72.62	25	P	P		21 21 25.1 -0.6
baz=256							
O14K	**Tigyukauivet M**	72.66	31	P	P		21 21 25.5 -0.6
baz=260							
CHNA	**Chernabura Isl**	72.89	36	P	P		21 21 27.4 -0.2
baz=263							
C16K	**Lisburne Hills**	73.00	21	IAmb	IAmb		21 21 37.7
comp=Z,29nm,1.1s							
C16K	**Lisburne Hills**	73.00	21	P	P		21 21 28.1 +0.1
baz=253							
L15K	**Ungalak Mounta**	73.00	28	P	P		21 21 28.6 +0.5
baz=259							
K15K	**Wolf Creek Mou**	73.10	28	P	P		21 21 28.9 +0.2
K15K	**Wolf Creek Mou**	73.10	28	P	P		21 21 27.5 -1.2
baz=259,SNR=6.1							
S14K	**Fog Glacier**	73.11	34	P	P		21 21 29.5 +0.6
baz=262							
M15K	**Kasigluk River**	73.20	29	P	P		21 21 29.0 -0.3
baz=260							
H16K	**Elim**	73.28	25	P	P		21 21 29.2 -0.5
baz=257							
O15K	**Ungalikthiuk R**	73.38	31	P	P		21 21 31.0 +0.6
baz=261							
G16K	**Koyuk River**	73.40	24	P	P		21 21 29.6 -0.7
baz=257							
N15K	**Kwethluk River**	73.41	30	P	P		21 21 30.2 -0.3
N15K	**Kwethluk River**	73.41	30	P	P		21 21 29.9 -0.7
baz=261							
D17K	**Noatak River**	73.67	22	P	P		21 21 31.8 -0.1
baz=256,SNR=17							
J16K	**Anvik River**	73.71	27			pP	21 21 35.6 -4.2
J16K	**Anvik River**	73.71	27	P	P		21 21 32.5 +0.2
baz=259							
CHGN	**Chignik**	73.74	34	P	P		21 21 32.0 -0.5
baz=263				

H17K	Granite Mounta	74.32	25	P	P	21 21 35.0	-0.8
H17K				IAmb	IAmb	21 21 45.8	
	comp=Z,22nm,1.1s						
H17K	Granite Mounta	74.32	25	P	P	21 21 36.0	+0.2
	baz=259						
J17K	VABM Dome	74.41	27	IAmb	IAmb	21 21 40.9	
	comp=Z,45nm,1.4s						
J17K	VABM Dome	74.41	27	P	P	21 21 37.0	+0.6
	baz=261						
B18K	Kokolik River	74.53	20	P	P	21 21 37.7	+0.8
	baz=256						
E18K	Tukpahlearik C	74.53	23	P	P	21 21 37.0	0.0
E18K				IAmb	IAmb	21 21 47.1	
	comp=Z,26nm,1.0s						
E18K	Tukpahlearik C	74.53	23	P	P	21 21 37.8	+0.9
	baz=258,SNR=14						
L17K	Donlin	74.57	28	P	P	21 21 37.9	+0.6
	baz=262						
C18K	Utukok River	74.58	21	P	P	21 21 36.8	-0.5
C18K				IAmb	IAmb	21 21 46.4	
	comp=Z,19nm,0.9s						
C18K	Utukok River	74.58	21	P	P	21 21 37.8	+0.4
	baz=257						
K17K	Iditarod	74.65	28	P	P	21 21 38.4	+0.6
K17K	Iditarod	74.65	28	P	P	21 21 38.2	+0.4
	baz=261						
F18K	Selawik	74.73	23	P	P	21 21 38.5	+0.4
	baz=259,SNR=8.8						
O17K	Koliganek Bris	74.84	31	P	P	21 21 38.9	0.0
	baz=263						
KIRV	Kirov	74.87	328	LR	LR	21 58 16.8	
	comp=Z,262nm,18.7s,baz=103,slow=39						
KIRV	Kirov	74.87	328	*i* P	P	21 21 38.9	-0.1
M17K	Holitna River	74.87	29	P	P	21 21 38.6	-0.4
M17K				IAmb	IAmb	21 21 44.8	
	comp=Z,27nm,1.0s						
M17K	Holitna River	74.87	29	P	P	21 21 39.2	+0.1
	baz=263,SNR=9.4						
N17K	Nushagak Hills	74.89	30	P	P	21 21 38.7	-0.4
N17K	Nushagak Hills	74.89	30	P	P	21 21 39.3	+0.1
	baz=263,SNR=13						
A19K	Wainwright	74.97	20	P	P	21 21 40.0	+0.6
	baz=257,SNR=13						
H18K	Honhosa River	75.00	25	P	P	21 21 40.2	+0.4
	baz=261,SNR=9.9						
G18K	Tagagawik	75.01	24	P	P	21 21 39.0	-0.7
G18K	Tagagawik	75.01	24	P	P	21 21 39.5	-0.2
	baz=260						
AKT	Akhty	75.04	310	*e*P	P	21 21 39.8	-0.8
AKT				*e*		21 21 53.3	
AKT				*e*S	S	21 31 13.5	-3.7
AKT				pmax	pmax		
	comp=Z,29nm,1.2s						
AKT				MLR	MLR		
	comp=Z,447nm,23.0s						
P17K	Kvichak River	75.11	31	P	P	21 21 40.8	+0.3
	baz=264,SNR=5.5						
CHIR	Chirikof Islan	75.25	35	P	P	21 21 41.7	+0.4
	baz=266						
Q17K	Contact Creek	75.31	32	P	P	21 21 41.7	-0.1
	baz=265						
L18K	Granite Mounta	75.33	28	P	P	21 21 41.5	-0.2
	baz=263						
BELG	Belogornoye	75.40	322	*i* P	P	21 21 41.7	-0.5
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SEKA	Sheki	75.44	310	P	P	21 21 42.7	-0.2
J18K	Innoko River	75.47	27	P	P	21 21 41.5	-0.9
J18K	Innoko River	75.47	27	P	P	21 21 41.8	-0.7
	baz=263,SNR=6.7						
F19K	Shaleruckik Mo	75.51	23	P	P	21 21 41.9	-0.7
F19K	Shaleruckik Mo	75.51	23	P	P	21 21 42.7	0.0
	baz=261						
MNGR	Mingechevir, A	75.53	310	P	P	21 21 43.6	+0.3
N18K	Kilae Creek	75.54	30	IAmb	IAmb	21 21 47.2	
	comp=Z,36nm,1.3s						
N18K	Kilae Creek	75.54	30	P	P	21 21 42.9	-0.1
	baz=264						
GCSA	Galena City Sc	75.57	26	P	P	21 21 43.3	+0.4
	baz=262						
ACHA	Angle Creek He	75.60	32	P	P	21 21 42.1	-1.3
MWH	Mokuaweoweo	75.64	72	P	P	21 21 43.3	-1.7
M18K	Stony River	75.65	29	P	P	21 21 43.6	0.0
	baz=264						
D19K	Kuna River	75.66	22	P	P	21 21 43.7	+0.2
	baz=260						
G19K	Purcell Mounta	75.68	24	IAmb	IAmb	21 21 47.0	
	comp=Z,22nm,1.2s						
G19K	Purcell Mounta	75.68	24	P	P	21 21 44.1	+0.4
	baz=262						
TTA	Tatalina	75.72	27	P	P	21 21 43.0	-1.0
TTA	Tatalina	75.72	27	P	P	21 21 44.5	+0.5
	baz=264,SNR=8.3						
TTA	Tatalina	75.72	27	P	P	21 21 43.0	-1.0
TTA				pmax	pmax		
	comp=Z,20nm,1.4s						
P18K	Big Mountain,	75.75	31	P	P	21 21 42.5	-1.6
P18K				IAmb	IAmb	21 21 46.6	
	comp=Z,18nm,1.1s						
P18K	Big Mountain,	75.75	31	P	P	21 21 44.5	+0.3
	baz=265						
O18K	Koktuh Hills	75.80	31	P	P	21 21 43.8	-0.7
O18K	Koktuh Hills	75.80	31	P	P	21 21 44.4	-0.1
	baz=265,SNR=12						
E19K	Redstone River	75.82	23	P	P	21 21 44.7	+0.3
	baz=261						
H19K	Roundabout Mou	75.85	25	P	P	21 21 44.8	+0.2
	baz=262						
J19K	Poorman	76.02	26	P	P	21 21 45.2	-0.4
J19K				IAmb	IAmb	21 21 49.8	
	comp=Z,18nm,1.2s						
J19K	Poorman	76.02	26	P	P	21 21 45.6	0.0
	baz=264,SNR=7.7						
KNHH	Kane Nui o Ham	76.05	72	P	P	21 21 45.8	-1.0
SII	Sitkinak Islan	76.10	34	P	P	21 21 46.1	-0.1
	baz=267						
GANJ	Ganja	76.11	309	P	P	21 21 47.0	+0.3
L19K	White Mountain	76.18	28	P	P	21 21 46.9	+0.3
	baz=265						
D20K	Etivluk River	76.24	21	P	P	21 21 47.2	+0.5
	baz=261						
N19K	Bonanza Creek	76.24	30	P	P	21 21 46.8	-0.3
N19K				IAmb	IAmb	21 22 02.6	
	comp=Z,24nm,0.9s						
N19K	Bonanza Creek	76.24	30	P	P	21 21 46.3	-0.7
	baz=265						
O19K	Port Alsworth	76.27	30	P	P	21 21 46.6	-0.4
O19K				IAmb	IAmb	21 21 50.3	
	comp=Z,30nm,1.2s						
O19K	Port Alsworth	76.27	30	P	P	21 21 47.1	0.0
	baz=266						
E20K	Nigu River	76.33	22	P	P	21 21 47.4	+0.1
	baz=262						
F20K	Avaraart Lake	76.34	23	P	P	21 21 47.6	+0.3
	baz=263						
H20K	Anotleneega Mo	76.50	25	P	P	21 21 48.8	+0.5
	baz=264						
Q19K	Cape Douglas,	76.53	32	P	P	21 21 49.3	+0.7
	baz=267						
I20K	Naaghedeneel	76.60	26	P	P	21 21 48.5	-0.3
I20K	Naaghedeneel	76.60	26	P	P	21 21 49.5	+0.7
	baz=264						
OHAK	Old Harbor	76.63	33	P	P	21 21 50.1	+0.9
	baz=267						
A21K	Barrow	76.64	19	P	P	21 21 50.5	+1.5
	baz=261						
K20K	Telida	76.64	27	P	P	21 21 48.9	-0.3
K20K				IAmb	IAmb	21 21 59.3	
	comp=Z,17nm,1.1s						
K20K	Telida	76.64	27	P	P	21 21 49.9	+0.7
	baz=265						
L20K	Farewell, AK	76.66	28	P	P	21 21 50.2	+0.9
	baz=266						
J20K	Nowinta River	76.68	26	IAmb	IAmb	21 21 53.8	
	comp=Z,19nm,1.1s						
J20K	Nowinta River	76.68	26	P	P	21 21 50.2	+0.8
	baz=265						
P19K	Oil Pt	76.78	31	P	P	21 21 51.1	+1.0
	baz=267						
NAX	Nakhchivan	76.79	308	P	P	21 21 50.7	+0.1
ILSW	Iliamna Southw	76.85	31	P	P	21 21 48.5	-2.0
C21K	Knifeblade Rid	76.95	21	P	P	21 21 51.6	+0.8
	baz=263						
M20K	Styx River	76.97	29	P	P	21 21 51.7	+0.5
	baz=266						
KDAK	Kodiak Island	77.03	33	P	P	21 21 50.4	-1.0
KDAK	Kodiak Island	77.03	33	LR	LR	21 51 21.5	
	comp=Z,223nm,21.8s,baz=88,slow=32						
KDAK	Kodiak Island	77.03	33	P	P	21 21 51.6	+0.1
	baz=268						
KDAK	Kodiak Island	77.03	33	P	P	21 21 50.4	-1.0
KDAK				pmax	pmax		
	comp=Z,60nm,1.5s						
B21K	Ikpikpuk River	77.07	21	P	P	21 21 50.9	-0.5
B21K				IAmb	IAmb	21 22 01.4	
	comp=Z,22nm,0.9s						
B21K	Ikpikpuk River	77.07	21	P	P	21 21 52.5	+1.1
	baz=263						
O20K	Slope Mountain	77.11	31	P	P	21 21 52.4	+0.4
	baz=267						
G21K	Allakaket	77.16	24	P	P	21 21 52.5	+0.5
	baz=265						
Q20K	Shuyak Island	77.16	32	P	P	21 21 52.5	+0.4
	baz=268						
E21K	Killik River	77.17	22	P	P	21 21 52.6	+0.5
	baz=264						
SYI	Shuyak Island	77.17	32	P	P	21 21 50.4	-1.7
SYI				IAmb	IAmb	21 22 06.7	
	comp=Z,19nm,0.8s						
F21K	Alatna River	77.23	23	P	P	21 21 52.7	+0.3
	baz=265						
GNI	Garni	77.33	309	P	P	21 21 53.4	-0.3
GNI				IAmb	IAmb	21 22 05.2	
	comp=Z,15nm,0.9s						
GNI	Garni	77.33	309	*i* P	P	21 21 54.0	+0.3
GNI				pmax	pmax		
	comp=Z,12nm,1.3s						
SPCR	Spurr Chakacha	77.37	29	P	P	21 21 53.6	+0.2
	baz=267						
H21K	Melozitna Rive	77.37	25	P	P	21 21 53.6	+0.4
	baz=266						
SPU	Mount Spurr	77.44	29	P	P	21 21 51.7	-2.0
CHUM	Lake Minchumin	77.46	27	P	P	21 21 54.2	+0.5
	baz=267						
PPLA	Purkeypile	77.46	28	P	P	21 21 53.1	-0.9
PPLA				IAmb	IAmb	21 21 57.8	
	comp=Z,21nm,1.2s						
PPLA	Purkeypile	77.46	28	P	P	21 21 54.2	+0.3
	baz=267						
CAST	Castle Rocks	77.54	27	P	P	21 21 53.7	-0.6
CAST				IAmb	IAmb	21 21 57.4	
	comp=Z,38nm,1.5s						
CAST	Castle Rocks	77.54	27	P	P	21 21 54.6	+0.4
	baz=267,SNR=14						
B22K	Teshekpuk Lake	77.56	20	P	P	21 21 54.4	+0.3
	baz=264						
STLK	Strandline Lak	77.56	29	P	P	21 21 53.5	-0.9
HOM	Homer	77.59	31	P	P	21 21 55.1	+0.6
	baz=268						
D22K	Ayikyak River	77.68	21	P	P	21 21 55.7	+0.8
	baz=265						
SKT	Skwentna	77.73	29	P	P	21 21 54.9	-0.4
SKT				IAmb	IAmb	21 21 58.0	
	comp=Z,34nm,1.4s						
SKT	Skwentna	77.73	29	P	P	21 21 55.7	+0.4
	baz=268,SNR=12						
RAYN	Ar Rayn	77.79	292	P	P	21 21 55.1	-1.3
RAYN				IAmb	IAmb	21 22 01.2	
	comp=Z,15nm,0.8s						
RAYN	Ar Rayn	77.79	292	P	P	21 21 55.1	-1.3
RAYN				pmax	pmax		
	comp=Z,15nm,0.8s						
CNPM	China Poot	77.79	31	P	P	21 21 55.5	-0.2
E22K	Anaktuvuk Pass	77.94	22	P	P	21 21 56.4	-0.1
E22K				IAmb	IAmb	21 22 00.2	
	comp=Z,18nm,1.1s						
E22K	Anaktuvuk Pass	77.94	22	P	P	21 21 56.8	+0.4
	baz=266,SNR=9.4						
BRLK	Bradley Lake	77.97	31	P	P	21 21 55.3	-1.4
BRLK				IAmb	IAmb	21 22 05.2	
	comp=Z,17nm,0.9s						
H22K	Ishtalitna Cre	77.97	25	P	P	21 21 57.0	+0.4
	baz=267						
BRSE	Bradley Lake S	78.05	31	P	P	21 21 57.2	+0.1
	baz=269						
BPAW	Bear Paw Mtn.	78.06	26	P	P	21 21 56.6	-0.6
BPAW				IAmb	IAmb	21 22 06.7	
	comp=Z,30nm,1.0s						
BPAW	Bear Paw Mtn.	78.06	26	P	P	21 21 56.5	-0.6
	baz=268,SNR=17						
NCK	Nalchik	78.06	312	*i* P	P	21 21 57.2	-0.3
NCK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KTH	Kantishna Hill	78.07	27	P	P	21 21 56.9	-0.3
KTH				IAmb	IAmb	21 22 00.7	
	comp=Z,22nm,1.4s						
SUA	Susitna One	78.08	29	P	P	21 21 56.3	-1.1
SUA				IAmb	IAmb	21 22 03.6	
	comp=Z,33nm,1.1s						
SUA	Susitna One	78.08	29	P	P	21 21 57.0	-0.4
	baz=268,SNR=14						
SLKM	Skilak Lake	78.32	30	P	P	21 21 57.3	-1.3
SLKM				IAmb	IAmb	21 22 01.4	
	comp=Z,34nm,1.3s						
CUT	Chulitna	78.33	28	P	P	21 21 58.0	-0.6
CUT	Chulitna	78.33	28	P	P	21 21 59.2	+0.6
	baz=269						
TRF	Thorofare Moun	78.35	27	P	P	21 21 57.9	-1.0
TRF				IAmb	IAmb	21 22 01.5	
	comp=Z,39nm,1.4s						
TRF	Thorofare Moun	78.35	27	P	P	21 21 58.7	-0.2
	baz=268,SNR=9.4						
M22K	Willow	78.39	29	P	P	21 21 58.1	-0.8
M22K	Willow	78.39	29	P	P	21 22 00.1	+1.2
	baz=269						
D23K	Nanushuk River	78.41	21	P	P	21 22 00.1	+1.2
	baz=267						
C23K	Itkillik River	78.47	21	IAmb	IAmb	21 22 08.5	
	comp=Z,33nm,0.9s						
C23K	Itkillik River	78.47	21	P	P	21 22 00.7	+1.4
	baz=267						
COLD	Coldfoot	78.51	23	P	P	21 21 59.0	-0.4
COLD				IAmb	IAmb	21 22 03.3	
	comp=Z,17nm,1.0s						
COLD	Coldfoot	78.51	23	P	P	21 21 60.0	+0.5
	baz=268,SNR=7.3						
G23K	Bananza Creek	78.56	24	IAmb	IAmb	21 22 10.1	
	comp=Z,19nm,1.1s						
G23K	Bananza Creek	78.56	24	P	P	21 21 59.3	-0.6
	baz=268						
KBZ	Khabaz	78.56	313	P	P	21 21 58.0	-2.2
	comp=Z,5.8nm,0.9s,baz=117,slow=4.2,SNR=12						
KBZ				LR	LR	22 01 02.4	
	comp=Z,172nm,18.2s,baz=94,slow=39						
	comp=Z,5.8nm,0.9s						
KBZ	Khabaz	78.56	313	*e*P	P	21 22 00.0	-0.2
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RC01	Rabbit Creek A	78.56	30	P	P	21 21 59.2	-0.7
RC01				IAmb	IAmb	21 22 02.0	
	comp=Z,25nm,1.4s						
RC01	Rabbit Creek A	78.56	30	P	P	21 21 59.4	-0.5
	baz=270						
O22K	Cooper Landing	78.57	30	P	P	21 21 59.5	-0.4
O22K	Cooper Landing	78.57	30	P	P	21 21 59.2	-0.7
	baz=270						
KARS	Kars	78.58	310	P	P	21 22 00.2	-0.4
KARS	Kars	78.58	310	P	P	21 22 00.2	-0.4
KARS				pmax	pmax		
	comp=Z,82nm,1.1s						
SEW	Seward	78.70	31	P	P	21 22 00.4	-0.2
SEW				IAmb	IAmb	21 22 09.4	
	comp=Z,21nm,1.0s						
SEW	Seward	78.70	31	P	P	21 22 01.3	+0.6
	baz=270						
KIV	Kislovodsk	78.70	313	P	P	21 22 00.3	-0.9
KIV				IAmb	IAmb	21 22 07.3	
	comp=Z,19nm,0.9s						
KIV	Kislovodsk	78.70	313	*e*P	P	21 22 00.2	-0.9
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV				MLR	MLR		
	comp=Z,293nm,19.0s						
KIV	Kislovodsk	78.70	313	P	P	21 22 01.4	+0.2
	comp=Z,19nm,1.2s						
SHA1	Shidzhatmaz	78.73	313	*i* P	P	21 22 01.7	+0.2
E23K	Chandalar	78.76	22	P	P	21 22 01.3	+0.3
	baz=268						
I23K	Minto, Yukon-K	78.79	25	P	P	21 22 00.8	-0.3
I23K	Minto, Yukon-K	78.79	25	P	P	21 22 01.3	+0.3
	baz=269,SNR=14						
TOLK	Toolik Lake Re	78.79	22	P	P	21 22 00.7	-0.4
TOLK	Toolik Lake Re	78.79	22	P	P	21 22 01.5	+0.4
	baz=268,SNR=9.2						
RAR	Rarotonga	78.81	114	LR	LR	21 50 18.9	
	comp=Z,301nm,19.8s,baz=286,slow=31						
PMR	Palmer	78.86	29	P	P	21 22 00.6	-0.9
PMR				IAmb	IAmb	21 22 03.6	
	comp=Z,35nm,1.4s						
PMR	Palmer	78.86	29	P	P	21 22 01.5	0.0
	baz=270						
PMR	Palmer	78.86	29	P	P	21 22 00.6	-0.9
PMR				pmax	pmax		
	comp=Z,35nm,1.4s						
NEA2	Nenana	78.91	26	P	P	21 22 00.4	-1.4
NEA2	Nenana	78.91	26	P	P	21 22 02.1	+0.3
	baz=269,SNR=7.7						
GHO	Glory Hole Cre	78.96	29	P	P	21 22 00.1	-2.1
GHO				IAmb	IAmb	21 22 14.6	
	comp=Z,19nm,1.0s						
MCK	McKinley	78.96	27	P	P	21 22 01.3	-0.8
MCK	McKinley	78.96	27	P	P	21 22 01.8	-0.3
	baz=270,SNR=21						
MCK	McKinley	78.96	27	P	P	21 22 01.3	-0.8
MCK				pmax	pmax		
	comp=Z,48nm,1.2s						
RND	Reindeer	78.99	27	P	P	21 22 01.8	-0.5
RND				IAmb	IAmb	21 22 05.2	
	comp=Z,36nm,1.3s						
RND	Reindeer	78.99	27	P	P	21 22 01.8	-0.5
RND				pmax	pmax		
	comp=Z,37nm,1.3s						
VRH	Novokhopyorsk	79.06	320	*e*P	P	21 22 00.4	-2.4
VRH				pmax	pmax		
	comp=Z,15nm,0.8s						
D24K	Happy Valley	79.08	21	P	P	21 22 02.6	0.0
	baz=269						
C24K	Franklin Bluff	79.14	21	P	P	21 22 02.9	0.0
	baz=269						
E24K	Your Creek	79.18	22	P	P	21 22 03.2	0.0
	baz=269						
KNK	Knik Glacier	79.18	29	P	P	21 22 02.6	-0.7
KNK	Knik Glacier	79.18	29	P	P	21 22 02.8	-0.6
	baz=270,SNR=12						
SML	Sawmill	79.24	29	P	P	21 22 02.9	-0.8
SML				IAmb	IAmb	21 22 13.3	
	comp=Z,35nm,1.0s						
SML	Sawmill	79.24	29	P	P	21 22 04.0	+0.3
	baz=271,SNR=8.0						
SML	Sawmill	79.24	29	P	P	21 22 02.9	-0.8
SML				pmax	pmax		
	comp=Z,35nm,1.0s						
PWL	Port Wells	79.25	30	P	P	21 22 03.5	-0.2
PWL				IAmb	IAmb	21 22 06.8	
	comp=Z,37nm,1.0s						
PWL	Port Wells	79.25	30	P	P	21 22 03.7	0.0
	baz=271,SNR=12						
SIRT	Sirnak	79.27	306	P	P	21 22 03.3	-1.1
WRH	Wood River Hil	79.33	26	P	P	21 22 03.7	-0.4
F24K	Squaw Lake	79.41	23	P	P	21 22 04.9	+0.4
	baz=270						
H24K	Noodor Dome	79.41	25	P	P	21 22 03.6	-1.0
H24K	Noodor Dome	79.41	25	P	P	21 22 04.4	-0.2
	baz=270,SNR=11						
COLA	College	79.43	26	P	P	21 22 02.6	-1.9
COLA	College	79.43	26	P	P	21 22 05.5	+1.0
	baz=270						
COLA	College	79.43	26	P	P	21 22 02.6	-1.9
COLA				pmax	pmax		
	comp=Z,13nm,1.0s						
CCB	Clear Creek Bu	79.45	26	P	P	21 22 04.0	-0.6
GURO	Guroymak-BITLI	79.52	307	P	P	21 22 05.8	-0.1
GURO				IAmb	IAmb	21 22 11.2	
	comp=Z,22nm,0.7s						
G24K	Hadweenzic Riv	79.57	24	P	P	21 22 05.8	+0.5
	baz=270						
POKR	Poker Plat Res	79.60	25	P	P	21 22 04.6	-1.0
POKR	Poker Plat Res	79.60	25	P	P	21 22 06.6	+1.1
	baz=271						
SCM	Sheep Creek Mo	79.72	29	P	P	21 22 05.9	-0.4
SCM	Sheep Creek Mo	79.72	29	P	P	21 22 05.8	-0.5
	baz=271,SNR=8.8						
SCM	Sheep Creek Mo	79.72	29	P	P	21 22 05.9	-0.4
SCM				pmax	pmax		
	comp=Z,75nm,1.5s						
P23K	Montague Islan	79.73	31	P	P	21 22 06.8	+0.5
	baz=272						
HDA	Harding Lake	79.83	26	P	P	21 22 05.9	-0.8
HDA	Harding Lake	79.83	26	P	P	21 22 06.5	-0.2
	baz=271						
ILAR	Eielson Array	79.84	26	P	P	21 22 05.8	-1.1
	comp=Z,2.7nm,0.9s,baz=239,slow=5.2,SNR=32						
ILAR				LR	LR	22 00 01.9	
	comp=Z,95nm,18.9s,baz=254,slow=38						
	comp=Z,2.7nm,0.9s						
ILAR	Eielson Array	79.84	26	*e*P	P	21 22 06.5	-0.3
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GLI	Glacier Island	79.86	30	P	P	21 22 06.5	-0.5
GLI	Glacier Island	79.86	30	P	P	21 22 07.4	+0.4
	baz=272,SNR=5.7						
D25K	Kavik River	79.95	21	P	P	21 22 08.3	+0.9
	baz=271						
KLMR	Klimovskoe	79.96	330	*e*P	P	21 22 05.1	-2.4
KLMR				pmax	pmax		
	comp=Z,57nm,1.5s						
LABN	Labinsk	80.07	314	*e*P	P	21 22 06.5	-2.0
LABN				*e*S	S	21 32 10.9	-0.3
LABN				*e*		21 32 28.7	
LABN				pmax	pmax		
	comp=Z,17nm,0.5s						
ERBR	Yeremizino-Bor	80.17	315	*e*P	P	21 22 07.7	-1.3
ERBR				pmax	pmax		
	comp=Z,22nm,1.2s						
ERBR				MLR	MLR		
	comp=Z,633nm,20.0s						
HIN	Hinchinbrook I	80.17	30	P	P	21 22 06.8	-1.9
HIN				IAmb	IAmb	21 22 09.9	
	comp=Z,37nm,1.2s						
M24K	Tolsona, Glenn	80.25	28	P	P	21 22 08.8	-0.4
M24K				IAmb	IAmb	21 22 13.9	
	comp=Z,46nm,1.4s						
M24K	Tolsona, Glenn	80.25	28	P	P	21 22 09.2	0.0
	baz=272						
F25K	Christian Rive	80.27	23	P	P	21 22 09.3	+0.2
	baz=272						
E25K	Arctic Village	80.28	22	P	P	21 22 09.2	+0.1
E25K	Arctic Village	80.28	22	P	P	21 22 09.0	-0.1
	baz=272,SNR=20						
K24K	Donnelly Dome	80.36	27	P	P	21 22 09.7	0.0
	baz=272						
PRP	Porcupine Dome	80.39	25	P	P	21 22 09.6	-0.4
PRP	Porcupine Dome	80.39	25	P	P	21 22 09.9	-0.1
	baz=272						
KLU	Klutina	80.40	29	P	P	21 22 09.0	-1.0
KLU	Klutina	80.40	29	P	P	21 22 09.6	-0.5
	baz=273,SNR=5.3						
C26K	Camden Bay	80.45	20	P	P	21 22 10.5	+0.5
	baz=272						
FYU	Fort Yukon	80.47	24	P	P	21 22 09.7	-0.4
FYU				IAmb	IAmb	21 22 14.0	
	comp=Z,31nm,1.3s						
DIV	Divide	80.49	29	P	P	21 22 08.7	-1.8
DIV				IAmb	IAmb	21 22 14.4	
	comp=Z,30nm,1.1s						
J25K	Salcha River,	80.50	26	P	P	21 22 09.9	-0.6
J25K	Salcha River,	80.50	26	P	P	21 22 10.9	+0.4
	baz=273						
EYAK	Cordova Ski Ar	80.53	30	P	P	21 22 11.1	+0.5
	baz=273						
PAX	Paxson	80.54	28	P	P	21 22 10.2	-0.6
PAX				IAmb	IAmb	21 22 14.6	
	comp=Z,22nm,1.2s						
PAX	Paxson	80.54	28	P	P	21 22 10.8	0.0
	baz=273,SNR=13						
PAX	Paxson	80.54	28	P	P	21 22 10.2	-0.6
PAX				pmax	pmax		
	comp=Z,22nm,1.2s						
KOPT	Kop Dagi	80.59	309	P	P	21 22 10.7	-1.1
VORD	Divnogorie	80.60	320	*e*P	P	21 22 08.1	-3.1
VORD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VORR	Voronezh	80.60	321	*e*P	P	21 22 08.6	-2.6
VORR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MARD	Mardin	80.61	306	P

comp=Z,7.0nm,0.9s
HARP HAARP 80.71 28 P **P 21 22 11.5 -0.1**
baz=273
LPSR Galich'ya Gora 80.71 322 *e*P **P 21 22 10.9 -0.8**
LPSR pmax pmax
comp=Z,26nm,0.9s
RIDG Independent Ri 80.78 27 P **P 21 22 11.5 -0.5**
RIDG IAmb IAmb 21 22 15.2
comp=Z,41nm,1.2s
RIDG Independent Ri 80.78 27 P **P 21 22 12.4 +0.5**
baz=273,SNR=12
F26K Sheenjek River 80.83 23 P **P 21 22 11.7 -0.5**
F26K Sheenjek River 80.83 23 P **P 21 22 13.4 +1.2**
baz=273
SOC Sochi 80.87 313 *e*P **P 21 22 10.2 -2.6**
SOC *e*PPP PPP 21 27 03.2
SOC *e*S **S 21 32 18.9 -0.8**
SOC *e*SS **SS 21 37 37.9 +4.3**
SOC *e*SSS SSS 21 40 52.0
C27K Jago River 80.88 21 P **P 21 22 13.2 +0.8**
baz=273
G26K Porcupine Rive 81.02 23 P **P 21 22 14.0 +0.9**
baz=274
N25K Chitina, Valde 81.03 29 P **P 21 22 12.9 -0.4**
N25K IAmb IAmb 21 22 18.2
comp=Z,30nm,1.4s
N25K Chitina, Valde 81.03 29 P **P 21 22 13.7 +0.3**
baz=274,SNR=6.7
BMRM Bremner River 81.06 30 P **P 21 22 12.9 -0.7**
BMRM IAmb IAmb 21 22 23.1
comp=Z,26nm,1.0s
BMRM Bremner River 81.06 30 P **P 21 22 14.4 +0.9**
baz=274
SCRK Sand Creek 81.14 27 P **P 21 22 12.7 -1.3**
SCRK IAmb IAmb 21 22 23.1
comp=Z,29nm,1.5s
SCRK Sand Creek 81.14 27 P **P 21 22 14.5 +0.5**
baz=274,SNR=12
KAIM Kayak Island 81.23 31 P **P 21 22 13.5 -0.9**
KAIM Kayak Island 81.23 31 P **P 21 22 14.8 +0.4**
baz=274
MOS Moscow 81.25 325 *e*P **P 21 22 11.7 -2.8**
MOS *e* 21 25 15.6
MOS *e*S **S 21 32 19.3 -3.8**
HMT Hamilton 81.28 30 P **P 21 22 14.7 0.0**
HMT IAmb IAmb 21 22 17.9
comp=Z,30nm,1.1s
J26L Joseph Creek 81.29 26 P **P 21 22 15.0 +0.3**
baz=274
MENT Mentasta 81.34 28 P **P 21 22 14.6 -0.3**
I26K Coal Creek Min 81.40 25 P **P 21 22 15.4 +0.3**
baz=275
GLB Gilahina Butte 81.41 29 P **P 21 22 14.3 -1.1**
GLB IAmb IAmb 21 22 19.9
comp=Z,33nm,1.2s
L26K Log Cabin Wild 81.50 27 P **P 21 22 16.9 +1.1**
baz=275
VRDI Verde Repeater 81.60 29 P **P 21 22 15.4 -1.1**
VRDI IAmb IAmb 21 22 25.3
comp=Z,24nm,1.3s
M26K Nabesna, AK 81.72 28 P **P 21 22 16.6 -0.4**
M26K IAmb IAmb 21 22 27.2
comp=Z,20nm,1.2s
M26K Nabesna, AK 81.72 28 P **P 21 22 18.1 +1.1**
baz=275
ATD Arta Tunnel 81.75 280 LR LR 21 55 55.8
comp=Z,5.9nm,22.0s,baz=84,slow=34
G27K Doyon Strip 81.87 24 P **P 21 22 19.1 +1.4**
baz=276
D27M Malcolm River 81.88 21 P **P 21 22 18.9 +1.2**
baz=276
OBN Obninsk 81.90 325 P **P 21 22 16.8 -1.2**
OBN IAmb IAmb 21 22 22.6
comp=Z,12nm,0.7s
OBN Obninsk 81.90 325 *ce*P **P 21 22 17.1 -0.9**
OBN *e* 21 25 19.3
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,215nm,18.0s
H27K Steamboat Moun 81.98 24 P **P 21 22 19.4 +1.1**
baz=276
I27K Kandik River 82.01 25 P **P 21 22 19.5 +1.0**
baz=276,SNR=15
L27K Beaver Creek, 82.19 27 P **P 21 22 20.1 +0.7**
baz=276
M27K Edge Creek, AK 82.24 28 P **P 21 22 19.5 -0.4**
M27K Edge Creek, AK 82.24 28 P **P 21 22 20.6 +0.8**
baz=276
EGAK Eagle 82.29 26 P **P 21 22 19.4 -0.5**
EGAK Eagle 82.29 26 P **P 21 22 21.0 +1.2**
baz=276
ANN Anapa 82.39 314 *e*P **P 21 22 19.6 -1.2**
ANN pmax pmax
comp=Z,51nm,1.0s
ANN MLR MLR
comp=Z,560nm,17.0s
MESA MESA 82.44 30 P **P 21 22 21.4 +0.4**
baz=276
E28M Babbage River 82.47 22 P **P 21 22 21.3 +0.5**
baz=277
F28M Old Crow 82.47 23 P **P 21 22 20.9 +0.1**
F28M IAmb IAmb 21 22 24.4
comp=Z,13nm,0.8s
F28M Old Crow 82.47 23 P **P 21 22 21.5 +0.7**
baz=277,SNR=18
D28M Stokes Point 82.65 21 P **P 21 22 22.1 +0.5**
baz=278
BVCY Beaver Creek 82.70 28 P **P 21 22 23.4 +1.3**
baz=277
I28M Miner Creek 82.72 25 P **P 21 22 21.9 -0.4**
I28M IAmb IAmb 21 22 27.1
comp=Z,23nm,0.9s
I28M Miner Creek 82.72 25 P **P 21 22 23.3 +1.0**
baz=278,SNR=34
YUK3 Moose Creek 82.97 29 P **P 21 22 24.4 +0.7**
baz=278,SNR=9.4
ABPO Ambohimpanom 83.01 249 P **P 21 22 22.1 -2.6**
ABPO IAmb IAmb 21 22 35.8
comp=Z,22nm,1.1s
ABPO Ambohimpanom 83.01 249 P **P 21 22 22.1 -2.6**
ABPO pmax pmax
comp=Z,21nm,1.1s
E29M Blow River 83.10 22 P **P 21 22 24.9 +0.9**
baz=279
DAWY Dawson 83.14 26 P **P 21 22 24.5 +0.1**
DAWY IAmb IAmb 21 22 33.8
comp=Z,21nm,1.3s
DAWY Dawson 83.14 26 P **P 21 22 25.2 +0.8**
baz=278,SNR=9.4
VADS Vadso 83.22 340 *e*P **P 21 22 24.7 +0.2**
VADS IAmb IAmb 21 22 28.8
comp=Z,136nm,1.6s
O28M Mount Upton 83.23 30 P **P 21 22 25.5 +0.2**
baz=278
H29M Whitestone 83.25 24 P **P 21 22 26.0 +1.1**
baz=279
G29M Pine Creek 83.28 23 P **P 21 22 25.7 +0.7**
baz=279
PCA Pinnacle 83.29 30 P **P 21 22 23.0 -2.3**
PINM Pinnacle 83.30 30 P **P 21 22 26.0 +0.7**
baz=278
YUK8 Steele Glacier 83.37 29 P **P 21 22 26.5 +0.6**
baz=278,SNR=9.6
I29M Ogilvie Camp, 83.41 25 P **P 21 22 24.5 -1.3**
I29M Ogilvie Camp, 83.41 25 P **P 21 22 27.0 +1.3**
baz=279,SNR=14
GAZ Gaziantep 83.45 306 P **P 21 22 25.4 -1.2**
J29N Klondike Camp 83.59 26 P **P 21 22 26.9 +0.2**
J29N IAmb IAmb 21 22 37.4
comp=Z,28nm,1.1s
J29N Klondike Camp 83.59 26 P **P 21 22 27.5 +0.8**
baz=279,SNR=8.3
M29M Somme Creek 83.80 28 P **P 21 22 27.5 -0.4**
M29M IAmb IAmb 21 22 45.6
comp=Z,24nm,1.3s
M29M Somme Creek 83.80 28 P **P 21 22 28.6 +0.7**
baz=279
L29M L29M 83.85 27 P **P 21 22 29.2 +1.1**
baz=279
EPYK Eagle Plains 83.88 24 P **P 21 22 27.5 -0.7**
EPYK Eagle Plains 83.88 24 P **P 21 22 28.5 +0.4**
baz=280,SNR=11
YUK4 Talbot Arm 83.89 29 P **P 21 22 29.2 +0.7**
baz=279
G30M tAoh Zraii Nji 83.97 23 P **P 21 22 27.8 -0.8**
G30M IAmb IAmb 21 22 31.3
comp=Z,23nm,1.3s
G30M tAoh Zraii Nji 83.97 23 P **P 21 22 28.4 -0.2**
baz=281
K29M Barlow Dome 83.99 26 P **P 21 22 28.5 -0.4**
K29M IAmb IAmb 21 22 32.7
comp=Z,20nm,1.1s
K29M Barlow Dome 83.99 26 P **P 21 22 29.7 +0.8**
baz=280,SNR=14
F30M Barrier River 84.01 22 P **P 21 22 29.6 +0.9**
baz=281
MSF Maaselka 84.09 336 P **P 21 22 29.3 +0.1**
MSF pmax pmax
comp=Z,35nm,1.2s
O29M Mount Kennedy 84.09 30 P **P 21 22 28.3 -1.2**
O29M IAmb IAmb 21 22 44.1
comp=Z,28nm,1.4s
O29M Mount Kennedy 84.09 30 P **P 21 22 30.6 +1.2**
baz=279
YUK6 Outpost Mounta 84.09 29 P **P 21 22 30.3 +0.7**
baz=279,SNR=6.1
I30M Mount Dempster 84.23 25 IAmb IAmb 21 22 32.2
comp=Z,15nm,0.9s
I30M Mount Dempster 84.23 25 P **P 21 22 31.2 +1.1**
baz=281
BNN Bunyan 84.30 308 P **P 21 22 30.4 -0.6**
J30M Hart River 84.37 25 P **P 21 22 31.8 +1.0**
baz=281
SPA0 Spitsbergen Ar 84.48 349 *e*P **P 21 22 31.1 +0.1**
SPA0 IAmb IAmb 21 22 33.3
comp=Z,82nm,1.2s
SPITS Spitsbergen Ar 84.48 349 P **P 21 22 30.9 -0.1**
comp=Z,20nm,0.8s,baz=97,slow=6.8,SNR=20
SPITS LR LR 22 07 03.4
comp=Z,288nm,18.6s,baz=38,slow=40
comp=Z,20nm,0.8s
HYT Haines Junctio 84.53 29 P **P 21 22 31.0 -0.6**
HYT IAmb IAmb 21 22 35.5
comp=Z,20nm,0.8s
HYT Haines Junctio 84.53 29 P **P 21 22 32.7 +1.1**
baz=280,SNR=19
M30M Minto, Yukon 84.54 28 P **P 21 22 31.0 -0.6**
M30M Minto, Yukon 84.54 28 P **P 21 22 32.2 +0.6**
baz=281,SNR=22
ARA0 ARCESS Array S 84.65 340 *e*P **P 21 22 32.1 +0.2**
ARA0 IAmb IAmb 21 22 36.2
comp=Z,26nm,0.7s
ARCES ARCESS Array B 84.65 340 P **P 21 22 31.8 -0.1**
comp=Z,20nm,0.6s,baz=84,slow=6.4,SNR=68
ARCES LR LR 22 05 11.5
comp=Z,133nm,18.3s,baz=104,slow=39
comp=Z,20nm,0.6s
ARCES ARCESS Array B 84.65 340 *e*P **P 21 22 32.0 +0.1**
ARCES pmax pmax
comp=Z,20nm,0.6s
INK Inuvik 84.70 22 P **P 21 22 31.9 -0.2**
INK IAmb IAmb 21 22 41.5
comp=Z,19nm,1.1s
INK Inuvik 84.70 22 LR LR 22 04 23.0
comp=Z,64nm,18.8s,baz=242,slow=38
INK Inuvik 84.70 22 P **P 21 22 32.8 +0.6**
baz=283,SNR=11
INK Inuvik 84.70 22 P **P 21 22 32.0 -0.2**
INK pmax pmax
comp=Z,19nm,1.2s
SIM Simferopol' 84.71 315 *e*P **P 21 22 31.8 -0.9**
SIM *e* 21 22 36.0
SIM pmax pmax
comp=Z,27nm,1.0s
G31M Satah River 84.73 23 P **P 21 22 33.1 +0.7**
baz=282
F31M Tsiigehtchic 84.82 22 P **P 21 22 32.4 -0.4**
F31M IAmb IAmb 21 22 41.3
comp=Z,24nm,1.1s
F31M Tsiigehtchic 84.82 22 P **P 21 22 33.4 +0.6**
baz=283,SNR=12
P30M Million Dollar 84.92 30 P **P 21 22 34.4 +0.9**
baz=281
H31M Peel River 84.95 24 P **P 21 22 32.6 -0.9**
H31M Peel River 84.95 24 P **P 21 22 34.2 +0.7**
baz=282,SNR=19
HAMF Hammerfest 84.98 341 *e*P **P 21 22 33.5 0.0**
HAMF IAmb IAmb 21 22 34.1
comp=Z,23nm,1.0s
O30N Mendenhall 85.22 29 P **P 21 22 34.5 -0.5**
O30N IAmb IAmb 21 22 38.8
comp=Z,13nm,0.9s
O30N Mendenhall 85.22 29 P **P 21 22 36.4 +1.4**
baz=281,SNR=7.6
N31M Braeburn, Yuko 85.22 28 P **P 21 22 33.7 -1.3**
N31M Braeburn, Yuko 85.22 28 P **P 21 22 36.1 +1.1**
baz=282,SNR=9.2
PLBC Pleasant Camp 85.34 31 P **P 21 22 36.3 +0.8**
baz=281
MMAI Mount Meron Ar 85.50 303 P **P 21 22 37.3 +0.3**
comp=Z,12nm,1.1s,baz=72,slow=5.4,SNR=5.9
MMAI LR LR 22 06 50.7
comp=Z,128nm,19.1s,baz=74,slow=40
comp=Z,12nm,1.1s
KTK1 Kautokeino 85.56 339 *e*P **P 21 22 36.4 -0.1**
KTK1 IAmb IAmb 21 22 38.8
comp=Z,52nm,1.6s
S31K Pelican 85.70 32 P **P 21 22 37.8 +0.5**
baz=282
M31M Drury Creek, Y 85.72 28 P **P 21 22 37.1 -0.3**
M31M IAmb IAmb 21 22 47.3
comp=Z,14nm,1.1s
M31M Drury Creek, Y 85.72 28 P **P 21 22 37.8 +0.4**
baz=283,SNR=7.7
WHY Whitehorse 85.82 29 P **P 21 22 38.5 +0.4**
WHY IAmb IAmb 21 22 49.0
comp=Z,31nm,1.3s
WHY Whitehorse 85.82 29 P **P 21 22 38.4 +0.3**
baz=282,SNR=11
SKAG Skagway 85.86 30 P **P 21 22 39.0 +0.9**
baz=282
BRTR Keskin Array B 85.86 309 P **P 21 22 37.4 -1.5**
comp=Z,3.0nm,0.8s,baz=105,slow=4.5,SNR=15
BRTR LR LR 22 06 36.1
comp=Z,142nm,19.3s,baz=98,slow=40
comp=Z,3.0nm,0.8s
BR106 Keskin Array S 85.88 309 P **P 21 22 38.0 -0.9**
BR105 Keskin Array S 85.88 309 P **P 21 22 37.7 -1.2**
comp=Z,5.1nm,0.9s
FARO Faro, Yukon 86.19 28 P **P 21 22 39.5 -0.3**
FARO IAmb IAmb 21 22 43.9
comp=Z,23nm,0.9s
FARO Faro, Yukon 86.19 28 P **P 21 22 40.6 +0.8**
baz=284,SNR=14
BESE Bessie Mountai 86.29 31 P **P 21 22 39.4 -1.0**
BESE IAmb IAmb 21 22 46.2
comp=Z,38nm,1.4s
FINES FINESS Array B 86.33 332 P **P 21 22 39.8 -0.6**
comp=Z,10nm,0.6s,baz=67,slow=4.8,SNR=78
FINES LR LR 22 05 41.2
comp=Z,233nm,18.6s,baz=74,slow=39
comp=Z,10nm,0.6s
A36M Sachs Harbour 86.35 17 P **P 21 22 40.6 +0.3**
A36M Sachs Harbour 86.35 17 P **P 21 22 41.3 +1.0**
baz=290,SNR=27
JETT Jettan, Norway 86.37 340 *e*P **P 21 22 40.0 -0.5**
JETT IAmb IAmb 21 22 45.7
comp=Z,35nm,0.6s
SIT Sitka 86.37 33 P **P 21 22 41.5 +0.8**
baz=282
EIL Elat 86.40 299 LR LR 22 08 05.3
comp=Z,162nm,19.2s,baz=86,slow=40
R32K Eaglecrest 86.53 32 P **P 21 22 42.2 +0.7**
baz=283
N32M Quiet Lake 86.57 29 P **P 21 22 42.4 +0.7**
baz=284
P32M Atlin 86.63 30 P **P 21 22 43.3 +1.2**
baz=284
S32K Killisnoo 86.68 32 P **P 21 22 43.4 +1.2**
baz=283
TRO Tromso 86.83 340 *e*P **P 21 22 43.1 +0.4**
TRO IAmb IAmb 21 22 44.2
comp=Z,31nm,1.5s
P33M Teslin, Yukon 86.92 29 P **P 21 22 43.2 -0.3**
P33M Teslin, Yukon 86.92 29 P **P 21 22 44.2 +0.7**
baz=284
AK08 Malin Array Si 86.95 321 P **P 21 22 42.4 -1.3**
AK03 Malin Array Si 86.95 321 P **P 21 22 42.4 -1.3**
AKASG Malin Array Be 86.96 321 P **P 21 22 42.4 -1.3**
comp=Z,2.8nm,0.6s,baz=63,slow=4.9,SNR=12
AKASG LR LR 22 06 03.9
comp=Z,190nm,18.8s,baz=76,slow=39
comp=Z,2.8nm,0.6s
AKBB Malin Array Si 86.96 321 *i*P **P 21 22 42.3 -1.4**
AKBB pmax pmax
comp=Z,15nm,1.3s
AK10 Malin Array Si 86.96 321 P **P 21 22 42.7 -1.0**
MNK Minsk 86.96 325 *i*P **P 21 22 43.3 -0.3**
MNK *i* 21 26 05.8
MNK *i* PPP PPP 21 28 00.2
MNK *i*S **SKSac 21 33 09.6 +0.7**
MNK *i*SS **SS 21 39 05.3 +2.5**
MNK *i*SSS SSS 21 42 38.0
MNK pmax pmax
comp=Z,19nm,0.9s
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK MLR MLR
comp=N,126nm,15.0s
MNK MLR MLR
comp=E,285nm,19.0s
MNK MLR MLR
comp=Z,168nm,18.0s
KIEV Kiev 86.97 321 P **P 21 22 42.9 -0.9**
KIEV IAmb IAmb 21 22 53.6
comp=Z,14nm,1.0s
KIEV Kiev 86.97 321 P **P 21 22 42.9 -0.9**
KIEV pmax pmax
comp=Z,14nm,1.0s
MMPY Sheldon Lake, 87.03 27 P **P 21 22 42.7 -1.2**
MMPY IAmb IAmb 21 22 54.7
comp=Z,25nm,1.4s
MMPY Sheldon Lake, 87.03 27 P **P 21 22 45.2 +1.3**
baz=285
AK14 Malin Array Si 87.04 321 P **P 21 22 42.7 -1.4**
NOR Nord 87.05 355 *i*P **P 21 22 43.4 -0.2**
NOR IAmb IAmb 21 22 46.0
comp=Z,22nm,1.3s
PPT Papeete 87.38 108 LR LR 21 54 32.4
comp=Z,248nm,20.9s,baz=318,slow=31
Q32M Nakina River 87.51 31 P **P 21 22 46.9 +0.4**
baz=285
CRAG Craig 87.93 34 P **P 21 22 49.1 +0.8**
baz=284
R33M Jennings River 88.04 30 P **P 21 22 49.5 +0.6**
baz=286
LUBAR Lubar, Ukraine 88.04 320 P **P 21 22 47.4 -1.6**
SORM Soroca 88.05 318 P **P 21 22 47.5 -1.5**
S34M Telegraph Cree 88.36 31 P **P 21 22 49.8 -0.5**
S34M IAmb IAmb 21 22 55.0
comp=Z,18nm,1.4s
S34M Telegraph Cree 88.36 31 P **P 21 22 51.1 +0.8**
baz=286
KIBK Kibwezi 88.69 267 P **P 21 22 50.8 -2.1**
KIBK IAmb IAmb 21 22 57.7
comp=Z,8.8nm,0.7s
TGTN Hyland Airport 88.69 28 P **P 21 22 52.4 +0.5**
baz=288,SNR=7.7
STEI Steigen 88.70 339 *e*P **P 21 22 50.6 -1.1**
STEI IAmb IAmb 21 22 55.0
comp=Z,414nm,2.7s
EUNU Eureka 88.72 5 P **P 21 22 51.5 -0.2**
EUNU IAmb IAmb 21 22 54.3
comp=Z,20nm,1.5s
DLBC Dease Lake 88.78 31 P **P 21 22 52.2 -0.2**
DLBC IAmb IAmb 21 22 54.3
comp=Z,13nm,1.4s
DLBC Dease Lake 88.78 31 LR LR 21 57 15.5
comp=Z,118nm,21.8s,baz=259,slow=32
DLBC Dease Lake 88.78 31 P **P 21 22 52.8 +0.4**
baz=287
RNPP9 Sopachiv 88.85 322 P **P 21 22 51.6 -1.1**
WTLY Watson Lake, Y 88.88 29 P **P 21 22 52.3 -0.5**
WTLY IAmb IAmb 21 22 56.2
comp=Z,9.7nm,1.0s
WTLY Watson Lake, Y 88.88 29 P **P 21 22 53.8 +1.1**
baz=288,SNR=5.5
PABE Paberze 88.90 326 P **P 21 22 52.3 -0.6**
FAUS Fauske 88.91 339 IAmb IAmb 21 22 34.9
comp=Z,118nm,1.8s
FAUS *e*P **P 21 22 51.4 -1.2**
KMBO Kilima Mbogo 89.27 269 P **P 21 22 55.2 -0.6**
KMBO Kilima Mbogo 89.27 269 P **P 21 22 55.2 -0.6**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
MAW Mawson 89.27 200 LR LR 22 00 10.8
comp=Z,84nm,19.7s,baz=68,slow=34
VNDA Vanda 89.46 173 P **P 21 22 54.5 -0.5**
comp=Z,2.9nm,0.5s,baz=320,slow=5.9,SNR=15
VNDA LR LR 22 04 24.8
comp=Z,154nm,19.1s,baz=348,slow=36
comp=Z,2.9nm,0.5s
MOR8 Moi Rana 89.70 338 *e*P **P 21 22 54.8 -1.6**
MOR8 IAmb IAmb 21 22 58.3
comp=Z,9.1nm,0.7s
SUW Suwalki 89.75 325 P **P 21 22 55.9 -1.0**
SUW Suwalki 89.75 325 P **P 21 22 55.9 -1.0**
SUW pmax pmax
comp=Z,39nm,1.0s
WRGLY Wrigley 90.20 25 P **P 21 23 00.0 +1.2**
baz=292
LEIR Leirfjorden 90.21 338 *e*P **P 21 22 57.9 -0.9**
LEIR IAmb IAmb 21 22 59.3
comp=Z,12nm,0.9s
MLR Muntele Rosu 90.27 316 LR LR 22 07 57.9
comp=Z,370nm,20.9s,baz=65,slow=38
TOAD Toad River Com 91.02 30 P **P 21 23 04.3 +1.6**
baz=291
KOTAN Kotaneelee Air 91.11 28 P **P 21 23 04.1 +1.0**
baz=292
DAG Danmarks Havn 91.22 352 P **P 21 23 02.7 -0.6**
DAG pmax pmax
comp=Z,17nm,1.1s
DAG Danmarks Havn 91.22 352 *i*P **P 21 23 01.5 -1.8**
DAG IAmb IAmb 21 23 05.6
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 91.28 321 *e*P **P 21 23 02.8 -1.4**
NSS Namsos 91.33 337 *e*P **P 21 23 02.4 -1.6**
NSS IAmb IAmb 21 23 11.1
comp=Z,209nm,2.2s
BBB Bella Bella 91.70 36 LR LR 21 59 08.0
comp=Z,97nm,20.2s,baz=316,slow=32
KOLS Kolonicke sedl 91.75 320 *e*P **P 21 23 07.2 +0.8**
KOLS pmax pmax
comp=Z,5.0nm,0.6s
KOLS Kolonicke sedl 91.75 320 *e*P **P 21 23 07.2 +0.8**
BEL Belsk 91.78 323 *e*P **P 21 23 07.7 +1.3**
RES Resolute Bay 91.95 10 P **P 21 23 06.9 +0.2**
RES IAmb IAmb 21 23 10.2
comp=Z,12nm,1.1s
RES Resolute Bay 91.95 10 LR LR 22 09 52.1
comp=Z,76nm,18.5s,baz=355,slow=39
RES Resolute Bay 91.95 10 P **P 21 23 06.9 +0.2**
RES pmax pmax
comp=Z,12nm,1.1s
STHS Stebnicka Huta 92.25 321 *e*P **P 21 23 08.1 -0.6**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 92.25 321 *e*P **P 21 23 08.1 -0.6**
HFS Hagfors 92.49 332 P **P 21 23 08.5 -1.0**
comp=Z,8.2nm,0.6s,baz=90,slow=4.4,SNR=32
comp=Z,8.2nm,0.6s
NIE Niedzica 92.84 321 *e*P **P 21 23 11.7 +0.3**
NEEM North Greenlan 92.89 359 *i*P **P 21 23 10.5 -0.9**
NEEM IAmb IAmb 21 23 14.2
comp=Z,25nm,1.1s
OJC Ojcow 92.89 322 *e*P **P 21 23 11.3 -0.3**
OJC Ojcow 92.89 322 P **P 21 23 10.5 -1.1**
OJC IAmb IAmb 21 23 22.0
comp=Z,10nm,1.0s
OJC Ojcow 92.89 322 P **P 21 23 10.5 -1.1**
OJC pmax pmax
comp=Z,10.0nm,1.0s
NC602 NORSAR Array S 93.19 333 *e*P **P 21 23 11.8 -1.0**
NB2 NORSAR Subarra 93.20 334 P **P 21 23 11.0 -1.8**
comp=Z,12nm,1.1s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.20 334 P **P 21 23 11.0 -1.8**
baz=65,slow=4.6
NOA NORSAR Array B 93.20 334 P **P 21 23 10.9 -1.9**
comp=Z,4.1nm,0.7s,baz=64,slow=4.6,SNR=10
NOA LR LR 22 09 09.8
comp=Z,107nm,18.3s,baz=35,slow=38
comp=Z,4.1nm,0.7s
NOA NORSAR Array B 93.20 334 *e*P **P 21 23 11.3 -1.5**
NOA pmax pmax
comp=Z,4.0nm,0.7s

DBG Daneborg 93.50 351 *i* P **P** **21 23 12.6 -1.3**
DBG IAmb IAmb 21 23 16.6
comp=Z,18nm,1.2s
PSZ Piszkesteto 93.57 320 P **P** **21 23 14.0 -0.9**
PSZ pmax pmax
comp=Z,9.0nm,1.4s
IDI Anoyia 93.58 307 LR LR 22 10 46.5
comp=Z,64nm,21.1s,baz=119,slow=39
VYHS Vyhne 94.05 321 *e*P P 21 23 21.9 +4.9
VYHS Vyhne 94.05 321 *e*P P 21 23 21.9 +4.9
YKA Yellowknife Ar 94.17 24 P **P** **21 23 17.7 +0.5**
comp=Z,4.9nm,0.7s,baz=298,slow=4.7,SNR=79
YKA LR LR 22 06 15.4
comp=Z,90nm,21.1s,baz=276,slow=36
comp=Z,4.9nm,0.7s
MORC Moravsky Berou 94.41 322 *e*P **P** **21 23 18.2 -0.5**
AKN Aaknes 94.42 336 *e*P **P** **21 23 18.4 0.0**
JAVC Velka Javorina 94.66 321 *e*P **P** **21 23 20.8 +1.0**
KSP Ksiaz 94.77 323 *e*P **P** **21 23 20.4 +0.2**
KSP Ksiaz 94.77 323 P **P** **21 23 20.4 +0.2**
VRAC Vranov 95.16 322 *e*P **P** **21 23 21.1 -0.9**
VRAC Vranov 95.16 322 P **P** **21 23 21.9 -0.1**
VRAC pmax pmax
comp=Z,10.0nm,1.0s
KRUC Moravsky 95.37 322 *e*P **P** **21 23 22.7 -0.3**
MBAR Mbarara 95.60 270 *i* P **P** **21 23 23.7 -1.3**
MBAR pmax pmax
comp=Z,3.0nm,1.0s
RONA Rosalia, Austr 95.93 320 *i* PcP **PcP** **21 23 26.1 +0.3**
comp=Z,3.6nm,0.7s
RONA *i* pP **sP** **21 23 35.0 -2.2**
comp=Z,3.6nm,0.7s
CONA Conrad Observa 96.11 321 *e*PcP **PcP** **21 23 27.5 +0.8**
comp=Z,8.9nm,1.6s
CONA *i* pP **sP** **21 23 35.9 -2.2**
comp=Z,5.4nm,1.3s
CLL Collm 96.50 325 *e*P **P** **21 23 30.0 +1.9**
ZVC Zvikov 96.56 323 *e*P **P** **21 23 28.2 -0.2**
CKRC Cesky Krumlov 96.73 322 *e*P **P** **21 23 28.7 -0.5**
CKRC *ex* x 21 23 32.3
CKRC Cesky Krumlov 96.73 322 *e*P **P** **21 23 28.7 -0.5**
CKRC *e* 21 23 32.3
KHC Kasperske Hory 97.05 322 *e*P **P** **21 23 30.2 -0.5**
KHC *e*pP Pdif 21 23 33.5 +2.7
KHC Kasperske Hory 97.05 322 *i* P **P** **21 23 29.4 -1.3**
KHC pmax pmax
comp=Z,7.0nm,1.2s
GERES GERESS Array B 97.09 322 P **P** **21 23 30.4 -0.5**
comp=Z,1.3nm,0.6s,baz=46,slow=4.2,SNR=5.1
GERES LR LR 22 09 44.8
comp=Z,177nm,18.1s,baz=82,slow=37
comp=Z,1.3nm,0.6s
GERES GERESS Array B 97.09 322 *e*P **P** **21 23 30.5 -0.5**
GERES pmax pmax
comp=Z,2.0nm,0.7s
SOKA Soboth 97.11 320 *e*PcP Pdif 21 23 32.5 +1.4
comp=Z,5.2nm,1.2s
SOKA *i* pP sP 21 23 39.9 -2.7
comp=Z,5.6nm,1.3s
MOA Molln 97.14 321 *e*PcP **P** **21 23 31.0 0.0**
comp=Z,12nm,1.1s
MOA *i* pP **pP** **21 23 39.4 +0.2**
comp=Z,10nm,1.0s
SUMG Summit 97.20 355 *i* P **P** **21 23 30.8 -0.5**
KBA Koelnbreinsper 98.02 321 *i* P **P** **21 23 32.6 -2.6**
comp=Z,5.3nm,1.5s
KBA *i* pP **pP** **21 23 43.7 +0.3**
comp=Z,9.2nm,1.4s
LESA Schwarzleotal 98.29 321 *e*P **P** **21 23 35.0 -1.4**
comp=Z,7.3nm,1.0s
LESA *i* pP **sP** **21 23 45.0 -3.0**
comp=Z,7.3nm,1.0s
B08A Colville Reser 98.34 38 P **P** **21 23 35.6 -0.9**
B08A IAmb IAmb 21 23 39.1
comp=Z,5.6nm,1.0s
YBH Yreka Blue Hor 98.74 45 LR LR 22 03 08.1
comp=Z,127nm,19.8s,baz=323,slow=32
WTTA Wattenberg 99.00 321 *e*Pdiff **Pdif** **21 23 39.7 0.0**
comp=Z,12nm,1.3s
WTTA *i* pPdiff **sP** **21 23 48.4 -2.8**
comp=Z,10nm,1.0s
WATA Walderalm 99.01 321 *e*Pdiff **Pdif** **21 23 39.2 -0.4**
comp=Z,9.0nm,1.1s
WATA *i* pPdiff **sP** **21 23 48.3 -3.0**
comp=Z,9.0nm,1.1s
SQTA Sankt Quirin 99.29 321 Pdiff **Pdif** **21 23 42.7 +1.8**
comp=Z,11nm,1.2s
SQTA *i* pPdiff **sP** **21 23 49.5 -2.9**
comp=Z,11nm,1.2s
MOTA Moosalm 99.30 321 *e*Pdiff **Pdif** **21 23 41.1 +0.1**
comp=Z,11nm,1.8s
MOTA *i* pPdiff **sP** **21 23 49.6 -2.9**
comp=Z,8.9nm,1.1s
QSPA South Pole Qui 99.66 180 LR LR 22 08 13.7
comp=Z,118nm,21.4s,baz=338,slow=35
FETA Feichten 99.67 321 *i* Pdiff **Pdif** **21 23 43.3 +0.6**
comp=Z,6.8nm,1.2s
FETA *i* pPdiff **pP** **21 23 51.1 +0.3**
comp=Z,6.6nm,1.0s
NEW Newport 99.71 37 LR LR 22 05 25.5
comp=Z,95nm,19.1s,baz=293,slow=33
NVAR Mina Array Bea 103.13 47 Pdiff **Pdif** **21 23 59.2 +0.9**
comp=Z,0.7nm,0.7s,baz=257,slow=5.5,SNR=3.7
NVAR PP **PP** **21 28 12.4 -0.5**
comp=Z,1.6nm,1.0s,baz=248,slow=7.8,SNR=4.3
PDAR Pinedale Array 107.03 40 PKKP 21 39 55.0
comp=Z,0.4nm,0.5s,baz=138,slow=4.8,SNR=3.6
U15A North Rim 108.31 46 PKiKP **PKiKP** **21 28 25.3 -2.4**
U15A PP **PP** **21 28 49.2 -2.0**
TXAR Lajitas Array 118.10 49 PKP **PKPdf** **21 28 46.2 -0.1**
comp=Z,0.6nm,0.6s,baz=350,slow=1.4,SNR=6.0
TXAR PKKPab **PKKPab** **21 39 10.8 +1.2**
comp=Z,0.6nm,0.9s,baz=172,slow=3.3,SNR=3.7
JCT Junction City 120.30 46 PKPdf **PKiKP** **21 28 50.9 +0.4**
JCT Junction City 120.30 46 PKiKP **PKiKP** **21 28 50.9 +0.4**
TORD Torodi Ar. Bea 120.48 292 PKP **PKPdf** **21 28 50.0 -1.2**
comp=Z,1.5nm,0.9s,baz=27,slow=4.2,SNR=8.0
WVT Waverly 124.13 33 PKPdf **PKPdf** **21 28 57.7 +0.1**
WVT Waverly 124.13 33 PKiKP **PKPdf** **21 28 57.7 +0.1**
HDC Heredia 143.89 58 *e*P **PKiKP** **21 29 41.3 +2.7**
LR05 Currie 145.60 155 **PKPdf** **21 29 36.6 -0.6**
PLCA Paso Flores 145.76 157 PKPbc **PKPbc** **21 29 38.2 +0.2**
comp=Z,7.1nm,0.7s,baz=242,slow=4.9,SNR=17
PLCA Paso Flores 145.76 157 *e*PKP2 **PKPab** **21 29 38.8 +0.5**
PLCA pmax pmax
comp=Z,7.0nm,0.7s
SDDR Presa de Saban 146.55 31 **PKPbc** **21 29 41.2 +0.3**
DR12 Loma Pena Alta 147.65 29 **PKPbc** **21 29 44.9 +0.8**
BI02 San Fabin de 148.87 152 PKPdf **PKPdf** **21 29 42.3 -0.6**
IGPR InterUniversit 149.81 24 PKPab **PKiKP** **21 29 51.3 +0.8**
BO01 Tunca 150.79 150 **PKiKP** **21 29 52.0 -0.1**
MT02 Curacav 151.65 148 PKPab **PKiKP** **21 29 57.0 +3.0**
ROC1 El Roble 151.94 148 *e*P **PKPdf** **21 29 46.8 -1.2**
ASAL Salagasta 153.35 151 *e*P **PKPbc** **21 29 57.0 -0.4**
AUSP Uspallata 153.37 149 *e*P **PKPbc** **21 29 56.1 -1.7**
OTAV Otavalo 153.41 69 **PKPdf** **21 29 49.1 -1.9**
OTAV PKPbc **pPKPdf** **21 29 57.5 -1.4**
OTAV PKPab **sPKPbc** **21 30 08.4 -2.1**
OTAV Otavalo 153.41 69 PKiKP **PKPdf** **21 29 49.1 -1.9**
OTAV 21 29 57.6
OTAV Otavalo 153.41 69 *e*P **PKPbc** **21 29 55.3 -3.3**
SDV Santo Domingo 154.92 43 **PKPbc** **21 29 58.3 -3.1**
MAJ01 Sao Joao Batis 161.95 194 *e*P **PKPdf** **21 30 06.6 +6.0**
CPUP Villa Florida 163.20 169 PKPab **PKPab** **21 30 50.6 -1.2**
comp=Z,0.5nm,0.3s,baz=146,slow=4.1,SNR=3.4
LPAZ La Paz 164.52 116 PKP **PKPdf** **21 30 03.3 -0.8**
comp=Z,3.3nm,1.1s,baz=297,slow=4.5,SNR=5.2
BSFB Barra de Sao F 164.67 233 *e*P **PKPdf** **21 30 08.7 +5.3**

---

*SDD **08** 21:21:54.3±2.4, 19.°64N×71.°24W, h20km±11km, MD3.5, ML3.4, MW4.0*
*OSPL **08** 21:21:54.3±2.5, 19.°64N×71.°27W, h0km±16km, ML3.0, Hypocentre not reviewed by the ISC*
*SSNC **08** 21:21:55.0±2.0, 19.°62N×71.°22W, h7km±25km, MD3.5, ML3.3, MW2.8*
ISC 08 21:21:50.7±1.1, 19.°72N±0.°03×71.°22W±0.°03, h12km±9km, n25, σ0°93/45, 22C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.14**	**9**	*i* P		21 21 42.2	
LOPP1				*e*S		21 21 47.2	
LOPP1				IAML		21 21 50.2	
	comp=Z,5μm,0.2s						
MAO1	**Mao**	**0.21**	**142**	↑*e*Pg	**Pb**	**21 21 57.6**	**+1.1**
MAO1				↓*e*Sg	**Sb**	**21 22 01.1**	**+2.6**
MCDR	**Montecristi**	**0.45**	**293**	↑*e*Pg	**Pn**	**21 22 03.4**	**+0.5**
MCDR				IAML		21 22 16.2	
	comp=N,3μm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.49**	**249**	*i* P		21 21 46.0	
LODA1				*e*S		21 21 52.7	
LODA1				IAML		21 21 54.6	
	comp=Z,1μm,1.1s						
SC01	**Santiago de lo**	**0.55**	**122**	↑*e*Pg	**Pn**	**21 22 03.8**	**-0.5**
SC01				↑*e*Sg	**Sn**	**21 22 12.3**	**-1.1**
SC01				IAML		21 22 12.9	
	comp=N,2μm,0.8s						
SC01	**Santiago de lo**	**0.55**	**122**	*i* P		21 22 03.8	
SC01				*e*S		21 22 12.3	
SC01				IAML		21 22 21.3	
	comp=Z,887nm,0.5s						
SODR	**Sosua Marina B**	**0.61**	**87**	↑*e*Pg	**Pn**	**21 22 06.8**	**+1.7**
SODR				IAML		21 22 26.4	
	comp=N,2μm,0.6s						
SDDR	**Presa de Saban**	**0.74**	**185**	*i* P	**Pb**	**21 22 05.7**	**+0.2**
SDDR				*e*S	**Sg**	**21 22 14.2**	**-0.5**
SDDR				IAML		21 22 16.7	
	comp=N,576nm,0.5s						
SDDR				IAML		21 22 16.7	
	comp=N,643nm,0.6s						
SDDR	**Presa de Saban**	**0.74**	**185**	↓*e*Pg	**Pb**	**21 22 05.7**	**+0.2**
SDDR				↑*e*Sg	**Sg**	**21 22 14.1**	**-0.5**
SDDR				IAML		21 22 15.8	
	comp=N,684nm,0.6s						
SDDR	**Presa de Saban**	**0.74**	**185**	*i* P		21 22 05.7	
SDDR				*e*S		21 22 15.3	
SDDR				IAML		21 22 16.1	
	comp=Z,462nm,0.6s						
ABDR	**Alto Bandera**	**1.06**	**148**	↓*e*Pg	**Pb**	**21 22 10.9**	**-0.3**
ABDR				↑*e*Sg	**Sb**	**21 22 24.7**	**-0.5**
ABDR				IAML		21 22 27.0	
	comp=N,504nm,0.3s						
LONE3	**El Aguacate, B**	**1.13**	**192**	*i* P		21 22 12.9	
LONE3				*e*S		21 22 27.2	
NEDR	**Neiba UASD**	**1.24**	**189**	↑*e*Pg	**Pg**	**21 22 14.7**	**0.0**
NEDR				↑*e*Sg	**Sg**	**21 22 31.6**	**+0.8**
NEDR				IAML		21 22 31.9	
	comp=N,341nm,0.6s						
NADR	**Nagua**	**1.34**	**106**	↑*e*Pg	**Pg**	**21 22 16.3**	**-0.1**
NADR				IAML		21 22 43.4	
	comp=N,2μm,0.3s						
DR08	**Loma La Naviza**	**1.36**	**123**	↑*e*Pg	**Pg**	**21 22 17.0**	**+0.1**
DR08				↑*e*Sg	**Sg**	**21 22 35.0**	**+0.4**
DR08				IAML		21 22 38.1	
	comp=N,4μm,0.2s						
LODU1	**El Espartillar**	**1.38**	**190**	*i* P		21 22 17.6	
PODR	**Polo**	**1.55**	**182**	↑*e*Pg	**Pg**	**21 22 20.3**	**-0.1**
PODR				IAML		21 22 46.4	
	comp=N,282nm,0.4s						
PODR	**Polo**	**1.55**	**182**	*i* P		21 22 20.1	
PODR				*e*S		21 22 40.8	
PAPH	**Port-au-Prince**	**1.57**	**221**	*e*P	**Pg**	**21 22 21.2**	**+0.4**
PAPH				*e*S	**Sb**	**21 22 39.8**	**+0.4**
PAPH				IAML		21 22 45.3	
	comp=N,164nm,0.5s						
PAPH				IAML		21 22 47.5	
	comp=E,142nm,0.5s						
LOBA2	**Hotel Casa Bon**	**1.63**	**176**	↑*e*Pg	**Pb**	**21 22 20.3**	**-0.4**
GRTK	**Grand Turk**	**1.79**	**3**	*e*P	**Pg**	**21 22 24.5**	**-0.5**
GRTK				*e*S	**Sg**	**21 22 47.4**	**-0.7**
GRTK				IAML		21 22 50.5	
	comp=E,299nm,0.4s						
GRTK				IAML		21 22 50.8	
	comp=E,292nm,0.5s						
GRTK	**Grand Turk**	**1.79**	**3**	↓*e*Pg	**Pg**	**21 22 24.8**	**-0.2**
GRTK				*e*Sg	**Sg**	**21 22 49.6**	**+1.4**
GRTK				IAML		21 22 55.3	
	comp=N,300nm,0.3s						
GRTK	**Grand Turk**	**1.79**	**3**	*i* P		21 22 24.8	
GRTK				*e*S		21 22 49.5	
GRTK				IAML		21 22 54.8	
	comp=Z,68nm,0.5s						
SMDR	**Samana, DR**	**1.96**	**102**	↑*e*Pg	**Pb**	**21 22 26.4**	**0.0**
SMDR				↑*e*Sg	**Sg**	**21 22 53.0**	**-0.9**
SMDR				IAML		21 22 58.9	
	comp=N,250nm,0.5s						
HATOM	**Hato Mayor del**	**1.97**	**118**	↑*e*Pg	**Pb**	**21 22 26.0**	**-0.5**
HATOM				↑*e*Sg	**Sb**	**21 22 50.7**	**-0.4**
HATOM				IAML		21 22 53.9	
	comp=N,180nm,0.2s						
MIDR	**Miches**	**2.18**	**109**	↑*e*Pg	**Pb**	**21 22 29.6**	**-0.4**
MIDR				↑*e*Sg	**Sb**	**21 22 58.0**	**+1.0**
MIDR				IAML		21 23 02.2	
	comp=N,78nm,0.5s						
MASC	**Masc**	**2.87**	**280**	*e*P	**Pn**	**21 22 36.8**	**+0.6**
MASC				*e*S	**Sn**	**21 23 11.8**	**+1.1**
MASC	**Masc**	**2.87**	**280**	*i* P		21 22 37.3	
MASC				*e*S		21 23 12.8	
MASC				IAML		21 23 23.6	
	comp=Z,87nm,0.7s						
PCDR	**Punta Cana, DR**	**2.94**	**114**	↑*e*Pg	**Pb**	**21 22 43.7**	**+0.7**
PCDR				↑*e*Sg	**Sb**	**21 23 18.6**	**-0.4**
PCDR				IAML		21 23 33.8	
	comp=N,186nm,1.1s						
QMBU	**Quimbuelo**	**3.41**	**279**	*e*P	**Pn**	**21 22 43.7**	**0.0**
QMBU				*e*S	**Sn**	**21 23 24.4**	**+0.2**
NMDO	**Nuevo Mundo**	**3.63**	**284**	*e*P	**Pn**	**21 22 44.0**	**-2.8**
NMDO				*e*S	**Sn**	**21 23 29.2**	**-0.3**
GTBY	**Guantanamo Bay**	**3.67**	**274**	*e*P	**Pn**	**21 22 47.6**	**+0.4**
GTBY				*e*S	**Sn**	**21 23 31.7**	**+1.3**
RCC	**Rio Carpintero**	**4.22**	**274**	*e*P	**Pn**	**21 22 54.5**	**-0.3**
RCC				*e*S	**Sn**	**21 23 43.8**	**-0.3**
PINC	**Pinares de May**	**4.36**	**281**	*e*P	**Pn**	**21 22 56.5**	**-0.3**
PINC				*e*S	**Sn**	**21 23 45.8**	**-1.8**

DJA 08 21:29:04.4±1.2, 3.°N±7.°×12.°9E±.°, h26km±9km, M4.1/9, mb4.6/3, MLv3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.25**	**216**	P	Pn	21 29 41.3	+1.3
SWI	**Sorong**	**4.31**	**143**	P	Pn	21 30 07.2	-1.1
NLAI	**Namlea**	**6.02**	**195**	P	Pn	21 30 31.5	-0.4
	0.2nm36nm,0.7s						
FAKI	**Fak Fak**	**6.55**	**147**	P	Pn	21 30 39.3	+0.2

---

*SSNC **08** 21:38:31.7±0.3, 19.°62N×71.°19W, h2km±4km, MD3.1, ML2.8, MW3.0*
*SDD **08** 21:38:31.8±2.6, 19.°66N×71.°22W, h18km±34km, MD3.4, ML3.1, MW3.7*
*OSPL **08** 21:38:32.3±2.5, 19.°62N×71.°26W, h0km±19km, ML2.6, Hypocentre not reviewed by the ISC*
ISC 08 21:38:30.1±1.1, 19.°65N±0.°03×71.°19W±0.°03, h18km±5km, n18, σ1°11/34, 23C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.20**	**358**	*i* P		21 38 20.0	
LOPP1				*e*S		21 38 25.1	
LOPP1				IAML		21 38 28.2	
	comp=Z,2μm,0.2s						
SC01	**Santiago de lo**	**0.49**	**116**	↑*e*Pg	**Pn**	**21 38 41.4**	**-0.9**
SC01				↑*e*Sg	**Sn**	**21 38 49.9**	**-0.4**
SC01				IAML		21 38 50.7	
	comp=N,788nm,0.4s						
SC01	**Santiago de lo**	**0.49**	**116**	*i* P		21 38 41.4	
SC01				*e*S		21 38 49.9	
SC01				IAML		21 38 54.1	
	comp=Z,411nm,0.6s						
LODA1	**ITESIL, Dajabo**	**0.49**	**258**	*i* P		21 38 25.2	
LODA1				*e*S		21 38 32.0	
LODA1				IAML		21 38 33.1	
	comp=Z,1μm,0.5s						
MCDR	**Montecristi**	**0.50**	**299**	↑*e*Pg	**Pg**	**21 38 41.0**	**+0.8**
MCDR				IAML		21 38 54.1	
	comp=N,949nm,0.2s						
REDR	**Restauracion**	**0.52**	**202**	↑*e*Pg	**Pn**	**21 38 42.2**	**-0.4**
REDR				↓*e*Sg	**Sn**	**21 38 50.2**	**-0.7**
REDR				IAML		21 38 51.2	
	comp=N,2μm,0.1s						
SDDR	**Presa de Saban**	**0.67**	**188**	*i* P	**Pg**	**21 38 43.4**	**0.0**
SDDR				*e*S	**Sg**	**21 38 52.2**	**0.0**
SDDR				IAML		21 38 53.5	
	comp=N,370nm,0.2s						
SDDR				IAML		21 38 53.6	
	comp=N,289nm,0.2s						
SDDR	**Presa de Saban**	**0.67**	**188**	↓*e*Pg	**Pg**	**21 38 43.3**	**0.0**
SDDR				↑*e*Sg	**Sb**	**21 38 51.8**	**-0.4**
SDDR				IAML		21 38 53.4	
	comp=N,484nm,0.6s						
SDDR	**Presa de Saban**	**0.67**	**188**	*i* P		21 38 43.4	
SDDR				*e*S		21 38 52.8	
SDDR				IAML		21 38 53.8	
	comp=Z,291nm,0.2s						
ABDR	**Alto Bandera**	**0.99**	**147**	↑*e*Pg	**Pb**	**21 38 48.7**	**-0.3**
ABDR				↑*e*Sg	**Sg**	**21 39 02.5**	**+0.1**
ABDR				IAML		21 39 04.6	
	comp=N,193nm,0.3s						
LONE3	**El Aguacate, B**	**1.07**	**194**	*i* P		21 38 50.6	
LONE3				*e*S		21 39 04.8	
DR08	**Loma La Naviza**	**1.30**	**121**	↑*e*Pg	**Pg**	**21 38 55.3**	**+0.1**
DR08				↑*e*Sg	**Sg**	**21 39 13.5**	**+1.2**
DR08				IAML		21 39 15.2	
	comp=N,4μm,0.1s						
JIDR	**Jimani**	**1.31**	**208**	↑*e*Pg	**Pb**	**21 38 54.5**	**+0.4**
JIDR				↑*e*Sg	**Sg**	**21 39 12.8**	**+0.3**
JIDR				IAML		21 39 13.3	
	comp=N,398nm,0.3s						
LODU1	**El Espartillar**	**1.31**	**192**	*i* P		21 38 55.0	
PODR	**Polo**	**1.48**	**183**	↑*e*Pg	**Pb**	**21 38 57.6**	**+0.4**
PODR				↑*e*Sg	**Sg**	**21 39 18.6**	**+0.7**
PODR				IAML		21 39 23.9	
	comp=N,159nm,0.5s						
PODR	**Polo**	**1.48**	**183**	*i* P		21 38 57.5	
PODR				*e*S		21 39 18.0	
LOBA2	**Hotel Casa Bon**	**1.56**	**177**	↑*e*Pg	**Pb**	**21 38 58.8**	**+0.3**
LOBA2				↑*e*Sg	**Sg**	**21 39 20.0**	**-0.5**
GRTK	**Grand Turk**	**1.85**	**2**	*e*P	**Pn**	**21 39 02.3**	**+1.3**
GRTK				*e*S	**Sb**	**21 39 27.9**	**+1.5**
GRTK				IAML		21 39 30.5	
	comp=N,99nm,0.2s						
GRTK				IAML		21 39 30.9	
	comp=N,116nm,0.2s						
GRTK	**Grand Turk**	**1.85**	**2**	↑*e*Pg	**Pb**	**21 39 02.7**	**-0.8**
GRTK				↑*e*Sg	**Sg**	**21 39 28.4**	**-1.5**
GRTK				IAML		21 39 32.5	
	comp=N,114nm,0.2s						
GRTK	**Grand Turk**	**1.85**	**2**	*i* P		21 39 02.8	
GRTK				*e*S		21 39 28.0	
GRTK				IAML		21 39 33.0	
	comp=Z,28nm,0.3s						
HATOM	**Hato Mayor del**	**1.91**	**116**	↑*e*Pg	**Pb**	**21 39 03.8**	**-0.7**
HATOM				↑*e*Sg	**Sb**	**21 39 29.1**	**+1.0**
HATOM				IAML		21 39 31.5	
	comp=N,97nm,0.2s						
SMDR	**Samana, DR**	**1.93**	**100**	↑*e*Pg	**Pb**	**21 39 05.5**	**+0.8**
SMDR				↑*e*Sg	**Sb**	**21 39 29.2**	**+0.9**
SMDR				IAML		21 39 36.0	
	comp=N,127nm,0.8s						
MIDR	**Miches**	**2.13**	**108**	↑*e*Pg	**Pb**	**21 39 07.6**	**-0.5**
MIDR				↑*e*Sg	**Sg**	**21 39 37.2**	**-1.5**
MIDR				IAML		21 39 38.8	
	comp=N,35nm,1.5s						
PCDR	**Punta Cana, DR**	**2.89**	**113**	↓*e*Sg	**Sb**	**21 39 58.2**	**+2.0**
PCDR				IAML		21 40 41.5	
	comp=N,138nm,2.5s						
MASC	**Masc**	**2.91**	**281**	*e*P	**Pn**	**21 39 14.8**	**-0.7**
MASC				*e*S	**Sn**	**21 39 50.2**	**+0.2**
QMBU	**Quimbuelo**	**3.45**	**280**	*e*P	**Pn**	**21 39 24.4**	**+1.5**
QMBU				*e*S	**Sn**	**21 39 59.8**	**-3.6**

---

*IDC **08** 21:43:33.0±1.1, 9.°89N×126.°16E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=87.7km s-min=21.4km az=70.0*
ISC 08 21:43:40.3±1.0, 9.°8N±0.°2×126.°0E±0.°5, h54km, n12, σ0°45/8, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.76**	**189**	Lg	Lg	21 45 03.1	
	46nm,0.3s,baz=323,slow=18,SNR=4.4						
WRA	**Warramunga Arr**	**30.68**	**165**	P	**P**	**21 49 50.5**	**+0.4**
	0.5nm,0.8s,baz=344,slow=8.7,SNR=1.8						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**34.16**	**167**	P	**P**	**21 50 20.1**	**-0.4**
	0.3nm,0.5s,baz=349,slow=6.8,SNR=4.8						
	0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.63**	**71**	T	T	22 34 26.9	
	baz=265,slow=74,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**40.64**	**71**	T	T	22 34 29.5	
	baz=265,slow=74,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**40.65**	**71**	T	T	22 34 38.6	
	baz=265,slow=74,SNR=9.4						
SONM	**Songino Array**	**41.36**	**340**	P	**P**	**21 51 20.9**	**-0.2**
	0.1nm,0.4s,baz=161,slow=7.7,SNR=1.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**21 52 46.4**	**+0.3**
	0.5nm,0.7s,baz=123,slow=7.1,SNR=6.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.31**	**326**	P	**P**	**21 53 15.7**	**+0.2**
	1.7nm,0.3s,baz=124,slow=6.4,SNR=1.4						
	1.7nm,0.3s						
ARCES	**ARCESS Array B**	**84.53**	**340**	P	**P**	**21 56 07.7**	**+0.4**
	1.0nm,0.8s,baz=77,slow=4.9,SNR=4.1						
	1.0nm,0.8s						
FINES	**FINESS Array B**	**86.17**	**332**	P	**P**	**21 56 15.0**	**-0.6**
	2.8nm,0.9s,baz=80,slow=8.8,SNR=3.4						
	2.8nm,0.9s						
YKA	**Yellowknife Ar**	**94.27**	**24**	P	**P**	**21 56 53.5**	**-0.1**
	0.3nm,0.7s,baz=296,slow=5.0,SNR=4.4						
	0.3nm,0.7s						

---

*DJA **08** 21:48:13.1±0.5, 11.°N±4.°×12.°7E±.°, h10km, M5.2/19, mb4.8/19, mB5.8/3, MLv5.5/3, Mw(mB)5.4/3*
*IDC **08** 21:48:15.7±0.5, 9.°81N×126.°20E, h0km, mb4.3/21, mbtmp4.2/21, MS3.4/14, Error ellipse: s-maj=24.6km s-min=10.8km az=83.0*
*NEIC **08** 21:48:19.1±1.8, 9.°96N±0.°06×126.°39E±0.°07, h10km±1km, mb4.6/80, Error ellipse: s-maj=15.1km s-min=4.6km az=132.0*
ISC 08 21:48:22.5±0.4, 9.°92N±0.°05×126.°37E±0.°08, h42km, n148, σ1°28/135, mb4.5/69, MS3.2/10, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.94**	**196**	Pg	**Pn**	**21 49 07.5**	**+0.8**
	85nm,0.3s,baz=282,slow=2.1,SNR=6.0						
DAV				Lg	Lg	21 49 43.3	
	104nm,0.3s,baz=252,slow=21,SNR=6.1						
DAV				LR	LR	21 50 25.3	
	comp=Z,827nm,21.6s,baz=348,slow=46						
SGSI	**Sangihe**	**6.25**	**188**	P	Pn	21 49 57.4	+5.2
TGY	**Tagaytay City**	**6.75**	**309**	LR	LR	21 53 24.1	
	comp=Z,280nm,18.2s,baz=238,slow=46						
TNTI	**Ternate**	**9.14**	**174**	P	**Pn**	**21 50 34.9**	**+3.0**
	47nm,1.0s						
KMSI	**Cibinong**	**9.58**	**195**	P	Pn	21 50 44.4	+6.4
MRSI	**Marisa**	**10.36**	**205**	P	**Pn**	**21 50 51.1**	**+2.4**
	25nm,0.7s						
KKM	**Kota Kinabalu**	**10.77**	**250**	Pn	**Pn**	**21 50 55.1**	**+0.7**
LUWI	**Luwuk**	**11.46**	**198**		**Pn**	**21 51 06.9**	**+3.2**
LUWI	**Luwuk**	**11.46**	**198**	P	Pn	21 51 10.0	+6.3
	1μm101nm,1.1s						
SWI	**Sorong**	**11.76**	**155**	P	**Pn**	**21 51 08.9**	**+1.1**
	24nm,0.9s						
SANI	**Sanana**	**11.89**	**182**	P	Pn	21 51 05.4	-4.2
PCI	**Palu**	**12.56**	**212**	P	**Pn**	**21 51 23.2**	**+4.4**
	28nm,1.0s						
TWG	**Pinlang**	**13.80**	**339**

comp=Z,79nm,18.4s,baz=199,slow=38
SOEI Soe 19.65 186 P **Pn** **21 52 51.3 +1.5**
SOEI IAmb IAmb 21 53 05.7
comp=Z,22nm,0.7s
SOEI Soe 19.65 186 P **Pn** **21 52 52.7 +3.0**
comp=Z,59nm,1.3s
JCJ Chichijima 22.69 39 LR LR 22 00 45.7
comp=Z,79nm,20.3s,baz=226,slow=33
NJ2 Nanjing 23.10 344 *e*P **P** **21 53 25.4 +0.6**
NJ2 pmax pmax
comp=Z,19nm,0.8s
JNU Nakatsue 23.46 10 P **P** **21 53 30.2 +1.8**
JNU IAmb IAmb 21 53 30.7
comp=Z,38nm,1.4s
JNU Nakatsue 23.46 10 LR LR 22 01 17.0
comp=Z,71nm,21.3s,baz=172,slow=33
MYKOM Kota Tinggi 23.80 252 P **P** **21 53 32.6 +0.9**
MYKOM IAmb IAmb 21 53 37.0
comp=Z,12nm,0.7s
KNRA Kununurra 25.54 175 P **P** **21 53 47.3 -0.2**
IPM Ipoh 25.71 260 P **P** **21 53 50.0 +0.8**
IPM IAmb IAmb 21 53 57.4
comp=Z,11nm,0.8s
PHRA Phrae 26.71 292 P **P** **21 53 57.9 -0.3**
KSRS Korea Array 27.45 3 P **P** **21 54 05.2 +0.6**
comp=Z,1.0nm,0.4s,baz=179,slow=10.0,SNR=4.9
KSRS LR LR 22 07 46.3
comp=Z,59nm,18.0s,baz=185,slow=42
comp=Z,1.0nm,0.4s
LYN LuoYang 27.63 335 ⇓P **P** **21 54 06.2 0.0**
LYN pmax pmax
comp=Z,10.0nm,1.0s
FITZ Fitzroy Crossi 27.84 181 P **P** **21 54 08.3 +0.1**
CMAR Chiang Mai Arr 27.88 291 P **P** **21 54 08.3 -0.3**
comp=Z,0.8nm,0.6s,baz=107,slow=6.9,SNR=8.1
CMAR LR LR 22 05 50.4
comp=Z,52nm,19.0s,baz=100,slow=38
comp=Z,0.8nm,0.6s
PSI Prapat 28.16 257 LR LR 22 08 01.3
comp=Z,68nm,20.8s,baz=84,slow=42
PZH PanZhiHua 28.54 309 P **P** **21 54 16.7 +2.1**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
MJAR Matsushiro Arr 28.60 20 LR LR 22 03 56.5
comp=Z,92nm,21.4s,baz=204,slow=33
XAN Xi'an 28.86 329 ⇑P **P** **21 54 16.1 -1.1**
XAN pmax pmax
comp=Z,24nm,0.6s
HNS HongShan 29.32 341 ⇓P **P** **21 54 22.1 +0.9**
HNS pmax pmax
comp=Z,11nm,0.8s
GSI Gunungsitoli 29.88 255 P **P** **21 54 26.5 0.0**
WRA Warramunga Arr 30.69 165 P **P** **21 54 31.2 -2.3**
comp=Z,0.5nm,0.3s,baz=344,slow=8.0,SNR=14
comp=Z,0.5nm,0.3s
BJT Baijiatuau 31.32 345 P **P** **21 54 40.4 +1.5**
MBWA Marble Bar 31.56 192 P **P** **21 54 39.6 -1.5**
PSA00 Pilbara Seismi 31.94 192 P **P** **21 54 43.1 -1.4**
PSA00 IAmb IAmb 21 54 54.4
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 33.48 339 ⇓*i*P **P** **21 54 59.3 +1.4**
HHC pP pP 21 55 07.3 -0.9
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,11.8s
ASAR Alice Springs 34.18 168 P **P** **21 55 02.0 -2.1**
comp=Z,1.1nm,0.3s,baz=350,slow=7.4,SNR=24
ASAR PcP **PcP** **21 57 39.8 -0.7**
comp=Z,0.7nm,0.7s,baz=345,slow=2.6,SNR=2.6
comp=Z,1.1nm,0.3s
MDJ Mudanjiang 34.69 4 P **P** **21 55 09.8 +1.6**
MDJ PP PnPn 21 56 11.7 -13
MDJ S S 22 00 08.1 -27
MDJ sS sS 22 00 27.0 -26
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ LR LR
comp=N,250nm,4.8s
MDJ LR LR
comp=E,220nm,4.7s
MDJ LR LR
comp=Z,210nm,6.0s
XLT XiLinHaoTe 35.02 347 *e*P **P** **21 55 12.2 +1.0**
XLT pP pP 21 55 22.3 +0.7
XLT sP sP 21 55 25.9 -0.3
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,90nm,5.2s
SHL Shillong 36.20 300 P **P** **21 55 20.9 -0.8**
SHL IAmb IAmb 21 55 26.5
comp=Z,6.5nm,0.6s
ASAJ Asahikawa 36.86 20 LR LR 22 10 48.5
comp=Z,50nm,19.7s,baz=179,slow=36
GTA Gaotai 37.73 326 P **P** **21 55 34.9 +0.5**
GTA sP pP 21 55 46.5 +1.1
GTA pmax pmax
comp=Z,7.0nm,0.5s
KLR Kul'dur 39.45 6 LR LR 22 13 37.2
comp=Z,36nm,18.4s,baz=192,slow=38
H11N1 WAKE ISLAND Hy 40.27 71 T T 22 39 17.0
baz=265,slow=74,SNR=35
H11N2 WAKE ISLAND Hy 40.28 71 T T 22 39 17.6
baz=265,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 40.29 71 T T 22 39 18.4
baz=265,slow=74,SNR=28
FORT Forrest 40.49 178 P **P** **21 55 57.5 +0.1**
ULN Ulaanbaatar 41.19 340 P **P** **21 56 03.2 0.0**
SONM Songino Array 41.38 340 P **P** **21 56 05.2 +0.4**
comp=Z,1.2nm,0.5s,baz=158,slow=10,SNR=13
SONM PcP **PcP** **21 58 02.4 +0.1**
comp=Z,0.8nm,0.7s,baz=158,slow=3.4,SNR=3.6
comp=Z,1.2nm,0.5s
BBOO Buckleboo 43.48 168 P **P** **21 56 22.1 +0.3**
BBOO IAmb IAmb 21 56 36.9
comp=Z,18nm,1.0s
NWAO Narrogin (SRO) 43.48 191 P **P** **21 56 21.7 -0.1**
NWAO IAmb IAmb 21 56 28.2
comp=Z,17nm,0.9s
STKA Stephens Creek 44.04 161 P **P** **21 56 26.1 -0.1**
comp=Z,1.7nm,0.4s,baz=340,slow=13,SNR=5.5
comp=Z,1.7nm,0.4s
PALK Pallekele 45.21 270 LR LR 22 18 39.1
comp=Z,26nm,18.4s,baz=58,slow=40
WMQ Urumqi 47.56 322 *e*P **P** **21 56 55.3 +1.2**
WMQ pmax pmax
comp=Z,8.0nm,0.9s
PETK Petropavlovsk- 49.92 24 P **P** **21 57 13.4 +1.5**
comp=Z,2.6nm,0.7s,baz=204,slow=3.3,SNR=6.5
comp=Z,2.6nm,0.7s
MKAR Makanchi Array 52.37 323 P **P** **21 57 29.8 -0.7**
comp=Z,3.8nm,0.6s,baz=121,slow=8.2,SNR=54
MKAR PcP **PcP** **21 58 41.0 0.0**
comp=Z,0.8nm,0.6s,baz=103,slow=4.4,SNR=1.5
comp=Z,3.8nm,0.6s
MAKZ Makanchi 52.56 323 P **P** **21 57 31.4 -0.5**
MAKZ IAmb IAmb 21 57 32.1
comp=Z,2.8nm,0.5s
ZALV Zalesovo Beam 54.98 331 P **P** **21 57 47.4 -2.0**
comp=Z,1.1nm,0.3s,baz=116,slow=6.9,SNR=7.7
comp=Z,1.1nm,0.3s
KURK Kurchatov 56.41 326 P **P** **21 57 59.0 -0.7**
KURK IAmb IAmb 21 58 00.8
comp=Z,5.3nm,0.9s
KURBB Kurchatov Arra 56.42 325 P **P** **21 57 59.1 -0.7**
comp=Z,1.9nm,0.4s,baz=126,slow=6.8,SNR=17
comp=Z,1.9nm,0.4s
TIXI Tiksi 61.70 1 P **P** **21 58 36.3 +0.3**
TIXI IAmb IAmb 21 58 37.3
comp=Z,7.4nm,1.1s
BVAR Borovoye Array 62.01 325 P **P** **21 58 37.9 -0.6**
comp=Z,1.5nm,0.6s,baz=121,slow=5.7,SNR=8.4
comp=Z,1.5nm,0.6s
NRIK Noril'sk 64.38 346 P **P** **21 58 53.6 -0.3**
comp=Z,2.3nm,0.5s,baz=136,slow=7.5,SNR=4.7
NRIK LR LR 22 28 40.4
comp=Z,54nm,19.1s,baz=222,slow=38
comp=Z,2.3nm,0.5s
O18K Koktuh Hills 75.67 31 P **P** **22 00 03.6 +0.3**
CAST Castle Rocks 77.41 27 P **P** **22 00 13.8 +0.7**
BPAW Bear Paw Mtn. 77.93 26 P **P** **22 00 16.1 +0.2**
BPAW IAmb IAmb 22 00 18.1
comp=Z,4.1nm,0.8s
COLD Coldfoot 78.38 23 P **P** **22 00 17.9 -0.4**
COLD IAmb IAmb 22 00 22.4
comp=Z,3.3nm,0.8s
I23K Minto, Yukon-K 78.66 25 P **P** **22 00 20.5 +0.6**
TOLK Toolik Lake Re 78.66 22 P **P** **22 00 20.4 +0.5**
NEA2 Nenana 78.78 26 P **P** **22 00 21.4 +0.8**
MCK McKinley 78.83 27 P **P** **22 00 20.9 0.0**
MCK IAmb IAmb 22 00 22.1
comp=Z,5.3nm,0.8s
SIRT Sirnak 79.25 306 P **P** **22 00 25.0 +1.1**
F24K Squaw Lake 79.28 23 P **P** **22 00 24.9 +1.6**
F24K IAmb IAmb 22 00 25.9
comp=Z,3.6nm,0.8s
H24K Noodor Dome 79.28 25 P **P** **22 00 24.8 +1.4**
CCB Clear Creek Bu 79.32 26 P **P** **22 00 23.5 -0.1**
G24K Hadweenzic Riv 79.44 24 P **P** **22 00 25.8 +1.6**
SCM Sheep Creek Mo 79.59 29 P **P** **22 00 26.3 +1.1**
SCM IAmb IAmb 22 00 36.8
comp=Z,11nm,1.1s
IL31 79.71 26 **P** **22 00 25.8 +0.1**
ILAR Eielson Array 79.71 26 P **P** **22 00 25.0 -0.7**
comp=Z,1.0nm,0.7s,baz=240,slow=5.2,SNR=9.6
comp=Z,1.0nm,0.7s
GLI Glacier Island 79.72 30 P **P** **22 00 25.9 +0.1**
GLI IAmb IAmb 22 00 26.9
comp=Z,4.1nm,0.7s
D25K Kavik River 79.82 21 P **P** **22 00 27.3 +1.1**
FID Port Fidalgo 80.03 30 P **P** **22 00 28.3 +0.8**
FID IAmb IAmb 22 00 35.0
comp=Z,13nm,1.2s
HIN Hinchinbrook I 80.04 30 P **P** **22 00 27.1 -0.5**
F25K Christian Rive 80.14 23 P **P** **22 00 29.2 +1.2**
E25K Arctic Village 80.15 22 P **P** **22 00 29.5 +1.5**
RIDG Independent Ri 80.65 27 P **P** **22 00 30.3 -0.6**
F26K Sheenjek River 80.70 23 P **P** **22 00 32.5 +1.5**
C27K Jago River 80.75 21 P **P** **22 00 32.6 +1.4**
C27K IAmb IAmb 22 00 34.0
comp=Z,5.1nm,1.1s
N25K Chitina, Valde 80.89 29 P **P** **22 00 33.3 +1.0**
BMRM Bremner River 80.94 30 P **P** **22 00 32.1 -0.4**
BMRM IAmb IAmb 22 00 45.9
comp=Z,10nm,1.2s
SCRK Sand Creek 81.01 27 P **P** **22 00 33.3 +0.4**
J26L Joseph Creek 81.16 26 P **P** **22 00 34.1 +0.6**
I26K Coal Creek Min 81.27 25 P **P** **22 00 33.8 -0.2**
D27M Malcolm River 81.75 21 P **P** **22 00 38.1 +1.5**
D27M IAmb IAmb 22 00 39.4
comp=Z,3.8nm,0.9s
E28M Babbage River 82.34 22 P **P** **22 00 41.2 +1.5**
E28M IAmb IAmb 22 00 48.2
comp=Z,6.4nm,1.4s
F28M Old Crow 82.34 23 P **P** **22 00 41.1 +1.5**
F28M IAmb IAmb 22 00 42.9
comp=Z,5.6nm,1.1s
I28M Miner Creek 82.59 25 P **P** **22 00 43.0 +1.9**
I28M IAmb IAmb 22 00 43.8
comp=Z,5.7nm,0.8s
DAWY Dawson 83.01 26 P **P** **22 00 44.4 +1.2**
DAWY IAmb IAmb 22 00 45.0
comp=Z,3.7nm,1.0s
H29M Whitestone 83.12 24 P **P** **22 00 44.8 +1.1**
H29M IAmb IAmb 22 00 45.1
comp=Z,8.2nm,1.5s
G29M Pine Creek 83.15 23 P **P** **22 00 45.3 +1.4**
G29M IAmb IAmb 22 01 02.9
comp=Z,4.6nm,1.1s
M29M Somme Creek 83.67 28 P **P** **22 00 48.1 +1.3**
M29M IAmb IAmb 22 00 55.2
comp=Z,6.2nm,1.3s
L29M L29M 83.72 27 P **P** **22 00 48.3 +1.4**
EPYK Eagle Plains 83.75 24 P **P** **22 00 48.2 +1.2**
G30M tAoh Zraii Nji 83.84 23 P **P** **22 00 48.0 +0.5**
K29M Barlow Dome 83.86 26 P **P** **22 00 49.4 +1.6**
K29M IAmb IAmb 22 00 50.5
comp=Z,3.4nm,0.8s
KEV Kevo 84.00 340 P **P** **22 00 48.7 +0.6**
I30M Mount Dempster 84.10 25 P **P** **22 00 49.9 +1.0**
I30M IAmb IAmb 22 00 51.1
comp=Z,4.5nm,0.9s
VOI Vohitsoka 84.14 247 P **P** **22 00 50.0 +0.1**
J30M Hart River 84.24 25 P **P** **22 00 50.7 +1.0**
J30M IAmb IAmb 22 00 55.3
comp=Z,5.5nm,1.2s
SPB2 Spitsbergen Ar 84.38 349 P **P** **22 00 50.4 +0.4**
SPITS Spitsbergen Ar 84.38 349 P **P** **22 00 50.0 +0.1**
comp=Z,1.8nm,0.4s,baz=102,slow=7.8,SNR=13
comp=Z,1.8nm,0.4s
HYT Haines Junctio 84.40 29 P **P** **22 00 51.6 +1.1**
M30M Minto, Yukon 84.41 28 P **P** **22 00 52.2 +1.8**
M30M IAmb IAmb 22 00 52.9
comp=Z,4.6nm,0.9s
ARCES ARCESS Array B 84.56 340 P **P** **22 00 50.5 -0.5**
comp=Z,0.9nm,0.3s,baz=86,slow=3.6,SNR=27
comp=Z,0.9nm,0.3s
INK Inuvik 84.57 22 P **P** **22 00 51.3 +0.3**
INK IAmb IAmb 22 00 52.8
comp=Z,6.0nm,1.1s
G31M Satah River 84.60 23 P **P** **22 00 51.6 +0.4**
G31M IAmb IAmb 22 00 52.4
comp=Z,7.3nm,1.1s
F31M Tsiigehtchic 84.69 22 P **P** **22 00 52.3 +0.7**
F31M IAmb IAmb 22 00 53.2
comp=Z,5.7nm,1.0s
H31M Peel River 84.82 24 P **P** **22 00 53.5 +1.0**
O30N Mendenhall 85.09 29 P **P** **22 00 54.5 +0.6**
O30N IAmb IAmb 22 00 56.1
comp=Z,3.8nm,0.9s
N31M Braeburn, Yuko 85.09 28 P **P** **22 00 54.9 +1.0**
M31M Drury Creek, Y 85.58 28 P **P** **22 00 57.2 +0.9**
M31M IAmb IAmb 22 00 58.6
comp=Z,2.7nm,0.8s
WHY Whitehorse 85.69 29 P **P** **22 00 57.4 +0.4**
WHY IAmb IAmb 22 01 00.1
comp=Z,6.3nm,0.9s
BRTR Keskin Array B 85.83 309 P **P** **22 00 56.5 -1.7**
comp=Z,0.8nm,0.8s,baz=94,slow=5.0,SNR=5.0
comp=Z,0.8nm,0.8s
FARO Faro, Yukon 86.06 28 P **P** **22 00 59.3 +0.6**
A36M Sachs Harbour 86.22 17 P **P** **22 00 59.5 +0.3**
FINES FINESS Array B 86.25 332 P **P** **22 00 58.8 -0.8**
comp=Z,2.8nm,0.5s,baz=79,slow=5.1,SNR=26
comp=Z,2.8nm,0.5s
N32M Quiet Lake 86.44 29 P **P** **22 01 01.4 +0.8**
AKASG Malin Array Be 86.90 321 P **P** **22 01 01.5 -1.5**
comp=Z,0.6nm,0.4s,baz=65,slow=5.3,SNR=5.8
comp=Z,0.6nm,0.4s
RES Resolute Bay 91.83 10 P **P** **22 01 25.8 +0.1**
RES IAmb IAmb 22 01 27.3
comp=Z,3.7nm,0.8s
HFS Hagfors 92.41 332 P **P** **22 01 27.3 -1.3**
comp=Z,1.4nm,0.5s,baz=86,slow=4.6,SNR=14
comp=Z,1.4nm,0.5s
NOA NORSAR Array B 93.12 334 P **P** **22 01 30.6 -1.3**
comp=Z,1.0nm,0.8s,baz=66,slow=4.3,SNR=1.9
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 94.04 24 P **P** **22 01 36.7 +0.6**
comp=Z,2.1nm,0.7s,baz=298,slow=4.7,SNR=29
comp=Z,2.1nm,0.7s
HVU Hansel Valley 105.33 42 Pdif **Pdif** **22 02 23.3 -4.1**
FLWY Flagg Ranch 105.51 39 Pdif **Pdif** **22 02 25.7 -2.6**
K22A Casper 108.84 38 Pdif **Pdif** **22 02 43.5 +0.4**
TORD Torodi Ar. Bea 120.49 292 PKP **PKPdf** **22 07 08.5 -2.1**
comp=Z,0.4nm,0.5s,baz=57,slow=2.0,SNR=5.0
PLCA Paso Flores 145.84 157 PKPbc **PKPbc** **22 07 58.4 +0.6**
comp=Z,2.8nm,1.0s,baz=247,slow=6.7,SNR=4.5

NEIC ***08*** *21:55:00.9±2.2, 17°.9S±0°.1×178°.3W±0°.1, h548km±7km, mb4.5/59, Error ellipse: s-maj=15.5km s-min=14.5km az=142.0*
IDC ***08*** *21:55:02.1±0.9, 17°.78S×178°.55W, h547km±9km, mb3.4/11, mbtmp4.2/12, Error ellipse: s-maj=18.2km s-min=13.2km az=144.0*
ISC 08 21:55:01.3±0.4, **17°.78S**±0°.10×**178°.46W**±0°.08, **h550**km, **n109**, σ1§**12**/113, **mb4.4**/40, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.33**	**270**	P	**P**	**21 56 18.8**	**+0.3**
MSVF	**Nonsavu**	**3.33**	**270**	P	**P**	**21 56 18.7**	**+0.2**
	31nm,0.7s,baz=131,slow=12,SNR=16						
MSVF				S	**S**	**21 57 21.3**	**-0.1**
	16nm,0.9s,baz=152,slow=13,SNR=7.5						
FUTU	**Fugatoga**	**3.47**	**5**	P	**P**	**21 56 17.3**	**-2.1**
AFI	**Afiamalu**	**7.49**	**60**	P	**P**	**21 56 51.5**	**-2.6**
NIUE	**Niue**	**8.20**	**100**	P	**P**	**21 56 58.6**	**-2.4**
PINNC	**Pines Island,**	**14.08**	**248**	P	**P**	**21 58 00.6**	**-0.7**
DZM	**Mont Dzumac**	**14.82**	**251**	P	**P**	**21 58 07.6**	**-1.5**
URZ	**Urewera**	**20.77**	**190**	P	**P**	**21 59 02.9**	**-1.2**
	9.5nm,0.5s,baz=355,slow=1.6,SNR=15						
	9.5nm,0.5s						
RTZ	**Ruatahuna**	**21.14**	**190**	P	**P**	**21 59 06.9**	**-0.7**
RTZ				IAmb	IAmb	21 59 33.8	
	comp=Z,25nm,1.2s						
BKZ	**Black Stump Fm**	**21.76**	**191**	P	**P**	**21 59 10.9**	**-2.2**
BKZ				IAmb	IAmb	21 59 14.5	
	comp=Z,19nm,1.3s						
BFZ	**Birch Farm**	**23.27**	**190**	P	**P**	**21 59 23.4**	**-3.2**
MRZ	**Mangatainoka R**	**23.37**	**191**	P	**P**	**21 59 26.1**	**-1.4**
MRZ				IAmb	IAmb	21 59 52.5	
	comp=Z,25nm,1.2s						
MSWZ	**Moikau Station**	**24.17**	**192**	P	**P**	**21 59 32.9**	**-1.7**
TCW	**Tory Channel**	**24.17**	**193**	P	**P**	**21 59 34.5**	**-0.1**
BHW	**Baring Head**	**24.23**	**192**	P	**P**	**21 59 33.0**	**-2.0**
BHW				IAmb	IAmb	22 00 08.7	
	comp=Z,25nm,1.2s						
QRZ	**Quartz Range**	**24.24**	**197**	P	**P**	**21 59 34.6**	**-0.6**
PLWZ	**Palliser**	**24.31**	**192**	P	**P**	**21 59 33.9**	**-2.0**
TKNZ	**Takaka Hill**	**24.32**	**196**	P	**P**	**21 59 35.0**	**-0.9**
MRNZ	**Matariki Terra**	**24.72**	**196**	P	**P**	**21 59 39.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**24.74**	**194**	P	**P**	**21 59 38.0**	**-1.6**
THZ	**Tophouse**	**25.02**	**195**	P	**P**	**21 59 40.6**	**-1.5**
THZ				IAmb	IAmb	22 00 23.4	
	comp=Z,30nm,1.4s						
DSZ	**Denniston Nort**	**25.30**	**197**	P	**P**	**21 59 43.9**	**-0.6**
KHZ	**Kahutara**	**25.49**	**194**	P	**P**	**21 59 45.1**	**-1.0**
GVZ	**Greta Valley S**	**26.13**	**194**	P	**P**	**21 59 50.0**	**-1.7**
LTZ	**Lake Taylor**	**26.14**	**196**	P	**P**	**21 59 51.3**	**-0.6**
LTZ				IAmb	IAmb	21 59 58.6	
	comp=Z,14nm,1.1s						
INZ	**Inchbonnie**	**26.31**	**197**	P	**P**	**21 59 52.5**	**-0.8**
INZ				IAmb	IAmb	21 59 55.0	
	comp=Z,18nm,1.1s						
FOZ	**Fox Glacier**	**27.52**	**199**	P	**P**	**22 00 04.5**	**+0.5**
LBZ	**Lake Benmore**	**28.19**	**197**	P	**P**	**22 00 08.7**	**-1.2**
LBZ				IAmb	IAmb	22 00 09.6	
	comp=Z,27nm,1.4s						
ODZ	**Otahua Downs**	**28.67**	**196**	P	**P**	**22 00 12.0**	**-2.1**
ODZ				IAmb	IAmb	22 00 42.7	
	comp=Z,28nm,1.4s						
WKZ	**Wanaka**	**28.94**	**199**	P	**P**	**22 00 13.7**	**-2.7**
WKZ				IAmb	IAmb	22 00 19.5	
	comp=Z,24nm,1.1s						
EIDS	**Eidsvold**	**29.27**	**250**	P	**P**	**22 00 19.6**	**0.0**
EIDS				IAmb	IAmb	22 00 42.8	
	comp=Z,14nm,1.4s						
MLZ	**Mavora Lakes**	**29.70**	**199**	P	**P**	**22 00 24.1**	**+1.1**
MLZ				IAmb	IAmb	22 00 25.4	
	comp=Z,14nm,0.9s						
ARMA	**Armidale**	**29.96**	**240**	P	**P**	**22 00 26.9**	**+1.3**
ARMA				IAmb	IAmb	22 00 28.8	
	comp=Z,24nm,1.4s						
WHZ	**Wether Hill Ro**	**30.23**	**199**	P	**P**	**22 00 27.9**	**+0.4**
COEN	**Coen**	**37.06**	**270**	P	**P**	**22 01 25.7**	**+0.3**
COEN				IAmb	IAmb	22 01 32.6	
	comp=Z,25nm,1.4s						
TOO	**Toolangi**	**37.22**	**231**	P	**P**	**22 01 27.3**	**+0.9**
TOO				IAmb	IAmb	22 01 39.4	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**22 01 39.1**	**+1.0**
STKA				IAmb	IAmb	22 01 56.3	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**38.65**	**241**	P	**P**	**22 01 39.5**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=87,slow=9.3,SNR=4.7						
	comp=Z,2.8nm,0.6s						
BBOO	**Buckleboo**	**43.43**	**241**	P	**P**	**22 02 16.5**	**+0.5**
BBOO				IAmb	IAmb	22 02 24.3	
	comp=Z,40nm,1.4s						
POHA	**Pohakuloa**	**43.57**	**32**	P	**P**	**22 02 17.4**	**0.0**
MHA	**Mahukona**	**43.74**	**31**	P	**P**	**22 02 16.6**	**-1.8**
WB0	**Warramunga Arr**	**44.58**	**260**	P	**P**	**22 02 25.1**	**+0.1**
WB2	**Warramunga Arr**	**44.60**	**259**	P	**P**	**22 02 24.6**	**-0.6**
WRAB	**Tennant Creek**	**44.60**	**259**	P	**P**	**22 02 25.1**	**-0.1**
WRAB				IAmb	IAmb	22 02 35.3	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**44.61**	**259**	P	**P**	**22 02 24.8**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=95,slow=7.2,SNR=38						
	comp=Z,2.4nm,0.6s						
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**22 02 27.2**	**+0.6**
AS31				IAmb	IAmb	22 02 27.7	
	comp=Z,7.2nm,0.7s						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**22 02 27.1**	**+0.5**
	comp=Z,22nm,0.5s,baz=89,slow=7.9,SNR=93						
ASAR				PcP	**PcP**	**22 03 58.0**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=89,slow=4.9,SNR=4.3						
ASAR				S	**S**	**22 08 23.6**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=84,slow=17,SNR=4.1						
	comp=Z,22nm,0.5s						
MTN	**Manton Dam**	**48.76**	**268**	P	**P**	**22 02 56.6**	**0.0**
FORT	**Forrest**	**50.02**	**245**	P	**P**	**22 03 04.6**	**-1.2**
KNRA	**Kununurra**	**50.46**	**264**	P	**P**	**22 03 08.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.00**	**260**	P	**P**	**22 03 27.2**	**-0.3**
PSA00	**Pilbara Seismi**	**57.90**	**255**	P	**P**	**22 04 01.2**	**-0.2**
PSA00				IAmb	IAmb	22 04 26.2	
	comp=Z,15nm,1.2s						
MBWA	**Marble Bar**	**58.06**	**256**	P	**P**	**22 04 02.4**	**-0.1**
MBWA				IAmb	IAmb	22 04 43.0	
	comp=Z,22nm,1.4s						
GIRL	**Giralia**	**62.89**	**253**	P	**P**	**22 04 33.3**	**-1.0**
JAGI	**Jajag, Banyuwa**	**66.00**	**268**	P	**P**	**22 04 53.3**	**-0.8**
JAGI				IAmb	IAmb	22 05 24.1	
	comp=Z,20nm,1.1s						
UGM	**Wanagama**	**69.61**	**268**	P	**P**	**22 05 16.8**	**+0.6**
QSPA	**South Pole Qui**	**72.27**	**180**	P	**P**	**22 05 33.3**	**+2.3**
	comp=Z,3.8nm,0.7s,baz=51,slow=1.6,SNR=7.9						
	comp=Z,3.8nm,0.7s						
CHGN	**Chignik**	**75.70**	**11**	P	**P**	**22 05 52.6**	**+2.4**
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**22 06 11.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=234,slow=8.9,SNR=4.8						
	comp=Z,0.7nm,0.6s						
WCT	**Wildcat Mounta**	**79.63**	**46**	P	**P**	**22 06 11.7**	**-0.3**
WCT				IAmb	IAmb	22 06 26.8	
	comp=Z,6.7nm,0.4s						
L14K	**Kuka Creek**	**79.86**	**8**	P	**P**	**22 06 12.4**	**0.0**
ILSW	**Iliamna Southw**	**80.17**	**13**	P	**P**	**22 06 13.9**	**-0.4**
ILSW				IAmb	IAmb	22 06 27.4	
	comp=Z,17nm,1.4s						
J05D	**Fort Rock, OR**	**80.25**	**39**	P	**P**	**22 06 16.3**	**+1.1**
N18K	**Kilae Creek**	**80.28**	**11**	P	**P**	**22 06 14.2**	**-0.6**
L16K	**Owhat River**	**80.66**	**9**	P	**P**	**22 06 16.8**	**+0.1**
N19K	**Bonanza Creek**	**80.67**	**12**	P	**P**	**22 06 15.7**	**-1.2**
N19K				IAmb	IAmb	22 06 40.7	
	comp=Z,9.6nm,1.4s						
M17K	**Holitna River**	**80.68**	**10**	P	**P**	**22 06 17.4**	**+0.6**
M17K				IAmb	IAmb	22 06 46.3	
	comp=Z,19nm,1.4s						
K15K	**Wolf Creek Mou**	**80.93**	**8**	P	**P**	**22 06 18.9**	**+0.8**
K15K				IAmb	IAmb	22 06 32.9	
	comp=Z,14nm,1.4s						
DIB	**Dawson Inlet,**	**81.03**	**26**	P	**P**	**22 06 19.8**	**+1.0**
BELA	**Belgrano 2**	**82.30**	**173**	P	**P**	**22 06 23.2**	**-1.8**
BMRM	**Bremner River**	**83.05**	**16**	P	**P**	**22 06 29.3**	**+0.3**
BMRM				IAmb	IAmb	22 06 47.0	
	comp=Z,17nm,1.4s						
K20K	**Telida**	**83.09**	**11**	P	**P**	**22 06 26.9**	**-2.1**
SCM	**Sheep Creek Mo**	**83.12**	**14**	P	**P**	**22 06 29.3**	**0.0**
SCM				IAmb	IAmb	22 06 30.5	
	comp=Z,9.4nm,1.0s						
S31K	**Pelican**	**83.15**	**21**	P	**P**	**22 06 28.4**	**-0.9**
S31K				IAmb	IAmb	22 07 02.5	
	comp=Z,31nm,1.4s						
CAST	**Castle Rocks**	**83.51**	**12**	P	**P**	**22 06 30.7**	**-0.5**
MSU	**Marysvale**	**83.54**	**46**	P	**P**	**22 06 31.4**	**-0.8**
VRDI	**Verde Repeater**	**83.57**	**16**	P	**P**	**22 06 31.2**	**-0.5**
N25K	**Chitina, Valde**	**83.59**	**16**	P	**P**	**22 06 31.8**	**+0.1**
GLB	**Gilahina Butte**	**83.66**	**16**	P	**P**	**22 06 31.8**	**-0.1**
RND	**Reindeer**	**84.16**	**13**	P	**P**	**22 06 34.9**	**+0.5**
O30N	**Mendenhall**	**85.35**	**19**	P	**P**	**22 06 40.8**	**+0.5**
O30N				IAmb	IAmb	22 07 02.0	
	comp=Z,6.9nm,1.4s						
BNM	**Barren Site**	**85.59**	**52**	P	**P**	**22 06 42.4**	**+0.1**
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**22 06 41.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=230,slow=5.7,SNR=4.7						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**22 06 46.5**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=212,slow=5.1,SNR=9.1						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**87.29**	**43**	P	**P**	**22 06 51.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=276,slow=6.0,SNR=3.0						
	comp=Z,0.7nm,0.7s						

PLCA Paso Flores 91.45 134 P **P** **22 07 12.1 +2.7**
comp=Z,1.3nm,0.9s,baz=236,slow=3.7,SNR=3.1
comp=Z,1.3nm,0.9s
YKA Yellowknife Ar 94.24 25 P **P** **22 07 21.5 +0.1**
comp=Z,0.4nm,0.8s,baz=248,slow=4.7,SNR=5.7
comp=Z,0.4nm,0.8s
MKAR Makanchi Array 109.02 314 PKiKP **PKiKP** **22 12 28.7 +0.1**
comp=Z,0.3nm,0.5s,baz=54,slow=2.5,SNR=5.5
KURBB Kurchatov Arra 111.76 318 PKiKP **PKiKP** **22 12 33.0 -0.6**
comp=Z,0.2nm,0.3s,baz=100,slow=2.0,SNR=5.6
BVAR Borovoye Array 116.72 321 PKP **PKPdf** **22 12 42.6 -0.5**
comp=Z,0.9nm,0.5s,baz=176,slow=4.3,SNR=2.9
ARCES ARCESS Array B 126.18 350 PKP **PKiKP** **22 13 01.6 +0.3**
comp=Z,2.6nm,1.0s,baz=61,slow=2.6,SNR=4.4
BRTR Keskin Array B 144.66 315 PKP **PKPab** **22 13 37.4 +0.4**
comp=Z,1.8nm,0.8s,baz=128,slow=4.3,SNR=11
MMAI Mount Meron Ar 146.04 303 PKPbc **PKPab** **22 13 41.7 -0.7**
comp=Z,4.0nm,0.6s,baz=68,slow=5.5,SNR=15
GERES GERESS Array B 147.48 345 PKPbc **PKPbc** **22 13 44.5 +0.6**
comp=Z,1.8nm,0.7s,baz=108,slow=2.2,SNR=4.3
CONA Conrad Observa 147.73 342 *i* PKiKP **PKiKP** **22 13 46.2 +0.3**
comp=Z,2.2nm,0.6s
RONA Rosalia, Austr 147.80 341 *i* PKP **PKiKP** **22 13 45.5 -0.5**
comp=Z,1.9nm,0.5s
MOA Molln 148.25 344 *i* PKP **PKiKP** **22 13 46.8 -0.1**
comp=Z,0.4nm,0.3s
LESA Schwarzleotal 149.05 345 *i* PKP **PKiKP** **22 13 48.6 -0.1**
comp=Z,1.5nm,0.3s
SOKA Soboth 149.10 342 *i* PKP **PKiKP** **22 13 48.6 -0.2**
comp=Z,0.3nm,0.2s
KBA Koelnbreinsper 149.21 344 *i* PKP **PKPbc** **22 13 48.6 +0.4**
comp=Z,1.5nm,0.4s
WATA Walderalm 149.39 347 *i* PKP **PKiKP** **22 13 49.2 -0.2**
comp=Z,2.0nm,0.4s
RETA Reutte 149.42 348 *i* PKiKP **PKiKP** **22 13 49.8 +0.3**
comp=Z,0.5nm,0.3s
WTTA Wattenberg 149.45 346 *i* PKP **PKiKP** **22 13 49.6 0.0**
comp=Z,3.4nm,0.5s
MOTA Moosalm 149.49 347 *i* PKiKP **PKiKP** **22 13 49.8 +0.1**
comp=Z,1.4nm,0.5s
MYKA Terra Mystica 149.54 343 *i* PKP **PKiKP** **22 13 49.4 -0.3**
comp=Z,2.4nm,0.4s
SQTA Sankt Quirin 149.58 347 *i* PKiKP **PKiKP** **22 13 50.2 +0.4**
comp=Z,2.7nm,0.6s
ABTA Abfaltersbach 149.72 345 *i* PKP **PKiKP** **22 13 50.0 -0.1**
comp=Z,2.6nm,0.6s
FETA Feichten 149.87 347 *i* PKiKP **PKiKP** **22 13 51.1 +0.6**
comp=Z,0.2nm,0.2s
TORD Torodi Ar. Bea 175.39 182 PKP **PKPdf** **22 14 08.9 -0.3**
comp=Z,0.6nm,0.7s,baz=277,slow=1.6,SNR=4.4
TORD PKPab **PKPab** **22 15 50.7 +1.1**
comp=Z,0.2nm,0.7s,baz=191,slow=2.9,SNR=1.8

IDC 08 22:03:43.7±2.7, 8°.43S×129°.35E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=260.0km s-min=34.0km az=66.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.42**	**158**	Pn	Pn	22 06 41.3	-0.7
	0.1nm,0.3s,baz=335,slow=14,SNR=7.4						
WRA				Sn	Sn	22 08 53.7	-7.6
	0.1nm,0.3s,baz=333,slow=23,SNR=1.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**15.77**	**164**	Pn	Pn	22 07 28.3	+0.9
	0.1nm,0.3s,baz=348,slow=9.5,SNR=3.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**69.07**	**327**	P	P	22 14 51.5	0.0
	0.2nm,0.7s,baz=122,slow=7.3,SNR=1.9						
	0.2nm,0.7s						

IDC 08 22:12:04.4±2.2, 9°.59N×125°.98E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=236.4km s-min=28.9km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.48**	**164**	P	P	22 18 19.3	0.0
	0.5nm,0.9s,baz=341,slow=7.5,SNR=5.1						
	0.5nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**40.74**	**71**	T	T	23 03 00.2	
	baz=261,slow=75,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**40.75**	**71**	T	T	23 03 00.4	
	baz=261,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**40.76**	**71**	T	T	23 03 01.9	
	baz=261,slow=75,SNR=6.0						
MKAR	**Makanchi Array**	**52.39**	**323**	P	P	22 21 18.6	0.0
	0.3nm,0.7s,baz=125,slow=7.2,SNR=3.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**56.47**	**326**	P	P	22 21 48.3	+0.2
	0.2nm,0.2s,baz=121,slow=5.9,SNR=1.3						
	0.2nm,0.2s						
ARCES	**ARCESS Array B**	**84.72**	**340**	P	P	22 24 39.8	-0.4
	5.3nm,1.1s,baz=76,slow=5.8,SNR=1.7						
	5.3nm,1.1s						

*IDC **08** 22:25:30.8±2.7, 0°.80N±97°.10E, h0km, mb4.0/7, mbtmp4.0/9, ML3.1/1, MS2.8/3, Error ellipse: s-maj=60.6km s-min=22.0km az=152.0*
*NEIC **08** 22:25:33.6±1.7, 0°.9N±0°.1×97°.1E±0°.1, h10km±2km, mb4.3/10, Error ellipse: s-maj=23.2km s-min=18.2km az=278.0*
*DJA **08** 22:25:35.9±0.8, 1°.N±3°.×9°.7E±°, h17km±7km, M4.0/15, mb4.0/3, MLv4.0/15*
ISC 08 22:25:35.4±0.8, 1°.25N±0°.07×97°.05E±0°.07, h10km, n44, σ0°.90/34, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.53**	**84**	Pn	**Pn**	**22 25 49.2**	**+0.1**
GSI	**Gunungsitoli**	**0.53**	**84**	P	**Pn**	**22 25 48.9**	**-0.2**
SNSI	**Sinabang, Aceh**	**1.36**	**328**	P	**Pn**	**22 25 59.6**	**-0.9**
RPSI	**Rantau Prapat**	**2.36**	**53**		**Pn**	**22 26 15.4**	**+1.1**
PSI	**Prapat**	**2.43**	**51**	Pn	**Pn**	**22 26 15.1**	**-0.2**
	3.3nm,0.3s,baz=212,slow=4.9,SNR=26						
PSI				Lg	Lg	22 26 54.4	
	7.1nm,0.3s,baz=126,slow=22,SNR=4.1						
PSI				LR	LR	22 27 13.7	
	comp=Z,80nm,19.0s,baz=302,slow=39						
	14nm,0.5s						
MNSI	**Mandailing Nat**	**2.57**	**100**	P	**Pn**	**22 26 17.8**	**+0.6**
TSI	**Tuntungan**	**2.70**	**34**	P	**Pn**	**22 26 19.8**	**+0.8**
MLSI	**Meulaboh, Aceh**	**3.07**	**348**	P	**Pn**	**22 26 25.7**	**+1.7**
SISI	**Saibi**	**3.27**	**141**	P	**Pn**	**22 26 27.4**	**+0.6**
PPI	**Padang Panjang**	**3.75**	**117**	P	**Pn**	**22 26 34.1**	**+0.7**
LHMI	**Lhok Sumawe**	**3.96**	**359**	P	**Pn**	**22 26 37.1**	**+0.9**
BKNI	**Bangkinang**	**4.10**	**103**	P	**Pn**	**22 26 38.7**	**+0.5**
BSI	**Banda Aceh**	**4.57**	**338**	P	**Pn**	**22 26 42.7**	**-2.0**
PPSI	**Pulau Pagai**	**4.96**	**143**	P	**Pn**	**22 26 49.7**	**-0.4**
IPM	**Ipoh**	**5.11**	**51**		**Pn**	**22 26 53.0**	**+0.9**
KULM	**Kulim**	**5.39**	**42**		**Pn**	**22 26 56.4**	**+0.4**
MYKOM	**Kota Tinggi**	**6.82**	**85**	Pn	**Pn**	**22 27 14.7**	**-1.0**
UBPT	**Khong Chiam**	**16.23**	**30**	P	**P**	**22 29 26.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.20**	**6**	P	**P**	**22 29 38.6**	**+1.0**
	0.8nm,0.4s,baz=197,slow=9.9,SNR=6.1						
CMAR				LR	LR	22 36 34.9	
	comp=Z,40nm,20.4s,baz=220,slow=38						
PALK	**Pallekele**	**17.36**	**291**	LR	LR	22 36 24.8	
	comp=Z,39nm,19.7s,baz=72,slow=37						
PHRA	**Phrae**	**17.43**	**10**		**P**	**22 29 40.5**	**+0.4**
PHRA				IAmb	IAmb	22 29 55.1	
	comp=Z,22nm,1.0s						
SLVN	**Son La**	**21.05**	**18**	P	**P**	**22 30 20.4**	**+0.5**
SLVN				IAmb	IAmb	22 30 21.1	
	comp=Z,8.6nm,0.8s						
QIZ	**Qiongzhong**	**21.67**	**35**	P	**P**	**22 30 24.8**	**-1.7**
QIZ				IAmb	IAmb	22 30 38.4	
	comp=Z,20nm,1.2s						
SHL	**Shillong**	**24.68**	**349**	P	**P**	**22 30 57.0**	**+0.1**
H08S2	**Diego Garcia H**	**26.04**	**250**	T	T	22 58 04.5	
	baz=71,slow=76,SNR=614						
H08S3	**Diego Garcia H**	**26.04**	**250**	T	T	22 58 04.9	
	baz=71,slow=76,SNR=721						
H08S1	**Diego Carcia H**	**26.05**	**250**	T	T	22 58 05.9	
	baz=71,slow=76,SNR=742						
LSA	**Lhasa**	**28.85**	**349**	P	**P**	**22 31 35.9**	**+1.2**
LSA				IAmb	IAmb	22 31 38.5	
	comp=Z,2.3nm,0.9s						
DRK	**Karamyk**	**44.48**	**332**	P	**P**	**22 33 48.4**	**+1.1**
DRK				IAmb	IAmb	22 33 49.8	
	comp=Z,6.3nm,0.6s						
KSRS	**Korea Array**	**45.90**	**35**	P	**P**	**22 33 56.6**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=224,slow=6.8,SNR=4.1						
	comp=Z,1.9nm,0.8s						

SONM Songino Array 47.11 9 P **P** **22 34 07.9 +0.1**
comp=Z,1.6nm,0.8s,baz=190,slow=9.2,SNR=14
SONM PcP **PcP** **22 35 39.0 -0.6**
comp=Z,0.3nm,0.5s,baz=194,slow=4.5,SNR=2.6
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 47.16 346 P **P** **22 34 08.4 +0.3**
comp=Z,0.9nm,0.6s,baz=158,slow=9.2,SNR=15
comp=Z,0.9nm,0.6s
BBOO Buckleboo 50.02 136 P P 22 34 25.4 -5.0
KURBB Kurchatov Arra 51.65 345 P **P** **22 34 42.5 +0.3**
comp=Z,0.8nm,0.6s,baz=165,slow=7.2,SNR=9.7
comp=Z,0.8nm,0.6s
USRK Ussuriysk Ar. 52.81 31 P **P** **22 34 50.3 -0.7**
comp=Z,3.1nm,0.9s,baz=215,slow=6.5,SNR=6.1
comp=Z,3.1nm,0.9s
ZALV Zalesovo Beam 53.49 351 P **P** **22 34 56.0 +0.2**
comp=Z,3.8nm,0.7s,baz=170,slow=6.1,SNR=14
comp=Z,3.8nm,0.7s
ABKAR Akbulak array 57.40 332 P **P** **22 35 23.9 -0.3**
ABKAR IAmb IAmb 22 35 24.9
comp=Z,2.5nm,0.8s
AKTO Aktyubinsk 59.12 332 P **P** **22 35 35.4 -0.7**
comp=Z,0.8nm,0.4s,baz=146,slow=3.6,SNR=3.6
comp=Z,0.8nm,0.4s
H04N2 CROZET ISLANDS 61.73 214 T T 23 42 47.3
baz=54,slow=75,SNR=298
H04N1 CROZET ISLANDS 61.74 214 T T 23 42 48.2
baz=54,slow=75,SNR=253
H04N3 CROZET ISLANDS 61.74 214 T T 23 42 47.5
baz=54,slow=75,SNR=268
H04S1 CROZET ISLANDS 62.07 213 T T 23 43 11.0
baz=52,slow=75,SNR=21
H04S3 CROZET ISLANDS 62.08 213 T T 23 43 10.8
baz=52,slow=75,SNR=26
H04S2 CROZET ISLANDS 62.09 213 T T 23 43 12.1
baz=52,slow=75,SNR=21

IDC 08 22:26:00.3±5.8, 9°.09N×126°.20E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=226.8km s-min=131.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**40.70**	**70**	T	T	23 17 06.4	
	baz=264,slow=74,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**40.71**	**70**	T	T	23 17 00.2	
	baz=264,slow=74,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**40.72**	**70**	T	T	23 17 07.4	
	baz=264,slow=74,SNR=3.2						
SONM	**Songino Array**	**42.10**	**340**	P	P	22 33 54.1	-0.3
	0.2nm,0.4s,baz=168,slow=7.4,SNR=4.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.93**	**323**	P	P	22 35 18.5	+0.1
	0.5nm,0.6s,baz=121,slow=7.5,SNR=2.3						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**85.28**	**340**	P	P	22 38 39.2	+0.4
	1.3nm,0.7s,baz=77,slow=4.0,SNR=2.2						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**86.90**	**332**	P	P	22 38 46.6	-0.3
	2.2nm,0.8s,baz=90,slow=4.0,SNR=5.6						
	2.2nm,0.8s						

*IDC **08** 22:28:06.0±1.1, 0°.93S×134°.96E, h0km, mb3.8/5, mbtmp3.9/7, ML3.8/2, MS3.1/1, Error ellipse: s-maj=51.7km s-min=20.1km az=91.0*
*DJA **08** 22:28:10.4±0.7, 1°.S±4°.×13°.5E±°, h17km±6km, M4.3/11, mB5.8/1, mb4.5/4, MLv4.1/11, Mw(mB)5.4/1*
ISC 08 22:28:10.6±0.8, 1°.00S±0°.08×134°.52E±0°.04, h27km, n16, σ1°.10/17, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.61**	**214**	P	**Pb**	**22 28 22.5**	**-0.2**
BAKI	**Biak**	**1.59**	**97**	P	**Pn**	**22 28 38.1**	**+1.1**
BAKI				S	**Sn**	**22 28 58.4**	**+1.6**
SRPI	**Serui, Papua**	**1.92**	**117**	P	**Pn**	**22 28 42.3**	**+0.8**
SRPI				S	**Sb**	**22 29 08.0**	**-0.5**
KMPI	**Kaimana, Papua**	**2.76**	**197**	P	**Pn**	**22 28 52.7**	**-0.4**
FAKI	**Fak Fak**	**2.96**	**230**	P	**Pn**	**22 28 56.2**	**+0.3**
FAKI				S	**Sn**	**22 29 31.0**	**+0.4**
SWI	**Sorong**	**3.27**	**272**	P	**Pn**	**22 29 01.3**	**+1.3**
SMPI	**Sarmi**	**4.30**	**103**	P	**Pn**	**22 29 14.3**	**0.0**
KMSI	**Cibinong**	**10.66**	**278**	P	Pn	22 30 28.0	-14
WRA	**Warramunga Arr**	**18.82**	**181**	P	**P**	**22 32 28.7**	**+0.3**
	0.3nm,0.3s,baz=0.6,slow=12,SNR=16						
	1.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.10**	**207**	P	**Pn**	**22 32 33.5**	**+1.1**
	0.2nm,0.3s,baz=36,slow=11,SNR=1.8						
	3.0nm,0.7s						
ASAR	**Alice Springs**	**22.54**	**181**	P	**P**	**22 33 08.8**	**+0.2**
	1.3nm,0.6s,baz=6.2,slow=11,SNR=12						
	1.3nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.68**	**205**	LR	LR	22 52 33.1	
	comp=Z,26nm,19.6s,baz=348,slow=41						
PETK	**Petropavlovsk-**	**57.30**	**16**	P	**P**	**22 37 53.4**	**-2.5**
	6.3nm,1.0s,baz=221,slow=7.7,SNR=2.6						
	6.3nm,1.0s						
MKAR	**Makanchi Array**	**65.92**	**323**	P	**P**	**22 38 55.1**	**+0.9**
	0.8nm,0.7s,baz=107,slow=8.1,SNR=10						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**69.95**	**326**	P	**P**	**22 39 20.5**	**+1.0**
	0.5nm,0.6s,baz=111,slow=5.1,SNR=4.0						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**86.04**	**25**	P	**P**	**22 40 47.5**	**-1.1**
	0.3nm,0.7s,baz=258,slow=5.8,SNR=4.6						
	0.3nm,0.7s						

*IDC **08** 22:34:31.6±1.1, 10°.04N×126°.30E, h0km, mb3.9/8, mbtmp3.9/8, MS2.8/1, Error ellipse: s-maj=74.7km s-min=21.8km az=74.0*
ISC 08 22:34:37.6±1.0, 10°.0N±0°.2×126°.3E±0°.5, h42km, n10, σ0°.71/8, mb3.8/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.99**	**193**	Lg	Lg	22 36 04.4	
	51nm,0.3s,baz=24,slow=20,SNR=1.8						
TGY	**Tagaytay City**	**6.62**	**309**	LR	LR	22 39 27.4	
	comp=Z,92nm,21.1s,baz=280,slow=45						
FITZ	**Fitzroy Crossi**	**27.93**	**181**	P	**P**	**22 40 24.6**	**+0.5**
	6.2nm,0.9s,baz=0.0,slow=6.1,SNR=3.6						
	6.2nm,0.9s						
WRA	**Warramunga Arr**	**30.80**	**165**	P	**P**	**22 40 49.5**	**0.0**
	0.5nm,0.9s,baz=349,slow=8.5,SNR=2.4						
	0.5nm,0.9s						
SONM	**Songino Array**	**41.27**	**340**	P	**P**	**22 42 20.0**	**+1.1**
	0.3nm,0.6s,baz=148,slow=8.6,SNR=4.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**22 43 44.4**	**-0.3**
	0.6nm,0.6s,baz=120,slow=8.7,SNR=7.9						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**56.29**	**325**	P	**P**	**22 44 13.1**	**-0.9**
	0.2nm,0.3s,baz=127,slow=6.4,SNR=5.3						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**84.44**	**340**	P	**P**	**22 47 05.7**	**+0.2**
	2.6nm,0.9s,baz=101,slow=6.7,SNR=4.0						
	2.6nm,0.9s						
FINES	**FINESS Array B**	**86.13**	**332**	P	**P**	**22 47 13.6**	**-0.5**
	4.5nm,1.1s,baz=64,slow=7.0,SNR=3.4						
	4.5nm,1.1s						
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**22 47 50.8**	**-0.2**
	0.3nm,0.7s,baz=294,slow=4.8,SNR=6.6						
	0.3nm,0.7s						

*IDC **08** 22:40:17.3±2.7, 20°.59S×178°.12W, h625km±25km, mb2.9/3, mbtmp4.1/5, Error ellipse: s-maj=47.9km s-min=32.8km az=68.0*
*NEIC **08** 22:40:18.6±1.7, 20°.6S±0°.1×178°.4W±0°.2, h614km±16km, mb4.3/25, Error ellipse: s-maj=21.2km s-min=16.6km az=108.0*
ISC 08 22:40:17.0±0.7, 20°.68S±0°.09×178°.6W±0°.1, h587km, n36, σ1°.63/37, mb4.4/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.33**	**312**	P	P	22 41 48.9	+4.8
	9.8nm,0.5s,baz=149,slow=12,SNR=6.3						
FUTU	**Fugatoga**	**6.35**	**4**	P	**P**	**22 42 03.0**	**+2.3**
NIUE	**Niue**	**8.29**	**80**	P	**P**	**22 42 19.2**	**+0.5**
AFI	**Afiamalu**	**9.35**	**45**	P	**P**	**22 42 28.2**	**-1.0**
URZ	**Urewera**	**17.92**	**191**	P	**P**	**22 43 52.3**	**+0.1**
	4.9nm,0.3s,baz=30,slow=2.3,SNR=14						
URZ				S	**S**	**22 46 41.9**	**-5.2**
	7.4nm,1.0s,baz=151,slow=19,SNR=1.4						
RTZ	**Ruatahuna**	**18.29**	**191**	P	**P**	**22 43 56.7**	**+1.0**
RTZ				IAmb	IAmb	22 43 57.0	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**18.91**	**192**	P	**P**	**22 44 01.6**	**+0.2**
BKZ				IAmb	IAmb	22 44 03.8	
	comp=Z,6.9nm,1.0s						
BFZ	**Birch Farm**	**20.43**	**191**	P	**P**	**22 44 16.1**	**+1.1**
MRZ	**Mangatainoka R**	**20.54**	**193**	P	**P**	**22 44 16.8**	**+0.8**
MRZ				IAmb	IAmb	22 44 27.1	
	comp=Z,13nm,1.2s						
TCW	**Tory Channel**	**21.35**	**195**	P	**P**	**22 44 25.5**	**+2.2**
BHW	**Baring Head**	**21.40**	**194**	P	**P**	**22 44 24.5**	**+0.8**
QRZ	**Quartz Range**	**21.47**	**199**	P	**P**	**22 44 26.3**	**+1.9**
QRZ				IAmb	IAmb	22 44 34.2	
	comp=Z,13nm,1.1s						
TKNZ	**Takaka Hill**	**21.53**	**198**	P	**P**	**22 44 26.0**	**+1.1**
THZ	**Tophouse**	**22.23**	**197**	P	**P**	**22 44 32.5**	**+1.3**
THZ				IAmb	IAmb	22 44 36.6	
	comp=Z,12nm,1.1s						
DSZ	**Denniston Nort**	**22.53**	**199**	P	**P**	**22 44 34.4**	**+0.5**
KHZ	**Kahutara**	**22.67**	**195**	P	**P**	**22 44 35.5**	**+0.5**
KHZ				IAmb	IAmb	22 44 42.5	
	comp=Z,12nm,1.0s						
LHI	**Lord Howe Isla**	**22.76**	**237**	P	**P**	**22 44 36.0**	**0.0**
GVZ	**Greta Valley S**	**23.32**	**196**	P	**P**	**22 44 41.9**	**+1.1**
LTZ	**Lake Taylor**	**23.35**	**197**	P	**P**	**22 44 41.9**	**+0.8**
LTZ				IAmb	IAmb	22 44 57.4	
	comp=Z,12nm,1.1s						
MLZ	**Mavora Lakes**	**26.96**	**201**	P	**P**	**22 45 14.6**	**+1.7**
MLZ				IAmb	IAmb	22 45 21.3	
	comp=Z,9.9nm,0.9s						
WHZ	**Wether Hill Ro**	**27.48**	**201**	P	**P**	**22 45 18.9**	**+1.5**
WHZ				IAmb	IAmb	22 45 21.3	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**28.51**	**244**	P	**P**	**22 45 28.9**	**+2.1**
TOO	**Toolangi**	**35.36**	**234**	P	**P**	**22 46 24.9**	**+0.2**
PATS	**Pohnpei**	**35.55**	**318**	P	**P**	**22 46 25.6**	**-0.8**
PATS				IAmb	IAmb	22 46 39.6	
	comp=Z,4.1nm,0.7s						
STKA	**Stephens Creek**	**37.23**	**244**	P	**P**	**22 46 42.0**	**+2.0**
	comp=Z,1.7nm,0.5s,baz=72,slow=13,SNR=2.9						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**41.99**	**244**	P	**P**	**22 47 18.1**	**0.0**
BBOO				IAmb	IAmb	22 47 26.8	
	comp=Z,12nm,0.9s						
WAKE	**Wake Island**	**42.27**	**339**	P	**P**	**22 47 19.3**	**-0.9**
AS31	**Alice Springs**	**43.96**	**257**	P	**P**	**22 47 33.9**	**+0.4**
ASAR	**Alice Springs**	**43.96**	**257**	P	**P**	**22 47 34.8**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.6,SNR=18						
ASAR				S	**S**	**22 53 21.7**	**-2.1**
	comp=Z,0.9nm,0.8s,baz=95,slow=15,SNR=5.1						
	comp=Z,1.4nm,0.5s						
WB0	**Warramunga Arr**	**44.03**	**263**	P	**P**	**22 47 34.9**	**+0.9**
WB2	**Warramunga Arr**	**44.04**	**262**	P	**P**	**22 47 34.5**	**+0.3**
WRA	**Warramunga Arr**	**44.05**	**262**	P	**P**	**22 47 34.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=98,slow=8.1,SNR=8.9						
	comp=Z,0.4nm,0.3s						
NWAO	**Narrogin (SRO)**	**57.81**	**243**	P	**P**	**22 49 13.2**	**-0.3**
NWAO				IAmb	IAmb	22 49 14.1	
	comp=Z,15nm,1.1s						
CASY	**Casey**	**63.58**	**205**	P	**P**	**22 49 52.0**	**+1.3**
CASY				IAmb	IAmb	22 49 55.6	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**22 50 28.2**	**+1.4**
AKASG	**Malin Array Be**	**142.91**	**331**	PKP	**PKPdf**	**22 58 40.6**	**-3.7**
	comp=Z,0.9nm,0.3s,baz=43,slow=4.0,SNR=5.2						

*IDC **08** 22:50:38.9±1.6, 9°.73N×125°.99E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=187.9km s-min=22.2km az=69.0*
ISC 08 22:50:47.5±1.5, 9°.7N±0°.4×12°.6E±°, h67km, n7, σ0°.38/7, mb3.5/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.56**	**164**	P	**P**	**22 56 54.8**	**-0.2**
	0.5nm,0.9s,baz=346,slow=9.1,SNR=1.8						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**34.02**	**167**	P	**P**	**22 57 25.6**	**+0.3**
	0.1nm,0.3s,baz=346,slow=9.4,SNR=1.4						
	0.1nm,0.3s						
SONM	**Songino Array**	**41.48**	**340**	P	**P**	**22 58 28.4**	**+0.4**
	0.1nm,0.4s,baz=148,slow=7.6,SNR=1.8						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.31**	**323**	P	**P**	**22 59 52.5**	**+0.1**
	0.3nm,0.6s,baz=121,slow=8.8,SNR=4.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.38**	**326**	P	**P**	**23 00 21.4**	**-0.5**
	0.3nm,0.3s,baz=125,slow=7.3,SNR=2.6						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**84.65**	**340**	P	**P**	**23 03 13.3**	**-0.3**
	1.1nm,0.7s,baz=78,slow=4.8,SNR=3.6						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**86.27**	**332**	P	**P**	**23 03 21.8**	**0.0**
	2.5nm,0.9s,baz=72,slow=6.5,SNR=3.4						

NEIC 08 23:02:30.2±0.8, 36°.261N±0°.010×97°.51W±0°.02, h9km±8km, mb_Lg2.6/3, ML2.3/52, Error ellipse: s-maj=2.4km s-min=1.5km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**303**		Pg	23 02 39.1	+0.1
CROK					Sg	23 02 45.8	+0.8
CROK				IAML		23 02 49.9	
	comp=E,268nm,0.3s						
OK029	**Liberty Lake**	**0.47**	**174**		Pb	23 02 39.9	-0.6
BLOK	**Blackwell**	**0.55**	**25**		Pg	23 02 40.9	0.0
BLOK				IAML		23 02 51.1	
	comp=N,182nm,0.2s						
OK051	**E0350 and S346**	**0.60**	**66**		Pg	23 02 41.7	0.0
OK051				IAML		23 02 52.2	
	comp=N,125nm,0.2s						
OK051				IAML		23 02 54.0	
	comp=N,126nm,0.1s						
ADOK	**Arcadia Dam**	**0.62**	**169**	Pg	Pb	23 02 42.7	-0.4
OK031	**S. Brethren Rd**	**0.62**	**119**		Pg	23 02 42.5	+0.3
OK031				IAML		23 02 51.6	
	comp=N,165nm,0.2s						
OK031				IAML		23

R32A	Long Quarter,	2.36 336	Pn	Pn	23 03 09.1	0.0
SMWD	Samnorwood	2.51 243	Pn	Pn	23 03 10.1	-1.0
HHAR	Hobbs	2.88 89		Pn	23 03 15.7	-0.6

*SJA **08** 23:06:36.0, 21.′71S×67.′41W, h234km, ML3.3*
*SCB **08** 23:06:39.5±0.9, 21.′83S×67.′34W, h185km±11km, ML3.5/2, MW3.3, Error ellipse: s-maj=9.7km s-min=6.2km az=0.0*
*GUC **08** 23:06:40.2±0.7, 21.′80S×67.′58W, h218km±9km, ML3.9*
ISC 08 23:06:36.9±1.**7, 21.′80S**±0.′05×**67.′41W**±0.′05, **h219**km±15km, **n33**, σ1°**62**/42, **2C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.71 270		*i* P	Pn	23 07 15.5	+1.2
PB09	IPOC Station P	1.71 270		*e*P	Pn	23 07 15.8	+1.5
PB09				*e*S	S	23 07 42.9	-0.3
PB09	IPOC Station P	1.71 270		Pg	Pn	23 07 15.3	+1.1
MOCB	Mochara	1.73 72		Pg	Pn	23 07 14.9	+0.1
MOCB				Sg	S	23 07 41.2	-3.0
MOCB				IAML		23 07 42.4	
	226nm,1.2s						
PB01	IPOC Station P	2.08 291		*i* P	Pn	23 07 18.4	+0.7
PB01	IPOC Station P	2.08 291		*e*P	Pn	23 07 19.0	+1.3
PB01				*e*S	S	23 07 48.6	-0.8
PB01				IAML		23 07 50.7	
	comp=E,379nm,0.4s						
PB01	IPOC Station P	2.08 291		Pg	Pn	23 07 19.0	+1.3
PB01				Sg	S	23 07 48.7	-0.6
PB01				IAML		23 07 49.9	
	comp=E,189nm,0.3s						
PB08	IPOC Station P	2.32 315		*i* P	Pn	23 07 21.9	+1.4
PB08	IPOC Station P	2.32 315		⇑*i*P	Pn	23 07 22.5	+2.0
PB08				*e*S	S	23 07 54.3	0.0
PB08				IAML		23 07 56.1	
	comp=E,161nm,0.3s						
PB08	IPOC Station P	2.32 315		Pg	Pn	23 07 22.4	+1.9
PATCX	Punta Patache	2.74 290		*i* P	Pn	23 07 25.4	+0.8
HMBC	Humberstone	2.77 303		*i* P	Pn	23 07 25.2	+0.2
HMBC	Humberstone	2.77 303		⇑*i*P	Pn	23 07 25.8	+0.8
HMBC				*e*S	S	23 08 01.2	-1.3
HMBC				IAML		23 08 02.6	
	comp=N,544nm,0.4s						
TA01	Diego Aracena	2.86 295		*i* P	Pn	23 07 26.3	+0.3
TA01	Diego Aracena	2.86 295		*e*P	Pn	23 07 26.9	+0.9
TA01				*e*S	S	23 08 02.6	-1.6
TA01				IAML		23 08 04.4	
	comp=E,165nm,0.2s						
TA02	Huaiquique	2.96 300		*e*P	Pn	23 07 27.5	+0.4
AZAP	Zapla	3.24 139		*i* P	Pn	23 07 31.2	+0.7
SOEO	Opoqueri	3.25 352		Pg	Pn	23 07 33.0	+2.1
SLA	San Lorenzo	3.40 149		*i* P	Pn	23 07 34.0	+1.8
ALOL	LOMAS DE OLMED	3.75 123		*i* P	Pn	23 07 36.5	+0.2
GO02	Mina Guanaco	3.91 210		*i* P	Pn	23 07 39.3	+0.8
PB14	IPOC Station P	3.94 224		*i* P	Pn	23 07 39.6	+0.7
PB14	IPOC Station P	3.94 224		*e*P	Pn	23 07 40.2	+1.2
PB14				*e*S	S	23 08 25.4	-2.2
SOET	ToroToro	3.96 23		Pg	Pn	23 07 41.2	+1.9
AOEA	Aiquile	4.14 30		Pg	Pn	23 07 42.5	+1.1
PB12	IPOC Station P	4.19 319		*i* P	Pn	23 07 41.3	-0.5
PB12	IPOC Station P	4.19 319		*e*P	Pn	23 07 41.8	0.0
PB12				*e*S	S	23 08 29.8	-3.0
FSA	Cafayete	4.49 163		*i* P	Pn	23 07 48.4	+2.8
SOEJ	Jacaque	4.85 351		Pg	Pn	23 07 53.3	+2.8
BBOE	La Paz, Chanca	4.99 354		Pg	Pn	23 07 55.2	+3.0
AC01	Pan de Azucar	5.22 213		*i* P	Pn	23 07 54.4	-0.2
BBOD	La Paz, Gloria	5.25 347		Pg	Pn	23 07 58.2	+2.7
AC02	Maricunga	5.26 197		*i* P	Pn	23 07 57.2	+1.8

*TAP **08** 23:24:55.9, 24.′86N×122.′56E, h132km, ML3.6, C*
*JMA **08** 23:24:55.9±0.2, 25.′N±2.′×122.′5E±0.′5, h133km±2km, MV3.0/14, NW OFF ISHIGAKIJIMA IS*
ISC 08 23:24:56.6±1.**6, 24.′81N**±0.′05×**122.′57E**±0.′03, **h127**km±9km, **n116**, σ0°**55**/207, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.49 136		P	Pn	23 25 15.4	+0.1
EOS2	EOS2	0.49 219		*i* P	Pn	23 25 15.6	+0.4
EOS2				*e*S	Sn	23 25 29.7	+0.5
YOJ	Yonaguni jima	0.52 131		P	Pn	23 25 15.6	+0.1
YOJ	Yonaguni jima	0.52 131		P	Pn	23 25 15.7	+0.1
YOJ				*e*S	Sn	23 25 30.5	+0.8
YOJ	Yonaguni jima	0.52 131		P	Pn	23 25 15.6	+0.1
EOS3	EOS3	0.57 204		*e*P	Pn	23 25 16.2	+0.6
TWB1	Santiao Chiao	0.57 291		*i* P	Pn	23 25 15.7	0.0
TWB1				*i* S	Sn	23 25 30.3	0.0
TWC	Suao	0.69 254		*e*P	Pn	23 25 16.2	-0.3
SXI1	Grass Mountain	0.70 295		P	Pn	23 25 16.7	-0.1
SXI1				*e*S	Sn	23 25 32.2	+0.2
TIPB	Shuangxi	0.70 284		*i* P	Pn	23 25 16.8	0.0
TIPB				*i* S	Sn	23 25 31.9	0.0
ESAO	Su ao	0.70 251		*i* P	Pn	23 25 16.4	-0.3
ESAO				S	Sn	23 25 31.2	-0.7
EOS4	EOS4	0.72 199		*e*P	Pn	23 25 16.6	+0.2
EOS4				*e*S	Sn	23 25 32.3	+0.9
ILA	Ilan	0.75 267		P	Pn	23 25 17.1	0.0
ILA				S	Sn	23 25 32.5	-0.1
NWF	Wu-fen Shan	0.77 290		*i* P	Pn	23 25 17.2	-0.1
NWF				*e*S	Sn	23 25 33.4	+0.4
WFSB	Wu-fen Shan	0.77 290		*e*P	Pn	23 25 17.5	+0.2
NDS	Dongshan	0.80 258		P	Pn	23 25 17.4	-0.1
NDS				S	Sn	23 25 32.9	-0.3
EWUT	Wuta	0.81 244		*i* P	Pn	23 25 17.3	-0.2
EWUT				S	Sn	23 25 33.4	+0.1
TWE	Neicheng	0.83 264		*i* P	Pn	23 25 17.6	-0.1
TWE				*e*S	Sn	23 25 33.5	-0.2
ENA	Nanau	0.85 244		*i* P	Pn	23 25 18.0	+0.1
ENA				S	Sn	23 25 34.0	0.0
EAHA	Aohua	0.90 238		*i* P	Pn	23 25 18.2	-0.1
EAHA				*i* S	Sn	23 25 35.1	+0.3
FUSB	Fushanzhiwuyua	0.90 267		*i* P	Pn	23 25 18.2	-0.2
FUSB				*e*S	Sn	23 25 34.6	-0.3
TWA	Mucha	0.92 281		*e*P	Pn	23 25 18.6	+0.1
TWA				*e*S	Sn	23 25 34.9	-0.2
ENTT	Nioudou	0.93 260		*e*P	Pn	23 25 18.9	+0.2
ENTT				S	Sn	23 25 35.6	+0.3
YM08	YM08	0.97 293		*e*P	Pn	23 25 18.9	-0.2
YM08				*i* S	Sn	23 25 35.4	-0.7
YM01	YM01	0.97 291		*i* P	Pn	23 25 19.0	-0.1
YM01				*i* S	Sn	23 25 35.8	-0.3
NWLT	Wulai	0.97 269		P	Pn	23 25 18.7	-0.4
NWLT				*e*S	Sn	23 25 36.3	+0.2
LATG	Datong	0.99 255		*i* P	Pn	23 25 19.7	+0.3
LATG				*i* S	Sn	23 25 37.0	+0.5
ZUZH	Zhuzihu	1.00 291		P	Pn	23 25 19.3	0.0
ZUZH				S	Sn	23 25 35.8	-0.8
TATO	Taipei	1.00 280		P	Pn	23 25 18.8	-0.4
TATO	Taipei	1.00 280		S	Sn	23 25 37.7	+1.3
TATO	Taipei	1.00 280		P	Pn	23 25 18.8	-0.4
TATO				*e*S	Sn	23 25 35.4	-1.0
TWY	Chenhua	1.00 298		*e*S	Sn	23 25 36.1	-0.4
ANP	Anpu	1.03 292		*e*P	Pn	23 25 19.4	-0.2
ETL	Fush Village	1.08 234		*e*P	Pn	23 25 19.7	-0.4
ETL				*e*S	Sn	23 25 37.8	-0.1
NTST	Danshui	1.08 290		*e*P	Pn	23 25 19.9	-0.1
NTST				*e*S	Sn	23 25 37.2	-0.6
TWS1	Kuangyinshan	1.09 286		*e*P	Pn	23 25 19.4	-0.8
TWS1				*e*S	Sn	23 25 37.6	-0.3
NACB	Ninganchiao	1.09 235		P	Pn	23 25 19.6	-0.6
NACB	Ninganchiao	1.09 235		*i* P	Pn	23 25 19.7	-0.4
NACB				*i* S	Sn	23 25 37.7	-0.3
YHNB	Yeheng	1.10 263		P	Pn	23 25 20.3	0.0
YHNB	Yeheng	1.10 263		S	Sn	23 25 38.4	+0.1
YHNB	Yeheng	1.10 263		*i* P	Pn	23 25 20.3	0.0
YHNB				S	Sn	23 25 37.6	-0.7
NSK	Sanguang	1.11 264		*i* P	Pn	23 25 20.3	-0.2
NSK				*i* S	Sn	23 25 38.1	-0.5
NNSH	Datong	1.15 251		P	Pn	23 25 21.2	+0.4
NNSH				*e*S	Sn	23 25 39.4	+0.1
TWD	Chiawan	1.15 231		P	Pn	23 25 20.2	-0.5
TWD				*i* S	Sn	23 25 38.8	-0.2
IRIF	Iriomote-Funau	1.15 114		P	Pn	23 25 20.8	0.0
IRIF				S	Sn	23 25 39.1	+0.1
NNS	Nan Shan	1.15 252		*i* P	Pn	23 25 21.1	+0.1
NNS				*i* S	Sn	23 25 39.3	0.0
ETLH	Xiulin Townshi	1.16 239		P	Pn	23 25 20.8	-0.2
ETLH				S	Sn	23 25 39.2	-0.2
HWA	Hwalien	1.21 227		P	Pn	23 25 21.3	0.0
HWA				*i* S	Sn	23 25 41.0	+0.9
KSHI	Guanxi Townshi	1.27 269		*e*P	Pn	23 25 22.1	+0.1
KSHI				*e*S	Sn	23 25 41.9	+0.6
NCU	National Centr	1.27 278		*e*P	Pn	23 25 21.9	-0.1
NCU				*e*S	Sn	23 25 41.8	+0.5
NCUH	Zhongli	1.27 278		*e*P	Pn	23 25 22.0	0.0
NCUH				*e*S	Sn	23 25 41.5	+0.2
TEYL	Yanliau Villag	1.29 224		*e*P	Pn	23 25 21.9	-0.3
TEYL				*e*S	Sn	23 25 41.2	-0.5
ETM	Tongmen	1.29 230		*e*P	Pn	23 25 21.8	-0.5
ETM				*e*S	Sn	23 25 41.2	-0.6
LXIB	Xiulin Townshi	1.31 234		*e*P	Pn	23 25 22.0	-0.6
LXIB				*e*S	Sn	23 25 42.2	-0.2
FUSS	Fushou	1.33 246		*i* P	Pn	23 25 23.2	+0.3
FUSS				*i* S	Sn	23 25 43.2	+0.3
NFF	Wufeng Townshi	1.34 263		P	Pn	23 25 22.5	-0.3
NFF				*i* S	Sn	23 25 42.1	-0.5
HATJ	Hateruma jima	1.35 123		*e*S	Sn	23 25 42.9	+0.2
WHF	Hehuan Shan	1.36 241		*e*P	Pn	23 25 23.6	+0.1
WHF				*e*S	Sn	23 25 43.3	-0.5
SHUL	Shoufeng	1.37 223		*e*P	Pn	23 25 22.9	-0.2
SHUL				*e*S	Sn	23 25 43.1	-0.1
TWT	Tachien	1.39 247		*e*P	Pn	23 25 24.3	+0.8
TWT				*e*S	Sn	23 25 44.4	+0.5
TDCB	Techi	1.40 247		*e*P	Pn	23 25 24.0	+0.4
TDCB				*e*S	Sn	23 25 44.2	+0.1
HSN1	Hsinchu	1.42 269		*e*P	Pn	23 25 23.7	+0.1
HSN1				*e*S	Sn	23 25 43.8	-0.2
JKRS	Kuro-shima	1.42 113		*e*P	Pn	23 25 24.1	+0.4
JKRS				S	Sn	23 25 44.5	+0.3
LIOB	Emei	1.43 264		*i* P	Pn	23 25 23.6	-0.1
LIOB				*i* S	Sn	23 25 44.0	-0.3
ESL	Shilin	1.43 227		*e*P	Pn	23 25 22.9	-0.9
ESL				*e*S	Sn	23 25 43.3	-1.2
SBCB	Hsinchu	1.44 270		*e*P	Pn	23 25 23.9	0.0
SBCB				*e*S	Sn	23 25 44.5	-0.1
HSN	Hsinchu	1.46 270		*e*P	Pn	23 25 23.2	-0.9
HSN				*e*S	Sn	23 25 43.9	-1.0
JIJ	Ishigaki jima	1.49 107		P	Pn	23 25 24.5	0.0
JIJ				S	Sn	23 25 44.9	-0.7
OWD	Renai	1.53 237		P	Pn	23 25 25.0	0.0
OWD				S	Sn	23 25 46.3	-0.3
WARBT	Fenglin Townsh	1.53 225		*e*P	Pn	23 25 23.8	-1.1
WARBT				*e*S	Sn	23 25 44.9	-1.6
EGFH	Guangfu	1.54 223		*e*P	Pn	23 25 24.4	-0.6
EGFH				*e*S	Sn	23 25 46.4	-0.3
WUSB	Renai	1.56 239		*i* P	Pn	23 25 25.6	+0.3
WUSB				S	Sn	23 25 47.0	-0.1
WHP	Taichung City	1.57 251		*e*P	Pn	23 25 26.0	+0.6
WHP				*e*S	Sn	23 25 47.8	+0.4
JISG	Ishigakijimahi	1.59 97		P	Pn	23 25 25.7	+0.1
JISG				S	Sn	23 25 47.1	-0.6
NMLH	Miaoli	1.64 261		*e*P	Pn	23 25 26.4	+0.2
NMLH				*e*S	Sn	23 25 48.4	-0.3
VWDT	VWDT	1.68 232		*e*P	Pn	23 25 26.7	+0.2
VWDT				*e*S	Sn	23 25 48.9	-0.5
HGSD	Ruisui	1.68 219		*e*P	Pn	23 25 26.4	-0.2
HGSD				*e*S	Sn	23 25 48.9	-0.5
DPDB	Guoxing	1.69 243		*e*P	Pn	23 25 27.5	+0.8
WCS	Beigang Elemen	1.69 244		*e*P	Pn	23 25 27.3	+0.6
WCS				*e*S	Sn	23 25 50.2	+0.6
NSY	Sanyi	1.69 257		*e*P	Pn	23 25 27.1	+0.3
NSY				*e*S	Sn	23 25 50.0	+0.1
TWQ1	Liyutan	1.70 255		P	Pn	23 25 27.0	+0.1
TWQ1				*e*S	Sn	23 25 49.4	-0.5
EHY	Hungye	1.73 222		*e*P	Pn	23 25 26.4	-0.8
EHY				*e*S	Sn	23 25 48.9	-1.5
SMLT	Sun Moon Lake	1.78 239		*e*P	Pn	23 25 27.9	0.0
SMLT				*e*S	Sn	23 25 52.7	+0.9
SSLB	Suanglung	1.79 236		P	Pn	23 25 28.7	+0.7
SSLB	Suanglung	1.79 236		*e*P	Pn	23 25 28.6	+0.7
SSLB				*e*S	Sn	23 25 52.2	+0.3
ECBN	Changbin	1.80 215		*e*S	Sn	23 25 51.6	-0.5
TYC	Yuchr	1.81 241		P	Pn	23 25 28.8	+0.7
TYC				S	Sn	23 25 53.1	+1.0
WDJ	Dajia District	1.82 256		*e*P	Pn	23 25 28.2	-0.1
WDJ				*e*S	Sn	23 25 52.4	0.0
YULB	Yu-li	1.83 220		P	Pn	23 25 27.8	-0.6
YULB	Yu-li	1.83 220		*e*P	Pn	23 25 27.6	-0.8
YULB				*e*S	Sn	23 25 51.1	-1.5
EYUL	Yuli	1.85 219		*e*P	Pn	23 25 28.3	-0.3
EYUL				*e*S	Sn	23 25 53.2	+0.1
TCU	Taichung	1.85 250		*e*P	Pn	23 25 28.7	+0.1
TWF1	Yuli	1.86 219		*e*P	Pn	23 25 28.2	-0.6
TWF1				*e*S	Sn	23 25 52.3	-1.0
WWF	Wufeng	1.87 246		*e*P	Pn	23 25 29.1	+0.2
WHYT	Xinyi Township	1.92 235		*e*P	Pn	23 25 30.6	+1.1
WHYT				*e*S	Sn	23 25 56.0	+1.4
CHKH	Chenggong	1.93 214		*e*P	Pn	23 25 29.3	-0.4
CHKH				*e*S	Sn	23 25 54.2	-0.7
JTJ	Tarama	1.94 94		*e*P	Pn	23 25 30.1	+0.3
JTJ				S	Sn	23 25 54.5	-0.5
WJS	Zhushan	1.95 240		*e*P	Pn	23 25 30.6	+0.7
WJS				*e*S	Sn	23 25 56.6	+1.4
WNT	Mingjian	1.96 242		*e*P	Pn	23 25 30.7	+0.8
WCHH	Zhanghua	1.97 249		*e*P	Pn	23 25 30.2	+0.1
WCHH				*e*S	Sn	23 25 55.5	-0.2
YUS	Yu-Shan	1.98 229		*e*P	Pn	23 25 30.6	0.0
YUS				*e*S	Sn	23 25 56.0	-0.6
FULB	Fuli	1.98 216		*e*P	Pn	23 25 30.2	-0.1
FULB				*e*S	Sn	23 25 56.4	+0.4
ALS	Alishan	2.07 232		*e*P	Pn	23 25 32.4	+0.8
ALS				*e*S	Sn	23 25 59.7	+1.4
ELDTW	Lidau	2.15 222		*e*P	Pn	23 25 32.5	+0.1
ELDTW				*e*S	Sn	23 25 59.0	-0.8
EDH	Donghe	2.16 213		P	Pn	23 25 32.1	-0.3
EDH				*e*S	Sn	23 25 59.5	-0.5
WDLH	Douliu	2.17 240		*e*P	Pn	23 25 33.1	+0.7
WRL	Guolierlin Hig	2.20 246		*e*P	Pn	23 25 32.7	-0.1
WRL				*i* S	Sn	23 25 60.0	-0.7
RLNB	Erlin	2.21 246		*e*P	Pn	23 25 33.4	+0.3
RLNB				*e*S	Sn	23 26 01.1	0.0
WCKO	Fanlu	2.25 233		*e*P	Pn	23 25 34.4	+0.7
WCKO				*e*S	Sn	23 26 02.8	+0.8
WTK	Tuku	2.28 241		*e*P	Pn	23 25 34.0	0.0
WTK				*e*S	Sn	23 26 02.8	+0.2
LONT	Longtian	2.31 215		*e*P	Pn	23 25 34.8	+0.5
LONT				*e*S	Sn	23 26 02.6	-0.5
STYH	Taoyuan	2.31 226		*e*P	Pn	23 25 34.9	+0.5
STYH				*e*S	Sn	23 26 04.2	+0.9
TPUB	Ta-pu	2.32 230		P	Pn	23 25 35.2	+0.7
TPUB	Ta-pu	2.32 230		*e*P	Pn	23 25 35.1	+0.5
TPUB				*e*S	Sn	23 26 04.9	+1.3
STYT	Tauyuan	2.33 226		*e*P	Pn	23 25 34.9	+0.3
LDUT	Ludao	2.35 206		*e*S	Sn	23 26 02.9	-1.3

*IDC **08** 23:30:19.2±2.2, 4.′65S×151.′71E, h0km, mb4.0/3, mbtmp4.0/3, MS2.9/1, Error ellipse: s-maj=140.2km s-min=29.5km az=124.0*
*NEIC **08** 23:30:29.5±1.8, 4.′4S±0.′1×152.′1E±0.′1, h124km±6km, mb4.3/18, Error ellipse: s-maj=18.3km s-min=14.8km az=153.0*
ISC 08 23:30:28.3±0.8, **4.′3S**±0.′1×**152.′2E**±0.′1, **h133**km±7km, **n26**, σ1°**33**/25, **mb4.2**/13, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	0.07 352		Pn	Pn	23 30 46.8	+0.4
RABL				Sn	Sn	23 30 60.0	-0.1
PMG	Port Moresby	7.13 224		Sn	Sn	23 33 13.3	-17
	8.4nm,0.3s,baz=49,slow=19,SNR=5.1						
PATS	Pohnpei	12.61 29		Pn	P	23 33 27.1	-2.2
COEN	Coen	13.10 222		Pn	Pn	23 33 29.7	+0.2
DZM	Mont Dzumac	22.47 143		P	P	23 35 15.6	-1.2
DZM				IAmb	IAmb	23 35 32.9	
	comp=Z,12nm,1.0s						
MTN	Manton Dam	22.47 246		P	P	23 35 15.5	-1.2
WB0	Warramunga Arr	23.19 227		P	P	23 35 21.7	-1.9
WB0				IAmb	IAmb	23 35 24.5	
	comp=Z,4.6nm,0.6s						
WR0	Warramunga Arr	23.21 226		P	P	23 35 21.4	-2.4
WB2	Warramunga Arr	23.34 227		P	P	23 35 23.1	-1.8
WB2				IAmb	IAmb	23 35 25.4	
	comp=Z,10.0nm,1.0s						
WRA	Warramunga Arr	23.34 227		P	P	23 35 23.3	-1.7
	comp=Z,5.0nm,0.5s,baz=52,slow=9.7,SNR=28						
WRA				LR	LR	23 43 53.7	
	comp=Z,31nm,18.3s,baz=102,slow=36						
	comp=Z,5.0nm,0.5s						
KNRA	Kununurra	25.66 242		P	P	23 35 46.6	+0.7
KNRA				IAmb	IAmb	23 35 49.7	
	comp=Z,18nm,1.1s						
AS31	Alice Springs	26.13 221		P	P	23 35 49.7	-0.5
ASAR	Alice Springs	26.14 221		P	P	23 35 50.0	-0.3
	comp=Z,3.9nm,0.6s,baz=52,slow=9.2,SNR=54						
	comp=Z,3.9nm,0.6s						
FITZ	Fitzroy Crossi	29.38 240		P	P	23 36 18.8	-0.3
BBOO	Buckleboo	32.15 206		P	P	23 36 42.2	-1.2
BBOO				IAmb	IAmb	23 36 50.7	
	comp=Z,4.1nm,0.8s						
MBWA	Marble Bar	35.70 239		P	P	23 37 13.4	-0.8
MBWA				IAmb	IAmb	23 37 14.4	
	comp=Z,10nm,1.1s						
JAGI	Jajag, Banyuwa	38.00 262		P	P	23 37 34.0	+0.2
JAGI				IAmb	IAmb	23 37 47.6	
	comp=Z,9.9nm,1.0s						
TOZ	Tahuroa Road	39.55 150		P	P	23 37 46.2	-0.1
TOZ				IAmb	IAmb	23 37 59.3	
	comp=Z,8.6nm,1.1s						
NIUE	Niue	39.80 115		P	P	23 37 51.2	+2.5
YOJ	Yonaguni jima	40.25 317		P	P	23 37 52.8	+0.4
NACB	Ninganchiao	41.05 315		P	P	23 38 00.7	+1.7
MORW	Morawa	42.20 230		P	P	23 38 08.4	+0.1
MORW				IAmb	IAmb	23 38 11.2	
	comp=Z,5.3nm,1.1s						
MLZ	Mavora Lakes	43.25 164		P	P	23 38 16.0	-0.5
ODZ	Otahua Downs	43.73 161		P	P	23 38 21.1	+0.8
ODZ				IAmb	IAmb	23 38 30.6	
	comp=Z,10.0nm,1.1s						
ILAR	Eielson Array	81.90 22		P	P	23 42 44.0	+11
	comp=Z,0.3nm,0.6s,baz=240,slow=4.7,SNR=1.9						
	comp=Z,0.3nm,0.6s						
TORD	Torodi Ar. Bea	149.54 289		PKPbc	PKPab	23 50 09.4	+0.9
	comp=Z,0.3nm,0.5s,baz=86,slow=2.5,SNR=5.2						

*SNET **08** 23:33:31.9±1.0, 12.′77N×90.′39W, h15km±9km, ML3.3*
*GCG **08** 23:33:32.2±0.9, 12.′94N×90.′40W, h0km±16km, MD4.1, Hypocentre not reviewed by the ISC*
*CATAC **08** 23:33:33.1±3.9, 13.′N±18.′×9.′0W±2.′4, h5km, M3.5/9, MLv3.5/9, Error ellipse: s-maj=61.6km s-min=14.8km az=54.5, rejected*
ISC 08 23:33:31.9±3.4, **12.′8N**±0.′1×**90.′4W**±0.′2, **h24**km, **n25**, σ0°**54**/29, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.29 46		*e*P	Pn	23 33 54.6	0.0
JAYA				*e*S	Sb	23 34 11.8	0.0
JAYA	Jayaque - finc	1.29 46		P	Pn	23 33 54.6	0.0
JAYA	Jayaque - finc	1.29 46		*i* P		23 33 54.5	
NUBE	Las Nubes	1.29 28		*e*P	Pn	23 33 54.4	-0.2
NUBE				*e*S	Sb	23 34 11.2	-0.6
NUBE	Las Nubes	1.29 28		P	Pn	23 33 54.4	-0.2
NUBE	Las Nubes	1.29 28		*e*P		23 33 54.4	
NUBE				*e*S		23 34 11.3	
CEVE	Cerro Verde	1.31 36		*e*P	Pn	23 33 55.1	+0.1
CEVE				*e*S	Sb	23 34 13.4	+1.0
CEVE				IAML		23 34 19.3	
	comp=Z,945nm,0.4s						
SBLS	San Blas	1.32 35		*e*P	Pn	23 33 55.1	0.0
RTR	El Retiro	1.35 33		*e*P	Pn	23 33 55.7	+0.2
LOAL	Lomas de Alarc	1.38 26		*e*P	Pn	23 33 55.9	+0.3
LOAL				*e*S	Sb	23 34 14.2	+0.1
LOAL	Lomas de Alarc	1.38 26		P	Pn	23 33 56.0	+0.3
SLOZ	Alcaldia de Sa	1.40 26		P	Pn	23 33 56.2	+0.2
PMON	Piamonte	1.43 48		*e*P	Pn	23 33 56.3	-0.1
PMON	Piamonte	1.43 48		P	Pn	23 33 56.5	0.0
LOMA	Loma Larga	1.49 54		P	Pn	23 33 57.3	0.0
LFRS	El Faro	1.57 57		*e*P	Pn	23 33 58.0	-0.3
JUAM	Asuncion Mita	1.71 23		*i* S		23 34 22.9	
COEG	Centro de Oper	1.72 60		*e*P	Pn	23 34 00.5	+0.1
COEG				IAML		23 34 27.6	
	comp=Z,207nm,0.4s						
COEG	Centro de Oper	1.72 60		P	Pn	23 34 00.5	+0.1
PAVA	Las Pavas	1.72 56		*e*P	Pn	23 34 01.2	+0.8
PAVA	Las Pavas	1.72 56		P	Pn	23 34 01.0	+0.5
SCLA	Alcaldia de Sa	1.89 60		*e*P	Pn	23 34 03.2	+0.5
SCLA	Alcaldia de Sa	1.89 60		P	Pn	23 34 03.5	+0.8
ESQI	Esquipulas	2.07 30		*e*P	Pn	23 34 06.6	+1.3
PACA	Pacayal	2.15 71		*e*P	Pn	23 34 07.3	+0.9
PACA	Pacayal	2.15 71		P	Pb	23 34 09.6	-0.7
LCND	La Caada	2.52 77		P	Pn	23 34 12.3	+1.0
PKGN	Cerro Pekin	3.35 91		P	Pn	23 34 22.7	-0.1

*NEIC **08** 23:36:42.8±0.9, 18.′85N±0.′07×155.′17W±0.′04, h29km±12km, Error ellipse: s-maj=11.0km s-min=1.6km az=155.0*
HVO 08 23:36:44.9±0.6, **18.′87N**±0.′05×**155.′16W**±0.′06, **h32**km±7km, **ML2.2**/8, **ML2.5**/42(NEIC), **Error ellipse: s-maj=9.3km s-min

s-min=29.7km az=114.0

ISC 08 23:41:37.9±1.7,**6°3S**±0°.2×**143°.1E**±0°.4,**h35**km,**n6**,σ1°**92**/6, **mb3.5**/3,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.00**	**211**	Pn	**Pn**	**23 45 18.0**	**-2.4**
	0.1nm,0.3s,baz=30,slow=13,SNR=5.5						
WRA				Sn	Sn	23 48 07.1	-10
	baz=38,slow=24,SNR=1.2						
WRA				Lg	Lg	23 49 55.8	
	baz=35,slow=28,SNR=1.9						
ASAR	**Alice Springs**	**19.39**	**206**	P	**P**	**23 46 03.1**	**+2.1**
	0.1nm,0.3s,baz=36,slow=9.7,SNR=14						
	2.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.66**	**234**	P	**P**	**23 46 15.4**	**+0.7**
	2.6nm,0.6s,baz=55,slow=9.2,SNR=6.1						
	2.6nm,0.6s						
MKAR	**Makanchi Array**	**75.27**	**322**	P	**P**	**23 53 17.6**	**+0.2**
	0.2nm,0.8s,baz=123,slow=5.3,SNR=1.6						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**84.72**	**325**	P	**P**	**23 54 07.9**	**-0.4**
	0.4nm,0.5s,baz=114,slow=3.5,SNR=4.3						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**23 54 20.6**	**-0.1**
	0.3nm,0.9s,baz=237,slow=6.0,SNR=1.5						
	0.3nm,0.9s						

---

*SJA **08** 23:44:46.0,30°.46S×71°.39W,h10km,ML2.7*
*GUC **08** 23:44:47.8±0.7,30°.54S×71°.36W,h15km±4km,ML2.5*

ISC 08 23:44:46.5±1.1,**30°.50S**±0°.03×**71°.33W**±0°.04,**h10**km±11km, **n18**,σ0°**92**/24,**2C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.31**	**237**	⇑*i*P	**Pg**	**23 44 52.5**	**-0.3**
CO06				*e*S	**Sg**	**23 44 56.5**	**-0.5**
CO06				IAML		23 44 57.2	
	comp=E,767nm,0.1s						
GO04	**Tololo Observa**	**0.57**	**54**	*i*P	**Pg**	**23 44 57.5**	**-0.1**
GO04	**Tololo Observa**	**0.57**	**54**	*e*P	**Pg**	**23 44 58.0**	**+0.5**
GO04				*e*S	**Sg**	**23 45 06.7**	**+1.6**
GO04				IAML		23 45 09.9	
	comp=E,711nm,0.5s						
CO05	**La Serena**	**0.59**	**8**	*i*P	**Pg**	**23 44 58.2**	**+0.3**
CO05				*e*S	**Sg**	**23 45 06.6**	**+0.9**
CO05				IAML		23 45 07.3	
	comp=E,272nm,0.1s						
CO03	**El Pedregal**	**0.65**	**121**	*i*P	**Pg**	**23 44 57.9**	**-1.1**
CO03	**El Pedregal**	**0.65**	**121**	*e*P	**Pg**	**23 44 58.6**	**-0.4**
CO03				*e*S	**Sg**	**23 45 07.4**	**-0.2**
CO03				IAML		23 45 07.9	
	comp=N,533nm,0.1s						
CO01	**Juntas del Tor**	**1.19**	**64**	*i*P	**Pg**	**23 45 07.8**	**-1.7**
CO01	**Juntas del Tor**	**1.19**	**64**	⇑*i*P	**Pg**	**23 45 08.4**	**-1.0**
CO01				*e*S	**Sg**	**23 45 24.3**	**-0.6**
CO01				IAML		23 45 26.7	
	comp=N,82nm,0.1s						
LCO	**Las Campanas**	**1.58**	**20**	*i*P	**Pn**	**23 45 13.5**	**-1.4**
LCO	**Las Campanas**	**1.58**	**20**	*e*P	**Pn**	**23 45 14.2**	**-0.7**
LCO				*e*S	**Sn**	**23 45 35.3**	**-0.3**
LCO				IAML		23 45 38.6	
	comp=N,310nm,0.4s						
AROD	**Rodeo**	**1.64**	**79**	*i*P	**Pb**	**23 45 17.2**	**+0.1**
ACCO	**Cerro Coronel**	**1.96**	**93**	*i*P	**Pb**	**23 45 22.9**	**+0.4**
DOCA	**Reserva Natura**	**1.99**	**103**	*i*P	**Pn**	**23 45 22.2**	**+1.7**
RTLS	**Leoncito**	**2.17**	**127**	*i*P	**Pb**	**23 45 25.9**	**-0.2**
ACO4	**Llanos de Chal**	**2.30**	**6**	*i*P	**Pn**	**23 45 24.6**	**+0.1**
VA03	**San Esteban**	**2.35**	**164**	*i*P	**Pn**	**23 45 25.4**	**+0.1**
MT02	**Curacav**	**2.75**	**177**	*i*P	**Pn**	**23 45 31.0**	**+0.3**
ML02	**Panimavida**	**5.25**	**181**	*i*P	**Pn**	**23 46 06.2**	**+1.2**

---

*NEIC **08** 23:47:03.7±2.5,51°.4N±0°.2×175°.99E±0°.09,h35km±2km, mb3.7/34,Error ellipse: s-maj=37.6km s-min=3.3km az=166.0*
*IDC **08** 23:47:07.0±2.4,52°.65N×175°.97E,h0km,mb3.3/7, mbtmp3.4/8,ML2.3/1,MS3.1/2,Error ellipse: s-maj=66.9km s-min=21.3km az=175.0*

ISC 08 23:47:10.2±1.5,**52°.3N**±0°.3×**176°.07E**±0°.09,**h35**km,**n51**, σ1°**26**/43,**mb3.5**/8,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**4.49**	**93**	Pn	Pn	23 48 10.1	-5.6
UNV	**Unalaska Valle**	**10.60**	**75**	Pn	**Pn**	**23 49 37.2**	**-2.2**
PETK	**Petropavlovsk-**	**11.18**	**281**	Pn	**Pn**	**23 49 46.7**	**-0.6**
	0.1nm,0.3s,baz=77,slow=16,SNR=1.1						
PETK				LR	LR	23 54 27.6	
	comp=Z,61nm,18.7s,slow=40						
	2.2nm,0.9s						
O14K	**Tigyukauivet M**	**14.48**	**52**	P	**P**	**23 50 37.1**	**-1.4**
O14K				IAmb	IAmb	23 50 55.2	
	comp=Z,6.5nm,1.1s						
N15K	**Kwethluk River**	**15.35**	**50**	P	**P**	**23 50 48.2**	**0.0**
N15K				IAmb	IAmb	23 50 50.7	
	comp=Z,9.5nm,1.1s						
O16K	**Kokwok River B**	**16.13**	**53**	P	**P**	**23 50 58.3**	**+1.4**
M16K	**Timber Creek**	**16.17**	**48**	P	**P**	**23 50 57.9**	**+0.6**
L16K	**Owhat River**	**16.21**	**45**	P	**P**	**23 50 57.9**	**+0.1**
N17K	**Nushagak Hills**	**16.83**	**50**	P	**P**	**23 51 04.8**	**+0.2**
N17K				IAmb	IAmb	23 51 07.0	
	comp=Z,4.9nm,0.8s						
M17K	**Holitna River**	**17.00**	**47**		**P**	**23 51 07.2**	**+0.7**
M17K				IAmb	IAmb	23 51 23.1	
	comp=Z,7.3nm,1.1s						
K17K	**Iditarod**	**17.14**	**43**		**P**	**23 51 09.1**	**+1.1**
K17K				IAmb	IAmb	23 51 09.9	
	comp=Z,4.2nm,1.1s						
ACHA	**Angle Creek He**	**17.26**	**59**		**Pn**	**23 51 08.3**	**0.0**
N18K	**Kilae Creek**	**17.49**	**50**		**P**	**23 51 11.2**	**-0.7**
O18K	**Koktuh Hills**	**17.61**	**53**	P	**P**	**23 51 15.2**	**+1.9**
O18K				IAmb	IAmb	23 51 31.0	
	comp=Z,6.6nm,0.9s						
L18K	**Granite Mounta**	**17.62**	**45**	P	**P**	**23 51 15.3**	**+1.9**
SII	**Sitkinak Islan**	**17.75**	**64**	P	**P**	**23 51 15.0**	**+0.2**
F17K	**Baldwin Pennin**	**18.12**	**30**	P	**P**	**23 51 18.8**	**+0.1**
F17K				IAmb	IAmb	23 51 36.7	
	comp=Z,5.2nm,1.1s						
N19K	**Bonanza Creek**	**18.19**	**51**	P	**P**	**23 51 19.5**	**-0.2**
N19K				IAmb	IAmb	23 51 27.4	
	comp=Z,5.5nm,0.8s						
Q19K	**Cape Douglas,**	**18.23**	**57**		**Pn**	**23 51 19.0**	**-1.1**
OHAK	**Old Harbor**	**18.26**	**62**		**Pn**	**23 51 17.9**	**-2.5**
OHAK				IAmb	IAmb	23 51 36.9	
	comp=Z,8.2nm,1.1s						
C16K	**Lisburne Hills**	**18.34**	**22**	P	**Pn**	**23 51 24.2**	**+2.8**
L19K	**White Mountain**	**18.42**	**46**		**P**	**23 51 21.8**	**-0.3**
L19K				IAmb	IAmb	23 51 27.1	
	comp=Z,2.8nm,1.1s						
P19K	**Oil Pt**	**18.55**	**55**	P	**Pn**	**23 51 25.4**	**+1.3**
ILSW	**Iliamna Southw**	**18.65**	**54**		**Pn**	**23 51 25.3**	**-0.1**
ILSW				IAmb	IAmb	23 51 40.2	
	comp=Z,5.6nm,0.9s						
SYI	**Shuyak Island**	**18.84**	**58**		**P**	**23 51 24.8**	**-2.0**
M20K	**Styx River**	**19.10**	**48**	P	**Pn**	**23 51 30.7**	**0.0**
M20K				IAmb	IAmb	23 51 34.7	
	comp=Z,2.8nm,0.9s						
K20K	**Telida**	**19.16**	**43**	P	**P**	**23 51 30.0**	**-0.3**
HOM	**Homer**	**19.35**	**55**	P	**Pn**	**23 51 33.0**	**-0.6**
SPU	**Mount Spurr**	**19.43**	**50**	P	**Pn**	**23 51 33.7**	**-0.9**
J20K	**Nowinta River**	**19.45**	**41**	P	**Pn**	**23 51 34.4**	**-0.3**
J20K				IAmb	IAmb	23 51 46.9	
	comp=Z,1.9nm,0.8s						
F19K	**Shaleruckik Mo**	**19.45**	**32**		**P**	**23 51 31.8**	**-1.5**
F19K				IAmb	IAmb	23 51 45.9	
	comp=Z,3.2nm,0.8s						
CNPM	**China Poot**	**19.54**	**55**	P	**P**	**23 51 32.5**	**-2.0**
STLK	**Strandline Lak**	**19.60**	**49**	P	**Pn**	**23 51 36.1**	**-0.6**
STLK				IAmb	IAmb	23 51 38.1	
	comp=Z,3.7nm,0.7s						
C18K	**Utukok River**	**19.64**	**25**	P	**P**	**23 51 34.0**	**-1.5**
C18K				IAmb	IAmb	23 51 48.5	
	comp=Z,3.8nm,1.1s						
SUA	**Susitna One**	**20.10**	**50**	P	**Pn**	**23 51 41.9**	**-0.8**
SUA				IAmb	IAmb	23 51 43.0	
	comp=Z,5.0nm,0.8s						
SLKM	**Skilak Lake**	**20.18**	**53**	P	**P**	**23 51 40.7**	**-0.8**
SLKM				IAmb	IAmb	23 51 51.6	
	comp=Z,3.4nm,0.6s						
O22K	**Cooper Landing**	**20.42**	**53**	P	Pn	23 51 47.3	+1.1
ILAR	**Eielson Array**	**22.61**	**42**	P	**P**	**23 52 06.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=275,slow=13,SNR=5.1						
	comp=Z,0.2nm,0.6s						

H11N2	**WAKE ISLAND Hy 33.29 196**	T	T	00 28 27.9
	baz=11,slow=76,SNR=21			
H11N3	**WAKE ISLAND Hy 33.30 196**	T	T	00 28 28.7
	baz=11,slow=76,SNR=18			
H11N1	**WAKE ISLAND Hy 33.30 196**	T	T	00 28 31.3
	baz=11,slow=76,SNR=14			
H11S1	**WAKE ISLAND Hy 34.52 196**	T	T	00 30 01.2
	baz=19,slow=74			
H11S3	**WAKE ISLAND Hy 34.53 196**	T	T	00 30 05.3
	baz=19,slow=74			
H11S2	**WAKE ISLAND Hy 34.53 196**	T	T	00 30 08.5
	baz=19			
YKA	**Yellowknife Ar**	**36.90**	**46**	P	**P**	**23 54 14.0**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=288,slow=9.1,SNR=6.0					
	comp=Z,0.5nm,0.8s					
SONM	**Songino Array**	**43.37**	**293**	P	**P**	**23 55 08.4**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=60,slow=8.5,SNR=1.4					
	comp=Z,0.1nm,0.4s					
SPITS	**Spitsbergen Ar**	**49.19**	**355**	P	**P**	**23 55 54.3**	**+0.2**
	comp=Z,10nm,1.0s,baz=31,slow=8.7,SNR=5.3					
KURBB	**Kurchatov Arra**	**56.14**	**310**	P	**P**	**23 56 46.9**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=46,slow=6.6,SNR=3.4					
	comp=Z,0.5nm,0.5s					
MKAR	**Makanchi Array**	**56.93**	**305**	P	**P**	**23 56 51.1**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=47,slow=7.1,SNR=4.7					
	comp=Z,0.1nm,0.5s					
BVAR	**Borovoye Array**	**58.08**	**317**	P	**P**	**23 56 59.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=62,slow=7.9,SNR=5.3					
	comp=Z,0.7nm,0.6s					
TXAR	**Lajitas Array**	**61.62**	**78**	P	**P**	**23 57 27.2**	**+2.9**
	comp=Z,0.2nm,0.5s,baz=330,slow=7.7,SNR=2.1					
TXAR			LR	LR	00 22 07.6	
	comp=Z,19nm,18.3s,baz=311,slow=34					
	comp=Z,0.2nm,0.5s					

---

*IDC **08** 23:52:39.5±1.8,9°.75N×126°.09E,h0km,mb3.8/7, mbtmp3.8/7,MS3.4/1,Error ellipse: s-maj=148.2km s-min=21.6km az=74.0*

ISC 08 23:52:44.9±1.6,**9.7N**±0°.3×**126°.0E**±0°.9,**h35**km,**n10**, σ0°**36**/7,**mb3.6**/7,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.62**	**181**	P	**P**	**23 58 29.1**	**-0.2**
	2.1nm,0.7s,baz=352,slow=9.3,SNR=1.6						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**34.06**	**167**	P	**P**	**23 59 26.3**	**+0.2**
	0.2nm,0.3s,baz=344,slow=8.9,SNR=4.8						
	0.2nm,0.3s						
H11N1	**WAKE ISLAND Hy 40.72**	**71**	T	T	00 43 39.8	
	baz=256,slow=74						
H11N2	**WAKE ISLAND Hy 40.73**	**71**	T	T	00 43 41.0	
	baz=256						
H11N3	**WAKE ISLAND Hy 40.74**	**71**	T	T	00 43 41.4	
	baz=256,slow=74						
SONM	**Songino Array**	**41.44**	**340**	P	**P**	**00 00 28.4**	**+0.1**
	0.2nm,0.4s,baz=152,slow=8.1,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.30**	**323**	P	**P**	**00 01 53.3**	**+0.2**
	0.4nm,0.6s,baz=120,slow=8.4,SNR=5.1						
MKAR				LR	LR	00 23 30.0	
	comp=Z,35nm,20.0s,baz=334,slow=35						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.37**	**326**	P	**P**	**00 02 22.8**	**+0.2**
	0.2nm,0.5s,baz=122,slow=7.2,SNR=4.3						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**84.62**	**340**	P	**P**	**00 05 14.4**	**-0.1**
	3.2nm,1.1s,baz=79,slow=5.1,SNR=3.6						
	3.2nm,1.1s						
FINES	**FINESS Array B**	**86.24**	**332**	P	**P**	**00 05 22.2**	**-0.6**
	4.1nm,1.1s,baz=66,slow=3.5,SNR=4.5						
	4.1nm,1.1s						

---

*IDC **09** 00:05:24.5±1.4,8°.56N×126°.03E,h0km,mb3.6/6, mbtmp3.6/6,MS3.3/1,Error ellipse: s-maj=76.9km s-min=29.2km az=68.0*

ISC 09 00:05:29.6±1.1,**8°.5N**±0°.2×**126°.0E**±0°.5,**h34**km,**n7**,σ0°**82**/6, **mb3.5**/6,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.92**	**167**	P	**P**	**00 12 00.8**	**-0.2**
	0.1nm,0.3s,baz=346,slow=8.8,SNR=1.4						
	0.1nm,0.3s						
ASAJ	**Asahikawa**	**38.29**	**19**	LR	LR	00 30 15.6	
	comp=Z,42nm,18.1s,baz=72,slow=39						
SONM	**Songino Array**	**42.55**	**340**	P	**P**	**00 13 21.3**	**-0.9**
	0.2nm,0.6s,baz=161,slow=8.8,SNR=1.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**53.24**	**324**	P	**P**	**00 14 45.2**	**+0.3**
	0.5nm,0.6s,baz=123,slow=7.9,SNR=6.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**57.34**	**326**	P	**P**	**00 15 13.9**	**-0.4**
	0.4nm,0.5s,baz=128,slow=7.2,SNR=5.5						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**81.12**	**26**	P	**P**	**00 17 41.5**	**+0.2**
	0.3nm,0.8s,baz=255,slow=5.5,SNR=2.3						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**87.28**	**332**	P	**P**	**00 18 13.6**	**+1.0**
	3.5nm,1.0s,baz=126,slow=7.1,SNR=4.3						
	3.5nm,1.0s						

---

*HEL **09** 00:24:42.7±0.1,67°.83N×20°.17E,h0km,ML1.7,Explosion*
*UPP **09** 00:24:42.5±0.0,67°.85N×20°.21E,h0km,ML1.8,Unknown*
*IDC **09** 00:24:43.1±1.4,67°.88N×20°.56E,h0km,mbtmp2.8/3, ML1.9/3,Error ellipse: s-maj=19.3km s-min=7.8km az=116.0*

ISC 09 00:24:42.8±0.8,**67°.84N**±0°.02×**20°.23E**±0°.02,**h0**km,**n34**, σ1°**19**/57,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**19**	P	**Pg**	**00 24 45.0**	**0.0**
KUA				S	**Sg**	**00 24 46.7**	**+0.2**
RATU	**Laukkuluspa**	**0.24**	**266**	P	**Pg**	**00 24 47.2**	**-0.2**
RATU				S	**Sg**	**00 24 50.5**	**0.0**
LANU	**Lannavaara**	**0.70**	**72**	P	**Pg**	**00 24 55.7**	**-0.4**
LANU				S	**Sg**	**00 25 04.9**	**-0.2**
LANU	**Lannavaara**	**0.70**	**72**	PG	**Pg**	**00 24 55.7**	**-0.4**
LANU				SG	**Sg**	**00 25 05.0**	**-0.1**
DUNU	**Dundret**	**0.74**	**170**	P	**Pg**	**00 24 56.3**	**-0.5**
MASU	**Masugnsbyn**	**0.78**	**119**	P	**Pg**	**00 24 57.4**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**236**	*e*P	**Pg**	**00 24 57.8**	**-0.4**
SALU	**Saltoluokta**	**0.81**	**236**	P	**Pg**	**00 24 57.6**	**-0.6**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**00 25 05.5**	**+0.1**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**00 25 05.2**	**-0.2**
KIF				MSG		00 25 20.3	
	comp=Z,11nm,0.2s						
KIF				SG	**Sg**	**00 25 20.8**	**0.0**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 25 08.0**	**-1.2**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**00 25 07.9**	**-1.3**
	baz=303						
PAJU				SB	**Sg**	**00 25 26.6**	**-0.5**
HEF	**Hetta**	**1.41**	**65**	PG	**Pn**	**00 25 08.4**	**-1.2**
HEF				MSG		00 25 25.7	
	comp=Z,6.8nm,0.2s						
HEF				SG	**Sg**	**00 25 26.9**	**-0.9**
ERTU	**Ertsjaerv**	**1.50**	**149**	P	**Pn**	**00 25 10.3**	**-0.6**
ERTU	**Ertsjaerv**	**1.50**	**149**	PG	**Pn**	**00 25 10.0**	**-0.9**
ERTU				SN	**Sn**	**00 25 31.3**	**+0.1**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**00 25 11.0**	**-0.7**
KLF				MSG		00 25 29.9	
	comp=Z,4.3nm,0.2s						
KLF				SN	**Sg**	**00 25 32.6**	**-0.2**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**00 25 12.4**	**-0.1**
KTK1				SN	**Sn**	**00 25 33.7**	**-0.4**
HARU	**Harads**	**1.71**	**170**	P	**Pn**	**00 25 13.7**	**0.0**
TRO	**Tromso**	**1.86**	**346**	PG	**Pn**	**00 25 15.9**	**+0.1**
TRO				SG	**Sb**	**00 25 40.9**	**-0.4**
KALU	**Kalix**	**2.34**	**147**	PB	**Pn**	**00 25 23.3**	**+0.8**
	baz=328						
KALU				SG	**Sb**	**00 25 54.4**	**-0.8**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**00 25 24.4**	**+1.3**
TOF				MSG		00 25 54.0	
	comp=Z,3.1nm,0.2s						
TOF				SG	**Sb**	**00 25 56.2**	**-0.4**
RNF	**Rovaniemi**	**2.57**	**116**	PB	**Pn**	**00 25 27.1**	**+1.6**
	baz=305						
RNF				SG	**Sb**	**00 26 01.5**	**-0.2**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**00 25 25.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=226,slow=16,SNR=23						
ARCES				Lg	Lg	00 25 59.3	
	comp=Z,0.9nm,0.3s,baz=226,slow=26,SNR=11						
	comp=Z,0.5nm,0.3s						
KMNF	**Kaamanen**	**2.82**	**59**	PN	**Pn**	**00 25 29.7**	**+0.8**
KMNF				SB	**Sn**	**00 26 06.1**	**+2.6**
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PB	**Pn**	**00 25 34.6**	**+1.9**
RAJF				SB	**Sb**	**00 26 15.4**	**-1.2**
KEV	**Kevo**	**3.12**	**49**	PB	**Pb**	**00 25 36.9**	**-2.2**
KEV				SN	**Sn**	**00 26 12.0**	**+0.9**
RANF	**Ranua**	**3.17**	**122**	PB	**Pb**	**00 25 36.6**	**-3.2**
RANF				SG	**Sb**	**00 26 20.5**	**+1.6**
BURU	**Burvik**	**3.31**	**171**	PB	**Pn**	**00 25 37.5**	**+1.8**
BURU				SB	**Sn**	**00 26 17.8**	**+2.2**
VRF	**Varrio**	**3.56**	**87**	PG	**Pb**	**00 25 47.4**	**+0.8**
VRF				SB	**Sb**	**00 26 29.6**	**-0.6**
OUL	**Oulu**	**3.58**	**138**	PG	**Pb**	**00 25 47.4**	**+0.6**
OUL				SG	**Sb**	**00 26 33.4**	**+2.6**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**00 25 44.7**	**+0.8**
OLKF				SG	**Sb**	**00 26 42.4**	**+2.5**
KU6	**Riekki**	**4.21**	**111**	PG	**Pb**	**00 25 58.4**	**+0.8**
	baz=300						
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**00 26 26.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=0.9						
FINES				Sn	**Sn**	**00 27 42.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=351,slow=17,SNR=5.3						
FINES				Lg	Lg	00 28 18.0	
	comp=Z,0.1nm,0.3s,baz=347,slow=25,SNR=2.4						
	comp=Z,1.9nm,1.0s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**00 26 36.5**	**-1.7**
	baz=21,slow=12,SNR=1.6						
NOA				Lg	Lg	00 28 53.5	
	baz=22,slow=19,SNR=0.9						
	comp=Z,0.6nm,0.8s						

RSNC 09 00:29:34.1±0.0,**3°N**±1°×**7°6W**±°,**h0**km±2km,**M3.1**,**mB5.8, ML2.9**,**Mw(mB)5.4**,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.62**	**120**	P	Pg	00 29 44.8	-1.3
BETC				S	Sg	00 29 53.1	-1.1
JAMC	**Jamundi, Valle**	**0.72**	**287**	P	Pg	00 29 47.1	-0.9
JAMC				S	Sg	00 29 57.7	+0.3
POPC	**Popayan, Colom**	**0.83**	**237**	P	Pg	00 29 48.8	-1.3
POPC				S	Sg	00 30 00.3	-0.6
GARC	**Garzon, Huila**	**0.94**	**149**	P	Pg	00 29 50.9	-1.3
GARC				S	Sg	00 30 03.6	-0.9
YOTC	**Yotoco, Valle**	**1.04**	**340**	P	Pg	00 29 51.4	-2.7
YOTC				S	Sg	00 30 05.2	-2.5
ORTC	**Ortega, Tolima**	**1.16**	**39**	P	Pg	00 29 54.0	-2.4
ORTC				S	Sg	00 30 09.4	-2.1
PRAC	**Prado**	**1.30**	**57**	P	Pg	00 29 56.6	-2.5
PRAC				S	Sg	00 30 14.0	-2.0
FLOC	**Florencia**	**1.45**	**167**	P	Pn	00 29 59.6	-2.0
FLOC				S	Sg	00 30 19.5	-1.1
ANIL	**Santa Ana**	**1.59**	**21**	P	Pn	00 30 00.7	-3.1
ANIL				S	Sn	00 30 21.3	-3.9
BBAC	**Balboa, Cauca**	**1.60**	**233**	P	Pn	00 30 02.3	-1.5
BBAC				S	Sn	00 30 23.8	-1.5
URMC	**La Uribe, Meta**	**1.62**	**81**	P	Pn	00 30 02.2	-1.8
URMC				S	Sn	00 30 24.2	-1.4
MALC	**Bahia Malaga**	**1.69**	**307**	P	Pn	00 30 04.2	-0.7
MALC				S	Sn	00 30 26.8	-0.4
CRUC	**La Cruz**	**1.72**	**214**	P	Pn	00 30 05.8	+0.1
CRUC				S	Sg	00 30 30.0	+0.5
PLMC	**San Jos del P**	**1.92**	**351**	P	Pn	00 30 05.8	-2.3
PLMC				S	Sn	00 30 31.8	-1.2
RECRC	**Villamaria, Ca**	**2.05**	**18**	P	Pn	00 30 10.4	+0.1
RECRC				S	Sn	00 30 37.2	+0.4
NIZA	**Niza - Manizal**	**2.11**	**14**	P	Pn	00 30 10.4	-0.5
NIZA				S	Sn	00 30 37.5	-0.5
GR1C	**Gorgona, Isla**	**2.18**	**270**	P	Pn	00 30 10.5	-1.2
GR1C				S	Sn	00 30 38.4	-1.1
GCUF	**Volcan Galeras**	**2.23**	**218**	P	Pb	00 30 15.2	-0.4
GUY2C	**Guyana, Caldas**	**2.29**	**15**	P	Pn	00 30 13.1	-0.5
GUY2C				S	Sn	00 30 42.9	+0.1
MACC	**Macarena, Meta**	**2.29**	**112**	P	Pn	00 30 12.9	-0.3
MACC				S	Sn	00 30 42.9	+0.7
PIZC	**Pizarro, Choco**	**2.39**	**325**	P	Pn	00 30 14.4	-0.1
ROSC	**El Rosal**	**2.47**	**42**	P	Pn	00 30 16.3	+0.3
ROSC				S	Sn	00 30 46.8	-0.2
VILC	**Villavicencio,**	**2.54**	**64**	P	Pn	00 30 17.9	+1.2
VILC				S	Sb	00 30 52.8	+0.4
CHIC	**Chingaza**	**2.77**	**54**	P	Pn	00 30 20.1	0.0
CHIC				S	Sn	00 30 56.4	+2.0
NORC	**Norcasia**	**2.78**	**23**	P	Pn	00 30 20.5	+0.6
NORC				S	Sn	00 30 56.3	+2.1
CBOC	**Ciudad Bolivar**	**2.84**	**359**	P	Pn	00 30 22.0	+1.0
BONI	**La Bonita**	**2.97**	**211**	P	Pb	00 30 28.0	0.0
PTLC	**Puerto Leguiza**	**3.05**	**157**	P	Pb	00 30 27.5	-1.8
PTLC				S	Sb	00 31 09.5	+2.4
SPBC	**San Pablo de B**	**3.25**	**36**	P	Pn	00 30 27.1	+0.6
SPBC				S	Sn	00 31 08.6	+2.7
GUVC	**San Jose del G**	**3.38**	**98**	P	Pn	00 30 30.6	+2.4
GUVC				S	Sb	00 31 13.4	-3.2

STEB eSG **Sb** **00 44 03.9 -0.6**
MORC Moravsky Berou 1.04 243 ePg **Pg** **00 43 55.5 +0.3**
baz=65
MORC eSg **Sg** **00 44 08.0 -0.6**
64nm,0.4s,baz=65
MORC Moravsky Berou 1.04 243 ePG **Pg** **00 43 55.5 +0.3**
MORC eSG **Sg** **00 44 08.1 -0.6**
MORC Moravsky Berou 1.04 243 Pg **Pb** **00 43 55.9 -0.3**
ANAC Anensky vrch 1.04 261 ePg **Pb** **00 43 56.0 -0.3**
baz=82
ANAC eSg **Sg** **00 44 08.6 -0.1**
95nm,0.4s,baz=82
LANS Liptovska Anna 1.15 164 ePG **Pg** **00 43 57.5 +0.2**
LANS eSG **Sb** **00 44 14.0 +0.5**
NIE Niedzica 1.20 134 ePg **Pg** **00 43 58.1 -0.2**
NIE eSg **Sn** **00 44 16.2 -0.2**
NIE Niedzica 1.20 134 Pg **Pg** **00 43 58.4 +0.1**
KRLC Kraliky 1.42 264 ePG **Pn** **00 44 02.0 -0.5**
KRLC eSG **Sg** **00 44 20.9 0.0**
comp=Z,69nm,0.9s
JAVC Velka Javorina 1.63 212 ePn **Pn** **00 44 05.3 -0.1**
baz=32
JAVC Velka Javorina 1.63 212 ePN **Pn** **00 44 05.3 -0.1**
STHS Stebnicka Huta 1.69 119 ePG **Pn** **00 44 07.0 +0.8**
STHS eSG **Sg** **00 44 31.3 +1.6**
DPC Dobruska-Polom 1.70 274 ePG **Pn** **00 44 06.4 +0.1**
DPC eSG **Sn** **00 44 29.1 +0.3**
comp=Z,39nm,0.7s
VYHS Vyhne 1.76 183 Pg **Pn** **00 44 06.6 -0.5**
VYHS Vyhne 1.76 183 ePG **Pg** **00 44 09.4 +0.3**
VYHS eSG **Sg** **00 44 32.3 +0.4**
KSP Ksiaz 1.81 290 ePg **Pg** **00 44 10.5 +0.5**
KSP eSg **Sg** **00 44 33.9 +0.4**
KSP Ksiaz 1.81 290 Pn **Pb** **00 44 09.2 -0.1**
KSP Sn **Sg** **00 44 33.8 +0.4**
VRAC Vranov 1.81 239 Pg **Pn** **00 44 07.8 +0.1**
4.6nm,0.3s,baz=61,slow=15,SNR=22
VRAC Lg Lg 00 44 32.4
7.8nm,0.3s,baz=152,slow=21,SNR=13
VRAC Vranov 1.81 239 ePn **Pn** **00 44 07.8 +0.1**
baz=59
VRAC eSg **Sn** **00 44 31.7 +0.4**
48nm,0.5s,baz=59
VRAC Vranov 1.81 239 ePN **Pn** **00 44 07.9 +0.1**
VRAC eSG **Sn** **00 44 31.8 +0.4**
CHVC Chvalec 1.90 281 ePG **Pn** **00 44 09.0 0.0**
CHVC eSG **Sn** **00 44 34.4 +0.8**
UPC Upice 1.91 279 Pn **Pb** **00 44 11.1 0.0**
KECS Kecovo 2.03 150 ePG **Pg** **00 44 13.9 -0.3**
KECS eSG **Sg** **00 44 40.4 -0.1**
KRUC Moravsky 2.05 236 ePn **Pn** **00 44 10.8 -0.3**
baz=55
KRUC eSg **Sb** **00 44 39.4 -0.1**
19nm,0.6s,baz=55
KRUC Moravsky 2.05 236 ePN **Pn** **00 44 10.9 -0.2**
KRUC eSG **Sb** **00 44 39.5 -0.1**
MODS Modra-Piesok 2.18 211 ePG **Pg** **00 44 16.6 -0.5**
MODS eSG **Sg** **00 44 47.3 +1.9**
PSZ Piszkesteto 2.41 165 Pn **Pn** **00 44 16.3 +0.2**
KWP Kalwaria Pacla 2.49 103 Pn **Pb** **00 44 20.4 -0.6**
KOLS Kolonicke sedl 2.52 120 ePG **Pg** **00 44 22.9 -0.7**
KOLS eSG **Sg** **00 44 57.4 +1.1**
GOPC GO Pecny, Ondr 2.72 264 eSG **Sg** **00 45 01.1 -1.5**
comp=Z,12nm,0.4s
PRU Pruhonice 2.86 266 eSG **Sb** **00 45 05.0 +2.1**
comp=Z,33nm,1.3s
CONA Conrad Observa 3.10 222 *i* Pn **Pn** **00 44 25.3 -0.2**
0.5nm,0.3s
CONA *i* Sn **Sn** **00 45 02.6 -0.7**
3.3nm,0.4s
ZVC Zvikov 3.20 257 ePG **Pb** **00 44 34.6 +1.6**
BRG Berggiesshubel 3.27 283 Pg **Pg** **00 44 37.7 -0.2**
BRG Sg **Sg** **00 45 21.1 +0.9**
BRG Amp 00 45 27.4
comp=Z,7.6nm,0.5s
CKRC Cesky Krumlov 3.36 247 eSG **Sb** **00 45 19.6 +2.5**
KHC Kasperske Hory 3.68 254 ePN **Pn** **00 44 34.0 +0.5**
KHC ePG **Pb** **00 44 40.4 -0.8**
KHC eSG **Sg** **00 45 32.3 -1.1**
comp=Z,13nm,0.6s
KHC Kasperske Hory 3.68 254 Pn **Pn** **00 44 33.8 +0.3**
GERES GERESS Array B 3.71 250 Pn **Pn** **00 44 34.0 +0.1**
comp=Z,0.3nm,0.3s,baz=73,slow=14,SNR=4.3
GERES Pg **Pb** **00 44 43.2 +1.5**
comp=Z,0.5nm,0.3s,baz=67,slow=21,SNR=6.6
GERES Sn **Sn** **00 45 18.2 -0.2**
comp=Z,0.7nm,0.3s,baz=72,slow=21,SNR=4.1
GERES Lg Lg 00 45 29.7
comp=Z,2.4nm,0.3s,baz=68,slow=27,SNR=7.9
comp=Z,0.5nm,0.3s
MOA Molln 3.92 234 *i* Sn **Sn** **00 45 25.0 +1.6**
comp=Z,0.2nm,0.1s
CLL Collm 3.93 288 ePg **Pg** **00 44 51.0 +0.3**
CLL eSg **Sg** **00 45 42.0 +0.4**
comp=Z,16nm,1.2s
BURAR Bucovina Array 4.89 120 Pn **Pn** **00 44 50.4 +0.2**
KBA Koelnbreinsper 4.90 232 *i* Sn **Sn** **00 45 47.1 -0.7**
comp=Z,0.4nm,0.2s
KBA eSg **Sg** **00 46 15.4 +2.8**
comp=Z,0.6nm,0.2s
LESA Schwarzleotal 5.03 238 eSg **Sg** **00 46 15.6 -1.2**
comp=Z,2.5nm,0.4s
RETA Reutte 6.08 246 eSG **Sg** **00 46 51.5 +0.9**
comp=Z,4.2nm,0.5s
AKASG Malin Array Be 6.56 82 Pg **Pb** **00 45 30.2 0.0**
comp=Z,0.3nm,0.3s,baz=271,slow=14,SNR=1.3
AKASG Lg Lg 00 47 04.2
comp=Z,0.5nm,0.3s,baz=253,slow=9.6,SNR=4.1
DAVOX Davos/Dischmat 6.96 244 Pn **Pn** **00 45 19.4 +0.6**
comp=Z,0.2nm,0.3s,baz=60,slow=8.1,SNR=2.0
DAVOX Lg Lg 00 47 17.8
comp=Z,0.2nm,0.3s,baz=155,slow=19,SNR=4.3
comp=Z,0.9nm,0.5s
FINES FINESS Array B 11.90 17 Pn **Pn** **00 46 23.2 -2.8**
comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=5.9
comp=Z,4.4nm,0.9s
ARCES ARCESS Array B 19.60 7 P **P** **00 48 04.7 0.0**
baz=184,slow=9.6,SNR=5.2
comp=Z,0.7nm,0.6s
TORD Torodi Ar. Bea 39.61 207 P **P** **00 51 08.6 +0.1**
comp=Z,0.1nm,0.4s,baz=12,slow=8.4,SNR=1.4
comp=Z,0.1nm,0.4s
SONM Songino Array 54.12 56 P **P** **00 53 03.0 +1.0**
comp=Z,0.3nm,0.9s,baz=310,slow=11,SNR=2.0
comp=Z,0.3nm,0.9s

DJA 09 00:57:55.0±0.7, 2°N±7°×12°9E±°, h14km±4km, M3.9/8, mb4.0/2, MLv3.9/8, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.83**	**224**	P	Pn	00 58 25.8	-0.3
SGSI	**Sangihe**	**3.50**	**297**	P	Pn	00 58 49.2	+0.2
SWI	**Sorong**	**3.93**	**138**	P	Pn	00 58 55.0	+0.1
FAKI	**Fak Fak**	**6.14**	**144**	P	Pn	00 59 25.4	0.0

---

*NEIC **09** 01:02:37.9±2.6, 19°.5S±0°.1×175°.01W±0°.08, h164km±10km, mb4.6/13, Error ellipse: s-maj=19.1km s-min=11.2km az=180.0*
*IDC **09** 01:02:40.8±3.5, 19°.98S×175°.58W, h177km±32km, mb3.6/6, mbtmp4.3/8, Error ellipse: s-maj=25.4km s-min=20.0km az=127.0*
*NOU **09** 01:03:07.0, 21°.85S×177°.11W, h230km, mb4.2/9, Fiji Islands Region*

ISC 09 01:02:35.3±0.6, 19°.60S±0°.07×175°.02W±0°.06, h150km, n76, σ2§34/76, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.84**	**85**		**Pn**	**01 03 49.2**	**+2.5**
NIUE				Sn	**Sn**	**01 04 40.9**	**-1.4**
NIUE	**Niue**	**4.84**	**85**	P	**Pn**	**01 03 49.2**	**+2.5**
NIUE				S	**Sn**	**01 04 40.5**	**-1.8**
AFI	**Afiamalu**	**6.46**	**29**		**Pn**	**01 04 10.4**	**+2.1**
AFI				Sn	**Sn**	**01 05 16.8**	**-4.2**
AFI	**Afiamalu**	**6.46**	**29**	P	**Sn**	**01 05 18.1**	**-2.9**
MSVF	**Nonsavu**	**6.82**	**285**		**Pn**	**01 04 15.4**	**+2.3**
MSVF	**Nonsavu**	**6.82**	**285**	P	**Pn**	**01 04 15.0**	**+1.9**
57nm,0.8s,baz=120,slow=15,SNR=22							
PINNC	**Pines Island,**	**16.63**	**257**		**Pn**	**01 06 21.8**	**+2.0**
DZM	**Mont Dzumac**	**17.50**	**259**	P	**Pn**	**01 06 31.0**	**+0.7**
DZM				IAmb	IAmb	01 06 32.9	
comp=Z,22nm,0.7s							
DZM	**Mont Dzumac**	**17.50**	**259**	P	**Pn**	**01 06 29.6**	**-0.8**
comp=Z,15nm,0.5s,baz=79,slow=18,SNR=23							
DZM	**Mont Dzumac**	**17.50**	**259**	P	**Pn**	**01 06 30.7**	**+0.3**
GRZ	**Great Barrier**	**18.58**	**205**	P	**Pn**	**01 06 44.6**	**+1.7**
MXZ	**Matakaoa Point**	**18.82**	**197**	P	**Pn**	**01 06 44.2**	**-1.5**
HAZ	**Te Kaha**	**19.15**	**198**	P	**P**	**01 06 45.1**	**-1.9**
PUZ	**Puketiti**	**19.31**	**196**	P	**P**	**01 06 47.1**	**-1.8**
RUGZ	**Raukumara Rang**	**19.37**	**198**	P	**P**	**01 06 46.4**	**-3.2**
TWGZ	**Tauwhareparae**	**19.49**	**197**	P	**P**	**01 06 49.6**	**-1.1**
CNGZ	**Carnagh Statio**	**19.71**	**196**	P	**P**	**01 06 52.0**	**-1.1**
MWZ	**Matawai**	**19.76**	**198**	P	**P**	**01 06 51.5**	**-2.2**
URZ	**Urewera**	**19.81**	**199**	P	**P**	**01 06 50.4**	**-3.7**
comp=Z,11nm,0.3s,baz=347,slow=4.0,SNR=18							
URZ				S	S	01 10 08.3	-21
comp=Z,4.0nm,0.7s,baz=80,slow=14,SNR=1.4							
URZ	**Urewera**	**19.81**	**199**	P	**P**	**01 06 50.5**	**-3.7**
URZ	**Urewera**	**19.81**	**199**	P	**P**	**01 06 51.7**	**-2.5**
TOZ	**Tahuroa Road**	**19.86**	**203**	P	**P**	**01 06 54.4**	**-0.4**
TOZ				IAmb	IAmb	01 06 55.3	
comp=Z,44nm,1.3s							
TOZ	**Tahuroa Road**	**19.86**	**203**	P	**P**	**01 06 54.4**	**-0.4**
RIGZ	**Rimuhau**	**20.04**	**197**	P	**P**	**01 06 54.9**	**-1.8**
MUGZ	**Murupara**	**20.11**	**199**	P	**P**	**01 06 54.2**	**-3.3**
RTZ	**Ruatahuna**	**20.18**	**198**	P	**P**	**01 06 55.2**	**-3.1**
KNZ	**Kokohu**	**20.36**	**197**	P	**P**	**01 06 58.0**	**-2.0**
TLZ	**Tolley Road**	**20.39**	**202**	P	**P**	**01 06 59.4**	**-1.0**
RAHZ	**Arahi**	**20.43**	**198**	P	**P**	**01 06 59.0**	**-1.8**
MTHZ	**Maungataniwha**	**20.44**	**198**	P	**P**	**01 06 58.6**	**-2.4**
HIZ	**Hauiti**	**20.79**	**203**	P	**P**	**01 07 03.5**	**-1.2**
HIZ				IAmb	IAmb	01 07 04.3	
comp=Z,19nm,0.6s							
HIZ	**Hauiti**	**20.79**	**203**	P	**P**	**01 07 01.0**	**-3.7**
HIZ	**Hauiti**	**20.79**	**203**	P	**P**	**01 07 03.5**	**-1.2**
BKZ	**Black Stump Fm**	**20.83**	**199**	P	**P**	**01 07 01.3**	**-3.9**
BKZ	**Black Stump Fm**	**20.83**	**199**	P	**P**	**01 07 00.9**	**-4.3**
OTVZ	**Oturere**	**21.09**	**200**	P	**P**	**01 07 03.8**	**-4.2**
NGZ	**Ngauruhoe**	**21.12**	**201**	P	**P**	**01 07 05.9**	**-2.5**
WNVZ	**Wahianoa**	**21.26**	**200**	P	**P**	**01 07 05.7**	**-4.3**
VRZ	**Vera Road**	**21.37**	**202**	P	**P**	**01 07 09.5**	**-1.4**
BFZ	**Birch Farm**	**22.30**	**198**	P	**P**	**01 07 18.4**	**-2.1**
BFZ	**Birch Farm**	**22.30**	**198**	P	**P**	**01 07 17.7**	**-2.7**
MRZ	**Mangatainoka R**	**22.48**	**199**	P	**P**	**01 07 17.6**	**-4.5**
QRZ	**Quartz Range**	**23.68**	**204**	P	**P**	**01 07 31.3**	**-2.0**
QRZ	**Quartz Range**	**23.68**	**204**	P	**P**	**01 07 31.2**	**-2.1**
NNZ	**Nelson**	**23.71**	**202**	P	**P**	**01 07 29.3**	**-4.2**
THZ	**Tophouse**	**24.36**	**202**	P	**P**	**01 07 37.5**	**-1.9**
KHZ	**Kahutara**	**24.72**	**201**	P	**P**	**01 07 41.8**	**-0.8**
KHZ	**Kahutara**	**24.72**	**201**	P	**P**	**01 07 40.0**	**-2.6**
DSZ	**Denniston Nort**	**24.75**	**204**	P	**P**	**01 07 41.8**	**-1.2**
GVZ	**Greta Valley S**	**25.38**	**201**	P	**P**	**01 07 46.4**	**-2.2**
LTZ	**Lake Taylor**	**25.48**	**202**	P	**P**	**01 07 48.6**	**-1.0**
INZ	**Inchbonnie**	**25.73**	**203**	P	**P**	**01 07 50.0**	**-1.8**
OXZ	**Oxford**	**26.04**	**202**	P	**P**	**01 07 55.1**	**+0.5**
RPZ	**Rata Peaks**	**26.73**	**203**	P	**P**	**01 08 02.1**	**+1.3**
RPZ	**Rata Peaks**	**26.73**	**203**	P	**P**	**01 08 00.6**	**-0.1**
FOZ	**Fox Glacier**	**27.04**	**205**	P	**P**	**01 08 02.9**	**-1.5**
JCZ	**Jackson Bay**	**27.91**	**205**	P	**P**	**01 08 10.3**	**-1.1**
JCZ	**Jackson Bay**	**27.91**	**205**	P	**P**	**01 08 10.1**	**-1.2**
MLZ	**Mavora Lakes**	**29.25**	**205**	P	**P**	**01 08 24.8**	**+1.7**
EIDS	**Eidsvold**	**31.78**	**253**	P	**P**	**01 08 44.2**	**-1.5**
EIDS				IAmb	IAmb	01 08 44.5	
comp=Z,18nm,1.4s							
TOO	**Toolangi**	**38.69**	**234**	P	**P**	**01 09 45.4**	**+0.8**
TOO				IAmb	IAmb	01 09 51.8	
comp=Z,16nm,1.4s							
AS31	**Alice Springs**	**47.45**	**256**	P	**P**	**01 10 54.3**	**-0.9**
ASAR	**Alice Springs**	**47.45**	**256**	P	**P**	**01 10 53.2**	**-2.0**
comp=Z,5.7nm,0.6s,baz=97,slow=8.5,SNR=58							
comp=Z,5.7nm,0.6s							
WB0	**Warramunga Arr**	**47.48**	**261**	P	**P**	**01 10 53.2**	**-2.3**
WB0				IAmb	IAmb	01 10 54.6	
comp=Z,5.2nm,0.6s							
WB2	**Warramunga Arr**	**47.49**	**261**	P	**P**	**01 10 53.0**	**-2.5**
WRA	**Warramunga Arr**	**47.50**	**261**	P	**P**	**01 10 53.1**	**-2.6**
comp=Z,1.8nm,0.3s,baz=96,slow=7.5,SNR=47							
comp=Z,1.8nm,0.3s							
KNRA	**Kununurra**	**53.52**	**265**	P	**P**	**01 11 40.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.92**	**261**	P	**P**	**01 11 57.0**	**-1.2**
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	**01 13 35.4**	**+2.0**
QSPA				IAmb	IAmb	01 13 35.9	
comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	**01 13 34.8**	**+1.5**
comp=Z,3.1nm,0.7s,baz=32,slow=2.0,SNR=8.2							
comp=Z,3.1nm,0.7s							
NVAR	**Mina Array Bea**	**78.47**	**42**	P	P	01 14 24.9	+4.9
comp=Z,0.8nm,0.6s,baz=226,slow=9.1,SNR=4.8							
comp=Z,0.8nm,0.6s							
TXAR	**Lajitas Array**	**84.22**	**56**	P	P	01 14 56.2	+5.7
comp=Z,0.6nm,0.8s,baz=247,slow=5.5,SNR=4.0							
comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**86.41**	**42**	P	P	01 15 05.7	+4.5
comp=Z,0.2nm,0.7s,baz=249,slow=8.2,SNR=1.8							
comp=Z,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**128.51**	**351**	PKP	**PKiKP**	**01 21 28.5**	**+4.1**
comp=Z,4.3nm,1.0s,baz=36,slow=6.3,SNR=3.6							
GAZ	**Gaziantep**	**146.89**	**309**	PKPdf	**PKPdf**	**01 21 57.5**	**-0.8**
BRTR	**Keskin Array B**	**148.24**	**315**	PKPbc	**PKiKP**	**01 22 05.2**	**-0.5**
comp=Z,0.4nm,0.8s,baz=357,slow=5.2,SNR=2.1							

IDC 09 01:14:47.1±1.2, 0°.25N×126°.04E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=127.0km s-min=19.4km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**158**	P	P	01 19 38.8	-0.7
1.2nm,0.5s,baz=337,slow=10,SNR=11							
1.2nm,0.5s							
ASAR	**Alice Springs**	**24.97**	**163**	P	P	01 20 13.1	+0.5
2.2nm,0.6s,baz=344,slow=7.5,SNR=20							
2.2nm,0.6s							
SONM	**Songino Array**	**50.37**	**343**	P	P	01 23 46.7	+0.5
0.1nm,0.3s,baz=164,slow=5.7,SNR=1.7							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**60.03**	**327**	P	P	01 24 56.0	+0.1
0.9nm,0.6s,baz=124,slow=8.4,SNR=17							
0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**64.30**	**329**	P	P	01 25 23.8	-0.5
0.7nm,0.6s,baz=132,slow=6.1,SNR=12							
0.7nm,0.6s							

---

*IDC **09** 01:16:40.2±1.4, 9°.82N×126°.39E, h0km, mb3.8/8, mbtmp3.7/8, Error ellipse: s-maj=80.7km s-min=29.0km az=77.0*

ISC 09 01:16:46.4±1.3, 9°.8N±0°.2×126°.3E±0°.5, h42km, n8, σ0§86/8, mb3.7/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.71**	**181**	P	**P**	**01 22 31.3**	**+0.4**
2.6nm,0.8s,baz=6.0,slow=12,SNR=1.9							
2.6nm,0.8s							
SONM	**Songino Array**	**41.49**	**340**	P	**P**	**01 24 30.9**	**+1.4**
0.1nm,0.3s,baz=149,slow=9.3,SNR=4.6							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**52.45**	**323**	P	**P**	**01 25 54.2**	**-0.7**
0.2nm,0.5s,baz=128,slow=8.4,SNR=2.5							
0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**55.08**	**331**	P	**P**	**01 26 13.8**	**-0.1**
0.2nm,0.3s,baz=111,slow=8.0,SNR=1.7							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**56.51**	**326**	P	**P**	**01 26 23.7**	**-0.5**
0.2nm,0.5s,baz=123,slow=6.8,SNR=2.4							
0.2nm,0.5s							
ARCES	**ARCESS Array B**	**84.67**	**340**	P	**P**	**01 29 14.7**	**-0.7**
1.5nm,0.8s,baz=78,slow=6.0,SNR=7.1							
1.5nm,0.8s							
FINES	**FINESS Array B**	**86.34**	**332**	P	**P**	**01 29 23.6**	**-0.3**
0.9nm,0.6s,baz=38,slow=7.5,SNR=5.0							
0.9nm,0.6s							
YKA	**Yellowknife Ar**	**94.17**	**24**	P	**P**	**01 30 00.3**	**-0.3**
0.3nm,0.7s,baz=299,slow=4.8,SNR=4.9							
0.3nm,0.7s							

---

*IDC **09** 01:26:51.5±0.7, 2°.91S×128°.40E, h0km, mb4.0/8, mbtmp4.1/11, ML4.1/3, MS3.2/7, Error ellipse: s-maj=38.8km s-min=10.3km az=70.0*
*NEIC **09** 01:26:55.0±2.6, 3°.02S±0°.06×128°.15E±0°.07, h10km±1km, mb4.1/7, Error ellipse: s-maj=15.2km s-min=4.3km az=227.0*

---

*DJA **09** 01:26:56.5±0.5, 3°S±2°×12°8E±°, h23km±5km, M4.8/20, mb4.6/20, mB5.8/5, MLv4.6/19, Mw(mB)5.3/5*

ISC 09 01:26:57.9±0.5, 3°.02S±0°.05×128°.13E±0°.05, h38km, n50, σ1§16/54, mb4.2/13, MS2.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.67**	**175**	P	**Pn**	**01 27 09.3**	**-1.6**
MSAI	**Masohi**	**0.86**	**112**	P	**Pn**	**01 27 13.7**	**+0.2**
NLAI	**Namlea**	**1.05**	**258**	P	**Pn**	**01 27 15.5**	**-0.6**
NLAI				S	**Sn**	**01 27 29.9**	**+0.3**
SANI	**Sanana**	**2.35**	**294**	P	**Pn**	**01 27 31.5**	**-2.4**
SANI				S	**Sn**	**01 27 58.3**	**-3.2**
LBMI	**Labuha**	**2.44**	**345**	P	**Pn**	**01 27 36.1**	**+0.9**
SWI	**Sorong**	**3.79**	**56**	P	**Pn**	**01 27 54.7**	**+1.0**
FAKI	**Fak Fak**	**4.11**	**89**		**Pn**	**01 27 59.2**	**+1.0**
FAKI				Sn	**Sn**	**01 28 44.5**	**-0.6**
FAKI	**Fak Fak**	**4.11**	**89**	P	**Pn**	**01 27 58.3**	**+0.1**
KDI	**Kendari**	**5.58**	**260**	P	**Pn**	**01 28 18.0**	**-0.4**
0.2nm30nm,0.9s							
KMPI	**Kaimana, Papua**	**5.60**	**97**	P	**Pn**	**01 28 18.3**	**-0.3**
LUWI	**Luwuk**	**5.70**	**290**		**Pn**	**01 28 19.3**	**-0.8**
LUWI	**Luwuk**	**5.70**	**290**	P	**Pn**	**01 28 19.4**	**-0.7**
0.6nm5μm144nm,0.8s							
APSI	**Ampana**	**6.81**	**288**	P	**Pn**	**01 28 36.0**	**+0.8**
MRSI	**Marisa**	**7.09**	**299**	P	**Pn**	**01 28 37.4**	**-1.8**
0.2nm53nm,0.6s							
BAKI	**Biak**	**8.17**	**77**	P	**Pn**	**01 28 53.0**	**-1.0**
BSSI	**Bau Bau, Buton**	**8.23**	**248**	P	**Pn**	**01 28 54.9**	**+0.2**
69nm,1.8s							
BKSI	**Bulukumba**	**8.31**	**254**	P	**Pn**	**01 28 57.3**	**+1.4**
52nm,1.2s							
SPSI	**Sidrap Palu**	**8.40**	**263**	P	**Pn**	**01 28 58.1**	**+1.0**
18nm,0.8s							
TOLI2	**Tolitoli**	**8.41**	**299**		**Pn**	**01 28 58.1**	**+0.8**
KAPI	**Kappang**	**8.59**	**256**		**Pn**	**01 29 01.0**	**+1.3**
KAPI	**Kappang**	**8.59**	**256**	Pn	**Pn**	**01 29 01.6**	**+1.9**
3.0nm,0.3s,baz=167,slow=7.3,SNR=7.9							
KAPI				LR	LR	01 32 37.1	
comp=Z,216nm,21.0s,baz=68,slow=39							
12nm,0.4s							
WSI	**Waingapu**	**10.21**	**229**	P	**Pn**	**01 29 22.6**	**+0.7**
KNRA	**Kununurra**	**12.60**	**177**	Pn	**Pn**	**01 29 54.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**15.19**	**189**	Pn	**Pn**	**01 30 30.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**15.19**	**189**	Pn	**Pn**	**01 30 28.0**	**-1.7**
0.3nm,0.3s,baz=23,slow=13,SNR=3.8							
FITZ				LR	LR	01 36 36.8	
comp=Z,117nm,21.8s,baz=66,slow=38							
4.3nm,0.8s							
PCJI	**Pacitan**	**17.64**	**252**	P	**Pn**	**01 31 00.9**	**+0.1**
34nm,1.0s							
WB0	**Warramunga Arr**	**17.74**	**160**		**Pn**	**01 31 01.2**	**-0.8**
WB0				IAmb	IAmb	01 31 12.9	
comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**17.88**	**161**	P	**Pn**	**01 31 02.1**	**-1.7**
comp=Z,0.8nm,0.3s,baz=340,slow=11,SNR=26							
WRA				S	**Sn**	**01 34 24.6**	**+2.3**
comp=Z,0.4nm,0.6s,baz=266,slow=25,SNR=1.5							
WRA				LR	LR	01 38 35.0	
comp=Z,99nm,18.1s,baz=312,slow=39							
comp=Z,4.0nm,0.7s							
WB2	**Warramunga Arr**	**17.89**	**161**	P	**Pn**	**01 31 03.2**	**-0.6**
WB2				IAmb	IAmb	01 31 15.3	
comp=Z,14nm,0.9s							
COEN	**Coen**	**18.41**	**127**	P	**P**	**01 31 10.1**	**+0.1**
COEN				IAmb	IAmb	01 31 35.9	
comp=Z,44nm,1.4s							
KPJI	**Karang Pucung**	**19.59**	**257**	P	**P**	**01 31 22.9**	**-0.1**
comp=Z,26nm,0.7s							
PMG	**Port Moresby**	**19.94**	**109**	LR	LR	01 40 25.0	
comp=Z,108nm,19.8s,baz=284,slow=41							
AS31	**Alice Springs**	**21.27**	**165**	P	**P**	**01 31 41.0**	**-0.2**
AS31				IAmb	IAmb	01 31 50.3	
comp=Z,8.7nm,0.9s							
ASAR	**Alice Springs**	**21.28**	**165**	P	**P**	**01 31 40.0**	**-1.1**
comp=Z,19nm,0.9s,baz=345,slow=11,SNR=84							
ASAR				S	**S**	**01 35 37.8**	**+2.1**
comp=Z,0.6nm,0.8s,baz=348,slow=22,SNR=3.1							
ASAR				PcP	**PcP**	**01 35 45.5**	**+0.4**
comp=Z,2.4nm,1.1s,baz=2.0,slow=1.6,SNR=5.3							
ASAR				LR	LR	01 40 29.7	
comp=Z,62nm,19.5s,baz=10,slow=38							
comp=Z,19nm,0.9s							
CMAR	**Chiang Mai Arr**	**35.80**	**308**	P	**P**	**01 33 55.1**	**+1.2**
comp=Z,1.8nm,0.3s,baz=136,slow=8.6,SNR=5.9							
CMAR				LR	LR	01 49 57.4	
comp=Z,15nm,20.5s,baz=125,slow=39							
comp=Z,1.8nm,0.3s							
KSRS	**Korea Array**	**40.26**	**360**	LR	LR	01 50 16.2	
comp=Z,17nm,20.4s,baz=165,slow=35							
XAN	**Xi'an**	**41.06**	**335**	P	**P**	**01 34 38.6**	**+0.7**
XAN				pmax	pmax		
comp=Z,7.0nm,1.0s							
GTA	**Gaotai**	**49.61**	**331**	*eP*	**P**	**01 35 46.9**	**+1.2**
GTA				sP	sP	01 36 01.2	+2.0
GTA				pmax	pmax		
comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**54.10**	**342**	P	**P**	**01 36 19.0**	**0.0**
comp=Z,1.1nm,1.0s,baz=161,slow=7.2,SNR=6.8							
comp=Z,1.1nm,1.0s							
MK31	**Makanchi Array**	**63.90**	**327**	P	**P**	**01 37 27.0**	**+0.2**
MK31				IAmb	IAmb	01 37 27.5	
comp=Z,1.4nm,0.9s							
MKAR	**Makanchi Array**	**63.90**	**327**	P	**P**	**01 37 26.7**	**-0.2**
comp=Z,1.4nm,0.7s,baz=125,slow=7.7,SNR=17							
comp=Z,1.4nm,0.7s							
ZALV	**Zalesovo Beam**	**67.21**	**334**	P	**P**	**01 37 46.2**	**-1.8**
comp=Z,0.4nm,0.5s,baz=80,slow=27,SNR=3.7							
comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**68.16**	**328**	P	**P**	**01 37 53.6**	**-0.5**
comp=Z,2.3nm,0.8s,baz=130,slow=5.7,SNR=22							
comp=Z,2

comp=Z,0.3nm,0.6s
NWAO Narrogin (SRO) 43.22 191 P P 02 25 04.4 +1.0
BBOO Buckleboo 43.24 168 P P 02 25 02.8 -0.8
BBOO IAmb IAmb 02 25 29.9
comp=Z,10nm,0.9s
MK31 Makanchi Array 52.55 323 P P 02 26 15.0 -0.6
MKAR Makanchi Array 52.55 323 P P 02 26 14.8 -0.7
comp=Z,0.7nm,0.6s,baz=120,slow=8.0,SNR=10
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 56.60 326 P P 02 26 43.9 -1.0
comp=Z,1.6nm,0.2s,baz=134,slow=7.9,SNR=1.9
comp=Z,1.6nm,0.2s
SHEM Shemya Is, Ala 57.64 32 LR LR 02 53 34.1
comp=Z,165nm,18.3s,baz=300,slow=38
O18K Koktuh Hills 75.92 31 P P 02 28 48.9 +0.4
O18K IAmb IAmb 02 28 50.3
comp=Z,5.3nm,0.9s
C23K Itkillik River 78.61 21 P P 02 29 04.7 +1.4
C23K IAmb IAmb 02 29 37.2
comp=Z,2.8nm,1.1s
ILAR Eielson Array 79.97 26 P P 02 29 10.3 -0.5
comp=Z,0.3nm,0.7s,baz=244,slow=7.2,SNR=4.2
comp=Z,0.3nm,0.7s
I28M Miner Creek 82.85 25 P P 02 29 27.7 +1.4
I28M IAmb IAmb 02 29 30.9
comp=Z,1.9nm,1.0s
ARCES ARCESS Array B 84.78 340 P P 02 29 36.0 0.0
comp=Z,0.6nm,0.5s,baz=77,slow=6.1,SNR=6.1
comp=Z,0.6nm,0.5s
FINES FINESS Array B 86.45 332 P P 02 29 43.4 -1.0
comp=Z,6.2nm,1.1s,baz=81,slow=2.5,SNR=6.5
comp=Z,6.2nm,1.1s
YKA Yellowknife Ar 94.30 24 P P 02 30 21.7 +0.7
comp=Z,0.3nm,0.6s,baz=299,slow=4.6,SNR=5.1
comp=Z,0.3nm,0.6s

---

*NAO **09** 02:20:15.3±2.5, 71°.52N×3°.35W, ML2.6*
*BER **09** 02:20:19.1±3.9, 71°.65N×3°.39W, h14km±24km, mb(Pn)4.1, ML2.6(NAO), Confirmed Earthquake*
ISC 09 02:20:14.4±1.1, 71°.7N±0°.1×3°.29W±0°.07, h10km, n30, σ2§79/35, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.61**	**306**	Pn		**Pn**	**02 21 40.5**	**+2.7**
DBG				Sn		**Sn**	**02 22 38.9**	**-3.2**
DBG	**Daneborg**	**5.61**	**306**	*e*P		**Pn**	**02 21 40.2**	**+2.5**
DBG				*e*S		**Sn**	**02 22 39.7**	**-2.4**
DBG	**Daneborg**	**5.61**	**306**	*i* P		**Pn**	**02 21 39.7**	**+2.0**
DBG				IAML			02 22 53.8	
comp=Z,0.9nm,0.4s								
DAG	**Danmarks Havn**	**6.58**	**328**	*e*P		**Pn**	**02 21 54.9**	**+3.9**
DAG				*e*S		**Sn**	**02 22 59.8**	**-6.2**
DAG	**Danmarks Havn**	**6.58**	**328**	*e*		**Pn**	**02 21 51.4**	**+0.3**
baz=135,slow=16								
DAG				*i* P		**Pn**	**02 21 54.7**	**+3.7**
DAG				*i* S		Sn	02 22 57.0	-9.0
DAG				IAML			02 23 01.4	
comp=Z,2.2nm,0.4s								
LOF	**Lofoten**	**6.79**	**113**	Pn		**Pn**	**02 21 56.0**	**+2.2**
LOF	**Lofoten**	**6.79**	**113**	*e*P		**Pn**	**02 21 56.1**	**+2.2**
LOF				IAML			02 23 08.2	
comp=Z,4.4nm,0.9s								
STEI	**Steigen**	**7.41**	**111**	Pn		**Pn**	**02 22 04.3**	**+1.9**
STEI				Sn		**Sn**	**02 23 21.2**	**-5.2**
STEI	**Steigen**	**7.41**	**111**	*e*P		**Pn**	**02 22 04.3**	**+1.9**
STEI				*e*S		**Sn**	**02 23 22.5**	**-3.9**
STEI				IAML			02 23 24.9	
comp=Z,1.5nm,1.0s								
TRO	**Tromso**	**7.63**	**95**	Pn		**Pn**	**02 22 06.4**	**+0.9**
TRO	**Tromso**	**7.63**	**95**	*e*P		**Pn**	**02 22 06.3**	**+0.9**
FAUS	**Fauske**	**7.78**	**115**	*e*P		**Pn**	**02 22 09.3**	**+1.8**
FAUS				*e*S		Sn	02 23 29.8	-5.7
FAUS				IAML			02 23 38.4	
comp=Z,1.6nm,0.5s								
KONS	**Konsvik**	**7.82**	**124**	*e*P		**Pn**	**02 22 09.1**	**+1.1**
KONS				*e*S		Sn	02 23 29.6	-6.6
KONS				IAML			02 23 33.1	
comp=Z,2.3nm,1.3s								
STOK	**Stokkvaagen**	**7.92**	**125**	Pn		**Pn**	**02 22 11.1**	**+1.8**
STOK				Sn		Sn	02 23 31.0	-7.7
STOK	**Stokkvaagen**	**7.92**	**125**	*e*P		**Pn**	**02 22 10.4**	**+1.1**
STOK				*e*S		Sn	02 23 31.8	-7.0
STOK				IAML			02 23 38.3	
comp=Z,3.1nm,0.7s								
LEIR	**Leirfjorden**	**8.11**	**125**	*e*P		**Pn**	**02 22 13.1**	**+1.1**
LEIR				*e*S		Sn	02 23 37.2	-6.4
LEIR				IAML			02 23 45.9	
comp=Z,2.0nm,0.5s								
JETT	**Jettan, Norway**	**8.14**	**94**	Pn		**Pn**	**02 22 14.0**	**+1.6**
JETT	**Jettan, Norway**	**8.14**	**94**	Pn		**Pn**	**02 22 14.0**	**+1.6**
KBS	**Kingsbay**	**8.20**	**21**	Pn		**Pn**	**02 22 17.1**	**+3.9**
SPA0	**Spitsbergen Ar**	**8.23**	**29**	Pn		Pn	02 22 19.6	+6.0
baz=209,slow=16								
SPA0	**Spitsbergen Ar**	**8.23**	**29**	Pn		Pn	02 22 19.6	+6.0
baz=209,slow=16								
KIF	**Kilpisjarvi**	**8.52**	**97**	Pn		**Pn**	**02 22 19.2**	**+1.7**
KIF	**Kilpisjarvi**	**8.52**	**97**	Pn		**Pn**	**02 22 19.2**	**+1.7**
SALU	**Saltoluokta**	**8.73**	**109**	*e*P		**Pn**	**02 22 22.4**	**+1.9**
SALU				*e*S		**Sn**	**02 23 54.2**	**-4.6**
HEF	**Hetta**	**9.72**	**97**	Pn		**Pn**	**02 22 35.5**	**+1.5**
HEF	**Hetta**	**9.72**	**97**	Pn		**Pn**	**02 22 35.5**	**+1.5**
ARA0	**ARCESS Array S**	**9.76**	**89**	Pn		**Pn**	**02 22 36.2**	**+1.7**
baz=294,slow=12								
ARA0	**ARCESS Array S**	**9.76**	**89**	Pn		**Pn**	**02 22 36.2**	**+1.7**
baz=294,slow=12								
HFS	**Hagfors**	**13.42**	**141**	Pn		**Pn**	**02 23 27.4**	**+2.8**
baz=329,slow=12								
HFS	**Hagfors**	**13.42**	**141**	Pn		**Pn**	**02 23 27.4**	**+2.8**
baz=329,slow=12								

---

*BGR **09** 02:24:16.3, 44°.27N×145°.22E, h122km, mb5.4*
*BJI **09** 02:24:18.5, 43°.90N×145°.62E, h110km, mB5.1/37, mb5.4/84*
*MOS **09** 02:24:20.0±0.9, 43°.87N×145°.57E, h114km, mb5.3/56, Error ellipse: s-maj=5.6km s-min=3.8km az=115.5*
MOS Felt (II-III) at Krabozavodskoye; (II) at Goryachiy Plyazh, Malokuril'skoye, Yuzhno-Kuril'sk.
*SKHL **09** 02:24:20.1±0.0, 43°.80N×145°.80E, h115km±5km, mb6.2/8, mbv5.6/4, msh5.4/5, msha6.8/4*
*NIED **09** 02:24:20.9, 43°.82N×145°.72E, h110km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}-0.39; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-0.34; $M_{r\theta}$-0.59; $M_{\phi\phi}$0.92; $M_{\phi r}$-1.88; Fault plane solution: $M_0$2.26000×10^16 NP1: ϕ_s280.00000°, δ28.00000°, λ-12.00000°. NP2:ϕ_s20.00000°, δ84.00000°, λ-118.00000°.*
*JMA **09** 02:24:20.9±0.1, 43°.8N±0°.5×145°.7E±0°.8, h110km±1km, MD4.8/40, MW4.9/40, NEAR KUNASHIRI ISLAND*
JMA Felt II J1 at NEAR KUNASHIRI ISLAND .
*IDC **09** 02:24:21.1±0.6, 44°.01N×145°.53E, h111km±4km, mb4.6/34, mbtmp5.0/41, MS3.6/28, Error ellipse: s-maj=9.6km s-min=8.6km az=148.0*
*NEIC **09** 02:24:22.1±2.2, 43°.86N±0°.07×145°.6E±0°.1, h116km±6km, mb4.9/397, Error ellipse: s-maj=12.8km s-min=9.5km az=123.0*
*GCMT **09** 02:24:24.1±0.3, 43°.83N±0°.02×145°.54E±0°.02, h118km±3km, MW5.0/119, Moment Tensor Solution. s31,c36; s119,c169; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.71±.10; $M_{\theta\theta}$1.24±.10; $M_{\phi\phi}$-0.53±.11; $M_{r\theta}$-0.80±.06; $M_{\theta\phi}$1.72±.12; $M_{\phi r}$-2.56±.06; Best double couple: $M_0$3.36000×10^16 NP1:ϕ_s279.00000°, δ35.00000°, λ-13.00000°. NP2:ϕ_s20.00000°, δ83.00000°, λ-124.00000°. Principal axes: T 3.4380, Plg29.0000°, Azm137.0000°; N -0.1600, Plg34.0000°, Azm25.0000°; P -3.2830, Plg42.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 02:24:20.4±0.3, 43°.92N±0°.03×145°.62E±0°.03, h107km±1km, h107km:pP-P, n1362, σ1§32/1284, mb5.0/421, 82C-110D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.21**	**56**	*d* iPN		**Pn**	**02 24 36.7**	**+1.3**
YUK				*i* S		**Sn**	**02 24 48.8**	**+2.2**
YUK				pmax		pmax		
comp=E,5μm,0.2s								
YUK				pmax		pmax		
comp=Z,62μm,0.2s								
YUK				pmax		pmax		
comp=N,2μm,0.1s								
YUK				smax		smax		
comp=N,9μm,0.3s								
YUK				smax		smax		
comp=E,41μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**0.21**	**56**	*i* P		**Pn**	**02 24 36.5**	**+1.1**
YUK				AMB		AMB	02 24 37.4	
comp=E,106μm,0.3s								
YUK				*i* S		**Sn**	**02 24 48.8**	**+2.2**
YUK				A		A	02 24 49.0	
comp=E,72μm,0.7s								
YUK				A		A	02 24 49.0	
comp=E,418μm,0.7s								
RUSJ	**Misakicho**	**0.33**	**305**	⇑*i* PN		**Pn**	**02 24 37.5**	**+1.7**
RUSJ				*i* S		**Sn**	**02 24 49.7**	**+2.2**
JRA	**Rausu**	**0.36**	**273**	*i* P		**Pn**	**02 24 37.3**	**+1.3**
JRA				S		**Sn**	**02 24 49.6**	**+1.8**
JRA	**Rausu**	**0.36**	**273**	A		A	02 24 37.3	
comp=N,149nm,1.6s,comp=E,102nm,1.6s								
JNSB	**Nemuroshibetsu**	**0.47**	**253**	*i* P		**Pn**	**02 24 38.1**	**+1.4**
JNSB				S		**Sn**	**02 24 51.0**	**+2.1**
JNSB	**Nemuroshibetsu**	**0.47**	**253**	A		A	02 24 38.1	
comp=N,195nm,2.1s,comp=E,164nm,2.2s								
NMR	**Nemuro--Hokkai**	**0.55**	**172**	⇓*i* PN		**Pn**	**02 24 37.4**	**+0.2**
NMR				*e*S		**Sn**	**02 24 49.2**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.55**	**172**	*i* P		**Pn**	**02 24 37.5**	**+0.2**
NMR				*e*S		**Sn**	**02 24 49.4**	**-0.5**
NEM2	**Nemuro 2**	**0.56**	**171**	⇓*i* P		**Pn**	**02 24 37.4**	**+0.2**
NEM2				⇓S		**Sn**	**02 24 49.3**	**-0.6**
NEM2	**Nemuro 2**	**0.56**	**171**	A		A	02 24 37.4	
comp=N,51nm,1.4s,comp=E,94nm,1.0s								
JNK	**Nakash**	**0.73**	**243**	*i* P		**Pn**	**02 24 39.8**	**+1.1**
JNK				*e*S		**Sn**	**02 24 53.9**	**+1.4**
JNK	**Nakash**	**0.73**	**243**	A		A	02 24 39.8	
comp=N,88nm,2.0s,comp=E,51nm,2.1s								
SHO	**Shikotan**	**0.87**	**93**	*d* iPN		**Pn**	**02 24 40.5**	**+0.5**
SHO				*i* S		**Sn**	**02 24 54.7**	**-0.1**
SHO				pmax		pmax		
comp=E,6μm,0.2s								
SHO				pmax		pmax		
comp=Z,20μm,0.2s								
SHO				pmax		pmax		
comp=N,2μm,0.1s								
SHO				smax		smax		
comp=N,14μm,0.2s								
SHO				smax		smax		
comp=E,42μm,0.3s								
SHO	**Shikotan**	**0.87**	**93**	*i* P		**Pn**	**02 24 40.0**	**0.0**
SHO				AMB		AMB	02 24 40.7	
comp=E,35μm,0.3s								
SHO				*i* S		**Sn**	**02 24 54.9**	**+0.1**
SHO				A		A	02 24 55.3	
comp=E,33μm,0.3s								
SHO				A		A	02 24 55.3	
comp=E,53μm,0.3s								
JKHN	**Kushirohamanak**	**0.90**	**202**	⇓*i* P		**Pn**	**02 24 40.6**	**+0.3**
JKHN				⇓*e*S		**Sn**	**02 24 55.1**	**-0.1**
JKHN	**Kushirohamanak**	**0.90**	**202**	A		A	02 24 40.6	
comp=N,19nm,1.0s,comp=E,54nm,2.9s								
AKK	**Akkeshi**	**1.06**	**213**	*e*P		**Pn**	**02 24 42.2**	**+0.2**
JAK	**Akkeshi**	**1.14**	**217**	*i* P		**Pn**	**02 24 43.2**	**+0.4**
JAK				S		**Sn**	**02 24 59.7**	**0.0**
JAK	**Akkeshi**	**1.14**	**217**	A		A	02 24 43.2	
comp=N,26nm,1.1s,comp=E,35nm,0.3s								
JTKR	**Abashiri--Toko**	**1.24**	**273**	*i* P		**Pn**	**02 24 45.5**	**+1.6**
JTKR				S		**Sn**	**02 25 04.2**	**+2.6**
JTKR	**Abashiri--Toko**	**1.24**	**273**	A		A	02 24 45.5	
comp=N,18nm,2.5s,comp=E,26nm,1.5s								
JAR	**Ashorobuto**	**1.48**	**246**	*i* P		**Pn**	**02 24 48.2**	**+1.4**
JAR				*e*S		**Sn**	**02 25 09.1**	**+2.3**
JAR	**Ashorobuto**	**1.48**	**246**	A		A	02 24 48.2	
comp=N,22nm,0.5s,comp=E,45nm,2.1s								
JMP	**Maruseppu**	**1.64**	**274**	*i* P		**Pn**	**02 24 50.4**	**+1.8**
JMP				*e*S		**Sn**	**02 25 12.8**	**+2.6**
JMP	**Maruseppu**	**1.64**	**274**	A		A	02 24 50.4	
comp=N,23nm,2.9s,comp=E,37nm,1.3s								
JOB	**Onbets**	**1.65**	**233**	*i* P		**Pn**	**02 24 50.0**	**+1.2**
JOB				S		**Sn**	**02 25 11.5**	**+1.1**
JOB	**Onbets**	**1.65**	**233**	A		A	02 24 50.0	
comp=N,28nm,0.8s,comp=E,57nm,0.8s								
KUR	**Kuril'sk**	**2.07**	**50**	*d* iPN		**Pn**	**02 24 55.8**	**+1.7**
KUR				*i* S		**Sn**	**02 25 23.9**	**+4.0**
KUR				pmax		pmax		
comp=Z,4μm,0.7s								
KUR				pmax		pmax		
comp=N,972nm,0.6s								
KUR				pmax		pmax		
comp=E,813nm,0.6s								
KUR				smax		smax		
comp=E,29μm,2.1s								
KUR				smax		smax		
comp=N,19μm,2.5s								
KUR				smax		smax		
comp=N,5μm,0.4s								
KUR				smax		smax		
comp=E,5μm,0.5s								
KUR	**Kuril'sk**	**2.07**	**50**	*i* P		**Pn**	**02 24 55.4**	**+1.3**
KUR				AMB		AMB	02 24 57.5	
comp=E,5μm,0.7s								
KUR				*i* S		**Sn**	**02 25 22.1**	**+2.2**
KUR				A		A	02 25 25.1	
comp=E,19μm,2.5s								
KUR				A		A	02 25 25.1	
comp=E,29μm,2.5s								
KUR				A		A	02 25 27.1	
comp=E,5μm,0.3s								
KUR				A		A	02 25 27.1	
comp=E,6μm,0.3s								
JKK2	**Kamakawa 2**	**2.08**	**270**	*i* P		**Pn**	**02 24 56.2**	**+2.0**
JKK2	**Kamakawa 2**	**2.08**	**270**	A		A	02 24 56.2	
comp=N,9.0nm,2.2s,comp=E,22nm,1.9s								
JCH	**Churui**	**2.10**	**233**	*i* P		**Pn**	**02 24 55.1**	**+0.6**
JCH	**Churui**	**2.10**	**233**	A		A	02 24 55.1	
comp=N,14nm,0.7s,comp=E,15nm,0.9s								
JKA	**Kamikawa-asahi**	**2.19**	**276**			**Pn**	**02 24 58.1**	**+2.5**
JKA	**Kamikawa-asahi**	**2.19**	**276**	*e*P		**Pn**	**02 24 58.1**	**+2.5**
ASAJ	**Asahikawa**	**2.19**	**276**	P		**Pn**	**02 24 56.0**	**+0.4**
comp=E,5μm,0.5s,baz=93,slow=12,SNR=2460								
ASAJ				S		**Sn**	**02 25 25.5**	**+2.9**
comp=E,3μm,1.0s,baz=84,slow=9.2,SNR=11								
ASAJ				LR		LR	02 25 42.0	
comp=E,3μm,18.6s,baz=124,slow=38								
ASAJ	**Asahikawa**	**2.19**	**276**	PN		**Pn**	**02 24 58.1**	**+2.5**
ASAJ	**Asahikawa**	**2.19**	**276**	A		A	02 24 57.9	
comp=N,11nm,2.1s,comp=E,14nm,3.1s								
JFR	**Furan**	**2.33**	**252**	A		A	02 24 59.1	
comp=N,8.0nm,3.5s,comp=E,26nm,1.4s								
JTHR	**Tokachihiroo**	**2.35**	**227**	A		A	02 24 58.8	
comp=N,14nm,4.4s,comp=E,11nm,1.5s								
JAB	**Ashibetsu**	**2.50**	**262**	A		A	02 25 01.6	
comp=N,12nm,2.8s,comp=E,22nm,3.3s								
JEM	**Erimo**	**2.62**	**224**	A		A	02 25 02.2	
comp=N,26nm,1.1s,comp=E,21nm,0.8s								
ERM	**Erimo**	**2.62**	**224**			**Pn**	**02 25 02.7**	**+1.5**
ERM	**Erimo**	**2.62**	**224**	*de*PN		**Pn**	**02 25 02.8**	**+1.5**
ERM				pmax		pmax		
comp=Z,2μm,0.6s								
JNBK	**Urakawa-nobuka**	**2.66**	**233**	A		A	02 25 03.0	
comp=N,27nm,0.6s,comp=E,37nm,0.8s								
JSS	**Shosan**	**2.75**	**281**	A		A	02 25 05.5	
comp=N,6.0nm,5.0s,comp=E,12nm,4.3s								
JSHD	**Hidakashinhida**	**2.76**	**238**	A		A	02 25 04.4	
comp=N,21nm,1.6s,comp=E,22nm,1.8s								
JHR	**Hokuryu**	**2.83**	**268**	A		A	02 25 06.1	
comp=N,9.0nm,4.2s,comp=E,14nm,3.7s								
JIAM	**Iburiatsuma**	**3.00**	**246**	A		A	02 25 07.8	
comp=N,29nm,0.9s,comp=E,25nm,0.8s								
JWK2	**Keihoku**	**3.00**	**299**	A		A	02 25 09.1	
comp=N,8.0nm,2.1s,comp=E,10.0nm,2.9s								
JISS	**Ishikarishitsu**	**3.12**	**260**	A		A	02 25 09.9	
comp=N,19nm,6.7s,comp=E,50nm,2.0s								
JEW	**Eniwo**	**3.23**	**252**	A		A	02 25 11.1	
comp=N,13nm,6.9s,comp=E,19nm,2.5s								
YSS	**Yuzhno-Sakhali**	**3.65**	**327**			**Pn**	**02 25 16.8**	**+2.0**
YSS	**Yuzhno-Sakhali**	**3.65**	**327**	P		**Pn**	**02 25 17.1**	**+2.3**
YSS	**Yuzhno-Sakhali**	**3.65**	**327**	α *i* PN		**Pn**	**02 25 16.8**	**+2.0**
YSS				*e*S		**Sn**	**02 25 59.5**	**+2.5**
YSS				pmax		pmax		
comp=Z,1μm,3.8s								
YSS				pmax		pmax		
comp=N,1μm,3.1s								
YSS				pmax		pmax		
comp=E,1μm,3.3s								
YSS				pmax		pmax		
comp=Z,500nm,1.2s								
YSS				pmax		pmax		
comp=N,380nm,1.0s								
YSS				pmax		pmax		
comp=E,560nm,1.2s								
YSS				smax		smax		
comp=N,330nm,1.2s								
YSS				smax		smax		
comp=E,390nm,1.1s								
YSS				MLR		MLR		
comp=Z,1μm,12.0s								
YSS				MLR		MLR		
comp=N,800nm,13.0s								
YSS				MLR		MLR		
comp=E,1μm,11.0s								
YSS	**Yuzhno-Sakhali**	**3.65**	**327**	*i* P		**Pn**	**02 25 16.8**	**+2.0**
YSS				AMB		AMB	02 25 27.6	
comp=E,1μm,3.8s								
YSS				AMB		AMB	02 25 29.0	
comp=E,440nm,0.6s								
YSS				*e*S		**Sn**	**02 26 00.2**	**+3.2**
YSS				A		A	02 26 02.9	
comp=E,300nm,0.8s								
YSS				A		A	02 26 02.9	
comp=E,400nm,0.8s								
YSS				A		A	02 26 03.9	
comp=E,1μm,3.0s								
YSS				A		A	02 26 03.9	
comp=E,1μm,3.0s								
JKB	**Kayabe**	**3.94**	**241**	A		A	02 25 20.4	
comp=N,10.0nm,1.3s,comp=E,13nm,0.9s								
JAHD	**Aomorihigashid**	**4.13**	**232**	A		A	02 25 22.9	
comp=N,16nm,0.6s,comp=E,32nm,0.9s								
JOT	**Ohata**	**4.22**	**235**	A		A	02 25 24.1	
comp=N,9.0nm,1.3s,comp=E,6.0nm,0.9s								
JARK	**Aomorirokkasho**	**4.29**	**229**	A		A	02 25 24.9	
comp=N,6.0nm,8.6s,comp=E,6.0nm,0.9s								
JTM	**Tenmabayashi**	**4.60**	**229**	Pn		**Pn**	**02 25 26.7**	**-1.0**
JTM	**Tenmabayashi**	**4.60**	**229**	P		**Pn**	**02 25 26.9**	**-0.8**
JTM	**Tenmabayashi**	**4.60**	**229**	A		A	02 25 29.2	
comp=N,4.0nm,3.6s,comp=E,4.0nm,1.0s								
JSI2	**Shiura 2**	**4.80**	**235**	A		A	02 25 32.1	
comp=N,5.0nm,0.8s,comp=E,6.0nm,0.8s								
UGL	**Uglegorsk**	**5.71**	**336**	⇑*i* PN		**Pn**	**02 25 46.0**	**+3.3**
UGL				*i* S		**Sn**	**02 26 47.9**	**+1.0**
UGL				pmax		pmax		
comp=E,2μm,1.0s								
UGL				pmax		pmax		
comp=N,1μm,1.2s								
UGL				pmax		pmax		
comp=Z,3μm,1.1s								
UGL				pmax		pmax		
comp=E,1μm,0.9s								
UGL				pmax		pmax		
comp=N,500nm,1.0s								
UGL				pmax		pmax		
comp=Z,2μm,0.8s								
UGL				smax		smax		
comp=Z,4μm,4.3s								
UGL				smax		smax		
comp=E,2μm,3.8s								
UGL				smax		smax		
comp=N,4μm,4.6s								
UGL	**Uglegorsk**	**5.71**	**336**	*e*P		**Pn**	**02 25 45.7**	**+3.0**
UGL				AMB		AMB	02 25 47.0	
comp=N,2μm,0.8s								
UGL				AMB		AMB	02 25 47.0	
comp=N,3μm,1.0s								
UGL				*e*S		**Sn**	**02 26 48.3**	**+1.4**
UGL				A		A	02 26 58.0	
comp=N,4μm,4.0s								
UGL				A		A	02 26 58.0	
comp=N,2μm,4.0s								
UGL				A		A	02 26 58.0	
comp=N,4μm,4.0s								
JRG	**Rokugo**	**5.86**	**221**	A		A	02 25 46.2	
comp=N,3.0nm,1.4s,comp=E,4.0nm,1.7s								
TEY	**Ternei**	**6.55**	**283**	⇑*e*PN		**Pn**	**02 25 55.3**	**+1.3**
TEY				pmax		pmax		
comp=N,40nm,0.8s								
TEY				pmax		pmax		
comp=E,160nm,0.9s								
TEY				pmax		pmax		
comp=Z,150nm,0.9s								
TEY	**Ternei**	**6.55**	**283**	*e*P		**Pn**	**02 25 55.3**	**+1.3**
JMM	**Marumori**	**7.07**	**213**	Pn		**Pn**	**02 25 59.0**	**-2.0**
JMM	**Marumori**	**7.07**	**213**	P		**Pn**	**02 25 59.1**	**-2.0**
TYV	**Tymovskoe**	**7.23**	**345**	*e*PN		**Pn**	**02 26 05.6**	**+2.3**
TYV				*e*S		**Sn**	**02 27 29.3**	**+5.5**
TYV				pmax		pmax		
comp=Z,100nm,2.2s								
TYV				pmax		pmax		
comp=Z,133nm,0.8s								
TYV				smax		smax		
comp=N,32nm,1.2s								
TYV				smax		smax		
comp=E,58nm,1.2s								
TYV				smax		smax		
comp=N,200nm,2.2s								
TYV				smax		smax		
comp=E,400nm,2.2s								
TYV	**Tymovskoe**	**7.23**	**345**	*e*P		**Pn**	**02 26 05.6**	**+2.3**
TYV				AMB		AMB	02 26 06.8	
comp=E,160nm,2.2s								
TYV				*e*S		**Sn**	**02 27 27.8**	**+4.0**
TYV				A		A	02 27 31.8	
comp=E,200nm,2.4s								
TYV				A		A	02 27 31.8	
comp=E,400nm,2.4s								
JSD	**Sado**	**8.09**	**226**	Pn		**Pn**	**02 26 13.8**	**-1.2**
JSD	**Sado**	**8.09**	**226**	P		**Pn**	**02 26 14.2**	**-0.8**
GRNR	**Gornyy**	**9.27**	**321**	⇑*i* PN		**Pn**	**02 26 33.7**	**+2.8**
GRNR				pmax		pmax		
comp=Z,160nm,0.6s								
GRNR				MLR		MLR		
comp=E,270nm,15.0s								
GRNR				MLR		MLR		
comp=N,330nm,11.0s								
GRNR				MLR		MLR		
comp=Z,410nm,16.0s								
GRNR	**Gornyy**	**9.27**	**321**	*e*P		**Pn**	**02 26 33.7**	**+2.8**
MAJO	**Matsushiro**	**9.29**	**220**	Pn		**Pn**	**02 26 30.3**	**-1.0**
MAJO	**Matsushiro**	**9.29**	**220**	P		**Pn**	**02 26 30.4**	**-1.0**
MAJO	**Matsushiro**	**9.29**	**220**	PN		**Pn**	**02 26 30.3**	**-1.0**
MJAR	**Matsushiro Arr**	**9.29**	**220**	P		**Pn**	**02 26 30.1**	**-1.2**
comp=Z,24nm,0.5s,baz=32,slow=13,SNR=90								
MJAR				S		**Sn**	**02 28 09.4**	**-4.6**
comp=Z,5.0nm,0.5s,baz=24,slow=22,SNR=1.6								
MJAR				LR		LR	02 30 23.6	
comp=Z,285nm,19.3s,baz=52,slow=39								
NKL	**Nikolayevsk**	**9.80**	**342**	*e*PN		**Pn**	**02 26 39.5**	**+1.4**
NKL				*e*S		**Sn**	**02 28 26.3**	**+0.2**
NKL				smax		smax		
comp=N,206nm,4.8s								
NKL				smax		smax		
comp=E,517nm,4.8s								
**

VLA pmax pmax
comp=Z,109nm,1.1s
JGF Kuroka 10.46 220 Pn **Pn 02 26 45.9 -1.3**
JGF Kuroka 10.46 220 P **Pn 02 26 45.9 -1.3**
JGF Kuroka 10.46 220 S **Sn 02 28 42.8 +0.4**
MSHR Mys Shultsa 10.64 268 *ce*PN **Pn 02 26 48.3 -1.3**
MSHR pmax pmax
comp=Z,241nm,1.7s
PAU Pauzhetka 10.66 41 *e*P **Pn 02 26 49.6 -0.2**
PAU *e*S **Sn 02 28 42.7 -4.4**
INU Inuyama 10.82 221 Pn **Pn 02 26 50.4 -1.7**
INU Inuyama 10.82 221 P **Pn 02 26 51.0 -1.1**
PSTR Posyet 10.88 268 *i* PN **Pn 02 26 53.2 +0.4**
PSTR Posyet 10.88 268 *eP* **Pn 02 26 53.2 +0.4**
KLR Kul'dur 10.92 304 P **Pn 02 26 52.9 -0.5**
comp=Z,10nm,0.7s,baz=112,slow=14,SNR=40
KLR PcP **PcP 02 32 43.5 +0.8**
comp=Z,3.3nm,0.8s,baz=152,slow=2.4,SNR=4.0
KLR Kul'dur 10.92 304 *i* PN **Pn 02 26 54.8 +1.5**
KLR pmax pmax
comp=Z,54nm,1.0s
KLR Kul'dur 10.92 304 *e*P **Pn 02 26 54.8 +1.5**
MDJ Mudanjiang 11.52 279 Pn **Pn 02 27 02.0 +0.7**
MDJ Mudanjiang 11.52 279 P **Pn 02 27 02.2 +0.8**
MDJ sP P 02 27 30.6 +20
MDJ S **Sn 02 29 12.0 +4.0**
MDJ PcP **PcP 02 32 38.6 -4.8**
MDJ pmax pmax
comp=Z,100nm,0.9s
MDJ pmax pmax
comp=Z,280nm,9.3s
PEA0B Petropavlovsk- 12.18 37 *ce*PN **Pn 02 27 10.3 +0.3**
PETK Petropavlovsk- 12.18 37 P **Pn 02 27 08.8 -1.2**
comp=Z,9.1nm,0.6s,baz=206,slow=6.8,SNR=18
PET Petropavlovsk 12.54 39 *e*PN **Pn 02 27 14.4 -0.4**
PET pmax pmax
comp=Z,55nm,1.5s
PET MLR MLR
comp=Z,100nm,16.0s
PET Petropavlovsk 12.54 39 *e*P **Pn 02 27 15.2 +0.4**
BNX BinXian 13.06 284 ⇑P **Pn 02 27 21.3 -0.4**
BNX pmax pmax
comp=Z,110nm,0.9s
BNX pmax pmax
comp=Z,470nm,6.5s
JMN Monobe 13.67 226 **Pn 02 27 27.7 -2.0**
JMN Monobe 13.67 226 P **Pn 02 27 30.2 +0.5**
HEH HeiHe 13.91 303 *e*P **Pn 02 27 32.2 -0.5**
HEH pmax pmax
comp=Z,39nm,1.0s
CN2 Changchun 14.56 277 P **Pn 02 27 39.0 -2.0**
CN2 S **Sn 02 30 17.0 -4.5**
CN2 pmax pmax
comp=Z,30nm,1.0s
KSRS Korea Array 14.89 250 P **Pn 02 27 44.3 -0.9**
comp=Z,46nm,1.0s,baz=61,slow=12,SNR=48
KSRS PcP **PcP 02 32 48.9 +1.2**
comp=Z,3.0nm,0.9s,baz=82,slow=2.6,SNR=5.0
KSRS LR LR 02 32 51.1
comp=Z,209nm,20.2s,baz=55,slow=34
ZEA Zeya 15.54 316 *e*P **Pn 02 27 53.5 +0.2**
ZEA pmax pmax
comp=E,30nm,1.1s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA Zeya 15.54 316 *e*P **Pn 02 27 52.2 -1.1**
JTU Tsushima 15.66 239 P **P 02 27 57.3 +0.5**
INCN Inchon 15.76 252 P **Pn 02 27 55.6 -0.5**
INCN S **Sn 02 30 43.7 -6.8**
JNU Nakatsue 15.77 232 **Pn 02 27 54.7 -1.6**
JNU Nakatsue 15.77 232 P **Pn 02 27 54.2 -2.1**
comp=Z,36nm,0.9s,baz=48,slow=8.3,SNR=11
JNU LR LR 02 33 21.2
comp=Z,164nm,20.8s,baz=49,slow=34
JNU Nakatsue 15.77 232 P **P 02 27 57.4 -0.6**
TJN Taejon 15.84 248 P **Pn 02 27 57.7 +0.5**
TJN Taejon 15.84 248 P **Pn 02 27 57.7 +0.5**
MA2 Magadan 15.99 10 Pn **P 02 27 60.0 -0.3**
MA2 Magadan 15.99 10 P **Pn 02 27 58.3 -0.6**
comp=Z,26nm,0.8s,baz=198,slow=9.4,SNR=21
MA2 Magadan 15.99 10 P **P 02 28 01.6 +1.3**
MA2 Magadan 15.99 10 *i* P **P 02 28 01.1 +0.8**
MA2 pmax pmax
comp=Z,22nm,0.9s
MA2 Magadan 15.99 10 *e*P **P 02 28 01.1 +0.8**
KBG Krutoberegovo 16.45 35 *e*P **Pn 02 28 02.6 -1.9**
KBG *e*S Sn 02 30 54.0 -13
HIA Hailar 18.53 296 P **P 02 28 27.0 -1.3**
HIA Hailar 18.53 296 *i* P **P 02 28 26.6 -1.7**
HIA pmax pmax
comp=Z,41nm,1.0s
DL2 Dalian 18.66 263 P **Pn 02 28 30.5 -0.8**
DL2 S **S 02 31 56.2 -0.4**
DL2 pmax pmax
comp=Z,190nm,1.2s
DL2 pmax pmax
comp=Z,690nm,3.9s
SEY Seymchan 19.45 9 P **P 02 28 37.2 -0.9**
comp=Z,12nm,0.5s,baz=182,slow=8.9,SNR=69
SEY S **S 02 32 11.7 -0.3**
comp=Z,1.9nm,0.7s,baz=137,slow=15,SNR=1.7
SEY Seymchan 19.45 9 *ce*P **P 02 28 37.4 -0.8**
SEY pmax pmax
comp=Z,33nm,1.7s
YAK Yakutsk 20.42 338 P **P 02 28 46.0 -2.6**
YAK Yakutsk 20.42 338 P **P 02 28 46.5 -2.1**
comp=Z,61nm,0.6s,baz=168,slow=2.3,SNR=13
YAK S **S 02 32 26.7 -4.4**
comp=Z,41nm,0.9s,baz=152,slow=24,SNR=9.9
YAK LR LR 02 36 38.7
comp=Z,99nm,19.5s,baz=124,slow=36
comp=Z,61nm,0.6s
YAK Yakutsk 20.42 338 *e*P **P 02 28 47.1 -1.5**
YAK *e*S **S 02 32 29.1 -2.0**
YAK *e**SS **sS 02 33 00.8 -3.7**
YAK pmax pmax
comp=Z,76nm,1.0s
YAK pmax pmax
comp=E,18nm,1.1s
YAK smax smax
comp=N,137nm,1.3s
YAK smax smax
comp=E,79nm,1.9s
SHEM Shemya Is, Ala 20.77 55 LR LR 02 38 22.8
comp=E,186nm,19.0s,baz=302,slow=40
XLT XiLinHaoTe 21.24 280 ⇓*i*P **P 02 28 56.0 -1.7**
XLT pP pP 02 29 19.4 +1.4
XLT PP **sP 02 29 28.5 -2.8**
XLT sP sP 02 29 31.6 +0.3
XLT S **S 02 32 42.1 -5.6**
XLT sS sS 02 33 14.0 -7.4
XLT SS **SnSn 02 33 27.6 +8.1**
XLT pmax pmax
comp=E,77nm,1.0s
XLT pmax pmax
comp=E,180nm,4.2s
JOW Kunigami 22.08 225 P **P 02 29 07.1 +0.5**
JOW Kunigami 22.08 225 P **P 02 29 07.0 +0.3**
comp=E,189nm,0.8s,baz=9.1,slow=11,SNR=34
JOW LR LR 02 37 43.6
comp=E,184nm,21.7s,baz=63,slow=36
comp=E,189nm,0.8s
JOW Kunigami 22.08 225 P **P 02 29 08.5 +1.9**
BJI Beijing 22.18 270 P **P 02 29 06.2 -1.3**
BJI pmax pmax
comp=E,51nm,0.8s
BJI pmax pmax
comp=E,130nm,3.8s
BJT Baijiatuau 22.19 270 P **P 02 29 06.1 -1.6**
BJT Baijiatuau 22.19 270 P **P 02 29 06.1 -1.6**
TIA Tai'an 23.05 260 P **P 02 29 15.4 -1.0**
TIA pmax pmax
comp=E,52nm,0.7s
TIA pmax pmax
comp=E,530nm,4.3s
BOD Bodaibo 24.05 316 *e*P **P 02 29 21.4 -3.8**
BOD pmax pmax
comp=Z,38nm,1.4s
NJ2 Nanjing 24.09 250 ⇓*i*P **P 02 29 26.3 +0.5**
NJ2 pmax pmax
comp=Z,110nm,0.9s
NJ2 pmax pmax
comp=Z,230nm,5.7s

HNS HongShan 24.25 265 ⇓P **P 02 29 27.0 -0.2**
HNS pP **pP 02 29 53.6 +3.5**
HNS S **S 02 33 38.6 +0.5**
HNS pmax pmax
comp=Z,100nm,1.0s
HNS LR LR
comp=Z,360nm,19.2s
HNS LR LR
comp=Z,270nm,21.3s
HNS LR LR
comp=Z,170nm,16.5s
HHC Hu-ho-hao-te 25.24 275 *e*P **P 02 29 37.0 +0.6**
HHC pP pP 02 30 01.0 +1.3
HHC sP sP 02 30 13.7 +1.6
HHC S **S 02 33 50.7 -3.4**
HHC pmax pmax
comp=Z,64nm,0.9s
HHC pmax pmax
comp=Z,180nm,3.5s
HHC LR LR
comp=Z,130nm,9.7s
HHC LR LR
comp=Z,160nm,11.7s
HHC LR LR
comp=Z,200nm,9.0s
TIY Taiyuan 25.75 268 *e*P **P 02 29 42.2 +1.2**
TIY pmax pmax
comp=Z,93nm,1.3s
BTO Baotou 26.43 275 ⇑*i*P **P 02 29 48.5 +1.4**
BTO pP **pP 02 30 12.6 +2.1**
BTO sP **sP 02 30 25.5 +2.6**
BTO PP **PnPn 02 30 36.4 +3.0**
BTO S **S 02 34 17.1 +4.3**
BTO sS **sS 02 34 49.6 -4.3**
BTO SS **SnSn 02 35 32.0 +6.2**
BTO pmax pmax
comp=Z,190nm,0.8s
BTO pmax pmax
comp=Z,640nm,3.7s
BTO LR LR
comp=Z,860nm,17.4s
BILL Bilibino 26.52 17 P **P 02 29 45.0 -2.5**
BILL Bilibino 26.52 17 *i* P **P 02 29 48.5 +1.0**
BILL Bilibino 26.52 17 *e*P **P 02 29 48.5 +1.0**
ULN Ulaanbaatar 26.94 292 P **P 02 29 51.9 +0.2**
ULN Ulaanbaatar 26.94 292 P **P 02 29 52.2 +0.5**
ULN S **S 02 34 18.1 -2.7**
ULN Ulaanbaatar 26.94 292 *ce*P **P 02 29 52.0 +0.3**
ULN pmax pmax
comp=Z,117nm,1.3s
ULN Ulaanbaatar 26.94 292 *e*P **P 02 29 52.0 +0.3**
LYN LuoYang 27.18 261 ⇓*i*P **P 02 29 54.2 +0.5**
LYN pP pP 02 30 19.6 +2.3
LYN sP sP 02 30 32.6 +2.8
LYN S **S 02 34 30.9 +6.4**
LYN sS sS 02 35 05.2 -0.4
LYN SS SS 02 35 42.5 -40
LYN pmax pmax
comp=Z,81nm,1.0s
LYN pmax pmax
comp=Z,460nm,5.9s
TATO Taipei 27.28 234 P **P 02 30 00.0 +5.3**
TATO S **S 02 34 28.7 +2.5**
SONM Songino Array 27.39 292 P **P 02 29 55.6 0.0**
comp=Z,50nm,0.8s,baz=85,slow=7.3,SNR=212
SONM pP **pP 02 30 21.0 +2.1**
comp=Z,25nm,0.9s,baz=82,slow=8.7,SNR=4.4
SONM PcP **PcP 02 33 12.1 +0.3**
comp=Z,3.1nm,0.7s,baz=143,slow=3.2,SNR=4.2
SONM ScP **ScP 02 36 41.7 -0.6**
comp=Z,1.4nm,0.8s,baz=112,slow=4.0,SNR=4.8
comp=Z,50nm,0.8s
WHN Wuhan 28.07 252 ⇓P **P 02 30 02.0 +0.3**
WHN pmax pmax
comp=Z,170nm,0.7s
SSLB Suanglung 28.50 233 IAmb IAmb 02 30 37.3
comp=Z,82nm,1.6s
SSLB Suanglung 28.50 233 P **P 02 30 07.6 +2.0**
YULB Yu-li 28.61 232 IAmb IAmb 02 30 18.6
comp=Z,18nm,0.9s
TIXI Tiksi 28.98 349 P **P 02 30 06.8 -2.6**
TIXI Tiksi 28.98 349 LR LR 02 42 51.2
comp=Z,109nm,18.9s,baz=194,slow=38
TIXI Tiksi 28.98 349 *i* P **P 02 30 06.2 -3.1**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
QZH Quanzhou 29.04 238 *e*P **P 02 30 11.1 +0.7**
TPUB Ta-pu 29.07 233 P **P 02 30 11.7 +1.1**
TPUB Ta-pu 29.07 233 P **P 02 30 12.2 +1.6**
ZAK Zakamensk 29.20 298 *e*P **P 02 30 11.3 -0.3**
KNMB Chin-men Tao 29.52 238 P **P 02 30 15.6 +1.0**
H11N2 WAKE ISLAND Hy 29.96 137 T T 03 01 22.2
baz=329,slow=75,SNR=1187
XAN Xi'an 29.97 263 ⇓P **P 02 30 18.3 -0.3**
XAN pmax pmax
comp=Z,60nm,0.7s
XAN pmax pmax
comp=Z,130nm,4.0s
H11N1 WAKE ISLAND Hy 29.98 137 T T 03 01 25.4
baz=329,slow=75,SNR=1560
H11N3 WAKE ISLAND Hy 29.98 137 T T 03 01 24.7
baz=329,slow=75,SNR=1433
SPIA Saint Paul Isl 30.44 48 P **P 02 30 23.0 +0.7**
baz=263
CNSH ChangSha 30.50 250 P **P 02 30 21.1 -2.1**
CNSH pmax pmax
comp=Z,14nm,1.5s
MOY Mondy 30.56 301 *e*P **P 02 30 23.2 -0.5**
MOY pmax pmax
comp=Z,14nm,2.4s
P08K Saint George I 30.76 50 P **P 02 30 25.8 +0.7**
baz=265
H11S1 WAKE ISLAND Hy 30.91 138 T T 03 02 38.0
baz=330,slow=76,SNR=2165
H11S3 WAKE ISLAND Hy 30.92 138 T T 03 02 44.7
baz=330,slow=76,SNR=1315
H11S2 WAKE ISLAND Hy 30.93 138 T T 03 02 37.4
baz=330,slow=76,SNR=1275
GAMB Gambell 31.21 36 P **P 02 30 29.6 +0.5**
baz=251
UNV Unalaska Valle 32.43 55 P **P 02 30 40.7 +0.8**
baz=272
LZH Lanzhou 32.66 271 ⇓P **P 02 30 43.1 +0.7**
LZH pP pP 02 31 07.1 +1.0
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,420nm,4.6s
M11K Mekoryuk 32.94 43 P **P 02 30 45.1 +0.9**
baz=262
K13K Kusilvak Mount 33.90 40 IAmb IAmb 02 30 56.7
comp=Z,14nm,0.9s
K13K Kusilvak Mount 33.90 40 P **P 02 30 53.9 +1.3**
baz=261
GTA Arctic Creek 33.93 34 P **P 02 30 53.9 +1.1**
baz=254
ANM Nome 34.09 36 P **P 02 30 55.2 +1.0**
baz=257
GTA Gaotai 34.18 279 P **P 02 30 55.8 +0.4**
GTA pP pP 02 31 24.2 +4.9
GTA PP **PnPn 02 32 13.6 +0.7**
GTA PcP **PcP 02 33 31.2 +1.3**
GTA PcS **PcS 02 37 17.7 +1.3**
GTA ScS ScS 02 41 06.4 -1.1
GTA pmax pmax
comp=Z,15nm,1.4s
FALS False Pass 34.20 53 P **P 02 30 56.0 +0.8**
baz=273
M13K Dall Lake 34.35 43 P **P 02 30 57.7 +1.3**
baz=265
J14K Nanvaranak Lak 34.54 39 P **P 02 30 59.6 +1.6**
baz=261
F15K North Star Dit 34.66 34 P **P 02 31 00.2 +1.1**
baz=256
G15K Niukluk 34.74 35 P **P 02 31 00.8 +1.0**
baz=258
L14K Kuka Creek 34.76 42 IAmb IAmb 02 31 04.2
comp=Z,18nm,1.0s
L14K Kuka Creek 34.76 42 P **P 02 31 01.2 +1.2**
baz=264
M14K Bethel 35.06 43 P **P 02 31 04.4 +1.9**
M14K IAmb IAmb 02 31 06.5
comp=Z,24nm,0.9s
M14K Bethel 35.06 43 P **P 02 31 03.1 +0.6**
baz=266

C16K Lisburne Hills 35.12 29 P **P 02 31 04.0 +1.0**
baz=252
N14K Kuskokwak Cree 35.14 44 P **P 02 31 04.1 +0.8**
baz=267
CD2 Chengdu 35.33 263 P **P 02 31 05.2 -0.1**
CD2 pmax pmax
comp=Z,150nm,0.7s
O14K Tigyukauivet M 35.33 45 P **P 02 31 05.3 +0.4**
baz=268
L15K Ungalak Mounta 35.37 41 P **P 02 31 06.1 +0.9**
baz=265
K15K Wolf Creek Mou 35.41 40 P **P 02 31 06.7 +1.1**
baz=264
H16K Elim 35.43 36 P **P 02 31 06.7 +1.1**
baz=260,SNR=5.4
G16K Koyuk River 35.52 35 P **P 02 31 07.4 +1.0**
baz=259
M15K Kasigluk River 35.68 43 P **P 02 31 08.8 +0.9**
baz=267
D17K Noatak River 35.77 31 P **P 02 31 09.7 +1.1**
baz=255,SNR=8.1
GYA Guiyang 35.90 254 ⇑P **P 02 31 10.2 -0.1**
GYA pmax pmax
comp=Z,27nm,0.8s
RDOG Red Dog Mine 35.93 30 P **P 02 31 10.9 +0.9**
baz=254
J16K Anvik River 35.94 38 P **P 02 31 11.1 +1.0**
baz=263
N15K Kwethluk River 35.95 44 IAmb IAmb 02 31 38.6
comp=Z,23nm,0.9s
N15K Kwethluk River 35.95 44 P **P 02 31 11.0 +0.7**
baz=268,SNR=7.0
C17K DeLong Mountai 35.95 29 P **P 02 31 11.3 +1.1**
baz=254
I17K Unalakleet 35.98 37 P **P 02 31 10.3 -0.1**
baz=262
O15K Ungalikthiuk R 36.07 45 P **P 02 31 11.6 +0.4**
baz=270
E17K Hotham Inlet 36.09 32 P **P 02 31 12.2 +0.9**
baz=257,SNR=7.4
F17K Baldwin Pennin 36.18 33 IAmb IAmb 02 31 59.4
comp=Z,9.3nm,0.8s
F17K Baldwin Pennin 36.18 33 P **P 02 31 13.2 +1.2**
baz=258
G17K Kiwalik Mounta 36.24 35 P **P 02 31 13.5 +0.9**
baz=260
S14K Fog Glacier 36.30 50 P **P 02 31 14.6 +1.2**
baz=274
L16K Owhat River 36.33 41 P **P 02 31 14.8 +1.4**
L16K IAmb IAmb 02 31 16.5
comp=Z,10nm,0.8s
L16K Owhat River 36.33 41 P **P 02 31 14.2 +0.9**
baz=266,SNR=7.6
CHNA Chernabura Isl 36.40 53 P **P 02 31 15.3 +1.2**
baz=276
H17K Granite Mounta 36.46 36 IAmb IAmb 02 31 17.8
comp=Z,21nm,1.4s
H17K Granite Mounta 36.46 36 P **P 02 31 15.9 +1.4**
baz=262,SNR=5.4
M16K Timber Creek 36.54 42 IAmb IAmb 02 31 45.0
comp=Z,18nm,0.9s
M16K Timber Creek 36.54 42 P **P 02 31 16.0 +0.8**
baz=268
E18K Tukpahlearik C 36.63 31 P **P 02 31 16.4 +0.5**
baz=258
J17K VABM Dome 36.64 38 IAmb IAmb 02 31 43.6
comp=Z,24nm,1.1s
J17K VABM Dome 36.64 38 P **P 02 31 15.6 -0.4**
baz=265
B18K Kokolik River 36.68 28 P **P 02 31 16.0 -0.3**
baz=254
C18K Utukok River 36.70 29 IAmb IAmb 02 31 19.8
comp=Z,10nm,0.7s
C18K Utukok River 36.70 29 P **P 02 31 16.6 0.0**
baz=256,SNR=12
F18K Selawik 36.84 33 P **P 02 31 17.9 +0.2**
baz=260
L17K Donlin 36.91 40 P **P 02 31 19.6 +1.3**
baz=267
CHGN Chignik 36.93 50 P **P 02 31 19.0 +0.5**
baz=275
K17K Iditarod 36.94 40 IAmb IAmb 02 31 45.7
comp=Z,18nm,0.8s
K17K Iditarod 36.94 40 P **P 02 31 19.2 +0.6**
baz=266
O16K Kokwok River B 36.95 45 P **P 02 31 19.4 +0.7**
baz=271
P16K Nushagak River 37.01 46 P **P 02 31 19.7 +0.5**
baz=271
G18K Tagagawik 37.12 34 IAmb IAmb 02 31 22.1
comp=Z,12nm,0.5s
G18K Tagagawik 37.12 34 P **P 02 31 20.8 +0.7**
baz=262
H18K Honhosa River 37.14 35 IAmb IAmb 02 31 47.3
comp=Z,16nm,0.8s
H18K Honhosa River 37.14 35 P **P 02 31 21.2 +0.9**
baz=263
M17K Holitna River 37.29 42 IAmb IAmb 02 31 48.8
comp=Z,24nm,0.8s
M17K Holitna River 37.29 42 P **P 02 31 22.5 +0.9**
baz=269
N17K Nushagak Hills 37.40 43 IAmb IAmb 02 31 51.2
comp=Z,14nm,1.1s
N17K Nushagak Hills 37.40 43 P **P 02 31 23.2 +0.7**
baz=270,SNR=5.6
O17K Koliganek Bris 37.45 44 P **P 02 31 23.1 +0.1**
baz=271
F19K Shaleruckik Mo 37.61 33 P **P 02 31 24.4 +0.2**
baz=261
L18K Granite Mounta 37.66 40 IAmb IAmb 02 31 52.0
comp=Z,12nm,0.8s
L18K Granite Mounta 37.66 40 P **P 02 31 25.6 +0.9**
baz=268
J18K Innoko River 37.70 38 P **P 02 31 26.3 +1.2**
J18K IAmb IAmb 02 31 51.6
comp=Z,12nm,0.8s
J18K Innoko River 37.70 38 P **P 02 31 26.0 +0.9**
baz=267,SNR=10
Q16K King Salmon 37.72 46 P **P 02 31 25.9 +0.7**
baz=273
GCSA Galena City Sc 37.73 36 P **P 02 31 25.9 +0.8**
baz=265
D19K Kuna River 37.77 30 P **P 02 31 26.1 +0.6**
baz=259
G19K Purcell Mounta 37.79 34 P **P 02 31 26.2 +0.5**
baz=263
P17K Kvichak River 37.81 45 P **P 02 31 26.4 +0.5**
baz=272
E19K Redstone River 37.91 32 IAmb IAmb 02 31 30.7
comp=Z,14nm,0.8s
E19K Redstone River 37.91 32 P **P 02 31 27.5 +0.7**
baz=261
H19K Roundabout Mou 37.98 35 IAmb IAmb 02 31 55.0
comp=Z,28nm,0.8s
H19K Roundabout Mou 37.98 35 P **P 02 31 28.4 +1.1**
baz=264
TTA Tatalina 38.00 39 P **P 02 31 28.9 +1.3**
TTA IAmb IAmb 02 31 54.7
comp=Z,12nm,0.8s
TTA Tatalina 38.00 39 P **P 02 31 28.3 +0.7**
baz=268,SNR=9.1
TTA Tatalina 38.00 39 P **P 02 31 29.1 +1.5**
TTA Tatalina 38.00 39 P **P 02 31 28.9 +1.3**
TTA pmax pmax
comp=Z,12nm,0.8s
N18K Kilae Creek 38.04 43 IAmb IAmb 02 31 54.9
comp=Z,20nm,0.9s
N18K Kilae Creek 38.04 43 P **P 02 31 28.8 +0.8**
baz=271
M18K Stony River 38.06 42 P **P 02 31 28.9 +0.9**
baz=270
Q17K Contact Creek 38.15 47 P **P 02 31 30.3 +1.3**
baz=274
J19K Poorman 38.22 38 IAmb IAmb 02 31 56.8
comp=Z,23nm,1.0s
J19K Poorman 38.22 38 P **P 02 31 29.9 +0.6**
baz=267
D20K Etivluk River 38.35 30 P **P 02 31 30.8 +0.3**
baz=260
O18K Koktuh Hills 38.41 44 P **P 02 31 33.8 +2.8**
O18K IAmb IAmb 02 31 59.2
comp=Z,15nm,0.9s
O18K Koktuh Hills 38.41 44 P **P 02 31 31.7 +0.7**
baz=273
P18K Big Mountain, 38.42 45 IAmb IAmb 02 31 58.9
comp=Z,16nm,0.8s
P18K Big Mountain, 38.42 45 P **P 02 31 31.7 +0.6**
baz=273

E20K	**Nigu River**	38.43	31	P	**P**		02 31 32.3 +1.2
	baz=261						
F20K	**Avaraart Lake**	38.44	33	P	**P**		02 31 31.9 +0.7
	baz=263						
ACHA	**Angle Creek He**	38.45	47	P	**P**		02 31 32.7 +1.3
L19K	**White Mountain**	38.52	40	P	**P**		02 31 32.4 +0.5
	baz=270						
CHIR	**Chirikof Islan**	38.54	51	P	**P**		02 31 32.2 0.0
	baz=277						
CHIR	**Chirikof Islan**	38.54	51	P	**P**		02 31 33.0 +0.9
NRIK	**Noril'sk**	38.57	331	P	**P**		02 31 30.1 -2.0
	comp=Z,4.7nm,0.4s,baz=96,slow=9.2,SNR=6.4						
NRIK				PcP	**PcP**		02 33 43.2 +0.9
	comp=Z,5.2nm,0.4s,baz=104,slow=3.8,SNR=4.8						
NRIK				ScP	**S**		02 37 20.0 +0.1
	comp=Z,10nm,1.1s,baz=155,slow=3.5,SNR=8.0						
NRIK				LR	LR		02 47 53.7
	comp=Z,110nm,19.9s,baz=99,slow=37						
	comp=Z,4.7nm,0.4s						
NRIK	**Noril'sk**	38.57	331	*ce*P	**P**		02 31 30.3 -1.9
NRIK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
H20K	**Anotleneega Mo**	38.63	35	P	**P**		02 31 33.5 +0.8
	baz=266						
N19K	**Bonanza Creek**	38.73	43	P	**P**		02 31 34.2 +0.5
	baz=272						
I20K	**Naaghedeneel**	38.76	36	P	**P**		02 31 34.9 +1.2
	baz=267						
O19K	**Port Alsworth**	38.83	44	P	**P**		02 31 34.5 0.0
	baz=273						
QIZ	**Qiongzhong**	38.86	242	P	**P**		02 31 34.8 -0.4
QIZ				sP	**sP**		02 32 11.9 0.0
QIZ				S	**S**		02 37 24.8 -0.5
QIZ				LR	LR		
	comp=Z,160nm,14.9s						
QIZ				LR	LR		
	comp=Z,210nm,13.7s						
QIZ				LR	LR		
	comp=Z,100nm,14.2s						
J20K	**Nowinta River**	38.87	37	IAmb	IAmb		02 32 02.2
	comp=Z,25nm,0.8s						
J20K	**Nowinta River**	38.87	37	P	**P**		02 31 35.4 +0.5
	baz=268						
K20K	**Telida**	38.89	39	P	**P**		02 31 35.6 +0.6
	baz=269						
L20K	**Farewell, AK**	38.98	40	P	**P**		02 31 36.1 +0.4
	baz=271						
R18K	**Karluk**	38.98	48	P	**P**		02 31 36.3 +0.6
	baz=276						
C21K	**Knifeblade Rid**	39.08	29	P	**P**		02 31 36.9 +0.5
	baz=261,SNR=10						
GOMU	**GeErMu**	39.12	277	P	**P**		02 31 38.0 +0.3
GOMU				pmax	pmax		
	comp=Z,210nm,0.8s						
B21K	**Ikpikpuk River**	39.21	29	IAmb	IAmb		02 31 39.6
	comp=Z,19nm,0.8s						
B21K	**Ikpikpuk River**	39.21	29	P	**P**		02 31 37.5 0.0
	baz=261						
SII	**Sitkinak Islan**	39.24	49	P	**P**		02 31 38.5 +0.5
	baz=278						
G21K	**Allakaket**	39.26	34	P	**P**		02 31 38.8 +0.8
	baz=266						
Q19K	**Cape Douglas,**	39.27	46	P	**P**		02 31 38.5 +0.3
	baz=275						
E21K	**Killik River**	39.27	31	IAmb	IAmb		02 31 41.4
	comp=Z,11nm,0.6s						
E21K	**Killik River**	39.27	31	P	**P**		02 31 38.1 -0.1
	baz=263						
PZH	**PanZhiHua**	39.33	259	P	**P**		02 31 39.1 -0.1
PZH				pmax	pmax		
	comp=Z,80nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,4.2s						
F21K	**Alatna River**	39.33	32	P	**P**		02 31 38.9 +0.3
	baz=265						
M20K	**Styx River**	39.34	41	IAmb	IAmb		02 32 07.4
	comp=Z,16nm,1.1s						
M20K	**Styx River**	39.34	41	P	**P**		02 31 39.3 +0.5
	baz=272						
KMI	**Kunming**	39.48	256	⇓P	**P**		02 31 41.0 +0.4
KMI				pmax	pmax		
	comp=Z,79nm,1.0s						
KMI	**Kunming**	39.48	256	P	**P**		02 31 40.8 +0.2
H21K	**Melozitna Rive**	39.50	35	P	**P**		02 31 40.6 +0.6
	baz=268						
OHAK	**Old Harbor**	39.64	48	P	**P**		02 31 41.7 +0.5
OHAK				IAmb	IAmb		02 32 07.7
	comp=Z,49nm,1.2s						
OHAK	**Old Harbor**	39.64	48	P	**P**		02 31 41.6 +0.5
	baz=278						
OHAK	**Old Harbor**	39.64	48	P	**P**		02 31 41.8 +0.5
CHUM	**Lake Minchumin**	39.68	38	P	**P**		02 31 41.9 +0.4
	baz=270,SNR=8.4						
O20K	**Slope Mountain**	39.69	44	P	**P**		02 31 41.8 0.0
	baz=275						
B22K	**Teshekpuk Lake**	39.72	28	P	**P**		02 31 41.8 0.0
	baz=261						
PPLA	**Purkeypile**	39.75	39	P	**P**		02 31 42.5 +0.2
	baz=272,SNR=7.2						
CAST	**Castle Rocks**	39.78	38	P	**P**		02 31 44.1 +1.7
CAST				IAmb	IAmb		02 32 09.8
	comp=Z,19nm,0.8s						
CAST	**Castle Rocks**	39.78	38	P	**P**		02 31 43.0 +0.6
	baz=271,SNR=19						
D22K	**Ayikyak River**	39.79	30	IAmb	IAmb		02 31 46.0
	comp=Z,11nm,0.8s						
D22K	**Ayikyak River**	39.79	30	P	**P**		02 31 43.4 +1.0
	baz=264						
SPCR	**Spurr Chakacha**	39.81	42	P	**P**		02 31 43.4 +0.6
	baz=274						
Q20K	**Shuyak Island**	39.95	46	P	**P**		02 31 44.1 +0.4
	baz=276						
KDAK	**Kodiak Island**	39.95	47	P	**P**		02 31 44.5 +0.8
KDAK	**Kodiak Island**	39.95	47	LR	LR		02 50 18.4
	comp=Z,80nm,18.1s,baz=85,slow=39						
KDAK	**Kodiak Island**	39.95	47	P	**P**		02 31 44.0 +0.2
	baz=277						
KDAK	**Kodiak Island**	39.95	47	P	**P**		02 31 44.5 +0.8
KDAK				pmax	pmax		
	comp=Z,34nm,0.8s						
KDAK	**Kodiak Island**	39.95	47	P	**P**		02 31 44.6 +0.8
KDAK				pP	**pP**		02 32 07.9 -0.4
KDAK				sP	**sP**		02 32 20.8 +0.2
STLK	**Strandline Lak**	39.98	41	IAmb	IAmb		02 32 12.3
	comp=Z,19nm,1.2s						
ZALV	**Zalesovo Beam**	40.01	307	P	**P**		02 31 42.8 -1.6
	comp=Z,9.1nm,0.4s,baz=86,slow=7.9,SNR=46						
ZALV				PcP	**PcP**		02 33 47.8 +0.5
	comp=Z,21nm,0.8s,baz=82,slow=2.9,SNR=23						
ZALV				ScP	**ScP**		02 37 26.1 -0.2
	comp=Z,4.2nm,0.8s,baz=84,slow=4.6,SNR=9.3						
	comp=Z,9.1nm,0.4s						
ZALV	**Zalesovo Beam**	40.01	307	*i* P	**P**		02 31 43.2 -1.2
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.4s						
E22K	**Anaktuvuk Pass**	40.04	31	P	**P**		02 31 44.9 +0.3
E22K				IAmb	IAmb		02 31 48.2
	comp=Z,20nm,0.8s						
E22K	**Anaktuvuk Pass**	40.04	31	P	**P**		02 31 44.9 +0.3
	baz=266,SNR=32						
SKT	**Skwentna**	40.09	41	P	**P**		02 31 45.5 +0.5
	baz=273						
H22K	**Ishtalitna Cre**	40.10	35	P	**P**		02 31 46.2 +1.3
	baz=269						
HOM	**Homer**	40.22	44	P	**P**		02 31 45.5 -0.5
	baz=276						
BPAW	**Bear Paw Mtn.**	40.26	37	P	**P**		02 31 46.6 +0.2
	baz=271,SNR=9.6						
SUA	**Susitna One**	40.50	41	IAmb	IAmb		02 32 16.7
	comp=Z,11nm,0.7s						
SUA	**Susitna One**	40.50	41	P	**P**		02 31 48.9 +0.4
	baz=274						
D23K	**Nanushuk River**	40.52	30	P	**P**		02 31 48.8 +0.4
	baz=266						
TRF	**Thorofare Moun**	40.59	38	P	**P**		02 31 49.5 +0.3
	baz=272						
BRLK	**Bradley Lake**	40.59	44	P	**P**		02 31 48.9 -0.3
BRLK				IAmb	IAmb		02 32 17.2
	comp=Z,18nm,1.0s						
COLD	**Coldfoot**	40.60	33	P	**P**		02 31 49.5 +0.4
	baz=268						
C23K	**Itkillik River**	40.62	29	P	**P**		02 31 49.9 +0.8
	baz=265						
G23K	**Bananza Creek**	40.66	33	P	**P**		02 31 49.7 +0.1
	baz=269						
BRSE	**Bradley Lake S**	40.66	44	P	**P**		02 31 50.4 +0.6
	baz=276						
E23K	**Chandalar**	40.86	31	IAmb	IAmb		02 31 55.2
	comp=Z,14nm,0.7s						
E23K	**Chandalar**	40.86	31	P	**P**		02 31 51.3 0.0
	baz=268,SNR=13						
TOLK	**Toolik Lake Re**	40.90	30	P	**P**		02 31 52.1 +0.6
	baz=267,SNR=12						
I23K	**Minto, Yukon-K**	40.94	36	IAmb	IAmb		02 31 55.0
	comp=Z,37nm,1.4s						
I23K	**Minto, Yukon-K**	40.94	36	P	**P**		02 31 52.5 +0.7
	baz=271,SNR=15						
WMQ	**Urumqi**	41.00	291	*e*P	**P**		02 31 53.6 +0.8
WMQ				pP	pP		02 32 20.5 +3.3
WMQ				sP	sP		02 32 33.2 +3.9
WMQ				pmax	pmax		
	comp=Z,72nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,200nm,3.8s						
WMQ				LR	LR		
	comp=Z,130nm,24.2s						
WMQ	**Urumqi**	41.00	291	P	**P**		02 31 53.7 +0.8
RC01	**Rabbit Creek A**	41.02	42	IAmb	IAmb		02 32 18.9
	comp=Z,16nm,0.8s						
RC01	**Rabbit Creek A**	41.02	42	P	**P**		02 31 53.4 +0.9
	baz=276						
NEA2	**Nenana**	41.08	37	P	**P**		02 31 54.0 +1.0
	baz=272,SNR=27						
O22K	**Cooper Landing**	41.09	43	P	**P**		02 31 53.8 +0.7
	baz=276						
SLVN	**Son La**	41.16	251	IAmb	IAmb		02 31 56.3
	comp=Z,18nm,0.9s						
MCK	**McKinley**	41.18	38	P	**P**		02 31 55.0 +1.1
MCK				IAmb	IAmb		02 32 21.5
	comp=Z,58nm,1.5s						
MCK	**McKinley**	41.18	38	P	**P**		02 31 54.6 +0.7
	baz=273,SNR=10.0						
MCK	**McKinley**	41.18	38	P	**P**		02 31 55.0 +1.1
MCK				pmax	pmax		
	comp=Z,58nm,1.5s						
D24K	**Happy Valley**	41.20	30	IAmb	IAmb		02 31 57.7
	comp=Z,21nm,0.8s						
D24K	**Happy Valley**	41.20	30	P	**P**		02 31 54.3 +0.4
	baz=267						
RND	**Reindeer**	41.24	38	P	**P**		02 31 55.4 +1.0
RND				IAmb	IAmb		02 32 22.5
	comp=Z,20nm,1.0s						
RND	**Reindeer**	41.24	38	P	**P**		02 31 55.4 +1.0
RND				pmax	pmax		
	comp=Z,20nm,1.0s						
PMR	**Palmer**	41.26	41	IAmb	IAmb		02 32 21.6
	comp=Z,15nm,0.9s						
PMR	**Palmer**	41.26	41	P	**P**		02 31 54.4 -0.1
	baz=276						
SEW	**Seward**	41.27	43	P	**P**		02 31 55.9 +1.3
SEW				IAmb	IAmb		02 32 35.4
	comp=Z,16nm,1.0s						
SEW	**Seward**	41.27	43	P	**P**		02 31 54.8 +0.2
	baz=277						
C24K	**Franklin Bluff**	41.27	29	IAmb	IAmb		02 31 56.3
	comp=Z,30nm,0.9s						
C24K	**Franklin Bluff**	41.27	29	P	**P**		02 31 55.1 +0.6
	baz=267						
E24K	**Your Creek**	41.28	31	IAmb	IAmb		02 31 58.6
	comp=Z,14nm,0.8s						
E24K	**Your Creek**	41.28	31	P	**P**		02 31 55.9 +1.2
	baz=269						
GHO	**Glory Hole Cre**	41.34	41	IAmb	IAmb		02 32 22.2
	comp=Z,20nm,0.8s						
F24K	**Squaw Lake**	41.50	32	P	**P**		02 31 57.4 +0.9
	baz=270						
WRH	**Wood River Hil**	41.51	37	IAmb	IAmb		02 32 05.6
	comp=Z,17nm,1.2s						
H24K	**Noodor Dome**	41.53	35	P	**P**		02 31 57.6 +0.8
	baz=272						
COLA	**College**	41.59	36	P	**P**		02 31 59.4 +2.3
COLA	**College**	41.59	36	P	**P**		02 31 58.0 +0.9
	baz=273						
COLA	**College**	41.59	36	P	**P**		02 31 59.3 +2.2
COLA	**College**	41.59	36	P	**P**		02 31 59.4 +2.3
COLA				pmax	pmax		
	comp=Z,33nm,0.6s						
COLA	**College**	41.59	36	P	**P**		02 31 59.0 +1.9
COLA				pP	**pP**		02 32 23.5 +1.7
KNK	**Knik Glacier**	41.60	41	IAmb	IAmb		02 32 25.0
	comp=Z,32nm,1.0s						
KNK	**Knik Glacier**	41.60	41	P	**P**		02 31 58.5 +1.2
	baz=276						
SML	**Sawmill**	41.62	41	P	**P**		02 31 58.3 +0.8
	baz=276,SNR=12						
ZSN	**Zaisan**	41.65	297	*e*P	**P**		02 31 58.1 +0.2
ZSN				pmax	pmax		
	comp=Z,20nm,1.0s						
ZSN	**Zaisan**	41.65	297	*e*P	**P**		02 31 58.2 +0.2
	comp=Z,20nm,1.0s						
G24K	**Hadweenzic Riv**	41.67	33	P	**P**		02 31 58.3 +0.4
	baz=271						
PWL	**Port Wells**	41.72	42	IAmb	IAmb		02 32 25.3
	comp=Z,19nm,0.9s						
PWL	**Port Wells**	41.72	42	P	**P**		02 31 59.0 +0.6
	baz=277						
POKR	**Poker Plat Res**	41.75	36	IAmb	IAmb		02 32 02.4
	comp=Z,28nm,1.0s						
POKR	**Poker Plat Res**	41.75	36	P	**P**		02 31 59.5 +1.0
	baz=273,SNR=13						
M23K	**Glacier View**	41.90	41	P	**P**		02 32 01.1 +1.3
	baz=277						
HDA	**Harding Lake**	42.01	37	IAmb	IAmb		02 32 27.3
	comp=Z,13nm,0.7s						
HDA	**Harding Lake**	42.01	37	P	**P**		02 32 01.2 +0.6
	baz=274,SNR=13						
ILAR	**Eielson Array**	42.01	36	P	**P**		02 32 00.2 -0.3
	comp=Z,19nm,0.9s,baz=267,slow=6.5,SNR=116						
ILAR				pP	**pP**		02 32 26.8 +1.5
	comp=Z,16nm,1.0s,baz=269,slow=7.3,SNR=5.5						
ILAR				ScP	**ScP**		02 37 31.9 -2.1
	comp=Z,0.9nm,0.9s,baz=258,slow=4.0,SNR=4.3						
ILAR				LR	LR		02 51 41.5
	comp=Z,47nm,18.0s,baz=172,slow=39						
	comp=Z,19nm,0.9s						
D25K	**Kavik River**	42.07	29	IAmb	IAmb		02 32 05.0
	comp=Z,10nm,0.6s						
D25K	**Kavik River**	42.07	29	P	**P**		02 32 01.5 +0.4
	baz=269						
SCM	**Sheep Creek Mo**	42.09	41	IAmb	IAmb		02 32 29.2
	comp=Z,25nm,0.9s						
SCM	**Sheep Creek Mo**	42.09	41	P	**P**		02 32 01.9 +0.5
	baz=277						
SCM	**Sheep Creek Mo**	42.09	41	P	**P**		02 32 02.8 +1.4
P23K	**Montague Islan**	42.30	43	P	**P**		02 32 04.3 +1.3
	baz=279						
GLI	**Glacier Island**	42.32	42	P	**P**		02 32 04.4 +1.2
	baz=278						
H25L	**Birch Creek**	42.36	34	P	**P**		02 32 04.4 +1.0
	baz=273						
F25K	**Christian Rive**	42.36	32	P	**P**		02 32 04.3 +0.8
	baz=272						
E25K	**Arctic Village**	42.38	31	P	**P**		02 32 04.2 +0.6
	baz=272,SNR=9.9						
TNCH	**TengChong**	42.52	260	⇓P	**P**		02 32 06.0 +0.6
TNCH				pP	pP		02 32 31.1 +0.9
TNCH				pmax	pmax		
	comp=Z,62nm,0.8s						
TNCH				pmax	pmax		
	comp=Z,88nm,5.0s						
PRP	**Porcupine Dome**	42.53	35	IAmb	IAmb		02 32 07.9
	comp=Z,56nm,1.3s						
PRP	**Porcupine Dome**	42.53	35	P	**P**		02 32 06.0 +1.0
	baz=274,SNR=9.7						
K24K	**Donnelly Dome**	42.57	38	P	**P**		02 32 06.0 +0.8
	baz=276,SNR=15						
FYU	**Fort Yukon**	42.57	34	IAmb	IAmb		02 32 09.4
	comp=Z,20nm,0.8s						
C26K	**Camden Bay**	42.59	29	P	**P**		02 32 06.1 +0.9
	baz=270						
M24K	**Tolsona, Glenn**	42.59	40	IAmb	IAmb		02 32 33.5
	comp=Z,27nm,0.8s						
M24K	**Tolsona, Glenn**	42.59	40	P	**P**		02 32 06.3 +0.9
	baz=278						
J25K	**Salcha River,**	42.67	36	P	**P**		02 32 07.4 +1.3
	baz=276						
KLU	**Klutina**	42.80	41	IAmb	IAmb		02 32 35.2
	comp=Z,35nm,1.1s						
KLU	**Klutina**	42.80	41	P	**P**		02 32 08.7 +1.5
	baz=278,SNR=7.6						
PAX	**Paxson**	42.81	39	P	**P**		02 32 08.9 +1.7
	baz=277						
Q23K	**Middleton Isla**	42.92	44	P	**P**		02 32 09.5 +1.5
	baz=280						
DIV	**Divide**	42.92	42	IAmb	IAmb		02 32 35.2
	comp=Z,20nm,0.9s						
F26K	**Sheenjek River**	42.93	32	IAmb	IAmb		02 32 12.7
	comp=Z,11nm,0.7s						
F26K	**Sheenjek River**	42.93	32	P	**P**		02 32 09.6 +1.5
	baz=273						
RIDG	**Independent Ri**	42.99	38	IAmb	IAmb		02 32 11.9
	comp=Z,12nm,0.7s						
RIDG	**Independent Ri**	42.99	38	P	**P**		02 32 09.4 +0.8
	baz=277,SNR=11						
C27K	**Jago River**	43.01	29	IAmb	IAmb		02 32 11.1
	comp=Z,17nm,0.8s						
C27K	**Jago River**	43.01	29	P	**P**		02 32 09.3 +0.6
	baz=272						
HARP	**HAARP**	43.02	40	P	**P**		02 32 09.7 +0.8
	baz=278						
EYAK	**Cordova Ski Ar**	43.03	42	P	**P**		02 32 09.6 +0.7
	baz=280						
G26K	**Porcupine Rive**	43.12	33	P	**P**		02 32 10.9 +1.3
	baz=274						
SCRK	**Sand Creek**	43.34	37	P	**P**		02 32 11.8 +0.3
SCRK				IAmb	IAmb		02 32 14.8
	comp=Z,22nm,0.7s						
SCRK	**Sand Creek**	43.34	37	P	**P**		02 32 12.3 +0.7
	baz=277,SNR=44						
N25K	**Chitina, Valde**	43.41	41	P	**P**		02 32 12.7 +0.7
	baz=279						
J26L	**Joseph Creek**	43.46	36	IAmb	IAmb		02 32 15.8
	comp=Z,9.1nm,0.6s						
J26L	**Joseph Creek**	43.46	36	P	**P**		02 32 13.1 +0.7
	baz=277						
BMRM	**Bremner River**	43.51	42	IAmb	IAmb		02 32 40.1
	comp=Z,18nm,0.8s						
BMRM	**Bremner River**	43.51	42	P	**P**		02 32 13.7 +0.8
	baz=280						
MK31	**Makanchi Array**	43.53	297	*ce*P	**P**		02 32 13.1 0.0
MKAR	**Makanchi Array**	43.53	297	P	**P**		02 32 12.7 -0.5
	comp=Z,28nm,0.8s,baz=79,slow=8.5,SNR=174						
MKAR				PcP	**PcP**		02 33 58.2 -0.9
	comp=Z,7.5nm,0.8s,baz=60,slow=2.9,SNR=4.4						
MKAR				ScP	**ScP**		02 37 39.9 -0.6
	comp=Z,2.4nm,0.7s,baz=62,slow=3.8,SNR=8.3						
	comp=Z,28nm,0.8s						
MKAR	**Makanchi Array**	43.53	297	*ce*P	**P**		02 32 13.3 +0.2
MKAR				pmax	pmax		
	comp=Z,28nm,0.8s						
MKAR	**Makanchi Array**	43.53	297	*e*P	**P**		02 32 13.3 +0.2
I26K	**Coal Creek Min**	43.53	35	P	**P**		02 32 13.8 +0.9
	baz=277						
MAKZ	**Makanchi**	43.72	297	P	**P**		02 32 14.9 +0.2
MAKZ	**Makanchi**	43.72	297	P	**P**		02 32 14.8 +0.2
MAKZ				ScP	**ScP**		02 37 41.3 -0.1
L26K	**Log Cabin Wild**	43.76	39	IAmb	IAmb		02 32 43.4
	comp=Z,16nm,0.9s						
L26K	**Log Cabin Wild**	43.76	39	P	**P**		02 32 16.1 +1.3
	baz=279,SNR=6.0						
G27K	**Doyon Strip**	43.97	33	P	**P**		02 32 18.0 +1.6
	baz=276						
D27M	**Malcolm River**	44.00	29	P	**P**		02 32 17.3 +0.6
	baz=274						
VRDI	**Verde Repeater**	44.01	41	P	**P**		02 32 18.3 +1.3
M26K	**Nabesna, AK**	44.02	39	IAmb	IAmb		02 32 45.5
	comp=Z,25nm,0.8s						
M26K	**Nabesna, AK**	44.02	39	P	**P**		02 32 17.6 +0.7
	baz=280						
H27K	**Steamboat Moun**	44.09	34	P	**P**		02 32 18.7 +1.3
	baz=277						
I27K	**Kandik River**	44.13	35	P	**P**		02 32 19.4 +1.6
	baz=278						
L27K	**Beaver Creek,**	44.44	38	IAmb	IAmb		02 32 25.5
	comp=Z,18nm,0.7s						
L27K	**Beaver Creek,**	44.44	38	P	**P**		02 32 21.9 +1.7
	baz=280						
EGAK	**Eagle**	44.44	36	IAmb	IAmb		02 32 48.0
	comp=Z,24nm,0.9s						
EGAK	**Eagle**	44.44	36	P	**P**		02 32 21.2 +1.0
	baz=279,SNR=9.5						
SNH	**Sunshine Point**	44.52	43	IAmb	IAmb		02 32 29.6
	comp=Z,33nm,0.9s						
KURK	**Kurchatov**	44.52	303	P	**P**		02 32 20.3 -0.6
KURK	**Kurchatov**	44.52	303	P	**P**		02 32 21.0 +0.1
KURK				S	**S**		02 38 43.6 -4.5
KURK	**Kurchatov**	44.52	303	*ce*P	**P**		02 32 20.4 -0.5
KURK				pmax	pmax		
	comp=Z,67nm,1.3s						
KURK	**Kurchatov**	44.52	303	*e*P	**P**		02 32 20.4 -0.5
KURK	**Kurchatov**	44.52	303	P	**P**		02 32 20.7 -0.2
KURK				PcP	**PcP**		02 34 02.7 +0.4
M27K	**Edge Creek, AK**	44.54	39	IAmb	IAmb		02 32 50.0
	comp=Z,28nm,1.1s						
M27K	**Edge Creek, AK**	44.54	39	P	**P**		02 32 22.4 +1.3
	baz=281,SNR=11						
F28M	**Old Crow**	44.57	32	P	**P**		02 32 22.8 +1.6
	baz=277,SNR=9.9						
E28M	**Babbage River**	44.58	30	P	**P**		02 32 22.4 +1.2
	baz=276						
KURBB	**Kurchatov Arra**	44.60	303	P	**P**		02 32 21.1 -0.5
	comp=Z,24nm,0.6s,baz=71,slow=8.9,SNR=79						
KURBB				PcP	**PcP**		02 34 02.9 +0.3
	comp=Z,10nm,0.7s,baz=74,slow=3.3,SNR=11						
	comp=Z,24nm,0.6s						
D28M	**Stokes Point**	44.78	29	P	**P**		02 32 24.2 +1.4
	baz=276						
I28M	**Miner Creek**	44.85	35	IAmb	IAmb		02 32 26.2
	comp=Z,22nm,0.6s						
I28M	**Miner Creek**	44.85	35	P	**P**		02 32 25.3 +1.8
	baz=279						
MESA	**MESA**	44.95	42	P	**P**		02 32 26.1 +1.6
	baz=283						
BVCY	**Beaver Creek**	44.99	39	P	**P**		02 32 26.2 +1.6
	baz=282						
LSA	**Lhasa**	45.08	271	P	**P**		02 32 27.4 +1.1
LSA	**Lhasa**	45.08	271	P	**P**		02 32 27.6 +1.4
E29M	**Blow River**	45.20	31	P	**P**		02 32 27.7 +1.6
	baz=278						
YUK3	**Moose Creek**	45.31	40	P	**P**		02 32 28.5 +1.2
	baz=282						
DAWY	**Dawson**	45.32	37	P	**P**		02 32 29.1 +1.9
	baz=281,SNR=5.9						
H29M	**Whitestone**	45.36	34	IAmb	IAmb		02 32 32.1
	comp=Z,53nm,1.8s						
H29M	**Whitestone**	45.36	34	P	**P**		02 32 29.3 +1.9
	baz=280						
G29M	**Pine Creek**	45.38	33	IAmb	IAmb		02 32 37.9
	comp=Z,23nm,1.1s						
G29M	**Pine Creek**	45.38	33	P	**P**		02 32 29.7 +2.1
	baz=279						
I29M	**Ogilvie Camp,**	45.54	35	P	**P**		02 32 30.1 +1.3
	baz=281						
PHRA	**Phrae**	45.61	251	P	**P**		02 32 30.6 +0.6
O28M	**Mount Upton**	45.66	41	P	**P**		02 32 31.1 +0.8
	baz=284						
YUK8	**Steele Glacier**	45.74	41	P	**P**		02 32 31.7 +0.9
	baz=283						
PINM	**Pinnacle**	45.80	42	P	**P**		02 32 31.4 +0.4
	baz=284						
EPYK	**Eagle Plains**	45.99	33	IAmb	IAmb		02

comp=Z,2.3nm,0.3s,baz=13,slow=2.5,SNR=5.5
CMAR LR LR 02 53 09.0
comp=Z,69nm,18.4s,baz=60,slow=37
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 46.52 252 *ce*P **P 02 32 37.9 +0.8**
CMAR pmax pmax
comp=Z,11nm,0.8s
J30M Hart River 46.52 36 IAmb IAmb 02 33 05.6
comp=Z,26nm,1.2s
J30M Hart River 46.52 36 P **P 02 32 38.2 +1.5**
baz=283
O29M Mount Kennedy 46.55 42 P **P 02 32 39.1 +2.1**
baz=285
TDK Taldyqorghan 46.71 296 *e*P **P 02 32 38.7 +0.4**
TDK Taldyqorghan 46.71 296 *e*P **P 02 32 38.8 +0.4**
SHLS Shalkode 46.78 293 *e*P **P 02 32 36.9 -2.1**
SHLS pmax pmax
comp=Z,29nm,1.0s
SHLS Shalkode 46.78 293 *e*P **P 02 32 36.9 -2.1**
comp=Z,29nm,1.0s
M30M Minto, Yukon 46.80 38 P **P 02 32 40.4 +1.7**
baz=284,SNR=7.1
INK Inuvik 46.81 30 IAmb IAmb 02 32 40.5
comp=Z,9.8nm,0.6s
INK Inuvik 46.81 30 P **P 02 32 39.7 +1.0**
baz=282,SNR=15
INK Inuvik 46.81 30 P **P 02 32 39.7 +1.0**
INK pmax pmax
comp=Z,13nm,0.5s
G31M Satah River 46.83 32 IAmb IAmb 02 32 42.2
comp=Z,14nm,0.7s
G31M Satah River 46.83 32 P **P 02 32 40.2 +1.3**
baz=283
HYT Haines Junctio 46.92 41 IAmb IAmb 02 33 09.5
comp=Z,46nm,1.1s
HYT Haines Junctio 46.92 41 P **P 02 32 41.2 +1.3**
baz=286,SNR=26
MAYO Mayo, Yukon 46.94 37 P **P 02 32 42.2 +2.4**
baz=284
SHL Shillong 46.94 265 IAmb IAmb 02 32 40.9
comp=Z,29nm,0.7s
SHL Shillong 46.94 265 P **P 02 32 40.3 -0.3**
SNR=9.1
SHL Shillong 46.94 265 P **P 02 32 40.0 -0.6**
SHL pmax pmax
comp=Z,44nm,0.8s
H31M Peel River 47.05 34 IAmb IAmb 02 32 45.1
comp=Z,22nm,0.8s
H31M Peel River 47.05 34 P **P 02 32 42.6 +1.9**
baz=284
KPKS Kokpek 47.16 294 *e*P **P 02 32 42.4 +0.5**
KPKS pmax pmax
comp=Z,29nm,0.9s
KPKS Kokpek 47.16 294 *e*P **P 02 32 42.4 +0.5**
comp=Z,30nm,0.9s
P30M Million Dollar 47.38 42 P **P 02 32 44.6 +1.3**
baz=287
ZHN Zhinishke 47.45 294 *e*P **P 02 32 44.4 +0.2**
ZHN pmax pmax
comp=Z,27nm,0.9s
ZHN Zhinishke 47.45 294 *e*P **P 02 32 44.5 +0.2**
comp=Z,27nm,0.9s
SATY Saty 47.52 294 *e*P **P 02 32 45.0 +0.2**
SATY pmax pmax
comp=Z,24nm,0.9s
SATY Saty 47.52 294 *e*P **P 02 32 45.1 +0.2**
comp=Z,24nm,0.9s
N31M Braeburn, Yuko 47.55 40 P **P 02 32 46.4 +1.8**
baz=286,SNR=6.8
O30N Mendenhall 47.61 41 P **P 02 32 47.2 +2.1**
baz=287
WUS Wushi 47.79 291 P **P 02 32 47.5 +0.6**
WUS PcP **PcP 02 34 15.0 +0.8**
PLBC Pleasant Camp 47.86 42 P **P 02 32 48.6 +1.6**
baz=288
M31M Drury Creek, Y 47.98 38 P **P 02 32 49.5 +1.7**
baz=287,SNR=5.9
WHY Whitehorse 48.21 41 P **P 02 32 51.1 +1.3**
baz=288,SNR=6.0
BRZS Berezniki 48.34 304 *e*P **P 02 32 50.8 0.0**
BRZS pmax pmax
comp=Z,27nm,0.8s
BRZS Berezniki 48.34 304 *e*P **P 02 32 50.8 0.0**
comp=Z,27nm,0.8s
MDOK Medeo 48.37 294 *e*P **P 02 32 51.5 +0.1**
MDOK Medeo 48.37 294 *e*P **P 02 32 51.5 +0.1**
S31K Pelican 48.40 44 P **P 02 32 53.4 +2.3**
baz=289
FARO Faro, Yukon 48.44 38 P **P 02 32 53.2 +1.7**
baz=288,SNR=8.5
AAA Alma-Ata 48.44 294 *e*P **P 02 32 51.8 0.0**
AAA Alma-Ata 48.44 294 *e*P **P 02 32 51.9 0.0**
AAA Alma-Ata 48.44 294 *e*P **P 02 32 51.8 0.0**
TNSS Tian-Shan 48.49 294 *e*P **P 02 32 52.4 -0.2**
TNSS Tian-Shan 48.49 294 *e*P **P 02 32 52.4 -0.2**
BVAR Borovoye Array 48.54 309 P **P 02 32 51.5 -0.8**
comp=Z,22nm,0.5s,baz=83,slow=9.4,SNR=116
BVAR PcP **PcP 02 34 17.1 +0.6**
comp=Z,12nm,0.7s,baz=62,slow=2.5,SNR=7.1
BVAR ScP **ScP 02 38 00.8 -0.4**
comp=Z,4.0nm,0.7s,baz=69,slow=5.5,SNR=7.5
comp=Z,22nm,0.5s
BRVK Borovoye 48.59 309 P **P 02 32 52.8 +0.1**
BRVK Borovoye 48.59 309 P **P 02 32 53.1 +0.4**
BRVK S **S 02 39 44.6 -1.5**
BRVK Borovoye 48.59 309 *ce*P **P 02 32 52.8 +0.1**
BRVK pmax pmax
comp=Z,30nm,0.8s
BRVK Borovoye 48.59 309 *e*P **P 02 32 52.8 +0.1**
BRVK Borovoye 48.59 309 P **P 02 32 53.0 +0.4**
BRVK PcP **PcP 02 34 17.2 +0.6**
BRVK ScP **ScP 02 38 01.1 -0.4**
A36M Sachs Harbour 48.68 24 IAmb IAmb 02 32 55.1
comp=Z,14nm,1.1s
A36M Sachs Harbour 48.68 24 P **P 02 32 54.3 +1.2**
baz=286,SNR=10
KDJ Kajisay 48.74 293 P **P 02 32 54.8 +0.6**
N32M Quiet Lake 48.89 40 P **P 02 32 56.5 +1.6**
baz=289
SANI Sanana 49.03 206 P **P 02 32 55.9 -0.5**
comp=Z,49nm,0.9s
P32M Atlin 49.10 42 P **P 02 32 58.2 +1.6**
baz=289
R32K Eaglecrest 49.15 43 P **P 02 32 58.7 +1.8**
baz=290
SIT Sitka 49.16 45 P **P 02 32 59.0 +2.0**
baz=290
JIS Juneau Island 49.22 43 P **P 02 32 59.4 +2.0**
ULHL Ulahol 49.31 294 P **P 02 32 59.4 +0.8**
SNR=9.3
P33M Teslin, Yukon 49.32 41 IAmb IAmb 02 33 03.2
comp=Z,6.8nm,0.6s
P33M Teslin, Yukon 49.32 41 P **P 02 32 59.8 +1.5**
baz=290,SNR=11
MSAI Masohi 49.39 202 P **P 02 33 01.3 +2.2**
TKM2 Tokmak 2 49.43 295 P **P 02 33 00.4 +0.8**
SNR=75
BTLS Baital 49.51 298 *e*P **P 02 32 59.6 -0.2**
BTLS pmax pmax
comp=Z,18nm,1.4s
BTLS Baital 49.51 298 *e*P **P 02 32 59.7 -0.2**
comp=Z,18nm,1.4s
SGDS Sogindy 49.83 296 *e*P **P 02 33 02.3 -0.1**
SGDS Sogindy 49.83 296 *e*P **P 02 33 02.4 0.0**
C36M Paulatuk 49.84 28 P **P 02 33 02.4 +0.5**
baz=289
CHMS Chumysh 49.95 295 P **P 02 33 03.7 +0.4**
SNR=12
KBK Karagaybulak 49.98 295 P **P 02 33 04.5 +0.8**
SNR=55
Q32M Nakina River 50.02 42 P **P 02 33 05.1 +1.4**
baz=291
AAK Ala-Archa 50.28 295 P **P 02 33 06.3 +0.4**
AAK Ala-Archa 50.28 295 LR LR 02 53 34.7
comp=Z,43nm,21.0s,baz=58,slow=35
AAK Ala-Archa 50.28 295 P **P 02 33 06.2 +0.3**
AAK Ala-Archa 50.28 295 P **P 02 33 06.5 +0.5**
SNR=25
AAK Ala-Archa 50.28 295 *ce*P **P 02 33 06.3 +0.3**
AAK pmax pmax
comp=Z,54nm,1.3s
AAK Ala-Archa 50.28 295 *i*P **P 02 33 06.0 +0.1**
SNR=35
AAK Ala-Archa 50.28 295 *e*P **P 02 33 06.3 +0.3**
AAK Ala-Archa 50.28 295 P **P 02 33 06.0 +0.1**
AAK pP **pP 02 33 31.2 0.0**
AAK sP **sP 02 33 41.8 -1.3**
AAK PcP **PcP 02 34 23.9 +0.7**
R33M Jennings River 50.48 41 P **P 02 33 08.2 +1.1**
baz=292
U33K Whale Pass 50.64 46 P **P 02 33 09.7 +1.6**
baz=293
EKS2 Erkin-Say 50.74 295 P **P 02 33 10.0 +0.6**
SNR=29
KSH Kashi 50.77 291 P **P 02 33 13.7 +4.1**
KSH pP pP 02 33 39.4 +4.6
KSH pmax pmax
comp=Z,20nm,1.2s
SBUM Sibu 50.80 225 P **P 02 33 10.5 +0.7**
CRAG Craig 50.89 46 P **P 02 33 11.8 +1.8**
baz=293
CRAG Craig 50.89 46 P **P 02 33 11.8 +1.8**
WRAK Wrangell Islan 50.92 45 P **P 02 33 12.0 +1.8**
baz=293
S34M Telegraph Cree 50.96 43 P **P 02 33 12.4 +1.8**
baz=292
AML Almayashu 51.05 295 P **P 02 33 12.8 +0.9**
SNR=21
WTLY Watson Lake, Y 51.23 40 P **P 02 33 13.9 +1.3**
baz=292
DLBC Dease Lake 51.30 42 IAmb IAmb 02 33 16.6
comp=Z,19nm,1.4s
DLBC Dease Lake 51.30 42 P **P 02 33 14.8 +1.6**
baz=293
V35K Ketchikan 51.74 46 P **P 02 33 17.4 +1.1**
baz=294
T35M Bob Quinn 51.77 44 P **P 02 33 18.1 +1.4**
baz=294
ARSB Arslanbob 51.90 294 IAmb IAmb 02 33 19.9
comp=Z,22nm,0.8s
DZA Taraz 52.23 296 *e*P **P 02 33 20.4 +0.2**
DZA Taraz 52.23 296 *e*P **P 02 33 20.5 +0.2**
SVE Sverdlovsk 52.26 316 *de*P **P 02 33 20.1 -0.1**
SVE *e*S **S 02 40 35.0 -1.7**
SVE pmax pmax
comp=Z,92nm,0.8s
WRGLY Wrigley 52.34 35 IAmb IAmb 02 33 49.8
comp=Z,27nm,1.2s
WRGLY Wrigley 52.34 35 P **P 02 33 22.5 +1.9**
baz=294
BRLS Borolday 53.12 297 *e*P **P 02 33 27.8 +0.9**
BRLS pmax pmax
comp=Z,11nm,1.2s
BRLS Borolday 53.12 297 *e*P **P 02 33 28.4 +1.5**
STKI Sintang 53.21 224 P **P 02 33 29.0 +1.3**
KOTAN Kotaneelee Air 53.39 39 P **P 02 33 30.1 +1.6**
baz=296
TOAD Toad River Com 53.41 40 P **P 02 33 30.7 +2.0**
baz=296,SNR=5.6
ARTI Arti 53.57 316 P **P 02 33 29.3 -0.6**
ARTI Arti 53.57 316 *c i*P **P 02 33 29.3 -0.6**
ARTI *PP **pP 02 33 56.3 +1.0**
ARTI 02 34 34.7
ARTI 02 35 27.8
ARTI S **S 02 40 55.8 +1.2**
ARTI SS **SKiKP 02 44 32.9 -0.5**
ARTI pmax pmax
comp=Z,84nm,0.8s
ARTI Arti 53.57 316 P **P 02 33 29.2 -0.7**
ARTI PcP **PcP 02 34 35.1 0.0**
ARTI ScP **ScP 02 38 21.0 -1.9**
DRK Karamyk 53.59 293 IAmb IAmb 02 33 32.8
comp=Z,18nm,0.7s
CHM Chimkent 53.62 297 *e*P **P 02 33 30.8 +0.3**
CHM pmax pmax
comp=Z,24nm,1.0s
CHM Chimkent 53.62 297 *e*P **P 02 33 30.9 +0.3**
comp=Z,24nm,1.0s
BTK Batken 53.95 294 P **P 02 33 32.8 -0.2**
SPA0 Spitsbergen Ar 54.40 349 *e*P **P 02 33 36.4 +0.7**
SPA0 IAmb IAmb 02 33 37.2
comp=Z,40nm,1.1s
SPITS Spitsbergen Ar 54.40 349 P **P 02 33 34.0 -1.7**
comp=Z,15nm,0.9s,baz=72,slow=8.0,SNR=13
SPITS PcP **PcP 02 34 38.3 +0.3**
comp=Z,4.0nm,0.5s,baz=90,slow=6.7,SNR=9.8
comp=Z,15nm,0.9s
KULM Kulim 55.08 239 P **P 02 33 42.3 +1.0**
KULM Kulim 55.08 239 P **P 02 33 42.8 +1.5**
RES Resolute Bay 55.12 16 P **P 02 33 39.4 -1.4**
comp=Z,14nm,0.4s,baz=311,slow=7.9,SNR=124
comp=Z,14nm,0.4s
IPM Ipoh 55.48 238 P **P 02 33 44.3 +0.1**
NIL Nilore 55.68 286 P **P 02 33 46.2 +0.6**
NIL Nilore 55.68 286 P **P 02 33 46.2 +0.6**
NIL pmax pmax
comp=Z,65nm,1.0s
NIL Nilore 55.68 286 P **P 02 33 46.1 +0.6**
NIL PcP **PcP 02 34 44.2 +0.5**
CHGR Chuyangaron 55.78 293 P **P 02 33 46.3 +0.1**
SIMJ Simiganj 55.88 293 P **P 02 33 46.7 -0.2**
SIMJ Simiganj 55.88 293 P **P 02 33 46.8 -0.2**
ABKAR Akbulak array 56.09 308 P **P 02 33 48.3 +0.2**
YKA Yellowknife Ar 56.27 33 P **P 02 33 49.7 +0.5**
comp=Z,7.3nm,0.8s,baz=303,slow=7.0,SNR=56
YKA pP **pP 02 34 16.6 +1.6**
comp=Z,3.5nm,0.9s,baz=302,slow=7.3,SNR=3.5
comp=Z,7.3nm,0.8s
YKA Yellowknife Ar 56.27 33 *ce*P **P 02 33 50.2 +1.0**
YKA pmax pmax
comp=Z,8.0nm,0.8s
KIRV Kirov 56.78 322 LR LR 03 00 58.0
comp=Z,88nm,20.8s,baz=38,slow=39
KIRV Kirov 56.78 322 *ce*P **P 02 33 52.3 -0.5**
LVZ Lovozero 57.19 335 P **P 02 33 56.8 +1.2**
LVZ Lovozero 57.19 335 P **P 02 33 56.2 +0.6**
comp=Z,27nm,1.7s
VADS Vadso 57.31 339 *e*P **P 02 33 56.1 -0.3**
VADS IAmb IAmb 02 33 56.5
comp=Z,18nm,0.9s
TPI Tanjungpandan 57.59 227 P **P 02 33 59.9 +0.8**
comp=Z,41nm,1.0s
KDU Kakadu 57.59 195 P **P 02 33 59.0 0.0**
comp=Z,22nm,0.9s
APA Apatity 57.76 335 ⇓*i*P **P 02 33 56.8 -2.8**
APA pmax pmax
comp=Z,17nm,0.8s
APA MLR MLR
comp=Z,600nm,12.0s
PPBI Pangkal Pinang 57.90 229 P **P 02 34 01.9 +0.7**
MTN Manton Dam 58.01 197 P **P 02 34 02.1 +0.1**
MTN Manton Dam 58.01 197 P **P 02 34 02.3 +0.3**
comp=Z,47nm,0.8s
PSI Prapat 58.09 239 LR LR 02 59 26.9
comp=Z,25nm,20.7s,baz=14,slow=36
KEV Kevo 58.16 339 P **P 02 34 01.7 -0.7**
KEV PcP **PcP 02 34 52.8 +0.2**
HAMF Hammerfest 58.39 341 *e*P **P 02 34 02.0 -1.9**
HAMF IAmb IAmb 02 34 04.0
comp=Z,27nm,1.1s
NEEM North Greenlan 58.47 4 *i*P **P 02 34 02.4 -2.4**
NEEM IAmb IAmb 02 34 05.4
comp=Z,7.8nm,0.6s
ARA0 ARCESS Array S 58.70 339 *e*P **P 02 34 06.6 +0.4**
ARA0 IAmb IAmb 02 34 07.5
comp=Z,14nm,0.8s
ARCES ARCESS Array B 58.70 339 P **P 02 34 05.1 -1.0**
comp=Z,2.9nm,0.4s,baz=40,slow=7.0,SNR=68
ARCES PcP **PcP 02 34 55.2 +0.4**
comp=Z,1.7nm,0.4s,baz=64,slow=5.2,SNR=6.0
ARCES LR LR 03 02 08.1
comp=Z,36nm,19.3s,baz=235,slow=39
comp=Z,2.9nm,0.4s
LLLB Lillooet 59.16 48 IAmb IAmb 02 34 12.0
comp=Z,6.7nm,0.7s
DAG Danmarks Havn 59.17 356 P **P 02 34 09.0 -0.3**
DAG pmax pmax
comp=Z,15nm,1.3s
DAG Danmarks Havn 59.17 356 *i*P **P 02 34 07.0 -2.3**
DAG IAmb IAmb 02 34 11.2
comp=Z,7.9nm,0.9s
JAGI Jajag, Banyuwa 59.43 217 P **P 02 34 10.3 -1.5**
comp=Z,11nm,0.4s
KTK1 Kautokeino 59.65 339 *e*P **P 02 34 12.1 -0.6**
KTK1 IAmb IAmb 02 34 13.4
comp=Z,16nm,0.8s
KLMR Klimovskoe 59.70 327 *e*P **P 02 34 10.6 -2.5**
KLMR *e* 02 34 57.5
KLMR pmax pmax
comp=Z,43nm,0.9s
JETT Jettan, Norway 59.95 341 *e*P **P 02 34 14.6 -0.2**
JETT IAmb IAmb 02 34 15.6
comp=Z,45nm,1.1s
GSI Gunungsitoli 60.09 239 P **P 02 34 16.6 +0.2**
GSI Gunungsitoli 60.09 239 P **P 02 34 16.7 +0.2**
comp=Z,3μmcomp=Z,26nm,1.0s
TRO Tromso 60.25 341 *e*P **P 02 34 15.3 -1.4**
TRO IAmb IAmb 02 34 17.7
comp=Z,33nm,1.0s
KPJI Karang Pucung 60.85 223 P **P 02 34 21.0 -0.5**
MDSI Maura Dua 60.90 229 P **P 02 34 21.9 0.0**
comp=Z,41nm,1.2s
BELG Belogornoye 61.01 316 *i*P **P 02 34 22.2 0.0**
BELG pmax pmax
comp=Z,60nm,0.9s
SISI Saibi 61.24 236 P **P 02 34 24.2 0.0**
comp=Z,38nm,1.1s
LWLI Liwa 61.41 229 P **P 02 34 24.9 -0.5**
JOF Joensuu 61.42 332 *e*P **P 02 34 25.2 +0.5**
LTY Liberty 61.69 51 IAmb IAmb 02 34 42.5
comp=Z,38nm,1.9s
B08A Colville Reser 61.80 49 IAmb IAmb 02 34 30.6
comp=Z,32nm,1.8s
PPSI Pulau Pagai 61.85 234 P **P 02 34 28.7 +0.4**
comp=Z,106nm,1.0s
MXC Moxie City 62.30 51 IAmb IAmb 02 34 33.6
comp=Z,15nm,1.1s
H04A Detroit Lake 62.31 54 P **P 02 34 32.8 +1.7**
H04A IAmb IAmb 02 34 59.8
comp=Z,13nm,0.9s
STEI Steigen 62.42 341 *e*P **P 02 34 30.9 -0.4**
E07A Sunnyside 62.55 51 IAmb IAmb 02 35 01.4
comp=Z,22nm,1.3s
LOF Lofoten 62.65 342 *e*P **P 02 34 32.1 -0.8**
C09A Chrisman Ranch 62.70 49 IAmb IAmb 02 34 35.8
comp=Z,8.6nm,0.8s
D08A Wollman Farm, 62.78 50 P **P 02 34 33.9 -0.3**
HAWA Hanford 62.83 51 IAmb IAmb 02 34 38.4
comp=Z,11nm,1.1s
FAUS Fauske 62.84 341 *e*P **P 02 34 33.7 -0.5**
FAUS IAmb IAmb 02 34 40.0
comp=Z,38nm,1.3s
G06A Carlson Farm, 62.88 52 IAmb IAmb 02 34 38.3
comp=Z,54nm,1.8s
F07A Phinny Hill Vi 62.90 51 IAmb IAmb 02 34 39.0
comp=Z,16nm,0.7s
I05D Terrebonne, OR 63.00 54 IAmb IAmb 02 35 04.6
comp=Z,9.9nm,0.8s
NEW Newport 63.05 48 P **P 02 34 37.2 +1.2**
NEW IAmb IAmb 02 34 38.2
comp=Z,11nm,1.1s
NEW Newport 63.05 48 P **P 02 34 37.2 +1.2**
NEW pmax pmax
comp=Z,11nm,1.1s
PINE Pine Mountain 63.56 54 IAmb IAmb 02 35 08.8
comp=Z,19nm,0.8s
MOS Moscow 63.66 323 *e*P **P 02 34 37.3 -2.4**
MOS *e*S **S 02 43 03.3 -1.9**
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,82nm,1.1s
J05D Fort Rock, OR 63.69 54 IAmb IAmb 02 35 09.6
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 63.73 57 IAmb IAmb 02 35 09.8
comp=Z,13nm,0.9s
SUMG Summit 63.77 1 P **P 02 34 40.4 -0.4**
SUMG IAmb IAmb 02 34 44.0
comp=Z,12nm,0.7s
SUMG Summit 63.77 1 P **P 02 34 40.4 -0.4**
SUMG pmax pmax
comp=Z,12nm,0.7s
SUMG Summit 63.77 1 *i*P **P 02 34 40.0 -0.8**
SUMG IAmb IAmb 02 34 44.1
comp=Z,12nm,0.5s
PUL Pulkovo 63.90 329 *ce*P **P 02 34 41.6 +0.3**
PUL pmax pmax
comp=Z,109nm,0.8s
PUL Pulkovo 63.90 329 *e*P **P 02 34 41.6 +0.3**
MOR8 Moi Rana 64.01 340 *e*P **P 02 34 40.0 -1.9**
MOR8 IAmb IAmb 02 34 41.5
comp=Z,25nm,0.7s
KEF Keuruu 64.09 333 *e*P **P 02 34 42.5 0.0**
VAF Ylistaro 64.14 335 *e*P **P 02 34 43.7 +0.8**
FINES FINESS Array B 64.22 332 P **P 02 34 42.6 -0.7**
comp=Z,128nm,0.5s,baz=43,slow=7.8,SNR=875
FINES LR LR 03 08 16.0
comp=Z,65nm,18.2s,baz=50,slow=41
FINES FINESS Array B 64.22 332 *ce*P **P 02 34 43.2 -0.1**
FINES pmax pmax
comp=Z,128nm,0.5s
STOK Stokkvaagen 64.22 341 *e*P **P 02 34 43.1 -0.1**
STOK IAmb IAmb 02 34 46.7
comp=Z,31nm,1.2s
LEIR Leirfjorden 64.38 341 *e*P **P 02 34 44.2 -0.1**
LEIR IAmb IAmb 02 34 45.8
comp=Z,98nm,1.9s
WRA Warramunga Arr 64.38 192 P **P 02 34 44.4 -0.4**
comp=Z,14nm,1.0s,baz=9.6,slow=6.8,SNR=36
comp=Z,14nm,1.0s
WRA Warramunga Arr 64.38 192 *i*P **P 02 34 44.9 0.0**
WRA pmax pmax
comp=Z,14nm,1.0s
OBN Obninsk 64.52 323 P **P 02 34 44.9 -0.5**
OBN Obninsk 64.52 323 ⇓P **P 02 34 45.2 -0.2**
OBN Obninsk 64.52 323 *d i*P **P 02 34 44.9 -0.5**
OBN pmax pmax
comp=Z,121nm,0.9s
OBN Obninsk 64.52 323 P **P 02 34 44.6 -0.8**
comp=Z,166nm,1.0s
OBN Obninsk 64.52 323 *e*P **P 02 34 44.9 -0.5**
VRH Novokhopyorsk 64.66 317 ⇓*i*P **P 02 34 45.9 -0.4**
VRH pmax pmax
comp=Z,285nm,0.8s
LPSR Galich'ya Gora 65.09 320 ⇓*i*P **P 02 34 48.9 -0.3**
LPSR pmax pmax
comp=Z,298nm,0.8s
J08A Circle Bar Ran 65.25 53 IAmb IAmb 02 35 20.1
comp=Z,10.0nm,1.0s
VORR Voronezh 65.56 319 *e*P **P 02 34 52.2 0.0**
VORR pmax pmax
comp=Z,96nm,0.4s
PLID Pearl Lake 65.59 50 IAmb IAmb 02 35 22.0
comp=Z,12nm,0.9s
MSO Missoula 65.63 48 IAmb IAmb 02 35 22.4
comp=Z,14nm,1.2s
MEF Metsahovi 65.68 332 *e*P **P 02 34 53.0 +0.2**
ARBE Arbavere 65.70 331 *e*P **P 02 34 53.1 +0.2**
WVOR Wild Horse Val 65.72 54 IAmb IAmb 02 35 22.4
comp=Z,12nm,1.1s
ORV Oroville 65.77 58 IAmb IAmb 02 35 21.8
comp=Z,13nm,0.8s
VSR Storozhevoye 65.88 319 *e*P **P 02 34 52.3 -2.0**
VSR pmax pmax
comp=Z,170nm,0.8s
RAF Rauma 65.94 334 *e*P **P 02 34 54.5 0.0**
NSS Namsos 65.95 340 IAmb IAmb 02 34 53.6
comp=Z,218nm,2.2s
NSS *e*P **P 02 34 55.0 +0.5**
VORD Divnogorie 65.98 318 *e*P **P 02 34 53.3 -1.6**
VORD pmax pmax
comp=Z,190nm,0.9s
VSU Vasula 66.14 330 *ce*P **P 02 34 54.1 -1.7**
VSU pmax pmax
comp=Z,183nm,0.7s
VSU Vasula 66.14 330 *e*P **P 02 34 55.3 -0.4**
FFC Flin Flon 66.22 36 P **P 02 34 57.3 +0.9**
FFC Flin Flon 66.22 36 P **P 02 34 57.3 +0.9**
FFC pmax pmax
comp=Z,11nm,1.1s
FFC Flin Flon 66.22 36 P **P 02 34 57.1 +0.8**
FFC pP **pP 02 35 22.9 -0.1**
FCC Fort Churchill 66.42 29 P **P 02 34 58.0 +0.4**
FCC IAmb IAmb 02 35 00.9
comp=Z,14nm,0.8s
FCC Fort Churchill 66.42 29 P **P 02 34 58.0 +0.4**
FCC pmax pmax
comp=Z,14nm,0.8s
AFDM Forest Hills D 66.47 58 P **P 02 34 60.0 +1.7**
AFDM IAmb IAmb 02 35 27.4
comp=Z,14nm,1.1s
MFID Camas Ranch 66.73 52 P **P 02 35 01.4 +1.4**
MAK Makhachkala 66.77 308 *e*P **P 02 35 00.5 +0.4**
MAK *e**PP **pP 02 35 25.2 -1.3**
MAK *e**SP **sP 02 35 37.1 -1.1**
MAK *e* 02 37 25.6

MAK *e*S **S** **02 43 45.7 +2.1**
MAK *e**SS **sS** **02 44 29.4 +0.3**
MAK *e*SS **SS** **02 48 08.9 +6.3**
MAK pmax pmax
comp=Z,98nm,0.8s
HRY Holter Researc 66.83 47 P **P** **02 35 01.6 +1.0**
PAHR Pah Rah Range 66.97 57 P **P** **02 35 02.8 +1.2**
PAHR IAmb IAmb 02 35 30.8
comp=Z,24nm,1.1s
MTSE Matsula 66.99 331 *e*P **P** **02 35 01.9 +0.8**
PALK Pallekele 67.00 257 P **P** **02 35 01.1 -0.9**
PALK IAmb IAmb 02 35 03.0
comp=Z,28nm,1.1s
PALK Pallekele 67.00 257 LR LR 03 07 24.7
comp=Z,21nm,18.1s,baz=60,slow=39
PALK Pallekele 67.00 257 P **P** **02 35 01.9 0.0**
PALK P **P** **02 35 02.2 +0.3**
PALK Pallekele 67.00 257 P **P** **02 35 01.1 -0.9**
PALK pmax pmax
comp=Z,28nm,1.1s
PALK Pallekele 67.00 257 P **P** **02 35 01.6 -0.4**
EGMT Eagleton 67.06 45 IAmb IAmb 02 35 04.6
comp=Z,18nm,1.2s
PNTR Pine Nut 67.22 57 P **P** **02 35 05.1 +1.8**
PNTR IAmb IAmb 02 35 32.3
comp=Z,26nm,0.8s
DLMT Dillon 67.28 48 IAmb IAmb 02 35 34.4
comp=Z,8.7nm,0.8s
CMB Columbia Colle 67.39 59 P **P** **02 35 05.7 +1.5**
CMB IAmb IAmb 02 35 32.9
comp=Z,18nm,0.8s
CMB Columbia Colle 67.39 59 P **P** **02 35 05.7 +1.5**
CMB pmax pmax
comp=Z,18nm,0.9s
TBLU Trondheim 67.44 340 *e*P **P** **02 35 02.6 -1.4**
TBLU IAmb IAmb 02 35 03.8
comp=Z,29nm,0.8s
YERR Yerington 67.50 57 P **P** **02 35 06.7 +1.7**
AKT Akhty 67.57 306*d i*P **P** **02 35 05.9 +0.6**
AKT *e* 02 35 32.5
AKT *e**SP **sP** **02 35 45.6 +2.1**
AKT *e*S **S** **02 43 55.1 +1.5**
AKT pmax pmax
comp=Z,111nm,1.2s
BOZ Bozeman (W) 67.65 48 IAmb IAmb 02 35 08.2
comp=Z,7.7nm,0.7s
WAKR Walker 67.68 58 P **P** **02 35 08.0 +1.8**
WAKR IAmb IAmb 02 35 35.3
comp=Z,17nm,0.9s
GOF Gofitskoye 67.91 312*d i*P **P** **02 35 08.0 +0.7**
SEKA Sheki 68.05 306 P **P** **02 35 09.0 +0.7**
KHAM Kharkiv 68.08 319 P **P** **02 35 08.7 +0.4**
ASAR Alice Springs 68.11 192 P **P** **02 35 08.4 -0.2**
comp=Z,4.5nm,0.7s,baz=8.6,slow=5.5,SNR=40
comp=Z,4.5nm,0.7s
MSVF Nonsavu 68.16 147 P **P** **02 35 11.6 +2.6**
comp=Z,3.5nm,0.4s,baz=323,slow=3.2,SNR=4.5
comp=Z,3.5nm,0.4s
RYN Ryan 68.16 57 IAmb IAmb 02 35 38.1
comp=Z,18nm,0.8s
SLIT Slitere, Latvi 68.34 331 *e*P **P** **02 35 10.0 +0.3**
MNGR Mingechevir, A 68.40 306 P **P** **02 35 11.5 +1.2**
NVAR Mina Array Bea 68.42 57 P **P** **02 35 11.9 +1.1**
comp=Z,3.6nm,0.7s,baz=292,slow=6.7,SNR=32
NVAR pP **pP** **02 35 38.3 +0.7**
comp=Z,18nm,0.7s,baz=289,slow=6.8,SNR=24
comp=Z,3.6nm,0.7s
YHB Horse Butte 68.44 48 IAmb IAmb 02 35 42.1
comp=Z,9.5nm,0.8s
MNK Minsk 68.58 326 *i* P **P** **02 35 12.0 +0.8**
MNK comp=E,110nm,0.8s *i* P **P** **02 35 12.0 +0.8**
MNK comp=N,38nm,0.7s *i* P **P** **02 35 12.0 +0.8**
MNK comp=Z,209nm,0.8s,baz=43 *i* pP **pP** **02 35 39.4 +1.5**
MNK *i* sP sP 02 36 01.5 +12
MNK *i* PP PP 02 37 32.1 -11
MNK *i* PPP PPP 02 39 09.0
MNK *i* S **S** **02 44 07.5 +2.7**
MNK *i* sS **SKiKP** **02 44 56.5 +3.4**
MNK *i* SS SS 02 48 10.6 -19
MNK *i* SSS SSS 02 51 52.0
MNK Minsk 68.58 326*d i*P **P** **02 35 12.0 +0.8**
IIGN Ignalina 68.61 328 *e*P **P** **02 35 12.2 +0.8**
YMR Madison River 68.61 48 IAmb IAmb 02 35 42.1
comp=Z,19nm,1.3s
NCK Nalchik 68.62 310 *i* P **P** **02 35 12.8 +1.0**
NCK pmax pmax
comp=Z,77nm,1.0s
LKRN Lenkeran, Azer 68.71 304 P **P** **02 35 13.1 +0.8**
NACGM Naroch 68.72 327 *e*P **P** **02 35 12.2 +0.1**
comp=E,3μm,1.2s
SFJD Kangerlussuaq 68.72 7 P **P** **02 35 11.7 -0.2**
comp=E,5.1nm,0.4s,baz=348,slow=9.8,SNR=5.1
comp=E,5.1nm,0.4s
YNR Norris Junctio 68.74 48 IAmb IAmb 02 35 43.3
comp=Z,39nm,1.9s
DOMB Dombas 68.76 340 *e*P **P** **02 35 12.5 +0.2**
DOMB IAmb IAmb 02 35 12.8
comp=Z,47nm,1.0s
KIV Kislovodsk 68.82 311 P **P** **02 35 13.9 +0.8**
KIV Kislovodsk 68.82 311 P **P** **02 35 14.9 +1.8**
KIV Kislovodsk 68.82 311 ⇑P **P** **02 35 14.4 +1.3**
KIV Kislovodsk 68.82 311 *e*P **P** **02 35 13.9 +0.8**
KIV pmax pmax
comp=Z,231nm,1.0s
KIV comp=Z,59nm,17.0s MLR MLR
KIV Kislovodsk 68.82 311 *i* P **P** **02 35 14.2 +1.1**
SNR=91
KIV Kislovodsk 68.82 311 P **P** **02 35 14.1 +1.0**
comp=Z,2μcomp=Z,253nm,0.8s
KIV Kislovodsk 68.82 311 P **P** **02 35 13.7 +0.6**
ERBR Yeremizino-Bor 68.84 314*d i*P **P** **02 35 14.1 +1.1**
ERBR pmax pmax
comp=Z,184nm,0.8s
KBZ Khabaz 68.86 311 P **P** **02 35 12.8 -0.3**
comp=Z,94nm,1.0s,baz=53,slow=5.4,SNR=141
KBZ Khabaz 68.86 311*c e*P **P** **02 35 14.0 +0.9**
KBZ pmax pmax
comp=Z,87nm,1.0s
KBZ Khabaz 68.86 311 *e*P **P** **02 35 14.0 +0.9**
GANJ Ganja 68.92 306 P **P** **02 35 14.8 +1.1**
SHA1 Shidzhatmaz 68.98 311*d i*P **P** **02 35 15.1 +0.9**
VSVD Vaisvydziai 69.00 329 *e*P **P** **02 35 14.6 +0.8**
NB2 NORSAR Subarra 69.04 338 P **P** **02 35 14.0 -0.1**
comp=Z,66nm,0.9s,baz=32,slow=6.5
NB2 NORSAR Subarra 69.04 338 P **P** **02 35 14.0 -0.1**
baz=32,slow=6.5
NOA NORSAR Array B 69.04 338 P **P** **02 35 13.8 -0.3**
comp=Z,39nm,0.8s,baz=34,slow=6.1,SNR=105
NOA LR LR 03 09 42.6
comp=Z,46nm,20.4s,baz=350,slow=40
comp=Z,39nm,0.8s
NGCH Negor - Chabah 69.07 285 P **P** **02 35 14.4 -0.4**
HFS Hagfors 69.10 337 P **P** **02 35 13.9 -0.5**
comp=Z,47nm,0.5s,baz=54,slow=7.5,SNR=253
comp=Z,47nm,0.5s
AKN Aaknes 69.15 341 IAmb IAmb 02 35 14.5
comp=Z,1μm,3.4s
AKN *e*P **P** **02 35 15.3 +0.7**
NC602 NORSAR Array S 69.21 338 *e*P **P** **02 35 14.3 -0.8**
RLMT Red Lodge 69.22 47 IAmb IAmb 02 36 02.8
comp=Z,29nm,2.0s
DSP Deep Springs 69.30 58 IAmb IAmb 02 35 45.9
comp=Z,30nm,1.0s
PABE Paberze 69.35 329 *e*P **P** **02 35 16.6 +0.7**
TPAW Teton Pass 69.40 49 IAmb IAmb 02 35 46.5
comp=Z,38nm,1.4s
LABN Labinsk 69.43 313*d i*P **P** **02 35 17.9 +1.2**
LABN pmax pmax
comp=Z,163nm,1.0s
DY2G Dye2 69.56 5 *i* P **P** **02 35 16.2 -1.2**
PBUR Paburge 69.70 330 *e*P **P** **02 35 18.5 +0.4**
SPUT South Promonto 70.00 52 IAmb IAmb 02 35 50.5
comp=Z,24nm,1.6s
OSL Oslo 70.10 338 *e*P **P** **02 35 21.2 +0.8**
R11B Troy Canyon, C 70.11 56 IAmb IAmb 02 35 50.0
comp=Z,19nm,1.2s
R11B Troy Canyon, C 70.11 56 P **P** **02 35 22.5 +1.2**
baz=311
SKAR Skarslia 70.11 339 *e*P **P** **02 35 21.3 +0.7**
SKAR IAmb IAmb 02 35 22.3
comp=Z,38nm,1.0s

GNI Garni 70.16 307 P **P** **02 35 23.2 +1.7**
GNI Garni 70.16 307 P **P** **02 35 23.2 +1.7**
GNI Garni 70.16 307 P **P** **02 35 23.2 +1.7**
GNI pmax pmax
comp=Z,51nm,1.0s
GNI Garni 70.16 307 P **P** **02 35 23.0 +1.5**
GNI Garni 70.16 307 P **P** **02 35 23.0 +1.5**
GNI PcP **PcP** **02 35 43.7 +0.9**
GNI pP **pP** **02 35 49.6 +1.5**
HYA Hoyanger 70.22 340 *e*P **P** **02 35 21.8 +0.6**
NAX Nakhchivan 70.36 306 P **P** **02 35 23.8 +1.2**
S11A Rachel 70.47 56 IAmb IAmb 02 35 52.3
comp=Z,22nm,0.7s
WCT Wildcat Mounta 70.49 58 IAmb IAmb 02 35 52.9
comp=Z,26nm,1.3s
DUG Dugway, Tooele 70.53 53 IAmb IAmb 02 35 53.5
comp=Z,39nm,1.4s
DUG Dugway, Tooele 70.53 53 P **P** **02 35 24.9 +1.2**
TPNV Topopah Spring 70.62 57 IAmb IAmb 02 35 53.9
comp=Z,28nm,1.1s
PDAR Pinedale Array 70.64 49 P **P** **02 35 25.4 +0.9**
comp=Z,3.0nm,0.5s,baz=261,slow=0.8,SNR=64
PDAR pP **pP** **02 35 52.0 +0.8**
comp=Z,3.4nm,0.7s,baz=290,slow=2.3,SNR=4.7
PDAR LR LR 03 05 53.4
comp=Z,29nm,21.4s,baz=300,slow=35
comp=Z,3.0nm,0.5s
KONO Kongsberg 70.65 338 *e*P **P** **02 35 24.2 +0.4**
KONO IAmb IAmb 02 35 25.1
comp=Z,446nm,2.5s
SUE Sulen 70.65 341 *e*P **P** **02 35 24.4 +0.6**
SUE IAmb IAmb 02 35 28.2
comp=Z,371nm,2.0s
SOC Sochi 70.68 312 *e*P **P** **02 35 22.5 -1.8**
SOC *e**PP **pP** **02 35 50.1 -1.1**
SOC *e**SP **sP** **02 36 02.3 -0.6**
SOC *e* 02 37 59.6
SOC *e*PPP PPP 02 39 43.9
SOC *e*S **S** **02 44 28.0 -1.8**
SOC *e*SS **SS** **02 49 01.1 -1.6**
TCUT Toone Canyon 70.72 51 IAmb IAmb 02 35 55.0
comp=Z,50nm,1.6s
STRU Stroemstad 70.73 337 *i* P **P** **02 35 24.8 +0.5**
AK03 Malin Array Si 70.77 323 P **P** **02 35 24.5 -0.2**
SUW Suwalki 70.78 328 *e*P **P** **02 35 24.8 +0.1**
SUW Suwalki 70.78 328 *e*P **P** **02 35 24.8 +0.1**
AK23 Malin Array Si 70.78 323 P **P** **02 35 24.6 -0.2**
AKASG Malin Array Be 70.78 323 P **P** **02 35 24.7 -0.1**
comp=Z,33nm,0.4s,baz=42,slow=6.3,SNR=235
comp=Z,33nm,0.4s
AKBB Malin Array Si 70.78 323*c e*P **P** **02 35 24.3 -0.5**
AKBB pmax pmax
comp=Z,160nm,1.1s
AKBB Malin Array Si 70.78 323 P **P** **02 35 24.6 -0.2**
KIEV Kiev 70.80 323 P **P** **02 35 24.7 -0.2**
KIEV Kiev 70.80 323 ⇓P **P** **02 35 25.0 +0.1**
KIEV Kiev 70.80 323 P **P** **02 35 24.7 -0.2**
KIEV pmax pmax
comp=Z,147nm,1.1s
KIEV Kiev 70.80 323 *i* P **P** **02 35 24.8 -0.1**
SNR=60
KIEV Kiev 70.80 323 P **P** **02 35 24.4 -0.5**
comp=Z,496nm,1.0s
KIEV Kiev 70.80 323 P **P** **02 35 24.6 -0.3**
KIEV PcP **PcP** **02 35 45.3 +0.3**
AK01 Malin Array Si 70.80 323 P **P** **02 35 24.8 -0.1**
KARS Kars 70.80 308 P **P** **02 35 26.9 +1.6**
KARS pmax pmax
comp=Z,69nm,0.8s
AK22 Malin Array Si 70.81 323 P **P** **02 35 24.8 -0.2**
AK21 Malin Array Si 70.81 323 P **P** **02 35 24.8 -0.2**
AK16 Malin Array Si 70.86 323 P **P** **02 35 25.1 -0.2**
GWY Greenwater Val 70.86 58 IAmb IAmb 02 35 54.6
comp=Z,23nm,0.7s
PRN Pahroc Range 71.04 56 IAmb IAmb 02 35 56.0
comp=Z,16nm,1.2s
ANN Anapa 71.05 314*d i*P **P** **02 35 26.6 +0.1**
ANN pmax pmax
comp=Z,128nm,1.2s
ASK Askoy 71.06 341 *e*P **P** **02 35 27.0 +0.8**
ASK IAmb IAmb 02 35 27.4
comp=Z,83nm,0.9s
BCA Borcka 71.07 310 ⇑P **P** **02 35 27.8 +1.0**
BER Bergen 71.11 340 *e*P **P** **02 35 27.2 +0.6**
BER IAmb IAmb 02 35 30.1
comp=Z,58nm,1.0s
ODD1 Odda 71.20 340 *e*P **P** **02 35 27.5 +0.3**
ODD1 IAmb IAmb 02 35 28.9
comp=Z,69nm,1.2s
GSC Goldstone, Bar 71.35 59 IAmb IAmb 02 35 57.3
comp=Z,13nm,0.9s
TJOU Tjoern 71.44 336 *i* P **P** **02 35 28.7 +0.1**
BLEU Blekinge 71.58 333 *i* P **P** **02 35 28.9 -0.6**
BLS5 Blasjo 71.67 339 *e*P **P** **02 35 30.7 +0.6**
BLS5 IAmb IAmb 02 35 31.9
comp=Z,92nm,1.3s
RNPP9 Sopachiv 71.67 325 P **P** **02 35 30.4 +0.2**
RNPP8 Varash 71.75 325 P **P** **02 35 30.8 +0.2**
RNPP5 Staryi Chortor 71.81 325 P **P** **02 35 31.2 +0.2**
ONAU Onsala 71.89 336 *i* P **P** **02 35 31.0 -0.3**
FABU Falkenberg 71.98 335 *i* P **P** **02 35 31.7 -0.2**
LUBAR Lubar, Ukraine 72.00 323 P **P** **02 35 31.2 -0.9**
ULM Lac du Bonnet 72.03 36 P **P** **02 35 32.2 -0.1**
comp=Z,2.1nm,0.5s,baz=308,slow=7.0,SNR=10
comp=Z,2.1nm,0.5s
ELS Elsinore Mount 72.05 61 IAmb IAmb 02 36 01.4
comp=Z,12nm,0.8s
BANOM Banah 72.05 289 P **P** **02 35 33.4 +0.5**
BANOM Banah 72.05 289 *i* P **P** **02 35 33.2 +0.3**
SNR=42
DEL Delary 72.06 334 *i* P **P** **02 35 32.0 -0.4**
SHME Shamm 72.07 289 P **P** **02 35 33.4 +0.4**
SNR=9.6
SHME Shamm 72.07 289 *i* P **P** **02 35 33.1 +0.1**
SNR=20
HOMB Homborsund 72.12 338 *e*P **P** **02 35 33.3 +0.6**
HOMB IAmb IAmb 02 35 41.8
comp=Z,241nm,1.6s
HOMB Homborsund 72.12 338 *i* P **P** **02 35 33.5 +0.8**
MDND Maddock 72.13 40 IAmb IAmb 02 36 03.4
comp=Z,15nm,0.7s
KMY Karmoy 72.16 340 *e*P **P** **02 35 33.9 +1.0**
V12A Nelson 72.27 57 IAmb IAmb 02 36 03.4
comp=Z,22nm,1.3s
BIDO Bidbid 72.34 286 P **P** **02 35 37.0 +2.3**
SNR=5.8
WBK Wadi Bani Khal 72.35 285 P **P** **02 35 35.6 +0.8**
K22A Casper 72.35 47 IAmb IAmb 02 36 04.3
comp=Z,57nm,1.9s
SNART Snartemo 72.41 338 *e*P **P** **02 35 35.0 +0.5**
SNART Snartemo 72.41 338 *i* P **P** **02 35 35.0 +0.5**
MASF Masafi 72.50 288 P **P** **02 35 36.2 +0.6**
SNR=6.8
MSFE Esma-Masafi 72.51 288 *i* P **P** **02 35 35.7 0.0**
SNR=11
SRU San Rafael Swe 72.56 52 IAmb IAmb 02 35 38.1
comp=Z,9.7nm,0.6s
RSSD Black Hills 72.63 45 P **P** **02 35 37.3 +1.0**
RSSD Black Hills 72.63 45 P **P** **02 35 37.3 +1.0**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
SIM Simferopol' 72.63 316 *e*P **P** **02 35 36.7 +0.7**
SIM *e*S **S** **02 44 49.9 -2.3**
SIM pmax pmax
comp=Z,106nm,0.8s
KNB Kanab 72.63 55 IAmb IAmb 02 36 06.0
comp=Z,20nm,1.1s
BAL3X Bal3x, Balta 72.64 321 P **P** **02 35 35.5 -0.5**
BJUU Bjuv 72.66 334 *i* P **P** **02 35 36.1 +0.2**
KOPT Kop Dagi 72.67 309 IAmb IAmb 02 35 41.7
comp=Z,22nm,0.9s
PFO Pinyon Flats O 72.68 60 LR LR 03 01 39.7
comp=Z,39nm,21.6s,baz=306,slow=31
SMDO Samad 72.70 285 P **P** **02 35 37.2 +0.3**
UOSS Minazif 72.75 288 P **P** **02 35 36.9 -0.1**
UOSS Minazif 72.75 288 P **P** **02 35 37.0 -0.1**
UOSS Minazif 72.75 288 *i* P **P** **02 35 36.7 -0.3**
SNR=25
BSD Bornholm Skovb 72.85 333 *e*P **P** **02 35 37.8 +0.8**
BSD Bornholm Skovb 72.85 333 *i* P **P** **02 35 37.6 +0.5**
BSD IAmb IAmb 02 35 38.5
comp=Z,77nm,0.8s
HOQ Hoqain 72.87 286 P **P** **02 35 39.0 +1.2**
SNR=6.6
HATD Hatta, Dubai 72.88 288 P **P** **02 35 39.0 +1.2**

SNR=12
HATD Hatta, Dubai 72.88 288 *i* P **P** **02 35 37.8 0.0**
SNR=22
LUNU Lund 72.89 334 *i* P **P** **02 35 37.4 +0.1**
R9F13 Warsaw-Wawer 72.95 328 *e*P **P** **02 35 38.8 +1.1**
ASHO Ashiyiah 73.02 288 P **P** **02 35 40.0 +1.3**
SNR=10
ASHO Ashiyiah 73.02 288 *i* P **P** **02 35 39.0 +0.4**
SNR=20
SOHO SOHO 73.05 287 P **P** **02 35 39.3 +0.5**
SOHO SOHO 73.05 287 *i* P **P** **02 35 39.0 +0.2**
SNR=15
SORM Soroca 73.06 322 ⇑P **P** **02 35 38.3 -0.2**
SORM Soroca 73.06 322 P **P** **02 35 38.4 0.0**
NAZ Nazwa, Dubai 73.09 288 P **P** **02 35 38.6 -0.4**
NAZ Nazwa, Dubai 73.09 288 *i* P **P** **02 35 39.2 +0.1**
SNR=11
JMDO Jabal Madar 73.11 285 P **P** **02 35 41.0 +1.7**
SNR=5.3
NDNU Novodnistrovsk 73.16 322 P **P** **02 35 39.3 +0.3**
COP Copenhagen 73.17 334 *i* P **P** **02 35 39.7 +0.8**
COP IAmb IAmb 02 35 40.0
comp=Z,93nm,0.8s
FAQ Al Faqa, Dubai 73.30 288 P **P** **02 35 41.0 +0.7**
SNR=5.6
U15A North Rim 73.34 55 IAmb IAmb 02 36 10.9
comp=Z,15nm,1.0s
BEL Belsk 73.39 328 *e*P **P** **02 35 41.3 +1.0**
MUD Monsted U'grnd 73.49 336 *i* P **P** **02 35 40.9 +0.1**
MUD IAmb IAmb 02 35 42.8
comp=Z,29nm,0.8s
BSY Bisya 73.50 286 P **P** **02 35 43.0 +1.5**
SNR=6.3
PURM Purcari 73.55 320 ⇑P **P** **02 35 41.8 +0.4**
PURM Purcari 73.55 320 P **P** **02 35 41.3 0.0**
comp=Z,1μcomp=Z,164nm,0.9s
GKP Gorka Klasztor 73.55 331 *e*P **P** **02 35 41.5 +0.2**
GKP Gorka Klasztor 73.55 331 *e*P **P** **02 35 42.1 +0.8**
ASUD Al Ashush, Dub 73.56 288 P **P** **02 35 43.0 +1.2**
SNR=7.8
ASUD Al Ashush, Dub 73.56 288 *i* P **P** **02 35 42.3 +0.5**
SNR=16
KMPD K-Podol'skiy 73.58 323 P **P** **02 35 40.4 -1.1**
ARQ Araqi 73.58 287 P **P** **02 35 42.0 0.0**
ALNE Al Ain 73.64 288 P **P** **02 35 42.8 +0.5**
SNR=8.7
ALNE Al Ain 73.64 288 *i* P **P** **02 35 42.6 +0.3**
SNR=9.6
YUH Yuha Desert 73.65 60 IAmb IAmb 02 36 10.9
comp=Z,13nm,0.9s
LVV L'vov 73.66 325 P **P** **02 35 42.7 +0.7**
LVV L'vov 73.66 325 P **P** **02 35 42.7 +0.7**
KIS Kishinev 73.69 320 ⇓*i*P **P** **02 35 42.2 0.0**
KIS Kishinev 73.69 320 ⇓P **P** **02 35 42.1 -0.1**
KIS Kishinev 73.69 320 P **P** **02 35 42.0 -0.1**
KIS Kishinev 73.69 320 P **P** **02 35 42.1 -0.1**
comp=Z,856nmcomp=Z,77nm,0.7s
MILM Milestii Mici 73.75 320 ⇓*i*P **P** **02 35 42.0 -0.5**
comp=Z,500nm,0.9s
MILM Milestii Mici 73.75 320 ⇓P **P** **02 35 42.5 0.0**
MILM Milestii Mici 73.75 320 P **P** **02 35 42.5 0.0**
N23A Red Feather La 73.89 48 P **P** **02 35 44.9 +1.0**
baz=315
PV10 Paradox Valley 73.91 52 IAmb IAmb 02 36 14.1
comp=Z,41nm,1.1s
PV11 David Mesa, Pa 74.06 52 IAmb IAmb 02 36 14.7
comp=Z,56nm,1.5s
ESJX Sierra Juarez 74.06 61 IAmb IAmb 02 36 14.3
comp=Z,19nm,1.0s
IASR Iasi 74.12 321 ⇑P **P** **02 35 44.9 +0.2**
PV13 Radium Mtn., P 74.19 52 IAmb IAmb 02 36 15.6
comp=Z,60nm,1.6s
KWP Kalwaria Pacla 74.35 325 *e*P **P** **02 35 46.9 +0.9**
KWP Kalwaria Pacla 74.35 325 P **P** **02 35 46.7 +0.7**
comp=Z,209nm,0.9s
DIKM Dikmen 74.39 313 ⇑P **P** **02 35 48.0 +1.7**
PRAR RASCA 74.59 322 ⇑P **P** **02 35 47.9 +0.5**
TOKA Tokat 74.67 312 IAmb IAmb 02 35 50.2
comp=Z,17nm,0.9s
BIR Birlad 74.78 321 ⇑P **P** **02 35 50.1 +1.6**
BIR Birlad 74.78 321 P **P** **02 35 50.1 +1.6**
BZK Bozkurt 74.82 314 ⇓P **P** **02 35 50.3 +1.5**
BZK Bozkurt 74.82 314 P **P** **02 35 49.7 +0.9**
comp=Z,59nm,1.2s
BURAR Bucovina Array 74.84 323 ⇓P **P** **02 35 49.7 +0.7**
BURAR Bucovina Array 74.84 323 P **P** **02 35 49.7 +0.7**
VLDR Vladesti 74.89 320 ⇑P **P** **02 35 49.9 +0.7**
VARL Varlezi 74.95 320 ⇑P **P** **02 35 50.2 +0.7**
MVCO Mesa Verde 75.03 53 IAmb IAmb 02 36 20.3
comp=Z,70nm,1.9s
TLCR 75.04 319 ⇑P **P** **02 35 50.8 +0.8**
TLCR 75.04 319 P **P** **02 35 51.0 +1.0**
GHRR 75.04 321 ⇑P **P** **02 35 51.6 +1.6**
JRN Qarnain Island 75.04 290 P **P** **02 35 50.0 -0.4**
TESR Tescani 75.04 321 ⇓P **P** **02 35 50.7 +0.6**
TESR Tescani 75.04 321 P **P** **02 35 50.2 +0.1**
comp=Z,1μcomp=Z,133nm,1.0s
OJC Ojcow 75.05 327 *e*P **P** **02 35 50.8 +0.7**
OJC Ojcow 75.05 327 P **P** **02 35 50.6 +0.6**
comp=Z,170nm,1.0s
SCTR Scanteiesti 75.06 320 ⇑P **P** **02 35 51.4 +1.3**
KOLS Kolonicke sedl 75.07 325 *e*P **P** **02 35 50.9 +0.7**
KOLS pmax pmax
comp=Z,43nm,0.9s
KOLS Kolonicke sedl 75.07 325 *e*P **P** **02 35 50.9 +0.7**
STHS Stebnicka Huta 75.11 326 *e*P **P** **02 35 50.8 +0.4**
STHS pmax pmax
comp=Z,54nm,1.0s
STHS Stebnicka Huta 75.11 326 *e*P **P** **02 35 50.8 +0.4**
NEGRR Negrea 75.21 320 ⇑P **P** **02 35 52.2 +1.2**
X16A Lo Mia Camp, P 75.22 56 IAmb IAmb 02 36 21.7
comp=Z,17nm,1.0s
SLCR Slobozia Conac 75.22 320 ⇓P **P** **02 35 52.7 +1.6**
IZVR Izvoarele 75.26 320 ⇑P **P** **02 35 52.0 +0.8**
SCHL Schela 75.26 320 ⇑P **P** **02 35 52.3 +1.0**
TUDR 75.27 320 ⇓P **P** **02 35 52.6 +1.3**
SCHLR Schela 75.28 320 ⇓P **P** **02 35 52.3 +0.8**
ONER Baraj Valea Uz 75.29 321 ⇓P **P** **02 35 52.6 +1.1**
PANC Panciu 75.30 321 ⇑P **P** **02 35 53.3 +1.8**
BSEG Bad Segeberg 75.31 335 *e*P **P** **02 35 52.1 +0.7**
comp=Z,64nm,1.1s,baz=32,slow=5.6
JURR Jurilovca 75.32 319 ⇑P **P** **02 35 53.0 +1.4**
CFR Carcaliu 75.36 320 ⇑P **P** **02 35 52.6 +0.8**
CFR Carcaliu 75.36 320 P **P** **02 35 52.7 +0.8**
RUE Ruedersdorf 75.40 332 *e*P **P** **02 35 52.9 +1.0**
RUE Ruedersdorf 75.40 332 *e*P **P** **02 35 52.4 +0.5**
comp=Z,58nm,1.0s,baz=32,slow=5.6
ODBI Odobesti 75.42 321 ⇑P **P** **02 35 54.5 +2.3**
ODBI Odobesti 75.42 321 P **P** **02 35 54.0 +1.8**
comp=Z,833nmcomp=Z,107nm,0.9s
TPGR Topolog 75.47 319 ⇑P **P** **02 35 53.6 +1.0**
NIE Niedzica 75.49 327 *e*P **P** **02 35 54.0 +1.4**
VRI Vrincioaia 75.50 321 ⇑P **P** **02 35 53.8 +1.1**
VRI Vrincioaia 75.50 321 P **P** **02 35 53.7 +1.1**
VRI Vrincioaia 75.50 321 P **P** **02 35 53.5 +0.8**
comp=Z,41nm,1.2s
STKA Stephens Creek 75.52 184 P **P** **02 35 53.0 +0.3**
comp=Z,2.4nm,0.6s,baz=3.6,slow=10,SNR=4.9
comp=Z,2.4nm,0.6s
BMR Baia Mare 75.54 324 ⇑P **P** **02 35 54.3 +1.5**
BMR Baia Mare 75.54 324 P **P** **02 35 54.3 +1.5**
PLOR3 Plostina Array 75.54 321 P **P** **02 35 53.7 +0.7**
comp=Z,34nm,0.9s
PLOR Plostina 75.54 321 ⇑P **P** **02 35 54.0 +1.0**
PLOR Plostina 75.54 321 P **P** **02 35 54.0 +1.0**
S22A 4UR Ranch, Cre 75.60 51 IAmb IAmb 02 36 24.5
comp=Z,25nm,1.6s
S22A 4UR Ranch, Cre 75.60 51 P **P** **02 35 54.6 +0.8**
baz=315
ARCR ARCALIA 75.62 323 ⇑P **P** **02 35 55.2 +1.8**
GHWR Ruwais 75.67 289 P **P** **02 35 53.6 -0.4**
Q24A Divide 75.68 49 P **P** **02 35 54.3 +0.1**
baz=315
SHMA Al-Shehemyia 75.70 292 P **P** **02 35 53.6 -0.5**
BISRR Bisoca 75.74 321 ⇑P **P** **02 35 56.0 +1.8**
BISRR Bisoca 75.74 321 P **P** **02 35 55.3 +1.1**
comp=Z,205nm,1.0s
OZUR 75.75 321 ⇓P **P** **02 35 55.7 +1.6**
COVR Voineasa-Covas 75.75 321 ⇑P **P** **02 35 55.6 +1.4**
GRER 75.75 320 ⇓P **P** **02 35 56.9 +2.7**
TIRR Tirgusor 75.77 319 IAmb IAmb 02 35 55.9
comp=Z,38nm,1.0s
TIRR Tirgusor 75.77 319 ⇓P **P** **02 35 55.4 +1.2**
TIRR Tirgusor 75.77 319 P **P** **02 35 55.4 +1.2**

GORT1 **Trebel** 75.79 334 *eP* P 02 35 55.2 +1.1
comp=Z,38nm,0.9s,baz=32,slow=5.6
HARR **Harsova** 75.82 319 ⇑P P 02 35 56.3 +1.8
HARR **Harsova** 75.82 319 P P 02 35 56.3 +1.8
KSP **Ksiaz** 75.87 330 *eP* P 02 35 55.5 +0.8
KSP **Ksiaz** 75.87 330 P P 02 35 55.1 +0.4
comp=Z,67nm,1.0s
TLBR **Topalu** 75.88 319 ⇑P P 02 35 55.8 +1.0
MZR **Muzera** 75.90 288 P P 02 35 55.3 0.0
SNR=11
MZR **Muzera** 75.90 288 *i* P P 02 35 55.3 0.0
SNR=32
K30B **Basset** 75.90 44 IAmb IAmb 02 36 24.2
comp=Z,21nm,1.0s
SAKB **Bahrain** 75.91 292 P P 02 35 55.1 -0.2
MFTR **Murfatlar** 75.97 319 ⇑P P 02 35 55.9 +0.5
DOPR **Dopca** 76.02 322 ⇑P P 02 35 57.4 +1.7
NEHR **Nehoiu** 76.03 321 ⇓P P 02 35 58.8 +3.0
LANS **Liptovska Anna** 76.03 327 *eP* P 02 35 57.5 +1.7
LANS pmax pmax
comp=Z,42nm,1.0s
LANS **Liptovska Anna** 76.03 327 *eP* P 02 35 57.4 +1.7
STEB **Steborice** 76.06 328 *eP* P 02 35 56.7 +0.9
PGOR **Pogoanele** 76.10 320 ⇓P P 02 35 58.1 +2.0
OSTC **Ostas** 76.13 329 *eP* P 02 35 56.8 +0.6
OSTC **Ostas** 76.13 329 *eP* P 02 35 56.8 +0.6
MLR **Muntele Rosu** 76.14 321 ⇑P P 02 35 57.5 +1.0
MLR **Muntele Rosu** 76.14 321 P P 02 35 57.4 +1.0
ISR **Istrita** 76.15 320 ⇑P P 02 35 58.2 +1.8
ISR **Istrita** 76.15 320 P P 02 35 58.2 +1.8
ISR **Istrita** 76.15 320 P P 02 35 57.2 +0.8
comp=Z,180nm,1.0s
KECS **Kecovo** 76.16 326 *eP* P 02 35 57.8 +1.4
KECS **Kecovo** 76.16 326 *eP* P 02 35 57.8 +1.4
AMRR **Amara** 76.16 320 ⇑P P 02 35 58.0 +1.5
AMRR **Amara** 76.16 320 P P 02 35 57.9 +1.5
CHVC **Chvalec** 76.16 330 *eP* P 02 35 56.9 +0.5
CHVC **Chvalec** 76.16 330 *eP* P 02 35 56.9 +0.5
MESR **Meseseni** 76.18 324 ⇑P P 02 35 58.2 +1.7
CBBR **Cluj-Babes-Bol** 76.22 323 ⇑P P 02 35 58.3 +1.5
CJR **Cluj-Napoca** 76.24 323 ⇓P P 02 35 58.2 +1.3
CJR **Cluj-Napoca** 76.24 323 P P 02 35 58.2 +1.3
UPC **Upice** 76.25 330 *eP* P 02 35 57.5 +0.7
UPC **Upice** 76.25 330 *eP* P 02 35 57.5 +0.7
DPC **Dobruska-Polom** 76.26 329 *eP* P 02 35 57.9 +0.9
DPC **Dobruska-Polom** 76.26 329 *eP* P 02 35 57.9 +0.9
DPC **Dobruska-Polom** 76.26 329 P P 02 35 58.0 +0.9
comp=Z,43nm,1.2s
MORC **Moravsky Berou** 76.27 328 *eP* P 02 35 57.9 +0.8
MORC **Moravsky Berou** 76.27 328 ⇓P P 02 35 58.2 +1.2
MORC **Moravsky Berou** 76.27 328 P P 02 35 58.3 +1.2
TRNA **Turayna** 76.28 291 P P 02 35 57.0 -0.4
KRLC **Kraliky** 76.31 329 *eP* P 02 35 58.0 +0.7
KRLC **Kraliky** 76.31 329 *eP* P 02 35 58.0 +0.7
ICOR **Ion Corvin** 76.32 319 ⇓P P 02 35 59.1 +1.8
MDB **Medias** 76.34 322 ⇓P P 02 35 58.4 +1.0
MDB **Medias** 76.34 322 P P 02 35 58.4 +1.0
FLTG **Flechtingen** 76.38 333 *eP* P 02 35 57.6 +0.1
comp=Z,66nm,1.1s,baz=32,slow=5.6
SLWR **Sila** 76.41 290 P P 02 35 58.1 -0.1
MARR **Marisel-Cluj** 76.48 323 ⇓P P 02 35 59.1 +0.8
GAZ **Gaziantep** 76.50 309 IAmb IAmb 02 36 01.0
comp=Z,25nm,1.0s
MAUC **Maruska** 76.50 328 *eP* P 02 35 59.2 +0.9
LEHL **Lehliu** 76.51 320 ⇓P P 02 36 00.1 +1.7
SMRA **Abu-Samra** 76.54 291 P P 02 35 58.6 -0.3
DRGR 76.56 324 ⇑P P 02 35 59.7 +0.9
DRGR 76.56 324 P P 02 35 59.7 +0.9
VOIR 76.58 321 ⇑P P 02 36 00.2 +1.3
VOIR 76.58 321 P P 02 36 00.2 +1.3
VOIR 76.58 321 P P 02 36 00.0 +1.1
comp=Z,76nm,0.8s
NRDL **Niedersach Rie** 76.60 334 *eP* P 02 35 59.2 +0.5
comp=Z,17nm,0.8s,baz=32,slow=5.6
SULR 76.61 320 ⇓P P 02 36 00.5 +1.5
BR131 **Keskin Array S** 76.62 313 *i P* P 02 36 00.5 +1.1
BRTR **Keskin Array B** 76.62 313 P P 02 35 59.4 +0.1
comp=Z,7.1nm,0.7s,baz=76,slow=2.9,SNR=49
BRTR PP PP 02 38 52.5 +0.1
comp=Z,3.1nm,1.1s,baz=46,slow=5.3,SNR=3.7
comp=Z,7.1nm,0.7s
BRTR **Keskin Array B** 76.62 313 *ceP* P 02 35 59.9 +0.5
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BR106 **Keskin Array S** 76.63 313 P P 02 35 59.8 +0.4
comp=Z,115nmcomp=Z,13nm,1.2s
RETH **Rethem/Aller,** 76.63 334 *eP* P 02 35 59.6 +0.7
comp=Z,133nm,0.8s,baz=32,slow=5.6
BR105 **Keskin Array S** 76.64 313 P P 02 36 00.1 +0.7
comp=Z,125nmcomp=Z,14nm,1.0s
CLL **Collm** 76.65 332 *i P* P 02 35 59.0 -0.1
CLL *e*PP pP 02 36 30.0 +3.9
CLL pmax pmax
comp=Z,87nm,1.1s
CLL **Collm** 76.65 332 *i P* P 02 35 59.0 -0.1
comp=Z,87nm,1.1s
CLL *ep*P pP 02 36 30.0 +3.9
CLL **Collm** 76.65 332 *eP* P 02 35 59.2 +0.2
comp=Z,82nm,1.1s,baz=32,slow=5.6
CLL *ep*P pP 02 36 30.0 +3.9
BRG **Berggiesshubel** 76.69 331 *i P* P 02 35 59.9 +0.6
BRG Amp 02 36 01.4
comp=Z,11nm,0.8s
BRG **Berggiesshubel** 76.69 331 *eP* P 02 35 59.6 +0.3
comp=Z,23nm,1.0s,baz=32,slow=5.6
BORR **Bors** 76.72 324 ⇑P P 02 35 59.4 -0.2
MTUR **Matau** 76.74 321 ⇑P P 02 36 01.5 +1.7
MTUR **Matau** 76.74 321 P P 02 36 01.5 +1.7
TNR **Turnu Rosu** 76.77 322 ⇑P P 02 36 01.3 +1.4
TNR **Turnu Rosu** 76.77 322 P P 02 36 01.5 +1.6
VYHS **Vyhne** 76.81 327 *eP* P 02 36 01.1 +1.0
VYHS pmax pmax
comp=Z,49nm,1.0s
VYHS **Vyhne** 76.81 327 *eP* P 02 36 01.1 +1.0
ARR **Arges** 76.82 322 ⇑P P 02 36 02.2 +1.9
PSZ **Piszkesteto** 76.84 326 ⇑P P 02 36 01.8 +1.4
PSZ **Piszkesteto** 76.84 326 P P 02 36 01.7 +1.4
PSZ **Piszkesteto** 76.84 326 *eP* P 02 36 01.7 +1.3
KIRS **Kirsehir-Merke** 76.90 312 ⇑P P 02 36 02.0 +1.1
ANTO **Ankara** 76.97 313 P P 02 36 02.2 +1.0
ANTO **Ankara** 76.97 313 P P 02 36 02.3 +1.1
ANTO **Ankara** 76.97 313 ⇓P P 02 36 02.9 +1.8
ANTO **Ankara** 76.97 313 P P 02 36 02.2 +1.0
ANTO pmax pmax
comp=Z,36nm,0.8s
JAVC **Velka Javorina** 76.97 328 *eP* P 02 36 02.7 +1.7
VRAC **Vranov** 77.01 329 LR LR 03 12 27.2
comp=Z,103nm,18.3s,baz=31,slow=38
VRAC **Vranov** 77.01 329 *eP* P 02 36 02.1 +0.9
VRAC **Vranov** 77.01 329 ⇑P P 02 36 02.6 +1.4
VRAC **Vranov** 77.01 329 P P 02 36 02.6 +1.4
STFAR **Stefanesti-Arg** 77.06 321 ⇓P P 02 36 02.6 +1.1
CLZ **Clausthal** 77.07 333 *eP* P 02 36 02.4 +0.9
comp=Z,35nm,0.7s,baz=32,slow=5.6
HSKC **Hora Svate Kat** 77.09 331 *eP* P 02 36 02.0 +0.4
SGRR **Singureni** 77.09 320 ⇓P P 02 36 01.4 -0.3
LOT **Lotru** 77.15 322 ⇓P P 02 36 02.5 +0.3
NEUB **Neuenburg** 77.15 332 *eP* P 02 36 02.2 +0.3
comp=Z,75nm,1.1s,baz=32,slow=5.6
PRA **Prague** 77.18 330 *eP* P 02 36 03.0 +0.9
PRA **Prague** 77.18 330 *eP* P 02 36 03.0 +0.9
GOPC **GO Pecny, Ondr** 77.18 330 *eP* P 02 36 03.1 +1.0
GOPC **GO Pecny, Ondr** 77.18 330 *eP* P 02 36 03.1 +1.0
DEV **Deva** 77.19 323 ⇑P P 02 36 03.4 +1.1
DEV **Deva** 77.19 323 P P 02 36 03.3 +1.1
PRU **Pruhonice** 77.21 330 *eP* P 02 36 03.0 +0.7
PRU **Pruhonice** 77.21 330 *eP* P 02 36 03.0 +0.7
KRUC **Moravsky** 77.29 329 *eP* P 02 36 03.5 +0.8
HUMR **Humele** 77.31 321 ⇓P P 02 36 02.5 -0.5
SIRR **Siria** 77.42 324 ⇑P P 02 36 04.6 +1.0
TREC **Trest** 77.44 329 *eP* P 02 36 01.7 -1.9
TREC **Trest** 77.44 329 *eP* P 02 36 01.7 -1.9
GTTG **Gottingen** 77.46 333 *eP* P 02 36 04.2 +0.6
comp=Z,49nm,1.0s,baz=32,slow=5.6
IBBN **Ibbenburen** 77.50 335 *eP* P 02 36 04.4 +0.6
comp=Z,64nm,1.0s,baz=32,slow=5.6
MODS **Modra-Piesok** 77.51 328 *eP* P 02 36 05.3 +1.3
MODS pmax pmax
comp=Z,103nm,1.0s
MODS **Modra-Piesok** 77.51 328 *eP* P 02 36 05.3 +1.3
SRO **Srobarova** 77.56 327 *eP* P 02 36 05.7 +1.5
SRO pmax pmax
comp=Z,70nm,1.0s

SRO **Srobarova** 77.56 327 *eP* P 02 36 05.7 +1.5
TANN **Tannenbergstha** 77.59 331 *eP* P 02 36 04.7 +0.3
comp=Z,7.3nm,0.9s,baz=32,slow=5.6
GZR **Gura Zlata** 77.63 323 ⇓P P 02 36 05.2 +0.5
GZR **Gura Zlata** 77.63 323 P P 02 36 05.2 +0.5
SURR **Surduc** 77.63 323 ⇑P P 02 36 05.7 +1.0
PLN **Plauen** 77.63 332 *eP* P 02 36 05.0 +0.4
comp=Z,6.6nm,1.0s,baz=32,slow=5.6
EKA **Eskdalemuir Ar** 77.64 342 P P 02 36 04.4 -0.1
comp=Z,19nm,0.6s,baz=23,slow=5.2,SNR=55
comp=Z,19nm,0.6s
MOX **Moxa** 77.68 332 *eP* P 02 36 05.2 +0.3
comp=Z,32nm,1.1s,baz=32,slow=5.6
NKC **Novy Kostel** 77.74 331 *eP* P 02 36 06.0 +0.7
NKC **Novy Kostel** 77.74 331 *eP* P 02 36 06.0 +0.7
ANMO **Albuquerque** 77.79 53 *i P* P 02 36 07.5 +1.5
ZVC **Zvikov** 77.79 330 *eP* P 02 36 06.3 +0.8
SCHQ **Schefferville** 77.82 19 P P 02 36 05.5 -0.1
comp=Z,8.0nm,0.5s,baz=343,slow=5.8,SNR=23
comp=Z,8.0nm,0.5s
BZS **Buzias** 77.95 323 ⇑P P 02 36 07.1 +0.6
BZS **Buzias** 77.95 323 P P 02 36 07.0 +0.6
VLAD **Vladila** 77.99 321 ⇓P P 02 36 07.8 +1.2
SRE **Strehaia** 78.01 322 ⇓P P 02 36 08.4 +1.5
SRE **Strehaia** 78.01 322 P P 02 36 08.3 +1.5
MANZ **Manzenberg** 78.07 331 *eP* P 02 36 07.5 +0.4
comp=Z,3.2nm,0.9s,baz=32,slow=5.6
UBBA **Unterbreizbach** 78.07 333 *eP* P 02 36 06.7 -0.1
comp=Z,10nm,0.8s,baz=32,slow=5.6
BORA **Eskisehir** 78.17 315 IAmb IAmb 02 36 11.1
comp=Z,62nm,1.6s
HERR **Herculane** 78.19 323 ⇑P P 02 36 08.3 +0.5
ROTZ **Rotzenmuhle** 78.22 331 *eP* P 02 36 08.7 +0.8
comp=Z,6.8nm,1.0s,baz=32,slow=5.6
KASTN **Kahler Asten** 78.25 334 *eP* P 02 36 08.6 +0.6
comp=Z,40nm,1.1s,baz=32,slow=5.6
CKRC **Cesky Krumlov** 78.27 330 *eP* P 02 36 08.6 +0.4
CKRC **Cesky Krumlov** 78.27 330 *eP* P 02 36 08.6 +0.4
KHC **Kasperske Hory** 78.27 330 *eP* P 02 36 09.0 +0.8
KHC *ep*P sP 02 36 41.5 -5.2
KHC **Kasperske Hory** 78.27 330 *ceP* P 02 36 08.8 +0.6
KHC pmax pmax
comp=Z,102nm,0.8s
DOK **Doka** 78.38 285 P P 02 36 09.6 +0.4
MPLH **Magyarpolny** 78.39 327 P P 02 36 09.8 +0.9
comp=Z,164nm,1.1s
BUG **Bochum--Univer** 78.40 335 *eP* P 02 36 09.1 +0.3
comp=Z,61nm,1.1s,baz=32,slow=5.6
CONA **Conrad Observa** 78.42 328 *i P* P 02 36 10.4 +1.2
comp=Z,38nm,1.0s,SNR=18
RONA **Rosalia, Austr** 78.44 328 *i P* P 02 36 10.6 +1.3
comp=Z,48nm,1.0s,SNR=18
GEC2 **GERESS Array S** 78.47 330 *eP* P 02 36 09.6 +0.3
comp=Z,20nm,1.0s,baz=32,slow=5.6
GERES **GERESS Array B** 78.47 330 P P 02 36 09.7 +0.3
comp=Z,14nm,0.9s,baz=35,slow=4.9,SNR=44
GERES LR LR 03 14 29.1
comp=Z,86nm,18.1s,baz=360,slow=38
comp=Z,14nm,0.9s
MDVR **Moldovita** 78.57 323 ⇓P P 02 36 10.1 +0.1
GRF **Grafenberg Arr** 78.62 332 *eP* P 02 36 11.0 +0.8
comp=Z,79nm,1.1s,baz=32,slow=5.6
GRFO **Grafenberg** 78.63 332 P P 02 36 10.8 +0.8
GRFO **Grafenberg** 78.63 332 P P 02 36 10.9 +0.8
GRFO pmax pmax
comp=Z,72nm,1.0s
121A **Cookes Peak, D** 78.72 56 P P 02 36 11.4 +0.2
baz=315
MORH **Mrgy, Hungar** 78.72 326 ⇓P P 02 36 10.8 +0.1
RBK **Rabkut** 79.07 284 P P 02 36 12.8 -0.3
TNS **Taunus Mts** 79.09 334 *eP* P 02 36 13.0 +0.3
comp=Z,46nm,1.3s,baz=32,slow=5.6
FRGS **Fruska Gora** 79.09 324 ⇓*i P* P 02 36 12.5 -0.3
MOA **Molln** 79.09 329 *i P* P 02 36 13.3 +0.6
comp=Z,12nm,0.7s,SNR=7.5
MOA *i* pP pP 02 36 37.3 -2.5
comp=Z,7.7nm,1.2s
ARSA **Arzberg** 79.11 328 *i P* P 02 36 13.6 +0.8
comp=Z,13nm,0.9s,SNR=6.2
ARSA *i* pP pP 02 36 38.2 -1.6
comp=Z,6.1nm,1.0s
ARSA **Arzberg** 79.11 328 IAmb IAmb 02 36 14.8
comp=Z,17nm,1.1s
BEBN **Eben Emael** 79.45 335 *dP* P 02 36 15.1 +0.5
comp=Z,55nm,0.0s
BIOA **Bad Ischl, Aus** 79.45 329 *i P* P 02 36 15.6 +0.9
comp=Z,36nm,0.8s,SNR=13
BOVS **Bovan** 79.48 322 ⇑P P 02 36 14.8 -0.1
BTNL **Ternell** 79.50 335 *dP* P 02 36 14.8 -0.1
comp=Z,20nm,1.0s
MEM **Membach** 79.51 335 *dP* P 02 36 14.9 0.0
comp=Z,29nm,0.9s
RDO **Rodhopi** 79.66 318 P P 02 36 16.4 +0.5
BSTI **Sart Tilman** 79.67 335 *dP* P 02 36 16.0 +0.3
comp=Z,8.9nm,0.7s
ISP **Isparta** 79.67 313 *ceP* P 02 36 17.3 +1.1
ISP pmax pmax
comp=Z,14nm,0.7s
RJOB **Jochberg** 79.72 330 *eP* P 02 36 17.1 +0.9
comp=Z,26nm,0.9s,baz=32,slow=5.6
BHOU **Houvegnez** 79.74 335 *dP* P 02 36 16.2 0.0
comp=Z,16nm,1.0s
SOKA **Soboth** 79.78 328 *i P* P 02 36 17.1 +0.6
comp=Z,48nm,1.1s,SNR=24
SOKA *i* pP pP 02 36 42.2 -1.3
comp=Z,5.0nm,0.9s
PERS **Pernice** 79.78 328 *eP* P 02 36 17.1 +0.6
ABTO **Aybut** 79.81 284 P P 02 36 16.9 -0.3
UCC **Uccle** 79.84 336 *dP* P 02 36 16.8 +0.2
BCLA **Clavier** 79.89 335 *dP* P 02 36 16.9 -0.1
comp=Z,18nm,1.0s
BCLA *d*pP pP 02 36 43.6 -0.7
BCLA *d*sP sP 02 36 53.5 -2.3
FUR **Furstenfeldbru** 79.91 331 *eP* P 02 36 18.1 +1.0
comp=Z,61nm,1.1s,baz=32,slow=5.6
BGES **Gesves** 79.99 336 *dP* P 02 36 17.2 -0.2
comp=Z,20nm,0.9s
LESA **Schwarzleotal** 80.03 330 *i P* P 02 36 18.6 +0.7
comp=Z,50nm,1.0s,SNR=18
KBA **Koelnbreinsper** 80.08 329 *i P* P 02 36 19.1 +0.8
comp=Z,54nm,0.8s,SNR=25
KBA *i* pP pP 02 36 43.7 -1.6
comp=Z,5.2nm,0.6s
STU **Stuttgart** 80.10 332 *eP* P 02 36 18.3 +0.2
STU **Stuttgart** 80.10 332 *eP* P 02 36 18.6 +0.5
comp=Z,125nm,1.1s,baz=32,slow=5.6
OBKA **Obir** 80.10 328 *i P* P 02 36 18.6 +0.3
comp=Z,17nm,0.7s,SNR=6.5
OBKA *i* pP pP 02 36 43.4 -1.9
comp=Z,7.9nm,1.0s
OBKA **Obir** 80.10 328 *eP* P 02 36 17.2 -1.1
RCHB **Rochefort** 80.15 335 *dP* P 02 36 18.5 +0.2
comp=Z,20nm,1.1s
BMRD **Maredsous** 80.16 336 *dP* P 02 36 18.5 +0.1
comp=Z,33nm,0.9s
MANT **Manisa** 80.19 315 IAmb IAmb 02 36 20.5
comp=Z,26nm,0.9s
CSS **Mathiatis** 80.26 310 P P 02 36 19.6 +0.3
comp=Z,39nm,0.9s
NVR **Nevrokopi** 80.30 320 P P 02 36 21.0 +1.6
WLF **Walferdange** 80.30 335 *dP* P 02 36 19.7 +0.5
comp=Z,13nm,0.9s
BBLS **Lazi&#263i** 80.30 324 ⇓*i P* P 02 36 19.9 +0.5
PDKS **Podkum** 80.30 328 *i P* P 02 36 19.3 0.0
HAPS **Han Pijesak,Bl** 80.32 324 ⇓*i P* P 02 36 19.9 +0.4
CRES **Cresnjevec Ost** 80.32 327 ⇓*i P* P 02 36 18.6 -0.8
MYKA **Terra Mystica** 80.34 329 *i P* P 02 36 19.7 +0.1
comp=Z,17nm,0.7s,SNR=5.4
DOU **Dourbes** 80.39 336 *dP* P 02 36 19.4 -0.3
comp=Z,12nm,1.0s
PEHC **Pehcevo** 80.41 320 ⇓*i P* P 02 36 21.3 +1.2
MMAI **Mount Meron Ar** 80.50 307 P P 02 36 21.1 +0.5
comp=Z,34nm,0.9s,baz=38,slow=4.6,SNR=48
comp=Z,34nm,0.9s
WATA **Walderalm** 80.50 330 *i P* P 02 36 21.1 +0.6
comp=Z,56nm,1.1s,SNR=9.8
BLY **Banja Luka** 80.51 326 *eP* P 02 36 19.1 -1.3
RUDO **Rudo** 80.52 324 *eP* P 02 36 19.7 -0.8
SJES **Sjenica** 80.54 323 *eP* P 02 36 19.4 -1.3
WTTA **Wattenberg** 80.54 330 *i P* P 02 36 21.6 +0.8
comp=Z,53nm,1.2s,SNR=12
CRNS **Crni Vrh** 80.57 328 *i P* P 02 36 20.1 -0.6
SRS **Serrai** 80.61 320 P P 02 36 21.2 +0.2
ABTA **Abfaltersbach** 80.66 329 *i P* P 02 36 20.9 -0.4
comp=Z,13nm,1.2s
BOJS **Bojanci** 80.66 327 *eP* P 02 36 20.3 -0.9

RETA **Reutte** 80.67 331 *i P* P 02 36 21.8 +0.5
comp=Z,30nm,1.0s,SNR=6.2
MOTA **Moosalm** 80.67 331 *i P* P 02 36 22.0 +0.6
comp=Z,67nm,1.0s
UBR **Ueberruh** 80.73 331 *eP* P 02 36 21.8 +0.2
comp=Z,354nm,3.6s,baz=32,slow=5.6
SQTA **Sankt Quirin** 80.73 330 *i P* P 02 36 22.4 +0.7
comp=Z,45nm,1.2s,SNR=12
PLE **Pljevlja** 80.74 323 ⇓*i P* P 02 36 22.7 +0.9
NWAO **Narrogin (SRO)** 80.75 204 P P 02 36 22.5 +1.0
BFO **Black Forest** 80.77 333 P P 02 36 21.9 +0.1
BFO IAmb IAmb 02 36 23.0
comp=Z,26nm,1.0s
BFO **Black Forest** 80.77 333 P P 02 36 21.9 +0.1
BFO pmax pmax
comp=Z,26nm,1.0s
BFO **Black Forest** 80.77 333 *eP* P 02 36 22.3 +0.6
comp=Z,31nm,1.1s,baz=32,slow=5.6
JAVS **Javornik** 80.80 328 *i P* P 02 36 21.4 -0.6
VLDQ **Val d'Or** 80.83 28 IAmb IAmb 02 36 27.4
comp=Z,12nm,0.8s
IVA **Berane** 80.89 323 ⇓*i P* P 02 36 23.1 +0.5
VAY **Valandovo** 80.92 320 ⇓*i P* P 02 36 23.6 +0.9
RAYN **Ar Rayn** 80.92 294 P P 02 36 23.5 +0.5
RAYN IAmb IAmb 02 36 24.5
comp=Z,36nm,1.1s
RAYN **Ar Rayn** 80.92 294 P P 02 36 23.6 +0.6
RAYN **Ar Rayn** 80.92 294 P P 02 36 23.5 +0.5
RAYN pmax pmax
comp=Z,36nm,1.1s
RAYN **Ar Rayn** 80.92 294 *i P* P 02 36 23.6 +0.6
SNR=20
A050A **Klekovaca** 81.00 326 ⇓*i P* P 02 36 22.3 -0.8
UPM **Unac-Piva** 81.05 324 *eP* P 02 36 23.4 -0.2
UPM **Unac-Piva** 81.05 324 ⇓*i P* P 02 36 23.4 -0.2
KOME **Kolasin** 81.07 323 ⇓*i P* P 02 36 23.9 +0.3
FETA **Feichten** 81.08 331 *i P* P 02 36 24.1 +0.5
comp=Z,25nm,1.1s,SNR=9.2
SKDS **Skadanscina** 81.11 328 *eP* P 02 36 23.3 -0.3
DAVA **Damuels** 81.14 331 *i P* P 02 36 24.3 +0.4
comp=Z,25nm,0.8s,SNR=7.3
SMWD **Samnorwood** 81.17 49 IAmb IAmb 02 36 55.1
comp=Z,16nm,1.0s
P38A **Dawn** 81.20 42 IAmb IAmb 02 36 52.9
comp=Z,10nm,0.8s
ECH **Echery** 81.25 333 IAmb IAmb 02 36 25.9
comp=Z,24nm,0.8s
PLG **Polygyros** 81.26 319 P P 02 36 24.7 +0.2
NKME **Niksic** 81.38 323 ⇓*i P* P 02 36 24.5 -0.6
BRY **Bratogost** 81.45 324 ⇓*i P* P 02 36 25.0 -0.6
BRY **Bratogost** 81.45 324 ⇓*i P* P 02 36 25.2 -0.4
PDG **Podgorica** 81.52 323 ⇓*i P* P 02 36 25.7 -0.1
PDG **Podgorica** 81.52 323 ⇓*i P* P 02 36 26.2 +0.4
PDG **Podgorica** 81.52 323 ⇓*i P* P 02 36 26.0 +0.2
PUK **Puka** 81.56 322 IAmb IAmb 02 36 29.2
comp=Z,33nm,1.2s
CTI **Castel Tesino** 81.57 330 IAmb IAmb 02 36 26.9
comp=Z,21nm,0.8s
CEME **Cevo** 81.58 323 ⇓*i P* P 02 36 26.1 -0.1
DAVOX **Davos/Dischmat** 81.58 331 LR LR 03 15 00.6
comp=Z,61nm,18.8s,baz=72,slow=37
FUORN **Ofenpass-Fuorn** 81.58 331 IAmb IAmb 02 36 28.2
comp=Z,36nm,1.1s
PHP **Peshkopia** 81.60 322 P P 02 36 26.2 -0.1
DRME **Dracevica, Mon** 81.75 323 *eP* P 02 36 24.3 -2.7
DRME **Dracevica, Mon** 81.75 323 ⇓*i P* P 02 36 27.5 +0.5
L44A **Lake County Fo** 81.77 37 P P 02 36 27.8 +0.7
baz=324
BUM **Brajici-Budva** 81.79 323 ⇓*i P* P 02 36 27.2 -0.1
STON **Ston** 81.83 324 ⇓*i P* P 02 36 26.1 -1.3
HCY **Herceg Novi** 81.84 323 *eP* P 02 36 26.4 -1.1
HCY **Herceg Novi** 81.84 323 ⇓*i P* P 02 36 27.1 -0.4
FNA **Florina** 81.90 321 IAmb IAmb 02 36 29.0
comp=Z,18nm,0.9s
FNA **Florina** 81.90 321 P P 02 36 27.8 -0.1
OHR **Ohrid** 81.90 321 ⇓*i P* P 02 36 28.6 +0.7
ULC **Ulcinj** 81.91 323 ⇓*i P* P 02 36 27.8 -0.1
P40A **Paris** 81.99 41 IAmb IAmb 02 36 57.9
comp=Z,16nm,1.0s
TUE **Stuetta** 82.03 331 IAmb IAmb 02 36 32.1
comp=Z,17nm,0.8s
TUE **Stuetta** 82.03 331 P P 02 36 29.1 +0.4
comp=Z,122nm,0.8s
TIR **Tirane** 82.13 322 P P 02 36 29.4 +0.4
comp=Z,74nm,1.0s
KBN **Korca** 82.29 321 P P 02 36 30.2 +0.2
NEST **Nestorio** 82.34 321 P P 02 36 30.5 +0.2
TYRN **Tyrnavos** 82.35 319 P P 02 36 29.3 -0.9
PENT **Pentalofos** 82.48 320 P P 02 36 32.9 +1.9
LSK **Leskovik** 82.76 321 P P 02 36 33.2 +0.8
LDF **La Druitiere** 83.09 338 *eP* P 02 36 34.1 +0.3
LDF pmax pmax
comp=Z,11nm,0.7s
EIL **Elat** 83.20 305 LR LR 03 20 14.2
comp=Z,27nm,18.0s,baz=64,slow=40
IGT **Igoumenitsa** 83.38 321 P P 02 36 35.2 -0.3
ANX **Ano Chora** 83.39 319 P P 02 36 35.4 -0.3
SSF **Saint Saulge** 83.42 335 P P 02 36 36.1 +0.5
SSF pmax pmax
comp=Z,17nm,0.8s
KALE **Kalithea** 83.44 319 P P 02 36 35.0 -0.9
GUMA **Gualdo di Mace** 83.46 327 IAmb IAmb 02 36 37.5
comp=Z,23nm,1.0s
TXAR **Lajitas Array** 83.47 55 P P 02 36 36.3 0.0
comp=Z,1.8nm,0.5s,baz=293,slow=3.5,SNR=21
TXAR pP pP 02 37 05.0 +1.1
comp=Z,4.1nm,0.6s,baz=281,slow=3.5,SNR=7.3
comp=Z,1.8nm,0.5s
CCM **Cathedral Cave** 83.54 42 P P 02 36 36.6 +0.3
CCM IAmb IAmb 02 37 06.3
comp=Z,13nm,0.9s
CCM **Cathedral Cave** 83.54 42 P P 02 36 36.7 +0.3
CCM pmax pmax
comp=Z,13nm,1.0s
SMF **Signal de Mont** 83.69 335 *eP* P 02 36 36.7 -0.3
SMF pmax pmax
comp=Z,57nm,1.0s
GUR **Goura** 83.71 318 P P 02 36 36.2 -1.2
NYDR **Nydri-Lefkada** 83.87 320 P P 02 36 37.3 -0.7
CAMP **Campotosto** 83.88 327 IAmb IAmb 02 36 39.5
comp=Z,25nm,1.0s
OSSC **Osservatorio P** 83.88 328 IAmb IAmb 02 36 38.8
comp=Z,37nm,1.2s
EVGI **Lefkada island** 83.96 320 P P 02 36 39.2 +0.7
RLS **Riolos of Patr** 84.03 319 P P 02 36 38.7 -0.1
MATE **Matera** 84.08 323 *eP* P 02 36 39.2 +0.2
INTR **Introdacqua** 84.12 326 IAmb IAmb 02 36 46.3
comp=Z,14nm,1.0s
FSK **Fiskardo** 84.13 320 P P 02 36 38.9 -0.5
CESX **Cesi** 84.14 327 IAmb IAmb 02 36 40.1
comp=Z,23nm,1.3s
BNI **Bardonecchia** 84.19 332 IAmb IAmb 02 36 42.2
comp=Z,14nm,0.9s
VLS **Valsamata** 84.35 320 P P 02 36 40.2 -0.3
DMLN **Damoulianata-K** 84.40 320 P P 02 36 40.5 -0.2
T42A **Van Buren** 84.43 42 IAmb IAmb 02 37 10.9
comp=Z,21nm,1.5s
ITM **Ithomi** 84.51 318 P P 02 36 40.7 -0.6
O48B **Farmland** 84.54 37 P P 02 36 42.4 +1.0
baz=326
BRDY **Brady** 84.72 51 IAmb IAmb 02 37 12.8
comp=Z,28nm,1.6s
S44A **Carbondale** 84.78 41 IAmb IAmb 02 37 12.9
comp=Z,23nm,0.9s
MFF **Saint Martin d** 84.91 337 *eP* P 02 36 43.4 +0.3
MFF pmax pmax
comp=Z,43nm,0.9s
PPT **Papeete** 85.06 120 LR LR 03 05 11.3
comp=Z,35nm,21.6s,baz=300,slow=29
DRIO **Del Rio** 85.19 53 IAmb IAmb 02 37 15.0
comp=Z,40nm,1.5s
WHAR **Wooly Hollow** 85.21 44 IAmb IAmb 02 37 14.8
comp=Z,24nm,1.1s
TIP **Timpagrande** 85.27 323 P P 02 36 45.5 +0.3
comp=Z,24nm,1.2s
CAF **Calviac** 85.79 335 *eP* P 02 36 48.3 +0.7
CAF pmax pmax
comp=Z,45nm,1.0s
435B **Jarrell** 85.89 50 P P 02 36 49.7 +1.4
baz=320
LFF **La Frestale** 86.17 336 *eP* P 02 36 49.9 +0.5
LFF pmax pmax
comp=Z,32nm,0.8s
T47A **Sharon Grove** 86.35 40 IAmb IAmb 02 37 21.0
comp=Z,16nm,1.0s

CEL	Celeste	86.41	323	IAmb	IAmb	02 36 52.2		
	comp=Z,18nm,1.1s							
U49A	Red Boiling Sp	87.35	39	IAmb	IAmb	02 37 25.8		
	comp=Z,22nm,1.1s							
T50A	Nancy	87.35	38	IAmb	IAmb	02 37 25.2		
	comp=Z,18nm,1.1s							
L61B	Northampton	87.42	27	P	P	02 36 56.5	+1.0	
	baz=334							
CPCT	Cooper Cave	88.80	39	IAmb	IAmb	02 37 32.0		
	comp=Z,10nm,1.0s							
TKL	Tuckaleechee C	88.96	38	LR	LR	03 18 57.0		
	comp=Z,36nm,19.7s,baz=326,slow=37							
KEST	Kesra	91.32	326	P	P	02 37 13.5	-0.5	
	comp=Z,8.5nm,0.8s,baz=278,slow=6.2,SNR=8.7							
	comp=Z,8.5nm,0.8s							
ESDC	Sonseca Array	92.38	337	P	P	02 37 18.3	-0.6	
	comp=Z,5.9nm,0.7s,baz=13,slow=4.0,SNR=61							
ESDC				LR	LR	03 23 55.1		
	comp=Z,43nm,18.2s,baz=336,slow=39							
	comp=Z,5.9nm,0.7s							
PAB	San Pablo	92.61	337	P	P	02 37 19.9	0.0	
MDT	Midelt	98.94	335	P	P	02 37 48.6	-0.2	
	comp=Z,0.6nm,0.7s,baz=89,slow=12,SNR=2.0							
	comp=Z,0.6nm,0.7s							
TORD	Torodi Ar. Bea	114.38	321	PKP	PKiKP	02 42 46.7	-1.2	
	comp=Z,0.7nm,0.4s,baz=14,slow=2.1,SNR=17							
TORD				PP	PP	02 43 38.3	-6.1	
	comp=Z,5.3nm,0.8s,baz=9.5,slow=11,SNR=15							
LSZ	Lusaka	120.15	278	P	PKiKP	02 42 59.6	+0.5	
OTAV	Otavalo	121.09	54	*e*P	PKPdf	02 43 00.2	-1.2	
DBIC	Dimbokro	123.02	324	PKP	PKPdf	02 43 03.5	-1.1	
	comp=Z,3.4nm,0.6s,baz=34,slow=1.0,SNR=5.8							
DBIC				PP	PP	02 44 37.4	-6.6	
	comp=Z,5.0nm,0.7s,baz=22,slow=5.7,SNR=6.2							
QSPA	South Pole Qui	133.65	180	PKP	PKPdf	02 43 23.7	+0.6	
	comp=Z,5.8nm,0.6s,baz=262,slow=0.8,SNR=13							
LPAZ	La Paz	140.33	57	PKP	PKPdf	02 43 38.5	+0.7	
	comp=Z,1.4nm,0.7s,baz=30,slow=5.2,SNR=5.6							
VILB	Vilhena	142.01	44	*e*P	PKPdf	02 43 39.3	-0.8	
CLDB	Colider	142.22	36	*e*P	PKPdf	02 43 40.0	-0.4	
H03N2	Juan Fernandez	144.07	88	T	T	05 23 36.1		
	baz=305,slow=77,SNR=4.9							
H03N3	Juan Fernandez	144.08	89	T	T	05 23 32.4		
	baz=305,slow=77,SNR=11							
H03N1	Juan Fernandez	144.08	88	T	T	05 23 36.9		
	baz=305,slow=77,SNR=8.7							
PTLB	Pontes e Lacer	144.67	44	*e*P	PKPab	02 43 43.3	-0.2	
NVL	N'lazarevskaya	144.87	205	*e*PKiKP	PKPdf	02 43 43.5	+0.2	
NVL				pmax	pmax			
	comp=Z,18nm,0.7s							
SNDB	Serra Nova Dou	144.99	30	*e*P	PKPab	02 43 44.9	0.0	
TROLL	Troll, Antarti	146.78	200	PKPbc	PKPbc	02 43 49.4	+0.7	
TROLL	Troll, Antarti	146.78	200	⇓PKPbc	PKPbc	02 43 49.4	+0.7	
	comp=Z,1μm,0.6s							
NBLA	Lagarto - SE	147.06	6	*e*P	PKPdf	02 43 49.4	+0.6	
ARAG	Araguaiana, MT	148.21	33	*e*P	PKPdf	02 43 49.7	-1.0	
SNAA	Sanae	148.27	198	PKiKP	PKPbc	02 43 52.8	+0.1	
SNAA	Sanae	148.27	198	⇓PKiKP	PKPbc	02 43 52.8	+0.1	
	comp=Z,310nm,1.0s							
SNAA	Sanae	148.27	198	PKPbc	PKPbc	02 43 51.3	-1.4	
	comp=Z,12nm,0.8s,baz=226,slow=4.0,SNR=22							
PANT	Pantanal (Braz	148.93	44	*e*P	PKPdf	02 43 50.9	-0.8	
BDFB	Brasilia	149.52	27	PKPbc	PKPbc	02 43 57.6	+0.1	
	comp=Z,8.9nm,0.6s,baz=286,slow=1.6,SNR=20							
VNA2	Neumayer--Watz	149.83	197	PKiKP	PKiKP	02 43 57.0	-0.4	
	baz=140,slow=1.9							
VNA2	Neumayer--Watz	149.83	197	⇓PKiKP	PKiKP	02 43 57.0	-0.4	
	baz=140,slow=1.9							
JANB	Januaria	150.01	19	*e*P	PKPdf	02 43 53.9	+0.3	
VNA3	Neumayer Olymp	150.04	196	PKiKP	PKPbc	02 43 57.2	+0.1	
VNA3	Neumayer Olymp	150.04	196	⇓PKiKP	PKPbc	02 43 57.2	+0.1	
	comp=Z,20nm,0.7s							
VNA1	Neumayer--Stat	150.22	197	PKiKP	PKiKP	02 43 58.5	+0.3	
VNA1	Neumayer--Stat	150.22	197	⇓PKiKP	PKiKP	02 43 58.5	+0.3	
	comp=Z,26nm,1.0s							
CMC01	Camacan, BA	151.20	10	*e*P	PKPdf	02 43 54.8	-0.6	
PLCA	Paso Flores	153.20	96	PKPbc	PKiKP	02 44 05.8	+0.4	
	comp=Z,3.3nm,0.7s,baz=233,slow=1.5,SNR=9.0							

ISC 09 02:30:31.4±1.1, 27°41N±0°.06×111°38W±0°.04, h10km, n8, σ0°94/13, 1C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.77	264	*e*P	Pn	02 30 49.0	+0.7
SRIG				*e*S	Sn	02 31 00.5	+0.6
SRIG				⇑*e*		02 31 01.6	
SRIG				IAML		02 31 01.6	
	comp=E,719nm,0.5s						
SRIG				⇓*e*		02 31 02.2	
SRIG				IAML		02 31 02.2	
	comp=N,914nm,0.4s						
CDOB	Cd. Obregon	1.11	89	*e*P	Pb	02 30 51.9	-0.8
CDOB				*e*S	Sn	02 31 09.3	+1.0
BKIRB	Bahia Kino	1.54	339	*e*P	Pb	02 30 59.5	-0.5
BKIRB				*e*S	Sg	02 31 20.0	-1.0
SFQB	San Francisqui	1.64	307	*e*P	Pb	02 31 01.0	-0.7
HSIG		1.65	13	*e*P	Pb	02 31 01.6	-0.2
HSIG				*e*S	Sg	02 31 24.1	-0.3
HSIG				⇓*e*		02 31 27.5	
HSIG				IAML		02 31 27.5	
	comp=E,198nm,0.5s						
HSIG				IAML		02 31 28.4	
	comp=N,101nm,0.6s						
NE80	Navojoa	1.98	104	*e*P	Pb	02 31 06.6	-0.9
NE80				⇓*e*		02 31 45.1	
NE80				IAML		02 31 45.1	
	comp=E,148nm,0.5s						
NOVRB	El Novillo Son	2.16	45	*e*P	Pg	02 31 12.1	-0.8
NOVRB				*e*S	Sb	02 31 39.2	+1.7
BAHB	Baha de los	2.46	309	*e*S	Sn	02 31 42.0	+0.4

*IDC **09** 02:35:14.9±2.7, 17°.90S×178°.07W, h588km±21km, mb2.9/6, mbtmp3.8/7, Error ellipse: s-maj=94.5km s-min=18.9km az=151.0*

ISC 09 02:35:16.7±1.7, 17°.4S±0°.6×178°.4W±0°.3, h600km, n11, σ0°61/12, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.39	264	P	P	02 36 38.0	-0.2
	3.0nm,0.3s,baz=122,slow=14,SNR=4.6						
WRA	Warramunga Arr	44.72	259	P	P	02 42 38.7	+0.5
	0.5nm,0.3s,baz=95,slow=7.1,SNR=16						
	0.5nm,0.3s						
ASAR	Alice Springs	44.93	254	P	P	02 42 40.0	+0.3
	2.7nm,0.6s,baz=86,slow=8.9,SNR=31						
ASAR				PcP	PcP	02 44 08.0	0.0
	0.3nm,0.4s,baz=108,slow=3.7,SNR=5.0						
	2.7nm,0.6s						
NVAR	Mina Array Bea	79.06	44	P	P	02 46 19.4	-0.9
	0.4nm,0.6s,baz=255,slow=5.2,SNR=2.8						
	0.4nm,0.6s						
ILAR	Eielson Array	85.40	13	P	P	02 46 52.0	+0.7
	0.2nm,0.4s,baz=222,slow=5.5,SNR=9.5						
	0.2nm,0.4s						
TXAR	Lajitas Array	85.73	58	P	P	02 46 54.5	+0.6
	1.0nm,0.9s,baz=261,slow=4.7,SNR=2.0						
	1.0nm,0.9s						
PDAR	Pinedale Array	86.99	43	P	P	02 46 59.8	+0.1
	0.3nm,0.7s,baz=149,slow=3.1,SNR=3.5						
	0.3nm,0.7s						
ARCES	ARCESS Array B	125.82	350	PKP	PKiKP	02 53 10.9	-0.1
	1.7nm,0.9s,baz=26,slow=3.4,SNR=3.9						
BRTR	Keskin Array B	144.43	315	PKPbc	PKPab	02 53 46.5	-0.2
	0.6nm,0.7s,baz=98,slow=2.6,SNR=5.5						
MMAI	Mount Meron Ar	145.87	304	PKPbc	PKPbc	02 53 50.4	-0.1
	1.0nm,0.5s,baz=57,slow=5.3,SNR=6.6						
GERES	GERESS Array B	147.13	345	PKPbc	PKiKP	02 53 54.0	-1.1
	0.8nm,0.4s,baz=38,slow=5.0,SNR=4.4						

*IDC **09** 02:37:40.0±0.8, 52°.99S×71°.20W, h0km, mb4.5/6, mbtmp4.4/8, ML3.4/2, MS3.4/6, Error ellipse: s-maj=30.0km s-min=13.7km az=71.0*

*GUC **09** 02:37:41.4±0.7, 53°.09S×71°.49W, h25km±3km, ML4.1*

*NEIC **09** 02:37:42.0±2.3, 52°.90S±0°.05×71°.22W±0°.06, h10km±1km, mb4.4/10, Error ellipse: s-maj=9.8km s-min=2.8km az=217.0*

ISC 09 02:37:42.2±1.0, 52°98S±0°.04×71°31W±0°.05, h15km±6km, n52, σ0°83/60, mb4.5/9, MS3.5/5, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG04	Isla Riesco	0.20	307		Pg	02 37 46.7	-0.1
MG04				Sg	Sb	02 37 51.4	+0.3
MG04	Isla Riesco	0.20	307	*i*P	Pg	02 37 46.8	-0.1
MG04				*e*S	Sb	02 37 51.4	+0.3
MG04				IAML		02 37 53.2	
	comp=N,100μm,0.6s						
GO10	Punta Arenas	0.23	139	Pg	Pg	02 37 47.5	0.0
GO10				Sg	Sb	02 37 52.9	+0.7
GO10	Punta Arenas	0.23	139	⇓*i*P	Pg	02 37 47.5	0.0
GO10				*e*S	Sb	02 37 52.5	+0.3
MG03	Isla Dawson	1.01	150	Pg	Pb	02 38 01.0	-0.4
MG03				Sg	Sg	02 38 15.4	+0.5
MG03	Isla Dawson	1.01	150	⇑*i*P	Pb	02 38 01.0	-0.4
MG03				*e*S	Sn	02 38 15.8	+0.1
MG03				IAML		02 38 16.9	
	comp=E,13μm,0.6s						
MG02	Cerro Sombrero	1.28	82	Pn	Pn	02 38 04.9	-0.6
MG02	Cerro Sombrero	1.28	82	*e*P	Pn	02 38 04.8	-0.7
MG02				*e*S	Sg	02 38 22.7	-0.7
MG02				IAML		02 38 38.4	
	comp=E,9μm,0.8s						
MG05	Puerto Natales	1.50	330		Pn	02 38 07.4	-1.1
MG05	Puerto Natales	1.50	330	*i*P	Pn	02 38 07.4	-1.1
MG05				*e*S	Sn	02 38 26.3	-1.3
MG05				IAML		02 38 40.8	
	comp=E,3μm,0.5s						
GO09	Cerro Castillo	1.83	339	*e*P	Pn	02 38 11.9	-1.1
GO09				IAML		02 38 44.3	
	comp=N,1μm,0.6s						
USHA	Ushuaia	2.52	139	Pn	Pn	02 38 20.4	-2.2
	comp=N,16nm,0.3s,baz=333,slow=11,SNR=272						
USHA				Sn	Sn	02 38 51.6	-1.2
	comp=N,100nm,0.3s,baz=345,slow=21,SNR=10						
USHA				LR	LR	02 38 58.0	
	comp=N,198nm,18.8s,baz=298,slow=32						
USHA				Lg	Lg	02 39 00.4	
	comp=N,291nm,0.3s,baz=302,slow=15,SNR=15						
	comp=N,184nm,0.7s						
USHA	Ushuaia	2.52	139	*e*P	Pn	02 38 22.0	-0.5
USHA				*e*S	Sn	02 38 52.5	-0.3
USHA				IAML		02 39 03.0	
	comp=N,840nm,0.6s						
MG01	Puerto William	2.92	133		Pn	02 38 27.1	-0.9
MG01	Puerto William	2.92	133	*e*P	Pn	02 38 27.2	-0.9
EFI	East Falkland	8.22	86	Pn	Pn	02 39 39.5	-1.3
PLCA	Paso Flores	12.26	3	Pn	Pn	02 40 37.8	+1.5
	baz=181,slow=12,SNR=3.4						
	comp=N,1.8nm,0.9s						
BO01	Tunca	18.58	1	P	Pn	02 41 60.0	+1.2
LMEL	Las Melosas	19.14	3	P	Pn	02 42 06.8	+1.0
MT09	Talagante	19.20	1	P	Pn	02 42 06.6	+0.2
MT09				IAmb	IAmb	02 42 08.1	
	comp=Z,16nm,0.7s						
MT13	San Alfonso	19.24	3	P	Pn	02 42 07.8	+0.9
MT13				IAmb	IAmb	02 42 14.4	
	comp=Z,16nm,0.9s						
CO03	El Pedregal	22.13	1	P	P	02 42 38.3	+1.1
CO03				IAmb	IAmb	02 42 39.1	
	comp=Z,24nm,1.2s						
CO01	Juntas del Tor	23.00	3	P	P	02 42 48.6	+2.0
CO01				IAmb	IAmb	02 42 55.4	
	comp=Z,12nm,1.0s						
AC04	Llanos de Chal	24.75	0	P	P	02 43 04.2	+1.2
AC04				IAmb	IAmb	02 43 10.6	
	comp=Z,22nm,0.9s						
CPUP	Villa Florida	28.60	27	P	P	02 43 37.3	-0.4
	comp=Z,4.2nm,0.7s,baz=200,slow=9.5,SNR=14						
CPUP				LR	LR	02 55 32.6	
	comp=Z,38nm,18.3s,baz=210,slow=38						
	comp=Z,4.2nm,0.7s						
AQDB	Aquidauana	34.61	26	P	P	02 44 29.4	-1.1
LPAZ	La Paz	36.70	5	P	P	02 44 50.4	+1.3
	comp=Z,4.2nm,0.7s,baz=187,slow=5.8,SNR=11						
LPAZ				LR	LR	03 00 46.2	
	comp=Z,90nm,19.6s,baz=130,slow=38						
	comp=Z,4.2nm,0.7s						
QSPA	South Pole Qui	37.26	180	P	P	02 44 54.1	+1.0
QSPA	South Pole Qui	37.26	180	P	P	02 44 53.6	+0.5
	comp=Z,10nm,0.7s,baz=150,slow=2.8,SNR=17						
	comp=Z,10nm,0.7s						
SIV	San Ignacio	37.78	16	LR	LR	03 00 23.4	
	comp=Z,64nm,18.9s,baz=106,slow=36						
RPN	Rapa Nui	38.21	297	LR	LR	02 57 51.2	
	comp=Z,49nm,19.4s,baz=66,slow=32						
BDFB	Brasilia	41.54	35	P	P	02 45 29.1	0.0
	comp=Z,4.4nm,0.9s,baz=193,slow=2.6,SNR=3.2						
BDFB				LR	LR	03 03 39.1	
	comp=Z,117nm,19.2s,baz=156,slow=38						
	comp=Z,4.4nm,0.9s						
MTO3	Montecristo	68.88	341	P	P	02 48 46.2	-0.2
DBIC	Dimbokro	81.48	67	P	P	02 49 58.2	-0.6
	comp=Z,4.1nm,0.8s,baz=188,slow=6.6,SNR=7.0						
	comp=Z,4.1nm,0.8s						
TORD	Torodi Ar. Bea	90.45	69	P	P	02 50 43.2	+0.1
	comp=Z,2.2nm,0.9s,baz=252,slow=3.0,SNR=13						
	comp=Z,2.2nm,0.9s						
YKA	Yellowknife Ar	120.07	338	PKP	PKPdf	02 56 30.2	-0.6
	comp=Z,0.2nm,0.7s,baz=149,slow=2.4,SNR=5.7						
GERES	GERESS Array B	124.28	53	PKP	PKPdf	02 56 39.0	-0.5
	comp=Z,0.7nm,0.6s,baz=159,slow=4.0,SNR=3.7						
L29M	L29M	126.95	328		PKiKP	02 56 45.2	+0.6
BRTR	Keskin Array B	128.85	73	PKP	PKPdf	02 56 48.4	-0.2
	comp=Z,0.5nm,0.7s,baz=213,slow=5.9,SNR=3.0						
ILAR	Eielson Array	130.93	327	PKP	PKiKP	02 56 52.1	-0.3
	comp=Z,1.6nm,1.0s,baz=180,slow=2.2,SNR=11						
HFS	Hagfors	131.54	42	PKP	PKPdf	02 56 52.7	-0.1
	comp=Z,3.6nm,1.0s,baz=219,slow=12,SNR=4.0						
AKASG	Malin Array Be	133.23	59	PKP	PKPdf	02 56 55.6	-0.6
	comp=Z,0.6nm,0.5s,baz=259,slow=2.3,SNR=6.2						
FINES	FINESS Array B	137.38	45	PKP	PKiKP	02 57 05.7	+0.1
	comp=Z,4.1nm,0.9s,baz=240,slow=2.7,SNR=2.6						
NIL	Nilore	148.24	113		PKPbc	02 57 27.7	+0.5
AKTO	Aktyubinsk	149.02	74	PKPbc	PKPbc	02 57 28.4	-0.2
	comp=Z,2.0nm,0.8s,baz=180,slow=3.0,SNR=7.3						
GAR	Garm	150.29	103		PKPbc	02 57 32.3	+0.1
ARTI	Arti	151.25	63		PKPbc	02 57 33.3	-0.4
ARTI	Arti	151.25	63	PKPbc	PKPbc	02 57 32.8	-1.0
	comp=Z,6.0nm,0.9s,baz=238,slow=2.0,SNR=10						
PZH	PanZhiHua	153.05	166	PKPbc	PKPdf	02 57 32.2	+0.6
KURBB	Kurchatov Arra	161.26	85	PKP	PKPdf	02 57 40.5	-0.5
	comp=Z,0.6nm,0.7s,baz=270,slow=1.0,SNR=4.4						
MKAR	Makanchi Array	161.96	99	PKP	PKPdf	02 57 41.8	-0.1
	comp=Z,0.7nm,0.9s,baz=242,slow=3.1,SNR=4.6						
SONM	Songino Array	174.64	163	PKPab	PKPab	02 59 24.1	-0.2
	comp=Z,0.2nm,0.3s,baz=213,slow=5.0,SNR=2.5						

TXNET 09 02:44:47.2, 31°.6N±0°.6×104°.3W±0°.8, h5km±2km, ML1.6/7, Error ellipse: s-maj=1.2km s-min=0.9km az=64.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	32	P	Pg	02 44 53.9	-0.2
TPB11				S	Sg	02 44 58.1	-0.5
PECS	Pecos	0.42	129	P	Pg	02 44 55.6	+0.2
PECS				S	Sg	02 45 01.0	0.0
TPB12	Southwest of T	0.49	149	S	Sg	02 45 03.8	+0.7
TPB07	Mentone	0.50	97	P	Pg	02 44 57.0	+0.1
TPB07				S	Sg	02 45 03.7	+0.2
TPB10	Southeast of T	0.55	130	S	Sg	02 45 05.6	+0.5
GDL2	Guadalupe Moun	0.57	350	P	Pg	02 44 58.2	0.0
CLNB	Carlsbad	0.70	27	P	Pg	02 45 00.9	+0.2
CLNB				S	Sg	02 45 10.4	+0.6
TPB01	Permian Basin	0.80	150	P	Pg	02 45 02.6	-0.1
TPB01				S	Sg	02 45 12.7	-0.3
CLN7	Carlsbad 7	0.86	26	P	Pg	02 45 03.8	0.0
MNTX	Cornudas Mount	0.96	274	S	Sg	02 45 18.9	+0.6
HTMS	Hat Mesa	0.98	32	P	Pg	02 45 05.5	-0.6
VHRN	Van Horn	1.06	217	P	Pg	02 45 07.3	-0.2
VHRN				S	Sb	02 45 22.1	-0.3
MNHN	Monahans	1.31	103	P	Pn	02 45 10.7	-1.6
MNHN				S	Sg	02 45 28.4	-0.8
ALPN	Alpine	1.37	157	P	Pn	02 45 12.0	-1.2
ALPN				S	Sg	02 45 29.5	-1.7
CPRX	Cap Rock	1.43	13	P	Pn	02 45 13.5	-0.4
ODSA	Odessa	1.53	71	P	Pn	02 45 14.6	-0.7
ODSA				S	Sn	02 45 34.4	-1.2
TMB04	Seminole	1.79	56	P	Pn	02 45 19.2	+0.2
TMB04				S	Sb	02 45 43.3	-0.1
TMB02	Rankin	1.94	103	P	Pn	02 45 21.7	+0.7
TMB02				S	Sn	02 45 46.4	+0.6
TX31	Lajitas Ar. Si	2.35	167	P	Pb	02 45 29.4	-0.8
TX31				S	Sb	02 46 00.9	+1.2
SAND	Sanderson	2.48	132	P	Pb	02 45 31.5	-0.9

*NOU **09** 02:49:27.2, 37°.47S×176°.68E, h259km, MLv4.1/15, North Island, New Zealand*

*IDC **09** 02:49:30.2±1.1, 37°.42S×176°.35E, h208km±8km, mb3.7/3, mbtmp4.2/4, Error ellipse: s-maj=33.5km s-min=20.1km az=44.0*

*WEL **09** 02:49:32.4±0.9, 37°S±7°×17°7E±°, h205km±7km, M3.3/19, MLv3.3/19, Error ellipse: s-maj=9.0km s-min=5.6km az=8.6, confirmed*

ISC 09 02:49:30.9±0.8, 37°60S±0°.06×176°49E±0°.05, h226km±5km, n56, σ1°38/72, mb3.9/5, 2C, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.22	235	P	Pn	02 50 00.0	-0.3
OPRZ	Ohinepanea	0.25	168	P	Pn	02 49 59.8	-0.5
OPRZ				S	S	02 50 22.0	-1.5
MYRZ	Mayor Island	0.38	328	P	Pn	02 49 60.0	-0.8
MARZ	Manawahe	0.41	159	P	Pn	02 50 00.8	0.0
MARZ				S	S	02 50 24.5	+0.2
KMRZ	Kaimai	0.50	241	P	Pn	02 50 01.2	+0.2
OMRZ	Omania	0.51	190	P	Pn	02 50 01.2	+0.2
MKRZ	Makatiti	0.54	182	P	Pn	02 50 02.1	+0.9
NGRZ	Ngongotaha	0.55	206	P	Pn	02 50 01.9	+0.6
UTU	Utuhina	0.62	202	P	Pn	02 50 02.1	+0.7
TARZ	Mount Tarawera	0.63	179	P	Pn	02 50 02.3	+0.8
HLRZ	Highlands Stat	0.66	189	P	Pn	02 50 02.5	+0.9
RRRZ	Republican Roa	0.74	178	P	Pn	02 50 02.5	+0.5
TOZ	Tahuroa Road	0.80	260	P	Pn	02 50 02.1	0.0
URZ	Urewera	0.82	143	P	Pn	02 50 01.5	-0.7
	107nm,0.3s,baz=351,slow=4.8,SNR=322						
URZ				S	S	02 50 25.2	-1.7
	107nm,0.4s,baz=350,slow=14,SNR=4.2						
URZ	Urewera	0.82	143	P	Pn	02 50 01.7	-0.6
URZ	Urewera	0.82	143	P	Pn	02 50 01.7	-0.6
URZ				S	S	02 50 25.2	-1.7
MUGZ	Murupara	0.90	166	P	Pn	02 50 03.0	+0.2
ALRZ	Allen Road	0.97	187	P	Pn	02 50 03.9	+0.8
RUGZ	Raukumara Rang	1.01	111	P	Pn	02 50 02.0	-1.5
RUGZ				S	S	02 50 26.0	-3.0
HAZ	Te Kaha	1.04	99	P	Pn	02 50 02.4	-1.2
HAZ				S	S	02 50 26.3	-2.7
TLZ	Tolley Road	1.05	226	P	Pn	02 50 04.5	+0.8
RTZ	Ruatahuna	1.08	159	P	Pn	02 50 04.2	+0.3
RTZ				S	S	02 50 29.5	-0.4
MWZ	Matawai	1.10	132	P	Pn	02 50 04.4	+0.4
MWZ				S	S	02 50 29.6	-0.2
RAGZ	Rawiri	1.15	141	P	Pn	02 50 04.9	+0.5
RAGZ				S	S	02 50 30.1	-0.5
MKAZ	Moumakai	1.17	295	P	Pn	02 50 04.0	-0.5
MKAZ				S	S	02 50 29.8	-0.7
PKGZ	Pakihiroa	1.29	102	P	Pn	02 50 05.1	-0.2
PKGZ				S	S	02 50 30.2	-1.9
TWGZ	Tauwhareparae	1.31	116	P	Pn	02 50 06.0	+0.5
MXZ	Matakaoa Point	1.44	89	P	Pn	02 50 05.6	-0.8
MXZ	Matakaoa Point	1.44	89	P	Pn	02 50 05.6	-0.8
MXZ				S	S	02 50 32.6	-1.5
PUZ	Puketiti	1.48	109	P	Pn	02 50 06.3	-0.4
PUZ				S	S	02 50 32.2	-2.4
BKZ	Black Stump Fm	1.56	180	P	Pn	02 50 07.8	+0.3
BKZ	Black Stump Fm	1.56	180	P	Pn	02 50 08.0	+0.5
BKZ				S	S	02 50 35.6	-0.5
HIZ	Hauiti	1.58	234	P	Pn	02 50 08.7	+1.2
HIZ	Hauiti	1.58	234	P	Pn	02 50 08.6	+1.1
HIZ				S	S	02 50 37.1	+1.0
GRZ	Great Barrier	1.58	328	P	Pn	02 50 05.9	-1.7
KHEZ	Kahui Hut	2.58	228	P	Pn	02 50 19.1	+1.8
BFZ	Birch Farm	3.08	183	P	Pn	02 50 22.9	+0.1
OUZ	Omahuta	3.33	315	P	Pn	02 50 24.2	-1.5
SNZO	South Karori	3.95	200	P	Pn	02 50 32.3	-0.7
QRZ	Quartz Range	4.45	222	P	Pn	02 50 38.2	-0.9
KHZ	Kahutara	5.32	204	P	Pn	02 50 48.9	-0.9
RPZ	Rata Peaks	7.37	212	P	Pn	02 51 14.7	-1.3
	7.6nm,0.4s,baz=27,slow=4.5,SNR=12						
RPZ				S	S	02 52 33.8	-6.2
	26nm,0.3s,baz=45,slow=1.4,SNR=35						
RPZ	Rata Peaks	7.37	212	P	Pn	02 51 15.1	-0.9
CTZ	Chatham Island	8.06	142	S	S	02 52 53.6	-2.4
ODZ	Otahua Downs	8.64	209	P	Pn	02 51 31.3	-0.9
JCZ	Jackson Bay	8.71	220	P	Pn	02 51 31.4	-1.8
ASAR	Alice Springs	38.86	279	P	P	02 56 34.4	-0.2
	2.1nm,0.6s,baz=122,slow=8.2,SNR=30						
	2.1nm,0.6s						
WRA	Warramunga Arr	40.54	284	P	P	02 56 48.0	-0.3
	1.8nm,0.5s,baz=122,slow=7.8,SNR=22						
	1.8nm,0.5s						
QSPA

POLO				*i* AML	AML	03 01 31.3	
POLO				*i* AML	AML	03 01 31.5	
EJUZ	**Juzbado, Salam**	**0.78**	**97**	Pg	**Pb**	**03 01 21.5**	**+0.9**
EJUZ				Sg	**Sb**	**03 01 31.8**	**+0.6**
PVIS	**Viseu**	**0.88**	**238**	⇑*eP*	**Pg**	**03 01 22.1**	**+0.1**
PVIS				*eS*	**Sg**	**03 01 33.6**	**+0.1**
MTE	**Manteigas**	**0.92**	**211**	⇓*eP*	**Pg**	**03 01 23.1**	**+0.3**
MTE				*eS*	**Sg**	**03 01 34.6**	**-0.3**
MTE				*i* AML	AML	03 01 37.3	
MTE				*i* AML	AML	03 01 37.5	
MTE				*i* AML	AML	03 01 37.5	
PCAB	**Cabril**	**0.98**	**302**	*eP*	**Pb**	**03 01 24.6**	**+0.7**
PCAB				*eS*	**Sg**	**03 01 37.2**	**+0.4**
PCAB				*i* AML	AML	03 01 39.5	
PCAB				*i* AML	AML	03 01 40.2	
PCAB				*i* AML	AML	03 01 41.2	
ELOB	**Lobios**	**1.09**	**309**	Pg	**Pb**	**03 01 26.5**	**+0.7**
ELOB				Sg	**Sb**	**03 01 40.9**	**+0.9**
ELOB				*i* Vmb_Lg		03 01 44.8	
PTO	**Porto**	**1.27**	**268**	*eP*	**Pn**	**03 01 28.9**	**+0.5**
PTO				*eS*	**Sg**	**03 01 45.4**	**-0.6**
PTO				*i* AML	AML	03 01 45.8	
PTO				*i* AML	AML	03 01 46.3	
PTO				*i* AML	AML	03 01 46.9	
PGAV	**Gavieira, Arco**	**1.27**	**308**	*eP*	**Pn**	**03 01 29.4**	**+0.7**
PGAV				*eS*	**Sb**	**03 01 46.4**	**+1.1**
PGAV				*i* AML	AML	03 01 48.0	
PGAV				*i* AML	AML	03 01 48.0	
PGAV				*i* AML	AML	03 01 48.4	
EPLA	**Plasencia**	**1.29**	**150**	Pn	**Pg**	**03 01 30.1**	**+0.2**
EPLA				Pg	**Pb**	**03 01 30.6**	**+1.4**
EPLA				Sg	**Sn**	**03 01 47.2**	**+1.2**
EPLA				*i* Vmb_Lg		03 01 49.0	
PCBR	**Castelo Branco**	**1.42**	**198**	*ePn*	**Pn**	**03 01 30.9**	**+0.5**
PCBR				*ePg*	**Pb**	**03 01 32.0**	**+0.8**
PCBR				*eSg*	**Sb**	**03 01 49.9**	**+0.7**
PCBR				*i* AML	AML	03 01 50.3	
PCBR				*i* AML	AML	03 01 50.9	
PCBR				*i* AML	AML	03 01 51.8	
COI	**Coimbra**	**1.50**	**230**	*ePg*	**Pg**	**03 01 33.9**	**+0.1**
COI				*eSg*	**Sb**	**03 01 53.3**	**+1.6**
COI				*i* AML	AML	03 01 54.5	
COI				*i* AML	AML	03 01 55.0	
COI				*i* AML	AML	03 01 55.1	
EZAM	**Zamans**	**1.64**	**306**	Pn	**Pg**	**03 01 36.5**	**0.0**
EZAM				Sn	**Sb**	**03 01 57.2**	**+1.5**
EZAM				*i* Vmb_Lg		03 01 58.1	
PCAS	**Casmilo, Conde**	**1.66**	**227**	*ePg*	**Pb**	**03 01 36.2**	**+0.8**
PCAS				*eSg*	**Sb**	**03 01 57.6**	**+1.5**
PCAS				*i* AML	AML	03 01 58.2	
PCAS				*i* AML	AML	03 01 59.3	
PCAS				*i* AML	AML	03 01 59.5	
PMRV	**Marv??o**	**1.80**	**192**	*ePn*	**Pn**	**03 01 36.2**	**+0.4**
PMRV				*ePg*	**Pb**	**03 01 38.7**	**+0.9**
PMRV				*eSg*	**Sb**	**03 02 01.5**	**+1.3**
PMRV				*i* AML	AML	03 02 02.0	
PMRV				*i* AML	AML	03 02 03.3	
PMRV				*i* AML	AML	03 02 09.3	
EAGO	**Agolada(Pontev**	**1.83**	**332**	Pn	**Pn**	**03 01 37.6**	**+1.3**
EAGO				Pg	**Pg**	**03 01 40.3**	**+0.2**
EAGO				Sg	**Sg**	**03 02 05.1**	**+1.2**
EAGO				*i* Vmb_Lg		03 02 06.6	
EPON	**Pontenova**	**2.14**	**355**	Pn	**Pb**	**03 01 42.9**	**-0.7**
EPON				Pg	**Pg**	**03 01 46.2**	**+0.1**
EPON				Sg	**Sg**	**03 02 14.5**	**+0.7**
EPON				*i* Vmb_Lg		03 02 15.8	
PSBE	**So Bento**	**2.21**	**221**	*ePn*	**Pn**	**03 01 42.8**	**+1.4**
PSBE				*eSg*	**Sg**	**03 02 15.2**	**-0.7**
PSBE				*i* AML	AML	03 02 18.8	
PSBE				*i* AML	AML	03 02 19.3	
PSBE				*i* AML	AML	03 02 19.3	
PMTG	**Montargil**	**2.34**	**206**	*ePn*	**Pn**	**03 01 43.3**	**+0.1**
PMTG				*ePg*	**Pg**	**03 01 49.4**	**-0.5**
PMTG				*eSn*	**Sn**	**03 02 11.4**	**-0.5**
PMTG				*eSg*	**Sb**	**03 02 18.3**	**+2.4**
PMTG				*i* AML	AML	03 02 22.1	
PMTG				*i* AML	AML	03 02 25.8	
PMTG				*i* AML	AML	03 02 25.9	
PESTR	**Estremoz**	**2.38**	**193**	*ePn*	**Pn**	**03 01 44.2**	**+0.5**
PESTR				*ePg*	**Pg**	**03 01 50.8**	**+0.2**
PESTR				*eSn*	**Sn**	**03 02 12.8**	**+0.1**
PESTR				*eSg*	**Sb**	**03 02 19.4**	**+2.5**
PESTR				*i* AML	AML	03 02 24.0	
PESTR				*i* AML	AML	03 02 24.1	
PESTR				*i* AML	AML	03 02 24.9	
PESTR	**Estremoz**	**2.38**	**193**	Pn	**Pn**	**03 01 44.1**	**+0.5**
PESTR				Sn	**Sn**	**03 02 13.4**	**+0.7**
EBAD	**Badajoz**	**2.43**	**182**	Pn	**Pn**	**03 01 45.7**	**+1.2**
EBAD	**Badajoz**	**2.43**	**182**	Pn	**Pn**	**03 01 46.0**	**+1.6**
EBAD				Sg	**Sg**	**03 02 22.0**	**-1.2**
EBAD				*i* Vmb_Lg		03 02 25.3	
PAB	**San Pablo**	**2.56**	**129**	Pn	**Pn**	**03 01 47.9**	**+1.6**
PAB				Sn	**Sn**	**03 02 18.8**	**+1.5**
PAB				Sg	**Sg**	**03 02 25.7**	**-1.6**
PAB				*i* Vmb_Lg		03 02 28.3	
EVO	**Evora**	**2.79**	**198**	*ePn*	**Pn**	**03 01 50.3**	**+1.0**
EVO				*eSn*	**Sn**	**03 02 22.8**	**0.0**
EVO				*eSg*	**Sb**	**03 02 32.3**	**+3.7**
EVO				*i* AML	AML	03 02 36.4	
EVO				*i* AML	AML	03 02 36.5	
EVO				*i* AML	AML	03 02 46.5	
EVO	**Evora**	**2.79**	**198**	Pn	**Pn**	**03 01 50.0**	**+0.7**
EVO				Sn	**Sn**	**03 02 22.5**	**-0.3**
PMAFR	**Mafra**	**2.88**	**220**	*ePn*	**Pn**	**03 01 51.4**	**+0.8**
PMAFR				*eSn*	**Sn**	**03 02 24.1**	**-0.9**
PMAFR				*eSg*	**Sg**	**03 02 37.6**	**+0.2**
PMAFR				*i* AML	AML	03 02 41.3	
PMAFR				*i* AML	AML	03 02 42.2	
PMAFR				*i* AML	AML	03 02 42.6	
PMAFR	**Mafra**	**2.88**	**220**	Pn	**Pn**	**03 01 51.9**	**+1.3**
PMAFR				Sn	**Sn**	**03 02 24.2**	**-0.9**
UCM	**Universidad Co**	**2.93**	**106**	Pn	**Pn**	**03 01 53.2**	**+2.0**
PBAR	**Barrancos**	**3.01**	**182**	*ePn*	**Pn**	**03 01 53.8**	**+1.3**
PBAR				*ePg*	**Pg**	**03 02 02.2**	**-0.6**
PBAR				*eSn*	**Sn**	**03 02 29.1**	**+0.7**
PBAR				*eSg*	**Sg**	**03 02 39.7**	**-2.1**
PBAR				*i* AML	AML	03 02 43.9	
PBAR				*i* AML	AML	03 02 45.9	
PBAR				*i* AML	AML	03 02 46.7	
PBAR	**Barrancos**	**3.01**	**182**	Pn	**Pn**	**03 01 53.7**	**+1.3**
PBAR				Sn	**Sn**	**03 02 28.1**	**-0.3**
PBEJ	**Beja**	**3.24**	**193**	*ePn*	**Pn**	**03 01 56.7**	**+1.1**
PBEJ				*eSn*	**Sn**	**03 02 33.4**	**-0.6**
PBEJ				*eSg*	**Sg**	**03 02 48.0**	**-1.2**
PBEJ				*i* AML	AML	03 02 51.3	
PBEJ				*i* AML	AML	03 02 51.6	
PBEJ				*i* AML	AML	03 02 53.5	
ELAN	**Lanestosa**	**3.29**	**51**	Pn	**Pn**	**03 01 57.9**	**+1.5**
ECAB	**El Cabril**	**3.32**	**159**	Pn	**Pn**	**03 01 57.7**	**+1.0**
ECAB	**El Cabril**	**3.32**	**159**	Pn	**Pn**	**03 01 57.7**	**+1.0**
ECAB				*i* Vmb_Lg		03 02 55.0	
PSIM	**Granatula de C**	**3.39**	**133**	Pn	**Pn**	**03 01 58.8**	**+1.1**
PSIM				Sn	**Sn**	**03 02 38.0**	**+0.2**
EMIN	**Mina Concepcio**	**3.42**	**177**	Pn	**Pn**	**03 01 59.5**	**+1.4**
EMIN				Sn	**Sn**	**03 02 36.1**	**-2.5**
EMIN	**Mina Concepcio**	**3.42**	**177**	Pn	**Pn**	**03 01 59.4**	**+1.3**
EMIN				Sn	**Sn**	**03 02 37.5**	**-1.1**
EMIN				Sg	**Sg**	**03 02 52.4**	**-2.6**
EMIN				*i* Vmb_Lg		03 02 55.4	
MESJ	**Messejana**	**3.50**	**197**	*eP*	**Pn**	**03 01 59.5**	**+0.5**
MESJ				*eS*	**Sn**	**03 02 37.9**	**-2.4**
MESJ				IAML		03 02 42.8	
	comp=E,6.6nm,0.3s						
MESJ	**Messejana**	**3.50**	**197**	*ePn*	**Pn**	**03 01 59.9**	**+0.8**
MESJ				*eSn*	**Sn**	**03 02 39.0**	**-1.2**
MESJ				*eSg*	**Sg**	**03 02 54.9**	**-2.4**
MESJ				*i* AML	AML	03 02 59.5	
MESJ				*i* AML	AML	03 03 00.9	
MESJ				*i* AML	AML	03 03 02.1	
EADA	**Adamuz**	**3.52**	**148**	Pn	**Pn**	**03 02 00.4**	**+1.0**
EADA				Sn	**Sn**	**03 02 39.8**	**-1.1**
EADA	**Adamuz**	**3.52**	**148**	Pn	**Pn**	**03 02 00.4**	**+1.0**
EADA				*i* Vmb_Lg		03 02 59.5	
PCVE	**Castro Verde**	**3.66**	**194**	*ePn*	**Pn**	**03 02 01.8**	**+0.4**
PCVE				*eSn*	**Sn**	**03 02 43.5**	**-0.8**
PCVE				*eSg*	**Sg**	**03 03 01.2**	**-1.3**
PCVE				*i* AML	AML	03 03 02.1	
PCVE				*i* AML	AML	03 03 04.8	
PCVE				*i* AML	AML	03 03 06.3	
PCVE	**Castro Verde**	**3.66**	**194**	Pn	**Pn**	**03 02 01.7**	**+0.4**
PCVE				Sn	**Sn**	**03 02 42.7**	**-1.6**
EGRO	**El Granado**	**3.68**	**187**	Pn	**Pn**	**03 02 02.0**	**+0.5**
EGRO	**El Granado**	**3.68**	**187**	Pn	**Pn**	**03 02 02.3**	**+0.7**
EGRO				Sn	**Sn**	**03 02 43.3**	**-1.5**
EGRO				Sg	**Sg**	**03 03 02.5**	**-0.6**
EGRO				*i* Vmb_Lg		03 03 08.6	
ETOR	**Torete**	**3.70**	**94**	Pn	**Pn**	**03 02 03.8**	**+1.8**
ETOR				Pg	**Pg**	**03 02 15.7**	**-0.2**
ETOR				Sg	**Sg**	**03 03 05.5**	**+1.7**
ETOR				*i* Vmb_Lg		03 03 07.8	
PVAQ	**Vaqueiros**	**3.83**	**190**	*ePn*	**Pn**	**03 02 04.2**	**+0.5**
PVAQ				*eSn*	**Sn**	**03 02 48.5**	**-0.1**
PVAQ				*eSg*	**Sg**	**03 03 06.1**	**-1.9**
PVAQ				*i* AML	AML	03 03 08.9	
PVAQ				*i* AML	AML	03 03 09.7	
PVAQ				*i* AML	AML	03 03 09.9	
PVAQ	**Vaqueiros**	**3.83**	**190**	Pn	**Pn**	**03 02 04.0**	**+0.3**
PTEO	**Sao Teotonio**	**3.90**	**202**	*ePn*	**Pn**	**03 02 05.5**	**+0.9**
PTEO				*eSn*	**Sn**	**03 02 49.3**	**-1.0**
PTEO				*eSg*	**Sg**	**03 03 07.9**	**-2.4**
PTEO				*i* AML	AML	03 03 11.8	
PTEO				*i* AML	AML	03 03 12.6	
PTEO				*i* AML	AML	03 03 13.5	
PBDV	**Barranco-do-Ve**	**4.02**	**192**	*ePn*	**Pn**	**03 02 07.4**	**+1.1**
PBDV				*eSn*	**Sn**	**03 02 52.7**	**-0.5**
PBDV				*eSg*	**Sg**	**03 03 11.0**	**-3.1**
PBDV				*i* AML	AML	03 03 14.7	
PBDV				*i* AML	AML	03 03 18.6	
PBDV				*i* AML	AML	03 03 19.3	
MORF	**Marmelete**	**4.11**	**200**	*eP*	**Pn**	**03 02 07.7**	**+0.2**
MORF	**Marmelete**	**4.11**	**200**	*eP*	**Pn**	**03 02 07.8**	**+0.3**
MORF				*eSg*	**Sg**	**03 03 16.6**	**-0.3**
MORF				*i* AML	AML	03 03 18.5	
MORF				*i* AML	AML	03 03 18.6	
MORF				*i* AML	AML	03 03 19.4	
PFVI	**Vila Bisbo**	**4.32**	**201**	*ePn*	**Pn**	**03 02 10.6**	**+0.3**
PFVI				*eSn*	**Sn**	**03 02 59.0**	**-1.5**
PFVI				*eSg*	**Sg**	**03 03 22.3**	**-1.2**
PFVI				*i* AML	AML	03 03 27.4	
PFVI				*i* AML	AML	03 03 27.6	
PFVI				*i* AML	AML	03 03 29.7	
PFVI	**Vila Bisbo**	**4.32**	**201**	Pn	**Pn**	**03 02 10.4**	**+0.1**
PFVI				Sn	**Sn**	**03 02 58.1**	**-2.4**
EALK	**Alkurruntz**	**4.50**	**61**	Pn	**Pn**	**03 02 14.4**	**+1.5**
EALK				Sg	**Sg**	**03 03 29.4**	**-0.2**
EGOR	**Sierra Gorda,**	**4.62**	**151**	Pn	**Pn**	**03 02 17.1**	**+2.3**
EGOR	**Sierra Gorda,**	**4.62**	**151**	Pn	**Pn**	**03 02 17.0**	**+2.3**
EGOR				Sn	**Sn**	**03 03 09.8**	**+1.5**
EGOR				*i* Vmb_Lg		03 03 43.1	
SJPF	**Ste Jean**	**4.65**	**64**	*ePn*	**Pn**	**03 02 16.4**	**+1.5**
SJPF	**Ste Jean**	**4.65**	**64**	*ePg*	**Pg**	**03 02 33.1**	**-0.9**
SJPF				*eSn*	**Sn**	**03 03 07.6**	**-1.1**
SJPF				*eSg*	**Sg**	**03 03 32.3**	**-1.9**
	comp=E,8.7nm,0.5s						
EQTA	**Presa de Quent**	**4.81**	**145**	Pn	**Pn**	**03 02 19.1**	**+1.9**
EQTA				Sn	**Sn**	**03 03 12.5**	**-0.3**
EQUE	**Quentar**	**4.81**	**145**	Pn	**Pn**	**03 02 19.8**	**+2.5**
EQUE				Sn	**Sn**	**03 03 13.2**	**+0.4**
EQUE				Sg	**Sg**	**03 03 39.8**	**+0.3**
EQUE				*i* Vmb_Lg		03 03 41.4	
EMAL	**Malaga-Limoner**	**4.83**	**156**	Pn	**Pn**	**03 02 19.8**	**+2.4**
EVIV	**Cofrentes, Val**	**4.84**	**112**	Pn	**Pn**	**03 02 19.2**	**+1.7**
EVIV				Sn	**Sn**	**03 03 12.6**	**-0.9**
EVIV				Sg	**Sg**	**03 03 40.2**	**-0.1**
EVIV				*i* Vmb_Lg		03 03 45.0	
ESAC	**San Caprasio**	**4.88**	**82**	Pn	**Pn**	**03 02 20.2**	**+2.1**
ESAC				Sn	**Sn**	**03 03 14.4**	**0.0**
EMOS	**Mosqueruela**	**4.96**	**97**	Pn	**Pn**	**03 02 21.9**	**+2.5**
EMOS				Sn	**Sn**	**03 03 17.4**	**+0.7**
ELGU	**Los Guajares,**	**5.02**	**148**	Pn	**Pn**	**03 02 22.8**	**+2.7**
ELGU				Sn	**Sn**	**03 03 18.6**	**+0.6**
ELGU	**Los Guajares,**	**5.02**	**148**	Pn	**Pn**	**03 02 22.8**	**+2.7**
ETSF	**Etsaut**	**5.03**	**68**	*ePn*	**Pn**	**03 02 22.0**	**+1.7**
ETSF				*eSn*	**Sn**	**03 03 19.3**	**+1.0**
ETSF				*eSg*	**Sg**	**03 03 45.1**	**-1.5**
	comp=E,5.5nm,0.4s						
EBER	**Berja**	**5.31**	**143**	Pn	**Pn**	**03 02 27.6**	**+3.4**
EBER	**Berja**	**5.31**	**143**	Pn	**Pn**	**03 02 27.6**	**+3.4**
ERTA	**Horta de San J**	**5.49**	**90**	Pn	**Pn**	**03 02 28.3**	**+1.9**
ERTA				Sn	**Sn**	**03 03 29.6**	**+0.2**
ECHI	**Chisagues Biel**	**5.51**	**72**	Pn	**Pn**	**03 02 28.7**	**+1.8**
ECHI				Sn	**Sn**	**03 03 28.8**	**-1.3**
EPF	**Esparros**	**5.70**	**69**	*ePn*	**Pn**	**03 02 32.0**	**+2.6**
EPF				*eSn*	**Sn**	**03 03 33.1**	**-1.7**
EPF				*eSg*	**Sg**	**03 04 04.9**	**-3.1**
	comp=E,4.2nm,0.3s						
EPOB	**Poblet**	**6.03**	**86**	Pn	**Pn**	**03 02 34.8**	**+0.9**
LFF	**La Frestale**	**6.74**	**54**	*ePn*	**Pn**	**03 02 44.4**	**+0.7**
QUIF	**Quistinic**	**7.24**	**20**	*ePn*	**Pn**	**03 02 50.4**	**0.0**
QUIF				*eSn*	**Sn**	**03 04 08.8**	**-3.6**
	comp=E,0.3nm,0.2s						
MFF	**Saint Martin d**	**7.29**	**40**	*ePn*	**Pn**	**03 02 51.0**	**-0.2**
RJF	**Les Rejaudoux**	**7.40**	**53**	*ePn*	**Pn**	**03 02 52.0**	**-0.7**
RJF				*eSn*	**Sn**	**03 04 11.6**	**-4.9**
	comp=E,1.5nm,0.3s						
CAF	**Calviac**	**7.56**	**57**	*ePn*	**Pn**	**03 02 54.8**	**-0.1**
IFR	**Ifrane**	**7.79**	**169**	Pn	**Pn**	**03 02 58.7**	**+0.5**
TCF	**Toulx Ste Croi**	**8.34**	**49**	*ePn*	**Pn**	**03 03 05.5**	**-0.1**
SSF	**Saint Saulge**	**9.52**	**48**	*ePn*	**Pn**	**03 03 21.4**	**-0.3**
TIO	**Tiouine**	**10.25**	**182**	Pn	**Pn**	**03 03 32.5**	**+0.6**
TIO				Sn	**Sn**	**03 05 20.2**	**-6.5**

*NAO **09** 03:05:52.1±1.5, 71°.55N×3°.12W, ML2.5*
*BER **09** 03:05:55.5±3.9, 71°.49N×3°.45W, h10km, mb(Pn)4.0,*
ML2.5(NAO), Confirmed Earthquake
ISC 09 03:05:52.8±1.1, 71°.65N±0°.08×3°.53W±0°.07, h10km, n32,
σ1§76/36, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.83**	**249**	Pn	**Pn**	**03 06 26.3**	**+2.1**
DBG	**Daneborg**	**5.57**	**306**	Pn	**Pn**	**03 07 16.9**	**+1.3**
DBG				Sn	**Sn**	**03 08 17.6**	**-2.0**
DBG	**Daneborg**	**5.57**	**306**	*eP*	**Pn**	**03 07 17.2**	**+1.7**
DBG				*eS*	**Sn**	**03 08 17.2**	**-2.3**
DBG	**Daneborg**	**5.57**	**306**	*i* P	**Pn**	**03 07 17.2**	**+1.7**
DBG				*i* S	**Sn**	**03 08 16.1**	**-3.4**
DBG				IAML		03 08 29.8	
	comp=Z,0.6nm,0.4s						
DAG	**Danmarks Havn**	**6.57**	**328**	*eP*	**Pn**	**03 07 31.2**	**+1.9**
DAG				*eS*	Sn	03 08 36.4	-7.7
DAG	**Danmarks Havn**	**6.57**	**328**	*e*	Pn	03 07 27.8	-1.5
	baz=130,slow=18						
DAG				*i* P	**Pn**	**03 07 30.9**	**+1.6**
DAG				*i* S	Sn	03 08 32.8	-11
DAG				IAML		03 08 44.7	
	comp=Z,1.7nm,0.3s						
LOF	**Lofoten**	**6.84**	**113**	Pn	**Pn**	**03 07 32.0**	**-1.1**
LOF				Sn	Sn	03 08 40.5	-10
LOF	**Lofoten**	**6.84**	**113**	*eP*	**Pn**	**03 07 32.3**	**-0.7**
LOF				*eS*	Sn	03 08 40.7	-10
LOF				IAML		03 08 45.8	
	comp=Z,3.1nm,0.7s						
STEI	**Steigen**	**7.47**	**111**	Pn	**Pn**	**03 07 40.3**	**-1.3**
STEI				Sn	Sn	03 08 56.9	-9.3
STEI	**Steigen**	**7.47**	**111**	*eP*	**Pn**	**03 07 40.6**	**-1.1**
STEI				*eS*	Sn	03 08 56.5	-10
STEI				IAML		03 08 59.1	
	comp=Z,1.7nm,0.7s						
TRO	**Tromso**	**7.71**	**94**	Pn	Pn	03 07 41.7	-3.1
TRO				Sn	Sn	03 09 00.5	-11
TRO	**Tromso**	**7.71**	**94**	*eP*	**Pn**	**03 07 42.4**	**-2.5**
TRO				IAML		03 09 03.3	
	comp=Z,1.4nm,0.9s						
FAUS	**Fauske**	**7.84**	**114**	*eP*	**Pn**	**03 07 45.5**	**-1.2**
FAUS				*eS*	Sn	03 09 05.3	-10
FAUS				IAML		03 09 10.5	
	comp=Z,1.1nm,0.7s						
KONS	**Konsvik**	**7.86**	**123**	*eP*	**Pn**	**03 07 46.3**	**-0.6**
KONS				IAML		03 09 10.8	
	comp=Z,2.9nm,0.6s						
BRBB	**Barentsburg B**	**7.91**	**27**	*eP*	**Pn**	**03 07 49.8**	**+2.1**
STOK	**Stokkvaagen**	**7.96**	**124**	Pn	**Pn**	**03 07 46.9**	**-1.4**
STOK				Sn	Sn	03 09 08.0	-10
STOK	**Stokkvaagen**	**7.96**	**124**	*eP*	**Pn**	**03 07 47.0**	**-1.3**
STOK				*eS*	Sn	03 09 07.0	-11
STOK				IAML		03 09 13.0	
	comp=Z,2.9nm,0.9s						
LEIR	**Leirfjorden**	**8.15**	**125**	*eP*	**Pn**	**03 07 50.0**	**-1.0**
LEIR				*eS*	Sn	03 09 12.9	-10
LEIR				IAML		03 09 15.6	
	comp=Z,1.6nm,1.2s						
JETT	**Jettan, Norway**	**8.21**	**93**	Pn	**Pn**	**03 07 50.0**	**-1.8**
JETT	**Jettan, Norway**	**8.21**	**93**	Pn	**Pn**	**03 07 50.0**	**-1.8**
SPA0	**Spitsbergen Ar**	**8.29**	**29**	Pn	**Pn**	**03 07 55.5**	**+2.6**
	baz=208,slow=16						
SPA0				Sn	**Sn**	**03 09 27.4**	**+1.0**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.29**	**29**	Pn	**Pn**	**03 07 55.5**	**+2.6**
	baz=208,slow=16						
SPA0				Sn	**Sn**	**03 09 27.4**	**+1.0**
	baz=207,slow=18						
KIF	**Kilpisjarvi**	**8.59**	**96**	Pn	**Pn**	**03 07 55.3**	**-1.6**
KIF				Sn	Sn	03 09 23.7	-10
KIF	**Kilpisjarvi**	**8.59**	**96**	*eP*	**Pn**	**03 07 55.0**	**-1.9**
KIF				*eS*	Sn	03 09 24.3	-9.4
SALU	**Saltoluokta**	**8.79**	**108**	*eP*	**Pn**	**03 07 59.1**	**-0.7**
NSS	**Namsos**	**9.16**	**134**	*eP*	**Pn**	**03 08 04.5**	**-0.3**
KTK1	**Kautokeino**	**9.35**	**93**	*eP*	**Pn**	**03 08 05.9**	**-1.5**
HEF	**Hetta**	**9.79**	**96**	*eP*	**Pn**	**03 08 11.3**	**-2.2**
ARA0	**ARCESS Array S**	**9.83**	**88**	Pn	**Pn**	**03 08 12.1**	**-1.8**
	baz=293,slow=12						
ARA0	**ARCESS Array S**	**9.83**	**88**	Pn	**Pn**	**03 08 12.1**	**-1.8**
	baz=293,slow=12						
AKN	**Aaknes**	**10.34**	**151**	Pn	**Pn**	**03 08 21.4**	**+0.4**
AKN				Sn	Sn	03 10 05.7	-11
AKN	**Aaknes**	**10.34**	**151**	Pn	**Pn**	**03 08 21.4**	**+0.4**
AKN				Sn	Sn	03 10 05.7	-11

*SOF **09** 03:15:51.6, 45°.54N±0°.04×26°.34E±0°.02, h100km±2km,*
MD3.1/4
*BEO **09** 03:15:51.8±1.5, 45°.46N×26°.33E, h54km±1km, ML2.7/7*
*BUC **09** 03:15:51.1±0.2, 45°.51N×26°.40E, h131km±1km, ml3.5/55,*
Error ellipse: s-maj=1.5km s-min=1.3km az=173.0
*MCSM **09** 03:15:54.4±0.8, 46°.N±5°×2°.6E±°, h130km±13km, MLv2.3*
ISC 09 03:15:48.4±1.3, 45°.52N±0°.03×26°.36E±0°.02, h152km±5km,
n158, σ1§43/258, 129C-88D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.10**	**206**	⇑P	**Pn**	**03 16 09.7**	**+0.9**
NEHR				⇓S	**Sn**	**03 16 22.3**	**-1.9**
NEHR	**Nehoiu**	**0.10**	**206**	⇑P	**Pn**	**03 16 09.7**	**+0.9**
NEHR				⇓S	**Sn**	**03 16 22.3**	**-1.9**
BISRR	**Bisoca**	**0.25**	**82**	⇑P	**Pn**	**03 16 10.1**	**+0.9**
BISRR				⇑S	**Sn**	**03 16 24.1**	**-0.7**
BISRR	**Bisoca**	**0.25**	**82**	⇑P	**Pn**	**03 16 10.1**	**+0.9**
BISRR				⇑S	**Sn**	**03 16 24.1**	**-0.7**
BISRR	**Bisoca**	**0.25**	**82**	Pg	**Pn**	**03 16 10.0**	**+0.9**
MLR	**Muntele Rosu**	**0.29**	**265**	⇓P	**Pn**	**03 16 10.1**	**+0.8**
MLR				⇓S	**Sn**	**03 16 24.5**	**-0.7**
MLR	**Muntele Rosu**	**0.29**	**265**	⇓P	**Pn**	**03 16 10.1**	**+0.8**
MLR				⇓S	**Sn**	**03 16 24.5**	**-0.7**
MLR	**Muntele Rosu**	**0.29**	**265**	Pn	**Pn**	**03 16 10.0**	**+0.8**
COVR	**Voineasa-Covas**	**0.35**	**342**	⇑P	**Pn**	**03 16 09.8**	**+0.4**
COVR				⇑S	**Sn**	**03 16 23.8**	**-1.6**
COVR	**Voineasa-Covas**	**0.35**	**342**	⇑P	**Pn**	**03 16 09.8**	**+0.4**
COVR				⇑S	**Sn**	**03 16 23.8**	**-1.6**
SPBR	**Spulber**	**0.36**	**50**	⇑P	**Pn**	**03 16 10.3**	**+0.9**
SPBR				⇓S	**Sn**	**03 16 24.0**	**-1.5**
SPBR	**Spulber**	**0.36**	**50**	⇑P	**Pn**	**03 16 10.3**	**+0.9**
SPBR				⇓S	**Sn**	**03 16 24.0**	**-1.5**
PLOR	**Plostina**	**0.39**	**31**	⇑P	**Pn**	**03 16 09.9**	**+0.4**
PLOR				⇑S	**Sn**	**03 16 24.1**	**-1.6**
PLOR	**Plostina**	**0.39**	**31**	⇑P	**Pn**	**03 16 09.9**	**+0.4**
PLOR				⇑S	**Sn**	**03 16 24.1**	**-1.6**
PLOR3	**Plostina Array**	**0.39**	**31**	Pg	**Pn**	**03 16 09.8**	**+0.3**
ISR	**Istrita**	**0.42**	**162**	⇑P	**Pn**	**03 16 10.2**	**+0.5**
ISR				⇑S	**Sn**	**03 16 25.3**	**-0.5**
ISR	**Istrita**	**0.42**	**162**	⇑P	**Pn**	**03 16 10.2**	**+0.5**
ISR				⇑S	**Sn**	**03 16 25.3**	**-0.5**
ISR	**Istrita**	**0.42**	**162**	Pg	**Pn**	**03 16 10.5**	**+0.8**
VRI	**Vrincioaia**	**0.44**	**36**	⇑P	**Pn**	**03 16 10.3**	**+0.6**
VRI

SCTR Scanteiesti 1.16 82 ⇑P Pn 03 16 15.8 +1.1
SCTR ⇓S Sn 03 16 34.2 -0.6
SCTR Scanteiesti 1.16 82 ⇑P Pn 03 16 15.8 +1.1
SCTR ⇓S Sn 03 16 34.2 -0.6
BIR Birlad 1.16 49 ⇑P Pn 03 16 15.7 +1.0
BIR ⇓S Sn 03 16 33.7 -1.2
BIR Birlad 1.16 49 ⇑P Pn 03 16 15.7 +1.0
BIR ⇓S Sn 03 16 33.7 -1.2
BUC1 Bucharest 1.19 191 ⇓P Pn 03 16 16.5 +1.5
BUC1 ⇑S Sn 03 16 35.5 +0.2
BUC1 Bucharest 1.19 191 ⇓P Pn 03 16 16.5 +1.5
BUC1 ⇑S Sn 03 16 35.5 +0.2
TATR Tatarca 1.19 85 ⇑P Pn 03 16 16.1 +1.1
TATR ⇑S Sn 03 16 34.6 -0.7
TATR Tatarca 1.19 85 ⇑P Pn 03 16 16.1 +1.1
TATR ⇑S Sn 03 16 34.6 -0.7
GISR Galati 1.20 93 ⇑S Sn 03 16 34.6 -0.8
GISR Galati 1.20 93 ⇑S Sn 03 16 34.6 -0.8
ARR Arges 1.22 264 ⇓P Pn 03 16 16.9 +1.5
ARR ⇓S Sn 03 16 36.6 +0.6
ARR Arges 1.22 264 ⇓P Pn 03 16 16.9 +1.5
ARR ⇓S Sn 03 16 36.6 +0.6
VLDR Vladesti 1.25 74 ⇑P Pn 03 16 16.6 +1.0
VLDR ⇑S Sn 03 16 35.6 -0.7
VLDR Vladesti 1.25 74 ⇑P Pn 03 16 16.6 +1.0
VLDR ⇑S Sn 03 16 35.6 -0.7
CFR Carcaliu 1.30 104 ⇑P Pn 03 16 16.8 +0.7
CFR ⇑S Sn 03 16 35.4 -1.8
CFR Carcaliu 1.30 104 ⇑P Pn 03 16 16.8 +0.7
CFR ⇑S Sn 03 16 35.4 -1.8
GIUM Giurgiulesti 1.30 91 ⇑P Pn 03 16 17.5 +1.4
GIUM ⇑S Sn 03 16 36.7 -0.5
GIUM Giurgiulesti 1.30 91 ⇑P Pn 03 16 17.5 +1.4
GIUM ⇑S Sn 03 16 36.7 -0.5
SGRR Singureni 1.32 192 ⇑P Pn 03 16 17.7 +1.4
SGRR ⇑S Sn 03 16 37.6 0.0
SGRR Singureni 1.32 192 ⇑P Pn 03 16 17.7 +1.4
SGRR ⇑S Sn 03 16 37.6 0.0
JOSR Joseni 1.33 334 ⇓P Pn 03 16 17.2 +0.8
JOSR Joseni 1.33 334 ⇓P Pn 03 16 17.2 +0.8
HARR Harsova 1.39 126 ⇑P Pn 03 16 18.0 +1.1
HARR Harsova 1.39 126 ⇑P Pn 03 16 18.0 +1.1
HUMR Humele 1.39 225 ⇑P Pn 03 16 18.4 +1.4
HUMR ⇑S Sn 03 16 39.0 +0.3
HUMR Humele 1.39 225 ⇑P Pn 03 16 18.4 +1.4
HUMR ⇑S Sn 03 16 39.0 +0.3
GIRR Girov 1.44 4 ⇓P Pn 03 16 18.9 +1.4
GIRR Girov 1.44 4 ⇓P Pn 03 16 18.9 +1.4
TLBR Topalu 1.54 128 ⇓P Pn 03 16 19.7 +1.2
TLBR ⇑S Sn 03 16 40.3 -1.3
TLBR Topalu 1.54 128 ⇓P Pn 03 16 19.7 +1.2
TLBR ⇑S Sn 03 16 40.3 -1.3
TPGR Topolog 1.60 114 ⇓P Pn 03 16 20.1 +0.9
TPGR Topolog 1.60 114 ⇓P Pn 03 16 20.1 +0.9
CVDA Cernavoda 1.68 134 ⇑S Sn 03 16 43.1 -1.1
CVDA Cernavoda 1.68 134 ⇑S Sn 03 16 43.1 -1.1
ICOR Ion Corvin 1.74 143 ⇓P Pn 03 16 22.4 +1.8
ICOR ⇑S Sn 03 16 45.1 -0.2
ICOR Ion Corvin 1.74 143 ⇓P Pn 03 16 22.4 +1.8
ICOR ⇑S Sn 03 16 45.1 -0.2
TLCR 1.76 100 ⇓P Pn 03 16 22.5 +1.7
TLCR ⇓S Sn 03 16 45.2 -0.6
TLCR 1.76 100 ⇓P Pn 03 16 22.5 +1.7
TLCR ⇓S Sn 03 16 45.2 -0.6
TIRR Tirgusor 1.80 125 ⇓P Pn 03 16 22.5 +1.2
TIRR ⇑S Sn 03 16 45.8 -0.8
TIRR Tirgusor 1.80 125 ⇓P Pn 03 16 22.5 +1.2
TIRR ⇑S Sn 03 16 45.8 -0.8
LOT Lotru 1.82 269 ⇓S Sn 03 16 48.9 +1.7
LOT Lotru 1.82 269 ⇓S Sn 03 16 48.9 +1.7
ZIMR 1.99 201 ⇓P Pn 03 16 25.2 +1.7
ZIMR ⇑S Sn 03 16 50.3 -0.1
ZIMR 1.99 201 ⇓P Pn 03 16 25.2 +1.7
ZIMR ⇑S Sn 03 16 50.3 -0.1
VLAD Vladila 2.06 223 ⇓P Pn 03 16 25.0 +0.8
VLAD ⇓S Sn 03 16 51.6 -0.2
VLAD Vladila 2.06 223 ⇓P Pn 03 16 25.0 +0.8
VLAD ⇓S Sn 03 16 51.6 -0.2
EFOR EFORIE 2.17 131 ⇑S Sn 03 16 53.5 -0.6
EFOR EFORIE 2.17 131 ⇑S Sn 03 16 53.5 -0.6
MILM Milestii Mici 2.21 50 ⇑P Pn 03 16 27.2 +1.2
MILM Milestii Mici 2.21 50 ⇑/P Pn 03 16 27.0 +1.0
6.0nm,0.1s
MILM *e*S **Sn 03 16 52.9 -2.1**
49nm,0.1s
MILM dur 03 16 53.5
MILM Milestii Mici 2.21 50 ⇑P Pn 03 16 27.2 +1.2
BURAR Bucovina Array 2.24 340 ⇓P Pn 03 16 29.3 +2.8
BURAR ⇑S Sn 03 16 57.7 +1.7
BURAR Bucovina Array 2.24 340 ⇓P Pn 03 16 29.3 +2.8
BURAR ⇑S Sn 03 16 57.7 +1.7
KIS Kishinev 2.26 48 *e*P Pn 03 16 27.9 +1.3
7.0nm,0.1s
KIS *e*S **Sn 03 16 54.0 -2.2**
32nm,0.2s
CJR Cluj-Napoca 2.26 303 ⇑P Pn 03 16 28.9 +2.2
CJR Cluj-Napoca 2.26 303 ⇑P Pn 03 16 28.9 +2.2
SZH Strazhitsa 2.27 187 *i* P Pn 03 16 28.5 +1.7
SZH *i* S Sn 03 16 55.8 -0.5
PSN Preselentsi 2.27 145 *i* P Pn 03 16 28.8 +2.0
PSN *i* S Sn 03 16 55.9 -0.4
MANR Mangalia 2.33 136 ⇓S Sn 03 16 57.1 -0.4
MANR Mangalia 2.33 136 ⇓S Sn 03 16 57.1 -0.4
SRE Strehaia 2.39 250 ⇑S Sn 03 16 59.6 +0.6
SRE Strehaia 2.39 250 ⇑S Sn 03 16 59.6 +0.6
PRD Provadia 2.47 162 *i* P Pn 03 16 31.2 +1.9
GZR Gura Zlata 2.52 268 ⇓S Sn 03 17 03.7 +1.7
GZR Gura Zlata 2.52 268 ⇓S Sn 03 17 03.7 +1.7
MARR Marisel-Cluj 2.53 298 ⇑P Pn 03 16 31.8 +1.7
MARR Marisel-Cluj 2.53 298 ⇑P Pn 03 16 31.8 +1.7
PVL Pavlikeni 2.54 200 *i* P Pn 03 16 31.8 +1.7
PURM Purcari 2.65 66 ⇓P Pn 03 16 32.5 +1.1
PURM Purcari 2.65 66 ⇓P Pn 03 16 32.5 +1.1
VALC Valchedram 2.77 230 *i* P Pn 03 16 34.7 +1.8
DRGR 2.84 298 ⇑P Pn 03 16 35.5 +1.7
DRGR 2.84 298 ⇑P Pn 03 16 35.5 +1.7
DRGR 2.84 298 *e*Pn Pn 03 16 33.6 -0.2
HERR Herculane 2.86 259 ⇓P Pn 03 16 35.4 +1.5
HERR Herculane 2.86 259 ⇓P Pn 03 16 35.4 +1.5
MPEP Malo Peshtene 2.86 222 *i* P Pn 03 16 36.0 +1.9
MPEP *i* S Sn 03 17 09.5 +0.2
SORM Soroca 2.96 27 ⇑P Pn 03 16 35.9 +0.7
SORM Soroca 2.96 27 ⇑P Pn 03 16 35.9 +0.7
SORM Soroca 2.96 27 Pn Pn 03 16 35.9 +0.7
BZS Buzias 3.33 273 *e*Pn Pn 03 16 41.5 +1.5
BZS *e*Sn Sn 03 17 16.1 -3.9
MDVR Moldovita 3.37 259 ⇑P Pn 03 16 42.6 +2.1
MDVR Moldovita 3.37 259 ⇑P Pn 03 16 42.6 +2.1
MDVR Moldovita 3.37 259 *e*Pn Pn 03 16 41.6 +1.1
MDVR *e*Sn Sn 03 17 16.4 -4.5
ZAGS Zajecar 3.40 241 *e*Pn Pn 03 16 41.2 +0.3
ZAGS *e*Sn Sn 03 17 15.8 -5.7
BORS2 Bor- Borsko je 3.40 247 *e*Pn Pn 03 16 41.2 +0.3
BORS2 *e*Sn Sn 03 17 16.7 -4.9
ZAPS Zavoj 3.48 231 *e*Pn Pn 03 16 42.2 +0.2
ZAPS *e*Sn Sn 03 17 18.6 -5.0
KUBS Kucevo 3.50 253 *e*Pn Pn 03 16 42.3 +0.1
KUBS *e*Sn Sn 03 17 20.2 -3.7
VTS Vitosha 3.67 219 *e*Pn Pn 03 16 45.0 +0.5
VTS *e*Sn Sn 03 17 24.9 -3.1
HORU Horodok 3.70 1 Pn Pn 03 16 45.7 +1.0
BOSS Bosilegrad 4.12 224 *e*Pn Pn 03 16 49.9 -0.3
BOSS *e*Sn Sn 03 17 33.8 -4.4
BARS Barje 4.24 232 *e*Pn Pn 03 16 53.3 +1.5
BARS *e*Sn **Sn 03 17 36.8 -4.3**

*IDC **09** 03:20:14.8±1.1, 7°.20S×80°.90W, h0km, mb3.9/8, mbtmp3.9/11, ML3.5/3, MS3.4/9, Error ellipse: s-maj=26.9km s-min=17.7km az=19.0*
*NEIC **09** 03:20:20.9±1.1, 7°.11S±0°.07×80°.7W±0°.1, h35km±1km, mb4.2/21, Error ellipse: s-maj=18.7km s-min=9.4km az=63.0*
ISC 09 03:20:19.2±0.6, 7°.19S±0°.07×80°.75W±0°.08, h29km, n56, σ1§48/42, mb4.1/13, MS3.4/7, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.34**	**89**	Pn	**Pn**	**03 20 58.2**	**+2.1**
	10nm,0.3s,baz=298,slow=4.3,SNR=56						
ATAH				Sn	**Sn**	**03 21 24.7**	**+0.6**
	46nm,0.3s,baz=6.9,slow=18,SNR=5.5						
ATAH				Lg	Lg	03 21 34.8	
	59nm,0.3s,baz=217,slow=20,SNR=7.2						
	36nm,0.3s						
COHC	**Cochancay**	**4.92**	**18**	Pn	**Pn**	**03 21 31.9**	**+0.7**
NNA	**Nana**	**6.13**	**141**	Pn	**Pn**	**03 21 49.7**	**+1.7**
NNA	**Nana**	**6.13**	**141**	Pn	**Pn**	**03 21 47.5**	**-0.5**
	2.6nm,0.3s,baz=329,slow=12,SNR=4.5						
NNA				Sn	**Sn**	**03 22 51.4**	**-5.9**
	3.6nm,0.3s,baz=251,slow=16,SNR=1.9						
NNA				Lg	Lg	03 23 22.6	
	5.5nm,0.3s,baz=296,slow=21,SNR=7.5						
	4.9nm,0.4s						
OTAV	**Otavalo**	**7.72**	**17**	Pn	**Pn**	**03 22 07.7**	**-2.5**
CZSB	**Cruzeiro do Su**	**8.00**	**94**	Pn	**Pn**	**03 22 11.3**	**-2.2**
FLOC	**Florencia**	**10.09**	**30**	Pn	**Pn**	**03 22 41.7**	**-0.6**
PAYG	**Puerto Ayora**	**11.50**	**304**	Pn	**Pn**	**03 23 00.5**	**-1.2**
RUSC	**La Rusia**	**15.07**	**31**	P	**P**	**03 23 55.5**	**-0.3**
LPAZ	**La Paz**	**15.30**	**127**	Pn	**Pn**	**03 23 54.0**	**0.0**
LPAZ	**La Paz**	**15.30**	**127**	Pn	**Pn**	**03 23 53.4**	**-0.6**
	0.1nm,0.3s,baz=333,slow=9.4,SNR=3.5						
	0.8nm,0.6s						
JTS	**Las Juntas de**	**17.86**	**346**	LR	LR	03 29 34.0	
	comp=Z,58nm,19.4s,baz=262,slow=31						
PB09	**IPOC Station P**	**18.29**	**144**	P	**P**	**03 24 33.1**	**+2.0**
SDV	**Santo Domingo**	**18.88**	**32**	LR	LR	03 32 05.9	
	comp=Z,126nm,21.5s,baz=248,slow=38						
PB14	**IPOC Station P**	**19.97**	**151**	P	**P**	**03 24 52.1**	**+2.4**
PB14				IAmb	IAmb	03 25 14.2	
	comp=Z,15nm,1.2s						
MACA	**Manacapuru-AM**	**20.38**	**80**	P	**P**	**03 24 53.5**	**-0.3**
MACA				IAmb	IAmb	03 25 21.8	
	comp=Z,16nm,0.7s						
BAUV	**El Baul**	**20.42**	**39**	P	**P**	**03 24 53.9**	**-0.4**
BAUV				IAmb	IAmb	03 25 05.5	
	comp=Z,17nm,0.9s						
PRVC	**Isla de Provid**	**20.44**	**358**	P	**P**	**03 24 54.5**	**+0.1**
GO02	**Mina Guanaco**	**20.82**	**150**	P	**P**	**03 25 01.6**	**+2.7**
GO02				IAmb	IAmb	03 25 02.7	
	comp=Z,10.0nm,0.8s						
SIV	**San Ignacio**	**21.15**	**116**	P	**P**	**03 25 02.6**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=288,slow=10,SNR=11						
SIV				LR	LR	03 34 44.6	
	comp=Z,31nm,21.3s,baz=290,slow=41						
	comp=Z,2.5nm,0.7s						
BOAV	**Boa Vista**	**22.32**	**65**	P	**P**	**03 25 13.6**	**-1.2**
BOAV				IAmb	IAmb	03 25 15.5	
	comp=Z,12nm,1.2s						
AC02	**Maricunga**	**22.45**	**152**	P	**P**	**03 25 16.5**	**0.0**
AC02				IAmb	IAmb	03 25 21.7	
	comp=Z,6.0nm,1.1s						
PTLB	**Pontes e Lacer**	**22.71**	**113**	P	**P**	**03 25 18.3**	**-0.6**
PCRV	**Puerto La Cruz**	**23.56**	**43**	P	**P**	**03 25 27.8**	**+0.3**
	comp=Z,8.9nm,0.8s,baz=243,slow=4.5,SNR=1.8						
PCRV				LR	LR	03 36 20.1	
	comp=Z,122nm,18.5s,slow=41						
	comp=Z,8.9nm,0.8s						
H03N2	**Juan Fernandez**	**26.18**	**177**	T	T	03 53 10.2	
	baz=356,slow=76,SNR=708						
H03N1	**Juan Fernandez**	**26.18**	**177**	T	T	03 53 11.1	
	baz=356,slow=76,SNR=653						
H03N3	**Juan Fernandez**	**26.20**	**177**	T	T	03 53 09.9	
	baz=356,slow=76,SNR=684						
CELP	**Cerrillos**	**28.73**	**29**	P	**P**	**03 26 13.2**	**-1.2**
PDPR	**Patillas Dam,**	**28.96**	**30**	P	**P**	**03 26 16.6**	**+0.3**
SJG	**San Juan**	**28.97**	**30**	P	**P**	**03 26 15.7**	**-0.8**
SJG	**San Juan**	**28.97**	**30**	LR	LR	03 38 54.6	
	comp=Z,61nm,19.9s,baz=208,slow=38						
GCPR	**Guaynabo City**	**29.17**	**30**	P	**P**	**03 26 18.6**	**+0.3**
CPUP	**Villa Florida**	**29.32**	**133**	LR	LR	03 40 50.5	
	comp=Z,74nm,19.5s,baz=314,slow=42						
BDFB	**Brasilia**	**33.13**	**108**	LR	LR	03 41 05.2	
	comp=Z,132nm,20.1s,baz=326,slow=38						
RPN	**Rapa Nui**	**33.60**	**230**	LR	LR	03 36 43.6	
	comp=Z,99nm,19.5s,baz=106,slow=30						
OZNA	**Ozona**	**42.62**	**334**	P	**P**	**03 28 12.8**	**-0.4**
OZNA				IAmb	IAmb	03 28 32.8	
	comp=Z,1.4nm,0.7s						
RCBR	**Riachuelo**	**44.57**	**91**	LR	LR	03 48 38.8	
	comp=Z,53nm,19.0s,baz=252,slow=38						
T42A	**Van Buren**	**45.04**	**348**	P	**P**	**03 28 31.7**	**-0.8**
T42A				IAmb	IAmb	03 28 40.9	
	comp=Z,2.2nm,0.8s						
ULM	**Lac du Bonnet**	**58.69**	**349**	P	**P**	**03 30 14.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=156,slow=14,SNR=2.9						
	comp=Z,1.5nm,0.8s						
YKA	**Yellowknife Ar**	**74.18**	**344**	P	**P**	**03 31 52.2**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=86,slow=5.5,SNR=3.9						
	comp=Z,0.2nm,0.7s						
DBIC	**Dimbokro**	**76.94**	**81**	P	**P**	**03 32 10.2**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=212,slow=5.1,SNR=3.5						
	comp=Z,1.4nm,0.7s						
SNAA	**Sanae**	**79.42**	**162**	P	**P**	**03 32 23.2**	**+0.7**
QSPA	**South Pole Qui**	**82.91**	**180**	P	**P**	**03 32 42.1**	**+0.9**
QSPA				IAmb	IAmb	03 32 47.9	
	comp=Z,7.8nm,1.5s						
QSPA	**South Pole Qui**	**82.91**	**180**	P	**P**	**03 32 42.1**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=108,slow=3.1,SNR=5.7						
	comp=Z,1.2nm,0.8s						
G31M	**Satah River**	**83.20**	**341**	P	**P**	**03 32 42.5**	**+0.1**
G31M				IAmb	IAmb	03 32 43.9	
	comp=Z,1.7nm,0.8s						
A36M	**Sachs Harbour**	**84.14**	**347**	P	**P**	**03 32 47.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**84.32**	**76**	P	**P**	**03 32 49.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=307,slow=7.2,SNR=4.9						
	comp=Z,0.5nm,0.7s						
G29M	**Pine Creek**	**84.41**	**341**	P	**P**	**03 32 49.2**	**+0.5**
ESDC	**Sonseca Array**	**84.49**	**49**	P	**P**	**03 32 51.2**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=308,slow=5.9,SNR=4.1						
	comp=Z,0.7nm,0.9s						
H11N3	**WAKE ISLAND Hyl**	**13.39**	**288**	T	T	05 42 01.9	
	baz=90,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hyl**	**13.40**	**288**	T	T	05 42 01.4	
	baz=90,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hyl**	**13.41**	**288**	T	T	05 42 04.7	
	baz=90,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hyl**	**13.59**	**287**	T	T	05 42 19.4	
	baz=90,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hyl**	**13.60**	**287**	T	T	05 42 14.6	
	baz=90,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hyl**	**13.61**	**287**	T	T	05 42 20.5	
	baz=90,slow=75,SNR=10						
MKAR	**Makanchi Array**	**137.93**	**17**	PKP	**PKPdf**	**03 39 41.9**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=276,slow=1.3,SNR=2.0						

IDC 09 03:36:43.2±3.7, 10°.17N×126°.86E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=340.5km s-min=27.6km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.33**	**168**	P	P	03 43 31.8	-0.1
	0.2nm,0.3s,baz=345,slow=8.9,SNR=6.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**52.46**	**323**	P	P	03 45 58.1	+0.2
	0.4nm,0.6s,baz=114,slow=7.9,SNR=6.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**56.48**	**325**	P	P	03 46 26.5	-0.5
	0.2nm,0.3s,baz=130,slow=6.3,SNR=6.4						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**86.25**	**332**	P	P	03 49 26.8	+0.1
	2.4nm,0.9s,baz=83,slow=4.5,SNR=1.8						
	2.4nm,0.9s						

IDC 09 03:44:18.2±1.6, 2°.24N×127°.51E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=162.7km s-min=22.1km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**163**	P	P	03 49 23.9	-1.3
	0.9nm,0.7s,baz=342,slow=11,SNR=4.9						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**26.49**	**167**	P	P	03 49 58.5	+1.2
	0.4nm,0.8s,baz=351,slow=15,SNR=2.4						
	0.4nm,0.8s						
SONM	**Songino Array**	**48.95**	**341**	P	P	03 53 05.7	-0.8
	0.5nm,0.7s,baz=155,slow=9.2,SNR=4.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.22**	**325**	P	P	03 54 21.4	+0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.41**	**327**	P	P	03 54 50.1	+0.5
	0.3nm,0.5s,baz=118,slow=5.7,SNR=2.4						
	0.3nm,0.5s						

*IDC **09** 03:53:15.7±0.5, 9°.75N×126°.39E, h0km, mb4.1/22, mbtmp4.1/22, MS3.2/9, Error ellipse: s-maj=28.8km s-min=12.3km az=76.0*
*NEIC **09** 03:53:18.4±1.3, 9°.67N±0°.08×126°.1E±0°.1, h10km±1km, mb4.6/23, Error ellipse: s-maj=20.4km s-min=14.1km az=95.0*
ISC 09 03:53:17.8±0.4, 9°.73N±0°.05×126°.3E±0°.1, h10km, n64, σ1§18/55, mb4.5/35, MS3.1/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.75**	**196**	Pn	**Pg**	**03 54 13.5**	**+2.9**
	75nm,0.3s,baz=57,slow=15,SNR=4.3						
DAV				Sn	**Sg**	**03 54 46.6**	**+0.3**
	baz=286,slow=21						
DAV				LR	LR	03 54 51.3	
	comp=Z,206nm,18.2s,baz=2.0,slow=34						
TGY	**Tagaytay City**	**6.84**	**310**	Pn	Pn	03 55 05.8	+7.4
	152nm,0.3s,baz=227,slow=10,SNR=4.3						
TOLI2	**Tolitoli**	**10.20**	**213**	Pn	**Pn**	**03 55 42.2**	**-2.1**
FAKI	**Fak Fak**	**13.88**	**155**	Pn	**Pn**	**03 56 33.5**	**-1.3**
TPUB	**Ta-pu**	**14.56**	**339**	Pn	**Pn**	**03 56 45.1**	**+1.0**
KAPI	**Kappang**	**16.05**	**204**	LR	LR	04 04 51.3	
	comp=Z,55nm,18.6s,baz=14,slow=43						
GUMO	**Guam**	**18.54**	**76**	LR	LR	04 05 15.0	
	comp=Z,82nm,18.5s,baz=74,slow=39						
MANU	**Manus Island**	**23.98**	**118**	P	**P**	**03 58 35.5**	**+2.7**
KNRA	**Kununurra**	**25.36**	**175**	P	**P**	**03 58 44.4**	**-0.9**
JHJ	**Hachijo jima 2**	**26.37**	**26**	LR	LR	04 09 34.4	
	comp=Z,36nm,19.6s,baz=92,slow=37						
FITZ	**Fitzroy Crossi**	**27.66**	**181**	P	**P**	**03 59 06.1**	**0.0**
FITZ	**Fitzroy Crossi**	**27.66**	**181**	P	**P**	**03 59 06.4**	**+0.3**
	7.6nm,0.6s,baz=3.7,slow=9.4,SNR=16						
	7.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.92**	**291**	P	**P**	**03 59 10.1**	**+1.6**
	1.5nm,0.3s,baz=99,slow=8.9,SNR=2.3						
CMAR				LR	LR	04 11 47.8	
	comp=Z,52nm,18.3s,baz=110,slow=40						
	1.5nm,0.3s						
MJAR	**Matsushiro Arr**	**28.78**	**20**	LR	LR	04 10 44.7	
	comp=Z,46nm,19.2s,baz=155,slow=36						
COEN	**Coen**	**28.86**	**144**	P	**P**	**03 59 16.0**	**-0.8**
COEN				IAmb	IAmb	03 59 17.9	
	comp=Z,20nm,1.3s						
WRA	**Warramunga Arr**	**30.52**	**165**	P	**P**	**03 59 30.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=344,slow=8.1,SNR=5.7						
	comp=Z,0.7nm,0.6s						
WB2	**Warramunga Arr**	**30.52**	**165**	P	**P**	**03 59 31.5**	**0.0**
WB2				IAmb	IAmb	04 00 03.3	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**34.01**	**168**	P	**P**	**04 00 01.8**	**-0.3**
ASAR	**Alice Springs**	**34.01**	**168**	P	**P**	**04 00 00.6**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=354,slow=6.8,SNR=12						
ASAR				PcP	**PcP**	**04 02 40.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=341,slow=3.0,SNR=3.2						
	comp=Z,0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**34.69**	**7**	P	**P**	**04 00 08.1**	**+0.4**
	comp=Z,3.7nm,1.0s,baz=210,slow=11,SNR=4.9						
	comp=Z,3.7nm,1.0s						
KLR	**Kul'dur**	**39.63**	**6**	P	**P**	**04 00 49.2**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=233,slow=4.9,SNR=5.4						
	comp=Z,1.6nm,0.7s						
MORW	**Morawa**	**39.83**	**194**	P	**P**	**04 00 52.0**	**+0.4**
MORW				IAmb	IAmb	04 00 53.1	
	comp=Z,17nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**40.01**	**73**	T	T	04 44 01.0	
	baz=262,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	04 44 04.4	
	baz=262,slow=74,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	04 43 58.9	
	baz=262,slow=74,SNR=8.0						
FORT	**Forrest**	**40.31**	**178**	P	**P**	**04 00 55.6**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**40.36**	**71**	T	T	04 44 16.6	
	baz=265,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.37**	**71**	T	T	04 44 19.8	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.38**	**71**	T	T	04 44 23.9	
	baz=265,slow=74,SNR=14						
SONM	**Songino Array**	**41.55**	**340**	P	**P**	**04 01 04.9**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=159,slow=8.6,SNR=7.6						
SONM				PcP	**PcP**	**04 03 03.3**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=116,slow=3.4,SNR=1.8						
	comp=Z,0.3nm,0.5s						
BBOO	**Buckleboo**	**43.31**	**168**	P	**P**	**04 01 19.5**	**-0.5**
STKA	**Stephens Creek**	**43.87**	**161**	P	**P**	**04 01 23.3**	**-1.3**
	comp=Z,1.2nm,0.4s,baz=347,slow=11,SNR=6.0						
	comp=Z,1.2nm,0.4s						
PALK	**Pallekele**	**45.18**	**271**	LR	LR	04 22 31.3	
	comp=Z,18nm,19.2s,baz=88,slow=39						
PETK	**Petropavlovsk-**	**50.10**	**24**	P	**P**	**04 02 13.6**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=200,slow=3.7,SNR=5.9						
	comp=Z,3.0nm,0.9s						
DZM	**Mont Dzumac**	**50.45**	**129**	LR	LR	04 24 30.4	
	comp=Z,37nm,18.2s,baz=283,slow=37						
MK31	**Makanchi Array**	**52.50**	**323**	P	**P**	**04 02 30.6**	**-0.5**
MKAR	**Makanchi Array**	**52.50**	**323**	P	**P**	**04 02 30.9**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=121,slow=8.0,SNR=18						
MKAR				PcP	**PcP**	**04 03 41.4**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=112,slow=4.1,SNR=4.2						
	comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**52.69**	**323**	P	**P**	**04 02 31.8**	**-0.8**
ZALV	**Zalesovo Beam**	**55.13**	**331**	P	**P**	**04 02 48.0**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=64,slow=3.4,SNR=3.8						
ZALV				ScP	**ScP**	**04 07 53.0**	**+2.6**
	comp=Z,0.5nm,0.4s,baz=113,slow=3.7,SNR=2.5						
	comp=Z,0.8nm,0.7s						
AAK	**Ala-Archa**	**55.76**	**315**	LR	LR	04 29 33.9	
	comp=Z,54nm,18.1s,baz=80,slow=39						
KURBB	**Kurchatov

comp=Z,1.2nm,0.5s
NOA NORSAR Array B 93.27 334 P **P 04 06 31.2 -1.5**
comp=Z,1.0nm,0.8s,baz=40,slow=4.2,SNR=3.4
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 94.22 24 P **P 04 06 36.1 -0.8**
comp=Z,1.2nm,0.7s,baz=299,slow=4.8,SNR=18
comp=Z,1.2nm,0.7s
PLCA Paso Flores 145.69 157 PKPbc **PKPab 04 12 57.6 -0.1**
comp=Z,2.8nm,0.8s,baz=191,slow=2.9,SNR=5.9

*IDC **09** 03:57:09.4±7.0, 8°.17S×119°.55E, h152km±75km, mb3.3/4, mbtmp3.7/6, MS3.4/1, Error ellipse: s-maj=124.0km s-min=27.6km az=56.0*

IDC 09 03:57:13.5±1.3, 8°.5S±0°.3×119°.5E±0°.4, h200km, n7, σ2§65/9, mb3.6/3, Flores region

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.24 149**	P	**Pn**		**03 59 49.5**	**+0.8**
	1.4nm,0.3s,baz=335,slow=11,SNR=9.9						
FITZ			S	**Sn**		**04 01 49.1**	**-5.0**
	2.3nm,0.4s,baz=3.4,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**18.29 130**	P	**P**		**04 01 13.3**	**+0.6**
	0.2nm,0.2s,baz=303,slow=12,SNR=4.7						
WRA			S	**S**		**04 04 30.4**	**-1.0**
	0.4nm,0.3s,baz=311,slow=24,SNR=7.4						
ASAR	**Alice Springs**	**20.42 139**	P	**P**		**04 01 37.5**	**+2.0**
	0.8nm,0.3s,baz=316,slow=9.6,SNR=17						
ASAR			S	**S**		**04 05 14.3**	**+1.2**
	0.6nm,0.9s,baz=319,slow=22,SNR=3.1						
	0.8nm,0.3s						
PSI	**Prapat**	**23.42 298**	LR	LR		04 12 04.0	
	comp=Z,81nm,18.1s,baz=84,slow=38						
STKA	**Stephens Creek**	**31.01 142**	P	**P**		**04 03 15.1**	**+2.7**
	1.6nm,0.4s,baz=314,slow=9.4,SNR=3.7						
	1.6nm,0.4s						
SONM	**Songino Array**	**57.28 350**	P	**P**		**04 06 39.1**	**-1.3**
	0.4nm,0.5s,baz=171,slow=5.4,SNR=3.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**64.26 333**	P	**P**		**04 07 26.3**	**-1.0**
	0.6nm,0.5s,baz=157,slow=7.6,SNR=9.7						
	0.6nm,0.5s						

*IDC **09** 04:08:49.9±0.7, 2°.33N×128°.79E, h0km, mb3.8/12, mbtmp3.8/12, Error ellipse: s-maj=44.6km s-min=14.5km az=79.0*
*DJA **09** 04:08:54.3±0.6, 2°.N±5°.×12°.9E±°, h10km, M3.9/6, MLv3.9/6*

IDC 09 04:08:55.1±0.8, 2°.31N±0°.09×129°.0E±0°.1, h35km, n22, σ1§12/17, mb4.0/13, Halmahera

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.26 228**	P	**Pn**		**04 09 28.4**	**-1.5**
TNTI			S	**Sn**		**04 09 57.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.55 189**	P	**P**		**04 13 30.3**	**-0.5**
	3.7nm,1.0s,baz=20,slow=12,SNR=1.7						
	3.7nm,1.0s						
WRA	**Warramunga Arr**	**22.71 167**	P	**P**		**04 13 55.0**	**+0.9**
	0.8nm,0.6s,baz=340,slow=10,SNR=6.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**26.25 170**	P	**P**		**04 14 26.8**	**-0.4**
	0.4nm,0.7s,baz=354,slow=8.5,SNR=7.4						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**33.57 301**	P	**P**		**04 15 34.7**	**+2.5**
	1.0nm,0.3s,baz=115,slow=9.2,SNR=1.2						
KSRS	**Korea Array**	**34.99 358**	P	**P**		**04 15 44.1**	**0.0**
	1.4nm,0.5s,baz=179,slow=9.8,SNR=3.3						
	1.4nm,0.5s						
MJAR	**Matsushiro Arr**	**35.11 13**	P	**P**		**04 15 44.9**	**-0.3**
	1.9nm,0.7s,baz=185,slow=9.1,SNR=5.9						
	1.9nm,0.7s						
STKA	**Stephens Creek**	**36.03 162**	P	**P**		**04 15 53.7**	**+0.6**
	1.0nm,0.3s,baz=304,slow=8.2,SNR=4.5						
	1.0nm,0.3s						
H11S3	**WAKE ISLAND Hy 40.24**	**64**	T	T		04 59 49.1	
	baz=251,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy 40.26**	**64**	T	T		04 59 49.6	
	baz=251,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy 40.26**	**64**	T	T		04 59 50.6	
	baz=251,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy 40.83**	**62**	T	T		05 00 28.7	
	baz=250,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hy 40.84**	**62**	T	T		05 00 29.6	
	baz=250,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy 40.85**	**62**	T	T		05 00 32.8	
	baz=250,slow=75,SNR=56						
USRK	**Ussuriysk Ar.**	**41.80 3**	P	**P**		**04 16 41.6**	**+0.3**
	1.9nm,0.7s,baz=174,slow=7.3,SNR=5.1						
	1.9nm,0.7s						
XLT	**XiLinHaoTe**	**42.98 346**	*e*P	**P**		**04 16 50.6**	**-0.5**
XLT			sP	pP		04 16 57.6	-2.8
XLT			pmax	pmax			
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**49.39 340**	P	**P**		**04 17 41.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=158,slow=8.1,SNR=8.3						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**60.03 325**	P	**P**		**04 18 57.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=116,slow=8.2,SNR=16						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.17 327**	P	**P**		**04 19 25.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=123,slow=6.1,SNR=9.6						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**69.76 327**	P	**P**		**04 20 00.1**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=128,slow=12,SNR=3.7						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**85.40 25**	P	**P**		**04 21 29.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=244,slow=3.7,SNR=4.2						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**125.54 288**	PKP	**PKiKP**		**04 27 55.1**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=11,slow=2.9,SNR=1.7						

*IDC **09** 04:11:51.4±7.0, 36°.84N×75°.79E, h0km, mb4.0/2, mbtmp3.4/6, ML2.8/4, Error ellipse: s-maj=113.3km s-min=41.6km az=144.0*

IDC 09 04:11:57.8±2.7, 37°.0N±0°.2×76°.1E±0°.2, h35km, n7, σ2§64/8, Kashmir-Xinjiang border region

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.81 348**	Pn	**Pn**		**04 13 25.1**	**+3.5**
	0.3nm,0.3s,baz=171,slow=13,SNR=3.9						
AAK			Sn	**Sn**		**04 14 25.8**	**-1.3**
	0.6nm,0.3s,baz=196,slow=19,SNR=5.9						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**10.86 23**	Pn	**Pn**		**04 14 32.5**	**+1.8**
	0.1nm,0.3s,baz=203,slow=13,SNR=10						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**13.78 7**	Pn	**Pn**		**04 15 07.7**	**-2.8**
	baz=195,slow=7.0,SNR=4.0						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**16.57 348**	Pn	**P**		**04 15 49.3**	**-0.1**
	0.1nm,0.3s,baz=146,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**18.04 17**	P	**Pn**		**04 16 07.4**	**+1.9**
	0.1nm,0.3s,baz=221,slow=11,SNR=2.1						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**39.45 325**	P	**P**		**04 19 22.5**	**-1.7**
	0.8nm,0.3s,baz=106,slow=8.5,SNR=11						
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**42.34 336**	P	**P**		**04 19 46.1**	**-1.8**
	2.3nm,1.0s,baz=114,slow=8.5,SNR=1.7						
	2.3nm,1.0s						

IDC 09 04:15:22.9±2.8, 15°.88S×177°.79W, h436km±28km, mb3.0/4, mbtmp3.8/5, Error ellipse: s-maj=139.7km s-min=22.8km az=149.0, Fiji Islands region

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.40 245**	P	P		04 16 40.9	0.0
	16nm,0.4s,baz=82,slow=12,SNR=13						
WRA	**Warramunga Arr**	**45.62 257**	P	P		04 23 02.6	-0.3
	0.5nm,0.5s,baz=94,slow=7.7,SNR=8.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.95 252**	P	P		04 23 05.4	0.0
	2.1nm,0.5s,baz=85,slow=8.2,SNR=36						
	2.1nm,0.5s						
NVAR	**Mina Array Bea**	**77.55 44**	P	P		04 26 33.4	+0.5
	0.3nm,0.6s,baz=239,slow=10,SNR=4.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.78 13**	P	P		04 27 03.7	-0.9
	0.3nm,0.7s,baz=206,slow=5.0,SNR=4.6						
	0.3nm,0.7s						

TRN 09 04:22:22.9, 15°.75N×61°.51W, h17km, MD3.9, 4C-4D, North-west of Dominica., Leeward Islands

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.17 308**	↑*iP*		Pb	04 22 28.4	+0.9
TBG	**Guadaloupe-3**	**0.17 308**	↑*iP*		Pb	04 22 28.4	+0.9
DSLB	**Salisbury**	**0.32 165**	↓*iP*		Pn	04 22 32.0	-0.8
DSLB			*e*S		Sn	04 22 37.1	-2.0
DSLB	**Salisbury**	**0.32 165**	↓*iP*		Pn	04 22 32.0	-0.8
DSLB			*e*S		Sn	04 22 37.1	-2.0
MDN	**Morne-Daniel**	**0.44 165**	↓*iP*		Pn	04 22 34.2	-0.3
MDN			*e*S		Sn	04 22 41.0	-1.0
MDN	**Morne-Daniel**	**0.44 165**	↓*iP*		Pn	04 22 34.2	-0.3
MDN			*e*S		Sn	04 22 41.0	-1.0
SVN	**Savane Anatole**	**0.96 160**	*e*P		Pn	04 22 42.9	+1.2
SVN			*e*S		Sn	04 22 58.3	+3.4
SVN	**Savane Anatole**	**0.96 160**	*e*P		Pn	04 22 42.9	+1.2
SVN			*e*S		Sn	04 22 58.3	+3.4
MBWH		**1.19 327**	*e*P		Pg	04 22 46.7	+0.9
MBWH			*e*S		Sg	04 23 02.9	+1.5
MBWH		**1.19 327**	*e*P		Pg	04 22 46.7	+0.9
MBWH			*e*S		Sg	04 23 02.9	+1.5
MBFL	**Flemmings, Mon**	**1.20 326**	*e*P		Pg	04 22 46.9	+0.7
MBFL			*e*S		Sg	04 23 02.8	+0.9
MBFL	**Flemmings, Mon**	**1.20 326**	*e*P		Pg	04 22 46.9	+0.7
MBFL			*e*S		Sg	04 23 02.8	+0.9
BIM	**Bigot**	**1.29 161**	*e*P		Pg	04 22 47.7	-0.2
BIM			*e*S		Sg	04 23 06.1	+1.3
BIM	**Bigot**	**1.29 161**	*e*P		Pg	04 22 47.7	-0.2
BIM			*e*S		Sg	04 23 06.1	+1.3
ANBD	**Bethesda, Anti**	**1.32 349**	↑*iP*		Pg	04 22 48.5	+0.2
ANBD			*e*S		Sg	04 23 06.3	+0.8
ANBD	**Bethesda, Anti**	**1.32 349**	↑*iP*		Pg	04 22 48.5	+0.2
ANBD			*e*S		Sg	04 23 06.3	+0.8
SLBI	**Saint Lucia, B**	**1.79 163**	*e*P		Pb	04 22 54.7	-0.5
SLBI			*e*S		Sb	04 23 17.2	-0.2
SLBI	**Saint Lucia, B**	**1.79 163**	*e*P		Pb	04 22 54.7	-0.5
SLBI			*e*S		Sb	04 23 17.2	-0.2
ANWB	**Willy Bob**	**1.93 352**	*e*P		Pb	04 22 57.3	-0.3
ANWB			*e*S		Sb	04 23 22.6	+1.2
ANWB	**Willy Bob**	**1.93 352**	*e*P		Pb	04 22 57.3	-0.3
ANWB			*e*S		Sb	04 23 22.6	+1.2
SLAC	**Saint Lucia, A**	**1.93 162**	*e*P		Pb	04 22 57.9	+0.2
SLAC			*e*S		Sb	04 23 22.5	+0.9
SLAC	**Saint Lucia, A**	**1.93 162**	*e*P		Pb	04 22 57.9	+0.2
SLAC			*e*S		Sb	04 23 22.5	+0.9
SKI	**Saint Kitts**	**1.97 323**	*e*P		Pb	04 22 58.1	-0.2
SKI			*e*S		Sb	04 23 23.6	+1.0
SKI	**Saint Kitts**	**1.97 323**	*e*P		Pb	04 22 58.1	-0.2
SKI			*e*S		Sb	04 23 23.6	+1.0

*IDC **09** 04:23:15.4±0.8, 10°.08N×126°.95E, h0km, mb3.8/9, mbtmp3.9/10, ML4.9/1, MS3.1/7, Error ellipse: s-maj=43.9km s-min=15.6km az=78.0*
*NEIC **09** 04:23:16.4±1.6, 10°.20N±0°.09×126°.7E±0°.1, h10km±2km, mb4.5/12, Error ellipse: s-maj=26.5km s-min=5.1km az=301.0*

ISC 09 04:23:20.9±0.7, 10°.12N±0°.07×126°.8E±0°.1, h41km, n36, σ1§45/24, mb4.0/16, MS2.9/6, Philippine Islands region

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.25 201**	Pn	**Pn**		**04 24 09.6**	**+0.2**
	119nm,0.3s,baz=32,slow=9.5,SNR=2.4						
DAV			Sn	**Sn**		**04 24 48.7**	**+1.7**
	81nm,0.3s,baz=9.5,slow=20,SNR=4.0						
	290nm,0.4s						
FAKI	**Fak Fak**	**14.06 157**	Pn	**Pn**		**04 26 38.0**	**+0.4**
SBUM	**Sibu**	**16.34 243**	P	**Pn**		**04 27 06.5**	**-1.0**
KAPI	**Kappang**	**16.58 205**	LR	LR		04 33 44.7	
	comp=Z,62nm,20.6s,baz=26,slow=38						
JNU	**Nakatsue**	**23.20 9**	LR	LR		04 36 16.1	
	comp=Z,25nm,22.0s,baz=202,slow=34						
MTN	**Manton Dam**	**23.23 169**	P	**P**		**04 28 24.5**	**0.0**
MTN			IAmb	IAmb		04 28 55.9	
	comp=Z,19nm,1.1s						
MYKOM	**Kota Tinggi**	**24.23 252**	P	**P**		**04 28 33.2**	**-0.9**
MYKOM			IAmb	IAmb		04 28 36.1	
	comp=Z,8.0nm,0.8s						
KNRA	**Kununurra**	**25.71 176**	P	**P**		**04 28 46.9**	**-0.6**
JHJ	**Hachijo jima 2**	**25.84 26**	LR	LR		04 38 07.8	
	comp=Z,34nm,21.7s,baz=106,slow=35						
IPM	**Ipoh**	**26.13 259**	P	**P**		**04 28 49.2**	**-2.2**
IPM			IAmb	IAmb		04 28 53.5	
	comp=Z,8.7nm,0.9s						
JSG	**Sagara**	**26.57 21**	P	**P**		**04 28 52.4**	**-2.8**
JGF	**Kuroka**	**27.13 19**	P	**P**		**04 28 58.8**	**-1.5**
JGF			IAmb	IAmb		04 29 01.1	
	comp=Z,15nm,1.2s						
KSRS	**Korea Array**	**27.23 2**	LR	LR		04 42 30.7	
	comp=Z,30nm,18.2s,baz=75,slow=42						
FITZ	**Fitzroy Crossi**	**28.06 182**	P	**P**		**04 29 06.5**	**-2.1**
FITZ			IAmb	IAmb		04 29 43.7	
	comp=Z,2.1nm,1.1s						
MJAR	**Matsushiro Arr**	**28.27 20**	LR	LR		04 40 03.2	
	comp=Z,37nm,19.8s,baz=196,slow=36						
WB0	**Warramunga Arr**	**30.64 166**	P	**P**		**04 29 31.6**	**+0.1**
WB0			IAmb	IAmb		04 30 04.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**30.79 166**	P	**P**		**04 29 31.1**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=342,slow=8.7,SNR=7.9						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**30.80 166**	P	**P**		**04 29 32.4**	**-0.5**
WB2			IAmb	IAmb		04 30 00.5	
	comp=Z,12nm,1.3s						
ASAR	**Alice Springs**	**34.30 168**	P	**P**		**04 30 02.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=349,slow=7.4,SNR=7.1						
	comp=Z,0.3nm,0.3s						
ASAJ	**Asahikawa**	**36.54 19**	LR	LR		04 46 27.3	
	comp=Z,45nm,18.8s,baz=98,slow=38						
H11S3	**WAKE ISLAND Hy 39.49**	**73**	T	T		05 13 47.8	
	baz=262,slow=73,SNR=23						
H11S1	**WAKE ISLAND Hy 39.51**	**73**	T	T		05 13 49.3	
	baz=262,slow=73,SNR=10						
H11S2	**WAKE ISLAND Hy 39.51**	**73**	T	T		05 13 50.3	
	baz=262,slow=73,SNR=11						
H11N1	**WAKE ISLAND Hy 39.84**	**71**	T	T		05 14 19.9	
	baz=265,slow=74,SNR=50						
H11N2	**WAKE ISLAND Hy 39.84**	**71**	T	T		05 14 18.3	
	baz=265,slow=74,SNR=34						
H11N3	**WAKE ISLAND Hy 39.85**	**71**	T	T		05 14 21.4	
	baz=265,slow=74,SNR=47						
SONM	**Songino Array**	**41.33 339**	P	**P**		**04 31 03.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=156,slow=10,SNR=7.2						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**43.60 169**	P	**P**		**04 31 20.4**	**-0.8**
STKA	**Stephens Creek**	**44.11 162**	P	**P**		**04 31 25.4**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=359,slow=13,SNR=3.1						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**52.44 323**	P	**P**		**04 32 29.2**	**-0.3**
MKAR	**Makanchi Array**	**52.44 323**	P	**P**		**04 32 30.2**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=120,slow=7.3,SNR=13						
	comp=Z,1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**56.47 325**	P	**P**		**04 32 58.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=127,slow=6.5,SNR=5.6						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**79.36 26**	P	**P**		**04 35 22.6**	**+0.3**
	comp=Z,0.5nm,1.1s,baz=250,slow=5.9,SNR=2.0						
	comp=Z,0.5nm,1.1s						
ARCES	**ARCESS Array B**	**84.50 340**	P	**P**		**04 35 51.8**	**+2.5**
	comp=Z,0.7nm,0.4s,baz=78,slow=7.9,SNR=12						
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**86.25 332**	P	**P**		**04 36 00.7**	**+2.6**
	comp=Z,0.9nm,0.4s,baz=59,slow=5.5,SNR=13						
	comp=Z,0.9nm,0.4s						
NOA	**NORSAR Array B**	**93.11 334**	LR	LR		05 24 50.9	
	comp=Z,15nm,20.1s,baz=270,slow=40						

NOU 09 04:26:03.3, 23°.13S×118°.02E, h0km, MLv3.5/8, Western Australia, Western Australia

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PSA00	**Pilbara Seismi**	**2.29 48**	P	Pn		04 26 41.8	-0.6
MBWA	**Marble Bar**	**2.52 39**	P	Pn		04 26 46.2	+0.6
GIRL	**Giralia**	**3.52 277**	P	Pn		04 26 59.1	-0.2
MEEK	**Meekatharra**	**3.53 171**	P	Pn		04 27 00.2	+0.7
KMBL	**Kambalda**	**8.89 158**	P	Pn		04 28 13.6	+0.5
WRKA	**Warakurna**	**9.58 103**	P	Pn		04 28 21.6	-1.0
RKGY	**Rocky Gully**	**11.47 184**	P	Pn		04 28 47.3	-1.2
	23nm,0.9s						
FORT	**Forrest**	**11.75 133**	P	Pn		04 28 52.3	0.0

*IDC **09** 04:28:32.5±2.7, 13°.77N×92°.15W, h0km, mb3.6/4, mbtmp3.5/6, ML2.7/2, MS3.5/3, Error ellipse: s-maj=46.1km s-min=38.8km az=178.0*
*SNET **09** 04:28:35.9±0.8, 13°.72N×92°.21W, h20km±5km, ML4.0*
*GCG **09** 04:28:35.2±1.5, 13°.71N×92°.25W, h22km±11km, MD4.5, Hypocentre not reviewed by the ISC*
*MEX **09** 04:28:37.2±1.0, 13°.69N×92°.34W, h14km±51km, MD4.3*

ISC 09 04:28:34.0±3.5, 13°.74N±0°.08×92°.37W±0°.04, h10km±22km, n41, σ1§78/56, mb3.7/4, MS3.6/3, Off coast of Chiapas

Code	Station Name	Δ° AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.01 40**	*e*P	**Pb**		**04 28 53.2**	**-0.5**
RTAL			*e*S	**Sb**		**04 29 05.9**	**-1.2**
RTAL	**Retalhuleu**	**1.01 40**	*e*P	**Pb**		**04 28 53.3**	**-0.5**
RTAL			*e*S	**Sb**		**04 29 06.2**	**-1.0**
THIG		**1.16 5**	*e*P	**Pn**		**04 28 55.0**	**-1.4**
THIG			*e*S	**Sb**		**04 29 11.0**	**-0.4**
THIG		**1.16 5**	*e*P			04 28 54.9	
HUEH	**Huehuetenango**	**1.77 28**	*e*P	**Pn**		**04 29 05.2**	**+0.1**
HUEH			*e*S	**Sb**		**04 29 29.4**	**+0.2**
HUEH	**Huehuetenango**	**1.77 28**	*e*P	**Pn**		**04 29 05.1**	**+0.1**
HUEH			*e*S	**Sb**		**04 29 29.1**	**-0.2**
HUEH	**Huehuetenango**	**1.77 28**	*e*P			04 29 05.2	
GUMI	**Mixco**	**1.92 62**	*e*P			04 29 06.4	
GCG4	**OSOP**	**1.97 65**	*e*P			04 29 07.2	
QUIS	**Sacapulas**	**1.97 39**	*e*P			04 29 08.1	
PCIG		**2.12 337**	*e*P	**Pn**		**04 29 08.5**	**-1.0**
PCIG			*i* S	**Sn**		**04 29 33.2**	**-2.7**
NUBE	**Las Nubes**	**2.52 86**	*e*P	**Pn**		**04 29 14.0**	**-1.2**
LOAL	**Lomas de Alarc**	**2.52 84**	*e*S	**Sn**		**04 29 43.9**	**-2.2**
CCIG	**Comitan**	**2.53 5**	*e*P	**Pn**		**04 29 16.8**	**+1.3**
CCIG			*e*S	**Sn**		**04 29 49.2**	**+2.7**
CCIG	**Comitan**	**2.53 5**	*e*P			04 29 17.0	
CEVE	**Cerro Verde**	**2.67 88**	IAML			04 30 00.8	
	comp=Z,717nm,0.3s						
CARR	**Arriaga**	**2.90 329**	*e*P	**Pn**		**04 29 20.9**	**+0.6**
CARR			*e*S	**Sn**		**04 29 55.1**	**-0.2**
PMON	**Piamonte**	**2.97 90**	*e*P	**Pn**		**04 29 20.2**	**-1.2**
TGIG		**3.10 347**	*e*P	**Pn**		**04 29 23.5**	**+0.3**
TGIG			*e*S	**Sn**		**04 29 59.2**	**-1.2**
TGIG		**3.10 347**	*e*P			04 29 23.5	
COEG	**Centro de Oper**	**3.39 92**	*e*P	**Pn**		**04 29 25.9**	**-1.2**
NILT	**Santiago Nilte**	**3.55 323**	*e*P	**Pn**		**04 29 29.4**	**+0.2**
NILT			*e*S	**Sn**		**04 30 10.2**	**-1.0**
UXUV	**UXUV**	**3.94 334**	*e*P	**Pn**		**04 29 35.9**	**+1.2**
UXUV			*e*S	**Sn**		**04 30 25.0**	**+3.9**
CMIG	**Matias Romero**	**4.12 324**	Pn	**Pn**		**04 29 37.2**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=142,slow=12						
CMIG			Sn	**Sn**		**04 30 28.8**	**+3.4**
	comp=Z,5.7nm,0.3s,baz=94,slow=16,SNR=2.5						
CMIG	**Matias Romero**	**4.12 324**	*e*P	**Pn**		**04 29 37.0**	**-0.1**
CMIG			*e*S	**Sn**		**04 30 23.3**	**-2.1**
HUIG	**Huatulco**	**4.14 300**	*e*P	**Pn**		**04 29 36.4**	**-1.0**
HUIG			*e*S	Sn		04 30 19.9	-6.1
PEIG	**Puerto Escondi**	**5.14 296**	*e*P	Pn		04 29 49.4	-1.7
PEIG			*e*S	Sn		04 30 45.1	-5.5
NEUV	**Arroyo Zacate**	**5.15 320**	*e*P	**Pn**		**04 29 50.9**	**-0.3**
NEUV			*e*S	**Sn**		**04 30 50.1**	**-0.7**
SCIG	**Sabancuy**	**5.32 12**	*e*P	**Pn**		**04 29 52.9**	**-0.7**
VHO	**Vista Hermosa**	**5.36 309**	*e*S	**Sn**		**04 30 55.1**	**-1.0**
YOIG	**Yosondua**	**5.88 302**	*e*P	**Pn**		**04 30 03.8**	**+2.3**
YOIG			*e*S	**Sn**		**04 31 05.4**	**-3.7**
PNIG	**Pinotepa**	**6.16 296**	*e*P	**Pn**		**04 30 05.6**	**+0.5**
PNIG			*e*S	Sn		04 31 10.0	-5.7
TOIG	**Toxpalan**	**6.25 314**	*e*P	**Pn**		**04 30 07.4**	**+0.8**
TOIG			*e*S	**Sn**		**04 31 17.7**	**-0.6**
TXIG	**Tlaxiaco**	**6.27 305**	*e*P	**Pn**		**04 30 07.6**	**+0.7**
TXIG			*e*S	**Sn**		**04 31 16.3**	**-2.4**
HLIG	**Huajuapan de L**	**6.62 309**	*e*S	**Sn**		**04 31 31.3**	**+3.8**
FTIG	**Fresnillo de T**	**6.92 307**	*e*S	**Sn**		**04 31 31.3**	**-3.4**
MGIG	**Malinaltepec**	**6.97 301**	*e*P	**Pn**		**04 30 16.2**	**-0.2**
MGIG			*e*S	**Sn**		**04 31 31.8**	**-4.1**
JAUV	**Jalcomulco**	**7.02 323**	*e*P	**Pn**		**04 30 16.5**	**-0.6**
JAUV			*e*S	**Sn**		**04 31 35.2**	**-1.9**
TEIG	**Tepich**	**7.54 31**	Pn	**Pn**		**04 30 23.8**	**-0.3**
	baz=219,slow=20,SNR=15						
TEIG			Sn	**Sn**		**04 31 47.6**	**-2.1**
	baz=233,slow=20,SNR=1.6						
TXAR	**Lajitas Array**	**18.72 328**	P	**P**		**04 32 55.4**	**+2.4**
	baz=146,slow=11,SNR=5.4						
	comp=Z,0.7nm,0.8s						
TKL	**Tuckaleechee C**	**23.15 18**	LR	LR		04 42 32.5	
	comp=Z,57nm,19.4s,baz=300,slow=36						
PDAR	**Pinedale Array**	**32.51 336**	P	**P**		**04 35 06.3**	**+1.0**
	comp=Z,0.1nm,0.7s,baz=124,slow=3.7,SNR=1.4						
	comp=Z,0.1nm,0.7s						
NVAR	**Mina Array Bea**	**33.65 322**	P	**P**		**04 35 18.0**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=

H18K S Sg 04 38 24.0 -1.4
baz=3.8
G17K Kiwalik Mounta 1.21 237 Pn 04 38 12.6 -1.9
G17K Sb 04 38 28.7 -1.5
G17K Kiwalik Mounta 1.21 237 P Pn 04 38 12.6 -1.9
baz=55
G17K S Sb 04 38 28.7 -1.5
baz=55
F17K Baldwin Pennin 1.25 283 Pn 04 38 14.5 -0.5
F17K Baldwin Pennin 1.25 283 IAML 04 38 33.0
comp=N,2µm,1.0s
F17K IAML 04 38 33.4
comp=E,2µm,1.0s
F17K Baldwin Pennin 1.25 283 P Pn 04 38 14.5 -0.5
baz=101
F20K Avaraart Lake 1.32 48 Pn 04 38 15.6 -0.4
F20K Avaraart Lake 1.32 48 P Pn 04 38 15.6 -0.4
baz=230
E19K Redstone River 1.34 17 Pn 04 38 16.1 -0.1
E19K Redstone River 1.34 17 IAML 04 38 36.7
comp=N,2µm,0.5s
E19K IAML 04 38 38.6
comp=E,2µm,0.8s
E19K Redstone River 1.34 17 P Pn 04 38 16.1 -0.1
baz=197
H17K Granite Mounta 1.44 210 Pn 04 38 16.7 -0.9
H17K IAML 04 38 38.8
comp=E,1µm,0.2s
H17K Granite Mounta 1.44 210 P Pn 04 38 16.6 -0.9
baz=29
H20K Anotleneega Mo 1.54 115 Pn 04 38 19.0 -0.1
H20K Anotleneega Mo 1.54 115 P Pn 04 38 19.0 -0.1
baz=298
GCSA Galena City Sc 1.55 158 Pn 04 38 19.1 0.0
GCSA Galena City Sc 1.55 158 P Pn 04 38 19.1 0.0
baz=340
E18K Tukpahlearik C 1.56 324 Pn 04 38 19.8 +0.5
E18K Tukpahlearik C 1.56 324 P Pn 04 38 19.4 +0.2
baz=142
E17K Hotham Inlet 1.69 304 Pn 04 38 20.9 -0.2
E17K Hotham Inlet 1.69 304 P Pn 04 38 20.9 -0.2
baz=120
G16K Koyuk River 1.88 247 Pn 04 38 22.4 -1.2
G16K Koyuk River 1.88 247 IAML 04 38 51.2
comp=E,900nm,0.7s
G16K IAML 04 38 51.3
comp=N,1µm,0.8s
G16K Koyuk River 1.88 247 P Pn 04 38 22.4 -1.2
baz=63
G21K Allakaket 1.93 78 Pn 04 38 24.1 -0.4
G21K Allakaket 1.93 78 P Pn 04 38 24.1 -0.4
baz=262
I20K Naaghedeneel 2.10 130 Pn 04 38 24.5 -2.1
I20K Naaghedeneel 2.10 130 P Pn 04 38 24.5 -2.1
baz=314
F21K Alatna River 2.15 59 Pn 04 38 27.2 -0.3
F21K Alatna River 2.15 59 IAML 04 39 03.4
comp=E,952nm,0.7s
F21K IAML 04 39 04.8
comp=N,695nm,0.6s
F21K Alatna River 2.15 59 P Pn 04 38 27.2 -0.3
baz=243
E20K Nigu River 2.23 20 P Pn 04 38 30.1 +1.5
baz=201
H16K Elim 2.29 229 Pn 04 38 27.9 -1.4
H16K Elim 2.29 229 P Pn 04 38 27.9 -1.4
baz=46
H21K Melozitna Rive 2.29 101 Pn 04 38 28.9 -0.4
H21K Melozitna Rive 2.29 101 IAML 04 39 07.2
comp=N,441nm,0.8s
H21K IAML 04 39 09.4
comp=E,628nm,0.6s
H21K Melozitna Rive 2.29 101 P Pn 04 38 28.9 -0.4
baz=286
D19K Kuna River 2.32 1 Pn 04 38 30.6 +0.8
D19K Kuna River 2.32 1 IAML 04 39 09.0
comp=E,647nm,0.9s
D19K IAML 04 39 17.7
comp=N,548nm,0.7s
D19K Kuna River 2.32 1 P Pn 04 38 30.6 +0.8
baz=181
D17K Noatak River 2.44 311 Pn 04 38 31.3 -0.1
D17K Noatak River 2.44 311 P Pn 04 38 31.3 -0.1
baz=126
J19K Poorman 2.46 152 Pn 04 38 31.7 0.0
J19K Poorman 2.46 152 P Pn 04 38 31.7 0.0
baz=335
I17K Unalakleet 2.54 206 Pn 04 38 32.2 -0.5
I17K Unalakleet 2.54 206 P Pn 04 38 32.1 -0.5
baz=24
D20K Etivluk River 2.62 13 Pn 04 38 34.4 +0.6
D20K Etivluk River 2.62 13 P Pn 04 38 34.4 +0.6
baz=194
RDOG Red Dog Mine 2.62 318 Pn 04 38 34.9 +1.1
RDOG Red Dog Mine 2.62 318 P Pn 04 38 34.7 +0.8
baz=134
J20K Nowinta River 2.65 138 Pn 04 38 34.6 +0.3
J20K Nowinta River 2.65 138 IAML 04 39 17.9
comp=N,332nm,0.7s
J20K Nowinta River 2.65 138 P Pn 04 38 34.6 +0.3
baz=322
F15K North Star Dit 2.67 263 Pn 04 38 34.8 +0.2
F15K North Star Dit 2.67 263 IAML 04 39 17.1
comp=N,291nm,1.2s
F15K IAML 04 39 20.8
comp=E,473nm,0.9s
F15K North Star Dit 2.67 263 P Pn 04 38 34.8 +0.2
baz=77
G15K Niukluk 2.69 246 Pn 04 38 35.0 +0.1
G15K Niukluk 2.69 246 P Pn 04 38 35.0 +0.1
baz=61
C18K Utukok River 2.73 337 Pn 04 38 36.0 +0.6
C18K Utukok River 2.73 337 P Pn 04 38 36.0 +0.6
baz=154
E21K Killik River 2.80 34 Pn 04 38 37.2 +0.7
E21K Killik River 2.80 34 IAML 04 39 28.3
comp=E,356nm,0.9s
E21K IAML 04 39 29.0
comp=N,445nm,0.6s
E21K Killik River 2.80 34 P Pn 04 38 37.2 +0.7
baz=218
J18K Innoko River 2.81 166 Pn 04 38 36.4 0.0
J18K Innoko River 2.81 166 IAML 04 39 19.8
comp=N,285nm,0.5s
J18K IAML 04 39 23.4
comp=E,290nm,0.7s
J18K Innoko River 2.81 166 P Pn 04 38 36.4 0.0
baz=348
H22K Ishtalitna Cre 2.81 93 Pn 04 38 36.4 -0.1
H22K Ishtalitna Cre 2.81 93 P Pn 04 38 36.4 -0.1
baz=279
J17K VABM Dome 2.82 188 Pn 04 38 36.7 +0.1
J17K VABM Dome 2.82 188 IAML 04 39 23.5
comp=E,476nm,0.7s
J17K IAML 04 39 26.6
comp=N,465nm,0.7s
J17K VABM Dome 2.82 188 P Pn 04 38 36.7 +0.1
baz=7.3
C17K DeLong Mountai 2.99 322 Pn 04 38 40.0 +1.0
C17K DeLong Mountai 2.99 322 P Pn 04 38 40.0 +1.0
baz=138
J16K Anvik River 3.09 200 Pn 04 38 39.8 -0.5
J16K Anvik River 3.09 200 P Pn 04 38 39.8 -0.5
baz=18
E22K Anaktuvuk Pass 3.18 49 Pn 04 38 42.7 +1.2
E22K IAML 04 39 36.3
comp=N,209nm,1.2s
E22K IAML 04 39 37.2
comp=E,279nm,1.1s
E22K Anaktuvuk Pass 3.18 49 P Pn 04 38 42.5 +0.9
baz=235
C21K Knifeblade Rid 3.26 22 Pn 04 38 42.9 +0.2
C21K Knifeblade Rid 3.26 22 P Pn 04 38 42.9 +0.2
baz=205
G23K Bananza Creek 3.34 77 Pn 04 38 43.1 -0.7
G23K Bananza Creek 3.34 77 IAML 04 39 39.9
comp=E,349nm,0.6s
G23K Bananza Creek 3.34 77 P Pn 04 38 43.1 -0.7
baz=264
K20K Telida 3.35 146 Pn 04 38 44.5 +0.5
K20K Telida 3.35 146 P Pn 04 38 44.4 +0.5
baz=330
COLD Coldfoot 3.36 68 Pn 04 38 43.7 -0.3
COLD Coldfoot 3.36 68 P Pn 04 38 43.6 -0.3
baz=255
ANM Nome 3.41 245 Pn 04 38 43.1 -1.6
ANM IAML 04 39 43.4
comp=E,223nm,0.7s
ANM IAML 04 39 46.5
comp=N,183nm,0.8s
ANM Nome 3.41 245 P Pn 04 38 44.4 -0.2
baz=58
TTA Tatalina 3.41 163 Pn 04 38 45.4 +0.7
TTA Tatalina 3.41 163 P Pn 04 38 45.2 +0.5
baz=345
F14K Arctic Creek 3.41 262 Pn 04 38 43.8 -0.9
F14K Pb 04 38 45.9 -6.2
F14K Arctic Creek 3.41 262 P Pn 04 38 45.8 +1.2
baz=74
CHUM Lake Minchumin 3.41 130 Pn 04 38 45.5 +0.8
CHUM Lake Minchumin 3.41 130 P Pn 04 38 45.5 +0.8
baz=315
D22K Ayikyak River 3.44 36 Pn 04 38 46.3 +1.1
D22K IAML 04 39 45.8
comp=N,266nm,0.9s
B18K Kokolik River 3.47 339 Pn 04 38 46.0 +0.5
B18K Kokolik River 3.47 339 P Pn 04 38 46.0 +0.5
baz=155
C16K Lisburne Hills 3.47 310 Pn 04 38 45.9 +0.4
C16K Lisburne Hills 3.47 310 P Pn 04 38 45.9 +0.4
baz=124
K17K Iditarod 3.48 181 Pn 04 38 45.6 -0.2
K17K IAML 04 39 43.4
comp=E,276nm,0.8s
K17K IAML 04 39 59.0
comp=N,191nm,0.9s
K17K Iditarod 3.48 181 P Pn 04 38 45.4 -0.3
baz=0.7
BPAW Bear Paw Mtn. 3.71 121 Pn 04 38 50.2 +1.4
BPAW Bear Paw Mtn. 3.71 121 P Pn 04 38 50.1 +1.4
baz=308
B21K Ikpikpuk River 3.71 20 Pn 04 38 49.5 +0.7
B21K Ikpikpuk River 3.71 20 IAML 04 39 57.6
comp=N,224nm,0.7s
B21K Ikpikpuk River 3.71 20 P Pn 04 38 49.5 +0.7
baz=203
I23K Minto, Yukon-K 3.82 102 Pn 04 38 51.2 +0.9
I23K IAML 04 39 59.9
comp=E,262nm,1.3s
I23K Minto, Yukon-K 3.82 102 P Pn 04 38 50.9 +0.7
baz=290
CAST Castle Rocks 3.82 134 Pn 04 38 51.7 +1.3
CAST Castle Rocks 3.82 134 P Pn 04 38 51.6 +1.2
baz=319
E23K Chandalar 3.85 57 Pn 04 38 51.2 +0.3
E23K Chandalar 3.85 57 IAML 04 39 56.9
comp=N,224nm,0.9s
E23K IAML 04 39 57.9
comp=E,245nm,0.8s
E23K Chandalar 3.85 57 P Pn 04 38 51.2 +0.3
baz=245
D23K Nanushuk River 4.02 43 Pn 04 38 54.0 +0.9
D23K Nanushuk River 4.02 43 P Pn 04 38 54.0 +0.9
baz=229
L18K Granite Mounta 4.04 170 Pn 04 38 53.9 +0.5
L18K Granite Mounta 4.04 170 IAML 04 40 01.2
comp=E,105nm,1.2s
L18K IAML 04 40 02.0
comp=N,180nm,1.1s
L18K Granite Mounta 4.04 170 P Pn 04 38 53.9 +0.5
baz=351
L17K Donlin 4.07 180 Pn 04 38 53.7 0.0
L17K Donlin 4.07 180 P Pn 04 38 53.7 0.0
baz=0.6
KTH Kantishna Hill 4.08 127 Pn 04 38 55.0 +0.9
KTH IAML 04 40 10.0
comp=N,130nm,1.0s
J14K Nanvaranak Lak 4.15 216 IAML 04 40 13.7
comp=N,196nm,0.9s
TOLK Toolik Lake Re 4.15 50 Pn 04 38 55.9 +1.0
TOLK IAML 04 40 10.9
comp=E,161nm,1.0s
TOLK IAML 04 40 25.9
comp=N,152nm,1.1s
TOLK Toolik Lake Re 4.15 50 P Pn 04 38 55.6 +0.7
baz=237
NEA2 Nenana 4.15 108 Pn 04 38 55.2 +0.3
NEA2 Nenana 4.15 108 P Pn 04 38 55.3 +0.3
baz=297
K15K Wolf Creek Mou 4.16 202 IAML 04 40 06.0
comp=E,132nm,1.1s
K15K IAML 04 40 07.3
comp=N,135nm,1.4s
L20K Farewell, AK 4.17 151 Pn 04 38 56.0 +0.7
L20K Farewell, AK 4.17 151 P Pn 04 38 56.0 +0.7
baz=335
PPLA Purkeypile 4.21 139 Pn 04 38 57.4 +1.6
PPLA Purkeypile 4.21 139 P Pn 04 38 57.3 +1.6
baz=324
BWN Browne 4.21 115 IAML 04 40 17.7
comp=N,164nm,1.3s
H24K Noodor Dome 4.24 90 IAML 04 40 05.8
comp=N,154nm,0.8s
E24K Your Creek 4.25 59 IAML 04 40 16.5
comp=E,162nm,0.7s
E24K IAML 04 40 20.4
comp=N,143nm,0.8s
L19K White Mountain 4.28 158 IAML 04 40 17.4
comp=N,87nm,1.1s
TRF Thorofare Moun 4.36 125 Pn 04 38 59.3 +1.3
TRF IAML 04 40 15.9
comp=E,110nm,1.2s
TRF IAML 04 40 18.4
comp=N,125nm,1.2s
TRF Thorofare Moun 4.36 125 P Pn 04 38 58.7 +0.8
baz=313
COLA College 4.51 102 Pn 04 39 00.3 +0.5
L16K Owhat River 4.53 188 Pn 04 38 59.9 -0.1
L16K IAML 04 40 17.3
comp=N,82nm,0.7s
L16K Owhat River 4.53 188 P Pn 04 39 00.3 +0.2
baz=6.6
B22K Teshekpuk Lake 4.54 21 Pn 04 39 00.6 +0.4
B22K Teshekpuk Lake 4.54 21 IAML 04 40 28.2
comp=N,129nm,0.8s
B22K IAML 04 40 30.4
comp=E,150nm,1.4s
B22K Teshekpuk Lake 4.54 21 P Pn 04 39 00.6 +0.4
baz=205
WRH Wood River Hil 4.58 107 Pn 04 39 01.4 +0.5
WRH IAML 04 40 21.8
comp=E,68nm,0.8s
WRH IAML 04 40 22.0
comp=N,67nm,0.6s
POKR Poker Plat Res 4.60 99 IAML 04 40 20.8
comp=E,101nm,0.6s
POKR IAML 04 40 21.3
comp=N,126nm,1.2s
POKR Poker Plat Res 4.60 99 P Pn 04 39 01.6 +0.6
baz=288
C23K Itkillik River 4.65 35 Pn 04 39 02.3 +0.6
C23K IAML 04 40 28.8
comp=E,104nm,0.8s
C23K IAML 04 40 33.0
comp=N,112nm,0.7s
C23K Itkillik River 4.65 35 P Pn 04 39 03.4 +1.7
baz=221
MCK McKinley 4.65 118 P Pn 04 39 02.9 +1.1
baz=306
M17K Holitna River 4.82 175 Pn 04 39 04.6 +0.6
M17K Holitna River 4.82 175 IAML 04 40 43.0
comp=E,116nm,0.8s
M17K Holitna River 4.82 175 P Pn 04 39 04.6 +0.6
baz=356
M18K Stony River 4.83 166 P Pn 04 39 04.8 +0.5
baz=348
RND Reindeer 4.88 121 Pn 04 39 05.0 0.0
IL31 4.93 101 Pn 04 39 05.8 +0.2
ILAR Eielson Array 4.93 101 Pn Pn 04 39 05.1 -0.5
comp=E,15nm,0.4s,baz=287,slow=14,SNR=5.1
ILAR Sn Sn 04 39 57.5 -5.0
comp=E,3.9nm,0.3s,baz=324,slow=28,SNR=5.2
ILAR Lg Lg 04 40 23.2
comp=E,4.5nm,0.3s,baz=296,slow=15,SNR=5.7
C24K Franklin Bluff 5.04 41 IAML 04 40 47.3
comp=N,93nm,1.2s
C24K IAML 04 40 58.4
comp=E,104nm,1.4s
HDA Harding Lake 5.06 105 IAML 04 40 39.8
comp=E,53nm,1.1s
HDA IAML 04 40 42.6
comp=N,83nm,0.8s
K13K Kusilvak Mount 5.12 216 IAML 04 40 45.6
comp=N,76nm,1.4s
K13K IAML 04 40 46.9
comp=E,90nm,0.8s
SKT Skwentna 5.14 142 Pn 04 39 10.0 +1.5
SKT Skwentna 5.14 142 P Pn 04 39 10.0 +1.5
baz=328
F25K Christian Rive 5.16 68 IAML 04 40 39.6
comp=N,76nm,0.7s
M16K Timber Creek 5.19 184 Pn 04 39 09.3 +0.1
M16K Timber Creek 5.19 184 IAML 04 40 43.9
comp=N,62nm,0.9s
M16K IAML 04 40 49.0
comp=E,41nm,1.1s
M16K Timber Creek 5.19 184 P Pn 04 39 09.3 +0.1
baz=3.4
A21K Barrow 5.20 6 P Pn 04 39 09.0 -0.2
baz=187
L14K Kuka Creek 5.25 204 Pn Pn 04 39 14.6 +4.7
PRP Porcupine Dome 5.26 91 IAML 04 40 44.7
comp=E,83nm,0.8s
E25K Arctic Village 5.30 63 IAML 04 40 50.4
comp=E,61nm,0.7s
E25K Arctic Village 5.30 63 P Pn 04 39 10.7 0.0
baz=254
STLK Strandline Lak 5.49 146 Pn 04 39 14.4 +1.0
SPBG Spurr Blockage 5.59 150 Pn 04 39 16.0 +1.3
J25K Salcha River, 5.60 100 Pn 04 39 15.4 +0.5
J25K Salcha River, 5.60 100 P Pn 04 39 15.4 +0.5
baz=292
N18K Kilae Creek 5.63 168 Pn 04 39 15.8 +0.7
N18K Kilae Creek 5.63 168 P Pn 04 39 15.8 +0.7
baz=350
N19K Bonanza Creek 5.65 161 P Pn 04 39 16.4 +0.9
baz=344
N17K Nushagak Hills 5.70 175 Pn 04 39 17.0 +0.8
N17K Nushagak Hills 5.70 175 P Pn 04 39 17.0 +0.8
baz=356
M14K Bethel 5.71 199 Pn 04 39 16.0 -0.2
SPU Mount Spurr 5.72 148 Pn 04 39 17.4 +0.9
SUA Susitna One 5.78 142 Pn 04 39 18.5 +1.2
SUA Susitna One 5.78 142 P Pn 04 39 18.5 +1.2
baz=328
N15K Kwethluk River 6.10 189 Pn 04 39 21.9 +0.3
N15K Kwethluk River 6.10 189 P Pn 04 39 21.9 +0.3
baz=7.3
SML Sawmill 6.18 131 Pn 04 39 23.2 +0.4
SML Sawmill 6.18 131 P Pn 04 39 23.2 +0.4
baz=320
RDT Redoubt 6.21 152 Pn 04 39 22.9 -0.4
C26K Camden Bay 6.23 47 Pn 04 39 24.3 +0.9
C26K Camden Bay 6.23 47 P Pn 04 39 24.3 +0.9
baz=239
M13K Dall Lake 6.24 204 Pb 04 39 44.3 +4.2
I26K Coal Creek Min 6.27 91 Pn 04 39 24.1 0.0
I26K Coal Creek Min 6.27 91 P Pn 04 39 24.0 0.0
baz=285
RED Redoubt Volcan 6.29 154 Pn 04 39 24.3 0.0
O18K Koktuh Hills 6.50 166 P Pn 04 39 27.5 +0.3
baz=349
ILSW Iliamna Southw 6.64 157 Pn 04 39 30.8 +1.7
ILS Iliamna Low So 6.67 157 Pn 04 39 29.9 +0.3
P18K Big Mountain, 6.96 167 Pn 04 39 33.8 +0.4
P18K Big Mountain, 6.96 167 P Pn 04 39 33.6 +0.2
baz=350
P17K Kvichak River 7.07 172 P Pn 04 39 35.6 +0.7
baz=354
DAWY Dawson 8.21 96 Pn 04 39 50.1 -0.6
DAWY Dawson 8.21 96 P Pn 04 39 50.1 -0.6
baz=293
G30M tAoh Zraii Nji 8.79 75 Pn 04 39 57.3 -1.2
G30M tAoh Zraii Nji 8.79 75 P Pn 04 39 57.3 -1.2
baz=275
KDAK Kodiak Island 8.84 160 Pn Pn 04 40 02.0 +2.9
comp=E,0.5nm,0.3s,baz=312,slow=12,SNR=11
KDAK Lg Lg 04 42 40.6
comp=E,0.1nm,0.3s,baz=250,slow=14,SNR=1.4
comp=E,4.1nm,0.5s
INK Inuvik 9.77 66 Pn Pn 04 40 12.7 +0.8
comp=E,0.3nm,0.3s,baz=286,slow=14,SNR=17
INK Sn Sn 04 41 58.5 -2.8
comp=E,0.1nm,0.3s,baz=232,slow=8.0,SNR=2.0
A36M Sachs Harbour 12.97 49 Pn Pn 04 40 54.2 -1.4
A36M Sachs Harbour 12.97 49 P Pn 04 40 53.9 -1.8
baz=260
DLBC Dease Lake 15.11 107 Pn P 04 41 29.6 -0.3
comp=E,0.3nm,0.3s,baz=217,slow=16,SNR=4.6
DLBC Lg Lg 04 45 50.9
baz=74,slow=16,SNR=1.5
comp=E,0.6nm,0.3s
YKA Yellowknife Ar 18.94 81 P Pn 04 42 12.7 -0.2
comp=E,1.0nm,0.3s,baz=300,slow=11,SNR=7.0
comp=E,0.2nm,0.6s
SEY Seymchan 21.01 284 P P 04 42 34.7 0.0
comp=E,0.8nm,0.2s,baz=17,slow=19,SNR=1.7
comp=E,0.8nm,0.2s
FRB Frobisher Bay 34.97 51 LR LR 05 02 30.4
comp=E,41nm,19.3s,baz=299,slow=43
NVAR Mina Array Bea 35.88 121 P P 04 44 53.2 +1.7
comp=E,0.3nm,0.7s,baz=333,slow=10.0,SNR=2.4
comp=E,0.3nm,0.7s
NRIK Noril'sk 37.32 328 P P 04 45 03.0 -0.2
comp=E,1.5nm,0.5s,baz=62,slow=5.3,SNR=3.9
comp=E,1.5nm,0.5s
TXAR Lajitas Array 49.38 110 P P 04 46 42.3 +1.3
comp=E,0.5nm,0.8s,baz=298,slow=5.5,SNR=3.9
comp=E,0.5nm,0.8s
BVAR Borovoye Array 55.52 327 P P 04 47 26.0 -0.1
comp=E,1.0nm,0.6s,baz=46,slow=8.6,SNR=5.3
comp=E,1.0nm,0.6s
KURBB Kurchatov Arra 55.76 320 P P 04 47 27.3 -0.5
comp=E,0.9nm,1.0s,baz=26,slow=8.2,SNR=4.1
comp=E,0.9nm,1.0s
MKAR Makanchi Array 58.22 315 P P 04 47 44.2 -1.1
comp=E,0.4nm,0.8s,baz=46,slow=6.9,SNR=4.1
comp=E,0.4nm,0.8s
AKASG Malin Array Be 63.30 355 P P 04 48 20.3 +0.5
comp=E,0.8nm,0.5s,baz=6.1,slow=6.2,SNR=7.0
comp=E,0.8nm,0.5s
KBZ Khabaz 69.21 344 P P 04 48 58.1 +0.3
comp=E,1.6nm,0.8s,baz=4.8,slow=12,SNR=4.5
comp=E,1.6nm,0.8s
ESDC Sonseca Array 72.61 21 P P 04 49 17.5 -1.1
comp=E,0.2nm,0.6s,baz=347,slow=6.4,SNR=1.8
comp=E,0.2nm,0.6s
BRTR Keskin Array B 74.02 351 P P 04 49 28.0 +1.0
comp=E,0.6nm,0.8s,baz=357,slow=2.9,SNR=3.5
comp=E,0.6nm,0.8s

---

*IDC **09** 04:54:17.9±2.4, 1°.97N×127°.75E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=223.6km s-min=23.1km az=68.0*
*DJA **09** 04:54:18.7±0.9, 2°.N±5°.×12°.9E±°, h11km±4km, M3.8/6, MLv3.8/6*
ISC 09 04:54:18.2±1.5, **2°.3N**±0°.1×**128°.7E**±0°.1, **h10**km, **n6**, σ0°.**45**/7, **mb3.5**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.99	221	P	Pb	04 54 55.0	+0.5
TNTI				S	Sg	04 55 21.7	-0.6
SGSI	Sangihe	3.45	294	P	Pn	04 55 12.2	+0.2
WRA	Warramunga Arr	22.77	166	P	P	04 59 20.9	-0.1
	0.5nm,0.7s,baz=342,slow=10.0,SNR=1.4						
	0.5nm,0.7s						
ASAR	Alice Springs	26.28	169	P	P	04 59 54.1	+0.1
	0.3nm,0.6s,baz=349,slow=9.8,SNR=4.2						
	0.3nm,0.6s						
MKAR	Makanchi Array	59.86	325	P	P	05 04 24.0	-0.1
	0.3nm,0.4s,baz=124,slow=8.2,SNR=11						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.01	327	P	P	05 04 51.5	-0.5
	0.2nm,0.2s,baz=120,slow=5.5,SNR=2.9						
	0.2nm,0.2s						

---

*GCG **09** 05:09:45.8±1.2, 13°.70N×92°.29W, h0km±10km, MD4.2, Hypocentre not reviewed by the ISC*
*IDC **09** 05:09:47.7±2.3, 14°.03N×92°.28W, h0km, mb3.5/3, mbtmp3.4/5, ML3.5/2, MS3.2/1, Error ellipse: s-maj=55.5km s-min=29.4km az=38.0*
ISC 09 05:09:58.8±2.0, **14°.5N**±0°.2×**92°.24W**±0°.09, **h67**km, **n8**, σ1°.**76**/9, **mb3.5**/3, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.41	356	eP		05 10 07.8	

THIG				*i* S			05 10 24.4	
HUEH	**Huehuetenango**	**1.08**	**41**	*e*P			05 10 18.1	
QUIS	**Sacapulas**	**1.36**	**55**	*e*P			05 10 20.9	
QUIS				*e*S			05 10 48.1	
CCIG	**Comitan**	**1.77**	**3**	*e*P			05 10 30.0	
CCIG				*e*S			05 11 03.8	
TGIG		**2.42**	**340**	*i* P			05 10 36.7	
NUBE	**Las Nubes**	**2.46**	**104**	*e*P			05 10 28.1	
CMIG	**Matias Romero**	**3.62**	**316**	Pn		**Pn**	**05 10 50.0**	**-2.5**
	2.4nm,0.3s,baz=140,slow=14,SNR=9.4							
CMIG				Sn		**Sn**	**05 11 35.9**	**+1.8**
	4.4nm,0.3s,baz=120,slow=15,SNR=5.2							
CMIG				Lg		Lg	05 11 52.6	
	6.8nm,0.3s,baz=117,slow=9.0,SNR=5.8							
	3.0nm,0.3s							
TEIG	**Tepich**	**6.83**	**33**	Pn		**Pn**	**05 11 37.0**	**+0.5**
	baz=229,slow=24,SNR=8.4							
TEIG				Sn		**Sn**	**05 12 51.3**	**-1.5**
	baz=232,slow=20,SNR=1.3							
TXAR	**Lajitas Array**	**18.15**	**326**	P		**P**	**05 14 07.5**	**+1.6**
	baz=147,slow=12,SNR=3.5							
	0.4nm,0.6s							
TKL	**Tuckaleechee C**	**22.40**	**18**	LR		LR	05 23 29.4	
	comp=Z,54nm,20.1s,baz=322,slow=36							
NVAR	**Mina Array Bea**	**33.14**	**321**	P		**P**	**05 16 30.6**	**+1.6**
	0.2nm,0.5s,baz=151,slow=4.7,SNR=2.7							
	0.2nm,0.5s							
YKA	**Yellowknife Ar**	**50.49**	**347**	P		**P**	**05 18 48.6**	**-1.1**
	0.7nm,0.7s,baz=155,slow=7.6,SNR=14							
	0.7nm,0.7s							
ILAR	**Eielson Array**	**62.29**	**337**	P		**P**	**05 20 13.4**	**-0.2**
	0.3nm,0.8s,baz=104,slow=6.4,SNR=4.4							
	0.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**145.44**	**341**	PKPbc		**PKPdf**	**05 29 30.0**	**-0.1**
	0.7nm,0.3s,baz=6.6,slow=2.3,SNR=5.1							

*JMA **09** 05:23:41.1±0.2,24°.8N±0°.9×122°.0E±0°.5,h92km±2km,*
MV3.0/13,TAIWAN REGION
*TAP **09** 05:23:41.5,24°.83N×122°.00E,h88km,ML3.9,C*
ISC 09 05:23:40.6±1.3,24°.86N±0°.03×122°.01E±0°.02,h97km±5km,
n171,σ1§03/321,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**260**	*i* P	**Pn**	**05 23 54.1**	**0.0**
EGS				S	**Sn**	**05 24 01.5**	**-2.6**
TWB1	**Santiao Chiao**	**0.15**	**354**	*i* P	**Pn**	**05 23 54.3**	**0.0**
TWB1				*e*S	**Sn**	**05 24 03.1**	**-1.3**
NTC	**Toucheng**	**0.16**	**269**	*e*P	**Pn**	**05 23 54.0**	**-0.2**
NTC				S	**Sn**	**05 24 03.8**	**-0.6**
TIPB	**Shuangxi**	**0.20**	**305**	*i* P	**Pn**	**05 23 54.4**	**0.0**
TIPB				S	**Sn**	**05 24 03.2**	**-1.6**
ILA	**Ilan**	**0.25**	**249**	*i* P	**Pn**	**05 23 54.6**	**+0.1**
ILA				S	**Sn**	**05 24 04.3**	**-0.7**
SXI1	**Grass Mountain**	**0.27**	**333**	*i* P	**Pn**	**05 23 54.6**	**-0.2**
SXI1				S	**Sn**	**05 24 03.5**	**-1.8**
TWC	**Suao**	**0.28**	**210**	*i* P	**Pn**	**05 23 54.6**	**-0.1**
TWC				*i* S	**Sn**	**05 24 03.6**	**-1.7**
NWF	**Wu-fen Shan**	**0.30**	**316**	*i* P	**Pn**	**05 23 54.9**	**0.0**
WFSB	**Wu-fen Shan**	**0.30**	**316**	*i* P	**Pn**	**05 23 54.9**	**+0.1**
WFSB				*e*S	**Sn**	**05 24 04.1**	**-1.3**
ESAO	**Su ao**	**0.32**	**208**	*i* P	**Pn**	**05 23 54.9**	**0.0**
ESAO				*e*S	**Sn**	**05 24 04.8**	**-0.7**
TWE	**Neicheng**	**0.34**	**246**	*i* P	**Pn**	**05 23 55.0**	**0.0**
TWE				*e*S	**Sn**	**05 24 06.8**	**+1.1**
NDS	**Dongshan**	**0.35**	**230**	*i*P	**Pn**	**05 23 55.3**	**+0.3**
NDS				S	**Sn**	**05 24 07.0**	**+1.2**
FUSB	**Fushanzhiwuyua**	**0.39**	**256**	*i* P	**Pn**	**05 23 55.4**	**+0.1**
FUSB				S	**Sn**	**05 24 06.6**	**+0.2**
NHY	**Taipei**	**0.44**	**295**	*e*P	**Pn**	**05 23 55.6**	**+0.1**
NHY				*e*S	**Sn**	**05 24 08.1**	**+1.3**
ENTT	**Nioudou**	**0.46**	**242**	*i* P	**Pn**	**05 23 56.1**	**+0.3**
ENTT				*i* S	**Sn**	**05 24 07.8**	**+0.8**
EWUT	**Wuta**	**0.46**	**207**	*i* P	**Pn**	**05 23 56.1**	**+0.4**
EWUT				S	**Sn**	**05 24 06.8**	**-0.3**
NWLT	**Wulai**	**0.47**	**260**	*i* P	**Pn**	**05 23 55.8**	**-0.1**
NWLT				*e*S	**Sn**	**05 24 06.8**	**-0.4**
EOS2	**EOS2**	**0.48**	**155**	*e*P	**Pn**	**05 23 56.5**	**+0.8**
EOS2				*e*S	**Sn**	**05 24 07.9**	**+0.9**
TATO	**Taipei**	**0.49**	**284**	P	**Pn**	**05 23 55.6**	**-0.3**
TAP	**Taipei**	**0.49**	**292**	*e*P	**Pn**	**05 23 55.6**	**-0.3**
TAP				*e*S	**Sn**	**05 24 08.3**	**+0.9**
YM01	**YM01**	**0.49**	**306**	*i* P	**Pn**	**05 23 56.0**	**0.0**
YM01				*e*S	**Sn**	**05 24 09.0**	**+1.4**
ENA	**Nanau**	**0.49**	**210**	*e*P	**Pn**	**05 23 56.4**	**+0.5**
ENA				S	**Sn**	**05 24 07.5**	**0.0**
YM08	**YM08**	**0.50**	**311**	*e*P	**Pn**	**05 23 56.0**	**-0.1**
YM08				*i* S	**Sn**	**05 24 07.6**	**-0.1**
ZUZH	**Zhuzihu**	**0.52**	**306**	*i* P	**Pn**	**05 23 56.1**	**-0.1**
ZUZH				*e*S	**Sn**	**05 24 08.4**	**+0.5**
LATG	**Datong**	**0.54**	**234**	*i* P	**Pn**	**05 23 57.2**	**+0.8**
LATG				*i* S	**Sn**	**05 24 09.2**	**+0.9**
ANP	**Anpu**	**0.55**	**307**	*i* P	**Pn**	**05 23 56.4**	**-0.2**
EAHA	**Aohua**	**0.58**	**205**	P	**Pn**	**05 23 56.7**	**+0.1**
EAHA				S	**Sn**	**05 24 09.2**	**+0.5**
TWS1	**Kuangyinshan**	**0.59**	**295**	P	**Pn**	**05 23 55.9**	**-0.8**
TWS1				*e*S	**Sn**	**05 24 08.4**	**-0.4**
NTST	**Danshui**	**0.59**	**301**	*e*P	**Pn**	**05 23 56.8**	**+0.1**
NTST				*e*S	**Sn**	**05 24 09.4**	**+0.6**
EHP	**Heping Village**	**0.60**	**204**	P	**Pn**	**05 23 56.7**	**-0.2**
EHP				S	**Sn**	**05 24 09.4**	**+0.5**
YHNB	**Yeheng**	**0.60**	**252**	P	**Pn**	**05 23 57.0**	**+0.1**
YHNB	**Yeheng**	**0.60**	**252**	*i* P	**Pn**	**05 23 57.2**	**+0.3**
YHNB				*i* S	**Sn**	**05 24 08.2**	**-0.9**
NSK	**Sanguang**	**0.62**	**253**	*i* P	**Pn**	**05 23 57.2**	**+0.2**
NSK				*i* S	**Sn**	**05 24 08.3**	**-1.1**
EOS3	**EOS3**	**0.63**	**153**	*e*P	**Pn**	**05 23 57.9**	**+1.0**
EOS3				*e*S	**Sn**	**05 24 10.3**	**+1.2**
NNSB	**Datong**	**0.71**	**233**	*i* P	**Pn**	**05 23 58.5**	**+0.6**
NNSB				*i* S	**Sn**	**05 24 11.2**	**+0.3**
NNSH	**Datong**	**0.71**	**233**	P	**Pn**	**05 23 58.6**	**+0.7**
NNSH				S	**Sn**	**05 24 11.0**	**+0.1**
NNS	**Nan Shan**	**0.71**	**234**	*e*P	**Pn**	**05 23 58.6**	**+0.6**
NNS				*e*S	**Sn**	**05 24 11.0**	**0.0**
NCU	**National Centr**	**0.75**	**279**	*e*P	**Pn**	**05 23 58.7**	**+0.5**
NCU				*e*S	**Sn**	**05 24 12.4**	**+1.0**
NCUH	**Zhongli**	**0.75**	**279**	*i* P	**Pn**	**05 23 58.8**	**+0.6**
NCUH				*e*S	**Sn**	**05 24 11.8**	**+0.4**
KSHI	**Guanxi Townshi**	**0.76**	**264**	*i* P	**Pn**	**05 23 58.8**	**+0.6**
KSHI				*i* S	**Sn**	**05 24 12.3**	**+0.8**
PCYT	**Pengchaiyu**	**0.77**	**4**	*i* P	**Pn**	**05 23 59.1**	**+0.7**
PCYT				*e*S	**Sn**	**05 24 12.7**	**+0.9**
NACB	**Ninganchiao**	**0.78**	**209**	P	**Pn**	**05 23 58.1**	**-0.3**
NACB	**Ninganchiao**	**0.78**	**209**	*i* P	**Pn**	**05 23 58.1**	**-0.3**
NACB				S	**Sn**	**05 24 11.4**	**-0.4**
ETL	**Fush Village**	**0.78**	**207**	*e*P	**Pn**	**05 23 58.6**	**+0.1**
ETL				S	**Sn**	**05 24 11.4**	**-0.5**
EOS4	**EOS4**	**0.79**	**159**	*e*P	**Pn**	**05 23 58.5**	**+0.3**
EOS4				*e*S	**Sn**	**05 24 12.0**	**+0.7**
ETLH	**Xiulin Townshi**	**0.81**	**217**	*i* P	**Pn**	**05 23 58.8**	**0.0**
ETLH				*i* S	**Sn**	**05 24 11.5**	**-0.9**
NFF	**Wufeng Townshi**	**0.84**	**255**	*i* P	**Pn**	**05 23 58.6**	**-0.5**
NFF				*i* S	**Sn**	**05 24 12.4**	**-0.6**
NJD	**Zhudong**	**0.84**	**262**	*e*P	**Pn**	**05 23 59.8**	**+0.7**
NJD				*e*S	**Sn**	**05 24 13.7**	**+0.7**
TWD	**Chiawan**	**0.86**	**206**	*i* P	**Pn**	**05 23 58.9**	**-0.4**
TWD				*e*S	**Sn**	**05 24 11.7**	**-1.5**
NHW	**Xinwu Township**	**0.88**	**280**	*e*P	**Pn**	**05 24 00.2**	**+0.7**
NHW				*e*S	**Sn**	**05 24 14.8**	**+1.1**
HSN1	**Hsinchu**	**0.90**	**265**	*i*P	**Pn**	**05 24 00.3**	**+0.6**
HSN1				*e*S	**Sn**	**05 24 14.6**	**+0.5**
FUSS	**Fushou**	**0.92**	**229**	*e*P	**Pn**	**05 24 01.2**	**+1.0**
FUSS				S	**Sn**	**05 24 15.1**	**+0.2**
LIOB	**Emei**	**0.93**	**257**	*i* P	**Pn**	**05 24 00.5**	**+0.5**
LIOB				S	**Sn**	**05 24 14.6**	**0.0**
SBCB	**Hsinchu**	**0.93**	**266**	*i* P	**Pn**	**05 24 00.8**	**+0.8**
SBCB				S	**Sn**	**05 24 15.2**	**+0.6**
HSN	**Hsinchu**	**0.94**	**267**	*i* P	**Pn**	**05 24 00.2**	**+0.1**
HSN				S	**Sn**	**05 24 13.2**	**-1.6**
JYNG	**Yonagunijimaku**	**0.94**	**115**	P	**Pn**	**05 24 00.4**	**+0.2**
JYNG				S	**Sn**	**05 24 14.5**	**-0.3**
HWA	**Hwalien**	**0.95**	**203**	*e*P	**Pn**	**05 24 00.5**	**+0.2**
HWA				*e*S	**Sn**	**05 24 16.1**	**+1.1**
TWT	**Tachien**	**0.97**	**232**	*e*P	**Pn**	**05 24 01.9**	**+1.3**
TWT				*i* S	**Sn**	**05 24 16.1**	**+0.5**
TDCB	**Techi**	**0.98**	**232**	*i* P	**Pn**	**05 24 01.8**	**+1.1**
TDCB				S	**Sn**	**05 24 16.6**	**+0.8**
WHF	**Hehuan Shan**	**0.98**	**224**	*i* P	**Pn**	**05 24 01.5**	**+0.5**
WHF				S	**Sn**	**05 24 16.0**	**-0.3**
LXIB	**Xiulin Townshi**	**0.99**	**213**	*i* P	**Pn**	**05 24 00.4**	**-0.5**
LXIB				*e*S	**Sn**	**05 24 15.0**	**-1.0**
YOJ	**Yonaguni jima**	**0.99**	**113**	P	**Pn**	**05 24 00.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.99**	**113**	*i* P	**Pn**	**05 24 01.0**	**+0.3**
YOJ				S	**Sn**	**05 24 15.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.99**	**113**	P	**Pn**	**05 24 00.9**	**+0.3**
YOJ				*e*S	**Sn**	**05 24 15.5**	**-0.3**
ETM	**Tongmen**	**1.00**	**208**	*e*P	**Pn**	**05 24 01.6**	**+0.7**
ETM				*e*S	**Sn**	**05 24 14.4**	**-1.7**
NJN	**Zhunan**	**1.05**	**261**	*e*P	**Pn**	**05 24 01.9**	**+0.6**
NJN				*e*S	**Sn**	**05 24 17.2**	**+0.4**
TEYL	**Yanliau Villag**	**1.05**	**201**	*e*P	**Pn**	**05 24 01.4**	**0.0**
TEYL				*e*S	**Sn**	**05 24 17.0**	**0.0**
WHP	**Taichung City**	**1.12**	**239**	P	**Pn**	**05 24 03.3**	**+1.0**
WHP				*i* S	**Sn**	**05 24 18.2**	**-0.4**
SHUL	**Shoufeng**	**1.14**	**201**	*e*P	**Pn**	**05 24 02.6**	**+0.2**
SHUL				*e*S	**Sn**	**05 24 19.3**	**+0.6**
NMLH	**Miaoli**	**1.15**	**254**	*i* P	**Pn**	**05 24 03.1**	**+0.6**
NMLH				*e*S	**Sn**	**05 24 18.5**	**-0.5**
ESL	**Shilin**	**1.16**	**207**	*e*P	**Pn**	**05 24 01.9**	**-0.7**
ESL				*e*S	**Sn**	**05 24 17.3**	**-2.0**
OWD	**Renai**	**1.18**	**220**	*i* P	**Pn**	**05 24 03.4**	**+0.5**
OWD				*e*S	**Sn**	**05 24 20.0**	**+0.2**
WUSB	**Renai**	**1.18**	**223**	*e*P	**Pn**	**05 24 03.9**	**+0.9**
WUSB				*i* S	**Sn**	**05 24 20.1**	**+0.3**
NSY	**Sanyi**	**1.22**	**249**	*e*S	**Sn**	**05 24 20.9**	**+0.6**
TWQ1	**Liyutan**	**1.23**	**246**	*e*P	**Pn**	**05 24 04.2**	**+0.8**
TWQ1				S	**Sn**	**05 24 21.1**	**+0.4**
WARBT	**Fenglin Townsh**	**1.27**	**207**	*e*P	**Pn**	**05 24 03.0**	**-0.9**
WARBT				*e*S	**Sn**	**05 24 19.3**	**-2.1**
WPL	**Puli Township**	**1.27**	**229**	*e*P	**Pn**	**05 24 02.2**	**-1.7**
WPL				*e*S	**Sn**	**05 24 20.6**	**-1.0**
WCS	**Beigang Elemen**	**1.28**	**232**	*e*P	**Pn**	**05 24 05.0**	**+1.1**
WCS				S	**Sn**	**05 24 22.4**	**+0.9**
DPDB	**Guoxing**	**1.28**	**230**	*e*P	**Pn**	**05 24 04.8**	**+0.7**
DPDB				*e*S	**Sn**	**05 24 22.6**	**+0.8**
EGFH	**Guangfu**	**1.30**	**204**	*e*P	**Pn**	**05 24 04.0**	**-0.2**
EGFH				S	**Sn**	**05 24 20.9**	**-1.2**
WDJ	**Dajia District**	**1.34**	**248**	*e*P	**Pn**	**05 24 05.8**	**+1.1**
WDJ				*i* S	**Sn**	**05 24 23.4**	**+0.4**
VWDT	**VWDT**	**1.35**	**216**	*i* P	**Pn**	**05 24 05.9**	**+1.0**
VWDT				*i* S	**Sn**	**05 24 23.8**	**+0.6**
SMLT	**Sun Moon Lake**	**1.40**	**226**	*e*P	**Pn**	**05 24 05.7**	**+0.1**
SMLT				*e*S	**Sn**	**05 24 24.3**	**-0.2**
TCU	**Taichung**	**1.40**	**240**	P	**Pn**	**05 24 06.2**	**+0.7**
TCU				*e*S	**Sn**	**05 24 24.9**	**+0.6**
TYC	**Yuchr**	**1.41**	**228**	*e*P	**Pn**	**05 24 06.5**	**+0.9**
TYC				*i* S	**Sn**	**05 24 24.9**	**+0.3**
SSLB	**Suanglung**	**1.43**	**222**	P	**Pn**	**05 24 07.0**	**+1.1**
SSLB	**Suanglung**	**1.43**	**222**	*i* P	**Pn**	**05 24 07.0**	**+1.1**
SSLB				S	**Sn**	**05 24 26.0**	**+0.9**
WWF	**Wufeng**	**1.44**	**236**	*e*P	**Pn**	**05 24 06.8**	**+0.8**
WWF				*e*S	**Sn**	**05 24 25.6**	**+0.4**
HGSD	**Ruisui**	**1.46**	**202**	*e*P	**Pn**	**05 24 07.1**	**+0.9**
HGSD				*i* S	**Sn**	**05 24 26.4**	**+0.9**
EHY	**Hungye**	**1.48**	**205**	*e*P	**Pn**	**05 24 07.2**	**+0.7**
EHY				*e*S	**Sn**	**05 24 24.2**	**-1.9**
WCHH	**Zhanghua**	**1.53**	**240**	*e*P	**Pn**	**05 24 07.6**	**+0.6**
WCHH				*i* S	**Sn**	**05 24 27.1**	**0.0**
WNT1	**Nantou City**	**1.54**	**232**	*e*P	**Pn**	**05 24 08.3**	**+1.2**
WNT1				*e*S	**Sn**	**05 24 27.9**	**+0.6**
WCH1	**Changhua City**	**1.54**	**240**	*e*P	**Pn**	**05 24 08.7**	**+1.5**
WCH1				*e*S	**Sn**	**05 24 27.1**	**-0.3**
WNT	**Mingjian**	**1.55**	**231**	*e*P	**Pn**	**05 24 08.3**	**+1.0**
WNT				*e*S	**Sn**	**05 24 28.2**	**+0.6**
WJS	**Zhushan**	**1.56**	**229**	*e*P	**Pn**	**05 24 08.6**	**+1.2**
WJS				*e*S	**Sn**	**05 24 28.1**	**+0.4**
WHYT	**Xinyi Township**	**1.56**	**223**	P	**Pn**	**05 24 08.8**	**+1.2**
WHYT				*i* S	**Sn**	**05 24 29.0**	**+1.1**
YULB	**Yu-li**	**1.60**	**204**	P	**Pn**	**05 24 08.1**	**+0.2**
YULB	**Yu-li**	**1.60**	**204**	*e*P	**Pn**	**05 24 08.6**	**+0.7**
YULB				*e*S	**Sn**	**05 24 27.3**	**-1.3**
ECBN	**Changbin**	**1.62**	**198**	*e*P	**Pn**	**05 24 09.3**	**+1.1**
ECBN				*e*S	**Sn**	**05 24 28.1**	**-1.0**
EYUL	**Yuli**	**1.63**	**203**	*e*P	**Pn**	**05 24 10.0**	**+1.7**
EYUL				*e*S	**Sn**	**05 24 28.9**	**-0.5**
TWF1	**Yuli**	**1.63**	**204**	*e*P	**Pn**	**05 24 08.7**	**+0.4**
TWF1				*e*S	**Sn**	**05 24 28.4**	**-1.0**
IRIF	**Iriomote-Funau**	**1.65**	**108**	*e*P	**Pn**	**05 24 09.4**	**+0.8**
IRIF				S	**Sn**	**05 24 29.9**	**+0.1**
YUS	**Yu-Shan**	**1.67**	**216**	*e*P	**Pn**	**05 24 10.1**	**+0.8**
YUS				*e*S	**Sn**	**05 24 30.8**	**-0.2**
ALS	**Alishan**	**1.73**	**220**	*e*P	**Pn**	**05 24 11.4**	**+1.5**
ALS				*e*S	**Sn**	**05 24 33.6**	**+1.5**
CHKH	**Chenggong**	**1.75**	**199**	*e*P	**Pn**	**05 24 11.5**	**+1.7**
CHKH				*e*S	**Sn**	**05 24 30.5**	**-1.5**
WDL	**Douliou City**	**1.76**	**230**	*e*P	**Pn**	**05 24 11.4**	**+1.0**
WDL				*e*S	**Sn**	**05 24 33.1**	**+0.9**
WGK	**Gukeng**	**1.76**	**229**	*e*P	**Pn**	**05 24 13.4**	**+3.4**
WGK				*i* S	**Sn**	**05 24 33.5**	**+1.2**
WRL	**Guolierlin Hig**	**1.76**	**238**	*e*P	**Pn**	**05 24 10.5**	**+0.5**
WRL				*e*S	**Sn**	**05 24 31.8**	**-0.6**
FULB	**Fuli**	**1.77**	**202**	*e*P	**Pn**	**05 24 10.9**	**+0.7**
FULB				*e*S	**Sn**	**05 24 32.6**	**-0.1**
WDLH	**Douliu**	**1.77**	**229**	*e*P	**Pn**	**05 24 11.4**	**+1.3**
WDLH				S	**Sn**	**05 24 33.0**	**+0.4**
RLNB	**Erlin**	**1.78**	**238**	*e*P	**Pn**	**05 24 11.1**	**+0.8**
RLNB				*e*S	**Sn**	**05 24 32.6**	**-0.2**
HATJ	**Hateruma jima**	**1.82**	**116**	*e*P	**Pn**	**05 24 11.9**	**+1.1**
HATJ				*e*S	**Sn**	**05 24 34.2**	**+0.5**
EHD	**Haiduan**	**1.85**	**203**	*e*P	**Pn**	**05 24 10.1**	**-1.0**
WTCT	**Ta-ch'eng**	**1.86**	**238**	*e*P	**Pn**	**05 24 12.1**	**+0.9**
WTCT				*e*S	**Sn**	**05 24 34.3**	**-0.2**
WTK	**Tuku**	**1.88**	**232**	*e*P	**Pn**	**05 24 12.1**	**+0.6**
WTK				*i* S	**Sn**	**05 24 35.3**	**+0.3**
ELDTW	**Lidau**	**1.89**	**209**	*e*P	**Pn**	**05 24 12.9**	**+1.2**
ELDTW				*e*S	**Sn**	**05 24 35.4**	**-0.1**
WCKO	**Fanlu**	**1.91**	**222**	*e*P	**Pn**	**05 24 13.5**	**+1.6**
WCKO				*e*S	**Sn**	**05 24 36.5**	**+0.8**
CHY	**Chiayi**	**1.98**	**227**	*e*P	**Pn**	**05 24 13.8**	**+1.0**
CHY				S	**Sn**	**05 24 37.8**	**+0.5**
EDH	**Donghe**	**1.98**	**199**	*e*P	**Pn**	**05 24 13.1**	**+0.3**
EDH				*e*S	**Sn**	**05 24 35.9**	**-1.6**
TPUB	**Ta-pu**	**2.00**	**219**	P	**Pn**	**05 24 14.0**	**+1.0**
TPUB	**Ta-pu**	**2.00**	**219**	*e*P	**Pn**	**05 24 14.1**	**+1.1**
TPUB				*e*S	**Sn**	**05 24 40.2**	**+2.4**
JIJ	**Ishigaki jima**	**2.00**	**104**	*e*P	**Pn**	**05 24 13.7**	**+0.6**
JIJ				S	**Sn**	**05 24 37.2**	**-0.7**
STYH	**Taoyuan**	**2.02**	**214**	P	**Pn**	**05 24 14.8**	**+1.5**
STYH				*e*S	**Sn**	**05 24 39.8**	**+1.5**
WSF	**Szhu**	**2.03**	**234**	*e*P	**Pn**	**05 24 14.1**	**+0.7**
WSF				*e*S	**Sn**	**05 24 38.6**	**+0.1**
STYT	**Tauyuan**	**2.04**	**214**	*e*P	**Pn**	**05 24 13.6**	**0.0**
STYT				*e*S	**Sn**	**05 24 38.2**	**-0.6**
WTP	**Ta-pu**	**2.05**	**219**	*e*P	**Pn**	**05 24 14.4**	**+0.6**
WTP				*e*S	**Sn**	**05 24 42.4**	**+3.4**
WSL	**Shuilin Townsh**	**2.10**	**231**	*e*P	**Pn**	**05 24 15.4**	**+1.0**
WSL				*i* S	**Sn**	**05 24 40.1**	**0.0**
LONT	**Longtian**	**2.10**	**203**	*e*P	**Pn**	**05 24 15.2**	**+0.8**
LONT				*e*S	**Sn**	**05 24 38.6**	**-1.6**
TWK	**Hsinying**	**2.11**	**222**	*e*P	**Pn**	**05 24 15.2**	**+0.7**
TWK				*e*S	**Sn**	**05 24 40.7**	**+0.3**
JISG	**Ishigakijimahi**	**2.11**	**97**	*e*S	**Sn**	**05 24 40.7**	**+0.3**
SNST	**Tainan City**	**2.14**	**221**	*e*P	**Pn**	**05 24 15.5**	**+0.7**
SNST				*e*S	**Sn**	**05 24 41.7**	**+0.7**
CHN1	**Nanshi**	**2.14**	**219**	*e*P	**Pn**	**05 24 16.0**	**+1.0**
CHN1				*e*S	**Sn**	**05 24 41.6**	**+0.4**
ICHU	**Yijhu**	**2.17**	**227**	*e*P	**Pn**	**05 24 16.5**	**+1.2**
ICHU				*e*S	**Sn**	**05 24 42.0**	**+0.2**
SGST	**Jiashian**	**2.19**	**217**	*e*P	**Pn**	**05 24 15.9**	**+0.3**
SGST				*e*S	**Sn**	**05 24 41.9**	**-0.5**
TWG	**Pinlang**	**2.20**	**203**	*e*P	**Pn**	**05 24 16.5**	**+0.8**
TWG				*e*S	**Sn**	**05 24 41.3**	**-1.2**
TWGBT	**Beinan**	**2.20**	**203**	*e*P	**Pn**	**05 24 15.9**	**+0.3**
TWGBT				*e*S	**Sn**	**05 24 41.1**	**-1.4**
CHN8	**Yiju**	**2.23**	**228**	*e*P	**Pn**	**05 24 16.6**	**+0.6**
CHN8				*e*S	**Sn**	**05 24 43.2**	**+0.1**
LDUT	**Ludao**	**2.23**	**193**	*e*P	**Pn**	**05 24 15.9**	**-0.1**
LDUT				*e*S	**Sn**	**05 24 40.5**	**-2.6**
MATB	**Ma-tsu**	**2.27**	**305**	*e*P	**Pn**	**05 24 16.6**	**+0.1**
VWUC	**VWUC**	**2.33**	**274**	*e*P	**Pn**	**05 24 17.4**	**+0.1**
SCLT	**Jiali**	**2.36**	**225**	*e*P	**Pn**	**05 24 19.0**	**+1.3**
SCLT				*e*S	**Sn**	**05 24 47.3**	**+1.2**
SHHT	**Tainan City**	**2.38**	**220**	*e*P	**Pn**	**05 24 19.8**	**+1.8**
SHHT				*e*S	**Sn**	**05 24 47.2**	**+0.6**
SCST	**Cishan**	**2.40**	**216**	*e*P	**Pn**	**05 24 20.0**	**+1.7**
SCST				*e*S	**Sn**	**05 24 48.9**	**+1.7**
TSCK	**Chigu Township**	**2.45**	**226**	*e*P	**Pn**	**05 24 19.7**	**+0.8**
TSCK				*e*S	**Sn**	**05 24 48.1**	**-0.2**
ECL	**Taimali**	**2.45**	**203**	*e*P	**Pn**	**05 24 21.4**	**+2.5**
ECL				*e*S	**Sn**	**05 24 47.0**	**-1.3**
SSD	**Sandimen**	**2.45**	**211**	*e*P	**Pn**	**05 24 20.5**	**+1.5**
SSD				*e*S	**Sn**	**05 24 49.4**	**+1.1**
JTJ	**Tarama**	**2.46**	**94**	*e*S	**Sn**	**05 24 49.6**	**+1.0**
TSMG	**Majia**	**2.48**	**210**	*e*P	**Pn**	**05 24 20.3**	**+0.9**
TSMG				*e*S	**Sn**	**05 24 49.5**	**+0.5**
MASBT	**Mashibuluo**	**2.56**	**210**	*i* P	**Pn**	**05 24 21.9**	**+1.4**
MASBT				*e*S	**Sn**	**05 24 53.1**	**+2.0**
PNG	**Penghu**	**2.58**	**241**	*e*P	**Pn**	**05 24 20.3**	**-0.4**
PNG				*e*S	**Sn**	**05 24 49.6**	**-1.8**
SNJT	**Kaohsiung City**	**2.59**	**217**	*e*P	**Pn**	**05 24 25.0**	**+4.1**
PHUB	**P'eng-hu**	**2.59**	**239**	P	**Pn**	**05 24 20.4**	**-0.4**
PHUB				*e*S	**Sn**	**05 24 49.5**	**-2.3**
PTMZ	**Houxiangcun**	**2.63**	**275**	*e*P	**Pn**	**05 24 21.6**	**+0.3**
PTMZ				*e*S	**Sn**	**05 24 51.4**	**-1.2**
XPSS	**Dashiqiu**	**2.63**	**322**	*e*P	**Pn**	**05 24 21.2**	**-0.2**
WDGT	**Dungji**	**2.67**	**234**	*e*P	**Pn**	**05 24 22.3**	**+0.4**
WDGT				*e*S	**Sn**	**05 24 52.7**	**-0.9**
EAST	**Anshuo**	**2.68**	**204**	*e*P	**Pn**	**05 24 23.4**	**+1.3**
EAST				*e*S	**Sn**	**05 24 53.1**	**-0.9**
TAWH	**Dawu Township**	**2.71**	**203**	*e*P	**Pn**	**05 24 24.4**	**+2.0**
TAWH				*e*S	**Sn**	**05 24 53.2**	**-1.3**
WSSB	**Gushan**	**2.72**	**216**	*e*P	**Pn**	**05 24 23.4**	**+0.8**
WSSB				*e*S	**Sn**	**05 24 54.6**	**-0.3**
SCZT	**Fangliau**	**2.78**	**207**	*e*P	**Pn**	**05 24 23.8**	**+0.4**
SCZT				*e*S	**Sn**	**05 24 57.7**	**+1.5**
LAY	**Lan-yu**	**2.84**	**189**	*e*P	**Pn**	**05 24 24.1**	**0.0**
LAY				*e*S	**Sn**	**05 24 54.1**	**-3.5**
SLIU	**Shizi**	**2.85**	**203**	*e*P	**Pn**	**05 24 25.4**	**+1.0**
SLIU				*e*S	**Sn**	**05 24 57.5**	**-0.5**
LYUB	**Lan-yu**	**2.87**	**188**	*e*P	**Pn**	**05 24 23.4**	**-1.2**
LYUB				*e*S	**Sn**	**05 24 53.6**	**-4.7**
VCHM	**Qimei**	**2.87**	**236**	*e*P	**Pn**	**05 24 25.0**	**+0.4**
VCHM				*e*S	**Sn**	**05 24 57.1**	**-1.3**

*IDC **09** 06:24:06.9±2.3, 10°.14S×119°.69E, h0km, mb3.7/1, mbtmp3.4/4, ML3.1/3, MS3.1/3, Error ellipse: s-maj=196.4km s-min=25.5km az=52.0*
*DJA **09** 06:24:31.0±0.4, 9°.5±6°×11°.9E±°, h70km±10km, M3.5/11, MLv3.5/11*
ISC 09 06:24:15.4±0.9, 10°.99S±0°.08×119°.24E±0°.09, h100km, n15, σ2°31/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.35**	**6**	P	Pn	06 24 51.3	+11
WBSI				S	**Sn**	**06 25 00.2**	**+1.8**
BASI	**Baing, Sumba**	**1.52**	**60**	P	Pn	06 25 02.2	+20
WSI	**Waingapu**	**1.67**	**38**	P	Pn	06 25 00.5	+17
PLAI	**Plampang**	**2.59**	**326**	P	Pn	06 24 47.4	-8.3
PLAI				S	Sn	06 25 12.1	-15
TWSI	**Taliwang, Sumb**	**3.23**	**314**	P	**Pn**	**06 25 02.6**	**-1.6**
TWSI				S	Sn	06 25 21.7	-20
DNP	**Denpasar**	**4.59**	**300**	P	**Pn**	**06 25 22.3**	**-0.3**
SRBI	**Singaraja**	**4.91**	**306**	P	**Pn**	**06 25 25.1**	**-1.9**
BSSI	**Bau Bau, Buton**	**4.97**	**14**	P	**Pn**	**06 25 25.6**	**-2.2**
JAGI	**Jajag, Banyuwa**	**5.61**	**296**	P	**Pn**	**06 25 34.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**9.39**	**140**	Pn	**Pn**	**06 26 27.6**	**-0.3**
	0.2nm,0.3s,baz=319,slow=12,SNR=2.2						
FITZ				Sn	**Sn**	**06 28 08.4**	**-3.3**
	0.3nm,0.3s,baz=329,slow=8.0,SNR=1.9						
FITZ				LR	LR	06 30 12.3	
	comp=Z,41nm,19.0s,baz=61,slow=37						
	3.5nm,0.9s						
WRA	**Warramunga Arr**	**17.04**	**123**	P	**P**	**06 28 09.0**	**+1.1**
	baz=303,slow=13,SNR=1.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**18.81**	**134**	P	**Pn**	**06 28 32.6**	**+3.7**
	0.1nm,0.3s,baz=316,slow=12,SNR=5.9						
	0.1nm,0.3s						
PSI	**Prapat**	**24.42**	**303**	LR	LR	06 39 27.3	
	comp=Z,50nm,18.6s,baz=180,slow=38						
URZ	**Urewera**	**58.13**	**128**	LR	LR	06 58 53.2	
	comp=Z,27nm,18.6s,baz=95,slow=36						
MKAR	**Makanchi Array**	**66.33**	**333**	P	**P**	**06 34 53.7**	**+0.4**
	0.5nm,0.5s,baz=152,slow=7.5,SNR=7.6						
	0.5nm,0.5s						

IDC 09 06:29:31.3±2.1, 6°.57S×129°.82E, h0km, mb3.6/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=109.4km s-min=31.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.00**	**162**	Pn	Pn	06 32 51.6	+0.5
	0.2nm,0.3s,baz=342,slow=10,SNR=12						
WRA				Sn	Sn	06 35 10.6	-17
	0.3nm,0.3s,baz=334,slow=22,SNR=8.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.45**	**167**	P	Pn	06 33 35.8	-0.5
	0.1nm,0.3s,baz=346,slow=11,SNR=5.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	06 40 31.0	0.0
	0.2nm,0.3s,baz=131,slow=7.4,SNR=7.6						
	0.2nm,0.3s						

IDC 09 06:59:46.7±2.2, 10°.07N×126°.80E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=232.0km s-min=32.5km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.24**	**168**	P	P	07 06 34.4	-0.1
	0.3nm,0.8s,baz=348,slow=8.2,SNR=2.5						
	0.3nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**39.48**	**73**	T	T	07 50 15.5	
	baz=263						
H11S1	**WAKE ISLAND Hy**	**39.49**	**73**	T	T	07 50 18.9	
	baz=263						
H11S2	**WAKE ISLAND Hy**	**39.49**	**73**	T	T	07 50 20.6	
	baz=263						
H11N1	**WAKE ISLAND Hy**	**39.82**	**71**	T	T	07 50 37.5	
	baz=256,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**39.83**	**71**	T	T	07 50 39.3	
	baz=256,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**39.84**	**71**	T	T	07 50 38.9	
	baz=256,slow=75,SNR=8.4						
MKAR	**Makanchi Array**	**52.51**	**323**	P	P	07 09 01.5	-0.2
	0.3nm,0.6s,baz=118,slow=7.3,SNR=4.2						
	0.3nm,0.6s						
ARCES	**ARCESS Array B**	**84.57**	**340**	P	P	07 12 21.4	-0.2
	1.8nm,0.9s,baz=78,slow=5.2,SNR=1.4						
	1.8nm,0.9s						
FINES	**FINESS Array B**	**86.32**	**332**	P	P	07 12 30.7	+0.3
	4.1nm,0.9s,baz=90,slow=5.7,SNR=3.0						
	4.1nm,0.9s						

*IDC **09** 07:01:00.1±0.9, 51°.84N×74°.40E, h0km, mbtmp2.5/4, ML1.9/4, Error ellipse: s-maj=26.3km s-min=7.8km az=27.0*
*NNC **09** 07:01:01.3±2.7, 51°.77N×73°.74E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=25.7km s-min=12.8km az=72.0, Suspected Mining explosion.*
ISC 09 07:00:57.3±1.0, 51°.82N±0°.09×74°.19E±0°.06, h0km, n9, σ1°.00/10, 4C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.62**	**299**	⇓Pg	**Pb**	**07 01 44.5**	**-0.6**
	3.2nm,1.0s,baz=125,slow=17,SNR=14						
BVA0				⇑Lg	Lg	07 02 19.1	
	6.4nm,0.7s,baz=120,slow=27,SNR=6.6						
BVAR	**Borovoye Array**	**2.62**	**299**	Pn	**Pb**	**07 01 45.2**	**+0.1**
	0.1nm,0.3s,baz=113,slow=15,SNR=10						
BVAR				Sn	**Sb**	**07 02 18.2**	**+0.4**
	0.4nm,0.3s,baz=114,slow=28,SNR=22						
	2.2nm,0.6s						
BRVK	**Borovoye**	**2.69**	**299**	⇑Pg	**Pb**	**07 01 46.1**	**-0.2**
	4.9nm,1.1s						
BRVK				⇑Lg	Lg	07 02 21.7	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**2.98**	**112**	Pn	**Pn**	**07 01 47.1**	**+1.4**
	0.2nm,0.3s,baz=300,slow=14,SNR=5.6						
KURBB				Pg	**Pb**	**07 01 51.1**	**-0.1**
	0.2nm,0.3s,baz=299,slow=16,SNR=4.4						
KURBB				Lg	Lg	07 02 29.8	
	0.3nm,0.3s,baz=296,slow=31,SNR=13						
	0.6nm,0.3s						
OTUK	**Ortayu**	**3.77**	**199**	Pg	**Pg**	**07 02 09.3**	**-0.3**
	1.9nm,0.9s						
OTUK				⇓Lg	Lg	07 02 55.3	
	5.4nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.78**	**68**	I	I	07 40 00.0	
	baz=254,slow=336,SNR=1.8						
ZALV	**Zalesovo Beam**	**6.78**	**68**	Pn	**Pn**	**07 02 38.0**	**+0.1**
	0.1nm,0.3s,baz=263,slow=12,SNR=4.6						
ZALV				Lg	Lg	07 04 32.8	
	baz=248,slow=31						
	0.6nm,0.5s						
MK31	**Makanchi Array**	**7.30**	**130**	⇑Lg	Lg	07 04 57.8	
	1.6nm,0.7s,baz=324,slow=25,SNR=3.5						
MKAR	**Makanchi Array**	**7.30**	**130**	Pn	**Pn**	**07 02 46.3**	**+1.1**
	baz=324,slow=12,SNR=1.7						
MKAR				Sn	**Sn**	**07 04 07.0**	**-1.8**
	baz=322,slow=26,SNR=3.2						
MKAR				Lg	Lg	07 04 44.2	
	0.1nm,0.3s,baz=324,slow=30,SNR=6.7						
	0.1nm,0.5s						

*NEIC **09** 07:04:13.3±1.3, 60°.92N±0°.03×151°.76W±0°.06, h81km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=130.0*
AEIC 09 07:04:14.1±1.3, 60°.88N±0°.03×151°.71W±0°.06, h83km±4km, ML2.2, MLz2.4/132(NEIC), Error ellipse: s-maj=4.8km s-min=4.2km az=120.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.29**	**113**		Pn	07 04 26.5	-0.1
SPU	**Mount Spurr**	**0.34**	**331**		Pn	07 04 25.7	-1.4
SPU	**Mount Spurr**	**0.34**	**331**		Sn	07 04 35.3	-1.4
SPU	**Mount Spurr**	**0.34**	**331**	IAML		07 04 35.7	
	comp=E,272nm,0.3s						
SPU				IAML		07 04 36.0	
	comp=N,302nm,0.2s						
SPCR	**Spurr Chakacha**	**0.40**	**323**		Pn	07 04 26.1	-1.3
SPCG	**Spurr Capps Gl**	**0.44**	**340**		Pn	07 04 26.4	-1.4
SPCG					Sn	07 04 36.6	-1.4
RDT	**Redoubt**	**0.46**	**228**		Pn	07 04 26.7	-1.2
RDT					Sn	07 04 37.3	-0.9
SPBG	**Spurr Blockage**	**0.50**	**320**		Pn	07 04 27.2	-1.0
RDJH	**Redoubt Jeurge**	**0.61**	**242**		Pn	07 04 28.0	-1.3
RDJH					Sn	07 04 40.4	-0.2
STLK	**Strandline Lak**	**0.62**	**354**		Pn	07 04 27.9	-1.4
RDWB	**Redoubt West**	**0.69**	**235**		Pn	07 04 28.8	-1.2
RDWB					Sn	07 04 40.7	-1.1
RED	**Redoubt Volcan**	**0.70**	**229**		Pn	07 04 28.8	-1.3
RED					Sn	07 04 41.6	-0.4
SUA	**Susitna One**	**0.75**	**38**	Pn	Pn	07 04 29.4	-1.2
FIS	**Fire Island**	**0.77**	**69**	Pn	Pn	07 04 30.2	-0.5
FIS				IAML		07 04 45.5	
	comp=E,151nm,0.8s						
SLKM	**Skilak Lake**	**0.82**	**117**	Pn	Pn	07 04 29.9	-1.4
SLKM				IAML		07 04 44.8	
	comp=E,147nm,0.3s						
O20K	**Slope Mountain**	**0.92**	**210**		Pn	07 04 32.0	-0.5
O20K					Sn	07 04 46.3	+0.1
RC01	**Rabbit Creek A**	**0.98**	**77**	Pn	Pn	07 04 31.5	-1.5
RC01				IAML		07 04 48.1	
	comp=N,79nm,0.2s						
RC01				IAML		07 04 48.9	
	comp=E,101nm,0.2s						
O22K	**Cooper Landing**	**1.05**	**112**		Pn	07 04 33.1	-0.8
O22K	**Cooper Landing**	**1.05**	**112**		Sn	07 04 49.1	+0.3
O22K	**Cooper Landing**	**1.05**	**112**	IAML		07 04 51.5	
	comp=E,379nm,0.4s						
O22K				IAML		07 04 55.0	
	comp=N,367nm,0.5s						
ILW	**Iliamna West**	**1.09**	**221**		Pn	07 04 33.4	-1.1
SKT	**Skwentna**	**1.10**	**4**		Pn	07 04 33.2	-1.3
SKT				IAML		07 04 52.3	
	comp=N,39nm,0.3s						
ILS	**Iliamna Low So**	**1.15**	**217**		Pn	07 04 34.4	-0.8
ILSW	**Iliamna Southw**	**1.15**	**219**		Pn	07 04 33.9	-1.3
M22K	**Willow**	**1.16**	**40**		Pn	07 04 34.8	-0.4
M22K					Sn	07 04 51.1	+0.1
BRLK	**Bradley Lake**	**1.19**	**160**	Pn	Pn	07 04 34.5	-1.2
BRLK				IAML		07 04 55.9	
	comp=E,95nm,0.2s						
M20K	**Styx River**	**1.22**	**326**		Pn	07 04 35.4	-0.6
HOM	**Homer**	**1.23**	**179**	Pn	Pn	07 04 35.9	-0.2
BRSE	**Bradley Lake S**	**1.24**	**157**		Pn	07 04 35.5	-0.8
SEW	**Seward**	**1.36**	**124**		Pn	07 04 37.8	+0.1
N19K	**Bonanza Creek**	**1.36**	**268**		Pn	07 04 36.7	-1.2
CNPM	**China Poot**	**1.38**	**170**		Pn	07 04 37.1	-0.9
CNPM				IAML		07 04 57.4	
	comp=E,87nm,0.6s						
CNPM				IAML		07 04 59.9	
	comp=N,71nm,0.4s						
PMR	**Palmer**	**1.43**	**59**	Pn	Pn	07 04 36.8	-1.8
PMR				IAML		07 04 58.8	
	comp=N,62nm,0.3s						
PMR				IAML		07 05 00.1	
	comp=E,33nm,0.3s						
P19K	**Oil Pt**	**1.45**	**212**	Pn	Pn	07 04 38.5	-0.4
P19K				IAML		07 05 00.6	
	comp=E,51nm,0.4s						
P19K				IAML		07 05 03.9	
	comp=N,55nm,0.3s						
O19K	**Port Alsworth**	**1.47**	**243**		Pn	07 04 37.7	-1.3
O19K				IAML		07 04 57.9	
	comp=N,73nm,0.4s						
O19K				IAML		07 05 06.2	
	comp=E,51nm,0.5s						
GHO	**Glory Hole Cre**	**1.61**	**55**		Pn	07 04 39.6	-1.4
GHO				IAML		07 05 03.7	
	comp=N,58nm,0.8s						
PWL	**Port Wells**	**1.65**	**89**		Pn	07 04 39.4	-2.0
PWL				IAML		07 05 01.5	
	comp=E,45nm,0.2s						
KNK	**Knik Glacier**	**1.66**	**70**		Pn	07 04 39.9	-1.8
KNK				IAML		07 05 07.2	
	comp=E,48nm,0.5s						
KNK				IAML		07 05 08.4	
	comp=N,50nm,0.5s						
SML	**Sawmill**	**1.87**	**59**		Pn	07 04 42.9	-1.5
SML				IAML		07 05 11.5	
	comp=E,29nm,0.7s						
SML				IAML		07 05 16.7	
	comp=N,27nm,0.6s						
L20K	**Farewell, AK**	**1.91**	**328**		Pn	07 04 44.0	-0.8
L19K	**White Mountain**	**1.99**	**312**		Pn	07 04 45.7	-0.2
O18K	**Koktuh Hills**	**2.02**	**241**	Pn	Pn	07 04 45.2	-1.1
PPLA	**Purkeypile**	**2.03**	**354**		Pn	07 04 45.7	-0.9
N18K	**Kilae Creek**	**2.06**	**266**		Pn	07 04 45.6	-1.2
M18K	**Stony River**	**2.09**	**289**		Pn	07 04 46.2	-0.9
M23K	**Glacier View**	**2.12**	**63**		Pn	07 04 46.1	-1.5
Q19K	**Cape Douglas,**	**2.19**	**207**		Pn	07 04 47.7	-0.9
GLI	**Glacier Island**	**2.25**	**88**	Pn	Pn	07 04 46.0	-3.4
GLI				IAML		07 05 13.8	
	comp=N,28nm,0.9s						
GLI				IAML		07 05 14.9	
	comp=E,28nm,0.7s						
SYI	**Shuyak Island**	**2.31**	**189**	Pn	Pn	07 04 49.6	-0.5
SYI				IAML		07 05 24.4	
	comp=N,22nm,0.6s						
SYI				IAML		07 05 24.6	
	comp=E,28nm,0.5s						
P23K	**Montague Islan**	**2.31**	**111**		Pn	07 04 48.5	-1.6
P18K	**Big Mountain,**	**2.31**	**231**	Pn	Pn	07 04 48.5	-1.7
SCM	**Sheep Creek Mo**	**2.31**	**64**		Pn	07 04 48.6	-1.6
SCM				IAML		07 05 24.5	
	comp=E,21nm,0.7s						
SCM				IAML		07 05 28.9	
	comp=N,22nm,1.0s						
CAST	**Castle Rocks**	**2.55**	**356**		Pn	07 04 52.6	-0.8
FID	**Port Fidalgo**	**2.56**	**91**		Pn	07 04 50.4	-3.2
FID	**Port Fidalgo**	**2.56**	**91**	IAML		07 05 24.3	
	comp=E,29nm,0.3s						
HIN	**Hinchinbrook I**	**2.61**	**98**	Pn	Pn	07 04 57.7	+3.5
HIN				IAML		07 05 23.6	
	comp=E,20nm,0.9s						
HIN				IAML		07 05 35.8	
	comp=N,16nm,0.9s						
TRF	**Thorofare Moun**	**2.66**	**14**		Pn	07 04 54.3	-0.7
TRF				IAML		07 05 32.8	
	comp=E,17nm,0.3s						
KTH	**Kantishna Hill**	**2.71**	**7**		Pn	07 04 55.1	-0.4
KTH				IAML		07 05 31.9	
	comp=E,19nm,0.9s						
N17K	**Nushagak Hills**	**2.72**	**265**		Pn	07 04 54.8	-0.8
K20K	**Telida**	**2.72**	**337**		Pn	07 04 54.9	-0.7
M17K	**Holitna River**	**2.83**	**283**		Pn	07 04 56.2	-0.8
M17K	**Holitna River**	**2.83**	**283**	IAML		07 05 30.6	
	comp=N,10nm,1.1s						
M17K				IAML		07 05 32.9	
	comp=E,9.7nm,1.4s						
RND	**Reindeer**	**2.87**	**27**		Pn	07 04 56.9	-0.7
RND				IAML		07 05 41.2	
	comp=E,7.2nm,0.6s						
RND				IAML		07 05 47.5	
	comp=N,9.4nm,1.3s						
KLU	**Klutina**	**2.87**	**75**	Pn	Pn	07 04 55.1	-2.6
KLU				IAML		07 05 29.4	
	comp=E,14nm,0.4s						
KLU				IAML		07 05 30.2	
	comp=N,14nm,0.4s						
TTA	**Tatalina**	**2.89**	**317**	Pn	Pn	07 04 56.7	-1.3
O17K	**Koliganek Bris**	**2.90**	**250**		Pn	07 04 57.4	-0.7
P17K	**Kvichak River**	**2.92**	**237**		Pn	07 04 57.9	-0.4
M24K	**Tolsona, Glenn**	**2.92**	**63**		Pn	07 04 57.6	-0.8
M24K				IAML		07 05 54.3	
	comp=E,16nm,1.4s						
EYAK	**Cordova Ski Ar**	**2.95**	**94**	Pn	Pn	07 04 57.9	-0.7
CHUM	**Lake Minchumin**	**3.02**	**355**		Pn	07 04 59.2	-0.5
MCK	**McKinley**	**3.14**	**23**	Pn	Pn	07 05 02.0	+0.8
KDAK	**Kodiak Island**	**3.14**	**189**	Pn	Pn	07 05 01.3	0.0
KDAK				IAML		07 05 51.1	
	comp=E,10nm,1.1s						
KDAK				IAML		07 05 51.3	
	comp=E,12nm,0.7s						
BPAW	**Bear Paw Mtn.**	**3.25**	**6**	Pn	Pn	07 05 01.8	-1.0
BPAW				IAML		07 05 41.5	
	comp=E,8.6nm,0.5s						
BPAW				IAML		07 05 44.8	
	comp=N,5.7nm,0.4s						
ACHA	**Angle Creek He**	**3.25**	**216**	Pn	Pn	07 05 02.1	-0.8
CNTC	**Contact Creek**	**3.38**	**221**		Pn	07 05 04.3	-0.3
L17K	**Donlin**	**3.40**	**295**		Pn	07 05 04.2	-0.6
O16K	**Kokwok River B**	**3.44**	**251**		Pn	07 05 04.7	-0.6
GOAT	**Goat Mountain**	**3.44**	**92**		Pn	07 05 02.5	-2.9
BMRM	**Bremner River**	**3.47**	**85**		Pn	07 05 03.1	-2.7
HARP	**HAARP**	**3.48**	**61**		Pn	07 05 04.3	-1.6
J20K	**Nowinta River**	**3.50**	**342**	Pn	Pn	07 05 04.8	-1.3
J20K				IAML		07 05 49.3	
	comp=E,5.1nm,0.7s						
J20K				IAML		07 05 59.6	
	comp=N,4.1nm,1.5s						
N25K	**Chitina, Valde**	**3.51**	**75**	Pn	Pn	07 05 04.1	-2.3
N25K				IAML		07 06 03.5	
	comp=E,5.1nm,0.5s						
N25K				IAML		07 06 07.1	
	comp=N,5.3nm,0.9s						
M16K	**Timber Creek**	**3.54**	**275**	Pn	Pn	07 05 05.6	-1.1
M16K				IAML		07 06 12.4	
	comp=N,4.3nm,1.5s						
M16K				IAML		07 06 25.8	
	comp=E,4.4nm,1.4s						
PAX	**Paxson**	**3.62**	**52**	Pn	Pn	07 05 07.0	-0.8
P16K	**Nushagak River**	**3.67**	**242**		Pn	07 05 08.3	0.0
OHAK	**Old Harbor**	**3.76**	**193**	Pn	Pn	07 05 08.2	-1.5
OHAK				IAML		07 06 12.5	
	comp=N,5.6nm,1.5s						
OHAK				IAML		07 07 38.9	
	comp=E,5.2nm,1.5s						
WASW	**Wrangell South**	**3.77**	**71**		Pn	07 05 08.6	-1.5
L16K	**Owhat River**	**3.84**	**286**	Pn	Pn	07 05 09.7	-1.0
L16K				IAML		07 06 57.5	
	comp=N,2.8nm,1.4s						
GLB	**Gilahina Butte**	**3.87**	**78**	Pn	Pn	07 05 08.7	-2.5
GLB				IAML		07 06 10.4	
	comp=E,3.8nm,1.1s						
GLB				IAML		07 06 14.5	
	comp=N,3.5nm,1.0s						
NEA2	**Nenana**	**3.92**	**17**	Pn	Pn	07 05 11.1	-0.7
NEA2				IAML		07 06 03.9	
	comp=N,3.3nm,0.5s						
NEA2				IAML		07 06 08.8	
	comp=E,7.2nm,1.4s						
WRH	**Wood River Hil**	**3.97**	**23**	Pn	Pn	07 05 11.6	-0.9
WRH				IAML		07 06 22.0	
	comp=E,2.8nm,1.2s						
K24K	**Donnelly Dome**	**4.03**	**41**		Pn	07 05 13.6	+0.3
HDA	**Harding Lake**	**4.16**	**30**	Pn	Pn	07 05 14.5	-0.7
HDA				IAML		07 06 14.4	
	comp=N,6.2nm,1.4s						
HDA				IAML		07 06 23.2	
	comp=E,6.1nm,1.2s						
CCB	**Clear Creek Bu**	**4.18**	**24**	Pn	Pn	07 05 13.9	-1.4
CCB				IAML		07 06 25.6	
	comp=E,2.7nm,1.3s						
RIDG	**Independent Ri**	**4.30**	**45**		Pn	07 05 16.2	-0.8
I23K	**Minto, Yukon-K**	**4.41**	**13**	Pn	Pn	07 05 17.8	-0.7
I23K				IAML		07 06 15.5	
	comp=E,2.9nm,1.5s						
L26K	**Log Cabin Wild**	**4.49**	**58**	Pn	Pn	07 05 18.9	-0.7
L26K				IAML		07 06 38.7	
	comp=E,6.3nm,0.4s						
L26K				IAML		07 06 42.1	
	comp=N,6.1nm,0.4s						
DOT	**Dot Lake**	**4.52**	**49**		Pn	07 05 19.6	-0.5
SCRK	**Sand Creek**	**4.74**	**46**	Pn	Pn	07 05 21.3	-1.8
SCRK				IAML		07 06 30.3	
	comp=E,2.4nm,1.1s						
SCRK				IAML		07 06 31.6	
	comp=N,3.6nm,1.4s						

*JMA **09** 07:06:13.7±0.1, 24°.N±2°×122°.9E±0°.5, h74km, MV2.4/14, NW OFF ISHIGAKIJIMA IS*
*TAP **09** 07:06:13.4, 24°.50N×122°.88E, h76km, ML3.1, C*
ISC 09 07:06:13.7±1.2, 24°.47N±0°.03×122°.88E±0°.02, h76km±6km, n129, σ1°.13/243, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.07**	**104**	*i* P	**Pn**	**07 06 24.4**	**-0.2**
JYNG				S	**Sn**	**07 06 32.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.12**	**92**	P	**Pn**	**07 06 24.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.12**	**92**	*i* P	**Pn**	**07 06 24.6**	**-0.2**
YOJ				*i* S	**Sn**	**07 06 32.9**	**0.0**
YOJ	**Yonaguni jima**	**0.12**	**92**	P	**Pn**	**07 06 24.5**	**-0.2**
YOJ				S	**Sn**	**07 06 32.7**	**-0.1**
EOS3	**EOS3**	**0.54**	**251**	*i* P	**Pn**	**07 06 27.9**	**+0.6**
EOS3				*e*S	**Sn**	**07 06 38.7**	**+1.4**
EOS2	**EOS2**	**0.59**	**265**	P	**Pn**	**07 06 28.1**	**+0.3**
EOS2				*e*S	**Sn**	**07 06 38.7**	**+0.5**
EOS4	**EOS4**	**0.61**	**236**	*e*P	**Pn**	**07 06 28.9**	**+1.1**
EOS4				*e*S	**Sn**	**07 06 40.4**	**+2.2**
IRIF	**Iriomote-Funau**	**0.79**	**99**	*i* P	**Pn**	**07 06 30.1**	**0.0**
IRIF				S	**Sn**	**07 06 42.2**	**0.0**
HATJ	**Hateruma jima**	**0.94**	**116**	P	**Pn**	**07 06 32.4**	**+0.6**
HATJ				S	**Sn**	**07 06 45.9**	**+0.6**
TWC	**Suao**	**0.95**	**279**	*i* P	**Pn**	**07 06 31.5**	**-0.4**
TWC				*e*S	**Sn**	**07 06 43.4**	**-2.0**
ESAO	**Su ao**	**0.95**	**277**	*e*P	**Pn**	**07 06 31.8**	**0.0**
ESAO				*e*S	**Sn**	**07 06 44.3**	**-1.1**
TWB1	**Santiao Chiao**	**0.97**	**304**	P	**Pn**	**07 06 31.6**	**-0.5**
TWB1				*e*S	**Sn**	**07 06 45.1**	**-0.8**
EWUT	**Wuta**	**1.00**	**269**	*e*P	**Pn**	**07 06 33.0**	**+0.5**
EWUT				*e*S	**Sn**	**07 06 46.0**	**-0.6**
NTC	**Toucheng**	**1.03**	**292**	P	**Pn**	**07 06 33.1**	**+0.2**
NTC				*i* S	**Sn**	**07 06 47.1**	**-0.1**
ENA	**Nanau**	**1.04**	**268**	P	**Pn**	**07 06 33.4**	**+0.5**
ENA				*e*S	**Sn**	**07 06 47.6**	**+0.2**
EAHA	**Aohua**	**1.05**	**263**	*i* P	**Pn**	**07 06 33.1**	**0.0**
EAHA				S	**Sn**	**07 06 47.6**	**0.0**
JKRS	**Kuro-shima**	**1.06**	**102**	*e*S	**Sn**	**07 06 48.7**	**+0.9**
ILA	**Ilan**	**1.07**	**286**	*e*S	**Sn**	**07 06 47.7**	**-0.4**
NDS	**Dongshan**	**1.07**	**279**	P	**Pn**	**07 06 33.6**	**+0.2**
NDS				*e*S	**Sn**	**07 06 48.0**	**-0.1**
TIPB	**Shuangxi**	**1.08**	**298**	P	**Pn**	**07 06 33.5**	**-0.1**
TIPB				*e*S	**Sn**	**07 06 47.7**	**-0.7**
SXI1	**Grass Mountain**	**1.10**	**305**	*e*P	**Pn**	**07 06 34.1**	**+0.2**
SXI1				*e*S	**Sn**	**07 06 49.7**	**+0.7**
TWE	**Neicheng**	**1.13**	**283**	*e*P	**Pn**	**07 06 34.1**	**0.0**
TWE				*i* S	**Sn**	**07 06 48.9**	**-0.5**
JIJ	**Ishigaki jima**	**1.16**	**95**	*i* P	**Pn**	**07 06 34.5**	**0.0**
JIJ				S	**Sn**	**07 06 49.6**	**-0.5**
NWF	**Wu-fen Shan**	**1.16**	**301**	*e*P	**Pn**	**07 06 34.9**	**+0.3**
WFSB	**Wu-fen Shan**	**1.16**	**301**	*e*P	**Pn**	**07 06 35.0**	**+0.4**
ETL	**Fush Village

YHNB			eS	Sn	07 06 55.3	+0.1
ZUZH	**Zhuzihu**	**1.39 300**	P	Pn	07 06 38.0	+0.4
ZUZH			eS	Sn	07 06 55.4	-0.1
NSK	**Sanguang**	**1.40 279**	eP	Pn	07 06 38.7	+1.1
NSK			eS	Sn	07 06 55.3	-0.3
LXIB	**Xiulin Townshi**	**1.41 252**	i P	Pn	07 06 37.8	-0.1
LXIB			eS	Sn	07 06 55.3	-0.7
ANP	**Anpu**	**1.43 300**	i P	Pn	07 06 38.0	0.0
ANP			eS	Sn	07 06 56.4	+0.1
TWS1	**Kuangyinshan**	**1.47 296**	i P	Pn	07 06 38.9	+0.4
TWS1			eS	Sn	07 06 56.9	-0.3
ESL	**Shilin**	**1.47 244**	eP	Pn	07 06 39.2	+0.7
ESL			eS	Sn	07 06 57.0	-0.2
NTST	**Danshui**	**1.47 298**	eP	Pn	07 06 39.1	+0.6
NTST			eS	Sn	07 06 58.2	+1.0
FUSS	**Fushou**	**1.50 262**	i P	Pn	07 06 39.3	+0.1
FUSS			eS	Sn	07 06 58.3	-0.1
WHF	**Hehuan Shan**	**1.50 258**	i P	Pn	07 06 39.2	-0.1
WHF			S	Sn	07 06 58.1	-0.5
EGFH	**Guangfu**	**1.54 239**	eP	Pn	07 06 39.8	+0.3
EGFH			i S	Sn	07 06 57.8	-1.2
WARBT	**Fenglin Townsh**	**1.55 242**	eP	Pn	07 06 39.4	-0.2
WARBT			i S	Sn	07 06 58.0	-1.1
TWT	**Tachien**	**1.57 263**	eP	Pn	07 06 41.3	+1.4
TWT			i S	Sn	07 06 59.8	+0.1
KSHI	**Guanxi Townshi**	**1.58 282**	P	Pn	07 06 40.9	+0.9
KSHI			eS	Sn	07 06 59.9	+0.2
TDCB	**Techi**	**1.58 263**	eP	Pn	07 06 41.4	+1.3
TDCB			S	Sn	07 06 59.6	-0.4
NFF	**Wufeng Townshi**	**1.61 276**	P	Pn	07 06 41.4	+1.0
NFF			S	Sn	07 07 00.8	+0.2
OWD	**Renai**	**1.63 252**	eP	Pn	07 06 41.7	+0.9
OWD			S	Sn	07 07 00.1	-1.2
HGSD	**Ruisui**	**1.65 234**	i P	Pn	07 06 40.1	-0.7
HGSD			eS	Sn	07 06 58.0	-3.3
JTJ	**Tarama**	**1.67 84**	P	Pn	07 06 41.8	+0.7
WUSB	**Renai**	**1.67 254**	eP	Pn	07 06 39.8	-1.5
WUSB			eS	Sn	07 07 02.4	+0.2
LIOB	**Emei**	**1.70 276**	eP	Pn	07 06 43.5	+2.0
LIOB			eS	Sn	07 07 04.1	+1.4
EHY	**Hungye**	**1.71 236**	eP	Pn	07 06 42.0	+0.3
EHY			eS	Sn	07 07 01.4	-1.6
ECBN	**Changbin**	**1.74 229**	eP	Pn	07 06 43.1	+1.1
ECBN			eS	Sn	07 07 02.3	-1.2
VWDT	**VWDT**	**1.74 246**	eP	Pn	07 06 42.8	+0.8
VWDT			eS	Sn	07 07 03.2	-0.2
SBCB	**Hsinchu**	**1.75 281**	P	Pn	07 06 42.4	+0.2
SBCB			S	Sn	07 07 03.7	-0.1
WHP	**Taichung City**	**1.77 264**	eP	Pn	07 06 44.2	+1.6
WHP			S	Sn	07 07 04.8	+0.4
YULB	**Yu-li**	**1.80 234**	P	Pn	07 06 44.8	+2.0
YULB	**Yu-li**	**1.80 234**	eP	Pn	07 06 43.4	+0.5
YULB			i S	Sn	07 07 03.9	-1.1
EYUL	**Yuli**	**1.81 232**	eP	Pn	07 06 44.1	+1.1
EYUL			eS	Sn	07 07 05.2	0.0
TWF1	**Yuli**	**1.82 233**	P	Pn	07 06 43.1	-0.1
TWF1			eS	Sn	07 07 04.2	-1.3
DPDB	**Guoxing**	**1.83 257**	eP	Pn	07 06 44.1	+0.8
DPDB			eS	Sn	07 07 06.0	+0.1
WCS	**Beigang Elemen**	**1.84 258**	eP	Pn	07 06 44.9	+1.6
WCS			eS	Sn	07 07 07.1	+1.2
CHKH	**Chenggong**	**1.86 227**	eP	Pn	07 06 44.6	+1.0
CHKH			eS	Sn	07 07 03.8	-2.5
SSLB	**Suanglung**	**1.88 249**	P	Pn	07 06 45.8	+1.8
SSLB	**Suanglung**	**1.88 249**	eP	Pn	07 06 45.0	+1.0
SSLB			eS	Sn	07 07 07.7	+0.8
SMLT	**Sun Moon Lake**	**1.90 253**	P	Pn	07 06 44.3	+0.1
SMLT			eS	Sn	07 07 07.1	-0.4
FULB	**Fuli**	**1.92 229**	eP	Pn	07 06 44.5	0.0
FULB			eS	Sn	07 07 06.9	-1.0
TYC	**Yuchr**	**1.93 254**	eP	Pn	07 06 46.2	+1.7
TYC			eS	Sn	07 07 09.5	+1.5
WHYT	**Xinyi Township**	**2.00 248**	eP	Pn	07 06 46.9	+1.3
WHYT			eS	Sn	07 07 11.2	+1.3
YUS	**Yu-Shan**	**2.01 241**	eP	Pn	07 06 46.0	-0.1
YUS			eS	Sn	07 07 10.7	0.0
TCU	**Taichung**	**2.03 261**	P	Pn	07 06 46.2	+0.3
TCU			eS	Sn	07 07 11.0	+0.5
WWF	**Wufeng**	**2.03 258**	i P	Pn	07 06 47.5	+1.6
WWF			eS	Sn	07 07 12.4	+1.9
ECS	**Chishang**	**2.04 228**	eP	Pn	07 06 46.1	0.0
ECS			eS	Sn	07 07 11.1	+0.3
WJS	**Zhushan**	**2.06 252**	eP	Pn	07 06 49.0	+2.6
WJS			S	Sn	07 07 13.7	+2.4
EDH	**Donghe**	**2.07 224**	P	Pn	07 06 46.0	-0.5
EDH			eS	Sn	07 07 09.2	-2.3
WNT1	**Nantou City**	**2.08 255**	eP	Pn	07 06 47.2	+0.6
WNT1			eS	Sn	07 07 13.9	+2.2
WNT	**Mingjian**	**2.09 254**	eP	Pn	07 06 48.5	+1.8
WNT			eS	Sn	07 07 13.9	+2.1
ALS	**Alishan**	**2.12 244**	eP	Pn	07 06 48.5	+1.1
ALS			eS	Sn	07 07 12.9	-0.1
ELDTW	**Lidau**	**2.13 234**	eP	Pn	07 06 47.2	-0.1
ELDTW			eS	Sn	07 07 11.7	-1.2
WCHH	**Zhanghua**	**2.15 260**	i P	Pn	07 06 48.2	+0.6
WCHH			eS	Sn	07 07 13.5	+0.2
LDUT	**Ludao**	**2.20 216**	eP	Pn	07 06 49.4	+1.2
LDUT			eS	Sn	07 07 13.5	-1.1
JMJ	**Miyako jima 2**	**2.23 81**	eP	Pn	07 06 49.8	+1.2
JMJ			i S	Sn	07 07 15.6	+0.4
WDLH	**Douliu**	**2.27 251**	eP	Pn	07 06 51.3	+2.1
WDLH			eS	Sn	07 07 19.2	+2.9
STYH	**Taoyuan**	**2.32 237**	eP	Pn	07 06 51.0	+1.3
STYH			i S	Sn	07 07 18.0	+0.7
WCKO	**Fanlu**	**2.32 244**	P	Pn	07 06 50.5	+0.8
WCKO			eS	Sn	07 07 19.9	+2.5
STYT	**Tauyuan**	**2.33 237**	eP	Pn	07 06 50.4	+0.3
STYT			eS	Sn	07 07 17.6	-0.3
WRL	**Guolierlin Hig**	**2.35 257**	eP	Pn	07 06 50.9	+0.7
WRL			eS	Sn	07 07 18.0	-0.1
TPUB	**Ta-pu**	**2.36 241**	P	Pn	07 06 52.3	+1.9
TPUB	**Ta-pu**	**2.36 241**	eP	Pn	07 06 52.6	+2.2
TPUB			eS	Sn	07 07 20.5	+2.0
RLNB	**Erlin**	**2.37 257**	i P	Pn	07 06 51.1	+0.7
RLNB			i S	Sn	07 07 19.5	+0.9
WTP	**Ta-pu**	**2.40 240**	eP	Pn	07 06 53.0	+2.1
WTP			eS	Sn	07 07 21.4	+2.0
WTK	**Tuku**	**2.40 252**	eP	Pn	07 06 51.6	+0.7
WTK			eS	Sn	07 07 19.6	+0.2
CHY	**Chiayi**	**2.44 247**	eP	Pn	07 06 51.9	+0.5
CHY			eS	Sn	07 07 21.7	+1.3
TWK	**Hsinying**	**2.49 242**	P	Pn	07 06 53.6	+1.4
TWK			eS	Sn	07 07 21.9	+0.2
CHN1	**Nanshi**	**2.50 240**	eP	Pn	07 06 54.7	+2.4
CHN1			eS	Sn	07 07 24.0	+2.1
SNST	**Tainan City**	**2.51 241**	eP	Pn	07 06 54.5	+2.1
SNST			eS	Sn	07 07 24.9	+3.0
SGST	**Jiashian**	**2.51 237**	i P	Pn	07 06 54.0	+1.6
SGST			i S	Sn	07 07 23.7	+1.5
ECL	**Taimali**	**2.56 224**	eP	Pn	07 06 54.4	+1.3
ECL			eS	Sn	07 07 21.2	-2.2
WSL	**Shuilin Townsh**	**2.60 249**	eP	Pn	07 06 54.3	+0.7
WSL			S	Sn	07 07 26.0	+1.9
LAY	**Lan-yu**	**2.71 207**	P	Pn	07 06 54.3	-0.8
LAY			eS	Sn	07 07 23.9	-2.9
LYUB	**Lan-yu**	**2.73 206**	i P	Pn	07 06 54.4	-0.9
LYUB			eS	Sn	07 07 24.4	-2.8
MASBT	**Mashibuluo**	**2.77 229**	eP	Pn	07 06 57.8	+1.9
MASBT			S	Sn	07 07 28.4	+0.2
TAWH	**Dawu Township**	**2.80 221**	eP	Pn	07 06 57.1	+0.8
TAWH			S	Sn	07 07 27.8	-1.1
TSCK	**Chigu Township**	**2.87 243**	P	Pn	07 06 58.0	+0.8
TSCK			eS	Sn	07 07 31.1	+0.2
VWUC	**VWUC**	**3.16 280**	eP	Pn	07 07 01.0	-0.1
VWUC			eS	Sn	07 07 35.5	-2.3
PHUB	**P'eng-hu**	**3.17 253**	eP	Pn	07 07 02.0	+0.8
PHUB			eS	Sn	07 07 37.0	-1.0
VCHM	**Qimei**	**3.40 249**	P	Pn	07 07 04.9	+0.5
VCHM			S	Sn	07 07 42.2	-1.3
PTMZ	**Houxiangcun**	**3.46 280**	eP	Pn	07 07 05.1	-0.2
PTMZ			eS	Sn	07 07 42.2	-2.9
MHZQ	**Yeshan**	**3.84 296**	P	Pn	07 07 11.2	+0.8
KNMB	**Chin-men Tao**	**4.09 271**	eP	Pn	07 07 13.1	-0.7
KNMB			eS	Sn	07 07 56.6	-3.9
AXDP	**Jialang**	**4.48 277**	eP	Pn	07 07 19.0	-0.2

*NEIC **09** 07:13:41.6±2.8, 12°.88S±0°.08×45°.3E±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=16.9km s-min=13.5km az=283.0*

ISC 09 07:13:41.2±0.6, 12°.87S±0°.08×45°.24E±0°.08, h10km, n27, σ1§27/27, mb4.7/11, 1C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.40**	**163**	Pn	**Pn**	**07 15 16.9**	**+1.0**
VOI	**Vohitsoka**	**9.11**	**171**	Pn	**Pn**	**07 15 53.2**	**+0.3**
FOMA	**Nahampoana Res**	**12.15**	**172**	Pn	**Pn**	**07 16 33.6**	**-0.9**
KIBK	**Kibwezi**	**12.66**	**325**	Pn	**Pn**	**07 16 41.3**	**-0.3**
MSEY	**Mahe Island**	**12.98**	**52**	Pn	**Pn**	**07 16 45.2**	**-0.7**
RER	**Riviere de l'E**	**12.99**	**131**	Pn	**Pn**	**07 16 44.4**	**-1.6**
KMBO	**Kilima Mbogo**	**14.10**	**325**	Pn	**Pn**	**07 17 01.8**	**+0.3**
LSZ	**Lusaka**	**16.72**	**260**	Pn	**Pn**	**07 17 34.4**	**-1.5**
MBAR	**Mbarara**	**18.85**	**309**	P	**P**	**07 18 00.7**	**-1.1**
POGA	**Pongola**	**19.18**	**219**	P	**P**	**07 18 03.7**	**-1.5**
POGA				IAmb	IAmb	07 18 26.9	
	comp=Z,29nm,1.3s						
LBTB	**Lobatse**	**22.13**	**234**	P	**P**	**07 18 38.4**	**+1.2**
BOSA	**Boshof**	**24.33**	**227**	P	**P**	**07 18 59.0**	**-0.4**
BOSA				IAmb	IAmb	07 19 24.8	
	comp=Z,24nm,1.5s						
SUR	**Sutherland**	**29.63**	**225**	P	**P**	**07 19 47.1**	**0.0**
SUR				IAmb	IAmb	07 19 51.2	
	comp=Z,9.8nm,1.0s						
KAAM	**Kaadhehdhoo**	**30.56**	**66**	P	**P**	**07 19 53.2**	**-2.1**
KBL	**Kabul**	**52.29**	**25**	P	**P**	**07 22 54.1**	**+0.8**
KBL				IAmb	IAmb	07 23 04.4	
	comp=Z,4.7nm,0.7s						
SIMJ	**Simiganj**	**55.87**	**22**	P	**P**	**07 23 19.1**	**-0.2**
SIMJ				IAmb	IAmb	07 23 23.4	
	comp=Z,3.4nm,1.1s						
CHGR	**Chuyangaron**	**55.92**	**23**	P	**P**	**07 23 19.5**	**-0.1**
CHGR				IAmb	IAmb	07 23 35.5	
	comp=Z,6.0nm,0.5s						
SYO	**Syowa Base**	**56.21**	**182**	eP	**P**	**07 23 22.0**	**+0.9**
GAR	**Garm**	**56.66**	**23**	P	**P**	**07 23 26.0**	**+1.1**
BOOM	**Boomskoye usch**	**61.88**	**25**	P	**P**	**07 23 60.0**	**-1.1**
BOOM				IAmb	IAmb	07 24 07.3	
	comp=Z,7.2nm,1.4s						
ABKAR	**Akbulak array**	**63.20**	**11**	P	**P**	**07 24 09.8**	**+0.2**
PZH	**PanZhiHua**	**67.41**	**54**	P	**P**	**07 24 39.5**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.0s						
KKM	**Kota Kinabalu**	**72.96**	**80**	P	**P**	**07 25 12.4**	**+0.6**
LZH	**Lanzhou**	**73.64**	**46**	eP	**P**	**07 25 13.8**	**-1.6**
LZH				sP	sP	07 25 21.8	+2.3
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**81.20**	**45**	eP	**P**	**07 25 58.1**	**+0.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,4.6s						
NJ2	**Nanjing**	**83.30**	**55**	eP	**P**	**07 26 09.2**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,13nm,1.2s						
XLT	**XiLinHaoTe**	**85.50**	**43**	eP	**P**	**07 26 22.9**	**+3.3**
XLT				sP	sP	07 26 30.1	+6.3
XLT				pmax	pmax		
	comp=Z,2.0nm,0.5s						

*DSN **09** 07:19:45.0±0.2, 28°.25N×56°.69E, h12km, ML3.3/7, Error ellipse: s-maj=5.4km s-min=1.9km az=43.0*
*IDC **09** 07:19:45.4±1.2, 27°.97N×56°.66E, h0km, mb3.9/15, mbtmp4.0/16, ML4.0/1, MS3.6/4, Error ellipse: s-maj=26.1km s-min=18.7km az=162.0*
*NEIC **09** 07:19:46.9±1.8, 27°.98N±0°.07×56°.6E±0°.1, h10km±1km, mb4.1/18, Error ellipse: s-maj=16.8km s-min=11.5km az=105.0*
*TEH **09** 07:19:46.2, 27°.97N×56°.74E, h6km±161km*
*OMAN **09** 07:19:50.2±0.2, 27°.85N×56°.74E, h10km, mb4.4/6, ml3.6/17, ms2.6/1, Error ellipse: s-maj=3.2km s-min=2.2km az=16.0*

ISC 09 07:19:49.0±0.5, 27°.97N±0°.03×56°.78E±0°.04, h24km, n110, σ1§67/120, mb4.0/27, MS3.7/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.56**	**203**	Pg	**Pb**	**07 19 58.0**	**-2.3**
KHNJ	**Kahnooj**	**0.82**	**91**	Pg	**Pb**	**07 20 02.3**	**-2.3**
NGRK	**Negar Kerman**	**1.67**	**358**	Pg	**Pb**	**07 20 18.6**	**-0.7**
KBAM	**BAM**	**1.87**	**51**	Pn	**Pb**	**07 20 22.0**	**-0.6**
CHMN	**Cheshme madani**	**2.00**	**19**	Pn	**Pb**	**07 20 23.4**	**-1.5**
SHME	**Shamm**	**2.00**	**197**	P	**Pn**	**07 20 22.7**	**+1.4**
SHME				S	**Sn**	**07 20 46.8**	**+1.3**
SHME	**Shamm**	**2.00**	**197**	P	**Pn**	**07 20 22.4**	**+1.1**
KRBR	**Kerman**	**2.00**	**359**	Pn	**Pb**	**07 20 23.7**	**-1.3**
BANOM	**Banah**	**2.08**	**192**	P	**Pb**	**07 20 24.5**	**-1.7**
BANOM				S	**Sn**	**07 20 49.1**	**+1.4**
BANOM	**Banah**	**2.08**	**192**	P	**Pn**	**07 20 23.4**	**+0.8**
BANOM				S	**Sb**	**07 20 53.0**	**+1.4**
KRM1	**Kerman Provinc**	**2.56**	**9**	Pn	**Pn**	**07 20 31.9**	**+2.7**
MASF	**Masafi**	**2.65**	**192**	P	**Pn**	**07 20 32.6**	**+2.2**
	SNR=28						
MASF				S	**Sn**	**07 21 03.1**	**+1.4**
MSFE	**Esma-Masafi**	**2.66**	**192**	P	**Pn**	**07 20 31.1**	**+0.6**
MDH	**Madha**	**2.70**	**189**	P	**Pn**	**07 20 33.5**	**+2.5**
MDH	**Madha**	**2.70**	**189**	P	**Pn**	**07 20 31.6**	**+0.7**
UOSS	**Minazif**	**3.06**	**190**	Pn	**Pn**	**07 20 36.0**	**+0.1**
UOSS	**Minazif**	**3.06**	**190**	P	**Pn**	**07 20 38.9**	**+3.0**
UOSS	**Minazif**	**3.06**	**190**	P	**Pn**	**07 20 36.5**	**+0.6**
NAZ	**Nazwa, Dubai**	**3.13**	**199**	P	**Pn**	**07 20 39.4**	**+2.5**
NAZ				S	**Sn**	**07 21 15.9**	**+2.3**
HATD	**Hatta, Dubai**	**3.19**	**191**	P	**Pn**	**07 20 40.7**	**+3.0**
ASHO	**Ashiyiah**	**3.34**	**191**	P	**Pn**	**07 20 42.3**	**+2.6**
ASHO	**Ashiyiah**	**3.34**	**191**	P	**Pn**	**07 20 40.9**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.58**	**202**	P	**Pn**	**07 20 45.7**	**+2.6**
	SNR=6.3						
AJN	**Ajban**	**3.76**	**206**	P	**Pn**	**07 20 47.9**	**+2.4**
AJN				S	**Sn**	**07 21 31.1**	**+2.1**
SOHO	**SOHO**	**3.83**	**183**	P	**Pn**	**07 20 49.0**	**+2.5**
SOHO	**SOHO**	**3.83**	**183**	P	**Pn**	**07 20 48.0**	**+1.6**
ZHSF	**Zahedan**	**3.87**	**64**	Pn	**Pn**	**07 20 50.2**	**+3.1**
IMEH	**Mehriz**	**3.90**	**332**	Pn	**Pn**	**07 20 49.5**	**+1.9**
ALNE	**Al Ain**	**4.01**	**194**	P	**Pn**	**07 20 50.4**	**+1.4**
HOQ	**Hoqain**	**4.40**	**174**	P	**Pn**	**07 20 56.0**	**+1.7**
HOQ				S	**Sn**	**07 21 47.0**	**+2.2**
NHDN	**Nehbandan**	**4.44**	**39**	Pn	**Pn**	**07 20 57.8**	**+2.8**
BSRN	**Basiran**	**4.47**	**26**	Pn	**Pn**	**07 20 58.5**	**+3.1**
BIDO	**Bidbid**	**4.59**	**164**	P	**Pn**	**07 20 57.1**	**+0.1**
BIDO				S	**Sn**	**07 21 51.7**	**+2.1**
JRN	**Qarnain Island**	**4.64**	**230**	P	**Pn**	**07 20 59.3**	**+1.7**
NGCH	**Negor - Chabah**	**4.68**	**123**	P	**Pn**	**07 20 58.8**	**+0.5**
DSBU	**Dashti - Bushe**	**4.89**	**275**	Pn	**Pn**	**07 21 02.3**	**+1.1**
MZWR	**Madinat Zayed**	**4.94**	**213**	S	**Sn**	**07 21 59.8**	**+1.6**
WSAR	**Wadi Sarin**	**5.00**	**160**	Pn	**Pn**	**07 21 02.8**	**+0.2**
	6.3nm,0.3s,baz=16,slow=8.8,SNR=64						
WSAR				Sn	**Sn**	**07 21 57.0**	**-2.6**
	22nm,0.3s,baz=234,slow=21,SNR=20						
	17nm,0.3s						
SRVN	**Saravan**	**5.01**	**95**	Pn	**Pn**	**07 21 05.6**	**+2.7**
SMDO	**Samad**	**5.02**	**167**	P	**Pn**	**07 21 05.1**	**+2.1**
TPRV	**Parvadeh(Tabas**	**5.04**	**359**	Pn	**Pn**	**07 21 05.6**	**+2.3**
BSY	**Bisya**	**5.22**	**176**	P	**Pn**	**07 21 08.4**	**+2.7**
BSY				S	**Sn**	**07 22 07.5**	**+2.4**
IRAM	**Ramesheh**	**5.41**	**316**	Pn	**Pn**	**07 21 10.2**	**+1.8**
KLNJ	**Kolanjah**	**5.44**	**305**	Pn	**Pn**	**07 21 10.3**	**+1.3**
SHMA	**Al-Shehemyia**	**5.61**	**249**	P	**Pn**	**07 21 13.7**	**+2.8**
	SNR=15						
TKDS	**Koohdasht(Taba**	**5.63**	**3**	Pn	**Pn**	**07 21 14.3**	**+2.9**
WBK	**Wadi Bani Khal**	**5.69**	**159**	P	**Pn**	**07 21 13.3**	**+1.1**
WBK				S	**Sn**	**07 22 18.9**	**+2.1**
JMDO	**Jabal Madar**	**5.70**	**168**	P	**Pn**	**07 21 14.7**	**+2.4**
JMDO				S	**Sn**	**07 22 18.8**	**+1.7**
ANAR	**Anarak**	**5.83**	**334**	Pn	**Pn**	**07 21 16.1**	**+2.0**
TRNA	**Turayna**	**5.95**	**238**	P	**Pn**	**07 21 17.1**	**+1.6**
TRNA				S	**Sn**	**07 22 24.6**	**+1.6**
TNSJ	**Nastanj**	**5.98**	**359**	Pn	**Pn**	**07 21 18.7**	**+2.6**
IBRJ	**Brojen**	**6.19**	**311**	Pn	**Pn**	**07 21 21.0**	**+1.7**
IZEF	**Zefreh**	**6.24**	**323**	Pn	**Pn**	**07 21 21.1**	**+1.3**
SMRA	**Abu-Samra**	**6.24**	**240**	P	**Pn**	**07 21 21.6**	**+2.1**
SMRA				S	**Sn**	**07 22 31.4**	**+1.3**
JLN	**Jalan Bani Buh**	**6.26**	**157**	P	**Pn**	**07 21 20.6**	**+0.6**
JLN				S	**Sn**	**07 22 30.1**	**-0.8**
SHRT	**Shahrakht**	**6.41**	**27**	Pn	**Pn**	**07 21 25.0**	**+2.9**
IPIR	**Pirpir**	**6.93**	**314**	Pn	**Pn**	**07 21 30.5**	**+1.2**
HRA	**Herat**	**7.92**	**35**	Pn	**Pn**	**07 21 44.0**	**+1.0**
DOK	**Doka**	**9.62**	**195**	P	**Pn**	**07 22 07.2**	**+1.1**
DMTO	**DMTO**	**10.35**	**190**	P	**Pn**	**07 22 16.8**	**+0.8**
WHFO	**Wadi Hawf**	**10.38**	**196**	P	**Pn**	**07 22 16.8**	**+0.2**
ABTO	**Aybut**	**11.04**	**198**	P	**Pn**	**07 22 26.2**	**+0.6**
RAYN	**Ar Rayn**	**11.09**	**249**	Pn	**Pn**	**07 22 23.4**	**-2.8**
RAYN	**Ar Rayn**	**11.09**	**249**	P	**Pn**	**07 22 24.8**	**-1.4**
RAYN	**Ar Rayn**	**11.09**	**249**	P	**Pn**	**07 22 23.6**	**-2.6**
NIL	**Nilore**	**15.23**	**64**	Pn	**Pn**	**07 23 24.3**	**+1.6**
GAR	**Garm**	**15.74**	**42**	P	**P**	**07 23 32.6**	**-0.5**
GAR				IAmb	IAmb	07 23 34.5	
	comp=Z,11nm,0.7s						
DRK	**Karamyk**	**16.94**	**43**	P	**P**	**07 23 47.2**	**+0.6**
DRK				IAmb	IAmb	07 23 48.9	
	comp=Z,22nm,0.5s						
ASF	**Jabal al Asfar**	**17.71**	**289**	P	**P**	**07 23 56.9**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=147,slow=20,SNR=2.1						
KOPT	**Kop Dagi**	**18.04**	**316**	P	**Pn**	**07 23 56.7**	**-1.7**
KK31	**Karatay Array**	**18.74**	**33**	P	**P**	**07 24 05.0**	**-1.2**
KKAR	**Karatay Array**	**18.74**	**33**	P	**P**	**07 24 04.6**	**-1.6**
EIL	**Elat**	**19.20**	**280**	P	**Pn**	**07 24 12.4**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=42,slow=14,SNR=3.8						
AAK	**Ala-Archa**	**20.51**	**40**	P	**P**	**07 24 24.9**	**-0.7**
AAK				IAmb	IAmb	07 24 27.8	
	comp=Z,3.7nm,0.6s						
AAK	**Ala-Archa**	**20.51**	**40**	P	Pn	07 24 27.1	-0.7
	comp=Z,3.5nm,0.5s,baz=212,slow=5.5,SNR=6.1						
	comp=Z,3.5nm,0.5s						
BOOM	**Boomskoye usch**	**21.25**	**42**	P	**P**	**07 24 32.5**	**-1.1**
BOOM				IAmb	IAmb	07 24 36.1	
	comp=Z,7.8nm,1.4s						
ABKAR	**Akbulak array**	**21.39**	**6**	P	**P**	**07 24 34.0**	**-0.9**
ABKAR				IAmb	IAmb	07 24 37.0	
	comp=Z,5.2nm,0.9s						
TARG	**Taragay, Kyrgy**	**21.97**	**46**	P	**P**	**07 24 42.1**	**+0.5**
TARG				IAmb	IAmb	07 25 09.2	
	comp=Z,7.9nm,0.7s						
BRTR	**Keskin Array B**	**22.45**	**307**	P	**P**	**07 24 47.2**	**+0.7**
	comp=Z,4.1nm,1.1s,baz=128,slow=9.6,SNR=7.2						
	comp=Z,4.1nm,1.1s						
BVAR	**Borovoye Array**	**26.99**	**18**	P	**P**	**07 25 29.0**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=203,slow=7.0,SNR=12						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**27.27**	**40**	P	**P**	**07 25 31.5**	**0.0**
MAKZ				IAmb	IAmb	07 25 40.9	
	comp=Z,1.7nm,0.7s						
MK31	**Makanchi Array**	**27.44**	**40**	P	**P**	**07 25 33.9**	**+0.9**
MKAR	**Makanchi Array**	**27.44**	**40**	P	**P**	**07 25 33.7**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=231,slow=9.4,SNR=15						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**28.00**	**30**	P	**P**	**07 25 38.6**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=228,slow=8.5,SNR=20						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**28.11**	**30**	P	**P**	**07 25 38.7**	**-0.1**
KURK				IAmb	IAmb	07 25 40.1	
	comp=Z,7.0nm,1.5s						
BUR08	**Bucovina Ar. S**	**31.43**	**317**	P	**P**	**07 26 07.7**	**-0.8**
BUR08				IAmb	IAmb	07 26 31.3	
	comp=Z,2.4nm,1.1s						
ZAA0	**Zalesovo Array**	**33.09**	**31**		**P**	**07 26 22.6**	**-0.2**
ZALV	**Zalesovo Beam**	**33.09**	**31**	P	**P**	**07 26 23.1**	**+0.3**
	comp=Z,4.7nm,0.4s,baz=241,slow=9.6,SNR=25						
	comp=Z,4.7nm,0.4s						
FIA1	**FINESS Array S**	**39.23**	**337**	P	**P**	**07 27 14.7**	**-0.5**
FINES	**FINESS Array B**	**39.23**	**337**	P	**P**	**07 27 15.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=140,slow=9.7,SNR=7.0						
	comp=Z,0.8nm,0.3s						
LESA	**Schwarzleotal**	**39.31**	**312**	i P	**P**	**07 27 15.5**	**-0.6**
	comp=Z,1.2nm,0.4s						
WTTA	**Wattenberg**	**39.96**	**311**	i P	**P**	**07 27 21.0**	**-0.7**
	comp=Z,1.6nm,0.3s						
SQTA	**Sankt Quirin**	**40.23**	**311**	i P	**P**	**07 27 23.1**	**-0.8**
	comp=Z,2.8nm,0.3s						
MOTA	**

MTN	Manton Dam	10.64	116	P	Pn	07 28 07.0 +2.3
MBWA	Marble Bar	12.84	187	Pn	Pn	07 28 34.1 -0.7
MBWA	Marble Bar	12.84	187	P	Pn	07 28 36.4 +1.6
	12nm,1.3s					
PSA00	Pilbara Seismi	13.24	186	Pn	Pn	07 28 39.1 -1.2
LEM	Lembang	13.66	275	LR	LR	07 36 07.6
	comp=Z,78nm,18.4s,baz=169,slow=46					
GIRL	Giralia	15.77	205	Pn	Pn	07 29 13.2 -1.2
GIRL				IAmb	IAmb	07 29 29.8
	comp=Z,125nm,1.2s					
GIRL	Giralia	15.77	205	P	Pn	07 29 16.6 +2.2
WB0	Warramunga Arr	17.01	133	Pn	Pn	07 29 27.7 -2.7
WRA	Warramunga Arr	17.09	134	P	Pn	07 29 30.1 -1.3
	comp=Z,0.5nm,0.3s,baz=309,slow=13,SNR=17					
WRA				S	Sn	07 32 32.4 -9.1
	comp=Z,3.3nm,0.8s,baz=300,slow=23,SNR=5.6					
	comp=Z,1.6nm,0.5s					
WRKA	Warakurna	17.89	159	P	Pn	07 29 43.4 +2.1
MEEK	Meekatharra	18.38	188	P	Pn	07 29 49.7 +2.4
AS31	Alice Springs	19.44	143	P	P	07 29 59.5 +0.6
ASAR	Alice Springs	19.44	143	P	P	07 29 59.1 +0.1
	comp=Z,0.8nm,0.3s,baz=319,slow=12,SNR=20					
ASAR				S	Sn	07 33 28.7 -10
	comp=Z,0.8nm,0.7s,baz=318,slow=22,SNR=4.4					
ASAR				PcP	PcP	07 34 18.5 -1.9
	comp=Z,0.4nm,0.5s,baz=319,slow=2.0,SNR=1.9					
	comp=Z,1.4nm,0.4s					
MORW	Morawa	21.21	193	P	P	07 30 18.8 +0.7
MORW				IAmb	IAmb	07 30 46.1
	comp=Z,24nm,1.4s					
FORT	Forrest	23.20	165	P	P	07 30 39.7 +0.4
FORT				IAmb	IAmb	07 30 52.0
	comp=Z,18nm,0.8s					
NWAO	Narrogin (SRO)	24.76	188	LR	LR	07 41 16.0
	comp=Z,51nm,19.8s,baz=316,slow=38					
BBOO	Buckleboo	27.92	153	P	P	07 31 21.9 -0.7
STKA	Stephens Creek	30.07	144	P	P	07 31 41.8 +0.1
STKA				IAmb	IAmb	07 31 57.0
	comp=Z,6.5nm,1.1s					
STKA	Stephens Creek	30.07	144	P	P	07 31 42.0 +0.3
	comp=Z,1.5nm,0.3s,baz=345,slow=8.5,SNR=6.4					
	comp=Z,1.5nm,0.3s					
SONM	Songino Array	57.47	348	P	P	07 35 20.3 -1.1
	comp=Z,0.8nm,0.6s,baz=166,slow=8.0,SNR=7.7					
	comp=Z,0.8nm,0.6s					
MKAR	Makanchi Array	64.94	331	P	P	07 36 10.5 -1.5
	comp=Z,0.8nm,0.6s,baz=144,slow=7.7,SNR=11					
	comp=Z,0.8nm,0.6s					
ZALV	Zalesovo Beam	69.27	338	P	P	07 36 36.8 -2.5
	comp=Z,0.7nm,0.4s,baz=123,slow=5.8,SNR=3.7					
	comp=Z,0.7nm,0.4s					
KURBB	Kurchatov Arra	69.42	332	P	P	07 36 37.1 -3.1
	comp=Z,0.3nm,0.4s,baz=142,slow=5.7,SNR=6.5					
	comp=Z,0.3nm,0.4s					
SYO	Syowa Base	79.30	201⇓	eP	P	07 37 36.2 -1.4
SYO	Syowa Base	79.30	201⇑	eP	pP	07 37 41.8 +1.1
QSPA	South Pole Qui	81.65	180	P	P	07 37 50.1 -0.4
QSPA				IAmb	IAmb	07 38 00.8
	comp=Z,4.0nm,1.3s					
QSPA	South Pole Qui	81.65	180	P	P	07 37 50.1 -0.4
	comp=Z,0.8nm,0.5s,baz=307,slow=2.1,SNR=11					
	comp=Z,0.8nm,0.5s					
SNAA	Sanae	92.24	195	P	P	07 38 41.8 -0.3
SNAA	Sanae	92.24	195	P	P	07 38 42.0 -0.1
	comp=Z,2.6nm,0.9s,baz=82,slow=14,SNR=2.1					
SNAA				LR	LR	08 17 54.1
	comp=Z,42nm,19.9s,baz=352,slow=34					
	comp=Z,2.6nm,0.9s					
CPUP	Villa Florida	145.52	182	PKPbc	PKPbc	07 45 09.8 -1.5
	comp=Z,0.4nm,0.3s,baz=59,slow=4.0,SNR=3.3					

*IDC **09** 07:35:16.3±2.2, 13°.11N×120°.49E, h70km±22km, mb3.4/8, mbtmp3.7/8, MS2.6/1, Error ellipse: s-maj=36.9km s-min=18.5km az=69.0*

ISC 09 07:35:11.9±1.0, 13°.0N±0°.1×120°.4E±0°.1, h27km, n10, σ1°15/11, mb3.6/8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.23	28	P	Pb	07 35 34.6	+0.2
	2μm,0.3s,baz=226,slow=3.0,SNR=25						
TGY				S	Sb	07 35 50.8	+0.9
	2μm,0.4s,baz=306,slow=22,SNR=13						
CMAR	Chiang Mai Arr	21.29	287	P	P	07 39 58.9	+2.3
	0.5nm,0.3s,baz=98,slow=9.1,SNR=7.7						
	0.5nm,0.3s						
KSRS	Korea Array	25.26	14	LR	LR	07 51 23.1	
	comp=Z,13nm,20.1s,baz=180,slow=38						
WRA	Warramunga Arr	35.53	157	P	P	07 42 07.3	+0.5
	0.9nm,1.1s,baz=332,slow=9.6,SNR=1.4						
	0.9nm,1.1s						
SONM	Songino Array	36.62	344	P	P	07 42 15.2	-0.8
	1.0nm,0.7s,baz=163,slow=9.6,SNR=8.2						
	1.0nm,0.7s						
ASAR	Alice Springs	38.79	160	P	P	07 42 34.9	+0.4
	0.4nm,0.7s,baz=340,slow=8.6,SNR=2.3						
	0.4nm,0.7s						
MKAR	Makanchi Array	46.38	324	P	P	07 43 36.3	+0.3
	0.3nm,0.6s,baz=133,slow=9.5,SNR=2.9						
MKAR				PcP	PcP	07 45 09.8	-0.8
	0.2nm,0.7s,baz=126,slow=3.7,SNR=1.8						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	50.57	327	P	P	07 44 07.4	-0.6
	0.2nm,0.3s,baz=121,slow=9.6,SNR=5.8						
	0.2nm,0.3s						
ARCES	ARCESS Array B	79.60	339	P	P	07 47 15.2	-1.1
	1.6nm,0.9s,baz=72,slow=7.8,SNR=8.6						
	1.6nm,0.9s						
FINES	FINESS Array B	80.71	331	P	P	07 47 21.4	-1.0
	1.7nm,0.8s,baz=66,slow=4.9,SNR=1.5						
	1.7nm,0.8s						

*IDC **09** 07:57:48.4±1.7, 39°.14N×72°.53E, h0km, mb3.8/4, mbtmp3.6/8, ML2.9/4, MS2.9/1, Error ellipse: s-maj=26.1km s-min=22.2km az=137.0*
*SOME **09** 07:57:49.7, 39°.65N×71°.90E, h5km*
*KRNET **09** 07:57:49.3±0.1, 39°.27N×72°.43E, h14km, mb3.6*
*NNC **09** 07:57:54.6±1.7, 39°.42N×72°.37E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=12.8km s-min=8.3km az=1.0*

ISC 09 07:57:49.4±1.3, 39°.38N±0°.04×72°.38E±0°.03, h2km±9km, n48, σ2°20/73, mb3.8/4, 31C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.46	282	⇑iP	Pg	07 57 59.6	+1.3
DRK				⇑iS	Sg	07 58 06.9	+2.6
SFK	Sufi-Kurgan	1.07	54	⇑iP	Pb	07 58 10.5	-0.3
SFK				⇑iS	Sg	07 58 25.7	+2.0
OHH	Osh	1.18	15	⇑iP	Pb	07 58 13.6	+1.0
OHH				⇑iS	Sg	07 58 31.1	+3.8
BTK	Batken	1.38	300	⇑eP	Pb	07 58 16.6	+0.6
BTK				⇑eS	Sg	07 58 36.7	+2.9
GAR	Garm	1.65	257	⇑iP	Pb	07 58 20.0	-0.6
GAR				⇑iS	Sg	07 58 42.6	+0.2
SALK	Salom-Alik	1.86	36	⇑iP	Pb	07 58 24.9	+0.7
SALK				⇑iS	Sg	07 58 51.0	+1.8
ARSB	Arslanbob	1.99	13	⇓iP	Pb	07 58 27.3	+0.8
ARSB				⇓iS	Sb	07 58 55.0	+3.2
TRKS	Terek-Say	2.34	337	⇓eP	Pb	07 58 31.5	-1.0
TRKS				⇓eS	Sb	07 59 01.6	-0.4
ARK	Arkit	2.43	353	⇓iP	Pb	07 58 33.7	-0.3
ARK				⇓eS	Sb	07 59 06.0	+1.5
CHGR	Chuyangaron	2.61	255	⇓iP	Pb	07 58 34.2	-2.8
CHGR				⇓iS	Sb	07 59 07.4	-2.2
ARLS	Aral	2.88	30	⇑iP	Pb	07 58 39.3	-2.3
ARLS				⇑iS	Sb	07 59 15.7	-1.7
AML	Almayashu	2.92	20	⇑iP	Pb	07 58 40.3	-2.1
AML				⇑eS	Sb	07 59 17.5	-1.2
MNAS	Manas	3.10	2	⇓iP	Pn	07 58 42.9	+3.4
MNAS				⇓iS	Sb	07 59 21.7	-2.0
UCH	Uchtor	3.27	29	⇑iP	Pn	07 58 44.9	+2.8
UCH				⇑iS	Sn	07 59 25.5	+3.7
MRKS	Merke	3.42	10	Pg	Pg	07 58 55.1	+0.2
	29nm,0.6s						
MRKS				Lg	Lg	07 59 40.1	
	79nm,0.7s						
MRKS	Merke	3.42	10	eP	Pb	07 58 49.8	-1.0
	5.6nm,0.2s						
MRKS				eS	Sb	07 59 33.2	+0.4
	39nm,0.2s						
AAK	Ala-Archa	3.62	25	⇑iP	Pn	07 58 49.5	+2.8
AAK				⇑iS	Sn	07 59 33.8	+3.7
KBK	Karagaybulak	3.80	30	⇑iP	Pn	07 58 52.2	+3.0
KBK				⇑iS	Sn	07 59 37.8	+3.2
KK31	Karatay Array	3.98	340	⇑Pn	Pb	07 58 56.4	-3.8
	3.6nm,0.3s,baz=153,slow=12,SNR=38						
KK31				⇑Sn	Sb	07 59 45.1	-3.6
	26nm,0.5s,baz=154,slow=23,SNR=6.6						
KK31				⇑Lg	Lg	07 59 56.3	
	12nm,0.4s						
CHMS	Chumysh	4.03	26	Pn	Pb	07 58 58.2	-2.9
	12nm,0.5s						
CHMS				⇓Sn	Sb	07 59 47.9	-2.4
	20nm,0.8s						
CHMS				Lg	Lg	08 00 00.0	
	15nm,0.6s						
CHMS	Chumysh	4.03	26	⇓iP	Pn	07 58 55.1	+2.9
CHMS				⇓iS	Sn	07 59 43.2	+3.2
BOOM	Boomskoye usch	4.11	40	⇑eP	Pn	07 58 56.1	+2.7
BOOM				⇑iS	Sn	07 59 44.9	+2.8
TKM2	Tokmak 2	4.29	33	⇑Pn	Pb	07 59 01.3	-4.2
	7.1nm,0.5s						
TKM2				⇑Lg	Lg	08 00 11.1	
	17nm,0.7s						
KST	Kastek	4.54	35	Pg	Pg	07 59 17.1	+0.7
	8.0nm,0.5s						
KST				Lg	Lg	08 00 17.3	
	24nm,1.5s						
KST	Kastek	4.54	35	eP	Pb	07 59 13.7	+3.7
	2.3nm,0.2s						
KST				eS	Sg	08 00 14.1	-1.3
	17nm,0.4s						
DGS	Degeres	4.62	32	Pg	Pg	07 59 18.4	+0.5
	9.7nm,0.6s						
DGS				Lg	Lg	08 00 19.8	
	22nm,0.9s						
MTBS	Maitube	4.83	38	Pg	Pg	07 59 22.5	+0.6
	6.5nm,0.9s						
MTBS				Lg	Lg	08 00 27.2	
	15nm,0.6s						
MTBS	Maitube	4.83	38	eP	Pg	07 59 19.1	-2.8
	1.4nm,0.1s						
MTBS				eS	Sg	08 00 23.3	-1.1
	18nm,0.3s						
KRBS	Karabastau	4.97	29	Pg	Pg	07 59 23.3	-1.3
	6.8nm,0.6s						
KRBS				Lg	Lg	08 00 28.7	
	12nm,0.5s						
TNSS	Tian-Shan	5.02	42	Pg	Pg	07 59 25.2	-0.3
	3.9nm,0.5s						
TNSS				Lg	Lg	08 00 31.3	
	13nm,0.8s						
TNSS	Tian-Shan	5.02	42	eP	Pg	07 59 23.0	-2.5
	2.4nm,0.2s						
TNSS				eS	Sg	08 00 30.3	-0.2
	8.4nm,0.4s						
MDOK	Medeo	5.16	41	Pg	Pg	07 59 28.0	-0.2
	2.6nm,0.4s						
MDOK				Pg	Pg	07 59 29.9	+1.7
	6.9nm,0.8s						
MDOK				Lg	Lg	08 00 35.9	
	13nm,0.7s						
MDOK				Lg	Lg	08 00 39.9	
	28nm,1.0s						
MDOK	Medeo	5.16	41	eP	Pg	07 59 26.7	-1.5
	1.9nm,0.2s						
MDOK				eS	Sg	08 00 36.4	+1.4
	12nm,0.4s						
KOTS	Kotyrbulak	5.24	41	Pg	Pg	07 59 29.2	-0.6
	4.3nm,0.7s						
KOTS				Lg	Lg	08 00 38.3	
	32nm,0.7s						
KOTS	Kotyrbulak	5.24	41	eP	Pg	07 59 28.1	-1.8
	5.7nm,0.3s						
KOTS				eS	Sg	08 00 38.6	+0.9
	42nm,0.6s						
KTBS	Karatobe	5.39	35	Pg	Pg	07 59 30.6	-2.1
	5.2nm,0.5s						
KTBS				Lg	Lg	08 00 41.2	
	21nm,0.6s						
ARXS	Arharly	6.31	38	Pg	Pg	07 59 47.8	-2.5
	0.4nm,0.1s						
ARXS				Lg	Lg	08 01 10.1	
	16nm,0.8s						
PDGK	Podgornoye	6.64	51	⇑Pn	Pn	07 59 31.9	+3.8
	4.1nm,0.7s						
PDGK				⇑Lg	Lg	08 01 28.8	
	11nm,0.7s						
MKAR	Makanchi Array	10.36	41	Pn	Pn	08 00 21.3	+2.4
	0.1nm,0.3s,baz=222,slow=15,SNR=17						
MKAR				Lg	Lg	08 03 17.0	
	baz=229,slow=26,SNR=1.8						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	12.05	19	Pn	Pn	08 00 43.9	+1.9
	baz=212,slow=11,SNR=4.0						
KURBB				Lg	Lg	08 04 14.8	
	baz=201,slow=32,SNR=5.2						
	0.1nm,0.3s						
AB31	Akbulak array	13.28	322	⇓Pn	Pn	08 01 01.6	+2.8
	1.6nm,0.6s,baz=131,slow=12,SNR=32						
AB31				Sn	Sn	08 03 30.2	+3.3
	3.5nm,1.1s,baz=118,slow=46,SNR=4.0						
BVAR	Borovoye Array	13.71	355	Pn	Pn	08 01 03.4	-1.3
	0.1nm,0.3s,baz=167,slow=9.8,SNR=2.9						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	16.84	26	Pn	P	08 01 48.1	-0.3
	0.3nm,0.3s,baz=209,slow=13,SNR=5.7						
	1.3nm,0.4s						
SONM	Songino Array	25.87	60	P	P	08 03 20.7	-1.7
	0.3nm,0.4s,baz=260,slow=8.6,SNR=1.6						
	0.3nm,0.4s						
PALK	Pallekele	32.83	165	LR	LR	08 16 17.9	
	comp=Z,22nm,19.1s,baz=117,slow=34						
FINES	FINESS Array B	35.76	324	P	P	08 04 51.1	+1.7
	2.8nm,1.0s,baz=103,slow=8.0,SNR=4.4						
	2.8nm,1.0s						
HFS	Hagfors	41.52	320	P	P	08 05 38.8	+1.0
	2.0nm,0.9s,baz=88,slow=10,SNR=4.2						
	2.0nm,0.9s						
WRA	Warramunga Arr	82.62	123	P	P	08 10 12.4	-1.9
	0.4nm,0.8s,baz=319,slow=5.5,SNR=1.3						
	0.4nm,0.8s						

IDC 09 07:58:49.2±1.8, 2°.25S×124°.53E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=167.4km s-min=26.8km az=62.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.03	152	P	P	08 03 24.6	+0.7
	0.4nm,0.6s,baz=330,slow=11,SNR=9.5						
	0.4nm,0.6s						
ASAR	Alice Springs	23.14	158	P	P	08 03 56.6	-0.7
	0.2nm,0.6s,baz=340,slow=8.4,SNR=4.6						
	0.2nm,0.6s						
MKAR	Makanchi Array	61.32	328	P	P	08 09 06.7	0.0
	0.3nm,0.6s,baz=140,slow=7.6,SNR=5.0						
	0.3nm,0.6s						

TRN 09 08:08:35.9, 17°.56N×61°.91W, h29km, MD3.7, East of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.16	49	eP	Pn	08 08 43.2	+0.8
ANWB				eS	Sb	08 08 46.9	+1.4
ANWB	Willy Bob	0.16	49	eP	Pn	08 08 43.2	+0.8
ANWB				eS	Sb	08 08 46.9	+1.4
ANBD	Bethesda, Anti	0.53	165	eP	Pn	08 08 48.2	+0.7
ANBD	Bethesda, Anti	0.53	165	eP	Pn	08 08 48.2	+0.7
SKI	Saint Kitts	0.82	254	eP	Pb	08 08 53.4	+1.7
SKI				eS	Sn	08 09 04.9	+2.2
SKI	Saint Kitts	0.82	254	eP	Pb	08 08 53.4	+1.7
SKI				eS	Sn	08 09 04.9	+2.2
SKOC	St. Kitts, UWI	0.83	251	eP	Pb	08 08 53.2	+1.4
SKOC				eS	Sn	08 09 04.9	+2.1
SKOC	St. Kitts, UWI	0.83	251	eP	Pb	08 08 53.2	+1.4
SKOC				eS	Sn	08 09 04.9	+2.1
MBFL	Flemmings, Mon	0.86	200	eP	Pb	08 08 54.2	+1.8
MBFL	Flemmings, Mon	0.86	200	eP	Pb	08 08 54.2	+1.8
MBWH		0.86	198	eP	Pb	08 08 54.2	+1.8
MBWH				eS	Sn	08 09 05.9	+2.2
MBWH		0.86	198	eP	Pb	08 08 54.2	+1.8
MBWH				eS	Sn	08 09 05.9	+2.2
DSLB	Salisbury	2.16	167	eP	Pb	08 09 12.3	-2.1
DSLB				eS	Sn	08 09 38.0	+2.0
DSLB	Salisbury	2.16	167	eP	Pb	08 09 12.3	-2.1
DSLB				eS	Sn	08 09 38.0	+2.0
MDN	Morne-Daniel	2.29	167	eP	Pn	08 09 13.6	+1.9
MDN	Morne-Daniel	2.29	167	eP	Pn	08 09 13.6	+1.9

ISC 09 08:09:31.9±1.1, 69°.46N±0°.03×144°.12W±0°.02, h2km±11km, n23, σ0°88/40, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	Jago River	0.22	40	P	Pg	08 09 36.0	0.0
	baz=221,SNR=1000						
C27K				S	Sg	08 09 39.0	+0.1
	baz=221						
C26K	Camden Bay	0.54	329	P	Pg	08 09 42.2	+0.1
	baz=151,SNR=104						
C26K				S	Sg	08 09 49.2	+0.1
	baz=151						
D25K	Kavik River	0.81	261	P	Pg	08 09 46.5	-0.8
	baz=80,SNR=12						
D25K				S	Sg	08 09 57.6	-0.3
	baz=80						
D27M	Malcolm River	1.14	100	P	Pg	08 09 53.5	-0.1
	baz=282						
D27M				S	Sn	08 10 10.6	-0.5
	baz=282						
E25K	Arctic Village	1.45	202	Pb	Pb	08 09 59.6	+0.1
	baz=20,SNR=64						
E25K				S	Sn	08 10 20.0	+1.4
	baz=20						
C24K	Franklin Bluff	1.63	281	Pb	Pb	08 10 02.3	-0.3
	baz=98						
C24K				S	Sg	08 10 24.0	-0.1
	baz=98						
D24K	Happy Valley	1.70	262	Pb	Pb	08 10 03.5	-0.3
	baz=78						
D24K				Sb	Sg	08 10 26.8	+0.4
	baz=78						
F26K	Sheenjek River	1.77	180	Pb	Pb	08 10 05.3	+0.2
	baz=360						
F26K				Sb	Sg	08 10 29.4	+0.7
	baz=360						
E28M	Babbage River	1.86	115	Pb	Pb	08 10 06.6	+0.1
	baz=299						
E28M				S	Sg	08 10 31.1	-0.4
	baz=299						
F25K	Christian Rive	1.96	197	Pb	Pb	08 10 08.2	-0.1
	baz=16						
F25K				Sb	Sg	08 10 34.6	-0.1
	baz=16						
E24K	Your Creek	2.12	231	Pg	Pg	08 10 11.9	-0.4
	baz=47						
E24K				Sb	Sg	08 10 38.7	-1.0
	baz=47						
TOLK	Toolik Lake Re	2.13	250	Pg	Pg	08 10 12.1	-0.5
	baz=65						
TOLK				Sg	Sg	08 10 41.5	+1.4
	baz=65						
TOLK				Sg	Sg	08 10 41.5	+1.4
	baz=65						
C23K	Itkillik River	2.30	282	Pg	Pg	08 10 15.2	-0.7
	baz=97						
C23K				Sg	Sg	08 10 46.8	+1.1
	baz=97						
D23K	Nanushuk River	2.40	261	Sg	Sg	08 10 50.2	+1.6
	baz=75						
F24K	Squaw Lake	2.40	217	P	Pn	08 10 12.9	+0.8
	baz=34						
F24K				S	Sb	08 10 43.9	-1.7
	baz=34						
F28M	Old Crow	2.42	138	P	Pn	08 10 13.1	+0.7
	baz=321,SNR=24						
F28M				S	Sn	08 10 43.2	+0.5
	baz=321						
E23K	Chandalar	2.45	237	Sg	Sg	08 10 51.5	+1.1
	baz=52						
E29M	Blow River	2.49	113	S	Sb	08 10 47.2	-1.2
	baz=298						
G26K	Porcupine Rive	2.53	177	P	Pn	08 10 15.1	+1.3
	baz=357						
G26K				S	Sb	08 10 47.4	-1.9
	baz=357						
E22K	Anaktuvuk Pass	3.10	248	S	Sn	08 10 58.8	-0.5
	baz=61						
B22K	Teshekpuk Lake	3.33	290	P	Pn	08 10 25.2	+0.3
	baz=101						
C21K	Knifeblade Rid	3.80	270	P	Pn	08 10 32.3	+1.0
	baz=81						
H24K	Noodor Dome	3.91	203	P	Pn	08 10 33.9	+1.0
	baz=20						

*IDC **09** 08:17:57.2±1.0, 31°.91N×104°.55E, h0km, mb3.8/8, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=61.7km s-min=20.1km az=59.0*

ISC 09 08:17:59.6±1.1, 31°.9N±0°.2×104°.5E±0°.3, h15km, n9, σ0°55/9, mb3.6/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	15.97	5	Pn	Pn	08 21 43.8	0.0
	0.3nm,0.3s,baz=177,slow=9.9,SNR=4.1						
	0.4nm,0.5s						
MKAR	Makanchi Array	22.61	317	P	P	08 23 00.2	+0.5
	0.6nm,0.8s,baz=111,slow=12,SNR=5.8						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	26.16	333	P	P	08 23 33.8	+0.7
	2.2nm,0.6s,baz=136,slow=9.6,SNR=8.6						
	2.2nm,0.6s						
ARCES	ARCESS Array B	56.67	336	P	P	08 27 41.6	-0.3
	7.7nm,1.2s,baz=96,slow=8.3,SNR=7.2						
	7.7nm,1.2s						
AKASG	Malin Array Be	57.09	313	P	P	08 27 44.7	-0.5
	0.2nm,0.3s,baz=74,slow=6.8,SNR=2.4						
	0.2nm,0.3s						
WRA	Warramunga Arr	58.95	147	P	P	08 27 58.0	-0.5
	0.5nm,0.9s,baz=331,slow=7.1,SNR=5.1						
	0.5nm,0.9s						
ASAR	Alice Springs	62.00	149	P	P	08 28 20.0	+0.7
	0.4nm,0.9s,baz=337,slow=7.7,SNR=2.1						
	0.4nm,0.9s						
YKA	Yellowknife Ar	80.82	17	P	P	08 30 12.3	0.0
	0.3nm,0.8s,baz=241,slow=2.4,SNR=3.9						
	0.3nm,0.8s						
SCHQ	Schefferville	93.29	355	P	P	08 31 13.7	+0.1
	1.9nm,0.7s,baz=219,slow=8.6,SNR=2.1						
	1.9nm,0.7s						

TXNET 09 08:19:21.1, 31°.7N±0°.6×104°.3W±0°.6, h5km±2km, ML1.8/6, Error ellipse: s-maj=1.0km s-min=0.8km az=54.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.34	33	P	Pg	08 19 27.8	0.0
TPB11				S	Sg	08 19 32.5	+0.1
PECS	Pecos	0.43	130	P	Pg	08 19 29.6	+0.1
PECS				S	Sg	08 19 35.1	+0.1
TPB12	Southwest of T	0.50	150	P	Pg	08 19 31.1	+0.3
TPB12				S	Sg	08 19 37.8	+0.5
TPB07	Mentone	0.50	98	S	Sg	08 19 37.7	+0.3
TPB10	Southeast of T	0.56	130	P	Pg	08 19 32.1	+0.3
TPB10				S	Sg	08 19 39.6	+0.5
GDL2	Guadalupe Moun	0.56	350	P	Pg	08 19 32.2	+0.3
PCOS	Crockett Middl	0.68	110	S	Sg	08 19 43.7	+0.8
TPB01	Permian Basin	0.81	150	P	Pg	08 19 36.1	-0.6
TPB01				S	Sg	08 19 46.5	-0.7
MNTX	Cornudas Mount	0.96	273	P	Pg	08 19 39.8	+0.2
MNTX				S	Sg	08 19 52.7	+0.6
HTMS	Hat Mesa	0.98	32	S	Sg	08 19 53.0	+0.4
VHRN	Van Horn	1.06	216	P	Pg	08 19 41.2	-0.

mb4.2/7, MLv4.3/10

*IDC **09** 08:51:26.9±16.0, 7°.77S×128°.51E, h170km±177km, mb3.2/2, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=145.2km s-min=55.3km az=35.0*

ISC 09 08:51:22.8±0.9, 7°.65S±0°.07×128°.73E±0°.08, h150km, n11, σ2°.77/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.56**	**97**	P	**Pn**	08 52 10.5	+5.8
SOEI	**Soe**	**4.88**	**244**	P	**Pn**	**08 52 36.9**	**+2.1**
SOEI				S	**Sn**	**08 53 28.6**	**-2.3**
BATI	**Baumata**	**5.61**	**243**	P	**Pn**	**08 52 44.9**	**+0.5**
BATI				S	**Sn**	**08 53 45.9**	**-2.3**
FAKI	**Fak Fak**	**5.86**	**37**	P	**Pn**	**08 52 47.4**	**-0.3**
	0.2nm25nm,0.6s						
FAKI				S	**Sn**	**08 53 51.1**	**-3.1**
	0.2nm25nm,0.6s						
SANI	**Sanana**	**6.20**	**334**	P	**Pn**	**08 52 50.3**	**-2.0**
	0.1nm21nm,1.1s						
SWI	**Sorong**	**7.20**	**21**	P	**Pn**	**08 53 05.4**	**-0.2**
	0.2nm22nm,1.0s						
FITZ	**Fitzroy Crossi**	**10.81**	**196**	P	**Pn**	**08 53 55.0**	**+1.5**
	0.5nm,0.3s,baz=19,slow=11,SNR=14						
FITZ				S	**Sn**	**08 55 47.4**	**-5.8**
	2.3nm,0.3s,baz=77,slow=22,SNR=6.0						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**13.37**	**157**	P	**Pn**	**08 54 29.1**	**+2.3**
	0.5nm,0.3s,baz=334,slow=12,SNR=25						
WRA				S	**Sn**	**08 56 52.2**	**-2.7**
	2.4nm,0.6s,baz=331,slow=23,SNR=11						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**16.68**	**163**	P	**Pn**	**08 55 10.9**	**+3.0**
	0.1nm,0.3s,baz=335,slow=9.5,SNR=6.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**68.09**	**328**	P	**P**	**09 02 08.3**	**+2.0**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=10.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.42**	**329**	P	**P**	**09 02 34.1**	**+1.6**
	0.4nm,0.6s,baz=131,slow=5.3,SNR=5.6						
	0.4nm,0.6s						

*IDC **09** 09:21:56.6±1.1, 5°.38N×95°.36E, h147km±7km, mb3.7/14, mbtmp4.1/16, Error ellipse: s-maj=33.0km s-min=10.7km az=55.0*

*BJI **09** 09:21:56.8, 5°.23N×95°.83E, h162km, mB4.9/6, mb4.4/24*

*DJA **09** 09:21:57.4±0.5, 5°.N±3°.×9°.6E±°, h154km±4km, M4.4/12, mb4.5/5, mB5.7/3, MLv4.3/12, Mw(mB)5.2/3*

*NEIC **09** 09:21:59.5±1.1, 5°.54N±0°.07×95°.91E±0°.10, h148km±4km, mb4.6/33, Error ellipse: s-maj=14.5km s-min=9.4km az=76.0*

ISC 09 09:21:57.5±0.4, 5°.57N±0°.04×95°.65E±0°.05, h150km, n100, σ2°.07/113, mb4.5/36, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.36**	**258**	P	**Pn**	**09 22 19.7**	**+1.4**
BSI				S	**Sn**	**09 22 35.4**	**+1.4**
LHMI	**Lhok Sumawe**	**1.33**	**105**		**Pn**	**09 22 24.8**	**-0.5**
LHMI	**Lhok Sumawe**	**1.33**	**105**	P	**Pn**	**09 22 26.2**	**+0.8**
LHMI				S	**Sn**	**09 22 46.7**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.50**	**150**	P	**Pn**	**09 22 27.1**	**0.0**
MLSI				S	**Sn**	**09 22 49.0**	**-0.7**
CMBY	**CAMPBELL BAY**	**2.23**	**310**	*e*P	**Pn**	**09 22 38.0**	**+2.6**
CMBY				*e*S	**Sn**	**09 23 06.1**	**+1.6**
CMBY				IAML		09 23 08.7	
	comp=N,3μm,0.3s						
CMBY				IAML		09 23 09.1	
	comp=E,4μm,0.2s						
SNSI	**Sinabang, Aceh**	**3.21**	**168**	P	**Pn**	**09 22 46.5**	**-1.1**
SNSI				S	**Sn**	**09 23 24.5**	**-1.9**
TSI	**Tuntungan**	**3.56**	**125**	P	**Pn**	**09 22 51.2**	**-0.8**
PSI	**Prapat**	**4.27**	**130**	P	**Pn**	**09 23 02.1**	**+0.7**
	comp=E,14nm,0.3s,baz=304,slow=7.2,SNR=10						
PSI				S	**Sn**	**09 23 50.0**	**-1.2**
	comp=E,32nm,0.6s,baz=278,slow=20,SNR=9.9						
RPSI	**Rantau Prapat**	**4.34**	**131**		**Pn**	**09 23 00.7**	**-1.5**
GSI	**Gunungsitoli**	**4.65**	**156**	Pn	**Pn**	**09 23 06.1**	**-0.3**
GSI	**Gunungsitoli**	**4.65**	**156**	P	**Pn**	**09 23 05.6**	**-0.8**
GSI				S	**Sn**	**09 23 55.0**	**-5.1**
SRIT	**Nakonsritamara**	**4.94**	**52**		**Pn**	**09 23 09.5**	**-0.6**
KULM	**Kulim**	**4.98**	**93**	Pn	**Pn**	**09 23 08.8**	**-2.0**
IPM	**Ipoh**	**5.46**	**101**		**Pn**	**09 23 15.4**	**-1.7**
MNSI	**Mandailing Nat**	**6.16**	**140**	P	**Pn**	**09 23 23.8**	**-2.5**
PBSI	**Pulau Batu**	**6.17**	**155**	P	**Pn**	**09 23 24.7**	**-1.9**
	comp=E,0.6nmcomp=E,61nm,1.3s						
PBA	**Port Blair**	**6.69**	**335**	*e*P	**Pn**	**09 23 38.0**	**+4.5**
PBA				IAML		09 23 47.4	
	comp=E,542nm,0.2s						
PBA				IAML		09 23 47.5	
	comp=N,415nm,0.2s						
PBA				*e*S	**Sn**	**09 24 46.3**	**-2.4**
DGPR	**DIGLIPUR**	**8.02**	**341**	*e*P	**Pn**	**09 23 54.1**	**+2.9**
DGPR				IAML		09 23 59.0	
	comp=E,331nm,0.1s						
DGPR				IAML		09 23 59.0	
	comp=N,459nm,0.3s						
DGPR				*e*S	**Sn**	**09 25 17.0**	**-3.6**
MYKOM	**Kota Tinggi**	**9.00**	**114**	Pn	**Pn**	**09 24 03.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**13.20**	**14**	P	**P**	**09 25 03.0**	**-0.8**
	comp=N,1.6nm,0.4s,baz=194,slow=11,SNR=11						
CHTO	**Chiang Mai**	**13.55**	**13**	Pn	**Pn**	**09 25 05.2**	**+1.4**
PHRA	**Phrae**	**13.60**	**19**	Pn	**Pn**	**09 25 05.0**	**+0.5**
PALK	**Pallekele**	**14.95**	**277**	P	**P**	**09 25 28.5**	**+5.2**
PALK				IAmb	IAmb	09 25 30.3	
	comp=Z,17nm,0.8s						
PALK	**Pallekele**	**14.95**	**277**	P	**P**	**09 25 27.5**	**+4.1**
	comp=Z,17nm,0.8s,baz=91,slow=10,SNR=11						
PALK				S	**Sn**	**09 27 59.7**	**-8.1**
	comp=Z,13nm,0.3s,baz=182,slow=19,SNR=12						
KSM	**Kuching**	**15.18**	**105**		**Pn**	**09 25 22.4**	**-1.9**
SBUM	**Sibu**	**16.81**	**100**	P	**P**	**09 25 42.3**	**-1.6**
SAIH	**SAIHA**	**17.02**	**352**	*e*P	**Pn**	**09 25 51.3**	**+4.6**
SAIH				*e*S	S	09 28 46.1	-10
SAIH				IAmb	IAmb	09 29 18.0	
	comp=Z,93nm,2.0s						
VIS	**Vishakhapatnam**	**17.06**	**316**	*e*P	Pn	09 25 55.5	+8.3
VIS				*e*S	**S**	**09 28 50.2**	**-6.6**
VIS				IAmb	IAmb	09 29 06.0	
	comp=Z,92nm,2.5s						
SLVN	**Son La**	**17.59**	**26**	P	**P**	**09 25 53.1**	**+0.7**
RAGD	**RAYAGADA**	**18.05**	**320**	*e*P	Pn	09 26 09.5	+10
RAGD				*e*S	**S**	**09 29 13.7**	**-3.1**
RAGD				IAmb	IAmb	09 29 32.2	
	comp=Z,88nm,2.8s						
SALM	**Salem**	**18.27**	**290**	*e*P	Pn	09 26 14.6	+13
SALM				*e*S	**S**	**09 29 17.3**	**-3.9**
SALM				IAmb	IAmb	09 29 29.1	
	comp=Z,88nm,2.8s						
AZL	**Aizawl**	**18.29**	**351**	*e*P	Pn	09 26 11.7	+10
AZL				*e*S	**S**	**09 29 16.6**	**-4.9**
AZL				IAmb	IAmb	09 29 53.5	
	comp=Z,74nm,2.8s						
CAL	**Calcutta**	**18.29**	**338**	*e*P	Pn	09 26 09.5	+7.7
CAL				*e*S	**S**	**09 29 17.8**	**-3.6**
TRD	**Trivandrum**	**18.78**	**280**	*e*P	Pn	09 26 19.7	+12
TRD				*e*S	**S**	**09 29 31.8**	**+0.4**
TRD				IAmb	IAmb	09 30 05.6	
	comp=Z,82nm,1.1s						
XMIS	**Christmas Isla**	**18.80**	**148**	P	**P**	**09 26 04.8**	**-0.9**
XMIS				IAmb	IAmb	09 26 27.9	
	comp=Z,34nm,1.1s						
MYLDM	**Lahad Datu**	**22.75**	**90**	P	**P**	**09 26 46.5**	**-0.6**
MYLDM				IAmb	IAmb	09 26 50.7	
	comp=Z,26nm,1.3s						
TOLI2	**Tolitoli**	**25.47**	**99**	P	**P**	**09 27 11.8**	**-0.2**
TOLI2				IAmb	IAmb	09 27 17.8	
	comp=Z,34nm,1.2s						
CD2	**Chengdu**	**26.33**	**16**	P	**P**	**09 27 20.6**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
H08S3	**Diego Garcia H**	**26.57**	**241**	T	T	09 53 27.3	
	baz=60,slow=76,SNR=65						
H08S2	**Diego Garcia H**	**26.57**	**241**	T	T	09 53 34.3	
	baz=60,slow=76,SNR=46						
H08S1	**Diego Garcia H**	**26.59**	**241**	T	T	09 53 56.5	
	baz=60,slow=76,SNR=40						
XAN	**Xi'an**	**30.89**	**22**	P	**P**	**09 27 59.7**	**-0.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
LZH	**Lanzhou**	**31.29**	**13**	*e*P	P	09 28 09.3	+5.7
LZH				pP	pP	09 28 41.9	+6.7
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YOJ	**Yonaguni jima**	**32.30**	**52**	P	**P**	**09 28 16.5**	**+4.2**
NJ2	**Nanjing**	**34.13**	**37**	*e*P	**P**	**09 28 31.2**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MBWA	**Marble Bar**	**35.55**	**139**	P	**P**	**09 28 39.8**	**-0.6**
HNS	**HongShan**	**36.14**	**26**	⇓P	**P**	**09 28 47.5**	**+2.2**
HNS				pmax	pmax		
	comp=Z,21nm,0.7s						
FAKI	**Fak Fak**	**37.51**	**102**	P	**P**	**09 28 55.7**	**-1.5**
FITZ	**Fitzroy Crossi**	**37.80**	**129**	P	**P**	**09 28 58.7**	**-0.8**
HHC	**Hu-ho-hao-te**	**37.91**	**20**	*e*P	**P**	**09 29 00.1**	**-0.2**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.1s						
WMQ	**Urumqi**	**38.73**	**351**	*e*P	**P**	**09 29 11.9**	**+4.8**
BJT	**Baijiatuau**	**38.95**	**25**	P	**P**	**09 29 10.3**	**+1.4**
BJT				IAmb	IAmb	09 29 12.2	
	comp=Z,7.2nm,0.7s						
BJI	**Beijing**	**38.97**	**25**	P	**P**	**09 29 11.6**	**+2.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KNRA	**Kununurra**	**39.00**	**123**	P	**P**	**09 29 08.2**	**-1.4**
KNRA				IAmb	IAmb	09 29 39.5	
	comp=Z,11nm,1.0s						
MTN	**Manton Dam**	**39.72**	**118**	P	**P**	**09 29 14.4**	**-1.2**
MKAR	**Makanchi Array**	**42.66**	**346**	P	**P**	**09 29 39.3**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=154,slow=8.2,SNR=6.8						
MKAR				pP	**pP**	**09 30 11.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=158,slow=7.8,SNR=4.7						
MKAR				PcP	**PcP**	**09 31 27.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=134,slow=4.2,SNR=1.3						
	comp=Z,1.6nm,1.1s						
MAKZ	**Makanchi**	**42.74**	**346**	P	**P**	**09 29 40.4**	**+0.5**
SONM	**Songino Array**	**43.10**	**11**	P	**P**	**09 29 43.7**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=190,slow=9.5,SNR=11						
SONM				PcP	**PcP**	**09 31 30.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=195,slow=4.4,SNR=3.3						
	comp=Z,1.1nm,0.5s						
ULN	**Ulaanbaatar**	**43.26**	**11**	P	**P**	**09 29 45.4**	**+1.2**
KSRS	**Korea Array**	**43.27**	**38**	P	**P**	**09 29 45.7**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=222,slow=9.6,SNR=2.1						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**45.67**	**125**	P	**P**	**09 30 03.6**	**0.0**
WB0				IAmb	IAmb	09 30 04.2	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**45.72**	**125**	P	**P**	**09 30 04.0**	**+0.1**
	comp=Z,8.9nm,0.6s,baz=307,slow=8.7,SNR=158						
WRA				PcP	**PcP**	**09 31 40.0**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=308,slow=3.2,SNR=2.5						
WRA				ScP	**ScP**	**09 35 19.2**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=298,slow=4.5,SNR=1.7						
	comp=Z,8.9nm,0.6s						
WRAB	**Tennant Creek**	**45.72**	**125**	P	**P**	**09 30 03.6**	**-0.3**
WB2	**Warramunga Arr**	**45.73**	**125**	P	**P**	**09 30 04.3**	**+0.3**
WB2				IAmb	IAmb	09 30 04.9	
	comp=Z,16nm,0.6s						
WR0	**Warramunga Arr**	**45.89**	**125**	P	**P**	**09 30 05.7**	**+0.4**
WR0				IAmb	IAmb	09 30 06.2	
	comp=Z,10nm,0.8s						
CN2	**Changchun**	**46.22**	**30**	P	**P**	**09 30 07.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.14**	**345**	P	**P**	**09 30 15.6**	**+1.1**
	comp=Z,1.0nm,0.2s,baz=161,slow=6.8,SNR=1.8						
KURBB				pP	**pP**	**09 30 47.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=167,slow=6.4,SNR=2.9						
KURBB				PcP	**PcP**	**09 31 43.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=151,slow=3.0,SNR=1.6						
KURBB				ScP	**ScP**	**09 35 23.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=167,slow=3.4,SNR=5.6						
	comp=Z,1.0nm,0.2s						
ASAR	**Alice Springs**	**47.30**	**129**	P	**P**	**09 30 16.6**	**+0.3**
	comp=Z,9.4nm,0.7s,baz=301,slow=7.5,SNR=123						
ASAR				PcP	**PcP**	**09 31 46.0**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=316,slow=3.2,SNR=3.0						
ASAR				ScP	**ScP**	**09 35 24.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=303,slow=4.7,SNR=4.9						
	comp=Z,9.4nm,0.7s						
AS31	**Alice Springs**	**47.30**	**129**	P	**P**	**09 30 16.7**	**+0.4**
FORT	**Forrest**	**47.61**	**141**	P	**P**	**09 30 18.5**	**0.0**
FORT				IAmb	IAmb	09 30 43.6	
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**48.08**	**21**	P	**P**	**09 30 22.8**	**+0.9**
HIA				IAmb	IAmb	09 30 23.9	
	comp=Z,6.2nm,0.7s						
ZALV	**Zalesovo Beam**	**49.03**	**352**	P	**P**	**09 30 29.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=170,slow=5.6,SNR=3.5						
ZALV				pP	**pP**	**09 31 03.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=167,slow=7.0,SNR=2.8						
ZALV				PcP	**PcP**	**09 31 50.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=158,slow=3.7,SNR=2.0						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**51.64**	**341**	P	**P**	**09 30 47.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=140,slow=5.6,SNR=1.9						
	comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**52.96**	**331**	P	**P**	**09 30 59.4**	**+1.0**
BBOO	**Buckleboo**	**54.11**	**138**	P	**P**	**09 31 07.0**	**-0.1**
STKA	**Stephens Creek**	**57.44**	**133**	P	**P**	**09 31 31.1**	**+0.3**
STKA	**Stephens Creek**	**57.44**	**133**	P	**P**	**09 31 30.0**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=319,slow=6.7,SNR=8.7						
	comp=Z,4.2nm,0.7s						
EIDS	**Eidsvold**	**61.98**	**122**	P	**P**	**09 32 01.7**	**-0.3**
EIDS				IAmb	IAmb	09 32 37.5	
	comp=Z,5.5nm,1.1s						
TOO	**Toolangi**	**63.16**	**137**	P	**P**	**09 32 11.8**	**+2.1**
TOO				IAmb	IAmb	09 32 19.2	
	comp=Z,16nm,1.5s						
H04N2	**CROZET ISLANDS**	**64.56**	**212**	T	T	10 41 37.7	
	baz=49,slow=75,SNR=39						
H04N1	**CROZET ISLANDS**	**64.57**	**212**	T	T	10 41 24.0	
	baz=49,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**64.58**	**212**	T	T	10 41 46.4	
	baz=49,slow=75,SNR=46						
H04S1	**CROZET ISLANDS**	**64.94**	**212**	T	T	10 42 22.7	
	baz=45						
H04S3	**CROZET ISLANDS**	**64.95**	**212**	T	T	10 41 53.6	
	baz=45						
H04S2	**CROZET ISLANDS**	**64.96**	**212**	T	T	10 42 06.9	
	baz=45						
BRTR	**Keskin Array B**	**65.06**	**311**	P	**P**	**09 32 20.4**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=131,slow=7.1,SNR=3.6						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**75.43**	**332**	P	**P**	**09 33 24.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=100,slow=8.8,SNR=6.8						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**77.93**	**340**	P	**P**	**09 33 38.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=99,slow=6.9,SNR=20						
	comp=Z,0.5nm,0.3s						
HFS	**Hagfors**	**81.19**	**330**	P	**P**	**09 33 56.3**	**0.0**
	comp=Z,1.8nm,0.6s,baz=110,slow=5.5,SNR=8.2						
	comp=Z,1.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**82.38**	**348**	P	**P**	**09 34 01.6**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=112,slow=10,SNR=6.1						
	comp=Z,2.6nm,0.7s						
MRNZ	**Matariki Terra**	**84.06**	**132**	P	**P**	**09 34 12.2**	**+0.7**
TOZ	**Tahuroa Road**	**85.39**	**128**	P	**P**	**09 34 19.4**	**+1.1**
TOZ				IAmb	IAmb	09 34 20.5	
	comp=Z,9.2nm,0.9s						
RTZ	**Ruatahuna**	**86.70**	**129**	P	**P**	**09 34 24.4**	**-0.4**
F20K	**Avaraart Lake**	**92.06**	**22**	P	**P**	**09 34 50.2**	**+0.9**
F20K				IAmb	IAmb	09 34 50.5	
	comp=Z,3.2nm,0.7s						
BWN	**Browne**	**95.55**	**24**	P	**P**	**09 35 07.7**	**+2.3**
STLK	**Strandline Lak**	**95.64**	**26**	P	**P**	**09 35 08.0**	**+2.1**
STLK				IAmb	IAmb	09 35 11.1	
	comp=Z,3.1nm,0.6s						
ULM	**Lac du Bonnet**	**123.52**	**9**	PKP	**PKPdf**	**09 40 36.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=97,slow=0.6,SNR=6.7						
NVAR	**Mina Array Bea**	**126.07**	**33**	PKP	**PKPdf**	**09 40 43.2**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.2,SNR=4.5						
PDAR	**Pinedale Array**	**126.72**	**23**	PKP	**PKPdf**	**09 40 44.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=95,slow=2.6,SNR=6.6						
TXAR	**Laitas Array**	**140.64**	**27**	PKP	**PKPdf**	**09 41 09.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=321,slow=1.6,SNR=5.9						
TXAR				SKPbc	**SKPbc**	**09 44 31.9**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=335,slow=2.7,SNR=4.1						

*IDC **09** 09:34:06.8±8.8, 36°.93N×71°.01E, h119km±60km, mb3.6/1, mbtmp3.6/7, MS3.4/2, Error ellipse: s-maj=79.1km s-min=50.5km az=167.0*

ISC 09 09:34:03.5±3.4, 36°.8N±0°.3×70°.8E±0°.2, h88km, n9, σ1°.00/8, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.48**	**25**	P	**Pn**	**09 35 36.8**	**+0.5**
	2.2nm,0.3s,baz=182,slow=7.0,SNR=12						
AAK				S	**Sn**	**09 36 48.6**	**-0.2**
	1.3nm,0.4s,baz=5.1,slow=17,SNR=3.8						
MKAR	**Makanchi Array**	**13.14**	**37**	P	**Pn**	**09 37 07.5**	**+0.9**
	0.2nm,0.7s,baz=215,slow=13,SNR=4.9						
KURBB	**Kurchatov Arra**	**14.88**	**20**	P	**Pn**	**09 37 30.1**	**+1.1**
	0.3nm,0.5s,baz=206,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**16.20**	**359**	P	**Pn**	**09 37 45.5**	**-0.2**
	0.4nm,0.4s,baz=173,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**16.41**	**330**	P	**P**	**09 37 50.0**	**+0.5**
	1.3nm,0.4s,baz=130,slow=9.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**P**	**09 38 24.0**	**-1.6**
	1.4nm,0.3s,baz=227,slow=9.8,SNR=9.4						
ARCES	**ARCESS Array B**	**40.78**	**338**	P	**P**	**09 41 35.6**	**-0.1**
	1.9nm,0.8s,baz=117,slow=8.6,SNR=14						
	1.9nm,0.8s						
JHJ	**Hachijo jima 2**	**55.54**	**72**	LR	LR	10 11 31.3	
	comp=Z,57nm,18.6s,baz=101,slow=40						
KAPI	**Kappang**	**61.78**	**121**	LR	LR	10 18 19.4	
	comp=Z,13nm,18.6s,baz=136,slow=43						

*NEIC **09** 09:39:38.9±0.3, 36°.61N±0°.01×98°.37W±0°.01, h3km±5km, Error ellipse: s-maj=2.1km s-min=1.6km az=189.0*

NEIC 09 09:39:38.9±0.5, 36°.60N±0°.01×98°.37W±0°.01, h5km±1km, mb_Lg2.2/4, ML2.3/34, ML2.7/24, Error ellipse: s-maj=3.0km s-min=2.4km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.32**	**107**		Pg	09 39 45.5	+0.4
CROK				Sg	Sg	09 39 50.3	+0.9
CROK				IAML		09 39 50.6	
	comp=N,271nm,0.3s						
OK038	**West end E0370**	**0.33**	**248**		Pg	09 39 45.7	+0.5
OK038				Sg	Sg	09 39 50.6	+1.1
NOKA	**Waynoka**	**0.46**	**274**		Pg	09 39 47.9	+0.2
NOKA				IAML		09 40 03.2	
	comp=N,158nm,0.2s						
KAN14	**Manchester OK**	**0.48**	**42**		Pg	09 39 48.6	+0.5
KAN14				IAML		09 39 56.6	
	comp=E,156nm,0.1s						
KAN14				IAML		09 40 02.9	
	comp=N,145nm,0.1s						
KAN17	**Caldwell West**	**0.65**	**47**		Pg	09 39 51.5	+0.1
KAN17				IAML		09 40 00.8	
	comp=E,178nm,0.3s						
KAN17				IAML		09 40 00.8	
	comp=N,176nm,0.3s						
KAN08	**Anthony NE Sta**	**0.70**	**27**		Pg	09 39 52.3	+0.1
KAN01	**Argonia South**	**0.73**	**41**		Pb	09 39 53.6	-0.6
KAN01				IAML		09 40 03.4	
	comp=E,77nm,0.3s						
KAN01				IAML		09 40 10.6	
	comp=N,79nm,0.1s						
KAN09	**Caldwell North**	**0.80**	**48**		Pg	09 39 54.7	+0.5
KAN09				IAML		09 40 12.9	
	comp=E,161nm,0.2s						
KAN13	**South Haven SW**	**0.82**	**60**		Pg	09 39 54.4	-0.2
KAN13				IAML		09 40 05.9	
	comp=N,122nm,0.3s						
BLOK	**Blackwell**	**0.94**	**80**		Pg	09 39 56.7	-0.2
BLOK				IAML		09 40 10.5	
	comp=N,121nm,0.2s						
CSTR	**Hydro, Custer**	**0.99**	**195**		Pg	09 39 58.0	+0.2
OK051	**E0350 and S346**	**1.24**	**94**		Pg	09 40 02.2	-0.4
OK031	**S. Brethren Rd**	**1.39**	**117**		Pn	09 40 04.7	-0.3
OK052	**Battle Ridge R**	**1.40**	**115**		Pn	09 40 04.9	-0.1
QUOK	**Quay**	**1.41**	**107**		Pn	09 40 05.0	-0.1
FNO	**Franklin**	**1.56**	**149**		Pn	09 40 06.9	-0.3
DEOK	**Depew**	**1.69**	**116**		Pn	09 40 09.3	+0.3
R32A	**Long Quarter,**	**1.84**	**352**		Pn	09 40 11.6	+0.5
W35A	**Tecumseh**	**1.89**	**140**		Pn	09 40 12.6	+0.8
WMOK	**Wichita Mounta**	**1.89**	**190**		Pb	09 40 12.9	-1.0
WMOK	**Wichita Mounta**	**1.89**	**190**	Pn	Pn	09 40 12.6	+0.8
DKNS	**Dickens**	**3.60**	**216**	IAmb_Lg		09 41 41.3	
	comp=Z,4.1nm,0.8s						
OGNE	**Ogallala**	**5.20**	**328**	IAmb_Lg		09 42 35.7	
	comp=Z,5.4nm,0.7s						

IDC 09 09:52:30.2±5.7, 21°.14S×168°.17E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=134.3km s-min=50.0km az=131.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.85**	**240**	Pn	Pn	09 53 01.8	-1.6
	0.5nm,0.3s,baz=127,slow=20,SNR=73						
DZM				Sn	Sg	09 53 29.9	0.0
	1.0nm,0.3s,baz=297,slow=23,SNR=11						
STKA	**Stephens Creek**	**26.01**	**240**	P	P	09 58 05.8	+0.7
	1.9nm,0.7

TARZ	Mount Tarawera	1.53 231	P	Pn	10 00 39.8	+2.2
MUGZ	Murupara	1.55 219	P	Pn	10 00 39.5	+1.7
MUGZ			S	Sn	10 00 58.9	-1.9
RTZ	Ruatahuna	1.56 211	P	Pn	10 00 39.9	+1.9
RTZ			S	Sn	10 00 59.7	-1.5
SNGZ	Shannon Statio	1.59 200	P	Pn	10 00 40.8	+2.6
SNGZ			S	Sn	10 01 01.9	+0.3
KARZ	Kaharoa	1.59 242	P	Pn	10 00 39.9	+1.7
RRRZ	Republican Roa	1.59 228	P	Pn	10 00 40.2	+1.9
HLRZ	Highlands Stat	1.64 233	P	Pn	10 00 40.8	+2.1
PRGZ	Paritu Road	1.64 184	P	Pn	10 00 41.4	+2.6
HSRZ	Hossack Road	1.74 233	P	Pn	10 00 42.8	+2.9
KMRZ	Kaimai	1.74 251	P	Pn	10 00 41.8	+1.9
KNZ	Kokohu	1.75 189	P	Pn	10 00 42.5	+2.5
HRRZ	Handcock Road	1.76 231	P	Pn	10 00 42.8	+2.6
PRRZ	Plateau Road	1.77 226	P	Pn	10 00 42.3	+2.2
RAHZ	Arahi	1.79 204	P	Pn	10 00 43.0	+2.6
MTHZ	Maungataniwha	1.82 210	P	Pn	10 00 42.8	+2.0
ALRZ	Allen Road	1.84 226	P	Pn	10 00 43.3	+2.3
MHGZ	Mahia Peninsul	1.87 183	P	Pn	10 00 44.5	+3.2
WHHZ	Waihua	1.89 199	P	Pn	10 00 44.3	+2.7
MRHZ	Matea Rd	2.00 219	P	Pn	10 00 45.1	+2.2
NMHZ	Naumai	2.05 207	P	Pn	10 00 46.4	+3.0
TOZ	Tahuroa Road	2.05 257	P	Pn	10 00 45.8	+2.4
KUTZ	Kaahu Road	2.11 235	P	Pn	10 00 47.0	+2.8
ARHZ	Aropaoanui	2.13 202	P	Pn	10 00 47.1	+2.7
TLZ	Tolley Road	2.22 241	P	Pn	10 00 48.2	+2.6
BKZ	Black Stump Fm	2.23 212	P	Pn	10 00 47.8	+2.2
BKZ	Black Stump Fm	2.23 212	P	Pn	10 00 47.8	+2.2
MKAZ	Moumakai	2.29 274	P	Pn	10 00 49.1	+2.8
WATZ	Wairara	2.30 231	P	Pn	10 00 49.4	+3.0
RATZ	Rangitukua	2.37 228	P	Pn	10 00 50.4	+3.1
MCHZ	McNeill Hill	2.39 205	P	Pn	10 00 50.1	+2.6
RITZ	Rihia Road	2.40 225	P	Pn	10 00 50.7	+3.1
KWHZ	Kaweka Forest	2.48 210	P	Pn	10 00 50.8	+2.2
CKHZ	Cape Kidnapper	2.48 197	P	Pn	10 00 50.8	+2.2
KATZ	Kakaramea	2.49 227	P	Pn	10 00 52.2	+3.3
TMVZ	Te Maari	2.58 224	P	Pn	10 00 52.8	+2.8
NTVZ	North Tongarir	2.58 225	P	Pn	10 00 53.0	+3.0
ETVZ	East Tongariro	2.59 224	P	Pn	10 00 52.6	+2.5
KRVZ	Karewarewa	2.60 225	P	Pn	10 00 53.1	+2.9
OTVZ	Oturere	2.64 224	P	Pn	10 00 53.3	+2.6
NNVZ	North Ngauruho	2.64 225	P	Pn	10 00 53.9	+3.1
WTVZ	West Tongariro	2.65 226	P	Pn	10 00 53.8	+3.1
KAHZ	Kahuranaki	2.66 199	P	Pn	10 00 53.2	+2.3
SNVZ	South Ngauruho	2.67 224	P	Pn	10 00 53.9	+2.8
NGZ	Ngauruhoe	2.68 224	P	Pn	10 00 54.0	+2.8
KRHZ	Kereru	2.69 208	P	Pn	10 00 53.0	+1.8
TWVZ	Taurewa	2.71 228	P	Pn	10 00 54.5	+3.0
TUVZ	Tukino	2.72 222	P	Pn	10 00 54.2	+2.6
COVZ	Chateau Observ	2.73 223	P	Pn	10 00 55.0	+3.2
FWVZ	Far West T-bar	2.76 224	P	Pn	10 00 55.0	+2.7
MOVZ	Moawhango	2.77 219	P	Pn	10 00 54.3	+2.1
HIZ	Hauiti	2.79 243	P	Pn	10 00 56.1	+3.7
HIZ	Hauiti	2.79 243	P	Pn	10 00 56.1	+3.7
WNVZ	Wahianoa	2.79 222	P	Pn	10 00 55.0	+2.4
TRVZ	Turoa	2.80 223	P	Pn	10 00 55.4	+2.6
PWZ	Pawanui	2.89 198	P	Pn	10 00 55.3	+1.7
PXZ	Pawanui	2.89 198	P	Pn	10 00 55.3	+1.6
MTVZ	Mangateitei	2.90 223	P	Pn	10 00 56.3	+2.4
PKVZ	Pokaka	2.90 226	P	Pn	10 00 56.7	+2.8
PNHZ	Pukenui	2.99 208	P	Pn	10 00 56.4	+1.4
WPHZ	Waipukurau	3.04 203	P	Pn	10 00 57.0	+1.5
VRZ	Vera Road	3.16 233	P	Pn	10 01 00.8	+3.7
PRHZ	Porangahau	3.17 200	P	Pn	10 00 58.8	+1.5
TSZ	Takapari Road	3.20 210	P	Pn	10 00 59.1	+1.4
DVHZ	Dannevirke	3.34 205	P	Pn	10 01 00.3	+0.9
ANWZ	Angora Road	3.39 200	P	Pn	10 01 01.6	+1.5
WAZ	Wanganui	3.43 223	P	Pn	10 01 03.3	+2.7
POWZ	Post Office Ro	3.56 209	P	Pn	10 01 04.1	+1.8
LREZ	Lake Rotokare	3.58 231	P	Pn	10 01 06.6	+4.2
OHWZ	Ohakea	3.60 215	P	Pn	10 01 05.4	+2.6
PRWZ	Pori Road	3.63 205	P	Pn	10 01 04.9	+1.7
BFZ	Birch Farm	3.66 202	P	Pn	10 01 04.5	+0.9
BFZ	Birch Farm	3.66 202	P	Pn	10 01 04.5	+0.9
NEZ	North Egmont	3.67 236	P	Pn	10 01 07.5	+3.7
PKE	Pukeiti	3.70 238	P	Pn	10 01 04.0	-0.1
KHEZ	Kahui Hut	3.73 236	P	Pn	10 01 07.4	+2.8
KHEZ	Kahui Hut	3.73 236	P	Pn	10 01 06.8	+2.2
TIWZ	Tintock	3.86 205	P	Pn	10 01 07.5	+1.2
MRZ	Mangatainoka R	3.87 209	P	Pn	10 01 07.0	+0.8
CPWZ	Castlepoint	3.89 201	P	Pn	10 01 08.1	+1.6
HOWZ	Holdsworth Sta	4.10 208	P	Pn	10 01 09.8	+0.5
OGWZ	Otaki Gorge	4.17 211	P	Pn	10 01 10.7	+0.6
KIWZ	Kapiti Island	4.31 213	P	Pn	10 01 12.7	+0.7
MTWZ	Mount Morrison	4.33 206	P	Pn	10 01 12.5	+0.2
CAWZ	Cannon Point	4.45 210	P	Pn	10 01 14.1	+0.2
TRWZ	Traveller	4.49 203	P	Pn	10 01 14.6	+0.2
PAWZ	Paruwai Farm	4.56 205	P	Pn	10 01 15.3	0.0
SNZO	South Karori	4.77 212	P	Pn	10 01 18.6	+0.5
PLWZ	Palliser	4.78 206	P	Pn	10 01 18.2	-0.1
TCW	Tory Channel	4.88 215	P	Pn	10 01 19.7	+0.2
TUWZ	Tuamarina	5.21 216	P	Pn	10 01 24.4	+0.6
NNZ	Nelson	5.33 221	P	Pn	10 01 25.4	-0.1
BSWZ	Blackbirch Sta	5.46 215	P	Pn	10 01 27.2	0.0
QRZ	Quartz Range	5.54 229	P	Pn	10 01 29.8	+1.4
QRZ	Quartz Range	5.54 229	P	Pn	10 01 29.1	+0.7
KHZ	Kahutara	6.17 213	P	Pn	10 01 37.4	+0.7
DSZ	Denniston Nort	6.55 225	P	Pn	10 01 40.1	-1.7
GVZ	Greta Valley S	6.84 212	P	Pn	10 01 45.1	-0.5
LTZ	Lake Taylor	7.04 217	P	Pn	10 01 47.0	-1.3
INZ	Inchbonnie	7.41 221	P	Pn	10 01 53.9	+0.6
OXZ	Oxford	7.57 215	P	Pn	10 01 54.9	-0.5
MQZ	McQueen's Vall	7.60 211	P	Pn	10 01 56.0	-1.8
CTZ	Chatham Island	7.63 149	P	Pn	10 02 04.2	+8.1
FOZ	Fox Glacier	8.83 223	P	Pn	10 02 14.2	+2.0
TMZ	Timaru	8.86 215	P	Pn	10 02 11.7	-0.9
ODZ	Otahua Downs	9.54 213	P	Pn	10 02 20.4	-1.1

*CATAC **09** 10:03:46.4±0.4, 12°N±6°×9°0W±°, h83km±17km, Error ellipse: s-maj=13.5km s-min=4.8km az=18.6, confirmed*
*NEIC **09** 10:03:47.4±1.1, 12°.31N±0°.06×89°.23W±0°.03, h10km±2km, mb4.2/44, Error ellipse: s-maj=11.1km s-min=5.6km az=168.0*
*SNET **09** 10:03:47.4±1.2, 12°.21N×89°.39W, h66km±95km, ML3.7*
*IDC **09** 10:03:49.6±1.8, 13°.12N×88°.69W, h0km, mb3.6/4, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=60.5km s-min=22.7km az=40.0*
*GCG **09** 10:03:49.5±1.2, 12°.35N×89°.45W, h23km±12km, MD4.2, Hypocentre not reviewed by the ISC*

ISC 09 10:03:49.8±1.4, 12°.37N±0°.05×89°.23W±0°.04, h31km±10km, n209, σ1°.37/214, mb4.0/21, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.11	356	eP		Pb	10 04 09.5	-0.9
LALI	Alcalda de L	1.11	356	P		Pb	10 04 09.6	-0.9
LALI	Alcalda de L	1.11	356	S		Sn	10 04 28.2	+4.6
LALI	Alcalda de L	1.11	356	P		Pb	10 04 09.6	-0.9
LALI	Alcalda de L	1.11	356	P		Pb	10 04 09.6	-0.9
LALI	Alcalda de L	1.11	356	S		Sn	10 04 29.1	+0.1
LALI	Alcalda de L	1.11	356	i P			10 04 09.6	
LALI				eS			10 04 25.8	
PANCS	Alcalda de	1.23	2	S		Sb	10 04 30.9	+2.8
PANCS	Alcalda de	1.23	2	P		Pb	10 04 11.8	-0.7
PANCS	Alcalda de	1.23	2	P		Pb	10 04 11.5	-1.1
PANCS	Alcalda de	1.23	2	S		Sn	10 04 25.0	-1.7
TECO	Alcaldia de Te	1.24	21	P		Pb	10 04 11.6	-1.0
TECO	Alcaldia de Te	1.24	21	P		Pb	10 04 12.2	-0.4
TECO	Alcaldia de Te	1.24	21	S		Sn	10 04 26.3	-0.4
TECO	Alcaldia de Te	1.24	21	P		Pb	10 04 11.4	-1.2
LOMA	Loma Larga	1.27	3	P		Pb	10 04 12.3	-0.9
LOMA	Loma Larga	1.27	3	P		Pb	10 04 12.4	-0.7
COEG	Centro de Oper	1.29	15	eP		Pb	10 04 12.4	-1.1
COEG				IAML			10 04 45.8	
	comp=Z,622nm,0.4s							
COEG	Centro de Oper	1.29	15	P		Pb	10 04 12.6	-0.9
COEG	Centro de Oper	1.29	15	S		Sb	10 04 34.6	+4.8
COEG	Centro de Oper	1.29	15	P		Pn	10 04 07.4	-4.3
COEG	Centro de Oper	1.29	15	S		Sn	10 04 27.0	-1.0
COEG	Centro de Oper	1.29	15	P		Pb	10 04 12.6	-0.9
JAYA	Jayaque - finc	1.29	351	eP		Pn	10 04 11.3	-0.6
JAYA				eS		Sb	10 04 30.8	+0.8
JAYA	Jayaque - finc	1.29	351	P		Pn	10 04 11.7	-0.2
JAYA	Jayaque - finc	1.29	351	P		Pb	10 04 12.4	-1.2
JAYA	Jayaque - finc	1.29	351	S		Sn	10 04 26.7	-1.5
JAYA	Jayaque - finc	1.29	351	P		Pb	10 04 12.2	-1.4
JAYA	Jayaque - finc	1.29	351	i P			10 04 11.6	
JAYA				i S			10 04 29.9	
ITCA	Escuela Especi	1.29	358	P		Pb	10 04 12.2	-1.4
ITCA	Escuela Especi	1.29	358	P		Pb	10 04 12.4	-1.2
ITCA	Escuela Especi	1.29	358	S		Sn	10 04 26.8	-1.4
UTEC	Universidad Te	1.32	1	P		Pb	10 04 13.2	-0.9
UTEC	Universidad Te	1.32	1	S		Sb	10 04 32.5	+1.8
UTEC	Universidad Te	1.32	1	P		Pb	10 04 12.9	-1.1
SEMO	Seminario San	1.32	0	P		Pb	10 04 12.8	-1.3
SEMO	Seminario San	1.32	0	P		Pn	10 04 11.8	-0.4
SEMO	Seminario San	1.32	0	S		Sn	10 04 27.4	-1.5
UESV	Universidad de	1.33	19	P		Pb	10 04 13.4	-0.7
UESV	Universidad de	1.33	19	P		Pb	10 04 13.2	-1.0
PMON	Piamonte	1.33	357	eP		Pn	10 04 12.4	0.0
PMON	Piamonte	1.33	357	P		Pn	10 04 12.2	-0.3
PMON	Piamonte	1.33	357	P		Pb	10 04 12.8	-1.6
PMON	Piamonte	1.33	357	P		Pb	10 04 12.7	-1.6
PMON	Piamonte	1.33	357	S		Sn	10 04 27.8	-1.4
IGN	Direccin Gen	1.34	3	S		Sb	10 04 33.7	+2.6
IGN	Direccin Gen	1.34	3	P		Pb	10 04 13.4	-0.9
IGN	Direccin Gen	1.34	3	P		Pb	10 04 13.1	-1.2
UEES	Universidad Ev	1.34	360	eP		Pn	10 04 12.5	+0.1
UEES	Universidad Ev	1.34	360	P		Pn	10 04 12.5	+0.1
UEES	Universidad Ev	1.34	360	S		Sb	10 04 34.1	+2.9
UEES	Universidad Ev	1.34	360	P		Pb	10 04 12.9	-1.4
UEES	Universidad Ev	1.34	360	S		Sn	10 04 28.0	-1.2
UEES	Universidad Ev	1.34	360	P		Pb	10 04 12.9	-1.4
UDBS	Universidad Do	1.34	3	P		Pb	10 04 13.2	-1.1
UDBS	Universidad Do	1.34	3	P		Pb	10 04 13.0	-1.3
BOQS	Boqueron	1.36	358	eP		Pb	10 04 13.5	-1.2
PAVA	Las Pavas	1.36	12	eP		Pb	10 04 13.4	-1.4
PAVA				eS		Sb	10 04 34.3	+2.4
PAVA	Las Pavas	1.36	12	P		Pb	10 04 13.3	-1.6
PAVA	Las Pavas	1.36	12	S		Sb	10 04 35.2	+3.2
PAVA	Las Pavas	1.36	12	P		Pb	10 04 13.6	-1.2
PAVA	Las Pavas	1.36	12	S		Sn	10 04 29.2	-0.7
PAVA	Las Pavas	1.36	12	P		Pb	10 04 13.6	-1.2
RANC	El Ranchito	1.40	41	P		Pb	10 04 14.6	-0.9
RANC	El Ranchito	1.40	41	P		Pb	10 04 14.6	-0.9
PACA	Pacayal	1.41	39	eP		Pb	10 04 15.1	-0.4
PACA	Pacayal	1.41	39	P		Pb	10 04 15.3	-0.2
PACA	Pacayal	1.41	39	S		Sb	10 04 36.6	+3.4
PACA	Pacayal	1.41	39	P		Pb	10 04 15.7	+0.2
PACA	Pacayal	1.41	39	S		Sb	10 04 31.4	-1.7
PACA	Pacayal	1.41	39	P		Pb	10 04 15.4	-0.1
PQSS	Presa 15 de Se	1.41	28	eP		Pb	10 04 14.2	-1.3
PQSS	Presa 15 de Se	1.41	28	P		Pb	10 04 14.3	-1.1
PQSS	Presa 15 de Se	1.41	28	P		Pb	10 04 14.4	-1.0
PQSS	Presa 15 de Se	1.41	28	P		Pb	10 04 14.2	-1.3
SCLA	Alcaldia de Sa	1.41	20	P		Pb	10 04 14.3	-1.2
SCLA	Alcaldia de Sa	1.41	20	P		Pb	10 04 14.2	-1.3
SCLA	Alcaldia de Sa	1.41	20	S		Sn	10 04 30.8	-0.2
SCLA	Alcaldia de Sa	1.41	20	P		Pb	10 04 14.0	-1.5
CEDA	San Andres	1.43	354	IAML			10 04 43.0	
	comp=Z,1μm,0.4s							
CEDA	San Andres	1.43	354	S		Sb	10 04 34.9	+1.1
CEDA	San Andres	1.43	354	P		Pn	10 04 13.0	-0.7
CEDA	San Andres	1.43	354	P		Pb	10 04 14.9	-1.0
CEDA	San Andres	1.43	354	S		Sn	10 04 30.7	-0.8
BLLM	Bellamira	1.44	42	eP		Pn	10 04 13.8	0.0
CEVE	Cerro Verde	1.50	345	P		Pb	10 04 15.4	-1.7
CNRM	Centro Naciona	1.51	43	eP		Pb	10 04 15.5	-1.7
CNRM	Centro Naciona	1.51	43	P		Pb	10 04 16.4	-0.8
CNRM	Centro Naciona	1.51	43	P		Pb	10 04 16.0	-1.2
LCND	La Caada	1.61	54	eP		Pn	10 04 16.6	+0.6
LCND				eS		Sb	10 04 39.4	+0.6
LCND				IAML			10 04 51.3	
	comp=Z,593nm,0.4s							
LCND	La Caada	1.61	54	P		Pn	10 04 16.6	+0.6
LCND	La Caada	1.61	54	S		Sb	10 04 42.7	+3.9
LCND	La Caada	1.61	54	P		Pn	10 04 16.8	+0.7
LCND	La Caada	1.61	54	S		Sb	10 04 37.9	-0.9
LCND	La Caada	1.61	54	P		Pb	10 04 17.2	-1.7
NUBE	Las Nubes	1.61	341	eP		Pn	10 04 16.0	-0.3
NUBE				eS		Sn	10 04 36.6	+0.5
NUBE	Las Nubes	1.61	341	P		Pn	10 04 15.6	-0.6
NUBE	Las Nubes	1.61	341	P		Pn	10 04 16.0	-0.3
NUBE	Las Nubes	1.61	341	S		Sn	10 04 34.7	-1.4
NUBE	Las Nubes	1.61	341	P		Pn	10 04 16.2	-0.1
NUBE	Las Nubes	1.61	341	eP			10 04 16.0	
NUBE				i S			10 04 36.7	
UNIC	Universidad Ca	1.63	349	P		Pn	10 04 15.5	-1.0
UNIC	Universidad Ca	1.63	349	S		Sb	10 04 38.2	-1.3
UNIC	Universidad Ca	1.63	349	P		Pn	10 04 14.9	-1.5
UNIC	Universidad Ca	1.63	349	S		Sn	10 04 34.3	-2.1
UNIC	Universidad Ca	1.63	349	P		Pn	10 04 16.6	+0.2
CNCH	Conchagua	1.64	56	eP		Pb	10 04 17.6	-1.8
CNCH	Conchagua	1.64	56	P		Pb	10 04 17.7	-1.7
CNCH	Conchagua	1.64	56	S		Sb	10 04 42.4	+2.7
CNCH	Conchagua	1.64	56	P		Pb	10 04 18.2	-1.2
CNCH	Conchagua	1.64	56	P		Pb	10 04 18.1	-1.3
LOAL	Lomas de Alarc	1.70	342	P		Pn	10 04 17.0	-0.4
LOAL	Lomas de Alarc	1.70	342	P		Pn	10 04 17.5	0.0
CAHU	Cacacuatique	1.71	36	eP		Pb	10 04 19.6	-1.2
SLOZ	Alcaldia de Sa	1.73	342	P		Pn	10 04 12.5	-5.2
SLOZ	Alcaldia de Sa	1.73	342	P		Pn	10 04 16.8	-1.0
SLOZ	Alcaldia de Sa	1.73	342	S		Sb	10 04 39.8	-2.5
SLOZ	Alcaldia de Sa	1.73	342	P		Pn	10 04 17.6	-0.2
SLOZ	Alcaldia de Sa	1.73	342	S		Sn	10 04 38.5	-0.4
AMPH	Amapala	1.79	59	S		Sb	10 04 46.3	+2.4
AMPH	Amapala	1.79	59	P		Pb	10 04 19.8	-2.1
AMPH	Amapala	1.79	59	P		Pb	10 04 19.7	-2.2
AMPH	Amapala	1.79	59	S		Sb	10 04 41.9	-1.9
LLGN	La Laguna	1.80	9	P		Pn	10 04 19.7	+0.9
LLGN	La Laguna	1.80	9	P		Pn	10 04 19.5	+0.6
JUAM	Asuncion Mita	2.01	347	eP			10 04 22.6	
JUAM				i S			10 04 48.9	
MTO3	Montecristo	2.02	357			Pn	10 04 22.3	+0.4
MTO3	Montecristo	2.02	357	P		Pn	10 04 22.2	+0.2
MTO3	Montecristo	2.02	357	P		Pn	10 04 22.3	+0.4
CRIN	San Cristobal	2.16	81	Pn		Pn	10 04 23.3	-0.4
CRIN	San Cristobal	2.16	81	P		Pn	10 04 24.7	+1.0
ESQI	Esquipulas	2.18	357			Pn	10 04 24.6	+0.5
PKGN	Cerro Pekin	2.22	82	P		Pn	10 04 25.7	+1.2
CHOHN	Orocuina	2.30	61	P		Pn	10 04 26.5	+0.8
CHOHN	Orocuina	2.30	61	P		Pn	10 04 26.7	+1.0
PACN	Al O del Volca	2.39	87	P		Pn	10 04 26.9	+0.1
PACN	Al O del Volca	2.39	87	P		Pn	10 04 27.0	+0.2
PACN				S		Sb	10 04 59.5	-1.7
PACN	Al O del Volca	2.39	87	S		Sb	10 04 59.2	-2.0
PLRN	Geotermica Pol	2.42	85	P		Pn	10 04 27.8	+0.6
PLRN	Geotermica Pol	2.42	85	P		Pn	10 04 27.7	+0.6
CNGA	Al SSO del Vol	2.48	87	P		Pn	10 04 28.4	+0.4
CNGN	Cerro Negro	2.48	87			Pn	10 04 28.1	0.0
CNGN	Cerro Negro	2.48	87	P		Pn	10 04 28.6	+0.5
ILCN	San Idelfonso	2.48	85	P		Pn	10 04 28.1	0.0
MACN	El Madrono	2.50	88	P		Pn	10 04 29.2	+0.8
MACN	El Madrono	2.50	88	P		Pn	10 04 29.2	+0.8
TGUH	Tegucigalpa,Un	2.54	49			Pn	10 04 28.8	-0.2
TGUH	Tegucigalpa,Un	2.54	49	P		Pn	10 04 30.2	+1.1
TGUH				S		Sb	10 05 04.3	-1.4
TGUH	Tegucigalpa,Un	2.54	49	P		Pn	10 04 30.6	+1.6
TGUH				S		Sn	10 05 00.1	+1.1
COPN	Copaltepe	2.59	94	P		Pn	10 04 30.3	+0.7
COMHN	El Horno	2.63	38	P		Pn	10 04 31.8	+1.5
MOMN	Momotombo	2.63	89	P		Pn	10 04 30.9	+0.7
MOMN	Momotombo	2.63	89	P		Pn	10 04 30.6	+0.4
UNAN	Cigeo UNAN	2.91	95	P		Pn	10 04 35.2	+1.2
MGAN	Managua	2.93	94			Pn	10 04 33.7	-0.5
BOAB	BOACO BROADBAN	3.49	88			Pn	10 04 40.7	-1.2
ACON	Acoyapa	3.99	95	Pn		Pn	10 04 48.6	-0.2
JTS	Las Juntas de	4.68	116			Pn	10 04 58.0	-0.4
JTS	Las Juntas de	4.68	116	Pn		Pn	10 05 00.9	+2.6
	comp=Z,6.6nm,0.3s,baz=120,slow=23,SNR=20							
JTS				Sn		Sn	10 05 54.5	+2.8
	comp=Z,1.4nm,0.3s,baz=316,slow=19,SNR=1.5 comp=Z,16nm,0.3s							
CCIG	Comitan	4.80	324	Pn		Pn	10 05 00.1	-0.1
ESPN	Las Esperanzas	4.83	92	Pn		Pn	10 04 59.6	-0.8
HDC	Heredia	5.55	115	Pn		Pn	10 05 09.9	-0.5
CMIG	Matias Romero	7.20	311	Pn		Pn	10 05 34.6	+1.6
	comp=Z,0.5nm,0.3s,baz=154,slow=6.9,SNR=5.1 comp=Z,1.3nm,0.3s							
BRU2	Volcan	7.35	118			Pn	10 05 34.5	-0.6
TEIG	Tepich	7.87	7	Pn		Pn	10 05 41.0	-1.1
JRQG	Juriquilla Cam	13.57	309	Pn		Pn	10 07 01.1	+0.7
RUSC	La Rusia	17.19	111	P		Pn	10 07 44.4	-3.9
RUSC				IAmb		IAmb	10 07 49.9	
	comp=Z,13nm,0.8s							
435B	Jarrell	19.88	338	P		P	10 08 18.8	+0.1
DRIO	Del Rio	20.00	330	P		P	10 08 19.9	0.0
JCT	Junction City	20.51	333	P		P	10 08 26.1	+0.6
JCT				IAmb		IAmb	10 08 26.6	
	comp=Z,4.8nm,0.6s							
LRAL	Lakeview Retre	20.67	5	P		Pn	10 08 29.2	-0.4
BRDY	Brady	20.87	336	P		P	10 08 29.7	+0.4
BRDY				IAmb		IAmb	10 08 30.8	
	comp=Z,4.6nm,0.7s							
WHTX	Lake Whitney,	20.94	340	P		P	10 08 30.8	+0.7
WHTX				IAmb		IAmb	10 08 39.1	
	comp=Z,13nm,0.9s							
BAUV	El Baul	21.10	97	P		P	10 08 31.7	-0.3
BAUV				IAmb		IAmb	10 08 41.5	
	comp=Z,8.0nm,1.0s							
OZNA	Ozona	21.49	331	P		P	10 08 36.8	+0.7
Y49A	Blount Mountai	21.54	6	P		P	10 08 37.6	+1.1
TXAR	Lajitas Array	21.57	324	P		P	10 08 39.0	+2.0
	comp=Z,0.9nm,0.4s,baz=144,slow=11,SNR=26 comp=Z,0.9nm,0.4s							
PLPT	Palo Pinto	21.98	339	P		P	10 08 41.3	0.0
PLPT				IAmb		IAmb	10 08 41.8	
	comp=Z,7.4nm,0.5s							
FW03	Perrin-Whitt E	22.11	340	P		P	10 08 41.7	-0.9
FW03				IAmb		IAmb	10 08 45.3	
	comp=Z,4.3nm,0.8s							
ABTX	Abilene, Hawle	22.31	336	P		P	10 08 45.0	+0.2
ALPN	Alpine	22.34	326	P		P	10 08 45.5	+0.2
WHAR	Wooly Hollow	22.98	354	P		P	10 08 53.0	+1.1
SN05	Snyder 5	23.04	334	P		P	10 08 53.7	+1.2
APMT	Aspermont	23.11	336	P		P	10 08 52.9	-0.4
APMT				IAmb		IAmb	10 08 55.9	
	comp=Z,3.7nm,0.7s							
VHRN	Van Horn	23.41	324	P		P	10 08 57.5	+1.1
LCAR	Lake Charles	23.66	356	P		P	10 08 59.0	+0.5
LCAR				IAmb		IAmb	10 09 00.1	
	comp=Z,5.6nm,0.6s							
WVT	Waverly	23.69	3	P		P	10 08 59.0	+0.1
DKNS	Dickens	23.73	335	P		P	10 08 60.0	+0.6
DKNS				IAmb		IAmb	10 09 01.2	
	comp=Z,4.4nm,0.6s							
KMSC	Kings Mountain	23.77	16	P		P	10 09 00.6	+0.9
KMSC				IAmb		IAmb	10 09 04.1	
	comp=Z,5.5nm,1.0s							
WMOK	Wichita Mounta	23.90	340	P		P	10 08 59.9	-0.9
FNO	Franklin	23.96	343	P		P	10 09 01.1	-0.2
HHAR	Hobbs	24.18	351	P		P	10 09 04.9	+1.4
HHAR				IAmb		IAmb	10 09 06.1	
	comp=Z,2.5nm,0.6s							
U49A	Red Boiling Sp	24.24	7	P		P	10 09 04.0	0.0
U49A				IAmb		IAmb	10 09 04.3	
	comp=Z,2.7nm,0.7s							
PBMO	Poplar Bluff	24.33	358	P		P	10 09 05.0	+0.2
OK052	Battle Ridge R	24.49	345	P		P	10 09 06.2	-0.1
T47A	S

*IDC **09** 10:33:58.6±0.5,53.'31N×172.'80E,h0km,mb4.2/31, mbtmp4.2/34,ML4.0/3,MS3.2/7,Error ellipse: s-maj=14.0km s-min=10.2km az=1.0*
*MOS **09** 10:33:59.6±1.0,53.'25N×172.'79E,h18km,mb4.6/30,Error ellipse: s-maj=7.7km s-min=5.2km az=129.2*
*KRSC **09** 10:34:01.9±1.7,53.'15N×172.'16E,h13km±59km,Ml4.5*
*NEIC **09** 10:34:01.1±2.5,53.'25N±0.'09×172.'86E±0.'09,h10km±1km, mb4.4/116,ML3.9(AEIC),Error ellipse: s-maj=17.0km s-min=6.5km az=206.0*
*AEIC **09** 10:34:04.5±7.2,53.'9N±0.'1×174.'0E±0.'1,h10km±4km, Error ellipse: s-maj=18.7km s-min=10.7km az=194.0*
ISC 09 10:34:03.5±0.4,53.'21N±0.'07×172.'81E±0.'04,h35km,n266, σ1§51/264,mb4.4/110,MS3.5/6,11C-9D,Near Islands

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**0.92**	**121**	Pn	**Pn**	**10 34 18.0**	**-1.8**
	125nm,0.3s,baz=170,slow=2.9,SNR=25						
SHEM				Sn	**Sn**	**10 34 30.5**	**-1.2**
	180nm,0.3s,baz=150,slow=22,SNR=5.8						
SHEM				LR	LR	10 34 51.1	
	comp=Z,925nm,19.3s,baz=260,slow=54						
BKI	**Bering**	**4.49**	**299**	*e*P	**Pn**	**10 35 07.7**	**-1.1**
BKI				*e*S	**Sn**	**10 35 57.7**	**-2.1**
GANE	**Gareloi Northe**	**5.32**	**102**		**Pn**	**10 35 19.4**	**-1.0**
TASE	**Tanaga Southea**	**5.75**	**100**		**Pn**	**10 35 25.1**	**-1.3**
TAFP	**Tanaga Falls P**	**5.77**	**99**		**Pn**	**10 35 24.6**	**-2.0**
TAFP					**Sn**	**10 36 26.7**	**-4.7**
KIKV	**Kanaga Island**	**6.26**	**98**		**Pn**	**10 35 31.2**	**-2.0**
KINC	**Kanaga Island**	**6.27**	**98**		**Pn**	**10 35 31.7**	**-1.6**
KIWB	**Kanaga Island**	**6.28**	**98**	Pn	**Pn**	**10 35 32.7**	**-0.8**
KBTR	**Krutoberegovo**	**6.52**	**301**	P	**Pn**	**10 35 35.9**	**-1.0**
KBTR	**Krutoberegovo**	**6.52**	**301**	*e*P	**Pn**	**10 35 35.8**	**-1.0**
ADK	**Adak**	**6.55**	**97**	Pn	**Pn**	**10 35 35.4**	**-1.7**
ADK	**Adak**	**6.55**	**97**	P	**Pn**	**10 35 35.4**	**-1.7**
ADAG	**Mount Adagdak**	**6.57**	**97**		**Pn**	**10 35 35.1**	**-2.4**
GSCK	**Great Sitkin C**	**6.82**	**96**		**Pn**	**10 35 39.1**	**-1.9**
GSTR	**Great Sitkin T**	**6.87**	**95**	Pn	**Pn**	**10 35 40.2**	**-1.3**
SMKR	**Semkarok**	**7.36**	**302**	P	**Pn**	**10 35 49.0**	**+0.6**
SMKR	**Semkarok**	**7.36**	**302**	*e*P	**Pn**	**10 35 49.1**	**+0.6**
TUMD	**Tumrok D**	**7.55**	**290**	*e*P	**Pn**	**10 35 51.6**	**+0.7**
TUMD				*e*S	**Sn**	**10 37 13.3**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**7.55**	**296**	P	**Pn**	**10 35 53.2**	**+2.1**
BZGR				S	**Sn**	**10 37 14.1**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**7.55**	**296**	*e*P	**Pn**	**10 35 52.7**	**+1.6**
BZGR				*e*S	**Sn**	**10 37 14.3**	**-1.2**
BZWR	**Bezymyannyi-We**	**7.67**	**296**	P	**Pn**	**10 35 54.2**	**+1.5**
KRSR	**Krestovskiy**	**7.71**	**298**	P	**Pn**	**10 35 54.1**	**+0.9**
KRSR	**Krestovskiy**	**7.71**	**298**	*e*P	**Pn**	**10 35 54.1**	**+0.9**
KIRR	**Kirishev**	**7.75**	**296**	P	**Pn**	**10 35 54.7**	**+0.9**
KIRR	**Kirishev**	**7.75**	**296**	*e*P	**Pn**	**10 35 54.4**	**+0.6**
KMNR	**Kamenistaya**	**7.75**	**294**	P	**Pn**	**10 35 54.5**	**+0.7**
KMNR	**Kamenistaya**	**7.75**	**294**	*e*P	**Pn**	**10 35 54.8**	**+1.0**
KMNR				*e*S	**Sn**	**10 37 18.3**	**-2.1**
KPT	**Kopyto**	**7.82**	**296**	P	**Pn**	**10 35 55.8**	**+1.1**
KPT	**Kopyto**	**7.82**	**296**	*e*P	**Pn**	**10 35 55.6**	**+1.0**
KPT				*e*S	**Sn**	**10 37 21.1**	**-0.7**
ATKA	**Atka Island**	**7.96**	**92**	Pn	**Pn**	**10 35 56.1**	**-0.5**
ATKA				Sn	Sn	10 37 16.9	-8.3
KII	**Karymskiy**	**7.99**	**281**	P	**Pn**	**10 35 57.0**	**0.0**
KII				S	**Sn**	**10 37 20.6**	**-5.5**
KII	**Karymskiy**	**7.99**	**281**	*e*P	**Pn**	**10 35 57.1**	**+0.1**
KOZ	**Kozyrevsk**	**8.03**	**296**	*e*P	**Pn**	**10 35 59.5**	**+2.0**
OSSR	**Ossora**	**8.13**	**322**	P	**Pn**	**10 35 58.8**	**0.0**
SRDR	**Sredinnyy**	**8.19**	**298**	P	**Pn**	**10 36 01.1**	**+1.4**
UGLR	**Uglovaya**	**8.40**	**276**	P	**Pn**	**10 36 02.8**	**+0.1**
UGLR	**Uglovaya**	**8.40**	**276**	*e*P	**Pn**	**10 36 02.6**	**0.0**
AVH	**Avacha**	**8.45**	**276**	P	**Pn**	**10 36 03.3**	**0.0**
AVH	**Avacha**	**8.45**	**276**	*e*P	**Pn**	**10 36 03.5**	**+0.2**
AVH				*e*S	**Sn**	**10 37 34.0**	**-3.3**
DALK	**Dalny**	**8.46**	**274**	P	**Pn**	**10 36 03.7**	**+0.3**
KRX	**Arik**	**8.49**	**277**	P	**Pn**	**10 36 03.3**	**-0.7**
KRX	**Arik**	**8.49**	**277**	*e*P	**Pn**	**10 36 03.6**	**-0.4**
KRX				*e*S	**Sn**	**10 37 33.1**	**-5.4**
KOK	**Koryaka**	**8.50**	**276**	P	**Pn**	**10 36 03.9**	**-0.2**
KOK	**Koryaka**	**8.50**	**276**	*e*P	**Pn**	**10 36 04.0**	**-0.2**
PET	**Petropavlovsk**	**8.52**	**274**	Pn	**Pn**	**10 36 04.1**	**-0.2**
PET	**Petropavlovsk**	**8.52**	**274⇑**	*e*P	**Pn**	**10 36 04.0**	**-0.2**
ESO	**Esso**	**8.64**	**294**	*e*P	**Pn**	**10 36 05.9**	**0.0**
KRMR	**Karymshinskiy**	**8.86**	**273**	P	**Pn**	**10 36 08.7**	**-0.2**
KRMR				S	**Sn**	**10 37 40.9**	**-6.5**
KRMR	**Karymshinskiy**	**8.86**	**273**	*e*S	**Sn**	**10 37 41.8**	**-5.6**
GNL	**Ganaly**	**8.89**	**279**	P	**Pn**	**10 36 10.2**	**+0.8**
GNL	**Ganaly**	**8.89**	**279**	*e*P	**Pn**	**10 36 10.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**9.08**	**275**	P	**Pn**	**10 36 12.7**	**+0.7**
PETK	**Petropavlovsk-**	**9.08**	**275**	Pn	**Pn**	**10 36 12.1**	**+0.1**
	1.9nm,0.3s,baz=92,slow=20,SNR=52						
PETK				Sn	**Sn**	**10 37 47.9**	**-4.9**
	2.5nm,0.3s,baz=291,slow=9.6,SNR=8.7						
PETK				LR	LR	10 38 43.5	
	comp=Z,69nm,20.1s,baz=72,slow=31						
	2.1nm,0.3s						
LVA	**Lava Point**	**12.57**	**77**	Pn	**Pn**	**10 36 58.8**	**-0.8**
GAMB	**Gambell**	**13.29**	**31**	Pn	**Pn**	**10 37 07.6**	**-1.7**
MA2	**Magadan**	**13.73**	**306**	Pn	**Pn**	**10 37 13.9**	**-1.5**
	0.1nm,0.3s,baz=114,slow=6.7,SNR=3.5						
MA2				LR	LR	10 41 52.5	
	comp=Z,74nm,21.6s,baz=103,slow=35						
	1.9nm,0.6s						
MA2	**Magadan**	**13.73**	**306⇑**	*e*P	**Pn**	**10 37 14.7**	**-0.7**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SEY	**Seymchan**	**14.48**	**320**	Pn	**Pn**	**10 37 25.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=4.2						
SEY	**Seymchan**	**14.48**	**320⇓**	*e*P	**Pn**	**10 37 25.6**	**0.0**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BILL	**Bilibino**	**15.21**	**351⇓**	*e*P	**Pn**	**10 37 32.8**	**-2.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s						
O14K	**Tigyukauivet M**	**15.57**	**57**	Pn	**Pn**	**10 37 40.5**	**+0.5**
M14K	**Bethel**	**15.61**	**51**	Pn	**Pn**	**10 37 40.5**	**0.0**
M14K				IAmb	IAmb	10 37 43.9	
	comp=Z,22nm,1.1s						
J14K	**Nanvaranak Lak**	**15.66**	**43**	Pn	**Pn**	**10 37 40.4**	**-0.8**
ANM	**Nome**	**15.91**	**36**	Pn	**Pn**	**10 37 45.0**	**+0.7**
ANM	**Nome**	**15.91**	**36**	P	**Pn**	**10 37 45.1**	**+0.7**
ANM				pmax	pmax		
	comp=Z,15nm,1.1s						
CHGN	**Chignik**	**16.84**	**68**		**Pn**	**10 37 56.3**	**+0.1**
CHGN				IAmb	IAmb	10 38 08.4	
	comp=Z,29nm,1.0s						
L16K	**Owhat River**	**17.05**	**49**	P	**P**	**10 38 02.0**	**+1.7**
I17K	**Unalakleet**	**17.33**	**42**	P	**Pn**	**10 38 01.9**	**-0.3**
I17K				IAmb	IAmb	10 38 26.8	
	comp=Z,26nm,1.0s						
K17K	**Iditarod**	**17.88**	**46**	P	**P**	**10 38 10.2**	**+0.7**
K17K				IAmb	IAmb	10 38 25.7	
	comp=Z,22nm,1.0s						
H17K	**Granite Mounta**	**18.10**	**39**	P	**Pn**	**10 38 11.9**	**+0.1**
ACHA	**Angle Creek He**	**18.52**	**62**	P	**Pn**	**10 38 18.2**	**+1.2**
TYV	**Tymovskoe**	**18.63**	**275**	*e*P	**Pn**	**10 38 20.9**	**+2.6**
TYV				pmax	pmax		
	comp=Z,700nm,4.3s						
TYV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
O18K	**Koktuh Hills**	**18.71**	**56**	P	**Pn**	**10 38 22.2**	**+2.9**
TTA	**Tatalina**	**18.95**	**47**	P	**Pn**	**10 38 23.1**	**+1.0**
TTA	**Tatalina**	**18.95**	**47**	P	**Pn**	**10 38 23.1**	**+1.0**
TTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
N19K	**Bonanza Creek**	**19.20**	**54**	P	**Pn**	**10 38 26.6**	**+1.4**
Q19K	**Cape Douglas,**	**19.43**	**59**	P	**P**	**10 38 27.7**	**+1.1**
Q19K				IAmb	IAmb	10 38 41.7	
	comp=Z,23nm,0.6s						
OHAK	**Old Harbor**	**19.63**	**65**	P	**P**	**10 38 28.8**	**+0.2**
OHAK				IAmb	IAmb	10 38 39.6	
	comp=Z,14nm,0.8s						
H19K	**Roundabout Mou**	**19.68**	**39**	IAmb	IAmb	10 38 42.8	
	comp=Z,15nm,1.1s						
P19K	**Oil Pt**	**19.69**	**57**	P	**Pn**	**10 38 31.8**	**+0.8**
P19K				IAmb	IAmb	10 38 38.1	
	comp=Z,33nm,1.1s						
ILSW	**Iliamna Southw**	**19.76**	**56**	P	**Pn**	**10 38 32.4**	**+0.6**
ILSW				IAmb	IAmb	10 38 45.1	
	comp=Z,20nm,1.2s						
KDAK	**Kodiak Island**	**19.98**	**63**	P	**P**	**10 38 32.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=126,slow=2.8,SNR=12						
	comp=Z,2.3nm,0.6s						
KDAK	**Kodiak Island**	**19.98**	**63⇑**	*e*P	**P**	**10 38 34.1**	**+1.6**
KDAK				pmax	pmax		
	comp=Z,24nm,1.1s						
J20K	**Nowinta River**	**20.11**	**44**	IAmb	IAmb	10 38 47.0	
	comp=Z,9.0nm,0.8s						
YSS	**Yuzhno-Sakhali**	**20.18**	**264**	P	**P**	**10 38 34.6**	**-0.1**
YSS				IAmb	IAmb	10 38 42.0	
	comp=Z,12nm,0.9s						
YSS	**Yuzhno-Sakhali**	**20.18**	**264⇓**	*e*P	Pn	10 38 36.5	-0.2
YSS				pmax	pmax		
	comp=Z,11nm,0.8s						
E19K	**Redstone River**	**20.28**	**34**		**P**	**10 38 36.6**	**+1.0**
SPU	**Mount Spurr**	**20.42**	**53**	P	**P**	**10 38 38.0**	**+0.7**
STLK	**Strandline Lak**	**20.57**	**52**	P	Pn	10 38 40.9	-0.4
F20K	**Avaraart Lake**	**20.60**	**36**	P	**P**	**10 38 39.4**	**+0.3**
CNPM	**China Poot**	**20.69**	**58**	P	**P**	**10 38 41.4**	**+1.1**
CNPM				IAmb	IAmb	10 38 52.6	
	comp=Z,31nm,1.0s						
SKT	**Skwentna**	**20.78**	**51**		**P**	**10 38 42.5**	**+1.4**
SKT				IAmb	IAmb	10 38 57.4	
	comp=Z,11nm,0.8s						
CAST	**Castle Rocks**	**20.80**	**47**		**P**	**10 38 42.8**	**+1.4**
CAST				IAmb	IAmb	10 38 54.9	
	comp=Z,7.1nm,0.7s						
SUA	**Susitna One**	**21.08**	**52**	IAmb	IAmb	10 38 57.6	
	comp=Z,15nm,0.8s						
SLKM	**Skilak Lake**	**21.25**	**55**	P	**P**	**10 38 46.7**	**+0.5**
KTH	**Kantishna Hill**	**21.34**	**47**		**P**	**10 38 48.5**	**+1.3**
KTH				IAmb	IAmb	10 39 06.8	
	comp=Z,15nm,1.0s						
BPAW	**Bear Paw Mtn.**	**21.43**	**45**		**P**	**10 38 49.8**	**+1.6**
O22K	**Cooper Landing**	**21.49**	**55**	P	**P**	**10 38 51.0**	**+2.2**
RC01	**Rabbit Creek A**	**21.53**	**54**		**P**	**10 38 50.6**	**+1.5**
RC01				IAmb	IAmb	10 39 04.0	
	comp=Z,9.5nm,0.8s						
TRF	**Thorofare Moun**	**21.59**	**47**	P	**P**	**10 38 51.2**	**+1.1**
TRF				IAmb	IAmb	10 39 02.8	
	comp=Z,15nm,1.0s						
JKA	**Kamikawa-asahi**	**21.79**	**258**	P	**P**	**10 38 54.2**	**+2.1**
JKA				IAmb	IAmb	10 38 56.9	
	comp=Z,11nm,0.8s						
ASAJ	**Asahikawa**	**21.79**	**258**	P	**P**	**10 38 53.8**	**+1.7**
	comp=Z,7.8nm,0.7s,baz=78,slow=9.4,SNR=12						
ASAJ				LR	LR	10 46 37.4	
	comp=Z,62nm,20.1s,baz=84,slow=35						
	comp=Z,7.8nm,0.7s						
ASAJ	**Asahikawa**	**21.79**	**258**	P	**P**	**10 38 54.2**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.8s						
PMR	**Palmer**	**21.86**	**52**	P	**P**	**10 38 53.3**	**+0.6**
PMR	**Palmer**	**21.86**	**52**	P	**P**	**10 38 53.3**	**+0.6**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GHO	**Glory Hole Cre**	**21.98**	**52**	P	**P**	**10 38 56.0**	**+1.9**
BWN	**Browne**	**22.10**	**45**	P	**P**	**10 38 57.2**	**+1.9**
KNK	**Knik Glacier**	**22.17**	**53**	P	**P**	**10 38 56.6**	**+0.6**
KNK				IAmb	IAmb	10 39 09.7	
	comp=Z,14nm,0.7s						
PWL	**Port Wells**	**22.20**	**54**	P	**P**	**10 38 56.0**	**-0.4**
PWL				IAmb	IAmb	10 39 10.3	
	comp=Z,26nm,0.9s						
RND	**Reindeer**	**22.22**	**48**		**P**	**10 38 57.1**	**+0.4**
RND	**Reindeer**	**22.22**	**48**	P	**P**	**10 38 57.1**	**+0.4**
RND				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MCK	**McKinley**	**22.24**	**47**	IAmb	IAmb	10 39 10.5	
	comp=Z,15nm,0.9s						
SML	**Sawmill**	**22.26**	**52**	IAmb	IAmb	10 39 10.8	
	comp=Z,20nm,0.8s						
I23K	**Minto, Yukon-K**	**22.36**	**43**	P	**P**	**10 38 58.5**	**+0.4**
E22K	**Anaktuvuk Pass**	**22.42**	**35**	P	**P**	**10 38 59.1**	**+0.3**
SCM	**Sheep Creek Mo**	**22.74**	**52**	P	**P**	**10 39 02.2**	**0.0**
SCM				IAmb	IAmb	10 39 14.9	
	comp=Z,25nm,1.0s						
SCM	**Sheep Creek Mo**	**22.74**	**52**	P	**P**	**10 39 02.2**	**0.0**
SCM				pmax	pmax		
	comp=Z,25nm,1.0s						
WRH	**Wood River Hil**	**22.74**	**45**	P	**P**	**10 39 02.7**	**+0.6**
WRH				IAmb	IAmb	10 39 16.1	
	comp=Z,8.9nm,1.0s						
GLI	**Glacier Island**	**22.80**	**54**	IAmb	IAmb	10 39 14.8	
	comp=Z,15nm,0.7s						
COLA	**College**	**22.93**	**44**	P	**P**	**10 39 04.6**	**+0.7**
COLA				IAmb	IAmb	10 39 18.1	
	comp=Z,15nm,0.8s						
COLA	**College**	**22.93**	**44**	*de*P	**P**	**10 39 05.1**	**+1.1**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
D23K	**Nanushuk River**	**23.14**	**33**	P	**P**	**10 39 02.2**	**-4.0**
HDA	**Harding Lake**	**23.22**	**45**	IAmb	IAmb	10 39 19.8	
	comp=Z,4.8nm,0.6s						
ILAR	**Eielson Array**	**23.31**	**44**	P	**P**	**10 39 07.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=252,slow=9.0,SNR=19						
	comp=Z,1.1nm,0.8s						
KLU	**Klutina**	**23.39**	**53**	P	**P**	**10 39 09.3**	**+0.5**
KLU				IAmb	IAmb	10 39 22.2	
	comp=Z,9.4nm,0.7s						
C23K	**Itkillik River**	**23.54**	**31**	P	**P**	**10 39 10.3**	**+0.2**
C23K				IAmb	IAmb	10 39 15.3	
	comp=Z,7.5nm,0.9s						
PAX	**Paxson**	**23.69**	**49**	IAmb	IAmb	10 39 24.5	
	comp=Z,15nm,1.0s						
BMRM	**Bremner River**	**24.02**	**54**	P	**P**	**10 39 15.2**	**+0.4**
BMRM				IAmb	IAmb	10 39 32.9	
	comp=Z,9.1nm,0.8s						
RIDG	**Independent Ri**	**24.04**	**47**	P	**P**	**10 39 14.4**	**-0.5**
RIDG				IAmb	IAmb	10 39 27.2	
	comp=Z,8.3nm,0.9s						
C24K	**Franklin Bluff**	**24.09**	**32**	P	**P**	**10 39 15.6**	**+0.3**
C24K				IAmb	IAmb	10 39 28.8	
	comp=Z,9.3nm,0.9s						
YAK	**Yakutsk**	**24.29**	**308**	LR	LR	10 47 59.7	
	comp=Z,42nm,19.7s,baz=332,slow=35						
YAK	**Yakutsk**	**24.29**	**308⇑**	*e*P	**P**	**10 39 15.6**	**-1.5**
YAK				pmax	pmax		
	comp=Z,38nm,2.5s						
GLB	**Gilahina Butte**	**24.40**	**53**	P	**P**	**10 39 18.9**	**+0.7**
SCRK	**Sand Creek**	**24.45**	**47**	P	**P**	**10 39 18.2**	**-0.5**
SCRK				IAmb	IAmb	10 39 31.1	
	comp=Z,8.6nm,0.9s						
E25K	**Arctic Village**	**24.61**	**37**	P	**P**	**10 39 21.2**	**+1.2**
E25K				IAmb	IAmb	10 39 34.0	
	comp=Z,6.7nm,1.1s						
J26L	**Joseph Creek**	**24.68**	**46**	P	**P**	**10 39 20.4**	**-0.4**
J26L				IAmb	IAmb	10 39 34.8	
	comp=Z,5.6nm,0.8s						
EGAK	**Eagle**	**25.74**	**45**	IAmb	IAmb	10 39 42.0	
	comp=Z,8.8nm,0.8s						
KLR	**Kul'dur**	**25.76**	**278**	*ce*P	**P**	**10 39 31.2**	**+0.6**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
DAWY	**Dawson**	**26.47**	**47**	P	**P**	**10 39 37.8**	**+0.9**
DAWY				IAmb	IAmb	10 39 52.9	
	comp=Z,12nm,1.2s						
TIXI	**Tiksi**	**26.50**	**330**	P	**P**	**10 39 36.6**	**-0.4**
TIXI				IAmb	IAmb	10 39 39.9	
	comp=Z,8.1nm,0.8s						
TIXI	**Tiksi**	**26.50**	**330⇑**	*e*P	**P**	**10 39 37.5**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s						
ZEA	**Zeya**	**26.77**	**290**	*e*P	**P**	**10 39 39.2**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HEH	**HeiHe**	**27.91**	**282**	*e*P	**P**	**10 39 49.2**	**-0.7**
HEH				pmax	pmax		
	comp=Z,13nm,0.7s						
USRK	**Ussuriysk Ar.**	**28.07**	**268**	P	**P**	**10 39 50.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=43,slow=5.4,SNR=4.5						
	comp=Z,1.0nm,0.6s						
G31M	**Satah River**	**28.70**	**41**	P	**P**	**10 39 57.3**	**+0.5**
BNX	**BinXian**	**30.00**	**274**	⇑P	**P**	**10 40 07.8**	**-0.7**
BNX				pmax	pmax		
	comp=Z,13nm,0.6s						
CN2	**Changchun**	**32.22**	**272**	P	**P**	**10 40 27.1**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.73**	**190**	T	T	11 16 15.1	
	baz=5.9,slow=76,SNR=114						
H11N3	**WAKE ISLAND Hy**	**33.74**	**190**	T	T	11 16 11.4	
	baz=5.9,slow=76,SNR=156						
H11N1	**WAKE ISLAND Hy**	**33.74**	**190**	T	T	11 16 16.2	
	baz=5.9,slow=76,SNR=122						
KSRS	**Korea Array**	**34.62**	**261**	P	**P**	**10 40 50.0**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=55,slow=9.0,SNR=4.9						
	comp=Z,2.7nm,0.9s						
KSRS	**Korea Array**	**34.62**	**261**	P	**P**	**10 40 50.0**	**+0.9**
H11S1	**WAKE ISLAND Hy**	**34.95**	**190**	T	T	11 17 40.3	
	baz=5.9,slow=76,SNR=173						
H11S3	**WAKE ISLAND Hy**	**34.97**	**190**	T	T	11 17 41.4	
	baz=5.9,slow=76,SNR=155						
H11S2	**WAKE ISLAND Hy**	**34.97**	**190**	T	T	11 17 38.5	
	baz=5.9,slow=76,SNR=76						
YKA	**Yellowknife Ar**	**37.71**	**46**	P	**P**	**10 41 13.6**	**-1.5**
	comp=Z,1.1nm,0.9s,baz=290,slow=8.0,SNR=11						
YKA				PcP	**PcP**	**10 43 31.8**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=280,slow=2.8,SNR=2.7						
	comp=Z,1.1nm,0.9s						
XLT	**XiLinHaoTe**	**37.76**	**279**	*e*P	**P**	**10 41 16.7**	**+0.7**
XLT				sP	pP	10 41 23.1	-2.3
XLT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NRIK	**Noril'sk**	**40.13**	**327**	P	**P**	**10 41 35.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=54,slow=4.8,SNR=3.6						
	comp=Z,0.9nm,0.3s						
NRIK	**Noril'sk**	**40.13**	**327⇓**	*e*P	**P**	**10 41 35.1**	**-0.3**
ULN	**Ulaanbaatar**	**40.81**	**290⇓**	*e*P	**P**	**10 41 42.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	**Songino Array**	**41.19**	**290**	P	**P**	**10 41 44.6**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=62,slow=8.0,SNR=21						
SONM				PcP	**PcP**	**10 43 43.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=63,slow=1.7,SNR=3.3						
SONM				LR	LR	10 59 44.9	
	comp=Z,37nm,19.4s,baz=137,slow=38						
	comp=Z,2.5nm,0.5s						
TIA	**Tai'an**	**41.92**	**269**	P	**P**	**10 41 51.9**	**+1.5**
TIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**42.27**	**279**	*e*P	**P**	**10 41 52.6**	**-0.8**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
BTO	**Baotou**	**43.34**	**279**	*e*P	**P**	**10 42 03.8**	**+1.8**
BTO				pP	**pP**	**10 42 08.4**	**-3.2**
BTO				sP	**sP**	**10 42 10.9**	**-4.6**
BTO				PP	**PP**	**10 43 46.9**	**+4.0**
BTO				pmax	pmax		
	comp=Z,24nm,1.1s						
BTO				pmax	pmax		
	comp=Z,260nm,9.7s						
ORV	**Oroville**	**45.72**	**80**	P	P	10 42 26.8	+5.9
ORV				IAmb	IAmb	10 42 32.6	
	comp=Z,4.3nm,0.9s						
ORV	**Oroville**	**45.72**	**80**	P	P	10 42 26.8	+5.9
ORV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LYN	**LuoYang**	**45.84**	**271**	⇓P	**P**	**10 42 23.9**	**+2.0**
LYN				pmax	pmax		
	comp=Z,16nm,0.5s						
LYN				pmax	pmax		
	comp=Z,190nm,4.8s						
NEEM	**North Greenlan**	**46.79**	**12**	*i* P	**P**	**10 42 27.8**	**-1.5**
NEEM				IAmb	IAmb	10 42 30.5	
	comp=Z,10nm,1.0s						
PAHR	**Pah Rah Range**	**46.87**	**78**	IAmb	IAmb	10 42 42.5	
	comp=Z,6.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**48.09**	**354**	P	**P**	**10 42 38.4**	**-0.6**
	comp=Z,8.0nm,0.6s,baz=55,slow=7.2,SNR=20						
	comp=Z,8.0nm,0.6s						
NVAR	**Mina Array Bea**	**48.34**	**79**	P	**P**	**10 42 42.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=295,slow=7.0,SNR=7.3						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**48.94**	**308**	P	**P**	**10 42 44.1**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=61,slow=6.8,SNR=4.7						
	comp=Z,0.8nm,0.5s						
UPNV	**Upernavik**	**49.84**	**17**	*i* P	**P**	**10 42 52.1**	**-0.2**
UPNV				IAmb	IAmb	10 42 53.7	
	comp=Z,12nm,1.0s						
LZH	**Lanzhou**	**49.96**	**279**	*e*P	**P**	**10 42 55.7**	**+1.7**
LZH				pP	sP	10 43 07.3	-0.2
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
R11B	**Troy Canyon, C**	**49.99**	**77**	IAmb	IAmb	10 43 06.5	
	comp=Z,4.7nm,0.8s						
DAG	**Danmarks Havn**	**50.09**	**3**	*i* P	**P**	**10 42 52.7**	**-1.5**
DAG				IAmb	IAmb	10 42 54.8	
	comp=Z,4.3nm,1.0s						
GTA	**Gaotai**	**50.10**	**285**	P	**P**	**10 42 55.3**	**+0.3**
GTA				pP	pP	10 43 02.0	-2.7
GTA				pmax	pmax		
	comp=Z,13nm,0.9s						
PDAR	**Pinedale Array**	**50.55**	**69**	P	**P**	**10 42 59

KLMR Klimovskoe 60.35 336 *e*P **P 10 44 07.0 -1.3**
KLMR pmax pmax
comp=Z,17nm,1.9s
SLVN Son La 60.61 267 P **P 10 44 12.1 +1.4**
KDJ Kajisay 60.66 302 P **P 10 44 11.4 +0.4**
KDJ Kajisay 60.66 302 P **P 10 44 11.4 +0.4**
KDJ pmax pmax
comp=Z,6.0nm,0.7s
BOOM Boomskoye usch 61.02 303 IAmb IAmb 10 44 14.7
comp=Z,5.4nm,0.9s
VHRN Van Horn 61.51 76 P **P 10 44 17.5 +0.6**
SCHQ Schefferville 61.59 35 P **P 10 44 16.6 -0.3**
comp=Z,5.1nm,0.7s,baz=350,slow=7.5,SNR=5.7
comp=Z,5.1nm,0.7s
AAK Ala-Archa 61.64 304 P **P 10 44 18.3 +0.7**
AAK Ala-Archa 61.64 304 P **P 10 44 18.3 +0.7**
AAK pmax pmax
comp=Z,10.0nm,1.2s
ARLS Aral 62.30 303 P **P 10 44 22.9 +0.9**
ARLS pmax pmax
comp=Z,12nm,1.0s
FINES FINESS Array B 62.68 343 P **P 10 44 23.3 -0.7**
comp=Z,2.3nm,0.6s,baz=21,slow=7.7,SNR=16
comp=Z,2.3nm,0.6s
FINES FINESS Array B 62.68 343 *i*P **P 10 44 23.2 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
R40A Maddies Statio 63.10 62 P **P 10 44 27.4 +0.2**
KSH Kashi 63.20 301 P **P 10 44 32.0 +4.0**
KSH pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 63.23 317 P **P 10 44 27.9 0.0**
ABKAR IAmb IAmb 10 44 28.2
comp=Z,2.6nm,0.6s
KKAR Karatay Array 63.25 307 P **P 10 44 28.2 0.0**
KKAR IAmb IAmb 10 44 28.8
comp=Z,3.8nm,0.8s
KKAR Karatay Array 63.25 307 P **P 10 44 28.2 0.0**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
TXAR Lajitas Array 63.34 76 P **P 10 44 29.9 +0.8**
comp=Z,1.2nm,0.4s,baz=301,slow=5.2,SNR=19
comp=Z,1.2nm,0.4s
ARSB Arslanbob 63.37 304 IAmb IAmb 10 44 30.4
comp=Z,1.5nm,0.9s
BRDY Brady 64.59 71 P **P 10 44 38.3 +1.1**
SHL Shillong 64.62 279 P **P 10 44 37.7 +0.1**
SHL pmax pmax
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 65.16 350 P **P 10 44 40.2 -0.2**
comp=Z,1.5nm,0.6s,baz=10,slow=6.9
NOA NORSAR Array B 65.16 350 P **P 10 44 40.2 -0.2**
comp=Z,3.0nm,0.7s,baz=12,slow=6.6,SNR=7.6
comp=Z,3.0nm,0.7s
BTK Batken 65.41 304 P **P 10 44 42.5 +0.1**
BTK pmax pmax
comp=Z,14nm,0.8s
HFS Hagfors 65.77 349 P **P 10 44 43.6 -0.7**
comp=Z,3.1nm,0.5s,baz=46,slow=4.3,SNR=31
comp=Z,3.1nm,0.5s
CMAR Chiang Mai Arr 65.79 269 P **P 10 44 45.6 +0.6**
comp=Z,2.3nm,0.7s,baz=25,slow=7.0,SNR=13
comp=Z,2.3nm,0.7s
CMAR Chiang Mai Arr 65.79 269 *i*P **P 10 44 46.2 +1.2**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CHGR Chuyangaron 67.31 304 P **P 10 44 53.0 -1.6**
CHGR pmax pmax
comp=Z,33nm,0.9s
DZET Dzherino 67.35 305 P **P 10 44 55.1 +0.2**
DZET pmax pmax
comp=Z,8.0nm,0.7s
SIMJ Simiganj 67.38 305 P **P 10 44 56.0 +0.9**
MNK Minsk 68.79 339 *i*P **P 10 45 02.7 -0.8**
comp=E,10.0nm,0.9s
MNK *i*P **P 10 45 02.7 -0.8**
comp=N,10.0nm,0.9s
MNK *i*P **P 10 45 02.7 -0.8**
comp=Z,7.0nm,0.7s,baz=22
MNK *i*PcP **PcP 10 45 27.3 -0.6**
MNK *i*PP PP 10 47 24.2 -11
MNK *i*PPP PPP 10 49 02.5
MNK *i*S **S 10 54 06.6 +2.4**
MNK *i*ScS ScS 10 55 51.0 +50
MNK *i*SS SS 10 59 15.4 +47
MNK *i*LQ LQ 11 10 32.5
MNK *i*LR LR 11 13 31.6
MNK *i*LRM MLR 11 17 33.9
comp=Z,70nm,15.5s
MNK *i*LRM MLR 11 20 30.8
comp=N,112nm,13.7s
MNK *i*LRM MLR 11 20 31.5
comp=E,259nm,15.3s
MNK Minsk 68.79 339 *i*P **P 10 45 02.7 -0.8**
MNK *i* 10 45 27.2
MNK *i*S **S 10 54 06.6 +2.4**
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK MLR MLR
comp=Z,70nm,16.0s
MNK MLR MLR
comp=N,112nm,14.0s
MNK MLR MLR
comp=E,259nm,15.0s
NIL Nilore 69.07 298 P **P 10 45 06.2 +0.6**
NIL pmax pmax
comp=Z,23nm,0.8s
EKA Eskdalemuir Ar 71.77 358 P **P 10 45 21.9 +0.2**
comp=Z,3.7nm,0.6s,baz=6.3,slow=4.9,SNR=8.6
comp=Z,3.7nm,0.6s
EKA Eskdalemuir Ar 71.77 358 P **P 10 45 22.0 +0.3**
AKASG Malin Array Be 72.02 337 P **P 10 45 23.0 -0.2**
comp=Z,1.7nm,0.4s,baz=28,slow=6.8,SNR=8.5
comp=Z,1.7nm,0.4s
AKASG Malin Array Be 72.02 337 *i*P **P 10 45 22.6 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KBZ Khabaz 74.31 325 P **P 10 45 37.8 +0.9**
comp=Z,2.9nm,0.8s,baz=33,slow=4.0,SNR=9.3
comp=Z,2.9nm,0.8s
KBZ Khabaz 74.31 325 *de*P **P 10 45 38.4 +1.5**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KWP Kalwaria Pacla 74.46 340 P **P 10 45 38.9 +1.2**
KWP Kalwaria Pacla 74.46 340 P **P 10 45 38.9 +1.2**
AKT Akhty 74.49 320 *e*P **P 10 45 36.6 -1.6**
AKT pmax pmax
comp=Z,42nm,2.4s
KOLS Kolonicke sedl 75.22 340 *e*P **P 10 45 41.3 -0.8**
KOLS pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 75.22 340 *e*P **P 10 45 41.2 -0.8**
LANS Liptovska Anna 75.55 342 *e*P **P 10 45 45.8 +1.8**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 75.55 342 *e*P **P 10 45 45.8 +1.8**
VYHS Vyhne 76.29 343 *e*P **P 10 45 48.8 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 76.29 343 *e*P **P 10 45 48.8 +0.5**
MODS Modra-Piesok 76.68 344 *e*P **P 10 45 51.3 +0.8**
MODS pmax pmax
comp=Z,39nm,1.6s
MODS Modra-Piesok 76.68 344 *e*P **P 10 45 51.3 +0.8**
GERES GERESS Array B 76.79 346 P **P 10 45 51.0 -0.2**
comp=Z,1.2nm,0.6s,baz=41,slow=4.3,SNR=5.0
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 80.09 216 P **P 10 46 10.5 +1.0**
comp=Z,2.3nm,0.8s,baz=28,slow=6.2,SNR=14
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 80.94 329 P **P 10 46 14.9 +0.8**
comp=Z,1.3nm,0.7s,baz=54,slow=3.5,SNR=8.5
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 80.94 329 *i*P **P 10 46 14.8 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 83.67 215 P **P 10 46 29.5 +1.3**
comp=Z,1.7nm,0.7s,baz=17,slow=5.2,SNR=29
comp=Z,1.7nm,0.7s
ESDC Sonseca Array 87.45 358 P **P 10 46 47.0 -0.1**
comp=Z,0.6nm,0.7s,baz=338,slow=4.4,SNR=3.1
comp=Z,0.6nm,0.7s

STKA Stephens Creek 88.98 206 P **P 10 46 54.7 +0.7**
comp=Z,2.6nm,0.8s,baz=344,slow=8.5,SNR=4.2
comp=Z,2.6nm,0.8s
QSPA South Pole Qui 142.96 180 PKhKP PKPpre 10 53 28.3
comp=Z,1.8nm,0.9s,baz=156,slow=2.0,SNR=8.3
BOSA Boshof 145.78 303 PKPbc **PKPdf 10 53 37.5 -0.6**
comp=Z,0.8nm,0.5s,baz=148,slow=4.8,SNR=1.3

*ISN **09** 10:57:46.5±2.6, 34°.44N×45°.74E, h9km±25km, ML3.3*
*TEH **09** 10:57:48.4, 34°.47N×45°.82E, h5km*
ISC 09 10:57:48.1±0.9, 34°.44N±0°.03×45°.76E±0°.04, h12km±9km, n18, σ1§40/22, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**297**	Pg	**Pg**	**10 57 51.5**	**-0.3**
KGS1				Sg	**Sg**	**10 57 55.4**	**+1.0**
GLG1	**Gilan-e-Gharb**	**0.34**	**159**	Pg	**Pg**	**10 57 55.0**	**-0.1**
GLG1				Sg	**Sb**	**10 58 02.4**	**+0.8**
IDHR	**Dehrash**	**0.58**	**63**	Pg	**Pg**	**10 57 57.6**	**-1.9**
IGHG	**Ghaleghazi**	**0.68**	**99**	Pg	**Pg**	**10 58 00.3**	**-1.0**
ILBA	**Ilam Banvizeh**	**0.89**	**155**	Pg	**Pb**	**10 58 05.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.07**	**98**	Pg	**Pb**	**10 58 08.2**	**-0.4**
IKRK	**Kirkuk**	**1.51**	**310**	*e*Pg	**Pn**	**10 58 14.0**	**-0.9**
IKRK	baz=130			*e*Sg	**Sg**	**10 58 36.5**	**-0.2**
IKRK				AML	AML	10 58 41.4	
IKRK	comp=N,488nm,0.3s			AML	AML	10 58 47.1	
SNQR	**Sonqor, Kerman**	**1.60**	**74**	Pg	**Pg**	**10 58 17.7**	**-1.0**
BHD	**Baghdad**	**1.63**	**225**	*e*Pn	**Pn**	**10 58 16.0**	**-0.5**
BHD				*e*Sn	**Sg**	**10 58 41.0**	**+0.4**
SDS1	**Sardasht. Az.**	**1.72**	**353**	Pg	**Pb**	**10 58 19.7**	**-0.1**
IDOB	**Doab**	**2.11**	**107**	Pn	**Pb**	**10 58 25.1**	**-1.2**
MAHB	**Mahabad**	**2.33**	**359**	Pn	**Pb**	**10 58 28.5**	**-1.4**
HSAM	**Samen**	**2.36**	**95**	Pn	**Pb**	**10 58 28.9**	**-1.8**
BDRS	**Dareh Seyedi**	**2.63**	**100**	Pn	**Pn**	**10 58 32.2**	**+1.6**
HGHA	**Hamedan- Ghaye**	**2.75**	**67**	Pn	**Pn**	**10 58 33.8**	**+1.6**
IAZR	**Azarshahr**	**3.24**	**3**	Pn	**Pn**	**10 58 41.4**	**+2.5**
IHRS	**Heris**	**4.01**	**15**	Pn	**Pn**	**10 58 51.6**	**+2.2**
GRMI	**Germi**	**4.69**	**21**	Pn	**Pn**	**10 59 00.5**	**+1.8**

*DSN **09** 11:00:25.1±0.3, 27°.43N×55°.79E, h12km, ML3.0/6, Error ellipse: s-maj=13.6km s-min=4.7km az=254.0*
*TEH **09** 11:00:28.6, 26°.98N×55°.23E, h23km±72km*
ISC 09 11:00:26.9±1.0, 26°.95N±0°.05×55°.10E±0°.05, h17km, n16, σ1§31/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.29**	**134**	P	**Pb**	**11 00 50.9**	**+0.1**
SHME				S	**Sg**	**11 01 09.9**	**+1.2**
IBND	**Bandar-abas**	**1.37**	**68**	Pg	**Pg**	**11 00 51.8**	**-1.6**
BANOM	**Banah**	**1.48**	**133**	P	**Pn**	**11 00 52.4**	**-0.4**
LMD1	**Lamerd**	**1.77**	**283**	Pn	**Pg**	**11 01 00.4**	**-0.6**
MSFE	**Esma-Masafi**	**1.84**	**149**	P	**Pb**	**11 00 59.8**	**-0.5**
MDH	**Madha**	**1.96**	**147**	P	**Pb**	**11 01 01.3**	**-0.9**
JHRM	**Jahrom**	**2.06**	**319**	Pn	**Pg**	**11 01 04.6**	**-1.9**
UOSS	**Minazif**	**2.23**	**153**	P	**Pb**	**11 01 05.6**	**-1.1**
HATD	**Hatta, Dubai**	**2.31**	**156**	P	**Pb**	**11 01 07.9**	**-0.2**
QIR1	**Qir**	**2.38**	**310**	Pn	**Pb**	**11 01 09.0**	**-0.4**
ASHO	**Ashiyiah**	**2.41**	**159**	P	**Pn**	**11 01 07.6**	**+1.9**
KRBR	**Kerman**	**3.36**	**25**	Pn	**Pn**	**11 01 20.7**	**+1.7**
CHMN	**Cheshme madani**	**3.61**	**36**	Pn	**Pn**	**11 01 23.7**	**+1.3**
KHGB	**Koh Gabri**	**3.62**	**19**	Pn	**Pn**	**11 01 23.9**	**+1.3**
TPRV	**Parvadeh(Tabas**	**6.21**	**12**	Pn	**Pn**	**11 01 59.2**	**+1.2**
SRVN	**Saravan**	**6.51**	**84**	Pn	**Pn**	**11 02 03.5**	**+1.4**

*IDC **09** 11:04:40.5±5.0, 7°.55S×155°.58E, h194km±65km, mb3.0/5, mbtmp3.7/6, MS3.1/2, Error ellipse: s-maj=70.6km s-min=23.9km az=138.0*
ISC 09 11:04:37.0±1.0, 7°.3S±0°.2×155°.4E±0°.1, h150km, n7, σ1§61/6, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.01**	**115**	P	**Pn**	**11 05 51.1**	**+0.5**
HNR	193nm,0.4s,baz=181,slow=7.0,SNR=8.1			LR	LR	11 07 48.6	
PMG	**Port Moresby**	**8.38**	**255**	LR	LR	11 09 14.5	
WRA	**Warramunga Arr**	**23.95**	**236**	P	**P**	**11 09 37.9**	**+0.3**
ASAR	**Alice Springs**	**26.25**	**229**	P	**P**	**11 09 56.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**61.24**	**296**	P	**P**	**11 14 38.5**	**+1.8**
ILAR	**Eielson Array**	**83.52**	**21**	P	**P**	**11 16 46.7**	**-1.0**
MKAR	**Makanchi Array**	**83.86**	**319**	P	**P**	**11 16 49.4**	**-0.5**

*VAO **09** 11:11:22.2±1.1, 21°.56S×68°.48W, h113km±7km, mb4.8*
*NEIC **09** 11:11:23.1±1.5, 21°.56S±0°.05×68°.55W±0°.08, h137km±6km, mb4.7/15, Error ellipse: s-maj=10.8km s-min=6.7km az=71.0*
*SJA **09** 11:11:23.5±0.9, 21°.54S×68°.63W, h132km±8km, ML4.3, MW4.3*
*GUC **09** 11:11:24.9±0.7, 21°.57S×68°.52W, h121km±4km, ML4.3*
*IDC **09** 11:11:24.9±0.6, 21°.46S×68°.21W, h122km±4km, mb4.3/8, mbtmp4.5/13, Error ellipse: s-maj=17.3km s-min=11.3km az=85.0*
ISC 09 11:11:23.2±0.4, 21°.49S±0°.04×68°.36W±0°.05, h117km±4km, n144, σ1§44/158, mb4.5/15, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.87**	**250**		**Pn**	**11 11 44.5**	**+0.6**
PB09				Sn	**Sn**	**11 11 59.5**	**-0.1**
PB09	**IPOC Station P**	**0.87**	**250**	*e*P	**Pn**	**11 11 44.5**	**+0.6**
PB09				*e*S	**Sn**	**11 11 59.4**	**-0.1**
PB09				IAML		11 12 01.7	
PB09	**IPOC Station P**	**0.87**	**250**	⇑*i*P	**Pn**	**11 11 44.5**	**+0.6**
PB09				*e*S	**Sn**	**11 11 59.4**	**-0.1**
PB09				IAML		11 12 01.7	
PB01	**IPOC Station P**	**1.14**	**293**		**Pn**	**11 11 46.7**	**+0.3**
PB01				Sn	**Sn**	**11 12 04.0**	**-0.1**
PB01	**IPOC Station P**	**1.14**	**293**	*e*P	**Pn**	**11 11 46.8**	**+0.3**
PB01				*e*S	**Sn**	**11 12 04.3**	**+0.1**
PB01				IAML		11 12 07.0	
PB01	**IPOC Station P**	**1.14**	**293**	⇑*i*P	**Pn**	**11 11 46.8**	**+0.3**
PB01				*e*S	**Sn**	**11 12 04.1**	**-0.1**
PB01				IAML		11 12 06.7	
AF01	**San Pedro de A**	**1.46**	**173**		**Pn**	**11 11 52.1**	**+1.8**
AF01	**San Pedro de A**	**1.46**	**173**	*e*P	**Pn**	**11 11 51.9**	**+1.6**
AF01				*e*S	**Sn**	**11 12 14.6**	**+3.7**
AF01				IAML		11 12 29.7	
AF01	**San Pedro de A**	**1.46**	**173**	*e*P	**Pn**	**11 11 52.2**	**+1.9**
AF01				*e*S	**Sn**	**11 12 11.1**	**+0.2**
AF01				IAML		11 12 33.4	
PB08	**IPOC Station P**	**1.54**	**331**		**Pn**	**11 11 53.1**	**+1.9**
PB08				Sn	**Sn**	**11 12 14.3**	**+1.8**
PB08	**IPOC Station P**	**1.54**	**331**	*e*P	**Pn**	**11 11 53.1**	**+1.9**
PB08				*e*S	**Sn**	**11 12 14.0**	**+1.5**
PB08				IAML		11 12 15.7	
PB08	**IPOC Station P**	**1.54**	**331**	⇑*i*P	**Pn**	**11 11 53.2**	**+1.9**
PB08				*e*S	**Sn**	**11 12 14.4**	**+1.8**
PB08				IAML		11 12 16.7	
PX03	**IPOC Station P**	**1.61**	**312**	*e*P	**Pn**	**11 11 51.7**	**-0.1**
PATCX	**Punta Patache**	**1.80**	**292**		**Pn**	**11 11 54.4**	**+0.3**
PATCX				Sn	**Sn**	**11 12 17.3**	**-0.4**
TA01	**Diego Aracena**	**1.93**	**298**		**Pn**	**11 11 55.5**	**-0.1**
TA01				Sn	**Sn**	**11 12 19.4**	**-1.0**
TA01	**Diego Aracena**	**1.93**	**298**	*e*P	**Pn**	**11 11 55.6**	**-0.1**
TA01				*e*S	**Sn**	**11 12 19.4**	**-1.0**
TA01				IAML		11 12 20.8	
TA01	**Diego Aracena**	**1.93**	**298**	⇑*i*P	**Pn**	**11 11 55.6**	**-0.1**
TA01				*e*S	**Sn**	**11 12 19.4**	**-1.0**
TA01				IAML		11 12 20.9	
TA02	**Huaiquique**	**2.05**	**306**		**Pn**	**11 11 56.9**	**-0.3**
TA02	**Huaiquique**	**2.05**	**306**	*e*P	**Pn**	**11 11 56.6**	**-0.6**
TA02				*e*S	**Sn**	**11 12 21.8**	**-1.3**
TA02				IAML		11 12 23.2	
TA02	**Huaiquique**	**2.05**	**306**	*e*P	**Pn**	**11 11 57.0**	**-0.2**
TA02				*e*S	**Sn**	**11 12 22.3**	**-0.9**
PB12	**IPOC Station P**	**3.41**	**327**	Pn	**Pn**	**11 12 13.8**	**-1.1**
PB12	**IPOC Station P**	**3.41**	**327**	⇑*i*P	**Pn**	**11 12 13.9**	**-1.1**
PB12				IAML		11 12 59.0	
AP01	**Chacalluta**	**3.62**	**329**	Pn	**Pn**	**11 12 17.1**	**-0.6**
PB14	**IPOC Station P**	**3.64**	**211**		**Pn**	**11 12 17.3**	**-0.9**
GO02	**Mina Guanaco**	**3.82**	**197**	Pn	**Pn**	**11 12 19.9**	**-0.8**
GO02	**Mina Guanaco**	**3.82**	**197**	*e*P	**Pn**	**11 12 20.1**	**-0.6**
AC01	**Pan de Azucar**	**5.07**	**203**	Pn	**Pn**	**11 12 34.5**	**-2.6**
LPAZ	**La Paz**	**5.18**	**2**	P	**Pn**	**11 12 42.0**	**+2.8**
LPAZ	comp=E,32nm,0.4s,baz=177,slow=5.9,SNR=119			S	**Sn**	**11 13 37.8**	**-0.5**
AC02	**Maricunga**	**5.36**	**187**	Pn	**Pn**	**11 12 40.7**	**-0.8**
AC04	**Llanos de Chal**	**7.12**	**200**	Pn	Pn	11 12 59.8	-5.0
LCO	**Las Campanas**	**7.78**	**195**	Pn	**Pn**	**11 13 09.2**	**-4.7**
CO01	**Juntas del Tor**	**8.59**	**190**		**Pn**	**11 13 22.5**	**-2.4**
SIV	**San Ignacio**	**8.81**	**53**	P	**Pn**	**11 13 26.7**	**-1.0**
SIV	comp=E,16nm,0.4s,baz=240,slow=12,SNR=108			S	**Sn**	**11 14 58.4**	**-7.0**
GO04	**Tololo Observa**	**8.92**	**194**	Pn	**Pn**	**11 13 24.6**	**-4.8**
CO03	**El Pedregal**	**9.54**	**192**	Pn	Pn	11 13 32.5	-5.0
CO06	**Fray Jorge**	**9.60**	**197**	Pn	Pn	11 13 31.9	-6.4
PAPY	**Pozo Azul**	**9.70**	**107**	*e*P	**Pn**	**11 13 40.7**	**+1.0**
MURT	**Porto Murtinho**	**10.01**	**93**	*e*P	**Pn**	**11 13 42.8**	**-1.0**
PTLB	**Pontes e Lacer**	**10.62**	**57**	Pn	**Pn**	**11 13 52.0**	**-0.1**
PTLB	**Pontes e Lacer**	**10.62**	**57**	*e*P	**Pn**	**11 13 52.8**	**+0.7**
BDQN	**Bodoquena, MS**	**10.90**	**87**	*e*P	**Pn**	**11 13 54.8**	**-1.1**
CPUP	**Villa Florida**	**11.18**	**118**	P	**Pn**	**11 13 58.5**	**-1.2**
CPUP	comp=E,7.3nm,0.8s,baz=296,slow=12,SNR=19			S	**Sn**	**11 15 59.4**	**-3.3**
PANT	**Pantanal (Braz**	**11.30**	**79**	*e*P	**Pn**	**11 13 59.4**	**-2.0**
VILB	**Vilhena**	**11.53**	**44**	Pn	**Pn**	**11 14 04.8**	**+0.5**
VILB	**Vilhena**	**11.53**	**44**	*e*P	**Pn**	**11 14 04.7**	**+0.3**
AQDB	**Aquidauana**	**11.87**	**87**		**Pn**	**11 14 08.4**	**-0.5**
AQDB	**Aquidauana**	**11.87**	**87**	*e*P	**Pn**	**11 14 08.9**	**0.0**
MT02	**Curacav**	**11.97**	**191**		**Pn**	**11 14 08.1**	**-2.1**
MT08	**Bocatoma Ro**	**11.99**	**187**		**Pn**	**11 14 08.6**	**-2.1**
MT01	**Popeta**	**12.59**	**191**		**Pn**	**11 14 15.4**	**-2.7**
BO04	**La Punta**	**12.61**	**189**	Pn	**Pn**	**11 14 16.3**	**-2.1**
BO01	**Tunca**	**13.07**	**190**		**Pn**	**11 14 22.1**	**-2.4**
SALV	**Santo Antonio**	**13.23**	**67**	*e*P	**Pn**	**11 14 28.9**	**+2.3**
RPRD	**Ribas do Rio P**	**13.73**	**88**	*e*P	**Pn**	**11 14 35.2**	**+2.0**
ML02	**Panimavida**	**14.47**	**190**		**Pn**	**11 14 39.4**	**-3.0**
C2SB	**Chapadao do Su**	**14.83**	**82**	*e*P	**Pn**	**11 14 48.3**	**+1.1**
PDRB	**Porto dos Gac**	**14.85**	**50**	*e*P	**Pn**	**11 14 48.3**	**+0.8**
TBOT	**Tacuaremb**	**15.04**	**135**	*e*P	**Pn**	**11 14 50.6**	**+1.0**
H03N1	**Juan Fernandez**	**15.13**	**216**	P	**Pn**	**11 14 50.0**	**-0.5**
H03N1	baz=109,slow=15,SNR=8.6			T	T	11 29 56.7	
H03N2	**Juan Fernandez**	**15.14**	**216**	P	**Pn**	**11 14 50.1**	**-0.5**
H03N2	baz=109,slow=15,SNR=4.7			T	T	11 29 47.8	
H03N3	**Juan Fernandez**	**15.15**	**216**	P	**Pn**	**11 14 49.9**	**-0.9**
H03N3	baz=109,slow=15,SNR=7.8			T	T	11 29 45.9	
BI02	**San Fabin de**	**15.33**	**189**		**Pn**	**11 14 50.4**	**-2.9**
BI02				IAmb	IAmb	11 14 53.7	
PTGB	**Pitanga**	**15.33**	**105**	*e*P	**P**	**11 14 54.9**	**-0.7**
ITAB	**Concordia**	**15.85**	**114**	P	**Pn**	**11 15 00.3**	**+0.5**
ITAB				IAmb	IAmb	11 15 04.1	
ITAB	**Concordia**	**15.85**	**114**	*e*P	**P**	**11 15 01.3**	**+0.1**
CLDB	**Colider**	**16.02**	**51**	*e*P	**P**	**11 15 05.9**	**+2.6**
LDASE	**Londrina, Braz**	**16.06**	**100**	*e*P	**Pn**	**11 15 02.8**	**+0.4**
CPSB	**Cacapava Do Su**	**16.08**	**127**	*e*P	**Pn**	**11 15 01.6**	**-1.0**
PLTB	**Pedras Altas**	**16.68**	**131**	P	**Pn**	**11 15 08.8**	**-1.2**
PLTB				IAmb	IAmb	11 15 10.9	
PLTB	**Pedras Altas**	**16.68**	**131**	*e*P	**Pn**	**11 15 09.2**	**-0.8**
ARAG	**Araguaiana, MT**	**16.70**	**73**	*e*P	**P**	**11 15 11.9**	**+1.2**
ITRB	**Iturama**	**16.95**	**87**	*e*P	**P**	**11 15 14.4**	**+0.9**
TBTG	**Tabatinga, AM**	**17.27**	**355**	P	**P**	**11 15 14.8**	**-2.2**
TBTG	**Tabatinga, AM**	**17.27**	**355**	*e*P	**Pn**	**11 15 17.2**	**0.0**
TRQA	**Tornquist**	**17.40**	**163**	P	**P**	**11 15 18.1**	**-0.2**
FRTB	**Fartura**	**17.48**	**100**	*e*P	**Pn**	**11 15 20.0**	**+0.1**
CNLB	**Canela**	**17.62**	**120**	*e*P	**P**	**11 15 20.3**	**-0.5**
TEFE	**Tefe**	**18.24**	**12**	*e*P	**Pn**	**11 15 28.1**	**-0.8**
BB19B	**Bebedouro**	**18.49**	**92**	*e*P	**P**	**11 15 31.1**	**+0.6**
MAJ01	**Sao Joao Batis**	**18.56**	**112**	*e*P	**P**	**11 15 30.8**	**-0.4**
TER01	**Tubaro-SC**	**18.77**	**116**	*e*P	**P**	**11 15 33.0**	**-0.4**
NPGB	**Novo Progresso**	**19.09**	**43**	*e*P	**P**	**11 15 36.4**	**-0.5**
PLCA	**Paso Flores**	**19.27**	**185**	P	**P**	**11 15 38.9**	**+0.1**
IPMB	**Ipameri, GO**	**19.29**	**83**	*e*P	**P**	**11 15 39.2**	**+0.1**
SPB	**Sao Paulo**	**19.45**	**100**	P	**P**	**11 15 39.3**	**-1.4**
SPB				IAmb	IAmb	11 15 41.8	
SPB	**Sao Paulo**	**19.45**	**100**	*e*P	**P**	**11 15 40.6**	**-0.1**
LL04	**Puerto Octay**	**19.66**	**189**	IAmb	IAmb	11 15 43.9	
MACA	**Manacapuru-AM**	**19.69**	**23**	P	**P**	**11 15 42.7**	**-0.7**
MACA	**Manacapuru-AM**	**19.69**	**23**	*e*P	**P**	**11 15 43.0**	**-0.4**
VAO	**Valinhos**	**19.86**	**98**	P	**P**	**11 15 44.1**	**-1.3**
VAO	**Valinhos**	**19.86**	**98**	*e*P	**P**	**11 15 45.0**	**-0.3**
LL03	**Petrohue**	**19.88**	**189**	IAmb	IAmb	11 15 46.9	
BDFB	**Brasilia**	**20.14**	**77**	P	**P**	**11 15 48.1**	**-0.3**
PMNB	**Patos De Minas**	**20.81**	**86**	*e*P	**P**	**11 15 54.7**	**-0.8**
ITTB	**Itaituba**	**20.98**	**38**	*e*P	**P**	**11 15 56.8**	**-0.5**
PARB	**Paraibuna**	**21.10**	**99**	*e*P	**P**	**11 15 58.2**	**-0.5**
LL06	**Loncomilla**	**21.13**	**191**	P	**P**	**11 15 56.3**	**-2.4**
LL06				IAmb	IAmb	11 16 03.5	
BSCB	**Bom Sucesso**	**21.99**	**93**	*e*P	**P**	**11 16 08.7**	**+0.5**
MAN01	**Angra dos Reis**	**22.63**	**98**	*e*P	**P**	**11 16 14.0**	**-0.6**
SMTB	**Santa Maria do**	**23.62**	**61**	*e*P	**P**	**11 16 24.7**	**+0.8**
JANB	**Januaria**	**23.70**	**78**	*e*P	**P**	**11 16 25.0**	**+0.3**
MAL2	**Monte Alegre,**	**23.78**	**37**	P	**P**	**11 16 24.2**	**-1.1**
MAL2				IAmb	IAmb	11 16 26.6	
DUB01	**Friburgo-RJ**	**24.13**	**96**	*e*P	**P**	**11 16 29.2**	**+0.7**
SDBA	**SAO DESIDERIO**	**24.16**	**72**	*e*P	**P**	**11 16 29.2**	**+0.4**
CAM01	**Campos-RJ**	**24.81**	**96**	*e*P	**P**	**11 16 33.7**	**-0.9**
BOAV	**Boa Vista**	**24.95**	**19**	*e*P	**P**	**11 16 35.0**	**-0.9**
SJMB	**Sao Joao De Ma**	**25.66**	**89**	*e*P	**P**	**11 16 43.6**	**+1.2**
BSFB	**Barra de Sao F**	**25.95**	**89**	*e*P	**P**	**11 16 45.4**	**+0.4**
RIB01	**Linhares ES**	**26.29**	**90**	*e*P	**P**	**11 16 47.6**	**-0.4**
RCBR	**Riachuelo**	**35.06**	**68**	P	**P**	**11 18 06.0**	**+0.7**
RCBR				IAmb	IAmb	11 18 08.9	
BELA	**Belgrano 2**	**58.68**	**172**	P	**P**	**11 21 05.0**	**-3.0**
VNA3	**Neumayer Olymp**	**59.92**	**161**	P	**P**	**11 21 16.1**	**-0.5**
VNA3	**Neumayer Olymp**	**59.92**	**161**	⇑P	**P**	**11 21 16.1**	**-0.5**
VNA2	**Neumayer--Watz**	**60.49**	**161**	P	**P**	**11 21 20.6**	**+0.1**
VNA2	**Neumayer--Watz**	**60.49**	**161**	⇑P	**P**	**11 21 20.6**	**+0.1**
TXAR	**Lajitas Array**	**60.92**	**325**	P	**P**	**11 21 26.1**	**+2.0**
SNAA	**Sanae**	**62.12**	**161**	P	**P**	**11 21 31.4**	**-0.1**
SNAA	**Sanae**	**62.12**	**161**	⇑P	**P**	**11 21 31.4**	**

DBIC	Dimbokro	68.25	73	P		P	11 22 12.4	+0.5
	comp=Z,21nm,0.7s,baz=230,slow=6.1,SNR=44							
	comp=Z,21nm,0.7s							
QSPA	South Pole Qui	68.70	180	P		P	11 22 15.6	+1.5
	comp=Z,1.1nm,0.4s,baz=317,slow=1.5,SNR=16							
QSPA				pP		pP	11 22 46.0	+1.6
	comp=Z,1.7nm,0.7s,baz=173,slow=1.5,SNR=2.5							
	comp=Z,1.1nm,0.4s							
PDAR	Pinedale Array	74.36	330	P		P	11 22 49.1	+0.7
	comp=Z,0.3nm,0.7s,baz=133,slow=4.4,SNR=3.2							
ULM	Lac du Bonnet	75.47	342	P		P	11 22 54.6	+0.4
	comp=Z,1.1nm,0.4s,baz=154,slow=5.5,SNR=5.6							
ULM				pP		pP	11 23 25.3	+0.3
	comp=Z,3.0nm,0.8s,baz=138,slow=5.8,SNR=4.9							
	comp=Z,1.1nm,0.4s							
SYO	Syowa Base	76.33	159	epP		pP	11 23 29.4	-0.6
TORD	Torodi Ar. Bea	76.87	70	P		P	11 23 03.4	+0.4
	comp=Z,15nm,0.7s,baz=265,slow=5.1,SNR=80							
	comp=Z,15nm,0.7s							
BOSA	Boshof	83.00	118	P		P	11 23 36.4	+0.3
	comp=Z,6.7nm,0.8s,baz=254,slow=5.7,SNR=11							
	comp=Z,6.7nm,0.8s							
ESDC	Sonseca Array	85.47	44	P		P	11 23 48.4	+0.3
	comp=Z,2.3nm,0.9s,baz=255,slow=5.4,SNR=11							
ESDC				pP		pP	11 24 19.2	-0.2
	comp=Z,0.3nm,0.7s,baz=237,slow=5.4,SNR=3.7							
	comp=Z,2.3nm,0.9s							
YKA	Yellowknife Ar	91.35	340	P		P	11 24 16.4	+1.1
	comp=Z,2.4nm,0.7s,baz=140,slow=4.5,SNR=53							
YKA				pP		pP	11 24 48.0	+1.0
	comp=Z,2.2nm,1.0s,baz=143,slow=4.8,SNR=7.7							
	comp=Z,2.4nm,0.7s							
H11S2	WAKE ISLAND Hyl	28.38	277	T		T	13 50 34.0	
	baz=102,slow=75,SNR=27							
H11S1	WAKE ISLAND Hyl	28.39	277	T		T	13 50 03.2	
	baz=102,slow=75,SNR=14							
H11S3	WAKE ISLAND Hyl	28.40	277	T		T	13 50 32.6	
	baz=102,slow=75,SNR=17							
H11N3	WAKE ISLAND Hyl	28.46	279	T		T	13 50 52.8	
	baz=103,slow=74							
H11N2	WAKE ISLAND Hyl	28.48	279	T		T	13 50 52.0	
	baz=103							
H11N1	WAKE ISLAND Hyl	28.48	279	T		T	13 50 52.0	
	baz=103							
ASAR	Alice Springs	130.15	207	PKP		PKiKP	11 30 20.8	-0.3
	comp=Z,0.6nm,0.8s,baz=152,slow=2.0,SNR=4.8							
WRA	Warramunga Arr	133.22	210	PKP		PKiKP	11 30 27.3	-0.1
	comp=Z,0.4nm,0.8s,baz=153,slow=1.5,SNR=5.3							
BVAR	Borovoye Array	135.50	35	PKP		PKPdf	11 30 29.4	0.0
	comp=Z,0.7nm,0.8s,baz=299,slow=1.5,SNR=3.3							
KURBB	Kurchatov Arra	141.05	34	PKP		PKPdf	11 30 39.8	+0.2
	comp=Z,0.4nm,0.3s,baz=307,slow=3.3,SNR=2.6							
ZALV	Zalesovo Beam	141.73	26	PKP		PKPdf	11 30 41.2	+0.5
	comp=Z,1.7nm,0.5s,baz=306,slow=1.7,SNR=5.5							
MKAR	Makanchi Array	145.33	36	PKPbc		PKPab	11 30 48.8	+1.2
	comp=Z,3.5nm,0.6s,baz=313,slow=4.5,SNR=46							
MKAR				pPKPbc		pPKPdf	11 31 21.1	+0.9
	comp=Z,1.4nm,0.7s,baz=328,slow=4.3,SNR=3.4							
KLR	Kul'dur	148.03	335	PKPbc		PKiKP	11 30 55.6	-1.1
	comp=Z,1.3nm,0.6s,baz=55,slow=3.1,SNR=5.2							
KLR				pPKPbc		pPKPbc	11 31 28.1	+0.3
	comp=Z,0.4nm,0.3s,baz=165,slow=3.5,SNR=1.8							
SONM	Songino Array	153.38	8	PKPbc		PKiKP	11 31 09.1	+1.1
	comp=Z,0.5nm,0.6s,baz=14,slow=1.1,SNR=4.0							

IDC 09 11:12:03.2±3.0, 10°.14S×161°.03E, h80km±19km, mb3.2/3, mbtmp3.7/4, MS3.0/1, Error ellipse: s-maj=42.4km s-min=25.2km az=57.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.28	303	P	Pn	11 12 24.6	-1.1
	156nm,0.3s,baz=148,slow=6.2,SNR=7.1						
HNR				S	Sn	11 12 42.6	0.0
	578nm,0.3s,baz=248,slow=20,SNR=14						
DZM	Mont Dzumac	12.95	157	P	Pn	11 15 04.8	+0.6
	4.1nm,0.8s,baz=311,slow=20,SNR=6.7						
DZM				LR	LR	11 18 43.8	
	comp=Z,57nm,18.3s,baz=62,slow=31						
WRA	Warramunga Arr	27.52	246	P	P	11 17 42.9	+0.5
	0.6nm,0.7s,baz=75,slow=8.9,SNR=5.3						
	0.6nm,0.7s						
ASAR	Alice Springs	29.16	239	P	P	11 17 56.6	-0.4
	0.5nm,0.9s,baz=61,slow=10,SNR=7.3						
	0.5nm,0.9s						
SONM	Songino Array	75.25	325	P	P	11 23 37.5	+0.1
	0.5nm,0.6s,baz=132,slow=4.6,SNR=2.9						
	0.5nm,0.6s						

*IDC **09** 11:24:27.1±1.8, 15°.85N×119°.82E, h124km±22km, mb3.4/8, mbtmp3.8/9, Error ellipse: s-maj=147.6km s-min=16.8km az=64.0*

ISC 09 11:24:25.4±0.9, 15°.6N±0°.3×119°.2E±0°.3, h100km, n9, σ1ϑ04/11, mb3.6/8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	2.21	131	P	Pn	11 25 01.7	+0.8
	155nm,0.3s,baz=238,slow=7.3,SNR=1.8						
TGY				S	Sn	11 25 28.1	+0.1
	237nm,0.4s,baz=341,slow=16,SNR=4.0						
WRA	Warramunga Arr	38.30	157	P	P	11 31 35.4	-1.0
	0.1nm,0.3s,baz=342,slow=7.8,SNR=6.1						
	0.1nm,0.3s						
ASAR	Alice Springs	41.56	159	P	P	11 32 03.2	-0.2
	0.1nm,0.3s,baz=339,slow=8.9,SNR=4.6						
	0.1nm,0.3s						
MKAR	Makanchi Array	43.68	323	P	P	11 32 20.4	+0.1
	0.7nm,0.7s,baz=120,slow=8.5,SNR=3.4						
MKAR				PcP	PP	11 34 05.7	+1.9
	0.4nm,0.7s,baz=126,slow=2.5,SNR=2.8						
	0.7nm,0.7s						
ZALV	Zalesovo Beam	46.74	333	P	P	11 32 43.2	-1.1
	0.4nm,0.3s,baz=130,slow=5.8,SNR=2.6						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	47.84	326	P	P	11 32 52.8	-0.1
	1.6nm,0.6s,baz=122,slow=8.3,SNR=12						
	1.6nm,0.6s						
BVAR	Borovoye Array	53.42	326	P	P	11 33 34.9	0.0
	0.6nm,0.5s,baz=99,slow=9.2,SNR=5.7						
	0.6nm,0.5s						
ARCES	ARCESS Array B	76.83	339	P	P	11 36 04.8	-1.2
	0.5nm,0.5s,baz=65,slow=8.6,SNR=8.5						
	0.5nm,0.5s						
FINES	FINESS Array B	77.95	331	P	P	11 36 11.7	-0.7
	2.1nm,0.6s,baz=67,slow=6.7,SNR=5.2						
	2.1nm,0.6s						

*JMA **09** 11:31:09.5±0.1, 25°.N±2°.×122°.7E±0°.5, h100km±1km, MV2.3/9, NW OFF ISHIGAKIJIMA IS*
*TAP **09** 11:31:09.6, 24°.60N×122°.70E, h102km, ML3.3, D*

ISC 09 11:31:09.1±1.6, 24°.54N±0°.04×122°.74E±0°.04, h103km±8km, n89, σ0ϑ86/155, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.21	114	P	Pn	11 31 23.9	+0.2
JYNG				S	Sn	11 31 34.5	-0.2
YOJ	Yonaguni jima	0.26	106	eP	Pn	11 31 24.5	+0.6
YOJ				eS	Sn	11 31 34.6	-0.4
YOJ	Yonaguni jima	0.26	106	P	Pn	11 31 24.1	+0.2
YOJ				S	Sn	11 31 34.7	-0.3
EOS3	EOS3	0.45	237	P	Pn	11 31 25.2	+0.4
EOS3				S	Sn	11 31 38.3	+1.8
EOS2	EOS2	0.47	256	P	Pn	11 31 25.5	+0.6
EOS2				S	Sn	11 31 37.4	+0.7
EOS4	EOS4	0.56	223	P	Pn	11 31 25.9	+0.6
EOS4				S	Sn	11 31 38.4	+1.0
TWC	Suao	0.81	275	iP	Pn	11 31 27.6	-0.2
TWC				iS	Sn	11 31 40.1	-1.9
ESAO	Su ao	0.81	273	iP	Pn	11 31 28.1	+0.2
ESAO				eS	Sn	11 31 40.9	-1.1
TWB1	Santiao Chiao	0.83	305	iP	Pn	11 31 27.9	-0.1
TWB1				S	Sn	11 31 41.8	-0.5
EWUT	Wuta	0.88	264	iP	Pn	11 31 28.7	+0.2
EWUT				eS	Sn	11 31 42.2	-0.9
ENA	Nanau	0.91	263	iP	Pn	11 31 29.6	+0.7
ENA				iS	Sn	11 31 43.2	-0.5
ILA	Ilan	0.93	285	P	Pn	11 31 29.3	+0.3
ILA				S	Sn	11 31 43.2	-0.8
EAHA	Aohua	0.93	257	eP	Pn	11 31 29.5	+0.5
EAHA				iS	Sn	11 31 44.1	0.0
NDS	Dongshan	0.93	276	P	Pn	11 31 29.6	+0.5
NDS				S	Sn	11 31 43.0	-1.2
EHP	Heping Village	0.93	256	eP	Pn	11 31 29.0	-0.1
TIPB	Shuangxi	0.93	298	P	Pn	11 31 29.2	+0.1
TIPB				S	Sn	11 31 42.8	-1.5
SXI1	Grass Mountain	0.96	306	P	Pn	11 31 29.6	+0.1
SXI1				S	Sn	11 31 44.8	0.0
TWE	Neicheng	0.99	281	iP	Pn	11 31 29.8	+0.1
TWE				iS	Sn	11 31 43.7	-1.5
NWF	Wu-fen Shan	1.02	302	P	Pn	11 31 30.4	+0.3
NWF				S	Sn	11 31 46.0	+0.1
WFSB	Wu-fen Shan	1.02	302	eP	Pn	11 31 30.5	+0.5
FUSB	Fushanzhiwuyua	1.07	282	iP	Pn	11 31 31.1	+0.5
FUSB				S	Sn	11 31 46.2	-0.6
ENTT	Nioudou	1.07	276	iP	Pn	11 31 31.0	+0.4
ENTT				S	Sn	11 31 46.6	-0.1
ETL	Fush Village	1.08	250	eP	Pn	11 31 30.7	0.0
ETL				S	Sn	11 31 46.5	-0.6
LATG	Datong	1.10	270	P	Pn	11 31 31.4	+0.4
LATG				S	Sn	11 31 47.4	-0.1
NACB	Ninganchiao	1.10	251	iP	Pn	11 31 30.8	-0.1
NACB				S	Sn	11 31 46.7	-0.6
TWD	Chiawan	1.13	247	eP	Pn	11 31 33.3	+2.0
TWD				S	Sn	11 31 46.5	-1.5
NWLT	Wulai	1.15	282	P	Pn	11 31 31.7	+0.3
NWLT				iS	Sn	11 31 47.2	-1.1
HWA	Hwalien	1.17	242	eS	Sn	11 31 49.2	+0.5
ETLH	Xiulin Townshi	1.19	254	P	Pn	11 31 31.9	-0.1
ETLH				S	Sn	11 31 48.1	-1.1
YM01	YM01	1.22	300	eP	Pn	11 31 32.6	+0.3
YM08	YM08	1.23	302	eP	Pn	11 31 32.4	0.0
YM08				eS	Sn	11 31 49.2	-0.7
TEYL	Yanliau Villag	1.23	238	eP	Pn	11 31 32.5	+0.1
TEYL				eS	Sn	11 31 49.5	-0.5
NNSB	Datong	1.24	265	eP	Pn	11 31 32.7	+0.2
NNSB				iS	Sn	11 31 49.8	-0.5
NNS	Nan Shan	1.25	266	eP	Pn	11 31 32.9	+0.3
NNS				iS	Sn	11 31 49.8	-0.6
YHNB	Yeheng	1.25	276	P	Pn	11 31 32.9	+0.3
YHNB				S	Sn	11 31 49.8	-0.6
ZUZH	Zhuzihu	1.25	300	eP	Pn	11 31 32.8	+0.2
NSK	Sanguang	1.26	277	iP	Pn	11 31 33.3	+0.5
NSK				iS	Sn	11 31 49.7	-1.0
ETM	Tongmen	1.27	244	eP	Pn	11 31 31.9	-0.9
SHUL	Shoufeng	1.30	235	eP	Pn	11 31 33.3	+0.1
SHUL				S	Sn	11 31 51.3	-0.2
LXIB	Xiulin Townshi	1.31	247	eP	Pn	11 31 33.5	+0.1
LXIB				iS	Sn	11 31 50.9	-0.9
TWS1	Kuangyinshan	1.32	295	iP	Pn	11 31 32.7	-0.7
TWS1				S	Sn	11 31 50.9	-0.9
ESL	Shilin	1.39	239	P	Pn	11 31 34.0	-0.2
ESL				S	Sn	11 31 52.5	-0.8
FUSS	Fushou	1.39	258	iP	Pn	11 31 35.2	+0.7
FUSS				eS	Sn	11 31 52.8	-0.8
WHF	Hehuan Shan	1.40	254	P	Pn	11 31 35.1	+0.4
WHF				S	Sn	11 31 52.9	-1.2
JISG	Ishigakijimahi	1.44	88	P	Pn	11 31 35.4	+0.6
JISG				S	Sn	11 31 54.1	-0.1
KSHI	Guanxi Townshi	1.44	280	eP	Pn	11 31 35.5	+0.7
KSHI				S	Sn	11 31 54.7	+0.4
TWT	Tachien	1.45	259	P	Pn	11 31 36.7	+1.6
TWT				S	Sn	11 31 54.1	-0.7
TDCB	Techi	1.47	259	eP	Pn	11 31 36.3	+1.0
TDCB				iS	Sn	11 31 55.0	-0.1
EGFH	Guangfu	1.47	234	eP	Pn	11 31 35.5	+0.3
EGFH				S	Sn	11 31 54.2	-0.9
NCUH	Zhongli	1.47	287	eP	Pn	11 31 35.2	0.0
NCUH				eS	Sn	11 31 54.8	-0.3
NFF	Wufeng Townshi	1.48	274	P	Pn	11 31 36.0	+0.7
NFF				iS	Sn	11 31 54.8	-0.4
WARBT	Fenglin Townsh	1.48	237	P	Pn	11 31 35.3	0.0
WARBT				S	Sn	11 31 53.6	-1.5
OWD	Renai	1.54	248	eP	Pn	11 31 37.0	+0.8
OWD				eS	Sn	11 31 55.7	-1.0
LIOB	Emei	1.57	274	P	Pn	11 31 37.0	+0.5
LIOB				iS	Sn	11 31 56.4	-0.7
WUSB	Renai	1.57	250	eP	Pn	11 31 37.7	+1.1
WUSB				S	Sn	11 31 58.3	+0.9
HGSD	Ruisui	1.59	229	P	Pn	11 31 36.8	+0.2
HGSD				eS	Sn	11 31 57.0	-0.5
SBCB	Hsinchu	1.61	279	eP	Pn	11 31 38.6	+1.7
SBCB				eS	Sn	11 31 58.8	+0.7
HSN	Hsinchu	1.63	280	eS	Sn	11 31 57.6	-0.8
EHYH	Wanrong	1.64	231	eP	Pn	11 31 38.0	+0.7
EHY	Hungye	1.65	232	eP	Pn	11 31 37.3	-0.2
VWDT	VWDT	1.65	242	eP	Pn	11 31 38.3	+0.9
VWDT				S	Sn	11 31 58.9	0.0
WHP	Taichung City	1.65	261	eP	Pn	11 31 39.0	+1.5
WHP				S	Sn	11 31 59.5	+0.4
ECBN	Changbin	1.69	224	eP	Pn	11 31 38.0	+0.1
ECBN				eS	Sn	11 31 59.5	-0.3
WCS	Beigang Elemen	1.73	254	eP	Pn	11 31 39.7	+1.3
YULB	Yu-li	1.74	229	iP	Pn	11 31 38.5	0.0
YULB				iS	Sn	11 31 59.9	-1.1
EYUL	Yuli	1.75	228	eP	Pn	11 31 39.5	+0.8
EYUL				S	Sn	11 32 01.1	-0.2
TWF1	Yuli	1.77	228	eP	Pn	11 31 39.0	+0.1
TWF1				eS	Sn	11 32 00.4	-1.2
NMLH	Miaoli	1.77	270	eP	Pn	11 31 39.3	+0.4
NMLH				eS	Sn	11 32 01.6	0.0
SSLB	Suanglung	1.79	246	eP	Pn	11 31 39.7	+0.5
NSY	Sanyi	1.80	267	eP	Pn	11 31 40.4	+1.0
CHKH	Chenggong	1.81	223	eP	Pn	11 31 40.1	+0.6
CHKH				S	Sn	11 32 01.2	-1.3
TYC	Yuchr	1.83	250	eP	Pn	11 31 41.2	+1.8
FULB	Fuli	1.87	225	P	Pn	11 31 40.5	+0.3
FULB				iS	Sn	11 32 03.8	-0.2
WHYT	Xinyi Township	1.91	244	eP	Pn	11 31 42.3	+1.6
WHYT				iS	Sn	11 32 05.4	+0.5
EHD	Haiduan	1.97	226	eP	Pn	11 31 41.6	+0.1
EDH	Donghe	2.04	220	iP	Pn	11 31 42.2	0.0
EDH				iS	Sn	11 32 06.3	-1.3
ALS	Alishan	2.04	240	eP	Pn	11 31 45.1	+2.5
ELDTW	Lidau	2.07	230	eP	Pn	11 31 42.7	-0.1
LDUT	Ludao	2.19	212	eP	Pn	11 31 44.2	0.0
LONT	Longtian	2.19	223	eP	Pn	11 31 44.6	+0.3
LONT				eS	Sn	11 32 10.7	-0.5
WCKO	Fanlu	2.23	241	eP	Pn	11 31 46.1	+1.2
STYH	Taoyuan	2.25	233	eP	Pn	11 31 46.9	+1.9
STYH				S	Sn	11 32 13.4	+0.8
TPUB	Ta-pu	2.29	238	eP	Pn	11 31 47.0	+1.5
WTP	Ta-pu	2.33	237	eP	Pn	11 31 47.8	+1.7
CHN1	Nanshi	2.43	237	eP	Pn	11 31 50.4	+3.0
LAY	Lan-yu	2.71	204	iP	Pn	11 31 50.9	-0.3
MASBT	Mashibuluo	2.72	226	eP	Pn	11 31 52.4	+1.1
LYUB	Lan-yu	2.73	203	P	Pn	11 31 51.0	-0.4
LYUB				iS	Sn	11 32 21.7	-2.3
VWUC	VWUC	3.02	279	eP	Pn	11 31 55.1	-0.1
VWUC				S	Sn	11 32 29.6	-1.2

*NEIC **09** 11:42:57.5±0.7, 19°.28N±0°.02×155°.39W±0°.02, h38km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=160.0*

HVO 09 11:42:59.1±0.8, 19°.26N±0°.04×155°.37W±0°.04, h32km±2km, ML2.5/26, ML2.6/44(NEIC), Error ellipse: s-maj=6.5km s-min=4.7km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.03	225		Pb	11 43 04.3	-0.2
HLP	Hilina Pali	0.07	60		Pb	11 43 04.3	-0.4
HLP					Sb	11 43 08.2	-0.3
HLP				IAML		11 43 11.1	
	comp=N,702nm,0.5s						
HLP				IAML		11 43 12.4	
	comp=E,736nm,0.2s						
SDHHI	Sand Hill	0.15	30		Pb	11 43 04.6	-0.7
SDHHI					Sn	11 43 08.7	-0.5
WRMHI	West Rim	0.16	25		Pb	11 43 04.6	-0.8
WRMHI					Sn	11 43 08.8	-0.6
RIM	Rim	0.17	35		Pb	11 43 04.7	-0.7
RIM					Sn	11 43 09.0	-0.5
KKO	Keanakako'i	0.17	37		Pb	11 43 04.7	-0.7
KKO					Sn	11 43 08.9	-0.8
OBL	Observatory Le	0.18	28		Pb	11 43 04.7	-0.8
OBL					Sn	11 43 08.9	-0.9
UWE	Uwekahuna	0.18	25		Pb	11 43 04.7	-0.8
UWE					Sn	11 43 09.0	-0.8
UWE				IAML		11 43 09.4	
	comp=N,981nm,0.5s						
BYL	Byron's Ledge	0.19	35		Pb	11 43 04.8	-0.8
BYL					Sn	11 43 08.9	-1.0
PUH	Pauahi	0.19	53		Pb	11 43 04.8	-0.8
PUH					Sb	11 43 09.0	-1.0
UWB	Uwekahuna Bluf	0.19	29		Pb	11 43 04.7	-0.9
UWB					Sb	11 43 08.8	-1.2
HATHI	Halema'uma'u T	0.19	33		Pb	11 43 04.8	-0.8
HATHI					Sb	11 43 08.9	-1.2
SBLHI	Steaming Bluff	0.19	31		Pb	11 43 04.7	-1.0
SBLHI					Sb	11 43 09.0	-1.1
RSD	Rainshed	0.22	24		Pb	11 43 04.9	-1.1
RSD					Sb	11 43 09.4	-1.2
KNHH	Kane Nui o Ham	0.23	58		Pb	11 43 05.2	-0.8
KHU	Kahuku	0.23	267		Pb	11 43 05.2	-0.9
KHU					Sb	11 43 09.4	-1.5
KHU				IAML		11 43 09.9	
	comp=N,910nm,0.4s						
MLH	Mauna Loa	0.23	357		Pb	11 43 05.4	-0.8
MLH					Sb	11 43 10.1	-0.9
STCH	Steam Cracks	0.27	62		Pb	11 43 05.4	-1.0
STCH					Sb	11 43 10.0	-1.4
STCH				IAML		11 43 10.5	
	comp=E,813nm,0.3s						
STCH				IAML		11 43 10.6	
	comp=N,523nm,0.1s						
NPOC	North of Pu'u	0.28	62		Pb	11 43 05.7	-0.9
NPOC					Sb	11 43 10.7	-1.0
JCUZ	Jacuzzi	0.28	64		Pb	11 43 05.9	-0.8
JCUZ					Sb	11 43 10.7	-1.1
MWH	Mokuaweoweo	0.31	317		Pb	11 43 06.0	-1.3
MWH					Sb	11 43 11.7	-1.3
MWH				IAML		11 43 17.9	
	comp=N,412nm,1.8s						
MWH				IAML		11 43 19.3	
	comp=E,438nm,1.5s						
MLOA	Mauna Loa Obse	0.34	325		Pb	11 43 06.5	-1.1
MLOA					Sb	11 43 11.8	-1.6
HMH	Humu'ula Sheep	0.36	343		Pb	11 43 07.0	-0.8
HMH					Sb	11 43 12.8	-1.0
ALEP	Alea Permanent	0.38	318		Pb	11 43 06.7	-1.5
ALEP					Sb	11 43 13.1	-1.2
JOKA	Jonika Flow	0.39	64		Pb	11 43 06.9	-1.1
JOKA				IAML		11 43 11.6	
	comp=E,412nm,3.5s						
JOKA					Sb	11 43 12.7	-1.4
JOKA				IAML		11 43 16.4	
	comp=N,442nm,0.6s						
PAH	Pahoa	0.47	60		Pb	11 43 07.9	-1.2
PAH					Sb	11 43 14.5	-1.5
POHA	Pohakuloa	0.52	343		Pb	11 43 08.3	-1.8
POHA				IAML		11 43 15.7	
	comp=N,361nm,1.8s						
CPH	Captain Cook	0.56	294		Pb	11 43 08.7	-2.0
HUH	Hualalai	0.61	314		Pb	11 43 09.8	-1.7
HUH				IAML		11 43 18.3	
	comp=E,495nm,2.9s						
HUH				IAML		11 43 24.2	
	comp=N,480nm,0.8s						
HPAH	Hawaii Prepara	0.82	338		Pn	11 43 12.2	-2.4

IDC 09 12:11:56.3±2.4, 6°.05S×130°.07E, h0km, mb3.2/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=93.2km s-min=30.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.73	199	Pn	Pn	12 14 59.6	+0.8
	0.1nm,0.3s,baz=36,slow=11,SNR=9.5						
FITZ				Sn	Sn	12 17 07.1	-14
	0.2nm,0.3s,baz=9.2,slow=12,SNR=1.5						
	3.0nm,1.1s						
WRA	Warramunga Arr	14.42	164	Pn	Pn	12 15 21.2	-0.8
	0.2nm,0.3s,baz=346,slow=13,SNR=13						
WRA				Sn	Sn	12 17 51.1	-12
	0.1nm,0.3s,baz=338,slow=25,SNR=1.9						
	0.4nm,0.6s						
ASAR	Alice Springs	17.90	168	P	Pn	12 16 06.8	-0.1
	0.1nm,0.3s,baz=340,slow=9.3,SNR=6.1						
	0.2nm,0.5s						
MKAR	Makanchi Array	67.47	327	P	P	12 22 54.1	0.0
	0.1nm,0.4s,baz=127,slow=7.5,SNR=1.9						
	0.1nm,0.4s						

*KOLA **09** 12:22:01.7, 67°.64N×33°.74E, h0km, ML1.4, Error ellipse: s-maj=3.4km s-min=1.9km az=120.0, Khibiny, mines Kirovsk, Yukspor*

HEL 09 12:22:01.5±0.2, 67°.61N×33°.84E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.17	255	P	Pg	12 22 04.1	-0.6
APA0	Apatity Array	0.32	269	P	Pg	12 22 06.6	-1.1
APA0				S	Sg	12 22 10.4	-1.5
LVZ	Lovozero	0.42	47	PG	Pg	12 22 09.2	-0.4
	baz=225						
LVZ				SG	Sg	12 22 14.8	-0.2
KVDA	Kovda	1.00	203	P	Pg	12 22 19.8	-0.8
KVDA				S	Sg	12 22 32.7	-0.8
VRF	Varrio	1.62	277	PG	Pn	12 22 30.8	-0.4
VRF				SG	Sn	12 22 49.7	-3.1
VRF				MSG		12 22 50.0	
	comp=Z,2.9nm,0.2s						
TERR	Teriberka	1.66	16	P	Pn	12 22 30.6	-1.3
TERR				S	Sn	12 22 51.5	-2.3
OLKF	Oulanka, Finla	2.17	235	PG	Pb	12 22 40.5	-1.1
OLKF				MSG		12 23 06.0	
	comp=Z,1.4nm,0.2s						
OLKF				SG	Sb	12 23 09.9	+0.8
PRVG	Vayda Guba	2.23	345	S	Sn	12 23 08.7	+0.9
KU6	Riekki	2.23	226	PG	P

HEF				SG	Sn	12 23 16.0	-0.2
KALU	**Kalix**	**1.72**	**140**	P	Pn	12 22 54.7	0.0
KALU	**Kalix**	**1.72**	**140**	PG	Pn	12 22 55.1	+0.4
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	12 22 54.9	0.0
KIF	**Kilpisjarvi**	**1.82**	**2**	PG	Pb	12 22 57.0	-0.8
KIF				MSG		12 23 19.8	
	comp=Z,5.3nm,0.2s						
KIF				SG	Sg	12 23 22.9	+0.8
TOF	**Tornio**	**1.84**	**126**	PG	Pn	12 22 56.6	+0.2
TOF				MSG		12 23 19.3	
	comp=Z,1.7nm,0.2s						
TOF				SG	Sg	12 23 22.1	-0.5
KTK1	**Kautokeino**	**2.07**	**27**	PG	Pb	12 23 00.9	-1.1
KTK1				SG	Sb	12 23 28.8	+0.6
RNF	**Rovaniemi**	**2.19**	**103**	PG	Pn	12 23 02.4	+1.2
	baz=286						
RNF				SG	Sb	12 23 32.1	+0.4
TRO	**Tromso**	**2.53**	**346**	SG	Sb	12 23 42.8	+1.3
BURU	**Burvik**	**2.64**	**173**	PG	Pn	12 23 08.1	+0.8
BURU				SG	Sn	12 23 41.1	+1.2
RANF	**Ranua**	**2.72**	**113**	PG	Pb	12 23 13.6	+0.6
	baz=302						
RANF				SG	Sb	12 23 46.5	-0.3
KMNF	**Kaamanen**	**3.08**	**47**	PG	Pb	12 23 18.9	-0.2
OUF	**Merijarvi**	**3.30**	**147**	SG	Sb	12 24 05.8	+2.3
MSF	**Maaselka**	**3.59**	**107**	PN	Pn	12 23 21.7	+1.3
MSF				SG	Sg	12 24 16.0	-2.7
KU6	**Riekki**	**3.87**	**103**	SG	Sg	12 24 24.4	-3.2
HEMU	**Hemsoen**	**4.67**	**195**	PB	Pb	12 23 41.1	-5.2

*IDC **09** 12:36:53.8±2.7, 19°.11N×145°.67E, h238km±26km, mb3.3/11, mbtmp3.9/13, Error ellipse: s-maj=27.7km s-min=12.0km az=77.0*
*NEIC **09** 12:36:54.0±1.5, 18°.94N±0°.04×145°.5E±0°.2, h217km±11km, mb4.2/17, Error ellipse: s-maj=31.4km s-min=6.1km az=87.0*
ISC 09 12:36:51.5±0.7, **19°.12N**±0°.07×**145°.7E**±0°.2, **h214**km, **n36**, σ0.9**83**/31, **mb3.8**/14, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.55**	**188**	P	**Pn**	**12 38 14.7**	**+1.4**
	24nm,0.3s,baz=293,slow=8.6,SNR=7.6						
GUMO				S	**S**	**12 39 17.0**	**-0.9**
	176nm,1.1s,baz=222,slow=16,SNR=1.8						
INU	**Inuyama**	**17.89**	**336**	P	**Pn**	**12 40 48.5**	**+1.2**
INU				IAmb	IAmb	12 40 50.6	
	comp=Z,12nm,1.0s						
JGF	**Kuroka**	**17.98**	**338**	P	**Pn**	**12 40 49.4**	**+0.8**
JGF				IAmb	IAmb	12 41 01.9	
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**18.55**	**341**	P	**Pn**	**12 40 54.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=163,slow=9.8,SNR=7.3						
MAJO	**Matsushiro**	**18.55**	**341**	P	**Pn**	**12 40 54.3**	**-0.9**
MAJO				IAmb	IAmb	12 41 02.8	
	comp=Z,6.8nm,0.8s						
MJB9	**Matsu-Tunnel**	**18.56**	**341**	P	**Pn**	**12 40 55.5**	**+0.2**
MJB9				IAmb	IAmb	12 41 03.8	
	comp=Z,6.5nm,0.8s						
JMM	**Marumori**	**19.16**	**348**	P	**Pn**	**12 41 02.0**	**-0.3**
JMM				IAmb	IAmb	12 41 06.7	
	comp=Z,14nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**19.91**	**88**	T	T	13 02 37.0	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**19.93**	**88**	T	T	13 02 44.8	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.93**	**88**	T	T	13 02 42.2	
	baz=275						
H11N1	**WAKE ISLAND Hy**	**20.03**	**85**	T	T	13 03 04.0	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**20.04**	**85**	T	T	13 03 08.9	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**20.05**	**85**	T	T	13 03 05.3	
	baz=274						
MANU	**Manus Island**	**21.10**	**175**	P	**P**	**12 41 18.6**	**-1.1**
RABL	**Rabaul**	**24.03**	**164**	P	**P**	**12 41 47.9**	**+0.8**
COEN	**Coen**	**32.96**	**184**	P	**P**	**12 43 06.0**	**-0.3**
SBUM	**Sibu**	**36.67**	**247**	P	**P**	**12 43 37.8**	**-0.2**
KNRA	**Kununurra**	**38.37**	**207**	P	**P**	**12 43 51.6**	**-0.6**
WB0	**Warramunga Arr**	**40.20**	**197**	P	**P**	**12 44 06.8**	**-0.5**
WB0				IAmb	IAmb	12 44 07.6	
	comp=Z,5.3nm,0.8s						
WR0	**Warramunga Arr**	**40.34**	**196**	P	**P**	**12 44 06.6**	**-1.8**
WRAB	**Tennant Creek**	**40.37**	**197**	P	**P**	**12 44 07.2**	**-1.4**
WRAB				IAmb	IAmb	12 44 12.1	
	comp=Z,3.6nm,0.6s						
WB2	**Warramunga Arr**	**40.37**	**197**	P	**P**	**12 44 08.9**	**+0.2**
WRA	**Warramunga Arr**	**40.38**	**197**	P	**P**	**12 44 08.8**	**0.0**
	comp=Z,2.3nm,0.5s,baz=18,slow=8.7,SNR=46						
	comp=Z,2.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.89**	**209**	P	**P**	**12 44 21.1**	**0.0**
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**12 44 29.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.2,SNR=1.5						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**44.05**	**196**	P	**P**	**12 44 38.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=17,slow=7.7,SNR=29						
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.13**	**277**	P	**P**	**12 44 39.9**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=61,slow=7.9,SNR=5.2						
	comp=Z,0.6nm,0.7s						
DZM	**Mont Dzumac**	**45.70**	**153**	P	**P**	**12 44 52.8**	**+1.3**
DZM				IAmb	IAmb	12 44 57.8	
	comp=Z,5.3nm,0.8s						
DZM	**Mont Dzumac**	**45.70**	**153**	P	**P**	**12 44 52.1**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=255,slow=7.5,SNR=6.4						
	comp=Z,5.3nm,0.7s						
ARMA	**Armidale**	**49.59**	**173**	P	**P**	**12 45 21.1**	**-0.1**
ARMA				IAmb	IAmb	12 45 30.3	
	comp=Z,5.9nm,1.0s						
MKAR	**Makanchi Array**	**58.15**	**314**	P	**P**	**12 46 22.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=100,slow=7.6,SNR=5.2						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**60.98**	**318**	P	**P**	**12 46 41.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=7.2,SNR=10						
	comp=Z,0.4nm,0.4s						
ILAR	**Eielson Array**	**63.28**	**26**	P	**P**	**12 46 56.7**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=248,slow=6.1,SNR=2.1						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**66.13**	**320**	P	**P**	**12 47 15.3**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=99,slow=7.6,SNR=9.3						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**82.08**	**342**	P	**P**	**12 48 47.6**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=55,slow=2.4,SNR=2.1						
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**86.49**	**335**	P	**P**	**12 49 08.6**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=60,slow=4.9,SNR=7.7						
	comp=Z,1.3nm,0.7s						

NEIC 09 12:41:47.5±0.3, **37°.28N**±0°.03×**104°.50W**±0°.02, **h4**km±3km, **ML1.2**/12, **Error ellipse: s-maj=4.6km s-min=2.7km az=187.0, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.15**	**154**	Pg	Pg	12 41 50.8	+0.2
T25A				Sg	Sg	12 41 53.5	+0.9
T25A				IAML		12 41 53.8	
	comp=E,85nm,0.3s						
T25A				IAML		12 41 53.8	
	comp=N,68nm,0.2s						
Q24A	**Divide**	**1.76**	**343**	Pn	Pb	12 42 20.2	-0.4
Q24A				IAML		12 43 11.7	
	comp=E,7.3nm,3.8s						
S22A	**4UR Ranch, Cre**	**1.91**	**285**	Pn	Pn	12 42 20.0	-1.1

*TIR **09** 12:43:28.2, 39°.80N×20°.82E, h7km±9km, Md2.6/8, Ml3.1/7*
*ATH **09** 12:43:28.9, 39°.84N×20°.76E, h10km, ML3.1/34, Manual Solution by A.Agalos First location: 2019/02/09 12:44:25, This location: 2019/02/09 14:54:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **09** 12:43:29.4, 39°.81N×20°.80E, h0km±2km, ML2.9/15, Error ellipse: s-maj=2.4km s-min=0.5km az=161.0*
*IDC **09** 12:43:29.2±13.0, 40°.16N×21°.05E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=256.5km s-min=43.8km az=38.0*
*SKO **09** 12:43:30.4, 39°.78N×20°.81E, h4km, ML2.9*
ISC 09 12:43:29.1±0.8, **39°.82N**±0°.01×**20°.79E**±0°.01, **h14**km±5km, **n135**, σ0.9**83**/210, **mb3.3**/3, **1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.17**	**163**	P	**Pg**	**12 43 33.2**	**0.0**
JAN				S	**Sg**	**12 43 35.5**	**-0.5**
	25μm,0.2s						
JAN	**Janina**	**0.17**	**163**	P	**Pg**	**12 43 33.2**	**0.0**
JAN				S	**Sg**	**12 43 36.5**	**+0.5**
MSVA	**Metsovo**	**0.31**	**99**	P	**Pg**	**12 43 35.9**	**+0.3**
MSVA				S	**Sg**	**12 43 40.8**	**+0.8**
LSK	**Leskovik**	**0.36**	**337**	P	**Pg**	**12 43 36.2**	**-0.3**
LSK				S	**Sg**	**12 43 42.1**	**+0.6**
LSK				AML	AML	12 43 46.4	
	34nm,0.5s						
LSK				AMd		12 44 05.2	
LSK	**Leskovik**	**0.36**	**337**	P	**Pg**	**12 43 36.2**	**-0.3**
LSK				S	**Sg**	**12 43 42.1**	**+0.6**
LSK				AML	AML	12 43 46.4	
	34nm,0.5s						
LSK				AMd		12 44 05.2	
LSK	**Leskovik**	**0.36**	**337**	P	**Pg**	**12 43 36.0**	**-0.5**
LSK				S	**Sb**	**12 43 42.8**	**-0.1**
	7μm,0.6s						
IGT	**Igoumenitsa**	**0.45**	**231**	P	**Pg**	**12 43 37.6**	**-0.5**
IGT				S	**Sg**	**12 43 44.7**	**+0.4**
IGT				AMd		12 44 01.1	
IGT	**Igoumenitsa**	**0.45**	**231**	P	**Pg**	**12 43 37.6**	**-0.5**
IGT				S	**Sg**	**12 43 44.7**	**+0.4**
IGT				AMd		12 44 01.1	
IGT	**Igoumenitsa**	**0.45**	**231**	P	**Pg**	**12 43 37.1**	**-1.0**
IGT				S	**Sb**	**12 43 45.4**	**0.0**
	4μm,0.3s						
IGT	**Igoumenitsa**	**0.45**	**231**	‖ *i* Pg	**Pg**	**12 43 37.2**	**-0.9**
IGT				*i* Sg	**Sb**	**12 43 45.7**	**+0.2**
IGT	**Igoumenitsa**	**0.45**	**231**	P	**Pg**	**12 43 37.9**	**-0.3**
IGT				S	**Sg**	**12 43 44.3**	**+0.1**
PENT	**Pentalofos**	**0.46**	**36**	P	**Pg**	**12 43 38.2**	**-0.1**
PENT				S	**Sb**	**12 43 45.6**	**-0.2**
PENT	**Pentalofos**	**0.46**	**36**	P	**Pg**	**12 43 38.3**	**-0.1**
PENT				S	**Sg**	**12 43 44.6**	**0.0**
KPRO	**Kipourio**	**0.46**	**73**	P	**Pg**	**12 43 38.2**	**-0.1**
KPRO				S	**Sb**	**12 43 45.6**	**-0.2**
	3μm,0.4s						
KPRO	**Kipourio**	**0.46**	**73**	P	**Pg**	**12 43 38.3**	**-0.1**
KPRO				S	**Sb**	**12 43 45.5**	**-0.3**
TETR	**Tetrakomo, Epi**	**0.61**	**141**	P	**Pb**	**12 43 41.4**	**-0.1**
TETR				S	**Sb**	**12 43 49.9**	**0.0**
SRN	**Sarande**	**0.61**	**276**	P	**Pg**	**12 43 40.5**	**-0.6**
SRN				S	**Sb**	**12 43 51.2**	**+1.3**
SRN				AML	AML	12 43 53.3	
	3.3nm,0.6s						
SRN				AMd		12 44 10.2	
SRN	**Sarande**	**0.61**	**276**	P	**Pg**	**12 43 40.5**	**-0.6**
SRN				S	**Sb**	**12 43 51.2**	**+1.3**
SRN				AML	AML	12 43 53.3	
	3.3nm,0.6s						
SRN				AMd		12 44 10.2	
SRN	**Sarande**	**0.61**	**276**	P	**Pg**	**12 43 40.3**	**-0.7**
SRN				S	**Sb**	**12 43 51.0**	**+1.1**
	948nm,0.6s						
PRGA	**Parga**	**0.61**	**209**	P	**Pg**	**12 43 41.1**	**0.0**
PRGA				S	**Sb**	**12 43 49.9**	**0.0**
NEST	**Nestorio**	**0.63**	**19**	P	**Pg**	**12 43 41.3**	**-0.2**
NEST				S	**Sb**	**12 43 50.7**	**+0.2**
NEST				AML	AML	12 43 55.2	
	3.0nm,0.3s						
NEST	**Nestorio**	**0.63**	**19**	P	**Pg**	**12 43 41.3**	**-0.2**
NEST				S	**Sb**	**12 43 50.7**	**+0.2**
NEST				AML	AML	12 43 55.2	
	3.0nm,0.3s						
NEST	**Nestorio**	**0.63**	**19**	P	**Pg**	**12 43 40.8**	**-0.6**
NEST				S	**Sb**	**12 43 52.0**	**+1.4**
	740nm,0.4s						
NEST	**Nestorio**	**0.63**	**19**	P	**Pg**	**12 43 41.3**	**-0.2**
NEST				S	**Sg**	**12 43 49.8**	**+0.1**
ARTB	**Arta**	**0.68**	**167**	P	**Pb**	**12 43 42.6**	**-0.1**
KEK	**Kerkira**	**0.77**	**262**	P	**Pg**	**12 43 43.4**	**-0.6**
KEK				S	**Sn**	**12 43 56.6**	**-0.2**
	790nm,0.6s						
KEK	**Kerkira**	**0.77**	**262**	P	**Pg**	**12 43 43.6**	**-0.5**
KEK				S	**Sg**	**12 43 54.0**	**-0.2**
TRKA	**Trikala**	**0.80**	**109**	P	**Pb**	**12 43 44.9**	**+0.1**
KBN	**Korca**	**0.80**	**0**	P	**Pg**	**12 43 44.1**	**-0.6**
KBN				S	**Sb**	**12 43 56.1**	**+0.5**
KBN				AML	AML	12 44 12.1	
	1.8nm,0.5s						
KBN				AMd		12 44 22.1	
KBN	**Korca**	**0.80**	**0**	P	**Pg**	**12 43 44.1**	**-0.6**
KBN				S	**Sb**	**12 43 56.1**	**+0.5**
KBN				AML	AML	12 44 12.1	
	1.8nm,0.5s						
KBN				AMd		12 44 22.1	
KBN	**Korca**	**0.80**	**0**	P	**Pg**	**12 43 43.9**	**-0.8**
KBN				S	**Sn**	**12 43 56.9**	**-0.9**
	372nm,0.7s						
KZN	**Kozani**	**0.90**	**57**	P	**Pg**	**12 43 45.9**	**-0.6**
KZN				S	**Sn**	**12 44 00.0**	**-0.2**
	460nm,0.5s						
KZN	**Kozani**	**0.90**	**57**	P	**Pg**	**12 43 46.2**	**-0.3**
KZN				S	**Sb**	**12 43 59.2**	**+0.9**
THL	**Klokotos Trika**	**0.98**	**105**	P	**Pb**	**12 43 46.7**	**-1.1**
THL				S	**Sg**	**12 44 01.4**	**+0.5**
	498nm,0.5s						
THL	**Klokotos Trika**	**0.98**	**105**	P	**Pb**	**12 43 47.8**	**0.0**
THL				S	**Sn**	**12 44 02.0**	**0.0**
TSLK	**Tsoukalades, L**	**1.00**	**186**	P	**Pb**	**12 43 48.2**	**0.0**
TSLK				S	**Sn**	**12 44 03.7**	**+1.2**
	882nm,0.5s						
TSLK	**Tsoukalades, L**	**1.00**	**186**	P	**Pb**	**12 43 48.1**	**0.0**
TSLK				S	**Sn**	**12 44 02.8**	**+0.3**
LKD2	**Lefkada island**	**1.03**	**186**	P	**Pb**	**12 43 48.3**	**-0.5**
LKD2				S	**Sn**	**12 44 03.2**	**-0.2**
LKD2				AML	AML	12 44 11.4	
	3.0nm,0.7s						
LKD2				AMd		12 44 31.2	
LKD2	**Lefkada island**	**1.03**	**186**	P	**Pb**	**12 43 48.3**	**-0.5**
LKD2				S	**Sn**	**12 44 03.2**	**-0.2**
LKD2				AML	AML	12 44 11.4	
	3.0nm,0.7s						
LKD2				AMd		12 44 31.2	
LKD2	**Lefkada island**	**1.03**	**186**	P	**Pb**	**12 43 48.2**	**-0.5**
LKD2				S	**Sn**	**12 44 04.7**	**+1.3**
	1μm,0.6s						
LKD2	**Lefkada island**	**1.03**	**186**	P	**Pn**	**12 43 49.2**	**+0.1**
LKD2				S	**Sn**	**12 44 03.7**	**+0.2**
FNA	**Florina**	**1.06**	**25**	P	**Pb**	**12 43 49.3**	**0.0**
FNA				S	**Sn**	**12 44 05.2**	**+0.9**
FNA				AML	AML	12 44 09.1	
	1.9nm,0.5s						
FNA				AMd		12 44 37.6	
FNA	**Florina**	**1.06**	**25**	P	**Pb**	**12 43 49.3**	**0.0**
FNA				S	**Sn**	**12 44 05.2**	**+0.9**
FNA				AML	AML	12 44 09.1	
	1.9nm,0.5s						
FNA				AMd		12 44 37.6	
FNA	**Florina**	**1.06**	**25**	P	**Pb**	**12 43 49.1**	**-0.2**
FNA				S	**Sn**	**12 44 05.1**	**+0.9**
	500nm,0.6s						
FNA	**Florina**	**1.06**	**25**	*i* Pg	**Pb**	**12 43 49.2**	**-0.2**
FNA				*i* Sg	**Sn**	**12 44 05.3**	**+1.1**
FNA	**Florina**	**1.06**	**25**	P	**Pb**	**12 43 49.2**	**-0.2**
FNA				S	**Sb**	**12 44 03.5**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.11**	**184**	P	**Pb**	**12 43 49.5**	**-0.5**
NYDR				S	**Sn**	**12 44 05.7**	**+0.6**
	648nm,0.6s						
TYRN	**Tyrnavos**	**1.12**	**95**	P	**Pb**	**12 43 49.5**	**-0.7**
TYRN				S	**Sn**	**12 44 07.0**	**+1.5**
	715nm,0.7s						
SOFA	**Sofades**	**1.12**	**115**	P	**Pn**	**12 43 50.5**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.15**	**188**	P	**Pb**	**12 43 50.4**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.15**	**188**	P	**Pg**	**12 43 51.1**	**-0.1**
DRAG				S	**Sn**	**12 44 07.2**	**+1.1**
KTI	**Kastanea**	**1.17**	**60**	P	**Pn**	**12 43 50.5**	**-0.6**
VLO	**Vlora**	**1.18**	**304**	P	**Pb**	**12 43 51.3**	**+0.1**
VLO				S	**Sg**	**12 44 08.7**	**+1.4**
VLO				AML	AML	12 44 15.5	
	4.2nm,0.3s						
VLO				AMd		12 44 36.7	
VLO	**Vlora**	**1.18**	**304**	P	**Pb**	**12 43 51.3**	**+0.1**
VLO				S	**Sg**	**12 44 08.7**	**+1.4**
VLO				AML	AML	12 44 15.5	
	4.2nm,0.3s						
VLO				AMd		12 44 36.7	
EVR	**Evrytania**	**1.20**	**138**	P	**Pb**	**12 43 51.9**	**+0.3**
EVR	**Evrytania**	**1.20**	**138**	P	**Pg**	**12 43 52.5**	**+0.3**
EVR				S	**Sg**	**12 44 09.2**	**+1.3**
EVGI	**Lefkada island**	**1.20**	**185**	P	**Pn**	**12 43 51.1**	**-0.3**
EVGI				S	**Sg**	**12 44 09.7**	**+1.8**
EVGI	**Lefkada island**	**1.20**	**185**	P	**Pg**	**12 43 52.0**	**-0.2**
EVGI				S	**Sg**	**12 44 08.3**	**+0.4**
OHR	**Ohrid**	**1.29**	**0**	*i* Pg	**Pg**	**12 43 54.2**	**+0.3**
OHR				*i* Sg	**Sg**	**12 44 13.5**	**+2.7**
OHR				*e*Lg	Lg	12 44 14.2	
	comp=N,132nm,0.5s						
OHR				*e*Lg	Lg	12 44 16.7	
	comp=E,280nm,0.5s						
MAKR	**Makrakomi, Fth**	**1.32**	**127**	P	**Pn**	**12 43 53.4**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.32**	**127**	P	**Pb**	**12 43 53.6**	**0.0**
MAKR				S	**Sg**	**12 44 12.5**	**+0.9**
PVO	**Paravola**	**1.33**	**154**	P	**Pb**	**12 43 53.8**	**-0.1**
PVO				S	**Sg**	**12 44 12.4**	**+0.4**
LIT	**Litokhoron**	**1.34**	**77**	P	**Pn**	**12 43 53.3**	**-0.1**
LIT	**Litokhoron**	**1.34**	**77**	*i* Pg	**Pn**	**12 43 53.5**	**+0.2**
LIT				*i* Sg	**Sg**	**12 44 14.7**	**+2.4**
LIT	**Litokhoron**	**1.34**	**77**	P	**Pb**	**12 43 54.2**	**+0.2**
LIT				S	**Sg**	**12 44 12.7**	**+0.4**
VERN	**Vergina**	**1.35**	**60**	P	**Pn**	**12 43 53.6**	**+0.1**
FSK	**Fiskardo**	**1.37**	**187**	P	**Pb**	**12 43 54.2**	**-0.3**
FSK	**Fiskardo**	**1.37**	**187**	P	**Pb**	**12 43 54.3**	**-0.1**
FSK				S	**Sg**	**12 44 12.9**	**-0.3**
ANX	**Ano Chora**	**1.51**	**144**	P	**Pn**	**12 43 56.3**	**+0.5**
ANX	**Ano Chora**	**1.51**	**144**	P	**Pb**	**12 43 56.5**	**-0.4**
ANX				S	**Sg**	**12 44 17.1**	**-0.6**
DMLN	**Damoulianata-K**	**1.61**	**192**	P	**Pn**	**12 43 57.6**	**+0.6**
DMLN				S	**Sb**	**12 44 19.4**	**+0.6**
EFP	**Efpalio**	**1.64**	**148**	P	**Pb**	**12 43 58.9**	**-0.2**
EFP	**Efpalio**	**1.64**	**148**	P	**Pb**	**12 43 58.8**	**-0.3**
EFP				S	**Sb**	**12 44 20.5**	**+0.9**
VLS	**Valsamata**	**1.65**	**185**	P	**Pn**	**12 43 58.2**	**+0.6**
VLS	**Valsamata**	**1.65**	**185**	P	**Pb**	**12 43 58.5**	**-0.7**
VLS				S	**Sb**	**12 44 19.6**	**-0.2**
GRG	**Griva**	**1.68**	**47**	P	**Pb**	**12 43 59.5**	**-0.2**
GRG	**Griva**	**1.68**	**47**	*e*Pn	**Pg**	**12 44 00.7**	**-0.6**
GRG				*i* Sg	**Sg**	**12 44 23.6**	**+0.5**
GRG	**Griva**	**1.68**	**47**	P	**Pn**	**12 43 58.6**	**+0.6**
TIR	**Tirane**	**1.68**	**336**	P	**Pn**	**12 43 58.3**	**+0.2**
AXS	**Araxos**	**1.69**	**164**	P	**Pb**	**12 43 59.5**	**-0.3**
AXS				S	**Sb**	**12 44 21.5**	**+0.7**
PSDA	**Pessada-Kefalo**	**1.71**	**185**	P	**Pb**	**12 43 59.5**	**-0.8**
PSDA	**Pessada-Kefalo**	**1.71**	**185**	P	**Pn**	**12 43 59.3**	**+0.9**
PSDA				S	**Sb**	**12 44 21.1**	**-0.5**
KALE	**Kalithea**	**1.77**	**143**	P	**Pb**	**12 44 01.8**	**+0.4**
KALE	**Kalithea**	**1.77**	**143**	P	**Pb**	**12 44 01.0**	**-0.4**
KALE				S	**Sb**	**12 44 23.5**	**0.0**
SCTE	**Santa Cesarea**	**1.80**	**279**	P	**Pn**	**12 44 00.3**	**+0.6**
SCTE				S	**Sn**	**12 44 22.5**	**+0.2**
RLS	**Riolos of Patr**	**1.84**	**163**	P	**Pb**	**12 44 02.3**	**-0.1**
RLS	**Riolos of Patr**	**1.84**	**163**	P	**Pb**	**12 44 01.5**	**-0.9**
THE	**Thessaloniki**	**1.85**	**63**	*e*Pn	**Pb**	**12 44 02.1**	**-0.6**
THE				*i* Sg	**Sg**	**12 44 27.8**	**-0.9**
PHP	**Peshkopia**	**1.88**	**352**	P	**Pb**	**12 44 03.4**	**+0.2**
XOR	**Xorichti**	**1.91**	**103**	P	**Pb**	**12 44 02.9**	**-0.9**
XOR				S	**Sb**	**12 44 27.1**	**-0.4**
HORT	**Hortiatis**	**1.93**	**66**	P	**Pn**	**12 44 02.3**	**+0.7**
HORT				S	**Sb**	**12 44 27.7**	**-0.5**
NEO	**Neokhori**	**1.95**	**104**	P	**Pb**	**12 44 03.4**	**-1.0**
NEO	**Neokhori**	**1.95**	**104**	P	**Pb**	**12 44 03.3**	**-1.1**
ORTH	**Orthonies,Zaky**	**1.97**	**182**	P	**Pn**	**12 44 03.0**	**+1.1**
KYPS	**Kipseli, Zakin**	**2.00**	**179**	P	**Pn**	**12 44 03.4**	**+1.0**
DRO	**Drossia**	**2.00**	**159**	P	**Pb**	**12 44 04.4**	**-0.8**
DRO	**Drossia**	**2.00**	**159**	P	**Pb**	**12 44 04.1**	**-1.2**
VAY	**Valandovo**	**2.02**	**42**	*e*Pn	**Pg**	**12 44 07.0**	**-0.9**
VAY				*e*Sn	**Sg**	**12 44 33.1**	**-1.1**
VAY				*e*Lg	Lg	12 44 38.8	
	comp=E,40nm,0.7s						
VAY				*e*Lg	Lg	12 44 40.0	
	comp=N,72nm,0.7s						
KLV	**Kalavryta, Ach**	**2.07**	**149**	P	**Pb**	**12 44 05.4**	**-1.0**
KLV	**Kalavryta, Ach**	**2.07**	**149**	P	**Pb**	**12 44 05.0**	**-1.4**
PLG	**Polygyros**	**2.11**	**74**	P	**Pn**	**12 44 05.4**	**+1.4**
GUR	**Goura**	**2.24**	**147**	P	**Pb**	**12 44 07.9**	**-1.4**
GUR	**Goura**	**2.24**	**147**	P	**Pn**	**12 44 07.3**	**+1.5**
MESG	**Mesagne**	**2.38**	**290**	P	**Pn**	**12 44 08.2**	**+0.7**
AMT	**Artemida-Makis**	**2.40**	**162**	P	**Pn**	**12 44 09.0**	**+1.1**
ULC	**Ulcinj**	**2.44**	**332**	*e*Pn	**Pb**	**12 44 12.3**	**-0.5**
LTK	**Loutraki**	**2.47**	**136**	P	**Pn**	**12 44 10.1**	**+1.2**
SRS	**Serrai**	**2.50**	**58**	*e*Pn	**Pn**	**12 44 11.3**	**+2.0**
SRS				*e*Sn	**Sb**	**12 44 43.0**	**-1.4**
SRS	**Serrai**	**2.50**	**58**	P	**Pn**	**12 44 09.8**	**+0.4**
OUR	**Ouranopolis**	**2.50**	**77**	P	**Pn**	**12 44 10.0**	**+0.7**
VIL2	**Platees**	**2.51**	**129**	P	**Pn**	**12 44 11.1**	**+1.6**
PEHC	**Pehcevo**	**2.53**	**39**	*e*Pn	**Pb**	**12 44 13.3**	**-1.0**
PEHC				*e*Sn	**Sb**	**12 44 46.8**	**+1.4**
PEHC				*e*Lg	Lg	12 45 01.6	
	comp=N,53nm,0.9s						
BCI	**Bajram Curri**	**2.60**	**348**	P	**Pb**	**12 44 14.

MKAR Makanchi Array 160.12 54 PKPab PKPab 13 15 55.0 +13
comp=N,0.3nm,0.8s,baz=292,slow=0.8,SNR=3.6

*IDC **09** 13:28:54.9±1.1, 35°.12N×81°.09E, h0km, mb3.5/5, mbtmp3.4/10, ML2.6/5, MS2.8/2, Error ellipse: s-maj=33.5km s-min=17.5km az=73.0*
ISC 09 13:28:58.9±1.0, 35°.21N±0°.09×81°.3E±0°.2, h22km, n10, σ1§51/11, mb3.6/5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.12**	**326**	Pn	**Pn**	**13 31 11.0**	**+1.8**
	0.1nm,0.3s,baz=203,slow=15,SNR=4.4						
AAK				Lg	Lg	13 33 33.5	
	0.1nm,0.3s,baz=256,slow=18,SNR=1.9						
AAK				LR	LR	13 34 47.3	
	comp=Z,74nm,19.3s,baz=42,slow=39						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**11.59**	**3**	Pn	**Pn**	**13 31 42.7**	**-0.3**
	0.1nm,0.3s,baz=176,slow=12,SNR=5.6						
MKAR				Sn	**Sn**	**13 33 51.3**	**-0.4**
	0.1nm,0.3s,baz=189,slow=24,SNR=2.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**15.54**	**353**	Pn	**Pn**	**13 32 34.4**	**-2.0**
	baz=178,slow=12,SNR=4.3						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**18.89**	**6**	P	**P**	**13 33 17.7**	**0.0**
	0.1nm,0.3s,baz=199,slow=7.6,SNR=2.3						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**19.42**	**340**	P	**P**	**13 33 22.6**	**-0.9**
	baz=156,slow=8.9,SNR=5.3						
	0.4nm,0.6s						
SONM	**Songino Array**	**22.50**	**48**	P	**P**	**13 33 59.2**	**+2.2**
	0.2nm,0.3s,baz=246,slow=11,SNR=4.2						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**22.87**	**132**	P	**P**	**13 34 02.2**	**+1.3**
	0.3nm,0.3s,baz=308,slow=12,SNR=5.1						
CMAR				LR	LR	13 43 43.9	
	comp=Z,17nm,20.1s,baz=95,slow=39						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**74.41**	**129**	P	**P**	**13 40 33.7**	**-1.6**
	0.5nm,0.8s,baz=320,slow=5.7,SNR=2.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**76.88**	**132**	P	**P**	**13 40 49.4**	**-0.1**
	0.4nm,0.7s,baz=317,slow=5.8,SNR=7.0						
	0.4nm,0.7s						
BOSA	**Boshof**	**82.62**	**227**	P	**P**	**13 41 19.6**	**-0.9**
	1.5nm,0.6s,baz=29,slow=3.8,SNR=4.1						
	1.5nm,0.6s						

BER 09 13:32:47.6±1.5, 71°.51N×3°.47W, h10km, mb(Pn)3.8, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.67**	**307**	*e*P	Pn	13 34 09.0	-2.7
DBG				*e*S	Sn	13 35 11.1	-5.7
DAG	**Danmarks Havn**	**6.70**	**329**	*e*P	Pn	13 34 22.8	-3.1
DAG				*e*S	Sn	13 35 27.9	-14
LOF	**Lofoten**	**6.78**	**112**	*e*P	Pn	13 34 23.7	-3.2
LOF				IAML		13 34 30.9	
	comp=Z,3.9nm,0.7s						
STEI	**Steigen**	**7.41**	**110**	*e*P	Pn	13 34 32.3	-3.3
STEI				IAML		13 35 49.5	
	comp=Z,3.0nm,0.8s						
HSPB	**Hornsund (broa**	**7.51**	**34**	*e*P	Pn	13 34 34.1	-2.9
TRO	**Tromso**	**7.68**	**93**	*e*P	Pn	13 34 35.2	-4.1
FAUS	**Fauske**	**7.77**	**113**	*e*P	Pn	13 34 37.0	-3.4
FAUS				IAML		13 34 40.4	
	comp=Z,1.5nm,0.9s						
KIF	**Kilpisjarvi**	**8.56**	**95**	*e*P	Pn	13 34 46.8	-4.5
SALU	**Saltoluokta**	**8.73**	**108**	*e*P	Pn	13 34 50.6	-3.1
HAMF	**Hammerfest**	**8.83**	**83**	*e*P	Pn	13 34 51.8	-3.2
KTK1	**Kautokeino**	**9.33**	**93**	IAML		13 34 57.6	
	comp=Z,0.8nm,0.9s						
KTK1				*e*P	Pn	13 34 57.7	-4.2
ARA0	**ARCESS Array S**	**9.82**	**88**	*e*P	Pn	13 35 04.5	-4.1

*NAO **09** 13:35:25.0±2.2, 71°.58N×3°.10W, ML3.5*
*BER **09** 13:35:28.3±3.9, 71°.60N×3°.20W, h10km, mb(Pn)4.2, ML3.5(NAO), Confirmed Earthquake*
*IDC **09** 13:35:30.2±3.9, 71°.56N×1°.48W, h0km, mb3.6/4, mbtmp3.6/8, ML3.0/4, MS3.2/6, Error ellipse: s-maj=63.2km s-min=27.1km az=89.0*
ISC 09 13:35:25.9±0.9, 71°.7N±0°.1×3°.51W±0°.09, h10km, n51, σ2§01/47, mb3.6/4, MS3.1/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.56**	**306**	Pn	**Pn**	**13 36 49.3**	**+0.8**
DBG				Sn	**Sn**	**13 37 48.9**	**-3.5**
DBG	**Daneborg**	**5.56**	**306**	*e*P	**Pn**	**13 36 49.6**	**+1.1**
DBG				*e*S	Sn	13 37 48.8	-3.5
DBG	**Daneborg**	**5.56**	**306**	*i* P	**Pn**	**13 36 48.9**	**+0.4**
DBG				IAML		13 37 02.3	
	comp=Z,8.2nm,0.4s						
DBG				*i* S	Sn	13 37 47.8	-4.5
DAG	**Danmarks Havn**	**6.55**	**328**	*e*P	**Pn**	**13 37 03.6**	**+1.5**
DAG				*e*S	Sn	13 38 08.7	-8.0
DAG	**Danmarks Havn**	**6.55**	**328**	*e*	Pn	13 36 58.7	-3.4
	baz=129,slow=18						
DAG				*i* P	**Pn**	**13 37 03.5**	**+1.5**
DAG				IAML		13 38 16.9	
	comp=Z,3.9nm,0.3s						
LOF	**Lofoten**	**6.85**	**113**	Pn	**Pn**	**13 37 04.5**	**-1.6**
LOF				Sn	Sn	13 38 14.2	-10
LOF	**Lofoten**	**6.85**	**113**	*e*P	**Pn**	**13 37 04.6**	**-1.6**
LOF				*e*S	Sn	13 38 13.9	-10
LOF				IAML		13 38 16.6	
	comp=Z,6.2nm,0.8s						
HSPB	**Hornsund (broa**	**7.38**	**35**	Pn	**Pn**	**13 37 14.7**	**+1.2**
HSPB	**Hornsund (broa**	**7.38**	**35**	*e*P	**Pn**	**13 37 14.3**	**+0.8**
STEI	**Steigen**	**7.48**	**111**	Pn	**Pn**	**13 37 12.8**	**-1.9**
STEI				Sn	Sn	13 38 29.1	-10
STEI	**Steigen**	**7.48**	**111**	*e*P	**Pn**	**13 37 12.9**	**-1.9**
STEI				*e*S	Sn	13 38 28.6	-11
STEI				IAML		13 38 33.8	
	comp=Z,2.9nm,0.4s						
TRO	**Tromso**	**7.70**	**95**	*e*P	**Pn**	**13 37 15.0**	**-2.8**
FAUS	**Fauske**	**7.84**	**114**	*e*P	**Pn**	**13 37 18.0**	**-1.8**
FAUS				*e*S	Sn	13 38 36.5	-12
FAUS				IAML		13 38 41.5	
	comp=Z,2.0nm,0.6s						
BRBB	**Barentsburg B**	**7.89**	**27**	Pn	**Pn**	**13 37 22.9**	**+2.6**
BRBB	**Barentsburg B**	**7.89**	**27**	*e*P	**Pn**	**13 37 22.7**	**+2.3**
STOK	**Stokkvaagen**	**7.97**	**124**	Pn	**Pn**	**13 37 19.5**	**-2.0**
STOK	**Stokkvaagen**	**7.97**	**124**	*e*P	**Pn**	**13 37 19.7**	**-1.8**
STOK				*e*S	Sn	13 38 40.2	-11
STOK				IAML		13 38 47.1	
	comp=Z,3.7nm,0.7s						
LEIR	**Leirfjorden**	**8.17**	**125**	*e*P	**Pn**	**13 37 22.4**	**-1.9**
LEIR				*e*S	Sn	13 38 46.0	-10
LEIR				IAML		13 38 49.4	
	comp=Z,3.6nm,0.5s						
JETT	**Jettan, Norway**	**8.21**	**93**	Pn	**Pn**	**13 37 22.0**	**-2.8**
JETT				Sn	Sn	13 38 46.9	-11
JETT	**Jettan, Norway**	**8.21**	**93**	Pn	**Pn**	**13 37 22.0**	**-2.8**
JETT				Sn	Sn	13 38 46.9	-11
SPA0	**Spitsbergen Ar**	**8.27**	**29**	Pn	**Pn**	**13 37 27.6**	**+1.9**
	baz=205,slow=16						
SPA0	**Spitsbergen Ar**	**8.27**	**29**	Pn	**Pn**	**13 37 27.6**	**+1.9**
	baz=205,slow=16						
SPITS	**Spitsbergen Ar**	**8.27**	**29**	Pn	**Pn**	**13 37 27.2**	**+1.5**
	baz=203,slow=14						
	comp=Z,0.9nm,0.3s						
MOR8	**Moi Rana**	**8.47**	**122**	Pn	**Pn**	**13 37 27.4**	**-1.0**
MOR8				Sn	Sn	13 38 54.1	-10
MOR8	**Moi Rana**	**8.47**	**122**	*e*P	**Pn**	**13 37 27.6**	**-0.9**
MOR8				*e*S	Sn	13 38 54.0	-10
MOR8				IAML		13 38 58.3	
	comp=Z,2.9nm,0.4s						
KIF	**Kilpisjarvi**	**8.59**	**96**	Pn	**Pn**	**13 37 27.3**	**-2.7**
KIF				Sn	Sn	13 38 55.7	-11
KIF	**Kilpisjarvi**	**8.59**	**96**	*e*P	**Pn**	**13 37 27.7**	**-2.2**
KIF				*e*S	Sn	13 38 54.7	-12
SALU	**Saltoluokta**	**8.79**	**108**	*e*P	**Pn**	**13 37 31.1**	**-1.8**
KTK1	**Kautokeino**	**9.35**	**94**	*e*P	**Pn**	**13 37 38.2**	**-2.2**
HEF	**Hetta**	**9.79**	**96**	Pn	**Pn**	**13 37 43.6**	**-2.9**
HEF	**Hetta**	**9.79**	**96**	*e*P	**Pn**	**13 37 43.6**	**-2.9**
ARA0	**ARCESS Array S**	**9.83**	**89**	Pn	**Pn**	**13 37 44.5**	**-2.4**
	baz=289,slow=12						
ARA0	**ARCESS Array S**	**9.83**	**89**	Pn	**Pn**	**13 37 44.5**	**-2.4**
	baz=289,slow=12						
ARA0				*e*P		13 37 45.4	
ARCES	**ARCESS Array B**	**9.83**	**89**	Pn	**Pn**	**13 37 44.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=290,slow=12,SNR=24						
	comp=Z,1.2nm,0.7s						
AKN	**Aaknes**	**10.36**	**152**	Pn	**Pn**	**13 37 55.0**	**+0.7**
AKN				Sn	Sn	13 39 40.1	-10
AKN	**Aaknes**	**10.36**	**152**	Pn	**Pn**	**13 37 55.0**	**+0.7**
AKN				Sn	Sn	13 39 40.1	-10
NOA	**NORSAR Array B**	**12.14**	**144**	LR	LR	13 42 51.5	
	comp=Z,61nm,18.9s,baz=335,slow=38						
HFS	**Hagfors**	**13.46**	**141**	Pn	**Pn**	**13 38 36.2**	**-0.5**
	baz=326,slow=16						
HFS	**Hagfors**	**13.46**	**141**	Pn	**Pn**	**13 38 36.2**	**-0.5**
	baz=326,slow=16						
HFS	**Hagfors**	**13.46**	**141**	Pn	**Pn**	**13 38 36.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=339,slow=16,SNR=7.0						
HFS				LR	LR	13 42 23.5	
	comp=Z,42nm,19.1s,baz=284,slow=32						
	comp=Z,1.1nm,0.4s						
FIA0	**FINESS Array S**	**15.39**	**117**	P	**Pn**	**13 38 60.0**	**-2.8**
	baz=330,slow=12						
FIA0	**FINESS Array S**	**15.39**	**117**	P	**Pn**	**13 38 60.0**	**-2.8**
	baz=330,slow=12						
FINES	**FINESS Array B**	**15.39**	**117**	Pn	**Pn**	**13 39 00.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=332,slow=10,SNR=5.1						
	comp=Z,4.0nm,1.0s						
GERES	**GERESS Array B**	**24.24**	**152**	LR	LR	13 48 50.5	
	comp=Z,57nm,18.2s,baz=334,slow=34						
VRAC	**Vranov**	**24.26**	**147**	LR	LR	13 50 43.0	
	comp=Z,36nm,18.1s,baz=354,slow=38						
AKASG	**Malin Array Be**	**25.66**	**127**	P	**P**	**13 40 55.1**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=336,slow=9.2,SNR=4.2						
	comp=Z,2.0nm,0.6s						
MLR	**Muntele Rosu**	**29.77**	**136**	LR	LR	13 53 21.1	
	comp=Z,58nm,19.9s,baz=20,slow=37						
BVAR	**Borovoye Array**	**36.00**	**81**	P	**P**	**13 42 26.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=330,slow=8.3,SNR=3.6						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**37.03**	**129**	P	**P**	**13 42 37.7**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=351,slow=6.6,SNR=4.4						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**40.61**	**76**	P	**P**	**13 43 05.0**	**-0.2**
	comp=Z,0.3nm,1.0s,baz=334,slow=8.2,SNR=2.5						
	comp=Z,0.3nm,1.0s						
BRDH	**Bariadhala**	**70.28**	**78**	LR	LR	14 21 34.1	
	comp=Z,72nm,19.1s,baz=320,slow=40						

*BER **09** 13:47:52.0±3.7, 71°.63N×3°.46W, h10km, mb(Pn)3.9, Confirmed Earthquake*
ISC 09 13:47:49.0±1.4, 71°.6N±0°.2×3°.6W±0°.1, h10km, n13, σ1§90/13, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.60**	**307**	*e*P	**Pn**	**13 49 14.0**	**+1.8**
DBG				*e*S	**Sn**	**13 50 13.0**	**-3.5**
DBG	**Daneborg**	**5.60**	**307**	*i* P	**Pn**	**13 49 13.8**	**+1.6**
DBG				IAML		13 50 17.0	
	comp=Z,0.4nm,0.8s						
DAG	**Danmarks Havn**	**6.62**	**329**	*e*P	**Pn**	**13 49 28.1**	**+1.9**
DAG				*e*S	Sn	13 50 32.4	-9.1
DAG	**Danmarks Havn**	**6.62**	**329**	*i* P	**Pn**	**13 49 28.0**	**+1.9**
DAG				IAML		13 50 36.7	
	comp=Z,1.0nm,0.3s						
LOF	**Lofoten**	**6.83**	**112**	*e*P	**Pn**	**13 49 28.9**	**-0.1**
LOF				IAML		13 49 30.1	
	comp=Z,6.5nm,0.9s						
STEI	**Steigen**	**7.46**	**110**	*e*P	**Pn**	**13 49 36.8**	**-0.8**
STEI				IAML		13 49 39.6	
	comp=Z,3.3nm,0.4s						
TRO	**Tromso**	**7.71**	**94**	*e*P	Pn	13 49 38.5	-2.6
TRO				IAML		13 49 41.7	
	comp=Z,2.2nm,0.6s						
FAUS	**Fauske**	**7.82**	**113**	*e*P	**Pn**	**13 49 42.1**	**-0.5**
FAUS				IAML		13 49 43.8	
	comp=Z,2.1nm,0.8s						
LEIR	**Leirfjorden**	**8.12**	**124**	*e*P	**Pn**	**13 49 46.6**	**-0.1**
LEIR				IAML		13 49 48.0	
	comp=Z,2.7nm,0.7s						
JETT	**Jettan, Norway**	**8.21**	**93**	*e*P	**Pn**	**13 49 46.1**	**-1.9**
JETT				IAML		13 49 48.9	
	comp=Z,3.0nm,0.4s						
SPA0	**Spitsbergen Ar**	**8.35**	**29**	*e*P	**Pn**	**13 49 51.8**	**+1.9**
KIF	**Kilpisjarvi**	**8.59**	**96**	*e*P	**Pn**	**13 49 51.5**	**-1.6**
SALU	**Saltoluokta**	**8.78**	**108**	*e*P	**Pn**	**13 49 55.7**	**0.0**

*NEIC **09** 14:18:33.9±2.3, 50°.3N±0°.1×170°.3W±0°.1, h10km±2km, mb4.1/57, ML3.7(AEIC), Error ellipse: s-maj=19.4km s-min=13.1km az=160.0*
*IDC **09** 14:18:35.8±0.9, 50°.48N×170°.37W, h0km, mb3.9/16, mbtmp3.9/18, ML3.3/2, MS3.6/12, Error ellipse: s-maj=28.2km s-min=14.7km az=178.0*
*AEIC **09** 14:18:42.3±3.0, 50°.9N±0°.2×170°.5W±0°.1, h25km±8km, Error ellipse: s-maj=24.5km s-min=9.9km az=162.0*
ISC 09 14:18:38.2±0.8, 50°.7N±0°.1×170°.39W±0°.05, h10km, n129, σ1§39/106, mb4.1/31, MS3.7/9, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.80**	**303**		Pn	14 19 21.1	-1.8
ATKA	**Atka Island**	**2.80**	**303**		**Sn**	**14 19 53.6**	**-3.0**
OKSP	**Okmok Steeple**	**2.83**	**26**		**Pn**	**14 19 22.7**	**-0.7**
OKSP					**Sn**	**14 19 54.6**	**-3.0**
OKWR	**Okmok West Rim**	**3.02**	**26**		**Pn**	**14 19 25.6**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**3.02**	**28**		**Pn**	**14 19 25.5**	**-0.5**
OKCE	**Okmok Cone E**	**3.02**	**26**		**Sn**	**14 19 59.0**	**-3.3**
OKNC	**Okmok New Cone**	**3.06**	**26**		**Pn**	**14 19 25.9**	**-0.7**
OKNC					Pb	14 19 28.0	-4.7
OKNC					**Sn**	**14 20 04.8**	**+1.6**
MAPS	**Pakushin South**	**3.73**	**33**		**Pn**	**14 19 36.1**	**+0.3**
MAPS					**Sn**	**14 20 17.2**	**-2.6**
MGOD	**Makushin Gods**	**3.75**	**34**		**Pn**	**14 19 36.1**	**+0.1**
GSTR	**Great Sitkin T**	**3.80**	**293**	Pn	**Pn**	**14 19 36.9**	**+0.1**
GSCK	**Great Sitkin C**	**3.84**	**292**		**Pn**	**14 19 36.6**	**-0.6**
MSW	**Makushin Switc**	**3.87**	**33**		**Pn**	**14 19 37.9**	**+0.1**
MSW					**Sn**	**14 20 23.2**	**-0.1**
UNV	**Unalaska Valle**	**3.92**	**36**	Pn	**Pn**	**14 19 38.6**	**+0.3**
UNV	**Unalaska Valle**	**3.92**	**36**		**Sn**	**14 20 22.1**	**-2.2**
MTBL	**Makushin Table**	**3.95**	**34**		**Pn**	**14 19 38.9**	**0.0**
ADAG	**Mount Adagdak**	**4.09**	**290**		**Pn**	**14 19 40.8**	**+0.1**
ADK	**Adak**	**4.11**	**289**	Pn	**Pn**	**14 19 39.6**	**-1.4**
ADK	**Adak**	**4.11**	**289**		**Sn**	**14 20 26.9**	**-2.2**
AKBBA	**Akutan Broad B**	**4.33**	**37**		**Pn**	**14 19 44.4**	**+0.4**
AKV	**Akutan Volcano**	**4.34**	**37**		**Pn**	**14 19 44.7**	**+0.5**
AKV					**Sn**	**14 20 32.4**	**-2.4**
KIWB	**Kanaga Island**	**4.39**	**287**		Pn	14 19 42.9	-1.9
TAFP	**Tanaga Falls P**	**4.90**	**287**		**Pn**	**14 19 51.8**	**-0.1**
TAFP					**Sn**	**14 20 47.0**	**-1.7**
TASE	**Tanaga Southea**	**4.92**	**286**		**Pn**	**14 19 51.9**	**-0.3**
TASE					**Sn**	**14 20 47.7**	**-1.6**
GAEA	**Gareloi East**	**5.35**	**284**		**Pn**	**14 19 58.2**	**+0.2**
GANE	**Gareloi Northe**	**5.38**	**285**		**Pn**	**14 19 58.3**	**0.0**
ISLZ	**Isanotski Laza**	**5.69**	**43**		**Pn**	**14 20 02.7**	**0.0**
ISLZ					**Sn**	**14 21 03.5**	**-4.6**
ISNN	**Isanotski Nort**	**5.73**	**42**		**Pn**	**14 20 03.6**	**+0.3**
HAG	**Hague Volcano**	**6.87**	**45**		**Pn**	**14 20 19.2**	**+0.3**
PS1A	**Pavlof South-1**	**7.00**	**45**		**Pn**	**14 20 21.0**	**+0.3**
S12K	**Black Hills**	**7.05**	**42**	Pn	**Pn**	**14 20 23.4**	**+2.1**
CNBA	**Chernabura Isl**	**7.72**	**54**	Pn	Pn	14 20 28.7	-1.7
CHGN	**Chignik**	**9.04**	**47**	Pn	**Pn**	**14 20 48.8**	**+0.2**
CHIR	**Chirikof Islan**	**10.19**	**54**	Pn	**Pn**	**14 21 03.6**	**-0.8**
M14K	**Bethel**	**11.09**	**22**	Pn	**Pn**	**14 21 17.7**	**+1.1**
SII	**Sitkinak Islan**	**11.23**	**52**	Pn	**Pn**	**14 21 18.6**	**0.0**
ACHA	**Angle Creek He**	**11.50**	**44**		**Pn**	**14 21 23.1**	**+0.8**
OHAK	**Old Harbor**	**11.96**	**51**	Pn	**Pn**	**14 21 27.3**	**-1.2**
O18K	**Koktuh Hills**	**12.54**	**37**	Pn	**Pn**	**14 21 35.8**	**-0.7**
KDAK	**Kodiak Island**	**12.55**	**49**	Pn	Pn	14 21 34.5	-2.0
KDAK	**Kodiak Island**	**12.55**	**49**	Pn	**Pn**	**14 21 35.3**	**-1.2**
	2.1nm,0.3s,baz=58,slow=6.1,SNR=48						
KDAK				LR	LR	14 27 06.6	
	comp=Z,197nm,18.6s,baz=329,slow=40						
Q19K	**Cape Douglas,**	**12.63**	**43**	Pn	**Pn**	**14 21 37.9**	**+0.2**
SYI	**Shuyak Island**	**13.03**	**46**		Pn	14 21 41.6	-1.4
CNPM	**China Poot**	**14.00**	**44**	Pn	Pn	14 21 54.3	-2.2
J18K	**Innoko River**	**14.71**	**25**	IAmb	IAmb	14 22 16.5	
	comp=Z,5.4nm,0.8s						
STLK	**Strandline Lak**	**14.88**	**36**		Pn	14 22 07.0	-1.4
SML	**Sawmill**	**16.42**	**39**		**Pn**	**14 22 25.3**	**-3.1**
F17K	**Baldwin Pennin**	**16.42**	**13**	IAmb	IAmb	14 22 36.0	
	comp=Z,12nm,0.8s						
HIN	**Hinchinbrook I**	**16.52**	**45**		**Pn**	**14 22 27.6**	**-2.1**
M24K	**Tolsona, Glenn**	**17.45**	**40**		**Pn**	**14 22 39.8**	**-1.7**
HMT	**Hamilton**	**17.51**	**47**	P	**Pn**	**14 22 41.1**	**-1.1**
HMT				IAmb	IAmb	14 23 00.2	
	comp=Z,17nm,0.8s						
BMRM	**Bremner River**	**17.60**	**45**		**Pn**	**14 22 43.0**	**-0.3**
N25K	**Chitina, Valde**	**17.88**	**43**		**Pn**	**14 22 44.7**	**-2.1**
I23K	**Minto, Yukon-K**	**18.11**	**29**	P	**Pn**	**14 22 50.0**	**+0.5**
I23K				IAmb	IAmb	14 22 56.5	
	comp=Z,20nm,1.4s						
GLB	**Gilahina Butte**	**18.15**	**44**		**Pn**	**14 22 49.1**	**-0.9**
GLB				IAmb	IAmb	14 22 55.6	
	comp=Z,7.0nm,0.6s						
VRDI	**Verde Repeater**	**18.22**	**44**		**Pn**	**14 22 50.3**	**-0.8**
VRDI				IAmb	IAmb	14 23 03.7	
	comp=Z,8.5nm,0.8s						
CCB	**Clear Creek Bu**	**18.28**	**32**		**Pn**	**14 22 50.2**	**-1.3**
HDA	**Harding Lake**	**18.42**	**33**	P	**P**	**14 22 52.6**	**-0.7**
ILAR	**Eielson Array**	**18.67**	**32**	P	**P**	**14 22 55.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=18						
ILAR				LR	LR	14 29 47.7	
	comp=Z,110nm,19.4s,baz=165,slow=36						
	comp=Z,1.3nm,0.7s						
RIDG	**Independent Ri**	**18.81**	**37**		**P**	**14 22 58.3**	**+0.7**
MENT	**Mentasta**	**18.85**	**39**	P	**P**	**14 22 58.7**	**+0.7**
J25K	**Salcha River,**	**19.10**	**34**	P	**P**	**14 23 01.0**	**+0.2**
J25K				IAmb	IAmb	14 23 07.8	
	comp=Z,5.0nm,0.6s						
SCRK	**Sand Creek**	**19.26**	**36**		**P**	**14 23 02.5**	**-0.1**
M27K	**Edge Creek, AK**	**19.36**	**42**	P	**P**	**14 23 02.5**	**-1.3**
M27K				IAmb	IAmb	14 23 09.4	
	comp=Z,15nm,0.9s						
COLD	**Coldfoot**	**19.36**	**24**		**P**	**14 23 05.5**	**+1.9**
COLD				IAmb	IAmb	14 23 13.6	
	comp=Z,6.8nm,0.8s						
E22K	**Anaktuvuk Pass**	**19.68**	**21**	P	**P**	**14 23 07.1**	**0.0**
G24K	**Hadweenzic Riv**	**19.73**	**27**	P	**P**	**14 23 09.6**	**+1.9**
G24K				IAmb	IAmb	14 23 14.0	
	comp=Z,20nm,1.4s						
PETK	**Petropavlovsk-**	**19.74**	**289**	P	**P**	**14 23 08.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=78,slow=11,SNR=7.3						
PETK				LR	LR	14 29 28.7	
	comp=Z,99nm,20.9s,baz=33,slow=33						
	comp=Z,6.4nm,0.9s						
E23K	**Chandalar**	**20.14**	**23**	P	**P**	**14 23 14.1**	**+1.9**
E23K				IAmb	IAmb	14 23 18.8	
	comp=Z,8.5nm,1.1s						
B21K	**Ikpikpuk River**	**20.37**	**16**	P	**P**	**14 23 15.3**	**+0.8**
B21K				IAmb	IAmb	14 23 22.2	
	comp=Z,7.5nm,0.8s						
TOLK	**Toolik Lake Re**	**20.60**	**22**		**P**	**14 23 18.6**	**+1.6**
TOLK				IAmb	IAmb	14 23 26.2	
	comp=Z,11nm,1.1s						
D23K	**Nanushuk River**	**20.60**	**20**	P	**P**	**14 23 18.8**	**+1.8**
EGAK	**Eagle**	**20.72**	**36**	P	**P**	**14 23 19.8**	**+1.4**
EGAK				IAmb	IAmb	14 23 39.5	
	comp=Z,7.4nm,0.9s						
BILL	**Bilibino**	**20.79**	**335**	P	**P**	**14 23 20.8**	**+1.8**
DAWY	**Dawson**	**21.09**	**39**		**P**	**14 23 24.7**	**+2.3**
DAWY				IAmb	IAmb	14 23 37.0	
	comp=Z,5.7nm,0.9s						
D24K	**Happy Valley**	**21.16**	**21**	P	**P**	**14 23 25.0**	**+1.9**
D24K				IAmb	IAmb	14 23 30.7	
	comp=Z,8.8nm,0.8s						
B22K	**Teshekpuk Lake**	**21.20**	**16**	P	**P**	**14 23 22.6**	**-0.8**
B22K				IAmb	IAmb	14 23 30.6	
	comp=Z,11nm,1.1s						
E25K	**Arctic Village**	**21.24**	**26**	IAmb	IAmb	14 23 33.1	
	comp=Z,6.4nm,0.7s						
C23K	**Itkillik River**	**21.31**	**19**	P	**P**	**14 23 25.6**	**+0.9**
C23K				IAmb	IAmb	14 23 32.2	
	comp=Z,9.8nm,0.8s						
I28M	**Miner Creek**	**21.50**	**35**	IAmb	IAmb	14 23 32.9	
	comp=Z,8.9nm,0.7s						
O30N	**Mendenhall**	**21.50**	**49**	P	**P**	**14 23 28.7**	**+1.8**
O30N				IAmb	IAmb	14 23 42.0	
	comp=Z,6.9nm,0.8s						
G27K	**Doyon Strip**	**21.61**	**31**	P	**P**	**14 23 29.7**	**+1.7**
C24K	**Franklin Bluff**	**21.63**	**20**	P	**P**	**14 23 28.7**	**+0.6**
C24K				IAmb	IAmb	14 23 34.6	
	comp=Z,12nm,0.9s						
M30M	**Minto, Yukon**	**21.64**	**44**	P	**P**	**14 23 30.4**	**+2.0**
M30M				IAmb	IAmb	14 23 38.4	
	comp=Z,12nm,1.5s						
K29M	**Barlow Dome**	**21.76**	**40**	IAmb	IAmb	14 23 43.2	
	comp

NOA	NORSAR Array B	68.57	359	P	P	14 29 43.3	+2.8
	comp=Z,0.9nm,0.9s,baz=0.0,slow=6.2,SNR=2.1						
	comp=Z,0.9nm,0.9s						
HFS	Hagfors	69.43	358	P	P	14 29 46.2	+0.3
	comp=Z,2.1nm,0.8s,baz=45,slow=4.3,SNR=1.8						
	comp=Z,2.1nm,0.8s						
AAK	Ala-Archa	71.21	315	LR	LR	15 04 18.7	
	comp=Z,39nm,18.9s,baz=38,slow=38						
CMAR	Chiang Mai Arr	76.35	282	P	P	14 30 27.3	-0.2
	comp=Z,0.9nm,0.3s,baz=42,slow=6.3,SNR=11						
	comp=Z,0.9nm,0.3s						
AKASG	Malin Array Be	77.57	347	P	P	14 30 33.4	-0.5
	comp=Z,0.4nm,0.5s,baz=17,slow=5.9,SNR=4.1						
AKASG				LR	LR	15 10 04.7	
	comp=Z,31nm,18.4s,baz=38,slow=40						
	comp=Z,0.4nm,0.5s						
MLR	Muntele Rosu	83.11	349	LR	LR	15 11 00.6	
	comp=Z,47nm,20.5s,baz=10.0,slow=38						
GNI	Garni	84.40	334	LR	LR	15 13 54.8	
	comp=Z,29nm,20.2s,baz=24,slow=39						
ASAR	Alice Springs	88.85	229	P	P	14 31 30.4	-1.9
	comp=Z,1.8nm,0.9s,baz=33,slow=5.3,SNR=11						
	comp=Z,1.8nm,0.9s						

IDC 09 14:19:20.8±1.9, 2°.25S×146°.28E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=345.5km s-min=29.7km az=118.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.10	213	P	P	14 24 07.1	-0.1
	0.7nm,0.7s,baz=38,slow=11,SNR=5.8						
	0.7nm,0.7s						
ASAR	Alice Springs	24.43	208	P	P	14 24 41.5	0.0
	0.7nm,0.9s,baz=40,slow=6.8,SNR=9.7						
	0.7nm,0.9s						
ILAR	Eielson Array	82.35	23	P	P	14 31 44.3	0.0
	0.2nm,0.7s,baz=263,slow=5.2,SNR=5.1						
	0.2nm,0.7s						

*IDC **09** 14:21:56.0±0.9, 2°.27S×139°.88E, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.1/1, Error ellipse: s-maj=22.4km s-min=10.1km az=16.0*
*DJA **09** 14:21:57.4±0.6, 2°.5±6°.×14°.0E±°, h10km, M4.4/8, mb4.5/4, MLv4.3/8*
ISC 09 14:21:57.5±0.8, 2°.15±0°.07×139°.97E±0°.08, h10km, n19, σ1§60/18, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	0.49	156	P	Pg	14 22 07.0	0.0
GENI				S	Sg	14 22 13.5	0.0
JAY	Jayapura	0.82	117	Pg	Pg	14 22 12.9	-0.5
	92nm,0.3s,baz=237,slow=12,SNR=237						
JAY				Lg	Lg	14 22 24.2	
	167nm,0.3s,baz=92,slow=18,SNR=11						
JAY	Jayapura	0.82	117	P	Pg	14 22 12.8	-0.6
SMPI	Sarmi	1.27	277	P	Pn	14 22 21.6	+0.3
WAMI	Wamena	2.14	216	P	Pn	14 22 35.7	+2.4
SRPI	Serui, Papua	3.74	274	P	Pn	14 22 57.1	+1.8
BAKI	Biak	3.98	284	P	Pn	14 22 59.9	+1.3
KMPI	Kaimana, Papua	6.43	256	P	Pn	14 23 31.3	-1.1
	0.7nm158nm,0.8s						
FAKI	Fak Fak	7.75	264	P	Pn	14 23 47.5	-3.0
	0.1nm27nm,1.5s						
SWI	Sorong	8.80	278	P	Pn	14 24 03.6	-1.3
PMG	Port Moresby	10.15	136	LR	LR	14 29 53.1	
	comp=Z,96nm,18.9s,baz=224,slow=47						
WRA	Warramunga Arr	18.52	197	P	P	14 26 10.5	-3.9
	0.4nm,0.3s,baz=19,slow=12,SNR=19						
WRA				S	Sn	14 29 24.8	-17
	0.4nm,0.7s,baz=20,slow=19,SNR=2.0						
	2.5nm,0.8s						
FITZ	Fitzroy Crossi	21.19	221	P	P	14 26 42.6	-0.8
	2.9nm,0.8s,baz=62,slow=8.9,SNR=5.4						
	2.9nm,0.8s						
ASAR	Alice Springs	22.18	195	P	P	14 26 52.4	-1.8
	3.1nm,0.8s,baz=29,slow=11,SNR=28						
	3.1nm,0.8s						
MKAR	Makanchi Array	70.12	322	P	P	14 33 11.4	+1.1
	0.7nm,0.7s,baz=106,slow=7.7,SNR=8.7						
	0.7nm,0.7s						
BVAR	Borovoye Array	79.58	325	P	P	14 34 05.0	+0.1
	1.9nm,0.7s,baz=116,slow=6.7,SNR=6.0						
	1.9nm,0.7s						
ILAR	Eielson Array	84.80	24	P	P	14 34 31.9	-0.1
	0.6nm,0.8s,baz=260,slow=5.8,SNR=5.1						
	0.6nm,0.8s						
DBIC	Dimbokro	144.65	278	PKP	PKPab	14 41 34.2	-0.1
	2.5nm,0.6s,baz=92,slow=3.3,SNR=5.5						
CPUP	Villa Florida	147.12	151	PKPbc	PKPdf	14 41 41.7	+2.1
	1.3nm,0.8s,baz=248,slow=4.8,SNR=3.8						

TXNET 09 14:24:06.3, 31°.7N±0°.7×104°.3W±0°.7, h7km±2km, ML1.6/5, Error ellipse: s-maj=1.2km s-min=1.1km az=153.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.36	47	P	Pg	14 24 13.4	0.0
TPB11				S	Sg	14 24 18.2	+0.1
GDL2	Guadalupe Moun	0.51	358	P	Pg	14 24 16.4	+0.2
PECS	Pecos	0.52	128	P	Pg	14 24 16.6	+0.2
PECS				S	Sg	14 24 23.3	+0.1
TPB07	Mentone	0.59	101	S	Sb	14 24 26.5	-1.1
TPB10	Southeast of T	0.65	129	S	Sg	14 24 27.8	+0.5
CLNB	Carlsbad	0.69	35	S	Sg	14 24 29.2	+0.4
MNTX	Cornudas Mount	0.89	271	P	Pg	14 24 23.6	+0.2
MNTX				S	Sb	14 24 35.7	-0.4
TPB01	Permian Basin	0.89	147	P	Pg	14 24 22.7	-0.7
TPB01				S	Sg	14 24 34.1	-0.9
VHRN	Van Horn	1.06	211	P	Pg	14 24 26.6	-0.1
VHRN				S	Sb	14 24 40.9	-0.3
CPRX	Cap Rock	1.39	17	P	Pn	14 24 32.2	-0.2
MNHN	Monahans	1.40	104	P	Pn	14 24 32.2	-0.1
MNHN				S	Sg	14 24 51.2	0.0
ODSA	Odessa	1.58	74	S	Sb	14 24 56.3	-0.1
TX31	Lajitas Ar. Si	2.42	166	Pg	Pb	14 24 49.7	-0.6

*NAO **09** 14:39:45.6±2.3, 71°.57N×3°.06W, ML2.9*
*BER **09** 14:39:48.4±3.2, 71°.61N×3°.24W, h10km, mb(Pn)4.0, ML2.9(NAO), Confirmed Earthquake*
ISC 09 14:39:45.3±1.1, 71°.7N±0°.1×3°.11W±0°.09, h10km, n30, σ1§97/33, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	Daneborg	5.66	306	Pn	Pn	14 41 10.4	+1.1
DBG	Daneborg	5.66	306	eP	Pn	14 41 10.3	+1.0
DBG				eS	Sn	14 42 10.1	-4.2
DBG	Daneborg	5.66	306	i P	Pn	14 41 10.4	+1.1
DAG	Danmarks Havn	6.62	328	eP	Pn	14 41 24.1	+1.6
DAG				eS	Sn	14 42 29.3	-8.5
DAG	Danmarks Havn	6.62	328	e	Pn	14 41 21.5	-0.9
	baz=129,slow=18						
DAG				i P	Pn	14 41 24.9	+2.5
DAG				eS	Sn	14 42 27.3	-11
DAG				IAML		14 42 36.6	
	comp=Z,2.5nm,0.4s						
LOF	Lofoten	6.73	114	Pn	Pn	14 41 25.4	+1.4
LOF	Lofoten	6.73	114	eP	Pn	14 41 25.0	+1.0
LOF				IAML		14 41 28.7	
	comp=Z,5.8nm,0.9s						
STEI	Steigen	7.36	112	Pn	Pn	14 41 33.5	+0.9
STEI	Steigen	7.36	112	eP	Pn	14 41 33.5	+0.9
STEI				eP	Pb	14 41 34.1	-19
TRO	Tromso	7.58	95	Pn	Pn	14 41 35.3	-0.3
TRO	Tromso	7.58	95	eP	Pn	14 41 35.5	-0.1
TRO				IAML		14 41 37.1	
	comp=Z,3.2nm,1.0s						
FAUS	Fauske	7.73	115	eP	Pn	14 41 38.7	+1.0
FAUS				IAML		14 41 39.1	
	comp=Z,2.3nm,0.7s						
STOK	Stokkvaagen	7.86	125	Pn	Pn	14 41 40.5	+1.0
LEIR	Leirfjorden	8.06	126	eP	Pn	14 41 43.2	+1.0
JETT	Jettan, Norway	8.08	94	Pn	Pn	14 41 42.7	+0.2
JETT	Jettan, Norway	8.08	94	Pn	Pn	14 41 42.7	+0.2
SPA0	Spitsbergen Ar	8.21	29	Pn	Pn	14 41 48.8	+4.5
	baz=205,slow=16						
SPA0	Spitsbergen Ar	8.21	29	Pn	Pn	14 41 48.8	+4.5
	baz=205,slow=16						

KIF	Kilpisjarvi	8.46	97	Pn	Pn	14 41 48.3	+0.7
KIF				Sn	Sn	14 43 18.0	-5.0
KIF	Kilpisjarvi	8.46	97	eP	Pn	14 41 47.1	-0.5
SALU	Saltoluokta	8.67	109	eP	Pn	14 41 51.7	+1.0
KTK1	Kautokeino	9.22	94	eP	Pn	14 41 58.6	+0.5
HEF	Hetta	9.66	97	Pn	Pn	14 42 04.6	+0.5
HEF	Hetta	9.66	97	Pn	Pn	14 42 04.6	+0.5
ARA0	ARCESS Array S	9.70	89	Pn	Pn	14 42 05.8	+1.1
	baz=291,slow=12						
ARA0	ARCESS Array S	9.70	89	Pn	Pn	14 42 05.8	+1.1
	baz=291,slow=12						
AKN	Aaknes	10.30	153	Pn	Pn	14 42 14.7	+1.8
AKN	Aaknes	10.30	153	Pn	Pn	14 42 14.7	+1.8
HFS	Hagfors	13.38	141	Pn	Pn	14 42 55.4	+0.5
	baz=345,slow=12						
HFS	Hagfors	13.38	141	Pn	Pn	14 42 55.4	+0.5
	baz=345,slow=12						

*NOU **09** 14:40:00.7, 37°.15S×179°.06E, h6km, ML3.5/8, Off E. Coast of N. Island, N.Z.*
*WEL **09** 14:40:00.1±1.1, 37°.5±6°.×17°.9E±1°.1, h12km, M3.3/13, ML3.6/16, MLv3.3/13, Error ellipse: s-maj=14.0km s-min=7.2km az=102.8, confirmed*
ISC 09 14:39:59.8±3.0, 36°.98S±0°.08×179°.0E±0°.1, h6km±11km, n28, σ1§03/36, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.81	224	P	Pg	14 40 14.3	-1.1
MXZ	Matakaoa Point	0.81	224	S	Sg	14 40 25.3	-0.7
MXZ	Matakaoa Point	0.81	224	P	Pg	14 40 13.9	-1.5
MXZ				S	Sg	14 40 24.9	-1.0
WMGZ	Waiomatatini S	0.96	210	P	Pg	14 40 19.6	+1.3
WMGZ				S	Sn	14 40 34.1	+0.3
PKGZ	Pakihiroa	1.16	220	P	Pg	14 40 22.8	+0.8
PKGZ				S	Sn	14 40 39.0	+0.3
PUZ	Puketiti	1.24	209	P	Pn	14 40 23.2	-0.5
PUZ				S	Sb	14 40 40.4	+0.4
HAZ	Te Kaha	1.25	232	P	Pn	14 40 21.1	-2.7
HAZ				S	Sg	14 40 42.2	+2.1
RUGZ	Raukumara Rang	1.45	227	P	Pn	14 40 25.9	-0.7
RUGZ				S	Sg	14 40 46.6	+0.2
TWGZ	Tauwhareparae	1.45	214	P	Pn	14 40 26.5	0.0
TWGZ				S	Sb	14 40 47.0	+1.0
CNGZ	Carnagh Statio	1.63	203	P	Pn	14 40 29.2	+0.2
TKGZ	Te Karaka	1.73	212	P	Pn	14 40 29.6	-0.7
MWZ	Matawai	1.79	221	P	Pn	14 40 31.4	0.0
RAGZ	Rawiri	1.98	220	P	Pn	14 40 33.7	-0.1
URZ	Urewera	1.98	229	P	Pn	14 40 34.0	+0.2
URZ	Urewera	1.98	229	P	Sn	14 40 59.1	+0.2
URZ	Urewera	1.98	229	P	Pn	14 40 33.9	+0.2
URZ				S	Sn	14 40 58.7	-0.3
RIGZ	Rimuhau	1.99	210	P	Pn	14 40 33.1	-0.9
MARZ	Manawahe	2.12	241	P	Pn	14 40 35.9	+0.2
PRGZ	Paritu Road	2.13	205	P	Pn	14 40 35.5	-0.5
OPRZ	Ohinepanea	2.14	246	P	Pn	14 40 36.3	+0.3
SNGZ	Shannon Statio	2.23	216	P	Pn	14 40 37.0	-0.3
RTZ	Ruatahuna	2.29	224	P	Pn	14 40 38.3	+0.1
TGRZ	Tauranga	2.32	251	P	Pn	14 40 38.6	+0.1
BKZ	Black Stump Fm	2.95	222	P	Pn	14 40 46.6	-0.7
BKZ	Black Stump Fm	2.95	222	S	Sn	14 41 21.1	-1.9
HIZ	Hauiti	3.64	244	P	Pn	14 40 58.0	+1.4
WCZ	Waipu Caves	3.91	284	P	Pn	14 40 58.6	-1.8
OUZ	Omahuta	4.73	290	P	Pn	14 41 13.0	+1.4

IDC 09 14:44:23.4±3.9, 9°.08N×124°.41E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=388.9km s-min=29.8km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.45	161	P	P	14 50 37.7	-0.3
	0.2nm,0.6s,baz=341,slow=7.9,SNR=1.3						
	0.2nm,0.6s						
ASAR	Alice Springs	33.84	164	P	P	14 51 07.9	+0.1
	0.2nm,0.4s,baz=344,slow=7.1,SNR=9.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	51.88	324	P	P	14 53 33.7	-0.1
	0.1nm,0.4s,baz=138,slow=7.6,SNR=1.8						
	0.1nm,0.4s						

*BJI **09** 15:03:40.1, 20°.44S×178°.19W, h521km, mB4.9/12, mb4.6/45*
*NEIC **09** 15:03:42.4±2.3, 20°.8S±0°.1×178°.2W±0°.1, h545km±7km, mb4.9/100, Error ellipse: s-maj=18.9km s-min=15.9km az=128.0*
*MOS **09** 15:03:43.5±2.2, 19°.78S×178°.91W, h507km, mb4.7/16, Error ellipse: s-maj=12.8km s-min=10.2km az=118.5*
*NOU **09** 15:03:44.6, 20°.61S×178°.36W, h560km, mb4.9/52, Fiji Islands Region*
*IDC **09** 15:03:44.2±1.1, 20°.59S×178°.42W, h554km±11km, mb3.9/22, mbtmp4.8/24, Error ellipse: s-maj=11.5km s-min=10.4km az=122.0*
*BGR **09** 15:03:48.4, 20°.52S×178°.56W, h592km*
ISC 09 15:03:44.4±0.4, 20°.65S±0°.05×178°.39W±0°.05, h565km±4km, h566km:pP-P, n802, σ0§98/829, mb4.8/120, 99C-22D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.44	350	P	P	15 04 57.5	-0.2
LKBA	Tubou, Lakemba	2.44	350	S	S	15 05 56.9	-0.2
MSVF	Nonsavu	4.44	310	P	P	15 05 10.8	0.0
	128nm,0.5s,baz=182,slow=5.0,SNR=86						
MSVF	Nonsavu	4.44	310	P	P	15 05 10.9	0.0
DGTI	Dogotuki	4.68	337	P	P	15 05 12.4	-0.3
FUTU	Fugatoga	6.31	2	P	P	15 05 26.2	-0.6
FUTU	Fugatoga	6.31	2	P	P	15 05 26.3	-0.4
NIUE	Niue	8.11	80	P	P	15 05 42.2	-1.5
NIUE	Niue	8.11	80	P	P	15 05 42.8	-1.0
NIUE	Niue	8.11	80	S	S	15 07 21.4	-0.2
NIUE	Niue	8.11	80	P	P	15 05 42.4	-1.4
AFI	Afiamalu	9.21	44	P	P	15 05 50.9	-3.9
AFI	Afiamalu	9.21	44	P	P	15 05 50.9	-3.9
AFI	Afiamalu	9.21	44	P	P	15 05 51.0	-3.7
PINNC	Pines Island,	13.32	259	P	P	15 06 37.2	+0.5
DZM	Mont Dzumac	14.21	262	P	P	15 06 45.0	-0.9
DZM	Mont Dzumac	14.21	262	P	P	15 06 44.9	-0.9
	24nm,0.7s,baz=84,slow=17,SNR=21						
DZM	Mont Dzumac	14.21	262	P	P	15 06 45.6	-0.2
ONTNC	Ouen Toro	14.21	261	P	P	15 06 44.3	-1.5
OUZ	Omahuta	16.14	204	P	P	15 07 05.6	+1.1
KOUNC	Koumac, New Ca	16.23	267	P	P	15 07 07.5	+1.9
WCZ	Waipu Caves	16.51	201	P	P	15 07 09.4	+1.5
WMGZ	Waiomatatini S	17.33	189	P	P	15 07 14.0	-1.3
HAZ	Te Kaha	17.37	190	P	P	15 07 15.3	-0.3
PKGZ	Pakihiroa	17.43	189	P	P	15 07 14.9	-1.3
RUGZ	Raukumara Rang	17.59	190	P	P	15 07 17.2	-0.6
PUZ	Puketiti	17.61	189	P	P	15 07 16.7	-1.2
TGRZ	Tauranga	17.64	194	P	P	15 07 19.6	+1.4
OPRZ	Ohinepanea	17.69	193	P	P	15 07 20.0	+1.4
TWGZ	Tauwhareparae	17.75	189	P	P	15 07 18.4	-0.8
KMRZ	Kaimai	17.83	195	P	P	15 07 21.3	+1.4
TOZ	Tahuroa Road	17.83	196	P	P	15 07 20.4	+0.5
TOZ	Tahuroa Road	17.83	196	P	P	15 07 21.2	+1.4
MWZ	Matawai	17.98	190	P	P	15 07 19.9	-1.3
URZ	Urewera	17.98	192	P	P	15 07 18.9	-2.3
	30nm,0.8s,baz=346,slow=4.0,SNR=22						
URZ				S	S	15 10 12.9	-4.6
	7.2nm,0.6s,baz=299,slow=23,SNR=6.3						
URZ	Urewera	17.98	192	P	P	15 07 18.7	-2.5
OMRZ	Omania	17.98	194	P	P	15 07 21.5	+0.2
CNGZ	Carnagh Statio	18.02	189	P	P	15 07 21.7	+0.1
TKGZ	Te Karaka	18.03	190	P	P	15 07 21.6	-0.1
TARZ	Mount Tarawera	18.07	193	P	P	15 07 22.1	-0.2
RRRZ	Republican Roa	18.17	193	P	P	15 07 22.4	-0.7
MUGZ	Murupara	18.25	192	P	P	15 07 22.7	-1.0
HRRZ	Handcock Road	18.27	193	P	P	15 07 23.9	0.0
RIGZ	Rimuhau	18.30	190	P	P	15 07 23.8	-0.4
RTZ	Ruatahuna	18.35	192	P	P	15 07 23.4	-1.3
RTZ	Ruatahuna	18.35	192	P	P	15 07 23.5	-1.2
PRRZ	Plateau Road	18.35	193	P	P	15 07 24.1	-0.5
TLZ	Tolley Road	18.39	195	P	P	15 07 25.7	+0.6
ALRZ	Allen Road	18.42	193	P	P	15 07 24.1	-1.2
SNGZ	Shannon Statio	18.44	191	P	P	15 07 23.7	-1.8
MTHZ	Maungataniwha	18.60	192	P	P	15 07 25.5	-1.5
RAHZ	Arahi	18.62	191	P	P	15 07 26.0	-1.1

KNZ	Kokohu	18.62	190	P	P	15 07 26.1	-1.0
WATZ	Wairara	18.70	194	P	P	15 07 28.5	+0.7
HIZ	Hauiti	18.74	197	P	P	15 07 29.8	+1.7
HIZ	Hauiti	18.74	197	P	P	15 07 30.0	+1.9
HIZ	Hauiti	18.74	197	P	P	15 07 29.5	+1.4
RATZ	Rangitukua	18.84	194	P	P	15 07 28.3	-0.8
NMHZ	Naumai	18.85	192	P	P	15 07 27.4	-1.9
RITZ	Rihia Road	18.93	194	P	P	15 07 28.6	-1.3
KATZ	Kakaramea	18.96	194	P	P	15 07 30.8	+0.4
BKZ	Black Stump Fm	18.97	192	P	P	15 07 28.2	-2.2
BKZ	Black Stump Fm	18.97	192	P	P	15 07 28.1	-2.2
NTVZ	North Tongarir	19.09	194	P	P	15 07 30.7	-0.8
TMVZ	Te Maari	19.09	194	P	P	15 07 30.3	-1.2
ETVZ	East Tongariro	19.11	194	P	P	15 07 30.4	-1.3
TWVZ	Taurewa	19.11	195	P	P	15 07 31.5	-0.2
WTVZ	West Tongariro	19.12	194	P	P	15 07 30.6	-1.2
NNVZ	North Ngauruho	19.13	194	P	P	15 07 31.4	-0.5
OTVZ	Oturere	19.15	194	P	P	15 07 30.5	-1.6
NGZ	Ngauruhoe	19.18	194	P	P	15 07 32.1	-0.3
SNVZ	South Ngauruho	19.18	194	P	P	15 07 31.3	-1.0
MCHZ	McNeill Hill	19.20	192	P	P	15 07 30.4	-2.0
COVZ	Chateau Observ	19.21	194	P	P	15 07 32.4	-0.2
KWHZ	Kaweka Forest	19.24	192	P	P	15 07 31.2	-1.5
TUVZ	Tukino	19.25	194	P	P	15 07 31.9	-1.1
TRVZ	Turoa	19.31	194	P	P	15 07 32.9	-0.7
WNVZ	Wahianoa	19.32	194	P	P	15 07 32.5	-1.1
VRZ	Vera Road	19.34	196	P	P	15 07 34.3	+0.7
PKVZ	Pokaka	19.34	195	P	P	15 07 34.9	+1.1
MOVZ	Moawhango	19.36	194	P	P	15 07 33.0	-0.9
KRHZ	Kereru	19.46	192	P	P	15 07 33.4	-1.4
KAHZ	Kahuranaki	19.51	191	P	P	15 07 34.5	-0.7
NEZ	North Egmont	19.65	198	P	P	15 07 38.8	+2.3
PXZ	Pawanui	19.74	191	P	P	15 07 36.7	-0.6
WAZ	Wanganui	19.87	195	P	P	15 07 38.3	-0.2
TSZ	Takapari Road	19.94	193	P	P	15 07 37.9	-1.3
MRZ	Mangatainoka R	20.60	193	P	P	15 07 42.5	-2.5
MRZ	Mangatainoka R	20.60	193	P	P	15 07 42.8	-2.2
BHW	Baring Head	21.47	194	P	P	15 07 50.2	-2.6
QRZ	Quartz Range	21.55	199	P	P	15 07 53.5	-0.1
TKNZ	Takaka Hill	21.61	198	P	P	15 07 52.6	-1.5
NNZ	Nelson	21.66	197	P	P	15 07 53.6	-1.0
NNZ	Nelson	21.66	197	P	P	15 07 53.5	-1.0
TUWZ	Tuamarina	21.71	196	P	P	15 07 53.9	-1.1
MRNZ	Matariki Terra	22.01	198	P	P	15 07 56.4	-1.3
THZ	Tophouse	22.30	197	P	P	15 07 59.0	-1.3
THZ	Tophouse	22.30	197	P	P	15 07 59.1	-1.3
DSZ	Denniston Nort	22.61	199	P	P	15 08 02.1	-1.0
DSZ	Denniston Nort	22.61	199	P	P	15 08 02.0	-1.0
KHZ	Kahutara	22.74	196	P	P	15 08 02.8	-1.4
KHZ	Kahutara	22.74	196	P	P	15 08 02.6	-1.5
GVZ	Greta Valley S	23.39	196	P	P	15 08 08.4	-1.6
GVZ	Greta Valley S	23.39	196	P	P	15 08 08.4	-1.6
LTZ	Lake Taylor	23.42	197	P	P	15 08 08.3	-2.0
LTZ	Lake Taylor	23.42	197	P	P	15 08 08.5	-1.8
INZ	Inchbonnie	23.61	199	P	P	15 08 10.2	-1.7
INZ	Inchbonnie	23.61	199	P	P	15 08 10.6	-1.3
OXZ	Oxford	23.99	197	P	P	15 08 13.9	-1.4
WVZ	Waitaha Valley	24.15	200	P	P	15 08 15.9	-0.8
MQZ	McQueen's Vall	24.18	196	P	P	15 08 15.2	-1.6
FOZ	Fox Glacier	24.86	201	P	P	15 08 21.9	-1.0
FOZ	Fox Glacier	24.86	201	P	P	15 08 22.0	-0.9
TMZ	Timaru	25.26	198	P	P	15 08 25.8	-0.6
LBZ	Lake Benmore	25.50	199	P	P	15 08 27.2	-1.4
JCZ	Jackson Bay	25.68	202	P	P	15 08 29.9	-0.5
ODZ	Otahua Downs	25.96	198	P	P	15 08 33.2	+0.5
ODZ	Otahua Downs	25.96	198	P	P	15 08 31.6	-1.1
WKZ	Wanaka	26.27	201	P	P	15 08 34.5	-1.0
HHSZ	Highcliff Hill	26.75	197	P	P	15 08 40.0	+0.4
MLZ	Mavora Lakes	27.05	201	P	P	15 08 42.4	+0.2
TUZ	Tuapeka	27.09	199	P	P	15 08 42.4	-0.1
WHZ	Wether Hill Ro	27.57	201	P	P	15 08 47.2	+0.5
TW1H	Toowoomba 1 Ha	27.87	250	P	P	15 08 51.1	+1.4
EIDS	Eidsvold	28.46	255	P	P	15 08 53.9	-0.9
EIDS	Eidsvold	28.46	255	P	P	15 08 55.2	+0.4
ARMA	Armidale	28.68	244	P	P	15 08 56.4	-0.4
RK1H	Rockhampton Ha	28.95	259	P	P	15 08 59.3	+0.2
AULRC	Lightning Ridg	31.61	247	P	P	15 09 22.7	+0.8
TV1H	Townsville Har	32.72	266	P	P	15 09 31.8	+0.4
QLP	Quilpie	34.67	253	P	P	15 09 48.0	+0.3
PMG	Port Moresby	35.02	283	P	P	15 09 50.5	-0.3
	51nm,0.9s,baz=72,slow=7.3,SNR=18						
	51nm,0.9s						
PMG	Port Moresby	35.02	283	P	P	15 09 51.0	+0.2
MTSU	Mount Surprise	35.22	268	P	P	15 09 52.9	+0.5
MTSU	Mount Surprise	35.22	268	S	S	15 14 47.6	+1.0
TOO	Toolangi	35.52	234	P	P	15 09 56.1	+1.5
TOO	Toolangi	35.52	234	P	P	15 09 56.1	+1.5
TOO				pmax	pmax		
	comp=Z,18nm,1.4s						
COEN	Coen	37.23	274	P	P	15 10 09.2	+0.2
COEN	Coen	37.23	274	P	P	15 10 09.6	+0.6
STKA	Stephens Creek	37.40	244	P	P	15 10 10.6	+0.5
	comp=Z,4.0nm,0.6s,baz=95,slow=10.0,SNR=11						
	comp=Z,4.0nm,0.6s						
STKA	Stephens Creek	37.40

NLAI	Namlea	55.77	280	P		P		15 12 26.4	-2.5
	comp=Z,58nm,1.4s								
SOEI	Soe	56.14	272	P		P		15 12 31.5	-0.1
SOEI	Soe	56.14	272	P		P		15 12 33.4	+1.8
TNTI	Ternate	57.15	285	P		P		15 12 39.3	+0.9
TNTI	Ternate	57.15	285	P		P		15 12 35.5	-2.9
	comp=Z,1µmcomp=Z,99nm,1.0s								
SANI	Sanana	57.26	281	P		P		15 12 39.0	-0.1
SANI	Sanana	57.26	281	P		P		15 12 38.0	-1.1
	comp=Z,65nm,1.2s								
PSA00	Pilbara Seismi	57.28	257	P		P		15 12 38.8	-0.5
MBWA	Marble Bar	57.47	258	P		P		15 12 39.8	-0.7
MBWA	Marble Bar	57.47	258	P		P		15 12 40.0	-0.4
MBWA				pP		pP		15 14 27.9	-0.7
MBWA				sP		sP		15 15 28.9	+0.2
VNDA	Vanda	57.73	185	P		P		15 12 42.7	+1.4
	comp=Z,8.9nm,0.9s,baz=4.5,slow=8.3,SNR=16								
	comp=Z,8.9nm,0.9s								
VNDA	Vanda	57.73	185	P		P		15 12 43.2	+2.0
VNDA				PcP		PcP		15 13 27.6	+1.3
MORW	Morawa	59.44	248	P		P		15 12 53.2	-0.4
KDI	Kendari	59.65	278	P		P		15 12 54.2	-1.0
SGSI	Sangihe	60.06	287	P		P		15 12 57.1	-0.8
KMSI	Cibinong	60.14	283	P		P		15 12 57.8	-0.7
	comp=Z,2µmcomp=Z,119nm,1.1s								
LUWI	Luwuk	60.60	281	P		P		15 13 02.6	+1.1
LUWI	Luwuk	60.60	281	P		P		15 13 02.2	+0.7
	comp=Z,1µmcomp=Z,102nm,1.0s								
APSI	Ampana	61.69	281	P		P		15 13 09.1	+0.5
KAPI	Kappang	61.94	275	*de*P		P		15 13 11.1	+0.8
KAPI				pmax		pmax			
	comp=Z,39nm,1.3s								
MRSI	Marisa	61.97	282	P		P		15 13 09.4	-1.0
GIRL	Giralia	62.16	255	P		P		15 13 10.3	-1.3
CCD	Concordia, Ant	62.23	194	P		P		15 13 12.7	+1.1
CCD				PcP		PcP		15 13 45.4	+0.4
PLAI	Plampang	62.51	271	P		P		15 13 14.2	+0.2
TOLI2	Tolitoli	63.28	282	P		P		15 13 18.9	0.0
TOLI2				IAmb		IAmb		15 13 19.9	
	comp=Z,32nm,1.1s								
CASY	Casey	63.67	205	P		P		15 13 20.6	+0.2
CASY				pP		pP		15 15 10.1	-2.2
QSPA	South Pole Qui	69.42	180	P		P		15 13 57.3	+1.2
	comp=Z,37nm,0.9s,baz=27,slow=2.6,SNR=88								
	comp=Z,37nm,0.9s								
QSPA	South Pole Qui	69.42	180	P		P		15 13 57.5	+1.4
QSPA				pP		pP		15 15 51.1	+0.3
KKM	Kota Kinabalu	69.45	285	P		P		15 13 57.6	+0.5
KKM				IAmb		IAmb		15 13 58.8	
	comp=Z,32nm,1.0s								
UGM	Wanagama	69.60	269	P		P		15 13 56.5	-1.5
MJAR	Matsushiro Arr	70.11	324	P		P		15 14 00.4	-0.2
	comp=Z,4.0nm,0.6s,baz=167,slow=5.5,SNR=27								
	comp=Z,4.0nm,0.6s								
MAJO	Matsushiro	70.12	324	P		P		15 13 59.7	-0.8
MAJO	Matsushiro	70.12	324	⇑*e*P		P		15 13 59.3	-1.3
MAJO				pmax		pmax			
	comp=Z,34nm,1.9s								
SBUM	Sibu	71.67	280	P		P		15 14 11.4	+1.2
ADK	Adak	72.23	1	P		P		15 14 11.7	-0.8
ADK	Adak	72.23	1	P		P		15 14 11.7	-0.8
GSTR	Great Sitkin T	72.46	2	P		P		15 14 13.6	-0.3
KSM	Kuching	73.07	278	P		P		15 14 19.4	+1.1
JKA	Kamikawa-asahi	73.68	332	P		P		15 14 22.8	+1.8
JKA				IAmb		IAmb		15 14 24.0	
	comp=Z,37nm,1.1s								
ASAJ	Asahikawa	73.69	332	P		P		15 14 22.8	+1.8
ASAJ				pmax		pmax			
	comp=Z,37nm,1.1s								
SSLB	Suanglung	73.75	304	P		P		15 14 20.9	-1.0
TPUB	Ta-pu	73.75	303	P		P		15 14 20.5	-1.4
TPUB	Ta-pu	73.75	303	P		P		15 14 21.0	-0.9
UNV	Unalaska Valle	74.89	7	P		P		15 14 26.8	-0.7
UNV	Unalaska Valle	74.89	7	P		P		15 14 27.0	-0.5
	baz=191								
YSS	Yuzhno-Sakhali	75.87	334	P		P		15 14 33.4	+0.3
YSS	Yuzhno-Sakhali	75.87	334	P		P		15 14 34.6	+1.5
YSS	Yuzhno-Sakhali	75.87	334	*e*P		P		15 14 34.3	+1.2
YSS				pmax		pmax			
	comp=Z,20nm,1.1s								
YSS				pmax		pmax			
	comp=Z,400nm,5.4s								
FALS	False Pass	76.28	9	P		P		15 14 35.4	+0.2
	baz=194								
PEA0B	Petropavlovsk-	76.32	345	⇑*e*P		P		15 14 35.7	+0.2
PETK	Petropavlovsk-	76.32	345	P		P		15 14 35.8	+0.3
	comp=Z,27nm,0.8s,baz=131,slow=10.0,SNR=48								
	comp=Z,27nm,0.8s								
KSRS	Korea Array	76.76	319	P		P		15 14 39.4	+1.1
	comp=Z,2.7nm,0.7s,baz=125,slow=5.9,SNR=10								
	comp=Z,2.7nm,0.7s								
S12K	Black Hills	77.30	9	P		P		15 14 40.1	-0.8
S12K	Black Hills	77.30	9	P		P		15 14 40.8	-0.1
	baz=195								
SPIA	Saint Paul Isl	77.82	5	P		P		15 14 43.5	0.0
	baz=188								
S14K	Fog Glacier	78.27	11	P		P		15 14 46.0	-0.1
	baz=198								
PSTR	Posyet	78.47	324	⇑*e*P		P		15 14 48.2	+0.8
CHGN	Chignik	78.49	11	P		P		15 14 47.3	+0.1
	baz=199								
CHIR	Chirikof Islan	78.58	13	P		P		15 14 48.0	+0.3
	baz=202								
USA0B	Ussuriysk Arra	78.88	326	*ce*P		P		15 14 50.1	+0.5
USRK	Ussuriysk Ar.	78.88	326	P		P		15 14 50.6	+1.0
	comp=Z,12nm,0.9s,baz=120,slow=4.1,SNR=16								
	comp=Z,12nm,0.9s								
TYV	Tymovskoe	79.03	336	*e*P		P		15 14 51.1	+0.9
TYV				*e*S		S		15 23 59.3	-3.8
TYV				pmax		pmax			
	comp=Z,29nm,1.1s								
TYV				pmax		pmax			
	comp=Z,400nm,4.4s								
TYV				smax		smax			
	comp=N,400nm,5.8s								
TYV				smax		smax			
	comp=E,400nm,5.8s								
BELA	Belgrano 2	79.46	173	P		P		15 14 51.5	-0.7
SII	Sitkinak Islan	79.57	13	P		P		15 14 53.6	+0.7
	baz=203								
SII	Sitkinak Islan	79.57	13	P		P		15 14 53.6	+0.7
NJ2	Nanjing	79.70	310	*e*P		P		15 14 55.2	+1.1
NJ2				pmax		pmax			
	comp=E,21nm,1.2s								
R16K	Pilot Point	79.84	11	P		P		15 14 54.8	+0.6
	baz=200								
OHAK	Old Harbor	80.38	14	P		P		15 14 56.5	-0.6
OHAK				IAmb		IAmb		15 14 58.8	
	comp=Z,55nm,1.5s								
OHAK	Old Harbor	80.38	14	P		P		15 14 57.6	+0.5
	baz=204								
OHAK	Old Harbor	80.38	14	P		P		15 14 57.8	+0.7
MDJ	Mudanjiang	80.43	325	P		P		15 14 59.5	+1.8
MDJ				pmax		pmax			
	comp=Z,26nm,1.7s								
MDJ				pmax		pmax			
	comp=Z,190nm,4.5s								
Q17K	Contact Creek	80.81	12	P		P		15 14 59.3	-0.1
	baz=201,SNR=17								
O14K	Tigyukauivet M	80.85	9	P		P		15 15 00.1	+0.7
	baz=196								
O15K	Ungalikthiuk R	80.99	10	P		P		15 15 00.4	+0.2
	baz=197								
DSP	Deep Springs	81.00	45	P		P		15 15 01.6	+0.8
KDAK	Kodiak Island	81.05	14	P		P		15 15 01.1	+0.6
	baz=204								
KDAK	Kodiak Island	81.05	14	⇑*e*P		P		15 15 01.3	+0.8
KDAK				pmax		pmax			
	comp=Z,23nm,1.0s								
Q16K	King Salmon	81.05	11	P		P		15 15 00.8	+0.3
	baz=200,SNR=11								
P16K	Nushagak River	81.15	11	P		P		15 15 01.4	+0.4
	baz=199,SNR=5.1								
M11K	Mekoryuk	81.35	6	P		P		15 15 03.2	+1.3
	baz=191								
NVAR	Mina Array Bea	81.38	44	P		P		15 15 04.5	+1.5
	comp=Z,4.3nm,0.8s,baz=226,slow=9.4,SNR=21								
	comp=Z,4.3nm,0.8s								
N14K	Kuskokwak Cree	81.43	8	P		P		15 15 03.4	+1.0
	baz=196								
GRNR	Gornyy	81.47	333	⇓*i*P		P		15 15 04.1	+1.2
GRNR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
P17K	Kvichak River	81.58	11	P		P		15 15 03.5	+0.3
	baz=200,SNR=17								
O16K	Kokwok River B	81.66	10	IAmb		IAmb		15 15 04.2	
	comp=Z,32nm,0.9s								
O16K	Kokwok River B	81.66	10	P		P		15 15 03.3	-0.4
	baz=199								
Q20K	Shuyak Island	81.84	13	P		P		15 15 05.1	+0.5
	baz=204								
SYI	Shuyak Island	81.84	13	IAmb		IAmb		15 15 06.2	
	comp=Z,38nm,1.1s								
Q19K	Cape Douglas,	81.87	13	P		P		15 15 04.7	-0.1
	baz=203								
N15K	Kwethluk River	81.90	9	P		P		15 15 06.1	+1.2
	baz=197								
P18K	Big Mountain,	81.99	12	IAmb		IAmb		15 15 06.3	
	comp=Z,43nm,0.9s								
P18K	Big Mountain,	81.99	12	P		P		15 15 05.3	0.0
	baz=202,SNR=10								
O17K	Koliganek Bris	82.00	11	P		P		15 15 05.4	0.0
	baz=200								
M14K	Bethel	82.20	8	P		P		15 15 07.5	+1.2
	baz=195,SNR=6.3								
CN2	Changchun	82.20	323	P		P		15 15 07.0	+0.2
CN2				pmax		pmax			
	comp=Z,20nm,1.3s								
WHN	Wuhan	82.24	307	P		P		15 15 08.6	+1.3
WHN				pmax		pmax			
	comp=Z,48nm,1.2s								
M15K	Kasigluk River	82.31	9	P		P		15 15 07.8	+0.8
	baz=196								
BNX	BinXian	82.34	325	⇓P		P		15 15 07.6	+0.2
BNX				pmax		pmax			
	comp=Z,18nm,0.9s								
O18K	Koktuh Hills	82.42	12	P		P		15 15 07.7	+0.1
	baz=202,SNR=22								
J05D	Fort Rock, OR	82.45	38	IAmb		IAmb		15 15 11.2	
	comp=Z,28nm,0.8s								
KLR	Kul'dur	82.47	330	*de*P		P		15 15 08.9	+0.9
KLR				pmax		pmax			
	comp=Z,20nm,2.5s								
P19K	Oil Pt	82.62	13	P		P		15 15 08.7	+0.2
	baz=204								
L14K	Kuka Creek	82.68	8	P		P		15 15 09.7	+1.0
	baz=195								
N17K	Nushagak Hills	82.70	10	P		P		15 15 08.1	-0.8
N17K	Nushagak Hills	82.70	10	P		P		15 15 09.3	+0.4
	baz=200								
M16K	Timber Creek	82.88	9	P		P		15 15 11.4	+1.6
	baz=198,SNR=13								
O19K	Port Alsworth	82.91	12	P		P		15 15 09.9	+0.1
	baz=202,SNR=32								
CNPM	China Poot	82.93	14	IAmb		IAmb		15 15 11.5	
	comp=Z,40nm,0.9s								
HOM	Homer	82.96	13	P		P		15 15 11.6	+1.5
	baz=205								
K13K	Kusilvak Mount	83.03	6	P		P		15 15 11.6	+1.2
	baz=193								
N18K	Kilae Creek	83.07	11	P		P		15 15 10.7	-0.1
	baz=201								
TIA	Tai'an	83.11	313	P		P		15 15 12.1	+0.6
TIA				pmax		pmax			
	comp=Z,13nm,1.1s								
R11B	Troy Canyon, C	83.11	45	P		P		15 15 12.6	+0.8
	baz=237								
L15K	Ungalak Mounta	83.15	8	P		P		15 15 11.7	+0.6
	baz=196								
BRLK	Bradley Lake	83.22	14	IAmb		IAmb		15 15 12.8	
	comp=Z,45nm,0.9s								
BRSE	Bradley Lake S	83.23	14	P		P		15 15 12.1	+0.5
	baz=206,SNR=11								
N19K	Bonanza Creek	83.45	12	P		P		15 15 12.3	-0.4
	baz=202								
L16K	Owhat River	83.46	9	P		P		15 15 13.8	+1.2
	baz=198								
M17K	Holitna River	83.48	10	P		P		15 15 13.9	+1.1
	baz=200								
K15K	Wolf Creek Mou	83.74	8	IAmb		IAmb		15 15 17.1	
	comp=Z,37nm,0.9s								
K15K	Wolf Creek Mou	83.74	8	P		P		15 15 15.5	+1.4
	baz=196								
MA2	Magadan	83.83	345	P		P		15 15 13.7	-0.8
MA2				IAmb		IAmb		15 15 15.4	
	comp=Z,25nm,1.0s								
MA2	Magadan	83.83	345	P		P		15 15 14.4	-0.1
MA2	Magadan	83.83	345	*de*P		P		15 15 14.3	-0.2
MA2				pmax		pmax			
	comp=Z,41nm,1.7s								
MA2	Magadan	83.83	345	P		P		15 15 14.5	-0.1
	comp=Z,32nm,1.4s								
M18K	Stony River	83.84	11	P		P		15 15 15.2	+0.7
	baz=201								
SEW	Seward	83.85	14	P		P		15 15 13.1	-1.4
SEW				IAmb		IAmb		15 15 15.6	
	comp=Z,22nm,0.9s								
SEW	Seward	83.85	14	P		P		15 15 14.7	+0.2
	baz=207,SNR=5.7								
J14K	Nanvaranak Lak	83.94	7	P		P		15 15 16.6	+1.6
	baz=194								
Q23K	Middleton Isla	84.00	16	P		P		15 15 15.3	0.0
	baz=210								
L17K	Donlin	84.04	9	P		P		15 15 17.0	+1.4
	baz=199								
CAPN	Captain Cook N	84.07	13	P		P		15 15 16.8	+1.2
	baz=205								
O22K	Cooper Landing	84.12	14	P		P		15 15 16.1	+0.2
	baz=207								
PSI	Prapat	84.14	275	P		P		15 15 17.1	-0.2
P23K	Montague Islan	84.24	15	P		P		15 15 16.6	+0.1
	baz=209								
SPCR	Spurr Chakacha	84.25	12	P		P		15 15 16.2	-0.5
	baz=204,SNR=7.3								
GAMB	Gambell	84.31	3	P		P		15 15 18.0	+1.3
	baz=186								
L18K	Granite Mounta	84.38	10	P		P		15 15 18.3	+1.2
	baz=200								
K17K	Iditarod	84.59	9	P		P		15 15 19.2	+1.0
	baz=199								
ELK	Elko	84.64	43	P		P		15 15 20.1	+0.9
	comp=Z,1.1nm,0.6s,baz=241,slow=6.7,SNR=7.1								
	comp=Z,1.1nm,0.6s								
L19K	White Mountain	84.65	11	P		P		15 15 19.3	+0.7
	baz=202								
RC01	Rabbit Creek A	84.67	14	P		P		15 15 18.7	+0.1
	baz=207,SNR=12								
M20K	Styx River	84.69	12	P		P		15 15 19.3	+0.4
	baz=204								
PWL	Port Wells	84.78	14	P		P		15 15 19.2	0.0
	baz=208,SNR=15								
SUA	Susitna One	84.78	13	IAmb		IAmb		15 15 20.2	
	comp=Z,28nm,0.7s								
SUA	Susitna One	84.78	13	P		P		15 15 19.3	0.0
	baz=206,SNR=17								
GSI	Gunungsitoli	84.88	273	P		P		15 15 21.4	+0.6
GSI	Gunungsitoli	84.88	273	P		P		15 15 22.2	+1.4
KAIM	Kayak Island	84.93	16	P		P		15 15 20.1	+0.2
	baz=212								
CRAG	Craig	85.00	24	P		P		15 15 20.1	-0.2
	baz=222								
GLI	Glacier Island	85.08	15	P		P		15 15 20.6	-0.1
	baz=209,SNR=18								
SKT	Skwentna	85.09	12	P		P		15 15 20.8	+0.1
	baz=205								
L20K	Farewell, AK	85.10	11	P		P		15 15 20.7	0.0
	baz=203								
EYAK	Cordova Ski Ar	85.12	16	P		P		15 15 21.1	+0.3
	baz=210								
J17K	VABM Dome	85.13	9	P		P		15 15 21.5	+0.7
	baz=198								
TTA	Tatalina	85.15	10	P		P		15 15 21.5	+0.4
	baz=201,SNR=7.9								
TTA	Tatalina	85.15	10	P		P		15 15 21.6	+0.6
M22K	Willow	85.18	13	P		P		15 15 21.0	0.0
	baz=206								
KNK	Knik Glacier	85.24	14	P		P		15 15 21.5	+0.1
	baz=208,SNR=10								
HEH	HeiHe	85.25	329	*e*P		P		15 15 21.7	0.0
HEH				pmax		pmax			
	comp=Z,14nm,0.7s								
PMR	Palmer	85.25	14	IAmb		IAmb		15 15 22.6	
	comp=Z,44nm,1.4s								
PMR	Palmer	85.25	14	P		P		15 15 21.6	+0.2
	baz=207,SNR=13								
PMR	Palmer	85.25	14	P		P		15 15 21.5	+0.2
HNS	HongShan	85.38	313	⇓P		P		15 15 23.8	+1.2
HNS				pmax		pmax			
	comp=Z,16nm,0.9s								
SIT	Sitka	85.40	22	P		P		15 15 22.3	+0.1
	baz=220								
V35K	Ketchikan	85.48	25	P		P		15 15 23.0	+0.4
	baz=223								
U33K	Whale Pass	85.48	24	P		P		15 15 23.4	+0.8
	baz=222								
ANM	Nome	85.53	6	P		P		15 15 23.7	+1.0
	baz=192								
J18K	Innoko River	85.54	10	IAmb		IAmb		15 15 24.5	
	comp=Z,24nm,1.2s								
J18K	Innoko River	85.54	10	P		P		15 15 23.6	+0.7
	baz=200								
LYN	LuoYang	85.57	309	⇑P		P		15 15 25.3	+1.7
LYN				pmax		pmax			
	comp=Z,28nm,0.8s								
LYN				pmax		pmax			
	comp=Z,140nm,8.5s								
SML	Sawmill	85.61	14	P		P		15 15 23.0	-0.2
	baz=208								
121A	Cookes Peak, D	85.69	53	P		P		15 15 24.1	-0.4
	baz=242								
CUT	Chulitna	85.73	13	P		P		15 15 23.7	0.0
	baz=206,SNR=12								
BJT	Baijiatuau	85.74	316	IAmb		IAmb		15 15 26.5	
	comp=Z,48nm,1.8s								
BJT	Baijiatuau	85.74	316	P		P		15 15 25.2	+0.9
M23K	Glacier View	85.74	14	P		P		15 15 23.7	-0.1
	baz=208,SNR=11								
BJI	Beijing	85.74	316	P		P		15 15 24.9	+0.6
BJI				pmax		pmax			
	comp=Z,5.0nm,1.3s								
BMRM	Bremner River	85.78	16	IAmb		IAmb		15 15 25.5	
	comp=Z,26nm,1.0s								
BMRM	Bremner River	85.78	16	P		P		15 15 24.5	+0.5
	baz=211,SNR=8.1								
S31K	Pelican	85.79	21	P		P		15 15 25.3	+1.3
	baz=219								
PPLA	Purkeypile	85.80	12	P		P		15 15 25.0	+0.8
	baz=204								
MESA	MESA	85.82	17	P		P		15 15 25.4	+1.0
	baz=214								
SCM	Sheep Creek Mo	85.87	14	P		P		15 15 24.7	+0.2
	baz=209,SNR=13								
SCM	Sheep Creek Mo	85.87	14	P		P		15 15 24.7	+0.2
K20K	Telida	85.88	11	P		P		15 15 24.5	+0.1
	baz=203								
KLU	Klutina	85.90	15	P		P		15 15 24.8	+0.2
	baz=210,SNR=6.7								
H16K	Elim	85.92	7	P		P		15 15 24.8	+0.2
	baz=195								
S32K	Killisnoo	85.97	22	P		P		15 15 25.4	+0.5
	baz=220								
NONG	Nongkai	85.98	291	P		P		15 15 27.3	+1.4
WRAK	Wrangell Islan	86.00	24	P		P		15 15 26.3	+1.2
	baz=222								
G15K	Niukluk	86.08	6	P		P		15 15 25.8	+0.5
	baz=193								
J19K	Poorman	86.21	10	P		P		15 15 26.7	+0.8
	baz=201								
PINM	Pinnacle	86.23	18	P		P		15 15 26.5	+0.2
	baz=215								
VRDI	Verde Repeater	86.29	16	IAmb		IAmb		15 15 28.3	
	comp=Z,38nm,1.4s								
CAST	Castle Rocks	86.30	12	IAmb		IAmb		15 15 26.4	
	comp=Z,21nm,0.8s								
CAST	Castle Rocks	86.30	12	P		P		15 15 25.4	-1.0
	baz=204,SNR=24								
N25K	Chitina, Valde	86.32	15	IAmb		IAmb		15 15 28.2	
	comp=Z,47nm,1.4s								
N25K	Chitina, Valde	86.32	15	P		P		15 15 27.1	+0.4
	baz=211,SNR=12								
F14K	Arctic Creek	86.35	5	P		P		15 15 27.0	+0.4
	baz=191								
M24K	Tolsona, Glenn	86.37	15	IAmb		IAmb		15 15 28.9	
	comp=Z,31nm,1.1s								
M24K	Tolsona, Glenn	86.37	15	P		P		15 15 27.6	+0.7
	baz=210								
GLB	Gilahina Butte	86.38	16	IAmb		IAmb		15 15 28.5	
	comp=Z,49nm,1.6s								
GYA	Guiyang	86.41	300	⇑P		P		15 15 29.2	+1.3
GYA				pmax		pmax			
	comp=Z,10.0nm,1.3s								
SEY	Seymchan	86.44	347	⇓*e*P		P		15 15 27.4	+0.4
SEY				pmax		pmax			
	comp=Z,59nm,1.7s								
ELIB	Princess Elisa	86.45	187	*d*P		P		15 15 27.7	+0.3
	comp=Z,19nm,0.9s								
H17K	Granite Mounta	86.49	8	P		P		15 15 27.4	+0.1
	baz=197								
SYO	Syowa Base	86.50	193	⇓*e*PcP		P		15 15 27.4	0.0
SYO	Syowa Base	86.50	193	⇓*e*pP		pP		15 17 25.0	-4.4
B08A	Colville Reser	86.56	35	IAmb		IAmb		15 15 29.8	
	comp=Z,40nm,1.7s								
R32K	Eaglecrest	86.61	22	P		P		15 15 28.3	+0.3
	baz=220								
J20K	Nowinta River	86.63	10	P		P		15 15 28.2	+0.3
	baz=202								
KTH	Kantishna Hill	86.64	12	P		P		15 15 27.2	-0.9
KTH				IAmb		IAmb		15 15 28.3	
	comp=Z,20nm,0.9s								
G16K	Koyuk River	86.64	7	P		P		15 15 28.4	+0.5
	baz=195								
TRF	Thorofare Moun	86.67	12	P		P		15 15 27.9	-0.5
TRF	Thorofare Moun	86.67	12	P		P		15 15 27.8	-0.5
	baz=206,SNR=22								
CHUM	Lake Minchumin	86.68	11	P		P		15 15 27.5	-0.6
	baz=204,SNR=7.8								
F15K	North Star Dit	86.72	6	P		P		15 15 28.7	+0.4
	baz=193								
GCSA	Galena City Sc	86.73	9	P		P		15 15 28.9	+0.6
	baz=200								
O28M	Mount Upton	86.80	18	P		P		15 15 29.9	+0.7
	baz=215								
HARP	HAARP	86.87	15	P		P		15 15 29.6	+0.5
	baz=211								
O29M	Mount Kennedy	86.89	19	P		P		15 15 29.0	-0.4
	baz=217								
H18K	Honhosa River	86.90	8	P		P		15 15 30.2	+1.0
	baz=198								
PLBC	Pleasant Camp	86.91	20	P		P		15 15 29.1	-0.2
	baz=219								
G17K	Kiwalik Mounta	86.94	7	P		P		15 15 29.4	+0.1
	baz=196								
BPAW	Bear Paw Mtn.	87.12	12	IAmb		IAmb		15 15 31.3	
	comp=Z,32nm,1.9s								
BPAW	Bear Paw Mtn.	87.12	12	P		P		15 15 29.3	-0.9
	baz=205								
I20K	Naaghdeneel	87.15	10	P		P		15 15 30.8	+0.5
	baz=202								
MCK	McKinley	87.20	13	IAmb		IAmb		15 15 32.1	
	comp=Z,26nm,0.9s	

MENT **Mentasta** 87.68 15 P **P** 15 15 33.6 +0.7
YUK4 **Talbot Arm** 87.71 18 P **P** 15 15 34.5 +1.1
baz=217,SNR=5.6
H20K **Anotleneega Mo** 87.73 10 P **P** 15 15 33.8 +0.7
baz=202
ANMO **Albuquerque** 87.78 51 P **P** 15 15 35.3 +1.0
comp=Z,0.9nm,0.5s,baz=17,slow=6.4,SNR=4.0
comp=Z,0.9nm,0.5s
ANMO **Albuquerque** 87.78 51⇑ *e*P **P** 15 15 33.5 -0.8
ANMO pmax pmax
comp=Z,4.0nm,2.3s
F17K **Baldwin Pennin** 87.78 7 P **P** 15 15 33.7 +0.5
baz=196
XLT **XiLinHaoTe** 87.81 319 *e*P **P** 15 15 34.1 0.0
XLT pP pP 15 17 25.0 -11
XLT pmax pmax
comp=Z,8.0nm,1.0s
L26K **Log Cabin Wild** 87.84 15 P **P** 15 15 35.0 +1.3
baz=212
P32M **Atlin** 87.88 21 P **P** 15 15 35.2 +1.2
baz=221,SNR=5.2
Q32M **Nakina River** 87.90 22 P **P** 15 15 35.1 +0.9
baz=222
I21K **Tanana** 87.92 11 P **P** 15 15 34.1 +0.1
baz=204
XAN **Xi'an** 87.94 308 ⇑P **P** 15 15 36.4 +1.6
XAN pmax pmax
comp=Z,27nm,1.1s
K24K **Donnelly Dome** 87.94 14 P **P** 15 15 34.7 +0.5
baz=210,SNR=18
NEA2 **Nenana** 87.94 12 P **P** 15 15 33.4 -0.7
baz=207,SNR=11
BVCY **Beaver Creek** 87.97 16 P **P** 15 15 35.3 +1.0
baz=215,SNR=17
G19K **Purcell Mounta** 88.02 9 IAmb IAmb 15 15 35.9
comp=Z,16nm,0.9s
G19K **Purcell Mounta** 88.02 9 P **P** 15 15 34.7 +0.3
baz=200
VNA3 **Neumayer Olymp** 88.02 176 P **P** 15 15 34.6 0.0
VNA3 **Neumayer Olymp** 88.02 176 ⇑P **P** 15 15 34.6 0.0
comp=Z,21nm,0.5s
O30N **Mendenhall** 88.02 19 P **P** 15 15 35.1 +0.5
baz=219,SNR=9.7
RIDG **Independent Ri** 88.09 14 IAmb IAmb 15 15 36.3
comp=Z,18nm,1.0s
RIDG **Independent Ri** 88.09 14 P **P** 15 15 35.0 +0.1
baz=211,SNR=9.4
F18K **Selawik** 88.12 7 P **P** 15 15 34.6 -0.2
baz=197
HDA **Harding Lake** 88.21 13 P **P** 15 15 35.4 +0.1
baz=209,SNR=25
H21K **Melozitna Rive** 88.22 10 P **P** 15 15 35.8 +0.4
baz=204
L27K **Beaver Creek,** 88.25 16 P **P** 15 15 36.3 +0.7
baz=214
WHY **Whitehorse** 88.31 20 IAmb IAmb 15 15 38.2
comp=Z,13nm,1.0s
WHY **Whitehorse** 88.31 20 P **P** 15 15 36.9 +0.8
baz=220,SNR=8.3
DLBC **Dease Lake** 88.33 23 P **P** 15 15 36.8 +0.6
baz=224
E17K **Hotham Inlet** 88.34 6 P **P** 15 15 36.4 +0.6
baz=195
I23K **Minto, Yukon-K** 88.38 12 P **P** 15 15 35.5 -0.5
I23K IAmb IAmb 15 15 37.2
comp=Z,45nm,1.8s
I23K **Minto, Yukon-K** 88.38 12 P **P** 15 15 35.5 -0.5
baz=207,SNR=6.4
COLA **College** 88.43 13 P **P** 15 15 36.1 -0.2
baz=208
COLA **College** 88.43 13 P **P** 15 15 36.0 -0.3
COLA **College** 88.43 13 *d i*P **P** 15 15 35.9 -0.3
COLA pmax pmax
comp=Z,42nm,0.9s
VNA2 **Neumayer--Watz** 88.45 177 P **P** 15 15 37.0 +0.4
baz=197,slow=6.0
VNA2 **Neumayer--Watz** 88.45 177 ⇑P **P** 15 15 37.0 +0.4
comp=Z,15nm,0.6s,baz=197,slow=6.0
SCRK **Sand Creek** 88.50 14 P **P** 15 15 37.2 +0.4
baz=212,SNR=12
ILAR **Eielson Array** 88.54 13 P **P** 15 15 36.5 -0.3
comp=Z,12nm,0.9s,baz=224,slow=5.5,SNR=88
ILAR PP **PP** 15 19 16.8 +0.7
comp=Z,1.1nm,0.9s,baz=206,slow=5.1,SNR=4.3
comp=Z,12nm,0.9s
NVL **N'lazarevskaya** 88.55 183 *e*P **P** 15 15 36.9 -0.1
NVL pmax pmax
comp=Z,17nm,1.0s
F19K **Shaleruckik Mo** 88.58 8 P **P** 15 15 37.2 +0.2
baz=199
M29M **Somme Creek** 88.64 17 P **P** 15 15 38.4 +0.9
baz=217
P33M **Teslin, Yukon** 88.65 21 P **P** 15 15 38.4 +0.8
baz=222,SNR=6.4
N31M **Braeburn, Yuko** 88.67 19 IAmb IAmb 15 15 39.7
comp=Z,23nm,1.0s
N31M **Braeburn, Yuko** 88.67 19 P **P** 15 15 38.6 +1.0
baz=219,SNR=8.7
H22K **Ishtalitna Cre** 88.68 11 P **P** 15 15 37.8 +0.3
baz=205
R33M **Jennings River** 88.68 22 IAmb IAmb 15 15 40.4
comp=Z,16nm,1.2s
R33M **Jennings River** 88.68 22 P **P** 15 15 39.3 +1.5
baz=223,SNR=6.6
J25K **Salcha River,** 88.73 14 P **P** 15 15 37.9 +0.1
baz=210,SNR=11
POKR **Poker Plat Res** 88.73 13 P **P** 15 15 37.4 -0.4
baz=209,SNR=7.3
S22A **4UR Ranch, Cre** 88.79 49 P **P** 15 15 38.8 -0.3
baz=242
E18K **Tukpahlearik C** 88.80 7 P **P** 15 15 38.5 +0.5
baz=196
D17K **Noatak River** 88.81 6 P **P** 15 15 39.2 +1.2
baz=194
G21K **Allakaket** 88.89 10 P **P** 15 15 39.0 +0.5
baz=203
J26L **Joseph Creek** 89.04 14 P **P** 15 15 40.2 +0.9
baz=212
F20K **Avaraart Lake** 89.06 9 P **P** 15 15 39.7 +0.6
baz=201
BILL **Bilibino** 89.15 354⇑ *e*P **P** 15 15 40.1 +0.5
BILL pmax pmax
comp=Z,12nm,1.3s
RDOG **Red Dog Mine** 89.17 6 IAmb IAmb 15 15 41.3
comp=Z,10.0nm,0.9s
RDOG **Red Dog Mine** 89.17 6 P **P** 15 15 40.5 +0.8
baz=194
C16K **Lisburne Hills** 89.18 5 P **P** 15 15 41.2 +1.5
baz=192
HHC **Hu-ho-hao-te** 89.20 315 *e*P **P** 15 15 42.2 +1.6
HHC pmax pmax
comp=Z,6.0nm,1.6s
HHC pmax pmax
comp=Z,84nm,4.5s
M30M **Minto, Yukon** 89.22 18 P **P** 15 15 40.9 +0.8
baz=218,SNR=31
E19K **Redstone River** 89.24 8 P **P** 15 15 40.7 +0.6
baz=200
N32M **Quiet Lake** 89.26 20 P **P** 15 15 41.4 +1.0
baz=222
L29M **L29M** 89.27 17 P **P** 15 15 41.5 +1.1
baz=217
PDAR **Pinedale Array** 89.32 43 P **P** 15 15 42.0 +0.7
comp=Z,3.0nm,0.7s,baz=212,slow=2.9,SNR=33
comp=Z,3.0nm,0.7s
PLCA **Paso Flores** 89.43 134 P **P** 15 15 42.8 +1.0
comp=Z,2.8nm,0.8s,baz=217,slow=7.5,SNR=5.8
comp=Z,2.8nm,0.8s
PRP **Porcupine Dome** 89.48 13 IAmb IAmb 15 15 43.1
comp=Z,20nm,1.3s
PRP **Porcupine Dome** 89.48 13 P **P** 15 15 41.3 -0.1
baz=210,SNR=7.7
F21K **Alatna River** 89.55 9 P **P** 15 15 41.5 0.0
baz=203
C17K **DeLong Mountai** 89.56 6 P **P** 15 15 41.7 +0.2
baz=194
M31M **Drury Creek, Y** 89.64 19 P **P** 15 15 42.4 +0.3
baz=220,SNR=6.9
G23K **Bananza Creek** 89.66 11 P **P** 15 15 42.5 +0.5
baz=206
DAWY **Dawson** 89.70 16 IAmb IAmb 15 15 44.1
comp=Z,21nm,1.0s
DAWY **Dawson** 89.70 16 P **P** 15 15 43.0 +0.7
baz=216,SNR=16
I26K **Coal Creek Min** 89.81 14 P **P** 15 15 43.4 +0.6
baz=212
CMAR **Chiang Mai Arr** 89.82 290 P **P** 15 15 45.3 +1.4
comp=Z,6.2nm,0.9s,baz=120,slow=2.9,SNR=45
CMAR PP **PP** 15 19 27.3 +0.2
comp=Z,0.3nm,0.3s,baz=133,slow=6.5,SNR=6.1
comp=Z,6.2nm,0.9s
CMAR **Chiang Mai Arr** 89.82 290 *c e*P **P** 15 15 45.7 +1.8
CMAR pmax pmax
comp=Z,7.0nm,1.0s
EGAK **Eagle** 89.84 15 P **P** 15 15 43.5 +0.6
baz=214,SNR=26
C18K **Utukok River** 89.92 6 P **P** 15 15 43.5 +0.3
baz=196
CHTO **Chiang Mai** 89.95 290 P **P** 15 15 44.4 -0.1
CHTO IAmb IAmb 15 15 46.6
comp=Z,7.8nm,0.7s
CHTO **Chiang Mai** 89.95 290 P **P** 15 15 44.4 -0.1
CHTO pmax pmax
comp=Z,8.0nm,0.7s
WTLY **Watson Lake, Y** 89.97 22 P **P** 15 15 44.5 +0.9
baz=225
FARO **Faro, Yukon** 89.99 19 P **P** 15 15 44.3 +0.7
baz=221
K29M **Barlow Dome** 90.02 17 P **P** 15 15 44.9 +1.0
baz=218
H25L **Birch Creek** 90.06 13 P **P** 15 15 43.6 -0.3
baz=210
COLD **Coldfoot** 90.09 11 IAmb IAmb 15 15 45.9
comp=Z,17nm,0.9s
COLD **Coldfoot** 90.09 11 P **P** 15 15 44.5 +0.5
baz=206
D19K **Kuna River** 90.11 7 P **P** 15 15 44.4 +0.3
baz=199
G24K **Hadweenzic Riv** 90.11 12 P **P** 15 15 44.5 +0.4
baz=209
BTO **Baotou** 90.12 314 *e*P **P** 15 15 47.1 +2.2
BTO pmax pmax
comp=Z,15nm,1.1s
BTO pmax pmax
comp=Z,340nm,8.5s
E20K **Nigu River** 90.13 8 P **P** 15 15 44.9 +0.7
baz=200
MAYO **Mayo, Yukon** 90.28 18 P **P** 15 15 46.0 +1.1
baz=219,SNR=9.0
J29N **Klondike Camp** 90.32 16 IAmb IAmb 15 15 47.4
comp=Z,18nm,0.9s
J29N **Klondike Camp** 90.32 16 P **P** 15 15 46.4 +1.1
baz=217,SNR=5.6
I27K **Kandik River** 90.42 14 P **P** 15 15 46.3 +0.6
baz=214
PZH **PanZhiHua** 90.46 298 P **P** 15 15 47.7 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,130nm,5.5s
D20K **Etivluk River** 90.50 8 P **P** 15 15 46.5 +0.6
baz=200
B18K **Kokolik River** 90.55 6 P **P** 15 15 46.6 +0.5
baz=195
E21K **Killik River** 90.61 9 P **P** 15 15 46.7 +0.3
baz=203
E22K **Anaktuvuk Pass** 90.65 10 IAmb IAmb 15 15 48.1
comp=Z,18nm,1.1s
E22K **Anaktuvuk Pass** 90.65 10 P **P** 15 15 47.0 +0.4
baz=205
I28M **Miner Creek** 90.69 15 IAmb IAmb 15 15 48.2
comp=Z,12nm,0.9s
I28M **Miner Creek** 90.69 15 P **P** 15 15 47.2 +0.2
baz=215
F24K **Squaw Lake** 90.76 11 P **P** 15 15 47.9 +0.8
baz=208
N23A **Red Feather La** 90.83 46 P **P** 15 15 47.7 -0.7
baz=243
J30M **Hart River** 90.92 17 P **P** 15 15 48.6 +0.6
baz=219
E23K **Chandalar** 90.94 10 P **P** 15 15 48.4 +0.4
baz=207
H27K **Steamboat Moun** 90.96 14 P **P** 15 15 48.8 +0.7
baz=214
I29M **Ogilvie Camp,** 91.02 16 P **P** 15 15 49.2 +0.8
baz=217
G26K **Porcupine Rive** 91.07 13 P **P** 15 15 49.4 +0.9
baz=212
E24K **Your Creek** 91.15 11 P **P** 15 15 49.6 +0.7
baz=208
EFI **East Falkland** 91.15 147⇓ *e*P **P** 15 15 48.0 -1.4
EFI pmax pmax
comp=Z,69nm,3.5s
C21K **Knifeblade Rid** 91.16 8 P **P** 15 15 49.8 +0.9
baz=202
D22K **Ayikyak River** 91.20 9 P **P** 15 15 50.0 +0.9
baz=204
F25K **Christian Rive** 91.25 12 P **P** 15 15 50.3 +0.9
baz=210
G27K **Doyon Strip** 91.41 14 P **P** 15 15 50.7 +0.5
baz=214
I30M **Mount Dempster** 91.41 16 P **P** 15 15 50.9 +0.6
baz=219
TOLK **Toolik Lake Re** 91.47 10 P **P** 15 15 51.7 +1.4
baz=207
D23K **Nanushuk River** 91.58 10 P **P** 15 15 51.8 +0.9
baz=206
B21K **Ikpikpuk River** 91.61 8 P **P** 15 15 51.4 +0.5
baz=202
F26K **Sheenjek River** 91.63 12 P **P** 15 15 52.2 +1.1
baz=212
H29M **Whitestone** 91.70 15 P **P** 15 15 51.9 +0.4
baz=217
E25K **Arctic Village** 91.72 12 IAmb IAmb 15 15 53.5
comp=Z,22nm,1.7s
E25K **Arctic Village** 91.72 12 P **P** 15 15 52.0 +0.5
baz=210
D24K **Happy Valley** 92.05 10 P **P** 15 15 53.8 +0.8
baz=207
YAK **Yakutsk** 92.12 338 *d i*P **P** 15 15 52.8 -0.6
YAK pmax pmax
comp=Z,24nm,0.8s
EPYK **Eagle Plains** 92.22 16 IAmb IAmb 15 15 55.2
comp=Z,12nm,1.0s
EPYK **Eagle Plains** 92.22 16 P **P** 15 15 54.3 +0.4
baz=218
G29M **Pine Creek** 92.33 15 P **P** 15 15 54.9 +0.5
baz=217
C23K **Itkillik River** 92.38 9 P **P** 15 15 55.0 +0.5
baz=206
H31M **Peel River** 92.41 17 P **P** 15 15 55.2 +0.5
baz=220
B22K **Teshekpuk Lake** 92.44 8 P **P** 15 15 55.3 +0.6
baz=203
F28M **Old Crow** 92.47 14 IAmb IAmb 15 17 22.1
comp=Z,18nm,1.9s
F28M **Old Crow** 92.47 14 P **P** 15 15 55.4 +0.4
baz=216
LZH **Lanzhou** 92.57 308 *e*P **P** 15 15 57.8 +1.4
LZH pP pP 15 17 57.2 -2.0
LZH sP sP 15 18 48.6 -6.9
LZH pmax pmax
comp=Z,12nm,1.0s
C24K **Franklin Bluff** 92.57 10 P **P** 15 15 56.0 +0.6
baz=208
D25K **Kavik River** 92.62 11 P **P** 15 15 55.7 +0.1
baz=210
G30M **tAoh Zraii Nji** 92.83 15 P **P** 15 15 56.6 -0.1
baz=219
A22K **Sinclair Lake** 92.85 7 P **P** 15 15 57.2 +0.6
baz=202
A21K **Barrow** 92.96 7 P **P** 15 15 57.4 +0.3
baz=200
E28M **Babbage River** 93.35 13 P **P** 15 15 59.1 +0.1
baz=216
C27K **Jago River** 93.36 12 P **P** 15 15 59.2 +0.2
baz=212
C26K **Camden Bay** 93.39 11 P **P** 15 15 59.5 +0.4
baz=211
F30M **Barrier River** 93.42 15 P **P** 15 15 59.7 +0.3
baz=219
E29M **Blow River** 93.54 14 P **P** 15 16 00.3 +0.4
baz=217
INK **Inuvik** 94.51 15 P **P** 15 16 04.5 +0.3
baz=221
ULN **Ulaanbaatar** 95.24 319⇑ *e*P **P** 15 16 08.3 +0.1
ULN pmax pmax
comp=Z,6.0nm,1.8s
SONM **Songino Array** 95.63 319 P **P** 15 16 09.2 -0.8
comp=Z,0.4nm,0.5s,baz=121,slow=3.8,SNR=4.2
SONM PP **PP** 15 20 06.8 -4.5
comp=Z,1.2nm,1.1s,baz=125,slow=5.8,SNR=4.2
comp=Z,0.4nm,0.5s
GTA **Gaotai** 96.79 309 *e*P **P** 15 16 16.1 +0.7
GTA pmax pmax
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 96.80 25 P **P** 15 16 14.4 -0.3
comp=Z,0.9nm,0.9s,baz=244,slow=4.6,SNR=8.9
comp=Z,0.9nm,0.9s
A36M **Sachs Harbour** 99.11 15 P **Pdif** 15 16 25.1 +0.4
baz=229
MK31 **Makanchi Array** 111.04 313⇑ *i*PKIKP **PKiKP** 15 21 13.8 -0.2
MKAR **Makanchi Array** 111.04 313 PKIKP **PKiKP** 15 21 13.4 -0.6
comp=Z,1.4nm,0.7s,baz=108,slow=0.5,SNR=3.6
MKAR PKKPbc **PKKPbc** 15 32 13.4 -0.1
comp=Z,0.6nm,0.7s,baz=264,slow=4.9,SNR=7.3
MKAR **Makanchi Array** 111.04 313 *c i*PKIKP **PKiKP** 15 21 14.3 +0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KURK **Kurchatov** 113.86 317⇑ *i*PKIKP **PKiKP** 15 21 18.5 -0.7
KURK pmax pmax
comp=Z,12nm,2.5s
KURBB **Kurchatov Arra** 113.91 317 PKIKP **PKiKP** 15 21 18.9 -0.4
comp=Z,2.2nm,0.6s,baz=75,slow=1.7,SNR=3.3
L61B **Northampton** 115.05 52 P **PKPdf** 15 21 20.3 -1.5
baz=264
BVAR **Borovoye Array** 118.96 320 SKP 15 24 11.3
comp=Z,1.6nm,0.7s,baz=105,slow=1.6,SNR=3.9
BRVK **Borovoye** 119.02 320 *c i*PKIKP **PKPdf** 15 21 28.7 -0.4
BRVK pmax pmax
comp=Z,15nm,2.5s
KBS **Kingsbay** 121.47 358⇑ *i*PKIKP **PKiKP** 15 21 33.4 +0.1
KBS pmax pmax
comp=Z,50nm,1.7s
SPITS **Spitsbergen Ar** 121.99 356 PKP **PKPdf** 15 21 34.0 -0.2
comp=Z,8.4nm,0.9s,baz=50,slow=7.7,SNR=6.5
SPITS **Spitsbergen Ar** 121.99 356 PKIKP **PKPdf** 15 21 34.0 -0.2
ARTI **Arti** 125.22 325 PKP **PKPdf** 15 21 40.9 0.0
comp=Z,11nm,0.8s,baz=86,slow=1.6,SNR=13
ARTI **Arti** 125.22 325 *i* PKIKP **PKPdf** 15 21 41.0 0.0
ARTI 15 23 44.9
ARTI 15 27 59.0
ARTI SS SS 15 39 57.9 +3.8
AKTO **Aktyubinsk** 126.94 318 PKP **PKiKP** 15 21 44.8 -0.1
comp=Z,4.9nm,0.7s,baz=78,slow=3.3,SNR=16
ARCES **ARCESS Array B** 129.00 349 PKP **PKPdf** 15 21 47.8 0.0
comp=Z,1.7nm,0.4s,baz=15,slow=2.4,SNR=27
KLMR **Klimovskoe** 131.87 336 *e*PKIKP **PKPdf** 15 21 53.4 0.0
KLMR *e* 15 24 26.7
KLMR pmax pmax
comp=Z,27nm,1.5s
FINES **FINESS Array B** 135.81 343 PKhKP PKPpre 15 21 45.5
comp=Z,2.1nm,0.9s,baz=116,slow=17,SNR=6.0
FINES PKP **PKPdf** 15 22 00.1 -0.7
comp=Z,3.2nm,0.6s,baz=64,slow=4.4,SNR=5.3
FINES SKPbc **SKPbc** 15 24 39.5 -0.2
comp=Z,11nm,1.0s,baz=64,slow=4.8,SNR=12
FINES **FINESS Array B** 135.81 343 *c i*PKIKP **PKiKP** 15 22 02.2 -0.3
FINES pmax pmax
comp=Z,3.0nm,0.6s
VRH **Novokhopyorsk** 136.31 324 *e*PKIKP **PKPdf** 15 21 59.1 -2.9
VRH pmax pmax
comp=Z,6.0nm,0.9s
OBN **Obninsk** 136.71 331⇑ *e*PKIKP **PKPdf** 15 22 02.1 -0.5
OBN *e* 15 24 53.7
OBN pmax pmax
comp=Z,8.0nm,1.0s
LPSR **Galich'ya Gora** 137.06 327 *e*PKIKP **PKPdf** 15 22 00.7 -2.6
LPSR pmax pmax
comp=Z,9.0nm,1.0s
VORR **Voronezh** 137.43 326 *e*PKIKP **PKPdf** 15 22 02.0 -2.0
VORR pmax pmax
comp=Z,9.0nm,0.8s
VSR **Storozhevoye** 137.69 325 *e*PKIKP **PKPdf** 15 22 02.5 -2.0
VSR pmax pmax
comp=Z,5.0nm,1.0s
NB2 **NORSAR Subarra** 139.08 353 PKP PKPpre 15 21 58.0
comp=Z,1.3nm,0.6s,baz=16,slow=3.2
NB2 pPKP **SKPbc** 15 24 51.8 +2.6
comp=Z,3.0nm,0.9s,baz=10,slow=2.9
NOA **NORSAR Array B** 139.08 353 PKhKP PKPpre 15 21 57.6
comp=Z,1.6nm,0.7s,baz=15,slow=2.4,SNR=5.4
NOA PKP **PKiKP** 15 22 08.3 -1.0
comp=Z,0.7nm,0.5s,baz=14,slow=4.0,SNR=2.1
NOA SKPbc **SKiKP** 15 24 50.7 -1.4
comp=Z,5.6nm,0.9s,baz=6.7,slow=2.4,SNR=8.1
HFS **Hagfors** 139.63 351 PKhKP PKPpre 15 22 00.0
comp=Z,4.4nm,0.4s,baz=60,slow=3.1,SNR=21
HFS SKPbc **SKPbc** 15 24 51.6 +1.0
comp=Z,5.3nm,0.8s,baz=5.7,slow=4.3,SNR=4.5
MNK **Minsk** 140.77 336 *i* PKHKP **PKPdf** 15 22 08.3 -1.7
MNK *i* 15 22 11.7
MNK *i* PPP PPP 15 28 30.2
MNK *i* SS SS 15 43 02.6 +3.7
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,7.0nm,0.6s
MNK pmax pmax
comp=E,19nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.8s
HOMB **Homborsund** 142.09 354 *i* P **PKPdf** 15 22 08.9 -3.4
SNART **Snartemo** 142.13 355 *i* P **PKPdf** 15 22 10.1 -2.3
FABU **Falkenberg** 142.78 350 *i* P **PKPdf** 15 22 10.2 -3.3
SUW **Suwalki** 142.85 339 *e*PKP **PKPdf** 15 22 11.9 -1.8
AKASG **Malin Array Be** 142.97 331 PKhKP PKPpre 15 22 11.3
comp=Z,22nm,0.4s,baz=44,slow=4.4,SNR=200
AKASG SKPbc **SKiKP** 15 25 00.9 +0.5
comp=Z,8.6nm,1.1s,baz=45,slow=2.4,SNR=13
AKBB **Malin Array Si** 142.97 331 *d i*PKHKP **PKPdf** 15 22 11.0 -3.1
KIEV **Kiev** 142.98 331 PKPdf **PKPdf** 15 22 11.6 -2.5
KIEV **Kiev** 142.98 331 PKHKP **PKPdf** 15 22 11.6 -2.5
DEL **Delary** 143.08 349 *i* P PKPab 15 22 11.9 +0.1
DEL IAmb IAmb 15 22 12.2
comp=Z,22nm,1.0s
BJUU **Bjuv** 143.61 349 *i* P PKPab 15 22 13.6 -0.2
MUD **Monsted U'grnd** 143.80 353 *i* P PKPab 15 22 14.8 +0.3
SIM **Simferopol'** 143.87 320 *i* PKHKP PKPbc 15 22 15.4 +0.3
SIM *e* 15 22 19.1
SIM pmax pmax
comp=Z,93nm,0.9s
SIM pmax pmax
comp=Z,6.0nm,0.6s
RNPP9 **Sopachiv** 143.90 334 PKP PKPbc 15 22 14.6 -0.4
LUNU **Lund** 143.96 349 *i* P PKPbc 15 22 14.8 -0.2
RNPP8 **Varash** 143.97 334 PKP PKPbc 15 22 15.0 -0.2
BSD **Bornholm Skovb** 144.15 347 *i* P **PKPdf** 15 22 16.2 +0.3
LUBAR **Lubar, Ukraine** 144.19 331 PKP PKPbc 15 22 15.7 -0.2
SORM **Soroca** 145.14 328 ⇓P **PKPbc** 15 22 19.0 +0.2
SORM **Soroca** 145.14 328 ⇓PKHKP **PKPbc** 15 22 19.0 +0.2
EKA **Eskdalemuir Ar** 145.18 5 PKPbc **PKPbc** 15 22 18.7 -0.1
comp=Z,15nm,0.8s,baz=0.2,slow=2.9,SNR=16
GKP **Gorka Klasztor** 145.29 343 *e*PKP **PKPbc** 15 22 19.1 0.0
PURM **Purcari** 145.40 325 ⇑P **PKPab** 15 22 20.4 -0.6
BZK **Bozkurt** 145.42 315 ⇑P **PKPab** 15 22 21.1 -0.2
BNN **Bunyan** 145.45 309 **PKPbc** 15 22 20.7 +0.5
BEL **Belsk** 145.47 339 *e*PKP **PKPab** 15 22 20.5 -0.6
MILM **Milestii Mici** 145.71 326 ⇓ *i*PKP **PKPbc** 15 22 20.0 -0.6
comp=Z,86nm,1.0s
MILM **Milestii Mici** 145.71 326 ⇑P **PKPbc** 15 22 20.3 -0.3
MILM **Milestii Mici** 145.71 326 ⇑PKHKP **PKPbc** 15 22 20.3 -0.3
ILGA **Ilgaz** 146.03 314 **PKPbc** 15 22 22.9 +0.9
BSEG **Bad Segeberg** 146.11 351 *e*PKPbc **PKPbc** 15 22 22.2 +0.7
baz=18,slow=2.4
BRTR **Keskin Array B** 146.67 312 PKPbc **PKPbc** 15 22 23.4 -0.2
comp=Z,8.0nm,0.6s,baz=135,slow=3.4,SNR=51
KIRS **Kirsehir-Merke** 146.72 311 ⇑P **PKPbc** 15 22 24.3 +0.5
VLDR **Vladesti** 146.80 325 ⇑P **PKPbc** 15 22 24.0 +0.4
TLCR 146.82 324 ⇑P **PKPbc** 15 22 24.2 +0.6
TLCR 146.82 324 ⇑PKIKP **PKPbc** 15 22 24.2 +0.6
RUE **Ruedersdorf** 146.85 346 *e*PKPbc **PKPbc** 15 22 24.1 +0.6
baz=18,slow=2.4
RUE *e*PKPab **PKPab** 15 22 27.2 +0.6
baz=16,slow=4.2
GORT1 **Trebel** 146.86 349 *e*PKPbc **PKiKP** 15 22 24.6 -0.8
baz=18,slow=2.4
VARL **Varlezi** 146.88 326 ⇑P **PKiKP** 15 22 24.9 -0.8
SCTR **Scanteiesti** 146.95 326 ⇑P **PKiKP** 15 22 25.1 -0.8
GHRR 147.01 326 ⇑P **PKiKP** 15 22 25.8 -0.2
BURAR **Bucovina Array** 147.01 330 ⇑P **PKiKP** 15 22 25.4 -0.7
BURAR **Bucovina Array** 147.01 330 ⇑PKIKP **PKiKP** 15 22 25.4 -0.7
JURR **Jurilovca** 147.04 323 ⇑P **PKPbc** 15 22 25.0 +0.8
TESR **Tescani** 147.09 327 ⇑P **PKPbc** 15 22 24.3 -0.1
NEGRR **Negrea** 147.10 325 ⇑P **PKiKP** 15 22 25.5 -0.7
IZVR **Izvoarele** 147.16 325 ⇑P **PKPbc** 15 22 25.4 +0.8
OJC **Ojcow** 147.16 338 *e*PKP **PKPbc** 15 22 24.9 +0.5
ANTO **Ankara** 147.19 313 ⇑P **PKPbc** 15 22 25.0 +0.1
CFR **Carcaliu** 147.19 324 ⇑P **PKPbc** 15 22 25.3 +0.7
CFR **Carcaliu** 147.19 324 ⇑PKIKP **PKPbc** 15 22 25.3 +0.7
TPGR **Topolog** 147.24 324 ⇑P **PKiKP** 15 22 25.7 -0.8

KOLS Kolonicke sedl 147.29 334 *e*PKIKP **PKiKP 15 22 25.7 -0.8**
KOLS *e* 15 22 28.9
KOLS Kolonicke sedl 147.29 334 *e*PKP **PKiKP 15 22 25.7 -0.8**
KOLS *e* 15 22 28.9
STHS Stebnicka Huta 147.31 336 *e*PKHKP **PKPdf 15 22 21.4 -0.2**
STHS *e* 15 22 25.0
STHS *e* 15 22 28.6
STHS Stebnicka Huta 147.31 336 *e*PKP **PKPdf 15 22 21.4 -0.2**
STHS *e* 15 22 24.9
STHS *e* 15 22 28.6
ONER Baraj Valea Uz 147.34 327 ⇑P **PKiKP 15 22 26.6 -0.1**
ODBI Odobesti 147.39 326 ⇓P **PKiKP 15 22 27.1 +0.3**
RETH Rethem/Aller, 147.41 351 *e*PKPbc **PKPbc 15 22 25.4 +0.4**
baz=18,slow=2.4
RETH *e*PKPab **PKPab 15 22 29.0 +0.2**
baz=16,slow=4.2
TIRR Tirgusor 147.49 323 ⇑P **PKPbc 15 22 26.2 +0.7**
TIRR Tirgusor 147.49 323 ⇑PKIKP **PKPbc 15 22 26.2 +0.7**
VRI Vrincioaia 147.49 327 ⇑P **PKPbc 15 22 25.8 +0.4**
VRI Vrincioaia 147.49 327 ⇑PKIKP **PKPbc 15 22 25.8 +0.4**
FLTG Flechtingen 147.50 349 *e*PKPbc **PKPbc 15 22 25.5 +0.3**
baz=18,slow=2.4
FLTG *e*PKPab **PKPab 15 22 29.4 +0.1**
baz=16,slow=4.2
NRDL Niedersach Rie 147.54 350 *e*PKPbc **PKPbc 15 22 25.8 +0.6**
baz=18,slow=2.4
NRDL *e*PKPab **PKPab 15 22 30.0 +0.7**
baz=16,slow=4.2
PLOR Plostina 147.54 327 ⇑P **PKPbc 15 22 26.0 +0.4**
PLOR Plostina 147.54 327 ⇑PKIKP **PKPbc 15 22 26.0 +0.4**
MMAI Mount Meron Ar 147.57 299 PKPbc **PKiKP 15 22 27.0 -0.6**
comp=Z,24nm,0.6s,baz=72,slow=6.2,SNR=63
HARR Harsova 147.62 324 ⇑P **PKPbc 15 22 26.1 +0.3**
HARR Harsova 147.62 324 ⇑PKIKP **PKPbc 15 22 26.1 +0.3**
NIE Niedzica 147.66 337 *e*PKP **PKiKP 15 22 26.9 -0.3**
MFTR Murfatlar 147.66 323 ⇑P **PKPbc 15 22 25.9 0.0**
KSP Ksiaz 147.72 342 *e*PKP **PKiKP 15 22 26.8 -0.5**
BMR Baia Mare 147.75 332 ⇑P **PKiKP 15 22 27.1 -0.4**
BMR Baia Mare 147.75 332 ⇑PKIKP **PKiKP 15 22 27.1 -0.4**
COVR Voineasa-Covas 147.78 327 ⇑P **PKPbc 15 22 26.6 +0.3**
MANR Mangalia 147.78 322 ⇑P **PKiKP 15 22 27.5 -0.2**
OZUR 147.81 328 ⇑P **PKiKP 15 22 27.0 -0.7**
OSTC Ostas 148.00 342 ⇑*e*PKP **PKiKP 15 22 27.4 -0.5**
OSTC Ostas 148.00 342 *e*PKIKP **PKiKP 15 22 27.4 -0.5**
CHVC Chvalec 148.02 343 ⇑*e*PKP **PKiKP 15 22 28.0 0.0**
CHVC Chvalec 148.02 343 *e*PKIKP **PKiKP 15 22 28.0 0.0**
IBBN Ibbenburen 148.04 353 *e*PKPbc **PKiKP 15 22 27.3 -0.6**
baz=18,slow=2.4
IBBN *e*PKPab **PKPab 15 22 31.9 +0.5**
baz=16,slow=4.2
OKC Ostrava-Krasne 148.05 340 ⇑*e*PKP **PKiKP 15 22 27.5 -0.5**
OKC Ostrava-Krasne 148.05 340 *e*PKIKP **PKiKP 15 22 27.5 -0.5**
STEB Steborice 148.08 340 ⇑*e*PKP **PKiKP 15 22 27.6 -0.5**
STEB *e*PKPAB **PKPab 15 22 32.7 +0.9**
CLL Collm 148.12 346 **PKPbc 15 22 27.4 +0.6**
CLL Collm 148.12 346 *i* PKIKP **PKPbc 15 22 27.3 +0.5**
CLL *i* 15 22 32.0
CLL pmax pmax
comp=Z,51nm,0.9s
CLL pmax pmax
comp=Z,29nm,0.9s
CLL Collm 148.12 346 *e*PKPdf **PKPdf 15 22 24.0 +1.2**
CLL *i* PKPbc **PKPbc 15 22 27.3 +0.5**
comp=Z,51nm,0.9s
CLL *i* PKPab **PKPab 15 22 32.0 +0.2**
comp=Z,29nm,0.9s
CLL Collm 148.12 346 *e*PKPbc **PKPbc 15 22 27.4 +0.6**
baz=18,slow=2.4
CLL *e*PKPab **PKPab 15 22 32.0 +0.2**
baz=16,slow=4.2
CLZ Clausthal 148.12 350 *e*PKPbc **PKiKP 15 22 27.9 -0.3**
baz=18,slow=2.4
CLZ *e*PKPab **PKPab 15 22 32.5 +0.6**
baz=16,slow=4.2
MLR Muntele Rosu 148.15 327 **PKPbc 15 22 27.3 0.0**
MLR Muntele Rosu 148.15 327 ⇑P **PKPbc 15 22 27.7 +0.4**
MLR Muntele Rosu 148.15 327 ⇑PKIKP **PKPbc 15 22 27.7 +0.4**
DPC Dobruska-Polom 148.16 342 ⇑*e*PKP **PKiKP 15 22 27.8 -0.5**
DPC Dobruska-Polom 148.16 342 *e*PKIKP **PKiKP 15 22 27.8 -0.5**
LANS Liptovska Anna 148.18 338 *e*PKIKP **PKiKP 15 22 28.1 -0.3**
LANS *e* 15 22 31.3
LANS Liptovska Anna 148.18 338 *e*PKP **PKiKP 15 22 28.1 -0.3**
LANS *e* 15 22 31.3
KRLC Kraliky 148.27 341 ⇑*e*PKP **PKiKP 15 22 28.1 -0.4**
KRLC *e*PKPab **PKPab 15 22 33.5 +0.9**
KRLC Kraliky 148.27 341 *e*PKIKP **PKiKP 15 22 28.1 -0.4**
KRLC *e* 15 22 33.5
MORC Moravsky Berou 148.29 340 *e*PKP **PKiKP 15 22 28.0 -0.6**
MORC Moravsky Berou 148.29 340 ⇑P **PKPbc 15 22 27.6 +0.2**
MORC Moravsky Berou 148.29 340 ⇑PKIKP **PKPbc 15 22 27.6 +0.2**
BRG Berggiesshubel 148.31 345 *i* PKP **PKiKP 15 22 28.1 -0.4**
BRG Amp 15 22 29.1
comp=Z,22nm,0.9s
BRG Berggiesshubel 148.31 345 P **PKPab 15 22 33.1 +0.5**
BRG Amp 15 22 33.8
comp=Z,18nm,0.8s
BRG pPKP **pPKPab 15 24 43.2 +4.5**
BRG Amp 15 24 49.8
comp=Z,6.5nm,1.2s
BRG Berggiesshubel 148.31 345 *e*PKPbc **PKiKP 15 22 28.1 -0.4**
baz=18,slow=2.4
BRG *e*PKPab **PKPab 15 22 33.0 +0.4**
baz=16,slow=4.2
KECS Kecovo 148.36 336 *e*PKIKP **PKiKP 15 22 28.9 +0.2**
KECS *e* 15 22 33.0
KECS Kecovo 148.36 336 *e*PKP **PKiKP 15 22 28.9 +0.2**
KECS *e* 15 22 33.0
FBE Freiberg 148.41 346 *e*PKPbc **PKiKP 15 22 28.7 0.0**
baz=18,slow=2.4
FBE *e*pPKPbc **pPKPab 15 24 44.5 +5.3**
NEUB Neuenburg 148.47 348 *e*PKPbc **PKiKP 15 22 28.5 -0.3**
baz=18,slow=2.4
NEUB *e*PKPab **PKPab 15 22 33.8 +0.5**
baz=16,slow=4.2
GTTG Gottingen 148.48 350 *e*PKPbc **PKiKP 15 22 28.5 -0.3**
baz=18,slow=2.4
GTTG *e*PKPab **PKPab 15 22 33.5 +0.2**
baz=16,slow=4.2
VOIR 148.64 327 ⇑P **PKiKP 15 22 29.1 -0.4**
VOIR 148.64 327 ⇑PKIKP **PKiKP 15 22 29.1 -0.4**
HSKC Hora Svate Kat 148.68 345 ⇑*e*PKP **PKPbc 15 22 28.5 +0.2**
DRGR 148.77 332 ⇑P **PKiKP 15 22 29.4 -0.3**
DRGR 148.77 332 ⇑PKIKP **PKiKP 15 22 29.4 -0.3**
TNR Turnu Rosu 148.88 328 ⇑P **PKPbc 15 22 29.3 +0.4**
TNR Turnu Rosu 148.88 328 ⇑PKHKP **PKPbc 15 22 29.3 +0.4**
ARR Arges 148.90 328 ⇑P **PKiKP 15 22 30.6 +0.6**
BUG Bochum--Univer 148.95 353 *e*PKPbc **PKiKP 15 22 30.1 +0.4**
baz=18,slow=2.4
VYHS Vyhne 148.96 338 *e*PKHKP **PKPbc 15 22 29.7 +0.7**
VYHS *e* 15 22 36.0
VYHS Vyhne 148.96 338 *e*PKP **PKPbc 15 22 29.7 +0.7**
VYHS *e* 15 22 35.9
PRU Pruhonice 148.97 344 ⇑*e*PKP **PKiKP 15 22 29.6 -0.3**
PRU *e*PKPAB **PKPab 15 22 36.2 +0.8**
PRU Pruhonice 148.97 344 *e*PKHKP **PKiKP 15 22 29.6 -0.3**
PRU *e* 15 22 36.2
GOPC GO Pecny, Ondr 148.98 343 ⇑*e*PKP **PKiKP 15 22 29.7 -0.3**
GOPC *e*PKPAB **PKPab 15 22 36.5 +1.0**
GOPC GO Pecny, Ondr 148.98 343 *e*PKHKP **PKiKP 15 22 29.7 -0.3**
GOPC *e* 15 22 36.5
VRAC Vranov 149.00 341 *e*PKP **PKPbc 15 22 29.4 +0.3**
VRAC Vranov 149.00 341 ⇑P **PKiKP 15 22 30.1 +0.1**
VRAC Vranov 149.00 341 ⇑PKHKP **PKiKP 15 22 30.1 +0.1**
MOX Moxa 149.04 348 *e*PKPbc **PKiKP 15 22 29.6 -0.4**
baz=18,slow=2.4
MOX *e*PKPab **PKPab 15 22 35.8 +0.1**
baz=16,slow=4.2
KASTN Kahler Asten 149.04 352 *e*PKPbc **PKiKP 15 22 29.8 -0.3**
baz=18,slow=2.4
PSZ Piszkesteto 149.05 336 ⇑P **PKiKP 15 22 30.1 -0.1**
PSZ Piszkesteto 149.05 336 ⇑PKHKP **PKiKP 15 22 30.1 -0.1**
JAVC Velka Javorina 149.05 339 *e*PKP **PKiKP 15 22 31.0 +0.8**
PLN Plauen 149.08 347 *e*PKPbc **PKiKP 15 22 29.8 -0.4**
baz=18,slow=2.4
PLN *e*PKPab **PKPab 15 22 36.1 +0.3**
baz=16,slow=4.2
TANN Tannenbergstha 149.08 346 *e*PKPbc **PKiKP 15 22 29.8 -0.4**
baz=18,slow=2.4
TANN *e*PKPab **PKPab 15 22 36.2 +0.3**
baz=16,slow=4.2
UBBA Unterbreizbach 149.17 350 *e*PKPbc **PKiKP 15 22 30.1 -0.1**
baz=18,slow=2.4
LOT Lotru 149.27 329 ⇑P **PKPbc 15 22 28.9 -1.1**

KRUC Moravsky 149.28 341 *e*PKP **PKiKP 15 22 30.2 -0.4**
DEV Deva 149.36 330 ⇑P **PKiKP 15 22 30.9 +0.1**
DEV Deva 149.36 330 ⇑PKHKP **PKiKP 15 22 30.9 +0.1**
MANZ Manzenberg 149.56 347 *e*PKPbc **PKiKP 15 22 31.0 -0.1**
baz=18,slow=2.4
ZVC Zvikov 149.57 344 ⇑*e*PKP **PKPbc 15 22 30.8 +0.4**
ZVC *e*PKPAB **PKPab 15 22 38.6 +0.7**
MODS Modra-Piesok 149.60 339 *e*PKHKP **PKPbc 15 22 31.3 +0.7**
MODS *e* 15 22 39.0
MODS Modra-Piesok 149.60 339 *e*PKP **PKPbc 15 22 31.3 +0.7**
MODS *e* 15 22 39.0
SIRR Siria 149.63 332 ⇑P **PKiKP 15 22 31.7 +0.2**
ROTZ Rotzenmuhle 149.75 346 *e*PKPbc **PKiKP 15 22 31.6 +0.1**
baz=18,slow=2.4
ROTZ *e*PKPab **PKPab 15 22 39.1 +0.5**
baz=16,slow=4.2
GZR Gura Zlata 149.79 330 ⇑P **PKiKP 15 22 31.5 -0.3**
GZR Gura Zlata 149.79 330 ⇑PKHKP **PKiKP 15 22 31.5 -0.3**
SURR Surduc 149.82 331 ⇑P **PKiKP 15 22 31.6 -0.2**
MEM Membach 149.90 354 *d*PKiKP **PKiKP 15 22 31.5 -0.3**
BTNL Ternell 149.91 354 *d*PKiKP **PKPbc 15 22 31.3 +0.1**
TNS Taunus Mts 150.00 351 *e*PKPbc **PKiKP 15 22 32.1 0.0**
baz=18,slow=2.4
TNS *e*PKPab **PKPab 15 22 39.8 +0.1**
baz=16,slow=4.2
KHC Kasperske Hory 150.01 344 ⇑*e*PKP **PKiKP 15 22 32.3 +0.2**
KHC *e*PKPAB **PKPab 15 22 40.8 +1.0**
KHC *ex* x 15 24 47.0
KHC Kasperske Hory 150.01 344 *e*PKHKP **PKiKP 15 22 32.3 +0.2**
KHC *e* 15 22 40.8
GRF Grafenberg Arr 150.03 347 *e*PKPbc **PKPbc 15 22 31.8 +0.3**
baz=18,slow=2.4
GRF *e*PKPab **PKPab 15 22 40.5 +0.7**
baz=16,slow=4.2
CKRC Cesky Krumlov 150.10 343 ⇑*e*PKP **PKPbc 15 22 32.0 +0.3**
CKRC *e*PKPAB **PKPab 15 22 41.0 +0.8**
CKRC Cesky Krumlov 150.10 343 *e*PKHKP **PKPbc 15 22 32.0 +0.3**
CKRC *e* 15 22 41.0
SRE Strehaia 150.11 328 ⇑P **PKiKP 15 22 32.6 +0.1**
SRE Strehaia 150.11 328 ⇑PKHKP **PKiKP 15 22 32.6 +0.1**
BZS Buzias 150.16 331 ⇑P **PKPbc 15 22 32.1 +0.2**
BZS Buzias 150.16 331 ⇑PKHKP **PKPbc 15 22 32.1 +0.2**
GEC2 GERESS Array S 150.24 344 *e*PKPbc **PKiKP 15 22 32.7 -0.1**
baz=18,slow=2.4
GEC2 *e*PKPab **PKPab 15 22 41.4 +0.6**
baz=16,slow=4.2
GERES GERESS Array B 150.24 344 PKPbc **PKiKP 15 22 32.5 -0.2**
comp=Z,8.6nm,0.8s,baz=48,slow=2.0,SNR=23
GERES PKPab **PKPab 15 22 40.6 -0.3**
comp=Z,3.8nm,0.7s,baz=35,slow=3.6,SNR=6.8
HERR Herculane 150.34 329 ⇑P **PKiKP 15 22 32.9 0.0**
CONA Conrad Observa 150.45 340 *i* PKiKP **PKiKP 15 22 33.4 +0.2**
comp=Z,15nm,1.0s,SNR=6.4
CONA *i* PKP **PKPab 15 22 42.7 +1.0**
comp=Z,23nm,1.7s
RONA Rosalia, Austr 150.51 340 *i* PKiKP **PKiKP 15 22 33.3 0.0**
comp=Z,20nm,0.9s,SNR=12
RONA *i* PKP **PKPab 15 22 42.8 +0.8**
comp=Z,10nm,0.9s
DOU Dourbes 150.52 356 *d*PKiKP **PKiKP 15 22 33.0 -0.1**
WLF Walferdange 150.82 354 *d*PKiKP **PKiKP 15 22 34.5 +0.7**
WLF Walferdange 150.82 354 *e*PKPbc **PKiKP 15 22 34.7 +1.0**
baz=18,slow=2.4
WLF *e*PKPab **PKPab 15 22 43.8 +0.6**
baz=16,slow=4.2
MORH Mrgy, Hungar 150.93 335 ⇑P **PKiKP 15 22 34.1 +0.1**
MOA Molln 151.00 342 *i* PKiKP **PKPbc 15 22 34.0 +0.1**
comp=Z,10.0nm,1.0s
MOA *i* PKP **PKPab 15 22 44.6 +0.6**
comp=Z,13nm,1.1s
ALN Alexandroupoli 151.05 320 **PKPbc 15 22 33.8 -0.3**
ALN Alexandroupoli 151.05 320 PKIKP **PKPbc 15 22 33.8 -0.3**
ARSA Arzberg 151.16 340 *i* PKiKP **PKPbc 15 22 34.1 -0.1**
comp=Z,1.7nm,0.6s
STU Stuttgart 151.29 350 *e*PKPbc **PKiKP 15 22 35.0 +0.3**
baz=18,slow=2.4
STU *e*PKPab **PKPab 15 22 45.4 +0.3**
baz=16,slow=4.2
BIOA Bad Ischl, Aus 151.32 343 *i* PKiKP **PKPbc 15 22 34.5 -0.1**
comp=Z,2.7nm,0.6s
BIOA *i* PKP **PKPab 15 22 46.2 +0.8**
comp=Z,30nm,1.3s
FUR Furstenfeldbru 151.46 346 *e*PKPbc **PKiKP 15 22 35.4 +0.3**
baz=18,slow=2.4
FUR *e*PKPab **PKPab 15 22 46.7 +0.8**
baz=16,slow=4.2
RJOB Jochberg 151.50 344 *e*PKPbc **PKiKP 15 22 35.4 +0.1**
baz=18,slow=2.4
RJOB *e*PKPab **PKPab 15 22 47.0 +0.8**
baz=16,slow=4.2
SOKA Soboth 151.82 340 *i* PKiKP **PKPbc 15 22 35.6 -0.2**
comp=Z,8.8nm,1.1s
SOKA *i* PKP **PKPab 15 22 47.9 +0.3**
comp=Z,13nm,1.4s
LESA Schwarzleotal 151.82 344 *i* PKiKP **PKPbc 15 22 35.6 -0.2**
comp=Z,4.7nm,0.5s
LESA *i* PKP **PKPab 15 22 48.2 +0.7**
comp=Z,11nm,0.6s
PERS Pernice 151.83 340 *e*PKPbc **PKPbc 15 22 35.4 -0.4**
BFO Black Forest 151.86 350 *e*PKPbc **PKPbc 15 22 35.8 +0.1**
baz=18,slow=2.4
BFO *e*PKPab **PKPab 15 22 47.5 0.0**
baz=16,slow=4.2
KBA Koelnbreinsper 151.96 343 *i* PKiKP **PKPbc 15 22 35.7 -0.5**
comp=Z,9.8nm,0.9s
KBA *i* PKP **PKPab 15 22 47.9 -0.3**
comp=Z,4.8nm,0.6s
OBKA Obir 152.12 341 *i* PKiKP **PKPbc 15 22 36.1 -0.4**
comp=Z,3.4nm,0.9s
OBKA *i* PKP **PKPab 15 22 48.9 +0.1**
comp=Z,8.9nm,1.2s
UBR Ueberruh 152.17 348 *e*PKPbc **PKPbc 15 22 36.6 0.0**
baz=18,slow=2.4
WATA Walderalm 152.18 345 *i* PKiKP **PKPbc 15 22 36.6 -0.1**
comp=Z,15nm,1.1s
WATA *i* PKP **PKPab 15 22 49.3 +0.2**
comp=Z,25nm,1.4s
RETA Reutte 152.22 347 *e*PKiKP **PKiKP 15 22 36.7 0.0**
comp=Z,2.7nm,0.7s
RETA *i* PKP **PKPab 15 22 49.5 +0.3**
comp=Z,16nm,1.1s
WTTA Wattenberg 152.23 345 *i* PKiKP **PKiKP 15 22 36.9 0.0**
comp=Z,4.9nm,0.4s
WTTA *i* PKP **PKPab 15 22 49.8 +0.5**
comp=Z,14nm,0.6s
MOTA Moosalm 152.28 346 *i* PKiKP **PKPbc 15 22 36.8 -0.1**
comp=Z,14nm,1.2s
MOTA *i* PKP **PKPab 15 22 49.8 +0.3**
comp=Z,16nm,0.9s
MYKA Terra Mystica 152.28 342 *i* PKP **PKPbc 15 22 36.2 -0.6**
comp=Z,4.4nm,0.6s
MYKA *i* PKP **PKPab 15 22 49.1 -0.4**
comp=Z,10.0nm,1.0s
SQTA Sankt Quirin 152.37 346 *i* PKiKP **PKPbc 15 22 37.1 +0.1**
comp=Z,12nm,0.9s
SQTA *i* PKP **PKPab 15 22 49.7 -0.2**
comp=Z,5.8nm,0.7s
ABTA Abfaltersbach 152.49 344 *i* PKiKP **PKPbc 15 22 36.9 -0.4**
comp=Z,14nm,0.7s,SNR=5.3
ABTA *i* PKP **PKPab 15 22 49.9 -0.5**
comp=Z,12nm,0.7s
LJU Ljubljana 152.54 340 *e*PKPbc **PKPbc 15 22 37.4 0.0**
DAVA Damuels 152.59 348 *i* PKiKP **PKPbc 15 22 37.6 +0.1**
comp=Z,12nm,1.3s
DAVA *i* PKP **PKPab 15 22 50.9 +0.1**
comp=Z,11nm,1.2s
CRNS Crni Vrh 152.59 341 *i* PKPbc **PKPbc 15 22 37.2 -0.2**
VISS Visnje 152.66 340 *e*PKPdf **PKPdf 15 22 30.1 +0.1**
VISS *i* PKPbc **PKiKP 15 22 37.9 +0.2**
VISS *e*PKPab **PKPab 15 22 51.0 0.0**
FETA Feichten 152.66 346 *i* PKiKP **PKiKP 15 22 37.9 +0.1**
comp=Z,7.1nm,0.9s
FETA *i* PKP **PKPab 15 22 51.2 0.0**
comp=Z,14nm,1.1s
ESDC Sonseca Array 160.44 13 PKPab **PKPab 15 23 24.8 -0.2**
comp=Z,6.8nm,1.1s,baz=339,slow=4.1,SNR=17
KEST Kesra 163.51 337 PKPab **PKPab 15 23 38.1 -0.5**
comp=Z,4.4nm,0.8s,baz=290,slow=3.8,SNR=4.8
DBIC Dimbokro 164.75 155 PKPab **PKPab 15 23 44.4 0.0**
comp=Z,9.0nm,1.0s,baz=203,slow=4.9,SNR=9.3
TORD Torodi Ar. Bea 172.54 181 PKP **PKPdf 15 22 50.3 +0.5**
comp=Z,0.2nm,0.4s,baz=158,slow=5.1,SNR=2.5
TORD PKPab **PKPab 15 24 18.3 -0.4**
comp=Z,2.8nm,0.9s,baz=167,slow=1.7,SNR=13

HEL 09 15:05:27.3±0.4, 67°.81N×20°.19E, h0km, ML0.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.72**	**70**	PB	Pb	15 05 42.2	-0.6
LANU				SG	Sg	15 05 50.0	-0.5
KIF	**Kilpisjarvi**	**1.22**	**10**	PB	Pg	15 05 50.5	-0.3
KIF				MSG		15 06 05.4	
	comp=Z,1.3nm,0.2s						
KIF				SB	Sg	15 06 06.8	+0.3
HEF	**Hetta**	**1.44**	**64**	MSG		15 06 10.3	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sg	15 06 12.8	-0.6
ERTU	**Ertsjaerv**	**1.48**	**147**	PN	Pn	15 05 55.0	-0.2
ERTU				SN	Sn	15 06 16.5	+1.3
KLF	**Kolari**	**1.56**	**110**	PN	Pb	15 05 56.8	-0.2
KLF				MSG		15 06 14.0	
	comp=Z,0.6nm,0.2s						
KLF				SN	Sg	15 06 17.8	+0.4
KTK1	**Kautokeino**	**1.65**	**42**	SN	Sg	15 06 21.3	+0.9
RNF	**Rovaniemi**	**2.57**	**115**	SG	Sb	15 06 45.8	-0.4
KMNF	**Kaamanen**	**2.85**	**59**	SG	Sb	15 06 53.6	-0.7
KEV	**Kevo**	**3.16**	**49**	SG	Sb	15 07 02.8	-0.4
KU2	**Taivalkoski**	**3.82**	**120**	SB	Sb	15 07 19.2	-3.0
MSF	**Maaselka**	**3.98**	**114**	SN	Sn	15 07 13.1	-3.6
KU6	**Riekki**	**4.22**	**111**	SG	Sb	15 07 37.4	+3.8

*NNC **09** 15:16:02.8±0.4, 45°.04N×80°.89E, h0km, mb4.0, mpv3.8,*
Error ellipse: s-maj=7.6km s-min=2.1km az=124.0
*SOME **09** 15:16:04.2, 44°.85N×81°.02E, h20km*

ISC 09 15:16:06.1±1.3, 44°.89N±0°.04×81°.07E±0°.05, h35km±5km, n33, σ1°.954/50, 11C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.07**	**239**	*e*P	**Pn**	**15 16 24.1**	**-0.6**
	256nm,0.2s						
DJR				*e*S	**Sn**	**15 16 38.6**	**+0.2**
	347nm,0.2s						
TDK	**Taldyqorghan**	**1.89**	**274**	*e*P	**Pb**	**15 16 38.0**	**-2.1**
	364nm,0.4s						
TDK				*e*S	**Sb**	**15 17 02.5**	**-0.9**
	717nm,0.2s						
PDGK	**Podgornoye**	**1.93**	**217**	⇑P	**Pn**	**15 16 37.5**	**+0.9**
	12nm,0.2s						
PDGK				⇑S	**Sb**	**15 17 03.7**	**-0.8**
	646nm,0.5s						
BLB	**Baldybastay**	**2.01**	**248**	Pg	**Pb**	**15 16 40.5**	**-1.7**
	622nm,0.3s						
BLB				Lg	Lg	15 17 06.7	
	659nm,0.3s						
MAKZ	**Makanchi**	**2.02**	**18**	⇑P	**Pn**	**15 16 37.6**	**-0.2**
	10.0nm,0.4s						
MAKZ				⇓S	**Sn**	**15 17 01.7**	**-0.2**
	66nm,0.3s						
SHLS	**Shalkode**	**2.08**	**214**	*e*P	**Pn**	**15 16 38.4**	**-0.3**
	55nm,0.1s						
SHLS				*e*S	**Sn**	**15 17 02.8**	**-0.6**
	694nm,0.5s						
MK31	**Makanchi Array**	**2.09**	**24**	P	**Pn**	**15 16 38.9**	**+0.2**
	19nm,0.4s,baz=204,slow=13,SNR=913						
MK31				⇑S	**Sn**	**15 17 05.0**	**+1.5**
	80nm,0.2s,baz=204,slow=24,SNR=34						
KPKS	**Kokpek**	**2.23**	**231**	Pg	**Pb**	**15 16 43.6**	**-2.2**
	52nm,0.2s						
KPKS				Lg	Lg	15 17 11.6	
	843nm,0.5s						
KPKS	**Kokpek**	**2.23**	**231**	*e*P	**Pb**	**15 16 43.6**	**-2.2**
	52nm,0.2s						
KPKS				*e*S	**Sb**	**15 17 11.6**	**-1.4**
	709nm,0.3s						
ARXS	**Arharly**	**2.41**	**255**	Pg	**Pb**	**15 16 47.4**	**-1.5**
ARXS				Lg	Lg	15 17 18.7	
KURS	**Kuram**	**2.51**	**237**	Pg	**Pb**	**15 16 49.3**	**-1.3**
	8.3nm,0.3s						
KURS				Lg	Lg	15 17 21.4	
	95nm,0.3s						
ZHN	**Zhinishke**	**2.56**	**229**	Pg	**Pb**	**15 16 50.3**	**-1.2**
	31nm,0.2s						
ZHN				Lg	Lg	15 17 23.4	
	746nm,0.2s						
ZHN	**Zhinishke**	**2.56**	**229**	*e*P	**Pb**	**15 16 50.3**	**-1.2**
	31nm,0.2s						
ZHN				*e*S	**Sb**	**15 17 23.4**	**+0.8**
	746nm,0.2s						
SATY	**Saty**	**2.65**	**227**	Pg	**Pb**	**15 16 52.2**	**-0.8**
	19nm,0.2s						
SATY				Lg	Lg	15 17 26.6	
	723nm,0.2s						
SATY	**Saty**	**2.65**	**227**	*e*P	**Pn**	**15 16 47.4**	**+0.9**
	10nm,0.1s						
SATY				*e*S	**Sn**	**15 17 18.7**	**+1.2**
	475nm,0.2s						
KOTS	**Kotyrbulak**	**3.29**	**241**	*e*P	**Pb**	**15 17 03.7**	**-0.2**
	20nm,0.2s						
KOTS				*e*S	**Sb**	**15 17 46.4**	**+2.7**
	144nm,0.3s						
KTBS	**Karatobe**	**3.36**	**251**	Pg	**Pb**	**15 17 03.5**	**-1.5**
	9.0nm,0.2s						
KTBS				Lg	Lg	15 17 45.9	
	116nm,0.5s						
MDOK	**Medeo**	**3.37**	**241**	Pg	**Pb**	**15 17 04.2**	**-1.1**
	18nm,0.4s						
MDOK				⇑Pg	Pn	15 17 04.5	+8.0
	10.0nm,0.4s						
MDOK				⇑Lg	Lg	15 17 46.6	
	70nm,0.6s						
MDOK				Lg	Lg	15 17 47.4	
	85nm,0.5s						
MDOK	**Medeo**	**3.37**	**241**	*e*P	**Pb**	**15 17 04.2**	**-1.1**
	11nm,0.2s						
MDOK				*e*S	**Sb**	**15 17 47.4**	**+1.5**
	58nm,0.2s						
KNDC	**Almaty**	**3.40**	**242**	⇓Pg	**Pb**	**15 17 05.2**	**-0.5**
	35nm,0.5s						
KNDC				⇑Lg	Lg	15 17 49.1	
	103nm,0.5s						
TNSS	**Tian-Shan**	**3.50**	**240**	*e*P	**Pb**	**15 17 07.2**	**-0.4**
	6.1nm,0.2s						
TNSS				*e*S	**Sb**	**15 17 52.4**	**+2.5**
	34nm,0.2s						
ZSN	**Zaisan**	**3.68**	**44**	*e*P	**Pb**	**15 17 10.2**	**-0.2**
	34nm,0.2s						
ZSN				*e*S	**Sb**	**15 17 57.2**	**+2.6**
	106nm,0.6s						
MTBS	**Maitube**	**3.78**	**244**	Pg	**Pb**	**15 17 10.8**	**-1.3**
	5.7nm,0.2s						
MTBS				Lg	Lg	15 17 58.6	
	152nm,0.4s						
MTBS	**Maitube**	**3.78**	**244**	*e*P	**Pb**	**15 17 10.8**	**-1.3**
	4.3nm,0.1s						
MTBS				*e*S	**Sb**	**15 17 58.6**	**+1.1**
	152nm,0.4s						
KRBS	**Karabastau**	**4.05**	**255**	Pg	**Pb**	**15 17 15.8**	**-1.0**
	7.4nm,0.5s						
KRBS				Lg	Lg	15 18 07.4	
	27nm,0.5s						
KST	**Kastek**	**4.12**	**245**	Pg	**Pb**	**15 17 16.8**	**-1.2**
	6.6nm,0.3s						
KST				Lg	Lg	15 18 09.1	
	66nm,0.5s						
KST	**Kastek**	**4.12**	**245**	*e*P	**Pb**	**15 17 16.8**	**-1.2**
	6.7nm,0.3s						
KST				*e*S	**Sb**	**15 18 09.1**	**+1.7**
	49nm,0.4s						
DGS	**Degeres**	**4.16**	**249**	Pg	**Pb**	**15 17 17.3**	**-1.2**
	15nm,0.3s						
DGS				Lg	Lg	15 18 09.8	
	69nm,0.4s						
BTLS	**Baital**	**4.99**	**274**	*e*P	**Pb**	**15 17 35.3**	**+2.7**
	2.6nm,0.1s						
BTLS				*e*S	Sb	15 18 40.8	+8.7
	12nm,0.2s						
KURBB	**Kurchatov Arra**	**5.99**	**344**	⇑Pn	**Pn**	**15 17 30.9**	**-1.3**
	1.8nm,0.7s						
KURBB				⇓Sn	**Sn**	**15 18 38.1**	**-1.4**
	5.8nm,0.5s						
KURBB				⇓Lg	Lg	15 19 09.0	
	23nm,0.5s						
KURK	**Kurchatov**	**6.06**	**345**	⇑Sn	**Sn**	**15 18 39.5**	**-1.7**
	4.5nm,0.5s						
KURK				⇓Lg	Lg	15 19 09.4	
	18nm,0.7s						
OTUK	**Ortayu**	**6.89**	**302**	⇓Pn	**Pn**	**15 17 46.3**	**+1.6**
	1.9nm,0.8s						
OTUK				⇑Sn	**Sn**	**15 18 59.2**	**-2.6**

1.2nm,0.2s
OTUK ⇑Lg Lg 15 19 36.8
32nm,0.9s
KK31 Karatay Array 7.82 261 Pg **Pb 15 18 24.0 +3.2**
0.5nm,0.3s,baz=68,slow=18,SNR=3.8
KK31 ⇓Lg Lg 15 20 09.7
3.9nm,0.4s,baz=69,slow=29,SNR=10

---

*SJA **09** 15:16:40.0,21.°59S×67.°23W,h275km,ML3.1*
*SCB **09** 15:16:45.2±0.7,21.°90S×67.°44W,h202km±10km,ML2.9/3,*
Error ellipse: s-maj=7.5km s-min=5.9km az=1.0
ISC 09 15:16:45.8±1.5,21.°88S±0.°06×67.°45W±0.°08,h200km,n15,
σ0$47/18,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.66**	**273**	*i* P	**Pn**	**15 17 21.5**	**+0.3**
PB09	**IPOC Station P**	**1.66**	**273**	Pg	**Pn**	**15 17 21.3**	**+0.1**
PB09				Sg	**Sn**	**15 17 48.7**	**+0.1**
PB09				IAML		15 17 54.9	
29nm,0.2s							
PB01	**IPOC Station P**	**2.07**	**293**	Pg	**Pn**	**15 17 25.2**	**+0.1**
PB01				Sg	**Sn**	**15 17 55.5**	**-0.2**
PB01				IAML		15 17 56.8	
155nm,0.2s							
PB08	**IPOC Station P**	**2.35**	**317**	*i* P	**Pn**	**15 17 28.9**	**+0.5**
PB08	**IPOC Station P**	**2.35**	**317**	Pg	**Pn**	**15 17 29.4**	**+0.9**
PB08				Sg	**Sn**	**15 18 01.2**	**-0.4**
PB08				IAML		15 18 06.3	
21nm,0.2s							
TA01	**Diego Aracena**	**2.86**	**297**	Pg	**Pn**	**15 17 34.0**	**+0.2**
AZAP	**Zapla**	**3.21**	**137**	*i* P	**Pn**	**15 17 38.1**	**0.0**
SOEO	**Opoqueri**	**3.33**	**353**	Pg	**Pn**	**15 17 40.2**	**+0.3**
GO02	**Mina Guanaco**	**3.81**	**211**	*i* P	**Pn**	**15 17 45.6**	**+0.1**
PB14	**IPOC Station P**	**3.85**	**224**	*i* P	**Pn**	**15 17 46.1**	**+0.1**
SOET	**ToroToro**	**4.05**	**23**	Pg	**Pn**	**15 17 48.5**	**-0.1**
PB12	**IPOC Station P**	**4.22**	**320**	*i* P	**Pn**	**15 17 49.3**	**-1.2**
PB12	**IPOC Station P**	**4.22**	**320**	Pg	**Pn**	**15 17 50.7**	**+0.2**
BBOE	**La Paz, Chanca**	**5.07**	**354**	Pg	**Pn**	**15 18 02.0**	**+0.3**
BBOD	**La Paz, Gloria**	**5.33**	**348**	Pg	**Pn**	**15 18 05.1**	**+0.1**

---

*IDC **09** 15:46:39.1±4.0,3.°36S×130.°53E,h0km,mb3.4/2,*
mbtmp3.4/3,ML3.2/1,Error ellipse: s-maj=291.8km
s-min=30.7km az=71.0
*DJA **09** 15:46:41.2±0.5,3.°S±8.°×13.°1E±.°,h10km,M3.1/6,MLv3.1/6*
ISC 09 15:46:42.6±1.0,3.°3S±0.°1×130.°76E±0.°09,h30km,n7,
σ0$67/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.52**	**77**	P	**Pn**	**15 47 07.7**	**-0.1**
MSAI	**Masohi**	**1.83**	**267**	P	**Pb**	**15 47 15.1**	**-0.4**
SWI	**Sorong**	**2.44**	**12**	P	**Pn**	**15 47 20.1**	**-0.3**
RKPI	**Ransiki, Papua**	**3.83**	**63**	P	**Pn**	**15 47 39.0**	**-0.5**
WRA	**Warramunga Arr**	**16.94**	**168**	Pn	**Pn**	**15 50 38.1**	**+0.5**
0.1nm,0.3s,baz=348,slow=11,SNR=2.4							
0.5nm,0.8s							
ASAR	**Alice Springs**	**20.51**	**172**	P	**P**	**15 51 17.9**	**-0.5**
0.7nm,0.3s,baz=350,slow=10,SNR=41							
0.7nm,0.3s							
MKAR	**Makanchi Array**	**65.56**	**326**	P	**P**	**15 57 24.4**	**+0.8**
0.3nm,0.7s,baz=113,slow=7.1,SNR=3.2							
0.3nm,0.7s							

---

*IDC **09** 15:50:48.7±1.3,9.°99N×126.°31E,h0km,mb4.0/7,*
mbtmp4.0/8,ML4.3/1,MS3.1/1,Error ellipse: s-maj=62.9km
s-min=20.4km az=87.0
ISC 09 15:50:54.8±1.2,9.°96N±0.°09×126.°3E±0.°4,h42km,n15,
σ0$60/10,mb3.9/7,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.95**	**194**	Pn	**Pn**	**15 51 39.4**	**+0.2**
44nm,0.3s,baz=0.0,slow=6.1,SNR=1.6							
DAV				Sn	**Sn**	**15 52 14.0**	**+0.5**
7.3nm,0.3s,baz=120,slow=20,SNR=3.7							
147nm,0.4s							
JOW	**Kunigami**	**16.89**	**6**	LR	LR	16 00 19.4	
comp=Z,70nm,19.9s,baz=344,slow=34							
FITZ	**Fitzroy Crossi**	**27.89**	**181**	P	**P**	**15 56 40.0**	**-0.8**
1.4nm,0.6s,baz=2.9,slow=11,SNR=1.7							
1.4nm,0.6s							
H11S3	**WAKE ISLAND Hy 40.00**	**73**		T	T	16 41 25.5	
baz=261,slow=73,SNR=11							
H11S1	**WAKE ISLAND Hy 40.02**	**73**		T	T	16 41 24.3	
baz=261,slow=73,SNR=6.1							
H11S2	**WAKE ISLAND Hy 40.02**	**73**		T	T	16 41 19.5	
baz=261,slow=73,SNR=4.5							
H11N1	**WAKE ISLAND Hy 40.35**	**71**		T	T	16 41 49.3	
baz=265,slow=74,SNR=24							
H11N2	**WAKE ISLAND Hy 40.35**	**71**		T	T	16 41 46.7	
baz=265,slow=74,SNR=21							
H11N3	**WAKE ISLAND Hy 40.36**	**71**		T	T	16 41 56.0	
baz=265,slow=74,SNR=20							
SONM	**Songino Array**	**41.31**	**340**	P	**P**	**15 58 37.3**	**+0.9**
0.4nm,0.6s,baz=168,slow=10.0,SNR=2.9							
SONM				PcP	**PcP**	**16 00 34.1**	**-0.4**
0.3nm,0.6s,baz=153,slow=4.4,SNR=2.3							
0.4nm,0.6s							
MKAR	**Makanchi Array**	**52.28**	**323**	P	**P**	**16 00 01.6**	**-0.5**
1.0nm,0.7s,baz=119,slow=8.0,SNR=13							
1.0nm,0.7s							
KURBB	**Kurchatov Arra**	**56.33**	**325**	P	**P**	**16 00 31.1**	**-0.3**
0.5nm,0.6s,baz=125,slow=6.8,SNR=7.2							
0.5nm,0.6s							
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**16 03 22.8**	**-0.1**
1.6nm,0.9s,baz=77,slow=4.9,SNR=6.7							
1.6nm,0.9s							
FINES	**FINESS Array B**	**86.17**	**332**	P	**P**	**16 03 31.0**	**-0.4**
3.8nm,0.9s,baz=101,slow=2.8,SNR=4.7							
3.8nm,0.9s							
YKA	**Yellowknife Ar**	**94.03**	**24**	P	**P**	**16 04 08.8**	**+0.4**
0.4nm,0.7s,baz=298,slow=4.8,SNR=6.7							
0.4nm,0.7s							

DJA 09 15:50:57.3±0.3,3.°3S±6.°×13.°1E±.°,h10km,M4.0/7,mb4.6/2,
MLv3.8/7,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.48**	**88**	P	Pn	15 51 23.5	-0.5
MSAI	**Masohi**	**1.88**	**258**	P	Pb	15 51 30.8	-0.9
SWI	**Sorong**	**2.14**	**13**	P	Pg	15 51 43.1	+4.7
AAI	**Ambon**	**2.67**	**254**	P	Pn	15 51 40.2	-0.2
NLAI	**Namlea**	**3.67**	**266**	P	Pn	15 51 53.8	-0.4
RKPI	**Ransiki, Papua**	**3.70**	**67**	P	Pn	15 51 55.9	+1.4
KDI	**Kendari**	**8.20**	**263**	P	Pn	15 52 56.2	-0.2

---

*NEIC **09** 16:18:19.5±0.3,19.°24N±0.°03×155.°44W±0.°03,h40km±4km,*
Error ellipse: s-maj=5.3km s-min=2.9km az=140.0
HVO 09 16:18:20.7±0.9,19.°2N±0.°1×155.°4W±0.°1,h34km±8km,
ML2.3/7,ML2.5/42(NEIC),Error ellipse: s-maj=23.8km
s-min=8.4km az=142.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**19**		Pb	16 18 26.1	-0.4
HLP	**Hilina Pali**	**0.13**	**48**		Pb	16 18 26.5	-0.5
HLP	**Hilina Pali**	**0.13**	**48**	IAML		16 18 30.1	
comp=N,498nm,3.0s							
HLP				IAML		16 18 34.6	
comp=E,566nm,3.4s							
KHU	**Kahuku**	**0.20**	**280**		Pn	16 18 26.8	+0.2
KHU	**Kahuku**	**0.20**	**280**		Sb	16 18 31.4	-1.1
KHU	**Kahuku**	**0.20**	**280**	IAML		16 18 31.1	
comp=N,578nm,1.9s							
SDHHI	**Sand Hill**	**0.21**	**31**		Pn	16 18 26.9	+0.2
SDHHI					Sb	16 18 31.5	-1.0
WRMHI	**West Rim**	**0.22**	**27**		Pn	16 18 26.9	-0.1
RIM	**Rim**	**0.22**	**34**		Pn	16 18 27.0	-0.1
KKO	**Keanakako'i**	**0.23**	**36**		Pn	16 18 27.1	-0.2
UWE	**Uwekahuna**	**0.24**	**27**		Pn	16 18 27.1	-0.3
UWE	**Uwekahuna**	**0.24**	**27**	IAML		16 18 36.1	
comp=E,441nm,2.6s							
UWE				IAML		16 18 38.3	
comp=N,641nm,3.9s							
OBL	**Observatory Le**	**0.24**	**30**		Pn	16 18 27.0	-0.4
OBL					Sn	16 18 31.9	+1.0
BYL	**Byron's Ledge**	**0.24**	**35**		Pn	16 18 27.1	-0.5
PUH	**Pauahi**	**0.24**	**48**		Pn	16 18 27.1	-0.4
PUH	**Pauahi**	**0.24**	**48**		Sn	16 18 32.0	+0.9
PUH	**Pauahi**	**0.24**	**48**	IAML		16 18 29.6	
comp=N,512nm,4.1s							
UWB	**Uwekahuna Bluf**	**0.25**	**30**		Pn	16 18 27.0	-0.6
HATHI	**Halema'uma'u T**	**0.25**	**33**		Pn	16 18 27.1	-0.6
SBLHI	**Steaming Bluff**	**0.25**	**31**		Pn	16 18 27.1	-0.7
SBLHI					Sn	16 18 32.0	+0.4
RSD	**Rainshed**	**0.28**	**26**		Pn	16 18 27.4	-0.9
RSD					Sn	16 18 32.5	-0.1
RSD	**Rainshed**	**0.28**	**26**	IAML		16 18 32.7	
comp=E,263nm,2.9s							
RSD				IAML		16 18 36.0	
comp=N,421nm,3.5s							
KNHH	**Kane Nui o Ham**	**0.28**	**53**		Pn	16 18 27.5	-0.7
MLH	**Mauna Loa**	**0.28**	**4**		Pn	16 18 27.8	-0.6
MLH					Sn	16 18 33.1	+0.2
MLH	**Mauna Loa**	**0.28**	**4**	IAML		16 18 33.4	
comp=N,684nm,0.3s							
MLH				IAML		16 18 38.1	
comp=E,414nm,1.9s							
STCH	**Steam Cracks**	**0.32**	**57**		Pb	16 18 27.9	-1.1
STCH	**Steam Cracks**	**0.32**	**57**	IAML		16 18 33.6	
comp=E,232nm,0.1s							
STCH				IAML		16 18 36.3	
comp=N,296nm,3.6s							
MWH	**Mokuaweoweo**	**0.33**	**327**		Pn	16 18 28.1	-1.2
MWH					Sn	16 18 33.5	-1.0
MWH	**Mokuaweoweo**	**0.33**	**327**	IAML		16 18 33.7	
comp=N,430nm,0.3s							
MWH				IAML		16 18 34.1	
comp=E,493nm,0.7s							
NPOC	**North of Pu'u**	**0.34**	**57**		Pb	16 18 28.1	-1.1
NPOC					Sn	16 18 33.7	-0.8
JCUZ	**Jacuzzi**	**0.34**	**59**		Pb	16 18 28.2	-1.0
HMH	**Humu'ula Sheep**	**0.40**	**350**		Pb	16 18 29.2	-1.0
HMH	**Humu'ula Sheep**	**0.40**	**350**	IAML		16 18 35.7	
comp=N,619nm,0.4s							
HMH				IAML		16 18 35.8	
comp=E,625nm,0.5s							
ALEP	**Alea Permanent**	**0.40**	**326**		Pb	16 18 28.7	-1.6
JOKA	**Jonika Flow**	**0.44**	**60**		Pb	16 18 29.2	-1.4
JOKA	**Jonika Flow**	**0.44**	**60**	IAML		16 18 45.4	
comp=E,333nm,4.4s							
PAH	**Pahoa**	**0.52**	**57**		Pn	16 18 30.3	-1.4
CPH	**Captain Cook**	**0.56**	**300**		Pn	16 18 30.2	-1.9
POHA	**Pohakuloa**	**0.56**	**348**		Pn	16 18 30.6	-1.9
POHA				IAML		16 18 36.8	
comp=E,258nm,3.1s							
POHA				IAML		16 18 54.1	
comp=E,188nm,3.9s							
HUH	**Hualalai**	**0.62**	**320**		Pn	16 18 31.8	-1.5

---

*IDC **09** 16:20:20.6±1.9,59.°13S×25.°04W,h0km,mb4.0/2,*
mbtmp4.0/2,Error ellipse: s-maj=78.5km s-min=49.6km
az=180.0
ISC 09 16:20:25.7±0.9,59.°3S±0.°2×25.°3W±0.°3,h32km,n15,
σ3$12/21,7C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.36**	**155**	P	**Pn**	**16 23 36.9**	**+4.2**
VNA1				S	**Sn**	**16 25 59.0**	**-0.8**
VNA1	**Neumayer--Stat**	**13.36**	**155**	⇑P	**Pn**	**16 23 36.9**	**+4.2**
comp=Z,7.0nm,0.5s							
VNA1				⇑S	**Sn**	**16 25 59.0**	**-0.8**
VNA3	**Neumayer Olymp**	**13.54**	**158**	P	**Pn**	**16 23 38.8**	**+3.6**
VNA3				S	**Sn**	**16 26 00.0**	**-4.3**
VNA3	**Neumayer Olymp**	**13.54**	**158**	⇓P	**Pn**	**16 23 38.8**	**+3.6**
comp=Z,9.8nm,0.3s							
VNA3				⇑S	**Sn**	**16 26 00.0**	**-4.3**
VNA2	**Neumayer--Watz**	**13.76**	**155**	P	**Pn**	**16 23 41.8**	**+3.7**
baz=318,slow=14							
VNA2				S	**Sn**	**16 26 05.3**	**-4.2**
baz=344,slow=15							
VNA2	**Neumayer--Watz**	**13.76**	**155**	⇑P	**Pn**	**16 23 41.8**	**+3.7**
comp=Z,4.3nm,0.2s,baz=318,slow=14							
VNA2				⇑S	**Sn**	**16 26 05.3**	**-4.2**
comp=E,1.7nm,0.4s,baz=344,slow=15							
SNAA	**Sanae**	**15.32**	**153**	P	**P**	**16 24 02.7**	**-1.0**
SNAA	**Sanae**	**15.32**	**153**	⇑P	**P**	**16 24 02.7**	**-1.0**
comp=Z,174nm,0.5s							
TROLL	**Troll, Antarti**	**16.85**	**150**	P	**P**	**16 24 22.8**	**+2.1**
TROLL	**Troll, Antarti**	**16.85**	**150**	⇑P	**P**	**16 24 22.8**	**+2.1**
comp=Z,180nm,0.5s							
LPAZ	**La Paz**	**53.12**	**305**	P	**P**	**16 29 40.4**	**-0.4**
comp=Z,0.7nm,0.6s,baz=180,slow=5.1,SNR=2.1							
comp=Z,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**75.47**	**27**	P	**P**	**16 32 05.0**	**-1.4**
comp=Z,1.5nm,0.6s,baz=196,slow=5.3,SNR=9.6							
comp=Z,1.5nm,0.6s							
YKA	**Yellowknife Ar**	**139.27**	**315**	PKP	**PKPdf**	**16 39 47.0**	**-0.7**
comp=Z,0.2nm,0.4s,baz=132,slow=2.6,SNR=5.2							
SONM	**Songino Array**	**149.78**	**91**	PKPbc	**PKPbc**	**16 40 10.8**	**-0.5**
comp=Z,0.6nm,0.7s,baz=201,slow=4.3,SNR=3.8							
ILAR	**Eielson Array**	**153.00**	**307**	PKPbc	**PKiKP**	**16 40 18.1**	**-0.1**
comp=Z,1.8nm,0.8s,baz=144,slow=3.9,SNR=18							

WEL 09 16:27:26.9±1.0,33.°S±8.°×17.°9W±1.°8,h437km±13km,
M4.0/6,mB4.5/6,ML4.3/7,MLv4.2/6,Mw(mB)3.6/6,Error
ellipse: s-maj=25.3km s-min=4.8km az=112.4,
confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.09**	**20**	P	P	16 28 46.8	+4.7
GLKZ				S	S	16 29 40.2	-3.1
RIZ	**Raoul Island**	**4.11**	**19**	P	P	16 28 43.0	+0.7
RIZ				S	S	16 29 43.1	-0.4
WMGZ	**Waiomatatini S**	**4.97**	**199**	P	P	16 28 51.4	+1.3
WMGZ				S	S	16 29 59.4	+1.3
HAZ	**Te Kaha**	**5.11**	**205**	P	P	16 28 51.5	-0.1
PKGZ	**Pakihiroa**	**5.11**	**202**	P	P	16 28 53.4	+1.8
PUZ	**Puketiti**	**5.25**	**200**	P	P	16 28 52.2	-0.7
PUZ				S	S	16 30 03.5	+0.2
RUGZ	**Raukumara Rang**	**5.34**	**205**	P	P	16 28 53.7	-0.3
RUGZ				S	S	16 30 04.2	-0.9
TWGZ	**Tauwhareparae**	**5.43**	**202**	P	P	16 28 55.6	+0.9
TWGZ				S	S	16 30 08.2	+1.6
CNGZ	**Carnagh Statio**	**5.65**	**199**	P	P	16 28 57.6	+0.6
TKGZ	**Te Karaka**	**5.71**	**201**	P	P	16 28 57.0	-0.5
TKGZ				S	S	16 30 12.6	+0.9
MWZ	**Matawai**	**5.72**	**204**	P	P	16 28 56.7	-1.1
MWZ				S	S	16 30 12.5	+0.5
WIAZ	**Waiheke Island**	**5.72**	**229**	P	P	16 28 58.9	+1.2
URZ	**Urewera**	**5.81**	**207**	P	P	16 28 57.7	-0.9
URZ				S	S	16 30 14.4	+0.9
RAGZ	**Rawiri**	**5.90**	**204**	P	P	16 29 00.2	+0.5
RAGZ				S	S	16 30 17.4	+1.9
ETAZ	**East Tamaki Re**	**5.95**	**229**	P	P	16 28 59.3	-0.8
RIGZ	**Rimuhau**	**5.98**	**201**	P	P	16 29 00.2	-0.2
RIGZ				S	S	16 30 17.7	+0.7
KMRZ	**Kaimai**	**5.99**	**217**	P	P	16 29 02.4	+1.8
KMRZ				S	S	16 30 15.9	-1.3
MUGZ	**Murupara**	**6.13**	**209**	P	P	16 29 02.7	+0.8
MUGZ				S	S	16 30 21.2	+1.5
RTZ	**Ruatahuna**	**6.17**	**207**	P	P	16 29 03.0	+0.6
SNGZ	**Shannon Statio**	**6.19**	**204**	P	P	16 29 03.6	+1.1
SNGZ				S	S	16 30 22.5	+1.7
KNZ	**Kokohu**	**6.30**	**201**	P	P	16 29 02.0	-1.6
KNZ				S	S	16 30 24.1	+1.1
GRRZ	**Galatos Road**	**6.31**	**213**	P	P	16 29 06.7	+2.9
MHGZ	**Mahia Peninsul**	**6.36**	**199**	P	P	16 29 07.4	+3.1
RAHZ	**Arahi**	**6.39**	**205**	P	P	16 29 06.1	+1.4
RAHZ				S	S	16 30 23.0	-1.8
MTHZ	**Maungataniwha**	**6.43**	**206**	P	P	16 29 04.5	-0.6
MTHZ				S	S	16 30 27.2	+1.7
WHHZ	**Waihua**	**6.49**	**203**	P	P	16 29 04.7	-1.0
WHHZ				S	S	16 30 26.5	-0.1
TLZ	**Tolley Road**	**6.57**	**217**	P	P	16 29 09.4	+2.7
MRHZ	**Matea Rd**	**6.58**	**209**	P	P	16 29 08.1	+1.3
NMHZ	**Naumai**	**6.66**	**206**	P	P	16 29 10.1	+2.4
NMHZ				S	S	16 30 30.8	+0.8
BKZ	**Black Stump Fm**	**6.83**	**207**	P	P	16 29 08.8	-0.8
BKZ				S	S	16 30 33.4	0.0
RATZ	**Rangitukua**	**6.88**	**213**	P	P	16 29 11.9	+1.8
NGZ	**Ngauruhoe**	**7.21**	**212**	P	P	16 29 15.2	+1.5
PWZ	**Pawanui**	**7.47**	**202**	P	P	16 29 19.4	+3.1
PXZ	**Pawanui**	**7.47**	**202**	P	P	16 29 18.9	+2.6
PXZ				S	S	16 30 45.4	-0.5
VRZ	**Vera Road**	**7.57**	**216**	P	P	16 29 19.9	+2.5
TSZ	**Takapari Road**	**7.81**	**207**	P	P	16 29 20.7	+0.6
TSZ				S	S	16 30 52.8	0.0
WAZ	**Wanganui**	**7.96**	**212**	P	P	16 29 22.4	+0.7
WAZ				S	S	16 30 58.5	+2.8
BFZ	**Birch Farm**	**8.26**	**203**	P	P	16 29 27.8	+2.9
BFZ				S	S	16 31 02.4	+0.6

---

*AZER **09** 16:35:09.6,40.°73N×48.°54E,h12km,ml2.9*
*MOS **09** 16:35:10.0,40.°87N×48.°53E,h2km,MPVA3.5*
*DRS **09** 16:35:10.1,40.°76N×48.°50E,h30km*
*TEH **09** 16:35:15.1,40.°32N×48.°16E,h10km±75km*
ISC 09 16:35:10.8±0.8,40.°77N±0.°02×48.°48E±0.°02,h14km±6km,
n55,σ1$45/103,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.09**	**78**	P	**Pg**	**16 35 13.6**	**-0.3**
PQL				S	**Sg**	**16 35 16.9**	**+0.9**
IML	**Ismayilli**	**0.23**	**276**	P	**Pb**	**16 35 16.7**	**0.0**
IML				S	**Sb**	**16 35 22.8**	**+2.1**
ATGJ	**Altiaghaj**	**0.36**	**75**	P	**Pb**	**16 35 18.0**	**-1.0**
ATGJ				S	**Sb**	**16 35 24.6**	**-0.1**
GBS	**Qobustan**	**0.42**	**124**	P	**Pb**	**16 35 19.1**	**-0.9**
GBS				S	**Sb**	**16 35 27.6**	**+1.2**
SIZA	**Siyzn**	**0.44**	**46**	P	**Pb**	**16 35 20.2**	**-0.2**
SIZA				S	**Sb**	**16 35 29.3**	**+2.3**
KDMR	**Kurdemir**	**0.45**	**210**	P	**Pb**	**16 35 20.0**	**-0.5**
KDMR				S	**Sb**	**16 35 29.1**	**+1.9**
XNQ	**Khinaliq**	**0.48**	**328**	P	**Pb**	**16 35 21.1**	**0.0**
XNQ				S	**Sb**	**16 35 29.3**	**+1.2**
QBL	**Gabala**	**0.52**	**290**	P	**Pb**	**16 35 21.6**	**-0.1**
QBL				S	**Sb**	**16 35 31.3**	**+2.2**
QUBA	**Quba, Azerbaij**	**0.58**	**1**	P	**Pn**	**16 35 24.1**	**-0.7**
QUBA				S	**Sn**	**16 35 34.1**	**-0.1**
QSAR	**Qusar**	**0.76**	**348**	P	**Pn**	**16 35 26.9**	**-0.3**
QSAR				S	**Sn**	**16 35 38.9**	**+0.3**
ZRD	**Zardab**	**0.78**	**231**	P	**Pb**	**16 35 26.3**	**+0.2**
ZRD				S	**Sn**	**16 35 40.0**	**+1.1**
KSMR	**Kasumkent**	**0.87**	**342**	*e*Pg	**Pn**	**16 35 29.4**	**+0.6**
KSMR				*e*Sg	**Sn**	**16 35 40.9**	**-0.4**
ALIB	**&Aumlli-Bayram**	**0.91**	**153**	P	**Pn**	**16 35 30.8**	**+1.7**
ALIB				S	**Sn**	**16 35 45.3**	**+3.4**
AKT	**Akhty**	**0.91**	**322**	*e*Pg	**Pn**	**16 35 28.9**	**-0.4**
AKT				*e*Sg	**Sn**	**16 35 43.0**	**+0.8**
SAAT	**Saatly**	**0.91**	**183**	P	**Pg**	**16 35 27.5**	**-0.9**
SAAT				S	**Sn**	**16 35 41.2**	**-0.8**
MNGR	**Mingechevir, A**	**1.06**	**271**	P	**Pn**	**16 35 31.6**	**+0.4**
MNGR				S	**Sn**	**16 35 48.5**	**+2.7**
SEKA	**Sheki**	**1.06**	**295**	P	**Pb**	**16 35 30.6**	**-0.4**
SEKA				S	**Sn**	**16 35 47.3**	**+1.2**
BRDA	**Brd**	**1.11**	**243**	P	**Pg**	**16 35 32.4**	**+0.2**
BRDA				S	**Sn**	**16 35 50.9**	**+3.8**
AGDM	**Agdam**	**1.24**	**238**	P	**Pn**	**16 35 33.5**	**-0.2**
AGDM				S	**Sg**	**16 35 52.4**	**+1.7**
BLQ	**Beylaqan**	**1.26**	**214**	P	**Pn**	**16 35 33.2**	**-0.8**
BLQ				S	**Sn**	**16 35 50.8**	**-0.1**
DRN	**Derbent**	**1.26**	**355**	*e*Pg	**Pg**	**16 35 34.4**	**-0.7**
DRN				*e*Sg	**Sg**	**16 35 52.6**	**+1.1**
GLBA	**Cliilabad**	**1.53**	**183**	Pn	**Pn**	**16 35 36.5**	**-1.2**
GLBA				Sn	**Sb**	**16 35 58.0**	**-0.1**
URKR	**Urkarakh**	**1.53**	**336**	*e*Pg	**Pg**	**16 35 39.7**	**-0.5**
URKR				*e*Sg	**Sg**	**16 36 02.1**	**+1.9**
QRD	**Qoradiz**	**1.58**	**215**	Pn	**Pn**	**16 35 37.6**	**-0.8**
QRD				Sn	**Sn**	**16 35 58.3**	**-0.3**
GANJ	**Ganja**	**1.65**	**266**	Pn	**Pn**	**16 35 39.2**	**-0.1**
GANJ				Sn	**Sn**	**16 36 01.1**	**+0.8**
ZKTA	**Zakatala**	**1.65**	**302**	Pn	**Pb**	**16 35 40.8**	**-0.2**
ZKTA				Sg	**Sg**	**16 36 05.1**	**+1.3**
KMKR	**Kumukh**	**1.71**	**323**	*e*Pg	**Pg**	**16 35 43.6**	**0.0**
KMKR				*e*Sg	**Sg**	**16 36 08.9**	**+3.0**
SGKR	**Sergokala**	**1.80**	**340**	*e*Pg	**Pg**	**16 35 44.2**	**-1.1**
SGKR				*e*Sg	**Sg**	**16 36 09.9**	**+1.3**
YRD	**Yardimli**	**1.86**	**186**	Pn	**Pn**	**16 35 41.2**	**-1.2**
YRD				Sn	**Sn**	**16 36 05.8**	**0.0**
GNBR	**Gunib**	**1.98**	**325**	*e*Pg	**Pb**	**16 35 47.4**	**+0.8**
GNBR				*e*Sg	**Sg**	**16 36 15.7**	**+1.3**
GRMI	**Germi**	**2.01**	**193**	Pg	**Pn**	**16 35 43.5**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.07**	**173**	Pn	**Pn**	**16 35 45.8**	**+0.7**
LKRN				Sn	**Sb**	**16 36 13.8**	**+0.1**
GDB	**GEDABAY**	**2.07**	**270**	Pg	**Pn**	**16 35 45.1**	**-0.2**
GDB				Sn	**Sn**	**16 36 12.0**	**+1.0**
LRK	**Lerik**	**2.13**	**183**	Pn	**Pn**	**16 35 45.4**	**-0.7**
LRK				Sn	**Sb**	**16 36 13.9**	**-1.6**
ARKR	**Arakani**	**2.14**	**329**	*e*Pg	**Pb**	**16 35 49.4**	**0.0**
ARKR				*e*Sg	**Sg**	**16 36 19.5**	**-0.2**
XNZR	**Khunzakh**	**2.21**	**324**	*e*Pg	**Pb**	**16 35 50.8**	**+0.1**
XNZR				*e*Sg	**Sg**	**16 36 21.8**	**-0.2**
ASTR	**Astara**	**2.22**	**174**	Pg	**Pn**	**16 35 46.0**	**-1.2**
ASTR				Sn	**Sn**	**16 36 15.2**	**+0.8**
UNCR	**Uncukul**	**2.32**	**328**	*e*Pn	**Pg**	**16 35 54.8**	**-0.4**

CSS	Mathiatis	0.54 266	⇓iP		Pn	16 49 38.3 -0.8
CSS			S		Sn	16 49 46.7 -0.7
CSS			AML		AML	16 49 48.1
	1.0nm,0.5s					
CSS			AML		AML	16 49 48.2
	1.0nm,0.4s					
CSS	Mathiatis	0.54 266	P		Pn	16 49 38.0 -1.1
CSS			S		Sn	16 49 46.7 -0.7
CSS	Mathiatis	0.54 266	P			16 49 38.3
EREN	Erenkoy	0.55 16	Pg		Pn	16 49 39.6 +0.3
EREN			Sg		Sn	16 49 48.8 +1.0
EREN	Erenkoy	0.55 16	P		Pn	16 49 39.8 +0.5
EREN			S		Sn	16 49 49.8 +2.0
EREN			i AML		AML	16 49 56.0
	comp=E,204nm,0.7s					
EREN			i AML		AML	16 50 00.0
	comp=N,262nm,1.1s					
ASGA	Asgata	0.64 251	⇓eP		Pn	16 49 40.0 -0.4
ASGA			S		Sn	16 49 50.3 +0.6
ASGA			AML		AML	16 49 53.5
	0.5nm,0.4s					
ASGA			AML		AML	16 49 55.0
	0.4nm,0.5s					
AKDN	Akdeniz- Kıbrı	0.88 290	Pg		Pn	16 49 43.3 -0.3
AKDN			Sg		Sn	16 49 54.5 -0.9
LEF	Lefka	0.90 278	Pg		Pn	16 49 43.7 -0.2
LEF	Lefka	0.90 278	P		Pn	16 49 44.4 +0.6
APOL	The Sanctuary	0.97 251	⇓iP		Pn	16 49 44.6 -0.3
APOL			S		Sn	16 49 59.1 +1.5
APOL			AML		AML	16 50 02.2
	0.2nm,0.2s					
APOL			AML		AML	16 50 02.4
	0.2nm,0.3s					
ALFC	Alefka	1.14 278	P		Pn	16 49 46.6 -0.5
ALFC			S		Sn	16 50 00.8 -0.9
ALFC			AML		AML	16 50 03.3
	0.3nm,0.5s					
ALFC			AML		AML	16 50 05.7
	0.3nm,0.4s					
NATA	Nata	1.18 260	P		Pn	16 49 48.0 +0.4
TISA	Tisan-Mersin	1.19 348	Pn		Pn	16 49 48.4 +0.7
AKK1	Akkuyu-Mersin	1.20 343	Pn		Pn	16 49 48.4 +0.5
AKKU	Akkuyu-Mersin	1.21 343	Pn		Pn	16 49 48.5 +0.5
YESI	Yesilovacik-Me	1.23 347	Pn		Pn	16 49 48.7 +0.5
GULN	MERSIN_Gulnar	1.24 343	P		Pn	16 49 48.1 -0.3
GULN			S		Sn	16 50 02.7 -1.2
GULN			i AML		AML	16 50 05.0
	comp=N,36nm,0.2s					
GULN			i AML		AML	16 50 05.0
	comp=E,34nm,0.3s					
YORU	Yoruktepe-Mers	1.25 338	Pn		Pn	16 49 48.4 -0.1
IKL	Isikli	1.26 349	Pn		Pn	16 49 49.1 +0.4
AKMS	Akamas	1.35 271	P		Pn	16 49 50.2 +0.2
AKMS			S		Sn	16 50 08.1 +1.3
AKMS			AML		AML	16 50 13.7
	0.2nm,0.6s					
AKMS			AML		AML	16 50 17.3
	0.1nm,0.3s					
SILI	Silifke-Mersin	1.37 358	Pn		Pn	16 49 50.8 +0.6
BERE	Bereket-Mersin	1.48 336	Pn		Pn	16 49 52.2 +0.3
KIZK	Mersin	1.49 5	Pn		Pn	16 49 52.4 +0.6
KIZK	Mersin	1.49 5	P		Pn	16 49 52.0 +0.3
KIZK			i AML		AML	16 50 10.0
	comp=N,40nm,1.3s					
KIZK			S		Sn	16 50 10.2 +0.2
KIZK			i AML		AML	16 50 14.0
	comp=E,37nm,0.8s					
TEVE	Tevekalti-Mers	1.50 343	Pn		Pn	16 49 52.9 +0.8
BHL	Bhannes	1.76 128	eP		Pn	16 49 55.1 -0.6
HWQ	Hawqa	1.77 113	eP		Pn	16 49 56.1 +0.2
HWQ			eS		Sn	16 50 15.4 -1.8
GAZI	Gazipasa	1.83 313	Pn		Pn	16 49 56.5 -0.1
GAZI	Gazipasa	1.83 313	P		Pn	16 49 56.4 -0.1
GAZI			i AML		AML	16 50 19.0
	comp=N,41nm,0.3s					
GAZI			i AML		AML	16 50 29.0
	comp=E,49nm,1.9s					
BEIL	Beino	1.87 103	eP		Pn	16 49 57.1 0.0
BEIL			eS		Sn	16 50 18.4 -1.2
ZAHL	Zahle	1.94 125	eP		Pn	16 49 57.8 -0.3
ZAHL			eS		Sn	16 50 18.9 -2.5
QRWL	Qaraoun	2.02 135	eP		Pn	16 49 58.9 -0.2
DED	Mersin	2.07 18	P		Pn	16 50 00.4 +0.6
DED			S		Sn	16 50 21.6 -2.8
DED			i AML		AML	16 50 26.0
	comp=N,17nm,0.4s					
DED			i AML		AML	16 50 26.0
	comp=E,32nm,0.4s					
RCY	Rachaya	2.15 134	eP		Pn	16 50 00.6 -0.3
HNTI	Hanita	2.15 152	P		Pn	16 50 01.0 +0.1
HNTI	Hanita	2.15 152	S		Sn	16 50 26.6 +0.2
SHBL	Chebaa	2.20 138	eP		Pn	16 50 01.5 -0.2
NATI	Neve Ativ	2.26 139	P		Pn	16 50 02.8 +0.4
NATI	Neve Ativ	2.26 139	S		Sn	16 50 28.7 -0.4
NATI	Neve Ativ	2.26 139	P			16 50 02.8
GEM	Giv'at Ha'Em	2.26 141	P		Pn	16 50 02.5 0.0
GEM	Giv'at Ha'Em	2.26 141	S		Sn	16 50 29.1 -0.1
GEM	Giv'at Ha'Em	2.26 141	P			16 50 02.7
MMC1	Mount Meron ar	2.29 149	P			16 50 02.6
MMA0B	Mount Meron ar	2.30 149	P		Pn	16 50 02.8 -0.3
HDMB	Hadim	2.31 329	Pn		Pn	16 50 04.3 +1.1
MMB1	Mount Meron ar	2.31 149	P			16 50 02.8
GULE	Gulek	2.37 16	P		Pn	16 50 05.8 +1.7
GULE			S		Sn	16 50 32.7 +0.6
GULE			i AML		AML	16 50 36.0
	comp=E,44nm,0.5s					
GULE			i AML		AML	16 50 37.0
	comp=N,34nm,0.5s					
KKBE	Karaman, Kazim	2.37 340	P		Pn	16 50 05.3 +1.3
KKBE			S		Sn	16 50 31.9 -0.1
KKBE			i AML		AML	16 50 35.0
	comp=N,6.9nm,0.4s					
KKBE			i AML		AML	16 51 22.0
	comp=E,13nm,3.0s					
KERG	Konya-Eregli	2.42 3	P		Pn	16 50 06.2 +1.5
KERG			S		Sn	16 50 32.4 -0.6
KERG			i AML		AML	16 50 34.0
	comp=N,16nm,0.8s					
KERG			i AML		AML	16 50 45.0
	comp=E,9.1nm,0.5s					
BLGI	Bet Lehem HaGe	2.47 156	P		Pn	16 50 05.5 +0.2
BLGI	Bet Lehem HaGe	2.47 156	S		Sn	16 50 34.5 +0.2
BLGI	Bet Lehem HaGe	2.47 156	P			16 50 06.1
OFRI	`Ofer	2.51 160	P			16 50 05.7
OFRI	`Ofer	2.51 160	P		Pn	16 50 05.7 -0.2
OFRI	`Ofer	2.51 160	S		Sn	16 50 34.9 -0.5
KSHT	Keshet	2.52 142	P		Pn	16 50 06.5 +0.5
KSHT	Keshet	2.52 142	S		Sn	16 50 35.7 +0.2
SHMJ	Saham	2.71 146	P			16 50 09.4
AKO	Adana	2.73 25	P		Pn	16 50 08.8 0.0
AKO			S		Sn	16 50 38.3 -2.3
AKO			i AML		AML	16 50 40.0
	comp=E,9.1nm,0.9s					
AKO			i AML		AML	16 51 05.0
	comp=N,13nm,0.0s					
MMLI	Mount Malkishu	2.82 154	P		Pn	16 50 10.1 0.0
MMLI	Mount Malkishu	2.82 154	S		Sn	16 50 43.0 +0.1
MMLI	Mount Malkishu	2.82 154	P			16 50 10.9
SLTI	Sal'it	2.89 162	P		Pn	16 50 11.5 +0.5
SLTI	Sal'it	2.89 162	S		Sn	16 50 45.1 +0.6
SLTI	Sal'it	2.89 162	P			16 50 12.1
QRNJ	Al-Qirein	2.97 153	P			16 50 12.8
HMDT	Nahal Hemdat	3.03 154	P		Pn	16 50 13.7 +0.8
HMDT	Nahal Hemdat	3.03 154	S		Sn	16 50 48.2 +0.3
HMDT	Nahal Hemdat	3.03 154	P			16 50 13.8
SEDI	Konya, Seydise	3.04 324	P		Pn	16 50 15.4 +2.2
SEDI			S		Sn	16 50 46.1 -2.2
SEDI			i AML		AML	16 50 59.0
	comp=N,6.8nm,0.5s					
SEDI			i AML		AML	16 51 23.0
	comp=E,15nm,1.6s					
KUZU	Kuzuini	3.08 54	P		Pn	16 50 13.3 -0.3
KAMA	Osmaniye	3.08 44	P		Pn	16 50 14.2 +0.5
KAMA			S		Sn	16 50 46.4 -3.0
KAMA			i AML		AML	16 50 51.0
	comp=N,8.0nm,0.3s					
KAMA			i AML		AML	16 50 54.0
	comp=E,5.2nm,0.7s					
SALP	Salfit	3.09 161	P		Pn	16 50 13.9 0.0
SALP	Salfit	3.09 161	S		Sn	16 50 49.3 -0.3
YAHY	KAYSERI_Yahyal	3.29 19	P		Pn	16 50 18.4 +1.8
YAHY			S		Sn	16 50 53.1 -1.4
YAHY			i AML		AML	16 50 58.0
	comp=N,10nm,0.8s					
YAHY			i AML		AML	16 50 59.0
	comp=E,6.2nm,0.6s					
AMAZ	Amatzia	3.54 167	P		Pn	16 50 20.2 +0.2
AMAZ	Amatzia	3.54 167	S		Sn	16 51 01.0 +0.3
AMAZ	Amatzia	3.54 167	P			16 50 21.2
YTIR	Yattir	3.75 165	P			16 50 23.9
YTIR	Yattir	3.75 165	P		Pn	16 50 22.7 -0.2
YTIR	Yattir	3.75 165	S		Sn	16 51 06.5 +0.7
MDBI	Mazsada	3.85 162	P		Pn	16 50 23.8 -0.4
MDBI	Mazsada	3.85 162	S		Sn	16 51 08.5 +0.3
MSBI	Mazada	3.85 162	P		Pn	16 50 24.7 +0.5
MSBI	Mazada	3.85 162	S		Sn	16 51 08.6 +0.5
MSBI	Mazada	3.85 162	P			16 50 25.3
GHAJ	Ghor Haditha	3.92 160	P			16 50 26.1
KARJ	KARJ	4.11 160	P			16 50 16.9
ZFRI	Zfri	4.54 167	P		Pn	16 50 34.2 +0.5
ZFRI	Zfri	4.54 167	S		Sn	16 51 25.6 +0.4
PRNI	Paran	4.71 169	P		Pn	16 50 36.5 +0.4
PRNI	Paran	4.71 169	P			16 50 37.2
HRFI	Mount Harif	5.03 169	P		Pn	16 50 40.6 +0.2
HRFI	Mount Harif	5.03 169	S		Sn	16 51 36.7 -0.5
HRFI	Mount Harif	5.03 169	P			16 50 41.5
MBRI	Mt Berech	5.25 171	P		Pn	16 50 44.2 +0.7
MBRI	Mt Berech	5.25 171	P			16 50 44.6
EIL	Elat	5.38 171	P		Pn	16 50 45.6 +0.4

*IDC **09** 16:54:23.1±2.2, 4°.81S×129°.06E, h0km, mb3.7/1, mbtmp3.6/3, ML3.7/2, MS3.6/3, Error ellipse: s-maj=168.7km s-min=28.4km az=68.0*
*DJA **09** 16:54:37.6±1.4, 5°S±12°×13°0E±°, h228km±20km, M3.7/7, MLv3.7/7*
ISC 09 16:54:38.0±1.2,**4°.7S**±0°.1×**129°.96E**±0°.09,**h200**km,**n9**, σ1º**57**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	2.03	300	P	Pn	16 55 17.6	+0.8
AAI				S	Sn	16 55 44.8	-2.2
FAKI	Fak Fak	2.89	52	P	Pn	16 55 27.0	+0.6
SANI	Sanana	4.76	303	P	Pn	16 55 50.9	+1.5
WRA	Warramunga Arr	15.74	165	Pn	P	16 58 08.6	-0.5
	0.3nm,0.3s,baz=344,slow=13,SNR=11						
WRA				Sn	S	17 00 48.0	-16
	0.5nm,0.3s,baz=344,slow=24,SNR=9.0						
	0.4nm,0.5s						
ASAR	Alice Springs	19.24	169	P	Pn	16 58 50.0	-0.6
	0.2nm,0.3s,baz=344,slow=9.6,SNR=27						
ASAR				S	S	17 02 15.5	+1.0
	0.4nm,0.5s,baz=347,slow=25,SNR=6.7						
	1.6nm,0.6s						
JHJ	Hachijo jima 2	38.75	13	LR	LR	17 18 08.4	
	comp=Z,24nm,19.5s,baz=84,slow=36						
MSVF	Nonsavu	48.77	109	LR	LR	17 22 09.6	
	comp=Z,88nm,21.5s,baz=230,slow=34						
MKAR	Makanchi Array	66.30	326	P	P	17 05 10.9	+5.9
	0.4nm,0.4s,baz=114,slow=7.8,SNR=9.9						
	0.4nm,0.4s						
DLBC	Dease Lake	99.23	32	LR	LR	17 56 56.0	
	comp=Z,68nm,18.0s,baz=173,slow=38						

*IDC **09** 17:17:23.1±0.9, 21°.92S×169°.86E, h0km, mb4.1/10, mbtmp4.1/11, ML4.2/1, MS3.5/4, Error ellipse: s-maj=27.8km s-min=23.4km az=123.0*
*NOU **09** 17:17:25.0, 21°.99S×169°.76E, h0km, MLv4.0/14, Southeast of Loyalty Islands*
*NEIC **09** 17:17:25.3±1.2, 22°.10S±0°.10×169°.82E±0°.09, h10km±1km, mb4.8/18, Error ellipse: s-maj=17.0km s-min=13.9km az=14.0*
ISC 09 17:17:27.5±0.5,**22°.03S**±0°.07×**169°.76E**±0°.07,**h25**km,**n77**, σ1º**02**/76,**mb4.5**/21,**MS3.1**/3,**4C**,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.70	289	P	Pn	17 17 54.6	-0.9
PINNC	Pines Island,	2.22	254		Pn	17 18 02.4	-0.2
PINNC	Pines Island,	2.22	254	P	Pn	17 18 02.5	-0.2
YATNC	Mamie plateau,	2.66	269	P	Pn	17 18 07.8	-1.0
OUENC	Ouen Island, N	2.73	261	P	Pn	17 18 09.6	-0.1
DZM	Mont Dzumac	3.07	269		Pn	17 18 14.6	0.0
DZM	Mont Dzumac	3.07	269	Pn	Pn	17 18 14.7	+0.1
	30nm,0.3s,baz=105,slow=14,SNR=223						
DZM				Sn	Sn	17 18 50.8	+0.2
	11nm,0.3s,baz=101,slow=19,SNR=3.7						
	86nm,0.4s						
DZM	Mont Dzumac	3.07	269	P	Pn	17 18 14.9	+0.3
ONTNC	Ouen Toro	3.07	264		Pn	17 18 14.5	0.0
ONTNC				Sn	Sn	17 18 51.6	+1.2
ONTNC	Ouen Toro	3.07	264	P	Pn	17 18 14.7	+0.2
DVP	Devils Point	4.53	341	P	Pn	17 18 34.8	+0.3
KOUNC	Koumac, New Ca	5.31	285	P	Pn	17 18 45.9	+0.7
MSVF	Nonsavu	8.90	63	Pn	Pn	17 19 35.4	+0.8
	0.7nm,0.3s,baz=259,slow=16,SNR=4.1						
MXZ	Matakaoa Point	17.15	156		Pn	17 21 22.5	-2.9
MXZ	Matakaoa Point	17.15	156	P	Pn	17 21 25.5	+0.1
	159nm,0.7s						
URZ	Urewera	17.37	160	LR	LR	17 27 01.6	
	comp=Z,84nm,18.7s,baz=76,slow=33						
BKZ	Black Stump Fm	18.02	163	P	Pn	17 21 35.1	-1.2
CMSA	Cobar Meteorol	23.43	241	P	P	17 22 37.3	+2.4
TOO	Toolangi	26.03	228	P	P	17 22 58.3	-0.5
COEN	Coen	26.50	283	P	P	17 23 02.6	-0.6
STKA	Stephens Creek	26.88	243	P	P	17 23 08.0	+1.5
	1.5nm,0.6s,baz=70,slow=12,SNR=3.2						
	1.5nm,0.6s						
GEXS	Deakin Univers	27.17	228	P	P	17 23 11.0	+2.1
	61nm,0.5s						
RAR	Rarotonga	28.32	94	LR	LR	17 32 32.7	
	comp=Z,50nm,21.0s,baz=319,slow=32						
OOD	Oodnadatta	31.36	252	P	P	17 23 49.0	+2.7
WR0	Warramunga Arr	32.90	267	P	P	17 23 59.5	-0.4
WR0				IAmb	IAmb	17 24 27.8	
	comp=Z,18nm,1.5s						
AS01	Alice Springs	32.99	260	P	P	17 24 01.4	+0.7
	comp=Z,3.4nm,1.5s						
AS31	Alice Springs	33.03	260	P	P	17 24 00.9	-0.1
ASAR	Alice Springs	33.03	260	P	P	17 24 01.5	+0.4
	comp=Z,0.7nm,0.5s,baz=75,slow=8.9,SNR=30						
	comp=Z,0.7nm,0.5s						
WB0	Warramunga Arr	33.07	267	P	P	17 24 01.1	-0.3
WB0				IAmb	IAmb	17 24 17.3	
	comp=Z,31nm,1.9s						
WRA	Warramunga Arr	33.09	267	P	P	17 24 01.4	-0.2
	comp=Z,1.0nm,0.5s,baz=98,slow=8.3,SNR=16						
	comp=Z,1.0nm,0.5s						
FAKI	Fak Fak	41.07	292	P	P	17 25 08.9	-0.4
FAKI				IAmb	IAmb	17 25 11.9	
	comp=Z,55nm,1.4s						
FITZ	Fitzroy Crossi	41.52	267	P	P	17 25 13.7	+0.7
NWAO	Narrogin (SRO)	47.42	245	P	P	17 25 58.4	-1.8
NWAO				IAmb	IAmb	17 26 11.0	
	comp=Z,19nm,1.1s						
KAPI	Kappang	51.21	282	LR	LR	17 50 07.0	
	comp=Z,11nm,19.0s,baz=120,slow=38						
TOLI2	Tolitoli	53.01	289	P	P	17 26 42.2	-0.5
TOLI2				IAmb	IAmb	17 27 50.5	
	comp=Z,8.9nm,0.9s						
JOW	Kunigami	63.02	318	P	P	17 27 54.1	+1.6
MJAR	Matsushiro Arr	65.44	332	P	P	17 28 06.5	-1.7
	comp=Z,1.1nm,0.7s,baz=163,slow=8.0,SNR=5.5						
	comp=Z,1.1nm,0.7s						
QSPA	South Pole Qui	68.04	180	P	P	17 28 23.3	-1.4
QSPA				IAmb	IAmb	17 28 42.9	
	comp=Z,20nm,1.6s						
QSPA	South Pole Qui	68.04	180	P	P	17 28 24.9	+0.2
	comp=Z,4.0nm,0.9s,baz=356,slow=3.3,SNR=7.3						
	comp=Z,4.0nm,0.9s						
JKA	Kamikawa-asahi	70.37	340	P	P	17 28 39.0	-0.1
PETK	Petropavlovsk-	75.55	353	P	P	17 29 08.9	-0.7
	comp=Z,4.1nm,1.0s,baz=172,slow=6.2,SNR=1.5						
	comp=Z,4.1nm,1.0s						
BELA	Belgrano 2	79.29	175	P	P	17 29 30.9	+0.5
BELA				IAmb	IAmb	17 29 47.6	
	comp=Z,12nm,1.5s						
CMAR	Chiang Mai Arr	80.09	294	P	P	17 29 35.7	0.0
	comp=Z,1.2nm,0.9s,baz=137,slow=4.6,SNR=9.6						
	comp=Z,1.2nm,0.9s						
CHTO	Chiang Mai	80.25	295	P	P	17 29 36.0	-0.5
CHTO				IAmb	IAmb	17 29 47.5	
	comp=Z,4.3nm,0.9s						
SYO	Syowa Base	82.40	196	⇑epP	P	17 29 49.0	+1.9
TROLL	Troll, Antarti	85.80	184	P	P	17 30 06.0	+1.5
TROLL	Troll, Antarti	85.80	184	⇑P	P	17 30 06.0	+1.5
	comp=Z,290nm,0.7s						
SNAA	Sanae	86.41	182	P	P	17 30 08.8	+1.3
SNAA	Sanae	86.41	182	P	P	17 30 07.1	-0.3
	comp=Z,2.3nm,0.8s,baz=274,slow=4.7,SNR=3.5						
SNAA				LR	LR	18 05 17.7	
	comp=Z,238nm,21.9s,baz=287,slow=33						
	comp=Z,2.3nm,0.8s						
VNA3	Neumayer Olymp	86.98	180	P	P	17 30 10.3	+0.1
VNA3	Neumayer Olymp	86.98	180	⇑P	P	17 30 10.3	+0.1
	comp=Z,8.6nm,0.7s						
VNA2	Neumayer--Watz	87.27	181	P	P	17 30 12.5	+0.9
	baz=162,slow=5.0						
VNA2	Neumayer--Watz	87.27	181	⇑P	P	17 30 12.5	+0.9
	comp=Z,6.3nm,0.6s,baz=162,slow=5.0						
SONM	Songino Array	89.73	323	P	P	17 30 22.9	-0.7
	comp=Z,0.9nm,0.8s,baz=142,slow=5.8,SNR=7.5						
	comp=Z,0.9nm,0.8s						
ILAR	Eielson Array	92.74	17	P	P	17 30 37.8	+0.7
	comp=Z,0.3nm,1.0s,baz=209,slow=4.9,SNR=1.7						
	comp=Z,0.3nm,1.0s						
VYHS	Vyhne	144.87	326	eP	PKPdf	17 37 02.2	-0.1
DPC	Dobruska-Polom	144.89	330	ePKP	PKPdf	17 37 03.2	+0.9
PVCC	Panska Ves	145.55	332	ePKP	PKPab	17 37 04.6	+0.8
PVCC				ex	x	17 37 12.0	
CLL	Collm	145.63	334		PKPdf	17 37 01.9	-1.5
EKA	Eskdalemuir Ar	146.32	353	PKPbc	PKPdf	17 37 04.1	-0.4
	comp=Z,5.6nm,0.7s,baz=2.3,slow=2.4,SNR=8.5						
ESK	Eskdalemuir	146.35	353	PKPdf	PKPdf	17 37 04.0	-0.5
ZVC	Zvikov	146.51	331	ePKP	PKPbc	17 37 06.1	-0.4
CKRC	Cesky Krumlov	146.90	330	ePKP	PKPbc	17 37 07.4	-0.2
CKRC				ex	x	17 37 15.8	
LIT	Litokhoron	146.93	311	PKPdf	PKPdf	17 37 06.5	+0.5
KHC	Kasperske Hory	147.01	331	ePKP	PKPbc	17 37 07.7	-0.3
GERES	GERESS Array B	147.16	330	PKPbc	PKPbc	17 37 07.8	-0.7
	comp=Z,4.6nm,0.8s,baz=33,slow=3.2,SNR=13						
FNA	Florina	147.42	312	PKPdf	PKPdf	17 37 06.9	-0.1
MOA	Molln	147.60	329	i PKP	PKPbc	17 37 09.1	-0.5
	comp=Z,3.7nm,0.8s						
SOKA	Soboth	148.01	326	i PKP	PKPbc	17 37 09.9	-0.9
	comp=Z,3.7nm,0.9s						
KBA	Koelnbreinsper	148.59	328	i PKP	PKPbc	17 37 10.8	-1.7
	comp=Z,5.3nm,1.1s						
LESA	Schwarzleotal	148.66	329	i PKP	PKPbc	17 37 11.5	-1.0
	comp=Z,3.3nm,0.7s						
SABO	M.te Sabotino	149.22	327		PKPbc	17 37 14.0	+0.1
WATA	Walderalm	149.24	330	ePKP	PKPbc	17 37 13.3	-0.7
	comp=Z.2.1nm,0.6s						
MOTA	Moosalm	149.44	331	i PKP	PKPbc	17 37 14.6	0.0
	comp=Z,3.6nm,0.9s						
SQTA	Sankt Quirin	149.49	331	i PKP	PKPbc	17 37 13.8	-0.8
	comp=Z,3.7nm,0.6s						
FUORN	Ofenpass-Fuorn	150.37	331		PKPbc	17 37 14.9	-2.1
TUE	Stuetta	150.89	332		PKPdf	17 37 12.5	0.0

*NEIC **09** 17:43:36.6±1.9, 43°.56N±0°.02×105°.3W±0°.1, h0km±1km, ML2.8/44, Error ellipse: s-maj=15.9km s-min=3.0km az=81.0*
*IDC **09** 17:43:36.6±2.9, 42°.96N×105°.18W, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=59.2km s-min=12.7km az=161.0*
ISC 09 17:43:37.4±1.0,**43°.53N**±0°.06×**105°.20W**±0°.06,**h0**km,**n28**, σ1º**05**/27,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.03	55		Pg	17 43 56.9	-0.2
K22A	Casper	1.31	228		Pg	17 44 02.8	+0.3
N23A	Red Feather La	2.69	192		Pb	17 44 24.8	-1.8
N23A				IAML		17 45 04.9	
	comp=E,39nm,0.8s						
N23A				IAML		17 45 05.4	
	comp=N,51nm,0.7s						
LAO	LASA Array	3.24	347		Pn	17 44 30.4	+0.8
PD31	Pinedale Array	3.28	258	Pn	Pn	17 44 32.2	+2.0
PDAR	Pinedale Array	3.28	258	Pn	Pn	17 44 32.0	+1.8
	comp=N,0.8nm,0.3s,baz=74,slow=12,SNR=9.5						
PDAR				Lg	Lg	17 45 17.1	
	comp=N,0.5nm,0.3s,baz=87,slow=29,SNR=4.5						
	comp=N,0.6nm,0.4s						
RLMT	Red Lodge	3.32	300		Pn	17 44 31.5	+0.7
RLMT				IAML		17 45 29.3	
	comp=N,19nm,0.6s						
ISCO	Idaho Springs	3.74	185	Pn	Pn	17 44 37.2	+0.5
ISCO				IAML		17 45 35.7	
	comp=N,9.9nm,3.7s						
YNE	Yellowstone No	3.75	295		Pn	17 44 36.9	+0.1
YNE				IAML		17 45 41.9	
	comp=N,24nm,0.8s						
YNE				IAML		17 45 43.2	
	comp=E,20nm,0.7s						
YMP	Mirror Lake Pl	3.77	290		Pn	17 44 37.0	0.0
GCMT	Greycliff	3.90	307		Pn	17 44 39.0	+0.3
LOHW	Long Hollow	3.93	273		Pn	17 44 39.8	+0.6
LOHW				IAML		17 45 55.7	
	comp=E,12nm,4.1s						
H17A	Grant Village	3.97	284		Pn	17 44 40.9	+1.0
H17A				IAML		17 45 16.1	
	comp=E,11nm,4.5s						
H17A				IAML		17 46 09.9	
	comp=N,10nm,3.7s						
FLWY	Flagg Ranch	4.02	280		Pn	17 44 39.6	-0.7
FLWY				IAML		17 45 50.8	
	comp=N,22nm,2.5s						
FLWY				IAML		17 46 12.5	
	comp=N,14nm,3.8s						
MOOW	Moose Ponds	4.03	275		Pn	17 44 40.6	+0.1
TPAW	Teton Pass	4.18	271		Pn	17 44 43.0	+0.3
TPAW				IAML		17 46 09.3	
	comp=N,12nm,2.8s						
FXWY	Fox Creek	4.23	273		Pn	17 44 42.4	-1.0
FXWY				IAML		17 46 02.2	
	comp=N,9.4nm,4.7s						
AHID	Auburn Hatcher	4.38	262		Pn	17 44 46.3	+0.9
AHID				IAML		17 46 02.5	
	comp=N,14nm,1.3s						
AHID				IAML		17 46 12.2	
	comp=N,13nm,0.8s						
YHL	Hebgen Lake	4.50	289	Pn	Pn	17 44 46.9	-0.1
YHL				IAML		17 46 14.5	
	comp=E,14nm,1.1s						
DGMT	Dagmar	4.99	8	Pn	Pn	17

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.10**	**169**	P	**P**	**18 51 11.1**	**-0.1**
	0.3nm,0.9s,baz=352,slow=7.2,SNR=8.1						
	0.3nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**39.32**	**73**	T	T	19 34 59.2	
	baz=262,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**39.34**	**73**	T	T	19 35 00.9	
	baz=262,slow=74,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**39.34**	**73**	T	T	19 34 60.0	
	baz=262,slow=74,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**39.67**	**71**	T	T	19 35 25.3	
	baz=265,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.68**	**71**	T	T	19 35 23.2	
	baz=265,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.69**	**71**	T	T	19 35 20.5	
	baz=265,slow=74,SNR=11						
SONM	**Songino Array**	**41.55**	**339**	P	**P**	**18 52 14.6**	**+0.6**
	0.4nm,0.9s,baz=151,slow=8.1,SNR=2.2						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**18 53 40.3**	**-0.5**
	0.4nm,0.5s,baz=123,slow=8.2,SNR=6.8						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**56.73**	**325**	P	**P**	**18 54 08.9**	**-1.0**
	0.4nm,0.5s,baz=128,slow=6.9,SNR=4.4						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**84.72**	**340**	P	**P**	**18 57 01.1**	**+1.3**
	0.8nm,0.6s,baz=82,slow=4.8,SNR=7.9						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**86.49**	**332**	P	**P**	**18 57 08.6**	**-0.1**
	3.2nm,0.8s,baz=83,slow=6.0,SNR=6.6						
	3.2nm,0.8s						
AKASG	**Malin Array Be**	**87.25**	**321**	P	**P**	**18 57 12.7**	**+0.1**
	0.1nm,0.3s,baz=63,slow=6.3,SNR=2.4						
	0.1nm,0.3s						
HFS	**Hagfors**	**92.64**	**333**	P	**P**	**18 57 37.4**	**-0.3**
	5.2nm,1.0s,baz=61,slow=5.5,SNR=1.9						
YKA	**Yellowknife Ar**	**93.74**	**24**	P	**P**	**18 57 42.8**	**+0.1**
	0.2nm,0.6s,baz=292,slow=4.5,SNR=1.9						
	0.2nm,0.6s						

*NEIC **09** 18:46:28.3±0.8, 37°.492N±0°.010×112°.54W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=101.0*

UUSS 09 18:46:28.8±1.7, 37°.52N±0°.01×112°.57W±0°.02, h2km±4km, ML2.5/5, ML2.5/26(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=120.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKCU	**Pink Cliffs**	**0.21**	**109**		Pg	18 46 33.2	+0.2
PKCU					Sg	18 46 35.5	-0.3
PKCU				IAML		18 46 37.6	
	comp=N,1μm,0.3s						
EKU	**East Kanab**	**0.44**	**173**		Pg	18 46 37.1	-0.2
ZNPU	**Zion National**	**0.47**	**251**		Pg	18 46 38.0	+0.1
ZNPU					Sg	18 46 45.2	+1.2
KNB	**Kanab**	**0.54**	**202**		Pg	18 46 39.2	+0.1
KNB					Sg	18 46 45.8	-0.3
KNB	**Kanab**	**0.54**	**202**	IAML		18 46 46.8	
	comp=N,78nm,0.3s						
KNB				IAML		18 46 48.8	
	comp=E,84nm,0.2s						
BTU	**Barney Top**	**0.60**	**66**		Pg	18 46 40.5	+0.3
MTPU	**Mount Pierson**	**0.61**	**30**		Pg	18 46 40.8	+0.4
MTPU	**Mount Pierson**	**0.61**	**30**		Sg	18 46 49.0	+0.7
MTPU				IAML		18 46 50.0	
	comp=N,145nm,0.4s						
MTPU				IAML		18 46 50.2	
	comp=E,244nm,0.2s						
DWU	**Dry Willow Pea**	**0.68**	**330**		Pg	18 46 42.5	+0.6
LCMT	**Little Creek M**	**0.74**	**227**		Pg	18 46 42.5	-0.4
LCMT				IAML		18 46 58.8	
	comp=E,144nm,0.1s						
LCMT				IAML		18 47 02.3	
	comp=N,142nm,0.1s						
ARUT	**Antelope Range**	**0.75**	**292**		Pg	18 46 43.4	+0.3
MVU	**Marysvale**	**1.02**	**16**		Pg	18 46 48.4	-0.1
MVU				Sg	Sb	18 47 03.2	-0.3
NMUT	**North Mineral**	**1.02**	**347**		Pg	18 46 48.5	0.0
MSU	**Marysvale**	**1.04**	**17**		Pg	18 46 48.2	-0.5
TCRU	**Three Creeks R**	**1.10**	**5**		Pg	18 46 49.5	-0.3
TCRU				IAML		18 47 07.4	
	comp=E,74nm,0.4s						
TCRU				IAML		18 47 11.2	
	comp=N,78nm,0.4s						
U15A	**North Rim**	**1.11**	**169**		Pg	18 46 49.1	-0.9
U15A				IAML		18 47 03.9	
	comp=N,87nm,0.2s						
U15A				IAML		18 47 05.6	
	comp=E,88nm,0.4s						
ICU	**Indian Springs**	**1.14**	**252**		Pg	18 46 50.2	-0.4
IMU	**Iron Mountain**	**1.21**	**337**		Pg	18 46 51.8	-0.2
PSUT	**Pine Spring**	**1.44**	**315**		Pn	18 46 55.8	-0.3
WCU	**Willow Creek**	**1.49**	**14**		Pn	18 46 56.5	-0.4
Q16A	**Castle Valley**	**1.78**	**38**		Pn	18 47 00.5	-0.3
PRN	**Pahroc Range**	**1.98**	**268**	Pn	Pn	18 47 03.1	-0.4
SPR3	**Spring Creek 3**	**2.03**	**317**	Pn	Pn	18 47 03.4	-0.9
TMUT	**Trail Mountain**	**2.07**	**31**		Pn	18 47 04.6	-0.3
WUAZ	**Wupatki**	**2.21**	**154**		Pn	18 47 06.0	-0.7
SRU	**San Rafael Swe**	**2.26**	**45**		Pn	18 47 05.7	-1.7
SHPR	**Sheep Range**	**2.31**	**245**		Pn	18 47 07.0	-1.0
R11B	**Troy Canyon, C**	**2.53**	**290**	Pn	Pn	18 47 10.3	-0.8
S11A	**Rachel**	**2.53**	**274**		Pn	18 47 10.6	-0.4
V12A	**Nelson**	**2.56**	**227**		Pn	18 47 10.5	-0.9
MPU	**Maple Canyon**	**2.60**	**16**	Pn	Pn	18 47 11.4	-0.7
W13A	**Hualapai Mount**	**2.64**	**204**		Pn	18 47 11.4	-1.2
DUG	**Dugway, Tooele**	**2.68**	**356**		Pn	18 47 11.2	-1.9
DUG				IAML		18 47 59.3	
	comp=E,11nm,4.8s						
P18A	**Preston Nutter**	**2.79**	**40**		Pn	18 47 12.5	-2.1
PV10	**Paradox Valley**	**2.92**	**72**	Pn	Pn	18 47 14.1	-2.4
PV23	**Carpenter Ridg**	**2.96**	**70**		Pn	18 47 15.4	-1.6
TPNV	**Topopah Spring**	**2.99**	**260**		Pn	18 47 15.5	-1.9
TPNV				IAML		18 47 46.2	
	comp=E,8.5nm,4.2s						
TPNV				IAML		18 49 02.2	
	comp=E,9.2nm,4.9s						
PV11	**David Mesa, Pa**	**3.02**	**74**		Pn	18 47 15.7	-2.1
PV13	**Radium Mtn., P**	**3.03**	**77**	Pn	Pn	18 47 15.8	-2.2
JLU	**Jordanelle**	**3.20**	**15**		Pn	18 47 17.5	-2.8
X16A	**Lo Mia Camp, P**	**3.22**	**163**		Pn	18 47 17.4	-3.2
PV07	**Paradox Valley**	**3.23**	**72**	Pn	Pn	18 47 18.1	-2.6
MVCO	**Mesa Verde**	**3.25**	**94**		Pn	18 47 18.4	-2.6
MVCO				IAML		18 48 15.1	
	comp=E,25nm,0.7s						
MVCO				IAML		18 48 19.7	
	comp=E,26nm,0.6s						
WCT	**Wildcat Mounta**	**3.32**	**259**		Pn	18 47 19.4	-2.5
BSUT	**Blindstream Ca**	**3.33**	**24**	Pn	Pn	18 47 19.4	-2.8
PV15	**Paradox Valley**	**3.33**	**74**	Pn	Pn	18 47 19.4	-2.8
BGU	**Big Grassy Mou**	**3.42**	**354**	Pn	Pn	18 47 21.0	-2.3
GWY	**Greenwater Val**	**3.55**	**249**	Pn	Pn	18 47 22.4	-2.6
Y14A	**Wickenburg**	**3.59**	**186**		Pn	18 47 23.4	-2.1
X18A	**Snowflake**	**3.66**	**144**		Pn	18 47 23.7	-2.8
TCUT	**Toone Canyon**	**3.71**	**14**	Pn	Pn	18 47 25.3	-2.0
GMN	**Gold Mountain**	**3.74**	**268**		Pn	18 47 25.2	-2.6
SPUT	**South Promonto**	**3.79**	**1**	Pn	Pn	18 47 25.7	-2.6
ELK	**Elko**	**3.84**	**328**		Pn	18 47 26.5	-2.6
RDMU	**Red Mountain**	**3.84**	**36**	Pn	Pn	18 47 26.4	-2.7
HWUT	**Hardware Ranch**	**4.16**	**10**	Pn	Pn	18 47 30.2	-3.3
DSP	**Deep Springs**	**4.30**	**270**	Pn	Pn	18 47 33.7	-1.5
S22A	**4UR Ranch, Cre**	**4.56**	**85**	Pn	Pn	18 47 35.9	-3.1

*NEIC **09** 18:47:06.6±1.1, 35°.83N±0°.01×98°.28W±0°.01, h10km±2km, mb_Lg2.3/17, ML2.6/52, Error ellipse: s-maj=3.0km s-min=2.3km az=323.0*

ISC 09 18:47:06.5±1.0, 35°.83N±0°.02×98°.28W±0°.02, h14km±11km, n55, σ0°.91/61, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.38**	**241**	Pg	**Pb**	**18 47 15.2**	**+0.1**
CSTR				Sg	**Sg**	**18 47 20.3**	**+0.9**
OK029	**Liberty Lake**	**0.67**	**93**		**Pg**	**18 47 19.6**	**0.0**
OK029				Sg	**Sg**	**18 47 28.6**	**+0.2**
CROK	**Carrier**	**0.71**	**19**		**Pg**	**18 47 20.8**	**+0.3**
CROK				Sg	**Sb**	**18 47 30.7**	**+0.2**
CROK				IAML		18 47 34.4	
	comp=E,250nm,0.3s						
CROK				IAML		18 47 35.4	
	comp=N,240nm,0.3s						
OK038	**West end E0370**	**0.75**	**330**		**Pg**	**18 47 21.2**	**+0.1**
OK038				Sg	**Sg**	**18 47 30.8**	**-0.1**
ADOK	**Arcadia Dam**	**0.76**	**103**	Pg	**Pg**	**18 47 21.1**	**-0.1**
ADOK				Sg	**Sg**	**18 47 31.6**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.81**	**122**		**Pg**	**18 47 21.8**	**-0.3**
OKCSW					**Sg**	**18 47 32.0**	**-0.7**
OKCSW				IAML		18 47 35.9	
	comp=E,151nm,0.3s						
OKCSW				IAML		18 47 38.6	
	comp=N,163nm,0.7s						
FNO	**Franklin**	**0.92**	**128**		**Pg**	**18 47 24.0**	**-0.2**
FNO				Sg	**Sg**	**18 47 35.9**	**-0.4**
FNO				IAML		18 47 39.2	
	comp=E,132nm,0.3s						
FNO				IAML		18 47 42.2	
	comp=N,154nm,0.8s						
ELIS	**Ellis County**	**0.95**	**285**	Pg	**Pg**	**18 47 24.6**	**-0.3**
ELIS				IAML		18 47 44.3	
	comp=N,198nm,0.2s						
ELIS				IAML		18 47 48.0	
	comp=E,148nm,0.2s						
NOKA	**Waynoka**	**0.96**	**327**		**Pb**	**18 47 25.5**	**+0.5**
NOKA				IAML		18 47 47.2	
	comp=E,267nm,0.2s						
KAN14	**Manchester OK**	**1.15**	**13**		**Pb**	**18 47 28.5**	**+0.3**
KAN14				IAML		18 47 48.3	
	comp=E,157nm,0.3s						
WMOK	**Wichita Mounta**	**1.17**	**201**		**Pb**	**18 47 28.1**	**-0.4**
WMOK	**Wichita Mounta**	**1.17**	**201**	P	**Pb**	**18 47 28.2**	**-0.2**
OK031	**S. Brethren Rd**	**1.18**	**84**		**Pb**	**18 47 28.4**	**-0.2**
OK031				IAML		18 47 45.8	
	comp=E,126nm,0.2s						
OK031				IAML		18 47 45.9	
	comp=E,170nm,0.1s						
OK052	**Battle Ridge R**	**1.21**	**82**		**Pn**	**18 47 29.1**	**+0.1**
OK052				IAML		18 47 49.9	
	comp=E,138nm,0.2s						
OK052				IAML		18 47 50.4	
	comp=E,159nm,0.3s						
BLOK	**Blackwell**	**1.27**	**42**		**Pn**	**18 47 30.0**	**+0.2**
KAN17	**Caldwell West**	**1.28**	**19**		**Pn**	**18 47 30.4**	**+0.4**
X34A	**Smith Ranch, M**	**1.28**	**163**	Pn	**Pg**	**18 47 31.0**	**-0.2**
X34A				IAML		18 47 50.0	
	comp=E,114nm,0.3s						
X34A				IAML		18 47 54.5	
	comp=N,97nm,0.3s						
QUOK	**Quay**	**1.32**	**75**		**Pn**	**18 47 30.8**	**+0.3**
W35A	**Tecumseh**	**1.33**	**120**	Pn	**Pn**	**18 47 30.8**	**+0.1**
KAN13	**South Haven SW**	**1.34**	**28**	Pn	**Pn**	**18 47 31.1**	**+0.2**
OK051	**E0350 and S346**	**1.35**	**60**		**Pn**	**18 47 30.9**	**0.0**
KAN01	**Argonia South**	**1.39**	**17**		**Pn**	**18 47 31.4**	**-0.1**
KAN09	**Caldwell North**	**1.41**	**22**		**Pn**	**18 47 32.0**	**+0.2**
KAN08	**Anthony NE Sta**	**1.42**	**10**		**Pn**	**18 47 32.0**	**+0.1**
DEOK	**Depew**	**1.45**	**89**		**Pn**	**18 47 32.3**	**+0.1**
KAN12	**Harper NE Stat**	**1.48**	**9**		**Pn**	**18 47 32.7**	**-0.1**
DRZT	**Darrouzett**	**1.75**	**291**	P	**Pg**	**18 47 39.6**	**-0.4**
SMWD	**Samnorwood**	**1.76**	**246**	Pn	**Pn**	**18 47 37.1**	**+0.5**
SMWD				IAmb_Lg		18 48 01.2	
	comp=Z,8.8nm,0.8s						
SMWD	**Samnorwood**	**1.76**	**246**	P	**Pb**	**18 47 38.7**	**+0.1**
WTFS	**Witchita Falls**	**2.06**	**184**		**Pn**	**18 47 41.4**	**+0.6**
WTFS	**Witchita Falls**	**2.06**	**184**	P	**Pb**	**18 47 43.8**	**+0.1**
R32A	**Long Quarter,**	**2.61**	**353**	Pn	**Pn**	**18 47 48.0**	**-0.3**
FW03	**Perrin-Whitt E**	**2.79**	**176**		**Pn**	**18 47 52.0**	**+1.2**
FW06	**Azle**	**2.91**	**168**	Pn	**Pn**	**18 47 52.8**	**+0.3**
APMT	**Aspermont**	**2.92**	**212**	Pn	**Pn**	**18 47 52.5**	**-0.2**
APMT	**Aspermont**	**2.92**	**212**	P	**Pb**	**18 47 56.3**	**-2.2**
AMTX	**Amarillo**	**2.94**	**252**	Pn	**Pn**	**18 47 53.9**	**+1.0**
PLPT	**Palo Pinto**	**3.01**	**181**	Pn	**Pn**	**18 47 52.7**	**-1.1**
PLPT	**Palo Pinto**	**3.01**	**181**	P	**Pn**	**18 47 57.0**	**+3.2**
DKNS	**Dickens**	**3.07**	**226**	Pn	**Pn**	**18 47 54.2**	**-0.4**
DKNS	**Dickens**	**3.07**	**226**	P	**Pb**	**18 48 00.0**	**-0.9**
SN07	**Snyder 07**	**3.48**	**219**	Pn	**Pn**	**18 48 01.1**	**+0.8**
SN07				IAmb_Lg		18 48 58.9	
	comp=Z,8.1nm,0.8s						
KSU1	**Kansas State U**	**3.52**	**22**	Pn	**Pn**	**18 48 00.7**	**-0.1**
HHAR	**Hobbs**	**3.54**	**81**	Pn	**Pn**	**18 48 00.9**	**-0.2**
RTBA	**Rita Blanca**	**3.66**	**281**	Pn	**Pn**	**18 48 02.0**	**-0.8**
WHTX	**Lake Whitney,**	**3.89**	**170**	P	**Pn**	**18 48 08.8**	**+2.9**
BRDY	**Brady**	**4.57**	**188**		**Pn**	**18 48 14.7**	**-0.6**
BRDY				IAmb_Lg		18 49 42.1	
	comp=Z,4.4nm,0.9s						
BRDY	**Brady**	**4.57**	**188**	P	**Pn**	**18 48 17.5**	**+2.2**
X40A	**Basin Creek Fa**	**4.66**	**105**	Pn	**Pn**	**18 48 15.2**	**-1.2**
WHAR	**Wooly Hollow**	**4.91**	**95**	Pn	**Pn**	**18 48 19.4**	**-0.5**
FCAR	**Ozark Folk Cen**	**5.00**	**88**	Pn	**Pn**	**18 48 20.5**	**-0.6**
FCAR				IAmb_Lg		18 49 50.3	
	comp=Z,10nm,1.2s						
MGMO	**Mountain Grove**	**5.02**	**73**	Pn	**Pn**	**18 48 21.0**	**-0.5**
MGMO				IAmb_Lg		18 49 53.8	
	comp=Z,7.0nm,0.8s						
T25A	**Trinidad**	**5.11**	**287**	Pn	**Pn**	**18 48 21.7**	**-1.2**
SAND	**Sanderson**	**6.69**	**210**	P	**Pn**	**18 48 46.6**	**+2.2**
ISCO	**Idaho Springs**	**7.03**	**307**	IAmb_Lg		18 50 54.4	
	comp=Z,3.8nm,1.0s						

*IDC **09** 19:04:44.7±1.2, 9°.96N×126°.39E, h0km, mb3.5/9, mbtmp3.5/9, Error ellipse: s-maj=72.5km s-min=20.3km az=67.0*

ISC 09 19:04:50.5±1.2, 10°.0N±0°.2×126°.4E±0°.4, h42km, n15, σ0°.89/9, mb3.5/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.86**	**291**	P	**P**	**19 10 36.2**	**-0.2**
	0.1nm,0.3s,baz=102,slow=9.5,SNR=1.6						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**30.72**	**165**	P	**P**	**19 11 01.3**	**-0.4**
	0.3nm,0.7s,baz=338,slow=10,SNR=1.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**34.21**	**168**	P	**P**	**19 11 32.4**	**+0.1**
	0.4nm,0.6s,baz=355,slow=6.9,SNR=4.3						
	0.4nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	19 55 15.8	
	baz=262,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**39.95**	**73**	T	T	19 55 17.6	
	baz=262,slow=74,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**39.95**	**73**	T	T	19 55 13.9	
	baz=262,slow=74,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	19 55 43.2	
	baz=266,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	19 55 41.8	
	baz=266,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**40.29**	**71**	T	T	19 55 41.5	
	baz=266,slow=75,SNR=8.5						
SONM	**Songino Array**	**41.35**	**340**	P	**P**	**19 12 31.0**	**-1.5**
	0.7nm,0.8s,baz=205,slow=6.7,SNR=3.3						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**52.33**	**323**	P	**P**	**19 13 58.5**	**+0.3**
	0.5nm,0.6s,baz=117,slow=8.2,SNR=9.9						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**54.95**	**331**	P	**P**	**19 14 17.7**	**+0.6**
	0.3nm,0.3s,baz=100,slow=4.4,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**56.38**	**325**	P	**P**	**19 14 27.8**	**+0.3**
	0.3nm,0.6s,baz=125,slow=6.8,SNR=5.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**61.98**	**325**	P	**P**	**19 15 07.3**	**+1.1**
	0.2nm,0.3s,baz=93,slow=6.9,SNR=7.0						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**84.52**	**340**	P	**P**	**19 17 19.7**	**+0.9**
	1.6nm,1.0s,baz=77,slow=5.2,SNR=3.9						
	1.6nm,1.0s						

IDC 09 19:06:14.3±2.0, 55°.07N×164°.47E, h0km, mb3.3/2, mbtmp3.2/3, ML2.1/1, MS3.3/1, Error ellipse: s-maj=141.4km s-min=32.1km az=152.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.45**	**246**	Pn	Pn	19 07 23.0	0.0
	0.5nm,0.3s,baz=68,slow=16,SNR=13						
PETK				Sn	Sn	19 08 11.9	-3.5
	0.2nm,0.3s,baz=75,slow=29,SNR=2.0						
	1.2nm,0.4s						
ILAR	**Eielson Array**	**25.58**	**48**	P	P	19 11 44.5	-0.1
	0.5nm,0.9s,baz=268,slow=8.8,SNR=3.1						
	0.5nm,0.9s						
RES	**Resolute Bay**	**40.49**	**24**	LR	LR	19 33 21.1	
	comp=Z,37nm,18.0s,baz=8.5,slow=40						
TXAR	**Lajitas Array**	**67.52**	**71**	P	P	19 17 12.3	+0.1
	0.2nm,0.6s,baz=314,slow=5.6,SNR=1.1						
	0.2nm,0.6s						

*VAO **09** 19:23:03.3±0.6, 21°.78S×68°.63W, h88km±4km, mb5.4*

*NEIC **09** 19:23:07.8, 21°.76S×68°.67W, h130km, Moment Tensor Solution. Duration: 1ˢ6 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26; $M_{\theta\theta}$0.69; $M_{\phi\phi}$-0.43; $M_{r\theta}$-1.93; $M_{\theta\phi}$-1.76; $M_{\phi r}$-2.67; Fault plane solution: $M_0$3.37000×10^{16} NP1: ϕ_s51.48000°, δ6.53000°, λ107.07000°. NP2:ϕ_s214.30000°, δ83.76000°, λ88.08000°. Principal axes: T 2.3851, Plg51.0000°, Azm122.0000°; N 1.9735, Plg2.0000°, Azm215.0000°; P -4.3586, Plg39.0000°, Azm306.0000°;*

*SJA **09** 19:23:07.3±1.0, 21°.73S×68°.62W, h146km±8km, ML4.9, MW4.8*

*NEIC **09** 19:23:07.8, 21°.66S×68°.35W, h130km*

*MOS **09** 19:23:07.6±1.5, 21°.69S×68°.40W, h114km, mb5.3/20, Error ellipse: s-maj=12.3km s-min=6.2km az=107.3*

*RSNC **09** 19:23:08.1±4.0, 22°.5±10°×6°.8W±1°.0, h122km±28km, M4.5, mB5.1, mb4.7, Mw(mB)5.1, Hypocentre not reviewed by the ISC*

*NEIC **09** 19:23:08.8±2.4, 21°.65S±0°.05×68°.37W±0°.07, h115km±3km, mb5.3/112, Mwr4.9/22, Mww5.0/17, Error ellipse: s-maj=9.7km s-min=6.9km az=80.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.42; $M_{\theta\theta}$-0.96; $M_{\phi\phi}$0.54; $M_{r\theta}$-1.36; $M_{\theta\phi}$-0.14; $M_{\phi r}$-2.84; Fault plane solution: $M_0$3.26000×10^{16} NP1:ϕ_s111.41000°, δ13.00000°, λ172.11000°. NP2:ϕ_s209.10000°, δ88.23000°, λ77.11000°. Principal axes: T 3.4947, Plg45.0000°, Azm106.0000°; N -0.5228, Plg13.0000°, Azm210.0000°; P -2.9719, Plg42.0000°, Azm311.0000°;*

*NEIC **09** 19:23:08.8, 21°.65S×68°.37W, h115km*

*IDC **09** 19:23:10.3±0.3, 21°.57S×68°.29W, h122km±2km, mb4.6/23, mbtmp4.9/29, MS3.7/23, Error ellipse: s-maj=13.4km s-min=8.8km az=55.0*

*GUC **09** 19:23:10.4±0.8, 21°.70S×68°.57W, h124km±3km, ML4.9*

*GCMT **09** 19:23:14.8±0.2, 21°.66S±0°.02×68°.42W±0°.02, h135km±2km, MW5.0/112, Moment Tensor Solution. s45,c51; s112,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12±.13; $M_{\theta\theta}$-0.48±.16; $M_{\phi\phi}$0.36±.19; $M_{r\theta}$-1.27±.08; $M_{\theta\phi}$1.32±.16; $M_{\phi r}$-3.98±.10; Best double couple: $M_0$4.29600×10^{16} NP1:ϕ_s273.00000°, δ13.00000°, λ-10.00000°. NP2:ϕ_s13.00000°, δ88.00000°, λ-103.00000°. Principal axes: T 4.8530, Plg41.0000°, Azm116.0000°; N -1.1140, Plg13.0000°, Azm14.0000°; P -3.7390, Plg46.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 19:23:09.0±0.3, 21°.59S±0°.03×68°.38W±0°.03, h119km±2km, h120km:pP-P, n427, σ1ˢ.55/493, mb5.2/93, 13C-9D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.83**	**256**		**Pn**	**19 23 28.9**	**-0.6**
PB09				Sn	**Sn**	**19 23 44.5**	**-0.5**
PB09	**IPOC Station P**	**0.83**	**256**	*eP*	**Pn**	**19 23 29.8**	**+0.2**
PB09				IAML		19 23 45.6	
	comp=Z,15μm,0.7s						
PB09				*eS*	**Sn**	**19 23 45.7**	**+0.6**
PB09	**IPOC Station P**	**0.83**	**256**	⇑*iP*	**Pn**	**19 23 29.8**	**+0.2**
PB09				*eS*	**Sn**	**19 23 44.6**	**-0.5**
PB09				IAML		19 23 46.2	
	comp=N,29μm,0.4s						
PB01	**IPOC Station P**	**1.17**	**298**		**Pn**	**19 23 31.9**	**-0.9**
PB01				Sn	**Sn**	**19 23 50.2**	**-0.6**
PB01	**IPOC Station P**	**1.17**	**298**	*eP*	**Pn**	**19 23 33.0**	**+0.2**
PB01				*eS*	**Sn**	**19 23 51.4**	**+0.6**
PB01				IAML		19 23 53.0	
	comp=Z,15μm,0.5s						
PB01	**IPOC Station P**	**1.17**	**298**	⇑*iP*	**Pn**	**19 23 32.9**	**+0.2**
PB01				*eS*	**Sn**	**19 23 50.8**	**0.0**
PB01				IAML		19 23 52.4	
	comp=N,41μm,0.6s						
AF01	**San Pedro de A**	**1.37**	**172**		**Pn**	**19 23 35.9**	**+0.7**
AF01	**San Pedro de A**	**1.37**	**172**	⇓*iP*	**Pn**	**19 23 36.3**	**+1.2**
AF01				IAML		19 24 20.1	
	comp=E,28μm,0.8s						
PB08	**IPOC Station P**	**1.61**	**333**		**Pn**	**19 23 39.0**	**+0.9**
PB08				Sn	**Sn**	**19 24 01.9**	**+1.6**
PB08	**IPOC Station P**	**1.61**	**333**	*eP*	**Pn**	**19 23 39.9**	**+1.8**
PB08				*eS*	**Sn**	**19 24 03.2**	**+3.0**
PB08				IAML		19 24 04.3	
	comp=Z,9μm,0.5s						
PB08	**IPOC Station P**	**1.61**	**333**	⇑*iP*	**Pn**	**19 23 40.0**	**+1.8**
PB08				*eS*	**Sn**	**19 24 02.2**	**+1.9**
PB08				IAML		19 24 03.6	
	comp=E,21μm,0.5s						
TA01	**Diego Aracena**	**1.97**	**301**		**Pn**	**19 23 41.6**	**-0.3**
TA01				Sn	**Sn**	**19 24 05.0**	**-2.2**
TA01	**Diego Aracena**	**1.97**	**301**	*eP*	**Pn**	**19 23 41.7**	**-0.3**
TA01				*eS*	**Sn**	**19 24 06.4**	**-0.8**
TA01				IAML		19 24 07.9	
	comp=Z,21μm,0.6s						
TA01	**Diego Aracena**	**1.97**	**301**	⇑*iP*	**Pn**	**19 23 41.7**	**-0.3**
TA01				*eS*	**Sn**

NNA Nana 12.52 318 Pn **Pn 19 26 02.0 -1.1**
NNA Nana 12.52 318 P **Pn 19 26 04.0 +0.9**
comp=E,25nm,0.7s,baz=178,slow=13,SNR=9.2
NNA S **Sn 19 28 13.4 -7.7**
comp=E,29nm,0.8s,baz=202,slow=19,SNR=3.6
NNA Nana 12.52 318 P **Pn 19 26 02.0 -1.1**
BO01 Tunca 12.97 190 Pn **Pn 19 26 04.8 -4.1**
SALV Santo Antonio 13.28 67 *eP* **Pn 19 26 10.7 -2.2**
SALV *eS* **Sn 19 28 43.5 +4.2**
BO02 Sierra Bellavi 13.32 189 Pn 19 26 10.7 -2.7
PSAL Palomas, Salto 13.50 137 *eP* **Pn 19 26 11.2 -4.5**
RPRD Ribas do Rio P 13.75 88 *eP* **Pn 19 26 18.3 -0.8**
RPRD *eS* **Sn 19 28 52.8 +2.1**
ML02 Panimavida 14.37 190 Pn 19 26 24.7 -2.1
CZSB Cruzeiro do Su 14.40 343 Pn **Pn 19 26 24.2 -3.1**
CZSB Cruzeiro do Su 14.40 343 *eP* Pn 19 26 21.8 -5.6
C2SB Chapadao do Su 14.86 82 *eP* **Pn 19 26 31.7 -1.4**
PDRB Porto dos Gac 14.93 50 *eP* **Pn 19 26 30.5 -3.5**
PDRB *eS* **Sn 19 29 22.5 +3.3**
TBOT Tacuaremb 14.98 135 *eP* Pn 19 26 28.6 -5.9
H03N1 Juan Fernandez 15.04 216 P **Pn 19 26 34.0 -1.0**
baz=110,slow=14,SNR=12
H03N1 T T 19 41 19.3
baz=37,slow=72,SNR=12
H03N2 Juan Fernandez 15.05 216 P **Pn 19 26 34.3 -0.8**
baz=110,slow=14,SNR=6.6
H03N2 T T 19 41 18.4
baz=37,slow=72,SNR=9.8
H03N3 Juan Fernandez 15.06 216 P **Pn 19 26 33.8 -1.5**
baz=110,slow=14,SNR=8.8
H03N3 T T 19 41 18.9
baz=37,slow=72,SNR=2.7
BI02 San Fabin de 15.23 189 Pn **Pn 19 26 35.8 -1.9**
H03S3 Juan Fernandez 15.33 215 P **Pn 19 26 32.8 -5.9**
H03S1 Juan Fernandez 15.34 215 P **Pn 19 26 32.6 -6.1**
SNR=2.6
H03S2 Juan Fernandez 15.35 215 P **Pn 19 26 32.9 -6.0**
ITAB Concordia 15.82 114 Pn **Pn 19 26 44.0 -1.1**
ITAB Concordia 15.82 114 *eP* **Pn 19 26 43.1 -2.0**
CPSB Cacapava Do Su 16.03 126 *eP* **Pn 19 26 45.3 -2.3**
LDASE Londrina, Braz 16.05 100 *eP* **Pn 19 26 47.6 -0.4**
CLDB Colider 16.10 51 *eP* **Pn 19 26 47.3 -1.3**
PLTB Pedras Altas 16.63 131 Pn 19 26 51.9 -3.0
PLTB Pedras Altas 16.63 131 *eP* **Pn 19 26 52.4 -2.5**
ARAG Araguaiana, MT 16.75 72 *eP* **Pn 19 26 56.3 -0.2**
ITRB Iturama 16.97 87 *eP* **Pn 19 26 58.8 -0.4**
TRQA Tornquist 17.32 163 P **P 19 27 00.1 -2.8**
TRQA Tornquist 17.32 163 P **P 19 27 00.1 -2.8**
ATAH Atahualpa 17.32 325 P **Pn 19 27 05.8 +1.9**
comp=E,30nm,0.8s,baz=173,slow=6.2,SNR=19
TBTG Tabatinga, AM 17.36 355 P **P 19 27 02.2 -1.3**
TBTG Tabatinga, AM 17.36 355 *eP* **P 19 27 02.7 -0.8**
FRTB Fartura 17.48 99 *eP* **P 19 27 04.3 -0.5**
CNLB Canela 17.58 119 *eP* **P 19 27 04.7 -1.3**
TEFE Tefe 18.34 12 *eP* **P 19 27 15.2 +1.0**
BB19B Bebedouro 18.50 92 *eP* **P 19 27 15.4 -0.7**
MAJ01 Sao Joao Batis 18.54 112 *eP* **P 19 27 14.8 -1.6**
TER01 Tubaro-SC 18.75 115 *eP* **P 19 27 17.7 -0.9**
LR05 Currie 18.84 189 P **P 19 27 18.1 -1.4**
SNDB Serra Nova Dou 18.93 62 *eP* **P 19 27 20.2 -0.5**
NPGB Novo Progresso 19.17 43 *eP* **P 19 27 22.4 -0.9**
PLCA Paso Flores 19.17 185 P **Pn 19 27 23.1 -2.3**
comp=E,8.3nm,0.9s,baz=3.4,slow=12,SNR=18
PLCA S **S 19 30 49.8 -4.4**
comp=E,1.6nm,0.7s,baz=356,slow=17,SNR=1.5
PLCA LR LR 19 35 53.9
comp=E,210nm,21.7s,baz=6.0,slow=40
IPMB Ipameri, GO 19.31 83 *eP* **P 19 27 24.5 -0.4**
SPB Sao Paulo 19.44 100 P **P 19 27 24.6 -1.7**
SPB Sao Paulo 19.44 100 *eP* **P 19 27 25.1 -1.1**
LL04 Puerto Octay 19.56 189 P **P 19 27 24.9 -2.4**
LL03 Petrohue 19.78 189 P **P 19 27 25.8 -4.0**
MACA Manacapuru-AM 19.79 23 P **P 19 27 29.3 -0.7**
MACA Manacapuru-AM 19.79 23 *eP* **P 19 27 30.7 +0.7**
VAO Valinhos 19.86 98 P **P 19 27 29.1 -1.8**
VAO Valinhos 19.86 98 *eP* **P 19 27 29.8 -1.1**
BDFB Brasilia 20.18 76 P **P 19 27 34.0 -0.4**
comp=E,36nm,0.7s,baz=264,slow=13,SNR=27
BDFB LR LR 19 35 42.2
comp=E,218nm,20.8s,baz=201,slow=37
comp=E,36nm,0.7s
BDFB Brasilia 20.18 76 P **P 19 27 34.0 -0.4**
LL01 San Ignacio de 21.00 188 P **P 19 27 40.1 -2.7**
ITTB Itaituba 21.06 37 *eP* **P 19 27 43.0 -0.8**
PARB Paraibuna 21.10 99 *eP* **P 19 27 43.1 -1.1**
BSCB Bom Sucesso 22.00 93 *eP* **P 19 27 52.3 -1.5**
MAN01 Angra dos Reis 22.63 98 *eP* **P 19 27 58.6 -1.5**
SMTB Santa Maria do 23.68 61 *eP* **P 19 28 09.3 -0.6**
JANB Januaria 23.74 78 *eP* **P 19 28 08.9 -1.5**
OTAV Otavalo 23.82 334 P **P 19 28 12.0 +0.4**
OTAV Otavalo 23.82 334 P **P 19 28 12.0 +0.4**
OTAV Otavalo 23.82 334 *eP* **P 19 28 09.2 -2.5**
MAL2 Monte Alegre, 23.87 37 P **P 19 28 10.9 -0.7**
FLOC Florencia 24.10 342 P **P 19 28 12.8 -1.0**
DUB01 Friburgo-RJ 24.14 96 *eP* **P 19 28 13.5 -0.5**
SDBA SAO DESIDERIO 24.21 72 *eP* **P 19 28 13.9 -0.8**
CAM01 Campos-RJ 24.82 96 *eP* **P 19 28 19.1 -1.1**
BOAV Boa Vista 25.05 19 P **P 19 28 21.4 -0.8**
BOAV Boa Vista 25.05 19 *eP* **P 19 28 23.6 +1.3**
SJMB Sao Joao De Ma 25.68 88 *eP* **P 19 28 27.1 -1.0**
ALF01 Guarapari-ES 25.81 93 *eP* **P 19 28 29.2 +0.1**
RIB01 Linhares ES 26.30 90 *eP* **P 19 28 32.5 -1.2**
ROSC El Rosal 26.91 347 P **P 19 28 40.8 +1.3**
comp=E,10nm,0.4s,baz=154,slow=9.5,SNR=5.4
ROSC LR LR 19 40 52.8
comp=E,352nm,18.2s,baz=194,slow=40
comp=E,10nm,0.4s
GUA01 Guaratinga, BA 27.44 85 *eP* **P 19 28 42.9 -0.9**
CMC01 Camacan, BA 28.04 82 *eP* **P 19 28 48.5 -0.7**
BAUV El Baul 30.34 1 P **P 19 29 07.3 -2.3**
BAUV IAmb IAmb 19 29 10.8
comp=Z,81nm,0.9s
SDV Santo Domingo 30.37 356 P **P 19 29 07.7 -2.2**
SDV Santo Domingo 30.37 356 LR LR 19 44 05.2
comp=Z,178nm,20.4s,baz=144,slow=41
SDV Santo Domingo 30.37 356 *eP* **P 19 29 09.6 -0.4**
MDP Montagnes des 30.69 32 LR LR 19 43 13.9
comp=Z,177nm,18.5s,baz=167,slow=39
NBLA Lagarto - SE 31.13 75 *eP* **P 19 29 14.7 -1.8**
PCRV Puerto La Cruz 31.78 7 LR LR 19 44 40.3
comp=Z,141nm,18.4s,slow=41
NBPB Pedra_Branca-C 32.12 64 *eP* **P 19 29 25.2 0.0**
NBAN Anadia - AL 33.03 74 *eP* **P 19 29 32.8 -0.4**
BRU2 Volcan 33.30 334 P **P 19 29 33.0 -2.6**
BRU2 IAmb IAmb 19 29 39.6
comp=Z,47nm,1.0s
NBLV Livramento - P 33.49 70 *eP* **P 19 29 37.5 +0.3**
NBCL Cascavel-CE 33.91 64 *eP* **P 19 29 41.0 +0.2**
RCBR Riachuelo 35.11 68 P **P 19 29 50.2 -0.9**
RCBR Riachuelo 35.11 68 LR LR 19 44 30.4
comp=Z,25nm,19.7s,baz=248,slow=36
RCBR Riachuelo 35.11 68 P **P 19 29 50.3 -0.9**
RCBR pmax pmax
comp=Z,73nm,0.8s
RCBR Riachuelo 35.11 68 *eP* **P 19 29 51.4 +0.2**
RCBR Riachuelo 35.11 68 P **P 19 29 51.3 0.0**
JTS Las Juntas de 35.62 331 P **P 19 29 57.2 +1.8**
JTS IAmb IAmb 19 29 59.7
comp=Z,117nm,1.9s
JTS Las Juntas de 35.62 331 LR LR 19 46 08.5
comp=Z,79nm,20.3s,baz=98,slow=39
JTS Las Juntas de 35.62 331 P **P 19 29 57.3 +1.8**
JTS pmax pmax
comp=Z,117nm,1.9s
MLPR Magueyes Islan 39.34 2 P **P 19 30 23.8 -2.9**
MLPR IAmb IAmb 19 30 56.6
comp=Z,67nm,1.1s
IGPR InterUniversit 39.38 3 P **P 19 30 25.4 -1.5**
IGPR IAmb IAmb 19 30 57.6
comp=Z,64nm,0.9s
OBIP Obispado Ponce 39.43 3 P **P 19 30 26.5 -0.9**
OBIP IAmb IAmb 19 30 58.4
comp=Z,40nm,0.7s
CELP Cerrillos 39.46 3 P **P 19 30 26.2 -1.5**
CELP IAmb IAmb 19 30 59.9
comp=Z,48nm,0.6s
SJG San Juan 39.52 3 P **P 19 30 26.4 -1.7**
SJG IAmb IAmb 19 30 58.6
comp=Z,41nm,0.8s
SJG San Juan 39.52 3 P **P 19 30 26.5 -1.7**
SJG pmax pmax
comp=Z,41nm,0.8s
SJG San Juan 39.52 3 P **P 19 30 27.0 -1.2**
SJG pP **pP 19 30 55.8 -0.5**
HOPE Hope Point 40.56 152 P **P 19 30 35.9 -0.5**
HOPE IAmb IAmb 19 30 39.1
comp=Z,56nm,0.8s
HOPE Hope Point 40.56 152 P **P 19 30 35.9 -0.5**
HOPE pmax pmax
comp=Z,56nm,0.8s
HOPE Hope Point 40.56 152 P **P 19 30 38.0 +1.6**
CCIG Comitan 44.26 326 P **P 19 31 07.7 +0.7**
CCIG IAmb IAmb 19 31 09.6
comp=Z,72nm,1.3s
TEIG Tepich 45.89 334 P **P 19 31 19.9 +0.3**
TEIG IAmb IAmb 19 31 21.4
comp=Z,49nm,1.0s
TEIG Tepich 45.89 334 P **P 19 31 20.1 +0.5**
TEIG pP **pP 19 31 49.5 +0.9**
TEIG sP **sP 19 32 04.3 +1.9**
CMIG Matias Romero 46.40 324 P **P 19 31 24.7 +1.1**
comp=Z,31nm,0.9s,baz=146,slow=7.5,SNR=13
comp=Z,31nm,0.9s
TLIG Tlapa 48.88 320 P **P 19 31 43.7 +0.7**
TLIG IAmb IAmb 19 31 46.5
comp=Z,36nm,0.8s
DWPF Disney Wildern 50.99 345 P **P 19 31 59.5 +0.9**
DWPF Disney Wildern 50.99 345 P **P 19 31 59.8 +1.1**
DWPF pP **pP 19 32 29.7 +1.7**
MOIG Morelia 52.08 320 P **P 19 32 08.0 +0.9**
656A Willston 52.47 344 P **P 19 32 10.2 +0.7**
553A Crawfordville 53.75 343 P **P 19 32 19.5 +0.6**
352A Blakely 55.10 343 P **P 19 32 28.8 +0.1**
ZAIG Zacatecas 55.26 321 P **P 19 32 31.2 +0.8**
ZAIG IAmb IAmb 19 32 33.9
comp=Z,42nm,0.8s
BRAL Brewton 55.43 341 P 19 32 31.5 +0.4
250A Grady 55.95 342 P 19 32 34.6 -0.2
152A Waverly Hall 56.17 343 P **P 19 32 35.7 -0.7**
152A IAmb IAmb 19 32 37.6
comp=Z,28nm,0.9s
152A **pP 19 33 05.3 -0.8**
Y57A Sumter 56.47 348 P **P 19 32 38.4 0.0**
BIRD Birdtown, Kers 57.09 348 P **P 19 32 43.1 +0.3**
LRAL Lakeview Retre 57.16 341 P **P 19 32 42.9 -0.4**
LRAL IAmb IAmb 19 32 44.5
comp=Z,31nm,1.0s
LRAL pP **pP 19 33 12.7 -0.6**
Z47A Carrollton 57.63 340 P **P 19 32 46.4 -0.2**
Z47A IAmb IAmb 19 32 47.8
comp=Z,31nm,0.8s
HKT Hockley 57.65 332 P **P 19 32 47.7 +1.0**
HKT IAmb IAmb 19 32 48.8
comp=Z,19nm,0.9s
HKT Hockley 57.65 332⇓*eP* **P 19 32 47.8 +1.0**
HKT pmax pmax
comp=Z,25nm,1.0s
HKT Hockley 57.65 332 P **P 19 32 48.3 +1.5**
KMSC Kings Mountain 57.74 347 P **P 19 32 47.9 +0.5**
KMSC IAmb IAmb 19 32 49.5
comp=Z,49nm,1.0s
KMSC **pP 19 33 16.7 -0.6**
FPAL Fort Paine 58.18 343 P **P 19 32 50.1 -0.4**
X48A Hartselle 58.49 342 P **P 19 32 52.7 +0.1**
BELA Belgrano 2 58.59 172 P **P 19 32 52.9 +0.1**
NATX Nacogdoches 58.72 334 P **P 19 32 55.1 +0.9**
W50A Signal Mountai 58.72 344 P **P 19 32 53.0 -1.3**
CPCT Cooper Cave 58.76 345 P **P 19 32 53.9 -0.6**
CPCT IAmb IAmb 19 32 56.0
comp=Z,39nm,1.0s
CPCT **pP 19 33 24.5 0.0**
TKL Tuckaleechee C 58.78 345 P **P 19 32 55.0 +0.4**
comp=Z,41nm,0.8s,baz=160,slow=8.6,SNR=27
TKL pP **pP 19 33 23.9 -0.7**
comp=Z,15nm,0.9s,baz=145,slow=8.2,SNR=4.2
TKL LR LR 20 02 29.6
comp=Z,99nm,18.3s,baz=166,slow=40
comp=Z,41nm,0.8s
HNDO Hondo 58.90 328 P **P 19 32 55.3 -0.2**
SHEL Horse Pasture 59.24 96 P **P 19 32 56.6 -1.7**
SHEL Horse Pasture 59.24 96 P **P 19 32 56.6 -1.7**
SHEL pmax pmax
comp=Z,143nm,0.8s
SHEL Horse Pasture 59.24 96 P **P 19 32 59.7 +1.5**
PLAL Pickwick Lake 59.29 341 P **P 19 32 57.8 -0.3**
Z41A Richland Creek 59.31 336 P **P 19 32 58.5 +0.2**
Z41A IAmb IAmb 19 33 00.6
comp=Z,38nm,0.9s
TZTN Tazewell 59.57 346 P **P 19 33 00.1 0.0**
TZTN IAmb IAmb 19 33 01.4
comp=Z,31nm,1.0s
V48A Smith Brothers 59.63 343 P **P 19 33 00.4 -0.1**
V48A **pP 19 33 30.0 -0.6**
WLAR White Oak Lake 59.81 336 P **P 19 33 02.2 +0.5**
VNA3 Neumayer Olymp 59.83 161 P **P 19 33 02.3 +0.8**
VNA3 Neumayer Olymp 59.83 161⇑P **P 19 33 02.3 +0.8**
comp=Z,24nm,0.7s
JCT Junction City 59.94 329 P **P 19 33 03.1 +0.4**
JCT Junction City 59.94 329 P **P 19 33 03.1 +0.4**
JCT pmax pmax
comp=Z,44nm,0.9s
VNA1 Neumayer--Stat 60.03 161 P **P 19 33 04.1 +1.4**
VNA1 Neumayer--Stat 60.03 161⇓P **P 19 33 04.1 +1.4**
comp=Z,23nm,1.0s
HPIG 60.25 321 P **P 19 33 05.7 +0.5**
HPIG IAmb IAmb 19 33 07.3
comp=Z,13nm,0.7s
WVT Waverly 60.28 342 P **P 19 33 04.4 -0.5**
WVT pP **pP 19 33 33.7 -1.4**
WVT Waverly 60.28 342 P **P 19 33 04.4 -0.5**
WVT *PP **pP 19 33 33.7 -1.4**
WVT pmax pmax
comp=Z,89nm,1.1s
WVT Waverly 60.28 342 P **P 19 33 04.8 -0.1**
WVT pP **pP 19 33 35.1 -0.1**
WVT sP **PcP 19 33 48.6 -0.4**
VNA2 Neumayer--Watz 60.40 161 P **P 19 33 06.2 +0.9**
baz=271,slow=8.5
VNA2 Neumayer--Watz 60.40 161⇑P **P 19 33 06.2 +0.9**
comp=Z,28nm,0.7s,baz=271,slow=8.5
SLBS Sierra La Lagu 60.51 316 P **P 19 33 09.1 +2.3**
SLBS pP **pP 19 33 38.8 +1.8**
SLBS PcP **PcP 19 33 52.1 +1.8**
TXAR Lajitas Array 60.99 325 P **P 19 33 10.9 +1.0**
comp=Z,5.0nm,0.8s,baz=150,slow=8.7,SNR=45
TXAR pP **pP 19 33 39.1 -1.1**
comp=Z,3.7nm,0.8s,baz=135,slow=8.2,SNR=7.0
comp=Z,5.0nm,0.8s
T45A Paducah 61.35 342 P **P 19 33 12.0 0.0**
T45A **pP 19 33 42.3 -0.1**
WCI Wyandotte Cave 61.84 344 P **P 19 33 14.9 -0.4**
WCI **pP 19 33 45.1 -0.6**
WCI IAmb IAmb 19 33 47.5
comp=Z,51nm,1.1s
WCI Wyandotte Cave 61.84 344 P **P 19 33 14.9 -0.4**
WCI *PP **pP 19 33 45.1 -0.6**
WCI Wyandotte Cave 61.84 344 P **P 19 33 15.2 -0.1**
WCI pP **pP 19 33 45.5 -0.2**
SNAA Sanae 62.03 161 P **P 19 33 17.1 +0.7**
SNAA Sanae 62.03 161 P **P 19 33 16.6 +0.2**
SNAA IAmb IAmb 19 33 18.2
comp=Z,25nm,0.8s
SNAA Sanae 62.03 161⇑P **P 19 33 17.1 +0.7**
comp=Z,581nm,0.7s
SNAA Sanae 62.03 161 P **P 19 33 17.0 +0.7**
comp=Z,21nm,0.7s,baz=287,slow=7.6,SNR=46
comp=Z,21nm,0.7s
SNAA Sanae 62.03 161 P **P 19 33 16.6 +0.2**
SNAA pmax pmax
comp=Z,25nm,0.8s
BBTS Babate 62.33 59 LR LR 19 59 16.3
comp=Z,62nm,20.4s,baz=136,slow=35
X34A Smith Ranch, M 62.50 333 P **P 19 33 19.8 -0.1**
X34A IAmb IAmb 19 33 21.8
comp=Z,70nm,1.4s
W35A Tecumseh 62.58 334 P **P 19 33 20.2 -0.1**
W35A IAmb IAmb 19 33 21.4
comp=Z,37nm,1.3s
P49A Miami Univ. Ec 62.70 346 P **P 19 33 20.6 -0.5**
P49A pP **pP 19 33 51.4 -0.1**
P49A IAmb IAmb 19 33 53.2
comp=Z,63nm,1.3s
FVM French Village 62.78 341 P **P 19 33 21.7 +0.1**
FVM French Village 62.78 341 P **P 19 33 21.7 +0.1**
FVM pmax pmax
comp=Z,93nm,1.0s
ACSO Alum Creek Sta 62.99 347 P **P 19 33 23.1 +0.2**
ACSO IAmb IAmb 19 33 55.2
comp=Z,53nm,0.9s
WMOK Wichita Mounta 63.03 332 P **P 19 33 23.6 +0.2**
WMOK Wichita Mounta 63.03 332 P **P 19 33 23.6 +0.2**
WMOK pmax pmax
comp=Z,15nm,1.4s
CCM Cathedral Cave 63.10 340 P **P 19 33 23.8 +0.1**
CCM pP **pP 19 33 54.1 -0.3**
CCM IAmb IAmb 19 33 56.3
comp=Z,58nm,1.1s
CCM Cathedral Cave 63.10 340 P **P 19 33 23.9 +0.1**
CCM pP **pP 19 33 54.4 +0.1**
CCM PcP **PcP 19 34 00.5 +0.1**
CCM sP **sP 19 34 09.0 +1.2**
HTMS Hat Mesa 63.45 327 P **P 19 33 27.1 +0.7**
TROLL Troll, Antarti 63.75 161 P **P 19 33 28.8 +1.0**
TROLL Troll, Antarti 63.75 161⇑P **P 19 33 28.8 +1.0**
comp=Z,1μm,0.7s
ALLY Alegheny Colle 63.86 350 P **P 19 33 29.1 +0.4**
ERPA Erie 64.29 350 P **P 19 33 32.1 +0.6**
AMTX Amarillo 64.46 330 P **P 19 33 32.5 -0.3**
SRIG Santa Rosalia 64.53 317 P **P 19 33 34.5 +1.1**
SRIG IAmb IAmb 19 33 37.5
comp=Z,67nm,1.7s
HDIL Hopedale 64.82 343 P **P 19 33 34.0 -0.9**
HDIL **pP 19 34 03.8 -1.7**
HSIG 64.93 319 P **P 19 33 37.0 +1.0**
319A Douglas 65.66 322 P **P 19 33 41.8 +1.0**
319A IAmb IAmb 19 33 43.9
comp=Z,30nm,0.9s
121A Cookes Peak, D 65.69 324 P **P 19 33 42.1 +1.1**
121A IAmb IAmb 19 33 44.4
comp=Z,55nm,1.4s
NVL N'lazarevskaya 66.57 159 *eP* **P 19 33 47.1 +1.3**
NVL *eS* **S 19 42 29.4 +2.3**
NVL pmax pmax
comp=Z,20nm,0.8s
SADO Sadowa 66.77 352 P **P 19 33 47.6 +0.3**
SADO IAmb IAmb 19 34 20.2
comp=Z,23nm,0.9s
SADO Sadowa 66.77 352 LR LR 20 04 52.0
comp=Z,57nm,19.7s,baz=32,slow=38
ANMO Albuquerque 66.84 327 P **P 19 33 49.7 +1.4**
ANMO Albuquerque 66.84 327 P **P 19 33 49.2 +0.9**
comp=Z,9.2nm,0.7s,baz=153,slow=4.5,SNR=39
ANMO pP **pP 19 34 18.2 -0.9**
comp=Z,3.1nm,0.9s,baz=231,slow=14,SNR=2.5
comp=Z,9.2nm,0.7s
ANMO Albuquerque 66.84 327 P **P 19 33 49.7 +1.4**
ANMO pmax pmax
comp=Z,13nm,0.8s
ANMO Albuquerque 66.84 327 P **P 19 33 50.0 +1.7**
ANMO pP **pP 19 34 20.6 +1.5**
TUC Tucson 67.21 322 P **P 19 33 51.5 +0.9**
TUC IAmb IAmb 19 33 53.8
comp=Z,42nm,1.5s
TUC Tucson 67.21 322 P **P 19 33 51.5 +0.9**
TUC pmax pmax
comp=Z,42nm,1.5s
TUC Tucson 67.21 322 P **P 19 33 52.5 +1.9**
TUC pP **pP 19 34 23.0 +1.7**
H43A Windswept, Lux 68.09 345 P **P 19 33 55.7 0.0**
H43A IAmb IAmb 19 33 56.6
comp=Z,28nm,0.7s
DBIC Dimbokro 68.29 73 P **P 19 33 57.5 -0.1**
DBIC Dimbokro 68.29 73 P **P 19 33 58.1 +0.5**
comp=Z,86nm,0.7s,baz=227,slow=6.2,SNR=158
DBIC S **S 19 42 46.8 -2.5**
comp=Z,3.3nm,1.1s,baz=322,slow=18,SNR=2.3
DBIC LR LR 20 02 37.5
comp=Z,69nm,20.7s,baz=245,slow=35
comp=Z,86nm,0.7s
DBIC Dimbokro 68.29 73 P **P 19 33 57.5 -0.1**
DBIC pmax pmax
comp=Z,116nm,0.9s
DBIC Dimbokro 68.29 73 P **P 19 33 57.9 +0.3**
QSPA South Pole Qui 68.60 180 P **P 19 34 00.3 +1.4**
QSPA South Pole Qui 68.60 180 P **P 19 34 00.3 +1.4**
comp=Z,9.0nm,0.5s,baz=154,slow=3.7,SNR=127
QSPA pP **pP 19 34 31.0 +1.5**
comp=Z,8.5nm,0.6s,baz=225,slow=2.4,SNR=5.3
QSPA LR LR 20 05 14.4
comp=Z,71nm,18.4s,baz=190,slow=37
comp=Z,9.0nm,0.5s
QSPA South Pole Qui 68.60 180 P **P 19 34 00.2 +1.4**
QSPA pP **pP 19 34 32.2 +2.7**
SFX San Felipe 68.75 318 P **P 19 34 01.2 +1.1**
LDAQ Lac Daran 69.28 358 P **P 19 34 04.0 +0.9**
LDAQ IAmb IAmb 19 34 05.0
comp=Z,20nm,0.7s
VLDQ Val d'Or 69.86 354 P **P 19 34 07.2 +0.7**
VLDQ IAmb IAmb 19 34 40.3
comp=Z,23nm,0.8s
ECSD EROS Data Cent 69.98 339 P **P 19 34 07.6 +0.2**
ECSD IAmb IAmb 19 34 40.0
comp=Z,32nm,1.1s
ELIB Princess Elisa 70.19 161 *dP* **P 19 34 09.6 +1.0**
ISCO Idaho Springs 70.27 330 P **P 19 34 10.6 +0.9**
ISCO Idaho Springs 70.27 330 P **P 19 34 10.6 +0.9**
ISCO pmax pmax
comp=Z,10.0nm,0.8s
ICQ Pointe Anglais 70.80 1 P **P 19 34 12.8 +0.7**
ICQ IAmb IAmb 19 34 14.0
comp=Z,40nm,0.9s
N23A Red Feather La 71.30 331 P **P 19 34 17.3 +1.5**
PFO Pinyon Flats O 71.50 319 P **P 19 34 17.9 +0.9**
PFO Pinyon Flats O 71.50 319 P **P 19 34 18.4 +1.4**
comp=Z,12nm,0.9s,baz=119,slow=5.2,SNR=12
comp=Z,12nm,0.9s
PFO Pinyon Flats O 71.50 319⇑*eP* **P 19 34 18.2 +1.2**
PFO pmax pmax
comp=Z,29nm,1.1s
PFO Pinyon Flats O 71.50 319 P **P 19 34 19.4 +2.3**
PFO PcP **PcP 19 34 37.5 +1.7**
PFO pP **pP 19 34 50.0 +1.9**
ACRG Accra 72.02 76 P **P 19 34 20.3 -0.1**
ACRG IAmb IAmb 19 34 21.2
comp=Z,41nm,0.6s
SRU San Rafael Swe 72.12 327 P **P 19 34 21.9 +1.2**
SRU IAmb IAmb 19 34 23.5
comp=Z,42nm,0.7s
SRU San Rafael Swe 72.12 327 P **P 19 34 21.9 +1.2**
SRU pmax pmax
comp=Z,42nm,0.7s
EYMN Ely 72.26 344 P **P 19 34 21.0 -0.1**
EYMN IAmb IAmb 19 34 54.2
comp=Z,43nm,1.1s
SHPR Sheep Range 72.73 322 P **P 19 34 25.8 +1.4**
RSSD Black Hills 73.09 334 P **P 19 34 26.9 +0.5**
RSSD Black Hills 73.09 334 P **P 19 34 26.9 +0.5**
RSSD pmax pmax
comp=Z,25nm,1.2s
CCAC Calif City Air 73.49 319 P **P 19 34 29.8 +1.2**
CCAC IAmb IAmb 19 34 31.9
comp=Z,30nm,0.9s
AGMN Agassiz Nation 73.80 341 P **P 19 34 30.5 +0.4**
AGMN IAmb IAmb 19 35 03.6
comp=Z,33nm,1.1s
DUG Dugway, Tooele 74.11 326 P **P 19 34 31.7 -0.6**
ISA Isabella, Lake 74.11 319 P **P 19 34 33.7 +1.4**
ISA Isabella, Lake 74.11 319 P **P 19 34 33.7 +1.4**
ISA pmax pmax
comp=Z,24nm,0.9s
PD31 Pinedale Array 74.44 330 P **P 19 34 34.7 +0.5**
PDAR Pinedale Array 74.44 330 P **P 19 34 35.4 +1.1**
comp=Z,4.2nm,0.7s,baz=132,slow=7.7,SNR=28
PDAR pP **pP 19 35 06.2 +0.6**
comp=Z,6.5nm,1.1s,baz=134,slow=6.4,SNR=3.7
PDAR sP **sP 19 35 20.0 +1.1**
comp=Z,3.3nm,1.0s,baz=144,slow=3.7,SNR=2.3
comp=Z,4.2nm,0.7s
HWUT Hardware Ranch 74.52 328 P **P 19 34 35.8 +1.1**
ULM Lac du Bonnet 75.55 342 P **P 19 34 40.2 +0.1**
comp=Z,11nm,0.5s,baz=158,slow=6.0,SNR=33
ULM pP **pP 19 35 11.8 +0.2**
comp=Z,19nm,1.0s,baz=155,slow=6.9,SNR=9.7
comp=Z,11nm,0.5s
ULM Lac du Bonnet 75.55 342 *eP* **P 19 34 40.5 +0.3**
ULM pmax pmax
comp=Z,11nm,0.5s
ELK Elko 75.78 325 P **P 19 34 43.0 +1.0**
ELK Elko 75.78 325 P **P 19 34 43.3 +1.3**
comp=Z,9.7nm,0.9s,baz=131,slow=3.0,SNR=31
comp=Z,9.7nm,0.9s
ELK Elko 75.78 325 P **P 19 34 43.0 +1.0**

ELK pmax pmax
comp=Z,10.0nm,0.9s
NVAR Mina Array Bea 75.87 322 P P 19 34 44.6 +2.1
comp=Z,8.0nm,0.9s,baz=152,slow=6.9,SNR=31
NVAR pP **pP 19 35 14.8 +0.8**
comp=Z,5.7nm,1.0s,baz=138,slow=7.0,SNR=4.3
comp=Z,8.0nm,0.9s
SCHQ Schefferville 76.12 1 P P 19 34 43.4 0.0
SCHQ IAmb IAmb 19 34 49.3
comp=Z,52nm,1.7s
SCHQ Schefferville 76.12 1 P P 19 34 44.1 +0.8
comp=Z,8.3nm,0.7s,baz=214,slow=3.6,SNR=8.4
comp=Z,8.3nm,0.7s
RLMT Red Lodge 76.13 331 P P 19 34 45.4 +1.5
RLMT IAmb IAmb 19 35 18.2
comp=Z,33nm,1.1s
YMP Mirror Lake Pl 76.23 331 P P 19 34 46.0 +1.5
SYO Syowa Base 76.24 159|| eP P 19 34 44.5 +0.6
SYO Syowa Base 76.24 159|| ePcP PcP 19 34 54.0 -1.4
TORD Torodi Ar. Bea 76.92 70 P P 19 34 48.9 +0.2
comp=Z,31nm,0.7s,baz=262,slow=5.1,SNR=226
TORD pP **pP 19 35 21.4 +1.1**
comp=Z,29nm,0.8s,baz=271,slow=5.1,SNR=7.6
TORD S **S 19 44 25.1 -2.3**
comp=Z,1.5nm,0.9s,baz=272,slow=10.0,SNR=8.3
comp=Z,31nm,0.7s
PAHR Pah Rah Range 77.35 322 P P 19 34 52.8 +2.1
PAHR IAmb IAmb 19 34 54.2
comp=Z,49nm,0.9s
WIN Windhoek 78.03 110 P P 19 34 55.2 +0.1
WIN IAmb IAmb 19 34 57.0
comp=Z,27nm,0.7s
WIN Windhoek 78.03 110 P P 19 34 55.2 +0.1
WIN pmax pmax
comp=Z,27nm,0.7s
SUR Sutherland 78.11 120 P P 19 34 56.8 +1.4
SUR IAmb IAmb 19 34 57.7
comp=Z,25nm,0.8s
TSUM Tsumeb 79.54 107 P P 19 35 03.9 +0.5
TSUM IAmb IAmb 19 35 05.6
comp=Z,52nm,0.8s
TSUM Tsumeb 79.54 107 LR LR 20 08 05.1
comp=Z,34nm,19.3s,baz=140,slow=34
BMO Blue Mountains 79.76 327 P P 19 35 05.2 +1.5
BMO Blue Mountains 79.76 327 P P 19 35 05.3 +1.5
BMO pmax pmax
comp=Z,21nm,0.9s
YBH Yreka Blue Hor 80.59 322 P P 19 35 08.4 +0.1
comp=Z,3.8nm,0.6s,baz=135,slow=7.1,SNR=5.6
comp=Z,3.8nm,0.6s
KOOLE Kule 80.59 111 *i* P **P 19 35 09.7 +0.8**
KOOLE Kule 80.59 111 *i* P **P 19 35 09.8 +0.8**
FFC Flin Flon 81.28 341 P **P 19 35 11.0 -0.5**
FFC Flin Flon 81.28 341 P **P 19 35 11.0 -0.5**
FFC pmax pmax
comp=Z,18nm,1.1s
MDT Midelt 81.43 50 LR LR 20 11 44.2
comp=Z,37nm,18.8s,baz=235,slow=36
PBDV Barranco-do-Ve 81.61 45 *eP* **P 19 35 16.1 +2.3**
PCVE Castro Verde 81.77 44 *eP* **P 19 35 16.4 +1.9**
MESJ Messejana 81.77 44 P **P 19 35 14.4 -0.2**
MESJ Messejana 81.77 44 *eP* **P 19 35 14.6 0.0**
MESJ IAmb IAmb 19 35 16.6
comp=Z,6.8nm,0.7s
MESJ Messejana 81.77 44 *eP* **P 19 35 15.9 +1.4**
MESJ Messejana 81.77 44 P **P 19 35 14.4 -0.2**
MESJ pmax pmax
comp=Z,39nm,1.7s
SOE Somerset East 81.79 122 P **P 19 35 16.1 +1.1**
SOE IAmb IAmb 19 35 17.3
comp=Z,42nm,0.9s
PVAQ Vaqueiros 81.84 45 P **P 19 35 16.1 +1.2**
PVAQ Vaqueiros 81.84 45 *eP* **P 19 35 16.9 +1.9**
GRTLG Ghanzi 82.03 110 *i* P **P 19 35 17.1 +0.5**
GRTLG Ghanzi 82.03 110 *i* P **P 19 35 17.4 +0.9**
NEW Newport 82.07 330 P **P 19 35 15.7 -0.3**
comp=Z,5.6nm,1.1s,baz=106,slow=6.0,SNR=3.6
NEW LR LR 20 15 17.3
comp=Z,125nm,18.8s,baz=256,slow=38
comp=Z,5.6nm,1.1s
PBEJ Beja 82.11 44 *eP* **P 19 35 18.2 +1.9**
GRHM Grahamstown, E 82.23 123 P **P 19 35 17.8 +0.5**
GRHM IAmb IAmb 19 35 19.4
comp=Z,38nm,0.8s
KGCAE Kacgae 82.39 111 *i* P **P 19 35 18.9 +0.5**
KGCAE Kacgae 82.39 111 *i* P **P 19 35 18.8 +0.4**
PMTG Montargil 82.48 43 *eP* **P 19 35 19.6 +1.5**
QNGWA Qangwa 82.62 108 *i* P **P 19 35 20.3 +0.6**
QNGWA Qangwa 82.62 108 *i* P **P 19 35 20.2 +0.6**
PBAR Barrancos 82.72 44 *eP* **P 19 35 21.2 +1.7**
PESTR Estremoz 82.77 43 *eP* **P 19 35 21.4 +1.7**
BOSA Boshof 82.97 118 P **P 19 35 21.2 -0.1**
BOSA IAmb IAmb 19 35 22.9
comp=Z,24nm,0.8s
BOSA Boshof 82.97 118 P **P 19 35 21.2 -0.1**
comp=Z,20nm,0.7s,baz=254,slow=4.3,SNR=36
BOSA LR LR 20 08 03.4
comp=Z,44nm,18.8s,baz=187,slow=32
comp=Z,20nm,0.7s
SKOMA Sekoma 83.29 114 *i* P **P 19 35 23.4 +0.4**
SKOMA Sekoma 83.29 114 *i* P **P 19 35 23.4 +0.4**
MAKGR Makgori 83.58 115 *i* P **P 19 35 25.0 +0.5**
MAKGR Makgori 83.58 115 *i* P **P 19 35 24.9 +0.5**
MTE Manteigas 83.67 42 *eP* **P 19 35 22.2 -2.2**
PVRL Vila Real 84.07 41 *eP* **P 19 35 27.6 +1.2**
CKGRV CKGRV 84.25 111 *i* P **P 19 35 28.7 +0.8**
CKGRV CKGRV 84.25 111 *i* P **P 19 35 28.8 +0.8**
KDWAN Kaudwane 84.32 113 *i* P **P 19 35 29.0 +0.8**
KDWAN Kaudwane 84.32 113 *i* P **P 19 35 29.0 +0.8**
TAM Tamanrasset 84.42 63 P **P 19 35 29.2 +0.5**
TAM Tamanrasset 84.42 63 P **P 19 35 29.2 +0.5**
TAM pmax pmax
comp=Z,9.0nm,1.0s
MVO Moncorvo 84.43 42 *eP* **P 19 35 29.7 +1.4**
LBTB Lobatse 84.53 115 P **P 19 35 30.0 +0.7**
LBTB IAmb IAmb 19 35 31.1
comp=Z,31nm,0.8s
LBTB Lobatse 84.53 115 LR LR 20 10 19.5
comp=Z,50nm,19.9s,baz=226,slow=34
LBTB Lobatse 84.53 115 P **P 19 35 30.0 +0.7**
LBTB pmax pmax
comp=Z,31nm,0.8s
PAB San Pablo 85.23 44 P **P 19 35 33.1 +0.8**
PAB San Pablo 85.23 44 P **P 19 35 33.1 +0.8**
PAB pmax pmax
comp=Z,12nm,0.9s
LPHEP Lephephe 85.35 113 *i* P **P 19 35 34.0 +0.6**
LPHEP Lephephe 85.35 113 *i* P **P 19 35 34.1 +0.6**
ESDC Sonseca Array 85.55 44 P **P 19 35 34.9 +1.0**
comp=Z,4.7nm,0.9s,baz=243,slow=4.8,SNR=21
ESDC pP **pP 19 36 05.5 -0.5**
comp=Z,3.8nm,1.0s,baz=248,slow=5.3,SNR=2.8
ESDC LR LR 20 08 14.0
comp=Z,28nm,21.5s,baz=270,slow=32
comp=Z,4.7nm,0.9s
KSANE Kasane 86.77 108 *i* P **P 19 35 41.8 +1.3**
KSANE Kasane 86.77 108 *i* P **P 19 35 41.9 +1.5**
BROLN Tlhalogang 87.45 112 *i* P **P 19 35 44.3 +0.6**
BROLN Tlhalogang 87.45 112 *i* P **P 19 35 44.1 +0.4**
LSZ Lusaka 90.40 107 P **P 19 35 58.7 +1.0**
LSZ Lusaka 90.40 107 LR LR 20 16 15.1
comp=Z,33nm,18.4s,baz=190,slow=35
LSZ Lusaka 90.40 107 P **P 19 35 58.7 +1.0**
LSZ pmax pmax
comp=Z,8.0nm,0.9s
CEST Esterri de Car 90.43 44 P **P 19 35 58.5 +1.4**
CEST IAmb IAmb 19 36 51.7
comp=Z,29nm,1.6s
YKA Yellowknife Ar 91.44 340 P **P 19 36 02.2 +1.1**
comp=Z,13nm,0.8s,baz=141,slow=4.5,SNR=229
YKA pP **pP 19 36 34.0 +0.4**
comp=Z,11nm,0.9s,baz=143,slow=4.8,SNR=9.2
comp=Z,13nm,0.8s
KEST Kesra 92.96 53 P **P 19 36 10.2 +1.2**
KEST Kesra 92.96 53 P **P 19 36 09.8 +0.8**
comp=Z,2.4nm,0.8s,baz=285,slow=20,SNR=4.8
KEST LR LR 20 19 51.2
comp=Z,62nm,18.8s,baz=295,slow=37
comp=Z,2.4nm,0.8s
DLBC Dease Lake 94.51 332 P **P 19 36 16.8 +1.2**
comp=Z,2.6nm,0.9s,baz=131,slow=11,SNR=4.8
DLBC pP **pP 19 36 48.5 +0.6**
comp=Z,11nm,1.1s,baz=122,slow=1.0,SNR=11
comp=Z,2.6nm,0.9s
DAVOX Davos/Dischmat 97.79 43 LR LR 20 19 59.9
comp=Z,30nm,18.6s,baz=275,slow=35
BRTR Keskin Array B 112.48 55 PP **PP 19 42 19.8 +0.2**
comp=Z,0.7nm,0.9s,baz=224,slow=6.9,SNR=4.2
OBN Obninsk 115.94 38 *i* PKIKP **PKiKP 19 41 37.8 +0.5**
OBN pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 119.79 51 PKP **PKiKP 19 41 45.9 +0.7**
comp=Z,2.2nm,0.9s,baz=335,slow=2.3,SNR=5.5
KBZ pPKP **pPKPdf 19 42 19.4 +0.8**
comp=Z,3.3nm,0.9s,baz=229,slow=11,SNR=4.7
BILL Bilibino 122.79 339 ||*i* PKIKP **PKiKP 19 41 52.0 +1.7**
ARTI Arti 127.87 34 *i* PKIKP **PKiKP 19 42 02.3 +1.5**
ARTI 19 44 06.4
ARTI sPKP 19 49 01.8
ARTI SS SS 20 01 02.0 -5.1
ASAR Alice Springs 130.06 207 PKP **PKiKP 19 42 06.0 -0.3**
comp=Z,0.7nm,0.6s,baz=136,slow=2.0,SNR=12
ASAR pPKP **pPKPdf 19 42 39.0 -0.2**
comp=Z,5.2nm,1.0s,baz=150,slow=2.2,SNR=11
ASAR sPKP 19 42 54.0
comp=Z,2.0nm,0.9s,baz=143,slow=2.1,SNR=3.5
ASAR SKPbc SKPbc 19 45 19.2 +1.6
comp=Z,1.3nm,1.1s,baz=164,slow=5.2,SNR=4.2
SEY Seymchan 130.38 337 PKP **PKiKP 19 42 05.8 +0.2**
comp=Z,3.1nm,1.0s,baz=115,slow=2.6,SNR=6.6
SEY pPKP **pPKPdf 19 42 39.0 +0.5**
comp=Z,4.3nm,0.9s,baz=101,slow=4.2,SNR=6.0
SEY Seymchan 130.38 337 *i* PKIKP **PKiKP 19 42 05.5 -0.1**
SEY *e* 19 42 40.7
SEY pmax pmax
comp=Z,5.0nm,1.2s
WRA Warramunga Arr 133.12 210 PKP **PKiKP 19 42 12.2 -0.4**
comp=Z,1.2nm,0.6s,baz=158,slow=1.8,SNR=14
WRA pPKP **pPKPdf 19 42 44.4 -0.7**
comp=Z,5.2nm,1.1s,baz=168,slow=1.1,SNR=8.7
WRA SKPbc **SKPbc 19 45 29.3 +0.9**
comp=Z,2.9nm,1.1s,baz=153,slow=3.0,SNR=6.0
WRAB Tennant Creek 133.13 210 ⇑*i* PKIKP **PKPdf 19 42 11.2 -0.2**
BVAR Borovoye Array 135.59 35 PKP **PKiKP 19 42 16.4 0.0**
comp=Z,1.1nm,0.7s,baz=291,slow=2.9,SNR=6.1
BVAR pPKP **pPKPdf 19 42 48.2 -0.3**
comp=Z,1.5nm,0.8s,baz=320,slow=2.5,SNR=3.3
BVAR SKPbc **SKPbc 19 45 35.9 +0.5**
comp=Z,0.7nm,0.6s,baz=310,slow=6.9,SNR=4.0
YAK Yakutsk 137.71 347 ⇑*i* PKIKP **PKiKP 19 42 20.8 +0.3**
KURK Kurchatov 141.13 33 PKIKP **PKPdf 19 42 26.4 +1.3**
KURK 19 42 57.1
KURBB Kurchatov Arra 141.14 34 PKhKP PKPpre 19 42 17.9
KURBB PKP **PKPdf 19 42 26.4 +1.3**
comp=Z,0.4nm,0.5s,baz=306,slow=2.7,SNR=7.6
KURBB pPKP pPKPdf 19 42 57.1 -1.6
comp=Z,0.8nm,0.8s,baz=287,slow=2.8,SNR=3.7
KURBB PP **PP 19 45 33.6 +5.8**
comp=Z,0.6nm,0.7s,baz=289,slow=5.7,SNR=4.7
ZALV Zalesovo Beam 141.82 26 PKhKP PKPpre 19 42 19.9
comp=Z,0.5nm,0.4s,baz=335,slow=6.4,SNR=2.2
ZALV PKP **PKPdf 19 42 27.5 +1.3**
comp=Z,3.0nm,0.6s,baz=305,slow=3.9,SNR=9.1
ZALV pPKP pPKPdf 19 42 58.8 -1.0
comp=Z,5.5nm,0.7s,baz=307,slow=1.8,SNR=3.7
ZALV SKPbc **SKPbc 19 45 53.7 +1.0**
comp=Z,2.0nm,0.8s,baz=300,slow=2.9,SNR=5.0
ZALV Zalesovo Beam 141.82 26 *e*PKIKP **PKiKP 19 42 28.1 -1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 142.60 47 PKPdf **PKPdf 19 42 26.9 -1.4**
AAK Ala-Archa 142.60 47 PKIKP **PKPdf 19 42 26.9 -1.4**
NIL Nilore 144.14 62 PKPdf PKPbc 19 42 29.6 +0.1
NIL Nilore 144.14 62 PKIKP PKPbc 19 42 29.6 +0.2
YSS Yuzhno-Sakhali 144.31 323 *e*PKIKP **PKPdf 19 42 31.0 +0.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
KDJ Kajisay 144.63 47 PKPdf **PKPdf 19 42 32.1 +0.3**
KDJ Kajisay 144.63 47 PKIKP **PKPdf 19 42 32.1 +0.3**
KSH Kashi 144.77 51 PKP **PKPdf 19 42 32.4 +0.3**
KSH sPKP 19 43 05.6
GRNR Gornyy 144.99 332 ||*i* PKIKP **PKPdf 19 42 33.6 +1.7**
GRNR pmax pmax
comp=Z,20nm,1.0s
MAKZ Makanchi 145.23 37 **PKPbc 19 42 32.7 +0.3**
MAKZ Makanchi 145.23 37 PKP2 **PKPbc 19 42 32.7 +0.3**
MKAR Makanchi Array 145.41 36 PKPbc **PKPab 19 42 34.4 +1.0**
comp=Z,6.0nm,0.7s,baz=314,slow=3.2,SNR=49
MKAR pPKPbc **pPKPdf 19 43 06.5 +0.1**
comp=Z,20nm,0.9s,baz=319,slow=4.1,SNR=11
MKAR SKPbc **SKPbc 19 46 02.7 +1.1**
comp=Z,0.8nm,0.8s,baz=272,slow=3.0,SNR=4.3
ZEA Zeya 145.76 343 *e*PKP2 **PKPab 19 42 34.9 +0.6**
ZEA pmax pmax
comp=Z,20nm,1.7s
ASAJ Asahikawa 145.95 319 PKPbc **PKPab 19 42 36.0 +0.7**
comp=Z,9.8nm,0.7s,baz=67,slow=4.3,SNR=11
ASAJ pPKPbc pPKPab 19 43 08.4 +0.1
comp=Z,14nm,0.9s,baz=66,slow=11,SNR=5.0
WUS Wushi 146.41 47 PKPbc **PKPbc 19 42 35.8 -0.5**
KLR Kul'dur 148.11 335 PKPbc **PKPbc 19 42 41.1 +0.6**
comp=Z,3.5nm,0.8s,baz=25,slow=4.0,SNR=13
KLR pPKPbc **pPKPab 19 43 14.8 -1.8**
comp=Z,5.3nm,0.8s,baz=44,slow=3.2,SNR=7.1
KLR Kul'dur 148.11 335 *i* PKP2 **PKPbc 19 42 40.4 -0.2**
KLR pmax pmax
comp=Z,8.0nm,1.4s
HEH HeiHe 148.80 340 *eP* **PKPbc 19 42 42.7 +0.4**
HEH pmax pmax
comp=Z,14nm,0.8s
MOY Mondy 148.86 13 *e*PKP2 **PKPab 19 42 45.0 +1.1**
MOY pmax pmax
comp=Z,25nm,1.4s
WMQ Urumqi 150.25 36 *e*PKPbc **PKPdf 19 42 35.5 -5.4**
WMQ PKPab **PKPab 19 42 55.1 +2.4**
WMQ sPKP 19 43 22.7
ZAK Zakamensk 150.52 11 *e*PKIKP **PKiKP 19 42 49.1 +1.8**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
USRK Ussuriysk Ar. 151.85 328 PKPbc **PKiKP 19 42 50.8 +0.7**
comp=Z,5.9nm,0.8s,baz=349,slow=1.6,SNR=8.0
USRK pPKPbc **pPKPbc 19 43 22.9 -0.4**
comp=Z,6.0nm,0.7s,baz=26,slow=1.1,SNR=6.5
MJAR Matsushiro Art 152.51 309 PKPbc **PKiKP 19 42 52.2 +0.4**
comp=Z,3.4nm,0.8s,baz=93,slow=1.3,SNR=7.6
MJAR pPKPbc **pPKPbc 19 43 24.7 -0.4**
comp=Z,8.0nm,0.9s,baz=77,slow=1.9,SNR=7.0
BNX BinXian 152.67 335 ||P **PKPab 19 43 03.4 +0.8**
BNX pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 153.48 8 PKP **PKPdf 19 42 47.3 +1.6**
comp=Z,0.4nm,0.6s,baz=2.6,slow=2.3,SNR=5.4
SONM PKPab **PKPab 19 43 08.3 +2.2**
comp=Z,1.3nm,0.6s,baz=308,slow=1.4,SNR=5.2
KSRS Korea Array 158.81 322 PKPab **PKPab 19 43 29.3 +0.1**
comp=Z,1.4nm,0.7s,baz=54,slow=4.2,SNR=5.6
KSRS pPKPab **pPKPab 19 44 02.8 +1.2**
comp=Z,3.3nm,1.0s,baz=54,slow=6.4,SNR=4.2
GTA Gaotai 159.57 27 PKP **PKPdf 19 42 55.4 +1.5**
GTA sPKP 19 43 27.6
HHC Hu-ho-hao-te 160.80 0 *eP* **PKPdf 19 42 55.7 +0.5**
CMAR Chiang Mai Arr 167.68 102 PKP **PKPdf 19 43 01.1 -0.7**
comp=Z,0.2nm,0.5s,baz=213,slow=1.9,SNR=2.1
CMAR pPKP **pPKPdf 19 43 35.7 +0.1**
comp=Z,1.0nm,0.8s,baz=288,slow=2.3,SNR=4.7
CMAR PKPab **PKPab 19 44 08.7 -0.1**
comp=Z,1.7nm,0.9s,baz=262,slow=5.1,SNR=9.3
CMAR PP **PP 19 47 58.5 +0.7**
comp=Z,0.5nm,0.8s,baz=221,slow=6.7,SNR=5.0
NJ2 Nanjing 167.75 330 *eP* **PKPdf 19 42 59.2 -2.2**
NJ2 pmax pmax
comp=Z,13nm,1.8s
PZH PanZhiHua 169.74 60 PKP **PKPdf 19 43 00.6 -2.5**

*NAO **09** 19:41:00.1±1.9, 79°.11N×2°.36E, ML3.3*
*IDC **09** 19:41:03.3±1.5, 79°.11N×2°.47E, h0km, mb3.3/4, mbtmp3.6/8, ML2.8/3, MS3.2/4, Error ellipse: s-maj=35.8km s-min=19.6km az=43.0*
*DNK **09** 19:41:04.0±2.8, 79°.28N×3°.06E, h28km±38km, ML2.1*
*BER **09** 19:41:05.7±3.8, 79°.22N×2°.86E, h29km±41km, mb(Pn)4.3, ML2.1(DNK), Confirmed Earthquake*
*FCIAR **09** 19:41:06.0, 79°.19N×4°.13E, h10km, station ZFl2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.70*
*KOLA **09** 19:41:08.3, 78°.91N×5°.03E, h0km, ML2.7, Error ellipse: s-maj=22.0km s-min=8.6km az=140.0, Greenland sea, Knipovich ridge, north*

ISC 09 19:40:59.5±1.7, 79°.27N±0°.08×3°.14E±0°.05, h5km±12km, n53, σ1.88/77, mb3.3/4, MS3.0/3, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.71**	**97**	Pn	**Pg**	**19 41 32.4**	**+0.2**
KBS				Sn	**Sn**	**19 41 51.9**	**-0.3**
KBS	**Kingsbay**	**1.71**	**97**	⇑*i* P	**Pg**	**19 41 32.5**	**+0.2**
KBS				*e*S	**Sn**	**19 41 51.9**	**-0.3**
KBS				IAML		19 41 54.1	
comp=Z,172nm,0.3s							
KBS	**Kingsbay**	**1.71**	**97**	P	**Pg**	**19 41 32.1**	**-0.1**
KBS				S	**Sn**	**19 41 49.5**	**-2.7**
KBS	**Kingsbay**	**1.71**	**97**	⇑*i* P	**Pg**	**19 41 32.5**	**+0.3**
KBS				*e*S	**Sn**	**19 41 51.8**	**-0.3**
KBS	**Kingsbay**	**1.71**	**97**	*i* P	**Pg**	**19 41 32.6**	**+0.3**
KBS				*i* S	**Sb**	**19 41 52.1**	**-1.0**
BRBB	**Barentsburg B**	**2.48**	**113**	Pn	**Pb**	**19 41 42.9**	**-1.6**
BRBB				Sn	**Sn**	**19 42 10.3**	**-0.9**
BRBB	**Barentsburg B**	**2.48**	**113**	*eP*	**Pb**	**19 41 42.8**	**-1.7**
BRBB				*e*S	**Sn**	**19 42 09.7**	**-1.4**
BRBB	**Barentsburg B**	**2.48**	**113**	P	**Pb**	**19 41 42.5**	**-2.1**
BRBB				S	**Sn**	**19 42 09.8**	**-1.4**
BRBA	**Barentsburg A**	**2.50**	**114**	Pn	**Pb**	**19 41 43.0**	**-1.8**
BRBA				Sn	**Sn**	**19 42 10.7**	**-1.0**
BRBA	**Barentsburg A**	**2.50**	**114**	*eP*	**Pb**	**19 41 43.9**	**-1.0**
BRBA				*e*S	**Sn**	**19 42 10.1**	**-1.6**
BRBA				IAML		19 42 15.5	
comp=Z,124nm,0.5s							
SPA0	**Spitsbergen Ar**	**2.82**	**106**	Pn	**Pb**	**19 41 48.6**	**-1.8**
baz=276,slow=8.6							
SPA0				Sn	**Sn**	**19 42 19.7**	**+0.2**
baz=282,slow=12							
SPA0	**Spitsbergen Ar**	**2.82**	**106**	Pn	**Pb**	**19 41 48.6**	**-1.8**
baz=276,slow=8.6							
SPA0				Sn	**Sn**	**19 42 19.7**	**+0.2**
baz=282,slow=12							
SPA0	**Spitsbergen Ar**	**2.82**	**106**	⇑*i* P	**Pb**	**19 41 48.5**	**-1.8**
SPA0				*i* S	**Sn**	**19 42 19.7**	**+0.2**
SPITS	**Spitsbergen Ar**	**2.82**	**106**	Pn	**Pb**	**19 41 48.5**	**-1.8**
comp=Z,60nm,0.3s,baz=297,slow=6.3,SNR=1837							
SPITS				Sn	**Sn**	**19 42 19.9**	**+0.4**
baz=291,slow=24							
SPITS	**Spitsbergen Ar**	**2.82**	**106**	P	**Pb**	**19 41 48.0**	**-2.3**
SPITS				S	**Sn**	**19 42 20.1**	**+0.5**
HSPB	**Hornsund (broa**	**3.42**	**126**	Pn	**Pn**	**19 41 54.5**	**+1.0**
HSPB				Sn	**Sn**	**19 42 31.8**	**-2.5**
HSPB	**Hornsund (broa**	**3.42**	**126**	*eP*	**Pn**	**19 41 55.1**	**+1.7**
HSPB				*e*S	**Sn**	**19 42 32.1**	**-2.2**
HSPB				IAML		19 42 40.9	
comp=Z,16nm,0.5s							
HSPB	**Hornsund (broa**	**3.42**	**126**	P	**Pn**	**19 41 55.1**	**+1.7**
HSPB				S	**Sn**	**19 42 29.7**	**-4.6**
NOR	**Nord**	**4.03**	**315**	Pn	**Pn**	**19 42 03.4**	**+1.7**
NOR				Sn	**Sn**	**19 42 48.6**	**-0.5**
NOR	**Nord**	**4.03**	**315**	*i* P	**Pn**	**19 42 03.0**	**+1.3**
NOR				*i* S	**Sn**	**19 42 47.0**	**-2.2**
NOR				IAML		19 42 51.9	
comp=Z,6.4nm,0.3s							
NOR	**Nord**	**4.03**	**315**	*i* P	**Pn**	**19 42 03.0**	**+1.3**
NOR				*i* S	**Sn**	**19 42 47.0**	**-2.2**
NOR				IAML		19 42 51.9	
comp=Z,6.4nm,0.3s							
DAG	**Danmarks Havn**	**5.16**	**252**	*e*	**Pn**	**19 42 13.7**	**-3.5**
baz=50,slow=16							
DAG				*i* P	**Pn**	**19 42 16.0**	**-1.3**
DAG				*i*		19 43 08.4	
DAG				IAML		19 43 13.8	
comp=Z,32nm,0.4s							
DAG	**Danmarks Havn**	**5.16**	**252**	*e*	**Pn**	**19 42 13.7**	**-3.5**
baz=50,slow=16							
DAG				*i* P	**Pn**	**19 42 16.0**	**-1.3**
DAG				*i* P	**Pn**	**19 42 16.1**	**-1.1**
DAG				*i*		19 43 08.4	
DAG				IAML		19 43 13.8	
comp=Z,32nm,0.4s							
HOPEN	**Hopen**	**5.34**	**110**	Pn	**Pn**	**19 42 21.8**	**+2.0**
HOPEN				Sn	**Sn**	**19 43 19.8**	**-1.8**
HOPEN	**Hopen**	**5.34**	**110**	*eP*	**Pn**	**19 42 21.7**	**+2.0**
HOPEN				*e*S	**Sn**	**19 43 19.7**	**-1.8**
HOPEN				IAML		19 43 24.3	
comp=Z,21nm,0.3s							
HOPEN	**Hopen**	**5.34**	**110**	*eP*	**Pn**	**19 42 21.6**	**+1.8**
HOPEN				*e*S	**Sn**	**19 43 18.6**	**-2.9**
BJO1	**Bjornoya**	**5.97**	**135**	*eP*	**Pn**	**19 42 31.7**	**+3.3**
BJO1	**Bjornoya**	**5.97**	**135**	*eP*	**Pn**	**19 42 31.3**	**+2.9**
DBG	**Daneborg**	**7.24**	**239**	Pn	**Pn**	**19 42 43.8**	**-2.1**
DBG				Sn	Sn	19 43 57.5	-11
ZFl2	**Zemlya Franca-**	**7.70**	**57**	*eP*	Pn	19 42 56.4	+4.4
ZFl2				*e*S	**Sn**	**19 44 18.3**	**-1.1**
comp=Z,25nm,1.8s							
OMEGA	**Omega**	**7.71**	**57**	*eP*	Pn	19 42 57.0	+4.7
OMEGA				*e*S	**Sn**	**19 44 18.7**	**-1.1**
comp=Z,20nm,1.0s							
JNW	**Jan Mayen West**	**8.77**	**205**	*eP*	**Pn**	**19 43 06.7**	**-0.1**
JNW				IAML		19 43 07.3	
comp=Z,78nm,0.3s							
JNE	**Jan Mayen East**	**8.80**	**205**	*eP*	**Pn**	**19 43 06.9**	**-0.3**
JNE				IAML		19 43 07.5	
comp=Z,38nm,0.2s							
NEEM	**North Greenlan**	**10.74**	**288**	*i* P	**Pn**	**19 43 31.1**	**-2.9**
NEEM	**North Greenlan**	**10.74**	**288**	*i* P	**Pn**	**19 43 31.1**	**-2.9**
SCO	**Scoresbysund**	**10.83**	**229**	*i* P	**Pn**	**19 43 34.0**	**-1.0**
SCO				IAML		19 45 30.7	
comp=Z,1.7nm,0.4s							
SCO	**Scoresbysund**	**10.83**	**229**	*i* P	**Pn**	**19 43 34.0**	**-1.0**
SCO				IAML		19 45 30.7	
comp=Z,1.7nm,0.4s							
VADS	**Vadso**	**11.32**	**130**	*eP*	**Pn**	**19 43 43.6**	**+1.9**
ARA0	**ARCESS Array S**	**11.34**	**137**	Pn	**Pn**	**19 43 44.0**	**+2.0**
baz=348,slow=14							
ARA0				Sn	**Sn**	**19 45 47.9**	**-1.0**
ARA0	**ARCESS Array S**	**11.34**	**137**	Pn	**Pn**	**19 43 44.0**	**+2.0**
baz=348,slow=14							
ARA0				Sn	**Sn**	**19 45 47.9**	**-1.0**
ARCES	**ARCESS Array B**	**11.34**	**137**	Pn	**Pn**	**19 43 43.1**	**+1.1**
comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=12							
ARCES				Sn	**Sn**	**19 45 48.4**	**-0.5**
comp=Z,0.1nm,0.3s,baz=358,slow=18,SNR=1.6							
comp=Z,2.7nm,0.8s							
SUMG	**Summit**	**11.80**	**258**	*i* P	**Pn**	**19 43 47.4**	**-1.2**
SUMG				IAML		19 45 53.8	
comp=Z,4.1nm,0.4s							
SUMG	**Summit**	**11.80**	**258**	*i* P	**Pn**	**19 43 47.4**	**-1.2**
SUMG				IAML		19 45 53.8	
comp=Z,4.1nm,0.4s							
LSH	**Leshukonskoye**	**18.71**	**116**	*eP*	**Pn**	**19 45 18.8**	**+0.1**
comp=Z,69nm,3.3s							
LSH				*e*S	Sn	19 48 31.7	-16
FINES	**FINESS Array B**	**19.20**	**145**	P	**Pn**	**19 45 28.4**	**+3.7**
comp=Z,0.1nm,0.3s,baz=352,slow=9.0,SNR=1.5							
FINES				LR	LR	19 53 06.3	
comp=Z,71nm,20.3s,baz=48,slow=38							
comp=Z,4.6nm,1.1s							
HFS	**Hagfors**	**19.51**	**164**	P	**Pn**	**19 45 30.7**	**+2.3**
comp=Z,0.1nm,0.3s,baz=356,slow=8.8,SNR=1.6							
comp=Z,2.7nm,0.9s							
NRIK	**Noril'sk**	**22.36**	**68**	LR	LR	19 56 28.7	
comp=Z,48nm,18.5s,baz=40,slow=41							
ARTI	**Arti**	**28.86**	**109**	LR	LR	20 01 13.3	
comp=Z,27nm,18.1s,baz=341,slow=42							
AKASG	**Malin Array Be**	**30.11**	**146**	P	**P**	**19 47 13.5**	**+3.9**
comp=Z,0.2nm,0.4s,baz=346,slow=8.7,SNR=1.2							
comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**33.95**	**313**	P	P	19 47 47.3	+4.2
comp=Z,0.4nm,1.0s,baz=24,slow=8.4,SNR=3.7							
comp=Z,0.4nm,1.0s							
KURBB	**Kurchatov Arra**	**38.06**	**91**	P	P	19 48 24.6	+6.2
comp=Z,0.2nm,0.4s,baz=336,slow=7.9,SNR=1.6							
comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**42.44**	**89**	P	P	19 49 01.1	+6.3
comp=Z,0.3nm,0.6s,baz=355,slow=7.0,SNR=2.8							
comp=Z,0.3nm,0.6s							
AAK	**Ala-Archa**	**45.00**	**99**	LR	LR	20 09 47.6	
comp=Z,35nm,19.9s,baz=48,slow

WRA	Warramunga Arr	33.26	251	P	P	19 49 21.5	+0.3
	0.6nm,1.0s,baz=81,slow=8.5,SNR=6.9						
	0.6nm,1.0s						
ASAR	Alice Springs	34.47	244	P	P	19 49 31.4	-0.4
	0.2nm,0.5s,baz=75,slow=10.0,SNR=11						
	0.2nm,0.5s						
ILAR	Eielson Array	83.00	18	P	P	19 55 09.3	+0.6
	0.9nm,0.7s,baz=239,slow=4.6,SNR=12						
	0.9nm,0.7s						
YKA	Yellowknife Ar	94.18	27	P	P	19 56 01.3	-1.1
	0.2nm,0.6s,baz=255,slow=4.3,SNR=4.1						
	0.2nm,0.6s						

*IDC **09** 19:46:26.0±0.7,9°.85N×126°.28E, h0km, mb4.0/17, mbtmp3.9/17, MS3.0/5, Error ellipse: s-maj=27.7km s-min=12.1km az=85.0*
*NEIC **09** 19:46:26.8±2.5,9°.94N±0°.08×126°.8E±0°.1, h10km±1km, mb4.5/20, Error ellipse: s-maj=20.2km s-min=13.6km az=79.0*
ISC 09 19:46:31.6±0.6,9°.89N±0°.06×126°.5E±0°.1, h42km, n52, σ1§42/41, mb4.1/25, MS3.0/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.95	198	Pn	Pn	19 47 16.7	+0.7
DAV	Davao City (W)	2.95	198	Pg	Pn	19 47 17.7	+1.7
	25nm,0.3s,baz=54,slow=3.9,SNR=1.6						
DAV				Lg	Lg	19 47 57.1	
	46nm,0.3s,baz=22,slow=16,SNR=6.3						
MYLDM	Lahad Datu	9.22	240	Pn	Pn	19 48 44.1	+2.0
KKM	Kota Kinabalu	10.89	250	Pn	Pn	19 49 06.5	+1.5
TWG	Pinlang	13.87	339	Pn	Pn	19 49 42.2	-3.5
FAKI	Fak Fak	13.95	156	Pn	Pn	19 49 42.1	-4.7
SBUM	Sibu	16.01	243		Pn	19 50 13.8	-0.2
KAPI	Kappang	16.26	205	LR	LR	19 58 13.1	
	comp=Z,38nm,18.4s,baz=6.0,slow=44						
GUMO	Guam	18.34	77	LR	LR	19 58 05.5	
	comp=Z,52nm,18.9s,baz=96,slow=38						
SOEI	Soe	19.64	187	P	P	19 50 55.0	-2.1
SOEI				IAmb	IAmb	19 50 56.7	
	comp=Z,47nm,1.4s						
UBPT	Khong Chiam	21.22	287	P	P	19 51 13.6	-0.5
UBPT				IAmb	IAmb	19 51 38.7	
	comp=Z,10nm,1.2s						
MTN	Manton Dam	23.05	168	P	P	19 51 29.4	-4.0
MYKOM	Kota Tinggi	23.92	252	P	P	19 51 42.5	+0.7
MYKOM				IAmb	IAmb	19 52 05.4	
	comp=Z,28nm,1.5s						
KNRA	Kununurra	25.50	175	P	P	19 51 55.0	-1.1
IPM	Ipoh	25.84	260	P	P	19 51 59.6	+0.2
IPM				IAmb	IAmb	19 52 03.5	
	comp=Z,5.8nm,0.7s						
KSRS	Korea Array	27.47	2	LR	LR	20 06 06.0	
	comp=Z,14nm,18.0s,baz=85,slow=43						
CMAR	Chiang Mai Arr	28.02	291	P	P	19 52 17.5	-1.5
	comp=Z,0.4nm,0.2s,baz=94,slow=7.4,SNR=7.0						
CMAR				LR	LR	20 03 40.1	
	comp=Z,36nm,18.3s,baz=60,slow=37						
	comp=Z,0.4nm,0.2s						
MJAR	Matsushiro Arr	28.57	20	LR	LR	20 05 01.2	
	comp=Z,36nm,18.1s,baz=114,slow=39						
WB0	Warramunga Arr	30.48	165	P	P	19 52 39.0	-1.7
WB0				IAmb	IAmb	19 53 03.2	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	30.63	165	P	P	19 52 42.2	+0.2
	comp=Z,0.4nm,0.5s,baz=346,slow=9.5,SNR=4.8						
	comp=Z,0.4nm,0.5s						
MBWA	Marble Bar	31.57	192	P	P	19 52 50.6	+0.3
AS31	Alice Springs	34.12	168	P	P	19 53 11.8	-0.9
ASAR	Alice Springs	34.12	168	P	P	19 53 12.3	-0.4
	comp=Z,0.5nm,0.5s,baz=351,slow=7.4,SNR=16						
	comp=Z,0.5nm,0.5s						
SHL	Shillong	36.34	300	P	P	19 53 33.5	+1.5
SHL				IAmb	IAmb	19 53 36.2	
	comp=Z,7.8nm,0.6s						
ASAJ	Asahikawa	36.84	19	P	P	19 53 35.7	-0.1
	comp=Z,3.1nm,1.0s,baz=123,slow=24,SNR=1.2						
	comp=Z,3.1nm,1.0s						
H11S3	WAKE ISLAND Hy	39.80	73	T	T	20 37 04.4	
	baz=261,slow=74						
H11S1	WAKE ISLAND Hy	39.82	73	T	T	20 37 02.1	
	baz=261						
H11S2	WAKE ISLAND Hy	39.82	73	T	T	20 37 07.0	
	baz=261,slow=74						
MORW	Morawa	40.03	194	P	P	19 54 02.5	-0.2
MORW				IAmb	IAmb	19 54 06.2	
	comp=Z,12nm,1.3s						
H11N1	WAKE ISLAND Hy	40.15	71	T	T	20 37 29.5	
	baz=265,slow=74,SNR=43						
H11N2	WAKE ISLAND Hy	40.16	71	T	T	20 37 28.8	
	baz=265,slow=74,SNR=31						
H11N3	WAKE ISLAND Hy	40.17	71	T	T	20 37 29.8	
	baz=265,slow=74,SNR=40						
ULN	Ulaanbaatar	41.26	340	P	P	19 54 13.6	+0.8
SONM	Songino Array	41.46	340	P	P	19 54 14.2	-0.2
	comp=Z,0.3nm,0.4s,baz=153,slow=9.6,SNR=5.0						
	comp=Z,0.3nm,0.4s						
BBOO	Buckleboo	43.43	168	P	P	19 54 28.8	-1.6
NWAO	Narrogin (SRO)	43.49	191	P	P	19 54 31.2	+0.3
STKA	Stephens Creek	43.97	161	P	P	19 54 35.4	+0.5
	comp=Z,3.4nm,0.9s,baz=346,slow=11,SNR=3.5						
	comp=Z,3.4nm,0.9s						
MK31	Makanchi Array	52.47	323	P	P	19 55 39.7	-0.7
MKAR	Makanchi Array	52.47	323	P	P	19 55 39.9	-0.4
	comp=Z,0.9nm,0.7s,baz=116,slow=8.2,SNR=10						
	comp=Z,0.9nm,0.7s						
MAKZ	Makanchi	52.67	323	P	P	19 55 40.6	-1.2
ZALV	Zalesovo Beam	55.07	331	P	P	19 55 58.1	-1.1
	comp=Z,0.8nm,0.6s,baz=118,slow=7.3,SNR=3.7						
	comp=Z,0.8nm,0.6s						
KURBB	Kurchatov Arra	56.52	325	P	P	19 56 08.9	-0.7
	comp=Z,0.9nm,0.5s,baz=124,slow=6.9,SNR=6.0						
	comp=Z,0.9nm,0.5s						
GAR	Garm	57.72	310	P	P	19 56 18.3	-0.2
GAR				IAmb	IAmb	19 56 44.4	
	comp=Z,2.8nm,0.8s						
BVAR	Borovoye Array	62.11	325	P	P	19 56 49.8	+1.6
	comp=Z,0.4nm,0.5s,baz=67,slow=4.9,SNR=2.5						
	comp=Z,0.4nm,0.5s						
ARTI	Arti	69.76	327	P	P	19 57 36.9	-0.4
ARTI				IAmb	IAmb	19 57 45.8	
	comp=Z,5.3nm,1.3s						
ILAR	Eielson Array	79.68	26	P	P	19 58 37.7	+3.1
	comp=Z,0.3nm,0.8s,baz=265,slow=8.6,SNR=1.8						
	comp=Z,0.3nm,0.8s						
SPITS	Spitsbergen Ar	84.43	349	P	P	19 59 00.1	+0.8
	comp=Z,7.6nm,0.9s,baz=134,slow=4.8,SNR=1.5						
	comp=Z,7.6nm,0.9s						
ARCES	ARCESS Array B	84.63	340	P	P	19 59 01.2	+0.7
	comp=Z,0.8nm,0.5s,baz=78,slow=5.9,SNR=15						
	comp=Z,0.8nm,0.5s						
BRTR	Keskin Array B	85.95	309	P	P	19 59 07.3	-0.6
	comp=Z,0.6nm,0.9s,baz=104,slow=4.6,SNR=3.2						
	comp=Z,0.6nm,0.9s						
FINES	FINESS Array B	86.34	332	P	P	19 59 09.1	0.0
	comp=Z,1.1nm,0.4s,baz=72,slow=4.4,SNR=14						
	comp=Z,1.1nm,0.4s						
HFS	Hagfors	92.49	332	P	P	19 59 38.0	-0.2
	comp=Z,1.8nm,0.8s,baz=81,slow=9.2,SNR=5.6						
	comp=Z,1.8nm,0.8s						
YKA	Yellowknife Ar	94.01	24	P	P	19 59 46.7	+1.7
	comp=Z,0.5nm,0.7s,baz=297,slow=4.7,SNR=8.5						
	comp=Z,0.5nm,0.7s						

TXNET 09 19:50:45.0,32°.0N±0°.7×102°.3W±0°.7, h5km±1km, ML2.5/12, 1C-1D, Error ellipse: s-maj=1.2km s-min=1.0km az=43.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	Odessa	0.23	293	P	Pg	19 50 49.8	+0.1
ODSA				S	Sg	19 50 53.0	+0.2
TMB04	Seminole	0.62	345	⇑P	Pg	19 50 56.8	-0.1
TMB04				S	Sg	19 51 05.2	+0.3
MNHN	Monahans	0.80	210	P	Pg	19 51 00.1	-0.1
MNHN				S	Sg	19 51 10.4	-0.2
MNHN	Monahans	0.80	210	P	Pg	19 51 00.1	-0.1
MNHN				S	Sg	19 51 10.4	-0.1
TMB02	Rankin	0.86	165	P	Pg	19 51 01.4	0.0
TMB02				S	Sb	19 51 13.5	-0.6
TPB06	Permian Basin	0.88	244	P	Pg	19 51 01.5	-0.3
TPB06				S	Sg	19 51 13.4	+0.3
TPB06	Permian Basin	0.88	244	P	Pg	19 51 01.6	-0.2
NM01	Eunice	0.99	289	P	Pg	19 51 04.1	+0.1
NM01				S	Sg	19 51 16.5	-0.4
SGCY	Sterling City	1.00	96	P	Pg	19 51 04.1	0.0
SGCY				S	Sg	19 51 17.5	+0.4
HTMS	Hat Mesa	1.22	292	S	Sg	19 51 23.4	-0.8
POST	Post	1.23	33	P	Pg	19 51 07.7	-0.9
POST				S	Sg	19 51 24.1	-0.5
TPB08	Permian Basin	1.25	205	P	Pn	19 51 09.2	+0.1
TPB08				S	Sb	19 51 25.8	+0.3
TPB07	Mentone	1.25	249	P	Pb	19 51 09.1	0.0
TPB07				S	Sn	19 51 27.4	+1.0
SN08	Arah	1.28	54	P	Pn	19 51 08.9	-0.7
CLN7	Carlsbad 7	1.34	287	P	Pn	19 51 09.8	-0.6
TPB03	Saragosa	1.41	228	P	Pn	19 51 11.1	-0.2
TPB03				S	Sb	19 51 29.1	-0.9
TPB03	Saragosa	1.41	228	P	Pn	19 51 11.2	-0.1
TPB03				S	Sb	19 51 29.8	-0.1
TPB05	Hovey Rd	1.42	219	P	Pn	19 51 11.2	-0.2
TPB05				S	Sb	19 51 30.1	-0.1
TPB05	Hovey Rd	1.42	219	P	Pn	19 51 11.0	-0.4
SN02	Snyder 2	1.44	54	P	Pn	19 51 11.7	0.0
SN02				S	Sg	19 51 33.0	+1.9
SN01	Snyder 1	1.45	55	P	Pn	19 51 11.8	0.0
SN01				S	Sg	19 51 33.2	+1.7
TPB10	Southeast of T	1.45	240	P	Pb	19 51 12.2	-0.3
TPB10				S	Sg	19 51 33.5	+1.9
TPB10	Southeast of T	1.45	240	P	Pb	19 51 12.6	+0.1
SN05	Snyder 5	1.46	54	P	Pn	19 51 12.1	0.0
SN05				S	Sg	19 51 33.3	+1.3
TPB11	China Draw	1.48	267	S	Sn	19 51 32.1	0.0
TPB11	China Draw	1.48	267	P	Pn	19 51 12.6	+0.2
OZNA	Ozona	1.49	138	P	Pg	19 51 13.4	-0.1
OZNA				S	Sg	19 51 33.3	+0.6
PECS	Pecos	1.49	244	P	Pn	19 51 12.5	0.0
PECS				S	Sb	19 51 32.5	0.0
PECS	Pecos	1.49	244	P	Pn	19 51 12.4	-0.1
SN07	Snyder 07	1.59	48	P	Pb	19 51 14.6	-0.2
TPB12	Southwest of T	1.64	241	⇓P	Pn	19 51 14.8	+0.3
CPRX	Cap Rock	1.66	307	P	Pn	19 51 15.0	+0.1
TPB01	Permian Basin	1.67	230	P	Pn	19 51 14.9	0.0
TPB01				S	Sn	19 51 36.9	+0.2
MSTX	Muleshoe	1.98	348	P	Pb	19 51 20.8	-0.7
MSTX	Muleshoe	1.98	348	S	Sb	19 51 47.1	+0.7
DKNS	Dickens	2.00	35	P	Pn	19 51 20.6	+1.2
DKNS				S	Sb	19 51 47.2	+0.2
ALPN	Alpine	2.01	215	P	Pb	19 51 21.3	-0.8
ALPN				S	Sb	19 51 47.7	+0.2
SAND	Sanderson	2.07	176	P	Pb	19 51 21.9	-1.2
APMT	Aspermont	2.24	54	P	Pn	19 51 23.9	+1.1
ABTX	Abilene, Hawle	2.32	75	P	Pn	19 51 25.3	+1.5
ABTX				Pg	Pb	19 51 27.2	-0.1
VHRN	Van Horn	2.61	242	P	Pb	19 51 31.3	-1.1
MNTX	Cornudas Mount	2.65	264	P	Pn	19 51 30.3	+2.0

IDC 09 19:52:47.6±2.0,9°.99N×126°.84E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=192.9km s-min=24.1km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.16	203	Lg	Lg	19 54 19.4	
	18nm,0.3s,baz=293,slow=13,SNR=2.0						
WRA	Warramunga Arr	30.65	166	P	P	19 59 05.0	+1.1
	0.3nm,0.7s,baz=349,slow=9.0,SNR=1.3						
	0.3nm,0.7s						
ASAR	Alice Springs	34.16	168	P	P	19 59 33.6	-1.1
	0.1nm,0.5s,baz=344,slow=8.6,SNR=4.2						
	0.1nm,0.5s						
MKAR	Makanchi Array	52.59	323	P	P	20 02 03.5	+0.2
	0.2nm,0.6s,baz=122,slow=8.7,SNR=2.3						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	56.62	325	P	P	20 02 31.5	-0.9
	0.1nm,0.2s,baz=125,slow=7.0,SNR=2.2						
	0.1nm,0.2s						
ARCES	ARCESS Array B	84.65	340	P	P	20 05 23.5	+0.6
	1.8nm,0.9s,baz=83,slow=5.1,SNR=1.9						
	1.8nm,0.9s						

*DJA **09** 19:57:06.6±0.5,2°.N±5°.×12°.9E±°, h10km, M4.3/13, mB4.7/1, mb4.4/2, MLv4.2/13, Mw(mB)3.9/1*
*NEIC **09** 19:57:08.7±2.0,2°.32N±0°.08×128°.79E±0°.06, h41km±8km, mb4.5/39, Error ellipse: s-maj=12.1km s-min=8.0km az=163.0*
*IDC **09** 19:57:08.9±3.8,2°.26N×128°.82E, h52km±36km, mb3.8/16, mbtmp4.1/17, ML4.4/1, MS3.1/1, Error ellipse: s-maj=27.2km s-min=13.0km az=77.0*
ISC 09 19:57:07.2±0.5,2°.26N±0°.05×128°.83E±0°.07, h35km, n78, σ1§22/75, mb4.4/34, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.08	225	Pn	Pn	19 57 39.9	+0.4
TNTI				Sn	Sn	19 58 07.4	+3.2
TNTI	Ternate	2.08	225	P	Pn	19 57 40.3	+0.7
SGSI	Sangihe	3.58	293	P	Pn	19 58 01.6	+1.3
SWI	Sorong	3.94	142	P	Pn	19 58 06.5	+1.3
KMSI	Cibinong	5.12	251	P	Pn	19 58 22.2	+0.7
SANI	Sanana	5.13	214	P	Pn	19 58 21.1	-0.5
DAV	Davao City (W)	5.77	326	S	Sn	19 59 41.6	+6.2
	119nm,0.4s,baz=235,slow=12,SNR=2.2						
FAKI	Fak Fak	6.18	146	Pn	Pn	19 58 36.9	+0.9
LUWI	Luwuk	6.88	242	Pn	Pn	19 58 46.1	+0.4
LUWI	Luwuk	6.88	242	P	Pn	19 58 44.0	-1.7
TOLI2	Tolitoli	8.12	262		Pn	19 59 02.6	-0.1
MYLDM	Lahad Datu	10.70	286	Pn	Pn	19 59 38.9	+0.8
KAPI	Kappang	11.59	231	Pn	Pn	19 59 51.2	+1.0
KAPI	Kappang	11.59	231	P	Pn	19 59 50.5	+0.2
	2.3nm,0.3s,baz=52,slow=12,SNR=4.3						
	8.4nm,0.4s						
MTN	Manton Dam	15.18	171		P	20 00 45.8	+2.1
MTN				IAmb	IAmb	20 01 13.5	
	comp=Z,45nm,1.4s						
SBUM	Sibu	16.59	271	Pn	Pn	20 00 57.2	-0.1
KNRA	Kununurra	17.82	180	P	P	20 01 14.1	+1.1
KNRA				IAmb	IAmb	20 01 21.7	
	comp=Z,40nm,1.3s						
KSM	Kuching	18.52	268	P	P	20 01 19.8	-1.1
FITZ	Fitzroy Crossi	20.47	189	P	P	20 01 41.6	-0.4
	comp=Z,2.4nm,0.8s,baz=10,slow=12,SNR=1.7						
	comp=Z,2.4nm,0.8s						
UGM	Wanagama	20.87	241	P	Pn	20 01 47.7	-1.4
TPUB	Ta-pu	22.37	340	P	P	20 02 01.0	-1.5
TPUB				IAmb	IAmb	20 02 25.2	
	comp=Z,35nm,1.2s						
WB0	Warramunga Arr	22.56	166	P	P	20 02 06.2	+1.7
SSLB	Suanglung	22.72	341	P	P	20 02 05.4	-0.8
SSLB				IAmb	IAmb	20 02 31.5	
	comp=Z,31nm,1.3s						
WRA	Warramunga Arr	22.72	166	P	P	20 02 06.4	+0.2
	comp=Z,1.5nm,0.4s,baz=342,slow=10,SNR=14						
	comp=Z,1.5nm,0.4s						
KRVT	Keravat (AS076	24.09	106	LR	LR	20 10 09.7	
	comp=Z,46nm,19.9s,baz=200,slow=32						
AS31	Alice Springs	26.24	169	P	P	20 02 39.7	+0.5
ASAR	Alice Springs	26.24	169	P	P	20 02 39.7	+0.6
	comp=Z,1.2nm,0.7s,baz=352,slow=9.3,SNR=22						
ASAR				PcP	PcP	20 06 04.8	-0.7
	comp=Z,0.2nm,0.3s,baz=345,slow=2.7,SNR=4.3						
	comp=Z,1.2nm,0.7s						
UBPT	Khong Chiam	26.41	301	P	P	20 02 39.6	-1.2
UBPT				IAmb	IAmb	20 02 59.9	
	comp=Z,16nm,1.4s						
GSI	Gunungsitoli	31.25	269	P	P	20 03 22.3	-1.6
GSI				IAmb	IAmb	20 03 36.2	
	comp=Z,15nm,1.2s						
PHRA	Phrae	32.34	302	P	P	20 03 33.3	-0.1
CMAR	Chiang Mai Arr	33.42	301	P	P	20 03 44.2	+1.3
	comp=Z,0.6nm,0.7s,baz=124,slow=7.2,SNR=6.2						
CMAR				PcP	PcP	20 06 23.1	-0.9
	comp=Z,0.4nm,0.6s,baz=167,slow=2.8,SNR=4.1						
	comp=Z,0.6nm,0.7s						
INU	Inuyama	33.79	12	P	P	20 03 45.4	-0.5
KSRS	Korea Array	35.03	359	P	P	20 03 57.4	+0.8
	comp=Z,2.8nm,0.8s,baz=177,slow=9.8,SNR=8.2						
	comp=Z,2.8nm,0.8s						
KS19	Wonju Array Si	35.08	359	P	P	20 03 57.3	+0.2
MAJO	Matsushiro	35.20	13	P	P	20 03 57.1	-0.9
MJAR	Matsushiro Arr	35.20	13	P	P	20 03 57.2	-0.9
	comp=Z,3.4nm,0.8s,baz=190,slow=9.1,SNR=9.2						
	comp=Z,3.4nm,0.8s						
MJB9	Matsu-Tunnel	35.20	13	P	P	20 03 57.5	-0.7
BBOO	Buckleboo	35.55	169	P	P	20 04 01.8	+0.7
STKA	Stephens Creek	36.05	161	P	P	20 04 06.4	+1.0
STKA				IAmb	IAmb	20 04 07.7	
	comp=Z,6.1nm,1.1s						
STKA	Stephens Creek	36.05	161	P	P	20 04 06.0	+0.6
	comp=Z,2.4nm,0.5s,baz=336,slow=7.9,SNR=9.5						
	comp=Z,2.4nm,0.5s						
XAN	Xi'an	36.68	332	P	P	20 04 10.5	-0.3
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	Baijiatuau	39.30	345	P	P	20 04 32.9	+0.1
BJT				IAmb	IAmb	20 04 33.6	
	comp=Z,5.6nm,0.8s						
H11S3	WAKE ISLAND Hy	40.45	64	T	T	20 48 01.8	
	baz=251,slow=75,SNR=97						
H11S2	WAKE ISLAND Hy	40.46	64	T	T	20 47 59.9	
	baz=251,slow=75,SNR=79						
H11S1	WAKE ISLAND Hy	40.47	64	T	T	20 48 00.0	
	baz=251,slow=75,SNR=81						
H11N1	WAKE ISLAND Hy	41.04	62	T	T	20 48 43.1	
	baz=250,slow=75,SNR=181						
H11N2	WAKE ISLAND Hy	41.05	62	T	T	20 48 48.4	
	baz=250,slow=75,SNR=71						
H11N3	WAKE ISLAND Hy	41.05	62	T	T	20 48 47.1	
	baz=250,slow=75,SNR=180						
USRK	Ussuriysk Ar.	41.86	3	P	P	20 04 54.1	+0.2
	comp=Z,1.8nm,0.5s,baz=189,slow=7.3,SNR=5.8						
	comp=Z,1.8nm,0.5s						
SHL	Shillong	42.43	306	P	P	20 04 58.3	-0.8
SHL				IAmb	IAmb	20 05 01.3	
	comp=Z,6.1nm,0.9s						
ULN	Ulaanbaatar	49.17	341	P	P	20 05 52.1	+0.2
ULN				IAmb	IAmb	20 05 53.1	
	comp=Z,5.4nm,0.8s						
SONM	Songino Array	49.37	340	P	P	20 05 53.7	+0.3
	comp=Z,1.9nm,0.7s,baz=154,slow=8.9,SNR=20						
SONM				PcP	PcP	20 07 15.9	+0.4
	comp=Z,0.3nm,0.6s,baz=158,slow=4.2,SNR=2.2						
	comp=Z,1.9nm,0.7s						
PETK	Petropavlovsk-	56.03	21	P	P	20 06 43.1	+0.7
	comp=Z,4.2nm,0.9s,baz=205,slow=6.4,SNR=2.0						
	comp=Z,4.2nm,0.9s						
MK31	Makanchi Array	59.95	325	P	P	20 07 10.1	0.0
MK31				IAmb	IAmb	20 07 10.7	
	comp=Z,3.6nm,1.4s						
MKAR	Makanchi Array	59.95	325	P	P	20 07 10.0	-0.1
	comp=Z,1.4nm,0.4s,baz=116,slow=8.5,SNR=64						
MKAR				PcP	PcP	20 07 55.6	-0.4
	comp=Z,1.1nm,0.7s,baz=123,slow=4.5,SNR=6.4						
	comp=Z,1.4nm,0.4s						
MAKZ	Makanchi	60.14	325	P	P	20 07 10.9	-0.4
MAKZ				IAmb	IAmb	20 07 11.9	
	comp=Z,2.2nm,0.5s						
KDJ	Kajisay	60.83	318	P	P	20 07 16.6	+0.3
KDJ				IAmb	IAmb	20 07 27.7	
	comp=Z,3.4nm,0.8s						
ZALV	Zalesovo Beam	62.84	333	P	P	20 07 28.6	-0.8
	comp=Z,0.4nm,0.3s,baz=104,slow=6.3,SNR=3.7						
	comp=Z,0.4nm,0.3s						
AAK	Ala-Archa	62.85	318	P	P	20 07 29.7	-0.2
KURBB	Kurchatov Arra	64.10	327	P	P	20 07 36.9	-0.8
	comp=Z,1.5nm,0.5s,baz=127,slow=5.9,SNR=24						
	comp=Z,1.5nm,0.5s						
KURK	Kurchatov	64.10	327	P	P	20 07 37.4	-0.3
KURK				IAmb	IAmb	20 07 38.4	
	comp=Z,8.7nm,1.4s						
KK31	Karatay Array	65.73	317	P	P	20 07 47.5	-1.0
KKAR	Karatay Array	65.73	317		P	20 07 47.5	-1.1
TIXI	Tiksi	69.29	0	P	P	20 08 09.9	-0.5
TIXI				IAmb	IAmb	20 08 11.2	
	comp=Z,6.8nm,1.1s						
BVAR	Borovoye Array	69.69	327	P	P	20 08 13.3	0.0
	comp=Z,1.4nm,0.5s,baz=87,slow=6.3,SNR=6.1						
	comp=Z,1.4nm,0.5s						
ABKAR	Akbulak array	74.61	321	P	P	20 08 41.9	-0.9
ARTI	Arti	77.37	328	P	P	20 08 57.0	-1.4
ARTI				IAmb	IAmb	20 09 18.1	
	comp=Z,5.9nm,1.5s						
J17K	VABM Dome	80.02	26	P	P	20 09 13.6	+0.8
J17K				IAmb	IAmb	20 09 24.4	
	comp=Z,6.8nm,1.2s						
E18K	Tukpahlearik C	80.53	22	P	P	20 09 17.1	+1.6
E18K				IAmb	IAmb	20 09 27.3	
	comp=Z,3.3nm,0.7s						
C18K	Utukok River	80.69	20	P	P	20 09 17.7	+1.2
L18K	Granite Mounta	80.80	27	P	P	20 09 18.5	+1.4
L18K				IAmb	IAmb	20 09 43.0	
	comp=Z,6.1nm,1.3s						
E19K	Redstone River	81.80	22	P	P	20 09 23.4	+1.1
E19K				IAmb	IAmb	20 09 25.9	
	comp=Z,2.8nm,0.8s						
KDAK	Kodiak Island	82.01	32	P	P	20 09 24.0	+0.5
PPLA	Purkeypile	82.98	27	P	P	20 09 29.9	+1.2
B21K	Ikpikpuk River	83.22	20	P	P	20 09 30.6	+1.0
B21K				IAmb	IAmb	20 09 32.4	
	comp=Z,4.3nm,0.9s						
ILAR	Eielson Array	85.53	25	P	P	20 09 40.4	-1.0
	comp=Z,0.3nm,0.7s,baz=235,slow=5.1,SNR=5.6						
	comp=Z,0.3nm,0.7s						
ARCES	ARCESS Array B	92.54	340	P	P	20 10 13.3	-1.3
	comp=Z,4.2nm,1.0s,baz=67,slow=9.3,SNR=3.6						
	comp=Z,4.2nm,1.0s						
TORD	Torodi Ar. Bea	125.36	288	PKP	PKPdf	20 16 04.5	-1.0
	comp=Z,0.6nm,0.8s,baz=39,slow=2.5,SNR=3.8						

**IDC 09 20:07:09.5±1.3,50°.38N×114°.37W, h0km, mbtmp3.0/3, ML3.2/3, Error ellipse: s

TAIWAN REGION
*ASIES **09** 20:12:57.2,25°.13N×121°.54E,h8km,ML4.0,Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr0.51; Mθθ0.01; Mφφ-0.51; Mrθ-0.52; Mθφ2.25; Mφr-0.78; Fault plane solution: M0 2.49174×10^21 NP1: φs275.97000°,δ69.01000°,λ15.12000°. NP2: φs180.44000°,δ75.90000°,λ158.32000°. Principal axes: T Plg25.1820°, Azm137.0040°; N Plg64.3320°, Azm328.9430°; P Plg4.6510°, Azm229.1960°;*
*TAP **09** 20:12:57.2,25°.13N×121°.54E,h8km,ML4.0,B*
*NEIC **09** 20:12:58.2±1.0,25°.13N±0°.03×121°.47E±0°.04,h9km±6km, ML3.5/18,Error ellipse: s-maj=5.6km s-min=4.7km az=91.0*

ISC 09 20:12:57.3±0.8,25°.13N±0°.02×121°.54E±0°.02,h9km±4km, n142,σ0§63/239,18C-25D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YM01	**YM01**	**0.03**	**59**	⇓*iP*	**Pg**	**20 12 59.0**	**0.0**
YM01				*i* S	**Sg**	**20 13 00.2**	**-0.1**
ZUZH	**Zhuzihu**	**0.03**	**3**	⇓*iP*	**Pg**	**20 12 59.0**	**-0.1**
ZUZH				*i* S	**Sg**	**20 12 60.0**	**-0.3**
ANP	**Anpu**	**0.06**	**339**	⇑*iP*	**Pg**	**20 12 59.2**	**-0.1**
ANP				*i* S	**Sg**	**20 13 00.5**	**-0.3**
YM08	**YM08**	**0.07**	**37**	⇓*iP*	**Pg**	**20 12 59.2**	**-0.2**
YM08				S	**Sg**	**20 13 00.5**	**-0.4**
NTST	**Danshui**	**0.09**	**291**	⇑*iP*	**Pg**	**20 13 00.3**	**+0.7**
NTST				*i* S	**Sg**	**20 13 02.7**	**+1.4**
NHY	**Taipei**	**0.10**	**165**	⇑*iP*	**Pg**	**20 13 00.1**	**+0.4**
NHY				*i* S	**Sg**	**20 13 02.3**	**+0.9**
TWS1	**Kuangyinshan**	**0.12**	**255**	⇓*iP*	**Pg**	**20 12 59.8**	**-0.2**
TWS1				*i* S	**Sg**	**20 13 02.4**	**+0.4**
NWRT	**Kuosheng**	**0.13**	**56**	⇓P	**Pg**	**20 13 00.5**	**+0.3**
NWRT				*i* S	**Sg**	**20 13 02.3**	**+0.1**
NSM	**Shimen**	**0.16**	**15**	*eP*	**Pg**	**20 13 01.7**	**+0.9**
NSM				*eS*	**Sg**	**20 13 04.7**	**+1.6**
TATO	**Taipei**	**0.16**	**198**		**Pg**	**20 13 01.2**	**+0.4**
TATO				Sg	**Sg**	**20 13 03.8**	**+0.6**
TATO				IAML		20 13 04.5	
	21μm,0.4s						
TATO	**Taipei**	**0.16**	**198**	P	**Pg**	**20 13 01.3**	**+0.5**
TATO	**Taipei**	**0.16**	**198**	S	**Sg**	**20 13 04.3**	**+1.1**
TATO	**Taipei**	**0.16**	**198**	⇓*iP*	**Pg**	**20 13 01.4**	**+0.5**
TATO				*i* S	**Sg**	**20 13 04.0**	**+0.8**
NWF	**Wu-fen Shan**	**0.22**	**106**	⇑*iP*	**Pg**	**20 13 02.6**	**+0.7**
NWF				*i* S	**Sg**	**20 13 05.6**	**+0.6**
WFSB	**Wu-fen Shan**	**0.22**	**106**	⇑*iP*	**Pg**	**20 13 02.6**	**+0.7**
WFSB				*i* S	**Sg**	**20 13 06.1**	**+1.1**
TIPB	**Shuangxi**	**0.30**	**122**	⇑*iP*	**Pb**	**20 13 04.1**	**-0.9**
TIPB				S	**Sg**	**20 13 08.1**	**+0.7**
SXI1	**Grass Mountain**	**0.30**	**97**	⇑*iP*	**Pb**	**20 13 04.1**	**-0.9**
SXI1				*i* S	**Sg**	**20 13 08.4**	**+0.9**
NWLT	**Wulai**	**0.35**	**186**	⇓*iP*	**Pg**	**20 13 04.9**	**+0.6**
NWLT				*i* S	**Sg**	**20 13 09.5**	**+0.4**
NCUH	**Zhongli**	**0.36**	**243**	⇓*iP*	**Pb**	**20 13 06.1**	**+0.1**
NCUH				S	**Sb**	**20 13 12.1**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.37**	**174**	⇑*iP*	**Pb**	**20 13 05.4**	**-0.7**
FUSB				*i* S	**Sg**	**20 13 10.4**	**+0.8**
NTC	**Toucheng**	**0.38**	**137**	P	**Pb**	**20 13 05.7**	**-0.5**
NTC				S	**Sb**	**20 13 11.3**	**-0.9**
ILA	**Ilan**	**0.41**	**153**	⇑*iP*	**Pb**	**20 13 06.4**	**-0.3**
ILA				*eS*	**Sb**	**20 13 12.4**	**-0.6**
TWB1	**Santiao Chiao**	**0.42**	**107**	⇑*iP*	**Pb**	**20 13 06.5**	**-0.5**
TWB1				*i* S	**Sg**	**20 13 12.0**	**+0.8**
TWE	**Neicheng**	**0.42**	**165**	⇑*iP*	**Pb**	**20 13 06.6**	**-0.4**
TWE				S	**Sb**	**20 13 12.3**	**-1.2**
NSK	**Sanguang**	**0.48**	**200**	⇓*iP*	**Pb**	**20 13 07.4**	**-0.7**
NSK				S	**Sg**	**20 13 13.4**	**+0.3**
YHNB	**Yeheng**	**0.48**	**198**		**Pb**	**20 13 07.3**	**-0.7**
YHNB				Sg	**Sg**	**20 13 13.1**	**-0.1**
YHNB				IAML		20 13 13.9	
	comp=E,3μm,0.2s						
YHNB	**Yeheng**	**0.48**	**198**	P	**Pb**	**20 13 07.3**	**-0.7**
YHNB	**Yeheng**	**0.48**	**198**	⇓*iP*	**Pb**	**20 13 07.4**	**-0.7**
YHNB				S	**Sg**	**20 13 13.4**	**+0.3**
KSHI	**Guanxi Townshi**	**0.49**	**223**	⇓*iP*	**Pb**	**20 13 08.4**	**+0.3**
KSHI				S	**Sb**	**20 13 15.6**	**+0.3**
ENTT	**Nioudou**	**0.49**	**178**	⇑*iP*	**Pb**	**20 13 07.8**	**-0.3**
ENTT				S	**Sg**	**20 13 13.8**	**+0.5**
NDS	**Dongshan**	**0.52**	**162**	⇑P	**Pb**	**20 13 08.2**	**-0.4**
NDS				*eS*	**Sg**	**20 13 14.8**	**+0.5**
TWC	**Suao**	**0.59**	**152**	⇑*iP*	**Pb**	**20 13 09.3**	**-0.5**
TWC				*eS*	**Sg**	**20 13 16.4**	**-0.1**
LATG	**Datong**	**0.59**	**181**	⇓*iP*	**Pb**	**20 13 09.8**	**-0.2**
LATG				*eS*	**Sg**	**20 13 17.1**	**+0.4**
SBCB	**Hsinchu**	**0.61**	**236**	⇓*iP*	**Pb**	**20 13 10.6**	**+0.5**
SBCB				S	**Sb**	**20 13 19.0**	**+0.2**
HSN	**Hsinchu**	**0.61**	**238**	⇓*iP*	**Pb**	**20 13 09.8**	**-0.5**
HSN				S	**Sb**	**20 13 18.0**	**-1.0**
ESAO	**Su ao**	**0.62**	**154**	⇑*iP*	**Pg**	**20 13 09.6**	**+0.4**
NFF	**Wufeng Townshi**	**0.63**	**218**	⇓*iP*	**Pb**	**20 13 10.7**	**+0.1**
NFF				*i* S	**Sb**	**20 13 20.0**	**+0.5**
LIOB	**Emei**	**0.68**	**225**	⇓*iP*	**Pb**	**20 13 11.7**	**+0.3**
LIOB				*i* S	**Sb**	**20 13 22.3**	**+1.3**
PCYT	**Pengchaiyu**	**0.69**	**44**	*eP*	**Pn**	**20 13 12.4**	**-0.9**
NNS	**Nan Shan**	**0.71**	**193**	⇓*iP*	**Pb**	**20 13 11.4**	**-0.5**
NNS				*eS*	**Sg**	**20 13 19.8**	**-0.4**
NNSB	**Datong**	**0.71**	**192**	⇓*iP*	**Pb**	**20 13 11.6**	**-0.5**
NNSB				*eS*	**Sg**	**20 13 20.2**	**-0.3**
EWUT	**Wuta**	**0.72**	**163**	⇑*eP*	**Pg**	**20 13 11.4**	**+0.2**
EWUT				*eS*	**Sg**	**20 13 20.5**	**+0.1**
ENA	**Nanau**	**0.72**	**166**	⇑*iP*	**Pg**	**20 13 11.5**	**+0.2**
ENA				*eS*	**Sg**	**20 13 20.5**	**-0.2**
EAHA	**Aohua**	**0.82**	**167**	*eP*	**Pg**	**20 13 13.3**	**+0.2**
EAHA				*eS*	**Sb**	**20 13 24.6**	**-0.3**
NMLH	**Miaoli**	**0.90**	**229**	⇓P	**Pb**	**20 13 15.7**	**+0.5**
NMLH				*i* S	**Sn**	**20 13 29.0**	**-0.5**
FUSS	**Fushou**	**0.92**	**197**	⇓*eP*	**Pg**	**20 13 15.2**	**+0.1**
FUSS				*eS*	**Sg**	**20 13 26.6**	**-0.4**
ETLH	**Xiulin Townshi**	**0.92**	**183**	*eP*	**Pb**	**20 13 15.6**	**0.0**
ETLH				*i* S	**Sg**	**20 13 26.6**	**-0.5**
TWT	**Tachien**	**0.94**	**201**	⇓*eP*	**Pb**	**20 13 15.7**	**-0.2**
TWT				S	**Sb**	**20 13 28.7**	**+0.3**
TDCB	**Techi**	**0.94**	**202**	⇓P	**Pb**	**20 13 15.7**	**-0.2**
TDCB				*eS*	**Sg**	**20 13 27.9**	**+0.2**
EOS2	**EOS2**	**0.95**	**138**	*eP*	**Pn**	**20 13 16.4**	**-0.2**
EOS2				*eS*	**Sb**	**20 13 28.9**	**+0.5**
NACB	**Ninganchiao**	**0.95**	**177**		**Pb**	**20 13 15.9**	**-0.2**
NACB				Sg	**Sg**	**20 13 27.7**	**-0.4**
NACB				IAML		20 13 30.3	
	comp=N,2μm,0.3s						
NACB	**Ninganchiao**	**0.95**	**177**	P	**Pb**	**20 13 16.0**	**-0.1**
NACB	**Ninganchiao**	**0.95**	**177**	S	**Sb**	**20 13 29.6**	**+0.8**
NACB	**Ninganchiao**	**0.95**	**177**	⇑P	**Pb**	**20 13 15.8**	**-0.2**
NACB				*eS*	**Sg**	**20 13 27.5**	**-0.6**
ETL	**Fush Village**	**0.97**	**176**	*eP*	**Pb**	**20 13 16.3**	**0.0**
ETL				*eS*	**Sg**	**20 13 28.4**	**-0.2**
WHP	**Taichung City**	**1.01**	**213**	⇓*iP*	**Pb**	**20 13 17.3**	**+0.3**
WHP				*i* S	**Sn**	**20 13 31.6**	**-0.5**
WHF	**Hehuan Shan**	**1.01**	**194**	*eP*	**Pb**	**20 13 17.3**	**0.0**
WHF				*eS*	**Sb**	**20 13 31.2**	**+0.3**
TWD	**Chiawan**	**1.05**	**177**	*eP*	**Pb**	**20 13 17.6**	**0.0**
TWD				*eS*	**Sg**	**20 13 30.6**	**-0.5**
TWQ1	**Liyutan**	**1.05**	**222**	⇓*iP*	**Pb**	**20 13 17.7**	**0.0**
TWQ1				*eS*	**Sb**	**20 13 31.9**	**+0.3**
EOS3	**EOS3**	**1.10**	**140**	*eP*	**Pn**	**20 13 18.9**	**+0.2**
LXIB	**Xiulin Townshi**	**1.11**	**186**	*eP*	**Pb**	**20 13 18.8**	**0.0**
LXIB				*eS*	**Sb**	**20 13 34.0**	**+0.6**
WDJ	**Dajia District**	**1.13**	**227**	*i* P	**Pb**	**20 13 19.1**	**0.0**
WDJ				*i* S	**Sn**	**20 13 35.2**	**+0.1**
HWA	**Hwalien**	**1.15**	**177**	*eP*	**Pn**	**20 13 20.0**	**+0.4**
HWA				*eS*	**Sb**	**20 13 34.8**	**+0.3**
ETM	**Tongmen**	**1.16**	**182**	*eP*	**Pb**	**20 13 19.7**	**+0.1**
ETM				*eS*	**Sg**	**20 13 34.1**	**-0.6**
WUSB	**Renai**	**1.20**	**199**	*eP*	**Pg**	**20 13 19.9**	**-0.5**
WUSB				*eS*	**Sn**	**20 13 36.9**	**0.0**
WCS	**Beigang Elemen**	**1.21**	**208**	*eP*	**Pg**	**20 13 20.9**	**+0.3**
WCS				*eS*	**Sn**	**20 13 37.2**	**+0.2**
OWD	**Renai**	**1.22**	**196**	*eP*	**Pg**	**20 13 20.2**	**-0.6**
OWD				S	**Sn**	**20 13 37.0**	**-0.3**
EOS4	**EOS4**	**1.23**	**145**	*eP*	**Pg**	**20 13 21.2**	**+0.3**
TCU	**Taichung**	**1.26**	**219**	*eP*	**Pb**	**20 13 21.1**	**-0.1**
TCU				*eS*	**Sn**	**20 13 39.2**	**+1.0**
TEYL	**Yanliau Villag**	**1.26**	**178**	*eP*	**Pb**	**20 13 21.3**	**0.0**
TEYL				*eS*	**Sb**	**20 13 37.3**	**-0.3**
ESL	**Shilin**	**1.31**	**184**	*eP*	**Pb**	**20 13 22.1**	**-0.2**
ESL				*eS*	**Sb**	**20 13 38.9**	**-0.3**
SHUL	**Shoufeng**	**1.34**	**179**	*eP*	**Pb**	**20 13 22.7**	**+0.1**
SHUL				*eS*	**Sb**	**20 13 39.9**	**+0.1**
TYC	**Yuchr**	**1.37**	**207**	P	**Pn**	**20 13 22.8**	**+0.2**
TYC				S	**Sg**	**20 13 41.5**	**0.0**
SMLT	**Sun Moon Lake**	**1.37**	**205**	*eP*	**Pn**	**20 13 22.0**	**-0.8**
SMLT				S	**Sg**	**20 13 42.3**	**+0.7**
WCHH	**Zhanghua**	**1.38**	**221**	*eP*	**Pn**	**20 13 22.8**	**+0.1**
WCHH				*eS*	**Sn**	**20 13 41.2**	**+0.1**
WARBT	**Fenglin Townsh**	**1.42**	**186**	*eP*	**Pn**	**20 13 23.3**	**0.0**
WARBT				S	**Sb**	**20 13 40.9**	**-1.2**
VWDT	**VWDT**	**1.42**	**195**	P	**Pb**	**20 13 23.7**	**-0.3**
VWDT				*eS*	**Sg**	**20 13 42.6**	**-0.4**
SSLB	**Suanglung**	**1.44**	**202**		**Pn**	**20 13 23.7**	**0.0**
SSLB				IAML		20 13 50.6	
	comp=E,594nm,0.8s						
SSLB				IAML		20 13 55.1	
	comp=N,447nm,0.5s						
SSLB	**Suanglung**	**1.44**	**202**	P	**Pn**	**20 13 23.9**	**+0.2**
SSLB	**Suanglung**	**1.44**	**202**	S	**Sg**	**20 13 44.2**	**+0.5**
SSLB	**Suanglung**	**1.44**	**202**	⇓P	**Pn**	**20 13 23.7**	**0.0**
SSLB				*eS*	**Sg**	**20 13 43.5**	**-0.3**
JYNG	**Yonagunijimaku**	**1.44**	**118**	*eP*	**Pn**	**20 13 22.7**	**-1.0**
EGFH	**Guangfu**	**1.46**	**184**	*eP*	**Pg**	**20 13 25.2**	**-0.2**
EGFH				*eS*	**Sn**	**20 13 42.5**	**-0.6**
WNT	**Mingjian**	**1.47**	**212**	P	**Pn**	**20 13 23.9**	**-0.2**
WNT				*eS*	**Sb**	**20 13 44.0**	**+0.3**
YOJ	**Yonaguni jima**	**1.49**	**116**		**Pg**	**20 13 26.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.49**	**116**	P	**Pg**	**20 13 27.3**	**+1.4**
YOJ	**Yonaguni jima**	**1.49**	**116**	*eP*	**Pn**	**20 13 23.5**	**-0.8**
WJS	**Zhushan**	**1.50**	**210**	*i* P	**Pn**	**20 13 24.6**	**+0.1**
WJS				*eS*	**Sb**	**20 13 44.6**	**0.0**
WHYT	**Xinyi Township**	**1.56**	**204**	*i* P	**Pn**	**20 13 25.7**	**+0.4**
WHYT				S	**Sb**	**20 13 46.8**	**+0.4**
WRL	**Guolierlin Hig**	**1.62**	**221**	*eP*	**Pn**	**20 13 25.3**	**-0.8**
WRL				*eS*	**Sn**	**20 13 47.4**	**+0.3**
EHY	**Hungye**	**1.63**	**187**	*eP*	**Pb**	**20 13 27.5**	**-0.1**
EHY				*eS*	**Sn**	**20 13 47.7**	**+0.3**
HGSD	**Ruisui**	**1.64**	**184**	*eP*	**Pb**	**20 13 27.2**	**-0.5**
EHYH	**Wanrong**	**1.64**	**186**	*eP*	**Pb**	**20 13 27.5**	**-0.3**
WDL	**Douliou City**	**1.68**	**213**	*eP*	**Pn**	**20 13 27.1**	**+0.1**
WDL				*eS*	**Sb**	**20 13 49.3**	**-0.4**
WGK	**Gukeng**	**1.69**	**212**	*eP*	**Pn**	**20 13 27.1**	**0.0**
WGK				*eS*	**Sb**	**20 13 49.6**	**-0.5**
WDLH	**Douliu**	**1.70**	**213**	*eP*	**Pn**	**20 13 27.3**	**+0.1**
WDLH				S	**Sn**	**20 13 49.8**	**+0.6**
YULB	**Yu-li**	**1.75**	**187**		**Pb**	**20 13 29.4**	**-0.1**
YULB				Sn	**Sn**	**20 13 50.8**	**+0.6**
YULB				IAML		20 13 55.4	
	comp=N,645nm,0.5s						
YULB	**Yu-li**	**1.75**	**187**	P	**Pb**	**20 13 29.7**	**+0.1**
YULB	**Yu-li**	**1.75**	**187**	S	**Sg**	**20 13 53.3**	**-0.2**
YULB	**Yu-li**	**1.75**	**187**	*eP*	**Pb**	**20 13 29.5**	**-0.1**
YULB				*eS*	**Sn**	**20 13 50.4**	**+0.1**
ALS	**Alishan**	**1.75**	**203**	*eP*	**Pn**	**20 13 28.7**	**+0.5**
ALS				*eS*	**Sb**	**20 13 52.5**	**+0.6**
MATB	**Ma-tsu**	**1.76**	**306**	*eP*	**Pn**	**20 13 27.8**	**-0.3**
MATB				*eS*	**Sb**	**20 13 52.4**	**+0.3**
WTK	**Tuku**	**1.78**	**216**	*i* P	**Pn**	**20 13 28.0**	**-0.3**
WTK				*eS*	**Sn**	**20 13 51.2**	**+0.1**
TWF1	**Yuli**	**1.79**	**187**	*eP*	**Pb**	**20 13 30.3**	**0.0**
EYUL	**Yuli**	**1.79**	**187**	*eP*	**Pb**	**20 13 30.2**	**-0.1**
CHN2	**Minshiung**	**1.87**	**212**	*eP*	**Pn**	**20 13 30.4**	**+0.9**
WCKO	**Fanlu**	**1.89**	**207**	*eP*	**Pn**	**20 13 30.8**	**+1.0**
WCKO				*i* S	**Sb**	**20 13 55.0**	**-0.8**
VWUC	**VWUC**	**1.90**	**266**	*eP*	**Pn**	**20 13 29.3**	**-0.7**
CHY	**Chiayi**	**1.92**	**212**	*eP*	**Pn**	**20 13 30.8**	**+0.6**
CHY				S	**Sn**	**20 13 55.4**	**+0.9**
CHKH	**Chenggong**	**1.94**	**184**	*eP*	**Pb**	**20 13 32.6**	**-0.2**
CHKH				*eS*	**Sn**	**20 13 55.5**	**+0.6**
FULB	**Fuli**	**1.94**	**187**	*eP*	**Pb**	**20 13 32.2**	**-0.7**
ELDTW	**Lidau**	**1.99**	**194**	*eP*	**Pb**	**20 13 32.6**	**-1.2**
ELDTW				*eS*	**Sb**	**20 13 58.5**	**-0.3**
EHD	**Haiduan**	**2.00**	**189**	*eP*	**Pb**	**20 13 33.6**	**-0.2**
WSL	**Shuilin Townsh**	**2.00**	**217**	*eP*	**Pn**	**20 13 31.0**	**-0.3**
WSL				*eS*	**Sb**	**20 13 57.9**	**-1.0**
TPUB	**Ta-pu**	**2.00**	**205**		**Pn**	**20 13 31.7**	**+0.2**
TPUB				IAML		20 14 07.6	
	comp=E,473nm,0.6s						
TPUB				IAML		20 14 11.6	
	comp=N,430nm,0.8s						
TPUB	**Ta-pu**	**2.00**	**205**	P	**Pn**	**20 13 31.9**	**+0.5**
TPUB	**Ta-pu**	**2.00**	**205**	*i* P	**Pn**	**20 13 31.9**	**+0.5**
TPUB				*eS*	**Sb**	**20 13 58.3**	**-0.8**
WTP	**Ta-pu**	**2.06**	**205**	*eP*	**Pn**	**20 13 32.8**	**+0.6**
WTP				*eS*	**Sn**	**20 13 58.8**	**+0.7**
STYH	**Taoyuan**	**2.07**	**200**	P	**Pn**	**20 13 33.4**	**+1.1**
STYH				*eS*	**Sb**	**20 13 59.8**	**-1.2**
TWK	**Hsinying**	**2.09**	**208**	*eP*	**Pn**	**20 13 32.8**	**+0.1**
ICHU	**Yijhu**	**2.11**	**213**	*eP*	**Pn**	**20 13 32.6**	**-0.2**
ICHU				*eS*	**Sb**	**20 14 00.7**	**-1.2**
SNST	**Tainan City**	**2.13**	**207**	*eP*	**Pn**	**20 13 33.6**	**+0.5**
IRIF	**Iriomote-Funau**	**2.14**	**111**	*eP*	**Pn**	**20 13 32.4**	**-0.9**
CHN1	**Nanshi**	**2.15**	**206**	*eP*	**Pn**	**20 13 33.8**	**+0.4**
CHN1				*eS*	**Sb**	**20 14 02.5**	**-0.7**
CHN8	**Yiju**	**2.15**	**215**	*i* P	**Pn**	**20 13 33.5**	**+0.1**
CHN8				S	**Sn**	**20 14 00.9**	**+0.6**
EDH	**Donghe**	**2.16**	**186**	*eP*	**Pn**	**20 13 34.7**	**+1.2**
EDH				*eS*	**Sn**	**20 14 01.5**	**+1.1**
XPSS	**Dashiqiu**	**2.17**	**326**	*eP*	**Pn**	**20 13 33.5**	**-0.1**
XPSS				*eS*	**Sn**	**20 14 01.6**	**+1.1**
PTMZ	**Houxiangcun**	**2.20**	**268**	*eP*	**Pn**	**20 13 33.3**	**-0.7**
SGST	**Jiashian**	**2.22**	**203**	*eP*	**Pn**	**20 13 34.2**	**-0.2**
SGST				S	**Sb**	**20 14 05.8**	**+0.5**
LONT	**Longtian**	**2.25**	**190**	*eP*	**Pn**	**20 13 36.2**	**+1.5**
TWG	**Pinlang**	**2.34**	**191**		**Pb**	**20 13 38.2**	**-1.5**
TWG				IAML		20 14 15.2	
	comp=N,296nm,0.7s						
TWG	**Pinlang**	**2.34**	**191**	*eP*	**Pb**	**20 13 38.1**	**-1.6**
TWGBT	**Beinan**	**2.34**	**191**	P	**Pb**	**20 13 38.2**	**-1.5**
TWGBT	**Beinan**	**2.34**	**191**	*eP*	**Pb**	**20 13 38.1**	**-1.7**
PNG	**Penghu**	**2.39**	**230**	*eP*	**Pn**	**20 13 35.6**	**-1.1**
JKRS	**Kuro-shima**	**2.41**	**111**	*eP*	**Pn**	**20 13 36.7**	**-0.3**
PHUB	**P'eng-hu**	**2.41**	**229**	*eP*	**Pn**	**20 13 35.0**	**-2.0**
MHZQ	**Yeshan**	**2.46**	**294**	*eP*	**Pn**	**20 13 36.9**	**-0.8**
JIJ	**Ishigaki jima**	**2.48**	**107**	*eP*	**Pn**	**20 13 37.9**	**-0.1**
JISG	**Ishigakijimahi**	**2.57**	**102**	*eP*	**Pn**	**20 13 40.0**	**+0.8**
SCZT	**Fangliau**	**2.87**	**197**	*eP*	**Pn**	**20 13 44.8**	**+1.5**
KNMB	**Chin-men Tao**	**2.94**	**258**	Pn	**Pn**	**20 13 42.9**	**-1.3**
KNMB				IAML		20 14 40.3	
	comp=N,123nm,0.8s						

*IDC **09** 20:14:26.8±1.3,9°.74N×126°.44E,h0km,mb3.2/5, mbtmp3.2/5,Error ellipse: s-maj=48.4km s-min=15.3km az=89.0*

ISC 09 20:14:32.1±1.3,9°.9N±0°.1×126°.9E±0°.3,h41km,n13, σ1§04/7,mb3.2/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.10**	**206**	Pg	**Pn**	**20 15 18.9**	**+0.3**
	63nm,0.3s,baz=70,slow=17,SNR=2.8						
DAV				Lg	Lg	20 15 55.0	
	41nm,0.3s,baz=108,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**30.53**	**166**	P	**P**	**20 20 41.7**	**-0.1**
	0.3nm,0.6s,baz=344,slow=8.6,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.04**	**169**	P	**P**	**20 21 12.4**	**-0.2**
	0.2nm,0.5s,baz=352,slow=7.9,SNR=4.5						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.41**	**73**	T	T	21 04 58.9	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**39.42**	**73**	T	T	21 05 01.1	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**39.43**	**73**	T	T	21 05 09.2	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**39.76**	**71**	T	T	21 05 32.3	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**39.77**	**71**	T	T	21 05 33.6	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**39.78**	**71**	T	T	21 05 34.2	
	baz=265						
SONM	**Songino Array**	**41.60**	**339**	P	**P**	**20 22 17.6**	**+1.3**
	0.1nm,0.5s,baz=157,slow=10,SNR=1.9						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**52.72**	**323**	P	**P**	**20 23 41.7**	**-1.1**
	0.1nm,0.4s,baz=123,slow=6.7,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**56.75**	**325**	P	**P**	**20 24 10.8**	**-1.1**
	0.1nm,0.4s,baz=123,slow=6.4,SNR=1.7						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**86.53**	**332**	P	**P**	**20 27 10.7**	**+0.1**
	2.6nm,0.9s,baz=82,slow=10.0,SNR=1.8						

*VAO **09** 20:16:20.7±0.5, 14°.96S×70°.81W,h181km,mb4.0*
*NEIC **09** 20:16:21.2±2.1, 15°.02S±0°.04×70°.7W±0°.1,h181km±8km, mb4.4/31,Error ellipse: s-maj=15.5km s-min=5.0km az=82.0*
*IDC **09** 20:16:22.7±1.1, 14°.87S×70°.51W,h200km±10km,mb3.6/10, mbtmp4.1/14,MS2.9/2,Error ellipse: s-maj=20.0km s-min=12.3km az=42.0*

ISC 09 20:16:21.3±0.4,15°.00S±0°.05×70°.72W±0°.06,h189km,n84, σ1§20/86,mb4.2/17,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.80**	**117**	P	**Pn**	**20 17 10.2**	**+1.6**
	114nm,0.3s,baz=324,slow=7.1,SNR=1568						
LPAZ				S	**Sn**	**20 17 46.2**	**+0.8**
	70nm,0.6s,baz=12,slow=20,SNR=12						
LPAZ				LR	LR	20 18 11.7	
	comp=Z,25nm,19.6s,baz=68,slow=40						
PB18	**Visviri**	**2.83**	**155**		**Pn**	**20 17 11.4**	**+2.5**
AP01	**Chacalluta**	**3.37**	**174**		**Pn**	**20 17 14.4**	**-0.4**
AP01				Sn	**Sn**	**20 17 53.8**	**-3.0**
PB16	**IPOC Station P**	**3.51**	**161**		**Pn**	**20 17 18.1**	**+1.0**
PB12	**IPOC Station P**	**3.61**	**174**	Pn	**Pn**	**20 17 17.0**	**-0.9**
TA02	**Huaiquique**	**5.27**	**174**		**Pn**	**20 17 36.6**	**-2.3**
PB08	**IPOC Station P**	**5.32**	**164**		**Pn**	**20 17 39.4**	**-0.5**
TA01	**Diego Aracena**	**5.55**	**175**	Pn	**Pn**	**20 17 40.4**	**-2.2**
PB01	**IPOC Station P**	**6.12**	**169**		**Pn**	**20 17 47.9**	**-2.2**
NNA	**Nana**	**6.67**	**296**	Pn	**Pn**	**20 17 57.2**	**0.0**
NNA	**Nana**	**6.67**	**296**	P	**Pn**	**20 17 59.5**	**+2.3**
	7.9nm,0.3s,baz=129,slow=12,SNR=6.5						
NNA				S	**Sn**	**20 19 12.6**	**-0.5**
	8.7nm,0.4s,baz=106,slow=18,SNR=4.2						
ETMB	**Extrema**	**6.78**	**41**	Pn	**Pn**	**20 17 58.2**	**-0.4**
ETMB	**Extrema**	**6.78**	**41**	*eP*	**Pn**	**20 17 58.2**	**-0.4**
PB09	**IPOC Station P**	**6.90**	**168**		**Pn**	**20 17 58.5**	**-1.8**
CZSB	**Cruzeiro do Su**	**7.49**	**345**	Pn	**Pn**	**20 18 05.7**	**-2.2**
CZSB	**Cruzeiro do Su**	**7.49**	**345**	*eP*	**Pn**	**20 18 05.3**	**-2.6**
AF01	**San Pedro de A**	**8.26**	**163**	Pn	**Pn**	**20 18 17.1**	**-1.2**
SIV	**San Ignacio**	**9.35**	**97**	P	**Pn**	**20 18 31.5**	**-0.8**
	0.8nm,0.4s,baz=288,slow=9.7,SNR=4.9						
PB14	**IPOC Station P**	**9.58**	**178**	Pn	**Pn**	**20 18 33.3**	**-2.1**
GO02	**Mina Guanaco**	**10.16**	**174**	Pn	**Pn**	**20 18 41.4**	**-1.7**
AC01	**Pan de Azucar**	**11.09**	**179**	Pn	**Pn**	**20 18 52.8**	**-2.0**
TEFE	**Tefe**	**12.90**	**28**	*eP*	**Pn**	**20 19 18.0**	**0.0**
MURT	**Porto Murtinho**	**14.09**	**120**	*eP*	**P**	**20 19 34.4**	**-0.5**
BDQN	**Bodoquena, MS**	**14.36**	**114**	*eP*	**Pn**	**20 19 36.9**	**+0.7**
COHC	**Cochancay**	**15.04

comp=Z,0.4nm,0.5s,baz=325,slow=2.7,SNR=6.4
KSRS Korea Array 152.19 327 PKPbc **PKiKP 20 35 56.1 +1.1**
comp=Z,0.7nm,0.8s,baz=7.7,slow=2.6,SNR=1.6

---

*IDC **09** 20:37:35.4±2.3, 36°.11N×135°.76E, h0km, mb3.5/2, mbtmp3.4/3, ML2.3/1, MS2.3/1, Error ellipse: s-maj=45.1km s-min=25.7km az=137.0*
*JMA **09** 20:37:38.8±0.0, 36°.09N±0°.09×136°.0E±0°.1, h13km, MV3.2/40, CENTRAL FUKUI PREF*
JMA Felt II J1 at CENTRAL FUKUI PREF .
ISC 09 20:37:37.3±1.9, 36°.07N±0°.06×135°.90E±0°.08, h7km±14km, n8, σ0§56/14, 8D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**0.41**	**60**	⇓*i*P	**Pg**	**20 37 45.1**	**0.0**
JKG				⇓S	**Sg**	**20 37 49.6**	**-0.9**
JFM	**Mihama**	**0.55**	**173**	⇓*i*P	**Pb**	**20 37 49.8**	**+0.6**
JFM				⇓S	**Sb**	**20 37 57.4**	**+0.1**
JKY	**Yasaka**	**0.78**	**236**	⇓*i*P	**Pn**	**20 37 55.0**	**+0.3**
JKY				⇓S	**Sn**	**20 38 06.9**	**+0.1**
JYTA	**Yamagatataniai**	**0.83**	**125**	⇓*i*P	**Pg**	**20 37 53.0**	**-0.3**
JYTA				⇓*e*S	**Sg**	**20 38 03.7**	**-0.3**
JWT	**Wachi**	**0.89**	**207**	*i* P	**Pn**	**20 37 56.5**	**+0.3**
JWT				S	**Sn**	**20 38 08.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.92**	**75**	Pn	**Pn**	**20 38 10.8**	**+0.4**
	1.1nm,0.3s,baz=256,slow=17,SNR=46						
MJAR				Sn	**Sg**	**20 38 40.0**	**+0.9**
	0.5nm,0.3s,baz=260,slow=32,SNR=5.2						
MJAR				LR	LR	20 39 03.2	
	comp=Z,62nm,18.8s,baz=78,slow=43						
	16nm,0.6s						
WRA	**Warramunga Arr**	**55.73**	**182**	P	**P**	**20 47 14.0**	**-0.6**
	0.9nm,1.0s,baz=1.8,slow=7.2,SNR=3.2						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**59.45**	**182**	P	**P**	**20 47 40.3**	**-0.4**
	0.3nm,0.7s,baz=14,slow=12,SNR=5.4						
	0.3nm,0.7s						

IDC 09 20:47:17.4±4.5, 11°.33S×166°.61E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=191.5km s-min=33.4km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.18**	**251**	P	P	20 53 47.8	+0.4
	1.0nm,1.0s,baz=83,slow=8.5,SNR=5.2						
	1.0nm,1.0s						
ASAR	**Alice Springs**	**33.42**	**244**	P	P	20 53 57.9	-0.3
	0.1nm,0.4s,baz=67,slow=10,SNR=5.2						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**83.52**	**18**	P	P	20 59 47.1	+0.3
	0.2nm,0.5s,baz=228,slow=5.0,SNR=5.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**94.31**	**317**	P	P	21 00 38.2	-0.7
	0.2nm,0.6s,baz=82,slow=5.2,SNR=3.9						
	0.2nm,0.6s						

---

*NAO **09** 20:58:13.4±2.1, 71°.57N×3°.00W, ML3.6*
*BER **09** 20:58:16.7±3.1, 71°.55N×3°.28W, h10km, mb(Pn)4.2, ML3.6(NAO), Confirmed Earthquake*
*IDC **09** 20:58:16.2±1.0, 71°.50N×2°.37W, h0km, mb3.5/9, mbtmp3.6/15, ML3.4/6, MS3.4/19, Error ellipse: s-maj=23.3km s-min=15.6km az=57.0*
*DNK **09** 20:58:19.6±1.6, 71°.94N×3°.84W, h10km, ML1.9*
ISC 09 20:58:16.0±0.6, 71°.53N±0°.07×2°.84W±0°.05, h10km, n93, σ1§88/83, mb3.4/9, MS3.2/14, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**1.84**	**256**	*e*P	**Pn**	**20 58 45.4**	**-2.2**
JNE				IAML		20 58 46.2	
	comp=Z,22nm,0.4s						
JMIC	**Jan Mayen**	**1.91**	**256**	*e*S	**Sn**	**20 59 06.5**	**-6.1**
DBG	**Daneborg**	**5.82**	**307**	Pn	**Pn**	**20 59 38.1**	**-4.0**
DBG				Sn	Sn	21 00 36.5	-12
DBG	**Daneborg**	**5.82**	**307**	*e*P	**Pn**	**20 59 38.5**	**-3.6**
DBG				*e*S	Sn	21 00 38.2	-11
DBG	**Daneborg**	**5.82**	**307**	*i* P	**Pn**	**20 59 38.4**	**-3.7**
DBG				*e*S	Sn	21 00 37.1	-12
DBG				IAML		21 00 48.3	
	comp=Z,2.6nm,0.5s						
SCO	**Scoresbysund**	**6.32**	**270**	*i* P	**Pn**	**20 59 47.0**	**-2.0**
LOF	**Lofoten**	**6.60**	**113**	Pn	**Pn**	**20 59 51.9**	**-1.0**
LOF	**Lofoten**	**6.60**	**113**	*e*P	**Pn**	**20 59 52.0**	**-0.9**
LOF				IAML		20 59 54.8	
	comp=Z,9.3nm,0.5s						
DAG	**Danmarks Havn**	**6.79**	**328**	*e*	Pn	20 59 48.7	-6.8
	baz=131,slow=18						
DAG				*i* P	**Pn**	**20 59 52.0**	**-3.5**
DAG				*i* P	**Pn**	**20 59 52.0**	**-3.5**
DAG				*i* S	Sn	21 00 57.5	-15
DAG				IAML		21 01 04.4	
	comp=Z,8.8nm,0.4s						
STEI	**Steigen**	**7.22**	**111**	Pn	**Pn**	**21 00 01.1**	**-0.3**
STEI				Sn	**Sn**	**21 01 18.5**	**-4.9**
STEI	**Steigen**	**7.22**	**111**	*e*P	**Pn**	**21 00 01.0**	**-0.5**
STEI				IAML		21 00 01.9	
	comp=Z,15nm,0.3s						
STEI				*e*S	**Sn**	**21 01 15.9**	**-7.5**
HSPB	**Hornsund (broa**	**7.38**	**34**	Pn	**Pn**	**21 00 02.6**	**-1.0**
HSPB	**Hornsund (broa**	**7.38**	**34**	*e*P	**Pn**	**21 00 02.5**	**-1.0**
HSPB				IAML		21 00 06.9	
	comp=Z,3.6nm,1.0s						
TRO	**Tromso**	**7.48**	**94**	Pn	**Pn**	**21 00 02.9**	**-2.1**
TRO	**Tromso**	**7.48**	**94**	*e*P	**Pn**	**21 00 02.8**	**-2.1**
TRO				IAML		21 00 04.9	
	comp=Z,8.8nm,0.5s						
FAUS	**Fauske**	**7.59**	**114**	*e*P	**Pn**	**21 00 05.8**	**-0.7**
FAUS				IAML		21 00 08.1	
	comp=Z,7.2nm,0.7s						
KONS	**Konsvik**	**7.61**	**124**	Pn	**Pn**	**21 00 06.5**	**-0.3**
KONS	**Konsvik**	**7.61**	**124**	*e*P	**Pn**	**21 00 06.3**	**-0.5**
KONS				IAML		21 00 07.6	
	comp=Z,5.2nm,0.3s						
STOK	**Stokkvaagen**	**7.71**	**125**	Pn	**Pn**	**21 00 07.9**	**-0.2**
STOK	**Stokkvaagen**	**7.71**	**125**	*e*P	**Pn**	**21 00 07.5**	**-0.7**
STOK				IAML		21 00 08.7	
	comp=Z,5.0nm,0.6s						
LEIR	**Leirfjorden**	**7.91**	**126**	*e*P	**Pn**	**21 00 10.2**	**-0.6**
LEIR				IAML		21 00 11.0	
	comp=Z,6.3nm,0.6s						
BRBB	**Barentsburg B**	**7.92**	**26**	Pn	**Pn**	**21 00 10.6**	**-0.4**
JETT	**Jettan, Norway**	**7.98**	**93**	Pn	**Pn**	**21 00 10.6**	**-1.3**
JETT	**Jettan, Norway**	**7.98**	**93**	Pn	**Pn**	**21 00 10.6**	**-1.3**
MOR8	**Moi Rana**	**8.21**	**122**	*e*P	**Pn**	**21 00 15.2**	**+0.2**
MOR8				IAML		21 00 16.9	
	comp=Z,6.2nm,0.5s						
KBS	**Kingsbay**	**8.29**	**20**	*e*P	**Pn**	**21 00 16.1**	**+0.1**
SPA0	**Spitsbergen Ar**	**8.30**	**28**	Pn	**Pn**	**21 00 16.3**	**+0.1**
	baz=208,slow=16						
SPA0	**Spitsbergen Ar**	**8.30**	**28**	Pn	**Pn**	**21 00 16.3**	**+0.1**
	baz=208,slow=16						
SPITS	**Spitsbergen Ar**	**8.30**	**28**	Pn	**Pn**	**21 00 16.2**	**+0.1**
	baz=202,slow=15						
	comp=Z,1.2nm,0.3s						
KIF	**Kilpisjarvi**	**8.36**	**96**	Pn	**Pn**	**21 00 15.9**	**-1.1**
KIF	**Kilpisjarvi**	**8.36**	**96**	*e*P	**Pn**	**21 00 15.7**	**-1.2**
SALU	**Saltoluokta**	**8.55**	**109**	*e*P	**Pn**	**21 00 19.3**	**-0.3**
SALU	**Saltoluokta**	**8.55**	**109**	P	**Pn**	**21 00 19.5**	**-0.1**
SALU				S	Sn	21 01 06.4	-50
RATU	**Laukkuluspa**	**8.61**	**105**	P	**Pn**	**21 00 19.9**	**-0.5**
HAMF	**Hammerfest**	**8.62**	**83**	*e*P	**Pn**	**21 00 17.9**	**-2.7**
KUA	**Kurravaara**	**8.76**	**103**	P	**Pn**	**21 00 21.9**	**-0.7**
KUA				S	Sn	21 01 09.9	-51
NSS	**Namsos**	**8.92**	**135**	*e*P	**Pn**	**21 00 25.0**	**+0.3**
NSS				IAML		21 00 26.8	
	comp=Z,8.8nm,0.5s						
HOPEN	**Hopen**	**9.06**	**44**	Pn	**Pn**	**21 00 26.0**	**-0.6**
HOPEN	**Hopen**	**9.06**	**44**	*e*P	**Pn**	**21 00 25.7**	**-0.9**
KTK1	**Kautokeino**	**9.13**	**93**	*e*P	**Pn**	**21 00 26.7**	**-0.9**
KTK1				IAML		21 00 27.2	
	comp=Z,2.8nm,0.5s						
LANU	**Lannavaara**	**9.23**	**100**	P	**Pn**	**21 00 28.0**	**-1.0**
DUNU	**Dundret**	**9.34**	**107**	P	**Pn**	**21 00 29.9**	**-0.5**
HEF	**Hetta**	**9.56**	**96**	Pn	**Pn**	**21 00 32.2**	**-1.4**
HEF	**Hetta**	**9.56**	**96**	*e*P	**Pn**	**21 00 32.1**	**-1.4**
MASU	**Masugnsbyn**	**9.57**	**103**	P	**Pn**	**21 00 33.0**	**-0.6**
ARA0	**ARCESS Array S**	**9.62**	**88**	Pn	**Pn**	**21 00 33.1**	**-1.1**
	baz=289,slow=12						
ARA0	**ARCESS Array S**	**9.62**	**88**	Pn	**Pn**	**21 00 33.1**	**-1.1**
	baz=289,slow=12						
ARA0				IAML		21 00 41.2	
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**9.62**	**88**	Pn	**Pn**	**21 00 32.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=288,slow=12,SNR=40						
ARCES				LR	LR	21 03 14.9	
	comp=Z,48nm,20.1s,baz=348,slow=32						
	comp=Z,0.6nm,0.3s						
KEV	**Kevo**	**10.00**	**86**	Pn	**Pn**	**21 00 38.6**	**-0.8**
KEV	**Kevo**	**10.00**	**86**	*e*P	**Pn**	**21 00 38.1**	**-1.4**
HARU	**Harads**	**10.09**	**110**	P	**Pn**	**21 00 39.7**	**-0.9**
AKN	**Aaknes**	**10.14**	**153**	Pn	**Pn**	**21 00 42.0**	**+0.6**
AKN	**Aaknes**	**10.14**	**153**	Pn	**Pn**	**21 00 42.0**	**+0.6**
AKN				IAML		21 00 43.5	
	comp=Z,3.4nm,0.5s						
ERTU	**Ertsjaerv**	**10.19**	**107**	P	**Pn**	**21 00 41.3**	**-0.8**
SJUU	**Sjulsmark**	**10.73**	**112**	P	**Pn**	**21 00 48.9**	**-0.6**
SUMG	**Summit**	**10.93**	**292**	*e*	**Pn**	**21 00 52.3**	**-0.2**
KALU	**Kalix**	**11.01**	**108**	P	**Pn**	**21 00 52.3**	**-1.0**
NB2	**NORSAR Subarra**	**11.90**	**145**	Pn	**Pn**	**21 01 06.3**	**+0.8**
	baz=331,slow=14						
NB2	**NORSAR Subarra**	**11.90**	**145**	Pn	**Pn**	**21 01 06.3**	**+0.8**
	baz=331,slow=14						
NOA	**NORSAR Array B**	**11.90**	**145**	Pn	**Pn**	**21 01 05.9**	**+0.3**
	baz=318,slow=16,SNR=5.3						
NOA				LR	LR	21 05 31.7	
	comp=Z,127nm,20.3s,baz=335,slow=37						
	comp=Z,0.8nm,0.7s						
NRA0	**NORESS Array S**	**12.25**	**145**	Pn	**Pn**	**21 01 11.1**	**+0.9**
	baz=326,slow=10						
NRA0	**NORESS Array S**	**12.25**	**145**	Pn	**Pn**	**21 01 11.1**	**+0.9**
	baz=326,slow=10						
APA0	**Apatity Array**	**12.96**	**90**	Pn	**Pn**	**21 01 18.4**	**-1.5**
	baz=294,slow=12						
APA0	**Apatity Array**	**12.96**	**90**	Pn	**Pn**	**21 01 18.4**	**-1.5**
	baz=294,slow=12						
HFS	**Hagfors**	**13.21**	**141**	Pn	**Pn**	**21 01 23.1**	**-0.3**
	baz=341,slow=12						
HFS	**Hagfors**	**13.21**	**141**	Pn	**Pn**	**21 01 23.1**	**-0.3**
	baz=341,slow=12						
HFS	**Hagfors**	**13.21**	**141**	Pn	**Pn**	**21 01 23.5**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=338,slow=12,SNR=32						
HFS				LR	LR	21 06 22.5	
	comp=Z,149nm,19.6s,baz=323,slow=37						
	comp=Z,7.9nm,0.6s						
FIA0	**FINESS Array S**	**15.13**	**117**	P	**Pn**	**21 01 48.4**	**-1.1**
	baz=328,slow=12						
FIA0	**FINESS Array S**	**15.13**	**117**	P	**Pn**	**21 01 48.4**	**-1.1**
	baz=328,slow=12						
FINES	**FINESS Array B**	**15.13**	**117**	Pn	**Pn**	**21 01 48.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=328,slow=11,SNR=12						
FINES				LR	LR	21 07 15.1	
	comp=Z,113nm,18.1s,baz=354,slow=36						
	comp=Z,6.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**16.26**	**181**	Pn	**Pn**	**21 02 05.4**	**+1.2**
	baz=357,slow=13						
	comp=Z,1.3nm,0.7s						
SFJD	**Kangerlussuaq**	**17.11**	**278**	LR	LR	21 08 12.6	
	comp=Z,108nm,19.0s,slow=34						
OBN	**Obninsk**	**23.47**	**114**	LR	LR	21 11 56.4	
	comp=Z,90nm,19.1s,slow=35						
GERES	**GERESS Array B**	**24.02**	**152**	P	**P**	**21 03 33.5**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=353,slow=9.2,SNR=2.8						
GERES				LR	LR	21 11 39.6	
	comp=Z,63nm,18.6s,baz=332,slow=34						
	comp=Z,0.7nm,0.7s						
VRAC	**Vranov**	**24.03**	**148**	LR	LR	21 12 42.1	
	comp=Z,53nm,20.1s,baz=345,slow=36						
RES	**Resolute Bay**	**24.40**	**320**	LR	LR	21 11 30.3	
	comp=Z,66nm,20.1s,baz=14,slow=32						
KIRV	**Kirov**	**24.55**	**94**	LR	LR	21 12 20.4	
	comp=Z,73nm,19.2s,baz=325,slow=35						
FRB	**Frobisher Bay**	**24.87**	**285**	LR	LR	21 13 45.0	
	comp=Z,68nm,20.2s,baz=107,slow=37						
AKASG	**Malin Array Be**	**25.41**	**128**	P	**P**	**21 03 43.4**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=338,slow=9.4,SNR=6.6						
AKASG				LR	LR	21 13 10.7	
	comp=Z,53nm,21.1s,baz=12,slow=35						
	comp=Z,2.2nm,0.5s						
DAVOX	**Davos/Dischmat**	**25.55**	**159**	LR	LR	21 13 21.7	
	comp=Z,37nm,19.6s,baz=69,slow=36						
BELG	**Belogornoye**	**29.15**	**104**	LR	LR	21 15 36.3	
	comp=Z,88nm,18.4s,baz=35,slow=36						
ARTI	**Arti**	**29.18**	**89**	LR	LR	21 15 30.1	
	comp=Z,72nm,18.1s,baz=312,slow=36						
MLR	**Muntele Rosu**	**29.52**	**137**	LR	LR	21 15 58.1	
	comp=Z,93nm,20.8s,baz=346,slow=36						
BVAR	**Borovoye Array**	**35.81**	**81**	P	**P**	**21 05 16.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=316,slow=8.3,SNR=3.5						
	comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**36.77**	**130**	P	**P**	**21 05 24.7**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=334,slow=6.7,SNR=5.8						
	comp=Z,1.2nm,0.9s						
YKA	**Yellowknife Ar**	**38.32**	**316**	P	**P**	**21 05 37.8**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=29,slow=8.3,SNR=6.9						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**40.44**	**76**	P	**P**	**21 05 56.0**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=333,slow=7.4,SNR=2.6						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**41.77**	**338**	P	**P**	**21 06 07.8**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=347,slow=4.5,SNR=6.1						
	comp=Z,0.5nm,0.8s						
ULM	**Lac du Bonnet**	**44.28**	**293**	LR	LR	21 25 10.4	
	comp=Z,83nm,18.4s,baz=338,slow=36						
MKAR	**Makanchi Array**	**44.99**	**76**	P	**P**	**21 06 29.8**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=348,slow=6.3,SNR=1.7						
	comp=Z,0.2nm,0.7s						
BBB	**Bella Bella**	**50.69**	**319**	LR	LR	21 27 59.2	
	comp=Z,74nm,19.3s,baz=173,slow=35						
TORD	**Torodi Ar. Bea**	**58.41**	**175**	P	**P**	**21 08 12.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=356,slow=8.3,SNR=1.8						
	comp=Z,0.4nm,0.8s						
YBH	**Yreka Blue Hor**	**59.35**	**311**	LR	LR	21 32 44.8	
	comp=Z,94nm,19.4s,slow=35						

---

*BEO **09** 20:59:15.1±0.6, 40°.97N×24°.91E, h2km±3km, ML3.5/10*
*SOF **09** 20:59:17.9, 41°.23N±0°.01×24°.73E±0°.01, h9km±1km, MD3.3/8*
*THE **09** 20:59:18.8, 41°.17N×24°.71E, h6km, ML3.2/17, Error ellipse: s-maj=0.8km s-min=0.4km az=96.0*
*ISK **09** 20:59:18.0, 41°.20N×24°.71E, h5km, ML3.3/28*
*ATH **09** 20:59:18.4, 41°.22N×24°.70E, h12km±2km, ML3.3/13, Manual Solution by M.Kolligri First location: 2019/02/09 20:59:45, This location: 2019/02/09 21:08:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*AFAD **09** 20:59:21.0, 41°.19N×24°.76E, h19km±13km, MW3.6*
ISC 09 20:59:18.5±1.0, 41°.20N±0°.01×24°.73E±0°.01, h6km±8km, n153, σ1§03/218, 25C-9D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.26**	**218**	P	**Pg**	**20 59 23.9**	**+0.4**
KAVA				S	**Sg**	**20 59 28.1**	**+1.2**
	15μm,0.4s						
KAVA	**Kavala**	**0.26**	**218**	P	**Pg**	**20 59 23.9**	**+0.4**
KAVA				S	**Sg**	**20 59 27.4**	**+0.5**
XANC	**Avdira**	**0.28**	**142**	P	**Pg**	**20 59 24.9**	**+1.0**
XANC				S	**Sb**	**20 59 29.4**	**-1.4**
KVLA	**Kavala**	**0.37**	**225**	P	**Pg**	**20 59 25.9**	**+0.3**
KVLA				S	**Sg**	**20 59 31.0**	**+0.6**
RZN	**Rozhen**	**0.49**	**1**	⇑*i*Pg	**Pg**	**20 59 27.6**	**-0.5**
RZN				Sg	**Sg**	**20 59 34.1**	**-0.5**
KMT1	**Komotini**	**0.52**	**99**	P	**Pb**	**20 59 29.1**	**-0.9**
THAS	**Thassos island**	**0.59**	**180**	P	**Pg**	**20 59 29.8**	**-0.1**
THAS				S	**Sg**	**20 59 37.5**	**-0.1**
	3μm,0.3s						
THAS	**Thassos island**	**0.59**	**180**	P	**Pg**	**20 59 30.2**	**+0.3**
THAS				S	**Sg**	**20 59 39.0**	**+1.5**
RDO	**Rodhopi**	**0.62**	**95**	Pg	**Pg**	**20 59 30.3**	**-0.1**
RDO				Sg	**Sb**	**20 59 39.2**	**-1.4**
RDO	**Rodhopi**	**0.62**	**95**	P	**Pg**	**20 59 30.1**	**-0.2**
RDO				S	**Sb**	**20 59 39.1**	**-1.5**
	2μm,0.2s						
RDO	**Rodhopi**	**0.62**	**95**	P	**Pg**	**20 59 30.2**	**-0.1**
RDO				S	**Sb**	**20 59 38.9**	**-1.7**
KDZ	**Kurdzhali**	**0.63**	**47**	Pg	**Pg**	**20 59 30.5**	**-0.2**
KDZ	**Kurdzhali**	**0.63**	**47**	Pg	**Pg**	**20 59 29.7**	**-1.0**
KDZ				Sg	**Sg**	**20 59 38.5**	**-0.4**
KOKK	**Kokkinochori,**	**0.67**	**236**	P	**Pg**	**20 59 30.8**	**-0.5**
KOKK				S	**Sg**	**20 59 40.4**	**+0.4**
	1μm,0.5s						
NVR	**Nevrokopi**	**0.67**	**283**	P	**Pg**	**20 59 31.3**	**-0.1**
NVR				S	**Sg**	**20 59 41.2**	**+1.2**
	1μm,0.5s						
NVR	**Nevrokopi**	**0.67**	**283**	P	**Pg**	**20 59 31.2**	**-0.2**
NVR				S	**Sg**	**20 59 40.1**	**+0.1**
MMB	**Musomishta**	**0.81**	**296**	⇑*i*Pg	**Pg**	**20 59 33.6**	**-0.5**
MMB				Sg	**Sg**	**20 59 44.3**	**-0.4**
SRS	**Serrai**	**0.86**	**265**	P	**Pg**	**20 59 34.0**	**-1.0**
SRS				S	**Sg**	**20 59 47.0**	**+0.9**
	2μm,0.6s						
SRS	**Serrai**	**0.86**	**265**	*e*Pg	**Pg**	**20 59 33.8**	**-1.2**
SRS				*e*Sg	**Sg**	**20 59 46.8**	**+0.7**
SRS	**Serrai**	**0.86**	**265**	P	**Pg**	**20 59 33.9**	**-1.0**
PLD	**Plovdiv**	**0.95**	**1**	Pg	**Pg**	**20 59 35.9**	**-0.8**
PLD				Sg	**Sg**	**20 59 48.6**	**-0.4**
PLD	**Plovdiv**	**0.95**	**1**	P	**Pg**	**20 59 35.9**	**-0.8**
PLD	**Plovdiv**	**0.95**	**1**	*e*Pg	**Pg**	**20 59 35.9**	**-0.8**
PLD				*e*Sg	**Sn**	**20 59 51.9**	**-0.4**
SMTH	**Samothraki Isl**	**0.95**	**140**	P	**Pg**	**20 59 36.9**	**+0.2**
SMTH				S	**Sb**	**20 59 50.1**	**-0.1**
	1μm,0.5s						
SMTH	**Samothraki Isl**	**0.95**	**140**	P	**Pg**	**20 59 36.8**	**+0.1**
SMTH				S	**Sb**	**20 59 50.5**	**+0.3**
ALEX	**Alexandroupoli**	**0.95**	**111**	P	**Pb**	**20 59 36.9**	**-0.6**
NGRA	**Nigrita**	**0.97**	**253**	P	**Pg**	**20 59 36.7**	**-0.5**
OUR	**Ouranopolis**	**1.03**	**213**	Pg	**Pg**	**20 59 38.6**	**+0.3**
OUR				Sg	**Sg**	**20 59 52.8**	**+1.2**
OUR	**Ouranopolis**	**1.03**	**213**	P	**Pg**	**20 59 38.4**	**+0.1**
OUR				S	**Sg**	**20 59 52.2**	**+0.6**
	4μm,0.5s						
OUR	**Ouranopolis**	**1.03**	**213**	P	**Pg**	**20 59 38.3**	**0.0**
OUR				S	**Sg**	**20 59 51.3**	**-0.3**
ALN	**Alexandroupoli**	**1.04**	**106**	Pg	**Pb**	**20 59 38.5**	**-0.5**
ALN	**Alexandroupoli**	**1.04**	**106**	P	**Pg**	**20 59 38.3**	**-0.2**
ALN				S	**Sb**	**20 59 53.0**	**+0.1**
	2μm,0.6s						
DIM	**Dimitrovgrad**	**1.06**	**37**	P	**Pb**	**20 59 38.4**	**-0.9**
SOH	**Sokhos**	**1.10**	**251**	P	**Pg**	**20 59 39.2**	**-0.5**
SOH				S	**Sg**	**20 59 54.0**	**0.0**
	1μm,0.9s						
ENEZ	**Enez**	**1.18**	**113**	Pn	**Pb**	**20 59 41.2**	**0.0**
ENEZ				Sn	**Sn**	**20 59 57.9**	**+0.1**
ENEZ	**Enez**	**1.18**	**113**	P	**Pn**	**20 59 41.9**	**+0.4**
ENEZ				S	**Sn**	**20 59 58.0**	**+0.1**
	2μm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.20**	**114**	P	**Pb**	**20 59 41.6**	**-0.1**
CAVK				S	**Sn**	**20 59 58.9**	**+0.4**
CAVK				*i* AML	AML	21 00 02.0	
	comp=N,793nm,0.8s						
CAVK				*i* AML	AML	21 00 04.0	
	comp=E,556nm,0.7s						
CAVK	**Edirne/Enez-Ca**	**1.20**	**114**	⇑P	**Pn**	**20 59 42.2**	**+0.3**
CAVK				⇓S	**Sn**	**20 59 59.4**	**+0.9**
ENZZ	**Sultanice-Enez**	**1.23**	**118**	Pn	**Pn**	**20 59 42.2**	**0.0**
ENZZ				Sn	**Sn**	**20 59 59.8**	**+0.8**
PLG	**Polygyros**	**1.27**	**230**	P	**Pg**	**20 59 41.9**	**-1.1**
PLG				S	**Sg**	**20 59 59.8**	**+0.4**
	1μm,0.4s						
PLG	**Polygyros**	**1.27**	**230**	P	**Pg**	**20 59 41.8**	**-1.1**
PLG				S	**Sg**	**20 59 59.0**	**-0.4**
TRGA	**Dikaia**	**1.28**	**66**	P	**Pn**	**20 59 42.7**	**-0.3**
TRGA				S	**Sb**	**20 59 59.2**	**-0.6**
GADA	**Gvkgeada**	**1.34**	**138**	Pn	**Pn**	**20 59 43.8**	**0.0**
GADA				Sn	**Sn**	**21 00 02.9**	**+0.9**
LIA	**Limnos Island**	**1.34**	**165**	P	**Pn**	**20 59 43.3**	**-0.5**
LIA				S	**Sg**	**21 00 01.7**	**0.0**
	3μm,0.6s						
LIA	**Limnos Island**	**1.34**	**165**	P	**Pn**	**20 59 43.3**	**-0.5**
KKB	**Krupnik**	**1.36**	**299**	P	**Pn**	**20 59 43.3**	**-0.8**
KKB				S	**Sb**	**21 00 02.6**	**+0.5**
HORT	**Hortiatis**	**1.37**	**245**	Pn	**Pn**	**20 59 43.7**	**-0.6**
HORT				Sn	**Sg**	**21 00 02.9**	**+0.4**
HORT	**Hortiatis**	**1.37**	**245**	P	**Pn**	**20 59 43.5**	**-0.8**
HORT				S	**Sg**	**21 00 02.1**	**-0.4**
	1μm,0.6s						
HORT	**Hortiatis**	**1.37**	**245**	P	**Pn**	**20 59 43.3**	**-1.0**
HORT				S	**Sg**	**21 00 01.3**	**-1.2**
GOAD	**anakkale-G¶**	**1.37**	**139**	P	**Pb**	**20 59 45.6**	**+1.0**
GOAD				S	**Sn**	**21 00 04.2**	**+1.5**
GOAD				*i* AML	AML	21 00 06.0	
	comp=E,608nm,0.3s						
PGB	**Panagyurishte**	**1.38**	**343**	P	**Pn**	**20 59 43.8**	**-0.5**
PGB				Sg	**Sb**	**21 00 02.4**	**-0.2**
UKOP	**Uzunkopru-Edir**	**1.44**	**92**	Pn	**Pg**	**20 59 45.5**	**-0.6**
THE	**Thessaloniki**	**1.45**	**248**	P	**Pn**	**20 59 44.7**	**-0.6**
THE	

BUHA	Balikesir, Bur	2.47	133	P	Pn	21 00 00.7	+1.4
ZIMR		2.50	11	⇑P	Pg	21 00 04.7	-1.7
FNA	Florina	2.57	262	Pn	Pn	21 00 00.9	+0.2
FNA	Florina	2.57	262	*e*Pn	Pn	20 59 59.7	-1.0
ZAPS	Zavoj	2.59	324	*e*Pn	Pn	21 00 02.3	+1.3
ZAPS				*e*Sn	Sb	21 00 36.3	-1.2
DKL	Dikili	2.70	141	Pn	Pn	21 00 03.1	+0.6
BARS	Barje	2.71	308	*e*Pn	Pn	21 00 02.9	+0.3
BARS				*e*Sn	Sb	21 00 39.8	-1.0
ELBA	Catalca	2.80	90	P	Pg	21 00 12.9	+0.8
VLAD	Vladila	2.81	355	⇑P	Pn	21 00 05.8	+1.9
BKES	Balkesir-Mer	2.85	120	P	Pn	21 00 05.2	+0.6
ZEDA	zmir-Bergama	2.87	140	P	Pn	21 00 03.5	-1.3
URLA	Izmir	3.18	152	P	Pn	21 00 05.7	-3.4
ZAGS	Zajecar	3.20	326	*e*Pn	Pn	21 00 09.8	+0.5
ZAGS				*e*Sn	Sn	21 00 50.3	+2.6
DURS	Dursunbey	3.28	118	P	Pn	21 00 10.1	-0.4
HUMR	Humele	3.33	3	⇓P	Pn	21 00 13.4	+2.2
SELS	Selova	3.35	308	*e*Pn	Pn	21 00 11.3	-0.2
SELS				*e*Sn	Sn	21 00 55.6	+3.9
BORS2	Bor- Borsko je	3.51	326	*e*Pn	Pn	21 00 13.8	+0.1
BORS2				*e*Sn	Sn	21 00 58.7	+3.1
ICOR	Ion Corvin	3.69	37	⇓P	Pn	21 00 19.5	+3.4
GOCS	Kraljevo Serbi	3.70	311	*e*Pn	Pn	21 00 15.6	-0.8
GOCS				*e*Sn	Sn	21 01 02.4	+2.0
GRUS	Gruza	4.00	314	*e*Pn	Pn	21 00 20.2	-0.2
HERR	Herculane	4.05	336	⇑P	Pn	21 00 20.7	-0.3
AYDB	Zeytinkoy-Aydi	4.07	142	Pn	Pn	21 00 22.6	+1.2
SJES	Sjenica	4.09	302	*e*Pn	Pn	21 00 22.0	+0.4
IVAS	Ivanjica	4.14	307	*e*Pn	Pn	21 00 21.4	-0.9
ARR	Arges	4.17	359	⇑P	Pn	21 00 23.7	+1.0
MDVR	Moldovita	4.21	329	⇓P	Pn	21 00 23.3	+0.1
HARR	Harsova	4.21	33	⇑P	Pn	21 00 25.4	+2.2
VOIR		4.24	3	⇑P	Pn	21 00 24.5	+0.7
LOT	Lotru	4.30	351	⇓P	Pn	21 00 25.5	+0.9
NEHR	Nehoiu	4.38	15	⇑P	Pn	21 00 27.5	+1.9
MLR	Muntele Rosu	4.38	11	Pn	Pn	21 00 26.9	+1.2
MLR	Muntele Rosu	4.38	11	⇑P	Pn	21 00 27.1	+1.4
TRUS	Trudelj	4.39	315	*e*Pn	Pn	21 00 25.2	-0.5
GZR	Gura Zlata	4.43	342	⇑P	Pn	21 00 26.1	-0.2
TNR	Turnu Rosu	4.46	356	⇑P	Pn	21 00 28.3	+1.5
DIVS	Divibare	4.54	311	*e*Pn	Pn	21 00 26.8	-1.0
BISRR	Bisoca	4.58	18	⇑P	Pn	21 00 31.1	+2.6
VRSS	Vrsac	4.64	329	*e*Pn	Pn	21 00 29.3	+0.1
CFR	Carcaliu	4.70	31	⇓P	Pn	21 00 32.4	+2.5
COVR	Voineasa-Covas	4.77	13	⇑P	Pn	21 00 32.7	+1.7
SPBR	Spulber	4.78	17	⇓P	Pn	21 00 33.4	+2.2
DOPR	Dopca	4.79	6	⇓P	Pn	21 00 32.7	+1.4
PLOR	Plostina	4.86	16	⇑P	Pn	21 00 34.4	+2.2
VRI	Vrincioaia	4.89	17	⇑P	Pn	21 00 34.9	+2.3
SURR	Surduc	4.93	338	⇑P	Pn	21 00 33.3	+0.1
OZUR		4.96	9	⇑P	Pn	21 00 34.8	+1.3
BZS	Buzias	4.96	334	Pn	Pn	21 00 34.2	+0.6
BZS	Buzias	4.96	334	⇑P	Pn	21 00 33.8	+0.2
TEKS	Tekeris	5.08	313	*e*Pn	Pn	21 00 35.3	+0.1
TESR	Tescani	5.49	14	⇑P	Pn	21 00 42.1	+1.3
SIRR	Siria	5.53	337	⇓P	Pn	21 00 41.2	-0.2
MARR	Marisel-Cluj	5.60	349	⇑P	Pn	21 00 43.0	+0.6
PRAR	RASCA	6.26	9	⇑P	Pn	21 00 53.7	+2.4
BURAR	Bucovina Array	6.42	3	⇑P	Pn	21 00 55.0	+1.2

*IDC **09** 21:11:38.4±9.8, 44°.56N×141°.89E, h272km±70km, mb2.8/3, mbtmp3.4/4, Error ellipse: s-maj=378.9km s-min=27.1km az=167.0*
*JMA **09** 21:11:39.6±0.3, 45°N±1°×14°2E±°, h274km±2km, MV2.5/28, NW OFF HOKKAIDO*
*SKHL **09** 21:11:40.6±0.2, 44°.90N×141°.40E, h249km±9km, mb4.0/2, msha4.4/2*
ISC 09 21:11:40.0±0.9**, 44°.88N**±0°.06×**141°.55E**±0°.07**, h267**km±8km**, n23**, σ1§52/32**, mb3.0**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.50	30	P	Pn	21 12 14.8	+0.1
JWK2				*e*S	S	21 12 42.5	+0.4
JSS	Shosan	0.53	156	*e*P	Pn	21 12 15.9	+1.0
JSE	Soyaes	0.74	84	P	Pn	21 12 15.6	+0.1
JSE				S	S	21 12 43.1	-0.5
ASAJ	Asahikawa	1.07	135	P	Pn	21 12 17.4	+0.3
JHR	Hokuryu	1.15	174	*e*P	Pn	21 12 19.0	+1.3
JKK2	Kamakawa 2	1.33	139	*e*P	Pn	21 12 19.1	+0.4
JMP	Maruseppu	1.56	123	P	Pn	21 12 20.6	+0.2
JTKR	Abashiri--Toko	1.92	118	P	Pn	21 12 23.2	+0.1
JTKR				S	S	21 12 56.9	-0.4
JEW	Eniwo	2.04	182	*e*P	Pn	21 12 24.9	+0.6
YSS	Yuzhno-Sakhali	2.24	22	*e*P	Pn	21 12 25.6	-0.2
YSS				AMB	AMB	21 12 29.0	
	10.0nm,0.7s						
YSS				*e*S	S	21 13 00.6	-1.6
YSS				A	A	21 13 02.3	
	20nm,0.6s						
YSS				A	A	21 13 02.3	
	10.0nm,0.6s						
JAR	Ashorobuto	2.25	134	P	Pn	21 12 26.3	+0.2
JAR				S	S	21 13 02.0	-0.7
JCH	Churui	2.62	149	S	S	21 13 04.9	-4.2
JRA	Rausu	2.73	109	*e*P	Pn	21 12 30.9	+0.2
JNBK	Urakawa-nobuka	2.75	161	*e*P	Pn	21 12 30.1	-0.8
JNBK				*e*S	S	21 13 11.2	-0.2
YUK	Yuzh-Kuril'sk	3.20	104	*e*P	Pn	21 12 37.6	+2.0
YUK				AMB	AMB	21 12 39.6	
	50nm,0.5s						
YUK				*e*S	S	21 13 21.8	+2.0
YUK				A	A	21 13 24.9	
	60nm,0.5s						
YUK				A	A	21 13 24.9	
	50nm,0.5s						
NMR	Nemuro--Hokkai	3.37	115	*e*P	Pn	21 12 38.2	+0.8
NMR				*e*S	S	21 13 19.3	-3.8
SHO	Shikotan	3.92	103	*e*P	Pn	21 12 45.7	+2.1
SHO				*e*S	S	21 13 36.7	+2.5
UGL	Uglegorsk	4.21	5	*e*P	Pn	21 12 46.8	0.0
TYV	Tymovskoe	6.03	7	*e*P	Pn	21 13 08.9	+0.3
USRK	Ussuriysk Ar.	6.87	268	P	Pn	21 13 20.6	+1.5
	3.3nm,0.7s,baz=82,slow=14,SNR=4.1						
SONM	Songino Array	24.31	290	P	P	21 16 34.7	+1.1
	0.7nm,0.5s,baz=83,slow=8.8,SNR=8.6						
	0.7nm,0.5s						
MKAR	Makanchi Array	40.48	295	P	P	21 18 53.5	+0.7
	0.4nm,0.6s,baz=79,slow=8.5,SNR=4.8						
	0.4nm,0.6s						
ILAR	Eielson Array	42.97	37	P	P	21 19 11.3	-1.3
	0.2nm,0.7s,baz=275,slow=8.9,SNR=4.5						
	0.2nm,0.7s						

*UCR **09** 21:13:08.3±0.6, 10°.43N×84°.10W, h122km±3km, MW3.7*
*UPA **09** 21:13:09.0±0.7, 10°.65N×83°.89W, h10km±15km, MW4.6*
ISC 09 21:13:09.5±1.8**, 10°.40N**±0°.09×**84°.11W**±0°.06**, h116**km±11**km, n35**, σ0§62/40**, 2D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VBV1	V. Barva	0.28	179	*e*P	Pn	21 13 25.9	-0.3
CVTG	V. Turrialba,	0.41	127	*e*P	Pn	21 13 26.4	-0.2
BELE	Belen	0.42	191	*e*P	Pn	21 13 27.1	+0.4
SRA1	San Ramn	0.48	230	*e*P	Pn	21 13 26.6	-0.4
VICA	Volcano Irazu	0.48	148	*e*P	Pn	21 13 27.1	-0.3
SOCE	Pocosol	0.50	269	*e*P	Pn	21 13 27.0	0.0
SOCE				*e*S	Sn	21 13 40.6	+0.4
CVTR	Volcan Turrial	0.51	138	*e*P	Pn	21 13 27.1	-0.4
VTLA	Turrialba Volc	0.51	140	*e*P	Pn	21 13 27.3	-0.2
RAFA	San Farael, Vo	0.52	146	*e*P	Pn	21 13 27.5	0.0
CVTV	Tajo	0.52	138	*e*P	Pn	21 13 27.1	-0.4
VTCV	VTCV, Calle Va	0.55	138	*e*P	Pn	21 13 27.5	-0.1
VTCV				*e*S	Sn	21 13 41.9	+0.8
ACOS	Acosta	0.60	186	*e*P	Pn	21 13 27.6	-0.3
VERB	Verbena	0.60	138	*e*P	Pn	21 13 27.8	0.0
ARE1	Arenal 1	0.61	276	*e*P	Pn	21 13 27.8	+0.1
VARE2	V. Arenal	0.61	276	*e*P	Pn	21 13 27.8	0.0
LCR2	La Lucha 2	0.66	171	*e*P	Pn	21 13 27.6	-0.7
ARZA	Esparza	0.68	234	*e*P	Pn	21 13 29.4	+1.1
ABE2	San Pablo	0.69	176	*e*P	Pn	21 13 28.1	-0.5
PISJ	San Jernim	0.76	181	*e*P	Pn	21 13 28.7	-0.5
PICV	PH. Pirrs	0.77	187	*e*P	Pn	21 13 28.6	-0.5
JTS	Las Juntas de	0.84	263	*e*P	Pn	21 13 29.3	-0.4
JTS	Las Juntas de	0.84	263	⇓*i*P	Pn	21 13 29.4	-0.2
JTS				*i*S	Sn	21 13 44.6	-0.3
VERA	Finca Concepci	0.88	301	*e*P	Pn	21 13 30.0	+0.1
CUI	Cuipilapa	1.07	284	*e*P	Pn	21 13 32.0	+0.1
COLC	Colonia	1.11	284	*e*P	Pn	21 13 32.3	0.0
PLVR	Palo Verde	1.23	268	*e*P	Pn	21 13 33.4	-0.4
CBL1	Cabuya	1.26	231	*e*P	Pn	21 13 33.2	-0.7
EDPE	Pejibaye, P	1.34	157	*e*P	Pn	21 13 34.9	+0.1
CNI2	El Empalme, Bo	1.88	121	*e*P	Pn	21 13 39.6	-1.6
ACON	Acoyapa	1.88	326	*e*P	Pn	21 13 41.2	-0.1
BRU2	Volcan	2.12	139	⇓*i*P	Pn	21 13 45.5	+1.1
BRU2				*i*S	Sn	21 14 10.2	-0.9
BC3P	Paso Ancho	2.15	137	*e*P	Pn	21 13 45.9	+1.0
PTAR3	Potrerillos Ar	2.32	137	*e*P	Pn	21 13 47.8	+0.8
CHGR2	Aguacate	2.42	127	*e*P	Pn	21 13 46.9	-1.2
CHGR2				*i*S	Sn	21 14 18.4	+0.7
PSOM3	Paja de Sombre	2.45	134	*e*P	Pn	21 13 49.3	+0.8

*IDC **09** 21:24:31.5±4.2, 71°.47N×2°.40W, h0km, mbtmp3.6/5, ML2.8/5, Error ellipse: s-maj=50.0km s-min=29.2km az=89.0*
*BER **09** 21:24:32.2±2.3, 71°.54N×3°.45W, h10km, mb(Pn)3.9, Confirmed Earthquake*
ISC 09 21:24:29.0±1.2**, 71°.6N**±0°.1×**3°.35W**±0°.08**, h10**km**, n26, σ1§43/26, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	Daneborg	5.63	306	*e*P	Pn	21 25 53.7	+1.1
DBG				*e*S	Sn	21 26 53.6	-3.6
DBG	Daneborg	5.63	306	*i*P	Pn	21 25 53.6	+1.0
DBG				*i*S	Sn	21 26 51.9	-5.3
DAG	Danmarks Havn	6.62	328	*e*P	Pn	21 26 07.8	+1.6
DAG				*e*S	Sn	21 27 13.1	-8.5
DAG	Danmarks Havn	6.62	328	*e*	Pn	21 26 04.8	-1.4
	baz=132,slow=16						
DAG				*i*P	Pn	21 26 07.7	+1.5
DAG				*e*S	Sn	21 27 10.9	-11
DAG				IAML		21 27 19.8	
	comp=Z,1.5nm,0.4s						
LOF	Lofoten	6.78	113	*e*P	Pn	21 26 08.3	-0.1
LOF				IAML		21 26 10.3	
	comp=Z,3.9nm,0.4s						
HSPB	Hornsund (broa	7.40	35	*e*P	Pn	21 26 18.6	+1.8
STEI	Steigen	7.41	111	*e*P	Pn	21 26 16.6	-0.4
STEI				IAML		21 26 17.1	
	comp=Z,5.3nm,0.6s						
TRO	Tromso	7.65	94	*e*P	Pn	21 26 18.6	-1.6
TRO				IAML		21 26 18.9	
	comp=Z,2.2nm,0.9s						
FAUS	Fauske	7.78	114	*e*P	Pn	21 26 21.5	-0.5
FAUS				IAML		21 26 25.1	
	comp=Z,2.3nm,0.7s						
KONS	Konsvik	7.80	123	*e*P	Pn	21 26 21.8	-0.5
KONS				IAML		21 26 25.1	
	comp=Z,2.9nm,0.5s						
STOK	Stokkvaagen	7.90	124	*e*P	Pn	21 26 23.2	-0.4
STOK				IAML		21 26 26.4	
	comp=Z,2.8nm,0.7s						
LEIR	Leirfjorden	8.09	125	*e*P	Pn	21 26 26.2	-0.2
LEIR				IAML		21 26 27.4	
	comp=Z,3.9nm,0.7s						
JETT	Jettan, Norway	8.15	93	*e*P	Pn	21 26 26.3	-1.0
JETT				IAML		21 26 26.6	
	comp=Z,4.2nm,0.4s						
SPA0	Spitsbergen Ar	8.29	29	*e*P	Pn	21 26 31.8	+2.7
SPA0				IAML		21 26 31.9	
	comp=Z,3.4nm,0.8s						
SPITS	Spitsbergen Ar	8.29	29	Pn	Pn	21 26 31.5	+2.4
	baz=209,slow=14						
	comp=Z,4.6nm,0.6s						
MOR8	Moi Rana	8.40	122	*e*P	Pn	21 26 31.1	+0.6
KIF	Kilpisjarvi	8.53	96	*e*P	Pn	21 26 31.4	-0.9
SALU	Saltoluokta	8.73	108	*e*P	Pn	21 26 34.8	-0.3
NSS	Namsos	9.10	134	*e*P	Pn	21 26 40.6	+0.5
NSS				IAML		21 26 43.3	
	comp=Z,2.1nm,0.4s						
KTK1	Kautokeino	9.30	93	*e*P	Pn	21 26 42.3	-0.5
KTK1				IAML		21 26 42.4	
	comp=Z,1.4nm,0.9s						
KTK1				*e*S	Sn	21 28 14.9	-12
HEF	Hetta	9.73	96	*e*P	Pn	21 26 47.8	-1.0
ARA0	ARCESS Array S	9.78	88	*e*P	Pn	21 26 49.4	-0.1
ARCES	ARCESS Array B	9.78	88	Pn	Pn	21 26 48.3	-1.2
	comp=Z,0.1nm,0.3s,baz=295,slow=11,SNR=14						
ARCES				Sn	Sn	21 28 37.0	-2.1
	comp=Z,0.2nm,0.3s,baz=221,slow=26,SNR=8.9						
	comp=Z,0.4nm,0.4s						
NOA	NORSAR Array B	12.07	144	Pn	Pn	21 27 21.7	+0.8
	baz=334,slow=12,SNR=1.6						
	comp=Z,0.4nm,0.8s						
HFS	Hagfors	13.39	141	Pn	Pn	21 27 39.3	+0.6
	comp=Z,0.3nm,0.3s,baz=336,slow=13,SNR=12						
	comp=Z,1.6nm,0.4s						
FINES	FINESS Array B	15.32	117	Pn	Pn	21 28 04.0	-0.9
	comp=Z,0.1nm,0.3s,baz=328,slow=13,SNR=5.3						
	comp=Z,3.5nm,1.0s						

*BJI **09** 21:26:19.0, 31°.70N×49°.60E, h5km, mB5.0/14, mb4.7/55, Ms4.6/21, Ms7 4.4/22*
*MOS **09** 21:26:20.2±1.2, 31°.60N×49°.55E, h16km, mb4.9/54, Error ellipse: s-maj=5.0km s-min=3.2km az=113.8*
*NEIC **09** 21:26:21.8±1.5, 31°.68N±0°.06×49°.54E±0°.05, h10km±1km, mb4.8/128, Error ellipse: s-maj=11.4km s-min=5.2km az=206.0*
*TEH **09** 21:26:22.2, 31°.71N×49°.56E, h11km±25km*
*BGR **09** 21:26:22.9, 31°.82N×49°.80E, h23km, mb4.8*
*GII **09** 21:26:22.2±0.0, 31°.67N×49°.56E, h10km, confirmed*
*DSN **09** 21:26:23.1±0.5, 31°.51N×49°.52E, h10km, mb5.2/2, ML4.3/8, Error ellipse: s-maj=6.9km s-min=5.2km az=78.0*
*OMAN **09** 21:26:24.9±0.0, 31°.45N×49°.80E, h10km, mb5.0/41, ms4.0/6, Error ellipse: s-maj=0.9km s-min=0.6km az=252.0*
*IDC **09** 21:26:25.0±1.4, 31°.73N×49°.47E, h35km±10km, mb4.4/34, mbtmp4.5/40, ML4.4/7, MS3.9/39, Error ellipse: s-maj=11.1km s-min=9.3km az=156.0*
*NAO **09** 21:26:27.0, 31°.85N×48°.97E, h33km, mb4.5*
ISC 09 21:26:22.7±0.5**, 31°.69N**±0°.03×**49°.47E**±0°.03**, h20**km±2km**, h20**km:**pP-P, n709**, σ1§74/774**, mb4.8**/190**, MS4.0**/47**, 61C-17D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.79	243	Pg	Pn	21 26 39.8	+1.1
ZNGN	Zangian	1.25	70	Pg	Pn	21 26 44.1	-1.3
ABEH	Behbahan	1.28	148	Pg	Pn	21 26 46.4	+0.9
IBRJ	Brojen	1.54	82	Pg	Pn	21 26 49.7	+0.4
KLNJ	Kolanjah	1.94	110	Pn	Pn	21 26 56.8	+1.9
IDOB	Doab	2.35	333	Pn	Pb	21 27 03.2	-1.4
HSAM	Samen	2.62	344	Pn	Pn	21 27 06.7	+2.6
KAZ2	Kazeron-Fars-I	2.81	137	Pn	Pn	21 27 08.3	+1.8
HAGD	Aghdareh	3.13	355	Pn	Pn	21 27 13.5	+2.3
AHBU	AHRAM	3.23	150	Pn	Pn	21 27 14.4	+2.0
KCHF	Cheshme Sefid,	3.29	322	Pn	Pn	21 27 15.8	+2.6
SHI	Shiraz	3.33	127	Pn	Pn	21 27 15.7	+1.9
ILBA	Ilam Banvizeh	3.36	306	Pn	Pn	21 27 16.6	+2.5
SNQR	Sonqor, Kerman	3.51	334	Pn	Pn	21 27 19.3	+2.9
ISFB	Sefidab	3.53	41	Pn	Pn	21 27 18.6	+2.1
IGHG	Ghaleghazi	3.58	318	Pn	Pn	21 27 20.3	+2.9
DSBU	Dashti - Bushe	3.67	154	Pn	Pn	21 27 20.6	+2.2
IRAZ	Razeghan	3.72	6	Pn	Pn	21 27 21.7	+2.4
IVRN	Varamin	3.80	29	Pn	Pn	21 27 22.5	+2.3
HGHA	Hamedan- Ghaye	3.82	352	Pn	Pn	21 27 23.0	+2.4
ANAR	Anarak	3.90	66	Pn	Pn	21 27 23.5	+1.9
IDHR	Dehrash	3.96	320	Pn	Pn	21 27 25.0	+2.5
QABG	Abgarm-Qazvin	4.01	1	Pn	Pn	21 27 25.9	+2.8
IHSB	Hasanabad	4.03	22	Pn	Pn	21 27 25.9	+2.5
IMHD	Mahdasht	4.11	14	Pn	Pn	21 27 26.9	+2.5
KGS1	Ghasr-e-Shirin	4.30	312	Pn	Pn	21 27 29.6	+2.6
TEH	Tehran	4.34	21	Pn	Pn	21 27 30.0	+2.3
IDMV	Damavand	4.42	28	Pn	Pn	21 27 31.0	+2.0
QIR1	Qir	4.46	135	Pn	Pn	21 27 31.1	+1.8
IGZV	Ghazvin	4.72	7	Pn	Pn	21 27 35.1	+2.0
IFIR	Firoozkooh	4.80	34	Pn	Pn	21 27 36.0	+1.9
JIR1	Jirandeh	5.01	3	Pn	Pn	21 27 39.0	+2.0
IALA	Alasht	5.19	31	Pn	Pn	21 27 42.3	+2.8
SDS1	Sardasht. Az.	5.54	324	Pn	Pn	21 27 47.3	+3.1
SAKB	Bahrain	5.77	170	P	Pn	21 27 48.4	+1.2
SAKB				S	Sn	21 28 49.2	-3.7
MAHB	Mahabad	5.94	329	Pn	Pn	21 27 52.5	+2.8
SHMA	Al-Shehemyia	5.96	167	P	Pn	21 27 50.8	+1.0
	SNR=18						
SHMA				S	Sn	21 28 58.0	+0.5
IGLO	Ghaloghah	6.01	36	Pn	Pn	21 27 53.2	+2.5
ZRDN	Zarand Kerman	6.09	95	Pn	Pn	21 27 53.4	+1.6
KHGB	Koh Gabri	6.16	101	Pn	Pn	21 27 54.1	+1.4
TPRV	Parvadeh(Tabas	6.25	76	Pn	Pn	21 27 55.3	+1.4
TNSJ	Nastanj	6.42	67	Pn	Pn	21 27 57.7	+1.4
KRBR	Kerman	6.50	103	Pn	Pn	21 27 58.7	+1.2
NGRK	Negar Kerman	6.58	106	Pn	Pn	21 28 00.7	+2.0
IAZR	Azarshahr	6.62	335	Pn	Pn	21 28 02.0	+2.8
TKDS	Koohdasht(Taba	6.73	71	Pn	Pn	21 28 02.0	+1.4
KRM1	Kerman Provinc	6.80	98	Pn	Pn	21 28 02.6	+1.1
SMRA	Abu-Samra	7.02	170	P	Pn	21 28 04.8	+0.4
SMRA				S	Sn	21 29 21.6	-2.1
TRNA	Turayna	7.10	167	P	Pn	21 28 06.1	+0.6
	SNR=8.2						
TRNA				S	Sn	21 29 24.1	-1.5
CHMN	Cheshme madani	7.18	103	Pn	Pn	21 28 08.6	+1.7
TAPT	Tabas- Tapeh t	7.18	62	Pn	Pn	21 28 07.6	+0.9
GRMI	Germi	7.21	350	Pn	Pn	21 28 09.2	+2.1
JRN	Qarnain Island	7.36	155	P	Pn	21 28 09.5	+0.5
JRN				P	Pn	21 28 09.5	+0.5
JRN				S	Sn	21 29 27.1	-4.8
JRN				S	Sn	21 29 27.1	-4.8
IMND	Minoodasht	7.41	40	Pn	Pn	21 28 11.3	+1.7
IBND	Bandar-abas	7.47	123	Pn	Pn	21 28 12.1	+1.5
SLWR	Sila	7.84	165	P	Pn	21 28 16.1	+0.3
SLWR				S	Sn	21 29 41.1	-2.9
KHNJ	Kahnooj	8.07	115	Pn	Pn	21 28 20.6	+1.8
MRVT	Maraveh tapeh	8.07	41	Pn	Pn	21 28 20.6	+1.7
SHME	Shamm	8.11	132	P	Pn	21 28 19.5	+0.1
	SNR=11						
SHME				S	Sn	21 29 46.8	-3.8
SHME	Shamm	8.11	132	*i*P	Pn	21 28 18.8	-0.6
	SNR=11						
KBAM	BAM	8.17	106	Pn	Pn	21 28 22.1	+1.8
SIRT	Sirnak	8.19	317	Pn	Pn	21 28 20.9	+0.3
UMQ	Umm Al-Quwin	8.21	137	P	Pn	21 28 22.0	+1.3
UMQ				S	Sn	21 29 50.8	-2.1
SBZV	Sabzevar	8.22	53	Pn	Pn	21 28 22.8	+1.7
BSRN	Basiran	8.22	86	Pn	Pn	21 28 22.3	+1.3
AFRZ	Afriz	8.24	75	Pn	Pn	21 28 22.8	+1.5
GHWR	Ruwais	8.27	158	P	Pn	21 28 20.2	-1.3
GHWR				S	Sn	21 29 50.5	-3.9
BANOM	Banah	8.30	132	P	Pn	21 28 22.1	0.0
BANOM	Banah	8.30	132	*i*P	Pn	21 28 21.4	-0.6
	SNR=9.6						
GEVA	Gevas	8.44	323	Pn	Pn	21 28 25.9	+1.9
MAKU	Maku	8.58	334	Pn	Pn	21 28 28.7	+2.8
AJN	Ajban	8.61	144	P	Pn	21 28 27.2	+1.0
AJN				S	Sn	21 29 59.1	-3.7
MASF	Masafi	8.62	135	P	Pn	21 28 26.5	+0.1
MASF				S	Sn	21 29 59.4	-3.7
NAZ	Nazwa, Dubai	8.62	139	P	Pn	21 28 27.5	+1.0
	SNR=19						
NAZ				S	Sn	21 29 58.2	-5.0
NAZ	Nazwa, Dubai	8.62	139	*i*P	Pn	21 28 25.7	-0.8
	SNR=20						
MSFE	Esma-Masafi	8.63	135	P	Pn	21 28 26.5	0.0
ASUD	Al Ashush, Dub	8.73	142	P	Pn	21 28 28.7	+0.8
	SNR=12						
ASUD				S	Sn	21 30 03.2	-2.7
ASUD	Al Ashush, Dub	8.73	142	*i*P	Pn	21 28 28.2	+0.3
	SNR=12						
MDH	Madha	8.76	135	P	Pn	21 28 29.5	+1.3
MDH				S	Sn	21 30 01.1	-5.2
FAQ	Al Faqa, Dubai	8.78	141	P	Pn	21 28 30.0	+1.5
FAQ				S	Sn	21 30 01.9	-5.0
MZWR	Madinat Zayed	8.81	153	P	Pn	21 28 29.4	+0.4
MZWR				P	Pn	21 28 29.4	+0.4
MZWR				S	Sn	21 30 02.9	-4.9
MZWR				S	Sn	21 30 02.9	-4.9
RAYN	Ar Rayn	8.87	204	Pn	Pn	21 28 28.8	-1.0
RAYN	Ar Rayn	8.87	204	P	Pn	21 28 28.8	-1.0
RAYN	Ar Rayn	8.87	204	P	Pn	21 28 29.0	-0.8
UOSS	Minazif	8.97	137	Pn	Pn	21 28 30.2	-0.9
UOSS	Minazif	8.97	137	P	Pn	21 28 32.3	+1.2
UOSS				S	Sn	21 30 04.4	-7.2
	SNR=7.3						
UOSS	Minazif	8.97	137	*i*P	Pn	21 28 30.5	-0.6
	SNR=7.2						
HATD	Hatta, Dubai	9.02	138	P	Pn	21

MMAI Sn **Sn** **21 31 22.4 -2.9**
comp=Z,3.2nm,0.3s,baz=82,slow=32,SNR=2.7
MMAI Lg Lg 21 32 49.1
baz=113,slow=34
MMAI LR LR 21 35 19.6
comp=Z,386nm,18.4s,baz=89,slow=45
comp=Z,0,9nm,0.3s
NGCH Negor - Chabah 12.04 119 P **Pn** **21 29 11.2 -2.0**
SNR=8.8
SRVN Saravan 12.04 108 Pn **Pn** **21 29 15.3 +2.0**
MSBI Mazada 12.05 272 P **Pn** **21 29 15.5 +2.2**
JMDO Jabal Madar 12.05 138 P **Pn** **21 29 12.9 -0.6**
SNR=13
BLGI Bet Lehem HaGe 12.14 279 P **Pn** **21 29 15.5 +1.0**
SALP Salfit 12.14 276 P **Pn** **21 29 16.4 +1.8**
HNTI Hanita 12.16 280 P **Pn** **21 29 15.9 +1.1**
YTIR Yattir 12.25 272 P **Pn** **21 29 18.4 +2.3**
SLTI Sal'it 12.27 276 P **Pn** **21 29 17.2 +0.9**
ZFRI Zfri 12.30 268 P **Pn** **21 29 17.6 +0.9**
OFRI `Ofer 12.31 278 P **Pn** **21 29 18.4 +1.5**
WBK Wadi Bani Khal 12.38 135 P **Pn** **21 29 16.5 -1.4**
SNR=8.6
WBK P **Pn** **21 29 16.5 -1.4**
SNR=8.6
AMAZ Amatzia 12.41 273 P **Pn** **21 29 19.7 +1.4**
PRNI Paran 12.48 268 P **Pn** **21 29 21.4 +2.1**
HRFI Mount Harif 12.51 266 P **Pn** **21 29 21.8 +2.1**
EIL Elat 12.66 265 Pn **Pn** **21 29 21.0 -0.7**
comp=Z,2.3nm,0.3s,baz=69,slow=7.7,SNR=14
EIL Sn **Sn** **21 31 43.2 +1.2**
baz=111,slow=14
EIL Lg Lg 21 33 11.4
baz=78,slow=9.3
EIL Elat 12.66 265 P **Pn** **21 29 23.0 +1.4**
MBRI Mt Berech 12.66 265 P **Pn** **21 29 23.0 +1.2**
NCK Nalchik 12.66 340⇑*e*P **Pn** **21 29 21.7 0.0**
KZIT Kziot 12.91 270 P **Pn** **21 29 26.4 +1.2**
KBZ Khabaz 13.09 339 Pn Pn 21 29 32.4 +5.0
comp=Z,5.7nm,0.9s,baz=147,slow=9.2,SNR=13
KBZ LR LR 21 35 18.0
comp=Z,250nm,21.3s,baz=145,slow=41
SHA1 Shidzhatmaz 13.17 338⇑*e*P **Pn** **21 29 32.0 +3.2**
BNN Bunyan 13.22 306 **Pn** **21 29 30.7 +1.4**
KIV Kislovodsk 13.36 338 Pn **Pn** **21 29 34.2 +3.0**
KIV Kislovodsk 13.36 338 P **P** **21 29 37.4 -3.3**
KIV Kislovodsk 13.36 338 *e*P **Pn** **21 29 33.2 +2.0**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,172nm,13.0s
KIV Kislovodsk 13.36 338 *i* P **P** **21 29 36.8 -3.9**
SNR=10
DOK Doka 13.68 161 P **Pn** **21 29 34.3 -1.4**
SNR=11
DQM DQM 13.78 146 P **Pn** **21 29 35.2 -1.8**
CSS Mathiatis 13.88 288 Pn **Pn** **21 29 40.6 +2.3**
VSLR Vesyoloye 13.91 330*de*P **Pn** **21 29 41.7 +3.0**
VSLR pmax pmax
comp=Z,32nm,1.0s
SOC Sochi 14.15 330 *e*P **Pn** **21 29 42.5 +0.6**
SOC *e* 21 32 22.8
SOC pmax pmax
comp=Z,30nm,0.9s
SOC MLR MLR
comp=Z,351nm,17.0s
GOF Gofitskoye 14.26 341*ce*P **Pn** **21 29 46.4 +3.0**
LABN Labinsk 14.63 335 *e*P **P** **21 29 52.7 -2.0**
LABN pmax pmax
comp=Z,44nm,0.6s
ABTO Aybut 14.69 165 P **Pn** **21 29 46.8 -2.7**
SNR=5.9
RBK Rabkut 14.77 162 P **Pn** **21 29 48.5 -2.0**
SNR=7.3
DMTO DMTO 14.78 159 P **Pn** **21 29 47.9 -2.7**
SNR=29
DIKM Dikmen 15.11 315 P **Pn** **21 29 55.9 +1.0**
comp=Z,29nm,1.2s
BR104 Keskin Array S 15.13 306 P **Pn** **21 29 57.2 +1.8**
comp=Z,362nmcomp=Z,42nm,0.8s
BR131 Keskin Array S 15.14 306⇑*e*P **Pn** **21 29 56.4 +0.9**
BRTR Keskin Array B 15.14 306 Pn **Pn** **21 29 57.2 +1.7**
comp=Z,0.4nm,0.3s,baz=126,slow=12,SNR=20
BRTR ScP **ScP** **21 38 33.9 -1.2**
comp=Z,0.8nm,0.7s,baz=148,slow=3.2,SNR=5.8
BR105 Keskin Array S 15.15 306 P **Pn** **21 29 57.5 +1.8**
comp=Z,338nmcomp=Z,49nm,0.9s
BR106 Keskin Array S 15.16 306 P **Pn** **21 29 57.9 +2.2**
comp=Z,263nmcomp=Z,37nm,0.8s
ERBR Yeremizino-Bor 15.64 336 *e*P **P** **21 30 05.7 -0.2**
ERBR pmax pmax
comp=Z,84nm,0.8s
ERBR MLR MLR
comp=Z,614nm,16.0s
ILGA Ilgaz 15.73 311 **Pn** **21 30 05.6 +2.3**
ILGA IAmb IAmb 21 30 10.9
comp=Z,60nm,1.0s
ANTO Ankara 15.78 306 P **P** **21 30 06.8 -0.9**
ANTO Ankara 15.78 306 P **P** **21 30 06.8 -0.9**
ANTO pmax pmax
comp=Z,16nm,0.7s
ANN Anapa 16.12 328 *e*P **P** **21 30 12.6 +1.4**
ANN pmax pmax
comp=Z,69nm,1.1s
ANN MLR MLR
comp=Z,303nm,12.0s
ISP Isparta 16.72 297 P **P** **21 30 17.6 -0.5**
ISP Isparta 16.72 297 P **P** **21 30 17.6 -0.5**
ISP pmax pmax
comp=Z,38nm,1.0s
ELL Elmali 16.94 293 P **P** **21 30 22.1 +1.7**
ELL IAmb IAmb 21 30 24.9
comp=Z,67nm,0.8s
ELL Elmali 16.94 293 P **P** **21 30 22.2 +1.7**
ELL pmax pmax
comp=Z,67nm,0.8s
AKAS Kas 17.08 291 **Pn** **21 30 21.7 +1.2**
AKAS IAmb IAmb 21 30 26.1
comp=Z,87nm,1.3s
MDUB Mudurnu 17.15 306 **Pn** **21 30 21.9 +0.7**
DZET Dzherino 17.32 60 P **P** **21 30 25.1 +0.4**
DZET pmax pmax
comp=Z,31nm,1.1s
SIMJ Simiganj 17.41 61 **Pn** **21 30 24.5 0.0**
SIMJ IAmb IAmb 21 30 27.9
comp=Z,77nm,1.1s
BORA Eskisehir 17.43 303 **Pn** **21 30 25.0 +0.2**
CHGR Chuyangaron 17.52 61 **Pn** **21 30 25.5 -0.3**
CHGR Chuyangaron 17.52 61 P **Pn** **21 30 25.5 -0.3**
CHGR pmax pmax
comp=Z,131nm,0.8s
SIM Simferopol' 17.85 322 *e*P **P** **21 30 32.5 +2.1**
SIM *e*S **Sn** **21 33 46.2 -2.1**
SIM smax smax
comp=N,48nm,13.3s
ARG Arkhangelos 18.26 290 **Pn** **21 30 34.7 -0.2**
ARG IAmb IAmb 21 30 41.3
comp=Z,166nm,1.6s
ARG Arkhangelos 18.26 290 P **Pn** **21 30 34.7 -0.2**
ARG pmax pmax
comp=Z,166nm,1.6s
MANT Manisa 18.39 297 P **Pn** **21 30 38.4 +1.7**
GAR Garm 18.48 61 P **P** **21 30 36.9 -0.7**
KARP Karpathos 18.96 288 P **Pn** **21 30 44.3 +0.8**
KARP Karpathos 18.96 288 P **Pn** **21 30 45.1 +1.6**
comp=Z,116nm,0.8s
BTK Batken 19.18 58 P **P** **21 30 45.1 -0.1**
BTK Batken 19.18 58 P **P** **21 30 45.1 -0.1**
BTK pmax pmax
comp=Z,63nm,1.5s
ABKAR Akbulak array 19.23 21 P **P** **21 30 45.8 +0.3**
BRLS Borolday 19.70 49 *e*P **P** **21 30 48.2 -2.6**
BRLS pmax pmax
comp=Z,19nm,1.4s
DRK Karamyk 19.72 61 P **P** **21 30 51.9 +0.6**
DRK Karamyk 19.72 61 P **P** **21 30 51.9 +0.6**
DRK pmax pmax
comp=Z,13nm,0.6s
AKTO Aktyubinsk 19.78 16 P **P** **21 30 52.0 +0.5**
comp=Z,7.1nm,0.3s,baz=201,slow=7.7,SNR=50
AKTO ScP **ScP** **21 38 42.0 -2.3**
comp=Z,5.7nm,0.9s,baz=201,slow=3.0,SNR=10
comp=Z,19nm,0.4s
AKTO Aktyubinsk 19.78 16 P **P** **21 30 52.0 +0.5**
NIL Nilore 20.11 78 P **P** **21 30 55.2 -0.1**
NIL IAmb IAmb 21 30 58.5
comp=Z,49nm,0.8s
NIL Nilore 20.11 78 P **P** **21 30 56.4 +1.1**
NIL Nilore 20.11 78 P **P** **21 30 55.2 -0.1**
NIL pmax pmax
comp=Z,49nm,0.8s
KKAR Karatay Array 20.17 50 P **P** **21 30 55.3 -0.6**
KKAR Karatay Array 20.17 50 P **P** **21 30 55.3 -0.6**
KKAR pmax pmax
comp=Z,11nm,0.9s
VRH Novokhopyorsk 20.32 346 *e*P **P** **21 30 57.6 +0.3**
VRH S **S** **21 34 40.4 -3.7**
VRH pmax pmax
comp=Z,93nm,0.6s
EZN Ezine 20.42 300 P P 21 30 51.2 -7.4
EZN Ezine 20.42 300 P **P** **21 30 59.2 +0.6**
comp=Z,874nmcomp=Z,20nm,1.0s
EFOR EFORIE 20.51 313⇑P **P** **21 31 00.6 +1.1**
VORD Divnogorie 20.68 342 *e*P **P** **21 30 59.5 -1.8**
VORD *e*S **S** **21 34 50.9 -0.4**
VORD pmax pmax
comp=Z,60nm,1.0s
VORD smax smax
comp=N,110nm,0.8s
MFTR Murfatlar 20.69 313⇑P **P** **21 31 03.0 +1.6**
JURR Jurilovca 20.71 315⇑P **P** **21 31 02.7 +1.0**
BELG Belogornoye 20.73 357 P **P** **21 31 01.7 -0.1**
comp=N,192nm,0.8s,baz=190,slow=6.1,SNR=93
BELG LR LR 21 42 11.8
comp=N,164nm,20.9s,baz=181,slow=46
IDI Anoyia 20.80 287 P **P** **21 31 04.0 +1.2**
IDI Anoyia 20.80 287 P **P** **21 31 04.2 +1.5**
comp=N,52nm,0.8s,baz=86,slow=21,SNR=20
IDI LR LR 21 42 18.3
comp=N,101nm,21.6s,baz=114,slow=46
comp=N,52nm,0.8s
TIRR Tirgusor 20.84 314 P **P** **21 31 04.0 +1.0**
TIRR IAmb IAmb 21 31 12.7
comp=Z,53nm,0.8s
TIRR Tirgusor 20.84 314⇓P Pn 21 31 05.1 -0.4
TIRR Tirgusor 20.84 314 P **P** **21 31 04.0 +1.0**
TIRR pmax pmax
comp=Z,53nm,0.8s
TIRR Tirgusor 20.84 314 P **P** **21 31 04.7 +1.7**
comp=Z,74nm,0.8s
VSR Storozhevoye 20.94 342 *e*P **P** **21 31 01.7 -2.4**
VSR *e*S **S** **21 34 54.9 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR smax smax
comp=E,80nm,0.9s
ALN Alexandroupoli 20.94 303 P **P** **21 31 04.8 +0.6**
ALN IAmb IAmb 21 31 16.6
comp=Z,52nm,0.9s
ALN Alexandroupoli 20.94 303 P **P** **21 31 04.9 +0.6**
ALN pmax pmax
comp=Z,52nm,0.9s
TLCR 20.97 316⇑P **P** **21 31 05.3 +0.8**
TLCR 20.97 316 P **P** **21 31 05.3 +0.8**
TPGR Topolog 21.04 315⇓P **P** **21 31 06.3 +1.1**
ICOR Ion Corvin 21.05 312⇑P **P** **21 31 07.1 +1.8**
PURM Purcari 21.15 320⇑P **P** **21 31 06.6 +0.3**
PURM Purcari 21.15 320 P **P** **21 31 07.0 +0.7**
comp=Z,173nm,0.8s
HARR Harsova 21.25 314⇑P **P** **21 31 09.2 +1.7**
HARR Harsova 21.25 314 P **P** **21 31 09.2 +1.7**
VORR Voronezh 21.34 342 P **P** **21 31 08.2 -0.2**
VORR S **S** **21 34 58.7 -5.7**
VORR pmax pmax
comp=Z,94nm,0.4s
CFR Carcaliu 21.38 315⇓P **P** **21 31 09.7 +0.9**
CFR Carcaliu 21.38 315 P **P** **21 31 09.7 +0.9**
RDO Rodhopi 21.39 303 P **P** **21 31 10.3 +1.3**
RDO IAmb IAmb 21 31 23.8
comp=Z,36nm,0.8s
VLDR Vladesti 21.77 317⇑P **P** **21 31 14.3 +1.3**
AML Almayashu 21.93 55 P **P** **21 31 15.9 +0.7**
SNR=62
MILM Milestii Mici 21.96 320 *e*P **P** **21 31 16.9 +1.8**
comp=Z,20nm,0.6s
MILM Milestii Mici 21.96 320⇑P **P** **21 31 17.0 +1.8**
MILM Milestii Mici 21.96 320 *e*P **P** **21 31 16.9 +1.8**
MILM pmax pmax
comp=Z,20nm,0.6s
EKS2 Erkin-Say 22.17 54 P **P** **21 31 18.1 +0.5**
SNR=12
LPSR Galich'ya Gora 22.26 343 *e*P **P** **21 31 17.8 -0.5**
LPSR S **S** **21 35 16.3 -5.9**
LPSR pmax pmax
comp=Z,83nm,0.7s
SGRR Singureni 22.26 311⇓P **P** **21 31 20.4 +2.0**
GHRR 22.28 316⇑P **P** **21 31 19.9 +1.4**
GHRR 22.28 316 P **P** **21 31 20.1 +1.6**
SULR 22.29 312⇑P **P** **21 31 19.9 +1.2**
ISR Istrita 22.32 313⇑P **P** **21 31 21.3 +2.2**
ISR Istrita 22.32 313 P **P** **21 31 21.2 +2.2**
ISR Istrita 22.32 313 P **P** **21 31 20.9 +1.8**
comp=Z,121nm,0.9s
ODBI Odobesti 22.33 315⇑P **P** **21 31 21.0 +1.9**
ODBI Odobesti 22.33 315 P **P** **21 31 21.2 +2.1**
comp=Z,346nmcomp=Z,40nm,0.9s
PANC Panciu 22.33 316⇑P **P** **21 31 20.9 +1.8**
BISRR Bisoca 22.43 315 P **P** **21 31 22.9 +2.7**
comp=Z,107nm,0.8s
VRI Vrincioaia 22.58 315⇓P **P** **21 31 23.0 +1.2**
VRI Vrincioaia 22.58 315 P **P** **21 31 22.9 +1.2**
VRI Vrincioaia 22.58 315 P **P** **21 31 23.5 +1.7**
comp=Z,36nm,1.0s
PLOR5 Plostina Array 22.61 315 P **P** **21 31 24.9 +2.8**
comp=Z,38nm,0.9s
PLOR Plostina 22.62 315⇑P **P** **21 31 24.1 +1.8**
PLOR Plostina 22.62 315 P **P** **21 31 24.0 +1.8**
NEHR Nehoiu 22.62 314⇓P **P** **21 31 24.5 +2.2**
PLOR3 Plostina Array 22.62 315 P **P** **21 31 24.0 +1.7**
comp=Z,27nm,1.0s
AAK Ala-Archa 22.66 54 P **P** **21 31 23.2 +0.3**
AAK Ala-Archa 22.66 54 P **P** **21 31 23.8 +1.0**
comp=Z,5.4nm,0.6s,baz=250,slow=9.7,SNR=28
AAK LR LR 21 41 34.9
comp=Z,425nm,21.8s,baz=262,slow=40
comp=Z,5.4nm,0.6s
AAK Ala-Archa 22.66 54 P **P** **21 31 24.7 +1.9**
AAK Ala-Archa 22.66 54 P **P** **21 31 23.9 +1.0**
SNR=8.9
AAK Ala-Archa 22.66 54*ce*P **P** **21 31 23.3 +0.5**
AAK pmax pmax
comp=Z,25nm,2.5s
AAK Ala-Archa 22.66 54 *i* P **P** **21 31 23.9 +1.0**
SNR=17
FRU1 Bishkek 22.81 54 P **P** **21 31 24.0 -0.3**
FRU1 Bishkek 22.81 54 P **P** **21 31 24.0 -0.3**
FRU1 pmax pmax
comp=Z,18nm,0.9s
KSH Kashi 22.86 63 P **P** **21 31 21.8 -3.2**
KSH pP pP 21 31 26.0 -4.8
KSH pmax pmax
comp=Z,37nm,0.9s
KSH LR LR
comp=Z,580nm,10.6s
KSH LR LR
comp=Z,990nm,16.8s
KSH LR LR
comp=Z,1μm,17.9s
MLR Muntele Rosu 22.87 314 P **P** **21 31 27.1 +2.1**
MLR IAmb IAmb 21 31 36.6
comp=Z,32nm,1.0s
MLR Muntele Rosu 22.87 314 ScP **ScP** **21 38 51.2 -1.0**
comp=Z,2.7nm,0.9s,baz=39,slow=6.7,SNR=4.6
MLR LR LR 21 42 56.1
comp=Z,199nm,18.6s,baz=123,slow=43
MLR Muntele Rosu 22.87 314⇑P **P** **21 31 27.0 +2.0**
MLR Muntele Rosu 22.87 314 P **P** **21 31 27.1 +2.1**
MLR pmax pmax
comp=Z,33nm,1.0s
MLR Muntele Rosu 22.87 314 P **P** **21 31 26.9 +2.0**
comp=Z,37nm,0.9s
COVR Voineasa-Covas 22.88 315⇑P **P** **21 31 26.6 +1.5**
USP Ospenovka 22.89 53 P **P** **21 31 25.7 +0.6**
SNR=12
SORM Soroca 22.95 322 P **P** **21 31 24.2 -1.4**
comp=Z,49nm,0.7s
CHMS Chumysh 22.96 53 P **P** **21 31 27.2 +1.4**
SNR=16
TESR Tescani 22.96 317⇑P **P** **21 31 26.3 +0.4**
TESR Tescani 22.96 317 P **P** **21 31 26.2 +0.4**
comp=Z,34nm,1.2s
KBK Karagaybulak 22.98 54 P **P** **21 31 28.7 +2.5**
SNR=19
ONER Baraj Valea Uz 23.02 316⇑P **P** **21 31 28.2 +1.8**
OZUR 23.26 315⇓P **P** **21 31 31.2 +2.3**
MTUR Matau 23.29 312⇑P **P** **21 31 30.7 +1.4**
MTUR Matau 23.29 312 P **P** **21 31 30.6 +1.4**
BTLS Baital 23.32 48 *e*P **P** **21 31 29.0 -0.4**
BTLS pmax pmax
comp=Z,17nm,0.7s
ITM Ithomi 23.32 291 P **P** **21 31 29.9 +0.3**
LIT Litokhoron 23.34 299 P **P** **21 31 30.0 +0.3**
LIT Litokhoron 23.34 299 P **P** **21 31 30.0 +0.3**
LIT pmax pmax
comp=Z,26nm,1.2s
VOIR 23.40 313⇑P **P** **21 31 32.1 +1.8**
VOIR 23.40 313 P **P** **21 31 32.1 +1.8**
VOIR 23.40 313 P **P** **21 31 32.1 +1.8**
comp=Z,55nm,0.8s
DOPR Dopca 23.44 314⇑P **P** **21 31 32.1 +1.4**
TKM2 Tokmak 2 23.52 54 P **P** **21 31 32.8 +1.1**
SNR=41
ARR Arges 23.63 312⇑P **P** **21 31 34.1 +1.5**
PRAR RASCA 23.66 318⇑P **P** **21 31 33.5 +0.7**
ULHL Ulahol 23.75 56 P **P** **21 31 35.6 +1.7**
SNR=12
AK07 Malin Array Si 24.11 327 P **P** **21 31 36.7 -0.2**
AK10 Malin Array Si 24.12 327 P **P** **21 31 36.8 -0.3**
AK10 pP **pP** **21 31 40.6 -2.5**
AK06 Malin Array Si 24.14 327 P **P** **21 31 37.1 -0.1**
MDB Medias 24.14 314⇑P **P** **21 31 39.8 +2.4**
MDB Medias 24.14 314 P **P** **21 31 39.7 +2.4**
AK02 Malin Array Si 24.18 327 P **P** **21 31 37.4 -0.2**
AK12 Malin Array Si 24.20 327 P **P** **21 31 37.4 -0.3**
AK01 Malin Array Si 24.20 328 P **P** **21 31 37.6 -0.2**
AKASG Malin Array Be 24.20 328 P **P** **21 31 37.6 -0.2**
comp=Z,6.3nm,0.4s,baz=136,slow=9.2,SNR=128
AKASG ScP **ScP** **21 38 53.4 -2.1**
comp=Z,1.4nm,0.6s,baz=101,slow=2.3,SNR=6.2
comp=Z,6.3nm,0.4s
AKBB Malin Array Si 24.20 328*de*P **P** **21 31 38.0 +0.2**
AKBB Malin Array Si 24.20 328 P **P** **21 31 37.7 -0.1**
KIEV Kiev 24.21 328 P **P** **21 31 37.9 +0.1**
KIEV IAmb IAmb 21 31 47.5
comp=Z,20nm,0.7s
KIEV Kiev 24.21 328 P **P** **21 31 37.9 +0.1**
KIEV pmax pmax
comp=Z,20nm,0.7s
AK14 Malin Array Si 24.21 327 P **P** **21 31 37.5 -0.4**
LOT Lotru 24.21 312⇑P **P** **21 31 39.4 +1.3**
KMPD K-Podol'skiy 24.21 321 P **P** **21 31 37.3 -0.6**
comp=Z,8μm,0.8s
AK03 Malin Array Si 24.22 328 P **P** **21 31 37.8 -0.2**
AK18 Malin Array Si 24.29 327 P **P** **21 31 38.4 -0.2**
AK22 Malin Array Si 24.32 327 P **P** **21 31 38.5 -0.3**
FNA Florina 24.32 300 P **P** **21 31 40.9 +1.8**
FNA IAmb IAmb 21 31 53.4
comp=Z,20nm,0.7s
FNA Florina 24.32 300 P **P** **21 31 40.9 +1.8**
FNA pmax pmax
comp=Z,20nm,0.7s
BURAR Bucovina Array 24.38 318⇑P **P** **21 31 41.0 +1.4**
BURAR Bucovina Array 24.38 318 P **P** **21 31 41.0 +1.4**
LUBAR Lubar, Ukraine 24.38 325 P **P** **21 31 39.0 -0.4**
KDJ Kajisay 24.39 57 P **P** **21 31 40.6 +0.8**
KDJ IAmb IAmb 21 31 42.4
comp=Z,14nm,0.6s
KDJ Kajisay 24.39 57 P **P** **21 31 40.6 +0.8**
KDJ pmax pmax
comp=Z,14nm,0.6s
ARCR ARCALIA 24.61 316⇑P **P** **21 31 43.5 +1.9**
KBN Korca 24.73 299 P **P** **21 31 43.6 +0.8**
KBN Korca 24.73 299 P **P** **21 31 43.6 +0.8**
KBN pmax pmax
comp=Z,47nm,0.9s
TARG Taragay, Kyrgy 24.73 58 P **P** **21 31 43.6 +0.4**
TARG IAmb IAmb 21 31 46.8
comp=Z,22nm,1.0s
TARG Taragay, Kyrgy 24.73 58 P **P** **21 31 43.6 +0.4**
TARG pmax pmax
comp=Z,22nm,1.0s
GZR Gura Zlata 24.82 311⇑P **P** **21 31 45.1 +1.5**
GZR Gura Zlata 24.82 311 P **P** **21 31 45.0 +1.5**
HERR Herculane 24.85 310⇑P **P** **21 31 45.8 +2.1**
BOVS Bovan 24.88 307⇑P **P** **21 31 44.9 +0.9**
CJR Cluj-Napoca 24.89 314⇑P **P** **21 31 46.2 +2.0**
CJR Cluj-Napoca 24.89 314 P **P** **21 31 46.1 +2.0**
CBBR Cluj-Babes-Bol 24.94 315⇑P **P** **21 31 46.8 +2.2**
OBN Obninsk 25.13 342 P **P** **21 31 45.8 -0.4**
OBN Obninsk 25.13 342 LR LR 21 43 11.0
comp=Z,297nm,18.2s,slow=40
OBN Obninsk 25.13 342⇑P **P** **21 31 46.7 +0.6**
OBN Obninsk 25.13 342*c i*P **P** **21 31 46.4 +0.2**
OBN *e* 21 32 21.3
OBN pmax pmax
comp=Z,26nm,0.6s
OBN MLR MLR
comp=Z,220nm,16.0s
MARR Marisel-Cluj 25.16 314⇑P **P** **21 31 48.5 +1.8**
BRZS Berezniki 25.17 37 *e*P **P** **21 31 47.3 +0.7**
MDVR Moldovita 25.28 309⇑P **P** **21 31 49.5 +1.8**
PRZ Przheval'sk 25.35 57 P **P** **21 31 49.3 +0.7**
PRZ IAmb IAmb 21 31 51.0
comp=Z,22nm,0.7s
PRZ Przheval'sk 25.35 57 P **P** **21 31 49.3 +0.7**
PRZ pmax pmax
comp=Z,22nm,0.7s
SURR Surduc 25.39 311⇑P **P** **21 31 49.8 +1.2**
BMR Baia Mare 25.41 316⇓P **P** **21 31 50.5 +1.7**
BMR Baia Mare 25.41 316 P **P** **21 31 50.4 +1.7**
MOS Moscow 25.44 344 *e*P **P** **21 31 48.5 -0.5**
MOS *e*S **S** **21 36 10.8 -4.0**
MOS *e* 21 42 44.2
MOS pmax pmax
comp=Z,63nm,1.2s
ARTI Arti 25.46 12 P **P** **21 31 49.4 +0.2**
ARTI IAmb IAmb 21 31 52.2
comp=Z,26nm,0.7s
ARTI Arti 25.46 12 P **P** **21 31 49.5 +0.2**
comp=Z,21nm,0.6s,baz=201,slow=9.4,SNR=44
ARTI ScP **ScP** **21 38 56.6 -2.3**
comp=Z,1.7nm,0.5s,baz=197,slow=3.5,SNR=4.5
ARTI LR LR 21 44 15.0
comp=Z,144nm,18.3s,baz=184,slow=42
comp=Z,21nm,0.6s
ARTI Arti 25.46 12*c i*P **P** **21 31 49.4 +0.2**
ARTI 21 32 26.5
ARTI S **S** **21 36 19.3 +4.2**
ARTI SS **SnSn** **21 37 11.7 +3.5**
ARTI pmax pmax
comp=Z,26nm,0.7s
DRGR 25.46 314⇓P **P** **21 31 51.3 +1.9**
DRGR 25.46 314 P **P** **21 31 51.3 +1.9**
TIR Tirane 25.56 300 P **P** **21 31 50.9 +0.6**
TIR Tirane 25.56 300 P **P** **21 31 50.9 +0.6**
TIR pmax pmax
comp=Z,54nm,0.7s
ZHN Zhinishke 25.57 55 *e*P **P** **21 31 50.4 -0.1**
ZHN pmax pmax
comp=Z,14nm,0.6s
WUS Wushi 25.64 60 P **P** **21 31 51.2 0.0**
BZS Buzias 25.66 311⇑P **P** **21 31 52.0 +0.9**
BZS Buzias 25.66 311 P **P** **21 31 51.9 +0.9**
PUK Puka 25.70 302 P **P** **21 31 52.9 +1.3**
PUK IAmb IAmb 21 32 02.3
comp=Z,22nm,0.6s
KPKS Kokpek 25.83 55 *e*P **P** **21 31 52.8 0.0**
KPKS pmax pmax
comp=Z,16nm,1.1s
SIRR Siria 25.89 312⇑P **P** **21 31 55.4 +2.2**
SJES Sjenica 25.97 305 *e*P **P** **21 31 55.5 +1.5**
BRVK Borovoye 26.13 29 P **P** **21 31 54.9 -0.4**
BRVK IAmb IAmb 21 32 05.3
comp=Z,18nm,1.1s
BRVK Borovoye 26.13 29 P **P** **21 31 56.7 +1.4**
BRVK P **P** **21 31 56.7 +1.4**
BRVK Borovoye 26.13 29*ce*P **P** **21 31 55.8 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.0s
RNPP5 Staryi Chortor 26.13 325 P **P** **21 31 55.8 +0.5**
BVAR Borovoye Array 26.15 29 P **P** **21 31 56.1 +0.6**
comp=Z,9.2nm,0.5s,baz=231,slow=7.2,SNR=67
BVAR PcP **PcP** **21 35 22.1 -0.2**
comp=Z,1.9nm,0.7s,baz=219,slow=1.8,SNR=2.8

BVAR ScP **ScP** **21 38 58.7 -2.2**
comp=Z,1.8nm,0.6s,baz=210,slow=1.8,SNR=8.1
BVAR LR LR 21 44 14.1
comp=Z,299nm,18.2s,baz=244,slow=41
comp=Z,9.2nm,0.5s
RNPP8 Varash 26.22 325 P **P** **21 31 56.5 +0.4**
RNPP9 Sopachiv 26.25 325 P **P** **21 31 56.8 +0.5**
DRME Dracevica, Mon 26.25 302 *eP* **P** **21 31 57.0 +0.5**
PDG Podgorica 26.26 303 P **P** **21 31 57.5 +1.0**
PDG Podgorica 26.26 303 *eP* **P** **21 31 53.6 -2.9**
PDG Podgorica 26.26 303 ⇑P **P** **21 31 58.2 +1.7**
SHLS Shalkode 26.29 56 *eP* **P** **21 31 59.6 +2.6**
SHLS pmax pmax
comp=Z,54nm,3.9s
SVE Sverdlovsk 26.30 14 *eP* **P** **21 31 57.6 +0.8**
SVE pmax pmax
comp=Z,30nm,1.3s
RUDO Rudo 26.49 305 *eP* **P** **21 31 59.7 +1.0**
BBLS Lazi&#263i 26.54 306 *eP* **P** **21 32 00.3 +1.1**
FRGS Fruska Gora 26.67 309 *eP* **P** **21 32 06.5 +6.2**
UPM Unac-Piva 26.70 304 *eP* **P** **21 32 03.7 +2.9**
KOLS Kolonicke sedl 26.74 318 *eP* **P** **21 32 03.1 +2.2**
KOLS pmax pmax
comp=Z,18nm,0.9s
KOLS Kolonicke sedl 26.74 318 *eP* **P** **21 32 03.1 +2.2**
HCY Herceg Novi 26.81 302 *eP* **P** **21 32 01.7 +0.2**
BRY Bratogost 26.88 303 *eP* **P** **21 32 02.2 -0.2**
KIRV Kirov 26.89 360 P **P** **21 32 02.5 +0.4**
comp=Z,29nm,0.8s,baz=196,slow=5.5,SNR=13
KIRV LR LR 21 45 15.6
comp=Z,227nm,20.1s,baz=188,slow=42
comp=Z,29nm,0.8s
KIRV Kirov 26.89 360 *c iP* **P** **21 32 02.0 0.0**
HAPS Han Pijesak,BI 26.91 306 *eP* **P** **21 32 03.4 +0.8**
STON Ston 27.48 303 *eP* **P** **21 32 10.5 +3.0**
MNK Minsk 27.50 332 *i P* **P** **21 32 06.8 -0.8**
comp=E,17nm,0.8s
MNK *i* P **P** **21 32 06.8 -0.8**
comp=N,20nm,0.8s
MNK *i* P **P** **21 32 06.8 -0.8**
comp=Z,26nm,0.9s,baz=136
MNK *i* PP **PnPn** **21 32 51.6 -0.9**
MNK *i* PPP PPP 21 32 59.7
MNK *i* S **S** **21 36 48.9 +1.5**
MNK *i* SS SnSn 21 38 15.2 +17
MNK *i* LQ LQ 21 40 42.5
MNK *i* LR LR 21 42 31.9
MNK *i* LRM MLR 21 44 07.7
comp=N,271nm,16.1s
MNK *i* LRM MLR 21 44 09.6
comp=E,307nm,17.3s
MNK *i* LRM MLR 21 44 11.9
comp=Z,182nm,15.2s
MNK Minsk 27.50 332 *i P* **P** **21 32 06.7 -0.8**
MNK *i* PPP PPP 21 32 59.7
MNK *i* 21 35 24.3
MNK *i* S **S** **21 36 48.8 +1.5**
MNK pmax pmax
comp=N,20nm,0.8s
MNK pmax pmax
comp=E,17nm,0.8s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK MLR MLR
comp=N,271nm,16.0s
MNK MLR MLR
comp=E,307nm,17.0s
MNK MLR MLR
comp=Z,182nm,15.0s
TIP Timpagrande 27.57 295 P **P** **21 32 09.4 +0.9**
TIP IAmb IAmb 21 32 25.0
comp=Z,15nm,0.8s
TIP Timpagrande 27.57 295 ⇑P **P** **21 32 10.3 +1.8**
PSZ Piszkesteto 27.68 314 P **P** **21 32 09.4 0.0**
PSZ Piszkesteto 27.68 314 P **P** **21 32 09.4 0.0**
PSZ pmax pmax
comp=Z,11nm,0.9s
MATE Matera 27.79 298 ⇓P **P** **21 32 12.1 +1.8**
MORH Mrgy, Hungar 27.81 310 ⇑P **P** **21 32 11.9 +1.5**
MORH Mrgy, Hungar 27.81 310 P **P** **21 32 11.5 +1.1**
comp=Z,13nm,1.1s
NIE Niedzica 28.11 318 *eP* P 21 32 30.9 +18
CEL Celeste 28.17 293 P **P** **21 32 15.2 +1.3**
CEL IAmb IAmb 21 32 39.7
comp=Z,15nm,0.8s
NACGM Naroch 28.23 332 *eP* **P** **21 32 14.2 +0.1**
baz=136
BLY Banja Luka 28.32 307 *eP* **P** **21 32 13.4 -1.6**
CUC Castrocucco 28.38 296 P **P** **21 32 17.3 +1.6**
LANS Liptovska Anna 28.47 316 *eP* **P** **21 32 17.7 +1.3**
LANS pmax pmax
comp=Z,2.0nm,0.6s
LANS Liptovska Anna 28.47 316 *eP* **P** **21 32 17.7 +1.3**
VYHS Vyhne 28.56 315 *eP* **P** **21 32 18.4 +1.2**
VYHS pmax pmax
comp=Z,52nm,2.5s
VYHS Vyhne 28.56 315 *eP* **P** **21 32 18.4 +1.2**
A051A Mrakovica 28.58 307 *eP* **P** **21 32 16.1 -1.3**
KURBB Kurchatov Arra 28.64 40 P **P** **21 32 18.4 +0.6**
comp=Z,6.8nm,0.9s,baz=242,slow=9.5,SNR=25
KURBB PcP **PcP** **21 35 27.6 -0.6**
comp=Z,1.1nm,0.8s,baz=237,slow=2.1,SNR=3.7
KURBB ScP **ScP** **21 39 06.3 -2.2**
comp=Z,2.1nm,0.9s,baz=234,slow=3.7,SNR=10
KURBB LR LR 21 45 15.7
comp=Z,340nm,19.3s,baz=168,slow=40
comp=Z,6.8nm,0.9s
A050A Klekovaca 28.69 306 *eP* P 21 32 12.4 -6.1
KURK Kurchatov 28.74 40 P **P** **21 32 18.6 -0.1**
KURK IAmb IAmb 21 32 20.7
comp=Z,16nm,1.1s
KURK Kurchatov 28.74 40 P **P** **21 32 20.0 +1.4**
KURK P **P** **21 32 20.0 +1.4**
KURK Kurchatov 28.74 40 *ceP* **P** **21 32 19.4 +0.8**
KURK pmax pmax
comp=Z,18nm,1.3s
IIGN Ignalina 28.78 332 *eP* **P** **21 32 20.4 +1.4**
OJC Ojcow 28.78 319 *eP* **P** **21 32 19.9 +0.9**
OJC Ojcow 28.78 319 P **P** **21 32 19.4 +0.3**
OJC Ojcow 28.78 319 P **P** **21 32 19.4 +0.3**
OJC pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 28.78 319 P **P** **21 32 20.1 +1.0**
comp=Z,12nm,1.2s
MPLH Magyarpolny 28.86 312 P **P** **21 32 21.0 +1.2**
comp=Z,44nm,1.1s
MAKZ Makanchi 29.10 49 P **P** **21 32 22.1 +0.1**
MAKZ Makanchi 29.10 49 P **P** **21 32 22.1 +0.1**
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
SUW Suwalki 29.18 328 *eP* **P** **21 32 23.5 +1.0**
MK31 Makanchi Array 29.30 50 P **P** **21 32 23.8 0.0**
MK31 Makanchi Array 29.30 50 P **P** **21 32 23.8 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 29.30 50 P **P** **21 32 24.3 +0.5**
comp=Z,4.0nm,0.7s,baz=243,slow=8.4,SNR=42
MKAR PcP **PcP** **21 35 29.8 -0.3**
comp=Z,0.6nm,0.6s,baz=249,slow=4.0,SNR=2.1
MKAR LR LR 21 46 16.9
comp=Z,333nm,18.0s,baz=246,slow=41
comp=Z,4.0nm,0.7s
JAVC Velka Javorina 29.42 315 *eP* **P** **21 32 27.0 +2.2**
CRES Cresnjevec Ost 29.79 308 *eP* **P** **21 32 27.4 -0.7**
PABE Paberze 29.81 330 P **P** **21 32 28.1 +0.1**
PABE Paberze 29.81 330 *eP* **P** **21 32 28.4 +0.4**
STEB Steborice 29.81 317 *eP* **P** **21 32 29.0 +0.8**
RONA Rosalia, Austr 29.83 312 *eP* **P** **21 32 29.6 +1.1**
comp=Z,8.1nm,1.0s
BOJS Bojanci 29.84 307 *i P* **P** **21 32 29.8 +1.3**
BOJS Bojanci 29.84 307 *eP* **P** **21 32 28.9 +0.4**
MORC Moravsky Berou 29.88 317 P **P** **21 32 29.1 +0.3**
MORC Moravsky Berou 29.88 317 *eP* **P** **21 32 29.6 +0.7**
MORC Moravsky Berou 29.88 317 P **P** **21 32 29.1 +0.3**
MORC pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 29.90 350 *eP* **P** **21 32 27.1 -1.7**
KLMR pmax pmax
comp=Z,27nm,1.4s
ARSA Arzberg 30.18 311 *eP* **P** **21 32 32.5 +1.0**
comp=Z,7.4nm,1.0s
CONA Conrad Observa 30.19 312 *eP* **P** **21 32 32.6 +1.0**
comp=Z,4.8nm,0.7s
VRAC Vranov 30.25 315 LR LR 21 47 11.5
comp=Z,88nm,19.2s,baz=106,slow=41
VRAC Vranov 30.25 315 *eP* **P** **21 32 33.1 +1.0**
KRUC Moravsky 30.27 315 *eP* **P** **21 32 32.9 +0.6**
SOKA Soboth 30.32 310 *eP* **P** **21 32 34.0 +1.1**
comp=Z,7.4nm,0.9s
KRLC Kraliky 30.45 317 *eP* **P** **21 32 34.6 +0.7**
KRLC Kraliky 30.45 317 *eP* **P** **21 32 34.6 +0.7**
CEY Cerknica 30.46 308 *eP* **P** **21 32 34.9 +0.8**
CAMP Campotosto 30.51 301 P **P** **21 32 35.6 +1.0**
CAMP IAmb IAmb 21 32 40.9
comp=Z,14nm,1.0s
OBKA Obir 30.59 309 *eP* **P** **21 32 36.4 +1.2**
comp=Z,6.8nm,0.9s
OBKA Obir 30.59 309 *eP* **P** **21 32 35.2 -0.1**
CRNS Crni Vrh 30.66 308 *i P* **P** **21 32 37.5 +1.6**
SKDS Skadanscina 30.69 307 *eP* **P** 21 32 31.7 -4.4
JAVS Javornik 30.75 308 *i P* **P** **21 32 37.7 +1.1**
NRCA Norcia 30.77 302 P **P** **21 32 38.0 +1.0**
NRCA IAmb IAmb 21 32 51.9
comp=Z,9.5nm,0.7s
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 32 37.7 +0.4**
DPC Dobruska-Polom 30.83 317 *eP* **P** **21 32 37.7 +0.4**
VSU Vasula 30.91 337 *ceP* **P** **21 32 36.9 -0.8**
VSU pmax pmax
comp=Z,71nm,2.5s
VSU Vasula 30.91 337 *eP* **P** **21 32 36.5 -1.2**
SABO M.te Sabotino 31.08 308 P **P** **21 32 39.8 +0.2**
SABO IAmb IAmb 21 32 47.4
comp=Z,18nm,0.9s
CHVC Chvalec 31.09 317 *eP* **P** **21 32 39.9 +0.4**
CHVC Chvalec 31.09 317 *eP* **P** **21 32 39.9 +0.4**
LODK Lodwar 31.10 208 P **P** **21 32 40.2 +0.2**
LODK Lodwar 31.10 208 P **P** **21 32 42.6 +2.6**
CESX Cesi 31.13 301 P **P** **21 32 40.5 +0.5**
CESX IAmb IAmb 21 32 55.4
comp=Z,8.6nm,0.8s
MOA Molln 31.17 311 *eP* **P** **21 32 41.4 +1.1**
comp=Z,19nm,0.8s
CKRC Cesky Krumlov 31.46 313 *eP* **P** **21 32 42.9 0.0**
CKRC Cesky Krumlov 31.46 313 *eP* **P** **21 32 42.9 0.0**
BIOA Bad Ischl, Aus 31.53 311 *i P* **P** **21 32 44.5 +1.0**
comp=Z,30nm,0.9s
KBA Koelnbreinsper 31.54 310 *eP* **P** **21 32 44.9 +1.2**
comp=Z,33nm,0.7s
ZVC Zvikov 31.75 314 *eP* **P** **21 32 46.2 +0.8**
GERES GERESS Array B 31.85 313 P **P** **21 32 46.4 +0.1**
comp=Z,1.4nm,0.6s,baz=116,slow=6.7,SNR=8.5
comp=Z,1.4nm,0.6s
ARBE Arbavere 31.90 337 *eP* **P** **21 32 47.1 +0.6**
ABTA Abfaltersbach 32.00 309 *eP* **P** **21 32 48.8 +1.1**
comp=Z,26nm,0.8s
KHC Kasperske Hory 32.02 313 *eP* **P** **21 32 48.6 +0.8**
KHC Kasperske Hory 32.02 313 ⇑*eP* **P** **21 32 47.7 -0.1**
KHC pmax pmax
comp=Z,22nm,2.5s
LESA Schwarzleotal 32.08 310 *eP* **P** **21 32 48.9 +0.6**
comp=Z,11nm,0.6s
MTSE Matsula 32.12 335 *eP* **P** **21 32 49.1 +0.7**
WMQ Urumqi 32.28 57 *eP* **P** **21 32 50.8 +0.6**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,120nm,21.9s
WTTA Wattenberg 32.72 309 *i P* **P** **21 32 54.6 +0.6**
comp=Z,36nm,0.8s
WTTA *i* S **S** **21 38 07.9 -1.7**
comp=Z,9.6nm,0.9s
WATA Walderalm 32.77 309 *i P* **P** **21 32 54.9 +0.4**
comp=Z,37nm,0.8s
WATA *e*S **S** **21 38 09.7 -0.7**
comp=Z,5.4nm,0.9s
SQTA Sankt Quirin 32.99 309 *i P* **P** **21 32 56.8 +0.5**
comp=Z,25nm,0.5s
SQTA *i* S **S** **21 38 10.7 -3.1**
comp=Z,6.7nm,0.6s
MEF Metsahovi 33.02 337 *eP* **P** **21 32 56.2 -0.1**
MOTA Moosalm 33.09 309 *i P* **P** **21 32 57.4 +0.2**
comp=Z,46nm,0.9s
MOTA *i* S **S** **21 38 12.6 -2.7**
comp=Z,15nm,0.9s
CLL Collm 33.14 317 *eP* **P** **21 32 58.0 +0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 33.14 317 *eP* **P** **21 32 58.0 +0.5**
comp=Z,5.0nm,0.8s
CLL *ex* x 21 33 15.0
FETA Feichten 33.26 309 *i P* **P** **21 32 59.3 +0.5**
comp=Z,33nm,0.8s
FETA *i* S **S** **21 38 13.9 -4.1**
comp=Z,3.8nm,0.8s
JOF Joensuu 33.32 345 *eP* **P** **21 32 58.9 0.0**
RETA Reutte 33.35 310 *eP* **P** **21 32 59.4 0.0**
comp=Z,10nm,0.5s
RETA *i* S **S** **21 38 16.6 -2.7**
comp=Z,11nm,1.0s
FIA1 FINESS Array S 33.44 340 P **P** **21 33 00.0 +0.1**
FINES FINESS Array B 33.44 340 P **P** **21 32 59.9 0.0**
comp=Z,13nm,0.4s,baz=145,slow=9.7,SNR=188
FINES PcP **PcP** **21 35 39.8 -1.0**
comp=Z,3.2nm,0.8s,baz=144,slow=2.6,SNR=1.7
comp=Z,13nm,0.4s
KEST Kesra 33.45 288 P **P** **21 33 03.7 +3.2**
comp=Z,4.9nm,0.9s,baz=356,slow=3.4,SNR=8.5
FUORN Ofenpass-Fuorn 33.48 308 P **P** **21 33 01.6 +0.7**
ZAA0 Zalesovo Array 33.62 38 P **P** **21 33 01.6 -0.1**
ZAA0 IAmb IAmb 21 33 02.8
comp=Z,20nm,1.3s
ZALV Zalesovo Beam 33.62 38 P **P** **21 33 01.8 +0.1**
comp=Z,5.2nm,0.5s,baz=249,slow=9.3,SNR=21
ZALV ScP **ScP** **21 39 21.2 -3.9**
comp=Z,1.1nm,0.6s,baz=227,slow=2.7,SNR=4.6
ZALV LR LR 21 48 24.7
comp=Z,156nm,21.7s,baz=252,slow=39
comp=Z,5.2nm,0.5s
GRF Grafenberg Arr 33.66 314 *eP* **P** **21 33 02.8 +0.7**
comp=Z,14nm,1.0s,baz=110,slow=9.9
GRF *ep*P **sP** **21 33 08.9 -1.9**
BSD Bornholm Skovb 33.77 324 *i P* **P** **21 33 01.0 -1.9**
BSD *i* P **P** **21 33 02.5 -0.4**
DAVOX Davos/Dischmat 33.77 308 LR LR 21 50 31.5
comp=Z,86nm,18.0s,baz=80,slow=43
DAVA Damuels 33.88 309 *eP* **P** **21 33 04.6 +0.3**
comp=Z,30nm,0.5s
DAVA *e*S **S** **21 38 26.8 -0.9**
comp=Z,11nm,1.1s
BLEU Blekinge 33.95 326 *i P* **P** **21 33 04.6 +0.2**
TUE Stuetta 34.07 307 P **P** **21 33 06.6 +0.7**
TUE IAmb IAmb 21 33 24.2
comp=Z,9.2nm,0.8s
KEF Keuruu 34.37 340 *eP* **P** **21 33 07.8 -0.2**
RAF Rauma 34.50 336 *eP* **P** **21 33 08.7 -0.4**
KMBO Kilima Mbogo 34.64 202 P **P** **21 33 14.3 +3.2**
LUNU Lund 34.75 324 *i P* **P** **21 33 12.0 +0.6**
DEL Delary 34.96 326 *i P* **P** **21 33 13.1 0.0**
BJUU Bjuv 35.17 325 *i P* **P** **21 33 15.8 +0.8**
SENIN Lac Senin/Sane 35.44 307 P **P** **21 33 17.4 -0.4**
KIBK Kibwezi 35.54 200 P **P** **21 33 21.1 +2.3**
BNI Bardonecchia 35.69 304 P **P** **21 33 20.2 +0.5**
BNI Bardonecchia 35.69 304 P **P** **21 33 20.3 +0.5**
BNI pmax pmax
comp=Z,48nm,1.6s
VAF Ylistaro 35.69 339 *eP* **P** **21 33 19.1 -0.3**
LSA Lhasa 35.74 82 P **P** **21 33 20.7 -0.2**
LSA Lhasa 35.74 82 P **P** **21 33 20.7 -0.2**
LSA pmax pmax
comp=Z,4.0nm,0.8s
ECH Echery 35.88 310 P **P** **21 33 21.1 -0.1**
ECH IAmb IAmb 21 33 28.6
comp=Z,18nm,1.1s
ECH Echery 35.88 310 P **P** **21 33 21.1 -0.1**
ECH pmax pmax
comp=Z,17nm,1.1s
ONAU Onsala 36.34 326 *i P* **P** **21 33 25.6 +0.6**
MBAR Mbarara 36.70 213 P **P** **21 33 29.4 +0.8**
MBAR Mbarara 36.70 213 P **P** **21 33 30.6 +1.9**
MBAR Mbarara 36.70 213 P **P** **21 33 29.5 +0.8**
MBAR pmax pmax
comp=Z,12nm,1.1s
HFS Hagfors 36.99 331 P **P** **21 33 30.7 +0.2**
comp=Z,17nm,0.4s,baz=130,slow=8.3,SNR=125
HFS LR LR 21 51 15.6
comp=Z,130nm,18.6s,baz=118,slow=40
comp=Z,17nm,0.4s
APA Apatity 37.14 350 ⇓*iP* **P** **21 33 31.4 -0.3**
APA MLR MLR
comp=Z,600nm,12.0s
LVZ Lovozero 37.27 351 P **P** **21 33 33.2 +0.3**
LVZ Lovozero 37.27 351 P **P** **21 33 33.2 +0.3**
LVZ pmax pmax
comp=Z,45nm,1.3s
SHL Shillong 37.55 88 P **P** **21 33 34.6 -1.3**
SHL IAmb IAmb 21 33 36.9
comp=Z,27nm,1.5s
SHL Shillong 37.55 88 P **P** **21 33 35.3 -0.7**
SHL Shillong 37.55 88 P **P** **21 33 34.6 -1.3**
SHL pmax pmax
comp=Z,27nm,1.5s
GOMU GeErMu 37.63 70 P **P** **21 33 37.9 +1.2**
GOMU pP pP 21 33 41.2 -1.7
GOMU sP sP 21 33 45.0 -0.4
GOMU S **S** **21 39 34.2 +8.5**
GOMU pmax pmax
comp=Z,18nm,1.0s
GOMU LR LR
comp=Z,300nm,14.6s
GOMU LR LR
comp=Z,320nm,14.0s
GOMU LR LR
comp=Z,250nm,14.3s
PALK Pallekele 37.92 123 P **P** **21 33 39.9 +1.0**
OSL Oslo 38.15 329 *eP* **P** **21 33 40.7 +0.4**
OSL IAmb IAmb 21 33 41.8
comp=Z,31nm,0.6s
NC602 NORSAR Array S 38.21 331 *eP* **P** **21 33 40.6 -0.3**
KONO Kongsberg 38.50 328 P **P** **21 33 42.8 -0.5**
KONO Kongsberg 38.50 328 *eP* **P** **21 33 43.2 -0.1**
KONO Kongsberg 38.50 328 P **P** **21 33 42.8 -0.5**
KONO pmax pmax
comp=Z,169nm,1.9s
NB2 NORSAR Subarra 38.51 331 P **P** **21 33 42.8 -0.6**
comp=Z,4.6nm,0.6s,baz=122,slow=8.6
NB2 NORSAR Subarra 38.51 331 P **P** **21 33 42.8 -0.6**
baz=122,slow=8.6
NOA NORSAR Array B 38.51 331 P **P** **21 33 43.0 -0.4**
comp=Z,6.7nm,0.6s,baz=122,slow=8.3,SNR=35
NOA LR LR 21 50 43.9
comp=Z,125nm,19.3s,baz=120,slow=38
comp=Z,6.7nm,0.6s
CEST Esterri de Car 39.47 300 P **P** **21 33 52.2 +0.4**
CEST IAmb IAmb 21 33 58.8
comp=Z,45nm,1.8s
SKAR Skarslia 39.56 329 *eP* **P** **21 33 53.2 +0.9**
SKAR IAmb IAmb 21 33 59.1
comp=Z,127nm,1.9s
TAM Tamanrasset 39.84 268 P **P** **21 33 56.2 +1.1**
TAM Tamanrasset 39.84 268 P **P** **21 33 56.3 +1.1**
TAM pmax pmax
comp=Z,6.0nm,0.8s
DOMB Dombas 39.91 332 *eP* **P** **21 33 55.8 +0.7**
DOMB IAmb IAmb 21 33 57.9
comp=Z,543nm,3.1s
ODD1 Odda 39.96 328 *eP* **P** **21 33 56.6 +1.0**
ODD1 IAmb IAmb 21 33 58.1
comp=Z,242nm,2.0s
TBLU Trondheim 40.08 334 *eP* **P** **21 33 57.1 +0.6**
VADS Vadso 40.08 349 *eP* **P** **21 33 57.0 +0.6**
VADS IAmb IAmb 21 33 58.6
comp=Z,202nm,1.9s
NSS Namsos 40.20 336 *eP* **P** **21 33 57.7 +0.3**
NSS IAmb IAmb 21 34 00.4
comp=Z,785nm,3.2s
ARA0 ARCESS Array S 40.24 347 *eP* **P** **21 33 58.5 +0.8**
ARCES ARCESS Array B 40.24 347 P **P** **21 33 57.7 0.0**
comp=Z,1.5nm,0.5s,baz=150,slow=8.9,SNR=21
ARCES PP **PP** **21 35 27.1 -3.2**
comp=Z,5.4nm,0.9s,baz=143,slow=9.3,SNR=4.8
ARCES ScP **ScP** **21 39 47.0 -2.4**
comp=Z,3.6nm,0.8s,baz=151,slow=3.9,SNR=7.3
ARCES LR LR 21 51 58.7
comp=Z,104nm,19.6s,baz=140,slow=38
comp=Z,1.5nm,0.5s
KTK1 Kautokeino 40.25 346 *eP* **P** **21 33 57.9 +0.1**
KTK1 IAmb IAmb 21 34 01.3
comp=Z,152nm,2.2s
MOR8 Moi Rana 40.42 339 *eP* **P** **21 33 59.0 -0.2**
BER Bergen 40.74 328 *eP* **P** **21 34 02.8 +0.8**
BER IAmb IAmb 21 34 06.6
comp=Z,2µm,3.5s
LEIR Leirfjorden 40.79 338 *eP* **P** **21 34 02.5 +0.2**
LEIR IAmb IAmb 21 34 03.7
comp=Z,35nm,1.2s
AKN Aaknes 40.83 331 *eP* **P** **21 34 04.2 +1.5**
AKN IAmb IAmb 21 34 15.5
comp=Z,2µm,3.3s
ASK Askoy 40.85 328 *eP* **P** **21 34 03.3 +0.5**
ASK IAmb IAmb 21 34 04.5
comp=Z,76nm,1.3s
STOK Stokkvaagen 40.96 339 *eP* **P** **21 34 03.7 0.0**
STOK IAmb IAmb 21 34 08.9
comp=Z,106nm,1.3s
FAUS Fauske 40.98 341 *eP* **P** **21 34 04.0 +0.1**
FAUS IAmb IAmb 21 34 04.8
comp=Z,35nm,1.1s
KONS Konsvik 41.04 339 *eP* **P** **21 34 04.2 -0.1**
KONS IAmb IAmb 21 34 09.4
comp=Z,71nm,1.3s
GTA Gaotai 41.23 65 P **P** **21 34 06.8 +0.3**
GTA sP sP 21 34 13.6 -1.6
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,160nm,12.7s
GTA LR LR
comp=Z,160nm,14.7s
GTA LR LR
comp=Z,250nm,15.5s
SUE Sulen 41.28 329 *eP* **P** **21 34 07.7 +1.3**
JETT Jettan, Norway 41.30 345 *eP* **P** **21 34 07.2 +0.7**
STEI Steigen 41.37 341 *eP* **P** **21 34 06.9 -0.1**
STEI IAmb IAmb 21 34 12.5
comp=Z,16nm,0.9s
FOO Floro 41.39 330 *eP* **P** **21 34 07.7 +0.4**
HAMF Hammerfest 41.51 347 *eP* **P** **21 34 08.5 +0.3**
HAMF IAmb IAmb 21 34 10.2
comp=Z,44nm,1.2s
TRO Tromso 41.69 344 *eP* **P** **21 34 09.7 +0.1**
TRO IAmb IAmb 21 34 15.8
comp=Z,96nm,1.7s
LOF Lofoten 41.98 341 *eP* **P** **21 34 11.7 -0.3**
LOF IAmb IAmb 21 34 17.3
comp=Z,223nm,2.1s
NRIK Noril'sk 43.37 19 P **P** **21 34 24.4 +1.1**
NRIK IAmb IAmb 21 34 25.4
comp=Z,19nm,1.0s
NRIK Noril'sk 43.37 19 P **P** **21 34 23.6 +0.3**
comp=Z,12nm,0.8s,baz=230,slow=5.8,SNR=18
NRIK LR LR 21 56 23.2
comp=Z,210nm,19.2s,baz=213,slow=42
comp=Z,12nm,0.8s
NRIK Noril'sk 43.37 19 *ceP* **P** **21 34 24.1 +0.8**
NRIK pmax pmax
comp=Z,15nm,1.0s
TNCH TengChong 43.38 86 ⇑P **P** **21 34 24.8 +0.6**
TNCH PP **PP** **21 36 07.4 +2.3**
TNCH pmax pmax
comp=Z,16nm,1.3s
TNCH pmax pmax
comp=Z,120nm,6.5s
EKA Eskdalemuir Ar 43.55 319 P **P** **21 34 23.9 -1.1**
comp=Z,0.6nm,0.4s,baz=98,slow=7.9,SNR=7.0
comp=Z,0.6nm,0.4s
ESBB Sonseca Array 43.58 296 P **P** **21 34 25.8 +0.3**
ESBB IAmb IAmb 21 34 43.3
comp=Z,27nm,1.8s
ESDC Sonseca Array 43.58 296 P **P** **21 34 25.4 0.0**
comp=Z,1.5nm,0.6s,baz=70,slow=8.3,SNR=15
ESDC LR LR 21 52 53.0
comp=Z,17nm,20.6s,baz=61,slow=36
comp=Z,1.5nm,0.6s
PAB San Pablo 43.89 296 P **P** **21 34 28.6 +0.6**
PAB IAmb IAmb 21 34 55.6
comp=Z,16nm,1.3s
PAB San Pablo 43.89 296 P **P** **21 34 28.6 +0.6**
PAB pmax pmax
comp=Z,16nm,1.3s
LZH Lanzhou 44.87 69 *eP* **P** **21 34 37.1 +1.1**
LZH sP sP 21 34 43.4 -1.3
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,230nm,14.4s
LZH LR LR

comp=Z,400nm,14.3s
LZH LR LR
comp=Z,380nm,14.9s
PBRG Braganca 45.44 299 *e*P **P 21 34 41.8 +1.5**
SONM Songino Array 45.59 52 P **P 21 34 41.8 +0.2**
comp=Z,0.9nm,0.6s,baz=273,slow=8.2,SNR=11
SONM LR LR 21 55 45.4
comp=Z,213nm,18.2s,baz=136,slow=39
comp=Z,0.9nm,0.6s
PZH PanZhiHua 45.62 83 P **P 21 34 41.6 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,3.6s
CD2 Chengdu 45.98 76 P **P 21 34 45.5 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ULN Ulaanbaatar 46.03 52 P **P 21 34 45.0 -0.1**
ULN Ulaanbaatar 46.03 52 P **P 21 34 45.5 +0.4**
ULN P **P 21 34 45.5 +0.4**
ULN Ulaanbaatar 46.03 52⇑ *e*P **P 21 34 44.9 -0.1**
ULN pmax pmax
comp=Z,6.0nm,1.3s
PBAR Barrancos 46.17 294 *e*P **P 21 34 47.5 +1.5**
PBAR *i* Amb 21 35 06.9
comp=Z,27nm,1.7s
CHTO Chiang Mai 46.19 94 P **P 21 34 46.0 -0.5**
CHTO IAmb IAmb 21 34 48.0
comp=Z,22nm,1.4s
CHTO Chiang Mai 46.19 94 P **P 21 34 46.0 -0.5**
CHTO pmax pmax
comp=Z,22nm,1.5s
PCBR Castelo Branco 46.24 297 *e*P **P 21 34 48.5 +1.9**
HOPEN Hopen 46.34 352 *e*P **P 21 34 48.4 +1.6**
HOPEN IAmb IAmb 21 34 50.6
comp=Z,156nm,1.6s
CM31 Chiang Mai Arr 46.35 94 P **P 21 34 46.9 -0.8**
CMAR Chiang Mai Arr 46.35 94 P **P 21 34 47.6 -0.1**
comp=Z,3.3nm,0.8s,baz=291,slow=8.1,SNR=30
CMAR PP **PP 21 36 39.3 +2.7**
comp=Z,1.3nm,0.8s,baz=301,slow=8.3,SNR=4.5
comp=Z,3.3nm,0.8s
PVIS Viseu 46.44 298 *e*P **P 21 34 50.2 +2.0**
PESTR Estremoz 46.48 295 P **P 21 34 49.1 +0.6**
PESTR IAmb IAmb 21 35 03.1
comp=Z,10.0nm,0.9s
PBEJ Beja 46.84 294 *e*P **P 21 34 54.0 +2.7**
PBEJ *i* Amb 21 35 11.1
comp=Z,24nm,1.9s
KMI Kunming 46.93 84⇓P **P 21 34 52.8 +0.3**
KMI pmax pmax
comp=Z,20nm,0.7s
PMTG Montargil 46.94 296 *e*P **P 21 34 54.8 +2.8**
PMTG *i* Amb 21 35 17.7
comp=Z,35nm,2.0s
PCVE Castro Verde 47.04 294 *e*P **P 21 34 55.1 +2.2**
PHRA Phrae 47.42 94 P **P 21 34 54.0 -2.1**
TORD Torodi Ar. Bea 47.45 258 P **P 21 34 57.2 +0.9**
comp=Z,16nm,0.8s,baz=50,slow=8.7,SNR=122
TORD LR LR 21 57 35.4
comp=Z,264nm,18.1s,baz=56,slow=39
comp=Z,16nm,0.8s
SPA0 Spitsbergen Ar 48.79 351 *e*P **P 21 35 07.3 +1.4**
SPA0 IAmb IAmb 21 35 10.1
comp=Z,543nm,3.0s
SPITS Spitsbergen Ar 48.79 351 P **P 21 35 07.1 +1.2**
comp=Z,9.8nm,0.6s,baz=144,slow=10,SNR=54
comp=Z,9.8nm,0.6s
BTO Baotou 48.85 62 *e*P **P 21 35 06.7 -0.3**
BTO pP **pP 21 35 11.2 -2.2**
BTO sP **sP 21 35 13.9 -1.9**
BTO PP **PP 21 36 59.6 -0.6**
BTO pmax pmax
comp=Z,27nm,0.7s
BTO pmax pmax
comp=Z,250nm,5.9s
BTO LR LR
comp=Z,370nm,11.7s
BTO LR LR
comp=Z,470nm,12.7s
BTO LR LR
comp=Z,530nm,18.4s
SLVN Son La 49.36 88 P **P 21 35 10.5 -0.6**
SLVN IAmb IAmb 21 35 14.1
comp=Z,12nm,1.2s
XAN Xi'an 49.38 70⇑P **P 21 35 10.9 -0.2**
XAN pP pP 21 35 17.3 -0.1
XAN pmax pmax
comp=Z,23nm,0.8s
XAN LR LR
comp=Z,350nm,16.0s
XAN LR LR
comp=Z,440nm,16.5s
XAN LR LR
comp=Z,400nm,16.7s
GYA Guiyang 49.78 81⇓P **P 21 35 14.2 -0.1**
GYA pmax pmax
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 49.96 61 *e*P **P 21 35 16.5 +1.0**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.4s
LSZ Lusaka 50.97 207 P **P 21 35 24.0 +0.7**
LSZ Lusaka 50.97 207 P **P 21 35 24.3 +1.1**
comp=Z,4.8nm,0.8s,baz=27,slow=6.7,SNR=12
LSZ LR LR 21 58 19.3
comp=Z,285nm,19.0s,baz=8.5,slow=38
comp=Z,4.8nm,0.8s
LSZ Lusaka 50.97 207 P **P 21 35 25.2 +1.9**
LYN LuoYang 52.08 69⇑P **P 21 35 31.9 +0.5**
LYN pP pP 21 35 36.7 -1.0
LYN sP sP 21 35 38.8 -1.4
LYN PP **PP 21 37 30.9 +1.4**
LYN S **S 21 42 56.2 +1.9**
LYN sS sS 21 43 05.2 +0.5
LYN pmax pmax
comp=Z,32nm,0.7s
LYN pmax pmax
comp=Z,220nm,5.5s
LYN LR LR
comp=Z,400nm,13.1s
LYN LR LR
comp=Z,330nm,17.1s
LYN LR LR
comp=Z,480nm,13.4s
XLT XiLinHaoTe 52.71 57 *e*P **P 21 35 37.1 +1.1**
XLT sP sP 21 35 43.2 -1.6
XLT PcP **PcP 21 36 46.2 +0.6**
XLT pmax pmax
comp=Z,6.0nm,1.0s
HNS HongShan 53.09 65 *e*P P 21 35 45.5 +6.7
HNS LR LR
comp=E,210nm,17.6s
HNS LR LR
comp=Z,260nm,16.5s
UBPT Khong Chiam 53.35 94 P **P 21 35 39.8 -1.1**
DAG Danmarks Havn 54.41 345 P P 21 35 53.7 +5.8
DAG pmax pmax
comp=Z,8.0nm,2.1s
DAG Danmarks Havn 54.41 345 *i* P **P 21 35 47.0 -0.9**
GSI Gunungsitoli 54.49 114 P **P 21 35 49.2 -0.1**
GSI IAmb IAmb 21 36 05.7
comp=Z,8.8nm,0.8s
KULM Kulim 54.55 108 P **P 21 35 49.7 0.0**
KULM IAmb IAmb 21 36 42.9
comp=Z,22nm,1.6s
WHN Wuhan 54.79 73 P P 21 35 44.2 -7.1
TIA Tai'an 55.28 66 P **P 21 35 55.3 +0.5**
TIA pmax pmax
comp=Z,18nm,0.9s
IPM Ipoh 55.32 108 P **P 21 35 53.8 -1.5**
IPM IAmb IAmb 21 36 22.0
comp=Z,11nm,0.9s
QIZ Qiongzhong 55.38 88 P **P 21 35 55.3 -0.5**
DBIC Dimbokro 56.35 256 P **P 21 36 03.1 +0.4**
DBIC IAmb IAmb 21 36 10.3
comp=Z,9.5nm,0.7s
DBIC Dimbokro 56.35 256 P **P 21 36 03.1 +0.4**
comp=Z,7.6nm,0.6s,baz=45,slow=5.3,SNR=16
DBIC LR LR 22 02 38.9
comp=Z,314nm,21.3s,baz=62,slow=39
comp=Z,7.6nm,0.6s
BROLN Tlhalogang 56.62 205 *i* P **P 21 36 05.2 +0.7**
TIXI Tiksi 56.94 22 P **P 21 36 05.7 -0.3**
TIXI IAmb IAmb 21 36 06.9
comp=Z,8.6nm,0.9s
TIXI Tiksi 56.94 22 LR LR 22 04 40.2
comp=Z,234nm,19.0s,baz=346,slow=40
TIXI Tiksi 56.94 22⇓ *e*P **P 21 36 06.1 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
QNGWA Qangwa 57.71 212 *i* P **P 21 36 14.0 +1.7**
NJ2 Nanjing 57.93 70 *e*P **P 21 36 13.1 -0.6**
NJ2 pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 58.04 33 P **P 21 36 12.8 -1.2**
YAK Yakutsk 58.04 33 LR LR 22 05 34.4
comp=Z,87nm,18.1s,slow=40
YAK Yakutsk 58.04 33 *e*P **P 21 36 12.7 -1.2**
YAK *e**PP **sP 21 36 22.7 -0.1**
YAK *e* 21 37 05.0
YAK *e* 21 38 21.0
YAK *e*S **S 21 44 10.1 -3.3**
YAK *e**SS **sS 21 44 27.2 +3.4**
YAK *e* 21 45 58.9
YAK *e*SS **SS 21 48 11.0 +6.9**
YAK *e*SSS SSS 21 50 32.1
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,173nm,6.2s
YAK pmax pmax
comp=N,176nm,4.8s
YAK pmax pmax
comp=E,99nm,6.7s
YAK smax smax
comp=N,26nm,2.7s
YAK smax smax
comp=E,71nm,3.1s
ZEA Zeya 58.15 43 *e*P **P 21 36 15.5 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
CKGRV CKGRV 58.26 208 *i* P **P 21 36 17.8 +1.7**
HEH HeiHe 58.99 47 *e*P **P 21 36 20.4 -0.4**
HEH pmax pmax
comp=Z,15nm,0.8s
TSUM Tsumeb 59.13 216 P **P 21 36 21.9 -0.3**
TSUM Tsumeb 59.13 216 P **P 21 36 23.2 +1.0**
comp=Z,3.4nm,0.6s,baz=16,slow=10,SNR=6.4
comp=Z,3.4nm,0.6s
LPHEP Lephephe 59.23 205 *i* P **P 21 36 24.0 +1.2**
GRTLG Ghanzi 59.30 211 *i* P **P 21 36 25.2 +1.8**
SUMG Summit 59.48 340 P **P 21 36 24.2 -0.1**
SUMG IAmb IAmb 21 36 56.3
comp=Z,7.9nm,0.9s
SUMG Summit 59.48 340 P **P 21 36 24.2 -0.1**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 59.48 340 *i* P **P 21 36 24.0 -0.3**
KDWAN Kaudwane 59.69 207 *i* P **P 21 36 27.0 +1.0**
KGCAE Kacgae 60.19 209 *i* P **P 21 36 31.2 +1.7**
ICESG Greenland Ices 60.48 336 *i* P **P 21 36 31.2 0.0**
LBTB Lobatse 60.83 205 P **P 21 36 34.5 +0.8**
LBTB Lobatse 60.83 205 LR LR 22 03 28.2
comp=Z,200nm,20.4s,baz=42,slow=36
LBTB Lobatse 60.83 205 P **P 21 36 34.6 +0.8**
LBTB pmax pmax
comp=Z,15nm,1.0s
SKOMA Sekoma 60.99 207 *i* P **P 21 36 35.7 +0.8**
POGA Pongola 61.10 198 P **P 21 36 35.8 +0.4**
KOOLE Kule 61.17 211 *i* P **P 21 36 37.6 +1.4**
MAKGR Makgori 61.85 205 *i* P **P 21 36 41.8 +1.1**
KLR Kul'dur 61.98 47⇓ *e*P **P 21 36 40.7 -0.5**
KLR pmax pmax
comp=Z,3.0nm,1.0s
BBTS Babate 62.16 271 LR LR 22 06 40.8
comp=Z,62nm,18.3s,baz=316,slow=39
WIN Windhoek 62.22 214 P **P 21 36 44.3 +1.0**
WIN Windhoek 62.22 214 P **P 21 36 44.3 +1.0**
WIN pmax pmax
comp=Z,12nm,0.9s
YHNB Yeheng 62.75 77 P **P 21 36 47.8 +0.8**
KS19 Wonju Array Si 63.05 61 P **P 21 36 48.2 -0.3**
KSRS Korea Array 63.10 61 P **P 21 36 48.3 -0.6**
comp=Z,8.3nm,0.7s,baz=283,slow=6.8,SNR=27
KSRS LR LR 22 07 43.9
comp=Z,93nm,19.3s,baz=275,slow=39
comp=Z,8.3nm,0.7s
USRK Ussuriysk Ar. 63.70 53 P **P 21 36 51.5 -1.3**
comp=Z,3.1nm,0.7s,baz=284,slow=4.6,SNR=6.9
comp=Z,3.1nm,0.7s
BOSA Boshof 64.25 204 P **P 21 36 57.0 +0.5**
BOSA Boshof 64.25 204 P **P 21 36 57.2 +0.6**
comp=Z,7.9nm,1.0s,baz=31,slow=5.3,SNR=7.2
BOSA LR LR 22 05 30.5
comp=Z,135nm,18.4s,baz=24,slow=36
comp=Z,7.9nm,1.0s
BOSA Boshof 64.25 204 P **P 21 36 57.0 +0.5**
BOSA pmax pmax
comp=Z,53nm,1.7s
SFJD Kangerlussuaq 65.04 335 LR LR 22 08 05.5
comp=Z,70nm,18.1s,slow=38
SEY Seymchan 67.81 29⇑ *e*P **P 21 37 19.4 +0.5**
SEY pmax pmax
comp=Z,10.0nm,1.3s
SUR Sutherland 69.25 206 LR LR 22 09 10.8
comp=Z,297nm,18.7s,baz=16,slow=37
YSS Yuzhno-Sakhali 69.67 47 *e*P **P 21 37 32.6 +1.8**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,400nm,14.0s
BILL Bilibino 70.13 21 P **P 21 37 34.1 +0.8**
BILL IAmb IAmb 21 37 53.8
comp=Z,7.5nm,1.1s
BILL Bilibino 70.13 21⇑ *i* P **P 21 37 34.3 +1.0**
BILL pmax pmax
comp=Z,4.0nm,1.0s
ASAJ Asahikawa 70.78 50 LR LR 22 11 31.3
comp=Z,204nm,18.4s,baz=334,slow=38
RES Resolute Bay 71.34 351 P **P 21 37 41.1 +0.5**
RES IAmb IAmb 21 38 41.9
comp=Z,15nm,1.9s
RES Resolute Bay 71.34 351 P **P 21 37 41.1 +0.5**
RES pmax pmax
comp=Z,15nm,1.9s
FRB Frobisher Bay 73.13 336 LR LR 22 11 07.4
comp=Z,86nm,18.1s,baz=354,slow=37
PETK Petropavlovsk- 75.15 36 LR LR 22 13 58.5
comp=Z,117nm,19.0s,baz=53,slow=38
A36M Sachs Harbour 76.54 358 P **P 21 38 11.1 +0.1**
B22K Teshekpuk Lake 76.93 8 P **P 21 38 13.5 +0.3**
B22K IAmb IAmb 21 38 31.7
comp=Z,15nm,1.2s
C18K Utukok River 77.41 11 P **P 21 38 16.1 +0.1**
C18K IAmb IAmb 21 38 30.7
comp=Z,10nm,1.1s
SCHQ Schefferville 78.00 328 P **P 21 38 19.4 -0.1**
comp=Z,6.1nm,0.4s,baz=47,slow=5.1,SNR=14
SCHQ LR LR 22 13 30.4
comp=Z,64nm,18.1s,baz=316,slow=36
comp=Z,6.1nm,0.4s
C24K Franklin Bluff 78.02 6 P **P 21 38 19.9 +0.5**
D22K Ayikyak River 78.40 8 P **P 21 38 22.2 +0.7**
D25K Kavik River 78.61 6 P **P 21 38 22.9 +0.2**
D25K IAmb IAmb 21 38 44.9
comp=Z,8.3nm,1.1s
TOLK Toolik Lake Re 78.97 7 P **P 21 38 25.4 +0.7**
TOLK IAmb IAmb 21 38 39.9
comp=Z,8.4nm,0.8s
E29M Blow River 80.07 3 P **P 21 38 30.9 +0.3**
INK Inuvik 80.28 1 P **P 21 38 31.3 -0.4**
INK IAmb IAmb 21 41 32.4
comp=Z,27nm,1.8s
INK Inuvik 80.28 1 P **P 21 38 31.3 -0.4**
INK pmax pmax
comp=Z,27nm,1.8s
BATG Bathurst New B 82.37 322 P **P 21 38 43.9 +0.7**
ILAR Eielson Array 83.00 7 P **P 21 38 45.7 -0.5**
comp=Z,1.2nm,0.7s,baz=324,slow=4.1,SNR=19
comp=Z,1.2nm,0.7s
CCB Clear Creek Bu 83.03 7 P **P 21 38 45.9 -0.4**
CCB IAmb IAmb 21 38 50.8
comp=Z,8.0nm,1.5s
BPAW Bear Paw Mtn. 83.17 9 P **P 21 38 47.5 +0.4**
BPAW IAmb IAmb 21 38 48.1
comp=Z,6.7nm,0.9s
EGAK Eagle 83.49 5 P **P 21 38 49.0 +0.3**
EGAK IAmb IAmb 21 39 09.6
comp=Z,6.3nm,0.9s
CAST Castle Rocks 83.67 10 P **P 21 38 50.3 +0.6**
CAST IAmb IAmb 21 38 50.8
comp=Z,6.4nm,1.0s
MCK McKinley 83.78 8 P **P 21 38 50.2 0.0**
MCK IAmb IAmb 21 39 15.5
comp=Z,7.3nm,1.0s
MCK McKinley 83.78 8 P **P 21 38 50.2 0.0**
MCK pmax pmax
comp=Z,7.0nm,1.0s
SCRK Sand Creek 84.06 6 P **P 21 38 52.0 +0.2**
SCRK IAmb IAmb 21 39 09.1
comp=Z,4.5nm,0.8s
RND Reindeer 84.11 8 P **P 21 38 50.8 -1.2**
RND IAmb IAmb 21 39 11.6
comp=Z,8.0nm,1.2s
RND Reindeer 84.11 8 P **P 21 38 50.8 -1.2**
RND pmax pmax
comp=Z,8.0nm,1.2s
DAWY Dawson 84.31 4 P **P 21 38 53.3 +0.3**
DAWY IAmb IAmb 21 39 10.5
comp=Z,13nm,1.5s
FCC Fort Churchill 84.90 342 P **P 21 38 56.2 +0.3**
FCC IAmb IAmb 21 39 03.9
comp=Z,8.7nm,1.1s
FCC Fort Churchill 84.90 342 P **P 21 38 56.3 +0.3**
FCC pmax pmax
comp=Z,9.0nm,1.2s
YKA Yellowknife Ar 85.27 353 P **P 21 38 57.5 -0.2**
comp=Z,2.3nm,0.8s,baz=12,slow=5.2,SNR=13
comp=Z,2.3nm,0.8s
GHO Glory Hole Cre 85.68 9 P **P 21 38 59.8 -0.1**
GHO IAmb IAmb 21 39 13.8
comp=Z,9.5nm,0.9s
SUA Susitna One 85.73 10 P **P 21 39 00.0 -0.2**
KNK Knik Glacier 86.08 9 P **P 21 39 02.0 +0.1**
KNK IAmb IAmb 21 39 24.0
comp=Z,7.0nm,0.8s
KLU Klutina 86.31 7 P **P 21 39 03.5 +0.4**
KLU IAmb IAmb 21 39 04.8
comp=Z,8.2nm,0.8s
HYT Haines Junctio 87.64 3 P **P 21 39 09.9 +0.3**
HYT IAmb IAmb 21 39 11.4
comp=Z,7.0nm,1.0s
FITZ Fitzroy Crossi 88.15 112 P **P 21 39 14.1 +1.7**
comp=Z,2.3nm,0.8s,baz=288,slow=9.6,SNR=3.6
comp=Z,2.3nm,0.8s
RCBR Riachuelo 89.10 263 LR LR 22 19 56.3
comp=Z,21nm,19.3s,baz=76,slow=36
ULM Lac du Bonnet 92.83 339 P **P 21 39 32.3 -1.5**
comp=Z,2.8nm,0.7s,baz=43,slow=6.1,SNR=6.8
comp=Z,2.8nm,0.7s
WRA Warramunga Arr 96.06 110 P **P 21 39 48.6 -0.6**
comp=Z,0.3nm,0.7s,baz=309,slow=4.9,SNR=1.9
comp=Z,0.3nm,0.7s
ASAR Alice Springs 97.64 113 P **P 21 39 55.0 -1.2**
comp=Z,0.3nm,0.8s,baz=302,slow=5.3,SNR=4.2
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 121.53 180 PKP **PKPdf 21 45 13.5 -0.5**
comp=Z,2.6nm,1.0s,baz=266,slow=1.8,SNR=3.4

ATH 09 21:30:13.7, 40.34N×23.88E, h16km±4km, ML0.6/2,
Manual Solution by M.Kolligri First location:
2019/02/09 21:32:54, This location: 2019/02/09 22:21:27
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude
uncertainty: 12 km; Longitude uncertainty: 2 km,
Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.08**	**95**	P	Pg	21 30 17.0	+0.1
OUR				S	Sg	21 30 19.6	+0.6
PLG	**Polygyros**	**0.33**	**276**	P	Pg	21 30 20.7	0.0
PLG				S	Sb	21 30 26.1	-0.3
HORT	**Hortiatis**	**0.65**	**294**	P	Pn	21 30 27.6	-0.6
HORT				S	Sb	21 30 35.4	0.0
THAS	**Thassos island**	**0.69**	**67**	P	Pb	21 30 27.9	+0.5
THAS				S	Sg	21 30 36.2	-0.3

---

*IDC **09** 21:35:58.8±0.9, 31.51N×104.08E, h0km, mb3.8/13, mbtmp3.8/14, ML2.8/1, MS3.4/2, Error ellipse: s-maj=37.9km s-min=16.4km az=49.0*

ISC 09 21:36:01.7±0.5, 31.61N±0.04×104.21E±0.05, h14km, n21,
σ1§51/31, mb3.9/12, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.79**	**209**	Pg	**Pg**	**21 36 16.6**	**-0.5**
CD2				Sg	**Sg**	**21 36 27.5**	**0.0**
CD2				smax	smax		
	comp=N,2μm,0.4s						
CD2				smax	smax		
	comp=E,3μm,0.3s						
LZH	**Lanzhou**	**4.48**	**356**	Pn	**Pn**	**21 37 10.7**	**+1.4**
LZH				Pg	**Pg**	**21 37 30.1**	**+2.6**
LZH				Sn	**Sn**	**21 38 02.0**	**+0.7**
LZH				Sg	**Sg**	**21 38 22.2**	**-3.3**
LZH				smax	smax		
	comp=N,69nm,1.0s						
LZH				smax	smax		
	comp=E,75nm,1.0s						
LZH				LR	LR		
	comp=N,350nm,5.3s						
LZH				LR	LR		
	comp=E,560nm,6.4s						
LZH				LR	LR		
	comp=Z,310nm,6.9s						
XAN	**Xi'an**	**4.65**	**57**	Pn	**Pn**	**21 37 13.1**	**+1.5**
XAN				Pg	**Pg**	**21 37 29.4**	**-1.4**
XAN				Sn	**Sn**	**21 38 07.9**	**+2.5**
XAN				Sg	**Sg**	**21 38 29.5**	**-1.6**
XAN				smax	smax		
	comp=N,230nm,1.1s						
XAN				smax	smax		
	comp=E,320nm,1.0s						
XAN				LR	LR		
	comp=N,360nm,4.6s						
XAN				LR	LR		
	comp=E,570nm,5.8s						
XAN				LR	LR		
	comp=Z,210nm,6.5s						
PZH	**PanZhiHua**	**5.52**	**204**	Pn	**Pn**	**21 37 25.1**	**+1.5**
PZH				Pg	**Pg**	**21 37 47.2**	**-0.3**
PZH				Sn	**Sn**	**21 38 28.0**	**+1.0**
PZH				Sg	**Sg**	**21 38 57.6**	**-1.4**
PZH				smax	smax		
	comp=N,50nm,0.9s						
PZH				smax	smax		
	comp=E,40nm,0.8s						
CNSH	**ChangSha**	**8.31**	**112**	P	**Pn**	**21 38 05.1**	**+3.4**
CNSH				S	**Sn**	**21 39 34.0**	**-1.3**
CNSH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CNSH				smax	smax		
	comp=N,27nm,0.8s						
CNSH				smax	smax		
	comp=E,45nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.93**	**201**	Pn	**Pn**	**21 39 19.4**	**+0.6**
	comp=E,0.1nm,0.3s,baz=25,slow=13,SNR=9.1						
CMAR				LR	LR	21 45 29.2	
	comp=E,37nm,18.4s,baz=285,slow=41						
SONM	**Songino Array**	**16.29**	**5**	Pn	**Pn**	**21 39 51.0**	**+0.9**
	baz=190,slow=12,SNR=5.9						
	comp=E,1.3nm,1.0s						
KSRS	**Korea Array**	**20.37**	**67**	P	**P**	**21 40 38.2**	**+0.4**
	comp=E,0.9nm,0.7s,baz=258,slow=9.6,SNR=5.2						
	comp=E,0.9nm,0.7s						
MKAR	**Makanchi Array**	**22.66**	**318**	P	**P**	**21 41 02.3**	**-0.1**
	comp=E,1.3nm,0.8s,baz=120,slow=12,SNR=15						
	comp=E,1.3nm,0.8s						
AAK	**Ala-Archa**	**26.00**	**303**	P	**P**	**21 41 34.4**	**+0.2**
	comp=E,1.3nm,0.7s,baz=125,slow=6.8,SNR=6.5						
	comp=E,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**26.31**	**334**	P	**P**	**21 41 36.5**	**-0.3**
	comp=E,4.1nm,0.8s,baz=139,slow=10,SNR=16						
	comp=E,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**26.89**	**322**	P	**P**	**21 41 41.9**	**-0.1**
	comp=E,1.1nm,0.3s,baz=130,slow=9.0,SNR=8.9						
	comp=E,1.1nm,0.3s						
BVAR	**Borovoye Array**	**32.45**	**321**	P	**P**	**21 42 30.9**	**-0.4**
	comp=E,1.1nm,0.7s,baz=122,slow=9.2,SNR=7.6						

comp=E,1.1nm,0.7s
ARTI Arti 40.17 322 P **P 21 43 36.6 -0.5**
comp=E,1.6nm,0.7s,baz=107,slow=6.8,SNR=3.8
comp=E,1.6nm,0.7s
ARCES ARCESS Array B 56.84 336 P **P 21 45 44.2 -1.1**
comp=E,1.1nm,0.7s,baz=84,slow=9.2,SNR=1.6
comp=E,1.1nm,0.7s
AKASG Malin Array Be 57.10 313 P **P 21 45 45.8 -1.7**
comp=E,0.9nm,0.5s,baz=68,slow=7.7,SNR=6.4
comp=E,0.9nm,0.5s
FINES FINESS Array B 57.20 326 P **P 21 45 47.5 -0.5**
comp=E,1.6nm,0.8s,baz=78,slow=8.8,SNR=4.5
comp=E,1.6nm,0.8s
WRA Warramunga Arr 58.84 147 P **P 21 45 59.6 -0.3**
comp=E,0.7nm,0.6s,baz=340,slow=7.9,SNR=10
comp=E,0.7nm,0.6s
ASAR Alice Springs 61.88 149 P **P 21 46 19.7 -1.0**
comp=E,0.3nm,0.5s,baz=338,slow=7.8,SNR=1.5
comp=E,0.3nm,0.5s
GERES GERESS Array B 67.26 314 P **P 21 46 53.6 -2.2**
comp=E,0.5nm,0.5s,baz=91,slow=8.9,SNR=3.1
comp=E,0.5nm,0.5s
TORD Torodi Ar. Bea 93.56 288 LR LR 22 37 52.9
comp=E,59nm,20.1s,baz=200,slow=40

*IDC **09** 21:36:18.2±2.5, 22°.42S×179°.71W, h564km±24km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=37.7km s-min=28.8km az=145.0*
ISC 09 21:36:19.3±1.5, 22°.3S±0°.2×179°.7W±0°.3, h579km, n9, σ1°.05/7, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.97**	**335**	P	**P**	**21 37 49.9**	**-0.9**
	10.0nm,0.4s,baz=102,slow=21,SNR=13						
ASAR	**Alice Springs**	**42.57**	**259**	P	**P**	**21 43 25.4**	**-0.2**
	0.7nm,0.5s,baz=101,slow=7.9,SNR=9.2						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**42.79**	**264**	P	**P**	**21 43 26.9**	**-0.4**
	0.6nm,0.4s,baz=101,slow=7.6,SNR=21						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**67.81**	**180**	P	**P**	**21 46 19.6**	**-0.5**
	2.3nm,1.0s,baz=261,slow=8.8,SNR=2.2						
	2.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.20**	**290**	P	**P**	**21 48 16.1**	**+1.5**
	0.5nm,0.8s,baz=126,slow=3.7,SNR=4.4						
	0.5nm,0.8s						
HFS	**Hagfors**	**141.00**	**349**	PKhKP	PKPpre	21 54 38.0	
	2.3nm,0.8s,baz=68,slow=3.9,SNR=4.0						
AKASG	**Malin Array Be**	**143.73**	**329**	PKP	PKPbc	21 54 47.2	-0.8
	0.4nm,0.4s,baz=45,slow=4.1,SNR=6.3						
BRTR	**Keskin Array B**	**146.77**	**309**	PKPbc	**PKPbc**	**21 54 57.0**	**-0.4**
	0.4nm,0.7s,baz=115,slow=1.5,SNR=1.9						
EKA	**Eskdalemuir Ar**	**146.88**	**4**	PKPbc	**PKPbc**	**21 54 57.8**	**+0.8**
	0.9nm,0.6s,baz=18,slow=5.2,SNR=3.4						

*IDC **09** 21:38:43.7±1.4, 3°.42N×128°.64E, h0km, mb3.5/8, mbtmp3.6/8, MS3.2/2, Error ellipse: s-maj=78.8km s-min=18.3km az=71.0*
*DJA **09** 21:38:45.9±0.8, 3°.N±4°.×12°.9E±°, h10km, M4.2/7, MLv4.2/7*
ISC 09 21:38:50.4±1.0, 3°.31N±0°.08×128°.5E±0°.2, h45km, n15, σ0°.97/15, mb3.6/10, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.77**	**205**	P	**Pn**	**21 39 33.3**	**+0.9**
SGSI	**Sangihe**	**3.02**	**277**	P	**Pn**	**21 39 35.5**	**-0.3**
DAV	**Davao City (W)**	**4.76**	**322**	Pn	**Pn**	**21 40 00.2**	**+0.6**
	11nm,0.3s,baz=129,slow=6.0,SNR=1.4						
DAV				Sn	**Sn**	**21 40 54.9**	**+1.3**
	16nm,0.3s,baz=253,slow=22,SNR=3.8						
GUMO	**Guam**	**19.10**	**57**	LR	LR	21 49 04.7	
	comp=Z,72nm,20.6s,baz=140,slow=33						
FITZ	**Fitzroy Crossi**	**21.46**	**188**	P	**P**	**21 43 34.5**	**-0.6**
	2.1nm,1.0s,baz=27,slow=11,SNR=1.4						
FITZ				LR	LR	21 52 40.5	
	comp=Z,70nm,19.3s,baz=12,slow=39						
	2.1nm,1.0s						
WRA	**Warramunga Arr**	**23.80**	**166**	P	**P**	**21 43 59.6**	**+0.4**
	1.1nm,0.6s,baz=344,slow=9.2,SNR=6.2						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**27.32**	**169**	P	**P**	**21 44 31.4**	**+0.3**
	0.4nm,1.0s,baz=358,slow=10,SNR=1.7						
	0.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**32.64**	**300**	P	**P**	**21 45 18.9**	**+0.5**
	0.4nm,0.4s,baz=104,slow=9.5,SNR=4.5						
	0.4nm,0.4s						
XAN	**Xi'an**	**35.62**	**331**	P	**P**	**21 45 43.4**	**-0.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
XLT	**XiLinHaoTe**	**41.90**	**347**	*e*P	**P**	**21 46 38.4**	**+1.8**
XLT				sP	pP	21 46 45.6	-2.4
XLT				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SONM	**Songino Array**	**48.29**	**340**	P	**P**	**21 47 27.6**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=144,slow=7.4,SNR=2.7						
	comp=Z,0.5nm,0.9s						
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**21 48 44.8**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=115,slow=8.1,SNR=10.0						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.07**	**327**	P	**P**	**21 49 11.8**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=124,slow=6.3,SNR=6.6						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**68.66**	**327**	P	**P**	**21 49 47.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=121,slow=6.7,SNR=3.7						
	comp=Z,0.3nm,0.5s						
DBIC	**Dimbokro**	**132.43**	**282**	PKP	**PKPdf**	**21 58 00.6**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=83,slow=2.3,SNR=3.5						

TXNET 09 21:40:52.7, 31°.6N±0°.6×104°.3W±0°.7, h5km±2km, ML1.9/7, 1C, Error ellipse: s-maj=1.2km s-min=0.8km az=60.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	⇑P	Pg	21 40 59.4	-0.1
TPB11				S	Sg	21 41 04.2	0.0
PECS	**Pecos**	**0.42**	**129**	P	Pg	21 41 01.0	+0.3
PECS				S	Sg	21 41 06.3	+0.2
PECS	**Pecos**	**0.42**	**129**	P	Pg	21 41 01.0	+0.3
TPB12	**Southwest of T**	**0.49**	**150**	P	Pg	21 41 02.3	+0.2
TPB12				S	Sg	21 41 08.9	+0.5
TPB07	**Mentone**	**0.50**	**96**	S	Sg	21 41 09.1	+0.5
TPB10	**Southeast of T**	**0.55**	**130**	P	Pg	21 41 03.3	+0.2
TPB10				S	Sg	21 41 10.8	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	21 41 04.1	+0.4
CLNB	**Carlsbad**	**0.70**	**26**	S	Sg	21 41 16.0	+0.7
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	21 41 07.3	-0.6
TPB01				S	Sg	21 41 17.6	-0.7
CLN7	**Carlsbad 7**	**0.86**	**25**	P	Pg	21 41 09.5	+0.3
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	21 41 11.5	+0.2
MNTX				S	Sg	21 41 24.5	+0.6
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	21 41 12.8	-0.2
VHRN				S	Sg	21 41 26.9	+0.3
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	21 41 12.9	0.0
TPB05	**Hovey Rd**	**1.06**	**132**	S	Sg	21 41 27.0	+0.2
ALPN	**Alpine**	**1.36**	**157**	P	Pn	21 41 17.2	-1.2
ALPN				S	Sg	21 41 34.6	-1.7
ALPN	**Alpine**	**1.36**	**157**	P	Pn	21 41 17.3	-1.2
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	21 41 19.4	-0.1
ODSA	**Odessa**	**1.52**	**71**	P	Pn	21 41 20.1	-0.6
ODSA				S	Sn	21 41 39.7	-1.2
TMB02	**Rankin**	**1.94**	**102**	S	Sb	21 41 52.2	-0.8

*IDC **09** 22:02:21.4±1.9, 43°.33N×105°.38W, h0km, mb4.0/3, mbtmp3.8/6, ML3.5/3, MS4.8/1, Error ellipse: s-maj=52.0km s-min=9.0km az=154.0*
*NEIC **09** 22:02:23.7±2.0, 43°.79N±0°.06×105°.4W±0°.1, h0km±1km, ML3.3/66, Error ellipse: s-maj=13.8km s-min=9.9km az=59.0*
ISC 09 22:02:24.3±0.9, 43°.79N±0°.06×105°.37W±0°.07, h0km, n47, σ1°.25/44, mb3.9/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**71**	Pg	**Pb**	**22 02 44.2**	**-0.7**
K22A	**Casper**	**1.42**	**217**		**Pn**	**22 02 50.8**	**-0.8**
K22A				IAML		22 03 16.7	
	comp=E,388nm,0.3s						
K22A				IAML		22 03 19.4	
	comp=N,481nm,0.3s						
N23A	**Red Feather La**	**2.93**	**189**		**Pn**	**22 03 12.2**	**-0.1**
N23A				IAML		22 03 56.8	
	comp=N,80nm,0.7s						
N23A				IAML		22 04 02.4	
	comp=E,89nm,0.9s						
LAO	**LASA Array**	**2.96**	**349**		**Pn**	**22 03 12.8**	**+0.1**
RLMT	**Red Lodge**	**3.09**	**297**	Pn	**Pn**	**22 03 15.4**	**+0.8**
RLMT				IAML		22 04 12.6	
	comp=E,67nm,0.4s						
RLMT				IAML		22 04 14.6	
	comp=E,74nm,0.7s						
PD31	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**22 03 16.8**	**+0.3**
PDAR	**Pinedale Array**	**3.23**	**253**	Pn	**Pn**	**22 03 14.3**	**-2.1**
	comp=E,5.5nm,0.3s,baz=67,slow=21,SNR=57						
PDAR				Lg	Lg	22 03 59.4	
	comp=E,4.1nm,0.3s,baz=78,slow=33,SNR=4.0						
PDAR				LR	LR	22 04 19.1	
	comp=E,56nm,21.0s,baz=159,slow=38						
	comp=E,2.9nm,0.3s						
YNE	**Yellowstone No**	**3.54**	**292**	Pn	**Pn**	**22 03 21.2**	**+0.4**
YNE				IAML		22 04 22.1	
	comp=N,55nm,0.7s						
YNE				IAML		22 04 33.6	
	comp=E,46nm,0.4s						
YMP	**Mirror Lake PI**	**3.57**	**287**	Pn	**Pn**	**22 03 21.6**	**+0.4**
GCMT	**Greycliff**	**3.66**	**305**	Pn	**Pn**	**22 03 23.8**	**+1.5**
OGNE	**Ogallala**	**3.77**	**138**		**Pn**	**22 03 24.7**	**+1.0**
H17A	**Grant Village**	**3.80**	**281**		**Pn**	**22 03 26.5**	**+2.1**
LOHW	**Long Hollow**	**3.80**	**269**	Pn	**Pn**	**22 03 25.4**	**+1.0**
FLWY	**Flagg Ranch**	**3.86**	**276**	Pn	**Pn**	**22 03 26.4**	**+1.2**
FLWY				IAML		22 04 39.8	
	comp=E,52nm,1.4s						
MOOW	**Moose Ponds**	**3.90**	**271**		**Pn**	**22 03 27.5**	**+1.9**
SNOW	**Snow King Moun**	**3.93**	**267**		**Pn**	**22 03 27.0**	**+0.9**
SNOW				IAML		22 04 44.5	
	comp=E,51nm,1.4s						
SNOW				IAML		22 04 49.1	
	comp=E,43nm,1.6s						
ISCO	**Idaho Springs**	**3.99**	**183**		**Pn**	**22 03 28.2**	**+1.2**
YHH	**Holmes Hill**	**4.06**	**286**		**Pn**	**22 03 30.6**	**+2.6**
TPAW	**Teton Pass**	**4.07**	**268**		**Pn**	**22 03 28.8**	**+0.8**
TPAW				IAML		22 04 55.3	
	comp=E,39nm,1.3s						
FXWY	**Fox Creek**	**4.11**	**270**		**Pn**	**22 03 30.4**	**+1.9**
O20A	**White River Ci**	**4.24**	**211**		**Pn**	**22 03 32.0**	**+1.7**
AHID	**Auburn Hatcher**	**4.31**	**258**		**Pn**	**22 03 33.2**	**+1.8**
AHID				IAML		22 04 50.8	
	comp=E,38nm,1.5s						
AHID				IAML		22 05 04.0	
	comp=E,35nm,1.1s						
E28A	**Huff**	**4.32**	**48**		**Pn**	**22 03 32.7**	**+1.4**
RDMU	**Red Mountain**	**4.48**	**226**		**Pn**	**22 03 35.0**	**+1.3**
RDMU				IAML		22 04 51.8	
	comp=N,30nm,1.3s						
SUSD	**Miller**	**4.66**	**80**	Pn	**Pn**	**22 03 35.7**	**-0.3**
DGMT	**Dagmar**	**4.75**	**9**		**Pn**	**22 03 38.0**	**+0.8**
BOZ	**Bozeman (W)**	**4.82**	**294**		**Pn**	**22 03 39.4**	**+1.1**
BOZ				IAML		22 04 58.3	
	comp=N,22nm,1.1s						
BOZ				IAML		22 04 58.3	
	comp=N,22nm,1.6s						
Q24A	**Divide**	**4.83**	**178**		**Pn**	**22 03 39.3**	**+0.7**
Q24A				IAML		22 05 05.3	
	comp=N,19nm,1.1s						
Q24A				IAML		22 05 06.0	
	comp=E,26nm,1.1s						
HWUT	**Hardware Ranch**	**5.06**	**247**	Pn	**Pn**	**22 03 42.4**	**+0.7**
BSUT	**Blindstream Ca**	**5.16**	**233**		**Pn**	**22 03 44.4**	**+1.2**
BSUT				IAML		22 05 29.9	
	comp=N,16nm,2.5s						
BSUT				IAML		22 06 10.2	
	comp=E,19nm,4.0s						
KSCO	**Kaye Shedlock'**	**5.20**	**156**		**Pn**	**22 03 44.0**	**+0.5**
EGMT	**Eagleton**	**5.22**	**326**	Pn	**Pn**	**22 03 44.5**	**+0.7**
HRY	**Holter Researc**	**5.42**	**305**		**Pn**	**22 03 47.5**	**+1.1**
SPUT	**South Promonto**	**5.79**	**247**		**Pn**	**22 03 53.0**	**+1.4**
PV15	**Paradox Valley**	**5.93**	**204**		**Pn**	**22 03 55.1**	**+1.5**
S22A	**4UR Ranch, Cre**	**6.14**	**191**		**Pn**	**22 03 57.8**	**+1.2**
ECSD	**EROS Data Cent**	**6.34**	**87**		**Pn**	**22 03 59.5**	**+0.5**
MVCO	**Mesa Verde**	**6.99**	**201**	Pn	**Pn**	**22 04 09.7**	**+1.4**
ELK	**Elko**	**7.93**	**251**	Pn	**Pn**	**22 04 18.9**	**-2.2**
	comp=E,0.1nm,0.3s,baz=80,slow=12,SNR=1.9						
	comp=E,0.2nm,0.3s						
AGMN	**Agassiz Nation**	**8.00**	**52**		**Pn**	**22 04 21.6**	**-0.2**
I10CA	**LÀC DU BONNET**	**9.04**	**42**	I	I	22 54 30.0	
	baz=228,slow=346,SNR=1.3						
ULM	**Lac du Bonnet**	**9.15**	**42**	Pn	**Pn**	**22 04 36.9**	**-0.6**
	comp=E,2.7nm,0.3s,baz=228,slow=12,SNR=34						
ULM				Pg		22 05 09.8	
	comp=E,1.2nm,0.3s,baz=220,slow=15,SNR=8.9						
ULM				Lg	Lg	22 07 05.0	
	comp=E,0.4nm,0.3s,baz=152,slow=18,SNR=1.6						
	comp=E,5.0nm,0.3s						
NEW	**Newport**	**9.32**	**303**	Lg	Lg	22 07 08.0	
	comp=E,0.1nm,0.3s,baz=79,slow=12,SNR=1.5						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**22 12 42.1**	**+0.4**
	comp=E,3.0nm,1.0s,baz=321,slow=8.1,SNR=2.0						
	comp=E,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**82.25**	**354**	P	**P**	**22 14 46.2**	**-1.0**
	comp=E,0.5nm,0.6s,baz=15,slow=6.0,SNR=2.6						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**22 15 23.2**	**-0.2**
	comp=E,0.6nm,0.8s,baz=8.4,slow=3.9,SNR=5.3						
	comp=E,0.6nm,0.8s						
MSVF	**Nonsavu**	**92.79**	**248**	LR	LR	22 51 18.7	
	comp=E,433nm,19.2s,baz=298,slow=32						

*ISK **09** 22:05:27.8, 41°.20N×24°.72E, h5km, ML2.8/24*
*BEO **09** 22:05:27.9±0.7, 41°.12N×24°.75E, h2km±2km, ML3.1/11*
*SOF **09** 22:05:27.6, 41°.23N±0°.01×24°.70E±0°.01, h9km±3km, MD3.0/5*
*ATH **09** 22:05:28.5, 41°.21N×24°.71E, h10km±2km, ML2.9/13, Manual Solution by M.Kolligri First location: 2019/02/09 22:06:08, This location: 2019/02/10 02:33:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*AFAD **09** 22:05:28.1, 41°.24N×24°.73E, h37km±1km, ML2.8*
*THE **09** 22:05:28.6, 41°.20N×24°.71E, h6km, ML2.8/17, Error ellipse: s-maj=0.8km s-min=0.4km az=176.0*
ISC 09 22:05:28.1±1.0, 41°.20N±0°.01×24°.74E±0°.01, h5km±9km, n118, σ0°.95/179, 18C-7D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.26**	**220**	P	**Pg**	**22 05 33.7**	**+0.5**
KAVA				S	**Sg**	**22 05 37.8**	**+1.1**
	9μm,0.2s						
KAVA	**Kavala**	**0.26**	**220**	P	**Pg**	**22 05 33.6**	**+0.5**
KAVA				S	**Sg**	**22 05 37.3**	**+0.7**
XANC	**Avdira**	**0.27**	**143**	P	**Pb**	**22 05 34.8**	**-0.7**
XANC				S	**Sb**	**22 05 38.6**	**-1.8**
KVLA	**Kavala**	**0.37**	**226**	P	**Pg**	**22 05 35.7**	**+0.4**
KVLA				S	**Sg**	**22 05 41.0**	**+0.8**
RZN	**Rozhen**	**0.50**	**360**	⇑*i*Pg	**Pg**	**22 05 37.4**	**-0.3**
RZN				Sg	**Sg**	**22 05 43.8**	**-0.3**
THAS	**Thassos island**	**0.59**	**181**	P	**Pb**	**22 05 40.1**	**-0.8**
THAS				S	**Sb**	**22 05 49.2**	**-0.4**
	728nm,0.2s						
THAS	**Thassos island**	**0.59**	**181**	P	**Pb**	**22 05 40.1**	**-0.8**
THAS				S	**Sb**	**22 05 48.7**	**-0.9**
RDO	**Rodhopi**	**0.60**	**95**	Pg	**Pb**	**22 05 40.1**	**-1.1**
RDO				Sg	**Sb**	**22 05 48.5**	**-1.5**
RDO	**Rodhopi**	**0.60**	**95**	P	**Pb**	**22 05 40.0**	**-1.1**
RDO				S	**Sb**	**22 05 48.8**	**-1.2**
	352nm,0.5s						
RDO	**Rodhopi**	**0.60**	**95**	P	**Pb**	**22 05 40.0**	**-1.1**
RDO				S	**Sg**	**22 05 47.9**	**+0.4**
KDZ	**Kurdzhali**	**0.62**	**46**	Pg	**Pb**	**22 05 40.4**	**-1.1**
KDZ	**Kurdzhali**	**0.62**	**46**	Pg	**Pg**	**22 05 39.6**	**-0.5**
KDZ				Sg	**Sg**	**22 05 48.4**	**+0.2**
KOKK	**Kokkinochori,**	**0.68**	**236**	P	**Pg**	**22 05 40.8**	**-0.3**
KOKK				S	**Sg**	**22 05 50.4**	**+0.5**
	590nm,0.4s						
NVR	**Nevrokopi**	**0.68**	**283**	P	**Pg**	**22 05 41.0**	**-0.1**
NVR				S	**Sg**	**22 05 51.0**	**+1.1**
	498nm,0.5s						
NVR	**Nevrokopi**	**0.68**	**283**	P	**Pg**	**22 05 41.1**	**0.0**
NVR				S	**Sg**	**22 05 50.2**	**+0.3**
MMB	**Musomishta**	**0.82**	**295**	⇑*i*Pg	**Pg**	**22 05 42.3**	**-1.6**
MMB				Sg	**Sg**	**22 05 54.1**	**-0.5**
SRS	**Serrai**	**0.87**	**265**	P	**Pg**	**22 05 43.8**	**-1.0**
SRS				S	**Sg**	**22 05 56.8**	**+0.7**
	942nm,0.3s						
SRS	**Serrai**	**0.87**	**265**	*e*Pg	**Pg**	**22 05 43.7**	**-1.0**
SRS				*e*Sg	**Sg**	**22 05 56.6**	**+0.6**
SRS	**Serrai**	**0.87**	**265**	P	**Pg**	**22 05 44.0**	**-0.8**
SRS				S	**Sg**	**22 05 56.7**	**+0.6**
SMTH	**Samothraki Isl**	**0.94**	**140**	P	**Pb**	**22 05 46.7**	**-0.2**
SMTH				S	**Sn**	**22 06 00.6**	**-1.3**
	322nm,0.6s						
SMTH	**Samothraki Isl**	**0.94**	**140**	P	**Pb**	**22 05 46.8**	**-0.2**
SMTH				S	**Sb**	**22 06 00.2**	**+0.4**
ALEX	**Alexandroupoli**	**0.94**	**111**	P	**Pb**	**22 05 47.0**	**0.0**
ALEX				S	**Sn**	**22 06 00.7**	**-1.3**
PLD	**Plovdiv**	**0.95**	**0**	Pg	**Pg**	**22 05 45.7**	**-0.6**
PLD				Sg	**Sg**	**22 05 58.6**	**0.0**
PLD	**Plovdiv**	**0.95**	**0**	*e*Pg	**Pg**	**22 05 45.6**	**-0.7**
PLD				*e*Sg	**Sb**	**22 05 59.8**	**-0.1**
NGRA	**Nigrita**	**0.98**	**253**	P	**Pg**	**22 05 46.5**	**-0.5**
NGRA				S	**Sg**	**22 06 00.3**	**+0.6**
ALN	**Alexandroupoli**	**1.03**	**106**	Pg	**Pb**	**22 05 48.4**	**-0.1**
ALN	**Alexandroupoli**	**1.03**	**106**	P	**Pb**	**22 05 48.1**	**-0.4**
ALN				S	**Sn**	**22 06 04.0**	**-0.1**
	575nm,0.6s						
OUR	**Ouranopolis**	**1.04**	**214**	Pg	**Pg**	**22 05 48.2**	**+0.3**
OUR				Sg	**Sb**	**22 06 02.8**	**+0.4**
OUR	**Ouranopolis**	**1.04**	**214**	P	**Pg**	**22 05 48.1**	**+0.1**
OUR				S	**Sb**	**22 06 02.6**	**+0.2**
	2μm,0.4s						
OUR	**Ouranopolis**	**1.04**	**214**	P	**Pg**	**22 05 48.3**	**+0.3**
SOH	**Sokhos**	**1.11**	**251**	P	**Pg**	**22 05 48.8**	**-0.6**
SOH				S	**Sb**	**22 06 05.4**	**+0.7**
	540nm,0.5s						
ENEZ	**Enez**	**1.17**	**113**	Pn	**Pn**	**22 05 50.8**	**-0.3**
ENEZ	**Enez**	**1.17**	**113**	P	**Pn**	**22 05 51.6**	**+0.5**
ENEZ				S	**Sn**	**22 06 07.8**	**+0.4**
	478nm,0.5s						
CAVK	**Edirne/Enez-Ca**	**1.19**	**115**	P	**Pn**	**22 05 51.0**	**-0.5**
CAVK				S	**Sn**	**22 06 08.0**	**-0.1**
CAVK				*i* AML	AML	22 06 11.0	
	comp=N,274nm,0.7s						
CAVK				*i* AML	AML	22 06 15.0	
	comp=E,212nm,0.6s						
CAVK	**Edirne/Enez-Ca**	**1.19**	**115**	⇑P	**Pn**	**22 05 52.7**	**+1.2**
CAVK				⇓S	**Sn**	**22 06 10.3**	**+2.2**
TRGA	**Dikaia**	**1.27**	**66**	P	**Pn**	**22 05 52.3**	**-0.3**
PLG	**Polygyros**	**1.28**	**230**	P	**Pg**	**22 05 51.9**	**-0.8**
PLG				S	**Sb**	**22 06 09.9**	**+0.3**
	742nm,0.5s						
PLG	**Polygyros**	**1.28**	**230**	P	**Pg**	**22 05 51.9**	**-0.8**
GADA	**Gvkgeada**	**1.34**	**138**	Pn	**Pg**	**22 05 53.8**	**+0.1**
LIA	**Limnos Island**	**1.34**	**165**	P	**Pn**	**22 05 53.1**	**-0.4**
LIA				S	**Sn**	**22 06 12.8**	**+1.1**
	808nm,0.5s						
LIA	**Limnos Island**	**1.34**	**165**	P	**Pn**	**22 05 53.3**	**-0.2**
LIA				S	**Sg**	**22 06 10.6**	**-0.6**
GOAD	**anakkale-G¶**	**1.36**	**139**	P	**Pg**	**22 05 54.2**	**0.0**
GOAD				S	**Sn**	**22 06 13.1**	**+0.7**
GOAD				*i* AML	AML	22 06 16.0	
	comp=N,177nm,0.3s						
GOAD				*i* AML	AML	22 06 19.0	
	comp=E,175nm,0.4s						
KKB	**Krupnik**	**1.37**	**299**	P	**Pn**	**22 05 53.1**	**-0.9**
KKB				S	**Sb**	**22 06 12.1**	**0.0**
HORT	**Hortiatis**	**1.38**	**245**	Pn	**Pn**	**22 05 53.6**	**-0.5**
HORT	**Hortiatis**	**1.38**	**245**	P	**Pn**	**22 05 53.2**	**-1.0**
HORT				S	**Sb**	**22 06 12.4**	**0.0**
	495nm,0.6s						
HORT	**Hortiatis**	**1.38**	**245**	P	**Pn**	**22 05 53.1**	**-1.0**
HORT				S	**Sb**	**22 06 12.6**	**+0.1**
PGB	**Panagyurishte**	**1.38**	**342**	Sg	**Sg**	**22 06 12.4**	**-0.1**
PGB				P	**Pn**	**22 05 53.2**	**-0.9**
UKOP	**Uzunkopru-Edir**	**1.43**	**92**	Pn	**Pb**	**22 05 54.9**	**-0.4**
ERIK	**Erikli-Kesan**	**1.44**	**111**	Pn	**Pg**	**22 05 55.3**	**-0.4**
THE	**Thessaloniki**	**1.46**	**248**	P	**Pn**	**22 05 54.9**	**-0.2**
THE				S	**Sn**	**22 06 14.7**	**+0.1**
	218nm,0.6s						
THE	**Thessaloniki**	**1.46**	**248**	P	**Pn**	**22 05 55.0**	**-0.1**
THE				S	**Sn**	**22 06 13.2**	**-1.5**
PEHC	**Pehcevo**	**1.50**	**293**	*i* Pn	**Pn**	**22 05 55.6**	**-0.2**
PEHC				*e*Sn	**Sg**	**22 06 17.6**	**+1.3**
PAIG	**Paliouri**	**1.50**	**213**	Pn	**Pn**	**22 05 55.2**	**-0.6**
PAIG	**Paliouri**	**1.50**	**213**	P	**Pn**	**22 05 55.0**	**-0.8**
PAIG				S	**Sb**	**22 06 16.2**	**+0.3**
	192nm,0.6s						
GELI	**Tayfur-Gelibol**	**1.54**	**121**	Pn	**Pb**	**22 05 56.7**	**-0.4**
ECEA	**Canakkale, Ece**	**1.59**	**136**	P	**Pg**	**22 06 01.9**	**+3.4**
ECEA				S	**Sg**	**22 06 18.5**	**-0.6**
PLNA	**Plana**	**1.61**	**323**	P	**Pb**	**22 05 58.2**	**-0.2**
PLNA				Sg	**Sg**	**22 06 20.6**	**+0.7**
EDRB	**Edirne**	**1.64**	**66**	Pn	**Pb**	**22 05 58.0**	**-0.8**
EDRB	**Edirne**	**1.64**	**66**	P	**Pb**	**22 05 58.0**	**-0.8**
EDRB				S	**Sg**	**22 06 20.3**	**-0.4**
	150nm,0.6s						
VAY	**Valandovo**	**1.64**	**275**	*i* Pn	**Pn**	**22 05 57.9**	**+0.3**
VAY				*e*Sn	**Sg**	**22 06 20.9**	**+0.1**
VAY	**Valandovo**	**1.64**	**275**	*e*Pg	**Pn**	**22 05 57.7**	**+0.1**
VAY				*e*Sg	**Sb**	**22 06 20.5**	**+0.7**
BOZC	**Bozcaada**	**1.68

COVR	Voineasa-Covas	4.77	12	⇑P	Pn	22 06 42.0	+1.4
DOPR	Dopca	4.79	5	⇑P	Pn	22 06 42.7	+1.7
PLOR	Plostina	4.85	16	⇑P	Pn	22 06 43.5	+1.7
VRI	Vrincioaia	4.88	17	⇑P	Pn	22 06 44.5	+2.3
BZS	Buzias	4.97	334	⇑P	Pn	22 06 44.6	+1.3
TESR	Tescani	5.49	14	⇓P	Pn	22 06 53.0	+2.4
SIRR	Siria	5.54	337	⇓P	Pn	22 06 52.1	+0.9
MARR	Marisel-Cluj	5.60	348	⇑P	Pn	22 06 54.4	+2.3
BURAR	Bucovina Array	6.42	3	⇑P	Pn	22 07 05.0	+1.5

*IDC **09** 22:08:21.9±1.7, 33°.33N×139°.61E, h159km±12km, mb3.7/19, mbtmp4.1/23, Error ellipse: s-maj=23.8km s-min=11.7km az=82.0*
*JMA **09** 22:08:22.9±0.2, 33°.4N±0°.5×139°.5E±0°.9, h162km±2km, MV3.4/33, NEAR HACHIJOJIMA ISLAND*
*NEIC **09** 22:08:23.2±2.7, 33°.32N±0°.08×139°.5E±0°.1, h171km±5km, mb4.0/18, Error ellipse: s-maj=14.2km s-min=10.6km az=73.0*
ISC 09 22:08:22.8±0.7, 33°.41N±0°.05×139°.50E±0°.06, h164km±5km, n86, σ1.36/93, mb4.0/28, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.40	139		Pn	22 08 45.1	-0.1
JHJ2				Sn	Sn	22 09 04.0	+1.5
JHJ2	Mitsune	0.40	139	P	Pn	22 08 45.4	+0.1
JHJ2	Mitsune	0.40	139	S	Sn	22 09 05.0	+2.5
JHJ2	Mitsune	0.40	139	P	Pn	22 08 45.2	-0.1
JHCJ	Hachijojimakas	0.42	144	P	Pn	22 08 45.2	-0.2
JMYK	Miyake Tsubota	0.65	3	eP	Pn	22 08 46.7	+0.3
JKO	Kozu shima	0.83	338	P	Pn	22 08 47.8	+0.2
JIZS	Izushimoda	1.40	338	P	Pn	22 08 52.8	+0.4
JIZS				S	Sn	22 09 16.0	+0.7
BSO3	Boso 3	1.62	31	P	Pn	22 08 55.7	+1.4
JSG	Sagara	1.67	319	Pn	Pn	22 08 55.7	+0.7
JSG	Sagara	1.67	319	P	Pn	22 08 56.0	+0.9
BSO1	Boso 1	1.74	44	P	Pn	22 08 56.5	+1.2
BSO1				eS	Sn	22 09 22.9	+2.4
JOD2	Odawara 2	1.88	350	P	Pn	22 08 58.2	+0.9
SHZ3	Shizuoka 3	1.96	327	P	Pn	22 08 59.1	+0.7
SHZ3				S	Sn	22 09 27.6	+1.6
TTO2	TONANKAI O.B.S	2.09	279	P	Pn	22 08 59.6	+0.2
JYN	Shimob	2.22	339	P	Pn	22 09 02.5	+1.1
TTO1	TONANKAI O.B.S	2.28	276	P	Pn	22 09 01.7	+0.1
JIE	Ise	2.52	294	P	Pn	22 09 04.7	-0.1
JIE				S	Sn	22 09 36.8	-0.6
JRY	Ryogami san	2.64	349	P	Pn	22 09 07.4	+1.1
JRY				eS	Sn	22 09 41.8	+1.6
JGF	Kuroka	2.81	322		Pn	22 09 08.2	-0.2
JGF	Kuroka	2.81	322	P	Pn	22 09 08.6	+0.2
INU	Inuyama	2.82	314		Pn	22 09 08.8	+0.4
INU	Inuyama	2.82	314	P	Pn	22 09 09.1	+0.7
MJAR	Matsushiro Arr	3.30	342	P	Pn	22 09 15.2	+0.8
MJAR	7.5nm,0.7s,baz=160,slow=12,SNR=28			S	Sn	22 09 55.4	+0.8
	6.9nm,0.6s,baz=144,slow=18,SNR=7.9						
MAJO	Matsushiro	3.30	342	Pn	Pn	22 09 14.7	+0.3
MAJO	Matsushiro	3.30	342	P	Pn	22 09 14.9	+0.5
MJB9	Matsu-Tunnel	3.30	342	Pn	Pn	22 09 15.5	+1.0
JMM	Marumori	4.56	13		Pn	22 09 30.2	-0.5
JMM	Marumori	4.56	13	P	Pn	22 09 30.3	-0.4
JMN	Monobe	4.71	275	P	Pn	22 09 32.5	-0.1
JSD	Sado	4.72	348	Pn	Pn	22 09 31.8	-1.0
JCJ	Chichijima	6.71	159	Pn	Pn	22 09 55.8	-3.3
JCJ	Chichijima	6.71	159	P	Pn	22 09 49.6	-9.4
JCJ	108nm,0.6s,baz=287,slow=19,SNR=5.4			S	Sn	22 11 01.2	-13
	76nm,0.4s,baz=288,slow=22,SNR=7.2						
JCJ	Chichijima	6.71	159	P	Pn	22 09 56.4	-2.7
JNU	Nakatsue	7.23	270	Pn	Pn	22 10 06.2	+0.2
JNU	Nakatsue	7.23	270	P	Pn	22 10 08.0	+2.1
	3.9nm,0.5s,baz=73,slow=11,SNR=8.6						
JTM	Tenmabayashi	7.46	9	Pn	Pn	22 10 08.0	-0.9
JTM	Tenmabayashi	7.46	9	P	Pn	22 10 08.3	-0.6
JTM	Tenmabayashi	7.46	9	S	Sn	22 11 32.1	-0.4
ERM	Erimo	9.06	18	Pn	Pn	22 10 28.3	-1.8
JEM	Erimo	9.06	18	P	Pn	22 10 28.8	-1.2
KSRS	Korea Array	10.27	296	P	Pn	22 10 47.2	+1.1
	1.5nm,0.7s,baz=115,slow=14,SNR=3.0						
ASAJ	Asahikawa	10.95	12	P	Pn	22 10 53.2	-1.7
	2.9nm,0.3s,baz=211,slow=11,SNR=17						
ASAJ				S	Sn	22 12 49.9	-6.4
	5.0nm,1.0s,baz=125,slow=32,SNR=1.4						
JKA	Kamikawa-asahi	10.95	12	Pn	Pn	22 10 52.7	-2.3
KLR	Kul'dur	16.82	342	P	P	22 12 06.0	-2.0
KLR	Kul'dur	16.82	342	P	P	22 12 06.0	-2.0
	1.0nm,0.4s,baz=194,slow=3.3,SNR=4.0						
H11N2	WAKE ISLAND Hy 27.93	112		T	T	22 43 14.6	
	baz=306,slow=75,SNR=9.0						
H11N1	WAKE ISLAND Hy 27.94	112		T	T	22 43 17.7	
	baz=306,slow=75,SNR=4.6						
H11N3	WAKE ISLAND Hy 27.95	112		T	T	22 43 11.2	
	baz=306,slow=75,SNR=4.8						
SONM	Songino Array	28.71	310	P	P	22 14 05.1	+0.5
	0.4nm,0.6s,baz=112,slow=8.9,SNR=5.2						
	0.4nm,0.6s						
CMAR	Chiang Mai Arr	39.14	258	P	P	22 15 35.2	+0.6
	2.4nm,0.3s,baz=59,slow=9.7,SNR=2.1						
	2.4nm,0.3s						
ZALV	Zalesovo Beam	43.29	315	P	P	22 16 07.5	-0.4
	0.9nm,0.5s,baz=98,slow=11,SNR=4.5						
ZALV				PcP	PcP	22 17 53.9	+0.1
	0.6nm,0.5s,baz=111,slow=3.9,SNR=3.7						
	0.9nm,0.5s						
MK31	Makanchi Array	44.81	305	P	P	22 16 20.0	-0.2
MKAR	Makanchi Array	44.81	305	P	P	22 16 20.1	-0.2
	1.5nm,0.5s,baz=86,slow=9.7,SNR=34						
MKAR				PcP	PcP	22 17 59.7	+0.5
	0.2nm,0.5s,baz=97,slow=3.1,SNR=2.4						
	1.5nm,0.5s						
MAKZ	Makanchi	45.02	305	P	P	22 16 21.7	-0.2
NRIK	Noril'sk	45.94	337	P	P	22 16 29.4	+0.7
NRIK				IAmb	IAmb	22 16 30.9	
	comp=Z,6.6nm,1.3s						
NRIK	Noril'sk	45.94	337	P	P	22 16 29.6	+0.9
	comp=Z,2.3nm,0.4s,baz=111,slow=6.3,SNR=5.0						
	comp=Z,2.3nm,0.4s						
KURK	Kurchatov	47.01	311	P	P	22 16 36.9	-0.5
KURK				IAmb	IAmb	22 16 38.1	
	comp=Z,3.7nm,0.9s						
KURBB	Kurchatov Arra	47.08	310	P	P	22 16 37.5	-0.3
	comp=Z,2.2nm,0.2s,baz=85,slow=7.5,SNR=12						
	comp=Z,2.2nm,0.2s						
C18K	Utukok River	48.21	25	P	P	22 16 47.6	+1.3
H18K	Honhosa River	48.55	30	P	P	22 16 50.3	+1.3
G18K	Tagagawik	48.56	29	P	P	22 16 50.1	+1.0
G18K				IAmb	IAmb	22 16 59.5	
	comp=Z,7.1nm,1.4s						
E19K	Redstone River	49.40	27	P	P	22 16 57.6	+2.3
E19K				IAmb	IAmb	22 17 23.8	
	comp=Z,5.1nm,1.4s						
B21K	Ikpikpuk River	50.72	24	P	P	22 17 07.0	+1.7
B22K	Teshekpuk Lake	51.24	24	P	P	22 17 10.9	+1.8
B22K				IAmb	IAmb	22 17 34.4	
	comp=Z,8.0nm,1.5s						
BVAR	Borovoye Array	51.91	314	P	P	22 17 14.2	-0.2
	comp=Z,1.2nm,0.7s,baz=91,slow=8.2,SNR=7.3						
BVAR				PcP	PcP	22 18 25.1	+0.3
	comp=Z,0.9nm,0.7s,baz=92,slow=3.5,SNR=4.9						
	comp=Z,1.2nm,0.7s						
D24K	Happy Valley	52.70	25	P	P	22 17 21.8	+1.8
D24K				IAmb	IAmb	22 17 47.8	
	comp=Z,4.3nm,1.3s						
WB0	Warramunga Arr	53.11	186	P	P	22 17 21.8	-1.7
WB0				IAmb	IAmb	22 17 41.0	
	comp=Z,4.9nm,1.1s						
WRA	Warramunga Arr	53.29	186	P	P	22 17 23.1	-1.7
	comp=Z,0.4nm,0.3s,baz=1.7,slow=7.8,SNR=13						
	comp=Z,0.4nm,0.3s						
CHGR	Chuyangaron	55.86	297	P	P	22 17 42.1	-1.3
E28M	Babbage River	56.08	26	P	P	22 17 47.2	+2.9
E28M				IAmb	IAmb	22 17 57.5	
	comp=Z,3.7nm,1.4s						
AS31	Alice Springs	57.01	186	P	P	22 17 50.3	-1.2
ASAR	Alice Springs	57.01	186	P	P	22 17 50.2	-1.3
	comp=Z,0.3nm,0.6s,baz=22,slow=12,SNR=7.3						
	comp=Z,0.3nm,0.6s						
ARTI	Arti	58.17	320	P	P	22 17 59.1	-0.1
INK	Inuvik	58.31	26	P	P	22 18 01.0	+1.1
INK				IAmb	IAmb	22 18 15.4	
	comp=Z,4.3nm,1.4s						
ABKAR	Akbulak array	59.11	311	P	P	22 18 05.5	-0.3
ABKAR				IAmb	IAmb	22 18 06.3	
	comp=Z,1.5nm,0.8s						
AKTO	Aktyubinsk	59.96	313	P	P	22 18 11.7	+0.1
	comp=Z,2.5nm,0.7s,baz=74,slow=11,SNR=5.7						
	comp=Z,2.5nm,0.7s						
SPITS	Spitsbergen Ar	63.76	349	P	P	22 18 37.9	+1.3
	comp=Z,4.7nm,0.8s,baz=90,slow=7.2,SNR=6.1						
	comp=Z,4.7nm,0.8s						
STKA	Stephens Creek	64.97	178	P	P	22 18 44.7	-0.2
	comp=Z,1.1nm,0.5s,baz=330,slow=11,SNR=4.2						
	comp=Z,1.1nm,0.5s						
ARCES	ARCESS Array B	66.83	340	P	P	22 18 57.2	+0.8
	comp=Z,3.2nm,0.8s,baz=72,slow=8.9,SNR=7.7						
	comp=Z,3.2nm,0.8s						
FINES	FINESS Array B	71.28	332	P	P	22 19 24.3	+0.4
	comp=Z,1.3nm,0.4s,baz=58,slow=4.1,SNR=18						
	comp=Z,1.3nm,0.4s						
KBZ	Khabaz	72.07	311	P	P	22 19 29.9	+0.9
	comp=Z,3.1nm,0.8s,baz=90,slow=5.0,SNR=11						
	comp=Z,3.1nm,0.8s						
AKASG	Malin Array Be	76.19	322	P	P	22 19 52.8	0.0
	comp=Z,0.5nm,0.4s,baz=52,slow=5.8,SNR=7.6						
	comp=Z,0.5nm,0.4s						
HFS	Hagfors	76.73	335	P	P	22 19 56.0	+0.4
	comp=Z,2.9nm,0.8s,baz=44,slow=4.4,SNR=2.0						
	comp=Z,2.9nm,0.8s						
NOA	NORSAR Array B	76.90	337	P	P	22 19 57.0	+0.4
	comp=Z,1.4nm,0.8s,baz=45,slow=5.5,SNR=3.9						
	comp=Z,1.4nm,0.8s						
BRTR	Keskin Array B	80.06	311	P	P	22 20 15.3	+0.8
	comp=Z,0.9nm,0.8s,baz=113,slow=5.0,SNR=5.8						
	comp=Z,0.9nm,0.8s						

*IDC **09** 22:13:27.7±0.7, 9°.77N×126°.34E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=35.0km s-min=11.6km az=83.0*
*NEIC **09** 22:13:30.4±1.4, 9°.78N±0°.09×126°.2E±0°.1, h10km±1km, mb4.5/22, Error ellipse: s-maj=23.8km s-min=14.5km az=78.0*
ISC 09 22:13:36.6±0.6, 9°.72N±0°.08×126°.2E±0°.2, h67km, n44, σ0.70/37, mb4.2/24, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.71	193	Pn	Pn	22 14 11.9	-6.0
DAV	Davao City (W)	2.71	193	Pg	Pn	22 14 18.0	+0.2
	52nm,0.3s,baz=4.8,slow=12,SNR=4.6						
DAV				Lg	Lg	22 14 55.8	
	49nm,0.3s,baz=320,slow=23,SNR=3.6						
MTN	Manton Dam	22.95	168	P	P	22 18 34.0	-1.5
MYKOM	Kota Tinggi	23.58	252	P	P	22 18 41.2	-0.3
MYKOM				IAmb	IAmb	22 18 52.6	
	comp=Z,16nm,1.1s						
KNRA	Kununurra	25.36	174	P	P	22 18 57.6	0.0
IPM	Ipoh	25.52	260	P	P	22 18 59.4	+0.2
IPM				IAmb	IAmb	22 19 04.6	
	comp=Z,5.3nm,0.7s						
FITZ	Fitzroy Crossi	27.65	181	P	P	22 19 18.6	+0.4
FITZ	Fitzroy Crossi	27.65	181	P	P	22 19 18.5	+0.4
	comp=Z,12nm,0.7s,baz=6.3,slow=9.8,SNR=8.9						
	comp=Z,12nm,0.7s						
COEN	Coen	28.93	144	P	P	22 19 28.9	-0.7
COEN				IAmb	IAmb	22 19 55.0	
	comp=Z,20nm,1.4s						
WB0	Warramunga Arr	30.39	165	P	P	22 19 42.2	-0.4
WB0				IAmb	IAmb	22 19 42.3	
	comp=Z,16nm,1.5s						
WRA	Warramunga Arr	30.55	165	P	P	22 19 42.3	-1.6
	comp=Z,0.5nm,0.5s,baz=331,slow=10.0,SNR=6.2						
	comp=Z,0.5nm,0.5s						
MBWA	Marble Bar	31.34	192	P	P	22 19 50.9	0.0
AS31	Alice Springs	34.02	167	P	P	22 20 14.3	-0.1
ASAR	Alice Springs	34.03	167	P	P	22 20 13.6	-0.8
	comp=Z,0.5nm,0.3s,baz=349,slow=7.4,SNR=20						
	comp=Z,0.5nm,0.3s						
MORW	Morawa	39.79	194		P	22 21 04.3	+1.1
MORW				IAmb	IAmb	22 21 28.5	
	comp=Z,8.0nm,1.1s						
H11S3	WAKE ISLAND Hy 40.13	73		T	T	23 04 00.7	
	baz=262,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy 40.15	73		T	T	23 03 58.7	
	baz=262,slow=75,SNR=10.0						
H11S2	WAKE ISLAND Hy 40.15	73		T	T	23 04 02.9	
	baz=262,slow=75,SNR=10						
H11N1	WAKE ISLAND Hy 40.49	71		T	T	23 04 33.7	
	baz=265,slow=74,SNR=23						
H11N2	WAKE ISLAND Hy 40.49	71		T	T	23 04 33.7	
	baz=265,slow=74,SNR=18						
H11N3	WAKE ISLAND Hy 40.50	71		T	T	23 04 30.7	
	baz=265,slow=74,SNR=19						
ULN	Ulaanbaatar	41.32	340	P	P	22 21 15.9	+0.1
SONM	Songino Array	41.51	340	P	P	22 21 16.8	-0.6
	comp=Z,0.3nm,0.7s,baz=149,slow=8.2,SNR=4.9						
	comp=Z,0.3nm,0.7s						
NWAO	Narrogin (SRO)	43.27	191	P	P	22 21 32.6	+1.0
STKA	Stephens Creek	43.91	161	P	P	22 21 36.1	-0.6
STKA				IAmb	IAmb	22 21 48.0	
	comp=Z,5.5nm,1.1s						
STKA	Stephens Creek	43.91	161	P	P	22 21 36.5	-0.2
	comp=Z,2.1nm,0.5s,baz=333,slow=8.8,SNR=5.9						
	comp=Z,2.1nm,0.5s						
MK31	Makanchi Array	52.43	323	P	P	22 22 42.5	+0.1
MKAR	Makanchi Array	52.43	323	P	P	22 22 42.4	0.0
	comp=Z,1.1nm,0.6s,baz=121,slow=8.2,SNR=18						
	comp=Z,1.1nm,0.6s						
ZALV	Zalesovo Beam	55.08	332	P	P	22 23 01.9	+0.3
	comp=Z,0.2nm,0.3s,baz=126,slow=7.4,SNR=2.1						
	comp=Z,0.2nm,0.3s						
KURK	Kurchatov	56.48	326	P	P	22 23 11.3	-0.4
KURBB	Kurchatov Arra	56.49	326	P	P	22 23 11.4	-0.3
	comp=Z,0.5nm,0.3s,baz=126,slow=7.1,SNR=4.2						
	comp=Z,0.5nm,0.3s						
GAR	Garm	57.60	310	P	P	22 23 19.0	-1.0
GAR				IAmb	IAmb	22 23 28.4	
	comp=Z,12nm,1.5s						
BVAR	Borovoye Array	62.08	326	P	P	22 23 50.6	+0.3
	comp=Z,0.4nm,0.7s,baz=160,slow=4.9,SNR=2.3						
	comp=Z,0.4nm,0.7s						
BKZ	Black Stump Fm	67.41	140	P	P	22 24 26.1	+0.9
GURO	Guroymak-BITLI	79.48	307	P	P	22 25 36.4	0.0
GURO				IAmb	IAmb	22 25 39.1	
	comp=Z,2.3nm,0.8s						
F24K	Squaw Lake	79.52	23	P	P	22 25 35.8	0.0
F24K				IAmb	IAmb	22 25 53.7	
	comp=Z,4.2nm,1.4s						
ILAR	Eielson Array	79.96	26	P	P	22 25 37.4	-0.9
	comp=Z,0.3nm,0.8s,baz=246,slow=5.0,SNR=5.4						
	comp=Z,0.3nm,0.8s						
I28M	Miner Creek	82.83	25	P	P	22 25 54.7	+1.1
I28M				IAmb	IAmb	22 26 12.3	
	comp=Z,6.8nm,1.4s						
H29M	Whitestone	83.36	24	P	P	22 25 57.3	+1.1
H29M				IAmb	IAmb	22 26 08.0	
	comp=Z,7.6nm,1.4s						
HYT	Haines Junctio	84.64	29	P	P	22 26 03.6	+0.7
HYT				IAmb	IAmb	22 26 17.0	
	comp=Z,4.2nm,1.2s						
ARCES	ARCESS Array B	84.68	340	P	P	22 26 03.3	+0.4
	comp=Z,0.7nm,0.5s,baz=78,slow=5.8,SNR=11						
	comp=Z,0.7nm,0.5s						
FINES	FINESS Array B	86.34	332	P	P	22 26 11.4	+0.3
	comp=Z,1.7nm,0.5s,baz=57,slow=7.0,SNR=11						
	comp=Z,1.7nm,0.5s						
HFS	Hagfors	92.50	332	P	P	22 26 39.9	-0.3
	comp=Z,3.5nm,0.9s,baz=72,slow=4.8,SNR=5.0						
	comp=Z,3.5nm,0.9s						
PLCA	Paso Flores	145.73	157	PKPbc	PKPab	22 33 09.8	+1.0
	comp=Z,1.9nm,0.8s,baz=236,slow=3.6,SNR=3.9						

*SJA **09** 22:14:55.8±0.7, 32°.39S×70°.05W, h121km±3km, ML3.5, MW3.5*
*GUC **09** 22:14:57.7±0.8, 32°.37S×70°.23W, h114km±5km, ML3.8*
ISC 09 22:14:56.8±1.4, 32°.39S±0°.03×70°.13W±0°.05, h124km±9km, n43, σ1.06/80, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	San Esteban	0.52	223	eP	Pn	22 15 15.1	-0.4
VA03				eS	Sn	22 15 29.5	0.0
VA03				IAML		22 15 29.8	
	comp=Z,3μm,0.1s						
VA03	San Esteban	0.52	223	⇑iP	Pn	22 15 15.1	-0.4
VA03				eS	Sn	22 15 29.0	-0.6
VA03				IAML		22 15 30.0	
	comp=E,13μm,0.3s						
PEL	Peldehue	0.89	212	eP	Pn	22 15 17.9	-0.3
PEL				eS	Sn	22 15 34.1	-0.3
PEL	Peldehue	0.89	212	iP	Pn	22 15 17.9	-0.3
PEL				eS	Sn	22 15 33.8	-0.7
PEL				IAML		22 15 34.8	
	comp=E,2μm,0.5s						
RTLS	Leoncito	0.92	50	iP	Pn	22 15 17.7	-1.1
RTLS				eS	Sn	22 15 33.8	-1.5
RTLS				IAML		22 15 35.0	
	comp=Z,2μm,0.3s						
ROCH	El Roble	0.95	232	⇑iP	Pn	22 15 18.9	0.0
ROCH				⇑iP	Pn	22 15 18.9	0.0
ROCH				eS	Sn	22 15 35.1	-0.6
ROCH				eS		22 15 35.3	
ROCH				IAML		22 15 37.1	
	comp=N,1μm,0.3s						
MT10	Hacienda Santa	0.95	201	⇑iP	Pn	22 15 19.2	+0.3
MT10				eS	Sn	22 15 35.6	0.0
MT10				IAML		22 15 37.1	
	comp=N,5μm,0.6s						
ROC1	El Roble	0.95	232	eP	Pn	22 15 18.3	-0.7
ROC1				eS	Sn	22 15 36.1	+0.3
MT04	Ro Olivares	1.01	180	eP	Pn	22 15 20.2	+0.6
MT04				eS	Sn	22 15 36.0	-0.9
MT04				IAML		22 15 44.7	
	comp=Z,312nm,0.5s						
MT04	Ro Olivares	1.01	180	⇑iP	Pn	22 15 20.2	+0.6
MT04				eS	Sn	22 15 37.2	+0.3
MT08	Bocatoma Ro	1.06	175	eP	Pn	22 15 20.7	+0.7
MT08				eS	Sn	22 15 26.2	-11
MT08	Bocatoma Ro	1.06	175	⇓iP	Pn	22 15 20.7	+0.7
MT08				eS	Sn	22 15 38.9	+1.2
MT14	Cerro Cal¡n	1.06	199	eP	Pn	22 15 20.4	+0.4
MT14				eS	Sn	22 15 37.7	+0.3
MT14				IAML		22 15 39.1	
	comp=E,2μm,0.5s						
MT16	CCHEN	1.09	198	eP	Pn	22 15 20.5	+0.4
MT16				eS	Sn	22 15 38.1	+0.2
MT05	Renca	1.13	207	eP	Pn	22 15 21.0	+0.5
MT05				eS	Sn	22 15 39.4	+0.9
MT05				IAML		22 15 41.0	
	comp=Z,1μm,0.3s						
MT05	Renca	1.13	207	eP	Pn	22 15 21.1	+0.6
MT05				eS	Sn	22 15 39.0	+0.5
MT05				IAML		22 15 39.8	
	comp=N,6μm,0.3s						
MT03	Universidad Ad	1.15	196	eP	Pn	22 15 21.4	+0.6
MT03				eS	Sn	22 15 39.9	+0.8
MT03				IAML		22 15 41.2	
	comp=Z,2μm,0.3s						
MT03	Universidad Ad	1.15	196	eP	Pn	22 15 21.4	+0.6
MT03				eS	Sn	22 15 39.2	+0.2
MT03				IAML		22 15 41.2	
	comp=E,4μm,0.3s						
MT02	Curacav	1.22	224	eP	Pn	22 15 21.3	-0.1
MT02				eS	Sn	22 15 39.8	-0.2
MT02				IAML		22 15 44.3	
	comp=Z,247nm,0.3s						
MT02	Curacav	1.22	224	eP	Pn	22 15 21.2	-0.1
MT02				eS	Sn	22 15 39.3	-0.7
MT15	Las Vizcachas	1.25	195	eP	Pn	22 15 21.8	0.0
MT15				eS	Sn	22 15 40.7	-0.1
MT15				IAML		22 15 45.4	
	comp=E,2μm,0.2s						
MT13	San Alfonso	1.36	186	eP	Pn	22 15 23.9	+0.8
MT13				eS	Sn	22 15 44.5	+1.5
MT13				IAML		22 15 45.7	
	comp=Z,254nm,0.5s						
MT13	San Alfonso	1.36	186	eP	Pn	22 15 23.8	+0.8
MT13				eS	Sn	22 15 43.9	+0.9
MT12	Pirque	1.39	195	iP	Pn	22 15 24.0	+0.7
MT12				eS	Sn	22 15 43.9	+0.4
MT12				IAML		22 15 46.0	
	comp=E,2μm,0.2s						
VA01	Torpederas	1.43	243	eP	Pn	22 15 24.0	+0.4
VA01				IAML		22 15 50.2	
	comp=Z,178nm,0.1s						
LMEL	Las Melosas	1.46	182	eP	Pn	22 15 25.2	+1.0
LMEL				eS	Sn	22 15 47.8	+2.7
MT09	Talagante	1.56	207	iP	Pn	22 15 25.5	+0.1
MT09				eS	Sn	22 15 47.1	-0.1
MT09				IAML		22 15 48.3	
	comp=N,1μm,0.3s						
SJA	San Juan	1.58	58	eP	Pn	22 15 10.0	-16
SJA				eS	Sn	22 15 46.2	-1.2
SJA				IAML		22 15 46.8	
	comp=Z,345nm,0.3s						
CO03	El Pedregal	1.62	343	eP	Pn	22 15 26.2	+0.2
CO03				eS	Sn	22 15 48.5	+0.3
CO03				IAML		22 15 49.0	
	comp=Z,440nm,0.2s						
MT01	Popeta	1.75	212	eP	Pn	22 15 27.4	0.0
MT01				eS	Sn	22 15 50.8	0.0
MT01				IAML		22 15 51.9	
	comp=Z,371nm,0.3s						
ACCO	Cerro Coronel	2.01	27	eP	Pn	22 15 30.7	-0.3
ACCO				eS	Sn	22 15 56.7	-0.3
BO01	Tunca	2.15	202	eP	Pn	22 15 32.4	0.0
BO01				eS	Sn	22 15 59.7	0.0
BO01				IAML		22 16 03.0	
	comp=Z,115nm,0.6s						
GO04	Tololo Observa	2.28	345	eP	Pn	22 15 34.3	0.0
GO04				eS	Sn	22 16 02.8	-0.1
AROD	Rodeo	2.28	14	eP	Pn	22 15 35.2	+0.8
AROD				eS	Sn	22 16 04.3	+1.2
ACDV	Cuesta del Vie	2.37	22	eS	Sn	22 16 05.2	+0.3
ACDV				IA

GCMT ***09*** *22:21:17.4±0.3, 9.°94N±0.°01×126.°45E±0.°02, h12km, MW5.1/93, Moment Tensor Solution. s38,c43; s93,c124; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.22±.07; Mθθ=0.17±.05; Mφφ=0.04±.06; Mrθ=2.20±.15; Mrφ=0.61±.04; Mθφ=-5.00±.15; Best double couple: M=5.47600×1016 NP1:φ=253.00000°, δ=4.00000°, λ=6.00000°. NP2: φ=157.00000°, δ=90.00000°, λ=94.00000°. Principal axes: T 5.1780, Plg45.0000°, Azm71.0000°; N 0.5950, Plg4.0000°, Azm337.0000°; P -5.7730, Plg44.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 22:21:18.8±0.5, 9.°87N±0.°03×126.°26E±0.°04, h42km±4km, n812, σ1§40/820, mb5.1/233, MS4.5/75, 33C-25D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.87**	**194**	Pn	**Pn**	**22 22 02.7**	**+0.7**
DAV	**Davao City (W)**	**2.87**	**194**	Pg	**Pn**	**22 22 05.3**	**+3.2**
	235nm,0.3s,baz=22,slow=6.2,SNR=15						
DAV				Lg	Lg	22 22 39.3	
	197nm,0.3s,baz=37,slow=20,SNR=5.5						
DAV	**Davao City (W)**	**2.87**	**194**	P	**Pn**	**22 22 05.5**	**+3.5**
DAV	**Davao City (W)**	**2.87**	**194**	P	**Pn**	**22 22 04.0**	**+2.0**
SGSI	**Sangihe**	**6.19**	**187**	P	**Pn**	**22 22 52.1**	**+4.4**
TGY	**Tagaytay City**	**6.69**	**309**	Pn	**Pn**	**22 22 57.4**	**+2.7**
	48nm,0.3s,baz=152,slow=15,SNR=7.7						
TGY				LR	LR	22 25 55.0	
	comp=Z,9μm,18.5s,baz=140,slow=42						
I39PW	**PALAU INFRASON**	**8.51**	**105**	I	I	23 16 40.0	
	baz=283,slow=309,SNR=1.3						
TNTI	**Ternate**	**9.11**	**173**	Pn	**Pn**	**22 23 27.2**	**-0.6**
TNTI	**Ternate**	**9.11**	**173**	P	**Pn**	**22 23 31.0**	**+3.2**
	129nm,0.9s						
TNTI	**Ternate**	**9.11**	**173**	P	**Pn**	**22 23 28.9**	**+1.1**
	90nm,1.0s						
KMSI	**Cibinong**	**9.51**	**194**	P	Pn	22 23 40.5	+7.2
TOLI2	**Tolitoli**	**10.27**	**212**	Pn	**Pn**	**22 23 43.3**	**-0.4**
TOLI2	**Tolitoli**	**10.27**	**212**	P	**Pn**	**22 23 47.7**	**+4.0**
	27nm,1.0s						
MRSI	**Marisa**	**10.28**	**205**	P	**Pn**	**22 23 45.7**	**+1.9**
	99nm,0.9s						
KKM	**Kota Kinabalu**	**10.65**	**250**	Pn	**Pn**	**22 23 48.4**	**-0.6**
KKM	**Kota Kinabalu**	**10.65**	**250**	P	Pn	22 23 54.5	+5.5
	56nm,0.9s						
LUWI	**Luwuk**	**11.39**	**198**	Pn	**Pn**	**22 23 57.6**	**-1.3**
LUWI	**Luwuk**	**11.39**	**198**	P	**Pn**	**22 24 02.6**	**+3.6**
	300nm,1.2s						
LUWI	**Luwuk**	**11.39**	**198**	P	**Pn**	**22 24 02.3**	**+3.3**
	3μm301nm,1.2s						
APSI	**Ampana**	**11.66**	**203**	P	Pn	22 24 11.7	+9.1
SANI	**Sanana**	**11.85**	**181**	P	Pn	22 24 03.0	-2.3
PCI	**Palu**	**12.47**	**211**	P	**P**	**22 24 21.6**	**-3.1**
MSAI	**Masohi**	**13.40**	**168**	P	**P**	**22 24 38.1**	**+3.1**
AAI	**Ambon**	**13.61**	**172**	P	P	22 24 42.2	+4.8
SMKI	**Samarinda**	**13.65**	**222**	P	**P**	**22 24 38.5**	**+0.7**
TWGBT	**Beinan**	**13.79**	**340**	P	**P**	**22 24 35.6**	**-3.8**
	55nm,0.7s						
FAKI	**Fak Fak**	**14.04**	**155**	Pn	Pn	22 24 31.4	-3.8
FAKI	**Fak Fak**	**14.04**	**155**	P	**Pn**	**22 24 38.4**	**+3.2**
	60nm,0.7s						
FAKI	**Fak Fak**	**14.04**	**155**	P	**Pn**	**22 24 34.3**	**-0.9**
KDI	**Kendari**	**14.21**	**195**	P	P	22 24 50.0	+5.9
YULB	**Yu-li**	**14.26**	**341**		**Pn**	**22 24 38.4**	**+0.3**
YULB	**Yu-li**	**14.26**	**341**	P	**P**	**22 24 42.5**	**-2.0**
	49nm,1.1s						
TTSI	**Tana Toraja**	**14.35**	**207**	P	**Pn**	**22 24 42.3**	**+2.9**
TPUB	**Ta-pu**	**14.40**	**339**	Pn	**Pn**	**22 24 40.2**	**+0.2**
TPUB	**Ta-pu**	**14.40**	**339**	P	**P**	**22 24 45.1**	**-1.0**
	153nm,1.1s						
SSLB	**Suanglung**	**14.74**	**341**	Pn	**Pn**	**22 24 43.7**	**-0.8**
SSLB	**Suanglung**	**14.74**	**341**	P	**P**	**22 24 48.7**	**-1.2**
	82nm,1.2s						
NACB	**Ninganchiao**	**14.90**	**343**	Pn	**Pn**	**22 24 45.5**	**-1.2**
SBUM	**Sibu**	**15.78**	**243**		**Pn**	**22 24 59.8**	**+1.6**
SBUM	**Sibu**	**15.78**	**243**	P	**P**	**22 25 02.2**	**+0.7**
	58nm,1.0s						
KAPI	**Kappang**	**16.15**	**204**		**Pn**	**22 25 03.2**	**+0.3**
KAPI	**Kappang**	**16.15**	**204**	Pn	**Pn**	**22 25 04.1**	**+1.2**
	0.9nm,0.3s,baz=22,slow=9.6,SNR=12						
KAPI				LR	LR	22 32 02.1	
	comp=Z,2μm,19.5s,baz=3.0,slow=40						
KAPI	**Kappang**	**16.15**	**204**	P	**P**	**22 25 06.1**	**+0.5**
	35nm,1.1s						
KAPI	**Kappang**	**16.15**	**204**	P	**Pn**	**22 25 03.2**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,29nm,0.9s						
QZH	**Quanzhou**	**16.67**	**335**	*e*P	**Pn**	**22 25 08.9**	**-0.5**
QZH				S	**S**	**22 28 20.2**	**-3.1**
QZH				LR	LR		
	comp=Z,3μm,16.8s						
QZH				LR	LR		
	comp=Z,1μm,17.9s						
QZH				LR	LR		
	comp=Z,3μm,15.5s						
JOW	**Kunigami**	**16.98**	**6**	P	**Pn**	**22 25 13.1**	**-0.1**
JOW	**Kunigami**	**16.98**	**6**	P	**P**	**22 25 15.2**	**+0.5**
	comp=Z,33nm,0.8s,baz=169,slow=12,SNR=4.0						
JOW				LR	LR	22 32 49.4	
	comp=Z,1μm,18.1s,baz=146,slow=41						
KSM	**Kuching**	**17.92**	**243**	P	**Pn**	**22 25 25.7**	**+0.6**
KSM	**Kuching**	**17.92**	**243**	P	**Pn**	**22 25 29.0**	**+4.0**
	comp=Z,51nm,0.9s						
QIZ	**Qiongzhong**	**18.31**	**302**	P	**Pn**	**22 25 30.3**	**+0.6**
QIZ	**Qiongzhong**	**18.31**	**302**	P	**Pn**	**22 25 29.1**	**-0.6**
QIZ				S	**S**	**22 28 55.1**	**-1.6**
QIZ				pmax	pmax		
	comp=Z,440nm,5.5s						
QIZ				LR	LR		
	comp=Z,890nm,15.7s						
QIZ				LR	LR		
	comp=Z,2μm,18.3s						
QIZ				LR	LR		
	comp=Z,3μm,18.1s						
GENI	**Genyem**	**18.58**	**131**	P	**P**	**22 25 32.5**	**0.0**
	comp=Z,130nm,0.9s						
GUMO	**Guam**	**18.59**	**77**	LR	LR	22 31 04.7	
	comp=Z,2μm,20.7s,baz=220,slow=32						
MMRI	**Maumere**	**18.82**	**192**	P	**P**	**22 25 34.2**	**-0.9**
MMRI				IAmb	IAmb	22 25 46.5	
	comp=Z,102nm,0.8s						
MMRI	**Maumere**	**18.82**	**192**	P	**Pn**	**22 25 37.8**	**+1.9**
	comp=Z,148nm,1.0s						
JAY	**Jayapura**	**18.93**	**130**	P	**P**	**22 25 35.4**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=336,slow=2.4,SNR=7.5						
JAY				LR	LR	22 32 18.4	
	comp=Z,2μm,19.0s,baz=355,slow=35						
	comp=Z,104nm,1.1s						
SOEI	**Soe**	**19.60**	**186**	P	**P**	**22 25 43.8**	**0.0**
SOEI	**Soe**	**19.60**	**186**	P	**Pn**	**22 25 47.7**	**+2.3**
	comp=Z,198nm,0.8s						
PLAI	**Plampang**	**20.41**	**205**	P	Pn	22 25 57.2	+2.4
	comp=Z,114nm,0.8s						
UBPT	**Khong Chiam**	**20.98**	**287**	P	**P**	**22 25 58.6**	**0.0**
UBPT	**Khong Chiam**	**20.98**	**287**	P	Pn	22 26 01.9	+0.3
	comp=Z,48nm,1.1s						
SSE	**Sheshan**	**21.64**	**348**	P	**P**	**22 26 04.9**	**-0.6**
SSE				S	**S**	**22 30 06.0**	**+3.0**
SSE				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SSE				LR	LR		
	comp=Z,340nm,13.4s						
SSE				LR	LR		
	comp=Z,330nm,13.6s						
JAGI	**Jajag, Banyuwa**	**21.85**	**214**	P	**P**	**22 26 08.5**	**+0.5**
JAGI	**Jajag, Banyuwa**	**21.85**	**214**	P	**P**	**22 26 13.0**	**+5.0**
	comp=Z,61nm,0.9s						
DRS	**Darwin Rock St**	**22.63**	**168**	P	**P**	**22 26 17.6**	**+1.3**
	comp=Z,113nm,0.9s						
JCJ	**Chichijima**	**22.79**	**39**	LR	LR	22 33 11.4	
	comp=Z,1μm,21.4s,baz=231,slow=31						
SMRI	**Semarang**	**23.04**	**224**	P	**P**	**22 26 20.0**	**-0.7**
SMRI	**Semarang**	**23.04**	**224**	P	**P**	**22 26 23.2**	**+2.6**
	comp=Z,181nm,1.6s						
MTN	**Manton Dam**	**23.08**	**168**	P	**P**	**22 26 20.3**	**-0.7**
MTN				IAmb	IAmb	22 26 32.2	
	comp=Z,43nm,0.7s						
MTN	**Manton Dam**	**23.08**	**168**	P	**P**	**22 26 19.7**	**-1.3**
	comp=Z,56nm,0.6s						
MTN	**Manton Dam**	**23.08**	**168**	P	**P**	**22 26 22.6**	**+1.6**
	comp=Z,56nm,0.6s						
NJ2	**Nanjing**	**23.11**	**344**	*e*P	**P**	**22 26 21.6**	**+0.5**
NJ2				sP	**pP**	**22 26 27.6**	**-3.2**
NJ2				S	**S**	**22 30 34.1**	**+4.7**
NJ2				pmax	pmax		
	comp=Z,39nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,510nm,6.2s						
NJ2				LR	LR		
	comp=Z,1μm,15.6s						
NJ2				LR	LR		
	comp=Z,380nm,11.4s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
KDU	**Kakadu**	**23.25**	**164**	P	**P**	**22 26 21.1**	**-1.5**
	comp=Z,94nm,1.1s						
KDU	**Kakadu**	**23.25**	**164**	P	**P**	**22 26 23.1**	**+0.5**
	comp=Z,93nm,1.1s						
WHN	**Wuhan**	**23.37**	**333**	P	**P**	**22 26 25.6**	**+1.9**
WHN				S	**S**	**22 30 37.7**	**+4.0**
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
WHN				LR	LR		
	comp=Z,2μm,11.5s						
WHN				LR	LR		
	comp=Z,2μm,11.6s						
WHN				LR	LR		
	comp=Z,5μm,16.1s						
JNU	**Nakatsue**	**23.53**	**10**	P	**P**	**22 26 24.6**	**-0.7**
JNU				IAmb	IAmb	22 26 26.5	
	comp=Z,52nm,1.1s						
JNU	**Nakatsue**	**23.53**	**10**	P	**P**	**22 26 24.9**	**-0.3**
	comp=Z,35nm,1.1s,baz=158,slow=4.3,SNR=6.4						
JNU				LR	LR	22 36 45.8	
	comp=Z,654nm,18.8s,baz=160,slow=39						
	comp=Z,35nm,1.1s						
JNU	**Nakatsue**	**23.53**	**10**	P	**P**	**22 26 26.6**	**+1.4**
	comp=Z,46nm,1.2s						
UGM	**Wanagama**	**23.62**	**222**	P	**P**	**22 26 26.5**	**+0.2**
UGM	**Wanagama**	**23.62**	**222**	P	**P**	**22 26 29.2**	**+2.9**
	comp=Z,113nm,1.1s						
MYKOM	**Kota Tinggi**	**23.68**	**252**	P	**P**	**22 26 28.0**	**+1.1**
MYKOM				IAmb	IAmb	22 26 32.1	
	comp=Z,82nm,0.8s						
MYKOM	**Kota Tinggi**	**23.68**	**252**	P	**P**	**22 26 29.3**	**+2.5**
	comp=Z,111nm,0.8s						
SLVN	**Son La**	**24.32**	**301**	P	**P**	**22 26 32.9**	**+0.1**
SLVN	**Son La**	**24.32**	**301**	P	**P**	**22 26 35.9**	**+3.1**
	comp=Z,12nm,1.8s						
JMN	**Monobe**	**24.75**	**15**	P	**P**	**22 26 35.9**	**-0.6**
JMN				IAmb	IAmb	22 26 39.4	
	comp=Z,107nm,1.2s						
JMN	**Monobe**	**24.75**	**15**	P	**P**	**22 26 38.5**	**+2.0**
	comp=Z,77nm,1.4s						
NAYO	**Nakonayok**	**24.77**	**283**	P	**P**	**22 26 39.6**	**+2.7**
	comp=Z,325nm,0.9s						
GYA	**Guiyang**	**24.82**	**314**	⇑P	**P**	**22 26 38.4**	**+1.1**
GYA				S	**S**	**22 30 58.5**	**+1.2**
GYA				pmax	pmax		
	comp=Z,8.0nm,2.0s						
GYA				pmax	pmax		
	comp=Z,70nm,3.9s						
GYA				LR	LR		
	comp=Z,870nm,14.2s						
GYA				LR	LR		
	comp=Z,960nm,17.4s						
GYA				LR	LR		
	comp=Z,770nm,17.0s						
PMBI	**Palembang**	**24.90**	**240**	P	**P**	**22 26 38.9**	**+0.9**
LEM	**Lembang**	**24.90**	**229**	P	**P**	**22 26 39.7**	**+1.5**
	comp=Z,87nm,0.9s,baz=78,slow=7.5,SNR=16						
LEM				LR	LR	22 37 53.3	
	comp=Z,2μm,18.1s,baz=73,slow=40						
BBJI	**Bungbulang**	**25.30**	**228**	P	**P**	**22 26 44.6**	**+2.9**
	comp=Z,25nm,0.9s						
KNRA	**Kununurra**	**25.51**	**174**	P	**P**	**22 26 42.0**	**-1.4**
KNRA				IAmb	IAmb	22 26 56.9	
	comp=Z,78nm,0.9s						
KNRA	**Kununurra**	**25.51**	**174**	P	**P**	**22 26 43.3**	**-0.1**
	comp=Z,84nm,0.6s						
IPM	**Ipoh**	**25.59**	**260**	P	**P**	**22 26 45.0**	**+0.6**
IPM	**Ipoh**	**25.59**	**260**	P	**P**	**22 26 47.3**	**+2.9**
	comp=Z,99nm,0.8s						
KULM	**Kulim**	**25.79**	**262**	P	**P**	**22 26 47.1**	**+1.0**
KULM				IAmb	IAmb	22 26 51.1	
	comp=Z,46nm,1.0s						
KULM	**Kulim**	**25.79**	**262**	P	**P**	**22 26 49.5**	**+3.4**
	comp=Z,52nm,1.2s						
JHJ	**Hachijo jima 2**	**26.28**	**26**	LR	LR	22 37 08.5	
	comp=Z,967nm,18.9s,baz=253,slow=36						
SRIT	**Nakonsritamara**	**26.34**	**269**	P	**P**	**22 26 51.4**	**+0.3**
SRIT	**Nakonsritamara**	**26.34**	**269**	P	**P**	**22 26 52.7**	**+1.6**
	comp=Z,18nm,1.3s						
PHRA	**Phrae**	**26.63**	**292**	P	**P**	**22 26 52.8**	**-0.9**
BKNI	**Bangkinang**	**26.82**	**251**	P	**P**	**22 26 55.7**	**+0.2**
BKNI	**Bangkinang**	**26.82**	**251**	P	**P**	**22 27 00.5**	**+5.0**
	comp=Z,199nm,1.0s						
SRDT	**SRDT**	**26.90**	**282**	P	**P**	**22 26 58.8**	**+2.7**
	comp=Z,24nm,0.9s						
KMI	**Kunming**	**27.01**	**307**	⇓P	**P**	**22 27 00.6**	**+3.3**
KMI				S	**S**	**22 31 32.8**	**+0.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMI				LR	LR		
	comp=Z,710nm,21.3s						
KMI				LR	LR		
	comp=Z,1μm,17.8s						
KMI				LR	LR		
	comp=Z,1μm,17.7s						
MNAI	**Manna**	**27.18**	**240**	P	**P**	**22 26 58.0**	**-0.8**
KSRS	**Korea Array**	**27.50**	**3**	P	**P**	**22 27 00.8**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=184,slow=11,SNR=12						
KSRS				LR	LR	22 40 33.7	
	comp=Z,729nm,18.0s,baz=180,slow=42						
	comp=Z,5.2nm,0.8s						
TIA	**Tai'an**	**27.50**	**344**	P	**P**	**22 27 01.1**	**-0.2**
TIA				S	**S**	**22 31 36.9**	**-2.5**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,340nm,5.5s						
TIA				LR	LR		
	comp=Z,660nm,17.9s						
TIA				LR	LR		
	comp=Z,600nm,16.3s						
TIA				LR	LR		
	comp=Z,1μm,21.8s						
JGF	**Kuroka**	**27.53**	**20**	P	**P**	**22 26 59.0**	**-2.7**
JGF				IAmb	IAmb	22 27 25.3	
	comp=Z,42nm,1.3s						
KS19	**Wonju Array Si**	**27.55**	**3**	P	**P**	**22 27 00.6**	**-1.1**
KS19				IAmb	IAmb	22 27 16.5	
	comp=Z,49nm,1.4s						
LYN	**LuoYang**	**27.62**	**335**	⇓P	**P**	**22 27 02.4**	**0.0**
LYN				S	**S**	**22 31 44.2**	**+2.9**
LYN				sS	sS	22 31 52.5	-6.4
LYN				SS	**SnSn**	**22 33 04.2**	**+8.8**
LYN				pmax	pmax		
	comp=Z,19nm,1.0s						
LYN				pmax	pmax		
	comp=Z,310nm,5.2s						
LYN				LR	LR		
	comp=Z,640nm,14.0s						
LYN				LR	LR		
	comp=Z,620nm,16.7s						
LYN				LR	LR		
	comp=Z,1μm,17.5s						
CM31	**Chiang Mai Arr**	**27.80**	**291**	P	**P**	**22 27 03.6**	**-0.5**
CM31				IAmb	IAmb	22 27 16.0	
	comp=Z,37nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.80**	**291**	P	**P**	**22 27 03.9**	**-0.3**
	comp=Z,13nm,1.2s,baz=104,slow=6.7,SNR=29						
CMAR				LR	LR	22 38 35.9	
	comp=Z,945nm,19.0s,baz=105,slow=38						
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.80**	**291**	*ce*P	**P**	**22 27 04.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.80**	**181**	P	**P**	**22 27 02.8**	**-1.3**
	comp=Z,28nm,0.6s,baz=0.9,slow=7.5,SNR=23						
FITZ				LR	LR	22 40 48.6	
	comp=Z,314nm,18.5s,baz=24,slow=42						
	comp=Z,28nm,0.6s						
CHTO	**Chiang Mai**	**27.88**	**292**	P	**P**	**22 27 04.1**	**-0.9**
CHTO	**Chiang Mai**	**27.88**	**292**	P	**P**	**22 27 04.1**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,12nm,0.9s						
PSI	**Prapat**	**28.05**	**257**	LR	LR	22 40 57.0	
	comp=Z,1μm,20.4s,baz=105,slow=42						
PSI	**Prapat**	**28.05**	**257**	P	**P**	**22 27 09.7**	**+3.1**
	comp=Z,40nm,1.3s						
PSI	**Prapat**	**28.05**	**257**	P	**P**	**22 27 06.6**	**0.0**
PSI				pmax	pmax		
	comp=Z,42nm,1.1s						
RPSI	**Rantau Prapat**	**28.07**	**257**	P	**P**	**22 27 06.6**	**0.0**
RPSI				IAmb	IAmb	22 27 16.9	
	comp=Z,42nm,1.1s						
PZH	**PanZhiHua**	**28.48**	**309**	P	P	22 27 15.6	+5.3
PZH				S	**S**	**22 31 59.4**	**+4.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,70nm,5.5s						
PZH				LR	LR		
	comp=N,660nm,17.6s						
PZH				LR	LR		
	comp=E,1μm,18.2s						
PZH				LR	LR		
	comp=Z,1μm,19.1s						
MJAR	**Matsushiro Arr**	**28.68**	**20**	P	**P**	**22 27 09.9**	**-1.9**
	comp=Z,2.6nm,0.8s,baz=194,slow=9.4,SNR=6.0						
MJAR				LR	LR	22 39 30.9	
	comp=Z,1μm,18.0s,baz=201,slow=38						
	comp=Z,2.6nm,0.8s						
XAN	**Xi'an**	**28.84**	**329**	⇑P	**P**	**22 27 11.8**	**-1.5**
XAN				pP	pP	22 27 20.5	-4.1
XAN				S	**S**	**22 32 01.6**	**+1.0**
XAN				sS	sS	22 32 14.4	-3.9
XAN				pmax	pmax		
	comp=Z,56nm,0.7s						
XAN				pmax	pmax		
	comp=Z,310nm,5.2s						
XAN				LR	LR		
	comp=Z,1μm,15.3s						
XAN				LR	LR		
	comp=Z,1μm,14.1s						
XAN				LR	LR		
	comp=Z,2μm,17.7s						
COEN	**Coen**	**29.02**	**144**	P	**P**	**22 27 13.0**	**-2.1**
COEN				IAmb	IAmb	22 27 34.0	
	comp=Z,118nm,1.8s						
COEN	**Coen**	**29.02**	**144**	P	**P**	**22 27 11.4**	**-3.6**
COEN	**Coen**	**29.02**	**144**	P	**P**	**22 27 15.8**	**+0.8**
	comp=Z,42nm,1.6s						
DL2	**Dalian**	**29.21**	**353**	P	**P**	**22 27 17.9**	**+1.5**
DL2				S	S	22 32 15.5	+9.4
DL2				pmax	pmax		
	comp=Z,33nm,1.4s						
DL2				pmax	pmax		
	comp=Z,340nm,6.3s						
DL2				LR	LR		
	comp=Z,1μm,17.6s						
DL2				LR	LR		
	comp=Z,640nm,18.0s						
DL2				LR	LR		
	comp=Z,1μm,18.0s						
KRVT	**Keravat (AS076**	**29.28**	**118**	LR	LR	22 38 27.8	
	comp=Z,463nm,18.1s,baz=24,slow=35						
HNS	**HongShan**	**29.32**	**341**	⇓P	**P**	**22 27 17.8**	**+0.3**
HNS				S	**S**	**22 32 10.8**	**+2.8**
HNS				pmax	pmax		
	comp=Z,34nm,1.1s						
HNS				LR	LR		
	comp=Z,980nm,15.6s						
HNS				LR	LR		
	comp=Z,320nm,15.4s						
HNS				LR	LR		
	comp=Z,1μm,15.7s						
LHMI	**Lhok Sumawe**	**29.41**	**263**	P	**P**	**22 27 18.9**	**+0.3**
LHMI	**Lhok Sumawe**	**29.41**	**263**	P	**P**	**22 27 22.6**	**+4.0**
	comp=Z,72nm,0.9s						
CD2	**Chengdu**	**29.60**	**318**	P	**P**	**22 27 18.4**	**-1.7**
CD2				S	**S**	**22 32 14.7**	**+2.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,2μm,16.5s						
CD2				LR	LR		
	comp=Z,1μm,15.2s						
CD2				LR	LR		
	comp=Z,2μm,15.2s						
GSI	**Gunungsitoli**	**29.77**	**255**	P	**P**	**22 27 21.5**	**-0.2**
GSI				IAmb	IAmb	22 27 30.9	
	comp=Z,52nm,1.0s						
GSI	**Gunungsitoli**	**29.77**	**255**	P	**P**	**22 27 24.0**	**+2.3**
	comp=Z,54nm,1.1s						
TNCH	**TengChong**	**30.36**	**303**	P	**P**	**22 27 29.5**	**+2.4**
TNCH				pP	pP	22 27 31.8	-6.7
TNCH				S	**S**	**22 32 29.1**	**+4.1**
TNCH				pmax	pmax		
	comp=Z,16nm,0.8s						
TNCH				LR	LR		
	comp=Z,290nm,12.7s						
TNCH				LR	LR		
	comp=Z,430nm,14.2s						
TNCH				LR	LR		
	comp=Z,680nm,15.8s						
TIY	**Taiyuan**	**30.39**	**338**	*e*P	**P**	**22 27 27.6**	**+0.6**
TIY				S	**S**	**22 32 24.6**	**-0.3**
TIY				pmax	pmax		
	comp=Z,12nm,0.9s						
TIY				LR	LR		
	comp=Z,700nm,18.2s						
TIY				LR	LR		
	comp=Z,510nm,11.8s						
TIY				LR	LR		
	comp=Z,880nm,15.3s						
WB0	**Warramunga Arr**	**30.52**	**165**	P	**P**	**22 27 25.5**	**-2.8**
WRAB	**Tennant Creek**	**30.67**	**165**	⇑*i*P	**P**	**22 27 26.8**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**30.68**	**165**	P	**P**	**22 27 26.3**	**-3.4**
	comp=Z,6.0nm,0.8s,baz=344,slow=9.4,SNR=31						
WRA				PcP	**PcP**	**22 30 25.4**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=330,slow=3.0,SNR=2.1						
WRA				ScP	**ScP**	**22 34 06.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=9.4,slow=3.3,SNR=2.5						
WRA				LR	LR	22 42 03.3	
	comp=Z,294nm,20.4s,baz=347,slow=41						
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**30.68**	**165**	*i* P	**P**	**22 27 28.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
JMM	**Marumori**	**30.79**	**23**	P	**P**	**22 27 29.5**	**-0.9**
JMM				IAmb	IAmb	22 27 31.2	
	comp=Z,53nm,1.2s						
BJT	**Baijiatuau**	**31.34**	**345**	P	**P**	**22 27 34.8**	**-0.5**
BJT				IAmb	IAmb	22 27 37.8	
	comp=Z,54nm,1.5s						
BJT	**Baijiatuau**	**31.34**	**345**	P	**P**	**22 27 34.8**	**-0.5**
BJT				pmax	pmax		
	comp=Z,53nm,1.5s						
BJI	**Beijing**	**31.36**	**345**	P	**P**	**22 27 36.2**	**+0.8**
BJI				pP	pP	22 27 39.0	-7.0
BJI				S	**S**	**22 32 43.1**	**+3.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJI				LR	LR		
	comp=Z,330nm,15.8s						
BJI				LR	LR		
	comp=Z,140nm,17.4s						
BJI				LR	LR		
	comp=Z,330nm,16.2s						
MBWA	**Marble Bar**	**31.50**	**192**	P	**P**	**22 27 35.4**	**-1.4**
MBWA				IAmb	IAmb	22 27 39.6	
	comp=Z,43nm,1.1s						
MBWA	**Marble Bar**	**31.50**	**192**	P	**P**	**22 27 36.0**	**-0.9**
MBWA	**Marble Bar**	**31.50**	**192**	P	**P**	**22 27 40.1**	**+3.2**
	comp=Z,18nm,0.9s						
PSAC1	**Pilbara Seismi**	**31.85**	**191**	P	**P**	**22 27 39.0**

LZH LR LR
comp=Z,1μm,16.2s
LZH LR LR
comp=Z,850nm,16.5s
LZH LR LR
comp=Z,700nm,19.4s
HHC Hu-ho-hao-te 33.48 340 ⇓*iP* **P 22 27 54.9 +0.7**
HHC sP pP 22 28 03.2 -1.5
HHC PP **PP 22 29 11.4 +0.9**
HHC S **S 22 33 16.5 +3.3**
HHC sS sS 22 33 27.8 -3.2
HHC pmax pmax
comp=Z,32nm,1.2s
HHC LR LR
comp=Z,340nm,15.4s
HHC LR LR
comp=Z,170nm,15.4s
HHC LR LR
comp=Z,330nm,18.7s
CN2 Changchun 33.81 359 P P 22 28 01.2 +4.4
CN2 S S 22 33 24.3 +6.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,700nm,13.0s
CN2 LR LR
comp=Z,600nm,13.0s
CN2 LR LR
comp=Z,600nm,16.0s
BTO Baotou 33.83 338 *eP* **P 22 27 58.9 +1.7**
BTO pP pP 22 28 03.4 -4.5
BTO sP sP 22 28 06.0 -6.7
BTO PP **PP 22 29 12.9 -1.4**
BTO S S 22 33 24.4 +5.9
BTO sS sS 22 33 30.7 -5.6
BTO SS **SnSn 22 35 31.3 +5.0**
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,230nm,3.9s
BTO LR LR
comp=Z,2μm,17.7s
BTO LR LR
comp=Z,1μm,16.6s
BTO LR LR
comp=Z,2μm,17.6s
AS06 Alice Springs 34.16 167 P **P 22 27 58.5 -1.7**
comp=Z,14nm,0.7s
AS31 Alice Springs 34.16 167 P **P 22 27 58.4 -1.7**
AS31 Alice Springs 34.16 167 P **P 22 27 59.0 -1.1**
comp=Z,5.1nm,0.4s
ASAR Alice Springs 34.16 167 P **P 22 27 58.4 -1.8**
comp=Z,4.4nm,0.4s,baz=352,slow=7.2,SNR=65
ASAR ScP **ScP 22 34 17.7 -0.8**
comp=Z,2.1nm,0.8s,baz=348,slow=3.2,SNR=5.3
ASAR LR LR 22 44 37.3
comp=Z,370nm,18.0s,baz=338,slow=41
comp=Z,4.4nm,0.4s
AS01 Alice Springs 34.17 167 P **P 22 28 01.6 +1.4**
comp=Z,15nm,0.5s
AS19 Alice Springs 34.21 167 P **P 22 27 59.6 -1.0**
comp=Z,13nm,0.8s
USA0B Ussuriysk Arra 34.56 7 P **P 22 28 02.6 -0.7**
USA0B IAmb IAmb 22 28 04.9
comp=Z,37nm,1.4s
USA0B Ussuriysk Arra 34.56 7 P **P 22 28 02.6 -0.7**
USA0B pmax pmax
comp=Z,37nm,1.5s
USRK Ussuriysk Ar. 34.56 7 P **P 22 28 02.9 -0.5**
comp=Z,6.4nm,1.0s,baz=181,slow=9.5,SNR=10
USRK LR LR 22 43 06.9
comp=Z,335nm,18.8s,baz=176,slow=38
comp=Z,6.4nm,1.0s
MDJ Mudanjiang 34.73 4 P **P 22 28 04.3 -0.6**
MDJ IAmb IAmb 22 28 07.6
comp=Z,59nm,1.4s
MDJ Mudanjiang 34.73 4 P **P 22 28 06.1 +1.2**
MDJ pP pP 22 28 09.8 -5.3
MDJ PP **PP 22 29 22.5 -1.7**
MDJ PcP **PcP 22 30 35.7 -2.2**
MDJ S **S 22 33 38.4 +6.2**
MDJ SS **SnSn 22 35 51.6 +3.5**
MDJ ScS **ScS 22 38 26.8 +3.6**
MDJ pmax pmax
comp=Z,32nm,1.4s
MDJ pmax pmax
comp=Z,340nm,4.6s
MDJ LR LR
comp=Z,530nm,15.1s
MDJ LR LR
comp=Z,620nm,14.4s
MDJ LR LR
comp=Z,950nm,15.8s
WRKA Warakurna 34.76 177 P **P 22 28 04.3 -1.0**
comp=Z,58nm,0.8s
WRKA Warakurna 34.76 177 P **P 22 28 05.6 +0.3**
comp=Z,58nm,0.8s
XLT XiLinHaoTe 35.03 347 *eP* **P 22 28 07.7 +0.1**
XLT pP pP 22 28 13.2 -5.1
XLT sP pwP 22 28 17.3 -4.5
XLT PcP **PcP 22 30 40.8 +1.8**
XLT S **S 22 33 37.0 0.0**
XLT sS sS 22 33 46.7 -8.2
XLT ScS **ScS 22 38 23.3 -1.8**
XLT pmax pmax
comp=Z,25nm,0.7s
XLT pmax pmax
comp=Z,91nm,5.5s
XLT LR LR
comp=Z,44nm,16.6s
XLT LR LR
comp=Z,290nm,15.3s
XLT LR LR
comp=Z,630nm,16.6s
TV1H Townsville Har 35.32 145 P **P 22 28 10.4 +0.2**
comp=Z,21nm,1.0s
BRDH Bariadhala 35.48 295 LR LR 22 45 02.4
comp=Z,883nm,18.6s,baz=150,slow=40
BNX BinXian 35.75 1 ⇓P **P 22 28 13.4 -0.2**
BNX pmax pmax
comp=Z,12nm,1.0s
SHL Shillong 36.13 300 P **P 22 28 16.4 -1.0**
SHL Shillong 36.13 300 P **P 22 28 16.4 -1.0**
SHL pmax pmax
comp=Z,64nm,0.7s
ASAJ Asahikawa 36.94 20 LR LR 22 43 54.4
comp=Z,827nm,18.6s,baz=208,slow=37
ASAJ Asahikawa 36.94 20 P **P 22 28 23.9 +0.1**
ASAJ pmax pmax
comp=Z,61nm,1.4s
JKA Kamikawa-asahi 36.94 20 P **P 22 28 23.9 +0.1**
JKA IAmb IAmb 22 28 25.6
comp=Z,61nm,1.4s
MEEK Meekatharra 37.05 191 P **P 22 28 23.1 -1.8**
MEEK Meekatharra 37.05 191 P **P 22 28 24.8 -0.1**
comp=Z,65nm,0.8s
LSA Lhasa 38.25 306 P **P 22 28 35.3 -0.4**
LSA Lhasa 38.25 306 P **P 22 28 35.3 -0.4**
LSA pmax pmax
comp=Z,9.0nm,0.7s
OOD Oodnadatta 38.54 167 P **P 22 28 38.4 +1.0**
HNR Honiara 38.62 119 LR LR 22 42 30.3
comp=Z,356nm,21.8s,baz=299,slow=33
GOMU GeErMu 38.73 318 P **P 22 28 39.0 -0.4**
GOMU pP pP 22 28 43.2 -7.5
GOMU sP sP 22 28 46.5 -9.1
GOMU S **S 22 34 35.9 +1.9**
GOMU pmax pmax
comp=Z,9.0nm,1.3s
GOMU LR LR
comp=Z,1μm,16.1s
GOMU LR LR
comp=Z,1μm,15.8s
GOMU LR LR
comp=Z,3μm,15.8s
KLR Kul'dur 39.50 6 LR LR 22 46 33.8
comp=Z,507nm,18.7s,baz=189,slow=38
KLR Kul'dur 39.50 6⇓*eP* **P 22 28 45.9 +0.7**
KLR pmax pmax
comp=Z,21nm,1.7s
YSS Yuzhno-Sakhali 39.52 18 P **P 22 28 44.7 -0.7**
YSS IAmb IAmb 22 28 46.9
comp=Z,52nm,1.5s
YSS Yuzhno-Sakhali 39.52 18 P **P 22 28 46.9 +1.4**
comp=Z,17nm,1.3s
YSS Yuzhno-Sakhali 39.52 18 *eP* **P 22 28 45.9 +0.4**
YSS *eS* **S 22 34 48.9 +4.0**
YSS pmax pmax
comp=Z,100nm,4.1s
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS MLR MLR
comp=N,500nm,15.0s
HIA Hailar 39.64 353 P **P 22 28 46.4 -0.1**
HIA Hailar 39.64 353 P **P 22 28 46.4 -0.1**
HIA pmax pmax
comp=Z,12nm,1.1s
INKA Innaminka 39.94 160 P **P 22 28 50.3 +1.2**
comp=Z,72nm,0.6s
MORW Morawa 39.95 194 P **P 22 28 48.5 -0.8**
MORW IAmb IAmb 22 28 58.4
comp=Z,61nm,1.2s
MORW Morawa 39.95 194 P **P 22 28 47.7 -1.5**
MORW Morawa 39.95 194 P **P 22 28 49.2 0.0**
comp=Z,48nm,0.8s
H11S3 WAKE ISLAND Hy 40.04 73 T T 23 11 50.4
baz=262,slow=74,SNR=405
H11S1 WAKE ISLAND Hy 40.06 73 T T 23 11 53.0
baz=262,slow=74,SNR=200
H11S2 WAKE ISLAND Hy 40.06 73 T T 23 11 47.3
baz=262,slow=74,SNR=126
QLP Quilpie 40.22 155 P **P 22 28 50.6 -0.9**
comp=Z,32nm,0.7s
QLP Quilpie 40.22 155 P **P 22 28 51.1 -0.4**
comp=Z,32nm,0.7s
HEH HeiHe 40.27 1 *eP* **P 22 28 50.6 -1.0**
HEH sP pP 22 28 55.1 -6.8
HEH S **S 22 34 59.3 +3.3**
HEH pmax pmax
comp=Z,23nm,1.1s
HEH pmax pmax
comp=Z,220nm,4.8s
HEH LR LR
comp=Z,530nm,13.0s
HEH LR LR
comp=Z,360nm,13.6s
HEH LR LR
comp=Z,1μm,16.2s
H11N1 WAKE ISLAND Hy 40.39 71 T T 23 12 15.3
baz=265,slow=74,SNR=595
H11N2 WAKE ISLAND Hy 40.40 71 T T 23 12 15.5
baz=265,slow=74,SNR=351
H11N3 WAKE ISLAND Hy 40.41 71 T T 23 12 16.3
baz=265,slow=74,SNR=355
FORT Forrest 40.45 178 P **P 22 28 52.4 -0.9**
FORT Forrest 40.45 178 P **P 22 28 51.8 -1.6**
FORT Forrest 40.45 178 P **P 22 28 54.2 +0.8**
comp=Z,179nm,0.8s
ULN Ulaanbaatar 41.19 340 P **P 22 28 59.5 +0.1**
ULN Ulaanbaatar 41.19 340*deP* **P 22 28 59.9 +0.4**
ULN pmax pmax
comp=Z,33nm,1.7s
KMBL Kambalda 41.22 186 P **P 22 28 58.6 -1.1**
KMBL Kambalda 41.22 186 P **P 22 28 59.7 0.0**
comp=Z,83nm,1.0s
BLDU Ballidu 41.29 193 P **P 22 28 59.3 -0.9**
BLDU Ballidu 41.29 193 P **P 22 29 00.2 0.0**
comp=Z,66nm,0.9s
SONM Songino Array 41.39 340 P **P 22 29 01.2 +0.2**
comp=Z,6.4nm,0.6s,baz=161,slow=9.9,SNR=42
SONM PcP **PcP 22 30 57.9 -0.8**
comp=Z,1.7nm,0.7s,baz=164,slow=3.8,SNR=2.1
SONM ScP **ScP 22 34 45.8 +0.3**
comp=Z,2.4nm,1.0s,baz=166,slow=3.0,SNR=6.2
SONM LR LR 22 48 55.2
comp=Z,789nm,18.2s,baz=169,slow=40
comp=Z,6.4nm,0.6s
LCRK Leigh Creek 41.70 164 P **P 22 29 05.7 +2.1**
comp=Z,54nm,0.8s
KLBR Kellerberrin 42.03 191 P **P 22 29 05.2 -1.1**
KLBR Kellerberrin 42.03 191 P **P 22 29 06.3 0.0**
comp=Z,168nm,0.7s
EIDS Eidsvold 42.56 146 P **P 22 29 08.9 -1.9**
EIDS Eidsvold 42.56 146 P **P 22 29 11.9 +1.2**
comp=Z,26nm,1.4s
MUN Mundaring 42.71 193 P **P 22 29 10.9 -1.0**
MUN Mundaring 42.71 193 P **P 22 29 12.0 +0.2**
comp=Z,156nm,0.7s
MTKN Mount Kenneth 42.76 193 P **P 22 29 13.7 +1.5**
comp=Z,139nm,0.7s
TYV Tymovskoe 43.04 15 *eP* **P 22 29 15.6 +1.3**
TYV *eS* **S 22 35 39.0 +2.0**
TYV pmax pmax
comp=Z,600nm,4.5s
TYV pmax pmax
comp=Z,11nm,1.1s
TYV smax smax
comp=N,600nm,7.0s
TYV smax smax
comp=E,800nm,7.0s
CIT Chita 43.29 349 *eP* P 22 29 11.8 -4.5
CIT *e* 22 29 18.0
CIT *e* 22 29 26.0
NWAO Narrogin (SRO) 43.42 191 P **P 22 29 17.1 -0.5**
NWAO Narrogin (SRO) 43.42 191 LR LR 22 52 39.7
comp=E,174nm,18.1s,baz=292,slow=44
NWAO Narrogin (SRO) 43.42 191 P **P 22 29 18.0 +0.4**
comp=E,82nm,0.7s
NWAO Narrogin (SRO) 43.42 191 P **P 22 29 17.1 -0.5**
NWAO pmax pmax
comp=Z,100nm,0.7s
BBOO Buckleboo 43.46 168 P **P 22 29 16.8 -1.1**
BBOO Buckleboo 43.46 168 P **P 22 29 16.4 -1.5**
comp=Z,83nm,0.7s
BBOO Buckleboo 43.46 168 P **P 22 29 18.6 +0.7**
comp=Z,82nm,0.7s
ZEA Zeya 43.75 1 *eP* **P 22 29 20.0 0.0**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=N,300nm,14.0s
ZEA MLR MLR
comp=Z,400nm,15.0s
WHYH Whyalla 44.01 166 P **P 22 29 23.7 +1.5**
comp=Z,47nm,0.8s
STKA Stephens Creek 44.03 161 P **P 22 29 21.1 -1.4**
STKA IAmb IAmb 22 29 41.9
comp=Z,22nm,0.8s
STKA Stephens Creek 44.03 161 P **P 22 29 20.9 -1.6**
comp=Z,6.9nm,2.1s
STKA Stephens Creek 44.03 161 P **P 22 29 21.4 -1.0**
comp=Z,14nm,0.7s,baz=337,slow=8.1,SNR=16
comp=Z,14nm,0.7s
STKA Stephens Creek 44.03 161 P **P 22 29 23.2 +0.7**
comp=Z,6.9nm,2.1s
ZAK Zakamensk 44.63 339 *eP* **P 22 29 27.3 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
HTT Hallett 44.72 165 P **P 22 29 29.4 +1.4**
comp=Z,31nm,0.8s
HTT Hallett 44.72 165 P **P 22 29 29.2 +1.2**
comp=Z,31nm,0.8s
TW1H Toowoomba 1 Ha 44.77 147 P **P 22 29 29.3 +0.8**
comp=Z,48nm,0.8s
PALK Pallekele 45.10 270 P **P 22 29 31.2 -0.2**
PALK IAmb IAmb 22 29 34.9
comp=Z,38nm,1.8s
PALK Pallekele 45.10 270 LR LR 22 48 50.4
comp=Z,417nm,20.2s,baz=86,slow=37
PALK Pallekele 45.10 270 P **P 22 29 31.2 -0.2**
PALK pmax pmax
comp=Z,38nm,1.8s
RKGY Rocky Gully 45.11 191 P **P 22 29 30.7 -0.3**
RKGY Rocky Gully 45.11 191 P **P 22 29 32.3 +1.3**
comp=Z,281nm,0.7s
CMSA Cobar Meteorol 45.19 156 P **P 22 29 31.2 -0.5**
comp=Z,29nm,1.0s
CMSA Cobar Meteorol 45.19 156 P **P 22 29 32.2 +0.5**
comp=Z,29nm,1.0s
IRK Irkutsk 45.88 341 *eP* **P 22 29 35.4 -1.6**
IRK pmax pmax
comp=Z,45nm,1.6s
AUMBR Murray Bridge 46.43 165 P **P 22 29 42.6 +1.2**
comp=Z,33nm,0.9s
MOY Mondy 46.51 339 *eP* **P 22 29 42.4 +0.4**
MOY pmax pmax
comp=Z,38nm,2.5s
HYB Hyderabad 46.86 285 *eP* **P 22 29 45.0 -0.2**
HYB IVmB_BB 22 29 46.2
comp=Z,312nm,2.0s
ARMA Armidale 46.90 150 P **P 22 29 44.5 -0.9**
ARMA IAmb IAmb 22 30 32.0
comp=Z,53nm,1.4s
WMQ Urumqi 47.53 322 *eP* **P 22 29 51.2 +1.1**
WMQ ScP **ScP 22 35 12.7 +2.0**
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,760nm,21.9s
WMQ LR LR
comp=Z,520nm,23.3s
ARPS Mount Arapiles 48.65 163 P **P 22 29 57.7 -1.0**
comp=Z,44nm,0.8s
ARPS Mount Arapiles 48.65 163 P **P 22 30 00.4 +1.7**
comp=Z,44nm,0.8s
BOD Bodaibo 48.76 351 *eP* **P 22 29 58.8 -0.4**
BOD pmax pmax
comp=Z,33nm,1.5s
PEA0B Petropavlovsk- 50.00 24 P **P 22 30 08.7 -0.1**
PEA0B Petropavlovsk- 50.00 24 P **P 22 30 08.7 -0.1**
PEA0B pmax pmax
comp=Z,104nm,1.5s
PETK Petropavlovsk- 50.00 24 P **P 22 30 08.7 -0.2**
comp=Z,5.6nm,0.6s,baz=218,slow=3.6,SNR=19
PETK LR LR 22 52 23.7
comp=Z,471nm,18.4s,baz=217,slow=37
comp=Z,5.6nm,0.6s
PET Petropavlovsk 50.33 25 *eP* **P 22 30 13.0 +1.7**
PET *eS* **S 22 37 27.3 +6.2**
PET pmax pmax
comp=Z,100nm,8.6s
PET MLR MLR
comp=Z,700nm,16.0s
TOO Toolangi 50.52 160 P **P 22 30 12.5 -0.4**
TOO Toolangi 50.52 160 P **P 22 30 12.5 -0.4**
TOO pmax pmax
comp=Z,15nm,1.2s
DZM Mont Dzumac 50.60 129 P **P 22 30 12.5 -1.5**
DZM IAmb IAmb 22 30 21.1
comp=Z,23nm,0.9s
DZM Mont Dzumac 50.60 129 P **P 22 30 14.0 +0.1**
comp=Z,33nm,1.4s
YATNC Mamie plateau, 50.94 129 P **P 22 30 16.9 +0.5**
comp=Z,40nm,1.2s
ZSN Zaisan 51.19 325 *eP* **P 22 30 16.8 -1.1**
ZSN Zaisan 51.19 325 *eP* **P 22 30 16.8 -1.1**
PINNC Pines Island, 51.67 129 P **P 22 30 21.5 -0.3**
PINNC Pines Island, 51.67 129 P **P 22 30 23.1 +1.3**
comp=Z,79nm,1.4s
WUS Wushi 51.79 315 P **P 22 30 22.0 -0.7**
YAK Yakutsk 52.12 2 P **P 22 30 24.2 -0.3**
YAK IAmb IAmb 22 30 26.3
comp=Z,37nm,0.9s
YAK Yakutsk 52.12 2 LR LR 22 54 23.1
comp=Z,369nm,18.4s,slow=38
YAK Yakutsk 52.12 2 *eP* **P 22 30 23.7 -0.9**
YAK *e**PP **sP 22 30 41.8 +1.9**
YAK *e* 22 31 37.2
YAK *e* 22 32 22.1
YAK *eS* **S 22 37 42.9 -2.7**
YAK *e* 22 40 08.0
YAK *e*SS **SS 22 41 21.7 -1.5**
YAK *e*SSS SSS 22 43 06.2
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,176nm,5.2s
YAK pmax pmax
comp=N,156nm,5.7s
YAK pmax pmax
comp=E,109nm,5.4s
YAK smax smax
comp=N,234nm,6.2s
YAK smax smax
comp=E,145nm,6.2s
MK31 Makanchi Array 52.34 323 P **P 22 30 25.6 -0.9**
MK31 Makanchi Array 52.34 323 P **P 22 30 25.6 -0.9**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 52.34 323 P **P 22 30 25.6 -0.9**
comp=Z,12nm,0.6s,baz=120,slow=8.1,SNR=162
MKAR PcP **PcP 22 31 36.6 -0.6**
comp=Z,3.9nm,0.7s,baz=106,slow=5.1,SNR=1.3
MKAR ScP **ScP 22 35 31.2 +0.1**
comp=Z,2.7nm,1.0s,baz=131,slow=6.7,SNR=4.9
MKAR LR LR 22 55 05.0
comp=Z,528nm,19.1s,baz=126,slow=39
comp=Z,12nm,0.6s
SHLS Shalkode 52.43 318 *eP* **P 22 30 24.0 -3.4**
SHLS Shalkode 52.43 318 *eP* **P 22 30 24.1 -3.4**
MAKZ Makanchi 52.53 323 P **P 22 30 26.6 -1.3**
MAKZ Makanchi 52.53 323 P **P 22 30 26.6 -1.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.6s
MA2 Magadan 52.92 15 P **P 22 30 29.9 -0.7**
MA2 IAmb IAmb 22 30 32.0
comp=Z,35nm,1.5s
MA2 Magadan 52.92 15 LR LR 22 51 04.1
comp=Z,179nm,21.3s,baz=187,slow=34
MA2 Magadan 52.92 15 P **P 22 30 31.2 +0.7**
comp=Z,14nm,1.1s
MA2 Magadan 52.92 15*deP* **P 22 30 31.0 +0.5**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
TARG Taragay, Kyrgy 52.98 315 P **P 22 30 31.1 -0.7**
TARG Taragay, Kyrgy 52.98 315 P **P 22 30 31.1 -0.7**
TARG pmax pmax
comp=Z,8.0nm,1.0s
KPKS Kokpek 53.08 318 *eP* **P 22 30 31.1 -1.0**
KPKS Kokpek 53.08 318 *eP* **P 22 30 31.1 -1.0**
SATY Saty 53.09 317 *eP* **P 22 30 31.1 -1.2**
SATY Saty 53.09 317 *eP* **P 22 30 31.1 -1.2**
ZHN Zhinishke 53.12 317 *eP* **P 22 30 31.4 -1.0**
ZHN Zhinishke 53.12 317 *eP* **P 22 30 31.5 -1.0**
KSH Kashi 53.49 312 P **P 22 30 37.1 +1.8**
KSH pmax pmax
comp=Z,4.0nm,1.3s
KSH LR LR
comp=Z,820nm,18.9s
KSH LR LR
comp=Z,750nm,20.3s
KSH LR LR
comp=Z,840nm,20.3s
KDJ Kajisay 53.56 316 P **P 22 30 34.9 -0.9**
KDJ Kajisay 53.56 316 P **P 22 30 34.9 -0.9**
KDJ pmax pmax
comp=Z,7.0nm,1.0s
TDK Taldyqorghan 53.90 319 *eP* **P 22 30 37.2 -0.8**
TDK pmax pmax
comp=Z,10.0nm,0.5s
TDK Taldyqorghan 53.90 319 *eP* **P 22 30 37.3 -0.8**
comp=Z,9.7nm,0.5s
NIL Nilore 53.95 305 P **P 22 30 37.5 -1.1**
NIL IAmb IAmb 22 30 44.1
comp=Z,31nm,0.9s
NIL Nilore 53.95 305 P **P 22 30 37.5 -1.1**
NIL pmax pmax
comp=Z,31nm,0.9s
MDOK Medeo 54.05 317 *eP* **P 22 30 38.2 -1.1**
MDOK Medeo 54.05 317 *eP* **P 22 30 38.3 -1.1**
TNSS Tian-Shan 54.07 317 *eP* **P 22 30 38.2 -1.5**
TNSS Tian-Shan 54.07 317 *eP* **P 22 30 38.3 -1.5**
TKM2 Tokmak 2 54.94 316 P **P 22 30 45.2 -0.7**
SNR=6.4
ZAA0 Zalesovo Array 54.97 331 P **P 22 30 43.9 -1.7**
ZALV Zalesovo Beam 54.97 331 P **P 22 30 44.1 -1.4**
comp=Z,3.5nm,0.4s,baz=122,slow=7.1,SNR=23
ZALV ScP **ScP 22 35 41.4 -1.0**
comp=Z,0.9nm,0.7s,baz=149,slow=3.0,SNR=2.7
ZALV LR LR 22 54 57.5
comp=Z,280nm,19.9s,baz=126,slow=37
comp=Z,3.5nm,0.4s
KBK Karagaybulak 55.29 316 P **P 22 30 47.9 -0.5**
SNR=6.9
AAK Ala-Archa 55.60 315 P **P 22 30 49.6 -1.0**
AAK Ala-Archa 55.60 315 LR LR 22 58 27.6
comp=Z,547nm,18.8s,baz=84,slow=40
AAK Ala-Archa 55.60 315⇑*eP* **P 22 30 49.6 -1.0**
AAK pmax pmax

comp=Z,7.0nm,1.7s
SGDS Sogindy 55.79 316 *e*P **P 22 30 50.6 -1.2**
SGDS Sogindy 55.79 316 *e*P **P 22 30 50.6 -1.2**
USP Ospenovka 55.82 316 P **P 22 30 51.0 -1.0**
SNR=8.9
AML Almayashu 55.99 315 P **P 22 30 53.5 -0.2**
SNR=11
EKS2 Erkin-Say 56.11 315 P **P 22 30 53.9 -0.3**
SNR=9.7
SEY Seymchan 56.20 14 LR LR 22 53 36.4
comp=Z,291nm,21.8s,baz=152,slow=34
SEY Seymchan 56.20 14⇓ *e*P **P 22 30 56.0 +1.7**
SEY pmax pmax
comp=Z,22nm,1.7s
ARSB Arslanbob 56.23 313 P **P 22 30 54.1 -0.9**
ARSB Arslanbob 56.23 313 P **P 22 30 54.2 -0.9**
ARSB pmax pmax
comp=Z,12nm,1.1s
KURK Kurchatov 56.39 326 P **P 22 30 54.7 -1.2**
KURK IAmb IAmb 22 31 09.4
comp=Z,18nm,0.8s
KURK Kurchatov 56.39 326*d i*P **P 22 30 54.9 -0.9**
KURK pmax pmax
comp=Z,21nm,1.3s
KURBB Kurchatov Arra 56.39 326 P **P 22 30 54.6 -1.3**
comp=Z,6.6nm,0.6s,baz=125,slow=7.0,SNR=49
KURBB ScP **ScP 22 35 47.8 -1.0**
comp=Z,0.3nm,0.3s,baz=107,slow=6.2,SNR=1.8
comp=Z,6.6nm,0.6s
BTLS Baital 56.76 318 *e*P **P 22 30 57.4 -1.2**
BTLS Baital 56.76 318 *e*P **P 22 30 57.4 -1.2**
BTK Batken 57.44 311 P **P 22 31 02.5 -1.1**
BTK IAmb IAmb 22 31 14.3
comp=Z,30nm,1.6s
BTK Batken 57.44 311 P **P 22 31 02.5 -1.1**
BTK pmax pmax
comp=Z,30nm,1.7s
SHEM Shemya Is, Ala 57.49 32 LR LR 22 54 04.8
comp=Z,215nm,19.3s,baz=300,slow=34
GAR Garm 57.54 310 P **P 22 31 03.0 -1.3**
GAR IAmb IAmb 22 31 14.3
comp=Z,18nm,0.7s
KBL Kabul 57.55 305 P **P 22 31 02.9 -1.8**
KBL Kabul 57.55 305 P **P 22 31 02.9 -1.8**
KBL pmax pmax
comp=Z,7.0nm,0.7s
MSVF Nonsavu 58.04 118 P **P 22 31 10.1 +2.0**
comp=Z,37nm,1.4s
CHGR Chuyangaron 58.33 309 P **P 22 31 08.7 -1.2**
CHGR IAmb IAmb 22 31 16.9
comp=Z,54nm,1.5s
CHGR Chuyangaron 58.33 309 P **P 22 31 08.7 -1.2**
CHGR pmax pmax
comp=Z,54nm,1.5s
SIMJ Simiganj 58.45 309 P **P 22 31 09.8 -0.9**
KK31 Karatay Array 58.52 315 P **P 22 31 09.5 -1.6**
KK31 Karatay Array 58.52 315 P **P 22 31 09.5 -1.6**
KK31 pmax pmax
comp=Z,13nm,1.3s
CHM Chimkent 58.94 314 *e*P **P 22 31 13.0 -1.0**
CHM Chimkent 58.94 314 *e*P **P 22 31 13.0 -1.0**
BRLS Borolday 58.97 315 *e*P **P 22 31 13.4 -0.8**
BRLS Borolday 58.97 315 *e*P **P 22 31 13.4 -0.8**
BRZS Berezniki 59.49 323 *e*P **P 22 31 16.6 -1.0**
BRZS Berezniki 59.49 323 *e*P **P 22 31 16.7 -1.0**
TIXI Tiksi 61.75 1 P **P 22 31 32.6 +0.1**
TIXI IAmb IAmb 22 31 38.9
comp=Z,23nm,0.8s
TIXI Tiksi 61.75 1*de*P **P 22 31 32.8 +0.2**
TIXI pmax pmax
comp=Z,65nm,2.5s
BVAR Borovoye Array 61.98 326 P **P 22 31 33.8 -0.8**
comp=Z,4.8nm,0.7s,baz=132,slow=8.0,SNR=31
BVAR LR LR 22 57 52.5
comp=Z,367nm,20.9s,baz=118,slow=35
comp=Z,4.8nm,0.7s
BRVK Borovoye 62.06 326 P **P 22 31 33.8 -1.2**
BRVK IAmb IAmb 22 32 07.0
comp=Z,13nm,1.0s
BRVK Borovoye 62.06 326*d i*P **P 22 31 34.1 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
HRA Herat 63.08 304 P **P 22 31 41.0 -1.5**
HRA IAmb IAmb 22 31 43.7
comp=Z,33nm,1.8s
BILL Bilibino 63.79 16 P **P 22 31 45.7 -0.5**
BILL Bilibino 63.79 16⇓ *e*P **P 22 31 46.6 +0.4**
BILL pmax pmax
comp=Z,33nm,1.7s
NRIK Noril'sk 64.39 346 P **P 22 31 50.0 -0.2**
NRIK IAmb IAmb 22 31 51.6
comp=Z,37nm,1.4s
NRIK Noril'sk 64.39 346 P **P 22 31 49.6 -0.6**
comp=Z,8.4nm,0.8s,baz=129,slow=7.0,SNR=19
NRIK LR LR 23 03 26.9
comp=Z,669nm,18.2s,baz=156,slow=39
comp=Z,8.4nm,0.8s
NRIK Noril'sk 64.39 346*de*P **P 22 31 49.9 -0.2**
NRIK pmax pmax
comp=Z,19nm,1.2s
WSAR Wadi Sarin 65.68 291 LR LR 23 06 52.5
comp=Z,192nm,18.1s,baz=110,slow=42
RAO Raoul Island 66.36 128 P **P 22 32 04.8 +1.2**
comp=Z,2μm,0.5s
LBZ Lake Benmore 67.04 147 P **P 22 32 07.6 -0.1**
RPZ Rata Peaks 67.06 146 P **P 22 32 07.2 -0.6**
ABKAR Akbulak array 67.17 319 P **P 22 32 06.8 -1.6**
URZ Urewera 67.37 139 LR LR 23 04 06.7
comp=Z,257nm,18.5s,baz=75,slow=38
BKZ Black Stump Fm 67.49 140 P **P 22 32 09.8 -0.8**
BKZ Black Stump Fm 67.49 140 P **P 22 32 11.1 +0.5**
comp=Z,40nm,0.7s
RTZ Ruatahuna 67.49 139 P **P 22 32 09.9 -0.8**
ODZ Otahua Downs 67.72 148 P **P 22 32 12.9 +1.0**
comp=Z,22nm,1.9s
SVE Sverdlovsk 68.54 327 *e*P **P 22 32 16.1 -0.8**
SVE pmax pmax
comp=Z,16nm,0.8s
UNV Unalaska Valle 68.70 36 P **P 22 32 17.9 0.0**
baz=257
ARTI Arti 69.64 327 P **P 22 32 22.1 -1.7**
ARTI Arti 69.64 327 LR LR 23 03 14.1
comp=Z,229nm,20.0s,baz=114,slow=36
ARTI Arti 69.64 327*c i*P **P 22 32 21.9 -1.8**
ARTI 22 34 53.6
ARTI S **S 22 41 31.9 +2.9**
ARTI SS **SS 22 45 58.5 +1.1**
ARTI pmax pmax
comp=Z,9.0nm,1.1s
M11K Mekoryuk 70.44 29 P **P 22 32 28.9 +0.4**
baz=255
FALS False Pass 70.68 35 P **P 22 32 30.2 +0.1**
baz=259
K13K Kusilvak Mount 71.55 28 P **P 22 32 34.6 -0.7**
baz=256
F14K Arctic Creek 71.77 24 P **P 22 32 36.8 +0.2**
baz=253
M13K Dall Lake 71.82 29 P **P 22 32 37.3 +0.4**
baz=258
ANM Nome 71.91 25 P **P 22 32 37.5 +0.1**
ANM IAmb IAmb 22 33 11.5
comp=Z,35nm,1.4s
ANM Nome 71.91 25 P **P 22 32 37.5 +0.1**
ANM pmax pmax
comp=Z,35nm,1.4s
J14K Nanvaranak Lak 72.24 27 P **P 22 32 39.8 +0.4**
baz=257
L14K Kuka Creek 72.33 29 P **P 22 32 40.3 +0.3**
L14K Kuka Creek 72.33 29 P **P 22 32 40.1 +0.1**
baz=258
F15K North Star Dit 72.51 24 P **P 22 32 40.7 -0.3**
baz=255
N14K Kuskokwak Cree 72.54 30 P **P 22 32 41.3 +0.1**
baz=259
M14K Bethel 72.56 29 P **P 22 32 40.8 -0.5**
M14K Bethel 72.56 29 P **P 22 32 41.4 +0.1**
baz=259
G15K Niukluk 72.57 25 P **P 22 32 41.4 +0.1**
baz=256
O14K Tigyukauivet M 72.63 31 P **P 22 32 41.4 -0.3**
baz=260
CHNA Chernabura Isl 72.86 36 P **P 22 32 42.8 -0.4**
baz=263
C16K Lisburne Hills 72.95 21 P **P 22 32 43.2 -0.3**
baz=253
L15K Ungalak Mounta 72.96 28 P **P 22 32 43.6 -0.1**
baz=259
K15K Wolf Creek Mou 73.06 28 P **P 22 32 44.2 -0.1**
baz=259
S14K Fog Glacier 73.07 34 P **P 22 32 43.5 -1.1**
baz=262
M15K Kasigluk River 73.16 29 P **P 22 32 45.3 +0.3**
baz=260
H16K Elim 73.24 25 P **P 22 32 45.0 -0.3**
baz=257
O15K Ungalikthiuk R 73.34 31 P **P 22 32 45.3 -0.7**
baz=261
G16K Koyuk River 73.36 24 P **P 22 32 46.0 0.0**
baz=257
N15K Kwethluk River 73.37 30 P **P 22 32 45.7 -0.4**
baz=261
D17K Noatak River 73.62 22 P **P 22 32 47.2 -0.3**
baz=256
J16K Anvik River 73.67 27 P **P 22 32 47.6 -0.2**
baz=259
CHGN Chignik 73.70 34 P **P 22 32 47.7 -0.5**
baz=263
I17K Unalakleet 73.74 26 P **P 22 32 48.4 +0.2**
baz=259
RDOG Red Dog Mine 73.77 22 P **P 22 32 48.8 +0.4**
RDOG IAmb IAmb 22 33 00.6
comp=Z,35nm,1.4s
RDOG Red Dog Mine 73.77 22 P **P 22 32 48.2 -0.2**
baz=256
C17K DeLong Mountai 73.78 21 P **P 22 32 48.0 -0.4**
baz=255
L16K Owhat River 73.91 29 P **P 22 32 48.5 -0.8**
baz=261
E17K Hotham Inlet 73.94 23 P **P 22 32 49.0 -0.4**
baz=257
F17K Baldwin Pennin 74.03 23 P **P 22 32 50.4 +0.5**
baz=258
M16K Timber Creek 74.05 29 P **P 22 32 50.0 -0.2**
baz=261
G17K Kiwalik Mounta 74.08 25 P **P 22 32 50.4 +0.2**
baz=258
H17K Granite Mounta 74.27 25 P **P 22 32 51.6 +0.2**
baz=259
O16K Kokwok River B 74.28 31 P **P 22 32 50.9 -0.5**
baz=262,SNR=7.0
J17K VABM Dome 74.37 27 P **P 22 32 52.1 +0.1**
baz=261
B18K Kokolik River 74.48 20 P **P 22 32 52.8 +0.3**
baz=256
E18K Tukpahlearik C 74.48 23 P **P 22 32 52.7 +0.1**
baz=258
C18K Utukok River 74.53 21 P **P 22 32 52.0 -0.8**
baz=257
L17K Donlin 74.53 28 P **P 22 32 53.0 +0.1**
baz=262
K17K Iditarod 74.61 28 P **P 22 32 52.9 -0.5**
baz=262
F18K Selawik 74.69 23 P **P 22 32 53.5 -0.2**
baz=259
KIRV Kirov 74.78 328*de*P **P 22 32 53.2 -1.2**
O17K Koliganek Bris 74.81 31 P **P 22 32 54.6 +0.1**
baz=263
M17K Holitna River 74.83 29 P **P 22 32 54.7 0.0**
baz=263
N17K Nushagak Hills 74.85 30 P **P 22 32 54.3 -0.4**
baz=263,SNR=7.6
Q16K King Salmon 74.91 32 P **P 22 32 55.1 0.0**
baz=264
AKT Akhty 74.95 310 *e*P **P 22 32 54.5 -1.4**
AKT *e* 22 33 08.6
AKT *e*PPP PPP 22 37 29.5
AKT pmax pmax
comp=Z,19nm,1.0s
H18K Honhosa River 74.96 25 P **P 22 32 55.4 0.0**
baz=261
G18K Tatagawik 74.96 24 P **P 22 32 54.9 -0.4**
baz=260
P17K Kvichak River 75.08 31 P **P 22 32 56.0 -0.1**
baz=264
MAK Makhachkala 75.12 312 *e*P **P 22 32 52.5 -4.2**
MAK *e*S **S 22 42 31.6 -0.7**
MAK *e*SSS SSS 22 50 42.1
MAK pmax pmax
comp=Z,185nm,1.4s
CHIR Chirikof Islan 75.22 35 P **P 22 32 57.0 0.0**
baz=266
Q17K Contact Creek 75.27 32 P **P 22 32 57.1 -0.3**
baz=265
L18K Granite Mounta 75.29 28 P **P 22 32 57.7 +0.4**
L18K IAmb IAmb 22 34 41.2
comp=Z,41nm,1.8s
L18K Granite Mounta 75.29 28 P **P 22 32 56.7 -0.6**
baz=263
BELG Belogornoye 75.31 322*ce*P **P 22 32 55.9 -1.7**
BELG pmax pmax
comp=Z,4.0nm,0.9s
J18K Innoko River 75.43 27 P **P 22 32 58.0 -0.1**
baz=263
F19K Shaleruckik Mo 75.46 23 P **P 22 32 57.2 -1.0**
baz=261
N18K Kilae Creek 75.50 30 P **P 22 32 57.9 -0.7**
baz=264
GCSA Galena City Sc 75.52 26 P **P 22 32 58.3 -0.3**
baz=262
D19K Kuna River 75.61 22 P **P 22 32 59.0 0.0**
baz=260
M18K Stony River 75.61 29 P **P 22 32 59.0 -0.2**
baz=264
G19K Purcell Mounta 75.63 24 P **P 22 32 59.2 +0.1**
baz=262
TTA Tatalina 75.68 27 P **P 22 32 59.3 -0.3**
TTA IAmb IAmb 22 33 01.3
comp=Z,28nm,1.7s
TTA Tatalina 75.68 27 P **P 22 32 59.6 0.0**
baz=264
TTA Tatalina 75.68 27 P **P 22 33 01.1 +1.5**
comp=Z,11nm,2.6s
TTA Tatalina 75.68 27 P **P 22 32 59.3 -0.3**
TTA pmax pmax
comp=Z,28nm,1.7s
P18K Big Mountain, 75.71 31 P **P 22 32 59.5 -0.3**
baz=265
O18K Koktuh Hills 75.76 31 P **P 22 32 59.9 -0.2**
baz=265,SNR=9.6
E19K Redstone River 75.77 23 P **P 22 32 59.9 0.0**
baz=261
H19K Roundabout Mou 75.81 25 P **P 22 33 01.1 +1.0**
baz=262
J19K Poorman 75.97 26 P **P 22 33 01.8 +0.6**
baz=264
SII Sitkinak Islan 76.07 34 P **P 22 33 02.0 +0.2**
baz=267
KNHH Kane Nui o Ham 76.08 72 P **P 22 33 01.9 -0.9**
STCH Steam Cracks 76.12 72 P **P 22 33 02.5 -0.5**
L19K White Mountain 76.14 28 P **P 22 33 02.3 +0.1**
baz=265
D20K Etivluk River 76.19 22 P **P 22 33 02.6 +0.2**
baz=262
N19K Bonanza Creek 76.20 30 P **P 22 33 02.2 -0.5**
baz=265
O19K Port Alsworth 76.23 30 P **P 22 33 02.6 -0.1**
baz=266
E20K Nigu River 76.28 22 P **P 22 33 02.7 -0.2**
baz=262
F20K Avaraart Lake 76.29 23 P **P 22 33 03.3 +0.4**
F20K IAmb IAmb 22 33 05.2
comp=Z,31nm,1.6s
F20K Avaraart Lake 76.29 23 P **P 22 33 03.6 +0.7**
baz=263
M19K Big River Lodg 76.33 29 P **P 22 33 03.5 +0.2**
baz=265
H20K Anotleneega Mo 76.45 25 P **P 22 33 04.5 +0.6**
baz=264
Q19K Cape Douglas, 76.49 32 P **P 22 33 04.0 -0.3**
baz=267
I20K Naaghedeneel 76.55 26 P **P 22 33 04.4 +0.1**
baz=264
A21K Barrow 76.58 19 P **P 22 33 04.8 +0.3**
baz=261
OHAK Old Harbor 76.59 33 P **P 22 33 04.7 0.0**
baz=267
K20K Telida 76.60 27 P **P 22 33 04.8 0.0**
baz=265
L20K Farewell, AK 76.62 28 P **P 22 33 05.4 +0.5**
baz=266
J20K Nowinta River 76.64 26 P **P 22 33 04.8 -0.1**
baz=265
P19K Oil Pt 76.75 31 P **P 22 33 04.8 -0.9**
baz=267
CASY Casey 76.83 186 P **P 22 33 05.3 -0.5**
C21K Knifeblade Rid 76.90 21 P **P 22 33 06.2 -0.1**
baz=263
M20K Styx River 76.93 29 P **P 22 33 06.5 -0.2**
baz=266
KDAK Kodiak Island 77.00 33 P **P 22 33 06.6 -0.5**
KDAK Kodiak Island 77.00 33 P **P 22 33 06.6 -0.5**
baz=268
KDAK Kodiak Island 77.00 33⇓ *e*P **P 22 33 07.1 0.0**
KDAK pmax pmax
comp=Z,81nm,1.7s
B21K Ikpikpuk River 77.02 21 P **P 22 33 06.9 -0.1**
baz=263
G21K Allakaket 77.11 24 P **P 22 33 07.4 -0.2**
baz=265
E21K Killik River 77.11 22 P **P 22 33 08.0 +0.4**
baz=264
Q20K Shuyak Island 77.13 32 P **P 22 33 07.1 -0.7**
baz=268
F21K Alatna River 77.18 23 P **P 22 33 08.2 +0.2**
baz=265
GNI Garni 77.25 309 P **P 22 33 09.2 +0.2**
GNI IAmb IAmb 22 33 17.2
comp=Z,60nm,1.8s
GNI Garni 77.25 309*de*P **P 22 33 10.2 +1.1**
GNI pmax pmax
comp=Z,27nm,1.8s
GNI Garni 77.25 309 P **P 22 33 10.2 +1.1**
comp=Z,17nm,1.5s
H21K Meloziina Rive 77.33 25 P **P 22 33 08.9 +0.1**
baz=266
SPCR Spurr Chakacha 77.33 29 P **P 22 33 08.7 -0.3**
baz=267
CHUM Lake Minchumin 77.42 27 P **P 22 33 09.5 +0.1**
baz=267
PPLA Purkeypile 77.42 28 P **P 22 33 09.7 +0.1**
baz=267
CAST Castle Rocks 77.50 27 P **P 22 33 09.8 0.0**
CAST IAmb IAmb 22 33 11.4
comp=Z,50nm,1.9s
CAST Castle Rocks 77.50 27 P **P 22 33 10.0 +0.1**
baz=267,SNR=7.2
B22K Teshekpuk Lake 77.50 20 P **P 22 33 10.0 +0.3**
baz=264
HOM Homer 77.55 31 P **P 22 33 10.1 0.0**
baz=268
D22K Ayikyak River 77.63 22 P **P 22 33 10.7 +0.2**
baz=265
I21K Tanana 77.64 25 P **P 22 33 10.7 +0.1**
baz=267
SKT Skwentna 77.69 29 P **P 22 33 09.7 -1.2**
SKT IAmb IAmb 22 33 13.0
comp=Z,23nm,1.4s
SKT Skwentna 77.69 29 P **P 22 33 11.2 +0.3**
baz=268,SNR=5.4
RAYN Ar Rayn 77.71 292 P **P 22 33 10.7 -1.1**
RAYN IAmb IAmb 22 33 18.9
comp=Z,54nm,1.8s
RAYN Ar Rayn 77.71 292 P **P 22 33 10.7 -1.1**
RAYN pmax pmax
comp=Z,54nm,1.8s
CNPM China Poot 77.75 31 P **P 22 33 10.5 -0.9**
CAPN Captain Cook N 77.83 30 P **P 22 33 11.3 -0.3**
baz=268
H22K Ishtalitna Cre 77.93 25 P **P 22 33 12.6 +0.4**
baz=267
BRLK Bradley Lake 77.94 31 P **P 22 33 11.3 -1.1**
BRLK IAmb IAmb 22 33 22.2
comp=Z,24nm,1.1s
NCK Nalchik 77.97 312⇑ *e*P **P 22 33 11.6 -1.3**
NCK pmax pmax
comp=Z,5.0nm,0.9s
BRSE Bradley Lake S 78.01 31 P **P 22 33 12.8 0.0**
baz=269
BPAW Bear Paw Mtn. 78.02 26 P **P 22 33 12.7 0.0**
baz=268,SNR=9.0
SUA Susitna One 78.04 29 P **P 22 33 13.0 0.0**
baz=268
TRF Thorofare Moun 78.31 27 P **P 22 33 14.0 -0.5**
TRF IAmb IAmb 22 33 15.5
comp=Z,53nm,1.8s
TRF Thorofare Moun 78.31 27 P **P 22 33 14.3 -0.2**
baz=268
M22K Willow 78.35 29 P **P 22 33 15.0 +0.5**
baz=269
D23K Nanushuk River 78.35 21 P **P 22 33 14.2 -0.3**
baz=267
C23K Itkillik River 78.42 21 P **P 22 33 14.8 0.0**
baz=267
COLD Coldfoot 78.46 23 P **P 22 33 15.5 +0.5**
baz=268,SNR=6.4
KBZ Khabaz 78.47 313 P **P 22 33 14.5 -1.0**
comp=Z,5.5nm,1.0s,baz=118,slow=3.8,SNR=10
KBZ LR LR 23 13 55.3
comp=Z,279nm,18.2s,baz=81,slow=40
comp=Z,5.5nm,1.0s
KBZ Khabaz 78.47 313*ce*P **P 22 33 15.2 -0.3**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KARS Kars 78.49 310 P **P 22 33 15.2 -0.8**
KARS Kars 78.49 310 P **P 22 33 15.2 -0.8**
KARS pmax pmax
comp=Z,38nm,0.8s
G23K Bananza Creek 78.51 24 P **P 22 33 15.3 -0.1**
baz=268
RC01 Rabbit Creek A 78.53 30 P **P 22 33 15.6 0.0**
baz=270
O22K Cooper Landing 78.53 30 P **P 22 33 15.8 +0.3**
baz=270
KIV Kislovodsk 78.61 313 P **P 22 33 16.2 -0.3**
KIV IAmb IAmb 22 33 23.5
comp=Z,19nm,1.0s
KIV Kislovodsk 78.61 313 *e*P **P 22 33 16.0 -0.4**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,192nm,19.0s
KIV Kislovodsk 78.61 313 P **P 22 33 16.1 -0.4**
comp=Z,14nm,0.9s
GEVA Gevas 78.64 307 P **P 22 33 16.4 -0.4**
GEVA IAmb IAmb 22 33 23.3
comp=Z,29nm,1.3s
SEW Seward 78.66 31 P **P 22 33 16.4 +0.1**
baz=270
E23K Chandalar 78.71 22 P **P 22 33 16.4 -0.2**
baz=268
TOLK Toolik Lake Re 78.74 22 P **P 22 33 16.4 -0.2**
baz=268,SNR=7.4
I23K Minto, Yukon-K 78.74 25 P **P 22 33 16.8 +0.1**
baz=269,SNR=12
PMR Palmer 78.82 29 P **P 22 33 16.2 -0.9**
baz=270
PMR Palmer 78.82 29 P **P 22 33 17.0 -0.1**
comp=Z,13nm,1.1s
NEA2 Nenana 78.86 26 P **P 22 33 16.8 -0.5**
baz=269
MCK McKinley 78.92 27 P **P 22 33 17.0 -0.7**
baz=270,SNR=8.6
VRH Novokhopyorsk 78.97 320 P **P 22 33 16.3 -1.8**
VRH pmax pmax
comp=Z,17nm,1.1s
D24K Happy Valley 79.03 21 P **P 22 33 18.1 0.0**
baz=269
C24K Franklin Bluff 79.08 21 P **P 22 33 18.1 -0.3**
baz=269
E24K Your Creek 79.13 22 P **P 22 33 18.6 -0.3**
baz=269
KNK Knik Glacier 79.14 29 P **P 22 33 18.2 -0.7**
baz=271,SNR=7.1
SIRT Sirnak 79.19 306 P **P 22 33 18.9 -0.9**
SML Sawmill 79.20 29 P **P 22 33 18.7 -0.6**
baz=271
PWL Port Wells 79.21 30 P **P 22 33 18.9 -0.5**
PWL IAmb IAmb 22 33 36.6
comp=Z,19nm,0.8s
PWL Port Wells 79.21 30 P **P 22 33 18.8 -0.5**
baz=271,SNR=6.9
F24K Squaw Lake 79.36 23 P **P 22 33 20.4 +0.3**
baz=270
H24K Noodor Dome 79.37 25 P **P 22 33 20.4 +0.3**
baz=270
COLA College 79.39 26 P **P 22 33 20.8 +0.6**
baz=270
COLA College 79.39 26⇑ *e*P **P 22 33 20.1 0.0**
COLA pmax pmax
comp=Z,5.0nm,0.9s
GURO Guroymak-BITLI 79.43 307 P **P 22 33 21.3 +0.1**

GURO IAmb IAmb 22 33 22.5
comp=Z,14nm,0.7s
M23K Glacier View 79.49 29 P **P 22 33 21.3 +0.5**
baz=271
G24K Hadweenzic Riv 79.52 24 P **P 22 33 21.2 +0.3**
baz=270
POKR Poker Plat Res 79.56 25 P **P 22 33 20.9 -0.3**
baz=271
SCM Sheep Creek Mo 79.67 29 P **P 22 33 21.6 -0.3**
SCM IAmb IAmb 22 33 31.4
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 79.67 29 P **P 22 33 21.1 -0.8**
baz=272
SCM Sheep Creek Mo 79.67 29 P **P 22 33 21.6 -0.3**
SCM pmax pmax
comp=Z,17nm,0.8s
P23K Montague Islan 79.69 31 P **P 22 33 21.9 0.0**
baz=272
HDA Harding Lake 79.78 26 P **P 22 33 22.5 +0.2**
baz=271
ILAR Eielson Array 79.80 26 P **P 22 33 21.3 -1.1**
comp=Z,1.2nm,0.6s,baz=241,slow=4.8,SNR=24
ILAR LR LR 23 11 13.9
comp=Z,108nm,18.8s,baz=255,slow=38
comp=Z,1.2nm,0.6s
GLI Glacier Island 79.82 30 P **P 22 33 22.1 -0.5**
baz=272
KLMR Klimovskoe 79.87 330 *e*P **P 22 33 19.8 -3.0**
KLMR pmax pmax
comp=Z,45nm,1.6s
D25K Kavik River 79.90 21 P **P 22 33 23.2 +0.2**
baz=271,SNR=11
LABN Labinsk 79.98 314 *e*P **P 22 33 27.4 +3.6**
LABN pmax pmax
comp=Z,6.0nm,0.4s
G25K Bearman Lake 80.07 24 P **P 22 33 24.2 +0.4**
baz=272
ERBR Yeremizino-Bor 80.07 315 *e*P **P 22 33 22.1 -2.2**
ERBR pmax pmax
comp=Z,29nm,1.3s
H25L Birch Creek 80.20 24 P **P 22 33 25.0 +0.5**
baz=272
M24K Tolsona, Glenn 80.21 28 P **P 22 33 25.0 +0.2**
baz=272
F25K Christian Rive 80.22 23 P **P 22 33 24.2 -0.5**
baz=272
E25K Arctic Village 80.23 22 P **P 22 33 24.9 +0.2**
baz=272,SNR=9.5
Q23K Middleton Isla 80.25 31 P **P 22 33 25.3 +0.3**
baz=273
K24K Donnelly Dome 80.32 27 P **P 22 33 25.5 +0.2**
baz=272
PRP Porcupine Dome 80.35 25 P **P 22 33 24.5 -1.1**
baz=272
KLU Klutina 80.36 29 P **P 22 33 25.3 -0.4**
baz=273
C26K Camden Bay 80.40 21 P **P 22 33 25.5 0.0**
baz=272,SNR=8.7
DIV Divide 80.45 29 P **P 22 33 26.4 +0.4**
DIV IAmb IAmb 22 33 41.7
comp=Z,79nm,1.9s
J25K Salcha River, 80.46 26 P **P 22 33 26.1 0.0**
baz=273
EYAK Cordova Ski Ar 80.49 30 P **P 22 33 26.1 -0.1**
baz=273
PAX Paxson 80.50 28 P **P 22 33 25.9 -0.5**
PAX IAmb IAmb 22 33 27.8
comp=Z,46nm,1.9s
PAX Paxson 80.50 28 P **P 22 33 25.8 -0.5**
baz=273,SNR=5.3
PAX Paxson 80.50 28 P **P 22 33 25.9 -0.5**
PAX pmax pmax
comp=Z,46nm,1.9s
KOPT Kop Dagi 80.50 309 P **P 22 33 27.4 +0.3**
KOPT IAmb IAmb 22 33 30.5
comp=Z,22nm,1.2s
VORD Divnogorie 80.51 320 *e*P **P 22 33 23.3 -3.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 80.51 321 P **P 22 33 24.4 -2.1**
VORR pmax pmax
comp=Z,12nm,1.0s
MARD Mardin 80.52 306 P **P 22 33 26.5 -0.5**
MARD IAmb IAmb 22 33 27.6
comp=Z,11nm,0.6s
VSR Storozhevoye 80.57 320 *e*P **P 22 33 23.8 -3.0**
VSR pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 80.62 322 *e*P **P 22 33 25.9 -1.2**
LPSR pmax pmax
comp=Z,13nm,0.9s
BMAR Burnt Mountain 80.63 23 P **P 22 33 27.4 +0.4**
HARP HAARP 80.67 28 P **P 22 33 27.2 0.0**
baz=273
RIDG Independent Ri 80.73 27 P **P 22 33 27.4 -0.1**
baz=273,SNR=7.7
F26K Sheenjek River 80.79 23 P **P 22 33 27.9 +0.2**
baz=273
C27K Jago River 80.83 21 P **P 22 33 28.0 +0.2**
baz=273
G26K Porcupine Rive 80.97 23 P **P 22 33 29.0 +0.4**
baz=274
N25K Chitina, Valde 80.98 29 P **P 22 33 28.3 -0.7**
baz=274
BMRM Bremner River 81.03 30 P **P 22 33 28.9 -0.3**
BMRM IAmb IAmb 22 33 31.8
comp=Z,50nm,1.7s
BMRM Bremner River 81.03 30 P **P 22 33 29.3 +0.1**
baz=274
SCRK Sand Creek 81.10 27 P **P 22 33 29.3 -0.2**
SCRK IAmb IAmb 22 33 45.0
comp=Z,26nm,1.7s
SCRK Sand Creek 81.10 27 P **P 22 33 29.4 -0.2**
baz=274
MOS Moscow 81.16 325 *e*P **P 22 33 26.5 -3.3**
KAIM Kayak Island 81.20 31 P **P 22 33 30.5 +0.5**
baz=274
J26L Joseph Creek 81.24 26 P **P 22 33 30.5 +0.2**
baz=274
I26K Coal Creek Min 81.35 25 P **P 22 33 31.8 +1.1**
baz=275
L26K Log Cabin Wild 81.46 27 P **P 22 33 31.4 +0.1**
baz=275
VRDI Verde Repeater 81.56 29 P **P 22 33 31.8 -0.3**
VRDI IAmb IAmb 22 33 33.7
comp=Z,28nm,1.5s
M26K Nabesna, AK 81.67 28 P **P 22 33 32.8 +0.2**
baz=275,SNR=5.9
OBN Obninsk 81.81 325 P **P 22 33 32.9 -0.4**
OBN Obninsk 81.81 325⇓*e*P **P 22 33 33.8 +0.5**
OBN *e* 22 36 41.4
OBN *e*S **SKSac 22 43 50.5 +0.5**
OBN pmax pmax
comp=Z,57nm,2.5s
G27K Doyon Strip 81.82 24 P **P 22 33 33.4 +0.1**
baz=276
D27M Malcolm River 81.83 21 P **P 22 33 33.1 -0.2**
baz=276
H27K Steamboat Moun 81.93 24 P **P 22 33 34.9 +1.0**
baz=276
I27K Kandik River 81.96 25 P **P 22 33 34.2 +0.2**
baz=276
APA Apatity 82.04 337⇓*i*P **P 22 33 36.3 +2.0**
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,700nm,16.0s
L27K Beaver Creek, 82.14 27 P **P 22 33 35.3 +0.3**
baz=276,SNR=7.1
BCAR Beaver Creek A 82.16 27 P **P 22 33 35.4 +0.3**
M27K Edge Creek, AK 82.20 28 P **P 22 33 35.7 +0.2**
baz=276
EGAK Eagle 82.25 26 P **P 22 33 35.3 -0.2**
EGAK IAmb IAmb 22 33 44.9
comp=Z,25nm,1.6s
EGAK Eagle 82.25 26 P **P 22 33 36.5 +1.1**
baz=276
MESA MESA 82.40 30 P **P 22 33 37.0 +0.3**
baz=276
E28M Babbage River 82.42 22 P **P 22 33 36.9 +0.6**
baz=277
F28M Old Crow 82.42 23 P **P 22 33 36.6 +0.3**
baz=277,SNR=11
D28M Stokes Point 82.60 21 P **P 22 33 37.9 +0.7**
baz=278
BVCY Beaver Creek 82.66 28 P **P 22 33 38.3 +0.6**
baz=277

I28M Miner Creek 82.68 25 P **P 22 33 38.5 +0.7**
baz=278,SNR=26
YUK3 Moose Creek 82.93 29 P **P 22 33 39.7 +0.3**
baz=278
ABPO Ambohimpanom 82.98 249 P **P 22 33 39.2 -1.1**
ABPO IAmb IAmb 22 33 40.8
comp=Z,9.6nm,0.8s
ABPO Ambohimpanom 82.98 249 P **P 22 33 39.2 -1.1**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
E29M Blow River 83.05 22 P **P 22 33 40.2 +0.6**
baz=279
DAWY Dawson 83.10 26 P **P 22 33 39.8 -0.2**
DAWY IAmb IAmb 22 33 42.0
comp=Z,40nm,1.6s
DAWY Dawson 83.10 26 P **P 22 33 39.7 -0.3**
baz=278,SNR=6.5
VADS Vadso 83.13 340 *e*P **P 22 33 39.6 -0.3**
VADS IAmb IAmb 22 33 41.0
comp=Z,30nm,1.0s
O28M Mount Upton 83.19 30 P **P 22 33 40.5 -0.3**
baz=278
H29M Whitestone 83.20 24 P **P 22 33 40.8 +0.4**
baz=279
G29M Pine Creek 83.23 23 P **P 22 33 40.8 +0.3**
baz=279
PINM Pinnacle 83.26 30 P **P 22 33 41.2 +0.3**
baz=278
YUK8 Steele Glacier 83.33 29 P **P 22 33 41.6 +0.1**
baz=278,SNR=7.3
I29M Ogilvie Camp, 83.36 25 P **P 22 33 41.7 +0.4**
baz=279,SNR=9.5
GAZ Gaziantep 83.36 306 P **P 22 33 41.1 -0.8**
GAZ IAmb IAmb 22 33 47.5
comp=Z,38nm,1.7s
M29M Somme Creek 83.76 28 P **P 22 33 43.7 +0.2**
baz=279
L29M L29M 83.80 27 P **P 22 33 44.1 +0.5**
baz=279
EPYK Eagle Plains 83.84 24 P **P 22 33 43.9 +0.2**
baz=280,SNR=7.3
YUK4 Talbot Arm 83.85 29 P **P 22 33 44.4 +0.3**
baz=279
G30M tAoh Zraii Nji 83.92 23 P **P 22 33 44.9 +0.8**
baz=281
K29M Barlow Dome 83.95 26 P **P 22 33 45.2 +0.7**
baz=280
F30M Barrier River 83.97 22 P **P 22 33 44.5 +0.2**
baz=281
KEV Kevo 84.00 340 P **P 22 33 44.1 -0.3**
KEV Kevo 84.00 340 P **P 22 33 44.1 -0.3**
KEV pmax pmax
comp=Z,87nm,1.9s
VOI Vohitsoka 84.03 247 P **P 22 33 44.1 -1.5**
VOI IAmb IAmb 22 33 55.8
comp=Z,32nm,1.2s
YUK6 Outpost Mounta 84.05 29 P **P 22 33 45.4 +0.3**
baz=279
O29M Mount Kennedy 84.06 30 P **P 22 33 45.6 +0.5**
baz=279
I30M Mount Dempster 84.19 25 P **P 22 33 45.6 -0.1**
baz=281
J30M Hart River 84.33 25 P **P 22 33 46.4 0.0**
baz=281
SPB1 Spitsbergen Ar 84.40 349 P **P 22 33 45.9 -0.4**
SPA0 Spitsbergen Ar 84.40 349 *e*P **P 22 33 46.4 0.0**
SPA0 IAmb IAmb 22 33 47.4
comp=Z,35nm,1.0s
SPITS Spitsbergen Ar 84.40 349 P **P 22 33 45.9 -0.5**
comp=Z,18nm,0.9s,baz=93,slow=9.2,SNR=27
comp=Z,18nm,0.9s
HYT Haines Junctio 84.49 29 P **P 22 33 47.8 +0.5**
HYT IAmb IAmb 22 33 49.6
comp=Z,16nm,1.0s
HYT Haines Junctio 84.49 29 P **P 22 33 47.4 +0.2**
baz=280,SNR=7.4
M30M Minto, Yukon 84.50 27 P **P 22 33 47.4 +0.2**
baz=281,SNR=11
ARA0 ARCESS Array S 84.56 340 *e*P **P 22 33 46.9 -0.4**
ARA0 IAmb IAmb 22 33 49.3
comp=Z,9.9nm,0.6s
ARCES ARCESS Array B 84.56 340 P **P 22 33 46.7 -0.6**
ARCES ARCESS Array B 84.56 340 P **P 22 33 46.6 -0.7**
comp=Z,8.0nm,0.6s,baz=77,slow=5.2,SNR=56
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 84.56 340 P **P 22 33 46.7 -0.6**
ARCES pmax pmax
comp=Z,90nm,2.0s
SIM Simferopol' 84.62 315 *e*P **P 22 33 46.6 -1.5**
SIM *e*S **SKSac 22 44 10.2 +1.2**
SIM pmax pmax
comp=Z,35nm,1.4s
SIM smax smax
comp=N,65nm,17.2s
INK Inuvik 84.65 22 P **P 22 33 47.4 -0.3**
INK IAmb IAmb 22 33 49.1
comp=Z,26nm,1.4s
INK Inuvik 84.65 22 LR LR 23 15 51.9
comp=Z,81nm,18.4s,baz=248,slow=39
INK Inuvik 84.65 22 P **P 22 33 47.7 0.0**
baz=283,SNR=10
INK Inuvik 84.65 22 P **P 22 33 47.4 -0.3**
INK pmax pmax
comp=Z,26nm,1.4s
MAYO Mayo, Yukon 84.71 26 P **P 22 33 48.6 +0.5**
baz=281
F31M Tsiigehtchic 84.77 22 P **P 22 33 48.6 +0.3**
baz=283
P30M Million Dollar 84.88 30 P **P 22 33 49.7 +0.6**
baz=281
HAMF Hammerfest 84.89 341 *e*P **P 22 33 48.2 -0.6**
HAMF IAmb IAmb 22 33 49.1
comp=Z,10nm,0.7s
H31M Peel River 84.90 24 P **P 22 33 50.1 +1.0**
baz=282
O30N Mendenhall 85.18 29 P **P 22 33 51.4 +0.8**
baz=281
N31M Braeburn, Yuko 85.18 28 P **P 22 33 51.1 +0.5**
baz=282,SNR=9.2
PLBC Pleasant Camp 85.30 31 P **P 22 33 51.1 -0.1**
baz=281
MMAI Mount Meron Ar 85.41 303 P **P 22 33 51.7 -0.7**
comp=Z,2.7nm,0.7s,baz=90,slow=3.3,SNR=2.9
MMAI LR LR 23 18 52.5
comp=Z,144nm,18.1s,baz=78,slow=40
comp=Z,2.7nm,0.7s
KTK1 Kautokeino 85.47 339 *e*P **P 22 33 51.5 -0.4**
KTK1 IAmb IAmb 22 33 54.3
comp=Z,108nm,2.2s
KIRS Kirsehir-Merke 85.66 309 ⇑P **P 22 33 51.8 -1.7**
S31K Pelican 85.67 32 P **P 22 33 53.6 +0.6**
baz=282
M31M Drury Creek, Y 85.67 28 P **P 22 33 54.0 +1.0**
baz=283,SNR=7.5
BR131 Keskin Array S 85.78 309 *de*P **P 22 33 52.3 -1.9**
BRTR Keskin Array B 85.78 309 P **P 22 33 52.3 -1.9**
BRTR Keskin Array B 85.78 309 P **P 22 33 52.9 -1.3**
comp=Z,3.2nm,0.9s,baz=116,slow=5.3,SNR=10
comp=Z,3.2nm,0.9s
BRTR Keskin Array B 85.78 309 *i* P **P 22 33 52.7 -1.5**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR104 Keskin Array S 85.78 309 P **P 22 33 52.5 -1.7**
comp=Z,42nmcomp=Z,4.9nm,0.9s
WHY Whitehorse 85.78 29 P **P 22 33 53.8 +0.1**
WHY IAmb IAmb 22 33 56.0
comp=Z,27nm,1.2s
WHY Whitehorse 85.78 29 P **P 22 33 54.4 +0.7**
baz=282,SNR=10
SKAG Skagway 85.82 30 P **P 22 33 54.9 +1.2**
baz=282
FARO Faro, Yukon 86.14 28 P **P 22 33 56.9 +1.6**
baz=284,SNR=7.3
FINES FINESS Array B 86.23 332 P **P 22 33 54.8 -0.9**
comp=Z,6.0nm,0.4s,baz=72,slow=5.4,SNR=74
comp=Z,6.0nm,0.4s
JETT Jettan, Norway 86.28 340 *e*P **P 22 33 55.5 -0.4**
JETT IAmb IAmb 22 33 56.7
comp=Z,18nm,0.7s
A36M Sachs Harbour 86.29 17 P **P 22 33 55.5 -0.4**
A36M IAmb IAmb 22 33 59.0
comp=Z,20nm,0.8s
A36M Sachs Harbour 86.29 17 P **P 22 33 56.8 +1.0**
baz=290,SNR=17
SIT Sitka 86.34 33 P **P 22 33 56.6 +0.3**
baz=282
N32M Quiet Lake 86.53 29 P **P 22 33 58.1 +0.8**

baz=284
P32M Atlin 86.59 30 P **P 22 33 58.1 +0.5**
baz=284
VSU Vasula 86.61 329⇑*e*P **P 22 33 57.0 -0.6**
VSU pmax pmax
comp=Z,83nm,2.5s
S32K Killisnoo 86.64 32 P **P 22 33 59.2 +1.4**
baz=283
TRO Tromso 86.74 340 *e*P **P 22 33 58.2 +0.1**
TRO IAmb IAmb 22 33 60.0
comp=Z,52nm,1.8s
CSS Mathiatis 86.80 305 P **P 22 33 58.3 -0.8**
AK09 Malin Array Si 86.84 321 P **P 22 33 57.5 -1.5**
AK03 Malin Array Si 86.86 321 P **P 22 33 57.6 -1.4**
AKASG Malin Array Be 86.86 321 P **P 22 33 58.0 -1.1**
AKASG Malin Array Be 86.86 321 P **P 22 33 57.5 -1.5**
comp=Z,2.6nm,0.6s,baz=63,slow=5.1,SNR=20
comp=Z,2.6nm,0.6s
AKASG Malin Array Be 86.86 321 P **P 22 33 58.0 -1.1**
AKASG pmax pmax
comp=Z,10.0nm,1.2s
AKBB Malin Array Si 86.86 321⇑*e*P **P 22 33 58.1 -1.0**
AKBB Malin Array Si 86.86 321 P **P 22 33 57.7 -1.4**
MNK Minsk 86.87 325 *i* P **P 22 34 01.3 +2.3**
MNK *i* 22 37 17.4
MNK *i* S **SKSac 22 44 27.6 +4.9**
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.6s
MNK MLR MLR
comp=N,494nm,20.0s
MNK MLR MLR
comp=Z,272nm,16.0s
KIEV Kiev 86.88 321 P **P 22 33 57.4 -1.7**
KIEV IAmb IAmb 22 34 04.1
comp=Z,15nm,1.1s
KIEV Kiev 86.88 321 ⇓P **P 22 33 57.4 -1.7**
KIEV Kiev 86.88 321 P **P 22 33 57.4 -1.7**
KIEV pmax pmax
comp=Z,15nm,1.1s
P33M Teslin, Yukon 86.88 29 P **P 22 33 59.6 +0.5**
baz=284
AK11 Malin Array Si 86.90 321 P **P 22 33 57.6 -1.6**
NOR Nord 86.97 355 *e*P **P 22 33 58.8 -0.2**
MMPY Sheldon Lake, 86.98 27 P **P 22 34 00.8 +1.3**
baz=286
PPT Papeete 87.45 108 LR LR 23 05 38.0
comp=Z,278nm,21.4s,baz=264,slow=30
Q32M Nakina River 87.47 31 P **P 22 34 03.2 +1.1**
baz=285
C36M Paulatuk 87.61 20 P **P 22 34 03.3 +1.0**
baz=292,SNR=9.5
U33K Whale Pass 87.74 33 P **P 22 34 03.9 +0.7**
baz=284
CRAG Craig 87.90 34 P **P 22 34 04.5 +0.6**
baz=284
LUBAR Lubar, Ukraine 87.95 320 P **P 22 34 02.5 -1.8**
SORM Soroca 87.96 318 ⇑P **P 22 34 02.3 -2.1**
SORM Soroca 87.96 318 ⇑P **P 22 34 02.3 -2.1**
R33M Jennings River 88.00 30 P **P 22 34 05.0 +0.4**
baz=286
WRAK Wrangell Islan 88.08 33 P **P 22 34 05.2 +0.5**
baz=285
TLCR 88.27 315 ⇑P **P 22 34 05.2 -0.7**
TLCR 88.27 315 ⇑P **P 22 34 05.2 -0.7**
S34M Telegraph Cree 88.32 31 P **P 22 34 06.0 +0.1**
baz=286
STEI Steigen 88.62 339 *e*P **P 22 34 05.4 -1.6**
STEI IAmb IAmb 22 34 06.0
comp=Z,36nm,1.1s
TPGR Topolog 88.62 315 ⇑P **P 22 34 05.6 -2.0**
KIBK Kibwezi 88.64 267 P **P 22 34 07.2 -1.2**
TGTN Hyland Airport 88.65 28 P **P 22 34 07.9 +0.5**
baz=288
DLBC Dease Lake 88.74 31 LR LR 23 08 05.8
comp=Z,219nm,21.3s,baz=260,slow=32
DLBC Dease Lake 88.74 31 P **P 22 34 08.0 0.0**
baz=287
CFR Carcaliu 88.74 316 ⇑P **P 22 34 07.2 -0.9**
CFR Carcaliu 88.74 316 ⇑P **P 22 34 07.2 -0.9**
RNPP9 Sopachiv 88.76 322 P **P 22 34 07.6 -0.5**
V35K Ketchikan 88.77 34 P **P 22 34 08.8 +0.8**
baz=286
FAUS Fauske 88.82 339 *e*P **P 22 34 06.4 -1.6**
FAUS IAmb IAmb 22 34 07.5
comp=Z,15nm,1.0s
WTLY Watson Lake, Y 88.84 29 P **P 22 34 08.9 +0.5**
baz=288
HARR Harsova 88.99 315 ⇓P **P 22 34 08.9 -0.4**
HARR Harsova 88.99 315 ⇓P **P 22 34 08.9 -0.4**
KMPD K-Podol'skiy 89.09 319 P **P 22 34 07.6 -2.1**
KMBO Kilima Mbogo 89.21 269 P **P 22 34 10.4 -0.9**
KMBO Kilima Mbogo 89.21 269 P **P 22 34 10.4 -0.9**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
MAW Mawson 89.33 200 LR LR 23 08 48.8
comp=Z,153nm,21.3s,baz=36,slow=32
GIRR Girov 89.45 318 ⇑P **P 22 34 10.1 -1.3**
TESR Tescani 89.45 317 ⇑P **P 22 34 10.2 -1.3**
VNDA Vanda 89.54 173 P **P 22 34 10.8 -0.3**
VNDA Vanda 89.54 173 P **P 22 34 10.4 -0.7**
comp=Z,2.6nm,0.7s,baz=0.8,slow=6.3,SNR=7.8
comp=Z,2.6nm,0.7s
VNDA Vanda 89.54 173 P **P 22 34 10.8 -0.3**
VNDA pmax pmax
comp=Z,48nm,1.7s
VRI Vrincioaia 89.55 316 ⇑P **P 22 34 12.1 +0.1**
VRI Vrincioaia 89.55 316 ⇑P **P 22 34 12.1 +0.1**
MOR8 Moi Rana 89.61 338 *e*P **P 22 34 08.8 -3.0**
MOR8 IAmb IAmb 22 34 10.1
comp=Z,82nm,1.8s
PLOR Plostina 89.61 316 ⇑P **P 22 34 10.7 -1.6**
PLOR Plostina 89.61 316 ⇑P **P 22 34 10.7 -1.6**
LEIR Leirfjorden 90.12 338 *e*P **P 22 34 12.6 -1.6**
BURAR Bucovina Array 90.13 318 ⇑P **P 22 34 14.2 -0.6**
BURAR Bucovina Array 90.13 318 ⇑P **P 22 34 14.2 -0.6**
MLR Muntele Rosu 90.17 316 ⇑P **P 22 34 11.2 -3.9**
MLR Muntele Rosu 90.17 316 P **P 22 34 11.2 -3.9**
TOAD Toad River Com 90.98 30 P **P 22 34 18.4 0.0**
baz=291
ARR Arges 91.10 316 ⇑P **P 22 34 18.8 -0.5**
DAG Danmarks Havn 91.14 352 P **P 22 34 18.0 -0.7**
DAG pmax pmax
comp=Z,15nm,0.9s
DAG Danmarks Havn 91.14 352 *i* P **P 22 34 17.0 -1.7**
NSS Namsos 91.24 337 *e*P **P 22 34 17.7 -1.7**
KOLS Kolonicke sedl 91.66 320 *e*P **P 22 34 21.1 -0.6**
KOLS pmax pmax
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 91.66 320 *e*P **P 22 34 21.1 -0.6**
MARR Marisel-Cluj 91.76 318 ⇑P **P 22 34 21.1 -1.3**
RES Resolute Bay 91.89 10 P **P 22 34 21.9 -0.3**
RES IAmb IAmb 22 34 28.0
comp=Z,10nm,1.1s
RES Resolute Bay 91.89 10 P **P 22 34 21.9 -0.3**
RES pmax pmax
comp=Z,10.0nm,1.1s
DRGR 92.00 318 ⇑P **P 22 34 21.9 -1.5**
DRGR 92.00 318 ⇑P **P 22 34 21.9 -1.5**
HFS Hagfors 92.39 332 P **P 22 34 23.2 -1.7**
comp=Z,4.4nm,0.5s,baz=92,slow=4.5,SNR=25
comp=Z,4.4nm,0.5s
NEEM North Greenlan 92.81 359 *e*P **P 22 34 27.1 +0.2**
NC602 NORSAR Array S 93.10 333 *e*P **P 22 34 26.9 -1.2**
NB2 NORSAR Subarra 93.11 334 P **P 22 34 26.0 -2.2**
comp=Z,2.9nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 93.11 334 P **P 22 34 26.0 -2.2**
baz=65,slow=4.6
NOA NORSAR Array B 93.11 334 P **P 22 34 26.5 -1.7**
comp=Z,2.0nm,0.7s,baz=74,slow=6.4,SNR=8.5
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 93.35 321 *e*P **P 22 34 28.9 -0.7**
LANS pmax pmax
comp=Z,2.0nm,1.2s
LANS Liptovska Anna 93.35 321 *e*P **P 22 34 28.9 -0.7**
DBG Daneborg 93.42 351 *e*P **P 22 34 28.9 -0.4**
OSL Oslo 93.82 333 *e*P **P 22 34 30.1 -1.3**
YKA Yellowknife Ar 94.12 24 P **P 22 34 32.5 -0.3**
comp=Z,3.2nm,0.6s,baz=297,slow=4.6,SNR=54
YKA LR LR 23 17 28.7
comp=Z,163nm,20.8s,baz=276,slow=36
comp=Z,3.2nm,0.6s

KULLO **Kullorsuaq** 95.68 1 *eP* **P** **22 34 39.7 0.0**
BLS5 **Blasjo** 95.97 334 *eP* **P** **22 34 41.4 +0.1**
BRG **Berggiesshubel** 96.04 324 *eP* **P** **22 34 41.3 -0.5**
BRG Amp 22 34 44.4
comp=Z,6.8nm,1.3s
CLL **Collm** 96.41 325 *eP* **P** **22 34 44.0 +0.6**
CLL MLR MLR
comp=Z,300nm,18.4s
CLL **Collm** 96.41 325 *eP* **P** **22 34 44.0 +0.6**
CLL AMS AMS 23 29 00.0
comp=Z,300nm,18.4s
GERES **GERESS Array B** 97.00 322 P **P** **22 34 45.2 -1.1**
comp=Z,1.3nm,0.7s,baz=91,slow=5.3,SNR=7.2
GERES LR LR 23 20 47.6
comp=Z,220nm,20.9s,baz=74,slow=37
comp=Z,1.3nm,0.7s
SUMG **Summit** 97.12 355 P Pdif 22 34 46.2 -0.6
SUMG IAmb IAmb 22 34 52.4
comp=Z,10nm,1.2s
SUMG **Summit** 97.12 355 P Pdif 22 34 46.2 -0.6
SUMG pmax pmax
comp=Z,10.0nm,1.2s
SUMG **Summit** 97.12 355 *i* P **P** **22 34 46.0 -0.7**
SYO **Syowa Base** 97.95 201⇓*eP* Pdif 22 34 52.2 +2.3
SYO **Syowa Base** 97.95 201⇓*es*P Pdif 22 34 58.8 +8.9
NEW **Newport** 99.69 37 LR LR 23 16 00.7
comp=Z,124nm,19.3s,baz=268,slow=33
MATP **Matopo** 100.60 251 P **Pdif** **22 35 00.6 -2.5**
comp=Z,1.4nm,0.7s,baz=158,slow=2.9,SNR=4.1
TXAR **Lajitas Array** 118.09 49 PKP **PKiKP** **22 40 02.3 +0.2**
comp=Z,0.7nm,0.5s,baz=349,slow=1.1,SNR=18
TXAR PP **PP** **22 41 13.7 -3.0**
comp=Z,0.4nm,0.8s,baz=270,slow=3.8,SNR=3.5
S39A **Bolivar** 119.92 36 PKPdf **PKPdf** **22 40 03.6 -1.6**
R40A **Maddies Statio** 120.10 35 **PKPdf** **22 40 04.0 -1.5**
JCT **Junction City** 120.28 46 PKPdf **PKPdf** **22 40 05.5 -0.6**
JCT **Junction City** 120.28 46 PKIKP **PKPdf** **22 40 05.5 -0.6**
TORD **Torodi Ar. Bea** 120.41 292 **PKPdf** **22 40 04.7 -1.9**
TORD **Torodi Ar. Bea** 120.41 292 PKP **PKPdf** **22 40 05.3 -1.4**
comp=Z,2.0nm,1.0s,baz=58,slow=2.0,SNR=8.8
DBIC **Dimbokro** 128.61 287 PKP **PKiKP** **22 40 22.2 -0.8**
comp=Z,2.1nm,0.8s,baz=18,slow=3.2,SNR=4.0
PLCA **Paso Flores** 145.85 157 PKPbc **PKPbc** **22 40 53.9 -0.1**
comp=Z,8.7nm,1.0s,baz=208,slow=6.2,SNR=11
PLCA **Paso Flores** 145.85 157 *eP* **PKPbc** **22 40 54.2 +0.2**
MT02 **Curacav** 151.75 148 **PKPbc** **22 41 08.9 -0.5**
OTAV **Otavalo** 153.44 69 *eP* **PKPdf** **22 41 08.7 +2.0**
SDV **Santo Domingo** 154.90 43 *eP* **PKPdf** **22 41 10.1 +1.7**
RUSC **La Rusia** 155.17 52 PKPbc PKPdf 22 41 17.3 +8.2
BAUV **El Baul** 156.50 38 PKPdf 22 41 19.5 +9.3
TBOT **Tacuaremb** 158.20 175 *eP* **PKPdf** **22 41 13.8 +1.9**
CPUP **Villa Florida** 163.28 169 PKPab **PKPab** **22 42 07.1 -0.9**
comp=Z,1.2nm,0.5s,baz=163,slow=3.2,SNR=1.2
LPAZ **La Paz** 164.60 116 PKP **PKPdf** **22 41 18.9 -0.9**
comp=Z,1.5nm,0.9s,baz=164,slow=2.0,SNR=3.6
LPAZ PKPab **PKPab** **22 42 14.5 -0.6**
comp=Z,1.6nm,0.9s,baz=342,slow=1.0,SNR=1.8
JANB **Januaria** 169.45 240 *eP* **PKPdf** **22 41 23.1 +0.4**
BDFB **Brasilia** 172.00 224 PKPab **PKPab** **22 42 44.9 -2.1**
comp=Z,3.3nm,0.8s,baz=135,slow=10.0,SNR=3.1

*IDC **09** 22:23:45.8±0.6, 9°.87N×126°.12E, h0km, mb4.3/21, mbtmp4.3/21, Error ellipse: s-maj=27.4km s-min=11.5km az=86.0*
*NEIC **09** 22:23:48.0±2.3, 9°.87N±0°.08×126°.3E±0°.1, h10km±1km, mb4.7/34, Error ellipse: s-maj=21.7km s-min=13.8km az=83.0*
ISC 09 22:23:53.1±0.4, **9°.86N**±0°.06×**126°.2E**±0°.1, **h54**km, **n66**, σ0**86**/67, **mb4.5**/38, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84**	**193**	Pg	**Pn**	**22 24 38.0**	**+2.0**
baz=30,slow=20							
DAV				Lg	Lg	22 25 14.4	
51nm,0.3s,baz=16,slow=24,SNR=0.8							
LUWI	**Luwuk**	**11.36**	**198**	Pn	**Pn**	**22 26 30.0**	**-2.7**
YULB	**Yu-li**	**14.26**	**341**	Pn	**Pn**	**22 27 10.9**	**-1.2**
SBUM	**Sibu**	**15.73**	**243**		**P**	**22 27 33.2**	**-1.1**
MYKOM	**Kota Tinggi**	**23.63**	**252**	P	**P**	**22 29 00.8**	**+1.2**
MYKOM				IAmb	IAmb	22 29 06.1	
comp=Z,14nm,0.7s							
IPM	**Ipoh**	**25.55**	**260**	P	**P**	**22 29 18.6**	**+1.5**
IPM				IAmb	IAmb	22 29 30.5	
comp=Z,13nm,0.9s							
KULM	**Kulim**	**25.73**	**262**	P	**P**	**22 29 20.4**	**+1.6**
PHRA	**Phrae**	**26.59**	**292**	P	**P**	**22 29 27.0**	**+0.6**
KSRS	**Korea Array**	**27.52**	**3**	P	**P**	**22 29 34.6**	**+0.1**
comp=Z,2.1nm,0.9s,baz=187,slow=9.8,SNR=2.6							
comp=Z,2.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**27.76**	**291**	P	**P**	**22 29 36.9**	**-0.1**
comp=Z,1.5nm,0.8s,baz=101,slow=9.5,SNR=2.1							
CMAR				PcP	**PcP**	**22 32 53.0**	**+0.4**
comp=Z,0.5nm,0.3s,baz=114,slow=2.9,SNR=1.7							
comp=Z,1.5nm,0.8s							
FITZ	**Fitzroy Crossi**	**27.78**	**181**	P	**P**	**22 29 36.4**	**-0.8**
comp=Z,11nm,0.9s,baz=23,slow=9.7,SNR=2.0							
comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**30.68**	**165**	P	**P**	**22 30 02.5**	**-0.3**
comp=Z,1.8nm,0.6s,baz=343,slow=9.1,SNR=1.9							
comp=Z,1.8nm,0.6s							
BJT	**Baijiatuau**	**31.34**	**345**	P	**P**	**22 30 09.2**	**+0.7**
BJT				IAmb	IAmb	22 30 10.6	
comp=Z,4.9nm,0.7s							
MBWA	**Marble Bar**	**31.48**	**192**	P	**P**	**22 30 09.4**	**-0.4**
AS31	**Alice Springs**	**34.16**	**167**	P	**P**	**22 30 34.6**	**+1.3**
ASAR	**Alice Springs**	**34.16**	**167**	P	**P**	**22 30 33.9**	**+0.6**
comp=Z,1.6nm,0.5s,baz=344,slow=8.2,SNR=1.9							
ASAR				PcP	**PcP**	**22 33 09.3**	**-0.2**
comp=Z,1.2nm,0.7s,baz=345,slow=2.6,SNR=3.2							
comp=Z,1.6nm,0.5s							
USRK	**Ussuriysk Ar.**	**34.58**	**7**	P	**P**	**22 30 36.6**	**0.0**
comp=Z,2.2nm,0.8s,baz=196,slow=9.8,SNR=2.2							
comp=Z,2.2nm,0.8s							
SHL	**Shillong**	**36.10**	**300**	P	**P**	**22 30 52.0**	**+1.8**
SHL				IAmb	IAmb	22 30 55.6	
comp=Z,15nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**40.44**	**71**	T	T	23 14 51.1	
baz=264							
H11N2	**WAKE ISLAND Hy**	**40.45**	**71**	T	T	23 14 51.7	
baz=264							
H11N3	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	23 14 52.5	
baz=264							
ULN	**Ulaanbaatar**	**41.19**	**340**	P	**P**	**22 31 33.5**	**+1.0**
SONM	**Songino Array**	**41.38**	**340**	P	**P**	**22 31 34.9**	**+0.8**
comp=Z,1.6nm,0.7s,baz=162,slow=8.3,SNR=2.1							
SONM				PcP	**PcP**	**22 33 32.2**	**+0.7**
comp=Z,0.7nm,0.7s,baz=162,slow=4.0,SNR=2.5							
comp=Z,1.6nm,0.7s							
NWAO	**Narrogin (SRO)**	**43.40**	**191**	P	**P**	**22 31 50.9**	**+0.4**
NWAO				IAmb	IAmb	22 31 51.8	
comp=Z,19nm,0.8s							
BBOO	**Buckleboo**	**43.46**	**168**	P	**P**	**22 31 50.6**	**-0.3**
BBOO				IAmb	IAmb	22 32 02.5	
comp=Z,38nm,1.3s							
STKA	**Stephens Creek**	**44.03**	**161**	P	**P**	**22 31 56.0**	**+0.4**
STKA				IAmb	IAmb	22 31 57.2	
comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**44.03**	**161**	P	**P**	**22 31 57.2**	**+1.7**
comp=Z,5.1nm,0.6s,baz=303,slow=13,SNR=1.8							
comp=Z,5.1nm,0.6s							
PEA0B	**Petropavlovsk-**	**50.03**	**24**	P	**P**	**22 32 42.0**	**-0.2**
PETK	**Petropavlovsk-**	**50.03**	**24**	P	**P**	**22 32 42.6**	**+0.5**
comp=Z,3.6nm,0.8s,baz=211,slow=3.6,SNR=1.5							
comp=Z,3.6nm,0.8s							
DZM	**Mont Dzumac**	**50.63**	**129**	P	**P**	**22 32 46.2**	**-1.0**
DZM				IAmb	IAmb	22 32 50.7	
comp=Z,29nm,1.5s							
MK31	**Makanchi Array**	**52.32**	**323**	P	**P**	**22 32 59.6**	**+0.1**
MKAR	**Makanchi Array**	**52.32**	**323**	P	**P**	**22 32 59.2**	**-0.2**
comp=Z,3.4nm,0.6s,baz=120,slow=7.8,SNR=4.7							
comp=Z,3.4nm,0.6s							
MAKZ	**Makanchi**	**52.51**	**323**	P	**P**	**22 32 60.0**	**-0.9**
ZALV	**Zalesovo Beam**	**54.96**	**331**	P	**P**	**22 33 17.7**	**-0.9**
comp=Z,0.9nm,0.4s,baz=136,slow=7.0,SNR=2.0							
comp=Z,0.9nm,0.4s							
ARSB	**Arslanbob**	**56.21**	**313**	P	**P**	**22 33 28.1**	**+0.1**
ARSB				IAmb	IAmb	22 33 31.5	
comp=Z,7.5nm,1.4s							
KURK	**Kurchatov**	**56.37**	**326**	P	**P**	**22 33 27.9**	**-0.9**
KURBB	**Kurchatov Arra**	**56.38**	**326**	P	**P**	**22 33 28.9**	**+0.2**
comp=Z,1.5nm,0.5s,baz=123,slow=7.0,SNR=2.2							
comp=Z,1.5nm,0.5s							
GAR	**Garm**	**57.51**	**310**	P	**P**	**22 33 36.3**	**-0.9**
GAR				IAmb	IAmb	22 33 45.2	
comp=Z,7.1nm,0.9s							
CHGR	**Chuyangaron**	**58.30**	**309**	P	**P**	**22 33 42.6**	**-0.2**
CHGR				IAmb	IAmb	22 33 58.3	
comp=Z,5.6nm,0.8s							
KKAR	**Karatay Array**	**58.50**	**315**	P	**P**	**22 33 43.5**	**-0.4**
TIXI	**Tiksi**	**61.76**	**1**	P	**P**	**22 34 05.2**	**-0.5**
TIXI				IAmb	IAmb	22 34 06.8	
comp=Z,8.7nm,1.1s							
BVAR	**Borovoye Array**	**61.97**	**326**	P	**P**	**22 34 07.2**	**-0.3**
comp=Z,2.2nm,0.8s,baz=140,slow=5.6,SNR=2.4							
BVAR				PcP	**PcP**	**22 34 47.6**	**-0.1**
comp=Z,1.5nm,0.6s,baz=96,slow=5.9,SNR=2.4							
comp=Z,2.2nm,0.8s							
HRA	**Herat**	**63.05**	**304**	P	**P**	**22 34 14.7**	**-0.5**
THZ	**Tophouse**	**66.87**	**144**	P	**P**	**22 34 39.4**	**-0.2**
RPZ	**Rata Peaks**	**67.08**	**146**	P	**P**	**22 34 39.9**	**-1.0**
ABKAR	**Akbulak array**	**67.15**	**319**	P	**P**	**22 34 40.6**	**-0.7**
ARTI	**Arti**	**69.62**	**327**	P	**P**	**22 34 55.3**	**-1.3**
ARTI				IAmb	IAmb	22 35 09.4	
comp=Z,11nm,1.4s							
M16K	**Timber Creek**	**74.09**	**29**	P	**P**	**22 35 24.0**	**+0.7**
O16K	**Kokwok River B**	**74.32**	**31**	P	**P**	**22 35 24.9**	**+0.2**
C18K	**Utukok River**	**74.56**	**21**	P	**P**	**22 35 26.4**	**+0.4**
C18K				IAmb	IAmb	22 35 29.1	
comp=Z,11nm,1.4s							
L18K	**Granite Mounta**	**75.32**	**28**	P	**P**	**22 35 31.2**	**+0.7**
L18K				IAmb	IAmb	22 36 01.6	
comp=Z,10.0nm,1.3s							
O18K	**Koktuh Hills**	**75.80**	**31**	P	**P**	**22 35 34.3**	**+1.1**
L19K	**White Mountain**	**76.17**	**28**	P	**P**	**22 35 35.8**	**+0.4**
L19K				IAmb	IAmb	22 36 02.3	
comp=Z,10nm,1.3s							
GURO	**Guroymak-BITLI**	**79.40**	**307**	P	**P**	**22 35 54.2**	**+0.2**
GURO				IAmb	IAmb	22 35 57.8	
comp=Z,6.0nm,0.9s							
ILAR	**Eielson Array**	**79.83**	**26**	P	**P**	**22 35 55.1**	**-0.4**
comp=Z,0.6nm,0.6s,baz=260,slow=4.9,SNR=5.2							
comp=Z,0.6nm,0.6s							
SPITS	**Spitsbergen Ar**	**84.41**	**349**	P	**P**	**22 36 19.5**	**+0.2**
comp=Z,7.7nm,0.8s,baz=100,slow=7.9,SNR=5.3							
comp=Z,7.7nm,0.8s							
ARCES	**ARCESS Array B**	**84.56**	**340**	P	**P**	**22 36 20.4**	**+0.2**
comp=Z,3.2nm,0.7s,baz=79,slow=6.5,SNR=5.1							
comp=Z,3.2nm,0.7s							
BRTR	**Keskin Array B**	**85.75**	**309**	P	**P**	**22 36 26.4**	**-0.5**
comp=Z,0.9nm,0.8s,baz=96,slow=5.9,SNR=3.5							
comp=Z,0.9nm,0.8s							
FINES	**FINESS Array B**	**86.22**	**332**	P	**P**	**22 36 28.3**	**-0.3**
comp=Z,2.3nm,0.5s,baz=80,slow=4.3,SNR=5.3							
comp=Z,2.3nm,0.5s							
AKASG	**Malin Array Be**	**86.84**	**321**	P	**P**	**22 36 30.8**	**-1.0**
comp=Z,0.7nm,0.5s,baz=64,slow=5.1,SNR=3.8							
comp=Z,0.7nm,0.5s							
RES	**Resolute Bay**	**91.91**	**10**	P	**P**	**22 36 55.4**	**+0.2**
RES				IAmb	IAmb	22 36 56.5	
comp=Z,2.8nm,0.8s							
NOA	**NORSAR Array B**	**93.10**	**334**	P	**P**	**22 37 00.4**	**-0.6**
comp=Z,0.7nm,0.6s,baz=80,slow=4.5,SNR=2.2							
comp=Z,0.7nm,0.6s							
YKA	**Yellowknife Ar**	**94.15**	**24**	P	**P**	**22 37 06.3**	**+0.5**
comp=Z,1.6nm,0.6s,baz=297,slow=4.6,SNR=11							
comp=Z,1.6nm,0.6s							
TXAR	**Lajitas Array**	**118.14**	**49**	PKP	**PKiKP**	**22 42 35.2**	**+0.2**
comp=Z,0.2nm,0.5s,baz=277,slow=1.0,SNR=1.7							
TORD	**Torodi Ar. Bea**	**120.36**	**292**	PKP	**PKPdf**	**22 42 38.7**	**-0.7**
comp=Z,0.6nm,0.9s,baz=69,slow=2.8,SNR=1.7							
PLCA	**Paso Flores**	**145.85**	**157**	PKPbc	**PKPab**	**22 43 27.3**	**0.0**
comp=Z,4.5nm,1.0s,baz=208,slow=4.6,SNR=3.2							

*IDC **09** 22:41:07.6±2.1, 6°.58S×129°.70E, h0km, mb3.6/1, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=85.0km s-min=27.4km az=77.0*
ISC 09 22:41:20.8±1.0, **6°.79S**±0°.06×**131°.4E**±0°.3, **h150**km, **n11**, σ2**52**/12, **Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.19**	**186**	P	**Pn**	**22 41 50.2**	**+2.9**
FAKI	**Fak Fak**	**3.93**	**12**	P	**Pn**	**22 42 20.3**	**+0.1**
FAKI	**Fak Fak**	**3.93**	**12**	S	**Sn**	**22 43 06.9**	**+0.5**
DRS	**Darwin Rock St**	**5.63**	**185**	P	**Pn**	**22 42 42.9**	**+0.3**
DRS	**Darwin Rock St**	**5.63**	**185**	S	**Sn**	**22 43 46.8**	**+0.2**
KDU	**Kakadu**	**5.95**	**170**	S	**Sn**	**22 43 56.4**	**+2.2**
MTN	**Manton Dam**	**6.02**	**183**	P	**Pn**	**22 42 47.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.58**	**206**	Pn	Pn	22 44 03.8	-11
0.7nm,0.3s,baz=26,slow=11,SNR=23							
FITZ				Sn	Sn	22 46 11.8	-22
0.8nm,0.3s,baz=119,slow=18,SNR=7.1							
2.8nm,0.5s							
WRA	**Warramunga Arr**	**13.38**	**168**	Pn	**Pn**	**22 44 26.7**	**+1.8**
0.5nm,0.3s,baz=338,slow=14,SNR=11							
WRA				Sn	**Sn**	**22 46 50.1**	**-2.9**
1.3nm,0.3s,baz=345,slow=23,SNR=11							
0.4nm,0.3s							
ASAR	**Alice Springs**	**16.95**	**172**	P	**Pn**	**22 45 12.0**	**+2.9**
0.2nm,0.3s,baz=346,slow=9.0,SNR=13							
ASAR				S	**S**	**22 48 13.3**	**-4.4**
0.2nm,0.3s,baz=334,slow=19,SNR=2.4							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**68.83**	**326**	P	**P**	**22 52 06.9**	**-2.1**
0.3nm,0.5s,baz=121,slow=7.4,SNR=8.9							
0.3nm,0.5s							

*NEIC **09** 22:42:43.3±0.8, 35°.95N±0°.01×97°.349W±0°.009, h9km±8km, ML2.5/25, ML1.9/48, Error ellipse: s-maj=1.7km s-min=0.7km az=152.0*
NEIC 09 22:42:43.3±0.7, **35°.962N**±0°.008×**97°.35W**±0°.01, **h7**km±3km, **Error ellipse: s-maj=1.4km s-min=0.9km az=133.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.18**	**207**		Pg	22 42 47.2	+0.2
OK029					Sg	22 42 50.0	+0.5
OK029				IAML		22 42 52.2	
407nm,0.3s							
ADOK	**Arcadia Dam**	**0.31**	**183**		Pg	22 42 49.7	+0.3
BCOK	**Bluff Creek, N**	**0.37**	**215**		Pg	22 42 50.7	+0.2
BCOK					Sg	22 42 56.1	+0.7
OK031	**S. Brethren Rd**	**0.41**	**91**		Pg	22 42 51.7	+0.3
OK031					Sg	22 42 57.6	+0.8
OK031				IAML		22 42 57.9	
98nm,0.2s							
OK031				IAML		22 42 58.2	
98nm,0.2s							
OK052	**Battle Ridge R**	**0.45**	**86**		Pg	22 42 52.3	+0.4
OK052					Sg	22 42 58.6	+0.8
OK052				IAML		22 42 58.7	
128nm,0.2s							
OK052				IAML		22 42 58.9	
88nm,0.3s							
OKCSW	**OKLAHOMA CITY**	**0.56**	**187**		Pg	22 42 53.8	-0.2
OKCSW					Sg	22 43 01.9	+0.5
OKCSW				IAML		22 43 07.0	
comp=N,128nm,0.5s							
OKCSW				IAML		22 43 11.7	
comp=E,130nm,0.6s							
QUOK	**Quay**	**0.56**	**68**		Pg	22 42 54.4	+0.3
QUOK					Sg	22 43 01.8	+0.4
QUOK				IAML		22 43 02.7	
comp=N,82nm,0.3s							
QUOK				IAML		22 43 09.0	
comp=E,70nm,0.2s							
OK051	**E0350 and S346**	**0.68**	**37**		Pg	22 42 56.5	+0.1
OK051					Sg	22 43 05.6	+0.2
OK051				IAML		22 43 08.5	
comp=E,90nm,0.2s							
DEOK	**Depew**	**0.70**	**99**		Pg	22 42 56.7	-0.1
DEOK					Sg	22 43 06.3	+0.4
DEOK				IAML		22 43 07.2	
comp=N,60nm,0.3s							
FNO	**Franklin**	**0.70**	**183**		Pg	22 42 56.7	-0.1
FNO					Sg	22 43 06.6	+0.6
FNO				IAML		22 43 09.6	
comp=E,88nm,0.1s							
FNO				IAML		22 43 09.7	
comp=N,60nm,0.1s							
CROK	**Carrier**	**0.75**	**317**		Pg	22 42 57.4	-0.2
CROK					Sg	22 43 07.6	+0.2
BLOK	**Blackwell**	**0.81**	**8**		Pg	22 42 58.6	-0.1
BLOK					Sb	22 43 10.4	-0.2
BLOK				IAML		22 43 16.9	
comp=N,64nm,0.2s							
W35A	**Tecumseh**	**0.90**	**154**		Pg	22 42 60.0	-0.5
W35A					Sg	22 43 12.3	+0.2
KAN14	**Manchester OK**	**1.11**	**334**		Pg	22 43 03.7	-0.9
KAN17	**Caldwell West**	**1.13**	**343**		Pg	22 43 04.5	-0.5
CSTR	**Hydro, Custer**	**1.13**	**254**		Pg	22 43 04.7	-0.3
T35A	**Sooner Cattle**	**1.17**	**35**		Pg	22 43 05.4	-0.3
T35A					Sg	22 43 20.7	-0.1
T35A				IAML		22 43 21.6	
comp=N,35nm,0.2s							
KAN09	**Caldwell North**	**1.19**	**350**	Pg	Pg	22 43 05.5	-0.6
KAN01	**Argonia South**	**1.23**	**345**		Pb	22 43 05.8	-1.1
OK038	**West end E0370**	**1.24**	**295**		Pb	22 43 06.2	-0.8
OK038					Sn	22 43 23.9	0.0
TUL3	**Leonard**	**1.27**	**92**		Pn	22 43 06.3	-1.1
TUL3					Sb	22 43 23.8	-0.1
TUL3				IAML		22 43 27.0	
comp=E,17nm,0.6s							
TUL3				IAML		22 43 27.5	
comp=N,20nm,0.8s							
X34A	**Smith Ranch, M**	**1.41**	**196**		Pn	22 43 09.4	0.0
ELIS	**Ellis County**	**1.68**	**274**	Pn	Pn	22 43 13.4	+0.3
WMOK	**Wichita Mounta**	**1.69**	**224**		Pn	22 43 13.6	+0.4
U38A	**Gravette**	**2.44**	**78**		Pn	22 43 24.1	+0.6
HHAR	**Hobbs**	**2.78**	**82**	Pn	Pb	22 43 30.8	-2.4
S39A	**Bolivar**	**3.66**	**61**	Pn	Pn	22 43 42.0	+1.7

*IDC **09** 22:45:39.9±1.1, 3°.92S×152°.77E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=57.3km s-min=24.9km az=128.0*
ISC 09 22:45:45.4±1.3, **3°.9S**±0°.3×**152°.7E**±0°.4, **h35**km, **n7**, σ0**70**/8, **mb3.8**/5, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**227**	P	**P**	**22 50 56.8**	**+0.1**
2.5nm,0.7s,baz=51,slow=9.4,SNR=14							
WRA				PcP	**PcP**	**22 54 39.6**	**+1.0**
0.9nm,0.8s,baz=44,slow=2.2,SNR=2.1							
2.5nm,0.7s							
ASAR	**Alice Springs**	**26.74**	**221**	P	**P**	**22 51 22.0**	**0.0**
0.3nm,0.5s,baz=54,slow=8.8,SNR=2.2							
0.3nm,0.5s							
FITZ	**Fitzroy Crossi**	**29.98**	**240**	P	**P**	**22 51 50.9**	**0.0**
2.3nm,0.7s,baz=54,slow=8.7,SNR=2.2							
2.3nm,0.7s							
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	**22 57 48.4**	**-0.4**
0.2nm,0.8s,baz=102,slow=5.2,SNR=2.0							
0.2nm,0.8s							
ILAR	**Eielson Array**	**81.36**	**22**	P	**P**	**22 57 58.6**	**+0.5**
0.8nm,0.7s,baz=240,slow=6.0,SNR=11							
0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.88**	**290**	PKPbc	**PKiKP**	**23 05 33.6**	**-0.4**
1.0nm,0.4s,baz=59,slow=2.6,SNR=14							
BDFB	**Brasilia**	**151.81**	**134**	PKPbc	**PKPbc**	**23 05 36.7**	**-1.0**
3.6nm,0.7s,baz=234,slow=1.5,SNR=8.6							

*IDC **09** 22:46:20.0±1.3, 20°.13N×121°.55E, h0km, mb3.9/6, mbtmp3.9/6, MS3.5/1, Error ellipse: s-maj=121.2km s-min=18.6km az=65.0*
ISC 09 22:46:25.6±1.3, **20°.1N**±0°.3×**121°.6E**±0°.8, **h40**km, **n7**, σ0**42**/6, **mb3.9**/6, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.44**	**269**	LR	LR	22 58 39.4	
comp=Z,125nm,18.1s,baz=70,slow=35							
MKAR	**Makanchi Array**	**41.56**	**319**	P	**P**	**22 54 09.3**	**0.0**
1.1nm,0.7s,baz=114,slow=9.8,SNR=9.9							
1.1nm,0.7s							
WRA	**Warramunga Arr**	**41.75**	**162**	P	**P**	**22 54 10.6**	**-0.5**
1.6nm,0.6s,baz=342,slow=9.0,SNR=9.5							
1.6nm,0.6s							
ZALV	**Zalesovo Beam**	**43.86**	**329**	P	**P**	**22 54 27.6**	**-0.2**
0.4nm,0.4s,baz=115,slow=9.7,SNR=4.0							
0.4nm,0.4s							
ASAR	**Alice Springs**	**45.17**	**164**	P	**P**	**22 54 39.1**	**+0.5**
0.7nm,0.4s,baz=345,slow=7.0,SNR=14							
0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**45.48**	**322**	P	**P**	**22 54 40.6**	**-0.1**
0.7nm,0.3s,baz=126,slow=7.3,SNR=1.8							
0.7nm,0.3s							
NRIK	**Noril'sk**	**53.39**	**346**	P	**P**	**22 55 41.0**	**+0.2**
1.5nm,0.6s,baz=129,slow=6.5,SNR=3.6							
1.5nm,0.6s							

*IDC **09** 22:46:26.3±0.8, 16°.51S×177°.62E, h0km, mb4.2/9, mbtmp4.2/9, MS4.0/33, Error ellipse: s-maj=24.2km s-min=17.9km az=86.0*
*NEIC **09** 22:46:28.2±1.3, 16°.6S±0°.1×177°.50E±0°.10, h10km±1km, mb4.6/10, Error ellipse: s-maj=17.7km s-min=15.7km az=352.0*
*GCMT **09** 22:46:31.2±0.2, 16°.21S±0°.01×177°.58E±0°.01, h18km±1km, MW4.9/104, Moment Tensor Solution. s36,c43; s104,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.11; $M_{\theta\theta}$-0.91±.10; $M_{\phi\phi}$1.29±.10; $M_{r\theta}$0.42±.23; $M_{\theta\phi}$2.74±.08; $M_{\phi r}$-0.33±.21; Best double couple: $M_0$3.01000×10^{16} NP1:ϕ_s258.00000°, δ81.00000°, λ-8.00000°. NP2:ϕ_s350.00000°, δ82.00000°, λ-171.00000°. Principal axes: T 3.1420, Plg1.0000°, Azm124.0000°; N -0.2620, Plg78.0000°, Azm31.0000°; P -2.8780, Plg12.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 22:46:30.1±0.6, **16°.59S**±0°.09×**177°.5E**±0°.1, **h24**km, **n49**, σ1**13**/23, **mb4.5**/14, **MS4.0**/31, **Fiji Islands**

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

JOW	Kunigami	64.37 311	LR	LR	23 22 27.0	
	comp=Z,119nm,19.6s,baz=82,slow=34					
MJAR	Matsushiro Arr	64.55 326	LR	LR	23 20 00.1	
	comp=Z,131nm,21.9s,baz=138,slow=31					
JNU	Nakatsue	66.50 318	LR	LR	23 20 17.1	
	comp=Z,67nm,21.9s,baz=148,slow=30					
ASAJ	Asahikawa	68.30 334	LR	LR	23 21 03.3	
	comp=Z,168nm,21.8s,baz=155,slow=30					
KSRS	Korea Array	71.14 320	LR	LR	23 23 59.6	
	comp=Z,62nm,21.4s,baz=125,slow=32					
PETK	Petropavlovsk-	71.48 348	LR	LR	23 23 08.0	
	comp=Z,75nm,20.0s,baz=101,slow=31					
USRK	Ussuriysk Ar.	73.35 328	LR	LR	23 25 08.4	
	comp=Z,114nm,20.3s,baz=128,slow=32					
QSPA	South Pole Qui	73.46 180	P	P	22 58 00.7	+0.3
QSPA	South Pole Qui	73.46 180	P	P	22 58 01.2	+0.8
	comp=Z,7.7nm,1.0s,baz=56,slow=1.9,SNR=17					
	comp=Z,7.7nm,1.0s					
KLR	Kul'dur	77.02 331	LR	LR	23 30 26.4	
	comp=Z,68nm,18.5s,baz=170,slow=34					
MA2	Magadan	78.94 347	LR	LR	23 27 13.5	
	comp=Z,50nm,20.1s,baz=142,slow=31					
PSI	Prapat	79.84 276	LR	LR	23 35 05.1	
	comp=Z,34nm,19.6s,baz=146,slow=36					
YBH	Yreka Blue Hor	80.06 41	LR	LR	23 28 56.3	
	comp=Z,141nm,18.8s,slow=32					
PFO	Pinyon Flats O	80.31 51	LR	LR	23 26 37.9	
	comp=Z,158nm,18.9s,baz=254,slow=30					
NVAR	Mina Array Bea	81.26 46	P	P	22 58 44.3	-0.4
	comp=Z,0.5nm,0.5s,baz=252,slow=6.7,SNR=2.1					
NVAR			LR	LR	23 26 05.8	
	comp=Z,149nm,20.1s,baz=274,slow=29					
	comp=Z,0.5nm,0.5s					
BELA	Belgrano 2	83.94 174	P	P	22 58 57.1	-0.7
BELA			IAmb	IAmb	22 59 12.1	
	comp=Z,5.7nm,1.1s					
CMAR	Chiang Mai Arr	84.74 291	P	P	22 59 04.0	+1.2
	comp=Z,2.1nm,0.3s,baz=110,slow=4.8,SNR=1.3					
CMAR			LR	LR	23 36 00.4	
	comp=Z,42nm,19.4s,baz=115,slow=35					
	comp=Z,2.1nm,0.3s					
BCAR	Beaver Creek A	85.51 17	P	P	22 59 06.1	+0.4
ILAR	Eielson Array	85.55 15	P	P	22 59 04.1	-1.7
	comp=Z,2.5nm,1.0s,baz=232,slow=5.5,SNR=14					
	comp=Z,2.5nm,1.0s					
J26L	Joseph Creek	86.16 16	P	P	22 59 09.6	+0.6
J26L			IAmb	IAmb	22 59 11.3	
	comp=Z,6.9nm,1.1s					
L29M	L29M	86.63 19	P	P	22 59 11.6	+0.3
NEW	Newport	86.81 37	LR	LR	23 29 06.5	
	comp=Z,106nm,20.3s,baz=270,slow=30					
YAK	Yakutsk	86.93 340	LR	LR	23 31 59.1	
	comp=Z,97nm,21.8s,slow=31					
TXAR	Lajitas Array	88.66 59	P	P	22 59 21.9	0.0
	comp=Z,0.8nm,1.0s,baz=214,slow=4.2,SNR=5.2					
	comp=Z,0.8nm,1.0s					
SONM	Songino Array	90.01 320	P	P	22 59 28.5	+0.7
	comp=Z,0.6nm,0.9s,baz=116,slow=3.4,SNR=4.3					
SONM			LR	LR	23 34 28.9	
	comp=Z,96nm,20.5s,baz=172,slow=32					
	comp=Z,0.6nm,0.9s					
TIXI	Tiksi	93.91 346	LR	LR	23 36 49.6	
	comp=Z,58nm,21.9s,baz=185,slow=32					
YKA	Yellowknife Ar	94.81 26	P	P	22 59 49.8	+0.3
	comp=Z,0.3nm,0.8s,baz=256,slow=4.9,SNR=3.6					
	comp=Z,0.3nm,0.8s					
PALK	Pallekele	98.50 275	LR	LR	23 45 18.9	
	comp=Z,34nm,19.8s,baz=110,slow=36					

*BJI **09** 23:01:14.0, 14.˙98S×178.˙35W, h360km, mB5.1/8, mb4.4/22*

*NEIC **09** 23:01:16.9±2.3, 14.˙89S±0.˙09×178.˙40W±0.˙09, h368km±5km, mb4.9/102, Error ellipse: s-maj=14.4km s-min=11.7km az=144.0*

*IDC **09** 23:01:16.6±0.5, 14.˙83S×178.˙55W, h369km±4km, mb4.1/19, mbtmp4.8/22, Error ellipse: s-maj=12.5km s-min=8.5km az=132.0*

*NOU **09** 23:01:17.1, 14.˙87S×178.˙34W, h373km, mb4.9/50, Fiji Islands Region*

*GCMT **09** 23:01:20.9±0.5, 14.˙96S±0.˙07×178.˙42W±0.˙05, h362km±2km, MW5.3/49, Moment Tensor Solution. s49,c61; Duration: 1s1 Moment tensor: Scale 10^17^Nm; M_{rr}=0.76±.05; $M_{\theta\theta}$0.28±.09; $M_{\phi\phi}$0.47±.07; $M_{r\theta}$0.53±.07; $M_{\theta\phi}$0.32±.07; $M_{r\phi}$0.52±.07; Best double couple: $M_0$1.04300×10^17^ NP1:ϕ_s31.00000°, δ23.00000°, λ-101.00000°. NP2:ϕ_s223.00000°, δ68.00000°, λ-85.00000°. Principal axes: T 1.0150, Plg23.0000°, Azm309.0000°; N 0.0560, Plg4.0000°, Azm41.0000°; P -1.0700, Plg67.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 09 23:01:16.6±0.4, 14˙87S±0˙05×178˙45W±0˙05, h371km±3km, h372km:pP-P, n626, σ0s91/658, mb4.8/83, 17C-20D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FUTU	Fugatoga	0.64	30	Pn	Pn	23 02 03.5	-0.1
FUTU	Fugatoga	0.64	30	P	Pn	23 02 03.7	+0.1
MSVF	Nonsavu	4.40	229	Pn	Pn	23 02 32.3	+1.3
MSVF	Nonsavu	4.40	229	P	Pn	23 02 32.6	+1.5
	380nm,0.9s,baz=55,slow=6.2,SNR=152						
MSVF				S	S	23 03 30.7	-0.6
	55nm,0.8s,baz=36,slow=18,SNR=7.4						
MSVF	Nonsavu	4.40	229	P	Pn	23 02 32.6	+1.5
AFI	Afiamalu	6.54	82	Pn	Pn	23 02 52.9	-1.5
AFI	Afiamalu	6.54	82	P	Pn	23 02 53.3	-1.1
NIUE	Niue	9.17	118	Pn	Pn	23 03 21.1	-3.7
NIUE	Niue	9.17	118	P	Pn	23 03 24.3	-0.5
NIUE	Niue	9.17	118	S	S	23 05 09.9	0.0
DVP	Devils Point	13.14	256	P	Pn	23 04 13.1	+1.7
GLKZ	Green Lake	14.33	178	P	P	23 04 21.9	-1.0
MARNC	Mare, Loyalty	14.42	241	P	Pn	23 04 25.3	-0.9
PINNC	Pines Island,	15.41	238	P	P	23 04 33.9	-0.8
PINNC	Pines Island,	15.41	238	P	Pn	23 04 36.3	-1.2
YATNC	Mamie plateau,	15.63	241	P	Pn	23 04 38.9	-1.2
OUENC	Ouen Island, N	15.82	239	P	P	23 04 40.7	+1.5
DZM	Mont Dzumac	16.01	241		P	23 04 42.0	+0.7
DZM	Mont Dzumac	16.01	241	P	P	23 04 42.4	+1.1
	34nm,0.8s,baz=88,slow=6.1,SNR=25						
DZM				S	S	23 07 29.4	-1.6
	2.2nm,0.4s,baz=125,slow=12,SNR=7.2						
DZM	Mont Dzumac	16.01	241	P	Pn	23 04 43.9	-0.7
ONTNC	Ouen Toro	16.10	240		P	23 04 43.1	+1.0
ONTNC	Ouen Toro	16.10	240	P	Pn	23 04 44.1	-1.5
KOUNC	Koumac, New Ca	17.38	249	P	P	23 04 58.1	+2.1
RAR	Rarotonga	18.84	112	P	P	23 05 13.7	+2.3
	41nm,0.9s,baz=231,slow=4.8,SNR=4.5						
OUZ	Omahuta	21.49	198	P	P	23 05 38.8	+2.3
WCZ	Waipu Caves	21.95	196	P	P	23 05 42.8	+2.1
WMGZ	Waiomatatini S	23.03	186	P	P	23 05 50.3	-0.1
HAZ	Te Kaha	23.04	188	P	P	23 05 48.9	-1.6
TGRZ	Tauranga	23.25	191	P	P	23 05 53.5	+1.1
RUGZ	Raukumara Rang	23.26	188	P	P	23 05 50.7	-2.0
PUZ	Puketiti	23.30	187	P	P	23 05 52.4	-0.5
TOZ	Tahuroa Road	23.39	192	P	P	23 05 55.0	+1.2
KMRZ	Kaimai	23.42	191	P	P	23 05 55.3	+1.2
TWGZ	Tauwhareparae	23.43	187	P	P	23 05 52.8	-1.3
OMRZ	Omania	23.60	190	P	P	23 05 56.3	+0.6
URZ	Urewera	23.63	189	P	P	23 05 55.2	-0.7
URZ	Urewera	23.63	189	P	P	23 05 53.8	-2.0
MWZ	Matawai	23.64	188	P	P	23 05 53.6	-2.5
TARZ	Mount Tarawera	23.70	190	P	P	23 05 57.5	+0.8
TKGZ	Te Karaka	23.71	187	P	P	23 05 56.6	0.0
CNGZ	Carnagh Statio	23.71	187	P	P	23 05 55.9	-0.7
RAGZ	Rawiri	23.82	188	P	P	23 05 56.3	-1.4
RAGZ				S	S	23 09 52.5	+6.9
MUGZ	Murupara	23.89	189	P	P	23 05 56.4	-1.9
RIGZ	Rimuhau	23.98	187	P	P	23 05 57.7	-1.4
RIGZ				S	S	23 09 52.5	+4.4
RTZ	Ruatahuna	24.00	189	P	P	23 05 57.0	-2.3
SNGZ	Shannon Statio	24.11	188	P	P	23 05 58.6	-1.7
HIZ	Hauiti	24.28	193	P	P	23 06 03.3	+1.6
HIZ				IAmb	IAmb	23 06 08.4	
	comp=Z,84nm,1.2s						
WATZ	Wairara	24.30	191	P	P	23 06 02.2	+0.2
NMHZ	Naumai	24.49	189	P	P	23 06 01.9	-1.9
BKZ	Black Stump Fm	24.61	189	P	P	23 06 05.9	+1.1
BKZ	Black Stump Fm	24.61	189	P	P	23 06 02.1	-2.7
KRVZ	Karewarewa	24.69	191	P	P	23 06 03.9	-1.7
TMVZ	Te Maari	24.70	191	P	P	23 06 04.6	-1.0
TWVZ	Taurewa	24.70	191	P	P	23 06 04.1	-1.6
WTVZ	West Tongariro	24.72	191	P	P	23 06 05.2	-0.6
NNVZ	North Ngauruho	24.73	191	P	P	23 06 04.4	-1.5
OTVZ	Oturere	24.75	191	P	P	23 06 04.4	-1.7
NGZ	Ngauruhoe	24.77	191	P	P	23 06 06.2	-0.1
SNVZ	South Ngauruho	24.78	191	P	P	23 06 05.3	-1.1
MCHZ	McNeill Hill	24.85	189	P	P	23 06 04.8	-2.1
TUVZ	Tukino	24.85	191	P	P	23 06 06.2	-0.9
KWHZ	Kaweka Forest	24.87	189	P	P	23 06 05.0	-2.1
TRVZ	Turoa	24.90	191	P	P	23 06 07.1	-0.4
WNVZ	Wahianoa	24.92	191	P	P	23 06 06.0	-1.7
MOVZ	Moawhango	24.97	191	P	P	23 06 06.9	-1.1
KRHZ	Kereru	25.10	189	P	P	23 06 07.6	-1.5
KAHZ	Kahuranaki	25.17	188	P	P	23 06 07.4	-2.4
KHEZ	Kahui Hut	25.22	194	P	P	23 06 11.4	+1.2
PNHZ	Pukenui	25.39	190	P	P	23 06 10.5	-1.2
PXZ	Pawanui	25.40	188	P	P	23 06 10.0	-1.8
PRHZ	Porangahau	25.67	189	P	P	23 06 12.7	-1.4
QRZ	Quartz Range	27.03	195	P	P	23 06 26.1	-0.1
CTZ	Chatham Island	28.81	177	P	P	23 06 40.9	-1.0
CTZ				IAmb	IAmb	23 06 45.1	
	comp=Z,71nm,0.9s						
CTZ	Chatham Island	28.81	177	P	P	23 06 43.8	+1.9
AUWSH	Wavell State H	29.29	240	P	P	23 06 47.1	+0.8
WVZ	Waitaha Valley	29.60	196	P	P	23 06 46.6	-2.2
TW1H	Toowoomba 1 Ha	30.23	241	P	P	23 06 55.6	+1.0
FOZ	Fox Glacier	30.28	197	P	P	23 06 53.0	-1.8
EIDS	Eidsvold	30.38	245	P	P	23 06 55.4	-0.5
JCZ	Jackson Bay	31.08	198	P	P	23 07 01.1	-0.7
JCZ	Jackson Bay	31.08	198	P	P	23 07 00.3	-1.5
ARMA	Armidale	31.52	235	P	P	23 07 06.2	+0.2
ARMA				IAmb	IAmb	23 07 58.5	
	comp=Z,132nm,1.9s						
AUPHS	Peel High Scho	32.37	235	P	P	23 07 14.2	+1.1
SYZ	Scrubby Hill	33.24	196	P	P	23 07 22.0	+1.7
TV1H	Townsville Har	33.47	258	P	P	23 07 22.4	-0.3
PMG	Port Moresby	34.03	275	P	P	23 07 28.2	+0.8
AULRC	Lightning Ridg	34.16	239	P	P	23 07 28.7	+0.3
MTSU	Mount Surprise	35.80	260	P	P	23 07 43.0	+0.5
QLP	Quilpie	36.66	245	P	P	23 07 50.8	+1.2
CMSA	Cobar Meteorol	36.69	237	P	P	23 07 49.8	+0.1
COEN	Coen	37.15	266	P	P	23 07 52.7	-1.0
COEN				IAmb	IAmb	23 07 55.7	
	comp=Z,56nm,1.1s						
COEN	Coen	37.15	266	P	P	23 07 54.4	+0.7
TOO	Toolangi	39.11	228		P	23 08 09.5	-0.2
INKA	Innaminka	39.93	244	P	P	23 08 18.2	+1.7
STKA	Stephens Creek	40.12	238	P	P	23 08 18.0	+0.1
STKA	Stephens Creek	40.12	238	P	P	23 08 18.1	+0.1
	comp=Z,18nm,0.6s,baz=66,slow=7.7,SNR=34						
	comp=Z,18nm,0.6s						
STKA	Stephens Creek	40.12	238	P	P	23 08 19.0	+1.0
QIS	Mount Isa	40.27	256	P	P	23 08 19.7	+0.3
GENI	Genyem	42.58	283	P	P	23 08 40.4	+2.4
LCRK	Leigh Creek	42.61	241	P	P	23 08 38.3	+0.3
HTT	Hallett	42.71	237	P	P	23 08 41.0	+2.2
AUMBR	Murray Bridge	42.89	234	P	P	23 08 41.4	+1.3
OOD	Oodnadatta	44.37	245	P	P	23 08 52.3	+0.4
BBOO	Buckleboo	44.90	238	P	P	23 08 55.3	-0.6
WB0	Warramunga Arr	45.17	257	P	P	23 08 57.0	-1.3
WB2	Warramunga Arr	45.20	257	P	P	23 08 57.4	-1.2
WRA	Warramunga Arr	45.22	257	P	P	23 08 57.5	-1.2
	comp=Z,8.6nm,0.6s,baz=82,slow=5.9,SNR=61						
WRA				PcP	PcP	23 10 31.4	-0.3
	comp=Z,1.7nm,0.7s,baz=93,slow=5.9,SNR=3.8						
WRA				PP	PP	23 10 48.6	-2.3
	comp=Z,3.1nm,0.9s,baz=91,slow=9.7,SNR=4.8						
WRA				ScP	ScP	23 13 47.3	-1.0
	comp=Z,1.5nm,1.0s,baz=75,slow=4.5,SNR=4.8						
WRA				S	S	23 15 06.3	-4.0
	comp=Z,6.2nm,1.1s,baz=89,slow=12,SNR=8.0						
	comp=Z,8.6nm,0.6s						
AS01	Alice Springs	45.60	251	P	P	23 09 01.1	-0.5
AS31	Alice Springs	45.64	251	P	P	23 09 01.3	-0.6
AS31				IAmb	IAmb	23 09 03.4	
	comp=Z,25nm,0.5s						
ASAR	Alice Springs	45.64	251	P	P	23 09 01.5	-0.5
ASAR	Alice Springs	45.64	251	P	P	23 09 01.2	-0.7
	comp=Z,37nm,0.3s,baz=85,slow=8.6,SNR=725						
ASAR				pP	pP	23 10 14.8	-0.6
	comp=Z,4.2nm,0.7s,baz=90,slow=7.9,SNR=1.0						
ASAR				PcP	PcP	23 10 33.2	+0.1
	comp=Z,1.3nm,0.7s,baz=91,slow=5.0,SNR=4.2						
ASAR				ScP	ScP	23 13 49.9	-0.1
	comp=Z,3.4nm,1.0s,baz=89,slow=4.2,SNR=8.8						
ASAR				S	S	23 15 13.1	-3.2
	comp=Z,7.8nm,0.9s,baz=84,slow=16,SNR=24						
	comp=Z,37nm,0.3s						
MTN	Manton Dam	48.91	266	P	P	23 09 26.2	-0.7
MTN				IAmb	IAmb	23 09 27.3	
	comp=Z,44nm,0.7s						
MTN	Manton Dam	48.91	266	P	P	23 09 27.4	+0.5
FAKI	Fak Fak	50.01	279	P	P	23 09 34.5	-0.6
FAKI				IAmb	IAmb	23 10 34.4	
	comp=Z,61nm,1.3s						
WRKA	Warakurna	50.79	250	P	P	23 09 41.4	+0.5
KNRA	Kununurra	50.81	262	P	P	23 09 40.2	-0.9
KNRA				IAmb	IAmb	23 11 12.9	
	comp=Z,104nm,1.6s						
FORT	Forrest	51.32	242	P	P	23 09 43.5	-1.0
FORT				IAmb	IAmb	23 09 44.7	
	comp=Z,46nm,0.7s						
FORT	Forrest	51.32	242	P	P	23 09 44.1	-0.5
SOEI	Soe	56.07	268	P	P	23 10 19.5	+0.5
SOEI				IAmb	IAmb	23 10 29.8	
	comp=Z,44nm,0.8s						
SOEI	Soe	56.07	268	P	P	23 10 20.5	+1.4
SANI	Sanana	56.25	278	P	P	23 10 20.0	-0.1
DRV	Dumont d'Urvil	58.52	198	P	P	23 10 35.1	+0.2
PSA00	Pilbara Seismi	58.67	254	P	P	23 10 35.6	-1.2
KLBR	Kellerberrin	60.17	242	P	P	23 10 46.2	-0.6
NWAO	Narrogin (SRO)	60.63	240	P	P	23 10 49.1	-0.7
NWAO				IAmb	IAmb	23 11 20.1	
	comp=Z,61nm,1.8s						
NWAO	Narrogin (SRO)	60.63	240	P	P	23 10 50.6	+0.8
MORW	Morawa	61.69	245	P	P	23 10 56.8	-0.2
MORW				IAmb	IAmb	23 12 39.6	
	comp=Z,57nm,2.0s						
TOLI2	Tolitoli	62.14	279	P	P	23 10 59.5	-0.7
VNDA	Vanda	63.45	185	P	P	23 11 08.3	+0.7
VNDA				IAmb	IAmb	23 11 08.8	
	comp=Z,27nm,1.2s						
VNDA	Vanda	63.45	185	P	P	23 11 08.4	+0.8
	comp=Z,8.0nm,0.8s,baz=342,slow=8.6,SNR=11						
	comp=Z,8.0nm,0.8s						
VNDA	Vanda	63.45	185	P	P	23 11 08.3	+0.7
JGF	Kuroka	65.34	321	P	P	23 11 20.0	-0.4
MJAR	Matsushiro Arr	65.47	323	P	P	23 11 20.9	-0.3
	comp=Z,6.9nm,0.9s,baz=156,slow=5.9,SNR=10						
	comp=Z,6.9nm,0.9s						
MAJO	Matsushiro	65.47	323	P	P	23 11 20.7	-0.4
CCD	Concordia, Ant	67.79	194	P	P	23 11 35.6	+0.1
CCD				PcP	PcP	23 11 58.7	-0.6
JNU	Nakatsue	67.94	316	P	P	23 11 36.2	-0.4
	comp=Z,8.6nm,0.8s,baz=110,slow=7.6,SNR=5.3						
	comp=Z,8.6nm,0.8s						
CASY	Casey	68.87	204	P	P	23 11 42.0	+0.2
CASY	Casey	68.87	204	P	P	23 11 42.0	+0.2
CASY				PcP	PcP	23 12 01.5	-1.9
UNV	Unalaska Valle	69.20	8	P	P	23 11 44.9	+1.0
	baz=192						
NACB	Ninganchiao	70.22	303	P	P	23 11 49.9	-0.8
TPUB	Ta-pu	70.62	302	P	P	23 11 52.0	-1.2
PEA0B	Petropavlovsk-	70.75	345	P	P	23 11 53.3	+0.1
PETK	Petropavlovsk-	70.75	345	P	P	23 11 52.8	-0.4
PETK	Petropavlovsk-	70.75	345	P	P	23 11 53.4	+0.1
	comp=Z,7.6nm,0.8s,baz=107,slow=8.5,SNR=8.0						
	comp=Z,7.6nm,0.8s						
CHNA	Chernabura Isl	71.25	11	P	P	23 11 57.0	+0.8
	baz=199						
P08K	Saint George I	71.59	5	P	P	23 11 58.6	+0.5
	baz=189						
S12K	Black Hills	71.64	10	P	P	23 11 57.2	-1.3
S12K	Black Hills	71.64	10	P	P	23 11 58.3	-0.2
	baz=197						
SPIA	Saint Paul Isl	72.10	5	P	P	23 12 00.9	-0.2
	baz=188						
KSRS	Korea Array	72.42	318	P	P	23 12 03.6	+0.1
	comp=Z,3.1nm,1.0s,baz=128,slow=8.1,SNR=5.7						
	comp=Z,3.1nm,1.0s						
S14K	Fog Glacier	72.63	11	P	P	23 12 03.4	-1.0
	baz=199						
CHGN	Chignik	72.86	12	P	P	23 12 05.2	-0.4
	baz=200						
KNMB	Chin-men Tao	72.97	302	P	P	23 12 06.1	-0.8
CHIR	Chirikof Islan	73.00	13	P	P	23 12 06.1	-0.2
	baz=203						
SII	Sitkinak Islan	74.00	14	P	P	23 12 12.3	+0.1
	baz=204						
R16K	Pilot Point	74.21	12	P	P	23 12 13.5	+0.1
	baz=201						
SAO	San Andreas Ge	74.28	44	P	P	23 12 14.8	+0.5
SAO				IAmb	IAmb	23 12 16.8	
	comp=Z,21nm,0.9s						
PMPB	Monarch Peak	74.43	45	P	P	23 12 15.4	+0.2
HOPS	Hopland Field	74.44	42	P	P	23 12 15.5	+0.4
KMRM	Mail Ridge	74.73	40	P	P	23 12 18.1	+1.2
OHAK	Old Harbor	74.81	14	P	P	23 12 15.7	-1.0
OHAK				IAmb	IAmb	23 13 44.1	
	comp=Z,62nm,1.7s						
OHAK	Old Harbor	74.81	14	P	P	23 12 17.0	+0.3
	baz=205						
QSPA	South Pole Qui	75.17	180	P	P	23 12 19.7	+0.7
QSPA	South Pole Qui	75.17	180	P	P	23 12 19.6	+0.7
	comp=Z,86nm,0.8s,baz=25,slow=1.3,SNR=297						
O14K	Tigyukauivet M	75.18	9	P	P	23 12 18.8	0.0
	baz=197						
Q17K	Contact Creek	75.20	12	P	P	23 12 19.1	0.0
	baz=202						
O02D	Mt. Diablo Mer	75.28	41	P	P	23 12 21.3	+1.3
O02D				IAmb	IAmb	23 12 23.0	
	comp=Z,31nm,0.9s						
O15K	Ungalikthiuk R	75.33	10	P	P	23 12 19.7	0.0
	baz=199						
Q16K	King Salmon	75.43	12	P	P	23 12 19.9	-0.3
	baz=202						
KDAK	Kodiak Island	75.48	14	P	P	23 12 20.9	+0.4
KDAK	Kodiak Island	75.48	14	P	P	23 12 21.1	+0.6
	comp=Z,9.4nm,0.7s,baz=153,slow=6.8,SNR=19						
	comp=Z,9.4nm,0.7s						
KDAK	Kodiak Island	75.48	14	P	P	23 12 21.1	+0.6
	baz=206						
M11K	Mekoryuk	75.64	6	P	P	23 12 20.4	-1.0
	baz=192						
CMB	Columbia Colle	75.68	44	P	P	23 12 23.1	+0.9
CMB				IAmb	IAmb	23 12 24.3	
	comp=Z,13nm,0.8s						
MDJ	Mudanjiang	75.69	325	P	P	23 12 24.7	+2.6
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.5s						
N14K	Kuskokwak Cree	75.76	9	P	P	23 12 21.0	-1.0
	baz=197						
ISA	Isabella, Lake	75.76	47	P	P	23 12 23.6	+0.8
ISA				IAmb	IAmb	23 12 25.2	
	comp=Z,26nm,1.2s						
AFDM	Forest Hills D	75.78	43	P	P	23 12 22.9	+0.2
P17K	Kvichak River	75.95	11	P	P	23 12 22.4	-0.7
	baz=202						
NJ2	Nanjing	75.99	309	*e*P	P	23 12 26.1	+2.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
M13K	Dall Lake	76.00	8	P	P	23 12 22.7	-0.6
	baz=195						
O16K	Kokwok River B	76.02	11	P	P	23 12 23.2	-0.4
	baz=200						
YUH	Yuha Desert	76.15	50	P	P	23 12 25.4	+0.5
YUH				IAmb	IAmb	23 12 27.4	
	comp=Z,16nm,1.1s						
N15K	Kwethluk River	76.23	9	P	P	23 12 25.0	+0.3
	baz=198						
Q20K	Shuyak Island	76.27	14	P	P	23 12 25.0	0.0
	baz=206						
Q19K	Cape Douglas,	76.28	13	P	P	23 12 25.0	0.0
	baz=205						
O17K	Koliganek Bris	76.37	11	P	P	23 12 25.5	+0.1
	baz=201						
P18K	Big Mountain,	76.37	12	P	P	23 12 25.4	-0.2
P18K				IAmb	IAmb	23 12 26.3	
	comp=Z,21nm,0.9s						
P18K	Big Mountain,	76.37	12	P	P	23 12 25.8	+0.2
	baz=203						
M14K	Bethel	76.51	8	P	P	23 12 26.0	-0.2
	baz=196						
M15K	Kasigluk River	76.64	9	P	P	23 12 27.1	+0.1
	baz=198						
O18K	Koktuh Hills	76.80	12	P	P	23 12 27.5	-0.5
	baz=203						
L14K	Kuka Creek	76.99	8	P	P	23 12 29.2	+0.4
	baz=196						
P19K	Oil Pt	77.03	13	P	P	23 12 29.4	+0.2
	baz=205						
LHV	Little Huntoon	77.06	44	P	P	23 12 30.6	+0.8
LHV				IAmb	IAmb	23 12 32.6	
	comp=Z,25nm,1.0s						
N17K	Nushagak Hills	77.06	11	P	P	23 12 29.3	0.0
	baz=201						
SLBS	Sierra La Lagu	77.12	61	P	P	23 12 31.1	+0.5
SLBS				IAmb	IAmb	23 12 33.4	
	comp=Z,20nm,0.9s						
M16K	Timber Creek	77.22	10	P	P	23 12 30.8	+0.6
	baz=199						
NVAR	Mina Array Bea	77.28	44	P	P	23 12 32.0	+0.7
NVAR	Mina Array Bea	77.28	44	P	P	23 12 32.6	+1.2
	comp=Z,11nm,0.8s,baz=230,slow=9.8,SNR=37						
NVAR				pP	pP	23 13 54.5	-0.2
	comp=Z,0.3nm,0.5s,baz=269,slow=37,SNR=1.6						
	comp=Z,11nm,0.8s						
O19K	Port Alsworth	77.29	12	P	P	23 12 30.5	-0.1
O19K	Port Alsworth	77.29

P23K	Montague Islan	78.70	15	P	P	23 12 38.4	+0.2
	baz=210						
L18K	Granite Mounta	78.73	10	P	P	23 12 39.7	+1.3
L18K				IAmb	IAmb	23 12 40.7	
	comp=Z,23nm,0.9s						
L18K	Granite Mounta	78.73	10	P	P	23 12 39.6	+1.3
	baz=201						
W13A	Hualapai Mount	78.78	49	P	P	23 12 40.1	+0.5
M19K	Big River Lodg	78.85	11	P	P	23 12 39.9	+0.9
	baz=204						
K17K	Iditarod	78.93	9	P	P	23 12 40.3	+0.9
K17K	Iditarod	78.93	9	P	P	23 12 40.9	+1.5
	baz=200						
L19K	White Mountain	79.02	11	P	P	23 12 40.7	+0.7
	baz=203						
M20K	Styx River	79.08	12	P	P	23 12 40.4	+0.1
	baz=205						
RC01	Rabbit Creek A	79.09	14	P	P	23 12 40.3	0.0
RC01				IAmb	IAmb	23 14 08.5	
	comp=Z,34nm,1.7s						
RC01	Rabbit Creek A	79.09	14	P	P	23 12 40.9	+0.5
	baz=208						
R11B	Troy Canyon, C	79.10	45	P	P	23 12 41.6	+0.4
	baz=241						
J16K	Anvik River	79.13	8	P	P	23 12 40.4	-0.1
	baz=198						
SUA	Susitna One	79.20	13	P	P	23 12 40.9	-0.2
SUA	Susitna One	79.20	13	P	P	23 12 41.0	-0.1
	baz=207						
PWL	Port Wells	79.22	14	P	P	23 12 41.4	+0.3
	baz=210						
J17K	VABM Dome	79.45	9	P	P	23 12 42.9	+0.7
	baz=199						
L20K	Farewell, AK	79.47	11	P	P	23 12 43.1	+0.7
	baz=204						
I07A	Izee	79.48	39	P	P	23 12 43.6	+0.6
I07A				IAmb	IAmb	23 12 45.2	
	comp=Z,16nm,0.9s						
SKT	Skwentna	79.49	13	P	P	23 12 43.1	+0.6
	baz=206						
TTA	Tatalina	79.50	10	P	P	23 12 43.4	+0.8
TTA				IAmb	IAmb	23 12 44.6	
	comp=Z,17nm,1.0s						
TTA	Tatalina	79.50	10	P	P	23 12 43.1	+0.4
	baz=202,SNR=9.5						
TTA	Tatalina	79.50	10	P	P	23 12 43.2	+0.6
GLI	Glacier Island	79.54	15	P	P	23 12 42.4	-0.4
GLI				IAmb	IAmb	23 12 43.5	
	comp=Z,16nm,0.8s						
GLI	Glacier Island	79.54	15	P	P	23 12 42.8	0.0
	baz=211						
KNK	Knik Glacier	79.67	14	P	P	23 12 43.8	+0.3
	baz=209						
PMR	Palmer	79.67	14	P	P	23 12 43.6	+0.2
	baz=209						
PMR	Palmer	79.67	14	P	P	23 12 43.7	+0.2
I17K	Unalakleet	79.70	8	P	P	23 12 44.1	+0.6
	baz=197						
CRAG	Craig	79.78	24	P	P	23 12 44.6	+0.5
	baz=224						
ANM	Nome	79.82	6	P	P	23 12 45.5	+1.4
	baz=193						
J18K	Innoko River	79.89	10	P	P	23 12 45.5	+1.0
	baz=201						
M23K	Glacier View	80.18	14	P	P	23 12 47.1	+0.9
	baz=210						
PPLA	Purkeypile	80.18	12	P	P	23 12 46.1	-0.3
	baz=206						
H16K	Elim	80.23	7	P	P	23 12 47.0	+0.7
	baz=196,SNR=5.1						
U33K	Whale Pass	80.24	24	P	P	23 12 47.2	+0.6
	baz=224						
K20K	Telida	80.24	11	P	P	23 12 46.6	+0.1
	baz=204						
BMRM	Bremner River	80.26	16	P	P	23 12 46.3	-0.4
BMRM				IAmb	IAmb	23 12 47.8	
	comp=Z,16nm,1.1s						
BMRM	Bremner River	80.26	16	P	P	23 12 47.4	+0.7
	baz=213						
V35K	Ketchikan	80.28	25	P	P	23 12 46.4	-0.4
	baz=226						
SCM	Sheep Creek Mo	80.31	14	P	P	23 12 46.8	-0.2
SCM	Sheep Creek Mo	80.31	14	P	P	23 12 46.9	0.0
	baz=210						
MESA	MESA	80.35	18	P	P	23 12 47.3	0.0
	baz=216						
KLU	Klutina	80.36	15	P	P	23 12 46.9	-0.3
	baz=212						
G15K	Niukluk	80.37	6	P	P	23 12 47.0	-0.1
	baz=194						
PSUT	Pine Spring	80.38	46	P	P	23 12 48.5	+0.5
S31K	Pelican	80.45	21	P	P	23 12 46.6	-1.0
	baz=221						
ELK	Elko	80.49	43	P	P	23 12 48.6	0.0
J19K	Poorman	80.56	10	P	P	23 12 47.8	-0.3
	baz=202						
F14K	Arctic Creek	80.62	5	P	P	23 12 47.8	-0.6
	baz=192						
CAST	Castle Rocks	80.68	12	P	P	23 12 47.8	-1.0
CAST	Castle Rocks	80.68	12	P	P	23 12 48.0	-0.8
	baz=206,SNR=14						
WRAK	Wrangell Islan	80.76	24	P	P	23 12 49.4	+0.2
	baz=225						
PINM	Pinnacle	80.79	18	P	P	23 12 49.5	0.0
	baz=217						
N25K	Chitina, Valde	80.80	16	P	P	23 12 49.5	0.0
	baz=213,SNR=5.9						
H17K	Granite Mounta	80.81	8	P	P	23 12 49.3	0.0
	baz=198						
M24K	Tolsona, Glenn	80.83	15	P	P	23 12 49.1	-0.6
	baz=212						
GLB	Gilahina Butte	80.87	16	P	P	23 12 49.5	-0.4
G16K	Koyuk River	80.94	7	P	P	23 12 49.9	-0.1
	baz=196						
J20K	Nowinta River	80.98	11	P	P	23 12 50.8	+0.5
	baz=204						
F15K	North Star Dit	81.01	6	P	P	23 12 50.4	0.0
	baz=194						
KTH	Kantishna Hill	81.03	12	P	P	23 12 49.6	-1.1
KTH				IAmb	IAmb	23 14 19.1	
	comp=Z,28nm,1.5s						
CHUM	Lake Minchumin	81.05	11	P	P	23 12 50.6	-0.1
	baz=206,SNR=6.6						
TRF	Thorofare Moun	81.07	12	P	P	23 12 50.9	-0.1
	baz=208,SNR=7.4						
H18K	Honhosa River	81.22	8	P	P	23 12 51.8	+0.3
	baz=200						
G17K	Kiwalik Mounta	81.25	7	P	P	23 12 51.9	+0.2
	baz=197						
R32K	Eaglecrest	81.29	22	P	P	23 12 52.8	+0.7
	baz=223						
HARP	HAARP	81.33	15	P	P	23 12 52.1	-0.1
	baz=212						
RND	Reindeer	81.33	13	P	P	23 12 52.2	0.0
RND				IAmb	IAmb	23 12 53.2	
	comp=Z,15nm,0.9s						
O28M	Mount Upton	81.35	18	P	P	23 12 53.3	+0.7
	baz=217						
HNS	HongShan	81.45	312	‖P	P	23 12 54.7	+1.4
HNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
O29M	Mount Kennedy	81.47	19	P	P	23 12 52.8	-0.3
	baz=219						
I20K	Naaghedeneel	81.50	10	P	P	23 12 52.3	-0.6
	baz=203						
BPAW	Bear Paw Mtn.	81.50	12	P	P	23 12 52.2	-0.9
BPAW	Bear Paw Mtn.	81.50	12	P	P	23 12 53.4	+0.3
	baz=207						
PLBC	Pleasant Camp	81.53	20	P	P	23 12 53.1	-0.1
	baz=221						
BJT	Baijiatuau	81.60	315	P	P	23 12 54.8	+0.8
MCK	McKinley	81.60	13	P	P	23 12 53.5	-0.1
	baz=209,SNR=7.1						
BJI	Beijing	81.61	315	P	P	23 12 55.2	+1.1
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PAX	Paxson	81.73	15	P	P	23 12 54.1	-0.3
	baz=212						
P30M	Million Dollar	81.84	20	P	P	23 12 55.7	+0.8
	baz=220						
H19K	Roundabout Mou	81.86	9	P	P	23 12 55.5	+0.8
	baz=201						
DUG	Dugway, Tooele	81.86	45	P	P	23 12 55.4	-0.2
YUK8	Steele Glacier	81.88	18	P	P	23 12 55.4	0.0
	baz=218,SNR=5.9						
M26K	Nabesna, AK	81.88	16	P	P	23 12 55.7	+0.6
	baz=214						
SKAG	Skagway	81.88	21	P	P	23 12 55.9	+0.9
	baz=222						
SKAG	Skagway	81.88	21	P	P	23 12 56.2	+1.2
G18K	Tagagawik	81.89	8	P	P	23 12 54.5	-0.4
	baz=199						
HPIG		81.92	59	P	P	23 12 56.3	0.0
HPIG				IAmb	IAmb	23 12 58.8	
	comp=Z,16nm,1.0s						
IPM	Ipoh	82.01	277	P	P	23 12 56.7	-0.1
IPM				IAmb	IAmb	23 12 58.2	
	comp=Z,14nm,0.9s						
IPM	Ipoh	82.01	277	P	P	23 12 58.8	+2.0
YUK6	Outpost Mounta	82.03	19	P	P	23 12 56.0	-0.1
	baz=219						
H20K	Anotleneega Mo	82.07	10	P	P	23 12 55.5	-0.5
	baz=203						
YUK3	Moose Creek	82.07	17	P	P	23 12 55.4	-0.8
	baz=217,SNR=8.4						
F17K	Baldwin Pennin	82.08	7	P	P	23 12 55.8	-0.1
	baz=197						
PLID	Pearl Lake	82.14	39	P	P	23 12 56.9	-0.2
M27K	Edge Creek, AK	82.15	16	P	P	23 12 57.3	+0.7
	baz=216						
HYT	Haines Junctio	82.21	19	P	P	23 12 57.6	+0.7
	baz=220						
YUK4	Talbot Arm	82.26	18	P	P	23 12 57.3	0.0
	baz=219						
S34M	Telegraph Cree	82.28	23	P	P	23 12 56.8	-0.4
	baz=226,SNR=9.1						
I21K	Tanana	82.29	11	P	P	23 12 57.1	+0.1
	baz=206						
121A	Cookes Peak, D	82.31	54	P	P	23 12 56.4	-1.7
	baz=247						
L26K	Log Cabin Wild	82.31	15	P	P	23 12 57.8	+0.5
	baz=214,SNR=6.0						
NEA2	Nenana	82.33	12	P	P	23 12 57.0	-0.3
	baz=209						
G19K	Purcell Mounta	82.34	9	P	P	23 12 57.0	-0.3
	baz=201,SNR=6.1						
K24K	Donnelly Dome	82.37	14	P	P	23 12 57.2	-0.3
	baz=212						
HLID	Hailey	82.38	41	P	P	23 12 58.6	+0.4
HLID				IAmb	IAmb	23 13 00.7	
	comp=Z,15nm,0.8s						
F18K	Selawik	82.42	7	P	P	23 12 57.4	-0.2
	baz=198						
WRH	Wood River Hil	82.43	13	P	P	23 12 57.5	-0.3
WRH				IAmb	IAmb	23 12 58.7	
	comp=Z,36nm,1.3s						
BVCY	Beaver Creek	82.47	17	P	P	23 12 57.6	-0.5
	baz=216						
P32M	Atlin	82.54	21	P	P	23 12 58.3	-0.2
	baz=223						
RIDG	Independent Ri	82.54	14	P	P	23 12 57.9	-0.5
	baz=213						
H21K	Melozitna Rive	82.57	10	P	P	23 12 58.0	-0.5
	baz=205						
Q32M	Nakina River	82.60	22	P	P	23 12 59.5	+0.5
	baz=225						
O30N	Mendenhall	82.62	19	P	P	23 12 58.8	-0.1
	baz=221,SNR=5.3						
HDA	Harding Lake	82.62	13	P	P	23 12 59.2	+0.4
	baz=211,SNR=10						
E17K	Hotham Inlet	82.63	6	P	P	23 12 58.7	-0.1
	baz=196						
CCB	Clear Creek Bu	82.64	13	P	P	23 12 58.5	-0.3
CCB				IAmb	IAmb	23 12 59.5	
	comp=Z,13nm,0.8s						
L27K	Beaver Creek,	82.74	16	P	P	23 12 59.5	+0.1
	baz=216						
BCAR	Beaver Creek A	82.75	16	P	P	23 12 59.7	+0.2
I23K	Minto, Yukon-K	82.76	12	P	P	23 12 59.0	-0.5
	baz=208						
COLA	College	82.83	13	P	P	23 12 59.2	-0.6
COLA				IAmb	IAmb	23 13 00.4	
	comp=Z,23nm,0.8s						
COLA	College	82.83	13	P	P	23 12 59.4	-0.3
	baz=210						
COLA	College	82.83	13	P	P	23 13 00.3	+0.5
F19K	Shaleruckik Mo	82.89	8	P	P	23 13 00.6	+0.5
	baz=200						
WHY	Whitehorse	82.93	20	P	P	23 13 00.9	+0.3
	baz=222						
SCRK	Sand Creek	82.94	15	P	P	23 13 00.8	+0.2
SCRK	Sand Creek	82.94	15	P	P	23 13 00.4	-0.1
	baz=213,SNR=9.2						
IL31		82.95	13	P	P	23 13 00.0	-0.4
IL31				IAmb	IAmb	23 13 01.2	
	comp=Z,16nm,0.9s						
ILAR	Eielson Array	82.95	13	P	P	23 12 60.0	-0.5
	comp=Z,9.1nm,0.9s,baz=232,slow=6.2,SNR=63						
ILAR				pP	pP	23 14 23.8	-1.0
	comp=Z,0.2nm,0.5s,baz=326,slow=33,SNR=1.7						
ILAR				PKKP	PKKPdf	23 31 16.1	+1.5
	comp=Z,0.4nm,0.7s,baz=6.2,slow=2.3,SNR=5.3						
	comp=Z,9.1nm,0.9s						
H22K	Healitna Cre	83.04	11	P	P	23 13 01.2	+0.3
	baz=206						
DLBC	Dease Lake	83.07	23	P	P	23 13 01.1	-0.2
	comp=Z,6.0nm,0.9s,baz=173,slow=4.3,SNR=9.8						
	comp=Z,6.0nm,0.9s						
DLBC	Dease Lake	83.07	23	P	P	23 13 01.2	0.0
	baz=227						
E18K	Tukpahlearik C	83.10	7	P	P	23 13 02.4	+1.3
	baz=197						
D17K	Noatak River	83.10	6	P	P	23 13 01.9	+0.9
	baz=195						
POKR	Poker Plat Res	83.13	13	P	P	23 13 00.8	-0.5
	baz=210						
J25K	Salcha River,	83.16	14	P	P	23 13 01.5	-0.1
	baz=212						
M29M	Somme Creek	83.18	18	P	P	23 13 02.4	+0.6
	baz=219						
TIY	Taiyuan	83.22	312	eP	P	23 13 03.8	+1.3
TIY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
G21K	Allakaket	83.24	10	P	P	23 13 02.5	+0.7
	baz=204						
N31M	Braeburn, Yuko	83.26	19	P	P	23 13 02.6	+0.5
	baz=221						
P33M	Teslin, Yukon	83.30	21	P	P	23 13 03.4	+1.0
	baz=224						
R33M	Jennings River	83.38	22	P	P	23 13 04.2	+1.4
	baz=226,SNR=7.2						
F20K	Avaraart Lake	83.38	9	P	P	23 13 02.2	-0.3
	baz=202						
RDOG	Red Dog Mine	83.46	6	P	P	23 13 03.3	+0.3
	baz=195						
J26L	Joseph Creek	83.49	14	P	P	23 13 03.3	0.0
	baz=214						
E19K	Redstone River	83.55	8	P	P	23 13 03.6	+0.2
	baz=201						
H24K	Noodor Dome	83.67	12	P	P	23 13 03.8	-0.3
	baz=210						
M30M	Minto, Yukon	83.77	18	P	P	23 13 05.2	+0.5
	baz=220,SNR=13						
L29M	L29M	83.79	17	P	P	23 13 05.3	+0.6
	baz=219						
C17K	DeLong Mountai	83.84	6	P	P	23 13 05.6	+0.8
	baz=195						
F21K	Alatna River	83.89	10	P	P	23 13 05.2	0.0
	baz=204						
N32M	Quiet Lake	83.89	20	P	P	23 13 06.0	+0.7
	baz=224						
PRP	Porcupine Dome	83.89	13	P	P	23 13 05.9	+0.5
	baz=212						
NONG	Nongkai	83.89	290	P	P	23 13 07.4	+1.2
MCMT	McKenzie Canyo	83.97	41	P	P	23 13 06.9	+0.6
G23K	Bananza Creek	84.02	11	P	P	23 13 06.6	+0.8
	baz=208						
AHID	Auburn Hatcher	84.17	43	P	P	23 13 07.9	+0.6
AHID				IAmb	IAmb	23 13 09.6	
	comp=Z,16nm,1.1s						
DAWY	Dawson	84.20	16	P	P	23 13 06.8	+0.1
DAWY	Dawson	84.20	16	P	P	23 13 07.0	+0.2
	baz=218,SNR=8.2						
C18K	Utukok River	84.21	6	P	P	23 13 06.7	-0.1
	baz=197						
M31M	Drury Creek, Y	84.23	19	P	P	23 13 07.6	+0.7
	baz=222						
I26K	Coal Creek Min	84.25	14	P	P	23 13 07.0	0.0
	baz=214						
EGAK	Eagle	84.31	15	P	P	23 13 07.3	+0.1
EGAK				IAmb	IAmb	23 13 08.5	
	comp=Z,16nm,0.9s						
EGAK	Eagle	84.31	15	P	P	23 13 06.8	-0.5
	baz=216,SNR=10						
D19K	Kuna River	84.42	7	P	P	23 13 08.0	+0.3
	baz=200						
TXAR	Lajitas Array	84.42	58	P	P	23 13 09.8	+1.1
TXAR	Lajitas Array	84.42	58	P	P	23 13 10.6	+1.8
	comp=Z,12nm,0.8s,baz=220,slow=6.1,SNR=94						
TXAR				pP	pwP	23 14 34.8	-1.4
	comp=Z,0.5nm,0.8s,baz=261,slow=39,SNR=2.1						
TXAR				PKKPbc	PKKPbc	23 31 18.4	-0.4
	comp=Z,0.5nm,0.7s,baz=98,slow=2.8,SNR=5.8						
	comp=Z,12nm,0.8s						
E20K	Nigu River	84.45	8	P	P	23 13 08.5	+0.6
	baz=202						
COLD	Coldfoot	84.45	11	P	P	23 13 08.5	+0.6
	baz=207						
SRIT	Nakonsritamara	84.48	280	P	P	23 13 09.5	+0.2
G24K	Hadweenzic Riv	84.50	12	P	P	23 13 08.9	+0.7
	baz=210						
K29M	Barlow Dome	84.54	17	P	P	23 13 09.0	+0.4
	baz=220,SNR=9.9						
TPAW	Teton Pass	84.58	42	P	P	23 13 09.3	-0.1
FARO	Faro, Yukon	84.58	19	P	P	23 13 09.6	+0.9
	baz=223						
WTLY	Watson Lake, Y	84.68	23	P	P	23 13 10.0	+0.8
	baz=228						
D20K	Etivluk River	84.81	8	P	P	23 13 11.1	+1.4
	baz=201						
MAYO	Mayo, Yukon	84.82	18	P	P	23 13 10.5	+0.7
	baz=221						
G25K	Bearman Lake	84.83	12	P	P	23 13 10.8	+1.1
	baz=211						
B18K	Kokolik River	84.84	6	P	P	23 13 10.7	+0.9
	baz=196						
I27K	Kandik River	84.87	14	P	P	23 13 10.9	+0.8
	baz=216						
S22A	4UR Ranch, Cre	85.06	49	P	P	23 13 11.8	-0.1
	baz=247						
BOZ	Bozeman (W)	85.09	40	P	P	23 13 11.8	+0.1
BOZ				IAmb	IAmb	23 16 19.8	
	comp=Z,27nm,1.4s						
TLIG	Tlapa	85.10	70	P	P	23 13 12.7	+0.4
TLIG				IAmb	IAmb	23 13 16.0	
	comp=Z,22nm,1.0s						
HHC	Hu-ho-hao-te	85.13	314	eP	P	23 13 13.4	+1.4
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,200nm,5.1s						
F24K	Squaw Lake	85.13	11	P	P	23 13 12.0	+0.6
	baz=210						
I28M	Miner Creek	85.16	15	P	P	23 13 11.9	+0.4
	baz=217						
BELA	Belgrano 2	85.17	173	P	P	23 13 11.2	-0.3
PD31	Pinedale Array	85.19	44	P	P	23 13 12.4	0.0
PD31				IAmb	IAmb	23 13 14.1	
	comp=Z,18nm,1.1s						
PDAR	Pinedale Array	85.19	44	P	P	23 13 12.5	0.0
PDAR	Pinedale Array	85.19	44	P	P	23 13 12.8	+0.4
	comp=Z,2.5nm,0.3s,baz=220,slow=2.6,SNR=56						
PDAR				pP	pP	23 14 38.5	+1.1
	comp=Z,1.6nm,1.0s,baz=212,slow=5.3,SNR=3.6						
	comp=Z,2.5nm,0.3s						
TOAD	Toad River Com	85.23	25	P	P	23 13 12.5	+0.5
	baz=231						
E23K	Chandalar	85.29	10	P	P	23 13 12.5	+0.4
	baz=208						
H27K	Steamboat Moun	85.40	14	P	P	23 13 13.4	+0.7
	baz=216						
J30M	Hart River	85.44	17	P	P	23 13 13.5	+0.5
	baz=221						
C21K	Knifeblade Rid	85.48	8	P	P	23 13 13.2	+0.3
	baz=203						
G26K	Porcupine Rive	85.48	13	P	P	23 13 13.9	+0.9
	baz=213						
I29M	Ogilvie Camp,	85.51	16	P	P	23 13 14.0	+0.8
	baz=219						
E24K	Your Creek	85.51	11	P	P	23 13 14.0	+0.8
	baz=209						
D22K	Ayikyak River	85.53	9	P	P	23 13 14.5	+1.2
	baz=205						
MMPY	Sheldon Lake,	85.54	20	P	P	23 13 14.4	+0.9
	baz=225						
F25K	Christian Rive	85.64	12	P	P	23 13 14.5	+0.7
	baz=212						
BMAR	Burnt Mountain	85.72	12	P	P	23 13 14.6	+0.4
TOLK	Toolik Lake Re	85.82	10	P	P	23 13 15.1	+0.4
	baz=208						
G27K	Doyon Strip	85.84	14	P	P	23 13 15.1	+0.3
	baz=216						
I30M	Mount Dempster	85.92	16	P	P	23 13 15.7	+0.4
	baz=220						
D23K	Nanushuk River	85.92	10	P	P	23 13 15.1	0.0
	baz=207						
B21K	Ikpikpuk River	85.93	8	P	P	23 13 16.3	+1.2
	baz=203						
F26K	Sheenjek River	86.03	12	P	P	23 13 15.8	+0.1
	baz=213						
BTO	Baotou	86.10	314	eP	P	23 13 18.9	+2.2
BTO				pmax	pmax		
	comp=Z,13nm,1.6s						
BTO				pmax	pmax		
	comp=Z,370nm,9.2s						
E25K	Arctic Village	86.10	12	P	P	23 13 16.3	+0.3
	baz=212						
H29M	Whitestone	86.16	15	P	P	23 13 16.4	+0.1
	baz=219						
D24K	Happy Valley	86.40	10	P	P	23 13 17.9	+0.5
	baz=209						
KOTAN	Kotaneelee Air	86.50	24	P	P	23 13 18.1	0.0
	baz=232						
T25A	Trinidad	86.61	50	P	P	23 13 17.8	-1.6
	baz=248						
EPYK	Eagle Plains	86.70	16	P	P	23 13 19.2	+0.3
	baz=220						
C23K	Itkillik River	86.71	9	P	P	23 13 19.0	+0.1
	baz=207						
B22K	Teshekpuk Lake	86.76	8	P	P	23 13 19.2	+0.1
	baz=204						
G29M	Pine Creek	86.79	15	P	P	23 13 19.9	+0.5
	baz=219						
N23A	Red Feather La	86.90	46	P	P	23 13 19.6	-1.2
	baz=247						
F28M	Old Crow	86.91	14	P	P	23 13 19.6	-0.2
	baz=217						
H31M	Peel River	86.92	17	P	P	23 13 19.9	-0.1
	baz=222						
C24K	Franklin Bluff	86.92	10	P	P	23 13 20.5	+0.7
	baz=209						
D25K	Kavik River	86.98	11	P	P	23 13 20.7	+0.4
	baz=211						
G30M	tAoh Zraii Nji	87.30	15	P	P	23 13 21.4	-0.3
	baz=221						
PZH	PanZhiHua	87.69	298	P	P	23 13 25.7	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,4.3s						
C27K	Jago River	87.74	12	P	P	23 13 23.8	0.0
	baz=213						
C26K	Camden Bay	87.76	11	P	P	23 13 24.1	+0.3
	baz=212						
E28M	Babbage River	87.77	13	P	P	23 13 24.5	+0.5
	baz=217						
CMAR	Chiang Mai Arr	87.83	290	P	P	23 13 25.8	+0.5
	comp=Z,0.4nm,0.3s,baz=106,slow=2.9,SNR=4.9						
CMAR				pP	pP	23 14 51.9	+1.3
	comp=Z,1.0nm,0.8s,baz=95,slow=2.9,SNR=2.8						
CMAR				PKKPbc	PKKPbc	23 31 10.5	+0.5
	comp=Z,0.3nm,0.3s,baz=285,slow=3.2,SNR=5.8						
	comp=Z,0.4nm,0.3s						
F30M	Barrier River	87.89	15	P	P	23 13 24.1	-0.4
	baz=221						
E29M	Blow River	87.98	14	P	P	23 13 25.0	+0.1
	baz=219						
D27M	Malcolm River	87.98	13	P	P	23 13 25.4	+0.5
	baz=216						
HNDO	Hondo	88.09	59	P	P	23 13 27.4	+1.1
F31M	Tsiigehtchic	88.29	16	P	P	23 13 26.0	-0.2
	baz=223						
MG03	Isla Dawson	88.37	146	P	P	23 13 27.4	+0.2
D28M	Stokes Point	88.53	13	P	P	23 13 27.8	+0.5
	baz=218						
INK	Inuvik	88.98	15	P	P	23 13 29.9	+0.4
	comp=Z,2.5nm,1.0s,baz=173,slow=4.7,SNR=4.9						
	comp=Z,2.5nm,1.0s						
INK	Inuvik	88.98	15	P	P	23 13 29.8	+0.4
	baz=223						
LZH	Lanzhou	89.01	308	eP	P	23 13 31.7	+1.0
LZH				pP	pP	23 14 54.6	-1.8

LZH sP sP 23 15 28.4 -6.2
LZH pmax pmax
comp=Z,7.0nm,1.1s
435B Jarrell 89.87 58 P **P 23 13 33.8 -0.7**
baz=253
COYC Coyhaique 90.57 138 P **P 23 13 38.0 +0.4**
ULN Ulaanbaatar 90.83 320 P **P 23 13 38.8 0.0**
HKT Hockley 91.08 59 P **P 23 13 40.5 +0.5**
SONM Songino Array 91.23 319 P **P 23 13 39.9 -0.7**
SONM Songino Array 91.23 319 P **P 23 13 40.1 -0.6**
comp=Z,0.2nm,0.3s,baz=125,slow=4.9,SNR=3.8
SONM pP **pP 23 15 07.3 +0.9**
comp=Z,1.4nm,1.1s,baz=137,slow=2.9,SNR=4.8
YKA Yellowknife Ar 91.60 25 P **P 23 13 40.9 -0.9**
comp=Z,0.7nm,0.7s,baz=242,slow=4.7,SNR=10
comp=Z,0.7nm,0.7s
LL02 Futaleuf 91.62 135 P **P 23 13 42.5 -0.1**
LL02 IAmb IAmb 23 13 45.2
comp=Z,15nm,0.9s
W35A Tecumseh 91.73 54 P **P 23 13 43.5 +0.4**
LL04 Puerto Octay 92.08 133 P **P 23 13 45.0 +0.3**
SYO Syowa Base 92.09 193⇑ *e*P **P 23 13 43.9 -0.2**
SYO Syowa Base 92.09 193⇓ *i*PcP **PcP 23 13 45.6 +0.9**
ELIB Princess Elisa 92.16 187 *d*P **P 23 13 44.1 -0.4**
comp=Z,9.1nm,1.1s
C36M Paulatuk 92.21 17 P **P 23 13 44.4 0.0**
baz=232
TROLL Troll, Antarti 93.33 180 P **P 23 13 49.7 -0.3**
TROLL Troll, Antarti 93.33 180 ⇓P **P 23 13 49.7 -0.3**
comp=Z,1μm,0.8s
PLCA Paso Flores 93.45 134 **P 23 13 52.3 +1.2**
PLCA Paso Flores 93.45 134 P **P 23 13 50.6 -0.5**
comp=Z,1.8nm,0.8s,baz=200,slow=6.7,SNR=4.6
comp=Z,1.8nm,0.8s
A36M Sachs Harbour 93.56 14 P **P 23 13 51.1 +0.5**
baz=231
SNAA Sanae 93.62 179 P **P 23 13 50.6 -0.6**
SNAA Sanae 93.62 179 P **P 23 13 50.8 -0.4**
SNAA Sanae 93.62 179 ⇓P **P 23 13 50.6 -0.6**
comp=Z,269nm,0.8s
SNAA Sanae 93.62 179 P **P 23 13 50.8 -0.4**
comp=Z,17nm,1.0s,baz=189,slow=3.8,SNR=16
comp=Z,17nm,1.0s
VNA3 Neumayer Olymp 93.76 176 P **P 23 13 52.1 +0.3**
VNA3 Neumayer Olymp 93.76 176 ⇓P **P 23 13 52.1 +0.3**
comp=Z,28nm,0.8s
VNA2 Neumayer--Watz 94.20 177 P **P 23 13 53.5 -0.3**
baz=181,slow=5.3
VNA2 Neumayer--Watz 94.20 177 ⇓P **P 23 13 53.5 -0.3**
comp=Z,26nm,0.6s,baz=181,slow=5.3
ECSD EROS Data Cent 94.37 46 P **P 23 13 54.3 -0.7**
ECSD IAmb IAmb 23 13 57.5
comp=Z,13nm,1.2s
MGMO Mountain Grove 95.85 53 P **P 23 14 02.0 +0.1**
MKAR Makanchi Array 106.98 315 PKiKP **PKiKP 23 18 58.0 -0.8**
comp=Z,0.1nm,0.2s,baz=78,slow=2.2,SNR=4.2
MKAR PKKPbc **PKKPbc 23 30 17.9 -0.9**
comp=Z,1.1nm,0.8s,baz=270,slow=2.9,SNR=9.6
MKAR PKKPab **PKKPab 23 30 33.9 +1.0**
comp=Z,0.8nm,0.9s,baz=274,slow=5.6,SNR=4.7
KURBB Kurchatov Arra 109.59 319 PKKPbc PKKPbc 23 30 09.6 -1.1
comp=Z,1.5nm,0.8s,baz=269,slow=3.7,SNR=14
BVAR Borovoye Array 114.46 322 PKP PKPdf 23 19 12.3 -0.5
comp=Z,0.6nm,0.3s,baz=122,slow=2.4,SNR=5.8
SCHQ Schefferville 114.46 36 PKKPab PKKPab 23 29 59.4 -0.1
comp=Z,8.2nm,0.7s,baz=174,slow=10,SNR=5.6
SPITS Spitsbergen Ar 116.25 357 PKP **PKPdf 23 19 15.0 -0.6**
comp=Z,7.7nm,1.0s,baz=57,slow=6.1,SNR=9.3
ARTI Arti 120.40 327 PKPdf **PKPdf 23 19 23.8 -0.3**
MAL2 Monte Alegre, 122.36 102 PKPdf **PKPdf 23 19 29.0 -0.2**
BDFB Brasilia 122.41 120 PKP **PKPdf 23 19 29.3 0.0**
comp=Z,3.7nm,1.1s,baz=250,slow=1.0,SNR=8.4
VOI Vohitsoka 122.52 231 PKPdf **PKPdf 23 19 29.4 0.0**
ARCES ARCESS Array B 123.33 350 PKP **PKPdf 23 19 28.9 -0.5**
comp=Z,1.5nm,0.5s,baz=124,slow=0.5,SNR=25
GRHM Grahamstown, E 126.58 206 PKPdf **PKiKP 23 19 37.5 +0.2**
SOE Somerset East 127.41 206 PKPdf **PKiKP 23 19 39.2 +0.2**
SUR Sutherland 129.53 201 PKPdf **PKiKP 23 19 43.6 +0.2**
FINES FINESS Array B 130.26 345 PKP **PKPdf 23 19 42.7 -0.1**
comp=Z,3.3nm,0.9s,baz=68,slow=5.1,SNR=4.7
FINES SKPbc **SKPbc 23 22 30.3 -0.2**
comp=Z,4.9nm,1.0s,baz=357,slow=15,SNR=5.0
BOSA Boshof 131.06 208 **PKPdf 23 19 45.8 +0.2**
BOSA Boshof 131.06 208 PKP **PKPdf 23 19 46.1 +0.5**
comp=Z,6.4nm,0.9s,baz=70,slow=2.1,SNR=8.5
BOSA SKPbc **SKPbc 23 22 33.6 -1.2**
comp=Z,6.9nm,1.0s,baz=148,slow=3.7,SNR=5.9
NB2 NORSAR Subarra 133.37 354 PKP **PKPdf 23 19 48.2 -0.5**
comp=Z,0.7nm,0.5s,baz=16,slow=4.0
NB2 pPKP **SKPbc 23 22 43.9 +2.4**
comp=Z,1.6nm,0.9s,baz=10,slow=3.2
NOA NORSAR Array B 133.37 354 PKP **PKPdf 23 19 48.2 -0.5**
comp=Z,1.1nm,0.7s,baz=14,slow=4.1,SNR=4.3
NOA SKPbc **SKPbc 23 22 40.7 -0.8**
comp=Z,3.1nm,0.9s,baz=8.7,slow=2.4,SNR=6.7
HFS Hagfors 133.94 352 PKP **PKPdf 23 19 48.8 -0.9**
comp=Z,2.2nm,0.7s,baz=167,slow=7.0,SNR=2.1
LBTB Lobatse 133.94 211 PKPdf **PKPdf 23 19 51.5 +0.5**
AKASG Malin Array Be 137.84 334 PKPdf **PKPdf 23 19 57.4 +0.1**
AKASG Malin Array Be 137.84 334 PKP **PKPdf 23 19 56.8 -0.5**
comp=Z,0.8nm,0.6s,baz=38,slow=0.7,SNR=4.9
AKASG pPKP **pPKPdf 23 21 26.6 -1.4**
comp=Z,0.1nm,0.2s,baz=28,slow=2.4,SNR=1.5
AKASG SKPbc **SKPbc 23 22 56.2 +0.7**
comp=Z,2.0nm,0.8s,baz=36,slow=4.4,SNR=8.6
AK17 Malin Array Si 137.93 334 PKP **PKPdf 23 19 57.4 0.0**
AK14 Malin Array Si 137.94 334 PKP **PKPdf 23 19 57.5 0.0**
LSZ Lusaka 140.12 222 PKPdf **PKPdf 23 20 02.2 -0.5**
BURAR Bucovina Array 141.90 334 ⇓P **PKPdf 23 20 04.2 -0.7**
CFR Carcaliu 142.36 329 ⇓P **PKPdf 23 20 05.8 +0.2**
BRTR Keskin Array B 142.57 318 PKP **PKPdf 23 20 03.9 -2.5**
comp=Z,0.9nm,0.7s,baz=10,slow=1.3,SNR=5.4
DPC Dobruska-Polom 142.63 344 *e*PKP **PKPdf 23 20 03.5 -2.5**
TSUM Tsumeb 142.64 205 **PKPdf 23 20 05.4 -1.7**
DOPR Dopca 143.09 332 ⇑P PKPbc 23 20 05.8 +1.0
MLR Muntele Rosu 143.19 331 ⇑P PKPbc 23 20 05.3 +0.2
PRU Pruhonice 143.41 346 *e*PKP **PKPdf 23 20 08.2 +0.9**
VRAC Vranov 143.51 343 *e*PKP PKPab 23 20 04.4 -0.7
VRAC Vranov 143.51 343 ⇑P PKPbc 23 20 06.2 +0.4
MARR Marisel-Cluj 143.52 335 ⇓P PKPbc 23 20 06.0 0.0
VYHS Vyhne 143.56 341 *e*PKP PKPbc 23 20 06.3 +0.3
DRGR 143.59 335 ⇓P PKPab 23 20 05.6 0.0
VOIR 143.65 332 ⇑P PKPbc 23 20 07.0 +0.5
PSZ Piszkesteto 143.71 339 ⇑P PKPbc 23 20 07.1 +0.6
KRUC Moravsky 143.79 343 *e*PKP PKPab 23 20 06.3 +0.1
TNR Turnu Rosu 143.83 333 ⇑P **PKPdf 23 20 07.7 -0.6**
ARR Arges 143.89 332 ⇑P **PKPdf 23 20 08.5 +0.1**
ZVC Zvikov 144.00 346 *e*PKP PKPbc 23 20 07.5 +0.2
MODS Modra-Piesok 144.16 342 *e*PKP **PKPdf 23 20 08.9 +0.2**
BTNL Ternell 144.18 355 *d*PKPdf **PKPab 23 20 07.1 -0.6**
BTNL *d*PKiKP **PKiKP 23 20 11.6 -0.8**
LOT Lotru 144.22 333 ⇑P **PKPab 23 20 07.5 -0.6**
SRO Srobarova 144.33 341 *e*PKP **PKPdf 23 20 09.0 0.0**
GRF Grafenberg Arr 144.38 349 *e*PKPbc **PKiKP 23 20 11.0 -1.8**
baz=7.7,slow=2.3
MMAI Mount Meron Ar 144.38 307 PKP **PKPdf 23 20 09.8 +0.1**
comp=Z,7.7nm,0.7s,baz=76,slow=4.7,SNR=12
BCLA Clavier 144.41 356 *d*PKPdf **PKPab 23 20 08.4 -0.1**
KHC Kasperske Hory 144.43 346 *e*PKP **PKPdf 23 20 09.2 0.0**
SIRR Siria 144.44 336 ⇑P **PKPdf 23 20 09.3 0.0**
BORA Eskisehir 144.51 320 PKPbc 23 20 09.2 -0.1
CKRC Cesky Krumlov 144.55 345 *e*PKP **PKPdf 23 20 09.4 0.0**
SURR Surduc 144.57 335 ⇓P PKPbc 23 20 09.5 +0.1
GEC2 GERESS Array S 144.67 346 PKPbc 23 20 09.1 -0.4
GERES GERESS Array B 144.67 346 PKPbc 23 20 09.2 -0.3
GERES GERESS Array B 144.67 346 PKP PKPbc 23 20 09.5 0.0
comp=Z,5.7nm,0.8s,baz=9.5,slow=4.1,SNR=21
GERES SKPbc **SKiKP 23 23 13.8 +0.1**
comp=Z,1.3nm,0.9s,baz=152,slow=6.0,SNR=5.5
GZR Gura Zlata 144.69 334 ⇑P **PKPab 23 20 09.9 +0.1**
DOU Dourbes 144.78 357 *d*PKiKP **PKiKP 23 20 13.7 +0.1**
LODK Lodwar 144.79 254 PKPbc PKPbc 23 20 10.7 -0.2
CONA Conrad Observa 144.97 343 *e*PKP **PKPab 23 20 11.1 +0.3**
comp=Z,14nm,1.1s,SNR=5.2
CONA *i*pPKiKP **pPKPdf 23 21 41.3 +0.3**
comp=Z,8.3nm,1.3s
BZS Buzias 144.99 335 ⇑P **PKPab 23 20 10.9 0.0**
RONA Rosalia, Austr 145.05 343 *i*PKP **PKPab 23 20 11.2 +0.1**
comp=Z,15nm,1.3s,SNR=5.6
RONA *i*pPKiKP **pPKPdf 23 21 41.5 +0.4**
comp=Z,3.8nm,1.0s
WLF Walferdange 145.09 355 *d*PKP **PKPab 23 20 11.2 +0.1**
WLF Walferdange 145.09 355 *e*PKPbc **PKPab 23 20 11.5 +0.3**
baz=7.7,slow=2.3
HERR Herculane 145.25 334 ⇑P **PKPbc 23 20 11.5 +0.3**

MOA Molln 145.46 345 *e*PKP **PKPab 23 20 12.3 -0.3**
comp=Z,13nm,1.1s
MOA *i*pPKP **pPKPdf 23 21 41.7 -0.2**
comp=Z,7.2nm,1.1s
MORH Mrgy, Hungar 145.61 339 ⇑P **PKPdf 23 20 11.6 +0.3**
MDVR Moldovita 145.63 334 ⇑P **PKPdf 23 20 11.6 +0.2**
ARSA Arzberg 145.68 343 *e*PKP **PKPbc 23 20 12.0 -0.5**
comp=Z,8.4nm,1.3s
ARSA *i*pPKP **pPKPdf 23 21 42.4 +0.2**
comp=Z,5.1nm,1.2s
BIOA Bad Ischl, Aus 145.77 345 *i*PKP **PKPbc 23 20 12.9 +0.2**
comp=Z,9.4nm,1.2s
BIOA *i*pPKP **pPKPdf 23 21 42.4 0.0**
comp=Z,6.1nm,1.2s
FUR Furstenfeldbru 145.84 348 *e*PKPbc **PKPbc 23 20 12.8 -0.1**
baz=7.7,slow=2.3
FRGS Fruska Gora 146.09 337 *e*P **PKPbc 23 20 13.7 0.0**
BFO Black Forest 146.17 352 **PKPbc 23 20 13.2 -0.6**
BFO Black Forest 146.17 352 *e*PKPbc **PKPbc 23 20 13.8 -0.1**
baz=7.7,slow=2.3
LESA Schwarzleotal 146.24 346 *i*PKP **PKPdf 23 20 12.4 0.0**
comp=Z,4.1nm,1.2s
LESA *i*pPKP **PKPbc 23 20 14.8 +0.6**
comp=Z,3.0nm,0.4s
LESA *e*pPKiKP pPKPab 23 21 44.4 +0.7
comp=Z,8.4nm,1.0s
SOKA Soboth 146.34 343 *i*PKP **PKPbc 23 20 14.2 -0.3**
comp=Z,10nm,1.0s,SNR=6.2
SOKA *i*pPKP pPKPab 23 21 44.0 -0.2
comp=Z,14nm,1.4s,SNR=5.8
KBA Koelnbreinsper 146.41 345 *i*PKP **PKPbc 23 20 14.5 -0.3**
comp=Z,12nm,1.0s,SNR=5.9
KBA *i*pPKP **pPKPdf 23 21 43.3 -0.3**
comp=Z,7.5nm,1.4s
UBR Ueberruh 146.52 349 *e*PKPbc **PKPbc 23 20 15.7 +0.8**
baz=7.7,slow=2.3
WATA Walderalm 146.57 348 *e*PKP **PKPdf 23 20 12.8 -0.2**
comp=Z,1.6nm,0.4s
WATA *i*PKP **PKPbc 23 20 15.4 +0.2**
comp=Z,13nm,1.0s
WATA *i*pPKiKP pPKPab 23 21 45.0 0.0
comp=Z,6.1nm,0.8s
RETA Reutte 146.59 349 *i*PKP **PKPdf 23 20 13.0 0.0**
comp=Z,1.8nm,0.6s
RETA *i*PKP **PKPbc 23 20 15.6 +0.5**
comp=Z,11nm,0.8s
RETA *i*pPKiKP pPKPbc 23 21 44.7 0.0
comp=Z,14nm,1.1s
WTTA Wattenberg 146.62 347 *i*PKP **PKPdf 23 20 13.4 +0.2**
comp=Z,2.9nm,0.9s,SNR=6.1
WTTA *i*PKP **PKPbc 23 20 15.4 0.0**
comp=Z,20nm,0.9s
WTTA *i*pPKP pPKPbc 23 21 44.5 -0.5
comp=Z,8.3nm,1.2s
OBKA Obir 146.63 344 *i*PKP **PKPbc 23 20 14.7 -0.6**
comp=Z,3.1nm,0.6s
OBKA *i*pPKP pPKPbc 23 21 44.8 0.0
comp=Z,10nm,1.4s
OBKA Obir 146.63 344 *e*P **PKPdf 23 20 13.9 +0.8**
BERGE Lenzkirch (DE) 146.63 352 *e*PKPbc **PKPbc 23 20 14.9 -0.4**
baz=7.7,slow=2.3
BERGE *e*pPKPbc pPKPbc 23 21 44.7 -0.3
MOTA Moosalm 146.66 348 *i*PKP **PKPbc 23 20 15.4 0.0**
comp=Z,18nm,1.0s
MOTA *i*pPKiKP pPKPab 23 21 45.3 0.0
comp=Z,5.9nm,0.6s
SLE Schleitheim 146.70 351 *e*PKPbc **PKPbc 23 20 14.8 -0.6**
baz=7.7,slow=2.3
SLE *e*pPKPbc pPKPbc 23 21 44.6 -0.4
SQTA Sankt Quirin 146.75 348 *i*PKP **PKPdf 23 20 13.4 +0.1**
comp=Z,3.6nm,1.2s
SQTA *i*PKP **PKPbc 23 20 16.2 +0.5**
comp=Z,12nm,0.9s
SQTA *i*pPKiKP pPKPab 23 21 45.7 0.0
comp=Z,11nm,1.2s
MYKA Terra Mystica 146.75 345 *i*PKP **PKPbc 23 20 15.1 -0.5**
comp=Z,13nm,0.9s
MYKA *i*pPKP pPKPbc 23 21 45.1 0.0
comp=Z,14nm,1.1s
METMA Mettma DE 146.78 352 *e*PKPbc **PKPbc 23 20 14.9 -0.7**
baz=7.7,slow=2.3
METMA *e*pPKPbc pPKPbc 23 21 45.1 -0.2
ABTA Abfaltersbach 146.92 346 *e*PKP **PKPdf 23 20 13.7 +0.2**
comp=Z,4.7nm,1.1s,SNR=7.9
ABTA *i*PKP **PKPbc 23 20 16.0 -0.1**
comp=Z,16nm,0.8s
ABTA *i*pPKP pPKPbc 23 21 45.7 -0.1
comp=Z,11nm,1.3s
DAVA Damuels 146.94 350 *i*PKP **PKPdf 23 20 14.1 +0.4**
comp=Z,16nm,1.0s
DAVA *i*PKP **PKPbc 23 20 16.8 +0.6**
comp=Z,16nm,1.0s
DAVA *i*pPKP **pPKPdf 23 21 44.9 +0.4**
comp=Z,16nm,1.2s
WILA Wila 146.98 351 *e*PKPbc **PKPbc 23 20 16.1 -0.1**
baz=7.7,slow=2.3
SULZ Cheisacher 146.98 352 *e*PKPbc **PKPbc 23 20 15.9 -0.3**
baz=7.7,slow=2.3
SULZ *e*pPKPbc pPKPbc 23 21 45.6 -0.3
CRES Cresnjevec Ost 146.99 342 *e*P **PKPdf 23 20 13.5 -0.1**
FETA Feichten 147.04 348 *i*PKP **PKPdf 23 20 14.1 +0.3**
comp=Z,11nm,1.0s
FETA *i*PKP **PKPbc 23 20 17.1 +0.5**
comp=Z,11nm,1.0s
FETA *i*pPKiKP **pPKPbc 23 21 46.3 +0.1**
comp=Z,15nm,1.3s
BALST Balsthal 147.23 352 *e*PKPbc **PKPbc 23 20 17.1 +0.2**
baz=7.7,slow=2.3
BALST *e*pPKPbc **pPKPab 23 21 47.2 -0.1**
PLONS Plons/SG 147.25 350 *e*PKPbc **PKPbc 23 20 17.2 +0.2**
baz=7.7,slow=2.3
PLONS *e*pPKPbc **pPKPab 23 21 47.4 0.0**
A051A Mrakovica 147.26 340 *e*P **PKPbc 23 20 16.5 -0.5**
MBAR Mbarara 147.29 244 PKPbc **PKPbc 23 20 17.6 -0.5**
HAPS Han Pijesak,Bl 147.32 336 *e*P **PKPbc 23 20 17.6 +0.3**
BBLS Lazi&#263i 147.33 336 *e*P **PKPbc 23 20 17.2 -0.1**
BOJS Bojanci 147.34 342 ⇓*i*P **PKPbc 23 20 17.2 +0.1**
CEY Cerknica 147.37 343 ⇓*i*P **PKPbc 23 20 16.4 -0.9**
BLY Banja Luka 147.39 339 *e*P **PKPbc 23 20 17.5 +0.2**
FUORN Ofenpass-Fuorn 147.51 349 **PKPbc 23 20 18.0 +0.1**
RUDO Rudo 147.55 336 *e*P **PKPbc 23 20 16.8 -1.0**
SJES Sjenica 147.59 334 *e*P **PKPdf 23 20 16.2 +1.4**
SKDS Skadanscina 147.66 344 ⇓*i*P **PKPbc 23 20 17.4 -0.6**
CTI Castel Tesino 147.78 347 **PKPbc 23 20 17.8 -0.7**
TUE Stuetta 147.82 350 **PKPbc 23 20 18.7 0.0**
A050A Klekovaca 147.85 340 *e*P **PKPdf 23 20 16.3 +1.1**
UPM Unac-Piva 148.08 336 *e*P **PKPbc 23 20 18.4 -1.0**
SENIN Lac Senin/Sane 148.23 352 **PKPbc 23 20 19.7 -0.1**
BRY Bratogost 148.48 336 *e*P **PKPbc 23 20 19.1 -1.3**
PDG Podgorica 148.58 334 **PKPbc 23 20 20.0 -0.4**
PDG Podgorica 148.58 334 *e*P **PKPbc 23 20 20.0 -0.4**
PDG Podgorica 148.58 334 ⇑P **PKPdf 23 20 16.1 -0.2**
PUK Puka 148.62 333 **PKPbc 23 20 20.2 -0.5**
FNA Florina 148.94 330 **PKPbc 23 20 20.8 -0.7**
CAMP Campotosto 150.59 342 **PKPbc 23 20 24.9 -0.5**
INTR Introdacqua 150.92 341 **PKPbc 23 20 25.6 -0.5**
ESDC Sonseca Array 154.82 10 PKPbc **PKiKP 23 20 33.6 -1.1**
ESDC Sonseca Array 154.82 10 PKP **PKPdf 23 20 26.2 +0.4**
comp=Z,1.3nm,1.1s,baz=272,slow=22,SNR=4.6
DBIC Dimbokro 169.71 142 PKP **PKPdf 23 20 40.7 -0.4**
comp=Z,5.3nm,1.0s,baz=290,slow=2.8,SNR=4.4
DBIC PKPab **PKPab 23 21 56.9 -0.4**
comp=Z,7.4nm,1.1s,baz=175,slow=6.4,SNR=4.5
TORD Torodi Ar. Bea 178.28 185 **PKPdf 23 20 42.8 -1.2**
TORD Torodi Ar. Bea 178.28 185 PKP **PKPdf 23 20 42.9 -1.1**
comp=Z,4.6nm,0.8s,baz=347,slow=2.5,SNR=28
TORD PKPab PKPab 23 22 35.2
comp=Z,2.1nm,0.7s,baz=203,slow=1.3,SNR=10.0

*IDC **09** 23:08:11.8±2.2,21°.63N×143°.18E,h267km±19km,*
mb3.3/15,mbtmp4.0/17,Error ellipse: s-maj=19.0km
s-min=15.3km az=76.0
ISC 09 23:08:09.7±0.7,21°.54N±0°.09×143°.2E±0°.2,h250km,n19,
σ0°.85/24,mb3.5/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.62**	**350**	P		**Pn**		**23 09 34.0**	**+0.9**
	64nm,0.4s,baz=127,slow=20,SNR=5.1								
JCJ				S		**S**		**23 10 40.3**	**+0.6**
	58nm,0.4s,baz=268,slow=23,SNR=1.7								
MJAR	**Matsushiro Arr**	**15.58**	**345**	P		**Pn**		**23 11 36.5**	**-0.3**
	1.2nm,0.4s,baz=160,slow=7.7,SNR=2.4								
MJAR				S		**S**		**23 14 26.5**	**-0.7**
	0.6nm,0.4s,baz=183,slow=20,SNR=2.0								
KSRS	**Korea Array**	**20.67**	**323**	P		**P**		**23 12 32.3**	**+1.5**
	1.3nm,0.6s,baz=152,slow=8.9,SNR=6.8								
	1.3nm,0.6s								
SONM	**Songino Array**	**39.49**	**321**	P		**P**		**23 15 16.4**	**+0.1**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.3								
	0.3nm,0.5s								
CMAR	**Chiang Mai Arr**	**41.63**	**274**	P		**P**		**23 15 34.6**	**+0.6**
	0.4nm,0.3s,baz=81,slow=8.8,SNR=1.9								
	0.4nm,0.3s								
WRA	**Warramunga Arr**	**42.13**	**193**	P		**P**		**23 15 39.4**	**+1.5**
	0.5nm,0.6s,baz=11,slow=8.1,SNR=1.9								
	0.5nm,0.6s								
ASAR	**Alice Springs**	**45.84**	**192**	P		**P**		**23 16 06.9**	**-0.3**
	0.6nm,0.9s,baz=9.4,slow=7.7,SNR=1.7								
	0.6nm,0.9s								
ZALV	**Zalesovo Beam**	**54.37**	**322**	P		**P**		**23 17 10.3**	**-0.4**
	1.1nm,0.6s,baz=90,slow=7.4,SNR=5.3								
ZALV				PcP		**PcP**		**23 18 09.5**	**-1.7**
	0.6nm,0.4s,baz=123,slow=2.7,SNR=3.7								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**54.84**	**313**	P		**P**		**23 17 14.0**	**-0.3**
	0.4nm,0.5s,baz=87,slow=10.0,SNR=7.2								
MKAR				PcP		**PcP**		**23 18 11.9**	**-1.3**
	0.4nm,0.6s,baz=94,slow=4.5,SNR=3.0								
	0.4nm,0.5s								
KURBB	**Kurchatov Arra**	**57.67**	**317**	P		**P**		**23 17 33.6**	**-0.5**
	1.8nm,0.5s,baz=94,slow=7.5,SNR=27								
	1.8nm,0.5s								
ILAR	**Eielson Array**	**62.16**	**27**	P		**P**		**23 18 04.0**	**-0.3**
	0.5nm,0.7s,baz=257,slow=5.4,SNR=9.8								
	0.5nm,0.7s								
BVAR	**Borovoye Array**	**62.82**	**320**	P		**P**		**23 18 08.6**	**-0.3**
	3.5nm,0.4s,baz=97,slow=7.5,SNR=44								
BVAR				PcP		**PcP**		**23 18 44.2**	**-0.7**
	0.6nm,0.5s,baz=114,slow=2.8,SNR=2.3								
	3.5nm,0.4s								
YKA	**Yellowknife Ar**	**76.58**	**28**	P		**P**		**23 19 32.4**	**+0.1**
	0.5nm,0.6s,baz=286,slow=4.9,SNR=4.5								
	0.5nm,0.6s								
ARCES	**ARCESS Array B**	**79.09**	**342**	P		**P**		**23 19 46.0**	**-0.1**
	2.0nm,0.6s,baz=61,slow=6.9,SNR=6.3								
	2.0nm,0.6s								
KBZ	**Khabaz**	**82.51**	**314**	P		**P**		**23 20 04.1**	**-0.5**
	1.7nm,0.9s,baz=349,slow=6.3,SNR=4.2								
	1.7nm,0.9s								
NVAR	**Mina Array Bea**	**83.21**	**51**	P		**P**		**23 20 09.3**	**+0.7**
	0.6nm,0.6s,baz=288,slow=7.4,SNR=2.6								
	0.6nm,0.6s								
FINES	**FINESS Array B**	**83.34**	**335**	P		**P**		**23 20 07.2**	**-1.3**
	2.3nm,0.6s,baz=67,slow=5.0,SNR=8.8								
	2.3nm,0.6s								
PLCA	**Paso Flores**	**145.62**	**132**	PKPbc		**PKPab**		**23 27 20.2**	**+0.3**
	1.1nm,0.6s,baz=198,slow=3.6,SNR=4.6								
LPAZ	**La Paz**	**149.91**	**85**	PKPbc		**PKiKP**		**23 27 32.7**	**-0.1**
	0.6nm,0.6s,baz=284,slow=2.6,SNR=3.9								

IDC 09 23:13:28.3±1.1,50°.24N×115°.25W,h0km,mb2.6/1,
mbtmp3.0/4,ML3.6/3,Error ellipse: s-maj=20.8km
s-min=7.6km az=113.0,British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**2.33**	**213**	Pn		Pn	Pb	23 14 09.8	-1.4
	7.3nm,0.3s,baz=35,slow=13,SNR=11								
NEW				Lg		Lg	Lg	23 14 40.6	
	16nm,0.3s,baz=322,slow=21,SNR=9.6								
	12nm,0.3s								
PDAR	**Pinedale Array**	**8.44**	**150**	Pn		Pn	Pn	23 15 33.2	+1.1
	0.1nm,0.3s,baz=336,slow=15,SNR=2.4								
	0.3nm,0.7s								
YKA	**Yellowknife Ar**	**12.29**	**1**	Pn		Pn	Pn	23 16 21.2	-3.1
	0.6nm,0.3s,baz=185,slow=13,SNR=12								
YKA				Sn		Sn	Sn	23 18 30.9	-11
	0.2nm,0.3s,baz=181,slow=23,SNR=5.9								
YKA				Lg		Lg	Lg	23 19 47.3	
	baz=182,slow=28,SNR=4.7								
	0.5nm,0.3s								
I10CA	**LAC DU BONNET**	**12.31**	**83**	I		I	I	00 28 40.0	
	baz=276,slow=314,SNR=1.6								
TXAR	**Lajitas Array**	**22.65**	**153**	P		P	P	23 18 30.4	-0.6
	0.1nm,0.6s,baz=329,slow=8.7,SNR=2.1								
	0.1nm,0.6s								

*SJA **09** 23:40:53.8±1.3,22°.79S×68°.81W,h120km±13km,ML4.4,*
MW4.1
*GUC **09** 23:40:54.5±0.5,22°.83S×68°.72W,h110km±4km,ML4.6*
*NEIC **09** 23:40:54.6±2.6,22°.83S±0°.04×68°.72W±0°.07,h104km±4km,*
mb4.2/18,Error ellipse: s-maj=9.3km s-min=4.8km
az=66.0
*VAO **09** 23:40:54.8±0.4,22°.83S×68°.73W,h104km,mb4.2*
*IDC **09** 23:40:55.9±0.6,22°.77S×68°.52W,h102km±5km,mb3.7/10,*
mbtmp4.0/14,MS3.5/2,Error ellipse: s-maj=19.6km
s-min=14.2km az=81.0
ISC 09 23:40:54.7±0.5,22°.81S±0°.03×68°.71W±0°.04,h101km±4km,
n110,σ1°.35/130,mb4.2/14,4C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.51**	**106**	Pn		**Pn**		**23 41 11.6**	**+0.6**
AF01				Sn		**Sn**		**23 41 24.0**	**+1.0**
AF01	**San Pedro de A**	**0.51**	**106**	⇑*i*P		**Pn**		**23 41 11.6**	**+0.6**
AF01				*e*S		**Sn**		**23 41 24.1**	**+1.0**
AF01				IAML				23 41 24.4	
	comp=E,38μm,0.4s								
PB09	**IPOC Station P**	**1.13**	**334**			**Pn**		**23 41 17.6**	**+0.8**
PB09				Sn		**Sn**		**23 41 34.2**	**+0.9**
PB09	**IPOC Station P**	**1.13**	**334**	*e*P		**Pn**		**23 41 17.6**	**+0.8**
PB09				*e*S		**Sn**		**23 41 34.8**	**+1.5**
PB09				IAML				23 41 37.5	
	comp=Z,4μm,0.7s								
PB09	**IPOC Station P**	**1.13**	**334**	⇓*i*P		**Pn**		**23 41 17.6**	**+0.8**
PB09				*e*S		**Sn**		**23 41 34.6**	**+1.3**
PB01	**IPOC Station P**	**1.90**	**338**			**Pn**		**23 41 26.6**	**+0.5**
PB01				Sn		**Sn**		**23 41 50.8**	**+0.7**
PB01	**IPOC Station P**	**1.90**	**338**	*e*P		**Pn**		**23 41 26.9**	**+0.8**
PB01				*e*S		**Sn**		**23 41 50.4**	**+0.2**
PB01				IAML				23 41 54.6	
	comp=Z,4μm,0.2s								
PB01	**IPOC Station P**	**1.90**	**338**	⇑*i*P		**Pn**		**23 41 26.7**	**+0.5**
PB01				*e*S		**Sn**		**23 41 51.1**	**+1.0**
PB01				IAML				23 41 54.5	
	comp=E,6μm,0.2s								
PB14	**IPOC Station P**	**2.38**	**220**	Pn		**Pn**		**23 41 32.5**	**-0.1**
PB14				Sn		**Sn**		**23 42 00.9**	**-0.6**
PB14	**IPOC Station P**	**2.38**	**220**	*e*P		**Pn**		**23 41 33.4**	**+0.9**
PB14				*e*S		**Sn**		**23 42 01.7**	**+0.2**
PB14

AP01 *e*S **Sn** **23 42 57.5 +1.4**
AC04 Llanos de Chal 5.78 201 Pn **Pn** **23 42 15.0 -2.9**
LPAZ La Paz 6.51 5 Pn **Pn** **23 42 28.0 -0.6**
LPAZ La Paz 6.51 5 P **Pn** **23 42 30.6 +2.0**
comp=Z,8.0nm,0.4s,baz=184,slow=8.1,SNR=23
LPAZ La Paz 6.51 5 *e*P **Pn** **23 42 29.7 +1.1**
CO01 Juntas del Tor 7.24 190 **Pn** **23 42 36.4 -1.7**
CO05 La Serena 7.43 197 Pn **Pn** **23 42 36.9 -3.5**
GO04 Tololo Observa 7.56 194 Pn **Pn** **23 42 39.0 -3.5**
SIV San Ignacio 9.89 48 P **Pn** **23 43 12.1 -1.9**
comp=Z,11nm,0.5s,baz=272,slow=10,0,SNR=54
SIV S **Sn** **23 44 56.8 -6.5**
comp=Z,6.4nm,0.5s,baz=318,slow=22,SNR=12
MURT Porto Murtinho 10.34 86 *e*P **Pn** **23 43 19.0 -1.1**
CPUP Villa Florida 10.93 111 Pn **Pn** **23 43 28.1 +0.1**
CPUP Villa Florida 10.93 111 P **Pn** **23 43 26.1 -1.9**
comp=Z,1.4nm,0.7s,baz=289,slow=11,SNR=4.6
CPUP Villa Florida 10.93 111 *e*P **Pn** **23 43 28.4 +0.4**
BDQN Bodoquena, MS 11.37 80 *e*P **Pn** **23 43 32.8 -1.2**
PTLB Pontes e Lacer 11.63 53 Pn **Pn** **23 43 36.1 -1.5**
PTLB Pontes e Lacer 11.63 53 *e*P **Pn** **23 43 36.0 -1.5**
BO02 Sierra Bellavi 12.07 188 Pn **Pn** **23 43 43.9 +0.6**
VILB Vilhena 12.71 41 Pn **Pn** **23 43 50.9 -1.0**
VILB Vilhena 12.71 41 *e*P **Pn** **23 43 51.8 -0.1**
BI02 San Fabin de 13.98 189 **Pn** **23 44 06.5 -1.9**
RPRD Ribas do Rio P 14.15 83 *e*P **Pn** **23 44 11.9 +1.4**
CZSB Cruzeiro do Su 15.48 345 P **Pn** **23 44 27.6 0.0**
CZSB Cruzeiro do Su 15.48 345 *e*P **Pn** **23 44 28.3 +0.7**
CPSB Cacapava Do Su 15.60 122 *e*P **Pn** **23 44 29.4 +0.5**
ITAB Concordia 15.65 110 **P** **23 44 31.0 -0.6**
ITAB IAmb IAmb 23 45 03.6
comp=Z,15nm,1.2s
ITAB Concordia 15.65 110 *e*P **Pn** **23 44 29.8 +0.2**
PDRB Porto dos Gac 15.96 48 *e*P **P** **23 44 34.4 -0.7**
PLTB Pedras Altas 16.10 127 **Pn** **23 44 35.0 -0.2**
PLTB IAmb IAmb 23 44 58.4
comp=Z,8.6nm,1.2s
PLTB Pedras Altas 16.10 127 *e*P **P** **23 44 35.7 -0.9**
LDASE Londrina, Braz 16.20 95 *e*P **Pn** **23 44 36.9 +0.4**
TRQA Tornquist 16.25 161 **Pn** **23 44 35.4 -1.6**
TRQA IAmb IAmb 23 45 01.2
comp=Z,17nm,0.8s
CLDB Colider 17.12 48 *e*P **P** **23 44 49.5 +1.5**
CNLB Canela 17.29 116 *e*P **P** **23 44 48.0 -1.8**
ITRB Iturama 17.38 83 *e*P **Pn** **23 44 51.9 +0.9**
ARAG Araguaiana, MT 17.44 69 *e*P **Pn** **23 44 52.8 +1.1**
PLCA Paso Flores 17.93 185 P **Pn** **23 44 57.0 -0.6**
PLCA Paso Flores 17.93 185 P **Pn** **23 44 57.5 0.0**
comp=Z,4.7nm,1.1s,baz=18,slow=10,SNR=4.0
PLCA Paso Flores 17.93 185 *e*P **P** **23 44 55.1 -1.7**
ATAH Atahualpa 18.16 328 LR LR 23 52 54.7
comp=Z,84nm,20.8s,baz=335,slow=39
MAJ01 Sao Joao Batis 18.41 108 *e*P **P** **23 45 01.8 -0.3**
TBTG Tabatinga, AM 18.55 356 **P** **23 45 03.8 +0.1**
BB19B Bebedouro 18.80 89 *e*P **P** **23 45 07.0 +0.6**
TEFE Tefe 19.59 12 *e*P **P** **23 45 14.3 -0.6**
SNDB Serra Nova Dou 19.78 60 *e*P **P** **23 45 16.1 -1.0**
IPMB Ipameri, GO 19.80 80 *e*P **P** **23 45 18.2 +0.9**
VAO Valinhos 20.03 95 P **P** **23 45 18.6 -1.2**
VAO IAmb IAmb 23 45 23.7
comp=Z,10nm,1.1s
VAO Valinhos 20.03 95 *e*P **P** **23 45 20.9 +1.1**
NPGB Novo Progresso 20.27 41 *e*P **P** **23 45 20.7 -1.7**
BDFB Brasilia 20.79 74 P **P** **23 45 26.8 -1.2**
BDFB Brasilia 20.79 74 P **P** **23 45 26.6 -1.5**
comp=Z,1.4nm,0.4s,baz=230,slow=12,SNR=4.0
comp=Z,1.4nm,0.4s
MACA Manacapuru-AM 21.03 23 P **P** **23 45 28.8 -1.7**
MACA Manacapuru-AM 21.03 23 *e*P **P** **23 45 29.4 -1.1**
COHC Cochancay 22.67 332 P **P** **23 45 48.1 +0.4**
SMTB Santa María do 24.55 59 *e*P **P** **23 46 05.0 -0.2**
OTAV Otavalo 24.80 336 P **P** **23 46 06.9 -1.1**
OTAV Otavalo 24.80 336 *e*P **P** **23 46 06.7 -1.2**
MAL2 Monte Alegre, 25.02 36 P **P** **23 46 07.9 -1.6**
MAL2 IAmb IAmb 23 46 46.5
comp=Z,12nm,1.0s
BOAV Boa Vista 26.30 19 P **P** **23 46 20.9 -0.1**
BOAV IAmb IAmb 23 46 23.3
comp=Z,8.5nm,0.9s
BOAV Boa Vista 26.30 19 *e*P **P** **23 46 21.5 +0.5**
RUSC La Rusia 28.85 351 P **P** **23 46 42.8 -1.6**
RUSC IAmb IAmb 23 47 12.0
comp=Z,12nm,1.2s
RCBR Riachuelo 35.86 67 P **P** **23 47 42.9 -2.2**
BELA Belgrano 2 57.43 172 P **P** **23 50 33.0 +0.6**
BELA IAmb IAmb 23 51 01.6
comp=Z,3.1nm,1.1s
SNAA Sanae 60.98 161 P **P** **23 50 57.6 +0.6**
comp=Z,1.9nm,0.8s,baz=228,slow=14,SNR=2.2
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 61.81 325 P **P** **23 51 04.3 +1.1**
comp=Z,0.2nm,0.6s,baz=102,slow=6.9,SNR=2.2
TXAR pP **pP** **23 51 29.9 +1.1**
comp=Z,0.9nm,1.2s,baz=160,slow=7.8,SNR=2.2
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 67.39 180 P **P** **23 51 41.3 +2.3**
comp=Z,1.7nm,0.5s,baz=163,slow=14,SNR=34
QSPA pP **pP** **23 52 06.1 +0.8**
comp=Z,3.4nm,0.5s,baz=240,slow=0.4,SNR=8.2
comp=Z,1.7nm,0.5s
DBIC Dimbokro 68.93 73 P **P** **23 51 49.6 +0.3**
DBIC IAmb IAmb 23 52 26.8
comp=Z,7.0nm,1.3s
DBIC Dimbokro 68.93 73 P **P** **23 51 50.0 +0.6**
comp=Z,1.1nm,0.4s,baz=242,slow=7.0,SNR=2.4
comp=Z,1.1nm,0.4s
PDAR Pinedale Array 75.34 330 P **P** **23 52 28.7 +1.5**
comp=Z,0.2nm,0.5s,baz=141,slow=7.6,SNR=2.2
comp=Z,0.2nm,0.5s
ULM Lac du Bonnet 76.62 342 P **P** **23 52 34.8 +0.8**
comp=Z,1.0nm,0.5s,baz=144,slow=4.9,SNR=5.1
comp=Z,1.0nm,0.5s
TORD Torodi Ar. Bea 77.62 70 P **P** **23 52 40.8 +0.4**
TORD IAmb IAmb 23 52 41.8
comp=Z,2.7nm,0.7s
TORD Torodi Ar. Bea 77.62 70 P **P** **23 52 41.0 +0.6**
comp=Z,2.9nm,0.5s,baz=260,slow=5.2,SNR=46
TORD pP **pP** **23 53 07.7 +0.4**
comp=Z,1.1nm,0.5s,baz=263,slow=4.9,SNR=4.0
comp=Z,2.9nm,0.5s
MDT Midelt 82.45 50 LR LR 00 28 57.0
comp=Z,44nm,19.2s,baz=280,slow=35
BOSA Boshof 82.67 118 P **P** **23 53 07.5 -0.2**
comp=Z,2.9nm,1.0s,baz=260,slow=6.1,SNR=2.6
comp=Z,2.9nm,1.0s
MAW Mawson 83.03 163 P **P** **23 53 09.0 +0.5**
comp=Z,16nm,0.4s,baz=218,slow=12,SNR=1.6
YKA Yellowknife Ar 92.48 341 P **P** **23 53 54.9 +1.1**
comp=Z,1.0nm,0.8s,baz=144,slow=4.5,SNR=18
YKA pP **pP** **23 54 21.7 +0.5**
comp=Z,0.4nm,0.7s,baz=146,slow=4.4,SNR=3.4
YKA sP **sP** **23 54 31.5 -0.7**
comp=Z,0.7nm,0.7s,baz=143,slow=4.6,SNR=6.9
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 142.32 34 PKP **PKPdf** **00 00 14.3 -0.9**
comp=Z,0.1nm,0.4s,baz=274,slow=1.5,SNR=1.8
ZALV Zalesovo Beam 143.05 26 PKP **PKPdf** **00 00 15.0 -1.4**
comp=Z,0.5nm,0.5s,baz=282,slow=2.8,SNR=4.2
MKAR Makanchi Array 146.57 37 PKPbc **PKPbc** **00 00 24.4 0.0**
comp=Z,1.5nm,0.7s,baz=332,slow=2.8,SNR=17
MKAR pKPbc pPKPbc 00 00 52.6 -0.1
comp=Z,0.3nm,0.5s,baz=313,slow=3.0,SNR=3.1
SONM Songino Array 154.73 8 PKPab **PKPab** **00 00 59.6 +0.3**
comp=Z,0.4nm,0.6s,baz=22,slow=1.6,SNR=3.9

WEL 10 00:10:06.2±0.8, 38°S±6°×18°W±°, h12km, M3.4/14, ML3.8/20, MLv3.4/14, Error ellipse: s-maj=7.9km s-min=6.1km az=11.2, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.32 268**		P	Pn	00 10 30.3	-0.2
WMGZ				S	Sg	00 10 49.0	+0.2
MXZ	**Matakaoa Point**	**1.43 278**		P	Pn	00 10 30.9	-1.1
MXZ				S	Sn	00 10 49.5	-1.1
PUZ	**Puketiti**	**1.47 258**		P	Pn	00 10 32.3	-0.3
PUZ				S	Sb	00 10 52.3	+0.1
PKGZ	**Pakihiroa**	**1.59 266**		P	Pn	00 10 33.7	-0.5
CNGZ	**Carnagh Statio**	**1.63 244**		P	Pb	00 10 35.9	-0.4
TWGZ	**Tauwhareparae**	**1.71 256**		P	Pn	00 10 36.1	+0.2
TWGZ				S	Sb	00 10 58.9	-0.1
HAZ	**Te Kaha**	**1.82 270**		P	Pn	00 10 37.3	-0.1
HAZ				S	Sn	00 11 01.1	+0.8
TKGZ	**Te Karaka**	**1.88 249**		P	Pn	00 10 38.4	+0.2
TKGZ				S	Sb	00 11 03.1	-0.8
RUGZ	**Raukumara Rang**	**1.91 264**		P	Pn	00 10 38.4	-0.4
RIGZ	**Rimuhau**	**2.04 243**		P	Pn	00 10 41.0	+0.5
RIGZ				S	Sb	00 11 07.3	-1.4
PRGZ	**Paritu Road**	**2.07 236**		P	Pn	00 10 41.7	+0.9
MWZ	**Matawai**	**2.09 254**		P	Pn	00 10 40.7	-0.4
MWZ				S	Sn	00 11 06.7	-0.4
MHGZ	**Mahia Peninsul**	**2.19 231**		P	Pn	00 10 43.0	+0.6
KNZ	**Kokohu**	**2.26 236**		P	Pn	00 10 43.7	+0.3
KNZ				S	Sn	00 11 12.0	+0.9
URZ	**Urewera**	**2.39 258**		P	Pn	00 10 45.7	+0.5
RTZ	**Ruatahuna**	**2.58 250**		P	Pn	00 10 48.3	+0.4
RTZ				S	Sn	00 11 20.3	+1.1
BKZ	**Black Stump Fm**	**3.14 243**		P	Pn	00 10 55.4	-0.1
BKZ				S	Sn	00 11 32.6	-0.3
PXZ	**Pawanui**	**3.37 227**		P	Pn	00 10 57.7	-0.9
PXZ				S	Sn	00 11 37.8	-0.7
NGZ	**Ngauruhoe**	**3.78 247**		P	Pn	00 11 05.0	+0.5
HIZ	**Hauiti**	**4.18 258**		P	Pn	00 11 10.1	+0.3
MRZ	**Mangatainoka R**	**4.52 229**		P	Pn	00 11 13.2	-1.3
WCZ	**Waipu Caves**	**4.96 290**		P	Pn	00 11 20.0	-0.5
OUZ	**Omahuta**	**5.82 294**		P	Pn	00 11 31.8	-0.5
NNZ	**Nelson**	**6.21 234**		P	Pn	00 11 37.0	-0.7
CTZ	**Chatham Island**	**6.45 158**		P	Pn	00 11 41.5	+0.5
CTZ				S	Sn	00 12 48.5	-5.9
QRZ	**Quartz Range**	**6.60 240**		P	Pn	00 11 41.7	-1.3

*IDC **10** 00:12:15.9±0.9, 9°.90N×126°.64E, h0km, mb3.7/9, mbtmp3.6/9, MS2.8/6, Error ellipse: s-maj=31.7km s-min=14.4km az=91.0*

ISC 10 00:12:17.5±0.9, 9°.78N±0°.09×126°.5E±0°.2, h10km, n22, σ0°57/11, mb3.6/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.84 198**		Pg	**Pg**	**00 13 12.2**	**+0.3**
	27nm,0.3s,baz=198,slow=0.9,SNR=4.8						
DAV				Lg	Lg	00 13 53.4	
	39nm,0.3s,baz=122,slow=24,SNR=1.4						
DAV				LR	LR	00 13 53.7	
	comp=Z,48nm,19.0s,baz=337,slow=33						
KAPI	**Kappang**	**16.16 205**		LR	LR	00 23 33.5	
	comp=Z,34nm,18.8s,baz=18,slow=42						
JOW	**Kunigami**	**17.05 5**		LR	LR	00 21 32.9	
	comp=Z,34nm,21.9s,baz=50,slow=33						
GUMO	**Guam**	**18.39 76**		LR	LR	00 21 36.0	
	comp=Z,66nm,21.9s,baz=88,slow=31						
CMAR	**Chiang Mai Arr**	**28.03 291**		P	**P**	**00 18 09.1**	**0.0**
	0.6nm,0.4s,baz=102,slow=9.5,SNR=1.6						
MJAR	**Matsushiro Arr**	**28.69 20**		LR	LR	00 29 52.3	
	comp=Z,22nm,19.2s,baz=130,slow=37						
WRA	**Warramunga Arr**	**30.53 165**		P	**P**	**00 18 31.3**	**0.0**
	0.4nm,0.7s,baz=341,slow=8.8,SNR=1.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**34.02 168**		P	**P**	**00 19 01.1**	**-0.7**
	0.2nm,0.5s,baz=351,slow=7.4,SNR=5.5						
	0.2nm,0.5s						
ASAJ	**Asahikawa**	**36.95 19**		LR	LR	00 36 36.1	
	comp=Z,31nm,18.1s,baz=190,slow=40						
H11S3	**WAKE ISLAND Hy**	**39.86 73**		T	T	01 02 55.2	
	baz=262,slow=74,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**39.87 73**		T	T	01 02 52.1	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**39.88 73**		T	T	01 02 47.0	
	baz=262,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**40.21 71**		T	T	01 03 19.5	
	baz=264,slow=75,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**40.22 71**		T	T	01 03 15.6	
	baz=264,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**40.23 71**		T	T	01 03 17.2	
	baz=264,slow=75,SNR=9.8						
SONM	**Songino Array**	**41.55 340**		P	**P**	**00 20 06.2**	**+0.8**
	0.3nm,0.4s,baz=159,slow=10.0,SNR=5.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**52.54 323**		P	**P**	**00 21 30.9**	**-0.2**
	0.5nm,0.6s,baz=120,slow=7.2,SNR=11						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**56.59 325**		P	**P**	**00 21 59.6**	**-0.8**
	0.3nm,0.5s,baz=125,slow=7.2,SNR=7.1						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**79.79 26**		P	**P**	**00 24 25.8**	**+0.1**
	0.2nm,0.8s,baz=246,slow=3.9,SNR=4.5						
	0.2nm,0.8s						
ARCES	**ARCESS Array B**	**84.72 340**		P	**P**	**00 24 51.3**	**-0.2**
	1.4nm,0.8s,baz=69,slow=6.9,SNR=6.3						
	1.4nm,0.8s						
FINES	**FINESS Array B**	**86.42 332**		P	**P**	**00 24 59.5**	**-0.6**
	1.4nm,0.6s,baz=80,slow=4.9,SNR=5.4						
	1.4nm,0.6s						
YKA	**Yellowknife Ar**	**94.12 24**		P	**P**	**00 25 36.6**	**+0.4**
	0.2nm,0.5s,baz=299,slow=4.8,SNR=3.7						
	0.2nm,0.5s						

*IDC **10** 00:27:05.9±0.8, 58°.55S×25°.01W, h0km, mb4.1/8, mbtmp4.1/9, ML4.6/1, MS3.7/11, Error ellipse: s-maj=27.2km s-min=20.8km az=48.0*
*NEIC **10** 00:27:07.2±1.3, 58°.7S±0°.1×25°.0W±0°.3, h10km±1km, mb4.4/16, Error ellipse: s-maj=23.6km s-min=18.6km az=236.0*

ISC 10 00:27:09.4±0.5, 58°.68S±0°.09×25°.1W±0°.1, h28km, n63, σ0°83/49, mb4.2/12, MS3.8/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.92 156**		P	**Pn**	**00 30 25.1**	**+0.6**
VNA1	**Neumayer--Stat**	**13.92 156**		⇑P	**Pn**	**00 30 25.1**	**+0.6**
	comp=Z,35nm,0.7s						
VNA3	**Neumayer Olymp**	**14.12 159**		P	**Pn**	**00 30 27.3**	**0.0**
VNA3	**Neumayer Olymp**	**14.12 159**		⇑P	**Pn**	**00 30 27.3**	**0.0**
	comp=Z,13nm,0.6s						
VNA2	**Neumayer--Watz**	**14.32 156**		P	**Pn**	**00 30 29.6**	**-0.3**
	baz=323,slow=16						
VNA2	**Neumayer--Watz**	**14.32 156**		⇑P	**Pn**	**00 30 29.6**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=323,slow=16						
SNAA	**Sanae**	**15.87 154**		P	**Pn**	**00 30 50.9**	**+0.4**
SNAA	**Sanae**	**15.87 154**			**Pn**	**00 30 50.0**	**-0.5**
SNAA	**Sanae**	**15.87 154**		⇑P	**Pn**	**00 30 50.9**	**+0.4**
	comp=Z,156nm,0.4s						
SNAA	**Sanae**	**15.87 154**		Pn	**Pn**	**00 30 50.9**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=323,slow=15,SNR=66						
SNAA				LR	LR	00 36 12.7	
	comp=Z,116nm,19.4s,baz=309,slow=34						
	comp=Z,4.9nm,0.3s						
TROLL	**Troll, Antarti**	**17.38 151**		P	**P**	**00 31 11.4**	**+0.5**
TROLL	**Troll, Antarti**	**17.38 151**		⇑P	**P**	**00 31 11.4**	**+0.5**
	comp=Z,402nm,0.7s						
PMSA	**Palmer Station**	**19.17 235**		LR	LR	00 38 08.4	
	comp=Z,220nm,19.4s,baz=114,slow=34						
BELA	**Belgrano 2**	**19.55 186**		P	**P**	**00 31 32.3**	**-2.1**
USHA	**Ushuaia**	**23.75 260**		LR	LR	00 39 45.5	
	comp=Z,335nm,18.4s,baz=164,slow=32						
TRQA	**Tornquist**	**31.43 295**		P	**P**	**00 33 26.7**	**-1.3**
TRQA				IAmb	IAmb	00 33 37.1	
	comp=Z,9.8nm,1.3s						
QSPA	**South Pole Qui**	**31.56 180**		P	**P**	**00 33 29.7**	**+0.6**
QSPA				IAmb	IAmb	00 33 46.4	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**31.56 180**		P	**P**	**00 33 31.6**	**+2.5**
	comp=Z,1.6nm,0.8s,baz=210,slow=3.2,SNR=8.7						
	comp=Z,1.6nm,0.8s						
PLTB	**Pedras Altas**	**33.10 312**		P	**P**	**00 33 42.7**	**0.0**
PLTB				IAmb	IAmb	00 33 50.1	
	comp=Z,10nm,1.2s						
PLCA	**Paso Flores**	**33.62 282**		P	**P**	**00 33 47.3**	**0.0**
PLCA				IAmb	IAmb	00 34 03.7	
	comp=Z,14nm,1.5s						
PLCA	**Paso Flores**	**33.62 282**		P	**P**	**00 33 48.3**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=146,slow=8.7,SNR=6.0						
PLCA				LR	LR	00 46 29.9	
	comp=Z,96nm,18.8s,baz=174,slow=35						
	comp=Z,3.0nm,0.9s						
CPUP	**Villa Florida**	**39.40 311**		P	**P**	**00 34 36.2**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=55,slow=6.3,SNR=3.8						
	comp=Z,1.1nm,0.3s						
SUR	**Sutherland**	**40.36 70**		LR	LR	00 47 49.2	
	comp=Z,126nm,18.5s,baz=216,slow=31						
VNDA	**Vanda**	**43.98 182**		P	**P**	**00 35 11.7**	**-1.7**
VNDA				IAmb	IAmb	00 35 28.5	
	comp=Z,11nm,1.1s						
H04S2	**CROZET ISLANDS**	**45.50 110**		T	T	01 25 59.6	
	baz=226,slow=75,SNR=3.5						
H04S3	**CROZET ISLANDS**	**45.51 110**		T	T	01 25 59.2	
	baz=226,slow=75,SNR=2.4						
H04S1	**CROZET ISLANDS**	**45.52 110**		T	T	01 25 56.8	
	baz=226,slow=75,SNR=3.2						
BOSA	**Boshof**	**45.63 71**		P	**P**	**00 35 26.1**	**-1.2**
BOSA				IAmb	IAmb	00 35 30.4	
	comp=Z,2.5nm,1.0s						
BOSA	**Boshof**	**45.63 71**		P	**P**	**00 35 27.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=199,slow=10,SNR=3.6						
BOSA				LR	LR	00 50 44.0	
	comp=Z,70nm,19.0s,baz=161,slow=31						
	comp=Z,1.5nm,0.8s						
BDFB	**Brasilia**	**46.21 329**		P	**P**	**00 35 32.1**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=171,slow=5.8,SNR=4.7						
	comp=Z,1.8nm,0.6s						
LBTB	**Lobatse**	**48.79 69**		P	**P**	**00 35 50.6**	**-1.3**
LBTB				IAmb	IAmb	00 35 53.0	
	comp=Z,3.9nm,0.9s						
LBTB	**Lobatse**	**48.79 69**		LR	LR	00 52 48.8	
	comp=Z,112nm,19.7s,baz=218,slow=32						
POGA	**Pongola**	**49.91 77**		P	**P**	**00 35 59.9**	**-0.4**
TSUM	**Tsumeb**	**50.09 57**		LR	LR	00 52 33.1	
	comp=Z,81nm,21.6s,baz=204,slow=31						
H10N1	**ASCENSION HYDR**	**51.37 14**		T	T	01 32 24.9	
	baz=188,SNR=3.5						
H10N3	**ASCENSION HYDR**	**51.37 13**		T	T	01 32 27.7	
	baz=188,slow=74						
H10N2	**ASCENSION HYDR**	**51.39 14**		T	T	01 32 17.8	
	baz=188,slow=74,SNR=6.7						
LPAZ	**La Paz**	**52.81 305**		P	**P**	**00 36 22.8**	**-0.1**
LPAZ	**La Paz**	**52.81 305**		P	**P**	**00 36 23.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=225,slow=4.3,SNR=6.4						
	comp=Z,1.2nm,0.5s						
LSZ	**Lusaka**	**58.36 65**		LR	LR	00 59 08.8	
	comp=Z,162nm,19.0s,baz=172,slow=33						
MAL2	**Monte Alegre,**	**60.92 326**		P	**P**	**00 37 19.7**	**+0.1**
ATAH	**Atahualpa**	**65.48 299**		LR	LR	01 04 26.9	
	comp=Z,27nm,21.6s,baz=248,slow=34						
BOAV	**Boa Vista**	**67.05 321**		P	**P**	**00 37 58.2**	**-1.7**
DBIC	**Dimbokro**	**67.14 22**		P	**P**	**00 38 01.2**	**+0.8**
COHC	**Cochancay**	**70.00 300**		P	**P**	**00 38 19.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**74.84 27**		P	**P**	**00 38 46.6**	**-0.5**
TORD				IAmb	IAmb	00 39 00.6	
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.84 27**		P	**P**	**00 38 47.5**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=196,slow=4.9,SNR=17						
	comp=Z,0.5nm,0.4s						
MDT	**Midelt**	**92.75 17**		LR	LR	01 15 57.5	
	comp=Z,46nm,18.4s,baz=231,slow=32						
ASAR	**Alice Springs**	**96.13 161**		P	**P**	**00 40 35.2**	**+0.7**
	comp=Z,1.2nm,1.2s,baz=193,slow=3.8,SNR=2.3						
	comp=Z,1.2nm,1.2s						
YKA	**Yellowknife Ar**	**138.86 315**		PKP	**PKiKP**	**00 46 33.3**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=142,slow=2.4,SNR=12						
MMPY	**Sheldon Lake,**	**145.42 309**		PKPdf	**PKPab**	**00 46 43.9**	**+0.4**
A36M	**Sachs Harbour**	**147.04 326**		PKPdf	**PKPbc**	**00 46 47.6**	**0.0**
SONM	**Songino Array**	**149.69 89**		PKPbc	**PKPbc**	**00 46 55.7**	**+0.2**
SONM	**Songino Array**	**149.69 89**		PKPbc	**PKPbc**	**00 46 54.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=218,slow=2.0,SNR=1.8						
G29M	**Pine Creek**	**149.75 314**		PKPbc	**PKPbc**	**00 46 55.2**	**+0.3**
HIN	**Hinchinbrook I**	**151.08 299**			**PKPbc**	**00 46 58.5**	**+0.2**
SCM	**Sheep Creek Mo**	**151.98 301**		PKPbc	**PKiKP**	**00 47 00.9**	**+0.2**
SML	**Sawmill**	**152.42 301**		PKPbc	**PKiKP**	**00 47 01.9**	**+0.3**
ILAR	**Eielson Array**	**152.67 307**		PKPbc	**PKiKP**	**00 47 02.1**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=111,slow=2.5,SNR=55						
BRLK	**Bradley Lake**	**152.88 296**		PKPbc	**PKiKP**	**00 47 03.6**	**+1.0**
WRH	**Wood River Hil**	**153.09 307**		PKPbc	**PKiKP**	**00 47 03.3**	**+0.6**
H24K	**Noodor Dome**	**153.32 310**		PKPbc	**PKiKP**	**00 47 03.8**	**+0.5**
G24K	**Hadweenzic Riv**	**153.33 312**		PKPbc	**PKiKP**	**00 47 04.0**	**+0.8**

IDC 10 00:29:22.2±1.5, 9°.50N×125°.84E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=155.9km s-min=23.7km az=70.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.43 164**		P	P	00 35 36.1	-0.5
	0.3nm,0.7s,baz=344,slow=9.1,SNR=1.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.90 167**		P	P	00 36 07.3	+0.3
	0.2nm,0.8s,baz=346,slow=9.2,SNR=1.3						
	0.2nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.55 73**		T	T	01 20 06.2	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**40.57 73**		T	T	01 20 02.6	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**40.57 73**		T	T	01 19 59.4	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.91 71**		T	T	01 20 24.7	
	baz=265,slow=75,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**40.91 71**		T	T	01 20 20.3	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.92 71**		T	T	01 20 24.7	
	baz=265,slow=75,SNR=3.9						
SONM	**Songino Array**	**41.59 340**		P	P	00 37 11.5	-0.5
	0.3nm,0.7s,baz=131,slow=8.3,SNR=2.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**52.38 323**		P	P	00 38 36.2	0.0
	0.2nm,0.6s,baz=111,slow=8.7,SNR=3.6						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**84.76 340**		P	P	00 41 58.4	+0.3
	1.5nm,0.9s,baz=76,slow=5.8,SNR=4.3						
	1.5nm,0.9s						

*IDC **10** 00:37:06.9±0.7, 9°.89N×126°.40E, h0km, mb4.0/13, mbtmp4.0/13, MS2.7/3, Error ellipse: s-maj=33.2km s-min=12.4km az=84.0*
*NEIC **10** 00:37:08.5±1.0, 9°.85N±0°.08×126°.3E±0°.3, h10km±1km, mb4.3/11, Error ellipse: s-maj=43.

NWAO Narrogin (SRO) 43.34 191 P P 00 45 11.7 +1.1
NWAO IAmb IAmb 00 45 13.9
comp=Z,11nm,0.7s
BBOO Buckleboo 43.38 168 P P 00 45 11.6 +0.6
MK31 Makanchi Array 52.41 323 P P 00 46 20.9 0.0
MK31 IAmb IAmb 00 46 22.0
comp=Z,0.8nm,0.8s
MKAR Makanchi Array 52.41 323 P P 00 46 21.1 +0.3
MKAR Makanchi Array 52.41 323 P P 00 46 21.6 +0.7
comp=Z,0.9nm,0.6s,baz=119,slow=7.8,SNR=15
MKAR PcP **PcP 00 47 32.1 +0.4**
comp=Z,0.4nm,0.7s,baz=133,slow=4.2,SNR=2.2
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 55.05 331 P P 00 46 39.9 -0.1
comp=Z,0.3nm,0.3s,baz=128,slow=7.7,SNR=2.3
comp=Z,0.3nm,0.3s
KURK Kurchatov 56.46 326 P P 00 46 49.7 -0.6
KURK IAmb IAmb 00 46 51.7
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 56.47 326 P P 00 46 50.2 -0.1
comp=Z,0.5nm,0.5s,baz=123,slow=6.9,SNR=6.2
comp=Z,0.5nm,0.5s
F24K Squaw Lake 79.44 23 P P 00 49 14.2 -0.4
F24K IAmb IAmb 00 49 34.2
comp=Z,3.2nm,1.2s
BMAR Burnt Mountain 80.72 23 P P 00 49 20.9 -0.6
SPITS Spitsbergen Ar 84.49 349 P P 00 49 41.1 +0.1
comp=Z,4.0nm,0.9s,baz=88,slow=8.8,SNR=5.1
ARCES ARCESS Array B 84.64 340 P P 00 49 42.9 +1.1
comp=Z,1.6nm,0.8s,baz=76,slow=4.9,SNR=9.0
comp=Z,1.6nm,0.8s
FIA1 FINESS Array S 86.31 332 P P 00 49 49.7 -0.6
FINES FINESS Array B 86.31 332 P P 00 49 49.9 -0.4
FINES FINESS Array B 86.31 332 P P 00 49 50.0 -0.2
comp=Z,4.3nm,0.9s,baz=79,slow=6.1,SNR=8.4
comp=Z,4.3nm,0.9s
HFS Hagfors 92.47 332 P P 00 50 18.9 -0.5
comp=Z,4.2nm,0.9s,baz=82,slow=4.3,SNR=4.2
comp=Z,4.2nm,0.9s
NOA NORSAR Array B 93.19 334 P P 00 50 22.0 -0.7
comp=Z,0.5nm,0.8s,baz=52,slow=5.8,SNR=1.2
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 94.20 24 P P 00 50 27.7 +0.4
comp=Z,0.4nm,0.6s,baz=296,slow=4.7,SNR=6.8
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 118.15 49 PKP PKPdf 00 55 55.8 -0.7
comp=Z,0.4nm,0.9s,baz=310,slow=1.4,SNR=2.0
TORD Torodi Ar. Bea 120.44 292 PKP PKPdf 00 55 59.8 -1.3
comp=Z,0.6nm,1.1s,baz=63,slow=0.6,SNR=1.9

*IDC **10** 00:42:29.9±2.2,21°.04S×177°.95W,h482km±21km,mb3.2/8, mbtmp4.0/10,Error ellipse: s-maj=26.7km s-min=17.5km az=111.0*
ISC 10 00:42:31.0±0.7,21°.05S±0°.1×178°.0W±0°.2,h495km,n21, σ0s75/21,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.94**	**310**	P	**P**	**00 43 56.9**	**-0.4**
	3.8nm,0.3s,baz=184,slow=21,SNR=5.4						
URZ	**Urewera**	**17.71**	**193**	P	**P**	**00 46 07.6**	**-1.2**
	10nm,0.9s,baz=337,slow=4.1,SNR=9.3						
URZ				S	**S**	**00 49 08.5**	**+1.7**
	8.6nm,0.9s,baz=198,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**44.40**	**257**	P	**P**	**00 49 57.1**	**-0.1**
	1.0nm,0.9s,baz=84,slow=8.0,SNR=5.7						
ASAR				PcP	**PcP**	**00 51 30.7**	**+0.1**
	0.8nm,0.8s,baz=108,slow=4.7,SNR=5.1						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**44.52**	**263**	P	**P**	**00 49 57.1**	**-1.1**
	0.6nm,0.6s,baz=97,slow=7.6,SNR=4.7						
WRA				PcP	**PcP**	**00 51 31.7**	**+0.6**
	0.4nm,0.8s,baz=98,slow=3.5,SNR=1.5						
	0.6nm,0.6s						
ASAJ	**Asahikawa**	**74.16**	**332**	P	**P**	**00 53 17.6**	**+1.3**
	2.7nm,0.7s,baz=154,slow=28,SNR=1.4						
	2.7nm,0.7s						
TXAR	**Lajitas Array**	**87.33**	**57**	P	**P**	**00 54 25.2**	**0.0**
	0.3nm,0.7s,baz=243,slow=8.3,SNR=3.8						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**88.80**	**13**	P	**P**	**00 54 30.5**	**-0.6**
	0.4nm,0.3s,baz=216,slow=5.2,SNR=13						
	0.4nm,0.3s						
PDAR	**Pinedale Array**	**89.33**	**43**	P	**P**	**00 54 34.5**	**+0.1**
	0.3nm,0.6s,baz=236,slow=4.7,SNR=3.5						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.27**	**290**	P	**P**	**00 54 39.5**	**+0.6**
	1.0nm,0.6s,baz=127,slow=2.7,SNR=8.1						
	1.0nm,0.6s						
SONM	**Songino Array**	**96.12**	**319**	P	**P**	**00 55 05.9**	**+0.7**
	0.3nm,0.5s,baz=116,slow=3.4,SNR=3.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**111.53**	**313**	PKiKP	**PKiKP**	**01 00 08.0**	**-0.7**
	0.1nm,0.4s,baz=136,slow=2.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**114.40**	**317**	PKP	PKPdf	01 00 12.7	-1.2
	0.2nm,0.4s,baz=87,slow=2.4,SNR=4.2						
BVAR	**Borovoye Array**	**119.45**	**320**	PKP	**PKPdf**	**01 00 23.4**	**-0.2**
	0.9nm,0.4s,baz=97,slow=3.3,SNR=9.5						
SPITS	**Spitsbergen Ar**	**122.36**	**357**	PKP	**PKPdf**	**01 00 28.6**	**0.0**
	6.1nm,1.0s,baz=5.7,slow=2.9,SNR=1.1						
ARCES	**ARCESS Array B**	**129.41**	**350**	PKP	**PKPdf**	**01 00 41.8**	**-0.4**
	2.0nm,0.9s,baz=0.0,slow=2.4,SNR=7.8						
FINES	**FINESS Array B**	**136.24**	**344**	PKP	**PKPdf**	**01 00 55.3**	**+0.1**
	2.1nm,0.9s,baz=53,slow=1.7,SNR=3.7						
HFS	**Hagfors**	**140.03**	**351**	PKhKP	PKPpre	01 00 56.0	
	0.6nm,0.4s,baz=29,slow=3.3,SNR=7.1						
AKASG	**Malin Array Be**	**143.44**	**331**	PKhKP	PKPpre	01 01 06.2	
	5.5nm,0.5s,baz=44,slow=4.3,SNR=58						
BRTR	**Keskin Array B**	**147.16**	**312**	PKPbc	**PKPbc**	**01 01 18.1**	**-0.4**
	1.4nm,0.6s,baz=67,slow=3.1,SNR=12						
MMAI	**Mount Meron Ar**	**148.05**	**299**	PKPbc	**PKiKP**	**01 01 22.0**	**-0.3**
	1.1nm,0.3s,baz=86,slow=2.6,SNR=14						
GERES	**GERESS Array B**	**150.67**	**344**	PKPbc	**PKPbc**	**01 01 26.9**	**+0.1**
	0.4nm,0.4s,baz=45,slow=1.5,SNR=2.8						

*RSNC **10** 00:48:45.2±0.4,7°.N±2°.×7°.2W±°.,h0km±3km,M3.2,mb3.5, mB5.0,ML2.8,Mw(mB)4.3*
*FUNV **10** 00:48:46.7,7°.15N×71°.84W,h4km,MW3.7*
ISC 10 00:48:45.9±0.8,7°.13N±0°.04×71°.79W±0°.04,h16km,n43, σ1s60/50,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAMC	**Tame, Arauca**	**0.69**	**181**	P	**Pg**	**00 48 59.6**	**+0.2**
TAMC				S	**Sg**	**00 49 09.2**	**+0.7**
TAMC	**Tame, Arauca**	**0.69**	**181**	P		00 48 59.6	
TAMC				S		00 49 09.2	
CAPV	**Capacho**	**0.90**	**325**	*e*P	**Pb**	**00 49 02.8**	**-0.6**
CAPV				*e*S	**Sb**	**00 49 15.4**	**+0.1**
PAMC	**Pamplona, Colo**	**0.93**	**283**	P	**Pb**	**00 49 02.0**	**-2.0**
PAMC	**Pamplona, Colo**	**0.93**	**283**	P		00 49 02.0	
SOCV	**Socops**	**1.47**	**39**	*e*P	**Pn**	**00 49 13.9**	**+2.0**
SOCV				*e*S	**Sb**	**00 49 34.2**	**+2.6**
BARC	**Barichara**	**1.48**	**249**	P	**Pn**	**00 49 12.2**	**0.0**
BARC	**Barichara**	**1.48**	**249**	P		00 49 12.2	
RUSC	**La Rusia**	**1.78**	**227**	P	**Pn**	**00 49 17.1**	**+0.6**
RUSC	**La Rusia**	**1.78**	**227**	P		00 49 17.1	
OCAC	**Ocana**	**1.88**	**306**	P	**Pn**	**00 49 18.6**	**+1.0**
OCAC	**Ocana**	**1.88**	**306**	P		00 49 18.6	
BRJC	**Barrancabermej**	**1.95**	**266**	P	**Pn**	**00 49 19.2**	**+0.8**
BRJC	**Barrancabermej**	**1.95**	**266**	P		00 49 19.2	
SDV	**Santo Domingo**	**2.09**	**33**	P	**Pn**	**00 49 22.0**	**+1.5**
SDV	**Santo Domingo**	**2.09**	**33**	P		00 49 22.0	
SPBC	**San Pablo de B**	**2.70**	**237**	P	**Pn**	**00 49 30.7**	**+1.8**
SPBC	**San Pablo de B**	**2.70**	**237**	P		00 49 30.7	
PTBC	**PUERTO BERRIO,**	**2.72**	**258**	P	**Pn**	**00 49 29.7**	**+0.7**
PTBC	**PUERTO BERRIO,**	**2.72**	**258**	P		00 49 29.7	
MCQV	**Machiques**	**3.00**	**346**	*e*P	**Pn**	**00 49 33.6**	**+0.7**
ZARC	**Zaragoza, Cauc**	**3.07**	**277**	P	**Pn**	**00 49 33.7**	**-0.1**
ZARC	**Zaragoza, Cauc**	**3.07**	**277**	P		00 49 33.7	
CHIC	**Chingaza**	**3.15**	**218**	P	**Pn**	**00 49 36.0**	**+0.7**
CHIC	**Chingaza**	**3.15**	**218**	P		00 49 36.0	
ROSC	**El Rosal**	**3.39**	**228**	P	**Pn**	**00 49 42.1**	**+3.5**
ROSC	**El Rosal**	**3.39**	**228**	P		00 49 42.1	
NORC	**Norcasia**	**3.44**	**243**	P	**Pn**	**00 49 40.1**	**+1.2**
NORC	**Norcasia**	**3.44**	**243**	P		00 49 40.1	
VILC	**Villavicencio,**	**3.54**	**212**	P	**Pn**	**00 49 41.1**	**+0.6**
VILC	**Villavicencio,**	**3.54**	**212**	P		00 49 41.1	
ARGC	**Ariguani, Magd**	**3.65**	**318**	P	**Pn**	**00 49 42.5**	**+0.7**
ARGC	**Ariguani, Magd**	**3.65**	**318**	P		00 49 42.5	
UREC	**San Jos de Ur**	**3.77**	**280**	P	**Pn**	**00 49 44.6**	**+1.1**
UREC	**San Jos de Ur**	**3.77**	**280**	P		00 49 44.6	
TEPV	**Terepaima**	**3.81**	**42**	*e*P	**Pn**	**00 49 45.2**	**+1.1**
TEPV				*e*S	**Sn**	**00 50 29.3**	**+0.7**
CRJC	**Cerrejon, Guaj**	**4.02**	**344**	P	**Pn**	**00 49 46.5**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.02**	**344**	P		00 49 46.5	
GUY2C	**Guyana, Caldas**	**4.03**	**242**	P	**Pn**	**00 49 48.9**	**+1.4**
GUY2C	**Guyana, Caldas**	**4.03**	**242**	P		00 49 48.9	
BAUV	**El Baul**	**4.12**	**64**	*e*P	**Pn**	**00 49 48.9**	**+0.5**
BAUV				*e*S	**Sn**	**00 50 35.7**	**-0.6**
NIZA	**Niza - Manizal**	**4.20**	**241**	P	**Pn**	**00 49 49.5**	**-0.2**
NIZA	**Niza - Manizal**	**4.20**	**241**	P		00 49 49.5	
CMAN1	**Manizales, Cal**	**4.24**	**241**	P	**Pn**	**00 49 49.8**	**-0.4**
CMAN1	**Manizales, Cal**	**4.24**	**241**	P		00 49 49.8	
SJCC	**San Jacinto, C**	**4.34**	**310**	P	**Pn**	**00 49 52.4**	**+1.0**
SJCC	**San Jacinto, C**	**4.34**	**310**	P		00 49 52.4	
DBBC	**Dabeiba**	**4.39**	**269**	P	**Pn**	**00 49 54.4**	**+2.3**
DBBC	**Dabeiba**	**4.39**	**269**	P		00 49 54.4	
URIC	**Uribia, Colomb**	**4.55**	**357**	P	**Pn**	**00 49 52.7**	**-1.5**
URIC	**Uribia, Colomb**	**4.55**	**357**	P		00 49 52.7	
PRAC	**Prado**	**4.58**	**222**	P	**Pn**	**00 49 55.5**	**+0.8**
PRAC	**Prado**	**4.58**	**222**	P		00 49 55.5	
GUVC	**San Jose del G**	**4.63**	**190**	P	**Pn**	**00 49 58.1**	**+2.8**
GUVC	**San Jose del G**	**4.63**	**190**	P		00 49 58.1	
URMC	**La Uribe, Meta**	**4.64**	**214**	P	**Pn**	**00 49 56.8**	**+1.3**
URMC	**La Uribe, Meta**	**4.64**	**214**	P		00 49 56.8	
ORTC	**Ortega, Tolima**	**4.70**	**227**	P	**Pn**	**00 49 57.4**	**+1.1**
ORTC	**Ortega, Tolima**	**4.70**	**227**	P		00 49 57.4	
APAC	**Apartado, Choc**	**4.82**	**280**	P	**Pn**	**00 49 58.9**	**+1.0**
APAC	**Apartado, Choc**	**4.82**	**280**	P		00 49 58.9	
PLMC	**San Jos del P**	**4.99**	**244**	P	**Pn**	**00 50 02.5**	**+2.2**
	4.0nm,0.5s						
PLMC	**San Jos del P**	**4.99**	**244**	P		00 50 02.5	
	4.0nm,0.5s						
BENV	**Beln**	**5.01**	**55**	*e*P	**Pn**	**00 50 02.1**	**+1.6**
BENV				*e*S	**Sn**	**00 50 56.4**	**-1.8**
CACV	**CAICARA DEL OR**	**5.22**	**85**	*e*P	Pn	00 50 11.5	+8.0
CACV				*e*S	**Sb**	**00 51 15.0**	**-4.4**
MACC	**Macarena, Meta**	**5.36**	**203**	P	**Pn**	**00 50 04.4**	**-0.9**
MACC	**Macarena, Meta**	**5.36**	**203**	P		00 50 04.4	
YOTC	**Yotoco, Valle**	**5.51**	**236**	P	**Pn**	**00 50 08.6**	**+1.1**
	2.6nm,1.0s						
YOTC	**Yotoco, Valle**	**5.51**	**236**	P		00 50 08.6	
	2.6nm,1.0s						
TACV	**Tcata**	**5.58**	**57**	*e*P	**Pn**	**00 50 09.7**	**+1.3**
TACV				*e*S	**Sn**	**00 51 09.9**	**-2.3**
FUNV	**FUNVISIS**	**5.93**	**56**	*e*P	**Pn**	**00 50 14.5**	**+1.2**
GARC	**Garzon, Huila**	**6.14**	**217**	P	**Pn**	**00 50 17.4**	**+1.1**
GARC	**Garzon, Huila**	**6.14**	**217**	P		00 50 17.4	
FLOC	**Florencia**	**6.72**	**215**	P	**Pn**	**00 50 27.3**	**+3.2**
FLOC	**Florencia**	**6.72**	**215**	P		00 50 27.3	
PCRV	**Puerto La Cruz**	**7.69**	**66**	*e*P	**Pn**	**00 50 38.9**	**+1.5**

*IDC **10** 00:52:33.6±0.9,9°.85N×126°.23E,h0km,mb3.7/8, mbtmp3.7/8,Error ellipse: s-maj=81.5km s-min=19.0km az=69.0*
ISC 10 00:52:35.1±0.9,9°.8N±0°.2×126°.2E±0°.5,h10km,n14, σ0s38/9,mb3.7/8,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.66**	**165**	P	**P**	**00 58 50.1**	**+0.1**
	0.2nm,0.7s,baz=349,slow=9.0,SNR=7.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**34.14**	**167**	P	**P**	**00 59 20.9**	**+0.3**
	0.2nm,0.4s,baz=345,slow=7.9,SNR=6.1						
ASAR				PcP	**PcP**	**01 01 57.3**	**-0.6**
	0.6nm,1.0s,baz=343,slow=4.0,SNR=3.0						
	0.2nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.12**	**73**	T	T	01 43 04.9	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**40.13**	**73**	T	T	01 43 09.0	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**40.13**	**73**	T	T	01 43 13.0	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	01 43 29.5	
	baz=265,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	01 43 30.9	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.48**	**71**	T	T	01 43 31.7	
	baz=265,slow=74						
SONM	**Songino Array**	**41.40**	**340**	P	**P**	**01 00 22.0**	**+0.2**
	0.2nm,0.4s,baz=144,slow=8.1,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**52.33**	**323**	P	**P**	**01 01 47.5**	**+0.3**
	0.7nm,0.6s,baz=118,slow=8.1,SNR=13						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**56.39**	**326**	P	**P**	**01 02 16.6**	**0.0**
	0.4nm,0.6s,baz=125,slow=6.7,SNR=8.1						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**84.58**	**340**	P	**P**	**01 05 08.3**	**-0.1**
	1.4nm,0.8s,baz=99,slow=5.8,SNR=4.3						
	1.4nm,0.8s						
FINES	**FINESS Array B**	**86.24**	**332**	P	**P**	**01 05 16.3**	**-0.5**
	1.2nm,0.6s,baz=49,slow=5.6,SNR=6.2						
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**94.18**	**24**	P	**P**	**01 05 54.2**	**+0.1**
	0.4nm,0.7s,baz=297,slow=4.6,SNR=6.2						
	0.4nm,0.7s						

*NIED **10** 00:54:21.7,40°.36N×142°.08E,h51km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.25; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-3.43; $M_{r\theta}$3.03; $M_{\theta\phi}$-0.72; $M_{r\phi}$1.51; Fault plane solution: $M_0$4.74000×10^14^ NP1: ϕ_s170.00000°,δ34.00000°,λ44.00000°. NP2:ϕ_s41.00000°, δ68.00000°,λ116.00000°.*
*JMA **10** 00:54:21.7±0.1,40°.4N±0°.3×142°.1E±0°.6,h51km,MV3.7/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*NEIC **10** 00:54:23.1±0.9,40°.41N±0°.05×141°.90E±0°.06,h61km±9km, mb4.1/4,Error ellipse: s-maj=7.8km s-min=6.6km az=167.0*
*IDC **10** 00:54:23.9±3.2,40°.45N×142°.11E,h75km±17km,mb3.6/10, mbtmp3.8/14,MS3.4/2,Error ellipse: s-maj=46.4km s-min=15.8km az=117.0*
ISC 10 00:54:22.0±0.9,40°.38N±0°.03×141°.99E±0°.06,h53km±7km, n47,σ1s20/55,mb4.0/12,8D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.28**	**232**	*i* P	**Pn**	**00 54 31.1**	**-0.1**
JKEN				*e*S	**Sn**	**00 54 37.6**	**-0.2**
JANG	**Nango**	**0.36**	**270**	⇓P	**Pn**	**00 54 32.2**	**+0.1**
JANG				⇓S	**Sn**	**00 54 39.3**	**0.0**
JTH	**Tanohata**	**0.45**	**193**	P	**Pn**	**00 54 32.4**	**-0.5**
JTH				S	**Sn**	**00 54 39.8**	**-1.0**
JKZ	**Kuzumaki**	**0.64**	**233**	⇓*i*P	**Pn**	**00 54 35.6**	**+0.3**
JKZ				⇓S	**Sn**	**00 54 45.2**	**+0.4**
JARK	**Aomorirokkasho**	**0.79**	**323**	⇓*i*P	**Pn**	**00 54 36.9**	**-0.2**
JARK				⇓S	**Sn**	**00 54 47.7**	**-0.4**
JTM	**Tenmabayashi**	**0.82**	**301**	P	**Pn**	**00 54 37.5**	**+0.1**
JTM				Sn	**Sn**	**00 54 48.3**	**-0.4**
JTM	**Tenmabayashi**	**0.82**	**301**	⇓*i*P	**Pn**	**00 54 37.5**	**+0.1**
JTM				⇓*e*S	**Sn**	**00 54 48.8**	**+0.1**
JOM	**Ohasama**	**1.05**	**211**	*i* P	**Pn**	**00 54 40.7**	**+0.2**
JOM				S	**Sn**	**00 54 54.6**	**+0.5**
JAH	**Hinai**	**1.05**	**260**	*i* P	**Pn**	**00 54 41.2**	**+0.6**
JAH				S	**Sn**	**00 54 55.4**	**+1.1**
JOT	**Ohata**	**1.23**	**325**	*i* P	**Pn**	**00 54 42.9**	**-0.1**
JOT				*e*S	**Sn**	**00 54 58.3**	**-0.3**
JRG	**Rokugo**	**1.43**	**227**	*i* P	**Pn**	**00 54 46.6**	**+0.9**
JRG				*e*S	**Sn**	**00 55 04.6**	**+1.2**
JMK	**Ichinoseki**	**1.54**	**203**	P	**Pn**	**00 54 47.2**	**+0.1**
ERM	**Erimo**	**1.86**	**28**	P	**Pn**	**00 54 52.3**	**+0.9**
ERM				Sn	**Sn**	**00 55 15.4**	**+1.6**
JMM	**Marumori**	**2.67**	**201**	P	**Pn**	**00 55 03.6**	**+1.0**
JMM				Sn	**Sn**	**00 55 34.3**	**+0.5**
JSD	**Sado**	**3.72**	**232**	Pn	**Pn**	**00 55 14.8**	**-2.1**
ASAJ	**Asahikawa**	**3.77**	**7**	P	**Pn**	**00 55 18.4**	**+0.8**
	13nm,0.3s,baz=225,slow=10.0,SNR=41						
ASAJ				S	**Sn**	**00 56 01.1**	**+0.6**
	9.1nm,0.4s,baz=106,slow=32,SNR=5.5						
JKA	**Kamikawa-asahi**	**3.77**	**7**		**Pn**	**00 55 18.2**	**+0.7**
MJB9	**Matsu-Tunnel**	**4.84**	**219**	Pn	**Pn**	**00 55 35.5**	**+3.1**
MAJO	**Matsushiro**	**4.84**	**219**	Pn	**Pn**	**00 55 34.1**	**+1.7**
MJAR	**Matsushiro Arr**	**4.84**	**219**	P	**Pn**	**00 55 35.5**	**+3.1**
	3.0nm,0.5s,baz=43,slow=16,SNR=11						
JGF	**Kuroka**	**6.01**	**219**	Pn	**Pn**	**00 55 50.2**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.34**	**301**	P	**Pn**	**00 56 23.4**	**+3.1**
	3.9nm,0.7s,baz=112,slow=14,SNR=5.4						
USRK				LR	LR	00 59 31.0	
	comp=Z,45nm,18.1s,baz=71,slow=37						
KSRS	**Korea Array**	**11.34**	**260**	P	**Pn**	**00 57 04.9**	**+3.6**
	0.3nm,0.3s,baz=64,slow=14,SNR=1.1						
SONM	**Songino Array**	**26.45**	**298**	P	**P**	**00 59 53.7**	**-0.3**
	0.2nm,0.4s,baz=89,slow=8.8,SNR=2.8						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.62**	**127**	T	T	01 31 13.4	
	baz=318,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**29.63**	**127**	T	T	01 31 14.1	
	baz=318,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**29.64**	**127**	T	T	01 31 16.7	
	baz=318,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**30.44**	**128**	T	T	01 32 44.8	
	baz=321,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.44**	**129**	T	T	01 32 51.7	
	baz=321,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**30.45**	**128**	T	T	01 32 40.7	
	baz=321,slow=76,SNR=13						
ZALV	**Zalesovo Beam**	**40.07**	**309**	P	**P**	**01 01 51.6**	**-0.2**
	1.2nm,0.5s,baz=99,slow=8.9,SNR=1.4						
ZALV				PcP	**PcP**	**01 03 55.2**	**-0.4**
	0.3nm,0.4s,baz=129,slow=3.9,SNR=2.3						
	1.2nm,0.5s						
MK31	**Makanchi Array**	**42.81**	**299**	P	**P**	**01 02 13.8**	**-0.6**
MKAR	**Makanchi Array**	**42.81**	**299**	P	**P**	**01 02 13.2**	**-1.2**
MKAR	**Makanchi Array**	**42.81**	**299**	P	**P**	**01 02 14.3**	**-0.1**
	0.7nm,0.6s,baz=85,slow=8.5,SNR=7.8						
	0.7nm,0.6s						
KURK	**Kurchatov**	**44.30**	**306**		**P**	**01 02 25.7**	**-0.6**
KURK				IAmb	IAmb	01 02 27.0	
	comp=Z,3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**44.37**	**305**	P	**P**	**01 02 26.3**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=81,slow=8.6,SNR=20						
	comp=Z,1.5nm,0.5s						
BMAR	**Burnt Mountain**	**47.21**	**30**	P	**P**	**01 02 50.1**	**+1.0**
BVAR	**Borovoye Array**	**48.71**	**310**	P	**P**	**01 03 00.7**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=79,slow=7.9,SNR=9.1						
	comp=Z,1.0nm,0.4s						
BRVK	**Borovoye**	**48.76**	**310**	P	**P**	**01 03 00.7**	**-0.6**
BRVK				IAmb	IAmb	01 03 28.8	
	comp=Z,1.8nm,1.0s						
ARTI	**Arti**	**54.30**	**317**	P	**P**	**01 03 42.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=342,slow=1.9,SNR=4.2						
	comp=Z,1.7nm,0.6s						
ABKAR	**Akbulak array**	**56.17**	**309**	P	**P**	**01 03 55.3**	**-0.8**
ABKAR	**Akbulak array**	**56.17**	**309**	P	**P**	**01 03 55.0**	**-1.2**
ABKAR				IAmb	IAmb	01 03 55.9	
	comp=Z,3.3nm,1.4s						
ASAR	**Alice Springs**	**64.16**	**188**	LR	LR	01 31 49.5	
	comp=Z,160nm,20.6s,baz=347,slow=35						
FINES	**FINESS Array B**	**66.08**	**332**	P	**P**	**01 05 02.5**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=26,slow=5.9,SNR=4.0						
	comp=Z,2.0nm,0.9s						
KBZ	**Khabaz**	**69.09**	**310**	P	**P**	**01 05 21.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=108,slow=6.4,SNR=2.3						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**71.29**	**337**	P	**P**	**01 05 34.7**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=45,slow=5.5,SNR=1.3						
	comp=Z,1.1nm,0.9s						
AKASG	**Malin Array Be**	**71.94**	**322**	P	**P**	**01 05 38.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=48,slow=5.7,SNR=4.8						
	comp=Z,0.5nm,0.5s						

*IDC **10** 00:58:50.5±1.1,7°.92S×109°.37E,h0km,mb3.8/4, mbtmp3.7/5,ML3.5/1,MS4.1/1,Error ellipse: s-maj=75.6km s-min=13.3km az=35.0*
*DJA **10** 00:58:53.2±1.9,8°.S±9°.×10°.9E±°.,h17km±14km,M3.5/7, MLv3.5/7*
*NEIC **10** 00:58:53.4±1.1,8°.4S±0°.1×108°.62E±0°.06,h39km±12km, mb4.2/6,Error ellipse: s-maj=19.6km s-min=3.4km az=153.0*
ISC 10 00:58:54.5±0.8,8°.52S±0°.07×108°.73E±0°.05,h55km,n26, σ1s28/24,mb3.7/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.78**	**339**	P	**Pn**	**00 59 08.7**	**-0.8**
CMJI				S	**Sn**	**00 59 18.6**	**-1.8**
KPJI	**Karang Pucung**	**1.19**	**10**	P	**Pn**	**00 59 15.2**	**+0.3**
YOGI	**Yogyakarta**	**1.70**	**66**	P	**Pn**	**00 59 20.8**	**-1.0**
UGM	**Wanagama**	**1.87**	**71**	Pn	**Pn**	**00 59 23.4**	**-0.8**
UGM				Sn	**Sn**	**00 59 45.2**	**-1.5**
UGM	**Wanagama**	**1.87**	**71**	P	**Pn**	**00 59 23.4**	**-0.8**
CNJI	**Cibin

H11S2	**WAKE ISLAND Hy**	**40.16**	**73**	T	T	01 55 58.5
	baz=262,slow=74,SNR=7.3					
H11N1	**WAKE ISLAND Hy**	**40.50**	**71**	T	T	01 56 28.3
	baz=265,slow=74,SNR=14					
H11N2	**WAKE ISLAND Hy**	**40.51**	**71**	T	T	01 56 20.6
	baz=265,slow=74,SNR=11					
H11N3	**WAKE ISLAND Hy**	**40.52**	**71**	T	T	01 56 26.3
	baz=265,slow=74,SNR=12					
SONM	**Songino Array**	**41.67**	**340**	P	**P**	**01 13 10.7 +0.6**
	0.3nm,0.4s,baz=155,slow=11,SNR=3.2					
	0.3nm,0.4s					
MKAR	**Makanchi Array**	**52.58**	**323**	P	**P**	**01 14 35.3 +0.2**
	1.3nm,0.6s,baz=119,slow=8.0,SNR=21					
MKAR				PcP	**PcP**	**01 15 45.5 +0.1**
	0.3nm,0.7s,baz=130,slow=4.5,SNR=1.7					
	1.3nm,0.6s					
ZALV	**Zalesovo Beam**	**55.23**	**332**	P	**P**	**01 14 53.6 -0.8**
	0.4nm,0.4s,baz=119,slow=7.8,SNR=2.6					
	0.4nm,0.4s					
KURBB	**Kurchatov Arra**	**56.64**	**326**	P	**P**	**01 15 04.5 0.0**
	0.5nm,0.4s,baz=126,slow=6.6,SNR=11					
	0.5nm,0.4s					
BVAR	**Borovoye Array**	**62.23**	**326**	P	**P**	**01 15 43.4 +0.2**
	0.7nm,0.7s,baz=132,slow=8.2,SNR=4.5					
	0.7nm,0.7s					
ILAR	**Eielson Array**	**80.08**	**26**	P	**P**	**01 17 30.4 -0.7**
	0.3nm,0.8s,baz=242,slow=5.2,SNR=6.1					
	0.3nm,0.8s					
ARCES	**ARCESS Array B**	**84.85**	**340**	P	**P**	**01 17 55.7 -0.2**
	2.0nm,0.8s,baz=76,slow=5.5,SNR=4.3					
	2.0nm,0.8s					
FINES	**FINESS Array B**	**86.50**	**332**	P	**P**	**01 18 03.5 -0.7**
	1.1nm,0.5s,baz=56,slow=4.8,SNR=4.4					
	1.1nm,0.5s					
RES	**Resolute Bay**	**92.19**	**10**	P	**P**	**01 18 30.8 0.0**
	1.1nm,0.8s,baz=0.2,slow=3.6,SNR=4.4					
	1.1nm,0.8s					
YKA	**Yellowknife Ar**	**94.41**	**24**	P	**P**	**01 18 42.1 +0.9**
	0.5nm,0.7s,baz=296,slow=4.7,SNR=8.1					
	0.5nm,0.7s					

*IDC **10** 01:06:12.5±0.6,2°.59N×126°.96E,h0km,mb4.4/23, mbtmp4.3/23,Error ellipse: s-maj=29.0km s-min=12.2km az=76.0*
*BJI **10** 01:06:13.5,2°.43N×127°.00E,h23km,mB5.3/9,mb4.6/36, Ms4.7/3,Ms7 4.4/3*
*DJA **10** 01:06:16.1±0.3,3°N±4°×12°7E±°,h10km,M4.4/9,mb4.9/1, MLv4.2/9*
*NEIC **10** 01:06:17.8±1.0,2°.69N±0°.09×127°.22E±0°.10,h35km±2km, mb4.6/30,Error ellipse: s-maj=21.3km s-min=5.3km az=49.0*

ISC 10 01:06:17.9±0.5,2°.64N±0°.06×127°.14E±0°.09,h35km,n79, σ1§12/71,mb4.5/45,1C-2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.87**	**173**	Pn	**Pn**	**01 06 48.0**	**+0.5**
TNTI	**Ternate**	**1.87**	**173**	P	**Pn**	**01 06 48.3**	**+0.8**
SGSI	**Sangihe**	**1.91**	**303**	P	**Pn**	**01 06 47.1**	**-0.9**
KMSI	**Cibinong**	**3.77**	**237**	P	**Pn**	**01 07 12.9**	**-0.7**
MRSI	**Marisa**	**5.62**	**248**	P	**Pn**	**01 07 38.4**	**-0.7**
LUWI	**Luwuk**	**5.70**	**230**	Pn	**Pn**	**01 07 41.0**	**+0.9**
MSAI	**Masohi**	**6.21**	**163**	P	Pn	01 07 42.2	-5.0
TOLI2	**Tolitoli**	**6.53**	**257**	Pn	**Pn**	**01 07 52.5**	**+0.9**
MYLDM	**Lahad Datu**	**8.98**	**287**		**Pn**	**01 08 29.6**	**+4.4**
KAPI	**Kappang**	**10.60**	**224**	Pn	**Pn**	**01 08 47.7**	**+0.3**
	0.8nm,0.3s,baz=22,slow=15,SNR=2.2						
SBUM	**Sibu**	**14.90**	**270**	P	**P**	**01 09 52.0**	**+0.5**
KNRA	**Kununurra**	**18.27**	**175**	P	**P**	**01 10 28.5**	**-0.3**
KNRA				IAmb	IAmb	01 10 54.9	
	comp=Z,73nm,1.5s						
FITZ	**Fitzroy Crossi**	**20.66**	**184**		**P**	**01 10 54.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.66**	**184**	P	**P**	**01 10 54.0**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=23,slow=7.3,SNR=11						
	comp=Z,3.9nm,0.6s						
SSLB	**Suanglung**	**21.85**	**345**	P	**P**	**01 11 07.0**	**-0.7**
SSLB				IAmb	IAmb	01 11 33.1	
	comp=Z,20nm,1.0s						
WB0	**Warramunga Arr**	**23.38**	**163**		**P**	**01 11 22.2**	**-1.5**
WB0				IAmb	IAmb	01 11 26.7	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**23.53**	**163**	P	**P**	**01 11 23.9**	**-1.2**
	comp=Z,15nm,0.7s,baz=343,slow=11,SNR=52						
	comp=Z,15nm,0.7s						
WB2	**Warramunga Arr**	**23.54**	**163**		**P**	**01 11 24.1**	**-1.1**
WB2				IAmb	IAmb	01 11 26.2	
	comp=Z,22nm,0.7s						
MBWA	**Marble Bar**	**24.74**	**197**	P	**P**	**01 11 35.5**	**-0.9**
MBWA				IAmb	IAmb	01 11 38.1	
	comp=Z,13nm,0.9s						
PSA00	**Pilbara Seismi**	**25.10**	**196**	P	**P**	**01 11 39.4**	**-0.2**
PSA00				IAmb	IAmb	01 11 43.2	
	comp=Z,29nm,1.5s						
AS31	**Alice Springs**	**26.97**	**166**	P	**P**	**01 11 55.1**	**-1.4**
ASAR	**Alice Springs**	**26.97**	**166**	P	**P**	**01 11 55.9**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=344,slow=7.2,SNR=18						
	comp=Z,1.6nm,0.4s						
NJ2	**Nanjing**	**30.27**	**346**	*e*P	**P**	**01 12 27.1**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.78**	**302**	P	**P**	**01 12 38.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=119,slow=7.2,SNR=6.2						
	comp=Z,1.3nm,0.3s						
FORT	**Forrest**	**33.25**	**179**	P	**P**	**01 12 50.8**	**-1.1**
PZH	**PanZhiHua**	**34.01**	**317**	P	**P**	**01 13 00.5**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
KSRS	**Korea Array**	**34.65**	**1**	P	**P**	**01 13 05.0**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=178,slow=9.8,SNR=9.7						
	comp=Z,2.4nm,0.7s						
TIA	**Tai'an**	**34.66**	**346**	P	**P**	**01 13 04.7**	**+0.5**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**35.25**	**16**	P	**P**	**01 13 08.9**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=181,slow=9.9,SNR=5.7						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**36.26**	**167**	P	**P**	**01 13 17.7**	**-0.2**
DL2	**Dalian**	**36.44**	**353**	P	**P**	**01 13 20.4**	**+1.0**
DL2				pmax	pmax		
	comp=Z,32nm,0.8s						
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**01 13 24.1**	**0.0**
STKA				IAmb	IAmb	01 13 25.8	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**01 13 23.9**	**-0.1**
	comp=Z,7.7nm,0.5s,baz=347,slow=7.9,SNR=12						
	comp=Z,7.7nm,0.5s						
BJT	**Baijiatuau**	**38.51**	**346**	P	**P**	**01 13 37.6**	**+0.7**
BJT				IAmb	IAmb	01 13 38.2	
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**38.53**	**346**	P	**P**	**01 13 37.5**	**+0.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.55**	**342**	*e*P	**P**	**01 13 55.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,230nm,4.5s						
CN2	**Changchun**	**41.01**	**358**	P	**P**	**01 14 01.9**	**+4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**41.60**	**5**	P	**P**	**01 14 03.0**	**+0.5**
	comp=Z,6.0nm,0.7s,baz=184,slow=8.3,SNR=8.9						
	comp=Z,6.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**41.80**	**65**	T	T	01 58 55.8	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**41.82**	**65**	T	T	01 58 56.0	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**41.82**	**65**	T	T	01 58 57.4	
	baz=252						
MDJ	**Mudanjiang**	**41.85**	**3**	P	**P**	**01 14 05.9**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,14nm,0.8s						
XLT	**XiLinHaoTe**	**42.24**	**348**	*e*P	**P**	**01 14 07.7**	**-0.1**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				LR	LR		
	comp=Z,24nm,21.3s						
XLT				LR	LR		
	comp=Z,140nm,11.2s						
XLT				LR	LR		
	comp=Z,290nm,18.9s						
BNX	**BinXian**	**42.92**	**0**	⇓P	**P**	**01 14 14.1**	**+0.9**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HEH	**HeiHe**	**47.44**	**0**	*e*P	**P**	**01 14 49.3**	**+0.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**48.27**	**342**	P	**P**	**01 14 56.3**	**+0.6**
SONM	**Songino Array**	**48.45**	**341**	P	**P**	**01 14 56.8**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=152,slow=8.2,SNR=10						
SONM				PcP	**PcP**	**01 16 23.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=156,slow=4.9,SNR=3.8						
	comp=Z,1.7nm,0.7s						
PETK	**Petropavlovsk-**	**56.28**	**22**	P	**P**	**01 15 55.8**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=191,slow=5.1,SNR=4.7						
	comp=Z,4.9nm,0.8s						
MK31	**Makanchi Array**	**58.67**	**325**	P	**P**	**01 16 11.1**	**-0.8**
MKAR	**Makanchi Array**	**58.67**	**325**		**P**	**01 16 10.9**	**-1.0**
MKAR	**Makanchi Array**	**58.67**	**325**	P	**P**	**01 16 11.0**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=122,slow=8.4,SNR=21						
MKAR				PcP	**PcP**	**01 17 01.4**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=130,slow=3.6,SNR=4.2						
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.73**	**333**	P	**P**	**01 16 32.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=129,slow=5.9,SNR=4.5						
	comp=Z,0.7nm,0.5s						
DRK	**Karamyk**	**62.05**	**314**	IAmb	IAmb	01 16 35.4	
	comp=Z,4.8nm,0.8s						
KURBB	**Kurchatov Arra**	**62.87**	**328**	P	**P**	**01 16 39.2**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=128,slow=6.3,SNR=28						
	comp=Z,3.1nm,0.7s						
KURK	**Kurchatov**	**62.87**	**328**	P	**P**	**01 16 39.7**	**-0.7**
KURK				IAmb	IAmb	01 16 40.3	
	comp=Z,6.5nm,0.7s						
GAR	**Garm**	**62.96**	**313**	P	**P**	**01 16 40.2**	**-1.1**
GAR				IAmb	IAmb	01 16 41.5	
	comp=Z,8.6nm,0.8s						
BTK	**Batken**	**62.96**	**314**	IAmb	IAmb	01 16 45.3	
	comp=Z,2.8nm,0.8s						
KK31	**Karatay Array**	**64.30**	**317**	P	**P**	**01 16 49.1**	**-0.9**
KKAR	**Karatay Array**	**64.30**	**317**	P	**P**	**01 16 48.9**	**-1.1**
KKAR	**Karatay Array**	**64.30**	**317**	P	**P**	**01 16 49.0**	**-1.1**
KKAR				IAmb	IAmb	01 16 49.9	
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**68.45**	**327**	P	**P**	**01 17 15.8**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=117,slow=6.8,SNR=15						
	comp=Z,3.1nm,0.8s						
BRVK	**Borovoye**	**68.52**	**327**	P	**P**	**01 17 16.2**	**-0.6**
BRVK				IAmb	IAmb	01 17 17.1	
	comp=Z,4.1nm,0.8s						
NRIK	**Noril'sk**	**71.57**	**346**	IAmb	IAmb	01 17 35.8	
	comp=Z,3.6nm,0.8s						
NRIK	**Noril'sk**	**71.57**	**346**	P	**P**	**01 17 35.3**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=135,slow=6.3,SNR=11						
	comp=Z,3.0nm,0.6s						
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**01 17 44.6**	**-0.9**
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**01 17 44.7**	**-0.9**
ABKAR				IAmb	IAmb	01 17 45.7	
	comp=Z,2.7nm,0.7s						
ARTI	**Arti**	**76.15**	**328**	P	**P**	**01 18 01.3**	**-1.0**
ARTI				IAmb	IAmb	01 18 02.1	
	comp=Z,5.4nm,0.8s						
KBZ	**Khabaz**	**84.02**	**314**	P	**P**	**01 18 44.6**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=36,slow=5.3,SNR=2.9						
	comp=Z,1.5nm,1.0s						
MARD	**Mardin**	**85.51**	**307**	IAmb	IAmb	01 18 53.8	
	comp=Z,5.9nm,0.7s						
ILAR	**Eielson Array**	**85.90**	**25**	P	**P**	**01 18 55.0**	**+1.0**
	comp=Z,2.4nm,1.4s,baz=262,slow=5.0,SNR=1.7						
	comp=Z,2.4nm,1.4s						
MMAI	**Mount Meron Ar**	**90.03**	**303**	P	**P**	**01 19 14.8**	**+0.3**
	comp=Z,4.4nm,1.0s,baz=95,slow=4.5,SNR=2.0						
	comp=Z,4.4nm,1.0s						
BRTR	**Keskin Array B**	**91.02**	**310**	P	**P**	**01 19 18.3**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=88,slow=4.7,SNR=4.4						
	comp=Z,0.7nm,0.8s						
SYO	**Syowa Base**	**91.57**	**201**	‖*e*PcP	**PcP**	**01 19 23.4**	**+1.8**
SYO	**Syowa Base**	**91.57**	**201**	‖*e*pP	pP	01 19 33.0	+2.0
ARCES	**ARCESS Array B**	**91.60**	**340**	P	**P**	**01 19 19.9**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=69,slow=6.6,SNR=6.0						
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**92.56**	**180**	P	**P**	**01 19 25.9**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=56,slow=2.1,SNR=6.9						
	comp=Z,0.9nm,0.5s						
FINES	**FINESS Array B**	**92.98**	**332**	P	**P**	**01 19 28.1**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=62,slow=5.5,SNR=1.7						
	comp=Z,2.6nm,0.9s						
RES	**Resolute Bay**	**98.80**	**10**	P	Pdif	01 19 54.2	+0.6
	comp=Z,1.1nm,0.7s,baz=28,slow=7.2,SNR=3.8						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**123.64**	**288**	PKP	**PKPdf**	**01 25 12.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=83,slow=1.6,SNR=8.1						

*IDC **10** 01:08:40.5±0.4,2°.60N×126°.94E,h0km,mb4.9/30, mbtmp4.9/32,ML4.3/1,MS4.1/30,Error ellipse: s-maj=22.1km s-min=9.7km az=77.0*
*BJI **10** 01:08:43.2,2°.26N×127°.09E,h61km,mB5.2/18,mb4.8/70, Ms4.6/36,Ms7 4.4/39*
*MOS **10** 01:08:44.7±1.1,2°.64N×126°.92E,h39km,mb5.1/66, MS4.2/6,Error ellipse: s-maj=9.1km s-min=4.7km az=113.2*
*DJA **10** 01:08:46.6±0.3,3°N±3°×12°7E±°,h53km±3km,M4.8/40, mb5.0/40,mB5.3/12,MLv4.8/19,Mw(mB)4.8/12, MwMwp4.8/4,Mwp5.1/4*
*NEIC **10** 01:08:46.4±2.7,2°.60N±0°.07×127°.07E±0°.08,h35km±1km, mb5.0/151,Mww5.0/11,Error ellipse: s-maj=15.3km s-min=10.4km az=230.0*
*NEIC **10** 01:08:46.2,2°.64N×127°.04E,h26km*
*NEIC **10** 01:08:46.2,2°.74N×127°.00E,h26km,Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^16^Nm; M_{rr}1.72; $M_{\theta\theta}$2.39; $M_{\phi\phi}$-4.10; $M_{r\theta}$0.85; $M_{\theta\phi}$0.64; $M_{\phi r}$0.71; Fault plane solution: $M_0$3.66000×10^16^ NP1: ϕ_s134.04000°,δ61.33000°,λ21.97000°. NP2:ϕ_s33.08000°, δ70.84000°,λ149.48000°. Principal axes: T 3.0876, Plg35.0000°, Azm351.0000°; N 1.1438, Plg54.0000°, Azm184.0000°; P -4.2314, Plg6.0000°, Azm85.0000°;*
*GCMT **10** 01:08:49.4±0.2,2°.63N±0°.02×127°.32E±0°.02,h26km, MW5.1/97,Moment Tensor Solution. s69,c96; s97,c139; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}4.83±.20; $M_{\theta\theta}$0.53±.13; $M_{\phi\phi}$-5.35±.14; $M_{r\theta}$-0.12±.28; $M_{\theta\phi}$-0.31±.10; $M_{\phi r}$3.64±.26; Best double couple: $M_0$6.26600×10^16^ NP1:ϕ_s187.00000°,δ27.00000°,λ96.00000°. NP2: ϕ_s360.00000°,δ63.00000°,λ87.00000°. Principal axes: T 6.0060, Plg72.0000°, Azm263.0000°; N 0.5270, Plg3.0000°, Azm1.0000°; P -6.5270, Plg18.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 01:08:47.7±0.4,2°.56N±0°.03×126°.98E±0°.05,h53km±3km, h54km;pP-P,n661,σ1§29/635,mb5.0/177,MS4.3/50, 25C-28D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.82**	**168**	Pn	**Pn**	**01 09 15.6**	**-1.1**
TNTI	**Ternate**	**1.82**	**168**	P	**Pn**	**01 09 16.0**	**-0.7**
TNTI	**Ternate**	**1.82**	**168**	P	**Pn**	**01 09 15.6**	**-1.1**
SGSI	**Sangihe**	**1.83**	**308**	P	**Pn**	**01 09 15.6**	**-1.3**
LBMI	**Labuha**	**3.22**	**171**	P	**Pn**	**01 09 38.2**	**+2.3**
KMSI	**Cibinong**	**3.59**	**237**	P	**Pn**	**01 09 43.4**	**+2.5**
SANI	**Sanana**	**4.69**	**192**	P	**Pn**	**01 09 57.5**	**+1.5**
SANI	**Sanana**	**4.69**	**192**	P	**Pn**	**01 09 56.3**	**+0.3**
DAV	**Davao City (W)**	**4.69**	**343**	Pn	**Pn**	**01 09 51.8**	**-4.3**
	80nm,0.4s,baz=135,slow=23,SNR=0.9						
DAV				Sn	**Sn**	**01 10 48.0**	**-1.2**
	42nm,0.3s,baz=225,slow=22,SNR=1.4						
MRSI	**Marisa**	**5.45**	**248**	P	**Pn**	**01 10 08.3**	**+1.9**
	0.8nm3μm251nm,0.7s						
SWI	**Sorong**	**5.46**	**128**	P	**Pn**	**01 10 08.7**	**+2.1**
	0.4nm2μm67nm,0.6s						
LUWI	**Luwuk**	**5.53**	**230**	Pn	**Pn**	**01 10 11.8**	**+4.3**
LUWI	**Luwuk**	**5.53**	**230**	P	**Pn**	**01 10 12.0**	**+4.5**
LUWI	**Luwuk**	**5.53**	**230**	P	**Pn**	**01 10 10.1**	**+2.6**
	5μm305nm,0.7s						
NLAI	**Namlea**	**5.76**	**179**	P	**Pn**	**01 10 12.4**	**+1.7**
	0.4nm106nm,0.7s						
MSAI	**Masohi**	**6.18**	**162**	P	**Pn**	**01 10 19.7**	**+3.2**
	0.6nm154nm,0.8s						
AAI	**Ambon**	**6.32**	**169**	P	**Pn**	**01 10 21.1**	**+2.7**
	0.4nm122nm,0.6s						
APSI	**Ampana**	**6.35**	**237**	P	**Pn**	**01 10 23.2**	**+4.4**
	3μm237nm,1.1s						
TOLI2	**Tolitoli**	**6.36**	**257**		**Pn**	**01 10 20.5**	**+1.5**
TOLI2	**Tolitoli**	**6.36**	**257**	P	**Pn**	**01 10 20.9**	**+1.9**
FAKI	**Fak Fak**	**7.57**	**136**		**Pn**	**01 10 37.9**	**+2.3**
FAKI	**Fak Fak**	**7.57**	**136**	P	**Pn**	**01 10 36.8**	**+1.2**
	0.2nm4μm63nm,0.8s						
KDI	**Kendari**	**7.81**	**214**	P	**Pn**	**01 10 38.9**	**+0.1**
	0.2nm2μm50nm,0.7s						
MYLDM	**Lahad Datu**	**8.85**	**287**	Pn	**Pn**	**01 10 56.4**	**+3.2**
MYLDM	**Lahad Datu**	**8.85**	**287**	P	**Pn**	**01 10 56.0**	**+2.9**
TTSI	**Tana Toraja**	**9.07**	**232**	P	**Pn**	**01 10 58.0**	**+1.9**
	1μm38nm,0.8s						
SPSI	**Sidrap Palu**	**9.69**	**228**	P	**Pn**	**01 11 06.0**	**+1.4**
	2μm44nm,0.7s						
KAPI	**Kappang**	**10.43**	**224**		**Pn**	**01 11 16.1**	**+1.4**
KAPI	**Kappang**	**10.43**	**224**	Pn	**Pn**	**01 11 13.2**	**-1.5**
	2.2nm,0.3s,baz=34,slow=6.1,SNR=7.9						
KAPI				Sn	**Sn**	**01 13 02.4**	**-7.8**
	1.5nm,0.3s,baz=130,slow=15,SNR=1.6						
	15nm,0.7s						
KAPI	**Kappang**	**10.43**	**224**	P	**Pn**	**01 11 16.1**	**+1.4**
TGY	**Tagaytay City**	**12.93**	**333**	LR	LR	01 17 41.9	
	comp=Z,1μm,21.6s,baz=131,slow=42						
WBSI	**Waikabubak, Su**	**14.29**	**212**	P	**P**	**01 12 11.5**	**-1.6**
	833nm83nm,0.8s						
PLAI	**Plampang**	**14.57**	**219**	P	**P**	**01 12 15.1**	**-1.1**
PLAI	**Plampang**	**14.57**	**219**	P	**P**	**01 12 13.8**	**-2.4**
	1μm109nm,0.8s						
JAY	**Jayapura**	**14.62**	**110**	LR	LR	01 18 04.9	
	comp=Z,991nm,19.3s,baz=322,slow=38						
SBUM	**Sibu**	**14.75**	**270**		**P**	**01 12 18.9**	**+0.7**
SBUM	**Sibu**	**14.75**	**270**	P	**P**	**01 12 16.7**	**-1.5**
DRS	**Darwin Rock St**	**15.39**	**165**	P	**Pn**	**01 12 21.4**	**-0.3**
SRBI	**Singaraja**	**15.80**	**228**	P	**P**	**01 12 30.1**	**+0.2**
	89nm,0.8s						
MTN	**Manton Dam**	**15.85**	**165**		**Pn**	**01 12 26.0**	**-1.5**
MTN	**Manton Dam**	**15.85**	**165**	P	**Pn**	**01 12 28.7**	**+1.1**
	comp=Z,56nm,0.6s						
MTN	**Manton Dam**	**15.85**	**165**	P	**Pn**	**01 12 27.1**	**-0.4**
KDU	**Kakadu**	**16.10**	**160**	P	**Pn**	**01 12 30.7**	**0.0**
	comp=Z,43nm,0.9s						
KDU	**Kakadu**	**16.10**	**160**	P	**Pn**	**01 12 29.9**	**-0.8**
KMMI	**Kalianget**	**16.12**	**234**	P	**P**	**01 12 35.4**	**+2.0**
	comp=Z,64nm,0.8s						
TABU	**Tabubil**	**16.21**	**119**	P	**Pn**	**01 12 27.8**	**-4.4**
KSM	**Kuching**	**16.70**	**267**	P	**P**	**01 12 39.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**16.84**	**229**	P	**P**	**01 12 42.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**16.84**	**229**	P	**P**	**01 12 43.9**	**+2.4**
JAGI	**Jajag, Banyuwa**	**16.84**	**229**	P	**P**	**01 12 44.8**	**+3.3**
	comp=Z,66nm,0.8s						
GMJI	**Gumukmas**	**17.27**	**231**	P	**P**	**01 12 48.6**	**+2.5**
	comp=Z,64nm,0.8s						
KNRA	**Kununurra**	**18.21**	**175**		**P**	**01 12 56.3**	**-0.2**
KNRA				IAmb	IAmb	01 12 57.9	
	comp=Z,80nm,0.7s						
KNRA	**Kununurra**	**18.21**	**175**	P	**P**	**01 12 55.6**	**-0.8**
	comp=Z,113nm,0.7s						
PCJI	**Pacitan**	**19.04**	**236**	P	**Pn**	**01 13 07.7**	**+0.8**
	comp=Z,61nm,0.8s						
UGM	**Wanagama**	**19.44**	**238**	P	**Pn**	**01 13 12.5**	**+0.9**
TPI	**Tanjungpandan**	**20.03**	**255**	P	**P**	**01 13 16.2**	**-0.3**
	comp=Z,39nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P	**P**	**01 13 22.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P	**P**	**01 13 21.4**	**-0.9**
	comp=Z,29nm,0.7s,baz=24,slow=9.1,SNR=27						
	comp=Z,29nm,0.7s						
TWGBT	**Beinan**	**20.93**	**345**	P	**P**	**01 13 23.7**	**-2.5**
TWG	**Pinlang**	**20.94**	**345**	P	**P**	**01 13 23.2**	**-3.0**
TWG				IAmb	IAmb	01 13 25.3	
	comp=Z,70nm,0.8s						
YULB	**Yu-li**	**21.43**	**346**	P	**P**	**01 13 27.3**	**-4.1**
YULB				IAmb	IAmb	01 13 44.0	
	comp=Z,40nm,0.8s						
YULB	**Yu-li**	**21.43**	**346**	P	**P**	**01 13 26.8**	**-4.7**
LEM	**Lembang**	**21.46**	**244**	P	**P**	**01 13 33.3**	**+1.2**
	comp=Z,69nm,0.7s,baz=352,slow=7.5,SNR=11						
TPUB	**Ta-pu**	**21.52**	**344**	P	**P**	**01 13 27.8**	**-4.6**
TPUB				IAmb	IAmb	01 13 32.0	
	comp=Z,94nm,0.8s						
TPUB	**Ta-pu**	**21.52**	**344**	P	**P**	**01 13 29.1**	**-3.3**
BBJI	**Bungbulang**	**21.71**	**243**	P	**P**	**01 13 35.0**	**+0.4**
SSLB	**Suanglung**	**21.89**	**345**	P	**P**	**01 13 34.1**	**-2.4**
SSLB				IAmb	IAmb	01 13 44.4	
	comp=Z,41nm,0.8s						
SSLB	**Suanglung**	**21.89**	**345**	P	**P**	**01 13 34.2**	**-2.3**
CNJI	**Cibinong**	**22.11**	**244**	P	**P**	**01 13 38.9**	**+0.1**
COEN	**Coen**	**22.96**	**136**	P	**P**	**01 13 47.2**	**-0.7**
CGJI	**Cibinong**	**23.12**	**247**	P	**P**	**01 13 51.1**	**+1.6**
	comp=Z,55nm,0.6s						
WB0	**Warramunga Arr**	**23.35**	**162**	P	**P**	**01 13 50.3**	**-1.4**
QIZ	**Qiongzhong**	**23.44**	**

CHTO Chiang Mai 31.85 302 P **P 01 15 06.9 -1.0**
CHTO Chiang Mai 31.85 302 P **P 01 15 06.9 -1.0**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
KMI Kunming 32.38 316 ⇓P **P 01 15 13.9 +1.1**
KMI pmax pmax
comp=Z,11nm,0.8s
KMI LR LR
comp=Z,300nm,21.0s
KMI LR LR
comp=Z,280nm,21.0s
KMI LR LR
comp=Z,580nm,28.3s
MORW Morawa 33.15 198 P **P 01 15 18.0 -1.2**
comp=Z,24nm,1.5s
FORT Forrest 33.17 178 P **P 01 15 18.3 -1.0**
comp=Z,103nm,0.7s
QLP Quilpie 33.42 151 P **P 01 15 20.2 -1.4**
comp=Z,22nm,0.8s
INU Inuyama 33.93 15 P **P 01 15 25.0 -0.9**
INU IAmb IAmb 01 15 26.6
comp=Z,25nm,0.8s
INU Inuyama 33.93 15 P **P 01 15 25.0 -0.9**
PZH PanZhiHua 33.96 317 P **P 01 15 26.7 +0.3**
PZH S **S 01 20 49.6 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,220nm,4.7s
PZH LR LR
comp=Z,290nm,22.4s
PZH LR LR
comp=Z,260nm,21.8s
PZH LR LR
comp=Z,210nm,19.6s
KMBL Kambalda 34.09 188 P **P 01 15 25.8 -1.5**
comp=Z,112nm,0.8s
JGF Kuroka 34.26 15 P **P 01 15 27.9 -0.9**
BLDU Ballidu 34.42 196 P **P 01 15 29.8 -0.4**
comp=Z,30nm,0.9s
LYN LuoYang 34.58 339 P P 01 15 36.8 +5.3
LYN pmax pmax
comp=Z,16nm,0.6s
LYN LR LR
comp=N,600nm,16.2s
LYN LR LR
comp=E,320nm,11.7s
LYN LR LR
comp=Z,1μm,21.6s
TIA Tai'an 34.70 346 P **P 01 15 32.7 +0.1**
TIA pmax pmax
comp=Z,29nm,0.8s
KSRS Korea Array 34.74 1 P **P 01 15 32.7 -0.1**
comp=Z,6.0nm,0.7s,baz=176,slow=9.5,SNR=19
KSRS PcP **PcP 01 18 07.0 +1.3**
comp=Z,2.8nm,0.8s,baz=194,slow=2.8,SNR=7.0
comp=Z,6.0nm,0.7s
KS19 Wonju Array Si 34.78 1 IAmb IAmb 01 16 22.1
comp=Z,26nm,1.1s
KLBR Kellerberrin 35.08 194 P **P 01 15 35.2 -0.6**
comp=Z,98nm,0.7s
MAJO Matsushiro 35.37 16 *de*P **P 01 15 38.0 -0.3**
MAJO pmax pmax
comp=Z,9.0nm,0.7s
MAJO Matsushiro 35.37 16 P **P 01 15 38.5 +0.2**
MJAR Matsushiro Arr 35.37 16 P **P 01 15 36.8 -1.5**
comp=Z,5.8nm,0.6s,baz=179,slow=9.5,SNR=16
MJAR PcP **PcP 01 18 08.7 +1.1**
comp=Z,2.0nm,0.7s,baz=201,slow=3.0,SNR=3.9
comp=Z,5.8nm,0.6s
XAN Xi'an 35.57 334 P **P 01 15 38.3 -1.8**
XAN pmax pmax
comp=Z,24nm,0.8s
XAN pmax pmax
comp=Z,200nm,4.5s
XAN LR LR
comp=Z,670nm,18.9s
XAN LR LR
comp=Z,440nm,20.1s
XAN LR LR
comp=Z,1μm,24.4s
CD2 Chengdu 35.73 325 P **P 01 15 40.0 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,390nm,20.3s
CD2 LR LR
comp=Z,460nm,17.1s
CD2 LR LR
comp=Z,630nm,19.7s
MUN Mundaring 35.84 196 P **P 01 15 42.1 -0.3**
comp=Z,25nm,0.8s
BBOO Buckleboo 36.21 167 IAmb IAmb 01 15 46.4
comp=Z,26nm,0.8s
BBOO Buckleboo 36.21 167 P **P 01 15 44.1 -1.5**
comp=Z,38nm,0.7s
EIDS Eidsvold 36.28 141 P **P 01 15 45.3 -1.0**
EIDS IAmb IAmb 01 15 46.9
comp=Z,12nm,0.8s
HNS HongShan 36.46 343 ⇓P **P 01 15 48.0 +0.4**
HNS pmax pmax
comp=Z,13nm,0.8s
HNS LR LR
comp=Z,390nm,21.4s
HNS LR LR
comp=Z,340nm,21.6s
HNS LR LR
comp=Z,750nm,20.0s
NWAO Narrogin (SRO) 36.48 194 P **P 01 15 48.1 +0.3**
NWAO IAmb IAmb 01 15 49.8
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 36.48 194 P **P 01 15 48.1 +0.3**
NWAO pmax pmax
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 36.48 194 P **P 01 15 48.1 +0.3**
DL2 Dalian 36.50 353 P **P 01 15 48.6 +0.7**
DL2 S **S 01 21 32.5 +6.1**
DL2 pmax pmax
comp=Z,130nm,0.8s
DL2 pmax pmax
comp=Z,280nm,7.2s
DL2 LR LR
comp=Z,420nm,16.0s
DL2 LR LR
comp=Z,510nm,17.6s
DL2 LR LR
comp=Z,670nm,20.9s
STKA Stephens Creek 36.95 159 P **P 01 15 51.6 -0.3**
STKA Stephens Creek 36.95 159 P **P 01 15 51.8 -0.1**
comp=Z,48nm,0.7s,baz=331,slow=8.5,SNR=46
STKA PcP **PcP 01 18 13.2 +0.9**
comp=Z,16nm,0.7s,baz=341,slow=4.9,SNR=7.5
comp=Z,48nm,0.7s
STKA Stephens Creek 36.95 159 P **P 01 15 51.6 -0.3**
STKA pmax pmax
comp=Z,51nm,0.7s
TIY Taiyuan 37.45 341 *e*P **P 01 15 56.4 +0.3**
TIY pP **pP 01 16 08.2 -1.2**
TIY pmax pmax
comp=Z,16nm,0.7s
TIY LR LR
comp=Z,390nm,17.7s
TIY LR LR
comp=Z,250nm,13.2s
TIY LR LR
comp=Z,510nm,19.0s
BJT Baijiatuau 38.56 347 P **P 01 16 05.6 +0.3**
BJT IAmb IAmb 01 16 07.5
comp=Z,37nm,0.9s
BJT Baijiatuau 38.56 347 P **P 01 16 05.6 +0.3**
BJT pmax pmax
comp=Z,37nm,0.9s
BJT Baijiatuau 38.56 347 P **P 01 16 05.3 0.0**
BJI Beijing 38.58 347 P **P 01 16 05.2 -0.2**
BJI pmax pmax
comp=Z,23nm,0.8s
LZH Lanzhou 39.63 330 *e*P **P 01 16 13.9 -0.7**
LZH pP sP 01 16 33.4 -0.4
LZH pmax pmax
comp=Z,15nm,1.5s
LZH LR LR
comp=Z,380nm,14.8s
LZH LR LR
comp=Z,420nm,14.4s
LZH LR LR
comp=Z,610nm,15.1s
HHC Hu-ho-hao-te 40.58 342 *e*P **P 01 16 24.1 +1.8**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.2s
HHC LR LR
comp=Z,340nm,19.3s
HHC LR LR
comp=Z,240nm,19.4s
HHC LR LR
comp=Z,730nm,22.7s
SHL Shillong 40.77 307 P **P 01 16 22.6 -1.6**
SHL IAmb IAmb 01 16 25.0
comp=Z,22nm,0.9s
SHL Shillong 40.77 307 P **P 01 16 22.6 -1.6**
SHL pmax pmax
comp=Z,22nm,0.9s
CN2 Changchun 41.09 358 P **P 01 16 25.5 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 41.70 5 IAmb IAmb 01 16 34.1
comp=Z,19nm,0.8s
USA0B Ussuriysk Arra 41.70 5 *d*P **P 01 16 31.2 -0.1**
USRK Ussuriysk Ar. 41.70 5 P **P 01 16 31.4 +0.1**
comp=Z,23nm,0.8s,baz=185,slow=7.4,SNR=30
comp=Z,23nm,0.8s
MDJ Mudanjiang 41.94 3 IAmb IAmb 01 16 35.2
comp=Z,20nm,0.8s
MDJ Mudanjiang 41.94 3 P **P 01 16 33.8 +0.6**
MDJ S **S 01 22 51.4 +3.4**
MDJ pmax pmax
comp=Z,32nm,0.8s
MDJ LR LR
comp=Z,300nm,19.2s
MDJ LR LR
comp=Z,420nm,19.9s
MDJ Mudanjiang 41.94 3 P **P 01 16 33.9 +0.6**
MDJ PcP **PcP 01 18 28.9 +0.9**
H11S3 WAKE ISLAND Hy 41.98 65 T T 02 01 25.2
baz=252,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 42.00 65 T T 02 01 32.2
baz=252,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 42.00 65 T T 02 01 31.7
baz=252,slow=75,SNR=20
XLT XiLinHaoTe 42.29 348 *e*P **P 01 16 36.2 0.0**
XLT sP pwP 01 16 52.0 -0.4
XLT pmax pmax
comp=Z,21nm,0.8s
CAN Canberra 42.96 153 P **P 01 16 42.7 +0.9**
BNX BinXian 43.01 0 ⇑P **P 01 16 41.7 -0.2**
BNX pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 43.40 312 P **P 01 16 45.9 0.0**
ASAJ Asahikawa 43.63 16 P **P 01 16 47.5 +0.5**
ASAJ pmax pmax
comp=Z,19nm,0.8s
JKA Kamikawa-asahi 43.63 16 P **P 01 16 47.5 +0.5**
JKA IAmb IAmb 01 17 01.6
comp=Z,19nm,0.8s
GTA Gaotai 44.22 330 *e*P **P 01 16 51.2 -0.8**
GTA PcP **PcP 01 18 37.3 +1.4**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA LR LR
comp=Z,390nm,18.7s
GTA LR LR
comp=Z,250nm,17.5s
GTA LR LR
comp=Z,620nm,19.9s
GOMU GeErMu 44.76 322 P **P 01 16 55.9 -0.7**
GOMU S **S 01 23 26.5 -3.6**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU LR LR
comp=Z,370nm,14.0s
GOMU LR LR
comp=Z,340nm,14.0s
GOMU LR LR
comp=Z,540nm,14.3s
YSS Yuzhno-Sakhali 46.30 15 *e*P **P 01 17 07.9 -0.2**
YSS *e**PP **pP 01 17 20.1 -1.4**
YSS *e**SP **sP 01 17 28.3 +0.9**
YSS *e*S **S 01 23 51.0 -0.2**
YSS *e*SS **ScS 01 27 05.7 +7.1**
YSS pmax pmax
comp=Z,100nm,6.8s
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,400nm,13.0s
YSS MLR MLR
comp=N,300nm,15.0s
PALK Pallekele 46.33 278 LR LR 01 38 26.9
comp=N,198nm,20.2s,baz=96,slow=39
KLR Kul'dur 46.67 4 LR LR 01 36 38.9
comp=N,188nm,21.9s,baz=200,slow=36
KLR Kul'dur 46.67 4 *de*P **P 01 17 10.9 -0.1**
KLR pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 46.94 354 IAmb IAmb 01 17 17.8
comp=Z,12nm,0.8s
HIA Hailar 46.94 354 ⇓*e*P **P 01 17 13.6 +0.4**
HIA pmax pmax
comp=Z,10.0nm,0.7s
HEH HeiHe 47.52 0 *e*P **P 01 17 16.6 -1.0**
HEH pmax pmax
comp=Z,23nm,0.7s
ULN Ulaanbaatar 48.30 342 P **P 01 17 25.1 +1.2**
ULN IAmb IAmb 01 17 47.8
comp=Z,11nm,0.8s
ULN Ulaanbaatar 48.30 342 P **P 01 17 25.1 +1.2**
ULN pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 48.30 342 P **P 01 17 25.1 +1.2**
ULN PcP **PcP 01 18 51.4 +1.3**
SONM Songino Array 48.48 342 P **P 01 17 25.9 +0.8**
SONM Songino Array 48.48 342 P **P 01 17 25.0 -0.2**
comp=Z,6.6nm,0.7s,baz=155,slow=8.5,SNR=25
SONM PcP **PcP 01 18 51.5 +0.9**
comp=Z,4.6nm,0.8s,baz=159,slow=5.1,SNR=6.3
SONM LR LR 01 40 40.9
comp=Z,145nm,20.4s,baz=154,slow=40
comp=Z,6.6nm,0.7s
SONM Songino Array 48.48 342 P **P 01 17 26.0 +0.8**
SONM pmax pmax
comp=Z,6.0nm,0.8s
HYB Hyderabad 49.75 291 *e*P **P 01 17 35.1 -0.2**
TYV Tymovskoe 49.92 13 *e*P **P 01 17 36.5 +0.5**
TYV pmax pmax
comp=Z,7.0nm,0.7s
TYV pmax pmax
comp=Z,300nm,4.2s
ZEA Zeya 51.01 0 *e*P **P 01 17 45.0 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,200nm,18.0s
ZAK Zakamensk 51.70 341 *e*P **P 01 17 48.1 -1.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
IRK Irkutsk 53.01 343 *e*P **P 01 18 00.6 +1.5**
IRK pmax pmax
comp=Z,44nm,2.2s
MOY Mondy 53.56 340 *e*P **P 01 18 04.1 +0.8**
MOY pmax pmax
comp=Z,30nm,1.5s
WMQ Urumqi 53.82 325 *e*P **P 01 18 05.8 +0.5**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ LR LR
comp=Z,320nm,21.1s
WMQ Urumqi 53.82 325 P **P 01 18 05.9 +0.5**
SKR Severo-Kuril's 53.89 23 *e*P P 01 17 54.5 -11
SKR *e*S **S 01 25 28.8 -8.0**
SKR pmax pmax
comp=Z,300nm,5.2s
SKR MLR MLR
comp=Z,300nm,20.0s
BOD Bodaibo 56.05 352 *e*P **P 01 18 20.7 -0.3**
BOD pmax pmax
comp=Z,14nm,0.8s
PETK Petropavlovsk- 56.41 22 P **P 01 18 23.3 -0.4**
comp=Z,8.0nm,0.7s,baz=189,slow=4.3,SNR=12
comp=Z,8.0nm,0.7s
WUS Wushi 57.60 319 P **P 01 18 32.7 +0.2**
ZSN Zaisan 57.62 327 *e*P **P 01 18 31.8 -0.6**
ZSN Zaisan 57.62 327 *e*P **P 01 18 31.8 -0.6**
SHLS Shalkode 58.40 321 *e*P **P 01 18 35.1 -3.0**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
SHLS Shalkode 58.40 321 *e*P **P 01 18 35.2 -3.0**
comp=Z,5.5nm,0.6s
MK31 Makanchi Array 58.65 326 P **P 01 18 38.6 -1.0**
MK31 Makanchi Array 58.65 326 *c i*P **P 01 18 38.6 -1.0**
MKAR Makanchi Array 58.65 326 P **P 01 18 38.4 -1.3**
MKAR Makanchi Array 58.65 326 P **P 01 18 38.8 -0.8**
comp=Z,4.7nm,0.5s,baz=118,slow=6.7,SNR=35
MKAR PcP **PcP 01 19 29.6 +0.4**
comp=Z,6.6nm,0.8s,baz=125,slow=4.6,SNR=5.0
MKAR LR LR 01 47 20.7
comp=Z,211nm,18.8s,baz=98,slow=40
comp=Z,4.7nm,0.5s
MKAR Makanchi Array 58.65 326 *c e*P **P 01 18 38.7 -1.0**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
NIL Nilore 58.84 308 P **P 01 18 41.0 -0.2**
NIL IAmb IAmb 01 19 03.3
comp=Z,11nm,0.8s
NIL Nilore 58.84 308 P **P 01 18 41.0 -0.2**
NIL pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 58.84 325 P **P 01 18 39.8 -1.1**
MAKZ IAmb IAmb 01 18 45.0
comp=Z,8.1nm,0.7s
MAKZ Makanchi 58.84 325 P **P 01 18 39.8 -1.1**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 58.84 325 P **P 01 18 39.7 -1.2**
MAKZ PcP **PcP 01 19 30.2 +0.2**
SATY Saty 59.03 320 *e*P **P 01 18 41.4 -1.0**
SATY pmax pmax
comp=Z,10.0nm,0.9s
SATY Saty 59.03 320 *e*P **P 01 18 41.5 -1.0**
comp=Z,10nm,0.9s
KSH Kashi 59.05 315 P **P 01 18 43.0 +0.4**
KSH pP pP 01 18 55.2 -1.4
KSH pmax pmax
comp=Z,5.0nm,0.8s
KPKS Kokpek 59.05 321 *e*P **P 01 18 41.5 -1.0**
KPKS pmax pmax
comp=Z,8.0nm,1.0s
KPKS Kokpek 59.05 321 *e*P **P 01 18 41.6 -1.0**
comp=Z,7.7nm,1.0s
ZHN Zhinishke 59.06 320 *e*P **P 01 18 41.2 -1.5**
ZHN pmax pmax
comp=Z,47nm,3.8s
ZHN Zhinishke 59.06 320 *e*P **P 01 18 41.7 -1.0**
YAK Yakutsk 59.36 1 P **P 01 18 43.6 -0.6**
YAK Yakutsk 59.36 1 LR LR 01 48 50.3
comp=Z,78nm,19.2s,baz=152,slow=41
YAK Yakutsk 59.36 1 *e*P **P 01 18 43.6 -0.6**
YAK *e**PP **pwP 01 18 59.7 -1.3**
YAK *e* 01 19 30.8
YAK *e* 01 20 54.7
YAK *e*PPP PPP 01 22 18.1
YAK *e*S **S 01 26 48.4 -0.4**
YAK *e**SS **sS 01 27 17.4 +5.2**
YAK *e* 01 28 23.1
YAK pmax pmax
comp=Z,36nm,0.7s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,1.0nm,0.7s
YAK pmax pmax
comp=Z,212nm,5.1s
YAK pmax pmax
comp=N,126nm,6.3s
YAK pmax pmax
comp=E,112nm,6.4s
YAK smax smax
comp=N,127nm,5.3s
YAK smax smax
comp=E,116nm,4.7s
YAK Yakutsk 59.36 1 P **P 01 18 44.1 -0.1**
YAK PcP **PcP 01 19 30.9 -0.7**
KDJ Kajisay 59.38 319 P **P 01 18 44.1 -0.8**
KDJ IAmb IAmb 01 18 48.5
comp=Z,12nm,0.6s
KDJ Kajisay 59.38 319 P **P 01 18 44.2 -0.8**
KDJ pmax pmax
comp=Z,12nm,0.6s
MA2 Magadan 59.77 14 P **P 01 18 47.8 +0.8**
MA2 IAmb IAmb 01 18 49.2
comp=Z,11nm,0.8s
MA2 Magadan 59.77 14 ⇓*e*P **P 01 18 47.7 +0.6**
MA2 pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 59.77 14 P **P 01 18 47.1 0.0**
comp=Z,16nm,0.8s
MA2 Magadan 59.77 14 P **P 01 18 48.0 +1.0**
MA2 PcP **PcP 01 19 35.0 +1.7**
MDOK Medeo 59.95 320 *e*P **P 01 18 47.9 -0.9**
MDOK Medeo 59.95 320 *e*P **P 01 18 48.0 -0.9**
TNSS Tian-Shan 59.96 320 *e*P **P 01 18 47.8 -1.4**
TNSS Tian-Shan 59.96 320 *e*P **P 01 18 47.9 -1.4**
TDK Taldyqorghan 59.99 322 *e*P **P 01 18 48.0 -0.9**
TDK pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 59.99 322 *e*P **P 01 18 48.0 -0.9**
comp=Z,9.8nm,0.7s
THZ Tophouse 60.63 142 P **P 01 18 52.7 -0.7**
AAK Ala-Archa 61.39 318 P **P 01 18 59.7 +1.0**
AAK Ala-Archa 61.39 318 LR LR 01 49 13.5
comp=Z,133nm,22.0s,baz=98,slow=40
AAK Ala-Archa 61.39 318 P **P 01 18 59.7 +1.0**
AAK pmax pmax
comp=Z,4.0nm,0.9s
ZAA0 Zalesovo Array 61.74 333 P **P 01 18 59.5 -1.0**
ZALV Zalesovo Beam 61.74 333 P **P 01 18 59.2 -1.3**
ZALV Zalesovo Beam 61.74 333 P **P 01 18 59.5 -1.0**
comp=Z,3.3nm,0.6s,baz=117,slow=5.9,SNR=15
ZALV PKP2bc **P'P'bc 01 48 19.2 -0.8**
comp=Z,0.9nm,0.6s,baz=305,slow=5.2,SNR=4.5
ZALV LR LR 01 49 03.6
comp=Z,112nm,19.3s,baz=122,slow=39
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 61.74 333 *i* P **P 01 18 59.5 -1.0**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 62.43 308 P **P 01 19 04.2 -1.7**
KBL IAmb IAmb 01 19 07.6
comp=Z,9.8nm,0.8s
KBL Kabul 62.43 308 P **P 01 19 04.2 -1.7**
KBL pmax pmax
comp=Z,10.0nm,0.9s
BTLS Baital 62.73 320 *e*P **P 01 19 06.6 -0.8**
BTLS pmax pmax
comp=Z,25nm,3.9s
KURBB Kurchatov Arra 62.85 328 P **P 01 19 07.4 -0.7**
comp=Z,11nm,0.8s,baz=125,slow=6.2,SNR=62
KURBB PKPPKP P'P'df 01 47 59.9 -10
comp=Z,0.4nm,0.9s,baz=276,slow=3.3,SNR=4.6
KURBB LR LR 01 48 09.7
comp=Z,132nm,21.8s,baz=166,slow=38
comp=Z,11nm,0.8s
KURK Kurchatov 62.86 328 P **P 01 19 07.1 -1.0**
KURK IAmb IAmb 01 19 09.1
comp=Z,21nm,0.9s
KURK Kurchatov 62.86 328 P **P 01 19 07.1 -1.0**
KURK pmax pmax
comp=Z,21nm,0.9s
KURK Kurchatov 62.86 328 P **P 01 19 07.3 -0.8**
BTK Batken 62.91 314 P **P 01 19 07.9 -0.9**
SEY Seymchan 63.11 13 ⇓*e*P **P 01 19 11.0 +1.5**
SEY pmax pmax
comp=Z,33nm,2.5s
DZA Taraz 63.62 317 *e*P **P 01 19 12.2 -1.2**
DZA Taraz 63.62 317 *e*P **P 01 19 12.2 -1.2**
CHGR Chuyangaron 63.63 312 IAmb IAmb 01 19 40.6
comp=Z,12nm,0.9s
SIMJ Simiganj 63.74 312 P **P 01 19 14.0 -0.4**
SIMJ Simiganj 63.74 312 P **P 01 19 14.1 -0.4**
DZET Dzherino 63.93 312 P **P 01 19 15.0 -0.6**
DZET pmax pmax
comp=Z,16nm,0.8s
KK31 Karatay Array 64.25 317 IAmb IAmb 01 19 18.7
comp=Z,9.7nm,0.8s
KKAR Karatay Array 64.25 317 P **P 01 19 16.4 -1.1**
KKAR Karatay Array 64.25 317 P **P 01 19 16.5 -1.1**
KKAR IAmb IAmb 01 19 18.7
comp=Z,6.2nm,0.8s

KKAR	Karatay Array	64.25	317	P	P	01 19 16.4	-1.1
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHM	Chimkent	64.58	316	eP	P	01 19 18.7	-1.0
CHM	Chimkent	64.58	316	eP	P	01 19 18.8	-1.0
BRLS	Borolday	64.69	317	eP	P	01 19 19.7	-0.7
BRLS				pmax	pmax		
	comp=Z,15nm,2.5s						
BRLS	Borolday	64.69	317	eP	P	01 19 19.4	-0.9
BRZS	Berezniki	65.78	325	eP	P	01 19 26.6	-0.7
BRZS	Berezniki	65.78	325	eP	P	01 19 26.6	-0.7
BVAR	Borovoye Array	68.43	327	P	P	01 19 43.5	-0.5
	comp=Z,14nm,0.8s,baz=128,slow=7.3,SNR=33						
	comp=Z,14nm,0.8s						
BRVK	Borovoye	68.50	327	P	P	01 19 44.0	-0.5
BRVK				IAmb	IAmb	01 19 45.9	
	comp=Z,13nm,0.8s						
BRVK	Borovoye	68.50	327	ceP	P	01 19 44.0	-0.5
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s						
BRVK	Borovoye	68.50	327	P	P	01 19 43.9	-0.5
TIXI	Tiksi	69.00	1⇓	eP	P	01 19 47.1	-0.1
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s						
TIXI	Tiksi	69.00	1	P	P	01 19 47.8	+0.7
CASY	Casey	69.69	187	P	P	01 19 53.0	+1.5
CASY				PcP	PcP	01 20 15.2	+1.2
BILL	Bilibino	70.61	15⇑	eP	P	01 19 57.8	+0.6
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NRIK	Noril'sk	71.62	346	IAmb	IAmb	01 20 04.9	
	comp=Z,14nm,0.8s						
NRIK	Noril'sk	71.62	346	P	P	01 20 03.5	+0.3
	comp=Z,12nm,0.7s,baz=130,slow=5.6,SNR=30						
NRIK				LR	LR	01 53 56.2	
	comp=Z,208nm,21.6s,baz=146,slow=38						
	comp=Z,12nm,0.7s						
NRIK	Noril'sk	71.62	346	c iP	P	01 20 03.0	-0.2
NRIK				pmax	pmax		
	comp=Z,15nm,0.8s						
ABKAR	Akbulak array	73.21	321	P	P	01 20 12.2	-0.9
ABKAR				IAmb	IAmb	01 20 14.4	
	comp=Z,9.9nm,0.8s						
ABKAR	Akbulak array	73.21	321	P	P	01 20 12.8	-0.3
SPIA	Saint Paul Isl	73.37	30	P	P	01 20 14.6	+0.8
	baz=248						
P08K	Saint George I	73.52	31	P	P	01 20 15.0	+0.3
	baz=249						
UNV	Unalaska Valle	74.24	34	P	P	01 20 19.4	+0.4
	baz=252						
AKTO	Aktyubinsk	74.73	322	LR	LR	01 57 17.3	
	comp=Z,259nm,20.4s,baz=42,slow=39						
SVE	Sverdlovsk	75.08	329	eP	P	01 20 23.7	-0.2
SVE				pmax	pmax		
	comp=Z,41nm,0.9s						
GAMB	Gambell	75.36	24	P	P	01 20 25.9	+0.7
	baz=245						
ARTI	Arti	76.14	328	P	P	01 20 28.9	-0.9
ARTI				IAmb	IAmb	01 20 30.9	
	comp=Z,14nm,0.8s						
ARTI	Arti	76.14	328	c iP	P	01 20 29.3	-0.6
ARTI				*PP	pwP	01 20 47.6	+0.4
ARTI				S	S	01 30 11.5	+1.9
ARTI				SS	SS	01 35 02.0	-1.8
ARTI				pmax	pmax		
	comp=Z,15nm,0.8s						
M11K	Mekoryuk	76.48	28	P	P	01 20 31.6	-0.1
	baz=251						
S12K	Black Hills	77.23	33	P	P	01 20 35.7	-0.4
	baz=256						
K13K	Kusilvak Mount	77.68	27	P	P	01 20 39.3	+0.9
	baz=252						
M13K	Dall Lake	77.83	28	P	P	01 20 39.9	+0.6
	baz=253						
F14K	Arctic Creek	78.15	23	P	P	01 20 42.1	+1.0
	baz=250						
ANM	Nome	78.22	24	P	P	01 20 41.9	+0.4
	baz=251						
CHNA	Chernabura Isl	78.40	34	P	P	01 20 42.9	+0.3
	baz=258						
L14K	Kuka Creek	78.41	28	P	P	01 20 43.2	+0.7
	baz=254						
J14K	Nanvaranak Lak	78.42	26	P	P	01 20 43.5	+1.0
	baz=253						
N14K	Kuskokwak Cree	78.50	29	P	P	01 20 43.8	+0.8
	baz=255						
O14K	Tigyukauivet M	78.53	30	P	P	01 20 43.3	+0.1
	baz=255						
M14K	Bethel	78.58	28	P	P	01 20 43.9	+0.5
	baz=254						
S14K	Fog Glacier	78.73	33	P	P	01 20 44.4	-0.2
	baz=258						
F15K	North Star Dit	78.89	23	P	P	01 20 45.2	+0.1
	baz=251						
G15K	Niukluk	78.90	24	P	P	01 20 45.4	+0.2
	baz=252						
L15K	Ungalak Mounta	79.05	27	P	P	01 20 46.2	+0.1
	baz=255						
M15K	Kasigluk River	79.17	29	P	P	01 20 47.0	+0.3
	baz=256						
K15K	Wolf Creek Mou	79.19	27	P	P	01 20 47.4	+0.6
	baz=255						
LKRN	Lenkeran, Azer	79.20	309	P	P	01 20 48.9	+1.6
O15K	Ungalikthiuk R	79.23	30	P	P	01 20 47.6	+0.5
	baz=257						
N15K	Kwethluk River	79.33	29	P	P	01 20 47.8	+0.1
	baz=256						
CHGN	Chignik	79.36	33	P	P	01 20 47.9	+0.1
	baz=258						
C16K	Lisburne Hills	79.49	21	P	P	01 20 49.1	+0.9
	baz=250						
H16K	Elim	79.53	24	P	P	01 20 48.8	+0.2
	baz=254						
G16K	Koyuk River	79.70	24	P	P	01 20 49.9	+0.4
	baz=253						
J16K	Anvik River	79.86	26	P	P	01 20 50.8	+0.3
	baz=255						
I17K	Unalakleet	79.98	25	P	P	01 20 51.3	+0.3
	baz=255						
L16K	Owhat River	79.99	28	P	P	01 20 51.0	-0.1
	baz=257						
M16K	Timber Creek	80.07	28	P	P	01 20 51.9	+0.3
	baz=257						
D17K	Noatak River	80.11	21	P	P	01 20 52.2	+0.6
	baz=252						
O16K	Kokwok River B	80.19	30	P	P	01 20 53.0	+0.7
	baz=258						
AKT	Akhty	80.25	311	eP	P	01 20 53.2	0.0
AKT				e		01 21 00.7	
AKT				e*PP	pP	01 21 06.9	-0.8
AKT				pmax	pmax		
	comp=Z,11nm,0.9s						
RDOG	Red Dog Mine	80.28	21	P	P	01 20 53.4	+0.8
	baz=252						
C17K	DeLong Mountai	80.31	21	P	P	01 20 53.0	+0.2
	baz=252						
E17K	Hotham Inlet	80.39	22	P	P	01 20 53.6	+0.4
	baz=254						
G17K	Kiwalik Mounta	80.41	24	P	P	01 20 53.6	+0.3
	baz=255						
F17K	Baldwin Pennin	80.43	23	P	P	01 20 54.2	+0.8
	baz=254						
J17K	VABM Dome	80.56	26	P	P	01 20 54.7	+0.5
	baz=257						
H17K	Granite Mounta	80.57	24	P	P	01 20 54.8	+0.6
	baz=256						
L17K	Donlin	80.63	27	P	P	01 20 55.0	+0.4
	baz=258						
SEKA	Sheki	80.63	311	P	P	01 20 56.4	+1.3
MNGR	Mingechevir, A	80.68	311	P	P	01 20 57.1	+1.8
O17K	Koliganek Bris	80.72	30	P	P	01 20 55.7	+0.6
	baz=259						
Q16K	King Salmon	80.74	31	P	P	01 20 55.5	+0.3
	baz=260						
K17K	Iditarod	80.75	27	P	P	01 20 55.2	-0.1
	baz=258						
CHIR	Chirikof Islan	80.81	34	P	P	01 20 55.6	-0.1
	baz=261						
N17K	Nushagak Hills	80.82	29	P	P	01 20 55.2	-0.5
	baz=259						
M17K	Holitna River	80.87	28	P	P	01 20 56.5	+0.6
	baz=258						
E18K	Tukpahlearik C	80.94	22	IAmb	IAmb	01 21 06.8	
	comp=Z,10nm,0.7s						
E18K	Tukpahlearik C	80.94	22	P	P	01 20 57.0	+0.9
	baz=255						
P17K	Kvichak River	80.94	30	P	P	01 20 57.0	+0.7
	baz=260						
B18K	Kokolik River	81.05	20	P	P	01 20 57.6	+0.9
	baz=253						
C18K	Utukok River	81.06	21	IAmb	IAmb	01 21 19.6	
	comp=Z,59nm,2.0s						
C18K	Utukok River	81.06	21	P	P	01 20 57.2	+0.3
	baz=254						
Q17K	Contact Creek	81.07	31	P	P	01 20 57.5	+0.4
	baz=260						
F18K	Selawik	81.09	23	P	P	01 20 57.5	+0.6
	baz=256						
ABPO	Ambohimpanom	81.16	250	P	P	01 21 00.0	+1.5
ABPO				IAmb	IAmb	01 21 01.6	
	comp=Z,14nm,0.8s						
ABPO	Ambohimpanom	81.16	250	P	P	01 21 00.0	+1.5
ABPO				pmax	pmax		
	comp=Z,14nm,0.8s						
RAYN	Ar Rayn	81.17	293	P	P	01 20 58.6	+0.2
RAYN				IAmb	IAmb	01 21 02.9	
	comp=Z,9.8nm,0.8s						
RAYN	Ar Rayn	81.17	293	P	P	01 20 58.6	+0.2
RAYN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GANJ	Ganja	81.25	311	P	P	01 21 00.1	+1.7
H18K	Honhosa River	81.26	24	P	P	01 20 57.8	-0.2
	baz=257						
G18K	Tagagawik	81.31	24	P	P	01 20 58.0	-0.1
	baz=257						
KIRV	Kirov	81.35	329	P	P	01 20 58.5	+0.1
	comp=Z,7.7nm,0.4s,baz=257,slow=4.0,SNR=4.7						
KIRV				LR	LR	01 59 48.4	
	comp=Z,75nm,20.3s,baz=100,slow=38						
	comp=Z,7.7nm,0.4s						
L18K	Granite Mounta	81.38	27	P	P	01 20 59.2	+0.6
	baz=259						
N18K	Kilae Creek	81.48	29	P	P	01 20 58.8	-0.4
	baz=260						
BELG	Belogornoye	81.48	322	LR	LR	02 01 28.1	
	comp=Z,64nm,19.1s,baz=73,slow=39						
BELG	Belogornoye	81.48	322	deP	P	01 20 58.4	-0.9
BELG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
P18K	Big Mountain,	81.59	30	P	P	01 20 59.9	+0.1
	baz=261						
J18K	Innoko River	81.61	26	P	P	01 20 59.9	+0.1
	baz=259						
M18K	Stony River	81.65	28	P	P	01 21 00.3	+0.2
	baz=260						
O18K	Koktuh Hills	81.67	30	P	P	01 21 00.5	+0.3
	baz=261						
SII	Sitkinak Islan	81.72	33	P	P	01 21 00.7	+0.2
	baz=262						
NAX	Nakhchivan	81.79	309	P	P	01 21 03.0	+1.7
GCSA	Galena City Sc	81.79	25	P	P	01 21 01.7	+1.0
	baz=258						
TTA	Tatalina	81.82	27	P	P	01 21 01.3	+0.3
	baz=260						
VOI	Vohitsoka	81.86	248	P	P	01 21 02.6	+0.6
VOI				IAmb	IAmb	01 21 04.2	
	comp=Z,17nm,0.8s						
F19K	Shaleruckik Mo	81.87	23	P	P	01 21 01.5	+0.5
	baz=257						
G19K	Purcell Mounta	81.99	23	IAmb	IAmb	01 21 05.9	
	comp=Z,12nm,1.1s						
G19K	Purcell Mounta	81.99	23	P	P	01 21 02.2	+0.4
	baz=258						
D19K	Kuna River	82.11	21	P	P	01 21 02.8	+0.4
	baz=257						
H19K	Roundabout Mou	82.12	24	IAmb	IAmb	01 21 12.8	
	comp=Z,8.7nm,0.8s						
H19K	Roundabout Mou	82.12	24	P	P	01 21 03.0	+0.6
	baz=259						
N19K	Bonanza Creek	82.18	29	P	P	01 21 03.0	0.0
	baz=261						
J19K	Poorman	82.19	26	IAmb	IAmb	01 21 13.8	
	comp=Z,44nm,1.9s						
J19K	Poorman	82.19	26	P	P	01 21 03.4	+0.6
	baz=260						
E19K	Redstone River	82.21	22	P	P	01 21 03.3	+0.4
	baz=258						
L19K	White Mountain	82.22	28	P	P	01 21 03.2	+0.2
	baz=261						
VNDA	Vanda	82.24	173	P	P	01 21 03.5	+0.7
	comp=Z,5.5nm,0.7s,baz=313,slow=7.7,SNR=8.9						
	comp=Z,5.5nm,0.7s						
OHAK	Old Harbor	82.29	33	P	P	01 21 03.2	-0.2
	baz=263						
Q19K	Cape Douglas,	82.33	31	P	P	01 21 02.9	-0.8
	baz=262						
M19K	Big River Lodg	82.39	28	P	P	01 21 03.5	-0.4
	baz=261						
GNI	Garni	82.42	310	deP	P	01 21 05.9	+1.1
GNI				pmax	pmax		
	comp=Z,30nm,5.2s						
P19K	Oil Pt	82.64	30	P	P	01 21 05.6	+0.3
	baz=262						
D20K	Etivluk River	82.70	21	P	P	01 21 05.7	+0.3
	baz=258						
F20K	Avaraart Lake	82.70	23	P	P	01 21 06.2	+0.8
	baz=259						
L20K	Farewell, AK	82.72	27	P	P	01 21 05.8	+0.1
	baz=262						
KDAK	Kodiak Island	82.74	32	P	P	01 21 05.9	+0.1
KDAK	Kodiak Island	82.74	32	LR	LR	01 52 14.1	
	comp=Z,292nm,21.6s,baz=93,slow=32						
KDAK	Kodiak Island	82.74	32	P	P	01 21 06.1	+0.3
	baz=263						
KDAK	Kodiak Island	82.74	32	P	P	01 21 05.9	+0.1
KDAK				pmax	pmax		
	comp=Z,64nm,1.8s						
MAW	Mawson	82.75	200	LR	LR	01 51 59.1	
	comp=Z,124nm,21.7s,baz=60,slow=31						
H20K	Anotleneega Mo	82.76	24	P	P	01 21 06.4	+0.6
	baz=260						
E20K	Nigu River	82.76	21	P	P	01 21 06.4	+0.6
	baz=259						
K20K	Telida	82.76	26	IAmb	IAmb	01 21 48.5	
	comp=Z,23nm,1.8s						
K20K	Telida	82.76	26	P	P	01 21 06.6	+0.8
	baz=261						
I20K	Naaghedeneel	82.81	25	P	P	01 21 06.0	0.0
	baz=261						
J20K	Nowinta River	82.86	26	IAmb	IAmb	01 21 09.4	
	comp=Z,8.6nm,0.8s						
J20K	Nowinta River	82.86	26	P	P	01 21 06.5	+0.2
	baz=261						
Q20K	Shuyak Island	82.93	31	P	P	01 21 07.2	+0.5
	baz=263						
M20K	Styx River	82.98	28	IAmb	IAmb	01 21 18.7	
	comp=Z,8.6nm,0.8s						
M20K	Styx River	82.98	28	P	P	01 21 07.7	+0.6
	baz=262						
A21K	Barrow	83.24	18	P	P	01 21 09.7	+1.6
	baz=258						
SPCR	Spurr Chakacha	83.33	29	P	P	01 21 09.5	+0.6
	baz=263						
C21K	Knifeblade Rid	83.43	21	P	P	01 21 09.5	+0.3
	baz=260						
HOM	Homer	83.44	30	P	P	01 21 09.9	+0.6
	baz=264						
NCK	Nalchik	83.44	313⇓	eP	P	01 21 09.0	-0.8
NCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
G21K	Allakaket	83.48	23	P	P	01 21 09.9	+0.5
	baz=261						
PPLA	Purkeypile	83.55	27	IAmb	IAmb	01 22 24.3	
	comp=Z,37nm,1.6s						
PPLA	Purkeypile	83.55	27	P	P	01 21 10.5	+0.4
	baz=263						
B21K	Ikpikpuk River	83.58	20	IAmb	IAmb	01 21 13.0	
	comp=Z,15nm,1.1s						
B21K	Ikpikpuk River	83.58	20	P	P	01 21 10.7	+0.8
	baz=260,SNR=8.7						
F21K	Alatna River	83.60	23	P	P	01 21 11.0	+0.9
	baz=261						
E21K	Killik River	83.60	21	P	P	01 21 11.2	+1.0
	baz=261						
CHUM	Lake Minchumin	83.61	26	P	P	01 21 11.0	+0.8
	baz=263						
CNPM	China Poot	83.63	31	P	P	01 21 10.8	+0.4
H21K	Melozitna Rive	83.64	24	IAmb	IAmb	01 21 21.0	
	comp=Z,7.9nm,0.8s						
H21K	Melozitna Rive	83.64	24	P	P	01 21 10.8	+0.4
	baz=262						
CAST	Castle Rocks	83.66	27	IAmb	IAmb	01 21 20.8	
	comp=Z,10nm,0.7s						
CAST	Castle Rocks	83.66	27	P	P	01 21 10.5	0.0
	baz=263,SNR=7.8						
SKT	Skwentna	83.74	28	IAmb	IAmb	01 21 22.2	
	comp=Z,8.8nm,0.9s						
SKT	Skwentna	83.74	28	P	P	01 21 10.8	-0.1
	baz=264						
CAPN	Captain Cook N	83.80	29	P	P	01 21 11.4	+0.3
	baz=264						
BRSE	Bradley Lake S	83.90	30	P	P	01 21 11.8	+0.1
	baz=265						
I21K	Tanana	83.92	25	P	P	01 21 12.3	+0.6
	baz=263						
KBZ	Khabaz	83.96	314	P	P	01 21 14.4	+2.1
	comp=Z,6.3nm,0.8s,baz=131,slow=2.4,SNR=4.2						
KBZ				LR	LR	02 04 47.6	
	comp=Z,53nm,20.0s,baz=66,slow=40						
	comp=Z,6.3nm,0.8s						
SUA	Susitna One	84.06	29	P	P	01 21 12.1	-0.6
	baz=264,SNR=12						
B22K	Teshekpuk Lake	84.10	20	IAmb	IAmb	01 21 15.6	
	comp=Z,15nm,1.1s						
B22K	Teshekpuk Lake	84.10	20	P	P	01 21 12.2	-0.3
	baz=261,SNR=7.1						
KIV	Kislovodsk	84.12	314	P	P	01 21 13.2	-0.2
KIV				IAmb	IAmb	01 21 19.4	
	comp=Z,7.8nm,0.7s						
KIV	Kislovodsk	84.12	314	⇑P	P	01 21 14.3	+0.9
KIV	Kislovodsk	84.12	314	eP	P	01 21 13.7	+0.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,55nm,20.0s						
KIV	Kislovodsk	84.12	314	P	P	01 21 13.1	-0.2
	comp=Z,10.0nm,0.8s						
D22K	Ayikyak River	84.14	21	P	P	01 21 13.1	+0.3
	baz=262						
BPAW	Bear Paw Mtn.	84.22	26	IAmb	IAmb	01 21 38.0	
	comp=Z,36nm,2.0s						
BPAW	Bear Paw Mtn.	84.22	26	P	P	01 21 13.3	0.0
	baz=264						
SLKM	Skilak Lake	84.23	30	IAmb	IAmb	01 21 25.1	
	comp=Z,16nm,1.0s						
H22K	Ishtalitna Cre	84.25	24	P	P	01 21 13.5	+0.1
	baz=263						
G22K	Bettles	84.32	23	P	P	01 21 14.2	+0.5
	baz=263						
CUT	Chulitna	84.38	28	P	P	01 21 14.5	+0.4
	baz=265						
M22K	Willow	84.39	28	P	P	01 21 14.4	+0.3
	baz=265						
TRF	Thorofare Moun	84.46	27	P	P	01 21 14.8	0.0
	baz=265						
O22K	Cooper Landing	84.47	30	P	P	01 21 15.2	+0.6
	baz=265						
RC01	Rabbit Creek A	84.52	29	IAmb	IAmb	01 21 16.5	
	comp=Z,11nm,0.8s						
RC01	Rabbit Creek A	84.52	29	P	P	01 21 15.2	+0.4
	baz=265,SNR=6.5						
SEW	Seward	84.58	30	P	P	01 21 14.0	-1.1
	baz=266						
BCA	Borcka	84.83	311	⇓P	P	01 21 17.4	+0.5
PMR	Palmer	84.84	29	IAmb	IAmb	01 21 39.3	
	comp=Z,8.3nm,0.9s						
PMR	Palmer	84.84	29	P	P	01 21 15.6	-0.9
	baz=266						
COLD	Coldfoot	84.86	23	IAmb	IAmb	01 21 40.2	
	comp=Z,8.9nm,0.8s						
COLD	Coldfoot	84.86	23	P	P	01 21 16.0	-0.5
	baz=264						
D23K	Nanushuk River	84.87	21	IAmb	IAmb	01 21 28.2	
	comp=Z,6.2nm,0.8s						
D23K	Nanushuk River	84.87	21	P	P	01 21 16.5	0.0
	baz=264						
G23K	Bananza Creek	84.88	23	IAmb	IAmb	01 21 29.3	
	comp=Z,9.9nm,0.8s						
G23K	Bananza Creek	84.88	23	P	P	01 21 16.4	-0.2
	baz=264						
GHO	Glory Hole Cre	84.96	28	IAmb	IAmb	01 21 42.5	
	comp=Z,14nm,1.1s						
C23K	Itkillik River	84.98	20	IAmb	IAmb	01 21 20.0	
	comp=Z,13nm,1.1s						
C23K	Itkillik River	84.98	20	P	P	01 21 17.8	+0.8
	baz=264						
I23K	Minto, Yukon-K	85.02	25	P	P	01 21 18.0	+0.8
	baz=265						
VRH	Novokhopyorsk	85.04	321	eP	P	01 21 17.2	-0.5
VRH				pmax	pmax		
	comp=Z,36nm,0.8s						
MCK	McKinley	85.09	26	P	P	01 21 18.6	+0.9
MCK				IAmb	IAmb	01 21 39.7	
	comp=Z,10nm,1.1s						
MCK	McKinley	85.09	26	P	P	01 21 18.6	+0.9
	baz=266						
MCK	McKinley	85.09	26	P	P	01 21 18.6	+0.9
MCK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NEA2	Nenana	85.10	26	P	P	01 21 17.5	-0.2
	baz=266						
KNK	Knik Glacier	85.15	29	P	P	01 21 18.1	0.0
	baz=266,SNR=7.0						
E23K	Chandalar	85.17	22	IAmb	IAmb	01 21 41.1	
	comp=Z,6.5nm,0.7s						
E23K	Chandalar	85.17	22	P	P	01 21 18.3	+0.2
	baz=265						
PWL	Port Wells	85.18	29	IAmb	IAmb	01 21 20.3	
	comp=Z,12nm,0.8s						
PWL	Port Wells	85.18	29	P	P	01 21 18.7	+0.5
	baz=267,SNR=7.5						
TOLK	Toolik Lake Re	85.23	21	P	P	01 21 18.4	+0.1
	baz=265						
SML	Sawmill	85.24	28	IAmb	IAmb	01 21 34.4	
	comp=Z,13nm,0.8s						
SML	Sawmill	85.24	28	P	P	01 21 18.9	+0.3
	baz=266,SNR=5.7						
M23K	Glacier View	85.53	28	P	P	01 21 20.3	+0.4
	baz=267,SNR=6.6						
D24K	Happy Valley	85.55	21	IAmb	IAmb	01 21 42.7	
	comp=Z,9.6nm,0.7s						
D24K	Happy Valley	85.55	21	P	P	01 21 20.7	+0.8
	baz=265						
E24K	Your Creek	85.59	22	IAmb	IAmb	01 21 37.0	
	comp=Z,22nm,1.9s						
E24K	Your Creek	85.59	22	P	P	01 21 20.6	+0.5
	baz=266						
P23K	Montague Islan	85.60	30	P	P	01 21 20.6	+0.4
	baz=268						
C24K	Franklin Bluff	85.64	20	IAmb	IAmb	01 22 01.5	
	comp=Z,18nm,1.4s						
C24K	Franklin Bluff	85.64	20	P	P	01 21 21.1	+0.8
	baz=266						
H24K	Noodor Dome	85.68	24	P	P	01 21 21.1	+0.4
	baz=267						
SCM	Sheep Creek Mo	85.72	28	P	P	01 21 21.2	+0.3
	baz=267						
F24K	Squaw Lake	85.78	23	P	P	01 21 21.6	+0.5
	baz=266						
GLI	Glacier Island	85.79	29	IAmb	IAmb	01 21 32.2	
	comp=Z,13nm,0.7s						
GLI	Glacier Island	85.79	29	P	P	01 21 21.2	0.0
	baz=268,SNR=6.1						
POKR	Poker Plat Res	85.83	25	P	P	01 21 21.3	0.0
	baz=267						
G24K	Hadweenzic Riv	85.89	23	P	P	01 21 22.2	+0.6
	baz=267						
HDA	Harding Lake	86.00	26	P	P	01 21 23.0	+0.8
	baz=268						
VSLR	Vesyoloye	86.04	313	d iP	P	01 21 23.0	+0.2
VSLR				pmax	pmax		
	comp=Z,30nm,0.9s						
ILAR	Eielson Array	86.04	25	P	P	01 21 22.9	+0.5
	comp=Z,0.5nm,0.7s,baz=248,slow=5.9,SNR=7.9						
FID	Port Fidalgo	86.08	29	IAmb	IAmb	01 21 32.1	
	comp=Z,9.7nm,0.8s						
Q23K	Middleton Isla	86.11	31	P	P	01 21 23.6	+0.9
	baz=268						
SOC	Sochi	86.27	313	eP	P	01 21 22.2	-1.7
SOC				e		01 24 42.7	
SOC				eS	SKSac	01 31 42.8	-3.1
SOC				eSS	SS	01 37 32.6	-2.7
SOC				eSSS	SSS	01 41 06.1	
SOC				pmax	pmax		
	comp=Z,11nm,0.8s						
SOC				MLR	MLR		
	comp=Z,126nm,19.0s						
M24K	Tolsona, Glenn	86.27	28	P	P	01 21 24.2	+0.5
	baz=268						
KLU	Klutina	86.38	29	P	P	01 21 24.3	+0.2
	baz=269						
D25K	Kavik River	86.43	21	P	P	01 21 24.6	+0.4
	baz=268						

EYAK	Cordova Ski Ar	86.44	30	P	P	01 21 24.4	+0.1
	baz=269						
DIV	Divide	86.44	29	IAmb	IAmb	01 21 51.4	
	comp=Z,9.5nm,0.8s						
K24K	Donnelly Dome	86.50	26	P	P	01 21 24.9	+0.3
	baz=269						
H25L	Birch Creek	86.54	24	P	P	01 21 24.9	+0.2
	baz=268						
KLMR	Klimovskoe	86.54	331	eP	P	01 21 22.9	-2.0
KLMR				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD	Divnogorie	86.57	321	eP	P	01 21 24.8	-0.4
VORD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PAX	Paxson	86.62	27	P	P	01 21 25.9	+0.5
	baz=269						
VORR	Voronezh	86.62	321	eP	P	01 21 26.1	+0.6
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PRP	Porcupine Dome	86.64	25	P	P	01 21 25.8	+0.3
	baz=269						
F25K	Christian Rive	86.64	23	P	P	01 21 25.8	+0.4
	baz=268						
VSR	Storozhevoye	86.65	321	eP	P	01 21 25.3	-0.3
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
E25K	Arctic Village	86.69	22	P	P	01 21 26.2	+0.7
	baz=269						
J25K	Salcha River,	86.69	26	P	P	01 21 25.9	+0.2
	baz=269						
HARP	HAARP	86.75	28	P	P	01 21 26.1	+0.1
	baz=269						
LPSR	Galich'ya Gora	86.80	322	eP	P	01 21 27.3	+1.0
LPSR				pmax	pmax		
	comp=Z,23nm,0.8s						
RIDG	Independent Ri	86.91	26	P	P	01 21 26.8	+0.1
	baz=270						
C26K	Camden Bay	86.96	20	P	P	01 21 27.9	+1.1
	baz=269						
BMRM	Bremner River	87.00	29	P	P	01 21 26.6	-0.6
	baz=270						
N25K	Chitina, Valde	87.01	29	P	P	01 21 26.6	-0.7
	baz=270						
KAIM	Kayak Island	87.10	30	P	P	01 21 27.5	-0.1
	baz=270						
F26K	Sheenjek River	87.22	22	P	P	01 21 27.8	-0.4
	baz=270						
SCRK	Sand Creek	87.29	26	P	P	01 21 28.1	-0.6
	baz=270						
G26K	Porcupine Rive	87.36	23	P	P	01 21 28.7	-0.1
	baz=270						
C27K	Jago River	87.38	21	P	P	01 21 28.9	+0.1
	baz=270						
J26L	Joseph Creek	87.47	26	P	P	01 21 29.2	-0.3
	baz=271						
I26K	Coal Creek Min	87.64	25	P	P	01 21 30.0	-0.2
	baz=271						
M26K	Nabesna, AK	87.76	28	P	P	01 21 30.1	-0.8
	baz=271						
OBN	Obninsk	88.16	325	P	P	01 21 32.3	-0.5
	comp=Z,8.7nm,0.5s,baz=52,slow=22,SNR=3.1						
	comp=Z,8.7nm,0.5s						
OBN	Obninsk	88.16	325⇓	eP	P	01 21 32.3	-0.5
OBN				*PP	pP	01 21 48.0	+0.5
OBN				S	SKSac	01 31 57.0	+0.1
OBN				e*SS	ScS	01 32 18.3	-0.5
OBN				e		01 33 50.5	
OBN				eSS	SS	01 38 09.8	+7.6
OBN				SSS	SSS	01 41 42.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,91nm,18.0s						
G27K	Doyon Strip	88.20	23	P	P	01 21 33.0	+0.1
	baz=272						
I27K	Kandik River	88.27	25	P	P	01 21 32.8	-0.4
	baz=272						
L27K	Beaver Creek,	88.28	27	P	P	01 21 32.9	-0.4
	baz=272						
H27K	Steamboat Moun	88.28	24	P	P	01 21 32.7	-0.6
	baz=272						
M27K	Edge Creek, AK	88.28	28	P	P	01 21 33.0	-0.4
	baz=272						
GAZ	Gaziantep	88.29	307	IAmb	IAmb	01 21 39.5	
	comp=Z,17nm,1.2s						
BCAR	Beaver Creek A	88.30	27	P	P	01 21 33.3	-0.1
MESA	MESA	88.33	30	P	P	01 21 33.5	-0.3
	baz=272						
D27M	Malcolm River	88.36	21	P	P	01 21 33.1	-0.4
	baz=273						
EGAK	Eagle	88.50	25	P	P	01 21 34.3	0.0
	baz=273						
ASF	Jabal al Asfar	88.72	302	LR	LR	02 06 42.6	
	comp=Z,35nm,21.0s,baz=144,slow=39						
TOKA	Tokat	88.75	310	IAmb	IAmb	01 21 42.0	
	comp=Z,6.1nm,1.0s						
F28M	Old Crow	88.85	22	P	P	01 21 36.0	+0.1
	baz=274						
E28M	Babbage River	88.91	21	P	P	01 21 36.9	+0.7
	baz=274						
I28M	Miner Creek	88.98	25	P	P	01 21 36.1	-0.5
	baz=274						
YUK3	Moose Creek	88.98	28	P	P	01 21 36.1	-0.7
	baz=273						
APA	Apatity	89.02	337	⇓iP	P	01 21 32.1	-4.5
APA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
D28M	Stokes Point	89.14	21	P	P	01 21 37.8	+0.7
	baz=275						
O28M	Mount Upton	89.17	29	P	P	01 21 37.0	-0.8
	baz=274						
PINM	Pinnacle	89.18	30	P	P	01 21 37.9	+0.3
	baz=274						
DAWY	Dawson	89.31	26	P	P	01 21 38.9	+0.8
	baz=274						
YUK8	Steele Glacier	89.34	29	P	P	01 21 38.2	-0.4
	baz=274						
E29M	Blow River	89.53	22	P	P	01 21 38.8	-0.2
	baz=276						
H29M	Whitestone	89.56	24	P	P	01 21 39.4	+0.2
	baz=275						
G29M	Pine Creek	89.63	23	P	P	01 21 39.5	0.0
	baz=276						
I29M	Ogilvie Camp,	89.66	25	P	P	01 21 39.2	-0.5
	baz=275						
KMBO	Kilima Mbogo	89.78	269	P	P	01 21 42.8	+1.1
KMBO				IAmb	IAmb	01 21 44.7	
	comp=Z,6.8nm,1.0s						
KMBO	Kilima Mbogo	89.78	269	P	P	01 21 42.8	+1.1
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
J29N	Klondike Camp	89.79	26	P	P	01 21 40.0	-0.4
	baz=275						
M29M	Somme Creek	89.86	28	P	P	01 21 39.9	-0.9
	baz=275						
YUK4	Talbot Arm	89.88	29	P	P	01 21 41.0	-0.1
	baz=275						
MMAI	Mount Meron Ar	89.95	303	P	P	01 21 41.8	-0.1
	comp=Z,7.1nm,1.0s,baz=78,slow=8.1,SNR=6.7						
	comp=Z,7.1nm,1.0s						
L29M	L29M	89.95	27	P	P	01 21 41.3	+0.1
	baz=276						
O29M	Mount Kennedy	90.00	30	P	P	01 21 40.1	-1.4
	baz=275						
YUK6	Outpost Mounta	90.05	29	P	P	01 21 40.4	-1.4
	baz=275						
K29M	Barlow Dome	90.15	26	P	P	01 21 40.6	-1.6
	baz=276						
EPYK	Eagle Plains	90.20	24	P	P	01 21 41.6	-0.6
	baz=277						
SIM	Simferopol'	90.24	315	eP	P	01 21 43.0	+0.2
SIM				pmax	pmax		
	comp=Z,15nm,0.9s						
F30M	Barrier River	90.41	22	P	P	01 21 43.0	-0.1
	baz=278						
HYT	Haines Junctio	90.48	29	P	P	01 21 43.3	-0.4
	baz=276						
I30M	Mount Dempster	90.48	25	P	P	01 21 43.4	-0.3
	baz=277						
J30M	Hart River	90.58	25	P	P	01 21 44.3	+0.1
	baz=277						
M30M	Minto, Yukon	90.62	27	P	P	01 21 44.3	+0.1
	baz=277						
KIRS	Kirsehir-Merke	90.78	309	⇑P	P	01 21 45.8	+0.2
P30M	Million Dollar	90.82	30	P	P	01 21 44.7	-0.6
	baz=276						
BR131	Keskin Array S	90.96	310	⇓eP	P	01 21 45.9	-0.6
BRTR	Keskin Array B	90.96	310	P	P	01 21 45.1	-1.4
BRTR	Keskin Array B	90.96	310	P	P	01 21 45.9	-0.6
	comp=Z,1.8nm,0.8s,baz=120,slow=5.6,SNR=14						
BRTR				LR	LR	02 08 50.3	
	comp=Z,53nm,20.8s,baz=87,slow=40						
	comp=Z,1.8nm,0.8s						
BR106	Keskin Array S	90.97	310	P	P	01 21 46.0	-0.5
	comp=Z,3.3nm,0.9s						
BR105	Keskin Array S	90.97	310	P	P	01 21 46.2	-0.4
O30N	Mendenhall	91.17	29	P	P	01 21 46.7	-0.2
	baz=277						
PLBC	Pleasant Camp	91.20	30	P	P	01 21 46.9	-0.1
	baz=277						
F31M	Tsiigehtchic	91.21	22	P	P	01 21 47.0	+0.1
	baz=280						
S31K	Pelican	91.45	32	P	P	01 21 48.4	+0.3
	baz=277						
ARCES	ARCESS Array B	91.62	340	P	P	01 21 48.3	-0.4
	comp=Z,12nm,0.8s,baz=78,slow=6.3,SNR=22						
ARCES				LR	LR	02 07 09.0	
	comp=Z,139nm,19.8s,baz=79,slow=38						
	comp=Z,12nm,0.8s						
SPITS	Spitsbergen Ar	91.67	349	P	P	01 21 49.3	+0.5
	comp=Z,7.9nm,0.8s,baz=83,slow=7.1,SNR=5.9						
SPITS				LR	LR	02 08 07.2	
	comp=Z,118nm,21.3s,baz=22,slow=39						
	comp=Z,7.9nm,0.8s						
SKAG	Skagway	91.72	30	P	P	01 21 49.4	+0.1
	baz=278						
WHY	Whitehorse	91.78	29	P	P	01 21 49.4	-0.3
	baz=278						
M31M	Drury Creek, Y	91.78	28	P	P	01 21 49.2	-0.4
	baz=279						
SIT	Sitka	92.06	33	P	P	01 21 50.7	-0.2
	baz=278						
FARO	Faro, Yukon	92.26	28	IAmb	IAmb	01 21 54.1	
	comp=Z,5.9nm,0.8s						
FARO	Faro, Yukon	92.26	28	P	P	01 21 51.3	-0.6
	baz=280						
R32K	Eaglecrest	92.31	32	P	P	01 21 51.7	-0.5
	baz=279						
S32K	Killisnoo	92.40	32	P	P	01 21 51.6	-0.9
	baz=278						
QSPA	South Pole Qui	92.47	180	P	P	01 21 53.6	+0.8
	comp=Z,3.2nm,0.7s,baz=222,slow=2.4,SNR=9.1						
QSPA				LR	LR	02 06 25.7	
	comp=Z,48nm,18.2s,baz=358,slow=38						
	comp=Z,3.2nm,0.7s						
P32M	Atlin	92.52	30	P	P	01 21 52.7	-0.4
	baz=279						
AK09	Malin Array Si	92.93	321	P	P	01 21 54.4	-0.7
AK08	Malin Array Si	92.94	321	P	P	01 21 54.3	-0.9
AKASG	Malin Array Be	92.95	321	P	P	01 21 54.3	-1.0
	comp=Z,1.9nm,0.7s,baz=68,slow=5.0,SNR=12						
	comp=Z,1.9nm,0.7s						
AKASG	Malin Array Be	92.95	321	iP	P	01 21 54.2	-1.0
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	92.97	332	P	P	01 21 55.5	+0.4
	comp=Z,2.4nm,0.7s,baz=84,slow=4.8,SNR=6.0						
FINES				LR	LR	02 07 29.6	
	comp=Z,86nm,18.1s,baz=60,slow=38						
	comp=Z,2.4nm,0.7s						
FINES	FINESS Array B	92.97	332	iP	P	01 21 58.5	+3.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AK05	Malin Array Si	92.98	321	P	P	01 21 54.5	-0.9
AK07	Malin Array Si	92.98	321	P	P	01 21 54.6	-0.8
AK12	Malin Array Si	93.00	321	P	P	01 21 54.7	-0.8
AK16	Malin Array Si	93.03	321	P	P	01 21 54.8	-0.8
PURM	Purcari	93.05	317	⇑P	P	01 21 56.0	+0.2
AK21	Malin Array Si	93.06	321	P	P	01 21 54.9	-0.8
AK17	Malin Array Si	93.06	321	P	P	01 21 54.9	-0.8
MMPY	Sheldon Lake,	93.14	27	P	P	01 21 55.2	-0.7
	baz=282						
U33K	Whale Pass	93.41	34	P	P	01 21 56.6	-0.6
	baz=280						
CRAG	Craig	93.51	34	P	P	01 21 57.1	-0.6
	baz=280						
WRAK	Wrangell Islan	93.78	33	P	P	01 21 57.4	-1.5
	baz=280						
SORM	Soroca	93.87	318	⇑P	P	01 21 58.9	-0.6
R33M	Jennings River	93.93	30	P	P	01 21 58.5	-1.3
	baz=282						
S34M	Telegraph Cree	94.15	32	P	P	01 22 00.3	-0.3
	baz=281						
C36M	Paulatuk	94.22	20	P	P	01 22 00.9	+0.3
	baz=289						
VLDR	Vladesti	94.38	316	⇑P	P	01 22 02.9	+0.9
V35K	Ketchikan	94.39	34	P	P	01 22 01.9	+0.2
	baz=281						
TLBR	Topalu	94.58	315	⇑P	P	01 22 03.5	+0.6
DLBC	Dease Lake	94.61	31	P	P	01 22 03.2	+0.4
	baz=282						
HARR	Harsova	94.65	315	⇓P	P	01 22 03.6	+0.4
HARR	Harsova	94.65	315	⇓P	P	01 22 03.6	+0.4
T35M	Bob Quinn	94.80	32	P	P	01 22 03.8	+0.2
	baz=282						
WTLY	Watson Lake, Y	94.85	29	P	P	01 22 03.6	-0.2
	baz=284						
U35K	Hyder	95.15	33	P	P	01 22 04.9	-0.2
	baz=282						
TESR	Tescani	95.26	317	⇑P	P	01 22 05.6	-0.4
GIRR	Girov	95.29	317	⇓P	P	01 22 05.5	-0.6
VRI	Vrincioaia	95.31	316	⇑P	P	01 22 06.0	-0.2
VRI	Vrincioaia	95.31	316	⇑P	P	01 22 06.0	-0.2
SPBR	Spulber	95.31	316	⇓P	P	01 22 05.7	-0.5
PLOR	Plostina	95.36	316	⇑P	P	01 22 06.9	+0.4
PLOR	Plostina	95.36	316	⇑P	P	01 22 06.9	+0.4
ONER	Baraj Valea Uz	95.46	317	⇑P	P	01 22 06.5	-0.4
MLR	Muntele Rosu	95.91	316	IAmb	IAmb	01 22 10.4	
	comp=Z,5.0nm,0.9s						
MLR	Muntele Rosu	95.91	316	LR	LR	02 11 58.7	
	comp=Z,108nm,21.7s,baz=63,slow=40						
MLR	Muntele Rosu	95.91	316	⇓P	P	01 22 09.0	-0.1
MLR	Muntele Rosu	95.91	316	⇓P	P	01 22 09.0	-0.1
BURAR	Bucovina Array	96.03	318	⇓P	P	01 22 10.0	+0.4
BURAR	Bucovina Array	96.03	318	P	P	01 22 10.0	+0.4
DOPR	Dopca	96.21	317	⇑P	P	01 22 09.9	-0.5
ARR	Arges	96.84	316	⇑P	P	01 22 13.4	+0.1
TOAD	Toad River Com	96.93	30	P	P	01 22 12.7	-0.6
	baz=287						
BBB	Bella Bella	97.08	37	LR	LR	01 58 05.5	
	comp=Z,151nm,21.3s,baz=237,slow=30						
CBBR	Cluj-Babes-Bol	97.31	318	⇑P	Pdif	01 22 15.7	+0.4
MARR	Marisel-Cluj	97.62	318	⇑P	P	01 22 16.5	-0.3
DRGR		97.87	318	⇓P	P	01 22 16.8	-1.1
DRGR		97.87	318	⇓P	P	01 22 16.8	-1.1
DAG	Danmarks Havn	98.44	352	P	Pdif	01 22 19.8	+0.1
DAG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
DAG	Danmarks Havn	98.44	352	iP	P	01 22 18.0	-1.7
SURR	Surduc	98.49	317	⇓P	Pdif	01 22 21.2	+0.6
SIRR	Siria	98.69	317	⇓P	P	01 22 21.5	0.0
RES	Resolute Bay	98.91	10	IAmb	IAmb	01 22 23.6	
	comp=Z,3.9nm,0.8s						
RES	Resolute Bay	98.91	10	P	Pdif	01 22 21.9	+0.1
	comp=Z,3.9nm,0.8s,baz=316,slow=4.6,SNR=17						
	comp=Z,3.9nm,0.8s						
RES	Resolute Bay	98.91	10	P	Pdif	01 22 22.0	+0.2
LSZ	Lusaka	99.15	255	P	Pdif	01 22 23.2	-1.1
LSZ				IAmb	IAmb	01 22 25.9	
	comp=Z,4.3nm,0.8s						
LSZ	Lusaka	99.15	255	P	Pdif	01 22 23.2	-1.1
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	Hagfors	99.16	332	P	Pdif	01 22 23.4	+0.1
	comp=Z,6.1nm,1.1s,baz=70,slow=6.3,SNR=1.6						
HFS				LR	LR	02 10 42.5	
	comp=Z,192nm,19.0s,baz=66,slow=38						
	comp=Z,6.1nm,1.1s						
NB2	NORSAR Subarra	99.94	334	P	Pdif	01 22 25.4	-1.4
	comp=Z,5.8nm,1.0s,baz=67,slow=4.4						
NB2	NORSAR Subarra	99.94	334	P	Pdif	01 22 25.4	-1.4
	baz=67,slow=4.4						
NOA	NORSAR Array B	99.94	334	P	Pdif	01 22 26.1	-0.7
	comp=Z,2.7nm,0.8s,baz=67,slow=4.6,SNR=8.6						
NOA				LR	LR	02 11 51.3	
	comp=Z,87nm,20.0s,baz=70,slow=38						
	comp=Z,2.7nm,0.8s						
YKA	Yellowknife Ar	100.45	25	P	Pdif	01 22 28.9	0.0
	comp=Z,0.3nm,0.8s,baz=295,slow=5.3,SNR=4.3						
YKA				PKiKP	PKiKP	01 26 55.5	+0.2
	comp=Z,0.3nm,0.8s,baz=285,slow=1.9,SNR=3.8						
YKA				PKKPbc	PKKPbc	01 38 46.4	-0.6
	comp=Z,0.1nm,0.6s,baz=91,slow=2.5,SNR=4.1						
PDAR	Pinedale Array	112.06	42	PKKPbc	PKKPbc	01 38 09.7	-1.2
	comp=Z,0.4nm,0.7s,baz=114,slow=7.2,SNR=4.6						
PDAR				PKKPab	PKKPab	01 38 18.3	-1.0
	comp=Z,0.8nm,0.8s,baz=121,slow=6.0,SNR=7.0						
ULM	Lac du Bonnet	115.86	29	PKP	PKPdf	01 27 24.8	+0.2
	comp=Z,1.6nm,0.8s,baz=316,slow=7.3,SNR=3.2						
S22A	4UR Ranch, Cre	116.14	45	P	PKPdf	01 27 24.5	-1.4
	baz=296						
TXAR	Lajitas Array	122.11	53	PKP	PKiKP	01 27 38.0	+0.5
	comp=Z,0.4nm,0.7s,baz=168,slow=1.4,SNR=4.7						
TORD	Torodi Ar. Bea	123.51	288	PKP	PKiKP	01 27 40.5	0.0
	comp=Z,3.4nm,0.8s,baz=38,slow=2.9,SNR=25						
JFWS	Jewell Farm	123.66	32	PKPdf	PKPdf	01 27 39.7	-0.1
JFWS	Jewell Farm	123.66	32	PKiKP	PKPdf	01 27 39.7	-0.1
L40A	Anamosa	123.71	34		PKiKP	01 27 40.5	+0.4
L44A	Lake County Fo	125.41	31	P	PKPdf	01 27 42.2	-0.9
	baz=316						
O48B	Farmland	128.23	31	P	PKPdf	01 27 48.4	-0.2
	baz=318						
DBIC	Dimbokro	131.06	281	PKP	PKPdf	01 27 55.1	+0.4
	comp=Z,2.7nm,0.7s,baz=128,slow=2.4,SNR=4.8						
PLCA	Paso Flores	138.83	160	PKP	PKPdf	01 28 09.0	+0.4
	comp=Z,2.6nm,0.7s,baz=226,slow=1.9,SNR=8.4						
ATAH	Atahualpa	154.32	101	PKPbc	PKiKP	01 28 44.8	+0.9
	comp=Z,7.2nm,0.9s,baz=196,slow=4.0,SNR=4.9						
CPUP	Villa Florida	156.01	170	PKPab	PKPab	01 29 04.8	+0.7
	comp=Z,4.8nm,0.8s,baz=202,slow=3.5,SNR=8.7						
LPAZ	La Paz	159.82	133	PKP	PKPdf	01 28 42.2	-0.4
	comp=Z,1.1nm,0.8s,baz=85,slow=5.0,SNR=2.5						
SIV	San Ignacio	164.47	150	PKP	PKPdf	01 28 46.8	+0.3
	comp=Z,0.5nm,0.6s,baz=325,slow=4.0,SNR=3.8						
SIV				PKPab	PKPab	01 29 42.0	+0.8
	comp=Z,0.9nm,0.7s,baz=203,slow=4.4,SNR=4.6						

NAO ***10*** *01:10:38.3±3.7, 66°.34N×7°.65E, ML3.2*
IDC ***10*** *01:10:39.0±2.4, 66°.40N×7°.82E, h0km, mbtmp3.6/4, ML2.8/4, Error ellipse: s-maj=25.8km s-min=15.8km az=99.0*
DNK ***10*** *01:10:40.6±1.2, 66°.30N×8°.08E, h0km, ML2.5(UPP), Suspected explosion*
HEL ***10*** *01:10:40.3±0.1, 66°.28N×7°.81E, h10km, ML3.0, ML2.3(BER), MW2.6(BER), Confirmed Earthquake*
BER ***10*** *01:10:41.4±2.7, 66°.37N×7°.57E, h12km±12km, ML2.3, MW2.6, ML3.2(NAO), Confirmed Earthquake*
UPP ***10*** *01:10:44.0±2.3, 66°.29N×7°.83E, h32km, ML2.5*
ISC 10 01:10:35.8±1.3, 66°.33N±0°.04×7°.67E±0°.06, h0km, n140, σ2s70/224, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	Stokkvaagen	2.16	87	Pn	Pn	01 11 14.9	+2.1
STOK				Sn	Sn	01 11 41.3	+1.0
STOK	Stokkvaagen	2.16	87	eP	Pn	01 11 15.0	+2.1
STOK				eS	Sn	01 11 41.3	+1.0
STOK				IAML		01 11 49.4	
	comp=Z,68nm,0.3s						
STOK	Stokkvaagen	2.16	87	eP	Pn	01 11 15.0	+2.1
STOK				eS	Sn	01 11 41.3	+1.0
STOK				IAML		01 11 49.4	
	comp=Z,68nm,0.3s						
KONS	Konsvik	2.20	83	Pn	Pn	01 11 15.8	+2.4
KONS				Sn	Sn	01 11 41.5	+0.2
KONS	Konsvik	2.20	83	eP	Pn	01 11 16.0	+2.5
KONS				eS	Sn	01 11 42.3	+1.0
KONS				IAML		01 11 51.7	
	comp=Z,62nm,0.3s						
KONS	Konsvik	2.20	83	eP	Pn	01 11 16.0	+2.5
KONS				eS	Sn	01 11 42.3	+1.0
KONS				IAML		01 11 51.7	
	comp=Z,62nm,0.3s						
LEIR	Leirfjorden	2.22	93	eP	Pn	01 11 16.0	+2.3
LEIR				eS	Sn	01 11 41.9	+0.1
LEIR				IAML		01 11 51.6	
	comp=Z,53nm,0.4s						
NSS	Namsos	2.54	133	eP	Pn	01 11 20.9	+2.6
NSS				eS	Sn	01 11 49.8	-0.1
NSS				IAML		01 12 04.9	
	comp=Z,57nm,0.5s						
NSS	Namsos	2.54	133	eP	Pn	01 11 20.6	+2.4
NSS				eS	Sn	01 11 49.4	-0.4
MOR8	Moi Rana	2.75	90	Pn	Pn	01 11 25.3	+4.3
MOR8				Sn	Sb	01 11 58.5	-1.3
MOR8	Moi Rana	2.75	90	eP	Pb	01 11 25.6	-0.1
MOR8				eS	Sb	01 11 58.8	-1.1
MOR8				IAML		01 12 00.4	
	comp=Z,55nm,0.7s						
MOR8	Moi Rana	2.75	90	eP	Pb	01 11 25.6	-0.1
MOR8				eS	Sb	01 11 58.8	-1.1
MOR8				IAML		01 12 00.4	
	comp=Z,55nm,0.7s						
LOF	Lofoten	2.92	49	Pn	Pn	01 11 25.0	+1.7
LOF				Sn	Sn	01 11 56.2	-2.8
LOF	Lofoten	2.92	49	eP	Pn	01 11 25.1	+1.7
LOF				eS	Sn	01 11 56.1	-2.8
LOF				IAML		01 12 19.6	
	comp=Z,11nm,0.3s						
LOF	Lofoten	2.92	49	eP	Pn	01 11 25.1	+1.7
LOF				eS	Sn	01 11 56.1	-2.8
LOF				IAML		01 12 19.6	
	comp=Z,11nm,0.3s						
FAUS	Fauske	3.19	67	eP	Pn	01 11 29.7	+2.7
FAUS				eS	Sn	01 12 05.4	-0.3
FAUS				IAML		01 12 10.2	
	comp=Z,29nm,0.3s						
FAUS	Fauske	3.19	67	eP	Pn	01 11 29.7	+2.7
FAUS				eS	Sn	01 12 05.4	-0.3
FAUS				IAML		01 12 10.2	
	comp=Z,29nm,0.3s						
TBLU	Trondheim	3.28	159	eP	Pn	01 11 30.0	+1.6
TBLU				eS	Sn	01 12 05.6	-2.4
TBLU				IAML		01 12 29.0	
	comp=Z,21nm,0.4s						
TBLU	Trondheim	3.28	159	eP	Pn	01 11 30.0	+1.6
TBLU				eS	Sn	01 12 05.6	-2.4
TBLU				IAML		01 12 29.0	
	comp=Z,21nm,0.4s						
STEI	Steigen	3.37	58	Pn	Pn	01 11 32.2	+2.6
STEI				Sn	Sn	01 12 08.8	-1.3
STEI	Steigen	3.37	58	eP	Pn	01 11 32.1	+2.6
STEI				eS	Sn	01 12 09.1	-1.0
STEI				IAML		01 12 32.3	
	comp=Z,6.6nm,0.3s						
STEI	Steigen	3.37	58	eP	Pn	01 11 32.1	+2.6
STEI				eS	Sn	01 12 08.8	-1.3
MOL	Molde	3.77	181	Pn	Pn	01 11 37.9	+2.8
MOL				Sn	Sn	01 12 16.9	-3.3
MOL	Molde	3.77	181	eP	Pn	01 11 37.9	+2.8
MOL				eS	Sn	01 12 19.1	-1.1
MOL				IAML		01 12 21.2	
	comp=Z,24nm,0.4s						
MOL	Molde	3.77	181	eP	Pn	01 11 37.9	+2.8
MOL				eS	Sn	01 12 19.1	-1.1
MOL				IAML		01 12 21.2	
	comp=Z

SALU eS **Sn** **01 12 35.1 -0.7**
FOO Floro 4.89 195 eP **Pn** **01 11 53.7 +3.3**
FOO eS **Sn** **01 12 45.3 -2.3**
FOO IAML 01 12 49.8
comp=Z,11nm,0.3s
FOO Floro 4.89 195 eP **Pn** **01 11 53.7 +3.3**
FOO eS **Sn** **01 12 45.3 -2.3**
FOO IAML 01 12 49.8
comp=Z,11nm,0.3s
RATU Laukkuluspa 4.90 67 P **Pn** **01 11 53.9 +3.3**
RATU Laukkuluspa 4.90 67 P **Pn** **01 11 53.9 +3.3**
RATU Laukkuluspa 4.90 67 eP **Pn** **01 11 53.9 +3.3**
LILU Lilltraesk 5.12 96 P **Pn** **01 11 56.2 +2.6**
LILU S **Sn** **01 12 51.5 -1.7**
LILU Lilltraesk 5.12 96 P **Pn** **01 11 56.2 +2.6**
LILU S **Sn** **01 12 51.5 -1.7**
LILU Lilltraesk 5.12 96 eP **Pn** **01 11 56.2 +2.6**
LILU eS **Sn** **01 12 51.5 -1.7**
DUNU Dundret 5.18 75 P **Pn** **01 11 57.5 +3.0**
DUNU Dundret 5.18 75 P **Pn** **01 11 57.5 +3.0**
DUNU Dundret 5.18 75 eP **Pn** **01 11 57.5 +3.0**
KUA Kurravaara 5.20 66 P **Pn** **01 11 58.1 +3.4**
KUA Kurravaara 5.20 66 P **Pn** **01 11 58.1 +3.4**
KUA Kurravaara 5.20 66 eP **Pn** **01 11 58.1 +3.4**
BREU Bredtraesk 5.21 113 P **Pn** **01 11 58.6 +3.8**
BREU S **Sn** **01 12 55.4 -0.2**
BREU Bredtraesk 5.21 113 P **Pn** **01 11 58.6 +3.8**
BREU S **Sn** **01 12 55.4 -0.2**
BREU Bredtraesk 5.21 113 eP **Pn** **01 11 58.6 +3.8**
BREU eS **Sn** **01 12 55.4 -0.2**
HYA Hoyanger 5.22 188 eP **Pn** **01 11 58.1 +3.1**
HYA eS **Sn** **01 12 55.3 -0.5**
HYA IAML 01 13 07.3
comp=Z,7.4nm,0.3s
HYA Hoyanger 5.22 188 eP **Pn** **01 11 58.1 +3.1**
HYA eS **Sn** **01 12 55.3 -0.5**
HYA IAML 01 13 07.3
comp=Z,7.4nm,0.3s
NC204 NORSAR Array S 5.25 163 eP **Pn** **01 11 58.8 +3.3**
NC204 eS **Sn** **01 12 56.2 -0.5**
NC204 IAML 01 13 17.2
comp=Z,5.9nm,0.5s
TRO Tromso 5.38 47 eP **Pn** **01 12 01.1 +4.1**
NC303 NORSAR Array S 5.38 161 eP **Pn** **01 12 00.7 +3.6**
NC303 eS **Sn** **01 12 59.3 -0.4**
NC303 IAML 01 13 00.3
comp=Z,6.1nm,0.5s
HARU Harads 5.38 86 P **Pn** **01 11 60.0 +2.8**
HARU Harads 5.38 86 P **Pn** **01 11 60.0 +2.8**
HARU Harads 5.38 86 eP **Pn** **01 11 60.0 +2.8**
SUE Sulen 5.45 195 eP **Pn** **01 12 00.9 +2.8**
SUE eS **Sn** **01 12 58.6 -2.8**
SUE IAML 01 13 12.7
comp=Z,15nm,1.0s
SUE Sulen 5.45 195 eP **Pn** **01 12 00.9 +2.8**
SUE eS **Sn** **01 12 58.6 -2.8**
SUE IAML 01 13 12.7
comp=Z,15nm,1.0s
NBO00 NORSAR Array S 5.49 164 eP **Pn** **01 12 01.8 +3.0**
NBO00 eS **Sn** **01 13 01.9 -0.7**
NBO00 IAML 01 13 41.4
comp=Z,5.8nm,0.7s
NB2 NORSAR Subarra 5.54 162 Pn **Pn** **01 12 02.4 +3.1**
baz=340,slow=14
NB2 NORSAR Subarra 5.54 162 Pn **Pn** **01 12 02.4 +3.1**
baz=340,slow=14
NB2 NORSAR Subarra 5.54 162 eP **Pn** **01 12 02.4 +3.1**
NOA NORSAR Array B 5.54 162 Pn **Pn** **01 12 02.5 +3.1**
comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=22
NOA Sn **Sn** **01 13 02.3 -1.4**
comp=Z,0.1nm,0.3s,baz=316,slow=17,SNR=3.6
comp=Z,1.3nm,0.4s
SKAR Skarslia 5.68 177 eP **Pn** **01 12 03.5 +2.2**
SKAR eS **Sn** **01 13 03.9 -3.2**
SKAR IAML 01 13 08.8
comp=Z,4.7nm,0.6s
KIF Kilpisjarvi 5.68 56 Pn **Pn** **01 12 05.2 +4.0**
KIF Kilpisjarvi 5.68 56 eP **Pn** **01 12 05.3 +4.0**
KIF MPN 01 12 06.0
comp=Z,0.7nm,0.2s
KIF Kilpisjarvi 5.68 56 eP **Pn** **01 12 05.3 +4.0**
KIF MPN 01 12 06.0
comp=Z,0.7nm,0.2s
NAO01 NORSAR Array S 5.69 164 eP **Pn** **01 12 04.0 +2.6**
NAO01 eS **Sn** **01 13 06.5 -0.9**
NAO01 IAML 01 13 50.2
comp=Z,6.3nm,0.8s
NAO01 NORSAR Array S 5.69 164 eP **Pn** **01 12 04.0 +2.6**
NAO01 eS **Sn** **01 13 06.5 -0.9**
NAO01 IAML 01 13 50.2
comp=Z,6.3nm,0.8s
HASU Hassela 5.72 133 P **Pn** **01 12 04.0 +2.2**
HASU Hassela 5.72 133 P **Pn** **01 12 04.0 +2.2**
HASU Hassela 5.72 133 eP **Pn** **01 12 04.0 +2.2**
MASU Masugnsbyn 5.75 72 P **Pn** **01 12 05.3 +2.9**
MASU Masugnsbyn 5.75 72 P **Pn** **01 12 05.3 +2.9**
MASU Masugnsbyn 5.75 72 eP **Pn** **01 12 05.3 +2.9**
HUSU Husum 5.76 116 P **Pn** **01 12 05.6 +3.2**
HUSU Husum 5.76 116 P **Pn** **01 12 05.6 +3.2**
HUSU Husum 5.76 116 eP **Pn** **01 12 05.6 +3.2**
SJUU Sjulsmark 5.76 92 P **Pn** **01 12 04.2 +1.8**
SJUU Sjulsmark 5.76 92 P **Pn** **01 12 04.2 +1.8**
SJUU Sjulsmark 5.76 92 eP **Pn** **01 12 04.2 +1.8**
ODEU Stanfors 5.78 103 P **Pn** **01 12 06.0 +3.3**
ODEU Stanfors 5.78 103 P **Pn** **01 12 06.0 +3.3**
ODEU Stanfors 5.78 103 eP **Pn** **01 12 06.0 +3.3**
JETT Jettan, Norway 5.79 50 Pn **Pn** **01 12 07.1 +4.3**
JETT Jettan, Norway 5.79 50 Pn **Pn** **01 12 07.1 +4.3**
JETT Jettan, Norway 5.79 50 eP **Pn** **01 12 07.1 +4.3**
ERTU Ertsjaerv 5.83 81 eP **Pn** **01 12 05.7 +2.4**
ERTU Ertsjaerv 5.83 81 P **Pn** **01 12 06.0 +2.7**
ERTU Ertsjaerv 5.83 81 P **Pn** **01 12 06.0 +2.7**
ERTU Ertsjaerv 5.83 81 eP **Pn** **01 12 05.7 +2.4**
LANU Lannavaara 5.83 66 eP **Pn** **01 12 06.7 +3.3**
LANU eS **Sn** **01 13 08.2 -2.7**
LANU Lannavaara 5.83 66 P **Pn** **01 12 06.9 +3.5**
LANU Lannavaara 5.83 66 P **Pn** **01 12 06.9 +3.5**
LANU Lannavaara 5.83 66 eP **Pn** **01 12 06.7 +3.3**
LANU eS **Sn** **01 13 08.2 -2.7**
NRA0 NORESS Array S 5.87 161 Pn **Pn** **01 12 06.6 +2.6**
baz=348,slow=14
NRA0 Sn **Sn** **01 13 09.5 -2.4**
baz=353,slow=28
NRA0 NORESS Array S 5.87 161 Pn **Pn** **01 12 06.6 +2.6**
baz=348,slow=14
NRA0 Sn **Sn** **01 13 09.5 -2.4**
baz=353,slow=28
NRA0 NORESS Array S 5.87 161 eP **Pn** **01 12 06.6 +2.6**
NRA0 eS **Sn** **01 13 09.5 -2.4**
ASK Askoy 5.97 192 eP **Pn** **01 12 07.3 +2.0**
ASK eS **Sn** **01 13 08.6 -5.7**
ASK IAML 01 13 14.6
comp=Z,4.7nm,0.4s
ASK Askoy 5.97 192 eP **Pn** **01 12 07.3 +2.0**
ASK eS **Sn** **01 13 08.6 -5.7**
ASK IAML 01 13 14.6
comp=Z,4.7nm,0.4s
KLF Kolari 6.50 75 eP **Pn** **01 12 15.3 +2.7**
KLF Kolari 6.50 75 eP **Pn** **01 12 15.3 +2.7**
KTK1 Kautokeino 6.51 59 eP **Pn** **01 12 15.5 +2.9**
KTK1 eS **Sn** **01 13 25.1 -2.4**
KTK1 IAML 01 14 09.6
comp=Z,3.9nm,0.6s
KTK1 Kautokeino 6.51 59 eP **Pn** **01 12 15.8 +3.1**
HEF Hetta 6.51 64 Pn **Pn** **01 12 15.3 +2.7**
HEF Sn **Sn** **01 13 24.2 -3.3**
HEF Hetta 6.51 64 eP **Pn** **01 12 15.3 +2.7**
HEF MPN 01 12 17.1
comp=Z,1.5nm,0.2s
HEF eS **Sn** **01 13 23.7 -3.8**
HEF Hetta 6.51 64 eP **Pn** **01 12 15.3 +2.7**
HEF MPN 01 12 17.1
comp=Z,1.5nm,0.2s
HEF eS **Sn** **01 13 23.7 -3.8**
TOF Tornio 6.74 84 eP **Pn** **01 12 18.0 +2.2**
TOF eS **Sn** **01 13 29.5 -3.7**
TOF Tornio 6.74 84 eP **Pn** **01 12 18.0 +2.2**
TOF eS **Sn** **01 13 29.5 -3.7**
HFS Hagfors 6.78 154 Pn **Pn** **01 12 19.3 +2.8**
baz=348,slow=9.3
HFS Sn **Sn** **01 13 32.3 -2.0**
baz=343,slow=22
HFS Hagfors 6.78 154 Pn **Pn** **01 12 19.3 +2.8**
baz=348,slow=9.3
HFS Sn **Sn** **01 13 32.3 -2.0**
baz=343,slow=22
HFS Hagfors 6.78 154 Pn **Pn** **01 12 19.8 +3.4**
comp=Z,1.7nm,0.3s,baz=338,slow=14,SNR=56
HFS Sn **Sn** **01 13 33.9 -0.3**
comp=Z,0.8nm,0.3s,baz=339,slow=23,SNR=2.6
HFS Lg Lg 01 14 14.5
comp=Z,0.6nm,0.3s,baz=340,slow=30,SNR=2.4
comp=Z,3.7nm,0.3s
HFS Hagfors 6.78 154 eP **Pn** **01 12 19.3 +2.8**
HFS eS **Sn** **01 13 32.3 -2.0**
OBF0 Syolatti, Pyha 7.15 97 eP **Pn** **01 12 23.3 +1.9**
OBF0 eS **Sn** **01 13 38.2 -4.9**
OBF0 Syolatti, Pyha 7.15 97 eP **Pn** **01 12 23.3 +1.9**
OBF0 eS **Sn** **01 13 38.2 -4.9**
VAF Ylistaro 7.22 110 eP **Pn** **01 12 25.8 +3.4**
VAF MPN 01 12 27.4
comp=Z,3.3nm,0.2s
VAF eS **Sn** **01 13 42.1 -2.8**
VAF Ylistaro 7.22 110 eP **Pn** **01 12 25.8 +3.4**
VAF MPN 01 12 27.4
comp=Z,3.3nm,0.2s
VAF eS **Sn** **01 13 42.1 -2.8**
OBF4 Vikkela, Lumij 7.38 94 eP **Pn** **01 12 26.0 +1.4**
OBF4 Vikkela, Lumij 7.38 94 eP **Pn** **01 12 26.0 +1.4**
OUF Merijarvi 7.39 98 eP **Pn** **01 12 26.7 +1.9**
OUF Merijarvi 7.39 98 eP **Pn** **01 12 26.7 +1.9**
ARA0 ARCESS Array S 7.43 56 Pn **Pn** **01 12 26.4 +1.0**
baz=249,slow=14
ARA0 Sn **Sn** **01 13 46.0 -4.2**
baz=242,slow=22
ARA0 ARCESS Array S 7.43 56 Pn **Pn** **01 12 26.4 +1.0**
baz=249,slow=14
ARA0 Sn **Sn** **01 13 46.0 -4.2**
baz=242,slow=22
ARA0 ARCESS Array S 7.43 56 eP **Pn** **01 12 27.6 +2.3**
ARCES ARCESS Array B 7.43 56 Pn **Pn** **01 12 27.4 +2.0**
comp=Z,0.1nm,0.3s,baz=250,slow=13,SNR=15
ARCES Sn **Sn** **01 13 44.4 -5.9**
comp=Z,0.3nm,0.3s,baz=252,slow=24,SNR=5.4
comp=Z,3.0nm,1.0s
KPF Kankaanpaa 7.74 119 eP **Pn** **01 12 32.6 +3.1**
KPF Kankaanpaa 7.74 119 eP **Pn** **01 12 32.6 +3.1**
FIA0 FINESS Array S 9.46 113 Pn **Pn** **01 12 55.4 +2.4**
baz=315,slow=12
FIA0 Sn **Sn** **01 14 36.3 -3.6**
baz=312,slow=22
FIA0 FINESS Array S 9.46 113 Pn **Pn** **01 12 55.4 +2.4**
baz=315,slow=12
FIA0 Sn **Sn** **01 14 36.3 -3.6**
baz=312,slow=22
FIA0 FINESS Array S 9.46 113 eP **Pn** **01 12 55.4 +2.4**
FIA0 eS **Sn** **01 14 36.3 -3.6**
FINES FINESS Array B 9.46 113 Pn **Pn** **01 12 54.1 +1.1**
comp=Z,0.4nm,0.3s,baz=314,slow=12,SNR=26
FINES Sn **Sn** **01 14 34.5 -5.3**
comp=Z,0.6nm,0.3s,baz=312,slow=21,SNR=8.0
FINES Lg Lg 01 15 36.5
comp=Z,0.8nm,0.3s,baz=311,slow=24,SNR=3.7
comp=Z,4.2nm,1.0s
APA0 Apatity Array 9.97 71 Pn **Pn** **01 13 01.1 +1.0**
baz=279,slow=12
APA0 Sn Sn 01 14 44.3 -8.3
baz=276,slow=28
APA0 Apatity Array 9.97 71 Pn **Pn** **01 13 01.1 +1.0**
baz=279,slow=12
APA0 Sn Sn 01 14 44.3 -8.3
baz=276,slow=28
APA0 Apatity Array 9.97 71 eP **Pn** **01 13 01.1 +1.0**
APA0 eS Sn 01 14 44.3 -8.3

*IDC **10** 01:15:29.9±0.6,2°.56N×126°.83E,h0km,mb4.1/15,*
mbtmp4.1/15,Error ellipse: s-maj=35.4km s-min=12.9km
az=74.0
*DJA **10** 01:15:33.6±0.9,3°N±9°×12°7E±°,h10km,M4.2/7,mb4.8/1,*
MLv4.0/7
*NEIC **10** 01:15:35.6±1.0,2°.65N±0°.10×127°.01E±0°.04,h35km±2km,*
mb4.5/12,Error ellipse: s-maj=17.7km s-min=4.5km
az=199.0
ISC 10 01:15:37.1±0.5,**2°.56N**±0°.07×**127°.0E**±0°.1,**h53**km,**n38,**
σ1§07/37,mb4.2/21,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**169**		**Pn**	**01 16 05.7**	**-0.2**
TNTI	**Ternate**	**1.81**	**169**	P	**Pn**	**01 16 05.6**	**-0.4**
MRSI	**Marisa**	**5.49**	**248**	P	Pn	01 16 59.8	+3.4
TOLI2	**Tolitoli**	**6.41**	**257**		**Pn**	**01 17 10.0**	**+1.0**
FAKI	**Fak Fak**	**7.54**	**136**	Pn	**Pn**	**01 17 26.4**	**+1.8**
KNRA	**Kununurra**	**18.20**	**175**		**Pn**	**01 19 46.4**	**+0.3**
KNRA				IAmb	IAmb	01 20 15.1	
comp=Z,72nm,1.5s							
FITZ	**Fitzroy Crossi**	**20.58**	**184**	P	**P**	**01 20 10.7**	**-1.1**
comp=Z,3.1nm,0.6s,baz=6.1,slow=12,SNR=3.6							
comp=Z,3.1nm,0.6s							
WB0	**Warramunga Arr**	**23.34**	**162**	P	**P**	**01 20 40.3**	**-0.7**
WB0				IAmb	IAmb	01 20 42.8	
comp=Z,14nm,0.9s							
WRA	**Warramunga Arr**	**23.49**	**163**	P	**P**	**01 20 41.7**	**-0.7**
comp=Z,9.0nm,0.6s,baz=343,slow=10,SNR=32							
WRA				PcP	**PcP**	**01 24 27.6**	**+0.5**
comp=Z,0.4nm,0.6s,baz=334,slow=1.9,SNR=1.9							
comp=Z,9.0nm,0.6s							
WB2	**Warramunga Arr**	**23.49**	**162**	P	**P**	**01 20 41.6**	**-0.8**
WB2				IAmb	IAmb	01 20 44.0	
comp=Z,16nm,0.9s							
AS31	**Alice Springs**	**26.92**	**166**	P	**P**	**01 21 13.4**	**-0.1**
ASAR	**Alice Springs**	**26.92**	**166**	P	**P**	**01 21 12.5**	**-1.1**
ASAR	**Alice Springs**	**26.92**	**166**	P	**P**	**01 21 13.4**	**-0.1**
comp=Z,1.9nm,0.5s,baz=346,slow=7.4,SNR=20							
ASAR				PcP	**PcP**	**01 24 35.4**	**+0.6**
comp=Z,0.4nm,0.4s,baz=343,slow=2.3,SNR=5.0							
comp=Z,1.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**01 21 53.8**	**-2.5**
comp=Z,0.9nm,0.3s,baz=113,slow=5.6,SNR=4.6							
comp=Z,0.9nm,0.3s							
KSRS	**Korea Array**	**34.73**	**1**	P	**P**	**01 22 22.2**	**+0.1**
comp=Z,0.7nm,0.5s,baz=179,slow=9.1,SNR=2.5							
comp=Z,0.7nm,0.5s							
MJAR	**Matsushiro Arr**	**35.35**	**16**	P	**P**	**01 22 25.7**	**-1.9**
comp=Z,0.7nm,0.4s,baz=198,slow=8.9,SNR=1.7							
comp=Z,0.7nm,0.4s							
BBOO	**Buckleboo**	**36.20**	**167**	P	**P**	**01 22 35.0**	**0.0**
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**01 22 41.2**	**+0.1**
comp=Z,5.8nm,0.8s,baz=353,slow=8.2,SNR=8.5							
comp=Z,5.8nm,0.8s							
BJT	**Baijiatuau**	**38.56**	**347**	P	**P**	**01 22 55.5**	**+0.7**
BJT				IAmb	IAmb	01 22 57.2	
comp=Z,7.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**41.69**	**5**	P	**P**	**01 23 20.4**	**-0.3**
comp=Z,2.3nm,0.7s,baz=172,slow=8.6,SNR=4.9							
comp=Z,2.3nm,0.7s							
ERM	**Erimo**	**41.86**	**18**	P	**P**	**01 23 21.0**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**41.94**	**65**	T	T	02 08 08.1	
baz=252							
H11S2	**WAKE ISLAND Hy**	**41.95**	**65**	T	T	02 08 06.7	
baz=252							
H11S1	**WAKE ISLAND Hy**	**41.95**	**65**	T	T	02 08 12.5	
baz=252							
SONM	**Songino Array**	**48.49**	**342**	P	**P**	**01 24 14.3**	**-0.4**
comp=Z,1.1nm,0.9s,baz=158,slow=8.4,SNR=6.2							
SONM				PcP	**PcP**	**01 25 40.9**	**+0.8**
comp=Z,0.8nm,0.9s,baz=132,slow=4.1,SNR=3.7							
comp=Z,1.1nm,0.9s							
PETK	**Petropavlovsk-**	**56.40**	**22**	P	**P**	**01 25 14.1**	**+1.1**
comp=Z,1.2nm,0.6s,baz=215,slow=7.1,SNR=1.1							
comp=Z,1.2nm,0.6s							
MK31	**Makanchi Array**	**58.68**	**326**	P	**P**	**01 25 28.5**	**-0.7**
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**01 25 28.8**	**-0.5**
comp=Z,1.5nm,0.6s,baz=120,slow=8.3,SNR=15							
comp=Z,1.5nm,0.6s							
KSH	**Kashi**	**59.08**	**315**	P	**P**	**01 25 34.1**	**+1.8**
KSH				pmax	pmax		
comp=Z,3.0nm,1.0s							
ZALV	**Zalesovo Beam**	**61.76**	**333**	P	**P**	**01 25 48.8**	**-1.3**
comp=Z,0.5nm,0.4s,baz=139,slow=8.0,SNR=2.4							
comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**62.88**	**328**	P	**P**	**01 25 56.4**	**-1.3**
comp=Z,1.9nm,0.7s,baz=129,slow=6.3,SNR=15							
comp=Z,1.9nm,0.7s							
GAR	**Garm**	**62.93**	**313**	P	**P**	**01 25 57.7**	**-0.8**
GAR				IAmb	IAmb	01 25 59.6	
comp=Z,6.0nm,0.8s							
BVAR	**Borovoye Array**	**68.45**	**327**	P	**P**	**01 26 33.6**	**0.0**
comp=Z,2.1nm,0.8s,baz=134,slow=6.4,SNR=10							
comp=Z,2.1nm,0.8s							
BRVK	**Borovoye**	**68.53**	**327**	P	**P**	**01 26 33.2**	**-0.8**
BRVK				IAmb	IAmb	01 26 36.0	
comp=Z,2.6nm,0.8s							
NRIK	**Noril'sk**	**71.63**	**346**	P	**P**	**01 26 52.9**	**+0.2**
comp=Z,2.0nm,0.7s,baz=107,slow=5.6,SNR=5.8							
comp=Z,2.0nm,0.7s							
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**01 27 02.0**	**-0.7**
ABKAR				IAmb	IAmb	01 27 04.6	
comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**01 27 02.0**	**-0.7**
KARS	**Kars**	**83.75**	**310**		**P**	**01 28 03.6**	**+2.6**

IDC 10 01:21:37.8±3.3,**3°.97S**×**151°.51E,h0**km,**mb3.9**/3,
mbtmp3.9/3,**MS3.6/1,Error ellipse: s-maj=109.2km**
s-min=46.5km az=121.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**225**	P	P	01 26 45.6	+0.5
2.2nm,0.4s,baz=50,slow=10,SNR=28							
2.2nm,0.4s							
ASAR	**Alice Springs**	**25.93**	**219**	P	P	01 27 11.3	-0.7
0.4nm,0.6s,baz=54,slow=9.0,SNR=9.0							
0.4nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.95**	**239**	P	P	01 27 39.5	+0.3
1.5nm,0.5s,baz=56,slow=9.4,SNR=7.6							
1.5nm,0.5s							
PPT	**Papeete**	**59.20**	**108**	LR	LR	01 53 02.1	
comp=Z,48nm,19.5s,baz=262,slow=32							
TORD	**Torodi Ar. Bea**	**148.82**	**289**	PKPbc	PKPbc	01 41 27.9	-0.6
0.2nm,0.5s,baz=67,slow=1.9,SNR=1.7							

*IDC **10** 01:22:47.0±0.9,58°.64S×25°.25W,h0km,mb3.9/6,*
mbtmp3.9/7,ML4.4/1,MS4.0/4,Error ellipse: s-maj=30.1km
s-min=25.4km az=31.0
*NEIC **10** 01:22:47.5±0.7,59°.15±0°.1×25°.0W±0°.3,h10km±1km,*
mb4.5/9,Error ellipse: s-maj=30.6km s-min=6.9km
az=55.0
ISC 10 01:22:49.3±0.6,**58°.8S**±0°.1×**25°.1W**±0°.1,**h18**km,**n40,**
σ1§49/34,mb4.0/9,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.74**	**301**	Pn	**Pn**	**01 24 42.9**	**+2.0**
VNA1	**Neumayer--Stat**	**13.84**	**156**	P	**Pn**	**01 26 06.4**	**+2.2**
VNA1	**Neumayer--Stat**	**13.84**	**156**	⇑P	**Pn**	**01 26 06.4**	**+2.2**
comp=Z,19nm,0.9s							
VNA3	**Neumayer Olymp**	**14.04**	**159**	P	**Pn**	**01 26 08.9**	**+1.9**
VNA3	**Neumayer Olymp**	**14.04**	**159**	⇑P	**Pn**	**01 26 08.9**	**+1.9**
comp=Z,4.5nm,0.4s							
VNA2	**Neumayer--Watz**	**14.24**	**156**	P	**Pn**	**01 26 11.2**	**+1.5**
baz=322,slow=13							
VNA2	**Neumayer--Watz**	**14.24**	**156**	⇑P	**Pn**	**01 26 11.2**	**+1.5**
comp=Z,1.9nm,0.2s,baz=322,slow=13							
SNAA	**Sanae**	**15.79**	**154**	P	**P**	**01 26 32.1**	**-2.1**
SNAA	**Sanae**	**15.79**	**154**		**Pn**	**01 26 29.4**	**-1.0**
SNAA				IAmb	IAmb	01 26 52.3	
comp=Z,25nm,1.5s							
SNAA	**Sanae**	**15.79**	**154**	⇑P	**P**	**01 26 32.1**	**-2.1**
comp=Z,98nm,0.4s							
SNAA	**Sanae**	**15.79**	**154**	Pn	**P**	**01 26 32.1**	**-2.1**
comp=Z,1.6nm,0.3s,baz=318,slow=14,SNR=51							
SNAA				LR	LR	01 31 33.4	
comp=Z,95nm,21.3s,baz=302,slow=33							
comp=Z,3.6nm,0.4s							
TROLL	**Troll, Antarti**	**17.30**	**151**	P	**P**	**01 26 51.9**	**+0.8**
TROLL	**Troll, Antarti**	**17.30**	**151**	⇑P	**P**	**01 26 51.9**	**+0.8**
comp=Z,192nm,0.8s							
PMSA	**Palmer Station**	**19.12**	**235**	LR	LR	01 32 58.7	
comp=Z,117nm,18.0s,baz=298,slow=32							
AY03	**Cochrane**	**30.16**	**271**	P	**P**	**01 28 56.3**	**-1.6**
QSPA	**South Pole Qui**	**31.47**	**180**	P	**P**	**01 29 06.3**	**-3.3**
QSPA	**South Pole Qui**	**31.47**	**180**	P	**P**	**01 29 11.5**	**+1.9**
comp=Z,1.6nm,1.0s,baz=325,slow=21,SNR=2.4							
comp=Z,1.6nm,1.0s							
PLCA	**Paso Flores**	**33.64**	**282**	P	**P**	**01 29 28.8**	**+0.1**
PLCA				IAmb	IAmb	01 29 29.6	
comp=Z,7.8nm,1.2s							
PLCA	**Paso Flores**	**33.64**	**282**	P	**P**	**01 29 28.8**	**+0.1**
comp=Z,1.8nm,0.8s,baz=188,slow=13,SNR=2.5							
comp=Z,1.8nm,0.8s							
MT09	**Talagante**	**39.25**	**289**	P	**P**	**01 30 16.4**	**-0.3**
MT09				IAmb	IAmb	01 30 41.6	
comp=Z,20nm,1.4s							
MT01	**Popeta**	**39.31**	**289**	P	**P**	**01 30 17.1**	**+0.1**
MT02	**Curacav**	**39.74**	**289**	P	**P**	**01 30 19.9**	**-0.8**
MT02				IAmb	IAmb	01 30 21.8	
comp=Z,11nm,1.0s							
BOSA	**Boshof**	**45.66**	**71**	P	**P**	**01 31 08.8**	**0.0**
comp=Z,1.3nm,0.7s,baz=236,slow=7.3,SNR=3.4							
comp=Z,1.3nm,0.7s							
BDFB	**Brasilia**	**46.29**	**329**	P	**P**	**01 31 14.9**	**+1.1**
BDFB				IAmb	IAmb	01 31 43.5	
comp=Z,5.0nm,1.2s							
SIV	**San Ignacio**	**50.27**	**313**	P	**P**	**01 31 43.0**	**-1.5**
comp=Z,0.5nm,0.5s,baz=170,slow=6.1,SNR=2.6							
comp=Z,0.5nm,0.5s							
H10N1	**ASCENSION HYDR**	**51.46**	**13**	T	T	02 27 22.3	
baz=190,slow=72,SNR=4.2							
H10N3	**ASCENSION HYDR**	**51.46**	**13**	T	T	02 27 35.3	
baz=190,slow=72,SNR=15							
H10N2	**ASCENSION HYDR**	**51.48**	**13**	T	T	02 27 30.6	
baz=190,slow=72,SNR=5.8							
LPAZ	**La Paz**	**52.87**	**305**	P	**P**	**01 32 03.3**	**-1.3**
comp=Z,0.5nm,0.5s,baz=164,slow=7.4,SNR=1.3							
comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**74.92**	**27**	P	**P**	**01 34 29.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**74.92**	**27**	P	**P**	**01 34 29.8**	**+0.9**
comp=Z,0.6nm,0.3s,baz=201,slow=6.0,SNR=20							
comp=Z,0.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**99.71**	**152**	LR	LR	02 18 18.1	
comp=Z,406nm,21.5s,baz=2.0,slow=33							
WRA	**Warramunga Arr**	**99.76**	**160**	LR	LR	02 18 51.4	
comp=Z,288nm,21.9s,baz=330,slow=34							
YKA	**Yellowknife Ar**	**138.93**	**315**	PKP	**PKPdf**	**01 42 12.6**	**-0.3**
comp=Z,0.6nm,0.7s,baz=138,slow=2.2,SNR=8.5							
A36M	**Sachs Harbour**	**147.12**	**326**		**PKPab**	**01 42 29.7**	**-1.3**
M30M	**Minto, Yukon**	**147.75**	**306**		**PKPbc**	**01 42 31.6**	**+0.2**
H31M	**Peel River**	**148.05**	**313**		**PKPbc**	**01 42 32.1**	**0.0**
J30M	**Hart River**	**148.37**	**310**		**PKiKP**	**01 42 33.8**	**-0.8**
SONM	**Songino Array**	**149.69**	**90**	PKPbc	**PKiKP**	**01 42 37.0**	**-0.9**
comp=Z,0.3nm,0.4s,baz=229,slow=1.9,SNR=2.4							
ILAR	**Eielson Array**	**152.73**	**307**	PKPbc	**PKiKP**	**01 42 43.8**	**+0.3**
comp=Z,1.9nm,0.8s,baz=102,slow=1.6,SNR=20							

*NEIC **10** 01:29:56.3±0.9,17°.7S±0°.2×178°.2W±0°.1,h587km±13km,*
mb4.5/5,Error ellipse: s-maj=28.5km s-min=13.5km
az=153.0
*IDC **10** 01:30:00.1±2.2,17°.22S×179°.12W,h574km±21km,mb3.0/6,*
mbtmp3.9/8,Error ellipse: s-maj=85.1km s-min=19.4km
az=148.0
ISC 10 01:29:56.8±0.7,**17°.8S**±0°.1×**178°.4W**±0°.1,**h579**km,**n32,**
σ1§33/31,mb4.3/12,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**271**	P	**P**	**01 31 16.3**	**-0.5**
MSVF	**Nonsavu**	**3.41**	**271**	P	**P**	**01 31 16.1**	**-0.7**
2.2nm,0.4s,baz=214,slow=21,SNR=1.9							
AFI	**Afiamalu**	**7.45**	**59**	P	**P**	**01 31 48.0**	**-2.3**
PINNC	**Pines Island,**	**14.13**	**248**	P	**P**	**01 32 58.1

STKA	**Stephens Creek**	**38.69 241**	P	**P**	**01 36 33.1**	**+1.0**
STKA			IAmb	IAmb	01 36 33.5	
comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.69 241**	P	**P**	**01 36 32.9**	**+0.7**
comp=Z,2.7nm,0.4s,baz=86,slow=9.3,SNR=8.2						
comp=Z,2.7nm,0.4s						
BBOO	**Buckleboo**	**43.47 241**	P	**P**	**01 37 10.2**	**+0.3**
BBOO			IAmb	IAmb	01 37 35.6	
comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**44.65 260**	P	**P**	**01 37 18.4**	**-0.7**
WB0			IAmb	IAmb	01 37 59.5	
comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**44.67 259**	P	**P**	**01 37 18.1**	**-1.2**
WB2			IAmb	IAmb	01 38 00.4	
comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**44.68 259**	P	**P**	**01 37 18.3**	**-1.0**
comp=Z,1.0nm,0.6s,baz=97,slow=6.8,SNR=25						
comp=Z,1.0nm,0.6s						
AS31	**Alice Springs**	**44.84 254**	P	**P**	**01 37 20.3**	**-0.3**
ASAR	**Alice Springs**	**44.84 254**	P	**P**	**01 37 19.7**	**-0.9**
ASAR	**Alice Springs**	**44.84 254**	P	**P**	**01 37 20.4**	**-0.3**
comp=Z,12nm,0.6s,baz=88,slow=8.2,SNR=210						
comp=Z,12nm,0.6s						
KNRA	**Kununurra**	**50.53 264**	P	**P**	**01 38 02.6**	**-0.5**
KNRA			IAmb	IAmb	01 38 15.5	
comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.07 260**	P	**P**	**01 38 21.4**	**+0.1**
QSPA	**South Pole Qui**	**72.21 180**	P	**P**	**01 40 23.1**	**-0.7**
ILAR	**Eielson Array**	**85.81 13**	P	**P**	**01 41 36.5**	**+1.3**
comp=Z,0.3nm,0.8s,baz=227,slow=4.0,SNR=5.7						
comp=Z,0.3nm,0.8s						
TXAR	**Lajitas Array**	**85.93 58**	P	P	01 41 42.0	+5.2
comp=Z,0.2nm,0.7s,baz=244,slow=4.5,SNR=2.5						
comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**87.28 43**	P	**P**	**01 41 46.5**	**+3.6**
comp=Z,0.1nm,0.5s,baz=231,slow=4.6,SNR=1.5						
comp=Z,0.1nm,0.5s						
SYO	**Syowa Base**	**89.23 193**	⇓iP	**P**	**01 41 50.8**	**-0.4**
SIMJ	**Simiganj**	**118.44 305**	PKPdf	**PKPdf**	**01 47 37.1**	**-2.5**
BRTR	**Keskin Array B**	**144.76 315**	PKP	**PKPab**	**01 48 30.7**	**+0.6**
comp=Z,0.6nm,0.9s,baz=54,slow=1.7,SNR=3.7						
GERES	**GERESS Array B**	**147.56 345**	PKPbc	**PKiKP**	**01 48 38.0**	**-0.1**
comp=Z,0.4nm,0.4s,baz=35,slow=3.1,SNR=2.8						

*IDC **10** 01:30:05.2±1.2, 37.°06N×141.°45E, h0km, mb3.4/6, mbtmp3.4/8, ML3.0/2, MS3.8/1, Error ellipse: s-maj=26.3km s-min=23.4km az=109.0*
*NEIC **10** 01:30:08.3±1.9, 37.°13N±0.°04×141.°35E±0.°09, h10km±1km, mb4.2/7, Error ellipse: s-maj=13.2km s-min=5.1km az=62.0*
*JMA **10** 01:30:08.0±0.1, 37.°1N±0.°3×141.°4E±0.°7, h33km, MV3.4/35, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
ISC 10 01:30:07.0±2.0, 37.°08N±0.°05×141.°45E±0.°08, h9km±11km, n43, σ1°04/39, mb3.7/11, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**272**	P	**Pg**	**01 30 18.0**	**+0.8**
ONAJ				S	**Sb**	**01 30 25.1**	**-0.9**
JFFD	**Fukushimafurud**	**0.71**	**271**	P	**Pg**	**01 30 20.9**	**+0.1**
JFFD				S	**Sg**	**01 30 30.2**	**+0.2**
JMST	**Minamisoumatoc**	**0.78**	**325**	⇓P	**Pg**	**01 30 22.5**	**+0.4**
JMST				⇓S	**Sg**	**01 30 32.8**	**+0.5**
JHO	**Hitachi**	**0.85**	**236**	P	**Pg**	**01 30 22.6**	**-0.8**
JMM	**Marumori**	**0.94**	**326**		**Pg**	**01 30 24.9**	**-0.2**
JMM					**Sg**	**01 30 36.1**	**-1.2**
JMM	**Marumori**	**0.94**	**326**	P	**Pg**	**01 30 24.9**	**-0.2**
JMM	**Marumori**	**0.94**	**326**	P	**Pg**	**01 30 25.0**	**-0.1**
JOTO	**OTAMA OYAMA**	**1.01**	**298**	P	**Pg**	**01 30 26.5**	**+0.1**
JFY	**Yanaizu**	**1.43**	**284**	P	**Pn**	**01 30 33.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.66**	**259**	Pn	**Pn**	**01 30 50.4**	**+0.4**
0.7nm,0.3s,baz=68,slow=14,SNR=20							
MJAR				Sn	**Sn**	**01 31 24.4**	**+2.0**
0.6nm,0.3s,baz=344,slow=28,SNR=4.3							
3.0nm,0.3s							
MAJO	**Matsushiro**	**2.66**	**259**		**Pn**	**01 30 50.8**	**+0.7**
MAJO	**Matsushiro**	**2.66**	**259**	P	**Pn**	**01 30 50.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.66**	**259**		**Pn**	**01 30 52.2**	**+2.1**
JSD	**Sado**	**2.71**	**292**		**Pn**	**01 30 50.4**	**-0.3**
JGF	**Kuroka**	**3.62**	**247**	Pn	**Pn**	**01 31 04.2**	**+0.9**
JGF	**Kuroka**	**3.62**	**247**	P	**Pn**	**01 31 04.7**	**+1.4**
JTM	**Tenmabayashi**	**3.71**	**356**		**Pn**	**01 31 05.8**	**+1.3**
INU	**Inuyama**	**3.98**	**246**	Pn	**Pn**	**01 31 08.9**	**+0.7**
INU	**Inuyama**	**3.98**	**246**	P	**Pn**	**01 31 10.2**	**+2.0**
ASAJ	**Asahikawa**	**7.08**	**7**	Pn	**Pn**	**01 31 50.9**	**+0.1**
0.5nm,0.3s,baz=358,slow=30,SNR=1.2							
5.1nm,1.0s							
SONM	**Songino Array**	**27.78**	**304**	P	**P**	**01 35 55.3**	**-1.0**
0.2nm,0.5s,baz=92,slow=9.4,SNR=2.1							
0.2nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	02 05 24.1	
baz=314,slow=75,SNR=54							
H11N1	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	02 05 26.8	
baz=314,slow=75,SNR=79							
H11N3	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	02 05 25.8	
baz=314,slow=75,SNR=66							
H11S1	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	02 06 15.5	
baz=315,slow=76,SNR=24							
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	02 06 18.3	
baz=315,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	02 06 15.4	
baz=315,slow=76,SNR=14							
MK31	**Makanchi Array**	**44.12**	**302**	P	**P**	**01 38 15.2**	**-0.5**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**01 38 15.4**	**-0.2**
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**01 38 14.9**	**-0.7**
0.5nm,0.7s,baz=90,slow=8.3,SNR=6.6							
0.5nm,0.7s							
KURK	**Kurchatov**	**45.92**	**308**	P	**P**	**01 38 29.0**	**-0.9**
KURK				IAmb	IAmb	01 38 36.9	
comp=Z,3.0nm,1.1s							
KURBB	**Kurchatov Arra**	**45.99**	**308**	P	**P**	**01 38 29.6**	**-0.9**
comp=Z,0.4nm,0.5s,baz=83,slow=8.2,SNR=6.8							
comp=Z,0.4nm,0.5s							
C23K	**Itkillik River**	**48.14**	**26**	P	**P**	**01 38 49.3**	**+2.4**
C23K				IAmb	IAmb	01 39 33.5	
comp=Z,5.3nm,1.3s							
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**01 38 57.5**	**+0.5**
comp=Z,0.3nm,0.7s,baz=272,slow=6.6,SNR=4.6							
ILAR				LR	LR	02 03 06.7	
comp=Z,99nm,18.1s,baz=208,slow=40							
comp=Z,0.3nm,0.7s							
D25K	**Kavik River**	**49.59**	**26**	P	**P**	**01 38 59.6**	**+1.4**
D25K				IAmb	IAmb	01 39 28.6	
comp=Z,1.8nm,0.9s							
ARTI	**Arti**	**56.45**	**319**	P	**P**	**01 39 48.5**	**-0.3**
ARTI				IAmb	IAmb	01 40 28.9	
comp=Z,4.2nm,1.2s							
WRA	**Warramunga Arr**	**57.11**	**188**	P	**P**	**01 39 52.8**	**-1.1**
comp=Z,0.7nm,1.0s,baz=6.6,slow=7.2,SNR=1.6							
comp=Z,0.7nm,1.0s							
ABKAR	**Akbulak array**	**57.93**	**310**	P	**P**	**01 39 58.7**	**-0.7**
ABKAR				IAmb	IAmb	01 39 59.6	
comp=Z,0.7nm,0.5s							
ABKAR	**Akbulak array**	**57.93**	**310**	P	**P**	**01 39 58.5**	**-0.9**
ASAR	**Alice Springs**	**60.84**	**188**	P	**P**	**01 40 19.2**	**-0.5**
comp=Z,0.2nm,0.7s,baz=8.7,slow=7.7,SNR=2.1							
comp=Z,0.2nm,0.7s							
H03N2	**Juan Fernandez**	**147.00**	**96**	T	T	04 34 07.2	
baz=291,slow=76,SNR=15							
H03N3	**Juan Fernandez**	**147.01**	**96**	T	T	04 34 09.1	
baz=291,slow=76,SNR=17							
H03N1	**Juan Fernandez**	**147.02**	**96**	T	T	04 34 07.5	
baz=291,slow=76,SNR=15							

*IDC **10** 01:41:03.0±0.9, 26.°37S×71.°76E, h0km, mb4.0/13, mbtmp4.0/13, MS4.1/9, Error ellipse: s-maj=29.4km s-min=21.6km az=41.0*
ISC 10 01:41:04.6±0.9, 26.°4S±0.°2×71.°8E±0.°2, h10km, n32, σ0°43/14, mb4.1/13, MS4.1/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.64**	**2**	T	T	02 04 21.1	
baz=183,slow=76,SNR=27							
H08S2	**Diego Garcia H**	**18.64**	**2**	T	T	02 04 19.6	
baz=183,slow=76,SNR=36							
H08S3	**Diego Garcia H**	**18.66**	**2**	T	T	02 04 22.1	
baz=183,slow=76,SNR=27							
H04N2	**CROZET ISLANDS**	**25.35**	**214**	T	T	02 13 01.8	
baz=46,slow=75,SNR=736							
H04N1	**CROZET ISLANDS**	**25.36**	**214**	T	T	02 13 02.9	
baz=46,slow=75,SNR=1042							
H04N3	**CROZET ISLANDS**	**25.36**	**214**	T	T	02 13 06.9	
baz=46,slow=75,SNR=799							
PALK	**Pallekele**	**34.56**	**16**	LR	LR	01 59 22.1	
comp=Z,108nm,18.2s,baz=156,slow=32							
H01W2	**Cape Leeuwin H**	**37.21**	**114**	T	T	02 27 39.9	
baz=271							
H01W3	**Cape Leeuwin H**	**37.21**	**114**	T	T	02 27 46.4	
baz=271							
H01W1	**Cape Leeuwin H**	**37.23**	**114**	T	T	02 27 39.5	
baz=271							
LBTB	**Lobatse**	**41.45**	**261**	LR	LR	02 02 42.1	
comp=Z,142nm,19.4s,baz=101,slow=31							
SUR	**Sutherland**	**44.46**	**250**	LR	LR	02 05 03.8	
comp=Z,77nm,20.4s,baz=99,slow=32							
CMAR	**Chiang Mai Arr**	**51.80**	**33**	P	**P**	**01 50 13.3**	**+0.5**
0.9nm,0.3s,baz=221,slow=7.7,SNR=9.9							
0.9nm,0.3s							
ASAR	**Alice Springs**	**55.89**	**102**	P	**P**	**01 50 42.8**	**-0.2**
1.7nm,0.9s,baz=265,slow=5.3,SNR=8.6							
1.7nm,0.9s							
WRA	**Warramunga Arr**	**57.42**	**98**	P	**P**	**01 50 53.9**	**0.0**
2.1nm,0.9s,baz=254,slow=7.3,SNR=6.5							
2.1nm,0.9s							
QSPA	**South Pole Qui**	**63.76**	**180**	P	**P**	**01 51 36.6**	**0.0**
1.7nm,0.8s,baz=138,slow=3.8,SNR=3.5							
1.7nm,0.8s							
GNI	**Garni**	**70.81**	**338**	P	**P**	**01 52 21.7**	**+0.3**
1.1nm,0.4s,baz=213,slow=7.7,SNR=3.7							
1.1nm,0.4s							
PMG	**Port Moresby**	**72.85**	**92**	LR	LR	02 21 31.4	
comp=Z,578nm,21.4s,baz=336,slow=33							
MKAR	**Makanchi Array**	**73.45**	**8**	P	**P**	**01 52 36.2**	**-0.8**
1.7nm,0.8s,baz=183,slow=6.1,SNR=7.2							
1.7nm,0.8s							
BRTR	**Keskin Array B**	**74.75**	**330**	P	**P**	**01 52 45.3**	**+0.4**
1.1nm,1.0s,baz=150,slow=6.8,SNR=6.5							
1.1nm,1.0s							
KURBB	**Kurchatov Arra**	**76.89**	**4**	P	**P**	**01 52 56.4**	**-0.3**
1.6nm,1.0s,baz=198,slow=6.1,SNR=6.3							
1.6nm,1.0s							
TORD	**Torodi Ar. Bea**	**78.58**	**291**	P	**P**	**01 53 07.1**	**+0.1**
1.4nm,0.9s,baz=121,slow=5.9,SNR=8.2							
1.4nm,0.9s							
SONM	**Songino Array**	**80.17**	**23**	P	**P**	**01 53 15.1**	**+0.1**
0.4nm,0.8s,baz=210,slow=5.4,SNR=2.4							
0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**80.79**	**8**	P	**P**	**01 53 17.4**	**-0.6**
1.6nm,0.8s,baz=204,slow=3.3,SNR=5.1							
1.6nm,0.8s							
DBIC	**Dimbokro**	**81.07**	**282**	LR	LR	02 26 05.8	
comp=Z,38nm,19.8s,baz=64,slow=33							
JNU	**Nakatsue**	**81.60**	**47**	LR	LR	02 25 53.2	
comp=Z,252nm,22.0s,baz=184,slow=33							
KSRS	**Korea Array**	**82.53**	**42**	LR	LR	02 29 44.5	
comp=Z,87nm,19.9s,baz=170,slow=35							
MLR	**Muntele Rosu**	**82.78**	**329**	P	**P**	**01 53 29.0**	**0.0**
4.3nm,0.9s,baz=138,slow=9.1,SNR=5.3							
4.3nm,0.9s							
AKASG	**Malin Array Be**	**85.45**	**334**	P	**P**	**01 53 41.7**	**-0.5**
0.4nm,0.5s,baz=148,slow=4.4,SNR=6.6							
0.4nm,0.5s							
JHJ	**Hachijo jima 2**	**87.62**	**51**	LR	LR	02 26 16.9	
comp=Z,207nm,21.8s,baz=118,slow=31							
BBTS	**Babate**	**94.89**	**284**	LR	LR	02 35 58.5	
comp=Z,65nm,19.1s,baz=304,slow=35							
NVAR	**Mina Array Bea**	**165.29**	**33**	PKPab	**PKPab**	**02 02 07.7**	**+0.5**
0.7nm,0.6s,baz=303,slow=4.5,SNR=2.7							

*IDC **10** 01:41:31.3±0.6, 2.°61N×126.°96E, h0km, mb4.2/16, mbtmp4.2/16, MS3.5/4, Error ellipse: s-maj=37.4km s-min=12.5km az=74.0*
*DJA **10** 01:41:35.1±1.1, 3.°N±4.°×12.°7E±.°, h11km±12km, M4.3/16, mB5.5/1, mb4.5/6, MLv4.2/16, Mw(mB)5.0/1*
*NEIC **10** 01:41:36.6±0.9, 2.°67N±0.°10×127.°2E±0.°1, h35km±2km, mb4.6/21, Error ellipse: s-maj=24.0km s-min=13.3km az=63.0*
ISC 10 01:41:38.3±0.5, 2.°65N±0.°06×127.°15E±0.°08, h53km, n67, σ1°10/61, mb4.4/35, MS3.2/4, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.88**	**173**	Pn	**Pn**	**01 42 06.4**	**-1.6**
TNTI	**Ternate**	**1.88**	**173**	P	**Pn**	**01 42 06.9**	**-1.1**
SGSI	**Sangihe**	**1.92**	**303**	P	**Pn**	**01 42 06.8**	**-1.8**
LBMI	**Labuha**	**3.28**	**174**	P	**Pn**	**01 42 25.6**	**-1.6**
KMSI	**Cibinong**	**3.78**	**237**	P	**Pn**	**01 42 32.8**	**-1.2**
SANI	**Sanana**	**4.81**	**194**	P	**Pn**	**01 42 49.5**	**+1.3**
SWI	**Sorong**	**5.39**	**130**	P	**Pn**	**01 42 54.6**	**-1.6**
0.1nm14nm,0.4s							
MRSI	**Marisa**	**5.63**	**248**	P	**Pn**	**01 42 59.3**	**-0.2**
LUWI	**Luwuk**	**5.71**	**230**	P	**Pn**	**01 42 59.6**	**-0.9**
0.3nm53nm,0.8s							
APSI	**Ampana**	**6.54**	**237**	P	**Pn**	**01 43 11.9**	**0.0**
0.2nm48nm,1.1s							
TOLI2	**Tolitoli**	**6.54**	**257**		**Pn**	**01 43 10.9**	**-1.1**
KDI	**Kendari**	**7.97**	**215**	P	**Pn**	**01 43 31.1**	**-0.5**
SBUM	**Sibu**	**14.91**	**270**	P	**P**	**01 45 10.6**	**0.0**
KNRA	**Kununurra**	**18.28**	**175**	P	**P**	**01 45 47.4**	**-0.4**
KNRA				IAmb	IAmb	01 46 14.7	
comp=Z,55nm,1.2s							
GUMO	**Guam**	**20.61**	**57**	LR	LR	01 53 09.6	
comp=Z,76nm,21.2s,baz=53,slow=34							
FITZ	**Fitzroy Crossi**	**20.67**	**184**	P	**P**	**01 46 14.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.67**	**184**	P	**P**	**01 46 13.0**	**-0.8**
comp=Z,3.4nm,0.6s,baz=11,slow=6.3,SNR=11							
comp=Z,3.4nm,0.6s							
TPUB	**Ta-pu**	**21.48**	**343**	P	**P**	**01 46 20.6**	**-2.0**
PMG	**Port Moresby**	**23.26**	**121**	LR	LR	01 57 30.8	
comp=Z,106nm,19.3s,baz=228,slow=41							
WB0	**Warramunga Arr**	**23.38**	**163**	P	**P**	**01 46 41.4**	**-1.2**
WB0				IAmb	IAmb	01 46 44.3	
comp=Z,13nm,0.7s							
WRA	**Warramunga Arr**	**23.53**	**163**	P	**P**	**01 46 42.8**	**-1.1**
comp=Z,11nm,0.6s,baz=344,slow=10,SNR=105							
WRA				PcP	**PcP**	**01 50 29.1**	**+0.8**
comp=Z,0.3nm,0.6s,baz=330,slow=2.4,SNR=1.8							
comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**23.54**	**163**	P	**P**	**01 46 43.1**	**-0.9**
WB2				IAmb	IAmb	01 46 45.8	
comp=Z,17nm,0.8s							
KRVT	**Keravat (AS076**	**25.80**	**105**	LR	LR	01 55 33.1	
comp=Z,56nm,21.1s,baz=261,slow=32							
AS31	**Alice Springs**	**26.97**	**166**	P	**P**	**01 47 14.8**	**-0.3**
ASAR	**Alice Springs**	**26.97**	**166**	P	**P**	**01 47 14.8**	**-0.3**
comp=Z,2.5nm,0.5s,baz=348,slow=7.3,SNR=43							
ASAR				PcP	**PcP**	**01 50 36.7**	**+0.7**
comp=Z,0.5nm,0.5s,baz=348,slow=2.6,SNR=4.4							
comp=Z,2.5nm,0.5s							
NJ2	**Nanjing**	**30.27**	**346**	*e*P	**P**	**01 47 45.9**	**+1.5**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.78**	**302**	P	**P**	**01 47 56.5**	**-1.4**
comp=Z,1.0nm,0.3s,baz=118,slow=7.9,SNR=4.8							
comp=Z,1.0nm,0.3s							
PZH	**PanZhiHua**	**34.01**	**317**	P	**P**	**01 48 19.4**	**+2.0**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,100nm,4.9s							
KSRS	**Korea Array**	**34.65**	**1**	P	**P**	**01 48 22.8**	**+0.2**
comp=Z,1.2nm,0.6s,baz=180,slow=10,SNR=4.2							
comp=Z,1.2nm,0.6s							
TIA	**Tai'an**	**34.66**	**346**	P	**P**	**01 48 23.6**	**+0.8**
TIA				pmax	pmax		
comp=Z,3.0nm,0.4s							
MJAR	**Matsushiro Arr**	**35.24**	**16**	P	**P**	**01 48 28.4**	**+0.6**
comp=Z,1.0nm,0.6s,baz=174,slow=6.5,SNR=4.0							
comp=Z,1.0nm,0.6s							
BBOO	**Buckleboo**	**36.26**	**167**	P	**P**	**01 48 36.2**	**-0.3**
HNS	**HongShan**	**36.43**	**343**	⇓P	**P**	**01 48 35.9**	**-2.0**
HNS				pmax	pmax		
comp=Z,9.0nm,0.5s							
DL2	**Dalian**	**36.44**	**353**	P	**P**	**01 48 39.6**	**+1.7**
DL2				pmax	pmax		
comp=Z,15nm,0.7s							
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**01 48 42.9**	**+0.2**
STKA				IAmb	IAmb	01 48 45.9	
comp=Z,6.8nm,0.8s							
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**01 48 43.0**	**+0.3**
comp=Z,7.5nm,0.8s,baz=343,slow=7.6,SNR=17							
comp=Z,7.5nm,0.8s							
BJT	**Baijiatuau**	**38.51**	**346**	P	**P**	**01 48 56.3**	**+0.8**
BJT				IAmb	IAmb	01 48 58.1	
comp=Z,9.3nm,0.8s							
BJI	**Beijing**	**38.53**	**346**	P	**P**	**01 48 56.5**	**+0.9**
BJI				pmax	pmax		
comp=Z,6.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**40.55**	**342**	*e*P	**P**	**01 49 14.1**	**+1.5**
HHC				pmax	pmax		
comp=Z,5.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,200nm,5.1s							
USRK	**Ussuriysk Ar.**	**41.60**	**5**	P	**P**	**01 49 21.6**	**+0.6**
comp=Z,4.9nm,0.8s,baz=179,slow=8.6,SNR=5.1							
comp=Z,4.9nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**41.79**	**65**	T	T	02 34 12.0	
baz=252,slow=74,SNR=27							
H11S1	**WAKE ISLAND Hy**	**41.81**	**65**	T	T	02 34 18.1	
baz=252,slow=74,SNR=7.8							
H11S2	**WAKE ISLAND Hy**	**41.81**	**65**	T	T	02 34 07.5	
baz=252,slow=74,SNR=8.4							
XLT	**XiLinHaoTe**	**42.24**	**348**	*e*P	**P**	**01 49 26.8**	**+0.5**
XLT				pP	pP	01 49 36.0	-3.6
XLT				pmax	pmax		
comp=Z,5.0nm,1.0s							
BNX	**BinXian**	**42.92**	**0**	⇑P	**P**	**01 49 33.4**	**+1.7**
BNX				pmax	pmax		
comp=Z,6.0nm,0.9s							
GTA	**Gaotai**	**44.23**	**329**	*e*P	**P**	**01 49 43.7**	**+1.1**
GTA				sP	pP	01 49 53.2	-2.7
GTA				pmax	pmax		
comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**48.45**	**341**	P	**P**	**01 50 15.7**	**+0.1**
comp=Z,1.3nm,0.8s,baz=151,slow=9.3,SNR=7.0							
SONM				PcP	**PcP**	**01 51 41.6**	**+0.5**
comp=Z,0.7nm,0.8s,baz=141,slow=3.5,SNR=2.8							
comp=Z,1.3nm,0.8s							
MSVF	**Nonsavu**	**54.09**	**114**	LR	LR	02 10 53.6	
comp=Z,228nm,20.2s,baz=189,slow=32							
MK31	**Makanchi Array**	**58.68**	**325**	P	**P**	**01 51 30.1**	**-0.3**
MKAR	**Makanchi Array**	**58.68**	**325**	P	**P**	**01 51 30.1**	**-0.3**
comp=Z,1.7nm,0.6s,baz=121,slow=8.0,SNR=24							
comp=Z,1.7nm,0.6s							
KSH	**Kashi**	**59.10**	**315**	P	**P**	**01 51 37.5**	**+3.9**
KSH				pP	pP	01 51 46.7	-0.7
KSH				pmax	pmax		
comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**61.74**	**333**	P	**P**	**01 51 51.0**	**-0.1**
comp=Z,0.5nm,0.5s,baz=134,slow=8.3,SNR=4.1							
comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**62.87**	**328**	P	**P**	**01 51 58.6**	**-0.2**
comp=Z,2.2nm,0.6s,baz=130,slow=6.5,SNR=35							
comp=Z,2.2nm,0.6s							
KURK	**Kurchatov**	**62.87**	**328**	P	**P**	**01 51 58.5**	**-0.3**
KURK				IAmb	IAmb	01 52 00.6	
comp=Z,3.2nm,0.6s							
KK31	**Karatay Array**	**64.30**	**317**	P	**P**	**01 52 07.7**	**-0.7**
KK31				IAmb	IAmb	01 52 12.5	
comp=Z,4.9nm,0.9s							
KKAR	**Karatay Array**	**64.30**	**317**	P	**P**	**01 52 07.9**	**-0.5**
KKAR	**Karatay Array**	**64.30**	**317**	P	**P**	**01 52 07.4**	**-1.1**
KKAR				IAmb	IAmb	01 52 12.4	
comp=Z,3.1nm,0.9s							
BVAR	**Borovoye Array**	**68.45**	**327**	P	**P**	**01 52 34.8**	**0.0**
comp=Z,2.5nm,0.8s,baz=129,slow=7.1,SNR=7.6							
comp=Z,2.5nm,0.8s							
BRVK	**Borovoye**	**68.52**	**327**	P	**P**	**01 52 35.2**	**+0.1**
BRVK				IAmb	IAmb	01 52 37.5	
comp=Z,3.0nm,0.9s							
NRIK	**Noril'sk**	**71.57**	**346**	P	**P**	**01 52 52.7**	**-0.8**
NRIK	**Noril'sk**	**71.57**	**346**	P	**P**	**01 52 53.4**	**-0.1**
comp=Z,1.9nm,0.6s,baz=123,slow=5.8,SNR=7.5							
comp=Z,1.9nm,0.6s							
ABKAR	**Akbulak array**	**73.25**	**321**	P	**P**	**01 53 04.1**	**+0.2**
ABKAR	**Akbulak array**	**73.25**	**321**	P	**P**	**01 53 04.1**	**+0.2**
ABKAR				IAmb	IAmb	01 53 11.3	
comp=Z,3.0nm,1.2s							
KBZ	**Khabaz**	**84.02**	**314**	P	**P**	**01 54 03.4**	**+0.1**
comp=Z,1.4nm,1.0s,baz=302,slow=8.6,SNR=3.6							
comp=Z,1.4nm,1.0s							
GURO	**Guroymak-BITLI**	**84.54**	**308**	IAmb	IAmb	01 54 08.5	
comp=Z,3.0nm,0.8s							
KOPT	**Kop Dagi**	**85.75**	**310**	IAmb	IAmb	01 54 22.2	
comp=Z,6.0nm,1.0s							
ARCES	**ARCESS Array B**	**91.60**	**340**	P	**P**	**01 54 39.2**	**0.0**
comp=Z,1.6nm,0.8s,baz=74,slow=5.2,SNR=1.7							
comp=Z,1.6nm,0.8s							

*IDC **10** 01:49:49.5±1.0, 9.°84N×126.°24E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=78.6km s-min=16.9km az=74.0*
*NEIC **10** 01:49:52.9±1.3, 9.°71N±0.°06×126.°0E±0.°2, h10km±1km, mb4.6/12, Error ellipse: s-maj=37.7km s-min=8.4km az=81.0*
**ISC 10 01:49:51.6±0.7, 9.°77N±0.

mbtmp4.9/29, ML4.5/2, MS4.1/18, Error ellipse: s-maj=19.9km s-min=9.1km az=77.0

BJI **10** *02:04:56.2, 0.14S×126.47E, h44km, mB5.2/21, mb4.8/66, Ms4.5/32, Ms7 4.3/35*

MOS **10** *02:04:59.0±1.0, 0.28N×126.12E, h40km, mb5.2/59, Error ellipse: s-maj=8.7km s-min=4.5km az=112.1*

NEIC **10** *02:05:00.5, 0.30N×126.25E, h26km*

NEIC **10** *02:05:00.5, 0.10N×126.05E, h26km, Moment Tensor Solution. Duration: 19s6 Moment tensor: Scale 10^16^Nm; Mrr2.10; Mθθ0.10; Mφφ-2.20; Mrθ-1.36; Mθφ-2.44; Mφr-1.34; Fault plane solution: M0 3.54000×10^16^ NP1:φs7.93000°, δ33.02000°, λ53.99000°. NP2:φs228.85000°, δ63.84000°, λ110.91000°. Principal axes: T 2.7911, Plg65.0000°, Azm175.0000°; N 1.4981, Plg19.0000°, Azm39.0000°; P -4.2892, Plg16.0000°, Azm304.0000°;*

NEIC **10** *02:05:01.2±2.0, 0.38N±0.07×126.26E±0.03, h35km±1km, mb5.1/185, Mww5.0/12 Error ellipse: s-maj=12.4km s-min=3.6km az=168.0*

GCMT **10** *02:05:02.2±0.2, 0.34N±0.02×126.20E±0.02, h27km, MW5.1/90, Moment Tensor Solution. s61,c79; s90,c133; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.03±.20; Mθθ-1.35±.12; Mφφ-3.68±.14; Mrθ-1.42±.23; Mφθ-2.31±.08; Mφr0.60±.23; Best double couple: M0 5.28700×10^16^ NP1:φs16.00000°, δ46.00000°, λ68.00000°. NP2: φs227.00000°, δ48.00000°, λ111.00000°. Principal axes: T 5.4670, Plg74.0000°, Azm207.0000°; N -0.3590, Plg16.0000°, Azm32.0000°; P -5.1080, Plg1.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA **10** *02:05:02.0±0.2, 0.7N±2.4×12.6E±.4, h60km±2km, M4.9/62, mb5.0/62, mB5.4/28, MLv4.9/24, Mw(mB)4.9/28, MwMwp4.8/7, Mwp5.1/7*

ISC 10 02:05:01.3±0.3, 0.27N±0.03×126.19E±0.04, h42km±2km, h42km:pP-P, n523, σ1s56/504, mb5.1/208, MS4.3/36, 29C-28D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**67**	Pn	**Pn**	**02 05 21.0**	**-1.7**
TNTI	**Ternate**	**1.27**	**67**	P	**Pn**	**02 05 22.0**	**-0.6**
TNTI	**Ternate**	**1.27**	**67**	P	**Pn**	**02 05 20.8**	**-1.8**
LBMI	**Labuha**	**1.59**	**125**	P	**Pn**	**02 05 25.2**	**-1.8**
KMSI	**Cibinong**	**2.23**	**278**	P	**Pn**	**02 05 34.9**	**-0.9**
KMSI				S	**Sn**	**02 06 04.5**	**+2.3**
SANI	**Sanana**	**2.32**	**185**	P	**Pn**	**02 05 35.3**	**-1.7**
SGSI	**Sangihe**	**3.46**	**349**	P	**Pn**	**02 05 53.8**	**+1.2**
NLAI	**Namlea**	**3.60**	**165**	P	**Pn**	**02 05 54.6**	**-0.1**
LUWI	**Luwuk**	**3.66**	**249**	Pn	**Pn**	**02 05 58.6**	**+3.2**
LUWI	**Luwuk**	**3.66**	**249**	P	**Pn**	**02 05 59.8**	**+4.3**
LUWI	**Luwuk**	**3.66**	**249**	P	**Pn**	**02 05 59.4**	**+3.9**
MRSI	**Marisa**	**4.26**	**273**	P	**Pn**	**02 06 04.3**	**+0.7**
AAI	**Ambon**	**4.41**	**153**	P	**Pn**	**02 06 06.5**	**+0.7**
MSAI	**Masohi**	**4.52**	**143**	P	**Pn**	**02 06 10.3**	**+3.1**
APSI	**Ampana**	**4.69**	**255**	P	**Pn**	**02 06 10.8**	**+1.2**
SWI	**Sorong**	**5.19**	**103**	P	**Pn**	**02 06 17.0**	**+0.5**
	6μm2μm78nm,0.7s						
TOLI2	**Tolitoli**	**5.47**	**279**	Pn	**Pn**	**02 06 22.0**	**+1.6**
KDI	**Kendari**	**5.51**	**220**	P	**Pn**	**02 06 20.5**	**-0.4**
	0.9nm4μm256nm,0.9s						
PCI	**Palu**	**6.46**	**260**	P	**Pn**	**02 06 36.1**	**+2.1**
	0.8nm138nm,1.1s						
BBSI	**Bau Bau**	**6.77**	**212**	P	**Pn**	**02 06 40.3**	**+2.1**
	3μm290nm,1.1s						
FAKI	**Fak Fak**	**6.83**	**118**	Pn	**Pn**	**02 06 39.1**	**0.0**
FAKI	**Fak Fak**	**6.83**	**118**	P	**Pn**	**02 06 39.8**	**+0.7**
FAKI	**Fak Fak**	**6.83**	**118**	P	**Pn**	**02 06 39.1**	**0.0**
	0.4nm4μm81nm,1.1s						
TTSI	**Tana Toraja**	**7.17**	**243**	P	**Pn**	**02 06 44.2**	**+0.5**
	0.6nm2μm149nm,1.2s						
SPSI	**Sidrap Palu**	**7.68**	**237**	P	**Pn**	**02 06 51.6**	**+1.0**
	5μm135nm,0.6s						
KAPI	**Kappang**	**8.30**	**231**	Pn	**Pn**	**02 07 00.9**	**+1.6**
KAPI	**Kappang**	**8.30**	**231**	Pn	**Pn**	**02 06 59.6**	**+0.4**
	5.2nm,0.3s,baz=55,slow=9.4,SNR=14						
KAPI				Sn	**Sn**	**02 08 33.1**	**+1.3**
	1.6nm,0.3s,baz=130,slow=20,SNR=0.8						
KAPI	**Kappang**	**8.30**	**231**	P	**Pn**	**02 07 01.5**	**+2.2**
KAPI	**Kappang**	**8.30**	**231**	P	**Pn**	**02 07 00.9**	**+1.6**
BSSI	**Bau Bau, Buton**	**8.54**	**222**	P	**Pn**	**02 07 03.4**	**+0.8**
	1μm114nm,1.0s						
MYLDM	**Lahad Datu**	**9.10**	**303**	Pn	**Pn**	**02 07 13.3**	**+3.2**
MYLDM	**Lahad Datu**	**9.10**	**303**	P	**Pn**	**02 07 13.9**	**+3.8**
BAKI	**Biak**	**10.02**	**98**	P	**Pn**	**02 07 24.0**	**+1.2**
SOEI	**Soe**	**10.14**	**191**	P	**Pn**	**02 07 26.9**	**+2.3**
SOEI	**Soe**	**10.14**	**191**	P	**Pn**	**02 07 26.1**	**+1.5**
	2μm111nm,1.3s						
BATI	**Baumata**	**10.71**	**194**	P	**Pn**	**02 07 35.0**	**+2.7**
	60nm,1.3s						
WSI	**Waingapu**	**11.49**	**211**	P	**Pn**	**02 07 45.1**	**+2.2**
KKM	**Kota Kinabalu**	**11.49**	**300**		**Pn**	**02 07 42.2**	**-0.8**
KKM	**Kota Kinabalu**	**11.49**	**300**	P	Pn	02 07 48.2	+5.2
BASI	**Baing, Sumba**	**11.83**	**208**	P	**Pn**	**02 07 49.4**	**+1.9**
	2μm2μm146nm,1.3s						
WBSI	**Waikabubak, Su**	**11.95**	**214**	P	**Pn**	**02 07 52.0**	**+2.7**
	1μm75nm,0.7s						
PLAI	**Plampang**	**12.33**	**223**	P	**Pn**	**02 07 58.6**	**+4.2**
PLAI	**Plampang**	**12.33**	**223**	P	**Pn**	**02 07 57.6**	**+3.2**
	50nm,1.1s						
SMPI	**Sarmi**	**12.71**	**100**	P	**Pn**	**02 08 00.6**	**+0.9**
	55nm,1.3s						
TWSI	**Taliwang, Sumb**	**12.89**	**226**	P	**Pn**	**02 08 04.6**	**+2.5**
	41nm,1.1s						
DRS	**Darwin Rock St**	**13.46**	**160**	P	**Pn**	**02 08 10.4**	**+0.6**
SRBI	**Singaraja**	**13.74**	**233**	P	**Pn**	**02 08 16.6**	**+3.0**
	50nm,1.0s						
MTN	**Manton Dam**	**13.92**	**160**	Pn	**Pn**	**02 08 14.6**	**-1.5**
MTN	**Manton Dam**	**13.92**	**160**	P	**Pn**	**02 08 15.5**	**-0.6**
	comp=Z,54nm,1.0s						
MTN	**Manton Dam**	**13.92**	**160**	P	**Pn**	**02 08 15.7**	**-0.4**
SBUM	**Sibu**	**14.13**	**279**	Pn	**Pn**	**02 08 20.1**	**+1.1**
SBUM	**Sibu**	**14.13**	**279**	P	**P**	**02 08 22.9**	**-2.9**
KMMI	**Kalianget**	**14.20**	**239**	P	**Pn**	**02 08 20.1**	**+0.2**
	comp=Z,66nm,1.0s						
GENI	**Genyem**	**14.26**	**102**	P	**Pn**	**02 08 20.7**	**0.0**
GENI	**Genyem**	**14.26**	**102**	P	**Pn**	**02 08 21.8**	**+1.1**
	comp=Z,58nm,1.7s						
KDU	**Kakadu**	**14.30**	**154**	P	**Pn**	**02 08 18.6**	**-2.7**
JAY	**Jayapura**	**14.77**	**101**	LR	LR	02 15 23.7	
	comp=Z,2μm,21.1s,baz=327,slow=42						
JAGI	**Jajag, Banyuwa**	**14.81**	**234**		**P**	**02 08 32.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**14.81**	**234**	P	**P**	**02 08 32.0**	**-1.3**
JAGI	**Jajag, Banyuwa**	**14.81**	**234**	P	**Pn**	**02 08 30.4**	**+2.3**
	comp=Z,2μmcomp=Z,100nm,1.4s						
GMJI	**Gumukmas**	**15.28**	**236**	P	**P**	**02 08 37.2**	**-1.3**
	comp=Z,57nm,1.0s						
KSM	**Kuching**	**15.93**	**274**	P	**P**	**02 08 46.3**	**+0.6**
KSM				IAmb	IAmb	02 08 50.0	
	comp=Z,231nm,1.4s						
KSM	**Kuching**	**15.93**	**274**	P	**P**	**02 08 47.1**	**+1.4**
TABU	**Tabubil**	**15.99**	**110**	P	**Pn**	**02 08 44.5**	**+1.0**
KNRA	**Kununurra**	**16.05**	**171**	Pn	**Pn**	**02 08 44.3**	**+0.1**
KNRA	**Kununurra**	**16.05**	**171**	P	**Pn**	**02 08 43.1**	**-1.0**
	comp=Z,65nm,0.8s						
NGJI	**Ngawi**	**16.54**	**242**	P	**P**	**02 08 53.4**	**+0.9**
	comp=Z,112nm,1.1s						
MMPI	**Merauke**	**16.59**	**122**	P	**P**	**02 08 52.6**	**-0.5**
PCJI	**Pacitan**	**17.17**	**240**	P	**P**	**02 09 00.6**	**+1.1**
	comp=Z,2μmcomp=Z,157nm,1.1s						
SMRI	**Semarang**	**17.32**	**245**	P	**P**	**02 09 03.9**	**+2.8**
SMRI	**Semarang**	**17.32**	**245**	P	**P**	**02 09 01.8**	**+0.7**
	comp=Z,128nm,1.2s						
UGM	**Wanagama**	**17.61**	**242**	P	**P**	**02 09 04.8**	**+0.4**
	comp=Z,69nm,1.4s						
SZP	**Santa**	**18.07**	**342**	P	**P**	**02 09 12.8**	**+3.4**
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**P**	**02 09 10.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**P**	**02 09 11.2**	**-0.4**
	comp=Z,5.3nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**P**	**02 09 10.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=26,slow=9.6,SNR=12						
	comp=Z,33nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.26**	**182**	P	**Pn**	**02 09 12.0**	**+0.3**
TPI	**Tanjungpandan**	**18.77**	**261**	P	**Pn**	**02 09 17.8**	**-0.2**
KPJI	**Karang Pucung**	**18.80**	**246**	P	**Pn**	**02 09 18.2**	**-0.1**
	comp=Z,118nm,1.0s						
CMJI	**Cimerak**	**19.42**	**245**	P	**P**	**02 09 24.1**	**-0.1**
	comp=Z,77nm,1.0s						
LEM	**Lembang**	**19.83**	**249**	P	**P**	**02 09 26.6**	**-2.4**
	comp=Z,4.4nm,0.3s,baz=83,slow=17,SNR=1.3						
	comp=Z,8.4nm,0.3s						
LEM	**Lembang**	**19.83**	**249**	P	**Pn**	**02 09 30.2**	**-0.5**
BBJI	**Bungbulang**	**20.02**	**247**	P	Pn	02 09 33.9	+0.9
CNJI	**Cibinong**	**20.45**	**248**	P	**P**	**02 09 32.8**	**-2.7**
SBJI	**Serang**	**21.01**	**252**	P	**P**	**02 09 40.3**	**-1.2**
WB0	**Warramunga Arr**	**21.48**	**158**	P	**P**	**02 09 44.9**	**-1.6**
WB0				IAmb	IAmb	02 09 50.6	
	comp=Z,97nm,0.9s						
CGJI	**Cibinong**	**21.57**	**251**	P	**P**	**02 09 48.2**	**+0.7**
	comp=Z,58nm,0.8s						
WRAB	**Tennant Creek**	**21.61**	**159**	*d iP*	**P**	**02 09 47.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,62nm,0.9s						
WRA	**Warramunga Arr**	**21.62**	**159**	P	**P**	**02 09 47.0**	**-1.0**
	comp=Z,63nm,0.7s,baz=335,slow=11,SNR=148						
WRA				S	**S**	**02 13 42.7**	**-2.8**
	comp=Z,2.4nm,1.0s,baz=337,slow=22,SNR=3.3						
WRA				PcP	**PcP**	**02 13 48.6**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=330,slow=2.0,SNR=4.6						
	comp=Z,63nm,0.7s						
WRA	**Warramunga Arr**	**21.62**	**159**	*i* P	**P**	**02 09 46.5**	**-1.5**
WRA				pmax	pmax		
	comp=Z,60nm,0.7s						
WB2	**Warramunga Arr**	**21.62**	**159**	P	**P**	**02 09 46.6**	**-1.5**
WB2				IAmb	IAmb	02 09 54.9	
	comp=Z,125nm,1.1s						
COEN	**Coen**	**21.97**	**131**	P	**P**	**02 09 51.6**	**-0.2**
COEN				IAmb	IAmb	02 09 58.0	
	comp=Z,117nm,1.1s						
COEN	**Coen**	**21.97**	**131**	P	**P**	**02 09 52.6**	**+0.8**
COEN	**Coen**	**21.97**	**131**	P	**P**	**02 09 53.5**	**+1.6**
MBWA	**Marble Bar**	**22.22**	**196**	P	**P**	**02 09 53.0**	**-1.4**
MBWA	**Marble Bar**	**22.22**	**196**	P	**P**	**02 09 57.1**	**+2.7**
MDSI	**Maura Dua**	**22.50**	**258**	P	**P**	**02 09 55.9**	**-1.6**
	comp=Z,27nm,0.9s						
PSAC1	**Pilbara Seismi**	**22.55**	**196**	P	**P**	**02 09 56.5**	**-1.6**
	comp=Z,47nm,1.1s						
PSA00	**Pilbara Seismi**	**22.58**	**196**	P	**P**	**02 09 56.5**	**-1.8**
PSA00	**Pilbara Seismi**	**22.58**	**196**	P	**P**	**02 09 56.7**	**-1.6**
PSA00	**Pilbara Seismi**	**22.58**	**196**	P	**P**	**02 10 00.4**	**+2.1**
XMI	**Christmas Isla**	**23.01**	**242**	P	**P**	**02 10 06.4**	**+3.5**
XMIS	**Christmas Isla**	**23.05**	**242**	P	**P**	**02 10 02.1**	**-1.2**
TPUB	**Ta-pu**	**23.52**	**347**	P	**P**	**02 10 04.5**	**-3.3**
TPUB				IAmb	IAmb	02 10 13.4	
	comp=Z,65nm,0.9s						
TPUB	**Ta-pu**	**23.52**	**347**	P	**P**	**02 10 10.9**	**+3.1**
SSLB	**Suanglung**	**23.92**	**348**	P	**P**	**02 10 10.2**	**-1.3**
QIS	**Mount Isa**	**24.51**	**148**	P	**P**	**02 10 16.8**	**-0.2**
	comp=Z,107nm,0.9s						
QIS	**Mount Isa**	**24.51**	**148**	P	**P**	**02 10 17.4**	**+0.4**
QIZ	**Qiongzhong**	**24.59**	**320**	P	**P**	**02 10 18.5**	**+0.7**
QIZ				S	**S**	**02 14 38.2**	**+2.0**
QIZ				LR	LR		
	comp=Z,250nm,9.2s						
QIZ				LR	LR		
	comp=Z,180nm,8.6s						
QIZ				LR	LR		
	comp=Z,550nm,15.2s						
AS31	**Alice Springs**	**24.95**	**163**	P	**P**	**02 10 20.9**	**-0.1**
AS31	**Alice Springs**	**24.95**	**163**	P	**P**	**02 10 20.3**	**-0.6**
	comp=Z,22nm,0.9s						
ASAR	**Alice Springs**	**24.95**	**163**	P	**P**	**02 10 20.7**	**-0.3**
	comp=Z,48nm,0.8s,baz=339,slow=8.4,SNR=206						
ASAR				PcP	**PcP**	**02 13 55.6**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=351,slow=2.6,SNR=5.1						
ASAR				S	**S**	**02 14 47.9**	**+5.9**
	comp=Z,7.2nm,1.1s,baz=342,slow=18,SNR=9.3						
ASAR				ScP	**ScP**	**02 17 37.3**	**+5.6**
	comp=Z,0.6nm,0.9s,baz=337,slow=2.4,SNR=2.5						
	comp=Z,48nm,0.8s						
AS06	**Alice Springs**	**24.95**	**163**	P	**P**	**02 10 21.1**	**+0.1**
	comp=Z,135nm,0.7s						
AS01	**Alice Springs**	**24.96**	**163**	P	**P**	**02 10 21.8**	**+0.7**
AS19	**Alice Springs**	**25.00**	**163**	P	**P**	**02 10 21.6**	**+0.1**
	comp=Z,45nm,0.9s						
WRKA	**Warakurna**	**25.24**	**176**	P	**P**	**02 10 22.7**	**-0.9**
	comp=Z,68nm,1.1s						
WRKA	**Warakurna**	**25.24**	**176**	P	**P**	**02 10 24.6**	**+1.0**
UBPT	**Khong Chiam**	**25.33**	**307**	P	**P**	**02 10 24.1**	**-0.3**
UBPT				IAmb	IAmb	02 10 28.8	
	comp=Z,77nm,1.6s						
UBPT	**Khong Chiam**	**25.33**	**307**	P	**P**	**02 10 28.2**	**+3.8**
IPM	**Ipoh**	**25.48**	**280**	P	**P**	**02 10 25.2**	**-0.8**
MTSU	**Mount Surprise**	**25.54**	**137**	P	**P**	**02 10 25.6**	**-0.7**
	comp=Z,20nm,1.1s						
MTSU	**Mount Surprise**	**25.54**	**137**	P	**P**	**02 10 27.3**	**+0.9**
GIRL	**Giralia**	**25.58**	**206**	P	P	02 10 17.6	-9.1
PPI	**Padang Panjang**	**25.81**	**268**	P	**P**	**02 10 28.4**	**-0.4**
	comp=Z,23nm,0.7s						
KULM	**Kulim**	**25.99**	**281**	P	**P**	**02 10 29.6**	**-0.9**
JOW	**Kunigami**	**26.48**	**4**	IAmb	IAmb	02 10 37.5	
	comp=Z,64nm,0.8s						
JOW	**Kunigami**	**26.48**	**4**	P	**P**	**02 10 36.8**	**+2.0**
RPSI	**Rantau Prapat**	**27.36**	**275**	P	**P**	**02 10 41.5**	**-1.4**
PSI	**Prapat**	**27.37**	**276**	P	**P**	**02 10 44.8**	**+1.7**
PSI	**Prapat**	**27.37**	**276**	P	**P**	**02 10 41.5**	**-1.6**
PSI				pmax	pmax		
	comp=Z,27nm,1.2s						
MEEK	**Meekatharra**	**27.73**	**195**	P	**P**	**02 10 45.1**	**-1.0**
	comp=Z,18nm,0.8s						
MEEK	**Meekatharra**	**27.73**	**195**	P	**P**	**02 10 48.8**	**+2.7**
TV1H	**Townsville Har**	**28.03**	**135**	P	**P**	**02 10 49.8**	**+1.1**
NONG	**Nongkai**	**28.74**	**309**	P	**P**	**02 10 58.0**	**+2.9**
SLVN	**Son La**	**30.19**	**315**	P	**P**	**02 11 10.3**	**+2.3**
SRDT	**SRDT**	**30.21**	**299**	P	**P**	**02 11 10.8**	**+2.6**
JCJ	**Chichijima**	**30.78**	**29**	LR	LR	02 21 57.3	
	comp=Z,207nm,20.9s,baz=238,slow=33						
FORT	**Forrest**	**30.93**	**177**	P	**P**	**02 11 13.8**	**-0.5**
	comp=Z,67nm,0.8s						
FORT	**Forrest**	**30.93**	**177**	P	**P**	**02 11 15.9**	**+1.5**
INKA	**Innaminka**	**31.16**	**155**	P	**P**	**02 11 18.8**	**+2.4**
BSI	**Banda Aceh**	**31.28**	**280**	P	**P**	**02 11 16.3**	**-1.4**
	comp=Z,14nm,1.2s						
KMBL	**Kambalda**	**31.73**	**187**	P	**P**	**02 11 20.9**	**-0.5**
	comp=Z,30nm,1.2s						
KMBL	**Kambalda**	**31.73**	**187**	P	**P**	**02 11 24.3**	**+2.9**
QLP	**Quilpie**	**31.86**	**148**	P	P	02 11 14.0	-8.6
BLDU	**Ballidu**	**32.01**	**196**	P	**P**	**02 11 21.9**	**-2.0**
GYA	**Guiyang**	**32.12**	**326**	⇓P	**P**	**02 11 29.2**	**+4.2**
GYA				pmax	pmax		
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.29**	**306**	P	**P**	**02 11 25.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**32.29**	**306**	P	**P**	**02 11 25.1**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=135,slow=6.8,SNR=12						
CMAR				PcP	**PcP**	**02 14 15.6**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=165,slow=1.7,SNR=11						
	comp=Z,1.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**32.29**	**306**	*ce*P	**P**	**02 11 25.8**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NJ2	**Nanjing**	**32.36**	**348**	*e*P	**P**	**02 11 27.9**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CHTO	**Chiang Mai**	**32.48**	**306**	P	**P**	**02 11 27.6**	**-0.5**
CHTO	**Chiang Mai**	**32.48**	**306**	P	**P**	**02 11 27.6**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,27nm,1.4s						
LCRK	**Leigh Creek**	**32.62**	**161**	P	**P**	**02 11 30.5**	**+1.3**
JNU	**Nakatsue**	**32.97**	**7**	P	**P**	**02 11 31.3**	**-1.0**
RK1H	**Rockhampton Ha**	**33.33**	**137**	P	**P**	**02 11 36.3**	**+0.8**
KMI	**Kunming**	**33.53**	**319**	⇑P	**P**	**02 11 41.4**	**+3.9**
KMI				pmax	pmax		
	comp=Z,15nm,1.6s						
KMI				LR	LR		
	comp=Z,270nm,17.1s						
KMI				LR	LR		
	comp=Z,300nm,20.7s						
KMI				LR	LR		
	comp=Z,440nm,24.1s						
NWAO	**Narrogin (SRO)**	**34.09**	**194**	LR	LR	02 27 13.8	
	comp=Z,336nm,21.6s,baz=20,slow=39						
WHYH	**Whyalla**	**34.82**	**163**	P	**P**	**02 11 49.0**	**+0.7**
EIDS	**Eidsvold**	**35.05**	**138**	IAmb	IAmb	02 11 51.2	
	comp=Z,32nm,1.1s						
EIDS	**Eidsvold**	**35.05**	**138**	P	**P**	**02 11 49.8**	**-0.7**
	comp=Z,42nm,1.6s						
EIDS	**Eidsvold**	**35.05**	**138**	P	**P**	**02 11 50.3**	**-0.1**
PZH	**PanZhiHua**	**35.13**	**320**	P	**P**	**02 11 53.2**	**+1.9**
PZH				S	**S**	**02 17 26.0**	**+4.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,140nm,5.5s						
PZH				LR	LR		
	comp=Z,190nm,16.9s						
PZH				LR	LR		
	comp=Z,280nm,15.3s						
PZH				LR	LR		
	comp=Z,360nm,18.6s						
STKA	**Stephens Creek**	**35.14**	**157**	P	**P**	**02 11 51.0**	**-0.2**
	comp=Z,6.9nm,0.9s						
STKA	**Stephens Creek**	**35.14**	**157**	P	**P**	**02 11 50.5**	**-0.6**
	comp=Z,23nm,0.9s,baz=323,slow=9.0,SNR=27						
	comp=Z,23nm,0.9s						
STKA	**Stephens Creek**	**35.14**	**157**	P	**P**	**02 11 51.6**	**+0.5**
HTT	**Hallett**	**35.60**	**162**	P	**P**	**02 11 54.2**	**-0.9**
	comp=Z,14nm,1.0s						
HTT	**Hallett**	**35.60**	**162**	P	**P**	**02 11 57.5**	**+2.4**
AULRC	**Lightning Ridg**	**36.13**	**147**	P	**P**	**02 12 01.2**	**+1.6**
INU	**Inuyama**	**36.33**	**15**	P	**P**	**02 12 00.4**	**-0.8**
INU	**Inuyama**	**36.33**	**15**	P	**P**	**02 12 01.5**	**+0.3**
INU	**Inuyama**	**36.33**	**15**	P	**P**	**02 12 01.1**	**-0.1**
LYN	**LuoYang**	**36.44**	**341**	*e*P	**P**	**02 12 05.4**	**+3.2**
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
JGF	**Kuroka**	**36.66**	**15**	IAmb	IAmb	02 12 04.5	
	comp=Z,19nm,0.7s						
TIA	**Tai'an**	**36.74**	**348**	P	**P**	**02 12 02.5**	**-2.2**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSAR	**Wonju Array Be**	**37.02**	**2**	P	**P**	**02 12 07.7**	**+0.6**
KSAR	**Wonju Array Be**	**37.02**	**2**	P	**P**	**02 12 07.7**	**+0.6**
KSRS	**Korea Array**	**37.03**	**2**	P	**P**	**02 12 07.2**	**+0.1**
	comp=Z,13nm,0.8s,baz=180,slow=9.7,SNR=33						
KSRS				PcP	**PcP**	**02 14 28.6**	**+1.1**
	comp=Z,4.5nm,0.9s,baz=202,slow=3.8,SNR=6.6						
	comp=Z,13nm,0.8s						
KS19	**Wonju Array Si**	**37.08**	**2**	IAmb	IAmb	02 13 01.7	
	comp=Z,80nm,1.6s						
CD2	**Chengdu**	**37.17**	**327**	P	**P**	**02 12 09.4**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CD2				LR	LR		
	comp=Z,350nm,14.0s						
CD2				LR	LR		
	comp=Z,380nm,14.0s						
CD2				LR	LR		
	comp=Z,430nm,19.7s						
XAN	**Xi'an**	**37.29**	**336**	⇑P	**P**	**02 12 08.2**	**-1.3**
XAN				PcP	**PcP**	**02 14 28.7**	**+0.3**
XAN				S	**S**	**02 17 52.6**	**-1.7**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				pmax	pmax		
	comp=Z,220nm,4.1s						
XAN				LR	LR		
	comp=Z,340nm,19.2s						
XAN				LR	LR		
	comp=Z,480nm,18.7s						
XAN				LR	LR		
	comp=Z,720nm,20.1s						
MAJO	**Matsushiro**	**37.77**	**16**	P	**P**	**02 12 12.2**	**-1.3**
MAJO				IAmb	IAmb	02 12 13.2	
	comp=Z,24nm,0.8s						
MAJO	**Matsushiro**	**37.77**	**16**	P	**P**	**02 12 14.4**	**+0.9**
MAJO	**Matsushiro**	**37.77**	**16**	P	**P**	**02 12 12.2**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s						
MAJO	**Matsushiro**	**37.77**	**16**	P	**P**	**02 12 12.3**	**-1.1**
MJAR	**Matsushiro Arr**	**37.77**	**16**	P	**P**	**02 12 12.1**	**-1.4**
	comp=Z,15nm,0.8s,baz=181,slow=8.8,SNR=37						
	comp=Z,15nm,0.8s						
MJB9	**Matsu-Tunnel**	**37.77**	**16**	IAmb	IAmb	02 12 14.6	
	comp=Z,23nm,0.8s						
HNS	**HongShan**	**38.44**	**345**	⇑P	**P**	**02 12 19.2**	**+0.2**
HNS				pP	**pwP**	**02 12 31.8**	**-1.3**
HNS				S	**S**	**02 18 16.8**	**+5.4**
HNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HNS				LR	LR		
	comp=Z,240nm,20.8s						
HNS				LR	LR		
	comp=Z,310nm,23.5s						
AUDCS	**Dubbo College**	**38.66**	**149**	P	**P**	**02 12 21.5**	**+0.4**
DL2	**Dalian**	**38.67**	**354**	P	**P**	**02 12 21.6**	**+0.6**
DL2				S	**S**	**02 18 18.2**	**+3.3**
DL2				pmax	pmax		
	comp=Z,44nm,0.8s						
DL2				pmax	pmax		
	comp=Z,290nm,3.7s						
DL2				LR	LR		
	comp=Z,270nm,18.0s						
DL2				LR	LR		
	comp=Z,290nm,20.4s						
DL2				LR	LR		
	comp=Z,540nm,20.9s						
ARMA	**Armidale**	**38.95**	**144**	IAmb	IAmb	02 12 25.7	
	comp=Z,47nm,1.1s						
ARMA	**Armidale**	**38.95**	**144**	P	**P**	**02 12 23.3**	**-0.3**
	comp=Z

comp=Z,32nm,0.7s,baz=188,slow=6.8,SNR=54
comp=Z,32nm,0.7s
MDJ Mudanjiang 44.26 3 IAmb IAmb 02 13 08.6
comp=Z,32nm,1.0s
MDJ Mudanjiang 44.26 3 P **P** **02 13 06.9 +0.2**
MDJ PP **PcP** **02 14 52.9 +2.2**
MDJ S **S** **02 19 41.9 +4.4**
MDJ sS sS 02 20 03.3 +7.7
MDJ ScS **ScS** **02 23 00.8 -0.9**
MDJ pmax pmax
comp=Z,35nm,0.8s
MDJ LR LR
comp=Z,280nm,16.5s
MDJ Mudanjiang 44.26 3 P **P** **02 13 09.9 +3.2**
MDJ Mudanjiang 44.26 3 P **P** **02 13 07.3 +0.6**
XLT XiLinHaoTe 44.36 350 *e*P **P** **02 13 07.7 0.0**
XLT sP sP 02 13 24.3 +1.1
XLT S **S** **02 19 38.5 -0.8**
XLT pmax pmax
comp=Z,18nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.3s
XLT LR LR
comp=Z,220nm,19.3s
XLT LR LR
comp=Z,250nm,20.1s
PVC Port Vila 45.13 116 P **P** **02 13 15.6 +1.5**
BNX BinXian 45.29 1 ⇓P **P** **02 13 14.6 -0.3**
BNX pmax pmax
comp=Z,13nm,1.0s
TEY Ternei 45.52 10⇑*e*P **P** **02 13 17.1 +0.4**
TEY pmax pmax
comp=N,30nm,0.9s
TEY pmax pmax
comp=Z,50nm,0.9s
GTA Gaotai 45.81 331 *e*P **P** **02 13 19.2 -0.1**
GTA PcP **PcP** **02 14 57.1 +0.7**
GTA PcS **PcS** **02 18 49.2 -1.5**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,150nm,16.7s
GTA LR LR
comp=Z,280nm,19.1s
GTA LR LR
comp=Z,330nm,20.3s
ASAJ Asahikawa 46.03 16 P **P** **02 13 21.3 +0.5**
ASAJ pmax pmax
comp=Z,27nm,0.8s
JKA Kamikawa-asahi 46.04 16 P **P** **02 13 21.3 +0.4**
JKA IAmb IAmb 02 13 22.9
comp=Z,27nm,0.8s
GOMU GeErMu 46.10 324 P **P** **02 13 23.1 +1.1**
GOMU S **S** **02 20 02.2 -3.1**
GOMU pmax pmax
comp=Z,4.0nm,0.6s
GOMU LR LR
comp=Z,220nm,13.3s
GOMU LR LR
comp=Z,270nm,13.7s
GOMU LR LR
comp=Z,470nm,14.0s
YSS Yuzhno-Sakhali 48.70 15 P **P** **02 13 40.0 -1.5**
YSS IAmb IAmb 02 13 42.4
comp=Z,33nm,1.2s
YSS Yuzhno-Sakhali 48.70 15 P **P** **02 13 44.4 +2.9**
YSS Yuzhno-Sakhali 48.70 15 *e*P **P** **02 13 40.8 -0.7**
YSS *e*S **S** **02 20 38.0 -3.0**
YSS pmax pmax
comp=Z,100nm,3.5s
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS Yuzhno-Sakhali 48.70 15 P **P** **02 13 42.3 +0.8**
KLR Kul'dur 49.00 5*de*P **P** **02 13 43.8 0.0**
KLR pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 49.12 354 P **P** **02 13 46.3 +1.6**
HIA Hailar 49.12 354*ce*P **P** **02 13 44.9 +0.2**
HIA pmax pmax
comp=Z,9.0nm,1.0s
HEH HeiHe 49.80 1 *e*P **P** **02 13 49.2 -0.7**
HEH pmax pmax
comp=Z,25nm,0.9s
HYB Hyderabad 49.86 293 *e*P **P** **02 13 50.5 -0.5**
ULN Ulaanbaatar 50.24 343 P **P** **02 13 52.9 -0.5**
ULN IAmb IAmb 02 13 55.5
comp=Z,18nm,0.9s
ULN Ulaanbaatar 50.24 343*ce*P **P** **02 13 53.8 +0.4**
ULN pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 50.24 343 P **P** **02 13 53.5 0.0**
ULN sP **pwP** **02 14 08.0 +0.2**
ULN PcP **PcP** **02 15 12.8 +0.7**
SONM Songino Array 50.40 343 P **P** **02 13 54.7 0.0**
SONM Songino Array 50.40 343 P **P** **02 13 54.5 -0.1**
comp=Z,13nm,0.8s,baz=160,slow=8.1,SNR=72
SONM PcP **PcP** **02 15 12.4 -0.2**
comp=Z,6.6nm,0.9s,baz=162,slow=3.9,SNR=6.2
SONM LR LR 02 37 22.5
comp=Z,280nm,22.0s,baz=146,slow=39
comp=Z,13nm,0.8s
SONM Songino Array 50.40 343 P **P** **02 13 54.7 0.0**
SONM pmax pmax
comp=Z,13nm,0.8s
UGL Uglegorsk 50.50 13 *e*P **P** **02 13 55.7 +0.5**
GRNR Gornyy 51.06 8⇑*i*P **P** **02 13 59.8 +0.4**
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR MLR MLR
comp=N,200nm,14.0s
TYV Tymovskoe 52.31 13 *e*P **P** **02 14 09.6 +0.9**
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.9s
CIT Chita 52.65 350 *e*P **P** **02 14 12.7 +1.4**
CIT *e* 02 14 21.0
CIT *e* 02 14 27.1
CIT pmax pmax
comp=Z,67nm,1.8s
ZEA Zeya 53.29 1 *e*P **P** **02 14 15.8 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZAK Zakamensk 53.61 342 *e*P **P** **02 14 18.9 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
MSVF Nonsavu 54.04 112 LR LR 02 36 26.2
comp=Z,255nm,21.1s,baz=280,slow=35
IRK Irkutsk 54.96 344 *e*P **P** **02 14 26.5 -1.6**
IRK pmax pmax
comp=Z,43nm,2.4s
WMQ Urumqi 55.27 327 *e*P **P** **02 14 33.7 +3.1**
WMQ pP pP 02 14 42.5 +0.7
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=Z,230nm,21.7s
MOY Mondy 55.44 341 *e*P **P** **02 14 32.5 +0.7**
MOY pmax pmax
comp=Z,12nm,1.2s
WUS Wushi 58.80 320 P **P** **02 14 55.1 -0.6**
WUS IAmb IAmb 02 14 59.6
comp=Z,35nm,1.5s
PEA0B Petropavlovsk- 58.82 22⇓*e*P **P** **02 14 56.4 +1.0**
PETK Petropavlovsk- 58.82 22 P **P** **02 14 56.0 +0.5**
PETK Petropavlovsk- 58.82 22 P **P** **02 14 55.8 +0.3**
comp=Z,31nm,0.8s,baz=189,slow=5.1,SNR=39
comp=Z,31nm,0.8s
PETK Petropavlovsk- 58.82 22 P **P** **02 14 56.0 +0.5**
ZSN Zaisan 59.13 329 *e*P **P** **02 14 57.3 -0.4**
ZSN pmax pmax
comp=Z,11nm,1.2s
ZSN Zaisan 59.13 329 *e*P **P** **02 14 57.3 -0.4**
comp=Z,11nm,1.2s
RPZ Rata Peaks 59.29 143 P **P** **02 14 59.5 +0.6**
NIL Nilore 59.65 310 P **P** **02 15 01.3 -0.3**
NIL IAmb IAmb 02 15 04.0
comp=Z,23nm,1.3s
NIL Nilore 59.65 310 P **P** **02 15 01.3 -0.3**
NIL pmax pmax
comp=Z,23nm,1.3s
NIL Nilore 59.65 310 P **P** **02 15 01.3 -0.3**
NIL pP **pP** **02 15 11.3 -1.7**
NIL sP **pwP** **02 15 16.4 +0.5**
SHLS Shalkode 59.68 322 *e*P **P** **02 14 59.4 -2.4**
SHLS pmax pmax
comp=Z,15nm,1.0s
SHLS Shalkode 59.68 322 *e*P **P** **02 14 59.4 -2.4**
comp=Z,15nm,1.0s
TUWZ Tuamarina 59.84 140 P **P** **02 15 01.8 -0.8**
MK31 Makanchi Array 60.10 327 P **P** **02 15 03.9 -0.6**
MK31 IAmb IAmb 02 15 14.1
comp=Z,12nm,0.8s
MK31 Makanchi Array 60.10 327 P **P** **02 15 03.9 -0.6**
MK31 pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 60.10 327 P **P** **02 15 03.9 -0.6**
comp=Z,8.8nm,0.4s,baz=120,slow=8.0,SNR=205
MKAR PcP **PcP** **02 15 49.6 -0.4**
comp=Z,9.9nm,0.7s,baz=119,slow=4.7,SNR=6.7
MKAR LR LR 02 42 01.7
comp=Z,331nm,20.1s,baz=150,slow=37
comp=Z,8.8nm,0.4s
KSH Kashi 60.14 317 P **P** **02 15 06.2 +1.2**
KSH pP pwP 02 15 17.9 -1.3
KSH PcP **PcP** **02 15 50.8 +0.4**
KSH pmax pmax
comp=Z,7.0nm,1.3s
MAKZ Makanchi 60.28 327 P **P** **02 15 05.3 -0.3**
MAKZ IAmb IAmb 02 15 08.0
comp=Z,27nm,1.2s
MAKZ Makanchi 60.28 327 P **P** **02 15 05.4 -0.3**
MAKZ pmax pmax
comp=Z,27nm,1.3s
MAKZ Makanchi 60.28 327 P **P** **02 15 05.0 -0.6**
MAKZ sP **pwP** **02 15 20.5 +0.2**
MAKZ PcP **PcP** **02 15 50.0 -0.7**
SATY Saty 60.29 321 *e*P **P** **02 15 05.4 -0.5**
SATY pmax pmax
comp=Z,9.0nm,0.8s
SATY Saty 60.29 321 *e*P **P** **02 15 05.5 -0.5**
comp=Z,8.9nm,0.8s
KPKS Kokpek 60.33 322 *e*P **P** **02 15 05.3 -0.8**
KPKS pmax pmax
comp=Z,12nm,1.2s
KPKS Kokpek 60.33 322 *e*P **P** **02 15 05.4 -0.8**
comp=Z,12nm,1.2s
URZ Urewera 60.44 135 LR LR 02 43 30.2
comp=Z,106nm,18.1s,baz=38,slow=38
RTZ Ruatahuna 60.51 136 P **P** **02 15 06.8 -0.6**
KDJ Kajisay 60.59 320 IAmb IAmb 02 15 12.7
comp=Z,9.3nm,0.8s
MDOK Medeo 61.19 321 *e*P **P** **02 15 11.0 -1.1**
MDOK Medeo 61.19 321 *e*P **P** **02 15 11.1 -1.1**
TNSS Tian-Shan 61.19 321 *e*P **P** **02 15 11.2 -1.2**
TNSS Tian-Shan 61.19 321 *e*P **P** **02 15 11.2 -1.2**
AAA Alma-Ata 61.30 321 *e*P **P** **02 15 12.3 -0.4**
AAA pmax pmax
comp=Z,16nm,1.0s
AAA Alma-Ata 61.30 321 *e*P **P** **02 15 12.4 -0.4**
comp=Z,16nm,1.0s
TDK Taldyqorghan 61.31 323 *e*P **P** **02 15 12.0 -0.7**
TDK pmax pmax
comp=Z,8.0nm,0.8s
TDK Taldyqorghan 61.31 323 *e*P **P** **02 15 12.0 -0.7**
comp=Z,8.3nm,0.8s
YAK Yakutsk 61.66 2 P **P** **02 15 14.4 -0.3**
YAK Yakutsk 61.66 2 *e*P **P** **02 15 14.4 -0.3**
YAK *e**PP **pP** **02 15 25.2 -0.8**
YAK *e* 02 15 54.6
YAK *e* 02 17 29.7
YAK *e*PPP PPP 02 18 56.3
YAK *e*S **S** **02 23 34.5 +0.6**
YAK *e**SS **sS** **02 23 54.8 +1.8**
YAK *e* 02 25 01.8
YAK *e*SS **SS** **02 27 36.2 +0.2**
YAK pmax pmax
comp=Z,93nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,273nm,7.5s
YAK pmax pmax
comp=N,180nm,7.3s
YAK pmax pmax
comp=E,179nm,6.0s
YAK smax smax
comp=E,229nm,5.6s
YAK smax smax
comp=N,224nm,6.1s
YAK Yakutsk 61.66 2 P **P** **02 15 14.3 -0.3**
MA2 Magadan 62.17 14 P **P** **02 15 19.2 +1.0**
MA2 Magadan 62.17 14 P **P** **02 15 19.0 +0.8**
comp=N,73nm,0.8s,baz=197,slow=7.2,SNR=48
MA2 LR LR 02 41 06.9
comp=N,37nm,21.8s,baz=214,slow=35
comp=N,73nm,0.8s
MA2 Magadan 62.17 14*c i*P **P** **02 15 18.7 +0.5**
MA2 pmax pmax
comp=Z,101nm,1.0s
MA2 Magadan 62.17 14 P **P** **02 15 19.1 +1.0**
MA2 PcP **PcP** **02 15 58.1 +0.2**
AAK Ala-Archa 62.58 319 P **P** **02 15 22.1 +0.7**
AAK Ala-Archa 62.58 319 P **P** **02 15 22.1 +0.7**
AAK pmax pmax
comp=Z,13nm,1.3s
DRK Karamyk 63.02 315 IAmb IAmb 02 15 28.4
comp=Z,13nm,0.7s
KBL Kabul 63.23 309 P **P** **02 15 25.1 -0.9**
KBL IAmb IAmb 02 15 29.9
comp=Z,47nm,1.8s
KBL Kabul 63.23 309 P **P** **02 15 25.1 -0.9**
KBL pmax pmax
comp=Z,47nm,1.8s
ZAA0 Zalesovo Array 63.42 334 IAmb IAmb 02 15 31.1
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 63.42 334 P **P** **02 15 25.5 -1.2**
ZALV Zalesovo Beam 63.42 334 P **P** **02 15 25.6 -1.0**
comp=Z,12nm,0.8s,baz=124,slow=6.2,SNR=26
ZALV LR LR 02 45 08.5
comp=Z,152nm,20.5s,baz=129,slow=38
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 63.42 334 *i* P **P** **02 15 25.7 -0.9**
ZALV pmax pmax
comp=Z,12nm,0.8s
BTK Batken 63.95 315 IAmb IAmb 02 15 43.6
comp=Z,24nm,1.2s
BTK Batken 63.95 315 P **P** **02 15 30.2 -0.3**
BTLS Baital 64.00 321 *e*P **P** **02 15 29.6 -1.0**
BTLS Baital 64.00 321 *e*P **P** **02 15 29.6 -1.0**
KURBB Kurchatov Arra 64.36 329 P **P** **02 15 32.1 -0.7**
comp=Z,16nm,0.7s,baz=125,slow=6.0,SNR=128
comp=Z,16nm,0.7s
KURK Kurchatov 64.37 329 P **P** **02 15 32.5 -0.4**
KURK Kurchatov 64.37 329 P **P** **02 15 32.5 -0.4**
KURK pmax pmax
comp=Z,36nm,0.8s
KURK Kurchatov 64.37 329 P **P** **02 15 32.2 -0.7**
KURK pP **pP** **02 15 41.9 -2.4**
KURK sP **pwP** **02 15 46.9 -0.8**
KURK PcP **PcP** **02 16 06.9 -0.2**
CHGR Chuyangaron 64.60 313 P **P** **02 15 34.4 -0.4**
SIMJ Simiganj 64.71 313 P **P** **02 15 34.3 -1.3**
SIMJ IAmb IAmb 02 15 39.4
comp=Z,20nm,1.2s
DZA Taraz 64.77 318 *e*P **P** **02 15 34.9 -0.9**
DZA Taraz 64.77 318 *e*P **P** **02 15 34.9 -0.9**
KKAR Karatay Array 65.41 318 P **P** **02 15 39.3 -0.6**
KKAR Karatay Array 65.41 318 P **P** **02 15 39.5 -0.4**
KKAR Karatay Array 65.41 318 P **P** **02 15 39.3 -0.6**
KKAR pmax pmax
comp=Z,8.0nm,1.2s
SEY Seymchan 65.50 13 P **P** **02 15 41.3 +1.3**
comp=Z,24nm,0.9s,baz=208,slow=5.6,SNR=36
comp=Z,24nm,0.9s
SEY Seymchan 65.50 13⇓*e*P **P** **02 15 41.4 +1.4**
SEY pmax pmax
comp=Z,35nm,1.0s
CHM Chimkent 65.70 317 *e*P **P** **02 15 41.0 -0.7**
CHM Chimkent 65.70 317 *e*P **P** **02 15 41.1 -0.7**
BRLS Borolday 65.83 318 *e*P **P** **02 15 41.6 -1.0**
BRLS Borolday 65.83 318 *e*P **P** **02 15 41.6 -1.0**
BRZS Berezniki 67.20 326 *e*P **P** **02 15 50.7 -0.5**
BRZS Berezniki 67.20 326 *e*P **P** **02 15 50.7 -0.5**
BVAR Borovoye Array 69.92 328 P **P** **02 16 07.8 -0.4**
comp=Z,15nm,0.7s,baz=134,slow=8.2,SNR=39
comp=Z,15nm,0.7s
BRVK Borovoye 70.00 328 P **P** **02 16 08.1 -0.5**
BRVK IAmb IAmb 02 16 22.4
comp=Z,26nm,1.1s
BRVK Borovoye 70.00 328 P **P** **02 16 08.1 -0.5**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 70.00 328 P **P** **02 16 08.0 -0.5**
TIXI Tiksi 71.28 1 P **P** **02 16 15.5 -0.6**
TIXI IAmb IAmb 02 16 16.6
comp=Z,13nm,0.9s
TIXI Tiksi 71.28 1⇓*e*P **P** **02 16 15.1 -0.9**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI Tiksi 71.28 1 P **P** **02 16 15.4 -0.6**
BILL Bilibino 73.01 15 P **P** **02 16 27.1 +0.6**
BILL Bilibino 73.01 15⇓*e*P **P** **02 16 26.4 0.0**
BILL pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 73.64 347 IAmb IAmb 02 16 31.5
comp=Z,23nm,0.7s
NRIK Noril'sk 73.64 347 P **P** **02 16 30.1 0.0**
comp=Z,20nm,0.6s,baz=128,slow=6.0,SNR=47
comp=Z,20nm,0.6s
NRIK Noril'sk 73.64 347*ce*P **P** **02 16 29.5 -0.6**
NRIK pmax pmax
comp=Z,22nm,0.9s
ABKAR Akbulak array 74.49 322 P **P** **02 16 34.8 -0.6**
ABKAR Akbulak array 74.49 322 P **P** **02 16 34.9 -0.6**
SVE Sverdlovsk 76.62 329 *e*P **P** **02 16 46.8 -0.7**
SVE pmax pmax
comp=Z,40nm,1.0s
ARTI Arti 77.64 328 P **P** **02 16 52.8 -0.5**
ARTI IAmb IAmb 02 16 57.0
comp=Z,46nm,1.4s
ARTI Arti 77.64 328*d i*P **P** **02 16 52.6 -0.7**
ARTI S **S** **02 26 43.7 +1.7**
ARTI SS **SS** **02 31 43.8 +1.5**
ARTI pmax pmax
comp=Z,41nm,1.5s
LKRN Lenkeran, Azer 80.01 309 P **P** **02 17 08.0 +1.3**
K13K Kusilvak Mount 80.07 27 IAmb IAmb 02 17 08.9
comp=Z,17nm,0.8s
VNDA Vanda 80.09 173 P **P** **02 17 04.8 -1.5**
comp=Z,3.9nm,0.9s,baz=310,slow=4.2,SNR=4.1
VNDA LR LR 02 52 37.3
comp=Z,152nm,19.2s,baz=329,slow=36
comp=Z,3.9nm,0.9s
MAW Mawson 80.35 200 LR LR 02 51 28.6
comp=Z,127nm,18.1s,baz=76,slow=35
L14K Kuka Creek 80.79 28 IAmb IAmb 02 17 12.8
comp=Z,32nm,1.0s
AKT Akhty 81.18 312 *e*P **P** **02 17 12.7 -0.3**
AKT *e**PP **pwP** **02 17 27.8 -0.3**
AKT *e*S **S** **02 27 16.7 -3.6**
AKT pmax pmax
comp=Z,16nm,0.6s
RAYN Ar Rayn 81.35 294 P **P** **02 17 14.2 0.0**
RAYN IAmb IAmb 02 17 19.4
comp=Z,16nm,0.9s
RAYN Ar Rayn 81.35 294 P **P** **02 17 14.2 0.0**
RAYN pmax pmax
comp=Z,16nm,0.9s
MAK Makhachkala 81.53 313 *e*P P 02 17 09.3 -5.4
MAK *e**PP pP 02 17 25.6 -0.8
MAK *e* 02 20 19.4
MAK *e*PPP PPP 02 22 10.8
MAK *e*S **S** **02 27 15.7 -8.0**
MAK *e*SS **SS** **02 32 39.8 -1.3**
MAK *e*SSS SSS 02 36 06.6
MAK pmax pmax
comp=Z,99nm,1.1s
SEKA Sheki 81.54 312 P **P** **02 17 15.3 +0.4**
MNGR Mingechevir, A 81.57 311 P **P** **02 17 15.8 +0.9**
C16K Lisburne Hills 81.89 20 IAmb IAmb 02 17 18.1
comp=Z,19nm,1.0s
G16K Koyuk River 82.10 24 IAmb IAmb 02 17 19.6
comp=Z,29nm,1.1s
GANJ Ganja 82.13 311 P **P** **02 17 18.6 +0.6**
L16K Owhat River 82.37 28 IAmb IAmb 02 17 21.0
comp=Z,33nm,1.1s
I17K Unalakleet 82.37 25 P **P** **02 17 15.6 -3.0**
O16K Kokwok River B 82.55 30 IAmb IAmb 02 17 21.8
comp=Z,20nm,0.9s
NAX Nakhchivan 82.61 309 P **P** **02 17 21.0 +0.4**
RDOG Red Dog Mine 82.68 21 IAmb IAmb 02 17 22.6
comp=Z,14nm,0.8s
BELG Belogornoye 82.81 323*ce*P **P** **02 17 20.2 -0.9**
BELG pmax pmax
comp=Z,8.0nm,0.9s
F17K Baldwin Pennin 82.83 23 P **P** **02 17 22.6 +1.6**
F17K IAmb IAmb 02 17 23.4
comp=Z,24nm,0.9s
KIRV Kirov 82.89 329*de*P **P** **02 17 20.8 -0.6**
M17K Holitna River 83.25 28 IAmb IAmb 02 17 26.0
comp=Z,28nm,1.0s
GNI Garni 83.28 310 P **P** **02 17 24.5 +0.3**
GNI IAmb IAmb 02 17 49.2
comp=Z,21nm,1.1s
GNI Garni 83.28 310*de*P **P** **02 17 24.9 +0.8**
GNI pmax pmax
comp=Z,28nm,1.7s
GNI Garni 83.28 310 P **P** **02 17 24.0 -0.1**
comp=Z,19nm,1.0s
C18K Utukok River 83.46 21 IAmb IAmb 02 17 26.4
comp=Z,18nm,0.8s
H18K Honhosa River 83.66 24 IAmb IAmb 02 17 27.3
comp=Z,15nm,0.9s
ACHA Angle Creek He 83.70 31 IAmb IAmb 02 18 37.6
comp=Z,16nm,0.9s
J18K Innoko River 84.00 26 IAmb IAmb 02 17 29.0
comp=Z,18nm,1.1s
TTA Tatalina 84.21 27 IAmb IAmb 02 17 30.9
comp=Z,33nm,1.4s
NCK Nalchik 84.43 314⇓*e*P **P** **02 17 29.5 -0.3**
NCK pmax pmax
comp=Z,9.0nm,1.0s
D19K Kuna River 84.52 21 IAmb IAmb 02 17 32.3
comp=Z,14nm,0.6s
H19K Roundabout Mou 84.52 24 IAmb IAmb 02 17 33.8
comp=Z,24nm,1.3s
L19K White Mountain 84.60 28 IAmb IAmb 02 17 44.5
comp=Z,37nm,1.7s
E19K Redstone River 84.61 22 IAmb IAmb 02 17 59.0
comp=Z,12nm,1.1s
M19K Big River Lodg 84.77 28 P **P** **02 17 32.8 +1.7**
M19K IAmb IAmb 02 17 46.3
comp=Z,11nm,1.0s
KBZ Khabaz 84.96 314 P **P** **02 17 31.9 -0.5**
comp=Z,12nm,1.1s,baz=93,slow=1.7,SNR=13
comp=Z,12nm,1.1s
KBZ Khabaz 84.96 314*ce*P **P** **02 17 31.8 -0.5**
KBZ pmax pmax
comp=Z,16nm,1.1s
KDAK Kodiak Island 85.08 32 P **P** **02 17 33.7 +1.1**
KDAK Kodiak Island 85.08 32 P **P** **02 17 32.2 -0.4**
comp=Z,20nm,1.1s,baz=316,slow=2.4,SNR=8.6
comp=Z,20nm,1.1s
KDAK Kodiak Island 85.08 32 P **P** **02 17 33.7 +1.1**
KDAK pmax pmax
comp=Z,34nm,1.2s
KIV Kislovodsk 85.13 314 P **P** **02 17 32.7 -0.6**
KIV IAmb IAmb 02 17 45.9
comp=Z,21nm,1.2s
KIV Kislovodsk 85.13 314 ⇓P **P** **02 17 33.2 -0.1**
KIV Kislovodsk 85.13 314 *e*P **P** **02 17 33.2 -0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,20.0s
KIV Kislovodsk 85.13 314 P **P** **02 17 33.0 -0.3**
comp=Z,12nm,1.2s
SHA1 Shidzhatmaz 85.13 314*de*P **P** **02 17 31.5 -2.0**
K20K Telida 85.15 26 IAmb IAmb 02 17 37.4
comp=Z,17nm,1.4s
M20K Styx River 85.36 28 IAmb IAmb 02 17 45.8
comp=Z,17nm,1.2s
BCA Borcka 85.74 311 ⇑P **P** **02 17 37.2 +0.8**
MARD Mardin 86.18 307 IAmb IAmb 02 17 43.8
comp=Z,18nm,1.0s
I21K Tanana 86.31 25 IAmb IAmb 02 17 41.8
comp=Z,9.7nm,0.9s
VRH Novokhopyorsk 86.31 321 *e*P **P** **02 17 38.4 -0.5**
VRH pmax pmax

comp=Z,29nm,1.0s
B22K Teshekpuk Lake 86.50 20 IAmb IAmb 02 17 41.2
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 86.89 29 IAmb IAmb 02 17 45.5
comp=Z,12nm,1.2s
SEW Seward 86.94 30 IAmb IAmb 02 17 43.3
comp=Z,12nm,1.0s
VSLR Vesyoloye 87.02 313 *de*P **P 02 17 42.0 -0.6**
VSLR pmax pmax
comp=Z,22nm,1.2s
SOC Sochi 87.25 313 *e*P **P 02 17 41.0 -2.7**
SOC *e*S **SKSac 02 28 03.6 -4.5**
SOC *e*SS **SS 02 34 04.2 -1.3**
SOC *e*SSS SSS 02 37 29.1
SOC pmax pmax
comp=Z,8.0nm,1.0s
COLD Coldfoot 87.27 23 IAmb IAmb 02 17 45.7
comp=Z,13nm,1.0s
D23K Nanushuk River 87.27 21 IAmb IAmb 02 17 45.6
comp=Z,9.8nm,0.9s
G23K Bananza Creek 87.28 23 IAmb IAmb 02 17 45.0
comp=Z,15nm,1.1s
C23K Itkillik River 87.39 20 IAmb IAmb 02 17 47.0
comp=Z,18nm,1.1s
I23K Minto, Yukon-K 87.41 25 IAmb IAmb 02 17 45.0
comp=Z,9.9nm,0.9s
MCK McKinley 87.48 26 IAmb IAmb 02 17 48.8
comp=Z,11nm,1.2s
KNK Knik Glacier 87.53 29 IAmb IAmb 02 17 46.0
comp=Z,14nm,1.0s
E23K Chandalar 87.57 22 IAmb IAmb 02 17 50.4
comp=Z,16nm,0.9s
SML Sawmill 87.61 28 IAmb IAmb 02 17 50.1
comp=Z,10nm,0.9s
TOLK Toolik Lake Re 87.64 21 IAmb IAmb 02 17 47.9
comp=Z,10nm,1.0s
VORD Divnogorie 87.83 321 *e*P **P 02 17 44.0 -2.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 87.91 322 *e*P **P 02 17 44.6 -2.0**
VORR pmax pmax
comp=Z,28nm,1.0s
VSR Storozhevoye 87.92 321 *e*P **P 02 17 43.6 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
D24K Happy Valley 87.95 21 IAmb IAmb 02 17 49.9
comp=Z,9.3nm,0.9s
C24K Franklin Bluff 88.04 20 IAmb IAmb 02 17 50.6
comp=Z,8.9nm,0.9s
SCM Sheep Creek Mo 88.09 28 IAmb IAmb 02 17 50.3
comp=Z,12nm,1.0s
LPSR Galich'ya Gora 88.12 322 *e*P **P 02 17 47.1 -0.5**
LPSR pmax pmax
comp=Z,33nm,1.0s
KLMR Klimovskoe 88.14 331 *e*P **P 02 17 44.5 -3.0**
KLMR pmax pmax
comp=Z,36nm,1.8s
KIBK Kibwezi 88.16 268 P **P 02 17 49.1 +0.3**
KIBK IAmb IAmb 02 17 50.2
comp=Z,13nm,1.1s
ILAR Eielson Array 88.44 25 P **P 02 17 47.3 -1.6**
comp=Z,1.5nm,0.8s,baz=249,slow=4.6,SNR=18
ILAR PKKPbc **PKKPdf 02 35 30.9 +2.6**
comp=Z,0.4nm,0.9s,baz=36,slow=0.9,SNR=6.5
comp=Z,1.5nm,0.8s
ANN Anapa 88.93 315 *e*P **P 02 17 48.8 -2.8**
ANN *e**PP **pP 02 18 02.5 -0.9**
ANN *e*S **SKSac 02 28 13.3 -4.7**
ANN *e*SS **SS 02 34 28.2 -1.6**
ANN pmax pmax
comp=Z,68nm,1.0s
KMBO Kilima Mbogo 88.95 269 P **P 02 17 53.7 +1.0**
KMBO IAmb IAmb 02 17 54.4
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 88.95 269 P **P 02 17 53.7 +1.0**
KMBO pmax pmax
comp=Z,12nm,1.2s
MOS Moscow 88.97 326 *e*P **P 02 17 48.7 -2.8**
MOS *e* 02 28 36.7
SYO Syowa Base 89.03 201⇓*e*P **P 02 17 54.1 +2.6**
E25K Arctic Village 89.09 22 IAmb IAmb 02 17 53.5
comp=Z,7.3nm,0.9s
RIDG Independent Ri 89.30 26 IAmb IAmb 02 17 53.4
comp=Z,11nm,0.8s
BMAR Burnt Mountain 89.45 23 P **P 02 17 54.6 +0.9**
OBN Obninsk 89.56 325⇓*e*P **P 02 17 53.4 -0.9**
OBN *e**PP **pP 02 18 07.1 +1.0**
OBN 02 21 21.0
OBN S **SKSac 02 28 25.0 +3.7**
OBN *e**SS **ScS 02 28 47.4 +0.9**
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,102nm,19.0s
GLB Gilahina Butte 89.76 29 IAmb IAmb 02 17 59.8
comp=Z,10nm,1.2s
C27K Jago River 89.78 20 IAmb IAmb 02 17 56.7
comp=Z,8.9nm,0.8s
MENT Mentasta 89.80 27 IAmb IAmb 02 18 04.6
comp=Z,31nm,2.0s
QSPA South Pole Qui 90.20 180 P **P 02 17 57.9 +0.6**
QSPA IAmb IAmb 02 18 00.2
comp=Z,16nm,1.1s
QSPA South Pole Qui 90.20 180 P **P 02 17 56.9 -0.3**
comp=Z,10.0nm,0.9s,baz=334,slow=2.8,SNR=12
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 90.52 303 P **P 02 17 58.4 -1.0**
comp=Z,4.9nm,0.9s,baz=78,slow=7.5,SNR=3.8
comp=Z,4.9nm,0.9s
BCAR Beaver Creek A 90.68 27 P **P 02 18 00.1 +0.6**
APA Apatity 90.82 337⇓*i*P **P 02 17 56.3 -3.6**
APA pmax pmax
comp=Z,5.0nm,1.0s
EIL Elat 90.95 300 LR LR 03 03 59.7
comp=Z,54nm,19.2s,baz=68,slow=39
E28M Babbage River 91.31 21 IAmb IAmb 02 18 04.1
comp=Z,6.8nm,1.0s
I28M Miner Creek 91.37 25 IAmb IAmb 02 18 12.3
comp=Z,6.7nm,1.0s
DAWY Dawson 91.70 26 IAmb IAmb 02 18 05.4
comp=Z,7.6nm,1.0s
BR104 Keskin Array S 91.80 310 P **P 02 18 04.0 -1.3**
comp=Z,2.3nm,0.9s
BR131 Keskin Array S 91.80 310⇓*e*P **P 02 18 03.6 -1.7**
BRTR Keskin Array B 91.80 310 P **P 02 18 03.8 -1.5**
comp=Z,1.0nm,0.9s,baz=111,slow=4.9,SNR=6.2
comp=Z,1.0nm,0.9s
BR106 Keskin Array S 91.81 310 P **P 02 18 04.1 -1.3**
comp=Z,2.3nm,1.0s
VADS Vadso 92.08 340 *e*P **P 02 18 05.2 -0.5**
VADS IAmb IAmb 02 18 07.7
comp=Z,17nm,1.0s
M29M Somme Creek 92.24 28 IAmb IAmb 02 18 08.6
comp=Z,6.3nm,0.9s
EPYK Eagle Plains 92.60 24 IAmb IAmb 02 18 09.1
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 92.73 23 IAmb IAmb 02 18 29.5
comp=Z,19nm,1.6s
M30M Minto, Yukon 93.00 27 IAmb IAmb 02 18 12.0
comp=Z,7.5nm,1.1s
ARA0 ARCESS Array S 93.48 340 *e*P **P 02 18 11.5 -0.7**
ARA0 IAmb IAmb 02 18 14.1
comp=Z,62nm,1.8s
ARCES ARCESS Array B 93.48 340 P **P 02 18 10.7 -1.6**
comp=Z,7.5nm,0.7s,baz=147,slow=2.5,SNR=31
comp=Z,7.5nm,0.7s
F31M Tsiigehtchic 93.62 22 IAmb IAmb 02 18 13.2
comp=Z,8.8nm,0.9s
SPA0 Spitsbergen Ar 93.74 349 *e*P **P 02 18 12.6 -0.8**
SPA0 IAmb IAmb 02 18 12.9
comp=Z,27nm,1.1s
SPITS Spitsbergen Ar 93.74 349 P **P 02 18 12.2 -1.1**
comp=Z,7.4nm,0.8s,baz=88,slow=8.8,SNR=12
comp=Z,7.4nm,0.8s
HAMF Hammerfest 93.89 341 *e*P **P 02 18 12.7 -1.4**
HAMF IAmb IAmb 02 18 14.8
comp=Z,13nm,0.9s
WHY Whitehorse 94.15 29 IAmb IAmb 02 18 17.2
comp=Z,6.3nm,0.9s
AKASG Malin Array Be 94.22 321 P **P 02 18 14.3 -1.7**
comp=Z,0.8nm,0.7s,baz=72,slow=4.4,SNR=6.8
AKASG LR LR 03 04 38.7
comp=Z,99nm,20.1s,baz=66,slow=38
comp=Z,0.8nm,0.7s
AKBB Malin Array Si 94.22 321⇑*e*P **P 02 18 14.5 -1.5**
AK17 Malin Array Si 94.32 321 P **P 02 18 15.0 -1.5**
KTK1 Kautokeino 94.38 339 *e*P **P 02 18 17.0 +0.6**
KTK1 IAmb IAmb 02 18 18.2
comp=Z,40nm,1.5s
FINES FINESS Array B 94.60 332 P **P 02 18 15.6 -1.9**
comp=Z,1.7nm,0.8s,baz=29,slow=3.2,SNR=6.8
comp=Z,1.7nm,0.8s
MNK Minsk 94.61 325*d i*P **P 02 18 17.0 -0.7**
SORM Soroca 95.04 318⇓P **P 02 18 18.1 -1.7**
SORM Soroca 95.04 318⇓P **P 02 18 18.1 -1.7**
JETT Jettan, Norway 95.23 340 *e*P **P 02 18 19.0 -1.3**
JETT IAmb IAmb 02 18 19.8
comp=Z,29nm,1.0s
LUBAR Lubar, Ukraine 95.23 320 P **P 02 18 18.8 -1.9**
CFR Carcaliu 95.50 315⇑P **P 02 18 20.7 -1.3**
CFR Carcaliu 95.50 315⇑P **P 02 18 20.7 -1.3**
TRO Tromso 95.71 340 *e*P **P 02 18 21.1 -1.3**
TRO IAmb IAmb 02 18 21.4
comp=Z,66nm,1.7s
KMPD K-Podol'skiy 96.24 319 P **P 02 18 23.2 -2.1**
comp=Z,2μm,1.0s
TESR Tescani 96.38 317⇑P **P 02 18 25.9 -0.1**
TESR Tescani 96.38 317 P **P 02 18 24.9 -1.1**
VRI Vrincioaia 96.40 316⇑P **P 02 18 26.4 +0.2**
VRI Vrincioaia 96.40 316⇑P **P 02 18 26.4 +0.2**
PLOR Plostina 96.46 316⇓P **P 02 18 25.5 -0.9**
PLOR Plostina 96.46 316⇓P **P 02 18 25.5 -0.9**
DLBC Dease Lake 96.97 31 LR LR 03 03 15.7
comp=Z,112nm,19.4s,baz=284,slow=36
MLR Muntele Rosu 97.00 316⇑P **P 02 18 27.6 -1.4**
MLR Muntele Rosu 97.00 316⇑P **P 02 18 27.6 -1.4**
BURAR Bucovina Array 97.20 318⇑P **P 02 18 29.4 -0.4**
BURAR Bucovina Array 97.20 318⇑P **P 02 18 29.4 -0.4**
BUR08 Bucovina Ar. S 97.21 318 IAmb IAmb 02 18 30.7
comp=Z,5.2nm,1.1s
FAUS Fauske 97.68 339 *e*P **P 02 18 29.8 -1.6**
FAUS IAmb IAmb 02 18 33.8
comp=Z,19nm,1.1s
LSZ Lusaka 97.80 255 LR LR 03 01 07.2
comp=Z,116nm,19.6s,baz=130,slow=34
MOR8 Moi Rana 98.41 338 IAmb IAmb 02 18 32.5
comp=Z,16nm,1.0s
MOR8 *e*P **P 02 18 32.5 -2.2**
CJR Cluj-Napoca 98.43 317⇓P Pdif 02 18 36.4 +1.1
CJR Cluj-Napoca 98.43 317⇓P Pdif 02 18 36.4 +1.1
MUKU Mukachevo 98.74 319 P **P 02 18 36.4 -0.1**
MARR Marisel-Cluj 98.76 317⇑P **P 02 18 36.2 -0.7**
KOLS Kolonicke sedl 98.92 320 *e*PDIFF Pdif 02 18 38.9 +1.5
LEIR Leirfjorden 98.93 338 *e*P **P 02 18 35.6 -1.4**
LEIR IAmb IAmb 02 18 42.7
comp=Z,241nm,2.2s
DRGR 99.02 317⇑P **Pdif 02 18 36.7 -1.3**
DRGR 99.02 317⇑P **Pdif 02 18 36.7 -1.3**
BBB Bella Bella 99.37 37 LR LR 02 55 52.9
comp=Z,124nm,21.2s,baz=239,slow=31
LBTB Lobatse 99.72 245 LR LR 03 00 06.2
comp=Z,64nm,19.4s,baz=106,slow=33
BOSA Boshof 99.73 241 LR LR 02 59 53.5
comp=Z,71nm,21.5s,baz=108,slow=33
SIRR Siria 99.83 317⇑P **Pdif 02 18 41.5 -0.1**
DAG Danmarks Havn 100.58 352 *i*P **Pdif 02 18 43.0 -1.2**
HFS Hagfors 100.80 332 P **Pdif 02 18 43.7 -1.8**
comp=Z,7.4nm,1.0s,baz=91,slow=7.4,SNR=5.9
NB2 NORSAR Subarra101.62 333 P **Pdif 02 18 47.6 -1.6**
comp=Z,5.4nm,1.0s,baz=69,slow=4.4
NB2 NORSAR Subarra101.62 333 P **Pdif 02 18 47.6 -1.6**
baz=69,slow=4.4
NOA NORSAR Array B 101.62 333 P **Pdif 02 18 47.2 -2.0**
comp=Z,2.0nm,0.9s,baz=68,slow=4.6,SNR=4.7
YKA Yellowknife Ar 102.85 25 P **Pdif 02 18 54.1 -0.4**
comp=Z,0.8nm,0.8s,baz=296,slow=4.8,SNR=8.0
YKA PP **PP 02 23 10.0 +1.5**
comp=Z,0.7nm,1.0s,baz=299,slow=7.1,SNR=5.2
YKA PKKPbc **PKKPbc 02 34 52.2 -2.8**
comp=Z,0.5nm,0.8s,baz=120,slow=2.4,SNR=4.5
YKA Yellowknife Ar 102.85 25 *i*P **Pdif 02 18 54.5 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 114.28 42 PKKPbc PKKPbc 02 34 16.9 -1.5
comp=Z,0.5nm,0.8s,baz=127,slow=6.1,SNR=4.5
ULM Lac du Bonnet 118.23 29 PKP **PKPdf 02 23 43.2 -0.9**
comp=Z,3.8nm,0.8s,baz=317,slow=1.0,SNR=9.8
LENM Lemitar 119.63 50 **PKPdf 02 23 47.1 -0.4**
ESDC Sonseca Array 119.65 317 PKP **PKPdf 02 23 46.9 -0.4**
comp=Z,1.2nm,1.1s,baz=46,slow=1.9,SNR=3.1
EYMN Ely 121.91 29 **PKPdf 02 23 51.1 -0.2**
TORD Torodi Ar. Bea 123.41 286 PKPdf **PKPdf 02 23 54.9 -0.2**
TORD Torodi Ar. Bea 123.41 286 PKP **PKPdf 02 23 54.6 -0.4**
comp=Z,4.5nm,0.8s,baz=53,slow=2.5,SNR=28
TORD PKKPbc **PKKPab 02 33 44.6 +0.3**
comp=Z,2.6nm,0.9s,baz=307,slow=6.1,SNR=14
TXAR Lajitas Array 124.10 54 PKP **PKiKP 02 23 56.6 +0.2**
comp=Z,0.9nm,0.8s,baz=300,slow=2.4,SNR=8.4
S39A Bolivar 127.53 40 PKPdf **PKPdf 02 24 02.3 -0.1**
R40A Maddies Statio 127.82 38 PKPdf **PKPdf 02 24 02.5 -0.4**
DBIC Dimbokro 130.68 279 PKP **PKPdf 02 24 08.5 -0.5**
comp=Z,2.7nm,0.8s,baz=145,slow=0.5,SNR=3.1
PLCA Paso Flores 136.95 161 PKP **PKiKP 02 24 21.2 -0.8**
comp=Z,1.5nm,0.9s,baz=207,slow=2.3,SNR=3.9
MT13 San Alfonso 143.29 157 **PKPdf 02 24 30.6 -1.3**
CPUP Villa Florida 153.87 173 PKP **PKPdf 02 24 49.2 +0.2**
comp=Z,2.0nm,0.8s,baz=203,slow=2.4,SNR=4.2
CPUP PKPbc **PKiKP 02 24 57.5 +0.5**
comp=Z,9.7nm,0.8s,baz=179,slow=0.7,SNR=19
ATAH Atahualpa 154.55 106 PKPab **PKPab 02 25 15.9 +2.0**
comp=Z,10nm,0.8s,baz=274,slow=4.1,SNR=6.1
BDFB Brasilia 163.69 200 PKP **PKPdf 02 25 00.7 -0.4**
comp=Z,1.5nm,0.7s,baz=191,slow=5.2,SNR=4.2
BDFB PKPab **PKPab 02 25 52.3 -0.4**
comp=Z,1.3nm,0.6s,baz=190,slow=6.1,SNR=4.4

TXNET 10 02:10:33.8,32°.0N±0°.9×102°.3W±0°.7, h5km±1km, ML2.7/12, 2C-1D, Error ellipse: s-maj=1.3km s-min=1.1km az=8.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	**Odessa**	**0.24**	**291**	P	Pg	02 10 38.6	+0.1
ODSA				S	Sg	02 10 41.9	+0.1
TMB04	**Seminole**	**0.61**	**344**	P	Pg	02 10 45.6	-0.1
TMB04				S	Sg	02 10 54.0	+0.3
MNHN	**Monahans**	**0.80**	**210**	P	Pg	02 10 48.9	-0.3
MNHN	**Monahans**	**0.80**	**210**	P	Pg	02 10 48.8	-0.4
MNHN				S	Sg	02 10 59.3	-0.3
TMB02	**Rankin**	**0.86**	**166**	P	Pg	02 10 50.6	+0.3
TMB02				S	Sg	02 11 01.8	+0.3
TPB06	**Permian Basin**	**0.88**	**244**	P	Pg	02 10 50.5	-0.3
TPB06	**Permian Basin**	**0.88**	**244**	P	Pg	02 10 50.4	-0.4
TPB06				S	Sg	02 11 02.4	+0.2
SGCY	**Sterling City**	**0.99**	**97**	⇓P	Pg	02 10 53.0	+0.1
SGCY				S	Sg	02 11 06.3	+0.5
NM01	**Eunice**	**1.00**	**289**	P	Pg	02 10 52.6	-0.4
NM01				S	Sg	02 11 05.3	-0.5
HTMS	**Hat Mesa**	**1.22**	**291**	S	Sg	02 11 12.3	-0.9
POST	**Post**	**1.23**	**33**	P	Pg	02 10 56.4	-0.9
POST				S	Sg	02 11 12.9	-0.4
TPB08	**Permian Basin**	**1.26**	**205**	P	Pb	02 10 58.0	0.0
TPB08	**Permian Basin**	**1.26**	**205**	S	Sb	02 11 14.6	+0.1
TPB07	**Mentone**	**1.26**	**249**	P	Pg	02 10 57.8	-0.3
TPB07	**Mentone**	**1.26**	**249**	P	Pg	02 10 57.8	-0.2
TPB07				S	Sn	02 11 15.5	0.0
SN08	**Arah**	**1.28**	**54**	P	Pg	02 10 57.8	-0.6
SN08				S	Sb	02 11 15.4	+0.3
CLN7	**Carlsbad 7**	**1.34**	**287**	P	Pn	02 10 58.7	-0.6
CLNB	**Carlsbad**	**1.37**	**280**	P	Pn	02 10 59.4	-0.3
CLNB				S	Sb	02 11 17.1	-0.7
TPB03	**Saragosa**	**1.41**	**228**	P	Pn	02 10 59.9	-0.3
TPB03	**Saragosa**	**1.41**	**228**	P	Pn	02 10 59.9	-0.3
TPB03				S	Sb	02 11 19.0	0.0
TPB05	**Hovey Rd**	**1.42**	**219**	P	Pn	02 11 00.1	-0.2
TPB05	**Hovey Rd**	**1.42**	**219**	P	Pn	02 11 00.1	-0.3
TPB05				S	Sb	02 11 19.0	-0.3
SN02	**Snyder 2**	**1.43**	**54**	P	Pn	02 11 00.6	+0.1
SN01	**Snyder 1**	**1.44**	**55**	P	Pn	02 11 00.7	+0.1
SN01				S	Sg	02 11 21.7	+1.6
SN03	**Snyder 3**	**1.44**	**52**	P	Pn	02 11 00.8	+0.2
SN05	**Snyder 5**	**1.45**	**54**	P	Pn	02 11 01.0	+0.2
TPB10	**Southeast of T**	**1.46**	**240**	P	Pn	02 11 00.6	-0.3
TPB10	**Southeast of T**	**1.46**	**240**	P	Pn	02 11 00.5	-0.4
TPB10				S	Sg	02 11 21.8	+1.1
OZNA	**Ozona**	**1.49**	**138**	⇑P	Pg	02 11 02.2	-0.1
OZNA				S	Sg	02 11 22.1	+0.5
TPB11	**China Draw**	**1.49**	**267**	P	Pn	02 11 01.3	0.0
TPB11	**China Draw**	**1.49**	**267**	P	Pn	02 11 01.3	0.0
TPB11				S	Sn	02 11 20.9	-0.3
PECS	**Pecos**	**1.50**	**244**	P	Pn	02 11 01.3	-0.2
PECS	**Pecos**	**1.50**	**244**	⇑P	Pn	02 11 01.3	-0.1
PECS				S	Sn	02 11 21.4	-0.1
SN07	**Snyder 07**	**1.58**	**48**	P	Pb	02 11 03.4	-0.2
SN07				S	Sg	02 11 25.2	+0.5
TPB12	**Southwest of T**	**1.64**	**241**	P	Pn	02 11 03.8	+0.4
TPB12	**Southwest of T**	**1.64**	**241**	P	Pn	02 11 03.6	+0.2
CPRX	**Cap Rock**	**1.67**	**307**	P	Pn	02 11 03.8	+0.1
TPB01	**Permian Basin**	**1.68**	**230**	P	Pn	02 11 03.7	-0.2
TPB01				S	Sn	02 11 25.7	-0.1
MSTX	**Muleshoe**	**1.97**	**348**	P	Pb	02 11 09.6	-0.7
MSTX	**Muleshoe**	**1.97**	**348**	S	Sb	02 11 35.4	+0.1
DKNS	**Dickens**	**1.99**	**35**	P	Pn	02 11 09.3	+1.1
DKNS				S	Sb	02 11 35.6	-0.1
ALPN	**Alpine**	**2.02**	**215**	P	Pb	02 11 10.1	-1.0
ALPN				S	Sb	02 11 36.4	-0.1
SAND	**Sanderson**	**2.08**	**176**	P	Pb	02 11 10.8	-1.3
SAND				S	Sb	02 11 39.2	+1.1
APMT	**Aspermont**	**2.23**	**54**	P	Pn	02 11 12.7	+1.2
ABTX	**Abilene, Hawle**	**2.31**	**75**	P	Pn	02 11 14.1	+1.5
VHRN	**Van Horn**	**2.62**	**242**	P	Pb	02 11 20.0	-1.3

---

*IDC **10** 02:10:48.4±1.7, 26°.22S×71°.88E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=60.3km s-min=31.1km az=31.0*

ISC 10 02:10:49.9±1.7, 26°.3S±0°.4×71°.9E±0°.3, h10km, n16, σ0s32/7, mb3.6/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.53**	**2**	T	T	02 34 10.9	
baz=183,slow=76,SNR=9.8							
H08S2	**Diego Garcia H**	**18.53**	**2**	T	T	02 34 10.1	
baz=183,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**18.55**	**2**	T	T	02 34 11.4	
baz=183,slow=76,SNR=11							
H04N2	**CROZET ISLANDS**	**25.49**	**214**	T	T	02 42 47.0	
baz=46,slow=75,SNR=345							
H04N1	**CROZET ISLANDS**	**25.50**	**214**	T	T	02 42 49.5	
baz=46,slow=75,SNR=330							
H04N3	**CROZET ISLANDS**	**25.51**	**214**	T	T	02 42 48.2	
baz=46,slow=75,SNR=245							
H01W2	**Cape Leeuwin H**	**37.16**	**114**	T	T	02 57 29.5	
baz=271							
H01W3	**Cape Leeuwin H**	**37.16**	**114**	T	T	02 57 34.0	
baz=271							
H01W1	**Cape Leeuwin H**	**37.18**	**114**	T	T	02 57 32.1	
baz=271							
ASAR	**Alice Springs**	**55.82**	**102**	P	**P**	**02 20 27.6**	**-0.1**
0.6nm,0.9s,baz=253,slow=7.2,SNR=2.9							
0.6nm,0.9s							
WRA	**Warramunga Arr**	**57.33**	**98**	P	**P**	**02 20 38.8**	**+0.2**
0.4nm,0.4s,baz=253,slow=7.6,SNR=2.3							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**73.33**	**7**	P	**P**	**02 22 21.2**	**-0.3**
0.4nm,0.7s,baz=199,slow=6.3,SNR=4.9							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**76.78**	**4**	P	**P**	**02 22 41.7**	**+0.4**
0.5nm,0.9s,baz=197,slow=5.9,SNR=4.8							
0.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.63**	**291**	P	**P**	**02 22 52.5**	**0.0**
0.5nm,1.0s,baz=104,slow=4.6,SNR=4.1							
0.5nm,1.0s							
BVAR	**Borovoye Array**	**78.96**	**359**	P	**P**	**02 22 53.1**	**-0.3**
0.8nm,0.5s,baz=190,slow=7.3,SNR=2.5							
0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**80.66**	**8**	P	**P**	**02 23 02.6**	**0.0**
0.5nm,0.5s,baz=179,slow=5.8,SNR=1.8							
0.5nm,0.5s							

IDC 10 02:16:34.1±2.5, 6°.52S×129°.43E, h0km, mb3.3/1, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=106.8km s-min=29.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.09**	**197**	Pn	Pn	02 19 28.4	+0.6
0.3nm,0.3s,baz=25,slow=14,SNR=12							
FITZ				Sn	Sn	02 21 26.8	-17
0.7nm,0.3s,baz=221,slow=23,SNR=5.8							
0.9nm,0.3s							
WRA	**Warramunga Arr**	**14.18**	**161**	Pn	Pn	02 19 55.5	-0.8
0.7nm,0.3s,baz=334,slow=14,SNR=30							
WRA				Sn	Sn	02 22 15.6	-19
0.8nm,0.3s,baz=335,slow=22,SNR=8.4							
0.6nm,0.4s							
ASAR	**Alice Springs**	**17.59**	**166**	P	Pn	02 20 40.8	0.0
0.3nm,0.3s,baz=346,slow=10,SNR=19							
ASAR				S	Sn	02 23 42.5	-15
0.5nm,0.5s,baz=347,slow=26,SNR=4.7							
1.5nm,0.7s							
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	02 27 32.2	0.0
0.2nm,0.6s,baz=112,slow=7.4,SNR=2.2							
0.2nm,0.6s							

IDC 10 02:18:59.7±2.0, 1°.76N×127°.81E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=185.4km s-min=29.4km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**164**	P	P	02 24 00.8	-0.3
0.6nm,0.6s,baz=340,slow=10,SNR=1.6							
0.6nm,0.6s							
SONM	**Songino Array**	**49.50**	**341**	P	P	02 27 51.0	-1.0
0.5nm,0.7s,baz=144,slow=6.8,SNR=2.8							
0.5nm,0.7s							
MKAR	**Makanchi Array**	**59.78**	**325**	P	P	02 29 07.5	+0.9
0.3nm,0.4s,baz=115,slow=8.0,SNR=7.7							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**63.97**	**328**	P	P	02 29 34.5	-0.3
0.3nm,0.5s,baz=130,slow=5.7,SNR=5.2							
0.3nm,0.5s							

---

*KRSC **10** 02:20:20.3±1.0, 55°.18N×164°.50E, h48km±25km, Ml3.8*
*IDC **10** 02:20:20.2±2.7, 55°.66N×164°.07E, h0km, mb3.3/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=77.2km s-min=26.0km az=150.0*

ISC 10 02:20:21.3±0.8, 55°.32N±0°.06×164°.45E±0°.04, h22km, n29, σ1s71/33, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.88**	**97**	*e*P	**Pb**	**02 20 37.0**	**-0.8**
BKI				*e*S	**Sb**	**02 20 48.5**	**-0.6**
KBTR	**Krutoberegovo**	**1.28**	**315**	*e*P	**Pn**	**02 20 43.8**	**-0.1**
KBG	**Krutoberegovo**	**1.36**	**314**	*e*P	**Pn**	**02 20 44.8**	**-0.1**
KBG				*e*S	**Sb**	**02 21 03.5**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.22**	**288**	*e*P	**Pb**	**02 20 59.7**	**-1.0**
TUMD	**Tumrok D**	**2.32**	**269**	*e*P	**Pn**	**02 20 59.8**	**+1.6**
TUMD				*e*S	**Sn**	**02 21 27.5**	**+1.4**
KLY	**Klyuchi**	**2.36**	**296**	*e*P	**Pn**	**02 21 00.3**	**+1.6**
KRSR	**Krestovskiy**	**2.37**	**294**	*e*P	**Pn**	**02 21 00.2**	**+1.2**
KIRR	**Kirishev**	**2.42**	**287**	*e*P	**Pb**	**02 21 02.6**	**-1.5**
KPT	**Kopyto**	**2.48**	**287**	*e*P	**Pb**	**02 21 03.3**	**-1.9**
KOZ	**Kozyrevsk**	**2.70**	**288**	*e*P	**Pb**	**02 21 06.5**	**-2.3**
SRDR	**Sredinnyy**	**2.85**	**292**	*e*P	**Pn**	**02 21 07.6**	**+2.1**
ESO	**Esso**	**3.32**	**283**	*e*P	**Pn**	**02 21 13.9**	**+2.1**
UGLR	**Uglovaya**	**3.92**	**240**	*e*P	**Pn**	**02 21 22.3**	**+2.1**
KRX	**Arik**	**3.92**	**242**	*e*P	**Pn**	**02 21 21.7**	**+1.4**
AVH	**Avacha**	**3.93**	**241**	*e*P	**Pn**	**02 21 22.8**	**+2.5**
KOK	**Koryaka**	**3.97**	**242**	*e*P	**Pn**	**02 21 21.9**	**+1.0**
PET	**Petropavlovsk**	**4.11**	**238**	*e*P	**Pn**	**02 21 23.7**	**+1.0**
PET				*e*S	**Sn**	**02 22 09.7**	**-0.3**
GNL	**Ganaly**	**4.13**	**249**	*e*P	**Pn**	**02 21 25.7**	**+2.6**
KRMR	**Karymshinskiy**	**4.48**	**239**	*e*S	**Sn**	**02 22 19.3**	**+0.1**
PETK	**Petropavlovsk-**	**4.54**	**244**	Pn	**Pn**	**02 21 30.3**	**+1.6**
1.1nm,0.3s,baz=68,slow=16,SNR=15							
PETK				Sn	**Sn**	**02 22 22.9**	**+2.2**
1.6nm,0.3s,baz=33,slow=25,SNR=10.0							
2.5nm,0.5s							
RUS	**Russkaya**	**4.55**	**233**	*e*P	**Pn**	**02 21 29.7**	**+1.0**
RUS				*e*S	**Sn**	**02 22 18.4**	**-2.5**

SONM Songino Array 35.89 283 P **P** 02 27 19.5 -0.1
0.5nm,0.7s,baz=60,slow=8.5,SNR=1.5
0.5nm,0.7s
YKA Yellowknife Ar 39.78 46 P **P** 02 27 53.4 +1.4
0.1nm,0.5s,baz=296,slow=8.3,SNR=3.6
0.1nm,0.5s
KURBB Kurchatov Arra 48.82 302 P **P** 02 29 03.5 -0.9
0.2nm,0.6s,baz=56,slow=7.4,SNR=4.5
0.2nm,0.6s

---

*UPA **10** 02:21:47.7±1.4, 4°.67N×75°.72W, h10km±785km, MW5.1*
*RSNC **10** 02:21:47.7±0.0, 5°.N±1°.×7°.6W±°, h138km±1km, M4.0, mB5.0, mb4.7, ML3.5, Mw4.1, Mw(mB)4.4*
*NEIC **10** 02:21:48.3±2.7, 4°.79N±0°.07×75°.46W±0°.09, h152km±9km, mb4.6/15, Error ellipse: s-maj=14.4km s-min=8.5km az=123.0*
*IDC **10** 02:21:49.2±0.7, 4°.84N×75°.32W, h156km±6km, mb3.5/14, mbtmp4.1/19, Error ellipse: s-maj=13.9km s-min=10.8km az=67.0*

ISC 10 02:21:47.5±0.6, **4°.83N**±0°.02×**75°.49W**±0°.03, **h138**km±5km, **n101**, σ1§**22**/151, **mb4.1**/20, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZA	**Niza - Manizal**	**0.22**	**5**	P	**Pn**	**02 22 06.3**	**-0.5**
NIZA				S	**Sn**	**02 22 20.8**	**-0.6**
CMAN1	**Manizales, Cal**	**0.24**	**352**	P	**Pn**	**02 22 06.5**	**-0.3**
CMAN1				S	**Sn**	**02 22 20.9**	**-0.5**
GUY2C	**Guyana, Caldas**	**0.41**	**18**	P	**Pn**	**02 22 07.5**	**-0.2**
GUY2C				S	**Sn**	**02 22 22.2**	**-0.7**
ORTC	**Ortega, Tolima**	**0.95**	**165**	P	**Pn**	**02 22 11.1**	**+0.3**
ORTC				S	**Sn**	**02 22 28.6**	**+0.1**
NORC	**Norcasia**	**0.95**	**40**	P	**Pn**	**02 22 10.6**	**-0.2**
NORC				S	**Sn**	**02 22 27.3**	**-1.2**
CBOC	**Ciudad Bolivar**	**1.15**	**333**	P	**Pn**	**02 22 12.6**	**-0.1**
CBOC				S	**Sn**	**02 22 31.3**	**-0.6**
ROSC	**El Rosal**	**1.17**	**90**	P	**Pn**	**02 22 14.8**	**+1.6**
	138nm,0.3s,baz=324,slow=5.6,SNR=84						
ROSC				S	**Sn**	**02 22 35.2**	**+2.6**
	419nm,0.6s,baz=285,slow=20,SNR=7.2						
ROSC	**El Rosal**	**1.17**	**90**	P	**Pn**	**02 22 14.7**	**+1.6**
ROSC				S	**Sn**	**02 22 32.9**	**+0.3**
YOTC	**Yotoco, Valle**	**1.20**	**225**	P	**Pn**	**02 22 12.2**	**-1.0**
YOTC				S	**Sn**	**02 22 30.5**	**-2.2**
PRAC	**Prado**	**1.27**	**152**	P	**Pn**	**02 22 14.1**	**+0.3**
PRAC				S	**Sn**	**02 22 34.0**	**+0.2**
MEDEC	**Medelln, Ant**	**1.44**	**356**	P	**Pn**	**02 22 15.9**	**+0.2**
MEDEC				S	**Sn**	**02 22 36.9**	**-0.3**
SPBC	**San Pablo de B**	**1.63**	**60**	P	**Pn**	**02 22 18.0**	**+0.3**
SPBC				S	**Sn**	**02 22 39.9**	**-0.9**
CHIC	**Chingaza**	**1.77**	**97**	P	**Pn**	**02 22 20.7**	**+1.1**
CHIC				S	**Sn**	**02 22 45.1**	**+1.1**
PIZC	**Pizarro, Choco**	**1.87**	**274**	P	**Pn**	**02 22 21.2**	**+0.9**
PIZC				S	**Sn**	**02 22 46.0**	**+0.5**
URMC	**La Uribe, Meta**	**1.93**	**145**	P	**Pn**	**02 22 21.3**	**+0.1**
URMC				S	**Sn**	**02 22 46.3**	**-0.7**
VILC	**Villavicencio,**	**1.93**	**112**	P	**Pn**	**02 22 23.1**	**+1.8**
VILC				S	**Sn**	**02 22 49.2**	**+2.1**
PTBC	**PUERTO BERRIO,**	**1.98**	**31**	P	**Pn**	**02 22 21.2**	**-0.6**
PTBC				S	**Sn**	**02 22 46.3**	**-1.7**
JAMC	**Jamundi, Valle**	**1.99**	**216**	P	**Pn**	**02 22 21.4**	**-0.7**
JAMC				S	**Sn**	**02 22 47.2**	**-1.4**
MALC	**Bahia Malaga**	**2.01**	**246**	P	**Pn**	**02 22 23.3**	**+1.2**
MALC				S	**Sn**	**02 22 49.1**	**+0.6**
BETC	**Betania**	**2.14**	**179**	P	**Pn**	**02 22 23.5**	**-0.2**
BETC				S	**Sn**	**02 22 50.8**	**-0.7**
DBBC	**Dabeiba**	**2.28**	**342**	P	**Pn**	**02 22 25.9**	**+0.4**
DBBC				S	**Sn**	**02 22 55.4**	**+0.7**
SOLC	**Bahia Solano**	**2.36**	**306**	P	**Pn**	**02 22 27.0**	**+0.7**
SOLC				S	**Sn**	**02 22 55.7**	**-0.4**
POPC	**Popayan, Colom**	**2.57**	**207**	P	**Pn**	**02 22 28.5**	**-0.7**
POPC				S	**Sn**	**02 22 59.3**	**-1.9**
RUSC	**La Rusia**	**2.62**	**66**	Pn	**Pn**	**02 22 30.6**	**+0.5**
RUSC	**La Rusia**	**2.62**	**66**	P	**Pn**	**02 22 30.5**	**+0.5**
RUSC				S	**Sn**	**02 23 03.0**	**+0.3**
GARC	**Garzon, Huila**	**2.63**	**180**	P	**Pn**	**02 22 29.7**	**-0.3**
GARC				S	**Sn**	**02 23 01.5**	**-1.2**
ZARC	**Zaragoza, Cauc**	**2.71**	**13**	P	**Pn**	**02 22 30.7**	**-0.1**
ZARC				S	**Sn**	**02 23 02.9**	**-1.3**
BRJC	**Barrancabermej**	**2.75**	**39**	P	**Pn**	**02 22 30.8**	**-0.4**
BRJC				S	**Sn**	**02 23 03.5**	**-1.4**
BARC	**Barichara**	**2.89**	**53**	P	**Pn**	**02 22 33.7**	**+0.5**
MACC	**Macarena, Meta**	**3.13**	**148**	P	**Pn**	**02 22 35.9**	**-0.3**
MACC				S	**Sn**	**02 23 13.2**	**-0.6**
GR1C	**Gorgona, Isla**	**3.23**	**236**	P	**Pn**	**02 22 36.1**	**-1.3**
GR1C				S	**Sn**	**02 23 16.1**	**+0.1**
APAC	**Apartado, Choc**	**3.23**	**341**	P	**Pn**	**02 22 39.0**	**+1.5**
APAC				S	**Sn**	**02 23 16.1**	**0.0**
FLOC	**Florencia**	**3.23**	**183**		**Pn**	**02 22 37.5**	**0.0**
FLOC	**Florencia**	**3.23**	**183**	P	**Pn**	**02 22 37.6**	**0.0**
FLOC				S	**Sn**	**02 23 16.3**	**+0.1**
PTAC	**Punta Ardita,**	**3.25**	**315**	P	**Pn**	**02 22 37.4**	**-0.3**
PTAC				S	**Sn**	**02 23 14.5**	**-2.1**
PTAC	**Punta Ardita,**	**3.25**	**315**	*eP*	**Pn**	**02 22 37.5**	**-0.2**
PTAC				*eS*	**Sn**	**02 23 16.6**	**-1.0**
BBAC	**Balboa, Cauca**	**3.30**	**212**	P	**Pn**	**02 22 37.9**	**-0.6**
BBAC				S	**Sn**	**02 23 16.1**	**-1.8**
CRUC	**La Cruz**	**3.56**	**204**	P	**Pn**	**02 22 42.6**	**+0.6**
CRUC				S	**Sn**	**02 23 24.3**	**+0.1**
GUVC	**San Jose del G**	**3.65**	**128**	P	**Pn**	**02 22 44.1**	**+1.2**
PAMC	**Pamplona, Colo**	**3.73**	**48**	P	**Pn**	**02 22 44.3**	**-0.1**
PAMC				S	**Sn**	**02 23 26.6**	**-1.8**
TAMC	**Tame, Arauca**	**4.01**	**66**	P	**Pn**	**02 22 47.7**	**0.0**
TAMC				S	**Sn**	**02 23 33.8**	**-0.6**
OCAC	**Ocana**	**4.01**	**32**	P	**Pn**	**02 22 47.7**	**-0.1**
OCAC				S	**Sn**	**02 23 32.4**	**-2.2**
GCUF	**Volcan Galeras**	**4.03**	**207**	P	**Pn**	**02 22 48.4**	**0.0**
GCUF				S	**Sn**	**02 23 34.6**	**-1.0**
LCBC	**Los crdobas,**	**4.09**	**348**	P	**Pn**	**02 22 49.5**	**+0.8**
LCBC				S	**Sn**	**02 23 36.7**	**+0.5**
TULM	**Tulcn-Chalpat**	**4.69**	**209**	P	**Pn**	**02 22 57.7**	**+0.6**
TULM				S	**Sn**	**02 23 50.9**	**-0.2**
SJCC	**San Jacinto, C**	**5.04**	**3**	P	**Pn**	**02 23 01.5**	**+0.1**
SJCC				S	**Sn**	**02 23 56.0**	**-2.9**
ARGC	**Ariguani, Magd**	**5.14**	**14**	P	**Pn**	**02 23 04.5**	**+1.8**
ARGC				S	**Sn**	**02 24 00.4**	**-0.9**
ACHO3	**Achotines, Los**	**5.32**	**299**	*eP*	**Pn**	**02 23 04.5**	**-0.5**
ACHO3				*eS*	**Sn**	**02 24 04.6**	**-0.7**
OTAV	**Otavalo**	**5.44**	**213**		**Pn**	**02 23 06.6**	**-0.4**
AZU	**Azuero**	**5.59**	**302**	*eP*	**Pn**	**02 23 09.1**	**+0.4**
AZU				*eS*	**Sn**	**02 24 09.9**	**-2.0**
BCIP	**Isla Barro Col**	**6.09**	**315**		**Sn**	**02 24 25.0**	**+0.9**
BCIP	**Isla Barro Col**	**6.09**	**315**	*eP*	**Pn**	**02 23 17.5**	**+2.1**
BCIP				*eS*	**Sn**	**02 24 24.8**	**+0.8**
SDV	**Santo Domingo**	**6.28**	**50**	P	**Pn**	**02 23 17.9**	**-0.2**
	83nm,0.3s,baz=191,slow=4.0,SNR=163						
SDV				S	**Sn**	**02 24 26.3**	**-2.6**
	91nm,0.6s,baz=14,slow=15,SNR=12						
SMRC	**Santa Marta, M**	**6.41**	**11**	Pn	**Pn**	**02 23 19.1**	**-0.6**
BAUV	**El Baul**	**8.45**	**61**		**Pn**	**02 23 43.6**	**-3.4**
HATO	**Hato, Curacao**	**9.75**	**41**	Pn	**Pn**	**02 24 01.4**	**-3.0**
JTS	**Las Juntas de**	**10.83**	**301**	P	**Pn**	**02 24 22.2**	**+3.3**
	3.8nm,0.5s,baz=103,slow=19,SNR=1.9						
PCRV	**Puerto La Cruz**	**12.00**	**63**	P	**Pn**	**02 24 33.1**	**-1.2**
	8.9nm,0.5s,baz=218,slow=10,SNR=8.0						
ATAH	**Atahualpa**	**12.24**	**194**	P	**Pn**	**02 24 39.5**	**+1.7**
	7.5nm,0.8s,baz=11,slow=16,SNR=6.2						
GTBY	**Guantanamo Bay**	**15.01**	**1**	*eP*	**P**	**02 25 17.6**	**+2.9**
RCC	**Rio Carpintero**	**15.07**	**359**	*eP*	**P**	**02 25 17.6**	**+2.2**
DR12	**Loma Pena Alta**	**15.10**	**23**		**P**	**02 25 15.6**	**-0.2**
DR12				IAmb	IAmb	02 25 19.3	
	comp=Z,40nm,1.1s						
BOAV	**Boa Vista**	**15.13**	**99**	Pn	**Pn**	**02 25 12.6**	**-1.8**
QMBU	**Quimbuelo**	**15.29**	**2**	*eP*	**P**	**02 25 20.6**	**+2.8**
MASC	**Masc**	**15.30**	**4**	*eP*	**P**	**02 25 19.6**	**+1.6**
CRPR	**Cabo Rojo, PR**	**15.45**	**31**	Pn	**Pn**	**02 25 16.9**	**-1.2**
CELP	**Cerrillos**	**15.78**	**33**		**Pn**	**02 25 21.8**	**-0.5**
CELP				IAmb	IAmb	02 25 58.6	
	comp=Z,55nm,1.4s						
SJG	**San Juan**	**16.05**	**34**	P	**Pn**	**02 25 23.8**	**-1.7**
	comp=Z,5.2nm,0.4s,baz=234,slow=10,SNR=2.2						
ANBD	**Bethesda, Anti**	**18.12**	**47**	*eP*	**Pn**	**02 25 51.8**	**+1.2**
ANWB	**Willy Bob**	**18.51**	**45**	*eP*	**Pn**	**02 25 55.0**	**-0.2**
LPAZ	**La Paz**	**22.21**	**161**	P	**P**	**02 26 33.8**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=331,slow=7.7,SNR=2.7						
	comp=Z,1.6nm,0.5s						
VILB	**Vilhena**	**23.30**	**139**	P	**P**	**02 26 43.6**	**+0.2**
VILB				IAmb	IAmb	02 26 46.4	
	comp=Z,19nm,0.7s						
PTLB	**Pontes e Lacer**	**25.86**	**141**	P	**P**	**02 27 05.7**	**-0.7**
Z47A	**Carrollton**	**30.56**	**339**	P	**P**	**02 27 50.4**	**+2.3**
WVT	**Waverly**	**33.15**	**342**	P	**P**	**02 28 12.2**	**+1.4**
WVT				IAmb	IAmb	02 28 26.5	
	comp=Z,16nm,1.4s						
BDFB	**Brasilia**	**33.97**	**127**	P	**P**	**02 28 16.9**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=290,slow=15,SNR=6.1						
	comp=Z,2.2nm,0.4s						
SIUC	**Southern Illin**	**35.05**	**341**	P	**P**	**02 28 28.4**	**+1.3**
SIUC				IAmb	IAmb	02 28 28.9	
	comp=Z,7.0nm,0.7s						
PLPT	**Palo Pinto**	**35.06**	**325**	P	**P**	**02 28 28.6**	**+1.3**
CPUP	**Villa Florida**	**35.63**	**151**	P	**P**	**02 28 29.5**	**-2.7**
CPUP				IAmb	IAmb	02 28 41.7	
	comp=Z,8.4nm,1.4s						
CPUP	**Villa Florida**	**35.63**	**151**	P	**P**	**02 28 29.5**	**-2.7**
	comp=Z,0.8nm,0.4s,baz=333,slow=7.3,SNR=5.4						
	comp=Z,0.8nm,0.4s						
TXAR	**Lajitas Array**	**36.12**	**316**	P	**P**	**02 28 36.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=125,slow=8.3,SNR=5.4						
TXAR				PcP	**PcP**	**02 31 00.3**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=98,slow=2.3,SNR=11						
	comp=Z,0.3nm,0.7s						
MT09	**Talagante**	**38.64**	**174**	P	**P**	**02 28 58.9**	**+1.2**
MT09				IAmb	IAmb	02 29 37.4	
	comp=Z,20nm,1.4s						
JFWS	**Jewell Farm**	**40.12**	**343**	P	**P**	**02 29 09.9**	**+0.1**
JFWS				IAmb	IAmb	02 29 10.0	
	comp=Z,12nm,1.2s						
TRQA	**Tornquist**	**44.48**	**165**	P	**P**	**02 29 44.6**	**-0.5**
TRQA				IAmb	IAmb	02 30 09.9	
	comp=Z,19nm,1.4s						
PLCA	**Paso Flores**	**45.57**	**175**	P	**P**	**02 29 53.7**	**0.0**
	comp=Z,0.8nm,0.5s,baz=350,slow=9.0,SNR=9.3						
	comp=Z,0.8nm,0.5s						
PDAR	**Pinedale Array**	**48.35**	**326**	P	**P**	**02 30 16.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=126,slow=10,SNR=7.4						
	comp=Z,0.6nm,0.5s						
ULM	**Lac du Bonnet**	**48.41**	**343**	P	**P**	**02 30 14.3**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=155,slow=8.7,SNR=5.1						
	comp=Z,1.8nm,0.6s						
MZP	**Montezuma Peak**	**50.26**	**316**	P	**P**	**02 30 29.6**	**-0.6**
NVAR	**Mina Array Bea**	**51.25**	**317**	P	**P**	**02 30 39.5**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=131,slow=7.1,SNR=5.0						
NVAR				PcP	**PcP**	**02 31 51.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=97,slow=1.8,SNR=5.0						
	comp=Z,1.4nm,0.8s						
YKA	**Yellowknife Ar**	**64.33**	**341**	P	**P**	**02 32 08.0**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=140,slow=6.2,SNR=24						
YKA				PcP	**PcP**	**02 32 41.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=136,slow=6.2,SNR=4.0						
	comp=Z,2.1nm,0.8s						
DBIC	**Dimbokro**	**70.25**	**85**	P	**P**	**02 32 46.4**	**0.0**
	comp=Z,2.5nm,0.6s,baz=272,slow=6.3,SNR=5.4						
	comp=Z,2.5nm,0.6s						
SUMG Summit	**71.37**	**11**	*i* P	**P**	**02 32 53.0**	**+0.4**
ESDC Sonseca Array	**72.73**	**50**	P	**P**	**02 33 01.0**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=258,slow=5.8,SNR=2.6						
	comp=Z,0.6nm,0.9s						
TORD Torodi Ar. Bea	**76.45**	**78**	P	**P**	**02 33 21.6**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=292,slow=7.6,SNR=17						
	comp=Z,0.5nm,0.5s						
ILAR Eielson Array	**77.77**	**335**	P	**P**	**02 33 29.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=114,slow=4.1,SNR=14						
	comp=Z,0.6nm,0.6s						
HFS Hagfors	**85.44**	**30**	P	**P**	**02 34 09.9**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=242,slow=15,SNR=1.6						
	comp=Z,2.3nm,0.8s						
KURBB Kurchatov Arra	**120.40**	**19**	PKP	**PKPdf**	**02 40 21.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=318,slow=2.5,SNR=2.5						
MKAR Makanchi Array	**124.96**	**18**	PKP	**PKPdf**	**02 40 30.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=306,slow=2.8,SNR=5.4						
STKA Stephens Creek	**136.08**	**228**	PKP	**PKPdf**	**02 40 53.3**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=182,slow=5.8,SNR=4.0						
ASAR Alice Springs	**146.04**	**234**	PKPbc	**PKPdf**	**02 41 11.2**	**0.0**
	comp=Z,6.3nm,0.6s,baz=118,slow=3.7,SNR=89						
WRA Warramunga Arr	**147.31**	**240**	PKPbc	**PKPdf**	**02 41 13.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=108,slow=2.8,SNR=20						

---

*DJA **10** 02:22:37.9±0.3, 2°.N±3°.×12°.7E±°, h10km, M4.4/15, mB5.3/3, mb4.6/11, MLv4.3/15, Mw(mB)4.7/3*
*NEIC **10** 02:22:39.6±2.6, 2°.2N±0°.1×126°.8E±0°.1, h35km±2km, mb4.4/12, Error ellipse: s-maj=23.8km s-min=10.4km az=46.0*
*IDC **10** 02:22:47.4±3.5, 2°.01N×126°.38E, h115km±32km, mb3.7/12, mbtmp4.1/13, Error ellipse: s-maj=36.8km s-min=10.2km az=71.0*

ISC 10 02:22:40.5±0.5, **2°.29N**±0°.05×**126°.83E**±0°.08, **h50**km, **n46**, σ1§**82**/50, **mb4.1**/16, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.60**	**160**		**Pn**	**02 23 03.5**	**-3.0**
TNTI	**Ternate**	**1.60**	**160**	P	**Pn**	**02 23 07.7**	**+1.3**
SGSI	**Sangihe**	**1.90**	**317**	P	**Pn**	**02 23 07.8**	**-2.8**
SGSI				S	**Sn**	**02 23 31.8**	**-1.6**
LBMI	**Labuha**	**2.98**	**167**	P	**Pn**	**02 23 27.5**	**+2.1**
KMSI	**Cibinong**	**3.32**	**239**	P	**Pn**	**02 23 31.0**	**+1.0**
SANI	**Sanana**	**4.39**	**191**	P	**Pn**	**02 23 45.0**	**+0.3**
DAV	**Davao City (W)**	**4.91**	**345**	Pn	**Pn**	**02 23 56.3**	**+4.4**
MRSI	**Marisa**	**5.21**	**250**	P	**Pn**	**02 23 57.8**	**+1.8**
LUWI	**Luwuk**	**5.24**	**231**	P	**Pn**	**02 23 58.4**	**+2.1**
APSI	**Ampana**	**6.08**	**239**	P	**Pn**	**02 24 09.6**	**+1.7**
	82nm,1.4s						
TOLI2	**Tolitoli**	**6.16**	**259**		**Pn**	**02 24 07.9**	**-1.1**
KDI	**Kendari**	**7.50**	**214**	P	**Pn**	**02 24 27.7**	**+0.3**
TTSI	**Tana Toraja**	**8.79**	**233**	P	**Pn**	**02 24 44.9**	**-0.2**
	26nm,1.0s						
MYLDM	**Lahad Datu**	**8.80**	**289**		**Pn**	**02 24 46.8**	**+1.7**
TWSI	**Taliwang, Sumb**	**14.78**	**222**	P	**Pn**	**02 26 09.4**	**+2.8**
	50nm,1.1s						
SRBI	**Singaraja**	**15.51**	**228**	P	**P**	**02 26 18.5**	**-1.2**
	35nm,1.1s						
MTN	**Manton Dam**	**15.63**	**164**	P	**Pn**	**02 26 19.0**	**+1.4**
MTN				IAmb	IAmb	02 26 37.6	
	comp=Z,17nm,0.9s						
KMMI	**Kalianget**	**15.84**	**234**	P	**P**	**02 26 23.2**	**-0.2**
	comp=Z,53nm,1.9s						
JAGI	**Jajag, Banyuwa**	**16.56**	**230**	P	**P**	**02 26 31.1**	**-0.2**
KNRA	**Kununurra**	**17.95**	**174**	P	**Pn**	**02 26 46.1**	**-0.6**
KNRA				IAmb	IAmb	02 26 54.6	
	comp=Z,48nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.29**	**183**		**P**	**02 27 12.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.29**	**183**	P	**P**	**02 27 12.5**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=2.6,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**23.29**	**162**	P	**P**	**02 27 42.6**	**-1.6**
WRA	**Warramunga Arr**	**23.29**	**162**	P	**P**	**02 27 42.5**	**-1.6**
	comp=Z,4.7nm,0.7s,baz=338,slow=10,SNR=34						
WRA				PcP	**PcP**	**02 31 30.3**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=319,slow=3.3,SNR=2.3						
WRA				S	**S**	**02 31 47.5**	**-5.5**
	comp=Z,2.4nm,0.9s,baz=342,slow=18,SNR=6.3						
	comp=Z,4.7nm,0.7s						
WR0	**Warramunga Arr**	**23.37**	**161**	P	**P**	**02 27 43.4**	**-1.5**
WR0				IAmb	IAmb	02 27 44.9	
	comp=Z,5.8nm,0.7s						
ASAR	**Alice Springs**	**26.70**	**165**	P	**P**	**02 28 14.4**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=349,slow=14,SNR=17						
ASAR				PcP	**PcP**	**02 31 38.6**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=326,slow=1.4,SNR=2.3						
	comp=Z,1.6nm,0.8s						
JCJ	**Chichijima**	**28.72**	**29**	P	**P**	**02 28 35.3**	**+2.1**
PHRA	**Phrae**	**30.64**	**304**	P	**P**	**02 28 50.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.70**	**302**	P	**P**	**02 28 59.4**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=118,slow=6.6,SNR=9.1						
	comp=Z,1.1nm,0.3s						
FORT	**Forrest**	**32.91**	**178**	P	**P**	**02 29 09.8**	**-0.3**
FORT				IAmb	IAmb	02 29 10.6	
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**35.01**	**2**	P	**P**	**02 29 32.1**	**+3.8**
	comp=Z,1.4nm,0.7s,baz=187,slow=10,SNR=5.9						
	comp=Z,1.4nm,0.7s						
BBOO	**Buckleboo**	**35.98**	**167**	P	**P**	**02 29 36.5**	**-0.3**
STKA	**Stephens Creek**	**36.76**	**159**	P	**P**	**02 29 42.9**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=350,slow=5.9,SNR=4.7						
	comp=Z,1.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**41.98**	**6**	P	**P**	**02 30 29.9**	**+3.2**
	comp=Z,4.2nm,0.8s,baz=200,slow=11,SNR=5.6						
	comp=Z,4.2nm,0.8s						
SONM	**Songino Array**	**48.69**	**342**	P	**P**	**02 31 19.4**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=164,slow=6.7,SNR=4.0						
	comp=Z,0.5nm,0.7s						
MK31	**Makanchi Array**	**58.79**	**326**	P	**P**	**02 32 33.5**	**-0.3**
MKAR	**Makanchi Array**	**58.79**	**326**	P	**P**	**02 32 33.3**	**-0.5**
MKAR	**Makanchi Array**	**58.79**	**326**	P	**P**	**02 32 33.0**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=116,slow=7.3,SNR=13						
	comp=Z,1.0nm,0.4s						
KURBB Kurchatov Arra	**63.00**	**328**	P	**P**	**02 33 01.3**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=126,slow=6.2,SNR=9.4						
	comp=Z,0.8nm,0.6s						
KURK Kurchatov	**63.00**	**328**	P	**P**	**02 33 01.7**	**-0.5**
KURK				IAmb	IAmb	02 33 09.6	
	comp=Z,2.2nm,0.6s						
KKAR Karatay Array	**64.35**	**317**	P	**P**	**02 33 09.9**	**-1.5**
BVAR Borovoye Array	**68.58**	**327**	P	**P**	**02 33 36.3**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=126,slow=11,SNR=3.9						
	comp=Z,0.4nm,0.4s						
ABKAR Akbulak array	**73.33**	**321**	P	**P**	**02 34 06.5**	**-0.4**
ABKAR Akbulak array	**73.33**	**321**	P	**P**	**02 34 07.8**	**+0.9**
ABKAR				IAmb	IAmb	02 34 45.6	
	comp=Z,3.7nm,1.5s						
BRTR Keskin Array B	**91.01**	**310**	P	**P**	**02 35 37.3**	**-2.6**
	comp=Z,0.5nm,0.8s,baz=100,slow=3.5,SNR=2.6						
	comp=Z,0.5nm,0.8s						
FINES FINESS Array B	**93.14**	**332**	P	**P**	**02 35 49.9**	**+0.9**
	comp=Z,3.0nm,1.1s,baz=95,slow=8.6,SNR=1.2						
	comp=Z,3.0nm,1.1s						

---

*SJA **10** 02:22:46.0±0.6, 19°.27S×69°.32W, h108km±5km, ML3.4, MW3.5*
*GUC **10** 02:22:47.6±0.9, 19°.29S×69°.30W, h104km±5km, ML3.4*
*IDC **10** 02:22:49.5±7.8, 19°.24S×68°.80W, h138km±53km, mb3.4/2, mbtmp3.8/3, Error ellipse: s-maj=78.3km s-min=48.6km az=25.0*

ISC 10 02:22:46.4±0.9, **19°.29S**±0°.04×**69°.39W**±0°.06, **h115**km±8km, **n30**, σ1§**12**/35, **1C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.83**	**293**	*eP*	**Pn**	**02 23 05.9**	**-0.6**
PX02				*eS*	**Sn**	**02 23 21.8**	**+0.1**
PX02				IAML		02 23 26.2	
	comp=Z,702nm,0.4s						
PB08	**IPOC Station P**	**0.88**	**165**	*eP*	**Pn**	**02 23 06.9**	**-0.3**
PB08				*eS*	**Sn**	**02 23 22.6**	**-0.3**
PB08				IAML		02 23 23.4	
	comp=Z,552nm,0.3s						
PB08	**IPOC Station P**	**0.88**	**165**	⇓*iP*	**Pn**	**02 23 07.0**	**-0.3**
PB08				*eS*	**Sn**	**02 23 22.2**	**-0.7**
PB08				IAML		02 23 23.4	
	comp=E,2μm,0.2s						
PB12	**IPOC Station P**	**1.11**	**307**	*eP*	**Pn**	**02 23 09.6**	**+0.3**
PB12				*eS*	**Sn**	**02 23 27.3**	**+0.7**
PB12				IAML		02 23 32.2	
	comp=Z,307nm,0.2s						
PB12	**IPOC Station P**	**1.11**	**307**	⇑*iP*	**Pn**	**02 23 09.6**	**+0.3**
PB12				*i S*	**Sn**	**02 23 26.8**	**+0.2**
PB12				IAML		02 23 31.8	
	comp=N,759nm,0.2s						
TA02	**Huaiquique**	**1.20**	**215**	*eP*	**Pn**	**02 23 10.7**	**+0.6**
TA02				*eS*	**Sn**	**02 23 30.2**	**+2.2**
TA02				IAML		02 23 33.4	
	comp=Z,538nm,0.1s						
TA02	**Huaiquique**	**1.20**	**215**	*eP*	**Pn**	**02 23 10.6**	**+0.6**
TA02				*eS*	**Sn**	**02 23 28.4**	**+0.4**
TA02				IAML		02 23 35.9	
	comp=N,2μm,0.1s						
AP01	**Chacalluta**	**1.28**	**315**	*eP*	**Pn**	**02 23 11.3**	**+0.3**
AP01				IAML		02 23 35.4	
	comp=Z,828nm,0.1s						
AP01	**Chacalluta**	**1.28**	**315**	*eP*	**Pn**	**02 23 11.7**	**+0.6

1.2nm,0.6s,baz=93,slow=9.0,SNR=9.3
MKAR PcP **PcP** **02 36 02.6 +1.2**
0.2nm,0.6s,baz=90,slow=4.3,SNR=2.7
1.2nm,0.6s
WRA Warramunga Arr 48.86 187 P **P** **02 34 51.1 +0.5**
0.5nm,0.4s,baz=1.1,slow=7.7,SNR=14
0.5nm,0.4s
KURBB Kurchatov Arra 50.26 313 P **P** **02 35 00.5 -0.1**
3.0nm,0.6s,baz=92,slow=8.0,SNR=56
3.0nm,0.6s
BVAR Borovoye Array 55.28 317 P **P** **02 35 36.7 +0.2**
1.6nm,0.5s,baz=88,slow=6.9,SNR=9.3
1.6nm,0.5s
ARCES ARCESS Array B 71.13 340 P **P** **02 37 20.1 +2.0**
2.4nm,0.8s,baz=60,slow=7.2,SNR=4.7
2.4nm,0.8s
KBZ Khabaz 75.23 312 P **P** **02 37 43.7 +1.6**
2.9nm,0.8s,baz=87,slow=5.9,SNR=9.0
2.9nm,0.8s
FINES FINESS Array B 75.38 333 P **P** **02 37 44.6 +2.0**
3.6nm,0.9s,baz=72,slow=3.4,SNR=10
3.6nm,0.9s
AKASG Malin Array Be 79.90 323 P **P** **02 38 08.4 +1.0**
0.2nm,0.4s,baz=47,slow=7.9,SNR=5.3
0.2nm,0.4s
HFS Hagfors 80.91 336 P **P** **02 38 13.7 +1.2**
2.2nm,0.7s,baz=48,slow=2.1,SNR=4.4
2.2nm,0.7s
NOA NORSAR Array B 81.13 337 P **P** **02 38 15.2 +1.6**
0.6nm,0.7s,baz=41,slow=4.8,SNR=2.4
0.6nm,0.7s
BRTR Keskin Array B 83.22 312 P **P** **02 38 26.7 +1.8**
0.5nm,0.7s,baz=90,slow=3.2,SNR=4.2
0.5nm,0.7s
TORD Torodi Ar. Bea 121.80 310 PKP **PKiKP** **02 44 50.9 +2.0**
0.2nm,0.5s,baz=34,slow=1.9,SNR=4.6

---

*IDC **10** 02:41:02.1±1.0, 9°.99N×126°.10E, h0^{km}, mb3.8/10, mbtmp3.8/10, MS3.1/2, Error ellipse: s-maj=82.1km s-min=21.2km az=69.0*

ISC 10 02:41:03.6±1.0, 10°.00N±0°.2×126°.1E±0°.5, h10^{km}, n15, σ1§05/10, mb3.8/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**19.10**	**130**	LR	LR	02 52 30.0	
	comp=Z,70nm,19.2s,baz=353,slow=36						
PMG	**Port Moresby**	**28.44**	**132**	LR	LR	02 57 56.8	
	comp=Z,35nm,21.5s,baz=23,slow=36						
WRA	**Warramunga Arr**	**30.82**	**165**	P	**P**	**02 47 19.8**	**-0.1**
	0.3nm,0.8s,baz=339,slow=10,SNR=1.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**34.30**	**167**	P	**P**	**02 47 50.6**	**+0.2**
	0.1nm,0.3s,baz=343,slow=8.6,SNR=1.9						
	0.1nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.48**	**71**	T	T	03 32 03.0	
	baz=265,slow=74,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**40.48**	**71**	T	T	03 32 03.0	
	baz=265,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**40.49**	**71**	T	T	03 32 03.9	
	baz=265,slow=74,SNR=6.5						
SONM	**Songino Array**	**41.24**	**340**	P	**P**	**02 48 49.7**	**+0.7**
	0.2nm,0.3s,baz=152,slow=9.6,SNR=2.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**52.17**	**323**	P	**P**	**02 50 14.8**	**+0.2**
	0.5nm,0.8s,baz=123,slow=7.1,SNR=5.9						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**54.81**	**331**	P	**P**	**02 50 33.0**	**-0.7**
	0.4nm,0.3s,baz=118,slow=11,SNR=2.2						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**56.23**	**326**	P	**P**	**02 50 42.0**	**-2.0**
	1.0nm,0.2s,baz=126,slow=6.5,SNR=1.4						
	1.0nm,0.2s						
BVAR	**Borovoye Array**	**61.82**	**326**	P	**P**	**02 51 22.3**	**-0.5**
	0.8nm,0.3s,baz=118,slow=12,SNR=1.5						
	0.8nm,0.9s						
ARCES	**ARCESS Array B**	**84.41**	**340**	P	**P**	**02 53 36.6**	**+0.5**
	2.2nm,0.9s,baz=78,slow=5.8,SNR=5.2						
	2.2nm,0.9s						
FINES	**FINESS Array B**	**86.08**	**332**	P	**P**	**02 53 45.9**	**+1.4**
	4.8nm,1.1s,baz=90,slow=4.4,SNR=4.7						
	4.8nm,1.1s						
YKA	**Yellowknife Ar**	**94.07**	**24**	P	**P**	**02 54 21.5**	**-0.6**
	0.3nm,0.7s,baz=294,slow=5.1,SNR=6.1						
	0.3nm,0.7s						

---

*SOME **10** 02:42:49.2, 40°.23N×77°.43E, h5^{km}*

KRNET 10 02:42:37.8±0.1, 39°.80N×77°.83E, mb2.6, 12C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.93**	**360**	⇑*iP*	Pb	02 43 13.3	-0.8
TARG				⇑*iS*	Sg	02 43 39.3	-0.4
KDJ	**Kajisay**	**2.38**	**348**	⇓*iP*	Pn	02 43 19.4	+1.2
KDJ				⇓*iS*	Sn	02 43 49.8	+1.6
PRZ	**Przheval'sk**	**2.72**	**9**	⇑*iP*	Pn	02 43 24.4	+1.5
PRZ				⇑*iS*	Sn	02 43 58.8	+2.3
ULHL	**Ulahol**	**2.72**	**334**	⇑*iP*	Pn	02 43 24.2	+1.2
ULHL				⇑*iS*	Sn	02 43 58.5	+1.8
ANVS	**Anan'yevo**	**2.98**	**358**	⇑*iP*	Pn	02 43 28.1	+1.6
ANVS				⇑*iS*	Sn	02 44 04.8	+1.7
BOOM	**Boomskoye usch**	**3.04**	**335**	⇓*eP*	Pn	02 43 28.9	+1.6
BOOM				⇓*eS*	Sn	02 44 06.2	+1.7
SALK	**Salom-Alik**	**3.25**	**291**	⇑*iP*	Pn	02 43 31.7	+1.6
SALK				⇑*iS*	Sn	02 44 10.9	+1.3
TNSS	**Tian-Shan**	**3.30**	**349**	*eP*	Pg	02 43 41.8	+0.7
	8.2nm,0.5s						
TNSS				*eS*	Sb	02 44 19.8	+1.4
	2.9nm,0.4s						
ARLS	**Aral**	**3.36**	**309**	⇓*iP*	Pn	02 43 33.1	+1.4
ARLS				⇓*iS*	Sn	02 44 13.3	+0.9
MDOK	**Medeo**	**3.41**	**350**	*eP*	Pg	02 43 44.7	+1.6
	2.8nm,0.2s						
MDOK				*eS*	Sg	02 44 24.7	-2.7
	9.2nm,0.5s						
KOTS	**Kotyrbulak**	**3.47**	**351**	*eP*	Pg	02 43 45.4	+1.1
	4.1nm,0.3s						
KOTS				*eS*	Sb	02 44 25.9	+2.9
	7.2nm,0.6s						
KST	**Kastek**	**3.53**	**337**	*eP*	Pg	02 43 45.7	+0.3
	1.9nm,0.7s						
KST				*eS*	Sb	02 44 26.4	+1.8
	4.0nm,0.8s						
KBK	**Karagaybulak**	**3.58**	**324**	⇓*iP*	Pn	02 43 36.2	+1.4
KBK				⇓*iS*	Sn	02 44 19.0	+1.1
KPKS	**Kokpek**	**3.72**	**10**	*eP*	Pg	02 43 51.0	+1.9
	0.7nm,0.1s						
KPKS				*eS*	Sg	02 44 35.1	-2.2
	3.3nm,0.3s						
AML	**Almayashu**	**3.90**	**308**	⇑*iP*	Pn	02 43 40.7	+1.4
AML				⇑*iS*	Sn	02 44 26.9	+0.9

IDC 10 03:04:14.0±3.7, 9°.67N×125°.73E, h0^{km}, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=344.5km s-min=24.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.62**	**164**	P	P	03 10 29.2	-0.9
	0.3nm,0.6s,baz=343,slow=8.6,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.08**	**167**	P	P	03 11 01.1	+0.7
	0.1nm,0.4s,baz=348,slow=8.6,SNR=4.3						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.19**	**323**	P	P	03 13 26.7	+0.1
	0.3nm,0.7s,baz=116,slow=7.3,SNR=4.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**56.27**	**326**	P	P	03 13 55.9	-0.3
	0.2nm,0.5s,baz=128,slow=6.0,SNR=2.9						
	0.2nm,0.5s						

---

*IDC **10** 03:06:37.4±0.5, 9°.94N×126°.39E, h0^{km}, mb4.3/25, mbtmp4.3/27, ML3.8/1, MS3.7/14, Error ellipse: s-maj=23.4km s-min=12.0km az=72.0*
*BJI **10** 03:06:37.5, 9°.76N×126°.37E, h13^{km}, mB5.1/10, mb4.3/36, Ms5.0/4, Ms7 4.6/5*
*NEIC **10** 03:06:40.0±2.9, 10°.10N±0°.09×126°.5E±0°.1, h10^{km}±1km, mb4.7/66, Error ellipse: s-maj=17.6km s-min=14.5km az=77.0*
*DJA **10** 03:06:46.3±0.6, 10°N±4°×12°7E±°, h80^{km}±5^{km}, M5.1/38, mb4.8/38, mB5.5/7, MLv5.3/5, Mw(mB)4.9/7*

ISC 10 03:06:39.7±0.4, 10°.01N±0°.04×126°.46E±0°.07, h10^{km}, n144, σ1§59/117, mb4.6/74, MS3.6/10, 3C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.05**	**197**	Pn	**Pn**	**03 07 31.8**	**+3.8**
DAV	**Davao City (W)**	**3.05**	**197**	Pn	**Pn**	**03 07 29.1**	**+1.1**
	81nm,0.3s,baz=151,slow=12,SNR=3.8						
DAV				Sn	**Sn**	**03 08 02.7**	**-1.8**
	42nm,0.3s,baz=52,slow=22,SNR=3.6						
DAV				LR	LR	03 08 03.6	
	comp=Z,629nm,21.6s,baz=358,slow=29						
DAV	**Davao City (W)**	**3.05**	**197**	P	**Pg**	**03 07 39.0**	**+0.9**
SGSI	**Sangihe**	**6.35**	**188**	P	**Pn**	**03 08 16.4**	**+3.0**
TGY	**Tagaytay City**	**6.76**	**308**	Pn	**Pn**	**03 08 22.4**	**+3.2**
	baz=138,slow=7.3						
TGY				LR	LR	03 11 52.1	
	comp=Z,727nm,18.1s,baz=112,slow=47						
TNTI	**Ternate**	**9.22**	**174**	P	**Pn**	**03 08 55.6**	**+2.8**
	38nm,1.3s						
MYLDM	**Lahad Datu**	**9.23**	**239**		**Pn**	**03 08 53.0**	**0.0**
LUWI	**Luwuk**	**11.57**	**199**		**Pn**	**03 09 27.2**	**+2.1**
LUWI	**Luwuk**	**11.57**	**199**	P	Pn	03 09 31.4	+6.3
	85nm,1.2s						
SWI	**Sorong**	**11.81**	**156**	P	**Pn**	**03 09 30.1**	**+1.8**
	21nm,0.6s						
APSI	**Ampana**	**11.86**	**204**	P	Pn	03 09 34.0	+5.0
	50nm,1.2s						
SANI	**Sanana**	**11.99**	**182**	P	**Pn**	**03 09 29.9**	**-0.9**
	23nm,1.3s						
FAKI	**Fak Fak**	**14.08**	**156**	Pn	**Pn**	**03 10 00.8**	**+1.5**
TPUB	**Ta-pu**	**14.35**	**338**		**P**	**03 10 08.8**	**-1.4**
TTSI	**Tana Toraja**	**14.56**	**207**	P	**Pn**	**03 10 08.0**	**+2.1**
	43nm,1.2s						
SPSI	**Sidrap Palu**	**15.40**	**206**	P	**Pn**	**03 10 18.7**	**+1.5**
	6μm26nm,1.1s						
SBUM	**Sibu**	**16.02**	**243**	Pn	**Pn**	**03 10 24.7**	**-0.5**
KAPI	**Kappang**	**16.35**	**204**	Pn	**Pn**	**03 10 30.4**	**+0.9**
KAPI	**Kappang**	**16.35**	**204**	Pn	**Pn**	**03 10 29.2**	**-0.3**
	12nm,0.9s,baz=36,slow=9.0,SNR=3.6						
KAPI				LR	LR	03 17 54.8	
	comp=Z,322nm,19.5s,baz=11,slow=42						
JOW	**Kunigami**	**16.82**	**6**	LR	LR	03 18 43.7	
	comp=Z,163nm,18.3s,baz=146,slow=43						
SMPI	**Sarmi**	**17.05**	**134**	P	**Pn**	**03 10 40.3**	**+1.9**
	41nm,1.7s						
BSSI	**Bau Bau, Buton**	**17.11**	**201**	P	**Pn**	**03 10 41.1**	**+1.9**
	34nm,1.5s						
GUMO	**Guam**	**18.36**	**77**	LR	LR	03 16 32.5	
	comp=Z,266nm,21.6s,baz=286,slow=32						
QIZ	**Qiongzhong**	**18.41**	**301**	P	**P**	**03 10 56.3**	**+1.1**
QIZ				S	**S**	**03 14 25.3**	**-0.3**
QIZ				LR	LR		
	comp=N,130nm,9.2s						
QIZ				LR	LR		
	comp=E,290nm,10.8s						
QIZ				LR	LR		
	comp=Z,290nm,14.0s						
JAY	**Jayapura**	**18.87**	**131**	P	**P**	**03 10 59.5**	**-0.8**
	0.3nm,0.3s,baz=301,slow=12,SNR=1.0						
JAY				LR	LR	03 17 56.7	
	comp=Z,322nm,19.3s,baz=348,slow=36						
	16nm,1.0s						
SOEI	**Soe**	**19.75**	**186**	P	**P**	**03 11 11.6**	**+1.5**
SOEI	**Soe**	**19.75**	**186**	P	**P**	**03 11 11.1**	**+1.0**
	64nm,1.2s						
BATI	**Baumata**	**20.27**	**188**	P	**P**	**03 11 15.2**	**-0.5**
WSI	**Waingapu**	**20.49**	**198**	P	P	03 11 10.4	-7.5
PLAI	**Plampang**	**20.61**	**205**	P	**P**	**03 11 20.8**	**+1.5**
	30nm,1.2s						
JCJ	**Chichijima**	**22.56**	**39**	LR	LR	03 18 49.3	
	comp=Z,140nm,20.3s,baz=239,slow=32						
NJ2	**Nanjing**	**23.04**	**343**	*eP*	**P**	**03 11 45.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MTN	**Manton Dam**	**23.17**	**168**	P	**P**	**03 11 45.6**	**-1.1**
JNU	**Nakatsue**	**23.36**	**9**	LR	LR	03 22 31.0	
	comp=Z,107nm,18.6s,baz=166,slow=41						
LEM	**Lembang**	**25.14**	**229**	LR	LR	03 23 17.3	
	comp=Z,275nm,18.2s,baz=114,slow=40						
KNRA	**Kununurra**	**25.62**	**175**	P	**P**	**03 12 09.2**	**-0.3**
IPM	**Ipoh**	**25.81**	**260**	P	**P**	**03 12 11.2**	**-0.2**
IPM				IAmb	IAmb	03 12 14.9	
	comp=Z,23nm,0.9s						
KULM	**Kulim**	**26.00**	**262**	P	**P**	**03 12 13.5**	**+0.4**
KULM				IAmb	IAmb	03 12 16.0	
	comp=Z,16nm,1.1s						
JHJ	**Hachijo jima 2**	**26.07**	**26**	LR	LR	03 22 54.4	
	comp=Z,143nm,18.9s,baz=139,slow=37						
KSRS	**Korea Array**	**27.36**	**3**	P	**P**	**03 12 23.5**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=5.9,slow=29,SNR=1.6						
	comp=Z,0.7nm,0.8s						
TIA	**Tai'an**	**27.43**	**343**	P	**P**	**03 12 28.3**	**+2.5**
TIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LYN	**LuoYang**	**27.58**	**334**	*eP*	**P**	**03 12 30.1**	**+3.0**
LYN				pmax	pmax		
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.93**	**291**	P	**P**	**03 12 28.8**	**-1.6**
CMAR	**Chiang Mai Arr**	**27.93**	**291**	P	**P**	**03 12 29.3**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=103,slow=6.7,SNR=14						
	comp=Z,1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**27.94**	**182**	P	**P**	**03 12 29.5**	**-0.9**
MNSI	**Mandailing Nat**	**28.25**	**253**	P	**P**	**03 12 32.7**	**-0.7**
	comp=Z,26nm,0.6s						
MJAR	**Matsushiro Arr**	**28.48**	**20**	P	**P**	**03 12 34.1**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=193,slow=9.8,SNR=2.3						
MJAR				LR	LR	03 24 04.6	
	comp=Z,145nm,18.0s,baz=208,slow=37						
	comp=Z,0.5nm,0.5s						
PZH	**PanZhiHua**	**28.55**	**308**	P	**P**	**03 12 39.0**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,4.6s						
XAN	**Xi'an**	**28.83**	**329**	⇑P	**P**	**03 12 38.0**	**-0.3**
XAN				pP	sP	03 12 41.9	+1.7
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
COEN	**Coen**	**29.01**	**145**	P	**P**	**03 12 38.3**	**-1.8**
KRVT	**Keravat (AS076**	**29.17**	**118**	LR	LR	03 24 15.9	
	comp=Z,93nm,19.0s,baz=214,slow=36						
HNS	**HongShan**	**29.26**	**341**	⇑P	**P**	**03 12 45.1**	**+3.1**
HNS				S	**S**	**03 17 36.8**	**+1.8**
HNS				pmax	pmax		
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**30.60**	**165**	P	**P**	**03 12 51.9**	**-2.2**
WB0				IAmb	IAmb	03 13 06.5	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**30.75**	**165**	P	**P**	**03 12 53.0**	**-2.4**
	comp=Z,1.0nm,0.5s,baz=343,slow=9.3,SNR=18						
	comp=Z,1.0nm,0.5s						
WB2	**Warramunga Arr**	**30.76**	**165**	P	**P**	**03 12 53.6**	**-1.8**
WB2				IAmb	IAmb	03 13 37.0	
	comp=Z,18nm,1.4s						
MBWA	**Marble Bar**	**31.67**	**192**	P	**P**	**03 13 02.1**	**-1.4**
MBWA				IAmb	IAmb	03 13 05.3	
	comp=Z,13nm,1.0s						
PSA00	**Pilbara Seismi**	**32.05**	**192**	P	**P**	**03 13 05.6**	**-1.2**
PSA00				IAmb	IAmb	03 13 08.7	
	comp=Z,14nm,0.9s						
LZH	**Lanzhou**	**33.10**	**325**	*eP*	**P**	**03 13 17.0**	**+0.9**
LZH				pP	pwP	03 13 22.5	-2.5
LZH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**33.43**	**339**	*eP*	**P**	**03 13 20.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
AS31	**Alice Springs**	**34.25**	**168**	P	**P**	**03 13 25.5**	**-0.6**
ASAR	**Alice Springs**	**34.25**	**168**	P	**P**	**03 13 24.5**	**-1.6**
	comp=Z,1.9nm,0.4s,baz=351,slow=7.1,SNR=62						
ASAR				PcP	**PcP**	**03 16 01.7**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=342,slow=3.3,SNR=4.2						
	comp=Z,1.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**34.40**	**7**	P	**P**	**03 13 26.3**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=193,slow=12,SNR=3.9						
	comp=Z,0.8nm,0.6s						
MDJ	**Mudanjiang**	**34.59**	**4**	P	P	03 13 38.0	+9.3
MDJ				pmax	pmax		
	comp=Z,11nm,1.6s						
XLT	**XiLinHaoTe**	**34.95**	**347**	*eP*	**P**	**03 13 34.8**	**+2.8**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BNX	**BinXian**	**35.62**	**1**	⇑P	P	03 13 45.2	+7.6
BNX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SHL	**Shillong**	**36.24**	**300**	P	**P**	**03 13 43.1**	**-0.4**
GTA	**Gaotai**	**37.70**	**325**	*eP*	**P**	**03 13 56.1**	**+0.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GTA				LR	LR		
	comp=Z,2μm,13.9s						
GTA				LR	LR		
	comp=Z,11μm,14.7s						
GTA				LR	LR		
	comp=Z,4μm,11.6s						
HNR	**Honiara**	**38.52**	**119**	LR	LR	03 29 26.5	
	comp=Z,41nm,20.4s,baz=318,slow=36						
H11S3	**WAKE ISLAND Hy**	**39.81**	**73**	T	T	03 57 08.6	
	baz=262,slow=70,SNR=55						
H11S1	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	03 57 07.3	
	baz=262,slow=70,SNR=28						
H11S2	**WAKE ISLAND Hy**	**39.83**	**73**	T	T	03 57 08.2	
	baz=262,slow=70,SNR=24						
MORW	**Morawa**	**40.13**	**194**	P	**P**	**03 14 14.6**	**-1.3**
HEH	**HeiHe**	**40.13**	**1**	*eP*	P	03 14 20.0	+4.3
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	03 57 41.2	
	baz=265,slow=74,SNR=82						
H11N2	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	03 57 33.4	
	baz=265,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	03 57 42.8	
	baz=265,slow=74,SNR=70						
FORT	**Forrest**	**40.58**	**178**	P	**P**	**03 14 18.8**	**-0.8**
ULN	**Ulaanbaatar**	**41.13**	**340**	P	**P**	**03 14 25.5**	**+1.3**
SONM	**Songino Array**	**41.33**	**340**	P	**P**	**03 14 26.6**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=158,slow=9.4,SNR=12						
SONM				PcP	**PcP**	**03 16 24.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=142,slow=7.3,SNR=1.6						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**43.55**	**168**	P	**P**	**03 14 43.0**	**-0.9**
BBOO				IAmb	IAmb	03 14 45.2	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**44.09**	**161**	P	**P**	**03 14 47.0**	**-1.2**
	comp=Z,2.8nm,0.4s,baz=1.6,slow=8.9,SNR=7.7						
	comp=Z,2.8nm,0.4s						
WMQ	**Urumqi**	**47.55**	**322**	*eP*	**P**	**03 15 17.7**	**+2.2**
WMQ				LR	LR		
	comp=Z,3μm,9.5s						
WMQ				LR	LR		
	comp=Z,2μm,10.9s						
WMQ				LR	LR		
	comp=Z,790nm,14.9s						
PETK	**Petropavlovsk-**	**49.80**	**24**	P	**P**	**03 15 32.1**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=227,slow=3.5,SNR=4.9						
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**52.35**	**323**	P	**P**	**03 15 51.5**	**-0.5**
MKAR	**Makanchi Array**	**52.35**	**323**	P	**P**	**03 15 51.4**	**-0.5**
MKAR	**Makanchi Array**	**52.35**	**323**	P	**P**	**03 15 51.2**	**-0.8**
	comp=Z,3.4nm,0.7s,baz=124,slow=8.0,SNR=42						
MKAR				PcP	**PcP**	**03 17 02.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=121,slow=5.4,SNR=1.4						
	comp=Z,3.4nm,0.7s						
MAKZ	**Makanchi**	**52.54**	**323**	P	**P**	**03 15 53.1**	**-0.3**
KSH	**Kashi**	**53.55**	**312**	P	**P**	**03 16 04.2**	**+3.2**
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**54.95**	**331**	P	**P**	**03 16 09.7**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=134,slow=4.3,SNR=7.0						
	comp=Z,1.2nm,0.3s						
KURK	**Kurchatov**	**56.39**	**326**	P	**P**	**03 16 20.6**	**-0.6**
KURK				IAmb	IAmb	03 16 26.6	
	comp=Z,6.8nm,0.8s						
KURBB	**Kurchatov Arra**	**56.40**	**325**	P	**P**	**03 16 20.5**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=126,slow=6.9,SNR=24						
	comp=Z,2.2nm,0.6s						
KK31	**Karatay Array**	**58.57**	**315**	P	**P**	**03 16 36.0**	**-0.7**
KKAR	**Karatay Array**	**58.57**	**315**	P	**P**	**03 16 36.0**	**-0.8**
KKAR	**Karatay Array**	**58.57**	**315**	P	**P**	**03 16 35.5**	**-1.3**
BVAR	**Borovoye Array**	**61.99**	**325**	P	**P**	**03 16 59.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=113,slow=9.2,SNR=11						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**62.06**	**325**	P	**P**	**03 16 60.0**	**-0.5**
BRVK				IAmb	IAmb	03 17 37.1	
	comp=Z,6.3nm,1.2s						
NRIK	**Noril'sk**	**64.31**	**346**	P	**P**	**03 17 15.8**	**+0.7**
	comp=Z,2.8nm,0.5s,baz=122,slow=3.2,SNR=4.7						
	comp=Z,2.8nm,0.5s						
ABKAR	**Akbulak array**	**67.20**	**319**	P	**P**	**03 17 33.0**	**-1.1**
ABKAR	**Akbulak array**	**67.20**	**319**	P	**P**	**03 17 32.8**	**-1.3**
E18K	**Tukpahlearik C**	**74.28**	**23**	IAmb	IAmb	03 18 47.8	
	comp=Z,8.0nm,1.1s						
E19K	**Redstone River**	**75.57**	**23**	P	**P**	**03 18 26.6**	**+2.3**
E19K				IAmb	IAmb	03 18 32.4	
	comp=Z,5.6nm,0.9s						
H19K	**Roundabout Mou**	**75.60**	**25**	P	**P**	**03 18 27.0**	**+2.4**
H19K				IAmb	IAmb	03 18 34.2	
	comp=Z,12nm,1.3s						
BPAW	**Bear Paw Mtn.**	**77.81**	**26**	P	**P**	**03 18 38.8**	**+1.7**
BPAW				IAmb	IAmb	03 18 42.5	
	comp=Z,7.9nm,1.1s						
D23K	**Nanushuk River**	**78.16**	**21**	P	**P**	**03 18 41.5**	**+2.6**
D23K				IAmb	IAmb	03 18 51.3	
	comp=Z,11nm,1.2s						
C23K	**Itkillik River**	**78.23**	**21**	IAmb	IAmb	03 18 44.9	
	comp=Z,7.5nm,0.7s						
E23K	**Chandalar**	**78.51**	**22**	P	**P**	**03 18 43.5**	**+2.5**
E23K				IAmb	IAmb	03 18 49.2	
	comp=Z,8.8nm,1.1s						
KBZ	**Khabaz**	**78.52**	**313**	P	**P**	**03 18 40.8**	**-0.6**
	comp=Z,3.3nm,1.1s,baz=83,slow=8.1,SNR=5.2						
	comp=Z,3.3nm,1.1s						
TOLK	**Toolik Lake Re**	**78.55**	**22**	IAmb	IAmb	03 18 46.6	
	comp=Z,5.7nm,1.1s						
MCK	**McKinley**	**78.71**	**27**	P	**P**	**03 18 43.5**	**+1.4**
MCK				IAmb	IAmb	03 19 05.4	
	comp=Z,7.6nm,1.0s						
D24K	**Happy Valley**	**78.83**	**21**	IAmb	IAmb	03 18 48.5	
	comp=Z,4.4nm,0.7s						
GURO	**Guroymak-BITLI**	**79.51**	**307**	IAmb	IAm

FINES	**FINESS Array B**	**86.21**	**332**	P	**P**	**03 19 20.3**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=86,slow=4.7,SNR=29						
FINES				LR	LR	04 01 35.5	
	comp=Z,323nm,19.0s,baz=76,slow=38						
	comp=Z,2.8nm,0.5s						
AKASG	**Malin Array Be**	**86.89**	**321**	P	**P**	**03 19 23.4**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=63,slow=5.0,SNR=8.1						
	comp=Z,0.5nm,0.4s						
C36M	**Paulatuk**	**87.42**	**20**	P	**P**	**03 19 28.4**	**+1.3**
C36M				IAmb	IAmb	03 19 32.0	
	comp=Z,4.6nm,0.7s						
VNDA	**Vanda**	**89.65**	**173**	P	**P**	**03 19 36.5**	**-0.7**
	comp=Z,3.7nm,1.1s,baz=328,slow=5.9,SNR=1.5						
	comp=Z,3.7nm,1.1s						
DAG	**Danmarks Havn**	**91.04**	**352**	*i* P	**P**	**03 19 43.0**	**-0.9**
HFS	**Hagfors**	**92.37**	**332**	P	**P**	**03 19 48.7**	**-1.7**
	comp=Z,2.4nm,0.6s,baz=84,slow=4.6,SNR=11						
	comp=Z,2.4nm,0.6s						
YKA	**Yellowknife Ar**	**93.92**	**24**	P	**P**	**03 19 58.5**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=297,slow=4.8,SNR=17						
	comp=Z,1.3nm,0.7s						
SUMG	**Summit**	**97.00**	**355**	*i* P	P	03 20 07.0	-4.9
GERES	**GERESS Array B**	**97.01**	**322**	P	**P**	**03 20 13.3**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=77,slow=5.0,SNR=3.1						
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**117.85**	**49**	PKP	**PKiKP**	**03 25 28.9**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=323,slow=3.8,SNR=2.5						
PLCA	**Paso Flores**	**145.89**	**157**	PKPbc	**PKPdf**	**03 26 19.2**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=214,slow=4.9,SNR=7.6						

NDI ***10*** *03:22:01.4,27°.57N×96°.71E,h10km,mb5.2,ML5.0, mb5.2(NEIC)*

MOS ***10*** *03:22:03.9±0.9,27°.30N×96°.43E,h18km,mb5.2/87, MS4.7/16,Error ellipse: s-maj=5.9km s-min=3.2km az=124.2*

GCMT ***10*** *03:22:04.4±0.2,27°.13N±0°.01×96°.52E±0°.01,h19km, MW5.1/110,Moment Tensor Solution. s55,c75; s110,c172; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}4.07±.17; $M_{\theta\theta}$0.00±.12; $M_{\phi\phi}$-4.08±.12; $M_{r\theta}$1.95±.28; $M_{\theta\phi}$3.21±.09; $M_{\phi r}$-0.12±.22; Best double couple: $M_0$5.48300×10^16^ NP1:ϕ_s356.00000°,δ45.00000°, λ129.00000°. NP2:ϕ_s127.00000°,δ56.00000°,λ58.00000°. Principal axes: T 5.0100, Plg63.0000°, Azm342.0000°; N 0.9380, Plg27.0000°, Azm147.0000°; P -5.9560, Plg6.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *03:22:05.4±2.5,27°.33N±0°.07×96°.37E±0°.08,h10km±1km, mb5.2/281,Mww5.0/20 Error ellipse: s-maj=12.5km s-min=10.1km az=49.0*

IDC ***10*** *03:22:05.7±2.7,27°.23N×96°.45E,h20km±16km,mb4.7/34, mbtmp4.9/35,ML4.8/1,MS4.4/55,Error ellipse: s-maj=12.4km s-min=10.6km az=28.0*

NEIC ***10*** *03:22:05.5,27°.35N×96°.16E,h16km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; M_{rr}3.68; $M_{\theta\theta}$-0.78; $M_{\phi\phi}$-2.90; $M_{r\theta}$0.71; $M_{\theta\phi}$2.26; $M_{\phi r}$-1.38; Fault plane solution: $M_0$4.29000×1016 NP1: ϕ_s324.85000°,δ34.52000°,λ85.84000°. NP2: ϕ_s149.90000°,δ55.58000°,λ92.86000°. Principal axes: T 3.9690, Plg79.0000°, Azm71.0000°; N 0.6479, Plg2.0000°, Azm328.0000°; P -4.6169, Plg11.0000°, Azm238.0000°;*

NEIC ***10*** *03:22:05.5,27°.35N×96°.38E,h16km*

BJI ***10*** *03:22:06.2,27°.37N×96°.37E,h43km,mB5.2/42,mb4.9/73, ML5.4/11,Ms5.3/90,Ms7 5.0/84*

BGR ***10*** *03:22:08.6,26°.50N×95°.50E,h33km,mb5.3,Ms4.5*

ISC 10 03:22:05.8±0.4,27°.29N±0°.03×96°.30E±0°.02,h19km±1km, h19km:pP-P,n1151,σ1s71/1095,mb5.2/356,MS4.6/81, 61C-58D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.41**	**276**	*e*P	**Pn**	**03 22 17.1**	**+0.5**
LKP				IAML		03 22 30.0	
	comp=N,64μm,0.8s						
LKP				IAML		03 22 32.2	
	comp=E,83μm,0.8s						
DIBR	**DIBRUGARH**	**1.25**	**278**	IAML		03 22 52.7	
	comp=N,43μm,0.8s						
DIBR				IAML		03 22 53.9	
	comp=E,55μm,0.5s						
MOKO	**MOKOCHONG**	**1.87**	**239**	*e*P	**Pb**	**03 22 40.3**	**+1.0**
MOKO				*e*S	**Sg**	**03 23 06.6**	**+0.6**
MOKO				IAML		03 23 12.5	
	comp=N,21μm,0.6s						
MOKO				IAML		03 23 13.0	
	comp=E,19μm,0.5s						
ZIRO	**ZIRO**	**2.19**	**277**	*e*P	**Pb**	**03 22 43.8**	**-1.1**
ZIRO				*e*S	**Sb**	**03 23 13.5**	**+1.7**
ZIRO				*e*S	**Sg**	**03 23 13.7**	**-2.8**
ZIRO				IAML		03 23 20.5	
	comp=E,41μm,0.5s						
ZIRO				IAML		03 23 20.8	
	comp=N,43μm,0.5s						
ITAN	**ITANAGAR**	**2.30**	**267**	*e*P	**Pb**	**03 22 45.5**	**-1.2**
ITAN				*e*S	**Sb**	**03 23 16.2**	**+1.4**
ITAN				IAML		03 23 18.5	
	comp=E,7μm,0.4s						
ITAN				IAML		03 23 19.2	
	comp=N,10μm,0.4s						
ITAN				IAML		03 23 23.9	
	comp=E,11μm,0.4s						
ITAN				IAML		03 23 26.5	
	comp=N,11μm,0.6s						
KOHI	**KOHIMA**	**2.51**	**232**	*e*P	**Pb**	**03 22 48.5**	**-1.9**
KOHI				*e*S	**Sb**	**03 23 22.3**	**+1.4**
KOHI				IAML		03 23 29.1	
	comp=E,8μm,0.8s						
KOHI				IAML		03 23 30.6	
	comp=N,7μm,0.8s						
TNCH	**TengChong**	**3.01**	**138**	⇑P	**Pn**	**03 22 53.8**	**+1.2**
TNCH				smax	smax		
	comp=N,9μm,1.1s						
TNCH				smax	smax		
	comp=N,8μm,1.3s						
IMP	**Imphal**	**3.24**	**221**	*e*P	**Pn**	**03 22 58.4**	**+2.8**
IMP				*e*S	**Sb**	**03 23 42.5**	**+0.7**
IMP				IAML		03 23 58.7	
	comp=N,2μm,1.1s						
IMP				IAML		03 24 00.1	
	comp=E,1μm,1.3s						
TAWA	**Tawang**	**3.95**	**275**	*e*P	**Pn**	**03 23 08.7**	**+2.9**
TAWA				*e*S	**Sn**	**03 23 54.4**	**+2.6**
TAWA				IAML		03 23 58.0	
	comp=E,4μm,0.3s						
TAWA				IAML		03 23 58.9	
	comp=N,5μm,0.4s						
SHL	**Shillong**	**4.32**	**248**	Pn	**Pn**	**03 23 11.5**	**+0.9**
SHL	**Shillong**	**4.32**	**248**	*e*P	**Pn**	**03 23 13.3**	**+2.7**
SHL				IAML		03 23 14.8	
	comp=N,6μm,0.3s						
SHL				IAML		03 23 14.9	
	comp=E,7μm,0.4s						
SHL				*e*S	**Sn**	**03 24 02.8**	**+2.3**
SHL	**Shillong**	**4.32**	**248**	P	**Pn**	**03 23 11.5**	**+0.9**
AZL	**Aizawl**	**4.81**	**224**	*e*P	**Pn**	**03 23 18.6**	**+1.2**
AZL				IAML		03 23 25.0	
	comp=N,6μm,0.4s						
AZL				IAML		03 23 25.0	
	comp=E,9μm,0.6s						
AZL				*e*S	**Sn**	**03 24 17.2**	**+4.6**
PZH	**PanZhiHua**	**4.92**	**98**	P	**Pn**	**03 23 20.6**	**+1.8**
PZH				S	**Sn**	**03 24 20.5**	**+5.2**
PZH				smax	smax		
	comp=E,1μm,1.7s						
PZH				smax	smax		
	comp=E,920nm,1.4s						
PZH				LR	LR		
	comp=E,47μm,7.5s						
PZH				LR	LR		
	comp=E,14μm,7.1s						
PZH				LR	LR		
	comp=E,16μm,7.1s						
LSA	**Lhasa**	**5.13**	**299**	Pn	**Pn**	**03 23 25.0**	**+3.0**
LSA	**Lhasa**	**5.13**	**299**	P	**Pn**	**03 23 25.1**	**+3.0**
LSA				S	**Sn**	**03 24 28.8**	**+7.8**
LSA				LR	LR		
	comp=E,6μm,7.2s						
LSA				LR	LR		
	comp=E,11μm,8.4s						
LSA	**Lhasa**	**5.13**	**299**	P	**Pn**	**03 23 25.0**	**+3.0**
SAIH	**SAIHA**	**5.65**	**213**	*e*P	**Pn**	**03 23 30.9**	**+2.1**
SAIH				*e*S	**Sn**	**03 24 38.6**	**+5.3**
SAIH				IAML		03 24 43.8	
	comp=E,660nm,0.5s						
SAIH				IAML		03 24 50.9	
	comp=N,853nm,1.2s						
KMI	**Kunming**	**6.17**	**109**	⇑P	**Pn**	**03 23 37.6**	**+1.5**
KMI				S	**Sn**	**03 24 45.1**	**-1.2**
KMI				smax	smax		
	comp=N,840nm,1.5s						
KMI				smax	smax		
	comp=N,650nm,1.5s						
KMI				LR	LR		
	comp=N,28μm,8.4s						
KMI				LR	LR		
	comp=N,13μm,6.2s						
KMI				LR	LR		
	comp=N,7μm,6.0s						
BRDH	**Bariadhala**	**6.24**	**224**	Pn	**Pn**	**03 23 38.9**	**+2.1**
	comp=N,23nm,0.3s,baz=24,slow=10,SNR=4.9						
BRDH				Sn	**Sn**	**03 24 48.9**	**+1.2**
	comp=N,40nm,0.3s,baz=172,slow=22,SNR=5.7						
	comp=N,91nm,0.3s						
GTK	**Tadong**	**6.85**	**272**	*e*P	**Pn**	**03 23 46.3**	**+0.9**
GTK				*e*S	**Sn**	**03 25 03.9**	**+1.0**
GTK				IAML		03 25 09.5	
	comp=N,616nm,0.5s						
GTK				IAML		03 25 10.9	
	comp=E,591nm,0.5s						
CD2	**Chengdu**	**7.45**	**59**	P	**Pn**	**03 23 56.0**	**+2.5**
CD2				S	**Sn**	**03 25 20.1**	**+2.5**
CD2				LR	LR		
	comp=E,23μm,8.4s						
CD2				LR	LR		
	comp=E,13μm,3.9s						
CD2				LR	LR		
	comp=E,12μm,6.1s						
SHBG	**Sahibganj**	**8.02**	**257**	*e*P	**Pn**	**03 24 02.2**	**+0.9**
SHBG				IAML		03 24 05.3	
	comp=N,2μm,0.2s						
SHBG				IAML		03 24 05.3	
	comp=E,1μm,0.2s						
SHBG				*e*S	**Sn**	**03 25 31.2**	**-0.3**
CHTO	**Chiang Mai**	**8.78**	**163**	Pn	**Pn**	**03 24 15.3**	**+3.6**
CHTO	**Chiang Mai**	**8.78**	**163**	P	**Pn**	**03 24 15.3**	**+3.6**
GOMU	**GeErMu**	**8.97**	**352**	P	**Pn**	**03 24 14.5**	**-0.1**
GOMU				S	**Sn**	**03 25 53.7**	**-1.7**
GOMU				pmax	pmax		
	comp=E,11nm,0.9s						
GOMU				LR	LR		
	comp=E,13μm,10.4s						
GOMU				LR	LR		
	comp=E,7μm,10.2s						
GOMU				LR	LR		
	comp=E,18μm,10.4s						
CM31	**Chiang Mai Arr**	**9.12**	**164**		**Pn**	**03 24 19.9**	**+3.5**
CMAR	**Chiang Mai Arr**	**9.12**	**164**	Pn	**Pn**	**03 24 19.9**	**+3.5**
CMAR	**Chiang Mai Arr**	**9.12**	**164**	Pn	**Pn**	**03 24 19.0**	**+2.6**
	comp=E,2.6nm,0.3s,baz=336,slow=12,SNR=92						
CMAR				Lg	Lg	03 26 48.3	
	baz=340,slow=27						
CMAR	**Chiang Mai Arr**	**9.12**	**164**	*ce*P	**Pn**	**03 24 20.0**	**+3.6**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SLVN	**Son La**	**9.12**	**129**	Pn	**Pn**	**03 24 18.9**	**+2.4**
SLVN	**Son La**	**9.12**	**129**	P	**Pn**	**03 24 19.4**	**+2.9**
GYA	**Guiyang**	**9.29**	**93**	⇑P	**Pn**	**03 24 19.3**	**+0.5**
GYA				S	**Sn**	**03 26 02.6**	**-0.3**
GYA				pmax	pmax		
	comp=Z,22nm,0.8s						
GYA				pmax	pmax		
	comp=Z,380nm,5.1s						
GYA				LR	LR		
	comp=Z,4μm,5.6s						
GYA				LR	LR		
	comp=Z,3μm,4.9s						
GYA				LR	LR		
	comp=Z,4μm,5.7s						
PHRA	**Phrae**	**9.47**	**157**	Pn	**Pn**	**03 24 25.3**	**+4.1**
BOK	**Bokaro**	**10.03**	**252**	*e*P	**Pn**	**03 24 29.3**	**+0.4**
BOK				IAML		03 24 34.5	
	comp=N,1μm,0.6s						
BOK				IAML		03 24 35.3	
	comp=E,1μm,0.6s						
BOK				*e*S	**Sn**	**03 26 18.3**	**-2.6**
BOK				IAML		03 26 24.3	
	comp=N,215nm,0.9s						
BOK				IAML		03 26 26.1	
	comp=E,156nm,0.7s						
KNTI	**KHUNTI**	**10.83**	**250**	*e*P	**Pn**	**03 24 40.5**	**+0.6**
LZH	**Lanzhou**	**10.87**	**34**	P	**Pn**	**03 24 40.2**	**-0.2**
LZH				sP		03 24 49.7	
LZH				pmax	pmax		
	comp=E,59nm,1.5s						
LZH				LR	LR		
	comp=E,9μm,9.6s						
LZH				LR	LR		
	comp=E,20μm,10.0s						
LZH				LR	LR		
	comp=E,9μm,10.7s						
VLK	**Valmikinagar**	**11.06**	**273**	*e*S	**Sn**	**03 26 42.2**	**-4.0**
NONG	**Nongkai**	**11.14**	**144**	P	**Pn**	**03 24 47.9**	**+3.8**
GTA	**Gaotai**	**12.44**	**13**	*e*P	**Pn**	**03 25 01.5**	**-0.4**
GTA				S	**Sn**	**03 27 21.3**	**+1.3**
GTA				SS	**SnSn**	**03 27 36.1**	**+3.7**
GTA				pmax	pmax		
	comp=E,4.0nm,0.6s						
GTA				pmax	pmax		
	comp=E,250nm,5.2s						
GTA				LR	LR		
	comp=E,2μm,14.3s						
GTA				LR	LR		
	comp=E,11μm,14.3s						
GTA				LR	LR		
	comp=E,4μm,11.6s						
JHSG	**JHARSUGUGA**	**12.66**	**247**	*e*P	**Pn**	**03 25 08.4**	**+3.5**
JHSG				IAML		03 25 15.8	
	comp=E,2μm,0.3s						
JHSG				IAML		03 25 17.4	
	comp=N,2μm,0.3s						
JHSG				*e*S	**Sn**	**03 27 21.3**	**-4.1**
XAN	**Xi'an**	**12.77**	**55**	P	**Pn**	**03 25 04.7**	**-1.7**
XAN				S	**Sn**	**03 27 27.9**	**-0.1**
XAN				pmax	pmax		
	comp=N,18nm,0.8s						
XAN				pmax	pmax		
	comp=N,350nm,4.3s						
XAN				LR	LR		
	comp=N,13μm,9.1s						
XAN				LR	LR		
	comp=N,7μm,8.8s						
XAN				LR	LR		
	comp=N,4μm,8.4s						
SRDT	**SRDT**	**13.14**	**168**	P	**Pn**	**03 25 15.0**	**+3.5**
ALBI	**Allahabad**	**13.15**	**265**	*e*P	**Pn**	**03 25 14.5**	**+2.9**
ALBI				IAML		03 25 25.1	
	comp=N,564nm,0.5s						
ALBI				IAML		03 25 26.1	
	comp=E,507nm,0.4s						
ALBI				*e*S	**Sn**	**03 27 31.5**	**-5.8**
NAYO	**Nakonayok**	**13.73**	**159**	P	**Pn**	**03 25 23.7**	**+4.2**
BLSP	**Bilaspur**	**13.86**	**251**	*e*P	**Pn**	**03 25 19.4**	**-1.9**
BLSP				IAmb	IAmb	03 25 23.0	
	comp=Z,53nm,0.7s						
BLSP				*e*S	**Sn**	**03 27 47.5**	**-7.3**
RAGD	**RAYAGADA**	**14.26**	**239**	*e*P	**Pn**	**03 25 28.8**	**+2.1**
RAGD				*e*S	**Sn**	**03 28 00.2**	**-4.2**
RAGD				IAmb	IAmb	03 28 06.6	
	comp=Z,261nm,1.7s						
LGTI	**Lohaghat**	**14.30**	**282**	*e*P	**Pn**	**03 25 26.5**	**-0.7**
LGTI				*e*S	**Sn**	**03 28 00.2**	**-5.2**
UBPT	**Khong Chiam**	**14.68**	**143**	Pn	**Pn**	**03 25 33.0**	**+0.5**
UBPT	**Khong Chiam**	**14.68**	**143**	P	**P**	**03 25 36.4**	**-2.2**
CNSH	**ChangSha**	**14.75**	**83**	P	**Pn**	**03 25 30.2**	**-3.2**
CNSH				S	**Sn**	**03 28 13.7**	**-2.7**
CNSH				pmax	pmax		
	comp=Z,22nm,0.7s						
CNSH				LR	LR		
	comp=Z,14μm,8.8s						
CNSH				LR	LR		
	comp=Z,2μm,5.0s						
CNSH				LR	LR		
	comp=Z,5μm,7.0s						
QIZ	**Qiongzhong**	**14.91**	**121**	P	**Pn**	**03 25 35.3**	**-0.3**
QIZ				S	**Sn**	**03 28 21.7**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,11nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,390nm,2.9s						
QIZ				LR	LR		
	comp=Z,3μm,16.9s						
QIZ				LR	LR		
	comp=Z,2μm,13.4s						
QIZ				LR	LR		
	comp=Z,2μm,8.8s						
JOSI	**Joshimath**	**15.02**	**286**	*e*P	**Pn**	**03 25 36.2**	**-1.1**
JOSI				IAmb	IAmb	03 25 47.7	
	comp=Z,130nm,0.6s						
JOSI				*e*S	**Sn**	**03 28 15.2**	**-8.0**
JOSI				IAmb	IAmb	03 28 25.2	
	comp=Z,202nm,1.1s						
VIS	**Vishakhapatnam**	**15.30**	**234**	*e*S	**Sn**	**03 28 23.9**	**-5.9**
VIS				IAmb	IAmb	03 29 13.5	
	comp=Z,259nm,1.8s						
LYN	**LuoYang**	**15.64**	**58**	⇓P	**Pn**	**03 25 42.6**	**-2.5**
LYN				PP	**pP**	**03 25 55.1**	**+0.2**
LYN				sP	sP	03 25 59.5	+2.2
LYN				S	**Sn**	**03 28 38.2**	**+0.3**
LYN				sS	S	03 28 45.7	-7.2
LYN				SS	**SnSn**	**03 28 52.9**	**+2.2**
LYN				pmax	pmax		
	comp=Z,37nm,1.0s						
LYN				pmax	pmax		
	comp=Z,460nm,4.1s						
LYN				LR	LR		
	comp=Z,9μm,13.1s						
LYN				LR	LR		
	comp=Z,5μm,10.3s						
LYN				LR	LR		
	comp=Z,4μm,9.3s						
PBA	**Port Blair**	**15.91**	**193**	IAmb	IAmb	03 29 38.0	
	comp=Z,499nm,2.1s						
HNLY	**HANLEY**	**15.97**	**294**	*e*P	**Pn**	**03 25 47.5**	**-2.4**
HNLY				IAmb	IAmb	03 25 57.9	
	comp=Z,16nm,0.6s						
GZH	**Guangzhou**	**15.98**	**101**	P	**Pn**	**03 25 49.9**	**+0.3**
GZH				S	**Sn**	**03 28 51.3**	**+5.0**
GZH				LR	LR		
	comp=Z,28μm,10.4s						
GZH				LR	LR		
	comp=Z,8μm,10.3s						
JHNI	**Jhansi**	**16.02**	**267**	*e*P	**Pn**	**03 25 51.3**	**+1.1**
JHNI				*e*S	**Sn**	**03 28 37.0**	**-10**
JHNI				IAmb	IAmb	03 29 36.7	
	comp=Z,392nm,1.0s						
WHN	**Wuhan**	**16.13**	**74**	P	**Pn**	**03 25 49.3**	**-2.2**
WHN				pmax	pmax		
	comp=Z,1μm,2.0s						
WHN				pmax	pmax		
	comp=Z,1μm,3.0s						
WHN				LR	LR		
	comp=Z,9μm,7.5s						
WHN				LR	LR		
	comp=Z,17μm,7.3s						
WHN				LR	LR		
	comp=Z,20μm,10.6s						
NGP	**Nagpur**	**16.88**	**252**	*e*S	**Sn**	**03 28 58.9**	**-9.2**
NDI	**New Delhi**	**16.92**	**279**	*e*S	Sn	03 28 57.5	-12
SONA	**Sohna**	**17.04**	**278**	*e*P	**Pn**	**03 26 01.4**	**-1.6**
SONA				IAmb	IAmb	03 26 18.3	
	comp=Z,58nm,1.0s						
SONA				*e*S	Sn	03 29 00.1	-12
TIY	**Taiyuan**	**17.10**	**49**	*e*P	**Pn**	**03 26 02.9**	**-0.9**
TIY				S	**Sn**	**03 29 15.2**	**+1.8**
TIY				pmax	pmax		
	comp=Z,42nm,0.6s						
TIY				LR	LR		
	comp=Z,2μm,7.7s						
TIY				LR	LR		
	comp=Z,2μm,11.4s						
TIY				LR	LR		
	comp=Z,2μm,9.5s						
SMLA	**Simla**	**17.14**	**287**	*e*P	**Pn**	**03 26 02.9**	**-1.3**
SMLA				IAmb	IAmb	03 26 09.6	
	comp=Z,90nm,0.6s						
SMLA				*e*S	Sn	03 29 01.0	-13
SMLA				*e*S	S	03 29 03.0	-21
GUNA	**GUNA**	**17.26**	**265**	*e*S	**Sn**	**03 29 07.4**	**-10**
BTO	**Baotou**	**17.46**	**37**	*e*P	**Pn**	**03 26 06.5**	**-1.8**
BTO				pP	**pP**	**03 26 15.8**	**+0.7**
BTO				PP	**sP**	**03 26 21.8**	**+4.2**
BTO				S	**Sn**	**03 29 17.2**	**-5.0**
BTO				sS	**S**	**03 29 30.0**	**-0.2**
BTO				SS	**SnSn**	**03 29 39.6**	**+3.8**
BTO				pmax	pmax		
	comp=Z,34nm,2.2s						
BTO				pmax	pmax		
	comp=Z,1μm,7.2s						
BTO				LR	LR		
	comp=Z,16μm,13.8s						
BTO				LR	LR		
	comp=Z,18μm,14.6s						
BTO				LR	LR		
	comp=Z,7μm,12.6s						
BHPL	**Bhopal**	**17.54**	**261**	*e*P	**P**	**03 26 11.1**	**+0.7**
BHPL				IAmb	IAmb	03 26 13.4	
	comp=Z,92nm,0.6s						
BHPL				*e*S	**Sn**	**03 29 16.4**	**-7.9**
KUDL	**Kundal**	**17.57**	**277**	*e*S	**Sn**	**03 29 15.9**	**-8.9**
KUDL				IAmb	IAmb	03 29 19.8	
	comp=Z,212nm,1.2s						
BHK	**Bhakra**	**17.81**	**288**	IAmb	IAmb	03 29 51.8	
	comp=Z,841nm,2.1s						
WMQ	**Urumqi**	**17.90**	**339**	*e*P	**Pn**	**03 26 14.0**	**+0.3**
WMQ				sP	sP	03 26 25.6	+3.1
WMQ				pmax	pmax		
	comp=Z,54nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.6s						
WMQ				LR	LR		
	comp=Z,3μm,9.5s						
WMQ				LR	LR		
	comp=Z,2μm,9.5s						
WMQ				LR	LR		
	comp=Z,750nm,20.9s						
NRDN	**NARMADA NAGAR**	**17.93**	**260**	*e*S	Sn	03 29 21.4	-12
NRDN				IAmb	IAmb	03 30 07.0	
	comp=Z,427nm,2.4s						
DHRM	**DHARAMSHALA**	**18.05**	**291**	*e*P	**Pn**	**03 26 12.3**	**-3.4**
DHRM				IAmb	IAmb	03 26 20.8	
	comp=Z,135nm,1.2s						
DHRM				*e*S	Sn	03 29 21.9	-15
HHC	**Hu-ho-hao-te**	**18.48**	**39**	*e*P	**P**	**03 26 20.3**	**-0.3**
HHC				PP	**PnPn**	**03 26 33.2**	**+0.6**
HHC				S	**Sn**	**03 29 44.3**	**-2.5**
HHC				pmax	pmax		
	comp=Z,26nm,1.2s						
HHC				pmax	pmax		
	comp=Z,400nm,4.9s						
HHC				LR	LR		
	comp=Z,6μm,12.4s						
HHC				LR	LR		
	comp=Z,6μm,12.2s						
HHC				LR	LR		
	comp=Z,2μm,13.3s						
HNS	**HongShan**	**18.50**	**52**	⇓P	**P**	**03 26 19.8**	**-1.0**
HNS				PP	**PnPn**	**03 26 37.1**	**+4.3**
HNS				S	**Sn**	**03 29 44.6**	**-2.7**
HNS				pmax	pmax		
	comp=Z,46nm,1.1s						
HNS				LR	LR		
	comp=Z,2μm,11.0s						
HNS				LR	LR		
	comp=Z,2μm,12.6s						
THN	**Thein Dam**	**18.57**	**291**	IAmb	IAmb	03 29 45.3	
	comp=Z,260nm,2.4s						
AKL	**Akola**	**18.79**	**254**	IAmb	IAmb	03 26 31.6	
	comp=Z,52nm,0.8s						
AKL				*e*S	**Sn**	**03 29 44.6**	**-10**
SRIT	**Nakonsritamara**	**18.86**	**170**	P	**Pn**	**03 26 27.9**	**+2.4**
SRIT	**Nakonsritamara**	**18.86**	**170**	P	**Pn**	**03 26 29.1**	**+3.7**
AJM	**Ajmer**	**19.34**	**273**	*e*S	Sn	03 29 53.6	-14
WUS	**Wushi**	**19.75**	**319**	P	**P**	**03 26 35.2**	**+0.6**
WUS				IAmb	IAmb	03 26 37.2	
	comp=Z,94nm,0.8s						
TIA	**Tai'an**	**19.79**	**58**	P	**P**	**03 26 34.8**	**-0.1**
TIA				PP	**PnPn**	**03 26 55.2**	**+4.8**
TIA				pmax	pmax		
	comp=Z,24nm,1.1s						
TIA				pmax	pmax		

comp=Z,460nm,4.1s
TIA LR LR
comp=Z,1μm,11.3s
TIA LR LR
comp=Z,2μm,7.2s
TIA LR LR
comp=Z,2μm,10.3s
QZH Quanzhou 20.15 92 P P 03 26 37.9 -1.0
QZH pmax pmax
comp=Z,89nm,0.8s
QZH LR LR
comp=Z,10μm,11.7s
QZH LR LR
comp=Z,3μm,6.9s
QZH LR LR
comp=Z,3μm,7.6s
NJ2 Nanjing 20.15 71 ⇓P P 03 26 38.4 -0.5
NJ2 S S 03 30 23.2 -1.2
NJ2 pmax pmax
comp=Z,29nm,1.0s
NJ2 pmax pmax
comp=Z,340nm,3.9s
NJ2 LR LR
comp=Z,3μm,7.1s
NJ2 LR LR
comp=Z,2μm,9.7s
NJ2 LR LR
comp=Z,2μm,14.2s
BJT Baijiatuau 20.79 47 P P 03 26 45.5 -0.3
BJT Baijiatuau 20.79 47 P Pn 03 26 48.1 -0.1
BJT Baijiatuau 20.79 47 P P 03 26 45.5 -0.3
BJT pmax pmax
comp=Z,48nm,1.1s
BJI Beijing 20.81 47 P P 03 26 45.8 -0.1
BJI pmax pmax
comp=Z,21nm,1.0s
BJI pmax pmax
comp=Z,160nm,9.7s
BJI LR LR
comp=Z,1μm,6.3s
BJI LR LR
comp=Z,880nm,6.6s
BJI LR LR
comp=Z,2μm,10.0s
NIL Nilore 20.83 293 P P 03 26 47.2 +0.9
NIL IAmb IAmb 03 26 51.3
comp=Z,100nm,0.8s
NIL Nilore 20.83 293 P P 03 26 47.2 +0.9
NIL pmax pmax
comp=Z,100nm,0.8s
KSH Kashi 20.84 311 P Pn 03 26 48.8 -0.2
KSH PP **PnPn 03 27 08.1 +3.1**
KSH S **S 03 30 33.6 -4.7**
KSH pmax pmax
comp=Z,100nm,1.0s
KSH LR LR
comp=Z,4μm,13.1s
KSH LR LR
comp=Z,2μm,13.1s
KSH LR LR
comp=Z,3μm,12.0s
TARG Taragay, Kyrgy 20.91 318 IAmb IAmb 03 26 53.2
comp=Z,116nm,0.8s
SHLS Shalkode 20.91 324 *e*P **P 03 26 45.5 -1.7**
SHLS pmax pmax
comp=Z,73nm,1.1s
SHLS Shalkode 20.91 324 *e*P **P 03 26 45.6 -1.7**
comp=Z,73nm,1.1s
PDGK Podgornoye 21.02 324 P P 03 26 48.5 +0.2
PRZ Przheval'sk 21.04 321 P P 03 26 50.8 +2.1
PRZ Przheval'sk 21.04 321 P P 03 26 50.8 +2.1
PRZ pmax pmax
comp=Z,162nm,0.9s
SATY Saty 21.41 322 *e*P **P 03 26 53.3 +0.7**
SATY *e*S **S 03 30 51.4 +1.9**
SATY pmax pmax
comp=Z,80nm,1.0s
SATY Saty 21.41 322 *e*P **P 03 26 53.3 +0.7**
comp=Z,80nm,1.0s
SATY *e*S **S 03 30 51.5 +1.9**
ZHN Zhinishke 21.47 322 *e*P **P 03 26 54.0 +0.8**
ZHN pmax pmax
comp=Z,74nm,1.3s
ZHN Zhinishke 21.47 322 *e*P **P 03 26 54.0 +0.8**
comp=Z,74nm,1.3s
KDJ Kajisay 21.52 318 IAmb IAmb 03 26 57.6
comp=Z,138nm,1.0s
KDJ Kajisay 21.52 318 P P 03 26 55.7 +1.8
KPKS Kokpek 21.54 323 *e*P **P 03 26 54.5 +0.6**
KPKS *e*S **S 03 30 53.7 +1.8**
KPKS pmax pmax
comp=Z,74nm,1.0s
KPKS Kokpek 21.54 323 *e*P **P 03 26 54.6 +0.6**
comp=Z,74nm,1.0s
KPKS *e*S **S 03 30 53.8 +1.8**
BSI Banda Aceh 21.70 183 P **P 03 26 56.5 +0.8**
comp=Z,56nm,1.2s
LHMI Lhok Sumawe 21.95 178 P P 03 27 00.0 +1.6
comp=Z,169nm,1.0s
SONM Songino Array 21.98 18 P P 03 26 57.9 -0.7
SONM IAmb IAmb 03 27 05.5
comp=Z,90nm,1.3s
SONM Songino Array 21.98 18 P P 03 26 58.2 -0.4
comp=Z,31nm,0.8s,baz=201,slow=8.1,SNR=122
SONM PcP **PcP 03 30 56.3 -0.5**
comp=Z,1.1nm,0.8s,baz=202,slow=3.1,SNR=1.4
comp=Z,31nm,0.8s
SONM Songino Array 21.98 18 P P 03 26 57.9 -0.7
SONM pmax pmax
comp=Z,91nm,1.3s
ZSN Zaisan 22.04 339 *e*P **P 03 26 59.6 +0.5**
ZSN *e*S **S 03 31 03.2 +1.8**
ZSN pmax pmax
comp=Z,84nm,1.2s
ZSN Zaisan 22.04 339 *e*P **P 03 26 59.7 +0.5**
comp=Z,84nm,1.2s
ZSN *e*S **S 03 31 03.2 +1.8**
SSE Sheshan 22.04 74 P P 03 26 58.4 -0.9
SSE S **S 03 30 57.5 -4.1**
SSE pmax pmax
comp=Z,23nm,0.9s
SSE LR LR
comp=Z,4μm,13.5s
SSE LR LR
comp=Z,1μm,13.3s
ULHL Ulahol 22.15 318 P **P 03 27 03.9 +3.3**
SNR=19
ULN Ulaanbaatar 22.19 19 P **P 03 26 59.8 -1.2**
ULN Ulaanbaatar 22.19 19*c i*P **P 03 27 00.1 -0.9**
ULN pmax pmax
comp=Z,92nm,1.3s
TNSS Tian-Shan 22.22 320 *e*P **P 03 27 01.9 +0.4**
TNSS Tian-Shan 22.22 320 *e*P **P 03 27 01.9 +0.4**
MDOK Medeo 22.24 320 P P 03 27 02.2 +0.7
MDOK Medeo 22.24 320 *e*P **P 03 27 02.2 +0.7**
MDOK *e*S **S 03 31 07.7 +2.2**
MDOK LR LR 03 36 41.0
comp=Z,1μm,15.7s
KULM Kulim 22.27 169 P P 03 27 02.7 +0.9
KULM Kulim 22.27 169 P P 03 27 03.4 +1.6
TPUB Ta-pu 22.34 95 P P 03 27 05.2 +2.6
AAA Alma-Ata 22.34 320 *e*P **P 03 27 03.4 +0.9**
AAA pmax pmax
comp=Z,126nm,1.4s
AAA Alma-Ata 22.34 320 *e*P **P 03 27 03.4 +0.9**
comp=Z,126nm,1.4s
MK31 Makanchi Array 22.39 334 P P 03 27 02.7 -0.2
MK31 IAmb IAmb 03 27 07.8
comp=Z,91nm,1.0s
MK31 Makanchi Array 22.39 334 P P 03 27 02.7 -0.2
MK31 pmax pmax
comp=Z,91nm,1.0s
MKAR Makanchi Array 22.39 334 P P 03 27 02.8 -0.1
MKAR Makanchi Array 22.39 334 P P 03 27 02.9 0.0
comp=Z,64nm,0.8s,baz=143,slow=13,SNR=342
MKAR PcP **PcP 03 30 58.2 +0.7**
comp=Z,2.7nm,0.9s,baz=144,slow=5.4,SNR=2.4
MKAR ScP **ScP 03 34 33.3 -0.8**
comp=Z,2.6nm,0.9s,baz=153,slow=3.2,SNR=7.8
comp=Z,64nm,0.8s
POO Poona 22.42 252 IAmb IAmb 03 31 16.6
comp=Z,302nm,1.4s
BOOM Boomskoye usch 22.48 318 IAmb IAmb 03 27 08.0
comp=Z,74nm,0.8s
SSLB Suanglung 22.50 93 P P 03 27 02.8 -1.6
SSLB IAmb IAmb 03 27 16.8
comp=Z,92nm,1.2s
SSLB Suanglung 22.50 93 P P 03 27 04.1 -0.3
MAKZ Makanchi 22.52 334 P P 03 27 04.9 +0.6
MAKZ IAmb IAmb 03 27 07.5
comp=Z,52nm,0.8s
MAKZ Makanchi 22.52 334 P P 03 27 04.9 +0.6
MAKZ pmax pmax
comp=Z,51nm,0.9s
YHNB Yeheng 22.68 91 P P 03 27 08.1 +1.8
KAD Karad 22.72 249 IAmb IAmb 03 27 17.1
comp=Z,111nm,1.5s
KAD *e*S **S 03 31 14.5 +0.1**
TDK Taldyqorghan 22.75 326 *e*P **P 03 27 07.4 +0.7**
TDK pmax pmax
comp=Z,73nm,1.3s
TDK MLR MLR
comp=Z,1μm,16.0s
TDK Taldyqorghan 22.75 326 *e*P **P 03 27 07.4 +0.7**
comp=Z,73nm,1.3s
TDK LR LR 03 36 54.4
comp=Z,1μm,15.8s
TWG Pinlang 22.86 96 IAmb IAmb 03 27 12.8
comp=Z,84nm,0.9s
TWGBT Beinan 22.87 96 P P 03 27 10.8 +2.6
MLSI Meulaboh, Aceh 22.89 180 P P 03 27 08.1 -0.4
comp=Z,166nm,1.1s
YULB Yu-li 22.91 94 P P 03 27 08.2 -0.4
YULB Yu-li 22.91 94 P P 03 27 11.8 +3.2
NACB Ninganchiao 22.98 92 P P 03 27 09.4 0.0
NACB IAmb IAmb 03 27 15.3
comp=Z,102nm,1.0s
NACB Ninganchiao 22.98 92 P P 03 27 12.1 +2.7
XLT XiLinHaoTe 23.00 39 *e*P **P 03 27 08.5 -1.0**
XLT sP sP 03 27 23.0 +5.2
XLT PcP **PcP 03 30 59.3 +0.4**
XLT S **S 03 31 11.2 -7.9**
XLT ScP **ScP 03 34 27.8 -8.0**
XLT PcS **PcS 03 34 35.1 -2.8**
XLT pmax pmax
comp=Z,50nm,1.4s
XLT pmax pmax
comp=Z,250nm,3.6s
XLT LR LR
comp=Z,6μm,13.5s
XLT LR LR
comp=Z,3μm,8.7s
IPM Ipoh 23.13 168 P P 03 27 10.0 -0.9
IPM Ipoh 23.13 168 P P 03 27 11.8 +0.9
KBK Karagaybulak 23.17 317 P P 03 27 13.4 +2.0
SNR=33
AAK Ala-Archa 23.44 316 P P 03 27 15.7 +1.7
AAK Ala-Archa 23.44 316 P P 03 27 15.9 +1.9
SNR=43
AAK Ala-Archa 23.44 316*c i*P **P 03 27 15.7 +1.7**
AAK pmax pmax
comp=Z,146nm,1.7s
FRU1 Bishkek 23.45 317 IAmb IAmb 03 27 18.6
comp=Z,149nm,1.4s
AML Almayashu 23.66 315 P P 03 27 19.2 +2.7
SNR=35
ZAK Zakamensk 23.67 11 *e*P **P 03 27 16.4 +0.3**
ZAK pmax pmax
comp=Z,49nm,1.6s
DRK Karamyk 23.72 307 IAmb IAmb 03 27 37.9
comp=Z,182nm,1.7s
DRK Karamyk 23.72 307 P P 03 27 17.9 +1.0
TSI Tuntungan 23.75 174 P P 03 27 16.2 -0.8
USP Ospenovka 23.79 318 P P 03 27 18.5 +1.2
SNR=33
SGDS Sogindy 23.82 318 *e*P **P 03 27 18.4 +0.9**
SGDS pmax pmax
comp=Z,37nm,1.4s
SGDS Sogindy 23.82 318 *e*P **P 03 27 18.5 +0.9**
comp=Z,37nm,1.4s
EKS2 Erkin-Say 23.89 316 P P 03 27 20.4 +2.0
SNR=38
DL2 Dalian 24.09 55 P P 03 27 20.0 -0.1
DL2 pmax pmax
comp=Z,83nm,1.0s
DL2 pmax pmax
comp=Z,610nm,7.0s
DL2 LR LR
comp=Z,2μm,15.3s
DL2 LR LR
comp=Z,2μm,15.3s
DL2 LR LR
comp=Z,2μm,14.8s
SZP Santa 24.30 108 P P 03 27 25.6 +3.4
KBL Kabul 24.43 294 P P 03 27 24.5 +1.0
KBL Kabul 24.43 294 P P 03 27 24.5 +1.0
KBL pmax pmax
comp=Z,164nm,1.0s
PSI Prapat 24.48 174 P P 03 27 25.8 +1.9
MOY Mondy 24.60 7 *e*P **P 03 27 25.9 +1.1**
MOY pmax pmax
comp=Z,62nm,2.5s
BTK Batken 24.64 308 P P 03 27 26.8 +1.6
SNSI Sinabang, Aceh 24.74 180 P P 03 27 25.0 -1.2
comp=Z,7μmcomp=Z,183nm,1.2s
PALK Pallekele 24.81 219 P P 03 27 27.3 +0.4
PALK Pallekele 24.81 219 LR LR 03 40 54.6
comp=Z,601nm,18.7s,baz=26,slow=45
PALK Pallekele 24.81 219 P P 03 27 27.3 +0.4
PALK pmax pmax
comp=Z,18nm,0.9s
BTLS Baital 25.10 321 *e*P **P 03 27 30.2 +1.0**
BTLS pmax pmax
comp=Z,20nm,1.0s
BTLS Baital 25.10 321 *e*P **P 03 27 30.3 +1.0**
comp=Z,20nm,1.0s
CHGR Chuyangaron 25.34 303 P P 03 27 32.8 +1.2
CHGR pmax pmax
comp=Z,151nm,1.1s
SIMJ Simiganj 25.46 303 P P 03 27 33.0 +0.3
SIMJ IAmb IAmb 03 27 36.4
comp=Z,50nm,0.9s
DZA Taraz 25.55 314 *e*P **P 03 27 34.4 +1.0**
DZA pmax pmax
comp=Z,22nm,1.0s
DZA Taraz 25.55 314 *e*P **P 03 27 34.4 +1.0**
comp=Z,22nm,1.0s
IRK Irkutsk 25.63 11 *e*P **P 03 27 35.3 +1.3**
IRK pmax pmax
comp=Z,228nm,1.8s
DZET Dzherino 25.64 304 P P 03 27 35.9 +1.6
DZET pmax pmax
comp=Z,50nm,0.9s
GSI Gunungsitoli 25.87 177 P P 03 27 35.8 -0.6
GSI IAmb IAmb 03 27 41.5
comp=Z,60nm,0.8s
GSI Gunungsitoli 25.87 177 P P 03 27 37.3 +0.9
GSI Gunungsitoli 25.87 177 P P 03 27 36.0 -0.4
comp=Z,4μmcomp=Z,83nm,0.9s
KK31 Karatay Array 26.18 314 P P 03 27 39.5 +0.4
KK31 IAmb IAmb 03 27 45.0
comp=Z,64nm,1.6s
KK31 Karatay Array 26.18 314 P P 03 27 39.5 +0.4
KK31 pmax pmax
comp=Z,64nm,1.6s
KKAR Karatay Array 26.18 314 P P 03 27 40.2 +1.1
KKAR Karatay Array 26.18 314 P P 03 27 39.4 +0.3
KKAR IAmb IAmb 03 27 44.9
comp=Z,44nm,1.6s
KKAR Karatay Array 26.18 314 P P 03 27 39.4 +0.3
KKAR pmax pmax
comp=Z,44nm,1.6s
TGY Tagaytay City 26.45 115 LR LR 03 37 24.2
comp=Z,534nm,18.6s,baz=169,slow=35
BRLS Borolday 26.59 313 *e*P **P 03 27 42.6 -0.1**
BRLS pmax pmax
comp=Z,12nm,1.6s
BRLS Borolday 26.59 313 *e*P **P 03 27 43.8 +1.1**
SNY Shenyang 26.60 50 ⇓P **P 03 27 42.0 -0.8**
SNY pmax pmax
comp=Z,23nm,0.9s
SNY LR LR
comp=Z,1μm,11.5s
SNY LR LR
comp=Z,740nm,11.8s
SNY LR LR
comp=Z,980nm,10.2s
KURBB Kurchatov Arra 26.95 335 P P 03 27 46.7 +0.8
comp=Z,105nm,0.8s,baz=149,slow=10,SNR=152
KURBB PcP **PcP 03 31 08.0 +0.6**
comp=Z,4.0nm,0.9s,baz=163,slow=2.3,SNR=3.5
KURBB ScP **ScP 03 34 45.9 -0.8**
comp=Z,2.3nm,0.9s,baz=146,slow=2.8,SNR=5.5
comp=Z,105nm,0.8s
KURK Kurchatov 26.99 335 P P 03 27 47.7 +1.4
KURK Kurchatov 26.99 335 P P 03 27 47.7 +1.4
KURK pmax pmax
comp=Z,182nm,0.9s
ZALV Zalesovo Beam 27.95 345 P P 03 27 55.1 +0.4
ZALV Zalesovo Beam 27.95 345 P P 03 27 55.3 +0.6
comp=Z,16nm,0.7s,baz=167,slow=9.4,SNR=50
ZALV ScP **ScP 03 34 49.2 -0.5**
comp=Z,0.6nm,0.7s,baz=139,slow=6.8,SNR=2.2
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 27.95 345 *i*P **P 03 27 55.2 +0.4**
ZALV pmax pmax
comp=Z,16nm,0.7s
OTUK Ortayu 28.02 325 P P 03 27 56.0 +0.5
HIA Hailar 28.42 33 P P 03 28 00.6 +1.5
HIA Hailar 28.42 33*de*P **P 03 27 59.6 +0.5**
HIA pmax pmax
comp=Z,7.0nm,0.9s
JOW Kunigami 28.44 84 LR LR 03 40 22.7
comp=Z,2μm,18.4s,baz=265,slow=39
KSRS Korea Array 28.45 61 P P 03 27 59.2 -0.2
comp=Z,1.4nm,0.6s,baz=250,slow=8.7,SNR=5.0
KSRS PcP **PcP 03 31 11.1 -0.1**
comp=Z,1.4nm,0.7s,baz=275,slow=2.2,SNR=3.6
KSRS LR LR 03 40 31.3
comp=Z,982nm,19.3s,baz=260,slow=39
comp=Z,1.4nm,0.6s
CN2 Changchun 28.68 47 P P 03 28 00.8 -0.6
CN2 PP **PnPn 03 28 51.5 -0.3**
CN2 S **S 03 32 47.6 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,1μm,11.0s
CN2 LR LR
comp=Z,1μm,11.0s
KSM Kuching 28.97 150 P P 03 28 03.7 -0.5
KSM Kuching 28.97 150 P P 03 28 04.2 -0.1
BRZS Berezniki 29.00 328 *e*P **P 03 28 04.5 +0.3**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 29.00 328 *e*P **P 03 28 05.2 +1.0**
SBUM Sibu 29.02 146 P P 03 28 03.7 -1.0
SBUM Sibu 29.02 146 P P 03 28 07.8 +3.1
JNU Nakatsue 30.35 70 P P 03 28 15.2 -1.3
JNU Nakatsue 30.35 70 LR LR 03 40 42.9
comp=Z,983nm,20.7s,baz=268,slow=37
BNX BinXian 30.77 45 ⇑P **P 03 28 19.4 -0.5**
BNX pmax pmax
comp=Z,53nm,0.9s
MDJ Mudanjiang 31.73 48 P P 03 28 26.8 -1.6
MDJ PP **PnPn 03 29 34.9 +2.3**
MDJ sS sS 03 33 51.1 +3.5
MDJ PcS **PcS 03 35 00.6 -3.5**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ LR LR
comp=Z,950nm,13.4s
MDJ LR LR
comp=Z,1μm,9.6s
MDJ LR LR
comp=Z,1μm,15.5s
MDJ Mudanjiang 31.73 48 P P 03 28 30.5 +2.1
BVA0 Borovoye Array 32.12 330 *i*P **P 03 28 32.1 +0.4**
BVAR Borovoye Array 32.12 330 P P 03 28 32.9 +1.2
comp=Z,12nm,0.7s,baz=129,slow=9.5,SNR=72
BVAR PcP **PcP 03 31 21.0 +0.4**
comp=Z,2.3nm,0.7s,baz=134,slow=4.2,SNR=2.8
BVAR ScP **ScP 03 35 04.1 +0.9**
comp=Z,2.5nm,0.9s,baz=141,slow=3.6,SNR=5.5
comp=Z,12nm,0.7s
BRVK Borovoye 32.19 330 P P 03 28 33.6 +1.3
BRVK IAmb IAmb 03 28 35.1
comp=Z,23nm,0.8s
BRVK Borovoye 32.19 330 P P 03 28 33.6 +1.3
BRVK pmax pmax
comp=Z,23nm,0.8s
MDSI Maura Dua 32.49 165 P P 03 28 32.3 -3.0
comp=Z,9.2nm,0.7s
VLA Vladivostok 32.80 52⇓*e*P **P 03 28 37.7 -0.1**
VLA pmax pmax
comp=Z,30nm,1.0s
HEH HeiHe 32.98 38 *e*P **P 03 28 39.4 +0.1**
HEH S **S 03 33 56.9 +0.3**
HEH pmax pmax
comp=Z,53nm,1.2s
HEH LR LR
comp=Z,4μm,12.4s
HEH LR LR
comp=Z,3μm,13.9s
HEH LR LR
comp=Z,3μm,10.0s
USA0B Ussuriysk Arra 33.20 50 P P 03 28 41.0 -0.3
USA0B Ussuriysk Arra 33.20 50 P P 03 28 41.0 -0.3
USA0B pmax pmax
comp=Z,18nm,1.0s
USRK Ussuriysk Ar. 33.20 50 P P 03 28 40.8 -0.5
comp=Z,13nm,0.8s,baz=253,slow=9.1,SNR=20
USRK LR LR 03 43 02.5
comp=Z,494nm,18.6s,baz=243,slow=38
comp=Z,13nm,0.8s
WSAR Wadi Sarin 34.22 272 LR LR 03 43 47.9
comp=Z,532nm,18.0s,baz=96,slow=38
DAV Davao City (W) 34.29 121 LR LR 03 44 23.2
comp=Z,572nm,18.7s,baz=334,slow=39
ZEA Zeya 34.89 32 *e*P **P 03 28 56.6 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,1μm,12.0s
ZEA MLR MLR
comp=N,1μm,10.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
KLR Kul'dur 34.95 42 LR LR 03 45 08.4
comp=Z,574nm,18.1s,baz=238,slow=40
KLR Kul'dur 34.95 42⇑*e*P **P 03 28 55.5 -0.9**
KLR pmax pmax
comp=Z,13nm,1.7s
AB31 Akbulak array 35.50 318 *i*P **P 03 29 01.9 +0.7**
ABKAR Akbulak array 35.50 318 P P 03 29 02.4 +1.3
ABKAR IAmb IAmb 03 29 04.1
comp=Z,22nm,0.9s
ABKAR Akbulak array 35.50 318 P P 03 29 02.3 +1.1
LEM Lembang 35.64 160 LR LR 03 43 45.4
comp=Z,458nm,21.0s,baz=256,slow=37
MAJO Matsushiro 36.51 65⇑*e*P **P 03 29 08.8 -1.2**
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MJAR Matsushiro Arr 36.51 65 P P 03 29 08.6 -1.4
comp=Z,6.2nm,1.0s,baz=270,slow=9.0,SNR=12
MJAR PcP **PcP 03 31 32.8 -0.7**
comp=Z,2.7nm,0.8s,baz=258,slow=2.0,SNR=3.7
MJAR ScP **ScP 03 35 19.0 -0.2**
comp=Z,4.9nm,1.0s,baz=266,slow=2.3,SNR=6.5
MJAR LR LR 03 44 36.5
comp=Z,478nm,19.0s,baz=263,slow=37
comp=Z,6.2nm,1.0s
KPJI Karang Pucung 36.53 159 P P 03 29 08.6 -1.6
comp=Z,48nm,1.0s
SMRI Semarang 36.78 156 P P 03 29 14.4 +2.0
AKTO Aktyubinsk 37.12 319 P P 03 29 15.9 +0.9
APSI Ampana 37.16 135 P P 03 29 13.9 -1.7
comp=Z,31nm,0.9s
TTSI Tana Toraja 37.74 139 P P 03 29 19.0 -1.5
comp=Z,27nm,1.2s
JHJ Hachijo jima 2 37.82 70 LR LR 03 44 48.8
comp=Z,561nm,19.7s,baz=240,slow=36
KMMI Kalianget 38.18 151 P P 03 29 21.8 -2.5
comp=Z,88nm,1.5s
GRNR Gornyy 38.33 41⇑*i*P **P 03 29 24.5 -0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,280nm,12.0s
GRNR MLR MLR
comp=N,690nm,10.0s
GRNR MLR MLR
comp=Z,810nm,14.0s
SPSI Sidrap Palu 38.45 140 P P 03 29 24.6 -2.0
comp=Z,652nmcomp=Z,29nm,1.6s

SVE	**Sverdlovsk**	**38.88 329**	*de*P		**P**	**03 29 31.6 +1.9**
SVE				pmax	pmax	
	comp=Z,89nm,1.0s					
COCO	**West Island**	**39.25 179**	P		**P**	**03 29 33.3 +0.2**
COCO				IAmb	IAmb	03 29 36.4
	comp=Z,72nm,1.0s					
COCO	**West Island**	**39.25 179**	P		**P**	**03 29 34.7 +1.6**
COCO	**West Island**	**39.25 179**	P		**P**	**03 29 33.3 +0.2**
COCO				pmax	pmax	
	comp=Z,72nm,1.0s					
KAPI	**Kappang**	**39.31 141**	LR		LR	03 47 39.0
	comp=Z,543nm,20.4s,baz=305,slow=39					
JAGI	**Jajag, Banyuwa**	**39.53 152**	P		**P**	**03 29 35.7 +0.1**
JAGI	**Jajag, Banyuwa**	**39.53 152**	P		**P**	**03 29 33.1 -2.5**
	comp=Z,26nm,1.1s					
SRBI	**Singaraja**	**39.65 150**	P		**P**	**03 29 35.8 -0.8**
	comp=Z,38nm,1.1s					
ARTI	**Arti**	**39.69 328**	P		**P**	**03 29 37.8 +1.3**
ARTI				IAmb	IAmb	03 29 39.3
	comp=Z,47nm,1.0s					
ARTI	**Arti**	**39.69 328**	*c i*P		**P**	**03 29 37.8 +1.3**
ARTI						03 31 06.9
ARTI				S	**S**	**03 35 44.4 +5.4**
ARTI				pmax	pmax	
	comp=Z,55nm,1.0s					
ARTI				MLR	MLR	
	comp=Z,1μm,16.0s					
ASAJ	**Asahikawa**	**40.60 53**	P		**P**	**03 29 43.6 -0.6**
	comp=Z,13nm,0.8s,baz=276,slow=4.7,SNR=9.1					
ASAJ				LR	LR	03 48 32.2
	comp=Z,525nm,18.3s,baz=334,slow=39					
	comp=Z,13nm,0.8s					
ASAJ	**Asahikawa**	**40.60 53**	P		**P**	**03 29 43.9 -0.3**
ASAJ				pmax	pmax	
	comp=Z,33nm,0.9s					
JKA	**Kamikawa-asahi**	**40.60 53**	P		**P**	**03 29 43.9 -0.4**
JKA				IAmb	IAmb	03 29 59.2
	comp=Z,33nm,0.9s					
JCJ	**Chichijima**	**40.63 79**	LR		LR	03 45 50.2
	comp=Z,347nm,19.4s,baz=306,slow=35					
TWSI	**Taliwang, Sumb**	**40.99 148**	P		**P**	**03 29 45.9 -1.8**
	comp=Z,25nm,1.1s					
LKRN	**Lenkeran, Azer**	**41.04 299**	P		**P**	**03 29 50.5 +2.6**
YAK	**Yakutsk**	**41.19 23**	LR		LR	03 46 30.3
	comp=Z,261nm,20.1s,baz=226,slow=36					
YAK	**Yakutsk**	**41.19 23**	*e*P		**P**	**03 29 48.0 -0.8**
YAK			*e**PP		**sP**	**03 29 57.9 +0.4**
YAK			*e*			03 31 20.8
YAK			*e*S		**S**	**03 35 58.7 -2.4**
YAK			*e*SS		**SS**	**03 38 59.0 -5.0**
YAK			*e*SSS		SSS	03 39 32.6
YAK				pmax	pmax	
	comp=Z,17nm,0.9s					
YAK				pmax	pmax	
	comp=N,7.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,10.0nm,1.6s					
YAK				pmax	pmax	
	comp=Z,248nm,7.1s					
YAK				pmax	pmax	
	comp=N,124nm,7.8s					
YAK				pmax	pmax	
	comp=E,143nm,6.4s					
YAK				smax	smax	
	comp=N,174nm,7.7s					
YAK				smax	smax	
	comp=E,104nm,7.9s					
YAK				MLR	MLR	
	comp=Z,722nm,16.0s					
YAK				MLR	MLR	
	comp=N,326nm,13.0s					
YAK				MLR	MLR	
	comp=E,267nm,12.0s					
YSS	**Yuzhno-Sakhali**	**41.21 49**	P		**P**	**03 29 49.4 +0.2**
YSS	**Yuzhno-Sakhali**	**41.21 49**	*e*P		**P**	**03 29 47.7 -1.5**
YSS			*e**SP		**pP**	**03 29 52.4 -3.1**
YSS			*e*S		**S**	**03 35 54.0 -7.9**
YSS				pmax	pmax	
	comp=Z,200nm,7.3s					
YSS				pmax	pmax	
	comp=Z,20nm,1.0s					
YSS				MLR	MLR	
	comp=Z,800nm,15.0s					
YSS				MLR	MLR	
	comp=E,1μm,14.0s					
AKT	**Akhty**	**41.98 303**	*e*P		**P**	**03 29 55.2 -0.6**
AKT			*e*			03 31 31.5
AKT				pmax	pmax	
	comp=Z,49nm,1.2s					
AKT				MLR	MLR	
	comp=Z,655nm,17.0s					
TYV	**Tymovskoe**	**42.09 43**	*e*P		**P**	**03 29 56.9 +0.5**
TYV				pmax	pmax	
	comp=Z,18nm,1.2s					
TYV				pmax	pmax	
	comp=Z,200nm,3.5s					
MAK	**Makhachkala**	**42.27 305**	*c i*P		P	03 29 52.7 -5.2
MAK			*e*S		**S**	**03 36 10.3 -7.2**
MAK			*e*SS		**SS**	**03 39 20.9 -5.1**
MAK				pmax	pmax	
	comp=Z,177nm,1.2s					
SEKA	**Sheki**	**42.36 302**	P		**P**	**03 30 01.0 +2.2**
NRIK	**Noril'sk**	**42.39 355**	P		**P**	**03 29 58.8 +0.2**
NRIK	**Noril'sk**	**42.39 355**	P		**P**	**03 29 58.8 +0.2**
	comp=Z,14nm,0.8s,baz=164,slow=6.7,SNR=23					
NRIK				LR	LR	03 47 16.6
	comp=Z,530nm,19.8s,baz=174,slow=36					
	comp=Z,14nm,0.8s					
NRIK	**Noril'sk**	**42.39 355**	*de*P		**P**	**03 29 58.8 +0.2**
NRIK				pmax	pmax	
	comp=Z,21nm,0.9s					
MNGR	**Mingechevir, A**	**42.42 302**	P		**P**	**03 30 02.0 +2.8**
GANJ	**Ganja**	**43.00 301**	P		**P**	**03 30 06.6 +2.6**
WBSI	**Waikabubak, Su**	**43.00 145**	P		**P**	**03 30 00.5 -3.6**
	comp=Z,57nm,0.7s					
NAX	**Nakhchivan**	**43.61 299**	P		**P**	**03 30 11.3 +2.3**
MMRI	**Maumere**	**43.67 141**	P		**P**	**03 30 08.2 -1.3**
BELG	**Belogornoye**	**43.91 318**	*c i*P		**P**	**03 30 11.3 +0.3**
BELG				pmax	pmax	
	comp=Z,10.0nm,1.0s					
GNI	**Garni**	**44.20 301**	P		**P**	**03 30 15.8 +2.0**
GNI				IAmb	IAmb	03 30 23.3
	comp=Z,41nm,1.0s					
GNI	**Garni**	**44.20 301**	P		**P**	**03 30 15.8 +2.0**
GNI				pmax	pmax	
	comp=Z,41nm,1.0s					
GNI	**Garni**	**44.20 301**	P		**P**	**03 30 15.8 +2.0**
	comp=Z,610nmcomp=Z,46nm,0.9s					
KIRV	**Kirov**	**45.00 327**	*c i*P		**P**	**03 30 21.0 +1.3**
NCK	**Nalchik**	**45.16 305**	*de*P		**P**	**03 30 22.7 +1.5**
NCK				pmax	pmax	
	comp=Z,30nm,0.9s					
KARS	**Kars**	**45.47 301**	P		**P**	**03 30 27.1 +3.2**
KARS				pmax	pmax	
	comp=Z,48nm,1.9s					
GEVA	**Gevas**	**45.53 298**	P		**P**	**03 30 25.7 +1.2**
GOF	**Gofitskoye**	**45.65 307**	*ce*P		**P**	**03 30 27.3 +2.2**
KBZ	**Khabaz**	**45.67 306**	P		**P**	**03 30 26.0 +0.8**
	comp=Z,4.2nm,0.8s,baz=103,slow=6.4,SNR=12					
	comp=Z,4.2nm,0.8s					
KBZ	**Khabaz**	**45.67 306**	*de*P		**P**	**03 30 26.7 +1.5**
KBZ				pmax	pmax	
	comp=Z,11nm,1.0s					
SOEI	**Soe**	**45.73 140**	P		**P**	**03 30 23.8 -2.3**
SOEI	**Soe**	**45.73 140**	P		**P**	**03 30 25.8 -0.3**
SOEI	**Soe**	**45.73 140**	P		**P**	**03 30 24.1 -2.0**
BATI	**Baumata**	**45.75 141**	P		**P**	**03 30 24.5 -1.7**
RAYN	**Ar Rayn**	**45.79 277**	P		**P**	**03 30 28.3 +1.8**
RAYN				IAmb	IAmb	03 30 28.6
	comp=Z,17nm,0.9s					
RAYN	**Ar Rayn**	**45.79 277**	P		**P**	**03 30 28.3 +1.8**
RAYN				pmax	pmax	
	comp=Z,17nm,0.9s					
KIV	**Kislovodsk**	**45.84 306**	P		**P**	**03 30 28.6 +1.9**
KIV				IAmb	IAmb	03 30 30.1
	comp=Z,37nm,1.0s					
KIV	**Kislovodsk**	**45.84 306**	*e*P		**P**	**03 30 27.3 +0.6**
KIV			*e*S		**S**	**03 37 12.4 +2.6**
KIV				pmax	pmax	
	comp=Z,31nm,1.1s					
KIV				MLR	MLR	
	comp=Z,272nm,16.0s					
KIV	**Kislovodsk**	**45.84 306**	P		**P**	**03 30 28.4 +1.7**
	comp=Z,40nm,1.7s					
SHA1	**Shidzhatmaz**	**45.85 306**	*c i*P		**P**	**03 30 27.6 +0.7**
GUMO	**Guam**	**47.22 97**	LR		LR	03 47 54.4
	comp=Z,273nm,21.2s,baz=322,slow=33					
VRH	**Novokhopyorsk**	**47.24 316**	*e*P		**P**	**03 30 37.3 -0.1**
VRH				pmax	pmax	
	comp=Z,33nm,0.8s					
KOPT	**Kop Dagi**	**47.45 300**	P		**P**	**03 30 42.2 +2.5**
KOPT				IAmb	IAmb	03 30 43.9
	comp=Z,21nm,1.2s					
VSLR	**Vesyoloye**	**47.75 305**	*d i*P		**P**	**03 30 42.6 +1.1**
VSLR				pmax	pmax	
	comp=Z,44nm,1.1s					
TIXI	**Tiksi**	**47.92 13**	P		**P**	**03 30 41.4 -1.0**
TIXI				IAmb	IAmb	03 30 44.1
	comp=Z,9.3nm,0.6s					
TIXI	**Tiksi**	**47.92 13**	LR		LR	03 50 14.3
	comp=Z,482nm,18.8s,baz=208,slow=35					
TIXI	**Tiksi**	**47.92 13**	⇓*e*P		**P**	**03 30 41.9 -0.5**
TIXI				pmax	pmax	
	comp=Z,36nm,1.6s					
SOC	**Sochi**	**47.98 305**	*e*P		**P**	**03 30 42.3 -1.0**
SOC			*e*			03 32 33.6
SOC			*e*PPP		PPP	03 33 20.2
SOC			*e*S		**S**	**03 37 41.4 +1.2**
SOC			*e*SSS		SSS	03 42 18.2
SOC				pmax	pmax	
	comp=Z,24nm,0.7s					
SOC				MLR	MLR	
	comp=Z,308nm,17.0s					
VORD	**Divnogorie**	**48.72 315**	*e*P		**P**	**03 30 47.6 -1.3**
VORD				pmax	pmax	
	comp=Z,10.0nm,1.0s					
VSR	**Storozhevoye**	**48.83 315**	*e*P		**P**	**03 30 47.7 -2.0**
VSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
VORR	**Voronezh**	**48.86 316**	*e*P		**P**	**03 30 50.7 +0.7**
VORR				pmax	pmax	
	comp=Z,46nm,1.1s					
MA2	**Magadan**	**49.02 33**	P		**P**	**03 30 50.3 -0.8**
MA2				IAmb	IAmb	03 30 52.9
	comp=Z,54nm,1.4s					
MA2	**Magadan**	**49.02 33**	P		**P**	**03 30 49.9 -1.2**
	comp=Z,11nm,0.8s,baz=254,slow=8.1,SNR=13					
MA2				LR	LR	03 52 54.6
	comp=Z,744nm,18.2s,baz=252,slow=38					
	comp=Z,11nm,0.8s					
MA2	**Magadan**	**49.02 33**	P		**P**	**03 30 51.7 +0.6**
MA2	**Magadan**	**49.02 33**	*d i*P		**P**	**03 30 51.2 +0.1**
MA2				pmax	pmax	
	comp=Z,45nm,1.7s					
MA2	**Magadan**	**49.02 33**	P		**P**	**03 30 50.9 -0.2**
	comp=Z,28nm,0.9s					
LPSR	**Galich'ya Gora**	**49.15 317**	*e*P		**P**	**03 30 52.8 +0.6**
LPSR				pmax	pmax	
	comp=Z,51nm,0.9s					
ANN	**Anapa**	**49.62 307**	*e*P		**P**	**03 30 55.4 -0.5**
ANN			*e**PP		**pP**	**03 30 58.2 -3.8**
ANN			*e*			03 32 48.3
ANN			*e*S		**S**	**03 38 04.8 +1.5**
ANN			*e*SS		**SS**	**03 41 39.6 +4.3**
ANN				pmax	pmax	
	comp=Z,27nm,0.6s					
ANN				MLR	MLR	
	comp=Z,589nm,16.0s					
ANN				MLR	MLR	
	comp=E,753nm,17.0s					
ANN				MLR	MLR	
	comp=N,335nm,12.0s					
GAZ	**Gaziantep**	**50.24 297**	IAmb		IAmb	03 31 03.7
	comp=Z,31nm,0.8s					
MOS	**Moscow**	**50.37 321**	*e*P		**P**	**03 31 00.6 -0.8**
MOS			*e*			03 32 54.9
MOS			*e*S		**S**	**03 38 13.1 -0.4**
MOS				pmax	pmax	
	comp=Z,164nm,1.2s					
MOS				pmax	pmax	
	comp=Z,300nm,1.6s					
MOS				MLR	MLR	
	comp=E,700nm,17.0s					
MOS				MLR	MLR	
	comp=Z,700nm,17.0s					
KLMR	**Klimovskoe**	**50.48 328**	*e*P		**P**	**03 30 59.3 -2.9**
KLMR				pmax	pmax	
	comp=Z,184nm,1.5s					
KLMR				MLR	MLR	
	comp=Z,990nm,13.0s					
SEY	**Seymchan**	**50.75 29**	P		**P**	**03 31 03.4 -0.8**
	comp=Z,1.2nm,0.5s,baz=264,slow=9.9,SNR=7.2					
SEY				PcP	**PcP**	**03 32 21.7 +0.7**
	comp=Z,8.9nm,0.9s,baz=236,slow=4.2,SNR=6.7					
SEY				LR	LR	03 54 39.9
	comp=Z,825nm,19.2s,baz=272,slow=38					
	comp=Z,1.2nm,0.5s					
SEY	**Seymchan**	**50.75 29**	⇑*i*P		**P**	**03 31 03.3 -0.8**
SEY				pmax	pmax	
	comp=Z,14nm,1.8s					
OBN	**Obninsk**	**50.88 320**	P		**P**	**03 31 05.9 +0.7**
OBN	**Obninsk**	**50.88 320**	⇓P		**P**	**03 31 06.8 +1.6**
OBN	**Obninsk**	**50.88 320**	*d i*P		**P**	**03 31 06.6 +1.3**
OBN			*e**PP		**pP**	**03 31 09.8 -1.6**
OBN			*e**SP		**sP**	**03 31 12.9 -1.2**
OBN			*e*			03 32 21.4
OBN			*e*SS		**SS**	**03 42 00.9 +6.0**
OBN			*e*SSS		SSS	03 43 34.6
OBN				pmax	pmax	
	comp=Z,152nm,1.7s					
OBN				MLR	MLR	
	comp=Z,757nm,19.0s					
OBN	**Obninsk**	**50.88 320**	P		**P**	**03 31 06.5 +1.3**
	comp=Z,2μmcomp=Z,82nm,1.2s					
ASF	**Jabal al Asfar**	**51.26 291**	LR		LR	03 54 41.0
	comp=Z,493nm,19.1s,baz=115,slow=38					
PETK	**Petropavlovsk-**	**51.63 42**	P		**P**	**03 31 10.6 -0.3**
	comp=Z,11nm,0.9s,baz=227,slow=6.1,SNR=6.2					
PETK				LR	LR	03 54 14.6
	comp=Z,333nm,19.2s,baz=266,slow=37					
	comp=Z,11nm,0.9s					
DRS	**Darwin Rock St**	**51.82 135**	P		**P**	**03 31 13.8 +1.0**
SIM	**Simferopol'**	**51.98 307**	*e*P		**P**	**03 31 15.1 +1.4**
SIM				pmax	pmax	
	comp=Z,22nm,0.9s					
JAY	**Jayapura**	**52.02 118**	LR		LR	03 54 02.7
	comp=Z,130nm,18.9s,baz=354,slow=37					
PET	**Petropavlovsk**	**52.20 43**	*e*P		**P**	**03 31 16.7 +1.6**
PET			*e*S		**S**	**03 38 40.5 +1.8**
PET				MLR	MLR	
	comp=Z,700nm,15.0s					
PET				MLR	MLR	
	comp=Z,1μm,14.0s					
MMAI	**Mount Meron Ar**	**52.34 292**	P		**P**	**03 31 17.9 +1.2**
	comp=Z,10nm,0.7s,baz=69,slow=7.9,SNR=13					
MMAI				PcP	**PcP**	**03 32 29.1 +1.5**
	comp=Z,3.7nm,0.7s,baz=64,slow=3.4,SNR=2.1					
MMAI				LR	LR	03 57 37.3
	comp=Z,427nm,19.6s,baz=72,slow=41					
	comp=Z,10nm,0.7s					
GHAJ	**Ghor Haditha**	**52.54 290**	IAmb		IAmb	03 31 21.0
	comp=Z,46nm,0.9s					
KIRS	**Kirsehir-Merke**	**52.59 300**	⇓P		**P**	**03 31 19.7 +1.2**
BR104	**Keskin Array S**	**52.74 301**	P		**P**	**03 31 20.5 +0.9**
	comp=Z,136nmcomp=Z,16nm,0.8s					
BR131	**Keskin Array S**	**52.74 301**	*c i*P		**P**	**03 31 19.6 0.0**
BRTR	**Keskin Array B**	**52.74 301**	P		**P**	**03 31 19.9 +0.3**
BRTR	**Keskin Array B**	**52.74 301**	P		**P**	**03 31 20.1 +0.5**
	comp=Z,8.8nm,0.8s,baz=120,slow=7.7,SNR=75					
BRTR				PcP	**PcP**	**03 32 29.4 +0.3**
	comp=Z,2.1nm,0.8s,baz=102,slow=5.3,SNR=1.8					
	comp=Z,8.8nm,0.8s					
BR106	**Keskin Array S**	**52.75 301**	P		**P**	**03 31 20.6 +0.9**
	comp=Z,128nmcomp=Z,14nm,0.8s					
KDU	**Kakadu**	**53.02 134**	P		**P**	**03 31 18.3 -3.4**
	comp=Z,29nm,0.9s					
KDU	**Kakadu**	**53.02 134**	P		**P**	**03 31 20.1 -1.5**
KNRA	**Kununurra**	**53.07 140**	P		**P**	**03 31 19.6 -2.4**
	comp=Z,74nm,0.8s					
MBWA	**Marble Bar**	**53.23 152**	P		**P**	**03 31 21.8 -1.4**
MBWA				IAmb	IAmb	03 31 25.5
	comp=Z,26nm,0.8s					
MBWA	**Marble Bar**	**53.23 152**	P		**P**	**03 31 21.1 -2.1**
	comp=Z,32nm,0.9s					
MBWA	**Marble Bar**	**53.23 152**	P		**P**	**03 31 24.6 +1.5**
FITZ	**Fitzroy Crossi**	**53.34 144**	P		**P**	**03 31 21.1 -2.9**
	comp=Z,5.5nm,0.7s					
FITZ	**Fitzroy Crossi**	**53.34 144**	P		**P**	**03 31 23.1 -0.8**
ANTO	**Ankara**	**53.37 301**	P		**P**	**03 31 25.1 +0.9**
ANTO	**Ankara**	**53.37 301**	⇑P		**P**	**03 31 25.0 +0.9**
ANTO	**Ankara**	**53.37 301**	P		**P**	**03 31 25.1 +0.9**
ANTO				pmax	pmax	
	comp=Z,56nm,1.1s					
ANTO	**Ankara**	**53.37 301**	P		**P**	**03 31 25.4 +1.3**
	comp=Z,293nmcomp=Z,31nm,1.3s					
EIL	**Elat**	**53.42 288**	LR		LR	03 57 41.3
	comp=Z,487nm,19.3s,baz=84,slow=40					
PSAC1	**Pilbara Seismi**	**53.60 153**	P		**P**	**03 31 23.9 -1.9**
	comp=Z,28nm,1.0s					
PSA00	**Pilbara Seismi**	**53.65 153**	IAmb		IAmb	03 31 25.7
	comp=Z,41nm,1.2s					
PSA00	**Pilbara Seismi**	**53.65 153**	P		**P**	**03 31 24.6 -1.6**
	comp=Z,24nm,0.8s					
PSA00	**Pilbara Seismi**	**53.65 153**	P		**P**	**03 31 25.7 -0.5**
LVZ	**Lovozero**	**54.40 336**	P		**P**	**03 31 32.1 +0.9**
JOF	**Joensuu**	**54.71 329**	*e*P		**P**	**03 31 35.1 +1.7**
APA	**Apatity**	**54.78 335**	⇓*i*P		**P**	**03 31 34.2 +0.3**
APA			*i*			03 32 38.0
APA			*i*			03 33 37.3
APA				pmax	pmax	
	comp=Z,11nm,0.8s					
APA				MLR	MLR	
	comp=Z,800nm,16.0s					
PUL	**Pulkovo**	**54.78 326**	*de*P		**P**	**03 31 36.2 +2.2**
PUL				pmax	pmax	
	comp=Z,123nm,0.9s					
PURM	**Purcari**	**54.86 309**	⇑P		**P**	**03 31 35.1 +0.4**
PURM	**Purcari**	**54.86 309**	P		**P**	**03 31 36.1 +1.3**
	comp=Z,81nm,1.5s					
AK09	**Malin Array Si**	**55.05 314**	P		**P**	**03 31 36.6 +0.5**
AK08	**Malin Array Si**	**55.07 314**	P		**P**	**03 31 36.5 +0.3**
AK10	**Malin Array Si**	**55.07 314**	P		**P**	**03 31 36.6 +0.4**
AKASG	**Malin Array Be**	**55.08 314**	P		**P**	**03 31 36.1 -0.2**
AKASG				IAmb	IAmb	03 31 37.7
	comp=Z,34nm,1.1s					
AKASG	**Malin Array Be**	**55.08 314**	P		**P**	**03 31 36.4 0.0**
	comp=Z,6.6nm,0.5s,baz=77,slow=6.5,SNR=91					
	comp=Z,6.6nm,0.5s					
AKASG	**Malin Array Be**	**55.08 314**	*ce*P		**P**	**03 31 36.5 +0.2**
AKASG				pmax	pmax	
	comp=Z,14nm,0.5s					
AKBB	**Malin Array Si**	**55.08 314**	IAmb		IAmb	03 31 37.7
	comp=Z,34nm,1.0s					
AKBB	**Malin Array Si**	**55.08 314**	*de*P		**P**	**03 31 37.0 +0.7**
AKBB	**Malin Array Si**	**55.08 314**	P		**P**	**03 31 36.7 +0.4**
AK03	**Malin Array Si**	**55.08 314**	P		**P**	**03 31 36.5 +0.1**
AK01	**Malin Array Si**	**55.09 314**	P		**P**	**03 31 36.5 +0.1**
KIEV	**Kiev**	**55.09 314**	P		**P**	**03 31 36.6 +0.2**
KIEV				IAmb	IAmb	03 31 37.7
	comp=Z,28nm,0.9s					
KIEV	**Kiev**	**55.09 314**	⇑P		**P**	**03 31 37.0 +0.6**
KIEV	**Kiev**	**55.09 314**	P		**P**	**03 31 36.6 +0.2**
KIEV				pmax	pmax	
	comp=Z,28nm,1.0s					
AK11	**Malin Array Si**	**55.12 314**	P		**P**	**03 31 36.7 +0.1**
AK12	**Malin Array Si**	**55.13 314**	P		**P**	**03 31 36.7 0.0**
BORA	**Eskisehir**	**55.15 301**	IAmb		IAmb	03 31 38.7
	comp=Z,25nm,0.9s					
ISP	**Isparta**	**55.42 299**	⇓*e*P		**P**	**03 31 39.9 +0.8**
ISP				pmax	pmax	
	comp=Z,25nm,1.7s					
MILM	**Milestii Mici**	**55.56 310**	*e*P		**P**	**03 31 40.0 +0.2**
	comp=Z,40nm,0.7s					
MILM	**Milestii Mici**	**55.56 310**	⇑P		**P**	**03 31 40.1 +0.3**
MILM	**Milestii Mici**	**55.56 310**	*e*P		**P**	**03 31 40.0 +0.2**
MILM				pmax	pmax	
	comp=Z,40nm,0.7s					
JURR	**Jurilovca**	**55.71 307**	⇑P		**P**	**03 31 41.4 +0.5**
TLCR		**55.71 308**	⇑P		**P**	**03 31 42.3 +1.3**
TLCR		**55.71 308**	P		**P**	**03 31 42.2 +1.3**
SORM	**Soroca**	**55.78 311**	⇓P		**P**	**03 31 41.5 +0.1**
SORM	**Soroca**	**55.78 311**	P		**P**	**03 31 41.4 +0.1**
MNK	**Minsk**	**55.85 319**	*i* P		**P**	**03 31 42.3 +0.5**
MNK			*i*			03 32 38.1
MNK			*i*			03 33 46.7
MNK			*i* PPP		PPP	03 34 59.8
MNK			*i* S		**S**	**03 39 30.6 +2.5**
MNK			*i* SS		**SS**	**03 43 17.6 +4.1**
MNK				pmax	pmax	
	comp=Z,56nm,0.9s					
MNK				pmax	pmax	
	comp=N,45nm,1.0s					
MNK				pmax	pmax	
	comp=E,18nm,1.0s					
MNK				MLR	MLR	
	comp=Z,569nm,17.0s					
MNK				MLR	MLR	
	comp=N,524nm,18.0s					
MNK				MLR	MLR	
	comp=E,540nm,18.0s					
MANR	**Mangalia**	**56.02 306**	⇓P		**P**	**03 31 43.7 +0.5**
TPGR	**Topolog**	**56.02 307**	⇓P		**P**	**03 31 44.7 +1.4**
LUBAR	**Lubar, Ukraine**	**56.05 314**	P		**P**	**03 31 43.8 +0.4**
TIRR	**Tirgusor**	**56.07 307**	⇑P		**P**	**03 31 45.2 +1.7**
TIRR	**Tirgusor**	**56.07 307**	P		**P**	**03 31 45.2 +1.7**
VLDR	**Vladesti**	**56.16 309**	⇑P		**P**	**03 31 45.5 +1.3**
CFR	**Carcaliu**	**56.19 308**	⇓P		**P**	**03 31 45.0 +0.7**
CFR	**Carcaliu**	**56.19 308**	P		**P**	**03 31 45.0 +0.7**
SCTR	**Scanteiesti**	**56.23 308**	⇑P		**P**	**03 31 46.2 +1.5**
HARR	**Harsova**	**56.38 307**	⇓P		**P**	**03 31 46.6 +0.8**
HARR	**Harsova**	**56.38 307**	P		**P**	**03 31 46.5 +0.8**
ICOR	**Ion Corvin**	**56.55 307**	⇓P		**P**	**03 31 48.5 +1.5**
VSU	**Vasula**	**56.55 324**	*d i*P		**P**	**03 31 47.3 +0.6**
VSU				pmax	pmax	
	comp=Z,65nm,0.9s					
VSU	**Vasula**	**56.55 324**	*e*P		**P**	**03 31 46.9 +0.3**
VADS	**Vadso**	**56.78 338**	*e*P		**P**	**03 31 49.6 +1.4**
VADS				IAmb	IAmb	03 31 50.5
	comp=Z,31nm,0.8s					
PANC	**Panciu**	**56.80 309**	⇓P		**P**	**03 31 50.4 +1.7**
IIGN	**Ignalina**	**56.80 320**	*e*P		**P**	**03 31 49.8 +1.2**
MANT	**Manisa**	**56.83 300**	IAmb		IAmb	03 31 50.7
	comp=Z,23nm,1.3s					
ODBI	**Odobesti**	**56.88 309**	⇑P		**P**	**03 31 51.4 +2.1**
HORU	**Horodok**	**56.97 313**	P		**P**	**03 31 50.5 +0.6**
HORU	**Horodok**	**56.97 313**	P		**P**	**03 31 50.5 +0.6**
FINES	**FINESS Array B**	**57.00 327**	P		**P**	**03 31 51.1 +1.3**
FINES	**FINESS Array B**	**57.00 327**	P		**P**	**03 31 50.7 +0.8**
	comp=Z,16nm,0.8s,baz=95,slow=7.0,SNR=26					
FINES				PcP	**PcP**	**03 32 46.3 +1.4**
	comp=Z,4.3nm,0.8s,baz=204,slow=4.2,SNR=3.9					
	comp=Z,16nm,0.8s					
FINES	**FINESS Array B**	**57.00 327**	*i* P		**P**	**03 31 51.2 +1.3**
FINES				pmax	pmax	
	comp=Z,15nm,0.8s					
KMPD	**K-Podol'skiy**	**57.00 312**	P		**P**	**03 31 50.8 +0.7**
	comp=Z,6μm,1.3s					
TESR	**Tescani**	**57.08 310**	⇓P		**P**	**03 31 51.1 +0.4**
VRI	**Vrincioaia**	**57.09 309**	⇓P		**P**	**03 31 52.8 +2.0**
VRI	**Vrincioaia**	**57.09 309**	P		**P**	**03 31 52.8 +2.0**
VRI	**Vrincioaia**	**57.09 309**	P		**P**	**03 31 52.6 +1.7**
	comp=Z,29nm,1.2s					
GIRR	**Girov**	**57.13 310**	⇓P		**P**	**03 31 51.8 +0.8**
BISRR	**Bisoca**	**57.14 308**	⇑P		**P**	**03 31 53.2 +1.9**
PLOR	**Plostina**	**57.15 309**	⇑P		**P**	**03 31 52.8 +1.5**
PLOR	**Plostina**	**57.15 309**	P		**P**	**03 31 52.7 +1.5**
PLOR3	**Plostina Array**	**57.15 309**	P		**P**	**03 31 53.1 +1.8**
	comp=Z,68nm,1.4s					
RNPP9	**Sopachiv**	**57.15 315**	P		**P**	**03 31 52.3 +1.2**
RNPP5	**Staryi Chortor**	**57.17

ARA0 ARCESS Array S 58.00 337 *eP* **P 03 31 58.0 +1.1**
ARA0 IAmb IAmb 03 31 58.9
comp=Z,36nm,1.0s
ARCES ARCESS Array B 58.00 337 P **P 03 31 57.6 +0.7**
comp=Z,13nm,0.7s,baz=82,slow=7.5,SNR=41
ARCES PcP **PcP 03 32 49.4 +0.7**
comp=Z,2.9nm,0.5s,baz=94,slow=5.9,SNR=6.5
comp=Z,13nm,0.7s
DOPR Dopca 58.01 309 ⇑P **P 03 31 58.5 +1.2**
PABE Paberze 58.08 320 *eP* **P 03 31 58.8 +1.2**
STNU Starunia 58.28 312 P **P 03 32 00.6 +1.5**
ALN Alexandroupoli 58.31 303 IAmb IAmb 03 32 02.1
comp=Z,37nm,1.2s
ALN Alexandroupoli 58.31 303 P **P 03 31 59.7 +0.3**
VOIR 58.32 308 ⇓P **P 03 31 59.9 +0.4**
VOIR 58.32 308 P **P 03 31 59.9 +0.4**
KARP Karpathos 58.51 297 *eP* **P 03 32 02.5 +1.5**
ARCR ARCALIA 58.57 310 ⇑P **P 03 32 03.1 +1.8**
ARR Arges 58.62 308 ⇓P **P 03 32 02.4 +0.8**
SUW Suwalki 58.62 319 *eP* **P 03 32 01.7 +0.3**
SUW Suwalki 58.62 319 *eP* **P 03 32 02.5 +1.1**
MORS Morshin 58.63 313 P **P 03 32 03.2 +1.6**
RDO Rodhopi 58.64 303 IAmb IAmb 03 32 04.5
comp=Z,36nm,1.4s
RDO Rodhopi 58.64 303 P **P 03 32 02.1 +0.3**
VAF Ylistaro 58.65 329 *eP* **P 03 32 02.8 +1.3**
KTK1 Kautokeino 58.75 336 *eP* **P 03 32 03.3 +1.2**
KTK1 IAmb IAmb 03 32 04.0
comp=Z,40nm,0.9s
HAMF Hammerfest 58.76 338 *eP* **P 03 32 03.5 +1.4**
HAMF IAmb IAmb 03 32 04.3
comp=Z,49nm,0.9s
SHIU Shidnytsya 58.97 313 P **P 03 32 05.5 +1.6**
BMR Baia Mare 59.07 311 ⇑P **P 03 32 06.3 +1.6**
BMR Baia Mare 59.07 311 P **P 03 32 06.3 +1.6**
RAF Rauma 59.08 327 *eP* **P 03 32 05.4 +1.0**
CJR Cluj-Napoca 59.14 310 ⇓P **P 03 32 06.7 +1.5**
CJR Cluj-Napoca 59.14 310 P **P 03 32 06.7 +1.5**
MORW Morawa 59.15 160 P **P 03 32 04.5 -0.8**
MORW Morawa 59.15 160 P **P 03 32 04.6 -0.7**
comp=Z,37nm,1.6s
MORW Morawa 59.15 160 P **P 03 32 05.5 +0.3**
CBBR Cluj-Babes-Bol 59.16 310 ⇑P **P 03 32 06.9 +1.6**
LOT Lotru 59.21 309 ⇑P **P 03 32 06.6 +0.8**
MARR Marisel-Cluj 59.47 310 ⇓P **P 03 32 08.9 +1.4**
MUKU Mukachevo 59.51 312 P **P 03 32 09.3 +1.7**
WB0 Warramunga Arr 59.58 138 P **P 03 32 07.1 -1.3**
WRAB Tennant Creek 59.68 138 *d iP* **P 03 32 08.1 -1.1**
WRAB pmax pmax
comp=Z,88nm,0.8s
WRA Warramunga Arr 59.68 138 P **P 03 32 08.1 -1.1**
comp=Z,91nm,0.7s,baz=327,slow=7.5,SNR=263
WB2 Warramunga Arr 59.69 138 P **P 03 32 08.1 -1.1**
HOLU Holmets 59.70 312 P **P 03 32 10.5 +1.6**
HOLU pP **pP 03 32 13.8 -1.4**
KOLS Kolonicke sedl 59.71 313 *eP* **P 03 32 10.2 +1.1**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 59.71 313 *eP* **P 03 32 10.2 +1.1**
DRGR 59.73 310 ⇑P **P 03 32 09.9 +0.6**
DRGR 59.73 310 P **P 03 32 09.9 +0.6**
JETT Jettan, Norway 59.79 337 *eP* **P 03 32 10.5 +1.2**
JETT IAmb IAmb 03 32 11.3
comp=Z,94nm,1.5s
GZR Gura Zlata 59.91 309 ⇑P **P 03 32 11.8 +1.2**
GZR Gura Zlata 59.91 309 P **P 03 32 11.7 +1.2**
SRS Serrai 60.09 304 P **P 03 32 11.0 -0.8**
HERR Herculane 60.24 308 ⇑P **P 03 32 14.1 +1.3**
BEL Belsk 60.28 316 *eP* **P 03 32 14.7 +1.8**
SURR Surduc 60.30 309 ⇑P **P 03 32 14.8 +1.7**
TRO Tromso 60.31 337 *eP* **P 03 32 13.4 +0.7**
TRO IAmb IAmb 03 32 14.5
comp=Z,25nm,0.8s
PLG Polygyros 60.35 303 P **P 03 32 09.5 -4.1**
IDI Anoyia 60.37 297 LR LR 04 02 09.4
comp=Z,162nm,19.0s,baz=99,slow=40
PEHC Pehcevo 60.47 305 ⇓*iP* **P 03 32 15.7 +1.2**
WRKA Warakurna 60.48 146 P **P 03 32 12.5 -2.1**
comp=Z,33nm,0.9s
WRKA Warakurna 60.48 146 P **P 03 32 13.0 -1.6**
MDVR Moldovita 60.75 308 ⇓P **P 03 32 17.3 +0.9**
BLDU Ballidu 60.79 160 P **P 03 32 13.8 -2.7**
comp=Z,20nm,0.8s
BLDU Ballidu 60.79 160 P **P 03 32 16.3 -0.2**
VAY Valandovo 60.81 304 ⇓*iP* **P 03 32 16.8 +0.2**
NIE Niedzica 60.92 314 *eP* **P 03 32 19.8 +2.4**
NIE Niedzica 60.92 314 P **P 03 32 19.1 +1.7**
comp=Z,11nm,1.9s
IMMV Iera Moni Meta 61.05 297 P **P 03 32 18.1 -0.3**
OJC Ojcow 61.12 314 *eP* **P 03 32 20.2 +1.5**
OJC Ojcow 61.12 314 IAmb IAmb 03 32 21.8
comp=Z,28nm,1.2s
OJC Ojcow 61.12 314 P **P 03 32 20.0 +1.3**
comp=Z,21nm,1.1s
LIT Litokhoron 61.12 303 IAmb IAmb 03 32 20.5
comp=Z,26nm,1.0s
TYRN Tyrnavos 61.40 302 P **P 03 32 19.8 -0.9**
SPA0 Spitsbergen Ar 61.42 347 IAmb IAmb 03 32 21.1
comp=Z,43nm,1.2s
SPA0 *eP* **P 03 32 21.2 +0.9**
SPITS Spitsbergen Ar 61.42 347 P **P 03 32 20.8 +0.5**
comp=Z,15nm,0.8s,baz=90,slow=6.5,SNR=5.0
SPITS LR LR 04 02 29.6
comp=Z,425nm,18.5s,baz=59,slow=39
comp=Z,15nm,0.8s
PSZ Piszkesteto 61.44 312 IAmb IAmb 03 32 23.2
comp=Z,25nm,1.5s
PSZ Piszkesteto 61.44 312 ⇑P **P 03 32 22.6 +1.6**
PSZ Piszkesteto 61.44 312 P **P 03 32 22.5 +1.6**
LANS Liptovska Anna 61.51 313 *eP* **P 03 32 24.0 +2.6**
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 61.51 313 *eP* **P 03 32 24.0 +2.6**
HSPB Hornsund (broa 61.54 345 *eP* **P 03 32 22.4 +1.3**
SHEM Shemya Is, Ala 61.55 43 LR LR 04 02 34.4
comp=Z,116nm,18.1s,baz=162,slow=40
KZN Kozani 61.62 303 P **P 03 32 21.2 -1.1**
STEI Steigen 61.67 335 *eP* **P 03 32 22.4 +0.3**
STEI IAmb IAmb 03 32 23.6
comp=Z,39nm,1.0s
FAUS Fauske 61.68 334 *eP* **P 03 32 22.9 +0.7**
FAUS IAmb IAmb 03 32 28.2
comp=Z,194nm,2.1s
FNA Florina 61.80 304 P **P 03 32 22.9 -0.6**
FNA Florina 61.80 304 P **P 03 32 22.9 -0.6**
FNA pmax pmax
comp=Z,8.0nm,0.9s
MUN Mundaring 61.92 161 P **P 03 32 21.9 -2.2**
comp=Z,35nm,0.8s
FRGS Fruska Gora 62.01 309 ⇑*iP* **P 03 32 24.4 -0.4**
KLBR Kellerberrin 62.02 159 P **P 03 32 23.0 -1.9**
comp=Z,36nm,0.9s
KLBR Kellerberrin 62.02 159 P **P 03 32 25.2 +0.3**
VYHS Vyhne 62.03 313 *eP* **P 03 32 26.1 +1.2**
VYHS pmax pmax
comp=Z,41nm,1.7s
VYHS Vyhne 62.03 313 *eP* **P 03 32 26.1 +1.2**
MOR8 Moi Rana 62.10 333 *eP* **P 03 32 25.3 +0.3**
MOR8 IAmb IAmb 03 32 25.9
comp=Z,38nm,1.0s
NEST Nestorio 62.13 303 P **P 03 32 25.3 -0.5**
OHR Ohrid 62.16 304 ⇓*iP* **P 03 32 28.5 +2.6**
GKP Gorka Klasztor 62.22 318 *eP* **P 03 32 27.7 +1.7**
OKC Ostrava-Krasne 62.24 314 *eP* **P 03 32 28.3 +2.1**
OKC Ostrava-Krasne 62.24 314 *eP* **P 03 32 28.3 +2.1**
KRVT Keravat (AS076 62.24 111 LR LR 03 57 34.2
comp=Z,95nm,19.1s,baz=219,slow=34
SJES Sjenica 62.28 307 ⇑*iP* **P 03 32 26.5 -0.3**
LOF Lofoten 62.30 335 *eP* **P 03 32 26.4 +0.1**
LOF IAmb IAmb 03 32 29.8
comp=Z,65nm,1.1s
AS31 Alice Springs 62.33 141 P **P 03 32 26.0 -1.1**
AS31 Alice Springs 62.33 141 P **P 03 32 24.8 -2.3**
comp=Z,10nm,0.7s
ASAR Alice Springs 62.33 141 P **P 03 32 25.9 -1.2**
comp=Z,24nm,0.7s,baz=324,slow=6.5,SNR=102
ASAR LR LR 04 02 32.3
comp=Z,131nm,18.1s,baz=300,slow=39
comp=Z,24nm,0.7s
KBS Kingsbay 62.33 347 *eP* **P 03 32 27.2 +0.9**
KBS IAmb IAmb 03 32 28.4
comp=Z,18nm,0.8s
AS06 Alice Springs 62.35 141 P **P 03 32 24.8 -2.4**
comp=Z,38nm,0.9s

AS01 Alice Springs 62.35 141 P **P 03 32 26.8 -0.5**
AS19 Alice Springs 62.39 141 P **P 03 32 25.3 -2.2**
comp=Z,46nm,0.8s
STEB Steborice 62.46 314 *eP* **P 03 32 27.8 +0.1**
LSK Leskovik 62.52 303 P **P 03 32 27.5 -0.9**
MAUC Maruska 62.53 314 *eP* **P 03 32 29.9 +1.7**
BBLS Lazi&#263i 62.56 307 ⇑*iP* **P 03 32 28.7 +0.2**
MORH Mrgy, Hungar 62.60 310 ⇓P **P 03 32 29.8 +1.2**
KONS Konsvik 62.60 333 *eP* **P 03 32 29.3 +1.0**
KONS IAmb IAmb 03 32 29.7
comp=Z,64nm,1.3s
MORC Moravsky Berou 62.63 314 IAmb IAmb 03 32 32.0
comp=Z,16nm,1.0s
MORC Moravsky Berou 62.63 314 *eP* **P 03 32 29.8 +0.9**
MORC Moravsky Berou 62.63 314 ⇑P **P 03 32 29.9 +1.0**
MORC Moravsky Berou 62.63 314 P **P 03 32 29.9 +1.0**
RUDO Rudo 62.64 307 *eP* **P 03 32 27.5 -1.5**
LEIR Leirfjorden 62.64 333 *eP* **P 03 32 29.6 +1.0**
LEIR IAmb IAmb 03 32 30.4
comp=Z,32nm,1.0s
STOK Stokkvaagen 62.66 333 *eP* **P 03 32 29.6 +0.9**
LODK Lodwar 62.71 259 P **P 03 32 30.9 +0.9**
LODK IAmb IAmb 03 32 32.0
comp=Z,14nm,1.1s
JAVC Velka Javorina 62.72 313 *eP* **P 03 32 31.5 +2.0**
TIR Tirane 62.79 305 IAmb IAmb 03 33 03.0
comp=Z,20nm,0.9s
PDG Podgorica 62.98 306 IAmb IAmb 03 32 32.6
comp=Z,26nm,1.3s
PDG Podgorica 62.98 306 ⇑*iP* **P 03 32 30.3 -1.0**
PDG Podgorica 62.98 306 ⇑P **P 03 32 32.1 +0.9**
UPM Unac-Piva 63.06 307 *eP* **P 03 32 31.7 -0.3**
KRLC Kraliky 63.06 315 *eP* **P 03 32 32.7 +1.0**
KRLC Kraliky 63.06 315 *eP* **P 03 32 32.7 +1.0**
MODS Modra-Piesok 63.07 313 *eP* **P 03 32 32.7 +0.9**
MODS pmax pmax
comp=Z,33nm,1.4s
MODS Modra-Piesok 63.07 313 *eP* **P 03 32 32.7 +0.9**
DRME Dracevica, Mon 63.09 306 ⇑*iP* **P 03 32 31.3 -0.7**
NWAO Narrogin (SRO) 63.11 160 P **P 03 32 30.3 -1.7**
NWAO Narrogin (SRO) 63.11 160 P **P 03 32 29.5 -2.6**
comp=Z,63nm,0.7s
NWAO Narrogin (SRO) 63.11 160 LR LR 04 03 39.2
comp=Z,346nm,19.1s,baz=269,slow=40
NWAO Narrogin (SRO) 63.11 160 P **P 03 32 31.1 -1.0**
NWAO Narrogin (SRO) 63.11 160 P **P 03 32 31.0 -1.0**
NWAO Narrogin (SRO) 63.11 160 P **P 03 32 30.3 -1.7**
NWAO pmax pmax
comp=Z,24nm,0.7s
HFS Hagfors 63.12 326 P **P 03 32 32.8 +0.9**
comp=Z,18nm,0.6s,baz=102,slow=6.7,SNR=44
comp=Z,18nm,0.6s
MPLH Magyarpolny 63.14 311 P **P 03 32 33.3 +1.0**
comp=Z,41nm,1.4s
KSP Ksiaz 63.22 316 *eP* **P 03 32 33.8 +1.0**
KSP Ksiaz 63.22 316 P **P 03 32 33.8 +1.0**
comp=Z,26nm,1.3s
KMBL Kambalda 63.23 156 P **P 03 32 30.7 -2.3**
comp=Z,23nm,0.8s
KMBL Kambalda 63.23 156 P **P 03 32 32.6 -0.3**
DPC Dobruska-Polom 63.30 315 *eP* **P 03 32 35.2 +1.9**
DPC Dobruska-Polom 63.30 315 *eP* **P 03 32 35.2 +1.9**
NSS Namsos 63.31 331 *eP* **P 03 32 34.1 +1.1**
NSS IAmb IAmb 03 32 36.8
comp=Z,139nm,1.7s
OSTC Ostas 63.32 315 *eP* **P 03 32 34.6 +1.1**
OSTC Ostas 63.32 315 *eP* **P 03 32 34.6 +1.1**
VRAC Vranov 63.33 314 *eP* **P 03 32 34.3 +0.8**
VRAC Vranov 63.33 314 ⇑P **P 03 32 35.2 +1.7**
VRAC Vranov 63.33 314 P **P 03 32 35.2 +1.7**
KMBO Kilima Mbogo 63.34 254 P **P 03 32 35.1 +0.7**
KMBO IAmb IAmb 03 32 54.7
comp=Z,51nm,1.9s
KMBO Kilima Mbogo 63.34 254 P **P 03 32 35.1 +0.7**
KMBO pmax pmax
comp=Z,51nm,2.0s
BRY Bratogost 63.39 307 ⇑*iP* **P 03 32 33.4 -0.8**
QIS Mount Isa 63.40 134 P **P 03 32 32.7 -1.6**
comp=Z,35nm,0.8s
QIS Mount Isa 63.40 134 P **P 03 32 33.5 -0.8**
UPC Upice 63.46 315 *eP* **P 03 32 35.6 +1.3**
UPC Upice 63.46 315 *eP* **P 03 32 35.6 +1.3**
KRUC Moravsky 63.51 314 *eP* **P 03 32 35.5 +0.8**
RONA Rosalia, Austr 63.86 312 *iP* **P 03 32 37.9 +0.9**
comp=Z,0.9nm,0.4s,SNR=6.0
BLY Banja Luka 63.92 309 ⇑*iP* **P 03 32 38.0 +0.6**
STON Ston 63.99 307 *eP* **P 03 32 34.5 -3.4**
TREC Trest 64.04 314 *eP* P 03 32 33.0 -5.2
TREC Trest 64.04 314 *eP* P 03 32 33.0 -5.2
A051A Mrakovica 64.05 309 *eP* **P 03 32 39.1 +0.7**
NC602 NORSAR Array S 64.08 327 *eP* **P 03 32 39.0 +0.8**
CONA Conrad Observa 64.09 312 *eP* **P 03 32 39.4 +0.8**
comp=Z,4.2nm,0.8s,SNR=8.1
KOGS Kog 64.17 311 *eP* **P 03 32 39.9 +0.9**
NB2 NORSAR Subarra 64.18 327 P **P 03 32 39.3 +0.3**
comp=Z,30nm,0.8s,baz=80,slow=6.5
NB2 NORSAR Subarra 64.18 327 P **P 03 32 39.3 +0.3**
baz=80,slow=6.5
NOA NORSAR Array B 64.18 327 P **P 03 32 39.3 +0.3**
comp=Z,9.7nm,0.7s,baz=81,slow=6.6,SNR=41
comp=Z,9.7nm,0.7s
TBLU Trondheim 64.25 330 *eP* **P 03 32 39.9 +0.7**
PVCC Panska Ves 64.36 316 *eP* **P 03 32 41.7 +1.5**
PVCC Panska Ves 64.36 316 *eP* **P 03 32 41.7 +1.5**
NC204 NORSAR Array S 64.36 328 P **P 03 32 41.1 +1.0**
RUE Ruedersdorf 64.43 318 *eP* **P 03 32 42.2 +1.6**
comp=Z,45nm,1.1s,baz=76,slow=6.3
A050A Klekovaca 64.43 309 ⇑*iP* **P 03 32 40.4 -0.5**
ARSA Arzberg 64.47 312 *iP* **P 03 32 41.9 +0.9**
comp=Z,2.0nm,0.6s
ARSA Arzberg 64.47 312 IAmb IAmb 03 32 43.0
comp=Z,19nm,1.5s
ARSA Arzberg 64.47 312 *eP* **P 03 32 42.2 +1.1**
comp=Z,4.5nm,0.8s,baz=76,slow=6.3
PRU Pruhonice 64.49 315 *eP* **P 03 32 42.7 +1.6**
PRU Pruhonice 64.49 315 *eP* **P 03 32 42.7 +1.6**
OSL Oslo 64.62 326 *eP* **P 03 32 43.0 +1.3**
BRG Berggiesshubel 64.67 316 *iP* **P 03 32 44.0 +1.8**
BRG Amp 03 32 44.9
comp=Z,13nm,0.8s
BRG Berggiesshubel 64.67 316 *eP* **P 03 32 43.9 +1.7**
comp=Z,20nm,1.0s,baz=76,slow=6.3
CRES Cresnjevec Ost 64.85 310 ⇑*iP* **P 03 32 44.5 +1.0**
MTSU Mount Surprise 64.85 129 P **P 03 32 41.9 -1.9**
comp=Z,11nm,0.8s
MTSU Mount Surprise 64.85 129 P **P 03 32 45.2 +1.4**
PERS Pernice 64.88 311 *eP* **P 03 32 44.4 +0.6**
CKRC Cesky Krumlov 64.90 314 *eP* **P 03 32 45.2 +1.4**
CKRC Cesky Krumlov 64.90 314 *eP* **P 03 32 45.2 +1.4**
SOKA Soboth 64.93 311 *eP* **P 03 32 44.4 +0.3**
comp=Z,17nm,1.5s
DOMB Dombas 65.01 329 *eP* **P 03 32 45.5 +1.2**
HSKC Hora Svate Kat 65.05 316 *eP* **P 03 32 45.1 +0.3**
BOJS Bojanci 65.06 310 ⇑*iP* **P 03 32 45.4 +0.5**
CLL Collm 65.15 317 IAmb IAmb 03 32 47.5
comp=Z,20nm,1.1s
CLL Collm 65.15 317 *iP* **P 03 32 45.4 0.0**
CLL pmax pmax
comp=Z,23nm,1.1s
CLL Collm 65.15 317 *iP* **P 03 32 45.4 0.0**
comp=Z,23nm,1.1s
CLL *ex* x 03 33 02.0
CLL *eSS* SS 03 45 54.0 +15
CLL Collm 65.15 317 *eP* **P 03 32 46.6 +1.2**
comp=Z,19nm,1.1s,baz=76,slow=6.3
MOA Molln 65.16 313 *iP* **P 03 32 46.4 +0.9**
comp=Z,5.3nm,0.8s
MOA Molln 65.16 313 *eP* **P 03 32 46.7 +1.2**
comp=Z,13nm,1.1s,baz=76,slow=6.3
FORT Forrest 65.23 150 P **P 03 32 47.5 +1.5**
FORT Forrest 65.23 150 P **P 03 32 47.1 +1.1**
KONO Kongsberg 65.24 326 *eP* **P 03 32 46.9 +1.1**
GEC2 GERESS Array S 65.29 314 *eP* **P 03 32 48.0 +1.5**
comp=Z,52nm,1.4s,baz=76,slow=6.3
GERES GERESS Array B 65.29 314 P **P 03 32 47.4 +1.0**
GERES GERESS Array B 65.29 314 P **P 03 32 47.1 +0.7**
comp=Z,5.1nm,0.7s,baz=64,slow=6.1,SNR=25
comp=Z,5.1nm,0.7s
GERES GERESS Array B 65.29 314 P **P 03 32 47.4 +1.0**
OBKA Obir 65.29 311 *iP* **P 03 32 47.7 +1.2**
comp=Z,3.4nm,0.6s
OBKA Obir 65.29 311 ⇑*iP* **P 03 32 46.0 -0.5**
OBKA Obir 65.29 311 *eP* **P 03 32 47.6 +1.1**
comp=Z,7.3nm,0.9s,baz=76,slow=6.3

KHC Kasperske Hory 65.30 314 *eP* **P 03 32 46.4 0.0**
KHC Kasperske Hory 65.30 314 *deP* **P 03 32 47.6 +1.2**
KHC pmax pmax
comp=Z,17nm,1.2s
CEY Cerknica 65.57 310 ⇑*iP* **P 03 32 48.4 +0.2**
BIOA Bad Ischl, Aus 65.61 313 *iP* **P 03 32 48.9 +0.5**
comp=Z,2.3nm,0.5s
TIP Timpagrande 65.64 303 ⇓P **P 03 32 49.2 +0.4**
SKAR Skarslia 65.65 327 *eP* **P 03 32 50.6 +2.0**
SKAR IAmb IAmb 03 32 51.2
comp=Z,64nm,1.1s
TANN Tannenbergstha 65.69 316 *eP* **P 03 32 50.6 +1.6**
comp=Z,20nm,1.1s,baz=76,slow=6.3
GORT1 Trebel 65.78 319 *eP* **P 03 32 51.4 +2.0**
comp=Z,91nm,1.4s,baz=76,slow=6.3
VOJS Vojsko 65.86 311 *eP* **P 03 32 50.1 -0.1**
PLN Plauen 65.87 316 *eP* **P 03 32 51.5 +1.5**
comp=Z,4.9nm,1.1s,baz=76,slow=6.3
MYKA Terra Mystica 65.87 312 *iP* **P 03 32 50.8 +0.6**
comp=Z,1.9nm,0.5s
NEUB Neuenburg 65.93 317 *eP* **P 03 32 51.9 +1.5**
comp=Z,26nm,0.9s,baz=76,slow=6.3
KBA Koelnbreinsper 65.95 312 *iP* **P 03 32 51.0 +0.1**
comp=Z,3.1nm,0.6s
KBA Koelnbreinsper 65.95 312 *eP* **P 03 32 51.3 +0.5**
comp=Z,4.4nm,0.6s,baz=76,slow=6.3
ROTZ Rotzenmuhle 66.01 315 *eP* **P 03 32 53.1 +2.1**
comp=Z,8.6nm,1.0s,baz=76,slow=6.3
MANZ Manzenberg 66.02 315 *eP* **P 03 32 53.1 +2.0**
comp=Z,7.0nm,1.3s,baz=76,slow=6.3
ROBS Robic 66.06 311 *eP* **P 03 32 51.1 -0.2**
CUC Castrocucco 66.11 304 IAmb IAmb 03 32 57.2
comp=Z,11nm,0.8s
BSEG Bad Segeberg 66.13 320 *eP* **P 03 32 54.0 +2.4**
comp=Z,42nm,0.9s,baz=76,slow=6.3
RJOB Jochberg 66.14 313 *eP* **P 03 32 53.1 +1.1**
comp=Z,12nm,1.1s,baz=76,slow=6.3
MOX Moxa 66.16 316 *eP* **P 03 32 53.4 +1.5**
comp=Z,25nm,1.2s,baz=76,slow=6.3
MOX *eL* L 04 04 29.5
comp=Z,391nm,20.5s
ABPO Ambohimpanom 66.18 231 P **P 03 32 51.8 -0.8**
ABPO Ambohimpanom 66.18 231 P **P 03 32 51.8 -0.8**
ABPO pmax pmax
comp=Z,56nm,1.9s
LESA Schwarzleotal 66.30 313 *iP* **P 03 32 53.7 +0.6**
comp=Z,8.0nm,0.6s,SNR=6.2
NOR Nord 66.42 352 *eP* **P 03 32 53.0 -0.1**
OOD Oodnadatta 66.56 142 P **P 03 32 55.8 +1.2**
ABTA Abfaltersbach 66.59 312 *iP* **P 03 32 54.9 0.0**
comp=Z,2.7nm,0.7s
NRDL Niedersach Rie 66.61 318 *eP* **P 03 32 56.9 +2.2**
comp=Z,50nm,1.0s,baz=76,slow=6.3
CLZ Clausthal 66.62 318 *eP* **P 03 32 56.9 +2.1**
comp=Z,40nm,0.8s,baz=76,slow=6.3
GRF Grafenberg Arr 66.65 315 *eP* **P 03 32 57.1 +2.0**
comp=Z,45nm,1.3s,baz=76,slow=6.3
GRF *eL* L 04 10 14.9
comp=Z,212nm,19.7s
GRFO Grafenberg 66.65 315 P **P 03 32 56.8 +1.7**
GRFO Grafenberg 66.65 315 P **P 03 32 56.8 +1.7**
GRFO pmax pmax
comp=Z,109nm,1.7s
SNART Snartemo 66.74 325 *eP* **P 03 32 56.2 +0.7**
GTTG Gottingen 66.94 317 *eP* **P 03 32 58.6 +1.8**
comp=Z,22nm,0.9s,baz=76,slow=6.3
FUR Furstenfeldbru 67.02 314 *eP* **P 03 32 59.2 +1.7**
comp=Z,48nm,1.1s,baz=76,slow=6.3
WTTA Wattenberg 67.03 313 *iP* **P 03 32 57.9 +0.1**
comp=Z,4.0nm,0.6s
WTTA Wattenberg 67.03 313 *eP* **P 03 32 58.3 +0.6**
comp=Z,19nm,1.1s,baz=76,slow=6.3
WATA Walderalm 67.05 313 *iP* **P 03 32 58.0 +0.2**
comp=Z,3.1nm,0.8s
UBBA Unterbreizbach 67.11 317 *eP* **P 03 32 59.4 +1.5**
comp=Z,55nm,1.8s,baz=76,slow=6.3
CAMP Campotosto 67.14 307 IAmb IAmb 03 32 59.9
comp=Z,13nm,0.7s
SQTA Sankt Quirin 67.32 313 *iP* **P 03 32 59.7 +0.1**
comp=Z,6.2nm,0.6s
TV1H Townsville Har 67.34 128 P **P 03 33 00.4 +0.6**
CTI Castel Tesino 67.36 311 IAmb IAmb 03 34 23.4
comp=Z,21nm,1.5s
MOTA Moosalm 67.36 313 *iP* **P 03 33 00.1 +0.3**
comp=Z,6.9nm,0.7s
TEOL Teolo 67.53 311 IAmb IAmb 03 33 02.4
comp=Z,23nm,0.9s
RETA Reutte 67.54 313 *iP* **P 03 33 01.3 +0.5**
comp=Z,4.6nm,0.5s,SNR=5.4
FETA Feichten 67.69 312 *iP* **P 03 33 02.3 +0.3**
comp=Z,6.5nm,0.8s
UBR Ueberruh 67.91 313 *eP* **P 03 33 03.9 +0.8**
comp=Z,19nm,1.1s,baz=76,slow=6.3
KASTN Kahler Asten 67.97 317 *eP* **P 03 33 05.0 +1.5**
comp=Z,21nm,1.3s,baz=76,slow=6.3
C16K Lisburne Hills 67.97 23 IAmb IAmb 03 33 04.6
comp=Z,22nm,0.8s
C16K Lisburne Hills 67.97 23 P **P 03 33 03.0 0.0**
baz=288
IBBN Ibbenburen 68.05 319 *eP* **P 03 33 05.6 +1.7**
comp=Z,37nm,1.0s,baz=76,slow=6.3
FUORN Ofenpass-Fuorn 68.11 312 IAmb IAmb 03 33 07.4
comp=Z,24nm,1.6s
DAVA Damuels 68.17 313 *iP* **P 03 33 05.2 +0.3**
comp=Z,2.1nm,0.5s
DAVA Damuels 68.17 313 *eP* **P 03 33 05.6 +0.7**
comp=Z,26nm,1.3s,baz=76,slow=6.3
STU Stuttgart 68.18 315 IAmb IAmb 03 33 07.2
comp=Z,27nm,1.0s
STU Stuttgart 68.18 315 *eP* **P 03 33 06.4 +1.6**
comp=Z,88nm,1.1s,baz=76,slow=6.3
TNS Taunus Mts 68.23 316 *eP* **P 03 33 06.6 +1.5**
comp=Z,23nm,1.0s,baz=76,slow=6.3
DAVOX Davos/Dischmat 68.32 312 LR LR 04 07 42.5
comp=Z,454nm,19.7s,baz=70,slow=40
VOI Vohitsoka 68.44 229 P **P 03 33 05.8 -1.0**
VOI IAmb IAmb 03 33 07.0
comp=Z,18nm,0.7s
F14K Arctic Creek 68.48 26 P **P 03 33 06.0 -0.3**
baz=288
BUG Bochum--Univer 68.59 318 *eP* **P 03 33 08.8 +1.6**
comp=Z,25nm,1.0s,baz=76,slow=6.3
C17K DeLong Mountai 68.66 23 P **P 03 33 07.4 -0.1**
baz=290
MBAR Mbarara 68.69 258 *deP* **P 03 33 09.5 +0.8**
MBAR pmax pmax
comp=Z,12nm,1.6s
TUE Stuetta 68.76 312 P **P 03 33 09.6 +0.9**
B18K Kokolik River 68.81 22 P **P 03 33 08.8 +0.4**
baz=291
BFO Black Forest 68.86 314 *eP* **P 03 33 10.2 +1.1**
comp=Z,12nm,1.1s,baz=76,slow=6.3
RDOG Red Dog Mine 68.90 23 IAmb IAmb 03 33 10.2
comp=Z,11nm,0.7s
RDOG Red Dog Mine 68.90 23 P **P 03 33 08.9 -0.1**
baz=290
D17K Noatak River 68.96 24 P **P 03 33 09.5 +0.2**
baz=290
DAG Danmarks Havn 69.06 347 P **P 03 33 10.6 +0.8**
DAG pmax pmax
comp=Z,16nm,1.3s
DAG Danmarks Havn 69.06 347 *iP* **P 03 33 09.0 -0.8**
F15K North Star Dit 69.06 26 P **P 03 33 10.0 0.0**
baz=290
JMIC Jan Mayen 69.12 340 LR LR 04 07 37.4
comp=Z,190nm,20.5s,baz=46,slow=40
ANM Nome 69.16 27 P **P 03 33 10.5 -0.1**
baz=290
C18K Utukok River 69.28 22 IAmb IAmb 03 33 13.0
comp=Z,19nm,0.8s
C18K Utukok River 69.28 22 P **P 03 33 11.3 0.0**
baz=292
INKA Innaminka 69.39 138 P **P 03 33 12.2 -0.3**
CDF Champ du Feu 69.50 315 *eP* **P 03 33 13.3 +0.2**
CDF pmax pmax
comp=Z,13nm,1.0s
BTNL Ternell 69.53 317 *dP* **P 03 33 14.5 +1.3**
comp=Z,13nm,0.9s
G15K Niukluk 69.55 27 P **P 03 33 13.6 +0.6**
baz=290
MEM Membach 69.60 317 *dP* **P 03 33 15.4 +1.8**
comp=Z,12nm,1.0s
E17K Hotham Inlet 69.64 24 P **P 03 33 12.8 -0.8**
baz=292
A21K Barrow 69.66 19 P **P 03 33 13.1 -0.4**
baz=295
WLF Walferdange 69.81 316 *dP* **P 03 33 16.6 +1.7**

comp=Z,40nm,1.0s
WLF Walferdange 69.81 316 *e*P **P 03 33 17.2 +2.3**
comp=Z,60nm,0.9s,baz=76,slow=6.3
E18K Tukpahlearik C 69.95 24 P **P 03 33 15.6 +0.2**
baz=293
LCRK Leigh Creek 70.00 142 P **P 03 33 16.1 -0.1**
G16K Koyuk River 70.07 26 P **P 03 33 16.2 0.0**
baz=292
BCLA Clavier 70.09 317 *d*P **P 03 33 17.8 +1.3**
comp=Z,9.0nm,1.0s
F17K Baldwin Pennin 70.09 25 P **P 03 33 16.7 +0.4**
baz=292
M11K Mekoryuk 70.23 32 P **P 03 33 17.1 -0.1**
baz=290
D19K Kuna River 70.38 22 IAmb IAmb 03 33 19.8
comp=Z,24nm,0.8s
D19K Kuna River 70.38 22 P **P 03 33 18.7 +0.6**
baz=294
K13K Kusilvak Mount 70.39 30 P **P 03 33 18.2 +0.1**
baz=291
H16K Elim 70.40 27 P **P 03 33 18.1 -0.1**
baz=292
UCC Uccle 70.53 318 *d*P **P 03 33 20.4 +1.2**
J14K Nanvaranak Lak 70.57 29 P **P 03 33 19.9 +0.7**
baz=292
F18K Selawik 70.62 24 P **P 03 33 19.6 +0.1**
baz=294,SNR=10
DOU Dourbes 70.62 317 *d*P **P 03 33 21.1 +1.3**
comp=Z,6.6nm,1.2s
QLP Quilpie 70.67 135 P **P 03 33 20.9 +0.5**
G17K Kiwalik Mounta 70.69 25 P **P 03 33 20.1 +0.1**
baz=293
BBOO Buckleboo 70.72 145 P **P 03 33 19.0 -1.5**
BBOO IAmb IAmb 03 33 22.9
comp=Z,17nm,0.7s
D20K Etivluk River 70.79 22 P **P 03 33 20.3 -0.2**
baz=296
LPL La Plagne 70.79 312 *e*P **P 03 33 21.8 +0.5**
LPL pmax pmax
comp=Z,24nm,0.7s
BNI Bardonecchia 70.98 311 IAmb IAmb 03 33 24.7
comp=Z,44nm,1.7s
B21K Ikpikpuk River 71.02 20 IAmb IAmb 03 33 23.9
comp=Z,21nm,1.1s
B21K Ikpikpuk River 71.02 20 P **P 03 33 22.4 +0.6**
baz=297
B22K Teshekpuk Lake 71.05 20 P **P 03 33 22.5 +0.5**
baz=298
E19K Redstone River 71.12 23 IAmb IAmb 03 33 24.2
comp=Z,21nm,0.7s
E19K Redstone River 71.12 23 P **P 03 33 23.0 +0.4**
baz=296
E20K Nigu River 71.13 22 P **P 03 33 23.3 +0.6**
baz=296
C21K Knifeblade Rid 71.18 21 P **P 03 33 22.8 -0.1**
baz=297,SNR=8.3
H17K Granite Mounta 71.20 26 IAmb IAmb 03 33 24.9
comp=Z,16nm,0.8s
H17K Granite Mounta 71.20 26 P **P 03 33 23.5 +0.4**
baz=294
F19K Shaleruckik Mo 71.20 24 P **P 03 33 23.3 +0.3**
baz=295
G18K Tagagawik 71.28 25 IAmb IAmb 03 33 25.0
comp=Z,33nm,1.8s
G18K Tagagawik 71.28 25 P **P 03 33 24.0 +0.4**
baz=295
I17K Unalakleet 71.31 27 P **P 03 33 24.2 +0.5**
baz=294
L14K Kuka Creek 71.48 30 IAmb IAmb 03 33 26.4
comp=Z,17nm,0.9s
L14K Kuka Creek 71.48 30 P **P 03 33 24.8 0.0**
baz=293
M13K Dall Lake 71.54 31 P **P 03 33 25.0 -0.1**
baz=293
J16K Anvik River 71.60 28 P **P 03 33 25.6 +0.1**
baz=294
HNR Honiara 71.61 111 LR LR 04 03 13.5
comp=Z,129nm,19.8s,baz=330,slow=34
K15K Wolf Creek Mou 71.61 29 P **P 03 33 25.7 +0.1**
baz=294
H18K Honhosa River 71.70 25 IAmb IAmb 03 33 27.5
comp=Z,17nm,0.9s
H18K Honhosa River 71.70 25 P **P 03 33 26.2 +0.1**
baz=295,SNR=6.0
G19K Purcell Mounta 71.75 24 IAmb IAmb 03 33 27.9
comp=Z,24nm,1.4s
G19K Purcell Mounta 71.75 24 P **P 03 33 26.2 -0.2**
baz=296
E21K Killik River 71.77 21 P **P 03 33 26.2 -0.4**
baz=298
L15K Ungalak Mounta 71.88 29 P **P 03 33 26.8 -0.4**
baz=294
D22K Ayikyak River 71.98 21 IAmb IAmb 03 33 29.7
comp=Z,20nm,1.0s
D22K Ayikyak River 71.98 21 P **P 03 33 27.5 -0.2**
baz=299
M14K Bethel 72.04 30 P **P 03 33 27.6 -0.6**
baz=294
C23K Itkillik River 72.14 20 P **P 03 33 27.9 -0.7**
baz=301
J17K VABM Dome 72.18 27 IAmb IAmb 03 33 30.6
comp=Z,14nm,0.9s
J17K VABM Dome 72.18 27 P **P 03 33 28.7 -0.3**
baz=295
H19K Roundabout Mou 72.26 25 IAmb IAmb 03 33 31.4
comp=Z,30nm,1.1s
H19K Roundabout Mou 72.26 25 P **P 03 33 29.5 0.0**
baz=297
KEST Kesra 72.33 301 IAmb IAmb 03 33 33.4
comp=Z,37nm,1.2s
KEST Kesra 72.33 301 P **P 03 33 31.1 +0.6**
comp=Z,14nm,1.0s,baz=48,slow=3.6,SNR=14
KEST LR LR 04 11 17.9
comp=Z,147nm,20.6s,baz=37,slow=41
comp=Z,14nm,1.0s
SSF Saint Saulge 72.35 314 *e*P **P 03 33 30.5 +0.1**
SSF pmax pmax
comp=Z,29nm,1.0s
GCSA Galena City Sc 72.45 26 P **P 03 33 30.1 -0.4**
baz=297,SNR=7.1
UNV Unalaska Valle 72.46 38 P **P 03 33 30.9 +0.1**
baz=292
N14K Kuskokwak Cree 72.50 31 P **P 03 33 30.9 0.0**
baz=294
F21K Alatna River 72.52 23 IAmb IAmb 03 33 33.1
comp=Z,20nm,1.0s
F21K Alatna River 72.52 23 P **P 03 33 31.1 +0.1**
baz=299
D23K Nanushuk River 72.56 20 IAmb IAmb 03 33 33.3
comp=Z,24nm,0.9s
D23K Nanushuk River 72.56 20 P **P 03 33 31.9 +0.7**
baz=301
M15K Kasigluk River 72.63 30 P **P 03 33 31.8 +0.1**
baz=295
L16K Owhat River 72.73 29 P **P 03 33 32.3 -0.1**
baz=295
C24K Franklin Bluff 72.76 19 IAmb IAmb 03 33 34.1
comp=Z,24nm,1.1s
C24K Franklin Bluff 72.76 19 P **P 03 33 32.4 +0.1**
baz=302
K17K Iditarod 72.79 28 IAmb IAmb 03 33 34.5
comp=Z,24nm,0.8s
K17K Iditarod 72.79 28 P **P 03 33 33.1 +0.4**
baz=296
H20K Anotleneega Mo 72.86 24 P **P 03 33 33.1 +0.1**
baz=298
G21K Allakaket 72.86 23 IAmb IAmb 03 33 34.8
comp=Z,16nm,0.8s
G21K Allakaket 72.86 23 P **P 03 33 32.8 -0.2**
baz=299
STKA Stephens Creek 72.97 141 P **P 03 33 31.3 -2.7**
STKA Stephens Creek 72.97 141 P **P 03 33 32.8 -1.3**
comp=Z,8.9nm,0.7s,baz=326,slow=4.8,SNR=12
comp=Z,8.9nm,0.7s
STKA Stephens Creek 72.97 141 P **P 03 33 35.1 +1.0**
STKA Stephens Creek 72.97 141 P **P 03 33 31.3 -2.7**
STKA pmax pmax
comp=Z,12nm,1.8s
D24K Happy Valley 73.03 20 IAmb IAmb 03 33 38.8
comp=Z,17nm,1.0s
D24K Happy Valley 73.03 20 P **P 03 33 34.0 +0.1**
baz=302
L17K Donlin 73.05 28 P **P 03 33 34.3 +0.1**
baz=296
TOLK Toolik Lake Re 73.08 20 IAmb IAmb 03 33 36.1
comp=Z,15nm,0.9s
TOLK Toolik Lake Re 73.08 20 P **P 03 33 34.6 +0.3**
baz=302,SNR=10

J18K Innoko River 73.10 27 IAmb IAmb 03 33 35.8
comp=Z,14nm,0.8s
J18K Innoko River 73.10 27 P **P 03 33 34.5 0.0**
baz=297,SNR=6.5
EKA Eskdalemuir Ar 73.10 324 P **P 03 33 35.1 +0.5**
comp=Z,13nm,0.7s,baz=63,slow=5.9,SNR=38
comp=Z,13nm,0.7s
N15K Kwethluk River 73.12 31 P **P 03 33 34.7 0.0**
baz=295
M16K Timber Creek 73.26 29 P **P 03 33 35.5 0.0**
baz=296
J19K Poorman 73.28 26 IAmb IAmb 03 33 37.4
comp=Z,14nm,0.8s
J19K Poorman 73.28 26 P **P 03 33 35.9 +0.3**
baz=298
I20K Naaghedeneel 73.34 25 P **P 03 33 36.1 +0.2**
baz=299
E23K Chandalar 73.37 21 P **P 03 33 36.3 +0.1**
baz=302
H21K Melozitna Rive 73.53 24 IAmb IAmb 03 33 38.8
comp=Z,21nm,0.8s
H21K Melozitna Rive 73.53 24 P **P 03 33 37.4 +0.4**
baz=300
COLD Coldfoot 73.62 22 P **P 03 33 38.2 +0.7**
baz=302
TTA Tatalina 73.63 27 P **P 03 33 37.8 +0.1**
baz=298
D25K Kavik River 73.67 19 IAmb IAmb 03 33 39.7
comp=Z,16nm,1.0s
D25K Kavik River 73.67 19 P **P 03 33 38.1 +0.3**
baz=304,SNR=19
O15K Ungalikthiuk R 73.67 31 P **P 03 33 38.2 +0.2**
baz=296
NEEM North Greenlan 73.68 353 *e*P **P 03 33 38.5 +0.5**
L18K Granite Mounta 73.68 28 P **P 03 33 37.8 -0.2**
baz=298
E24K Your Creek 73.72 21 IAmb IAmb 03 33 40.5
comp=Z,20nm,0.9s
E24K Your Creek 73.72 21 P **P 03 33 38.2 +0.1**
baz=303
C26K Camden Bay 73.74 18 P **P 03 33 38.8 +0.7**
baz=306,SNR=9.4
M17K Holitna River 73.75 29 P **P 03 33 39.3 +0.9**
baz=297
J20K Nowinta River 73.77 25 IAmb IAmb 03 33 40.4
comp=Z,13nm,0.8s
J20K Nowinta River 73.77 25 P **P 03 33 38.7 +0.3**
baz=299
H22K Ishtalitna Cre 73.92 23 P **P 03 33 39.7 +0.4**
baz=301
G23K Bananza Creek 73.96 22 P **P 03 33 39.9 +0.4**
baz=302
I21K Tanana 74.07 24 IAmb IAmb 03 33 42.2
comp=Z,17nm,0.8s
I21K Tanana 74.07 24 P **P 03 33 40.8 +0.7**
baz=301
S12K Black Hills 74.08 35 P **P 03 33 40.8 +0.4**
baz=295
CAF Calviac 74.08 313 *e*P **P 03 33 41.3 +0.6**
CAF pmax pmax
comp=Z,14nm,0.8s
K20K Telida 74.20 26 P **P 03 33 41.3 +0.4**
baz=299
F24K Squaw Lake 74.22 21 P **P 03 33 41.3 +0.3**
baz=304
C27K Jago River 74.25 18 IAmb IAmb 03 33 43.5
comp=Z,18nm,0.8s
C27K Jago River 74.25 18 P **P 03 33 42.0 +0.8**
baz=307
N17K Nushagak Hills 74.26 30 P **P 03 33 41.8 +0.5**
baz=298
O16K Kokwok River B 74.28 31 P **P 03 33 41.7 +0.3**
baz=297
EIDS Eidsvold 74.33 130 IAmb IAmb 03 34 19.5
comp=Z,32nm,1.2s
EIDS Eidsvold 74.33 130 P **P 03 33 42.7 +0.4**
M18K Stony River 74.39 28 P **P 03 33 42.9 +0.8**
baz=298
L19K White Mountain 74.46 27 IAmb IAmb 03 34 06.1
comp=Z,23nm,1.2s
L19K White Mountain 74.46 27 P **P 03 33 43.2 +0.7**
baz=299
P16K Nushagak River 74.59 31 P **P 03 33 43.2 -0.1**
baz=297
E25K Arctic Village 74.60 20 P **P 03 33 43.7 +0.4**
baz=306,SNR=10
CHUM Lake Minchumin 74.61 25 P **P 03 33 43.8 +0.4**
baz=301,SNR=9.6
O17K Koliganek Bris 74.65 30 P **P 03 33 44.2 +0.6**
baz=298
L20K Farewell, AK 74.71 27 P **P 03 33 44.4 +0.5**
baz=300
N18K Kilae Creek 74.75 29 P **P 03 33 44.7 +0.4**
baz=299
M19K Big River Lodg 74.79 28 P **P 03 33 45.0 +0.6**
baz=300
G24K Hadweenzic Riv 74.81 22 P **P 03 33 45.2 +0.8**
baz=304
F25K Christian Rive 74.89 21 P **P 03 33 45.3 +0.4**
baz=306
CAST Castle Rocks 74.94 26 P **P 03 33 45.8 +0.5**
baz=301,SNR=9.3
LFF La Frestale 74.94 313 *e*P **P 03 33 46.4 +0.8**
LFF pmax pmax
comp=Z,103nm,1.6s
BPAW Bear Paw Mtn. 75.00 25 P **P 03 33 45.8 +0.1**
baz=302,SNR=14
I23K Minto, Yukon-K 75.03 23 P **P 03 33 45.9 +0.2**
baz=303,SNR=7.4
CMSA Cobar Meteorol 75.09 138 P **P 03 33 47.5 +1.0**
H24K Noodor Dome 75.16 23 P **P 03 33 46.8 +0.3**
baz=304
PPLA Purkeypile 75.17 26 IAmb IAmb 03 33 48.3
comp=Z,23nm,1.0s
PPLA Purkeypile 75.17 26 P **P 03 33 46.5 -0.2**
baz=301,SNR=8.4
P17K Kvichak River 75.22 31 P **P 03 33 47.3 +0.4**
baz=298
D27M Malcolm River 75.25 18 IAmb IAmb 03 33 49.2
comp=Z,34nm,1.6s
D27M Malcolm River 75.25 18 P **P 03 33 47.5 +0.4**
baz=309
F26K Sheenjek River 75.29 20 IAmb IAmb 03 33 49.5
comp=Z,38nm,1.7s
F26K Sheenjek River 75.29 20 P **P 03 33 47.8 +0.5**
baz=307
N19K Bonanza Creek 75.29 29 P **P 03 33 47.4 0.0**
baz=300
BMAR Burnt Mountain 75.31 20 P **P 03 33 48.5 +1.1**
M20K Styx River 75.31 27 P **P 03 33 47.6 0.0**
baz=300
KTH Kantishna Hill 75.31 25 IAmb IAmb 03 35 01.3
comp=Z,26nm,1.5s
NEA2 Nenana 75.44 24 IAmb IAmb 03 34 13.9
comp=Z,18nm,1.0s
NEA2 Nenana 75.44 24 P **P 03 33 48.3 +0.2**
baz=303
O18K Koktuh Hills 75.45 30 P **P 03 33 47.3 -0.9**
baz=299
R16K Pilot Point 75.46 32 P **P 03 33 48.5 +0.2**
baz=298
CEST Esterri de Car 75.54 311 P **P 03 33 49.0 -0.3**
CEST IAmb IAmb 03 33 51.0
comp=Z,20nm,0.9s
H25L Birch Creek 75.61 22 P **P 03 33 49.2 +0.3**
baz=306
TRF Thorofare Moun 75.61 25 IAmb IAmb 03 34 03.6
comp=Z,33nm,1.7s
TRF Thorofare Moun 75.61 25 P **P 03 33 49.5 +0.2**
baz=302
FYU Fort Yukon 75.62 21 IAmb IAmb 03 33 51.4
comp=Z,20nm,1.2s
CHGN Chignik 75.65 34 P **P 03 33 49.8 +0.4**
baz=298
P18K Big Mountain, 75.67 30 P **P 03 33 49.8 +0.3**
baz=299
O19K Port Alsworth 75.67 29 P **P 03 33 50.3 +0.9**
baz=300
COLA College 75.71 23 P **P 03 33 49.8 +0.2**
COLA College 75.71 23 P **P 03 33 49.3 -0.3**
baz=304
COLA College 75.71 23 P **P 03 33 52.0 +2.4**
COLA College 75.71 23 *de*P **P 03 33 49.8 +0.2**
COLA pmax pmax
comp=Z,16nm,0.9s
POKR Poker Plat Res 75.72 23 IAmb IAmb 03 33 51.3
comp=Z,18nm,0.8s
POKR Poker Plat Res 75.72 23 P **P 03 33 49.5 -0.3**

baz=304,SNR=14
CHNA Chernabura Isl 75.73 35 P **P 03 33 50.0 +0.1**
baz=297
SUMG Summit 75.75 347 P **P 03 33 50.7 +0.5**
SUMG IAmb IAmb 03 33 52.1
comp=Z,33nm,1.1s
SUMG Summit 75.75 347 P **P 03 33 50.7 +0.5**
SUMG pmax pmax
comp=Z,33nm,1.1s
SUMG Summit 75.75 347 *i*P **P 03 33 49.0 -1.3**
D28M Stokes Point 75.80 17 P **P 03 33 49.9 -0.1**
baz=311
G26K Porcupine Rive 75.85 21 P **P 03 33 50.0 -0.4**
baz=307
WRH Wood River Hil 75.86 24 P **P 03 33 50.3 -0.2**
SKT Skwentna 75.91 27 P **P 03 33 50.5 -0.3**
baz=302,SNR=6.1
Q17K Contact Creek 75.92 31 P **P 03 33 51.2 +0.1**
baz=299
MCK McKinley 75.96 25 P **P 03 33 51.4 +0.3**
baz=304
SPCR Spurr Chakacha 76.04 28 P **P 03 33 51.3 -0.4**
baz=301
E28M Babbage River 76.06 18 IAmb IAmb 03 33 53.7
comp=Z,15nm,0.8s
E28M Babbage River 76.06 18 P **P 03 33 51.2 -0.4**
baz=311
ILAR Eielson Array 76.11 23 P **P 03 33 51.2 -0.8**
comp=Z,4.0nm,0.8s,baz=299,slow=5.0,SNR=33
ILAR LR LR 04 11 21.2
comp=Z,371nm,20.3s,baz=282,slow=39
comp=Z,4.0nm,0.8s
PRP Porcupine Dome 76.14 22 P **P 03 33 52.2 -0.1**
PRP IAmb IAmb 03 33 54.0
comp=Z,18nm,1.0s
PRP Porcupine Dome 76.14 22 P **P 03 33 51.9 -0.4**
baz=306,SNR=7.4
CUT Chulitna 76.18 26 P **P 03 33 51.7 -0.7**
baz=303
HDA Harding Lake 76.30 24 P **P 03 33 52.5 -0.5**
baz=305
TW1H Toowoomba 1 Ha 76.36 131 P **P 03 33 54.7 +0.8**
P19K Oil Pt 76.41 29 P **P 03 33 53.3 -0.5**
baz=301
O20K Slope Mountain 76.45 29 P **P 03 33 53.9 -0.2**
baz=301
SUA Susitna One 76.50 27 IAmb IAmb 03 34 19.3
comp=Z,16nm,1.0s
SUA Susitna One 76.50 27 P **P 03 33 54.3 -0.1**
baz=303,SNR=7.1
M22K Willow 76.60 27 IAmb IAmb 03 34 41.8
comp=Z,36nm,1.1s
M22K Willow 76.60 27 P **P 03 33 54.2 -0.5**
baz=303
G27K Doyon Strip 76.60 20 P **P 03 33 54.4 -0.3**
baz=309
Q19K Cape Douglas, 76.61 30 P **P 03 33 54.0 -0.8**
baz=301
F28M Old Crow 76.61 19 P **P 03 33 54.8 0.0**
baz=310,SNR=11
E29M Blow River 76.66 18 IAmb IAmb 03 33 57.1
comp=Z,13nm,0.9s
E29M Blow River 76.66 18 P **P 03 33 55.4 +0.4**
baz=312
CAPN Captain Cook N 76.71 28 P **P 03 33 55.5 +0.2**
baz=302
J25K Salcha River, 76.73 23 P **P 03 33 55.0 -0.6**
baz=306
ARPS Mount Arapiles 76.78 144 P **P 03 33 56.0 0.0**
A36M Sachs Harbour 76.92 12 P **P 03 33 56.9 +0.5**
baz=323,SNR=36
H27K Steamboat Moun 77.00 21 P **P 03 33 57.8 +0.7**
baz=309
I26K Coal Creek Min 77.06 22 P **P 03 33 57.4 +0.1**
baz=308
K24K Donnelly Dome 77.07 24 P **P 03 33 57.0 -0.4**
baz=306,SNR=11
PMR Palmer 77.08 27 IAmb IAmb 03 33 58.1
comp=Z,14nm,0.9s
PMR Palmer 77.08 27 P **P 03 33 57.2 -0.3**
baz=304,SNR=7.7
PMR Palmer 77.08 27 P **P 03 33 57.7 +0.3**
RC01 Rabbit Creek A 77.12 27 P **P 03 33 57.4 -0.3**
baz=303,SNR=6.7
CHIR Chirikof Islan 77.25 33 P **P 03 33 57.9 -0.6**
baz=300
SML Sawmill 77.27 26 IAmb IAmb 03 34 21.2
comp=Z,29nm,1.0s
SML Sawmill 77.27 26 P **P 03 33 58.0 -0.6**
baz=304,SNR=8.0
Q20K Shuyak Island 77.33 30 P **P 03 33 58.1 -0.8**
baz=302
I27K Kandik River 77.38 21 P **P 03 33 59.9 +0.7**
baz=309
J26L Joseph Creek 77.42 23 P **P 03 33 59.4 0.0**
baz=308
BRSE Bradley Lake S 77.44 29 P **P 03 33 58.4 -1.2**
baz=303
RIDG Independent Ri 77.44 24 IAmb IAmb 03 34 01.2
comp=Z,34nm,1.5s
RIDG Independent Ri 77.44 24 P **P 03 33 58.9 -0.7**
baz=307
KNK Knik Glacier 77.45 26 IAmb IAmb 03 34 00.7
comp=Z,12nm,0.7s
KNK Knik Glacier 77.45 26 P **P 03 33 59.1 -0.5**
baz=304,SNR=7.1
M23K Glacier View 77.52 26 P **P 03 34 00.2 +0.2**
baz=305
SII Sitkinak Islan 77.57 32 P **P 03 34 00.1 -0.3**
baz=301
SCRK Sand Creek 77.60 23 IAmb IAmb 03 34 01.5
comp=Z,19nm,1.2s
SCRK Sand Creek 77.60 23 P **P 03 34 00.4 -0.1**
baz=308,SNR=8.6
G29M Pine Creek 77.62 19 IAmb IAmb 03 34 02.2
comp=Z,61nm,1.9s
G29M Pine Creek 77.62 19 P **P 03 34 00.9 +0.4**
baz=312
SCM Sheep Creek Mo 77.65 26 IAmb IAmb 03 34 24.0
comp=Z,39nm,1.5s
SCM Sheep Creek Mo 77.65 26 P **P 03 34 00.7 -0.1**
baz=305
OHAK Old Harbor 77.65 31 P **P 03 34 00.8 +0.1**
baz=301
KDAK Kodiak Island 77.68 31 LR LR 04 09 41.6
comp=Z,487nm,21.2s,baz=159,slow=37
KDAK Kodiak Island 77.68 31 P **P 03 34 01.1 +0.2**
baz=302
KDAK Kodiak Island 77.68 31 *de*P **P 03 34 00.7 -0.2**
KDAK pmax pmax
comp=Z,23nm,1.3s
PAX Paxson 77.68 24 P **P 03 34 00.5 -0.4**
baz=307
F30M Barrier River 77.77 18 P **P 03 34 01.7 +0.5**
baz=314
SEW Seward 77.78 28 P **P 03 34 01.3 -0.1**
baz=304
PWL Port Wells 77.81 27 IAmb IAmb 03 34 02.5
comp=Z,19nm,0.7s
PWL Port Wells 77.81 27 P **P 03 34 01.6 0.0**
baz=305,SNR=9.6
INK Inuvik 77.88 17 IAmb IAmb 03 34 03.4
comp=Z,19nm,1.1s
INK Inuvik 77.88 17 LR LR 04 14 19.2
comp=Z,319nm,18.5s,baz=315,slow=40
INK Inuvik 77.88 17 P **P 03 34 02.1 +0.3**
baz=316,SNR=15
M24K Tolsona, Glenn 77.93 25 P **P 03 34 02.5 +0.2**
baz=306
H29M Whitestone 77.98 20 IAmb IAmb 03 34 04.0
comp=Z,13nm,0.8s
H29M Whitestone 77.98 20 P **P 03 34 02.9 +0.4**
baz=312
I28M Miner Creek 78.01 21 P **P 03 34 02.5 -0.3**
baz=311,SNR=11
RES Resolute Bay 78.01 3 IAmb IAmb 03 34 04.8
comp=Z,21nm,1.1s
ARMA Armidale 78.02 133 IAmb IAmb 03 34 08.3
comp=Z,20nm,0.8s
ARMA Armidale 78.02 133 P **P 03 34 04.6 +1.4**
EGAK Eagle 78.06 22 P **P 03 34 02.5 -0.4**
baz=310,SNR=6.1
G30M tAoh Zraii Nji 78.09 19 IAmb IAmb 03 34 04.3
comp=Z,20nm,0.8s
G30M tAoh Zraii Nji 78.09 19 P **P 03 34 03.1 +0.1**
baz=314
HARP HAARP 78.14 25 P **P 03 34 03.3 -0.1**
baz=307

GLI	Glacier Island	78.30	27	IAmb	IAmb	03 35 09.2
	comp=Z,26nm,1.5s					
GLI	Glacier Island	78.30	27	P	P	03 34 04.3 0.0
	baz=306					
MENT	Mentasta	78.33	24	P	P	03 34 05.3 +0.8
EPYK	Eagle Plains	78.37	19	P	P	03 34 04.5 -0.2
	baz=313,SNR=6.5					
KLU	Klutina	78.39	26	IAmb	IAmb	03 34 06.4
	comp=Z,15nm,0.8s					
KLU	Klutina	78.39	26	P	P	03 34 04.9 0.0
	baz=306,SNR=7.9					
L26K	Log Cabin Wild	78.42	24	P	P	03 34 04.9 0.0
	baz=308					
LSZ	Lusaka	78.42	246	P	P	03 34 06.1 +0.3
LSZ				IAmb	IAmb	03 34 07.1
	comp=Z,19nm,1.1s					
LSZ	Lusaka	78.42	246	LR	LR	04 07 08.2
	comp=Z,426nm,21.6s,baz=82,slow=34					
LSZ	Lusaka	78.42	246	P	P	03 34 06.1 +0.3
LSZ				pmax	pmax	
	comp=Z,19nm,1.1s					
F31M	Tsiigehtchic	78.45	18	IAmb	IAmb	03 34 06.3
	comp=Z,18nm,1.1s					
F31M	Tsiigehtchic	78.45	18	P	P	03 34 05.3 +0.4
	baz=316,SNR=7.0					
I29M	Ogilvie Camp,	78.58	20	P	P	03 34 06.3 +0.5
	baz=312					
P23K	Montague Islan	78.69	27	P	P	03 34 06.3 -0.1
	baz=306					
N25K	Chitina, Valde	78.83	25	P	P	03 34 07.8 +0.5
	baz=308,SNR=5.2					
L27K	Beaver Creek,	78.93	23	P	P	03 34 08.3 +0.6
	baz=310					
M26K	Nabesna, AK	78.93	24	P	P	03 34 08.2 +0.4
	baz=309					
BCAR	Beaver Creek A	78.94	23	P	P	03 34 08.2 +0.4
EYAK	Cordova Ski Ar	79.03	26	P	P	03 34 08.4 +0.2
	baz=307					
DAWY	Dawson	79.10	22	P	P	03 34 09.5 +0.8
	baz=312,SNR=6.6					
BMRM	Bremner River	79.22	26	IAmb	IAmb	03 34 32.8
	comp=Z,22nm,0.9s					
BMRM	Bremner River	79.22	26	P	P	03 34 09.7 +0.3
	baz=308,SNR=9.2					
J29N	Klondike Camp	79.22	21	P	P	03 34 09.7 +0.3
	baz=312,SNR=6.0					
I30M	Mount Dempster	79.27	20	P	P	03 34 09.7 0.0
	baz=314					
C36M	Paulatuk	79.29	14	IAmb	IAmb	03 34 10.7
	comp=Z,29nm,0.9s					
C36M	Paulatuk	79.29	14	P	P	03 34 09.2 -0.4
	baz=324,SNR=19					
M27K	Edge Creek, AK	79.36	24	P	P	03 34 10.1 -0.2
	baz=310					
H31M	Peel River	79.46	19	IAmb	IAmb	03 34 11.9
	comp=Z,25nm,1.1s					
H31M	Peel River	79.46	19	P	P	03 34 10.9 +0.3
	baz=316					
BVCY	Beaver Creek	79.69	23	P	P	03 34 11.8 -0.1
	baz=310					
J30M	Hart River	79.73	20	P	P	03 34 12.5 +0.2
	baz=314					
K29M	Barlow Dome	79.86	21	P	P	03 34 13.1 +0.1
	baz=313					
KAIM	Kayak Island	79.93	26	P	P	03 34 12.5 -0.8
	baz=308					
L29M	L29M	80.17	22	P	P	03 34 14.5 0.0
	baz=313					
YUK3	Moose Creek	80.25	24	P	P	03 34 15.2 0.0
	baz=311,SNR=5.0					
BGLC	Bering Glacier	80.26	26	P	P	03 34 15.0 +0.1
	baz=309					
ESDC	Sonseca Array	80.35	310	P	P	03 34 16.4 +0.4
ESDC	Sonseca Array	80.35	310	P	P	03 34 16.2 +0.2
	comp=Z,6.0nm,1.0s,baz=48,slow=6.2,SNR=19					
ESDC				LR	LR	04 14 50.4
	comp=Z,163nm,18.2s,baz=52,slow=39					
	comp=Z,6.0nm,1.0s					
M29M	Somme Creek	80.50	23	IAmb	IAmb	03 34 45.6
	comp=Z,35nm,1.9s					
M29M	Somme Creek	80.50	23	P	P	03 34 16.1 -0.3
	baz=312					
TAM	Tamanrasset	80.53	291	IAmb	IAmb	03 34 21.5
	comp=Z,38nm,1.8s					
TAM	Tamanrasset	80.53	291	P	P	03 34 18.8 +1.4
TAM				pmax	pmax	
	comp=Z,11nm,1.1s					
MESA	MESA	80.74	26	P	P	03 34 17.7 -0.1
	baz=310					
YUK8	Steele Glacier	80.83	24	P	P	03 34 18.6 +0.2
	baz=312					
M30M	Minto, Yukon	80.98	22	P	P	03 34 19.4 +0.5
	baz=314					
O28M	Mount Upton	81.01	24	P	P	03 34 19.0 -0.4
	baz=311					
YUK4	Talbot Arm	81.19	24	P	P	03 34 19.9 -0.3
	baz=313					
PINM	Pinnacle	81.44	25	P	P	03 34 21.7 +0.4
	baz=311					
YUK6	Outpost Mounta	81.56	24	P	P	03 34 22.2 -0.1
	baz=313					
MVO	Moncorvo	81.71	312	eP	P	03 34 24.9 +1.7
O29M	Mount Kennedy	81.92	24	IAmb	IAmb	03 34 26.0
	comp=Z,25nm,1.6s					
O29M	Mount Kennedy	81.92	24	P	P	03 34 24.2 +0.2
	baz=313					
HYT	Haines Junctio	81.95	24	P	P	03 34 24.9 +0.7
	baz=314					
M31M	Drury Creek, Y	82.04	21	IAmb	IAmb	03 34 26.2
	comp=Z,48nm,1.9s					
M31M	Drury Creek, Y	82.04	21	P	P	03 34 24.9 +0.4
	baz=316,SNR=6.1					
N31M	Braeburn, Yuko	82.08	22	IAmb	IAmb	03 34 26.9
	comp=Z,19nm,0.9s					
N31M	Braeburn, Yuko	82.08	22	P	P	03 34 25.1 +0.3
	baz=315,SNR=8.1					
FARO	Faro, Yukon	82.35	21	P	P	03 34 26.2 +0.1
	baz=317					
MTE	Manteigas	82.43	312	eP	P	03 34 28.0 +1.0
O30N	Mendenhall	82.48	23	IAmb	IAmb	03 34 29.1
	comp=Z,22nm,1.1s					
O30N	Mendenhall	82.48	23	P	P	03 34 27.0 +0.2
	baz=315,SNR=12					
PVIS	Viseu	82.50	312	eP	P	03 34 29.1 +1.8
P30M	Million Dollar	82.63	24	P	P	03 34 27.9 +0.2
	baz=314					
PCBR	Castelo Branco	82.66	311	eP	P	03 34 28.9 +0.8
SFJD	Kangerlussuaq	82.75	348	P	P	03 34 28.6 +0.6
SFJD	Kangerlussuaq	82.75	348	LR	LR	04 14 44.8
	comp=Z,323nm,18.4s,baz=18,slow=38					
SFJD	Kangerlussuaq	82.75	348	P	P	03 34 28.6 +0.6
SFJD				pmax	pmax	
	comp=Z,48nm,1.1s					
PMRV	Marv??o	82.80	311	eP	P	03 34 30.0 +1.1
WHY	Whitehorse	82.98	23	IAmb	IAmb	03 34 53.2
	comp=Z,23nm,1.4s					
WHY	Whitehorse	82.98	23	P	P	03 34 29.6 +0.1
	baz=316,SNR=5.3					
PBAR	Barrancos	83.17	309	eP	P	03 34 32.3 +1.5
PESTR	Estremoz	83.21	310	eP	P	03 34 32.1 +1.1
PESTR				i Amb		03 34 41.2
	comp=Z,26nm,1.6s					
N32M	Quiet Lake	83.23	22	P	P	03 34 30.9 +0.2
	baz=317					
PCAS	Casmilo, Conde	83.23	312	eP	P	03 34 32.1 +1.0
PLBC	Pleasant Camp	83.31	24	P	P	03 34 31.9 +0.8
	baz=315					
EVO	Evora	83.66	310	eP	P	03 34 44.5 +11
SKAG	Skagway	83.68	24	P	P	03 34 33.5 +0.5
	baz=315,SNR=5.2					
SKAG	Skagway	83.68	24	P	P	03 34 34.2 +1.2
PSBE	So Bento	83.70	311	eP	P	03 34 34.9 +1.3
PBEJ	Beja	83.81	310	eP	P	03 34 36.0 +1.8
P33M	Teslin, Yukon	84.01	22	IAmb	IAmb	03 34 36.8
	comp=Z,26nm,1.5s					
P33M	Teslin, Yukon	84.01	22	P	P	03 34 34.9 +0.1
	baz=317					
PVAQ	Vaqueiros	84.02	309	IAmb	IAmb	03 34 37.4
	comp=Z,14nm,1.0s					
PVAQ	Vaqueiros	84.02	309	eP	P	03 34 36.7 +1.5
PVAQ				i Amb		03 34 37.6
	comp=Z,35nm,1.3s					
MDT	Midelt	84.02	304	LR	LR	04 19 24.1
	comp=Z,108nm,18.8s,baz=64,slow=41					
MESJ	Messejana	84.15	310	eP	P	03 34 36.3 +0.4
P32M	Atlin	84.16	23	P	P	03 34 36.0 +0.5
	baz=317,SNR=5.3					
PBDV	Barranco-do-Ve	84.25	309	eP	P	03 34 38.5 +2.2
S31K	Pelican	84.42	25	P	P	03 34 36.5 -0.2
	baz=315					
WRGLY	Wrigley	84.44	17	P	P	03 34 37.2 +0.4
	baz=325					
PTEO	Sao Teotonio	84.64	310	eP	P	03 34 38.1 -0.2
JIS	Juneau Island	84.88	24	P	P	03 34 40.7 +1.7
PFVI	Vila Bisbo	84.92	309	eP	P	03 34 41.4 +1.6
Q32M	Nakina River	85.13	23	P	P	03 34 40.8 +0.2
	baz=318					
R33M	Jennings River	85.25	22	IAmb	IAmb	03 34 43.7
	comp=Z,24nm,1.3s					
R33M	Jennings River	85.25	22	P	P	03 34 41.6 +0.5
	baz=319					
WTLY	Watson Lake, Y	85.40	21	IAmb	IAmb	03 34 43.4
	comp=Z,24nm,1.4s					
WTLY	Watson Lake, Y	85.40	21	P	P	03 34 42.1 +0.4
	baz=321					
SIT	Sitka	85.40	25	P	P	03 34 42.2 +0.5
	baz=316					
LBTB	Lobatse	85.70	239	LR	LR	04 11 43.1
	comp=Z,332nm,20.6s,baz=57,slow=35					
DLBC	Dease Lake	86.29	22	IAmb	IAmb	03 34 49.0
	comp=Z,31nm,1.6s					
DLBC	Dease Lake	86.29	22	LR	LR	04 16 45.5
	comp=Z,295nm,20.7s,baz=302,slow=38					
DLBC	Dease Lake	86.29	22	P	P	03 34 47.0 +0.8
	baz=320					
S34M	Telegraph Cree	86.31	23	IAmb	IAmb	03 34 49.0
	comp=Z,26nm,1.4s					
S34M	Telegraph Cree	86.31	23	P	P	03 34 46.8 +0.5
	baz=319					
U33K	Whale Pass	86.93	25	P	P	03 34 50.1 +0.9
	baz=317					
WRAK	Wrangell Islan	86.99	25	P	P	03 34 50.3 +0.8
	baz=318					
YKA	Yellowknife Ar	87.17	14	P	P	03 34 49.9 -0.4
	comp=Z,5.2nm,1.1s,baz=331,slow=4.5,SNR=30					
YKA				LR	LR	04 16 24.5
	comp=Z,273nm,21.7s,baz=295,slow=37					
	comp=Z,5.2nm,1.1s					
YKA	Yellowknife Ar	87.17	14	ceP	P	03 34 50.9 +0.6
YKA				pmax	pmax	
	comp=Z,5.0nm,1.1s					
T35M	Bob Quinn	87.33	23	IAmb	IAmb	03 34 54.2
	comp=Z,21nm,1.4s					
T35M	Bob Quinn	87.33	23	P	P	03 34 51.7 +0.5
	baz=320					
CRAG	Craig	87.41	26	P	P	03 34 51.8 +0.2
	baz=317					
TOAD	Toad River Com	87.52	20	P	P	03 34 52.1 -0.1
	baz=324					
BOSA	Boshof	87.89	236	P	P	03 34 53.3 -1.2
BOSA	Boshof	87.89	236	P	P	03 34 53.7 -0.7
	comp=Z,5.1nm,0.8s,baz=72,slow=4.0,SNR=12					
BOSA				LR	LR	04 13 04.2
	comp=Z,170nm,20.9s,baz=52,slow=35					
	comp=Z,5.1nm,0.8s					
BOSA	Boshof	87.89	236	P	P	03 34 53.3 -1.2
BOSA				pmax	pmax	
	comp=Z,38nm,1.8s					
TORD	Torodi Ar. Bea	88.08	284	P	P	03 34 56.0 +0.4
TORD	Torodi Ar. Bea	88.08	284	P	P	03 34 55.8 +0.2
	comp=Z,3.8nm,0.7s,baz=62,slow=4.4,SNR=26					
	comp=Z,3.8nm,0.7s					
V35K	Ketchikan	88.08	25	P	P	03 34 54.8 0.0
	baz=319					
FRB	Frobisher Bay	88.48	353	LR	LR	04 17 12.9
	comp=Z,180nm,19.7s,baz=342,slow=37					
TSUM	Tsumeb	89.12	248	LR	LR	04 14 51.9
	comp=Z,263nm,20.1s,baz=37,slow=36					
MSVF	Nonsavu	90.94	109	LR	LR	04 14 34.6
	comp=Z,51nm,18.6s,baz=27,slow=35					
SUR	Sutherland	93.12	235	LR	LR	04 16 44.4
	comp=Z,167nm,19.4s,baz=60,slow=35					
FCC	Fort Churchill	93.84	5	IAmb	IAmb	03 35 22.3
	comp=Z,15nm,1.2s					
DBIC	Dimbokro	96.80	281	P	P	03 35 35.6 -0.3
	comp=Z,2.8nm,0.7s,baz=45,slow=5.7,SNR=5.4					
	comp=Z,2.8nm,0.7s					
SCHQ	Schefferville	96.94	350	P	P	03 35 35.4 -0.5
	comp=Z,7.6nm,0.9s,baz=23,slow=4.4,SNR=3.8					
SCHQ				LR	LR	04 22 36.6
	comp=Z,281nm,20.9s,baz=27,slow=37					
	comp=Z,7.6nm,0.9s					
MAW	Mawson	97.85	192	LR	LR	04 11 46.5
	comp=Z,123nm,20.8s,baz=359,slow=30					
NEW	Newport	99.03	22	LR	LR	04 23 51.3
	comp=Z,249nm,18.4s,baz=308,slow=37					
SYO	Syowa Base	104.44	198⇑	epDiff	pDif	03 36 16.0 +0.7
N23A	Red Feather La	109.09	18	P	PKiKP	03 40 34.8 0.0
	baz=339					
L61B	Northampton	109.87	351	P	PKiKP	03 40 36.8 +0.9
	baz=10					
O48B	Farmland	112.78	1	P	PKiKP	03 40 42.3 +0.8
	baz=358					
T25A	Trinidad	113.02	18	P	PKiKP	03 40 42.4 +0.1
	baz=340					
ANMO	Albuquerque	114.46	20⇓	iPKIKP	PKiKP	03 40 45.1 +0.1
ANMO				pmax	pmax	
	comp=Z,2.0nm,1.3s					
TROLL	Troll, Antarti	116.85	200	P	PKPdf	03 40 48.3 0.0
TROLL	Troll, Antarti	116.85	200	⇑P	PKPdf	03 40 48.3 0.0
	comp=Z,308nm,1.3s					
SGCY	Sterling City	118.83	17		PKPdf	03 40 53.2 -0.1
VNA2	Neumayer--Watz	120.00	202	P	PKPdf	03 40 53.9 -0.3
	baz=131,slow=0.6					
VNA2	Neumayer--Watz	120.00	202	⇑P	PKPdf	03 40 53.9 -0.3
	comp=Z,5.3nm,0.7s,baz=131,slow=0.6					
JCT	Junction City	120.53	16	PKPdf	PKPdf	03 40 55.1 -1.5
JCT	Junction City	120.53	16	PKiKP	PKPdf	03 40 55.1 -1.5
TXAR	Lajitas Array	120.54	20	PKP	PKPdf	03 40 55.9 -0.9
	comp=Z,1.7nm,0.8s,baz=330,slow=1.4,SNR=13					
VNA3	Neumayer Olymp	120.71	201	P	PKPdf	03 40 53.8 -1.8
VNA3	Neumayer Olymp	120.71	201	⇑P	PKPdf	03 40 53.8 -1.8
	comp=Z,8.3nm,1.0s					
DRIO	Del Rio	121.33	17	PKPdf	PKPdf	03 40 57.0 -1.1
NBAN	Anadia - AL	132.05	282	eP	PKiKP	03 41 20.3 +0.3
SJMB	Sao Joao De Ma	140.10	273	eP	PKPdf	03 41 34.6 +0.9
SMTB	Santa Maria do	141.29	291	eP	PKPdf	03 41 37.1 +1.0
ITTB	Itaituba	144.91	306	eP	PKPbc	03 41 42.0 +0.4
BDFB	Brasilia	144.95	282	PKPbc	PKPdf	03 41 42.5 -0.1
	comp=Z,9.6nm,0.8s,baz=57,slow=5.4,SNR=16					
RUSC	La Rusia	145.45	341		PKPbc	03 41 43.6 -0.3
SNDB	Serra Nova Dou	146.02	290	eP	PKPab	03 41 45.7 0.0
NPGB	Novo Progresso	146.41	302	eP	PKPdf	03 41 45.7 +0.7
ROSC	El Rosal	146.80	343		PKPab	03 41 48.9 -0.2
ROSC	El Rosal	146.80	343	PKPbc	PKPdf	03 41 47.0 +0.8
	comp=Z,22nm,0.6s,baz=72,slow=3.9,SNR=17					
ROSC	El Rosal	146.80	343	PKP2	PKPab	03 41 48.9 -0.2
BB19B	Bebedouro	147.40	273	eP	PKPbc	03 41 48.5 -0.4
MACA	Manacapuru-AM	147.44	313		PKPbc	03 41 48.7 -0.5
OTAV	Otavalo	152.17	349	eP	PKPdf	03 41 55.5 +0.7
AQDB	Aquidauana	153.55	279		PKPbc	03 42 03.7 0.0
CPUP	Villa Florida	156.46	266	PKP	PKPdf	03 42 00.0 +0.2
	comp=Z,3.3nm,1.0s,baz=110,slow=1.8,SNR=4.4					
TRQA	Tornquist	158.85	234	eP	PKPdf	03 42 03.3 +0.8
LPAZ	La Paz	161.89	304	PKP	PKPdf	03 42 07.0 -0.2
	comp=Z,4.3nm,1.0s,baz=27,slow=5.7,SNR=9.6					
LPAZ	La Paz	161.89	304	eP	PKPdf	03 42 06.6 -0.6
PLCA	Paso Flores	162.75	216	PKPab	PKPab	03 42 52.9 -2.5
	comp=Z,3.7nm,0.9s,baz=123,slow=2.8,SNR=7.2					

*IDC **10** 03:24:06.7±5.6,54°.61N×166°.92E,h0km,mb3.1/2, mbtmp3.2/3,ML2.8/1, Error ellipse: s-maj=248.7km s-min=26.0km az=158.0*

*KRSC **10** 03:24:10.3±1.4,55°.50N×166°.05E,h34km±12km,Ml3.7*

ISC 10 03:24:09.8±3.2,55°.63N±0°.08×166°.3E±0°.2,h20km,n25, σ1§64/27,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.46	204	i P	Pb	03 24 18.8	-0.4
BKI				eS	Sb	03 24 24.3	-1.3
KBTR	Krutoberegovo	2.05	288	eP	Pn	03 24 42.0	-1.0
KBTR				eS	Sn	03 25 06.1	-1.9
KBG	Krutoberegovo	2.12	289	eP	Pn	03 24 43.5	-0.5
BZGR	Bezymyannyi-Gr	3.19	278	eP	Pn	03 24 60.0	+1.2
KLY	Klyuchi	3.25	285	eS	Sn	03 25 35.6	-2.0
KRSR	Krestovskiy	3.29	283	eP	Pn	03 25 01.2	+1.1
KIRR	Kirishev	3.38	278	eP	Pn	03 25 03.8	+2.3
TUMD	Tumrok D	3.40	265	eP	Pn	03 25 02.6	+1.0
TUMD				eS	Sn	03 25 41.3	+0.1
KMNR	Kamenistaya	3.44	275	eP	Pn	03 25 03.6	+1.4
KPT	Kopyto	3.45	278	eP	Pn	03 25 05.3	+2.9
SRDR	Sredinnyy	3.77	283	eS	Sn	03 25 52.6	+2.1
UGLR	Uglovaya	5.00	244	eP	Pn	03 25 25.3	+1.6
KRX	Arik	5.01	246	eP	Pn	03 25 26.0	+2.1
AVH	Avacha	5.01	245	eP	Pn	03 25 25.7	+1.9
KOK	Koryaka	5.05	246	eP	Pn	03 25 26.0	+1.6
DALK	Dalny	5.13	243	eP	Pn	03 25 26.1	+0.8
DALK				eS	Sn	03 26 22.9	-1.0
GNL	Ganaly	5.23	252	eP	Pn	03 25 28.0	+1.2
RUS	Russkaya	5.60	238	eP	Pn	03 25 32.7	+1.0
RUS				eS	Sn	03 26 32.6	-2.8
PETK	Petropavlovsk-	5.63	247	Pn	Pn	03 25 32.7	+0.4
	1.3nm,0.3s,baz=68,slow=16,SNR=15						
PETK				Sn	Sn	03 26 36.9	+0.7
	0.6nm,0.3s,baz=93,slow=26,SNR=5.3						
	2.4nm,0.3s						
GRL	Goreluy	5.74	241	eP	Pn	03 25 35.8	+1.9
GRL				eS	Sn	03 26 39.5	+0.3
ILAR	Eielson Array	24.43	49	P	P	03 29 29.9	+3.3
	0.5nm,0.8s,baz=252,slow=8.5,SNR=6.0						
	0.5nm,0.8s						
H11N2	WAKE ISLAND Hy	35.84	179	T	T	04 09 05.8	
	baz=359,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	35.85	179	T	T	04 08 36.6	
	baz=359,slow=76,SNR=22						
H11N1	WAKE ISLAND Hy	35.86	179	T	T	04 09 08.0	
	baz=359,slow=76,SNR=23						
YKA	Yellowknife Ar	38.80	47	P	P	03 31 36.6	+4.0
	0.2nm,0.7s,baz=293,slow=8.1,SNR=2.1						
	0.2nm,0.7s						

*NOU **10** 03:29:52.9,22°.67S×170°.56E,h0km,mb4.8/21,Southeast of Loyalty Islands*

*NEIC **10** 03:29:53.2±1.6,22°.7S±0°.2×170°.58E±0°.09,h10km±1km, mb4.7/10, Error ellipse: s-maj=28.0km s-min=12.9km az=349.0*

*IDC **10** 03:29:55.1±2.3,22°.68S×170°.70E,h47km±20km,mb4.1/10, mbtmp4.4/12,ML5.2/2,MS3.8/6,Error ellipse: s-maj=19.4km s-min=16.7km az=4.0*

ISC 10 03:29:51.3±0.5,22°.71S±0°.08×170°.68E±0°.06,h10km,n110, σ1§66/105,mb4.5/15,MS3.7/4,9C-3D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	2.99	271		Pn	03 30 39.5	+0.8
PINNC	Pines Island,	2.99	271	P	Pn	03 30 39.4	+0.6
PINNC	Pines Island,	2.99	271	S	Sn	03 31 14.7	0.0
OUENC	Ouen Island, N	3.56	274	P	Pn	03 30 47.3	+0.7
OUENC	Ouen Island, N	3.56	274	S	Sn	03 31 30.0	+1.2
YATNC	Mamie plateau,	3.56	280	P	Pn	03 30 46.6	-0.1
YATNC	Mamie plateau,	3.56	280	S	Sn	03 31 30.4	+1.4
ONTNC	Ouen Toro	3.93	275		Pn	03 30 52.8	+1.1
ONTNC	Ouen Toro	3.93	275	P	Pn	03 30 52.6	+0.9
ONTNC	Ouen Toro	3.93	275	S	Sn	03 31 39.6	+1.7
DZM	Mont Dzumac	3.97	278		Pn	03 30 53.2	+0.8
DZM	Mont Dzumac	3.97	278	P	Pn	03 30 52.8	+0.4
	31nm,0.3s,baz=118,slow=16,SNR=277						
DZM				S	Sn	03 31 39.1	0.0
	87nm,0.4s,baz=120,slow=22,SNR=11						
DZM				LR	LR	03 32 27.0	
	comp=Z,806nm,21.6s,baz=75,slow=38						
	107nm,0.5s						
DZM	Mont Dzumac	3.97	278	P	Pn	03 30 53.2	+0.8
DZM	Mont Dzumac	3.97	278	S	Sn	03 31 39.9	+0.8
PVC	Port Vila	5.42	335	P	Pn	03 31 14.9	+2.7
MSVF	Nonsavu	8.51	56		Pn	03 31 57.3	+2.6
MSVF	Nonsavu	8.51	56	P	Pn	03 31 56.4	+1.8
	2.3nm,0.3s,baz=244,slow=10,SNR=16						
	48nm,0.9s						
MSVF	Nonsavu	8.51	56	P	Pn	03 31 57.1	+2.4
URZ	Urewera	16.45	162	LR	LR	03 38 51.9	
	comp=Z,372nm,18.5s,baz=68,slow=33						
BKZ	Black Stump Fm	17.14	165	P	P	03 33 55.1	+2.4
BKZ	Black Stump Fm	17.14	165	P	P	03 33 55.2	+2.5
MRZ	Mangatainoka R	18.37	168	P	Pn	03 34 07.4	+1.2
MRZ				IAmb	IAmb	03 34 13.6	
	comp=Z,30nm,1.1s						
BSWZ	Blackbirch Sta	19.14	173	P	Pn	03 34 18.6	+3.1
AUPHS	Peel High Scho	19.51	240	P	Pn	03 34 22.2	+2.1
OXZ	Oxford	20.60	177	P	Pn	03 34 33.7	+0.9
OXZ				IAmb	IAmb	03 34 35.9	
	comp=Z,38nm,0.9s						
RPZ	Rata Peaks	20.96	179	P	P	03 34 35.6	+1.2
	comp=Z,14nm,0.7s,baz=344,slow=4.4,SNR=5.9						
	comp=Z,14nm,0.7s						
AULRC	Lightning Ridg	21.44	247	P	P	03 34 42.8	+3.0
YNG	Young	22.68	234	P	P	03 34 55.6	+2.5
CMSA	Cobar Meteorol	23.88	243	P	P	03 35 06.7	+1.6
QLP	Quilpie	24.33	255	P	P	03 35 10.6	+1.2
MTSU	Mount Surprise	25.11	276	P	P	03 35 17.9	+1.4
STKA	Stephens Creek	27.35	244	P	P	03 35 37.4	+0.7
	comp=Z,5.1nm,0.8s,baz=100,slow=12,SNR=3.4						
STKA				LR	LR	03 45 44.2	
	comp=Z,212nm,19.3s,baz=51,slow=35						
	comp=Z,5.1nm,0.8s						
RAR	Rarotonga	27.43	93	LR	LR	03 46 29.7	
	comp=Z,80nm,18.3s,baz=264,slow=36						
OOD	Oodnadatta	31.98	254	P	P	03 36 19.2	+1.4
AS31	Alice Springs	33.76	261	P	P	03 36 33.1	-0.4
AS31				IAmb	IAmb	03 36 34.3	
	comp=Z,2.6nm,0.7s						
ASAR	Alice Springs	33.76	261	P	P	03 36 33.4	-0.1
	comp=Z,6.7nm,0.7s,baz=87,slow=9.0,SNR=34						
	comp=Z,6.7nm,0.7s						
WRA	Warramunga Arr	33.91	268	P	P	03 36 33.1	-1.7
	comp=Z,0.6nm,0.4s,baz=99,slow=8.5,SNR=10						
	comp=Z,0.6nm,0.4s						
PPT	Papeete	37.58	90	LR	LR	03 49 18.2	
	comp=Z,119nm,19.7s,baz=248,slow=31						
FORT	Forrest	38.72	249	P	P	03 37 16.0	+0.2
FORT				IAmb	IAmb	03 37 31.3	
	comp=Z,20nm,0.9s						
KNRA	Kununurra	40.10	272	P	P	03 37 26.5	-0.9
KNRA				IAmb	IAmb	03 37 34.6	
	comp=Z,43nm,1.4s						
FITZ	Fitzroy Crossi	42.34	268	P	P	03 37 46.2	+0.3
MBWA	Marble Bar	47.10	262	P	P	03 38 23.5	-0.3
MBWA				IAmb	IAmb	03 38 24.4	
	comp=Z,9.7nm,0.8s						
NWAO	Narrogin (SRO)	47.92	246	P	P	03 38 29.9	-

ARR	Arges	144.31 318	⇑P	PKPab	03 49 25.3	-0.5
TNR	Turnu Rosu	144.40 318	⇓P	PKPab	03 49 25.7	-0.3
STEB	Steborice	145.50 329	*e*PKP	PKPbc	03 49 27.5	-2.1
SURR	Surduc	145.65 320	⇑P	PKPdf	03 49 31.3	+1.4
MORC	Moravsky Berou	145.72 329	*e*PKP	PKPdf	03 49 28.1	-1.9
MORC	Moravsky Berou	145.72 329	⇑P	PKPdf	03 49 28.8	-1.2
OSTC	Ostas	145.80 331	*e*PKP	PKPdf	03 49 28.1	-2.0
MAUC	Maruska	145.85 328	*e*PKP	PKPdf	03 49 29.3	-1.0
KRLC	Kraliky	145.87 330	*e*PKP	PKPdf	03 49 28.4	-1.9
DPC	Dobruska-Polom	145.90 330	*e*PKP	PKPdf	03 49 28.7	-1.6
VYHS	Vyhne	145.91 326	*e*P	PKPdf	03 49 29.8	-0.5
JAVC	Velka Javorina	146.26 327	*e*PKP	PKPdf	03 49 31.2	+0.2
VRAC	Vranov	146.49 329	⇓P	PKPdf	03 49 32.3	+1.0
PVCC	Panska Ves	146.55 332	*e*PKP	PKPdf	03 49 32.0	+0.7
BRG	Berggiesshubel	146.56 333	*e*P	PKPdf	03 49 30.6	-0.7
BRG			Amp		03 49 34.6	
	comp=Z,8.2nm,0.9s					
CLL	Collm	146.61 334	*e*PKPbc	PKPdf	03 49 29.0	-2.4
CLL			*i* PKiKP	PKPbc	03 49 33.8	+0.9
	comp=Z,9.0nm,0.8s					
KRUC	Moravsky	146.75 329	*e*PKP	PKPdf	03 49 31.2	-0.5
MODS	Modra-Piesok	146.78 327	*e*P	PKPbc	03 49 35.6	+2.0
PRU	Pruhonice	146.95 331	*e*PKP	PKPdf	03 49 32.8	+0.8
EKA	Eskdalemuir Ar	147.09 354	PKPbc	PKPdf	03 49 31.0	-1.1
	comp=Z,3.4nm,0.5s,baz=3.8,slow=2.9,SNR=28					
ESK	Eskdalemuir	147.11 354	PKPdf	PKPdf	03 49 31.4	-0.7
MORH	Mrgy, Hungar	147.41 323	⇑P	PKPdf	03 49 32.8	-0.1
RONA	Rosalia, Austr	147.72 327	*i* PKiKP	PKPdf	03 49 34.6	+1.2
	comp=Z,2.1nm,0.6s					
CONA	Conrad Observa	147.78 328	*e*PKP	PKPdf	03 49 35.8	+2.2
	comp=Z,2.5nm,0.6s					
CKRC	Cesky Krumlov	147.90 330	*e*PKP	PKPdf	03 49 34.9	+1.2
KHC	Kasperske Hory	148.01 331	*e*PKP	PKPdf	03 49 34.8	+0.9
GEC2	GERESS Array S	148.16 331	PKPdf	PKPdf	03 49 34.5	+0.3
GERES	GERESS Array B	148.16 331	PKPbc	PKPdf	03 49 34.9	+0.7
	comp=Z,5.4nm,0.8s,baz=46,slow=3.9,SNR=12					
ARSA	Arzberg	148.41 327	*i* PKP	PKPbc	03 49 39.8	+1.7
	comp=Z,2.6nm,0.8s					
MOA	Molln	148.62 329	*i* PKP	PKPbc	03 49 39.3	+0.7
	comp=Z,3.3nm,0.6s					
BIOA	Bad Ischl, Aus	149.03 329	*i* PKP	PKPbc	03 49 41.8	+2.2
	comp=Z,2.4nm,0.6s					
OBKA	Obir	149.40 327	*e*PKP	PKPbc	03 49 42.9	+2.2
	comp=Z,0.5nm,0.2s					
KBA	Koelnbreinsper	149.60 329	*i* PKiKP	PKPdf	03 49 38.8	+2.1
	comp=Z,5.1nm,0.7s					
LESA	Schwarzleotal	149.67 330	*i* PKiKP	PKPdf	03 49 38.4	+1.8
	comp=Z,8.3nm,0.6s,SNR=12					
MYKA	Terra Mystica	149.78 328	*e*PKP	PKPbc	03 49 42.3	+0.7
	comp=Z,3.9nm,0.6s					
ABTA	Abfaltersbach	150.24 329	*i* PKiKP	PKPdf	03 49 39.7	+2.1
	comp=Z,5.0nm,0.6s,SNR=5.0					
WATA	Walderalm	150.24 331	*i* PKiKP	PKPdf	03 49 40.1	+2.4
	comp=Z,3.0nm,0.4s					
WTTA	Wattenberg	150.27 331	*i* PKiKP	PKPdf	03 49 39.9	+2.1
	comp=Z,6.3nm,0.7s					
MOTA	Moosalm	150.44 331	*i* PKiKP	PKPdf	03 49 39.7	+1.7
	comp=Z,3.7nm,0.9s					
RETA	Reutte	150.49 332	*e*PKP	PKPbc	03 49 44.3	+1.1
	comp=Z,4.8nm,0.7s					
SQTA	Sankt Quirin	150.49 331	*i* PKiKP	PKPdf	03 49 40.9	+2.9
	comp=Z,6.2nm,0.4s,SNR=4.8					
FETA	Feichten	150.86 331	*e*PKiKP	PKPdf	03 49 42.1	+3.4
	comp=Z,3.3nm,0.6s					
DAVA	Damuels	151.02 332	*i* PKP	PKPbc	03 49 45.2	+0.6
	comp=Z,3.7nm,0.5s					
ESDC	Sonseca Array	162.48 346	PKPab	PKPab	03 50 40.8	-0.5
	comp=Z,0.5nm,0.6s,baz=16,slow=3.6,SNR=5.0					
TORD	Torodi Ar. Bea	165.86 230	PKP	PKPdf	03 49 55.7	-1.6
	comp=Z,0.6nm,0.8s,baz=128,slow=3.0,SNR=4.4					
TORD			PKPab	PKPab	03 50 55.6	-1.3
	comp=Z,1.1nm,1.0s,baz=117,slow=2.8,SNR=4.8					

WEL 10 03:40:10.5±0.8, 38°S±4°×17°9E±°, h33km, M3.3/13, ML3.5/14, MLv3.3/13, Error ellipse: s-maj=8.7km s-min=5.3km az=74.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	0.58 254		P	Pb	03 40 22.4	0.0
PUZ	Puketiti	0.58 296		P	Pb	03 40 21.9	-0.4
PUZ				S	Sn	03 40 32.0	+1.1
WMGZ	Waiomatatini S	0.65 322		P	Pb	03 40 23.5	0.0
WMGZ				S	Sn	03 40 34.2	+1.9
TWGZ	Tauwhareparae	0.76 281		P	Pn	03 40 24.9	0.0
TWGZ				S	Sb	03 40 37.1	+1.7
GKBS	Kaiti Beach	0.78 243		P	Pb	03 40 25.4	-0.2
PKGZ	Pakihiroa	0.81 305		P	Pn	03 40 25.6	0.0
TDHS	Te Araroa Dist	0.82 328		P	Pn	03 40 25.4	-0.3
GWTS	Gisborne Waipa	0.84 249		P	Pn	03 40 26.2	+0.3
TKGZ	Te Karaka	0.85 262		P	Pn	03 40 26.3	+0.2
TKGZ				S	Sb	03 40 38.7	+0.8
MXZ	Matakaoa Point	0.91 327		P	Pb	03 40 27.8	0.0
MXZ				S	Sb	03 40 41.0	+1.5
RIGZ	Rimuhau	0.98 247		P	Pn	03 40 28.1	+0.1
PRGZ	Paritu Road	1.01 234		P	Pb	03 40 29.0	-0.4
RUGZ	Raukumara Rang	1.04 290		P	Pn	03 40 29.1	+0.2
RUGZ				S	Sb	03 40 43.3	-0.3
HAZ	Te Kaha	1.06 302		P	Pn	03 40 29.2	+0.1
MWZ	Matawai	1.09 269		P	Pn	03 40 29.4	-0.1
MHGZ	Mahia Peninsul	1.14 224		P	Pn	03 40 30.0	-0.2
KNZ	Kokohu	1.20 234		P	Pn	03 40 30.3	-0.6
ARHZ	Aropaoanui	1.77 238		P	Pn	03 40 39.4	+0.6
CKHZ	Cape Kidnapper	1.96 227		P	Pn	03 40 41.8	+0.5
MCHZ	McNeill Hill	2.06 237		P	Pn	03 40 43.2	+0.4
CTZ	Chatham Island	6.37 149		P	Pn	03 41 42.5	+0.5
CTZ				S	Sn	03 42 47.3	-6.2

*IDC **10** 03:42:21.6±0.8, 21°.43N×143°.96E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=31.4km s-min=19.5km az=85.0*

ISC 10 03:42:26.6±0.9, 21°.4N±0°.2×144°.0E±0°.2, h33km, n11, σ1°05/11, mb3.9/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	40.05 320		P	P	03 50 00.0	+1.3
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.1						
	0.2nm,0.4s						
WRA	Warramunga Arr	42.14 194		P	P	03 50 16.1	+0.1
	2.5nm,0.6s,baz=14,slow=8.8,SNR=13						
	2.5nm,0.6s						
ASAR	Alice Springs	45.84 193		P	P	03 50 45.9	+0.2
	1.4nm,0.6s,baz=16,slow=9.0,SNR=31						
	1.4nm,0.6s						
MKAR	Makanchi Array	55.45 313		P	P	03 51 56.7	-1.4
	0.1nm,0.7s,baz=91,slow=5.8,SNR=1.3						
	0.1nm,0.7s						
KURBB	Kurchatov Arra	58.26 317		P	P	03 52 16.3	-1.5
	0.6nm,0.7s,baz=96,slow=7.5,SNR=8.5						
	0.6nm,0.7s						
ILAR	Eielson Array	61.98 27		P	P	03 52 42.7	-0.4
	0.3nm,0.9s,baz=250,slow=5.6,SNR=4.1						
	0.3nm,0.9s						
BVAR	Borovoye Array	63.39 320		P	P	03 52 53.1	+0.4
	0.7nm,0.7s,baz=89,slow=6.2,SNR=3.8						
	0.7nm,0.7s						
YKA	Yellowknife Ar	76.39 28		P	P	03 54 11.7	-0.7
	0.2nm,0.7s,baz=286,slow=5.9,SNR=2.3						
	0.2nm,0.7s						
NVAR	Mina Array Bea	82.76 52		P	P	03 54 49.0	+1.2
	0.4nm,0.3s,baz=312,slow=7.4,SNR=2.1						
	0.4nm,0.3s						
KBZ	Khabaz	83.12 314		P	P	03 54 49.7	+0.5
	1.3nm,0.8s,baz=63,slow=3.3,SNR=5.7						
	1.3nm,0.8s						
PLCA	Paso Flores	145.00 131		PKPbc	PKPbc	04 01 59.3	-0.8
	3.0nm,0.9s,baz=267,slow=2.4,SNR=4.9						

*IDC **10** 03:53:37.4±0.8, 36°.16N×129°.90E, h0km, mb3.6/10, mbtmp3.7/14, ML3.3/4, Error ellipse: s-maj=23.2km s-min=11.0km az=57.0*
*NIED **10** 03:53:38.7, 36°.20N×129°.94E, h48km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.03; $M_{\theta\theta}$=4.42; $M_{\phi\phi}$=-3.39; $M_{r\theta}$=0.58; $M_{\phi\theta}$=2.04; $M_{\phi r}$=0.93; Fault plane solution: M_0=4.55000×10^{14} NP1: ϕ_s=301.00000°, δ=74.00000°, λ=-5.00000°. NP2: ϕ_s=32.00000°, δ=85.00000°, λ=-164.00000°.*
*JMA **10** 03:53:38.7±0.2, 36°.2N±0°.8×129°.9E±0°.6, h48km, MV4.0/30, mb4.5/64, Error ellipse: s-maj=19.6km s-min=8.5km az=56.0*

ISC 10 03:53:53.8±0.5, 21°.33N±0°.07×143°.8E±0°.1, h35km, n94, σ2°02/61, mb4.6/54, MS3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.92 346		Pn	Pn	03 55 15.3	-3.7
	12nm,0.3s,baz=282,slow=22,SNR=1.5						
JCJ				Sn	Sn	03 56 21.2	-4.4
	6.8nm,0.3s,baz=286,slow=22,SNR=1.8						
JCJ				LR	LR	03 57 12.6	
	comp=Z,153nm,20.8s,baz=14,slow=34						
	49nm,0.5s						
GUMO	Guam	7.77 172		LR	LR	03 58 02.8	
	comp=Z,243nm,18.5s,baz=354,slow=33						
JOW	Kunigami	15.18 294		LR	LR	04 02 42.7	
	comp=Z,104nm,18.6s,baz=166,slow=35						
MJAR	Matsushiro Arr	15.92 343		Pn	Pn	03 57 34.2	-0.9
	baz=171,slow=10,SNR=5.8						
MJAR				LR	LR	04 03 17.4	
	comp=Z,174nm,19.0s,baz=156,slow=36						
	1.2nm,0.8s						
JNU	Nakatsue	16.40 318		LR	LR	04 03 23.4	
	comp=Z,89nm,18.1s,baz=174,slow=35						
H11N1	WAKE ISLAND Hy 21.70	90		T	T	04 20 33.1	
	baz=278,slow=75,SNR=107						
H11N2	WAKE ISLAND Hy 21.70	90		T	T	04 20 32.9	
	baz=278,slow=75,SNR=119						
H11S3	WAKE ISLAND Hy 21.72	93		T	T	04 20 34.2	
	baz=281,slow=75,SNR=114						
H11N3	WAKE ISLAND Hy 21.72	90		T	T	04 20 34.4	
	baz=278,slow=75,SNR=99						
H11S1	WAKE ISLAND Hy 21.73	93		T	T	04 20 34.7	
	baz=281,slow=75,SNR=214						
H11S2	WAKE ISLAND Hy 21.73	93		T	T	04 20 35.3	
	baz=281,slow=75,SNR=127						
DAV	Davao City (W)	22.60 234		LR	LR	04 05 41.1	
	comp=Z,266nm,21.7s,baz=76,slow=31						
TGY	Tagaytay City	22.90 255		LR	LR	04 06 09.1	
	comp=Z,264nm,21.8s,baz=114,slow=32						
NJ2	Nanjing	24.64 301		*e*P	P	03 59 13.4	+2.3
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KLR	Kul'dur	29.44 344		P	P	03 59 53.5	-0.6
	comp=Z,2.0nm,0.7s,baz=169,slow=5.7,SNR=8.3						
	comp=Z,2.0nm,0.7s						
HEH	HeiHe	31.62 340		*e*P	P	04 00 15.8	+2.5
HEH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	Hu-ho-hao-te	33.49 313		*e*P	P	04 00 33.3	+3.4
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,4.5s						
COEN	Coen	35.07 181		P	P	04 00 43.1	-0.6
MTN	Manton Dam	36.16 201		P	P	04 00 51.8	-1.2
PZH	PanZhiHua	38.65 286		P	P	04 01 15.0	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
SHEM	Shemya Is, Ala	39.05 29		LR	LR	04 18 34.7	
	comp=Z,40nm,18.6s,baz=243,slow=38						
KNRA	Kununurra	39.62 203		P	P	04 01 20.8	-1.4
SONM	Songino Array	39.97 320		P	P	04 01 26.5	+1.4
	comp=Z,0.8nm,0.8s,baz=129,slow=8.4,SNR=3.6						
	comp=Z,0.8nm,0.8s						
GTA	Gaotai	41.54 306		*e*P	P	04 01 39.4	+1.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WB0	Warramunga Arr	41.87 193		P	P	04 01 40.1	-0.6
WB0				IAmb	IAmb	04 01 46.2	
	comp=Z,14nm,1.1s						
WB2	Warramunga Arr	42.05 193		P	P	04 01 41.9	-0.3
WRA	Warramunga Arr	42.05 193		P	P	04 01 41.3	-0.9
	comp=Z,5.4nm,0.6s,baz=17,slow=8.8,SNR=21						
	comp=Z,5.4nm,0.6s						
CMAR	Chiang Mai Arr	42.16 274		LR	LR	04 17 32.3	
	comp=Z,28nm,21.2s,baz=85,slow=34						
FITZ	Fitzroy Crossi	43.03 206		P	P	04 01 49.1	-1.1
ASAR	Alice Springs	45.75 193		P	P	04 02 11.1	-0.8
	comp=Z,3.7nm,0.6s,baz=16,slow=9.3,SNR=76						
	comp=Z,3.7nm,0.6s						
STKA	Stephens Creek	52.95 182		P	P	04 03 04.9	-1.8
	comp=Z,1.7nm,0.7s,baz=12,slow=5.0,SNR=3.8						
	comp=Z,1.7nm,0.7s						
FORT	Forrest	53.97 197		P	P	04 03 14.1	-0.1
BBOO	Buckleboo	54.34 188		P	P	04 03 15.7	-1.2
ZALV	Zalesovo Beam	54.84 322		P	P	04 03 18.6	-1.8
	comp=Z,0.4nm,0.3s,baz=87,slow=7.4,SNR=4.1						
	comp=Z,0.4nm,0.3s						
MKAR	Makanchi Array	55.35 313		P	P	04 03 24.4	+0.1
MKAR	Makanchi Array	55.35 313		P	P	04 03 24.1	-0.2
	comp=Z,0.4nm,0.7s,baz=93,slow=9.7,SNR=5.5						
	comp=Z,0.4nm,0.7s						
E18K	Tukpahlearik C	57.53 22		P	P	04 03 43.7	+4.3
E18K				IAmb	IAmb	04 03 46.6	
	comp=Z,7.7nm,1.0s						
KURK	Kurchatov	58.12 317		P	P	04 03 44.4	+0.6
KURK				IAmb	IAmb	04 03 51.2	
	comp=Z,3.6nm,0.8s						
KURBB	Kurchatov Arra	58.17 317		P	P	04 03 43.6	-0.5
	comp=Z,2.5nm,0.8s,baz=95,slow=7.8,SNR=18						
	comp=Z,2.5nm,0.8s						
NRIK	Noril'sk	58.53 340		LR	LR	04 30 54.4	
	comp=Z,86nm,18.1s,baz=104,slow=38						
E19K	Redstone River	58.74 23		P	P	04 03 50.8	+2.9
E19K				IAmb	IAmb	04 03 54.3	
	comp=Z,7.7nm,1.2s						
SKT	Skwentna	59.53 30		P	P	04 03 57.2	+3.8
CAST	Castle Rocks	59.60 28		P	P	04 03 57.1	+3.3
H21K	Melozitna Rive	59.86 25		P	P	04 03 57.3	+1.6
H21K				IAmb	IAmb	04 04 02.3	
	comp=Z,5.9nm,0.9s						
I21K	Tanana	60.07 26		IAmb	IAmb	04 04 04.1	
	comp=Z,7.7nm,1.0s						
BPAW	Bear Paw Mtn.	60.23 27		P	P	04 04 01.8	+3.6
BPAW				IAmb	IAmb	04 04 04.2	
	comp=Z,6.5nm,0.8s						
B21K	Ikpikpuk River	60.39 21		IAmb	IAmb	04 04 06.4	
	comp=Z,4.0nm,0.9s						
TRF	Thorofare Moun	60.40 28		P	P	04 04 01.6	+2.0
KNK	Knik Glacier	60.87 31		P	P	04 04 05.8	+3.2
KNK				IAmb	IAmb	04 04 13.7	
	comp=Z,7.6nm,1.0s						
SML	Sawmill	60.99 30		P	P	04 04 05.9	+2.5
B22K	Teshekpuk Lake	61.02 20		IAmb	IAmb	04 04 09.9	
	comp=Z,8.1nm,1.0s						
SCM	Sheep Creek Mo	61.47 30		P	P	04 04 09.6	+2.9
E24K	Your Creek	62.10 23		IAmb	IAmb	04 04 18.2	
	comp=Z,5.5nm,1.0s						
IL31		62.11 27		P	P	04 04 13.3	+2.5
IL31				IAmb	IAmb	04 04 15.9	
	comp=Z,4.6nm,0.9s						
ILAR	Eielson Array	62.11 27		P	P	04 04 07.4	-3.5
	comp=Z,0.9nm,0.8s,baz=266,slow=5.6,SNR=8.9						
	comp=Z,0.9nm,0.8s						
D24K	Happy Valley	62.23 22		IAmb	IAmb	04 04 18.6	
	comp=Z,5.5nm,0.8s						
F25K	Christian Rive	63.07 24		IAmb	IAmb	04 04 24.5	
	comp=Z,5.3nm,1.1s						
D25K	Kavik River	63.12 22		IAmb	IAmb	04 04 24.8	
	comp=Z,6.6nm,0.8s						
E25K	Arctic Village	63.19 23		P	P	04 04 19.5	+1.5
E25K				IAmb	IAmb	04 04 25.8	
	comp=Z,6.8nm,1.0s						
SCRK	Sand Creek	63.25 28		P	P	04 04 19.9	+1.2
SCRK				IAmb	IAmb	04 04 24.1	
	comp=Z,7.0nm,0.9s						
BVAR	Borovoye Array	63.31 320		P	P	04 04 18.5	-0.6
	comp=Z,1.0nm,0.4s,baz=100,slow=7.3,SNR=9.5						
	comp=Z,1.0nm,0.4s						
BMAR	Burnt Mountain	63.45 24		P	P	04 04 19.1	-0.7
J26L	Joseph Creek	63.49 27		IAmb	IAmb	04 04 26.0	
	comp=Z,6.3nm,0.8s						
F26K	Sheenjek River	63.65 24		IAmb	IAmb	04 04 28.3	
	comp=Z,5.9nm,0.9s						
KK31	Karatay Array	63.72 309		P	P	04 04 22.0	0.0
KKAR	Karatay Array	63.72 309		P	P	04 04 21.9	-0.1
C27K	Jago River	64.09 22		IAmb	IAmb	04 04 30.8	
	comp=Z,10nm,1.4s						
D27M	Malcolm River	65.01 22		IAmb	IAmb	04 04 37.5	
	comp=Z,6.6nm,0.9s						
F28M	Old Crow	65.27 24		IAmb	IAmb	04 04 38.9	
	comp=Z,6.4nm,1.1s						
E28M	Babbage River	65.47 23		IAmb	IAmb	04 04 40.6	
	comp=Z,7.4nm,1.1s						

*IDC **10** 03:53:47.2±0.6, 21°.32N×144°.02E, h0km, mb4.0/17, mbtmp4.0/19, ML3.7/2, MS3.5/11, Error ellipse: s-maj=24.4km s-min=15.0km az=82.0*
*NEIC **10** 03:54:06.3±1.7, 21°.18N±0°.09×143°.5E±0°.1, h141km±8km,*

HMGA	Homigot	0.28 250		P	Pg	03 53 44.6	+0.7
	SNR=688						
KSPHA	Pohang	0.42 273		P	Pg	03 53 47.2	+0.6
	SNR=876						
GGGA	Ganggu	0.45 296		P	Pg	03 53 47.7	+0.6
	SNR=871						
YODB	Yeongdeok	0.53 313		P	Pg	03 53 48.9	+0.2
	SNR=1167						
YODB				P	Pg	03 53 48.9	+0.2
	SNR=1167						
GIGA	Gigye	0.57 260		P	Pg	03 53 49.5	+0.2
	SNR=39						
JEJB	Jeongja	0.65 215		P	Pg	03 53 50.8	0.0
	SNR=103						
JEJB				P	Pg	03 53 50.8	0.0
	SNR=103						
JEJB				S	Sg	03 53 59.5	+0.3
JEJB				S	Sg	03 53 59.5	+0.3
KSULJ	Uljin	0.66 324		P	Pg	03 53 51.2	+0.1
	SNR=269						
KSCHS	CHEONGSONG	0.69 289		P	Pg	03 53 51.0	-0.7
	SNR=1448						
KSCHS	CHEONGSONG	0.69 289		P	Pg	03 53 51.6	-0.1
	SNR=500						
KSUSN	Ulsan	0.78 233		P	Pg	03 53 53.2	-0.2
	SNR=233						
YOCB	Yeongcheon	0.79 256		P	Pg	03 53 53.3	-0.2
	SNR=397						
YOCB				P	Pg	03 53 53.3	-0.2
	SNR=397						
YEYB	Yeongyang	0.79 305		P	Pg	03 53 53.5	-0.1
	SNR=768						
YEYB				P	Pg	03 53 53.5	-0.1
	SNR=768						
YEYB				S	Sg	03 54 04.0	+0.1
YEYB				S	Sg	03 54 04.0	+0.1
KSADO	Andong	0.80 288		P	Pg	03 53 53.7	-0.1
	SNR=1437						
KSADO				P	Pg	03 53 53.7	-0.1
	SNR=1437						
SUBA	Subi	0.82 319		P	Pg	03 53 53.9	-0.2
	SNR=506						
GSNA	Gyeongjusannae	0.82 240		P	Pg	03 53 53.9	-0.3
	SNR=57						
GGDA	Gangdong	0.85 225		P	Pg	03 53 49.5	-5.2
	SNR=489						
UNCA	Ungchon	0.88 217		P	Pg	03 53 54.8	-0.4
	SNR=97						
KSDAG	Daegu	0.90 244		P	Pg	03 53 55.4	-0.3
	SNR=3517						
KSDAG				P	Pg	03 53 55.4	-0.3
	SNR=3517						
JTU	Tsushima	1.69 194		P	Pn	03 54 06.9	-1.2
JTU	Tsushima	1.69 194		*e*P	Pn	03 54 06.9	-1.2
JTU				*e*S	Sn	03 54 27.2	-2.6
JHGM	Hagimishima	1.72 143		*e*P	Pn	03 54 07.3	-1.2
JHGM				*e*S	Sn	03 54 28.4	-2.1
JTSM	Tsushimamitsus	1.87 193		P	Pn	03 54 09.7	-0.9
JTSM				*e*S	Sn	03 54 31.9	-2.5
KSRS	Korea Array	2.03 310		Pn	Pn	03 54 12.3	-0.4
	16nm,0.3s,baz=124,slow=17,SNR=94						
KSRS				Lg	Lg	03 54 42.7	
	495nm,0.3s,baz=129,slow=30,SNR=24						
	23nm,0.3s						
TJN	Taejon	2.05 277		P	Pb	03 54 15.7	-0.1
TJN	Taejon	2.05 277		S	Sb	03 54 42.6	+1.2
JTY	Toyota	2.13 153		P	Pn	03 54 12.8	-1.4
JGT2	ShimaneMisato	2.40 117		*e*P	Pn	03 54 16.1	-1.7
JGT2				*e*S	Sn	03 54 44.6	-2.8
JHT	Toyohira	2.56 125		P	Pn	03 54 18.2	-1.8
JOI	OKI	2.72 86		P	Pn	03 54 20.0	-2.1
JHS	Saijyo	2.88 113		*e*P	Pn	03 54 22.9	-1.6
JHS				*e*S	Sn	03 54 56.2	-3.0
INCN	Inchon	2.92 298		P	Pb	03 54 30.6	-0.1
JNU	Nakatsue	3.15 165		Pn	Pn	03 54 27.8	-0.4
	5.9nm,0.3s,baz=340,slow=3.6,SNR=68						
JNU				Sn	Sn	03 55 06.9	+1.0
	12nm,0.3s,baz=67,slow=9.0,SNR=4.4						
JNU				Lg	Lg	03 55 15.9	
	13nm,0.3s,baz=78,slow=6.7,SNR=5.3						
	12nm,0.3s						
JNU	Nakatsue	3.15 165		P	Pn	03 54 28.1	-0.1
WOSN	Wonsan	3.57 327		Pg	Pg	03 54 45.4	-1.4
WOSN				Sg	Sg	03 55 30.8	-2.3
WOSN				AML	AML		
	comp=N,312nm,0.2s						
WOSN				AML	AML		
	comp=E,445nm,0.5s						
WOSN				AML	AML		
	comp=Z,216nm,0.2s						
HJU	Haeju	3.82 301		Sg	Sb	03 55 34.7	+2.4
HJU				AML	AML		
	comp=N,2μm,0.6s						
HJU				AML	AML		
	comp=E,803nm,0.5s						
HJU				AML	AML		
	comp=Z,657nm,0.6s						
JMN	Monobe	4.08 125		P	Pn	03 54 40.6	-0.4
JMN	Monobe	4.08 125		S	Sn	03 55 27.5	-1.4
JMN	Monobe	4.08 125		*e*P	Pn	03 54 40.7	-0.4
JTO	Tosashimizu	4.08 143		*e*P	Pn	03 54 40.8	-0.2
PYAG	Pyongyang	4.36 312		Sg	Sg	03 55 55.2	-3.2
PYS	Pyongsong	4.44 315		Pg	Pg	03 55 03.1	-0.3
PYS				Sg	Sg	03 55 58.3	-2.6
PYS				AML	AML		
	comp=N,954nm,0.7s						
PYS				AML	AML		
	comp=E,872nm,0.6s						
PYS				AML	AML		
	comp=Z,538nm,0.7s						
SUJ	Sinuiju	5.79 314		Sg	Sg	03 56 39.9	-4.3
JGF	Kuroka	6.09 93		P	Pn	03 55 09.9

H29M	Whitestone	65.78	26	IAmb	IAmb	04 04 41.9	
	comp=Z,5.3nm,1.0s						
L29M	L29M	65.82	29	IAmb	IAmb	04 04 42.0	
	comp=Z,5.4nm,0.8s						
G29M	Pine Creek	65.95	25	IAmb	IAmb	04 04 42.9	
	comp=Z,5.3nm,0.9s						
K29M	Barlow Dome	66.10	28	IAmb	IAmb	04 04 44.1	
	comp=Z,6.2nm,1.1s						
EPYK	Eagle Plains	66.45	26	IAmb	IAmb	04 04 45.6	
	comp=Z,6.6nm,0.9s						
H31M	Peel River	67.43	26	IAmb	IAmb	04 04 51.7	
	comp=Z,7.8nm,1.0s						
INK	Inuvik	67.68	23	P	P	04 04 47.9	+0.9
INK				IAmb	IAmb	04 04 53.2	
	comp=Z,5.9nm,0.9s						
ABKAR	Abkulak array	70.20	316	P	P	04 05 02.4	-0.7
ABKAR	Abkulak array	70.20	316	P	P	04 05 02.8	-0.3
ABKAR				IAmb	IAmb	04 05 09.1	
	comp=Z,3.5nm,0.8s						
YKA	Yellowknife Ar	76.52	28	P	P	04 05 39.6	-0.4
	comp=Z,0.9nm,0.8s,baz=290,slow=5.8,SNR=9.6						
	comp=Z,0.9nm,0.8s						
J05D	Fort Rock, OR	79.17	48	P	P	04 05 58.8	+3.4
ARCES	ARCESS Array B	79.44	342	P	P	04 05 57.4	+1.2
	comp=Z,2.2nm,0.9s,baz=70,slow=7.9,SNR=3.6						
	comp=Z,2.2nm,0.9s						
BMO	Blue Mountains	81.29	45	P	P	04 06 08.6	+1.9
NVAR	Mina Array Bea	82.93	52	P	P	04 06 14.3	-1.3
	comp=Z,1.1nm,0.6s,baz=279,slow=7.4,SNR=7.1						
NVAR				LR	LR	04 35 43.2	
	comp=Z,111nm,19.8s,baz=296,slow=30						
	comp=Z,1.1nm,0.6s						
KBZ	Khabaz	83.02	314	P	P	04 06 15.1	-0.6
	comp=Z,4.0nm,0.9s,baz=72,slow=4.2,SNR=9.8						
	comp=Z,4.0nm,0.9s						
KIV	Kislovodsk	83.08	314	P	P	04 06 16.0	-0.1
KIV				IAmb	IAmb	04 06 22.4	
	comp=Z,6.6nm,0.8s						
FINES	FINESS Array B	83.75	335	P	P	04 06 18.1	-0.9
	comp=Z,2.5nm,0.9s,baz=63,slow=5.2,SNR=1.5						
	comp=Z,2.5nm,0.9s						
DUG	Dugway, Tooele	86.16	48	IAmb	IAmb	04 06 37.7	
	comp=Z,5.0nm,0.9s						
V12A	Nelson	86.52	53	P	P	04 06 35.5	+1.9
PDAR	Pinedale Array	87.26	45	P	P	04 06 36.7	-0.5
	comp=Z,0.6nm,0.9s,baz=338,slow=1.6,SNR=4.9						
	comp=Z,0.6nm,0.9s						
AKASG	Malin Array Be	88.13	325	P	P	04 06 41.7	+0.8
	comp=Z,0.1nm,0.3s,baz=48,slow=1.4,SNR=1.6						
	comp=Z,0.1nm,0.3s						
PLCA	Paso Flores	145.10	131	PKP	PKPbc	04 13 24.6	-2.6
	comp=Z,4.1nm,1.0s,baz=272,slow=3.2,SNR=7.4						
PLCA	Paso Flores	145.10	131	PcP	PKPbc	04 13 24.9	-2.4
LPAZ	La Paz	149.41	86	PKPbc	PKPdf	04 13 37.3	+1.0
	comp=Z,0.7nm,0.5s,baz=315,slow=2.9,SNR=5.2						

*NEIC **10** 04:04:20.1±1.2,58°.8S±0°.1×26°.5W±0°.2,h107km±6km, mb4.9/15,Error ellipse: s-maj=20.2km s-min=11.1km az=159.0*
*IDC **10** 04:04:22.6±1.9,58°.76S×26°.65W,h140km±15km,mb4.0/8, mbtmp4.4/9,MS3.7/1,Error ellipse: s-maj=20.5km s-min=16.2km az=96.0*

ISC 10 04:04:19.7±0.4,**58°.82S**±0°.07×**26°.45W**±0°.10,**h116**km,**n62,** σ1§**93**/66,**mb4.7**/13,**5C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.09	155	P	P	04 07 38.9	+1.2
VNA1	Neumayer--Stat	14.09	155	⇑P	P	04 07 38.9	+1.2
	comp=Z,2.3nm,0.3s						
VNA3	Neumayer Olymp	14.25	158	P	P	04 07 40.8	+1.2
VNA3	Neumayer Olymp	14.25	158	⇑P	P	04 07 40.8	+1.2
	comp=Z,4.2nm,0.2s						
VNA2	Neumayer--Watz	14.48	155	P	P	04 07 44.0	+1.8
	baz=310,slow=12						
VNA2	Neumayer--Watz	14.48	155	⇑P	P	04 07 44.0	+1.8
	comp=Z,1.0nm,0.2s,baz=310,slow=12						
SNAA	Sanae	16.06	153	P	P	04 08 05.6	+5.9
SNAA	Sanae	16.06	153	P	P	04 08 00.9	+1.3
SNAA	Sanae	16.06	153	⇑P	P	04 08 05.6	+5.9
	comp=Z,7.8nm,0.2s						
SNAA	Sanae	16.06	153	P	P	04 08 00.7	+1.1
	comp=Z,4.1nm,0.6s,baz=295,slow=12,SNR=16						
SNAA				S	Sn	04 10 49.7	-6.7
	comp=Z,4.8nm,0.9s,baz=305,slow=13,SNR=3.9						
PMSA	Palmer Station	18.51	235	LR	LR	04 14 58.4	
	comp=Z,253nm,19.1s,baz=288,slow=34						
BELA	Belgrano 2	19.34	185	P	P	04 08 36.4	+1.0
SYO	Syowa Base	29.22	138	⇑eP	P	04 10 07.3	-2.5
QSPA	South Pole Qui	31.42	180	P	P	04 10 31.4	+1.9
QSPA				IAmb	IAmb	04 10 32.0	
	comp=Z,26nm,1.4s						
QSPA	South Pole Qui	31.42	180	P	P	04 10 30.8	+1.3
	comp=Z,7.0nm,0.6s,baz=218,slow=1.2,SNR=58						
	comp=Z,7.0nm,0.6s						
QSPA	South Pole Qui	31.42	180	P	P	04 10 31.2	+1.7
QSPA				pP	pP	04 10 55.6	+1.4
QSPA				PcP	PcP	04 13 18.3	-1.5
QSPA				ScP	ScP	04 16 50.7	-1.1
PLCA	Paso Flores	32.96	284	P	P	04 10 43.6	+0.5
PLCA	Paso Flores	32.96	284	P	P	04 10 43.1	0.0
	comp=Z,1.2nm,0.9s,baz=149,slow=4.6,SNR=3.8						
	comp=Z,1.2nm,0.9s						
PLCA	Paso Flores	32.96	284	P	P	04 10 43.0	-0.1
LL06	Loncomilla	33.45	279	P	P	04 10 46.8	-0.4
MT01	Popeta	38.66	290	P	P	04 11 32.1	+0.4
MT01				IAmb	IAmb	04 11 33.0	
	comp=Z,32nm,1.6s						
MT02	Curacav	39.10	291	P	P	04 11 35.8	+0.4
CO01	Juntas del Tor	41.30	295	P	P	04 11 55.5	+1.7
CO01				IAmb	IAmb	04 11 58.0	
	comp=Z,30nm,1.9s						
LCO	Las Campanas	42.40	295	P	P	04 12 03.3	+0.5
LCO				IAmb	IAmb	04 12 27.1	
	comp=Z,45nm,2.0s						
AC04	Llanos de Chal	43.26	295	P	P	04 12 10.2	+0.8
VNDA	Vanda	43.81	183	P	P	04 12 15.5	+2.3
VNDA				IAmb	IAmb	04 13 23.0	
	comp=Z,26nm,1.4s						
VNDA	Vanda	43.81	183	P	P	04 12 15.1	+1.8
	comp=Z,5.6nm,0.7s,baz=193,slow=7.0,SNR=9.2						
	comp=Z,5.6nm,0.7s						
VNDA	Vanda	43.81	183	P	P	04 12 15.2	+2.0
CCD	Concordia, Ant	44.87	169	P	P	04 12 22.6	+0.5
BOSA	Boshof	46.34	73	P	P	04 12 34.8	+0.8
BOSA				IAmb	IAmb	04 12 35.7	
	comp=Z,15nm,0.7s						
BOSA	Boshof	46.34	73	P	P	04 12 34.5	+0.5
	comp=Z,15nm,0.7s,baz=208,slow=7.2,SNR=46						
	comp=Z,15nm,0.7s						
BOSA	Boshof	46.34	73	P	P	04 12 34.8	+0.8
LBTB	Lobatse	49.50	70	P	P	04 12 59.1	+0.8
LBTB				IAmb	IAmb	04 13 00.1	
	comp=Z,11nm,0.7s						
LBTB	Lobatse	49.50	70	P	P	04 12 59.1	+0.8
LBTB				pP	pP	04 13 25.3	+0.4
POGA	Pongola	50.63	78	P	P	04 13 07.9	+1.3
TSUM	Tsumeb	50.75	58	P	P	04 13 09.3	+1.5
TSUM	Tsumeb	50.75	58	P	P	04 13 09.2	+1.3
H10N1	ASCENSION HYDR	51.68	15	T	T	05 09 19.4	
	baz=194						
H10N3	ASCENSION HYDR	51.68	15	T	T	05 09 19.3	
	baz=194						
H10N2	ASCENSION HYDR	51.70	15	T	T	05 09 16.0	
	baz=194						
LPAZ	La Paz	52.33	306	P	P	04 13 18.9	-1.1
LPAZ	La Paz	52.33	306	P	P	04 13 19.1	-1.0
	comp=Z,0.6nm,0.5s,baz=127,slow=5.9,SNR=3.6						
	comp=Z,0.6nm,0.5s						
LSZ	Lusaka	59.06	67	P	P	04 14 08.6	+1.0
LSZ				IAmb	IAmb	04 14 09.4	
	comp=Z,10nm,0.8s						
LSZ	Lusaka	59.06	67	P	P	04 14 08.4	+0.8
DBIC	Dimbokro	67.55	23	P	P	04 15 03.9	+0.5
	comp=Z,3.4nm,0.8s,baz=211,slow=3.5,SNR=5.7						
	comp=Z,3.4nm,0.8s						
DBIC	Dimbokro	67.55	23	P	P	04 15 03.8	+0.5
DBIC				pP	pP	04 15 31.4	0.0
TORD	Torodi Ar. Bea	75.30	28	P	P	04 15 50.7	+0.9
	comp=Z,6.4nm,0.6s,baz=202,slow=4.6,SNR=51						
	comp=Z,6.4nm,0.6s						
ASAR	Alice Springs	96.22	162	P	P	04 17 34.0	-0.6
	comp=Z,0.7nm,0.8s,baz=184,slow=4.0,SNR=11						
	comp=Z,0.7nm,0.8s						
FINES	FINESS Array B	126.65	28	PKP	PKPdf	04 23 06.9	-0.7
	comp=Z,4.1nm,1.0s,baz=208,slow=2.7,SNR=3.9						
ARCES	ARCESS Array B	133.37	22	PKP	PKPdf	04 23 19.6	-0.6
	comp=Z,2.9nm,1.1s,baz=208,slow=1.7,SNR=5.1						
BVAR	Borovoye Array	135.89	60	PKP	PKPdf	04 23 24.1	-1.4
	comp=Z,0.3nm,0.4s,baz=217,slow=4.5,SNR=1.6						
BVAR				SKPbc	SKPbc	04 26 43.1	-3.0
	comp=Z,0.7nm,0.8s,baz=225,slow=1.6,SNR=3.6						
MKAR	Makanchi Array	137.34	74	PKP	PKPdf	04 23 27.0	-1.3
	comp=Z,0.2nm,0.6s,baz=180,slow=1.4,SNR=1.9						
MKAR				SKPbc	SKPbc	04 26 47.8	-3.0
	comp=Z,0.4nm,0.7s,baz=241,slow=2.7,SNR=4.5						
KURBB	Kurchatov Arra	138.07	67	SKPbc	SKPbc	04 26 49.9	-2.7
	comp=Z,0.3nm,0.5s,baz=228,slow=3.5,SNR=4.8						
YKA	Yellowknife Ar	138.47	316	PKP	PKPdf	04 23 28.8	-1.0
	comp=Z,0.1nm,0.4s,baz=139,slow=2.3,SNR=4.0						
YKA				SKPbc	SKPbc	04 26 49.2	-4.1
	comp=Z,0.2nm,0.6s,baz=136,slow=3.0,SNR=3.6						
ZALV	Zalesovo Beam	143.17	67	PKhKP	PKPpre	04 23 34.8	
	comp=Z,1.0nm,0.3s,baz=237,slow=3.6,SNR=6.7						
A36M	Sachs Harbour	146.76	326	PKPdf	PKPdf	04 23 45.1	+0.9
M30M	Minto, Yukon	147.22	307	PKPdf	PKPbc	04 23 47.0	-0.8
M29M	Somme Creek	147.86	306	PKPdf	PKPbc	04 23 48.9	-0.8
SONM	Songino Array	150.39	91	PKPbc	PKiKP	04 23 57.1	-0.1
SONM	Songino Array	150.39	91	PKPbc	PKPbc	04 23 56.7	+0.3
	comp=Z,1.9nm,0.9s,baz=223,slow=4.1,SNR=7.9						
PWL	Port Wells	151.55	299		PKPbc	04 23 58.0	-0.6
ILAR	Eielson Array	152.20	308	PKPbc	PKPbc	04 23 58.5	-1.4
	comp=Z,0.2nm,0.4s,baz=126,slow=6.0,SNR=9.8						

*NEIC **10** 04:10:06.6±1.4,47°.98N±0°.06×122°.41W±0°.05,h30km±9km, Error ellipse: s-maj=8.9km s-min=2.5km az=206.0*

SEA 10 04:10:07.1±1.8,**47°.96N**±0°.05×**122°.37W**±0°.05,**h29**km±6km, **ML2.3**/23,**ML2.1**/16(NEIC),**Error ellipse: s-maj=7.9km s-min=3.8km az=209.0,Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWID	South Whidbey	0.05	327		Pb	04 10 11.8	-0.2
SWID					Sb	04 10 15.8	+0.5
BEVT	Boeing Everett	0.08	123		Pb	04 10 12.0	-0.1
BEVT					Sb	04 10 16.1	+0.5
LYNC	Lynnwood City	0.15	160		Pb	04 10 12.5	-0.1
LYNC					Sb	04 10 17.1	+0.7
EVGW	Everett Gatewa	0.18	127		Sb	04 10 17.3	+0.3
BRKS	Brookside Elem	0.22	165		Sb	04 10 18.9	+1.4
NIHS	Ingelmoor High	0.24	156		Sb	04 10 20.0	+1.9
BLH	Bald Hill	0.26	119		Pb	04 10 13.4	-0.5
LEOT	Leota Junior H	0.26	139		Pb	04 10 13.9	+0.1
LEOT					Sn	04 10 19.6	-0.4
NOWS	NOAA--Sand Poi	0.29	164		Sn	04 10 21.3	+0.6
EARN	East Ridge Ele	0.32	135		Pb	04 10 14.6	0.0
EARN					Sn	04 10 20.7	-0.6
SVOH	Skagit Valley	0.37	332		Pb	04 10 14.8	-0.7
JCW	Jim Creek	0.37	52		Pb	04 10 14.9	-0.6
B013	Quilcene	0.39	248		Pb	04 10 14.8	-0.9
B013					Sb	04 10 20.9	-0.8
B013	Quilcene	0.39	248		Pb	04 10 14.8	-0.9
B013					Sb	04 10 20.9	-0.8
BLN	Blyn Mountain	0.41	276		Pb	04 10 15.2	-0.8
BLN					Sb	04 10 21.6	-0.5
SP2	Seward Park 2	0.42	169		Pb	04 10 16.4	+0.3
HTW	Haystack Looko	0.43	111		Pb	04 10 15.9	-0.6
SQM	Sequim	0.47	284		Pb	04 10 16.6	-0.3
C04A	Brinnon	0.47	239		Pb	04 10 16.0	-1.1
C04A					Sb	04 10 23.1	-0.7
GMW	Gold Mountain	0.50	214		Pb	04 10 16.6	-0.8
GMW					Sb	04 10 24.1	-0.5
GNW	Green Mountain	0.50	218		Pb	04 10 16.5	-1.0
GNW					Sb	04 10 24.0	-0.6
GNW				IAML		04 10 24.4	
	comp=N,104nm,0.2s						
TTW	Tolt Reservoir	0.53	120		Pb	04 10 17.4	-0.5
TTW					Sb	04 10 24.9	-0.5
C05A	Tolt Reservoir	0.53	120		Pb	04 10 17.2	-0.7
C05A					Sb	04 10 24.8	-0.6
HDW	Hoodsport	0.56	236		Pb	04 10 17.3	-1.2
HDW					Sb	04 10 25.5	-0.7
ELW	Echo Lake	0.58	144		Pb	04 10 18.1	-0.6
RATT	Rattlesnake La	0.66	144		Pb	04 10 19.2	-0.9
RATT					Sb	04 10 29.1	+0.1
UWFH	University of	0.72	324		Pb	04 10 20.0	-1.2
B04A	Port Angeles	0.77	277		Pb	04 10 20.4	-1.5
B04A	Port Angeles	0.77	277		Sb	04 10 30.9	-1.0
VGZ	Gonzales	0.78	306		Pb	04 10 20.4	-1.7
D05A	Enumclaw	0.82	161		Pn	04 10 22.0	-0.6
GPW	Glacier Peak	0.84	79		Pn	04 10 22.6	-0.7
STW	Striped Peak	0.89	283		Pn	04 10 22.3	-1.3
B011	North Saanich	0.99	314		Pn	04 10 24.0	-1.1
PGC	Sidney	1.00	314		Pn	04 10 24.1	-1.0
PGC					Sn	04 10 36.9	-1.3
NLWA	Neilton Lookou	1.16	241	Pn	Pb	04 10 28.1	-0.5
NLWA				IAML		04 10 56.9	
	comp=N,41nm,4.2s						
NLWA				IAML		04 10 57.2	
	comp=N,35nm,3.8s						
RCM	Mount Rainier-	1.21	159		Pn	04 10 28.1	-0.3
GOBB	Galiano Island	1.25	323		Pn	04 10 28.3	-0.2
LON	Longmire	1.27	162		Pn	04 10 28.6	-0.4
LON				IAML		04 10 46.0	
	comp=E,34nm,0.1s						
LTY	Liberty	1.35	121		Pn	04 10 30.9	+0.8
LTY				IAML		04 10 49.0	
	comp=N,32nm,0.3s						
CLRS	Cowichan Lake	1.45	307	Pn	Pn	04 10 30.7	-0.7
CLRS				IAML		04 10 49.2	
	comp=N,32nm,1.9s						
B202	Windy Ridge, M	1.73	175		Pn	04 10 36.4	+1.1
VALT	Mount Saint He	1.75	176		Pn	04 10 37.0	+1.3
MXC	Moxie City	1.98	134		Pb	04 10 42.3	-0.2
MXC	Moxie City	1.98	134	IAML		04 11 07.6	
	comp=E,16nm,2.7s						
MXC				IAML		04 11 18.5	
	comp=N,14nm,3.4s						
B927	Port Alberni	2.05	309		Pn	04 10 41.0	+1.5
YPT	Yellepit	3.02	128		Pn	04 10 52.0	-0.9

IDC 10 04:12:49.2±7.1,**17°.54S**×**177°.77W**,**h0**km,**mb3.8**/3, **mbtmp3.8**/3,**Error ellipse: s-maj=314.0km s-min=37.6km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.30	259	P	P	04 21 08.7	-0.6
	0.2nm,0.3s,baz=95,slow=7.8,SNR=6.1						
	0.2nm,0.3s						
ASAR	Alice Springs	45.48	254	P	P	04 21 10.8	+0.2
	3.4nm,0.5s,baz=88,slow=8.1,SNR=79						
	3.4nm,0.5s						
ILAR	Eielson Array	85.40	13	P	P	04 25 28.1	0.0
	0.1nm,0.3s,baz=206,slow=5.2,SNR=5.2						
	0.1nm,0.3s						

*NOU **10** 04:17:06.0,35°.71S×179°.17E,h227km,mb3.9/12,Off E. Coast of N. Island, N.Z.*

WEL 10 04:17:06.5±1.2,**36°S**±17°×**17°9E**±1°7,**h227**km±16km, **M3.9**/12,**ML3.9**/9,**MLv3.9**/12,**Error ellipse: s-maj=25.3km s-min=19.0km az=137.2,confirmed,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	2.11	198	P	Pn	04 17 48.2	0.0
WMGZ				S	S	04 18 21.2	+0.5
PKGZ	Pakihiroa	2.25	204	P	Pn	04 17 49.5	0.0
PKGZ				S	S	04 18 23.1	-0.3
HAZ	Te Kaha	2.27	211	P	Pn	04 17 49.6	-0.1
PUZ	Puketiti	2.39	199	P	Pn	04 17 50.9	-0.1
PUZ				S	S	04 18 25.8	-0.1
RUGZ	Raukumara Rang	2.49	210	P	Pn	04 17 51.3	-0.8
TWGZ	Tauwhareparae	2.57	203	P	Pn	04 17 53.3	+0.4
TWGZ				S	S	04 18 31.6	+2.3
CNGZ	Carnagh Statio	2.79	197	P	Pn	04 17 56.1	+0.8
TKGZ	Te Karaka	2.85	203	P	Pn	04 17 56.1	+0.2
MWZ	Matawai	2.87	208	P	Pn	04 17 56.4	+0.3
MWZ				S	S	04 18 36.0	+0.9
OPRZ	Ohinepanea	2.96	226	P	Pn	04 17 57.3	+0.2
URZ	Urewera	2.98	214	P	Pn	04 17 57.4	+0.1
URZ	Urewera	2.98	214	P	S	04 18 38.0	+0.8
URZ	Urewera	2.98	214	P	Pn	04 17 57.1	-0.2
URZ				S	S	04 18 37.4	+0.2
MARZ	Manawahe	2.99	223	P	Pn	04 17 57.8	+0.3
RIGZ	Rimuhau	3.12	202	P	Pn	04 17 59.4	+0.4
RTZ	Ruatahuna	3.33	212	P	Pn	04 18 01.4	-0.1
RTZ				S	S	04 18 45.0	+0.4
KNZ	Kokohu	3.44	201	P	Pn	04 18 02.5	0.0
TOZ	Tahuroa Road	3.56	236	P	Pn	04 18 04.4	+0.4
BKZ	Black Stump Fm	4.00	212	P	Pn	04 18 09.7	+0.4
BKZ	Black Stump Fm	4.00	212	S	S	04 19 00.2	+1.3
BKZ	Black Stump Fm	4.00	212	P	Pn	04 18 09.6	+0.3
HIZ	Hauiti	4.42	231	P	Pn	04 18 14.3	-0.1
NGZ	Ngauruhoe	4.43	220	P	Pn	04 18 16.0	+1.3
PXZ	Pawanui	4.62	203	P	Pn	04 18 16.3	-0.4
TSZ	Takapari Road	4.97	210	P	Pn	04 18 20.7	-0.5
WAZ	Wanganui	5.18	219	P	Pn	04 18 24.7	+0.9
BFZ	Birch Farm	5.41	205	P	Pn	04 18 26.7	+0.1
BFZ	Birch Farm	5.41	205	S	S	04 19 31.5	+1.3
BFZ	Birch Farm	5.41	205	P	Pn	04 18 26.4	-0.2
MRZ	Mangatainoka R	5.64	210	P	Pn	04 18 28.7	-0.8
SNZO	South Karori	6.54	212	P	Pn	04 18 40.8	-0.1
NNZ	Nelson	7.09	219	P	Pn	04 18 47.5	-0.5
QRZ	Quartz Range	7.27	224	P	Pn	04 18 49.6	-0.7
QRZ	Quartz Range	7.27	224	S	S	04 20 14.0	+0.6
QRZ	Quartz Range	7.27	224	P	Pn	04 18 49.0	-1.4
THZ	Tophouse	7.73	218	P	Pn	04 18 55.4	-0.9
KHZ	Kahutara	7.95	212	P	Pn	04 18 59.4	+0.5
KHZ	Kahutara	7.95	212	S	S	04 20 30.0	+1.0
KHZ	Kahutara	7.95	212	P	Pn	04 18 58.4	-0.6
DSZ	Denniston Nort	8.30	222	P	Pn	04 19 01.4	-2.0
GVZ	Greta Valley S	8.61	212	P	Pn	04 19 06.8	-0.7
LTZ	Lake Taylor	8.81	216	P	Pn	04 19 08.7	-1.3
INZ	Inchbonnie	9.18	219	P	Pn	04 19 12.6	-2.1

IDC 10 05:17:25.0±1.9,**9°.96N**×**126°.22E**,**h0**km,**mb4.0**/4, **mbtmp4.0**/4,**MS2.3**/1,**Error ellipse: s-maj=216.0km s-min=31.9km az=68.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.94	193	LR	LR	05 19 17.2	
	comp=Z,49nm,19.2s,baz=348,slow=38						
WRA	Warramunga Arr	30.77	165	P	P	05 23 42.4	0.0
	0.8nm,1.2s,baz=340,slow=7.5,SNR=1.2						
	0.8nm,1.2s						
H11S3	WAKE ISLAND Hy	40.05	73	T	T	06 07 55.2	
	baz=262,SNR=5.3						
H11S1	WAKE ISLAND Hy	40.07	73	T	T	06 07 56.7	
	baz=262						
H11S2	WAKE ISLAND Hy	40.07	73	T	T	06 08 06.0	
	baz=262						
H11N1	WAKE ISLAND Hy	40.40	71	T	T	06 08 28.7	
	baz=264,slow=74,SNR=7.3						
H11N2	WAKE ISLAND Hy	40.41	71	T	T	06 08 15.3	
	baz=264,slow=74,SNR=5.1						
H11N3	WAKE ISLAND Hy	40.42	71	T	T	06 08 31.0	
	baz=264,slow=74,SNR=7.2						
MKAR	Makanchi Array	52.25	323	P	P	05 26 38.4	+0.4
	0.3nm,0.5s,baz=120,slow=8.1,SNR=4.9						
	0.3nm,0.5s						
ARCES	ARCESS Array B	84.47	340	P	P	05 29 59.1	-0.2
	3.3nm,1.0s,baz=77,slow=4.4,SNR=5.8						
	3.3nm,1.0s						
FINES	FINESS Array B	86.14	332	P	P	05 30 07.5	-0.3
	6.1nm,1.1s,baz=54,slow=3.6,SNR=4.0						
	6.1nm,1.1s						

*SJA **10** 05:18:53.1±0.8,32°.07S×69°.32W,h125km±5km,ML3.6, MW3.5*

ISC 10 05:18:53.1±1.4,**32°.07S**±0°.03×**69°.41W**±0°.04, **h135**km±10km,**n58,**σ1§**49**/107,**12C-1D,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.28	20	eP	Pn	05 19 10.8	-1.3
RTLS				eS	Sn	05 19 23.5	-3.0
RTLS				IAML		05 19 23.9	
	comp=Z,4μm,0.2s						
SJA	San Juan	0.90	54	eP	Pn	05 19 05.0	-11
SJA				eS	Sn	05 19 31.0	-1.7
SJA				IAML		05 19 31.6	
	comp=Z,1μm,0.2s						
VA03	San Esteban	1.19	234	eP	Pn	05 19 18.9	+0.6
VA03				IAML		05 19 40.1	
	comp=Z,653nm,0.2s						
VA03	San Esteban	1.19	234	eP	Pn	05 19 18.8	+0.5
VA03				eS	Sn	05 19 37.4	-0.2
VA03				IAML		05 19 38.8	
	comp=E,2μm,0.3s						
FCH	Farellones	1.46	210	⇑iP	Pn	05 19 22.3	+0.9
FCH				i S	Sn	05 19 44.0	+1.0
MT08	Bocatoma Ro	1.47	200	eP	Pn	05 19 21.7	+0.3
MT08				eP		05 19 22.5	
MT08				eP		05 19 22.8	
MT08				eS	Sn	05 19 45.5	+2.5
MT08	Bocatoma Ro	1.47	200	⇑iP	Pn	05 19 22.1	+0.7
MT08				i S	Sn	05 19 44.5	+1.6
MT04	Ro Olivares	1.47	204	eP	Pn	05 19 22.2	+0.8
MT04				eP		05 19 22.8	
MT04				eP		05 19 23.3	
MT04				eS	Sn	05 19 45.9	+2.9
MT04	Ro Olivares	1.47	204	⇑iP	Pn	05 19 22.4	+1.0
MT04				i S	Sn	05 19 44.0	+1.0
ACCO	Cerro Coronel	1.50	12	eP	Pn

MT13 *e*S **Sn** **05 19 52.6 +2.5**
MT13 IAML 05 19 57.5
comp=Z,182nm,0.2s
MT13 San Alfonso 1.83 203 *e*P **Pn** **05 19 26.4 +1.0**
MT13 *e*S **Sn** **05 19 52.0 +1.9**
MT13 IAML 05 19 56.6
comp=N,470nm,0.2s
MT02 Curacav 1.88 230 *e*P **Pn** **05 19 26.0 +0.1**
MT02 *e*S **Sn** **05 19 50.2 -0.8**
MT02 Curacav 1.88 230 *e*P **Pn** **05 19 26.0 +0.1**
MT02 *i* S **Sn** **05 19 49.7 -1.3**
AROD Rodeo 1.89 358 *e*P **Pn** **05 19 27.7 +1.3**
AROD *e*S **Sn** **05 19 52.6 +0.8**
AROD 05 19 53.8
LMEL Las Melosas 1.90 200 *e*P **Pn** **05 19 26.8 +0.6**
LMEL *e*S **Sn** **05 19 56.0 +4.4**
LMEL Las Melosas 1.90 200 ⇑*i*P **Pn** **05 19 27.1 +0.9**
LMEL *e*S **Sn** **05 19 52.6 +0.9**
ACDV Cuesta del Vie 1.91 8 *e*P **Pn** **05 19 27.4 +1.0**
ACDV *e*S **Sn** **05 19 47.5 -4.3**
ACDV IAML 05 19 52.9
comp=Z,350nm,0.4s
MT12 Pirque 1.92 210 *e*P **Pn** **05 19 26.9 +0.6**
MT12 *i* S **Sn** **05 19 52.1 +0.2**
MT12 IAML 05 19 57.0
comp=E,910nm,0.7s
VA01 Torpederas 2.12 243 *e*P **Pn** **05 19 28.5 -0.2**
VA01 *e*S **Sn** **05 19 54.0 -1.9**
VA01 IAML 05 20 03.1
comp=Z,168nm,0.6s
VA01 Torpederas 2.12 243 *e*P **Pn** **05 19 28.3 -0.4**
VA01 *e*S **Sn** **05 19 54.0 -1.9**
VA01 IAML 05 20 00.1
comp=E,462nm,0.2s
MT09 Talagante 2.16 217 *e*P **Pn** **05 19 29.6 +0.2**
MT09 *e*S **Sn** **05 19 56.4 -0.8**
MT09 IAML 05 19 58.0
comp=E,1μm,0.3s
CO01 Juntas del Tor 2.16 344 *e*P **Pn** **05 19 31.4 +1.8**
CO01 *e*S **Sn** **05 20 01.8 +4.3**
CO01 *e*S 05 20 02.8
CO01 Juntas del Tor 2.16 344 ⇑*i*P **Pn** **05 19 31.8 +2.2**
CO01 *e*S **Sn** **05 19 58.5 +1.0**
BO04 La Punta 2.17 207 ⇑*i*P **Pn** **05 19 30.4 +1.0**
BO04 *e*S **Sn** **05 19 57.5 +0.3**
BO04 IAML 05 20 00.4
comp=N,350nm,0.4s
GO04 Tololo Observa 2.23 327 *e*P **Pn** **05 19 31.0 +0.6**
GO04 *e*P 05 19 31.1
GO04 *e*S **Sn** **05 20 00.0 +1.1**
GO04 Tololo Observa 2.23 327 ⇑*i*P **Pn** **05 19 30.9 +0.6**
GO04 *e*S **Sn** **05 19 58.0 -0.9**
CO06 Fray Jorge 2.35 306 *e*P **Pn** **05 19 31.4 -0.3**
CO06 *e*S **Sn** **05 19 58.8 -2.5**
MT01 Popeta 2.37 220 *e*P **Pn** **05 19 31.7 -0.1**
MT01 *e*S **Sn** **05 20 00.7 -0.9**
MT01 IAML 05 20 01.0
comp=Z,235nm,0.2s
MT01 Popeta 2.37 220 *e*P **Pn** **05 19 31.6 -0.2**
MT01 *e*S **Sn** **05 19 59.9 -1.7**
MT01 IAML 05 20 01.4
comp=E,432nm,0.2s
VA05 Santo Domingo 2.44 229 *e*P **Pn** **05 19 32.8 +0.1**
VA05 *e*S **Sn** **05 20 01.4 -1.7**
VA05 IAML 05 20 07.0
comp=N,435nm,0.2s
CO05 La Serena 2.65 323 *e*P **Pn** **05 19 35.5 +0.1**
CO05 *e*S **Sn** **05 20 04.8 -3.2**
CO05 IAML 05 20 10.4
comp=E,366nm,0.3s
AGUA GUANDACOL 2.69 17 *e*P **Pn** **05 19 36.5 +0.5**
AGUA *e*S **Sn** **05 20 10.9 +1.8**
AGUA IAML 05 20 13.5
comp=Z,174nm,0.2s
BO01 Tunca 2.71 211 *e*P **Pn** **05 19 36.3 +0.2**
BO01 *e*S **Sn** **05 20 09.2 -0.1**
BO01 IAML 05 20 10.8
comp=Z,113nm,0.2s
BO01 Tunca 2.71 211 *e*P **Pn** **05 19 36.0 -0.2**
BO01 *e*S **Sn** **05 20 08.2 -1.1**
BO01 IAML 05 20 09.9
comp=E,137nm,0.2s
RFA San Rafael 2.81 164 *e*P **Pn** **05 19 37.5 0.0**
RFA *e*S **Sn** **05 20 05.0 -6.8**
RFA IAML 05 20 10.4
comp=Z,102nm,0.9s
BO02 Sierra Bellavi 2.95 202 *e*P **Pn** **05 19 40.0 +0.7**
BO02 *e*S **Sn** **05 20 15.9 +0.9**
BO02 IAML 05 20 21.4
comp=E,256nm,0.2s
APLL PUNTA DE LOS L 2.98 57 *e*P **Pn** **05 19 39.5 -0.2**
LCO Las Campanas 3.24 340 *e*P **Pn** **05 19 43.9 +0.6**
LCO Las Campanas 3.24 340 *e*P **Pn** **05 19 43.7 +0.4**
LCO *e*S **Sn** **05 20 21.6 -0.4**
VCA Vinchina 3.48 18 *e*P **Pn** **05 19 47.5 +1.2**
VCA IAML 05 20 33.4
comp=Z,177nm,0.4s
AC04 Llanos de Chal 4.11 339 IAML 05 20 53.9
comp=Z,36nm,0.9s
BI02 San Fabin de 4.84 198 *e*P **Pn** **05 20 03.5 -0.6**
BI02 IAML 05 21 20.2
comp=Z,117nm,0.8s

*IDC **10** 05:19:11.2±9.0, 37°.06N×71°.57E, h118km±68km, mb3.6/1, mbtmp3.4/5, Error ellipse: s-maj=84.7km s-min=69.5km az=126.0*

ISC 10 05:19:09.6±2.7, 37°.1N±0°.2×71°.2E±0°.2, h100km, n7, σ0°99/8, 1C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.99**	**355**	⇓P	**Pn**	**05 20 35.7**	**0.0**
	0.3nm,0.2s,baz=182,slow=13,SNR=15						
KK31				⇑S	**Sn**	**05 21 42.5**	**-0.4**
	1.5nm,0.5s,baz=181,slow=20,SNR=4.6						
AAK	**Ala-Archa**	**6.07**	**24**	P	**Pn**	**05 20 38.1**	**+1.1**
	1.3nm,0.4s,baz=180,slow=5.1,SNR=6.7						
AAK				S	**Sn**	**05 21 45.9**	**+0.8**
	1.3nm,0.3s,baz=139,slow=20,SNR=5.7						
MKAR	**Makanchi Array**	**12.71**	**37**	P	**Pn**	**05 22 05.2**	**-1.3**
	0.1nm,0.5s,baz=224,slow=12,SNR=2.2						
KURBB	**Kurchatov Arra**	**14.49**	**19**	P	**Pn**	**05 22 29.9**	**+0.3**
	0.2nm,0.3s,baz=192,slow=13,SNR=1.4						
AB31	**Akbulak array**	**14.61**	**330**	P	Pn	05 22 28.9	-2.3
	0.5nm,0.7s,baz=140,slow=12,SNR=5.8						
ZALV	**Zalesovo Beam**	**19.29**	**25**	P	**P**	**05 23 26.2**	**-0.1**
	0.9nm,0.4s,baz=212,slow=11,SNR=5.7						
ARCES	**ARCESS Array B**	**40.62**	**337**	P	**P**	**05 26 40.2**	**+1.0**
	1.8nm,0.9s,baz=114,slow=8.3,SNR=2.1						
	1.8nm,0.9s						

*VIE **10** 05:25:24.8±1.6, 51°.41N×16°.11E, h0km, mb2.5/4, ml2.3/8, Error ellipse: s-maj=10.0km s-min=7.8km az=179.0, Suspected Mining induced.*

*PRU **10** 05:25:27.6, 51°.41N×16°.12E, h0km*

ISC 10 05:25:25.3±1.2, 51°.45N±0°.05×16°.16E±0°.03, h0km, n28, σ1°04/55, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**172**	*e*Pg	**Pg**	**05 25 38.0**	**+1.1**
KSP				*e*Sg	**Sb**	**05 25 46.8**	**-1.1**
CHVC	**Chvalec**	**0.86**	**184**	*e*PG	**Pb**	**05 25 42.9**	**-0.2**
CHVC				*e*SG	**Sb**	**05 25 55.0**	**-0.2**
OSTC	**Ostas**	**0.89**	**178**	*e*PG	**Pb**	**05 25 43.5**	**-0.1**
OSTC				*e*SG	**Sb**	**05 25 55.9**	**-0.1**
	comp=Z,25nm,0.3s						
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pb**	**05 25 44.2**	**-0.3**
UPC				*e*SG	**Sb**	**05 25 57.0**	**-0.5**
	comp=Z,34nm,0.3s						
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	**05 25 46.8**	**+0.5**
DPC				*e*SG	**Sb**	**05 26 02.1**	**0.0**
	comp=Z,18nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**228**	*e*PG	**Pg**	**05 25 51.5**	**+0.2**
PVCC				*e*SG	**Sn**	**05 26 09.9**	**-0.3**
	comp=Z,47nm,0.2s						
KRLC	**Kraliky**	**1.43**	**164**	*e*PG	**Pg**	**05 25 52.7**	**+0.1**
KRLC				*e*SG	**Sn**	**05 26 12.4**	**+0.4**
	comp=Z,22nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**249**	Pg	**Pn**	**05 25 53.4**	**-0.1**
BRG				Sg	**Sn**	**05 26 14.1**	**+0.2**
BRG				Amp		05 26 15.0	
	comp=Z,18nm,0.4s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	**05 25 59.3**	**-0.1**
PRU				*e*SG	**Sg**	**05 26 22.9**	**+0.3**
	comp=Z,16nm,0.4s						
STEB	**Steborice**	**1.83**	**145**	*e*PG	**Pb**	**05 25 59.5**	**-0.1**
STEB				*e*SG	**Sn**	**05 26 22.4**	**+0.6**
MORC	**Moravsky Berou**	**1.89**	**152**	*e*PN	**Pn**	**05 25 58.7**	**-0.1**
MORC				*e*SG	**Sg**	**05 26 26.3**	**+0.4**
HSKC	**Hora Svate Kat**	**1.92**	**245**	*e*PG	**Pb**	**05 26 00.6**	**-0.5**
HSKC				*e*SG	**Sb**	**05 26 25.7**	**+0.2**
CLL	**Collm**	**1.98**	**267**	*e*PN	**Pn**	**05 25 59.0**	**-1.0**
CLL				*e*Pg	**Pb**	**05 26 02.0**	**-0.2**
CLL				*e*Sg	**Sb**	**05 26 28.0**	**+0.6**
VRAC	**Vranov**	**2.16**	**172**	*e*PN	**Pn**	**05 26 02.6**	**+0.1**
VRAC				*e*SG	**Sg**	**05 26 34.2**	**-0.3**
TREC	**Trest**	**2.20**	**192**	*e*SG	**Sb**	**05 26 33.4**	**-0.2**
KRUC	**Moravsky**	**2.39**	**176**	*e*PN	**Pn**	**05 26 05.6**	**-0.1**
KRUC				*e*SG	**Sg**	**05 26 41.7**	**-0.3**
OJC	**Ojcow**	**2.61**	**117**	*e*Pg	**Pg**	**05 26 15.7**	**+0.4**
OJC				*e*Sg	**Sg**	**05 26 49.6**	**+0.4**
NKC	**Novy Kostel**	**2.65**	**244**	*e*SG	**Sg**	**05 26 51.2**	**+0.9**
	comp=Z,16nm,0.4s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**05 26 12.8**	**+0.8**
KHC				*e*PG	**Pb**	**05 26 17.9**	**+0.9**
KHC				*e*SN	**Sn**	**05 26 46.1**	**-0.9**
KHC				*e*SG	**Sg**	**05 26 56.0**	**-0.7**
CKRC	**Cesky Krumlov**	**2.89**	**205**	*e*SG	**Sg**	**05 26 56.3**	**-1.6**
CONA	**Conrad Observa**	**3.53**	**183**	*i* Pn	**Pn**	**05 26 21.3**	**-0.1**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**05 27 18.8**	**+0.3**
	comp=Z,3.3nm,0.3s						
RONA	**Rosalia, Austr**	**3.75**	**179**	*i* Pn	**Pn**	**05 26 24.8**	**+0.4**
	comp=Z,0.1nm,0.2s						
RONA				Sg	**Sg**	**05 27 26.1**	**+0.4**
	comp=Z,2.3nm,0.4s						
MOA	**Molln**	**3.80**	**200**	*i* Pn	**Pn**	**05 26 24.8**	**-0.3**
	comp=Z,0.3nm,0.2s						
MOA				*e*Sg	**Sg**	**05 27 28.9**	**+1.5**
	comp=Z,3.2nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.10**	**205**	*i* Pn	**Pn**	**05 26 27.2**	**-1.9**
	comp=Z,0.9nm,0.4s						
BIOA				*e*Sg	**Sg**	**05 27 37.8**	**+0.9**
	comp=Z,3.6nm,0.5s						
ARSA	**Arzberg**	**4.22**	**186**	*i* Pn	**Pn**	**05 26 29.0**	**-1.8**
	comp=Z,0.3nm,0.3s						
ARSA				*e*Sg	**Sg**	**05 27 40.8**	**0.0**
	comp=Z,0.7nm,0.3s						
LESA	**Schwarzleotal**	**4.62**	**211**	*e*Pn	**Pn**	**05 26 35.2**	**-1.2**
	comp=Z,0.2nm,0.2s						
LESA				*e*Sg	**Sg**	**05 27 56.6**	**+3.0**
	comp=Z,1.0nm,0.4s						
KBA	**Koelnbreinsper**	**4.74**	**204**	*i* Pn	**Pn**	**05 26 35.0**	**-3.2**
	comp=Z,0.1nm,0.2s						
KBA				*e*Sg	**Sg**	**05 27 57.1**	**-0.5**
	comp=Z,1.7nm,0.7s						
WTTA	**Wattenberg**	**5.12**	**217**	*e*Sg	**Sg**	**05 28 13.2**	**+3.5**
	comp=Z,2.2nm,0.8s						

TXNET 10 05:25:49.5, 31°.7N±0°.6×104°.3W±0°.7, h6km±1km, ML1.8/6, Error ellipse: s-maj=1.1km s-min=0.9km az=95.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**47**	P	Pg	05 25 56.4	0.0
TPB11				S	Sg	05 26 01.3	+0.1
GDL2	**Guadalupe Moun**	**0.50**	**358**	P	Pg	05 25 59.5	+0.2
PECS	**Pecos**	**0.52**	**128**	P	Pg	05 25 59.7	+0.2
PECS				S	Sg	05 26 06.4	+0.1
TPB12	**Southwest of T**	**0.58**	**146**	P	Pg	05 26 01.0	+0.2
TPB12				S	Sg	05 26 08.7	+0.3
TPB07	**Mentone**	**0.59**	**101**	S	Sb	05 26 09.8	-1.0
TPB10	**Southeast of T**	**0.65**	**129**	P	Pg	05 26 02.1	+0.1
TPB10				S	Sg	05 26 10.8	+0.4
CLNB	**Carlsbad**	**0.69**	**35**	P	Pg	05 26 02.9	0.0
CLNB				S	Sg	05 26 12.5	+0.6
MNTX	**Cornudas Mount**	**0.89**	**271**	P	Pg	05 26 06.7	+0.1
MNTX				S	Sg	05 26 18.6	+0.6
VHRN	**Van Horn**	**1.06**	**211**	P	Pg	05 26 09.6	-0.2
VHRN				S	Sb	05 26 24.6	+0.1
TPB05	**Hovey Rd**	**1.16**	**131**	P	Pg	05 26 11.2	-0.7
TPB05				S	Sg	05 26 27.0	+0.1
CPRX	**Cap Rock**	**1.39**	**17**	P	Pn	05 26 15.4	-0.3
MNHN	**Monahans**	**1.40**	**104**	P	Pn	05 26 15.6	0.0
MNHN				S	Sb	05 26 34.1	0.0
ALPN	**Alpine**	**1.45**	**155**	P	Pn	05 26 15.4	-1.0
ALPN				S	Sb	05 26 35.1	-0.6
ODSA	**Odessa**	**1.58**	**74**	S	Sb	05 26 39.5	-0.1
TMB02	**Rankin**	**2.03**	**104**	P	Pb	05 26 26.0	-0.9
TMB02				S	Sb	05 26 51.8	-0.6

*GCMT **10** 05:34:20.9±0.5, 28°.26N±0°.03×129°.59E±0°.04, h47km±1km, MW4.9/70, Moment Tensor Solution. s35,c38; s70,c83; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-2.10±.14; $M_{\theta\theta}$0.82±.12; $M_{\phi\phi}$1.28±.13; $M_{r\theta}$0.60±.06; $M_{\theta\phi}$0.84±.09; $M_{\phi r}$1.21±.07; Best double couple: $M_0$2.42000×10^16 NP1:ϕ_s42.00000°, δ28.00000°, λ-81.00000°. NP2: ϕ_s212.00000°, δ62.00000°, λ-95.00000°. Principal axes: T 2.3200, Plg17.0000°, Azm305.0000°; N 0.1990, Plg4.0000°, Azm214.0000°; P -2.5200, Plg73.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **10** 05:34:20.9, 27°.91N×129°.85E, h44km, mB4.9/30, mb4.8/77, Ms4.6/82, Ms7 4.5/79*

*NEIC **10** 05:34:20.3, 27°.84N×130°.47E, h40km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16 Nm; M_{rr}-2.30; $M_{\theta\theta}$0.82; $M_{\phi\phi}$1.48; $M_{r\theta}$0.36; $M_{\theta\phi}$1.11; $M_{\phi r}$0.81; Fault plane solution: $M_0$2.47000×10^16 NP1:ϕ_s41.34000°, δ34.88000°, λ-82.41000°. NP2:ϕ_s212.11000°, δ55.47000°, λ-95.26000°. Principal axes: T 2.4679, Plg10.0000°, Azm306.0000°; N 0.0097, Plg4.0000°, Azm215.0000°; P -2.4776, Plg79.0000°, Azm103.0000°;*

*NEIC **10** 05:34:20.3, 28°.14N×129°.57E, h40km*

*MOS **10** 05:34:22.5±1.0, 28°.20N×129°.55E, h36km, mb5.1/72, MS4.7/6, Error ellipse: s-maj=6.2km s-min=3.7km az=113.3*

*JMA **10** 05:34:24.5±0.2, 28°N±1°×129°.5E±0°.8, h36km±2km, MD4.9/26, MW4.9/26, NEAR AMAMI-OSHIMA ISLAND*

JMA Felt IV J1 at NEAR AMAMI-OSHIMA ISLAND.

*NIED **10** 05:34:24.5, 28°.27N×129°.51E, h36km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; M_{rr}-2.05; $M_{\theta\theta}$1.52; $M_{\phi\phi}$0.53; $M_{r\theta}$1.22; $M_{\theta\phi}$0.23; $M_{\phi r}$3.06; Fault plane solution: $M_0$3.65000×10^16 NP1:ϕ_s67.00000°, δ16.00000°, λ-53.00000°. NP2:ϕ_s209.00000°, δ77.00000°, λ-100.00000°.*

*NEIC **10** 05:34:24.9±1.5, 28°.19N±0°.06×129°.53E±0°.07, h36km±6km, mb5.1/395, Mww4.9/12 Error ellipse: s-maj=9.4km s-min=7.8km az=114.0*

*IDC **10** 05:34:25.5±1.3, 28°.30N×129°.52E, h51km±11km, mb4.4/29, mbtmp4.7/33, ML4.5/2, MS4.2/68, Error ellipse: s-maj=12.5km s-min=7.8km az=104.0*

*BGR **10** 05:34:28.8, 28°.49N×128°.67E, h33km, mb5.0, Ms4.7*

ISC 10 05:34:24.4±0.3, 28°.19N±0°.03×129°.54E±0°.03, h40km±2km, h40km:pP-P, n1092, σ1°46/967, mb5.1/316, MS4.3/84, 61C-26D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.23**	**15**	P	**Pn**	**05 34 30.7**	**-1.2**
JAM				S	**Sn**	**05 34 35.4**	**-1.8**
JAM	**Amami Oshima**	**0.23**	**15**	A	A	05 34 30.7	
	comp=N,287nm,1.1s,comp=E,381nm,2.7s						
JAMN	**Amaminishikomi**	**0.33**	**279**	P	**Pn**	**05 34 32.3**	**-0.7**
JAMN				S	**Sn**	**05 34 38.3**	**-0.7**
JAMN	**Amaminishikomi**	**0.33**	**279**	A	A	05 34 32.3	
	comp=N,683nm,0.2s,comp=E,729nm,0.5s						
JZK	**Kikaishima**	**0.40**	**72**	P	**Pn**	**05 34 33.7**	**-0.2**
JZK				S	**Sn**	**05 34 42.0**	**+1.5**
JZK	**Kikaishima**	**0.40**	**72**	A	A	05 34 33.7	
	comp=N,707nm,1.3s,comp=E,503nm,2.1s						
JTK	**Tokunoshima**	**0.66**	**232**	P	**Pn**	**05 34 37.1**	**-0.3**
JTK				S	**Sn**	**05 34 46.7**	**+0.1**
JTK	**Tokunoshima**	**0.66**	**232**	A	A	05 34 37.1	
	comp=N,104nm,0.4s,comp=E,82nm,0.5s						
JTAJ	**Takarajima**	**1.00**	**343**	P	**Pn**	**05 34 41.4**	**-0.6**
JTAJ	**Takarajima**	**1.00**	**343**	A	A	05 34 41.4	
	comp=N,57nm,3.2s,comp=E,28nm,3.6s						
JOKE	**Okinoerabujima**	**1.19**	**226**	*i* P	**Pn**	**05 34 46.1**	**+1.5**
JOKE				S	**Sn**	**05 35 01.7**	**+2.1**
JOKE	**Okinoerabujima**	**1.19**	**226**	A	A	05 34 46.1	
	comp=N,60nm,0.3s,comp=E,54nm,1.2s						
JYRO	**Yoronjima**	**1.51**	**220**	*i* P	**Pn**	**05 34 50.4**	**+1.4**
JYRO				S	**Sn**	**05 35 10.2**	**+2.7**
JYRO	**Yoronjima**	**1.51**	**220**	A	A	05 34 50.4	
	comp=N,24nm,1.5s,comp=E,24nm,1.1s						
JNN	**Nakanoshima**	**1.67**	**10**	*i* P	**Pn**	**05 34 51.1**	**0.0**
JNN	**Nakanoshima**	**1.67**	**10**	A	A	05 34 51.1	
	comp=N,31nm,1.2s,comp=E,41nm,1.8s						
JOW	**Kunigami**	**1.76**	**220**		**Pn**	**05 34 53.8**	**+1.4**
JOW	**Kunigami**	**1.76**	**220**	P	**Pn**	**05 34 53.6**	**+1.2**
	comp=E,3μm,0.5s,baz=89,slow=14,SNR=1051						
JOW				S	**Sn**	**05 35 17.4**	**+3.7**
	comp=E,9μm,0.4s,baz=108,slow=29,SNR=4.9						
JOW	**Kunigami**	**1.76**	**220**	P	**Pn**	**05 34 53.9**	**+1.4**
JOW	**Kunigami**	**1.76**	**220**	*i* P	**Pn**	**05 34 53.6**	**+1.2**
JOW	**Kunigami**	**1.76**	**220**	A	A	05 34 53.6	
	comp=N,21nm,0.4s,comp=E,25nm,1.7s						
JIH	**Iheya**	**1.81**	**231**	*i* P	**Pn**	**05 34 54.5**	**+1.4**
JIH				S	**Sn**	**05 35 17.4**	**+2.6**
JIH	**Iheya**	**1.81**	**231**	A	A	05 34 54.5	
	comp=N,25nm,1.3s,comp=E,23nm,3.4s						
JNTH	**Nagotoyohara**	**2.15**	**219**	*i* P	**Pn**	**05 34 58.9**	**+1.1**
JNTH	**Nagotoyohara**	**2.15**	**219**	A	A	05 34 58.9	
	comp=N,11nm,3.0s,comp=E,15nm,2.4s						
JYAK	**Yakushimahirau**	**2.21**	**22**	P	**Pn**	**05 34 58.9**	**+0.3**
JYAK	**Yakushimahirau**	**2.21**	**22**	A	A	05 34 58.9	
	comp=N,13nm,4.5s,comp=E,14nm,3.3s						
JKC	**Kuchinoerabu**	**2.33**	**14**	*e*P	**Pn**	**05 35 00.8**	**+0.5**
JMTN	**Minamitane**	**2.50**	**28**	P	**Pn**	**05 35 03.1**	**+0.6**
JMTN	**Minamitane**	**2.50**	**28**	A	A	05 35 03.1	
	comp=N,20nm,4.0s,comp=E,15nm,4.8s						
JJT3	**Tamagusuku3**	**2.57**	**218**	P	**Pn**	**05 35 04.8**	**+1.2**
JJT3	**Tamagusuku3**	**2.57**	**218**	A	A	05 35 04.8	
	comp=N,60nm,2.1s,comp=E,48nm,3.5s						
JAGN	**Aguni-jima**	**2.59**	**233**	*e*P	**Pn**	**05 35 05.2**	**+1.4**
JAGN				*e*S	**Sn**	**05 35 36.5**	**+2.4**
JAGN	**Aguni-jima**	**2.59**	**233**	A	A	05 35 05.2	
	comp=N,14nm,2.4s,comp=E,11nm,3.5s						
JKDJ	**Kitadaitoujima**	**2.73**	**145**	P	**Pn**	**05 35 05.2**	**-0.5**
JKDJ				*e*S	**Sn**	**05 35 34.4**	**-3.1**
JKDJ	**Kitadaitoujima**	**2.73**	**145**	A	A	05 35 05.2	
	comp=N,8.0nm,4.6s,comp=E,14nm,4.2s						
JTN	**Tanegashima 3**	**2.76**	**27**	P	**Pn**	**05 35 06.7**	**+0.6**
JTN	**Tanegashima 3**	**2.76**	**27**	A	A	05 35 06.7	
	comp=N,10.0nm,2.1s,comp=E,11nm,1.4s						
JMZ	**Minamidaito 2**	**2.80**	**147**	Pn	**Pn**	**05 35 06.0**	**-0.7**
JMZ	**Minamidaito 2**	**2.80**	**147**	P	**Pn**	**05 35 08.2**	**+1.5**
JMZ	**Minamidaito 2**	**2.80**	**147**	*i* P	**Pn**	**05 35 05.8**	**-0.9**
JMZ				S	**Sn**	**05 35 36.1**	**-3.2**
JMZ	**Minamidaito 2**	**2.80**	**147**	A	A	05 35 05.8	
	comp=N,9.0nm,1.8s,comp=E,10.0nm,4.0s						
JKE	**Kume jima 2**	**3.08**	**233**	P	**Pn**	**05 35 11.5**	**+1.0**
JNKG	**Nichinankitago**	**3.81**	**24**	A	A	05 35 21.9	
	comp=N,12nm,3.1s,comp=E,7.0nm,1.6s						
JNU	**Nakatsue**	**5.05**	**13**	Pn	**Pn**	**05 35 39.7**	**+2.1**
JNU	**Nakatsue**	**5.05**	**13**	P	**Pn**	**05 35 39.0**	**+1.3**
	comp=E,30nm,0.3s,baz=191,slow=3.3,SNR=206						
JNU				S	**Sn**	**05 36 34.2**	**-0.5**
	comp=E,128nm,0.8s,baz=70,slow=0.4,SNR=1.1						
JNU				LR	LR	05 37 57.3	
	comp=E,2μm,18.4s,baz=175,slow=43						
	comp=E,169nm,0.6s						
JNU	**Nakatsue**	**5.05**	**13**	P	**Pn**	**05 35 40.4**	**+2.8**
JMJ	**Miyako jima 2**	**5.08**	**229**	P	**Pn**	**05 35 38.7**	**+0.7**
JMN	**Monobe**	**6.66**	**33**	Pn	**Pn**	**05 36 00.2**	**+0.5**
JMN	**Monobe**	**6.66**	**33**	P	**Pn**	**05 36 00.1**	**+0.4**
YOJ	**Yonaguni jima**	**6.94**	**239**	Pn	**Pn**	**05 36 02.2**	**-1.4**
YOJ	**Yonaguni jima**	**6.94**	**239**	P	**Pn**	**05 36 02.2**	**-1.4**
SSE	**Sheshan**	**7.82**	**294**	P	**Pn**	**05 36 16.5**	**+0.8**
SSE				S	**Sn**	**05 37 44.8**	**+1.8**
SSE				pmax	pmax		
	comp=E,26nm,1.1s						
SSE				pmax	pmax		
	comp=E,160nm,3.7s						
SSE				LR	LR		
	comp=E,940nm,14.6s						
SSE				LR	LR		
	comp=E,1μm,14.8s						
TATO	**Taipei**	**7.89**	**248**	Pn	**Pn**	**05 36 16.5**	**-0.1**
YHNB	**Yeheng**	**8.12**	**246**	Pn	**Pn**	**05 36 20.3**	**+0.5**
YHNB	**Yeheng**	**8.12**	**246**	P	**Pn**	**05 36 21.4**	**+1.6**
NACB	**Ninganchiao**	**8.18**	**243**	Pn	**Pn**	**05 36 19.8**	**-0.9**
NACB	**Ninganchiao**	**8.18**	**243**	P	**Pn**	**05 36 19.8**	**-0.9**
NACB	**Ninganchiao**	**8.18**	**243**	S	**Sn**	**05 37 50.8**	**-1.1**
TJN	**Taejon**	**8.37**	**348**		**Pn**	**05 36 23.6**	**+0.5**
TJN	**Taejon**	**8.37**	**348**	P	**Pn**	**05 36 26.4**	**+3.3**
TJN	**Taejon**	**8.37**	**348**	*ce*P	**Pn**	**05 36 24.7**	**+1.6**
YULB	**Yu-li**	**8.83**	**239**		**Pn**	**05 36 26.9**	**-2.7**
YULB	**Yu-li**	**8.83**	**239**	P	**Pn**	**05 36 27.9**	**-1.7**
SSLB	**Suanglung**	**8.88**	**242**		**Pn**	**05 36 29.3**	**-1.0**
SSLB	**Suanglung**	**8.88**	**242**	P	**Pn**	**05 36 29.1**	**-1.2**
KSAR	**Wonju Array Be**	**9.33**	**352**	Pn	**Pn**	**05 36 37.1**	**+0.8**
KSAR	**Wonju Array Be**	**9.33**	**352**	P	**Pn**	**05 36 37.1**	**+0.8**
TWG	**Pinlang**	**9.33**	**237**		**Pn**	**05 36 32.4**	**-4.0**
KSRS	**Korea Array**	**9.34**	**352**	P	**Pn**	**05 36 38.1**	**+1.7**
	comp=E,18nm,0.8s,baz=174,slow=13,SNR=46						
KSRS				S	**Sn**	**05 38 27.3**	**+7.3**
	comp=E,2.5nm,0.9s,baz=168,slow=17,SNR=0.6						
KSRS				LR	LR	05 40 27.9	
	comp=E,2μm,19.5s,baz=170,slow=39						
KS19	**Wonju Array Si**	**9.39**	**352**	Pn	**Pn**	**05 36 36.7**	**-0.4**
TPUB	**Ta-pu**	**9.39**	**241**	Pn	**Pn**	**05 36 36.2**	**-1.1**
TPUB	**Ta-pu**	**9.39**	**241**	P	**Pn**	**05 36 36.3**	**-1.0**
TPUB	**Ta-pu**	**9.39**	**241**	S	**Sn**	**05 38 20.4**	**-1.3**
INU	**Inuyama**	**9.56**	**40**	Pn	**Pn**	**05 36 40.1**	**+0.7**
INU	**Inuyama**	**9.56**	**40**	P	**Pn**	**05 36 41.

TIA pmax pmax
comp=E,150nm,3.6s
TIA LR LR
comp=E,2μm,15.1s
TIA LR LR
comp=E,2μm,15.8s
TIA LR LR
comp=E,3μm,16.5s
WHN Wuhan 13.45 284 P **Pn 05 37 35.7 +2.9**
WHN pP **P 05 37 44.6 +3.3**
WHN pmax pmax
comp=E,80nm,1.0s
WHN LR LR
comp=E,2μm,8.6s
WHN LR LR
comp=E,4μm,8.2s
WHN LR LR
comp=E,6μm,15.5s
JMM Marumori 13.49 41 Pn **Pn 05 37 31.2 -1.9**
SZP Santa 13.49 220 P **Pn 05 37 33.5 +0.1**
MSHR Mys Shultsa 14.42 5⇑ *e*P **Pn 05 37 44.9 -0.8**
CNSH ChangSha 14.65 274 P **P 05 37 52.5 -2.1**
CNSH S **Sn 05 40 34.1 +4.0**
HNS HongShan 15.47 310 ⇑P **P 05 38 02.4 -1.3**
HNS pP **pP 05 38 10.7 -2.8**
HNS PP **sP 05 38 13.8 -4.9**
HNS *e*S **Sn 05 40 50.0 0.0**
HNS pmax pmax
comp=E,69nm,1.4s
HNS LR LR
comp=E,1μm,14.7s
HNS LR LR
comp=E,2μm,14.5s
HNS LR LR
comp=E,2μm,14.7s
JTM Tenmabayashi 15.73 34 Pn **Pn 05 38 03.7 +0.6**
LYN LuoYang 15.89 298 ⇓P **P 05 38 07.7 -0.7**
LYN pP pP 05 38 17.0 -1.0
LYN sP sP 05 38 24.6 +1.5
LYN S **S 05 41 07.0 -6.1**
LYN sS sS 05 41 19.4 -9.3
LYN pmax pmax
comp=E,160nm,1.2s
LYN pmax pmax
comp=E,630nm,3.5s
LYN LR LR
comp=E,2μm,13.4s
LYN LR LR
comp=E,2μm,11.7s
LYN LR LR
comp=E,3μm,13.1s
CN2 Changchun 15.92 349 P **P 05 38 10.2 +1.6**
CN2 S **Sn 05 41 06.1 +5.3**
CN2 pmax pmax
comp=E,60nm,0.8s
CN2 pmax pmax
comp=E,200nm,4.0s
CN2 LR LR
comp=E,2μm,13.0s
CN2 LR LR
comp=E,900nm,13.0s
CN2 LR LR
comp=E,2μm,13.0s
USA0B Ussuriysk Arra 16.09 6 P **P 05 38 09.2 -1.4**
USA0B Ussuriysk Arra 16.09 6⇑ *e*P **P 05 38 09.9 -0.6**
USRK Ussuriysk Ar. 16.09 6 P **Pn 05 38 08.7 +1.0**
comp=E,1.8nm,0.8s,baz=183,slow=11,SNR=9.8
USRK LR LR 05 44 37.3
comp=E,592nm,20.2s,baz=188,slow=38
BJT Baijiatuau 16.16 320 **Pn 05 38 09.4 +0.9**
BJT IAmb IAmb 05 38 19.0
comp=Z,103nm,0.9s
BJT Baijiatuau 16.16 320 P **P 05 38 11.1 -0.2**
BJT Baijiatuau 16.16 320 P **Pn 05 38 09.4 +0.9**
BJT pmax pmax
comp=Z,103nm,0.9s
BJI Beijing 16.17 320 P **P 05 38 11.2 -0.2**
BJI S **S 05 41 17.8 -0.9**
BJI pmax pmax
comp=Z,60nm,0.9s
BJI LR LR
comp=Z,610nm,19.6s
BJI LR LR
comp=Z,360nm,18.8s
BJI LR LR
comp=Z,550nm,18.9s
MDJ Mudanjiang 16.39 0 **Pn 05 38 12.6 +1.1**
MDJ Mudanjiang 16.39 0 P **P 05 38 15.0 +1.2**
MDJ pP pP 05 38 23.8 +0.2
MDJ ScP **ScP 05 46 26.4 -7.4**
MDJ PcS **PcS 05 46 30.4 -7.6**
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ LR LR
comp=Z,720nm,17.2s
MDJ LR LR
comp=Z,410nm,12.0s
MDJ LR LR
comp=Z,920nm,19.6s
MDJ Mudanjiang 16.39 0 P **P 05 38 15.4 +1.6**
TIY Taiyuan 17.19 308 ⇓P **P 05 38 25.4 +2.6**
TIY sP **sP 05 38 38.6 +0.8**
TIY S **S 05 41 43.9 +4.2**
TIY pmax pmax
comp=Z,150nm,0.8s
TIY pmax pmax
comp=Z,430nm,4.9s
TIY LR LR
comp=Z,1μm,15.7s
TIY LR LR
comp=Z,2μm,15.3s
TIY LR LR
comp=Z,3μm,14.9s
BNX BinXian 17.60 355 ⇓P **P 05 38 28.5 +1.4**
BNX pmax pmax
comp=Z,54nm,1.0s
ERM Erimo 17.70 35 P **Pn 05 38 25.7 -2.0**
ERM Erimo 17.70 35 P **P 05 38 28.5 +0.2**
ERM Erimo 17.70 35 P **Pn 05 38 25.7 -2.0**
ERM pmax pmax
comp=Z,55nm,0.9s
JEM Erimo 17.70 35 P **P 05 38 28.3 0.0**
XAN Xi'an 18.58 293 ⇑P **Pn 05 38 39.6 +0.9**
XAN pP pP 05 38 47.5 -0.6
XAN sP sP 05 38 51.6 -1.6
XAN S **S 05 42 06.9 -1.1**
XAN sS sS 05 42 20.0 -3.7
XAN pmax pmax
comp=Z,290nm,0.6s
XAN pmax pmax
comp=Z,440nm,3.6s
XAN LR LR
comp=Z,1μm,12.4s
XAN LR LR
comp=Z,1μm,11.0s
XAN LR LR
comp=Z,1μm,12.9s
ASAJ Asahikawa 19.03 30 P **P 05 38 41.7 -1.2**
comp=Z,2.2nm,0.3s,baz=221,slow=16,SNR=22
ASAJ LR LR 05 47 00.9
comp=Z,583nm,19.9s,baz=176,slow=40
comp=Z,28nm,0.6s
JKA Kamikawa-asahi 19.03 30 P **P 05 38 41.7 -1.3**
XLT XiLinHaoTe 19.04 329 *e*P **Pn 05 38 44.1 -0.1**
XLT S **S 05 42 17.2 0.0**
XLT pmax pmax
comp=Z,52nm,1.1s
XLT pmax pmax
comp=Z,300nm,3.8s
XLT LR LR
comp=Z,1μm,15.3s
XLT LR LR
comp=Z,2μm,15.6s
HHC Hu-ho-hao-te 19.42 315 ⇓*i*P **Pn 05 38 50.5 +1.8**
HHC pP pP 05 38 57.5 +0.2
HHC S **S 05 42 20.6 -4.2**
HHC pmax pmax
comp=Z,64nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.4s
HHC LR LR
comp=Z,730nm,19.4s
HHC LR LR
comp=Z,670nm,21.5s
HHC LR LR
comp=Z,1μm,19.4s

QIZ Qiongzhong 20.20 247 P Pn 05 38 57.3 -0.7
QIZ S Sn 05 42 43.9 -0.7
QIZ sS sS 05 42 55.2 -1.3
QIZ LR LR
comp=Z,690nm,14.4s
QIZ LR LR
comp=Z,340nm,7.3s
QIZ LR LR
comp=Z,660nm,18.3s
BTO Baotou 20.26 313 *e*P Pn 05 39 00.8 +2.1
BTO pP sP 05 39 11.7 +0.1
BTO sP pP 05 39 17.4 +11
BTO PP **PnPn 05 39 22.5 +8.4**
BTO S Sn 05 42 50.0 +4.0
BTO sS sS 05 42 59.1 +1.5
BTO SS **SnSn 05 43 14.9 +14**
BTO pmax pmax
comp=Z,57nm,0.9s
BTO pmax pmax
comp=Z,580nm,12.0s
BTO LR LR
comp=Z,2μm,17.8s
BTO LR LR
comp=Z,1μm,18.2s
BTO LR LR
comp=Z,3μm,17.8s
GUMO Guam 20.37 132 LR LR 05 45 14.8
comp=Z,862nm,20.9s,baz=322,slow=32
GYA Guiyang 20.40 270 ⇑P Pn 05 39 00.6 +0.2
GYA S **S 05 42 40.6 -3.9**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,350nm,3.3s
GYA LR LR
comp=Z,830nm,17.2s
GYA LR LR
comp=Z,870nm,21.3s
GYA LR LR
comp=Z,1μm,21.0s
KLR Kul'dur 21.08 4 P **P 05 39 03.8 -1.3**
comp=Z,13nm,0.8s,baz=203,slow=7.5,SNR=17
KLR LR LR 05 47 34.6
comp=Z,395nm,21.4s,baz=194,slow=38
comp=Z,13nm,0.8s
KLR Kul'dur 21.08 4*c i*P **P 05 39 06.6 +1.5**
KLR pmax pmax
comp=Z,13nm,0.9s
DAV Davao City (W) 21.34 191 LR LR 05 49 28.3
comp=Z,260nm,18.1s,baz=38,slow=42
YSS Yuzhno-Sakhali 21.40 25 P **P 05 39 09.4 +0.8**
YSS IAmb IAmb 05 39 13.6
comp=Z,131nm,1.1s
YSS Yuzhno-Sakhali 21.40 25 P **P 05 39 11.9 +3.3**
YSS Yuzhno-Sakhali 21.40 25 *e*P **P 05 39 09.4 +0.8**
YSS *e**SP **sP 05 39 25.9 +2.1**
YSS *e* 05 39 32.1
YSS *e*PPP PPP 05 39 38.9
YSS *e*S **S 05 43 01.6 -2.3**
YSS pmax pmax
comp=Z,100nm,1.1s
YSS pmax pmax
comp=Z,400nm,5.7s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,300nm,18.0s
HEH HeiHe 22.09 356 *e*P **P 05 39 15.0 -1.0**
HEH pmax pmax
comp=N,8.0nm,0.8s
HEH LR LR
comp=N,510nm,14.7s
HEH LR LR
comp=N,700nm,15.2s
HEH LR LR
comp=N,680nm,16.4s
HIA Hailar 22.35 343 P **P 05 39 18.0 -0.9**
HIA Hailar 22.35 343 P **P 05 39 23.1 +4.3**
HIA Hailar 22.35 343⇓*e*P **P 05 39 19.5 +0.7**
HIA pmax pmax
comp=Z,8.0nm,1.0s
CD2 Chengdu 22.58 283 P **P 05 39 22.8 +1.3**
CD2 S **S 05 43 23.3 -3.1**
CD2 pmax pmax
comp=Z,240nm,0.9s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,2μm,13.9s
CD2 LR LR
comp=Z,2μm,14.5s
LZH Lanzhou 23.09 296 P **P 05 39 28.7 +1.8**
LZH pP pP 05 39 38.5 +1.3
LZH sP sP 05 39 44.2 +1.9
LZH S **S 05 43 35.4 +0.1**
LZH sS Sn 05 43 56.5 +2.5
LZH pmax pmax
comp=Z,100nm,1.5s
LZH LR LR
comp=Z,1μm,13.1s
LZH LR LR
comp=Z,610nm,12.0s
LZH LR LR
comp=Z,610nm,13.7s
GRNR Gornyy 23.14 11 *e*P **P 05 39 31.1 +4.0**
GRNR MLR MLR
comp=E,300nm,15.0s
GRNR MLR MLR
comp=N,290nm,17.0s
GRNR MLR MLR
comp=Z,380nm,16.0s
KMI Kunming 24.13 269 ⇑P **P 05 39 38.0 +1.1**
KMI pP pP 05 39 47.3 -0.6
KMI sP sP 05 39 53.2 +0.4
KMI S **S 05 43 49.6 -2.7**
KMI pmax pmax
comp=Z,64nm,1.1s
KMI LR LR
comp=Z,700nm,15.4s
KMI LR LR
comp=Z,820nm,17.4s
KMI LR LR
comp=Z,920nm,16.2s
SLVN Son La 24.23 259 P **P 05 39 36.7 -1.0**
SLVN Son La 24.23 259 P **P 05 39 40.0 +2.3**
TYV Tymovskoe 24.72 20 *e*P **P 05 39 43.2 +1.4**
TYV pmax pmax
comp=Z,9.0nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.5s
PZH PanZhiHua 24.73 273 P **P 05 39 42.3 0.0**
PZH S **S 05 43 57.8 -4.0**
PZH pmax pmax
comp=Z,30nm,1.2s
PZH pmax pmax
comp=Z,100nm,4.8s
PZH LR LR
comp=Z,680nm,17.6s
PZH LR LR
comp=Z,970nm,17.1s
PZH LR LR
comp=Z,1μm,16.2s
MYLDM Lahad Datu 25.18 207 P **P 05 39 46.9 +0.7**
KKM Kota Kinabalu 25.40 212 P **P 05 39 48.5 +0.2**
KKM Kota Kinabalu 25.40 212 P **P 05 39 50.3 +2.0**
ZEA Zeya 25.58 357 *e*P **P 05 39 49.7 +0.2**
ZEA pmax pmax
comp=Z,20nm,0.6s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=N,200nm,9.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
UBPT Khong Chiam 25.73 245 P **P 05 39 52.0 +0.7**
UBPT IAmb IAmb 05 39 57.8
comp=Z,48nm,1.1s
UBPT Khong Chiam 25.73 245 P **P 05 39 53.0 +1.8**
NONG Nongkai 26.23 253 P **P 05 39 57.6 +1.8**
ULN Ulaanbaatar 26.28 324 P **P 05 39 56.3 +0.1**
ULN Ulaanbaatar 26.28 324*ce*P **P 05 39 57.2 +1.0**
ULN pmax pmax
comp=Z,9.0nm,0.7s
SONM Songino Array 26.60 324 P **P 05 39 59.2 +0.2**
SONM Songino Array 26.60 324 P **P 05 39 58.6 -0.5**
comp=Z,6.3nm,0.8s,baz=140,slow=8.5,SNR=23

SONM LR LR 05 51 57.6
comp=Z,601nm,20.5s,baz=152,slow=40
comp=Z,6.3nm,0.8s
SONM Songino Array 26.60 324 P **P 05 39 59.2 +0.2**
SONM pmax pmax
comp=Z,17nm,0.9s
GTA Gaotai 27.00 302 *e*P **P 05 40 02.3 -0.4**
GTA PcP **PcP 05 43 25.3 +1.8**
GTA S **S 05 44 35.6 -2.0**
GTA PcS **PcS 05 47 05.5 +0.4**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,200nm,5.2s
GTA LR LR
comp=Z,590nm,13.9s
GTA LR LR
comp=Z,1μm,17.5s
GTA LR LR
comp=Z,2μm,18.3s
TNCH TengChong 27.88 271 *e*P **P 05 40 12.2 +1.4**
TNCH S **S 05 44 53.5 +1.8**
TNCH pmax pmax
comp=Z,85nm,0.5s
TNCH LR LR
comp=Z,700nm,14.7s
TNCH LR LR
comp=Z,1μm,15.0s
TNCH LR LR
comp=Z,2μm,15.7s
TOLI2 Tolitoli 28.20 199 P **P 05 40 13.7 +0.2**
TOLI2 Tolitoli 28.20 199 P **P 05 40 14.5 +1.0**
MRSI Marisa 28.50 196 P **P 05 40 16.4 +0.3**
PHRA Phrae 28.52 257 P **P 05 40 17.4 +1.0**
CHTO Chiang Mai 29.50 258 P **P 05 40 25.9 +0.9**
CHTO Chiang Mai 29.50 258 P **P 05 40 25.9 +0.9**
CHTO pmax pmax
comp=Z,24nm,1.2s
NAYO Nakonayok 29.61 248 P **P 05 40 28.3 +2.3**
CM31 Chiang Mai Arr 29.65 258 P **P 05 40 27.6 +1.3**
CMAR Chiang Mai Arr 29.65 258 P **P 05 40 27.2 +0.8**
CMAR Chiang Mai Arr 29.65 258 P **P 05 40 26.3 -0.1**
comp=Z,2.2nm,0.6s,baz=52,slow=8.0,SNR=22
CMAR PcP **PcP 05 43 30.6 +0.4**
comp=Z,4.6nm,0.6s,baz=51,slow=1.1,SNR=19
CMAR LR LR 05 53 25.0
comp=Z,462nm,19.1s,baz=80,slow=38
comp=Z,2.2nm,0.6s
CMAR Chiang Mai Arr 29.65 258 *i* P **P 05 40 27.5 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 29.80 325 *e*P **P 05 40 28.5 +1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
SANI Sanana 30.26 187 P **P 05 40 30.9 -0.8**
GOMU GeErMu 30.33 294 P **P 05 40 33.7 +1.0**
GOMU S **S 05 45 28.6 -1.9**
GOMU pmax pmax
comp=Z,19nm,0.8s
GOMU LR LR
comp=Z,490nm,14.4s
GOMU LR LR
comp=Z,520nm,14.4s
GOMU LR LR
comp=Z,780nm,14.6s
FAKI Fak Fak 31.04 175 P **P 05 40 38.8 +0.2**
FAKI IAmb IAmb 05 40 40.4
comp=Z,44nm,0.9s
SRDT SRDT 31.41 250 P **P 05 40 44.0 +2.1**
KSM Kuching 32.31 218 P **P 05 40 49.6 -0.2**
PETK Petropavlovsk- 32.42 32 P **P 05 40 50.6 +0.2**
PETK Petropavlovsk- 32.42 32 P **P 05 40 49.4 -1.0**
comp=Z,11nm,0.8s,baz=216,slow=7.3,SNR=7.9
PETK LR LR 05 53 54.8
comp=Z,288nm,21.7s,baz=242,slow=36
comp=Z,11nm,0.8s
PETK Petropavlovsk- 32.42 32 P **P 05 40 50.6 +0.2**
KDI Kendari 32.65 193 P **P 05 40 53.8 +1.1**
comp=Z,34nm,1.3s
LSA Lhasa 33.53 282 P **P 05 41 01.7 +0.8**
LSA Lhasa 33.53 282 P **P 05 41 01.7 +0.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 33.53 282 P **P 05 41 02.1 +1.2**
SHL Shillong 33.60 274 P **P 05 41 00.9 -0.4**
SHL IAmb IAmb 05 41 02.5
comp=Z,46nm,1.0s
SHL Shillong 33.60 274 P **P 05 41 00.9 -0.4**
SHL pmax pmax
comp=Z,46nm,1.0s
YAK Yakutsk 33.84 0 P **P 05 41 01.9 -0.7**
YAK Yakutsk 33.84 0 LR LR 05 55 02.8
comp=Z,225nm,20.8s,baz=142,slow=37
YAK Yakutsk 33.84 0 *e*P **P 05 41 01.8 -0.8**
YAK *e* 05 42 13.7
YAK *e* 05 43 39.9
YAK *e*S **S 05 46 24.6 +0.8**
YAK *e*SS **SnSn 05 48 38.9 +7.6**
YAK *e* 05 51 26.2
YAK pmax pmax
comp=Z,18nm,1.5s
YAK pmax pmax
comp=N,11nm,3.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,232nm,7.6s
YAK smax smax
comp=E,149nm,5.9s
YAK smax smax
comp=N,111nm,5.8s
SRIT Nakonsritamara 34.29 241 P **P 05 41 07.2 +0.1**
SRIT IAmb IAmb 05 41 16.8
comp=Z,27nm,0.8s
SRIT Nakonsritamara 34.29 241 P **P 05 41 09.5 +2.4**
KAPI Kappang 34.34 197 LR LR 05 54 30.5
comp=Z,180nm,22.0s,baz=32,slow=35
BRDH Bariadhala 34.56 270 LR LR 05 57 30.2
comp=Z,523nm,18.5s,baz=157,slow=40
MA2 Magadan 34.58 19 P **P 05 41 09.0 -0.2**
MA2 Magadan 34.58 19 LR LR 05 56 37.5
comp=Z,178nm,18.4s,baz=204,slow=39
MA2 Magadan 34.58 19⇑ *e*P **P 05 41 08.7 -0.4**
MA2 pmax pmax
comp=Z,11nm,1.3s
MA2 Magadan 34.58 19 P **P 05 41 09.4 +0.3**
comp=Z,12nm,1.3s
MA2 Magadan 34.58 19 P **P 05 41 08.8 -0.4**
H11N2 WAKE ISLAND Hy 35.05 96 T T 06 18 37.1
baz=290,slow=74,SNR=125
H11N1 WAKE ISLAND Hy 35.05 96 T T 06 18 37.2
baz=290,slow=74,SNR=115
H11N3 WAKE ISLAND Hy 35.07 96 T T 06 18 48.7
baz=290,slow=74,SNR=137
H11S3 WAKE ISLAND Hy 35.33 98 T T 06 18 57.0
baz=300,slow=77
H11S1 WAKE ISLAND Hy 35.33 98 T T 06 19 04.4
baz=300,slow=77
H11S2 WAKE ISLAND Hy 35.34 98 T T 06 18 57.0
baz=300,slow=77
KULM Kulim 35.65 236 P **P 05 41 19.3 +0.5**
KULM IAmb IAmb 05 41 21.7
comp=Z,25nm,1.1s
KULM Kulim 35.65 236 P **P 05 41 21.1 +2.3**
IPM Ipoh 35.93 234 P **P 05 41 21.1 -0.2**
IPM IAmb IAmb 05 41 23.6
comp=Z,29nm,1.0s
IPM Ipoh 35.93 234 P **P 05 41 22.5 +1.3**
MYKOM Kota Tinggi 35.94 228 IAmb IAmb 05 41 24.5
comp=Z,39nm,1.1s
MYKOM Kota Tinggi 35.94 228 P **P 05 41 23.8 +2.5**
WMQ Urumqi 36.85 306 *e*P **P 05 41 29.2 +0.3**
WMQ pP pP 05 41 37.2 -2.9
WMQ PP **PnPn 05 42 56.3 +2.8**
WMQ pmax pmax
comp=Z,19nm,1.3s
WMQ LR LR
comp=Z,770nm,17.3s
WMQ LR LR
comp=Z,2μm,17.3s
WMQ LR LR
comp=Z,780nm,21.7s
SEY Seymchan 37.81 17⇑ *e*P **P 05 41 36.9 +0.3**
SEY pmax pmax
comp=Z,14nm,1.7s
SOEI Soe 38.07 188 P **P 05 41 37.1 -2.3**

SOEI IAmb IAmb 05 41 59.8
comp=Z,38nm,1.0s
SOEI Soe 38.07 188 P **P 05 41 40.9 +1.5**
SOEI Soe 38.07 188 P **P 05 41 39.7 +0.3**
comp=Z,40nm,1.4s
PLAI Plampang 38.52 199 P **P 05 41 44.3 +1.2**
PLAI Plampang 38.52 199 P **P 05 41 43.3 +0.2**
comp=Z,809nmcomp=Z,68nm,1.3s
PSI Prapat 38.60 235 P **P 05 41 45.6 +1.6**
PSI Prapat 38.60 235 P **P 05 41 43.8 -0.2**
PSI pmax pmax
comp=Z,12nm,0.9s
RPSI Rantau Prapat 38.67 235 P **P 05 41 43.8 -0.7**
TWSI Taliwang, Sumb 38.70 200 P **P 05 41 45.0 +0.4**
comp=Z,952nmcomp=Z,82nm,1.0s
BKNI Bangkinang 38.89 229 P **P 05 41 49.2 +2.9**
KRVT Keravat (AS076 38.90 143 LR LR 05 56 02.6
comp=Z,213nm,21.8s,baz=38,slow=33
PMBI Palembang 39.05 222 P **P 05 41 48.0 +0.4**
ZSN Zaisan 39.54 311 *eP* **P 05 41 51.3 -0.1**
ZSN Zaisan 39.54 311 *eP* **P 05 41 51.4 -0.1**
MNSI Mandailing Nat 39.54 232 P **P 05 41 52.9 +1.2**
BSI Banda Aceh 39.55 242 P **P 05 41 52.4 +0.6**
comp=Z,29nm,0.8s
PPI Padang Panjang 39.90 229 P **P 05 41 56.5 +1.8**
KPJI Karang Pucung 40.54 212 P **P 05 42 01.0 +1.0**
comp=Z,63nm,1.2s
GSI Gunungsitoli 40.60 234 P **P 05 42 00.8 +0.3**
GSI IAmb IAmb 05 42 01.7
comp=Z,25nm,0.9s
GSI Gunungsitoli 40.60 234 P **P 05 42 02.3 +1.8**
GSI Gunungsitoli 40.60 234 P **P 05 42 00.9 +0.3**
comp=Z,57nm,0.9s
MDSI Maura Dua 40.65 221 P **P 05 42 02.7 +1.8**
comp=Z,50nm,1.0s
KDU Kakadu 40.74 176 P **P 05 42 01.1 -0.4**
comp=Z,24nm,1.5s
MTN Manton Dam 40.82 178 P **P 05 42 02.0 -0.2**
MTN IAmb IAmb 05 42 03.1
comp=Z,56nm,0.9s
MTN Manton Dam 40.82 178 P **P 05 42 02.4 +0.1**
comp=Z,72nm,1.3s
MTN Manton Dam 40.82 178 P **P 05 42 02.5 +0.3**
SHEM Shemya Is, Ala 40.93 41 LR LR 05 59 18.6
comp=Z,84nm,22.0s,baz=178,slow=36
PMG Port Moresby 41.08 153 P **P 05 42 05.4 +1.0**
MK31 Makanchi Array 41.14 310 P **P 05 42 04.3 -0.3**
MK31 Makanchi Array 41.14 310 P **P 05 42 04.3 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 41.14 310 P **P 05 42 04.5 -0.2**
MKAR Makanchi Array 41.14 310 P **P 05 42 02.9 -1.8**
MKAR PcP **PcP 05 44 02.8 -0.7**
comp=Z,4.7nm,0.7s,baz=97,slow=10,SNR=55
MKAR ScP **ScP 05 47 49.0 -1.2**
comp=Z,4.3nm,0.7s,baz=87,slow=2.8,SNR=6.7
MKAR LR LR 06 01 05.0
comp=Z,0.1nm,0.6s,baz=100,slow=5.0,SNR=3.1
comp=Z,801nm,18.0s,baz=94,slow=39
comp=Z,4.7nm,0.7s
MKAR Makanchi Array 41.14 310 *i* P **P 05 42 04.5 -0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 41.35 310 P **P 05 42 06.1 -0.3**
MAKZ Makanchi 41.35 310 P **P 05 42 06.1 -0.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 41.35 310 P **P 05 42 06.3 -0.1**
MAKZ pP **pP 05 42 17.1 -0.7**
ZAA0 Zalesovo Array 41.43 321 P **P 05 42 06.2 -0.7**
ZALV Zalesovo Beam 41.43 321 P **P 05 42 05.0 -1.9**
ZALV Zalesovo Beam 41.43 321 P **P 05 42 06.0 -0.8**
comp=Z,4.9nm,0.6s,baz=110,slow=8.5,SNR=22
ZALV PcP **PcP 05 44 03.6 -0.6**
comp=Z,6.7nm,0.8s,baz=116,slow=3.4,SNR=8.9
ZALV ScP **ScP 05 47 50.3 -0.8**
comp=Z,2.9nm,0.7s,baz=91,slow=7.4,SNR=3.7
ZALV LR LR 06 00 59.5
comp=Z,272nm,18.8s,baz=110,slow=39
comp=Z,4.9nm,0.6s
SHLS Shalkode 42.71 304 *eP* **P 05 42 15.0 -2.6**
SHLS Shalkode 42.71 304 *eP* **P 05 42 15.1 -2.6**
WUS Wushi 42.81 301 P **P 05 42 19.3 +0.8**
WUS pP **pP 05 42 29.4 -0.5**
KPKS Kokpek 43.29 305 *eP* **P 05 42 22.4 +0.1**
KPKS Kokpek 43.29 305 *eP* **P 05 42 22.4 +0.1**
PRZ Przheval'sk 43.45 303 P **P 05 42 25.4 +1.6**
PRZ pmax pmax
comp=Z,27nm,1.0s
ZHN Zhinishke 43.46 304 *eP* **P 05 42 23.7 0.0**
ZHN Zhinishke 43.46 304 *eP* **P 05 42 23.7 0.0**
SATY Saty 43.48 304 *eP* **P 05 42 23.6 -0.3**
SATY Saty 43.48 304 *eP* **P 05 42 23.7 -0.2**
TIXI Tiksi 43.50 360 LR LR 06 01 32.9
comp=Z,262nm,19.7s,baz=192,slow=38
TIXI Tiksi 43.50 360‖ *eP* **P 05 42 25.9 +2.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TDK Taldyqorghan 43.60 307 *eP* **P 05 42 24.7 0.0**
TDK pmax pmax
comp=Z,9.0nm,0.7s
TDK Taldyqorghan 43.60 307 *eP* **P 05 42 24.8 0.0**
comp=Z,9.1nm,0.7s
KNRA Kununurra 43.62 181 P **P 05 42 25.4 +0.4**
comp=Z,90nm,1.0s
TARG Taragay, Kyrgy 43.88 302 IAmb IAmb 05 42 39.4
comp=Z,27nm,0.8s
COEN Coen 43.93 161 P **P 05 42 27.1 -0.5**
COEN Coen 43.93 161 P **P 05 42 29.0 +1.5**
comp=Z,38nm,2.2s
COEN Coen 43.93 161 P **P 05 42 29.2 +1.6**
KURK Kurchatov 44.23 315 P **P 05 42 28.8 -0.9**
KURK Kurchatov 44.23 315 *c i* P **P 05 42 29.2 -0.4**
KURK pmax pmax
comp=Z,27nm,1.7s
KURK Kurchatov 44.23 315 P **P 05 42 29.4 -0.3**
KURBB Kurchatov Arra 44.27 315 P **P 05 42 29.4 -0.6**
comp=Z,7.1nm,0.6s,baz=101,slow=8.8,SNR=31
KURBB PcP **PP 05 44 12.7 -0.9**
comp=Z,6.4nm,1.1s,baz=109,slow=4.1,SNR=7.1
KURBB LR LR 06 02 37.7
comp=Z,1μm,18.9s,baz=140,slow=38
comp=Z,7.1nm,0.6s
KDJ Kajisay 44.35 303 IAmb IAmb 05 42 42.8
comp=Z,19nm,0.8s
KDJ Kajisay 44.35 303 P **P 05 42 31.9 +0.9**
KDJ pmax pmax
comp=Z,29nm,1.0s
MDOK Medeo 44.47 304 *eP* **P 05 42 31.8 -0.1**
MDOK Medeo 44.47 304 *eP* **P 05 42 31.8 -0.1**
TNSS Tian-Shan 44.54 304 *eP* **P 05 42 32.3 -0.5**
TNSS Tian-Shan 44.54 304 *eP* **P 05 42 32.4 -0.4**
AAA Alma-Ata 44.57 304 *eP* **P 05 42 32.2 -0.3**
AAA pmax pmax
comp=Z,12nm,0.6s
AAA Alma-Ata 44.57 304 *eP* **P 05 42 32.3 -0.3**
comp=Z,12nm,0.6s
ULHL Ulahol 45.05 303 P **P 05 42 37.4 +0.8**
SNR=6.9
BOOM Boomskoye usch 45.27 303 P **P 05 42 38.4 +0.1**
BOOM Boomskoye usch 45.27 303 P **P 05 42 38.4 +0.1**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
KSH Kashi 45.30 299 P **P 05 42 42.1 +3.6**
KSH pP sP 05 42 52.3 -2.5
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH LR LR
comp=Z,530nm,15.1s
KSH LR LR
comp=Z,610nm,14.4s
KSH LR LR
comp=Z,670nm,16.5s
BILL Bilibino 45.45 18 P **P 05 42 39.2 +0.1**
BILL IAmb IAmb 05 42 40.5
comp=Z,32nm,1.1s
BILL Bilibino 45.45 18 *deP* **P 05 42 39.2 +0.1**
BILL pmax pmax
comp=Z,38nm,1.3s
BILL Bilibino 45.45 18 P **P 05 42 39.2 +0.1**
BILL pP **pP 05 42 50.0 -0.5**
BILL sP **sP 05 42 54.9 -0.4**
KBK Karagaybulak 46.01 303 P **P 05 42 45.1 +1.0**
SNR=6.4
FITZ Fitzroy Crossi 46.17 185 P **P 05 42 45.8 +0.6**
FITZ Fitzroy Crossi 46.17 185 P **P 05 42 46.2 +0.9**
comp=Z,11nm,1.0s
FITZ Fitzroy Crossi 46.17 185 P **P 05 42 45.9 +0.6**
comp=Z,28nm,0.7s,baz=14,slow=8.7,SNR=32
FITZ LR LR 06 00 46.4
comp=Z,113nm,21.1s,baz=38,slow=34
comp=Z,28nm,0.7s
FITZ Fitzroy Crossi 46.17 185 P **P 05 42 46.3 +1.0**
SGDS Sogindy 46.24 304 *eP* **P 05 42 45.9 +0.1**
SGDS Sogindy 46.24 304 *eP* **P 05 42 45.9 +0.1**
USP Ospenovka 46.34 304 P **P 05 42 46.9 +0.4**
SNR=6.6
AAK Ala-Archa 46.34 303 P **P 05 42 46.7 0.0**
AAK Ala-Archa 46.34 303 LR LR 06 05 11.2
comp=Z,565nm,18.6s,baz=87,slow=40
AAK Ala-Archa 46.34 303‖ *eP* **P 05 42 47.2 +0.5**
AAK pmax pmax
comp=Z,9.0nm,1.3s
ARLS Aral 46.48 302 P **P 05 42 48.8 +1.0**
ARLS pmax pmax
comp=Z,40nm,0.9s
BTLS Baital 46.69 307 *eP* **P 05 42 49.3 +0.1**
BTLS Baital 46.69 307 *eP* **P 05 42 49.3 +0.1**
EKS2 Erkin-Say 46.87 303 P **P 05 42 51.5 +0.7**
SNR=5.5
AML Almayashu 46.94 303 P **P 05 42 53.0 +1.2**
SNR=5.9
HNR Honiara 47.58 137 LR LR 06 00 35.2
comp=Z,223nm,21.7s,baz=320,slow=33
NRIK Noril'sk 47.76 341 P **P 05 42 56.5 -0.6**
NRIK IAmb IAmb 05 42 57.3
comp=Z,14nm,0.8s
NRIK Noril'sk 47.76 341 P **P 05 42 56.6 -0.6**
comp=Z,9.3nm,0.6s,baz=118,slow=9.4,SNR=23
NRIK PcP **PcP 05 44 25.7 0.0**
comp=Z,12nm,0.9s,baz=126,slow=8.7,SNR=3.5
NRIK LR LR 06 04 48.6
comp=Z,523nm,18.7s,baz=133,slow=38
comp=Z,9.3nm,0.6s
NRIK Noril'sk 47.76 341 *d i* P **P 05 42 56.1 -1.1**
NRIK pmax pmax
comp=Z,12nm,0.9s
BRZS Berezniki 47.90 313 *eP* **P 05 42 58.3 -0.3**
BRZS Berezniki 47.90 313 *eP* **P 05 42 58.3 -0.3**
WB0 Warramunga Arr 47.91 174 P **P 05 42 59.4 +0.5**
WB0 IAmb IAmb 05 42 59.9
comp=Z,15nm,0.7s
HYB Hyderabad 47.91 268 *eP* **P 05 42 59.1 0.0**
WRAB Tennant Creek 48.07 174 P **P 05 43 00.2 +0.1**
WRAB IAmb IAmb 05 43 01.2
comp=Z,15nm,0.8s
WRAB Tennant Creek 48.07 174 *d i* P **P 05 43 00.5 +0.4**
WRAB pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 48.08 174 P **P 05 43 00.6 +0.4**
comp=Z,16nm,0.9s,baz=354,slow=8.3,SNR=51
WRA PcP **PcP 05 44 27.7 +0.2**
comp=Z,2.8nm,0.9s,baz=348,slow=4.1,SNR=1.1
WRA LR LR 06 01 58.5
comp=Z,184nm,21.3s,baz=37,slow=34
comp=Z,16nm,0.9s
WB2 Warramunga Arr 48.08 174 P **P 05 43 00.4 +0.2**
WB2 IAmb IAmb 05 43 01.3
comp=Z,18nm,0.8s
NIL Nilore 48.10 291 P **P 05 43 00.7 +0.3**
NIL Nilore 48.10 291 P **P 05 43 00.7 +0.3**
NIL pmax pmax
comp=Z,33nm,0.8s
NIL Nilore 48.10 291 P **P 05 43 00.7 +0.3**
NIL pP **pP 05 43 10.9 -1.1**
MTSU Mount Surprise 48.22 161 P **P 05 43 03.4 +2.0**
MTSU Mount Surprise 48.22 161 P **P 05 43 03.2 +1.9**
DRK Karamyk 48.53 299 P **P 05 43 04.5 +0.6**
DRK IAmb IAmb 05 43 19.9
comp=Z,19nm,1.2s
DRK Karamyk 48.53 299 P **P 05 43 04.5 +0.6**
DRK pmax pmax
comp=Z,19nm,1.2s
DZA Taraz 48.66 304 *eP* **P 05 43 04.7 +0.1**
DZA pmax pmax
comp=Z,5.0nm,0.5s
DZA Taraz 48.66 304 *eP* **P 05 43 04.8 +0.1**
comp=Z,4.8nm,0.5s
TRKS Terek-Say 48.88 302 P **P 05 43 06.9 +0.5**
TRKS pmax pmax
comp=Z,5.0nm,1.1s
BTK Batken 49.23 300 P **P 05 43 09.4 +0.3**
BTK Batken 49.23 300 P **P 05 43 09.4 +0.3**
BTK pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 49.26 304 P **P 05 43 09.2 +0.1**
KK31 IAmb IAmb 05 43 20.7
comp=Z,19nm,0.9s
KK31 Karatay Array 49.26 304 P **P 05 43 09.2 +0.1**
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 49.26 304 P **P 05 43 09.6 +0.5**
KKAR Karatay Array 49.26 304 P **P 05 43 09.0 -0.1**
KKAR Karatay Array 49.26 304 P **P 05 43 09.6 +0.5**
KKAR pmax pmax
comp=Z,13nm,1.0s
QIS Mount Isa 49.43 168 P **P 05 43 10.5 -0.1**
comp=Z,25nm,1.3s
QIS Mount Isa 49.43 168 P **P 05 43 11.1 +0.6**
BVAR Borovoye Array 49.61 317 P **P 05 43 10.9 -0.8**
comp=Z,9.6nm,0.6s,baz=87,slow=9.2,SNR=58
BVAR PcP **PcP 05 44 33.1 +0.4**
comp=Z,9.9nm,0.7s,baz=111,slow=3.4,SNR=5.7
BVAR LR LR 06 06 09.2
comp=Z,990nm,19.3s,baz=101,slow=38
comp=Z,9.6nm,0.6s
BRVK Borovoye 49.68 317 P **P 05 43 11.7 -0.5**
BRVK IAmb IAmb 05 43 12.7
comp=Z,11nm,0.7s
BRVK Borovoye 49.68 317 P **P 05 43 11.7 -0.5**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 49.68 317 P **P 05 43 11.9 -0.2**
BRVK pP **pP 05 43 22.7 -1.0**
BRVK sP **sP 05 43 27.0 -1.5**
BRVK PcP **PcP 05 44 32.9 0.0**
GAR Garm 49.72 299 P **P 05 43 13.2 +0.3**
BRLS Boroldoy 49.76 304 *eP* **P 05 43 14.0 +1.1**
BRLS Boroldoy 49.76 304 *eP* **P 05 43 14.1 +1.1**
TV1H Townsville Har 50.04 159 P **P 05 43 16.6 +1.4**
PSAC1 Pilbara Seismi 50.32 192 P **P 05 43 17.6 +0.4**
comp=Z,36nm,1.0s
PSA00 Pilbara Seismi 50.35 192 P **P 05 43 17.8 +0.3**
PSA00 IAmb IAmb 05 43 18.6
comp=Z,24nm,0.8s
PSA00 Pilbara Seismi 50.35 192 P **P 05 43 18.1 +0.6**
comp=Z,47nm,1.1s
PSA00 Pilbara Seismi 50.35 192 P **P 05 43 18.5 +1.0**
PALK Pallekele 50.55 255 P **P 05 43 19.9 +0.7**
PALK IAmb IAmb 05 43 30.1
comp=Z,17nm,0.9s
PALK Pallekele 50.55 255 LR LR 06 06 15.9
comp=Z,319nm,20.1s,baz=59,slow=38
PALK Pallekele 50.55 255 *deP* **P 05 43 20.4 +1.1**
PALK pmax pmax
comp=Z,26nm,1.5s
PALK Pallekele 50.55 255 P **P 05 43 20.2 +1.0**
PALK pP **pP 05 43 29.9 -0.8**
PALK sP **sP 05 43 34.5 -1.0**
CHGR Chuyangaron 50.66 298 P **P 05 43 20.0 +0.1**
CHGR Chuyangaron 50.66 298 P **P 05 43 20.0 +0.1**
CHGR pmax pmax
comp=Z,70nm,0.9s
SIMJ Simiganj 50.78 298 P **P 05 43 21.1 +0.2**
SIMJ Simiganj 50.78 298 P **P 05 43 21.1 +0.2**
SIMJ pP **pP 05 43 31.2 -1.3**
SIMJ sP **sP 05 43 36.5 -0.7**
DZET Dzherino 50.90 299 P **P 05 43 22.5 +0.8**
DZET pmax pmax
comp=Z,106nm,0.8s
KBL Kabul 51.38 293 P **P 05 43 25.0 -0.6**
KBL IAmb IAmb 05 43 37.1
comp=Z,24nm,0.9s
KBL Kabul 51.38 293 P **P 05 43 25.0 -0.6**
KBL pmax pmax
comp=Z,24nm,1.0s
AS31 Alice Springs 51.73 175 P **P 05 43 28.1 +0.2**
ASAR Alice Springs 51.73 175 P **P 05 43 28.0 +0.1**
ASAR Alice Springs 51.73 175 P **P 05 43 28.4 +0.5**
comp=Z,6.4nm,0.7s,baz=8.9,slow=13,SNR=139
ASAR PcP **PcP 05 44 40.5 -0.3**
comp=Z,4.3nm,0.9s,baz=6.9,slow=3.8,SNR=6.1
ASAR LR LR 06 03 53.5
comp=Z,98nm,21.6s,baz=344,slow=34
comp=Z,6.4nm,0.7s
AS01 Alice Springs 51.73 175 P **P 05 43 29.0 +1.1**
UNV Unalaska Valle 52.54 42 P **P 05 43 32.5 -1.0**
baz=268
WRKA Warakurna 52.94 181 P **P 05 43 37.5 +0.7**
M11K Mekoryuk 53.25 34 P **P 05 43 38.1 -0.6**
baz=263
F14K Arctic Creek 54.00 28 P **P 05 43 43.8 -0.3**
baz=259
K13K Kusilvak Mount 54.18 32 P **P 05 43 45.2 -0.3**
baz=263
ANM Nome 54.23 29 IAmb IAmb 05 43 58.0
comp=Z,20nm,1.0s
ANM Nome 54.23 29 P **P 05 43 44.8 -1.1**
baz=261
FALS False Pass 54.37 41 P **P 05 43 46.0 -0.9**
baz=269
M13K Dall Lake 54.66 34 P **P 05 43 49.1 +0.1**
baz=265
F15K North Star Dit 54.73 28 P **P 05 43 49.5 0.0**
baz=260
J14K Nanvaranak Lak 54.79 31 P **P 05 43 49.8 -0.1**
baz=264
G15K Niukluk 54.87 28 P **P 05 43 50.7 +0.3**
baz=262
C16K Lisburne Hills 54.94 24 P **P 05 43 51.6 +0.7**
baz=258,SNR=5.5
L14K Kuka Creek 55.06 33 P **P 05 43 51.4 -0.5**
baz=265
S12K Black Hills 55.15 40 P **P 05 43 52.1 -0.5**
baz=270
M14K Bethel 55.37 34 P **P 05 43 54.3 +0.2**
baz=266
N14K Kuskokwak Cree 55.46 35 P **P 05 43 54.6 -0.2**
baz=267
MEEK Meekatharra 55.52 192 P **P 05 43 56.2 +0.6**
H16K Elim 55.58 29 P **P 05 43 56.1 +0.5**
baz=264,SNR=5.5
G16K Koyuk River 55.62 28 P **P 05 43 55.8 -0.1**
baz=263
O14K Tigyukauivet M 55.65 36 P **P 05 43 55.8 -0.3**
baz=268
L15K Ungalak Mounta 55.66 33 P **P 05 43 55.9 -0.3**
baz=266
D17K Noatak River 55.67 25 P **P 05 43 55.6 -0.6**
baz=261
K15K Wolf Creek Mou 55.68 32 P **P 05 43 55.7 -0.6**
baz=266
C17K DeLong Mountai 55.76 24 P **P 05 43 56.4 -0.5**
baz=260
RDOG Red Dog Mine 55.79 25 IAmb IAmb 05 44 09.3
comp=Z,15nm,1.0s
RDOG Red Dog Mine 55.79 25 P **P 05 43 57.5 +0.4**
baz=260
OOD Oodnadatta 55.98 173 P **P 05 43 59.9 +1.1**
M15K Kasigluk River 55.99 34 P **P 05 43 58.3 -0.3**
baz=268
E17K Hotham Inlet 56.06 26 P **P 05 43 58.7 -0.3**
baz=262,SNR=8.6
ABKAR Akbulak array 56.17 312 P **P 05 43 59.1 -0.9**
ABKAR Akbulak array 56.17 312 IAmb IAmb 05 44 00.6
comp=Z,6.1nm,0.8s
J16K Anvik River 56.18 31 P **P 05 43 59.4 -0.5**
baz=266
I17K Unalakleet 56.18 30 P **P 05 44 00.1 +0.2**
baz=265
F17K Baldwin Pennin 56.20 27 P **P 05 44 00.4 +0.4**
baz=263
QLP Quilpie 56.26 164 P **P 05 44 02.4 +1.6**
N15K Kwethluk River 56.27 34 P **P 05 44 00.8 +0.2**
baz=268
G17K Kiwalik Mounta 56.34 28 P **P 05 44 01.4 +0.3**
baz=264
O15K Ungalikthiuk R 56.39 36 P **P 05 44 01.7 +0.2**
baz=269
B18K Kokolik River 56.40 23 P **P 05 44 01.5 +0.1**
baz=261
C18K Utukok River 56.51 24 IAmb IAmb 05 44 13.5
comp=Z,19nm,0.9s
C18K Utukok River 56.51 24 P **P 05 44 02.7 +0.4**
baz=262
S14K Fog Glacier 56.56 39 P **P 05 44 02.8 0.0**
baz=272
E18K Tukpahlearik C 56.57 26 IAmb IAmb 05 44 14.7
comp=Z,18nm,0.9s
E18K Tukpahlearik C 56.57 26 P **P 05 44 03.0 +0.4**
baz=263
CHNA Chernabura Isl 56.59 41 P **P 05 44 02.8 -0.1**
baz=272
H17K Granite Mounta 56.60 29 IAmb IAmb 05 44 15.0
comp=Z,15nm,1.1s
H17K Granite Mounta 56.60 29 P **P 05 44 02.5 -0.4**
baz=265,SNR=5.0
L16K Owhat River 56.62 33 IAmb IAmb 05 44 05.8
comp=Z,16nm,1.1s
L16K Owhat River 56.62 33 P **P 05 44 03.5 +0.5**
baz=268
INKA Innaminka 56.64 168 P **P 05 44 06.9 +3.4**
ARTI Arti 56.69 321 P **P 05 44 03.6 0.0**
ARTI IAmb IAmb 05 44 05.1
comp=Z,9.0nm,0.5s
ARTI Arti 56.69 321 LR LR 06 10 55.7
comp=Z,710nm,19.0s,baz=76,slow=39
ARTI Arti 56.69 321 *c i* P **P 05 44 03.1 -0.6**
ARTI 05 46 11.4
ARTI S **S 05 51 54.4 +1.2**
ARTI SS **SS 05 55 39.6 -1.3**
ARTI pmax pmax
comp=Z,22nm,1.6s
ARTI MLR MLR
comp=Z,911nm,17.0s
ARTI Arti 56.69 321 P **P 05 44 03.0 -0.7**
M16K Timber Creek 56.85 33 P **P 05 44 05.5 +0.8**
baz=269
F18K Selawik 56.86 27 P **P 05 44 05.6 +1.0**
baz=265,SNR=15
J17K VABM Dome 56.87 31 P **P 05 44 06.6 +1.8**
J17K IAmb IAmb 05 44 17.1
comp=Z,33nm,1.1s
J17K VABM Dome 56.87 31 P **P 05 44 04.4 -0.4**
baz=267
EIDS Eidsvold 57.15 157 P **P 05 44 07.9 +0.8**
EIDS IAmb IAmb 05 44 08.5
comp=Z,24nm,1.1s
EIDS Eidsvold 57.15 157 P **P 05 44 08.5 +1.4**
L17K Donlin 57.19 32 P **P 05 44 06.9 -0.2**
baz=269
CHGN Chignik 57.19 39 P **P 05 44 06.6 -0.5**
baz=272
K17K Iditarod 57.20 31 IAmb IAmb 05 44 26.2
comp=Z,18nm,1.0s
K17K Iditarod 57.20 31 P **P 05 44 07.6 +0.5**
baz=268
G18K Tagagawik 57.20 28 IAmb IAmb 05 44 18.8
comp=Z,29nm,1.1s
G18K Tagagawik 57.20 28 P **P 05 44 06.9 -0.3**
baz=266,SNR=7.7
O16K Kokwok River B 57.27 35 IAmb IAmb 05 44 20.3
comp=Z,31nm,1.1s
O16K Kokwok River B 57.27 35 P **P 05 44 07.7 0.0**
baz=271
H18K Honhosa River 57.27 29 IAmb IAmb 05 44 19.4
comp=Z,16nm,1.1s
H18K Honhosa River 57.27 29 P **P 05 44 07.3 -0.4**
baz=267
AKTO Aktyubinsk 57.30 314 LR LR 06 10 32.6
comp=Z,501nm,19.8s,baz=54,slow=38
P16K Nushagak River 57.33 36 P **P 05 44 07.8 -0.3**
baz=271
M17K Holitna River 57.59 33 IAmb IAmb 05 44 23.6
comp=Z,35nm,1.1s
M17K Holitna River 57.59 33 P **P 05 44 08.0 -1.9**
baz=270
D19K Kuna River 57.62 25 P **P 05 44 09.1 -0.9**
baz=265
F19K Shaleruckik Mo 57.62 27 P **P 05 44 08.9 -1.1**
baz=266
N17K Nushagak Hills 57.72 34 P **P 05 44 09.8 -1.0**
baz=271
O17K Koliganek Bris 57.78 35 P **P 05 44 09.6 -1.6**
baz=271
G19K Purcell Mounta 57.85 27 IAmb IAmb 05 44 23.3
comp=Z,13nm,0.9s
G19K Purcell Mounta 57.85 27 P **P 05 44 10.8 -0.9**

	baz=267						
E19K	Redstone River	57.87	26	P	P	05 44 12.8	+1.0
	baz=266						
GCSA	Galena City Sc	57.89	29	P	P	05 44 11.0	-0.9
	baz=268						
J18K	Innoko River	57.94	31	P	P	05 44 11.0	-1.3
	baz=269						
L18K	Granite Mounta	57.94	32	IAmb	IAmb	05 44 15.8	
	comp=Z,22nm,1.1s						
L18K	Granite Mounta	57.94	32	P	P	05 44 11.6	-0.8
	baz=270						
Q16K	King Salmon	58.04	36	P	P	05 44 12.0	-1.0
	baz=272						
H19K	Roundabout Mou	58.09	28	P	P	05 44 11.9	-1.5
	baz=268						
P17K	Kvichak River	58.13	36	P	P	05 44 12.9	-0.8
	baz=272						
D20K	Etivluk River	58.18	24	P	P	05 44 13.3	-0.7
	baz=266						
TTA	Tatalina	58.25	31	P	P	05 44 14.8	+0.1
TTA	Tatalina	58.25	31	P	P	05 44 14.5	-0.2
	baz=270						
TTA	Tatalina	58.25	31	P	P	05 44 16.7	+2.1
TTA	Tatalina	58.25	31	P	P	05 44 14.8	+0.1
TTA				pmax	pmax		
	comp=Z,11nm,1.2s						
E20K	Nigu River	58.31	25	P	P	05 44 15.7	+0.7
	baz=267						
N18K	Kilae Creek	58.35	34	P	P	05 44 15.7	+0.4
	baz=272						
M18K	Stony River	58.36	33	P	P	05 44 15.2	-0.1
	baz=271						
MORW	Morawa	58.38	194	IAmb	IAmb	05 44 17.3	
	comp=Z,23nm,1.1s						
MORW	Morawa	58.38	194	P	P	05 44 16.4	+0.6
A21K	Barrow	58.40	21	P	P	05 44 15.6	+0.2
	baz=264						
J19K	Poorman	58.42	30	IAmb	IAmb	05 44 28.2	
	comp=Z,23nm,0.9s						
J19K	Poorman	58.42	30	P	P	05 44 15.8	0.0
	baz=270						
Q17K	Contact Creek	58.46	37	P	P	05 44 15.7	-0.5
	baz=273						
FORT	Forrest	58.66	181	P	P	05 44 18.6	+0.9
FORT	Forrest	58.66	181	P	P	05 44 19.2	+1.6
O18K	Koktuh Hills	58.73	35	P	P	05 44 18.1	+0.2
	baz=273,SNR=6.0						
P18K	Big Mountain,	58.74	35	P	P	05 44 16.1	-1.9
	baz=273						
H20K	Anotleneega Mo	58.75	28	P	P	05 44 16.3	-1.7
	baz=270						
ACHA	Angle Creek He	58.76	37	IAmb	IAmb	05 44 33.4	
	comp=Z,22nm,0.8s						
CHIR	Chirikof Islan	58.78	40	P	P	05 44 17.8	-0.6
	baz=275						
L19K	White Mountain	58.80	32	IAmb	IAmb	05 44 30.7	
	comp=Z,21nm,1.1s						
L19K	White Mountain	58.80	32	P	P	05 44 18.0	-0.4
	baz=272						
C21K	Knifeblade Rid	58.87	24	P	P	05 44 19.1	+0.4
	baz=268						
LCRK	Leigh Creek	58.90	171	P	P	05 44 21.1	+1.8
I20K	Naaghedeneel	58.92	29	P	P	05 44 20.3	+1.2
	baz=270						
B21K	Ikpikpuk River	58.95	23	P	P	05 44 18.9	-0.4
	baz=267						
M19K	Big River Lodg	59.03	32	P	P	05 44 20.3	+0.3
	baz=272						
N19K	Bonanza Creek	59.04	34	P	P	05 44 20.7	+0.5
	baz=273						
J20K	Nowinta River	59.07	30	IAmb	IAmb	05 44 33.2	
	comp=Z,20nm,1.1s						
J20K	Nowinta River	59.07	30	P	P	05 44 21.4	+1.2
	baz=271						
K20K	Telida	59.13	31	IAmb	IAmb	05 44 33.8	
	comp=Z,16nm,0.9s						
K20K	Telida	59.13	31	P	P	05 44 21.2	+0.6
	baz=272						
E21K	Killik River	59.14	25	P	P	05 44 21.1	+0.4
	baz=269						
O19K	Port Alsworth	59.15	34	P	P	05 44 21.4	+0.6
	baz=273						
L20K	Farewell, AK	59.25	32	P	P	05 44 21.9	+0.4
	baz=272						
R18K	Karluk	59.28	37	P	P	05 44 21.2	-0.5
	baz=275						
G21K	Allakaket	59.31	27	IAmb	IAmb	05 44 33.9	
	comp=Z,22nm,0.9s						
G21K	Allakaket	59.31	27	P	P	05 44 22.5	+0.6
	baz=270						
F21K	Alatna River	59.31	26	IAmb	IAmb	05 44 34.0	
	comp=Z,13nm,0.8s						
F21K	Alatna River	59.31	26	P	P	05 44 21.7	-0.2
	baz=270,SNR=8.3						
B22K	Teshekpuk Lake	59.39	23	P	P	05 44 21.8	-0.5
	baz=268						
SII	Sitkinak Islan	59.52	39	P	P	05 44 23.3	-0.1
	baz=276						
H21K	Melozitna Rive	59.61	28	IAmb	IAmb	05 44 36.1	
	comp=Z,22nm,1.1s						
H21K	Melozitna Rive	59.61	28	P	P	05 44 24.3	+0.4
	baz=272						
D22K	Ayikyak River	59.62	24	P	P	05 44 24.0	+0.1
	baz=270						
M20K	Styx River	59.63	32	IAmb	IAmb	05 44 36.1	
	comp=Z,10nm,0.9s						
M20K	Styx River	59.63	32	P	P	05 44 24.5	+0.3
	baz=273						
KMBL	Kambalda	59.68	188	P	P	05 44 26.2	+1.5
P19K	Oil Pt	59.74	35	P	P	05 44 26.5	+1.6
	baz=275						
BLDU	Ballidu	59.75	193	P	P	05 44 25.7	+0.5
CHUM	Lake Minchumin	59.89	30	P	P	05 44 26.0	+0.2
	baz=273,SNR=8.1						
OHAK	Old Harbor	59.94	38	P	P	05 44 27.0	+0.7
	baz=276						
I21K	Tanana	59.97	29	P	P	05 44 27.8	+1.4
	baz=272						
PPLA	Purkeypile	60.00	31	IAmb	IAmb	05 44 30.3	
	comp=Z,13nm,0.8s						
PPLA	Purkeypile	60.00	31	P	P	05 44 26.8	-0.1
	baz=274						
O20K	Slope Mountain	60.01	34	P	P	05 44 26.4	-0.4
	baz=275						
CAST	Castle Rocks	60.02	31	IAmb	IAmb	05 44 38.5	
	comp=Z,11nm,0.8s						
CAST	Castle Rocks	60.02	31	P	P	05 44 26.9	+0.1
	baz=273,SNR=15						
SPCR	Spurr Chakacha	60.12	33	P	P	05 44 27.5	0.0
	baz=275,SNR=7.1						
H22K	Ishtalitna Cre	60.19	28	P	P	05 44 27.7	-0.2
	baz=273						
SPU	Mount Spurr	60.19	33	IAmb	IAmb	05 44 40.9	
	comp=Z,21nm,1.0s						
KDAK	Kodiak Island	60.25	37	P	P	05 44 28.8	+0.4
KDAK	Kodiak Island	60.25	37	LR	LR	06 10 59.9	
	comp=Z,76nm,20.7s,baz=104,slow=36						
KDAK	Kodiak Island	60.25	37	P	P	05 44 28.5	0.0
	baz=276						
KDAK	Kodiak Island	60.25	37	P	P	05 44 28.8	+0.4
KDAK				pmax	pmax		
	comp=Z,46nm,1.0s						
KDAK	Kodiak Island	60.25	37	P	P	05 44 28.8	+0.4
KDAK				pP	pP	05 44 38.9	-1.3
KDAK				PcP	PcP	05 45 12.1	-1.4
Q20K	Shuyak Island	60.27	36	P	P	05 44 29.0	+0.5
	baz=276						
STLK	Strandline Lak	60.27	33	P	P	05 44 29.6	+0.9
D23K	Nanushuk River	60.34	24	P	P	05 44 28.9	0.0
	baz=272,SNR=21						
C23K	Itkillik River	60.35	23	IAmb	IAmb	05 44 40.1	
	comp=Z,22nm,1.0s						
C23K	Itkillik River	60.35	23	P	P	05 44 29.8	+0.9
	baz=271						
SKT	Skwentna	60.38	32	P	P	05 44 29.4	+0.2
	baz=275,SNR=5.8						
BPAW	Bear Paw Mtn.	60.46	30	IAmb	IAmb	05 44 41.9	
	comp=Z,13nm,1.1s						
BPAW	Bear Paw Mtn.	60.46	30	P	P	05 44 30.3	+0.5
	baz=274,SNR=6.4						
KLBR	Kellerberrin	60.50	192	P	P	05 44 30.7	+0.3
KTH	Kantishna Hill	60.53	30	IAmb	IAmb	05 44 53.9	
	comp=Z,11nm,1.0s						
COLD	Coldfoot	60.59	26	IAmb	IAmb	05 44 43.6	
	comp=Z,12nm,1.0s						
COLD	Coldfoot	60.59	26	P	P	05 44 31.1	+0.5
	baz=273,SNR=6.3						
CAPN	Captain Cook N	60.67	34	P	P	05 44 31.3	+0.1
	baz=276						
G23K	Bananza Creek	60.69	27	IAmb	IAmb	05 44 43.5	
	comp=Z,17nm,0.9s						
G23K	Bananza Creek	60.69	27	P	P	05 44 31.8	+0.5
	baz=273						
TOLK	Toolik Lake Re	60.76	24	P	P	05 44 32.3	+0.5
	baz=273,SNR=20						
E23K	Chandalar	60.77	25	P	P	05 44 32.7	+0.8
	baz=273,SNR=36						
SUA	Susitna One	60.80	33	P	P	05 44 32.6	+0.4
	baz=276,SNR=12						
TRF	Thorofare Moun	60.82	30	P	P	05 44 32.8	+0.3
	baz=275						
STKA	Stephens Creek	60.83	168	P	P	05 44 33.1	+0.5
STKA	Stephens Creek	60.83	168	P	P	05 44 32.8	+0.2
	comp=Z,5.1nm,0.8s,baz=338,slow=6.2,SNR=8.9						
STKA				LR	LR	06 10 09.3	
	comp=Z,142nm,21.9s,baz=19,slow=35						
	comp=Z,5.1nm,0.8s						
STKA	Stephens Creek	60.83	168	P	P	05 44 34.2	+1.6
STKA	Stephens Creek	60.83	168	P	P	05 44 33.1	+0.5
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CUT	Chulitna	60.93	32	IAmb	IAmb	05 44 54.0	
	comp=Z,22nm,0.9s						
CUT	Chulitna	60.93	32	P	P	05 44 33.6	+0.7
	baz=276						
BRSE	Bradley Lake S	60.98	35	P	P	05 44 33.2	-0.2
	baz=277						
D24K	Happy Valley	61.00	24	P	P	05 44 34.3	+0.9
	baz=273,SNR=46						
C24K	Franklin Bluff	61.01	23	P	P	05 44 34.2	+0.8
	baz=273						
I23K	Minto, Yukon-K	61.08	28	IAmb	IAmb	05 44 46.5	
	comp=Z,11nm,1.0s						
I23K	Minto, Yukon-K	61.08	28	P	P	05 44 34.3	+0.4
	baz=275						
SLKM	Skilak Lake	61.15	34	IAmb	IAmb	05 44 46.0	
	comp=Z,22nm,1.1s						
E24K	Your Creek	61.19	25	IAmb	IAmb	05 44 47.0	
	comp=Z,23nm,0.8s						
E24K	Your Creek	61.19	25	P	P	05 44 35.2	+0.5
	baz=274						
NEA2	Nenana	61.25	29	P	P	05 44 35.5	+0.3
	baz=275,SNR=9.4						
RC01	Rabbit Creek A	61.32	33	IAmb	IAmb	05 44 47.9	
	comp=Z,26nm,1.2s						
RC01	Rabbit Creek A	61.32	33	P	P	05 44 36.2	+0.6
	baz=277,SNR=8.3						
KIRV	Kirov	61.34	324	LR	LR	06 14 07.5	
	comp=Z,1μm,18.1s,baz=84,slow=39						
KIRV	Kirov	61.34	324	*de*P	P	05 44 35.4	-0.4
CMSA	Cobar Meteorol	61.36	164	P	P	05 44 38.2	+2.0
DZM	Mont Dzumac	61.37	141	LR	LR	06 10 40.4	
	comp=Z,130nm,19.0s,baz=7.5,slow=35						
MCK	McKinley	61.40	30	IAmb	IAmb	05 44 48.1	
	comp=Z,18nm,0.9s						
MCK	McKinley	61.40	30	P	P	05 44 36.8	+0.6
	baz=276,SNR=11						
O22K	Cooper Landing	61.40	34	P	P	05 44 37.1	+0.9
	baz=277						
F24K	Squaw Lake	61.46	26	P	P	05 44 37.3	+0.7
	baz=275						
PMR	Palmer	61.55	33	IAmb	IAmb	05 44 48.8	
	comp=Z,26nm,1.2s						
PMR	Palmer	61.55	33	P	P	05 44 37.6	+0.5
	baz=277,SNR=10.0						
PMR	Palmer	61.55	33	P	P	05 44 39.0	+1.8
SEW	Seward	61.58	34	P	P	05 44 38.5	+1.1
	baz=278,SNR=8.7						
GHO	Glory Hole Cre	61.63	32	IAmb	IAmb	05 44 50.8	
	comp=Z,15nm,0.8s						
H24K	Noodor Dome	61.63	28	IAmb	IAmb	05 44 40.5	
	comp=Z,15nm,0.8s						
H24K	Noodor Dome	61.63	28	P	P	05 44 38.4	+0.6
	baz=276						
G24K	Hadweenzic Riv	61.70	27	IAmb	IAmb	05 44 50.7	
	comp=Z,23nm,0.9s						
G24K	Hadweenzic Riv	61.70	27	P	P	05 44 38.6	+0.5
	baz=276						
COLA	College	61.74	29	P	P	05 44 39.5	+1.1
COLA				IAmb	IAmb	05 44 40.9	
	comp=Z,10nm,0.6s						
COLA	College	61.74	29	P	P	05 44 38.8	+0.4
	baz=276						
COLA	College	61.74	29	P	P	05 44 41.5	+3.1
COLA	College	61.74	29	*ce*P	P	05 44 39.8	+1.4
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COLA	College	61.74	29	P	P	05 44 39.5	+1.1
COLA				pP	pP	05 44 49.9	-0.2
D25K	Kavik River	61.86	24	P	P	05 44 40.3	+1.0
	baz=275,SNR=26						
POKR	Poker Plat Res	61.89	28	P	P	05 44 40.5	+1.1
	baz=277,SNR=18						
KNK	Knik Glacier	61.89	33	IAmb	IAmb	05 44 41.9	
	comp=Z,21nm,0.9s						
KNK	Knik Glacier	61.89	33	P	P	05 44 39.7	+0.1
	baz=278,SNR=12						
NWAO	Narrogin (SRO)	61.90	192	P	P	05 44 40.1	+0.3
NWAO				IAmb	IAmb	05 44 40.6	
	comp=Z,8.6nm,0.8s						
NWAO	Narrogin (SRO)	61.90	192	P	P	05 44 40.1	+0.3
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SML	Sawmill	61.90	32	IAmb	IAmb	05 44 53.6	
	comp=Z,14nm,0.9s						
SML	Sawmill	61.90	32	P	P	05 44 39.4	-0.2
	baz=278						
PWL	Port Wells	62.03	33	IAmb	IAmb	05 44 51.6	
	comp=Z,21nm,0.9s						
PWL	Port Wells	62.03	33	P	P	05 44 40.6	+0.1
	baz=278,SNR=7.8						
ILAR	Eielson Array	62.16	29	P	P	05 44 40.3	-1.0
ILAR	Eielson Array	62.16	29	P	P	05 44 41.0	-0.3
	comp=Z,4.7nm,0.8s,baz=270,slow=5.5,SNR=44						
ILAR				PKP2bc	P'P'df	06 13 50.7	-2.6
	comp=Z,1.3nm,1.1s,baz=208,slow=4.9,SNR=5.9						
	comp=Z,4.7nm,0.8s						
ILAR	Eielson Array	62.16	29	P	P	05 44 41.0	-0.3
HDA	Harding Lake	62.18	29	IAmb	IAmb	05 44 42.3	
	comp=Z,16nm,0.8s						
HDA	Harding Lake	62.18	29	P	P	05 44 41.2	-0.2
	baz=277,SNR=10.0						
M23K	Glacier View	62.19	32	P	P	05 44 41.8	+0.3
	baz=278						
E25K	Arctic Village	62.28	25	IAmb	IAmb	05 44 54.6	
	comp=Z,22nm,0.9s						
E25K	Arctic Village	62.28	25	P	P	05 44 42.5	+0.5
	baz=277,SNR=19						
C26K	Camden Bay	62.31	23	P	P	05 44 42.9	+0.8
	baz=276,SNR=20						
F25K	Christian Rive	62.31	26	P	P	05 44 43.0	+0.7
	baz=277,SNR=32						
SCM	Sheep Creek Mo	62.37	32	P	P	05 44 43.5	+0.8
	baz=278						
H25L	Birch Creek	62.41	27	P	P	05 44 43.6	+0.7
	baz=277,SNR=12						
FYU	Fort Yukon	62.60	27	IAmb	IAmb	05 44 53.3	
	comp=Z,15nm,1.0s						
P23K	Montague Islan	62.62	34	P	P	05 44 44.7	+0.4
	baz=279						
GLI	Glacier Island	62.62	33	IAmb	IAmb	05 44 46.7	
	comp=Z,12nm,0.7s						
GLI	Glacier Island	62.62	33	P	P	05 44 43.9	-0.5
	baz=279,SNR=7.2						
PRP	Porcupine Dome	62.63	28	IAmb	IAmb	05 44 57.3	
	comp=Z,18nm,0.9s						
PRP	Porcupine Dome	62.63	28	P	P	05 44 44.9	+0.3
	baz=278,SNR=7.0						
BMAR	Burnt Mountain	62.74	26	P	P	05 44 46.1	+1.0
C27K	Jago River	62.76	23	P	P	05 44 45.9	+0.8
	baz=278						
AUDCS	Dubbo College	62.77	162	P	P	05 44 47.9	+2.2
K24K	Donnelly Dome	62.78	30	P	P	05 44 45.6	+0.1
	baz=279						
J25K	Salcha River,	62.83	29	P	P	05 44 46.1	+0.2
	baz=279						
M24K	Tolsona, Glenn	62.87	32	IAmb	IAmb	05 45 06.4	
	comp=Z,22nm,0.9s						
M24K	Tolsona, Glenn	62.87	32	P	P	05 44 46.1	0.0
	baz=279						
F26K	Sheenjek River	62.87	25	P	P	05 44 46.9	+0.9
	baz=278						
PAX	Paxson	63.05	31	P	P	05 44 47.8	+0.5
	baz=279						
KLU	Klutina	63.09	32	P	P	05 44 47.9	+0.3
	baz=280						
G26K	Porcupine Rive	63.12	26	P	P	05 44 48.9	+1.3
	baz=279,SNR=13						
RIDG	Independent Ri	63.20	30	IAmb	IAmb	05 44 54.0	
	comp=Z,14nm,1.0s						
RIDG	Independent Ri	63.20	30	P	P	05 44 48.9	+0.7
	baz=280						
DIV	Divide	63.22	33	IAmb	IAmb	05 45 12.0	
	comp=Z,14nm,1.0s						
Q23K	Middleton Isla	63.24	35	P	P	05 44 49.6	+1.1
	baz=280						
HARP	HAARP	63.28	31	P	P	05 44 49.4	+0.6
	baz=280						
EYAK	Cordova Ski Ar	63.33	33	P	P	05 44 49.0	0.0
	baz=280						
BELG	Belogornoye	63.42	317	LR	LR	06 14 23.4	
	comp=Z,429nm,18.4s,baz=73,slow=38						
SCRK	Sand Creek	63.53	29	P	P	05 44 50.8	+0.2
	baz=280,SNR=14						
J26L	Joseph Creek	63.62	29	IAmb	IAmb	05 45 02.4	
	comp=Z,17nm,0.9s						
J26L	Joseph Creek	63.62	29	P	P	05 44 51.4	+0.3
	baz=280						
I26K	Coal Creek Min	63.65	28	P	P	05 44 51.0	-0.1
	baz=280						
N25K	Chitina, Valde	63.69	32	P	P	05 44 52.3	+0.7
	baz=281						
D27M	Malcolm River	63.78	23	IAmb	IAmb	05 45 04.3	
	comp=Z,27nm,0.9s						
D27M	Malcolm River	63.78	23	P	P	05 44 53.0	+1.0
	baz=280						
BMRM	Bremner River	63.81	33	IAmb	IAmb	05 45 10.5	
	comp=Z,24nm,1.2s						
BMRM	Bremner River	63.81	33	P	P	05 44 53.4	+1.1
	baz=281,SNR=5.7						
MENT	Mentasta	63.84	31	IAmb	IAmb	05 45 02.9	
	comp=Z,14nm,0.9s						
MENT	Mentasta	63.84	31	P	P	05 44 55.8	+3.3
G27K	Doyon Strip	63.97	26	IAmb	IAmb	05 45 05.8	
	comp=Z,12nm,1.0s						
G27K	Doyon Strip	63.97	26	P	P	05 44 54.7	+1.4
	baz=281						
L26K	Log Cabin Wild	63.99	30	P	P	05 44 54.0	+0.6
	baz=281,SNR=7.9						
GLB	Gilahina Butte	64.09	32	IAmb	IAmb	05 45 06.6	
	comp=Z,14nm,1.2s						
KAIM	Kayak Island	64.11	34	P	P	05 44 55.5	+1.3
	baz=282						
H27K	Steamboat Moun	64.13	27	P	P	05 44 55.2	+0.8
	baz=281						
I27K	Kandik River	64.22	27	P	P	05 44 56.5	+1.5
	baz=281						
M26K	Nabesna, AK	64.27	31	IAmb	IAmb	05 45 08.0	
	comp=Z,24nm,1.1s						
M26K	Nabesna, AK	64.27	31	P	P	05 44 56.6	+1.2
	baz=282						
E28M	Babbage River	64.41	24	P	P	05 44 57.0	+0.9
	baz=282						
F28M	Old Crow	64.49	25	P	P	05 44 57.7	+1.0
	baz=282,SNR=21						
D28M	Stokes Point	64.54	23	P	P	05 44 57.5	+0.7
	baz=282						
EGAK	Eagle	64.58	28	P	P	05 44 57.9	+0.7
	baz=282						
L27K	Beaver Creek,	64.66	30	P	P	05 44 58.3	+0.4
	baz=282						
YNG	Young	64.66	163	P	P	05 45 00.2	+2.1
BCAR	Beaver Creek A	64.68	30	P	P	05 44 59.5	+1.5
M27K	Edge Creek, AK	64.79	31	P	P	05 44 58.9	+0.1
	baz=283						
I28M	Miner Creek	64.94	27	P	P	05 45 01.1	+1.4
	baz=283						
E29M	Blow River	65.05	24	IAmb	IAmb	05 45 12.4	
	comp=Z,19nm,0.9s						
E29M	Blow River	65.05	24	P	P	05 45 01.2	+0.9
	baz=283						
BVCY	Beaver Creek	65.24	31	P	P	05 45 02.4	+0.8
	baz=284						
MESA	MESA	65.26	33	P	P	05 45 02.8	+0.8
	baz=284						
G29M	Pine Creek	65.35	26	P	P	05 45 03.4	+1.1
	baz=284						
H29M	Whitestone	65.38	26	IAmb	IAmb	05 45 14.8	
	comp=Z,23nm,1.0s						
MSVF	Nonsavu	65.48	128	P	P	05 45 03.9	+0.1
MSVF	Nonsavu	65.48	128	LR	LR	06 09 18.3	
	comp=Z,93nm,21.4s,baz=184,slow=32						
MSVF	Nonsavu	65.48	128	P	P	05 45 03.9	+0.1
MSVF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
DAWY	Dawson	65.49	29	P	P	05 45 03.8	+0.6
	baz=284						
YUK3	Moose Creek	65.58	31	P	P	05 45 04.8	+0.8
	baz=284						
I29M	Ogilvie Camp,	65.62	27	P	P	05 45 05.0	+1.0
I29M				IAmb	IAmb	05 45 16.2	
	comp=Z,19nm,1.1s						
I29M	Ogilvie Camp,	65.62	27	P	P	05 45 05.3	+1.3
	baz=284,SNR=8.9						
CAN	Canberra	65.79	163	P	P	05 45 07.3	+1.9
CAN				PcP	PcP	05 45 37.9	+1.6
KLMR	Klimovskoe	65.82	328	*e*P	P	05 45 01.9	-3.4
KLMR				pmax	pmax		
	comp=Z,43nm,1.5s						
J29N	Klondike Camp	65.89	28	IAmb	IAmb	05 45 15.8	
	comp=Z,19nm,0.8s						
J29N	Klondike Camp	65.89	28	P	P	05 45 06.6	+0.8
	baz=285,SNR=14						
O28M	Mount Upton	65.96	33	P	P	05 45 06.9	+0.3
	baz=285						
EPYK	Eagle Plains	65.99	26	P	P	05 45 07.5	+1.1
	baz=285,SNR=18						
F30M	Barrier River	66.01	25	P	P	05 45 07.8	+1.4
	baz=286						
G30M	tAoh Zraii Nji	66.02	25	P	P	05 45 07.5	+0.9
	baz=286,SNR=19						
YUK8	Steele Glacier	66.02	32	P	P	05 45 07.9	+0.9
	baz=285						
PCA	Pinnacle	66.10	33	IAmb	IAmb	05 45 35.9	
	comp=Z,22nm,1.0s						
PINM	Pinnacle	66.10	33	P	P	05 45 07.7	+0.5
	baz=285						
AKT	Akhty	66.13	306	*d*iP	P	05 45 08.2	+0.3
AKT				*e*		05 45 38.5	
AKT				pmax	pmax		
	comp=Z,14nm,0.6s						
LKRN	Lenkeran, Azer	66.20	302	P	P	05 45 09.0	+0.9
L29M	L29M	66.28	30	IAmb	IAmb	05 45 10.9	
	comp=Z,13nm,0.9s						
L29M	L29M	66.28	30	P	P	05 45 09.9	+1.6
	baz=286						
M29M	Somme Creek	66.31	31	P	P	05 45 09.5	+0.9
	baz=286						
K29M	Barlow Dome	66.34	29	P	P	05 45 09.1	+0.2
	baz=286						
I30M	Mount Dempster	66.44	27	IAmb	IAmb	05 45 29.7	
	comp=Z,16nm,1.1s						
I30M	Mount Dempster	66.44	27	P	P	05 45 09.1	-0.3
	baz=286						
YUK4	Talbot Arm	66.53	32	P	P	05 45 10.7	+0.6
	baz=286						
SEKA	Sheki	66.60	305	P	P	05 45 11.7	+0.9
INK	Inuvik	66.63	24	IAmb	IAmb	05 45 22.0	
	comp=Z,22nm,1.1s						
INK	Inuvik	66.63	24	LR	LR	06 17 16.8	
	comp=Z,80nm,18.8s,baz=244,slow=39						
INK	Inuvik	66.63	24	P	P	05 45 11.4	+1.0
	baz=287,SNR=10						
J30M	Hart River	66.64	28	P	P	05 45 12.1	+1.4
	baz=286						
YUK6	Outpost Mounta	66.77	32	P	P	05 45 11.9	+0.1
	baz=286						
BRAT	Ballarat	66.78	168	P	P	05 45 14.1	+2.5
MNGR	Mingechevir, A	66.81	305	P	P	05 45 13.4	+1.4
F31M	Tsiigehtchic	66.81	25	IAmb	IAmb	05 45 22.8	
	comp=Z,16nm,0.8s						
F31M	Tsiigehtchic	66.81	25	P	P	05 45 12.2	+0.6

TOO	Toolangi	67.11	166	P	P	05 45 14.9 +1.1
TOO				pmax	pmax	
comp=Z,10.0nm,1.0s						
MAYO	Mayo, Yukon	67.11	29	P	P	05 45 15.3 +1.7
baz=287						
SPB1	Spitsbergen Ar	67.15	348	P	P	05 45 13.6 0.0
SPB1				IAmb	IAmb	05 45 30.1
comp=Z,26nm,1.1s						
SPA0	Spitsbergen Ar	67.15	348	eP	P	05 45 13.4 -0.3
SPA0				IAmb	IAmb	05 45 21.6
comp=Z,16nm,0.7s						
SPITS	Spitsbergen Ar	67.15	348	P	P	05 45 12.1 -1.5
comp=Z,4.2nm,0.6s,baz=79,slow=8.6,SNR=14						
SPITS				LR	LR	06 16 30.9
comp=Z,220nm,20.8s,baz=12,slow=38						
comp=Z,4.2nm,0.6s						
HYT	Haines Junctio	67.21	32	P	P	05 45 15.9 +1.5
baz=287						
GANJ	Ganja	67.40	305	P	P	05 45 17.1 +1.2
P30M	Million Dollar	67.68	33	P	P	05 45 18.9 +1.6
baz=288						
N31M	Braeburn, Yuko	67.80	31	IAmb	IAmb	05 45 37.5
comp=Z,22nm,1.1s						
N31M	Braeburn, Yuko	67.80	31	P	P	05 45 20.1 +2.1
baz=288,SNR=5.4						
O30N	Mendenhall	67.89	32	P	P	05 45 19.5 +0.9
baz=288						
A36M	Sachs Harbour	68.00	19	P	P	05 45 19.4 +0.4
baz=293,SNR=56						
KEV	Kevo	68.04	339	P	P	05 45 18.6 -0.7
KEV				PcP	PcP	05 45 44.7 -0.5
PLBC	Pleasant Camp	68.17	33	P	P	05 45 21.1 +0.8
baz=288						
M31M	Drury Creek, Y	68.20	30	P	P	05 45 20.9 +0.4
baz=289						
MOS	Moscow	68.23	323	eP	P	05 45 18.8 -1.9
MOS				pmax	pmax	
comp=Z,36nm,0.7s						
MOS				MLR	MLR	
comp=Z,600nm,17.0s						
NAX	Nakhchivan	68.48	304	P	P	05 45 23.5 +0.8
WHY	Whitehorse	68.48	32	P	P	05 45 22.3 -0.1
baz=289						
LPSR	Galich'ya Gora	68.49	319	eP	P	05 45 19.1 -3.3
LPSR				pmax	pmax	
comp=Z,10.0nm,1.0s						
ARA0	ARCESS Array S	68.61	339	eP	P	05 45 22.6 -0.3
ARCES	ARCESS Array B	68.61	339	P	P	05 45 21.7 -1.2
comp=Z,1.4nm,0.5s,baz=53,slow=8.1,SNR=11						
ARCES				LR	LR	06 20 28.4
comp=Z,235nm,19.4s,baz=45,slow=40						
comp=Z,1.4nm,0.5s						
VORR	Voronezh	68.62	318	eP	P	05 45 20.1 -3.1
VORR				pmax	pmax	
comp=Z,20nm,1.1s						
FARO	Faro, Yukon	68.65	30	IAmb	IAmb	05 45 25.7
comp=Z,15nm,0.8s						
FARO	Faro, Yukon	68.65	30	P	P	05 45 24.2 +0.8
baz=290,SNR=23						
SKAG	Skagway	68.67	33	P	P	05 45 24.6 +1.2
baz=289						
SKAG	Skagway	68.67	33	P	P	05 45 25.8 +2.4
GNI	Garni	68.70	305	P	P	05 45 24.6 +0.3
GNI				IAmb	IAmb	05 45 42.4
comp=Z,20nm,1.1s						
GNI	Garni	68.70	305	LR	LR	06 19 39.6
comp=Z,204nm,19.6s,baz=62,slow=40						
GNI	Garni	68.70	305	deP	P	05 45 25.3 +1.1
GNI				pmax	pmax	
comp=Z,19nm,1.3s						
GNI	Garni	68.70	305	P	P	05 45 25.0 +0.8
comp=Z,16nm,1.0s						
S31K	Pelican	68.72	35	P	P	05 45 25.1 +1.3
baz=289						
VSR	Storozhevoye	68.79	318	eP	P	05 45 21.4 -2.9
VSR				pmax	pmax	
comp=Z,9.0nm,1.1s						
VORD	Divnogorie	68.80	317	eP	P	05 45 20.1 -4.2
VORD				pmax	pmax	
comp=Z,7.0nm,1.0s						
KBZ	Khabaz	68.83	309	P	P	05 45 24.9 +0.3
comp=Z,16nm,0.9s,baz=96,slow=3.5,SNR=24						
KBZ				LR	LR	06 19 20.2
comp=Z,301nm,19.0s,baz=74,slow=39						
comp=Z,16nm,0.9s						
KBZ	Khabaz	68.83	309	ceP	P	05 45 25.5 +0.9
KBZ				pmax	pmax	
comp=Z,15nm,0.9s						
JOF	Joensuu	68.90	331	eP	P	05 45 24.7 -0.1
KIV	Kislovodsk	68.90	309	P	P	05 45 25.9 +0.6
KIV				IAmb	IAmb	05 45 37.1
comp=Z,27nm,1.0s						
KIV	Kislovodsk	68.90	309	⇓P	P	05 45 26.1 +0.9
KIV	Kislovodsk	68.90	309	eP	P	05 45 25.6 +0.3
KIV				pmax	pmax	
comp=Z,20nm,1.1s						
KIV				MLR	MLR	
comp=Z,231nm,17.0s						
KIV	Kislovodsk	68.90	309	P	P	05 45 26.0 +0.8
comp=Z,19nm,1.0s						
SHA1	Shidzhatmaz	68.99	309	⇑eP	P	05 45 26.7 +0.7
OBN	Obninsk	69.00	322	LR	LR	06 18 26.9
comp=Z,548nm,19.1s,baz=50,slow=38						
OBN	Obninsk	69.00	322	⇑eP	P	05 45 25.1 -0.4
OBN				*PP	pP	05 45 38.0 +0.5
OBN						05 45 49.0
OBN				eSS	SS	05 58 53.3 +0.5
OBN				pmax	pmax	
comp=Z,44nm,1.7s						
OBN				MLR	MLR	
comp=Z,491nm,18.0s						
NOR	Nord	69.09	355	eP	P	05 45 25.3 -0.4
N32M	Quiet Lake	69.14	31	P	P	05 45 27.5 +1.0
baz=290						
P32M	Atlin	69.40	33	P	P	05 45 28.6 +0.6
baz=290						
C36M	Paulatuk	69.45	21	P	P	05 45 29.0 +1.0
baz=295,SNR=31						
R32K	Eaglecrest	69.47	34	P	P	05 45 29.1 +0.7
baz=290						
SIT	Sitka	69.48	36	P	P	05 45 29.0 +0.5
baz=290						
KTK1	Kautokeino	69.56	338	eP	P	05 45 28.3 -0.5
KTK1				IAmb	IAmb	05 45 30.2
comp=Z,26nm,1.3s						
P33M	Teslin, Yukon	69.60	32	P	P	05 45 29.2 0.0
baz=291						
S32K	Killisnoo	69.72	35	P	P	05 45 30.4 +0.4
baz=291						
KARS	Kars	69.74	306	P	P	05 45 32.8 +2.2
KARS				pmax	pmax	
comp=Z,23nm,0.9s						
Q32M	Nakina River	70.32	33	P	P	05 45 34.8 +0.9
baz=292						
BCA	Borcka	70.49	307	⇑P	P	05 45 35.9 +0.9
GEVA	Gevas	70.56	304	IAmb	IAmb	05 45 37.4
comp=Z,15nm,0.7s						
R33M	Jennings River	70.77	32	P	P	05 45 37.2 +0.7
baz=293						
U33K	Whale Pass	70.96	36	P	P	05 45 37.8 +0.3
baz=292						
SOC	Sochi	71.05	310	eP	P	05 45 34.3 -4.0
SOC				eS	S	05 54 47.1 -4.6
SOC				eSS	SS	05 59 20.7 -4.1
SOC				eSSS	SSS	06 02 33.7
SOC				pmax	pmax	
comp=Z,18nm,0.6s						
SOC				MLR	MLR	
comp=Z,231nm,16.0s						
GURO	Guroymak-BITLI	71.23	304	IAmb	IAmb	05 45 41.7
comp=Z,12nm,0.8s						
WRAK	Wrangell Islan	71.25	36	P	P	05 45 40.5 +1.3
baz=293						
WTLY	Watson Lake, Y	71.49	31	P	P	05 45 41.7 +0.9
baz=294,SNR=6.0						
FINES	FINESS Array B	71.73	331	P	P	05 45 41.3 -0.8
comp=Z,15nm,0.6s,baz=67,slow=6.4,SNR=68						
FINES				LR	LR	06 21 41.2
comp=Z,401nm,18.5s,baz=60,slow=40						
comp=Z,15nm,0.6s						
KOPT	Kop Dagi	71.80	306	IAmb	IAmb	05 45 55.9
comp=Z,19nm,0.9s						
V35K	Ketchikan	72.05	36	P	P	05 45 45.1 +0.9
baz=294						
ANN	Anapa	72.13	312	eP	P	05 45 42.7 -2.1
ANN				e*PP	pP	05 45 52.4 -4.4
ANN				eS	S	05 55 03.0 -1.1
ANN				pmax	pmax	
comp=Z,39nm,1.0s						
WRGLY	Wrigley	72.41	27	P	P	05 45 47.3 +1.1
baz=298						
VAF	Ylistaro	72.45	333	eP	P	05 45 47.2 +0.8
MARD	Mardin	72.61	303	IAmb	IAmb	05 45 49.5
comp=Z,22nm,0.7s						
STEI	Steigen	72.67	339	eP	P	05 45 47.2 -0.4
STEI				IAmb	IAmb	05 45 52.8
comp=Z,205nm,2.0s						
VSU	Vasula	72.72	328	ceP	P	05 45 47.3 -0.8
VSU				pmax	pmax	
comp=Z,22nm,1.3s						
VSU	Vasula	72.72	328	eP	P	05 45 48.2 +0.1
FAUS	Fauske	72.95	338	eP	P	05 45 48.6 -0.7
FAUS				IAmb	IAmb	05 45 52.4
comp=Z,234nm,2.4s						
RES	Resolute Bay	73.41	11	IAmb	IAmb	05 45 53.4
comp=Z,22nm,0.8s						
RES	Resolute Bay	73.41	11	LR	LR	06 20 33.4
comp=Z,122nm,19.5s,baz=12,slow=38						
RES	Resolute Bay	73.41	11	P	P	05 45 52.6 +0.8
RES				pmax	pmax	
comp=Z,36nm,0.8s						
DAG	Danmarks Havn	73.47	353	P	P	05 45 52.6 +0.4
DAG				pmax	pmax	
comp=Z,6.0nm,1.0s						
DAG	Danmarks Havn	73.47	353	iP	P	05 45 51.0 -1.2
TOAD	Toad River Com	73.68	32	P	P	05 45 55.0 +1.2
baz=297						
RAF	Rauma	73.78	331	eP	P	05 45 55.0 +0.7
MNK	Minsk	73.88	324	iP	P	05 45 55.1 +0.2
MNK				i		05 46 10.1
MNK				i		05 48 40.6
MNK				iPPP	PPP	05 50 25.9
MNK				iS	S	05 55 26.2 +2.6
MNK				iSS	SS	06 00 12.5 +5.0
MNK				pmax	pmax	
comp=E,35nm,1.1s						
MNK				pmax	pmax	
comp=Z,22nm,0.9s						
MNK				pmax	pmax	
comp=N,23nm,1.0s						
MNK				MLR	MLR	
comp=N,351nm,15.0s						
MNK				MLR	MLR	
comp=Z,458nm,17.0s						
MNK				MLR	MLR	
comp=E,398nm,22.0s						
MOR8	Moi Rana	73.90	337	eP	P	05 45 53.0 -1.9
MOR8				IAmb	IAmb	05 46 00.4
comp=Z,1μm,4.0s						
MTSE	Matsula	73.97	328	eP	P	05 45 56.9 +1.5
RAYN	Ar Rayn	74.30	289	P	P	05 45 58.5 +0.4
RAYN				IAmb	IAmb	05 46 09.0
comp=Z,21nm,0.9s						
RAYN	Ar Rayn	74.30	289	P	P	05 45 58.5 +0.4
RAYN				pmax	pmax	
comp=Z,21nm,1.0s						
IIGN	Ignalina	74.36	325	eP	P	05 45 58.5 +0.7
TOKA	Tokat	74.52	308	P	P	05 45 59.2 +0.1
TOKA				IAmb	IAmb	05 46 00.7
comp=Z,15nm,0.6s						
NEEM	North Greenlan	74.60	0	eP	P	05 45 59.5 +0.3
AK03	Malin Array Si	74.79	320	P	P	05 46 00.0 -0.3
AKASG	Malin Array Be	74.80	320	P	P	05 46 00.0 -0.4
AKASG	Malin Array Be	74.80	320	P	P	05 46 00.2 -0.2
comp=Z,8.7nm,0.5s,baz=59,slow=6.4,SNR=43						
AKASG				LR	LR	06 21 50.2
comp=Z,495nm,18.3s,baz=70,slow=38						
comp=Z,8.7nm,0.5s						
AKASG	Malin Array Be	74.80	320	P	P	05 46 00.0 -0.4
AKASG				pmax	pmax	
comp=Z,6.0nm,0.9s						
AKBB	Malin Array Si	74.80	320	IAmb	IAmb	05 46 00.8
comp=Z,15nm,0.7s						
AKBB	Malin Array Si	74.80	320	diP	P	05 45 59.4 -1.0
AKBB	Malin Array Si	74.80	320	P	P	05 46 00.0 -0.4
AK09	Malin Array Si	74.80	319	P	P	05 46 00.2 -0.2
KIEV	Kiev	74.81	320	P	P	05 45 59.9 -0.6
KIEV				IAmb	IAmb	05 46 00.8
comp=Z,14nm,0.7s						
KIEV	Kiev	74.81	320	⇑P	P	05 46 00.3 -0.2
KIEV	Kiev	74.81	320	P	P	05 45 59.9 -0.6
KIEV				pmax	pmax	
comp=Z,14nm,0.7s						
KIEV	Kiev	74.81	320	P	P	05 46 00.0 -0.5
comp=Z,78nm,0.6s						
AK06	Malin Array Si	74.86	319	P	P	05 46 00.6 -0.2
GAZ	Gaziantep	75.28	304	P	P	05 46 03.7 +0.1
GAZ				IAmb	IAmb	05 46 05.5
comp=Z,14nm,0.8s						
PABE	Paberze	75.42	326	eP	P	05 46 05.4 +1.6
NSS	Namsos	75.69	337	eP	P	05 46 04.7 -0.6
NSS				IAmb	IAmb	05 46 09.7
comp=Z,256nm,2.5s						
LUBAR	Lubar, Ukraine	75.99	319	P	P	05 46 07.4 +0.1
ILGA	Ilgaz	76.13	309	IAmb	IAmb	05 46 10.2
comp=Z,16nm,0.8s						
PURM	Purcari	76.25	316	P	P	05 46 08.8 0.0
comp=Z,2μmcomp=Z,26nm,0.5s						
YKA	Yellowknife Ar	76.26	25	P	P	05 46 08.5 -0.1
comp=Z,4.8nm,0.7s,baz=302,slow=5.7,SNR=80						
YKA				LR	LR	06 23 18.3
comp=Z,118nm,18.2s,baz=330,slow=38						
comp=Z,4.8nm,0.7s						
RNPP9	Sopachiv	76.35	321	P	P	05 46 09.5 +0.2
SORM	Soroca	76.45	317	⇓P	P	05 46 09.9 0.0
SORM	Soroca	76.45	317	P	P	05 46 09.9 0.0
MILM	Milestii Mici	76.73	316	⇑P	P	05 46 11.5 0.0
MILM	Milestii Mici	76.73	316	P	P	05 46 11.5 0.0
BR131	Keskin Array S	76.75	308	IAmb	IAmb	05 46 13.2
comp=Z,13nm,0.8s						
BR131	Keskin Array S	76.75	308	diP	P	05 46 12.1 +0.1
BRTR	Keskin Array B	76.75	308	P	P	05 46 11.7 -0.3
BRTR	Keskin Array B	76.75	308	P	P	05 46 11.9 -0.1
comp=Z,6.5nm,0.7s,baz=104,slow=4.7,SNR=62						
BRTR				LR	LR	06 25 05.6
comp=Z,145nm,20.7s,baz=9.0,slow=40						
comp=Z,6.5nm,0.7s						
BR104	Keskin Array S	76.76	308	P	P	05 46 12.3 +0.3
comp=Z,100nmcomp=Z,14nm,1.0s						
KIRS	Kirsehir-Merke	76.81	307	⇑P	P	05 46 12.9 +0.6
NDNU	Novodnistrovsk	76.83	318	P	P	05 46 12.2 +0.2
HORU	Horodok	77.09	319	P	P	05 46 13.8 +0.3
HORU	Horodok	77.09	319	P	P	05 46 13.8 +0.3
ANTO	Ankara	77.28	308	P	P	05 46 15.3 +0.5
ANTO				pmax	pmax	
comp=Z,9.0nm,1.0s						
ANTO	Ankara	77.28	308	P	P	05 46 15.4 +0.6
comp=Z,4.7nm,1.0s						
KMPD	K-Podol'skiy	77.37	318	P	P	05 46 14.6 -0.5
comp=Z,5μm,1.2s						
KULLO	Kullorsuaq	77.39	2	eP	P	05 46 14.4 -0.3
TLCR		77.52	315	⇑P	P	05 46 16.0 +0.1
TLCR		77.52	315	P	P	05 46 16.0 +0.1
ASF	Jabal al Asfar	77.61	300	LR	LR	06 25 59.1
comp=Z,98nm,19.0s,baz=335,slow=40						
HFS	Hagfors	77.63	333	P	P	05 46 15.4 -0.9
comp=Z,8.3nm,0.9s,baz=101,slow=7.7,SNR=13						
HFS				LR	LR	06 24 55.6
comp=Z,250nm,18.6s,baz=52,slow=39						
comp=Z,8.3nm,0.9s						
VLDR	Vladesti	77.67	315	⇑P	P	05 46 17.5 +0.7
NC405	NORSAR Array S	77.83	334	IAmb	IAmb	05 46 21.7
comp=Z,26nm,1.0s						
TPGR	Topolog	77.92	314	⇓P	P	05 46 18.2 0.0
CFR	Carcaliu	77.95	315	⇑P	P	05 46 18.7 +0.3
CFR	Carcaliu	77.95	315	P	P	05 46 18.6 +0.3
NB201	NORSAR Array S	78.03	334	P	P	05 46 18.4 -0.1
NB2	NORSAR Subarra	78.07	334	P	P	05 46 17.9 -0.9
comp=Z,7.9nm,0.8s,baz=51,slow=5.9						
NB2	NORSAR Subarra	78.07	334	P	P	05 46 17.9 -0.9
baz=51,slow=5.9						
NOA	NORSAR Array B	78.07	334	P	P	05 46 17.4 -1.4
comp=Z,3.7nm,0.6s,baz=50,slow=5.5,SNR=19						
NOA				LR	LR	06 24 07.3
comp=Z,186nm,20.0s,baz=50,slow=38						
comp=Z,3.7nm,0.6s						
TIRR	Tirgusor	78.11	314	⇑P	P	05 46 19.6 +0.4
TIRR	Tirgusor	78.11	314	⇑P	P	05 46 19.6 +0.4
TIRR	Tirgusor	78.11	314	P	P	05 46 19.6 +0.4
GIRR	Girov	78.11	317	⇑P	P	05 46 20.4 +1.1
NC602	NORSAR Array S	78.13	334	eP	P	05 46 18.6 -0.5
NC602				IAmb	IAmb	05 46 29.9
comp=Z,150nm,1.9s						
PANC	Panciu	78.24	316	⇑P	P	05 46 21.5 +1.5
TESR	Tescani	78.24	317	⇑P	P	05 46 20.4 +0.4
TESR	Tescani	78.24	317	P	P	05 46 20.3 +0.4
comp=Z,23nm,1.5s						
TLBR	Topalu	78.30	314	⇑P	P	05 46 21.7 +1.4
HARR	Harsova	78.31	314	⇑P	P	05 46 21.8 +1.4
HARR	Harsova	78.31	314	P	P	05 46 21.7 +1.4
KSV	Kosov	78.31	319	P	P	05 46 20.3 0.0
MMAI	Mount Meron Ar	78.38	301	P	P	05 46 20.3 -0.8
comp=Z,2.1nm,0.5s,baz=297,slow=5.5,SNR=5.0						
MMAI				LR	LR	06 25 28.0
comp=Z,60nm,21.6s,baz=44,slow=39						
comp=Z,2.1nm,0.5s						
STNU	Starunia	78.44	319	P	P	05 46 21.5 +0.5
ONER	Baraj Valea Uz	78.48	316	⇑P	P	05 46 22.4 +1.1
VRI	Vrincioaia	78.50	316	⇑P	P	05 46 22.5 +1.1
VRI	Vrincioaia	78.50	316	P	P	05 46 22.5 +1.1
VRI	Vrincioaia	78.50	316	P	P	05 46 22.6 +1.1
comp=Z,30nm,1.2s						
SPBR	Spulber	78.54	316	⇑P	P	05 46 23.1 +1.4
PLOR	Plostina	78.55	316	⇑P	P	05 46 23.1 +1.3
PLOR	Plostina	78.55	316	P	P	05 46 23.0 +1.3
PLOR3	Plostina Array	78.55	316	P	P	05 46 22.5 +0.7
comp=Z,15nm,1.2s						
BURAR	Bucovina Array	78.56	318	⇑P	P	05 46 23.3 +1.4
BURAR	Bucovina Array	78.56	318	P	P	05 46 23.3 +1.4
MORS	Morshin	78.58	320	P	P	05 46 22.6 +0.8
MORS	Morshin	78.58	320	P	P	05 46 22.6 +0.8
ICOR	Ion Corvin	78.66	314	⇑P	P	05 46 23.4 +1.1
BISRR	Bisoca	78.66	316	⇑P	P	05 46 23.6 +1.2
COVR	Voineasa-Covas	78.83	316	⇓P	P	05 46 24.5 +1.3
BORA	Eskisehir	78.88	309	IAmb	IAmb	05 46 28.0
comp=Z,13nm,0.8s						
OSL	Oslo	78.94	333	eP	P	05 46 24.0 +0.5
OSL				IAmb	IAmb	05 46 24.9
comp=Z,1μm,3.6s						
OZUR		78.96	316	⇑P	P	05 46 25.3 +1.3
MLR	Muntele Rosu	79.16	316	LR	LR	06 25 27.9
comp=Z,281nm,19.6s,baz=51,slow=39						
MLR	Muntele Rosu	79.16	316	⇑P	P	05 46 26.0 +0.8
MLR	Muntele Rosu	79.16	316	P	P	05 46 26.0 +0.8
MLR	Muntele Rosu	79.16	316	P	P	05 46 25.9 +0.7
SUMG	Summit	79.16	356	P	P	05 46 25.9 +0.9
SUMG				IAmb	IAmb	05 46 36.1
comp=Z,23nm,0.9s						
SUMG	Summit	79.16	356	P	P	05 46 25.9 +0.9
SUMG				pmax	pmax	
comp=Z,23nm,0.9s						
SUMG	Summit	79.16	356	iP	P	05 46 25.0 -0.1
UPNV	Upernavik	79.22	2	eP	P	05 46 24.1 -0.8
DOPR	Dopca	79.27	316	⇑P	P	05 46 27.0 +1.4
ARCR	ARCALIA	79.33	318	⇑P	P	05 46 27.7 +1.7
BMR	Baia Mare	79.54	319	⇑P	P	05 46 28.5 +1.4
BMR	Baia Mare	79.54	319	P	P	05 46 28.5 +1.4
KOLS	Kolonicke sedl	79.60	320	eP	P	05 46 28.7 +1.3
KOLS				pmax	pmax	
comp=Z,4.0nm,0.7s						
KOLS	Kolonicke sedl	79.60	320	eP	P	05 46 28.7 +1.3
VOIR		79.73	316	⇑P	P	05 46 29.3 +0.9
VOIR		79.73	316	P	P	05 46 29.2 +0.9
VOIR		79.73	316	P	P	05 46 29.2 +0.9
comp=Z,3.0nm,1.7s						
BERU	Beregovo	79.75	319	P	P	05 46 29.1 +0.9
HYA	Hoyanger	79.88	336	eP	P	05 46 30.3 +1.8
HYA				IAmb	IAmb	05 46 36.7
comp=Z,3μm,3.4s						
RTZ	Ruatahuna	79.89	144	P	P	05 46 29.2 +0.3
ARR	Arges	80.02	316	⇓P	P	05 46 31.3 +1.5
EIL	Elat	80.21	298	LR	LR	06 27 18.3
comp=Z,77nm,18.4s,baz=70,slow=40						
MARR	Marisel-Cluj	80.27	318	⇓P	P	05 46 31.3 +0.1
OJC	Ojcow	80.29	322	eP	P	05 46 31.9 +0.9
OJC	Ojcow	80.29	322	IAmb	IAmb	05 46 34.4
comp=Z,24nm,1.1s						
OJC	Ojcow	80.29	322	P	P	05 46 32.2 +1.1
OJC				pmax	pmax	
comp=Z,23nm,1.6s						
OJC	Ojcow	80.29	322	P	P	05 46 32.0 +0.9
comp=Z,23nm,1.6s						
NIE	Niedzica	80.45	321	eP	P	05 46 34.0 +2.0
NIE	Niedzica	80.45	321	P	P	05 46 32.8 +0.8
DRGR		80.45	318	⇓P	P	05 46 33.4 +1.2
DRGR		80.45	318	P	P	05 46 33.3 +1.2
RPZ	Rata Peaks	81.05	151	P	P	05 46 35.6 +0.6
RPZ				IAmb	IAmb	05 46 37.1
comp=Z,34nm,1.1s						
LANS	Liptovska Anna	81.05	321	eP	P	05 46 37.6 +2.4
LANS				pmax	pmax	
comp=Z,9.0nm,1.6s						
LANS	Liptovska Anna	81.05	321	eP	P	05 46 37.6 +2.4
GZR	Gura Zlata	81.14	317	⇑P	P	05 46 36.6 +0.8
GZR	Gura Zlata	81.14	317	P	P	05 46 36.6 +0.8
SURR	Surduc	81.34	317	⇑P	P	05 46 37.2 +0.4
SIRR	Siria	81.34	318	⇑P	P	05 46 37.5 +0.7
PSZ	Piszkesteto	81.48	320	⇑P	P	05 46 39.4 +1.8
PSZ	Piszkesteto	81.48	320	P	P	05 46 39.3 +1.8
PSZ	Piszkesteto	81.48	320	eP	P	05 46 38.5 +0.9
STEB	Steborice	81.54	323	eP	P	05 46 38.6 +0.8
HERR	Herculane	81.62	317	⇑P	P	05 46 38.7 +0.5
EZN	Ezine	81.70	311	P	P	05 46 37.8 -1.0
EZN	Ezine	81.70	311	P	P	05 46 37.8 -1.0
comp=Z,17nm,0.9s						
BZS	Buzias	81.71	318	⇑P	P	05 46 38.7 -0.1
BZS	Buzias	81.71	318	P	P	05 46 38.6 -0.1
MORC	Moravsky Berou	81.75	323	eP	P	05 46 39.7 +0.8
MORC	Moravsky Berou	81.75	323	⇑P	P	05 46 39.9 +0.9
MORC	Moravsky Berou	81.75	323	P	P	05 46 39.8 +0.8
VYHS	Vyhne	81.76	321	eP	P	05 46 40.0 +1.0
VYHS				pmax	pmax	
comp=Z,39nm,1.6s						
VYHS	Vyhne	81.76	321	eP	P	05 46 40.0 +1.0
KSP	Ksiaz	81.80	324	eP	P	05 46 40.2 +1.1
KSP	Ksiaz	81.80	324	P	P	05 46 40.0 +0.9
comp=Z,21nm,1.2s						
KRLC	Kraliky	81.99	323	AMS	AMS	06 26 30.0
comp=Z,400nm,17.5s						
B08A	Colville Reser	82.07	39	IAmb	IAmb	05 46 42.8
comp=Z,14nm,0.9s						
DPC	Dobruska-Polom	82.07	324	eP	P	05 46 41.7 +1.1
DPC	Dobruska-Polom	82.07	324	eP	P	05 46 41.7 +1.1
DPC	Dobruska-Polom	82.07	324	P	P	05 46 41.6 +1.0
comp=Z,15nm,1.4s						
CHVC	Chvalec	82.07	324	eP	P	05 46 42.7 +2.1
CHVC	Chvalec	82.07	324	eP	P	05 46 42.7 +2.1
MDVR	Moldovita	82.10	317	⇑P	P	05 46 41.2 +0.3
JAVC	Velka Javorina	82.20	322	eP	P	05 46 43.2 +1.9
VRAC	Vranov	82.53	323	LR	LR	06 27 11.1
comp=Z,316nm,19.0s,baz=62,slow=38						
VRAC	Vranov	82.53	323	eP	P	05 46 44.1 +1.1
VRAC	Vranov	82.53	323	⇓P	P	05 46 44.0 +1.1
VRAC	Vranov	82.53	323	P	P	05 46 44.0 +1.1
ICESG	Greenland Ices	82.68	356	eP	P	05 46 43.8 0.0
MODS	Modra-Piesok	82.69	322	eP	P	05 46 46.8 +3.0
MODS				pmax	pmax	
comp=Z,37nm,1.4s		

CLL	Collm	83.21	326	P	P	05 46 46.9	+0.5
	comp=Z,19nm,1.3s						
CLL	Collm	83.21	326	*i* P	P	05 46 46.3	-0.1
	comp=Z,22nm,1.1s						
CLL				*i* pP	pP	05 46 57.7	-1.0
CLL				*es*P	sP	05 47 02.0	-1.3
MPLH	Magyarpolny	83.22	320	P	P	05 46 47.7	+1.1
	comp=Z,35nm,1.0s						
E08A	Dider Farm, El	83.27	40	IAmb	IAmb	05 46 49.2	
	comp=Z,18nm,0.8s						
VAY	Valandovo	83.39	314	*i* P	P	05 46 48.6	+1.0
RONA	Rosalia, Austr	83.61	321	*e*P	P	05 46 49.9	+1.2
	comp=Z,7.3nm,1.2s						
CONA	Conrad Observa	83.72	322	*e*PcP	PcP	05 46 51.5	-1.8
	comp=Z,21nm,1.4s						
ZVC	Zvikov	83.72	324	*e*P	P	05 46 50.4	+1.3
J05D	Fort Rock, OR	83.75	44	IAmb	IAmb	05 46 52.0	
	comp=Z,23nm,0.8s						
E09A	Wood Farm, Sta	83.77	40	IAmb	IAmb	05 46 52.0	
	comp=Z,21nm,1.0s						
RAR	Rarotonga	84.07	118	LR	LR	06 14 57.8	
	comp=Z,125nm,21.4s,baz=281,slow=29						
LIT	Litokhoron	84.09	313	IAmb	IAmb	05 47 01.2	
	comp=Z,19nm,1.0s						
NKC	Novy Kostel	84.14	325	*e*P	P	05 46 53.9	+2.6
NKC	Novy Kostel	84.14	325	*e*P	P	05 46 53.9	+2.6
KHC	Kasperske Hory	84.23	324	*e*P	P	05 46 52.1	+0.3
KHC	Kasperske Hory	84.23	324⇑	*e*P	P	05 46 52.6	+0.8
KHC				pmax	pmax		
	comp=Z,34nm,1.7s						
KHC	Kasperske Hory	84.23	324	P	P	05 46 52.4	+0.6
	comp=Z,11nm,1.6s						
ARSA	Arzberg	84.30	321	*e*PcP	P	05 46 53.9	+1.8
	comp=Z,9.0nm,1.6s						
MOX	Moxa	84.31	326	*e*L	L	06 27 29.6	
	comp=Z,188nm,20.9s						
GERES	GERESS Array B	84.34	323	P	P	05 46 50.9	-1.5
	comp=Z,3.4nm,0.8s,baz=45,slow=4.3,SNR=9.2						
GERES				LR	LR	06 27 36.0	
	comp=Z,420nm,20.2s,baz=66,slow=38						
	comp=Z,3.4nm,0.8s						
BORG	Borgarnes	84.62	348	LR	LR	06 26 12.0	
	comp=Z,42nm,18.6s,baz=6.6,slow=37						
MOA	Molln	84.63	322	*e*P	P	05 46 55.3	+1.5
	comp=Z,9.9nm,1.0s						
OHR	Ohrid	84.63	314	*i* P	P	05 46 55.1	+1.1
PDG	Podgorica	84.87	316	⇑P	P	05 46 55.5	+0.4
KBN	Korca	84.91	314	IAmb	IAmb	05 46 59.7	
	comp=Z,22nm,0.9s						
SOKA	Soboth	84.91	321	*e*P	P	05 46 56.3	+1.0
	comp=Z,7.7nm,1.1s						
IDI	Anoyia	84.97	307	LR	LR	06 30 43.5	
	comp=Z,104nm,19.1s,baz=91,slow=40						
BIOA	Bad Ischl, Aus	85.07	322	*i* PcP	P	05 46 57.6	+1.6
	comp=Z,12nm,1.1s						
TIR	Tirane	85.09	315	⇓P	P	05 46 57.9	+1.7
TIR	Tirane	85.09	315	P	P	05 46 57.9	+1.7
TIR	Tirane	85.09	315	P	P	05 46 57.5	+1.3
	comp=Z,34nm,1.0s						
GRF	Grafenberg Arr	85.10	325	*e*P	P	05 46 57.0	+0.9
	comp=Z,8.1nm,0.9s,baz=59,slow=4.8						
GRF				*e*L	L	06 29 11.1	
	comp=Z,568nm,18.6s						
SFJD	Kangerlussuaq	85.11	0	P	P	05 46 56.3	+0.6
SFJD	Kangerlussuaq	85.11	0	LR	LR	06 26 26.2	
	comp=Z,63nm,19.7s,baz=356,slow=37						
SFJD	Kangerlussuaq	85.11	0	P	P	05 46 56.3	+0.6
SFJD				pmax	pmax		
	comp=Z,28nm,0.9s						
SFJD	Kangerlussuaq	85.11	0	*e*P	P	05 46 55.7	-0.1
OBKA	Obir	85.28	321	*e*PcP	PcP	05 47 00.8	+0.5
	comp=Z,7.3nm,1.3s						
J08A	Circle Bar Ran	85.38	43	IAmb	IAmb	05 47 00.6	
	comp=Z,24nm,1.0s						
DY2G	Dye2	85.58	358	*e*P	P	05 46 58.7	+0.2
KBA	Koelnbreinsper	85.60	322	*e*PcP	P	05 47 00.2	+1.4
	comp=Z,9.5nm,1.3s						
ORV	Oroville	85.62	47	IAmb	IAmb	05 47 00.6	
	comp=Z,18nm,0.8s						
MYKA	Terra Mystica	85.71	322	*i* PcP	PcP	05 47 00.9	-1.2
	comp=Z,3.1nm,0.5s						
LESA	Schwarzleotal	85.75	323	*i* P	P	05 46 59.8	+0.4
	comp=Z,20nm,1.2s						
WVOR	Wild Horse Val	85.81	44	IAmb	IAmb	05 47 02.6	
	comp=Z,16nm,1.1s						
MSO	Missoula	85.92	38	IAmb	IAmb	05 47 03.0	
	comp=Z,13nm,1.1s						
FCC	Fort Churchill	86.09	21	IAmb	IAmb	05 47 01.7	
	comp=Z,8.1nm,0.8s						
SABO	M.te Sabotino	86.12	321	IAmb	IAmb	05 47 04.6	
	comp=Z,11nm,1.1s						
ABTA	Abfaltersbach	86.25	322	*e*P	P	05 47 02.1	+0.2
	comp=Z,16nm,1.1s						
AFDM	Forest Hills D	86.30	47	IAmb	IAmb	05 47 04.3	
	comp=Z,17nm,1.0s						
FFC	Flin Flon	86.32	27	P	P	05 47 03.1	+1.1
FFC	Flin Flon	86.32	27	P	P	05 47 03.1	+1.1
FFC				pmax	pmax		
	comp=Z,18nm,0.8s						
WATA	Walderalm	86.39	323	*e*P	P	05 47 03.1	+0.4
	comp=Z,9.0nm,1.4s						
WTTA	Wattenberg	86.40	323	*i* P	P	05 47 03.0	+0.2
	comp=Z,21nm,1.4s						
MOTA	Moosalm	86.63	323	*e*PcP	PcP	05 47 06.7	+0.4
	comp=Z,9.8nm,1.3s						
SQTA	Sankt Quirin	86.66	323	*i* PcP	PcP	05 47 06.2	-0.2
	comp=Z,15nm,1.4s						
RETA	Reutte	86.72	323	*e*PcP	PcP	05 47 07.2	+0.7
	comp=Z,5.1nm,0.9s						
MFID	Camas Ranch	86.92	42	IAmb	IAmb	05 47 07.5	
	comp=Z,9.2nm,0.9s						
FETA	Feichten	87.04	323	*e*P	P	05 47 06.1	+0.2
	comp=Z,9.7nm,1.1s						
CTI	Castel Tesino	87.15	322	P	P	05 47 06.1	-0.3
CTI	Castel Tesino	87.15	322	P	P	05 47 06.1	-0.3
CTI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CMB	Columbia Colle	87.18	48	IAmb	IAmb	05 47 08.8	
	comp=Z,16nm,0.8s						
FRB	Frobisher Bay	87.26	8	LR	LR	06 28 19.0	
	comp=Z,170nm,20.1s,baz=330,slow=37						
DAVA	Damuels	87.31	324	*e*PcP	PcP	05 47 09.3	0.0
	comp=Z,17nm,1.3s						
EKA	Eskdalemuir Ar	87.50	335	P	P	05 47 06.1	-1.6
	comp=Z,1.9nm,0.6s,baz=44,slow=3.9,SNR=9.8						
	comp=Z,1.9nm,0.6s						
FUORN	Ofenpass-Fuorn	87.54	323	IAmb	IAmb	05 47 13.3	
	comp=Z,10nm,0.9s						
TEOL	Teolo	87.57	321	IAmb	IAmb	05 47 11.8	
	comp=Z,17nm,0.9s						
DAVOX	Davos/Dischmat	87.64	323	LR	LR	06 30 33.9	
	comp=Z,375nm,18.3s,baz=43,slow=38						
HLID	Hailey	87.65	41	IAmb	IAmb	05 47 12.0	
	comp=Z,14nm,1.1s						
BOZ	Bozeman (W)	87.95	38	IAmb	IAmb	05 47 12.7	
	comp=Z,11nm,0.9s						
GUMA	Gualdo di Mace	88.05	319	IAmb	IAmb	05 47 27.6	
	comp=Z,18nm,1.0s						
RYN	Ryan	88.06	47	IAmb	IAmb	05 47 13.6	
	comp=Z,12nm,0.9s						
TUE	Stuetta	88.12	323	P	P	05 47 11.6	+0.4
TUE				IAmb	IAmb	05 47 12.6	
	comp=Z,9.8nm,1.1s						
TUE	Stuetta	88.12	323	P	P	05 47 11.6	+0.4
TIP	Timpagrande	88.28	314	⇑P	P	05 47 13.3	+1.3
LHV	Little Huntoon	88.28	47	IAmb	IAmb	05 47 15.1	
	comp=Z,18nm,1.1s						
NVAR	Mina Array Bea	88.31	47	P	P	05 47 11.0	-1.3
	comp=Z,6.0nm,0.8s,baz=288,slow=5.3,SNR=21						
	comp=Z,6.0nm,0.8s						
NRCA	Norcia	88.32	319	IAmb	IAmb	05 47 15.9	
	comp=Z,10.0nm,1.1s						
CAMP	Campotosto	88.33	318	IAmb	IAmb	05 47 26.6	
	comp=Z,10.0nm,1.1s						
YHL	Hebgen Lake	88.67	38	IAmb	IAmb	05 47 17.0	
	comp=Z,15nm,1.0s						
ELK	Elko	88.87	43	IAmb	IAmb	05 47 18.0	
	comp=Z,10nm,1.1s						
DSP	Deep Springs	89.14	47	IAmb	IAmb	05 47 18.9	
	comp=Z,10.0nm,1.2s						
YNE	Yellowstone No	89.20	38	IAmb	IAmb	05 47 19.1	
	comp=Z,10nm,1.2s						
YMP	Mirror Lake Pl	89.30	38	IAmb	IAmb	05 47 19.8	
	comp=Z,9.2nm,1.0s						
RLMT	Red Lodge	89.53	37	IAmb	IAmb	05 47 20.2	
	comp=Z,6.9nm,0.8s						
TPAW	Teton Pass	89.66	39	IAmb	IAmb	05 47 20.8	
	comp=Z,9.1nm,1.0s						
HVU	Hansel Valley	89.70	41	IAmb	IAmb	05 47 21.9	
	comp=Z,15nm,1.2s						
LAO	LASA Array	90.06	35	IAmb	IAmb	05 47 22.9	
	comp=Z,22nm,1.1s						
R11B	Troy Canyon, C	90.09	46	P	P	05 47 21.5	+0.9
	baz=307						
PPT	Papeete	90.43	110	LR	LR	06 21 44.5	
	comp=Z,62nm,18.4s,baz=251,slow=31						
TPNV	Topopah Spring	90.50	47	IAmb	IAmb	05 47 25.1	
	comp=Z,10.0nm,0.9s						
DUG	Dugway, Tooele	90.67	43	P	P	05 47 25.3	+2.1
DUG				pmax	pmax		
	comp=Z,18nm,1.3s						
GWY	Greenwater Val	90.68	48	IAmb	IAmb	05 47 40.0	
	comp=Z,7.3nm,0.7s						
VAE	Valguarnera	90.77	314	LR	LR	06 35 20.8	
	comp=Z,128nm,18.9s,baz=344,slow=40						
PD31	Pinedale Array	90.91	39	IAmb	IAmb	05 47 26.4	
	comp=Z,9.1nm,1.1s						
PDAR	Pinedale Array	90.91	39	P	P	05 47 24.6	+0.2
	comp=Z,3.1nm,0.8s,baz=310,slow=1.2,SNR=28						
	comp=Z,3.1nm,0.8s						
TCUT	Toone Canyon	90.92	41	IAmb	IAmb	05 47 26.9	
	comp=Z,12nm,1.0s						
PRN	Pahroc Range	90.99	46	IAmb	IAmb	05 47 27.8	
	comp=Z,8.8nm,1.0s						
PSUT	Pine Spring	91.06	45	IAmb	IAmb	05 47 27.7	
	comp=Z,7.7nm,0.8s						
JLU	Jordanelle	91.22	42	IAmb	IAmb	05 47 28.1	
	comp=Z,7.0nm,1.1s						
SHPR	Sheep Range	91.46	47	P	P	05 47 27.2	+0.2
BSUT	Blindstream Ca	91.66	41	IAmb	IAmb	05 47 41.2	
	comp=Z,7.5nm,1.2s						
TCRU	Three Creeks R	91.88	44	IAmb	IAmb	05 47 32.3	
	comp=Z,12nm,0.9s						
V12A	Nelson	92.13	47	IAmb	IAmb	05 47 32.8	
	comp=Z,14nm,1.0s						
ULM	Lac du Bonnet	92.15	27	P	P	05 47 29.9	+0.3
	comp=Z,11nm,0.8s,baz=318,slow=4.3,SNR=29						
	comp=Z,11nm,0.8s						
ULM	Lac du Bonnet	92.15	27	*c i*P	P	05 47 30.3	+0.7
TMUT	Trail Mountain	92.19	43	IAmb	IAmb	05 47 46.6	
	comp=Z,7.5nm,1.1s						
PFO	Pinyon Flats O	92.33	50	P	P	05 47 30.1	-0.9
PFO				IAmb	IAmb	05 47 32.9	
	comp=Z,8.4nm,1.0s						
PFO	Pinyon Flats O	92.33	50⇓	*e*P	P	05 47 32.0	+1.0
PFO				pmax	pmax		
	comp=Z,14nm,1.0s						
Q16A	Castle Valley	92.45	43	IAmb	IAmb	05 47 37.0	
	comp=Z,9.2nm,1.1s						
SRU	San Rafael Swe	92.72	42	IAmb	IAmb	05 47 34.8	
	comp=Z,7.9nm,0.8s						
RSSD	Black Hills	92.95	35	P	P	05 47 33.7	0.0
RSSD				IAmb	IAmb	05 47 36.7	
	comp=Z,7.3nm,0.8s						
RSSD	Black Hills	92.95	35	P	P	05 47 33.7	0.0
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s						
W13A	Hualapai Mount	93.14	47	IAmb	IAmb	05 47 37.5	
	comp=Z,12nm,0.9s						
YUH	Yuha Desert	93.26	50	IAmb	IAmb	05 47 37.9	
	comp=Z,9.5nm,1.0s						
O20A	White River Ci	93.39	41	IAmb	IAmb	05 47 38.2	
	comp=Z,7.2nm,1.0s						
ESJX	Sierra Juarez	93.63	51	IAmb	IAmb	05 47 40.7	
	comp=Z,12nm,1.0s						
N23A	Red Feather La	94.17	39	IAmb	IAmb	05 47 44.2	
	comp=Z,6.1nm,1.1s						
N23A	Red Feather La	94.17	39	P	P	05 47 40.1	+0.6
	baz=313						
PV11	David Mesa, Pa	94.23	42	IAmb	IAmb	05 47 42.6	
	comp=Z,9.0nm,0.9s						
PV13	Radium Mtn., P	94.35	42	IAmb	IAmb	05 47 52.4	
	comp=Z,10nm,1.1s						
KEST	Kesra	95.05	315	LR	LR	06 37 10.7	
	comp=Z,91nm,19.1s,baz=278,slow=40						
X16A	Lo Mia Camp, P	95.14	47	IAmb	IAmb	05 47 47.1	
	comp=Z,9.9nm,1.1s						
F33A	5 Mile Ranch,	95.39	30	IAmb	IAmb	05 47 46.3	
	comp=Z,6.6nm,1.0s						
S22A	4UR Ranch, Cre	95.80	42	P	P	05 47 47.7	+0.6
	baz=312						
SCHQ	Schefferville	96.12	9	LR	LR	06 32 36.7	
	comp=Z,97nm,21.6s,baz=3.0,slow=36						
ANMO	Albuquerque	97.90	43⇑	*e*P	Pdif	05 47 57.4	+0.8
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ESDC	Sonseca Array	99.80	325	LR	LR	06 38 28.3	
	comp=Z,230nm,20.3s,baz=27,slow=38						
TXAR	Lajitas Array	103.45	46	Pdiff	Pdif	05 48 21.1	-0.1
	comp=Z,0.8nm,0.8s,baz=317,slow=5.1,SNR=5.9						
TXAR				PKiKP	PKiKP	05 52 39.9	0.0
	comp=Z,0.4nm,0.7s,baz=324,slow=3.7,SNR=4.1						
L61B	Northampton	106.78	17	P	PKiKP	05 52 46.2	+0.6
	baz=340						
TORD	Torodi Ar. Bea	114.92	302	PKP	PKiKP	05 52 59.8	-1.8
	comp=Z,1.0nm,0.8s,baz=360,slow=4.3,SNR=6.5						
TORD				PKKPbc	PKKPbc	06 03 39.6	+2.2
	comp=Z,0.9nm,0.9s,baz=276,slow=3.6,SNR=4.2						
QSPA	South Pole Qui	117.96	180	PKP	PKPdf	05 53 04.6	-1.4
	comp=Z,1.0nm,0.6s,baz=331,slow=0.2,SNR=6.3						
DBIC	Dimbokro	124.00	301	PKP	PKPdf	05 53 18.4	-0.8
	comp=Z,2.7nm,0.8s,baz=67,slow=4.4,SNR=5.7						
ROSC	El Rosal	139.91	39	PKP	PKPdf	05 53 47.3	-2.3
	comp=Z,5.4nm,0.7s,baz=349,slow=16,SNR=4.2						
PLCA	Paso Flores	159.30	132	PKPab	PKPab	05 54 55.9	-0.2
	comp=Z,4.6nm,0.9s,baz=230,slow=6.7,SNR=7.4						
LPAZ	La Paz	159.83	58	PKP	PKPdf	05 54 19.9	-0.6
	comp=Z,3.1nm,1.1s,baz=313,slow=1.9,SNR=6.2						
LPAZ				PKPab	PKPab	05 54 60.0	+0.3
	comp=Z,4.9nm,0.9s,baz=325,slow=4.6,SNR=6.4						
BDFB	Brasilia	167.31	349	PKP	PKPdf	05 54 26.0	-0.8
	comp=Z,1.9nm,0.7s,baz=31,slow=5.9,SNR=3.1						
BDFB				PKPab	PKPab	05 55 30.7	-0.9
	comp=Z,0.7nm,0.3s,baz=15,slow=7.6,SNR=3.5						
CPUP	Villa Florida	173.61	75	PKP	PKPdf	05 54 28.4	-1.5
	comp=Z,2.3nm,0.9s,baz=270,slow=1.0,SNR=4.8						

IDC ***10*** *05:42:19.5±0.5,2°.63N×127°.00E,h0km,mb4.4/25, mbtmp4.4/25,Error ellipse: s-maj=25.4km s-min=11.8km az=78.0*
BJI ***10*** *05:42:23.6,2°.32N×127°.11E,h58km,mB5.3/6,mb4.6/35*
DJA ***10*** *05:42:26.3±0.3,3°N±3°×12°7E±°,h41km±5km,M4.5/19, mb4.6/19,mB5.2/5,MLv4.3/17,Mw(mB)4.5/5*
NEIC ***10*** *05:42:27.8±0.9,2°.60N±0°.07×126°.98E±0°.08,h56km±6km, mb4.7/62,Error ellipse: s-maj=12.0km s-min=9.6km az=47.0*

ISC 10 05:42:27.1±0.3,2°.67N±0°.05×127°.07E±0°.06,h53km,n146, σ1§21/145,**mb4.6/64,2C,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.83	303	P	Pn	05 42 55.4	-0.8
SGSI				S	Sn	05 43 18.1	-0.2
TNTI	Ternate	1.91	171	Pn	Pn	05 42 57.3	0.0
TNTI	Ternate	1.91	171	P	Pn	05 42 58.3	+1.0
LBMI	Labuha	3.32	172	P	Pn	05 43 16.9	+0.3
KMSI	Cibinong	3.72	236	P	Pn	05 43 24.9	+2.8
SANI	Sanana	4.81	193	P	Pn	05 43 37.6	+0.5
SANI	Sanana	4.81	193	P	Pn	05 43 37.5	+0.5
SWI	Sorong	5.47	130	P	Pn	05 43 46.7	+0.6
MRSI	Marisa	5.57	247	P	Pn	05 43 50.1	+2.7
LUWI	Luwuk	5.66	229	Pn	Pn	05 43 47.4	-1.3
LUWI	Luwuk	5.66	229	P	Pn	05 43 51.6	+2.9
LUWI	Luwuk	5.66	229	P	Pn	05 43 50.1	+1.4
	2μm69nm,0.8s						
NLAI	Namlea	5.87	180	P	Pn	05 43 54.0	+2.4
	0.3nm37nm,0.9s						
TOLI2	Tolitoli	6.47	256	Pn	Pn	05 43 59.2	-0.6
TOLI2	Tolitoli	6.47	256	P	Pn	05 44 00.7	+0.9
APSI	Ampana	6.48	237	P	Pn	05 44 02.7	+2.8
	70nm,0.7s						
FAKI	Fak Fak	7.60	137	Pn	Pn	05 44 14.9	-0.3
FAKI	Fak Fak	7.60	137	P	Pn	05 44 17.9	+2.6
FAKI	Fak Fak	7.60	137	P	Pn	05 44 16.1	+0.8
	0.1nm27nm,1.2s						
KDI	Kendari	7.94	214	P	Pn	05 44 23.7	+3.7
	2μm19nm,0.7s						
MYLDM	Lahad Datu	8.90	287	Pn	Pn	05 44 32.8	-0.3
TTSI	Tana Toraja	9.20	232	P	Pn	05 44 38.4	+1.1
KAPI	Kappang	10.57	224	Pn	Pn	05 44 54.0	-2.0
SMPI	Sarmi	12.53	112	P	Pn	05 45 23.0	+0.2
	51nm,1.1s						
SOEI	Soe	12.66	193	P	Pn	05 45 26.2	+1.6
	18nm,1.2s						
SBUM	Sibu	14.83	269	Pn	Pn	05 45 53.0	-0.7
TWSI	Taliwang, Sumb	15.22	222	P	Pn	05 46 01.6	+2.8
	47nm,0.9s						
MTN	Manton Dam	15.94	165	Pn	Pn	05 46 07.3	-0.6
MTN	Manton Dam	15.94	165	P	Pn	05 46 07.9	-0.1
KDU	Kakadu	16.18	161	P	P	05 46 13.5	+0.1
KNRA	Kununurra	18.31	175	P	P	05 46 36.5	-0.5
FITZ	Fitzroy Crossi	20.69	184	P	P	05 47 02.3	-0.6
FITZ	Fitzroy Crossi	20.69	184	P	P	05 47 01.1	-1.9
	3.9nm,0.6s,baz=26,slow=8.9,SNR=9.4						
	3.9nm,0.6s						
YULB	Yu-li	21.34	345	P	P	05 47 07.0	-2.9
YULB				IAmb	IAmb	05 47 35.5	
	comp=Z,74nm,1.5s						
TPUB	Ta-pu	21.43	344	P	P	05 47 08.7	-2.2
TPUB				IAmb	IAmb	05 47 21.3	
	comp=Z,44nm,0.9s						
TPUB	Ta-pu	21.43	344	P	P	05 47 09.5	-1.4
SSLB	Suanglung	21.81	345	P	P	05 47 14.7	-0.2
SSLB				IAmb	IAmb	05 47 17.8	
	comp=Z,18nm,0.6s						
SSLB	Suanglung	21.81	345	P	P	05 47 14.1	-0.8
NACB	Ninganchiao	22.02	347	P	P	05 47 18.1	+0.9
NACB				IAmb	IAmb	05 47 21.8	
	comp=Z,42nm,1.4s						
COEN	Coen	22.98	136	P	P	05 47 27.1	-0.4
COEN				IAmb	IAmb	05 47 57.2	
	comp=Z,31nm,1.4s						
WB0	Warramunga Arr	23.43	162	P	P	05 47 30.5	-1.3
WB0				IAmb	IAmb	05 47 32.9	
	comp=Z,25nm,0.9s						
WRAB	Tennant Creek	23.58	163	P	P	05 47 32.3	-0.9
WRA	Warramunga Arr	23.58	163	P	P	05 47 31.1	-2.2
WRA	Warramunga Arr	23.58	163	P	P	05 47 32.3	-0.9
	comp=Z,26nm,0.6s,baz=343,slow=11,SNR=72						
	comp=Z,26nm,0.6s						
WB2	Warramunga Arr	23.59	163	P	P	05 47 32.1	-1.2
WB2				IAmb	IAmb	05 47 34.0	
	comp=Z,29nm,0.6s						
WR0	Warramunga Arr	23.66	162	P	P	05 47 33.0	-0.9
WR0				IAmb	IAmb	05 47 34.7	
	comp=Z,20nm,0.6s						
MBWA	Marble Bar	24.75	197	P	P	05 47 42.6	-1.3
PSA00	Pilbara Seismi	25.11	196	P	P	05 47 46.2	-0.9
PSA00				IAmb	IAmb	05 47 49.3	
	comp=Z,25nm,1.1s						
QIS	Mount Isa	26.16	153	P	P	05 47 57.5	+0.8
AS31	Alice Springs	27.01	166	P	P	05 48 03.6	-0.8
ASAR	Alice Springs	27.01	166	P	P	05 48 03.9	-0.5
ASAR	Alice Springs	27.01	166	P	P	05 48 03.5	-0.8
	comp=Z,3.4nm,0.5s,baz=345,slow=7.4,SNR=35						
ASAR				PcP	PcP	05 51 25.4	+0.5
	comp=Z,1.7nm,0.7s,baz=3.3,slow=2.0,SNR=9.3						
	comp=Z,3.4nm,0.5s						
AS01	Alice Springs	27.02	166	P	P	05 48 04.4	-0.1
WRKA	Warakurna	27.57	178	P	P	05 48 09.2	-0.2
GIRL	Giralia	28.11	206	P	P	05 48 11.8	-2.3
JCJ	Chichijima	28.27	29	P	P	05 48 14.8	-0.8
NJ2	Nanjing	30.23	346	*e*P	P	05 48 36.4	+3.6
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MEEK	Meekatharra	30.26	195	P	P	05 48 34.6	+1.4
JNU	Nakatsue	30.50	6	P	P	05 48 35.9	+0.6
PHRA	Phrae	30.63	303	P	P	05 48 36.7	+0.1
CMAR	Chiang Mai Arr	31.70	302	P	P	05 48 45.6	-0.4
	comp=Z,1.0nm,0.3s,baz=113,slow=7.5,SNR=6.9						
	comp=Z,1.0nm,0.3s						
FORT	Forrest	33.28	178	P	P	05 48 59.2	-0.4
MORW	Morawa	33.28	198	P	P	05 48 58.3	-1.4
MORW				IAmb	IAmb	05 49 40.3	
	comp=Z,24nm,1.4s						
INU	Inuyama	33.80	15	P	P	05 49 04.8	+0.7
PZH	PanZhiHua	33.93	317	P	P	05 49 08.1	+2.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
JGF	Kuroka	34.13	15	P	P	05 49 07.3	+0.3
TIA	Tai'an	34.62	346	P	P	05 49 11.1	-0.1
TIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSRS	Korea Array	34.62	1	P	P	05 49 11.9	+0.7
	comp=Z,3.2nm,0.6s,baz=179,slow=9.7,SNR=17						
	comp=Z,3.2nm,0.6s						
MJAR	Matsushiro Arr	35.24	16	P	P	05 49 15.4	-1.2
	comp=Z,1.4nm,0.5s,baz=200,slow=7.8,SNR=7.1						
	comp=Z,1.4nm,0.5s						
MAJO	Matsushiro	35.24	16	P	P	05 49 16.5	-0.1
MAJO				IAmb	IAmb	05 49 32.7	
	comp=Z,17nm,1.3s						
XAN	Xi'an	35.51	334	P	P	05 49 17.8	-1.2
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BBOO	Buckleboo	36.30	167	P	P	05 49 25.2	-0.6
EIDS	Eidsvold	36.32	142	P	P	05 49 25.3	-0.7
EIDS				IAmb	IAmb	05 49 27.4	
	comp=Z,9.3nm,1.0s						
DL2	Dalian	36.40	353	P	P	05 49 28.0	+1.5
DL2				pmax	pmax		
	comp=Z,34nm,0.7s						
NWAO	Narrogin (SRO)	36

PEA0B	Petropavlovsk-	56.28	22	P		P	05 52 02.7	+0.6
PETK	Petropavlovsk-	56.28	22	P		P	05 52 02.3	+0.2
PETK	Petropavlovsk-	56.28	22	P		P	05 52 02.6	+0.5
	comp=Z,1.9nm,0.5s,baz=203,slow=4.2,SNR=6.6							
	comp=Z,1.9nm,0.5s							
MK31	Makanchi Array	58.61	325	P		P	05 52 18.8	0.0
MK31				IAmb		IAmb	05 52 19.4	
	comp=Z,1.9nm,0.6s							
MKAR	Makanchi Array	58.61	325	P		P	05 52 18.7	0.0
	comp=Z,2.6nm,0.5s,baz=121,slow=8.0,SNR=44							
MKAR				PcP		PcP	05 53 08.9	+0.5
	comp=Z,0.8nm,0.7s,baz=131,slow=5.4,SNR=4.0							
	comp=Z,2.6nm,0.5s							
MAKZ	Makanchi	58.80	325	P		P	05 52 19.9	-0.1
MAKZ				IAmb		IAmb	05 52 20.7	
	comp=Z,2.7nm,0.6s							
YAK	Yakutsk	59.25	1	P		P	05 52 23.4	+0.6
BOOM	Boomskoye usch	60.34	318	P		P	05 52 29.5	-1.4
LBZ	Lake Benmore	60.63	146	P		P	05 52 33.0	+0.3
ZAA0	Zalesovo Array	61.67	333	P		P	05 52 39.6	0.0
ZALV	Zalesovo Beam	61.67	333	P		P	05 52 38.8	-0.8
ZALV	Zalesovo Beam	61.67	333	P		P	05 52 38.6	-0.9
	comp=Z,1.1nm,0.6s,baz=114,slow=6.6,SNR=5.9							
	comp=Z,1.1nm,0.6s							
KURBB	Kurchatov Arra	62.80	328	P		P	05 52 47.2	+0.1
	comp=Z,3.6nm,0.6s,baz=129,slow=6.3,SNR=53							
	comp=Z,3.6nm,0.6s							
KURK	Kurchatov	62.81	328	P		P	05 52 47.3	+0.2
KURK				IAmb		IAmb	05 52 48.1	
	comp=Z,6.1nm,0.7s							
GAR	Garm	62.88	313	P		P	05 52 47.8	-0.3
KK31	Karatay Array	64.23	317	P		P	05 52 56.1	-0.7
KK31				IAmb		IAmb	05 52 57.3	
	comp=Z,3.0nm,0.7s							
KKAR	Karatay Array	64.23	317	P		P	05 52 56.2	-0.6
BVAR	Borovoye Array	68.38	327	P		P	05 53 22.9	-0.3
	comp=Z,2.3nm,0.6s,baz=146,slow=9.0,SNR=10							
	comp=Z,2.3nm,0.6s							
BRVK	Borovoye	68.45	327	P		P	05 53 23.2	-0.4
BRVK				IAmb		IAmb	05 53 24.9	
	comp=Z,4.3nm,0.8s							
TIXI	Tiksi	68.89	1	P		P	05 53 26.6	+0.7
TIXI				IAmb		IAmb	05 53 27.3	
	comp=Z,7.6nm,0.5s							
NRIK	Noril'sk	71.53	346	P		P	05 53 42.8	+0.7
NRIK				IAmb		IAmb	05 53 43.9	
	comp=Z,4.4nm,0.7s							
NRIK	Noril'sk	71.53	346	P		P	05 53 42.9	+0.8
	comp=Z,4.0nm,0.6s,baz=138,slow=7.4,SNR=7.8							
	comp=Z,4.0nm,0.6s							
ABKAR	Akbulak array	73.17	321	P		P	05 53 51.9	-0.4
AKTO	Aktyubinsk	74.69	322	P		P	05 54 01.4	+0.2
	comp=Z,5.7nm,0.6s,baz=102,slow=6.8,SNR=10							
	comp=Z,5.7nm,0.6s							
ARTI	Arti	76.08	328	P		P	05 54 09.2	+0.2
ARTI				IAmb		IAmb	05 54 09.9	
	comp=Z,5.7nm,0.7s							
TTA	Tatalina	81.69	27	P		P	05 54 41.0	+1.2
VOI	Vohitsoka	81.98	248	P		P	05 54 41.0	-1.1
VOI				IAmb		IAmb	05 55 22.6	
	comp=Z,9.8nm,1.1s							
E19K	Redstone River	82.08	22	IAmb		IAmb	05 54 46.7	
	comp=Z,5.4nm,1.1s							
PPLA	Purkeypile	83.41	27	P		P	05 54 50.0	+1.3
PPLA				IAmb		IAmb	05 55 13.1	
	comp=Z,20nm,1.5s							
B21K	Ikpikpuk River	83.44	20	IAmb		IAmb	05 54 52.2	
	comp=Z,3.5nm,0.8s							
CAST	Castle Rocks	83.52	27	P		P	05 54 50.1	+0.9
CAST				IAmb		IAmb	05 55 32.9	
	comp=Z,5.5nm,1.2s							
GEVA	Gevas	83.65	308	P		P	05 54 49.5	-1.0
BRLK	Bradley Lake	83.69	30	P		P	05 54 51.2	+1.0
KBZ	Khabaz	83.94	314	P		P	05 54 52.4	+0.7
	comp=Z,1.3nm,0.8s,baz=107,slow=6.1,SNR=4.3							
	comp=Z,1.3nm,0.8s							
C23K	Itkillik River	84.85	20	IAmb		IAmb	05 55 02.6	
	comp=Z,7.8nm,1.1s							
ILAR	Eielson Array	85.91	25	P		P	05 55 00.7	-0.5
	comp=Z,0.2nm,0.6s,baz=252,slow=5.8,SNR=5.8							
	comp=Z,0.2nm,0.6s							
BMAR	Burnt Mountain	86.92	23	P		P	05 55 08.3	+2.2
J26L	Joseph Creek	87.33	26	P		P	05 55 08.9	+0.7
F28M	Old Crow	88.72	22	P		P	05 55 15.6	+0.9
F28M				IAmb		IAmb	05 55 49.9	
	comp=Z,3.3nm,1.2s							
BRTR	Keskin Array B	90.95	310	P		P	05 55 25.4	-0.5
	comp=Z,0.5nm,0.7s,baz=90,slow=8.6,SNR=3.8							
	comp=Z,0.5nm,0.7s							
ARCES	ARCESS Array B	91.55	340	P		P	05 55 26.8	-1.0
	comp=Z,3.2nm,0.7s,baz=67,slow=6.7,SNR=11							
	comp=Z,3.2nm,0.7s							
SYO	Syowa Base	91.57	201⇑	eP	cP	cP	05 55 31.0	+2.3
FINES	FINESS Array B	92.92	332	P		P	05 55 33.6	-0.6
	comp=Z,2.8nm,1.0s,baz=45,slow=8.4,SNR=4.3							
	comp=Z,2.8nm,1.0s							
AKASG	Malin Array Be	92.92	321	P		P	05 55 33.1	-1.4
	comp=Z,0.3nm,0.4s,baz=72,slow=5.5,SNR=2.5							
	comp=Z,0.3nm,0.4s							
NOA	NORSAR Array B	99.88	334	P		Pdif	05 56 04.1	-1.8
	comp=Z,0.9nm,0.7s,baz=68,slow=4.6,SNR=3.5							
	comp=Z,0.9nm,0.7s							
TXAR	Lajitas Array	121.97	53	PKP		PKPdf	06 01 16.0	-0.5
	comp=Z,0.1nm,0.4s,baz=190,slow=2.4,SNR=2.9							
TORD	Torodi Ar. Bea	123.56	288	PKP		PKPdf	06 01 18.4	-1.4
	comp=Z,0.8nm,0.7s,baz=38,slow=2.9,SNR=6.8							

*IDC **10** 05:55:55.5±5.7, 36°.41N×71°.10E, h181km±53km, mb3.4/5, mbtmp3.6/9, MS3.7/1, Error ellipse: s-maj=61.6km s-min=43.7km az=125.0*

ISC 10 05:55:57.4±1.8, 36°.6N±0°.2×71°.0E±0°.2, h188km, n13, σ1§48/14, mb3.5/5, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.52	357	P		Pn	05 57 33.1	+1.9
	0.6nm,0.2s,baz=176,slow=11,SNR=26							
KK31				S		Sn	05 58 43.2	-2.3
	1.5nm,0.3s,baz=187,slow=22,SNR=14							
AAK	Ala-Archa	6.63	23	P		Pn	05 57 33.9	+1.2
	3.0nm,0.4s,baz=182,slow=4.7,SNR=14							
AAK				S		Sn	05 58 47.2	-1.0
	1.6nm,0.4s,baz=140,slow=24,SNR=6.3							
MKAR	Makanchi Array	13.23	36	P		Pn	05 58 58.4	+0.3
	0.1nm,0.3s,baz=221,slow=13,SNR=5.2							
AB31	Akbulak array	15.01	331	P		P	05 59 23.4	+2.4
	0.4nm,0.3s,baz=146,slow=11,SNR=10							
KURBB	Kurchatov Arra	15.05	19	P		Pn	05 59 18.7	-1.8
	0.1nm,0.4s,baz=181,slow=8.3,SNR=2.0							
ZALV	Zalesovo Beam	19.85	25	P		P	06 00 13.3	-0.4
	0.4nm,0.4s,baz=224,slow=12,SNR=2.7							
FINES	FINESS Array B	37.41	326	P		P	06 02 51.9	0.0
	2.5nm,0.9s,baz=124,slow=10,SNR=5.2							
	2.5nm,0.9s							
ARCES	ARCESS Array B	41.06	338	P		P	06 03 22.5	+0.4
	1.1nm,0.7s,baz=107,slow=8.2,SNR=7.5							
	1.1nm,0.7s							
HFS	Hagfors	42.99	322	P		P	06 03 38.4	+0.6
	5.0nm,1.0s,baz=100,slow=8.1,SNR=7.9							
	5.0nm,1.0s							
NB2	NORSAR Subarra	44.31	323	P		P	06 03 48.3	0.0
	comp=Z,0.5nm,0.5s,baz=95,slow=8.6							
NOA	NORSAR Array B	44.31	323	P		P	06 03 48.4	0.0
	comp=Z,0.5nm,0.5s,baz=96,slow=7.7,SNR=3.2							
	comp=Z,0.5nm,0.5s							
DAV	Davao City (W)	57.63	107	LR		LR	06 30 00.0	
	comp=Z,66nm,20.5s,baz=145,slow=36							
TORD	Torodi Ar. Bea	65.71	269	P		P	06 06 20.5	-1.7
	comp=Z,0.4nm,0.6s,baz=28,slow=5.7,SNR=2.5							
	comp=Z,0.4nm,0.6s							

UCR 10 05:58:01.5±0.7, 10°.35N×84°.35W, h95km±6km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRA1	San Ramn	0.29	206	eP		Pn	05 58 15.5	-0.1
TUNA	La Fortuna	0.31	292	eP		Pn	05 58 16.3	+0.7
FORC	Fortuna	0.34	290	eP		Pn	05 58 16.3	+0.7
VACR	Volcan Arenal	0.35	291	eP		Pn	05 58 16.4	+0.7
VACR				eS		Sn	05 58 27.5	+1.2
CEDE	Laguna Cedeo	0.38	291	eP		Pn	05 58 16.6	+0.6
ARE1	Arenal 1	0.38	287	eP		Pn	05 58 16.8	+0.8
BELE	Belen	0.41	157	eP		Pn	05 58 17.1	+0.9
ARZA	Esparza	0.48	221	eP		Pn	05 58 16.5	-0.1
JTS	Las Juntas de	0.60	264	eP		Pn	05 58 17.7	+0.1
CVTG	V. Turrialba,	0.60	110	eP		Pn	05 58 18.0	+0.4
LCR2	La Lucha 2	0.69	151	eP		Pn	05 58 18.4	-0.3
ABE2	San Pablo	0.70	156	eP		Pn	05 58 18.6	-0.1
PICV	PH. Pirrs	0.73	168	eP		Pn	05 58 18.5	-0.3

*IDC **10** 06:25:15.6±1.6, 2°.96N×127°.63E, h0km, mb3.6/6, mbtmp3.7/6, Error ellipse: s-maj=106.7km s-min=18.8km az=70.0*

ISC 10 06:25:21.4±2.2, 3°.1N±0°.3×128°.0E±0°.9, h50km, n6, σ0§91/6, mb3.6/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.16	186	P		P	06 30 02.5	0.0
	2.0nm,0.8s,baz=3.1,slow=8.9,SNR=1.9							
	2.0nm,0.8s							
WRA	Warramunga Arr	23.69	165	P		P	06 30 29.1	+0.3
	2.8nm,0.7s,baz=343,slow=11,SNR=20							
	2.8nm,0.7s							
ASAR	Alice Springs	27.18	168	P		P	06 31 00.3	-0.2
	0.4nm,0.5s,baz=345,slow=7.1,SNR=9.1							
	0.4nm,0.5s							
MKAR	Makanchi Array	58.84	325	P		P	06 35 15.9	+0.9
	0.3nm,0.6s,baz=122,slow=8.3,SNR=6.0							
	0.3nm,0.6s							
KURBB	Kurchatov Arra	62.99	327	P		P	06 35 43.8	+0.7
	0.6nm,0.7s,baz=134,slow=6.5,SNR=4.2							
	0.6nm,0.7s							
BVAR	Borovoye Array	68.58	327	P		P	06 36 18.0	-1.0
	0.8nm,0.9s,baz=108,slow=2.3,SNR=1.7							
	0.8nm,0.9s							

*UPA **10** 06:28:54.1±0.3, 8°.30N×82°.33W, h81km±19km, MW4.1*

UCR 10 06:28:29.9±1.2, 6°.23N×82°.35W, h35km±999km, MW4.0, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	Volcan	2.57	352	eP		Pn	06 29 09.3	+0.1
MLIR3	Monte Lirio, C	2.59	349	eP		Pn	06 29 10.0	+0.5
FIMO	Fila Mora	2.92	340	eP		Pn	06 29 14.3	+0.3
DRK0	Durika	3.14	344	eP		Pn	06 29 17.8	+0.7
EDPE	Pejibaye, P	3.15	337	eP		Pn	06 29 17.0	-0.1
EDPE				eS		Sn	06 29 55.2	+1.6
CNI2	El Empalme, Bo	3.18	358	eP		Pn	06 29 14.6	-2.8
LLNJ	Naranjito	3.66	332	⇓iP		Pn	06 29 23.9	-0.2
PISJ	San Jernim	3.81	333	eP		Pn	06 29 26.6	+0.3
PICV	PH. Pirrs	3.84	332	eP		Pn	06 29 26.5	-0.1
TURIB	Turrialba	3.89	340	eP		Pn	06 29 27.8	+0.6
VERB	Verbena	3.92	340	eP		Pn	06 29 28.8	+0.9
VTCV	VTCV, Calle Va	3.97	340⇑	eP		Pn	06 29 29.4	+0.8
CVTV	Tajo	4.00	340	eP		Pn	06 29 30.0	+1.0
CVTQ	Turrialba Volc	4.00	340	eP		Pn	06 29 30.2	+1.0
VICA	Volcano Irazu	4.01	338	eP		Pn	06 29 29.9	+0.6
CVTG	V. Turrialba,	4.14	340	eP		Pn	06 29 31.9	+1.1
BELE	Belen	4.14	334	eP		Pn	06 29 32.1	+1.3
VBV1	V. Barva	4.23	336	eP		Pn	06 29 33.0	+0.8

*NNC **10** 06:37:04.3±5.1, 40°.56N×50°.73E, h0km, mb3.5, Error ellipse: s-maj=77.9km s-min=30.9km az=95.0*
*AZER **10** 06:37:05.3, 39°.96N×50°.64E, h62km, ml2.8*

ISC 10 06:37:04.9±0.9, 40°.01N±0°.04×50°.77E±0°.06, h75km±11km, n41, σ1§38/74, 4C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	Gala	0.62	311	S		Sn	06 37 30.0	-0.1
NDR	Nardaran	0.83	314	P		Pn	06 37 23.4	+1.7
NDR				S		Sn	06 37 34.3	+0.2
GOBA	Gobu	0.89	297	P		Pn	06 37 24.5	+2.1
ALIB	&Aumlli-Bayram	1.36	269	P		Pn	06 37 29.2	+1.0
ALIB				S		Sn	06 37 47.0	+1.3
GBS	Qobustan	1.50	291	Pn		Pn	06 37 31.9	+1.7
GBS				Sn		Sn	06 37 48.0	-1.1
ATGJ	Altiaghaj	1.64	302	Pn		Pn	06 37 33.2	+1.2
ATGJ				Sn		Sn	06 37 52.7	+0.1
SIZA	Siyzn	1.78	307	Pn		Pn	06 37 35.1	+1.2
SIZA				Sn		Sn	06 37 57.6	+1.7
SAAT	Saatly	1.81	266	Pn		Pn	06 37 34.0	-0.2
SAAT				Sn		Sn	06 37 55.6	-0.8
PQL	Pirkuli	1.84	296	Pn		Pn	06 37 35.9	+1.1
PQL				Sn		Sn	06 37 59.7	+2.4
GLBA	Clilabad	1.99	248	Pn		Pn	06 37 36.9	+0.4
GLBA				Sn		Sn	06 38 01.4	+0.8
LKRN	Lenkeran, Azer	2.02	231	Pn		Pn	06 37 37.8	+0.9
LKRN				Sn		Sn	06 38 01.0	-0.3
KDMR	Kurdemir	2.02	281	Pn		Pn	06 37 36.6	-0.3
KDMR				Sn		Sn	06 38 01.5	+0.2
ASTR	Astara	2.11	227	Pn		Pn	06 37 38.2	0.0
ASTR				Sn		Sn	06 38 03.6	+0.1
IML	Ismayilli	2.13	292	Pn		Pn	06 37 39.5	+1.0
IML				Sn		Sn	06 38 04.9	+0.8
QUBA	Quba, Azerbaij	2.20	309	Sn		Sn	06 38 06.2	+0.5
YRD	Yardimli	2.24	242	Pn		Pn	06 37 40.1	-0.1
YRD				Sn		Sn	06 38 05.8	-1.2
XNQ	Khinaliq	2.32	301	Pn		Pn	06 37 42.0	+0.8
XNQ				Sn		Sn	06 38 08.1	-0.8
LRK	Lerik	2.33	235	Pn		Pn	06 37 41.0	-0.2
LRK				Sn		Sn	06 38 08.4	-0.7
ZRD	Zardab	2.38	278	Pn		Pn	06 37 42.4	+0.6
ZRD				Sn		Sn	06 38 11.4	+1.3
QBL	Gabala	2.43	294	Pn		Pn	06 37 42.5	0.0
QBL				Sn		Sn	06 38 11.1	-0.2
QSAR	Qusar	2.43	309	Pn		Pn	06 37 43.9	+1.4
QSAR				Sn		Sn	06 38 12.1	+0.8
BLQ	Beylaqan	2.49	264	Pn		Pn	06 37 43.8	+0.5
BLQ				Sn		Sn	06 38 11.2	-1.5
QRD	Qoradiz	2.72	260	Sn		Sn	06 38 17.7	-0.5
BRDA	Brd	2.77	276	Pn		Pn	06 37 48.6	+1.5
BRDA				Sn		Sn	06 38 20.4	+1.0
AGDM	Agdam	2.81	273	Pn		Pn	06 37 48.0	+0.3
AGDM				Sn		Sn	06 38 21.0	+0.4
SEKA	Sheki	2.98	295	Pn		Pn	06 37 50.3	+0.4
SEKA				Sn		Sn	06 38 24.9	+0.3
GANJ	Ganja	3.46	282	Pn		Pn	06 37 56.3	-0.3
GANJ				Sn		Sn	06 38 34.3	-2.1
VSHL	Vashlovani	3.55	292	P		Pn	06 37 58.7	+1.1
VSHL				S		Sn	06 38 37.9	-0.5
ZKTA	Zakatala	3.55	299	Pn		Pn	06 37 58.3	+0.7
ZKTA				Sn		Sn	06 38 38.5	+0.1
ORD	Ordubad	3.85	255	Pn		Pn	06 38 02.8	+0.9
ORD				Sn		Sn	06 38 46.6	+0.6
LGD	Lagodekhi	3.89	299	P		Pn	06 38 03.3	+1.0
LGD				S		Sn	06 38 47.1	+0.4
GDB	GEDABAY	3.90	282	Pn		Pn	06 38 03.3	+0.7
GDB				Sn		Sn	06 38 45.2	-2.1
SBZ	Shahbuz	4.07	263	Pn		Pn	06 38 06.3	+1.4
SBZ				Sn		Sn	06 38 51.4	0.0
QZX	Qazax, Azerbai	4.25	286	Pn		Pn	06 38 07.3	+0.1
QZX				Sn		Sn	06 38 54.6	-0.9
CHRG	Chargali	4.99	300	P		Pn	06 38 18.1	+0.7
CHRG				S		Sn	06 39 12.2	-1.6
MTEO	Meteo	5.40	302	P		Pn	06 38 23.4	+0.1
AB31	Akbulak array	11.31	32	⇑Pn		Pn	06 39 42.3	-1.2
	1.2nm,0.8s,baz=206,slow=13,SNR=7.4							
AB31				⇑Sn		Sn	06 41 44.4	-3.6
	0.2nm,0.3s,baz=180,slow=25,SNR=4.9							
AKTO	Aktyubinsk	11.60	24	⇓Pn		Pn	06 39 45.2	-2.3
	0.9nm,0.6s							
AKTO				⇓Sn		Sn	06 41 49.8	-5.3
	1.2nm,0.7s							
KK31	Karatay Array	15.10	72	⇑Pn		P	06 40 39.3	+1.9
	0.5nm,0.6s,baz=262,slow=12,SNR=4.1							
BVA0	Borovoye Array	18.67	39	⇑Pn		Pn	06 41 19.0	+1.0
	1.5nm,0.7s,baz=245,slow=9.0,SNR=9.4							
MK31	Makanchi Array	23.77	63	P		P	06 42 14.5	+4.0
	0.4nm,0.5s,baz=261,slow=8.2,SNR=8.7							

*NOU **10** 06:50:00.7, 35°.63S×175°.15E, h0km, MLv4.6/9, Off E. Coast of N. Island, N.Z.*
*IDC **10** 06:50:01.1±1.5, 35°.78S×175°.38E, h0km, mb3.8/3, mbtmp3.9/5, ML3.5/2, MS3.6/22, Error ellipse: s-maj=46.8km s-min=24.9km az=54.0*
*WEL **10** 06:50:02.1±0.8, 36°.5±5°.×17°.5E±°, h12km, M4.2/12, ML4.3/13, MLv4.2/12, Error ellipse: s-maj=7.6km s-min=5.2km az=51.5, confirmed*
*WEL **10** 06:50:02.1, 35°.80S×174°.97E, h8km, ML4.1, Mw4.5, Moment Tensor Solution. s11 Moment tensor: Scale 10^{15}Nm; M_{rr}-7.09; $M_{\theta\theta}$4.71; $M_{\phi\phi}$2.39; $M_{r\theta}$-1.07; $M_{\theta\phi}$5.82; $M_{\phi r}$-0.46; Fault plane solution: $M_0$8.37000×10^{15} NP1: ϕ_s54.00000°, δ49.00000°, λ-85.00000°. NP2:ϕ_s227.00000°, δ41.00000°, λ-96.00000°. Principal axes: T 9.5564, Plg4.0000°, Azm141.0000°; N -2.3671, Plg3.0000°, Azm230.0000°; P -7.1893, Plg85.0000°, Azm2.0000°; Stations used: WCZ GRZ MKAZ TOZ HIZ HAZ MXZ OTVZ WHVZ BKZ KNZ NORMAL FAULTING*

ISC 10 06:50:02.0±1.7, 35°.79S±0°.05×175°.00E±0°.05, h8km±11km, n58, σ1§51/42, mb3.7/3, MS3.7/20, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	Waipu Caves	0.56	254	P		Pg	06 50 12.8	0.0
WBSC	Whangarei Boys	0.56	277	P		Pb	06 50 13.1	-1.0
GRZ	Great Barrier	0.59	142	P		Pg	06 50 14.2	+0.7
GRZ				S		Sb	06 50 24.2	+0.9
ABAZ	Army Bay	0.82	190	P		Pg	06 50 17.6	-0.2
ABAZ				S		Sb	06 50 29.4	-0.5
MBAZ	Motutapu North	0.98	185	P		Pg	06 50 20.3	-0.7
WIAZ	Waiheke Island	1.01	174	P		Pb	06 50 20.9	-0.9
RVAZ	Riverhead Bore	1.04	199	P		Pb	06 50 21.6	-0.7
RVAZ				S		Sn	06 50 35.9	-1.8
KAAZ	Kauri Point	1.06	193	P		Pn	06 50 22.9	-0.4
HBAZ	Herne Bay Bore	1.08	192	P		Pb	06 50 22.6	-0.5
HBAZ				S		Sn	06 50 37.4	-1.4
EPAZ	Eden Park BICE	1.11	191	P		Pb	06 50 22.9	-0.6
EPAZ				S		Sn	06 50 38.1	-1.3
MAGR	Mount Albert G	1.12	191	P		Pb	06 50 23.0	-0.7
MAGR				S		Sb	06 50 37.3	-1.1
ETAZ	East Tamaki Re	1.17	183	P		Pb	06 50 23.6	-0.9
PTHS	Papatoetoe Hig	1.19	185	P		Pn	06 50 23.5	-1.6
WTAZ	Waiatarua	1.20	197	P		Pb	06 50 24.0	-1.0
OUZ	Omahuta	1.28	296	P		Pn	06 50 25.5	-0.7
OUZ	Omahuta	1.28	296	P		Pn	06 50 25.5	-0.7
AWAZ	Awhitu Peninsu	1.31	193	P		Pn	06 50 25.5	-1.2
KBAZ	Karaka Road Bo	1.31	184	P		Pn	06 50 26.2	-0.5
MKAZ	Moumakai	1.32	174	P		Pn	06 50 25.6	-1.2
MYRZ	Mayor Island	1.79	147	P		Pn	06 50 32.7	-0.6
TOZ	Tahuroa Road	1.98	168	P		Pn	06 50 34.7	-1.2
HIZ	Hauiti	2.72	182	P		Pn	06 50 46.1	0.0
URZ	Urewera	2.99	146	Pn		Pn	06 50 47.3	-2.5
	9.1nm,0.3s,baz=326,slow=15,SNR=37							
URZ				LR		LR	06 52 10.0	
	comp=Z,2μm,21.2s,baz=16,slow=45							
	18nm,0.3s							
URZ	Urewera	2.99	146	P		Pn	06 50 49.6	-0.2
BKZ	Black Stump Fm	3.58	161	P		Pn	06 50 58.3	+0.4
KHEZ	Kahui Hut	3.59	192	P		Pn	06 50 59.9	+1.8
BFZ	Birch Farm	4.99	169	P		Pn	06 51 19.9	+2.7
QRZ	Quartz Range	5.39	200	P		Pn	06 51 23.2	+0.4
SNZO	South Karori	5.52	182	P		Pn	06 51 27.5	+3.0
KHZ	Kahutara	6.72	189	P		Pn	06 51 44.5	+3.5
RPZ	Rata Peaks	8.48	200	Pn		Pn	06 52 08.3	+3.1
	0.4nm,0.3s,baz=20,slow=12,SNR=2.4							
	8.2nm,0.7s							
DZM	Mont Dzumac	15.57	329	LR		LR	06 58 36.7	
	comp=Z,303nm,19.3s,baz=150,slow=33							
HNR	Honiara	29.60	329	LR		LR	07 06 04.0	
	comp=Z,128nm,18.4s,baz=128,slow=32							
PMG	Port Moresby	36.49	309	LR		LR	07 09 48.4	
	comp=Z,172nm,19.9s,baz=128,slow=32							
ASAR	Alice Springs	37.42	277	P		P	06 57 19.4	+3.5
	1.6nm,1.0s,baz=116,slow=7.8,SNR=8.3							
ASAR				LR		LR	07 11 42.6	
	comp=Z,159nm,20.5s,baz=106,slow=34							
	1.6nm,1.0s							
KRVT	Keravat (AS076	37.82	321	LR		LR	07 10 08.6	
	comp=Z,53nm,21.4s,baz=229,slow=32							
WRA	Warramunga Arr	38.96	283	P		P	06 57 29.8	+1.0
	0.7nm,0.8s,baz=120,slow=8.2,SNR=5.0							
WRA				LR		LR	07 12 52.8	
	comp=Z,141nm,18.9s,baz=130,slow=35							
	0.7nm,0.8s							
VNDA	Vanda	42.23	184	LR		LR	07 12 25.6	
	comp=Z,78nm,19.3s,baz=332,slow=32							
FITZ	Fitzroy Crossi	46.89	279	LR		LR	07 17 40.8	
	comp=Z,146nm,19.3s,baz=118,slow=35							
NWAO	Narrogin (SRO)	47.18	256	LR		LR	07 15 43.5	
	comp=Z,33nm,20.5s,baz=70,slow=32							
QSPA	South Pole Qui	54.33	180	P		P	06 59 28.5	-0.4
	2.4nm,1.1s,baz=63,slow=16,SNR=3.4							
	2.4nm,1.1s							
GU

ATAB				S	Sg	06 55 39.6	+0.8
KOVA	**Elazig, Kovanc**	**1.30**	**92**	P	Pb	06 55 21.1	-1.1
KOVA				S	Sg	06 55 40.0	+0.5
HANM	**anlurfa/Hi**	**1.31**	**153**	P	Pg	06 55 22.3	-0.3
SCER	**sogukcermik**	**1.36**	**325**	P	Pb	06 55 22.2	-0.9
SCER				S	Sb	06 55 40.2	-0.5
SARI	**SarD1z-Kayseri**	**1.40**	**256**	Pn	Pg	06 55 24.3	0.0
SARI				Sn	Sg	06 55 44.2	+1.8
URFA	**Urfa**	**1.41**	**158**	Pn	Pg	06 55 24.6	0.0
URFA				Sn	Sg	06 55 44.5	+1.6
SUSE	**Susehri**	**1.46**	**2**	P	Pg	06 55 25.0	-0.4
SUSE				S	Sg	06 55 44.2	-0.1
SVSK	**Karacayir**	**1.46**	**323**	Pn	Pg	06 55 25.4	-0.2
SVSK				Sn	Sg	06 55 45.9	+1.3
GZT	**Gaziantep**	**1.47**	**198**	P	Pg	06 55 25.2	-0.4
GZT				S	Sg	06 55 46.1	+1.4
KAHM	**Kahramanmaras,**	**1.54**	**217**	P	Pg	06 55 26.2	-0.7
KAHM				S	Sg	06 55 46.8	0.0
EUZM	**Uzumlu**	**1.54**	**51**	P	Pg	06 55 27.7	+0.7
EUZM				S	Sg	06 55 47.6	+0.7
KHMN	**Narli-Kahraman**	**1.57**	**210**	Pn	Pg	06 55 27.7	+0.2
CUSAR	**Sarkisla-SIVAS**	**1.62**	**295**	P	Pb	06 55 26.8	-0.8
CUSAR				S	Sg	06 55 49.0	-0.6
KELT	**Kelkit**	**1.64**	**31**	P	Pb	06 55 27.6	-0.4
KELT				S	Sg	06 55 49.2	-1.0
ALUC	**Giresun/Alucra**	**1.66**	**17**	P	Pg	06 55 29.0	-0.4
GAZ	**Gaziantep**	**1.74**	**205**	Pn	Pg	06 55 29.9	-1.0
NZIP	**Nizip/Gaziante**	**1.75**	**192**	P	Pb	06 55 29.1	-0.6
RSDY	**Resadiye-TOKAT**	**1.76**	**339**	Pn	Pb	06 55 29.7	-0.2
SAIM	**ADANA**	**1.80**	**245**	P	Pb	06 55 30.3	-0.3
SAIM				S	Sg	06 55 54.0	-1.3
BNN	**Bunyan**	**1.80**	**274**	Pn	Pb	06 55 30.4	-0.2
ANDN	**Andirin**	**1.84**	**231**	P	Pb	06 55 30.8	-0.5
GUNE	**Kayseri**	**1.97**	**275**	P	Pb	06 55 33.0	-0.6
GUNE				S	Sg	06 56 01.0	+0.1
YEDI	**Yedisu-Bingol**	**1.99**	**69**	Pn	Pb	06 55 33.1	-0.8
BNGB	**Bingl**	**1.99**	**82**	Pn	Pb	06 55 32.9	-1.0
TOKT	**Tokat**	**2.00**	**322**	Pn	Pb	06 55 32.9	-1.0
TOKA	**Tokat**	**2.03**	**321**	P	Pb	06 55 33.4	-1.1
TOKA				S	Sb	06 56 00.1	+0.2
ESPY	**Espiye-Giresun**	**2.21**	**12**	Pn	Pb	06 55 35.9	-1.6
KOZT	**Kozan**	**2.23**	**236**	Pn	Pb	06 55 36.2	-1.6
MAZI	**Mazidag**	**2.23**	**125**	Pn	Pb	06 55 36.1	-1.8
YOZ	**Yozgat**	**2.37**	**293**	Pn	Pb	06 55 38.1	-2.2
KOZK	**Kozakli-Nevseh**	**2.59**	**281**	Pn	Pb	06 55 41.6	-2.6
CMRD	**Camardi-Nigde**	**2.71**	**247**	Pn	Pb	06 55 43.3	-2.9
KARA	**Karaisali**	**2.86**	**240**	Pn	Pb	06 55 45.4	-3.2
GULA	**Gulagac**	**3.09**	**264**	Pn	Pb	06 55 48.9	-3.8
BRTR	**Keskin Array B**	**3.63**	**287**	Pn	Pn	06 55 55.5	+1.6
	0.8nm,0.3s,baz=104,slow=18,SNR=55						
BRTR				Pg	Pg	06 56 05.0	-2.1
	1.8nm,0.3s,baz=108,slow=17,SNR=16						
BRTR				Lg	Lg	06 56 53.1	
	0.9nm,0.3s,baz=116,slow=29,SNR=9.9						
BRTR				LR	LR	06 57 41.7	
	comp=Z,107nm,19.7s,baz=130,slow=47						
	6.7nm,0.7s						
KBZ	**Khabaz**	**6.13**	**34**	Pn	Pb	06 56 37.1	-7.2
	0.1nm,0.3s,baz=257,slow=16,SNR=4.2						
KBZ				LR	LR	06 58 57.7	
	comp=Z,43nm,18.9s,baz=172,slow=38						
	1.1nm,0.6s						
MMAI	**Mount Meron Ar**	**6.14**	**202**	Pn	Pn	06 56 31.5	+3.1
	1.0nm,0.3s,baz=35,slow=13,SNR=2.6						
MMAI				Lg	Lg	06 58 15.9	
	1.3nm,0.3s,baz=31,slow=25,SNR=2.2						
	0.5nm,0.3s						
KVAR	**Kislovodsk Arr**	**6.22**	**32**	Pn	Pb	06 56 37.3	-8.7
	baz=212,slow=19						
	1.0nm,0.4s						
ASF	**Jabal al Asfar**	**6.64**	**189**	Pn	Pn	06 56 37.3	+2.0
	0.4nm,0.3s,baz=191,slow=14,SNR=4.1						
ASF				Lg	Lg	06 58 33.8	
	1.2nm,0.3s,baz=268,slow=23,SNR=2.5						
	4.4nm,0.7s						
EIL	**Elat**	**9.44**	**197**	LR	LR	07 00 11.9	
	comp=Z,22nm,20.9s,baz=247,slow=33						
AKASG	**Malin Array Be**	**13.51**	**335**	Pn	Pn	06 58 09.2	0.0
	0.3nm,0.3s,baz=138,slow=11,SNR=1.7						
	0.1nm,0.2s						
ARTI	**Arti**	**22.17**	**31**	P	P	06 59 56.7	+3.2
	3.2nm,0.9s,baz=225,slow=7.1,SNR=4.4						
	3.2nm,0.9s						
FINES	**FINESS Array B**	**23.92**	**346**	P	P	07 00 12.8	+1.5
	2.0nm,0.8s,baz=159,slow=8.9,SNR=1.5						
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**30.69**	**54**	P	P	07 01 16.3	+4.0
	0.2nm,0.3s,baz=263,slow=9.1,SNR=2.4						
	0.2nm,0.3s						

*NNC **10** 07:06:23.8±0.5, 49°.99N×78°.60E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.3km s-min=2.5km az=79.0, Suspected Mining explosion.*
*IDC **10** 07:06:26.0±0.8, 50°.06N×78°.79E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=10.9km s-min=5.8km az=57.0*
*SOME **10** 07:07:34.4, 47°.65N×78°.62E, h0km*
ISC 10 07:06:25.1±0.7, 49°.97N±0°.02×78°.62E±0°.04, h0km, n39, σ1°.90/43, 17C-14D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.62**	**354**	⇑P	Pg	07 06 35.4	-1.6
KUR07				⇓S	Sg	07 06 44.9	-0.1
KUR06	**Kurchatov Arra**	**0.64**	**355**	⇑P	Pg	07 06 35.6	-1.7
KUR06				⇓S	Sg	07 06 44.0	-1.6
KUR14	**Kurchatov Arra**	**0.65**	**359**	⇓P	Pg	07 06 35.7	-1.8
KUR14				⇑S	Sg	07 06 44.8	-1.2
KUR15	**Kurchatov Arra**	**0.65**	**357**	⇑P	Pg	07 06 35.7	-1.9
KUR15				⇑S	Sg	07 06 45.2	-0.9
KURBB	**Kurchatov Arra**	**0.66**	**355**	Pg	Pg	07 06 36.4	-1.3
	1.4nm,0.3s,baz=167,slow=18,SNR=63						
KURBB				Lg	Lg	07 06 45.4	
	2.1nm,0.3s,baz=167,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**0.66**	**355**	⇑P	Pg	07 06 35.7	-2.0
	30nm,0.7s						
KURBB				⇓S	Sg	07 06 45.9	-0.4
	334nm,0.7s						
KUR16	**Kurchatov Arra**	**0.67**	**354**	⇓P	Pg	07 06 35.9	-1.9
KUR16				⇓S	Sg	07 06 45.1	-1.3
KUR17	**Kurchatov Arra**	**0.67**	**352**	⇑P	Pg	07 06 36.5	-1.5
KUR17				⇑S	Sg	07 06 45.6	-1.0
KUR05	**Kurchatov Arra**	**0.68**	**356**	⇑P	Pg	07 06 36.3	-1.7
KUR05				⇑S	Sg	07 06 45.0	-1.8
KUR04	**Kurchatov Arra**	**0.70**	**356**	⇑P	Pg	07 06 36.7	-1.8
KUR04				⇑S	Sg	07 06 45.9	-1.6
KURK	**Kurchatov**	**0.75**	**0**	⇑P	Pg	07 06 37.3	-2.2
	13nm,0.8s						
KURK				⇓S	Sg	07 06 48.0	-1.2
	134nm,1.0s						
SEM	**Semipalatinsk**	**1.14**	**67**	P	Pn	07 06 53.0	+4.5
	4.8nm,0.1s						
SEM				S	Sb	07 07 02.8	-0.4
	11nm,0.1s						
MAKZ	**Makanchi**	**3.87**	**143**	⇑Pn	Pn	07 07 25.2	-0.6
	1.7nm,1.1s						
MAKZ				⇓Pg	Pb	07 07 35.0	+0.8
	1.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 08 24.5	
	8.2nm,0.7s						
MK31	**Makanchi Array**	**4.01**	**141**	⇑Pn	Pn	07 07 28.2	+0.5
	0.1nm,0.1s,baz=323,slow=10,SNR=23						
MK31				⇓Pg	Pb	07 07 36.9	+0.4
	0.6nm,0.4s,baz=319,slow=15,SNR=13						
MK31				⇑Lg	Lg	07 08 30.3	
	6.2nm,0.5s,baz=329,slow=26,SNR=22						
MKAR	**Makanchi Array**	**4.01**	**141**	Pn	Pn	07 07 28.4	+0.6
	0.2nm,0.3s,baz=327,slow=12,SNR=31						
MKAR				Pg	Pb	07 07 35.8	-0.7
	0.4nm,0.3s,baz=315,slow=16,SNR=19						
MKAR				Sn	Sn	07 08 17.8	+2.4
	0.4nm,0.3s,baz=340,slow=13,SNR=5.4						
MKAR				Lg	Lg	07 08 31.3	
	1.3nm,0.3s,baz=324,slow=14,SNR=9.6						
	0.2nm,0.4s						
OTUK	**Ortayu**	**4.47**	**250**	⇓Pn	Pn	07 07 35.5	+1.4
	1.7nm,0.8s						
OTUK				⇓Pg	Pb	07 07 47.0	+2.6
	1.7nm,0.8s						
OTUK				⇓Lg	Lg	07 08 48.0	
	7.8nm,0.7s						
ZSN	**Zaisan**	**4.84**	**119**	Pg	Pg	07 07 58.3	+0.5
	2.0nm,0.1s						
ZSN				Lg	Lg	07 08 54.6	
	7.0nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.53**	**41**	I	I	07 38 40.0	
	baz=226,slow=342,SNR=0.6						
ZALV	**Zalesovo Beam**	**5.53**	**41**	Pn	Pn	07 07 47.8	-0.8
	0.5nm,0.3s,baz=235,slow=14,SNR=9.7						
ZALV				Lg	Lg	07 09 20.2	
	0.2nm,0.3s,baz=228,slow=23,SNR=5.0						
	1.7nm,0.4s						
KNOS	**Konyrlen**	**5.62**	**176**	Pg	Pg	07 08 37.2	+24
	2.1nm,0.3s						
KNOS				Lg	Lg	07 09 22.3	
	12nm,0.2s						
DJR	**Jarkent**	**5.69**	**171**	Pg	Pg	07 08 38.2	+24
	0.6nm,0.1s						
DJR				Lg	Lg	07 09 24.2	
	3.1nm,0.6s						
DJR	**Jarkent**	**5.69**	**171**	*e*P	Pg	07 08 38.2	+24
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**07 09 24.2**	**-3.6**
	3.1nm,0.6s						
ARXS	**Arharly**	**5.78**	**186**	Pg	Pg	07 08 39.1	+23
ARXS				Lg	Lg	07 09 25.7	
	10nm,0.3s						
BLB	**Baldybastay**	**5.87**	**181**	Pg	Pg	07 08 41.0	+23
	2.7nm,0.1s						
BLB				Lg	Lg	07 09 29.0	
	23nm,0.7s						
BVA0	**Borovoye Array**	**5.98**	**304**	⇑Sn	Sn	07 09 04.7	+0.7
	3.0nm,0.7s,baz=114,slow=23,SNR=14						
BVA0				⇓Lg	Lg	07 09 34.3	
	2.7nm,0.8s,baz=199,slow=13,SNR=2.9						
BVAR	**Borovoye Array**	**5.98**	**304**	Pn	Pn	07 07 57.4	+2.6
	baz=131,slow=15,SNR=1.2						
BVAR				Sn	Sn	07 09 05.0	+1.1
	0.1nm,0.3s,baz=113,slow=22,SNR=19						
BVAR				Lg	Lg	07 09 38.1	
	0.1nm,0.3s,baz=122,slow=25,SNR=4.3						
	0.3nm,0.4s						
KTBS	**Karatobe**	**6.40**	**193**	Pg	Pg	07 08 53.1	+26
	0.6nm,0.3s						
KTBS				Lg	Lg	07 09 49.8	
	4.8nm,0.5s						
KURS	**Kuram**	**6.49**	**183**	Pg	Pg	07 08 53.1	+24
	1.7nm,0.5s						
KURS				Lg	Lg	07 09 49.6	
	3.5nm,0.7s						
KPKS	**Kokpek**	**6.50**	**180**	Pg	Pg	07 08 53.1	+23
	1.0nm,0.2s						
KPKS				Lg	Lg	07 09 49.7	
	7.8nm,0.6s						
KPKS	**Kokpek**	**6.50**	**180**	*e*P	Pg	07 08 53.1	+23
	1.0nm,0.2s						
KPKS				*e*S	**Sg**	**07 09 49.7**	**-4.1**
	7.8nm,0.6s						
KPKS	**Kokpek**	**6.50**	**180**	*e*P	Pg	07 09 04.8	+35
	1.1nm,0.5s						
KPKS				*e*S	Sg	07 10 09.8	+16
	8.3nm,0.5s						
KRBS	**Karabastau**	**6.59**	**199**	Pg	Pg	07 08 57.3	+26
	0.7nm,0.4s						
KRBS				Lg	Lg	07 09 57.0	
	2.5nm,0.5s						
SATY	**Saty**	**6.91**	**181**	*e*P	**Pg**	**07 08 39.1**	**+1.7**
SATY				*e*S	**Sn**	**07 09 25.7**	**-1.4**
	10nm,0.3s						
DGS	**Degeres**	**7.00**	**197**	Pg	Pg	07 09 04.8	+26
	1.1nm,0.5s						
DGS				Lg	Lg	07 10 09.8	
	8.3nm,0.5s						
TNSS	**Tian-Shan**	**7.03**	**190**	Pg	Pg	07 09 03.3	+24
	1.5nm,0.2s						
TNSS				Lg	Lg	07 10 07.2	
	2.6nm,0.4s						
TNSS	**Tian-Shan**	**7.03**	**190**	*e*P	Pg	07 09 03.3	+24
	1.5nm,0.2s						
TNSS				*e*S	**Sg**	**07 10 07.2**	**-3.5**
	2.6nm,0.4s						
KST	**Kastek**	**7.16**	**196**	Pg	Pg	07 09 07.4	+25
	1.0nm,0.4s						
KST				Lg	Lg	07 10 14.3	
	4.7nm,0.8s						
KST	**Kastek**	**7.16**	**196**	*e*P	Pg	07 09 07.4	+25
	1.0nm,0.4s						
KST				*e*S	**Sg**	**07 10 14.2**	**-0.8**
	4.7nm,0.8s						
AAK	**Ala-Archa**	**7.87**	**203**	Lg	Lg	07 10 37.4	
	baz=76,slow=17						

*IDC **10** 07:06:50.5±0.9, 9°.74N×126°.23E, h0km, mb3.9/10, mbtmp3.8/11, ML3.9/1, MS2.4/1, Error ellipse: s-maj=41.3km s-min=13.4km az=83.0*
ISC 10 07:06:52.2±0.8, 9°.70N±0°.08×126°.2E±0°.3, h10km, n14, σ0°.74/12, mb3.9/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.67**	**192**	Pn	Pn	07 07 36.4	+1.1
	19nm,0.3s,baz=245,slow=15,SNR=1.3						
DAV				Sn	Sn	07 08 06.4	-1.4
	120nm,0.3s,baz=170,slow=2.9,SNR=5.2						
DAV				Lg	Lg	07 08 16.5	
	57nm,0.3s,baz=273,slow=21,SNR=3.5						
DAV				LR	LR	07 08 18.2	
	comp=Z,58nm,18.1s,baz=353,slow=32						
	69nm,0.4s						
WRA	**Warramunga Arr**	**30.53**	**165**	P	P	07 13 05.5	-0.4
	0.6nm,1.0s,baz=341,slow=8.4,SNR=4.5						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**34.01**	**167**	P	P	07 13 36.8	+0.3
	0.1nm,0.3s,baz=350,slow=7.5,SNR=6.4						
	0.1nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.54**	**71**	T	T	07 57 51.4	
	baz=265,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	07 57 56.6	
	baz=265,slow=74,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**40.56**	**71**	T	T	07 58 01.4	
	baz=265,slow=74,SNR=12						
SONM	**Songino Array**	**41.52**	**340**	P	P	07 14 40.4	+0.6
	0.5nm,0.4s,baz=152,slow=7.8,SNR=2.6						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**43.90**	**161**	P	P	07 14 59.4	+0.2
	1.2nm,0.6s,baz=321,slow=5.8,SNR=3.3						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**52.42**	**323**	P	P	07 16 04.9	0.0
	0.9nm,0.6s,baz=119,slow=8.1,SNR=16						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**56.48**	**326**	P	P	07 16 34.5	+0.1
	0.7nm,0.6s,baz=124,slow=7.2,SNR=7.0						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**62.07**	**326**	P	P	07 17 12.9	-0.1
	0.6nm,0.6s,baz=90,slow=1.4,SNR=2.7						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	P	07 19 25.1	-0.9
	2.9nm,0.9s,baz=64,slow=2.8,SNR=8.7						
	2.9nm,0.9s						
FINES	**FINESS Array B**	**86.34**	**332**	P	P	07 19 34.0	-0.4
	1.4nm,0.6s,baz=57,slow=7.0,SNR=7.2						
	1.4nm,0.6s						
YKA	**Yellowknife Ar**	**94.32**	**24**	P	P	07 20 11.5	-0.3
	0.3nm,0.6s,baz=298,slow=4.4,SNR=6.7						
	0.3nm,0.6s						

TXNET 10 07:12:27.0, 32°.1N±0°.6×102°.6W±0°.7, h9km, ML1.9/8, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=93.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	**Odessa**	**0.08**	**102**	P	Pg	07 12 29.2	-0.1
ODSA	**Odessa**	**0.08**	**102**	⇓P	Pg	07 12 29.2	-0.1
ODSA				S	Sg	07 12 30.7	-0.2
TMB04	**Seminole**	**0.51**	**15**	P	Pg	07 12 36.8	-0.1
TMB04				S	Sg	07 12 44.0	+0.5
NM01	**Eunice**	**0.68**	**289**	P	Pg	07 12 40.3	+0.1
NM01				S	Sg	07 12 49.8	+0.7
TPB06	**Permian Basin**	**0.69**	**225**	S	Sb	07 12 50.4	-0.6
MNHN	**Monahans**	**0.80**	**187**	P	Pg	07 12 42.4	0.0
MNHN	**Monahans**	**0.80**	**187**	⇑P	Pg	07 12 42.3	-0.1
MNHN				S	Sg	07 12 53.1	+0.3
HTMS	**Hat Mesa**	**0.91**	**292**	P	Pg	07 12 44.2	-0.3
HTMS				S	Sg	07 12 56.7	+0.4
TPB07	**Mentone**	**1.04**	**238**	S	Sn	07 13 01.8	-0.7
CLNB	**Carlsbad**	**1.06**	**277**	P	Pg	07 12 47.1	-0.2
CLNB				S	Sb	07 13 02.2	+0.7
TPB08	**Permian Basin**	**1.26**	**190**	S	Sn	07 13 08.7	+0.7
TPB10	**Southeast of T**	**1.27**	**228**	S	Sn	07 13 09.0	+0.7
PECS	**Pecos**	**1.29**	**234**	P	Pb	07 12 51.5	-0.1
PECS	**Pecos**	**1.29**	**234**	P	Pn	07 12 51.4	0.0
PECS				S	Sg	07 13 08.7	+0.1
SGCY	**Sterling City**	**1.30**	**99**	P	Pn	07 12 51.6	+0.1
SGCY	**Sterling City**	**1.30**	**99**	P	Pn	07 12 51.5	0.0
SGCY				S	Sb	07 13 08.4	-0.2
POST	**Post**	**1.34**	**46**	P	Pn	07 12 51.7	-0.2
POST	**Post**	**1.34**	**46**	P	Pn	07 12 51.6	-0.3
POST				S	Sb	07 13 09.4	-0.1
TPB05	**Hovey Rd**	**1.35**	**206**	P	Pn	07 12 52.1	0.0
TPB05				S	Sg	07 13 10.6	+0.3
TPB01	**Permian Basin**	**1.54**	**220**	P	Pb	07 12 55.5	-0.2
TPB01				S	Sb	07 13 15.6	+0.3
SN02	**Snyder 2**	**1.63**	**63**	P	Pg	07 12 58.5	+0.2
SN02				S	Sg	07 13 19.8	+0.3
SN03	**Snyder 3**	**1.64**	**61**	P	Pb	07 12 57.5	+0.1
SN03				S	Sg	07 13 19.4	-0.3
SN07	**Snyder 07**	**1.76**	**57**	S	Sb	07 13 22.2	+0.6
OZNA	**Ozona**	**1.77**	**133**	P	Pb	07 12 59.9	+0.2
OZNA				S	Sg	07 13 23.0	-0.9
MSTX	**Muleshoe**	**1.83**	**357**	P	Pb	07 12 60.0	-0.8
MSTX	**Muleshoe**	**1.83**	**357**	S	Sb	07 13 24.5	+0.6
ALPN	**Alpine**	**1.95**	**206**	P	Pb	07 13 02.5	-0.4
ALPN	**Alpine**	**1.95**	**206**	P	Pb	07 13 02.3	-0.5
DKNS	**Dickens**	**2.10**	**43**	S	Sb	07 13 32.2	+0.6
SAND	**Sanderson**	**2.22**	**168**	P	Pb	07 13 06.2	-1.1
MNTX	**Cornudas Mount**	**2.37**	**260**	P	Pb	07 13 09.3	-0.6
VHRN	**Van Horn**	**2.41**	**237**	P	Pb	07 13 10.8	+0.1
APMT	**Aspermont**	**2.43**	**60**	P	Pb	07 13 09.9	-1.1
TX31	**Lajitas Ar. Si**	**2.93**	**198**	P	Pn	07 13 15.8	+1.9
BRDY	**Brady**	**3.22**	**104**	P	Pn	07 13 20.8	+3.1
T25A	**Trinidad**	**5.20**	**344**	P	Pb	07 13 52.5	-5.8

*IDC **10** 07:37:49.0±0.9, 2°.67N×126°.77E, h0km, mb4.0/12, mbtmp4.0/12, MS3.4/1, Error ellipse: s-maj=64.6km s-min=14.1km az=68.0*
*DJA **10** 07:37:52.8±0.4, 3°N±4°×12°7E±°, h10km, M4.0/13, mb4.3/3, MLv3.9/13*
*NEIC **10** 07:37:53.4±1.9, 2°.68N±0°.06×127°.1E±0°.2, h24km±8km, mb4.2/18, Error ellipse: s-maj=21.8km s-min=8.7km az=86.0*
ISC 10 07:37:55.8±0.6, 2°.70N±0°.06×127°.03E±0°.09, h53km, n47, σ1°.02/43, mb4.1/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.79**	**303**	P	Pn	07 38 23.1	-1.2
TNTI	**Ternate**	**1.94**	**170**	Pn	Pn	07 38 21.2	-5.3
TNTI					Sn	07 38 46.4	-3.4
TNTI	**Ternate**	**1.94**	**170**	P	Pn	07 38 25.8	-0.7
KMSI	**Cibinong**	**3.70**	**235**	P	Pn	07 38 51.4	+0.8
SANI	**Sanana**	**4.83**	**192**	P	Pn	07 39 06.7	+0.6
SWI	**Sorong**	**5.52**	**130**	P	Pn	07 39 16.3	+0.8
	17nm,0.7s						
MRSI	**Marisa**	**5.54**	**247**	P	Pn	07 39 17.2	+1.4
SBUM	**Sibu**	**14.79**	**269**		Pn	07 41 21.7	-0.3
KNRA	**Kununurra**	**18.34**	**175**	P	P	07 42 04.9	-1.1
KNRA				IAmb	IAmb	07 42 32.4	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.71**	**184**	P	P	07 42 30.7	-1.2
FITZ	**Fitzroy Crossi**	**20.71**	**184**	P	P	07 42 30.9	-1.0
	comp=Z,4.3nm,1.2s,baz=346,slow=12,SNR=4.1						
	comp=Z,4.3nm,1.2s						
TPUB	**Ta-pu**	**21.40**	**344**	P	P	07 42 38.1	-1.1
NACB	**Ninganchiao**	**21.98**	**347**	P	P	07 42 44.8	-0.7
NACB				IAmb	IAmb	07 43 12.0	
	comp=Z,8.3nm,0.9s						
PMG	**Port Moresby**	**23.39**	**121**	LR	LR	07 54 20.8	
	comp=Z,79nm,19.2s,baz=350,slow=42						
WB0	**Warramunga Arr**	**23.47**	**162**	P	P	07 43 01.4	+0.5
WB0				IAmb	IAmb	07 43 08.9	
	comp=Z,6.9nm,1.1s						
WRAB	**Tennant Creek**	**23.61**	**163**	P	P	07 43 03.1	+0.9
WRAB				IAmb	IAmb	07 43 13.1	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**23.62**	**163**	P	P	07 43 02.2	-0.2
WRA	**Warramunga Arr**	**23.62**	**163**	P	P	07 43 02.1	-0.2
	comp=Z,3.5nm,0.6s,baz=334,slow=11,SNR=17						
	comp=Z,3.5nm,0.6s						
WB2	**Warramunga Arr**	**23.62**	**163**	P	P	07 43 02.5	+0.2
WB2				IAmb	IAmb	07 43 13.3	
	comp=Z,7.7nm,0.9s						
WR0	**Warramunga Arr**	**23.70**	**162**	P	P	07 43 02.4	-0.7
WR0				IAmb	IAmb	07 43 15.2	
	comp=Z,6.1nm,1.0s						
PSA00	**Pilbara Seismi**	**25.13**	**196**	P	P	07 43 16.9	+0.8
PSA00				IAmb	IAmb	07 43 54.8	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**27.05**	**166**	P	P	07 43 34.0	+0.5
ASAR	**Alice Springs**	**27.05**	**166**	P	P	07 43 32.9	-0.5
ASAR	**Alice Springs**	**27.05**	**166**	P	P	07 43 34.2	+0.8
	comp=Z,0.6nm,0.5s,baz=351,slow=7.9,SNR=15						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.65**	**302**	P	P	07 44 12.8	-1.5
	comp=Z,1.6nm,0.3s,baz=116,slow=5.9,SNR=5.2						
	comp=Z,1.6nm,0.3s						
FORT	**Forrest**	**33.31**	**178**	P	P	07 44 29.4	+0.8
BBOO	**Buckleboo**	**36.34**	**167**	P	P	07 44 55.7	+1.0
STKA	**Stephens Creek**	**37.07**	**159**	P	P	07 45 02.3	+1.3
STK

FAKI	Fak Fak	5.60	48	P	Pn	07 44 17.5	-1.9
	0.2nm916nm36nm,0.8s						
KMPI	Kaimana, Papua	6.37	62	P	Pn	07 44 26.8	-1.3
BKSI	Bulukumba	8.01	279	P	Pn	07 44 45.0	-2.4
	0.1nm12nm,0.9s						
MRSI	Marisa	9.38	319	P	Pn	07 45 03.9	+0.3
	19nm,0.7s						
FITZ	Fitzroy Crossi	11.59	192	P	Pn	07 45 30.1	+0.2
	1.3nm,0.5s,baz=6.9,slow=13,SNR=9.3						
FITZ				S	S	07 47 39.5	+0.2
	1.7nm,0.5s,baz=94,slow=14,SNR=1.9						
WRA	Warramunga Arr	14.52	156	P	P	07 46 02.8	+0.4
	2.9nm,0.5s,baz=329,slow=13,SNR=40						
WRA				S	S	07 48 39.2	-0.4
	1.8nm,0.9s,baz=324,slow=21,SNR=5.1						
ASAR	Alice Springs	17.80	162	P	P	07 46 39.0	+1.1
	3.4nm,0.5s,baz=345,slow=12,SNR=39						
ASAR				S	S	07 49 44.5	+0.2
	3.0nm,0.9s,baz=350,slow=21,SNR=7.6						
KSRS	Korea Array	43.91	360	P	P	07 50 26.6	+0.3
	0.5nm,0.4s,baz=179,slow=10,SNR=4.0						
	0.5nm,0.4s						
MKAR	Makanchi Array	66.92	328	P	P	07 53 10.6	+1.9
	0.5nm,0.5s,baz=126,slow=7.9,SNR=4.2						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	70.46	335	P	P	07 53 31.3	+1.2
	0.4nm,0.4s,baz=156,slow=7.5,SNR=1.9						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	71.25	329	P	P	07 53 35.8	+1.0
	0.5nm,0.3s,baz=133,slow=5.0,SNR=8.5						
	0.5nm,0.3s						
BVAR	Borovoye Array	76.78	328	P	P	07 54 08.2	+1.6
	0.5nm,0.5s,baz=120,slow=5.3,SNR=2.1						
	0.5nm,0.5s						

*JMA **10** 07:44:50.0±0.4,30°N±1°×14°0E±°, h472km±4km, MV3.6/27, NEAR TORISHIMA IS*
*IDC **10** 07:44:52.6±2.2,30.05N×139.18E, h439km±23km, mb3.2/15, mbtmp4.0/17, Error ellipse: s-maj=44.3km s-min=12.1km az=73.0*
ISC 10 07:44:52.4±0.7,30.06N±0.07×139.5E±0.1,h450km,n27, σ0.87/28,mb3.4/15,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.78	141	eS	S	07 47 03.5	-1.8
JHH2	Haha-jima-NKT2	4.15	145	eS	S	07 47 10.4	-0.7
BSO1	Boso 1	4.75	15	eS	S	07 47 20.9	+0.9
BSO3	Boso 3	4.81	10	S	S	07 47 21.9	+0.3
BSO4	Boso 4	4.97	8	eS	S	07 47 24.4	-0.2
JOD2	Odawara 2	5.20	356	eP	P	07 46 18.4	-0.2
JOD2				eS	S	07 47 28.7	-0.3
JRY	Ryogami san	5.96	355	P	P	07 46 26.4	+0.2
JAG	Ashikaga	6.35	360	P	P	07 46 29.5	-0.7
MJAR	Matsushiro Arr	6.56	351	P	P	07 46 31.6	-0.8
	1.2nm,0.4s,baz=206,slow=6.9,SNR=9.5						
JHO	Hitachi	6.60	8	eP	P	07 46 33.0	+0.2
JFK	Kawauchi	7.38	9	eS	S	07 48 08.2	-1.9
KSRS	Korea Array	12.13	311	P	P	07 47 31.1	-1.4
	3.4nm,0.9s,baz=124,slow=9.9,SNR=7.6						
SONM	Songino Array	30.96	314	P	P	07 50 30.7	-0.4
	0.5nm,0.6s,baz=116,slow=8.0,SNR=4.2						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	45.71	318	P	P	07 52 30.8	-0.6
	0.9nm,0.7s,baz=101,slow=12,SNR=4.0						
	0.9nm,0.7s						
MKAR	Makanchi Array	46.79	308	P	P	07 52 38.8	-1.1
	0.9nm,0.8s,baz=92,slow=8.9,SNR=4.2						
	0.9nm,0.8s						
KURBB	Kurchatov Arra	49.30	313	P	P	07 52 57.8	-0.8
	0.5nm,0.3s,baz=92,slow=8.1,SNR=6.6						
	0.5nm,0.3s						
WRA	Warramunga Arr	49.96	186	P	P	07 53 04.4	+0.6
	0.8nm,0.6s,baz=4.4,slow=7.8,SNR=8.4						
	0.8nm,0.6s						
ASAR	Alice Springs	53.69	186	P	P	07 53 31.4	+0.6
	0.6nm,0.6s,baz=359,slow=6.0,SNR=7.4						
	0.6nm,0.6s						
BVAR	Borovoye Array	54.28	316	P	P	07 53 34.4	-0.3
	2.3nm,0.5s,baz=92,slow=7.6,SNR=18						
	2.3nm,0.5s						
STKA	Stephens Creek	61.63	178	P	P	07 54 26.5	+1.5
	0.8nm,0.5s,baz=14,slow=17,SNR=2.8						
	0.8nm,0.5s						
ARCES	ARCESS Array B	69.97	340	P	P	07 55 17.7	+0.8
	2.2nm,0.8s,baz=46,slow=6.9,SNR=8.4						
	2.2nm,0.8s						
FINES	FINESS Array B	74.25	333	P	P	07 55 42.9	+1.0
	3.2nm,0.8s,baz=69,slow=5.2,SNR=2.2						
	3.2nm,0.8s						
KBZ	Khabaz	74.28	312	P	P	07 55 42.7	+0.2
	1.4nm,0.7s,baz=66,slow=4.9,SNR=5.8						
	1.4nm,0.7s						
AKASG	Malin Array Be	78.84	323	P	P	07 56 07.5	0.0
	0.2nm,0.3s,baz=45,slow=7.5,SNR=1.3						
	0.2nm,0.3s						
HFS	Hagfors	79.77	336	P	P	07 56 12.8	+0.4
	4.6nm,1.0s,baz=104,slow=6.3,SNR=2.0						
	4.6nm,1.0s						
NOA	NORSAR Array B	79.98	337	P	P	07 56 13.8	+0.3
	0.8nm,0.8s,baz=55,slow=6.4,SNR=1.5						
	0.8nm,0.8s						
BRTR	Keskin Array B	82.27	312	P	P	07 56 26.2	+0.3
	1.2nm,0.9s,baz=72,slow=4.0,SNR=5.7						
	1.2nm,0.9s						

ISC 10 07:48:06.2±1.2,60.27N±0.04×140.91W±0.04, h16km±10km,n9,σ0.74/17,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINM	Pinnacle	0.37	117	P	Pg	07 48 13.9	+0.1
	baz=299,SNR=42						
PINM				S	Sg	07 48 19.1	0.0
	baz=299						
MESA	MESA	0.53	261	P	Pn	07 48 19.0	-0.2
	baz=81,SNR=9.2						
MESA				S	Sn	07 48 28.3	+0.4
	baz=81						
O28M	Mount Upton	0.62	35	P	Pg	07 48 18.0	-0.5
	baz=213,SNR=122						
O28M				S	Sg	07 48 26.0	-0.7
	baz=213						
O29M	Mount Kennedy	1.16	87	P	Pn	07 48 27.2	-0.7
	baz=269						
O29M				S	Sb	07 48 42.3	-0.5
	baz=269						
YUK8	Steele Glacier	1.17	28	P	Pn	07 48 27.3	-0.7
	baz=208,SNR=20						
YUK8				S	Sb	07 48 42.7	-0.3
	baz=208						
YUK6	Outpost Mounta	1.43	60	Pg	Pb	07 48 32.6	+0.1
	baz=242,SNR=6.5						
YUK6				Sg	Sb	07 48 50.9	+0.4
	baz=242						
YUK3	Moose Creek	1.53	8	Pg	Pb	07 48 34.9	+0.7
	baz=188,SNR=11						
YUK3				Sg	Sg	07 48 55.2	-0.4
	baz=188						
YUK4	Talbot Arm	1.55	45	Pg	Pg	07 48 36.6	+0.6
	baz=225						
YUK4				Sg	Sg	07 48 58.0	+1.9
	baz=225						
BMRM	Bremner River	1.95	293	Sb	Sg	07 49 08.7	-0.3
	baz=109						

*SOME **10** 07:49:37.0,41.72N×80.15E, h10km*
*NNC **10** 07:49:38.9±1.0,41.76N×80.10E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=6.7km s-min=5.1km az=155.0*
*KRNET **10** 07:49:39.4±0.1,41.82N×80.14E, mb2.2*
ISC 10 07:49:38.3±2.3,41.78N±0.08×80.08E±0.06,h3km±12km, n37,σ1.32/58,14C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	1.44	300	⇑eP	Pg	07 50 06.9	+1.1
PRZ				⇑eS	Sg	07 50 27.3	+2.8
SHLS	Shalkode	1.45	342	P	Pn	07 50 04.3	-1.3
	15nm,0.1s						
SHLS				S	Sn	07 50 23.8	-1.5
	16nm,0.2s						
SHLS	Shalkode	1.45	342	eP	Pn	07 50 04.3	-1.3
	15nm,0.1s						
SHLS				eS	Sn	07 50 23.8	-1.5
	16nm,0.2s						

UZB	Uzynbulak	1.58	331	P	Pb	07 50 07.6	-0.6
	11nm,0.1s						
UZB				S	Sg	07 50 29.5	+0.6
	20nm,0.2s						
UZB	Uzynbulak	1.58	331	eP	Pb	07 50 07.7	-0.6
	11nm,0.1s						
UZB				eS	Sg	07 50 29.5	+0.6
	20nm,0.2s						
PDGK	Podgornoye	1.61	344	⇑P	Pb	07 50 08.2	-0.6
	3.7nm,0.4s						
PDGK				⇓S	Sg	07 50 32.3	+2.2
	9.5nm,0.4s						
SATY	Saty	1.78	316	Pg	Pg	07 50 12.5	0.0
	4.5nm,0.2s						
SATY				Lg	Lg	07 50 38.2	
	15nm,0.1s						
SATY	Saty	1.78	316	eP	Sn	07 50 32.4	-1.1
	0.8nm,0.1s						
ZHN	Zhinishke	1.85	319	Pg	Pg	07 50 13.2	-0.5
	14nm,0.2s						
ZHN				Lg	Lg	07 50 39.3	
	48nm,0.3s						
ZHN	Zhinishke	1.85	319	eP	Pg	07 50 13.2	-0.5
	14nm,0.2s						
ZHN				eS	Sg	07 50 39.3	+1.6
	48nm,0.3s						
KPKS	Kokpek	1.98	329	Pg	Pg	07 50 15.6	-0.6
	16nm,0.2s						
KPKS				Lg	Lg	07 50 43.4	
	29nm,0.4s						
KPKS	Kokpek	1.98	329	⇑iP	Pg	07 50 15.6	-0.6
	16nm,0.2s						
KPKS				eS	Sg	07 50 43.4	+1.6
	29nm,0.4s						
KPKS	Kokpek	1.98	329	eP	Sg	07 50 42.2	+0.3
	1.2nm,0.5s						
ANVS	Anan'yevo	2.06	300	⇑eP	Pg	07 50 17.9	+0.2
ANVS				⇑eS	Sg	07 50 45.8	+1.5
KDJ	Kajisay	2.19	280	⇑eP	Pg	07 50 19.5	-0.8
KDJ				⇑eS	Sg	07 50 49.3	+0.5
KURS	Kuram	2.22	321	Pg	Pg	07 50 19.9	-0.9
	8.9nm,0.2s						
KURS				Lg	Lg	07 50 50.8	
	6.4nm,0.3s						
DJR	Jarkent	2.56	355	Pg	Pb	07 50 25.2	+0.2
	1.8nm,0.2s						
DJR				Lg	Lg	07 50 59.8	
	17nm,0.3s						
DJR	Jarkent	2.56	355	eP	Pb	07 50 25.2	+0.2
	1.8nm,0.2s						
DJR				eS	Sg	07 50 59.8	-0.7
	17nm,0.3s						
BLB	Baldybastay	2.60	334	Pg	Pb	07 50 26.1	+0.5
	25nm,0.1s						
BLB				Lg	Lg	07 51 01.5	
	15nm,0.3s						
KOTS	Kotyrbulak	2.63	305	Pg	Pb	07 50 27.0	+0.7
	4.6nm,0.2s						
KOTS				Lg	Lg	07 51 03.0	
	14nm,0.2s						
KOTS	Kotyrbulak	2.63	305	eP	Pb	07 50 26.9	+0.7
	4.6nm,0.2s						
KOTS				eS	Sg	07 51 03.0	0.0
	14nm,0.2s						
MDOK	Medeo	2.64	303	⇑Pn	Pb	07 50 25.8	-0.5
	4.5nm,0.4s						
MDOK				Pg	Pb	07 50 27.1	+0.7
	8.4nm,0.3s						
MDOK				Lg	Lg	07 51 03.2	
	10nm,0.5s						
MDOK				Lg	Lg	07 51 03.6	
	9.6nm,0.6s						
MDOK	Medeo	2.64	303	eP	Pb	07 50 27.1	+0.7
	8.4nm,0.3s						
MDOK				eS	Sg	07 51 03.2	+0.1
	10nm,0.5s						
TNSS	Tian-Shan	2.64	299	Pg	Pb	07 50 27.4	+0.9
	8.1nm,0.5s						
TNSS				Lg	Lg	07 51 03.9	
	9.0nm,0.4s						
TNSS	Tian-Shan	2.64	299	eP	Pb	07 50 27.4	+0.9
	8.1nm,0.5s						
TNSS				eS	Sg	07 51 03.9	+0.8
	9.0nm,0.4s						
KNOS	Konyrlen	2.66	346	Pg	Pb	07 50 27.3	+0.6
	7.7nm,0.2s						
KNOS				Lg	Lg	07 51 03.5	
	22nm,0.2s						
ARXS	Arharly	2.94	327	Pg	Pb	07 50 32.4	+0.9
	0.8nm,0.1s						
ARXS				Lg	Lg	07 51 12.2	
	7.4nm,0.4s						
MTBS	Maitube	3.02	298	Pg	Pb	07 50 33.7	+0.8
	1.9nm,0.2s						
MTBS				Lg	Lg	07 51 14.4	
	8.7nm,0.3s						
MTBS	Maitube	3.02	298	eP	Pb	07 50 33.7	+0.8
	1.9nm,0.2s						
MTBS				eS	Sg	07 51 14.4	-0.9
	8.7nm,0.3s						
BOOM	Boomskoye usch	3.16	284	⇑eP	Pb	07 50 33.2	-2.1
BOOM				⇑eS	Sb	07 51 12.5	-1.8
KTBS	Karatobe	3.16	309	Pg	Pb	07 50 36.3	+1.1
	3.5nm,0.3s						
KTBS				Lg	Lg	07 51 19.0	
	5.9nm,0.4s						
KST	Kastek	3.30	294	Pg	Pb	07 50 38.4	+0.8
	2.7nm,0.3s						
KST				Lg	Lg	07 51 22.6	
	7.7nm,0.7s						
KST	Kastek	3.30	294	eP	Pb	07 50 38.4	+0.8
	2.7nm,0.3s						
KST				eS	Sg	07 51 22.6	-1.7
	7.7nm,0.7s						
DGS	Degeres	3.51	296	Pg	Pb	07 50 42.2	+1.0
	1.2nm,0.5s						
DGS				Lg	Lg	07 51 29.1	
	4.4nm,0.3s						
KRBS	Karabastau	3.77	302	Pg	Pb	07 50 47.5	+2.0
	2.1nm,0.4s						
KRBS				Lg	Lg	07 51 38.1	
	5.7nm,0.3s						
MAKZ	Makanchi	5.21	14	⇓Pn	Pn	07 50 59.0	+1.9
	0.9nm,0.8s						
MAKZ				⇓Sn	Sn	07 51 59.8	+2.0
	0.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 52 23.9	
	1.6nm,0.9s						
MK31	Makanchi Array	5.26	17	⇑Pn	Pn	07 51 00.5	+2.6
	baz=197,slow=13,SNR=14						
MK31				⇑Pg	Pg	07 51 15.8	-3.2
	0.9nm,0.9s,baz=202,slow=14,SNR=2.7						
MK31				⇓Sn	Sn	07 52 01.6	+2.6
	0.2nm,0.3s,baz=180,slow=25,SNR=3.8						
MK31				⇓Lg	Lg	07 52 24.8	
	0.7nm,0.5s						

*THE **10** 08:08:56.1,36.52N×28.67E, h0km±3km, ML2.7/3, Error ellipse: s-maj=11.7km s-min=0.8km az=356.0*
*IDC **10** 08:08:56.5±1.6,36.38N×28.72E, h0km, mb3.5/2, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=28.9km s-min=21.1km az=155.0*
*ATH **10** 08:08:57.8,36.28N×28.70E, h15km±7km, ML3.0/8, Manual Solution by M.Papanikolaou First location: 2019/02/10 08:10:23, This location: 2019/02/10 23:14:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 4 km*
*AFAD **10** 08:08:57.0,36.40N×28.66E, h8km±3km, ML2.9*
*ISK **10** 08:08:57.0,36.49N×28.70E, h5km, ML3.0/19*
ISC 10 08:08:57.3±1.0,36.40N±0.02×28.68E±0.02,h8km±8km, n70,σ0.99/99,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.40	53	Pg	Pg	08 09 04.8	-0.3
FETY				Sg	Sg	08 09 11.0	+0.6
DALY	Dalyan (Mula)	0.42	357	Pg	Pg	08 09 04.8	-0.7
DALY				Sg	Sg	08 09 10.5	-0.5
IZZE	Mula-Seydike	0.44	85	P	Pg	08 09 05.5	-0.3
IZZE				S	Sg	08 09 11.3	-0.3
IZZE				*i* AML	AML	08 09 18.0	
	comp=E,1μm,0.3s						
IZZE				*i* AML	AML	08 09 19.0	
	comp=N,2μm,0.4s						

SABU	Mula-Dalaman	0.48	28	P	Pg	08 09 06.3	-0.4
SABU				S	Sg	08 09 13.8	+0.7
ARG	Arkhangelos	0.48	248	Pg	Pg	08 09 06.9	+0.3
ARG	Arkhangelos	0.48	248	P	Pg	08 09 07.0	+0.3
ARG				S	Sb	08 09 15.8	+0.4
	602nm,0.6s						
ARG	Arkhangelos	0.48	248	P	Pg	08 09 07.0	+0.3
ARG				S	Sb	08 09 14.5	-0.9
MRSB	Marmaris-Mugla	0.51	309	Pg	Pg	08 09 07.5	+0.4
TURN	Turunc	0.52	317	Pg	Pg	08 09 07.2	-0.1
TURN	Turunc	0.52	317	P	Pg	08 09 06.5	-0.8
TURN				S	Sg	08 09 14.2	0.0
CAME	Cameli-Denizli	0.74	42	Pg	Pg	08 09 11.2	-0.3
CAME				Sg	Sg	08 09 21.5	+0.3
AKAS	Kas	0.76	102	Pg	Pb	08 09 13.1	+0.2
AKAS	Kas	0.76	102	P	Pb	08 09 12.6	-0.3
AKAS				S	Sb	08 09 23.4	0.0
AKAS				*i* AML	AML	08 09 28.0	
	comp=E,370nm,0.8s						
AKAS				*i* AML	AML	08 09 33.0	
	comp=N,424nm,0.7s						
KSL	Kastellorizon	0.77	108	P	Pb	08 09 12.4	-0.5
KSL				S	Sn	08 09 25.8	-0.4
	678nm,0.4s						
KSL	Kastellorizon	0.77	108	P	Pg	08 09 11.8	-0.3
KSL				S	Sg	08 09 22.2	+0.2
YER	Yerkesik	0.81	336	Pg	Pg	08 09 12.2	-0.6
YER				Sg	Sg	08 09 23.4	+0.1
KNIK	Mula-Seydike	0.84	58	P	Pg	08 09 13.4	-0.1
KNIK				S	Sb	08 09 25.7	-0.2
CAEL	Denizli, Camel	0.89	35	P	Pb	08 09 14.5	-0.6
CAEL				*i* AML	AML	08 09 44.0	
	comp=N,403nm,0.7s						
CAEL				*i* AML	AML	08 09 52.0	
	comp=E,292nm,1.6s						
MULA	Mugla, Merkez-	0.91	341	P	Pb	08 09 15.0	-0.4
MULA				S	Sg	08 09 26.6	+0.1
DNZT	Denizli-Tavas-	0.92	17	P	Pb	08 09 15.2	-0.4
DNZT				S	Sb	08 09 28.6	+0.5
DEMR	Demre-Antalya	1.00	99	Pg	Pn	08 09 17.6	0.0
YAZI	Mula-Dat§a-	1.03	286	P	Pg	08 09 17.1	0.0
ELL	Elmali	1.05	70	Pg	Pb	08 09 17.7	-0.1
ELL	Elmali	1.05	70	P	Pb	08 09 17.7	-0.1
TAVA	DENIZLI_Tavas	1.08	10	P	Pg	08 09 17.6	-0.5
TAVA				S	Sn	08 09 34.0	-0.2
MLSB	Milas	1.16	321	Pn	Pg	08 09 19.1	-0.4
APMY	Acipayam-Deniz	1.18	25	Pn	Pg	08 09 19.3	-0.7
BDRM	Kayabasi	1.20	304	P	Pg	08 09 20.1	-0.2
BDRM				S	Sb	08 09 36.2	+0.2
BDRM				*i* AML	AML	08 09 40.0	
	comp=E,296nm,0.9s						
DNIZ	Denizli-Tavas-	1.26	13	P	Pn	08 09 21.6	+0.3
DNIZ				S	Sn	08 09 40.5	+2.0
DNIZ				*i* AML	AML	08 09 43.0	
	comp=N,477nm,0.7s						
BODT	Bodrum	1.29	301	Pn	Pb	08 09 22.2	+0.4
AKUM	Antalya-Kumluc	1.34	93	P	Pg	08 09 23.9	+0.9
YKAV	Yalikavak-Bodr	1.34	303	Pn	Pg	08 09 23.1	+0.1
AYDN	Tasoluk	1.42	333	P	Pb	08 09 24.1	0.0
AYDN				S	Sb	08 09 41.7	-0.6
AYDN				*i* AML	AML	08 09 50.0	
	comp=E,188nm,0.5s						
ESEN	Aydn-Nazilli	1.43	349	P	Pb	08 09 24.0	-0.1
KORT	Korkueli	1.47	65	Pn	Pg	08 09 25.2	-0.3
KORT	Korkueli	1.47	65	P	Pg	08 09 25.7	+0.2
KORT				S	Sg	08 09 47.3	+2.8
KORT				*i* AML	AML	08 09 54.0	
	comp=N,177nm,0.5s						
INCE	Denizli-Bozkur	1.49	28	P	Pg	08 09 25.4	-0.5
INCE				S	Sg	08 09 45.3	0.0
INCE				*i* AML	AML	08 09 53.0	
	comp=N,126nm,0.5s						
INCE				*i* AML	AML	08 09 53.0	
	comp=E,151nm,0.7s						
KARP	Karpathos	1.50	236	Pn	Pg	08 09 27.4	+1.4
KARP	Karpathos	1.50	236	P	Pn	08 09 23.9	-0.6
KARP				S	Sg	08 09 45.5	+0.1
	370nm,0.5s						
KARP	Karpathos	1.50	236	P	Pn	08 09 23.5	-1.0
DDIM	Aydin, Didim	1.57	313	P	Pb	08 09 26.2	-0.3
DDIM				S	Sg	08 09 48.1	+0.4
DDIM				*i* AML	AML	08 09 53.0	
	comp=E,201nm,0.6s						
DDIM				*i* AML	AML	08 09 58.0	
	comp=N,156nm,0.7s						
NAZL	Nazilli-Aydin	1.60	349	Pn	Pn	08 09 26.3	+0.4
ANTB	Antalya	1.66	72	Pn	Pb	08 09 27.8	-0.3
AYDB	Zeytinkoy-Aydi	1.67	338	Pn	Pn	08 09 27.6	+0.6
BRDR	BURDUR-Merkez	1.70	40	P	Pg	08 09 29.8	-0.2
GCAM	G?zelcaml?	1.74	319	Pn	Pn	08 09 28.7	+0.8
GCAM	G?zelcaml?	1.74	319	P	Pn	08 09 28.3	+0.5
GCAM				S	Sn	08 09 50.8	+0.5
GCAM				*i* AML	AML	08 09 56.0	
	comp=N,178nm,0.7s						
GCAM				*i* AML	AML	08 10 00.0	
	comp=E,84nm,0.5s						
BUCA	Burdur, Bucak-	1.77	58	P	Pg	08 09 30.9	-0.2
KIRA	zmir-Kiraz	1.81	353	P	Pn	08 09 29.3	+0.4
ODEM	Odemis-Izmir	1.94	346	Pn	Pn	08 09 31.2	+0.6
SMG	Samos	1.98	312	P	Pb	08 09 32.5	-1.0
ISP	Isparta	2.05	45	P	Pn	08 09 33.1	+1.0
PASA	Karahalli, USA	2.05	18	P	Pb	08 09 33.6	-1.3
PASA				S	Sn	08 09 57.5	-0.5
MANT	Manisa	2.09	357	P	Pn	08 09 33.8	+0.9
MANT				S	Sn	08 09 57.3	-1.9
DGB	zmir	2.19	320	P	Pn	08 09 34.1	+0.1
USAK	Uak-Merkez	2.33	6	P	Pn	08 09 35.1	-0.9
ZKR	Zakros	2.38	238	Pn	Pb	08 09 39.4	-1.0
ZEYE	Izmir, Urla-Ze	2.53	317	P	Pn	08 09 39.5	+0.9
APE	Apeiranthos	2.62	286	P	Pn	08 09 40.3	+0.3
AKMS	Akamas	3.27	114	P	Pn	08 09 48.6	-0.4
IDI	Anoyia	3.27	251	Pn	Pn	08 09 50.3	+1.3
	5.1nm,0.4s,baz=76,slow=19,SNR=9.0						
IDI				Sn	Sn	08 10 30.1	+2.0
	3.6nm,0.3s,baz=90,slow=18,SNR=6.6						
IDI	Anoyia	3.27	251	P	Pn	08 09 48.9	-0.1
LIA	Limnos Island	4.45	323	P	Pn	08 10 06.6	+1.5
VLI	Veliai	4.64	276	P	Pn	08 10 10.8	+3.1
SMTH	Samothraki Isl	4.76	330	P	Pn	08 10 10.9	+1.5
BRTR	Keskin Array B	5.13	48	Pn	Pn	08 10 16.8	+2.2
	0.2nm,0.3s,baz=226,slow=16,SNR=6.3						
BRTR				Sn	Sn	08 11 16.8	+2.7
	0.3nm,0.3s,baz=214,slow=25,SNR=7.8						
	0.6nm,0.4s						
MMAI	Mount Meron Ar	6.48	119	Pn	Pn	08 10 32.9	-0.1
	2.1nm,0.5s,baz=299,slow=13,SNR=4.9						
MMAI				Sn	Sn	08 11 42.4	-4.8
	1.1nm,0.3s,baz=322,slow=28,SNR=1.8						
EIL	Elat	8.52	140	Pn	Pn	08 11 00.1	-1.0
	0.3nm,0.3s,baz=309,slow=14,SNR=1.6						
	2.1nm,0.3s						
FINES	FINESS Array B	25.12	357	P	P	08 14 22.2	-0.2
	2.3nm,0.8s,baz=186,slow=8.3,SNR=4.0						
	2.3nm,0.8s						
MKAR	Makanchi Array	40.70	58	P	P	08 16 38.3	+0.1
	0.2nm,0.6s,baz=287,slow=6.9,SNR=2.1						
	0.2nm,0.6s						

*SJA **10** 08:10:47.0,30.18S×71.58W, h10km, ML3.4*
*GUC **10** 08:10:50.2±0.7,30.24S×71.18W, h65km±3km, ML3.5*
**ISC 10

CO01	**Juntas del Tor**	**1.08**	**76**	⇑ *iP*	**Pg**	**08 11 10.2**	**+0.4**
CO01				*eS*	**Sg**	**08 11 24.5**	**+0.6**
CO01				IAML		08 11 25.0	
	comp=N,1μm,0.1s						
LCO	**Las Campanas**	**1.34**	**23**	*i P*	**Pn**	**08 11 12.5**	**-1.1**
LCO	**Las Campanas**	**1.34**	**23**	*eP*	**Pn**	**08 11 13.2**	**-0.4**
LCO				*eS*	**Sb**	**08 11 30.2**	**-1.1**
AROD	**Rodeo**	**1.58**	**87**	*i P*	**Pb**	**08 11 18.4**	**+0.1**
ACDV	**Cuesta del Vie**	**1.89**	**88**	*i P*	**Pb**	**08 11 22.8**	**-0.6**
ACCO	**Cerro Coronel**	**1.96**	**100**	*i P*	**Pb**	**08 11 24.4**	**-0.3**
AC04	**Llanos de Chal**	**2.05**	**6**	*i P*	**Pn**	**08 11 21.9**	**-1.2**
AC04	**Llanos de Chal**	**2.05**	**6**	*eP*	**Pn**	**08 11 22.6**	**-0.5**
VA06	**Catapilco**	**2.30**	**180**	*eP*	**Pn**	**08 11 27.1**	**+0.5**
RTLS	**Leoncito**	**2.31**	**132**	*i P*	**Pb**	**08 11 29.5**	**-1.1**
AGUA	**GUANDACOL**	**2.55**	**73**	*i P*	**Pb**	**08 11 32.8**	**-1.9**
VA03	**San Esteban**	**2.58**	**166**	*i P*	**Pn**	**08 11 31.2**	**+0.6**
VA03	**San Esteban**	**2.58**	**166**	*i P*	**Pn**	**08 11 31.8**	**+1.2**
MT02	**Curacav**	**3.00**	**177**	*i P*	**Pn**	**08 11 35.6**	**-0.6**
MT02	**Curacav**	**3.00**	**177**	*eP*	**Pn**	**08 11 36.3**	**0.0**
MT02				*eS*	**Sn**	**08 12 11.3**	**-0.8**
MT10	**Hacienda Santa**	**3.08**	**168**	*eP*	**Pn**	**08 11 38.4**	**+1.0**
MT10				*i S*	**Sn**	**08 12 14.1**	**-0.2**
VCA	**Vinchina**	**3.09**	**62**	*i P*	**Pn**	**08 11 39.4**	**+1.8**
MT05	**Renca**	**3.17**	**172**	*i P*	**Pn**	**08 11 38.8**	**+0.2**
MT14	**Cerro Cal¡n**	**3.20**	**169**	*eP*	**Pn**	**08 11 39.7**	**+0.7**
MT14				*eS*	**Sn**	**08 12 17.4**	**+0.3**
MT14				IAML		08 12 27.2	
	comp=N,94nm,0.4s						
MT04	**Ro Olivares**	**3.30**	**163**	*i P*	**Pn**	**08 11 42.2**	**+1.8**
MT04	**Ro Olivares**	**3.30**	**163**	*eP*	**Pn**	**08 11 42.6**	**+2.1**
MT04				*eS*	**Sn**	**08 12 20.8**	**+1.2**
MT03	**Universidad Ad**	**3.30**	**169**	*i P*	**Pn**	**08 11 41.2**	**+0.8**
MT03	**Universidad Ad**	**3.30**	**169**	*eP*	**Pn**	**08 11 41.3**	**+0.8**
MT03				*eS*	**Sn**	**08 12 20.2**	**+0.6**
MT03				IAML		08 12 21.8	
	comp=E,154nm,0.3s						
MT09	**Talagante**	**3.52**	**176**	*i P*	**Pn**	**08 11 43.9**	**+0.3**
MT09				*i S*	**Sn**	**08 12 23.6**	**-1.5**
MT09				IAML		08 12 25.5	
	comp=E,126nm,0.4s						
MT12	**Pirque**	**3.53**	**170**	*eP*	**Pn**	**08 11 44.2**	**+0.6**
MT12				*eS*	**Sn**	**08 12 24.5**	**-0.7**
MT13	**San Alfonso**	**3.59**	**166**	*eP*	**Pn**	**08 11 45.8**	**+1.5**
MT13				*eS*	**Sn**	**08 12 27.1**	**+0.4**
MT01	**Popeta**	**3.60**	**179**	*i P*	**Pn**	**08 11 43.9**	**-0.6**
MT01	**Popeta**	**3.60**	**179**	⇓ *eP*	**Pn**	**08 11 44.3**	**-0.2**
MT01				*i S*	**Sn**	**08 12 23.2**	**-3.7**
LMEL	**Las Melosas**	**3.70**	**166**	*eP*	**Pn**	**08 11 46.7**	**+0.6**
LMEL				*eS*	**Sn**	**08 12 30.2**	**+0.6**
LMEL				IAML		08 12 33.2	
	comp=E,54nm,0.2s						
BO04	**La Punta**	**3.77**	**171**	*eP*	**Pn**	**08 11 47.1**	**+0.3**
BO04				*eS*	**Sn**	**08 12 29.6**	**-1.5**
AC02	**Maricunga**	**3.90**	**30**	*i P*	**Pn**	**08 11 48.1**	**-0.9**
BO01	**Tunca**	**4.13**	**178**	*i P*	**Pn**	**08 11 50.9**	**-0.9**
AC01	**Pan de Azucar**	**4.13**	**9**	*i P*	**Pn**	**08 11 49.8**	**-2.0**
BO02	**Sierra Bellavi**	**4.55**	**175**	*i P*	**Pn**	**08 11 57.6**	**0.0**
RFA	**San Rafael**	**5.10**	**153**	*i P*	**Pn**	**08 12 05.0**	**-0.2**
CYA	**Choya**	**5.12**	**71**	*i P*	**Pn**	**08 12 04.5**	**-0.9**

*NAO **10** 08:24:31.1±2.1, 71°.53N×3°.09W, ML3.4*
*IDC **10** 08:24:32.9±1.1, 71°.51N×2°.76W, h0km, mb3.6/7, mbtmp3.7/13, ML2.9/5, MS3.4/30, Error ellipse: s-maj=24.8km s-min=16.4km az=54.0*
*BER **10** 08:24:34.4±3.4, 71°.53N×3°.28W, h10km, mb(Pn)4.1, ML3.4(NAO), Confirmed Earthquake*
*DNK **10** 08:24:41.8±1.4, 72°.02N×5°.41W, h5km±70km, ML1.7*

ISC 10 08:24:33.4±0.6, 71°.65N±0°.07×3°.03W±0°.06, h10km, n96, σ2s63/76, mb4.1/19, MS3.2/25, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.70**	**306**	Pn	**Pn**	**08 25 55.7**	**-2.1**
DBG	**Daneborg**	**5.70**	**306**	*eP*	**Pn**	**08 25 55.9**	**-2.0**
DBG				*eS*	**Sn**	**08 26 55.9**	**-7.3**
DBG	**Daneborg**	**5.70**	**306**	*i P*	**Pn**	**08 25 54.3**	**-3.5**
SCO	**Scoresbysund**	**6.26**	**268**	*i P*	**Pn**	**08 26 04.0**	**-1.6**
DAG	**Danmarks Havn**	**6.65**	**328**	*e*	Pn	08 26 07.3	-3.6
	baz=132,slow=16						
DAG				*i P*	**Pn**	**08 26 09.8**	**-1.1**
DAG				*i P*	**Pn**	**08 26 10.0**	**-0.9**
DAG				*eS*	Sn	08 27 14.2	-12
DAG				IAML		08 27 22.7	
	comp=Z,2.7nm,0.4s						
LOF	**Lofoten**	**6.70**	**114**	Pn	**Pn**	**08 26 10.7**	**-0.9**
LOF	**Lofoten**	**6.70**	**114**	*eP*	**Pn**	**08 26 10.4**	**-1.2**
LOF				IAML		08 26 15.0	
	comp=Z,5.6nm,0.7s						
LOF				*eS*	Sn	08 27 20.2	-7.7
HSPB	**Hornsund (broa**	**7.31**	**34**	Pn	**Pn**	**08 26 20.7**	**+0.8**
HSPB	**Hornsund (broa**	**7.31**	**34**	*eP*	**Pn**	**08 26 20.8**	**+0.8**
HSPB				IAML		08 26 21.4	
	comp=Z,4.3nm,0.5s						
STEI	**Steigen**	**7.33**	**112**	*eP*	**Pn**	**08 26 18.9**	**-1.2**
STEI				IAML		08 26 25.1	
	comp=Z,8.0nm,0.8s						
STEI				*eS*	Sn	08 27 34.5	-8.7
TRO	**Tromso**	**7.55**	**95**	Pn	**Pn**	**08 26 20.7**	**-2.5**
TRO				Sn	Sn	08 27 40.3	-8.4
TRO	**Tromso**	**7.55**	**95**	*eP*	**Pn**	**08 26 20.9**	**-2.4**
TRO				IAML		08 26 23.5	
	comp=Z,3.4nm,0.9s						
TRO				*eS*	Sn	08 27 39.8	-8.9
FAUS	**Fauske**	**7.70**	**115**	*eP*	**Pn**	**08 26 23.9**	**-1.4**
FAUS				IAML		08 26 27.3	
	comp=Z,3.0nm,0.8s						
FAUS				*eS*	Sn	08 27 44.9	-7.4
KONS	**Konsvik**	**7.73**	**124**	Pn	**Pn**	**08 26 24.3**	**-1.4**
KONS				Sn	Sn	08 27 43.4	-10
KONS	**Konsvik**	**7.73**	**124**	*eP*	**Pn**	**08 26 23.9**	**-1.8**
KONS				IAML		08 26 27.7	
	comp=Z,3.5nm,1.1s						
KONS				*eS*	Sn	08 27 43.7	-10
BRBA	**Barentsburg A**	**7.81**	**27**	Pn	**Pn**	**08 26 27.6**	**+0.8**
STOK	**Stokkvaagen**	**7.83**	**125**	Pn	**Pn**	**08 26 25.1**	**-2.1**
STOK				Sn	Sn	08 27 46.3	-9.3
STOK	**Stokkvaagen**	**7.83**	**125**	*eP*	**Pn**	**08 26 25.5**	**-1.6**
STOK				IAML		08 27 55.9	
	comp=Z,4.3nm,0.8s						
BRBB	**Barentsburg B**	**7.84**	**27**	Pn	**Pn**	**08 26 28.1**	**+1.0**
BRBB	**Barentsburg B**	**7.84**	**27**	*eP*	**Pn**	**08 26 28.7**	**+1.5**
LEIR	**Leirfjorden**	**8.03**	**126**	*eP*	**Pn**	**08 26 28.3**	**-1.5**
LEIR				*eS*	Sn	08 27 50.9	-10
LEIR				IAML		08 27 53.8	
	comp=Z,3.7nm,0.6s						
JETT	**Jettan, Norway**	**8.05**	**94**	Pn	**Pn**	**08 26 28.2**	**-2.0**
JETT				Sn	Sn	08 27 53.7	-7.4
JETT	**Jettan, Norway**	**8.05**	**94**	Pn	**Pn**	**08 26 28.2**	**-2.0**
JETT				Sn	Sn	08 27 53.7	-7.4
KBS	**Kingsbay**	**8.20**	**20**	Pn	**Pn**	**08 26 34.0**	**+1.9**
KBS	**Kingsbay**	**8.20**	**20**	*eP*	**Pn**	**08 26 33.9**	**+1.8**
SPA0	**Spitsbergen Ar**	**8.21**	**29**	Pn	**Pn**	**08 26 34.1**	**+1.7**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.21**	**29**	Pn	**Pn**	**08 26 34.1**	**+1.7**
	baz=207,slow=18						
SPITS	**Spitsbergen Ar**	**8.21**	**29**	Pn	**Pn**	**08 26 34.4**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=208,slow=16,SNR=94						
MOR8	**Moi Rana**	**8.33**	**123**	Pn	**Pn**	**08 26 33.4**	**-0.6**
MOR8				Sn	**Sn**	**08 28 00.8**	**-7.2**
MOR8	**Moi Rana**	**8.33**	**123**	*eP*	**Pn**	**08 26 32.9**	**-1.1**
MOR8				*eS*	Sn	08 27 57.5	-10
KIF	**Kilpisjarvi**	**8.43**	**97**	Pn	**Pn**	**08 26 33.9**	**-1.4**
KIF				Sn	Sn	08 28 02.8	-7.6
KIF	**Kilpisjarvi**	**8.43**	**97**	*eP*	**Pn**	**08 26 33.8**	**-1.5**
KIF				*eS*	Sn	08 28 01.5	-8.8
SALU	**Saltoluokta**	**8.64**	**109**	*eP*	**Pn**	**08 26 37.0**	**-1.3**
NSS	**Namsos**	**9.05**	**135**	*eP*	**Pn**	**08 26 43.8**	**0.0**
KTK1	**Kautokeino**	**9.20**	**94**	*eP*	**Pn**	**08 26 44.3**	**-1.5**
HEF	**Hetta**	**9.63**	**97**	Pn	**Pn**	**08 26 49.9**	**-1.9**
HEF	**Hetta**	**9.63**	**97**	*eP*	**Pn**	**08 26 50.0**	**-1.9**
ARA0	**ARCESS Array S**	**9.67**	**89**	Pn	**Pn**	**08 26 50.6**	**-1.7**
	baz=288,slow=12						
ARA0	**ARCESS Array S**	**9.67**	**89**	Pn	**Pn**	**08 26 50.6**	**-1.7**
	baz=288,slow=12						
ARCES	**ARCESS Array B**	**9.67**	**89**	Pn	**Pn**	**08 26 50.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=291,slow=12,SNR=14						
ARCES				Sn	**Sn**	**08 28 35.2**	**-5.6**
	baz=296,slow=23,SNR=1.3						
ARCES				LR	LR	08 30 09.6	
	comp=Z,102nm,20.1s,baz=326,slow=35						
	comp=Z,1.1nm,0.7s						
KEV	**Kevo**	**10.05**	**86**	*eP*	**Pn**	**08 26 57.5**	**0.0**
AKN	**Aaknes**	**10.27**	**153**	Pn	**Pn**	**08 26 59.4**	**-1.2**
AKN				Sn	Sn	08 28 45.8	-10
AKN	**Aaknes**	**10.27**	**153**	Pn	**Pn**	**08 26 59.4**	**-1.2**
AKN				Sn	Sn	08 28 45.8	-10
NOR	**Nord**	**10.43**	**349**	Pn	**Pn**	**08 27 03.6**	**+0.9**
NOR	**Nord**	**10.43**	**349**	Pn	**Pn**	**08 27 03.6**	**+0.9**
SUMG	**Summit**	**10.83**	**292**	*e*	**Pn**	**08 27 09.3**	**+0.8**
NOA	**NORSAR Array B**	**12.04**	**145**	Pn	**Pn**	**08 27 23.5**	**-1.2**
	baz=337,slow=13,SNR=2.9						
NOA				LR	LR	08 31 48.0	
	comp=Z,194nm,20.0s,baz=335,slow=37						
	comp=Z,1.1nm,0.8s						
HFS	**Hagfors**	**13.35**	**141**	Pn	**Pn**	**08 27 42.3**	**-0.2**
	baz=332,slow=14						
HFS	**Hagfors**	**13.35**	**141**	Pn	**Pn**	**08 27 42.3**	**-0.2**
	baz=332,slow=14						
HFS	**Hagfors**	**13.35**	**141**	Pn	**Pn**	**08 27 41.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=333,slow=12,SNR=10.0						
HFS				LR	LR	08 32 38.9	
	comp=Z,186nm,19.6s,baz=336,slow=37						
	comp=Z,2.7nm,0.6s						
FINES	**FINESS Array B**	**15.24**	**117**	Pn	**Pn**	**08 28 06.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=324,slow=14,SNR=4.3						
FINES				LR	LR	08 33 12.2	
	comp=Z,151nm,20.4s,baz=358,slow=34						
	comp=Z,8.2nm,1.0s						
EKA	**Eskdalemuir Ar**	**16.38**	**180**	Pn	**Pn**	**08 28 22.0**	**-1.1**
	baz=18,slow=14						
	comp=Z,1.8nm,0.9s						
SFJD	**Kangerlussuaq**	**17.03**	**278**	LR	LR	08 34 08.9	
	comp=Z,123nm,20.6s,baz=54,slow=34						
BRG	**Berggiesshubel**	**22.21**	**151**	*eP*	**P**	**08 29 34.3**	**+4.8**
BRG				Amp		08 29 37.7	
	comp=Z,5.4nm,1.1s						
OBN	**Obninsk**	**23.57**	**114**	LR	LR	08 38 32.5	
	comp=Z,145nm,18.1s,baz=343,slow=36						
GERES	**GERESS Array B**	**24.15**	**152**	LR	LR	08 38 44.2	
	comp=Z,72nm,19.3s,baz=332,slow=36						
VRAC	**Vranov**	**24.16**	**148**	LR	LR	08 39 21.8	
	comp=Z,70nm,18.8s,baz=334,slow=37						
RES	**Resolute Bay**	**24.26**	**320**	LR	LR	08 38 33.5	
	comp=Z,67nm,19.1s,baz=12,slow=34						
KIRV	**Kirov**	**24.62**	**95**	LR	LR	08 38 25.4	
	comp=Z,51nm,19.2s,baz=320,slow=34						
FRB	**Frobisher Bay**	**24.78**	**285**	LR	LR	08 39 13.9	
	comp=Z,78nm,20.1s,baz=54,slow=35						
DAVA	**Damuels**	**25.18**	**159**	*eP*	**P**	**08 30 04.2**	**+5.4**
	comp=Z,18nm,1.3s						
MOTA	**Moosalm**	**25.27**	**157**	*eP*	**P**	**08 30 05.0**	**+5.4**
	comp=Z,12nm,1.4s						
WATA	**Walderalm**	**25.34**	**156**	*eP*	**P**	**08 30 04.2**	**+4.1**
	comp=Z,14nm,1.5s						
CONA	**Conrad Observa**	**25.38**	**149**	*i P*	**P**	**08 30 03.8**	**+3.4**
	comp=Z,13nm,2.0s						
LESA	**Schwarzleotal**	**25.40**	**155**	*eP*	**P**	**08 30 04.6**	**+4.0**
	comp=Z,5.8nm,1.3s						
SQTA	**Sankt Quirin**	**25.41**	**157**	*eP*	**P**	**08 30 03.5**	**+2.7**
	comp=Z,8.6nm,1.7s						
WTTA	**Wattenberg**	**25.42**	**156**	*i P*	**P**	**08 30 04.7**	**+3.8**
	comp=Z,13nm,1.3s						
AKASG	**Malin Array Be**	**25.53**	**128**	P	**P**	**08 30 01.3**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=335,slow=9.3,SNR=7.8						
AKASG				LR	LR	08 39 44.7	
	comp=Z,126nm,18.8s,baz=316,slow=36						
	comp=Z,1.8nm,0.7s						
FETA	**Feichten**	**25.55**	**158**	*eP*	**P**	**08 30 04.2**	**+2.2**
	comp=Z,5.5nm,1.3s						
RONA	**Rosalia, Austr**	**25.67**	**149**	*i P*	**P**	**08 30 06.8**	**+3.7**
	comp=Z,12nm,1.7s						
DAVOX	**Davos/Dischmat**	**25.68**	**159**	LR	LR	08 38 46.8	
	comp=Z,57nm,20.5s,baz=79,slow=34						
KBA	**Koelnbreinsper**	**25.83**	**154**	*eP*	**P**	**08 30 08.7**	**+4.1**
	comp=Z,5.5nm,1.0s						
ABTA	**Abfaltersbach**	**26.04**	**155**	*i P*	**P**	**08 30 09.3**	**+2.9**
	comp=Z,4.2nm,1.2s						
SOKA	**Soboth**	**26.47**	**151**	*eP*	**P**	**08 30 16.8**	**+6.5**
	comp=Z,4.1nm,1.2s						
NRIK	**Noril'sk**	**27.67**	**50**	LR	LR	08 44 24.5	
	comp=Z,34nm,18.1s,baz=45,slow=43						
BELG	**Belogornoye**	**29.24**	**104**	LR	LR	08 41 35.3	
	comp=Z,100nm,19.4s,baz=317,slow=35						
ARTI	**Arti**	**29.24**	**89**	LR	LR	08 41 57.1	
	comp=Z,74nm,20.0s,baz=268,slow=36						
MLR	**Muntele Rosu**	**29.65**	**136**	LR	LR	08 42 38.6	
	comp=Z,116nm,21.5s,baz=59,slow=37						
SCHQ	**Schefferville**	**31.29**	**272**	LR	LR	08 42 20.2	
	comp=Z,114nm,18.7s,baz=38,slow=34						
ESDC	**Sonseca Array**	**32.05**	**181**	LR	LR	08 42 14.9	
	comp=Z,29nm,21.4s,baz=328,slow=33						
AKTO	**Aktyubinsk**	**34.18**	**95**	LR	LR	08 44 16.9	
	comp=Z,52nm,18.8s,baz=195,slow=35						
KBZ	**Khabaz**	**35.60**	**117**	LR	LR	08 46 46.5	
	comp=Z,38nm,18.2s,baz=26,slow=38						
BVAR	**Borovoye Array**	**35.85**	**81**	P	**P**	**08 31 32.9**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=320,slow=6.6,SNR=4.8						
	comp=Z,1.1nm,0.7s						
BRTR	**Keskin Array B**	**36.90**	**130**	P	**P**	**08 31 42.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=320,slow=5.5,SNR=6.8						
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**38.19**	**316**	P	**P**	**08 31 53.9**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=27,slow=8.1,SNR=5.4						
YKA				LR	LR	08 47 07.2	
	comp=Z,65nm,18.8s,baz=306,slow=35						
	comp=Z,0.5nm,0.9s						
MDT	**Midelt**	**38.91**	**182**	LR	LR	08 46 35.9	
	comp=Z,41nm,21.2s,baz=292,slow=34						
GNI	**Garni**	**39.43**	**117**	LR	LR	08 48 54.0	
	comp=Z,46nm,18.0s,baz=324,slow=37						
ZALV	**Zalesovo Beam**	**39.45**	**68**	LR	LR	08 51 02.8	
	comp=Z,17nm,21.7s,baz=258,slow=40						
KURBB	**Kurchatov Arra**	**40.46**	**76**	LR	LR	08 49 58.2	
	comp=Z,31nm,18.9s,baz=178,slow=38						
ILAR	**Eielson Array**	**41.64**	**338**	P	**P**	**08 32 23.2**	**+2.2**
	comp=Z,0.4nm,1.0s,baz=6.9,slow=8.3,SNR=5.1						
	comp=Z,0.4nm,1.0s						
MMAI	**Mount Meron Ar**	**43.71**	**131**	LR	LR	08 53 05.0	
	comp=Z,27nm,18.1s,baz=86,slow=39						
MKAR	**Makanchi Array**	**45.01**	**76**	P	**P**	**08 32 49.7**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=350,slow=7.5,SNR=2.2						
	comp=Z,0.2nm,0.8s						
AAK	**Ala-Archa**	**46.32**	**85**	LR	LR	08 52 08.4	
	comp=Z,35nm,20.0s,baz=40,slow=36						
NEW	**Newport**	**51.73**	**309**	LR	LR	08 55 15.3	
	comp=Z,90nm,21.6s,baz=214,slow=36						
TORD	**Torodi Ar. Bea**	**58.54**	**175**	P	**P**	**08 34 29.7**	**0.0**
	comp=Z,0.7nm,0.9s,baz=358,slow=9.1,SNR=3.9						
	comp=Z,0.7nm,0.9s						
TXAR	**Lajitas Array**	**65.72**	**290**	LR	LR	09 05 46.9	
	comp=Z,42nm,19.5s,baz=285,slow=38						

*NAO **10** 08:48:14.5±2.2, 71°.54N×3°.13W, ML3.5*
*IDC **10** 08:48:16.3±1.1, 71°.46N×2°.82W, h0km, mb3.5/7, mbtmp3.7/12, ML2.8/4, MS3.4/25, Error ellipse: s-maj=22.1km s-min=15.3km az=50.0*
*BER **10** 08:48:18.3±3.1, 71°.63N×3°.02W, h10km, mb(Pn)4.1, ML3.5(NAO), Confirmed Earthquake*
*DNK **10** 08:48:23.7±2.1, 72°.10N×4°.55W, h10km±27km, ML1.2*

ISC 10 08:48:16.6±0.6, 71°.59N±0°.06×2°.91W±0°.05, h10km, n80, σ2s50/72, mb3.5/7, MS3.3/20, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.91**	**254**	*eS*	**Sb**	**08 49 15.3**	**+0.1**
DBG	**Daneborg**	**5.76**	**306**	Pn	**Pn**	**08 49 39.1**	**-2.9**
DBG	**Daneborg**	**5.76**	**306**	*eP*	**Pn**	**08 49 39.1**	**-2.9**
DBG				*eS*	**Sn**	**08 50 40.6**	**-7.4**
DBG	**Daneborg**	**5.76**	**306**	*i P*	**Pn**	**08 49 39.0**	**-2.9**
DBG				IAML		08 50 41.4	
	comp=Z,0.5nm,1.0s						
SCO	**Scoresbysund**	**6.30**	**269**	*i P*	**Pn**	**08 49 47.6**	**-1.7**
SCO				*i*		08 49 52.5	
LOF	**Lofoten**	**6.64**	**114**	Pn	**Pn**	**08 49 53.3**	**-0.8**
LOF				Sn	**Sn**	**08 51 03.8**	**-5.9**
LOF	**Lofoten**	**6.64**	**114**	*eP*	**Pn**	**08 49 53.7**	**-0.4**
LOF				IAML		08 49 56.0	
	comp=Z,5.9nm,0.3s						
LOF				*eS*	**Sn**	**08 51 03.7**	**-5.9**
DAG	**Danmarks Havn**	**6.72**	**328**	*eP*	**Pn**	**08 49 53.2**	**-1.9**
DAG				*eS*	Sn	08 50 58.2	-13
DAG	**Danmarks Havn**	**6.72**	**328**	*e*	Pn	08 49 50.1	-5.0
	baz=133,slow=16						
DAG				*i P*	**Pn**	**08 49 53.0**	**-2.1**
DAG				*i S*	Sn	08 50 56.3	-15
DAG				IAML		08 51 02.7	
	comp=Z,1.9nm,0.3s						
BJO1	**Bjornoya**	**7.01**	**55**	Pn	**Pn**	**08 50 00.5**	**+1.5**
STEI	**Steigen**	**7.27**	**112**	Pn	**Pn**	**08 50 02.2**	**-0.4**
STEI	**Steigen**	**7.27**	**112**	*eP*	**Pn**	**08 50 02.2**	**-0.4**
STEI				IAML		08 50 03.9	
	comp=Z,7.7nm,0.8s						
STEI				*eS*	Sn	08 51 17.9	-7.1
HSPB	**Hornsund (broa**	**7.34**	**34**	Pn	**Pn**	**08 50 03.9**	**+0.3**
HSPB	**Hornsund (broa**	**7.34**	**34**	*eP*	**Pn**	**08 50 03.9**	**+0.3**
HSPB				IAML		08 50 06.2	
	comp=Z,5.7nm,0.5s						
TRO	**Tromso**	**7.51**	**95**	Pn	**Pn**	**08 50 04.1**	**-1.8**
TRO				Sn	Sn	08 51 22.4	-8.4
TRO	**Tromso**	**7.51**	**95**	*eP*	**Pn**	**08 50 04.0**	**-1.8**
TRO				IAML		08 50 09.6	
	comp=Z,4.3nm,0.7s						
FAUS	**Fauske**	**7.64**	**115**	*eP*	**Pn**	**08 50 07.2**	**-0.5**
FAUS				IAML		08 50 09.2	
	comp=Z,3.5nm,0.7s						
FAUS				*eS*	Sn	08 51 27.4	-6.7
KONS	**Konsvik**	**7.67**	**124**	Pn	**Pn**	**08 50 07.8**	**-0.3**
KONS	**Konsvik**	**7.67**	**124**	*eP*	**Pn**	**08 50 08.7**	**+0.6**
KONS				IAML		08 50 08.7	
	comp=Z,2.9nm,1.0s						
STOK	**Stokkvaagen**	**7.77**	**125**	Pn	**Pn**	**08 50 08.5**	**-0.9**
STOK				Sn	Sn	08 51 29.7	-7.6
STOK	**Stokkvaagen**	**7.77**	**125**	*eP*	**Pn**	**08 50 08.9**	**-0.5**
STOK				IAML		08 50 14.3	
	comp=Z,3.0nm,0.6s						
BRBB	**Barentsburg B**	**7.87**	**26**	Pn	**Pn**	**08 50 11.6**	**+0.7**
BRBB	**Barentsburg B**	**7.87**	**26**	*eP*	**Pn**	**08 50 11.7**	**+0.8**
BRBB				*e*		08 50 13.3	
LEIR	**Leirfjorden**	**7.96**	**126**	*eP*	**Pn**	**08 50 11.7**	**-0.5**
LEIR				*eS*	Sn	08 51 35.2	-6.9
LEIR				IAML		08 51 40.1	
	comp=Z,3.6nm,0.7s						
JETT	**Jettan, Norway**	**8.01**	**94**	Pn	**Pn**	**08 50 11.7**	**-1.1**
JETT				Sn	**Sn**	**08 51 37.4**	**-6.0**
JETT	**Jettan, Norway**	**8.01**	**94**	Pn	**Pn**	**08 50 11.7**	**-1.1**
JETT				Sn	**Sn**	**08 51 37.4**	**-6.0**
KBS	**Kingsbay**	**8.24**	**20**	Pn	**Pn**	**08 50 17.0**	**+1.1**
KBS	**Kingsbay**	**8.24**	**20**	Pn	**Pn**	**08 50 17.0**	**+1.1**
KBS	**Kingsbay**	**8.24**	**20**	*i P*	**Pn**	**08 50 16.8**	**+0.9**
SPA0	**Spitsbergen Ar**	**8.25**	**28**	Pn	**Pn**	**08 50 17.6**	**+1.5**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.25**	**28**	Pn	**Pn**	**08 50 17.6**	**+1.5**
	baz=207,slow=18						
SPITS	**Spitsbergen Ar**	**8.25**	**28**	Pn	**Pn**	**08 50 17.6**	**+1.5**
	comp=Z,3.8nm,0.3s,baz=206,slow=15,SNR=139						
SPITS				Sn	**Sn**	**08 51 49.3**	**+0.2**
	baz=266,slow=20						
MOR8	**Moi Rana**	**8.27**	**123**	Pn	**Pn**	**08 50 16.8**	**+0.5**
MOR8				Sn	**Sn**	**08 51 43.6**	**-6.0**
MOR8	**Moi Rana**	**8.27**	**123**	*eP*	**Pn**	**08 50 17.3**	**+0.9**
MOR8				*eS*	Sn	08 51 42.7	-7.0
KIF	**Kilpisjarvi**	**8.39**	**97**	Pn	**Pn**	**08 50 17.4**	**-0.5**
KIF				Sn	**Sn**	**08 51 46.4**	**-6.1**
KIF	**Kilpisjarvi**	**8.39**	**97**	Pn	**Pn**	**08 50 17.4**	**-0.5**
KIF				Sn	**Sn**	**08 51 46.4**	**-6.1**
SALU	**Saltoluokta**	**8.59**	**109**	*eP*	**Pn**	**08 50 20.4**	**-0.3**
KTK1	**Kautokeino**	**9.15**	**94**	*eP*	**Pn**	**08 50 28.1**	**-0.4**
HEF	**Hetta**	**9.59**	**96**	Pn	**Pn**	**08 50 33.6**	**-0.8**
HEF	**Hetta**	**9.59**	**96**	Pn	**Pn**	**08 50 33.6**	**-0.8**
ARA0	**ARCESS Array S**	**9.64**	**89**	Pn	**Pn**	**08

SDV	**Santo Domingo**	**74.66**	**251**	LR	LR	09 32 53.1
	comp=Z,44nm,18.0s,baz=268,slow=36					

*IDC **10** 08:49:04.7±1.9, 14°.16S×75°.48W, h56km±17km, mb3.8/12, mbtmp4.1/15, ML3.7/4, MS3.6/17, Error ellipse: s-maj=22.2km s-min=11.5km az=50.0*
*NEIC **10** 08:49:05.1±1.3, 14°.18S±0°.06×75°.69W±0°.09, h64km±8km, mb4.3/35, Error ellipse: s-maj=15.4km s-min=2.9km az=54.0*
*RSNC **10** 08:49:05.3±3.3, 14°S±10°×7°6W±1°0, h64km, M4.6, mB5.2, mb4.7, Mw(mB)4.3, Hypocentre not reviewed by the ISC*
*VAO **10** 08:49:06.3±0.6, 14°.15S×75°.60W, h64km, mb4.6*
ISC 10 08:49:05.2±0.5, 14°.19S±0°.05×75°.61W±0°.07, h66km, n127, σ1§16/108, mb4.2/18, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.50**	**331**	Pn	**Pn**	**08 49 42.6**	**-1.0**
NNA	**Nana**	**2.50**	**331**	P	**Pn**	**08 49 42.3**	**-1.4**
	196nm,0.3s,baz=152,slow=12,SNR=137						
NNA				S	**Sn**	**08 50 14.3**	**+1.3**
	3μm,0.3s,baz=205,slow=18,SNR=16						
AP01	**Chacalluta**	**6.55**	**130**	Pn	**Pn**	**08 50 39.3**	**+0.4**
PB12	**IPOC Station P**	**6.71**	**132**	Pn	**Pn**	**08 50 41.4**	**+0.1**
PB18	**Visviri**	**6.80**	**121**		**Pn**	**08 50 47.6**	**+4.7**
CZSB	**Cruzeiro do Su**	**7.03**	**24**	Pn	**Pn**	**08 50 45.4**	**-0.2**
CZSB	**Cruzeiro do Su**	**7.03**	**24**	*eP*	**Pn**	**08 50 45.0**	**-0.6**
LPAZ	**La Paz**	**7.51**	**107**	Pn	**Pn**	**08 50 53.1**	**+0.3**
LPAZ	**La Paz**	**7.51**	**107**	P	**Pn**	**08 50 56.0**	**+3.2**
	16nm,0.6s,baz=280,slow=7.2,SNR=72						
LPAZ	**La Paz**	**7.51**	**107**	*eP*	**Pn**	**08 50 54.1**	**+1.3**
ATAH	**Atahualpa**	**7.53**	**338**	P	**Pn**	**08 50 51.8**	**-1.0**
	2.2nm,0.3s,baz=68,slow=0.2,SNR=11						
ATAH				S	**Sn**	**08 52 19.1**	**+2.2**
	29nm,0.4s,baz=55,slow=18,SNR=1.4						
ATAH				LR	LR	08 54 23.6	
	comp=Z,60nm,19.9s,baz=154,slow=42						
	3.2nm,0.4s						
TA01	**Diego Aracena**	**8.19**	**141**	Pn	**Pn**	**08 51 01.7**	**+0.4**
PB08	**IPOC Station P**	**8.55**	**135**		**Pn**	**08 51 05.8**	**-0.9**
PB01	**IPOC Station P**	**8.97**	**140**		**Pn**	**08 51 12.1**	**-0.1**
PB09	**IPOC Station P**	**9.69**	**142**		**Pn**	**08 51 23.3**	**+1.3**
TBTG	**Tabatinga, AM**	**11.42**	**30**	Pn	**Pn**	**08 51 44.2**	**-1.4**
TBTG	**Tabatinga, AM**	**11.42**	**30**	*eP*	**Pn**	**08 51 45.0**	**-0.7**
PB14	**IPOC Station P**	**11.48**	**155**	Pn	**Pn**	**08 51 46.0**	**-0.7**
COHC	**Cochancay**	**12.20**	**343**	Pn	**Pn**	**08 51 58.4**	**+2.2**
GO02	**Mina Guanaco**	**12.29**	**153**	Pn	**Pn**	**08 51 58.2**	**+0.4**
AC01	**Pan de Azucar**	**12.79**	**159**	Pn	**Pn**	**08 52 02.8**	**-1.5**
SIV	**San Ignacio**	**14.15**	**99**	P	**Pn**	**08 52 19.8**	**-2.8**
	baz=305,slow=13,SNR=14						
SIV				S	**Sn**	**08 54 55.9**	**-2.4**
	3.7nm,0.9s,baz=238,slow=20,SNR=1.9						
SIV				LR	LR	08 58 34.6	
	comp=Z,502nm,21.2s,baz=292,slow=41						
	2.3nm,0.7s						
AC04	**Llanos de Chal**	**14.57**	**164**	Pn	**Pn**	**08 52 25.3**	**-2.6**
OTAV	**Otavalo**	**14.61**	**349**	Pn	**Pn**	**08 52 27.8**	**-1.2**
OTAV	**Otavalo**	**14.61**	**349**	*eP*	**Pn**	**08 52 30.6**	**+1.6**
VILB	**Vilhena**	**15.04**	**87**	Pn	**Pn**	**08 52 34.1**	**0.0**
VILB	**Vilhena**	**15.04**	**87**	*eP*	**Pn**	**08 52 34.4**	**+0.3**
TEFE	**Tefe**	**15.17**	**47**	*eP*	**Pn**	**08 52 36.5**	**+0.8**
LCO	**Las Campanas**	**15.43**	**164**	Pn	**Pn**	**08 52 38.5**	**-0.8**
FLOC	**Florencia**	**15.68**	**360**		**Pn**	**08 52 41.0**	**-1.3**
FLOC				IAmb	IAmb	08 52 58.0	
	comp=Z,21nm,1.0s						
PTLB	**Pontes e Lacer**	**15.98**	**97**		**Pn**	**08 52 46.4**	**+0.3**
PTLB	**Pontes e Lacer**	**15.98**	**97**	*eP*	**P**	**08 52 48.1**	**-0.3**
GO04	**Tololo Observa**	**16.51**	**165**	Pn	**Pn**	**08 52 52.2**	**-0.7**
GO04				IAmb	IAmb	08 53 16.2	
	comp=Z,17nm,1.1s						
CO06	**Fray Jorge**	**16.81**	**168**		**P**	**08 52 57.3**	**-0.2**
MACA	**Manacapuru-AM**	**18.36**	**55**	P	**Pn**	**08 53 15.0**	**-0.5**
MACA	**Manacapuru-AM**	**18.36**	**55**	*eP*	**P**	**08 53 14.7**	**-0.1**
PDRB	**Porto dos Gac**	**18.58**	**84**	*eP*	**Pn**	**08 53 19.0**	**+0.9**
MURT	**Porto Murtinho**	**18.66**	**116**	*eP*	**Pn**	**08 53 20.9**	**+1.9**
ROSC	**El Rosal**	**18.95**	**4**	P	**Pn**	**08 53 22.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=340,slow=23,SNR=2.4						
ROSC				LR	LR	09 01 59.1	
	comp=Z,119nm,18.7s,baz=88,slow=41						
	comp=Z,5.7nm,0.6s						
BDQN	**Bodoquena, MS**	**19.04**	**112**	*eP*	**Pn**	**08 53 24.5**	**+0.9**
VA03	**San Esteban**	**19.05**	**167**	P	**P**	**08 53 21.2**	**-1.1**
SALV	**Santo Antonio**	**19.31**	**98**	*eP*	**Pn**	**08 53 26.5**	**-0.3**
H03N1	**Juan Fernandez**	**19.39**	**188**	T	T	09 12 51.1	
	baz=9.8,slow=74,SNR=395						
H03N2	**Juan Fernandez**	**19.40**	**188**	T	T	09 12 57.0	
	baz=9.8,slow=74,SNR=236						
H03N3	**Juan Fernandez**	**19.41**	**188**	T	T	09 12 54.3	
	baz=9.8,slow=74,SNR=249						
MT02	**Curacav**	**19.41**	**169**	P	**P**	**08 53 26.6**	**+0.5**
MT08	**Bocatoma Ro**	**19.83**	**166**	P	**P**	**08 53 31.5**	**+0.6**
MT08				IAmb	IAmb	08 53 35.7	
	comp=Z,12nm,0.9s						
MT09	**Talagante**	**19.94**	**169**	P	**P**	**08 53 32.5**	**+0.5**
MT09				IAmb	IAmb	08 53 38.2	
	comp=Z,11nm,0.9s						
AQDB	**Aquidauana**	**20.00**	**111**	P	**P**	**08 53 32.9**	**+0.2**
AQDB				IAmb	IAmb	08 53 35.2	
	comp=Z,21nm,0.8s						
AQDB	**Aquidauana**	**20.00**	**111**	*eP*	**Pn**	**08 53 34.4**	**-0.5**
MT13	**San Alfonso**	**20.05**	**167**	P	**P**	**08 53 33.1**	**-0.1**
MT13				IAmb	IAmb	08 53 39.1	
	comp=Z,17nm,0.9s						
RUSC	**La Rusia**	**20.11**	**7**	P	**P**	**08 53 33.9**	**-0.4**
LMEL	**Las Melosas**	**20.17**	**167**		Pn	08 53 37.8	+0.9
LMEL				IAmb	IAmb	08 53 40.7	
	comp=Z,19nm,1.0s						
BO04	**La Punta**	**20.22**	**168**	P	Pn	08 53 36.9	-0.5
BO04				IAmb	IAmb	08 53 41.2	
	comp=Z,11nm,1.0s						
CPUP	**Villa Florida**	**20.94**	**128**	P	**P**	**08 53 43.5**	**+0.7**
CPUP	**Villa Florida**	**20.94**	**128**	P	**P**	**08 53 43.3**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=304,slow=11,SNR=8.0						
	comp=Z,4.3nm,0.8s						
CPUP	**Villa Florida**	**20.94**	**128**	*eP*	**P**	**08 53 44.0**	**+1.2**
BO02	**Sierra Bellavi**	**20.97**	**169**	P	**P**	**08 53 42.7**	**-0.4**
BO02				IAmb	IAmb	08 53 47.3	
	comp=Z,11nm,0.9s						
NPGB	**Novo Progresso**	**21.12**	**72**	*eP*	**P**	**08 53 45.4**	**+0.5**
RPRD	**Ribas do Rio P**	**21.82**	**110**	*eP*	**P**	**08 53 54.6**	**+2.4**
ITTB	**Itaituba**	**21.89**	**65**	*eP*	**P**	**08 53 52.7**	**-0.3**
BOAV	**Boa Vista**	**22.26**	**43**	P	**P**	**08 53 56.6**	**-0.3**
BOAV				IAmb	IAmb	08 54 20.5	
	comp=Z,11nm,0.8s						
BOAV	**Boa Vista**	**22.26**	**43**	*eP*	**P**	**08 53 56.6**	**-0.3**
C2SB	**Chapadao do Su**	**22.30**	**105**	*eP*	**P**	**08 53 58.7**	**+1.3**
ARAG	**Araguaiana, MT**	**23.04**	**97**	*eP*	**P**	**08 54 05.3**	**+0.1**
SDV	**Santo Domingo**	**23.46**	**12**	P	**P**	**08 54 07.5**	**-1.8**
SDV				IAmb	IAmb	08 54 34.4	
	comp=Z,14nm,0.8s						
SDV	**Santo Domingo**	**23.46**	**12**	P	**P**	**08 54 09.4**	**+0.1**
	comp=Z,6.8nm,0.8s,baz=229,slow=8.1,SNR=9.4						
	comp=Z,6.8nm,0.8s						
SDV	**Santo Domingo**	**23.46**	**12**	*eP*	**P**	**08 54 09.0**	**-0.2**
PSAL	**Palomas, Salto**	**23.58**	**138**	*eP*	**P**	**08 54 10.8**	**+0.8**
SNDB	**Serra Nova Dou**	**23.79**	**88**	*eP*	**P**	**08 54 12.1**	**0.0**
BAUV	**El Baul**	**24.18**	**19**	P	**P**	**08 54 15.5**	**-0.1**
PTGB	**Pitanga**	**24.51**	**119**	*eP*	**P**	**08 54 20.2**	**+1.6**
ITRB	**Iturama**	**24.76**	**106**	*eP*	**P**	**08 54 21.8**	**+0.8**
LDASE	**Londrina, Braz**	**24.90**	**115**	*eP*	**P**	**08 54 23.1**	**+1.0**
ITAB	**Concordia**	**25.45**	**124**	P	**P**	**08 54 25.9**	**-1.2**
ITAB				IAmb	IAmb	08 54 41.0	
	comp=Z,11nm,1.0s						
FRTB	**Fartura**	**26.25**	**114**	*eP*	**P**	**08 54 36.4**	**+1.9**
PCRV	**Puerto La Cruz**	**26.55**	**25**	LR	LR	09 06 05.0	
	comp=Z,125nm,19.6s,slow=38						
IPMB	**Ipameri, GO**	**26.58**	**102**	*eP*	**P**	**08 54 37.8**	**+0.2**
PLTB	**Pedras Altas**	**26.67**	**135**	P	**P**	**08 54 38.1**	**0.0**
PLTB				IAmb	IAmb	08 54 39.4	
	comp=Z,7.7nm,1.2s						
PLTB	**Pedras Altas**	**26.67**	**135**	*eP*	**P**	**08 54 38.9**	**+0.7**
BDFB	**Brasilia**	**26.70**	**97**	P	**P**	**08 54 38.7**	**+0.1**
BDFB	**Brasilia**	**26.70**	**97**	P	**P**	**08 54 36.8**	**-1.9**
	comp=Z,3.5nm,0.6s,baz=273,slow=11,SNR=9.1						
BDFB				LR	LR	09 06 06.3	
	comp=Z,204nm,19.5s,baz=303,slow=38						
	comp=Z,3.5nm,0.6s						
PLCA	**Paso Flores**	**26.81**	**171**	P	**P**	**08 54 38.8**	**-0.5**
PLCA	**Paso Flores**	**26.81**	**171**	P	**P**	**08 54 39.8**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=0.2,slow=10,SNR=5.3						
PLCA				LR	LR	09 02 39.8	
	comp=Z,102nm,19.0s,baz=192,slow=30						
	comp=Z,2.8nm,1.0s						
PMNB	**Patos De Minas**	**28.31**	**103**	*eP*	**P**	**08 54 53.1**	**+0.2**
MDP	**Montagnes des**	**29.78**	**52**	LR	LR	09 07 44.3	
	comp=Z,173nm,19.3s,baz=234,slow=38						
JANB	**Januaria**	**30.29**	**96**	*eP*	**P**	**08 55 10.7**	**+0.1**
SJG	**San Juan**	**33.43**	**16**	LR	LR	09 09 50.7	
	comp=Z,37nm,21.7s,baz=178,slow=37						
BSFB	**Barra de Sao F**	**33.61**	**103**	*eP*	**P**	**08 55 40.4**	**+0.8**
RPN	**Rapa Nui**	**33.96**	**242**	LR	LR	09 05 20.0	
	comp=Z,118nm,21.1s,baz=78,slow=29						
RIB01	**Linhares ES**	**34.06**	**104**	*eP*	**P**	**08 55 43.9**	**+0.3**
GUA01	**Guaratinga, BA**	**34.58**	**99**	*eP*	**P**	**08 55 49.1**	**+1.1**
RCBR	**Riachuelo**	**39.93**	**82**	LR	LR	09 14 10.5	
	comp=Z,49nm,18.1s,baz=252,slow=38						
HNDO	**Hondo**	**49.10**	**332**	P	**P**	**08 57 45.1**	**-1.1**
T57A	**Hurt**	**51.03**	**356**	P	**P**	**08 58 00.3**	**-0.4**
TXAR	**Lajitas Array**	**51.05**	**328**	P	**P**	**08 58 01.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=149,slow=8.8,SNR=20						
	comp=Z,0.9nm,0.6s						
TX31	**Lajitas Ar. Si**	**51.05**	**328**	P	**P**	**08 58 00.5**	**-0.6**
TX31				IAmb	IAmb	08 58 23.7	
	comp=Z,3.3nm,1.0s						
OZNA	**Ozona**	**51.13**	**332**	P	**P**	**08 57 59.3**	**-2.3**
OZNA				IAmb	IAmb	08 58 24.9	
	comp=Z,3.7nm,0.7s						
VHRN	**Van Horn**	**52.90**	**328**	P	**P**	**08 58 14.2**	**-0.7**
VHRN				IAmb	IAmb	08 58 37.5	
	comp=Z,2.3nm,0.8s						
SMWD	**Samnorwood**	**54.31**	**335**	P	**P**	**08 58 23.5**	**-1.6**
PDAR	**Pinedale Array**	**64.68**	**333**	P	**P**	**08 59 36.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=158,slow=4.1,SNR=1.9						
	comp=Z,0.2nm,0.6s						
BBTS	**Babate**	**65.10**	**66**	LR	LR	09 25 26.2	
	comp=Z,50nm,19.4s,baz=156,slow=34						
ULM	**Lac du Bonnet**	**66.59**	**346**	P	**P**	**08 59 49.1**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=147,slow=7.9,SNR=2.0						
	comp=Z,1.1nm,0.6s						
BELA	**Belgrano 2**	**66.86**	**171**	P	**P**	**08 59 50.5**	**+0.6**
BELA				IAmb	IAmb	09 00 14.6	
	comp=Z,3.3nm,1.0s						
SNAA	**Sanae**	**71.22**	**161**	P	**P**	**09 00 16.1**	**-0.8**
DBIC	**Dimbokro**	**73.18**	**78**	P	**P**	**09 00 29.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=238,slow=8.3,SNR=3.2						
DBIC				LR	LR	09 30 38.8	
	comp=Z,62nm,19.8s,baz=235,slow=34						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**75.95**	**180**	P	**P**	**09 00 45.8**	**+0.8**
QSPA				IAmb	IAmb	09 00 46.9	
	comp=Z,4.3nm,0.8s						
QSPA	**South Pole Qui**	**75.95**	**180**	P	**P**	**09 00 46.3**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=148,slow=9.2,SNR=19						
	comp=Z,2.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**81.23**	**74**	P	**P**	**09 01 15.1**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=268,slow=5.0,SNR=22						
	comp=Z,4.6nm,0.7s						
YKA	**Yellowknife Ar**	**82.29**	**343**	P	**P**	**09 01 19.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=143,slow=5.5,SNR=6.3						
	comp=Z,0.3nm,0.8s						
ESDC	**Sonseca Array**	**85.37**	**47**	P	**P**	**09 01 36.0**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=247,slow=4.8,SNR=4.8						
ESDC				LR	LR	09 37 16.1	
	comp=Z,33nm,19.2s,baz=274,slow=34						
	comp=Z,0.6nm,0.8s						
SUR	**Sutherland**	**87.82**	**123**	LR	LR	09 38 59.3	
	comp=Z,32nm,18.4s,baz=216,slow=34						
BOSA	**Boshof**	**92.56**	**120**	LR	LR	09 43 00.2	
	comp=Z,40nm,18.4s,baz=198,slow=35						
LBTB	**Lobatse**	**93.93**	**117**	LR	LR	09 43 46.1	
	comp=Z,32nm,18.0s,baz=210,slow=35						
LSZ	**Lusaka**	**99.18**	**108**	LR	LR	09 48 51.7	
	comp=Z,24nm,18.1s,baz=168,slow=36						
H11N3	**WAKE ISLAND Hyd**	**20.22**	**285**	T	T	11 18 46.0	
	baz=96,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hyd**	**20.23**	**285**	T	T	11 18 37.2	
	baz=96,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyd**	**20.23**	**285**	T	T	11 18 25.7	
	baz=96,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**20.29**	**283**	T	T	11 18 46.0	
	baz=94,slow=74,SNR=7.6						
H11S1	**WAKE ISLAND Hyd**	**20.30**	**283**	T	T	11 18 37.4	
	baz=94,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hyd**	**20.31**	**283**	T	T	11 18 47.1	
	baz=94,slow=74,SNR=5.3						
ASAR	**Alice Springs**	**132.58**	**218**	PKP	**PKPdf**	**09 08 12.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=123,slow=2.5,SNR=4.3						
WRA	**Warramunga Arr**	**135.07**	**222**	PKP	**PKPdf**	**09 08 18.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=132,slow=2.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**137.45**	**17**	PKP	**PKPdf**	**09 08 22.2**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**142.60**	**25**	PKhKP	PKPpre	09 08 26.4	
	comp=Z,0.4nm,0.8s,baz=1.9,slow=3.6,SNR=3.9						
SONM	**Songino Array**	**146.42**	**358**	PKPbc	**PKPab**	**09 08 39.5**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=340,slow=3.1,SNR=15						
KSRS	**Korea Array**	**148.78**	**322**	PKPbc	**PKPbc**	**09 08 46.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=45,slow=2.3,SNR=3.5						

*SJA **10** 08:53:23.7±0.9, 19°.33S×69°.41W, h101km±7km, ML3.6, MW3.8*
*IDC **10** 08:53:26.1±3.0, 19°.47S×68°.94W, h103km±30km, mb3.3/3, mbtmp3.8/6, Error ellipse: s-maj=47.6km s-min=27.9km az=103.0*
ISC 10 08:53:24.0±0.9, 19°.32S±0°.05×69°.31W±0°.08, h97km±10km, n19, σ1§36/20, mb3.4/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.83**	**170**	*eP*	**Pn**	**08 53 44.2**	**+1.4**
PB08				*eS*	**Sn**	**08 53 58.5**	**+1.5**
PB08				IAML		08 54 00.5	
	comp=Z,1μm,0.3s						
PB12	**IPOC Station P**	**1.19**	**306**	*eP*	**Pn**	**08 53 46.7**	**+0.3**
PB12				*eS*	**Sn**	**08 54 03.2**	**-0.1**
PB12				IAML		08 54 07.2	
	comp=Z,887nm,0.4s						
TA02	**Huaquique**	**1.22**	**219**	*eP*	**Pn**	**08 53 46.6**	**-0.1**
TA02				*eS*	**Sn**	**08 54 04.5**	**+0.6**
TA02				IAML		08 54 08.3	
	comp=Z,716nm,0.3s						
AP01	**Chacalluta**	**1.35**	**314**	*eP*	**Pn**	**08 53 48.7**	**+0.4**
AP01				*eS*	**Sn**	**08 54 06.5**	**-0.1**
AP01				IAML		08 54 12.3	
	comp=Z,1μm,0.2s						
TA01	**Diego Aracena**	**1.49**	**213**	*eP*	**Pn**	**08 53 49.5**	**-0.5**
TA01				*eS*	**Sn**	**08 54 09.6**	**+0.1**
TA01				IAML		08 54 13.6	
	comp=Z,260nm,0.5s						
PB01	**IPOC Station P**	**1.73**	**185**	*eP*	**Pn**	**08 53 53.6**	**+0.6**
PB01				*eS*	**Sn**	**08 54 16.1**	**+1.0**
PB01				IAML		08 54 20.1	
	comp=Z,485nm,0.2s						
PB09	**IPOC Station P**	**2.47**	**179**	*eP*	**Pn**	**08 54 03.9**	**+1.1**
PB09				*eS*	**Sn**	**08 54 33.8**	**+1.3**
PB09				IAML		08 54 38.1	
	comp=Z,360nm,0.6s						
LPAZ	**La Paz**	**3.21**	**21**	P	**Pn**	**08 54 16.2**	**+3.1**
	comp=Z,24nm,0.6s,baz=195,slow=12,SNR=9.8						
SIV	**San Ignacio**	**8.52**	**68**	P	**Pn**	**08 55 22.3**	**-2.4**
	comp=Z,5.5nm,0.5s,baz=252,slow=12,SNR=6.1						
CPUP	**Villa Florida**	**13.06**	**124**	P	**Pn**	**08 56 23.7**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=307,slow=12,SNR=4.6						
PLCA	**Paso Flores**	**21.37**	**183**	P	**P**	**08 58 03.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=12,slow=7.9,SNR=2.9						
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**09 04 30.8**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=121,slow=5.9,SNR=2.0						
	comp=Z,1.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.99**	**71**	P	**P**	**09 05 06.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=260,slow=5.6,SNR=2.2						
	comp=Z,0.4nm,0.6s						
H11S2	**WAKE ISLAND Hyd**	**27.20**	**279**	T	T	11 31 47.9	
	baz=100,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hyd**	**27.21**	**279**	T	T	11 31 50.6	
	baz=100,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hyd**	**27.22**	**279**	T	T	11 31 50.2	
	baz=100,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hyd**	**27.22**	**280**	T	T	11 31 50.6	
	baz=100						
H11N2	**WAKE ISLAND Hyd**	**27.24**	**280**	T	T	11 31 51.1	
	baz=100						
H11N1	**WAKE ISLAND Hyd**	**27.24**	**280**	T	T	11 31 51.0	
	baz=100						

*IDC **10** 09:09:31.6±1.2, 3°.44S×130°.48E, h0km, mb3.8/5, mbtmp3.8/7, ML3.9/2, MS3.1/1, Error ellipse: s-maj=64.3km s-min=23.2km az=76.0*
*NEIC **10** 09:09:32.4±1.8, 3°.45S±0°.06×130°.83E±0°.08, h10km±1km, mb4.0/12, Error ellipse: s-maj=13.9km s-min=10.6km az=80.0*
ISC 10 09:09:32.6±0.6, 3°.53S±0°.06×130°.79E±0°.05, h10km, n38, σ1§98/35, mb3.9/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.58**	**68**		**Pn**	**09 09 59.4**	**-1.2**
FAKI	**Fak Fak**	**1.58**	**68**	P	**Pb**	**09 10 00.7**	**-1.2**
SANI	**Sanana**	**5.02**	**287**	P	**Pn**	**09 10 47.5**	**-0.5**
SANI	**Sanana**	**5.02**	**287**	S	**Sn**	**09 11 43.6**	**-2.5**
DRS	**Darwin Rock St**	**8.85**	**179**	P	Pn	09 11 45.6	+5.0
KDU	**Kakadu**	**9.25**	**170**	P	**Pn**	**09 11 47.9**	**+1.7**
MTN	**Manton Dam**	**9.26**	**178**		**Pn**	**09 11 48.4**	**+2.0**
MTN	**Manton Dam**	**9.26**	**178**	P	**Pn**	**09 11 49.4**	**+3.1**
KNRA	**Kununurra**	**12.24**	**189**	Pn	**Pn**	**09 12 26.9**	**-0.2**
BKB	**Balikpapan**	**14.06**	**279**	Pn	**Pn**	**09 12 52.4**	**+0.3**
MYLDM	**Lahad Datu**	**15.02**	**305**	Pn	**Pn**	**09 13 04.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.34**	**199**	Pn	**Pn**	**09 13 09.3**	**0.0**
FITZ	**Fitzroy Crossi**	**15.34**	**199**	Pn	**Pn**	**09 13 09.1**	**-0.2**
	0.4nm,0.3s,baz=12,slow=12,SNR=11						
FITZ				Sn	**Sn**	**09 15 55.9**	**-3.4**
	0.1nm,0.3s,baz=340,slow=14,SNR=3.1						
	1.3nm,0.4s						
COEN	**Coen**	**16.03**	**131**	Pn	**Pn**	**09 13 17.7**	**-0.5**
COEN				IAmb	IAmb	09 13 23.8	
	comp=Z,19nm,1.2s						
COEN	**Coen**	**16.03**	**131**	P	**Pn**	**09 13 19.6**	**+1.3**
WB0	**Warramunga Arr**	**16.52**	**168**		**Pn**	**09 13 24.0**	**-0.6**
WB0				IAmb	IAmb	09 13 32.3	
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**16.67**	**168**		**Pn**	**09 13 26.0**	**-0.5**
WRAB				IAmb	IAmb	09 13 43.1	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**16.68**	**168**		**Pn**	**09 13 27.5**	**+0.8**
WRA	**Warramunga Arr**	**16.68**	**168**	Pn	**Pn**	**09 13 26.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=347,slow=10,SNR=15						
WRA				Sn	**Sn**	**09 16 25.5**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=352,slow=23,SNR=5.0						
	comp=Z,0.4nm,0.4s						
WR0	**Warramunga Arr**	**16.74**	**168**	Pn	**Pn**	**09 13 27.2**	**-0.1**
QIS	**Mount Isa**	**18.98**	**154**	P	**Pn**	**09 13 57.7**	**+2.6**
AS31	**Alice Springs**	**20.25**	**172**	P	Pn	09 14 10.8	+0.7
ASAR	**Alice Springs**	**20.25**	**172**	P	Pn	09 14 10.6	+0.4
ASAR	**Alice Springs**	**20.25**	**172**	P	Pn	09 14 11.2	+1.0
	comp=Z,11nm,0.4s,baz=350,slow=10,SNR=272						
ASAR				S	**S**	**09 17 52.0**	**-3.5**
	comp=Z,0.7nm,0.7s,baz=348,slow=19,SNR=5.4						
	comp=Z,11nm,0.4s						
AS01	**Alice Springs**	**20.25**	**172**	P	Pn	09 14 11.3	+1.1
MBWA	**Marble Bar**	**20.57**	**211**	P	**P**	**09 14 11.1**	**-0.5**
MBWA				IAmb	IAmb	09 14 35.8	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**20.85**	**210**	P	**P**	**09 14 14.3**	**-0.5**
PSA00				IAmb	IAmb	09 14 16.5	
	comp=Z,7.6nm,0.9s						
WRKA	**Warakurna**	**21.52**	**186**	P	**P**	**09 14 24.0**	**+2.0**
BBJI	**Bungbulang**	**23.36**	**259**	P	**P**	**09 14 40.7**	**-0.9**
OOD	**Oodnadatta**	**24.58**	**170**	P	**P**	**09 14 55.6**	**+2.7**
MEEK	**Meekatharra**	**25.77**	**206**	P	**P**	**09 15 06.2**	**+2.4**
	comp=Z,8.7nm,1.9s						
FORT	**Forrest**	**27.23**	**185**	P	**P**	**09 15 18.4**	**+1.5**
JOW	**Kun

0.9nm,0.4s
QSPA South Pole Qui 59.86 180 P P 10 11 44.5 +0.2
0.9nm,0.8s,baz=18,slow=6.4,SNR=1.6
0.9nm,0.8s
FINES FINESS Array B 145.00 340 PKPbc PKPbc 10 21 13.8 -0.6
2.3nm,0.9s,baz=56,slow=3.5,SNR=6.0

---

*CATAC **10** 10:08:25.8±0.5, 15°N±3°×8°9W±°, h3km±2km, Error ellipse: s-maj=6.8km s-min=2.9km az=11.5, confirmed*
*SNET **10** 10:08:26.3±1.2, 14°44N×89°16W, h1km±7km, ML3.0*
*GCG **10** 10:08:26.3±1.6, 14°52N×89°18W, h6km±12km, MD3.8, Hypocentre not reviewed by the ISC*
ISC 10 10:08:24.8±1.0, 14°58N±0°04×89°12W±0°02, h10km, n101, σ0°50/103, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO3	**Montecristo**	**0.30**	**233**	*eP*	**Pg**	**10 08 31.0**	**+0.1**
MTO3				*eS*	**Sg**	**10 08 34.8**	**-0.1**
MTO3	**Montecristo**	**0.30**	**233**	P	**Pg**	**10 08 31.1**	**+0.1**
MTO3	**Montecristo**	**0.30**	**233**	P	**Pg**	**10 08 31.0**	**+0.1**
MTO3	**Montecristo**	**0.30**	**233**	P	**Pg**	**10 08 31.1**	**+0.1**
MTO3	**Montecristo**	**0.30**	**233**	*eP*		10 08 31.0	
LLGN	**La Laguna**	**0.45**	**158**	*eP*	**Pg**	**10 08 33.7**	**+0.1**
LLGN				*eS*	**Sg**	**10 08 39.8**	**+0.2**
LLGN				IAML		10 08 40.4	
	comp=Z,4μm,0.2s						
LLGN	**La Laguna**	**0.45**	**158**	P	**Pn**	**10 08 40.0**	**+2.6**
LLGN	**La Laguna**	**0.45**	**158**	P	**Pg**	**10 08 33.8**	**+0.1**
LLGN	**La Laguna**	**0.45**	**158**	P	**Pg**	**10 08 33.7**	**+0.1**
JUAM	**Asuncion Mita**	**0.62**	**247**	*eP*		10 08 36.8	
JUAM				*i* S		10 08 45.0	
UNIC	**Universidad Ca**	**0.73**	**215**	P	**Pg**	**10 08 38.7**	**-0.2**
UNIC	**Universidad Ca**	**0.73**	**215**	P	**Pg**	**10 08 38.5**	**-0.4**
UNIC	**Universidad Ca**	**0.73**	**215**	S	**Sg**	**10 08 47.7**	**-0.7**
UNIC	**Universidad Ca**	**0.73**	**215**	P	**Pg**	**10 08 38.6**	**-0.2**
CEDA	**San Andres**	**0.82**	**199**	*eP*	**Pg**	**10 08 40.3**	**-0.3**
CEDA				IAML		10 08 59.7	
	comp=Z,267nm,0.2s						
SLOZ	**Alcaldia de Sa**	**0.85**	**230**	*eP*	**Pg**	**10 08 41.0**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.85**	**230**	P	**Pb**	**10 08 41.7**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.85**	**230**	P	**Pg**	**10 08 41.1**	**-0.2**
SLOZ	**Alcaldia de Sa**	**0.85**	**230**	S	**Sg**	**10 08 51.8**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.85**	**230**	P	**Pg**	**10 08 41.0**	**-0.2**
RTR	**El Retiro**	**0.85**	**217**	*eP*	**Pg**	**10 08 41.3**	**+0.1**
BOQS	**Boqueron**	**0.85**	**191**	*eP*	**Pg**	**10 08 41.4**	**0.0**
UDBS	**Universidad Do**	**0.86**	**182**	S	**Sg**	**10 08 52.2**	**-0.5**
UDBS	**Universidad Do**	**0.86**	**182**	P	**Pg**	**10 08 41.2**	**-0.2**
UDBS	**Universidad Do**	**0.86**	**182**	P	**Pg**	**10 08 41.3**	**-0.2**
LOAL	**Lomas de Alarc**	**0.86**	**228**	*eP*	**Pg**	**10 08 41.5**	**0.0**
LOAL	**Lomas de Alarc**	**0.86**	**228**	S	**Sg**	**10 08 52.8**	**+0.1**
LOAL	**Lomas de Alarc**	**0.86**	**228**	P	**Pg**	**10 08 41.6**	**0.0**
LOAL	**Lomas de Alarc**	**0.86**	**228**	P	**Pg**	**10 08 41.7**	**+0.2**
UEES	**Universidad Ev**	**0.86**	**188**	P	**Pg**	**10 08 41.6**	**0.0**
UEES	**Universidad Ev**	**0.86**	**188**	P	**Pg**	**10 08 41.3**	**-0.2**
UEES	**Universidad Ev**	**0.86**	**188**	S	**Sg**	**10 08 52.5**	**-0.3**
UEES	**Universidad Ev**	**0.86**	**188**	P	**Pg**	**10 08 41.4**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**169**	*eP*	**Pg**	**10 08 41.7**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**169**	P	**Pg**	**10 08 41.9**	**+0.1**
PAVA	**Las Pavas**	**0.88**	**169**	S	**Sg**	**10 08 53.0**	**-0.2**
PAVA	**Las Pavas**	**0.88**	**169**	P	**Pg**	**10 08 41.7**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**169**	P	**Pg**	**10 08 41.6**	**-0.1**
PMON	**Piamonte**	**0.88**	**193**	*eP*	**Pg**	**10 08 41.6**	**-0.2**
PMON	**Piamonte**	**0.88**	**193**	P	**Pg**	**10 08 41.9**	**+0.1**
PMON	**Piamonte**	**0.88**	**193**	P	**Pg**	**10 08 41.7**	**-0.2**
PMON	**Piamonte**	**0.88**	**193**	P	**Pg**	**10 08 41.7**	**-0.2**
SBLS	**San Blas**	**0.88**	**214**	*eP*	**Pg**	**10 08 41.8**	**-0.2**
LOMA	**Loma Larga**	**0.93**	**183**	*eP*	**Pg**	**10 08 42.5**	**-0.2**
LOMA	**Loma Larga**	**0.93**	**183**	S	**Sg**	**10 08 54.7**	**-0.2**
LOMA	**Loma Larga**	**0.93**	**183**	P	**Pg**	**10 08 42.7**	**-0.1**
LOMA	**Loma Larga**	**0.93**	**183**	P	**Pg**	**10 08 42.6**	**-0.2**
NUBE	**Las Nubes**	**0.93**	**224**	*eP*	**Pg**	**10 08 42.5**	**-0.3**
NUBE	**Las Nubes**	**0.93**	**224**	P	**Pg**	**10 08 42.8**	**0.0**
NUBE	**Las Nubes**	**0.93**	**224**	S	**Sg**	**10 08 54.5**	**-0.5**
NUBE	**Las Nubes**	**0.93**	**224**	P	**Pg**	**10 08 41.6**	**-1.2**
NUBE	**Las Nubes**	**0.93**	**224**	*eP*		10 08 42.5	
NUBE				*i* S		10 08 54.8	
SCLA	**Alcaldia de Sa**	**0.95**	**157**	*eP*	**Pg**	**10 08 43.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.95**	**157**	P	**Sg**	**10 08 54.1**	**-1.4**
SCLA	**Alcaldia de Sa**	**0.95**	**157**	P	**Pg**	**10 08 43.1**	**0.0**
SCLA	**Alcaldia de Sa**	**0.95**	**157**	S	**Sg**	**10 08 55.8**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.95**	**157**	P	**Pb**	**10 08 43.3**	**-0.1**
PANCS	**Alcalda de**	**0.96**	**184**	P	**Pg**	**10 08 43.0**	**-0.4**
JAYA	**Jayaque - finc**	**0.97**	**199**	*eP*	**Pg**	**10 08 43.2**	**-0.4**
JAYA	**Jayaque - finc**	**0.97**	**199**	S	**Sg**	**10 08 56.1**	**-0.2**
JAYA	**Jayaque - finc**	**0.97**	**199**	P	**Pg**	**10 08 43.3**	**-0.4**
JAYA	**Jayaque - finc**	**0.97**	**199**	P	**Pg**	**10 08 43.2**	**-0.4**
JAYA	**Jayaque - finc**	**0.97**	**199**	*eP*		10 08 43.2	
COEG	**Centro de Oper**	**0.98**	**166**	*eP*	**Pg**	**10 08 43.4**	**-0.4**
COEG				IAML		10 09 00.4	
	comp=Z,458nm,0.4s						
COEG	**Centro de Oper**	**0.98**	**166**	P	**Pg**	**10 08 41.9**	**-1.8**
COEG	**Centro de Oper**	**0.98**	**166**	P	**Pg**	**10 08 43.5**	**-0.2**
COEG	**Centro de Oper**	**0.98**	**166**	S	**Sg**	**10 08 56.5**	**0.0**
COEG	**Centro de Oper**	**0.98**	**166**	P	**Pg**	**10 08 43.5**	**-0.2**
UESV	**Universidad de**	**0.99**	**161**	S	**Sg**	**10 08 56.8**	**0.0**
UESV	**Universidad de**	**0.99**	**161**	P	**Pg**	**10 08 43.6**	**-0.3**
UESV	**Universidad de**	**0.99**	**161**	P	**Pg**	**10 08 43.5**	**-0.4**
TECO	**Alcaldia de Te**	**1.08**	**162**	*eP*	**Pg**	**10 08 45.0**	**-0.7**
TECO	**Alcaldia de Te**	**1.08**	**162**	P	**Pg**	**10 08 45.2**	**-0.5**
TECO	**Alcaldia de Te**	**1.08**	**162**	S	**Sg**	**10 08 59.5**	**-0.3**
TECO	**Alcaldia de Te**	**1.08**	**162**	P	**Pg**	**10 08 45.0**	**-0.7**
PQSS	**Presa 15 de Se**	**1.09**	**150**	*eP*	**Pb**	**10 08 45.3**	**-0.5**
PQSS	**Presa 15 de Se**	**1.09**	**150**	P	**Pb**	**10 08 45.5**	**-0.3**
PQSS	**Presa 15 de Se**	**1.09**	**150**	P	**Pb**	**10 08 45.3**	**-0.5**
PQSS	**Presa 15 de Se**	**1.09**	**150**	S	**Sg**	**10 08 59.9**	**-0.1**
PQSS	**Presa 15 de Se**	**1.09**	**150**	P	**Pb**	**10 08 45.4**	**-0.5**
LALI	**Alcalda de L**	**1.10**	**190**	*eP*	**Pb**	**10 08 45.6**	**-0.4**
LALI	**Alcalda de L**	**1.10**	**190**	S	**Sg**	**10 08 59.6**	**-0.8**
LALI	**Alcalda de L**	**1.10**	**190**	P	**Pb**	**10 08 45.8**	**-0.2**
LALI	**Alcalda de L**	**1.10**	**190**	P	**Pb**	**10 08 44.8**	**-1.2**
LALI	**Alcalda de L**	**1.10**	**190**	*eP*		10 08 45.6	
CAHU	**Cacacuatique**	**1.19**	**132**	*eP*	**Pb**	**10 08 47.6**	**0.0**
TECA	**Tecapa**	**1.23**	**151**	*eP*	**Pn**	**10 08 48.2**	**-0.1**
PACA	**Pacayal**	**1.34**	**145**	*eP*	**Pb**	**10 08 50.2**	**0.0**
PACA	**Pacayal**	**1.34**	**145**	S	**Sg**	**10 09 08.4**	**+0.2**
PACA	**Pacayal**	**1.34**	**145**	P	**Pn**	**10 08 49.7**	**-0.1**
PACA	**Pacayal**	**1.34**	**145**	P	**Pg**	**10 08 50.8**	**+0.1**
BLLM	**Bellamira**	**1.42**	**143**	*eP*	**Pb**	**10 08 51.5**	**+0.1**
COMHN	**El Horno**	**1.52**	**95**	P	**Pb**	**10 08 53.3**	**+0.1**
COMHN	**El Horno**	**1.52**	**95**	S	**Sg**	**10 09 13.7**	**0.0**
COMHN	**El Horno**	**1.52**	**95**	P	**Pb**	**10 08 53.2**	**+0.1**
COMHN	**El Horno**	**1.52**	**95**	P	**Pb**	**10 08 53.0**	**-0.2**
NISHN	**Nisperales Com**	**1.68**	**45**	P	**Pg**	**10 08 56.5**	**-0.6**
NISHN	**Nisperales Com**	**1.68**	**45**	*eP*		10 08 56.3	
NISHN				*i* S		10 09 20.0	
LCND	**La Caada**	**1.73**	**136**	*eP*	**Pb**	**10 08 56.3**	**-0.5**
LCND				IAML		10 09 22.2	
	comp=Z,282nm,0.4s						
LCND	**La Caada**	**1.73**	**136**	P	**Pb**	**10 08 56.6**	**-0.2**
LCND	**La Caada**	**1.73**	**136**	S	**Sb**	**10 09 19.4**	**+0.7**
LCND	**La Caada**	**1.73**	**136**	P	**Pb**	**10 08 56.5**	**-0.4**
CNCH	**Conchagua**	**1.80**	**136**	*eP*	**Pb**	**10 08 57.8**	**-0.1**
QUIS	**Sacapulas**	**2.04**	**291**	*i* P		10 09 01.8	
CHOHN	**Orocuina**	**2.19**	**120**	S	**Sb**	**10 09 31.7**	**-0.3**
CHOHN	**Orocuina**	**2.19**	**120**	P	**Pb**	**10 09 03.6**	**-1.0**
CHOHN	**Orocuina**	**2.19**	**120**	P	**Pb**	**10 09 04.4**	**-0.3**
CNGA	**Al SSO del Vol**	**3.13**	**131**	P	**Pn**	**10 09 14.7**	**+0.3**

---

*IDC **10** 10:12:44.6±0.8, 9°91N×126°49E, h0km, mb3.9/14, mbtmp3.9/14, MS3.2/1, Error ellipse: s-maj=33.6km s-min=17.2km az=74.0*
ISC 10 10:12:50.6±0.8, 9°9N±0°1×126°5E±0°2, h42km, n18, σ0°79/14, mb3.8/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**18.77**	**130**	LR	LR	10 23 38.0	
	comp=Z,62nm,18.9s,baz=336,slow=35						
FITZ	**Fitzroy Crossi**	**27.79**	**182**	P	**P**	**10 18 36.6**	**+0.8**
	7.4nm,1.1s,baz=3.7,slow=8.5,SNR=3.7						
	7.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.98**	**291**	P	**P**	**10 18 38.4**	**+0.6**
	0.3nm,0.4s,baz=101,slow=7.4,SNR=4.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**30.61**	**165**	P	**P**	**10 19 02.0**	**+1.1**
	0.3nm,0.7s,baz=339,slow=7.6,SNR=1.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**34.10**	**168**	P	**P**	**10 19 30.6**	**-0.9**
	0.2nm,0.5s,baz=348,slow=7.0,SNR=6.7						
	0.2nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	11 03 46.4	
	baz=265,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.22**	**71**	T	T	11 03 46.1	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.23**	**71**	T	T	11 03 47.0	
	baz=265,slow=74,SNR=9.4						
SONM	**Songino Array**	**41.47**	**340**	P	**P**	**10 20 34.3**	**+0.7**
	0.5nm,0.5s,baz=159,slow=7.7,SNR=4.6						
	0.5nm,0.5s						
PETK	**Petropavlovsk-**	**49.94**	**24**	P	**P**	**10 21 40.2**	**0.0**
	8.5nm,1.1s,baz=194,slow=4.3,SNR=5.0						
	8.5nm,1.1s						
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**10 21 59.1**	**-0.2**
	0.6nm,0.6s,baz=121,slow=7.7,SNR=7.7						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**56.52**	**325**	P	**P**	**10 22 28.1**	**-0.5**
	0.6nm,0.7s,baz=122,slow=6.8,SNR=7.0						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**62.11**	**325**	P	**P**	**10 23 06.9**	**-0.3**
	0.3nm,0.4s,baz=103,slow=5.2,SNR=2.2						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**79.73**	**26**	P	**P**	**10 24 53.6**	**-0.3**
	0.2nm,0.7s,baz=240,slow=5.2,SNR=5.0						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**84.64**	**340**	P	**P**	**10 25 19.4**	**-0.2**
	1.2nm,0.6s,baz=46,slow=5.2,SNR=5.5						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**86.34**	**332**	P	**P**	**10 25 27.4**	**-0.7**
	3.8nm,1.0s,baz=58,slow=5.0,SNR=5.7						
	3.8nm,1.0s						
HFS	**Hagfors**	**92.50**	**332**	P	**P**	**10 25 55.9**	**-1.3**
	5.4nm,1.1s,baz=101,slow=6.0,SNR=1.1						
	5.4nm,1.1s						
YKA	**Yellowknife Ar**	**94.06**	**24**	P	**P**	**10 26 05.1**	**+0.8**
	0.5nm,0.8s,baz=298,slow=4.6,SNR=7.2						
	0.5nm,0.8s						

---

*IDC **10** 10:24:34.4±0.8, 9°69N×126°33E, h0km, mb4.1/14, mbtmp4.1/15, ML3.9/1, MS2.9/6, Error ellipse: s-maj=39.6km s-min=15.0km az=79.0*
*NEIC **10** 10:24:36.2±0.8, 9°76N±0°07×126°4E±0°1, h10km±1km, mb4.4/13, Error ellipse: s-maj=20.9km s-min=8.8km az=60.0*
ISC 10 10:24:40.2±0.6, 9°64N±0°08×126°3E±0°1, h43km, n42, σ0°63/34, mb4.2/21, MS2.9/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.66**	**196**	Pn	**Pn**	**10 25 20.5**	**-0.2**
DAV	**Davao City (W)**	**2.66**	**196**	Pn	**Pn**	**10 25 20.7**	**0.0**
	22nm,0.3s,baz=57,slow=20,SNR=1.5						
DAV				LR	LR	10 26 02.1	
	comp=Z,63nm,19.3s,baz=22,slow=32						
	116nm,0.4s						
MYLDM	**Lahad Datu**	**8.94**	**241**	Pn	**Pn**	**10 26 46.9**	**0.0**
FAKI	**Fak Fak**	**13.80**	**154**	Pn	**Pn**	**10 27 53.5**	**+0.1**
KAPI	**Kappang**	**15.97**	**205**	LR	LR	10 35 12.8	
	comp=Z,53nm,18.9s,baz=59,slow=40						
MTN	**Manton Dam**	**22.84**	**168**	P	**P**	**10 29 39.9**	**-0.1**
JNU	**Nakatsue**	**23.74**	**10**	LR	LR	10 37 47.2	
	comp=Z,30nm,21.4s,baz=156,slow=34						
KNRA	**Kununurra**	**25.27**	**174**	P	**P**	**10 30 04.0**	**+1.3**
KNRA				IAmb	IAmb	10 30 14.5	
	comp=Z,25nm,1.4s						
JHJ	**Hachijo jima 2**	**26.45**	**26**	LR	LR	10 40 41.7	
	comp=Z,34nm,19.6s,baz=88,slow=37						
FITZ	**Fitzroy Crossi**	**27.57**	**181**	P	**P**	**10 30 24.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.57**	**181**	P	**P**	**10 30 24.3**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=43,slow=12,SNR=6.4						
	comp=Z,4.7nm,0.7s						
KSRS	**Korea Array**	**27.73**	**3**	LR	LR	10 43 41.0	
	comp=Z,20nm,18.1s,baz=150,slow=41						
CMAR	**Chiang Mai Arr**	**27.94**	**291**	P	**P**	**10 30 26.9**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=109,slow=8.4,SNR=2.0						
CMAR				LR	LR	10 43 06.7	
	comp=Z,36nm,18.4s,baz=120,slow=40						
	comp=Z,1.6nm,0.3s						
COEN	**Coen**	**28.80**	**144**	P	**P**	**10 30 33.1**	**-1.3**
COEN				IAmb	IAmb	10 31 01.9	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**30.44**	**165**	P	**P**	**10 30 49.1**	**+0.2**
WRA	**Warramunga Arr**	**30.44**	**165**	P	**P**	**10 30 49.5**	**+0.6**
	comp=Z,0.6nm,1.2s,baz=341,slow=7.7,SNR=1.4						
	comp=Z,0.6nm,1.2s						
WB2	**Warramunga Arr**	**30.44**	**165**	P	**P**	**10 30 49.4**	**+0.5**
WB2				IAmb	IAmb	10 31 03.6	
	comp=Z,15nm,1.5s						
AS31	**Alice Springs**	**33.92**	**167**	P	**P**	**10 31 19.7**	**+0.2**
AS31				IAmb	IAmb	10 31 39.8	
	comp=Z,1.9nm,1.5s						
ASAR	**Alice Springs**	**33.92**	**167**	P	**P**	**10 31 19.8**	**+0.3**
ASAR	**Alice Springs**	**33.92**	**167**	P	**P**	**10 31 18.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=344,slow=7.3,SNR=11						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.78**	**7**	P	**P**	**10 31 27.5**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=186,slow=10,SNR=4.7						
	comp=Z,1.8nm,0.9s						
JKA	**Kamikawa-asahi**	**37.13**	**20**	P	**P**	**10 31 46.7**	**-0.1**
JKA				IAmb	IAmb	10 32 27.1	
	comp=Z,21nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.40**	**71**	T	T	11 15 37.0	
	baz=265,slow=74,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.41**	**71**	T	T	11 15 38.9	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.42**	**71**	T	T	11 15 37.2	
	baz=265,slow=74,SNR=14						
SONM	**Songino Array**	**41.62**	**340**	P	**P**	**10 32 24.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=155,slow=8.6,SNR=3.0						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**52.56**	**323**	P	**P**	**10 33 49.4**	**-0.1**
MKAR	**Makanchi Array**	**52.56**	**323**	P	**P**	**10 33 48.6**	**-0.9**
MKAR	**Makanchi Array**	**52.56**	**323**	P	**P**	**10 33 49.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=119,slow=7.6,SNR=12						
	comp=Z,1.2nm,0.7s						
MAKZ	**Makanchi**	**52.75**	**323**	P	**P**	**10 33 49.9**	**-1.0**
MAKZ				IAmb	IAmb	10 33 52.5	
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**55.20**	**332**	P	**P**	**10 34 07.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=155,slow=4.4,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**56.62**	**326**	P	**P**	**10 34 18.7**	**-0.1**
	comp=Z,1.9nm,0.2s,baz=125,slow=7.2,SNR=2.5						
	comp=Z,1.9nm,0.2s						
BRVK	**Borovoye**	**62.28**	**326**	P	**P**	**10 34 57.1**	**-0.8**
BRVK				IAmb	IAmb	10 34 58.5	
	comp=Z,3.3nm,1.2s						
NRIK	**Norilʼsk**	**64.63**	**346**	P	**P**	**10 35 13.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=144,slow=5.4,SNR=1.6						
	comp=Z,0.7nm,0.3s						
RPZ	**Rata Peaks**	**66.83**	**146**	P	**P**	**10 35 28.1**	**+0.4**
BKZ	**Black Stump Fm**	**67.27**	**140**	P	**P**	**10 35 31.3**	**+0.7**
ABKAR	**Akbulak array**	**67.39**	**319**	P	**P**	**10 35 31.1**	**-0.1**
ARCES	**ARCESS Array B**	**84.80**	**340**	P	**P**	**10 37 09.7**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=78,slow=6.3,SNR=9.4						
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**86.47**	**332**	P	**P**	**10 37 18.8**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=51,slow=5.5,SNR=8.3						
	comp=Z,2.1nm,0.8s						
HFS	**Hagfors**	**92.63**	**332**	P	**P**	**10 37 46.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=72,slow=4.7,SNR=0.8						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**10 37 55.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=298,slow=4.7,SNR=9.9						
	comp=Z,0.5nm,0.7s						
VRAC	**Vranov**	**95.28**	**322**	LR	LR	11 22 23.2	
	comp=Z,1μm,19.8s,baz=111,slow=36						

---

*IDC **10** 10:29:51.9±1.2, 3°01S×126°62E, h0km, mb3.4/4, mbtmp3.6/7, ML3.7/3, Error ellipse: s-maj=44.7km s-min=20.7km az=76.0*
ISC 10 10:29:56.3±1.0, 3°05S±0°10×126°6E±0°2, h32km, n7, σ0°52/8, mb3.4/4, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.08**	**254**	Pn	**Pn**	**10 31 37.4**	**-0.4**
	1.7nm,0.3s,baz=49,slow=19,SNR=4.5						
	2.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.98**	**183**	Pn	**Pn**	**10 33 26.6**	**+0.7**
	0.2nm,0.3s,baz=12,slow=15,SNR=5.4						
	3.7nm,1.1s						
WRA	**Warramunga Arr**	**18.42**	**156**	P	**Pn**	**10 34 09.4**	**0.0**
	0.3nm,0.3s,baz=330,slow=12,SNR=10						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**21.69**	**162**	P	**P**	**10 34 44.2**	**-0.5**
	0.7nm,0.5s,baz=344,slow=12,SNR=13						
ASAR				S	**S**	**10 38 43.1**	**-0.2**
	1.0nm,1.0s,baz=337,slow=20,SNR=5.0						
	0.7nm,0.5s						
KSRS	**Korea Array**	**40.32**	**2**	P	**P**	**10 37 30.4**	**-0.4**
	0.7nm,0.7s,baz=172,slow=9.5,SNR=2.5						
	0.7nm,0.7s						
SONM	**Songino Array**	**53.67**	**343**	P	**P**	**10 39 15.4**	**+0.3**
	0.7nm,0.8s,baz=166,slow=7.2,SNR=4.5						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**63.08**	**327**	P	**P**	**10 40 21.1**	**+0.4**
	0.2nm,0.8s,baz=116,slow=6.6,SNR=4.1						
	0.2nm,0.8s						

---

*RSNC **10** 10:30:29.6±0.4, 9°N±3°×7°9W±°, h63km±13km, M2.8, mb4.1, mB5.2, ML2.7, Mw(mB)4.6*
ISC 10 10:30:29.3±1.1, 9°28N±0°06×78°60W±0°04, h85km±21km, n19, σ1°75/30, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**1.23**	**265**	P	**Pn**	**10 30 51.5**	**+0.2**
BCIP				S	**Sn**	**10 31 07.6**	**-0.4**
BCIP	**Isla Barro Col**	**1.23**	**265**	P		10 30 51.5	
BCIP				S		10 31 07.6	
CAPC	**Capurgana**	**1.39**	**117**	P	**Pn**	**10 30 53.0**	**-0.4**
CAPC				S	**Sn**	**10 31 11.2**	**-0.5**
CAPC	**Capurgana**	**1.39**	**117**	P		10 30 53.0	
CAPC				S		10 31 11.2	
AZU	**Azuero**	**2.22**	**228**	P	**Pn**	**10 31 04.3**	**+0.1**
AZU				S	**Sn**	**10 31 30.1**	**-0.9**
AZU	**Azuero**	**2.22**	**228**	P		10 31 04.3	
AZU				S		10 31 30.1	
LCBC	**Los crdobas,**	**2.25**	**101**	P	**Pn**	**10 31 05.8**	**+1.2**
LCBC				S	**Sn**	**10 31 30.0**	**-1.6**
LCBC	**Los crdobas,**	**2.25**	**101**	P		10 31 05.8	
LCBC				S		10 31 30.0	
PTAC	**Punta Ardita,**	**2.26**	**160**	P	**Pn**	**10 31 03.8**	**-1.0**
PTAC				S	**Sn**	**10 31 29.6**	**-2.4**
PTAC	**Punta Ardita,**	**2.26**	**160**	P		10 31 03.8	
PTAC				S		10 31 29.6	
APAC	**Apartado, Choc**	**2.42**	**124**	P	**Pn**	**10 31 09.1**	**+2.1**
APAC				S	**Sn**	**10 31 41.5**	**+5.6**
APAC	**Apartado, Choc**	**2.42**	**124**	P		10 31 09.1	
APAC				S		10 31 41.5	
GMAL	**Guarumal, Vera**	**3.01**	**240**	P	**Pn**	**10 31 15.4**	**+0.6**
GMAL	**Guarumal, Vera**	**3.01**	**240**	P		10 31 15.4	
SOLC	**Bahia Solano**	**3.26**	**159**	P	Pn	10 31 26.6	+8.4
SOLC	**Bahia Solano**	**3.26**	**159**	P		10 31 26.6	
UREC	**San Jos de Ur**	**3.39**	**116**	P	**Pn**	**10 31 20.1**	**0.0**
UREC				S	**Sn**	**10 31 58.5**	**-0.8**
UREC	**San Jos de Ur**	**3.39**	**116**	P		10 31 20.1	
UREC				S		10 31 58.5	
SJCC	**San Jacinto, C**	**3.43**	**79**	P	**Pn**	**10 31 21.1**	**+0.5**
SJCC				S	**Sn**	**10 31 56.2**	**-4.1**
SJCC	**San Jacinto, C**	**3.43**	**79**	P		10 31 21.1	
SJCC				S		10 31 56.2	
ZARC	**Zaragoza, Cauc**	**4.11**	**115**	P	**Pn**	**10 31 30.0**	**+0.2**
ZARC				S	**Sn**	**10 32 14.1**	**-2.6**
ZARC	**Zaragoza, Cauc**	**4.11**	**115**	P		10 31 30.0	
ZARC				S		10 32 14.1	
CBOC

KONS				IAML		10 49 09.3	
	comp=Z,3.1nm,0.6s						
FAUS	**Fauske**	**7.87**	**112**	*eP*	**Pn**	**10 49 08.0**	**-2.1**
FAUS				IAML		10 49 11.2	
	comp=Z,3.5nm,0.4s						
STOK	**Stokkvaagen**	**7.96**	**122**	Pn	**Pn**	**10 49 09.4**	**-2.0**
STOK				Sn	Sn	10 50 30.7	-11
STOK	**Stokkvaagen**	**7.96**	**122**	*eP*	**Pn**	**10 49 09.3**	**-2.0**
STOK				IAML		10 49 12.3	
	comp=Z,4.0nm,0.6s						
STOK				*eS*	Sn	10 50 30.9	-10
BRBB	**Barentsburg B**	**8.09**	**27**	*eP*	**Pn**	**10 49 13.7**	**+0.5**
LEIR	**Leirfjorden**	**8.15**	**123**	*eP*	**Pn**	**10 49 12.2**	**-1.8**
LEIR				IAML		10 49 14.8	
	comp=Z,3.1nm,0.6s						
LEIR				*eS*	Sn	10 50 35.1	-11
JETT	**Jettan, Norway**	**8.30**	**92**	Pn	**Pn**	**10 49 12.7**	**-3.4**
JETT				Sn	Sn	10 50 38.8	-11
JETT	**Jettan, Norway**	**8.30**	**92**	Pn	**Pn**	**10 49 12.7**	**-3.4**
JETT				Sn	Sn	10 50 38.8	-11
KBS	**Kingsbay**	**8.43**	**21**	*eP*	**Pn**	**10 49 17.7**	**-0.2**
KBS	**Kingsbay**	**8.43**	**21**	*i S*	**Sn**	**10 50 57.9**	**+5.0**
MOR8	**Moi Rana**	**8.47**	**120**	Pn	**Pn**	**10 49 17.4**	**-1.0**
MOR8	**Moi Rana**	**8.47**	**120**	*eP*	**Pn**	**10 49 17.0**	**-1.3**
MOR8				IAML		10 49 21.5	
	comp=Z,3.0nm,0.6s						
MOR8				*eS*	Sn	10 50 43.8	-10
SPA0	**Spitsbergen Ar**	**8.47**	**29**	Pn	**Pn**	**10 49 18.4**	**-0.1**
	baz=207,slow=18						
SPA0	**Spitsbergen Ar**	**8.47**	**29**	Pn	**Pn**	**10 49 18.4**	**-0.1**
	baz=207,slow=18						
SPITS	**Spitsbergen Ar**	**8.47**	**29**	Pn	**Pn**	**10 49 18.4**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=206,slow=15,SNR=59						
SPITS				Sn	Sn	10 50 32.5	-21
	baz=146,slow=18						
KIF	**Kilpisjarvi**	**8.67**	**95**	Pn	**Pn**	**10 49 17.7**	**-3.3**
KIF	**Kilpisjarvi**	**8.67**	**95**	*eP*	**Pn**	**10 49 18.1**	**-3.0**
SALU	**Saltoluokta**	**8.84**	**107**	*eP*	**Pn**	**10 49 21.2**	**-2.2**
KTK1	**Kautokeino**	**9.44**	**92**	*eP*	**Pn**	**10 49 28.8**	**-2.9**
HEF	**Hetta**	**9.87**	**95**	Pn	**Pn**	**10 49 34.7**	**-2.9**
HEF	**Hetta**	**9.87**	**95**	*eP*	**Pn**	**10 49 33.8**	**-3.8**
ARA0	**ARCESS Array S**	**9.93**	**87**	Pn	**Pn**	**10 49 35.0**	**-3.5**
	baz=288,slow=12						
ARA0	**ARCESS Array S**	**9.93**	**87**	Pn	**Pn**	**10 49 35.0**	**-3.5**
	baz=288,slow=12						
ARCES	**ARCESS Array B**	**9.93**	**87**	Pn	Pn	10 49 33.7	-4.7
	comp=Z,0.2nm,0.3s,baz=287,slow=12,SNR=14						
ARCES				LR	LR	10 52 43.4	
	comp=Z,77nm,19.3s,baz=356,slow=36						
	comp=Z,1.0nm,0.4s						
AKN	**Aaknes**	**10.26**	**150**	Pn	**Pn**	**10 49 44.8**	**+1.9**
AKN	**Aaknes**	**10.26**	**150**	Pn	**Pn**	**10 49 44.8**	**+1.9**
KEV	**Kevo**	**10.32**	**85**	*eP*	**Pn**	**10 49 40.8**	**-2.9**
NOA	**NORSAR Array B**	**12.06**	**143**	Pn	**Pn**	**10 50 07.6**	**0.0**
	baz=333,slow=14,SNR=1.3						
NOA				LR	LR	10 54 33.2	
	comp=Z,79nm,20.9s,baz=330,slow=37						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**13.39**	**139**	Pn	**Pn**	**10 50 26.1**	**+0.5**
	baz=336,slow=14						
HFS	**Hagfors**	**13.39**	**139**	Pn	**Pn**	**10 50 26.1**	**+0.5**
	baz=336,slow=14						
HFS	**Hagfors**	**13.39**	**139**	Pn	**Pn**	**10 50 25.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=346,slow=12,SNR=13						
HFS				LR	LR	10 55 13.3	
	comp=Z,95nm,21.2s,baz=340,slow=37						
	comp=Z,1.6nm,0.5s						
FIA0	**FINESS Array S**	**15.40**	**116**	P	**Pn**	**10 50 50.5**	**-2.4**
	baz=330,slow=12						
FIA0	**FINESS Array S**	**15.40**	**116**	P	**Pn**	**10 50 50.5**	**-2.4**
	baz=330,slow=12						
FINES	**FINESS Array B**	**15.40**	**116**	Pn	**Pn**	**10 50 49.0**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=312,slow=11,SNR=4.6						
FINES				LR	LR	10 55 55.6	
	comp=Z,91nm,18.6s,baz=12,slow=35						
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**25.64**	**127**	P	**P**	**10 52 45.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=337,slow=9.3,SNR=4.1						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**36.99**	**129**	P	**P**	**10 54 27.3**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=332,slow=7.0,SNR=5.0						
	comp=Z,0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**40.75**	**75**	P	**P**	**10 54 56.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=333,slow=7.3,SNR=2.8						
	comp=Z,0.4nm,0.8s						
MKAR	**Makanchi Array**	**45.30**	**75**	P	**P**	**10 55 33.2**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=344,slow=8.3,SNR=1.7						
	comp=Z,0.2nm,0.6s						

IDC ***10*** *10:54:45.8±0.4,26°.97N×55°.66E,h0km,mb4.8/42, mbtmp4.9/49,ML4.8/7,MS4.9/76,Error ellipse: s-maj=11.5km s-min=9.1km az=17.0*

MOS ***10*** *10:54:46.0±1.0,27°.03N×55°.64E,h11km,mb5.3/84, MS4.8/27,Error ellipse: s-maj=4.2km s-min=3.0km az=104.2*

BJI ***10*** *10:54:47.0,27°.00N×55°.70E,h10km,mB5.3/46,mb5.0/83, Ms5.4/86,Ms7 5.2/84*

GCMT ***10*** *10:54:48.3±0.1,26°.94N±0°.01×55°.54E±0°.01,h12km, MW5.5/142,Moment Tensor Solution. s118,c187; s142,c270; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.02; Mθθ=0.94±.03; Mφφ 1.11±.03; Mrθ 0.47±.06; Mθφ 1.64±.02; Mφr 0.13±.06; Best double couple: M0 1.99700×10^17 NP1:ϕs=344.00000°,δ76.00000°, λ=178.00000°. NP2:ϕs=254.00000°,δ88.00000°, λ=14.00000°. Principal axes: T 2.0700, Plg9.0000°, Azm300.0000°; N -0.1440, Plg75.0000°, Azm66.0000°; P -1.9240, Plg11.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *10:54:48.3,27°.18N×55°.43E,h22km,Moment Tensor Solution. Duration: 2§6 Moment tensor: Scale 10^17Nm; Mrr=0.06; Mθθ=0.65; Mφφ 0.72; Mrθ 0.30; Mθφ 1.72; Mφr 0.06; Fault plane solution: M0 1.88000×10^17 NP1: ϕs=349.18000°,δ80.56000°,λ=179.47000°. NP2: ϕs=259.10000°,δ89.48000°,λ=9.44000°. Principal axes: T 1.9069, Plg6.0000°, Azm305.0000°; N -0.0586, Plg81.0000°, Azm76.0000°; P -1.8483, Plg7.0000°, Azm214.0000°;*

NEIC ***10*** *10:54:48.3±1.3,27°.09N±0°.06×55°.55E±0°.07,h10km±1km, mb5.2/163,Mwb5.3/25,Mww5.4/28 Error ellipse: s-maj=11.2km s-min=10.9km az=127.0,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.03; Mθθ=0.46; Mφφ=0.43; Mrθ=0.07; Mθφ 1.05; Mφr=0.20; Fault plane solution: M0 1.16000×10^17 NP1:ϕs=78.40000°, δ79.49000°,λ=0.80000°. NP2:ϕs=168.54000°,δ89.21000°, λ=169.49000°. Principal axes: T 1.1353, Plg7.0000°, Azm303.0000°; N 0.0402, Plg79.0000°, Azm173.0000°; P -1.1755, Plg8.0000°, Azm34.0000°;*

DSN ***10*** *10:54:48.6±0.5,27°.04N×55°.58E,h10km,mb5.8/4, ML5.5/11 Error ellipse: s-maj=7.5km s-min=4.5km az=62.0*

TEH ***10*** *10:54:48.5,26°.96N×55°.67E,h20km±135km*

OMAN ***10*** *10:54:48.5±0.3,26°.96N×55°.65E,h10km,mb5.7/24, ml5.6/28,ms5.3/9,Mwp5.4/28,Error ellipse: s-maj=2.9km s-min=2.3km az=48.0*

NEIC ***10*** *10:54:48.3,27°.08N×55°.54E,h10km*

NEIC ***10*** *10:54:48.3,27°.08N×55°.54E,h22km*

ISC 10:54:47.8±0.4,27°.08N±0°.02×55°.63E±0°.02,h10km±2km, h10km:pP-P,n1207,σ1§48/1355,mb5.1/269,MS5.0/131, 56C-38D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.89**	**66**	Pg	**Pn**	**10 55 05.4**	**-1.0**
IBND				Sg	**Sn**	**10 55 19.4**	**0.0**
SHME	**Shamm**	**1.13**	**156**	P	**Pg**	**10 55 08.8**	**-0.6**
	SNR=2273						
SHME				P	**Pg**	**10 55 08.8**	**-0.6**
	SNR=2273						
SHME				S	**Sg**	**10 55 23.4**	**-0.7**
SHME				S	**Sg**	**10 55 23.4**	**-0.7**
SHME	**Shamm**	**1.13**	**156**	P	**Pg**	**10 55 09.0**	**-0.4**
SHME				S	**Sn**	**10 55 25.7**	**+0.5**
BANOM	**Banah**	**1.30**	**152**	P	**Pn**	**10 55 12.4**	**+0.3**
BANOM				S	**Sb**	**10 55 28.3**	**-0.8**
BANOM	**Banah**	**1.30**	**152**	P	**Pn**	**10 55 11.9**	**-0.2**
UMQ	**Umm Al-Quwin**	**1.55**	**179**	P	**Pb**	**10 55 17.4**	**+0.8**
	SNR=464						
UMQ				P	**Pb**	**10 55 17.4**	**+0.8**
	SNR=464						
UMQ				S	**Sn**	**10 55 33.8**	**-1.8**
UMQ				S	**Sn**	**10 55 33.8**	**-1.8**
MASF	**Masafi**	**1.77**	**164**	P	**Pn**	**10 55 19.5**	**+0.9**
	SNR=498						
MASF				P	**Pn**	**10 55 19.5**	**+0.9**
	SNR=498						
MASF				S	**Sn**	**10 55 40.3**	**-0.8**
MASF				S	**Sn**	**10 55 40.3**	**-0.8**
MSFE	**Esma-Masafi**	**1.78**	**164**	P	**Pn**	**10 55 19.7**	**+1.0**
MDH	**Madha**	**1.88**	**161**	P	**Pn**	**10 55 20.8**	**+0.8**
	SNR=646						
MDH				P	**Pn**	**10 55 20.8**	**+0.8**
	SNR=646						
MDH				S	**Sn**	**10 55 42.8**	**-0.9**
MDH				S	**Sn**	**10 55 42.8**	**-0.9**
KHNJ	**Kahnooj**	**2.04**	**64**	Pn	**Pb**	**10 55 23.0**	**-2.0**
NAZ	**Nazwa, Dubai**	**2.08**	**179**	P	**Pn**	**10 55 24.2**	**+1.4**
	SNR=623						
NAZ				P	**Pn**	**10 55 24.2**	**+1.4**
	SNR=623						
NAZ	**Nazwa, Dubai**	**2.08**	**179**	P	**Pn**	**10 55 24.1**	**+1.3**
UOSS	**Minazif**	**2.19**	**166**	Pn	**Pn**	**10 55 24.3**	**0.0**
UOSS	**Minazif**	**2.19**	**166**	Pn	**Pn**	**10 55 24.3**	**0.0**
UOSS	**Minazif**	**2.19**	**166**	P	**Pn**	**10 55 25.2**	**+0.9**
UOSS				S	**Sn**	**10 55 50.3**	**-1.2**
UOSS	**Minazif**	**2.19**	**166**	P	**Pn**	**10 55 24.8**	**+0.5**
LMD1	**Lamerd**	**2.21**	**277**	Pn	**Pn**	**10 55 26.2**	**+1.6**
HATD	**Hatta, Dubai**	**2.29**	**168**	P	**Pn**	**10 55 27.4**	**+1.7**
	SNR=1034						
HATD				P	**Pn**	**10 55 27.4**	**+1.7**
	SNR=1034						
HATD				S	**Sn**	**10 55 53.2**	**-0.8**
HATD				S	**Sn**	**10 55 53.2**	**-0.8**
HATD	**Hatta, Dubai**	**2.29**	**168**	P	**Pn**	**10 55 26.6**	**+0.9**
JHRM	**Jahrom**	**2.30**	**308**	Pn	**Pb**	**10 55 28.4**	**-1.1**
FAQ	**Al Faqa, Dubai**	**2.33**	**181**	P	**Pn**	**10 55 27.8**	**+1.6**
	SNR=445						
FAQ				P	**Pn**	**10 55 27.8**	**+1.6**
	SNR=445						
FAQ				S	**Sn**	**10 55 52.5**	**-2.4**
FAQ				S	**Sn**	**10 55 52.5**	**-2.4**
FAQ	**Al Faqa, Dubai**	**2.33**	**181**	P	**Pn**	**10 55 27.4**	**+1.3**
ASHO	**Ashiyiah**	**2.42**	**171**	P	**Pn**	**10 55 28.1**	**+0.6**
	SNR=926						
ASHO	**Ashiyiah**	**2.42**	**171**	P	**Pn**	**10 55 28.5**	**+1.0**
ASUD	**Al Ashush, Dub**	**2.46**	**186**	P	**Pn**	**10 55 30.0**	**+2.0**
	SNR=282						
ASUD				P	**Pn**	**10 55 30.0**	**+2.0**
	SNR=282						
ASUD				S	**Sn**	**10 55 56.4**	**-1.7**
ASUD				S	**Sn**	**10 55 56.4**	**-1.7**
AJN	**Ajban**	**2.57**	**193**	P	**Pn**	**10 55 30.9**	**+1.3**
	SNR=92						
AJN				P	**Pn**	**10 55 30.9**	**+1.3**
	SNR=92						
AJN				S	**Sn**	**10 56 00.6**	**-0.3**
AJN				S	**Sn**	**10 56 00.6**	**-0.3**
QIR1	**Qir**	**2.68**	**302**	Pn	**Pn**	**10 55 33.2**	**+2.1**
NGRK	**Negar Kerman**	**2.73**	**21**	Pn	**Pn**	**10 55 33.9**	**+1.8**
ALNE	**Al Ain**	**3.01**	**178**	P	**Pn**	**10 55 36.6**	**+0.9**
	SNR=65						
ALNE				P	**Pn**	**10 55 36.6**	**+0.9**
	SNR=65						
ALNE				S	**Sn**	**10 56 10.0**	**-1.9**
ALNE				S	**Sn**	**10 56 10.0**	**-1.9**
ALNE	**Al Ain**	**3.01**	**178**	P	**Pn**	**10 55 36.6**	**+0.9**
SOHO	**SOHO**	**3.05**	**164**	P	**Pn**	**10 55 35.9**	**-0.2**
SOHO				P	**Pn**	**10 55 35.9**	**-0.2**
SOHO				S	**Sn**	**10 56 11.5**	**-1.1**
SOHO				S	**Sn**	**10 56 11.5**	**-1.1**
KRBR	**Kerman**	**3.06**	**19**	Pn	**Pb**	**10 55 39.2**	**-3.4**
KBAM	**BAM**	**3.23**	**50**	Pn	**Pb**	**10 55 41.6**	**-3.7**
CHMN	**Cheshme madani**	**3.24**	**31**	Pn	**Pb**	**10 55 41.8**	**-3.9**
JRN	**Qarnain Island**	**3.28**	**230**	P	**Pn**	**10 55 40.4**	**+1.1**
	SNR=11						
JRN				S	**Sn**	**10 56 19.2**	**+0.7**
KHGB	**Koh Gabri**	**3.37**	**13**	Pn	**Pn**	**10 55 43.5**	**+2.8**
MZWR	**Madinat Zayed**	**3.66**	**206**	P	**Pn**	**10 55 45.5**	**+0.9**
MZWR				P	**Pn**	**10 55 45.5**	**+0.9**
MZWR				S	**Sn**	**10 56 26.8**	**-1.0**
MZWR				S	**Sn**	**10 56 26.8**	**-1.0**
KRM1	**Kerman Provinc**	**3.70**	**23**	Pn	**Pn**	**10 55 47.8**	**+2.5**
SHI	**Shiraz**	**3.75**	**314**	Pn	**Pn**	**10 55 47.9**	**+2.0**
SHI	**Shiraz**	**3.75**	**314**	P	**Pn**	**10 55 47.9**	**+2.0**
HOQ	**Hoqain**	**3.80**	**156**	P	**Pn**	**10 55 45.0**	**-1.5**
	SNR=47						
HOQ				P	**Pn**	**10 55 45.0**	**-1.5**
	SNR=47						
HOQ				S	**Sn**	**10 56 29.3**	**-2.0**
HOQ				S	**Sn**	**10 56 29.3**	**-2.0**
ARQ	**Araqi**	**3.81**	**168**	P	**Pn**	**10 55 47.0**	**+0.3**
	SNR=271						
ARQ				P	**Pn**	**10 55 47.0**	**+0.3**
	SNR=271						
ARQ				S	**Sn**	**10 56 32.6**	**+0.9**
ARQ				S	**Sn**	**10 56 32.6**	**+0.9**
ZRDN	**Zarand Kerman**	**3.95**	**11**	Pn	**Pn**	**10 55 51.2**	**+2.5**
GHWR	**Ruwais**	**3.98**	**219**	P	**Pn**	**10 55 48.2**	**-0.7**
GHWR				S	**Sn**	**10 56 34.6**	**-1.0**
DSBU	**Dashti - Bushe**	**4.08**	**289**	Pn	**Pn**	**10 55 51.9**	**+1.6**
BIDO	**Bidbid**	**4.21**	**147**	P	**Pn**	**10 55 51.1**	**-0.9**
	SNR=9.5						
BIDO				S	**Sn**	**10 56 39.5**	**-1.8**
AHBU	**AHRAM**	**4.22**	**296**	Pn	**Pn**	**10 55 53.9**	**+1.7**
KAZ2	**Kazeron-Fars-I**	**4.31**	**307**	Pn	**Pn**	**10 55 55.5**	**+2.0**
SHMA	**Al-Shehemyia**	**4.35**	**255**	P	**Pn**	**10 55 56.1**	**+2.1**
	SNR=31						
SHMA				S	**Sn**	**10 56 47.1**	**+2.2**
UMZA	**Um Al Zommool**	**4.37**	**186**	P	**Pn**	**10 55 54.6**	**+0.3**
UMZA				P	**Pn**	**10 55 54.6**	**+0.3**
UMZA				S	**Sn**	**10 56 44.5**	**-0.8**
UMZA				S	**Sn**	**10 56 44.5**	**-0.8**
IMEH	**Mehriz**	**4.38**	**349**	Pn	**Pn**	**10 55 57.6**	**+2.9**
MZR	**Muzera**	**4.50**	**206**	P	**Pn**	**10 55 56.6**	**+0.4**
	SNR=78						
MZR				P	**Pn**	**10 55 56.6**	**+0.4**
	SNR=78						
MZR				S	**Sn**	**10 56 49.1**	**+0.5**
MZR				S	**Sn**	**10 56 49.1**	**+0.5**
MZR	**Muzera**	**4.50**	**206**	P	**Pn**	**10 55 56.0**	**-0.1**
BSY	**Bisya**	**4.55**	**161**	P	**Pn**	**10 55 57.7**	**+0.9**
	SNR=96						
BSY				P	**Pn**	**10 55 57.7**	**+0.9**
	SNR=96						
BSY				S	**Sn**	**10 56 49.9**	**+0.1**
BSY				S	**Sn**	**10 56 49.9**	**+0.1**
SMDO	**Samad**	**4.57**	**151**	P	**Pn**	**10 55 58.0**	**+0.9**
	SNR=75						
SMDO				P	**Pn**	**10 55 58.0**	**+0.9**
	SNR=75						
SMDO				S	**Sn**	**10 56 49.0**	**-1.3**
SMDO				S	**Sn**	**10 56 49.0**	**-1.3**
CHBR	**Chabahar**	**4.60**	**108**	Pn	**Pn**	**10 55 56.9**	**-0.6**
TRNA	**Turayna**	**4.61**	**241**	P	**Pn**	**10 55 58.3**	**+0.7**
	SNR=208						
TRNA				S	**Sn**	**10 56 51.3**	**+0.1**
SLWR	**Sila**	**4.65**	**231**	P	**Pn**	**10 55 58.2**	**+0.1**
SLWR				P	**Pn**	**10 55 58.2**	**+0.1**
SLWR				S	**Sn**	**10 56 51.3**	**-0.8**
SLWR				S	**Sn**	**10 56 51.3**	**-0.8**
SAKB	**Bahrain**	**4.69**	**258**	P	**Pn**	**10 56 00.7**	**+2.0**
SAKB				S	**Sn**	**10 56 53.5**	**+0.3**
WSAR	**Wadi Sarin**	**4.70**	**144**	Pn	**Pn**	**10 55 58.5**	**-0.3**
	109nm,0.3s,baz=319,slow=11,SNR=690						
WSAR				Sn	**Sn**	**10 56 50.2**	**-3.1**
	128nm,0.3s,baz=22,slow=18,SNR=7.0						
WSAR				LR	LR	10 58 24.8	
	comp=Z,27μm,19.5s,baz=348,slow=48						
	368nm,0.3s						
WSAR	**Wadi Sarin**	**4.70**	**144**	P	**Pn**	**10 55 58.6**	**-0.2**
WSAR				S	**Sn**	**10 56 52.5**	**-0.8**
TAFT	**Taft - Yazd**	**4.80**	**345**	Pn	**Pn**	**10 56 03.7**	**+3.4**
SMRA	**Abu-Samra**	**4.91**	**243**	P	**Pn**	**10 56 02.9**	**+1.2**
	SNR=19						
SMRA				S	**Sn**	**10 56 58.0**	**-0.6**
ISAD	**Sadrabad**	**5.10**	**341**	Pn	**Pn**	**10 56 07.9**	**+3.3**
JMDO	**Jabal Madar**	**5.20**	**154**	P	**Pn**	**10 56 06.5**	**+0.8**
	SNR=135						
JMDO				P	**Pn**	**10 56 06.5**	**+0.8**
	SNR=135						
JMDO				S	**Sn**	**10 57 05.7**	**-0.2**
JMDO				S	**Sn**	**10 57 05.7**	**-0.2**
NGCH	**Negor - Chabah**	**5.24**	**108**	Pn	**Pn**	**10 56 05.9**	**-0.3**
NGCH	**Negor - Chabah**	**5.24**	**108**	P	**Pn**	**10 56 06.9**	**+0.7**
	SNR=45						
NGCH				S	**Sn**	**10 57 05.4**	**-1.3**
ICHK	**Chekchek**	**5.25**	**349**	Pn	**Pn**	**10 56 09.5**	**+2.9**
KLNJ	**Kolanjah**	**5.27**	**319**	Pn	**Pn**	**10 56 08.8**	**+1.8**
WBK	**Wadi Bani Khal**	**5.39**	**145**	P	**Pn**	**10 56 08.0**	**-0.4**
	SNR=349						
WBK				P	**Pn**	**10 56 08.0**	**-0.4**
	SNR=349						
WBK				S	**Sn**	**10 57 09.3**	**-1.2**
WBK				S	**Sn**	**10 57 09.3**	**-1.2**
IRAM	**Ramesheh**	**5.50**	**330**	Pn	**Pn**	**10 56 12.7**	**+2.7**
NHDN	**Nehbandan**	**5.78**	**41**	Pn	**Pn**	**10 56 15.7**	**+1.9**
ABEH	**Behbahan**	**5.87**	**308**	Pn	**Pn**	**10 56 17.8**	**+2.8**
JLN	**Jalan Bani Buh**	**6.00**	**144**	P	**Pn**	**10 56 16.0**	**-0.7**
	SNR=277						
JLN				P	**Pn**	**10 56 16.0**	**-0.7**
	SNR=277						
JLN				S	**Sn**	**10 57 21.2**	**-4.3**
JLN				S	**Sn**	**10 57 21.2**	**-4.3**
TPRV	**Parvadeh(Tabas**	**6.00**	**9**	Pn	**Pn**	**10 56 19.6**	**+2.8**
SRVN	**Saravan**	**6.04**	**85**	Pn	**Pn**	**10 56 19.0**	**+1.6**
IKOO	**Kooshah**	**6.08**	**28**	Pn	**Pn**	**10 56 19.8**	**+1.7**
IBRJ	**Brojen**	**6.13**	**323**	Pn	**Pn**	**10 56 20.8**	**+2.0**
ANAR	**Anarak**	**6.31**	**345**	Pn	**Pn**	**10 56 23.2**	**+2.1**
ITEG	**Tejag**	**6.40**	**24**	Pn	**Pn**	**10 56 24.5**	**+2.1**
MHTO	**MHTO**	**6.43**	**160**	P	**Pn**	**10 56 22.5**	**-0.1**
MHTO				S	**Sn**	**10 57 33.8**	**-2.3**
IZEF	**Zefreh**	**6.46**	**335**	Pn	**Pn**	**10 56 25.0**	**+1.7**
ZNGN	**Zangian**	**6.51**	**322**	Pn	**Pn**	**10 56 26.3**	**+2.2**
TKDS	**Koohdasht(Taba**	**6.64**	**11**	Pn	**Pn**	**10 56 28.1**	**+2.6**
IDAH	**Dahanechah**	**6.73**	**32**	Pn	**Pn**	**10 56 29.0**	**+2.0**
TNSJ	**Nastanj**	**6.91**	**7**	Pn	**Pn**	**10 56 30.9**	**+1.6**
IPIR	**Pirpir**	**6.93**	**325**	Pn	**Pn**	**10 56 30.8**	**+1.0**
AFRZ	**Afriz**	**6.97**	**24**	Pn	**Pn**	**10 56 32.2**	**+2.1**
IMON	**Monand**	**7.02**	**29**	Pn	**Pn**	**10 56 33.9**	**+2.9**
IKLH	**Kolahrood**	**7.13**	**332**	Pn	**Pn**	**10 56 34.0**	**+1.5**
DQM	**DQM**	**7.33**	**166**	P	**Pn**	**10 56 33.9**	**-1.1**
SHRT	**Shahrakht**	**7.68**	**30**	Pn	**Pn**	**10 56 42.0**	**+2.1**
ISFB	**Sefidab**	**7.81**	**339**	Pn	**Pn**	**10 56 43.3**	**+1.7**
TAPT	**Tabas- Tapeh t**	**7.89**	**9**	Pn	**Pn**	**10 56 44.1**	**+1.4**
IANJ	**Anjilo**	**8.49**	**350**	Pn	**Pn**	**10 56 53.8**	**+2.7**
DOK	**Doka**	**8.54**	**190**	P	**Pn**	**10 56 50.4**	**-1.2**
DOK				P	**Pn**	**10 56 50.4**	**-1.2**
DOK				P	**Pn**	**10 56 50.4**	**-1.2**
IVRN	**Varamin**	**8.57**	**338**	Pn	**Pn**	**10 56 53.7**	**+1.7**
ILAS	**Lasjerd**	**8.58**	**345**	Pn	**Pn**	**10 56 55.0**	**+2.6**
IQOM	**Qom**	**8.67**	**334**	Pn	**Pn**	**10 56 54.5**	**+1.0**
IDMV	**Damavand**	**9.01**	**341**	Pn	**Pn**	**10 57 01.1**	**+2.8**
TBJM	**Torbat-e-JAM**	**9.10**	**25**	Pn	**Pn**	**10 57 01.5**	**+2.1**
IHSB	**Hasanabad**	**9.12**	**337**	Pn	**Pn**	**10 57 01.6**	**+1.9**
HRA	**Herat**	**9.24**	**36**	Pn	**Pn**	**10 57 02.7**	**+1.3**
IKIA	**Kiasar**	**9.25**	**350**	Pn	**Pn**	**10 57 04.6**	**+3.1**
IDOB	**Doab**	**9.27**	**318**	Pn	**Pn**	**10 57 02.0**	**+0.2**
WHFO	**Wadi Hawf**	**9.28**	**191**	P	**Pn**	**10 57 00.0**	**-1.7**
	SNR=114						
WHFO				P	**Pn**	**10 57 00.0**	**-1.7**
	SNR=114						
IALA	**Alasht**	**9.29**	**346**	Pn	**Pn**	**10 57 05.1**	**+3.0**
HSAM	**Samen**	**9.33**	**321**	Pn	**Pn**	**10 57 02.8**	**+0.2**
DMTO	**DMTO**	**9.34**	**184**	P	**Pn**	**10 57 00.8**	**-1.8**
DMTO				P	**Pn**	**10 57 00.8**	**-1.8**
TEH	**Tehran**	**9.36**	**338**	Pn	**Pn**	**10 57 05.3**	**+2.4**
TEHA	**Amirabad Tehra**	**9.37**	**338**	Pn	**Pn**	**10 57 03.7**	**+0.6**
SBZV	**Sabzevar**	**9.43**	**10**	Pn	**Pn**	**10 57 05.6**	**+1.6**
HAGD	**Aghdareh**	**9.51**	**326**	Pn	**Pn**	**10 57 05.7**	**+0.5**
IGLO	**Ghaloghah**	**9.52**	**351**	Pn	**Pn**	**10 57 08.7**	**+3.6**
IPRN	**Peran**	**9.55**	**344**	Pn	**Pn**	**10 57 09.3**	**+3.7**
IMHD	**Mahdasht**	**9.56**	**335**	Pn	**Pn**	**10 57 06.9**	**+1.2**
IRAZ	**Razeghan**	**9.62**	**331**	Pn	**Pn**	**10 57 07.6**	**+1.0**
RBK	**Rabkut**	**9.62**	**188**	P	**Pn**	**10 57 04.5**	**-2.0**
	SNR=37						
JRKH	**Jarkhoshk**	**9.68**	**23**	Pn	**Pn**	**10 57 09.9**	**+2.6**
IPAY	**Payeh**	**9.77**	**16**	Pn	**Pn**	**10 57 11.7**	**+3.0**
RAYN	**Ar Rayn**	**9.82**	**251**	Pn	**Pn**	**10 57 07.0**	**-2.2**
RAYN	**Ar Rayn**	**9.82**	**251**	P	**Pn**	**10 57 07.4**	**-1.8**
RAYN	**Ar Rayn**	**9.82**	**251**	P	**Pn**	**10 57 07.0**	**-2.2**
RAYN	**Ar Rayn**	**9.82**	**251**	P	**Pn**	**10 57 07.4**	**-1.8**
IAKL	**Akhelmad**	**9.86**	**15**	Pn	**Pn**	**10 57 12.8**	**+2.9**
ABTO	**Aybut**	**9.92**	**193**	P	**Pn**	**10 57 09.0**	**-1.6**
	SNR=49						
ABTO				P

comp=Z,1.0nm,0.3s,baz=123,slow=15,SNR=2.0
ASF LR LR 11 07 25.2
comp=Z,3μm,20.7s,baz=137,slow=44
comp=Z,30nm,0.7s
GAR Garm 17.09 42 Pn **Pn 10 58 45.7 -1.3**
GAR IAmb IAmb 10 58 56.5
comp=Z,131nm,0.8s
MAK Makhachkala 17.17 339 *e*P **Pn 10 58 48.3 +0.6**
MAK *e*S **Sn 11 02 02.8 +4.1**
MAK pmax pmax
comp=Z,646nm,0.9s
MAK smax smax
comp=Z,5μm,14.0s
KOPT Kop Dagi 18.01 320 P **Pn 10 58 58.5 -0.1**
GHAJ Ghor Haditha 18.01 288 P **Pn 10 58 57.3 -1.0**
BTK Batken 18.07 40 P **Pn 10 58 58.1 -1.0**
BTK Batken 18.07 40 P **Pn 10 58 58.1 -1.0**
BTK pmax pmax
comp=Z,123nm,1.3s
DRK Karamyk 18.29 43 P **Pn 10 59 01.1 -0.9**
DRK IAmb IAmb 10 59 06.2
comp=Z,445nm,1.5s
DRK Karamyk 18.29 43 P **Pn 10 59 01.1 -0.9**
DRK pmax pmax
comp=Z,445nm,1.5s
EIL Elat 18.38 283 P **Pn 10 59 03.3 +0.5**
comp=Z,1.5nm,0.3s,baz=39,slow=2.3,SNR=28
EIL LR LR 11 08 02.1
comp=Z,7μm,18.7s,baz=99,slow=43
comp=Z,92nm,1.0s
BCA Borcka 18.38 325 ⇓P **P 10 59 04.3 +1.4**
MMAI Mount Meron Ar 18.47 294 P **P 10 59 03.9 0.0**
comp=Z,3.4nm,0.3s,baz=105,slow=16,SNR=28
MMAI S **Sn 11 02 21.4 -9.0**
comp=Z,10nm,0.6s,baz=114,slow=32,SNR=4.3
MMAI LR LR 11 08 15.7
comp=Z,4μm,18.2s,baz=105,slow=44
comp=Z,61nm,0.8s
GAZ Gaziantep 18.53 307 P **P 10 59 03.3 -1.3**
GAZ IAmb IAmb 10 59 07.2
comp=Z,132nm,0.9s
CHM Chimkent 19.02 33 *e*P **P 10 59 09.4 -0.4**
CHM Chimkent 19.02 33 *e*P **P 10 59 09.4 -0.4**
CHM LR LR 11 07 42.4
NCK Nalchik 19.06 332 *i*P **Pn 10 59 13.8 +2.7**
KTUT Trabzon 19.07 321 ⇑P **Pn 10 59 12.4 +1.3**
TRKS Terek-Say 19.24 38 P **P 10 59 11.8 -0.7**
OHH Osh 19.53 42 P **Pn 10 59 15.9 -0.8**
KBZ Khabaz 19.55 331 P **Pn 10 59 17.7 +0.9**
comp=Z,1.9nm,0.3s,baz=127,slow=6.8,SNR=71
comp=Z,106nm,1.0s
SHA1 Shidzhatmaz 19.66 331 *i*P **Pn 10 59 19.3 +0.9**
BRLS Borolday 19.66 32 *e*P **P 10 59 13.9 -3.0**
BRLS *e*S **S 11 02 53.9 -4.8**
BRLS Borolday 19.66 32 *e*P **P 10 59 14.0 -3.0**
BRLS *e*S **S 11 02 54.0 -4.8**
KVAR Kislovodsk Arr 19.81 332 P **Pn 10 59 20.9 +0.7**
baz=287,slow=19
comp=Z,36nm,0.6s
KIV Kislovodsk 19.82 332 P **P 10 59 18.6 0.0**
KIV Kislovodsk 19.82 332 P **Pn 10 59 20.9 +0.7**
KIV P **Pn 10 59 20.9 +0.7**
KIV Kislovodsk 19.82 332 *e*P **Pn 10 59 21.1 +0.9**
KIV *e*S **Sn 11 03 04.1 +1.2**
KIV pmax pmax
comp=Z,341nm,1.1s
KIV Kislovodsk 19.82 332 P **Pn 10 59 21.5 +1.3**
KIV Kislovodsk 19.82 332 P **Pn 10 59 21.1 +0.9**
comp=Z,338nm,1.6s
KK31 Karatay Array 20.05 33 P **P 10 59 20.1 -0.9**
KK31 Karatay Array 20.05 33 *i*P **P 10 59 21.0 -0.1**
KKAR Karatay Array 20.05 33 P **P 10 59 20.8 -0.3**
KKAR Karatay Array 20.05 33 P **P 10 59 20.7 -0.4**
KKAR IAmb IAmb 10 59 28.6
comp=Z,54nm,1.0s
KKAR Karatay Array 20.05 33 P **P 10 59 20.8 -0.3**
KKAR pmax pmax
comp=Z,54nm,1.0s
BNN Bunyan 20.28 310 P **P 10 59 23.7 0.0**
DZA Taraz 20.30 35 *e*P **P 10 59 23.6 -0.3**
DZA pmax pmax
comp=Z,117nm,0.8s
DZA Taraz 20.30 35 *e*P **P 10 59 23.6 -0.3**
comp=Z,117nm,0.8s
GOF Gofitskoye 20.58 334*c i*P Pn 10 59 28.9 -0.1
GOF *e*S **S 11 03 17.9 +1.0**
CSS Mathiatis 20.63 298 P **P 10 59 26.4 -1.1**
CSS IAmb IAmb 10 59 32.4
comp=Z,317nm,1.8s
CSS Mathiatis 20.63 298 P Pn 10 59 29.6 -0.2
comp=Z,95nm,1.3s
TOKA Tokat 20.64 315 P **P 10 59 27.8 +0.3**
TOKA IAmb IAmb 10 59 35.5
comp=Z,214nm,1.6s
VSLR Vesyoloye 20.66 326 *i*P Pn 10 59 29.3 -0.7
VSLR pmax pmax
comp=Z,332nm,0.9s
SOC Sochi 20.91 326 *e*P **P 10 59 29.8 -0.5**
SOC *e*PPP PPP 10 59 57.4
SOC *e*S **S 11 03 25.0 +1.6**
SOC *e*SS **SnSn 11 03 45.0 +1.1**
SOC *e*SSS SSS 11 04 00.1
SOC pmax pmax
comp=Z,233nm,0.9s
SOC MLR MLR
comp=Z,4μm,17.0s
KSH Kashi 20.99 49 P **P 10 59 25.2 -6.3**
KSH S S 11 03 08.6 -17
KSH pmax pmax
comp=Z,60nm,0.9s
KSH LR LR
comp=Z,10μm,22.0s
KSH LR LR
comp=Z,7μm,23.0s
KSH LR LR
comp=Z,11μm,23.0s
AML Almayashu 21.07 40 P **P 10 59 33.1 +0.6**
SNR=9.5
LABN Labinsk 21.22 330 *e*P **P 10 59 32.4 -1.4**
LABN *e**PP **pP 10 59 36.1 -0.5**
LABN *e*S **S 11 03 30.4 +0.7**
LABN pmax pmax
comp=Z,161nm,0.9s
ARLS Aral 21.26 41 P **P 10 59 34.2 -0.2**
KIRS Kirsehir-Merke 21.74 309 ⇓P **P 10 59 41.2 +1.8**
AAK Ala-Archa 21.85 40 P **P 10 59 40.9 +0.2**
AAK IAmb IAmb 10 59 50.0
comp=Z,106nm,1.2s
AAK Ala-Archa 21.85 40 P **P 10 59 41.4 +0.7**
comp=Z,24nm,0.6s,baz=221,slow=9.0,SNR=70
AAK LR LR 11 09 37.9
comp=Z,4μm,19.4s,baz=236,slow=41
comp=Z,24nm,0.6s
AAK Ala-Archa 21.85 40 P **P 10 59 41.9 +1.2**
AAK P **P 10 59 41.9 +1.2**
AAK Ala-Archa 21.85 40 P **P 10 59 41.9 +1.2**
SNR=27
AAK Ala-Archa 21.85 40*ce*P **P 10 59 41.6 +0.9**
AAK pmax pmax
comp=Z,96nm,1.7s
FRU1 Bishkek 22.03 40 P **P 10 59 42.1 -0.5**
FRU1 IAmb IAmb 11 00 01.1
comp=Z,99nm,1.1s
FRU1 Bishkek 22.03 40 P **P 10 59 42.1 -0.5**
FRU1 pmax pmax
comp=Z,99nm,1.1s
KBK Karagaybulak 22.12 40 P **P 10 59 45.0 +1.4**
SNR=16
DIKM Dikmen 22.15 316 ⇑P **P 10 59 45.4 +1.7**
DIKM Dikmen 22.15 316 P **P 10 59 45.9 +2.2**
comp=Z,57nm,1.0s
ERBR Yeremizino-Bor 22.17 331 *e*P **P 10 59 42.4 -1.5**
ERBR *e**PP **pP 10 59 45.2 -1.6**
ERBR *e*S **S 11 03 48.6 +0.6**
ERBR pmax pmax
comp=Z,105nm,0.8s
BR104 Keskin Array S 22.19 310 P **P 10 59 45.6 +1.2**
comp=Z,128nm,0.7s
BR131 Keskin Array S 22.20 310 P **P 10 59 44.5 0.0**
BR131 IAmb IAmb 10 59 59.0
comp=Z,121nm,0.9s
BR131 Keskin Array S 22.20 310 P **P 10 59 44.8 +0.3**
BR131 Keskin Array S 22.20 310 P **P 10 59 44.5 0.0**
BR131 pmax pmax
comp=Z,121nm,1.0s
BRTR Keskin Array B 22.20 310 P **P 10 59 44.5 0.0**
BRTR Keskin Array B 22.20 310 P **P 10 59 45.5 +0.9**
comp=Z,20nm,0.7s,baz=132,slow=15,SNR=96
BRTR ScP **ScP 11 07 17.2 -1.5**
comp=Z,1.2nm,1.0s,baz=132,slow=4.1,SNR=2.9
BRTR LR LR 11 10 23.5
comp=Z,4μm,18.8s,baz=108,slow=42
comp=Z,20nm,0.7s
BR105 Keskin Array S 22.21 310 P **P 10 59 45.6 +1.0**
comp=Z,110nm,0.6s
BR106 Keskin Array S 22.22 310 P **P 10 59 45.7 +1.0**
comp=Z,96nm,0.8s
USP Ospenovka 22.25 39 P **P 10 59 45.5 +0.5**
SNR=18
ABKAR Akbulak array 22.39 7 P **P 10 59 46.0 -0.3**
SGDS Sogindy 22.45 38 *e*P **P 10 59 46.3 -0.7**
SGDS Sogindy 22.45 38 *e*P **P 10 59 46.3 -0.7**
BOOM Boomskoye usch 22.60 42 P **P 10 59 49.0 +0.3**
BOOM IAmb IAmb 11 00 10.2
comp=Z,104nm,1.0s
BOOM Boomskoye usch 22.60 42 P **P 10 59 49.1 +0.3**
BOOM pmax pmax
comp=Z,104nm,1.0s
ULHL Ulahol 22.64 43 P **P 10 59 50.2 +1.0**
SNR=18
TKM2 Tokmak 2 22.66 41 P **P 10 59 49.8 +0.4**
SNR=19
TKM2 Tokmak 2 22.66 41 P **P 10 59 46.9 -2.5**
ILGA Ilgaz 22.80 313 P **P 10 59 51.3 +0.3**
ANTO Ankara 22.84 310 P **P 10 59 51.4 +0.1**
ANTO Ankara 22.84 310 P **P 10 59 51.9 +0.6**
ANTO P **P 10 59 51.9 +0.6**
ANTO Ankara 22.84 310 ⇓P **P 10 59 52.8 +1.6**
ANTO Ankara 22.84 310 P **P 10 59 51.4 +0.1**
ANTO pmax pmax
comp=Z,221nm,0.7s
ANTO Ankara 22.84 310 P **P 10 59 52.6 +1.3**
comp=Z,156nm,1.0s
ANN Anapa 22.92 325 *e*P **P 10 59 51.3 -0.6**
ANN *e**PP **sP 10 59 54.9 -1.2**
ANN *e* 11 00 16.9
ANN *e*S **S 11 04 03.8 +1.9**
ANN pmax pmax
comp=Z,162nm,1.2s
ANN MLR MLR
comp=E,1μm,15.0s
ANN MLR MLR
comp=N,5μm,20.0s
ANN MLR MLR
comp=Z,4μm,19.0s
BZK Bozkurt 23.10 316 P **P 10 59 53.3 -0.5**
BZK Bozkurt 23.10 316 ⇑P **P 10 59 55.1 +1.3**
KDJ Kajisay 23.15 44 P **P 10 59 54.5 0.0**
KDJ IAmb IAmb 11 00 20.0
comp=Z,106nm,0.9s
KDJ Kajisay 23.15 44 P **P 10 59 54.5 0.0**
KDJ pmax pmax
comp=Z,106nm,0.9s
BTLS Baital 23.21 35 *e*P **P 10 59 54.4 -0.4**
BTLS *e*S **S 11 04 07.9 +1.1**
BTLS Baital 23.21 35 *e*P **P 10 59 54.5 -0.4**
BTLS *e*S **S 11 04 07.9 +1.1**
HYB Hyderabad 23.26 110 *e*P **P 10 59 56.0 +0.3**
TARG Taragay, Kyrgy 23.32 46 P **P 10 59 56.7 +0.1**
TARG IAmb IAmb 11 00 08.7
comp=Z,71nm,1.0s
TARG Taragay, Kyrgy 23.32 46 P **P 10 59 56.7 +0.1**
TARG pmax pmax
comp=Z,71nm,1.0s
AKTO Aktyubinsk 23.39 4 P **P 10 59 57.2 +0.5**
comp=Z,48nm,0.7s,baz=200,slow=8.1,SNR=80
AKTO LR LR 11 10 01.2
comp=Z,4μm,21.2s,baz=169,slow=39
comp=Z,48nm,0.7s
TNSS Tian-Shan 23.52 42 *e*P **P 10 59 58.0 -0.5**
TNSS Tian-Shan 23.52 42 *e*P **P 10 59 58.0 -0.5**
MDOK Medeo 23.66 42 *e*P **P 10 59 59.0 -0.5**
MDOK *e*S **S 11 04 15.0 +0.6**
MDOK MLR MLR
comp=Z,2μm,14.0s
MDOK Medeo 23.66 42 *e*P **P 10 59 59.1 -0.5**
MDOK *e*S **S 11 04 15.0 +0.6**
MDOK LR LR 11 10 02.6
comp=Z,2μm,14.0s
ISP Isparta 23.67 303 P **P 10 59 58.7 -0.9**
ISP IAmb IAmb 11 00 05.6
comp=Z,87nm,1.2s
ISP Isparta 23.67 303*ce*P **P 11 00 01.6 +1.9**
ISP pmax pmax
comp=Z,114nm,1.7s
CIDE Kastamonu/Cide 23.72 314 ⇑P **P 11 00 01.0 +1.0**
ELL Elmali 23.80 300 P **P 11 00 00.2 -0.8**
ELL Elmali 23.80 300 P **P 11 00 00.2 -0.8**
ELL pmax pmax
comp=Z,218nm,0.8s
AKAS Kas 23.90 299 P **P 11 00 01.4 -0.5**
AKAS IAmb IAmb 11 00 16.2
comp=Z,78nm,0.8s
WUS Wushi 23.98 48 P **P 11 00 02.1 -0.6**
PRZ Przheval'sk 24.10 45 P **P 11 00 03.7 -0.1**
PRZ IAmb IAmb 11 00 32.9
comp=Z,204nm,1.8s
PRZ Przheval'sk 24.10 45 P **P 11 00 03.7 -0.1**
PRZ pmax pmax
comp=Z,203nm,1.8s
MDUB Mudurnu 24.21 310 P **P 11 00 04.8 +0.1**
SATY Saty 24.42 43 *e*P **P 11 00 06.2 -0.5**
SATY pmax pmax
comp=Z,51nm,1.4s
SATY Saty 24.42 43 *e*P **P 11 00 06.2 -0.5**
comp=Z,52nm,1.4s
KDZE Karadeniz Ereo 24.42 312 ⇑P **P 11 00 07.6 +0.9**
BORA Eskisehir 24.48 308 P **P 11 00 07.4 +0.2**
BORA IAmb IAmb 11 00 21.9
comp=Z,53nm,0.9s
ZHN Zhinishke 24.49 43 *e*P **P 11 00 07.0 -0.4**
ZHN Zhinishke 24.49 43 *e*P **P 11 00 07.0 -0.4**
SIM Simferopol' 24.79 322 *e*P **P 11 00 11.4 +1.6**
SIM *e*S **S 11 04 35.0 +2.8**
SIM pmax pmax
comp=Z,91nm,0.9s
SIM smax smax
comp=N,330nm,3.0s
KPKS Kokpek 24.81 43 *e*P **P 11 00 09.3 -0.9**
KPKS *e*S **S 11 04 33.1 +0.3**
KPKS pmax pmax
comp=Z,55nm,1.7s
KPKS Kokpek 24.81 43 *e*P **P 11 00 09.4 -0.9**
comp=Z,55nm,1.7s
KPKS *e*S **S 11 04 33.1 +0.3**
OTUK Ortayu 24.82 27 P **P 11 00 09.5 -0.7**
UZB Uzynbulak 24.84 44 *e*P **P 11 00 11.4 +0.8**
UZB pmax pmax
comp=Z,239nm,3.7s
UZB Uzynbulak 24.84 44 *e*P **P 11 00 09.9 -0.7**
SHLS Shalkode 25.12 44 *e*P **P 11 00 14.8 +1.8**
SHLS pmax pmax
comp=Z,91nm,1.7s
SHLS Shalkode 25.12 44 *e*P **P 11 00 14.9 +1.8**
comp=Z,92nm,1.7s
PDGK Podgornoye 25.23 44 P **P 11 00 13.7 -0.3**
MANT Manisa 25.35 303 P **P 11 00 15.1 -0.1**
YLV Yalova 25.51 309 P **P 11 00 18.7 +2.2**
comp=Z,119nm,1.1s
TDK Taldyqorghan 25.53 40 *e*P **P 11 00 16.3 -0.3**
TDK pmax pmax
comp=Z,28nm,0.6s
TDK MLR MLR
comp=Z,2μm,15.0s
TDK Taldyqorghan 25.53 40 *e*P **P 11 00 16.4 -0.3**
comp=Z,28nm,0.6s
TDK LR LR 11 11 09.1
comp=Z,2μm,14.8s
KARP Karpathos 25.67 296 P **P 11 00 18.0 0.0**
KARP Karpathos 25.67 296 *e*P **P 11 00 18.8 +0.8**
BELG Belogornoye 25.99 349 P **P 11 00 21.1 +0.6**
comp=Z,103nm,0.8s,baz=294,slow=2.1,SNR=16
comp=Z,103nm,0.8s
BELG Belogornoye 25.99 349 *i*P **P 11 00 20.9 +0.3**
BELG pmax pmax
comp=Z,22nm,0.9s
KLYT Kilyos 26.02 310 P **P 11 00 23.2 +2.2**
comp=Z,52nm,0.9s
VRH Novokhopyorsk 26.30 340 *e*P **P 11 00 22.5 -1.0**
VRH pmax pmax
comp=Z,60nm,0.7s
VRH MLR MLR
comp=Z,2μm,16.0s
BAND Balkesir-Ban 26.33 307 ⇓P **P 11 00 25.0 +1.2**
BRZS Berezniki 26.35 25 *e*P **P 11 00 24.8 +0.8**
BRZS pmax pmax
comp=Z,34nm,2.2s
BRZS Berezniki 26.35 25 *e*P **P 11 00 24.1 +0.2**
VORD Divnogorie 26.89 337 *e*P **P 11 00 28.7 -0.1**
VORD pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 27.15 337 *e*P **P 11 00 31.4 +0.3**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=Z,2μm,15.0s
KHAM Kharkiv 27.29 332 P **P 11 00 33.9 +1.4**
IDI Anoyia 27.46 295 P **P 11 00 33.5 -0.7**
IDI Anoyia 27.46 295 P **P 11 00 34.7 +0.5**
IDI Anoyia 27.46 295 P **P 11 00 35.2 +1.0**
comp=Z,16nm,0.5s,baz=104,slow=6.9,SNR=16
IDI LR LR 11 14 33.0
comp=Z,3μm,21.8s,baz=89,slow=43
comp=Z,16nm,0.5s
MANR Mangalia 27.47 314 ⇑P **P 11 00 35.4 +1.4**
VORR Voronezh 27.52 338 *e*P **P 11 00 35.1 +0.7**
VORR pmax pmax
comp=Z,35nm,0.9s
EFOR EFORIE 27.56 315 ⇓P **P 11 00 35.9 +1.0**
MFTR Murfatlar 27.74 315 ⇑P **P 11 00 36.8 +0.3**
JURR Jurilovca 27.75 316 ⇑P **P 11 00 37.7 +1.1**
TIRR Tirgusor 27.89 316 P **P 11 00 37.0 -0.8**
TIRR IAmb IAmb 11 01 08.2
comp=Z,57nm,1.4s
TIRR Tirgusor 27.89 316 ⇑P **P 11 00 38.7 +0.9**
TIRR Tirgusor 27.89 316 P **P 11 00 37.0 -0.8**
TIRR pmax pmax
comp=Z,57nm,1.4s
TIRR Tirgusor 27.89 316 P **P 11 00 38.1 +0.3**
comp=Z,30nm,1.3s
ALN Alexandroupoli 27.98 307 P **P 11 00 37.9 -0.8**
ALN IAmb IAmb 11 01 18.5
comp=Z,61nm,1.0s
ALN Alexandroupoli 27.98 307 P **P 11 00 37.9 -0.8**
ALN pmax pmax
comp=Z,61nm,1.0s
TPGR Topolog 28.08 316 ⇑P **P 11 00 40.6 +1.0**
ICOR Ion Corvin 28.11 314 ⇑P **P 11 00 41.2 +1.4**
BRVK Borovoye 28.16 19 P **P 11 00 40.1 0.0**
BRVK IAmb IAmb 11 01 28.0
comp=Z,25nm,0.8s
BRVK Borovoye 28.16 19 P **P 11 00 40.6 +0.5**
BRVK P **P 11 00 40.6 +0.5**
BRVK Borovoye 28.16 19*ce*P **P 11 00 40.6 +0.5**
BRVK pmax pmax
comp=Z,15nm,0.7s
BVA0 Borovoye Array 28.16 19 *i*P **P 11 00 39.7 -0.4**
BVAR Borovoye Array 28.16 19 P **P 11 00 40.5 +0.4**
comp=Z,36nm,0.8s,baz=201,slow=8.6,SNR=141
BVAR PcP **PcP 11 03 54.2 +0.3**
comp=Z,2.4nm,0.6s,baz=203,slow=2.7,SNR=1.6
BVAR ScP **ScP 11 07 33.3 -1.8**
comp=Z,2.6nm,0.9s,baz=158,slow=2.8,SNR=3.3
BVAR LR LR 11 13 10.3
comp=Z,5μm,18.3s,baz=208,slow=39
comp=Z,36nm,0.8s
TLBR Topalu 28.16 315 ⇑P **P 11 00 41.2 +1.0**
HARR Harsova 28.30 316 ⇑P **P 11 00 41.8 +0.3**
HARR Harsova 28.30 316 P **P 11 00 41.8 +0.3**
LPSR Galich'ya Gora 28.39 338 *e*P **P 11 00 43.1 +0.9**
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR MLR MLR
comp=Z,1μm,16.0s
CFR Carcaliu 28.41 317 ⇑P **P 11 00 43.2 +0.7**
CFR Carcaliu 28.41 317 P **P 11 00 43.2 +0.7**
RDO Rodhopi 28.43 307 P **P 11 00 42.5 -0.2**
RDO IAmb IAmb 11 01 25.3
comp=Z,42nm,1.0s
MAKZ Makanchi 28.61 40 P **P 11 00 44.3 0.0**
MAKZ IAmb IAmb 11 01 11.4
comp=Z,52nm,1.1s
MAKZ Makanchi 28.61 40 P **P 11 00 44.3 0.0**
MAKZ pmax pmax
comp=Z,52nm,1.2s
SCTR Scanteiesti 28.75 317 ⇓P **P 11 00 46.0 +0.5**
MK31 Makanchi Array 28.78 40 P **P 11 00 46.4 +0.6**
MK31 Makanchi Array 28.78 40 P **P 11 00 46.4 +0.6**
MK31 pmax pmax
comp=Z,19nm,1.2s
MKAR Makanchi Array 28.78 40 P **P 11 00 45.6 -0.2**
MKAR Makanchi Array 28.78 40 P **P 11 00 46.4 +0.6**
comp=Z,5.7nm,0.5s,baz=224,slow=8.6,SNR=126
MKAR PcP **PcP 11 03 55.3 -0.3**
comp=Z,1.4nm,0.5s,baz=242,slow=2.6,SNR=1.9
MKAR ScP **ScP 11 07 36.1 -1.0**
comp=Z,1.2nm,0.9s,baz=245,slow=4.8,SNR=2.1
MKAR LR LR 11 14 30.3
comp=Z,3μm,18.2s,baz=222,slow=41
comp=Z,5.7nm,0.5s
VLDR Vladesti 28.79 318 ⇑P **P 11 00 47.0 +1.2**
MILM Milestii Mici 28.94 320 *e*P **P 11 00 47.0 -0.1**
MILM *e*S **S 11 05 32.0 -5.7**
MILM *e*L L 11 11 46.0
MILM LQM 11 12 46.0
comp=Z,2μm,24.0s
MILM LRM MLR 11 18 51.0
comp=Z,2μm,16.0s
MILM Milestii Mici 28.94 320 ⇑P **P 11 00 47.5 +0.4**
MILM Milestii Mici 28.94 320 *e*P **P 11 00 47.0 -0.1**
MILM *e*S **S 11 05 32.0 -5.7**
KIS Kishinev 28.98 320 *e*P **P 11 00 47.0 -0.5**
KIS *e*S **S 11 05 34.0 -4.4**
KIS *e*L L 11 12 35.0
KIS LRM MLR 11 19 00.0
comp=Z,650nm,16.0s
KIS Kishinev 28.98 320 *e*P **P 11 00 47.0 -0.5**
KIS *e*S **S 11 05 34.0 -4.4**
KURBB Kurchatov Arra 29.28 30 P **P 11 00 50.7 +0.6**
comp=Z,7.6nm,0.8s,baz=231,slow=8.6,SNR=53
KURBB ScP **ScP 11 07 37.6 -1.0**
comp=Z,1.4nm,0.9s,baz=229,slow=3.0,SNR=3.7
KURBB LR LR 11 14 56.4
comp=Z,2μm,18.1s,baz=206,slow=41
comp=Z,7.6nm,0.8s
GHRR 29.30 318 ⇑P **P 11 00 51.8 +1.5**
ARTI Arti 29.35 3 P **P 11 00 50.6 -0.1**
ARTI Arti 29.35 3 P **P 11 00 51.2 +0.5**
comp=Z,4.6nm,0.7s,baz=185,slow=7.9,SNR=7.3
ARTI LR LR 11 13 27.1
comp=Z,4μm,21.9s,baz=184,slow=38
comp=Z,4.6nm,0.7s
ARTI Arti 29.35 3*c i*P **P 11 00 52.5 +1.8**
ARTI 11 01 46.8
ARTI S **S 11 05 49.5 +5.4**
ARTI SS **SnSn 11 07 14.9 +4.8**
ARTI pmax pmax
comp=Z,15nm,1.7s
ARTI MLR MLR
comp=Z,3μm,18.0s
ODBI Odobesti 29.36 317 ⇓P **P 11 00 52.2 +1.3**
KURK Kurchatov 29.39 30 P **P 11 00 51.0 -0.1**
KURK IAmb IAmb 11 01 25.0
comp=Z,52nm,1.4s
KURK Kurchatov 29.39 30 P **P 11 00 51.4 +0.3**
KURK Kurchatov 29.39 30*ce*P **P 11 00 52.2 +1.1**
KURK pmax pmax
comp=Z,18nm,1.1s
VRI Vrincioaia 29.62 317 ⇓P **P 11 00 55.3 +2.1**
VRI Vrincioaia 29.62 317 P **P 11 00 55.3 +2.1**
VRI Vrincioaia 29.62 317 P **P 11 00 55.7 +2.5**
comp=Z,26nm,1.4s
PLOR Plostina 29.66 317 ⇓P **P 11 00 55.1 +1.5**
PLOR Plostina 29.66 317 P **P 11 00 55.1 +1.5**
PLOR3 Plostina Array 29.66 317 P **P 11 00 55.2 +1.6**
comp=Z,25nm,0.7s
NEHR Nehoiu 29.67 316 ⇑P **P 11 00 55.3 +1.6**
SORM Soroca 29.88 322 ⇑P **P 11 00 57.1 +1.6**
SORM Soroca 29.88 322 P **P 11 00 57.1 +1.6**
SORM Soroca 29.88 322 P **P 11 00 56.1 +0.6**
comp=Z,19nm,0.7s
MLR Muntele Rosu 29.92 316 P **P 11 00 56.9 +0.9**
MLR IAmb IAmb 11 01 49.3
comp=Z,69nm,1.3s
MLR Muntele Rosu 29.92 316 P **P 11 00 57.5 +1.5**

comp=Z,8.4nm,0.6s,baz=115,slow=5.0,SNR=17
comp=Z,8.4nm,0.6s
MLR Muntele Rosu 29.92 316 ⇑P **P 11 00 58.1 +2.1**
MLR Muntele Rosu 29.92 316 P **P 11 00 56.9 +0.9**
MLR pmax pmax
comp=Z,69nm,1.3s
MLR Muntele Rosu 29.92 316 P **P 11 00 58.4 +2.4**
comp=Z,38nm,1.7s
COVR Voineasa-Covas 29.93 317 ⇑P **P 11 00 57.7 +1.7**
SVE Sverdlovsk 29.94 6 *e*P **P 11 00 56.6 +0.7**
SVE *e*S **S 11 05 57.6 +4.3**
SVE pmax pmax
comp=Z,28nm,1.2s
SVE MLR MLR
comp=Z,2μm,15.0s
TESR Tescani 29.98 318 ⇑P **P 11 00 57.7 +1.2**
TESR Tescani 29.98 318 P **P 11 00 57.0 +0.5**
comp=Z,51nm,1.2s
ONER Baraj Valea Uz 30.05 317 ⇑P **P 11 00 58.2 +1.1**
OZUR 30.30 317 ⇑P **P 11 01 00.1 +0.8**
LIT Litokhoron 30.32 304 P **P 11 00 58.7 -0.8**
LIT Litokhoron 30.32 304 P **P 11 00 58.7 -0.8**
LIT pmax pmax
comp=Z,29nm,1.1s
MTUR Matau 30.35 315 ⇑P **P 11 01 01.2 +1.4**
MTUR Matau 30.35 315 P **P 11 01 01.2 +1.4**
VOIR 30.45 315 ⇑P **P 11 01 02.4 +1.7**
VOIR 30.45 315 P **P 11 01 02.4 +1.7**
VOIR 30.45 315 P **P 11 01 01.9 +1.2**
comp=Z,27nm,0.8s
LODK Lodwar 30.48 223 P **P 11 01 01.3 +0.1**
LODK Lodwar 30.48 223 P **P 11 01 03.5 +2.3**
SNR=14
DOPR Dopca 30.48 316 ⇓P **P 11 01 02.1 +1.2**
PEHC Pehcevo 30.51 307 *i* P **P 11 01 01.5 +0.3**
VAY Valandovo 30.60 306 *i* P **P 11 01 02.9 +1.0**
ZSN Zaisan 30.62 41 *e*P **P 11 01 02.2 +0.1**
ZSN Zaisan 30.62 41 *e*P **P 11 01 02.2 +0.1**
ARR Arges 30.69 315 ⇓P **P 11 01 03.9 +1.1**
WMQ Urumqi 30.76 49 *e*P **P 11 01 05.3 +1.9**
WMQ sP sP 11 01 12.5 +4.8
WMQ PP **PP 11 02 11.3 -1.5**
WMQ ScS ScS 11 11 37.9 -2.3
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,5μm,22.3s
WMQ LR LR
comp=Z,2μm,22.3s
WMQ LR LR
comp=Z,4μm,24.2s
PALK Pallekele 30.90 125 LR LR 11 13 48.5
comp=Z,2μm,19.0s,baz=323,slow=37
PALK Pallekele 30.90 125 P **P 11 01 05.9 +1.1**
AK09 Malin Array Si 30.90 327 P **P 11 01 03.9 -0.6**
AK12 Malin Array Si 30.98 327 P **P 11 01 04.6 -0.6**
AKASG Malin Array Be 30.98 327 P **P 11 01 04.5 -0.7**
AKASG Malin Array Be 30.98 327 P **P 11 01 05.1 -0.1**
comp=Z,13nm,0.7s,baz=135,slow=8.4,SNR=61
AKASG PcP **PcP 11 04 00.3 -0.9**
comp=Z,0.8nm,0.5s,baz=102,slow=2.4,SNR=1.7
comp=Z,13nm,0.7s
AKASG Malin Array Be 30.98 327 *i* P **P 11 01 05.0 -0.1**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 30.98 327 P **P 11 01 04.4 -0.8**
AKBB IAmb IAmb 11 01 52.3
comp=Z,39nm,0.8s
AKBB Malin Array Si 30.98 327 *ce*P **P 11 01 05.1 -0.1**
AKBB pmax pmax
comp=Z,39nm,0.8s
AKBB Malin Array Si 30.98 327 P **P 11 01 04.8 -0.4**
KIEV Kiev 30.99 327 P **P 11 01 04.2 -1.0**
KIEV IAmb IAmb 11 01 52.2
comp=Z,35nm,0.8s
KIEV Kiev 30.99 327 ⇓P **P 11 01 05.3 0.0**
KIEV Kiev 30.99 327 P **P 11 01 04.2 -1.0**
KIEV pmax pmax
comp=Z,35nm,0.9s
KIEV Kiev 30.99 327 P **P 11 01 04.8 -0.4**
comp=Z,194nm,0.8s
KMPD K-Podol'skiy 31.17 321 P **P 11 01 07.2 +0.4**
comp=Z,3μm,0.7s
MDB Medias 31.19 316 ⇑P **P 11 01 08.9 +1.7**
MDB Medias 31.19 316 P **P 11 01 08.8 +1.7**
LUBAR Lubar, Ukraine 31.24 324 P **P 11 01 06.5 -1.0**
OBN Obninsk 31.26 339 P **P 11 01 07.7 +0.2**
OBN IAmb IAmb 11 01 10.8
comp=Z,38nm,0.7s
OBN Obninsk 31.26 339 P **P 11 01 07.6 0.0**
comp=Z,36nm,0.7s,baz=206,slow=2.9,SNR=8.6
OBN LR LR 11 14 55.2
comp=Z,2μm,19.5s,baz=139,slow=38
comp=Z,36nm,0.7s
OBN Obninsk 31.26 339 ⇑P **P 11 01 08.2 +0.7**
OBN Obninsk 31.26 339 *ce*P **P 11 01 08.3 +0.7**
OBN *i* *PP **sP 11 01 10.2 -1.7**
OBN *i* *SP **pP 11 01 11.3 +0.7**
OBN *i* S **S 11 06 14.8 +0.8**
OBN *i* SS **SnSn 11 07 53.1 -3.4**
OBN *i* SSS SSS 11 08 25.8
OBN pmax pmax
comp=Z,67nm,1.3s
OBN MLR MLR
comp=Z,1μm,17.0s
LOT Lotru 31.27 314 ⇓P **P 11 01 08.5 +0.5**
LSA Lhasa 31.29 77 P **P 11 01 09.8 +1.1**
LSA Lhasa 31.29 77 P **P 11 01 09.8 +1.1**
LSA P **P 11 01 09.8 +1.1**
LSA Lhasa 31.29 77 P **P 11 01 09.8 +1.1**
LSA pmax pmax
comp=Z,21nm,0.9s
SRE Strehaia 31.32 313 ⇓P **P 11 01 09.0 +0.7**
SRE Strehaia 31.32 313 P **P 11 01 08.9 +0.7**
FNA Florina 31.32 305 P **P 11 01 07.5 -0.9**
FNA Florina 31.32 305 P **P 11 01 07.5 -0.9**
FNA pmax pmax
comp=Z,83nm,1.3s
BURAR Bucovina Array 31.38 319 ⇓P **P 11 01 09.8 +0.9**
BURAR Bucovina Array 31.38 319 P **P 11 01 09.8 +0.9**
BUR08 Bucovina Ar. S 31.41 319 P **P 11 01 08.5 -0.6**
MOS Moscow 31.46 340 *e*P **P 11 01 08.1 -1.2**
MI30 MI30,Zelenitsa 31.52 326 P **P 11 01 09.5 -0.5**
comp=Z,51nm,0.9s
ARCR ARCALIA 31.64 317 ⇓P **P 11 01 12.4 +1.3**
KBN Korca 31.71 304 P **P 11 01 11.1 -0.8**
KBN Korca 31.71 304 P **P 11 01 11.1 -0.8**
KBN pmax pmax
comp=Z,99nm,0.9s
KIRV Kirov 31.79 354 P **P 11 01 13.3 +1.1**
comp=Z,52nm,0.8s,baz=144,slow=1.0,SNR=13
KIRV LR LR 11 16 25.0
comp=Z,3μm,20.0s,baz=169,slow=41
comp=Z,52nm,0.8s
KIRV Kirov 31.79 354 *ce*P **P 11 01 13.8 +1.7**
KSV Kosov 31.82 320 P **P 11 01 14.3 +1.6**
OHR Ohrid 31.83 305 *i* P **P 11 01 14.2 +1.3**
OHR Ohrid 31.83 305 P **P 11 01 14.5 +1.6**
OHR pmax pmax
comp=Z,79nm,1.0s
GZR Gura Zlata 31.89 314 ⇑P **P 11 01 13.6 +0.3**
GZR Gura Zlata 31.89 314 P **P 11 01 13.6 +0.3**
HERR Herculane 31.92 313 ⇓P **P 11 01 14.4 +0.9**
MARR Marisel-Cluj 32.21 316 ⇑P **P 11 01 17.1 +1.0**
MDVR Moldovita 32.35 312 ⇓P **P 11 01 18.0 +0.6**
BMR Baia Mare 32.43 318 ⇓P **P 11 01 19.3 +1.3**
BMR Baia Mare 32.43 318 P **P 11 01 19.3 +1.3**
SURR Surduc 32.45 314 ⇑P **P 11 01 19.6 +1.4**
SHL Shillong 32.46 84 P **P 11 01 17.6 -1.2**
SHL IAmb IAmb 11 02 25.4
comp=Z,29nm,1.2s
SHL Shillong 32.46 84 P **P 11 01 17.6 -1.2**
SHL pmax pmax
comp=Z,29nm,1.2s
DRGR 32.51 316 ⇓P **P 11 01 20.0 +1.1**
DRGR 32.51 316 P **P 11 01 19.9 +1.1**
MESR Meseseni 32.52 317 ⇓P **P 11 01 19.6 +0.8**
TIR Tirane 32.57 305 P **P 11 01 18.6 -0.7**
TIR Tirane 32.57 305 P **P 11 01 18.6 -0.7**
TIR pmax pmax
comp=Z,74nm,1.0s
TIR Tirane 32.57 305 P **P 11 01 21.7 +2.4**
comp=Z,78nm,0.9s
BZS Buzias 32.72 313 ⇑P **P 11 01 21.1 +0.5**
BZS Buzias 32.72 313 P **P 11 01 21.1 +0.5**
PUK Puka 32.73 306 P **P 11 01 20.6 -0.2**
PUK IAmb IAmb 11 01 55.0
comp=Z,26nm,0.8s
BRDH Bariadhala 32.90 90 LR LR 11 17 08.1
comp=Z,4μm,20.5s,baz=296,slow=41
MORS Morshin 32.91 321 P **P 11 01 24.2 +2.0**
MORS Morshin 32.91 321 P **P 11 01 24.2 +2.0**
SIRR Siria 32.95 315 ⇓P **P 11 01 24.4 +1.8**
RNPP5 Staryi Chortor 32.98 325 P **P 11 01 22.8 +0.1**
KMBO Kilima Mbogo 33.16 215 P **P 11 01 25.0 0.0**
KMBO IAmb IAmb 11 01 27.4
comp=Z,24nm,0.9s
KMBO Kilima Mbogo 33.16 215 P **P 11 01 26.5 +1.6**
KMBO P **P 11 01 26.5 +1.6**
KMBO Kilima Mbogo 33.16 215 P **P 11 01 25.0 0.0**
KMBO pmax pmax
comp=Z,24nm,0.9s
KMBO Kilima Mbogo 33.16 215 *i* P **P 11 01 26.7 +1.8**
SNR=16
PDG Podgorica 33.29 307 ⇑P **P 11 01 26.1 +0.5**
KOLS Kolonicke sedl 33.74 319 *e*P **P 11 01 31.1 +1.6**
KOLS pmax pmax
comp=Z,51nm,1.3s
KOLS Kolonicke sedl 33.74 319 *e*P **P 11 01 31.1 +1.6**
KIBK Kibwezi 33.81 213 P **P 11 01 29.9 -0.6**
KIBK IAmb IAmb 11 02 14.2
comp=Z,27nm,1.2s
KIBK Kibwezi 33.81 213 P **P 11 01 31.1 +0.7**
SNR=6.9
MNK Minsk 34.10 331 *i* P **P 11 01 32.7 +0.3**
comp=E,19nm,0.9s
MNK *i* P **P 11 01 32.7 +0.3**
comp=N,49nm,1.0s
MNK *i* P **P 11 01 32.7 +0.3**
comp=Z,53nm,0.8s,baz=132
MNK *i* PP **PP 11 02 46.4 -3.1**
MNK *i* PPP PPP 11 02 58.6
MNK *i* S **S 11 07 03.6 +5.4**
MNK *i* SS **SnSn 11 09 09.3 +3.8**
MNK *i* SSS SSS 11 09 24.3
MNK *i* LQ LQ 11 12 17.1
MNK *i* LR LR 11 14 49.7
MNK *i* LRM MLR 11 15 50.9
comp=E,2μm,17.8s
MNK *i* LRM MLR 11 16 28.4
comp=Z,1μm,16.5s
MNK *i* LRM MLR 11 16 47.7
comp=N,1μm,19.1s
MNK Minsk 34.10 331 *i* P **P 11 01 32.7 +0.3**
MNK *i* 11 02 46.4
MNK *i* PPP PPP 11 02 58.6
MNK *i* 11 04 09.7
MNK *i* S **S 11 07 03.6 +5.4**
MNK *i* SS **SnSn 11 09 09.2 +3.8**
MNK pmax pmax
comp=E,19nm,0.9s
MNK pmax pmax
comp=Z,53nm,0.8s
MNK pmax pmax
comp=N,49nm,1.0s
MNK MLR MLR
comp=E,2μm,18.0s
MNK MLR MLR
comp=Z,1μm,17.0s
MNK MLR MLR
comp=N,1μm,19.0s
ZAA0 Zalesovo Array 34.38 31 P **P 11 01 34.3 -0.6**
ZALV Zalesovo Beam 34.38 31 P **P 11 01 34.8 -0.1**
comp=N,50nm,0.5s,baz=240,slow=9.2,SNR=261
ZALV PcP **PcP 11 04 09.1 -1.4**
comp=N,3.2nm,0.6s,baz=239,slow=3.4,SNR=1.9
ZALV LR LR 11 18 30.5
comp=N,901nm,18.8s,baz=233,slow=41
comp=N,50nm,0.5s
GOMU GeErMu 34.39 65 P **P 11 01 37.3 +1.6**
GOMU pP sP 11 01 41.2 +1.3
GOMU sP pP 11 01 45.2 +6.5
GOMU S **S 11 07 05.8 +1.9**
GOMU pmax pmax
comp=N,10.0nm,0.8s
GOMU LR LR
comp=N,6μm,19.5s
GOMU LR LR
comp=N,5μm,19.0s
GOMU LR LR
comp=N,6μm,19.6s
TIP Timpagrande 34.47 300 P **P 11 01 36.6 +0.7**
TIP Timpagrande 34.47 300 ⇑P **P 11 01 37.6 +1.6**
TIP Timpagrande 34.47 300 P **P 11 01 37.0 +1.1**
comp=N,47nm,1.2s
STHS Stebnicka Huta 34.57 319 *e*P **P 11 01 38.1 +1.5**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 34.57 319 *e*P **P 11 01 38.1 +1.5**
KECS Kecovo 34.60 318 *e*P **P 11 01 38.1 +1.2**
KECS Kecovo 34.60 318 *e*P **P 11 01 38.1 +1.2**
PSZ Piszkesteto 34.72 316 P **P 11 01 37.7 -0.4**
PSZ Piszkesteto 34.72 316 ⇓P **P 11 01 38.4 +0.4**
PSZ Piszkesteto 34.72 316 P **P 11 01 37.7 -0.4**
PSZ pmax pmax
comp=Z,26nm,1.1s
PSZ Piszkesteto 34.72 316 *e*P **P 11 01 38.3 +0.3**
NACGM Naroch 34.84 331 *e*P **P 11 01 39.7 +0.8**
comp=Z,3μm,1.0s
MORH Mrgy, Hungar 34.87 313 ⇑P **P 11 01 39.4 +0.2**
MORH Mrgy, Hungar 34.87 313 P **P 11 01 39.9 +0.6**
comp=Z,21nm,1.1s
CEL Celeste 35.01 299 P **P 11 01 40.4 -0.2**
CEL IAmb IAmb 11 02 12.6
comp=Z,33nm,1.0s
NIE Niedzica 35.12 319 *e*P **P 11 01 43.5 +2.1**
NIE Niedzica 35.12 319 P **P 11 01 42.1 +0.7**
comp=Z,6.5nm,1.5s
CUC Castrocucco 35.31 302 P **P 11 01 44.1 +0.9**
IIGN Ignalina 35.38 331 *e*P **P 11 01 44.1 +0.6**
LANS Liptovska Anna 35.49 318 *e*P **P 11 01 46.0 +1.4**
LANS pmax pmax
comp=Z,21nm,0.8s
LANS Liptovska Anna 35.49 318 *e*P **P 11 01 46.0 +1.4**
KLMR Klimovskoe 35.49 346 *e*P **P 11 01 41.7 -2.7**
KLMR S **S 11 07 14.3 -5.2**
KLMR pmax pmax
comp=Z,83nm,1.3s
KLMR MLR MLR
comp=Z,2μm,17.0s
VYHS Vyhne 35.60 317 *e*P **P 11 01 46.4 +0.8**
VYHS pmax pmax
comp=Z,23nm,1.2s
VYHS Vyhne 35.60 317 *e*P **P 11 01 46.4 +0.8**
OJC Ojcow 35.77 320 *e*P **P 11 01 47.3 +0.4**
OJC Ojcow 35.77 320 P **P 11 01 46.5 -0.3**
OJC IAmb IAmb 11 01 58.1
comp=Z,50nm,1.0s
OJC Ojcow 35.77 320 P **P 11 01 46.6 -0.3**
OJC pmax pmax
comp=Z,51nm,1.0s
OJC Ojcow 35.77 320 P **P 11 01 47.0 +0.1**
comp=Z,55nm,1.0s
MPLH Magyarpolny 35.92 314 P **P 11 01 49.0 +0.7**
comp=Z,101nm,1.2s
SUW Suwalki 35.94 327 *e*P **P 11 01 48.5 +0.2**
SUW Suwalki 35.94 327 P **P 11 01 47.7 -0.6**
SUW Suwalki 35.94 327 P **P 11 01 47.7 -0.6**
SUW pmax pmax
comp=Z,94nm,1.1s
SUW Suwalki 35.94 327 *e*P **P 11 01 48.7 +0.4**
BEL Belsk 35.98 323 *e*P **P 11 01 49.6 +0.9**
VAE Valguarnera 36.10 297 P **P 11 01 52.4 +2.3**
comp=Z,26nm,0.8s,baz=168,slow=3.4,SNR=7.8
VAE LR LR 11 19 40.2
comp=Z,1μm,18.3s,baz=106,slow=41
comp=Z,26nm,0.8s
RAFF Raffo Rosso 36.12 297 P **P 11 01 50.0 -0.2**
RAFF IAmb IAmb 11 02 08.9
comp=Z,66nm,1.0s
PAOL Paolisi 36.41 303 P **P 11 01 52.9 +0.2**
PAOL IAmb IAmb 11 02 29.7
comp=Z,46nm,1.1s
JAVC Velka Javorina 36.46 317 *e*P **P 11 01 54.1 +1.2**
PABE Paberze 36.47 330 P **P 11 01 52.5 -0.3**
PABE Paberze 36.47 330 *e*P **P 11 01 53.2 +0.4**
MBAR Mbarara 36.48 225 P **P 11 01 53.5 -0.1**
MBAR Mbarara 36.48 225 P **P 11 01 53.6 0.0**
MBAR Mbarara 36.48 225 *i* P **P 11 01 54.2 +0.6**
MBAR pmax pmax
comp=Z,22nm,0.9s
MODS Modra-Piesok 36.52 316 *e*P **P 11 01 54.0 +0.6**
MODS pmax pmax
comp=Z,80nm,1.8s
MODS Modra-Piesok 36.52 316 *e*P **P 11 01 54.0 +0.6**
OKC Ostrava-Krasne 36.56 319 *e*P **P 11 01 53.7 0.0**
OKC AMS AMS 11 22 20.0
comp=Z,2μm,20.1s
OKC Ostrava-Krasne 36.56 319 *e*P **P 11 01 53.7 0.0**
OKC MLR MLR
comp=Z,2μm,20.1s
VSVD Vaisvydziai 36.78 330 *e*P **P 11 01 56.1 +0.6**
STEB Steborice 36.82 319 *e*P **P 11 01 55.9 0.0**
RONA Rosalia, Austr 36.89 315 *i* P **P 11 01 57.1 +0.5**
comp=Z,14nm,1.2s
MORC Moravsky Berou 36.90 318 P **P 11 01 56.4 -0.2**
MORC Moravsky Berou 36.90 318 *e*P **P 11 01 56.9 +0.3**
MORC Moravsky Berou 36.90 318 ⇑P **P 11 01 56.8 +0.1**
MORC Moravsky Berou 36.90 318 P **P 11 01 56.4 -0.2**
MORC pmax pmax
comp=Z,29nm,1.0s
INTR Introdacqua 37.07 305 P **P 11 01 58.2 0.0**
INTR IAmb IAmb 11 02 09.8
comp=Z,29nm,0.9s
ARSA Arzberg 37.24 314 *e*pP **P 11 02 01.6 +2.1**
comp=Z,6.7nm,0.9s
ARSA Arzberg 37.24 314 P **P 11 01 59.5 -0.1**
CONA Conrad Observa 37.25 315 *e*P **P 11 01 60.0 +0.3**
comp=Z,13nm,1.2s
VRAC Vranov 37.28 317 P **P 11 01 59.3 -0.5**
comp=Z,12nm,0.8s,baz=106,slow=9.2,SNR=18
comp=Z,12nm,0.8s
VRAC Vranov 37.28 317 *e*P **P 11 02 00.5 +0.6**
VRAC Vranov 37.28 317 ⇓P **P 11 02 00.2 +0.3**
VRAC Vranov 37.28 317 P **P 11 02 00.2 +0.3**
VSU Vasula 37.29 335 *ce*P **P 11 02 01.3 +1.5**
VSU pmax pmax
comp=Z,81nm,1.3s
VSU Vasula 37.29 335 *e*P **P 11 02 00.2 +0.4**
KRUC Moravsky 37.31 317 *e*P **P 11 02 00.6 +0.5**
SOKA Soboth 37.39 312 *i* P **P 11 02 01.4 +0.5**
comp=Z,10nm,1.1s
KRLC Kralicky 37.47 318 AMS AMS 11 21 40.0
comp=Z,2μm,16.8s
CAMP Campotosto 37.53 305 P **P 11 02 01.7 -0.5**
OBKA Obir 37.66 312 *i* pP **P 11 02 05.7 +2.5**
comp=Z,8.3nm,1.0s
GUMA Gualdo di Mace 37.68 306 P **P 11 02 02.6 -0.8**
NRCA Norcia 37.80 306 P **P 11 02 04.4 0.0**
NRCA IAmb IAmb 11 02 16.8
comp=Z,41nm,0.8s
DPC Dobruska-Polom 37.84 319 *e*P **P 11 02 04.5 -0.2**
DPC AMS AMS 11 23 00.0
comp=Z,1μm,18.4s
DPC Dobruska-Polom 37.84 319 *e*P **P 11 02 04.5 -0.2**
DPC MLR MLR
comp=Z,1μm,18.4s
DPC Dobruska-Polom 37.84 319 P **P 11 02 05.0 +0.3**
comp=Z,27nm,1.1s
FDMO Fiordimonte 37.85 306 P **P 11 02 04.5 -0.4**
FDMO IAmb IAmb 11 02 29.3
comp=Z,68nm,1.1s
TREC Trest 37.95 317 AMS AMS 11 21 50.0
comp=Z,2μm,20.1s
OSTC Ostas 37.99 319 *e*P **P 11 02 06.2 +0.4**
OSTC AMS AMS 11 23 40.0
comp=Z,2μm,17.6s
OSTC Ostas 37.99 319 *e*P **P 11 02 06.2 +0.4**
OSTC MLR MLR
comp=Z,2μm,17.6s
KSP Ksiaz 38.06 319 *e*P **P 11 02 06.4 0.0**
KSP Ksiaz 38.06 319 P **P 11 02 06.7 +0.3**
comp=Z,37nm,1.1s
UPC Upice 38.09 319 *e*P **P 11 02 06.8 +0.1**
UPC AMS AMS 11 23 10.0
comp=Z,2μm,19.0s
UPC Upice 38.09 319 *e*P **P 11 02 06.8 +0.1**
UPC MLR MLR
comp=Z,2μm,19.0s
CHVC Chvalec 38.09 319 *e*P **P 11 02 07.1 +0.3**
CHVC Chvalec 38.09 319 *e*P **P 11 02 07.1 +0.3**
CESX Cesi 38.14 305 P **P 11 02 06.9 -0.4**
CESX IAmb IAmb 11 02 18.2
comp=Z,34nm,0.9s
SABO M.te Sabotino 38.15 311 P **P 11 02 06.4 -0.9**
SABO IAmb IAmb 11 02 17.2
comp=Z,66nm,1.3s
MOA Molln 38.24 314 *i* P **P 11 02 08.6 +0.6**
comp=Z,16nm,1.2s
ARBE Arbavere 38.26 336 *e*P **P 11 02 10.4 +2.5**
MYKA Terra Mystica 38.29 312 *i* P **P 11 02 09.4 +0.8**
comp=Z,4.6nm,0.8s
TNCH TengChong 38.45 83 P **P 11 02 12.4 +2.1**
TNCH pP sP 11 02 15.5 +1.0
TNCH S **S 11 08 07.9 +2.0**
TNCH pmax pmax
comp=Z,56nm,0.3s
TNCH pmax pmax
comp=Z,320nm,5.3s
TNCH LR LR
comp=Z,1μm,16.1s
TNCH LR LR
comp=Z,1μm,17.8s
TNCH LR LR
comp=Z,2μm,15.8s
CKRC Cesky Krumlov 38.52 316 *e*P **P 11 02 10.0 -0.3**
CKRC AMS AMS 11 22 30.0
comp=Z,2μm,18.1s
CKRC Cesky Krumlov 38.52 316 *e*P **P 11 02 10.0 -0.3**
CKRC MLR MLR
comp=Z,2μm,18.1s
GTA Gaotai 38.59 60 *e*P **P 11 02 12.2 +1.0**
GTA pP sP 11 02 16.0 +0.5
GTA S **S 11 08 11.3 +3.8**
GTA SS **SnSn 11 10 51.3 -3.5**
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,240nm,3.6s
GTA LR LR
comp=Z,2μm,19.1s
GTA LR LR
comp=Z,1μm,15.9s
GTA LR LR
comp=Z,2μm,20.3s
BIOA Bad Ischl, Aus 38.59 314 *e*P **P 11 02 11.4 +0.4**
comp=Z,5.7nm,0.6s
BIOA *e*S **S 11 08 07.6 +0.4**
comp=Z,5.6nm,1.1s
GOPC GO Pecny, Ondr 38.60 317 AMS AMS 11 22 00.0
comp=Z,2μm,16.5s
KBA Koelnbreinsper 38.61 313 *e*P **P 11 02 11.8 +0.5**
comp=Z,30nm,1.3s,SNR=10
PRU Pruhonice 38.77 317 *e*P **P 11 02 12.1 -0.3**
PRU AMS AMS 11 21 10.0
comp=Z,2μm,17.7s
PRU Pruhonice 38.77 317 *e*P **P 11 02 12.1 -0.3**
PRU MLR MLR
comp=Z,2μm,17.7s
ZVC Zvikov 38.80 316 *e*P **P 11 02 12.8 +0.2**
ZVC AMS AMS 11 22 00.0
comp=Z,2μm,16.9s
PRA Prague 38.87 317 AMS AMS 11 21 20.0
comp=Z,2μm,16.7s
GEC2 GERESS Array S 38.91 315 P **P 11 02 13.1 -0.6**
GERES GERESS Array B 38.91 315 P **P 11 02 12.7 -1.0**
GERES GERESS Array B 38.91 315 P **P 11 02 13.6 -0.1**
comp=Z,5.1nm,0.8s,baz=113,slow=8.8,SNR=12
comp=Z,5.1nm,0.8s
ABTA Abfaltersbach 39.07 312 *i* P **P 11 02 14.6 -0.5**
comp=Z,7.3nm,1.0s,SNR=6.9
ABTA *e*S **S 11 08 14.6 0.0**
comp=Z,4.8nm,1.0s
KHC Kasperske Hory 39.07 316 *e*P **P 11 02 14.9 -0.1**
KHC AMS AMS 11 24 20.0
comp=Z,1μm,14.8s
KHC Kasperske Hory 39.07 316 *ce*P **P 11 02 15.1 +0.1**
KHC pmax pmax
comp=Z,102nm,1.7s
KHC Kasperske Hory 39.07 316 P **P 11 02 14.8 -0.2**
comp=Z,32nm,1.2s
LESA Schwarzleotal 39.14 313 *i* P **P 11 02 15.7 0.0**
comp=Z,5.6nm,0.5s,SNR=6.0
LESA *e*S **S 11 08 16.3 +0.8**
comp=Z,14nm,1.3s

RICC	**Richard**	**39.24 318**	*e*P	**P**	**11 02 17.4 +1.1**
RICC			AMS	AMS	11 22 40.0
comp=Z,2μm,16.0s					
JOF	**Joensuu**	**39.24 343**	*e*P	**P**	**11 02 16.7 +0.6**
TEOL	**Teolo**	**39.32 309**	P	**P**	**11 02 16.9 -0.1**
TEOL			IAmb	IAmb	11 02 43.0
comp=Z,42nm,0.9s					
BRG	**Berggiesshubel**	**39.45 318**	*i* P	**P**	**11 02 18.3 +0.3**
BRG			Amp		11 02 20.7
comp=Z,14nm,1.0s					
BRG	**Berggiesshubel**	**39.45 318**	P	P	11 02 25.4 +7.3
BRG			Amp		11 02 29.1
comp=Z,21nm,0.9s					
CTI	**Castel Tesino**	**39.48 310**	P	**P**	**11 02 18.1 -0.5**
CTI	**Castel Tesino**	**39.48 310**	P	**P**	**11 02 18.1 -0.5**
CTI			pmax	pmax	
comp=Z,29nm,0.8s					
HSKC	**Hora Svate Kat**	**39.66 318**	*e*P	**P**	**11 02 19.0 -0.8**
HSKC			AMS	AMS	11 22 50.0
comp=Z,2μm,16.6s					
FIA1	**FINESS Array S**	**39.66 338**	P	**P**	**11 02 19.9 +0.2**
FINES	**FINESS Array B**	**39.66 338**	P	**P**	**11 02 19.5 -0.2**
FINES	**FINESS Array B**	**39.66 338**	P	**P**	**11 02 20.0 +0.3**
comp=Z,12nm,0.5s,baz=144,slow=9.9,SNR=38					
comp=Z,12nm,0.5s					
FINES	**FINESS Array B**	**39.66 338**	P	**P**	**11 02 19.5 -0.2**
WTTA	**Wattenberg**	**39.78 312**	*e*P	**P**	**11 02 21.1 0.0**
comp=Z,48nm,1.2s,SNR=13					
WTTA			*i* S	**S**	**11 08 22.2 -3.2**
comp=Z,20nm,1.1s					
WATA	**Walderalm**	**39.84 312**	*i* P	**P**	**11 02 21.3 -0.3**
comp=Z,66nm,1.4s,SNR=14					
WATA			*e*S	**S**	**11 08 23.9 -2.3**
comp=Z,6.0nm,0.9s					
SQTA	**Sankt Quirin**	**40.06 312**	*i* P	**P**	**11 02 22.8 -0.5**
comp=Z,19nm,0.5s,SNR=23					
SQTA			*e*S	**S**	**11 08 26.2 -3.1**
comp=Z,13nm,1.4s					
NKC	**Novy Kostel**	**40.12 317**	AMS	AMS	11 22 40.0
comp=Z,2μm,16.3s					
KEST	**Kesra**	**40.13 294**	P	**P**	**11 02 24.5 +0.5**
KEST	**Kesra**	**40.13 294**	P	**P**	**11 02 25.5 +1.5**
comp=Z,22nm,0.9s,baz=281,slow=2.1,SNR=18					
KEST			LR	LR	11 22 09.4
comp=Z,2μm,20.0s,baz=63,slow=41					
comp=Z,22nm,0.9s					
KEST	**Kesra**	**40.13 294**	P	**P**	**11 02 26.1 +2.1**
CLL	**Collm**	**40.16 319**	P	**P**	**11 02 23.6 -0.3**
CLL			IAmb	IAmb	11 02 55.4
comp=Z,58nm,1.4s					
CLL	**Collm**	**40.16 319**	*i* P	**P**	**11 02 24.1 +0.2**
CLL			*e*S	**S**	**11 08 31.0 +0.6**
CLL			pmax	pmax	
comp=Z,31nm,1.0s					
CLL			MLR	MLR	
comp=Z,2μm,18.6s					
CLL	**Collm**	**40.16 319**	P	**P**	**11 02 24.5 +0.6**
comp=Z,30nm,1.0s					
CLL	**Collm**	**40.16 319**	*i* P	**P**	**11 02 24.1 +0.2**
comp=Z,31nm,1.0s					
CLL			*ex*	x	11 02 34.0
CLL			*e*PPP	PPP	11 04 21.0
CLL			*e*S	**S**	**11 08 31.0 +0.6**
CLL			*e*SS	**SS**	**11 11 30.0 +2.0**
CLL			*e*SSS	SSS	11 11 52.0
CLL			AMS	AMS	11 23 00.0
comp=Z,2μm,18.6s					
MOTA	**Moosalm**	**40.16 312**	*i* P	**P**	**11 02 23.5 -0.7**
comp=Z,30nm,0.9s					
MOTA			*e*S	**S**	**11 08 29.2 -1.7**
comp=Z,7.1nm,1.0s					
VSL	**Villasalto**	**40.19 300**	P	**P**	**11 02 24.1 -0.3**
VSL			IAmb	IAmb	11 02 46.0
comp=Z,58nm,1.0s					
FETA	**Feichten**	**40.33 312**	*i* P	**P**	**11 02 25.7 +0.1**
comp=Z,20nm,0.9s,SNR=12					
FETA			*i* S	**S**	**11 08 30.1 -3.4**
comp=Z,18nm,1.0s					
RETA	**Reutte**	**40.41 312**	*e*P	**P**	**11 02 25.6 -0.6**
comp=Z,8.9nm,0.8s					
RETA			*e*S	**S**	**11 08 31.6 -3.1**
comp=Z,12nm,1.3s					
FUORN	**Ofenpass-Fuorn**	**40.55 311**	P	**P**	**11 02 28.0 +0.4**
FUORN			IAmb	IAmb	11 02 57.1
comp=Z,114nm,1.9s					
CHTO	**Chiang Mai**	**40.57 92**	P	**P**	**11 02 27.7 -0.1**
CHTO			IAmb	IAmb	11 02 31.3
comp=Z,68nm,1.6s					
CHTO	**Chiang Mai**	**40.57 92**	P	**P**	**11 02 27.7 -0.1**
CHTO			pmax	pmax	
comp=Z,68nm,1.6s					
KEF	**Keuruu**	**40.58 338**	*e*P	**P**	**11 02 27.8 +0.5**
CMAR	**Chiang Mai Arr**	**40.69 93**	P	**P**	**11 02 29.1 +0.3**
CMAR	**Chiang Mai Arr**	**40.69 93**	P	**P**	**11 02 29.8 +1.0**
comp=Z,2.0nm,0.6s,baz=284,slow=9.3,SNR=17					
CMAR			LR	LR	11 22 41.3
comp=Z,1μm,20.7s,baz=280,slow=41					
comp=Z,2.0nm,0.6s					
GRA1	**Grafenberg Arr**	**40.71 316**	P	**P**	**11 02 28.4 -0.2**
GRA1			IAmb	IAmb	11 02 39.6
comp=Z,50nm,1.1s					
GRF	**Grafenberg Arr**	**40.71 316**	P	**P**	**11 02 28.4 -0.2**
GRF			pmax	pmax	
comp=Z,50nm,1.1s					
GRFO	**Grafenberg**	**40.71 316**	P	**P**	**11 02 28.7 +0.1**
GRFO			IAmb	IAmb	11 02 39.6
comp=Z,51nm,1.1s					
GRFO	**Grafenberg**	**40.71 316**	P	**P**	**11 02 28.7 +0.1**
GRFO			pmax	pmax	
comp=Z,51nm,1.1s					
MOX	**Moxa**	**40.76 317**	P	**P**	**11 02 30.7 +1.7**
DAVOX	**Davos/Dischmat**	**40.84 311**	P	**P**	**11 02 29.7 -0.2**
comp=Z,15nm,0.6s,baz=112,slow=7.0,SNR=23					
DAVOX			LR	LR	11 22 41.5
comp=Z,3μm,21.6s,baz=82,slow=41					
comp=Z,15nm,0.6s					
DAVA	**Damuels**	**40.95 312**	*i* P	**P**	**11 02 30.3 -0.4**
comp=Z,42nm,0.5s,SNR=20					
DAVA			*e*S	**S**	**11 08 39.4 -3.4**
comp=Z,10nm,0.9s					
TUE	**Stuetta**	**41.13 311**	P	**P**	**11 02 31.5 -0.9**
TUE	**Stuetta**	**41.13 311**	P	**P**	**11 02 33.0 +0.6**
comp=Z,150nm,1.0s					
LZH	**Lanzhou**	**41.69 65**	*e*P	**P**	**11 02 38.6 +1.6**
LZH			sP	sP	11 02 46.9 +5.6
LZH			S	**S**	**11 08 54.2 +0.1**
LZH			pmax	pmax	
comp=Z,17nm,1.6s					
LZH			LR	LR	
comp=Z,3μm,18.2s					
LZH			LR	LR	
comp=Z,1μm,16.5s					
LZH			LR	LR	
comp=Z,2μm,15.5s					
PHRA	**Phrae**	**41.82 92**	P	**P**	**11 02 39.2 +1.1**
MOY	**Mondy**	**41.89 42**	*e*P	**P**	**11 02 39.7 +1.3**
MOY			pmax	pmax	
comp=Z,23nm,2.3s					
VAF	**Ylistaro**	**41.92 338**	*e*P	**P**	**11 02 38.7 +0.4**
CD2	**Chengdu**	**42.02 73**	P	**P**	**11 02 40.3 +0.7**
CD2			S	**S**	**11 09 01.3 +2.5**
CD2			pmax	pmax	
comp=Z,20nm,0.8s					
CD2			LR	LR	
comp=Z,6μm,19.2s					
CD2			LR	LR	
comp=Z,4μm,17.5s					
CD2			LR	LR	
comp=Z,3μm,14.9s					
KMI	**Kunming**	**42.16 82**	⇑P	**P**	**11 02 43.3 +2.2**
KMI			pP	sP	11 02 46.9 +1.6
KMI			S	**S**	**11 09 01.4 0.0**
KMI			pmax	pmax	
comp=Z,14nm,1.0s					
KMI			pmax	pmax	
comp=Z,270nm,3.1s					
KMI			LR	LR	
comp=Z,1μm,15.3s					
KMI			LR	LR	
comp=Z,1μm,18.5s					
KMI			LR	LR	
comp=Z,2μm,18.1s					
MSF	**Maaselka**	**42.25 344**	P	**P**	**11 02 43.1 +2.1**
SRDT	**SRDT**	**42.41 98**	P	**P**	**11 02 44.7 +1.9**
SENIN	**Lac Senin/Sane**	**42.51 310**	P	**P**	**11 02 42.2 -1.4**
APA	**Apatity**	**42.70 348**	⇓*i*P	**P**	**11 02 45.4 +0.8**
APA			pmax	pmax	
comp=Z,23nm,0.9s					
APA			MLR	MLR	
comp=Z,2μm,14.0s					
BNI	**Bardonecchia**	**42.74 308**	P	**P**	**11 02 45.0 -0.4**
BNI	**Bardonecchia**	**42.74 308**	P	**P**	**11 02 45.0 -0.4**
BNI			pmax	pmax	
comp=Z,22nm,0.9s					
LPL	**La Plagne**	**42.77 309**	*e*P	**P**	**11 02 45.1 -0.6**
LPL			pmax	pmax	
comp=Z,11nm,0.7s					
ZAK	**Zakamensk**	**42.92 44**	*e*P	**P**	**11 02 47.1 +0.4**
ZAK			pmax	pmax	
comp=Z,9.0nm,1.2s					
ECH	**Echery**	**42.94 313**	P	**P**	**11 02 46.4 -0.5**
ECH	**Echery**	**42.94 313**	P	**P**	**11 02 46.4 -0.5**
ECH			pmax	pmax	
comp=Z,29nm,1.0s					
HFS	**Hagfors**	**43.61 331**	P	**P**	**11 02 52.2 +0.1**
comp=Z,13nm,0.3s,baz=128,slow=9.6,SNR=89					
HFS			LR	LR	11 24 36.7
comp=Z,2μm,20.7s,baz=123,slow=41					
comp=Z,13nm,0.3s					
WLF	**Walferdange**	**43.89 315**	P	**P**	**11 02 53.7 -0.8**
WLF			IAmb	IAmb	11 03 13.3
comp=Z,30nm,0.9s					
WLF	**Walferdange**	**43.89 315**	P	**P**	**11 02 54.1 -0.4**
WLF	**Walferdange**	**43.89 315**	*d*P	**P**	**11 02 54.5 0.0**
comp=Z,21nm,0.9s					
WLF	**Walferdange**	**43.89 315**	P	**P**	**11 02 53.7 -0.8**
WLF			pmax	pmax	
comp=Z,30nm,0.9s					
IRK	**Irkutsk**	**44.00 42**	*e*P	**P**	**11 02 59.1 +3.8**
IRK			pmax	pmax	
comp=Z,45nm,2.7s					
BTNL	**Ternell**	**44.11 316**	*d*P	**P**	**11 02 57.7 +1.4**
BHOU	**Houvegnez**	**44.13 316**	*d*P	**P**	**11 02 58.3 +1.9**
MUD	**Monsted U'grnd**	**44.14 325**	*i* P	**P**	**11 02 57.0 +0.7**
MEM	**Membach**	**44.19 316**	*d*P	**P**	**11 02 57.1 +0.3**
comp=Z,16nm,1.0s					
SLVN	**Son La**	**44.20 87**	P	**P**	**11 02 58.3 +0.9**
SLVN	**Son La**	**44.20 87**	P	**P**	**11 02 59.2 +1.8**
NAYO	**Nakonayok**	**44.36 97**	P	**P**	**11 02 59.8 +1.1**
SONM	**Songino Array**	**44.39 48**	P	**P**	**11 02 59.1 +0.4**
SONM	**Songino Array**	**44.39 48**	P	**P**	**11 02 59.8 +1.0**
comp=Z,3.3nm,0.6s,baz=274,slow=9.5,SNR=21					
SONM			PcP	**PP**	**11 04 39.7 -2.5**
comp=Z,3.0nm,0.9s,baz=265,slow=5.2,SNR=1.6					
SONM			LR	LR	11 23 15.4
comp=Z,2μm,21.8s,baz=264,slow=38					
comp=Z,3.3nm,0.6s					
SONM	**Songino Array**	**44.39 48**	P	**P**	**11 02 59.1 +0.4**
SONM			pmax	pmax	
comp=Z,16nm,1.0s					
NONG	**Nongkai**	**44.57 91**	P	**P**	**11 03 01.2 +0.9**
RCHB	**Rochefort**	**44.58 315**	*d*P	**P**	**11 03 01.3 +1.4**
comp=Z,20nm,1.0s					
BCLA	**Clavier**	**44.59 315**	*d*P	**P**	**11 03 02.4 +2.4**
comp=Z,22nm,1.1s					
BGES	**Gesves**	**44.71 315**	*d*P	**P**	**11 03 01.9 +0.8**
comp=Z,17nm,1.1s					
OSL	**Oslo**	**44.83 330**	*e*P	**P**	**11 03 02.3 +0.5**
OSL			IAmb	IAmb	11 03 05.2
comp=Z,101nm,1.2s					
ULN	**Ulaanbaatar**	**44.84 48**	P	**P**	**11 03 02.5 +0.2**
ULN	**Ulaanbaatar**	**44.84 48**	P	**P**	**11 03 03.0 +0.8**
ULN			P	**P**	**11 03 03.0 +0.8**
ULN	**Ulaanbaatar**	**44.84 48**	*ce*P	**P**	**11 03 03.0 +0.8**
ULN			pmax	pmax	
comp=Z,18nm,1.7s					
NC602	**NORSAR Array S**	**44.84 331**	*e*P	**P**	**11 03 01.8 -0.2**
BMRD	**Maredsous**	**44.90 315**	*d*P	**P**	**11 03 02.4 -0.1**
comp=Z,18nm,1.3s					
SMF	**Signal de Mont**	**44.91 310**	*e*P	**P**	**11 03 01.7 -1.0**
SMF			pmax	pmax	
comp=Z,22nm,0.8s					
NC405	**NORSAR Array S**	**44.95 332**	P	**P**	**11 03 02.3 -0.5**
NC405			IAmb	IAmb	11 03 07.1
comp=Z,34nm,0.9s					
DOU	**Dourbes**	**44.97 315**	*d*P	**P**	**11 03 02.1 -0.9**
comp=Z,25nm,1.1s					
NB2	**NORSAR Subarra**	**45.13 331**	P	**P**	**11 03 03.5 -0.7**
comp=Z,25nm,1.0s,baz=118,slow=7.9					
NB2	**NORSAR Subarra**	**45.13 331**	P	**P**	**11 03 03.5 -0.7**
baz=118,slow=7.9					
NOA	**NORSAR Array B**	**45.13 331**	P	**P**	**11 03 03.8 -0.4**
comp=Z,16nm,0.9s,baz=118,slow=7.9,SNR=35					
NOA			LR	LR	11 25 32.0
comp=Z,1μm,20.0s,baz=120,slow=41					
comp=Z,16nm,0.9s					
HOMB	**Homborsund**	**45.17 327**	*e*P	**P**	**11 03 04.8 +0.3**
HOMB			IAmb	IAmb	11 03 06.5
comp=Z,158nm,1.4s					
SSF	**Saint Saulge**	**45.19 310**	*e*P	**P**	**11 03 04.1 -0.8**
SSF			pmax	pmax	
comp=Z,113nm,1.7s					
KONO	**Kongsberg**	**45.22 329**	*e*P	**P**	**11 03 05.0 +0.1**
KONO			IAmb	IAmb	11 03 12.5
comp=Z,2μm,3.8s					
UCC	**Uccle**	**45.25 316**	P	**P**	**11 03 06.2 +0.9**
UCC	**Uccle**	**45.25 316**	P	**P**	**11 03 06.2 +0.9**
UCC			pmax	pmax	
comp=Z,6.0nm,1.3s					
GYA	**Guiyang**	**45.31 79**	⇑P	**P**	**11 03 07.6 +1.3**
GYA			S	**S**	**11 09 46.6 -0.6**
GYA			pmax	pmax	
comp=Z,11nm,1.0s					
GYA			pmax	pmax	
comp=Z,120nm,3.1s					
GYA			LR	LR	
comp=Z,2μm,22.4s					
GYA			LR	LR	
comp=Z,1μm,21.1s					
GYA			LR	LR	
comp=Z,730nm,24.5s					
TAM	**Tamanrasset**	**45.40 276**	P	**P**	**11 03 07.1 0.0**
TAM			IAmb	IAmb	11 03 12.9
comp=Z,29nm,0.9s					
TAM	**Tamanrasset**	**45.40 276**	P	**P**	**11 03 07.1 0.0**
TAM			pmax	pmax	
comp=Z,29nm,0.9s					
VADS	**Vadso**	**45.65 348**	*e*P	**P**	**11 03 08.6 +0.4**
VADS			IAmb	IAmb	11 03 10.7
comp=Z,28nm,1.0s					
ARA0	**ARCESS Array S**	**45.96 346**	*e*P	**P**	**11 03 11.6 +0.9**
ARA0			IAmb	IAmb	11 03 12.7
comp=Z,102nm,1.9s					
ARCES	**ARCESS Array B**	**45.96 346**	P	**P**	**11 03 11.1 +0.4**
comp=Z,1.9nm,0.4s,baz=145,slow=8.8,SNR=27					
ARCES			LR	LR	11 23 48.3
comp=Z,2μm,19.5s,baz=130,slow=38					
comp=Z,1.9nm,0.4s					
CAF	**Calviac**	**45.98 307**	*e*P	**P**	**11 03 10.8 -0.4**
CAF			pmax	pmax	
comp=Z,28nm,1.0s					
XAN	**Xi'an**	**45.99 68**	⇓P	**P**	**11 03 12.0 +0.5**
XAN			pP	sP	11 03 15.6 -0.2
XAN			PP	**PP**	**11 05 04.2 +5.0**
XAN			S	**S**	**11 09 58.1 +1.5**
XAN			pmax	pmax	
comp=Z,14nm,1.2s					
XAN			pmax	pmax	
comp=Z,220nm,4.3s					
XAN			LR	LR	
comp=Z,3μm,17.0s					
XAN			LR	LR	
comp=Z,7μm,16.7s					
XAN			LR	LR	
comp=Z,8μm,18.6s					
KTK1	**Kautokeino**	**46.08 344**	*e*P	**P**	**11 03 12.1 +0.5**
KTK1			IAmb	IAmb	11 03 14.1
comp=Z,13nm,1.0s					
OPO	**Ambohidratompo**	**46.11 191**	LR	LR	11 19 47.5
comp=Z,2μm,21.6s,baz=180,slow=33					
NRIK	**Noril'sk**	**46.22 15**	P	**P**	**11 03 13.1 +0.4**
NRIK			IAmb	IAmb	11 03 39.1
comp=Z,29nm,1.2s					
NRIK	**Noril'sk**	**46.22 15**	P	**P**	**11 03 13.1 +0.4**
comp=Z,7.2nm,0.7s,baz=219,slow=5.6,SNR=14					
NRIK			LR	LR	11 26 06.6
comp=Z,3μm,18.1s,baz=216,slow=41					
comp=Z,7.2nm,0.7s					
NRIK	**Noril'sk**	**46.22 15**	*ce*P	**P**	**11 03 13.7 +1.0**
NRIK			pmax	pmax	
comp=Z,12nm,0.9s					
SKAR	**Skarslia**	**46.24 330**	*e*P	**P**	**11 03 13.5 +0.5**
SKAR			IAmb	IAmb	11 03 17.1
comp=Z,52nm,1.1s					
BTO	**Baotou**	**46.47 59**	*e*P	**P**	**11 03 15.7 +0.5**
BTO			pP	**sP**	**11 03 20.6 +1.1**
BTO			sP	**pP**	**11 03 23.0 +4.7**
BTO			PP	**PP**	**11 05 04.2 -0.1**
BTO			S	**S**	**11 10 03.4 0.0**
BTO			pmax	pmax	
comp=Z,28nm,0.9s					
BTO			pmax	pmax	
comp=Z,420nm,7.8s					
BTO			LR	LR	
comp=Z,5μm,24.1s					
BTO			LR	LR	
comp=Z,3μm,21.8s					
BTO			LR	LR	
comp=Z,6μm,24.9s					
DOMB	**Dombas**	**46.51 332**	*e*P	**P**	**11 03 14.9 -0.2**
NSS	**Namsos**	**46.59 336**	*e*P	**P**	**11 03 16.0 +0.4**
NSS			IAmb	IAmb	11 03 17.7
comp=Z,23nm,1.0s					
BLS5	**Blasjo**	**46.59 328**	*e*P	**P**	**11 03 15.4 -0.4**
MOR8	**Moi Rana**	**46.66 338**	*e*P	**P**	**11 03 16.1 -0.1**
MOR8			IAmb	IAmb	11 03 19.4
comp=Z,56nm,1.5s					
ODD1	**Odda**	**46.70 328**	*e*P	**P**	**11 03 17.9 +1.2**
ODD1			IAmb	IAmb	11 03 21.3
comp=Z,66nm,1.1s					
LFF	**La Frestale**	**46.92 307**	*e*P	**P**	**11 03 21.3 +2.7**
LFF			pmax	pmax	
comp=Z,200nm,1.8s					
LEIR	**Leirfjorden**	**47.06 338**	*e*P	**P**	**11 03 20.6 +1.3**
LEIR			IAmb	IAmb	11 03 25.7
comp=Z,28nm,1.0s					
FAUS	**Fauske**	**47.12 340**	*e*P	**P**	**11 03 21.3 +1.5**
FAUS			IAmb	IAmb	11 03 22.0
comp=Z,21nm,1.2s					
JETT	**Jettan, Norway**	**47.16 344**	*e*P	**P**	**11 03 20.6 +0.4**
JETT			IAmb	IAmb	11 03 25.4
comp=Z,22nm,1.0s					
HAMF	**Hammerfest**	**47.22 346**	*e*P	**P**	**11 03 21.3 +0.8**
HAMF			IAmb	IAmb	11 03 24.4
comp=Z,25nm,0.6s					
STOK	**Stokkvaagen**	**47.22 338**	*e*P	**P**	**11 03 20.8 +0.3**
STOK			IAmb	IAmb	11 03 23.3
comp=Z,2μm,3.5s					
KONS	**Konsvik**	**47.28 338**	*e*P	**P**	**11 03 21.8 +0.8**
HYA	**Hoyanger**	**47.38 330**	*e*P	**P**	**11 03 22.8 +0.9**
AKN	**Aaknes**	**47.44 331**	*e*P	**P**	**11 03 23.3 +0.9**
BER	**Bergen**	**47.47 329**	*e*P	**P**	**11 03 23.1 +0.5**
STEI	**Steigen**	**47.48 341**	*e*P	**P**	**11 03 23.5 +1.0**
STEI			IAmb	IAmb	11 03 27.2
comp=Z,47nm,1.5s					
ASK	**Askoy**	**47.57 329**	*e*P	**P**	**11 03 23.8 +0.4**
TRO	**Tromso**	**47.59 344**	*e*P	**P**	**11 03 23.3 0.0**
TRO			IAmb	IAmb	11 03 29.5
comp=Z,67nm,1.4s					
HHC	**Hu-ho-hao-te**	**47.63 58**	*e*P	**P**	**11 03 26.5 +2.2**
HHC			pmax	pmax	
comp=Z,23nm,1.5s					
HHC			pmax	pmax	
comp=Z,96nm,4.4s					
HHC			LR	LR	
comp=Z,2μm,21.9s					
HHC			LR	LR	
comp=Z,1μm,22.7s					
HHC			LR	LR	
comp=Z,2μm,20.8s					
MFF	**Saint Martin d**	**47.64 310**	*e*P	**P**	**11 03 24.4 +0.2**
MFF			pmax	pmax	
comp=Z,42nm,1.2s					
UBPT	**Khong Chiam**	**47.66 94**	P	**P**	**11 03 24.8 +0.1**
UBPT			IAmb	IAmb	11 03 38.0
comp=Z,26nm,1.1s					
UBPT	**Khong Chiam**	**47.66 94**	P	**P**	**11 03 25.3 +0.6**
PSI	**Prapat**	**47.92 113**	P	**P**	**11 03 29.4 +2.5**
KULM	**Kulim**	**48.01 109**	P	**P**	**11 03 29.3 +1.9**
LOF	**Lofoten**	**48.11 340**	*e*P	**P**	**11 03 27.7 +0.3**
TIY	**Taiyuan**	**48.48 62**	*e*P	**P**	**11 03 32.1 +1.2**
TIY			S	**S**	**11 10 39.7 +7.6**
TIY			pmax	pmax	
comp=Z,28nm,0.8s					
TIY			LR	LR	
comp=Z,2μm,24.0s					
TIY			LR	LR	
comp=Z,700nm,16.7s					
TIY			LR	LR	
comp=Z,800nm,16.7s					
EMUR	**La Murta**	**48.51 298**	P	**P**	**11 03 28.9 -2.2**
WOL	**Wolverton**	**48.81 316**	*e*P	**P**	**11 03 33.4 +0.3**
LYN	**LuoYang**	**48.84 67**	P	**P**	**11 03 34.8 +1.2**
LYN			pP	sP	11 03 39.0 +1.1
LYN			S	**S**	**11 10 37.4 +0.3**
LYN			sS	sS	11 10 46.2 +3.9
LYN			pmax	pmax	
comp=Z,20nm,0.8s					
LYN			pmax	pmax	
comp=Z,330nm,6.0s					
LYN			LR	LR	
comp=Z,8μm,21.3s					
LYN			LR	LR	
comp=Z,1μm,19.9s					
LYN			LR	LR	
comp=Z,8μm,20.3s					
CWF	**Charnwood Fore**	**49.06 318**	*e*P	**P**	**11 03 34.8 -0.2**
ENIJ	**Nijar**	**49.36 297**	P	**P**	**11 03 38.3 +0.7**
LBWR	**Ladybower, Pea**	**49.41 318**	*e*P	**P**	**11 03 37.4 -0.3**
LBWR			IAmb	IAmb	11 03 41.2
comp=Z,31nm,0.7s					
VOI	**Vohitsoka**	**49.44 191**	P	**P**	**11 03 38.4 0.0**
VOI	**Vohitsoka**	**49.44 191**	P	**P**	**11 03 39.1 +0.8**
SNR=16					
LSZ	**Lusaka**	**49.82 216**	P	**P**	**11 03 41.2 -0.2**
LSZ	**Lusaka**	**49.82 216**	LR	LR	11 25 27.4
comp=Z,4μm,18.0s,baz=32,slow=37					
LSZ	**Lusaka**	**49.82 216**	P	**P**	**11 03 41.4 0.0**
LSZ	**Lusaka**	**49.82 216**	P	**P**	**11 03 41.2 -0.2**
LSZ			pmax	pmax	
comp=Z,30nm,1.5s					
MONM	**Monmouth**	**49.85 316**	*e*P	**P**	**11 03 40.3 -0.8**
UCM	**Universidad Co**	**49.89 301**	P	**P**	**11 03 42.1 +0.5**
EBER	**Berja**	**49.91 297**	P	**P**	**11 03 42.2 +0.2**
HLM1	**Long Mynd**	**49.98 317**	*e*P	**P**	**11 03 42.0 -0.1**
HLM1			IAmb	IAmb	11 03 45.4
comp=Z,38nm,1.1s					
MCH1	**Michaelchurch**	**49.99 316**	*e*P	**P**	**11 03 41.3 -0.8**
MCH1			IAmb	IAmb	11 03 42.6
comp=Z,31nm,0.8s					
QIZ	**Qiongzhong**	**50.21 87**	P	**P**	**11 03 44.7 +0.4**
QIZ			S	**S**	**11 10 57.9 +1.2**
QIZ			LR	LR	
comp=Z,2μm,18.2s					
QIZ			LR	LR	
comp=Z,700nm,13.3s					
QIZ			LR	LR	
comp=Z,850nm,15.5s					
HNS	**HongShan**	**50.30 63**	⇓P	**P**	**11 03 47.1 +2.4**
HNS			S	**S**	**11 10 58.9 +1.4**
HNS			pmax	pmax	
comp=Z,7.0nm,1.1s					
HNS			LR	LR	
comp=Z,2μm,15.3s					
HNS			LR	LR	
comp=Z,3μm,16.9s					
HNS			LR	LR	
comp=Z,4μm,19.2s					
EQTA	**Presa de Quent**	**50.32 297**	P	**P**	**11 03 45.6 +0.7**
ESY	**Stoneypath**	**50.32 322**	*e*P	**P**	**11 03 44.2 -0.4**
CNSH	**ChangSha**	**50.37 75**	P	**P**	**11 03 46.0 +0.7**
CNSH			S	**S**	**11 10 59.2 +0.6**
CNSH			pmax	pmax	
comp=Z,2.0nm,0.4s					
CNSH			LR	LR	
comp=Z,2μm,14.7s					
CNSH			LR	LR	
comp=Z,1μm,20.2s					
CNSH			LR	LR	
comp=Z,2μm,18.4s					
KESW	**Keswick, Cumbr**	**50.39 320**	*e*P	**P**	**11 03 45.4 +0.3**
KESW			IAmb	IAmb	11 03 48.4
comp=Z,132nm,1.3s					
DRUM	**Mains of Drumt**	**50.43 323**	*e*P	**P**	**11 03 43.8 -1.6**
ESBB	**Sonseca Array**	**50.48 300**	P	**P**	**11 03 45.4 -0.8**
ESBB			IAmb	IAmb	11 04 17.1
comp=Z,75nm,1.9s					

ESDC Sonseca Array 50.49 300 P **P 11 03 45.8 -0.4**
ESDC Sonseca Array 50.49 300 P **P 11 03 46.2 +0.1**
comp=Z,2.6nm,0.4s,baz=75,slow=7.0,SNR=27
comp=Z,2.6nm,0.4s
LLW Llanuwychllyn 50.49 317 *e*P **P 11 03 46.2 +0.3**
EKA Eskdalemuir Ar 50.53 321 P **P 11 03 45.9 -0.2**
comp=Z,2.1nm,0.5s,baz=104,slow=7.4,SNR=10
comp=Z,2.1nm,0.5s
EDI Edinburgh 50.64 321 *e*P **P 11 03 48.5 +1.5**
BOD Bodaibo 50.75 36 *e*P **P 11 03 47.5 -0.3**
BOD pmax pmax
comp=Z,72nm,1.3s
PAB San Pablo 50.79 300 P **P 11 03 47.4 -1.1**
PAB San Pablo 50.79 300 P **P 11 03 47.4 -1.1**
PAB pmax pmax
comp=Z,18nm,0.9s
XLT XiLinHaoTe 50.90 54 *e*P **P 11 03 50.5 +1.3**
XLT sP sP 11 03 57.4 +3.8
XLT S **S 11 11 07.6 +1.8**
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,190nm,3.9s
XLT LR LR
comp=Z,280nm,22.6s
XLT LR LR
comp=Z,1μm,20.3s
XLT LR LR
comp=Z,2μm,18.5s
PPI Padang Panjang 51.00 115 P **P 11 03 49.6 -0.6**
WHN Wuhan 51.07 71 P **P 11 03 51.3 +0.7**
WHN pmax pmax
comp=Z,290nm,2.2s
WHN LR LR
comp=Z,13μm,17.8s
WHN LR LR
comp=Z,4μm,14.1s
WHN LR LR
comp=Z,12μm,19.6s
EMAL Malaga-Limoner 51.15 297 P **P 11 03 50.9 -0.2**
BJT Baijiatuau 51.19 59 P **P 11 03 52.4 +1.1**
BJT Baijiatuau 51.19 59 P **P 11 03 53.3 +1.9**
BJT Baijiatuau 51.19 59 P **P 11 03 52.4 +1.1**
BJT pmax pmax
comp=Z,14nm,1.2s
BJI Beijing 51.19 59 P **P 11 03 52.4 +1.0**
BJI PcP **PcP 11 05 08.9 +2.2**
BJI S **S 11 11 12.6 +2.9**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI LR LR
comp=Z,1μm,23.0s
BJI LR LR
comp=Z,890nm,22.2s
BJI LR LR
comp=Z,1μm,17.2s
HOPEN Hopen 51.66 351 *e*P **P 11 03 54.9 +0.6**
MDT Midelt 51.90 292 LR LR 11 30 40.3
comp=Z,875nm,18.2s,baz=99,slow=42
LIJA Lijar 51.91 297 P **P 11 03 55.3 -1.6**
LAWE Loch Awe, Argy 51.92 322 *e*P **P 11 03 56.6 +0.1**
TOA0 Torodi Ar. Sit 52.14 266 P **P 11 03 58.7 -0.1**
SNR=14
TOA0 P **P 11 03 58.7 -0.1**
SNR=14
TORD Torodi Ar. Bea 52.14 266 P **P 11 03 57.8 -1.0**
TORD IAmb IAmb 11 04 26.8
comp=Z,41nm,0.8s
TORD Torodi Ar. Bea 52.14 266 P **P 11 03 58.5 -0.3**
comp=Z,23nm,0.8s,baz=52,slow=7.8,SNR=98
comp=Z,23nm,0.8s
DSB Dublin 52.16 318 P **P 11 03 57.9 -0.5**
ILTH Belurgan, Co L 52.20 319 P **P 11 03 58.6 -0.1**
KPL Plockton 52.21 323 *e*P **P 11 04 00.3 +1.7**
KPL IAmb IAmb 11 04 03.0
comp=Z,34nm,1.1s
IWEX Carrickbyrne, 52.34 317 P **P 11 04 01.6 +1.9**
TIA Tai'an 52.38 64 P **P 11 04 01.1 +0.8**
TIA PP **PP 11 06 03.7 +4.8**
TIA S **S 11 11 27.8 +1.5**
TIA sS sS 11 11 40.0 +8.5
TIA pmax pmax
comp=Z,13nm,0.7s
TIA pmax pmax
comp=Z,160nm,6.4s
TIA LR LR
comp=Z,3μm,24.2s
TIA LR LR
comp=Z,1μm,24.3s
TIA LR LR
comp=Z,390nm,25.0s
PBRG Braganca 52.42 303 *e*P **P 11 04 01.1 +0.5**
MVO Moncorvo 52.69 303 *e*P **P 11 04 03.4 +0.8**
MVO *i* Amb 11 04 56.1
comp=Z,74nm,1.6s
MVO *e*LR LR 11 25 27.3
MVO *i* AMs_20 11 30 11.5
comp=Z,656nm,20.0s
IDGL Inch Island, C 52.98 320 P **P 11 04 04.7 +0.3**
PBAR Barrancos 53.03 299 *e*P **P 11 04 04.7 -0.4**
PBAR *e*pP **pP 11 04 08.0 -0.2**
PBAR *i* Amb 11 04 21.1
comp=Z,46nm,1.3s
PMRV Marv??o 53.15 300 *e*P **P 11 04 06.0 0.0**
PMRV *i* Amb 11 05 05.9
comp=Z,43nm,1.5s
PMRV *e*LR LR 11 26 35.8
PMRV *i* AMs_20 11 32 27.8
comp=Z,524nm,18.0s
MTE Manteigas 53.16 302 *e*LR LR 11 26 05.9
MTE *i* AMs_20 11 33 52.8
comp=Z,641nm,18.0s
PCBR Castelo Branco 53.17 301 *e*P **P 11 04 07.7 +1.6**
PCBR *i* Amb 11 04 39.3
comp=Z,55nm,1.6s
PVRL Vila Real 53.20 303 *e*P **P 11 04 08.8 +2.5**
PESTR Estremoz 53.37 300 *e*P **P 11 04 08.7 +1.1**
PESTR *e*pP **sP 11 04 10.7 -1.3**
PCAB Cabril 53.38 303 *e*P **P 11 04 06.7 -1.0**
PVIS Viseu 53.39 302 *e*P **P 11 04 09.0 +1.2**
PGAV Gavieira, Arco 53.54 304 *e*P **P 11 04 08.3 -0.6**
PGAV *e*pP **pP 11 04 11.8 -0.3**
PGAV *i* Amb 11 04 12.4
comp=Z,197nm,1.7s
PGAV *e*LR LR 11 24 21.9
PGAV *i* AMs_20 11 27 44.9
comp=Z,800nm,20.0s
PVAQ Vaqueiros 53.67 298 *e*P **P 11 04 10.8 +1.0**
PVAQ *i* Amb 11 04 12.1
comp=Z,43nm,1.6s
PVAQ *e*LR LR 11 24 21.9
PVAQ *i* AMs_20 11 28 43.4
comp=Z,601nm,20.0s
PBEJ Beja 53.70 299 *e*P **P 11 04 10.3 +0.3**
PBEJ *i* Amb 11 04 45.9
comp=Z,37nm,1.9s
EVO Evora 53.74 299 *e*P P 11 04 21.0 +11
EVO *i* Amb 11 04 23.2
comp=Z,50nm,1.6s
PMTG Montargil 53.84 300 *e*P **P 11 04 13.0 +2.0**
COI Coimbra 53.84 301 *e*P **P 11 04 12.1 +1.1**
COI *e*pP **sP 11 04 14.1 -1.3**
COI *i* Amb 11 04 48.2
comp=Z,135nm,1.4s
PCVE Castro Verde 53.89 298 *e*P **P 11 04 11.7 +0.3**
PCVE *i* Amb 11 04 27.8
comp=Z,59nm,1.7s
PCAS Casmilo, Conde 53.92 301 *e*P **P 11 04 12.8 +1.2**
PCAS *e*pP **sP 11 04 15.4 -0.5**
IGLA Glengowla, Co 53.97 318 P **P 11 04 12.1 +0.4**
MATP Matopo 54.05 212 LR LR 11 26 57.4
comp=Z,3μm,21.8s,baz=36,slow=36
SPA0 Spitsbergen Ar 54.16 351 *e*P **P 11 04 13.4 +0.6**
SPITS Spitsbergen Ar 54.16 351 P **P 11 04 13.4 +0.6**
comp=Z,5.2nm,0.5s,baz=135,slow=11,SNR=16
SPITS LR LR 11 32 07.5
comp=Z,2μm,18.6s,baz=102,slow=41
comp=Z,5.2nm,0.5s
TIO Tiouine 54.50 290 P **P 11 04 16.0 -0.2**
NJ2 Nanjing 54.54 69 *e*P **P 11 04 16.4 +0.2**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 LR LR
comp=Z,2μm,17.1s
NJ2 LR LR
comp=Z,1μm,17.9s
NJ2 LR LR
comp=Z,2μm,22.1s
PFVI Vila Bisbo 54.59 298 *e*P **P 11 04 16.9 +0.4**
KBS Kingsbay 55.32 351 *e*P **P 11 04 21.6 +0.4**
DL2 Dalian 55.52 60 P **P 11 04 20.6 -2.6**
DL2 S **S 11 12 04.3 -4.3**
DL2 pmax pmax
comp=Z,31nm,1.0s
DL2 pmax pmax
comp=Z,240nm,3.7s
DL2 LR LR
comp=Z,4μm,22.5s
DL2 LR LR
comp=Z,2μm,18.9s
DL2 LR LR
comp=Z,2μm,19.6s
MDSI Maura Dua 56.41 116 P **P 11 04 28.8 -1.1**
comp=Z,946nmcomp=Z,17nm,1.0s
SNY Shenyang 56.56 56 ⇓P **P 11 04 30.2 -0.4**
SNY S **S 11 12 22.4 0.0**
SNY pmax pmax
comp=Z,5.0nm,0.5s
SNY pmax pmax
comp=Z,140nm,3.9s
SNY LR LR
comp=Z,1μm,18.1s
SNY LR LR
comp=Z,800nm,14.5s
SNY LR LR
comp=Z,2μm,21.6s
SSE Sheshan 56.69 69 P **P 11 04 34.2 +2.5**
SSE S **S 11 12 30.6 +6.2**
SSE pmax pmax
comp=Z,7.0nm,1.2s
SSE pmax pmax
comp=Z,200nm,4.5s
SSE LR LR
comp=Z,1μm,18.3s
SSE LR LR
comp=Z,470nm,18.2s
CN2 Changchun 57.66 54 P **P 11 04 38.6 +0.2**
CN2 sP sP 11 04 45.8 +3.1
CN2 S **S 11 12 33.5 -3.3**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
ZEA Zeya 57.91 42 *e*P **P 11 04 40.8 +0.8**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
HEH HeiHe 58.26 46 *e*P **P 11 04 42.1 -0.4**
HEH S **S 11 12 48.1 +3.6**
HEH SS **SS 11 16 42.8 +6.9**
HEH pmax pmax
comp=Z,19nm,1.0s
HEH LR LR
comp=Z,1μm,16.1s
HEH LR LR
comp=Z,1μm,16.4s
HEH LR LR
comp=Z,4μm,15.1s
YHNB Yeheng 58.59 76 P **P 11 04 46.6 +1.3**
YHNB Yeheng 58.59 76 P **P 11 04 48.0 +2.7**
BNX BinXian 58.77 51 ⇑P **P 11 04 46.1 0.0**
BNX pmax pmax
comp=Z,24nm,1.1s
POGA Pongola 58.80 205 P **P 11 04 45.9 -0.5**
POGA IAmb IAmb 11 04 59.7
comp=Z,20nm,0.9s
TWG Pinlang 58.90 79 P **P 11 04 47.0 -0.4**
TWGBT Beinan 58.91 79 P **P 11 04 50.7 +3.2**
TSUM Tsumeb 58.97 223 P **P 11 04 48.1 +0.2**
TSUM IAmb IAmb 11 05 30.9
comp=Z,21nm,1.1s
TSUM Tsumeb 58.97 223 LR LR 11 32 36.2
comp=Z,3μm,19.6s,baz=37,slow=38
YAK Yakutsk 59.02 32 LR LR 11 32 45.5
comp=Z,2μm,18.5s,baz=266,slow=39
YAK Yakutsk 59.02 32 *e*P **P 11 04 45.7 -1.8**
YAK *e* 11 05 33.3
YAK *e* 11 06 55.8
YAK *e*S **S 11 12 52.1 -1.8**
YAK *e* 11 14 28.8
YAK *e*SS **SS 11 16 43.2 -4.1**
YAK pmax pmax
comp=Z,22nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,266nm,6.7s
YAK pmax pmax
comp=N,288nm,7.2s
YAK pmax pmax
comp=E,234nm,6.2s
YAK smax smax
comp=N,213nm,4.6s
YAK smax smax
comp=E,187nm,7.3s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,642nm,25.0s
YAK MLR MLR
comp=E,867nm,17.0s
TIXI Tiksi 59.27 21 P **P 11 04 48.5 -0.7**
TIXI IAmb IAmb 11 04 59.4
comp=Z,26nm,1.2s
TIXI Tiksi 59.27 21 LR LR 11 33 50.6
comp=Z,2μm,18.4s,baz=296,slow=40
TIXI Tiksi 59.27 21 *ce*P **P 11 04 49.3 +0.1**
TIXI pmax pmax
comp=Z,27nm,1.7s
LBTB Lobatse 59.34 212 P **P 11 04 48.3 -2.0**
LBTB IAmb IAmb 11 05 12.8
comp=Z,20nm,0.8s
LBTB Lobatse 59.34 212 LR LR 11 30 04.9
comp=Z,3μm,21.3s,baz=28,slow=36
LBTB Lobatse 59.34 212 P **P 11 04 48.3 -2.0**
LBTB pmax pmax
comp=Z,20nm,0.8s
SBUM Sibu 59.36 104 P **P 11 04 50.0 -0.6**
SBUM Sibu 59.36 104 P **P 11 04 52.3 +1.7**
INCN Inchon 59.65 61 P **P 11 04 53.9 +1.5**
DAG Danmarks Havn 60.25 345 *i* P **P 11 04 55.6 -0.2**
DAG IAmb IAmb 11 04 59.3
comp=Z,6.0nm,0.7s
BORG Borgarnes 60.30 331 LR LR 11 32 20.5
comp=Z,915nm,21.3s,baz=101,slow=37
MDJ Mudanjiang 60.47 52 P **P 11 05 01.3 +3.4**
MDJ S **S 11 13 17.3 +4.0**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ LR LR
comp=Z,1μm,16.8s
MDJ LR LR
comp=Z,2μm,21.6s
MDJ LR LR
comp=Z,3μm,24.7s
LEM Lembang 60.55 116 LR LR 11 32 35.4
comp=Z,611nm,19.0s,baz=306,slow=38
KSAR Wonju Array Be 60.63 60 P **P 11 04 59.4 +0.3**
KSAR Wonju Array Be 60.63 60 P **P 11 04 59.4 +0.3**
KSRS Korea Array 60.66 60 P **P 11 04 58.8 -0.5**
comp=Z,6.0nm,0.5s,baz=279,slow=7.1,SNR=38
KSRS LR LR 11 36 43.9
comp=Z,905nm,18.6s,baz=270,slow=42
comp=Z,6.0nm,0.5s
DBIC Dimbokro 60.75 262 P **P 11 04 59.6 -0.6**
DBIC IAmb IAmb 11 05 14.2
comp=Z,23nm,0.9s
DBIC Dimbokro 60.75 262 P **P 11 04 59.8 -0.4**
comp=Z,7.3nm,0.4s,baz=42,slow=5.9,SNR=20
DBIC LR LR 11 31 02.5
comp=Z,1μm,19.0s,baz=48,slow=36
comp=Z,7.3nm,0.4s
DBIC Dimbokro 60.75 262 P **P 11 04 59.6 -0.6**
DBIC pmax pmax
comp=Z,23nm,0.9s
NOR Nord 60.81 351 *i* P **P 11 05 00.6 +1.0**
KLR Kul'dur 61.18 47 P **P 11 05 02.4 -0.2**
comp=Z,13nm,0.9s,baz=286,slow=7.9,SNR=20
KLR LR LR 11 33 58.6
comp=Z,1μm,18.4s,baz=274,slow=38
comp=Z,13nm,0.9s
KLR Kul'dur 61.18 47 *ce*P **P 11 05 02.7 +0.1**
KLR pmax pmax
comp=Z,27nm,1.7s
TGY Tagaytay City 61.90 88 LR LR 11 35 02.2
comp=Z,1μm,21.4s,baz=300,slow=39
USRK Ussuriysk Ar. 62.24 52 P **P 11 05 09.1 -0.8**
comp=Z,2.8nm,0.6s,baz=271,slow=5.8,SNR=7.0
USRK LR LR 11 35 15.1
comp=Z,1μm,19.0s,baz=289,slow=39
comp=Z,2.8nm,0.6s
BOSA Boshof 62.57 210 P **P 11 05 11.5 -0.8**
BOSA Boshof 62.57 210 P **P 11 05 11.4 -0.9**
comp=Z,7.1nm,0.5s,baz=24,slow=6.5,SNR=38
BOSA LR LR 11 31 33.6
comp=Z,758nm,21.4s,baz=26,slow=35
comp=Z,7.1nm,0.5s
BOSA Boshof 62.57 210 P **P 11 05 11.5 -0.8**
BOSA pmax pmax
comp=Z,69nm,1.7s
MYLDM Lahad Datu 63.55 98 P **P 11 05 20.0 +1.1**
MYLDM Lahad Datu 63.55 98 P **P 11 05 20.5 +1.5**
JOW Kunigami 63.84 72 LR LR 11 36 20.5
comp=Z,1μm,21.6s,baz=276,slow=39
GRNR Gornyy 63.87 44 ⇑*i* P **P 11 05 20.6 0.0**
GRNR pmax pmax
comp=Z,7.0nm,1.2s
GRNR MLR MLR
comp=E,740nm,16.0s
GRNR MLR MLR
comp=Z,830nm,16.0s
GRNR MLR MLR
comp=N,750nm,15.0s
JNU Nakatsue 64.10 64 LR LR 11 37 52.1
comp=N,2μm,19.5s,baz=288,slow=40
SUMG Summit 65.63 341 P **P 11 05 32.3 +0.2**
SUMG Summit 65.63 341 P **P 11 05 32.3 +0.2**
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG Summit 65.63 341 *i* P **P 11 05 33.8 +1.7**
SOE Somerset East 65.98 208 P **P 11 05 34.0 -0.5**
GRHM Grahamstown, E 66.15 207 P **P 11 05 35.5 0.0**
ICESG Greenland Ices 66.85 337 *i* P **P 11 05 42.0 +2.0**
ICESG IAmb IAmb 11 05 48.4
comp=Z,9.4nm,0.9s
NEEM North Greenlan 67.31 347 *i* P **P 11 05 43.7 +1.0**
NEEM IAmb IAmb 11 05 50.2
comp=Z,37nm,0.8s
TYV Tymovskoe 67.69 43 *e*P **P 11 05 45.7 +0.5**
TYV *e*S **S 11 14 42.2 -0.4**
TYV pmax pmax
comp=Z,16nm,1.4s
TYV pmax pmax
comp=Z,300nm,4.4s
TYV smax smax
comp=N,300nm,5.9s
TYV smax smax
comp=E,600nm,5.9s
SUR Sutherland 67.79 211 LR LR 11 35 53.7
comp=E,789nm,21.2s,baz=24,slow=36
INU Inuyama 68.29 60 P **P 11 05 52.1 +2.9**
MJAR Matsushiro Arr 68.83 59 LR LR 11 39 48.9
comp=E,861nm,21.7s,baz=292,slow=39
YSS Yuzhno-Sakhali 68.87 47 P **P 11 05 52.3 -0.3**
YSS IAmb IAmb 11 06 03.9
comp=Z,31nm,1.0s
YSS Yuzhno-Sakhali 68.87 47 P **P 11 05 52.8 +0.2**
YSS Yuzhno-Sakhali 68.87 47 *e*P **P 11 05 52.8 +0.2**
YSS *e**SP **sP 11 05 58.7 +1.6**
YSS *e*PPP PPP 11 09 59.5
YSS *e*S **S 11 14 51.9 -4.9**
YSS *e*PPS PPS 11 15 31.3
YSS pmax pmax
comp=Z,400nm,5.8s
YSS pmax pmax
comp=Z,20nm,0.8s
YSS smax smax
comp=N,200nm,8.2s
YSS MLR MLR
comp=E,2μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,500nm,15.0s
DAV Davao City (W) 68.98 93 LR LR 11 40 15.8
comp=N,592nm,20.4s,baz=321,slow=40
SEY Seymchan 69.23 29 LR LR 11 39 35.7
comp=N,2μm,18.3s,baz=310,slow=39
SEY Seymchan 69.23 29 *i* P **P 11 05 54.3 -0.3**
SEY pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 69.57 33 P **P 11 05 56.4 -0.3**
MA2 IAmb IAmb 11 06 00.4
comp=Z,14nm,0.8s
MA2 Magadan 69.57 33 LR LR 11 40 28.6
comp=Z,836nm,18.5s,baz=294,slow=39
MA2 Magadan 69.57 33 P **P 11 05 57.0 +0.2**
MA2 Magadan 69.57 33 *i* P **P 11 05 56.6 -0.2**
MA2 pmax pmax
comp=Z,17nm,0.9s
MA2 Magadan 69.57 33 P **P 11 05 56.9 +0.2**
comp=Z,21nm,1.3s
KAPI Kappang 69.62 107 LR LR 11 37 07.5
comp=Z,619nm,21.6s,baz=290,slow=36
KAPI Kappang 69.62 107 P **P 11 05 58.9 +1.1**
ASAJ Asahikawa 69.63 50 LR LR 11 40 18.5
comp=Z,437nm,18.8s,baz=295,slow=39
KULLO Kullorsuaq 69.90 345 *e*P **P 11 05 58.3 -0.2**
UMMG Uummannaq 70.33 340 *i* P **P 11 06 02.7 +1.4**
UPNV Upernavik 70.50 343 *i* P **P 11 06 04.6 +2.3**
EUNU Eureka 71.11 354 P **P 11 06 07.0 +1.0**
EUNU IAmb IAmb 11 06 53.8
comp=Z,17nm,1.1s
JHJ Hachijo jima 2 71.19 62 LR LR 11 41 48.7
comp=Z,2μm,20.4s,baz=288,slow=40
SFJD Kangerlussuaq 71.44 337 LR LR 11 38 38.3
comp=Z,638nm,19.4s,baz=60,slow=37
KDI Kendari 71.54 105 P **P 11 06 09.8 +0.3**
comp=Z,28nm,0.8s
BILL Bilibino 72.46 22 P **P 11 06 14.4 +0.2**
BILL IAmb IAmb 11 06 22.0
comp=Z,17nm,1.0s
BILL Bilibino 72.46 22 *i* P **P 11 06 14.5 +0.3**
BILL pmax pmax
comp=Z,24nm,1.1s
SANI Sanana 73.54 101 P **P 11 06 22.6 +1.2**
SANI Sanana 73.54 101 P **P 11 06 20.3 -1.1**
comp=Z,59nm,1.1s
JCJ Chichijima 75.35 67 LR LR 11 44 29.3
comp=Z,636nm,20.4s,slow=40
PETK Petropavlovsk- 75.59 37 P **P 11 06 31.1 -1.6**
comp=Z,4.2nm,0.9s,baz=310,slow=3.1,SNR=4.7
PETK LR LR 11 43 00.4
comp=Z,1μm,20.3s,baz=286,slow=38
comp=Z,4.2nm,0.9s
BATI Baumata 75.61 110 P **P 11 06 32.1 -1.4**
SKR Severo-Kuril's 75.75 40 *e*P **P 11 06 29.5 -4.2**
SKR *e*PPP PPP 11 11 13.7
SKR *e*S **SKSac 11 16 33.8 -10**
SKR pmax pmax
comp=Z,500nm,4.9s
SKR MLR MLR
comp=Z,900nm,19.0s
SOEI Soe 75.89 109 P **P 11 06 37.3 +2.1**
SOEI Soe 75.89 109 P P 11 06 42.1 +6.9
PET Petropavlovsk 76.14 37 *e*P **P 11 06 34.1 -1.8**
PET *e*S **S 11 16 18.2 -1.5**
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,18.0s
RES Resolute Bay 76.69 352 LR LR 11 44 09.0
comp=Z,792nm,21.4s,baz=20,slow=39
A21K Barrow 79.30 10 P **P 11 06 52.8 -0.4**
baz=331
FRB Frobisher Bay 79.46 338 LR LR 11 44 15.6
comp=Z,712nm,19.7s,baz=50,slow=37
B18K Kokolik River 80.07 13 P **P 11 06 57.9 +0.5**

baz=327,SNR=14
C16K Lisburne Hills 80.23 14 P P 11 06 58.2 0.0
C16K Lisburne Hills 80.23 14 P P 11 06 58.7 +0.4
baz=324
C17K DeLong Mountai 80.53 14 P P 11 06 59.9 0.0
baz=326,SNR=14
B22K Teshekpuk Lake 80.66 10 P P 11 07 00.7 +0.2
baz=334
C18K Utukok River 80.79 13 P P 11 07 01.3 -0.1
baz=327
RDOG Red Dog Mine 80.94 14 P P 11 07 02.2 0.0
RDOG IAmb IAmb 11 07 05.4
comp=Z,28nm,1.2s
RDOG Red Dog Mine 80.94 14 P P 11 07 02.1 0.0
baz=326,SNR=6.0
B21K Ikpikpuk River 81.12 10 P P 11 07 03.0 0.0
B21K IAmb IAmb 11 07 10.3
comp=Z,20nm,0.9s
B21K Ikpikpuk River 81.12 10 P P 11 07 02.8 -0.2
baz=333
D17K Noatak River 81.20 14 P P 11 07 03.7 +0.2
baz=326
A36M Sachs Harbour 81.20 0 P P 11 07 03.4 0.0
A36M IAmb IAmb 11 07 30.4
comp=Z,32nm,0.8s
A36M Sachs Harbour 81.20 0 P P 11 07 03.3 0.0
baz=359,SNR=22
FITZ Fitzroy Crossi 81.37 115 P P 11 07 05.3 +0.2
FITZ Fitzroy Crossi 81.37 115 P P 11 07 04.6 -0.6
comp=Z,4.5nm,0.7s,baz=296,slow=4.1,SNR=8.1
FITZ LR LR 11 43 15.8
comp=Z,356nm,21.8s,baz=316,slow=36
comp=Z,4.5nm,0.7s
FITZ Fitzroy Crossi 81.37 115 P P 11 07 07.7 +2.6
C21K Knifeblade Rid 81.51 11 P P 11 07 05.2 +0.1
baz=333
C23K Itkillik River 81.52 9 P P 11 07 05.9 +0.8
C23K IAmb IAmb 11 07 49.6
comp=Z,27nm,1.1s
C23K Itkillik River 81.52 9 P P 11 07 05.6 +0.4
baz=337
D20K Etivluk River 81.59 11 P P 11 07 06.2 +0.6
baz=331,SNR=7.4
BLDU Ballidu 81.82 130 P P 11 07 08.8 +1.5
C24K Franklin Bluff 81.89 8 P P 11 07 07.3 +0.2
baz=338
E18K Tukpahlearik C 81.95 13 P P 11 07 07.3 -0.1
baz=328,SNR=13
E17K Hotham Inlet 81.98 14 P P 11 07 08.0 +0.3
baz=327
E20K Nigu River 82.07 11 P P 11 07 09.0 +0.8
baz=332,SNR=6.4
D22K Ayikyak River 82.09 10 P P 11 07 08.6 +0.4
baz=335
GAMB Gambell 82.11 19 P P 11 07 08.4 0.0
baz=319
C26K Camden Bay 82.15 7 P P 11 07 09.0 +0.5
baz=342
F14K Arctic Creek 82.26 16 P P 11 07 09.6 +0.5
baz=323
E21K Killik River 82.29 11 P P 11 07 09.7 +0.5
baz=334
D23K Nanushuk River 82.31 9 P P 11 07 10.0 +0.6
baz=337
D24K Happy Valley 82.40 9 P P 11 07 10.2 +0.4
baz=338,SNR=6.6
F15K North Star Dit 82.48 16 P P 11 07 10.7 +0.4
F15K IAmb IAmb 11 07 14.1
comp=Z,30nm,1.1s
F15K North Star Dit 82.48 16 P P 11 07 10.9 +0.6
baz=325
D25K Kavik River 82.55 8 P P 11 07 11.4 +0.8
baz=340
C27K Jago River 82.56 7 P P 11 07 11.0 +0.4
baz=343
E19K Redstone River 82.59 12 P P 11 07 10.8 0.0
E19K IAmb IAmb 11 07 14.1
comp=Z,14nm,0.7s
E19K Redstone River 82.59 12 P P 11 07 10.8 0.0
baz=331,SNR=17
F17K Baldwin Pennin 82.65 14 P P 11 07 11.0 -0.1
baz=327
TOLK Toolik Lake Re 82.77 9 P P 11 07 12.0 +0.2
baz=338,SNR=15
F18K Selawik 82.85 13 P P 11 07 11.9 -0.2
baz=329,SNR=14
F19K Shaleruckik Mo 83.03 13 P P 11 07 13.1 +0.1
baz=330
D27M Malcolm River 83.20 6 P P 11 07 14.3 +0.3
D27M Malcolm River 83.20 6 P P 11 07 14.6 +0.6
baz=345,SNR=7.6
G15K Niukluk 83.22 16 P P 11 07 13.8 -0.3
baz=325
F20K Avaraart Lake 83.23 12 P P 11 07 14.2 +0.1
baz=332
ANM Nome 83.23 17 P P 11 07 15.3 +1.1
ANM Nome 83.23 17 P P 11 07 14.2 +0.1
baz=324,SNR=6.4
ANM Nome 83.23 17 P P 11 07 15.3 +1.1
ANM pmax pmax
comp=Z,48nm,1.4s
GUMO Guam 83.27 78 LR LR 11 48 05.2
comp=Z,216nm,19.6s,baz=316,slow=38
G16K Koyuk River 83.28 15 P P 11 07 14.9 +0.5
baz=327
D28M Stokes Point 83.30 5 P P 11 07 14.9 +0.5
baz=347
E23K Chandalar 83.31 9 P P 11 07 14.5 -0.1
baz=338
E24K Your Creek 83.45 9 P P 11 07 15.8 +0.5
baz=339
F21K Alatna River 83.47 11 P P 11 07 16.0 +0.6
baz=334
G17K Kiwalik Mounta 83.58 14 P P 11 07 16.3 +0.4
baz=328
G18K Tagagawik 83.67 13 P P 11 07 16.3 -0.1
baz=330
G19K Purcell Mounta 83.77 13 P P 11 07 17.1 +0.1
G19K IAmb IAmb 11 07 23.5
comp=Z,14nm,0.8s
G19K Purcell Mounta 83.77 13 P P 11 07 16.3 -0.7
baz=331
E25K Arctic Village 83.79 8 P P 11 07 16.6 -0.4
baz=341,SNR=21
C36M Paulatuk 83.86 360 P P 11 07 16.9 -0.3
baz=0.3,SNR=9.1
H16K Elim 83.94 15 P P 11 07 17.6 -0.2
baz=327
E28M Babbage River 83.95 6 P P 11 07 17.7 -0.1
baz=346
COLD Coldfoot 83.99 10 P P 11 07 18.4 +0.4
COLD IAmb IAmb 11 08 03.7
comp=Z,13nm,0.9s
COLD Coldfoot 83.99 10 P P 11 07 18.3 +0.2
baz=337,SNR=14
F24K Squaw Lake 84.06 9 P P 11 07 18.0 -0.4
baz=339
G21K Allakaket 84.10 11 P P 11 07 17.9 -0.7
baz=334
SHEM Shemya Is, Ala 84.21 33 LR LR 11 47 57.9
comp=Z,603nm,21.6s,baz=301,slow=38
H17K Granite Mounta 84.22 14 P P 11 07 19.2 0.0
H17K Granite Mounta 84.22 14 P P 11 07 18.6 -0.7
baz=329
F25K Christian Rive 84.28 8 P P 11 07 19.1 -0.4
baz=341
E29M Blow River 84.29 5 P P 11 07 19.4 -0.1
baz=348
KDU Kakadu 84.31 107 P P 11 07 22.6 +2.1
F26K Sheenjek River 84.36 7 P P 11 07 20.0 0.0
baz=342
H18K Honhosa River 84.37 14 P P 11 07 20.3 +0.2
H18K IAmb IAmb 11 07 23.5
comp=Z,16nm,0.9s
H18K Honhosa River 84.37 14 P P 11 07 20.3 +0.2
baz=330,SNR=7.4
H19K Roundabout Mou 84.44 13 P P 11 07 21.5 +1.2
baz=332
G23K Bananza Creek 84.50 10 P P 11 07 20.4 -0.3
baz=337,SNR=8.2
INK Inuvik 84.66 3 P P 11 07 21.0 -0.4
INK Inuvik 84.66 3 P P 11 07 21.4 0.0
baz=352
INK Inuvik 84.66 3 P P 11 07 21.0 -0.4
INK pmax pmax
comp=Z,10.0nm,1.0s
SCHQ Schefferville 84.69 331 P P 11 07 21.5 -0.3
comp=Z,6.8nm,0.8s,baz=49,slow=5.1,SNR=5.8
SCHQ LR LR 11 46 15.0
comp=Z,461nm,20.7s,baz=74,slow=36
comp=Z,6.8nm,0.8s
H20K Anotleneega Mo 84.77 12 P P 11 07 22.1 +0.1
baz=333,SNR=8.9
G24K Hadweenzic Riv 84.88 9 P P 11 07 22.7 +0.1
G24K IAmb IAmb 11 07 27.0
comp=Z,24nm,0.9s
G24K Hadweenzic Riv 84.88 9 P P 11 07 22.3 -0.3
baz=340
F28M Old Crow 84.88 6 P P 11 07 22.9 +0.3
baz=346,SNR=13
I17K Unalakleet 84.94 15 P P 11 07 21.8 -1.1
baz=328
H21K Melozitna Rive 85.00 11 P P 11 07 23.6 +0.4
baz=335,SNR=10
H22K Ishtalitna Cre 85.03 11 P P 11 07 24.2 +0.9
baz=336
GCSA Galena City Sc 85.04 13 P P 11 07 23.7 +0.4
baz=331,SNR=7.0
G26K Porcupine Rive 85.12 8 P P 11 07 23.8 +0.1
baz=343
J14K Nanvaranak Lak 85.19 17 P P 11 07 24.5 +0.4
baz=326
F30M Barrier River 85.21 4 P P 11 07 24.3 +0.1
baz=350
FYU Fort Yukon 85.31 8 P P 11 07 25.4 +0.7
I20K Naaghedeneel 85.47 12 P P 11 07 25.4 -0.1
baz=333
J16K Anvik River 85.48 16 P P 11 07 25.4 -0.2
baz=328,SNR=9.3
G27K Doyon Strip 85.49 7 P P 11 07 25.9 +0.2
baz=345
F31M Tsiigehtchic 85.51 4 P P 11 07 26.5 +0.9
baz=352,SNR=16
H25L Birch Creek 85.52 9 P P 11 07 25.2 -0.5
baz=341
K13K Kusilvak Mount 85.57 18 P P 11 07 26.0 -0.1
baz=325
I21K Tanana 85.58 11 P P 11 07 25.9 -0.1
baz=336
H24K Noodor Dome 85.63 9 P P 11 07 27.0 +0.6
H24K IAmb IAmb 11 07 37.6
comp=Z,27nm,1.6s
H24K Noodor Dome 85.63 9 P P 11 07 26.6 +0.2
baz=339
G29M Pine Creek 85.73 5 P P 11 07 26.6 -0.2
G29M IAmb IAmb 11 07 50.2
comp=Z,13nm,0.8s
G29M Pine Creek 85.73 5 P P 11 07 25.7 -1.1
baz=348
J17K VABM Dome 85.74 15 P P 11 07 26.2 -0.7
baz=330
G30M tAoh Zraii Nji 85.80 5 P P 11 07 26.0 -1.3
baz=350
J19K Poorman 85.96 13 P P 11 07 28.1 +0.1
J19K Poorman 85.96 13 P P 11 07 27.4 -0.6
baz=332
G31M Satah River 85.99 4 P P 11 07 27.3 -0.7
baz=351
I23K Minto, Yukon-K 86.05 10 P P 11 07 28.6 +0.2
baz=338,SNR=8.4
H27K Steamboat Moun 86.06 7 P P 11 07 27.1 -1.4
baz=345
K15K Wolf Creek Mou 86.09 16 P P 11 07 28.4 -0.3
baz=327
J20K Nowinta River 86.09 13 P P 11 07 28.8 +0.2
baz=334,SNR=10
J18K Innoko River 86.20 14 P P 11 07 29.4 +0.2
J18K IAmb IAmb 11 07 58.4
comp=Z,57nm,1.9s
J18K Innoko River 86.20 14 P P 11 07 28.8 -0.4
baz=332
PRP Porcupine Dome 86.27 9 P P 11 07 29.8 +0.1
baz=341,SNR=8.0
EPYK Eagle Plains 86.37 5 P P 11 07 30.7 +0.7
baz=349,SNR=7.4
POKR Poker Plat Res 86.38 10 P P 11 07 30.1 0.0
baz=340,SNR=5.4
H29M Whitestone 86.38 6 P P 11 07 30.0 -0.1
baz=348
M11K Mekoryuk 86.39 19 P P 11 07 30.0 -0.1
baz=324
K17K Iditarod 86.51 15 P P 11 07 30.9 +0.2
baz=330
COLA College 86.54 10 P P 11 07 30.8 0.0
baz=339
COLA College 86.54 10 P P 11 07 31.4 +0.6
COLA College 86.54 10 *i* P P 11 07 30.6 -0.2
COLA pmax pmax
comp=Z,35nm,2.9s
L14K Kuka Creek 86.59 17 P P 11 07 31.8 +0.7
L14K Kuka Creek 86.59 17 P P 11 07 30.6 -0.4
baz=326
L15K Ungalak Mounta 86.62 17 P P 11 07 30.8 -0.5
baz=328
I27K Kandik River 86.66 7 P P 11 07 31.3 -0.2
baz=345
CHUM Lake Minchumin 86.71 12 P P 11 07 31.7 +0.1
baz=335,SNR=18
BPAW Bear Paw Mtn. 86.75 11 P P 11 07 31.5 -0.4
baz=336,SNR=12
JAY Japura 86.75 94 LR LR 11 52 34.2
comp=Z,195nm,18.4s,baz=298,slow=40
I26K Coal Creek Min 86.77 8 P P 11 07 31.8 -0.2
baz=343
ILAR Eielson Array 86.78 9 P P 11 07 31.2 -0.9
ILAR Eielson Array 86.78 9 P P 11 07 31.6 -0.4
comp=Z,2.3nm,0.6s,baz=322,slow=4.5,SNR=50
ILAR LR LR 11 50 23.2
comp=Z,749nm,21.7s,baz=322,slow=38
comp=Z,2.3nm,0.6s
TTA Tatalina 86.83 14 P P 11 07 32.1 -0.3
baz=332
TTA Tatalina 86.83 14 P P 11 07 34.3 +1.9
K20K Telida 86.85 13 P P 11 07 33.0 +0.6
baz=334
I28M Miner Creek 86.99 6 P P 11 07 33.7 +0.6
baz=346
L17K Donlin 87.01 15 P P 11 07 33.5 +0.3
baz=330
H31M Peel River 87.10 4 P P 11 07 33.4 -0.2
baz=351
L16K Owhat River 87.10 16 P P 11 07 33.8 +0.2
baz=329
HDA Harding Lake 87.11 10 P P 11 07 33.1 -0.5
baz=340,SNR=5.1
WRKA Warakurna 87.11 120 P P 11 07 36.8 +2.5
J25K Salcha River, 87.15 9 P P 11 07 34.1 +0.2
baz=341
CAST Castle Rocks 87.17 12 P P 11 07 34.1 +0.1
baz=336,SNR=22
M13K Dall Lake 87.18 18 P P 11 07 34.0 0.0
baz=326
I29M Ogilvie Camp, 87.23 6 P P 11 07 34.2 0.0
baz=348,SNR=9.6
M14K Bethel 87.28 17 P P 11 07 35.3 +0.8
M14K Bethel 87.28 17 P P 11 07 34.0 -0.5
baz=327
L18K Granite Mounta 87.31 15 P P 11 07 33.3 -1.3
baz=332
MCK McKinley 87.44 11 P P 11 07 35.3 0.0
MCK McKinley 87.44 11 P P 11 07 34.5 -0.8
baz=338,SNR=9.2
MCK McKinley 87.44 11 P P 11 07 35.3 0.0
MCK pmax pmax
comp=Z,33nm,1.2s
TRF Thorofare Moun 87.47 11 P P 11 07 34.7 -0.9
baz=337
J26L Joseph Creek 87.49 8 P P 11 07 35.7 +0.1
J26L IAmb IAmb 11 08 15.3
comp=Z,18nm,0.9s
J26L Joseph Creek 87.49 8 P P 11 07 34.4 -1.2
baz=343
EGAK Eagle 87.51 7 P P 11 07 35.5 -0.1
baz=345,SNR=6.4
I30M Mount Dempster 87.53 5 P P 11 07 35.3 -0.5
baz=349,SNR=11
PPLA Purkeypile 87.63 12 P P 11 07 35.4 -1.0
baz=336
M15K Kasigluk River 87.66 17 P P 11 07 35.3 -1.1
baz=328
L20K Farewell, AK 87.68 13 P P 11 07 36.0 -0.5
baz=334
L19K White Mountain 87.74 14 P P 11 07 35.7 -1.0
baz=333
M16K Timber Creek 87.82 16 P P 11 07 36.5 -0.6
baz=330
M17K Holitna River 87.86 15 P P 11 07 36.8 -0.4
baz=331
K24K Donnelly Dome 87.86 9 P P 11 07 36.9 -0.4
baz=341
SCRK Sand Creek 87.94 9 P P 11 07 37.8 0.0
baz=343,SNR=15
N14K Kuskokwak Cree 88.05 18 P P 11 07 38.4 +0.2
baz=327
RIDG Independent Ri 88.05 9 P P 11 07 38.4 +0.2
baz=342
M19K Big River Lodg 88.09 14 P P 11 07 38.3 -0.1
baz=334
J29N Klondike Camp 88.13 6 P P 11 07 38.4 -0.2
baz=348
M18K Stony River 88.14 15 P P 11 07 38.4 -0.2
baz=332
J30M Hart River 88.17 5 P P 11 07 38.7 -0.2
baz=349,SNR=7.6
N15K Kwethluk River 88.27 17 P P 11 07 38.0 -1.2
baz=329
P08K Saint George I 88.30 23 P P 11 07 38.4 -1.0
baz=321
M20K Styx River 88.37 13 P P 11 07 39.7 -0.1
baz=335
DAWY Dawson 88.39 7 P P 11 07 39.4 -0.4
baz=347,SNR=11
CUT Chulitna 88.44 12 P P 11 07 39.1 -0.9
baz=337
SKT Skwentna 88.59 12 P P 11 07 40.0 -0.8
baz=336
N17K Nushagak Hills 88.68 16 P P 11 07 41.3 +0.1
baz=331
PAX Paxson 88.70 9 P P 11 07 39.2 -2.2
baz=341
K29M Barlow Dome 88.79 6 P P 11 07 41.9 0.0
K29M IAmb IAmb 11 07 58.0
comp=Z,9.5nm,0.8s
K29M Barlow Dome 88.79 6 P P 11 07 40.9 -0.9
baz=348,SNR=9.5
N18K Kilae Creek 88.85 15 P P 11 07 40.9 -1.2
baz=332
L26K Log Cabin Wild 88.94 9 P P 11 07 41.1 -1.3
baz=343
MENT Mentasta 88.97 9 P P 11 07 43.4 +0.8
N19K Bonanza Creek 89.05 14 P P 11 07 42.2 -0.8
baz=334
M22K Willow 89.07 12 P P 11 07 42.5 -0.4
baz=337
L27K Beaver Creek, 89.10 8 P P 11 07 43.6 +0.4
L27K IAmb IAmb 11 08 16.7
comp=Z,17nm,1.5s
L27K Beaver Creek, 89.10 8 P P 11 07 41.7 -1.5
baz=345
BCAR Beaver Creek A 89.10 8 P P 11 07 43.3 +0.1
MAYO Mayo, Yukon 89.17 5 P P 11 07 42.4 -1.1
baz=350
SPCR Spurr Chakacha 89.17 13 P P 11 07 42.0 -1.6
baz=336
SUA Susitna One 89.22 12 P P 11 07 42.9 -1.0
baz=337
O16K Kokwok River B 89.28 16 P P 11 07 42.9 -1.1
baz=330
HARP HAARP 89.29 10 P P 11 07 42.8 -1.2
baz=342
SML Sawmill 89.34 11 P P 11 07 43.3 -1.0
baz=339
O17K Koliganek Bris 89.37 16 P P 11 07 43.5 -0.9
baz=331
WRA Warramunga Arr 89.39 113 P P 11 07 44.8 -0.4
comp=Z,2.5nm,0.8s,baz=312,slow=3.9,SNR=15
WRA LR LR 11 51 55.0
comp=Z,222nm,18.9s,baz=305,slow=38
comp=Z,2.5nm,0.8s
WRAB Tennant Creek 89.39 113 P P 11 07 44.7 -0.5
WRAB IAmb IAmb 11 08 03.1
comp=Z,14nm,0.8s
WRAB Tennant Creek 89.39 113 P P 11 07 44.7 -0.5
WRAB pmax pmax
comp=Z,15nm,0.9s
PMR Palmer 89.40 12 P P 11 07 42.7 -1.8
baz=338
PMR Palmer 89.40 12 P P 11 07 45.7 +1.2
M24K Tolsona, Glenn 89.41 10 P P 11 07 43.2 -1.5
baz=341
M23K Glacier View 89.45 11 P P 11 07 43.2 -1.6
baz=339
L29M L29M 89.45 6 P P 11 07 43.1 -1.7
baz=348,SNR=6.4
SCM Sheep Creek Mo 89.48 11 P P 11 07 43.2 -1.8
baz=340
M26K Nabesna, AK 89.59 9 P P 11 07 43.7 -1.8
baz=344
O19K Port Alsworth 89.64 14 P P 11 07 44.1 -1.5
baz=334
KNK Knik Glacier 89.69 11 P P 11 07 43.6 -2.3
baz=339
O18K Koktuh Hills 89.74 15 P P 11 07 44.7 -1.5
baz=333
RC01 Rabbit Creek A 89.76 12 P P 11 07 44.3 -2.0
baz=338
M27K Edge Creek, AK 89.77 8 P P 11 07 45.2 -1.3
baz=344
CAPN Captain Cook N 89.78 13 P P 11 07 46.0 -0.3
baz=336
WRGLY Wrigley 90.00 360 P P 11 07 46.8 -0.5
baz=0.9
KLU Klutina 90.03 10 P P 11 07 46.9 -0.7
baz=341
P17K Kvichak River 90.03 16 P P 11 07 45.8 -1.7
baz=332
M29M Somme Creek 90.08 6 P P 11 07 46.1 -1.7
baz=348
M30M Minto, Yukon 90.10 6 P P 11 07 47.1 -0.8
baz=349
O20K Slope Mountain 90.11 14 P P 11 07 46.4 -1.6
baz=335
N25K Chitina, Valde 90.12 10 P P 11 07 46.5 -1.5
baz=342
P18K Big Mountain, 90.15 15 P P 11 07 47.4 -0.7
baz=333
PWL Port Wells 90.22 11 P P 11 07 46.8 -1.7
baz=339
O22K Cooper Landing 90.32 12 P P 11 07 47.6 -1.3
baz=338
P19K Oil Pt 90.37 14 P P 11 07 47.5 -1.7
baz=335
YKA Yellowknife Ar 90.40 355 P P 11 07 49.4 +0.2
comp=Z,1.7nm,0.9s,baz=0.6,slow=5.1,SNR=27
YKA LR LR 11 56 28.8
comp=Z,484nm,18.2s,baz=358,slow=41
comp=Z,1.7nm,0.9s
GLI Glacier Island 90.42 11 P P 11 07 47.2 -2.1
baz=340
Q16K King Salmon 90.44 16 P P 11 07 46.1 -3.3
baz=332
YUK3 Moose Creek 90.51 8 P P 11 07 46.7 -3.3
baz=346
M31M Drury Creek, Y 90.67 5 P P 11 07 48.4 -2.1
baz=351
HOM Homer 90.70 13 P P 11 07 49.9 -0.7
baz=336
FARO Faro, Yukon 90.71 4 P P 11 07 49.8 -1.0
baz=352
SEW Seward 90.72 12 P P 11 07 49.9 -0.8
baz=338
BMRM Bremner River 90.73 10 P P 11 07 49.8 -1.1
baz=342
ASAR Alice Springs 90.84 116 P P 11 07 51.6 -0.3
comp=Z,2.2nm,0.7s,baz=303,slow=4.7,SNR=34
ASAR LR LR 11 53 27.8
comp=Z,278nm,18.0s,baz=285,slow=39
comp=Z,2.2nm,0.7s
AS01 Alice Springs 90.88 116 P P 11 07 54.0 +1.9
Q19K Cape Douglas, 90.93 15 P P 11 07 51.1 -0.7
baz=334
EYAK Cordova Ski Ar 90.95 10 P P 11 07 51.6 -0.2
baz=341
Q17K Contact Creek 91.00 16 P P 11 07 51.0 -1.2
baz=332
YUK8 Steele Glacier 91.07 7 P P 11 07 51.1 -1.6
baz=346
YUK4 Talbot Arm 91.13 7 P P 11 07 50.9 -2.0
baz=348
P23K Montague Islan 91.20 11 P P 11 07 52.0 -1.0
baz=340
N31M Braeburn, Yuko 91.27 5 P P 11 07 51.9 -1.4
baz=350

Q20K	Shuyak Island	91.50	14	P	P	11 07 53.4	-1.0
	baz=335						
O28M	Mount Upton	91.52	8	P	P	11 07 52.8	-2.0
	baz=346						
UNV	Unalaska Valle	91.55	23	P	P	11 07 53.9	-0.8
	baz=323						
YUK6	Outpost Mounta	91.56	7	P	P	11 07 54.2	-0.7
	baz=348						
S14K	Fog Glacier	91.75	19	P	P	11 07 54.6	-1.1
	baz=329						
KAIM	Kayak Island	91.75	10	P	P	11 07 54.3	-1.2
	baz=342						
HYT	Haines Junctio	91.76	6	P	P	11 07 53.9	-1.8
	baz=348						
N32M	Quiet Lake	91.80	4	P	P	11 07 54.2	-1.6
	baz=352						
MESA	MESA	91.87	9	P	P	11 07 55.0	-1.3
	baz=344						
O30N	Mendenhall	91.95	6	P	P	11 07 55.1	-1.4
	baz=350						
WHY	Whitehorse	92.16	5	P	P	11 07 56.1	-1.4
	baz=351						
O29M	Mount Kennedy	92.16	7	P	P	11 07 56.5	-1.1
	baz=347						
PINM	Pinnacle	92.17	8	P	P	11 07 56.7	-0.8
	baz=346						
KDAK	Kodiak Island	92.21	15	LR	LR	11 55 17.8	
	comp=Z,587nm,20.3s,baz=196,slow=39						
KDAK	Kodiak Island	92.21	15	P	P	11 07 57.3	-0.3
	baz=335						
P30M	Million Dollar	92.50	6	P	P	11 07 57.4	-1.7
	baz=349						
OHAK	Old Harbor	92.55	15	P	P	11 07 57.9	-1.3
	baz=335						
P33M	Teslin, Yukon	92.75	4	P	P	11 07 58.8	-1.4
	baz=353						
SII	Sitkinak Islan	92.94	16	P	P	11 07 59.5	-1.6
	baz=334						
CHNA	Chernabura Isl	92.99	20	P	P	11 07 58.5	-2.8
	baz=329						
WTLY	Watson Lake, Y	93.05	2	P	P	11 07 58.8	-2.8
	baz=356						
KOTAN	Kotaneelee Air	93.11	360	P	P	11 07 58.9	-3.0
	baz=0.4						
PLBC	Pleasant Camp	93.22	6	P	P	11 08 00.4	-1.9
	baz=349						
CHIR	Chirikof Islan	93.23	17	P	P	11 07 59.9	-2.5
	baz=332						
SKAG	Skagway	93.31	6	P	P	11 08 01.3	-1.4
	baz=350						
P32M	Atlin	93.31	5	P	P	11 08 01.6	-1.2
	baz=352						
R33M	Jennings River	93.68	3	P	P	11 08 03.1	-1.5
	baz=354						
RCBR	Riachuelo	93.97	266	LR	LR	11 50 49.3	
	comp=Z,236nm,18.5s,baz=69,slow=36						
Q32M	Nakina River	94.03	4	P	P	11 08 04.4	-2.0
	baz=353						
R31K	City Hall, Gus	94.31	6	P	P	11 08 05.6	-1.7
	baz=350						
TOAD	Toad River Com	94.39	0	P	P	11 08 06.8	-0.9
	baz=359						
R32K	Eaglecrest	94.55	5	P	P	11 08 07.3	-1.2
	baz=351						
MAW	Mawson	94.55	177	LR	LR	11 45 25.0	
	comp=Z,578nm,18.9s,baz=353,slow=32						
DLBC	Dease Lake	94.68	3	LR	LR	11 53 23.2	
	comp=Z,414nm,21.6s,baz=346,slow=37						
DLBC	Dease Lake	94.68	3	P	P	11 08 07.8	-1.3
	baz=355						
S31K	Pelican	94.70	6	P	P	11 08 08.3	-0.8
	baz=350						
S34M	Telegraph Cree	95.15	4	P	P	11 08 09.6	-1.5
	baz=354						
S32K	Killisnoo	95.34	6	P	P	11 08 10.8	-1.3
	baz=351						
PMG	Port Moresby	95.57	98	LR	LR	11 56 51.1	
	comp=Z,117nm,20.8s,baz=298,slow=39						
SIT	Sitka	95.68	6	P	P	11 08 11.8	-1.8
	baz=350						
L61B	Northampton	96.00	324	P	P	11 08 12.9	-2.5
	baz=45						
T35M	Bob Quinn	96.12	3	P	P	11 08 13.8	-1.9
	baz=355						
WRAK	Wrangell Islan	96.56	4	P	P	11 08 16.0	-1.6
	baz=353						
U33K	Whale Pass	96.80	5	P	P	11 08 16.9	-1.8
	baz=352						
U35K	Hyder	97.20	3	P	P	11 08 19.5	-1.0
	baz=355						
SADO	Sadowa	97.44	329	LR	LR	11 54 39.9	
	comp=Z,498nm,19.8s,baz=52,slow=37						
CRAG	Craig	97.44	5	P	P	11 08 20.1	-1.5
	baz=352						
KRVT	Keravat (AS076	97.64	91	LR	LR	11 57 12.9	
	comp=Z,134nm,18.6s,baz=22,slow=38						
V35K	Ketchikan	97.69	4	P	P	11 08 20.9	-1.9
	baz=354						
ULM	Lac du Bonnet	98.97	342	LR	LR	11 55 15.5	
	comp=Z,536nm,19.6s,baz=23,slow=37						
L44A	Lake County Fo	103.30	333	P	Pdif	11 08 45.7	-2.4
	baz=33						
O48B	Farmland	103.72	330	P	Pdif	11 08 47.6	-2.4
	baz=35						
N23A	Red Feather La	110.24	345	P	PKiKP	11 13 18.4	-2.1
	baz=18						
Q24A	Divide	111.89	344	P	PKiKP	11 13 21.3	-2.6
	baz=18						
T25A	Trinidad	113.42	343	P	PKiKP	11 13 24.2	-2.5
	baz=19						
NVAR	Mina Array Bea	114.58	355	PKP	PKiKP	11 13 29.1	+0.2
	comp=Z,0.2nm,0.4s,baz=337,slow=2.6,SNR=1.6						
QSPA	South Pole Qui	116.92	180	PKP	PKPdf	11 13 31.3	-0.8
	comp=Z,3.1nm,0.9s,baz=225,slow=5.7,SNR=9.2						
Y22D	IRIS PASSCAL I	116.97	344	P	PKPdf	11 13 31.3	-2.2
	baz=18						
435B	Jarrell	117.03	334	P	PKPdf	11 13 30.0	-3.5
	baz=27						
121A	Cookes Peak, D	118.65	344	P	PKPdf	11 13 33.6	-3.2
	baz=17						
TXAR	Lajitas Array	120.50	339	PKP	PKPdf	11 13 40.5	+0.2
	comp=Z,0.4nm,0.8s,baz=188,slow=1.6,SNR=4.7						
CPUP	Villa Florida	120.79	254	PKP	PKPdf	11 13 38.5	-2.2
	comp=Z,1.5nm,0.9s,baz=80,slow=3.5,SNR=3.4						
LPAZ	La Paz	127.02	270	PKP	PKPdf	11 13 52.2	-1.5
	comp=Z,0.9nm,0.8s,baz=65,slow=3.6,SNR=4.0						
PLCA	Paso Flores	133.97	238	PKP	PKPdf	11 14 05.8	+0.3
	comp=Z,1.6nm,0.9s,baz=50,slow=2.4,SNR=2.2						

*SJA **10** 11:44:10.3±1.0, 24.°14S×66.°96W, h208km±6km, ML3.8, MW3.7*
*NEIC **10** 11:44:10.9±1.4, 24.°17S±0.°06×66.°9W±0.°1, h176km±8km, mb4.3/9, Error ellipse: s-maj=16.0km s-min=9.3km az=95.0*
*IDC **10** 11:44:10.9±2.9, 24.°05S×66.°84W, h181km±32km, mb3.4/2, mbtmp4.1/6, Error ellipse: s-maj=34.4km s-min=21.3km az=117.0*
ISC 10 11:44:11.4±0.7, 24.°10S±0.°04×67.°04W±0.°04, h194km±7km, n49, σ1§77/63, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.65	102	*i* P	Pn	11 44 39.6	+0.5
SALTA				*i* S	Sn	11 45 00.9	+0.6
SLA	San Lorenzo	1.53	114	*e*P	Pn	11 44 45.4	+0.4
SLA				*e*S	Sn	11 45 10.1	-1.0
AF01	San Pedro de A	1.55	317	Pn	Pn	11 44 46.6	+1.3
AF01	San Pedro de A	1.55	317	*e*P	Pn	11 44 47.5	+2.1
AF01				*e*S	Sn	11 45 15.2	+3.6
AF01				IAML		11 45 41.2	
	comp=Z,147nm,0.5s						
AZAP	Zapla	1.80	94	*e*P	Pn	11 44 47.7	0.0
AZAP				*e*S	Sn	11 45 14.7	-1.1
FSA	Cafayete	2.22	155	*e*P	Pn	11 44 51.9	-0.2
FSA				*e*S	Sn	11 45 22.1	-1.7
YJA	Yavi	2.37	37	*e*P	Pn	11 44 54.8	+0.9
YJA				*e*S	Sn	11 45 28.3	+1.3
GO02	Mina Guanaco	2.56	245		Pn	11 44 56.0	+0.1
GO02	Mina Guanaco	2.56	245	*e*P	Pn	11 44 56.6	+0.8
GO02				*e*S	Sn	11 45 31.1	+0.6
PB09	IPOC Station P	3.06	318		Pn	11 45 02.9	+1.2
PB09	IPOC Station P	3.06	318	*e*P	Pn	11 45 03.2	+1.5
PB09				*e*S	Sn	11 45 41.8	+0.9
PB09				IAML		11 45 42.4	
	comp=Z,263nm,0.6s						
AHML	Horco Molle	3.09	150	*e*P	Pn	11 45 01.8	-0.1
AHML				*e*S	Sn	11 45 39.2	-2.1
PB14	IPOC Station P	3.12	260		Pn	11 45 02.1	-0.4
PB14	IPOC Station P	3.12	260	*e*P	Pn	11 45 02.8	+0.3
PB14				*e*S	Sn	11 45 41.6	-0.7
PB14				IAML		11 45 51.9	
	comp=Z,104nm,0.5s						
AC02	Maricunga	3.32	214	Pn	Pn	11 45 05.0	-0.1
AC02	Maricunga	3.32	214	*e*P	Pn	11 45 05.6	+0.6
AC02				*e*S	Sn	11 45 32.7	-14
AC02				IAML		11 45 51.1	
	comp=Z,289nm,0.8s						
PB01	IPOC Station P	3.79	323		Pn	11 45 10.9	+0.4
PB01	IPOC Station P	3.79	323	*e*P	Pn	11 45 11.0	+0.5
PB01				*e*S	Sn	11 45 56.3	-0.5
PB01				IAML		11 46 01.7	
	comp=Z,74nm,0.3s						
AC01	Pan de Azucar	3.82	237		Pn	11 45 09.4	-1.3
AC01	Pan de Azucar	3.82	237	*e*P	Pn	11 45 10.0	-0.7
AC01				*e*S	Sn	11 45 49.0	-8.3
AC01				IAML		11 45 54.7	
	comp=Z,143nm,0.8s						
GUSE	Guasayan	4.26	153	*e*P	Pn	11 45 10.0	-6.2
GUSE				*e*P		11 45 15.3	
PB08	IPOC Station P	4.40	333		Pn	11 45 19.3	+0.9
TA01	Diego Aracena	4.56	320		Pn	11 45 19.1	-1.0
TA01	Diego Aracena	4.56	320	*e*P	Pn	11 45 20.3	+0.2
TA01				*e*S	Sn	11 46 12.6	-1.5
TA01				IAML		11 46 21.4	
	comp=Z,62nm,0.5s						
VCA	Vinchina	4.74	193	*e*P	Pn	11 45 23.5	+1.0
VCA				*e*S	Sn	11 46 25.0	+6.5
TA02	Huaiquique	4.77	322	Pn	Pn	11 45 22.2	-0.5
ACLC	CERRO LA CRUZ	5.31	179	*e*P	Pn	11 45 29.4	-0.4
AC04	Llanos de Chal	5.47	221	Pn	Pn	11 45 30.7	-1.0
LPAZ	La Paz	7.83	352		Pn	11 46 03.1	-0.1
LPAZ	La Paz	7.83	352	P	Pn	11 46 03.4	+0.2
	comp=Z,5.8nm,0.3s,baz=152,slow=8.4,SNR=43						
LPAZ				S	Sn	11 47 29.6	-2.3
	comp=Z,1.1nm,0.5s,baz=229,slow=24,SNR=1.0						
VA03	San Esteban	9.17	199	Pn	Pn	11 46 19.2	-0.8
SIV	San Ignacio	9.82	36	P	Pn	11 46 26.0	-2.5
	comp=Z,5.8nm,0.5s,baz=211,slow=12,SNR=33						
BI02	San Fabin de	13.05	195	Pn	Pn	11 47 09.4	-0.3
ITAB	Concordia	13.80	106	P	Pn	11 47 19.8	+0.6
PLTB	Pedras Altas	14.11	126	P	Pn	11 47 23.1	+0.1
LR05	Currie	16.62	193	P	Pn	11 47 52.4	-1.0
LR05				IAmb	IAmb	11 47 57.2	
	comp=Z,20nm,1.4s						
PLCA	Paso Flores	16.85	189	P	P	11 47 54.6	-0.5
PLCA	Paso Flores	16.85	189	P	Pn	11 47 55.9	-0.4
	comp=Z,1.7nm,0.7s,baz=14,slow=9.3,SNR=7.3						
LL04	Puerto Octay	17.36	194	P	P	11 48 00.1	-0.5
LL04				IAmb	IAmb	11 48 19.6	
	comp=Z,12nm,1.1s						
LL05	Los Muermos	18.08	196	P	P	11 48 07.7	-0.8
VAO	Valinhos	18.43	91	P	P	11 48 11.3	-1.3
VAO				IAmb	IAmb	11 48 12.9	
	comp=Z,13nm,0.7s						
LL02	Futaleuf	19.46	191	P	P	11 48 24.3	+1.0
LL02				IAmb	IAmb	11 48 58.3	
	comp=Z,15nm,1.4s						
BDFB	Brasilia	19.75	68		P	11 48 26.0	-0.9
BDFB				IAmb	IAmb	11 48 27.3	
	comp=Z,10nm,0.8s						
BDFB	Brasilia	19.75	68	P	P	11 48 25.8	-1.0
	comp=Z,8.3nm,0.6s,baz=238,slow=11,SNR=15						
PRVC	Isla de Provid	39.79	338	P	P	11 51 27.9	+2.1
QSPA	South Pole Qui	66.11	180	P	P	11 54 38.4	+0.8
QSPA	South Pole Qui	66.11	180	P	P	11 54 38.8	+1.1
	comp=Z,0.9nm,0.5s,baz=253,slow=1.1,SNR=11						
	comp=Z,0.9nm,0.5s						
TORD	Torodi Ar. Bea	76.63	69	P	P	11 55 40.3	-0.9
	comp=Z,0.3nm,0.4s,baz=248,slow=5.0,SNR=4.7						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	146.62	40	PKPbc	PKPbc	12 03 30.6	+0.5
	comp=Z,0.4nm,0.7s,baz=290,slow=3.7,SNR=4.3						

*IDC **10** 11:49:23.4±0.7, 0.°30N×126.°15E, h0km, mb4.0/13, mbtmp4.0/14, ML3.4/1, Error ellipse: s-maj=44.2km s-min=12.0km az=75.0*
*DJA **10** 11:49:26.8±0.2, 0.°N±3.°×12.°6E±.°, h10km, M4.1/17, mb4.4/5, MLv4.0/17*
*NEIC **10** 11:49:29.1±1.6, 0.°20N±0.°06×126.°10E±0.°04, h35km±1km, mb4.3/15, Error ellipse: s-maj=11.2km s-min=5.2km az=215.0*
ISC 10 11:49:29.5±0.5, 0.°22N±0.°05×126.°20E±0.°06, h44km, n51, σ1§47/52, mb4.1/19, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.29	65		Pn	11 49 50.7	-0.4
TNTI	Ternate	1.29	65	P	Pn	11 49 51.4	+0.3
LBMI	Labuha	1.56	123	P	Pn	11 49 53.4	-1.3
KMSI	Cibinong	2.25	279	P	Pn	11 50 04.0	-0.2
SANI	Sanana	2.26	185	P	Pn	11 50 02.6	-1.8
NLAI	Namlea	3.55	165	P	Pn	11 50 19.2	-2.9
LUWI	Luwuk	3.65	250	Pn	Pn	11 50 19.9	-3.6
LUWI	Luwuk	3.65	250	P	Pn	11 50 25.1	+1.6
AAI	Ambon	4.36	153	P	Pn	11 50 33.4	+0.1
MSAI	Masohi	4.47	142	P	Pn	11 50 36.3	+1.5
APSI	Ampana	4.68	256	P	Pn	11 50 39.7	+2.0
KDI	Kendari	5.47	221	P	Pn	11 50 48.3	-0.3
	0.1nm24nm,0.6s						
TOLI2	Tolitoli	5.49	279	Pn	Pn	11 50 47.1	-1.7
MPSI	Mapaga	6.30	271	P	Pn	11 50 59.8	-0.1
TTSI	Tana Toraja	7.15	243	P	Pn	11 51 12.8	+1.2
	24nm,0.7s						
SPSI	Sidrap Palu	7.65	237	P	Pn	11 51 18.8	+0.4
MYLDM	Lahad Datu	9.13	303	Pn	Pn	11 51 38.6	-0.2
SBUM	Sibu	14.15	279	Pn	Pn	11 52 41.9	-5.5
KNRA	Kununurra	15.99	171	Pn	Pn	11 53 11.0	-0.5
KNRA				IAmb	IAmb	11 53 35.8	
	comp=Z,23nm,1.4s						
FITZ	Fitzroy Crossi	18.21	182	P	P	11 53 39.1	+0.1
	comp=Z,0.1nm,0.3s,baz=0.0,slow=8.1,SNR=1.6						
	comp=Z,1.4nm,0.7s						
WB0	Warramunga Arr	21.42	158	P	P	11 54 12.6	-1.4
WB0				IAmb	IAmb	11 54 17.9	
	comp=Z,9.2nm,0.8s						
WRAB	Tennant Creek	21.56	159	P	P	11 54 14.1	-1.3
WRAB				IAmb	IAmb	11 54 19.6	
	comp=Z,7.0nm,0.7s						
WRA	Warramunga Arr	21.56	159	P	P	11 54 13.9	-1.5
WRA	Warramunga Arr	21.56	159	P	P	11 54 15.0	-0.5
	comp=Z,4.3nm,0.6s,baz=338,slow=11,SNR=46						
	comp=Z,4.3nm,0.6s						
TPUB	Ta-pu	23.58	347	P	P	11 54 35.0	-1.3
AS31	Alice Springs	24.89	163	P	P	11 54 48.7	+0.3
ASAR	Alice Springs	24.89	163	P	P	11 54 48.7	+0.3
ASAR	Alice Springs	24.89	163	P	P	11 54 49.8	+1.3
	comp=Z,2.6nm,0.6s,baz=346,slow=13,SNR=53						
ASAR				S	S	11 59 15.3	+6.5
	comp=Z,0.1nm,0.7s,baz=344,slow=17,SNR=1.5						
	comp=Z,2.6nm,0.6s						
FORT	Forrest	30.88	177	P	P	11 55 41.4	-0.5
FORT				IAmb	IAmb	11 56 11.5	
	comp=Z,15nm,1.1s						
STKA	Stephens Creek	35.09	157	P	P	11 56 18.6	0.0
STKA				IAmb	IAmb	11 56 25.1	
	comp=Z,8.7nm,1.4s						
STKA	Stephens Creek	35.09	157	P	P	11 56 18.6	0.0
	comp=Z,1.1nm,0.5s,baz=324,slow=14,SNR=3.5						
	comp=Z,1.1nm,0.5s						
KSRS	Korea Array	37.09	2	P	P	11 56 35.5	-0.1
	comp=Z,0.8nm,0.6s,baz=181,slow=9.1,SNR=3.6						
	comp=Z,0.8nm,0.6s						
MJAR	Matsushiro Arr	37.82	16	P	P	11 56 40.0	-1.9
	comp=Z,2.0nm,1.0s,baz=186,slow=9.8,SNR=2.8						
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	50.46	343	P	P	11 58 23.6	+0.5
SONM				IAmb	IAmb	11 58 49.5	
	comp=Z,1.6nm,1.1s						
SONM	Songino Array	50.46	343	P	P	11 58 22.2	-0.8
	comp=Z,0.5nm,0.5s,baz=149,slow=5.4,SNR=4.8						
	comp=Z,0.5nm,0.5s						
PETK	Petropavlovsk-	58.87	22	P	P	11 59 24.3	+0.5
PETK	Petropavlovsk-	58.87	22	P	P	11 59 23.6	-0.1
	comp=Z,2.9nm,0.8s,baz=222,slow=7.0,SNR=5.3						
	comp=Z,2.9nm,0.8s						
MK31	Makanchi Array	60.15	327	P	P	11 59 32.2	-0.5
MKAR	Makanchi Array	60.15	327	P	P	11 59 32.4	-0.4
MKAR	Makanchi Array	60.15	327	P	P	11 59 31.9	-0.9
	comp=Z,0.8nm,0.6s,baz=119,slow=7.5,SNR=13						
MKAR				PcP	PcP	12 00 17.5	-0.6
	comp=Z,0.6nm,0.6s,baz=106,slow=5.9,SNR=4.0						
	comp=Z,0.8nm,0.6s						
MAKZ	Makanchi	60.33	327	P	P	11 59 33.1	-0.9
MAKZ				IAmb	IAmb	11 59 39.8	
	comp=Z,1.4nm,0.7s						
BKZ	Black Stump Fm	60.38	137	P	P	11 59 34.7	+0.2
ZALV	Zalesovo Beam	63.48	334	P	P	11 59 54.2	-0.7
	comp=Z,0.5nm,0.5s,baz=141,slow=9.3,SNR=1.9						
	comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	64.42	329	P	P	12 00 00.9	-0.2
	comp=Z,2.4nm,0.2s,baz=130,slow=6.5,SNR=4.2						
	comp=Z,2.4nm,0.2s						
BVAR	Borovoye Array	69.98	328	P	P	12 00 36.1	-0.3
	comp=Z,0.3nm,0.4s,baz=106,slow=5.1,SNR=4.7						
	comp=Z,0.3nm,0.4s						
NRIK	Noril'sk	73.70	347	P	P	12 00 59.0	+0.6
	comp=Z,0.9nm,0.4s,baz=130,slow=9.3,SNR=4.3						
	comp=Z,0.9nm,0.4s						
ABKAR	Akbulak array	74.53	322	P	P	12 01 03.0	-0.7
ABKAR				IAmb	IAmb	12 01 10.2	
	comp=Z,2.3nm,1.0s						
ABKAR	Akbulak array	74.53	322	P	P	12 01 03.4	-0.3
C18K	Utukok River	83.52	21	P	P	12 01 53.5	+1.0
L18K	Granite Mounta	83.81	27	P	P	12 01 55.8	+1.7
L18K				IAmb	IAmb	12 01 55.9	
	comp=Z,7.7nm,1.2s						
QSPA	South Pole Qui	90.14	180	P	P	12 02 25.7	+0.7
	comp=Z,0.9nm,0.9s,baz=330,slow=2.9,SNR=3.9						
	comp=Z,0.9nm,0.9s						

*IDC **10** 12:03:20.8±1.0, 36.°37N×141.°23E, h0km, mb3.4/9, mbtmp3.5/11, ML3.5/2, Error ellipse: s-maj=21.7km s-min=19.7km az=135.0*
*JMA **10** 12:03:26.7±0.1, 36.°4N±0.°3×141.°1E±0.°8, h45km±1km, MV3.7/40, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 10 12:03:23.8±1.3, 36.°40N±0.°04×141.°14E±0.°05, h19km±4km, n40, σ1§09/43, mb3.5/9, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.45	263	*i* P	Pn	12 03 36.4	+1.1
JHYU				S	Sn	12 03 43.0	+0.1
JHO	Hitachi	0.51	295	⇓*i*P	Pn	12 03 36.6	+0.5
JHO				⇓S	Sn	12 03 43.6	-0.8
JIHU	Itakohorinouch	0.66	229	*i* P	Pn	12 03 40.0	+1.8
JIHU				S	Sn	12 03 49.6	+1.6
ONAJ	Iwakimizuishiy	0.76	339	⇓*i*P	Pn	12 03 39.9	+0.3
ONAJ				⇓S	Sg	12 03 49.0	+0.2
JYT	Yasato	0.79	258	*i* P	Pn	12 03 40.6	+0.7
JYT				S	Sg	12 03 50.0	+0.4
JFK	Kawauchi	0.99	347	⇓*i*P	Pg	12 03 43.0	-0.1
JFK				⇓*e*S	Sb	12 03 54.5	-0.6
JOTO	OTAMA OYAMA	1.33	331	*i* P	Pg	12 03 49.0	-0.5
JOTO				S	Sb	12 04 05.2	+0.4
JAG	Ashikaga	1.36	272	*i* P	Pb	12 03 48.7	-0.1
JAG				S	Sn	12 04 04.9	-0.6
JMM	Marumori	1.49	349	P	Pb	12 03 50.7	-0.3
JMM	Marumori	1.49	349	S	Sn	12 04 08.2	-0.4
JMM	Marumori	1.49	349	*i* P	Pb	12 03 50.6	-0.3
JMM				S	Sn	12 04 07.8	-0.8
JFY	Yanaizu	1.53	312	P	Pb	12 03 51.5	-0.1
JKT	Katashina	1.57	284	*i* P	Pb	12 03 52.2	-0.1
JKT				S	Sn	12 04 10.2	-0.4
MJAR	Matsushiro Arr	2.37	274	Pn	Pn	12 04 03.5	+1.7
	1.4nm,0.3s,baz=96,slow=19,SNR=132						
MJAR				Sn	Sn	12 04 31.2	+0.9
	2.5nm,0.3s,baz=97,slow=29,SNR=6.0						
	10nm,0.4s						
MAJO	Matsushiro	2.37	274	P	Pb	12 04 04.4	-1.6
JSD	Sado	2.82	306	P	Pn	12 04 09.6	+1.7
JGF	Kuroka	3.17	257	P	Pb	12 04 16.8	-2.8
INU	Inuyama	3.51	254	P	Pb	12 04 22.8	-2.6
JTM	Tenmabayashi	4.38	359	P	Pn	12 04 31.6	+2.2
ERM	Erimo	5.82	15	P	Pn	12 04 49.9	+0.8
JEM	Erimo	5.82	15	P	Pn	12 04 49.9	+0.8
ASAJ	Asahikawa	7.79	8	Pn	Pn	12 05 16.1	0.0
	1.5nm,0.3s,baz=216,slow=10,SNR=22						
ASAJ				Sn	Sn	12 06 43.5	-0.3
	0.2nm,0.3s,baz=266,slow=19,SNR=1.3						
	4.2nm,0.3s						
SONM	Songino Array	27.97	305	P	P	12 09 12.6	-0.7
	0.2nm,0.5s,baz=111,slow=8.5,SNR=3.8						
	0.2nm,0.5s						
H11N2	WAKE ISLAND Hy	28.02	119	T	T	12 38 37.9	
	baz=312,slow=75,SNR=27						
H11N1	WAKE ISLAND Hy	28.02	119	T	T	12 38 48.1	
	baz=312,slow=75,SNR=30						
H11N3	WAKE ISLAND Hy	28.03	119	T	T	12 38 35.3	
	baz=312,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	28.70	122	T	T	12 39 32.2	
	baz=314,slow=76,SNR=73						
H11S3	WAKE ISLAND Hy	28.70	122	T	T	12 39 26.7	
	baz=314,slow=76,SNR=56						
H11S2	WAKE ISLAND Hy	28.72	122	T	T	12 39 29.5	
	baz=314,slow=76,SNR=60						
MKAR	Makanchi Array	44.28	303	P	P	12 11 33.2	+1.0
	0.1nm,0.5s,baz=80,slow=8.9,SNR=2.2						
	0.1nm,0.5s						
KURBB	Kurchatov Arra	46.22	308	P	P	12 11 47.0	-0.5
	0.6nm,0.3s,baz=83,slow=7.8,SNR=4.9						
	0.6nm,0.3s						
ILAR	Eielson Array	50.15	32	P	P	12 12 18.6	+1.0
	0.6nm,0.7s,baz=263,slow=5.5,SNR=12						
	0.6nm,0.7s						
BVAR	Borovoye Array	50.84	313	P	P	12 12 24.0	+0.9
	0.5nm,0.6s,baz=86,slow=7.4,SNR=2.6						
	0.5nm,0.6s						
WRA	Warramunga Arr	56.40	188	P	P	12 13 03.7	-0.4
	0.8nm,0.8s,baz=5.3,slow=7.3,SNR=5.1						
	0.8nm,0.8s						
ASAR	Alice Springs	60.13	188

comp=E,165nm,0.5s
SYI IAML 12 16 46.7
comp=N,164nm,1.1s
SII Sitkinak Islan 2.75 274 Pn Pn 12 15 58.6 -0.2
SII Sitkinak Islan 2.75 274 Sn 12 16 29.5 -2.5
SII Sitkinak Islan 2.75 274 IAML 12 16 38.9
comp=N,395nm,0.8s
SII IAML 12 16 43.0
comp=E,389nm,0.6s
SII Sitkinak Islan 2.75 274 P Pn 12 15 58.6 -0.2
SII Sitkinak Islan 2.75 274 S Sn 12 16 30.0 -2.0
CNPM China Poot 3.24 342 Pn 12 16 05.9 +0.3
CNPM China Poot 3.24 342 Sn 12 16 42.5 -1.8
CNPM China Poot 3.24 342 IAML 12 16 46.2
comp=N,147nm,0.5s
CNPM IAML 12 16 56.4
comp=E,152nm,1.0s
Q23K Middleton Isla 3.34 26 Pn Pn 12 16 06.7 -0.2
BRSE Bradley Lake S 3.38 347 Pn 12 16 07.5 +0.1
BRSE Sn 12 16 45.0 -2.5
BRLK Bradley Lake 3.42 346 Pn 12 16 07.7 -0.3
Q19K Cape Douglas, 3.42 318 Pn 12 16 09.3 +1.3
HOM Homer 3.44 339 Pn 12 16 09.5 +1.2
KAHG Katmai Hook Gl 3.51 307 Pn 12 16 11.0 +1.6
CHIR Chirikof Islan 3.64 262 Pn **Pn 12 16 09.8 -1.2**
CHIR IAML 12 16 51.0
comp=E,246nm,0.5s
CHIR IAML 12 16 54.9
comp=N,304nm,2.0s
CHIR Chirikof Islan 3.64 262 P Pn 12 16 10.0 -1.0
CHIR Chirikof Islan 3.64 262 S Sn 12 16 49.8 -4.1
SEW Seward 3.64 358 Pn 12 16 10.8 -0.3
P23K Montague Islan 3.67 15 Pn 12 16 11.3 -0.1
AUL Augustine Lava 3.68 324 Pn 12 16 13.2 +1.6
ACHA Angle Creek He 3.73 300 Pn **Pn 12 16 14.3 +1.8**
KVTA Katmai Vly 10 3.80 303 Pn 12 16 15.0 +1.8
ANCK Angle Creek 3.81 300 Pn 12 16 15.3 +1.9
P19K Oil Pt 3.83 328 Pn 12 16 14.4 +0.7
CNTC Contact Creek 4.03 299 Pn 12 16 17.7 +1.2
O22K Cooper Landing 4.03 357 Pn 12 16 16.0 -0.4
O20K Slope Mountain 4.04 335 Pn 12 16 16.8 +0.2
ILS Iliamna Low So 4.04 331 Pn 12 16 17.1 +0.4
SLKM Skilak Lake 4.08 353 Pn **Pn 12 16 17.0 -0.2**
SLKM IAML 12 17 05.1
comp=N,228nm,0.3s
SLKM IAML 12 17 07.4
comp=E,190nm,0.4s
ILSW Iliamna Southw 4.08 331 Pn 12 16 17.1 -0.1
ILSW IAML 12 17 06.8
comp=E,166nm,0.8s
HIN Hinchinbrook I 4.19 19 Pn 12 16 18.7 +0.1
HIN IAML 12 17 16.1
comp=N,211nm,0.5s
HIN IAML 12 17 16.7
comp=E,240nm,0.8s
PLK1 Peulik 1 4.24 291 Pn 12 16 19.9 +0.7
KAIM Kayak Island 4.30 34 Pn 12 16 20.3 +0.2
KAIM Kayak Island 4.30 34 IAML 12 17 12.9
comp=N,238nm,0.5s
KAIM IAML 12 17 25.7
comp=E,217nm,0.7s
P18K Big Mountain, 4.33 315 Pn **Pn 12 16 20.5 -0.1**
CAPN Captain Cook N 4.42 348 Pn 12 16 21.5 -0.3
PWL Port Wells 4.42 6 Pn 12 16 21.9 +0.1
PWL IAML 12 17 15.0
comp=E,131nm,0.5s
PWL IAML 12 17 21.9
comp=N,163nm,0.9s
RDT Redoubt 4.44 339 Pn 12 16 21.6 -0.5
RDWB Redoubt West 4.45 336 Pn 12 16 22.2 -0.1
EYAK Cordova Ski Ar 4.48 23 Pn 12 16 22.7 +0.2
EYAK Cordova Ski Ar 4.48 23 P **Pn 12 16 23.0 +0.5**
EYAK Cordova Ski Ar 4.48 23 S **Sn 12 17 13.1 -1.5**
FID Port Fidalgo 4.52 17 Pn 12 16 23.2 0.0
FID Port Fidalgo 4.52 17 IAML 12 17 19.2
comp=N,104nm,0.4s
FID IAML 12 17 22.7
comp=E,128nm,0.4s
RDJH Redoubt Jeurge 4.54 337 Pn 12 16 23.6 +0.1
GLI Glacier Island 4.56 13 Pn 12 16 24.1 +0.5
GLI IAML 12 17 20.7
comp=N,116nm,0.7s
GLI IAML 12 17 27.6
comp=E,164nm,0.7s
Q16K King Salmon 4.57 302 Pn 12 16 24.4 +0.7
O19K Port Alsworth 4.60 326 Pn **Pn 12 16 23.5 -0.7**
RAGM Ragged Mountai 4.60 29 Pn 12 16 25.6 +1.4
SUCK Suckling Hills 4.62 36 Pn 12 16 24.4 -0.1
SUCK IAML 12 17 26.3
comp=E,126nm,1.1s
SUCK IAML 12 17 26.6
comp=N,206nm,0.5s
O18K Koktuh Hills 4.64 319 Pn **Pn 12 16 24.9 +0.1**
O18K IAML 12 17 25.4
comp=N,120nm,0.8s
O18K IAML 12 17 25.8
comp=E,74nm,0.7s
RC01 Rabbit Creek A 4.64 357 Pn **Pn 12 16 24.8 0.0**
RC01 IAML 12 17 21.5
comp=N,106nm,0.5s
RC01 IAML 12 17 25.4
comp=E,133nm,0.6s
HMT Hamilton 4.67 32 Pn 12 16 25.2 0.0
NICHA Nichawak Mount 4.68 34 Pn 12 16 26.1 +0.8
P17K Kvichak River 4.72 308 Pn 12 16 27.1 +1.2
GOAT Goat Mountain 4.75 28 Pn 12 16 27.1 +0.8
BGLC Bering Glacier 4.82 38 Pn 12 16 27.9 +0.8
BERG Berg Lake 4.89 34 Pn 12 16 28.5 +0.3
BERG Berg Lake 4.89 34 IAML 12 17 26.9
comp=N,177nm,0.6s
SPU Mount Spurr 4.95 344 Pn 12 16 28.9 -0.2
SPU IAML 12 17 28.1
comp=N,63nm,0.7s
SPU IAML 12 17 30.6
comp=E,107nm,0.6s
KNK Knik Glacier 4.97 4 Pn 12 16 29.3 0.0
KNK IAML 12 17 35.8
comp=N,63nm,0.5s
KNK IAML 12 17 39.9
comp=E,80nm,0.7s
DIV Divide 5.00 20 Pn 12 16 30.2 +0.3
CKL Chakachamna La 5.00 342 Pn 12 16 30.1 +0.2
SPCN Chakachatna No 5.01 343 Pn 12 16 30.3 +0.4
SNH Sunshine Point 5.01 40 Pn 12 16 30.1 +0.2
SNH IAML 12 17 47.8
comp=N,142nm,2.0s
SNH IAML 12 17 50.9
comp=E,95nm,1.8s
SPCG Spurr Capps Gl 5.04 344 Pn 12 16 30.8 +0.3
SUA Susitna One 5.07 352 Pn **Pn 12 16 30.6 -0.1**
SUA IAML 12 17 34.1
comp=E,62nm,0.6s
SPBG Spurr Blockage 5.07 343 Pn 12 16 31.3 +0.5
CHGN Chignik 5.11 272 Pn **Pn 12 16 32.2 +1.0**
CHGN IAML 12 17 28.9
comp=N,95nm,0.5s
CHGN IAML 12 17 39.0
comp=E,102nm,1.3s
BMRM Bremner River 5.11 26 Pn **Pn 12 16 31.5 +0.2**
PMR Palmer 5.13 1 Pn **Pn 12 16 32.4 +0.8**
PMR Palmer 5.13 1 P **Pn 12 16 32.1 +0.6**
PMR Palmer 5.13 1 S **Sn 12 17 29.3 -1.5**
N19K Bonanza Creek 5.14 330 Pn 12 16 32.0 +0.2
STLK Strandline Lak 5.22 346 Pn 12 16 32.4 -0.4
STLK IAML 12 17 34.3
comp=N,68nm,0.6s
SPNN North Nagishla 5.23 341 Pn 12 16 33.4 +0.5
BARK Barkley Ridge 5.30 39 Pn 12 16 34.3 +0.4
KLU Klutina 5.32 17 Pn 12 16 34.6 +0.5
KLU IAML 12 17 39.4
comp=N,92nm,0.7s
KLU IAML 12 17 42.0
comp=E,70nm,0.4s
M22K Willow 5.32 355 Pn 12 16 35.2 +1.2
M22K IAML 12 17 47.3
comp=N,125nm,0.6s
M22K IAML 12 17 55.1
comp=E,113nm,0.7s
GHO Glory Hole Cre 5.32 2 Pn 12 16 34.8 +0.7
GHO IAML 12 17 42.1
comp=N,132nm,0.6s
GHO IAML 12 17 43.6
comp=E,98nm,0.6s
MESA MESA 5.34 43 Pn 12 16 34.8 +0.3
MESA IAML 12 17 49.2
comp=E,61nm,0.8s
MESA IAML 12 17 51.5
comp=N,75nm,0.7s
P16K Nushagak River 5.35 302 Pn 12 16 35.9 +1.4
SML Sawmill 5.37 5 Pn **Pn 12 16 35.2 +0.4**
SCM Sheep Creek Mo 5.46 10 Pn 12 16 37.6 +1.5
N18K Kilae Creek 5.47 323 Pn 12 16 36.2 0.0
VRDI Verde Repeater 5.63 30 Pn **Pn 12 16 38.2 -0.4**
RKAV Rock Avalanche 5.65 44 Pn 12 16 39.1 +0.4
SKT Skwentna 5.65 349 Pn 12 16 39.2 +0.6
O16K Kokwok River B 5.65 307 Pn **Pn 12 16 38.6 -0.1**
N25K Chitina, Valde 5.67 23 Pn **Pn 12 16 39.3 +0.3**
GLB Gilahina Butte 5.72 27 Pn **Pn 12 16 39.5 -0.1**
KIAG Kiagna River 5.72 36 Pn 12 16 40.3 +0.5
SAMH Samovar Hills 5.77 47 Pn 12 16 40.9 +0.6
BALM Baldy 5.81 35 Pn 12 16 41.5 +0.5
N17K Nushagak Hills 5.82 318 Pn **Pn 12 16 40.6 -0.4**
M24K Tolsona, Glenn 5.86 14 Pn **Pn 12 16 43.4 +1.8**
PCA Pinnacle 5.96 49 Pn 12 16 43.5 +0.5
CUT Chulitna 5.97 355 Pn 12 16 42.6 -0.4
M19K Big River Lodg 6.06 336 Pn 12 16 44.4 +0.2
WACK Wrangell Chich 6.07 22 Pn 12 16 45.9 +1.2
CHNA Chernabura Isl 6.09 259 P **Pn 12 16 44.9 +0.2**
PPLA Purkeypile 6.62 348 Pn 12 16 53.2 +1.2
PAX Paxson 6.79 15 Pn **Pn 12 16 54.2 -0.1**
YUK2 White River 6.85 36 Pn 12 16 56.3 +1.1
RND Reindeer 6.96 1 Pn **Pn 12 16 57.5 +0.8**
M27K Edge Creek, AK 6.99 29 Pn **Pn 12 16 58.6 +1.5**
TRF Thorofare Moun 7.02 356 Pn 12 16 58.2 +0.6
MENT Mentasta 7.06 21 Pn 12 16 59.8 +1.9
CAST Castle Rocks 7.11 350 Pn 12 16 58.9 +0.2
KTH Kantishna Hill 7.15 354 Pn **Pn 12 17 00.5 +1.1**
L26K Log Cabin Wild 7.21 22 Pn 12 17 02.3 +2.3
S31K Pelican 7.21 73 Pn 12 16 58.9 -1.2
PN7A Pavlof North-7 7.25 267 Pn 12 17 01.1 +0.5
MCK McKinley 7.29 1 Pn **Pn 12 17 02.5 +1.4**
TTA Tatalina 7.33 335 Pn **Pn 12 17 01.2 -0.5**
TTA Tatalina 7.33 335 P **Pn 12 17 01.4 -0.3**
L16K Owhat River 7.44 319 Pn **Pn 12 17 03.9 +0.7**
HYT Haines Junctio 7.51 50 Pn **Pn 12 17 04.0 -0.3**
R31K City Hall, Gus 7.53 69 Pn 12 17 04.1 -0.4
BCAR Beaver Creek A 7.60 26 Pn 12 17 06.2 +0.8
RIDG Independent Ri 7.61 15 Pn 12 17 04.7 -0.9
SIT Sitka 7.67 80 P **Pn 12 17 03.2 -3.1**
BPAW Bear Paw Mtn. 7.70 354 Pn **Pn 12 17 06.8 0.0**
J18K Innoko River 7.95 335 Pn **Pn 12 17 10.4 +0.2**
SCRK Sand Creek 7.96 17 Pn **Pn 12 17 10.0 -0.5**
SKAG Skagway 7.97 62 Pn 12 17 11.6 +1.2
SKAG Skagway 7.97 62 P **Pn 12 17 10.9 +0.4**
BESE Bessie Mountai 8.02 69 Pn **Pn 12 17 10.2 -1.0**
S32K Killisnoo 8.07 77 Pn 12 17 10.1 -1.8
O30N Mendenhall 8.09 52 Pn 12 17 12.7 +0.5
JIS Juneau Island 8.22 71 Pn 12 17 13.7 -0.2
JIS Juneau Island 8.22 71 P **Pn 12 17 13.7 -0.2**
CCB Clear Creek Bu 8.23 4 Pn **Pn 12 17 14.1 +0.1**
ISLZ Isanotski Laza 8.39 264 Pn 12 17 16.5 +0.2
ILAR Eielson Array 8.40 7 Pn **Pn 12 17 17.1 +0.7**
comp=N,0.7nm,0.3s,baz=186,slow=13,SNR=45
ILAR Sn **Sn 12 18 45.8 -5.4**
comp=N,1.0nm,0.3s,baz=189,slow=21,SNR=6.2
COLA College 8.46 4 Pn 12 17 17.4 +0.4
COLA College 8.46 4 P **Pn 12 17 18.0 +0.9**
N31M Braeburn, Yuko 8.56 49 Pn **Pn 12 17 19.9 +1.2**
DAWY Dawson 9.04 29 Pn 12 17 26.0 +0.9
CRAG Craig 9.09 90 P Pn 12 17 22.7 -3.1
S34M Telegraph Cree 9.93 74 Pn **Pn 12 17 35.9 -1.3**
FARO Faro, Yukon 9.94 48 Pn 12 17 38.0 +0.6
R33M Jennings River 10.14 66 Pn 12 17 40.0 -0.2
J30M Hart River 10.29 33 Pn 12 17 43.3 +1.0
DLBC Dease Lake 10.53 71 Pn **Pn 12 17 45.7 +0.2**
comp=N,1.4nm,0.3s,baz=247,slow=11,SNR=32
DLBC Sn **Sn 12 19 37.5 -5.9**
baz=278,slow=19
comp=N,3.2nm,0.4s
COLD Coldfoot 10.80 358 Pn 12 17 49.7 +0.5
ANM Nome 11.33 322 Pn **Pn 12 17 58.6 +2.2**
E19K Redstone River 11.63 345 Pn 12 18 01.5 +1.0
TOLK Toolik Lake Re 12.21 359 Pn **Pn 12 18 08.6 +0.1**
INK Inuvik 13.86 25 Pn **Pn 12 18 31.8 +0.9**
INK Inuvik 13.86 25 Pn **Pn 12 18 31.5 +0.6**
comp=N,0.2nm,0.3s,baz=233,slow=14,SNR=12
comp=N,1.4nm,0.6s
ADK Adak 16.66 266 Pn **Pn 12 19 06.9 -1.1**
C36M Paulatuk 17.06 31 P **Pn 12 19 14.1 +1.1**
C36M IAmb IAmb 12 19 25.9
comp=Z,8.1nm,0.6s
NLWA Neilton Lookou 17.99 110 P **Pn 12 19 25.1 +0.4**
YKA Yellowknife Ar 18.41 57 P **Pn 12 19 32.5 +2.9**
comp=Z,4.3nm,1.1s,baz=266,slow=11,SNR=18
A36M Sachs Harbour 18.49 23 P 12 19 31.8 +1.3
A36M IAmb IAmb 12 19 44.0
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 22.58 120 LR LR 12 27 33.6
comp=Z,272nm,18.1s,baz=30,slow=33
BILL Bilibino 23.12 318 P **P 12 20 22.6 +2.2**
BILL IAmb IAmb 12 20 42.8
comp=Z,11nm,1.3s
LYMT Lyon Mountain 24.50 97 P **P 12 20 34.6 +0.5**
PAHR Pah Rah Range 25.76 118 P **P 12 20 45.5 0.0**
PAHR IAmb IAmb 12 20 58.2
comp=Z,10nm,1.5s
RES Resolute Bay 27.38 28 P **P 12 21 01.5 +1.9**
PDAR Pinedale Array 28.67 102 P **P 12 21 12.9 +1.1**
comp=Z,0.1nm,0.4s,baz=313,slow=8.0,SNR=2.0
comp=Z,0.1nm,0.4s
PETK Petropavlovsk- 30.15 286 P **P 12 21 24.9 +0.5**
comp=Z,3.7nm,0.9s,baz=66,slow=12,SNR=8.5
comp=Z,3.7nm,0.9s
NEEM North Greenlan 37.39 21 *i* P **P 12 22 28.6 +1.2**
NEEM IAmb IAmb 12 22 31.4
comp=Z,2.7nm,0.8s
TXAR Lajitas Array 41.87 111 P **P 12 23 04.0 -0.9**
comp=Z,1.1nm,1.1s,baz=336,slow=2.7,SNR=4.8
comp=Z,1.1nm,1.1s
SUMG Summit 42.78 25 *i* P P 12 23 19.4 +7.2
SUMG IAmb IAmb 12 23 23.5
comp=Z,4.4nm,0.7s
DAG Danmarks Havn 43.41 15 *i* P P 12 23 26.7 +10
DAG IAmb IAmb 12 23 27.5
comp=Z,9.7nm,1.0s
ICESG Greenland Ices 44.79 29 *i* P P 12 23 37.1 +8.8
DBG Daneborg 45.13 17 *i* P P 12 23 40.3 +10
DBG IAmb IAmb 12 23 41.4
comp=Z,5.7nm,1.1s
NRIK Noril'sk 47.94 336 LR LR 12 46 01.6
comp=Z,76nm,18.2s,baz=14,slow=39
H11N2 WAKE ISLAND Hy 49.00 240 T T 13 16 50.3
baz=30,slow=76,SNR=7.4
H11N3 WAKE ISLAND Hy 49.01 240 T T 13 17 16.1
baz=30,slow=76,SNR=6.7
H11N1 WAKE ISLAND Hy 49.02 240 T T 13 16 56.6
baz=30,slow=76,SNR=6.6
H11S1 WAKE ISLAND Hy 50.15 239 T T 13 18 40.2
baz=29,slow=76,SNR=11
H11S2 WAKE ISLAND Hy 50.16 239 T T 13 18 29.1
baz=29,slow=76,SNR=8.6
H11S3 WAKE ISLAND Hy 50.16 239 T T 13 18 49.9
baz=29,slow=76,SNR=9.7
ARCES ARCESS Array B 54.24 2 P **P 12 24 38.6 -1.3**
comp=Z,5.1nm,1.1s,baz=19,slow=7.7,SNR=5.8
comp=Z,5.1nm,1.1s
SONM Songino Array 58.54 310 P **P 12 25 11.3 +0.2**
comp=Z,1.0nm,0.8s,baz=44,slow=5.9,SNR=8.1
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 61.42 327 P **P 12 25 31.9 +1.3**
comp=Z,1.3nm,0.7s,baz=43,slow=8.7,SNR=5.5
comp=Z,1.3nm,0.7s
FINES FINESS Array B 62.37 3 P **P 12 25 37.2 +0.4**
comp=Z,1.8nm,0.8s,baz=12,slow=10.0,SNR=4.1
comp=Z,1.8nm,0.8s
BVAR Borovoye Array 66.12 335 P **P 12 26 00.3 -1.3**
comp=Z,0.3nm,0.4s,baz=53,slow=5.6,SNR=1.4
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 66.19 329 P **P 12 26 01.8 -0.3**
comp=Z,0.4nm,0.4s,baz=31,slow=5.7,SNR=1.4
comp=Z,0.4nm,0.4s
XAN Xi'an 68.35 299 P P 12 26 11.7 -4.4
XAN pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 68.45 325 P **P 12 26 17.9 +1.4**
comp=Z,0.5nm,0.6s,baz=30,slow=6.5,SNR=12
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 73.18 1 P **P 12 26 44.6 -0.5**
comp=Z,0.8nm,0.6s,baz=0.8,slow=5.4,SNR=4.5
comp=Z,0.8nm,0.6s
GERES GERESS Array B 74.09 12 P **P 12 26 51.6 +0.9**
comp=Z,0.5nm,0.6s,baz=352,slow=6.2,SNR=3.7
comp=Z,0.5nm,0.6s
SQTA Sankt Quirin 75.39 14 *e*pP pP 12 27 01.5 +1.5
comp=Z,5.3nm,1.0s
FETA Feichten 75.52 14 *i* P P 12 26 52.1 -6.9
comp=Z,5.6nm,1.2s
KBA Koelnbreinsper 75.79 12 *i* PcP **PcP 12 27 10.5 -2.8**
comp=Z,3.4nm,1.1s
ABTA Abfaltersbach 76.02 13 *i* PcP **PcP 12 27 12.3 -1.8**
comp=Z,7.4nm,1.8s
SOKA Soboth 76.38 11 *i* PcP **PcP 12 27 12.2 -3.4**
comp=Z,5.1nm,1.3s
OBKA Obir 76.49 11 *i* PcP **PcP 12 27 15.1 -1.1**
comp=Z,9.0nm,0.8s
PZH PanZhiHua 78.05 300 P **P 12 27 13.6 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
MSVF Nonsavu 78.87 212 LR LR 12 55 56.4
comp=Z,185nm,21.7s,baz=52,slow=31
CMAR Chiang Mai Arr 86.22 298 P **P 12 27 57.8 +1.5**
comp=Z,1.9nm,0.7s,baz=14,slow=4.7,SNR=14
comp=Z,1.9nm,0.7s
MDP Montagnes des 89.42 82 LR LR 13 08 38.2
comp=Z,55nm,19.8s,baz=284,slow=36
QSPA South Pole Qui 146.27 180 PKPbc **PKPbc 12 34 54.8 +0.9**
comp=Z,2.0nm,0.8s,baz=40,slow=0.9,SNR=6.9

TXNET 10 12:24:55.6, 31°.6N±0°.7×104°.3W±0°.8, h5km±2km, ML1.6/6, Error ellipse: s-maj=1.2km s-min=0.9km az=60.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**34**	P	Pg	12 25 02.3	-0.3
TPB11				S	Sg	12 25 07.1	-0.3
PECS	**Pecos**	**0.44**	**128**	P	Pg	12 25 04.1	0.0
PECS				S	Sg	12 25 09.7	-0.1
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg	12 25 05.3	0.0
TPB12				S	Sg	12 25 12.2	+0.4
TPB07	**Mentone**	**0.52**	**96**	S	Sg	12 25 12.7	+0.3
GDL2	**Guadalupe Moun**	**0.57**	**352**	P	Pg	12 25 06.5	-0.1
TPB10	**Southeast of T**	**0.57**	**129**	S	Sg	12 25 14.3	+0.5
CLNB	**Carlsbad**	**0.71**	**28**	S	Sg	12 25 19.1	+0.7
TPB01	**Permian Basin**	**0.81**	**149**	P	Pg	12 25 10.4	-0.7
TPB01				S	Sg	12 25 21.0	-0.7
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	12 25 14.0	+0.1
MNTX				S	Sg	12 25 26.8	+0.6
HTMS	**Hat Mesa**	**0.99**	**33**	P	Pg	12 25 14.7	0.0
HTMS				S	Sg	12 25 27.4	-0.2
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	12 25 15.5	-0.2
VHRN				S	Sg	12 25 29.5	+0.2
TPB05	**Hovey Rd**	**1.08**	**131**	P	Pg	12 25 15.9	-0.5
TPB05				S	Sg	12 25 30.0	-0.4
ALPN	**Alpine**	**1.37**	**156**	P	Pn	12 25 20.2	-1.4
ALPN				S	Sg	12 25 38.0	-1.7
CPRX	**Cap Rock**	**1.43**	**14**	P	Pn	12 25 22.1	-0.3
ODSA	**Odessa**	**1.54**	**71**	S	Sn	12 25 43.2	-1.2
ODSA				Sg	Sg	12 25 46.7	+1.5
TMB04	**Seminole**	**1.81**	**56**	Pg	Pn	12 25 27.8	+0.3
TMB04				S	Sg	12 25 53.5	-0.2
TMB02	**Rankin**	**1.96**	**102**	Sg	Sb	12 25 55.7	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	P	Pb	12 25 38.0	-0.6
TX31				S	Sg	12 26 10.1	-1.2
SAND	**Sanderson**	**2.50**	**132**	P	Pb	12 25 40.8	-0.2
SAND				S	Sg	12 26 14.1	-1.7

---

*IDC **10** 12:37:10.7±14.0, 9°.71N×126°.20E, h99km±138km, mb3.5/10, mbtmp3.8/10, MS2.5/1, Error ellipse: s-maj=63.4km s-min=19.7km az=63.0*

ISC 10 12:37:10.8±0.9, 9.7N±0°.2×126°.2E±0°.4, h100km, n17, σ0.9 90/10, mb3.9/10, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.69**	**193**	LR	LR	12 39 08.8	
	comp=Z,91nm,21.7s,baz=332,slow=44						
FITZ	**Fitzroy Crossi**	**27.63**	**181**	P	**P**	**12 42 50.3**	**+1.2**
	2.2nm,0.8s,baz=7.8,slow=7.0,SNR=5.7						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**30.53**	**165**	P	**P**	**12 43 14.6**	**-0.2**
	0.3nm,0.8s,baz=348,slow=8.7,SNR=1.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**34.01**	**167**	P	**P**	**12 43 44.5**	**-0.7**
	0.2nm,0.3s,baz=345,slow=8.5,SNR=15						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**40.14**	**73**	T	T	13 27 39.5	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**40.16**	**73**	T	T	13 27 36.5	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**40.16**	**73**	T	T	13 28 05.0	
	baz=262						
H11N1	**WAKE ISLAND Hy**	**40.49**	**71**	T	T	13 28 03.0	
	baz=265,slow=75,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**40.50**	**71**	T	T	13 28 01.9	
	baz=265,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**40.51**	**71**	T	T	13 28 01.9	
	baz=265,slow=75,SNR=5.6						
SONM	**Songino Array**	**41.53**	**340**	P	**P**	**12 44 49.1**	**+0.7**
	0.4nm,0.6s,baz=151,slow=7.9,SNR=2.6						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**52.44**	**323**	P	**P**	**12 46 13.1**	**-0.1**
	1.0nm,0.6s,baz=117,slow=8.5,SNR=14						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**56.50**	**326**	P	**P**	**12 46 41.6**	**-0.9**
	0.6nm,0.3s,baz=125,slow=6.7,SNR=6.1						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**79.97**	**26**	P	**P**	**12 49 08.2**	**-0.6**
	0.3nm,0.7s,baz=268,slow=5.5,SNR=4.4						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**84.70**	**340**	P	**P**	**12 49 32.4**	**-0.9**
	1.4nm,0.7s,baz=74,slow=4.4,SNR=4.2						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**86.36**	**332**	P	**P**	**12 49 41.6**	**0.0**
	2.6nm,0.8s,baz=90,slow=5.6,SNR=7.2						
	2.6nm,0.8s						
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**12 50 19.9**	**+1.1**
	0.5nm,0.7s,baz=292,slow=4.7,SNR=9.3						
	0.5nm,0.7s						

TXNET 10 12:40:59.7, 31°.6N±0°.7×104°.2W±0°.9, h7km±2km, ML1.6/7, Error ellipse: s-maj=1.4km s-min=1.0km az=58.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**30**	P	Pg	12 41 07.0	+0.5
TPB11				S	Sg	12 41 11.7	+0.7
PECS	**Pecos**	**0.41**	**130**	P	Pb	12 41 08.9	-0.4
PECS				S	Sb	12 41 14.7	-1.2
TPB07	**Mentone**	**0.49**	**97**	S	Sb	12 41 17.3	-0.7
TPB12	**Southwest of T**	**0.49**	**151**	P	Pb	12 41 10.2	-0.4
TPB12				S	Sb	12 41 16.9	-1.1
TPB10	**Southeast of T**	**0.54**	**131**	P	Pg	12 41 10.7	+0.5
TPB10				S	Sb	12 41 18.9	-0.8
GDL2	**Guadalupe Moun**	**0.57**	**349**	P	Pg	12 41 11.4	+0.7
CLNB	**Carlsbad**	**0.69**	**26**	S	Sb	12 41 24.0	+0.1
TPB01	**Permian Basin**	**0.80**	**151**	P	Pg	12 41 15.3	+0.3
TPB01				S	Sg	12 41 25.7	+0.4
CLN7	**Carlsbad 7**	**0.85**	**25**	P	Pb	12 41 17.4	+0.5
HTMS	**Hat Mesa**	**0.97**	**31**	P	Pn	12 41 20.0	+0.1
HTMS				S	Sb	12 41 33.1	+1.0
MNTX	**Cornudas Mount**	**0.98**	**274**	P	Pg	12 41 18.7	+0.2
MNTX				S	Sb	12 41 31.7	-0.4
TPB05	**Hovey Rd**	**1.06**	**132**	P	Pn	12 41 20.8	-0.2
TPB05				S	Sb	12 41 34.8	+0.3
VHRN	**Van Horn**	**1.07**	**217**	P	Pb	12 41 20.4	-0.2
VHRN				S	Sn	12 41 35.9	-0.4
MNHN	**Monahans**	**1.29**	**103**	S	Sg	12 41 41.6	+0.2
TPB08	**Permian Basin**	**1.36**	**123**	S	Sn	12 41 44.0	+0.5
ALPN	**Alpine**	**1.36**	**158**	P	Pn	12 41 25.1	-0.2
ALPN				S	Sb	12 41 42.7	-0.5
CPRX	**Cap Rock**	**1.42**	**13**	P	Pg	12 41 27.1	+0.1
ODSA	**Odessa**	**1.51**	**71**	P	Pb	12 41 28.4	+0.2
ODSA				S	Sb	12 41 47.9	+0.3
TMB04	**Seminole**	**1.78**	**56**	P	Pb	12 41 32.6	-0.1
TMB04				S	Sg	12 41 56.3	-0.6
TMB02	**Rankin**	**1.93**	**103**	S	Sb	12 42 00.4	+0.9

TX31	**Lajitas Ar. Si**	**2.35 168**	P	Pb	12 41 42.2	-0.2
TX31			S	Sb	12 42 11.3	-0.3
SAND	**Sanderson**	**2.47 132**	P	Pb	12 41 44.8	+0.3

*NEIC **10** 12:54:04.1±1.5, 61°.97N±0°.03×150°.66W±0°.06, h60km±2km, Error ellipse: s-maj=4.3km s-min=4.0km az=149.0*

AEIC 10 12:54:05.1±1.6, **61°.96N**±0°.03×**150°.68W**±0°.06, **h56**km±4km, **ML3.0**, **ML3.2**/144(NEIC), **Error ellipse: s-maj=4.1km s-min=3.7km az=114.0**, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**128**		Pn		12 54 14.2	-0.8
M22K					Sn		12 54 22.5	+0.4
M22K	**Willow**	**0.33**	**128**	IAML			12 54 23.0	
	comp=N,5μm,0.5s							
M22K				IAML			12 54 23.0	
	comp=E,4μm,0.5s							
SKT	**Skwentna**	**0.41**	**274**		Pn		12 54 14.6	-1.2
SKT	**Skwentna**	**0.41**	**274**		Sn		12 54 23.5	0.0
SKT	**Skwentna**	**0.41**	**274**	IAML			12 54 23.6	
	comp=E,2μm,0.4s							
SKT				IAML			12 54 23.7	
	comp=N,3μm,0.3s							
CUT	**Chulitna**	**0.49**	**23**		Pn		12 54 15.6	-1.0
CUT	**Chulitna**	**0.49**	**23**		Sn		12 54 25.5	+0.6
CUT	**Chulitna**	**0.49**	**23**	IAML			12 54 25.8	
	comp=E,4μm,0.6s							
CUT				IAML			12 54 25.9	
	comp=N,3μm,0.4s							
SUA	**Susitna One**	**0.50**	**184**		Pn		12 54 15.9	-0.9
SUA	**Susitna One**	**0.50**	**184**		Sn		12 54 25.6	+0.3
SUA	**Susitna One**	**0.50**	**184**	IAML			12 54 26.0	
	comp=E,2μm,0.5s							
SUA				IAML			12 54 27.1	
	comp=N,1μm,0.6s							
STLK	**Strandline Lak**	**0.72**	**231**		Pn		12 54 18.2	-1.2
STLK	**Strandline Lak**	**0.72**	**231**		Sn		12 54 29.3	-0.5
STLK	**Strandline Lak**	**0.72**	**231**	IAML			12 54 29.7	
	comp=E,1μm,0.3s							
STLK				IAML			12 54 30.1	
	comp=N,1μm,0.5s							
PMR	**Palmer**	**0.82**	**116**		Pn		12 54 19.2	-1.4
PMR	**Palmer**	**0.82**	**116**		Sn		12 54 31.9	0.0
PMR	**Palmer**	**0.82**	**116**	IAML			12 54 32.8	
	comp=E,613nm,0.5s							
PMR				IAML			12 54 32.9	
	comp=N,632nm,0.4s							
FIS	**Fire Island**	**0.84**	**165**		Pn		12 54 20.8	-0.2
GHO	**Glory Hole Cre**	**0.85**	**102**		Pn		12 54 20.0	-1.1
GHO	**Glory Hole Cre**	**0.85**	**102**		Sn		12 54 33.5	+0.7
GHO	**Glory Hole Cre**	**0.85**	**102**	IAML			12 54 34.9	
	comp=E,2μm,0.5s							
GHO				IAML			12 54 35.7	
	comp=N,2μm,0.6s							
SPCG	**Spurr Capps Gl**	**0.93**	**224**		Pn		12 54 21.1	-1.1
SPCG					Sn		12 54 34.2	-0.4
RC01	**Rabbit Creek A**	**0.98**	**152**		Pn		12 54 21.2	-1.6
RC01				IAML			12 54 37.6	
	comp=E,495nm,0.2s							
RC01				IAML			12 54 38.0	
	comp=N,504nm,0.4s							
SPU	**Mount Spurr**	**1.02**	**221**		Pn		12 54 21.9	-1.4
SPU				IAML			12 54 37.8	
	comp=N,503nm,0.6s							
SPU				IAML			12 54 38.7	
	comp=E,308nm,0.3s							
SPCR	**Spurr Chakacha**	**1.06**	**225**		Pn		12 54 22.9	-0.9
SPCR					Sn		12 54 37.2	-0.4
SPBG	**Spurr Blockage**	**1.07**	**230**		Pn		12 54 23.6	-0.4
SML	**Sawmill**	**1.12**	**97**		Pn		12 54 23.3	-1.3
SML				IAML			12 54 41.5	
	comp=E,555nm,0.8s							
SML				IAML			12 54 42.6	
	comp=N,500nm,0.6s							
M20K	**Styx River**	**1.17**	**267**		Pn		12 54 24.6	-0.6
M20K	**Styx River**	**1.17**	**267**	IAML			12 54 41.7	
	comp=N,566nm,0.5s							
PPLA	**Purkeypile**	**1.18**	**324**		Pn		12 54 24.2	-1.3
KNK	**Knik Glacier**	**1.19**	**116**		Pn		12 54 24.4	-1.1
KNK	**Knik Glacier**	**1.19**	**116**		Sn		12 54 41.1	+0.3
KNK	**Knik Glacier**	**1.19**	**116**	IAML			12 54 42.1	
	comp=N,527nm,0.5s							
KNK				IAML			12 54 42.2	
	comp=E,711nm,0.5s							
CAPN	**Captain Cook N**	**1.22**	**191**		Pn		12 54 26.2	+0.4
M23K	**Glacier View**	**1.41**	**95**		Pn		12 54 27.9	-0.6
M23K					Sn		12 54 46.2	+0.3
SLKM	**Skilak Lake**	**1.47**	**171**		Pn		12 54 28.2	-1.1
SLKM				IAML			12 54 50.4	
	comp=N,264nm,0.3s							
SLKM				IAML			12 54 53.2	
	comp=E,370nm,0.4s							
TRF	**Thorofare Moun**	**1.51**	**7**		Pn		12 54 29.1	-0.9
TRF				IAML			12 54 50.1	
	comp=N,190nm,0.6s							
O22K	**Cooper Landing**	**1.55**	**162**		Pn		12 54 29.8	-0.6
O22K	**Cooper Landing**	**1.55**	**162**		Sn		12 54 48.3	-1.0
O22K	**Cooper Landing**	**1.55**	**162**	IAML			12 54 52.9	
	comp=N,1μm,0.6s							
O22K				IAML			12 54 54.6	
	comp=E,1μm,0.8s							
PWL	**Port Wells**	**1.57**	**133**		Pn		12 54 28.9	-1.9
PWL				IAML			12 54 50.8	
	comp=N,319nm,0.6s							
L20K	**Farewell, AK**	**1.59**	**291**		Pn		12 54 29.9	-1.1
SCM	**Sheep Creek Mo**	**1.59**	**93**		Pn		12 54 30.3	-0.7
CAST	**Castle Rocks**	**1.60**	**337**		Pn		12 54 30.0	-1.1
CAST				IAML			12 54 50.9	
	comp=E,160nm,0.5s							
KTH	**Kantishna Hill**	**1.61**	**356**		Pn		12 54 30.8	-0.4
KTH	**Kantishna Hill**	**1.61**	**356**		Sn		12 54 51.0	+0.1
KTH	**Kantishna Hill**	**1.61**	**356**	IAML			12 54 51.6	
	comp=E,340nm,0.9s							
KTH				IAML			12 54 53.7	
	comp=N,214nm,0.7s							
RDT	**Redoubt**	**1.62**	**212**		Pn		12 54 30.6	-0.8
RDT					Sn		12 54 52.2	+1.0
RND	**Reindeer**	**1.68**	**29**		Pn		12 54 31.3	-0.9
RDJH	**Redoubt Jeurge**	**1.71**	**218**		Pn		12 54 32.5	-0.2
RDJH					Sn		12 54 54.2	+0.7
M19K	**Big River Lodg**	**1.76**	**270**		Pn		12 54 32.5	-0.7
M19K				IAML			12 54 57.7	
	comp=N,145nm,0.6s							
M19K				IAML			12 54 57.9	
	comp=E,151nm,0.6s							
RDWB	**Redoubt West**	**1.81**	**216**		Pn		12 54 33.5	-0.6
MCK	**McKinley**	**1.95**	**23**		Pn		12 54 35.1	-0.8
SEW	**Seward**	**1.95**	**162**	Pn	Pn		12 54 36.8	+1.0
L19K	**White Mountain**	**1.98**	**278**		Pn		12 54 35.4	-0.8
L19K	**White Mountain**	**1.98**	**278**	IAML			12 54 59.8	
	comp=N,131nm,0.3s							
L19K				IAML			12 55 00.4	
	comp=E,297nm,0.5s							
GLI	**Glacier Island**	**2.03**	**121**		Pn		12 54 35.0	-2.0
GLI				IAML			12 55 09.6	
	comp=N,222nm,0.5s							
GLI				IAML			12 55 11.7	
	comp=E,185nm,0.4s							
CHUM	**Lake Minchumin**	**2.07**	**340**		Pn		12 54 36.8	-0.7
CHUM					Sn		12 55 00.9	-1.2
K20K	**Telida**	**2.10**	**313**		Pn		12 54 37.1	-0.8
O20K	**Slope Mountain**	**2.11**	**208**		Pn		12 54 37.9	-0.2
M24K	**Tolsona, Glenn**	**2.13**	**84**		Pn		12 54 38.2	-0.1
M24K				IAML			12 55 11.7	
	comp=N,229nm,0.8s							
M24K				IAML			12 55 12.9	
	comp=E,254nm,0.6s							
BPAW	**Bear Paw Mtn.**	**2.16**	**356**		Pn		12 54 37.4	-1.3
N19K	**Bonanza Creek**	**2.16**	**240**		Pn		12 54 37.9	-0.9
N19K	**Bonanza Creek**	**2.16**	**240**	IAML			12 55 22.9	
	comp=E,94nm,0.6s							
BRLK	**Bradley Lake**	**2.20**	**183**	Pn	Pn		12 54 39.7	+0.4
BRLK				IAML			12 55 13.9	
	comp=E,168nm,0.5s							
BRLK				IAML			12 55 14.3	
	comp=N,148nm,0.3s							
BRSE	**Bradley Lake S**	**2.22**	**181**		Pn		12 54 39.4	-0.2
BRSE					Sn		12 55 06.8	+0.9
BWN	**Browne**	**2.29**	**13**		Pn		12 54 40.1	-0.4
BWN				IAML			12 55 26.1	
	comp=E,209nm,0.8s							
BWN				IAML			12 55 29.2	
	comp=N,142nm,1.1s							
KLU	**Klutina**	**2.31**	**100**		Pn		12 54 39.4	-1.4
KLU				IAML			12 55 17.4	
	comp=N,122nm,0.6s							
KLU				IAML			12 55 21.5	
	comp=E,82nm,0.4s							
ILSW	**Iliamna Southw**	**2.32**	**212**		Pn		12 54 40.8	-0.1
ILSW				IAML			12 55 16.0	
	comp=N,76nm,0.7s							
ILS	**Iliamna Low So**	**2.32**	**211**		Pn		12 54 41.2	+0.2
HOM	**Homer**	**2.35**	**192**		Pn		12 54 41.5	+0.2
FID	**Port Fidalgo**	**2.36**	**119**		Pn		12 54 39.5	-1.9
FID	**Port Fidalgo**	**2.36**	**119**	IAML			12 55 18.9	
	comp=N,169nm,0.3s							
CNPM	**China Poot**	**2.46**	**187**		Pn		12 54 42.9	+0.1
CNPM				IAML			12 55 18.0	
	comp=N,137nm,0.3s							
CNPM				IAML			12 55 18.1	
	comp=E,172nm,0.6s							
DIV	**Divide**	**2.49**	**107**		Pn		12 54 41.3	-1.9
M18K	**Stony River**	**2.50**	**261**		Pn		12 54 42.4	-0.9
O19K	**Port Alsworth**	**2.50**	**227**		Pn		12 54 42.2	-1.1
O19K				IAML			12 55 10.5	
	comp=E,126nm,0.5s							
O19K				IAML			12 55 28.0	
	comp=N,145nm,0.4s							
HIN	**Hinchinbrook I**	**2.56**	**126**		Pn		12 54 41.6	-2.5
HIN				IAML			12 55 25.5	
	comp=N,121nm,1.2s							
HIN				IAML			12 55 29.4	
	comp=E,119nm,0.6s							
PAX	**Paxson**	**2.62**	**65**		Pn		12 54 44.8	-0.3
HARP	**HAARP**	**2.63**	**78**		Pn		12 54 45.1	0.0
P19K	**Oil Pt**	**2.63**	**210**		Pn		12 54 44.8	-0.3
P19K	**Oil Pt**	**2.63**	**210**	IAML			12 55 25.1	
	comp=N,127nm,0.7s							
P19K				IAML			12 55 25.4	
	comp=E,143nm,0.5s							
TTA	**Tatalina**	**2.67**	**294**	Pn	Pn		12 54 44.1	-1.5
NEA2	**Nenana**	**2.74**	**15**		Pn		12 54 45.5	-1.1
EYAK	**Cordova Ski Ar**	**2.77**	**119**		Pn		12 54 44.9	-2.0
WRH	**Wood River Hil**	**2.78**	**24**		Pn		12 54 45.8	-1.3
N18K	**Kilae Creek**	**2.82**	**245**		Pn		12 54 46.6	-1.1
K24K	**Donnelly Dome**	**2.91**	**48**		Pn		12 54 49.3	+0.4
N25K	**Chitina, Valde**	**2.91**	**94**	Pn	Pn		12 54 47.8	-1.2
N25K				IAML			12 55 33.0	
	comp=E,60nm,0.5s							
N25K				IAML			12 55 33.7	
	comp=N,107nm,0.6s							
HDA	**Harding Lake**	**2.98**	**33**	Pn	Pn		12 54 49.4	-0.5
HDA				IAML			12 55 30.4	
	comp=E,53nm,0.6s							
HDA				IAML			12 55 42.9	
	comp=N,98nm,0.8s							
CCB	**Clear Creek Bu**	**3.00**	**24**		Pn		12 54 48.7	-1.3
WACK	**Wrangell Chich**	**3.00**	**87**		Pn		12 54 49.5	-0.8
O18K	**Koktuh Hills**	**3.06**	**228**		Pn		12 54 50.1	-0.9
BMRM	**Bremner River**	**3.08**	**106**		Pn		12 54 49.8	-1.4
COLA	**College**	**3.19**	**22**		Pn		12 54 52.1	-0.6
RIDG	**Independent Ri**	**3.22**	**54**		Pn		12 54 55.0	+1.8
RIDG				IAML			12 55 39.3	
	comp=E,89nm,0.5s							
RIDG				IAML			12 55 47.6	
	comp=N,68nm,1.0s							
I23K	**Minto, Yukon-K**	**3.26**	**10**		Pn		12 54 52.6	-1.0
I23K				IAML			12 56 00.4	
	comp=N,33nm,0.6s							
IL31		**3.30**	**29**		Pn		12 54 53.1	-1.1
ILAR	**Eielson Array**	**3.30**	**29**		Pn		12 54 53.5	-0.8
GLB	**Gilahina Butte**	**3.31**	**96**		Pn		12 54 52.7	-1.7
GLB				IAML			12 55 45.9	
	comp=E,41nm,0.4s							
GLB				IAML			12 55 45.9	
	comp=N,60nm,0.5s							
Q19K	**Cape Douglas,**	**3.38**	**207**	Pn	Pn		12 54 54.9	-0.4
MENT	**Mentasta**	**3.38**	**70**		Pn		12 54 55.2	-0.2
SYI	**Shuyak Island**	**3.46**	**195**		Pn		12 54 56.3	-0.2
SYI	**Shuyak Island**	**3.46**	**195**	IAML			12 55 45.9	
	comp=N,59nm,0.5s							
SYI				IAML			12 55 48.7	
	comp=E,61nm,0.8s							
POKR	**Poker Plat Res**	**3.49**	**23**		Pn		12 54 56.1	-0.7
VRDI	**Verde Repeater**	**3.53**	**99**		Pn		12 54 56.5	-1.0
VRDI				IAML			12 55 49.9	
	comp=N,42nm,0.7s							
VRDI				IAML			12 55 52.5	
	comp=E,32nm,0.8s							
L26K	**Log Cabin Wild**	**3.56**	**69**		Pn		12 54 57.3	-0.6
L26K				IAML			12 55 52.4	
	comp=N,59nm,0.4s							
L26K				IAML			12 55 57.0	
	comp=E,63nm,0.6s							
SCRK	**Sand Creek**	**3.67**	**53**		Pn		12 54 59.5	+0.1
SCRK				IAML			12 55 48.0	
	comp=N,33nm,0.7s							
O17K	**Koliganek Bris**	**3.83**	**238**		Pn		12 55 00.1	-1.3
J26L	**Joseph Creek**	**4.11**	**48**		Pn		12 55 04.6	-0.7
J26L				IAML			12 55 59.8	
	comp=N,50nm,0.6s							
PRP	**Porcupine Dome**	**4.24**	**30**		Pn		12 55 06.8	-0.4
PRP				IAML			12 55 54.7	
	comp=E,16nm,1.0s							
PRP				IAML			12 56 24.1	
	comp=N,18nm,0.8s							
L27K	**Beaver Creek,**	**4.25**	**71**		Pn		12 55 05.5	-1.8
H19K	**Roundabout Mou**	**4.41**	**327**	Pn	Pn		12 55 09.0	-0.3
I26K	**Coal Creek Min**	**4.75**	**42**		Pn		12 55 13.7	-0.3
I26K				IAML			12 56 41.4	
	comp=N,20nm,1.1s							
I26K				IAML			12 56 44.6	
	comp=E,20nm,1.1s							
G24K	**Hadweenzic Riv**	**4.96**	**15**		Pn		12 55 16.2	-0.7
EGAK	**Eagle**	**5.13**	**52**		Pn		12 55 19.7	+0.4
EGAK				IAML			12 56 48.0	
	comp=E,23nm,1.0s							
O28M	**Mount Upton**	**5.18**	**99**		Pn		12 55 19.2	-1.1
FYU	**Fort Yukon**	**5.20**	**25**		Pn		12 55 19.6	-0.6
FYU				IAML			12 56 26.6	
	comp=E,9.1nm,1.0s							
FYU				IAML			12 56 58.5	
	comp=N,13nm,0.8s							
G18K	**Tagagawik**	**5.29**	**322**		Pn		12 55 21.0	-0.4
COLD	**Coldfoot**	**5.30**	**2**		Pn		12 55 21.1	-0.5
F21K	**Alatna River**	**5.42**	**348**		Pn		12 55 23.0	-0.3
DAWY	**Dawson**	**5.56**	**63**		Pn		12 55 23.9	-1.3
F24K	**Squaw Lake**	**5.71**	**11**		Pn		12 55 26.7	-0.6
M29M	**Somme Creek**	**5.74**	**80**		Pn		12 55 27.0	-0.7
L29M	**L29M**	**5.92**	**73**	Pn	Pn		12 55 29.1	-1.0
J29N	**Klondike Camp**	**6.16**	**61**		Pn		12 55 32.5	-1.0
F26K	**Sheenjek River**	**6.39**	**23**		Pn		12 55 36.2	-0.4
I29M	**Ogilvie Camp,**	**6.47**	**53**		Pn		12 55 38.1	+0.4
E25K	**Arctic Village**	**6.55**	**17**		Pn		12 55 38.4	-0.4
TOLK	**Toolik Lake Re**	**6.73**	**3**		Pn		12 55 41.8	+0.6
E18K	**Tukpahlearik C**	**6.93**	**327**	Pn	Pn		12 55 44.1	+0.2
ANM	**Nome**	**7.12**	**298**	Pn	Pn		12 55 46.0	-0.5
F28M	**Old Crow**	**7.31**	**34**		Pn		12 55 48.1	-1.0
B21K	**Ikpikpuk River**	**7.86**	**350**	Pn	Pn		12 55 56.6	0.0
B22K	**Teshekpuk Lake**	**8.49**	**354**	Pn	Pn		12 56 05.2	0.0

*UPP **10** 12:56:24.1±0.0, 67°.19N×20°.65E, h0km, ML2.1, Confirmed Induced event*
*HEL **10** 12:56:24.7±0.0, 67°.18N×20°.67E, h1km, ML2.0, ML2.1(UPP), ML1.8(BER), Confirmed Induced event*
*IDC **10** 12:56:24.1±0.9, 67°.16N×20°.86E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=15.6km s-min=7.3km az=117.0*
*BER **10** 12:56:26.0±2.1, 67°.14N×20°.60E, h0km, ML1.8, Confirmed Induced event*

ISC 10 12:56:23.0±0.7, **67°.21N**±0°.02×**20°.56E**±0°.02, **h0**km, **n43**, σ**0**§**83**/67, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundrit**	**0.09**	**178**		P	**Pg**	**12 56 25.8**	**+1.2**
DUNU					S	**Sg**	**12 56 26.9**	**+1.2**
DUNU	**Dundrit**	**0.09**	**178**	*i*	P	**Pg**	**12 56 25.8**	**+1.2**
DUNU				*i*	S	**Sg**	**12 56 26.9**	**+1.2**
MASU	**Masugnsbyn**	**0.61**	**65**		P	**Pg**	**12 56 35.4**	**+0.7**
MASU					S	**Sg**	**12 56 43.2**	**+0.6**
MASU	**Masugnsbyn**	**0.61**	**65**	*i*	P	**Pg**	**12 56 35.4**	**+0.7**
MASU				*i*	S	**Sg**	**12 56 43.2**	**+0.6**
RATU	**Laukkuluspa**	**0.72**	**329**		P	**Pb**	**12 56 38.2**	**-0.3**
RATU					S	**Sb**	**12 56 48.6**	**-0.4**
RATU	**Laukkuluspa**	**0.72**	**329**	*i*	P	**Pb**	**12 56 38.2**	**-0.3**
RATU				*i*	S	**Sb**	**12 56 48.6**	**-0.4**
KUA	**Kurravaara**	**0.76**	**354**		P	**Pb**	**12 56 38.6**	**-0.4**
KUA					S	**Sb**	**12 56 49.3**	**-0.5**
KUA	**Kurravaara**	**0.76**	**354**	*i*	P	**Pb**	**12 56 38.6**	**-0.4**
KUA				*i*	S	**Sb**	**12 56 49.3**	**-0.5**
SALU	**Saltoluokta**	**0.82**	**283**	*e*	P	**Pb**	**12 56 40.1**	**+0.1**
SALU				*e*	S	**Sb**	**12 56 51.6**	**-0.1**
SALU	**Saltoluokta**	**0.82**	**283**		P	**Pb**	**12 56 40.1**	**+0.1**
SALU					S	**Sb**	**12 56 51.5**	**-0.1**
SALU	**Saltoluokta**	**0.82**	**283**	*i*	P	**Pb**	**12 56 40.1**	**+0.1**
SALU				*i*	S	**Sb**	**12 56 51.5**	**-0.1**
ERTU	**Ertsjaerv**	**0.92**	**135**		P	**Pg**	**12 56 40.2**	**-0.4**
ERTU					S	**Sg**	**12 56 52.0**	**-0.5**
ERTU	**Ertsjaerv**	**0.92**	**135**	*e*	P	**Pg**	**12 56 40.1**	**-0.4**
ERTU				*e*	S	**Sg**	**12 56 51.5**	**-0.9**
LANU	**Lannavaara**	**1.01**	**32**		P	**Pg**	**12 56 42.6**	**+0.3**
LANU	**Lannavaara**	**1.01**	**32**	*e*	P	**Pg**	**12 56 42.5**	**+0.2**
LANU				*e*	S	**Sg**	**12 56 55.8**	**+0.5**
HARU	**Harads**	**1.06**	**171**		P	**Pg**	**12 56 43.2**	**-0.1**
HARU	**Harads**	**1.06**	**171**	*e*	P	**Pg**	**12 56 43.2**	**-0.1**
KLF	**Kolari**	**1.32**	**87**	*e*	P	**Pg**	**12 56 47.6**	**-0.7**
HEF	**Hetta**	**1.69**	**43**	*e*	P	**Pn**	**12 56 54.1**	**+0.4**
HEF				*e*	S	**Sn**	**12 57 15.9**	**-0.1**
HEF	**Hetta**	**1.69**	**43**	*e*	P	**Pn**	**12 56 54.1**	**+0.4**
HEF				*e*	S	**Sn**	**12 57 15.8**	**-0.1**
HEF					MSG		12 57 19.8	
	comp=Z,8.9nm,0.2s							
KALU	**Kalix**	**1.76**	**139**		P	**Pn**	**12 56 55.5**	**+0.8**
KALU	**Kalix**	**1.76**	**139**	*e*	P	**Pn**	**12 56 55.1**	**+0.4**
KALU				*e*	SN	**Sn**	**12 57 18.1**	**+0.4**
SJUU	**Sjulsmark**	**1.76**	**166**		P	**Pn**	**12 56 55.3**	**+0.6**
SJUU	**Sjulsmark**	**1.76**	**166**	*e*	P	**Pn**	**12 56 55.3**	**+0.6**
KIF	**Kilpisjarvi**	**1.81**	**3**	*e*	P	**Pg**	**12 56 57.6**	**-0.1**
KIF	**Kilpisjarvi**	**1.81**	**3**	*e*	P	**Pg**	**12 56 57.5**	**-0.1**
KIF				*e*	SN	**Sg**	**12 57 21.9**	**+1.0**
KIF					MSG		12 57 25.4	
	comp=Z,12nm,0.2s							
TOF	**Tornio**	**1.88**	**125**	*e*	SN	**Sn**	**12 57 21.0**	**+0.3**
TOF					MSG		12 57 24.3	
	comp=Z,12nm,0.2s							
FAUS	**Fauske**	**2.05**	**277**	*e*	P	**Pb**	**12 57 01.3**	**+0.2**
FAUS					IAML		12 57 32.2	
	comp=Z,16nm,0.3s							
FAUS	**Fauske**	**2.05**	**277**	*e*	P	**Pb**	**12 57 01.3**	**+0.2**
FAUS					IAML		12 57 32.2	
	comp=Z,16nm,0.3s							
KTK1	**Kautokeino**	**2.07**	**28**	*e*	P	**Pb**	**12 57 01.2**	**-0.2**
KTK1				*e*	S	**Sb**	**12 57 27.5**	**-0.2**
KTK1					IAML		12 57 29.7	
	comp=Z,15nm,0.3s							
KTK1	**Kautokeino**	**2.07**	**28**	*e*	PB	**Pb**	**12 57 01.4**	**0.0**
STEI	**Steigen**	**2.17**	**292**	*e*	P	**Pb**	**12 57 02.8**	**-0.2**
STEI					IAML		12 57 34.2	
	comp=Z,5.6nm,0.7s							
STEI	**Steigen**	**2.17**	**292**	*e*	PG	**Pg**	**12 57 03.9**	**-0.5**
STEI				*e*	SG	**Sg**	**12 57 33.1**	**+0.7**
JETT	**Jettan, Norway**	**2.36**	**359**	*e*	P	**Pb**	**12 57 06.2**	**-0.2**
JETT					IAML		12 57 39.8	
	comp=Z,21nm,0.3s							
JETT	**Jettan, Norway**	**2.36**	**359**	*e*	P	**Pb**	**12 57 06.2**	**-0.2**
JETT					IAML		12 57 39.8	
	comp=Z,21nm,0.3s							
TRO	**Tromso**	**2.51**	**347**	*e*	SB	**Sb**	**12 57 40.9**	**+0.7**
BURU	**Burvik**	**2.66**	**172**	*e*	P	**Pn**	**12 57 08.4**	**+1.4**
ARA0	**ARCESS Array S**	**2.97**	**36**	*e*	P	**Pn**	**12 57 12.4**	**+1.1**
ARA0	**ARCESS Array S**	**2.97**	**36**	*e*	P	**Pn**	**12 57 12.4**	**+1.1**
ARCES	**ARCESS Array B**	**2.97**	**36**		Pn	**Pn**	**12 57 11.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=34							
ARCES					Sn	**Sn**	**12 57 48.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=217,slow=22,SNR=13							
	comp=Z,0.9nm,0.3s							
FINES	**FINESS Array B**	**6.26**	**155**		Pn	**Pn**	**12 57 57.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=6.2							
FINES					Sn	**Sn**	**12 59 06.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=2.3							
FINES					Lg	Lg	12 59 37.4	
	comp=Z,0.6nm,0.3s,baz=340,slow=28,SNR=7.6							
	comp=Z,3.7nm,0.9s							
NOA	**NORSAR Array B**	**7.41**	**218**		Pn	**Pn**	**12 58 13.3**	**+1.0**
	baz=28,slow=11,SNR=2.9							
NOA					Sn	**Sn**	**12 59 34.6**	**-2.4**
	baz=81,slow=12,SNR=3.8							
NOA					Lg	Lg	13 00 14.9	
	baz=129,slow=23,SNR=4.4							
	comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**7.72**	**206**		Pn	**Pn**	**12 58 16.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=5.3							
HFS					Sn	**Sn**	**12 59 41.3**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=29,slow=21,SNR=8.2							
HFS					Lg	Lg	13 00 26.5	
	comp=Z,0.2nm,0.3s,baz=33,slow=30,SNR=2.0							
	comp=Z,3.4nm,0.9s							

*SJA **10** 13:22:56.9±0.7, 24°.07S×66°.80W, h224km±4km, ML4.2, MW4.2*
*NEIC **10** 13:22:57.8±1.7, 24°.08S±0°.07×66°.73W±0°.09, h196km±6km, mb4.4/9, Error ellipse: s-maj=12.4km s-min=10.4km az=73.0*
*GUC **10** 13:22:57.4±

PB01 eS S 13 24 45.3 +0.6
PB01 IAML 13 24 47.7
comp=Z,346nm,0.2s
PB01 IPOC Station P 3.83 320⇑ *i*P **Pn 13 23 58.6 +0.4**
AC01 Pan de Azucar 4.01 237 Pn **Pn 13 23 59.6 -0.6**
AC01 Pan de Azucar 4.01 237 *e*P **Pn 13 23 59.8 -0.4**
AC01 eS S 13 24 47.7 -0.9
AC01 IAML 13 24 47.8
comp=Z,215nm,0.5s
AC01 Pan de Azucar 4.01 237⇑ *i*P **Pn 13 23 59.7 -0.6**
PB08 IPOC Station P 4.41 331 **Pn 13 24 06.4 +0.8**
PB08 IPOC Station P 4.41 331 *e*P **Pn 13 24 07.0 +1.4**
PB08 eS S 13 24 56.3 -1.9
PB08 IAML 13 25 03.1
comp=Z,222nm,0.8s
PB08 IPOC Station P 4.41 331⇑ *i*P **Pn 13 24 06.6 +1.1**
CYA Choya 4.51 168 *e*P **Pn 13 24 07.1 +0.6**
CYA eS S 13 24 59.4 -0.6
TA01 Diego Aracena 4.61 317 Pn **Pn 13 24 07.9 +0.1**
TA01 Diego Aracena 4.61 317 *e*P **Pn 13 24 07.4 -0.4**
TA01 eS S 13 25 01.4 -0.9
TA01 IAML 13 25 06.5
comp=Z,140nm,0.3s
TA01 Diego Aracena 4.61 317 *e*P **Pn 13 24 07.8 +0.1**
TA02 Huaiquique 4.81 320 **Pn 13 24 10.3 0.0**
VCA Vinchina 4.86 194 *e*P **Pn 13 24 12.5 +1.6**
VCA eS S 13 25 12.1 +3.9
ACLC CERRO LA CRUZ 5.39 181 *e*P **Pn 13 24 17.2 -0.6**
ACLC eS S 13 25 20.8 +0.4
AC04 Llanos de Chal 5.64 221 Pn **Pn 13 24 19.2 -1.6**
LCO Las Campanas 6.06 214 Pn **Pn 13 24 24.0 -2.4**
PB12 IPOC Station P 6.28 328 Pn **Pn 13 24 27.5 -1.6**
CO01 Juntas del Tor 6.61 205 **Pn 13 24 33.4 0.0**
PB18 Visviri 6.85 338 **Pn 13 24 37.6 +0.6**
GO04 Tololo Observa 7.07 209 Pn **Pn 13 24 37.2 -2.3**
LPAZ La Paz 7.78 351 Pn **Pn 13 24 49.1 0.0**
LPAZ La Paz 7.78 351 P **Pn 13 24 49.7 +0.6**
comp=Z,3.4nm,0.3s,baz=172,slow=7.7,SNR=30
LPAZ S **S 13 26 15.5 -1.9**
comp=Z,5.0nm,0.6s,baz=246,slow=18,SNR=5.0
LPAZ La Paz 7.78 351 *e*P **Pn 13 24 49.1 0.0**
MURT Porto Murtinho 8.84 76 *e*P **Pn 13 24 59.3 -2.9**
CPUP Villa Florida 8.93 107 Pn **Pn 13 25 01.3 -2.1**
CPUP Villa Florida 8.93 107 P **Pn 13 25 01.1 -2.2**
comp=Z,13nm,1.0s,baz=285,slow=11,SNR=21
CPUP Villa Florida 8.93 107 *e*P **Pn 13 25 01.5 -1.9**
SIV San Ignacio 9.65 35 P **Pn 13 25 11.4 -1.4**
comp=Z,2.3nm,0.5s,baz=212,slow=13,SNR=15
SIV S S 13 26 50.0 -11
comp=Z,1.3nm,0.5s,baz=281,slow=19,SNR=1.4
BDQN Bodoquena, MS 10.00 71 *e*P **Pn 13 25 14.9 -2.5**
PSAL Palomas, Salto 10.80 133 *e*P **Pn 13 25 26.2 -1.3**
AQDB Aquidauana 10.91 73 *e*P **Pn 13 25 26.8 -2.1**
PTLB Pontes e Lacer 11.19 42 Pn **Pn 13 25 33.1 +0.5**
PTLB Pontes e Lacer 11.19 42 *e*P **Pn 13 25 33.3 +0.7**
TBOT Tacuaremb 12.30 131 *e*P **Pn 13 25 45.5 -1.1**
RPRD Ribas do Rio P 12.67 76 *e*P **Pn 13 25 50.6 -0.8**
VILB Vilhena 12.68 31 *e*P **Pn 13 25 52.7 +1.2**
BI02 San Fabin de 13.17 196 **P 13 25 59.7 -0.7**
SALV Santo Antonio 13.23 54 *e*P **Pn 13 25 56.8 -1.6**
PTGB Pitanga 13.49 96 *e*P **Pn 13 26 01.4 -0.3**
CPSB Cacapava Do Su 13.52 121 *e*P **Pn 13 25 59.8 -2.0**
ITAB Concordia 13.66 107 *e*P **Pn 13 26 01.9 -1.6**
PLTB Pedras Altas 14.02 126 P **Pn 13 26 05.9 -2.1**
PLTB Pedras Altas 14.02 126 *e*P **Pn 13 26 05.1 -3.0**
C2SB Chapadao do Su 14.05 71 *e*P **Pn 13 26 08.3 -0.2**
ETMB Extrema 14.13 3 *e*P **P 13 26 10.9 -0.2**
LDASE Londrina, Braz 14.43 91 *e*P **Pn 13 26 11.2 -2.0**
NNA Nana 15.27 320 P **P 13 26 24.4 +0.7**
comp=Z,2.8nm,0.3s,baz=201,slow=17,SNR=3.7
PDRB Porto dos Gac 15.64 40 *e*P **Pn 13 26 28.3 +0.4**
FRTB Fartura 15.85 91 *e*P **P 13 26 29.5 -0.6**
ITRB Iturama 15.89 78 *e*P **P 13 26 29.7 -0.9**
ARAG Araguaiana, MT 16.37 62 *e*P **P 13 26 35.4 -0.4**
TER01 Tubaro-SC 16.52 110 *e*P **P 13 26 36.6 -0.7**
PLCA Paso Flores 16.96 190 P **P 13 26 41.9 -0.3**
PLCA IAmb IAmb 13 26 50.3
comp=Z,9.2nm,0.8s
PLCA Paso Flores 16.96 190 P **P 13 26 42.5 +0.4**
comp=Z,2.0nm,0.6s,baz=13,slow=11,SNR=14
PLCA Paso Flores 16.96 190 *e*P **P 13 26 42.2 +0.1**
LL04 Puerto Octay 17.48 194 P **P 13 26 45.7 -2.1**
LL04 IAmb IAmb 13 26 48.2
comp=Z,17nm,1.1s
SPB Sao Paulo 17.77 93 *e*P **P 13 26 50.3 -0.9**
VAO Valinhos 18.27 91 P **P 13 26 55.2 -1.4**
VAO Valinhos 18.27 91 *e*P **P 13 26 55.5 -1.1**
IPMB Ipameri, GO 18.40 75 *e*P **P 13 26 57.4 -0.7**
SNDB Serra Nova Dou 19.01 54 *e*P **P 13 27 03.2 -1.4**
PARB Paraibuna 19.45 92 *e*P **P 13 27 09.3 -0.1**
BDFB Brasilia 19.56 68 P **P 13 27 09.7 -0.9**
BDFB IAmb IAmb 13 27 11.4
comp=Z,19nm,0.9s
BDFB Brasilia 19.56 68 P **P 13 27 09.8 -0.8**
comp=Z,17nm,0.8s,baz=247,slow=11,SNR=22
PMNB Patos De Minas 19.78 78 *e*P **P 13 27 11.2 -1.8**
TEFE Tefe 20.50 6 *e*P **P 13 27 23.3 +2.8**
JANB Januaria 23.00 71 *e*P **P 13 27 43.4 -1.8**
CAM01 Campos-RJ 23.30 90 *e*P **P 13 27 46.7 -1.0**
SDBA SAO DESIDERIO 23.79 65 *e*P **P 13 27 51.1 -1.3**
SMTB Santa Maria do 23.79 54 *e*P **P 13 27 52.0 -0.3**
ALF01 Guarapari-ES 24.39 87 *e*P **P 13 27 56.9 -0.8**
SNAA Sanae 59.29 161 P **P 13 32 37.6 -0.3**
comp=Z,2.2nm,0.9s,baz=281,slow=10,SNR=2.0
comp=Z,2.2nm,0.9s
TXAR Lajitas Array 63.77 324 P **P 13 33 09.5 +1.2**
comp=Z,0.5nm,0.7s,baz=150,slow=8.3,SNR=6.9
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 66.19 180 P **P 13 33 24.5 +0.9**
QSPA IAmb IAmb 13 33 25.3
comp=Z,3.6nm,0.6s
QSPA South Pole Qui 66.19 180 P **P 13 33 24.4 +0.9**
comp=Z,4.6nm,0.6s,baz=172,slow=1.0,SNR=33
comp=Z,4.6nm,0.6s
P38A Dawn 68.04 338 P **P 13 33 35.8 +0.5**
P38A IAmb IAmb 13 33 36.2
comp=Z,6.0nm,0.7s
BGNE Belgrade 71.27 336 P **P 13 33 56.2 +1.3**
TORD Torodi Ar. Bea 76.44 69 P **P 13 34 24.8 -0.7**
comp=Z,0.6nm,0.5s,baz=230,slow=3.6,SNR=10
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 77.23 329 P **P 13 34 30.2 +0.6**
comp=Z,0.3nm,0.6s,baz=124,slow=7.4,SNR=3.2
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 78.28 341 P **P 13 34 35.4 +0.5**
comp=Z,1.8nm,0.6s,baz=164,slow=7.8,SNR=4.8
comp=Z,1.8nm,0.6s
PLID Pearl Lake 82.06 327 P **P 13 34 56.9 +1.3**
ASAR Alice Springs 128.50 205 PKP **PKPdf 13 41 41.4 +0.2**
comp=Z,1.2nm,0.8s,baz=129,slow=2.5,SNR=9.6
WRA Warramunga Arr 131.68 207 PKP **PKiKP 13 41 47.9 -0.3**
comp=Z,0.7nm,0.6s,baz=154,slow=2.1,SNR=8.3
KURBB Kurchatov Arra 142.31 36 PKP **PKPdf 13 42 06.1 +0.3**
comp=Z,0.1nm,0.3s,baz=304,slow=3.1,SNR=4.6
ZALV Zalesovo Beam 143.34 28 PKP PKPbc 13 42 06.1 +0.9
comp=Z,1.8nm,0.7s,baz=306,slow=5.1,SNR=9.0
MKAR Makanchi Array 146.45 40 PKPbc **PKPdf 13 42 14.1 +0.9**
comp=Z,2.7nm,0.7s,baz=327,slow=1.3,SNR=26
KLR Kul'dur 150.90 335 PKPbc **PKPbc 13 42 26.5 +0.4**
comp=Z,1.2nm,0.6s,baz=19,slow=3.9,SNR=5.1

*IDC **10** 13:26:57.2±2.1, 17°.04S×177°.88W, h434km±16km, mb3.5/5, mbtmp4.3/7, Error ellipse: s-maj=32.9km s-min=25.2km az=177.0*
*NEIC **10** 13:27:00.7±0.8, 17°.3S±0°.2×178°.2W±0°.1, h447km±5km, mb4.3/24, Error ellipse: s-maj=23.6km s-min=18.8km az=162.0*
ISC 10 13:26:59.7±0.8, 17°.2S±0°.1×178°.12W±0°.10, h450km, n74, σ1§29/74, mb4.3/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**261**	P	**P**	**13 28 10.9**	**-1.4**
MSVF	**Nonsavu**	**3.69**	**261**	P	**P**	**13 28 11.0**	**-1.3**
	155nm,0.4s,baz=103,slow=14,SNR=137						
MSVF				S	**S**	**13 29 10.9**	**-0.4**
	8.1nm,0.8s,baz=60,slow=20,SNR=0.5						
DZM	**Mont Dzumac**	**15.32**	**249**	P	**P**	**13 30 16.5**	**+2.0**
	5.6nm,1.0s,baz=111,slow=19,SNR=1.5						
RAR	**Rarotonga**	**17.78**	**106**	P	**P**	**13 30 41.9**	**+1.7**
OUZ	**Omahuta**	**19.40**	**201**	P	**P**	**13 30 56.7**	**+1.2**
WCZ	**Waipu Caves**	**19.82**	**198**	P	**P**	**13 31 01.7**	**+2.4**
MBAZ	**Motutapu North**	**20.44**	**196**	P	**P**	**13 31 06.8**	**+1.8**
ETAZ	**East Tamaki Re**	**20.61**	**196**	P	**P**	**13 31 08.0**	**+1.5**
WTAZ	**Waiatarua**	**20.68**	**197**	P	**P**	**13 31 08.5**	**+1.3**
MKAZ	**Moumakai**	**20.69**	**195**	P	**P**	**13 31 08.9**	**+1.6**
AWAZ	**Awhitu Peninsu**	**20.79**	**196**	P	**P**	**13 31 09.1**	**+0.9**
HAZ	**Te Kaha**	**20.79**	**189**	P	**P**	**13 31 06.6**	**-1.5**
PKGZ	**Pakihiroa**	**20.85**	**188**	P	**P**	**13 31 08.5**	**-0.3**
TGRZ	**Tauranga**	**21.03**	**192**	P	**P**	**13 31 11.0**	**+0.6**
TWGZ	**Tauwhareparae**	**21.17**	**189**	P	**P**	**13 31 10.7**	**-1.0**
TOZ	**Tahuroa Road**	**21.20**	**194**	P	**P**	**13 31 13.0**	**+1.1**
TOZ				IAmb	IAmb	13 31 13.4	
	comp=Z,18nm,1.3s						
TOZ	**Tahuroa Road**	**21.20**	**194**	P	**P**	**13 31 12.9**	**+1.0**
KMRZ	**Kaimai**	**21.21**	**193**	P	**P**	**13 31 12.8**	**+0.8**
URZ	**Urewera**	**21.39**	**190**	P	**P**	**13 31 10.3**	**-3.3**
MWZ	**Matawai**	**21.39**	**189**	P	**P**	**13 31 10.9**	**-2.8**
MUGZ	**Murupara**	**21.66**	**191**	P	**P**	**13 31 13.8**	**-2.2**
TLZ	**Tolley Road**	**21.77**	**194**	P	**P**	**13 31 18.3**	**+1.2**
SNGZ	**Shannon Statio**	**21.86**	**190**	P	**P**	**13 31 15.3**	**-2.6**
BKZ	**Black Stump Fm**	**22.38**	**191**	P	**P**	**13 31 20.1**	**-2.6**
TMVZ	**Te Maari**	**22.48**	**193**	P	**P**	**13 31 22.0**	**-1.7**
ETVZ	**East Tongariro**	**22.50**	**193**	P	**P**	**13 31 23.0**	**-0.8**
TSZ	**Takapari Road**	**23.34**	**192**	P	**P**	**13 31 29.9**	**-1.4**
BFZ	**Birch Farm**	**23.89**	**191**	P	**P**	**13 31 34.9**	**-1.2**
TCW	**Tory Channel**	**24.80**	**194**	P	**P**	**13 31 43.8**	**-0.4**
QRZ	**Quartz Range**	**24.88**	**197**	P	**P**	**13 31 45.0**	**+0.1**
QRZ	**Quartz Range**	**24.88**	**197**	P	**P**	**13 31 44.6**	**-0.3**
THZ	**Tophouse**	**25.66**	**196**	P	**P**	**13 31 50.8**	**-1.1**
DSZ	**Denniston Nort**	**25.94**	**197**	P	**P**	**13 31 54.0**	**-0.4**
DSZ	**Denniston Nort**	**25.94**	**197**	P	**P**	**13 31 54.0**	**-0.4**
KHZ	**Kahutara**	**26.12**	**194**	P	**P**	**13 31 53.7**	**-2.2**
GVZ	**Greta Valley S**	**26.76**	**195**	P	**P**	**13 31 59.7**	**-1.9**
LTZ	**Lake Taylor**	**26.77**	**196**	P	**P**	**13 31 59.4**	**-2.3**
INZ	**Inchbonnie**	**26.95**	**197**	P	**P**	**13 32 01.7**	**-1.5**
WVZ	**Waitaha Valley**	**27.47**	**198**	P	**P**	**13 32 07.1**	**-0.7**
FOZ	**Fox Glacier**	**28.16**	**199**	P	**P**	**13 32 13.7**	**-0.2**
FOZ	**Fox Glacier**	**28.16**	**199**	P	**P**	**13 32 13.5**	**-0.4**
TMZ	**Timaru**	**28.60**	**196**	P	**P**	**13 32 17.1**	**-0.6**
JCZ	**Jackson Bay**	**28.98**	**200**	P	**P**	**13 32 20.9**	**-0.3**
WKZ	**Wanaka**	**29.58**	**199**	P	**P**	**13 32 25.6**	**-0.7**
WKZ	**Wanaka**	**29.58**	**199**	P	**P**	**13 32 25.4**	**-1.0**
MLZ	**Mavora Lakes**	**30.35**	**199**	P	**P**	**13 32 33.4**	**+0.4**
MLZ				IAmb	IAmb	13 32 60.0	
	comp=Z,38nm,1.4s						
MLZ	**Mavora Lakes**	**30.35**	**199**	P	**P**	**13 32 33.4**	**+0.4**
TUZ	**Tuapeka**	**30.43**	**197**	P	**P**	**13 32 33.5**	**-0.1**
ARMA	**Armidale**	**30.53**	**239**	P	**P**	**13 32 34.3**	**-0.7**
ARMA				IAmb	IAmb	13 33 13.8	
	comp=Z,17nm,1.4s						
WHZ	**Wether Hill Ro**	**30.87**	**199**	P	**P**	**13 32 37.5**	**0.0**
TOO	**Toolangi**	**37.82**	**230**	P	**P**	**13 33 37.8**	**+1.4**
TOO				IAmb	IAmb	13 33 39.6	
	comp=Z,8.6nm,1.3s						
STKA	**Stephens Creek**	**39.21**	**240**	P	**P**	**13 33 49.0**	**+1.3**
STKA				IAmb	IAmb	13 33 50.6	
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**39.21**	**240**	P	**P**	**13 33 49.2**	**+1.5**
	comp=Z,2.5nm,0.5s,baz=85,slow=9.1,SNR=10						
	comp=Z,2.5nm,0.5s						
BBOO	**Buckleboo**	**43.99**	**240**	P	**P**	**13 34 26.3**	**+0.5**
BBOO				IAmb	IAmb	13 35 09.2	
	comp=Z,25nm,1.4s						
WR0	**Warramunga Arr**	**44.84**	**259**	P	**P**	**13 34 32.5**	**-0.1**
WB2	**Warramunga Arr**	**45.02**	**259**	P	**P**	**13 34 33.5**	**-0.5**
WRAB	**Tennant Creek**	**45.02**	**259**	P	**P**	**13 34 33.6**	**-0.5**
WRA	**Warramunga Arr**	**45.03**	**259**	P	**P**	**13 34 34.1**	**0.0**
	comp=Z,0.9nm,0.3s,baz=94,slow=7.8,SNR=27						
	comp=Z,0.9nm,0.3s						
AS31	**Alice Springs**	**45.25**	**254**	P	**P**	**13 34 35.9**	**+0.2**
AS31				IAmb	IAmb	13 34 37.4	
	comp=Z,3.6nm,0.6s						
ASAR	**Alice Springs**	**45.25**	**254**	P	**P**	**13 34 35.5**	**-0.2**
ASAR	**Alice Springs**	**45.25**	**254**	P	**P**	**13 34 36.1**	**+0.4**
	comp=Z,8.8nm,0.3s,baz=89,slow=7.8,SNR=254						
	comp=Z,8.8nm,0.3s						
MTN	**Manton Dam**	**49.10**	**268**	P	**P**	**13 35 04.1**	**-0.9**
MTN				IAmb	IAmb	13 35 46.5	
	comp=Z,21nm,1.1s						
FORT	**Forrest**	**50.56**	**244**	P	**P**	**13 35 15.3**	**-0.3**
FORT				IAmb	IAmb	13 35 17.3	
	comp=Z,37nm,1.4s						
KNRA	**Kununurra**	**50.84**	**264**	P	**P**	**13 35 17.4**	**-0.4**
KNRA				IAmb	IAmb	13 35 33.0	
	comp=Z,30nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.42**	**260**	P	**P**	**13 35 36.1**	**-0.4**
PSA00	**Pilbara Seismi**	**58.35**	**255**	P	**P**	**13 36 10.6**	**-0.3**
VNDA	**Vanda**	**61.16**	**185**	P	**P**	**13 36 29.0**	**+0.3**
VNDA				IAmb	IAmb	13 36 29.4	
	comp=Z,16nm,1.4s						
UGM	**Wanagama**	**69.95**	**268**	P	**P**	**13 37 25.1**	**-0.1**
QSPA	**South Pole Qui**	**72.84**	**180**	P	**P**	**13 37 40.9**	**-0.5**
QSPA	**South Pole Qui**	**72.84**	**180**	P	**P**	**13 37 41.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=178,slow=3.7,SNR=24						
	comp=Z,2.6nm,0.6s						
BMO	**Blue Mountains**	**82.83**	**39**	P	**P**	**13 38 37.6**	**+1.8**
TXAR	**Lajitas Array**	**85.39**	**58**	P	**P**	**13 38 46.8**	**-2.1**
	comp=Z,0.2nm,0.8s,baz=259,slow=3.2,SNR=1.7						
	comp=Z,0.2nm,0.8s						
BRTR	**Keskin Array B**	**144.48**	**316**	PKP	PKPbc	13 45 42.5	-1.6
	comp=Z,0.6nm,0.5s,baz=123,slow=4.7,SNR=6.1						
MMAI	**Mount Meron Ar**	**145.99**	**304**	PKPbc	**PKPdf**	**13 45 47.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=97,slow=6.0,SNR=2.3						

*BJI **10** 13:27:06.3, 15°.35S×173°.18W, h5km, mB5.3/12, mb4.9/25, Ms5.4/8, Ms7 4.8/8*
*IDC **10** 13:27:08.9±0.4, 15°.19S×173°.61W, h0km, mb4.7/25, mbtmp4.7/26, ML3.8/1, MS4.3/47, Error ellipse: s-maj=16.1km s-min=11.8km az=106.0*
*NOU **10** 13:27:08.5, 14°.02S×172°.41W, h102km, mb5.0/29, Samoa Islands*
*NEIC **10** 13:27:09.4±1.0, 15°.11S±0°.09×173°.5W±0°.1, h10km±1km, mb5.1/124, Error ellipse: s-maj=20.7km s-min=13.0km az=115.0*
*MOS **10** 13:27:09.4±1.7, 15°.18S×173°.63W, h10km, mb5.2/23, Error ellipse: s-maj=10.3km s-min=9.8km az=70.1*
*GCMT **10** 13:27:17.4±0.2, 14°.97S±0°.01×173°.36W±0°.01, h12km, MW5.4/127, Moment Tensor Solution. s47,c53; s127,c167; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-0.21±.01; Mθθ0.23±.01; Mφφ-0.01±.01; Mrθ-1.62±.03; Mθφ-0.08±.01; Mφr0.13±.03; Best double couple: M01.64200×10^17 NP1:φs302.00000°, δ4.00000°, λ-62.00000°. NP2:φs95.00000°, δ86.00000°, λ-92.00000°. Principal axes: T 1.6550, Plg41.0000°, Azm186.0000°; N -0.0260, Plg2.0000°, Azm95.0000°; P -1.6280, Plg49.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 13:27:13.1±0.3, 15°.12S±0°.06×173°.52W±0°.07, h30km, n352, σ1§53/272, mb5.0/109, MS4.5/48, 35C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**55**	Pn	**Pn**	**13 27 44.1**	**-1.8**
AFI	**Afiamalu**	**2.07**	**55**	P	**Pn**	**13 27 44.1**	**-1.8**
NIUE	**Niue**	**5.22**	**139**	Pn	**Pn**	**13 28 27.6**	**-1.6**
NIUE	**Niue**	**5.22**	**139**	P	**Pn**	**13 28 29.1**	**-0.1**
DGTI	**Dogotuki**	**6.60**	**259**	P	Pb	13 28 59.9	-7.3
MSVF	**Nonsavu**	**8.50**	**251**	LR	LR	13 32 14.6	
	comp=Z,2μm,21.2s,baz=91,slow=36						
RAR	**Rarotonga**	**14.40**	**117**	Pn	**Pn**	**13 30 32.9**	**-2.1**
RAR	**Rarotonga**	**14.40**	**117**	Pn	**Pn**	**13 30 33.9**	**-1.0**
	4.3nm,0.3s,baz=267,slow=7.7,SNR=12						
RAR				Sn	Sn	13 32 59.1	-14
	3.1nm,0.3s,baz=347,slow=18,SNR=2.0						
RAR				LR	LR	13 34 46.9	
	comp=Z,433nm,19.6s,baz=269,slow=32						
	34nm,0.7s						
PINNC	**Pines Island,**	**19.48**	**245**	P	**P**	**13 31 37.0**	**-0.7**
PINNC	**Pines Island,**	**19.48**	**245**	P	**Pn**	**13 31 44.0**	**+4.9**
YATNC	**Mamie plateau,**	**19.80**	**247**	P	**Pn**	**13 31 47.4**	**+4.5**
OUENC	**Ouen Island, N**	**19.95**	**246**	P	**Pn**	**13 31 49.4**	**+4.7**
DZM	**Mont Dzumac**	**20.20**	**247**	P	**P**	**13 31 44.0**	**-1.7**
DZM				IAmb	IAmb	13 31 53.5	
	comp=Z,129nm,1.1s						
DZM	**Mont Dzumac**	**20.20**	**247**	P	**P**	**13 31 44.4**	**-1.3**
	comp=Z,6.6nm,0.8s,baz=85,slow=17,SNR=18						
DZM				LR	LR	13 38 30.3	
	comp=Z,850nm,20.5s,baz=49,slow=34						
	comp=Z,6.6nm,0.8s						
DZM	**Mont Dzumac**	**20.20**	**247**	P	Pn	13 31 51.8	+4.1
ONTNC	**Ouen Toro**	**20.26**	**246**	P	Pn	13 31 51.0	+2.7
PPT	**Papeete**	**23.10**	**99**	LR	LR	13 38 46.4	
	comp=Z,173nm,21.3s,baz=230,slow=30						
OUZ	**Omahuta**	**23.12**	**208**	P	**P**	**13 32 18.7**	**+2.0**
URZ	**Urewera**	**24.49**	**198**	P	**P**	**13 32 29.0**	**-0.7**
	comp=Z,11nm,0.3s,baz=335,slow=4.1,SNR=8.4						
URZ				S	**S**	**13 36 51.6**	**+3.4**
	comp=Z,17nm,1.2s,baz=329,slow=18,SNR=1.8						
URZ				LR	LR	13 41 15.8	
	comp=Z,2μm,19.6s,baz=120,slow=35						
	comp=Z,11nm,0.3s						
TOZ	**Tahuroa Road**	**24.53**	**201**	P	**P**	**13 32 28.6**	**-1.5**
RTZ	**Ruatahuna**	**24.86**	**198**		**P**	**13 32 31.1**	**-2.0**
HIZ	**Hauiti**	**25.46**	**202**	P	**P**	**13 32 37.3**	**-1.2**
HIZ				IAmb	IAmb	13 32 48.0	
	comp=Z,62nm,1.0s						
KHEZ	**Kahui Hut**	**26.45**	**202**	P	**P**	**13 32 48.6**	**+1.0**
HNR	**Honiara**	**26.52**	**279**	LR	LR	13 42 26.4	
	comp=Z,132nm,19.6s,baz=128,slow=35						
QRZ	**Quartz Range**	**28.34**	**203**	P	**P**	**13 33 02.7**	**-1.7**
THZ	**Tophouse**	**29.03**	**201**	P	**P**	**13 33 07.9**	**-2.7**
THZ				IAmb	IAmb	13 33 16.8	
	comp=Z,22nm,0.8s						
DSZ	**Denniston Nort**	**29.41**	**203**	P	**P**	**13 33 12.0**	**-1.9**
RPZ	**Rata Peaks**	**31.40**	**202**	LR	LR	13 45 55.0	
	comp=Z,2μm,20.0s,baz=40,slow=36						
DCZ	**Deep Cove**	**34.36**	**204**	P	**P**	**13 33 55.5**	**-1.7**
SYZ	**Scrubby Hill**	**34.52**	**201**	P	**P**	**13 33 59.7**	**+1.1**
ARMA	**Armidale**	**35.39**	**238**	P	**P**	**13 34 05.2**	**-1.3**
ARMA				IAmb	IAmb	13 35 24.4	
	comp=Z,34nm,1.5s						
KRVT	**Keravat (AS076**	**35.56**	**284**	LR	LR	13 46 54.7	
	comp=Z,224nm,20.6s,baz=219,slow=33						
AUPHS	**Peel High Scho**	**36.20**	**238**	P	**P**	**13 34 12.6**	**-0.8**
AULRC	**Lightning Ridg**	**38.18**	**241**	P	**P**	**13 34 29.8**	**-0.3**
AUDCS	**Dubbo College**	**38.38**	**237**	P	**P**	**13 34 31.5**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**38.66**	**329**	T	T	14 15 26.5	
	baz=146,slow=76,SNR=111						
H11S3	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	14 15 18.7	
	baz=146,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**38.68**	**329**	T	T	14 15 23.6	
	baz=146,slow=76,SNR=17						
CNB	**Canberra Magne**	**38.83**	**232**	P	**P**	**13 34 35.0**	**-0.7**
MTSU	**Mount Surprise**	**40.45**	**260**	P	**P**	**13 34 48.7**	**-0.6**
CMSA	**Cobar Meteorol**	**40.60**	**239**	P	**P**	**13 34 49.7**	**-0.6**
QLP	**Quilpie**	**40.92**	**247**	P	**P**	**13 34 51.5**	**-1.6**
COEN	**Coen**	**41.89**	**266**	P	**P**	**13 34 59.8**	**-1.4**
COEN	**Coen**	**41.89**	**266**	P	**P**	**13 34 56.9**	**-4.2**
TOO	**Toolangi**	**42.55**	**230**	P	**P**	**13 35 04.8**	**-1.4**
TOO	**Toolangi**	**42.55**	**230**	P	**P**	**13 35 04.9**	**-1.4**
TOO				pmax	pmax		
	comp=Z,24nm,1.4s						
CORO	**Coronation Par**	**42.91**	**224**	P	**P**	**13 35 08.7**	**-0.3**
TAU	**Tasmania Unive**	**43.45**	**222**	P	**P**	**13 35 10.5**	**-2.9**
TAU	**Tasmania Unive**	**43.45**	**222**	P	**P**	**13 35 10.5**	**-2.9**
TAU				pmax	pmax		
	comp=Z,100nm,1.7s						
BRAT	**Ballarat**	**43.71**	**231**	P	**P**	**13 35 15.3**	**-0.3**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**13 35 16.7**	**-2.0**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**13 35 17.1**	**-1.5**
	comp=Z,14nm,1.0s,baz=87,slow=9.0,SNR=13						
STKA				LR	LR	13 51 18.5	
	comp=Z,245nm,21.3s,baz=57,slow=33						
	comp=Z,14nm,1.0s						
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**13 35 18.5**	**-0.2**
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**13 35 16.7**	**-2.0**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
INKA	**Innaminka**	**44.15**	**246**	P	**P**	**13 35 18.4**	**-0.9**
QIS	**Mount Isa**	**44.83**	**256**	P	**P**	**13 35 23.7**	**-1.2**
HTT	**Hallett**	**46.59**	**238**	P	**P**	**13 35 37.9**	**-0.8**
AUMBR	**Murray Bridge**	**46.66**	**236**	P	**P**	**13 35 38.1**	**-0.9**
JAY	**Jayapura**	**46.82**	**281**	LR	LR	13 53 26.5	
	comp=Z,263nm,20.5s,baz=100,slow=34						
BBOO	**Buckleboo**	**48.85**	**240**	P	**P**	**13 35 54.0**	**-2.1**
BBOO	**Buckleboo**	**48.85**	**240**	P	**P**	**13 35 55.4**	**-0.8**
WB0	**Warramunga Arr**	**49.76**	**257**	P	**P**	**13 36 01.5**	**-1.8**
WB0				IAmb	IAmb	13 36 02.5	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**49.79**	**257**	P	**P**	**13 36 01.5**	**-2.0**
WRAB	**Tennant Creek**	**49.79**	**257**	*i* P	**P**	**13 36 00.8**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**	**49.80**	**257**	P	**P**	**13 36 02.0**	**-1.5**
	comp=Z,10.0nm,0.6s,baz=90,slow=6.9,SNR=81						
WRA				PcP	**PcP**	**13 37 23.0**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=93,slow=3.4,SNR=3.3						
	comp=Z,10.0nm,0.6s						
AS01	**Alice Springs**	**50.05**	**252**	P	**P**	**13 36 03.6**	**-1.8**
GUMO	**Guam**	**50.09**	**303**	LR	LR	13 55 10.2	

ISA pmax pmax
comp=Z,20nm,1.1s
CMB Columbia Colle 72.63 41 P **P 13 38 38.2 +0.3**
CMB IAmb IAmb 13 38 40.6
comp=Z,22nm,0.9s
CMB Columbia Colle 72.63 41 P **P 13 38 38.3 +0.3**
CMB pmax pmax
comp=Z,22nm,0.9s
PFO Pinyon Flats O 72.81 47 P **P 13 38 38.2 -1.0**
PFO IAmb IAmb 13 38 41.9
comp=Z,22nm,1.4s
PFO Pinyon Flats O 72.81 47 LR LR 14 02 42.4
comp=Z,470nm,20.9s,baz=250,slow=29
PFO Pinyon Flats O 72.81 47 *i* P **P 13 38 39.8 +0.5**
PFO pmax pmax
comp=Z,30nm,1.4s
LPIG La Paz 72.99 59 LR LR 14 02 00.1
comp=Z,226nm,20.7s,baz=270,slow=29
YSS Yuzhno-Sakhali 73.19 330 *e*P **P 13 38 42.7 +1.8**
YSS *e*S **SKiKP 13 48 09.1 -1.9**
YSS pmax pmax
comp=Z,10.0nm,0.6s
YBH Yreka Blue Hor 73.44 37 LR LR 14 02 19.4
comp=Z,482nm,21.9s,baz=248,slow=29
PNTR Pine Nut 73.75 41 P **P 13 38 45.1 +0.4**
YERR Yerington 73.91 41 P **P 13 38 46.5 +0.8**
YERR IAmb IAmb 13 38 48.4
comp=Z,27nm,1.0s
GWY Greenwater Val 74.04 45 P **P 13 38 45.0 -1.5**
NVAR Mina Array Bea 74.20 42 P **P 13 38 48.0 +0.6**
NVAR Mina Array Bea 74.20 42 P **P 13 38 48.6 +1.2**
comp=Z,19nm,0.8s,baz=229,slow=10,SNR=54
NVAR LR LR 14 04 37.3
comp=Z,360nm,20.3s,baz=222,slow=30
comp=Z,19nm,0.8s
PAHR Pah Rah Range 74.24 41 P **P 13 38 49.3 +1.7**
PAHR IAmb IAmb 13 38 50.4
comp=Z,27nm,1.0s
WCT Wildcat Mounta 74.40 44 P **P 13 38 49.1 +0.7**
WCT IAmb IAmb 13 38 51.2
comp=Z,21nm,1.3s
KDAK Kodiak Island 74.67 11 LR LR 14 03 00.2
comp=Z,503nm,21.8s,baz=56,slow=29
QSPA South Pole Qui 74.92 180 P **P 13 38 51.8 +0.7**
comp=Z,51nm,0.9s,baz=42,slow=1.4,SNR=73
QSPA LR LR 14 07 11.4
comp=Z,122nm,21.0s,baz=50,slow=32
comp=Z,51nm,0.9s
W13A Hualapai Mount 75.41 47 IAmb IAmb 13 38 57.4
comp=Z,19nm,1.2s
S11A Rachel 75.45 44 IAmb IAmb 13 38 57.0
comp=Z,19nm,0.9s
Y14A Wickenburg 75.45 48 IAmb IAmb 13 38 57.2
comp=Z,12nm,0.8s
PRN Pahroc Range 75.79 44 IAmb IAmb 13 38 59.8
comp=Z,26nm,1.2s
KSRS Korea Array 75.88 316 P **P 13 38 58.4 +1.6**
comp=Z,3.0nm,1.1s,baz=125,slow=6.3,SNR=6.1
comp=Z,3.0nm,1.1s
TYV Tymovskoe 76.05 333 *e*P **P 13 38 58.2 +0.7**
TYV pmax pmax
comp=Z,8.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,6.2s
WVOR Wild Horse Val 76.29 39 IAmb IAmb 13 39 02.0
comp=Z,30nm,1.2s
TUC Tucson 76.30 51 P **P 13 39 01.3 +1.8**
TUC pmax pmax
comp=Z,7.0nm,1.9s
I07A Izee 76.75 37 IAmb IAmb 13 39 04.8
comp=Z,30nm,1.4s
J08A Circle Bar Ran 76.92 38 IAmb IAmb 13 39 05.6
comp=Z,32nm,1.3s
319A Douglas 77.01 52 IAmb IAmb 13 39 06.6
comp=Z,20nm,0.9s
USA0B Ussuriysk Arra 77.09 323 *i* P **P 13 39 02.8 -0.7**
USRK Ussuriysk Ar. 77.09 323 P **P 13 39 05.6 +2.1**
comp=Z,5.3nm,0.9s,baz=90,slow=3.9,SNR=8.1
USRK LR LR 14 06 22.6
comp=Z,377nm,21.7s,baz=100,slow=30
comp=Z,5.3nm,0.9s
LON Longmire 77.09 34 IAmb IAmb 13 40 26.4
comp=Z,32nm,1.9s
SPR3 Spring Creek 3 77.11 43 IAmb IAmb 13 39 06.4
comp=Z,27nm,1.4s
KNB Kanab 77.12 46 IAmb IAmb 13 39 07.3
comp=Z,28nm,1.3s
PSUT Pine Spring 77.19 44 IAmb IAmb 13 41 03.1
comp=Z,19nm,1.0s
LEM Lembang 77.53 266 LR LR 14 13 29.7
comp=Z,236nm,19.5s,baz=210,slow=36
BBB Bella Bella 77.69 27 LR LR 14 05 23.7
comp=Z,300nm,19.7s,baz=206,slow=30
G08A Pilot Rock 77.78 36 IAmb IAmb 13 39 11.0
comp=Z,21nm,1.2s
E07A Sunnyside 78.04 35 IAmb IAmb 13 39 12.4
comp=Z,12nm,0.9s
BMO Blue Mountains 78.47 37 IAmb IAmb 13 39 14.6
comp=Z,14nm,1.4s
MFID Camas Ranch 78.54 39 IAmb IAmb 13 39 14.2
comp=Z,23nm,1.4s
DUG Dugway, Tooele 78.73 43 P **P 13 39 14.5 +1.5**
DUG pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 78.73 322 P **P 13 39 15.0 +2.3**
MDJ S **SKSac 13 49 18.9 -6.9**
MDJ sS SKKSac 13 49 25.8 -1.2
MDJ pmax pmax
comp=Z,12nm,1.7s
MDJ LR LR
comp=Z,380nm,17.2s
MDJ LR LR
comp=Z,410nm,14.1s
MDJ LR LR
comp=Z,660nm,19.9s
Q16A Castle Valley 79.19 45 IAmb IAmb 13 39 19.2
comp=Z,49nm,1.8s
SRU San Rafael Swe 79.73 45 IAmb IAmb 13 39 21.2
comp=Z,28nm,1.5s
MA2 Magadan 79.86 342 IAmb IAmb 13 41 07.1
comp=Z,21nm,0.9s
MA2 Magadan 79.86 342 LR LR 14 10 29.8
comp=Z,127nm,20.0s,baz=129,slow=33
MA2 Magadan 79.86 342 *ce*P **P 13 39 18.6 +0.1**
MA2 pmax pmax
comp=Z,19nm,2.5s
MA2 Magadan 79.86 342 P **P 13 39 18.7 +0.2**
comp=Z,11nm,1.0s
NJ2 Nanjing 79.91 307 *e*P **P 13 39 19.7 +0.4**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
KLR Kul'dur 80.22 327 P **P 13 39 21.9 +1.2**
comp=Z,1.1nm,0.7s,baz=111,slow=7.7,SNR=3.7
KLR LR LR 14 09 21.5
comp=Z,186nm,20.9s,baz=74,slow=32
comp=Z,1.1nm,0.7s
KLR Kul'dur 80.22 327 *i* P **P 13 39 18.7 -2.0**
KLR pmax pmax
comp=Z,5.0nm,1.3s
PV13 Radium Mtn., P 80.45 46 IAmb IAmb 13 39 25.4
comp=Z,57nm,1.9s
NEW Newport 80.54 34 P **P 13 39 22.8 +0.3**
comp=Z,2.0nm,0.7s,baz=174,slow=3.2,SNR=3.6
NEW LR LR 14 06 50.8
comp=Z,274nm,20.1s,baz=236,slow=30
comp=Z,2.0nm,0.7s
TX31 Lajitas Ar. Si 80.55 56 IAmb IAmb 13 39 26.4
comp=Z,26nm,1.5s
TXAR Lajitas Array 80.55 56 P **P 13 39 24.8 +1.8**
comp=Z,5.8nm,1.1s,baz=224,slow=5.2,SNR=20
comp=Z,5.8nm,1.1s
BNX BinXian 80.64 322 ⇑P **P 13 39 24.4 +1.4**
BNX pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 80.71 50 LR LR 14 07 33.0
comp=Z,289nm,20.4s,baz=89,slow=30
ANMO Albuquerque 80.71 50 *i* P **P 13 39 24.4 +0.5**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
CN2 Changchun 80.80 320 P **P 13 39 25.3 +1.4**
CN2 pmax pmax
comp=Z,20nm,1.0s
AHID Auburn Hatcher 81.14 41 IAmb IAmb 13 39 28.6
comp=Z,22nm,1.6s
DLBC Dease Lake 81.48 21 LR LR 14 10 44.7
comp=Z,249nm,19.2s,baz=246,slow=32
MSO Missoula 81.53 37 IAmb IAmb 13 39 49.4
comp=Z,35nm,1.9s
DLMT Dillon 81.54 39 IAmb IAmb 13 39 31.0
comp=Z,47nm,1.9s
SNOW Snow King Moun 81.71 41 IAmb IAmb 13 39 55.2
comp=Z,20nm,1.3s
MOOW Moose Ponds 81.86 41 IAmb IAmb 13 39 32.7
comp=Z,30nm,2.0s
FLWY Flagg Ranch 82.05 40 IAmb IAmb 13 39 54.6
comp=Z,17nm,1.1s
PDAR Pinedale Array 82.13 42 P **P 13 39 32.1 +0.8**
comp=Z,3.6nm,0.8s,baz=213,slow=3.0,SNR=33
PDAR LR LR 14 10 46.4
comp=Z,218nm,18.5s,baz=272,slow=32
comp=Z,3.6nm,0.8s
ILAR Eielson Array 82.19 11 LR LR 14 08 30.8
comp=Z,232nm,21.3s,baz=207,slow=30
SEY Seymchan 82.22 345 P **P 13 39 31.6 +0.6**
comp=Z,6.3nm,0.9s,baz=139,slow=6.8,SNR=24
comp=Z,6.3nm,0.9s
SEY Seymchan 82.22 345 *ce*P **P 13 39 31.2 +0.2**
SEY pmax pmax
comp=Z,14nm,1.3s
BOZ Bozeman (W) 82.25 39 IAmb IAmb 13 39 34.6
comp=Z,40nm,2.0s
YNE Yellowstone No 82.94 40 IAmb IAmb 13 39 58.5
comp=Z,44nm,2.0s
DRIO Del Rio 83.05 57 IAmb IAmb 13 39 38.7
comp=Z,23nm,1.6s
MSTX Muleshoe 83.08 52 IAmb IAmb 13 39 44.2
comp=Z,12nm,1.0s
Q24A Divide 83.38 47 IAmb IAmb 13 39 42.0
comp=Z,18nm,1.2s
RLMT Red Lodge 83.45 40 IAmb IAmb 13 39 42.0
comp=Z,20nm,1.5s
N23A Red Feather La 83.67 45 IAmb IAmb 13 39 42.6
comp=Z,12nm,0.9s
POST Post 83.71 53 IAmb IAmb 13 39 46.4
comp=Z,11nm,0.9s
CMIG Matias Romero 83.90 71 LR LR 14 08 31.7
comp=Z,94nm,20.9s,baz=292,slow=30
SN05 Snyder 5 84.11 54 IAmb IAmb 13 39 48.5
comp=Z,8.2nm,0.9s
BILL Bilibino 84.22 352 *i* P **P 13 39 41.3 +0.1**
BILL pmax pmax
comp=Z,18nm,0.8s
PMSA Palmer Station 84.48 156 LR LR 14 07 45.3
comp=Z,197nm,21.8s,baz=285,slow=29
APMT Aspermont 84.88 54 IAmb IAmb 13 39 52.3
comp=Z,11nm,1.0s
ABTX Abilene, Hawle 84.99 54 IAmb IAmb 13 39 53.7
comp=Z,20nm,1.0s
ZEA Zeya 85.12 329 *e*P **P 13 39 47.5 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HNS HongShan 85.19 311 ⇑P **P 13 39 50.0 +3.2**
HNS *e*S **S 13 50 17.1 +2.1**
HNS pmax pmax
comp=Z,8.0nm,0.8s
BJI Beijing 85.19 314 P **P 13 39 48.2 +1.5**
BJI pmax pmax
comp=Z,4.0nm,1.6s
H03S2 Juan Fernandez 85.45 124 T T 15 13 57.4
baz=247
H03S1 Juan Fernandez 85.47 124 T T 15 13 57.8
baz=247
H03S3 Juan Fernandez 85.47 124 T T 15 14 09.2
baz=247
H03N2 Juan Fernandez 85.55 123 T T 15 14 06.1
baz=255
H03N3 Juan Fernandez 85.55 123 T T 15 14 08.7
baz=255
H03N1 Juan Fernandez 85.57 123 T T 15 14 21.0
baz=255
LAO LASA Array 86.06 40 IAmb IAmb 13 39 55.3
comp=Z,24nm,1.2s
PLPT Palo Pinto 86.11 55 IAmb IAmb 13 39 59.3
comp=Z,26nm,1.4s
USHA Ushuaia 86.22 146 LR LR 14 08 53.6
comp=Z,355nm,21.5s,baz=242,slow=29
RSSD Black Hills 86.33 43 IAmb IAmb 13 39 55.6
comp=Z,13nm,1.0s
FW03 Perrin-Whitt E 86.38 55 IAmb IAmb 13 39 56.5
comp=Z,13nm,0.9s
XLT XiLinHaoTe 86.84 317 *e*P **P 13 39 54.7 -0.2**
XLT pmax pmax
comp=Z,6.0nm,1.2s
XLT LR LR
comp=Z,1μm,15.6s
XLT LR LR
comp=Z,240nm,20.4s
MAW Mawson 88.02 199 P **P 13 40 00.4 +0.3**
comp=Z,29nm,0.7s,baz=139,slow=4.1,SNR=1.9
MAW LR LR 14 16 42.6
comp=Z,414nm,20.5s,baz=112,slow=34
comp=Z,29nm,0.7s
XAN Xi'an 88.38 306 P **P 13 40 05.3 +2.8**
XAN pmax pmax
comp=Z,8.0nm,1.3s
HHC Hu-ho-hao-te 88.75 313 *e*P **P 13 40 06.0 +1.8**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,40nm,4.0s
YAK Yakutsk 88.81 337 *ce*P **P 13 40 04.4 +0.7**
YAK pmax pmax
comp=Z,11nm,1.3s
BTO Baotou 89.77 312 *e*P **P 13 40 10.8 +1.9**
BTO pP **pP 13 40 15.5 -2.4**
BTO sP **pwP 13 40 18.1 -2.5**
BTO pmax pmax
comp=Z,12nm,1.1s
BTO pmax pmax
comp=Z,340nm,4.0s
PLCA Paso Flores 89.78 132 P **P 13 40 10.6 +1.5**
comp=Z,1.9nm,1.0s,baz=274,slow=3.9,SNR=5.6
PLCA LR LR 14 12 45.0
comp=Z,169nm,19.8s,baz=230,slow=30
comp=Z,1.9nm,1.0s
YKA Yellowknife Ar 89.89 23 LR LR 14 13 04.4
comp=Z,300nm,19.7s,baz=266,slow=31
JTS Las Juntas de 91.27 80 LR LR 14 10 51.4
comp=Z,71nm,21.1s,baz=346,slow=29
PZH PanZhiHua 92.05 297 P **P 13 40 20.6 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,50nm,4.5s
ELIB Princess Elisa 92.40 185 *d*P **P 13 40 21.0 +0.3**
comp=Z,20nm,0.9s
CMAR Chiang Mai Arr 92.42 288 P **P 13 40 21.1 -0.5**
comp=Z,0.7nm,0.8s,baz=95,slow=2.9,SNR=4.6
comp=Z,0.7nm,0.8s
SYO Syowa Base 92.85 191 ⇑*e*PcP **P 13 40 20.4 -2.2**
SYO Syowa Base 92.85 191 ⇑*es*P **P 13 40 26.0 +3.4**
TROLL Troll, Antarti 93.04 179 P **P 13 40 23.3 -0.4**
TROLL Troll, Antarti 93.04 179 ⇑P **P 13 40 23.3 -0.4**
comp=Z,271nm,0.8s
VNA3 Neumayer Olymp 93.14 175 P **P 13 40 23.9 -0.1**
VNA3 Neumayer Olymp 93.14 175 ⇑P **P 13 40 23.9 -0.1**
comp=Z,24nm,0.7s
SNAA Sanae 93.19 177 P **P 13 40 23.0 -1.3**
SNAA Sanae 93.19 177 ⇑P **P 13 40 23.0 -1.3**
comp=Z,131nm,0.8s
SNAA Sanae 93.19 177 P **P 13 40 23.9 -0.3**
comp=Z,7.8nm,1.0s,baz=185,slow=3.7,SNR=6.3
SNAA LR LR 14 16 12.0
comp=Z,192nm,21.9s,baz=184,slow=32
comp=Z,7.8nm,1.0s
SNAA Sanae 93.19 177 *i* P **P 13 40 23.4 -0.9**
SNAA pmax pmax
comp=Z,24nm,1.7s
LCO Las Campanas 93.59 121 IAmb IAmb 13 40 30.5
comp=Z,14nm,1.1s
LCO Las Campanas 93.59 121 P **P 13 40 29.6 +2.4**
LCO pmax pmax
comp=Z,16nm,1.1s
VNA2 Neumayer--Watz 93.64 175 P **P 13 40 26.6 +0.4**
baz=188,slow=4.4
VNA2 Neumayer--Watz 93.64 175 ⇑P **P 13 40 26.6 +0.4**
comp=Z,18nm,0.7s,baz=188,slow=4.4
ULM Lac du Bonnet 93.79 39 P **P 13 40 26.7 -0.5**
comp=Z,1.1nm,0.5s,baz=204,slow=11,SNR=3.3
ULM LR LR 14 16 22.8
comp=Z,307nm,19.2s,baz=252,slow=32
comp=Z,1.1nm,0.5s
VNA1 Neumayer--Stat 93.84 175 P **P 13 40 27.9 +0.7**
VNA1 Neumayer--Stat 93.84 175 ⇑P **P 13 40 27.9 +0.7**
comp=Z,30nm,0.9s
ULN Ulaanbaatar 94.15 318 *i* P **P 13 40 28.6 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.5s
SONM Songino Array 94.56 318 P **P 13 40 31.9 +0.9**
comp=Z,0.4nm,0.6s,baz=102,slow=6.5,SNR=2.2
SONM LR LR 14 18 12.8
comp=Z,109nm,21.3s,baz=144,slow=32
comp=Z,0.4nm,0.6s
TIXI Tiksi 94.70 344 LR LR 14 18 59.1
comp=Z,181nm,20.9s,baz=183,slow=33
TIXI Tiksi 94.70 344 *i* P **P 13 40 28.5 -2.4**
TIXI pmax pmax
comp=Z,13nm,3.0s
TKL Tuckaleechee C 98.45 55 LR LR 14 21 37.8
comp=Z,175nm,18.2s,baz=308,slow=33
WMQ Urumqi 106.60 312 Pdif **Pdif 13 41 25.0 +0.1**
MKAR Makanchi Array 110.55 315 *ce*PKIKP **PKiKP 13 45 46.0 +3.2**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra 112.92 319 PKKPbc PKKPbc 13 56 33.8 -2.1
comp=Z,0.6nm,0.8s,baz=266,slow=3.9,SNR=5.4
KSH Kashi 115.22 307 PKP **Pdif 13 42 11.7 +8.3**
ARCES ARCESS Array B 124.32 352 PKP **PKiKP 13 46 08.7 -0.1**
comp=Z,6.5nm,0.7s,baz=354,slow=1.2,SNR=11
KIRV Kirov 126.24 334 *i* PKIKP **PKPdf 13 46 12.0 -0.4**
KLMR Klimovskoe 128.49 340 *e*PKIKP **PKPdf 13 46 14.8 -1.8**
KLMR pmax pmax
comp=Z,26nm,1.3s
BELG Belogornoye 130.58 328 *i* PKIKP **PKPdf 13 46 19.2 -1.7**
FINES FINESS Array B 131.65 348 PKP **PKPdf 13 46 22.3 -0.3**
comp=Z,3.8nm,0.9s,baz=318,slow=5.1,SNR=2.6
OBN Obninsk 133.81 336 ⇑*i* PKIKP **PKiKP 13 46 29.7 +1.5**
OBN *e*PS **PS 13 59 21.3 +5.4**
OBN SSS SSS 14 11 49.0
OBN pmax pmax
comp=Z,10.0nm,1.4s
OBN MLR MLR
comp=Z,116nm,17.0s
NB2 NORSAR Subarra 134.02 357 PKP **PKiKP 13 46 28.1 -0.4**
comp=Z,6.3nm,1.1s,baz=11,slow=4.0
NOA NORSAR Array B 134.02 357 PKP **PKPdf 13 46 27.7 +0.5**
comp=Z,2.1nm,0.9s,baz=18,slow=4.2,SNR=6.4
HFS Hagfors 134.75 355 PKP **PKiKP 13 46 29.9 0.0**
comp=Z,7.0nm,0.8s,baz=0.0,slow=3.2,SNR=5.3
KBZ Khabaz 137.90 320 PKP **PKiKP 13 46 36.7 -0.1**
comp=Z,0.7nm,0.6s,baz=342,slow=3.2,SNR=2.2
KIV Kislovodsk 137.91 320 *i* PKIKP **PKiKP 13 46 36.9 -0.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 140.04 337 PKP **PKPdf 13 46 38.2 -0.4**
comp=Z,0.7nm,0.5s,baz=5.6,slow=6.6,SNR=4.6
OJC Ojcow 143.36 346 *e*PKP PKPbc 13 46 42.7 +1.0
KSP Ksiaz 143.50 350 *e*PKP PKPbc 13 46 43.3 +1.2
CLL Collm 143.52 353 *e*PKPdf **PKPdf 13 46 45.0 +0.2**
comp=Z,10.0nm,1.1s
CLL *ex* x 13 46 48.0
BRG Berggiesshubel 143.83 352 *e*PKPbc PKPbc 13 46 43.5 +0.5
baz=8.3,slow=2.9
NIE Niedzica 143.98 345 *e*PKP **PKPdf 13 46 45.1 -0.6**
STEB Steborice 144.08 348 *e*PKP **PKPdf 13 46 45.1 -0.7**
MORC Moravsky Berou 144.28 348 *e*PKP **PKPdf 13 46 46.0 -0.2**
MORC Moravsky Berou 144.28 348 ⇑P **PKPdf 13 46 47.3 +1.1**
MORC Moravsky Berou 144.28 348 ⇑PKIKP **PKPdf 13 46 47.3 +1.1**
MOX Moxa 144.32 354 *e*PKPbc **PKPdf 13 46 46.1 -0.2**
baz=8.3,slow=2.9
PLN Plauen 144.43 354 *e*PKPbc **PKPdf 13 46 46.1 -0.4**
baz=8.3,slow=2.9
LANS Liptovska Anna 144.43 345 *e*PKIKP **PKPdf 13 46 46.9 +0.4**
LANS Liptovska Anna 144.43 345 *e*PKP **PKPdf 13 46 46.8 +0.3**
TANN Tannenbergstha 144.46 353 *e*PKPbc **PKPdf 13 46 46.8 +0.3**
baz=8.3,slow=2.9
PRU Pruhonice 144.61 351 *e*PKP **PKPdf 13 46 47.2 +0.5**
PRU Pruhonice 144.61 351 *e*PKIKP **PKPdf 13 46 47.2 +0.5**
KECS Kecovo 144.79 344 *e*PKIKP **PKPdf 13 46 48.7 +1.6**
KECS Kecovo 144.79 344 *e*PKP **PKPdf 13 46 48.7 +1.6**
ARCR ARCALIA 144.82 339 ⇑P **PKPdf 13 46 47.5 +0.3**
BMRD Maredsous 144.88 2 *d*PcP **PKPdf 13 46 48.1 +0.9**
CFR Carcaliu 144.90 333 ⇑P **PKPab 13 46 46.4 -0.1**
CFR Carcaliu 144.90 333 ⇑PKIKP **PKPab 13 46 46.4 -0.1**
VRAC Vranov 144.91 348 PKP **PKPdf 13 46 47.6 +0.3**
comp=Z,1.5nm,0.3s,baz=354,slow=6.7,SNR=4.2
VRAC Vranov 144.91 348 *e*PKP **PKPdf 13 46 47.4 +0.1**
MANZ Manzenberg 144.93 354 *e*PKPbc **PKPdf 13 46 48.2 +0.9**
baz=8.3,slow=2.9
TNS Taunus Mts 144.95 358 *e*PKPbc **PKPdf 13 46 48.6 +1.2**
baz=8.3,slow=2.9
TPGR Topolog 145.02 332 ⇑P **PKPdf 13 46 48.2 +0.5**
JAVC Velka Javorina 145.12 347 *e*PKP **PKPdf 13 46 49.4 +1.7**
ROTZ Rotzenmuhle 145.13 354 *e*PKPbc **PKPdf 13 46 48.2 +0.5**
baz=8.3,slow=2.9
KRUC Moravsky 145.19 349 *e*PKP **PKPdf 13 46 48.2 +0.4**
VYHS Vyhne 145.20 346 *e*PKIKP **PKPdf 13 46 48.8 +1.0**
VYHS Vyhne 145.20 346 *e*PKP **PKPdf 13 46 48.8 +1.0**
ZVC Zvikov 145.20 351 *e*PKP **PKPdf 13 46 48.7 +0.9**
GRF Grafenberg Arr 145.30 355 *e*PKPbc **PKiKP 13 46 50.2 -1.7**
baz=8.3,slow=2.9
GRF *ep*PKPbc **sPKPdf 13 47 02.7 +2.3**
TIRR Tirgusor 145.34 332 ⇓P **PKPdf 13 46 49.1 +1.0**
TIRR Tirgusor 145.34 332 ⇓PKIKP **PKPdf 13 46 49.1 +1.0**
HARR Harsova 145.37 333 ⇓P **PKPab 13 46 49.3 +1.1**
HARR Harsova 145.37 333 ⇓PKIKP **PKPab 13 46 49.3 +1.1**
CJR Cluj-Napoca 145.41 339 ⇑P **PKPab 13 46 49.8 +1.4**
CJR Cluj-Napoca 145.41 339 ⇑PKIKP **PKPab 13 46 49.8 +1.4**
TLBR Topalu 145.43 332 ⇑P **PKPab 13 46 49.8 +1.3**
PSZ Piszkesteto 145.46 344 ⇓P **PKPbc 13 46 48.0 -0.4**
PSZ Piszkesteto 145.46 344 ⇓PKIKP **PKPbc 13 46 48.0 -0.4**
SMOL Smolenice 145.50 347 *e*PKIKP **PKPab 13 46 50.0 +1.4**
WLF Walferdange 145.55 0 *d*PcP **PKPab 13 46 50.5 +1.8**
WLF Walferdange 145.55 0 *e*PKPbc **PKPab 13 46 50.3 +1.5**
baz=8.3,slow=2.9
MLR Muntele Rosu 145.57 336 PKPbc **PKPab 13 46 49.2 0.0**
comp=Z,37nm,1.0s,baz=90,slow=1.0,SNR=43
MLR Muntele Rosu 145.57 336 ⇑P **PKPab 13 46 50.4 +1.3**
MLR Muntele Rosu 145.57 336 ⇑PKIKP **PKPab 13 46 50.4 +1.3**
MLR Muntele Rosu 145.57 336 P **PKPab 13 46 49.1 0.0**
KHC Kasperske Hory 145.59 352 *e*PKP **PKPab 13 46 49.8 +0.8**
KHC Kasperske Hory 145.59 352 *i* PKP2 **PKPdf 13 46 47.3 -1.2**
MARR Marisel-Cluj 145.60 340 ⇑P **PKPab 13 46 49.4 +0.2**
MODS Modra-Piesok 145.66 347 *e*PKP2 **PKPab 13 46 50.4 +1.1**
MODS Modra-Piesok 145.66 347 *e*PKP **PKPab 13 46 50.4 +1.1**
CKRC Cesky Krumlov 145.78 351 *e*PKP **PKPab 13 46 50.3 +0.6**
CKRC Cesky Krumlov 145.78 351 *e*PKP2 **PKPab 13 46 50.3 +0.6**
GEC2 GERESS Array S 145.85 351 *e*PKPbc **PKPab 13 46 50.2 +0.2**
baz=8.3,slow=2.9
GEC2 *ep*PKPbc sPKPab 13 47 04.5 +2.2
GERES GERESS Array B 145.85 351 PKPbc **PKPab 13 46 50.6 +0.6**
comp=Z,5.0nm,0.7s,baz=20,slow=4.3,SNR=15
BRTR Keskin Array B 145.87 321 PKPbc **PKPab 13 46 50.4 -0.1**
comp=Z,10nm,0.8s,baz=106,slow=2.1,SNR=67
KIRS Kirsehir-Merke 146.06 320 ⇓P **PKPab 13 46 51.5 +0.4**
ANTO Ankara 146.28 322 ⇑P **PKPab 13 46 52.8 +0.8**
ANTO Ankara 146.28 322 ⇑PKP2 **PKPab 13 46 52.8 +0.8**
STU Stuttgart 146.37 357 *e*PKPbc **PKPab 13 46 51.7 -0.1**
baz=8.3,slow=2.9
CONA Conrad Observa 146.38 349 *ep*PKP **PKPbc 13 46 51.0 -0.2**
comp=Z,27nm,1.4s,SNR=9.3
SIRR Siria 146.44 341 ⇑P **PKPab 13 46 52.1 -0.1**
RONA Rosalia, Austr 146.51 348 *i* pPKP **PKPab 13 46 52.1 -0.4**
comp=Z,21nm,0.9s,SNR=6.1
MOA Molln 146.73 350 *i* PKP **PKPdf 13 46 51.2 +0.7**
comp=Z,8.9nm,0.8s
FUR Furstenfeldbru 146.81 354 *e*PKPbc **PKPab 13 46 53.6 0.0**
baz=8.3,slow=2.9
BFO Black Forest 146.85 358 *e*PKPbc **PKPab 13 46 53.4 -0.4**
baz=8.3,slow=2.9
BFO *ep*PKPbc sPKPab 13 47 08.0 +2.0
BIOA Bad Ischl, Aus 146.98 351 *i* pPKP **PKPbc 13 46 53.3 +0.4**
comp=Z,14nm,1.1s
RJOB Jochberg 147.06 352 *e*PKPbc **PKPbc 13 46 53.8 +0.6**
baz=8.3,slow=2.9
ARSA Arzberg 147.09 349 *i* pPKP **PKPbc 13 46 52.7 -0.5**
comp=Z,12nm,1.1s
MORH Mrgy, Hungar 147.36 344 ⇑P **PKPdf 13 46 52.4 +0.9**
LESA Schwarzleotal 147.38 352 *i* PKP **PKPdf 13 46 52.2 +0.5**
comp=Z,18nm,1.3s
RETA Reutte 147.53 355 *i* PKP **PKPbc 13 46 55.0 +0.5**
comp=Z,13nm,1.0s
WATA Walderalm 147.60 354 *e*PKiKP **PKPbc 13 46 55.7 +0.9**
comp=Z,23nm,0.9s,SNR=6.2
KBA Koelnbreinsper 147.63 351 *i* PKP **PKPbc 13 46 54.6 -0.3**
comp=Z,14nm,1.1s
MOTA Moosalm 147.64 354 *e*PKP **PKPdf 13 46 53.0 +0.8**
comp=Z,27nm,1.4s
WTTA Wattenberg 147.66 353 *e*PKiKP **PKPbc 13 46 55.6 +0.6**
comp=Z,17nm,0.7s,SNR=5.1

SOKA	Soboth	147.73	349	*e*PKP	PKPbc	13 46 55.7	+0.6
	comp=Z,27nm,1.1s,SNR=12						
SQTA	Sankt Quirin	147.75	354	*e*PKP	PKPbc	13 46 55.7	+0.5
	comp=Z,20nm,1.1s						
DAVA	Damuels	147.80	356	*i* PKiKP	PKPbc	13 46 56.2	+0.9
	comp=Z,20nm,0.8s,SNR=5.7						
OBKA	Obir	147.99	349	*i* PKP	PKPbc	13 46 56.6	+0.8
	comp=Z,12nm,0.9s						
OBKA	Obir	147.99	349	*e*P	PKPbc	13 46 55.2	-0.6
FETA	Feichten	148.00	355	*e*PKP	PKPdf	13 46 53.2	+0.4
	comp=Z,28nm,1.3s						
MYKA	Terra Mystica	148.02	351	*ep*PKP	PKPbc	13 46 55.4	-0.4
	comp=Z,28nm,1.5s,SNR=5.6						
ABTA	Abfaltersbach	148.07	352	*e*PKiKP	PKPbc	13 46 56.0	+0.1
	comp=Z,30nm,1.0s,SNR=10						
MMAI	Mount Meron Ar	148.30	309	PKPbc	PKPbc	13 46 57.1	+0.1
	comp=Z,0.7nm,0.3s,baz=92,slow=4.6,SNR=3.7						
CRES	Cresnjevec Ost	148.47	348	⇑*i*P	PKPbc	13 46 57.2	+0.2
CEY	Cerknica	148.75	349	⇑*i*P	PKPdf	13 46 53.8	-0.1
BOJS	Bojanci	148.82	348	⇑*i*P	PKPbc	13 46 57.7	-0.1
SKDS	Skadanscina	149.01	350	⇑*i*P	PKPbc	13 46 56.6	-1.8
ALN	Alexandroupoli	149.20	330	PKPbc	PKPbc	13 46 57.5	-1.4
ALN	Alexandroupoli	149.20	330	PKiKP	PKPbc	13 46 57.5	-1.4
KAVA	Kavala	149.83	332	P	PKPbc	13 47 00.5	0.0
NVR	Nevrokopi	149.83	333	P	PKiKP	13 47 01.6	+0.1
PEHC	Pehcevo	149.88	335	*i* P	PKPbc	13 47 00.9	+0.1
LIA	Limnos Island	150.39	330	P	PKPbc	13 47 01.6	-0.3
VAY	Valandovo	150.40	335	*i* P	PKPbc	13 47 02.0	+0.1
BRY	Bratogost	150.44	342	*e*P	PKPbc	13 47 00.7	-1.4
PDG	Podgorica	150.64	340	⇑*i*P	PKPbc	13 47 02.1	-0.3
DRME	Dracevica, Mon	150.89	340	*e*P	PKPbc	13 47 02.4	-0.6
OHR	Ohrid	151.27	337	*i* P	PKiKP	13 47 05.5	+0.9
FNA	Florina	151.33	336	P	PKPbc	13 47 03.9	-0.3
ANX	Ano Chora	152.94	333	P	PKiKP	13 47 11.7	+3.6
TORD	Torodi Ar. Bea	174.96	112	PKP	PKPdf	13 47 19.4	-1.6
	comp=Z,2.9nm,1.1s,baz=305,slow=2.5,SNR=9.3						
TORD				PKPab	PKPab	13 48 55.5	-0.6
	comp=Z,1.5nm,0.8s,baz=271,slow=4.6,SNR=7.0						

WEL 10 13:31:22.0±0.9,35°S±9°×17°8E±1°2,h243km±14km, M3.6/10,MLv3.6/10,Error ellipse: s-maj=15.3km s-min=11.3km az=96.5,confirmed,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	2.50	179	P	Pn	13 32 08.8	+0.2
HAZ				S	S	13 32 46.5	+1.1
WMGZ	Waiomatatini S	2.62	168	P	Pn	13 32 09.7	-0.2
WMGZ				S	S	13 32 48.0	+0.3
PKGZ	Pakihiroa	2.63	174	P	Pn	13 32 10.6	+0.7
PKGZ				S	S	13 32 48.0	+0.2
RUGZ	Raukumara Rang	2.71	181	P	Pn	13 32 10.7	-0.2
TWGZ	Tauwhareparae	2.93	176	P	Pn	13 32 13.7	+0.6
TWGZ				S	S	13 32 55.1	+1.4
URZ	Urewera	3.04	189	P	Pn	13 32 14.8	+0.4
URZ				S	S	13 32 57.9	+2.1
MWZ	Matawai	3.08	183	P	Pn	13 32 15.5	+0.6
MWZ				S	S	13 32 56.0	-0.7
TKGZ	Te Karaka	3.19	178	P	Pn	13 32 16.0	+0.1
TKGZ				S	S	13 32 58.6	0.0
CNGZ	Carnagh Statio	3.25	173	P	Pn	13 32 16.8	+0.1
MUGZ	Murupara	3.31	193	P	Pn	13 32 18.3	+0.9
OUZ	Omahuta	3.38	269	P	Pn	13 32 17.0	-1.2
RIGZ	Rimuhau	3.45	180	P	Pn	13 32 18.5	-0.4
RIGZ				S	S	13 33 04.5	+0.3
SNGZ	Shannon Statio	3.54	185	P	Pn	13 32 20.4	+0.4
SNGZ				S	S	13 33 06.1	+0.1
RAHZ	Arahi	3.69	188	P	Pn	13 32 21.9	+0.1
RAHZ				S	S	13 33 10.6	+1.4
KNZ	Kokohu	3.77	181	P	Pn	13 32 21.9	-0.6
KNZ				S	S	13 33 07.3	-3.3
WHHZ	Waihua	3.84	186	P	Pn	13 32 23.6	+0.1
WHHZ				S	S	13 33 12.3	0.0
MHGZ	Mahia Peninsul	3.90	178	P	Pn	13 32 23.9	-0.2
NMHZ	Naumai	3.91	191	P	Pn	13 32 25.0	+0.6
NMHZ				S	S	13 33 15.8	+2.0
BKZ	Black Stump Fm	4.03	194	P	Pn	13 32 25.4	-0.4
BKZ				S	S	13 33 16.6	+0.1
ARHZ	Aropaoanui	4.05	188	P	Pn	13 32 25.8	-0.1
ARHZ				S	S	13 33 16.7	0.0
MCHZ	McNeill Hill	4.27	191	P	Pn	13 32 28.9	+0.4
MCHZ				S	S	13 33 21.9	+0.5
KWHZ	Kaweka Forest	4.29	194	P	Pn	13 32 28.9	0.0
KRHZ	Kereru	4.52	193	P	Pn	13 32 30.7	-0.8
KAHZ	Kahuranaki	4.59	188	P	Pn	13 32 32.0	-0.4
PNHZ	Pukenui	4.81	194	P	Pn	13 32 33.1	-2.0
PNHZ				S	S	13 33 32.9	-0.5
TSZ	Takapari Road	5.00	196	P	Pn	13 32 35.9	-1.6
TSZ				S	S	13 33 36.3	-1.2
DVHZ	Dannevirke	5.19	193	P	Pn	13 32 37.7	-2.1
DVHZ				S	S	13 33 40.1	-1.6
PRWZ	Pori Road	5.47	194	P	Pn	13 32 41.4	-1.9
BFZ	Birch Farm	5.55	192	P	Pn	13 32 42.3	-1.9
BFZ				S	S	13 33 47.1	-2.7
MRZ	Mangatainoka R	5.66	197	P	Pn	13 32 43.0	-2.6
MRZ				S	S	13 33 49.9	-2.5
TIWZ	Tintock	5.71	194	P	Pn	13 32 44.1	-2.0
TIWZ				S	S	13 33 51.4	-2.0
OGWZ	Otaki Gorge	5.91	199	P	Pn	13 32 46.2	-2.6
OGWZ				S	S	13 33 55.5	-2.6
CAW	Cannon Point	6.21	199	P	Pn	13 32 49.5	-3.0
CAW				S	S	13 34 02.0	-2.9
DUWZ	D'Urville Isla	6.30	207	P	Pn	13 32 53.0	-0.7
MSWZ	Moikau Station	6.46	197	P	Pn	13 32 52.1	-3.5
MSWZ				S	S	13 34 05.8	-4.7
TCW	Tory Channel	6.54	203	P	Pn	13 32 54.0	-2.6
TCW				S	S	13 34 08.8	-3.6

*IDC **10** 13:32:03.9±1.0,59°.58N×146°.30W,h0km,mb3.8/7, mbtmp3.6/12,ML3.4/5,MS3.7/2,Error ellipse: s-maj=15.1km s-min=13.4km az=4.0*
*NEIC **10** 13:32:06.6±1.0,59°.58N±0°.02×146°.35W±0°.04,h28km±8km, Error ellipse: s-maj=2.9km s-min=2.2km az=129.0*
*AEIC **10** 13:32:06.1±1.2,59°.56N±0°.03×146°.31W±0°.04,h23km±7km, ML3.5,ML3.7/127(NEIC),Error ellipse: s-maj=5.2km s-min=2.2km az=156.0*

ISC 10 13:32:06.2±1.1,59°.61N±0°.02×146°.30W±0°.02,h17km±7km, n148,σ0°91/137,mb3.9/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q23K	Middleton Isla	0.18	188		Sb	13 32 16.2	+2.0
Q23K	Middleton Isla	0.18	188	Pg	Pb	13 32 10.4	-0.6
Q23K				IAML		13 32 18.0	
	comp=E,21μm,1.0s						
Q23K				IAML		13 32 18.1	
	comp=N,14μm,0.6s						
Q23K	Middleton Isla	0.18	188	P	Pb	13 32 10.6	-0.4
	baz=7.9						
Q23K				S	Sb	13 32 16.2	+2.0
	baz=7.9						
Q23K				S	Sb	13 32 16.2	+2.0
	baz=7.9						
P23K	Montague Islan	0.68	306		Pg	13 32 19.9	+0.3
P23K					Sg	13 32 28.6	0.0
P23K					Sb	13 32 30.7	+2.1
P23K	Montague Islan	0.68	306	P	Pg	13 32 19.9	+0.3
	baz=128						
P23K				S	Sb	13 32 30.7	+2.1
	baz=128						
P23K				S	Sb	13 32 30.7	+2.1
	baz=128						
HIN	Hinchinbrook I	0.80	353		Pg	13 32 21.4	-0.4
HIN				IAML		13 32 44.6	
	comp=E,3μm,1.1s						
HIN				IAML		13 32 47.0	
	comp=N,3μm,1.2s						
EYAK	Cordova Ski Ar	0.98	16		Sb	13 32 38.1	+0.8
EYAK	Cordova Ski Ar	0.98	16		Pb	13 32 23.7	-1.0
EYAK	Cordova Ski Ar	0.98	16	P	Pb	13 32 23.9	-0.8
	baz=196						
EYAK				S	Sb	13 32 37.9	+0.6
	baz=196						
EYAK	Cordova Ski Ar	0.98	16	P	Pb	13 32 23.9	-0.8
KAIM	Kayak Island	1.00	71		Pb	13 32 24.5	-0.6
KAIM				IAML		13 32 45.7	
	comp=E,2μm,0.6s						
KAIM				IAML		13 32 45.7	
	comp=N,3μm,0.7s						
KAIM	Kayak Island	1.00	71	P	Pb	13 32 24.3	-0.8
	baz=250						
RAGM	Ragged Mountai	1.13	46		Sn	13 32 43.1	+0.7
RAGM	Ragged Mountai	1.13	46		Pb	13 32 25.9	-1.4
RAGM	Ragged Mountai	1.13	46	IAML		13 32 46.9	
	comp=E,3μm,0.5s						
RAGM				IAML		13 32 47.4	
	comp=N,8μm,0.6s						
FID	Port Fidalgo	1.15	356		Pn	13 32 26.6	-0.8
FID					Sb	13 32 43.6	+1.5
FID	Port Fidalgo	1.15	356	IAML		13 32 54.1	
	comp=E,1μm,0.5s						
FID				IAML		13 32 58.5	
	comp=N,1μm,0.7s						
GOAT	Goat Mountain	1.25	38		Pn	13 32 28.7	-0.3
GOAT					Sg	13 32 46.7	-0.1
HMT	Hamilton	1.26	54		Sg	13 32 47.2	+0.3
HMT	Hamilton	1.26	54		Pn	13 32 28.3	-0.7
HMT	Hamilton	1.26	54	IAML		13 32 48.1	
	comp=N,6μm,0.5s						
HMT				IAML		13 32 51.5	
	comp=E,7μm,0.6s						
NICHA	Nichawak Mount	1.33	61		Pn	13 32 29.7	-0.3
NICHA					Sg	13 32 48.8	-0.5
GLI	Glacier Island	1.33	343		Pn	13 32 29.4	-0.6
GLI				IAML		13 32 58.3	
	comp=E,1μm,0.9s						
GLI				IAML		13 32 59.5	
	comp=N,1μm,1.1s						
GLI	Glacier Island	1.33	343	P	Pn	13 32 29.6	-0.4
	baz=163						
SUCK	Suckling Hills	1.36	69		Sg	13 32 49.1	-0.9
SUCK	Suckling Hills	1.36	69		Pn	13 32 29.3	-1.0
SUCK	Suckling Hills	1.36	69	IAML		13 32 50.3	
	comp=N,2μm,0.3s						
SUCK				IAML		13 32 51.3	
	comp=E,1μm,0.4s						
BERG	Berg Lake	1.52	58		Pn	13 32 32.3	-0.3
DIV	Divide	1.55	10		Sb	13 32 54.5	+0.8
DIV	Divide	1.55	10		Pn	13 32 32.3	-0.7
BMRM	Bremner River	1.60	31	Pn	Pn	13 32 33.4	-0.4
BMRM	Bremner River	1.60	31		Sn	13 32 54.4	+0.4
BMRM	Bremner River	1.60	31	P	Pn	13 32 33.4	-0.4
	baz=212						
BMRM				S	Sn	13 32 54.4	+0.4
	baz=212						
BGLC	Bering Glacier	1.61	70		Pn	13 32 33.5	-0.2
PWL	Port Wells	1.61	322		Pn	13 32 33.1	-0.8
PWL				IAML		13 33 02.7	
	comp=N,610nm,0.8s						
PWL				IAML		13 33 11.0	
	comp=E,767nm,0.9s						
PWL	Port Wells	1.61	322	P	Pn	13 32 33.5	-0.4
	baz=141						
SEW	Seward	1.67	289	Pn	Pn	13 32 34.0	-0.5
SEW	Seward	1.67	289	P	Pn	13 32 34.0	-0.5
	baz=108						
SNH	Sunshine Point	1.84	70		Sn	13 33 00.3	+0.5
SNH	Sunshine Point	1.84	70		Pn	13 32 36.5	-0.4
SNH	Sunshine Point	1.84	70	IAML		13 33 03.1	
	comp=N,1μm,0.9s						
SNH				IAML		13 33 10.3	
	comp=E,824nm,0.7s						
KLU	Klutina	1.90	6		Pn	13 32 37.7	-0.2
KLU				IAML		13 33 04.9	
	comp=N,324nm,0.6s						
KLU	Klutina	1.90	6	P	Pn	13 32 37.8	-0.1
	baz=186						
O22K	Cooper Landing	1.93	298		Pn	13 32 37.8	-0.4
O22K	Cooper Landing	1.93	298	P	Pn	13 32 37.7	-0.4
	baz=117						
BARK	Barkley Ridge	2.07	66		Pn	13 32 39.8	-0.5
BARK					Sn	13 33 05.3	-0.4
KNK	Knik Glacier	2.10	330		Pn	13 32 40.3	-0.3
KNK				IAML		13 33 25.1	
	comp=N,477nm,1.2s						
KNK				IAML		13 33 31.2	
	comp=E,429nm,1.1s						
KNK	Knik Glacier	2.10	330	P	Pn	13 32 40.8	+0.3
	baz=149						
VRDI	Verde Repeater	2.15	40	Pn	Pn	13 32 41.2	-0.2
VRDI				IAML		13 33 11.5	
	comp=N,383nm,0.4s						
SLKM	Skilak Lake	2.16	296	Pn	Pn	13 32 41.0	-0.5
SLKM				IAML		13 33 27.5	
	comp=E,342nm,1.0s						
SLKM				IAML		13 33 35.7	
	comp=N,427nm,0.9s						
N25K	Chitina, Valde	2.17	22		Pn	13 32 41.4	-0.2
N25K	Chitina, Valde	2.17	22	IAML		13 33 11.7	
	comp=E,306nm,0.9s						
N25K				IAML		13 33 12.2	
	comp=N,300nm,0.5s						
N25K	Chitina, Valde	2.17	22	P	Pn	13 32 41.9	+0.3
	baz=203						
GLB	Gilahina Butte	2.21	33	Pn	Pn	13 32 42.0	-0.2
GLB				IAML		13 33 13.4	
	comp=E,255nm,0.6s						
RC01	Rabbit Creek A	2.26	313	Pn	Pn	13 32 42.2	-0.5
RC01				IAML		13 33 34.8	
	comp=E,360nm,0.6s						
RC01				IAML		13 33 36.6	
	comp=N,338nm,0.8s						
RC01	Rabbit Creek A	2.26	313	P	Pn	13 32 42.6	-0.1
	baz=130						
MESA	MESA	2.27	74		Sn	13 33 10.3	-0.3
MESA	MESA	2.27	74	IAML		13 33 22.3	
	comp=E,347nm,0.6s						
MESA				IAML		13 33 28.0	
	comp=N,586nm,0.8s						
MESA	MESA	2.27	74	P	Pn	13 32 42.4	-0.6
	baz=256						
SCM	Sheep Creek Mo	2.29	348	IAML		13 33 29.8	
	comp=E,500nm,0.9s						
SCM				IAML		13 33 33.3	
	comp=N,419nm,1.0s						
SCM	Sheep Creek Mo	2.29	348	P	Pn	13 32 43.7	+0.5
	baz=167						
M23K	Glacier View	2.30	343	P	Pn	13 32 43.8	+0.5
	baz=162						
BRLK	Bradley Lake	2.33	276	Pn	Pn	13 32 43.9	+0.2
SML	Sawmill	2.42	337	Pn	Pn	13 32 45.4	+0.4
SML				IAML		13 33 33.7	
	comp=N,564nm,1.2s						
SML				IAML		13 33 36.9	
	comp=E,447nm,0.9s						
SML	Sawmill	2.42	337	P	Pn	13 32 45.7	+0.7
	baz=155						
PMR	Palmer	2.43	326	Pn	Pn	13 32 44.7	-0.4
PMR				IAML		13 33 35.1	
	comp=E,218nm,1.0s						
PMR	Palmer	2.43	326	P	Pn	13 32 45.0	0.0
	baz=144						
PMR	Palmer	2.43	326	P	Pn	13 32 45.2	+0.2
M24K	Tolsona, Glenn	2.51	1	IAML		13 33 46.4	
	comp=N,377nm,0.9s						
M24K				IAML		13 33 51.6	
	comp=E,414nm,1.1s						
M24K	Tolsona, Glenn	2.51	1	P	Pn	13 32 47.1	+0.9
	baz=182						
GHO	Glory Hole Cre	2.52	330	IAML		13 33 48.5	
	comp=N,536nm,1.0s						
WASW	Wrangell South	2.55	23		Pn	13 32 47.4	+0.4
WAZA	Wrangell Mount	2.69	22		Pn	13 32 49.5	+0.7
SAMH	Samovar Hills	2.83	77		Pn	13 32 50.6	-0.1
HARP	HAARP	2.85	11	P	Pn	13 32 51.9	+0.9
	baz=192						
SUA	Susitna One	2.88	312	Pn	Pn	13 32 50.8	-0.5
SUA				IAML		13 33 56.7	
	comp=E,160nm,0.8s						
SUA				IAML		13 33 59.2	
	comp=N,152nm,0.9s						
SUA	Susitna One	2.88	312	P	Pn	13 32 51.0	-0.4
	baz=129						
PCA	Pinnacle	3.09	78		Pn	13 32 53.4	-0.7
PINM	Pinnacle	3.09	78	P	Pn	13 32 53.8	-0.4
	baz=263						
M26K	Nabesna, AK	3.23	28		Pn	13 32 56.6	+0.5
O28M	Mount Upton	3.27	66		Pn	13 32 56.8	-0.1
SPCG	Spurr Capps Gl	3.30	303		Pn	13 32 57.2	+0.1
RED	Redoubt Volcan	3.35	287		Pn	13 32 57.0	-0.7
PAX	Paxson	3.40	6	Pn	Pn	13 32 58.5	+0.1
PAX	Paxson	3.40	6	P	Pn	13 32 58.8	+0.4
	baz=187						
CUT	Chulitna	3.41	327		Pn	13 32 58.1	-0.3
CUT	Chulitna	3.41	327	P	Pn	13 32 59.6	+1.2
	baz=144						
ILSW	Iliamna Southw	3.48	279	Pn	Pn	13 32 59.4	-0.1
SKT	Skwentna	3.50	315		Pn	13 32 59.3	-0.5
SKT	Skwentna	3.50	315	IAML		13 34 01.9	
	comp=N,120nm,0.6s						
SKT				IAML		13 34 17.8	
	comp=E,105nm,1.2s						
SKT	Skwentna	3.50	315	P	Pn	13 32 59.6	-0.2
	baz=131						
MENT	Mentasta	3.57	19		Pn	13 33 00.5	-0.2
MENT				IAML		13 34 17.2	
	comp=E,148nm,0.8s						
MENT				IAML		13 34 37.8	
	comp=N,90nm,0.9s						
MENT	Mentasta	3.57	19	P	Pn	13 33 01.6	+0.9
YUK3	Moose Creek	3.60	50	P	Pn	13 33 02.2	+0.8
	baz=235						
YUK8	Steele Glacier	3.65	60		Pn	13 33 03.4	+1.4
YUK8	Steele Glacier	3.65	60	P	Pn	13 33 03.2	+1.2
	baz=245						
KDAK	Kodiak Island	3.75	244		Pn	13 33 02.2	-1.0
KDAK	Kodiak Island	3.75	244	Pn	Pn	13 33 02.4	-0.8
	comp=N,0.5nm,0.3s,baz=85,slow=12,SNR=31						
KDAK				Sn	Sn	13 33 43.7	-3.2
	comp=N,1.8nm,0.3s,baz=127,slow=20,SNR=9.5						
	comp=N,6.9nm,0.8s						
O29M	Mount Kennedy	3.95	77	IAML		13 33 54.8	
	comp=N,122nm,0.7s						
RND	Reindeer	4.00	343	Pn	Pn	13 33 07.3	+0.6
RND				IAML		13 34 19.8	
	comp=N,92nm,0.9s						
RND				IAML		13 34 32.1	
	comp=E,77nm,1.1s						
O19K	Port Alsworth	4.08	282	IAML		13 34 01.1	
	comp=E,133nm,0.5s						
O19K				IAML		13 34 13.4	
	comp=N,89nm,0.5s						
BCAR	Beaver Creek A	4.09	30	Pn	Pn	13 33 08.0	+0.1
YUK4	Talbot Arm	4.17	62	P	Pn	13 33 11.2	+2.1
	baz=247						
YUK6	Outpost Mounta	4.17	68		Pn	13 33 09.3	+0.1
YUK6	Outpost Mounta	4.17	68	P	Pn	13 33 09.3	+0.1
	baz=254						
DOT	Dot Lake	4.19	14		Pn	13 33 09.7	+0.4
RIDG	Independent Ri	4.20	9	IAML		13 34 43.5	
	comp=N,60nm,1.1s						
RIDG				IAML		13 34 45.6	
	comp=E,62nm,1.2s						
K24K	Donnelly Dome	4.22	3		Pn	13 33 10.7	+1.1
K24K	Donnelly Dome	4.22	3	P	Pn	13 33 11.2	+1.5
	baz=184						
N19K	Bonanza Creek	4.26	290	IAML		13 34 41.8	
	comp=N,52nm,1.1s						
TRF	Thorofare Moun	4.30	335		Pn	13 33 11.7	+0.8
TRF	Thorofare Moun	4.30	335	IAML		13 34 35.4	
	comp=N,69nm,0.9s						
TRF				IAML		13 34 40.2	
	comp=E,98nm,1.1s						
PPLA	Purkeypile	4.35	322		Pn	13 33 12.5	+0.9
OHAK	Old Harbor	4.38	240	P	Pn	13 33 12.5	+0.7
YUK5	Granite Creek	4.46	66		Pn	13 33 13.2	+0.2
KTH	Kantishna Hill	4.53	333	IAML		13 34 45.4	
	comp=E,80nm,1.1s						
HYT	Haines Junctio	4.55	71	Pn	Pn	13 33 14.5	+0.2
HYT				IAML		13 34 45.0	
	comp=N,39nm,1.0s						
CAST	Castle Rocks	4.72	327		Pn	13 33 17.1	+0.6
CAST	Castle Rocks	4.72	327	IAML		13 34 51.2	
	comp=E,38nm,0.8s						
CAST				IAML		13 34 58.2	
	comp=N,40nm,1.2s						
M29M	Somme Creek	4.75	50	IAML		13 34 13.4	
	comp=N,49nm,0.5s						
M29M				IAML		13 34 14.2	
	comp=E,54nm,0.6s						
HDA	Harding Lake	4.83	357	IAML		13 34 54.5	
	comp=N,69nm,1.0s						
WRH	Wood River Hil	4.95	351		Pn	13 33 20.2	+0.5
WRH	Wood River Hil	4.95	351	IAML		13 34 56.9	
	comp=E,45nm,1.1s						
WRH				IAML		13 35 00.7	
	comp=N,49nm,1.2s						
BPAW	Bear Paw Mtn.	5.02	336		Pn	13 33 21.0	+0.3
CCB	Clear Creek Bu	5.11	353	IAML		13 35 03.0	
	comp=E,26nm,1.2s						
ILAR	Eielson Array	5.19	357	Pn	Pn	13 33 22.4	-0.5
	comp=E,1.2nm,0.3s,baz=180,slow=13,SNR=52						
ILAR				Pg	Pb	13 33 31.1	-5.3
	comp=E,2.5nm,0.3s,baz=183,slow=15,SNR=14						
ILAR				Sn	Sn	13 34 18.2	-4.1
	comp=E,0.8nm,0.3s,baz=183,slow=15,SNR=4.8						
ILAR				Lg	Lg	13 34 49.7	
	comp=E,1.2nm,0.3s,baz=182,slow=21,SNR=4.9						
	comp=E,2.1nm,0.4s						
O30N	Mendenhall	5.23	73		Pn	13 33 23.2	-0.3
O30N	Mendenhall	5.23	73	IAML		13 34 23.5	
	comp=E,29nm,0.4s						
O30N				IAML		13 34 39.6	
	comp=N,24nm,1.1s						
L29M	L29M	5.27	45	IAML		13 34 25.6	
	comp=E,32nm,0.8s						
L29M				IAML		13 34 25.9	
	comp=N,38nm,0.6s						
COLA	College	5.33	353		Pn	13 33 25.2	+0.3
COLA	College	5.33	353	P	Pn	13 33 25.4	+0.5
M30M	Minto, Yukon	5.49	53	Pn	Pn	13 33 27.1	0.0
TTA	Tatalina	5.75	310	P	Pn	13 33 30.5	-0.1
J19K	Poorman	6.23	319		Pn	13 33 37.9	+0.7
JIS	Juneau Island	6.31	97	P	Pn	13 33 40.3	+2.0
COLD	Coldfoot	7.84	349		Pn	13 33 59.8	+0.5
DLBC	Dease Lake	8.48	91	Pn	Pn	13 34 08.1	-0.1
	comp=N,0.6nm,0.3s,baz=202,slow=4.6,SNR=6.7						
DLBC				Sn	Sn	13 35 40.7	-2.6
	comp=N,0.3nm,0.3s,baz=194,slow=19,SNR=3.5						
	comp=N,1.0nm,0.3s						
INK	Inuvik	10.35	27	Pn	Pn	13 34 33.8	+0.2
	comp=N,0.2nm,0.3s,baz=209,slow=12,SNR=16						
	comp=N,2.0nm,0.8s						
YKA	Yellowknife Ar	15.53	66	Pn	Pn	13 35 43.5	-0.4
	comp=N,0.2nm,0.3s,baz=274,slow=9.9,SNR=16						
	comp=N,0.1nm,0.8s						
RES	Resolute Bay	23.88	31	P	P	13 37 18.4	+0.2
	comp=N,0.6nm,0.5s,baz=252,slow=12,SNR=6.3						
	comp=N,0.6nm,0.5s						
SONM	Songino Array	57.69	310	P	P	13 41 56.4	+0.9
	comp=N,0.6nm,0.7s,baz=38,slow=7.8,SNR=3.7						
	comp=N,0.6nm,0.7s						
NOA	NORSAR Array B	58.43	13	LR	LR	14 09 35.5	
	comp=N,49nm,20.1s,baz=340,slow=38						
FINES	FINESS Array B	59.13	4	P	P	13 42 05.5	+0.4
	comp=N,3.7nm,1.0s,baz=8.6,slow=6.6,SNR=7.4						
	comp=N,3.7nm,1.0s						
BVA

TPUB	**Ta-pu**	**14.45 339**	P	**P**	**13 38 35.8**	**-0.4**
YOJ	**Yonaguni jima**	**14.89 348**	Pn	**Pn**	**13 38 36.9**	**+0.5**
SBUM	**Sibu**	**15.77 243**	Pn	**Pn**	**13 38 47.3**	**-0.4**
SOEI	**Soe**	**19.55 186**	Pn	**P**	**13 39 33.8**	**+1.1**
SOEI			IAmb	IAmb	13 39 53.0	
	comp=Z,15nm,0.7s					
MTN	**Manton Dam**	**23.02 168**	P	**P**	**13 40 08.9**	**-0.9**
MTN			IAmb	IAmb	13 40 13.3	
	comp=Z,40nm,1.5s					
KNRA	**Kununurra**	**25.45 174**	P	**P**	**13 40 31.3**	**-0.9**
KNRA			IAmb	IAmb	13 40 54.5	
	comp=Z,12nm,0.9s					
KSRS	**Korea Array**	**27.56 3**	P	**P**	**13 40 51.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=187,slow=9.0,SNR=2.2					
	comp=Z,0.7nm,0.7s					
FITZ	**Fitzroy Crossi**	**27.75 181**	P	**P**	**13 40 52.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.83 291**	P	**P**	**13 40 55.0**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.1,SNR=5.2					
	comp=Z,0.8nm,0.6s					
COEN	**Coen**	**28.97 144**	P	**P**	**13 41 02.7**	**-1.1**
COEN			IAmb	IAmb	13 41 13.9	
	comp=Z,11nm,1.1s					
WB0	**Warramunga Arr**	**30.47 165**	P	**P**	**13 41 14.9**	**-2.2**
WB0			IAmb	IAmb	13 41 56.1	
	comp=Z,10nm,1.4s					
WRAB	**Tennant Creek**	**30.61 165**	P	**P**	**13 41 16.4**	**-2.0**
WRAB			IAmb	IAmb	13 41 54.3	
	comp=Z,16nm,1.5s					
WRA	**Warramunga Arr**	**30.62 165**	P	**P**	**13 41 17.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=341,slow=8.6,SNR=6.3					
WRA			PcP	**PcP**	**13 44 15.0**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=340,slow=2.9,SNR=2.0					
	comp=Z,0.5nm,0.6s					
WB2	**Warramunga Arr**	**30.62 165**	P	**P**	**13 41 17.0**	**-1.5**
WR0	**Warramunga Arr**	**30.69 165**	P	**P**	**13 41 16.9**	**-2.1**
AS31	**Alice Springs**	**34.10 167**	P	**P**	**13 41 47.4**	**-1.5**
ASAR	**Alice Springs**	**34.10 167**	P	**P**	**13 41 47.7**	**-1.3**
ASAR	**Alice Springs**	**34.10 167**	P	**P**	**13 41 47.5**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=350,slow=7.2,SNR=22					
ASAR			PcP	**PcP**	**13 44 25.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=345,slow=2.3,SNR=2.9					
	comp=Z,0.5nm,0.3s					
GTA	**Gaotai**	**37.75 326**	*eP*	**P**	**13 42 20.9**	**+0.7**
GTA			pP	pP	13 42 26.1	-6.9
GTA			pmax	pmax		
	comp=Z,2.0nm,0.6s					
MORW	**Morawa**	**39.90 194**	P	**P**	**13 42 36.6**	**-1.4**
MORW			IAmb	IAmb	13 42 40.5	
	comp=Z,8.0nm,0.8s					
H11N1	**WAKE ISLAND Hy**	**40.40 71**	T	T	14 26 01.1	
	baz=265,slow=75,SNR=13					
FORT	**Forrest**	**40.40 178**	P	**P**	**13 42 40.5**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**40.40 71**	T	T	14 25 58.8	
	baz=265,slow=75,SNR=12					
H11N3	**WAKE ISLAND Hy**	**40.41 71**	T	T	14 25 57.6	
	baz=265,slow=75,SNR=13					
SONM	**Songino Array**	**41.44 340**	P	**P**	**13 42 51.6**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=152,slow=10,SNR=4.4					
	comp=Z,0.6nm,0.6s					
NWAO	**Narrogin (SRO)**	**43.37 191**	P	**P**	**13 43 06.1**	**-0.3**
NWAO			IAmb	IAmb	13 43 19.3	
	comp=Z,26nm,1.2s					
BBOO	**Buckleboo**	**43.41 168**	P	**P**	**13 43 06.3**	**-0.4**
BBOO			IAmb	IAmb	13 43 08.9	
	comp=Z,10.0nm,0.6s					
STKA	**Stephens Creek**	**43.98 161**	P	**P**	**13 43 10.2**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=340,slow=6.8,SNR=4.6					
	comp=Z,2.1nm,0.8s					
PALK	**Pallekele**	**45.11 271**	P	**P**	**13 43 18.1**	**-2.6**
PALK			IAmb	IAmb	13 44 01.0	
	comp=Z,18nm,1.4s					
PETK	**Petropavlovsk-**	**50.05 24**	P	**P**	**13 43 59.7**	**+1.4**
	comp=Z,2.5nm,1.0s,baz=172,slow=3.3,SNR=1.8					
	comp=Z,2.5nm,1.0s					
TOO	**Toolangi**	**50.46 160**	P	**P**	**13 44 00.9**	**-0.8**
TOO			IAmb	IAmb	13 44 35.4	
	comp=Z,6.9nm,1.4s					
DZM	**Mont Dzumac**	**50.56 129**	P	**P**	**13 44 02.5**	**-0.3**
DZM			IAmb	IAmb	13 44 46.2	
	comp=Z,17nm,1.5s					
DZM	**Mont Dzumac**	**50.56 129**	P	**P**	**13 44 03.3**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=234,slow=15,SNR=1.8					
	comp=Z,3.2nm,0.6s					
ONTNC	**Ouen Toro**	**50.70 129**	P	**P**	**13 44 03.0**	**-0.7**
MK31	**Makanchi Array**	**52.39 323**	P	**P**	**13 44 15.3**	**-0.8**
MKAR	**Makanchi Array**	**52.39 323**	P	**P**	**13 44 15.3**	**-0.8**
MKAR	**Makanchi Array**	**52.39 323**	P	**P**	**13 44 16.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=122,slow=8.2,SNR=11					
MKAR			PcP	**PcP**	**13 45 26.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=98,slow=6.0,SNR=1.5					
	comp=Z,1.1nm,0.6s					
MAKZ	**Makanchi**	**52.58 323**	P	**P**	**13 44 17.4**	**-0.2**
ZALV	**Zalesovo Beam**	**55.02 331**	P	**P**	**13 44 34.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=101,slow=4.7,SNR=3.8					
	comp=Z,0.7nm,0.7s					
SEY	**Seymchan**	**56.26 14**	P	**P**	**13 44 43.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=340,slow=23,SNR=2.1					
	comp=Z,0.9nm,0.6s					
KURK	**Kurchatov**	**56.44 326**	P	**P**	**13 44 45.0**	**-0.4**
KURK			IAmb	IAmb	13 45 29.3	
	comp=Z,8.8nm,1.1s					
KURBB	**Kurchatov Arra**	**56.45 326**	P	**P**	**13 44 45.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=125,slow=6.9,SNR=9.2					
	comp=Z,0.9nm,0.7s					
KKAR	**Karatay Array**	**58.57 315**	P	**P**	**13 45 00.2**	**-0.4**
TIXI	**Tiksi**	**61.80 1**	P	**P**	**13 45 22.6**	**+0.5**
TIXI			IAmb	IAmb	13 45 24.9	
	comp=Z,8.1nm,1.4s					
ATKA	**Atka Island**	**63.83 36**	P	**P**	**13 45 37.0**	**+1.1**
NRIK	**Noril'sk**	**64.45 346**	P	**P**	**13 45 38.4**	**-1.3**
AIS	**Amsterdam Isla**	**65.68 221**	P	**P**	**13 45 46.0**	**-2.2**
RPZ	**Rata Peaks**	**67.01 146**	P	**P**	**13 45 57.1**	**+0.5**
	comp=Z,11nm,0.9s,baz=216,slow=18,SNR=2.6					
	comp=Z,11nm,0.9s					
ABKAR	**Akbulak array**	**67.22 319**	P	**P**	**13 45 57.4**	**-0.6**
BKZ	**Black Stump Fm**	**67.44 140**	P	**P**	**13 46 00.4**	**+0.9**
K13K	**Kusilvak Mount**	**71.59 28**	P	**P**	**13 46 26.0**	**+1.3**
L14K	**Kuka Creek**	**72.38 29**	P	**P**	**13 46 30.6**	**+1.2**
M14K	**Bethel**	**72.60 29**	P	**P**	**13 46 32.0**	**+1.3**
B21K	**Ikpikpuk River**	**77.06 21**	P	**P**	**13 46 57.5**	**+1.2**
B21K			IAmb	IAmb	13 47 35.8	
	comp=Z,12nm,1.5s					
B22K	**Teshekpuk Lake**	**77.55 20**	P	**P**	**13 47 00.2**	**+1.1**
B22K			IAmb	IAmb	13 47 22.8	
	comp=Z,7.9nm,1.2s					
MCK	**McKinley**	**78.96 27**	P	**P**	**13 47 07.1**	**+0.1**
MCK			IAmb	IAmb	13 47 42.2	
	comp=Z,6.7nm,1.2s					
ILAR	**Eielson Array**	**79.84 26**	P	**P**	**13 47 11.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=255,slow=5.5,SNR=2.5					
	comp=Z,0.3nm,0.7s					
BMAR	**Burnt Mountain**	**80.68 23**	P	**P**	**13 47 18.0**	**+1.7**
BCAR	**Beaver Creek A**	**82.21 27**	P	**P**	**13 47 26.6**	**+2.1**
G29M	**Pine Creek**	**83.28 23**	P	**P**	**13 47 31.1**	**+1.2**
G29M			IAmb	IAmb	13 47 53.4	
	comp=Z,18nm,1.4s					
SPITS	**Spitsbergen Ar**	**84.46 349**	P	**P**	**13 47 36.4**	**+0.6**
	comp=Z,11nm,1.1s,baz=82,slow=15,SNR=1.5					
	comp=Z,11nm,1.1s					
ARCES	**ARCESS Array B**	**84.62 340**	P	**P**	**13 47 37.3**	**+0.6**
ARCES	**ARCESS Array B**	**84.62 340**	P	**P**	**13 47 37.2**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=78,slow=5.9,SNR=6.2					
	comp=Z,2.6nm,0.7s					
FARO	**Faro, Yukon**	**86.19 28**	P	**P**	**13 47 46.1**	**+1.5**
FINES	**FINESS Array B**	**86.29 332**	P	**P**	**13 47 45.4**	**+0.2**
FINES	**FINESS Array B**	**86.29 332**	P	**P**	**13 47 45.1**	**0.0**
	comp=Z,1.4nm,0.6s,baz=71,slow=5.4,SNR=8.0					
	comp=Z,1.4nm,0.6s					
C36M	**Paulatuk**	**87.66 20**	P	**P**	**13 47 52.0**	**+0.4**
C36M			IAmb	IAmb	13 47 53.3	
	comp=Z,5.2nm,1.1s					
RES	**Resolute Bay**	**91.94 10**	P	**P**	**13 48 12.7**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=220,slow=6.2,SNR=3.2					
	comp=Z,1.2nm,0.7s					
HFS	**Hagfors**	**92.45 332**	P	**P**	**13 48 13.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=98,slow=6.1,SNR=5.6					
	comp=Z,0.7nm,0.5s					
NOA	**NORSAR Array B**	**93.16 334**	P	**P**	**13 48 17.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=120,slow=8.1,SNR=3.3					
	comp=Z,0.4nm,0.8s					
YKA	**Yellowknife Ar**	**94.17 24**	P	**P**	**13 48 22.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=296,slow=4.7,SNR=8.0					
	comp=Z,0.7nm,0.6s					
PLCA	**Paso Flores**	**145.79 157**	PKPbc	**PKPdf**	**13 54 43.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=290,slow=1.4,SNR=5.3					

BJI ***10*** *13:35:46.0, 66°.30N×157°.20W, h5km, mB5.1/10, mb4.3/27, Ms5.0/14, Ms7 4.5/14*

IDC ***10*** *13:35:48.3±0.5, 66°.50N×157°.37W, h0km, mb4.1/31, mbtmp4.1/34, ML4.2/4, MS4.0/15, Error ellipse: s-maj=16.4km s-min=8.4km az=12.0*

NEIC ***10*** *13:35:48.3, 66°.31N×157°.23W, h12km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33; $M_{\theta\theta}$0.56; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.09; $M_{\theta\phi}$-1.33; $M_{\phi r}$0.15; Fault plane solution: $M_0$1.40000×10^{16} NP1: ϕ_s261.60000°, δ83.34000°, λ179.85000°. NP2: ϕ_s351.62000°, δ89.85000°, λ6.66000°. Principal axes: T 1.5712, Plg5.0000°, Azm217.0000°; N -0.3403, Plg83.0000°, Azm353.0000°; P -1.2310, Plg5.0000°, Azm126.0000°;*

NEIC ***10*** *13:35:48.3, 66°.31N×157°.23W, h12km*

NEIC ***10*** *13:35:48.5, 66°.31N×157°.25W, h9km*

NEIC ***10*** *13:35:48.6±1.2, 66°.31N±0°.02×157°.23W±0°.05, h10km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=286.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.22; $M_{\theta\theta}$0.44; $M_{\phi\phi}$-0.22; $M_{r\theta}$0.14; $M_{\theta\phi}$-1.01; $M_{\phi r}$0.24; Fault plane solution: $M_0$1.12000×10^{16} NP1: ϕ_s169.48000°, δ77.92000°, λ-14.18000°. NP2: ϕ_s262.51000°, δ76.14000°, λ-167.55000°. Principal axes: T 1.1776, Plg1.0000°, Azm216.0000°; N -0.1283, Plg71.0000°, Azm310.0000°; P -1.0493, Plg19.0000°, Azm126.0000°;*

AEIC ***10*** *13:35:48.3±1.2, 66°.31N±0°.02×157°.23W±0°.05, h8km±3km, ML4.8, mb4.7/10(NEIC), ML4.8/106(NEIC), Mwr4.6/69(NEIC), Mww4.7/104(NEIC) Error ellipse: s-maj=2.9km s-min=2.5km az=85.0*

GCMT ***10*** *13:35:50.3±0.3, 66°.34N±0°.02×157°.19W±0°.04, h18km±1km, MW4.8/79, Moment Tensor Solution. s13,c14; s79,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.84±.12; $M_{\theta\theta}$1.02±.13; $M_{\phi\phi}$-0.18±.09; $M_{r\theta}$0.26±.23; $M_{\theta\phi}$-1.89±.08; $M_{\phi r}$0.95±.27; Best double couple: $M_0$2.32100×10^{16} NP1:ϕ_s266.00000°, δ61.00000°, λ-159.00000°. NP2: ϕ_s165.00000°, δ71.00000°, λ-31.00000°. Principal axes: T 2.4410, Plg7.0000°, Azm218.0000°; N -0.2430, Plg55.0000°, Azm317.0000°; P -2.2010, Plg35.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 13:35:48.4±1.0, 66°.33N±0°.02×157°.15W±0°.02, h8km±6km, n446, σ1§07/425, mb4.2/41, MS4.1/17, 18C-5D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.19**	**173**	Pg	**Pg**	**13 35 51.6**	**-0.6**
G19K	**Purcell Mounta**	**0.19**	**173**	P	**Pg**	**13 35 52.0**	**-0.1**
	baz=339						
F19K	**Shaleruckik Mo**	**0.57**	**334**		**Sb**	**13 36 08.1**	**-0.7**
F19K	**Shaleruckik Mo**	**0.57**	**334**		**Pg**	**13 35 58.6**	**-0.6**
F19K	**Shaleruckik Mo**	**0.57**	**334**	IAML		13 36 09.4	
	comp=E,8μm,0.4s						
F19K				IAML		13 36 13.4	
	comp=N,7μm,0.7s						
F19K	**Shaleruckik Mo**	**0.57**	**334**	P	**Pg**	**13 35 59.2**	**-0.1**
	baz=158,SNR=591						
G18K	**Tagagawik**	**0.75**	**235**		**Sg**	**13 36 12.6**	**0.0**
G18K	**Tagagawik**	**0.75**	**235**	Pg	**Pg**	**13 36 01.9**	**-0.9**
G18K	**Tagagawik**	**0.75**	**235**	IAML		13 36 15.1	
	comp=N,26μm,0.6s						
G18K				IAML		13 36 15.5	
	comp=E,15μm,0.9s						
G18K	**Tagagawik**	**0.75**	**235**	P	**Pg**	**13 36 02.1**	**-0.7**
	baz=53						
H19K	**Roundabout Mou**	**0.85**	**160**		**Sg**	**13 36 15.8**	**0.0**
H19K	**Roundabout Mou**	**0.85**	**160**	Pg	**Pg**	**13 36 04.1**	**-0.6**
H19K				IAML		13 36 20.3	
	comp=N,31μm,0.6s						
H19K				IAML		13 36 20.7	
	comp=E,57μm,0.5s						
H19K	**Roundabout Mou**	**0.85**	**160**	P	**Pg**	**13 36 04.2**	**-0.5**
	baz=338,SNR=1000						
F20K	**Avaraart Lake**	**0.92**	**37**	IAML		13 36 23.4	
	comp=E,20μm,0.7s						
F20K	**Avaraart Lake**	**0.92**	**37**		**Pg**	**13 36 06.0**	**0.0**
F20K					**Sb**	**13 36 19.2**	**+0.3**
F20K	**Avaraart Lake**	**0.92**	**37**	P	**Pg**	**13 36 05.9**	**0.0**
	baz=220						
F18K	**Selawik**	**1.04**	**286**		**Pg**	**13 36 07.5**	**-0.8**
F18K					**Sg**	**13 36 22.0**	**+0.1**
F18K	**Selawik**	**1.04**	**286**	P	**Pg**	**13 36 07.6**	**-0.8**
	baz=106,SNR=1000						
E19K	**Redstone River**	**1.14**	**358**		**Sb**	**13 36 25.6**	**+0.4**
E19K	**Redstone River**	**1.14**	**358**	Pg	**Pg**	**13 36 09.8**	**-0.3**
E19K	**Redstone River**	**1.14**	**358**	P	**Pg**	**13 36 09.7**	**-0.4**
	baz=180						
H20K	**Anotleneega Mo**	**1.25**	**131**		**Pn**	**13 36 12.0**	**-0.2**
H20K	**Anotleneega Mo**	**1.25**	**131**	P	**Pn**	**13 36 12.0**	**-0.2**
	baz=311,SNR=1000						
H18K	**Honhosa River**	**1.28**	**204**		**Sb**	**13 36 27.9**	**-1.5**
H18K	**Honhosa River**	**1.28**	**204**		**Pn**	**13 36 11.3**	**-1.3**
H18K	**Honhosa River**	**1.28**	**204**	P	**Pn**	**13 36 11.4**	**-1.3**
	baz=21						
G21K	**Allakaket**	**1.48**	**81**		**Pn**	**13 36 15.3**	**0.0**
G21K	**Allakaket**	**1.48**	**81**	IAML		13 36 37.9	
	comp=E,21μm,1.0s						
G21K				IAML		13 36 41.4	
	comp=N,15μm,0.7s						
G21K	**Allakaket**	**1.48**	**81**	P	**Pn**	**13 36 15.3**	**0.0**
	baz=264						
GCSA	**Galena City Sc**	**1.59**	**176**		**Pn**	**13 36 16.6**	**-0.2**
GCSA					**Sn**	**13 36 37.6**	**0.0**
GCSA	**Galena City Sc**	**1.59**	**176**	P	**Pn**	**13 36 16.6**	**-0.2**
	baz=355,SNR=958						
F17K	**Baldwin Pennin**	**1.66**	**276**	Pn	**Pn**	**13 36 17.0**	**-0.7**
F17K	**Baldwin Pennin**	**1.66**	**276**	P	**Pn**	**13 36 17.0**	**-0.7**
	baz=93						
G17K	**Kiwalik Mounta**	**1.66**	**242**		**Pn**	**13 36 16.8**	**-1.0**
G17K	**Kiwalik Mounta**	**1.66**	**242**	P	**Pn**	**13 36 16.9**	**-0.9**
	baz=58						
F21K	**Alatna River**	**1.71**	**57**		**Pn**	**13 36 19.1**	**+0.6**
F21K	**Alatna River**	**1.71**	**57**	IAML		13 36 47.0	
	comp=E,8μm,0.6s						
F21K	**Alatna River**	**1.71**	**57**	P	**Pn**	**13 36 18.8**	**+0.3**
	baz=240						
E18K	**Tukpahlearik C**	**1.75**	**310**		**Sg**	**13 36 44.1**	**-0.5**
E18K	**Tukpahlearik C**	**1.75**	**310**	P	**Pn**	**13 36 19.5**	**+0.5**
	baz=128,SNR=639						
H17K	**Granite Mounta**	**1.81**	**221**		**Pn**	**13 36 18.8**	**-1.0**
H17K				IAML		13 36 48.9	
	comp=N,8μm,0.5s						
H17K				IAML		13 36 51.9	
	comp=E,11μm,0.8s						
H17K	**Granite Mounta**	**1.81**	**221**	P	**Pn**	**13 36 19.1**	**-0.7**
	baz=37,SNR=1000						
I20K	**Naaghedeneel**	**1.90**	**143**		**Pn**	**13 36 21.3**	**+0.3**
I20K	**Naaghedeneel**	**1.90**	**143**	P	**Pn**	**13 36 21.5**	**+0.5**
	baz=324						
H21K	**Melozitna Rive**	**1.90**	**109**	IAML		13 36 50.8	
	comp=N,9μm,0.7s						
H21K	**Melozitna Rive**	**1.90**	**109**		**Pn**	**13 36 21.6**	**+0.6**
H21K					**Sg**	**13 36 48.6**	**-0.7**
H21K	**Melozitna Rive**	**1.90**	**109**	P	**Pn**	**13 36 21.1**	**0.0**
	baz=292,SNR=757						
E20K	**Nigu River**	**1.97**	**10**		**Pn**	**13 36 23.3**	**+1.1**
E20K					**Sb**	**13 36 50.4**	**+1.1**
E20K	**Nigu River**	**1.97**	**10**	P	**Pb**	**13 36 23.8**	**-0.8**
	baz=192						
E17K	**Hotham Inlet**	**2.01**	**294**		**Pn**	**13 36 22.3**	**-0.2**
E17K	**Hotham Inlet**	**2.01**	**294**	P	**Pn**	**13 36 22.3**	**-0.2**
	baz=111,SNR=1000						
G16K	**Koyuk River**	**2.34**	**249**		**Pn**	**13 36 25.8**	**-1.2**
G16K	**Koyuk River**	**2.34**	**249**	IAML		13 37 04.1	
	comp=N,6μm,1.0s						
G16K	**Koyuk River**	**2.34**	**249**	P	**Pn**	**13 36 25.7**	**-1.4**
	baz=64						
H22K	**Ishtalitna Cre**	**2.39**	**98**	P	**Pn**	**13 36 28.2**	**+0.4**
	baz=283						
D20K	**Etivluk River**	**2.41**	**5**	P	**Pn**	**13 36 29.3**	**+1.2**
	baz=186						
J19K	**Poorman**	**2.43**	**164**		**Pn**	**13 36 28.0**	**-0.4**
J19K				IAML		13 37 05.7	
	comp=N,8μm,0.4s						
J19K	**Poorman**	**2.43**	**164**	P	**Pn**	**13 36 28.6**	**+0.2**
	baz=344,SNR=98						
E21K	**Killik River**	**2.45**	**29**		**Pn**	**13 36 29.2**	**+0.5**
E21K	**Killik River**	**2.45**	**29**	P	**Pn**	**13 36 29.7**	**+1.0**
	baz=212						
J20K	**Nowinta River**	**2.50**	**148**	P	**Pn**	**13 36 29.4**	**0.0**
	baz=330,SNR=62						
D17K	**Noatak River**	**2.71**	**303**	P	**Pn**	**13 36 32.2**	**+0.1**
	baz=119						
H16K	**Elim**	**2.72**	**234**		**Pn**	**13 36 30.7**	**-1.6**
H16K	**Elim**	**2.72**	**234**	P	**Pn**	**13 36 30.8**	**-1.5**
	baz=49,SNR=176						
C18K	**Utukok River**	**2.80**	**328**	Pn	**Pn**	**13 36 33.8**	**+0.3**
C18K	**Utukok River**	**2.80**	**328**	P	**Pn**	**13 36 34.0**	**+0.5**
	baz=145,SNR=85						
RDOG	**Red Dog Mine**	**2.84**	**310**		**Pn**	**13 36 34.1**	**+0.2**
RDOG	**Red Dog Mine**	**2.84**	**310**	P	**Pn**	**13 36 34.9**	**+0.9**
	baz=126,SNR=111						
I17K	**Unalakleet**	**2.88**	**213**	Pn	**Pn**	**13 36 34.4**	**0.0**
I17K	**Unalakleet**	**2.88**	**213**	P	**Pn**	**13 36 34.3**	**-0.2**
	baz=29,SNR=238						
G23K	**Bananza Creek**	**2.88**	**79**	P	**Pn**	**13 36 34.0**	**-0.6**
	baz=265						
J18K	**Innoko River**	**2.88**	**176**	P	**Pn**	**13 36 34.4**	**-0.1**
	baz=356						
COLD	**Coldfoot**	**2.90**	**69**		**Pn**	**13 36 33.9**	**-0.8**
COLD	**Coldfoot**	**2.90**	**69**	P	**Pn**	**13 36 34.7**	**-0.1**
	baz=255,SNR=24						
C21K	**Knifeblade Rid**	**2.98**	**16**		**Pn**	**13 36 36.6**	**+0.7**
C21K	**Knifeblade Rid**	**2.98**	**16**	P	**Pn**	**13 36 36.6**	**+0.7**
	baz=199,SNR=27						
J17K	**VABM Dome**	**3.06**	**197**	P	**Pn**	**13 36 36.8**	**-0.2**
	baz=14						
D22K	**Ayikyak River**	**3.08**	**32**		**Pn**	**13 36 38.2**	**+0.9**
D22K				IAML		13 37 33.4	
	comp=E,3μm,0.6s						
D22K				IAML		13 37 36.5	
	comp=N,2μm,0.7s						
D22K	**Ayikyak River**	**3.08**	**32**	P	**Pn**	**13 36 38.7**	**+1.4**
	baz=216,SNR=85						
F15K	**North Star Dit**	**3.13**	**262**	P	**Pn**	**13 36 36.8**	**-1.2**
	baz=75						
G15K	**Niukluk**	**3.15**	**248**	P	**Pn**	**13 36 36.7**	**-1.6**
	baz=62						
C17K	**DeLong Mountai**	**3.17**	**316**	P	**Pn**	**13 36 39.1**	**+0.5**
	baz=131,SNR=49						
CHUM	**Lake Minchumin**	**3.19**	**138**		**Pn**	**13 36 40.0**	**+1.1**
CHUM	**Lake Minchumin**	**3.19**	**138**	P	**Pn**	**13 36 39.4**	**+0.6**
	baz=322,SNR=58						
K20K	**Telida**	**3.26**	**155**	P	**Pn**	**13 36 40.0**	**+0.2**
	baz=337						
J16K	**Anvik River**	**3.40**	**207**		**Pn**	**13 36 41.2**	**-0.4**
J16K				IAML		13 37 37.7	
	comp=E,4μm,0.8s						
J16K	**Anvik River**	**3.40**	**207**	P	**Pn**	**13 36 41.6**	**0.0**
	baz=24						
E23K	**Chandalar**	**3.41**	**56**	P	**Pn**	**13 36 42.4**	**+0.5**
	baz=243						
BPAW	**Bear Paw Mtn.**	**3.42**	**128**	Pn	**Pn**	**13 36 41.9**	**-0.1**
BPAW				IAML		13 37 40.9	
	comp=E,2μm,1.0s						
BPAW				IAML		13 37 48.6	
	comp=N,2μm,0.8s						
BPAW	**Bear Paw Mtn.**	**3.42**	**128**	P	**Pn**	**13 36 42.3**	**+0.2**
	baz=313,SNR=140						
I23K	**Minto, Yukon-K**	**3.43**	**107**		**Pn**	**13 36 41.8**	**-0.2**
I23K	**Minto, Yukon-K**	**3.43**	**107**	P	**Pn**	**13 36 41.8**	**-0.2**
	baz=293,SNR=59						
TTA	**Tatalina**	**3.45**	**171**		**Pn**	**13 36 42.5**	**+0.1**
TTA				IAML		13 37 46.5	
	comp=N,3μm,0.8s						
TTA				IAML		13 37 50.0	
	comp=E,2μm,1.1s						
TTA	**Tatalina**	**3.45**	**171**	P	**Pn**	**13 36 42.7**	**+0.3**
	baz=352,SNR=24						
B18K	**Kokolik River**	**3.52**	**332**	P	**Pn**	**13 36 43.9**	**+0.5**
	baz=148						
D23K	**Nanushuk River**	**3.62**	**40**		**Pn**	**13 36 46.0**	**+1.3**
D23K				IAML		13 38 00.5	
	comp=N,2μm,1.0s						
D23K				IAML		13 38 01.0	
	comp=E,1μm,0.9s						
D23K	**Nanushuk River**	**3.62**	**40**	P	**Pn**	**13 36 46.0**	**+1.3**
	baz=226						
CAST	**Castle Rocks**	**3.63**	**141**		**Pn**	**13 36 45.1**	**+0.2**
CAST				IAML		13 37 52.8	
	comp=N,2μm,1.2s						
CAST				IAML		13 37 54.0	
	comp=E,2μm,1.1s						
CAST	**Castle Rocks**	**3.63**	**141**	P	**Pn**	**13 36 45.4**	**+0.5**
	baz=325,SNR=200						
K17K	**Iditarod**	**3.66**	**188**	P	**Pn**	**13 36 44.8**	**-0.5**
	baz=6.7						
TOLK	**Toolik Lake Re**	**3.73**	**48**		**Pn**	**13 36 46.8**	**+0.6**
TOLK				IAML		13 37 55.7	
	comp=E,1μm,1.1s						
TOLK				IAML		13 37 56.5	
	comp=N,1μm,1.1s						
TOLK	**Toolik Lake Re**	**3.73**	**48**	P	**Pn**	**13 36 47.4**	**+1.2**
	baz=235,SNR=46						
C16K	**Lisburne Hills**	**3.73**	**305**	Pn	**Pn**	**13 36 46.2**	**0.0**
C16K	**Lisburne Hills**	**3.73**	**305**	P	**Pn**	**13 36 46.7**	**+0.5**
	baz=118,SNR=82						
**NE

C23K **Itkillik River** 4.29 32 P Pn 13 36 54.2 +0.4
baz=218
MCK **McKinley** 4.35 123 Pn 13 36 55.6 +0.9
MCK **McKinley** 4.35 123 P Pn 13 36 55.1 +0.4
baz=310,SNR=49
K15K **Wolf Creek Mou** 4.48 207 IAML 13 38 19.9
comp=E,1µm,0.8s
K15K **Wolf Creek Mou** 4.48 207 P Pn 13 36 56.6 +0.1
baz=23
J14K **Nanvaranak Lak** 4.53 221 IAML 13 38 21.7
comp=E,1µm,1.1s
J14K IAML 13 38 27.3
comp=N,1µm,0.9s
J14K **Nanvaranak Lak** 4.53 221 P Pn 13 36 56.7 -0.5
baz=34
ILAR **Eielson Array** 4.54 105 Pn 13 36 57.2 -0.2
ILAR **Eielson Array** 4.54 105 Pn Pn 13 36 58.0 +0.6
comp=N,36nm,0.3s,baz=288,slow=13,SNR=318
ILAR Sn Sn 13 37 49.0 -1.3
comp=N,34nm,0.3s,baz=289,slow=24,SNR=11
ILAR Lg Lg 13 38 10.5
comp=N,90nm,0.3s,baz=303,slow=30,SNR=1.5
H25L **Birch Creek** 4.57 86 P Pn 13 36 58.6 +0.8
baz=276
RND **Reindeer** 4.59 126 Pn 13 36 58.8 +0.6
M19K **Big River Lodg** 4.60 164 P Pn 13 36 59.1 +0.8
baz=346
C24K **Franklin Bluff** 4.65 39 P Pn 13 36 59.6 +0.8
baz=227
HDA **Harding Lake** 4.68 110 IAML 13 38 23.3
comp=N,1µm,1.1s
HDA IAML 13 38 23.4
comp=E,686nm,0.8s
HDA **Harding Lake** 4.68 110 P Pn 13 36 59.2 -0.1
baz=298,SNR=38
F25K **Christian Rive** 4.70 69 P Pn 13 37 00.2 +0.6
baz=260,SNR=11
L16K **Owhat River** 4.75 194 Pn 13 36 59.6 -0.5
L16K IAML 13 38 21.3
comp=E,761nm,1.0s
L16K IAML 13 38 34.1
comp=N,824nm,1.2s
L16K **Owhat River** 4.75 194 P Pn 13 36 59.7 -0.4
baz=11,SNR=11
FYU **Fort Yukon** 4.79 82 IAML 13 38 33.9
comp=E,1µm,1.0s
M20K **Styx River** 4.80 157 P Pn 13 37 01.6 +0.6
baz=340
PRP **Porcupine Dome** 4.83 94 IAML 13 38 30.5
comp=E,1µm,1.0s
PRP IAML 13 38 34.1
comp=N,999nm,1.1s
PRP **Porcupine Dome** 4.83 94 P Pn 13 37 01.8 +0.3
baz=285,SNR=20
E25K **Arctic Village** 4.84 63 IAML 13 38 27.7
comp=N,629nm,1.1s
E25K IAML 13 38 35.6
comp=E,649nm,1.2s
E25K **Arctic Village** 4.84 63 P Pn 13 37 01.6 +0.1
baz=254,SNR=12
M18K **Stony River** 4.89 173 P Pn 13 37 02.4 +0.2
baz=353
CUT **Chulitna** 4.94 140 Pn 13 37 04.2 +1.4
CUT **Chulitna** 4.94 140 P Pn 13 37 04.2 +1.4
baz=325,SNR=17
M17K **Holitna River** 4.95 182 P Pn 13 37 03.2 +0.2
baz=0.9
SKT **Skwentna** 5.01 148 IAML 13 38 38.6
comp=N,507nm,1.2s
SKT IAML 13 38 39.6
comp=E,558nm,0.9s
SKT **Skwentna** 5.01 148 P Pn 13 37 05.2 +1.4
baz=333,SNR=252
A21K **Barrow** 5.02 2 P Pn 13 37 04.0 +0.1
baz=183,SNR=63
L15K **Ungalak Mounta** 5.04 204 P Pn 13 37 04.6 +0.3
baz=20
D25K **Kavik River** 5.07 49 P Pn 13 37 04.7 +0.2
baz=239
BMAR **Burnt Mountain** 5.08 72 Pn 13 37 05.4 +0.7
J25K **Salcha River,** 5.20 104 IAML 13 38 34.9
comp=N,708nm,1.0s
J25K IAML 13 38 45.1
comp=E,553nm,1.0s
J25K **Salcha River,** 5.20 104 P Pn 13 37 06.7 +0.2
baz=294
F26K **Sheenjek River** 5.28 69 IAML 13 38 45.5
comp=N,600nm,0.9s
F26K IAML 13 38 55.1
comp=E,519nm,1.2s
F26K **Sheenjek River** 5.28 69 P Pn 13 37 08.1 +0.6
baz=261
G26K **Porcupine Rive** 5.35 77 P Pn 13 37 09.2 +0.7
baz=269
M16K **Timber Creek** 5.39 189 IAML 13 38 57.5
comp=E,555nm,0.9s
M16K **Timber Creek** 5.39 189 P Pn 13 37 08.6 -0.3
baz=7.4
K24K **Donnelly Dome** 5.43 113 P Pn 13 37 09.8 +0.1
baz=302,SNR=20
K13K **Kusilvak Mount** 5.50 220 P Pn 13 37 09.8 -0.7
baz=33
M22K **Willow** 5.53 143 P Pn 13 37 11.8 +0.9
baz=329
L14K **Kuka Creek** 5.57 209 P Pn 13 37 11.8 +0.4
baz=23
SPCR **Spurr Chakacha** 5.59 155 P Pn 13 37 13.2 +1.4
baz=339,SNR=29
SUA **Susitna One** 5.64 147 P Pn 13 37 13.7 +1.1
baz=332,SNR=88
N19K **Bonanza Creek** 5.66 167 P Pn 13 37 13.4 +0.5
baz=349,SNR=21
N18K **Kilae Creek** 5.70 174 P Pn 13 37 13.7 +0.5
baz=354
C26K **Camden Bay** 5.82 46 P Pn 13 37 15.6 +0.8
baz=238
RIDG **Independent Ri** 5.82 111 P Pn 13 37 15.0 +0.1
baz=302,SNR=6.0
N17K **Nushagak Hills** 5.82 180 Pn 13 37 15.5 +0.5
N17K **Nushagak Hills** 5.82 180 P Pn 13 37 15.4 +0.4
baz=360,SNR=17
I26K **Coal Creek Min** 5.84 94 P Pn 13 37 15.3 +0.1
baz=286
M15K **Kasigluk River** 5.87 197 P Pn 13 37 15.6 0.0
baz=14
PMR **Palmer** 5.92 140 P Pn 13 37 17.3 +1.1
baz=326,SNR=46
J26L **Joseph Creek** 5.96 102 P Pn 13 37 17.1 +0.3
baz=294
SML **Sawmill** 5.96 135 P Pn 13 37 17.6 +0.7
baz=323,SNR=38
M14K **Bethel** 6.00 203 Pn 13 37 18.0 +0.7
M14K **Bethel** 6.00 203 P Pn 13 37 18.0 +0.7
baz=19,SNR=5.9
SCRK **Sand Creek** 6.03 107 P Pn 13 37 18.3 +0.4
baz=299,SNR=9.9
C27K **Jago River** 6.04 51 P Pn 13 37 19.2 +1.3
baz=243
PAX **Paxson** 6.04 118 P Pn 13 37 18.9 +1.0
baz=309,SNR=26
M23K **Glacier View** 6.14 133 Pn 13 37 20.5 +1.1
M23K **Glacier View** 6.14 133 P Pn 13 37 19.9 +0.5
baz=322,SNR=36
DOT **Dot Lake** 6.16 110 Pn 13 37 20.4 +0.8
RDWB **Redoubt West** 6.17 160 Pn 13 37 20.4 +0.5
CAPN **Captain Cook N** 6.19 152 P Pn 13 37 20.0 +0.1
baz=337
G27K **Doyon Strip** 6.20 78 P Pn 13 37 20.9 +0.8
baz=273
RC01 **Rabbit Creek A** 6.20 145 Pn 13 37 21.4 +1.3
RC01 **Rabbit Creek A** 6.20 145 P Pn 13 37 20.7 +0.6
baz=331
SCM **Sheep Creek Mo** 6.23 132 P Pn 13 37 21.4 +0.8
baz=320,SNR=23
KNK **Knik Glacier** 6.25 138 Pn 13 37 21.6 +0.9
KNK **Knik Glacier** 6.25 138 P Pn 13 37 22.3 +1.6
baz=326,SNR=51
O19K **Port Alsworth** 6.29 167 P Pn 13 37 21.6 +0.3
baz=349,SNR=16
H27K **Steamboat Moun** 6.30 84 P Pn 13 37 23.0 +1.4
baz=278
N15K **Kwethluk River** 6.32 193 P Pn 13 37 21.5 -0.3
baz=10
I27K **Kandik River** 6.39 89 P Pn 13 37 22.8 +0.1
baz=284
M24K **Tolsona, Glenn** 6.39 126 Pn 13 37 24.8 +2.0
M24K **Tolsona, Glenn** 6.39 126 P Pn 13 37 24.1 +1.4
baz=316,SNR=26

HARP **HAARP** 6.52 122 Pn 13 37 25.8 +1.2
HARP **HAARP** 6.52 122 P Pn 13 37 25.9 +1.3
baz=312,SNR=26
M13K **Dall Lake** 6.56 208 P Pn 13 37 25.3 +0.4
baz=22
O18K **Koktuh Hills** 6.56 171 P Pn 13 37 24.7 -0.3
baz=353
O17K **Koliganek Bris** 6.58 180 P Pn 13 37 25.4 0.0
baz=360,SNR=11
O20K **Slope Mountain** 6.59 160 Pn 13 37 25.8 +0.3
O20K **Slope Mountain** 6.59 160 P Pn 13 37 25.9 +0.3
baz=344,SNR=5.5
SLKM **Skilak Lake** 6.61 149 Pn 13 37 26.6 +0.8
ILSW **Iliamna Southw** 6.62 162 Pn 13 37 26.8 +0.8
ILS **Iliamna Low So** 6.66 162 Pn 13 37 27.6 +1.1
GAMB **Gambell** 6.67 254 P Pb 13 37 45.9 +1.5
baz=61
O22K **Cooper Landing** 6.74 147 P Pn 13 37 27.8 +0.3
baz=333
PWL **Port Wells** 6.75 140 Pn 13 37 28.1 +0.6
PWL **Port Wells** 6.75 140 P Pn 13 37 28.2 +0.6
baz=328,SNR=12
N14K **Kuskokwak Cree** 6.75 200 P Pn 13 37 27.2 -0.4
baz=16
O16K **Kokwok River B** 6.77 184 Pn 13 37 27.7 -0.3
O16K **Kokwok River B** 6.77 184 P Pn 13 37 28.3 +0.3
baz=2.9,SNR=8.7
L26K **Log Cabin Wild** 6.78 113 P Pn 13 37 28.4 +0.4
baz=305,SNR=17
D27M **Malcolm River** 6.79 57 P Pn 13 37 30.1 +1.9
baz=252
EGAK **Eagle** 6.81 96 Pn 13 37 28.9 +0.3
EGAK **Eagle** 6.81 96 P Pn 13 37 28.8 +0.3
baz=290,SNR=7.7
F28M **Old Crow** 6.89 71 Pn 13 37 30.1 +0.5
F28M **Old Crow** 6.89 71 P Pn 13 37 30.6 +1.0
baz=267
KLU **Klutina** 6.92 129 Pn 13 37 31.2 +1.1
KLU **Klutina** 6.92 129 P Pn 13 37 31.9 +1.8
baz=319,SNR=47
P19K **Oil Pt** 6.93 163 Pn 13 37 31.4 +1.2
P19K **Oil Pt** 6.93 163 P Pn 13 37 30.3 +0.1
baz=346
P18K **Big Mountain,** 7.02 172 Pn 13 37 31.5 +0.1
P18K **Big Mountain,** 7.02 172 P Pn 13 37 31.2 -0.2
baz=353
GLI **Glacier Island** 7.06 136 Pn 13 37 32.9 +1.0
GLI **Glacier Island** 7.06 136 P Pn 13 37 32.2 +0.3
baz=325,SNR=12
I28M **Miner Creek** 7.10 89 P Pn 13 37 33.2 +0.6
baz=285
E28M **Babbage River** 7.13 63 P Pn 13 37 33.6 +0.7
baz=260
SEW **Seward** 7.14 147 Pn 13 37 34.7 +1.7
SEW **Seward** 7.14 147 P Pn 13 37 32.9 -0.1
baz=334,SNR=8.7
P17K **Kvichak River** 7.17 177 P Pn 13 37 32.2 -1.1
baz=357
M11K **Mekoryuk** 7.21 218 P Pn 13 37 33.3 -0.7
baz=30
BRSE **Bradley Lake S** 7.22 153 Pn 13 37 35.0 +0.9
BRSE **Bradley Lake S** 7.22 153 P Pn 13 37 33.9 -0.3
baz=339
DIV **Divide** 7.25 131 Pn 13 37 35.4 +0.8
N25K **Chitina, Valde** 7.27 125 Pn 13 37 36.4 +1.5
N25K **Chitina, Valde** 7.27 125 P Pn 13 37 35.8 +0.9
baz=316,SNR=30
O15K **Ungalikthiuk R** 7.28 191 P Pn 13 37 35.0 +0.1
baz=8.2
M26K **Nabesna, AK** 7.29 116 P Pn 13 37 36.5 +1.5
baz=309
L27K **Beaver Creek,** 7.33 109 P Pn 13 37 36.4 +0.8
baz=303
P16K **Nushagak River** 7.33 183 P Pn 13 37 37.0 +1.3
baz=2.4
CNPM **China Poot** 7.34 156 Pn 13 37 36.6 +0.9
BCAR **Beaver Creek A** 7.34 109 Pn 13 37 35.8 -0.1
O14K **Tigyukauivet M** 7.35 197 P Pn 13 37 36.5 +0.7
baz=13
H29M **Whitestone** 7.57 82 P Pn 13 37 40.7 +1.8
baz=279
D28M **Stokes Point** 7.57 58 P Pn 13 37 39.8 +0.9
baz=255
Q19K **Cape Douglas,** 7.60 166 P Pn 13 37 40.6 +1.2
baz=349
G29M **Pine Creek** 7.62 77 P Pn 13 37 41.3 +1.6
baz=274
HIN **Hinchinbrook I** 7.63 136 Pn 13 37 40.5 +0.8
GLB **Gilahina Butte** 7.65 124 Pn 13 37 41.6 +1.5
Q16K **King Salmon** 7.68 178 P Pn 13 37 41.2 +0.8
baz=358
E29M **Blow River** 7.70 66 P Pn 13 37 41.5 +0.9
baz=264
EYAK **Cordova Ski Ar** 7.72 133 P Pn 13 37 41.1 +0.3
baz=323,SNR=6.9
M27K **Edge Creek, AK** 7.72 114 P Pn 13 37 41.7 +0.6
baz=308
P23K **Montague Islan** 7.72 141 P Pn 13 37 42.0 +1.0
baz=329
BMRM **Bremner River** 7.74 128 Pn 13 37 42.1 +0.8
BMRM **Bremner River** 7.74 128 P Pn 13 37 41.3 0.0
baz=319,SNR=9.4
DAWY **Dawson** 7.80 99 P Pn 13 37 42.9 +0.9
baz=295,SNR=18
Q20K **Shuyak Island** 8.05 162 P Pn 13 37 45.2 -0.2
baz=346,SNR=5.5
SYI **Shuyak Island** 8.05 162 Pn 13 37 46.3 +0.9
BVCY **Beaver Creek** 8.07 112 P Pn 13 37 45.7 0.0
baz=306,SNR=7.2
J29N **Klondike Camp** 8.11 95 P Pn 13 37 47.5 +1.1
baz=292,SNR=20
Q17K **Contact Creek** 8.12 175 P Pn 13 37 45.9 -0.6
baz=356
EPYK **Eagle Plains** 8.20 80 P Pn 13 37 48.6 +1.0
baz=279,SNR=5.6
G30M **tAoh Zraii Nji** 8.32 76 P Pn 13 37 49.6 +0.3
baz=275,SNR=14
BALM **Baldy** 8.44 122 Pn 13 37 51.8 +0.9
F30M **Barrier River** 8.46 72 P Pn 13 37 52.0 +1.0
baz=271
YUK2 **White River** 8.46 115 Pn 13 37 51.9 +0.8
I30M **Mount Dempster** 8.60 88 P Pn 13 37 53.9 +0.8
baz=287,SNR=16
YUK3 **Moose Creek** 8.61 114 Pn 13 37 53.4 +0.1
YUK3 **Moose Creek** 8.61 114 P Pn 13 37 53.8 +0.5
baz=309
K29M **Barlow Dome** 8.64 98 P Pn 13 37 54.0 +0.3
baz=295
L29M **L29M** 8.74 103 P Pn 13 37 55.1 +0.1
baz=300,SNR=8.7
J30M **Hart River** 8.83 92 P Pn 13 37 55.9 -0.4
baz=291
KDAK **Kodiak Island** 8.84 164 Pn 13 37 59.0 +2.8
KDAK **Kodiak Island** 8.84 164 Pn Pn 13 37 58.6 +2.4
comp=E,5.2nm,0.3s,baz=330,slow=20,SNR=37
KDAK Sn Sn 13 39 36.0 +0.1
baz=351,slow=9.0
KDAK Lg Lg 13 40 23.2
comp=E,0.7nm,0.3s,baz=68,slow=7.6,SNR=3.9
KDAK LR LR 13 40 58.6
comp=E,851nm,19.1s,baz=251,slow=34
KDAK **Kodiak Island** 8.84 164 P Pn 13 37 56.0 -0.3
baz=348
M29M **Somme Creek** 8.96 107 P Pn 13 37 57.7 -0.4
baz=304
G31M **Satah River** 9.10 76 Pn 13 37 59.1 -0.6
G31M **Satah River** 9.10 76 P Pn 13 37 59.9 +0.2
baz=277
YUK8 **Steele Glacier** 9.18 115 P Pn 13 38 01.5 +0.3
baz=311,SNR=31
MESA **MESA** 9.20 125 P Pn 13 38 01.2 -0.2
baz=318
F31M **Tsiigehtchic** 9.25 72 Pn 13 38 02.9 +1.0
F31M **Tsiigehtchic** 9.25 72 P Pn 13 38 02.0 +0.1
baz=274
H31M **Peel River** 9.27 83 P Pn 13 38 02.5 +0.3
baz=284
INK **Inuvik** 9.31 67 Pn 13 38 04.5 +1.8
INK **Inuvik** 9.31 67 Pn Pn 13 38 02.9 +0.2
comp=E,0.9nm,0.3s,baz=271,slow=14,SNR=27
INK Sn Sn 13 39 43.6 -3.8
comp=E,0.6nm,0.3s,baz=225,slow=29,SNR=1.9
INK Lg Lg 13 40 42.0
comp=E,0.5nm,0.3s,baz=199,slow=17,SNR=3.5
comp=E,6.1nm,0.6s
INK **Inuvik** 9.31 67 P Pn 13 38 02.2 -0.5
baz=269

OHAK **Old Harbor** 9.32 167 P Pn 13 38 02.3 -0.5
baz=350
O28M **Mount Upton** 9.37 118 P Pn 13 38 04.0 +0.1
baz=314
M30M **Minto, Yukon** 9.54 104 Pn 13 38 06.6 +0.6
M30M **Minto, Yukon** 9.54 104 P Pn 13 38 06.4 +0.4
baz=302
YUK4 **Talbot Arm** 9.55 113 P Pn 13 38 06.0 -0.2
baz=309,SNR=7.4
PCA **Pinnacle** 9.83 122 Pn 13 38 10.6 +0.7
PINM **Pinnacle** 9.83 121 P Pn 13 38 09.4 -0.6
baz=316
SII **Sitkinak Islan** 9.90 170 P Pn 13 38 10.2 -0.7
baz=353
YUK6 **Outpost Mounta** 9.92 114 P Pn 13 38 11.1 -0.2
baz=311
CHGN **Chignik** 10.08 184 P Pn 13 38 12.7 -0.5
baz=2.7
S14K **Fog Glacier** 10.14 188 P Pn 13 38 13.5 -0.7
baz=5.3
O29M **Mount Kennedy** 10.28 117 P Pn 13 38 15.9 -0.1
baz=314
HYT **Haines Junctio** 10.31 113 P Pn 13 38 16.9 +0.3
baz=311,SNR=6.6
N31M **Braeburn, Yuko** 10.55 107 P Pn 13 38 19.9 +0.2
baz=306,SNR=5.5
M31M **Drury Creek, Y** 10.69 102 P Pn 13 38 21.8 +0.2
baz=302
O30N **Mendenhall** 10.88 111 P Pn 13 38 24.8 +0.5
baz=310
P30M **Million Dollar** 10.99 115 P Pn 13 38 25.8 +0.1
baz=313
SPIA **Saint Paul Isl** 11.05 220 P Pn 13 38 26.5 -0.1
baz=28
FARO **Faro, Yukon** 11.09 101 P Pn 13 38 26.9 -0.1
baz=302
WHY **Whitehorse** 11.41 109 Pn 13 38 32.4 +0.9
WHY **Whitehorse** 11.41 109 P Pn 13 38 30.7 -0.8
baz=309
CHNA **Chernabura Isl** 11.60 187 P Pn 13 38 33.3 -0.7
baz=4.7
PLBC **Pleasant Camp** 11.66 116 P Pn 13 38 35.1 +0.2
baz=315
N32M **Quiet Lake** 11.80 105 P Pn 13 38 36.5 -0.3
baz=306
SKAG **Skagway** 12.04 115 P Pn 13 38 39.9 -0.1
baz=314
P33M **Teslin, Yukon** 12.48 108 P Pn 13 38 46.9 +0.7
baz=310
A36M **Sachs Harbour** 12.55 49 Pn 13 38 45.6 -1.3
A36M **Sachs Harbour** 12.55 49 P Pn 13 38 45.3 -1.6
baz=259,SNR=122
P32M **Atlin** 12.55 111 P Pn 13 38 46.7 -0.4
baz=312
R31K **City Hall, Gus** 12.65 119 P Pn 13 38 48.5 +0.2
baz=318
C36M **Paulatuk** 12.74 61 Pn 13 38 48.7 -0.8
C36M **Paulatuk** 12.74 61 P Pn 13 38 49.5 0.0
baz=272
Q32M **Nakina River** 13.53 111 P Pn 13 39 00.2 -0.3
baz=313
R33M **Jennings River** 13.73 108 P Pn 13 39 02.8 -0.4
baz=311
S32K **Killisnoo** 13.77 119 P Pn 13 39 03.9 +0.3
baz=319
WTLY **Watson Lake, Y** 14.11 103 P Pn 13 39 07.7 -0.7
baz=308,SNR=5.4
WRGLY **Wrigley** 14.57 87 P Pn 13 39 14.4 -0.2
baz=297
S34M **Telegraph Cree** 14.69 113 P Pn 13 39 15.4 -0.8
baz=316
DLBC **Dease Lake** 14.73 110 P Pn 13 39 19.9 +3.0
DLBC **Dease Lake** 14.73 110 Pn Pn 13 39 19.6 +2.7
comp=E,0.8nm,0.3s,baz=321,slow=8.0,SNR=12
DLBC Lg Lg 13 43 26.9
comp=E,0.1nm,0.3s,baz=337,slow=9.8,SNR=4.0
DLBC LR LR 13 45 16.2
comp=E,772nm,19.7s,baz=318,slow=38
comp=E,2.9nm,0.5s
DLBC **Dease Lake** 14.73 110 P Pn 13 39 16.3 -0.6
baz=314
U33K **Whale Pass** 15.32 120 P Pn 13 39 24.1 -0.5
baz=322
WRAK **Wrangell Islan** 15.36 118 P Pn 13 39 24.0 -1.1
baz=320
T35M **Bob Quinn** 15.70 114 P Pn 13 39 29.1 -0.5
baz=318
CRAG **Craig** 15.84 122 P Pn 13 39 30.3 -1.0
baz=323
KOTAN **Kotaneelee Air** 15.99 97 P Pn 13 39 33.1 -0.2
baz=307,SNR=13
TOAD **Toad River Com** 16.32 102 P Pn 13 39 37.1 -0.6
baz=310,SNR=8.4
V35K **Ketchikan** 16.47 120 P Pn 13 39 39.0 -0.5
baz=322
YKA **Yellowknife Ar** 18.49 82 P Pn 13 40 05.8 +1.3
comp=E,0.5nm,0.3s,baz=250,slow=9.6,SNR=37
YKA Sn Sn 13 43 19.1 -12
comp=E,0.1nm,0.3s,baz=297,slow=23,SNR=2.2
YKA Lg Lg 13 45 32.3
baz=296,slow=28
comp=E,8.8nm,1.0s
SHEM **Shemya Is, Ala** 19.69 240 LR LR 13 47 53.4
comp=E,354nm,18.1s,baz=76,slow=37
BBB **Bella Bella** 20.24 120 LR LR 13 48 03.0
comp=E,403nm,19.3s,baz=335,slow=36
RES **Resolute Bay** 21.26 40 P P 13 40 35.9 +1.4
RES **Resolute Bay** 21.26 40 P P 13 40 35.2 +0.7
comp=E,1.9nm,0.8s,baz=270,slow=7.3,SNR=7.8
RES S S 13 44 24.5 -6.0
comp=E,3.9nm,0.7s,baz=224,slow=15,SNR=4.6
RES LR LR 13 50 39.1
comp=E,345nm,21.0s,baz=214,slow=42
comp=E,1.9nm,0.8s
SEY **Seymchan** 21.40 285 P P 13 40 36.8 +0.7
comp=E,4.8nm,0.7s,baz=80,slow=8.1,SNR=13
SEY Lg Lg 13 47 08.5
baz=119,slow=19
comp=E,4.8nm,0.7s
PETK **Petropavlovsk-** 25.64 261 P P 13 41 17.7 -0.3
comp=E,1.6nm,0.7s,baz=54,slow=9.9,SNR=4.5
comp=E,1.6nm,0.7s
NEW **Newport** 27.47 111 LR LR 13 53 57.6
comp=E,280nm,20.3s,baz=0.5,slow=39
FCC **Fort Churchill** 28.82 75 P P 13 41 47.1 +0.6
FCC IAmb IAmb 13 41 51.2
comp=Z,12nm,1.4s
YAK **Yakutsk** 30.47 297 LR LR 13 55 44.9
comp=Z,370nm,18.8s,baz=44,slow=40
KSXB **Camp Six Broad** 30.66 127 P P 13 42 03.6 +0.5
ULM **Lac du Bonnet** 34.31 87 P P 13 42 35.0 +0.2
ULM IAmb IAmb 13 42 39.3
comp=Z,16nm,1.5s
ULM **Lac du Bonnet** 34.31 87 P P 13 42 36.1 +1.3
comp=Z,3.1nm,0.7s,baz=327,slow=8.0,SNR=6.0
ULM LR LR 13 56 46.5
comp=Z,541nm,18.2s,baz=332,slow=37
comp=Z,3.1nm,0.7s
FRB **Frobisher Bay** 34.53 52 LR LR 13 58 59.4
comp=Z,308nm,21.0s,baz=306,slow=40
PDAR **Pinedale Array** 34.97 108 P P 13 42 41.8 +0.9
PDAR **Pinedale Array** 34.97 108 P P 13 42 42.5 +1.6
comp=Z,0.9nm,0.9s,baz=335,slow=7.0,SNR=4.9
comp=Z,0.9nm,0.9s
NVAR **Mina Array Bea** 35.58 122 P P 13 42 48.5 +2.3
comp=Z,2.5nm,0.8s,baz=322,slow=7.3,SNR=6.8
comp=Z,2.5nm,0.8s
R11B **Troy Canyon, C** 36.60 119 P P 13 42 54.5 -0.3
baz=333
SFJD **Kangerlussuaq** 37.24 39 LR LR 14 00 41.8
comp=Z,206nm,19.4s,baz=334,slow=40
NRIK **Noril'sk** 37.43 328 P P 13 42 59.6 -1.7
comp=Z,1.4nm,0.5s,baz=54,slow=6.6,SNR=4.3
comp=Z,1.4nm,0.5s
N23A **Red Feather La** 37.96 106 P P 13 43 05.5 -1.0
baz=329
ASAJ **Asahikawa** 38.84 266 P P 13 43 12.9 -0.5
comp=Z,7.0nm,0.9s,baz=340,slow=5.1,SNR=2.4
comp=Z,7.0nm,0.9s
KLR **Kul'dur** 39.05 280 P P 13 43 14.7 -0.5
comp=Z,2.2nm,0.6s,baz=68,slow=7.3,SNR=6.6
comp=Z,2.2nm,0.6s
T25A **Trinidad** 41.81 107 P P 13 43 37.9 -0.6
baz=331
SCHQ **Schefferville** 41.85 60 P P 13 43 39.3 +1.0
comp=Z,9.2nm,1.0s,baz=320,slow=7.9,SNR=3.7
SCHQ LR LR 14 01 39.2
comp=Z,294nm,20.2s,baz=28,slow=37
comp=Z,9.2nm,1.0s

USRK Ussuriysk Ar. 43.05 275 P **P 13 43 49.3 +1.1**
comp=Z,1.8nm,0.8s,baz=52,slow=15,SNR=2.8
comp=Z,1.8nm,0.8s

ARCES ARCESS Array B 44.39 359 P **P 13 43 59.1 +0.3**
comp=Z,3.1nm,0.9s,baz=6.2,slow=9.2,SNR=2.0
comp=Z,3.1nm,0.9s

O48B Farmland 46.81 87 P **P 13 44 16.8 -1.4**
baz=328

MJAR Matsushiro Arr 47.03 264 P **P 13 44 21.1 +1.1**
comp=Z,1.2nm,0.7s,baz=8.4,slow=9.6,SNR=4.8
comp=Z,1.2nm,0.7s

TXAR Lajitas Array 49.03 112 P **P 13 44 37.2 +1.7**
comp=Z,1.9nm,0.9s,baz=330,slow=5.5,SNR=12
comp=Z,1.9nm,0.9s

SONM Songino Array 49.80 299 P **P 13 44 42.6 +1.3**
comp=Z,1.8nm,0.6s,baz=32,slow=7.1,SNR=9.5
comp=Z,1.8nm,0.6s

DRIO Del Rio 50.10 108 P **P 13 44 43.8 +0.1**
DRIO IAmb IAmb 13 44 47.5
comp=Z,6.3nm,1.0s

KSRS Korea Array 50.39 274 P **P 13 44 46.6 +0.9**
comp=Z,1.7nm,0.8s,baz=16,slow=6.8,SNR=6.1
comp=Z,1.7nm,0.8s

ZALV Zalesovo Beam 51.26 318 P **P 13 44 52.1 0.0**
comp=Z,2.1nm,0.8s,baz=25,slow=7.4,SNR=9.1
comp=Z,2.1nm,0.8s

FINES FINESS Array B 52.51 358 P **P 13 45 01.8 +0.5**
comp=Z,1.6nm,0.9s,baz=1.8,slow=6.3,SNR=1.3
comp=Z,1.6nm,0.9s

HFS Hagfors 53.66 6 P **P 13 45 09.9 +0.1**
comp=Z,3.2nm,1.0s,baz=22,slow=4.7,SNR=1.8
comp=Z,3.2nm,1.0s

KIRV Kirov 53.83 343 LR LR 14 12 28.5
comp=Z,93nm,18.6s,baz=7.4,slow=41

HHC Hu-ho-hao-te 53.90 290 *eP* **P 13 45 11.7 -0.2**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,88nm,4.0s
HHC LR LR
comp=Z,420nm,19.3s
HHC LR LR
comp=Z,660nm,17.7s
HHC LR LR
comp=Z,290nm,17.7s

BTO Baotou 54.70 291 *eP* **P 13 45 19.2 +1.5**
BTO pmax pmax
comp=Z,8.0nm,0.9s
BTO pmax pmax
comp=Z,560nm,5.4s

ARTI Arti 54.72 337 P **P 13 45 18.0 +0.5**
comp=Z,1.9nm,0.6s,baz=317,slow=2.1,SNR=3.4
comp=Z,1.9nm,0.6s

BVAR Borovoye Array 55.64 327 P **P 13 45 23.8 -0.4**
comp=Z,1.9nm,0.7s,baz=34,slow=7.5,SNR=9.1
comp=Z,1.9nm,0.7s

HNS HongShan 55.69 285 *eP* **P 13 45 28.6 +3.8**
HNS S **S 13 53 12.1 +1.1**
HNS LR LR
comp=Z,490nm,14.4s
HNS LR LR
comp=Z,290nm,14.4s

KURBB Kurchatov Arra 55.93 321 P **P 13 45 26.4 +0.1**
comp=Z,2.6nm,1.0s,baz=26,slow=6.5,SNR=8.0
comp=Z,2.6nm,1.0s

EKA Eskdalemuir Ar 57.08 17 P **P 13 45 34.5 +0.1**
comp=Z,2.0nm,0.6s,baz=336,slow=4.5,SNR=10
comp=Z,2.0nm,0.6s

MK31 Makanchi Array 58.42 316 P **P 13 45 43.4 -0.7**
MK31 Makanchi Array 58.42 316 *i* PKIKP **P 13 45 43.6 -0.5**
MKAR Makanchi Array 58.42 316 P **P 13 45 42.7 -1.3**
comp=Z,1.1nm,0.8s,baz=33,slow=5.2,SNR=6.8
comp=Z,1.1nm,0.8s

NJ2 Nanjing 58.73 279 *eP* **P 13 45 46.7 +0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s

GTA Gaotai 59.48 299 *eP* **P 13 45 52.4 +0.8**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=Z,310nm,15.5s
GTA LR LR
comp=Z,410nm,16.3s
GTA LR LR
comp=Z,340nm,19.1s

WMQ Urumqi 59.54 311 *eP* **P 13 45 51.9 0.0**
AKTO Aktyubinsk 60.51 335 P **P 13 45 58.0 -0.4**
comp=Z,1.9nm,0.8s,baz=12,slow=7.4,SNR=6.5
comp=Z,1.9nm,0.8s

LZH Lanzhou 60.97 294 *eP* **P 13 46 03.3 +1.4**
LZH sP sP 13 46 13.0 +7.5
LZH pmax pmax
comp=Z,7.0nm,1.5s
LZH LR LR
comp=Z,230nm,15.8s
LZH LR LR
comp=Z,230nm,15.5s
LZH LR LR
comp=Z,420nm,13.7s

ABKAR Akbulak array 61.31 333 P **P 13 46 04.0 +0.2**
ABKAR IAmb IAmb 13 46 08.0
comp=Z,9.7nm,1.5s

AKASG Malin Array Be 63.20 355 P **P 13 46 15.8 -0.6**
comp=Z,0.3nm,0.5s,baz=6.0,slow=6.6,SNR=5.4
comp=Z,0.3nm,0.5s

AAK Ala-Archa 64.37 320 P **P 13 46 24.6 +0.1**
comp=Z,2.5nm,0.9s,baz=55,slow=5.4,SNR=6.9
comp=Z,2.5nm,0.9s

GUMO Guam 65.06 245 LR LR 14 13 13.1
comp=Z,46nm,20.8s,baz=50,slow=34

KSH Kashi 66.90 318 P P 13 46 48.0 +7.2
KSH pmax pmax
comp=Z,2.0nm,1.2s
KSH LR LR
comp=Z,250nm,11.0s
KSH LR LR
comp=Z,380nm,14.8s
KSH LR LR
comp=Z,220nm,13.7s

ONER Baraj Valea Uz 67.64 357 ⇓P **P 13 46 47.2 +2.0**
OZUR 67.89 358 ⇓P **P 13 46 48.8 +1.9**
DOPR Dopca 68.02 358 ⇑P **P 13 46 49.7 +2.0**
VRI Vrincioaia 68.10 357 ⇑P **P 13 46 47.3 -0.9**
VRI Vrincioaia 68.10 357 ⇑PKIKP **P 13 46 47.3 -0.9**
PLOR Plostina 68.12 357 ⇑P **P 13 46 47.5 -0.8**
PLOR Plostina 68.12 357 ⇑PKIKP **P 13 46 47.5 -0.8**
COVR Voineasa-Covas 68.13 357 ⇑P **P 13 46 48.1 -0.3**
SURR Surduc 68.25 1 ⇓P **P 13 46 53.1 +4.0**
BZS Buzias 68.39 1 ⇑P **P 13 46 53.8 +3.8**
BZS Buzias 68.39 1 ⇑PKP2 **P 13 46 53.8 +3.8**
VOIR 68.56 358 ⇑P **P 13 46 50.6 -0.6**
VOIR 68.56 358 ⇑PKP2 **P 13 46 50.6 -0.6**
GZR Gura Zlata 68.61 0 ⇑P **P 13 46 53.2 +1.7**
GZR Gura Zlata 68.61 0 ⇑PKP2 **P 13 46 53.2 +1.7**
ARR Arges 68.63 359 ⇑P **P 13 46 51.1 -0.5**
FRGS Fruska Gora 68.82 2 *eP* **P 13 46 56.2 +3.5**
A051A Mrakovica 68.90 5 *eP* **P 13 46 56.6 +3.3**
HERR Herculane 69.12 0 ⇓P **P 13 46 55.0 +0.5**
BLY Banja Luka 69.17 4 ⇑⇑P **P 13 46 58.7 +3.8**
MDVR Moldovita 69.22 1 ⇓P **P 13 46 55.7 +0.5**
A050A Klekovaca 69.42 5 *eP* **P 13 46 58.7 +2.2**
TEKS Tekeris 69.43 3 *eP* **P 13 46 57.3 +0.8**
CHGR Chuyangaron 69.47 323 P **P 13 46 56.4 -0.5**
CHGR IAmb IAmb 13 47 00.8
comp=Z,14nm,0.8s

BBLS Lazi&#263i 70.11 3 ⇑*iP* **P 13 46 59.3 -1.4**
PZH PanZhiHua 70.35 291 P **P 13 47 02.6 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s

RUDO Rudo 70.36 3 ⇑*iP* **P 13 46 59.8 -2.4**
SJES Sjenica 70.72 2 ⇑*iP* **P 13 47 00.6 -4.0**
STON Ston 71.06 4 ⇑*iP* **P 13 47 02.0 -4.4**
ESDC Sonseca Array 72.32 21 P **P 13 47 12.9 -1.3**
comp=Z,1.2nm,0.8s,baz=348,slow=4.8,SNR=4.6
comp=Z,1.2nm,0.8s

KEST Kesra 77.73 11 P **P 13 47 45.8 +0.3**
comp=Z,2.5nm,0.7s,baz=0.0,slow=1.0,SNR=3.5
comp=Z,2.5nm,0.7s

CMAR Chiang Mai Arr 78.71 290 P **P 13 47 50.5 -0.6**
comp=Z,0.6nm,0.9s,baz=360,slow=6.1,SNR=6.4
comp=Z,0.6nm,0.9s

SDV Santo Domingo 80.52 90 LR LR 14 26 24.9
comp=Z,123nm,18.1s,baz=352,slow=38

PCRV Puerto La Cruz 81.77 84 LR LR 14 25 00.9
comp=Z,74nm,20.1s,slow=36

WRA Warramunga Arr 99.85 243 P **Pdif 13 49 34.4 +1.3**
comp=Z,0.3nm,0.7s,baz=50,slow=6.4,SNR=2.1
comp=Z,0.3nm,0.7s

---

*IDC **10** 13:44:17.5±1.3,27.06S×176.45W,h0km,mb3.9/6, mbtmp3.9/6,ML5.7/1,Error ellipse: s-maj=34.6km s-min=25.5km az=110.0*
*NEIC **10** 13:44:19.7±1.2,27.0S±0.1×176.5W±0.2,h22km±6km, mb4.5/10,Error ellipse: s-maj=23.8km s-min=13.6km az=57.0*
ISC 10 13:44:21.7±0.9,26.99S±0.08×176.6W±0.1,h35km,n21, σ1846/22,mb4.2/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.53**	**207**	Pn	**Pn**	**13 44 59.4**	**-0.9**
RAO	**Raoul Island**	**2.53**	**207**	Pn	**Pn**	**13 44 59.6**	**-0.7**
1μm,0.3s,baz=37,slow=20,SNR=15							
RAO				Sn	**Sn**	**13 45 32.3**	**+2.4**
97nm,0.3s,baz=30,slow=20,SNR=1.4							
BKZ	**Black Stump Fm**	**13.44**	**204**	Pn	**Pn**	**13 47 28.4**	**-1.5**
HIZ	**Hauiti**	**13.54**	**210**	Pn	**Pn**	**13 47 30.7**	**-0.5**
MSWZ	**Moikau Station**	**15.87**	**203**	Pn	**Pn**	**13 48 01.8**	**-0.6**
ONTNC	**Ouen Toro**	**16.08**	**283**	Pn	**P**	**13 48 06.3**	**-1.9**
ONTNC				IAmb	IAmb	13 48 24.3	
comp=Z,42nm,1.3s							
RABL	**Rabaul**	**37.45**	**302**	P	**P**	**13 51 32.0**	**0.0**
PATS	**Pohnpei**	**41.48**	**321**	P	**P**	**13 52 03.7**	**-1.8**
PATS				IAmb	IAmb	13 52 04.5	
comp=Z,4.4nm,0.5s							
ASAR	**Alice Springs**	**44.62**	**263**	P	**P**	**13 52 33.1**	**+2.1**
comp=Z,0.3nm,0.4s,baz=109,slow=8.4,SNR=18							
comp=Z,0.3nm,0.4s							
WR0	**Warramunga Arr**	**45.12**	**268**	P	**P**	**13 52 34.9**	**-0.2**
WRA	**Warramunga Arr**	**45.31**	**268**	P	**P**	**13 52 36.4**	**-0.1**
WRA	**Warramunga Arr**	**45.31**	**268**	P	**P**	**13 52 39.2**	**+2.7**
comp=Z,0.5nm,0.6s,baz=105,slow=8.0,SNR=5.8							
comp=Z,0.5nm,0.6s							
WB0	**Warramunga Arr**	**45.32**	**268**	P	**P**	**13 52 36.8**	**+0.2**
WB0				IAmb	IAmb	13 52 57.3	
comp=Z,12nm,1.4s							
PSA00	**Pilbara Seismi**	**57.65**	**261**	P	**P**	**13 54 07.9**	**-0.9**
PSA00				IAmb	IAmb	13 54 32.6	
comp=Z,8.0nm,1.0s							
QSPA	**South Pole Qui**	**63.11**	**180**	P	**P**	**13 54 45.7**	**+0.1**
QSPA	**South Pole Qui**	**63.11**	**180**	P	**P**	**13 54 46.1**	**+0.5**
comp=Z,3.7nm,1.1s,baz=50,slow=5.8,SNR=4.4							
comp=Z,3.7nm,1.1s							
KKM	**Kota Kinabalu**	**72.72**	**286**	P	**P**	**13 55 47.2**	**+0.4**
MJAR	**Matsushiro Arr**	**76.18**	**324**	P	**P**	**13 56 07.7**	**+1.4**
comp=Z,2.0nm,0.8s,baz=148,slow=4.9,SNR=5.3							
comp=Z,2.0nm,0.8s							
BI02	**San Fabin de**	**85.49**	**129**	P	**P**	**13 56 54.4**	**-1.9**
TXAR	**Lajitas Array**	**89.52**	**57**	P	**P**	**13 57 17.3**	**+1.6**
comp=Z,0.2nm,0.8s,baz=230,slow=4.7,SNR=2.1							
comp=Z,0.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.44**	**289**	P	**P**	**13 57 35.5**	**+1.5**
comp=Z,0.4nm,0.4s,baz=121,slow=3.9,SNR=2.6							
comp=Z,0.4nm,0.4s							

---

*NAO **10** 13:57:08.1±1.9,78.19N×7.11E,ML2.8*
*KOLA **10** 13:57:09.9,78.24N×7.86E,h0km,ML2.8,Error ellipse: s-maj=14.5km s-min=12.5km az=100.0,Greenland sea,Knipovich ridge, middle*
*DNK **10** 13:57:10.1±3.1,78.21N×7.21E,h0km±62km,ML1.8*
*IDC **10** 13:57:12.7±0.7,78.53N×7.92E,h0km,mb3.6/15, mbtmp3.7/17,ML2.8/2,MS3.6/5,Error ellipse: s-maj=19.6km s-min=10.4km az=24.0*
*BER **10** 13:57:12.1±3.5,78.15N×7.23E,h18km±31km,mb(Pn)3.9, ML2.8(NAO),Confirmed Earthquake*
*FCIAR **10** 13:57:14.0,78.13N×8.58E,h10km,station OMEGA has station magnitude of 3.90 station ZFI2 has station magnitude of 4.00*
ISC 10 13:57:13.1±1.8,78.32N±0.06×7.99E±0.05,h10km±10km, n57,σ2965/71,mb3.7/16,MS3.7/3,1D,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.99**	**50**	Pn	**Pg**	**13 57 32.0**	**-0.1**
KBS				Sn	**Sg**	**13 57 45.6**	**+0.6**
KBS	**Kingsbay**	**0.99**	**50**	*eP*	**Pg**	**13 57 31.7**	**-0.4**
KBS				*eS*	**Sg**	**13 57 45.9**	**+0.9**
KBS				IAML		13 57 48.2	
comp=Z,867nm,0.5s							
KBS	**Kingsbay**	**0.99**	**50**	P	**Pg**	**13 57 31.6**	**-0.6**
KBS				S	**Sg**	**13 57 44.6**	**-0.4**
KBS	**Kingsbay**	**0.99**	**50**	⇓*iP*	**Pg**	**13 57 32.0**	**-0.1**
KBS				*i* S	**Sg**	**13 57 45.6**	**+0.6**
KBS	**Kingsbay**	**0.99**	**50**	*i* P	**Pg**	**13 57 31.1**	**-1.0**
KBS				*i* S	**Sg**	**13 57 45.5**	**+0.5**
BRBB	**Barentsburg B**	**1.30**	**97**	Pn	**Pn**	**13 57 35.7**	**-1.5**
BRBB				Sn	**Sb**	**13 57 52.4**	**-1.8**
BRBB	**Barentsburg B**	**1.30**	**97**	*eP*	**Pn**	**13 57 35.9**	**-1.3**
BRBB				*eS*	**Sb**	**13 57 52.4**	**-1.8**
BRBB	**Barentsburg B**	**1.30**	**97**	P	**Pn**	**13 57 35.6**	**-1.5**
BRBB				S	**Sb**	**13 57 53.7**	**-0.5**
BRBA	**Barentsburg A**	**1.31**	**99**	Pn	**Pn**	**13 57 35.7**	**-1.6**
BRBA				Sn	**Sb**	**13 57 53.2**	**-1.2**
BRBA	**Barentsburg A**	**1.31**	**99**	*eP*	**Pn**	**13 57 36.2**	**-1.1**
BRBA				*eS*	**Sb**	**13 57 53.0**	**-1.4**
BRBA				IAML		13 57 57.5	
comp=Z,182nm,0.8s							
SPA0	**Spitsbergen Ar**	**1.72**	**91**	Pn	**Pn**	**13 57 42.8**	**-0.2**
baz=252,slow=12							
SPA0				Sn	**Sn**	**13 58 05.3**	**+0.3**
baz=262,slow=22							
SPA0	**Spitsbergen Ar**	**1.72**	**91**	Pn	**Pn**	**13 57 42.8**	**-0.2**
baz=252,slow=12							
SPA0				Sn	**Sn**	**13 58 05.3**	**+0.3**
baz=262,slow=22							
SPA0	**Spitsbergen Ar**	**1.72**	**91**	*eP*	**Pn**	**13 57 42.9**	**-0.2**
SPA0				*eS*	**Sn**	**13 58 03.6**	**-1.4**
SPITS	**Spitsbergen Ar**	**1.72**	**91**	Pn	**Pn**	**13 57 43.7**	**+0.6**
baz=261,slow=14							
SPITS				Sn	**Sn**	**13 58 05.9**	**+0.9**
baz=291,slow=19							
SPITS	**Spitsbergen Ar**	**1.72**	**91**	P	**Pn**	**13 57 42.6**	**-0.4**
SPITS				S	**Sn**	**13 58 05.2**	**+0.2**
HSPB	**Hornsund (broa**	**2.10**	**126**	Pn	**Pn**	**13 57 45.2**	**-2.9**
HSPB				Sn	**Sn**	**13 58 09.5**	**-4.6**
HSPB	**Hornsund (broa**	**2.10**	**126**	*eP*	**Pn**	**13 57 45.2**	**-2.9**
HSPB				*eS*	**Sn**	**13 58 10.0**	**-4.2**
HSPB				IAML		13 58 15.2	
comp=Z,30nm,0.6s							
HSPB	**Hornsund (broa**	**2.10**	**126**	P	**Pn**	**13 57 45.0**	**-3.1**
HSPB				S	**Sn**	**13 58 09.7**	**-4.4**
HOPEN	**Hopen**	**4.13**	**108**	Pn	**Pn**	**13 58 14.6**	**-1.5**
HOPEN				Sn	**Sn**	**13 59 00.2**	**-4.1**
HOPEN	**Hopen**	**4.13**	**108**	*eP*	**Pn**	**13 58 14.1**	**-2.0**
HOPEN				*eS*	**Sn**	**13 59 00.1**	**-4.2**
HOPEN				IAML		13 59 03.5	
comp=Z,17nm,0.4s							
HOPEN	**Hopen**	**4.13**	**108**	*eP*	**Pn**	**13 58 14.1**	**-2.0**
HOPEN				*eS*	**Sn**	**13 58 59.2**	**-5.1**
NOR	**Nord**	**5.37**	**319**	Pn	**Pn**	**13 58 29.5**	**-3.5**
NOR				Sn	**Sn**	**13 59 27.0**	**-7.8**
NOR	**Nord**	**5.37**	**319**	*i* P	**Pn**	**13 58 29.7**	**-3.3**
NOR				*i* S	**Sn**	**13 59 27.3**	**-7.5**
NOR				IAML		13 59 37.2	
comp=Z,2.5nm,0.3s							
NOR	**Nord**	**5.37**	**319**	*i* P	**Pn**	**13 58 29.7**	**-3.3**
NOR				*i* S	**Sn**	**13 59 27.3**	**-7.5**
NOR				IAML		13 59 37.2	
comp=Z,2.5nm,0.3s							
DAG	**Danmarks Havn**	**5.93**	**268**	*e*	Pn	13 58 28.9	-12
baz=65,slow=14							
DAG				*i* P	Pb	13 58 34.0	-22
DAG				*i*		13 59 34.8	
DAG				IAML		13 59 41.2	
comp=Z,7.6nm,0.3s							
DAG	**Danmarks Havn**	**5.93**	**268**	*e*	Pn	13 58 28.9	-12
baz=65,slow=14							
DAG				*i* P	Pb	13 58 34.0	-22
DAG				*i* P	Pb	13 58 34.0	-22
DAG				*i*		13 59 34.8	
DAG				IAML		13 59 41.2	
comp=Z,7.6nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.47**	**52**	*eP*	**Pn**	**13 59 02.1**	**+0.2**
ZFI2				*eS*	**Sn**	**14 00 21.7**	**-4.7**
comp=Z,39nm,1.0s							

OMEGA Omega 7.49 52 *eP* **Pn 13 59 02.0 0.0**
OMEGA *eS* **Sn 14 00 22.4 -4.3**
comp=Z,32nm,3.0s

DBG Daneborg 7.72 253 Pn Pn 13 58 58.6 -6.7
DBG Sn Sn 14 00 15.6 -17
DBG Daneborg 7.72 253 *i* P Pn 13 58 58.2 -7.1
DBG *i* 14 00 16.4
DBG IAML 14 00 26.1
comp=Z,1.9nm,0.4s

DBG Daneborg 7.72 253 *i* P Pn 13 58 58.2 -7.1
DBG *i* 14 00 16.4
DBG IAML 14 00 26.1
comp=Z,1.9nm,0.4s

ARCES ARCESS Array B 10.00 142 Pn **Pn 13 59 38.1 +1.6**
comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=3.7
ARCES LR LR 14 04 51.4
comp=Z,109nm,18.9s,baz=311,slow=45
comp=Z,5.3nm,1.1s

NEEM North Greenlan 11.98 295 *i* P Pn 13 59 57.7 -6.0
NEEM *i* S Sn 14 01 58.3 -19
NEEM IAML 14 02 06.5
comp=Z,2.5nm,0.4s

NEEM North Greenlan 11.98 295 *i* P Pn 13 59 57.7 -6.0
NEEM *i* S Sn 14 01 58.3 -19
NEEM IAML 14 02 06.5
comp=Z,2.5nm,0.4s

SUMG Summit 12.62 268 *i* P Pn 14 00 03.6 -9.1
SUMG *i* S Sn 14 02 14.8 -18
SUMG IAML 14 02 17.2
comp=Z,0.9nm,0.3s

SUMG Summit 12.62 268 *i* P Pn 14 00 03.6 -9.1
SUMG *i* S Sn 14 02 14.8 -18
SUMG IAML 14 02 17.2
comp=Z,0.9nm,0.3s

LSH Leshukonskoye 17.43 119 P **P 14 01 17.0 0.0**
comp=Z,83nm,3.1s

FINES FINESS Array B 17.89 151 P **P 14 01 25.8 +3.6**
comp=Z,0.1nm,0.3s,baz=7.0,slow=13,SNR=2.4
comp=Z,3.2nm,0.8s

SFJD Kangerlussuaq 19.62 268 LR LR 14 09 06.3
comp=Z,238nm,19.7s,baz=16,slow=36

NRIK Noril'sk 21.81 70 P **P 14 02 04.7 -0.1**
comp=Z,1.3nm,0.4s,baz=345,slow=8.6,SNR=3.8
comp=Z,1.3nm,0.4s

BELG Belogornoye 29.57 128 LR LR 14 15 07.5
comp=Z,184nm,20.9s,baz=25,slow=36

BVAR Borovoye Array 33.15 102 P **P 14 03 49.0 0.0**
comp=Z,1.1nm,0.8s,baz=328,slow=5.1,SNR=3.8
comp=Z,1.1nm,0.8s

ZALV Zalesovo Beam 35.20 87 P **P 14 04 08.5 +1.7**
comp=Z,1.0nm,0.7s,baz=316,slow=8.3,SNR=4.8
comp=Z,1.0nm,0.7s

YKA Yellowknife Ar 35.30 317 P **P 14 04 06.8 -0.6**
comp=Z,0.3nm,0.8s,baz=14,slow=8.3,SNR=4.9
comp=Z,0.3nm,0.8s

ILAR Eielson Array 36.34 342 P **P 14 04 16.9 +0.5**
comp=Z,2.4nm,0.9s,baz=1.3,slow=7.3,SNR=13
comp=Z,2.4nm,0.9s

KURBB Kurchatov Arra 37.07 95 P **P 14 04 24.2 +1.5**
comp=Z,1.3nm,0.8s,baz=338,slow=8.0,SNR=12
comp=Z,1.3nm,0.8s

KBZ Khabaz 37.30 137 P **P 14 04 26.5 +1.8**
comp=Z,1.3nm,1.0s,baz=328,slow=15,SNR=4.7
comp=Z,1.3nm,1.0s

BRTR Keskin Array B 40.11 149 P **P 14 04 49.5 +1.0**
comp=Z,0.4nm,0.6s,baz=336,slow=6.3,SNR=3.7
comp=Z,0.4nm,0.6s

MKAR Makanchi Array 41.48 93 P **P 14 05 00.6 +1.0**
comp=Z,1.2nm,0.8s,baz=352,slow=7.4,SNR=13
comp=Z,1.2nm,0.8s

SONM Songino Array 45.30 70 P **P 14 05 30.4 -0.1**
comp=Z,0.4nm,0.7s,baz=345,slow=10,SNR=2.1
comp=Z,0.4nm,0.7s

PDAR Pinedale Array 53.63 306 P **P 14 06 34.2 -0.1**
comp=Z,0.4nm,0.9s,baz=7.3,slow=5.1,SNR=2.8
comp=Z,0.4nm,0.9s

NVAR Mina Array Bea 59.25 313 P **P 14 07 14.1 -0.2**
comp=Z,0.1nm,0.3s,baz=37,slow=7.5,SNR=2.2
comp=Z,0.1nm,0.3s

TORD Torodi Ar. Bea 65.26 187 P **P 14 07 58.0 +3.5**
comp=Z,1.1nm,1.0s,baz=15,slow=6.0,SNR=5.1
comp=Z,1.1nm,1.0s

TXAR Lajitas Array 65.70 297 P **P 14 07 58.1 +0.8**
comp=Z,0.4nm,0.8s,baz=28,slow=6.7,SNR=3.8
TXAR LR LR 14 36 03.2
comp=Z,39nm,18.3s,baz=6.0,slow=36
comp=Z,0.4nm,0.8s

CMAR Chiang Mai Arr 72.25 85 P **P 14 08 38.5 +0.5**
comp=Z,0.2nm,0.3s,baz=4.8,slow=5.1,SNR=1.6
comp=Z,0.2nm,0.3s

JTS Las Juntas de 80.59 275 LR LR 14 46 39.7
comp=Z,65nm,18.8s,baz=55,slow=37

DAV Davao City (W) 88.51 62 P **P 14 10 06.3 +0.9**
comp=Z,111nm,0.3s,baz=0.0,slow=8.1,SNR=3.7

---

*NEIC **10** 14:02:09.0±0.9,66.31N±0.01×157.16W±0.04,h13km±4km, Error ellipse: s-maj=2.3km s-min=2.1km az=71.0*
AEIC 10 14:02:08.7±1.1,66.301N±0.009×157.18W±0.04, h15km±3km,ML2.3,ML2.5/18(NEIC),Error ellipse: s-maj=2.6km s-min=1.2km az=92.0,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.16**	**167**		Pg	14 02 12.9	+0.1
G19K					Sg	14 02 15.6	+0.1
G19K	**Purcell Mounta**	**0.16**	**167**	IAML		14 02 16.0	
comp=E,4μm,0.2s							
G19K				IAML		14 02 16.0	
comp=N,3μm,0.2s							
F19K	**Shaleruckik Mo**	**0.59**	**336**		Pg	14 02 20.1	-0.1
F19K					Sb	14 02 28.6	-0.1
F19K	**Shaleruckik Mo**	**0.59**	**336**	IAML		14 02 29.3	
comp=E,75nm,0.3s							
F19K				IAML		14 02 31.7	
comp=N,61nm,0.6s							
G18K	**Tagagawik**	**0.73**	**237**		Pb	14 02 23.1	0.0
G18K					Sb	14 02 33.4	+0.6
H19K	**Roundabout Mou**	**0.83**	**159**		Pb	14 02 24.8	0.0
H19K				IAML		14 02 41.9	
comp=N,132nm,0.2s							
H19K				IAML		14 02 42.6	
comp=E,192nm,0.1s							
H19K	**Roundabout Mou**	**0.83**	**159**		Sb	14 02 36.7	+1.0
F20K	**Avaraart Lake**	**0.95**	**37**		Pb	14 02 26.8	+0.1
F20K					Sn	14 02 40.6	0.0
F20K	**Avaraart Lake**	**0.95**	**37**	IAML		14 02 43.6	
comp=N,95nm,0.3s							
F20K				IAML		14 02 43.9	
comp=E,143nm,0.5s							
F18K	**Selawik**	**1.04**	**288**		Pn	14 02 28.6	-0.1
F18K					Sn	14 02 43.6	+0.7
E19K	**Redstone River**	**1.16**	**359**		Pb	14 02 30.8	+0.3
E19K					Sn	14 02 45.7	-0.2
E19K	**Redstone River**	**1.16**	**359**	IAML		14 02 48.7	
comp=N,98nm,0.5s							
E19K				IAML		14 02 49.1	
comp=E,115nm,0.3s							
H20K	**Anotleneega Mo**	**1.24**	**130**		Pg	14 02 32.3	-0.3
H20K					Sg	14 02 50.0	+1.2
H18K	**Honhosa River**	**1.25**	**204**		Pb	14 02 32.4	+0.4
H18K	**Honhosa River**	**1.25**	**204**	IAML		14 02 51.7	
comp=E,103nm,0.5s							
H18K				IAML		14 02 52.9	
comp=N,96nm,0.4s							
G21K	**Allakaket**	**1.49**	**80**		Pn	14 02 35.0	0.0
G21K				IAML		14 03 31.3	
comp=N,94nm,0.5s							
GCSA	**Galena City Sc**	**1.57**	**175**		Pg	14 02 38.3	-0.5
G17K	**Kiwalik Mounta**	**1.64**	**242**		Pb	14 02 38.5	0.0
D19K	**Kuna River**	**2.23**	**351**	Pn	Pn	14 02 45.2	0.0

---

*IDC **10** 14:04:39.4±0.8,9.67N×126.21E,h0km,mb3.9/11, mbtmp3.9/11,Error ellipse: s-maj=83.4km s-min=15.8km az=69.0*
*NEIC **10** 14:04:42.6±1.6,9.8N±0.1×126.2E±0.2,h10km±1km, mb4.4/19,Error ellipse: s-maj=27.0km s-min=19.3km az=84.0*
ISC 10 14:04:41.7±0.6,9.77N±0.08×126.2E±0.2,h10km,n39, σ0997/35,mb4.2/19,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**18.70**	**192**	P	**P**	**14 09 01.5**	**+1.0**
MMRI				IAmb	IAmb	14 09 25.9	

comp=Z,39nm,0.9s
JCJ Chichijima 22.90 39 P P 14 09 46.1 +0.3
KNRA Kununurra 25.41 174 P P 14 10 11.0 +1.5
KNRA IAmb IAmb 14 10 28.3
comp=Z,19nm,1.2s
KULM Kulim 25.72 262 P P 14 10 11.3 -1.2
KULM IAmb IAmb 14 10 19.6
comp=Z,11nm,1.2s
FITZ Fitzroy Crossi 27.69 181 P P 14 10 30.8 +0.6
WRAB Tennant Creek 30.58 165 P P 14 10 55.3 -0.6
WRAB IAmb IAmb 14 11 15.0
comp=Z,5.1nm,1.3s
WRA Warramunga Arr 30.59 165 P P 14 10 56.1 +0.2
WRA Warramunga Arr 30.59 165 P P 14 10 53.4 -2.5
comp=Z,0.3nm,0.6s,baz=332,slow=10,SNR=10
comp=Z,0.3nm,0.6s
AS31 Alice Springs 34.07 167 P P 14 11 25.8 -0.6
ASAR Alice Springs 34.07 167 P P 14 11 26.1 -0.4
ASAR Alice Springs 34.07 167 P P 14 11 25.9 -0.6
comp=Z,0.4nm,0.3s,baz=349,slow=7.2,SNR=35
ASAR PcP **PcP 14 14 03.0 -1.1**
comp=Z,0.2nm,0.6s,baz=338,slow=2.6,SNR=4.4
comp=Z,0.4nm,0.3s
MORW Morawa 39.84 194 P P 14 12 16.4 +0.9
MORW IAmb IAmb 14 12 51.0
comp=Z,18nm,1.2s
H11S3 WAKE ISLAND Hy 40.12 73 T T 14 55 21.2
baz=262,slow=74
H11S1 WAKE ISLAND Hy 40.13 73 T T 14 55 17.8
baz=262
H11S2 WAKE ISLAND Hy 40.14 73 T T 14 55 17.0
baz=262
FORT Forrest 40.35 178 P P 14 12 20.1 +0.5
H11N1 WAKE ISLAND Hy 40.47 71 T T 14 55 44.7
baz=265,slow=74,SNR=7.8
H11N2 WAKE ISLAND Hy 40.48 71 T T 14 55 41.5
baz=265,slow=74,SNR=14
H11N3 WAKE ISLAND Hy 40.49 71 T T 14 55 48.8
baz=265,slow=74,SNR=9.7
SONM Songino Array 41.47 340 P P 14 12 29.3 +0.4
comp=Z,0.4nm,0.7s,baz=140,slow=7.2,SNR=3.5
comp=Z,0.4nm,0.7s
NWAO Narrogin (SRO) 43.31 191 P P 14 12 45.4 +1.6
NWAO IAmb IAmb 14 12 46.4
comp=Z,9.8nm,0.7s
BBOO Buckleboo 43.37 168 P P 14 12 44.7 +0.4
STKA Stephens Creek 43.95 161 P P 14 12 47.1 -1.9
comp=Z,0.9nm,0.5s,baz=0.1,slow=8.6,SNR=3.9
comp=Z,0.9nm,0.5s
MK31 Makanchi Array 52.39 323 P P 14 13 54.3 +0.1
MKAR Makanchi Array 52.39 323 P P 14 13 54.4 +0.2
comp=Z,0.8nm,0.6s,baz=119,slow=7.9,SNR=12
MKAR PcP **PcP 14 15 04.7 -0.3**
comp=Z,0.2nm,0.5s,baz=113,slow=5.9,SNR=1.8
comp=Z,0.8nm,0.6s
MAKZ Makanchi 52.59 323 P P 14 13 55.6 0.0
MAKZ IAmb IAmb 14 13 56.8
comp=Z,3.1nm,1.4s
ZALV Zalesovo Beam 55.04 332 P P 14 14 13.6 +0.2
comp=Z,0.3nm,0.3s,baz=122,slow=5.3,SNR=2.2
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 56.45 326 P P 14 14 23.2 -0.4
comp=Z,0.6nm,0.6s,baz=123,slow=7.1,SNR=6.8
comp=Z,0.6nm,0.6s
KKAR Karatay Array 58.56 315 P P 14 14 38.9 +0.2
BKZ Black Stump Fm 67.44 140 P P 14 15 37.0 -0.8
C23K Itkillik River 78.54 21 P P 14 16 43.8 +0.8
C23K IAmb IAmb 14 17 09.7
comp=Z,5.4nm,1.3s
I28M Miner Creek 82.79 25 P P 14 17 07.5 +1.5
I28M IAmb IAmb 14 17 46.0
comp=Z,3.1nm,1.4s
G29M Pine Creek 83.35 23 P P 14 17 10.2 +1.5
ARCES ARCESS Array B 84.64 340 P P 14 17 15.3 +0.1
ARCES ARCESS Array B 84.64 340 P P 14 17 14.2 -1.1
comp=Z,2.6nm,0.8s,baz=46,slow=3.5,SNR=6.1
comp=Z,2.6nm,0.8s
FINES FINESS Array B 86.30 332 P P 14 17 23.4 -0.2
FINES FINESS Array B 86.30 332 P P 14 17 23.2 -0.4
comp=Z,1.9nm,0.7s,baz=106,slow=4.2,SNR=7.7
comp=Z,1.9nm,0.7s
HFS Hagfors 92.47 332 P P 14 17 51.8 -1.0
comp=Z,1.2nm,0.6s,baz=95,slow=8.8,SNR=1.3
comp=Z,1.2nm,0.6s
YKA Yellowknife Ar 94.24 24 P P 14 18 01.1 +0.2
comp=Z,0.3nm,0.6s,baz=294,slow=4.7,SNR=4.6
comp=Z,0.3nm,0.6s

TXNET 10 14:08:27.3, 31˚.6N±0˚.6×104˚.6W±0˚.5, h3km±1km, ML2.5/7, 2C, Error ellipse: s-maj=0.9km s-min=0.7km az=6.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	P	Pg	14 08 37.7	0.0
TPB11				S	Sg	14 08 44.9	+0.1
GDL2	**Guadalupe Moun**	**0.58**	**18**	P	Pg	14 08 38.6	+0.1
PECS	**Pecos**	**0.66**	**114**	P	Pg	14 08 40.0	0.0
PECS				S	Sg	14 08 48.8	+0.2
TPB12	**Southwest of T**	**0.68**	**129**	P	Pg	14 08 40.5	+0.2
TPB12				S	Sg	14 08 49.5	+0.4
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pg	14 08 40.6	+0.1
MNTX				S	Sg	14 08 50.0	+0.5
TPB07	**Mentone**	**0.78**	**94**	S	Sg	14 08 52.9	+0.7
TPB10	**Southeast of T**	**0.79**	**117**	P	Pg	14 08 42.4	+0.1
TPB10				S	Sg	14 08 53.1	+0.5
CLNB	**Carlsbad**	**0.86**	**43**	P	Pg	14 08 43.6	-0.1
CLNB				S	Sg	14 08 55.5	+0.6
VHRN	**Van Horn**	**0.92**	**203**	⇑P	Pg	14 08 44.8	-0.2
VHRN				S	Sg	14 08 57.6	+0.6
PCOS	**Crockett Middl**	**0.94**	**104**	S	Sg	14 08 58.2	+0.7
TPB01	**Permian Basin**	**0.97**	**136**	⇑P	Pg	14 08 45.3	-0.6
TPB01				S	Sg	14 08 58.2	-0.3
TPB03	**Saragosa**	**1.06**	**121**	S	Sg	14 09 01.5	+0.1
HTMS	**Hat Mesa**	**1.15**	**44**	S	Sn	14 09 06.0	-0.7
TPB06	**Permian Basin**	**1.16**	**89**	S	Sg	14 09 04.6	+0.2
NM01	**Eunice**	**1.23**	**54**	S	Sg	14 09 06.8	+0.1
TPB05	**Hovey Rd**	**1.29**	**124**	P	Pg	14 08 51.2	-0.8
TPB05				S	Sg	14 09 08.3	-0.4
ALPN	**Alpine**	**1.50**	**147**	P	Pn	14 08 54.2	-0.9
ALPN				S	Sb	14 09 14.1	-1.2
CPRX	**Cap Rock**	**1.51**	**23**	P	Pn	14 08 55.2	-0.2
MNHN	**Monahans**	**1.58**	**101**	P	Pn	14 08 56.4	+0.1
MNHN				S	Sg	14 09 17.8	-0.1
TPB08	**Permian Basin**	**1.61**	**117**	S	Sb	14 09 18.5	0.0
EPT	**El Paso**	**1.65**	**275**	Pg	Pb	14 08 58.2	-0.2
EPT	**El Paso**	**1.65**	**275**	Sg	Sg	14 09 22.0	+1.6
ODSA	**Odessa**	**1.79**	**74**	P	Pb	14 09 00.1	-0.6
ODSA				S	Sg	14 09 24.2	-0.5
TMB04	**Seminole**	**2.02**	**60**	P	Pn	14 09 03.5	+1.1
TMB04				S	Sb	14 09 31.0	+0.6
TMB02	**Rankin**	**2.21**	**101**	Pg	Pb	14 09 07.3	-0.7
TX31	**Lajitas Ar. Si**	**2.43**	**161**	Pg	Pb	14 09 11.2	-0.5

---

*BJI **10** 14:08:54.9, 5˚.03S×101˚.62E, h49km, mB5.1/12, mb4.7/45*
*IDC **10** 14:08:54.0±0.7, 4˚.33S×101˚.66E, h0km, mb4.4/19, mbtmp4.4/20, ML4.1/2, MS3.5/3, Error ellipse: s-maj=28.1km s-min=12.5km az=49.0*
*NEIC **10** 14:08:58.6±1.1, 4˚.57S±0˚.10×101˚.56E±0˚.06, h35km±1km, mb4.6/32, Error ellipse: s-maj=17.8km s-min=6.7km az=24.0*
*DJA **10** 14:08:59.3±0.2, 5˚S±2˚×10˚2E±˚, h42km±4km, M4.7/36, mb4.6/36, mB5.3/7, MLv4.7/23, Mw(mB)4.7/7*
ISC 10 14:08:58.0±0.5, 4˚.52S±0˚.07×101˚.54E±0˚.05, h30km, n145, σ1°28/136, mb4.6/50, MS3.2/3, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.36**	**51**	P	**Pn**	**14 09 20.7**	**-0.3**
KSI				S	**Sb**	**14 09 38.7**	**-1.2**
MNAI	**Manna**	**1.42**	**84**		**Pn**	**14 09 21.6**	**-0.1**
MNAI	**Manna**	**1.42**	**84**	P	**Pb**	**14 09 22.6**	**-1.3**
MNAI	**Manna**	**1.42**	**84**	S	**Sb**	**14 09 46.4**	**+4.8**
MNAI	**Manna**	**1.42**	**84**	P	**Pn**	**14 09 21.5**	**-0.3**
MNAI				S	**Sb**	**14 09 39.9**	**-1.7**
PPSI	**Pulau Pagai**	**2.32**	**319**	P	**Pn**	**14 09 35.9**	**+1.8**
MDSI	**Maura Dua**	**2.63**	**89**	P	**Pn**	**14 09 39.3**	**+0.9**
MDSI				S	**Sn**	**14 10 09.6**	**+0.3**
PMBI	**Palembang**	**3.59**	**64**	P	**Pn**	**14 09 51.8**	**+0.1**
SISI	**Saibi**	**4.01**	**322**	P	**Pn**	**14 09 59.3**	**+1.9**
PPI	**Padang Panjang**	**4.19**	**344**	P	**Pn**	**14 10 01.2**	**+1.2**
CGJI	**Cibinong**	**4.63**	**117**	P	**Pn**	**14 10 06.1**	**+0.2**
SBJI	**Serang**	**4.84**	**109**	P	**Pn**	**14 10 09.4**	**+0.6**
BKNI	**Bangkinang**	**4.84**	**354**	P	**Pn**	**14 10 10.2**	**+1.4**
PPBI	**Pangkal Pinang**	**5.15**	**63**	P	**Pn**	**14 10 14.7**	**+1.6**
PBSI	**Pulau Batu**	**5.50**	**324**	P	**Pn**	**14 10 20.0**	**+2.0**
0.8nm138nm,1.1s							
SKJI	**Sukabumi**	**5.57**	**117**	P	**Pn**	**14 10 19.3**	**+0.5**
MNSI	**Mandailing Nat**	**5.63**	**340**	P	**Pn**	**14 10 20.4**	**+0.7**
CNJI	**Cibinong**	**6.21**	**117**	P	**Pn**	**14 10 27.8**	**+0.1**
0.3nm36nm,0.9s							
TPI	**Tanjungpandan**	**6.35**	**74**	P	**Pn**	**14 10 30.4**	**+0.8**
LEM	**Lembang**	**6.47**	**111**	Pn	**Pn**	**14 10 30.7**	**-0.6**
5.8nm,0.3s,baz=258,slow=14,SNR=6.2							
LEM				Sn	**Sn**	**14 11 44.2**	**0.0**
1.3nm,0.3s,baz=312,slow=20,SNR=1.4							
5.8nm,0.4s							
LEM	**Lembang**	**6.47**	**111**	P	**Pn**	**14 10 32.0**	**+0.6**
0.3nm75nm,1.0s							
MYKOM	**Kota Tinggi**	**6.68**	**20**		**Pn**	**14 10 35.7**	**+1.5**
MYKOM	**Kota Tinggi**	**6.68**	**20**	P	**Pn**	**14 10 37.1**	**+3.0**
BBJI	**Bungbulang**	**6.74**	**116**	P	**Pn**	**14 10 34.8**	**-0.3**
GSI	**Gunungsitoli**	**7.01**	**326**		**Pn**	**14 10 39.4**	**+0.7**
GSI	**Gunungsitoli**	**7.01**	**326**	P	**Pn**	**14 10 40.2**	**+1.5**
GSI	**Gunungsitoli**	**7.01**	**326**	P	**Pn**	**14 10 39.8**	**+1.1**
0.3nm2μm47nm,0.7s							
CMJI	**Cimerak**	**7.59**	**116**	P	**Pn**	**14 10 46.2**	**-0.5**
56nm,1.1s							
RPSI	**Rantau Prapat**	**7.63**	**340**		**Pn**	**14 10 44.8**	**-2.4**
PSI	**Prapat**	**7.73**	**340**	Pn	**Pn**	**14 10 44.8**	**-3.9**
1.9nm,0.3s,baz=157,slow=12,SNR=4.1							
PSI				Lg	Lg	14 12 49.9	
0.7nm,0.3s,baz=147,slow=8.2,SNR=4.2							
KPJI	**Karang Pucung**	**7.86**	**111**	P	**Pn**	**14 10 50.7**	**+0.3**
0.2nm29nm,0.7s							
SNSI	**Sinabang, Aceh**	**8.63**	**323**	P	**Pn**	**14 11 02.8**	**+1.9**
IPM	**Ipoh**	**8.95**	**357**	Pn	**Pn**	**14 11 06.6**	**+1.2**
IPM	**Ipoh**	**8.95**	**357**	P	**Pn**	**14 11 08.5**	**+3.1**
UGM	**Wanagama**	**9.54**	**111**	P	**Pn**	**14 11 14.4**	**+0.9**
UGM	**Wanagama**	**9.54**	**111**	P	**Pn**	**14 11 13.4**	**-0.1**
98nm,1.1s							
KULM	**Kulim**	**9.79**	**355**	P	**Pn**	**14 11 17.9**	**+1.1**
MLSI	**Meulaboh, Aceh**	**10.12**	**329**	P	**Pn**	**14 11 22.6**	**+1.2**
PCJI	**Pacitan**	**10.25**	**111**	P	**Pn**	**14 11 23.2**	**+0.1**
27nm,1.2s							
LHMI	**Lhok Sumawe**	**10.71**	**335**	P	**Pn**	**14 11 30.6**	**+1.1**
BSI	**Banda Aceh**	**11.74**	**328**	P	**Pn**	**14 11 43.1**	**-0.5**
GMJI	**Gumukmas**	**12.40**	**108**	P	**Pn**	**14 11 53.2**	**+0.6**
19nm,1.4s							
KMMI	**Kalianget**	**12.62**	**102**	P	**Pn**	**14 11 55.2**	**-0.3**
23nm,1.5s							
ABJI	**Asem Bagus**	**13.03**	**105**	P	**Pn**	**14 12 01.9**	**+0.7**
30nm,0.4s							
JAGI	**Jajag, Banyuwa**	**13.13**	**108**		**Pn**	**14 12 00.9**	**-1.7**
JAGI	**Jajag, Banyuwa**	**13.13**	**108**	P	**Pn**	**14 12 04.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**13.13**	**108**	P	**Pn**	**14 12 01.4**	**-1.2**
28nm,0.7s							
SRBI	**Singaraja**	**14.04**	**105**	P	**Pn**	**14 12 15.3**	**+0.3**
26nm,0.6s							
TWSI	**Taliwang, Sumb**	**15.80**	**106**	P	**Pn**	**14 12 39.0**	**+0.5**
22nm,1.1s							
PLAI	**Plampang**	**16.68**	**106**	P	**Pn**	**14 12 50.4**	**+0.7**
PLAI	**Plampang**	**16.68**	**106**	P	**Pn**	**14 12 49.8**	**+0.1**
26nm,0.5s							
KKM	**Kota Kinabalu**	**18.02**	**55**	P	**P**	**14 13 08.9**	**+2.1**
WBSI	**Waikabubak, Su**	**18.43**	**107**	P	**P**	**14 13 08.3**	**-2.9**
31nm,0.8s							
BKSI	**Bulukumba**	**18.53**	**93**	P	**Pn**	**14 13 12.4**	**-0.2**
13nm,0.9s							
WSI	**Waingapu**	**19.30**	**106**	P	**P**	**14 13 20.6**	**-0.1**
47nm,0.9s							
MYLDM	**Lahad Datu**	**19.49**	**61**	P	**P**	**14 13 22.5**	**-0.3**
MYLDM				IAmb	IAmb	14 13 33.8	
comp=Z,19nm,0.9s							
MYLDM	**Lahad Datu**	**19.49**	**61**	P	**Pn**	**14 13 25.8**	**+1.7**
BASI	**Baing, Sumba**	**19.70**	**108**	P	**P**	**14 13 24.5**	**-0.6**
TOLI2	**Tolitoli**	**20.02**	**74**	P	**Pn**	**14 13 29.6**	**-0.9**
UBPT	**Khong Chiam**	**20.05**	**11**	P	**P**	**14 13 28.5**	**-0.4**
UBPT				IAmb	IAmb	14 13 29.3	
comp=Z,30nm,0.9s							
APSI	**Ampana**	**20.40**	**80**	P	**P**	**14 13 33.2**	**+0.5**
comp=Z,50nm,0.8s							
MRSI	**Marisa**	**20.98**	**77**	P	**P**	**14 13 38.5**	**-0.5**
comp=Z,1μmcomp=Z,16nm,0.6s							
KDI	**Kendari**	**21.03**	**89**	P	**P**	**14 13 39.9**	**+0.4**
comp=Z,14nm,0.9s							
PHRA	**Phrae**	**22.91**	**357**	P	**P**	**14 13 59.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**22.98**	**354**	P	**P**	**14 13 58.2**	**-2.1**
comp=Z,2.5nm,0.6s,baz=190,slow=8.2,SNR=22							
CMAR				PcP	**PcP**	**14 17 50.8**	**+0.9**
comp=Z,0.9nm,0.6s,baz=198,slow=1.9,SNR=8.2							
CMAR				LR	LR	14 22 48.4	
comp=Z,75nm,21.4s,baz=5.0,slow=37							
comp=Z,2.5nm,0.6s							
SOEI	**Soe**	**23.14**	**104**	P	**P**	**14 14 02.9**	**+0.8**
SOEI	**Soe**	**23.14**	**104**	P	**P**	**14 14 02.6**	**+0.5**
comp=Z,20nm,0.9s							
NLAI	**Namlea**	**25.53**	**88**	P	**P**	**14 14 24.3**	**0.0**
SLVN	**Son La**	**25.80**	**5**		**P**	**14 14 25.8**	**-0.8**
SLVN				IAmb	IAmb	14 14 29.0	
comp=Z,11nm,0.9s							
FITZ	**Fitzroy Crossi**	**27.16**	**122**	LR	LR	14 26 29.6	
comp=Z,73nm,20.1s,baz=344,slow=39							
H08S2	**Diego Garcia H**	**29.05**	**262**	T	T	14 45 16.6	
baz=85,slow=75,SNR=51							
H08S3	**Diego Garcia H**	**29.05**	**262**	T	T	14 45 15.2	
baz=85,slow=75,SNR=106							
H08S1	**Diego Carcia H**	**29.06**	**262**	T	T	14 45 19.4	
baz=85,slow=75,SNR=52							
KMI	**Kunming**	**29.49**	**2**	⇓P	**P**	**14 15 00.8**	**+0.9**
KMI				pmax	pmax		
comp=Z,9.0nm,1.0s							
PZH	**PanZhiHua**	**30.84**	**0**	P	**P**	**14 15 14.5**	**+2.8**
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,100nm,5.5s							
H01W3	**Cape Leeuwin H**	**32.39**	**160**	T	T	14 49 31.4	
baz=338,slow=76,SNR=4.9							
H01W2	**Cape Leeuwin H**	**32.40**	**160**	T	T	14 49 32.6	
baz=338,slow=76,SNR=6.9							
H01W1	**Cape Leeuwin H**	**32.40**	**160**	T	T	14 49 37.5	
baz=338,slow=76,SNR=3.7							
WRA	**Warramunga Arr**	**35.42**	**118**	P	**P**	**14 15 51.3**	**-0.4**
comp=Z,1.0nm,0.5s,baz=304,slow=8.9,SNR=19							
WRA				PcP	**PcP**	**14 18 22.1**	**+0.7**
comp=Z,1.3nm,0.7s,baz=302,slow=2.3,SNR=6.4							
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**36.55**	**124**	P	**P**	**14 16 01.6**	**+0.3**
comp=Z,3.2nm,0.7s,baz=294,slow=8.4,SNR=56							
ASAR				PcP	**PcP**	**14 18 25.8**	**+1.2**
comp=Z,0.8nm,0.8s,baz=291,slow=2.9,SNR=4.2							
ASAR				S	**S**	**14 21 42.4**	**+0.2**
comp=Z,0.7nm,1.1s,baz=301,slow=15,SNR=4.1							
comp=Z,3.2nm,0.7s							
AS31	**Alice Springs**	**36.55**	**124**	P	**P**	**14 16 00.9**	**-0.5**
XAN	**Xi'an**	**38.98**	**10**	P	**P**	**14 16 20.1**	**-1.6**
XAN				pmax	pmax		
comp=Z,10.0nm,0.6s							
NJ2	**Nanjing**	**39.93**	**23**	*e*P	**P**	**14 16 32.2**	**+2.6**
NJ2				pmax	pmax		
comp=Z,1.0nm,0.5s							
GOMU	**GeErMu**	**40.99**	**352**	P	**P**	**14 16 38.6**	**-0.2**
GOMU				pmax	pmax		
comp=Z,7.0nm,0.8s							
TIA	**Tai'an**	**43.07**	**19**	P	**P**	**14 16 54.0**	**-1.3**
TIA				pmax	pmax		
comp=Z,5.0nm,0.7s							
HNS	**HongShan**	**43.47**	**15**	⇓P	**P**	**14 16 58.4**	**-0.1**
HNS				pmax	pmax		
comp=Z,10.0nm,0.7s							
GTA	**Gaotai**	**43.74**	**358**	*e*P	**P**	**14 17 01.0**	**+0.2**
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**46.07**	**11**	*e*P	**P**	**14 17 23.0**	**+3.6**
HHC				pmax	pmax		
comp=Z,3.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,62nm,4.1s							
BJT	**Baijiatuan**	**46.32**	**16**	P	**P**	**14 17 20.8**	**-0.4**
BJT				IAmb	IAmb	14 17 21.7	
comp=Z,7.2nm,0.6s							
BJI	**Beijing**	**46.34**	**16**	P	**P**	**14 17 20.8**	**-0.5**
BJI				pmax	pmax		
comp=Z,5.0nm,0.6s							
STKA	**Stephens Creek**	**46.34**	**131**	P	**P**	**14 17 22.4**	**+0.8**
comp=Z,5.8nm,0.8s,baz=299,slow=9.0,SNR=10							
comp=Z,5.8nm,0.8s							
NIL	**Nilore**	**46.44**	**327**	P	**P**	**14 17 21.5**	**-0.8**
KSRS	**Korea Array**	**48.45**	**28**	P	**P**	**14 17 36.3**	**-1.4**
comp=Z,4.9nm,0.8s,baz=217,slow=7.9,SNR=19							
comp=Z,4.9nm,0.8s							
WMQ	**Urumqi**	**49.71**	**347**	*e*P	**P**	**14 17 48.8**	**+1.4**
WMQ				pP	sP	14 17 59.7	+0.1
WMQ				pmax	pmax		
comp=Z,28nm,0.9s							
KSH	**Kashi**	**49.76**	**334**	P	**P**	**14 17 47.5**	**-0.4**
KSH				pP	pP	14 17 58.3	+1.5
KSH				pmax	pmax		
comp=Z,7.0nm,0.8s							
WUS	**Wushi**	**49.87**	**338**	P	**P**	**14 17 49.0**	**+0.3**
WUS				IAmb	IAmb	14 17 50.6	
comp=Z,7.6nm,0.9s							
XLT	**XiLinHaoTe**	**49.95**	**14**	*e*P	**P**	**14 17 45.7**	**-3.5**
XLT				pmax	pmax		
comp=Z,13nm,0.8s							
XLT				pmax	pmax		
comp=Z,110nm,4.4s							
KDJ	**Kajisay**	**51.45**	**337**	P	**P**	**14 18 01.2**	**+0.5**
KDJ				IAmb	IAmb	14 18 02.9	
comp=Z,11nm,0.9s							
DRK	**Karamyk**	**51.66**	**331**	IAmb	IAmb	14 18 19.2	
comp=Z,5.5nm,0.6s							
SONM	**Songino Array**	**52.31**	**4**		**P**	**14 18 07.1**	**+0.1**
SONM				IAmb	IAmb	14 18 08.3	
comp=Z,9.0nm,0.7s							
SONM	**Songino Array**	**52.31**	**4**	P	**P**	**14 18 06.9**	**-0.1**
comp=Z,8.7nm,0.7s,baz=187,slow=9.5,SNR=53							
SONM				PcP	**PcP**	**14 19 18.0**	**+0.1**
comp=Z,1.5nm,0.7s,baz=187,slow=4.7,SNR=2.3							
comp=Z,8.7nm,0.7s							
ULN	**Ulaanbaatar**	**52.39**	**5**	P	**P**	**14 18 07.1**	**-0.5**
ULN				IAmb	IAmb	14 18 08.8	
comp=Z,7.1nm,1.1s							
CN2	**Changchun**	**52.70**	**22**	P	**P**	**14 18 07.5**	**-2.3**
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
MJAR	**Matsushiro Arr**	**53.30**	**37**	P	**P**	**14 18 12.3**	**-2.1**
comp=Z,4.6nm,0.7s,baz=208,slow=7.5,SNR=21							
comp=Z,4.6nm,0.7s							
MK31	**Makanchi Array**	**53.86**	**344**	IAmb	IAmb	14 18 19.2	
comp=Z,4.5nm,0.8s							
MKAR	**Makanchi Array**	**53.86**	**344**	P	**P**	**14 18 17.9**	**-0.4**
MKAR	**Makanchi Array**	**53.86**	**344**	P	**P**	**14 18 18.3**	**0.0**
comp=Z,5.8nm,0.6s,baz=148,slow=8.2,SNR=82							
comp=Z,5.8nm,0.6s							
MAKZ	**Makanchi**	**53.96**	**343**	P	**P**	**14 18 18.5**	**-0.5**
MDJ	**Mudanjiang**	**55.00**	**24**	P	**P**	**14 18 26.0**	**-0.6**
MDJ				pmax	pmax		
comp=Z,7.0nm,0.8s							
BNX	**BinXian**	**55.09**	**22**	⇓P	**P**	**14 18 26.8**	**-0.4**
BNX				pmax	pmax		
comp=Z,17nm,0.9s							
USA0B	**Ussuriysk Arra**	**55.68**	**26**	P	**P**	**14 18 30.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**55.68**	**26**	P	**P**	**14 18 30.8**	**-0.7**
comp=Z,15nm,0.7s,baz=224,slow=6.4,SNR=31							
comp=Z,15nm,0.7s							
KURBB	**Kurchatov Arra**	**58.39**	**343**	P	**P**	**14 18 50.6**	**0.0**
comp=Z,2.6nm,0.7s,baz=159,slow=6.7,SNR=12							
comp=Z,2.6nm,0.7s							
KURK	**Kurchatov**	**58.45**	**343**	P	**P**	**14 18 50.5**	**-0.4**
KURK				IAmb	IAmb	14 18 51.8	
comp=Z,6.2nm,0.8s							
HEH	**HeiHe**	**58.95**	**19**	*e*P	**P**	**14 18 54.0**	**-0.4**
HEH				pmax	pmax		
comp=Z,11nm,0.8s							
H04N2	**CROZET ISLANDS**	**59.73**	**218**	T	T	15 23 41.7	
baz=61,slow=75,SNR=307							
H04N1	**CROZET ISLANDS**	**59.74**	**218**	T	T	15 23 42.3	
baz=61,slow=75,SNR=251							
H04N3	**CROZET ISLANDS**	**59.75**	**218**	T	T	15 23 40.8	
baz=61,slow=75,SNR=222							
ZALV	**Zalesovo Beam**	**59.92**	**349**		**P**	**14 19 00.4**	**-0.7**
ZALV	**Zalesovo Beam**	**59.92**	**349**	P	**P**	**14 19 00.7**	**-0.4**
comp=Z,8.6nm,0.5s,baz=180,slow=5.2,SNR=52							
comp=Z,8.6nm,0.5s							
H04S1	**CROZET ISLANDS**	**59.99**	**217**	T	T	15 23 57.0	
baz=59,slow=75,SNR=8.2							
H04S3	**CROZET ISLANDS**	**60.00**	**217**	T	T	15 24 01.4	
baz=59,slow=75,SNR=13							
H04S2	**CROZET ISLANDS**	**60.00**	**217**	T	T	15 23 58.4	
baz=59,slow=75,SNR=10.0							
YSS	**Yuzhno-Sakhali**	**62.83**	**30**	P	**P**	**14 19 19.7**	**-1.1**
BVAR	**Borovoye Array**	**63.07**	**339**	P	**P**	**14 19 21.9**	**-0.5**
comp=Z,3.3nm,0.6s,baz=143,slow=8.6,SNR=16							
comp=Z,3.3nm,0.6s							
BRVK	**Borovoye**	**63.13**	**339**	P	**P**	**14 19 22.2**	**-0.5**
BRVK				IAmb	IAmb	14 19 29.4	
comp=Z,2.3nm,0.7s							
ABKAR	**Akbulak array**	**64.57**	**331**	P	**P**	**14 19 32.1**	**-0.3**
ABKAR	**Akbulak array**	**64.57**	**331**	IAmb	IAmb	14 19 33.4	
comp=Z,9.6nm,1.0s							
ARTI	**Arti**	**70.16**	**336**	P	**P**	**14 20 07.3**	**-0.3**
ARTI				IAmb	IAmb	14 20 08.5	
comp=Z,6.2nm,0.7s							
KBZ	**Khabaz**	**71.21**	**319**	P	**P**	**14 20 14.2**	**0.0**
comp=Z,1.7nm,0.8s,baz=140,slow=6.1,SNR=6.3							
comp=Z,1.7nm,0.8s							
ASF	**Jabal al Asfar**	**71.30**	**306**	LR	LR	14 51 36.9	
comp=Z,85nm,21.9s,baz=339,slow=36							
NRIK	**Noril'sk**	**74.33**	**355**	IAmb	IAmb	14 20 32.5	
comp=Z,5.1nm,1.1s							
NRIK	**Noril'sk**	**74.33**	**355**	P	**P**	**14 20 31.2**	**-1.0**
com

F20K Sn 14 10 13.5 -0.5
F20K Avaraart Lake 0.93 37 IAML 14 10 17.5
comp=N,649nm,0.7s
F18K Selawik 1.04 287 Pn 14 10 02.4 +0.1
F18K Sn 14 10 16.9 +0.3
E19K Redstone River 1.15 359 Pg 14 10 04.5 +0.2
E19K IAML 14 10 25.9
comp=N,233nm,0.7s
E19K Redstone River 1.15 359 Sn 14 10 19.7 +0.3
H20K Anotleneega Mo 1.25 130 Pg 14 10 06.0 -0.2
H20K Sg 14 10 23.7 +1.1
H18K Honhosa River 1.27 204 Pb 14 10 05.9 +0.1
G21K Allakaket 1.49 80 Pb 14 10 09.8 +0.3
GCSA Galena City Sc 1.58 176 Pb 14 10 11.3 +0.1
GCSA Sg 14 10 32.5 -0.5
G17K Kiwalik Mounta 1.65 242 Pb 14 10 11.6 -0.7
F17K Baldwin Pennin 1.65 276 Pn Pb 14 10 11.9 -0.5
F17K IAML 14 10 39.0
comp=N,138nm,1.0s
F17K IAML 14 10 41.4
comp=E,138nm,0.9s
F21K Alatna River 1.72 56 Sg 14 10 38.6 +1.0
F21K Alatna River 1.72 56 Pb 14 10 13.4 -0.2
F21K Alatna River 1.72 56 IAML 14 10 40.7
comp=E,234nm,0.6s
F21K IAML 14 10 41.0
comp=N,174nm,0.8s
E18K Tukpahlearik C 1.75 311 Pn Pb 14 10 14.3 +0.1
H17K Granite Mounta 1.79 221 Pn Pb 14 10 13.7 -1.1
H17K IAML 14 10 40.9
comp=N,183nm,0.3s
I20K Naaghedeneel 1.89 143 Pb 14 10 16.3 -0.1
H21K Melozitna Rive 1.90 108 Sg 14 10 43.1 -0.2
H21K Melozitna Rive 1.90 108 Pb 14 10 15.6 -1.1
H21K Melozitna Rive 1.90 108 IAML 14 10 45.0
comp=E,199nm,0.3s
H21K IAML 14 10 46.7
comp=N,131nm,0.5s
E20K Nigu River 1.99 11 Pb 14 10 18.8 +0.6
E17K Hotham Inlet 2.01 295 Pb 14 10 17.4 -1.0
D19K Kuna River 2.22 351 Pb 14 10 21.6 -0.6
D19K Sb 14 10 51.4 +1.9
D19K Kuna River 2.22 351 IAML 14 10 56.9
comp=E,81nm,0.7s
D19K IAML 14 10 59.1
comp=N,69nm,0.8s
G16K Koyuk River 2.33 249 Pn 14 10 20.4 +0.4
G16K Koyuk River 2.33 249 IAML 14 11 02.2
comp=N,67nm,0.7s
G16K IAML 14 11 03.5
comp=E,57nm,0.6s
H22K Ishtalitna Cre 2.39 98 Pn 14 10 22.7 +1.7
J19K Poorman 2.42 164 Pn 14 10 23.1 +1.8
J19K IAML 14 11 00.1
comp=E,68nm,0.5s
J19K IAML 14 11 00.9
comp=N,100nm,0.6s
D20K Etivluk River 2.42 5 Pb 14 10 24.4 -1.1
E21K Killik River 2.47 29 Pb 14 10 24.6 -1.7
E21K Killik River 2.47 29 IAML 14 11 04.6
comp=E,52nm,0.7s
E21K IAML 14 11 11.3
comp=N,64nm,0.7s
J20K Nowinta River 2.49 148 Pn Pb 14 10 24.9 -1.8
J20K IAML 14 11 10.6
comp=E,58nm,0.5s
J20K IAML 14 11 11.7
comp=N,64nm,0.7s
C18K Utukok River 2.81 328 Pn 14 10 28.8 +2.0
RDOG Red Dog Mine 2.84 311 Pn Pn 14 10 29.2 +2.2
I17K Unalakleet 2.86 213 Pn 14 10 29.0 +1.7
J18K Innoko River 2.87 176 Pn Pn 14 10 29.1 +1.6
G23K Bananza Creek 2.89 79 Pn Pn 14 10 30.6 +2.8
G23K IAML 14 11 15.4
comp=E,56nm,0.4s
COLD Coldfoot 2.91 68 Pn Pn 14 10 29.9 +1.9
C21K Knifeblade Rid 3.00 17 Pn 14 10 31.6 +2.4
J17K VABM Dome 3.04 196 Pn 14 10 31.8 +2.0
J17K VABM Dome 3.04 196 IAML 14 11 22.0
comp=N,37nm,0.5s
J17K IAML 14 11 26.0
comp=E,61nm,0.7s
D22K Ayikyak River 3.10 32 Pn 14 10 33.3 +2.7
D22K IAML 14 11 31.2
comp=N,60nm,1.1s
C17K DeLong Mountai 3.18 316 Pn 14 10 34.9 +3.2
CHUM Lake Minchumin 3.19 138 Pn 14 10 35.1 +3.2
K20K Telida 3.25 155 Pn 14 10 35.4 +2.7
K20K Telida 3.25 155 IAML 14 11 30.2
comp=N,29nm,0.9s
J16K Anvik River 3.38 207 Pn Pn 14 10 36.3 +1.9
J16K IAML 14 11 33.5
comp=N,47nm,0.9s
BPAW Bear Paw Mtn. 3.42 128 Pn Pn 14 10 37.7 +2.6
BPAW IAML 14 11 35.8
comp=N,24nm,0.6s
E23K Chandalar 3.42 56 Pn 14 10 37.9 +2.7
E23K Chandalar 3.42 56 IAML 14 11 36.1
comp=E,42nm,0.9s
I23K Minto, Yukon-K 3.43 106 Pn 14 10 37.5 +2.4
I23K Minto, Yukon-K 3.43 106 IAML 14 11 36.7
comp=E,46nm,0.5s
TTA Tatalina 3.43 171 Pn Pn 14 10 37.3 +2.0
CAST Castle Rocks 3.63 141 Pn Pn 14 10 40.5 +2.6
D23K Nanushuk River 3.64 40 Pn 14 10 40.6 +2.6
D23K IAML 14 11 44.2
comp=E,38nm,1.2s
K17K Iditarod 3.65 188 Pn Pn 14 10 39.5 +1.3
K17K IAML 14 11 44.4
comp=N,26nm,1.0s
K17K IAML 14 12 43.0
comp=E,26nm,1.1s
C16K Lisburne Hills 3.73 306 Pn Pn 14 10 41.9 +2.6
TOLK Toolik Lake Re 3.74 48 Pn Pn 14 10 42.1 +2.6
TOLK IAML 14 11 58.0
comp=N,38nm,0.9s
H24K Noodor Dome 3.81 93 IAML 14 11 47.6
comp=N,34nm,1.2s
H24K IAML 14 11 49.0
comp=E,34nm,0.7s
KTH Kantishna Hill 3.84 133 Pn Pn 14 10 43.0 +2.2
KTH IAML 14 11 49.9
comp=E,16nm,1.2s
KTH IAML 14 11 59.2
comp=N,20nm,0.9s
F24K Squaw Lake 3.85 67 Pn 14 10 44.5 +3.5
G24K Hadweenzic Riv 3.90 80 IAML 14 11 47.2
comp=E,34nm,0.5s
PPLA Purkeypile 4.04 146 Pn 14 10 46.5 +2.7
TRF Thorofare Moun 4.11 131 Pn 14 10 47.0 +2.4
TRF IAML 14 11 54.9
comp=E,16nm,1.1s
TRF IAML 14 11 56.4
comp=N,16nm,1.1s
COLA College 4.13 106 Pn 14 10 46.9 +2.2
POKR Poker Plat Res 4.20 102 Pn 14 10 48.1 +2.4
POKR IAML 14 11 56.7
comp=E,24nm,0.7s
WRH Wood River Hil 4.22 112 Pn Pn 14 10 48.0 +1.9
WRH IAML 14 12 00.4
comp=N,14nm,0.8s
CCB Clear Creek Bu 4.25 109 Pn Pn 14 10 47.9 +1.5
CCB IAML 14 11 56.4
comp=N,12nm,0.6s
CCB IAML 14 12 00.3
comp=E,17nm,0.9s
B22K Teshekpuk Lake 4.28 17 Pn 14 10 49.1 +2.4
B22K IAML 14 12 04.2
comp=N,16nm,1.1s
B22K IAML 14 12 06.3
comp=E,16nm,1.1s
K15K Wolf Creek Mou 4.46 207 Pn Pn 14 10 51.2 +1.8
K15K IAML 14 12 14.2
comp=N,14nm,0.8s
K15K IAML 14 13 04.7
comp=E,13nm,1.2s
J14K Nanvaranak Lak 4.52 221 IAML 14 12 12.0
comp=N,17nm,1.2s
J14K IAML 14 12 22.0
comp=E,20nm,0.9s
IL31 4.54 105 Pn 14 10 52.5 +2.1
RND Reindeer 4.59 126 Pn Pn 14 10 53.6 +2.4
F25K Christian Rive 4.71 69 IAML 14 12 16.0
comp=N,14nm,0.8s
F25K IAML 14 12 18.6
comp=E,19nm,1.0s
E25K Arctic Village 4.86 63 Pn Pn 14 10 57.1 +2.4
E25K IAML 14 12 22.6
comp=N,16nm,0.9s
E25K IAML 14 12 28.7
comp=E,14nm,1.1s
SKT Skwentna 5.00 148 Pn Pn 14 10 59.7 +3.0
BMAR Burnt Mountain 5.09 72 Pn Pn 14 11 00.5 +2.6
J25K Salcha River, 5.20 104 IAML 14 12 31.3
comp=E,11nm,1.1s
J25K IAML 14 13 19.2
comp=N,10nm,1.1s
F26K Sheenjek River 5.29 69 IAML 14 12 37.7
comp=E,9.5nm,1.0s

*NEIC **10** 14:10:29.5±1.0, 66°.295N±0°.008×157°.15W±0°.04, h12km±3km, Error ellipse: s-maj=2.3km s-min=0.9km az=69.0*
AEIC 10 14:10:29.4±0.9, **66°.31N**±0°.01×**157°.17W**±0°.04, **h13**km±3km, **ML2.8, ML3.0**/24(NEIC), **Error ellipse: s-maj=2.3km s-min=1.6km az=62.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**168**		Pg	14 10 33.4	0.0
G19K					Sg	14 10 35.8	-0.3
G19K	**Purcell Mounta**	**0.17**	**168**	IAML		14 10 36.2	
	comp=E,17µm,0.7s						
G19K				IAML		14 10 36.2	
	comp=N,13µm,0.3s						
F19K	**Shaleruckik Mo**	**0.57**	**336**		Pg	14 10 40.8	+0.3
F19K					Sb	14 10 49.1	-0.2
G18K	**Tagagawik**	**0.73**	**236**		Pg	14 10 43.6	0.0
G18K					Sb	14 10 53.8	-0.1
H19K	**Roundabout Mou**	**0.84**	**159**		Pg	14 10 45.2	-0.5
H19K				IAML		14 11 02.3	
	comp=E,544nm,0.3s						
H19K				IAML		14 11 02.3	
	comp=N,508nm,0.3s						
H19K	**Roundabout Mou**	**0.84**	**159**		Sb	14 10 57.0	0.0
F20K	**Avaraart Lake**	**0.94**	**37**		Pg	14 10 47.4	0.0
F20K					Sb	14 11 00.4	+0.6
F20K	**Avaraart Lake**	**0.94**	**37**	IAML		14 11 04.1	
	comp=N,472nm,0.4s						
F20K				IAML		14 11 04.1	
	comp=E,584nm,0.6s						
F18K	**Selawik**	**1.04**	**287**		Pb	14 10 49.2	+0.1
F18K					Sn	14 11 03.8	-0.1
E19K	**Redstone River**	**1.15**	**359**		Pg	14 10 51.4	0.0
E19K					Sg	14 11 06.2	-0.2
E19K	**Redstone River**	**1.15**	**359**	IAML		14 11 09.7	
	comp=E,291nm,0.4s						
E19K				IAML		14 11 12.9	
	comp=N,285nm,0.6s						
H20K	**Anotleneega Mo**	**1.25**	**130**		Pg	14 10 53.4	0.0
H20K					Sg	14 11 10.7	+1.1
H18K	**Honhosa River**	**1.27**	**203**		Pb	14 10 52.9	-0.1
H18K	**Honhosa River**	**1.27**	**203**	IAML		14 11 12.5	
	comp=E,439nm,0.4s						
G21K	**Allakaket**	**1.49**	**80**		Pn	14 10 55.5	-0.3
G21K	**Allakaket**	**1.49**	**80**		Sg	14 11 16.9	-0.3
G17K	**Kiwalik Mounta**	**1.64**	**242**		Pn	14 10 58.2	+0.3
F17K	**Baldwin Pennin**	**1.65**	**276**		Pn	14 10 57.7	-0.2
H21K	**Melozitna Rive**	**1.91**	**108**		Pg	14 11 05.4	-0.5
H21K	**Melozitna Rive**	**1.91**	**108**	IAML		14 11 32.5	
	comp=E,165nm,0.5s						
H21K				IAML		14 11 33.3	
	comp=N,124nm,0.6s						
ANM	**Nome**	**3.85**	**247**	IAML		14 11 56.5	
	comp=E,19nm,0.6s						
ANM				IAML		14 12 38.5	
	comp=N,22nm,1.4s						
HDA	**Harding Lake**	**4.69**	**109**	IAML		14 13 11.7	
	comp=N,19nm,4.1s						

IDC 10 14:15:45.7±1.4, **3°.94S×122°.50E, h0**km, **mb3.2**/3, **mbtmp3.2**/4, **ML3.6**/1, **Error ellipse: s-maj=205.7km s-min=23.6km az=60.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.66**	**145**	P	P	14 20 16.8	+0.4
	0.2nm,0.3s,baz=327,slow=9.8,SNR=9.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.50**	**152**	P	P	14 20 46.4	-0.7
	0.4nm,0.4s,baz=333,slow=9.4,SNR=14						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.71**	**330**	P	P	14 26 06.3	+0.4
	0.3nm,0.9s,baz=131,slow=6.3,SNR=2.4						
	0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**66.12**	**331**	P	P	14 26 34.6	-0.2
	0.1nm,0.4s,baz=134,slow=7.5,SNR=1.6						
	0.1nm,0.4s						

*NEIC **10** 14:17:20.7±1.6, 4°.7S±0°.1×101°.46E±0°.08, h10km±2km, mb4.6/22, Error ellipse: s-maj=19.1km s-min=11.5km az=206.0*
*IDC **10** 14:17:20.2±0.8, 4°.32S×101°.72E, h0km, mb4.4/17, mbtmp4.4/18, ML4.2/1, MS3.8/3, Error ellipse: s-maj=28.6km s-min=12.8km az=50.0*
*BJI **10** 14:17:20.9, 4°.97S×101°.51E, h46km, mB5.1/7, mb4.6/38, Ms4.5/3, Ms7 4.5/3*
*DJA **10** 14:17:24.6±0.4, 5°.5±3°×10°.2E±°, h37km±8km, M4.5/28, mb4.5/28, mB4.9/4, MLv4.6/16, Mw(mB)4.2/4*
ISC 10 14:17:24.2±0.6, **4°.51S**±0°.08×**101°.56E**±0°.07, **h30**km, **n110**, σ0°98/104, **mb4.6**/42, **MS4.5**/4, **1C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.33**	**51**	P	**Pn**	**14 17 46.7**	**-0.2**
MNAI	**Manna**	**1.40**	**84**	Pn	**Pn**	**14 17 48.1**	**+0.4**
MNAI	**Manna**	**1.40**	**84**	P	**Pn**	**14 17 47.7**	**0.0**
MNAI	**Manna**	**1.40**	**84**	P	**Pn**	**14 17 48.1**	**+0.4**
MNAI				S	**Sn**	**14 18 05.6**	**+0.4**
PPSI	**Pulau Pagai**	**2.32**	**318**	P	**Pn**	**14 18 01.7**	**+1.3**
MDSI	**Maura Dua**	**2.61**	**90**	P	**Pn**	**14 18 04.6**	**+0.2**
MDSI				S	**Sn**	**14 18 35.9**	**+0.8**
SISI	**Saibi**	**4.01**	**322**	P	**Pn**	**14 18 24.4**	**+0.8**
PPI	**Padang Panjang**	**4.18**	**344**	P	**Pn**	**14 18 27.4**	**+1.3**
CGJI	**Cibinong**	**4.62**	**117**	P	**Pn**	**14 18 31.8**	**-0.2**
PPBI	**Pangkal Pinang**	**5.13**	**63**	P	**Pn**	**14 18 40.0**	**+1.0**
PBSI	**Pulau Batu**	**5.50**	**323**	P	**Pn**	**14 18 45.4**	**+1.2**
	0.9nm100nm,0.8s						
CNJI	**Cibinong**	**6.20**	**117**	P	**Pn**	**14 18 54.1**	**+0.3**
	25nm,1.3s						
TPI	**Tanjungpandan**	**6.33**	**74**	P	**Pn**	**14 18 55.9**	**+0.4**
	0.1nm21nm,1.2s						
LEM	**Lembang**	**6.46**	**111**	Pn	**Pn**	**14 18 56.1**	**-1.3**
	5.2nm,0.3s,baz=313,slow=18,SNR=3.6						
LEM				Sn	**Sn**	**14 20 10.3**	**+0.1**
	2.5nm,0.3s,baz=285,slow=12,SNR=1.4						
LEM				LR	LR	14 21 56.8	
	comp=Z,336nm,19.7s,baz=254,slow=43						
	11nm,0.5s						
LEM	**Lembang**	**6.46**	**111**	P	**Pn**	**14 18 57.4**	**0.0**
	0.2nm42nm,1.0s						
MYKOM	**Kota Tinggi**	**6.66**	**20**	Pn	**Pn**	**14 19 02.0**	**+1.9**
BBJI	**Bungbulang**	**6.73**	**116**	P	**Pn**	**14 19 00.7**	**-0.5**
GSI	**Gunungsitoli**	**7.01**	**325**	Pn	**Pn**	**14 19 05.2**	**+0.3**
GSI	**Gunungsitoli**	**7.01**	**325**	P	**Pn**	**14 19 05.0**	**+0.1**
	0.3nm48nm,0.7s						
CMJI	**Cimerak**	**7.58**	**116**	P	**Pn**	**14 19 11.9**	**-0.9**
	44nm,0.8s						
PSI	**Prapat**	**7.72**	**340**	Pn	**Pn**	**14 19 12.4**	**-2.4**
	baz=168,slow=14						
KPJI	**Karang Pucung**	**7.85**	**111**	P	**Pn**	**14 19 16.7**	**+0.2**
	0.1nm22nm,0.5s						
SNSI	**Sinabang, Aceh**	**8.63**	**323**	P	**Pn**	**14 19 28.5**	**+1.3**
IPM	**Ipoh**	**8.94**	**357**	Pn	**Pn**	**14 19 33.0**	**+1.5**
UGM	**Wanagama**	**9.53**	**111**	P	**Pn**	**14 19 40.6**	**+1.0**
UGM	**Wanagama**	**9.53**	**111**	P	**Pn**	**14 19 38.9**	**-0.7**
	81nm,1.4s						
MLSI	**Meulaboh, Aceh**	**10.12**	**329**	P	**Pn**	**14 19 48.3**	**+0.7**
PCJI	**Pacitan**	**10.24**	**111**	P	**Pn**	**14 19 47.7**	**-1.5**
	40nm,1.3s						
LHMI	**Lhok Sumawe**	**10.71**	**334**	P	**Pn**	**14 19 56.4**	**+0.7**
BSI	**Banda Aceh**	**11.74**	**328**	P	**Pn**	**14 20 08.5**	**-1.3**
	35nm,0.7s						
GMJI	**Gumukmas**	**12.39**	**108**	P	**Pn**	**14 20 18.5**	**-0.2**
	11nm,0.9s						
SBUM	**Sibu**	**12.70**	**57**	Pn	**Pn**	**14 20 24.6**	**+1.7**
JAGI	**Jajag, Banyuwa**	**13.12**	**108**	P	**Pn**	**14 20 29.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**13.12**	**108**	P	**Pn**	**14 20 28.4**	**-0.2**
	19nm,0.9s						
TWSI	**Taliwang, Sumb**	**15.79**	**106**	P	**Pn**	**14 21 04.1**	**-0.5**
	10nm,0.9s						
PLAI	**Plampang**	**16.67**	**106**	P	**Pn**	**14 21 14.0**	**-1.8**
PLAI	**Plampang**	**16.67**	**106**	P	**Pn**	**14 21 13.8**	**-2.0**
	19nm,0.7s						
WBSI	**Waikabubak, Su**	**18.41**	**107**	P	**Pn**	**14 21 36.9**	**-0.6**
	34nm,0.7s						
BKSI	**Bulukumba**	**18.51**	**93**	P	**Pn**	**14 21 38.3**	**-0.3**
	17nm,1.1s						
MPSI	**Mapaga**	**18.94**	**76**	P	**Pn**	**14 21 43.6**	**-0.2**
	14nm,1.1s						
WSI	**Waingapu**	**19.28**	**106**	P	**P**	**14 21 46.7**	**-0.1**
	63nm,1.1s						
MYLDM	**Lahad Datu**	**19.46**	**61**		**P**	**14 21 49.4**	**+0.6**
MRSI	**Marisa**	**20.95**	**77**	P	**P**	**14 22 04.6**	**-0.4**
PHRA	**Phrae**	**22.90**	**357**	P	**P**	**14 22 25.7**	**0.0**
CMAR	**Chiang Mai Arr**	**22.96**	**354**	P	**P**	**14 22 24.6**	**-1.7**
	2.0nm,0.5s,baz=186,slow=8.5,SNR=21						
CMAR				PcP	**PcP**	**14 26 17.0**	**+0.9**
	0.8nm,0.7s,baz=201,slow=2.4,SNR=5.9						
CMAR				LR	LR	14 31 46.7	
	comp=Z,72nm,18.5s,baz=225,slow=38						
	2.0nm,0.5s						
SLVN	**Son La**	**25.78**	**5**	P	**P**	**14 22 52.2**	**-0.5**
SLVN				IAmb	IAmb	14 22 55.4	
	comp=Z,11nm,1.0s						
H08S2	**Diego Garcia H**	**29.07**	**262**	T	T	14 53 34.3	
	baz=85,slow=76,SNR=426						
H08S3	**Diego Garcia H**	**29.07**	**262**	T	T	14 53 34.9	
	baz=85,slow=76,SNR=411						
H08S1	**Diego Carcia H**	**29.08**	**262**	T	T	14 53 35.7	
	baz=85,slow=76,SNR=298						
KMI	**Kunming**	**29.47**	**2**	⇑P	**P**	**14 23 26.5**	**+0.5**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH	**PanZhiHua**	**30.82**	**0**	P	**P**	**14 23 40.3**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,4.1s						
H01W3	**Cape Leeuwin H**	**32.40**	**160**	T	T	14 58 09.7	
	baz=337,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**32.41**	**160**	T	T	14 57 56.9	
	baz=337,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**32.41**	**160**	T	T	14 58 08.1	
	baz=337,slow=76,SNR=12						
WRA	**Warramunga Arr**	**35.41**	**118**	P	**P**	**14 24 17.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=305,slow=9.0,SNR=19						
WRA				PcP	**PcP**	**14 26 48.1**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=295,slow=2.9,SNR=5.2						
	comp=Z,0.9nm,0.4s						
LSA	**Lhasa**	**35.45**	**344**	P	**P**	**14 24 18.6**	**+0.1**
LSA				IAmb	IAmb	14 24 20.0	
	comp=Z,4.5nm,0.6s						
AS31	**Alice Springs**	**36.54**	**125**	P	**P**	**14 24 27.1**	**-0.4**
ASAR	**Alice Springs**	**36.54**	**125**	P	**P**	**14 24 27.6**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=294,slow=8.3,SNR=43						
ASAR				PcP	**PcP**	**14 26 50.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=313,slow=3.0,SNR=2.9						
ASAR				S	**S**	**14 30 09.2**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=300,slow=17,SNR=4.8						
	comp=Z,2.4nm,0.7s						
XAN	**Xi'an**	**38.96**	**10**	P	**P**	**14 24 46.4**	**-1.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2	**Nanjing**	**39.91**	**23**	*e*P	**P**	**14 24 57.7**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LYN	**LuoYang**	**40.19**	**14**	P	**P**	**14 24 57.6**	**-0.3**
LYN				pmax	pmax		
	comp=Z,17nm,0.5s						
GTA	**Gaotai**	**43.73**	**358**	*e*P	**P**	**14 25 27.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				LR	LR		
	comp=Z,210nm,15.9s						
GTA				LR	LR		
	comp=Z,200nm,14.3s						
GTA				LR	LR		
	comp=Z,630nm,15.9s						
HHC	**Hu-ho-hao-te**	**46.06**	**11**	*e*P	**P**	**14 25 48.8**	**+3.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,180nm,4.8s						
BJT	**Baijiatuau**	**46.30**	**16**	P	**P**	**14 25 46.7**	**-0.5**
BJT				IAmb	IAmb	14 25 47.7	
	comp=Z,6.3nm,0.6s						
BJI	**Beijing**	**46.32**	**16**	P	**P**	**14 25 46.9**	**-0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	**46.34**	**131**	P	**P**	**14 25 48.8**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=304,slow=7.8,SNR=6.3						
	comp=Z,2.7nm,0.6s						
KSRS	**Korea Array**	**48.42**	**28**	P	**P**	**14 26 02.6**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=222,slow=7.8,SNR=15						
	comp=Z,4.1nm,0.8s						
WMQ	**Urumqi**	**49.70**	**347**	*e*P	**P**	**14 26 13.8**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,44nm,1.1s						
KSH	**Kashi**	**49.75**	**334**	P	**P**	**14 26 13.4**	**-0.7**
KSH				pP	pP	14 26 24.2	+1.3
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WUS	**Wushi**	**49.86**	**338**	P	**P**	**14 26 15.3**	**+0.3**
WUS				IAmb	IAmb	14 26 16.1	
	comp=Z,5.2nm,0.7s						
XLT	**XiLinHaoTe**	**49.93**	**14**	*e*P	**P**	**14 26 14.8**	**-0.5**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				LR	LR		
	comp=Z,410nm,4.1s						
XLT				LR	LR		
	comp=Z,240nm,10.1s						
KDJ	**Kajisay**	**51.44**	**337**	P	**P**	**14 26 27.4**	**+0.5**
KDJ				IAmb	IAmb	14 26 28.8	
	comp=Z,9.8nm,1.0s						
SONM	**Songino Array**	**52.29**	**4**	P	**P**	**14 26 33.1**	**+0.1**
SONM				IAmb	IAmb	14 26 34.4	
	comp=Z,5.9nm,0.8s						
SONM	**Songino Array**	**52.29**	**4**	P	**P**	**14 26 33.4**	**+0.3**
	comp=Z,8.4nm,0.7s,baz=188,slow=9.5,SNR=49						
SONM				PcP	**PcP**	**14 27 44.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=187,slow=3.6,SNR=2.0						
	comp=Z,8.4nm,0.7s						
ULN	**Ulaanbaatar**	**52.37**	**5**	P	**P**	**14 26 33.5**	**-0.2**
ULN				IAmb	IAmb	14 26 34.8	
	comp=Z,9.6nm,1.2s						
CN2	**Changchun**	**52.68**	**22**	P	**P**	**14 26 34.1**	**-1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**53.28**	**37**	P	**P**	**14 26 38.2**	**-2.2**
	comp=Z,4.1nm,0.7s,baz=209,slow=7.5,SNR=18						
	comp=Z,4.1nm,0.7s						
MK31	**Makanchi Array**	**53.85**	**344**	P	**P**	**14 26 44.0**	**-0.5**
MK31				IAmb	IAmb	14 26 45.2	
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**53.85**	**344**	P	**P**	**14 26 44.2**	**-0.3**
MKAR	**Makanchi Array**	**53.85**	**344**	P	**P**	**14 26 44.3**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=149,slow=8.2,SNR=63						
	comp=Z,4.4nm,0.6s						
MAKZ	**Makanchi**	**53.95**	**343**	P	**P**	**14 26 44.6**	**-0.5**
BNX	**BinXian**	**55.06**	**22**	⇓P	**P**	**14 26 52.8**	**-0.5**
BNX				pmax	pmax		
	comp=Z,15nm,0.9s						
KKAR	**Karatay Array**	**55.08**	**333**	P	**P**	**14 26 53.1**	**-0.3**
USA0B	**Ussuriysk Arra**	**55.66**	**26**	P	**P**	**14 26 56.7**	**-0.9**
USRK	**Ussuriysk Ar.**	**55.66**	**26**	P	**P**	**14 26 56.2**	**-1.4**
	comp=Z,12nm,0.7s,baz=217,slow=5.8,SNR=25						
	comp=Z,12nm,0.7s						
KURBB	**Kurchatov Arra**	**58.38**	**343**	P	**P**	**14 27 16.4**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=158,slow=6.7,SNR=26						
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**58.44**	**343**	P	**P**	**14 27 16.6**	**-0.5**
KURK				IAmb	IAmb	14 27 17.8	
	comp=Z,4.2nm,0.8s						
HEH	**HeiHe**	**58.93**	**19**	*e*P	**P**	**14 27 19.8**	**-0.7**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.75**	**218**	T	T	15 32 10.2	
	baz=61,slow=75,SNR=854						
H04N1	**CROZET ISLANDS**	**59.77**	**218**	T	T	15 32 06.4	
	baz=61,slow=75,SNR=1189						

H04N3	CROZET ISLANDS	59.77	218	T		T	15 32 08.2
	baz=61,slow=75,SNR=1157						
ZAA0	Zalesovo Array	59.91	349	P		P	14 27 26.5 -0.7
ZALV	Zalesovo Beam	59.91	349	P		P	14 27 26.6 -0.6
ZALV	Zalesovo Beam	59.91	349	P		P	14 27 26.8 -0.4
	comp=Z,8.0nm,0.4s,baz=169,slow=5.2,SNR=43						
	comp=Z,8.0nm,0.4s						
H04S1	CROZET ISLANDS	60.01	217	T		T	15 32 23.2
	baz=59,slow=75,SNR=50						
H04S3	CROZET ISLANDS	60.02	217	T		T	15 32 22.7
	baz=59,slow=75,SNR=72						
H04S2	CROZET ISLANDS	60.03	217	T		T	15 32 26.0
	baz=59,slow=75,SNR=52						
BVAR	Borovoye Array	63.06	339	P		P	14 27 47.9 -0.7
	comp=Z,3.2nm,0.6s,baz=143,slow=9.0,SNR=21						
	comp=Z,3.2nm,0.6s						
BRVK	Borovoye	63.12	339	P		P	14 27 47.9 -1.1
BRVK				IAmb		IAmb	14 27 48.7
	comp=Z,2.4nm,0.5s						
ABKAR	Abkulak array	64.57	331	P		P	14 27 58.1 -0.5
ABKAR	Abkulak array	64.57	331	IAmb		IAmb	14 27 59.4
	comp=Z,8.1nm,1.0s						
ARTI	Arti	70.15	336	P		P	14 28 33.3 -0.5
ARTI				IAmb		IAmb	14 28 34.4
	comp=Z,5.0nm,0.7s						
KBZ	Khabaz	71.21	319	P		P	14 28 41.4 +0.9
	comp=Z,1.7nm,0.8s,baz=111,slow=6.2,SNR=6.0						
	comp=Z,1.7nm,0.8s						
PETK	Petropavlovsk-	74.18	31	P		P	14 28 56.5 -1.5
	comp=Z,3.1nm,1.0s,baz=241,slow=2.5,SNR=5.6						
	comp=Z,3.1nm,1.0s						
BRTR	Keskin Array B	76.15	313	P		P	14 29 09.9 +0.1
	comp=Z,1.5nm,0.7s,baz=134,slow=7.3,SNR=11						
	comp=Z,1.5nm,0.7s						
SEY	Seymchan	77.36	21	LR		LR	15 06 15.9
	comp=Z,402nm,21.5s,baz=170,slow=38						
FINES	FINESS Array B	87.04	332	P		P	14 30 07.1 +0.5
	comp=Z,1.5nm,0.5s,baz=105,slow=5.2,SNR=13						
	comp=Z,1.5nm,0.5s						
ARCES	ARCESS Array B	89.34	340	P		P	14 30 16.8 -0.6
	comp=Z,2.0nm,0.7s,baz=79,slow=6.3,SNR=5.4						
	comp=Z,2.0nm,0.7s						
PDAR	Pinedale Array	132.94	31	PKP		PKPdf	14 36 37.5 +0.2
	comp=Z,0.1nm,0.4s,baz=98,slow=1.4,SNR=3.9						
TXAR	Lajitas Array	145.64	41	PKPbc		PKPab	14 37 01.4 +0.3
	comp=Z,6.1nm,0.7s,baz=295,slow=1.0,SNR=63						

*SJA **10** 14:17:39.9±1.0, 31°.05S×67°.43W, h99km±7km, ML3.6, MW3.5*
*IDC **10** 14:17:39.9±4.1, 31°.14S×67°.54W, h108km±37km, mb3.4/1, mbtmp3.6/3, Error ellipse: s-maj=74.5km s-min=33.2km az=107.0*

ISC 10 14:17:40.5±0.9, 31°.06S±0°.04×67°.45W±0°.04, h111km±8km, n35, σ1§23/53, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APLL	PUNTA DE LOS L	1.03	50	eP	Pn	14 18 02.5	+0.3
SJA	San Juan	1.06	244	eP	Pn	14 18 02.1	-0.4
SJA				eS	Sn	14 18 18.4	-0.7
RTCV	Cerro Valdivia	1.23	229	eP	Pn	14 18 14.0	+10
ACCO	Cerro Coronel	1.47	288	eP	Pn	14 18 06.9	-0.5
ACCO				eS	Sn	14 18 27.0	-0.7
ACLC	CERRO LA CRUZ	1.68	15	eP	Pn	14 18 10.0	+0.2
ACLC				eS	Sn	14 18 32.3	+0.2
ACLC				IAML		14 18 32.6	
	comp=Z,774nm,0.4s						
ACDV	Cuesta del Vie	1.69	301	eP	Pn	14 18 09.8	0.0
ACDV				eS	Sn	14 18 32.5	+0.3
ACDV				IAML		14 18 32.8	
	comp=Z,474nm,0.3s						
RTLS	Leoncito	1.74	245	eP	Pn	14 18 10.5	-0.1
RTLS				eS	Sn	14 18 34.2	+0.6
RTLS				IAML		14 18 36.4	
	comp=Z,433nm,0.2s						
AGUA	GUANDACOL	1.81	330	eP	Pn	14 18 11.6	+0.4
AGUA				eS	Sn	14 18 36.2	+1.6
AGUA				IAML		14 18 36.4	
	comp=Z,541nm,0.2s						
AROD	Rodeo	1.96	296	eP	Pn	14 18 13.5	+0.1
AROD				eS	Sn	14 18 39.0	+0.7
VCA	Vinchina	2.41	344	eP	Pn	14 18 19.6	+0.6
VCA				eS	Sn	14 18 51.2	+2.8
VCA				IAML		14 18 51.6	
	comp=Z,341nm,1.0s						
CO01	Juntas del Tor	2.52	295	eP	Pn	14 18 21.6	+1.1
CO01				IAML		14 18 54.9	
	comp=Z,156nm,1.1s						
CO03	El Pedregal	2.79	274	eP	Pn	14 18 24.4	+0.5
CO03				eS	Sn	14 18 59.2	+2.0
CO03				IAML		14 19 02.9	
	comp=Z,176nm,0.3s						
CYA	Choya	2.98	29	eP	Pn	14 18 26.1	-0.2
CYA				eS	Sn	14 19 00.4	-1.1
CYA				IAML		14 19 01.5	
	comp=Z,211nm,0.3s						
GO04	Tololo Observa	3.02	286	eP	Pn	14 18 27.3	+0.3
GO04				eS	Sn	14 19 04.7	+1.8
PIL	Pilar	3.11	102	eP	Pn	14 18 29.8	+1.8
PIL				IAML		14 19 27.1	
	comp=Z,178nm,0.5s						
VA03	San Esteban	3.14	236	eP	Pn	14 18 29.2	+0.8
VA03				IAML		14 19 10.7	
	comp=Z,100nm,0.5s						
MT08	Bocatoma Ro	3.22	222	eP	Pn	14 18 30.7	+1.0
MT08				eS	Sn	14 19 08.5	+0.9
MT08				IAML		14 19 11.3	
	comp=Z,74nm,0.5s						
MT04	Ro Olivares	3.27	224	eP	Pn	14 18 31.3	+1.1
MT04				eS	Sn	14 19 09.5	+0.9
PEL	Peldehue	3.44	232	eP	Pn	14 18 33.0	+0.6
PEL				eS	Sn	14 19 14.1	+1.4
LCO	Las Campanas	3.48	305	eP	Pn	14 18 33.4	+0.2
LCO				eS	Sn	14 19 14.9	+1.0
LCO				IAML		14 19 16.5	
	comp=Z,258nm,0.2s						
MT03	Universidad Ad	3.55	226	eP	Pn	14 18 35.0	+1.1
MT03				eS	Sn	14 19 16.7	+1.5
MT03				IAML		14 19 21.2	
	comp=Z,64nm,0.4s						
ROC1	El Roble	3.58	237	eP	Pn	14 18 33.3	-1.2
ROC1				eS	Sn	14 19 15.8	-0.4
MT13	San Alfonso	3.59	221	eP	Pn	14 18 37.5	+3.0
MT13				eS	Sn	14 18 59.7	-17
MT02	Curacav	3.82	234	eP	Pn	14 18 35.6	-1.8
MT02				eS	Sn	14 19 23.2	+1.6
AC02	Maricunga	4.46	340	eP	Pn	14 18 48.2	+1.7
AC02				eS	Sn	14 19 51.2	+14
BO01	Tunca	4.52	222	eP	Pn	14 18 44.7	-2.1
BO01				IAML		14 19 39.1	
	comp=Z,22nm,0.7s						
BO02	Sierra Bellavi	4.66	216	eP	Pn	14 18 48.0	-0.8
BO02				eS	Sn	14 19 43.8	+1.9
BO02				IAML		14 19 47.2	
	comp=Z,28nm,0.2s						
FSA	Cafayete	5.10	15	eP	Pn	14 18 55.1	+0.3
PLCA	Paso Flores	9.97	194	P	Pn	14 19 59.0	-1.7
	comp=Z,1.9nm,0.9s,baz=4.3,slow=11,SNR=9.4						
LPAZ	La Paz	14.72	357	P	Pn	14 21 04.0	+0.2
	comp=Z,0.6nm,0.4s,baz=170,slow=6.1,SNR=4.7						
TORD	Torodi Ar. Bea	79.54	68	P	P	14 29 35.5	+0.1
	comp=Z,0.5nm,0.6s,baz=278,slow=5.0,SNR=4.9						
	comp=Z,0.5nm,0.6s						
ASAR	Alice Springs	121.86	203	PKP	PKiKP	14 36 21.2	-1.1
	comp=Z,0.7nm,1.1s,baz=153,slow=2.8,SNR=2.0						
WRA	Warrmunga Arr	125.14	205	PKP	PKiKP	14 36 27.6	-1.3
	comp=Z,0.2nm,0.4s,baz=152,slow=1.7,SNR=2.0						
KURBB	Kurchatov Arra	148.08	42	PKPbc	PKiKP	14 37 13.1	-1.3
	comp=Z,0.6nm,0.6s,baz=299,slow=3.2,SNR=7.2						
MKAR	Makanchi Array	151.92	47	PKPbc	PKiKP	14 37 21.6	-0.9
	comp=Z,0.5nm,0.6s,baz=286,slow=2.1,SNR=6.9						

ATH 10 14:20:34.7, 39°.24N×23°.31E, h12km±3km, ML2.2/19, Manual Solution by M.Charalampakis First location: 2019/02/10 14:21:05, This location: 2019/02/11 06:04:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	Neokhori	0.09	315	P	Pg	14 20 37.5	+0.1
NEO				S	Sg	14 20 39.2	-0.2
XOR	Xorichti	0.15	324	P	Pg	14 20 38.5	+0.2
XOR				S	Sg	14 20 41.0	+0.2
AIDA	Aidipsos	0.44	207	P	Pg	14 20 43.4	+0.1
AIDA				S	Sg	14 20 48.8	-0.3
LKR	Lokris	0.64	202	P	Pg	14 20 47.0	-0.1
LKR				S	Sg	14 20 56.6	-0.1
AXAR	Agios Charalam	0.69	227	P	Pg	14 20 48.1	0.0
AXAR				S	Sg	14 20 58.4	0.0
KYMI	Kymi, Euboea I	0.87	134	P	Pg	14 20 51.6	-0.1
KYMI				S	Sg	14 21 03.1	-0.2
MAKR	Makrakomi, Fth	0.94	256	P	Pg	14 20 52.5	-0.4
MAKR				S	Sg	14 21 06.3	+0.8
VIL2	Platees	1.03	182	P	Pg	14 20 54.5	0.3
VIL2				S	Sg	14 21 09.7	+0.3
SKY	Skiros Island	1.03	110	P	Pg	14 20 54.7	+0.1
SKY				S	Sg	14 21 08.5	+0.3
THL	Klokotos Trika	1.05	288	P	Pg	14 20 54.5	-0.3
THL				S	Sg	14 21 08.8	+0.2
LIT	Litokhoron	1.06	324	P	Pg	14 20 55.0	-0.1
PLG	Polygyros	1.13	5	P	Pg	14 20 56.3	0.0
OUR	Ouranopolis	1.21	25	P	Pg	14 20 57.5	0.0
LTK	Loutraki	1.25	192	P	Pg	14 20 58.4	+0.2
ANX	Ano Chora	1.26	239	P	Pg	14 20 58.9	-0.1
DION	Dionisos Attik	1.26	157	P	Pn	14 20 58.1	-0.1
PTL	Penteli	1.27	160	P	Pn	14 20 58.0	-0.3
ATHU	Athens Univers	1.33	163	P	Pn	14 20 59.3	+0.1
VLY	Voula,Athens	1.44	164	P	Pb	14 21 01.2	-0.3
KARY	Karystos	1.50	143	P	Pn	14 21 01.8	+0.3
GUR	Goura	1.51	210	P	Pn	14 21 01.6	-0.1
OREA	Oraiokastro	1.51	349	P	Pb	14 21 02.5	-0.2
LIA	Limnos Island	1.59	65	P	Pn	14 21 01.9	-0.8
THAS	Thassos island	1.74	38	P	Pn	14 21 04.2	-0.6
SMTH	Samothraki Isl	2.11	54	P	Pn	14 21 09.3	-0.6
RDO	Rodhopi	2.56	41	P	Pn	14 21 15.8	-0.1

*SOF **10** 14:20:44.4, 41°.21N±0°.01×23°.14E±0°.01, h13km±1km, MD2.6/5*
*SKO **10** 14:20:44.8, 41°.21N×23°.15E, h11km, ML2.1*
*BEO **10** 14:20:46.0±0.3, 41°.13N×23°.15E, h0km, ML2.4/13*

ISC 10 14:20:44.8±0.9, 41°.22N±0°.02×23°.13E±0°.02, h17km±9km, n32, σ1§17/60, 5C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.36	106	⇑iPg	Pg	14 20 52.0	-0.3
SRS				iSg	Sg	14 20 57.1	-0.3
SRS	Serrai	0.36	106	ePg	Pg	14 20 51.9	-0.4
SRS				eSg	Sg	14 20 56.8	-0.6
VAY	Valandovo	0.44	284	⇑iPg	Pg	14 20 53.8	+0.1
VAY				iSg	Sg	14 20 60.0	+0.3
VAY				eLg	Lg	14 21 00.1	
	comp=N,120nm,0.5s						
VAY				eLg	Lg	14 21 00.2	
	comp=E,91nm,0.5s						
VAY	Valandovo	0.44	284	ePg	Pg	14 20 53.7	+0.1
VAY				eSg	Sg	14 21 00.3	+0.6
MMB	Musomishta	0.57	54	iPg	Pg	14 20 56.3	+0.1
MMB				Sg	Sg	14 21 04.1	+0.4
MMB	Musomishta	0.57	54	⇑iPg	Pg	14 20 56.0	-0.2
MMB				iSg	Sg	14 21 04.2	+0.4
PEHC	Pehcevo	0.59	343	⇑iPg	Pg	14 20 56.7	+0.1
PEHC				iSg	Sg	14 21 05.1	+0.7
PEHC				eLg	Lg	14 21 05.5	
	comp=N,211nm,0.3s						
PEHC				eLg	Lg	14 21 05.5	
	comp=E,72nm,1.1s						
THE	Thessaloniki	0.60	192	iPg	Pg	14 20 56.5	-0.1
THE				iSg	Sb	14 21 04.8	-0.2
GRG	Griva	0.61	245	iPg	Pb	14 20 57.9	+0.8
GRG				iSg	Sg	14 21 05.6	+0.5
KKB	Krupnik	0.62	360	⇑iPg	Pg	14 20 57.1	0.0
KKB	Krupnik	0.62	360	iPg	Pg	14 20 57.2	0.0
KKB				iSg	Sg	14 21 05.8	+0.2
PLNA	Plana	1.28	10	P	Pb	14 21 09.2	+0.7
RZN	Rozhen	1.30	68	P	Pg	14 21 09.5	-0.4
RZN				Sg	Sg	14 21 26.6	-0.3
BOSS	Bosilegrad	1.37	339	ePg	Pb	14 21 10.8	+0.8
BOSS				eSg	Sg	14 21 32.3	+3.2
FNA	Florina	1.40	253	iPn	Pg	14 21 11.8	0.0
FNA				iSn	Sg	14 21 30.1	+0.1
FNA	Florina	1.40	253	ePg	Pn	14 21 10.6	+1.0
FNA				eSg	Sg	14 21 29.6	-0.4
VTS	Vitosha	1.40	3	P	Pb	14 21 11.1	+0.4
VTS				S	Sg	14 21 30.0	-0.2
VTS	Vitosha	1.40	3	ePg	Pb	14 21 11.1	+0.4
VTS				eSg	Sg	14 21 30.8	+0.6
PGB	Panagyurishte	1.51	31	Sg	Sg	14 21 34.0	+0.4
PLD	Plovdiv	1.52	52	iPn	Pb	14 21 13.2	+0.5
PLD				iSn	Sg	14 21 35.2	+1.2
PLD	Plovdiv	1.52	52	ePg	Pb	14 21 13.2	+0.5
PLD				eSg	Sg	14 21 34.7	+0.7
KDZ	Kurdzhali	1.71	75	Sg	Sg	14 21 40.2	+0.3
BARS	Barje	1.88	329	ePn	Pb	14 21 20.1	+1.4
BARS				eSn	Sg	14 21 45.0	-0.3
ZAPS	Zavoj	2.09	350	ePn	Pb	14 21 21.6	-0.7
ZAPS				eSn	Sg	14 21 51.5	-0.6
MPEP	Malo Peshtene	2.19	12	P	Pb	14 21 25.5	+1.6
MPEP				S	Sg	14 21 54.8	-0.3
SELS	Selova	2.50	324	ePn	Pb	14 21 30.7	+1.4
SELS				eSn	Sb	14 22 01.9	+2.1
ZAGS	Zajecar	2.68	346	ePn	Pb	14 21 30.9	-1.4
ZAGS				eSn	Sb	14 22 06.5	+1.6
GOCS	Kraljevo Serbi	2.88	325	ePn	Pb	14 21 34.9	-0.9
GOCS				eSn	Sb	14 22 10.3	-0.5
BORS2	Bor- Borsko je	2.99	344	ePn	Pb	14 21 36.1	-1.5
BORS2				eSn	Sb	14 22 13.7	-0.1
GRUS	Gruza	3.21	327	ePn	Pb	14 21 38.8	-2.6
GRUS				eSn	Sb	14 22 17.9	-2.4
IVAS	Ivanjica	3.23	318	ePn	Pb	14 21 39.6	-2.2
IVAS				eSn	Sb	14 22 18.6	-2.3
KUBS	Kucevo	3.37	342	ePn	Pb	14 21 41.3	-2.8
KUBS				eSn	Sb	14 22 22.1	-2.7

*SOF **10** 14:22:04.2, 41°.21N±0°.01×23°.14E±0°.01, h15km±1km, MD2.8/4*
*SKO **10** 14:22:04.2, 41°.17N×23°.15E, h8km, ML2.4*
*ATH **10** 14:22:05.0, 41°.18N×23°.16E, h14km±4km, ML2.5/13, Manual Solution by M.Charalampakis First location: 2019/02/10 14:22:32, This location: 2019/02/11 06:21:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*BEO **10** 14:22:05.9±0.3, 41°.17N×23°.13E, h0km, ML2.5/10*
*THE **10** 14:22:05.0, 41°.18N×23°.15E, h13km±1km, ML2.6/12, Error ellipse: s-maj=1.3km s-min=0.6km az=208.0*

ISC 10 14:22:04.6±0.9, 41°.19N±0°.02×23°.13E±0°.02, h13km±8km, n60, σ0§81/108, 2C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.35	101	P	Pg	14 22 11.7	0.0
SRS				S	Sg	14 22 16.7	+0.2
	702nm,0.4s						
SRS	Serrai	0.35	101	⇑iPg	Pg	14 22 11.7	0.0
SRS				iSg	Sg	14 22 16.8	+0.2
SRS	Serrai	0.35	101	ePg	Pg	14 22 11.6	-0.1
SRS				eSg	Sg	14 22 17.0	+0.5
SRS	Serrai	0.35	101	P	Pg	14 22 11.7	0.0
SRS				S	Sg	14 22 16.3	-0.2
NGRA	Nigrita	0.39	135	P	Pg	14 22 12.9	+0.5
NGRA				S	Sb	14 22 18.6	-0.7
SOH	Sokhos	0.40	155	P	Pb	14 22 13.1	-0.5
SOH				S	Sb	14 22 18.7	-0.9
	2μm,0.2s						
VAY	Valandovo	0.45	288	iPg	Pg	14 22 13.6	+0.2
VAY				iSg	Sg	14 22 19.7	+0.4
VAY				eLg	Lg	14 22 21.8	
	comp=N,283nm,0.5s						
VAY				eLg	Lg	14 22 22.1	
	comp=E,160nm,0.5s						
VAY	Valandovo	0.45	288	ePg	Pg	14 22 13.5	+0.2
VAY				eSg	Sg	14 22 19.9	+0.6
THE	Thessaloniki	0.57	193	P	Pb	14 22 16.3	-0.1
THE				S	Sb	14 22 24.1	-0.3
	comp=E,1μm,0.1s						
THE	Thessaloniki	0.57	193	iPg	Pb	14 22 16.3	-0.1
THE				iSg	Sb	14 22 24.4	0.0
THE	Thessaloniki	0.57	193	P	Pb	14 22 16.3	-0.1
THE				S	Sb	14 22 23.9	-0.5
NVR	Nevrokopi	0.57	73	P	Pg	14 22 16.4	+0.6
NVR				S	Sg	14 22 24.1	+0.7
	comp=E,178nm,0.2s						
NVR	Nevrokopi	0.57	73	P	Pb	14 22 16.6	+0.1
NVR				S	Sg	14 22 24.1	+0.7
MMB	Musomishta	0.59	52	iPg	Pg	14 22 15.8	-0.3
MMB				Sg	Sg	14 22 23.9	+0.1
MMB	Musomishta	0.59	52	iPg	Pg	14 22 15.8	-0.3
MMB				iSg	Sg	14 22 23.9	+0.1
HORT	Hortiatis	0.59	182	P	Pb	14 22 16.7	-0.1
HORT				S	Sb	14 22 25.1	0.0
	comp=E,1μm,0.3s						
HORT	Hortiatis	0.59	182	P	Pb	14 22 16.7	-0.1
HORT				S	Sb	14 22 24.4	-0.7
GRG	Griva	0.60	248	P	Pb	14 22 16.6	-0.3
GRG				S	Sb	14 22 24.9	-0.4
	comp=E,298nm,0.2s						
GRG	Griva	0.60	248	⇓iPg	Pb	14 22 16.9	-0.1
GRG				iSg	Sb	14 22 25.4	+0.1
GRG	Griva	0.60	248	P	Pb	14 22 16.7	-0.3
GRG				S	Sb	14 22 25.0	-0.3
PEHC	Pehcevo	0.62	344	⇑iPg	Pg	14 22 16.4	-0.2
PEHC				iSg	Sg	14 22 24.8	0.0
PEHC				eLg	Lg	14 22 25.2	
	comp=N,347nm,0.2s						
KKB	Krupnik	0.65	360	iPg	Pg	14 22 16.9	-0.4
KKB				Sg	Sg	14 22 26.4	+0.5
KKB	Krupnik	0.65	360	iPg	Pg	14 22 16.8	-0.5
KKB				iSg	Sg	14 22 25.5	-0.4
KOKK	Kokkinochori,	0.75	119	P	Pg	14 22 19.3	+0.2
KOKK				S	Sb	14 22 29.6	-0.1
	comp=N,110nm,0.3s						
PLG	Polygyros	0.85	164	P	Pg	14 22 20.7	-0.2
PLG				S	Sb	14 22 32.4	0.0
	comp=N,392nm,0.3s						
PLG	Polygyros	0.85	164	P	Pg	14 22 20.9	0.0
PLG				S	Sg	14 22 31.9	-0.2
KVLA	Kavala	0.98	104	P	Pg	14 22 22.9	-0.5
KVLA				S	Sg	14 22 35.6	-0.7
KAVA	Kavala	1.06	100	P	Pb	14 22 24.4	-0.4
KAVA				S	Sg	14 22 39.1	+0.3
	comp=N,468nm,0.5s						
KAVA	Kavala	1.06	100	P	Pb	14 22 24.5	-0.3
OUR	Ouranopolis	1.07	143	P	Pb	14 22 25.0	+0.1
OUR				S	Sn	14 22 40.6	+0.7
	comp=N,342nm,0.6s						
OUR	Ouranopolis	1.07	143	P	Pg	14 22 25.2	0.0
OUR				S	Sn	14 22 39.6	-0.3
LIT	Litokhoron	1.19	204	iPn	Pg	14 22 27.2	-0.3
LIT				iSn	Sn	14 22 44.5	+1.5
LIT	Litokhoron	1.19	204	P	Pb	14 22 26.7	-0.3
PLNA	Plana	1.31	10	P	Pn	14 22 28.3	-0.3
PLNA				Sg	Sb	14 22 46.6	+0.8
RZN	Rozhen	1.31	67	P	Pn	14 22 29.2	+0.5
RZN				Sg	Sg	14 22 47.4	+0.6
THAS	Thassos island	1.34	115	P	Pn	14 22 28.6	-0.3
THAS				S	Sb	14 22 46.0	-0.5
	comp=N,178nm,0.3s						
THAS	Thassos island	1.34	115	P	Pn	14 22 28.6	-0.3
KZN	Kozani	1.36	230	P	Pg	14 22 30.3	-0.3
FNA	Florina	1.39	254	iPn	Pg	14 22 30.9	-0.4
FNA				iSn	Sg	14 22 49.8	+0.4
FNA	Florina	1.39	254	ePg	Pg	14 22 30.8	-0.5
FNA				eSg	Sg	14 22 49.7	+0.4
FNA	Florina	1.39	254	P	Pb	14 22 30.4	0.0
BOSS	Bosilegrad	1.40	340	ePg	Pn	14 22 30.1	+0.3
BOSS				eSg	Sg	14 22 50.6	+1.1
VTS	Vitosha	1.43	3	P	Pn	14 22 30.7	+0.3
VTS				S	Sn	14 22 49.5	+0.3
VTS	Vitosha	1.43	3	ePg	Pn	14 22 30.8	+0.3
VTS				eSg	Sg	14 22 50.7	0.0
PGB	Panagyurishte	1.54	30	P	Pn	14 22 32.2	+0.5
PGB				Sg	Sg	14 22 54.4	+0.4
PLD	Plovdiv	1.54	51	iPn	Pb	14 22 33.1	+0.1
PLD				iSn	Sg	14 22 55.0	+0.7
PLD	Plovdiv	1.54	51	ePg	Pn	14 22 32.8	+1.0
PLD				eSg	Sg	14 22 54.8	+0.6
RDO	Rodhopi	1.82	91	P	Pn	14 22 35.4	-0.1
RDO				S	Sn	14 22 57.8	-0.6
	comp=N,100nm,0.2s						
XOR	Xorichti	1.82	179	P	Pn	14 22 35.9	+0.2
NEO	Neokhori	1.88	178	P	Pn	14 22 36.4	0.0
BARS	Barje	1.90	329	iPn	Pb	14 22 39.9	+0.8
BARS	Barje	1.90	329	ePn	Pb	14 22 39.3	+0.2
BARS				eSn	Sb	14 23 04.3	+1.5
ZAPS	Zavoj	2.12	350	ePn	Pn	14 22 41.3	+1.6
ZAPS				eSn	Sb	14 23 09.5	+0.5
MPEP	Malo Peshtene	2.21	12	P	Pn	14 22 42.8	+1.8
SELS	Selova	2.52	324	ePn	Pb	14 22 49.2	-0.5
SELS				eSn	Sb	14 23 20.3	-0.4
GOCS	Kraljevo Serbi	2.90	326	ePn	Pb	14 22 54.9	-1.4
GOCS				eSn	Sb	14 23 30.0	-1.7
BORS2	Bor- Borsko je	3.02	345	ePn	Pb	14 22 55.9	-2.2
BORS2				eSn	Sb	14 23 32.8	-2.1
GRUS	Gruza	3.24	327	ePn	Pb	14 22 58.9	-3.0
IVAS	Ivanjica	3.25	318	ePn	Pb	14 22 59.1	-3.1
KUBS	Kucevo	3.40	342	ePn	Pn	14 23 00.2	+2.9

*IDC **10** 14:33:31.6±5.6, 52°.51N×176°.22W, h134km±46km, mb3.7/9, mbtmp4.1/12, Error ellipse: s-maj=40.9km s-min=17.9km az=17.0*
*AEIC **10** 14:33:34.3±1.6, 52°.4N±0°.2×176°.07W±0°.10, h148km±7km, Error ellipse: s-maj=26.7km s-min=7.6km az=171.0*
*NEIC **10** 14:33:34.5±1.2, 52°.1N±0°.2×175°.97W±0°.09, h157km±5km, mb4.4/173, ML4.0(AEIC), Error ellipse: s-maj=28.3km s-min=5.8km az=169.0*

ISC 10 14:33:33.6±0.6, 52°.3N±0°.1×176°.02W±0°.05, h150km, n156, σ1§59/88, mb4.5/56, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	Great Sitkin T	0.18	187	Pn	Pn	14 33 55.4	+1.5
GSSP	Great Sitkin S	0.21	207		Pn	14 33 55.3	+1.4
GSTD	Great Sitkin T	0.23	199		Pn	14 33 55.5	+1.5
GSMY	Great Sit

CNPM	China Poot	15.61	53			Pn	14 37 06.0 +0.8
CNPM				IAmb	IAmb		14 37 08.6
comp=Z,23nm,0.8s							
H18K	Honhosa River	15.75	28	IAmb	IAmb		14 37 11.1
comp=Z,11nm,0.8s							
SPU	Mount Spurr	15.80	46	P	P		14 37 10.0 +1.6
J19K	Poorman	15.84	34	IAmb	IAmb		14 37 12.7
comp=Z,22nm,0.9s							
PETK	Petropavlovsk-	15.93	283	P	Pn		14 37 05.6 -3.6
comp=Z,2.0nm,0.9s,baz=70,slow=14,SNR=1.4							
STLK	Strandline Lak	16.03	45	P	Pn		14 37 12.1 +1.7
SKT	Skwentna	16.36	44	P	Pn		14 37 16.1 +1.7
SLKM	Skilak Lake	16.39	50	P	P		14 37 15.8 +0.8
SUA	Susitna One	16.49	46		P		14 37 17.1 +1.0
SUA				IAmb	IAmb		14 37 19.1
comp=Z,18nm,0.8s							
PPLA	Purkeypile	16.51	41	P	P		14 37 18.0 +1.8
PPLA				IAmb	IAmb		14 37 26.9
comp=Z,14nm,0.7s							
O22K	Cooper Landing	16.62	50	P	P		14 37 18.0 +0.7
CAST	Castle Rocks	16.81	39	IAmb	IAmb		14 37 22.9
comp=Z,17nm,0.7s							
RC01	Rabbit Creek A	16.81	48	IAmb	IAmb		14 37 22.1
comp=Z,15nm,1.0s							
RDOG	Red Dog Mine	17.05	17	P	P		14 37 23.9 +1.9
PWL	Port Wells	17.39	50	P	P		14 37 26.5 +0.7
PWL				IAmb	IAmb		14 37 29.5
comp=Z,26nm,1.2s							
GHO	Glory Hole Cre	17.42	46	IAmb	IAmb		14 37 34.3
comp=Z,28nm,1.4s							
KNK	Knik Glacier	17.50	48	P	P		14 37 28.4 +1.3
TRF	Thorofare Moun	17.53	40	IAmb	IAmb		14 37 33.6
comp=Z,31nm,1.3s							
BPAW	Bear Paw Mtn.	17.58	38	IAmb	IAmb		14 37 34.9
comp=Z,7.9nm,0.6s							
SML	Sawmill	17.69	47	P	P		14 37 29.8 +0.6
SML				IAmb	IAmb		14 37 32.9
comp=Z,11nm,0.6s							
E19K	Redstone River	17.78	24	IAmb	IAmb		14 37 35.5
comp=Z,10nm,0.7s							
H21K	Melozitna Rive	17.81	32	IAmb	IAmb		14 37 35.9
comp=Z,24nm,1.2s							
C18K	Utukok River	17.88	18	IAmb	IAmb		14 37 34.7
comp=Z,12nm,0.8s							
BILL	Bilibino	17.97	338	P	P		14 37 33.5 +1.4
BILL				IAmb	IAmb		14 37 34.5
comp=Z,17nm,0.6s							
GLI	Glacier Island	17.97	50	P	P		14 37 33.0 +0.8
GLI				IAmb	IAmb		14 37 33.6
comp=Z,38nm,1.3s							
RND	Reindeer	18.09	41	IAmb	IAmb		14 37 38.2
comp=Z,9.7nm,0.7s							
G21K	Allakaket	18.14	30	IAmb	IAmb		14 37 36.7
comp=Z,20nm,0.8s							
SCM	Sheep Creek Mo	18.15	47	P	P		14 37 34.0 -0.2
SCM				IAmb	IAmb		14 37 38.3
comp=Z,14nm,0.6s							
MCK	McKinley	18.20	40	IAmb	IAmb		14 37 35.8
comp=Z,9.0nm,0.6s							
F21K	Alatna River	18.62	28	IAmb	IAmb		14 37 41.8
comp=Z,12nm,0.9s							
DIV	Divide	18.66	50	P	P		14 37 41.2 +1.4
DIV				IAmb	IAmb		14 37 43.5
comp=Z,17nm,0.6s							
KLU	Klutina	18.69	49	P	P		14 37 41.2 +1.1
KLU				IAmb	IAmb		14 37 43.6
comp=Z,14nm,0.6s							
I23K	Minto, Yukon-K	18.72	36	IAmb	IAmb		14 37 45.6
comp=Z,28nm,1.4s							
BMRM	Bremner River	19.18	51	IAmb	IAmb		14 37 50.1
comp=Z,16nm,0.8s							
PAX	Paxson	19.34	45	IAmb	IAmb		14 37 52.9
comp=Z,9.8nm,0.6s							
ILAR	Eielson Array	19.46	39	P	P		14 37 46.5 -1.8
comp=Z,1.2nm,0.6s,baz=242,slow=10.0,SNR=21							
COLD	Coldfoot	19.60	30	IAmb	IAmb		14 37 56.9
comp=Z,11nm,0.8s							
H24K	Noodor Dome	19.60	35	IAmb	IAmb		14 37 57.0
comp=Z,13nm,1.2s							
VRDI	Verde Repeater	19.78	50	P	P		14 37 51.7 -0.3
D22K	Ayikyak River	19.98	25	IAmb	IAmb		14 37 56.1
comp=Z,12nm,0.6s							
MENT	Mentasta	20.09	45	IAmb	IAmb		14 38 03.1
comp=Z,7.1nm,0.5s							
M26K	Nabesna, AK	20.26	47	IAmb	IAmb		14 38 04.6
comp=Z,10.0nm,0.5s							
L26K	Log Cabin Wild	20.28	45	IAmb	IAmb		14 38 06.3
comp=Z,7.1nm,0.7s							
SCRK	Sand Creek	20.31	42		P		14 37 56.4 -1.2
D23K	Nanushuk River	20.57	26	IAmb	IAmb		14 38 02.6
comp=Z,9.0nm,0.7s							
TOLK	Toolik Lake Re	20.66	28	P	P		14 38 02.0 +0.8
J26L	Joseph Creek	20.67	41	IAmb	IAmb		14 38 06.5
comp=Z,5.9nm,0.6s							
D24K	Happy Valley	21.20	27	IAmb	IAmb		14 38 09.3
comp=Z,14nm,1.1s							
E25K	Arctic Village	21.57	31	P	P		14 38 11.2 +0.4
EGAK	Eagle	21.74	41	P	P		14 38 12.1 -0.5
DAWY	Dawson	22.27	44	P	P		14 38 17.0 -1.1
DAWY				IAmb	IAmb		14 38 55.3
comp=Z,16nm,1.4s							
L29M	L29M	22.61	47	IAmb	IAmb		14 38 23.2
comp=Z,11nm,1.1s							
F28M	Old Crow	23.24	35	P	P		14 38 26.8 -0.3
J30M	Hart River	23.68	43	IAmb	IAmb		14 38 32.6
comp=Z,7.6nm,0.6s							
YKA	Yellowknife Ar	33.36	48	P	P		14 39 56.2 -0.8
comp=Z,2.4nm,0.9s,baz=282,slow=8.6,SNR=22							
YKA				PcP	PcP		14 42 33.8 -1.0
comp=Z,0.6nm,0.8s,baz=280,slow=3.2,SNR=3.9							
comp=Z,2.4nm,0.9s							
LON	Longmire	34.92	77	IAmb	IAmb		14 40 13.6
comp=Z,8.1nm,0.7s							
H11N2	WAKE ISLAND Hy	35.11	209	T	T		15 16 52.1
baz=18,slow=76,SNR=61							
H11N3	WAKE ISLAND Hy	35.12	209	T	T		15 16 52.7
baz=18,slow=76,SNR=56							
H11N1	WAKE ISLAND Hy	35.13	209	T	T		15 16 54.1
baz=18,slow=76,SNR=72							
MXC	Moxie City	35.92	76	IAmb	IAmb		14 40 22.4
comp=Z,4.6nm,0.6s							
H11S1	WAKE ISLAND Hy	36.33	208	T	T		15 18 12.7
baz=18,slow=76,SNR=62							
H11S2	WAKE ISLAND Hy	36.34	208	T	T		15 18 26.4
baz=18,slow=76,SNR=61							
H11S3	WAKE ISLAND Hy	36.34	208	T	T		15 18 32.2
baz=18,slow=76,SNR=42							
E08A	Dider Farm, EI	36.70	76	IAmb	IAmb		14 40 27.4
comp=Z,9.5nm,0.8s							
J05D	Fort Rock, OR	37.09	82	P	P		14 40 29.2 -0.1
J05D				IAmb	IAmb		14 40 32.0
comp=Z,6.1nm,0.7s							
I07A	Izee	37.70	79	IAmb	IAmb		14 40 36.6
comp=Z,16nm,1.3s							
F10A	Beach Ranch, E	38.05	75	IAmb	IAmb		14 40 38.6
comp=Z,7.5nm,0.9s							
BMO	Blue Mountains	38.60	77	IAmb	IAmb		14 40 43.6
comp=Z,6.7nm,0.8s							
WVOR	Wild Horse Val	39.14	81	P	P		14 40 47.6 +1.1
PLID	Pearl Lake	39.25	76	IAmb	IAmb		14 40 50.9
comp=Z,9.3nm,1.4s							
MSO	Missoula	39.55	72	IAmb	IAmb		14 40 50.4
comp=Z,7.5nm,0.6s							
MFID	Camas Ranch	40.28	78	IAmb	IAmb		14 40 57.4
comp=Z,8.3nm,1.2s							
MCMT	McKenzie Canyo	41.27	74	P	P		14 41 03.9 -0.2
EGMT	Eagleton	41.34	68	P	P		14 41 03.3 -1.1
EGMT				IAmb	IAmb		14 41 05.5
comp=Z,5.4nm,0.7s							
BOZ	Bozeman (W)	41.56	73	IAmb	IAmb		14 41 07.0
comp=Z,11nm,0.7s							
NVAR	Mina Array Bea	41.75	86	P	P		14 41 09.0 +1.0
comp=Z,2.3nm,0.8s,baz=298,slow=9.3,SNR=7.4							
comp=Z,2.3nm,0.8s							
ELK	Elko	42.20	81	P	P		14 41 12.7 +1.0
YHL	Hebgen Lake	42.24	73	IAmb	IAmb		14 41 12.9
comp=Z,13nm,1.1s							
YMR	Madison River	42.47	73	IAmb	IAmb		14 41 15.3
comp=Z,12nm,0.9s							
YNR	Norris Junctio	42.61	73	IAmb	IAmb		14 41 17.0
comp=Z,8.2nm,0.7s							
YFT	Old Faithful	42.67	74	IAmb	IAmb		14 41 17.4
comp=Z,11nm,0.8s							
YNE	Yellowstone No	42.84	72	IAmb	IAmb		14 41 17.5
comp=Z,5.4nm,0.7s							
H17A	Grant Village	42.85	73	IAmb	IAmb		14 41 19.2
comp=Z,10nm,0.7s							
FLWY	Flagg Ranch	42.96	74	P	P		14 41 18.2 +0.5
FLWY				IAmb	IAmb		14 41 19.8
comp=Z,12nm,0.8s							
HVU	Hansel Valley	43.07	78	IAmb	IAmb		14 41 20.2
comp=Z,7.9nm,0.8s							
RLMT	Red Lodge	43.21	72	IAmb	IAmb		14 41 21.4
comp=Z,11nm,0.9s							
AHID	Auburn Hatcher	43.49	76	IAmb	IAmb		14 41 23.2
comp=Z,7.6nm,1.0s							
TPNV	Topopah Spring	43.95	86	IAmb	IAmb		14 41 27.7
comp=Z,9.5nm,0.8s							
DUG	Dugway, Tooele	44.00	80	IAmb	IAmb		14 41 28.5
comp=Z,14nm,1.2s							
LAO	LASA Array	44.08	68	IAmb	IAmb		14 41 27.2
comp=Z,8.6nm,0.6s							
PRN	Pahroc Range	44.38	85	IAmb	IAmb		14 41 31.4
comp=Z,7.8nm,0.8s							
PDAR	Pinedale Array	44.40	75	P	P		14 41 29.4 +0.1
comp=Z,15nm,0.5s,baz=321,slow=3.0,SNR=214							
PDAR				PcP	PcP		14 43 10.0 -0.3
comp=Z,0.4nm,0.5s,baz=316,slow=3.3,SNR=3.5							
TMUT	Trail Mountain	45.53	80	IAmb	IAmb		14 41 40.2
comp=Z,8.4nm,0.7s							
SRU	San Rafael Swe	46.06	79	IAmb	IAmb		14 41 44.7
comp=Z,13nm,1.2s							
K22A	Casper	46.26	73	IAmb	IAmb		14 41 44.1
comp=Z,12nm,0.9s							
U15A	North Rim	46.70	84	IAmb	IAmb		14 41 49.6
comp=Z,9.7nm,0.7s							
RSSD	Black Hills	46.83	70	P	P		14 41 47.3 -1.0
RSSD				IAmb	IAmb		14 41 47.8
comp=Z,4.6nm,0.5s							
PV23	Carpenter Ridg	47.39	79	IAmb	IAmb		14 41 57.9
comp=Z,7.5nm,0.7s							
PV07	Paradox Valley	47.62	79	IAmb	IAmb		14 41 55.4
comp=Z,13nm,1.2s							
N23A	Red Feather La	47.68	75	IAmb	IAmb		14 41 56.4
comp=Z,6.0nm,0.5s							
ULM	Lac du Bonnet	47.75	59	P	P		14 41 53.6 -1.4
comp=Z,0.5nm,0.3s,baz=297,slow=8.8,SNR=1.9							
comp=Z,0.5nm,0.3s							
WUAZ	Wupatki	47.86	84	IAmb	IAmb		14 41 58.3
comp=Z,7.9nm,0.8s							
MVCO	Mesa Verde	48.50	80	IAmb	IAmb		14 42 02.6
comp=Z,13nm,1.4s							
HHC	Hu-ho-hao-te	49.09	287	eP	P		14 42 07.0 +1.5
RTBA	Rita Blanca	52.48	77	IAmb	IAmb		14 42 31.7
comp=Z,7.2nm,0.8s							
VHRN	Van Horn	54.99	84	IAmb	IAmb		14 42 50.9
comp=Z,4.0nm,0.8s							
SN07	Snyder 07	55.87	79	IAmb	IAmb		14 42 57.6
comp=Z,4.4nm,0.9s							
WMOK	Wichita Mounta	55.99	76	IAmb	IAmb		14 42 57.1
comp=Z,4.8nm,0.7s							
TXAR	Lajitas Array	56.83	84	P	P		14 43 02.5 +0.1
comp=Z,1.9nm,0.5s,baz=302,slow=4.5,SNR=12							
comp=Z,1.9nm,0.5s							
ARCES	ARCESS Array B	57.48	351	P	P		14 43 04.1 -2.1
comp=Z,2.9nm,0.9s,baz=20,slow=8.1,SNR=1.4							
comp=Z,2.9nm,0.9s							
CCM	Cathedral Cave	58.10	68	P	P		14 43 08.8 -2.2
CCM				IAmb	IAmb		14 43 10.7
comp=Z,3.6nm,0.8s							
SCHQ	Schefferville	58.22	40	P	P		14 43 10.4 -1.2
comp=Z,4.2nm,0.7s,baz=351,slow=3.9,SNR=3.7							
comp=Z,4.2nm,0.7s							
WMQ	Urumqi	60.28	304	eP	P		14 43 28.8 +2.8
WMQ				LR	LR		
comp=N,390nm,9.7s							
WMQ				LR	LR		
comp=Z,130nm,15.5s							
BVAR	Borovoye Array	61.30	321	P	P		14 43 31.2 -1.5
comp=Z,0.6nm,0.4s,baz=44,slow=6.3,SNR=4.3							
comp=Z,0.6nm,0.4s							
PZH	PanZhiHua	64.88	281	P	P		14 43 58.0 +1.2
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,4.8s							
HFS	Hagfors	67.67	355	P	P		14 44 12.3 -1.6
comp=Z,4.4nm,1.0s,baz=21,slow=9.3,SNR=1.9							
comp=Z,4.4nm,1.0s							
AKASG	Malin Array Be	75.19	344	P	P		14 44 57.1 -2.0
comp=Z,0.2nm,0.3s,baz=19,slow=6.5,SNR=1.9							
comp=Z,0.2nm,0.3s							
H03N2	Juan Fernandez	119.75	107	T	T		17 03 53.0
baz=317,slow=78,SNR=3.6							
H03N1	Juan Fernandez	119.76	107	T	T		17 04 06.1
baz=317,slow=78,SNR=5.9							
H03N3	Juan Fernandez	119.76	107	T	T		17 04 04.3
baz=317,slow=78,SNR=5.6							

BJI ***10*** *14:33:31.9, 9.˚46N×126.˚51E, h60km, mB5.3/42, mb4.9/91, Ms4.9/96, Ms7 4.8/95*

MAN ***10*** *14:33:32.0, 9.˚87N×126.˚55E, h12km, mb5.7, ML4.8, MS5.2*

MOS ***10*** *14:33:32.1±0.9, 9.˚76N×126.˚19E, h30km, mb5.4/72, MS4.8/11, Error ellipse: s-maj=8.9km s-min=4.1km az=115.9*

NEIC ***10*** *14:33:33.0±2.3, 9.˚78N±0.˚06×126.˚33E±0.˚06, h24km±3km, mb5.3/287, Mww5.2/23, Error ellipse: s-maj=9.0km s-min=8.4km az=223.0*

NEIC ***10*** *14:33:34.7, 9.˚82N×126.˚36E, h30km*

NEIC ***10*** *14:33:34.7, 9.˚82N×126.˚97E, h30km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{16}Nm; M_{rr}6.08; $M_{\theta\theta}$-1.53; $M_{\phi\phi}$-4.55; $M_{r\theta}$-0.19; $M_{\theta\phi}$3.47; $M_{\phi r}$-2.51; Fault plane solution: $M_0$6.95000×10^{16} NP1: ϕ_s312.55000°, δ38.18000°, λ67.41000°. NP2: ϕ_s160.44000°, δ55.20000°, λ106.81000°. Principal axes: T 6.7641, Plg74.0000°, Azm117.0000°; N 0.3684, Plg14.0000°, Azm331.0000°; P -7.1325, Plg9.0000°, Azm238.0000°;*

BGR ***10*** *14:33:36.7, 8.˚95N×124.˚69E, h33km, mb5.4, Ms4.8*

GCMT ***10*** *14:33:36.0±0.2, 9.˚85N±0.˚01×126.˚46E±0.˚01, h31km, MW5.2/111, Moment Tensor Solution. s100, c147; s111, c180; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}6.83±.16; $M_{\theta\theta}$-1.45±.11; $M_{\phi\phi}$-5.38±.12; $M_{r\theta}$0.19±.15; $M_{\theta\phi}$3.57±.08; $M_{\phi r}$-2.62±.17; Best double couple: $M_0$7.63700×10^{16} NP1: ϕ_s319.00000°, δ37.00000°, λ74.00000°. NP2: ϕ_s159.00000°, δ55.00000°, λ101.00000°. Principal axes: T 7.4040, Plg77.0000°, Azm107.0000°; N 0.4670, Plg9.0000°, Azm332.0000°; P -7.8710, Plg9.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***10*** *14:33:38.0±1.2, 9.˚77N×126.˚26E, h64km±10km, mb4.8/35, mbtmp5.1/40, MS4.6/58 Error ellipse: s-maj=13.8km s-min=7.3km az=81.0*

DJA ***10*** *14:33:40.0±0.4, 10˚N±2˚×12˚7E±˚, h84km±4km, M5.1/78, mb5.2/78, mB5.5/55, MLv5.9/4, Mw(mB)5.0/55, MwMwp5.0/23, Mwp5.3/23*

ISC 10 14:33:38.0±0.4, 9.˚80N±0.˚03×126.˚41E±0.˚04, h61km±3km, h61km:pP-P, n1110, σ1s60/1092, mb5.2/311, 42C-25D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.83	197	Pn	Pn	14 34 15.4	-5.5
DAV	Davao City (W)	2.83	197	P	Pn	14 34 19.6	-1.3
549nm,0.4s,baz=49,slow=5.6,SNR=12							
DAV				S	Sn	14 34 54.0	+0.1
2μm,0.7s,baz=109,slow=23,SNR=9.5							
DAV	Davao City (W)	2.83	197	P	Pn	14 34 22.5	+1.6
DAV				S	Sn	14 34 57.1	+3.2
DAV	Davao City (W)	2.83	197	P	Pn	14 34 23.4	+2.5
DAV	Davao City (W)	2.83	197	P	Pn	14 34 21.0	+0.1
SGSI	Sangihe	6.14	188	P	Pn	14 35 09.5	+3.3
TGY	Tagaytay City	6.85	309	P	Pn	14 35 15.6	-0.4
294nm,0.5s,baz=29,slow=3.2,SNR=14							
TGY				LR	LR	14 38 15.6	
comp=Z,15μm,18.2s,baz=124,slow=41							
I39PW	PALAU INFRASON	8.36	105	I	I	15 30 00.0	
baz=283,slow=309,SNR=1.3							
TNTI	Ternate	9.02	174	Pn	Pn	14 35 44.9	-0.7
TNTI	Ternate	9.02	174	P	Pn	14 35 46.3	+0.7
TNTI	Ternate	9.02	174	P	Pn	14 35 48.7	+3.1
2μm148nm,1.3s							
MYLDM	Lahad Datu	9.08	240	P	Pn	14 35 51.1	+4.6
KMSI	Cibinong	9.48	195	P	Pn	14 35 54.0	+2.1
SZP	Santa	9.63	324	P	Pn	14 35 56.1	+2.1
MRSI	Marisa	10.27	206	P	Pn	14 36 03.6	+0.8
3μm1μm147nm,1.1s							
TOLI2	Tolitoli	10.29	213	Pn	Pn	14 36 01.2	-1.8
TOLI2	Tolitoli	10.29	213	P	Pn	14 36 03.6	+0.6
KKM	Kota Kinabalu	10.76	250		Pn	14 36 05.2	-4.4
KKM	Kota Kinabalu	10.76	250	P	Pn	14 36 12.7	+3.1
LUWI	Luwuk	11.36	199	Pn	Pn	14 36 12.6	-5.1
LUWI	Luwuk	11.36	199	P	Pn	14 36 19.7	+2.0
LUWI	Luwuk	11.36	199	P	Pn	14 36 21.5	+3.8
MPSI	Mapaga	11.42	215	P	Pn	14 36 22.8	+4.4
SWI	Sorong	11.64	155	P	Pn	14 36 22.7	+1.2
69nm,1.0s							
APSI	Ampana	11.65	204	P	Pn	14 36 25.8	+4.2
SANI	Sanana	11.78	182	P	Pn	14 36 19.7	-3.6
PCI	Palu	12.49	212	P	Pn	14 36 31.0	-2.0
NLAI	Namlea	12.97	177	P	Pn	14 36 38.0	-1.6
MSAI	Masohi	13.30	169	P	Pn	14 36 47.7	+3.6
2μm162nm,1.0s							
AAI	Ambon	13.52	172	P	Pn	14 36 49.1	+2.1
90nm,0.7s							
SMKI	Samarinda	13.69	222	P	P	14 36 53.0	-3.1
5μm188nm,1.3s							
FAKI	Fak Fak	13.91	155		Pn	14 36 49.7	-2.6
FAKI	Fak Fak	13.91	155	P	Pn	14 36 51.6	-0.7
FAKI	Fak Fak	13.91	155	P	Pn	14 36 51.9	-0.4
2μm116nm,1.0s							
TWGBT	Beinan	13.91	339	P	Pn	14 36 54.2	+1.9
TWG	Pinlang	13.92	339	P	P	14 36 56.0	-2.7
KDI	Kendari	14.18	196	P	P	14 37 00.1	-1.4
TTSI	Tana Toraja	14.35	208	P	Pn	14 37 00.0	+1.9
2μm148nm,1.2s							
YULB	Yu-li	14.37	341	P	P	14 37 02.1	-1.6
BKB	Balikpapan	14.51	221		P	14 37 02.8	-2.4
BKB	Balikpapan	14.51	221	P	P	14 37 02.2	-3.0
BKB	Balikpapan	14.51	221	P	P	14 37 02.6	-2.6
5μm5μm232nm,1.4s							
TPUB	Ta-pu	14.52	338	P	P	14 37 03.4	-1.9
BAKI	Biak	14.58	138	P	Pn	14 37 00.3	-0.8
93nm,1.1s							
SSLB	Suanglung	14.85	340		Pn	14 37 00.3	-4.4
SSLB	Suanglung	14.85	340	P	Pn	14 37 05.9	+1.3
SPSI	Sidrap Palu	15.19	206	P	P	14 37 12.3	-0.5
3μm2μm84nm,1.0s							
YHNB	Yeheng	15.55	343		Pn	14 37 13.8	+0.2
YHNB	Yeheng	15.55	343	P	P	14 37 17.5	+0.7
BBSI	Bau Bau	15.66	194	P	P	14 37 19.3	+1.3
2μm106nm,1.0s							
MTKI	Muara Teweh, K	15.66	228	P	P	14 37 18.6	+0.6
SBUM	Sibu	15.88	244		P	14 37 19.4	-1.0
SBUM	Sibu	15.88	244	P	P	14 37 19.4	-1.0
KAPI	Kappang	16.14	205		Pn	14 37 20.8	-0.4
KAPI	Kappang	16.14	205	P	Pn	14 37 20.5	-0.7
84nm,1.1s,baz=29,slow=4.7,SNR=12							
KAPI				LR	LR	14 44 10.8	
comp=Z,3μm,19.8s,baz=2.5,slow=39							
KAPI	Kappang	16.14	205	P	P	14 37 22.9	-0.5
KAPI				P	P	14 37 22.9	-0.5
KAPI				S	Sn	14 40 23.3	+3.9
KAPI				S	Sn	14 40 23.3	+3.9
KAPI	Kappang	16.14	205	P	P	14 37 23.0	-0.3
KAPI	Kappang	16.14	205	*i* P	Pn	14 37 20.7	-0.4
BKSI	Bulukumba	16.27	203	P	P	14 37 26.1	+1.3
2μm77nm,1.0s							
KNMB	Chin-men Tao	16.46	333		P	14 37 26.3	-0.5
QZH	Quanzhou	16.80	335	P	P	14 37 31.0	+0.5
QZH				S	Sn	14 40 33.0	-2.1
QZH				SS	SnSn	14 40 52.4	+2.9
QZH				pmax	pmax		
comp=Z,75nm,1.5s							
QZH				LR	LR		
comp=N,3μm,16.1s							
QZH				LR	LR		
comp=E,2μm,16.8s							
QZH				LR	LR		
comp=Z,4μm,16.8s							
SMPI	Sarmi	16.95	133	P	Pn	14 37 31.1	-0.1
3μm153nm,1.4s							
JOW	Kunigami	17.03	6	P	P	14 37 33.1	0.0
JOW	Kunigami	17.03	6	P	Pn	14 37 32.1	-0.1
126nm,1.1s,baz=179,slow=10,SNR=25							
JOW				LR	LR	14 45 25.1	
comp=Z,2μm,18.2s,baz=172,slow=41							
JOW	Kunigami	17.03	6	P	P	14 37 33.7	+0.5
STKI	Sintang	17.73	238	P	P	14 37 43.5	+2.6
3μm5μm152nm,2.0s							
DLV	Lat	17.73	279	P	P	14 37 44.3	+3.1
DLV	Lat	17.73	279	P	P	14 37 43.4	+2.3
KSM	Kuching	18.02	244	Pn	Pn	14 37 45.7	+1.3
KSM	Kuching	18.02	244	P	Pn	14 37 47.1	+2.7
GZH	Guangzhou	18.19	318	P	Pn	14 37 48.8	+2.5
GZH				S	S	14 41 18.5	+7.9
GZH				LR	LR		
comp=N,5μm,17.1s							
GZH				LR	LR		
comp=E,3μm,19.2s							
GZH				LR	LR		
comp=Z,6μm,18.1s							
GENI	Genyem	18.42	131	P	Pn	14 37 49.5	+0.2
GENI	Genyem	18.42	131	P	Pn	14 37 49.5	+0.2
4μm199nm,1.2s							
QIZ	Qiongzhong	18.47	302	P	P	14 37 49.0	0.0
QIZ				S	Sn	14 41 12.9	-2.7
QIZ				pmax	pmax		
comp=Z,36nm,1.8s							
QIZ				pmax	pmax		
comp=Z,590nm,8.0s							
QIZ				LR	LR		
comp=N,1μm,16.1s							
QIZ				LR	LR		
comp=E,3μm,16.9s							
QIZ				LR	LR		
comp=Z,4μm,17.7s							
JAY	Jayapura	18.77	130	P	P	14 37 51.4	-1.1
66nm,1.0s,baz=312,slow=4.5,SNR=8.1							
JAY				LR	LR	14 44 34.0	
comp=Z,3μm,19.6s,baz=329,slow=35							
JAY	Jayapura	18.77	130	P	P	14 37 52.7	+0.2
2μm95nm,1.2s							
MMRI	Maumere	18.78	193	P	P	14 37 51.9	-0.5
MMRI				IAmb	IAmb	14 38 02.8	
comp=Z,116nm,0.8s							
MMRI	Maumere	18.78	193	P	Pn	14 37 55.2	+1.7

GMJI	**Gumukmas**	**22.11 216**	P	**P**	**14 38 31.7**	**+3.2**
CNSH	**ChangSha**	**22.25 327**	P	**P**	**14 38 29.6**	**-0.3**
CNSH			S	**S**	**14 42 34.7**	**+3.6**
CNSH			pmax	pmax		
	comp=Z,20nm,0.9s					
CNSH			LR	LR		
	comp=Z,2μm,17.1s					
CNSH			LR	LR		
	comp=Z,1μm,14.8s					
CNSH			LR	LR		
	comp=Z,2μm,15.7s					
TPI	**Tanjungpandan**	**22.46 237**	P	**P**	**14 38 33.7**	**+1.4**
	comp=Z,1μmcomp=Z,64nm,1.2s					
DRS	**Darwin Rock St**	**22.53 168**	P	**P**	**14 38 33.5**	**+0.5**
NGJI	**Ngawi**	**22.64 222**	P	**P**	**14 38 35.6**	**+1.4**
	comp=Z,3μmcomp=Z,89nm,1.0s					
MMPI	**Merauke**	**22.87 142**	P	**P**	**14 38 36.9**	**+0.4**
MTN	**Manton Dam**	**22.98 168**	P	**P**	**14 38 36.4**	**-1.3**
MTN			IAmb	IAmb	14 38 46.5	
	comp=Z,60nm,0.6s					
MTN	**Manton Dam**	**22.98 168**	P	**P**	**14 38 36.8**	**-0.8**
	comp=Z,87nm,0.9s					
MTN	**Manton Dam**	**22.98 168**	P	**P**	**14 38 37.6**	**-0.1**
SMRI	**Semarang**	**23.09 224**	P	**P**	**14 38 37.9**	**-0.9**
SMRI	**Semarang**	**23.09 224**	P	**P**	**14 38 41.2**	**+2.4**
SMRI	**Semarang**	**23.09 224**	P	**P**	**14 38 40.9**	**+2.1**
	comp=Z,5μmcomp=Z,275nm,1.5s					
KDU	**Kakadu**	**23.14 165**	P	**P**	**14 38 37.4**	**-1.9**
	comp=Z,0.0nmcomp=Z,98nm,0.9s					
KDU	**Kakadu**	**23.14 165**	P	**P**	**14 38 38.1**	**-1.1**
NJ2	**Nanjing**	**23.22 344**	⇑P	**P**	**14 38 39.0**	**-0.9**
NJ2			pP	**pP**	**14 38 47.7**	**-4.4**
NJ2			S	**S**	**14 42 49.9**	**+2.7**
NJ2			sS	Sn	14 43 03.2	-6.2
NJ2			pmax	pmax		
	comp=Z,110nm,0.9s					
NJ2			LR	LR		
	comp=Z,780nm,19.9s					
NJ2			LR	LR		
	comp=Z,670nm,12.9s					
NJ2			LR	LR		
	comp=Z,1μm,21.8s					
PPBI	**Pangkal Pinang**	**23.43 241**	P	**P**	**14 38 43.0**	**+1.0**
WHN	**Wuhan**	**23.50 333**	P	**P**	**14 38 42.4**	**-0.1**
WHN			S	**S**	**14 42 53.4**	**+1.7**
WHN			pmax	pmax		
	comp=Z,230nm,1.3s					
WHN			pmax	pmax		
	comp=Z,1μm,2.8s					
WHN			LR	LR		
	comp=Z,7μm,17.6s					
WHN			LR	LR		
	comp=Z,4μm,17.1s					
WHN			LR	LR		
	comp=Z,8μm,15.1s					
JNU	**Nakatsue**	**23.57 9**	IAmb	IAmb	14 38 43.8	
	comp=Z,67nm,1.0s					
JNU	**Nakatsue**	**23.57 9**	LR	LR	14 49 12.6	
	comp=Z,953nm,18.4s,baz=162,slow=40					
JNU	**Nakatsue**	**23.57 9**	P	**P**	**14 38 43.5**	**+0.3**
UGM	**Wanagama**	**23.66 222**	P	**P**	**14 38 46.9**	**+2.7**
	comp=Z,4μmcomp=Z,153nm,1.6s					
YOGI	**Yogyakarta**	**23.75 223**	P	**P**	**14 38 47.2**	**+2.3**
	comp=Z,3μmcomp=Z,110nm,1.4s					
MYKOM	**Kota Tinggi**	**23.80 252**	IAmb	IAmb	14 38 48.6	
	comp=Z,91nm,0.9s					
MYKOM	**Kota Tinggi**	**23.80 252**	P	**P**	**14 38 47.2**	**+1.8**
KPJI	**Karang Pucung**	**24.35 226**	P	**P**	**14 38 50.3**	**-0.1**
	comp=Z,2μmcomp=Z,2μmcomp=Z,76nm,1.1s					
SLVN	**Son La**	**24.48 301**	P	**P**	**14 38 52.4**	**+0.7**
JMN	**Monobe**	**24.79 15**	IAmb	IAmb	14 38 57.4	
	comp=Z,152nm,1.2s					
JMN	**Monobe**	**24.79 15**	P	**P**	**14 38 55.2**	**+0.9**
NAYO	**Nakonayok**	**24.93 283**	P	**P**	**14 38 57.2**	**+1.4**
LEM	**Lembang**	**24.96 229**	LR	LR	14 50 11.6	
	comp=Z,3μm,18.1s,baz=64,slow=40					
LEM	**Lembang**	**24.96 229**	P	**P**	**14 38 56.6**	**+0.4**
	comp=Z,2μmcomp=Z,78nm,1.0s					
GYA	**Guiyang**	**24.97 314**	⇑P	**P**	**14 38 54.7**	**-1.4**
GYA			S	**S**	**14 43 13.5**	**-2.3**
GYA			pmax	pmax		
	comp=Z,11nm,1.1s					
GYA			pmax	pmax		
	comp=Z,230nm,5.7s					
GYA			LR	LR		
	comp=Z,490nm,8.7s					
GYA			LR	LR		
	comp=Z,2μm,18.4s					
GYA			LR	LR		
	comp=Z,2μm,20.2s					
BBJI	**Bungbulang**	**25.36 228**	P	**P**	**14 39 01.5**	**+1.8**
KNRA	**Kununurra**	**25.42 175**	IAmb	IAmb	14 39 31.5	
	comp=Z,82nm,1.0s					
KNRA	**Kununurra**	**25.42 175**	P	**P**	**14 38 59.2**	**-0.9**
	comp=Z,75nm,0.9s					
CNJI	**Cibinong**	**25.64 229**	P	**P**	**14 39 02.7**	**+0.5**
	comp=Z,39nm,1.0s					
SBJI	**Serang**	**25.66 233**	P	**P**	**14 39 03.8**	**+1.5**
IPM	**Ipoh**	**25.73 260**	P	**P**	**14 39 02.4**	**-0.6**
IPM			IAmb	IAmb	14 39 06.5	
	comp=Z,92nm,0.8s					
IPM	**Ipoh**	**25.73 260**	P	**P**	**14 39 04.9**	**+1.9**
SKJI	**Sukabumi**	**25.88 231**	P	**P**	**14 39 04.2**	**-0.1**
	comp=Z,161nm,0.9s					
KULM	**Kulim**	**25.92 262**	P	**P**	**14 39 04.0**	**-0.7**
KULM	**Kulim**	**25.92 262**	P	**P**	**14 39 07.8**	**+3.1**
JHJ	**Hachijo jima 2**	**26.28 26**	LR	LR	14 49 35.8	
	comp=Z,2μm,18.5s,baz=210,slow=36					
CGJI	**Cibinong**	**26.30 232**	P	**P**	**14 39 09.7**	**+1.6**
	comp=Z,66nm,1.0s					
MDSI	**Maura Dua**	**26.30 238**	P	**P**	**14 39 08.9**	**+0.7**
	comp=Z,834nmcomp=Z,55nm,1.1s					
TJN	**Taejon**	**26.47 2**	*i* P	**P**	**14 39 09.1**	**-0.3**
SRIT	**Nakonsritamara**	**26.49 270**	P	**P**	**14 39 10.8**	**+1.0**
BKNI	**Bangkinang**	**26.94 251**	P	**P**	**14 39 15.9**	**+2.0**
BKNI	**Bangkinang**	**26.94 251**	P	**P**	**14 39 14.5**	**+0.6**
	comp=Z,138nm,1.2s					
SRDT	**SRDT**	**27.05 282**	P	**P**	**14 39 17.2**	**+2.3**
KMI	**Kunming**	**27.17 307**	⇑P	**P**	**14 39 19.0**	**+2.9**
KMI			S	**S**	**14 43 50.8**	**+0.1**
KMI			pmax	pmax		
	comp=Z,7.0nm,0.7s					
KMI			LR	LR		
	comp=Z,970nm,16.9s					
KMI			LR	LR		
	comp=Z,1μm,20.0s					
KMI			LR	LR		
	comp=Z,2μm,18.3s					
INU	**Inuyama**	**27.21 19**	P	**P**	**14 39 15.0**	**-1.1**
INU			IAmb	IAmb	14 39 21.5	
	comp=Z,181nm,2.0s					
INU	**Inuyama**	**27.21 19**	P	**P**	**14 39 16.4**	**+0.3**
KSI	**Kapahiang**	**27.23 242**	P	**P**	**14 39 18.1**	**+1.5**
	comp=Z,97nm,0.9s					
KSAR	**Wonju Array Be**	**27.55 3**	P	**P**	**14 39 18.5**	**-0.6**
KSAR	**Wonju Array Be**	**27.55 3**	P	**P**	**14 39 18.5**	**-0.6**
KSRS	**Korea Array**	**27.57 3**	P	**P**	**14 39 19.1**	**-0.1**
	comp=Z,14nm,0.9s,baz=182,slow=10.0,SNR=38					
KSRS			PcP	**PcP**	**14 42 35.8**	**0.0**
	comp=Z,2.3nm,0.9s,baz=208,slow=3.3,SNR=4.6					
KSRS			LR	LR	14 52 51.4	
	comp=Z,1μm,18.1s,baz=190,slow=42					
	comp=Z,14nm,0.9s					
TIA	**Tai'an**	**27.61 344**	P	**P**	**14 39 18.9**	**-0.8**
TIA			PP	**PnPn**	**14 40 07.2**	**-0.9**
TIA			PcP	**PcP**	**14 42 35.8**	**-0.2**
TIA			S	**S**	**14 43 57.8**	**+0.7**
TIA			SS	**SnSn**	**14 45 14.6**	**+0.7**
TIA			pmax	pmax		
	comp=Z,48nm,0.9s					
TIA			pmax	pmax		
	comp=Z,290nm,3.8s					
TIA			LR	LR		
	comp=Z,1μm,17.2s					
TIA			LR	LR		
	comp=Z,740nm,13.7s					
TIA			LR	LR		
	comp=Z,1μm,17.2s					
FITZ	**Fitzroy Crossi**	**27.73 182**	LR	LR	14 53 44.4	
	comp=Z,463nm,18.1s,baz=37,slow=44					
FITZ	**Fitzroy Crossi**	**27.73 182**	P	**P**	**14 39 20.6**	**-0.3**
LYN	**LuoYang**	**27.75 335**	⇑P	**P**	**14 39 20.2**	**-0.7**
LYN			pP	pP	14 39 35.4	0.0
LYN			sP	sP	14 39 44.1	+1.7
LYN			PP	**PnPn**	**14 40 08.2**	**-1.7**
LYN			S	**S**	**14 43 58.6**	**-0.6**
LYN			sS	sS	14 44 25.1	+1.4
LYN			SS	**SnSn**	**14 45 22.8**	**+5.7**
LYN			pmax	pmax		
	comp=Z,77nm,0.9s					
LYN			pmax	pmax		
	comp=Z,250nm,4.3s					
LYN			LR	LR		
	comp=Z,1μm,17.2s					
LYN			LR	LR		
	comp=Z,1μm,17.5s					
LYN			LR	LR		
	comp=Z,2μm,14.8s					
PPI	**Padang Panjang**	**27.82 250**	P	**P**	**14 39 21.7**	**-0.1**
	comp=Z,1μmcomp=Z,70nm,1.4s					
CM31	**Chiang Mai Arr**	**27.96 291**	P	**P**	**14 39 22.5**	**-0.5**
CM31			P	**P**	**14 39 22.5**	**-0.5**
	SNR=18					
CMAR	**Chiang Mai Arr**	**27.96 291**	P	**P**	**14 39 21.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**27.96 291**	P	**P**	**14 39 21.7**	**-1.3**
	comp=Z,24nm,1.1s,baz=102,slow=7.3,SNR=56					
CMAR			ScP	**ScP**	**14 46 13.3**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=88,slow=2.2,SNR=4.2					
CMAR			LR	LR	14 51 14.0	
	comp=Z,1μm,18.5s,baz=105,slow=38					
	comp=Z,24nm,1.1s					
CMAR	**Chiang Mai Arr**	**27.96 291**	*i* P	**P**	**14 39 22.2**	**-0.8**
CMAR			pmax	pmax		
	comp=Z,14nm,0.9s					
CHTO	**Chiang Mai**	**28.05 292**	P	**P**	**14 39 21.9**	**-1.9**
CHTO	**Chiang Mai**	**28.05 292**	P	**P**	**14 39 21.9**	**-1.9**
CHTO			pmax	pmax		
	comp=Z,19nm,1.1s					
PMG	**Port Moresby**	**28.12 132**	P	**P**	**14 39 23.0**	**-1.4**
	comp=Z,28nm,1.0s,baz=286,slow=8.5,SNR=3.7					
	comp=Z,28nm,1.0s					
PMG	**Port Moresby**	**28.12 132**	P	**P**	**14 39 23.0**	**-1.4**
MNSI	**Mandailing Nat**	**28.14 253**	P	**P**	**14 39 25.3**	**+0.6**
	comp=Z,930nmcomp=Z,67nm,1.1s					
PZH	**PanZhiHua**	**28.64 309**	P	**P**	**14 39 27.7**	**-1.4**
PZH			S	**S**	**14 44 11.9**	**-1.8**
PZH			SS	**SnSn**	**14 45 45.9**	**+6.8**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,140nm,5.5s					
PZH			LR	LR		
	comp=Z,810nm,17.2s					
PZH			LR	LR		
	comp=Z,1μm,17.1s					
PZH			LR	LR		
	comp=Z,2μm,18.1s					
MAJO	**Matsushiro**	**28.69 20**	*i* P	**P**	**14 39 27.7**	**-1.7**
MAJO			pmax	pmax		
	comp=Z,43nm,2.4s					
MJAR	**Matsushiro Arr**	**28.69 20**	P	**P**	**14 39 27.8**	**-1.6**
	comp=Z,7.2nm,0.9s,baz=196,slow=9.1,SNR=16					
MJAR			PcP	**PcP**	**14 42 38.6**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=157,slow=2.7,SNR=6.2					
MJAR			LR	LR	14 50 55.2	
	comp=Z,2μm,18.6s,baz=200,slow=36					
COEN	**Coen**	**28.88 145**	P	**P**	**14 39 29.8**	**-1.3**
COEN			IAmb	IAmb	14 39 31.6	
	comp=Z,100nm,1.4s					
COEN	**Coen**	**28.88 145**	P	**P**	**14 39 28.2**	**-3.0**
	comp=Z,60nm,1.7s					
COEN	**Coen**	**28.88 145**	P	**P**	**14 39 30.9**	**-0.3**
XAN	**Xi'an**	**28.98 329**	⇑P	**P**	**14 39 29.9**	**-2.0**
XAN			PP	**PnPn**	**14 40 25.3**	**-1.3**
XAN			S	**S**	**14 44 20.0**	**+1.3**
XAN			pmax	pmax		
	comp=Z,150nm,0.8s					
XAN			pmax	pmax		
	comp=Z,330nm,4.1s					
XAN			LR	LR		
	comp=Z,3μm,16.1s					
XAN			LR	LR		
	comp=Z,1μm,14.9s					
XAN			LR	LR		
	comp=Z,3μm,16.0s					
KRVT	**Keravat (AS076**	**29.12 118**	LR	LR	14 52 01.6	
	comp=Z,985nm,18.0s,baz=48,slow=38					
DL2	**Dalian**	**29.30 352**	P	**P**	**14 39 35.8**	**+1.2**
DL2			S	**S**	**14 44 27.0**	**+3.5**
DL2			pmax	pmax		
	comp=Z,41nm,1.3s					
DL2			pmax	pmax		
	comp=Z,270nm,4.8s					
DL2			LR	LR		
	comp=Z,930nm,14.7s					
DL2			LR	LR		
	comp=Z,1μm,15.1s					
DL2			LR	LR		
	comp=Z,2μm,19.6s					
SISI	**Saibi**	**29.36 249**	P	**P**	**14 39 34.7**	**-0.8**
	comp=Z,105nm,1.1s					
HNS	**HongShan**	**29.44 341**	⇑P	**P**	**14 39 35.3**	**-0.6**
HNS			pP	**pP**	**14 39 45.1**	**-4.8**
HNS			S	**S**	**14 44 26.8**	**+1.1**
HNS			pmax	pmax		
	comp=Z,98nm,1.0s					
HNS			LR	LR		
	comp=Z,1μm,18.4s					
HNS			LR	LR		
	comp=Z,890nm,18.4s					
HNS			LR	LR		
	comp=Z,2μm,16.5s					
LHMI	**Lhok Sumawe**	**29.55 263**	P	**P**	**14 39 37.7**	**+0.5**
CD2	**Chengdu**	**29.75 318**	P	**P**	**14 39 36.6**	**-2.2**
CD2			S	**S**	**14 44 31.8**	**+0.9**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CD2			LR	LR		
	comp=Z,4μm,16.3s					
CD2			LR	LR		
	comp=Z,3μm,17.7s					
CD2			LR	LR		
	comp=Z,3μm,17.1s					
GSI	**Gunungsitoli**	**29.89 255**	P	**P**	**14 39 39.0**	**-1.2**
GSI			IAmb	IAmb	14 39 58.9	
	comp=Z,57nm,0.9s					
GSI	**Gunungsitoli**	**29.89 255**	P	**P**	**14 39 40.4**	**+0.2**
GSI	**Gunungsitoli**	**29.89 255**	P	**P**	**14 39 39.2**	**-1.0**
TIY	**Taiyuan**	**30.51 338**	*e*P	**P**	**14 39 45.2**	**-0.3**
TIY			S	**S**	**14 44 44.3**	**+1.5**
TIY			pmax	pmax		
	comp=Z,32nm,1.0s					
TIY			pmax	pmax		
	comp=Z,220nm,4.1s					
TIY			LR	LR		
	comp=Z,1μm,15.9s					
TIY			LR	LR		
	comp=Z,470nm,14.7s					
TIY			LR	LR		
	comp=Z,1μm,15.7s					
TNCH	**TengChong**	**30.52 303**	P	**P**	**14 39 48.9**	**+3.0**
TNCH			PP	**PP**	**14 40 49.7**	**-6.1**
TNCH			S	**S**	**14 44 48.0**	**+4.5**
TNCH			SS	**SnSn**	**14 46 31.7**	**+6.6**
TNCH			pmax	pmax		
	comp=Z,18nm,0.9s					
TNCH			pmax	pmax		
	comp=Z,130nm,4.9s					
TNCH			LR	LR		
	comp=Z,410nm,14.4s					
TNCH			LR	LR		
	comp=Z,400nm,15.0s					
TNCH			LR	LR		
	comp=Z,1μm,21.7s					
WRAB	**Tennant Creek**	**30.56 165**	P	**P**	**14 39 43.5**	**-2.5**
WRAB	**Tennant Creek**	**30.56 165**	P	**P**	**14 39 43.5**	**-2.5**
WRAB			pmax	pmax		
	comp=Z,23nm,1.0s					
WRA	**Warramunga Arr**	**30.57 165**	P	**P**	**14 39 44.2**	**-1.9**
	comp=Z,7.9nm,1.0s,baz=346,slow=9.8,SNR=20					
WRA			PcP	**PcP**	**14 42 43.9**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=337,slow=2.9,SNR=2.9					
WRA			LR	LR	14 54 19.2	
	comp=Z,448nm,19.6s,baz=349,slow=41					
	comp=Z,7.9nm,1.0s					
WRA	**Warramunga Arr**	**30.57 165**	*i* P	**P**	**14 39 44.4**	**-1.7**
WRA			pmax	pmax		
	comp=Z,9.0nm,1.0s					
JMM	**Marumori**	**30.80 23**	IAmb	IAmb	14 39 48.4	
	comp=Z,56nm,1.0s					
JMM	**Marumori**	**30.80 23**	P	**P**	**14 39 48.1**	**+0.1**
BJT	**Baijiatuau**	**31.44 345**	P	**P**	**14 39 52.8**	**-0.8**
BJT			IAmb	IAmb	14 39 54.7	
	comp=Z,109nm,1.6s					
BJT	**Baijiatuau**	**31.44 345**	P	**P**	**14 39 53.5**	**-0.1**
BJT	**Baijiatuau**	**31.44 345**	P	**P**	**14 39 52.8**	**-0.8**
BJT			pmax	pmax		
	comp=Z,109nm,1.6s					
MBWA	**Marble Bar**	**31.46 192**	P	**P**	**14 39 52.6**	**-1.3**
MBWA	**Marble Bar**	**31.46 192**	P	**P**	**14 39 53.7**	**-0.1**
	comp=Z,26nm,0.9s					
MBWA	**Marble Bar**	**31.46 192**	P	**P**	**14 39 53.5**	**-0.4**
MBWA			P	**P**	**14 39 53.5**	**-0.4**
MBWA	**Marble Bar**	**31.46 192**	P	**P**	**14 39 54.9**	**+1.0**
BJI	**Beijing**	**31.46 345**	P	**P**	**14 39 53.1**	**-0.6**
BJI			S	**S**	**14 44 58.7**	**+1.3**
BJI			pmax	pmax		
	comp=Z,19nm,1.1s					
BJI			LR	LR		
	comp=Z,310nm,14.1s					
BJI			LR	LR		
	comp=Z,210nm,14.6s					
BJI			LR	LR		
	comp=Z,400nm,17.3s					
PSAC1	**Pilbara Seismi**	**31.80 192**	P	**P**	**14 39 55.9**	**-1.1**
	comp=Z,62nm,1.2s					
PSA00	**Pilbara Seismi**	**31.84 192**	IAmb	IAmb	14 39 57.7	
	comp=Z,48nm,0.9s					
PSA00	**Pilbara Seismi**	**31.84 192**	P	**P**	**14 39 56.2**	**-1.0**
	comp=Z,58nm,1.2s					
PSA00	**Pilbara Seismi**	**31.84 192**	P	**P**	**14 39 57.4**	**+0.2**
SNY	**Shenyang**	**32.00 356**	⇓P	**P**	**14 39 59.0**	**+0.6**
SNY			S	**S**	**14 45 08.9**	**+3.2**
SNY			pmax	pmax		
	comp=Z,43nm,1.4s					
SNY			LR	LR		
	comp=Z,510nm,13.6s					
SNY			LR	LR		
	comp=Z,570nm,16.9s					
SNY			LR	LR		
	comp=Z,800nm,21.1s					
QIS	**Mount Isa**	**32.84 157**	P	**P**	**14 40 03.4**	**-2.7**
	comp=Z,56nm,1.0s					
QIS	**Mount Isa**	**32.84 157**	P	**P**	**14 40 05.7**	**-0.4**
MTSU	**Mount Surprise**	**32.91 147**	P	**P**	**14 40 06.1**	**-0.6**
	comp=Z,17nm,0.7s					
MTSU	**Mount Surprise**	**32.91 147**	P	**P**	**14 40 08.3**	**+1.6**
MSHR	**Mys Shultsa**	**32.92 6**	*ce*P	**P**	**14 40 06.1**	**-0.4**
MSHR			pmax	pmax		
	comp=Z,28nm,1.7s					
LZH	**Lanzhou**	**33.24 325**	P	**P**	**14 40 08.7**	**-0.9**
LZH			PP	**PP**	**14 41 23.4**	**-2.4**
LZH			PcP	**PcP**	**14 42 52.4**	**+1.4**
LZH			S	**S**	**14 45 24.4**	**-1.1**
LZH			pmax	pmax		
	comp=Z,33nm,1.5s					
LZH			LR	LR		
	comp=Z,1μm,15.5s					
LZH			LR	LR		
	comp=Z,1μm,17.2s					
LZH			LR	LR		
	comp=Z,1μm,15.5s					
HHC	**Hu-ho-hao-te**	**33.60 339**	⇑*i*P	**P**	**14 40 12.7**	**+0.1**
HHC			S	**S**	**14 45 32.2**	**+1.3**
HHC			pmax	pmax		
	comp=Z,63nm,1.0s					
HHC			pmax	pmax		
	comp=Z,240nm,5.8s					
HHC			LR	LR		
	comp=Z,1μm,16.5s					
HHC			LR	LR		
	comp=Z,630nm,15.9s					
HHC			LR	LR		
	comp=Z,1μm,16.8s					
CN2	**Changchun**	**33.88 359**	P	**P**	**14 40 12.0**	**-2.9**
CN2			S	**S**	**14 45 34.7**	**-0.2**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.7s					
CN2			pmax	pmax		
	comp=Z,400nm,5.0s					
CN2			LR	LR		
	comp=Z,800nm,15.0s					
CN2			LR	LR		
	comp=Z,500nm,15.0s					
CN2			LR	LR		
	comp=Z,900nm,15.0s					
BTO	**Baotou**	**33.95 337**	*e*P	**P**	**14 40 16.8**	**+1.2**
BTO			pP	**pP**	**14 40 31.8**	**+2.2**
BTO			sP	**sP**	**14 40 39.4**	**+3.1**
BTO			PP	**PP**	**14 41 33.2**	**-0.3**
BTO			S	**S**	**14 45 40.8**	**+4.5**
BTO			sS	**sS**	**14 46 03.7**	**+2.7**
BTO			SS	**SnSn**	**14 47 49.0**	**+1.2**
BTO			pmax	pmax		
	comp=Z,23nm,0.7s					
BTO			pmax	pmax		
	comp=Z,640nm,6.1s					
BTO			LR	LR		
	comp=Z,2μm,18.9s					
BTO			LR	LR		
	comp=Z,2μm,15.8s					
BTO			LR	LR		
	comp=Z,2μm,19.8s					
AS06	**Alice Springs**	**34.05 168**	P	**P**	**14 40 15.4**	**-1.2**
	comp=Z,13nm,0.9s					
AS31	**Alice Springs**	**34.06 168**	P	**P**	**14 40 15.8**	**-0.9**
	comp=Z,4.8nm,0.7s					
ASAR	**Alice Springs**	**34.06 168**	P	**P**	**14 40 15.7**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=354,slow=7.0,SNR=88					
ASAR			PcP	**PcP**	**14 42 52.0**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=348,slow=1.4,SNR=6.4					
ASAR			ScP	**ScP**	**14 46 31.2**	**-1.8**
	comp=Z,2.0nm,1.1s,baz=341,slow=5.3,SNR=1.4					
ASAR			LR	LR	14 56 53.5	
	comp=Z,514nm,18.5s,baz=339,slow=41					
	comp=Z,3.2nm,0.4s					
AS01	**Alice Springs**	**34.07 168**	P	**P**	**14 40 16.6**	**-0.1**
AS19	**Alice Springs**	**34.11 168**	P	**P**	**14 40 15.6**	**-1.5**
	comp=Z,15nm,0.8s					
USA0B	**Ussuriysk Arra**	**34.61 7**	IAmb	IAmb	14 40 22.7	
	comp=Z,94nm,1.7s					
USA0B	**Ussuriysk Arra**	**34.61 7**	*i* P	**P**	**14 40 19.8**	**-1.4**
USRK	**Ussuriysk Ar.**	**34.61 7**	P	**P**	**14 40 21.8**	**+0.6**
	comp=Z,15nm,0.8s,baz=188,slow=7.4,SNR=28					
	comp=Z,15nm,0.8s					
WRKA	**Warakurna**	**34.67 177**	P	**P**	**14 40 21.5**	**-0.4**
	comp=Z,71nm,0.9s					
WRKA	**Warakurna**	**34.67 177**	P	**P**	**14 40 21.7**	**-0.3**
MDJ	**Mudanjiang**	**34.80 4**	IAmb	IAmb	14 40 24.7	
	comp=Z,62nm,1.1s					
MDJ	**Mudanjiang**	**34.80 4**	P	**P**	**14 40 23.3**	**+0.5**
MDJ			pP	pP	14 40 33.4	-2.6
MDJ			S	**S**	**14 45 54.7**	**+5.7**
MDJ			PcS	**PcS**	**14 46 39.8**	**-1.8**
MDJ			pmax	pmax		
	comp=Z,62nm,1.2s					
MDJ			LR	LR		
	comp=Z,560nm,16.8s					
MDJ			LR	LR		
	comp=Z,440nm,18.6s					
MDJ			LR	LR		
	comp=Z,850nm,18.9s					
MDJ	**Mudanjiang**	**34.80 4**	P	**P**	**14 40 23.7**	**+0.9**
XLT	**XiLinHaoTe**	**35.14 347**	*e*P	**P**	**14 40 24.8**	**-1.0**
XLT			PP	**PP**	**14 41 44.0**	**-2.6**
XLT			S	**S**	**14 45 53.4**	**-1.1**
XLT			SS	**SnSn**	**14 48 12.3**	**-4.2**
XLT			ScS	**ScS**	**14 50 36.5**	**-4.2**
XLT			pmax	pmax		
	comp=Z,53nm,0.9s					
XLT			LR	LR		
	comp=Z,480nm,16.5s					
XLT			LR	LR		
	comp=Z,710nm,20.2s					
TV1H	**Townsville Har**	**35.18 145**	P	**P**	**14 40 26.7**	**+0.4**
BRDH	**Bariadhala**	**35.65 295**	LR	LR	14 55 10.8	
	comp=Z,1μm,21.6s,baz=150,slow=36					
AUAYR	**Ayr State High**	**35.78 145**	P	**P**	**14 40 32.4**	**+0.9**
BNX	**BinXian**	**35.82 1**	⇑P	**P**	**14 40 30.9**	**-0.7**
BNX			pmax	pmax		
	comp=Z,20nm,1.1s					
SHL	**Shillong**	**36.29 300**	P	**P**	**14 40 34.5**	**-1.6**
	SNR=16					
ASAJ	**Asahikawa**	**36.96 20**	LR	LR	14 56 12.3	
	comp=Z,1μm,18.7s,baz=203,slow=37					
JKA	**Kamikawa-asahi**	**36.96 20**	IAmb	IAmb	14 40 54.7	
	comp=Z,113nm,1.5s					

MEEK	**Meekatharra**	37.00 192	P	**P**	**14 40 40.5 -1.3**
	comp=Z,117nm,1.2s				
MEEK	**Meekatharra**	37.00 192	P	**P**	**14 40 41.8 -0.1**
GTA	**Gaotai**	37.84 326	P	**P**	**14 40 48.5 -0.5**
GTA			sP	sP	14 41 12.8 +2.4
GTA			PP	**PnPn**	**14 42 19.7 +1.5**
GTA			PcP	**PcP**	**14 43 05.7 +1.3**
GTA			S	**S**	**14 46 36.8 +0.8**
GTA			ScS	**ScS**	**14 50 56.1 +0.1**
GTA			pmax	pmax	
	comp=Z,30nm,0.8s				
GTA			LR	LR	
	comp=Z,830nm,16.3s				
GTA			LR	LR	
	comp=Z,840nm,18.3s				
GTA			LR	LR	
	comp=Z,1μm,17.9s				
LSA	**Lhasa**	38.41 306	P	**P**	**14 40 53.2 -1.2**
LSA			S	**S**	**14 46 46.3 +0.8**
LSA			LR	LR	
	comp=Z,900nm,20.6s				
LSA			LR	LR	
	comp=Z,510nm,17.2s				
LSA	**Lhasa**	38.41 306	P	**P**	**14 40 53.1 -1.2**
LSA			P	**P**	**14 40 53.1 -1.2**
OOD	**Oodnadatta**	38.44 167	P	**P**	**14 40 53.7 -0.2**
HNR	**Honiara**	38.46 119	LR	LR	14 54 35.2
	comp=Z,644nm,21.7s,baz=296,slow=33				
GOMU	**GeErMu**	38.88 318	P	**P**	**14 40 56.1 -1.9**
GOMU			S	**S**	**14 46 52.2 0.0**
GOMU			pmax	pmax	
	comp=Z,10.0nm,1.2s				
GOMU			LR	LR	
	comp=Z,2μm,15.0s				
GOMU			LR	LR	
	comp=Z,3μm,14.8s				
GOMU			LR	LR	
	comp=Z,5μm,14.4s				
YSS	**Yuzhno-Sakhali**	39.55 18	P	**P**	**14 41 02.9 -0.1**
YSS	**Yuzhno-Sakhali**	39.55 18	P	**P**	**14 41 04.0 +1.0**
YSS	**Yuzhno-Sakhali**	39.55 18 *αeP*		**P**	**14 41 03.2 +0.2**
YSS		*e*			14 42 33.9
YSS		*e*			14 43 10.2
YSS		*eS*		**S**	**14 46 58.8 -2.3**
YSS			pmax	pmax	
	comp=Z,30nm,0.7s				
YSS			pmax	pmax	
	comp=Z,200nm,5.3s				
YSS			MLR	MLR	
	comp=N,700nm,18.0s				
YSS			MLR	MLR	
	comp=E,600nm,18.0s				
YSS			MLR	MLR	
	comp=Z,700nm,18.0s				
KLR	**Kul'dur**	39.56 5	LR	LR	14 58 51.4
	comp=Z,718nm,18.5s,baz=183,slow=38				
KLR	**Kul'dur**	39.56 5 *ceP*		**P**	**14 41 03.2 +0.2**
KLR			pmax	pmax	
	comp=Z,53nm,1.7s				
HIA	**Hailar**	39.73 353	P	**P**	**14 41 04.0 -0.5**
HIA	**Hailar**	39.73 353	P	**P**	**14 41 05.0 +0.4**
HIA	**Hailar**	39.73 353	P	**P**	**14 41 04.1 -0.5**
HIA			pmax	pmax	
	comp=Z,19nm,0.8s				
INKA	**Innaminka**	39.82 160	P	**P**	**14 41 05.9 +0.5**
MORW	**Morawa**	39.91 194	IAmb	IAmb	14 41 07.2
	comp=Z,52nm,0.8s				
MORW	**Morawa**	39.91 194	P	**P**	**14 41 04.7 -1.6**
	comp=Z,74nm,1.2s				
MORW	**Morawa**	39.91 194	P	**P**	**14 41 06.5 +0.2**
H11S3	**WAKE ISLAND Hy**	39.92 73	T	T	15 24 07.4
	baz=262,slow=75,SNR=148				
H11S1	**WAKE ISLAND Hy**	39.94 73	T	T	15 24 15.3
	baz=262,slow=75,SNR=74				
H11S2	**WAKE ISLAND Hy**	39.94 73	T	T	15 24 08.9
	baz=262,slow=75,SNR=72				
QLP	**Quilpie**	40.10 155	P	**P**	**14 41 05.1 -2.7**
	comp=Z,59nm,0.9s				
QLP	**Quilpie**	40.10 155	P	**P**	**14 41 07.8 0.0**
H11N1	**WAKE ISLAND Hy**	40.27 71	T	T	15 24 37.9
	baz=265,slow=74,SNR=294				
H11N2	**WAKE ISLAND Hy**	40.28 71	T	T	15 24 38.6
	baz=265,slow=74,SNR=163				
H11N3	**WAKE ISLAND Hy**	40.29 71	T	T	15 24 39.5
	baz=265,slow=74,SNR=278				
HEH	**HeiHe**	40.34 1	*eP*	**P**	**14 41 09.2 -0.3**
HEH			PcP	**PcP**	**14 43 12.0 +0.1**
HEH			S	**S**	**14 47 14.9 +2.1**
HEH			pmax	pmax	
	comp=Z,32nm,1.1s				
HEH			pmax	pmax	
	comp=Z,470nm,6.4s				
HEH			LR	LR	
	comp=Z,990nm,19.0s				
HEH			LR	LR	
	comp=Z,470nm,13.6s				
HEH			LR	LR	
	comp=Z,1μm,16.0s				
FORT	**Forrest**	40.38 178	P	**P**	**14 41 09.6 -0.4**
FORT	**Forrest**	40.38 178	P	**P**	**14 41 08.5 -1.5**
	comp=Z,135nm,0.7s				
FORT	**Forrest**	40.38 178	P	**P**	**14 41 09.8 -0.2**
RK1H	**Rockhampton Ha**	40.54 145	P	**P**	**14 41 11.9 +0.4**
KMBL	**Kambalda**	41.16 186	P	**P**	**14 41 14.8 -1.7**
	comp=Z,109nm,1.0s				
KMBL	**Kambalda**	41.16 186	P	**P**	**14 41 16.5 0.0**
BLDU	**Ballidu**	41.25 193	P	**P**	**14 41 16.0 -1.3**
	comp=Z,128nm,1.1s				
BLDU	**Ballidu**	41.25 193	P	**P**	**14 41 17.3 +0.1**
UGL	**Uglegorsk**	41.29 16	*eP*	**P**	**14 41 18.4 +1.1**
UGL			*eS*	**S**	**14 47 20.8 -6.1**
UGL			pmax	pmax	
	comp=Z,60nm,0.9s				
UGL			MLR	MLR	
	comp=E,1μm,18.0s				
UGL			MLR	MLR	
	comp=N,1μm,15.0s				
UGL			MLR	MLR	
	comp=Z,2μm,16.0s				
ULN	**Ulaanbaatar**	41.31 340	P	**P**	**14 41 17.4 -0.3**
ULN	**Ulaanbaatar**	41.31 340	P	**P**	**14 41 17.9 +0.2**
ULN			P	**P**	**14 41 17.9 +0.2**
ULN			S	**S**	**14 47 29.5 +1.8**
ULN			S	**S**	**14 47 29.5 +1.8**
ULN	**Ulaanbaatar**	41.31 340 *ceP*		**P**	**14 41 17.8 +0.1**
ULN			pmax	pmax	
	comp=Z,34nm,1.0s				
SONM	**Songino Array**	41.51 340	P	**P**	**14 41 18.4 -0.9**
SONM	**Songino Array**	41.51 340	P	**P**	**14 41 19.1 -0.2**
	comp=Z,8.3nm,0.6s,baz=156,slow=9.2,SNR=63				
SONM			PcP	**PcP**	**14 43 15.5 -0.5**
	comp=Z,1.6nm,0.8s,baz=150,slow=4.6,SNR=3.9				
SONM			LR	LR	15 01 06.0
	comp=Z,690nm,18.0s,baz=149,slow=40				
	comp=Z,8.3nm,0.6s				
SONM	**Songino Array**	41.51 340	P	**P**	**14 41 18.4 -0.9**
SONM			pmax	pmax	
	comp=Z,16nm,0.9s				
LCRK	**Leigh Creek**	41.59 165	P	**P**	**14 41 20.7 +0.7**
GRNR	**Gornyy**	41.67 10⇑	*iP*	**P**	**14 41 21.6 +1.1**
GRNR			pmax	pmax	
	comp=N,20nm,1.0s				
GRNR			pmax	pmax	
	comp=Z,40nm,0.9s				
GRNR			MLR	MLR	
	comp=N,500nm,17.0s				
GRNR			MLR	MLR	
	comp=E,290nm,17.0s				
GRNR			MLR	MLR	
	comp=Z,840nm,17.0s				
KLBR	**Kellerberrin**	41.98 191	P	**P**	**14 41 21.9 -1.3**
	comp=Z,243nm,0.9s				
KLBR	**Kellerberrin**	41.98 191	P	**P**	**14 41 23.6 +0.4**
EIDS	**Eidsvold**	42.42 146	P	**P**	**14 41 26.2 -0.7**
EIDS	**Eidsvold**	42.42 146	P	**P**	**14 41 25.8 -1.1**
	comp=Z,24nm,1.0s				
EIDS	**Eidsvold**	42.42 146	P	**P**	**14 41 27.0 +0.1**
MUN	**Mundaring**	42.67 193	P	**P**	**14 41 28.2 -0.7**
	comp=Z,232nm,0.9s				
MUN	**Mundaring**	42.67 193	P	**P**	**14 41 29.2 +0.4**
TYV	**Tymovskoe**	43.08 15	*eP*	**P**	**14 41 32.9 +1.1**
TYV			pmax	pmax	
	comp=Z,13nm,1.0s				
TYV			pmax	pmax	
	comp=Z,300nm,4.8s				
BBOO	**Buckleboo**	43.36 168	P	**P**	**14 41 33.6 -0.7**
BBOO			IAmb	IAmb	14 41 35.1
	comp=Z,91nm,0.9s				
BBOO	**Buckleboo**	43.36 168	P	**P**	**14 41 33.3 -1.1**
	comp=Z,103nm,0.9s				
BBOO	**Buckleboo**	43.36 168	P	**P**	**14 41 34.3 -0.1**
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 34.2 -0.3**
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 35.0 +0.5**
	comp=Z,376nm,1.0s				
NWAO	**Narrogin (SRO)**	43.38 191	LR	LR	15 00 19.2
	comp=Z,269nm,21.6s,baz=320,slow=37				
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 35.0 +0.5**
NWAO			P	**P**	**14 41 35.0 +0.5**
NWAO			S	**S**	**14 47 59.9 +1.7**
NWAO			S	**S**	**14 47 59.9 +1.7**
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 35.0 +0.5**
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 35.3 +0.8**
NWAO	**Narrogin (SRO)**	43.38 191	P	**P**	**14 41 34.2 -0.3**
NWAO			pmax	pmax	
	comp=Z,176nm,0.9s				
CIT	**Chita**	43.39 348	*eP*	**P**	**14 41 34.8 +0.4**
AUHAR	**St Anne's Scho**	43.81 193	P	**P**	**14 41 40.0 +2.0**
ZEA	**Zeya**	43.82 1	*eP*	**P**	**14 41 37.3 -0.5**
ZEA			*e*		14 43 24.6
ZEA			pmax	pmax	
	comp=E,10.0nm,0.6s				
ZEA			pmax	pmax	
	comp=N,10.0nm,0.5s				
ZEA			pmax	pmax	
	comp=Z,20nm,0.8s				
ZEA			MLR	MLR	
	comp=E,300nm,15.0s				
ZEA			MLR	MLR	
	comp=N,500nm,17.0s				
ZEA			MLR	MLR	
	comp=Z,600nm,18.0s				
WHYH	**Whyalla**	43.90 166	P	**P**	**14 41 39.1 +0.4**
STKA	**Stephens Creek**	43.91 161	P	**P**	**14 41 37.6 -1.2**
	comp=Z,6.5nm,1.0s				
STKA	**Stephens Creek**	43.91 161	P	**P**	**14 41 38.6 -0.2**
	comp=Z,23nm,0.9s,baz=341,slow=8.3,SNR=29				
STKA			PP	**PP**	**14 43 20.7 -1.6**
	comp=Z,13nm,1.0s,baz=335,slow=9.8,SNR=2.1				
STKA			ScP	**ScP**	**14 47 08.5 -2.2**
	comp=Z,1.7nm,0.3s,baz=357,slow=8.8,SNR=3.3				
STKA			LR	LR	15 06 39.0
	comp=Z,249nm,18.6s,baz=342,slow=45				
	comp=Z,23nm,0.9s				
STKA	**Stephens Creek**	43.91 161	P	**P**	**14 41 39.3 +0.5**
AULRC	**Lightning Ridg**	44.20 153	P	**P**	**14 41 41.5 +0.4**
HTT	**Hallett**	44.61 165	P	**P**	**14 41 43.2 -1.2**
	comp=Z,34nm,1.9s				
HTT	**Hallett**	44.61 165	P	**P**	**14 41 45.1 +0.7**
TW1H	**Toowoomba 1 Ha**	44.63 147	P	**P**	**14 41 45.2 +0.5**
ZAK	**Zakamensk**	44.75 339	*eP*	**P**	**14 41 44.7 -0.7**
ZAK			*e*		14 43 25.9
ZAK			pmax	pmax	
	comp=Z,12nm,1.1s				
RKGY	**Rocky Gully**	45.06 191	P	**P**	**14 41 48.5 +0.6**
	comp=Z,367nm,0.9s				
RKGY	**Rocky Gully**	45.06 191	P	**P**	**14 41 49.2 +1.3**
CMSA	**Cobar Meteorol**	45.06 157	P	**P**	**14 41 47.0 -1.0**
	comp=Z,59nm,0.9s				
CMSA	**Cobar Meteorol**	45.06 157	P	**P**	**14 41 48.0 0.0**
PALK	**Pallekele**	45.24 271	LR	LR	15 01 28.9
	comp=Z,514nm,19.6s,baz=81,slow=37				
PALK	**Pallekele**	45.24 271	P	**P**	**14 41 50.6 +0.8**
PALK			P	**P**	**14 41 50.6 +0.8**
PALK			S	**S**	**14 48 27.2 +1.2**
PALK			S	**S**	**14 48 27.2 +1.2**
AUALB	**St Joseph's Co**	45.28 190	P	**P**	**14 41 50.5 +0.9**
IRK	**Irkutsk**	46.00 341	*eP*	**P**	**14 41 54.2 -1.0**
IRK			*eS*	**S**	**14 48 39.7 +4.0**
IRK			pmax	pmax	
	comp=Z,87nm,1.7s				
AUMBR	**Murray Bridge**	46.32 165	P	**P**	**14 41 58.6 +0.8**
MOY	**Mondy**	46.63 338	*eP*	**P**	**14 41 59.8 -0.5**
MOY			pmax	pmax	
	comp=Z,56nm,2.6s				
ARMA	**Armidale**	46.76 150	P	**P**	**14 42 01.7 +0.1**
ARMA			IAmb	IAmb	14 42 11.4
	comp=Z,30nm,1.2s				
ARMA	**Armidale**	46.76 150	P	**P**	**14 42 01.7 +0.1**
AUDCS	**Dubbo College**	46.88 154	P	**P**	**14 42 02.6 +0.3**
HYB	**Hyderabad**	47.02 285	*eP*	**P**	**14 42 02.9 -0.8**
HYB			IVmB_BB		14 42 03.7
	comp=Z,445nm,2.2s				
WMQ	**Urumqi**	47.67 322	*eP*	**P**	**14 42 07.9 -0.6**
WMQ			sP	sP	14 42 30.0 -0.5
WMQ			PcP	**PcP**	**14 43 36.9 -0.2**
WMQ			S	**S**	**14 49 03.2 +3.2**
WMQ			pmax	pmax	
	comp=Z,20nm,1.3s				
WMQ			pmax	pmax	
	comp=Z,120nm,3.7s				
WMQ			LR	LR	
	comp=Z,940nm,14.3s				
WMQ			LR	LR	
	comp=Z,1μm,17.7s				
WMQ			LR	LR	
	comp=Z,650nm,22.1s				
ARPS	**Mount Arapiles**	48.54 163	P	**P**	**14 42 15.8 +0.7**
YNG	**Young**	48.57 156	P	**P**	**14 42 16.0 +0.6**
AUMAG	**Moama Anglican**	48.82 160	P	**P**	**14 42 18.0 +0.8**
BOD	**Bodaibo**	48.85 351	*eP*	**P**	**14 42 17.2 0.0**
BOD			pmax	pmax	
	comp=Z,71nm,1.8s				
CNB	**Canberra Magne**	49.84 155	P	**P**	**14 42 26.7 +1.5**
BRAT	**Ballarat**	49.88 162	P	**P**	**14 42 25.8 +0.5**
PEA0B	**Petropavlovsk-**	50.01 24	IAmb	IAmb	14 42 27.8
	comp=Z,44nm,1.0s				
PEA0B	**Petropavlovsk-**	50.01 24 *ceP*		**P**	**14 42 27.7 +1.6**
PETK	**Petropavlovsk-**	50.01 24	P	**P**	**14 42 26.9 +0.8**
	comp=Z,22nm,0.8s,baz=192,slow=3.7,SNR=32				
PETK			PcP	**PcP**	**14 43 45.4 +0.1**
	comp=Z,8.3nm,0.8s,baz=204,slow=3.3,SNR=3.6				
	comp=Z,22nm,0.8s				
PET	**Petropavlovsk**	50.34 25	P	**P**	**14 42 28.5 -0.1**
PET	**Petropavlovsk**	50.34 25	*eP*	**P**	**14 42 29.5 +1.0**
PET			*eS*	**S**	**14 49 43.9 +7.0**
PET			pmax	pmax	
	comp=Z,37nm,0.9s				
PET			pmax	pmax	
	comp=Z,400nm,15.7s				
PET			MLR	MLR	
	comp=Z,900nm,17.0s				
PET			MLR	MLR	
	comp=Z,700nm,16.0s				
PET	**Petropavlovsk**	50.34 25	P	**P**	**14 42 29.7 +1.2**
	comp=Z,42nm,1.6s				
DZM	**Mont Dzumac**	50.45 129	P	**P**	**14 42 31.0 +1.1**
DZM			IAmb	IAmb	14 42 42.3
	comp=Z,44nm,1.1s				
DZM	**Mont Dzumac**	50.45 129	LR	LR	15 04 53.7
	comp=Z,147nm,18.4s,baz=351,slow=37				
DZM	**Mont Dzumac**	50.45 129	P	**P**	**14 42 31.6 +1.6**
YATNC	**Mamie plateau,**	50.78 129	P	**P**	**14 42 34.4 +2.0**
OUENC	**Ouen Island, N**	50.95 129	P	**P**	**14 42 34.5 +0.9**
ZSN	**Zaisan**	51.33 325	*eP*	**P**	**14 42 34.8 -1.3**
ZSN	**Zaisan**	51.33 325	*eP*	**P**	**14 42 34.9 -1.3**
PINNC	**Pines Island,**	51.52 129	P	**P**	**14 42 39.6 +1.7**
YAK	**Yakutsk**	52.19 2	P	**P**	**14 42 42.7 +0.4**
YAK	**Yakutsk**	52.19 2	LR	LR	15 07 25.9
	comp=Z,590nm,18.3s,baz=172,slow=39				
YAK	**Yakutsk**	52.19 2	P	**P**	**14 42 41.9 -0.4**
YAK			*eAP*	**pP**	**14 42 57.0 +0.7**
YAK			*eS*	**S**	**14 50 02.0 -0.2**
YAK			*e*		14 52 25.0
YAK			pmax	pmax	
	comp=Z,125nm,1.5s				
MK31	**Makanchi Array**	52.48 323	IAmb	IAmb	14 42 45.5
	comp=Z,22nm,0.8s				
MK31	**Makanchi Array**	52.48 323	*iP*	**P**	**14 42 43.3 -1.5**
MK31			pmax	pmax	
	comp=Z,27nm,0.7s				
MKAR	**Makanchi Array**	52.48 323	P	**P**	**14 42 44.0 -0.8**
MKAR	**Makanchi Array**	52.48 323	P	**P**	**14 42 43.8 -1.0**
	comp=Z,28nm,0.7s,baz=121,slow=8.2,SNR=266				
MKAR			PcP	**PcP**	**14 43 54.5 -0.1**
	comp=Z,9.8nm,0.8s,baz=122,slow=4.1,SNR=4.7				
MKAR			ScP	**ScP**	**14 47 47.6 +0.9**
	comp=Z,3.1nm,1.0s,baz=115,slow=5.5,SNR=4.8				
MKAR			LR	LR	15 07 33.3
	comp=Z,909nm,18.2s,baz=112,slow=39				
	comp=Z,28nm,0.7s				
MKAR	**Makanchi Array**	52.48 323	*iP*	**P**	**14 42 43.7 -1.1**
MKAR			pmax	pmax	
	comp=Z,28nm,0.7s				
SHLS	**Shalkode**	52.58 318	*eP*	**P**	**14 42 42.2 -3.5**
SHLS	**Shalkode**	52.58 318	*eP*	**P**	**14 42 42.3 -3.5**
PDGK	**Podgornoye**	52.64 318	P	**P**	**14 42 44.1 -2.0**
MAKZ	**Makanchi**	52.67 323	P	**P**	**14 42 45.5 -0.7**
MAKZ	**Makanchi**	52.67 323	P	**P**	**14 42 45.5 -0.7**
MAKZ			pmax	pmax	
	comp=Z,17nm,0.8s				
UZB	**Uzynbulak**	52.87 318	*eP*	**P**	**14 42 46.4 -1.5**
UZB	**Uzynbulak**	52.87 318	*eP*	**P**	**14 42 46.5 -1.5**
MA2	**Magadan**	52.95 15	P	**P**	**14 42 48.1 +0.1**
MA2			IAmb	IAmb	14 42 51.0
	comp=Z,24nm,0.8s				
MA2	**Magadan**	52.95 15	P	**P**	**14 42 48.4 +0.5**
	comp=Z,17nm,0.7s,baz=190,slow=5.7,SNR=31				
MA2			PcP	**PcP**	**14 43 57.6 +1.5**
	comp=Z,15nm,0.8s,baz=157,slow=4.5,SNR=7.1				
MA2			LR	LR	15 05 18.8
	comp=Z,230nm,19.5s,baz=190,slow=36				
	comp=Z,17nm,0.7s				
MA2	**Magadan**	52.95 15	P	**P**	**14 42 48.6 +0.6**
MA2	**Magadan**	52.95 15 *ceP*		**P**	**14 42 48.8 +0.8**
MA2			pmax	pmax	
	comp=Z,90nm,2.5s				
KPKS	**Kokpek**	53.23 318	*eP*	**P**	**14 42 49.0 -1.4**
KPKS	**Kokpek**	53.23 318	*eP*	**P**	**14 42 49.1 -1.4**
SATY	**Saty**	53.25 317	*eP*	**P**	**14 42 49.3 -1.3**
SATY	**Saty**	53.25 317	*eP*	**P**	**14 42 49.4 -1.3**
ZHN	**Zhinishke**	53.27 317	*eP*	**P**	**14 42 49.4 -1.4**
ZHN	**Zhinishke**	53.27 317	*eP*	**P**	**14 42 49.4 -1.4**
KSH	**Kashi**	53.65 312	P	**P**	**14 42 53.0 -0.6**
KSH			pP	pP	14 43 04.7 -4.6
KSH			S	**S**	**14 50 29.2 +6.1**
KSH			pmax	pmax	
	comp=Z,10.0nm,1.4s				
KSH			pmax	pmax	
	comp=Z,180nm,4.9s				
KSH			LR	LR	
	comp=Z,2μm,16.5s				
KSH			LR	LR	
	comp=Z,2μm,17.2s				
KSH			LR	LR	
	comp=Z,2μm,20.6s				
KDJ	**Kajisay**	53.72 316	P	**P**	**14 42 53.3 -0.9**
TDK	**Taldyqorghan**	54.05 319	*eP*	**P**	**14 42 55.2 -1.1**
TDK			pmax	pmax	
	comp=Z,14nm,0.7s				
TDK	**Taldyqorghan**	54.05 319	*eP*	**P**	**14 42 55.3 -1.1**
	comp=Z,14nm,0.7s				
NIL	**Nilore**	54.11 305	P	**P**	**14 42 55.4 -1.6**
NIL			IAmb	IAmb	14 42 57.9
	comp=Z,35nm,0.8s				
NIL	**Nilore**	54.11 305	P	**P**	**14 42 55.9 -1.1**
NIL			P	**P**	**14 42 55.9 -1.1**
NIL	**Nilore**	54.11 305	P	**P**	**14 42 55.4 -1.6**
NIL			pmax	pmax	
	comp=Z,35nm,0.9s				
MDOK	**Medeo**	54.20 317	*eP*	**P**	**14 42 56.3 -1.3**
MDOK	**Medeo**	54.20 317	*eP*	**P**	**14 42 56.3 -1.3**
TNSS	**Tian-Shan**	54.22 317	*eP*	**P**	**14 42 56.3 -1.7**
TNSS	**Tian-Shan**	54.22 317	*eP*	**P**	**14 42 56.4 -1.7**
AAA	**Alma-Ata**	54.31 317	*eP*	**P**	**14 42 56.7 -1.6**
AAA			pmax	pmax	
	comp=Z,16nm,0.8s				
AAA	**Alma-Ata**	54.31 317	*eP*	**P**	**14 42 56.8 -1.6**
	comp=Z,16nm,0.8s				
TKM2	**Tokmak 2**	55.10 316	P	**P**	**14 43 03.5 -0.6**
	SNR=20				
TKM2	**Tokmak 2**	55.10 316	*iP*	**P**	**14 43 02.3 -1.9**
TKM2			pmax	pmax	
	comp=Z,14nm,0.8s				
ZALV	**Zalesovo Beam**	55.10 331	P	**P**	**14 43 01.8 -1.9**
ZALV	**Zalesovo Beam**	55.10 331	P	**P**	**14 43 02.2 -1.5**
	comp=Z,13nm,0.7s,baz=117,slow=6.8,SNR=48				
ZALV			ScP	**ScP**	**14 47 57.5 -0.5**
	comp=Z,0.4nm,0.4s,baz=111,slow=3.6,SNR=1.7				
	comp=Z,13nm,0.7s				
MOO	**Moorlands**	55.36 161	P	**P**	**14 43 06.6 +0.9**
KBK	**Karagaybulak**	55.45 316	P	**P**	**14 43 06.0 -0.7**
	SNR=12				
UCH	**Uchtor**	55.60 315	P	**P**	**14 43 07.7 -0.5**
	SNR=5.9				
AAK	**Ala-Archa**	55.75 315	P	**P**	**14 43 07.9 -1.0**
AAK	**Ala-Archa**	55.75 315	P	**P**	**14 43 07.9 -1.0**
	comp=Z,4.7nm,0.7s,baz=140,slow=6.1,SNR=22				
AAK			LR	LR	15 09 47.6
	comp=Z,996nm,18.6s,baz=100,slow=39				
	comp=Z,4.7nm,0.7s				
AAK	**Ala-Archa**	55.75 315	P	**P**	**14 43 08.1 -0.7**
AAK			P	**P**	**14 43 08.1 -0.7**
AAK	**Ala-Archa**	55.75 315	P	**P**	**14 43 09.3 +0.4**
	SNR=7.2				
AAK	**Ala-Archa**	55.75 315 *ceP*		**P**	**14 43 07.3 -1.6**
AAK			pmax	pmax	
	comp=Z,15nm,1.7s				
USP	**Ospenovka**	55.97 316	P	**P**	**14 43 08.8 -1.4**
	SNR=26				
AML	**Almayashu**	56.14 315	P	**P**	**14 43 11.7 -0.2**
	SNR=31				
SEY	**Seymchan**	56.24 14	P	**P**	**14 43 12.9 +1.1**
	comp=Z,7.2nm,0.7s,baz=232,slow=6.3,SNR=47				
SEY			PcP	**PcP**	**14 44 08.4 -0.2**
	comp=Z,7.8nm,0.7s,baz=220,slow=5.1,SNR=5.3				
	comp=Z,7.2nm,0.7s				
SEY	**Seymchan**	56.24 14 *ceP*		**P**	**14 43 12.0 +0.3**
SEY			pmax	pmax	
	comp=Z,54nm,1.7s				
KURK	**Kurchatov**	56.53 326	P	**P**	**14 43 13.1 -0.9**
KURK			IAmb	IAmb	14 43 14.0
	comp=Z,36nm,0.8s				
KURK	**Kurchatov**	56.53 326	P	**P**	**14 43 13.2 -0.9**
KURK			P	**P**	**14 43 13.2 -0.9**
KURK	**Kurchatov**	56.53 326	P	**P**	**14 43 13.1 -0.9**
KURK			pmax	pmax	
	comp=Z,36nm,0.8s				
KURBB	**Kurchatov Arra**	56.53 326	P	**P**	**14 43 13.0 -1.0**
	comp=Z,16nm,0.7s,baz=128,slow=6.7,SNR=179				
KURBB			ScP	**ScP**	**14 48 03.5 -0.8**
	comp=Z,1.8nm,1.0s,baz=98,slow=3.7,SNR=4.6				
	comp=Z,16nm,0.7s				
DRK	**Karamyk**	56.71 311	P	**P**	**14 43 15.2 -0.7**
BTLS	**Baital**	56.91 318	*eP*	**P**	**14 43 15.3 -1.5**
BTLS	**Baital**	56.91 318	*eP*	**P**	**14 43 15.4 -1.5**
BTK	**Batken**	57.60 311	IAmb	IAmb	14 44 14.6
	comp=Z,55nm,1.9s				
BTK	**Batken**	57.60 311	P	**P**	**14 43 21.1 -0.8**
GAR	**Garm**	57.70 310	IAmb	IAmb	14 43 23.5
	comp=Z,29nm,0.9s				
KBL	**Kabul**	57.71 305	P	**P**	**14 43 21.4 -1.6**
KBL	**Kabul**	57.71 305	P	**P**	**14 43 21.5 -1.4**
	SNR=9.1				
KBL			P	**P**	**14 43 21.5 -1.4**
	SNR=9.1				
KBL	**Kabul**	57.71 305	P	**P**	**14 43 21.4 -1.6**
KBL			pmax	pmax	
	comp=Z,15nm,0.9s				
MSVF	**Nonsavu**	57.88 118	LR	LR	15 06 16.0
	comp=Z,480nm,20.7s,baz=319,slow=34				
MSVF	**Nonsavu**	57.88 118	P	**P**	**14 43 26.0 +1.9**
DZA	**Taraz**	58.04 315	*eP*	**P**	**14 43 23.4 -1.5**
DZA	**Taraz**	58.04 315	*eP*	**P**	**14 43 23.5 -1.5**
CHGR	**Chuyangaron**	58.49 309	IAmb	IAmb	14 43 47.0
	comp=Z,37nm,0.9s				
SIMJ	**Simiganj**	58.60 309	P	**P**	**14 43 26.3 -2.8**
KK31	**Karatay Array**	58.68 315	*iP*	**P**	**14 43 27.3 -2.0**
KKAR	**Karatay Array**	58.68 315	P	**P**	**14 43 27.3 -2.0**
KKAR	**Karatay Array**	58.68 315	IAmb	IAmb	14 43 35.2
	comp=Z,5.1nm,0.7s				
KKAR	**Karatay Array**	58.68 315	P	**P**	**14 43 27.3 -2.0**
CHM	**Chimkent**	59.09 314	*eP*	**P**	**14 43 30.7 -1.5**
CHM	**Chimkent**	59.09 314	*eP*	**P**	**14 43 30.7 -1.5**
BRLS	**Borolday**	59.13 315	*eP*	**P**	**14 43 31.2 -1.2**
BRLS	**Borolday**	59.13 315	*eP*	**P**	**14 43 31.2 -1.2**
OTUK	**Ortayu**	59.18 321	P	**P**	**14 43 30.6 -2.1**
BRZS	**Berezniki**	59.63 323	*eP*	**P**	**14 43 34.5 -1.2**
BRZS	**Berezniki**	59.63 323	*eP*	**P**	**14 43 34.6 -1.2**
TIXI	**Tiksi**	61.82 1	P	**P**	**14 43 49.0 -1.1**
TIXI	**Tiksi**	61.82 1	LR	LR

BVAR Borovoye Array 62.13 325 P **P** **14 43 51.7 -0.9**
comp=Z,15nm,0.8s,baz=120,slow=9.0,SNR=55
comp=Z,15nm,0.8s
BRVK Borovoye 62.20 325 P **P** **14 43 51.5 -1.6**
BRVK IAmb IAmb 14 43 53.1
comp=Z,21nm,0.8s
BRVK Borovoye 62.20 325 P **P** **14 43 52.0 -1.1**
BRVK Borovoye 62.20 325 *ce*P **P** **14 43 52.0 -1.1**
BRVK pmax pmax
comp=Z,28nm,1.0s
HRA Herat 63.24 304 IAmb IAmb 14 44 02.3
comp=Z,18nm,0.8s
NGCH Negor - Chabah 63.57 293 P **P** **14 44 02.7 0.0**
ATKA Atka Island 63.76 36 P **P** **14 44 04.3 +0.8**
BILL Biiibino 63.82 16 P **P** **14 44 03.5 0.0**
BILL IAmb IAmb 14 44 04.7
comp=Z,26nm,1.0s
BILL Biiibino 63.82 16 *i*P **P** **14 44 03.1 -0.5**
BILL pmax pmax
comp=Z,88nm,2.0s
NRIK Noril'sk 64.50 346 IAmb IAmb 14 44 09.2
comp=Z,37nm,0.9s
NRIK Noril'sk 64.50 346 P **P** **14 44 07.8 -0.2**
comp=Z,25nm,0.8s,baz=132,slow=5.8,SNR=37
NRIK LR LR 15 15 46.7
comp=Z,1μm,18.3s,baz=150,slow=39
comp=Z,25nm,0.8s
NRIK Noril'sk 64.50 346 *ce*P **P** **14 44 08.1 +0.1**
NRIK pmax pmax
comp=Z,122nm,2.5s
JLN Jalan Bani Buh 65.14 290 P **P** **14 44 12.2 -0.8**
JLN P **P** **14 44 12.2 -0.8**
MKAZ Moumakai 65.30 139 P **P** **14 44 16.1 +2.5**
WBK Wadi Bani Khal 65.54 290 P **P** **14 44 14.8 -0.9**
WBK P **P** **14 44 14.8 -0.9**
WSAR Wadi Sarin 65.84 291 P **P** **14 44 16.5 -1.1**
TOZ Tahuroa Road 65.88 139 P **P** **14 44 19.6 +2.2**
QRZ Quartz Range 65.90 143 P **P** **14 44 19.1 +1.5**
HIZ Hauiti 65.92 140 P **P** **14 44 20.7 +3.0**
JCZ Jackson Bay 65.95 148 P **P** **14 44 18.4 +0.5**
DSZ Denniston Nort 66.06 144 P **P** **14 44 19.8 +1.2**
GLKZ Green Lake 66.21 128 P **P** **14 44 22.9 +3.2**
VRZ Vera Road 66.22 141 P **P** **14 44 21.6 +2.0**
BIDO Bidbid 66.31 291 P **P** **14 44 20.5 0.0**
SNR=6.5
JMDO Jabal Madar 66.34 290 P **P** **14 44 19.7 -1.1**
JMDO P **P** **14 44 19.7 -1.1**
SMDO Samad 66.38 291 P **P** **14 44 19.9 -1.3**
SMDO P **P** **14 44 19.9 -1.3**
INZ Inchbonnie 66.49 145 P **P** **14 44 23.2 +2.0**
NNZ Nelson 66.65 143 P **P** **14 44 23.7 +1.4**
THZ Tophouse 66.71 144 P **P** **14 44 22.8 0.0**
THZ IAmb IAmb 14 44 24.7
comp=Z,36nm,0.9s
THZ Tophouse 66.71 144 P **P** **14 44 23.0 +0.3**
NNVZ North Ngauruho 66.76 140 P **P** **14 44 26.2 +3.0**
NGZ Ngauruhoe 66.78 140 P **P** **14 44 26.0 +2.6**
TMVZ Te Maari 66.81 140 P **P** **14 44 26.5 +3.0**
OTVZ Oturere 66.81 140 P **P** **14 44 26.5 +2.9**
LBZ Lake Benmore 66.90 147 P **P** **14 44 24.4 +0.5**
LBZ Lake Benmore 66.90 147 P **P** **14 44 25.0 +1.1**
RPZ Rata Peaks 66.92 146 P **P** **14 44 24.2 +0.2**
RPZ Rata Peaks 66.92 146 P **P** **14 44 24.9 +0.9**
DQM DQM 66.95 287 P **P** **14 44 23.9 -0.8**
LTZ Lake Taylor 66.99 145 P **P** **14 44 26.3 +1.8**
HOQ Hoqain 67.05 291 P **P** **14 44 24.3 -1.1**
SNR=5.3
HOQ P **P** **14 44 24.3 -1.1**
SNR=5.3
BSY Bisya 67.17 291 P **P** **14 44 25.1 -1.0**
BSY P **P** **14 44 25.1 -1.0**
URZ Urewera 67.22 139 LR LR 15 15 43.2
comp=Z,290nm,18.7s,baz=32,slow=38
AB31 Akbulak array 67.32 319 *i*P **P** **14 44 24.5 -2.0**
ABKAR Akbulak array 67.32 319 P **P** **14 44 24.6 -1.8**
ABKAR Akbulak array 67.32 319 IAmb IAmb 14 44 26.3
comp=Z,12nm,0.8s
BKZ Black Stump Fm 67.34 140 P **P** **14 44 27.2 +0.4**
BKZ Black Stump Fm 67.34 140 P **P** **14 44 27.9 +1.1**
RTZ Ruatahuna 67.34 139 P **P** **14 44 27.8 +1.0**
KWHZ Kaweka Forest 67.44 140 P **P** **14 44 29.4 +1.9**
KHZ Kahutara 67.49 144 P **P** **14 44 28.3 +0.8**
NMHZ Naumai 67.50 140 P **P** **14 44 30.1 +2.2**
SPIA Saint Paul Isl 67.50 32 P **P** **14 44 27.1 -0.4**
baz=252
TSZ Takapari Road 67.52 141 P **P** **14 44 30.3 +2.4**
MWZ Matawai 67.54 139 P **P** **14 44 29.5 +1.5**
RAHZ Arahi 67.58 139 P **P** **14 44 30.4 +2.1**
MCHZ McNeill Hill 67.63 140 P **P** **14 44 31.0 +2.4**
MRZ Mangatainoka R 67.64 142 P **P** **14 44 29.2 +0.6**
P08K Saint George I 67.70 33 P **P** **14 44 28.4 -0.3**
baz=253
SOHO SOHO 67.75 292 P **P** **14 44 28.2 -1.5**
SOHO P **P** **14 44 28.2 -1.5**
ARQ Araqi 67.78 291 P **P** **14 44 28.7 -1.2**
ARQ P **P** **14 44 28.7 -1.2**
MDH Madha 67.95 293 P **P** **14 44 26.3 -4.6**
UOSS Minazif 68.04 293 P **P** **14 44 30.3 -1.3**
HATD Hatta, Dubai 68.11 293 P **P** **14 44 31.3 -0.7**
ASHO Ashiyiah 68.18 293 P **P** **14 44 31.4 -1.0**
ALNE Al Ain 68.47 292 P **P** **14 44 33.6 -0.7**
SNR=5.1
ALNE P **P** **14 44 33.6 -0.7**
SNR=5.1
SVE Sverdlovsk 68.68 327 *e*P **P** **14 44 33.3 -1.6**
SVE pmax pmax
comp=Z,23nm,0.8s
UNV Unalaska Valle 68.68 36 P **P** **14 44 34.0 -0.9**
baz=257
AKTO Aktyubinsk 68.77 320 P **P** **14 44 34.0 -1.5**
comp=Z,8.0nm,0.7s,baz=96,slow=6.1,SNR=30
AKTO LR LR 15 17 08.6
comp=Z,1μm,18.6s,baz=52,slow=38
comp=Z,8.0nm,0.7s
ASUD Al Ashush, Dub 68.84 293 P **P** **14 44 36.0 -0.6**
GAMB Gambell 69.03 25 P **P** **14 44 36.5 -0.4**
baz=249
UMZA Um Al Zommool 69.05 291 P **P** **14 44 36.5 -1.4**
UMZA P **P** **14 44 36.5 -1.4**
DMTO DMTO 69.52 285 P **P** **14 44 42.3 +1.5**
ARTI Arti 69.78 327 P **P** **14 44 39.7 -2.0**
ARTI Arti 69.78 327 P **P** **14 44 39.9 -1.7**
comp=Z,12nm,0.8s,baz=104,slow=3.0,SNR=22
ARTI LR LR 15 17 18.8
comp=Z,323nm,20.7s,baz=110,slow=38
comp=Z,12nm,0.8s
ARTI Arti 69.78 327 *c i*P **P** **14 44 40.2 -1.5**
ARTI 14 47 11.1
ARTI S **S** **14 53 48.6 +2.5**
ARTI SS **SS** **14 58 17.6 +2.1**
ARTI pmax pmax
comp=Z,11nm,0.7s
MZWR Madinat Zayed 70.19 292 P **P** **14 44 44.5 -0.3**
DOK Doka 70.24 286 P **P** **14 44 44.4 -0.8**
DOK P **P** **14 44 44.4 -0.8**
RBK Rabkut 70.25 285 P **P** **14 44 45.0 -0.3**
RBK P **P** **14 44 45.0 -0.3**
M11K Mekoryuk 70.43 29 P **P** **14 44 45.3 -0.3**
baz=255
MZR Muzera 70.59 291 P **P** **14 44 46.9 -0.4**
MZR P **P** **14 44 46.9 -0.4**
WHFO Wadi Hawf 70.63 286 P **P** **14 44 46.1 -1.6**
FALS False Pass 70.66 35 P **P** **14 44 46.8 -0.2**
baz=259
JRN Qarnain Island 71.09 293 P **P** **14 44 49.4 -0.9**
ABTO Aybut 71.12 285 P **P** **14 44 50.0 -0.7**
SNR=5.9
ABTO P **P** **14 44 50.0 -0.7**
SNR=5.9
K13K Kusilvak Mount 71.55 28 IAmb IAmb 14 44 54.6
comp=Z,34nm,1.1s
K13K Kusilvak Mount 71.55 28 P **P** **14 44 53.4 +1.1**
baz=256
F14K Arctic Creek 71.78 24 P **P** **14 44 55.2 +1.6**
baz=253
M13K Dall Lake 71.81 29 P **P** **14 44 55.6 +1.7**
baz=258
ANM Nome 71.91 25 P **P** **14 44 55.7 +1.2**
baz=254
J14K Nanvaranak Lak 72.24 27 P **P** **14 44 57.9 +1.5**
baz=257
L14K Kuka Creek 72.33 29 P **P** **14 44 58.6 +1.7**
baz=258
F15K North Star Dit 72.52 24 P **P** **14 44 59.5 +1.4**
baz=255
N14K Kuskokwak Cree 72.53 30 P **P** **14 44 59.6 +1.4**
baz=259
M14K Bethel 72.55 29 P **P** **14 44 59.5 +1.2**
baz=259
G15K Niukluk 72.58 25 P **P** **14 44 59.5 +1.0**
baz=256
O14K Tigyukauivet M 72.61 31 P **P** **14 44 59.6 +0.9**
baz=260
CHNA Chernabura Isl 72.84 36 P **P** **14 45 00.7 +0.6**
baz=263
L15K Ungalak Mounta 72.96 28 P **P** **14 45 01.8 +1.1**
baz=259
C16K Lisburne Hills 72.97 21 IAmb IAmb 14 45 03.1
comp=Z,41nm,1.1s
C16K Lisburne Hills 72.97 21 P **P** **14 45 01.9 +1.2**
baz=253,SNR=23
S14K Fog Glacier 73.05 34 P **P** **14 45 02.2 +0.7**
baz=262
K15K Wolf Creek Mou 73.06 28 P **P** **14 45 03.0 +1.6**
baz=259
M15K Kasigluk River 73.16 29 P **P** **14 45 03.2 +1.3**
baz=260
H16K Elim 73.24 25 P **P** **14 45 03.6 +1.2**
baz=257
O15K Ungalikthiuk R 73.33 31 P **P** **14 45 04.2 +1.2**
baz=261
N15K Kwethluk River 73.36 30 IAmb IAmb 14 45 05.7
comp=Z,35nm,0.8s
N15K Kwethluk River 73.36 30 P **P** **14 45 04.6 +1.4**
baz=261,SNR=5.3
G16K Koyuk River 73.36 24 P **P** **14 45 04.6 +1.6**
baz=257
D17K Noatak River 73.63 22 P **P** **14 45 06.4 +1.8**
baz=256,SNR=21
J16K Anvik River 73.67 27 IAmb IAmb 14 45 07.2
comp=Z,28nm,1.1s
J16K Anvik River 73.67 27 P **P** **14 45 06.6 +1.6**
baz=259
CHGN Chignik 73.68 34 P **P** **14 45 06.6 +1.5**
baz=263
I17K Unalakleet 73.75 26 P **P** **14 45 06.7 +1.4**
baz=259
RDOG Red Dog Mine 73.78 22 IAmb IAmb 14 45 08.2
comp=Z,74nm,1.5s
RDOG Red Dog Mine 73.78 22 P **P** **14 45 06.9 +1.4**
baz=256,SNR=10
C17K DeLong Mountai 73.79 21 P **P** **14 45 06.7 +1.1**
baz=255
L16K Owhat River 73.91 28 IAmb IAmb 14 45 08.4
comp=Z,25nm,0.9s
L16K Owhat River 73.91 28 P **P** **14 45 07.7 +1.4**
baz=261
E17K Hotham Inlet 73.96 23 P **P** **14 45 08.0 +1.5**
baz=257,SNR=8.7
F17K Baldwin Pennin 74.04 23 IAmb IAmb 14 45 10.9
comp=Z,76nm,1.7s
F17K Baldwin Pennin 74.04 23 P **P** **14 45 08.4 +1.5**
baz=258
M16K Timber Creek 74.05 29 IAmb IAmb 14 45 09.8
comp=Z,50nm,0.9s
M16K Timber Creek 74.05 29 P **P** **14 45 08.6 +1.5**
baz=261
G17K Kiwalik Mounta 74.08 24 P **P** **14 45 08.5 +1.2**
baz=258
P16K Nushagak River 74.25 31 P **P** **14 45 09.3 +0.9**
baz=263
O16K Kokwok River B 74.27 31 IAmb IAmb 14 45 11.0
comp=Z,37nm,0.9s
O16K Kokwok River B 74.27 31 P **P** **14 45 09.8 +1.4**
baz=262
H17K Granite Mounta 74.28 25 IAmb IAmb 14 45 12.3
comp=Z,26nm,1.1s
H17K Granite Mounta 74.28 25 P **P** **14 45 10.1 +1.6**
baz=259
R16K Pilot Point 74.29 33 P **P** **14 45 10.1 +1.5**
baz=264
J17K VABM Dome 74.37 27 P **P** **14 45 10.9 +2.0**
baz=261
E18K Tukpahlearik C 74.50 23 IAmb IAmb 14 45 12.4
comp=Z,30nm,0.8s
E18K Tukpahlearik C 74.50 23 P **P** **14 45 11.3 +1.7**
baz=258
B18K Kokolik River 74.50 20 P **P** **14 45 11.5 +1.9**
baz=256
L17K Donlin 74.52 28 P **P** **14 45 12.0 +2.1**
baz=262,SNR=9.6
C18K Utukok River 74.54 21 IAmb IAmb 14 45 12.3
comp=Z,23nm,0.8s
C18K Utukok River 74.54 21 P **P** **14 45 11.4 +1.4**
baz=257
K17K Iditarod 74.61 28 IAmb IAmb 14 45 15.3
comp=Z,51nm,1.1s
K17K Iditarod 74.61 28 P **P** **14 45 12.2 +1.8**
baz=262
F18K Selawik 74.70 23 P **P** **14 45 12.1 +1.3**
baz=259,SNR=18
O17K Koliganek Bris 74.79 31 P **P** **14 45 13.0 +1.5**
baz=263
M17K Holitna River 74.83 29 IAmb IAmb 14 45 14.9
comp=Z,42nm,0.8s
M17K Holitna River 74.83 29 P **P** **14 45 13.4 +1.7**
baz=263
N17K Nushagak Hills 74.84 30 IAmb IAmb 14 45 14.4
comp=Z,36nm,1.0s
N17K Nushagak Hills 74.84 30 P **P** **14 45 13.8 +2.0**
baz=263,SNR=5.2
KIRV Kirov 74.92 328 P **P** **14 45 11.5 -0.7**
comp=Z,29nm,0.8s,baz=92,slow=1.4,SNR=10
KIRV LR LR 15 20 54.4
comp=Z,433nm,19.3s,baz=101,slow=38
comp=Z,29nm,0.8s
H18K Honhosa River 74.96 25 IAmb IAmb 14 45 14.1
comp=Z,23nm,1.1s
H18K Honhosa River 74.96 25 P **P** **14 45 13.5 +1.1**
baz=261
G18K Tagagawik 74.97 24 P **P** **14 45 13.5 +1.0**
baz=260
P17K Kvichak River 75.06 31 P **P** **14 45 14.5 +1.4**
baz=264,SNR=5.0
AKT Akhty 75.11 310 *e*P **P** **14 45 13.0 -0.9**
AKT *e* 14 45 26.3
AKT *e* 14 48 02.0
AKT pmax pmax
comp=Z,29nm,0.9s
CHIR Chirikof Islan 75.19 35 P **P** **14 45 14.6 +0.7**
baz=266
Q17K Contact Creek 75.26 32 P **P** **14 45 15.3 +0.9**
baz=265,SNR=5.3
MAK Makhachkala 75.28 312 *e*P **P** **14 45 10.0 -4.7**
MAK *e* 14 48 08.8
MAK *e*PPP PPP 14 49 41.8
MAK *e*S **S** **14 54 46.5 -2.9**
MAK *e*SS **SS** **14 59 36.9 -3.2**
MAK *e*SSS SSS 15 02 57.5
MAK pmax pmax
comp=Z,98nm,0.8s
MAK pmax pmax
comp=Z,709nm,20.0s
L18K Granite Mounta 75.28 28 IAmb IAmb 14 45 16.7
comp=Z,23nm,0.9s
L18K Granite Mounta 75.28 28 P **P** **14 45 15.8 +1.5**
baz=263
J18K Innoko River 75.43 27 P **P** **14 45 16.0 +0.9**
baz=263
BELG Belogornoye 75.46 322 *i*P **P** **14 45 13.9 -1.6**
BELG pmax pmax
comp=Z,12nm,0.9s
F19K Shaleruckik Mo 75.47 23 P **P** **14 45 15.9 +0.6**
baz=261
N18K Kilae Creek 75.49 30 IAmb IAmb 14 45 17.9
comp=Z,31nm,1.0s
N18K Kilae Creek 75.49 30 P **P** **14 45 17.2 +1.6**
baz=264,SNR=5.5
GCSA Galena City Sc 75.53 26 P **P** **14 45 16.6 +1.0**
baz=262
M18K Stony River 75.61 29 P **P** **14 45 17.8 +1.6**
baz=264,SNR=9.1
D19K Kuna River 75.62 22 P **P** **14 45 17.6 +1.4**
baz=260
G19K Purcell Mounta 75.64 24 P **P** **14 45 17.3 +1.0**
baz=262
TTA Tatalina 75.68 27 P **P** **14 45 17.9 +1.2**
baz=264
TTA Tatalina 75.68 27 P **P** **14 45 18.1 +1.4**
P18K Big Mountain, 75.70 31 P **P** **14 45 17.6 +0.8**
baz=265
O18K Koktuh Hills 75.75 31 P **P** **14 45 18.8 +1.7**
baz=265,SNR=12
E19K Redstone River 75.78 23 IAmb IAmb 14 45 21.0
comp=Z,47nm,0.9s
E19K Redstone River 75.78 23 P **P** **14 45 18.7 +1.6**
baz=261
H19K Roundabout Mou 75.81 25 IAmb IAmb 14 45 20.0
comp=Z,35nm,0.9s
H19K Roundabout Mou 75.81 25 P **P** **14 45 18.9 +1.6**
baz=262
J19K Poorman 75.97 26 IAmb IAmb 14 45 22.2
comp=Z,31nm,1.4s
J19K Poorman 75.97 26 P **P** **14 45 19.8 +1.6**
baz=264
SII Sitkinak Islan 76.05 34 P **P** **14 45 20.3 +1.5**
baz=267
L19K White Mountain 76.14 28 IAmb IAmb 14 45 21.4
comp=Z,31nm,1.1s
L19K White Mountain 76.14 28 P **P** **14 45 20.8 +1.6**
baz=265
N19K Bonanza Creek 76.19 30 P **P** **14 45 21.2 +1.6**
baz=265,SNR=10.0
D20K Etivluk River 76.20 21 P **P** **14 45 20.8 +1.4**
baz=262
O19K Port Alsworth 76.22 30 IAmb IAmb 14 45 22.0
comp=Z,31nm,0.8s
O19K Port Alsworth 76.22 30 P **P** **14 45 20.9 +1.3**
baz=266,SNR=6.5
E20K Nigu River 76.29 22 P **P** **14 45 21.6 +1.5**
baz=262
F20K Avaraart Lake 76.30 23 P **P** **14 45 21.5 +1.5**
baz=263
M19K Big River Lodg 76.33 29 P **P** **14 45 21.9 +1.6**
baz=265
H20K Anotleneega Mo 76.46 25 P **P** **14 45 22.4 +1.5**
baz=264
Q19K Cape Douglas, 76.48 32 P **P** **14 45 21.3 +0.1**
baz=267
I20K Naaghedeneel 76.56 26 P **P** **14 45 21.7 +0.3**
baz=264
OHAK Old Harbor 76.57 33 P **P** **14 45 22.7 +1.0**
baz=267
K20K Telida 76.60 27 P **P** **14 45 23.4 +1.5**
baz=265
A21K Barrow 76.61 19 P **P** **14 45 22.8 +1.2**
baz=261
L20K Farewell, AK 76.61 28 P **P** **14 45 23.0 +1.1**
baz=266
J20K Nowinta River 76.64 26 IAmb IAmb 14 45 24.2
comp=Z,29nm,1.2s
J20K Nowinta River 76.64 26 P **P** **14 45 23.6 +1.7**
baz=265
P19K Oil Pt 76.73 31 P **P** **14 45 23.1 +0.5**
baz=267
C21K Knifeblade Rid 76.92 21 P **P** **14 45 24.3 +0.8**
baz=263
M20K Styx River 76.92 29 P **P** **14 45 24.5 +0.7**
baz=266
KDAK Kodiak Island 76.98 33 P **P** **14 45 24.7 +0.7**
KDAK IAmb IAmb 14 45 26.1
comp=Z,39nm,0.8s
KDAK Kodiak Island 76.98 33 P **P** **14 45 24.7 +0.7**
comp=Z,26nm,0.8s,baz=124,slow=4.1,SNR=10
KDAK LR LR 15 14 41.9
comp=Z,556nm,21.3s,baz=105,slow=32
comp=Z,26nm,0.8s
KDAK Kodiak Island 76.98 33 P **P** **14 45 24.9 +0.9**
baz=268
B21K Ikpikpuk River 77.03 21 P **P** **14 45 25.4 +1.4**
baz=263
O20K Slope Mountain 77.06 31 P **P** **14 45 24.9 +0.3**
baz=267
Q20K Shuyak Island 77.11 32 P **P** **14 45 25.1 +0.4**
baz=268
G21K Allakaket 77.12 24 IAmb IAmb 14 45 28.6
comp=Z,44nm,1.0s
G21K Allakaket 77.12 24 P **P** **14 45 26.1 +1.4**
baz=265,SNR=29
F21K Alatna River 77.19 23 P **P** **14 45 26.1 +1.0**
baz=265,SNR=9.9
SPCR Spurr Chakacha 77.32 29 P **P** **14 45 26.1 +0.1**
baz=267
H21K Melozitna Rive 77.33 25 IAmb IAmb 14 45 29.9
comp=Z,64nm,1.5s
H21K Melozitna Rive 77.33 25 P **P** **14 45 27.4 +1.6**
baz=266
GNI Garni 77.40 309 P **P** **14 45 25.9 -1.1**
GNI IAmb IAmb 14 45 57.7
comp=Z,22nm,1.0s
GNI Garni 77.40 309 P **P** **14 45 26.7 -0.3**
GNI P **P** **14 45 26.7 -0.3**
GNI Garni 77.40 309 *i*P **P** **14 45 26.3 -0.7**
GNI pmax pmax
comp=Z,35nm,1.4s
GNI Garni 77.40 309 P **P** **14 45 27.6 +0.6**
comp=Z,471nmcomp=Z,27nm,1.0s
CHUM Lake Minchumin 77.42 27 P **P** **14 45 27.7 +1.4**
baz=267,SNR=6.1
PPLA Purkeypile 77.42 28 P **P** **14 45 27.3 +0.7**
baz=267
CAST Castle Rocks 77.50 27 IAmb IAmb 14 45 29.8
comp=Z,21nm,0.8s
CAST Castle Rocks 77.50 27 P **P** **14 45 27.8 +0.9**
baz=267,SNR=24
B22K Teshekpuk Lake 77.52 20 P **P** **14 45 28.0 +1.2**
baz=264
D22K Ayikyak River 77.64 21 IAmb IAmb 14 45 31.8
comp=Z,76nm,1.6s
D22K Ayikyak River 77.64 21 P **P** **14 45 28.8 +1.2**
baz=265
SKT Skwentna 77.68 29 IAmb IAmb 14 45 30.3
comp=Z,24nm,1.0s
SKT Skwentna 77.68 29 P **P** **14 45 28.0 +0.1**
baz=268,SNR=6.2
CAPN Captain Cook N 77.82 30 P **P** **14 45 29.4 +0.8**
baz=268
RAYN Ar Rayn 77.87 292 P **P** **14 45 28.1 -1.7**
RAYN IAmb IAmb 14 45 29.8
comp=Z,19nm,0.8s
RAYN Ar Rayn 77.87 292 P **P** **14 45 29.0 -0.8**
RAYN Ar Rayn 77.87 292 P **P** **14 45 28.1 -1.7**
RAYN pmax pmax
comp=Z,19nm,0.8s
BRLK Bradley Lake 77.93 31 IAmb IAmb 14 45 34.5
comp=Z,55nm,1.1s
H22K Ishtalitna Cre 77.94 25 P **P** **14 45 31.0 +1.8**
baz=267
BRSE Bradley Lake S 78.00 31 P **P** **14 45 29.5 -0.2**
baz=269
BPAW Bear Paw Mtn. 78.02 26 IAmb IAmb 14 45 32.0
comp=Z,45nm,0.9s
BPAW Bear Paw Mtn. 78.02 26 P **P** **14 45 30.8 +1.1**
baz=268,SNR=26
SUA Susitna One 78.04 29 IAmb IAmb 14 45 32.4
comp=Z,40nm,0.8s
SUA Susitna One 78.04 29 P **P** **14 45 30.2 +0.1**
baz=268,SNR=16
SLKM Skilak Lake 78.27 30 IAmb IAmb 14 45 32.4
comp=Z,40nm,1.1s
CUT Chulitna 78.29 28 P **P** **14 45 31.7 +0.5**
baz=269
TRF Thorofare Moun 78.30 27 IAmb IAmb 14 45 34.3
comp=Z,38nm,1.1s
TRF Thorofare Moun 78.30 27 P **P** **14 45 31.9 +0.4**
baz=268,SNR=10
M22K Willow 78.34 29 P **P** **14 45 31.7 +0.2**
baz=269
D23K Nanushuk River 78.37 21 IAmb IAmb 14 45 34.0
comp=Z,35nm,0.9s
D23K Nanushuk River 78.37 21 P **P** **14 45 33.2 +1.6**
baz=267
C23K Itkillik River 78.44 21 P **P** **14 45 33.4 +1.5**
baz=267
COLD Coldfoot 78.47 23 IAmb IAmb 14 45 36.2
comp=Z,36nm,1.0s
COLD Coldfoot 78.47 23 P **P** **14 45 33.6 +1.5**
baz=268,SNR=33
G23K Bananza Creek 78.52 24 IAmb IAmb 14 45 34.8
comp=Z,27nm,1.1s
G23K Bananza Creek 78.52 24 P **P** **14 45 33.9 +1.4**
baz=268
RC01 Rabbit Creek A 78.52 30 P **P** **14 45 32.8 +0.2**
baz=270
O22K Cooper Landing 78.52 30 P **P** **14 45 32.5 0.0**
baz=270
KBZ Khabaz 78.62 313 P **P** **14 45 32.1 -1.3**
comp=Z,11nm,0.9s,baz=121,slow=2.1,SNR=28
KBZ LR LR 15 24 36.5
comp=Z,526nm,18.8s,baz=72,slow=39

comp=Z,11nm,0.9s
KBZ Khabaz 78.62 313 *e*P **P 14 45 31.7 -1.7**
KBZ pmax pmax
comp=Z,20nm,1.0s
KARS Kars 78.65 310 P P 14 45 23.7 -10
KARS pmax pmax
comp=Z,47nm,0.9s
SEW Seward 78.65 31 P **P 14 45 33.6 +0.4**
baz=270
BWN Browne 78.69 26 IAmb IAmb 14 45 35.9
comp=Z,34nm,0.8s
E23K Chandalar 78.72 22 P **P 14 45 35.3 +1.7**
baz=268
RAR Rarotonga 78.73 114 LR LR 15 14 03.8
comp=Z,464nm,20.7s,baz=270,slow=31
I23K Minto, Yukon-K 78.75 25 IAmb IAmb 14 45 36.5
comp=Z,20nm,0.7s
I23K Minto, Yukon-K 78.75 25 P **P 14 45 35.0 +1.3**
baz=269,SNR=23
TOLK Toolik Lake Re 78.76 22 IAmb IAmb 14 45 36.5
comp=Z,30nm,0.8s
TOLK Toolik Lake Re 78.76 22 P **P 14 45 35.3 +1.5**
baz=268,SNR=21
KIV Kislovodsk 78.77 313 P **P 14 45 33.7 -0.8**
KIV IAmb IAmb 14 45 35.4
comp=Z,28nm,0.8s
KIV Kislovodsk 78.77 313 P **P 14 45 33.9 -0.5**
KIV P **P 14 45 33.9 -0.5**
KIV Kislovodsk 78.77 313 ⇑P **P 14 45 34.6 +0.2**
KIV Kislovodsk 78.77 313 *e*P **P 14 45 33.6 -0.8**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV MLR MLR
comp=Z,548nm,19.0s
KIV Kislovodsk 78.77 313 P **P 14 45 34.1 -0.3**
comp=Z,31nm,0.8s
SHA1 Shidzhatmaz 78.80 313 *i* P **P 14 45 33.0 -1.7**
GEVA Gevas 78.80 307 IAmb IAmb 14 45 58.3
comp=Z,27nm,1.1s
PMR Palmer 78.81 29 IAmb IAmb 14 45 35.4
comp=Z,27nm,0.8s
PMR Palmer 78.81 29 P **P 14 45 34.7 +0.7**
baz=270,SNR=9.9
PMR Palmer 78.81 29 P **P 14 45 34.8 +0.7**
NEA2 Nenana 78.86 26 IAmb IAmb 14 45 36.5
comp=Z,27nm,0.8s
NEA2 Nenana 78.86 26 P **P 14 45 35.2 +0.8**
baz=269,SNR=5.7
MCK McKinley 78.91 27 P **P 14 45 35.1 +0.4**
baz=270,SNR=28
D24K Happy Valley 79.04 21 IAmb IAmb 14 45 38.0
comp=Z,38nm,0.8s
D24K Happy Valley 79.04 21 P **P 14 45 36.8 +1.6**
baz=269
C24K Franklin Bluff 79.10 21 P **P 14 45 36.6 +1.1**
baz=269
VRH Novokhopyorsk 79.11 320 *e*P **P 14 45 34.4 -1.6**
VRH pmax pmax
comp=Z,29nm,0.9s
KNK Knik Glacier 79.14 29 IAmb IAmb 14 45 37.8
comp=Z,29nm,0.8s
KNK Knik Glacier 79.14 29 P **P 14 45 36.3 +0.4**
baz=270,SNR=7.4
E24K Your Creek 79.15 22 P **P 14 45 36.8 +0.9**
baz=269
SML Sawmill 79.19 29 IAmb IAmb 14 45 38.0
comp=Z,39nm,0.9s
SML Sawmill 79.19 29 P **P 14 45 36.8 +0.5**
baz=271,SNR=8.2
PWL Port Wells 79.20 30 P **P 14 45 36.8 +0.5**
baz=271,SNR=11
WRH Wood River Hil 79.29 26 IAmb IAmb 14 45 39.5
comp=Z,28nm,1.1s
F24K Squaw Lake 79.37 23 P **P 14 45 38.9 +1.8**
baz=270
H24K Noodor Dome 79.37 25 IAmb IAmb 14 45 40.5
comp=Z,34nm,0.9s
H24K Noodor Dome 79.37 25 P **P 14 45 38.6 +1.4**
baz=270,SNR=34
COLA College 79.39 26 P **P 14 45 37.0 -0.1**
COLA IAmb IAmb 14 45 40.4
comp=Z,23nm,0.8s
COLA College 79.39 26 P **P 14 45 37.2 +0.1**
baz=270
COLA College 79.39 26 P **P 14 45 37.6 +0.4**
COLA College 79.39 26 P **P 14 45 37.6 +0.4**
COLA pmax pmax
comp=Z,25nm,0.9s
CCB Clear Creek Bu 79.41 26 IAmb IAmb 14 45 40.9
comp=Z,34nm,1.4s
M23K Glacier View 79.48 29 P **P 14 45 38.1 +0.3**
baz=271,SNR=8.1
G24K Hadweenzic Riv 79.53 24 IAmb IAmb 14 45 40.8
comp=Z,29nm,0.9s
G24K Hadweenzic Riv 79.53 24 P **P 14 45 39.2 +1.3**
baz=270
POKR Poker Plat Res 79.56 25 P **P 14 45 39.6 +1.4**
baz=271,SNR=9.3
GURO Guroymak-BITLI 79.59 307 IAmb IAmb 14 45 40.4
comp=Z,39nm,0.8s
SCM Sheep Creek Mo 79.67 29 IAmb IAmb 14 45 40.9
comp=Z,36nm,0.9s
SCM Sheep Creek Mo 79.67 29 P **P 14 45 39.8 +0.9**
baz=271,SNR=7.4
P23K Montague Islan 79.68 31 P **P 14 45 39.9 +1.0**
baz=272
HDA Harding Lake 79.78 26 IAmb IAmb 14 45 42.4
comp=Z,22nm,0.8s
HDA Harding Lake 79.78 26 P **P 14 45 39.7 +0.3**
baz=271,SNR=6.8
ILAR Eielson Array 79.80 26 P **P 14 45 38.6 -0.9**
ILAR Eielson Array 79.80 26 P **P 14 45 39.0 -0.5**
comp=Z,8.4nm,0.8s,baz=240,slow=4.8,SNR=72
ILAR LR LR 15 23 40.3
comp=Z,197nm,18.9s,baz=265,slow=38
comp=Z,8.4nm,0.8s
ILAR Eielson Array 79.80 26 P **P 14 45 39.0 -0.5**
GLI Glacier Island 79.81 30 IAmb IAmb 14 45 41.3
comp=Z,37nm,0.8s
GLI Glacier Island 79.81 30 P **P 14 45 40.2 +0.6**
baz=272,SNR=5.3
D25K Kavik River 79.92 21 P **P 14 45 41.2 +1.1**
baz=271
KLMR Klimovskoe 80.00 330 *e*P **P 14 45 36.3 -4.3**
KLMR pmax pmax
comp=Z,41nm,1.2s
LABN Labinsk 80.13 314 *e*P **P 14 45 38.4 -3.3**
LABN *e**PP **PcP 14 45 48.9 +0.1**
LABN *e*S **S 14 55 40.5 -1.3**
LABN pmax pmax
comp=Z,24nm,0.6s
H25L Birch Creek 80.20 24 P **P 14 45 43.1 +1.5**
baz=272
M24K Tolsona, Glenn 80.20 28 P **P 14 45 43.2 +1.4**
baz=272,SNR=6.5
ERBR Yeremizino-Bor 80.23 315 *e*P **P 14 45 39.5 -2.7**
ERBR *e**PP **PcP 14 45 49.3 +0.1**
ERBR *e*S **S 14 55 42.8 +0.1**
ERBR pmax pmax
comp=Z,45nm,1.1s
ERBR MLR MLR
comp=Z,532nm,14.0s
F25K Christian Rive 80.23 23 IAmb IAmb 14 45 45.7
comp=Z,21nm,0.9s
F25K Christian Rive 80.23 23 P **P 14 45 43.4 +1.6**
baz=272,SNR=32
Q23K Middleton Isla 80.24 31 P **P 14 45 42.6 +0.7**
baz=273
E25K Arctic Village 80.24 22 IAmb IAmb 14 45 44.8
comp=Z,25nm,0.8s
E25K Arctic Village 80.24 22 P **P 14 45 43.5 +1.7**
baz=272,SNR=30
K24K Donnelly Dome 80.32 27 P **P 14 45 42.7 +0.4**
baz=272,SNR=13
KLU Klutina 80.35 29 IAmb IAmb 14 45 46.1
comp=Z,23nm,1.0s
KLU Klutina 80.35 29 P **P 14 45 43.2 +0.6**
baz=273
PRP Porcupine Dome 80.35 25 P **P 14 45 43.5 +0.9**
baz=272
C26K Camden Bay 80.41 20 P **P 14 45 44.7 +2.1**
baz=272,SNR=22
FYU Fort Yukon 80.43 24 IAmb IAmb 14 45 45.1
comp=Z,30nm,1.1s
J25K Salcha River, 80.46 26 P **P 14 45 42.8 -0.3**
baz=273
EYAK Cordova Ski Ar 80.48 30 P **P 14 45 43.8 +0.6**
baz=273
PAX Paxson 80.49 28 IAmb IAmb 14 45 46.8
comp=Z,76nm,1.6s
PAX Paxson 80.49 28 P **P 14 45 44.3 +0.9**
baz=273,SNR=14
BMAR Burnt Mountain 80.64 23 P **P 14 45 45.0 +1.0**
VORD Divnogorie 80.66 320 *e*P **P 14 45 41.5 -2.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 80.66 321 *e*P **P 14 45 42.9 -1.4**
VORR pmax pmax
comp=Z,22nm,0.6s
KOPT Kop Dagi 80.66 309 IAmb IAmb 14 45 58.1
comp=Z,19nm,0.9s
HARP HAARP 80.67 28 P **P 14 45 45.4 +1.2**
baz=273,SNR=7.4
MARD Mardin 80.68 306 IAmb IAmb 14 45 46.2
comp=Z,21nm,0.7s
VSR Storozhevoye 80.72 320 *e*P **P 14 45 42.1 -2.5**
VSR pmax pmax
comp=Z,10.0nm,0.9s
RIDG Independent Ri 80.73 27 IAmb IAmb 14 45 46.2
comp=Z,34nm,0.9s
RIDG Independent Ri 80.73 27 P **P 14 45 45.0 +0.5**
baz=273,SNR=11
LPSR Galich'ya Gora 80.77 322 *e*P **P 14 45 43.3 -1.6**
LPSR pmax pmax
comp=Z,42nm,0.8s
F26K Sheenjek River 80.80 23 P **P 14 45 46.3 +1.4**
baz=273
C27K Jago River 80.84 21 P **P 14 45 46.7 +1.7**
baz=273
SOC Sochi 80.94 313 *e*P P 14 45 39.4 -6.6
SOC *e*S **S 14 55 42.8 -7.4**
SOC *e*SS **SS 15 01 06.7 +1.5**
SOC *e*SSS SSS 15 04 29.9
N25K Chitina, Valde 80.98 29 IAmb IAmb 14 45 48.7
comp=Z,59nm,1.8s
N25K Chitina, Valde 80.98 29 P **P 14 45 47.3 +1.3**
baz=274
G26K Porcupine Rive 80.98 23 P **P 14 45 47.6 +1.9**
baz=274,SNR=16
BMRM Bremner River 81.02 30 IAmb IAmb 14 45 49.5
comp=Z,40nm,1.2s
BMRM Bremner River 81.02 30 P **P 14 45 47.1 +0.9**
baz=274,SNR=6.8
SCRK Sand Creek 81.10 27 P **P 14 45 47.2 +0.6**
baz=274,SNR=6.8
KAIM Kayak Island 81.18 31 P **P 14 45 47.4 +0.4**
baz=274
J26L Joseph Creek 81.24 26 IAmb IAmb 14 45 51.4
comp=Z,18nm,0.8s
J26L Joseph Creek 81.24 26 P **P 14 45 47.9 +0.6**
baz=274
MENT Mentasta 81.29 28 P **P 14 45 49.0 +1.5**
MOS Moscow 81.30 325 *e*P **P 14 45 44.9 -2.7**
MOS pmax pmax
comp=Z,33nm,0.7s
MOS MLR MLR
comp=Z,600nm,18.0s
I26K Coal Creek Min 81.36 25 P **P 14 45 48.2 +0.5**
baz=275
GLB Gilahina Butte 81.37 29 IAmb IAmb 14 45 49.6
comp=Z,26nm,1.2s
L26K Log Cabin Wild 81.45 27 P **P 14 45 49.7 +1.3**
baz=275,SNR=5.8
M26K Nabesna, AK 81.67 28 IAmb IAmb 14 45 52.0
comp=Z,29nm,1.2s
M26K Nabesna, AK 81.67 28 P **P 14 45 50.7 +1.1**
baz=275,SNR=12
G27K Doyon Strip 81.83 24 P **P 14 45 51.8 +1.5**
baz=276
D27M Malcolm River 81.84 21 P **P 14 45 52.0 +1.6**
baz=276
H27K Steamboat Moun 81.94 24 P **P 14 45 52.8 +1.9**
baz=276,SNR=17
OBN Obninsk 81.95 325 LR LR 15 24 20.5
comp=Z,411nm,19.9s,baz=42,slow=37
OBN Obninsk 81.95 325 ⇓*i*P **P 14 45 50.2 -0.9**
OBN *PP **PcP 14 46 00.0 +3.5**
OBN *SP **pP 14 46 05.0 -2.3**
OBN *i* S **SKSac 14 56 07.4 +1.4**
OBN *e*PS **PnS 14 56 43.9 -12**
OBN PPS PPS 14 57 18.0
OBN pmax pmax
comp=Z,18nm,0.7s
OBN MLR MLR
comp=Z,415nm,19.0s
I27K Kandik River 81.97 25 P **P 14 45 52.7 +1.6**
baz=276
L27K Beaver Creek, 82.14 27 P **P 14 45 53.2 +1.2**
baz=276
BCAR Beaver Creek A 82.16 27 P **P 14 45 52.9 +0.8**
APA Apatity 82.16 337 ⇓*i*P **P 14 45 49.3 -2.7**
APA *i* 14 45 59.4
APA pmax pmax
comp=Z,13nm,1.0s
M27K Edge Creek, AK 82.19 28 IAmb IAmb 14 45 56.5
comp=Z,23nm,1.0s
M27K Edge Creek, AK 82.19 28 P **P 14 45 53.3 +0.9**
baz=276
EGAK Eagle 82.25 26 IAmb IAmb 14 45 56.0
comp=Z,21nm,0.8s
EGAK Eagle 82.25 26 P **P 14 45 53.9 +1.4**
baz=276,SNR=16
MESA MESA 82.39 30 P **P 14 45 55.0 +1.4**
baz=276
E28M Babbage River 82.43 22 P **P 14 45 54.9 +1.5**
baz=277
F28M Old Crow 82.43 23 IAmb IAmb 14 45 56.8
comp=Z,38nm,0.8s
F28M Old Crow 82.43 23 P **P 14 45 54.9 +1.5**
baz=277,SNR=42
ANN Anapa 82.45 314 *e*P **P 14 45 50.3 -3.6**
ANN *e**PP **PcP 14 46 01.8 +2.8**
ANN *e*S **S 14 56 03.9 -1.8**
ANN pmax pmax
comp=Z,33nm,0.8s
ANN MLR MLR
comp=E,270nm,14.0s
ANN MLR MLR
comp=Z,627nm,17.0s
ANN MLR MLR
comp=N,320nm,18.0s
D28M Stokes Point 82.62 21 P **P 14 45 55.8 +1.5**
baz=278
BVCY Beaver Creek 82.66 28 P **P 14 45 56.3 +1.6**
baz=277,SNR=5.7
I28M Miner Creek 82.68 25 P **P 14 45 56.8 +1.9**
baz=278
YUK3 Moose Creek 82.92 29 P **P 14 45 57.7 +1.4**
baz=278,SNR=28
E29M Blow River 83.06 22 P **P 14 45 57.8 +1.2**
baz=279
ABPO Ambohimpanom 83.09 249 P **P 14 45 56.4 -1.5**
ABPO IAmb IAmb 14 45 58.6
comp=Z,15nm,0.9s
ABPO Ambohimpanom 83.09 249 P **P 14 45 56.4 -1.5**
ABPO pmax pmax
comp=Z,15nm,0.9s
DAWY Dawson 83.10 26 P **P 14 45 58.3 +1.3**
baz=278,SNR=17
O28M Mount Upton 83.19 30 P **P 14 45 59.5 +1.7**
baz=278
H29M Whitestone 83.21 24 P **P 14 45 58.7 +1.2**
baz=279
G29M Pine Creek 83.24 23 P **P 14 45 59.0 +1.3**
baz=279
PINM Pinnacle 83.25 30 P **P 14 45 59.5 +1.7**
baz=278,SNR=6.8
YUK8 Steele Glacier 83.32 29 P **P 14 46 00.3 +1.9**
baz=278,SNR=20
I29M Ogilvie Camp, 83.37 25 P **P 14 45 59.8 +1.4**
baz=279,SNR=17
GAZ Gaziantep 83.53 307 IAmb IAmb 14 46 02.0
comp=Z,36nm,1.2s
J29N Klondike Camp 83.55 26 P **P 14 46 01.4 +2.1**
baz=279,SNR=17
JOF Joensuu 83.67 333 *e*P **P 14 45 59.0 -0.9**
M29M Somme Creek 83.76 28 IAmb IAmb 14 46 03.2
comp=Z,23nm,1.0s
M29M Somme Creek 83.76 28 P **P 14 46 02.5 +2.0**
baz=279,SNR=14
L29M L29M 83.80 27 P **P 14 46 03.1 +2.5**
baz=279
EPYK Eagle Plains 83.84 24 P **P 14 46 01.7 +0.9**
baz=280,SNR=25
YUK4 Talbot Arm 83.85 29 P **P 14 46 02.9 +1.9**
baz=279,SNR=11
G30M tAoh Zraii Nji 83.93 23 IAmb IAmb 14 46 03.0
comp=Z,33nm,1.1s
G30M tAoh Zraii Nji 83.93 23 P **P 14 46 01.9 +0.7**
baz=281,SNR=16
K29M Barlow Dome 83.95 26 P **P 14 46 02.9 +1.5**
baz=280
F30M Barrier River 83.98 22 P **P 14 46 02.5 +1.1**
baz=281
O29M Mount Kennedy 84.05 30 IAmb IAmb 14 46 05.2
comp=Z,20nm,0.8s
O29M Mount Kennedy 84.05 30 P **P 14 46 04.0 +2.0**
baz=279
YUK6 Outpost Mounta 84.05 29 P **P 14 46 03.9 +1.7**
baz=279,SNR=12
KEV Kevo 84.12 340 P **P 14 46 01.8 -0.2**
KEV IAmb IAmb 14 46 02.9
comp=Z,24nm,0.9s
KEV Kevo 84.12 340 P **P 14 46 01.8 -0.2**
KEV pmax pmax
comp=Z,24nm,0.9s
VOI Vohitsoka 84.13 247 P **P 14 46 01.0 -2.1**
VOI IAmb IAmb 14 46 09.9
comp=Z,34nm,1.2s
VOI Vohitsoka 84.13 247 P **P 14 46 01.9 -1.3**
I30M Mount Dempster 84.19 25 P **P 14 46 03.9 +1.2**
baz=281
J30M Hart River 84.33 25 P **P 14 46 05.1 +1.7**
baz=281
HYT Haines Junctio 84.48 29 P **P 14 46 06.1 +1.9**
baz=280,SNR=49
M30M Minto, Yukon 84.50 28 P **P 14 46 06.2 +2.0**
baz=281,SNR=39
SPA0 Spitsbergen Ar 84.50 349 *e*P **P 14 46 03.6 -0.2**
SPITS Spitsbergen Ar 84.50 349 P **P 14 46 03.7 -0.2**
comp=Z,46nm,0.8s,baz=245,slow=16,SNR=12
SPITS LR LR 15 30 36.0
comp=Z,442nm,18.0s,baz=28,slow=40
comp=Z,46nm,0.8s
INK Inuvik 84.67 22 LR LR 15 28 00.0
comp=Z,160nm,18.5s,baz=246,slow=38
INK Inuvik 84.67 22 P **P 14 46 05.6 +0.8**
baz=283,SNR=31
ARA0 ARCESS Array S 84.68 340 *e*P **P 14 46 04.8 -0.1**
ARA0 IAmb IAmb 14 46 05.5
comp=Z,47nm,1.0s
ARCES ARCESS Array B 84.68 340 P **P 14 46 04.8 -0.1**
comp=Z,24nm,0.8s,baz=76,slow=4.9,SNR=51
comp=Z,24nm,0.8s
G31M Satah River 84.69 23 P **P 14 46 05.5 +0.6**
baz=282,SNR=29
MAYO Mayo, Yukon 84.71 26 P **P 14 46 06.7 +1.6**
baz=281,SNR=35
SIM Simferopol' 84.78 315 *e*P **P 14 46 05.2 -0.7**
SIM pmax pmax
comp=Z,36nm,0.9s
F31M Tsiigehtchic 84.78 22 P **P 14 46 06.1 +0.7**
baz=283,SNR=30
P30M Million Dollar 84.87 30 P **P 14 46 07.9 +1.8**
baz=281
H31M Peel River 84.91 24 P **P 14 46 06.9 +0.8**
baz=282
KBS Kingsbay 85.01 350 *e*P **P 14 46 06.4 0.0**
KBS IAmb IAmb 14 46 09.8
comp=Z,41nm,1.2s
O30N Mendenhall 85.17 29 IAmb IAmb 14 46 11.7
comp=Z,24nm,0.9s
O30N Mendenhall 85.17 29 P **P 14 46 09.3 +1.7**
baz=281,SNR=21
N31M Braeburn, Yuko 85.18 28 P **P 14 46 09.7 +2.1**
baz=282,SNR=40
PLBC Pleasant Camp 85.29 31 P **P 14 46 09.6 +1.5**
baz=281,SNR=9.2
BZK Bozkurt 85.31 312 ⇑P **P 14 46 06.2 -2.3**
MMAI Mount Meron Ar 85.57 303 P **P 14 46 10.0 -0.2**
comp=Z,8.7nm,0.8s,baz=73,slow=9.8,SNR=8.1
comp=Z,8.7nm,0.8s
KTK1 Kautokeino 85.59 339 *e*P **P 14 46 09.0 -0.5**
KTK1 IAmb IAmb 14 46 10.0
comp=Z,11nm,0.9s
S31K Pelican 85.65 32 P **P 14 46 11.5 +1.6**
baz=282
ILGA Ilgaz 85.66 311 IAmb IAmb 14 46 11.1
comp=Z,28nm,0.9s
M31M Drury Creek, Y 85.67 28 IAmb IAmb 14 46 12.5
comp=Z,23nm,0.8s
M31M Drury Creek, Y 85.67 28 P **P 14 46 11.1 +1.1**
baz=283,SNR=19
WHY Whitehorse 85.78 29 P **P 14 46 12.6 +1.9**
baz=282,SNR=37
SKAG Skagway 85.81 30 IAmb IAmb 14 46 13.7
comp=Z,32nm,0.9s
SKAG Skagway 85.81 30 P **P 14 46 12.5 +1.8**
baz=282,SNR=11
SKAG Skagway 85.81 30 P **P 14 46 12.6 +1.9**
KIRS Kirsehir-Merke 85.82 309 ⇑P **P 14 46 10.0 -1.2**
R31K City Hall, Gus 85.82 32 P **P 14 46 12.3 +1.6**
baz=282
BR131 Keskin Array S 85.93 309 IAmb IAmb 14 46 16.7
comp=Z,14nm,1.1s
BR131 Keskin Array S 85.93 309 P **P 14 46 10.9 -1.0**
SNR=9.0
BR131 P **P 14 46 10.9 -1.0**
SNR=9.0
BRTR Keskin Array B 85.93 309 P **P 14 46 10.6 -1.4**
BRTR Keskin Array B 85.93 309 P **P 14 46 10.7 -1.2**
comp=Z,5.7nm,0.8s,baz=98,slow=3.7,SNR=38
BRTR LR LR 15 30 29.4
comp=Z,228nm,19.2s,baz=106,slow=40
comp=Z,5.7nm,0.8s
BRTR Keskin Array B 85.93 309 *i* P **P 14 46 10.6 -1.4**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BR104 Keskin Array S 85.93 309 P **P 14 46 10.7 -1.2**
comp=Z,76nmcomp=Z,10nm,0.9s
BR106 Keskin Array S 85.95 309 P **P 14 46 10.8 -1.2**
comp=Z,53nmcomp=Z,6.2nm,0.8s
BR105 Keskin Array S 85.95 309 P **P 14 46 10.8 -1.2**
comp=Z,77nmcomp=Z,9.9nm,0.9s
FARO Faro, Yukon 86.14 28 P **P 14 46 13.7 +1.4**
baz=284
A36M Sachs Harbour 86.32 17 P **P 14 46 13.8 +0.9**
baz=290,SNR=84
SIT Sitka 86.32 33 P **P 14 46 13.9 +0.7**
baz=282
FINES FINESS Array B 86.37 332 P **P 14 46 12.8 -0.6**
FINES FINESS Array B 86.37 332 P **P 14 46 12.6 -0.8**
comp=Z,18nm,0.8s,baz=75,slow=4.5,SNR=32
FINES LR LR 15 29 53.0
comp=Z,346nm,18.6s,baz=67,slow=39
comp=Z,18nm,0.8s
FINES FINESS Array B 86.37 332 P **P 14 46 12.8 -0.6**
JETT Jettan, Norway 86.39 340 *e*P **P 14 46 13.2 -0.3**
JETT IAmb IAmb 14 46 14.2
comp=Z,37nm,0.8s
R32K Eaglecrest 86.48 32 P **P 14 46 14.9 +0.8**
baz=283
N32M Quiet Lake 86.52 29 P **P 14 46 15.7 +1.5**
baz=284
P32M Atlin 86.58 30 IAmb IAmb 14 46 16.7
comp=Z,20nm,1.3s
P32M Atlin 86.58 30 P **P 14 46 15.8 +1.2**
baz=284
S32K Killisnoo 86.63 32 P **P 14 46 16.4 +1.7**
baz=283
KEF Keuruu 86.74 333 *e*P **P 14 46 14.4 -0.9**
VSU Vasula 86.74 329 *e*P **P 14 46 15.3 0.0**
TRO Tromso 86.86 340 *e*P **P 14 46 15.4 -0.2**
TRO IAmb IAmb 14 46 15.7
comp=Z,107nm,1.9s
P33M Teslin, Yukon 86.88 29 P **P 14 46 17.1 +1.1**
baz=284
ARBE Arbavere 86.89 330 *e*P **P 14 46 15.1 -0.9**
AK08 Malin Array Si 87.01 321 P **P 14 46 15.7 -1.0**
AK03 Malin Array Si 87.01 321 P **P 14 46 15.5 -1.2**
MNK Minsk 87.01 325 *i* P **P 14 46 16.9 +0.2**
MNK *i* 14 49 41.1
MNK *i* PPP PPP 14 51 35.7
MNK *i* S **SKSac 14 56 40.8 +2.2**
MNK *i* SS **SS 15 02 36.1 +1.9**
MNK *i* SSS SSS 15 06 07.8
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,31nm,0.8s
MNK pmax pmax

comp=E,17nm,0.7s
AKASG Malin Array Be 87.01 321 P **P 14 46 15.2 -1.5**
AKASG IAmb IAmb 14 46 22.7
comp=Z,41nm,1.6s
AKASG Malin Array Be 87.01 321 P **P 14 46 15.3 -1.5**
comp=Z,9.7nm,0.9s,baz=70,slow=3.9,SNR=32
AKASG LR LR 15 30 16.2
comp=Z,325nm,18.4s,baz=77,slow=39
comp=Z,9.7nm,0.9s
AKASG Malin Array Be 87.01 321 P **P 14 46 15.2 -1.5**
AKASG pmax pmax
comp=Z,41nm,1.7s
AKBB Malin Array Si 87.01 321 IAmb IAmb 14 46 17.9
comp=Z,34nm,1.2s
AKBB Malin Array Si 87.01 321 P **P 14 46 15.4 -1.4**
KIEV Kiev 87.02 321 P **P 14 46 15.1 -1.7**
KIEV IAmb IAmb 14 46 17.9
comp=Z,31nm,1.2s
KIEV Kiev 87.02 321 ⇓P **P 14 46 15.7 -1.2**
KIEV Kiev 87.02 321 P **P 14 46 15.1 -1.7**
KIEV pmax pmax
comp=Z,31nm,1.3s
KIEV Kiev 87.02 321 P **P 14 46 15.4 -1.4**
comp=Z,84nm,1.1s
NOR Nord 87.06 355 *eP* **P 14 46 16.7 +0.3**
AK12 Malin Array Si 87.07 321 P **P 14 46 15.8 -1.2**
PPT Papeete 87.29 108 LR LR 15 17 54.5
comp=Z,404nm,21.4s,baz=257,slow=30
PURM Purcari 87.43 317 ⇑P **P 14 46 17.6 -1.2**
PURM Purcari 87.43 317 P **P 14 46 18.0 -0.8**
comp=Z,50nm,1.1s
Q32M Nakina River 87.46 31 P **P 14 46 20.0 +1.0**
baz=285
MEF Metsahovi 87.47 331 *eP* **P 14 46 18.0 -0.8**
VAF Ylistaro 87.49 334 *eP* **P 14 46 18.4 -0.3**
C36M Paulatuk 87.64 20 P **P 14 46 19.6 +0.2**
baz=292,SNR=38
IIGN Ignalina 87.75 326 *eP* **P 14 46 20.7 +0.5**
CRAG Craig 87.88 34 P **P 14 46 21.5 +0.8**
baz=284
R33M Jennings River 87.99 30 IAmb IAmb 14 46 25.8
comp=Z,29nm,1.7s
R33M Jennings River 87.99 30 P **P 14 46 22.0 +0.5**
baz=286
LUBAR Lubar, Ukraine 88.10 320 P **P 14 46 21.1 -0.9**
SORM Soroca 88.11 318 ⇓P **P 14 46 20.8 -1.3**
SORM Soroca 88.11 318 ⇓P **P 14 46 20.8 -1.3**
SORM Soroca 88.11 318 P **P 14 46 20.5 -1.6**
comp=Z,16nm,0.9s
S34M Telegraph Cree 88.31 31 P **P 14 46 24.0 +1.2**
baz=286
TLCR 88.43 315 ⇓P **P 14 46 22.9 -0.7**
TLCR 88.43 315 ⇓P **P 14 46 22.9 -0.7**
RAF Rauma 88.49 332 *eP* **P 14 46 22.3 -1.3**
NDNU Novodnistrovsk 88.65 319 P **P 14 46 23.4 -1.2**
ISP Isparta 88.67 308 IAmb IAmb 14 46 27.2
comp=Z,16nm,0.9s
ISP Isparta 88.67 308 *ceP* **P 14 46 23.6 -1.5**
ISP pmax pmax
comp=Z,13nm,0.8s
DLBC Dease Lake 88.73 31 IAmb IAmb 14 48 12.2
comp=Z,34nm,2.0s
DLBC Dease Lake 88.73 31 P **P 14 46 26.4 +1.5**
baz=287
STEI Steigen 88.73 339 *eP* **P 14 46 23.0 -1.6**
STEI IAmb IAmb 14 46 24.8
comp=Z,32nm,0.9s
TPGR Topolog 88.77 315 ⇓P **P 14 46 24.6 -0.7**
KIBK Kibwezi 88.78 267 IAmb IAmb 14 46 27.2
comp=Z,18nm,0.9s
KIBK Kibwezi 88.78 267 P **P 14 46 26.4 +0.4**
WTLY Watson Lake, Y 88.84 29 IAmb IAmb 14 46 28.6
comp=Z,21nm,0.8s
WTLY Watson Lake, Y 88.84 29 P **P 14 46 26.6 +1.3**
baz=288
VSVD Vaisvydziai 88.84 327 *eP* **P 14 46 24.8 -0.5**
TIRR Tirgusor 88.86 315 ⇑P **P 14 46 24.7 -1.0**
TIRR Tirgusor 88.86 315 ⇑P **P 14 46 24.7 -1.0**
TIRR Tirgusor 88.86 315 P **P 14 46 24.6 -1.0**
comp=Z,13nm,0.9s
SCTR Scanteiesti 88.89 316 ⇓P **P 14 46 24.1 -1.7**
CFR Carcaliu 88.90 316 ⇑P **P 14 46 24.6 -1.3**
CFR Carcaliu 88.90 316 ⇑P **P 14 46 24.6 -1.3**
RNPP9 Sopachiv 88.90 322 P **P 14 46 24.8 -0.9**
FAUS Fauske 88.94 339 *eP* **P 14 46 24.2 -1.4**
FAUS IAmb IAmb 14 46 24.9
comp=Z,20nm,0.9s
PABE Paberze 88.95 326 *eP* **P 14 46 23.7 -2.2**
T35M Bob Quinn 89.03 32 P **P 14 46 27.5 +1.2**
baz=286
SLCR Slobozia Conac 89.06 316 ⇓P **P 14 46 25.9 -0.7**
HARR Harsova 89.15 315 ⇑P **P 14 46 26.9 -0.1**
HARR Harsova 89.15 315 ⇑P **P 14 46 26.9 -0.1**
KMPD K-Podol'skiy 89.24 319 P **P 14 46 25.8 -1.6**
comp=Z,7μm,0.9s
MAW Mawson 89.31 200 LR LR 15 25 18.5
comp=Z,259nm,18.7s,baz=46,slow=35
KMBO Kilima Mbogo 89.36 269 P **P 14 46 28.5 -0.5**
KMBO IAmb IAmb 14 46 30.1
comp=Z,16nm,1.0s
KMBO Kilima Mbogo 89.36 269 P **P 14 46 28.8 -0.1**
KMBO P **P 14 46 28.8 -0.1**
KMBO Kilima Mbogo 89.36 269 P **P 14 46 28.5 -0.5**
KMBO pmax pmax
comp=Z,16nm,1.0s
VNDA Vanda 89.45 173 P **P 14 46 27.8 +0.1**
VNDA IAmb IAmb 14 46 28.8
comp=Z,16nm,1.1s
VNDA Vanda 89.45 173 P **P 14 46 27.5 -0.2**
comp=Z,8.0nm,0.9s,baz=291,slow=6.3,SNR=8.0
VNDA LR LR 15 26 16.8
comp=Z,267nm,20.1s,baz=344,slow=35
comp=Z,8.0nm,0.9s
VNDA Vanda 89.45 173 P **P 14 46 27.8 +0.1**
VNDA pmax pmax
comp=Z,16nm,1.1s
TESR Tescani 89.60 317 ⇓P **P 14 46 28.5 -0.7**
VRI Vrincioaia 89.70 316 ⇓P **P 14 46 29.4 -0.3**
VRI Vrincioaia 89.70 316 ⇓P **P 14 46 29.4 -0.3**
MOR8 Moi Rana 89.73 338 *eP* **P 14 46 27.0 -2.3**
PLOR Plostina 89.76 316 ⇓P **P 14 46 29.6 -0.4**
PLOR Plostina 89.76 316 ⇓P **P 14 46 29.6 -0.4**
SUW Suwalki 89.81 325 *eP* **P 14 46 28.4 -1.5**
ONER Baraj Valea Uz 89.82 317 ⇓P **P 14 46 30.0 -0.2**
WRGLY Wrigley 90.16 25 IAmb IAmb 14 46 34.7
comp=Z,19nm,0.9s
WRGLY Wrigley 90.16 25 P **P 14 46 32.1 +0.7**
baz=292
LEIR Leirfjorden 90.25 338 *eP* **P 14 46 30.9 -0.8**
BURAR Bucovina Array 90.28 318 ⇓P **P 14 46 32.1 -0.3**
BURAR Bucovina Array 90.28 318 ⇓P **P 14 46 32.1 -0.3**
MLR Muntele Rosu 90.33 316 LR LR 15 32 06.9
comp=Z,441nm,20.3s,baz=64,slow=39
MLR Muntele Rosu 90.33 316 ⇑P **P 14 46 32.5 -0.2**
MLR Muntele Rosu 90.33 316 ⇑P **P 14 46 32.5 -0.2**
PLAR PLOIESTI 90.41 316 ⇑P **P 14 46 32.8 -0.2**
VOIR 90.95 316 ⇑P **P 14 46 36.0 +0.4**
VOIR 90.95 316 ⇑P **P 14 46 36.0 +0.4**
TOAD Toad River Com 90.97 30 P **P 14 46 36.2 +0.9**
baz=291
KOTAN Kotaneelee Air 91.07 28 P **P 14 46 36.4 +0.8**
baz=292
DAG Danmarks Havn 91.23 352 P **P 14 46 35.5 -0.6**
DAG pmax pmax
comp=Z,49nm,1.2s
DAG Danmarks Havn 91.23 352 *i P* **P 14 46 35.0 -1.1**
NSS Namsos 91.37 337 *eP* **P 14 46 35.3 -1.6**
BBB Bella Bella 91.64 36 LR LR 15 22 08.6
comp=Z,163nm,20.8s,baz=250,slow=32
KOLS Kolonicke sedl 91.81 320 *eP* **P 14 46 39.4 0.0**
KOLS pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 91.81 320 *eP* **P 14 46 39.4 0.0**
MARR Marisel-Cluj 91.91 318 ⇑P **P 14 46 39.2 -0.8**
RES Resolute Bay 91.93 10 LR LR 15 32 34.0
comp=Z,192nm,18.4s,baz=350,slow=38
DRGR 92.15 318 ⇑P **P 14 46 40.2 -0.9**
DRGR 92.15 318 ⇑P **P 14 46 40.2 -0.9**
STHS Stebnicka Huta 92.31 321 *eP* **P 14 46 40.6 -1.1**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 92.31 321 *eP* **P 14 46 40.6 -1.1**
HFS Hagfors 92.53 332 P **P 14 46 41.1 -1.3**
comp=Z,13nm,0.8s,baz=98,slow=4.5,SNR=17
HFS LR LR 15 31 02.9
comp=Z,408nm,20.2s,baz=66,slow=37
comp=Z,13nm,0.8s
TBLU Trondheim 92.62 336 *eP* **P 14 46 41.6 -1.2**
SURR Surduc 92.84 317 ⇓P **P 14 46 42.5 -1.7**
NEEM North Greenlan 92.89 359 *eP* **P 14 46 44.6 +0.5**
NIE Niedzica 92.90 321 *eP* **P 14 46 44.6 +0.2**
OJC Ojcow 92.95 322 *eP* **P 14 46 43.9 -0.7**
OJC Ojcow 92.95 322 IAmb IAmb 14 46 45.1
comp=Z,13nm,0.9s
SIRR Siria 93.00 318 ⇓P **P 14 46 43.8 -1.2**
BZS Buzias 93.22 317 ⇓P **P 14 46 45.1 -0.9**
BZS Buzias 93.22 317 ⇓P **P 14 46 45.1 -0.9**
NC602 NORSAR Array S 93.23 333 *eP* **P 14 46 44.9 -0.8**
NB2 NORSAR Subarra 93.24 334 P **P 14 46 44.3 -1.5**
comp=Z,8.0nm,0.8s,baz=64,slow=4.4
NB2 NORSAR Subarra 93.24 334 P **P 14 46 44.3 -1.5**
baz=64,slow=4.4
NOA NORSAR Array B 93.24 334 P **P 14 46 44.5 -1.2**
comp=Z,6.4nm,0.8s,baz=62,slow=4.6,SNR=20
NOA LR LR 15 31 57.5
comp=Z,412nm,20.7s,baz=50,slow=38
comp=Z,6.4nm,0.8s
MDVR Moldovita 93.40 316 ⇑P **P 14 46 46.0 -0.9**
LANS Liptovska Anna 93.50 321 *eP* **P 14 46 48.5 +1.3**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 93.50 321 *eP* **P 14 46 48.5 +1.3**
DBG Daneborg 93.52 351 *eP* **P 14 46 46.8 +0.1**
DOMB Dombas 93.68 335 *eP* **P 14 46 46.8 -0.9**
DOMB IAmb IAmb 14 46 47.5
comp=Z,40nm,1.1s
VYHS Vyhne 94.11 321 *eP* **P 14 46 49.9 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.5s
VYHS Vyhne 94.11 321 *eP* **P 14 46 49.9 -0.1**
YKA Yellowknife Ar 94.13 24 P **P 14 46 50.4 +0.6**
comp=Z,17nm,0.7s,baz=298,slow=4.8,SNR=240
YKA PKKPbc **PKKPdf 15 03 49.9 -1.7**
comp=Z,0.4nm,0.7s,baz=131,slow=2.9,SNR=4.2
YKA LR LR 15 28 04.2
comp=Z,200nm,21.9s,baz=296,slow=35
comp=Z,17nm,0.7s
YKA Yellowknife Ar 94.13 24 *i P* **P 14 46 50.7 +1.0**
YKA pmax pmax
comp=Z,17nm,0.7s
AKN Aaknes 94.46 336 *eP* **P 14 46 50.6 -0.8**
MORC Moravsky Berou 94.47 322 *eP* **P 14 46 50.9 -0.8**
JAVC Velka Javorina 94.71 321 *eP* **P 14 46 53.2 +0.4**
KSP Ksiaz 94.83 323 *eP* **P 14 46 52.8 -0.4**
VRAC Vranov 95.21 322 LR LR 15 33 07.1
comp=Z,202nm,19.0s,baz=74,slow=38
VRAC Vranov 95.21 322 *eP* **P 14 46 54.9 -0.1**
KRUC Moravsky 95.42 322 *eP* **P 14 46 55.2 -0.8**
MBAR Mbarara 95.69 270 *i P* **P 14 46 56.8 -1.3**
MBAR pmax pmax
comp=Z,3.0nm,0.8s
KULLO Kullorsuaq 95.75 1 *eP* **P 14 46 57.6 +0.7**
PDG Podgorica 95.83 315 ⇓P **P 14 46 56.8 -1.2**
LLLB Lilloet 95.85 37 IAmb IAmb 14 47 01.7
comp=Z,13nm,1.1s
RONA Rosalia, Austr 95.98 320 *i* PcP **P 14 46 58.0 -0.7**
comp=Z,7.8nm,1.3s
CONA Conrad Observa 96.17 321 *i* PcP **P 14 46 59.1 -0.5**
comp=Z,6.2nm,1.2s
BRG Berggiesshubel 96.19 324 *eP* **P 14 46 59.7 +0.2**
BRG Amp 14 47 01.9
comp=Z,2.8nm,0.9s
GNW Green Mountain 96.44 40 IAmb IAmb 14 47 03.3
comp=Z,12nm,1.1s
CLL Collm 96.55 325 *eP* **P 14 47 00.0 -1.1**
CLL *eS* **S 14 58 17.0 -0.1**
CLL Collm 96.55 325 *eP* **P 14 47 00.0 -1.1**
CLL *eS* **S 14 58 17.0 -0.1**
CLL *ex* x 14 58 41.0
ARSA Arzberg 96.64 320 *eP* **P 14 46 59.1 -2.5**
comp=Z,3.9nm,1.2s
SCO Scoresbysund 97.05 350 *eP* Pdif 14 47 03.6 +0.6
GEC2 GERESS Array S 97.14 322 IAmb IAmb 14 47 05.7
comp=Z,15nm,1.4s
GERES GERESS Array B 97.14 322 P **P 14 47 03.0 -1.0**
GERES GERESS Array B 97.14 322 P **P 14 47 03.2 -0.7**
comp=Z,4.9nm,0.8s,baz=52,slow=5.2,SNR=16
GERES LR LR 15 33 05.7
comp=Z,317nm,20.7s,baz=86,slow=37
comp=Z,4.9nm,0.8s
SOKA Soboth 97.16 320 *i* PcP Pdif 14 47 05.7 +1.6
comp=Z,4.1nm,1.0s
MOA Molln 97.19 321 *i* PcP **P 14 47 03.6 -0.5**
comp=Z,8.5nm,0.8s
SUMG Summit 97.20 355 IAmb IAmb 14 47 40.2
comp=Z,22nm,1.5s
SUMG Summit 97.20 355 *i P* **P 14 47 03.0 -1.1**
OBKA Obir 97.54 320 *ePcP* **P 14 47 04.5 -1.3**
comp=Z,4.1nm,1.0s
UPNV Upernavik 97.57 1 *eP* Pdif 14 47 05.3 +0.1
MOX Moxa 97.63 324 *eL* L 15 36 23.9
comp=Z,363nm,19.2s
BIOA Bad Ischl, Aus 97.64 321 *i* PcP **P 14 47 05.3 -0.8**
comp=Z,3.6nm,1.0s
SYO Syowa Base 97.93 201 ⇓*ePcP* Pdif 14 47 09.0 +2.2
MYKA Terra Mystica 98.07 320 *ePcP* **P 14 47 06.6 -1.5**
comp=Z,1.7nm,0.5s
KBA Koelnbreinsper 98.07 321 *i* PcP **P 14 47 07.6 -0.7**
comp=Z,9.1nm,1.1s
GRF Grafenberg Arr 98.27 324 *eP* Pdif 14 47 08.9 0.0
comp=Z,7.6nm,0.9s,baz=68,slow=4.1
GRF *eL* L 15 35 13.3
comp=Z,248nm,21.3s
B08A Colville Reser 98.28 38 IAmb IAmb 14 47 10.9
comp=Z,9.6nm,0.8s
LESA Schwarzleotal 98.35 321 *i* PcP **P 14 47 08.1 -1.3**
comp=Z,3.2nm,0.9s
MXC Moxie City 98.42 40 IAmb IAmb 14 47 11.9
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 98.67 45 LR LR 15 26 08.9
comp=Z,281nm,20.5s,baz=284,slow=32
ABTA Abfaltersbach 98.73 320 *ePdiff* **P 14 47 09.7 -1.4**
comp=Z,6.9nm,1.2s
WTTA Wattenberg 99.06 321 *i* Pdiff **Pdif 14 47 11.2 -1.5**
comp=Z,3.2nm,0.8s
WATA Walderalm 99.07 321 *ePdiff* **Pdif 14 47 12.2 -0.5**
comp=Z,6.2nm,0.9s
D08A Wollman Farm, 99.08 39 IAmb IAmb 14 47 14.6
comp=Z,8.7nm,0.9s
C09A Chrisman Ranch 99.16 38 IAmb IAmb 14 47 15.7
comp=Z,5.4nm,0.8s
SQTA Sankt Quirin 99.34 321 *ePdiff* **Pdif 14 47 12.5 -1.4**
comp=Z,4.0nm,0.9s
MOTA Moosalm 99.35 321 *ePdiff* **Pdif 14 47 10.4 -3.6**
comp=Z,6.8nm,0.9s
RETA Reutte 99.50 322 *ePdiff* **Pdif 14 47 09.1 -5.4**
comp=Z,4.3nm,1.4s
NEW Newport 99.66 37 LR LR 15 28 18.9
comp=Z,192nm,19.5s,baz=274,slow=33
QSPA South Pole Qui 99.67 180 P **Pdif 14 47 13.0 -1.7**
comp=Z,2.2nm,0.9s,baz=332,slow=4.2,SNR=4.3
QSPA LR LR 15 32 21.5
comp=Z,215nm,20.0s,baz=336,slow=35
comp=Z,2.2nm,0.9s
FETA Feichten 99.72 321 *ePdiff* **Pdif 14 47 14.8 -0.8**
comp=Z,4.9nm,1.0s
DAVA Damuels 100.13 322 *ePdiff* **Pdif 14 47 15.0 -2.5**
comp=Z,8.1nm,1.3s
NVAR Mina Array Bea 103.06 47 Pdiff **Pdif 14 47 31.3 +0.5**
comp=Z,2.1nm,0.8s,baz=260,slow=6.2,SNR=7.0
PDAR Pinedale Array 106.97 40 PKiKP **PKiKP 14 51 57.8 +0.3**
comp=Z,0.5nm,0.9s,baz=280,slow=4.2,SNR=2.2
PDAR PKKP **PKKPdf 15 03 28.1 -0.2**
comp=Z,1.7nm,0.8s,baz=121,slow=6.3,SNR=15
ULM Lac du Bonnet 109.78 27 PKKPab PKKPab 15 03 15.2 -4.0
comp=Z,2.1nm,0.8s,baz=187,slow=3.3,SNR=5.6
SNAA Sanae 110.96 195 PP **PP 14 52 42.6 +0.1**
comp=Z,5.3nm,0.9s,baz=217,slow=5.2,SNR=7.0
SNAA PKKPbc **PKKPbc 15 03 02.0 -2.3**
comp=Z,2.1nm,0.8s,baz=278,slow=4.6,SNR=4.8
S22A 4UR Ranch, Cre 111.38 43 P **PKiKP 14 52 05.6 -0.5**
baz=302
ANMO Albuquerque 113.10 45 *i* PKIKP **PKiKP 14 52 08.6 -0.7**
Y22D IRIS PASSCAL I 113.22 46 P **PKiKP 14 52 09.1 -0.3**
baz=301
T25A Trinidad 113.32 42 P **PKiKP 14 52 09.2 -0.5**
baz=304
121A Cookes Peak, D 113.36 48 P **PKiKP 14 52 09.2 -0.6**
baz=300
L40A Anamosa 117.93 31 **PKPdf 14 52 17.3 -0.8**
TXAR Lajitas Array 118.03 49 PKP **PKiKP 14 52 19.4 +0.7**
comp=Z,2.0nm,0.8s,baz=231,slow=1.1,SNR=18
TXAR PP **PP 14 53 33.6 +0.1**
comp=Z,1.0nm,0.9s,baz=316,slow=3.5,SNR=4.0
TXAR PKKPbc **PKKPbc 15 02 36.8 -2.2**
comp=Z,0.6nm,0.8s,baz=123,slow=4.6,SNR=5.4
L44A Lake County Fo 119.47 29 P **PKPdf 14 52 21.1 +0.1**
baz=320
TORD Torodi Ar. Bea 120.57 292 **PKPdf 14 52 23.4 -0.4**
TORD Torodi Ar. Bea 120.57 292 PKP **PKPdf 14 52 22.3 -1.5**
comp=Z,2.2nm,0.8s,baz=26,slow=2.8,SNR=14
TORD PP **PP 14 53 50.2 -1.3**
comp=Z,2.3nm,1.0s,baz=44,slow=8.7,SNR=6.4
TORD PKKPbc **PKKPbc 15 02 29.5 +0.3**
comp=Z,1.3nm,0.9s,baz=290,slow=4.5,SNR=7.0
CCM Cathedral Cave 120.81 34 PKPdif **PKPdf 14 52 23.6 -0.1**
CCM Cathedral Cave 120.81 34 PKIKP **PKPdf 14 52 23.6 -0.1**
435B Jarrell 121.61 45 P **PKPdf 14 52 25.5 0.0**
baz=307
PBMO Poplar Bluff 122.17 35 **PKPdf 14 52 26.5 +0.1**
O48B Farmland 122.27 28 P **PKPdf 14 52 26.1 -0.3**
baz=323
L61B Northampton 125.14 17 P **PKPdf 14 52 31.7 -0.3**
baz=337
DBIC Dimbokro 128.77 287 PKP **PKPdf 14 52 37.8 -1.8**
comp=Z,2.3nm,0.8s,baz=191,slow=3.1,SNR=4.0
LL02 Futaleuf 143.12 158 PKPbc 14 53 03.3 +0.9
LL04 Puerto Octay 144.82 155 **PKPab 14 53 07.4 0.0**
PLCA Paso Flores 145.72 157 PKPbc **PKPab 14 53 11.3 +0.4**
comp=Z,28nm,0.9s,baz=198,slow=5.1,SNR=37
PLCA Paso Flores 145.72 157 *eP* **PKPbc 14 53 10.3 -0.1**
DR12 Loma Pena Alta 147.60 29 PKPab **PKPbc 14 53 17.6 +1.0**
OTAV Otavalo 153.33 69 *eP* **PKPdf 14 53 24.0 +0.6**
SDV Santo Domingo 154.85 43 *eP* **PKPdf 14 53 26.3 +1.2**
TBOT Tacuaremb 158.12 175 *eP* **PKPdf 14 53 29.9 +1.3**
CPUP Villa Florida 163.18 168 PKP **PKPdf 14 53 33.6 -0.7**
comp=Z,0.7nm,0.6s,baz=82,slow=14,SNR=1.7
CPUP PKPab **PKPab 14 54 23.7 -0.8**
comp=Z,3.9nm,1.0s,baz=184,slow=3.8,SNR=6.1
LPAZ La Paz 164.44 116 PKP **PKPdf 14 53 36.1 -0.4**
comp=Z,4.5nm,1.2s,baz=329,slow=1.8,SNR=9.2
LPAZ PKPab **PKPab 14 54 31.0 -0.3**
comp=Z,4.8nm,0.9s,baz=211,slow=1.9,SNR=4.7
BSCB Bom Sucesso 166.00 216 *eP* **PKPdf 14 53 38.5 +1.4**
JANB Januaria 169.54 239 *eP* **PKPdf 14 53 40.9 +1.3**
BDFB Brasilia 172.04 223 PKPab **PKPab 14 55 02.6 -1.6**
comp=Z,2.9nm,0.7s,baz=143,slow=6.6,SNR=5.3
PTLB Pontes e Lacer 172.20 137 *eP* **PKPdf 14 53 42.1 +1.2**

---

*IDC **10** 14:38:59.1±0.6, 9.86N×126.28E, h0km, mb4.3/23, mbtmp4.3/24, ML4.4/1, Error ellipse: s-maj=28.0km s-min=13.4km az=78.0*
*NEIC **10** 14:39:01.9±1.5, 9.90N±0.08×126.2E±0.1, h10km, mb4.8/43, Error ellipse: s-maj=19.4km s-min=13.1km az=88.0*
ISC 10 14:39:00.9±0.4, 9.84N±0.05×126.2E±0.1, h10km, n75, σ0.90/61, mb4.7/45, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.81**	**192**	Pn		**Pn**		**14 39 48.2**	**+2.2**
DAV	**Davao City (W)**	**2.81**	**192**	Pn		**Pn**		**14 39 47.4**	**+1.4**
	57nm,0.3s,baz=358,slow=4.3,SNR=2.3								
DAV				Sn		**Sn**		**14 40 18.7**	**-1.3**
	44nm,0.3s,baz=0.7,slow=17,SNR=2.6								
	117nm,0.4s								
MYLDM	**Lahad Datu**	**8.92**	**239**	Pn		**Pn**		**14 41 08.4**	**-1.4**
TNTI	**Ternate**	**9.08**	**173**	Pn		**Pn**		**14 41 10.5**	**-1.7**
FAKI	**Fak Fak**	**14.04**	**154**	Pn		**Pn**		**14 42 18.7**	**-1.3**
YULB	**Yu-li**	**14.27**	**341**	P		**P**		**14 42 29.7**	**-0.7**
JCJ	**Chichijima**	**22.86**	**39**	P		**P**		**14 44 05.1**	**+0.5**
MTN	**Manton Dam**	**23.06**	**168**	P		**P**		**14 44 06.7**	**0.0**
MTN				IAmb		IAmb		14 44 29.0	
	comp=Z,39nm,1.4s								
KNRA	**Kununurra**	**25.48**	**174**	P		**P**		**14 44 30.2**	**+0.8**
KNRA				IAmb		IAmb		14 44 34.4	
	comp=Z,18nm,1.0s								
KSRS	**Korea Array**	**27.54**	**3**	P		**P**		**14 44 49.1**	**+1.3**
	comp=Z,2.1nm,1.0s,baz=178,slow=12,SNR=4.4								
	comp=Z,2.1nm,1.0s								
CMAR	**Chiang Mai Arr**	**27.74**	**291**	P		**P**		**14 44 52.0**	**+2.0**
	comp=Z,1.5nm,0.9s,baz=105,slow=6.7,SNR=5.0								
	comp=Z,1.5nm,0.9s								
FITZ	**Fitzroy Crossi**	**27.76**	**181**	P		**P**		**14 44 50.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.76**	**181**	P		**P**		**14 44 50.1**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=6.5,slow=10.0,SNR=6.2								
	comp=Z,9.1nm,0.8s								
WB0	**Warramunga Arr**	**30.51**	**165**	P		**P**		**14 45 16.1**	**+1.7**
WRA	**Warramunga Arr**	**30.66**	**165**	P		**P**		**14 45 15.3**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=344,slow=8.9,SNR=2.4								
	comp=Z,1.9nm,1.0s								
WR0	**Warramunga Arr**	**30.73**	**164**	P		**P**		**14 45 17.8**	**+1.4**
WR0				IAmb		IAmb		14 46 09.3	
	comp=Z,41nm,1.9s								
PSA00	**Pilbara Seismi**	**31.83**	**191**	P		**P**		**14 45 26.7**	**+0.7**
PSA00				IAmb		IAmb		14 45 41.6	
	comp=Z,12nm,1.0s								
AS31	**Alice Springs**	**34.14**	**167**	P		**P**		**14 45 47.2**	**+0.9**
ASAR	**Alice Springs**	**34.14**	**167**	P		**P**		**14 45 45.4**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=347,slow=8.3,SNR=8.7								
ASAR				PcP		**PcP**		**14 48 23.7**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=342,slow=3.7,SNR=2.3								
	comp=Z,0.7nm,0.3s								
USRK	**Ussuriysk Ar.**	**34.60**	**7**	P		**P**		**14 45 49.5**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=183,slow=8.1,SNR=2.3								
	comp=Z,1.8nm,0.8s								
MORW	**Morawa**	**39.90**	**194**	P		**P**		**14 46 35.8**	**+0.6**
MORW				IAmb		IAmb		14 47 11.8	
	comp=Z,23nm,1.2s								
H11S3	**WAKE ISLAND Hy**	**40.12**	**73**	T		T		15 29 38.8	
	baz=263								
H11S1	**WAKE ISLAND Hy**	**40.14**	**73**	T		T		15 29 33.2	
	baz=263								
H11S2	**WAKE ISLAND Hy**	**40.14**	**73**	T		T		15 29 41.1	
	baz=263								
FORT	**Forrest**	**40.42**	**178**	P		**P**		**14 46 39.7**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**40.47**	**71**	T		T		15 30 04.6	
	baz=265,slow=74,SNR=27								
H11N2	**WAKE ISLAND Hy**	**40.48**	**71**	T		T		15 29 54.4	
	baz=265,slow=74,SNR=18								
H11N3	**WAKE ISLAND Hy**	**40.49**	**71**	T		T		15 30 06.0	
	baz=265,slow=74,SNR=22								
ULN	**Ulaanbaatar**	**41.20**	**340**	P		**P**		**14 46 47.4**	**+1.5**
ULN				IAmb		IAmb		14 47 43.8	
	comp=Z,38nm,1.9s								
SONM	**Songino Array**	**41.39**	**340**	P		**P**		**14 46 48.5**	**+1.0**
SONM	**Songino Array**	**41.39**	**340**	P		**P**		**14 46 47.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=162,slow=12,SNR=5.2								
	comp=Z,1.8nm,0.8s								
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P		**P**		**14 47 04.5**	**+0.9**
BBOO	**Buckleboo**	**43.44**	**168**	P		**P**		**14 47 04.3**	**+0.1**
PETK	**Petropavlovsk-**	**50.06**	**24**	P		**P**		**14 47 56.1**	**+0.3**
	comp=Z,3.2nm,1.0s,baz=222,slow=7.0,SNR=2.1								
	comp=Z,3.2nm,1.0s								
TOO	**Toolangi**	**50.51**	**160**	P		**P**		**14 48 00.1**	**+0.7**
YAK	**Yakutsk**	**52.16**	**2**	P		**P**		**14 48 11.6**	**+0.2**
YAK				IAmb		IAmb		14 48 13.4	
	comp=Z,14nm,1.0s								
MK31	**Makanchi Array**	**52.32**	**323**	P		**P**		**14 48 13.2**	**+0.2**
MKAR	**Makanchi Array**	**52.32**	**323**	P		**P**		**14 48 13.2**	**+0.3**
MKAR	**Makanchi Array**	**52.32**	**323**	P		**P**		**14 48 12.1**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=121,slow=8.9,SNR=8.2								
	comp=Z,3.7nm,0.8s								
MAKZ	**Makanchi**	**52.51**	**323**	P		**P**		**14 48 14.3**	**0.0**
ZALV	**Zalesovo Beam**	**54.97**	**332**	P		**P**		**14 48 31.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=134,slow=8.5,SNR=4.1								
	comp=Z,1.0nm,0.5s								
KURK	**Kurchatov**	**56.38**	**326**	P		**P**		**14 48 42.3**	**0.0**
KURK				IAmb		IAmb		14 48 43.5	
	comp=Z,7.4nm,0.9s								
KURBB	**Kurchatov Arra**	**56.38**	**326**	P		**P**		**14 48 42.3**	**0.0**
	comp=Z,2.3nm,0.8s,baz=125,slow=6.8,SNR=10								
	comp=Z,2.3nm,0.8s								
GAR	**Garm**	**57.51**	**310**	P		**P**		**14 48 49.1**	**-1.6**
GAR				IAmb		IAmb		14 48 55.2	
	comp=Z,16nm,1.4s								
KKAR	**Karatay Array**	**58.50**	**315**	P		**P**		**14 48 57.2**	**-0.3**
TIXI	**Tiksi**	**61.78**	**1**	P		**P**		**14 49 19.4**	**-0.1**
TIXI				IAmb		IAmb		14 49 20.7	
	comp=Z,7.9nm,1.1s								
BVAR	**Borovoye Array**	**61.97**	**326**	P		**P**		**14 49 21.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=111,slow=7.9,SNR=4.1								
	comp=Z,1.8nm,0.8s								
BILL	**Bilibino**	**63.84**	**16**	P		**P**		**14 49 33.1**	**-0.1**
BILL

comp=Z,1.5nm,0.7s,baz=71,slow=1.6,SNR=2.9
comp=Z,1.5nm,0.7s
O16K Kokwok River B 74.35 31 P **P 14 50 38.0 -0.6**
B22K Teshekpuk Lake 77.56 20 P **P 14 50 56.8 +0.1**
B22K IAmb IAmb 14 51 12.5
comp=Z,8.7nm,1.1s
KBZ Khabaz 78.44 313 P **P 14 51 02.4 +0.3**
comp=Z,1.9nm,0.9s,baz=266,slow=3.6,SNR=3.7
comp=Z,1.9nm,0.9s
C23K Itkillik River 78.48 21 P **P 14 51 02.5 +0.7**
C23K IAmb IAmb 14 51 15.2
comp=Z,4.2nm,0.7s
I23K Minto, Yukon-K 78.81 25 P **P 14 51 03.8 0.0**
MCK McKinley 78.98 27 P **P 14 51 04.0 -0.8**
ILAR Eielson Array 79.86 26 P **P 14 51 08.0 -1.6**
comp=Z,0.8nm,0.9s,baz=253,slow=5.3,SNR=5.4
comp=Z,0.8nm,0.9s
D27M Malcolm River 81.89 21 IAmb IAmb 14 53 46.1
comp=Z,24nm,2.0s
F28M Old Crow 82.48 23 IAmb IAmb 14 51 26.3
comp=Z,4.9nm,0.9s
I28M Miner Creek 82.74 25 IAmb IAmb 14 51 29.6
comp=Z,4.7nm,0.8s
L29M L29M 83.87 27 IAmb IAmb 14 51 33.6
comp=Z,11nm,1.1s
K29M Barlow Dome 84.01 26 IAmb IAmb 14 51 33.7
comp=Z,3.7nm,0.9s
SPITS Spitsbergen Ar 84.42 349 P **P 14 51 33.2 -0.1**
comp=Z,13nm,0.9s,baz=66,slow=4.9,SNR=3.6
comp=Z,13nm,0.9s
HYT Haines Junctio 84.55 29 IAmb IAmb 14 51 36.6
comp=Z,6.1nm,0.9s
ARCES ARCESS Array B 84.57 340 P **P 14 51 34.0 -0.2**
comp=Z,5.0nm,0.8s,baz=83,slow=6.0,SNR=12
comp=Z,5.0nm,0.8s
F31M Tsiigehtchic 84.83 22 IAmb IAmb 14 51 37.1
comp=Z,12nm,1.2s
BRTR Keskin Array B 85.74 309 P **P 14 51 40.1 -0.7**
comp=Z,0.7nm,0.9s,baz=104,slow=5.2,SNR=3.7
comp=Z,0.7nm,0.9s
WHY Whitehorse 85.85 29 IAmb IAmb 14 51 43.0
comp=Z,9.2nm,1.0s
FARO Faro, Yukon 86.21 27 IAmb IAmb 14 51 44.5
comp=Z,10nm,1.0s
FINES FINESS Array B 86.23 332 P **P 14 51 42.2 -0.3**
comp=Z,4.5nm,1.0s,baz=45,slow=4.9,SNR=7.9
comp=Z,4.5nm,1.0s
AKASG Malin Array Be 86.85 321 P **P 14 51 45.8 0.0**
comp=Z,0.2nm,0.3s,baz=61,slow=4.8,SNR=2.7
comp=Z,0.2nm,0.3s
C36M Paulatuk 87.67 20 IAmb IAmb 14 51 51.0
comp=Z,5.3nm,0.8s
HFS Hagfors 92.39 332 P **P 14 52 11.3 -0.3**
comp=Z,4.5nm,1.0s,baz=35,slow=3.6,SNR=4.1
comp=Z,4.5nm,1.0s
YKA Yellowknife Ar 94.18 24 P **P 14 52 19.5 -0.4**
comp=Z,1.8nm,0.8s,baz=298,slow=4.6,SNR=16
comp=Z,1.8nm,0.8s
QSPA South Pole Qui 99.70 180 P **Pdif 14 52 43.9 -0.9**
comp=Z,3.1nm,1.2s,baz=172,slow=7.3,SNR=3.5
comp=Z,3.1nm,1.2s
PLCA Paso Flores 145.84 157 PKPbc **PKPdf 14 58 41.6 +1.2**
comp=Z,2.1nm,0.8s,baz=234,slow=4.4,SNR=4.3

*IDC **10** 14:42:17.8±1.0, 6°.32S×143°.33E, h0km, mb4.2/5, mbtmp4.1/9, ML3.4/2, Error ellipse: s-maj=25.7km s-min=16.9km az=59.0*
*NEIC **10** 14:42:23.9±0.9, 6°.4S±0°.1×143°.0E±0°.1, h35km±2km, mb4.2/10, Error ellipse: s-maj=21.8km s-min=20.5km az=199.0*
ISC 10 14:42:22.9±0.7, **6°.54S**±0°.06×**143°.16E**±0°.08, **h35**km, **n24**, σ1**°72/27**, **mb4.3/5**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.69**	**328**	Pn	**Pn**	**14 43 29.9**	**-1.3**
	1.1nm,0.3s,baz=176,slow=8.8,SNR=6.1						
JAY				Sn	**Sn**	**14 44 27.6**	**+3.1**
	2.3nm,0.3s,baz=274,slow=22,SNR=5.0						
	11nm,0.7s						
PMG	**Port Moresby**	**4.88**	**126**	Pn	**Pn**	**14 43 34.0**	**+0.2**
	15nm,1.1s,baz=16,slow=22,SNR=1.7						
PMG				Sn	**Sn**	**14 44 28.2**	**-1.0**
	0.3nm,0.3s,baz=272,slow=19,SNR=0.9						
PMG				Lg	Lg	14 44 52.3	
	0.9nm,0.3s,baz=339,slow=13,SNR=1.9						
COEN	**Coen**	**7.37**	**180**	Pn	**Pn**	**14 44 11.4**	**+3.3**
SAUI	**Saumlaki**	**11.85**	**262**	Pn	**Pn**	**14 45 09.5**	**+0.1**
MTN	**Manton Dam**	**13.40**	**241**	Pn	**Pn**	**14 45 30.0**	**-0.7**
WR0	**Warramunga Arr**	**15.74**	**211**	Pn	**Pn**	**14 46 03.0**	**+0.9**
WR0				IAmb	IAmb	14 46 32.9	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**15.82**	**212**	Pn	**Pn**	**14 46 04.1**	**+0.9**
WRAB				IAmb	IAmb	14 46 23.4	
	comp=Z,15nm,1.1s						
WB2	**Warramunga Arr**	**15.83**	**212**	Pn	**Pn**	**14 46 04.6**	**+1.3**
WB2				IAmb	IAmb	14 46 43.5	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**15.84**	**212**	Pn	**Pn**	**14 46 04.7**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=1.9						
WRA				Sn	**Sn**	**14 48 55.1**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=34,slow=22,SNR=1.6						
WRA				Lg	Lg	14 50 44.6	
	comp=Z,0.1nm,0.3s,baz=27,slow=30,SNR=4.3						
	comp=Z,0.8nm,0.7s						
KNRA	**Kununurra**	**16.78**	**236**	Pn	**Pn**	**14 46 15.2**	**-0.1**
KNRA				IAmb	IAmb	14 46 39.5	
	comp=Z,36nm,1.4s						
SOEI	**Soe**	**18.97**	**259**	P	**P**	**14 46 39.5**	**-2.0**
SOEI				IAmb	IAmb	14 46 51.6	
	comp=Z,32nm,1.2s						
ASAR	**Alice Springs**	**19.21**	**207**	P	**Pn**	**14 46 47.9**	**+2.8**
	comp=Z,5.7nm,0.6s,baz=32,slow=11,SNR=24						
ASAR				S	**S**	**14 50 15.9**	**-4.0**
	comp=Z,0.8nm,0.9s,baz=15,slow=29,SNR=2.0						
ASAR				Lg	Lg	14 52 36.4	
	baz=18,slow=28,SNR=4.7						
FITZ	**Fitzroy Crossi**	**20.58**	**235**	Pn	Pn	14 47 02.1	+0.8
FITZ	**Fitzroy Crossi**	**20.58**	**235**	P	Pn	14 47 01.7	+0.4
	comp=Z,3.7nm,0.6s,baz=54,slow=16,SNR=2.2						
FITZ				S	**S**	**14 50 48.0**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=59,slow=14,SNR=1.2						
FITZ				Lg	Lg	14 53 16.6	
	comp=Z,0.1nm,0.3s,baz=126,slow=11,SNR=2.8						
	comp=Z,3.7nm,0.6s						
JOW	**Kunigami**	**36.17**	**337**	P	**P**	**14 49 20.8**	**-1.4**
MK31	**Makanchi Array**	**75.52**	**322**	P	**P**	**14 54 03.4**	**-0.4**
MKAR	**Makanchi Array**	**75.52**	**322**	P	**P**	**14 54 03.4**	**-0.4**
MKAR	**Makanchi Array**	**75.52**	**322**	P	**P**	**14 54 03.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=109,slow=7.6,SNR=7.9						
	comp=Z,0.8nm,0.7s						
MAKZ	**Makanchi**	**75.72**	**322**	P	**P**	**14 54 04.6**	**-0.3**
MAKZ				IAmb	IAmb	14 54 14.7	
	comp=Z,6.4nm,1.5s						
KURBB	**Kurchatov Arra**	**79.40**	**324**	P	**P**	**14 54 25.1**	**-0.2**
	comp=Z,1.3nm,0.2s,baz=110,slow=5.3,SNR=7.2						
	comp=Z,1.3nm,0.2s						
QSPA	**South Pole Qui**	**83.43**	**180**	P	**P**	**14 54 47.9**	**+1.2**
QSPA	**South Pole Qui**	**83.43**	**180**	P	**P**	**14 54 47.8**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=203,slow=0.8,SNR=8.2						
	comp=Z,2.5nm,0.9s						
BVAR	**Borovoye Array**	**84.97**	**325**	P	**P**	**14 54 54.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=108,slow=4.8,SNR=5.5						
	comp=Z,1.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**141.50**	**283**	PKP	**PKPdf**	**15 01 52.0**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=56,slow=0.5,SNR=1.7						

*NEIC **10** 14:54:31.1±1.5, 9°.85N±0°.07×126°.3E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=31.2km s-min=5.2km az=249.0*
*IDC **10** 14:54:39.2±5.2, 9°.78N×126°.20E, h81km±45km, mb3.6/11, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=69.2km s-min=16.1km az=69.0*
ISC 10 14:54:30.4±0.6, **9°.88N**±0°.06×**126°.4E**±0°.2, **h10**km, **n35**, σ0**°94/31**, **mb4.3/15**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.91**	**196**	Pg	**Pb**	**14 55 23.3**	**+0.9**
DAV	**Davao City (W)**	**2.91**	**196**	P	**Pb**	**14 55 22.0**	**-0.4**
	46nm,0.3s,baz=260,slow=16,SNR=1.9						
DAV				S	**Sn**	**14 55 54.3**	**+2.4**
	108nm,0.5s,baz=91,slow=15,SNR=1.3						
	130nm,0.4s						
TPUB	**Ta-pu**	**14.44**	**338**	P	**P**	**14 58 01.1**	**-0.7**
QIZ	**Qiongzhong**	**18.41**	**301**	P	**Pn**	**14 58 45.9**	**-0.1**
QIZ				IAmb	IAmb	14 59 17.3	
	comp=Z,43nm,1.3s						
MTN	**Manton Dam**	**23.06**	**168**	P	**P**	**14 59 35.6**	**-0.7**
MTN				IAmb	IAmb	14 59 60.0	
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**25.50**	**175**	P	**P**	**14 59 59.5**	**+0.4**
KNRA				IAmb	IAmb	15 00 35.3	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.81**	**182**	P	**P**	**15 00 19.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.81**	**182**	P	**P**	**15 00 20.1**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=356,slow=6.1,SNR=8.6						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**30.65**	**165**	P	**P**	**15 00 46.0**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=339,slow=10.0,SNR=2.1						
	comp=Z,0.5nm,0.9s						
WB2	**Warramunga Arr**	**30.66**	**165**	P	**P**	**15 00 45.4**	**+0.1**
AS31	**Alice Springs**	**34.14**	**168**	P	**P**	**15 01 14.6**	**-1.2**
ASAR	**Alice Springs**	**34.14**	**168**	P	**P**	**15 01 16.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=348,slow=7.3,SNR=18						
	comp=Z,0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.92**	**73**	T	T	15 45 03.5	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	15 45 04.2	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	15 45 03.3	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**40.26**	**71**	T	T	15 45 32.4	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	15 45 33.2	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	15 45 32.7	
	baz=265,slow=74						
FORT	**Forrest**	**40.46**	**178**	P	**P**	**15 02 08.1**	**-1.2**
FORT				IAmb	IAmb	15 02 41.3	
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**41.42**	**340**	P	**P**	**15 02 17.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=162,slow=9.8,SNR=2.4						
	comp=Z,0.2nm,0.5s						
BBOO	**Buckleboo**	**43.44**	**168**	P	**P**	**15 02 33.2**	**-0.5**
BBOO				IAmb	IAmb	15 02 41.2	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.46**	**191**	P	**P**	**15 02 32.5**	**-1.3**
STKA	**Stephens Creek**	**44.00**	**161**	P	**P**	**15 02 37.3**	**-0.9**
STKA				IAmb	IAmb	15 02 43.8	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**44.00**	**161**	P	**P**	**15 02 37.2**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=346,slow=8.8,SNR=4.4						
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**15 03 42.9**	**-0.1**
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**15 03 43.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=127,slow=7.6,SNR=6.2						
MKAR				PcP	**PcP**	**15 04 53.1**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=104,slow=3.3,SNR=1.3						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.46**	**325**	P	**P**	**15 04 11.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=116,slow=8.6,SNR=1.6						
	comp=Z,0.2nm,0.3s						
F15K	**North Star Dit**	**72.45**	**24**	P	**P**	**15 05 57.7**	**+0.8**
M14K	**Bethel**	**72.49**	**29**	P	**P**	**15 05 57.8**	**+0.7**
BMAR	**Burnt Mountain**	**80.58**	**23**	P	**P**	**15 06 45.0**	**+2.1**
O29M	**Mount Kennedy**	**83.98**	**30**	P	**P**	**15 07 01.8**	**+0.8**
ARCES	**ARCESS Array B**	**84.60**	**340**	P	**P**	**15 07 03.4**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=74,slow=5.0,SNR=1.4						
	comp=Z,3.2nm,0.9s						
FINES	**FINESS Array B**	**86.29**	**332**	P	**P**	**15 07 11.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=59,slow=4.9,SNR=3.4						
	comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**92.45**	**332**	P	**P**	**15 07 42.3**	**+0.8**
	comp=Z,5.1nm,1.1s,baz=54,slow=7.3,SNR=1.2						
	comp=Z,5.1nm,1.1s						
YKA	**Yellowknife Ar**	**94.06**	**24**	P	**P**	**15 07 49.2**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=290,slow=4.8,SNR=2.1						
	comp=Z,0.1nm,0.5s						

*OMAN **10** 14:56:35.9±0.1, 27°.37N×55°.73E, h20km, mb3.8/8, ml4.0/23, Error ellipse: s-maj=1.5km s-min=0.8km az=22.0*
*IDC **10** 14:56:36.1±1.2, 27°.02N×55°.58E, h0km, mb3.7/15, mbtmp3.8/17, ML4.0/2, MS3.7/5, Error ellipse: s-maj=26.2km s-min=18.9km az=1.0*
*TEH **10** 14:56:37.9, 27°.03N×55°.72E, h11km±34km*
*NEIC **10** 14:56:38.0±1.0, 27°.01N±0°.06×55°.58E±0°.08, h10km±1km, mb4.3/27, Error ellipse: s-maj=14.6km s-min=4.5km az=233.0*
*DSN **10** 14:56:39.1±1.3, 27°.05N±0°.03×55°.70E±0°.03, h11km±8km,*
n139, σ1**°61/153**, **mb4.1/26**, **MS4.4/3**, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.84**	**62**	Pg	**Pg**	**14 56 54.2**	**0.0**
SHME	**Shamm**	**1.07**	**158**	P	**Pn**	**14 56 59.5**	**+0.6**
	SNR=59						
SHME				S	**Sn**	**14 57 16.1**	**+2.3**
SHME	**Shamm**	**1.07**	**158**	*eP*	**Pn**	**14 56 59.1**	**+0.2**
	SNR=13						
SHME				S	**Sn**	**14 57 14.8**	**+1.0**
UMQ	**Umm Al-Quwin**	**1.52**	**181**	P	**Pg**	**14 57 07.4**	**+0.3**
UMQ				S	**Sg**	**14 57 31.9**	**+5.1**
UMQ	**Umm Al-Quwin**	**1.52**	**181**	*eP*	**Pg**	**14 57 07.3**	**+0.2**
	SNR=6.7						
MASF	**Masafi**	**1.72**	**166**	P	**Pb**	**14 57 09.7**	**+0.1**
	SNR=37						
MASF				S	**Sg**	**14 57 34.7**	**+1.4**
MSFE	**Esma-Masafi**	**1.73**	**166**	*eP*	**Pb**	**14 57 09.5**	**-0.3**
	SNR=37						
MDH	**Madha**	**1.83**	**163**	P	**Pb**	**14 57 10.7**	**-0.7**
	SNR=36						
MDH				S	**Sg**	**14 57 37.1**	**+0.5**
MDH	**Madha**	**1.83**	**163**	*eP*	**Pb**	**14 57 10.5**	**-0.8**
	SNR=35						
KHNJ	**Kahnooj**	**1.99**	**63**	Pn	**Pb**	**14 57 12.9**	**-1.2**
NAZ	**Nazwa, Dubai**	**2.06**	**181**	P	**Pb**	**14 57 14.5**	**-0.8**
	SNR=11						
NAZ				S	**Sg**	**14 57 43.9**	**0.0**
NAZ	**Nazwa, Dubai**	**2.06**	**181**	*eP*	**Pb**	**14 57 14.0**	**-1.3**
	SNR=11						
UOSS	**Minazif**	**2.15**	**168**		**Pn**	**14 57 14.1**	**+0.5**
UOSS	**Minazif**	**2.15**	**168**	P	**Pb**	**14 57 15.1**	**-1.7**
UOSS				S	**Sg**	**14 57 45.2**	**-1.6**
UOSS	**Minazif**	**2.15**	**168**	*eP*	**Pn**	**14 57 14.3**	**+0.7**
	SNR=32						
HATD	**Hatta, Dubai**	**2.25**	**170**	P	**Pb**	**14 57 17.0**	**-1.6**
	SNR=67						
HATD				S	**Sg**	**14 57 48.7**	**-1.5**
HATD	**Hatta, Dubai**	**2.25**	**170**	*eP*	**Pb**	**14 57 16.8**	**-1.8**
	SNR=68						
LMD1	**Lamerd**	**2.28**	**278**	Pn	**Pb**	**14 57 18.1**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.30**	**183**	P	**Pb**	**14 57 17.7**	**-1.7**
FAQ	**Al Faqa, Dubai**	**2.30**	**183**	P	**Pb**	**14 57 17.8**	**-1.6**
ASHO	**Ashiyiah**	**2.38**	**172**	P	**Pb**	**14 57 18.7**	**-2.1**
	SNR=82						
ASHO	**Ashiyiah**	**2.38**	**172**	*eP*	**Pb**	**14 57 18.7**	**-2.1**
	SNR=82						
ASUD	**Al Ashush, Dub**	**2.44**	**188**	P	**Pb**	**14 57 19.8**	**-1.9**
	SNR=7.8						
AJN	**Ajban**	**2.56**	**195**	P	**Pn**	**14 57 21.2**	**+1.8**
AJN				S	**Sb**	**14 57 56.0**	**+0.6**
AJN	**Ajban**	**2.56**	**195**	P	**Pn**	**14 57 21.3**	**+1.8**
NGRK	**Negar Kerman**	**2.74**	**19**	Pn	**Pn**	**14 57 24.1**	**+1.9**
QIR1	**Qir**	**2.75**	**302**	Pn	**Pn**	**14 57 24.4**	**+2.4**
ALNE	**Al Ain**	**2.98**	**179**	P	**Pn**	**14 57 26.6**	**+1.4**
	SNR=14						
ALNE	**Al Ain**	**2.98**	**179**	*i* P	**Pn**	**14 57 26.0**	**+0.8**
	SNR=11						
SOHO	**SOHO**	**3.00**	**165**	P	**Pn**	**14 57 26.0**	**+0.6**
SOHO	**SOHO**	**3.00**	**165**	*i* P	**Pn**	**14 57 25.4**	**-0.1**
	SNR=8.2						
KRBR	**Kerman**	**3.06**	**17**	Pn	**Pb**	**14 57 29.9**	**-2.7**
CHMN	**Cheshme madani**	**3.23**	**30**	Pn	**Pn**	**14 57 31.5**	**+2.6**
JRN	**Qarnain Island**	**3.32**	**231**	P	**Pn**	**14 57 30.0**	**+0.2**
JRN				S	**Sn**	**14 58 12.0**	**+2.7**
KHGB	**Koh Gabri**	**3.38**	**11**	Pn	**Pn**	**14 57 33.4**	**+2.6**
MZWR	**Madinat Zayed**	**3.67**	**207**	P	**Pn**	**14 57 35.2**	**+0.6**
MZWR				S	**Sn**	**14 58 19.2**	**+1.3**
HOQ	**Hoqain**	**3.75**	**157**	P	**Pn**	**14 57 37.0**	**+1.2**
	SNR=7.5						
ARQ	**Araqi**	**3.77**	**168**	P	**Pn**	**14 57 37.0**	**+0.9**
	SNR=38						
ARQ				S	**Sb**	**14 58 25.6**	**-4.7**
ZRDN	**Zarand Kerman**	**3.97**	**10**	Pn	**Pn**	**14 57 41.8**	**+2.8**
GHWR	**Ruwais**	**4.00**	**220**	P	**Pn**	**14 57 39.0**	**-0.1**
GHWR				S	**Sn**	**14 58 29.9**	**+3.9**
BIDO	**Bidbid**	**4.14**	**148**	P	**Pn**	**14 57 41.5**	**+0.4**
DSBU	**Dashti - Bushe**	**4.15**	**289**	Pn	**Pn**	**14 57 43.3**	**+2.1**
UMZA	**Um Al Zommool**	**4.35**	**187**	P	**Pn**	**14 57 45.2**	**+1.2**
IMEH	**Mehriz**	**4.43**	**348**	Pn	**Pn**	**14 57 48.0**	**+2.8**
BSY	**Bisya**	**4.50**	**162**	P	**Pn**	**14 57 47.8**	**+1.7**
BSY				S	**Sn**	**14 58 42.3**	**+3.8**
MZR	**Muzera**	**4.51**	**207**	P	**Pn**	**14 57 46.7**	**+0.5**
SMDO	**Samad**	**4.51**	**151**	P	**Pn**	**14 57 47.8**	**+1.5**
SMDO				S	**Sn**	**14 58 41.8**	**+3.0**
CHBR	**Chabahar**	**4.53**	**108**	Pn	**Pn**	**14 57 48.1**	**+1.7**
WSAR	**Wadi Sarin**	**4.63**	**144**	Pn	**Pn**	**14 57 48.9**	**+1.0**
	4.7nm,0.3s,baz=312,slow=5.7,SNR=91						
WSAR				Sn	**Sn**	**14 58 39.8**	**-1.9**
	7.5nm,0.3s,baz=182,slow=17,SNR=8.3						
WSAR				LR	LR	15 00 13.5	
	comp=Z,167nm,20.4s,baz=32,slow=47						
	12nm,0.3s						
WSAR	**Wadi Sarin**	**4.63**	**144**	P	**Pn**	**14 57 48.9**	**+1.0**
	SNR=74						
WSAR				S	**Sn**	**14 58 41.6**	**-0.1**
TRNA	**Turayna**	**4.66**	**241**	P	**Pn**	**14 57 48.4**	**+0.3**
TRNA				S	**Sn**	**14 58 42.4**	**+0.1**
SMRA	**Abu-Samra**	**4.96**	**243**	P	**Pn**	**14 57 53.0**	**+0.7**
SMRA				S	**Sn**	**14 58 50.3**	**+0.6**
ZHSF	**Zahedan**	**5.15**	**59**	Pn	**Pn**	**14 57 57.7**	**+2.6**
JMDO	**Jabal Madar**	**5.15**	**154**	P	**Pn**	**14 57 56.5**	**+1.6**
JMDO				S	**Sn**	**14 58 55.8**	**+1.4**
ISAD	**Sadrabad**	**5.15**	**341**	Pn	**Pn**	**14 57 57.7**	**+2.5**
NGCH	**Negor - Chabah**	**5.16**	**108**	Pn	**Pn**	**14 57 56.7**	**+1.5**
ICHK	**Chekchek**	**5.29**	**348**	Pn	**Pn**	**14 57 59.5**	**+2.3**
WBK	**Wadi Bani Khal**	**5.33**	**145**	P	**Pn**	**14 57 58.0**	**+0.6**
	SNR=13						
KLNJ	**Kolanjah**	**5.34**	**319**	Pn	**Pn**	**14 57 59.1**	**+1.2**
IRAM	**Ramesheh**	**5.55**	**329**	Pn	**Pn**	**14 58 02.7**	**+2.0**
NHDN	**Nehbandan**	**5.76**	**40**	Pn	**Pn**	**14 58 06.0**	**+2.6**
JLN	**Jalan Bani Buh**	**5.93**	**145**	P	**Pn**	**14 58 06.1**	**+0.3**
	SNR=44						
SRVN	**Saravan**	**5.97**	**85**	Pn	**Pn**	**14 58 08.7**	**+2.3**
TPRV	**Parvadeh(Tabas**	**6.02**	**8**	Pn	**Pn**	**14 58 10.3**	**+3.4**
IKOO	**Kooshah**	**6.07**	**27**	Pn	**Pn**	**14 58 10.1**	**+2.2**
IBRJ	**Brojen**	**6.20**	**322**	Pn	**Pn**	**14 58 11.7**	**+2.1**
ANAR	**Anarak**	**6.35**	**345**	Pn	**Pn**	**14 58 13.5**	**+1.9**
ITEG	**Tejag**	**6.39**	**24**	Pn	**Pn**	**14 58 15.0**	**+2.8**
ZNGN	**Zangian**	**6.58**	**321**	Pn	**Pn**	**14 58 16.7**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.65**	**10**	Pn	**Pn**	**14 58 17.6**	**+1.8**
AFRZ	**Afriz**	**6.97**	**23**	Pn	**Pn**	**14 58 23.4**	**+3.3**
IPIR	**Pirpir**	**7.00**	**324**	Pn	**Pn**	**14 58 22.0**	**+1.4**
DQM	**DQM**	**7.29**	**166**	P	**Pn**	**14 58 24.2**	**-0.1**
ISFB	**Sefidab**	**7.86**	**339**	Pn	**Pn**	**14 58 34.2**	**+1.9**
TAPT	**Tabas- Tapeh t**	**7.91**	**9**	Pn	**Pn**	**14 58 35.6**	**+2.7**
DOK	**Doka**	**8.52**	**190**	P	**Pn**	**14 58 40.7**	**-0.6**
	SNR=6.2						
IVRN	**Varamin**	**8.62**	**338**	Pn	**Pn**	**14 58 44.4**	**+1.7**
IDMV	**Damavand**	**9.06**	**341**	Pn	**Pn**	**14 58 51.4**	**+2.5**
WHFO	**Wadi Hawf**	**9.26**	**192**	P	**Pn**	**14 58 50.0**	**-1.5**
	SNR=5.6						
DMTO	**DMTO**	**9.32**	**184**	P	**Pn**	**14 58 51.4**	**-0.9**
RBK	**Rabkut**	**9.60**	**189**	P	**Pn**	**14 58 57.0**	**+0.8**
	SNR=7.5						
RAYN	**Ar Rayn**	**9.88**	**251**		**Pn**	**14 58 58.1**	**-1.9**
RAYN	**Ar Rayn**	**9.88**	**251**	P	**Pn**	**14 58 58.0**	**-1.9**
ABTO	**Aybut**	**9.91**	**193**	P	**Pn**	**14 58 58.7**	**-1.6**
	SNR=12						
GNI	**Garni**	**15.92**	**328**	Pn	**Pn**	**15 00 22.4**	**+0.4**
GNI				IAmb	IAmb	15 00 28.8	
	comp=Z,12nm,0.9s						
GNI	**Garni**	**15.92**	**328**	Pn	**P**	**15 00 24.5**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=322,slow=3.8,SNR=5.8						
	comp=Z,9.0nm,0.7s						
MARD	**Mardin**	**16.24**	**313**	P	**P**	**15 00 29.1**	**-0.1**
MARD				IAmb	IAmb	15 00 32.4	
	comp=Z,9.9nm,0.6s						
GAR	**Garm**	**17.06**	**42**		**P**	**15 00 39.5**	**+1.1**
MMAI	**Mount Meron Ar**	**18.54**	**294**	LR	LR	15 09 16.2	
	comp=Z,93nm,20.8s,baz=238,slow=41						
KBZ	**Khabaz**	**19.60**	**331**	P	**Pn**	**15 01 08.8**	**+1.3**
	comp=Z,4.5nm,0.9s,baz=129,slow=6.5,SNR=9.2						
KIV	**Kislovodsk**	**19.88**	**331**	Pn	**Pn**	**15 01 10.9**	**+0.1**
KIV				IAmb	IAmb	15 01 17.6	
	comp=Z,14nm,0.8s						
KK31	**Karatay Array**	**20.03**	**33**	Pn	Pn	15 01 13.6	+1.0
KKAR	**Karatay Array**	**20.03**	**33**	Pn	Pn	15 01 13.6	+1.0
ARSB	**Arslanbob**	**20.12**	**41**	P	**P**	**15 01 12.9**	**+0.9**
AAK	**Ala-Archa**	**21.82**	**40**	P	**P**	**15 01 31.4**	**+1.1**
AAK	**Ala-Archa**	**21.82**	**40**	P	**P**	**15 01 32.0**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=225,slow=8.2,SNR=5.9						
	comp=Z,0.8nm,0.5s						
BR131	**Keskin Array S**	**22.27**	**310**	P	**P**	**15 01 34.9**	**-

C23K				IAmb	IAmb	15 09 32.5	
	comp=Z,8.2nm,1.5s						
E19K	**Redstone River**	**82.60**	**12**	P	**P**	**15 09 01.4**	**+0.6**
E19K				IAmb	IAmb	15 09 25.1	
	comp=Z,5.5nm,1.5s						
SHEM	**Shemya Is, Ala**	**84.19**	**33**	LR	LR	15 48 03.1	
	comp=Z,38nm,18.7s,baz=159,slow=37						
BMAR	**Burnt Mountain**	**84.58**	**8**	P	**P**	**15 09 12.2**	**+1.2**
G31M	**Satah River**	**86.01**	**4**	P	**P**	**15 09 18.2**	**+0.2**
BPAW	**Bear Paw Mtn.**	**86.76**	**11**	P	**P**	**15 09 22.5**	**+0.6**
BPAW				IAmb	IAmb	15 09 43.0	
	comp=Z,4.6nm,1.3s						
ILAR	**Eielson Array**	**86.80**	**9**	P	**P**	**15 09 21.4**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=328,slow=5.7,SNR=4.4						
	comp=Z,0.3nm,0.7s						
SUA	**Susitna One**	**89.23**	**12**	P	**P**	**15 09 34.2**	**+0.4**
WB0	**Warramunga Arr**	**89.28**	**113**	P	**P**	**15 09 32.9**	**-1.6**
YKA	**Yellowknife Ar**	**90.43**	**356**	P	**P**	**15 09 40.3**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=2.3,slow=2.8,SNR=2.3						
	comp=Z,0.1nm,0.4s						

*NEIC **10** 15:14:18.3±1.3, 18°.63N±0°.04×64°.21W±0°.05, h35km±2km, ML2.6/22, Md3.4/7(RSPR), Error ellipse: s-maj=8.0km s-min=7.0km az=312.0*
*RSPR **10** 15:14:19.3, 18°.62N×64°.22W, h40km±30km, MD3.4/7*
*SDD **10** 15:14:22.3±1.2, 18°.47N×64°.72W, h22km±244km, MD3.7, ML2.2, MW2.6*

ISC 10 15:14:13.7±2.0, 18°.6N±0°.2×64°.31W±0°.04, h16km±12km, n37, σ0°.78/38, 4C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.29**	**114**	Pn	**Pg**	**15 14 38.8**	**+0.3**
SABA	**Saba**	**1.39**	**133**	Pn	**Pg**	**15 14 40.5**	**-0.1**
HUMP	**Col San Antoni**	**1.53**	**254**		**Pg**	**15 14 43.7**	**+0.6**
HUMP					**Sg**	**15 15 03.4**	**+0.3**
HUMP	**Col San Antoni**	**1.53**	**254**	IAML		15 15 06.5	
	comp=N,54nm,0.2s						
HUMP	**Col San Antoni**	**1.53**	**254**	⇑*eP*	**Pg**	**15 14 43.7**	**+0.6**
HUMP	**Col San Antoni**	**1.53**	**254**	*eS*	**Sg**	**15 15 03.4**	**+0.3**
GCPR	**Guaynabo City**	**1.71**	**261**	Pn	**Pg**	**15 14 46.7**	**+0.2**
PDPR	**Patillas Dam,**	**1.72**	**251**	Pn	**Pg**	**15 14 46.9**	**0.0**
PDPR	**Patillas Dam,**	**1.72**	**251**	⇑*eP*	**Pg**	**15 14 47.6**	**+0.8**
PDPR	**Patillas Dam,**	**1.72**	**251**	*eS*	**Sb**	**15 15 07.9**	**+1.6**
SJG	**San Juan**	**1.81**	**255**	*e*Pg	**Pg**	**15 14 47.4**	**-1.1**
SJG	**San Juan**	**1.81**	**255**	*eS*	**Sb**	**15 15 10.7**	**+1.8**
IGPR	**InterUniversit**	**1.81**	**251**		**Pg**	**15 14 48.8**	**+0.2**
IGPR					**Sg**	**15 15 11.8**	**-0.4**
IGPR	**InterUniversit**	**1.81**	**251**	IAML		15 15 17.5	
	comp=E,56nm,0.3s						
IGPR				IAML		15 15 19.3	
	comp=N,45nm,0.2s						
IGPR	**InterUniversit**	**1.81**	**251**	⇓*eP*	**Pg**	**15 14 48.8**	**+0.2**
IGPR	**InterUniversit**	**1.81**	**251**	*eS*	**Sg**	**15 15 11.8**	**-0.4**
ECPR	**Experimental S**	**1.97**	**263**	⇑*eP*	**Pg**	**15 14 51.1**	**-0.4**
ECPR	**Experimental S**	**1.97**	**263**	*eS*	**Sb**	**15 15 14.0**	**+0.6**
CELP	**Cerrillos**	**2.21**	**257**		**Pb**	**15 14 53.4**	**0.0**
CELP					**Sb**	**15 15 21.4**	**+0.8**
CELP	**Cerrillos**	**2.21**	**257**	IAML		15 15 46.5	
	comp=N,25nm,2.8s						
CELP				IAML		15 16 01.6	
	comp=E,21nm,2.4s						
CELP	**Cerrillos**	**2.21**	**257**	*e*Pg	**Pb**	**15 14 52.7**	**-0.7**
CELP				*e*Sg	**Sn**	**15 15 16.6**	**-0.2**
CELP				IAML		15 15 23.4	
	comp=N,14nm,1.9s						
CELP	**Cerrillos**	**2.21**	**257**	⇓*eP*	**Pb**	**15 14 53.4**	**0.0**
CELP	**Cerrillos**	**2.21**	**257**	*eS*	**Sb**	**15 15 21.4**	**+0.8**
OBIP	**Obispado Ponce**	**2.25**	**257**	Pn	**Pb**	**15 14 53.8**	**-0.1**
OBIP				IAML		15 16 19.9	
	comp=E,24nm,2.9s						
OBIP				IAML		15 16 21.5	
	comp=N,29nm,2.8s						
AOPR	**Arecibo Observ**	**2.33**	**265**		**Pb**	**15 14 55.5**	**+0.1**
AOPR				IAML		15 15 41.4	
	comp=E,54nm,0.4s						
AOPR	**Arecibo Observ**	**2.33**	**265**	IAML		15 15 15.6	
	comp=N,41nm,1.9s						
AOPR	**Arecibo Observ**	**2.33**	**265**		**Sb**	**15 15 24.3**	**+0.3**
AOPR	**Arecibo Observ**	**2.33**	**265**	*e*Pg	**Pb**	**15 14 55.9**	**+0.5**
AOPR				*e*Sg	**Sn**	**15 15 20.3**	**+0.6**
AOPR				IAML		15 15 42.3	
	comp=N,36nm,1.4s						
AOPR	**Arecibo Observ**	**2.33**	**265**	⇓*eP*	**Pb**	**15 14 55.5**	**+0.1**
AOPR	**Arecibo Observ**	**2.33**	**265**	*eS*	**Sb**	**15 15 24.3**	**+0.3**
MLPR	**Magueyes Islan**	**2.67**	**257**		**Pb**	**15 14 59.9**	**-1.2**
MLPR					**Sb**	**15 15 32.6**	**-1.1**
MLPR	**Magueyes Islan**	**2.67**	**257**	IAML		15 15 37.3	
	comp=E,39nm,2.5s						
MLPR				IAML		15 16 09.7	
	comp=N,27nm,2.6s						
MLPR	**Magueyes Islan**	**2.67**	**257**	⇑*eP*	**Pb**	**15 14 59.9**	**-1.2**
MLPR	**Magueyes Islan**	**2.67**	**257**	*eS*	**Sb**	**15 15 32.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**2.72**	**258**		**Sb**	**15 15 33.9**	**-1.3**
CRPR	**Cabo Rojo, PR**	**2.72**	**258**	Pn	**Pb**	**15 15 01.5**	**-0.5**
CRPR				IAML		15 15 23.7	
	comp=E,33nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.72**	**258**	*eS*	**Sb**	**15 15 33.9**	**-1.3**

*SOME **10** 15:34:27.7, 42°.77N×77°.95E, h20km*
*NNC **10** 15:34:27.5±0.4, 42°.79N×77°.95E, h2km±2km, mb3.1, mpv3.3, Error ellipse: s-maj=3.8km s-min=1.0km az=175.0*
*KRNET **10** 15:34:28.6±0.1, 42°.74N×77°.90E, h24km, mb2.5*
*KNET **10** 15:34:29.3±0.4, 42°.77N×77°.74E, h2km±2km, ml2.2, Error ellipse: s-maj=3.2km s-min=1.8km az=1.0*

ISC 10 15:34:28.4±0.9, 42°.78N±0°.02×77°.96E±0°.02, h13km±7km, n54, σ1°.23/100, 22C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.21**	**272**	⇓*iP*	**Pg**	**15 34 33.6**	**+0.3**
ANVS				⇓*iS*	**Sg**	**15 34 37.4**	**+0.8**
SATY	**Saty**	**0.43**	**49**	P	**Pg**	**15 34 36.7**	**-0.4**
	124nm,0.1s						
SATY				S	**Sg**	**15 34 43.7**	**+0.7**
	295nm,0.1s						
PRZ	**Przheval'sk**	**0.44**	**132**	⇑*iP*	**Pg**	**15 34 37.6**	**+0.4**
PRZ				⇑*iS*	**Sb**	**15 34 44.3**	**-0.4**
ZHN	**Zhinishke**	**0.53**	**42**	P	**Pg**	**15 34 38.2**	**-0.5**
	26nm,0.1s						
ZHN				S	**Sg**	**15 34 45.8**	**0.0**
	237nm,0.2s						
ZHN	**Zhinishke**	**0.53**	**42**	*eP*	**Pg**	**15 34 38.2**	**-0.5**
	26nm,0.1s						
ZHN				*eS*	**Sg**	**15 34 45.8**	**0.0**
	237nm,0.2s						
KURS	**Kuram**	**0.73**	**12**	P	**Pg**	**15 34 41.5**	**-1.0**
	3.0nm,0.1s						
KURS				S	**Sg**	**15 34 51.8**	**-0.4**
	36nm,0.2s						
KOTS	**Kotyrbulak**	**0.77**	**307**	P	**Pg**	**15 34 42.5**	**-0.9**
	24nm,0.2s						
KOTS				S	**Sg**	**15 34 53.3**	**-0.2**
	132nm,0.2s						
KOTS	**Kotyrbulak**	**0.77**	**307**	*eP*	**Pg**	**15 34 42.5**	**-0.9**
	24nm,0.2s						
KOTS				*eS*	**Sg**	**15 34 53.3**	**-0.2**
	132nm,0.2s						
MDOK	**Medeo**	**0.77**	**300**	P	**Pg**	**15 34 42.2**	**-1.2**
	6.2nm,0.4s						
MDOK				Pg	**Pg**	**15 34 42.3**	**-1.2**
	18nm,0.1s						
MDOK				S	**Sg**	**15 34 53.0**	**-0.6**
	47nm,0.4s						
MDOK				Lg	Lg	15 34 53.0	
	105nm,0.3s						
MDOK	**Medeo**	**0.77**	**300**	*eP*	**Pg**	**15 34 42.3**	**-1.2**
	18nm,0.1s						
MDOK				*eS*	**Sg**	**15 34 53.0**	**-0.6**
	105nm,0.3s						
TNSS	**Tian-Shan**	**0.79**	**290**	P	**Pg**	**15 34 42.6**	**-1.2**
	7.6nm,0.2s						
TNSS				S	**Sg**	**15 34 53.6**	**-0.5**
	79nm,0.1s						
TNSS	**Tian-Shan**	**0.79**	**290**	*eP*	**Pg**	**15 34 42.6**	**-1.2**
	7.6nm,0.2s						
TNSS				*eS*	**Sg**	**15 34 53.6**	**-0.5**
	79nm,0.1s						
KNDC	**Almaty**	**0.85**	**301**	⇑S	**Sg**	**15 34 55.8**	**-0.3**
	30nm,0.2s						
KDJ	**Kajisay**	**0.86**	**222**	⇑*iP*	**Pg**	**15 34 44.1**	**-1.1**
KDJ				⇑*iS*	**Sg**	**15 34 55.2**	**-1.4**
UZB	**Uzynbulak**	**0.86**	**64**	P	**Pg**	**15 34 44.0**	**-1.2**
	21nm,0.1s						
UZB				S	**Sg**	**15 34 56.0**	**-0.5**
	32nm,0.1s						
UZB	**Uzynbulak**	**0.86**	**64**	*e*P	**Pg**	**15 34 44.0**	**-1.2**
	21nm,0.1s						
UZB				*e*S	**Sg**	**15 34 56.0**	**-0.5**
	32nm,0.1s						
KPKS	**Kokpek**	**0.87**	**37**	P	**Pg**	**15 34 44.2**	**-1.1**
	54nm,0.1s						
KPKS				S	**Sg**	**15 34 56.3**	**-0.4**
	125nm,0.2s						
KPKS	**Kokpek**	**0.87**	**37**	*e*P	**Pg**	**15 34 44.0**	**-1.2**
	54nm,0.1s						
KPKS				*e*S	**Sg**	**15 34 55.9**	**-0.8**
	125nm,0.2s						
AAA	**Alma-Ata**	**0.88**	**300**	P	**Pg**	**15 34 44.7**	**-0.7**
	74nm,0.1s						
AAA				S	**Sb**	**15 34 57.1**	**-0.1**
	67nm,0.1s						
AAA	**Alma-Ata**	**0.88**	**300**	*e*P	**Pg**	**15 34 44.8**	**-0.7**
	74nm,0.1s						
AAA				*e*S	**Sb**	**15 34 57.1**	**-0.1**
	67nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.05**	**186**	⇓*iP*	**Pb**	**15 34 47.5**	**-1.2**
TARG				⇓*iS*	**Sb**	**15 35 01.3**	**-1.3**
SHLS	**Shalkode**	**1.17**	**71**	P	**Pg**	**15 34 55.5**	**+4.5**
	11nm,0.1s						
SHLS				S	Sn	15 35 15.6	+9.2
	40nm,0.3s						
SHLS	**Shalkode**	**1.17**	**71**	*e*P	**Pg**	**15 34 55.5**	**+4.5**
	11nm,0.1s						
SHLS				*e*S	Sn	15 35 15.6	+9.2
	40nm,0.3s						
MTBS	**Maitube**	**1.18**	**288**	P	**Pb**	**15 34 49.3**	**-1.3**
	2.8nm,0.1s						
MTBS				S	**Sb**	**15 35 05.1**	**-0.7**
	68nm,0.2s						
MTBS	**Maitube**	**1.18**	**288**	*e*P	**Pb**	**15 34 49.3**	**-1.3**
	2.8nm,0.1s						
MTBS				*e*S	**Sb**	**15 35 05.1**	**-0.7**
	68nm,0.2s						
PDGK	**Podgornoye**	**1.25**	**63**	⇓P	**Pn**	**15 34 50.4**	**-1.3**
	6.5nm,0.6s						
PDGK				⇑S	**Sb**	**15 35 07.2**	**-0.8**
	19nm,0.8s						
KTBS	**Karatobe**	**1.32**	**316**	P	**Pn**	**15 34 52.0**	**-0.6**
	9.0nm,0.3s						
KTBS				S	**Sb**	**15 35 09.6**	**-0.3**
	24nm,0.4s						
ULHL	**Ulahol**	**1.38**	**248**	⇑P	**Pn**	**15 34 52.7**	**-0.8**
	9.5nm,0.1s						
ULHL				⇑S	**Sn**	**15 35 11.1**	**-0.5**
	23nm,0.1s						
ULHL	**Ulahol**	**1.38**	**248**	⇓*iP*	**Pn**	**15 34 52.7**	**-0.8**
ULHL				⇓*e*S	**Sn**	**15 35 10.5**	**-1.1**
ARXS	**Arharly**	**1.44**	**356**	P	**Pn**	**15 34 54.3**	**0.0**
	12nm,0.1s						
ARXS				S	**Sb**	**15 35 13.5**	**+0.1**
	48nm,0.2s						
KST	**Kastek**	**1.49**	**281**	P	**Pn**	**15 34 55.1**	**+0.1**
	2.7nm,0.2s						
KST				S	**Sb**	**15 35 14.9**	**+0.1**
	31nm,0.4s						
KST	**Kastek**	**1.49**	**281**	*e*P	**Pn**	**15 34 55.1**	**+0.1**
	2.7nm,0.2s						
KST				*e*S	**Sb**	**15 35 14.9**	**+0.1**
	31nm,0.4s						
BOOM	**Boomskoye usch**	**1.52**	**260**	⇓*e*P	**Pn**	**15 34 55.0**	**-0.4**
BOOM				⇓*e*S	**Sn**	**15 35 14.9**	**-0.2**
DGS	**Degeres**	**1.67**	**287**	P	**Pn**	**15 34 58.2**	**+0.7**
	5.2nm,0.3s						
DGS				S	**Sb**	**15 35 20.2**	**+0.2**
	24nm,0.3s						
TKM2	**Tokmak 2**	**1.74**	**276**	⇑P	**Pb**	**15 34 59.7**	**-0.6**
	3.7nm,0.1s						
TKM2				⇑S	**Sb**	**15 35 22.9**	**+0.7**
	27nm,0.1s						
TKM2	**Tokmak 2**	**1.74**	**276**	⇓P	**Pb**	**15 34 59.6**	**-0.7**
	2.8nm,0.4s						
TKM2				S	**Sb**	**15 35 22.5**	**+0.3**
	8.6nm,0.2s						
TKM2	**Tokmak 2**	**1.74**	**276**	⇑*iP*	**Pn**	**15 34 59.1**	**+0.6**
TKM2				⇑*iS*	**Sn**	**15 35 21.3**	**+0.6**
KNOS	**Konyrlen**	**1.81**	**29**	P	**Pb**	**15 35 00.9**	**-0.7**
	3.4nm,0.2s						
KNOS				S	**Sb**	**15 35 24.8**	**+0.6**
	8.9nm,0.1s						
DJR	**Jarkent**	**2.05**	**40**	Pg	**Pb**	**15 35 04.3**	**-1.2**
	6.5nm,0.3s						
DJR				Lg	Lg	15 35 30.6	
	37nm,0.4s						
DJR	**Jarkent**	**2.05**	**40**	*e*P	**Pb**	**15 35 04.2**	**-1.2**
	6.5nm,0.3s						
DJR				*e*S	**Sb**	**15 35 30.6**	**-0.2**
	37nm,0.4s						
KBK	**Karagaybulak**	**2.22**	**268**	⇑P	**Pb**	**15 35 07.6**	**-0.9**
	6.8nm,0.1s						
KBK				⇑S	**Sb**	**15 35 37.7**	**+1.7**
	22nm,0.3s						
KBK	**Karagaybulak**	**2.22**	**268**	⇓*iP*	**Pn**	**15 35 06.0**	**+0.9**
KBK				⇓*iS*	**Sn**	**15 35 32.8**	**+0.3**
TDK	**Taldyqorghan**	**2.25**	**8**	Pg	**Pb**	**15 35 08.3**	**-0.6**
	9.9nm,0.1s						
TDK				Lg	Lg	15 35 37.5	
	39nm,0.3s						
TDK	**Taldyqorghan**	**2.25**	**8**	*e*P	**Pb**	**15 35 08.3**	**-0.6**
	9.9nm,0.1s						
TDK				*e*S	**Sb**	**15 35 37.5**	**+0.9**
	39nm,0.3s						
SGDS	**Sogindy**	**2.53**	**287**	Pg	**Pb**	**15 35 13.4**	**-0.3**
	1.6nm,0.1s						
SGDS				Lg	Lg	15 35 46.2	
	10nm,0.3s						
AAK	**Ala-Archa**	**2.56**	**268**	⇑P	**Pb**	**15 35 12.6**	**-1.6**
	2.7nm,0.2s						
AAK				⇑S	**Sb**	**15 35 46.1**	**+0.5**
	5.8nm,0.2s						
AAK	**Ala-Archa**	**2.56**	**268**	⇑*iP*	**Pn**	**15 35 10.5**	**+0.8**
AAK				⇑*iS*	**Sn**	**15 35 41.1**	**+0.4**
AML	**Almayashu**	**3.22**	**260**	⇑*iP*	**Pn**	**15 35 20.0**	**+1.0**
AML				⇑*iS*	**Sn**	**15 35 57.2**	**-0.2**
MRKS	**Merke**	**3.48**	**271**	Pg	**Pb**	**15 35 30.7**	**+0.8**
	1.0nm,0.3s						
MRKS				Lg	Lg	15 36 15.9	
	7.1nm,0.2s						
MRKS	**Merke**	**3.48**	**271**	*e*P	**Pb**	**15 35 30.7**	**+0.8**
	1.0nm,0.3s						
MRKS				*e*S	**Sb**	**15 36 15.9**	**+3.7**
	7.1nm,0.2s						
BTLS	**Baital**	**3.62**	**310**	Pg	**Pb**	**15 35 32.8**	**+0.6**
	1.2nm,0.3s						
BTLS				Lg	Lg	15 36 19.6	
	1.1nm,0.2s						
BTLS	**Baital**	**3.62**	**310**	*e*P	**Pb**	**15 35 32.8**	**+0.6**
	1.2nm,0.3s						
BTLS				*e*S	**Sb**	**15 36 19.6**	**+3.5**
	1.1nm,0.2s						
MK31	**Makanchi Array**	**5.06**	**36**	⇓Pn	**Pn**	**15 35 44.1**	**+0.1**
	0.1nm,0.2s,baz=214,slow=12,SNR=11						
MK31				⇑Sn	**Sn**	**15 36 42.6**	**+0.3**
	0.1nm,0.3s,baz=219,slow=23,SNR=4.2						
MK31				⇑Lg	Lg	15 37 06.7	
	0.3nm,0.4s,baz=217,slow=27,SNR=5.4						
KK31	**Karatay Array**	**5.48**	**276**	Pg	**Pb**	**15 36 08.3**	**+4.4**
	0.4nm,0.5s,baz=78,slow=13,SNR=5.7						
KK31				⇓Lg	Lg	15 37 21.0	
	0.7nm,0.4s,baz=89,slow=30,SNR=7.6						

*SDD **10** 15:34:33.0±1.1, 19°.78N×65°.61W, h23km±420km, MD3.7, ML2.5, MW2.7*
*RSPR **10** 15:34:34.6, 18°.89N×64°.50W, h34km±22km, MD3.3/8*

NEIC 10 15:34:34.2±1.1, 18°.8N±0°.2×64°.5W±0°.1, h35km±2km, ML2.5/22, Md3.3/8(RSPR), 16C-3D, Error ellipse: s-maj=35.4km s-min=14.4km az=157.0, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.44**	**241**		Pn	15 34 57.8	0.0
HUMP					Sn	15 35 15.1	-0.4
HUMP	**Col San Antoni**	**1.44**	**241**	IAML		15 35 19.9	
	comp=E,62nm,0.2s						
HUMP				IAML		15 35 20.0	
	comp=N,44nm,0.4s						
HUMP	**Col San Antoni**	**1.44**	**241**	⇑*e*P	Pn	15 34 57.8	0.0
HUMP	**Col San Antoni**	**1.44**	**241**	*e*S	Sn	15 35 15.1	-0.4
GCPR	**Guaynabo City**	**1.57**	**251**		Pn	15 34 58.1	-1.5
GCPR	**Guaynabo City**	**1.57**	**251**		Sn	15 35 18.7	-0.2
GCPR	**Guaynabo City**	**1.57**	**251**	⇑*e*P	Pn	15 34 59.8	+0.1
GCPR	**Guaynabo City**	**1.57**	**251**	*e*S	Sn	15 35 18.7	-0.2
PDPR	**Patillas Dam,**	**1.64**	**240**	Pn	Pn	15 35 00.9	+0.3
PDPR	**Patillas Dam,**	**1.64**	**240**	⇓*e*P	Pn	15 35 00.2	-0.5
PDPR	**Patillas Dam,**	**1.64**	**240**	*e*S	Sn	15 35 21.0	+0.4
SJG	**San Juan**	**1.71**	**245**		Pn	15 35 01.5	0.0
SJG	**San Juan**	**1.71**	**245**	IAML		15 35 32.8	
	comp=N,28nm,0.4s						
SJG	**San Juan**	**1.71**	**245**	⇑*e*P	Pn	15 35 01.5	0.0
SJG	**San Juan**	**1.71**	**245**	*e*S	Sn	15 35 21.9	-0.3
IGPR	**InterUniversit**	**1.74**	**240**		Pn	15 35 02.2	+0.3
IGPR	**InterUniversit**	**1.74**	**240**		Sn	15 35 22.6	-0.3
IGPR	**InterUniversit**	**1.74**	**240**	IAML		15 35 32.0	
	comp=E,58nm,0.6s						
IGPR				IAML		15 35 32.1	
	comp=N,69nm,0.3s						
IGPR	**InterUniversit**	**1.74**	**240**	⇑*e*P	Pn	15 35 02.5	+0.6
IGPR	**InterUniversit**	**1.74**	**240**	*e*S	Sn	15 35 22.6	-0.3
ECPR	**Experimental S**	**1.82**	**254**	⇓*e*P	Pn	15 35 02.5	-0.6
ECPR	**Experimental S**	**1.82**	**254**	*e*S	Sn	15 35 24.8	-0.2
CELP	**Cerrillos**	**2.10**	**249**		Pn	15 35 06.3	-0.6
CELP				IAML		15 35 28.5	
	comp=N,26nm,2.5s						
CELP	**Cerrillos**	**2.10**	**249**		Sn	15 35 31.6	-0.2
CELP	**Cerrillos**	**2.10**	**249**	IAML		15 35 49.8	
	comp=E,27nm,2.3s						
CELP	**Cerrillos**	**2.10**	**249**	⇑*e*Pg	Pn	15 35 06.8	-0.1
CELP				*e*Sg	Sn	15 35 31.0	-0.8
CELP				IAML		15 35 36.7	
	comp=N,25nm,3.1s						
CELP	**Cerrillos**	**2.10**	**249**	⇑*e*P	Pn	15 35 06.8	-0.1
CELP	**Cerrillos**	**2.10**	**249**	*e*S	Sn	15 35 31.6	-0.2
OBIP	**Obispado Ponce**	**2.13**	**248**	Pn	Pn	15 35 06.9	-0.5
OBIP				IAML		15 35 22.6	
	comp=N,22nm,2.5s						
OBIP				IAML		15 35 43.8	
	comp=E,28nm,2.4s						
UUPR	**Utuado, UPR, P**	**2.17**	**255**		Pn	15 35 07.6	-0.2
UUPR					Sn	15 35 34.1	+0.6
UUPR	**Utuado, UPR, P**	**2.17**	**255**	⇓*e*P	Pn	15 35 07.6	-0.2
UUPR	**Utuado, UPR, P**	**2.17**	**255**	*e*S	Sn	15 35 34.1	+0.6
AOPR	**Arecibo Observ**	**2.17**	**257**		Pn	15 35 06.4	-1.5
AOPR	**Arecibo Observ**	**2.17**	**257**	⇑*e*Pg	Pn	15 35 03.0	-5.0
AOPR				IAML		15 35 41.3	
	comp=N,56nm,0.3s						
AOPR	**Arecibo Observ**	**2.17**	**257**	⇑*e*P	Pn	15 35 07.2	-0.7
AGPR	**Aguadilla, PR**	**2.48**	**262**	⇑*e*Pg	Pn	15 35 06.8	-5.4
AGPR				⇑*e*Sg	Sn	15 35 31.3	-10
MLPR	**Magueyes Islan**	**2.55**	**251**		Pn	15 35 11.7	-1.4
MLPR	**Magueyes Islan**	**2.55**	**251**		Sn	15 35 43.3	+0.5
MLPR	**Magueyes Islan**	**2.55**	**251**	IAML		15 36 02.9	
	comp=N,31nm,2.1s						
MLPR				IAML		15 36 22.2	
	comp=E,32nm,2.4s						
MLPR	**Magueyes Islan**	**2.55**	**251**	⇑*e*Pg	Pn	15 35 11.8	-1.3
MLPR				*e*Sg	Sn	15 35 40.3	-2.6
MLPR				IAML		15 36 02.5	
	comp=N,29nm,1.9s						
MLPR	**Magueyes Islan**	**2.55**	**251**	⇑*e*P	Pn	15 35 12.0	-1.0
MLPR	**Magueyes Islan**	**2.55**	**251**	*e*S	Sn	15 35 43.3	+0.5
CRPR	**Cabo Rojo, PR**	**2.59**	**252**		Pn	15 35 13.8	+0.1
CRPR					Sn	15 35 44.4	+0.4
CRPR	**Cabo Rojo, PR**	**2.59**	**252**	IAML		15 36 40.1	
	comp=E,35nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.59**	**252**	⇑*e*Pg	Pn	15 35 11.9	-1.8
CRPR				IAML		15 35 51.6	
	comp=N,43nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.59**	**252**	⇑*e*P	Pn	15 35 13.8	+0.1
CRPR	**Cabo Rojo, PR**	**2.59**	**252**	*e*S	Sn	15 35 44.4	+0.4
ANBD	**Bethesda, Anti**	**3.17**	**124**	*e*P	Pn	15 35 24.5	+2.8
ANBD				*e*S	Sn	15 36 06.8	+8.6
HATOM	**Hato Mayor del**	**4.61**	**270**	⇑*e*Pg	Pn	15 35 36.2	-5.2
HATOM				⇑*e*Sg	Sn	15 36 22.6	-11

*IDC **10** 15:35:01.9±1.0, 9°.74N×126°.15E, h0km, mb3.9/8, mbtmp3.8/8, Error ellipse: s-maj=94.2km s-min=20.7km az=70.0*

ISC 10 15:35:03.4±1.0, 9°.7N±0°.2×126°.1E±0°.5, h10km, n14, σ0°.51/8, mb3.5/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.56**	**165**	P	**P**	**15 41 18.0**	**+0.5**
	0.7nm,1.1s,baz=344,slow=9.0,SNR=18						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**34.04**	**167**	P	**P**	**15 41 47.5**	**-0.4**
	0.2nm,0.5s,baz=346,slow=8.6,SNR=5.0						
	0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	16 25 39.9	
	baz=261,slow=74,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**40.26**	**73**	T	T	16 25 37.1	
	baz=261,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**40.26**	**73**	T	T	16 25 38.4	
	baz=261,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**40.59**	**71**	T	T	16 26 02.7	
	baz=265,slow=75,SNR=10						
H11N2	**WAKE ISLAND Hy**	**40.60**	**71**	T	T	16 26 04.0	
	baz=265,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**40.61**	**71

RTBA	**Rita Blanca**	**1.93 120**		Pb	15 58 03.1	+0.1
RTBA	**Rita Blanca**	**1.93 120**	P	Pb	15 58 03.3	+0.3
RTBA			S	Sg	15 58 29.5	+0.3

MOS ***10*** *15:59:15.7±0.8, 42°.44N×141°.46E, h126km, mb4.4/16, Error ellipse: s-maj=7.1km s-min=5.8km az=110.7*
JMA ***10*** *15:59:16.4±0.1, 42°.4N±0°.4×141°.4E±0°.4, h107km, MV3.5/37, S OFF TOMAKOMAI*
NIED ***10*** *15:59:16.4, 42°.43N×141°.40E, h107km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.79; Mθθ=0.33; Mφφ=1.12; Mrθ=0.66; Mθφ=-0.44; Mφr=-1.24; Fault plane solution: M0=1.77000×10^15 NP1: φs=133.00000°, δ31.00000°, λ=-150.00000°. NP2: φs=18.00000°, δ75.00000°, λ=-63.00000°.*
SKHL ***10*** *15:59:16.1±0.3, 42°.40N×141°.50E, h115km±5km, mb5.0/5, msha6.1/3*
NEIC ***10*** *15:59:16.1±1.6, 42°.44N±0°.06×141°.4E±0°.1, h109km±8km, mb4.4/30, Error ellipse: s-maj=11.8km s-min=8.1km az=113.0*
IDC ***10*** *15:59:16.6±1.1, 42°.48N×141°.41E, h113km±8km, mb3.8/26, mbtmp4.1/32, Error ellipse: s-maj=13.6km s-min=9.6km az=135.0*

ISC 10 15:59:16.2±0.5, 42°.43N±0°.04×141°.44E±0°.04, h112km±3km, n201, σ1§41/227, mb4.3/70, 14C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.30**	**277**	P	**Pn**	**15 59 31.5**	**-0.6**
JNB				S	**Sn**	**15 59 43.0**	**-1.1**
JIAM	**Iburiatsuma**	**0.40**	**62**	P	**Pn**	**15 59 32.7**	**+0.1**
JIAM				*e*S	**Sn**	**15 59 45.4**	**+0.5**
JEW	**Eniwo**	**0.41**	**1**	P	**Pn**	**15 59 32.6**	**0.0**
JEW				S	**Sn**	**15 59 44.5**	**-0.5**
JKB	**Kayabe**	**0.62**	**209**	P	**Pn**	**15 59 33.8**	**-0.3**
JKB				*e*S	**Sn**	**15 59 46.6**	**-0.9**
JBT2	**Biratori 2**	**0.77**	**63**	P	**Pn**	**15 59 35.2**	**0.0**
JISS	**Ishikarishitsu**	**0.84**	**359**	*e*P	**Pn**	**15 59 36.3**	**+0.4**
JISS				*e*S	**Sn**	**15 59 51.1**	**+0.2**
JYM2	**Yakumo 2**	**0.85**	**249**	P	**Pn**	**15 59 35.8**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.99**	**99**	P	**Pn**	**15 59 37.5**	**+0.2**
JSH	**Shimam**	**1.05**	**282**	P	**Pn**	**15 59 37.9**	**-0.1**
JOT	**Ohata**	**1.09**	**196**	P	**Pn**	**15 59 38.4**	**0.0**
JOT				*e*S	**Sn**	**15 59 55.0**	**-0.2**
JFR	**Furan**	**1.12**	**49**	*e*P	**Pn**	**15 59 38.3**	**-0.4**
JHST	**Hiyamasetana**	**1.16**	**270**	P	**Pn**	**15 59 39.0**	**-0.1**
JHR	**Hokuryu**	**1.33**	**9**	*e*P	**Pn**	**15 59 42.0**	**+1.0**
ERM	**Erimo**	**1.34**	**108**	Pn	**Pn**	**15 59 41.9**	**+0.7**
ERM	**Erimo**	**1.34**	**108**	PN	**Pn**	**15 59 41.9**	**+0.7**
JOMM	**Oshimamatsumae**	**1.40**	**230**	*e*P	**Pn**	**15 59 42.1**	**+0.2**
JCH	**Churui**	**1.43**	**82**	P	**Pn**	**15 59 42.5**	**+0.3**
JCH				*e*S	**Sn**	**16 00 02.8**	**+0.7**
JOSM	**Okushiri--Mats**	**1.50**	**257**	P	**Pn**	**15 59 42.8**	**-0.2**
JTM	**Tenmabayashi**	**1.67**	**190**	Pn	**Pn**	**15 59 45.0**	**-0.1**
JKK2	**Kamakawa 2**	**1.73**	**33**	P	**Pn**	**15 59 46.1**	**+0.3**
ASAJ	**Asahikawa**	**1.88**	**26**	P	**Pn**	**15 59 48.2**	**+0.5**
	46nm,0.2s,baz=216,slow=15,SNR=539						
ASAJ				S	**Sn**	**16 00 11.8**	**0.0**
	60nm,0.4s,baz=102,slow=20,SNR=8.5						
JKA	**Kamikawa-asahi**	**1.88**	**26**	Pn	**Pn**	**15 59 48.1**	**+0.4**
JKA	**Kamikawa-asahi**	**1.88**	**26**	*e*P	**Pn**	**15 59 48.3**	**+0.6**
JAR	**Ashorobuto**	**1.92**	**62**	P	**Pn**	**15 59 47.9**	**-0.2**
AKK	**Akkeshi**	**2.58**	**76**	*e*P	**Pn**	**15 59 56.1**	**-0.5**
RUSJ	**Misakicho**	**3.25**	**58**	*e*PN	**Pn**	**16 00 08.9**	**+3.5**
RUSJ				*e*S	**Sn**	**16 00 48.6**	**+5.2**
NMR	**Nemuro--Hokkai**	**3.29**	**72**	⇓*i*PN	**Pn**	**16 00 05.1**	**-0.8**
NMR				*i* S	**Sn**	**16 00 41.0**	**-3.4**
NMR	**Nemuro--Hokkai**	**3.29**	**72**	*e*P	**Pn**	**16 00 05.1**	**-0.8**
NMR				*i* S	**Sn**	**16 00 41.7**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**3.61**	**62**	*e*PN	**Pn**	**16 00 11.1**	**+0.9**
YUK				*e*S	**Sn**	**16 00 52.7**	**+0.7**
YUK				pmax	pmax		
	comp=Z,152nm,0.2s						
YUK				pmax	pmax		
	comp=N,19nm,0.1s						
YUK				pmax	pmax		
	comp=E,29nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.61**	**62**	*e*P	**Pn**	**16 00 11.1**	**+0.9**
YUK				AMB	AMB	16 00 13.5	
	comp=N,150nm,0.2s						
YUK				*e*S	**Sn**	**16 00 52.5**	**+0.5**
YUK				A	A	16 00 54.7	
	comp=N,1μm,0.4s						
YUK				A	A	16 00 54.7	
	comp=N,1μm,0.4s						
SHO	**Shikotan**	**4.20**	**68**	*c i*PN	**Pn**	**16 00 17.5**	**-0.6**
SHO				*i* S	**Sn**	**16 01 02.3**	**-3.9**
SHO				pmax	pmax		
	comp=Z,137nm,0.3s						
SHO				pmax	pmax		
	comp=N,47nm,0.2s						
SHO				smax	smax		
	comp=E,640nm,0.3s						
SHO				smax	smax		
	comp=N,170nm,0.1s						
SHO	**Shikotan**	**4.20**	**68**	*e*P	**Pn**	**16 00 17.3**	**-0.8**
SHO				AMB	AMB	16 00 18.3	
	comp=N,140nm,0.3s						
SHO				*i* S	**Sn**	**16 01 02.9**	**-3.3**
SHO				A	A	16 01 04.2	
	comp=N,170nm,0.3s						
SHO				A	A	16 01 04.2	
	comp=N,640nm,0.3s						
TEY	**Ternei**	**4.36**	**308**	⇑*e*PN	**Pn**	**16 00 20.9**	**+0.6**
TEY				*e*		16 01 09.7	
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
TEY				pmax	pmax		
	comp=E,30nm,0.9s						
TEY				pmax	pmax		
	comp=Z,40nm,0.9s						
TEY	**Ternei**	**4.36**	**308**	*e*P	**Pn**	**16 00 20.9**	**+0.6**
TEY				AMB	AMB	16 00 21.9	
	comp=Z,40nm,0.9s						
TEY				*e*S	**Sn**	**16 01 09.7**	**-0.5**
JMM	**Marumori**	**4.59**	**186**	Pn	**Pn**	**16 00 22.5**	**-0.9**
YSS	**Yuzhno-Sakhali**	**4.62**	**11**	Pn	**Pn**	**16 00 24.0**	**+0.3**
YSS	**Yuzhno-Sakhali**	**4.62**	**11**	⇑*e*PN	**Pn**	**16 00 25.4**	**+1.7**
YSS				*e*S	**Sn**	**16 01 17.2**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,30nm,1.2s						
YSS				smax	smax		
	comp=E,20nm,1.0s						
YSS	**Yuzhno-Sakhali**	**4.62**	**11**	*e*P	**Pn**	**16 00 25.4**	**+1.7**
YSS				*e*S	**Sn**	**16 01 17.2**	**+1.0**
KUR	**Kuril'sk**	**5.43**	**57**	*e*PN	**Pn**	**16 00 36.2**	**+1.5**
KUR				*e*S	**Sn**	**16 01 37.9**	**+2.1**
KUR	**Kuril'sk**	**5.43**	**57**	*i* P	**Pn**	**16 00 35.4**	**+0.7**
KUR				AMB	AMB	16 00 37.9	
	comp=E,80nm,0.8s						
KUR				*e*S	**Sn**	**16 01 36.0**	**+0.2**
KUR				A	A	16 01 44.6	
	comp=E,70nm,0.3s						
KUR				A	A	16 01 44.6	
	comp=E,60nm,0.3s						
MJB9	**Matsu-Tunnel**	**6.39**	**204**		**Pn**	**16 00 49.2**	**+1.4**
MAJO	**Matsushiro**	**6.39**	**204**		**Pn**	**16 00 48.6**	**+0.7**
MAJO	**Matsushiro**	**6.39**	**204**	*i* PN	**Pn**	**16 00 49.4**	**+1.6**
MJAR	**Matsushiro Arr**	**6.39**	**204**	P	**Pn**	**16 00 48.3**	**+0.5**
	comp=E,1.6nm,0.5s,baz=24,slow=14,SNR=11						
VLA	**Vladivostok**	**7.06**	**279**	*i* PN	**Pn**	**16 00 58.3**	**+1.5**
VLA				pmax	pmax		
	comp=Z,26nm,0.5s						
USA0B	**Ussuriysk Arra**	**7.12**	**288**	Pn	**Pn**	**16 00 58.3**	**+0.8**
USA0B	**Ussuriysk Arra**	**7.12**	**288**	PN	**Pn**	**16 00 58.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**7.12**	**288**	P	**Pn**	**16 00 58.6**	**+1.1**
	comp=Z,8.2nm,0.8s,baz=102,slow=14,SNR=16						
PSTR	**Posyet**	**7.86**	**275**	*i* PN	**Pn**	**16 01 10.0**	**+2.4**
PSTR	**Posyet**	**7.86**	**275**	*e*P	**Pn**	**16 01 10.0**	**+2.4**
TYV	**Tymovskoe**	**8.47**	**5**	*e*PN	**Pn**	**16 01 20.4**	**+4.5**
TYV				pmax	pmax		
	comp=Z,300nm,4.9s						
TYV				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TYV	**Tymovskoe**	**8.47**	**5**	*e*P	**Pn**	**16 01 17.0**	**+1.1**
TYV				*e*S	**Sn**	**16 02 48.7**	**-1.0**
MDJ	**Mudanjiang**	**8.88**	**288**	Pn	**Pn**	**16 01 21.3**	**-0.1**
MDJ	**Mudanjiang**	**8.88**	**288**	P	**Pn**	**16 01 22.8**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR	**Gornyy**	**9.02**	**339**	⇑*i*PN	**Pn**	**16 01 24.2**	**+0.8**
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GRNR				MLR	MLR		
	comp=E,120nm,15.0s						
GRNR	**Gornyy**	**9.02**	**339**	*e*P	**Pn**	**16 01 24.2**	**+0.8**
KLR	**Kul'dur**	**9.58**	**318**	P	**Pn**	**16 01 32.2**	**+1.3**
	comp=E,22nm,0.8s,baz=131,slow=13,SNR=71						
BNX	**BinXian**	**10.62**	**293**	⇑P	**Pn**	**16 01 45.8**	**+0.8**
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
NKL	**Nikolayevsk**	**10.73**	**358**	*e*P	**Pn**	**16 01 46.1**	**-0.4**
NKL				*e*S	**Sn**	**16 03 40.8**	**-3.7**
OKH	**Okha**	**11.17**	**5**	*e*P	**Pn**	**16 01 51.8**	**-0.5**
KSRS	**Korea Array**	**11.50**	**249**	P	**Pn**	**16 01 58.4**	**+1.5**
	comp=Z,1.3nm,0.8s,baz=58,slow=13,SNR=5.6						
CN2	**Changchun**	**11.77**	**282**	P	**Pn**	**16 01 58.5**	**-1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA	**Zeya**	**14.72**	**325**	*e*P	**Pn**	**16 02 37.5**	**-1.1**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA	**Zeya**	**14.72**	**325**	*e*P	**Pn**	**16 02 37.8**	**-0.8**
PETK	**Petropavlovsk-**	**15.24**	**40**	P	**Pn**	**16 02 43.5**	**-1.7**
	comp=Z,4.8nm,0.9s,baz=204,slow=7.6,SNR=8.7						
HIA	**Hailar**	**16.56**	**302**		**Pn**	**16 03 00.5**	**-1.0**
HIA	**Hailar**	**16.56**	**302**	P	**Pn**	**16 03 00.5**	**-1.0**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MA2	**Magadan**	**18.11**	**15**	P	**P**	**16 03 17.1**	**-1.9**
MA2	**Magadan**	**18.11**	**15**	P	**P**	**16 03 17.3**	**-1.7**
	comp=Z,4.6nm,0.6s,baz=203,slow=8.0,SNR=14						
MA2	**Magadan**	**18.11**	**15**	*c e*P	**Pn**	**16 03 20.6**	**+0.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MA2	**Magadan**	**18.11**	**15**	P	**P**	**16 03 18.1**	**-0.9**
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**18.11**	**15**	*e*P	**Pn**	**16 03 20.6**	**+0.5**
XLT	**XiLinHaoTe**	**18.54**	**283**	*e*P	**P**	**16 03 22.4**	**-1.6**
XLT				pmax	pmax		
	comp=Z,11nm,1.1s						
BJT	**Baijiatuau**	**19.14**	**271**	P	**P**	**16 03 29.1**	**-1.4**
BJT	**Baijiatuau**	**19.14**	**271**	P	**P**	**16 03 29.1**	**-1.4**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIA	**Tai'an**	**19.78**	**260**	P	**P**	**16 03 35.4**	**-2.0**
TIA				pmax	pmax		
	comp=Z,16nm,0.6s						
YAK	**Yakutsk**	**20.84**	**344**	P	**P**	**16 03 45.4**	**-3.2**
YAK				IAmb	IAmb	16 03 46.7	
	comp=Z,12nm,0.8s						
YAK	**Yakutsk**	**20.84**	**344**	P	**P**	**16 03 45.5**	**-3.2**
	comp=Z,11nm,0.7s,baz=325,slow=0.8,SNR=7.1						
YAK	**Yakutsk**	**20.84**	**344**	*e*P	**P**	**16 03 45.4**	**-3.2**
YAK				*e*S	**S**	**16 07 32.0**	**-2.6**
YAK				*e**SS	**sS**	**16 08 07.7**	**-1.7**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
YAK				smax	smax		
	comp=E,119nm,3.7s						
YAK				smax	smax		
	comp=N,55nm,5.4s						
SEY	**Seymchan**	**21.52**	**14**	P	**P**	**16 03 53.8**	**-2.1**
	comp=N,1.8nm,0.6s,baz=181,slow=8.6,SNR=16						
	comp=N,1.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**22.33**	**276**	*e*P	**P**	**16 04 04.8**	**+0.1**
LYN	**LuoYang**	**23.92**	**260**	*e*P	**P**	**16 04 19.6**	**-0.1**
LYN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**24.71**	**295**	P	**P**	**16 04 25.8**	**-1.1**
ULN	**Ulaanbaatar**	**24.71**	**295**	*c e*P	**P**	**16 04 27.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**24.71**	**295**	*e*P	**P**	**16 04 27.0**	**0.0**
SONM	**Songino Array**	**25.16**	**294**	P	**P**	**16 04 30.2**	**-0.8**
SONM				IAmb	IAmb	16 04 32.4	
	comp=Z,8.5nm,0.9s						
SONM	**Songino Array**	**25.16**	**294**	P	**P**	**16 04 30.9**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=83,slow=8.3,SNR=48						
	comp=Z,7.8nm,0.9s						
SONM	**Songino Array**	**25.16**	**294**	P	**P**	**16 04 30.2**	**-0.8**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN	**Xi'an**	**26.75**	**263**	P	**P**	**16 04 44.9**	**-0.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZAK	**Zakamensk**	**27.24**	**300**	*e*P	**P**	**16 04 48.0**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MOY	**Mondy**	**28.74**	**303**	*e*P	**P**	**16 05 02.8**	**-0.1**
MOY				pmax	pmax		
	comp=Z,22nm,1.5s						
LZH	**Lanzhou**	**29.61**	**270**	*e*P	**P**	**16 05 10.6**	**-0.3**
LZH				sP	pP	16 05 41.8	+6.3
LZH				pmax	pmax		
	comp=Z,9.0nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**31.21**	**129**	T	T	16 37 24.6	
	baz=326,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**31.22**	**129**	T	T	16 37 29.5	
	baz=326,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**31.23**	**129**	T	T	16 37 25.0	
	baz=326,slow=75,SNR=18						
GTA	**Gaotai**	**31.37**	**279**	*e*P	**P**	**16 05 25.8**	**-0.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**32.07**	**130**	T	T	16 38 33.1	
	baz=328,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**32.07**	**130**	T	T	16 38 32.9	
	baz=328,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**32.08**	**130**	T	T	16 38 32.6	
	baz=328,slow=76,SNR=21						
PZH	**PanZhiHua**	**36.02**	**257**	P	**P**	**16 06 07.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ZAA0	**Zalesovo Array**	**38.46**	**307**	P	**P**	**16 06 26.6**	**-0.2**
ZALV	**Zalesovo Beam**	**38.46**	**307**	P	**P**	**16 06 26.5**	**-0.3**
	comp=Z,20nm,0.9s,baz=87,slow=8.0,SNR=47						
ZALV				PcP	**PcP**	**16 08 37.8**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=90,slow=1.7,SNR=5.8						
	comp=Z,20nm,0.9s						
WMQ	**Urumqi**	**38.67**	**291**	*e*P	**P**	**16 06 31.9**	**+3.1**
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s						
MK31	**Makanchi Array**	**41.47**	**297**	P	**P**	**16 06 51.5**	**-0.4**
MK31				IAmb	IAmb	16 06 52.5	
	comp=Z,4.9nm,0.9s						
MK31	**Makanchi Array**	**41.47**	**297**	P	**P**	**16 06 51.5**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**41.47**	**297**	P	**P**	**16 06 51.1**	**-0.7**
MKAR	**Makanchi Array**	**41.47**	**297**	P	**P**	**16 06 51.5**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=83,slow=9.7,SNR=37						
MKAR				PcP	**PcP**	**16 08 47.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=71,slow=5.1,SNR=5.4						
MKAR				ScP	**ScP**	**16 12 27.2**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=52,slow=2.4,SNR=1.4						
	comp=Z,3.2nm,0.8s						
MAKZ	**Makanchi**	**41.67**	**297**	P	**P**	**16 06 53.1**	**-0.4**
MAKZ				IAmb	IAmb	16 06 55.4	
	comp=Z,7.3nm,0.8s						
MAKZ	**Makanchi**	**41.67**	**297**	P	**P**	**16 06 53.1**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PHRA	**Phrae**	**42.22**	**248**	P	**P**	**16 06 59.0**	**+0.7**
KURK	**Kurchatov**	**42.78**	**304**	P	**P**	**16 07 01.7**	**-0.6**
KURK	**Kurchatov**	**42.78**	**304**	*c e*P	**P**	**16 07 02.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,19nm,0.8s						
KURK	**Kurchatov**	**42.78**	**304**	*e*P	**P**	**16 07 02.3**	**-0.1**
KURBB	**Kurchatov Arra**	**42.86**	**304**	P	**P**	**16 07 02.7**	**-0.3**
	comp=Z,13nm,0.6s,baz=78,slow=8.8,SNR=68						
KURBB				PcP	**PcP**	**16 08 51.9**	**0.0**
	comp=Z,0.9nm,0.9s,baz=85,slow=3.1,SNR=2.9						
	comp=Z,13nm,0.6s						
CHTO	**Chiang Mai**	**42.90**	**250**	P	**P**	**16 07 03.6**	**-0.1**
CHTO	**Chiang Mai**	**42.90**	**250**	P	**P**	**16 07 03.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.14**	**250**	P	**P**	**16 07 06.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=44,slow=7.3,SNR=11						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**45.00**	**35**	P	**P**	**16 07 20.4**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=270,slow=8.6,SNR=11						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**47.08**	**309**	P	**P**	**16 07 36.5**	**+0.1**
	comp=Z,6.9nm,0.4s,baz=75,slow=8.5,SNR=41						
BVAR				PcP	**PcP**	**16 09 06.9**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=18,slow=4.3,SNR=4.0						
	comp=Z,6.9nm,0.4s						
BRVK	**Borovoye**	**47.13**	**309**	P	**P**	**16 07 36.8**	**0.0**
BRVK				IAmb	IAmb	16 07 37.8	
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**47.13**	**309**	*c e*P	**P**	**16 07 37.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,14nm,1.7s						
BRVK	**Borovoye**	**47.13**	**309**	*e*P	**P**	**16 07 37.1**	**+0.3**
AAK	**Ala-Archa**	**48.11**	**294**	P	**P**	**16 07 44.5**	**-0.2**
AAK	**Ala-Archa**	**48.11**	**294**	*c e*P	**P**	**16 07 44.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
AAK	**Ala-Archa**	**48.11**	**294**	*e*P	**P**	**16 07 44.9**	**+0.2**
KSH	**Kashi**	**48.41**	**290**	P	P	16 07 52.4	+5.4
ARSB	**Arslanbob**	**49.69**	**293**	IAmb	IAmb	16 07 58.0	
	comp=Z,2.6nm,0.7s						
KK31	**Karatay Array**	**50.59**	**296**	IAmb	IAmb	16 08 03.7	
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**50.59**	**296**	P	**P**	**16 08 02.4**	**-0.9**
KKAR	**Karatay Array**	**50.59**	**296**	IAmb	IAmb	16 08 03.6	
	comp=Z,2.6nm,0.7s						
KKAR	**Karatay Array**	**50.59**	**296**	P	**P**	**16 08 02.4**	**-0.9**
SVE	**Sverdlovsk**	**51.20**	**316**	*e*P	**P**	**16 08 08.1**	**+0.4**
A36M	**Sachs Harbour**	**51.27**	**23**	P	**P**	**16 08 08.2**	**+0.2**
A36M				IAmb	IAmb	16 08 10.8	
	comp=Z,4.3nm,0.9s						
ARTI	**Arti**	**52.52**	**316**	P	**P**	**16 08 16.4**	**-1.1**
ARTI	**Arti**	**52.52**	**316**	*c i*P	**P**	**16 08 17.6**	**+0.1**
ARTI				*PP	**pP**	**16 08 48.0**	**+3.9**
ARTI						16 09 24.3	
ARTI						16 10 12.9	
ARTI				S	**S**	**16 15 37.9**	**+2.6**
ARTI				SS	**SS**	**16 19 16.7**	**+2.5**
ARTI				pmax	pmax		
	comp=Z,11nm,0.9s						
GAR	**Garm**	**52.56**	**292**	IAmb	IAmb	16 08 19.7	
	comp=Z,6.1nm,0.8s						
SIMJ	**Simiganj**	**53.62**	**292**	P	**P**	**16 08 25.1**	**-0.9**
ABKAR	**Akbulak array**	**54.58**	**307**	P	**P**	**16 08 31.9**	**-0.7**
ABKAR	**Akbulak array**	**54.58**	**307**	IAmb	IAmb	16 08 33.0	
	comp=Z,5.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**55.24**	**348**	P	**P**	**16 08 37.2**	**+0.2**
	comp=Z,8.6nm,0.9s,baz=134,slow=4.2,SNR=1.9						
	comp=Z,8.6nm,0.9s						
KIRV	**Kirov**	**56.02**	**321**	*c e*P	**P**	**16 08 43.7**	**+1.0**
RES	**Resolute Bay**	**57.38**	**15**	P	**P**	**16 08 51.3**	**-0.9**
RES	**Resolute Bay**	**57.38**	**15**	P	**P**	**16 08 51.3**	**-0.9**
RES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARCES	**ARCESS Array B**	**58.97**	**338**	P	**P**	**16 09 02.9**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=56,slow=4.9,SNR=3.9						
	comp=Z,3.1nm,0.9s						
YKA	**Yellowknife Ar**	**59.17**	**32**	P	**P**	**16 09 05.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=299,slow=7.7,SNR=4.1						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**59.17**	**32**	P	**P**	**16 09 05.0**	**+0.2**
WRA	**Warramunga Arr**	**62.41**	**188**	P	**P**	**16 09 26.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=4.2,slow=6.9,SNR=8.5						
	comp=Z,0.3nm,0.5s						
OBN	**Obninsk**	**63.83**	**322**	⇑*i*P	**P**	**16 09 35.9**	**-0.2**
OBN				*e**PP	**pP**	**16 10 04.9**	**+1.1**
OBN						16 10 11.0	
OBN				*SP	**sP**	**16 10 17.0**	**+1.0**
OBN						16 12 02.0	
OBN				*e*S	**S**	**16 18 03.9**	**+1.7**
OBN				*e*		16 18 29.0	
OBN						16 19 08.0	
OBN				SS	**SS**	**16 22 19.0**	**+7.6**
OBN				pmax	pmax		
	comp=Z,37nm,1.6s						
OBN				MLR	MLR		
	comp=Z,61nm,15.0s						
OBN	**Obninsk**	**63.83**	**322**	*e*P	**P**	**16 09 35.9**	**-0.2**
FINES	**FINESS Array B**	**64.07**	**331**	P	**P**	**16 09 37.1**	**-0.6**
	comp=Z,4.5nm,0.5s,baz=54,slow=7.5,SNR=29						
	comp=Z,4.5nm,0.5s						
FINES	**FINESS Array B**	**64.07**	**331**	*i* P	**P**	**16 09 37.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SUMG	**Summit**	**65.29**	**360**	P	**P**	**16 09 46.5**	**+0.6**
SUMG				IAmb	IAmb	16 09 47.0	
	comp=Z,4.2nm,0.6s						
SUMG	**Summit**	**65.29**	**360**	P	**P**	**16 09 46.5**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKT	**Akhty**	**65.94**	**305**	*e*P	**P**	**16 09 50.1**	**-0.2**
AKT				*e*		16 10 19.3	
AKT				*e**SP	**sP**	**16 10 30.8**	**+0.6**
AKT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ASAR	**Alice Springs**	**66.14**	**188**	P	**P**	**16 09

comp=Z,1.6nm,0.7s,baz=28,slow=6.9,SNR=2.5
comp=Z,1.6nm,0.7s
GERES GERESS Array B 78.15 328 P **P 16 11 02.8 -0.1**
comp=Z,0.3nm,0.4s,baz=113,slow=7.6,SNR=1.7
comp=Z,0.3nm,0.4s
RDO Rodhopi 78.67 316 P **P 16 11 06.4 +0.6**
RDO IAmb IAmb 16 11 07.3
comp=Z,5.5nm,1.0s
MOA Molln 78.72 327 *i* PcP **PcP 16 11 11.9 -2.5**
comp=Z,8.8nm,1.7s
MMAI Mount Meron Ar 78.89 305 P **P 16 11 07.9 +0.7**
comp=Z,3.5nm,0.6s,baz=7.8,slow=6.7,SNR=5.2
comp=Z,3.5nm,0.6s
SOKA Soboth 79.34 326 *e*P **P 16 11 09.9 +0.5**
comp=Z,3.8nm,0.9s
LESA Schwarzleotal 79.70 327 *e*P **P 16 11 06.7 -4.7**
comp=Z,6.4nm,1.5s
WATA Walderalm 80.21 328 *i* P **P 16 11 15.4 +1.2**
comp=Z,6.3nm,1.1s
WTTA Wattenberg 80.24 328 *e*P **P 16 11 15.3 +0.9**
comp=Z,1.9nm,0.5s
MOTA Moosalm 80.39 328 *e*P **P 16 11 14.0 -1.2**
comp=Z,6.2nm,1.1s
SQTA Sankt Quirin 80.45 328 *e*P **P 16 11 12.6 -2.8**
comp=Z,7.2nm,1.6s
FETA Feichten 80.80 328 *i* PcP **P 16 11 19.9 +2.6**
comp=Z,4.5nm,1.2s
DAVA Damuels 80.91 329 *e*P **P 16 11 18.4 +0.4**
comp=Z,16nm,1.5s
FUORN Ofenpass-Fuorn 81.31 328 P **P 16 11 20.4 +0.1**
FUORN IAmb IAmb 16 11 22.9
comp=Z,3.5nm,0.8s
SBM South Baldy 81.39 52 P **P 16 11 21.0 -0.1**
TXAR Lajitas Array 86.82 52 P **P 16 11 50.0 +1.7**
comp=Z,0.1nm,0.4s,baz=330,slow=5.0,SNR=2.2
comp=Z,0.1nm,0.4s
TXAR Lajitas Array 86.82 52 P **P 16 11 50.0 +1.7**
ESDC Sonseca Array 92.45 334 P **P 16 12 14.2 -0.2**
comp=Z,0.9nm,0.7s,baz=41,slow=2.7,SNR=4.6
comp=Z,0.9nm,0.7s

---

*PDG **10** 16:13:02.6±0.6, 43°.37N×17°.78E, h10km±1km, ML2.6/10, Error ellipse: s-maj=1.7km s-min=2.9km az=0.0*
*RHSSO **10** 16:13:04.1±0.2, 43°.39N×17°.88E, h8km±2km, ML2.3/9*
*BEO **10** 16:13:04.2±0.3, 43°.39N×17°.81E, h1km±2km, ML2.0/11*
ISC 10 16:13:03.0±1.0, 43°.40N±0°.02×17°.86E±0°.01, h13km±9km, n48, σ1§17/94, 9C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALIN	**Kalinovik**	**0.44**	**76**	⇑*i*Pg	**Pg**	**16 13 11.3**	**-0.5**
KALIN				*e*Sg	**Sb**	16 13 19.0	-0.2
STON	**Ston**	**0.54**	**193**	⇓*i*Pg	**Pb**	16 13 13.4	-0.8
STON				*e*Sg	**Sb**	16 13 21.7	-0.2
STON	**Ston**	**0.54**	**193**	*i* Pg	**Pb**	16 13 13.5	-0.8
STON				Sg	**Sb**	16 13 22.0	+0.1
STON	**Ston**	**0.54**	**193**	*e*Pg	**Pg**	16 13 13.3	-0.3
STON				*e*Sg	**Sb**	16 13 21.8	-0.2
RICI	**Ricice**	**0.54**	**281**	*i* Pg	**Pb**	16 13 14.3	0.0
RICI				Sg	**Sn**	16 13 23.6	-1.8
KLINJ	**Klinje**	**0.57**	**113**	*e*Pg	**Pb**	16 13 14.3	-0.7
KLINJ				*e*Sg	**Sb**	16 13 23.1	0.0
MAKA	**Makarska**	**0.62**	**260**	*i* Pg	**Pb**	16 13 15.5	-0.3
MAKA				Sg	**Sb**	16 13 25.4	+1.0
BRY	**Bratogost**	**0.70**	**135**	⇓*i*Pg	**Pb**	16 13 16.2	-0.9
BRY				*e*Sg	**Sb**	16 13 27.2	+0.5
BRY	**Bratogost**	**0.70**	**135**	⇑*i*Pg	**Pb**	16 13 16.3	-0.9
BRY				*i* Sg	**Sb**	16 13 27.3	+0.5
DBRK	**Dubrovnik**	**0.76**	**164**	*e*Pg	**Pb**	16 13 17.9	-0.2
DBRK				Sg	**Sn**	16 13 29.1	-1.6
LSTV	**Lastovo**	**0.95**	**229**	*e*Pg	**Pb**	16 13 20.8	-0.5
LSTV				Sg	**Sn**	16 13 34.6	-0.8
NKME	**Niksic**	**1.02**	**128**	⇓*i*Pg	**Pg**	16 13 21.4	-1.2
NKME				*i* Sg	**Sn**	16 13 38.9	+1.7
HAPS	**Han Pijesak,BI**	**1.05**	**48**	*e*Pg	**Pn**	16 13 23.9	+0.4
HAPS				*e*Sg	**Sn**	16 13 38.2	+0.1
HVAR	**Hvar**	**1.05**	**259**	*e*Pg	**Pn**	16 13 23.3	-0.2
HVAR				Sg	**Sn**	16 13 38.1	+0.1
HCY	**Herceg Novi**	**1.06**	**154**	⇓*i*Pg	**Pb**	16 13 22.6	-0.5
HCY				*e*Sg	**Sb**	16 13 37.0	+0.1
HCY	**Herceg Novi**	**1.06**	**154**	⇑*i*Pg	**Pb**	16 13 22.1	-1.0
HCY				*i* Sg	**Sn**	16 13 38.9	+0.8
RUDO	**Rudo**	**1.12**	**78**	*e*Pg	**Pn**	16 13 24.0	-0.4
RUDO				*e*Sg	**Sn**	16 13 38.9	-0.8
CEME	**Cevo**	**1.15**	**137**	⇓*i*Pg	**Pb**	16 13 23.9	-0.9
CEME				*i* Sg	**Sn**	16 13 42.2	+1.7
BBLS	**Lazi&#263i**	**1.22**	**67**	*e*Pg	**Pg**	16 13 26.2	-0.2
BBLS				*e*Sg	**Sn**	16 13 42.3	+0.2
BBLS	**Lazi&#263i**	**1.22**	**67**	*e*Pg	**Pg**	16 13 26.3	-0.2
BBLS				*e*Sg	**Sn**	16 13 44.4	+2.3
KIJV	**Kijevo**	**1.22**	**300**	*e*Pg	**Pg**	16 13 26.7	+0.2
KIJV				Sg	**Sn**	16 13 43.6	+1.4
KOME	**Kolasin**	**1.33**	**114**	⇑*i*Pg	**Pn**	16 13 26.4	-0.9
KOME				*i* Sg	**Sg**	16 13 49.1	+3.3
BUM	**Brajici-Budva**	**1.33**	**145**	⇑*i*Pg	**Pg**	16 13 27.7	-0.9
BUM				*i* Sg	**Sg**	16 13 49.6	+3.6
PDG	**Podgorica**	**1.41**	**133**	*e*Pg	**Pg**	16 13 29.8	-0.3
PDG				*e*Sg	**Sg**	16 13 49.1	+0.8
PDG	**Podgorica**	**1.41**	**133**	*e*Pg	**Pg**	16 13 29.4	-0.7
PDG				*e*Sg	**Sg**	16 13 50.8	+2.5
PDG	**Podgorica**	**1.41**	**133**	⇑*i*Pg	**Pb**	16 13 28.9	-0.2
PDG				*i* Sg	**Sg**	16 13 51.4	+3.1
BLY	**Banja Luka**	**1.44**	**340**	⇑*i*Pg	**Pg**	16 13 30.4	-0.2
BLY				*e*Sg	**Sg**	16 13 49.7	+0.4
BLY	**Banja Luka**	**1.44**	**340**	*e*Pg	**Pg**	16 13 30.9	+0.3
BLY				*e*Sg	**Sg**	16 13 50.4	+1.1
A050A	**Klekovaca**	**1.45**	**319**	⇓*i*Pg	**Pg**	16 13 31.1	+0.2
A050A				*e*Sg	**Sg**	16 13 51.0	+1.3
SJES	**Sjenica**	**1.55**	**94**	⇓*i*Pn	**Pg**	16 13 32.2	-0.5
SJES				*e*Sn	**Sg**	16 13 51.9	-0.9
SJES	**Sjenica**	**1.55**	**94**	*e*Pg	**Pg**	16 13 32.7	0.0
SJES				*e*Sg	**Sg**	16 13 53.8	+1.0
DRME	**Dracevica, Mon**	**1.55**	**141**	*e*Pn	**Pg**	16 13 31.6	-1.2
DRME				*e*Sn	**Sg**	16 13 51.8	-1.2
DRME	**Dracevica, Mon**	**1.55**	**141**	⇓*i*Pg	**Pg**	16 13 31.8	-1.0
DRME				*i* Sg	**Sg**	16 13 54.1	+1.1
IVA	**Berane**	**1.58**	**109**	⇓*i*Pn	**Pn**	16 13 30.7	-0.1
IVA				*i* Sn	**Sg**	16 13 55.7	+1.9
MORI	**Morici**	**1.63**	**287**	*e*Pg	**Pg**	16 13 34.1	-0.3
MORI				Sg	**Sg**	16 13 55.9	+0.4
ZIRJ	**Zirje**	**1.63**	**280**	*e*Pg	**Pg**	16 13 34.2	-0.2
ZIRJ				Sg	**Sg**	16 13 56.0	+0.4
TEKS	**Tekeris**	**1.67**	**46**	*e*Pn	**Pg**	16 13 33.8	-1.2
TEKS				*e*Sn	**Sg**	16 13 55.5	-1.1
IVAS	**Ivanjica**	**1.68**	**83**	*e*Pn	**Pg**	16 13 34.5	-0.7
IVAS				*e*Sn	**Sg**	16 13 57.6	+0.6
DIVS	**Divibare**	**1.69**	**65**	*e*Pg	**Pg**	16 13 35.4	-0.2
DIVS				*e*Sg	**Sg**	16 13 58.8	+1.2
A051A	**Mrakovica**	**1.75**	**337**	⇑*i*Pn	**Pb**	16 13 35.0	-0.1
A051A				*e*Sn	**Sg**	16 13 57.9	-1.6
ULC	**Ulcinj**	**1.76**	**144**	⇑*i*Pn	**Pb**	16 13 34.1	-1.0
ULC				*i* Sn	**Sg**	16 14 00.0	+0.4
DUGI	**Dugi Otok**	**2.12**	**287**	Sg	**Sg**	16 14 10.0	-1.2
GRUS	**Gruza**	**2.13**	**76**	*e*Pn	**Pg**	16 13 42.9	-0.9
GRUS				*e*Sn	**Sg**	16 14 09.7	-1.7
GOCS	**Kraljevo Serbi**	**2.20**	**85**	*e*Pn	**Pb**	16 13 41.6	-1.1
GOCS				*e*Sn	**Sb**	16 14 10.2	+0.4
VIRC	**Vir**	**2.22**	**295**	*i* Pg	**Pg**	16 13 44.0	-1.6
VIRC				Sg	**Sg**	16 14 13.8	-0.6
SELS	**Selova**	**2.38**	**93**	*e*Pn	**Pb**	16 13 44.0	-1.8
SELS				*e*Sn	**Sb**	16 14 15.4	+0.3
NVLJ	**Novalja**	**2.45**	**299**	Sg	**Sg**	16 14 19.6	-2.3
BOJS	**Bojanci**	**2.82**	**319**	*e*Pn	**Pn**	16 13 50.0	+2.3
BOJS				*e*Sn	**Sn**	16 14 23.6	+2.1

KRSC 10 16:23:49.1±1.8, 52°.23N×169°.24E, h44km±25km, MI3.8, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**6.04**	**303**	*e*P	Pn	16 25 18.9	+3.1
TUMD				*e*S	Sn	16 26 27.4	+3.9
KMNR	**Kamenistaya**	**6.38**	**307**	*e*P	Pn	16 25 24.4	+3.8
UGLR	**Uglovaya**	**6.41**	**283**	*e*P	Pn	16 25 26.1	+5.1
DALK	**Dalny**	**6.44**	**281**	*e*S	Sn	16 26 36.6	+3.3
AVH	**Avacha**	**6.46**	**283**	*e*P	Pn	16 25 26.8	+5.1
PET	**Petropavlovsk**	**6.50**	**281**	*e*P	Pn	16 25 26.9	+4.8
PET				*e*S	Sn	16 26 40.1	+5.3
KRX	**Arik**	**6.53**	**284**	*e*P	Pn	16 25 27.3	+4.7
KOK	**Koryaka**	**6.53**	**284**	*e*P	Pn	16 25 27.6	+5.0
RUS	**Russkaya**	**6.58**	**276**	*e*P	Pn	16 25 27.9	+4.7
RUS				*e*S	Sn	16 26 42.5	+5.6
KRMR	**Karymshinskiy**	**6.81**	**279**	*e*P	Pn	16 25 31.1	+4.7
KRMR				*e*S	Sn	16 26 48.2	+5.7
GRL	**Gorelyy**	**6.84**	**277**	*e*P	Pn	16 25 32.7	+5.8
KDTR	**Khodutka, Kamc**	**6.91**	**271**	*e*P	Pn	16 25 32.2	+4.5
KDTR				*e*S	Sn	16 26 48.9	+4.0
GNL	**Ganaly**	**6.98**	**287**	*e*P	Pn	16 25 34.5	+5.7

---

*NEIC **10** 16:48:45.8±1.9, 9°.92N±0°.07×126°.4E±0°.1, h10km±1km, mb4.6/44, Error ellipse: s-maj=16.8km s-min=12.5km az=85.0*
*IDC **10** 16:48:47.8±4.0, 9°.74N×126°.24E, h30km±27km, mb4.0/25, mbtmp4.2/26, ML4.1/1, MS3.3/19, Error ellipse: s-maj=24.7km s-min=12.5km az=73.0*
ISC 10 16:48:45.2±0.3, 9°.87N±0°.05×126°.39E±0°.07, h10km, n120, σ1§27/102, mb4.5/52, MS3.3/14, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.89**	**196**	Pn	**Pn**	**16 49 35.0**	**+3.6**
DAV	**Davao City (W)**	**2.89**	**196**	Lg	Lg	16 50 10.1
50nm,0.3s,baz=288,slow=21,SNR=6.2							
DAV				LR	LR	16 50 29.2
comp=Z,333nm,20.9s,baz=16,slow=37							
TGY	**Tagaytay City**	**6.79**	**309**	LR	LR	16 53 28.7
comp=Z,564nm,20.1s,baz=118,slow=42							
MYLDM	**Lahad Datu**	**9.10**	**240**	Pn	**Pn**	**16 50 57.2**	**+0.5**
TOLI2	**Tolitoli**	**10.33**	**213**	Pn	**Pn**	**16 51 13.6**	**0.0**
LUWI	**Luwuk**	**11.42**	**199**	Pn	**Pn**	**16 51 32.9**	**+4.4**
FAKI	**Fak Fak**	**13.98**	**155**		**P**	**16 52 10.1**	**-1.5**
YULB	**Yu-li**	**14.30**	**341**		**P**	**16 52 15.2**	**+0.1**
TPUB	**Ta-pu**	**14.45**	**338**		**P**	**16 52 16.5**	**-0.3**
YHNB	**Yeheng**	**15.47**	**343**		**P**	**16 52 28.5**	**+0.3**
YHNB				IAmb	IAmb	16 53 08.3
comp=Z,66nm,1.4s							
SBUM	**Sibu**	**15.89**	**243**		**P**	**16 52 34.1**	**+1.3**
KAPI	**Kappang**	**16.19**	**204**	LR	LR	16 59 22.1
comp=Z,121nm,19.8s,baz=2.5,slow=40							
QZH	**Quanzhou**	**16.73**	**335**	*e*P	**P**	**16 52 44.9**	**+2.9**
JOW	**Kunigami**	**16.97**	**6**	P	**P**	**16 52 45.0**	**+0.2**
JOW				IAmb	IAmb	16 52 52.5
comp=Z,38nm,1.2s							
JOW	**Kunigami**	**16.97**	**6**	P	**P**	**16 52 44.8**	**0.0**
comp=Z,1.2nm,0.3s,baz=168,slow=13,SNR=7.1							
JOW				LR	LR	16 58 13.4
comp=Z,92nm,20.5s,baz=148,slow=33							
comp=Z,3.5nm,0.5s							
QIZ	**Qiongzhong**	**18.41**	**301**	P	**P**	**16 53 02.1**	**+1.3**
QIZ				S	**S**	**16 56 28.9**	**-2.3**
QIZ				LR	LR	
comp=N,160nm,4.8s							
QIZ				LR	LR	
comp=E,110nm,4.8s							
QIZ				LR	LR	
comp=Z,190nm,8.8s							
GUMO	**Guam**	**18.47**	**77**	LR	LR	16 58 46.9
comp=Z,105nm,20.2s,baz=311,slow=32							
SOEI	**Soe**	**19.61**	**186**	Pn	**Pn**	**16 53 16.4**	**+1.1**
SOEI				IAmb	IAmb	16 53 36.8
comp=Z,44nm,1.1s							
UBPT	**Khong Chiam**	**21.10**	**287**	P	**P**	**16 53 31.1**	**+0.9**
JCJ	**Chichijima**	**22.72**	**39**	LR	LR	17 00 43.6
comp=Z,76nm,21.2s,slow=31							
MTN	**Manton Dam**	**23.05**	**168**	P	**P**	**16 53 51.4**	**+0.5**
MTN				IAmb	IAmb	16 53 57.6
comp=Z,22nm,1.1s							
NJ2	**Nanjing**	**23.15**	**344**	*e*P	**P**	**16 53 53.4**	**+1.6**
NJ2				pmax	pmax	
comp=Z,8.0nm,0.6s							
JNU	**Nakatsue**	**23.51**	**9**	LR	LR	17 02 08.1
comp=Z,56nm,21.6s,baz=170,slow=34							
MYKOM	**Kota Tinggi**	**23.79**	**252**	P	**P**	**16 53 59.5**	**+1.1**
MYKOM				IAmb	IAmb	16 54 03.3
comp=Z,21nm,0.9s							
KNRA	**Kununurra**	**25.49**	**175**	P	**P**	**16 54 14.8**	**+1.0**
KNRA				IAmb	IAmb	16 54 22.4
comp=Z,14nm,0.9s							
IPM	**Ipoh**	**25.71**	**260**	P	**P**	**16 54 16.8**	**+0.8**
IPM				IAmb	IAmb	16 54 20.8
comp=Z,16nm,0.8s							
JHJ	**Hachijo jima 2**	**26.23**	**26**	LR	LR	17 04 50.6
comp=Z,61nm,19.1s,baz=212,slow=36							
PHRA	**Phrae**	**26.74**	**292**	P	**P**	**16 54 25.7**	**+0.5**
KSRS	**Korea Array**	**27.50**	**3**	P	**P**	**16 54 32.8**	**+1.0**
comp=Z,0.9nm,0.4s,baz=188,slow=9.9,SNR=5.1							
KSRS				LR	LR	17 08 07.3
comp=Z,49nm,18.0s,baz=175,slow=42							
comp=Z,0.9nm,0.4s							
LYN	**LuoYang**	**27.68**	**335**	*e*P	**P**	**16 54 35.8**	**+2.3**
LYN				pmax	pmax	
comp=Z,9.0nm,0.5s							
FITZ	**Fitzroy Crossi**	**27.80**	**182**	P	**P**	**16 54 34.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.91**	**291**	P	**P**	**16 54 36.1**	**+0.3**
comp=Z,0.6nm,0.3s,baz=115,slow=8.8,SNR=7.6							
CMAR				LR	LR	17 07 06.2
comp=Z,53nm,18.2s,baz=125,slow=40							
comp=Z,0.6nm,0.3s							
PZH	**PanZhiHua**	**28.58**	**309**	P	**P**	**16 54 44.2**	**+2.4**
PZH				pmax	pmax	
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax	
comp=Z,100nm,4.8s							
MJAR	**Matsushiro Arr**	**28.64**	**20**	LR	LR	17 07 04.2
comp=Z,95nm,18.0s,baz=196,slow=38							
XAN	**Xi'an**	**28.91**	**329**	P	**P**	**16 54 43.9**	**-0.6**
XAN				pmax	pmax	
comp=Z,11nm,0.7s							
COEN	**Coen**	**28.94**	**145**	P	**P**	**16 54 45.0**	**0.0**
COEN				IAmb	IAmb	16 55 04.9
comp=Z,12nm,1.2s							
HNS	**HongShan**	**29.37**	**341**	⇓P	**P**	**16 54 49.8**	**+1.3**
HNS				pmax	pmax	
comp=Z,8.0nm,0.9s							
GSI	**Gunungsitoli**	**29.88**	**255**	P	**P**	**16 54 53.2**	**-0.2**
GSI				IAmb	IAmb	16 54 56.0
comp=Z,17nm,1.0s							
WB0	**Warramunga Arr**	**30.48**	**165**	P	**P**	**16 54 58.2**	**-0.4**
WB0				IAmb	IAmb	16 55 30.8
comp=Z,8.6nm,1.3s							
WRAB	**Tennant Creek**	**30.63**	**165**	P	**P**	**16 54 59.7**	**-0.2**
WRAB				IAmb	IAmb	16 55 15.9
comp=Z,9.8nm,1.4s							
WRA	**Warramunga Arr**	**30.64**	**165**	P	**P**	**16 54 58.8**	**-1.1**
comp=Z,0.7nm,0.6s,baz=342,slow=9.3,SNR=10							
comp=Z,0.7nm,0.6s							
BJT	**Baijiatuau**	**31.37**	**345**	P	**P**	**16 55 06.3**	**+0.1**
BJT				IAmb	IAmb	16 55 12.1
comp=Z,4.4nm,0.6s							
PSA00	**Pilbara Seismi**	**31.90**	**192**	P	**P**	**16 55 09.6**	**-1.4**
PSA00				IAmb	IAmb	16 55 14.5
comp=Z,11nm,0.8s							
HHC	**Hu-ho-hao-te**	**33.53**	**339**	*e*P	**P**	**16 55 27.5**	**+2.2**
CN2	**Changchun**	**33.82**	**359**	P	**P**	**16 55 30.2**	**+2.7**
CN2				pmax	pmax	
comp=Z,10.0nm,0.7s							
AS31	**Alice Springs**	**34.13**	**168**	P	**P**	**16 55 30.7**	**+0.2**
ASAR	**Alice Springs**	**34.13**	**168**	P	**P**	**16 55 28.9**	**-1.6**
comp=Z,0.7nm,0.4s,baz=351,slow=7.2,SNR=40							
ASAR				PcP	**PcP**	**16 58 07.1**	**-0.8**
comp=Z,0.2nm,0.6s,baz=0.0,slow=2.8,SNR=1.6							
comp=Z,0.7nm,0.4s							
USA0B	**Ussuriysk Arra**	**34.55**	**7**	P	**P**	**16 55 35.4**	**+1.5**
USA0B				IAmb	IAmb	16 55 44.6
comp=Z,14nm,1.4s							
USRK	**Ussuriysk Ar.**	**34.55**	**7**	P	**P**	**16 55 34.7**	**+0.8**
comp=Z,2.2nm,0.8s,baz=170,slow=7.0,SNR=6.2							
comp=Z,2.2nm,0.8s							
MDJ	**Mudanjiang**	**34.73**	**4**	P	**P**	**16 55 36.7**	**+1.2**
MDJ				pmax	pmax	
comp=Z,8.0nm,1.4s							
XLT	**XiLinHaoTe**	**35.07**	**347**	*e*P	**P**	**16 55 38.6**	**+0.1**
XLT				pmax	pmax	
comp=Z,6.0nm,0.8s							
BRDH	**Bariadhala**	**35.60**	**295**	LR	LR	17 13 25.3
comp=Z,72nm,18.3s,baz=220,slow=42							
SHL	**Shillong**	**36.24**	**300**	P	**P**	**16 55 50.3**	**+1.3**
SHL				IAmb	IAmb	16 55 53.4
comp=Z,10nm,0.7s							
ASAJ	**Asahikawa**	**36.91**	**20**	LR	LR	17 11 55.3
comp=Z,60nm,18.5s,baz=180,slow=37							
JKA	**Kamikawa-asahi**	**36.91**	**20**	P	**P**	**16 55 56.3**	**+2.2**
GTA	**Gaotai**	**37.78**	**326**	*e*P	**P**	**16 56 02.5**	**+0.7**
GTA				sP	pwP	16 56 09.2	+0.7
GTA				pmax	pmax	
comp=Z,2.0nm,0.7s							
HNR	**Honiara**	**38.51**	**119**	LR	LR	17 14 27.8
comp=Z,44nm,18.0s,baz=332,slow=40							
KLR	**Kul'dur**	**39.49**	**6**	LR	LR	17 11 32.6
comp=Z,28nm,21.4s,baz=158,slow=34							
H11S3	**WAKE ISLAND Hy**	**39.93**	**73**	T	T	17 39 15.6
baz=262,slow=75,SNR=85							
H11S1	**WAKE ISLAND Hy**	**39.94**	**73**	T	T	17 39 22.4
baz=262,slow=75,SNR=46							
H11S2	**WAKE ISLAND Hy**	**39.94**	**73**	T	T	17 39 16.4
baz=262,slow=75,SNR=38							
MORW	**Morawa**	**39.97**	**194**	P	**P**	**16 56 19.9**	**-0.2**
MORW				IAmb	IAmb	16 56 20.4
comp=Z,12nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**40.27**	**71**	T	T	17 39 45.1
baz=265,slow=74,SNR=130							
H11N2	**WAKE ISLAND Hy**	**40.28**	**71**	T	T	17 39 48.8
baz=265,slow=74,SNR=57							
H11N3	**WAKE ISLAND Hy**	**40.29**	**71**	T	T	17 39 45.6
baz=265,slow=74,SNR=125							
FORT	**Forrest**	**40.44**	**178**	P	**P**	**16 56 23.7**	**-0.3**
FORT				IAmb	IAmb	16 56 27.1
comp=Z,18nm,0.7s							
ULN	**Ulaanbaatar**	**41.24**	**340**	P	**P**	**16 56 31.3**	**+0.7**
SONM	**Songino Array**	**41.43**	**340**	P	**P**	**16 56 32.9**	**+0.8**
SONM	**Songino Array**	**41.43**	**340**	P	**P**	**16 56 31.9**	**-0.3**
comp=Z,0.9nm,0.5s,baz=158,slow=9.9,SNR=10							
comp=Z,0.9nm,0.5s							
BBOO	**Buckleboo**	**43.43**	**168**	P	**P**	**16 56 48.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**43.44**	**191**	P	**P**	**16 56 48.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**43.44**	**191**	LR	LR	17 16 12.3
comp=Z,37nm,21.9s,baz=256,slow=38							
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**16 56 52.5**	**-0.4**
STKA	**Stephens Creek**	**43.99**	**161**	P	**P**	**16 56 52.0**	**-0.9**
comp=Z,1.6nm,0.6s,baz=326,slow=9.8,SNR=4.8							
comp=Z,1.6nm,0.6s							
PALK	**Pallekele**	**45.22**	**270**	LR	LR	17 15 51.5
comp=Z,47nm,20.1s,baz=196,slow=36							
PETK	**Petropavlovsk-**	**49.96**	**24**	P	**P**	**16 57 40.9**	**+1.6**
comp=Z,4.5nm,0.9s,baz=184,slow=3.1,SNR=6.7							
PETK				LR	LR	17 18 43.6
comp=Z,39nm,20.7s,baz=79,slow=36							
comp=Z,4.5nm,0.9s							
PET	**Petropavlovsk**	**50.28**	**25**	P	**P**	**16 57 41.7**	**0.0**
DZM	**Mont Dzumac**	**50.51**	**129**	P	**P**	**16 57 44.5**	**+0.5**
MK31	**Makanchi Array**	**52.41**	**323**	P	**P**	**16 57 57.3**	**-0.7**
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**16 57 57.2**	**-0.7**
MKAR	**Makanchi Array**	**52.41**	**323**	P	**P**	**16 57 57.7**	**-0.2**
comp=Z,1.5nm,0.5s,baz=121,slow=8.0,SNR=21							
MKAR				ScP	**ScP**	**17 03 03.0**	**-3.2**
comp=Z,0.5nm,0.9s,baz=130,slow=2.3,SNR=4.6							
comp=Z,1.5nm,0.5s							
MAKZ	**Makanchi**	**52.61**	**323**	P	**P**	**16 57 58.8**	**-0.6**
ZAA0	**Zalesovo Array**	**55.03**	**331**	P	**P**	**16 58 17.0**	**+0.1**
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**16 58 16.0**	**-0.9**
ZALV	**Zalesovo Beam**	**55.03**	**331**	P	**P**	**16 58 15.9**	**-0.9**
comp=Z,1.2nm,0.6s,baz=115,slow=7.1,SNR=5.9							
comp=Z,1.2nm,0.6s							
AAK	**Ala-Archa**	**55.69**	**315**	LR	LR	17 24 54.4
comp=Z,48nm,18.1s,baz=51,slow=39							
KURK	**Kurchatov**	**56.46**	**326**	P	**P**	**16 58 25.1**	**-2.1**
KURK				IAmb	IAmb	16 58 39.6
comp=Z,3.3nm,0.9s							
KURBB	**Kurchatov Arra**	**56.47**	**325**	P	**P**	**16 58 26.5**	**-0.8**
comp=Z,1.3nm,0.5s,baz=125,slow=6.9,SNR=15							
comp=Z,1.3nm,0.5s							
KK31	**Karatay Array**	**58.61**	**315**	P	**P**	**16 58 41.7**	**-0.9**
KKAR	**Karatay Array**	**58.61**	**315**	P	**P**	**16 58 41.5**	**-1.1**
TIXI	**Tiksi**	**61.75**	**1**	P	**P**	**16 59 03.7**	**+0.2**
BVAR	**Borovoye Array**	**62.06**	**325**	P	**P**	**16 59 05.5**	**-0.4**
comp=Z,0.9nm,0.6s,baz=144,slow=10.0,SNR=4.1							
comp=Z,0.9nm,0.6s							
ATKA	**Atka Island**	**63.72**	**36**	P	**P**	**16 59 16.5**	**-0.5**
BILL	**Bilibino**	**63.76**	**16**	P	**P**	**16 59 17.0**	**0.0**
BILL				IAmb	IAmb	16 59 21.7
comp=Z,5.2nm,1.3s							
NRIK	**Noril'sk**	**64.43**	**346**	P	**P**	**16 59 21.4**	**0.0**
NRIK				IAmb	IAmb	16 59 22.7
comp=Z,5.3nm,1.1s							
NRIK	**Noril'sk**	**64.43**	**346**	P	**P**	**16 59 21.3**	**-0.1**
comp=Z,1.3nm,0.4s,baz=146,slow=5.3,SNR=5.7							
comp=Z,1.3nm,0.4s							

0.1nm,0.3s,baz=153,slow=6.3,SNR=0.7
0.1nm,0.3s
ZALV Zalesovo Beam 70.74 340 P P 17 16 19.9 -0.7
0.4nm,0.5s,baz=134,slow=4.2,SNR=2.1
0.4nm,0.5s

*AEIC **10** 17:11:46.3±2.4, 53°.2N±0°.3×168°.9W±0°.2, h114km±4km, Error ellipse: s-maj=44.6km s-min=8.8km az=155.0*
NEIC 10 17:11:45.0±1.1, 53°.2N±0°.2×169°.1W±0°.3, h127km±8km, mb3.8/4, ML3.4/6, ML3.0(AEIC), Error ellipse: s-maj=38.7km s-min=3.9km az=144.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.50**	**88**		Pn	17 12 03.1	-0.6
OKSP					Sn	17 12 17.9	0.0
OKWE	**Okmok W'ng Wal**	**0.58**	**66**		Pn	17 12 04.2	+0.1
OKCE	**Okmok Cone E**	**0.60**	**71**		Pn	17 12 04.2	-0.1
OKNC	**Okmok New Cone**	**0.64**	**69**		Pn	17 12 04.7	+0.1
OKNC					Sn	17 12 19.2	-0.2
OKRE	**Okmok R'deer P**	**0.64**	**63**		Pn	17 12 04.9	+0.3
OKTU	**Okmok Mt. Tuli**	**0.67**	**77**		Pn	17 12 04.6	-0.2
OKFG	**Magazine Ridge**	**0.75**	**76**		Pn	17 12 05.1	-0.2
OKFG					Sn	17 12 20.5	-0.3
MAPS	**Pakushin South**	**1.42**	**65**		Pn	17 12 12.3	+0.4
MAPS					Sn	17 12 31.5	-1.0
MGOD	**Makushin Gods**	**1.46**	**66**		Pn	17 12 12.6	+0.3
MGOD					Sn	17 12 32.0	-1.2
MSW	**Makushin Switc**	**1.55**	**63**		Pn	17 12 13.9	+0.5
UNV	**Unalaska Valle**	**1.68**	**68**		Sn	17 12 37.5	-0.1
UNV	**Unalaska Valle**	**1.68**	**68**		Pn	17 12 15.4	+0.6
AKMO	**Akutan Morgan**	**2.04**	**64**		Pn	17 12 20.5	+1.3
LVA	**Lava Point**	**2.06**	**62**	Pn	Pn	17 12 20.7	+1.3
LVA				Sn	Sn	17 12 48.7	+2.9
LVA				IAML		17 12 49.1	
	comp=E,254nm,0.7s						
ZRO	**Akutan Zero**	**2.06**	**64**		Pn	17 12 20.7	+1.3
AHB	**Akutan Harbor**	**2.15**	**65**		Pn	17 12 22.1	+1.5
AHB					Sn	17 12 49.2	+1.2
AKSA	**Akutan Strait**	**2.23**	**65**		Pn	17 12 22.7	+1.2
ATKA	**Atka Island**	**3.25**	**253**		Pn	17 12 35.8	+1.1
ATKA					Sn	17 13 13.7	+0.5
ATKA	**Atka Island**	**3.25**	**253**	IAML		17 13 17.4	
	comp=N,41nm,1.1s						
ISLZ	**Isanotski Laza**	**3.53**	**63**		Pn	17 12 39.6	+1.3
ADK	**Adak**	**4.81**	**257**	Pn	Pn	17 12 55.9	+0.5
ADK				IAML		17 14 06.0	
	comp=N,33nm,1.0s						
ADK				IAML		17 15 41.7	
	comp=N,35nm,1.2s						
ACHA	**Angle Creek He**	**9.23**	**52**	Pn	Pn	17 13 54.9	0.0
OHAK	**Old Harbor**	**9.88**	**60**	Pn	Pn	17 13 59.8	-3.7
KDAK	**Kodiak Island**	**10.42**	**57**	Pn	Pn	17 14 09.3	-1.4
SYI	**Shuyak Island**	**10.81**	**53**	Pn	Pn	17 14 15.6	-0.3
SLKM	**Skilak Lake**	**12.61**	**47**	Pn	Pn	17 14 39.5	-0.2
SEW	**Seward**	**12.78**	**50**	Pn	Pn	17 14 40.8	-1.0
SCM	**Sheep Creek Mo**	**14.46**	**45**	Pn	Pn	17 15 00.8	-2.6
RND	**Reindeer**	**14.66**	**38**	P	P	17 15 08.8	+0.1
BMRM	**Bremner River**	**15.33**	**50**	Pn	Pn	17 15 12.8	-1.5
GLB	**Gilahina Butte**	**15.85**	**49**	Pn	Pn	17 15 19.5	-1.3
GLB				IAmb	IAmb	17 15 34.5	
	comp=Z,11nm,1.4s						
J25K	**Salcha River,**	**16.61**	**37**		P	17 15 30.2	0.0
BMAR	**Burnt Mountain**	**18.50**	**30**	P	P	17 15 50.5	-0.4
H29M	**Whitestone**	**19.95**	**37**	P	P	17 16 07.6	+1.0
H29M				IAmb	IAmb	17 16 07.9	
	comp=Z,4.4nm,1.4s						

*NEIC **10** 17:12:23.4±1.4, 33°.72N±0°.02×116°.84W±0°.02, h15km±3km, Error ellipse: s-maj=2.3km s-min=2.0km az=183.0*
PAS 10 17:12:24.0±1.4, 33°.71N±0°.02×116°.83W±0°.01, h17km±3km, ML3.4/318, **ML3.1**/44(NEIC), **Error ellipse: s-maj=2.6km s-min=1.2km az=197.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POB	**Polly Butte**	**0.08**	**257**		Pg	17 12 27.3	-0.1
POB					Sg	17 12 29.9	+0.2
GVDA	**Garner Valley**	**0.14**	**105**		Pg	17 12 27.6	-0.5
GVDA					Sg	17 12 30.4	-0.3
HMTC	**Hemet**	**0.14**	**272**		Pg	17 12 27.9	-0.2
HMTC					Sg	17 12 30.8	0.0
CRY	**Cary Ranch**	**0.16**	**151**		Sg	17 12 31.2	0.0
BACC	**Bachelor Mtn.**	**0.20**	**242**		Sg	17 12 32.0	0.0
SNDA	**J Saunders Pla**	**0.24**	**130**		Pg	17 12 29.4	-0.1
SNDA					Sb	17 12 33.7	-0.2
BBSC	**Beaumont Base**	**0.25**	**330**		Sg	17 12 33.9	+0.4
FRD	**Ford Ranch, An**	**0.28**	**138**		Pg	17 12 30.0	-0.2
FRD					Sg	17 12 34.4	-0.1
DEVC	**Devers**	**0.31**	**42**		Pn	17 12 35.1	+1.3
MURC	**Murrieta**	**0.32**	**251**		Sg	17 12 35.3	-0.2
PFO	**Pinyon Flats O**	**0.32**	**107**		Sg	17 12 35.0	-0.6
PFO	**Pinyon Flats O**	**0.32**	**107**	Pg	Pg	17 12 30.2	-0.7
PFO				IAML		17 12 35.2	
	707nm,0.6s						
PFO				IAML		17 12 35.5	
	1μm,0.7s						
PEC	**Perris**	**0.33**	**304**		Sg	17 12 35.4	-0.5
PLM	**Palomar**	**0.35**	**184**		Sg	17 12 36.6	+0.1
PMD	**Palm Desert**	**0.38**	**98**		Pg	17 12 31.2	-0.7
PMD					Sg	17 12 36.3	-0.9
CFT	**Crafton Hills**	**0.40**	**325**		Sg	17 12 38.1	+0.2
EW2	**E Wide Canyon**	**0.42**	**56**		Pg	17 12 32.2	-0.5
EW2					Sg	17 12 37.8	-0.6
SVD	**Seven Oaks Dam**	**0.46**	**331**		Sg	17 12 39.5	0.0
RSBC	**Riverside Bore**	**0.49**	**303**		Pg	17 12 33.0	-0.9
RSBC					Sg	17 12 39.7	-0.8
RSBC	**Riverside Bore**	**0.49**	**303**		Pg	17 12 33.1	-0.8
RSBC					Sg	17 12 39.8	-0.8
ELS	**Elsinore Mount**	**0.50**	**264**	Pg	Pg	17 12 33.5	-0.6
ELS				IAML		17 12 40.9	
	comp=N,2μm,0.3s						
ELS				IAML		17 12 41.5	
	comp=E,1μm,0.1s						
ELS	**Elsinore Mount**	**0.50**	**264**		Sg	17 12 40.4	-0.4
BLAC	**Blackrock camp**	**0.52**	**45**		Sg	17 12 40.8	-0.6
HLNC	**Highland**	**0.53**	**322**		Pg	17 12 34.0	-0.5
HLNC					Sg	17 12 41.5	-0.1
MATG	**Mataguay Scout**	**0.53**	**163**		Pg	17 12 34.1	-0.5
MATG					Sg	17 12 41.4	-0.2
RVR	**Riverside**	**0.54**	**303**		Pg	17 12 33.7	-0.9
RVR					Sg	17 12 41.0	-1.0
CFSC	**Central Fire S**	**0.55**	**317**		Pg	17 12 34.5	-0.4
CFSC					Sb	17 12 42.8	0.0
BORC	**Borrego Spring**	**0.56**	**141**		Sg	17 12 41.8	-0.6
CLTC	**Calectric**	**0.56**	**314**		Pg	17 12 34.1	-1.0
CLTC					Sb	17 12 43.7	+0.6
CRNC	**Corona**	**0.63**	**286**		Pg	17 12 35.4	-1.0
CRNC					Sg	17 12 43.8	-1.1
FON	**Fontana**	**0.64**	**308**		Pg	17 12 35.7	-1.0
FON					Sg	17 12 44.2	-1.0
GORC	**Green Oak Ranc**	**0.64**	**211**		Pg	17 12 35.5	-1.1
GORC					Sg	17 12 44.2	-1.0
JUEM	**Julian Eagle M**	**0.65**	**163**		Sg	17 12 44.7	-0.8
MLSC	**Mira Loma**	**0.68**	**296**		Pg	17 12 36.2	-1.1
SLH	**Sleepy Hollow**	**0.70**	**137**		Pg	17 12 37.3	-0.4
SLH					Sb	17 12 47.2	0.0
CTCC	**Cactus City**	**0.70**	**94**		Pg	17 12 37.1	-0.6
CTCC					Sg	17 12 46.8	-0.4
GTM	**Goat Mountain**	**0.71**	**34**		Pg	17 12 36.5	-1.4
GTM					Sg	17 12 45.8	-1.6
DPP	**Dos Picos Cty**	**0.71**	**188**		Pg	17 12 36.7	-1.2
DPP					Sg	17 12 46.0	-1.3
CSP	**Cedar Springs**	**0.74**	**324**		Pg	17 12 37.6	-0.9
CSP					Sg	17 12 47.5	-0.7
SS2	**San Sevaine**	**0.75**	**312**		Pb	17 12 37.7	-0.9
BELC	**Belle Mtn. Jos**	**0.75**	**67**		Pg	17 12 37.9	-0.9
BELC					Sg	17 12 47.8	-1.0
TPC	**Twentynine Pal**	**0.76**	**58**		Pb	17 12 37.9	-1.0
CHNC	**Chino**	**0.77**	**293**		Pb	17 12 37.8	-1.1
CHNC					Sb	17 12 48.4	-0.6
CTW	**Cottonwood Mou**	**0.80**	**92**		Pb	17 12 38.6	-0.8
CTW					Sb	17 12 49.4	-0.6
EML	**El Monte Cty P**	**0.81**	**181**		Pb	17 12 38.3	-1.3
EML					Sb	17 12 49.0	-1.4
SALN	**Salton City**	**0.82**	**121**		Pb	17 12 39.5	-0.3
SALN					Sg	17 12 51.0	+0.1
CPE	**Camp Elliot**	**0.85**	**196**	IAML		17 12 50.9	
	comp=E,918nm,0.3s						
BFSC	**Mount Baldy Ra**	**0.87**	**308**		Pb	17 12 39.5	-1.2
BFSC					Sb	17 12 50.8	-1.4
SSK	**Sunset Peak**	**0.88**	**305**		Pb	17 12 39.7	-1.2
MONP2	**Monument Peak**	**0.88**	**157**		Pb	17 12 40.1	-0.8
PSRC	**Puddingstone R**	**0.90**	**296**		Pb	17 12 40.1	-1.1
PSRC					Sb	17 12 51.9	-1.0
MTRP	**Mission Trails**	**0.90**	**192**		Pb	17 12 40.0	-1.2
MTRP					Sb	17 12 51.7	-1.3
TJX	**Tijuana**	**1.21**	**189**		Pn	17 12 44.5	-1.6
PASC	**Pasadena Art C**	**1.22**	**293**		Pn	17 12 45.0	-1.3
PASC				IAML		17 13 02.8	
	comp=N,457nm,0.3s						
PASC				IAML		17 13 03.6	
	comp=E,281nm,0.4s						
YUH	**Yuha Desert**	**1.30**	**144**		Pn	17 12 45.6	-1.8
CBX	**Cerro Bola**	**1.40**	**174**		Pn	17 12 48.3	-0.5
CBX				IAML		17 13 10.0	
	comp=N,405nm,0.6s						
GSC	**Goldstone, Bar**	**1.59**	**1**	Pn	Pn	17 12 50.8	-0.7
GSC				IAML		17 13 02.2	
	comp=E,196nm,0.5s						
CCAC	**Calif City Air**	**1.75**	**326**		Pn	17 12 53.2	-0.4
GLA	**Glamis**	**1.80**	**111**		Pn	17 12 53.2	-1.1
GLA				IAML		17 13 26.5	
	comp=E,170nm,0.6s						
ESJX	**Sierra Juarez**	**1.85**	**156**		Pn	17 12 54.5	-0.7
ESJX				IAML		17 13 21.6	
	comp=E,152nm,0.6s						
ISA	**Isabella, Lake**	**2.38**	**326**	Pn	Pn	17 13 01.8	-0.5
ISA				IAML		17 13 43.8	
	comp=E,130nm,1.0s						
ISA				IAML		17 13 45.1	
	comp=N,108nm,0.7s						
BCW	**Bitter Crk WRg**	**2.47**	**301**		Pn	17 13 03.6	+0.1
GWY	**Greenwater Val**	**2.48**	**3**	Pn	Pn	17 13 03.1	-0.6
GWY				IAML		17 13 43.9	
	comp=E,104nm,0.5s						
GWY				IAML		17 13 45.1	
	comp=N,71nm,0.6s						
V12A	**Nelson**	**2.59**	**38**		Pn	17 13 04.8	-0.5
V12A				IAML		17 13 45.1	
	comp=E,67nm,0.5s						
W13A	**Hualapai Mount**	**2.80**	**59**		Pn	17 13 07.1	-1.2
WCT	**Wildcat Mounta**	**3.08**	**3**		Pn	17 13 12.0	0.0
SHPR	**Sheep Range**	**3.11**	**26**		Pn	17 13 12.2	-0.2
Y14A	**Wickenburg**	**3.19**	**85**	Pn	Pn	17 13 12.7	-0.8
TPNV	**Topopah Spring**	**3.27**	**8**		Pn	17 13 15.1	+0.5
TPNV				IAML		17 14 08.2	
	comp=E,48nm,0.5s						
TPNV				IAML		17 14 09.1	
	comp=E,48nm,0.6s						
DSP	**Deep Springs**	**3.77**	**346**	Pn	Pn	17 13 22.0	+0.6
PMPB	**Monarch Peak**	**4.11**	**309**	Pn	Pn	17 13 25.4	-0.8
LCMT	**Little Creek M**	**4.41**	**41**		Pn	17 13 30.6	+0.2
KNB	**Kanab**	**4.65**	**44**	Pn	Pn	17 13 31.1	-2.5
WUAZ	**Wupatki**	**4.85**	**67**	Pn	Pn	17 13 36.9	+0.5
WUAZ				IAML		17 14 59.8	
	comp=E,18nm,1.1s						
WUAZ				IAML		17 15 03.0	
	comp=E,14nm,1.2s						
RYN	**Ryan**	**5.10**	**345**	Pn	Pn	17 13 38.8	-1.0
CMB	**Columbia Colle**	**5.20**	**327**	Pn	Pn	17 13 41.9	+0.9
CMB				IAML		17 15 08.9	
	comp=E,14nm,2.5s						
CMB				IAML		17 15 15.4	
	comp=N,9.9nm,1.6s						
X18A	**Snowflake**	**5.77**	**80**		Pn	17 13 47.6	-1.4
MSU	**Marysvale**	**6.10**	**37**	Pn	Pn	17 13 53.0	-0.6

*NEIC **10** 17:12:54.2±1.4, 16°.8S±0°.1×174°.49W±0°.09, h185km±8km, mb4.5/32, Error ellipse: s-maj=14.9km s-min=12.9km az=167.0*
*IDC **10** 17:12:58.7±2.4, 16°.98S×174°.45W, h226km±21km, mb3.8/19, mbtmp4.3/21, Error ellipse: s-maj=15.9km s-min=10.6km az=111.0*
ISC 10 17:12:55.4±0.4, 16°.91S±0°.07×174°.47W±0°.08, h200km, n103, σ1$05/107, mb4.3/33, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.95**	**41**		**Pn**	**17 13 55.6**	**-1.1**
NIUE	**Niue**	**4.83**	**117**	Pn	**Pn**	**17 14 08.3**	**+0.7**
MSVF	**Nonsavu**	**7.20**	**262**		**Pn**	**17 14 40.9**	**+2.5**
MSVF	**Nonsavu**	**7.20**	**262**	P	Pn	17 14 43.6	+5.3
	42nm,0.8s,baz=114,slow=14,SNR=18						
PINNC	**Pines Island,**	**17.94**	**249**	P	**P**	**17 16 49.4**	**-1.2**
DZM	**Mont Dzumac**	**18.71**	**251**	P	**Pn**	**17 17 01.5**	**-0.5**
	5.7nm,0.9s,baz=99,slow=19,SNR=2.4						
WCZ	**Waipu Caves**	**21.41**	**206**	P	**P**	**17 17 30.2**	**+2.6**
HAZ	**Te Kaha**	**21.86**	**197**	P	**P**	**17 17 33.3**	**+1.1**
MWZ	**Matawai**	**22.47**	**197**	P	**P**	**17 17 39.0**	**+1.0**
URZ	**Urewera**	**22.52**	**198**	P	**P**	**17 17 38.3**	**0.0**
	9.3nm,0.4s,baz=90,slow=6.1,SNR=13						
URZ				S	**S**	**17 21 28.7**	**-1.4**
	4.7nm,0.7s,baz=22,slow=22,SNR=1.3						
	9.3nm,0.4s						
URZ	**Urewera**	**22.52**	**198**	P	**P**	**17 17 38.9**	**+0.6**
TOZ	**Tahuroa Road**	**22.55**	**201**	P	**P**	**17 17 40.4**	**+1.8**
RTZ	**Ruatahuna**	**22.89**	**197**	P	**P**	**17 17 41.9**	**+0.1**
RTZ				IAmb	IAmb	17 17 55.9	
	comp=Z,16nm,0.9s						
HIZ	**Hauiti**	**23.47**	**201**	P	**P**	**17 17 49.0**	**+2.0**
BKZ	**Black Stump Fm**	**23.54**	**198**	P	**P**	**17 17 47.2**	**-0.4**
PPT	**Papeete**	**23.78**	**95**	P	**P**	**17 17 50.3**	**+0.2**
	comp=Z,9.2nm,0.5s,baz=255,slow=20,SNR=2.1						
	comp=Z,9.2nm,0.5s						
NGZ	**Ngauruhoe**	**23.82**	**199**	P	**P**	**17 17 51.0**	**+0.7**
VRZ	**Vera Road**	**24.05**	**201**	P	**P**	**17 17 53.8**	**+1.5**
NEZ	**North Egmont**	**24.41**	**202**	P	**P**	**17 17 59.5**	**+3.9**
BFZ	**Birch Farm**	**25.02**	**197**	P	**P**	**17 18 01.2**	**+0.2**
MRZ	**Mangatainoka R**	**25.19**	**198**	P	**P**	**17 18 01.5**	**-1.1**
MRZ				IAmb	IAmb	17 18 18.5	
	comp=Z,21nm,1.2s						
MRZ	**Mangatainoka R**	**25.19**	**198**	P	**P**	**17 18 01.4**	**-1.1**
QRZ	**Quartz Range**	**26.35**	**203**	P	**P**	**17 18 12.7**	**-0.3**
QRZ				IAmb	IAmb	17 18 20.2	
	comp=Z,13nm,0.8s						
QRZ	**Quartz Range**	**26.35**	**203**	P	**P**	**17 18 13.4**	**+0.4**
THZ	**Tophouse**	**27.04**	**201**	P	**P**	**17 18 19.3**	**+0.1**
THZ	**Tophouse**	**27.04**	**201**	P	**P**	**17 18 19.3**	**+0.1**
DSZ	**Denniston Nort**	**27.42**	**203**	P	**P**	**17 18 23.1**	**+0.6**
GVZ	**Greta Valley S**	**28.07**	**200**	P	**P**	**17 18 26.5**	**-1.8**
LTZ	**Lake Taylor**	**28.16**	**201**	P	**P**	**17 18 30.2**	**+1.1**
INZ	**Inchbonnie**	**28.40**	**202**	P	**P**	**17 18 31.0**	**-0.2**
OXZ	**Oxford**	**28.72**	**201**	P	**P**	**17 18 34.2**	**+0.1**
WVZ	**Waitaha Valley**	**28.96**	**203**	P	**P**	**17 18 35.6**	**-0.5**
FOZ	**Fox Glacier**	**29.70**	**203**	P	**P**	**17 18 43.1**	**+0.4**
LBZ	**Lake Benmore**	**30.30**	**202**	P	**P**	**17 18 47.5**	**-0.5**
JCZ	**Jackson Bay**	**30.56**	**204**	P	**P**	**17 18 49.8**	**-0.6**
WKZ	**Wanaka**	**31.11**	**203**	P	**P**	**17 18 57.4**	**+2.3**
EIDS	**Eidsvold**	**33.14**	**249**	P	**P**	**17 19 11.6**	**-1.5**
EIDS				IAmb	IAmb	17 19 18.2	
	comp=Z,9.6nm,1.2s						
ARMA	**Armidale**	**33.70**	**240**	P	**P**	**17 19 17.1**	**-0.8**
ARMA				IAmb	IAmb	17 19 19.2	
	comp=Z,12nm,0.7s						
TOO	**Toolangi**	**40.73**	**232**	P	**P**	**17 20 16.3**	**-0.5**
COEN	**Coen**	**40.88**	**268**	P	**P**	**17 20 16.9**	**-1.4**
COEN				IAmb	IAmb	17 20 54.1	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**42.41**	**241**	P	**P**	**17 20 30.5**	**0.0**
STKA				IAmb	IAmb	17 20 31.8	
	comp=Z,21nm,0.9s						
STKA	**Stephens Creek**	**42.41**	**241**	P	**P**	**17 20 30.8**	**+0.2**
	comp=Z,17nm,0.8s,baz=87,slow=9.7,SNR=27						
	comp=Z,17nm,0.8s						
BBOO	**Buckleboo**	**47.18**	**241**	P	**P**	**17 21 07.6**	**-0.5**
BBOO				IAmb	IAmb	17 21 08.4	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**48.48**	**258**	P	**P**	**17 21 17.6**	**-0.7**
WB0				PcP	**PcP**	**17 22 41.4**	**0.0**
WB2	**Warramunga Arr**	**48.51**	**258**	P	**P**	**17 21 18.1**	**-0.5**
WB2				PcP	**PcP**	**17 22 41.6**	**+0.2**
WRAB	**Tennant Creek**	**48.51**	**258**	P	**P**	**17 21 17.8**	**-0.7**
WRA	**Warramunga Arr**	**48.52**	**258**	P	**P**	**17 21 17.7**	**-0.9**
WRA	**Warramunga Arr**	**48.52**	**258**	P	**P**	**17 21 17.9**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=97,slow=7.1,SNR=20						
WRA				PcP	**PcP**	**17 22 41.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=91,slow=3.7,SNR=5.8						
	comp=Z,1.1nm,0.6s						
AS31	**Alice Springs**	**48.68**	**253**	P	**P**	**17 21 19.4**	**-0.5**
AS31				IAmb	IAmb	17 21 20.6	
	comp=Z,7.0nm,0.7s						
ASAR	**Alice Springs**	**48.68**	**253**	P	**P**	**17 21 19.8**	**-0.1**
ASAR	**Alice Springs**	**48.68**	**253**	P	**P**	**17 21 19.6**	**-0.3**
	comp=Z,24nm,0.7s,baz=89,slow=8.3,SNR=252						
ASAR				PcP	**PcP**	**17 22 42.5**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=100,slow=4.6,SNR=7.6						
	comp=Z,24nm,0.7s						
MTN	**Manton Dam**	**52.60**	**267**	P	**P**	**17 21 48.7**	**-0.5**
MTN				IAmb	IAmb	17 21 54.2	
	comp=Z,18nm,1.1s						
FORT	**Forrest**	**53.83**	**244**	P	**P**	**17 21 57.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**56.91**	**259**	P	**P**	**17 22 20.3**	**+0.3**
SOEI	**Soe**	**59.85**	**268**	P	**P**	**17 22 40.2**	**-0.4**
SBA	**Scott Base**	**61.67**	**184**	P	**P**	**17 22 53.3**	**+1.6**
VNDA	**Vanda**	**61.78**	**186**	P	**P**	**17 22 52.9**	**+0.5**
VNDA				IAmb	IAmb	17 22 55.5	
	comp=Z,4.9nm,0.9s						
VNDA	**Vanda**	**61.78**	**186**	P	**P**	**17 22 53.0**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=1.5,slow=7.7,SNR=3.5						
	comp=Z,2.5nm,0.9s						
PSA00	**Pilbara Seismi**	**61.80**	**254**	P	**P**	**17 22 52.3**	**-1.2**
PSA00				IAmb	IAmb	17 22 54.1	
	comp=Z,11nm,0.9s						
MBWA	**Marble Bar**	**61.97**	**255**	P	**P**	**17 22 53.5**	**-1.2**
MORW	**Morawa**	**64.32**	**245**	P	**P**	**17 23 09.8**	**-0.3**
GIRL	**Giralia**	**66.78**	**252**	P	**P**	**17 23 26.1**	**+0.2**
ASAJ	**Asahikawa**	**72.29**	**329**	P	**P**	**17 24 00.2**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=104,slow=8.3,SNR=1.7						
	comp=Z,3.8nm,0.7s						
QSPA	**South Pole Qui**	**73.14**	**180**	P	**P**	**17 24 04.7**	**+0.7**
QSPA				IAmb	IAmb	17 24 06.1	
	comp=Z,6.7nm,0.9s						
QSPA	**South Pole Qui**	**73.14**	**180**	P	**P**	**17 24 04.5**	**+0.6**
	comp=Z,6.2nm,0.9s,baz=103,slow=0.4,SNR=15						
	comp=Z,6.2nm,0.9s						
PETK	**Petropavlovsk-**	**73.76**	**343**	P	**P**	**17 24 07.5**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=107,slow=9.0,SNR=11						
	comp=Z,3.0nm,0.6s						
NVAR	**Mina Array Bea**	**76.13**	**42**	P	**P**	**17 24 22.2**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=282,slow=2.8,SNR=2.5						
	comp=Z,0.5nm,0.6s						
KSRS	**Korea Array**	**76.53**	**316**	P	**P**	**17 24 25.7**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=81,slow=5.3,SNR=2.9						
	comp=Z,1.2nm,0.8s						
NJ2	**Nanjing**	**80.26**	**308**	*e*P	**P**	**17 24 44.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KLR	**Kul'dur**	**81.23**	**328**	P	**P**	**17 24 49.2**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=97,slow=9.9,SNR=3.8						
	comp=Z,0.7nm,0.8s						
MA2	**Magadan**	**81.29**	**343**	P	**P**	**17 24 48.7**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=120,slow=3.5,SNR=5.8						
	comp=Z,1.2nm,0.3s						
SEY	**Seymchan**	**83.71**	**345**	P	**P**	**17 25 01.6**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=138,slow=7.3,SNR=22						
	comp=Z,3.1nm,0.7s						
PDAR	**Pinedale Array**	**84.06**	**42**	P	**P**	**17 25 04.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=212,slow=3.7,SNR=6.5						
	comp=Z,0.6nm,0.6s						
IL31		**84.12**	**12**	P	**P**	**17 25 02.9**	**-0.5**
ILAR	**Eielson Array**	**84.12**	**12**	P	**P**	**17 25 03.4**	**0.0**
	comp=Z,0.9nm,0.5s,baz=234,slow=5.5,SNR=39						
	comp=Z,0.9nm,0.5s						
J25K	**Salcha River,**	**84.27**	**12**	P	**P**	**17 25 03.5**	**-0.8**
J25K				IAmb	IAmb	17 25 06.0	
	comp=Z,5.7nm,1.0s						
E19K	**Redstone River**	**85.08**	**7**	P	**P**	**17 25 08.8**	**+0.7**
E19K				IAmb	IAmb	17 25 10.4	
	comp=Z,7.5nm,1.1s						
DAWY	**Dawson**	**85.13**	**15**	P	**P**	**17 25 08.9**	**+0.3**
DAWY				IAmb	IAmb	17 25 10.3	
	comp=Z,5.5nm,0.9s						
K29M	**Barlow Dome**	**85.41**	**16**	P	**P**	**17 25 10.1**	**+0.1**
HHC	**Hu-ho-hao-te**	**89.30**	**313**	*e*P	**P**	**17 25 29.9**	**+0.7**
SYO	**Syowa Base**	**90.92**	**192**	*e*P	**P**	**17 25 34.3**	**-1.8**
YKA	**Yellowknife Ar**	**91.88**	**24**	P	**P**	**17 25 40.9**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=262,slow=3.7,SNR=2.2						
	comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.12**	**289**	P	**P**	**17 25 44.4**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=112,slow=2.6,SNR=9.6						
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**95.28**	**318**	P	**P**	**17 25 58.3**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=104,slow=6.1,SNR=2.2						
	comp=Z,0.2nm,0.7s						
MKAR	**Mak

PETK S **Sn** **17 19 09.6 +4.2**
5.2nm,0.6s,baz=185,slow=14,SNR=1.7
PET **Petropavlovsk** **4.21 26** PN **Pn** **17 18 24.2 +2.9**
PET S **Sn** **17 19 10.8 +1.6**
PET **Petropavlovsk** **4.21 26** *e*P **Pn** **17 18 24.3 +2.9**
PET *e*S **Sn** **17 19 10.9 +1.6**
DALK **Dalny** **4.25 27** PN **Pn** **17 18 24.2 +2.4**
DALK S **Sn** **17 19 10.6 +0.6**
DALK **Dalny** **4.25 27** *e*P **Pn** **17 18 24.3 +2.4**
DALK *e*S **Sn** **17 19 10.6 +0.6**
UGLR **Uglovaya** **4.42 26** PN **Pn** **17 18 27.4 +3.0**
UGLR **Uglovaya** **4.42 26** *e*P **Pn** **17 18 27.5 +3.0**
KOK **Koryaka** **4.45 24** PN **Pn** **17 18 28.6 +3.9**
KOK **Koryaka** **4.45 24** *e*P **Pn** **17 18 28.6 +3.9**
AVH **Avacha** **4.45 25** PN **Pn** **17 18 28.5 +3.8**
AVH **Avacha** **4.45 25** *e*P **Pn** **17 18 28.5 +3.8**
KRX **Arik** **4.51 24** PN **Pn** **17 18 29.1 +3.5**
KRX **Arik** **4.51 24** *e*P **Pn** **17 18 29.1 +3.5**
NLC **Nalytchevo** **4.55 30** *e*S **Sn** **17 19 15.3 -2.2**
GNL **Ganaly** **4.66 17** PN **Pn** **17 18 31.3 +3.8**
GNL **Ganaly** **4.66 17** *e*P **Pn** **17 18 31.4 +3.8**
KUR **Kuril'sk** **6.64 235** *e*PN Pn 17 18 59.5 +4.9
KUR S **Sn** **17 20 14.1 +5.2**
KMNR **Kamenistaya** **7.07 22** PN Pn 17 19 06.0 +5.4
KMNR **Kamenistaya** **7.07 22** *e*P Pn 17 19 06.0 +5.4
SHO **Shikotan** **8.11 231** *e*PN **Pn** **17 19 15.4 +0.6**
SHO pmax pmax
comp=Z,16nm,0.3s
SHO pmax pmax
comp=N,8.0nm,0.2s
SHO pmax pmax
comp=E,24nm,0.2s
KBTR **Krutoberegovo** **8.20 29** PN **Pn** **17 19 17.0 +1.1**
KBTR **Krutoberegovo** **8.20 29** *e*P **Pn** **17 19 17.1 +1.1**
YUK **Yuzh-Kuril'sk** **8.51 236***c i*PN **Pn** **17 19 22.1 +1.9**
YUK pmax pmax
comp=Z,125nm,0.4s
YUK pmax pmax
comp=N,28nm,0.2s
YUK pmax pmax
comp=E,26nm,0.2s
RUSJ **Misakicho** **8.80 238** *e*PN Pn 17 19 28.6 +4.4
YSS **Yuzhno-Sakhali** **8.90 260** *e*PN Pn 17 19 30.0 +4.4
YSS *e*S **Sn** **17 21 05.5 +1.1**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS smax smax
comp=E,10.0nm,1.1s
NMR **Nemuro--Hokkai** **9.03 233** *e*PN **Pn** **17 19 26.2 -1.2**
ASAJ **Asahikawa** **10.31 245** P **Pn** **17 19 48.7 +3.8**
comp=E,8.9nm,0.6s,baz=70,slow=10,SNR=15
MA2 **Magadan** **10.69 347** P **Pn** **17 19 51.1 +1.2**
comp=E,1.0nm,0.4s,baz=100,slow=6.1,SNR=2.4
ERM **Erimo** **11.33 235** *i*PN **Pn** **17 19 58.9 +0.1**
KLR **Kul'dur** **15.56 279** P **P** **17 21 00.2 +1.4**
comp=E,1.0nm,0.4s,baz=87,slow=8.3,SNR=5.7
MAJO **Matsushiro** **17.95 231** *i*P **Pn** **17 21 25.2 -0.3**
MJAR **Matsushiro Arr** **17.95 231** P **P** **17 21 26.4 +0.9**
comp=E,0.7nm,0.4s,baz=27,slow=11,SNR=4.1
YAK **Yakutsk** **19.24 321** P **P** **17 21 37.3 -1.9**
comp=E,3.2nm,0.3s,baz=322,slow=1.1,SNR=2.9
KSRS **Korea Array** **23.20 250** P **P** **17 22 21.1 -0.6**
comp=E,0.8nm,0.7s,baz=47,slow=9.8,SNR=2.8
comp=E,0.8nm,0.7s
H11N2 **WAKE ISLAND Hy 30.84 159** T T 17 56 16.2
baz=343,slow=76,SNR=2.8
H11N1 **WAKE ISLAND Hy 30.86 159** T T 17 56 20.9
baz=343,slow=76,SNR=11
H11N3 **WAKE ISLAND Hy 30.86 159** T T 17 56 21.8
baz=343,slow=76,SNR=4.6
H11S1 **WAKE ISLAND Hy 31.98 160** T T 17 57 41.2
baz=346,slow=76,SNR=108
H11S3 **WAKE ISLAND Hy 31.99 160** T T 17 57 40.8
baz=346,slow=76,SNR=109
H11S2 **WAKE ISLAND Hy 32.00 160** T T 17 57 41.3
baz=346,slow=76,SNR=99
ILAR **Eielson Array** **33.53 41** P **P** **17 23 53.8 0.0**
comp=E,0.6nm,1.0s,baz=238,slow=6.0,SNR=6.0
comp=E,0.6nm,1.0s
PZH **PanZhiHua** **47.04 261** P **P** **17 25 42.6 -3.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
MKAR **Makanchi Array** **47.29 296** P **P** **17 25 44.5 -3.1**
comp=Z,0.4nm,0.7s,baz=46,slow=4.7,SNR=5.9
comp=Z,0.4nm,0.7s
KURK **Kurchatov** **47.38 303** P **P** **17 25 45.6 -2.5**
KURK *PP **sP** **17 26 06.2 -2.2**
KURBB **Kurchatov Arra** **47.47 303** P **P** **17 25 45.6 -3.3**
comp=Z,0.7nm,0.6s,baz=66,slow=8.3,SNR=5.1
KURBB pP **pP** **17 26 06.2 +3.2**
comp=Z,0.4nm,0.3s,baz=61,slow=8.5,SNR=5.3
comp=Z,0.7nm,0.6s
YKA **Yellowknife Ar** **47.90 39** P **P** **17 25 52.4 +0.4**
comp=Z,0.2nm,0.6s,baz=297,slow=8.2,SNR=3.2
comp=Z,0.2nm,0.6s
BVAR **Borovoye Array** **50.56 309** P **P** **17 26 09.4 -3.0**
comp=Z,0.7nm,0.5s,baz=63,slow=7.1,SNR=4.7
comp=Z,0.7nm,0.5s
CMAR **Chiang Mai Arr** **54.59 257** P **P** **17 26 43.4 +0.7**
comp=Z,1.8nm,0.8s,baz=33,slow=7.2,SNR=15
comp=Z,1.8nm,0.8s
ARCES **ARCESS Array B** **56.00 341** P P 17 26 48.0 -4.2
comp=Z,3.4nm,0.8s,baz=36,slow=8.1,SNR=2.4
comp=Z,3.4nm,0.8s
ARCES **ARCESS Array B** **56.00 341** P P 17 26 48.0 -4.2
HNR **Honiara** **58.59 175** P **P** **17 27 13.4 +2.4**
comp=Z,280nm,0.8s,baz=352,slow=14,SNR=3.6
NVAR **Mina Array Bea** **59.81 65** P **P** **17 27 20.4 +0.8**
comp=Z,0.5nm,0.5s,baz=286,slow=7.2,SNR=4.0
comp=Z,0.5nm,0.5s
PDAR **Pinedale Array** **61.93 56** P **P** **17 27 35.1 +1.2**
comp=Z,0.5nm,0.7s,baz=34,slow=0.5,SNR=3.7
comp=Z,0.5nm,0.7s
FINES **FINESS Array B** **62.45 335** P **P** **17 27 34.0 -2.7**
comp=Z,2.1nm,0.9s,baz=24,slow=1.7,SNR=3.8
comp=Z,2.1nm,0.9s
KBZ **Khabaz** **70.28 315** P **P** **17 28 25.4 -1.8**
comp=Z,0.6nm,0.6s,baz=53,slow=5.1,SNR=1.8
comp=Z,0.6nm,0.6s
TXAR **Lajitas Array** **74.82 63** P **P** **17 28 55.3 +0.8**
comp=Z,0.8nm,0.7s,baz=298,slow=4.9,SNR=9.5
TXAR pP **sP** **17 29 16.5 +1.1**
comp=Z,0.2nm,0.5s,baz=306,slow=5.2,SNR=2.6
comp=Z,0.8nm,0.7s
ASAR **Alice Springs** **75.15 201** P **P** **17 28 57.1 +0.9**
comp=Z,0.2nm,0.4s,baz=15,slow=5.0,SNR=7.5
ASAR pP **sP** **17 29 18.2 +1.1**
comp=Z,0.3nm,0.8s,baz=15,slow=5.2,SNR=2.2
comp=Z,0.2nm,0.4s
MMAI **Mount Meron Ar** **82.35 313** P **P** **17 29 35.1 -0.7**
comp=Z,2.0nm,0.6s,baz=44,slow=6.4,SNR=2.2
comp=Z,2.0nm,0.6s

GCG ***10*** *17:33:22.7±0.9, 15°.57N×94°.86W, h50km±114km, MD4.9, Hypocentre not reviewed by the ISC*
NEIC ***10*** *17:33:23.1±2.5, 15°.41N±0°.08×94°.813W±0°.008, h41km±11km, mb4.6/39, Md4.6/93(MEX), Error ellipse: s-maj=11.7km s-min=1.1km az=178.0*
MEX ***10*** *17:33:25.6±1.8, 15°.54N×94°.88W, h21km±92km, MD4.4*
IDC ***10*** *17:33:28.0±1.8, 15°.81N×94°.58W, h60km±12km, mb3.8/16, mbtmp4.1/19, MS3.8/14, Error ellipse: s-maj=23.4km s-min=7.6km az=43.0*
ISC 10 17:33:24.1±0.9, 15°.46N±0°.04×94°.78W±0°.03, h42km±9km, n150, σ2.6°57/207, mb4.3/22, MS3.8/13, 2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.11**	**8**	*e*P	**Pn**	**17 33 40.4**	**-2.9**
NILT				*e*S	**Sn**	**17 33 52.9**	**-4.5**
CARR	**Arriaga**	**1.14**	**47**	*e*P	**Pn**	**17 33 40.6**	**-3.1**
CARR				*e*S	**Sn**	**17 33 53.6**	**-4.6**
HUIG	**Huatulco**	**1.32**	**284**		**Pn**	**17 33 44.3**	**-1.8**
HUIG					**Sn**	**17 33 59.3**	**-3.2**
HUIG	**Huatulco**	**1.32**	**284**	*e*P	**Pn**	**17 33 44.3**	**-1.8**
HUIG				*e*S	**Sn**	**17 33 59.3**	**-3.2**
HUIG	**Huatulco**	**1.32**	**284**	*e*P		17 33 43.9	
HUIG				*i* S		17 33 58.7	
PCIG		**1.52**	**81**		**Pn**	**17 33 46.2**	**-2.7**
PCIG					**Sn**	**17 34 04.0**	**-3.5**
PCIG		**1.52**	**81**	*e*P	**Pn**	**17 33 46.2**	**-2.7**
PCIG				*e*S	**Sn**	**17 34 04.0**	**-3.5**
CMIG	**Matias Romero**	**1.63**	**356**		**Pn**	**17 33 48.5**	**-1.8**
CMIG					**Sn**	**17 34 07.6**	**-2.5**
CMIG	**Matias Romero**	**1.63**	**356**	P	**Pn**	**17 33 48.6**	**-1.8**
2μm,0.5s,baz=168,slow=11,SNR=2631							
CMIG				S	**Sn**	**17 34 06.7**	**-3.4**
3μm,0.5s,baz=80,slow=18,SNR=18							
CMIG				LR	LR	17 34 37.4	
comp=Z,1μm,19.7s,baz=194,slow=53							
CMIG	**Matias Romero**	**1.63**	**356**	*i* P	**Pn**	**17 33 48.5**	**-1.8**
CMIG				*e*S	**Sn**	**17 34 07.6**	**-2.5**
UXUV	**UXUV**	**1.94**	**18**	*i* P	**Pn**	**17 33 53.7**	**-1.0**
UXUV				*e*S	**Sn**	**17 34 16.8**	**-1.1**
TGIG		**2.06**	**50**		**Pn**	**17 33 55.2**	**-1.1**
TGIG					**Sn**	**17 34 21.0**	**+0.1**
TGIG		**2.06**	**50**	*e*P	**Pn**	**17 33 55.2**	**-1.1**
TGIG				*e*S	**Sn**	**17 34 21.0**	**+0.1**
TGIG		**2.06**	**50**	*e*P		17 33 55.4	
TGIG				*e*S		17 34 20.9	
TGBT	**Tuxtla Gutierr**	**2.08**	**51**		**Pn**	**17 33 56.7**	**+0.1**
TGBT					**Sn**	**17 34 21.2**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.08**	**51**	*e*P	**Pn**	**17 33 56.7**	**+0.1**
TGBT				*e*S	**Sn**	**17 34 21.2**	**-0.1**
PEIG	**Puerto Escondi**	**2.35**	**284**		**Pn**	**17 33 58.7**	**-1.5**
PEIG					**Sn**	**17 34 23.5**	**-4.4**
PEIG	**Puerto Escondi**	**2.35**	**284**	*e*P	**Pn**	**17 33 58.7**	**-1.5**
PEIG				*e*S	**Sn**	**17 34 23.5**	**-4.4**
NEUV	**Arroyo Zacate**	**2.45**	**336**	*e*P	**Pn**	**17 34 00.2**	**-1.4**
NEUV				*e*S	**Sn**	**17 34 29.1**	**-1.2**
OXBJ	**Oaxaca**	**2.46**	**311**		Pn	17 34 06.5	+4.5
OXBJ					**Sn**	**17 34 30.6**	**-0.3**
OXBJ	**Oaxaca**	**2.46**	**311**	*e*P	Pn	17 34 06.5	+4.5
OXBJ				*e*S	**Sn**	**17 34 30.6**	**-0.3**
OXIG	**Oaxaca**	**2.47**	**311**		**Pn**	**17 34 03.2**	**+1.1**
OXIG					**Sn**	**17 34 30.5**	**-0.7**
VHO	**Vista Hermosa**	**2.47**	**311**	*e*P	**Pn**	**17 34 03.2**	**+1.1**
VHO				*e*S	**Sn**	**17 34 30.5**	**-0.7**
THIG		**2.48**	**102**		**Pn**	**17 34 02.3**	**+0.2**
THIG					**Sn**	**17 34 29.9**	**-1.3**
THIG		**2.48**	**102**	*e*P	**Pn**	**17 34 02.3**	**+0.2**
THIG				*e*S	**Sn**	**17 34 29.9**	**-1.3**
TUIG	**Tuzandepetl**	**2.58**	**7**	*e*P	**Pn**	**17 34 02.4**	**-1.1**
TUIG				*e*S	**Sn**	**17 34 32.8**	**-0.9**
CCIG	**Comitan**	**2.67**	**72**		**Pn**	**17 34 04.3**	**-0.5**
CCIG	**Comitan**	**2.67**	**72**	*e*P	**Pn**	**17 34 05.0**	**+0.2**
CCIG				*e*S	**Sn**	**17 34 37.4**	**+1.4**
CCIG	**Comitan**	**2.67**	**72**	*e*P		17 34 04.5	
YOIG	**Yosondua**	**3.00**	**298**		**Pn**	**17 34 10.2**	**+0.8**
YOIG					**Sn**	**17 34 42.9**	**-1.5**
YOIG	**Yosondua**	**3.00**	**298**	*e*P	**Pn**	**17 34 10.2**	**+0.8**
YOIG				*e*S	**Sn**	**17 34 42.9**	**-1.5**
VHSA	**Villahermosa**	**3.06**	**35**	*e*P	**Pn**	**17 34 08.7**	**-1.3**
VHSA				*e*S	**Sn**	**17 34 46.1**	**+0.6**
PMUV	**Sontecomapan**	**3.09**	**354**	*e*P	**Pn**	**17 34 07.8**	**-2.6**
PMUV				*e*S	**Sn**	**17 34 40.4**	**-5.8**
PNIG	**Pinotepa**	**3.35**	**287**		**Pn**	**17 34 13.5**	**-0.6**
PNIG					**Sn**	**17 34 47.4**	**-5.3**
PNIG	**Pinotepa**	**3.35**	**287**	*e*P	**Pn**	**17 34 13.5**	**-0.6**
PNIG				*e*S	**Sn**	**17 34 47.4**	**-5.3**
TXIG	**Tlaxiaco**	**3.38**	**302**		**Pn**	**17 34 15.9**	**+1.2**
TXIG					**Sn**	**17 34 49.9**	**-3.9**
TXIG	**Tlaxiaco**	**3.38**	**302**	*e*P	**Pn**	**17 34 15.9**	**+1.2**
TXIG				*e*S	**Sn**	**17 34 49.9**	**-3.9**
TOIG	**Toxpalan**	**3.42**	**320**		**Pn**	**17 34 17.0**	**+2.0**
TOIG					**Sn**	**17 34 56.6**	**+2.2**
TOIG	**Toxpalan**	**3.42**	**320**	*e*P	**Pn**	**17 34 17.0**	**+2.0**
TOIG				*e*S	**Sn**	**17 34 56.6**	**+2.2**
QUIS	**Sacapulas**	**3.56**	**92**	*e*P		17 34 20.2	
HLIG	**Huajuapan de L**	**3.74**	**310**		**Pn**	**17 34 21.5**	**+2.0**
HLIG					**Sn**	**17 35 00.3**	**-2.1**
HLIG	**Huajuapan de L**	**3.74**	**310**	*e*P	**Pn**	**17 34 21.5**	**+2.0**
HLIG				*e*S	**Sn**	**17 35 00.3**	**-2.1**
TPIG	**Tehuac#an**	**3.85**	**320**		**Pn**	**17 34 22.4**	**+1.4**
TPIG					**Sn**	**17 35 05.6**	**+0.6**
TPIG	**Tehuac#an**	**3.85**	**320**	*e*P	**Pn**	**17 34 22.4**	**+1.4**
TPIG				*e*S	**Sn**	**17 35 05.6**	**+0.6**
FTIG	**Fresnillo de T**	**4.04**	**308**		**Pn**	**17 34 24.1**	**+0.5**
FTIG					**Sn**	**17 35 08.1**	**-1.5**
FTIG	**Fresnillo de T**	**4.04**	**308**	*e*P	**Pn**	**17 34 24.1**	**+0.5**
FTIG				*e*S	**Sn**	**17 35 08.1**	**-1.5**
MGIG	**Malinaltepec**	**4.10**	**296**		**Pn**	**17 34 25.6**	**+1.1**
MGIG					**Sn**	**17 35 09.0**	**-2.4**
MGIG	**Malinaltepec**	**4.10**	**296**	*e*P	**Pn**	**17 34 25.6**	**+1.1**
MGIG				*e*S	**Sn**	**17 35 09.0**	**-2.4**
APG	**El Apazote**	**4.19**	**96**	P	**Pn**	**17 34 28.3**	**+2.6**
4.6nm,0.8s,baz=215,slow=17,SNR=18							
APG				S	**Sn**	**17 35 15.8**	**+2.3**
17nm,0.7s,baz=130,slow=10,SNR=7.4							
TLIG	**Tlapa**	**4.20**	**300**	Pn	**Pn**	**17 34 27.5**	**+1.7**
TLIG	**Tlapa**	**4.20**	**300**	*e*P	**Pn**	**17 34 26.2**	**+0.4**
TLIG				*e*S	**Sn**	**17 35 10.4**	**-3.2**
JAUV	**Jalcomulco**	**4.34**	**334**	*e*P	**Pn**	**17 34 25.5**	**-2.2**
JAUV				*e*S	**Sn**	**17 35 10.6**	**-6.4**
CRIG	**Cruz Grande**	**4.38**	**287**		**Pn**	**17 34 27.9**	**-0.2**
CRIG					**Sn**	**17 35 12.1**	**-5.7**
CRIG	**Cruz Grande**	**4.38**	**287**	*e*P	**Pn**	**17 34 27.9**	**-0.2**
CRIG				*e*S	**Sn**	**17 35 12.1**	**-5.7**
LVIG	**Laguna Verde**	**4.52**	**340**	*e*P	**Pn**	**17 34 27.1**	**-3.0**
LVIG				*e*S	**Sn**	**17 35 18.0**	**-3.4**
SCIG	**Sabancuy**	**4.89**	**44**	*e*P	**Pn**	**17 34 33.9**	**-1.3**
SCIG				*e*S	**Sn**	**17 35 29.9**	**-0.7**
SCIG	**Sabancuy**	**4.89**	**44**	*i* P		17 34 34.0	
DAIG	**Los Arroyos**	**4.93**	**289**		**Pn**	**17 34 36.1**	**+0.3**
DAIG					**Sn**	**17 35 25.0**	**-6.6**
DAIG	**Los Arroyos**	**4.93**	**289**	‖*e*P	**Pn**	**17 34 36.1**	**+0.3**
DAIG				*e*S	**Sn**	**17 35 25.0**	**-6.6**
PPM	**Popocatepetl**	**5.14**	**315**	*e*P	**Pn**	**17 34 42.4**	**+3.4**
PPM				*e*S	**Sn**	**17 35 38.4**	**+1.1**
PPIG	**Popocatepetl**	**5.14**	**315**		**Pn**	**17 34 42.4**	**+3.4**
PPIG					**Sn**	**17 35 38.4**	**+1.0**
YAIG	**Yautepec**	**5.32**	**310**		**Pn**	**17 34 43.4**	**+2.2**
YAIG					**Sn**	**17 35 38.6**	**-2.6**
YAIG	**Yautepec**	**5.32**	**310**	*e*P	**Pn**	**17 34 43.4**	**+2.2**
YAIG				*e*S	**Sn**	**17 35 38.6**	**-2.6**
MTO3	**Montecristo**	**5.34**	**101**		**Pn**	**17 34 45.0**	**+3.4**
PLIG	**Platanillo**	**5.38**	**303**		**Pn**	**17 34 45.0**	**+3.0**
PLIG					**Sn**	**17 35 40.4**	**-2.4**
PLIG	**Platanillo**	**5.38**	**303**	‖*e*P	**Pn**	**17 34 45.0**	**+3.0**
PLIG				*e*S	**Sn**	**17 35 40.4**	**-2.4**
CXUV	**Coxquihui**	**5.40**	**331**	*e*P	**Pn**	**17 34 41.8**	**-0.4**
CXUV				*e*S	**Sn**	**17 35 42.1**	**-1.1**
CAIG	**El Cayaco**	**5.51**	**287**		**Pn**	**17 34 43.6**	**0.0**
CAIG					**Sn**	**17 35 38.4**	**-7.3**
CAIG	**El Cayaco**	**5.51**	**287**	*e*P	**Pn**	**17 34 43.6**	**0.0**
CAIG				*e*S	**Sn**	**17 35 38.4**	**-7.3**
ARIG	**Puente Sto Nin**	**6.03**	**299**		**Pn**	**17 34 53.1**	**+2.2**
ARIG					**Sn**	**17 35 54.3**	**-4.3**
ARIG	**Puente Sto Nin**	**6.03**	**299**	*e*P	**Pn**	**17 34 53.1**	**+2.2**
ARIG				*e*S	**Sn**	**17 35 54.3**	**-4.3**
DEIG	**Demacu**	**6.29**	**321**	*e*S	**Sn**	**17 35 59.1**	**-6.4**
DHIG	**Demacu**	**6.29**	**321**		**Sn**	**17 35 59.1**	**-6.4**
ZIIG	**Zihuatanejo**	**6.76**	**289**		**Pn**	**17 35 01.6**	**+0.8**
ZIIG					Sn	17 36 06.7	-10
ZIIG	**Zihuatanejo**	**6.76**	**289**	*e*P	**Pn**	**17 35 01.6**	**+0.8**
ZIIG				*e*S	Sn	17 36 06.7	-10
CTUV	**Llano Grande**	**6.88**	**331**	*e*P	**Pn**	**17 35 05.1**	**+2.6**
CTUV				*e*S	**Sn**	**17 36 19.4**	**-0.1**
TGUH	**Tegucigalpa,Un**	**7.39**	**100**	Pn	**Pn**	**17 35 12.1**	**+2.5**
MOIG	**Morelia**	**7.42**	**305**		**Pn**	**17 35 11.0**	**+1.0**
MOIG	**Morelia**	**7.42**	**305**	*e*P	**Pn**	**17 35 13.1**	**+3.0**
MOIG				*e*S	**Sn**	**17 36 28.4**	**-4.7**
TEIG	**Tepich**	**7.80**	**52**	Pn	**Pn**	**17 35 14.7**	**-0.3**
TEIG	**Tepich**	**7.80**	**52**	P	**Pn**	**17 35 13.6**	**-1.5**
0.1nm,0.4s,baz=251,slow=24,SNR=27							
TEIG				S	**Sn**	**17 36 36.6**	**-5.5**
0.3nm,0.4s,baz=33,slow=24,SNR=7.0							
MMIG	**Aquila**	**8.67**	**290**		**Pn**	**17 35 27.9**	**+0.8**
MMIG					**Sn**	**17 36 59.6**	**-4.0**
MMIG	**Aquila**	**8.67**	**290**	*e*P	**Pn**	**17 35 27.9**	**+0.8**
MMIG				*e*S	**Sn**	**17 36 59.6**	**-4.0**
EZ5V		**9.32**	**297**		**Pn**	**17 35 39.8**	**+3.6**
EZ5V		**9.32**	**297**	*e*P	**Pn**	**17 35 39.8**	**+3.6**
EZ5V				*e*S	**Sn**	**17 37 19.1**	**-0.8**
MNGA	**Volcan de Coli**	**9.33**	**297**	*e*P	Pn	17 35 41.0	+4.6
MNGA				*e*S	**Sn**	**17 37 21.1**	**+0.9**
INCO	**Volcan de Coli**	**9.34**	**297**	*e*P	**Pn**	**17 35 40.2**	**+3.6**
INCO				*e*S	**Sn**	**17 37 22.4**	**+1.7**
SOMAC	**Volcano de Col**	**9.36**	**297**	*e*P	Pn	17 35 41.3	+4.4
SOMAC				*e*S	**Sn**	**17 37 20.9**	**-0.2**
CEGR	**Campo Tres**	**9.51**	**296**	*e*P	**Pn**	**17 35 43.0**	**+4.2**
CEGR				*e*S	**Sn**	**17 37 22.4**	**-2.0**
JTS	**Las Juntas de**	**10.87**	**117**	P	**Pn**	**17 36 00.8**	**+3.6**
2.5nm,0.3s,baz=285,slow=21,SNR=1.7							
HNDO	**Hondo**	**14.61**	**344**		**Pn**	**17 36 47.3**	**-0.8**
DRIO	**Del Rio**	**14.90**	**340**	Pn	**Pn**	**17 36 48.9**	**-3.2**
435B	**Jarrell**	**15.47**	**351**		**Pn**	**17 36 58.6**	**-0.8**
435B				IAmb	IAmb	17 37 19.8	
comp=Z,39nm,0.8s							
SAND	**Sanderson**	**15.93**	**336**		**Pn**	**17 37 02.3**	**-3.1**
TX31	**Lajitas Ar. Si**	**16.06**	**331**	P	**Pn**	**17 37 07.9**	**+0.8**
TXAR	**Lajitas Array**	**16.06**	**331**	P	**P**	**17 37 09.8**	**-0.2**
TXAR	**Lajitas Array**	**16.06**	**331**	P	**Pn**	**17 37 08.8**	**+1.7**
comp=Z,3.3nm,0.8s,baz=154,slow=13,SNR=20							
BRDY	**Brady**	**16.22**	**347**	P	**P**	**17 37 14.1**	**+2.5**
OZNA	**Ozona**	**16.45**	**340**	Pn	**Pn**	**17 37 09.8**	**-2.3**
OZNA				IAmb	IAmb	17 37 28.0	
comp=Z,33nm,0.8s							
LPIG	**La Paz**	**16.95**	**303**	LR	LR	17 43 30.2	
comp=Z,148nm,19.7s,baz=136,slow=36							
FW13	**Cleburne**	**16.99**	**352**	Pn	**Pn**	**17 37 15.5**	**-3.2**
FW13				IAmb	IAmb	17 37 44.3	
comp=Z,20nm,0.6s							
FW07	**Weatherford**	**17.38**	**351**	P	**Pn**	**17 37 22.2**	**-1.4**
FW07				IAmb	IAmb	17 37 39.8	
comp=Z,38nm,0.6s							
PLPT	**Palo Pinto**	**17.57**	**350**	P	**P**	**17 37 28.1**	**+1.5**
PLPT				IAmb	IAmb	17 37 42.9	
comp=Z,23nm,0.8s							
FW03	**Perrin-Whitt E**	**17.76**	**351**	P	**Pn**	**17 37 29.0**	**+0.8**
FW03				IAmb	IAmb	17 37 44.4	
comp=Z,26nm,0.7s							
VHRN	**Van Horn**	**17.90**	**330**		**Pn**	**17 37 29.4**	**-0.7**
SN07	**Snyder 07**	**18.41**	**344**	P	**P**	**17 37 34.3**	**-1.5**
APMT	**Aspermont**	**18.43**	**346**		**P**	**17 37 35.1**	**-1.0**
DKNS	**Dickens**	**18.96**	**344**	P	**P**	**17 37 40.3**	**-1.6**
DKNS				IAmb	IAmb	17 37 44.4	
comp=Z,20nm,0.9s							
W35A	**Tecumseh**	**19.70**	**355**	P	**P**	**17 37 49.6**	**-0.3**
W35A				IAmb	IAmb	17 38 15.8	
comp=Z,22nm,0.9s							
SRIG	**Santa Rosalia**	**20.06**	**309**	P	**P**	**17 37 52.4**	**-1.5**
SRIG				IAmb	IAmb	17 37 57.0	
comp=Z,39nm,1.1s							
SMWD	**Samnorwood**	**20.17**	**347**	P	**P**	**17 37 55.0**	**0.0**
SMWD				IAmb	IAmb	17 37 58.9	
comp=Z,39nm,1.1s							
ADOK	**Arcadia Dam**	**20.24**	**354**	P	**P**	**17 37 53.9**	**-1.9**
OK052	**Battle Ridge R**	**20.53**	**355**	P	**P**	**17 37 57.3**	**-1.6**
OK052				IAmb	IAmb	17 38 08.3	
comp=Z,20nm,0.8s							
CROK	**Carrier**	**21.15**	**353**	P	**P**	**17 38 04.0**	**-1.6**
BLOK	**Blackwell**	**21.33**	**355**	P	**P**	**17 38 01.8**	**-5.7**
NOKA	**Waynoka**	**21.41**	**351**	P	**P**	**17 38 08.4**	**0.0**
ANMO	**Albuquerque**	**22.06**	**334**	P	**P**	**17 38 17.5**	**+1.9**
comp=Z,2.4nm,0.8s,baz=84,slow=11,SNR=8.2							
comp=Z,2.4nm,0.8s							
ROSC	**El Rosal**	**22.71**	**116**	P	**P**	**17 38 25.7**	**+2.8**
comp=Z,6.8nm,0.4s,baz=297,slow=18,SNR=5.2							
comp=Z,6.8nm,0.4s							
RUSC	**La Rusia**	**23.32**	**112**	P	**P**	**17 38 27.8**	**-1.4**
RUSC				IAmb	IAmb	17 38 40.2	
comp=Z,20nm,1.1s							
SDV	**Santo Domingo**	**24.47**	**103**	LR	LR	17 47 55.2	
comp=Z,170nm,21.1s,baz=259,slow=36							
N38A	**Joes South For**	**25.28**	**3**	P	**P**	**17 38 43.3**	**-3.2**
PFO	**Pinyon Flats O**	**26.66**	**317**	LR	LR	17 50 29.4	
comp=Z,243nm,19.9s,baz=108,slow=38							
SJG	**San Juan**	**27.52**	**80**	LR	LR	17 48 59.0	
comp=Z,92nm,22.0s,baz=186,slow=34							
ATAH	**Atahualpa**	**27.70**	**143**	LR	LR	17 47 41.3	
comp=Z,98nm,20.9s,baz=337,slow=31							
PCRV	**Puerto La Cruz**	**29.84**	**96**	LR	LR	17 52 46.6	
comp=Z,93nm,18.5s,slow=39							
PDAR	**Pinedale Array**	**30.03**	**338**	P	**P**	**17 39 29.9**	**+0.6**
comp=Z,0.8nm,0.9s,baz=148,slow=8.7,SNR=6.1							
PDAR				LR	LR	17 54 25.2	
comp=Z,126nm,18.1s,baz=26,slow=42							
comp=Z,0.8nm,0.9s							
NVAR	**Mina Array Bea**	**30.87**	**322**	P	**P**	**17 39 39.3**	**+2.5**
comp=Z,1.6nm,0.7s,baz=140,slow=9.5,SNR=8.9							
NVAR				LR	LR	17 52 08.1	
comp=Z,268nm,20.2s,baz=152,slow=37							
comp=Z,1.6nm,0.7s							
PLID	**Pearl Lake**	**34.54**	**333**	P	**P**	**17 40 07.5**	**-1.3**
PLID				IAmb	IAmb	17 40 11.1	
comp=Z,7.3nm,0.8s							
ULM	**Lac du Bonnet**	**34.71**	**359**	P	**P**	**17 40 08.3**	**-1.6**
comp=Z,3.4nm,0.8s,baz=184,slow=9.9,SNR=6.3							
comp=Z,3.4nm,0.8s							
YBH	**Yreka

WRA Warramunga Arr 30.52 163 P P 17 53 26.2 +0.1
comp=Z,0.3nm,0.8s,baz=343,slow=8.7,SNR=9.3
comp=Z,0.3nm,0.8s
ASAR Alice Springs 33.96 166 P P 17 53 56.2 -0.2
comp=Z,0.1nm,0.4s,baz=348,slow=9.0,SNR=5.8
comp=Z,0.1nm,0.4s
MKAR Makanchi Array 52.15 324 P P 17 56 23.2 -0.1
comp=Z,0.2nm,0.6s,baz=115,slow=7.9,SNR=4.0
comp=Z,0.2nm,0.6s

---

*IDC **10** 18:03:36.7±0.9, 38°.48N×73°.63E, h0km, mb3.8/13, mbtmp3.9/19, ML3.4/6, MS3.1/3, Error ellipse: s-maj=15.0km s-min=12.9km az=98.0*
*SOME **10** 18:03:39.7, 38°.60N×74°.10E, h5km*
*NNC **10** 18:03:42.3±1.6, 38°.65N×73°.98E, h11km±7km, mb4.4, mpv4.1, Error ellipse: s-maj=11.1km s-min=7.8km az=5.0*
*MOS **10** 18:03:42.0±1.0, 38°.62N×73°.66E, h50km, mb4.3/8, Error ellipse: s-maj=12.2km s-min=5.7km az=86.8*
ISC 10 18:03:39.8±0.6, 38°.68N±0°.04×73°.94E±0°.04, h10km, n99, σ2s83/101, mb4.0/19, 18C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.79**	**61**	Pg	Pn	18 04 05.2	-5.7
KSH				Sg	Sn	18 04 25.4	-8.4
KSH				smax	smax		
	comp=N,1μm,1.1s						
KSH				smax	smax		
	comp=E,2μm,0.9s						
AML	**Almayashu**	**3.46**	**357**	P	**Pb**	**18 04 38.0**	**-3.3**
	SNR=28						
UCH	**Uchtor**	**3.58**	**7**	P	**Pn**	**18 04 39.5**	**+3.8**
	SNR=13						
ULHL	**Ulahol**	**3.98**	**25**	P	Pb	18 04 46.8	-3.3
	SNR=7.2						
AAK	**Ala-Archa**	**3.98**	**6**	Pn	**Pn**	**18 04 45.1**	**+4.2**
	comp=E,7.0nm,0.3s,baz=186,slow=4.5,SNR=74						
AAK				Sn	**Sb**	**18 05 37.3**	**-1.1**
	comp=E,3.9nm,0.3s,baz=212,slow=18,SNR=4.7						
AAK				Lg	Lg	18 05 48.5	
	comp=E,9.3nm,0.3s,baz=82,slow=20,SNR=5.8						
AAK				LR	LR	18 06 27.9	
	comp=E,132nm,19.4s,baz=228,slow=41						
	comp=E,18nm,0.4s						
AAK	**Ala-Archa**	**3.98**	**6**	P	**Pn**	**18 04 45.2**	**+4.2**
	SNR=44						
KBK	**Karagaybulak**	**4.05**	**11**	P	**Pn**	**18 04 46.2**	**+4.3**
	SNR=29						
MRKS	**Merke**	**4.10**	**353**	Pg	**Pg**	**18 04 59.7**	**+1.4**
	comp=E,78nm,0.8s						
MRKS				Lg	Lg	18 05 57.0	
	comp=E,99nm,1.0s						
MRKS	**Merke**	**4.10**	**353**	*e*P	**Pg**	**18 04 59.7**	**+1.4**
	comp=E,78nm,0.8s						
MRKS				*e*S	**Sg**	**18 05 57.0**	**+5.5**
	comp=E,99nm,1.0s						
CHMS	**Chumysh**	**4.36**	**8**	Pg	Pg	18 05 12.6	+9.3
	comp=E,32nm,0.1s						
CHMS				Lg	Lg	18 06 19.3	
	comp=E,276nm,0.7s						
TKM2	**Tokmak 2**	**4.42**	**16**	P	**Pn**	**18 04 51.3**	**+4.2**
	SNR=13						
TKM2	**Tokmak 2**	**4.42**	**16**	⇓Pn	**Pn**	**18 04 50.6**	**+3.5**
	comp=E,5.3nm,0.6s						
TKM2				⇑Pg	**Pb**	**18 05 01.8**	**+4.1**
	comp=E,48nm,0.9s						
TKM2				⇑Lg	Lg	18 06 03.9	
	comp=E,115nm,1.3s						
TKM2	**Tokmak 2**	**4.42**	**16**	PN	**Pn**	**18 04 50.6**	**+3.5**
KST	**Kastek**	**4.62**	**19**	Pg	**Pg**	**18 05 06.6**	**-1.7**
	comp=E,19nm,0.5s						
KST				Lg	Lg	18 06 09.3	
	comp=E,80nm,0.8s						
KST	**Kastek**	**4.62**	**19**	*e*P	**Pg**	**18 05 06.7**	**-1.7**
	comp=E,19nm,0.5s						
KST				*e*S	**Sg**	**18 06 09.3**	**+1.0**
	comp=E,80nm,0.8s						
DZA	**Taraz**	**4.65**	**336**	Pg	**Pg**	**18 05 08.7**	**-0.2**
	comp=E,51nm,0.3s						
DZA				Lg	Lg	18 06 12.8	
	comp=E,130nm,0.8s						
DZA	**Taraz**	**4.65**	**336**	*e*P	**Pg**	**18 05 08.7**	**-0.2**
	comp=E,51nm,0.3s						
DZA				*e*S	**Sg**	**18 06 12.8**	**+3.6**
	comp=E,130nm,0.8s						
DGS	**Degeres**	**4.77**	**16**	Pg	**Pg**	**18 05 09.1**	**-2.0**
	comp=E,27nm,0.6s						
DGS				Lg	Lg	18 06 13.3	
	comp=E,68nm,0.7s						
SGDS	**Sogindy**	**4.80**	**6**	Pg	**Pg**	**18 05 10.1**	**-1.6**
	comp=E,8.8nm,0.8s						
SGDS				Lg	Lg	18 06 14.5	
	comp=E,36nm,0.8s						
MTBS	**Maitube**	**4.83**	**22**	Pg	**Pb**	**18 05 08.9**	**+4.3**
	comp=E,26nm,0.6s						
MTBS				Lg	Lg	18 06 12.6	
	comp=E,27nm,0.9s						
MTBS	**Maitube**	**4.83**	**22**	*e*P	**Pb**	**18 05 08.9**	**+4.3**
	comp=E,26nm,0.6s						
MTBS				*e*S	**Sg**	**18 06 12.6**	**-2.3**
	comp=E,27nm,0.9s						
CHM	**Chimkent**	**4.92**	**319**	*e*P	**Pg**	**18 05 12.6**	**-1.3**
	comp=E,32nm,0.1s						
CHM				*e*S	**Sg**	**18 06 19.3**	**+1.8**
	comp=E,276nm,0.7s						
TNSS	**Tian-Shan**	**4.92**	**27**	Pg	Pb	18 05 11.7	+5.5
	comp=E,17nm,0.5s						
TNSS				Lg	Lg	18 06 17.9	
	comp=E,36nm,0.8s						
TNSS	**Tian-Shan**	**4.92**	**27**	*e*P	Pb	18 05 11.7	+5.5
	comp=E,17nm,0.5s						
TNSS				*e*S	**Sg**	**18 06 17.9**	**+0.2**
	comp=E,36nm,0.8s						
AAA	**Alma-Ata**	**5.06**	**26**	Pg	**Pg**	**18 05 15.9**	**-0.8**
	comp=E,23nm,0.1s						
AAA				Lg	Lg	18 06 24.8	
	comp=E,31nm,0.7s						
AAA	**Alma-Ata**	**5.06**	**26**	*e*P	**Pg**	**18 05 15.9**	**-0.8**
	comp=E,23nm,0.1s						
AAA				*e*S	**Sg**	**18 06 24.8**	**+2.6**
	comp=E,31nm,0.7s						
MDOK	**Medeo**	**5.06**	**27**	⇓Pn	**Pn**	**18 04 59.3**	**+3.4**
	comp=E,5.5nm,0.6s						
MDOK				⇓Pg	**Pb**	**18 05 13.2**	**+4.6**
	comp=E,40nm,0.8s						
MDOK				Pg	Pb	18 05 14.6	+6.0
	comp=E,22nm,0.6s						
MDOK				Lg	Lg	18 06 22.6	
	comp=E,65nm,0.9s						
MDOK				⇑Lg	Lg	18 06 24.0	
	comp=E,102nm,1.0s						
MDOK	**Medeo**	**5.06**	**27**	PN	**Pn**	**18 04 59.3**	**+3.4**
MDOK	**Medeo**	**5.06**	**27**	*e*P	Pb	18 05 14.6	+6.0
	comp=E,22nm,0.6s						
MDOK				*e*S	**Sg**	**18 06 22.6**	**+0.3**
	comp=E,65nm,0.9s						
KK31	**Karatay Array**	**5.13**	**331**	Pn	**Pn**	**18 04 58.4**	**+1.7**
	comp=E,7.7nm,0.6s,baz=139,slow=13,SNR=97						
KK31				⇑Pg	**Pg**	**18 05 13.8**	**-4.1**
	comp=E,8.9nm,0.4s,baz=156,slow=15,SNR=6.0						
KK31				⇑Sn	**Sn**	**18 05 59.8**	**+3.9**
	comp=E,58nm,0.8s,baz=153,slow=22,SNR=6.5						
KK31				⇑Lg	Lg	18 06 25.2	
	comp=E,23nm,0.6s						
KK31	**Karatay Array**	**5.13**	**331**	PN	**Pn**	**18 04 58.4**	**+1.7**
KK31				SN	**Sn**	**18 05 59.8**	**+3.9**
KOTS	**Kotyrbulak**	**5.15**	**27**	Pg	**Pg**	**18 05 16.3**	**-2.0**
	comp=E,21nm,0.6s						
KOTS				Lg	Lg	18 06 26.3	
	comp=E,123nm,0.9s						
KOTS	**Kotyrbulak**	**5.15**	**27**	*e*P	**Pg**	**18 05 16.3**	**-2.0**
	comp=E,21nm,0.6s						
KOTS				*e*S	**Sg**	**18 06 26.3**	**+1.2**
	comp=E,123nm,0.9s						
KTBS	**Karatobe**	**5.44**	**21**	Pg	Pb	18 05 20.9	+6.0
	comp=E,11nm,0.8s						
KTBS				Lg	Lg	18 06 34.0	
	comp=E,68nm,0.7s						
SATY	**Saty**	**5.54**	**36**	Pg	**Pg**	**18 05 24.0**	**-1.8**
	comp=E,11nm,0.7s						
SATY				Lg	Lg	18 06 39.2	
	comp=E,69nm,1.3s						
ZHN	**Zhinishke**	**5.63**	**36**	Pg	Pb	18 05 24.3	+6.1
	comp=E,14nm,0.8s						
ZHN				Lg	Lg	18 06 39.7	
	comp=E,26nm,0.7s						
ZHN	**Zhinishke**	**5.63**	**36**	*e*P	Pb	18 05 24.3	+6.1
	comp=E,14nm,0.8s						
ZHN				*e*S	**Sg**	**18 06 39.7**	**-0.9**
	comp=E,26nm,0.7s						
KURS	**Kuram**	**5.77**	**32**	Pg	**Pg**	**18 05 28.8**	**-1.5**
	comp=E,9.5nm,0.7s						
KURS				Lg	Lg	18 06 47.9	
	comp=E,33nm,1.2s						
UZB	**Uzynbulak**	**5.90**	**39**	Pg	Pb	18 05 28.0	+5.3
	comp=E,7.2nm,0.5s						
UZB				Lg	Lg	18 06 46.0	
	comp=E,20nm,1.1s						
UZB	**Uzynbulak**	**5.90**	**39**	*e*P	Pb	18 05 28.0	+5.3
	comp=E,7.2nm,0.5s						
UZB				*e*S	Sg	18 06 46.0	-3.1
	comp=E,20nm,1.1s						
KPKS	**Kokpek**	**5.98**	**35**	Pg	Pb	18 05 31.0	+6.9
	comp=E,14nm,0.7s						
KPKS				Lg	Lg	18 06 51.1	
	comp=E,36nm,0.8s						
KPKS	**Kokpek**	**5.98**	**35**	*e*P	**Pn**	**18 05 09.1**	**+0.7**
	comp=E,27nm,0.6s						
KPKS				*e*S	**Sn**	**18 06 13.3**	**-3.7**
	comp=E,68nm,0.7s						
KPKS	**Kokpek**	**5.98**	**35**	*e*P	Pb	18 05 31.0	+6.9
	comp=E,14nm,0.7s						
KPKS				*e*S	**Sg**	**18 06 51.1**	**-0.6**
	comp=E,36nm,0.8s						
ARXS	**Arharly**	**6.26**	**27**	Pg	**Pg**	**18 05 37.4**	**-2.1**
	comp=E,0.3nm,0.1s						
ARXS				Lg	Lg	18 07 01.7	
	comp=E,30nm,0.9s						
PDGK	**Podgornoye**	**6.26**	**40**	⇑Pn	**Pn**	**18 05 15.8**	**+3.5**
	comp=E,11nm,0.7s						
PDGK				⇑Lg	Lg	18 07 02.1	
	comp=E,78nm,1.1s						
PDGK	**Podgornoye**	**6.26**	**40**	PN	**Pn**	**18 05 15.8**	**+3.5**
BTLS	**Baital**	**6.36**	**1**	Pg	**Pg**	**18 05 41.0**	**-0.6**
	comp=E,5.1nm,0.8s						
BTLS				Lg	Lg	18 07 07.7	
	comp=E,13nm,0.7s						
BTLS	**Baital**	**6.36**	**1**	*e*P	**Pg**	**18 05 41.0**	**-0.6**
	comp=E,5.1nm,0.8s						
BTLS				*e*S	**Sg**	**18 07 07.7**	**+3.8**
	comp=E,13nm,0.7s						
KNOS	**Konyrlen**	**6.91**	**33**	Pg	Pg	18 05 48.8	-3.2
	comp=E,4.5nm,0.7s						
KNOS				Lg	Lg	18 07 21.5	
	comp=E,17nm,0.3s						
TDK	**Taldyqorghan**	**7.15**	**26**	Pg	Pg	18 05 53.5	-3.1
	comp=E,49nm,0.8s						
TDK				Lg	Lg	18 07 29.6	
	comp=E,52nm,0.7s						
TDK	**Taldyqorghan**	**7.15**	**26**	*e*P	Pg	18 05 53.5	-3.1
	comp=E,49nm,0.8s						
TDK				*e*S	**Sg**	**18 07 29.6**	**+0.5**
	comp=E,52nm,0.7s						
MK31	**Makanchi Array**	**10.17**	**34**	⇑Pn	**Pn**	**18 06 09.3**	**+3.5**
	comp=E,11nm,1.1s,baz=202,slow=12,SNR=44						
MK31	**Makanchi Array**	**10.17**	**34**	*ce*P	**Pn**	**18 06 09.9**	**+4.1**
MKAR	**Makanchi Array**	**10.17**	**34**	Pn	**Pn**	**18 06 09.4**	**+3.6**
	comp=E,0.2nm,0.3s,baz=208,slow=12,SNR=35						
MKAR				Lg	Lg	18 09 07.8	
	comp=E,0.1nm,0.3s,baz=227,slow=28,SNR=5.4						
	comp=E,5.9nm,1.0s						
WMQ	**Urumqi**	**11.56**	**59**	*e*P	Pn	18 06 31.2	+6.4
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
KURBB	**Kurchatov Arra**	**12.38**	**14**	Pn	**Pn**	**18 06 36.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=9.3						
KURBB				Lg	Lg	18 10 16.5	
	comp=Z,0.1nm,0.3s,baz=204,slow=31,SNR=9.1						
	comp=Z,2.1nm,0.2s						
KURBB	**Kurchatov Arra**	**12.38**	**14**	⇑Pn	**Pn**	**18 06 39.6**	**+3.6**
	comp=Z,5.2nm,1.1s						
KURBB	**Kurchatov Arra**	**12.38**	**14**	P	**Pn**	**18 06 39.6**	**+3.6**
KURK	**Kurchatov**	**12.49**	**14**	⇑Pn	**Pn**	**18 06 40.8**	**+3.4**
	comp=Z,4.3nm,0.9s						
KURK				⇑Lg	Lg	18 10 14.1	
	comp=Z,16nm,1.1s						
KURK	**Kurchatov**	**12.49**	**14**	P	**Pn**	**18 06 40.8**	**+3.4**
BVA0	**Borovoye Array**	**14.56**	**351**	⇓P	**Pn**	**18 07 06.4**	**+0.7**
	comp=Z,4.7nm,0.8s,baz=155,slow=8.5,SNR=17						
BVA0	**Borovoye Array**	**14.56**	**351**	P	**Pn**	**18 07 06.4**	**+0.7**
BVAR	**Borovoye Array**	**14.56**	**351**	Pn	**Pn**	**18 07 05.1**	**-0.7**
	baz=158,slow=14,SNR=10						
BVAR				Sn	**Sn**	**18 09 41.7**	**-5.4**
	baz=200,slow=12,SNR=1.2						
BVAR				Lg	Lg	18 11 21.0	
	baz=156,slow=29,SNR=3.2						
	comp=Z,1.4nm,0.6s						
AB31	**Akbulak array**	**14.58**	**321**	⇓P	**Pn**	**18 07 06.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=137,slow=9.4,SNR=24						
AB31	**Akbulak array**	**14.58**	**321**	P	**Pn**	**18 07 06.2**	**+0.1**
BRVK	**Borovoye**	**14.61**	**351**	⇑P	**Pn**	**18 07 06.6**	**+0.3**
	comp=Z,4.4nm,0.7s						
BRVK	**Borovoye**	**14.61**	**351**	P	**Pn**	**18 07 06.6**	**+0.3**
AKTO	**Aktyubinsk**	**16.30**	**321**	Pn	**Pn**	**18 07 25.6**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=120,slow=10,SNR=16						
AKTO				Sn	**Sn**	**18 10 20.2**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=40,slow=7.9,SNR=1.4						
AKTO				LR	LR	18 13 59.9	
	comp=Z,83nm,19.2s,baz=11,slow=38						
	comp=Z,0.8nm,0.5s						
AKTO	**Aktyubinsk**	**16.30**	**321**	⇑P	**P**	**18 07 29.5**	**-2.1**
	comp=Z,3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**16.99**	**22**	P	**Pn**	**18 07 38.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=210,slow=11,SNR=15						
	comp=Z,3.7nm,0.6s						
ZALV	**Zalesovo Beam**	**16.99**	**22**	P	**Pn**	**18 07 38.0**	**+0.6**
GTA	**Gaotai**	**20.10**	**80**	P	Pn	18 08 14.9	-0.5
GTA				pP	sP	18 08 24.7	+5.1
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARTI	**Arti**	**20.51**	**335**	P	Pn	18 08 17.1	-3.0
	comp=Z,1.8nm,0.5s,baz=121,slow=5.9,SNR=3.1						
ARTI				LR	LR	18 16 43.2	
	comp=Z,76nm,19.4s,baz=6.0,slow=38						
	comp=Z,1.8nm,0.5s						
ARTI	**Arti**	**20.51**	**335**	*d*P	Pn	18 08 18.4	-1.6
ARTI						18 08 49.9	
ARTI				S	**S**	**18 11 58.8**	**-8.4**
ARTI				SS	SnSn	18 12 39.9	+14
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.6s						
GNI	**Garni**	**22.57**	**283**	*i* P	P	18 08 44.0	+3.7
GNI				pmax	pmax		
	comp=Z,16nm,1.6s						
BELG	**Belogornoye**	**22.82**	**316**	*i* P	**P**	**18 08 40.6**	**-2.0**
BELG				pmax	pmax		
	comp=Z,6.0nm,2.3s						
ZAK	**Zakamensk**	**23.81**	**51**	*e*P	**P**	**18 08 54.2**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KBZ	**Khabaz**	**23.81**	**292**	P	**P**	**18 08 52.3**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=92,slow=17,SNR=2.1						
SONM	**Songino Array**	**25.19**	**58**	P	**P**	**18 09 07.2**	**+1.7**
	comp=Z,4.5nm,0.9s,baz=258,slow=8.7,SNR=28						
	comp=Z,4.5nm,0.9s						
ULN	**Ulaanbaatar**	**25.64**	**58**	*ce*P	**P**	**18 09 10.8**	**+1.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
CMAR	**Chiang Mai Arr**	**29.64**	**126**	P	**P**	**18 09 45.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=312,slow=12,SNR=4.6						
	comp=Z,0.2nm,0.3s						
BRTR	**Keskin Array B**	**31.07**	**285**	P	**P**	**18 09 54.4**	**-3.7**
	comp=Z,0.2nm,0.6s,baz=87,slow=10,SNR=1.4						
	comp=Z,0.2nm,0.6s						
NRIK	**Noril'sk**	**31.59**	**9**	*i* P	**P**	**18 10 01.7**	**-0.5**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
AKASG	**Malin Array Be**	**33.49**	**306**	P	**P**	**18 10 16.9**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=80,slow=7.8,SNR=5.4						
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.49**	**306**	*e*P	**P**	**18 10 19.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**37.05**	**324**	P	**P**	**18 10 48.2**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=121,slow=7.4,SNR=6.8						
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**37.05**	**324**	*e*P	**P**	**18 10 48.6**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**40.07**	**336**	P	**P**	**18 11 14.1**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=108,slow=8.2,SNR=23						
	comp=Z,1.6nm,0.5s						
ARCES	**ARCESS Array B**	**40.07**	**336**	*e*P	**P**	**18 11 14.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**40.84**	**37**	*ce*P	**P**	**18 11 20.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**42.84**	**320**	P	**P**	**18 11 36.0**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=106,slow=11,SNR=12						
	comp=Z,1.8nm,0.4s						
TIXI	**Tiksi**	**42.88**	**22**	*ce*P	**P**	**18 11 36.1**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.09**	**322**	P	**P**	**18 11 45.9**	**-1.9**
	comp=Z,4.3nm,0.9s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**44.09**	**322**	P	**P**	**18 11 45.9**	**-1.9**
	comp=Z,2.5nm,1.0s,baz=92,slow=7.8,SNR=3.5						
	comp=Z,2.5nm,1.0s						
NOA	**NORSAR Array B**	**44.09**	**322**	*e*P	**P**	**18 11 45.8**	**-2.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**68.09**	**270**	P	**P**	**18 14 35.7**	**-4.3**
	comp=Z,0.7nm,0.6s,baz=44,slow=5.9,SNR=5.6						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**72.03**	**17**	P	**P**	**18 15 03.8**	**+0.3**
	comp=Z,0.5nm,1.1s,baz=320,slow=3.4,SNR=3.1						
	comp=Z,0.5nm,1.1s						
YKA	**Yellowknife Ar**	**78.94**	**4**	P	**P**	**18 15 42.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=340,slow=4.7,SNR=5.9						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**81.22**	**124**	P	**P**	**18 15 55.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=319,slow=5.5,SNR=1.9						
	comp=Z,0.4nm,0.8s						

---

*IDC **10** 18:11:10.9±0.7, 10°.05N×125°.83E, h0km, mb3.8/15, mbtmp3.8/15, MS2.8/5, Error ellipse: s-maj=33.8km s-min=15.8km az=71.0*
*NEIC **10** 18:11:13.8±1.3, 10°.1N±0°.1×125°.7E±0°.1, h10km±1km, mb4.5/12, Error ellipse: s-maj=24.7km s-min=17.8km az=94.0*
ISC 10 18:11:12.8±0.6, 10°.13N±0°.08×125°.8E±0°.1, h10km, n38, σ0s76/36, mb4.0/20, MS2.7/3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**8.70**	**236**	Pn	**Pn**	**18 13 18.6**	**-0.2**
KAPI	**Kappang**	**16.18**	**202**	LR	LR	18 21 33.9	
	comp=Z,43nm,20.2s,baz=342,slow=39						
JOW	**Kunigami**	**16.79**	**8**	LR	LR	18 19 38.6	
	comp=Z,32nm,21.4s,baz=143,slow=30						
GUMO	**Guam**	**19.03**	**78**	LR	LR	18 22 00.1	
	comp=Z,33nm,20.7s,baz=46,slow=34						
SOEI	**Soe**	**19.81**	**184**	P	**P**	**18 15 45.4**	**+1.6**
SOEI				IAmb	IAmb	18 15 59.3	
	comp=Z,35nm,1.4s						
MTN	**Manton Dam**	**23.44**	**167**	P	**P**	**18 16 23.1**	**+0.7**
KNRA	**Kununurra**	**25.81**	**173**	P	**P**	**18 16 44.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.23**	**291**	P	**P**	**18 16 57.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.23**	**291**	P	**P**	**18 16 58.0**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=116,slow=7.3,SNR=6.3						
CMAR				LR	LR	18 28 15.5	
	comp=Z,18nm,19.2s,baz=30,slow=38						
	comp=Z,0.8nm,0.8s						
KSRS	**Korea Array**	**27.28**	**4**	LR	LR	18 26 30.8	
	comp=Z,12nm,20.4s,baz=355,slow=34						
FITZ	**Fitzroy Crossi**	**28.05**	**180**	P	**P**	**18 17 04.3**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=348,slow=9.3,SNR=1.1						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**31.06**	**164**	P	**P**	**18 17 29.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=344,slow=8.4,SNR=2.9						
	comp=Z,0.5nm,0.7s						
AS31	**Alice Springs**	**34.52**	**167**	P	**P**	**18 18 02.2**	**+0.8**
ASAR	**Alice Springs**	**34.52**	**167**	P	**P**	**18 18 00.5**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=350,slow=6.9,SNR=17						
ASAR				PcP	**PcP**	**18 20 35.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=329,slow=2.3,SNR=4.3						
	comp=Z,0.4nm,0.6s						
FORT	**Forrest**	**40.73**	**177**	P	**P**	**18 18 54.4**	**+0.5**
FORT				IAmb	IAmb	18 19 04.6	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**40.97**	**340**	P	**P**	**18 18 56.3**	**+0.4**
SONM	**Songino Array**	**40.97**	**340**	P	**P**	**18 18 57.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=168,slow=5.9,SNR=4.2						
SONM				PcP	**PcP**	**18 20 55.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=142,slow=4.9,SNR=2.5						
	comp=Z,0.3nm,0.5s						
BBOO	**Buckleboo**	**43.82**	**167**	P	**P**	**18 19 19.1**	**0.0**
STKA	**Stephens Creek**	**44.44**	**161**	P	**P**	**18 19 24.3**	**+0.3**
STKA				IAmb	IAmb	18 19 30.6	
	comp=Z,4.5nm,1.1s						
MK31	**Makanchi Array**	**51.83**	**323**	P	**P**	**18 20 21.6**	**+0.5**
MKAR	**Makanchi Array**	**51.83**	**323**	P	**P**	**18 20 21.8**	**+0.7**
MKAR	**Makanchi Array**	**51.83**	**323**	P	**P**	**18 20 22.4**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=123,slow=7.8,SNR=21						
MKAR				PcP	**PcP**	**18 21 34.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=122,slow=5.4,SNR=4.2						
	comp=Z,1.6nm,0.8s						
YAK	**Yakutsk**	**51.89**	**2**	P	**P**	**18 20 20.9**	**-0.3**
YAK				IAmb	IAmb	18 20 27.9	
	comp=Z,6.1nm,0.8s						
MAKZ	**Makanchi**	**52.02**	**323**	P	**P**	**18 20 22.0**	**-0.6**
ZALV	**Zalesovo Beam**	**54.50**	**332**	P	**P**	**18 20 40.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=93,slow=9.1,SNR=3.5						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**55.89**	**326**	P	**P**	**18 20 51.4**	**+0.7**
KURK				IAmb	IAmb	18 20 57.6	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**55.90**	**326**	P	**P**	**18 20 51.5**	**+0.8**
	comp=Z,2.1nm,0.2s,baz=127,slow=6.7,SNR=9.0						
	comp=Z,2.1nm,0.2s						
SEY	**Seymchan**	**56.08**	**14**	P	**P**	**18 20 53.2**	**+1

0.3nm,0.3s,baz=65,slow=0.5,SNR=4.6

*WEL **10** 18:17:37.9, 35°.80S×174°.96E, h8km, ML3.8, Mw3.9, Moment Tensor Solution. s8 Moment tensor: Scale 10^14 Nm; Mrr-5.38; Mθθ4.10; Mφφ1.28; Mrθ-1.11; Mθφ6.38; Mφr1.90; Fault plane solution: Mo8.08000×10^14 NP1: φs201.00000°, δ56.00000°, λ-134.00000°. NP2: φs81.00000°, δ54.00000°, λ-44.00000°. Principal axes: T 9.2320, Plg1.0000°, Azm321.0000°; N -2.3100, Plg36.0000°, Azm229.0000°; P -6.9220, Plg54.0000°, Azm52.0000°; Stations used: WCZ GRZ MKAZ TOZ HIZ HAZ OTVZ BKZ OBLIQUE-NORMAL FAULTING*

WEL 10 18:17:37.8±0.9, 36°.5S±5°×17°.5E±°, h12km, M3.5/12, ML3.6/11, MLv3.5/12 Error ellipse: s-maj=8.5km s-min=4.4km az=43.9, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**0.53**	**253**	P	Pg	18 17 48.1	0.0
WBSC	**Whangarei Boys**	**0.53**	**277**	P	Pg	18 17 48.4	+0.3
WBSC				S	Sb	18 17 56.8	+0.1
GRZ	**Great Barrier**	**0.61**	**139**	P	Pg	18 17 49.5	-0.2
GRZ				S	Sb	18 17 59.1	+0.1
ABAZ	**Army Bay**	**0.82**	**187**	P	Pg	18 17 53.3	-0.4
ABAZ				S	Sb	18 18 06.0	+1.0
MBAZ	**Motutapu North**	**0.98**	**183**	P	Pg	18 17 56.3	-0.5
WIAZ	**Waiheke Island**	**1.01**	**172**	P	Pb	18 17 56.4	-0.9
RVAZ	**Riverhead Bore**	**1.03**	**197**	P	Pn	18 17 58.1	0.0
RVAZ				S	Sg	18 18 11.2	+0.1
HBAZ	**Herne Bay Bore**	**1.08**	**190**	P	Pn	18 17 58.7	0.0
EPAZ	**Eden Park BICE**	**1.10**	**189**	P	Pn	18 17 59.1	+0.1
EPAZ				S	Sb	18 18 13.3	+0.1
ETAZ	**East Tamaki Re**	**1.17**	**181**	P	Pg	18 18 00.5	+0.2
WTAZ	**Waiatarua**	**1.19**	**195**	P	Pb	18 18 00.3	0.0
OUZ	**Omahuta**	**1.25**	**296**	P	Pn	18 18 00.8	-0.3
OUZ	**Omahuta**	**1.25**	**296**	P	Pn	18 18 00.9	-0.1
AWAZ	**Awhitu Peninsu**	**1.30**	**191**	P	Pn	18 18 01.1	-0.7
AWAZ				S	Sb	18 18 18.4	-0.5
KBAZ	**Karaka Road Bo**	**1.31**	**183**	P	Pg	18 18 02.6	-0.3
MKAZ	**Moumakai**	**1.33**	**173**	P	Pn	18 18 01.1	-1.1
MYRZ	**Mayor Island**	**1.81**	**146**	P	Pg	18 18 11.9	-0.6
TOZ	**Tahuroa Road**	**1.99**	**168**	P	Pn	18 18 10.2	-1.1
KMRZ	**Kaimai**	**2.20**	**159**	P	Pg	18 18 20.3	+0.3
TGRZ	**Tauranga**	**2.20**	**152**	P	Pn	18 18 13.1	-1.1
OPRZ	**Ohinepanea**	**2.42**	**149**	P	Pg	18 18 23.7	-0.5
KARZ	**Kaharoa**	**2.46**	**156**	P	Pg	18 18 25.1	+0.3
OMRZ	**Omania**	**2.58**	**154**	P	Pb	18 18 24.5	+0.5
HIZ	**Hauiti**	**2.72**	**182**	P	Pn	18 18 21.7	+0.3
HAZ	**Te Kaha**	**3.00**	**132**	P	Pn	18 18 25.1	0.0
RUGZ	**Raukumara Rang**	**3.08**	**136**	P	Pn	18 18 25.5	-0.8
PKGZ	**Pakihiroa**	**3.25**	**131**	P	Pn	18 18 30.0	+1.3
MWZ	**Matawai**	**3.27**	**142**	P	Pn	18 18 28.9	0.0
TWVZ	**Taurewa**	**3.30**	**174**	P	Pn	18 18 28.7	-0.7
VRZ	**Vera Road**	**3.34**	**183**	P	Pn	18 18 31.3	+1.5
KRVZ	**Karewarewa**	**3.35**	**171**	P	Pb	18 18 35.4	-1.8
NTVZ	**North Tongariro**	**3.36**	**170**	P	Pn	18 18 30.7	+0.5
WTVZ	**West Tongariro**	**3.36**	**172**	P	Pn	18 18 29.7	-0.6
TMVZ	**Te Maari**	**3.38**	**170**	P	Pn	18 18 30.0	-0.5
NNVZ	**North Ngauruho**	**3.38**	**171**	P	Pn	18 18 30.0	-0.5
TWGZ	**Tauwhareparae**	**3.40**	**136**	P	Pb	18 18 34.3	-3.6
ETVZ	**East Tongariro**	**3.40**	**170**	P	Pn	18 18 31.4	+0.6
WMGZ	**Waiomatatini S**	**3.44**	**127**	P	Pb	18 18 36.1	-2.4
SNVZ	**South Ngauruho**	**3.44**	**171**	P	Pn	18 18 31.0	-0.3
PUZ	**Puketiti**	**3.49**	**132**	P	Pn	18 18 34.6	+2.7
PKE	**Pukeiti**	**3.49**	**193**	P	Pn	18 18 35.1	+3.2
NEZ	**North Egmont**	**3.55**	**191**	P	Pn	18 18 35.1	+2.3
KHEZ	**Kahui Hut**	**3.58**	**192**	P	Pn	18 18 35.9	+2.6
KHEZ	**Kahui Hut**	**3.58**	**192**	P	Pn	18 18 35.9	+2.6
PREZ	**Palmer Road**	**3.61**	**190**	P	Pn	18 18 37.2	+3.7
RIGZ	**Rimuhau**	**3.67**	**143**	P	Pn	18 18 36.8	+2.4
CNGZ	**Carnagh Statio**	**3.74**	**137**	P	Pn	18 18 38.8	+3.5
KWHZ	**Kaweka Forest**	**3.81**	**163**	P	Pn	18 18 40.5	+4.1
KAHZ	**Kahuranaki**	**4.28**	**160**	P	Pn	18 18 45.9	+3.1
MRNZ	**Matariki Terra**	**5.87**	**196**	P	Pn	18 19 08.5	+3.9

*MOS **10** 18:21:53.2±1.0, 50°.43N×156°.30E, h94km, mb3.6/1, Error ellipse: s-maj=25.2km s-min=5.8km az=76.0*
*KRSC **10** 18:21:53.9±1.5, 50°.39N×157°.03E, h62km±19km, Ml4.0*
*IDC **10** 18:21:57.6±4.9, 50°.75N×156°.42E, h107km±37km, mb3.3/5, mbtmp3.7/8, Error ellipse: s-maj=49.2km s-min=21.3km az=171.0*

ISC 10 18:21:53.9±1.3, 50°.4N±0°.1×156°.66E±0°.09, h84km±8km, n48, σ1°.49/58, mb3.6/5, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.46**	**312**	⇑*i* PN	**Pn**	**18 22 08.5**	**+0.8**
SKR				*i* S	**Sn**	**18 22 18.5**	**+0.5**
SKR				pmax	pmax		
	comp=Z,3μm,0.5s						
SKR				smax	smax		
	comp=E,8μm,0.4s						
SKR				smax	smax		
	comp=N,5μm,0.5s						
SKR	**Severo-Kuril's**	**0.46**	**312**	*i* P	**Pn**	**18 22 08.5**	**+0.8**
SKR				*e*S	**Sn**	**18 22 18.4**	**+0.5**
PAU	**Pauzhetka**	**1.10**	**5**	*e*PN	**Pn**	**18 22 14.4**	**+0.1**
PAU				*e*S	**Sn**	**18 22 29.1**	**-0.5**
PAU	**Pauzhetka**	**1.10**	**5**	*e*P	**Pn**	**18 22 14.3**	**0.0**
PAU				*e*S	**Sn**	**18 22 29.0**	**-0.7**
KDTR	**Khodutka, Kamc**	**1.69**	**31**	PN	**Pn**	**18 22 21.5**	**-0.2**
KDTR				S	**Sn**	**18 22 41.8**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.69**	**31**	*e*P	**Pn**	**18 22 21.6**	**-0.2**
KDTR				*e*S	**Sn**	**18 22 41.8**	**-1.2**
GRL	**Gorelyy**	**2.35**	**22**	PN	**Pn**	**18 22 31.9**	**+1.3**
GRL				S	**Sn**	**18 22 59.6**	**+0.8**
GRL	**Gorelyy**	**2.35**	**22**	*e*P	**Pn**	**18 22 32.0**	**+1.3**
GRL				*e*S	**Sn**	**18 22 59.7**	**+0.8**
RUS	**Russkaya**	**2.37**	**29**	PN	**Pn**	**18 22 30.7**	**0.0**
RUS				S	**Sn**	**18 22 57.4**	**-1.5**
RUS	**Russkaya**	**2.37**	**29**	*e*P	**Pn**	**18 22 30.7**	**0.0**
RUS				*e*S	**Sn**	**18 22 57.4**	**-1.5**
APC	**Apacha**	**2.57**	**7**	PN	**Pn**	**18 22 33.8**	**+0.3**
APC				S	**Sn**	**18 23 06.0**	**+2.2**
APC	**Apacha**	**2.57**	**7**	*e*P	**Pn**	**18 22 33.8**	**+0.3**
APC				*e*S	**Sn**	**18 23 06.1**	**+2.2**
KRMR	**Karymshinskiy**	**2.62**	**20**	PN	**Pn**	**18 22 34.9**	**+0.8**
KRMR	**Karymshinskiy**	**2.62**	**20**	*e*P	**Pn**	**18 22 35.0**	**+0.8**
PETK	**Petropavlovsk-**	**2.81**	**13**	P	**Pn**	**18 22 36.9**	**+0.2**
	comp=N,17nm,0.5s,baz=180,slow=12,SNR=164						
PETK				S	**Sn**	**18 23 07.1**	**-2.6**
	comp=N,6.0nm,0.5s,baz=112,slow=16,SNR=7.1						
PET	**Petropavlovsk**	**2.93**	**24**	*e*PN	**Pn**	**18 22 39.3**	**+1.0**
PET				*e*S	**Sn**	**18 23 13.0**	**+0.6**
PET				smax	smax		
	comp=N,90nm,0.6s						
PET				smax	smax		
	comp=E,70nm,0.6s						
DALK	**Dalny**	**2.96**	**25**	PN	**Pn**	**18 22 39.8**	**+1.1**
DALK				S	**Sn**	**18 23 13.2**	**0.0**
DALK	**Dalny**	**2.96**	**25**	*e*P	**Pn**	**18 22 39.9**	**+1.1**
DALK				*e*S	**Sn**	**18 23 13.3**	**0.0**
UGLR	**Uglovaya**	**3.14**	**25**	PN	**Pn**	**18 22 42.6**	**+1.4**
UGLR	**Uglovaya**	**3.14**	**25**	*e*P	**Pn**	**18 22 42.6**	**+1.4**
KOK	**Koryaka**	**3.17**	**22**	PN	**Pn**	**18 22 43.5**	**+1.9**
KOK	**Koryaka**	**3.17**	**22**	*e*P	**Pn**	**18 22 43.5**	**+1.9**
AVH	**Avacha**	**3.17**	**23**	PN	**Pn**	**18 22 43.4**	**+1.9**
AVH	**Avacha**	**3.17**	**23**	*e*P	**Pn**	**18 22 43.5**	**+1.9**
KRX	**Arik**	**3.23**	**22**	PN	**Pn**	**18 22 44.3**	**+1.8**
KRX	**Arik**	**3.23**	**22**	*e*P	**Pn**	**18 22 44.3**	**+1.8**
NLC	**Nalytchevo**	**3.26**	**30**	*e*S	**Sn**	**18 23 17.8**	**-2.6**
GNL	**Ganaly**	**3.42**	**13**	PN	**Pn**	**18 22 46.2**	**+1.2**
GNL	**Ganaly**	**3.42**	**13**	*e*P	**Pn**	**18 22 46.2**	**+1.2**
TUMD	**Tumrok D**	**5.34**	**24**	PN	**Pn**	**18 23 13.4**	**+2.4**
TUMD	**Tumrok D**	**5.34**	**24**	*e*P	**Pn**	**18 23 13.5**	**+2.4**
KMNR	**Kamenistaya**	**5.81**	**20**	PN	**Pn**	**18 23 21.0**	**+3.6**
KMNR	**Kamenistaya**	**5.81**	**20**	*e*P	**Pn**	**18 23 21.1**	**+3.6**
KBTR	**Krutoberegovo**	**6.91**	**30**	PN	**Pn**	**18 23 33.2**	**+0.9**
KBTR	**Krutoberegovo**	**6.91**	**30**	*e*P	**Pn**	**18 23 33.3**	**+0.9**
MA2	**Magadan**	**9.82**	**342**	P	**Pn**	**18 24 11.6**	**-0.4**
	comp=E,2.6nm,0.6s,baz=149,slow=6.9,SNR=7.5						
YAK	**Yakutsk**	**18.84**	**319**	P	**P**	**18 26 03.8**	**-2.9**
	comp=E,4.5nm,0.4s,baz=97,slow=3.9,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**31.64**	**161**	T	T	19 02 11.8	
	baz=348,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.66**	**161**	T	T	19 02 12.6	
	baz=348,slow=76						
H11N1	**WAKE ISLAND Hy**	**31.66**	**161**	T	T	19 02 08.7	
	baz=348,slow=76						
H11S1	**WAKE ISLAND Hy**	**32.79**	**162**	T	T	19 03 27.9	
	baz=348,slow=76						
H11S3	**WAKE ISLAND Hy**	**32.80**	**162**	T	T	19 03 25.4	
	baz=348,slow=76						
H11S2	**WAKE ISLAND Hy**	**32.81**	**162**	T	T	19 03 23.9	
	baz=348,slow=76,SNR=51						
MKAR	**Makanchi Array**	**47.42**	**296**	P	**P**	**18 30 18.6**	**-1.0**
	comp=E,0.3nm,0.8s,baz=54,slow=3.7,SNR=4.5						
	comp=E,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.50**	**257**	P	**P**	**18 31 20.6**	**+0.4**
	comp=E,0.4nm,0.5s,baz=33,slow=7.3,SNR=4.1						
	comp=E,0.4nm,0.5s						
PDAR	**Pinedale Array**	**60.75**	**57**	P	**P**	**18 31 57.7**	**+0.9**
	comp=E,0.5nm,0.8s,baz=300,slow=6.5,SNR=3.6						
	comp=E,0.5nm,0.8s						
TXAR	**Lajitas Array**	**73.72**	**64**	P	**P**	**18 33 19.4**	**+0.6**
	comp=E,0.5nm,0.8s,baz=320,slow=5.7,SNR=3.7						
	comp=E,0.5nm,0.8s						
MMAI	**Mount Meron Ar**	**82.10**	**314**	P	**P**	**18 34 04.7**	**-0.4**
	comp=E,1.2nm,0.5s,baz=69,slow=7.9,SNR=4.1						
	comp=E,1.2nm,0.5s						

IDC 10 18:31:48.8±3.9, 3°.69S×152°.63E, h0km, mb3.3/2, mbtmp3.4/2, MS2.8/1, Error ellipse: s-maj=166.9km s-min=53.0km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**11.97**	**275**	LR	LR	18 38 49.6	
	comp=Z,44nm,19.3s,baz=281,slow=35						
WRA	**Warramunga Arr**	**24.07**	**226**	P		18 37 06.7	+0.6
	0.8nm,0.5s,baz=52,slow=9.5,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.86**	**221**	P	P	18 37 31.6	+0.1
	0.3nm,0.9s,baz=42,slow=11,SNR=1.5						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.79**	**290**	PKPbc	PKPbc	18 51 40.7	-1.2
	0.2nm,0.4s,baz=100,slow=2.0,SNR=2.3						

*SJA **10** 18:49:57.2±0.7, 30°.21S×71°.40W, h56km±3km, ML3.6, MW3.6*
*GUC **10** 18:49:58.4±0.8, 30°.27S×71°.22W, h59km±3km, ML3.8*

ISC 10 18:49:58.4±1.3, 30°.20S±0°.03×71°.49W±0°.05, h57km±9km, n53, σ1°.76/74, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.35**	**39**	*e*P	**Pn**	**18 50 09.5**	**+0.8**
CO05				*e*S	**Sn**	**18 50 17.6**	**+1.5**
CO05				IAML		18 50 18.1	
	comp=E,3μm,0.3s						
CO06	**Fray Jorge**	**0.49**	**194**	*i* P	**Pn**	**18 50 11.6**	**+1.4**
CO06				*e*S	**Sn**	**18 50 21.0**	**+2.4**
CO06				IAML		18 50 22.0	
	comp=E,4μm,0.1s						
GO04	**Tololo Observa**	**0.60**	**88**	*e*P	**Pn**	**18 50 09.9**	**-1.7**
GO04				*e*S	**Sn**	**18 50 20.1**	**-1.0**
GO04	**Tololo Observa**	**0.60**	**88**	*e*P	**Pn**	**18 50 10.5**	**-1.1**
GO04				*e*S	**Sn**	**18 50 19.5**	**-1.7**
CO03	**El Pedregal**	**0.94**	**133**	*e*P	**Pn**	**18 50 14.2**	**-1.5**
CO03				*e*S	**Sn**	**18 50 26.3**	**-2.2**
CO03				IAML		18 50 26.7	
	comp=Z,1μm,0.1s						
CO03	**El Pedregal**	**0.94**	**133**	⇑*i* P	**Pn**	**18 50 14.3**	**-1.5**
CO03				*e*S	**Sn**	**18 50 25.9**	**-2.6**
CO03				IAML		18 50 26.7	
	comp=N,3μm,0.1s						
CO01	**Juntas del Tor**	**1.23**	**80**	*e*P	**Pn**	**18 50 18.7**	**-1.0**
CO01				*e*S	**Sn**	**18 50 33.6**	**-2.0**
CO01				IAML		18 50 34.4	
	comp=Z,1μm,0.2s						
CO01	**Juntas del Tor**	**1.23**	**80**	*i* P	**Pn**	**18 50 18.7**	**-1.0**
CO01				*e*S	**Sn**	**18 50 33.3**	**-2.2**
CO01				IAML		18 50 34.7	
	comp=N,1μm,0.1s						
LCO	**Las Campanas**	**1.37**	**31**	*e*P	**Pn**	**18 50 21.2**	**-0.3**
LCO				*e*S	**Sn**	**18 50 39.1**	**+0.3**
LCO				IAML		18 50 40.1	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.37**	**31**	⇓*i* P	**Pn**	**18 50 21.6**	**+0.1**
LCO				*e*S	**Sn**	**18 50 38.9**	**+0.1**
LCO				IAML		18 50 40.0	
	comp=Z,6μm,0.2s						
AC04	**Llanos de Chal**	**2.02**	**11**	*e*P	**Pn**	**18 50 30.8**	**+0.6**
AC04				*e*S	**Sn**	**18 50 49.0**	**-5.2**
AC04				IAML		18 51 03.2	
	comp=Z,210nm,0.7s						
AC04	**Llanos de Chal**	**2.02**	**11**	*e*P	**Pn**	**18 50 31.1**	**+1.0**
AC04				IAML		18 51 03.3	
	comp=E,284nm,0.2s						
ACCO	**Cerro Coronel**	**2.13**	**101**	*e*P	**Pn**	**18 50 32.6**	**+0.7**
ACCO				*e*S	**Sn**	**18 51 02.0**	**+4.5**
VA06	**Catapilco**	**2.36**	**176**	*i* P	**Pn**	**18 50 34.7**	**-0.1**
VA06				IAML		18 51 11.8	
	comp=N,852nm,0.4s						
RTLS	**Leoncito**	**2.47**	**131**	*e*P	**Pn**	**18 50 38.0**	**+1.4**
RTLS				*e*S	**Sn**	**18 51 06.7**	**+1.0**
RTLS				IAML		18 51 09.9	
	comp=Z,445nm,0.5s						
VA03	**San Esteban**	**2.68**	**163**	*e*P	**Pn**	**18 50 39.8**	**+0.5**
VA03				*e*S	**Sn**	**18 51 12.6**	**+1.9**
VA03				IAML		18 51 17.7	
	comp=Z,286nm,0.3s						
VA03	**San Esteban**	**2.68**	**163**	*e*P	**Pn**	**18 50 39.6**	**+0.3**
VA03				IAML		18 51 18.1	
	comp=N,694nm,0.3s						
AGUA	**GUANDACOL**	**2.70**	**76**	*e*P	Pn	18 50 42.1	+2.5
AGUA				IAML		18 51 18.0	
	comp=Z,150nm,0.7s						
ROCH	**El Roble**	**2.80**	**172**	*e*P	**Pn**	**18 50 40.7**	**-0.3**
ROCH				IAML		18 51 23.2	
	comp=N,519nm,0.5s						
ROC1	**El Roble**	**2.80**	**172**	*e*P	Pn	18 50 35.4	-5.6
VA01	**Torpederas**	**2.82**	**183**	*e*P	Pn	18 50 24.9	-16
VA01				*e*S	Sn	18 51 25.1	+11
SJA	**San Juan**	**2.85**	**119**	*e*P	Pn	18 50 44.6	+3.1
SJA				*e*S	**Sn**	**18 51 19.1**	**+4.5**
PEL	**Peldehue**	**3.02**	**167**	*e*P	**Pn**	**18 50 44.1**	**+0.3**
PEL				*e*S	**Sn**	**18 51 15.7**	**-3.2**
PEL	**Peldehue**	**3.02**	**167**	*e*P	**Pn**	**18 50 43.7**	**-0.1**
PEL				IAML		18 51 32.7	
	comp=N,53nm,0.4s						
MT02	**Curacav**	**3.07**	**174**	*e*P	**Pn**	**18 50 43.9**	**-0.6**
MT02				*e*S	**Sn**	**18 51 20.2**	**+0.2**
MT02				IAML		18 51 30.5	
	comp=Z,140nm,0.4s						
MT02	**Curacav**	**3.07**	**174**	*e*P	**Pn**	**18 50 43.8**	**-0.6**
MT02				IAML		18 51 26.8	
	comp=E,158nm,0.5s						
MT10	**Hacienda Santa**	**3.17**	**165**	*e*P	**Pn**	**18 50 46.2**	**+0.2**
MT10				IAML		18 51 38.5	
	comp=N,508nm,0.3s						
VCA	**Vinchina**	**3.21**	**64**	*e*P	**Pn**	**18 50 49.1**	**+2.5**
VCA				*e*S	**Sn**	**18 51 23.0**	**-0.8**
VCA				IAML		18 51 34.8	
	comp=Z,208nm,0.6s						
MT05	**Renca**	**3.25**	**169**	*e*P	**Pn**	**18 50 47.1**	**+0.1**
MT05				*e*S	**Sn**	**18 51 20.3**	**-4.2**
MT05				IAML		18 51 39.2	
	comp=Z,156nm,0.8s						
FCH	**Farellones**	**3.29**	**162**	*e*P	**Pn**	**18 50 48.4**	**+0.7**
FCH				IAML		18 51 36.2	
	comp=E,181nm,0.4s						
MT14	**Cerro Calı¡n**	**3.29**	**166**	*e*P	**Pn**	**18 50 47.9**	**+0.3**
MT14				IAML		18 51 44.9	
	comp=E,382nm,0.6s						
MT16	**CCHEN**	**3.33**	**166**	*e*P	**Pn**	**18 50 48.5**	**+0.5**
MT16				IAML		18 51 44.9	
	comp=N,130nm,0.6s						
MT03	**Universidad Ad**	**3.39**	**166**	*e*P	**Pn**	**18 50 49.9**	**+0.9**
MT03				*e*S	**Sn**	**18 51 29.2**	**+1.2**
MT03				IAML		18 51 46.0	
	comp=Z,242nm,0.4s						
MT03	**Universidad Ad**	**3.39**	**166**	*e*P	**Pn**	**18 50 49.2**	**+0.2**
MT03				IAML		18 51 36.6	
	comp=N,402nm,0.1s						
MT04	**Ro Olivares**	**3.40**	**161**	*e*P	Pn	18 50 40.5	-8.7
MT04				*e*S	**Sn**	**18 51 30.1**	**+1.6**
MT04				IAML		18 51 39.4	
	comp=Z,116nm,0.7s						
MT04	**Ro Olivares**	**3.40**	**161**	*e*P	**Pn**	**18 50 50.9**	**+1.6**
MT04				IAML		18 51 39.4	
	comp=E,162nm,0.5s						
VA05	**Santo Domingo**	**3.45**	**182**	*e*P	**Pn**	**18 50 48.4**	**-1.3**
VA05				IAML		18 51 42.7	
	comp=E,384nm,0.2s						
MT08	**Bocatoma Ro**	**3.48**	**159**	*e*P	**Pn**	**18 50 47.7**	**-2.6**
MT08				*e*S	**Sn**	**18 51 31.8**	**+1.5**
MT08				IAML		18 51 44.1	
	comp=Z,111nm,0.6s						
MT08	**Bocatoma Ro**	**3.48**	**159**	*e*P	**Pn**	**18 50 52.2**	**+2.0**
MT08				IAML		18 51 43.2	
	comp=N,161nm,0.5s						
MT15	**Las Vizcachas**	**3.50**	**166**	*e*P	**Pn**	**18 50 50.5**	**+0.2**
MT15				IAML		18 51 42.9	
	comp=E,351nm,0.5s						
MT09	**Talagante**	**3.60**	**173**	*e*P	**Pn**	**18 50 51.4**	**-0.4**
MT09				IAML		18 51 46.5	
	comp=N,237nm,0.4s						
MT01	**Popeta**	**3.66**	**177**	*e*P	**Pn**	**18 50 52.2**	**-0.4**
MT01				*e*S	**Sn**	**18 51 29.2**	**-5.3**
MT01				IAML		18 51 42.5	
	comp=Z,150nm,0.9s						
MT01	**Popeta**	**3.66**	**177**	*e*P	**Pn**	**18 50 52.0**	**-0.6**
MT13	**San Alfonso**	**3.68**	**164**	*e*P	**Pn**	**18 50 54.1**	**+1.1**
MT13				*e*S	**Sn**	**18 51 36.2**	**+1.0**
MT13				IAML		18 51 50.4	
	comp=Z,94nm,0.5s						
MT13	**San Alfonso**	**3.68**	**164**	*e*P	**Pn**	**18 50 53.5**	**+0.5**
MT13				IAML		18 51 39.3	
	comp=N,186nm,0.3s						
LMEL	**Las Melosas**	**3.80**	**164**	*e*P	**Pn**	**18 50 55.8**	**+1.1**
LMEL				*e*S	**Sn**	**18 51 39.3**	**+1.1**
LMEL	**Las Melosas**	**3.80**	**164**	*e*P	**Pn**	**18 50 55.5**	**+0.9**
BO04	**La Punta**	**3.86**	**169**	*e*P	**Pn**	**18 50 54.9**	**-0.4**
AC02	**Maricunga**	**3.94**	**32**	*e*P	**Pn**	**18 50 57.9**	**+1.0**
AC02				*e*S	**Sn**	**18 51 43.1**	**+1.0**
AC02				IAML		18 52 02.0	
	comp=Z,55nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.02**	**80**	*e*P	**Pn**	**18 50 57.6**	**0.0**
ACLC				*e*S	**Sn**	**18 51 42.6**	**-1.1**
ACLC				IAML		18 51 49.1	
	comp=Z,41nm,0.5s						
AC01	**Pan de Azucar**	**4.11**	**11**	*e*P	Pn	18 50 49.0	-10
AC01				IAML		18 52 10.8	
	comp=Z,26nm,0.6s						
BO01	**Tunca**	**4.20**	**175**	*e*P	**Pn**	**18 50 59.4**	**-0.5**
BO01				IAML		18 51 58.6	
	comp=Z,44nm,0.8s						
BO02	**Sierra Bellavi**	**4.62**	**173**	*e*P	**Pn**	**18 51 06.2**	**+0.4**
BO02				IAML		18 52 01.0	
	comp=Z,64nm,0.2s						

*NEIC **10** 18:50:09.3±0.8, 36°.933N±0°.010×97°.93W±0°.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=104.0*

NEIC 10 18:50:09.2±1.1, 36°.950N±0°.010×97°.93W±0°.01, h6km±3km, ML2.6/27, ML2.2/44, Error ellipse: s-maj=1.9km s-min=1.3km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.03**	**283**		Pg	18 50 10.7	+0.2
KAN14				Sg	Sg	18 50 11.5	+0.2
KAN17	**Caldwell West**	**0.16**	**54**		Pg	18 50 13.2	+0.7
KAN17					Sg	18 50 15.9	+1.3
KAN17				IAML		18 50 16.2	
	comp=N,738nm,0.3s						
KAN05	**Bluff City Nor**	**0.16**	**15**		Pg	18 50 13.4	+0.9
KAN05					Sg	18 50 16.3	+1.4
KAN05				IAML		18 50 16.5	
	comp=E,1μm,0.2s						
KAN05				IAML		18 50 17.1	
	comp=N,692nm,0.2s						
KAN10	**Anthony SW Sta**	**0.22**	**322**		Pg	18 50 14.4	+0.8
KAN01	**Argonia South**	**0.24**	**33**		Pg	18 50 14.8	+0.8
KAN01				Sg	Sg	18 50 17.9	+0.6
KAN08	**Anthony NE Sta**	**0.28**	**352**		Pg	18 50 15.6	+0.9
KAN08					Sg	18 50 19.6	+1.2
KAN08				IAML		18 50 20.6	
	comp=N,335nm,0.1s						
KAN09	**Caldwell North**	**0.31**	**53**	Pg	Pg	18 50 15.9	+0.6
KAN09					Sg	18 50 20.5	+1.2
KAN09				IAML		18 50 22.5	
	comp=N,318nm,0.3s						
KAN12	**Harper NE Stat**	**0.35**	**350**		Pg	18 50 17.0	+0.8
KAN12				Sg	Sg	18 50 21.9	+1.1
KAN12				IAML		18 50 24.2	
	comp=E,338nm,0.4s						
KAN12				IAML		18 50 29.4	
	comp=N,474nm,0.3s						
KAN13	**South Haven SW**	**0.36**	**80**		Pg	18 50 17.0	+0.7
KAN13					Sg	18 50 22.2	+1.1
KAN13				IAML		18 50 24.0	
	comp=N,299nm,0.3s						
KAN13				IAML		18 50 25.3	
	comp=E,270nm,0.2s						
CROK	**Carrier**	**0.45**	**186**	

GO04				*e*S	**Sn**	**19 02 22.8**	**-0.6**
CO01	**Juntas del Tor**	**1.82**	**353**	*i* P	**Pn**	19 01 54.6	-4.0
CO01				*e*S	**Sn**	**19 02 23.5**	**-0.1**
CO06	**Fray Jorge**	**1.90**	**305**	*e*P	**Pn**	**19 01 59.2**	**0.0**
CO06				*e*S	**Sn**	**19 02 23.2**	**-1.6**
CO06				IAML		19 02 33.0	
	comp=N,30nm,0.2s						
BO04	**La Punta**	**2.29**	**196**	*i* P	**Pn**	**19 02 04.4**	**+0.6**
BO04				*e*S	**Sn**	**19 02 33.0**	**-0.1**
BO04				IAML		19 02 34.0	
	comp=E,19nm,0.2s						
AGUA	**GUANDACOL**	**2.57**	**27**	*e*P	**Pn**	**19 02 08.6**	**+1.1**
AGUA				*e*S	**Sn**	**19 02 40.4**	**+0.8**
AGUA				IAML		19 02 41.7	
	comp=Z,16nm,2.7s						
APLL	**PUNTA DE LOS L**	**3.16**	**65**	*e*P	**Pn**	**19 02 14.8**	**-0.1**
APLL				*e*S	**Sn**	**19 02 51.3**	**-1.6**

NEIC 10 19:11:01.9±0.4, 36°.84N±0°.02×97°.70W±0°.01, h3km±6km, mb_Lg2.3/12, ML2.5/44, Error ellipse: s-maj=2.3km s-min=1.4km az=194.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.21**	**346**		Pg	19 11 06.7	+0.6
KAN17				Sg	Sg	19 11 10.0	+1.1
KAN17				IAML		19 11 10.1	
	comp=E,2μm,0.3s						
KAN14	**Manchester OK**	**0.24**	**300**		Pg	19 11 07.3	+0.7
KAN14				IAML		19 11 10.9	
	comp=N,1μm,0.2s						
KAN13	**South Haven SW**	**0.25**	**45**		Pg	19 11 07.4	+0.6
KAN13				Sg	Sg	19 11 11.2	+1.1
KAN05	**Bluff City Nor**	**0.30**	**333**		Pg	19 11 08.4	+0.6
KAN05				IAML		19 11 14.1	
	comp=E,583nm,0.2s						
KAN09	**Caldwell North**	**0.31**	**13**		Pg	19 11 08.4	+0.6
KAN09				IAML		19 11 13.9	
	comp=N,495nm,0.2s						
KAN09				IAML		19 11 14.7	
	comp=E,649nm,0.3s						
KAN01	**Argonia South**	**0.32**	**352**		Pg	19 11 08.7	+0.6
KAN01				Sg	Sg	19 11 13.3	+1.0
KAN01				IAML		19 11 13.4	
	comp=E,748nm,0.3s						
BLOK	**Blackwell**	**0.40**	**101**		Pg	19 11 10.1	+0.5
CROK	**Carrier**	**0.40**	**214**		Pg	19 11 10.4	+0.7
CROK				IAML		19 11 23.9	
	comp=N,631nm,0.3s						
KAN08	**Anthony NE Sta**	**0.45**	**331**		Pg	19 11 11.1	+0.6
KAN08				IAML		19 11 19.1	
	comp=E,317nm,0.3s						
OK051	**E0350 and S346**	**0.77**	**115**		Pg	19 11 16.9	+0.2
OK051				IAML		19 11 27.6	
	comp=E,303nm,0.2s						
OK051				IAML		19 11 35.3	
	comp=E,160nm,0.2s						
OK038	**West end E0370**	**0.91**	**247**		Pg	19 11 19.5	+0.1
NOKA	**Waynoka**	**1.01**	**259**		Pg	19 11 21.1	-0.1
NOKA				IAML		19 11 40.5	
	comp=E,165nm,0.2s						
NOKA				IAML		19 11 40.8	
	comp=N,212nm,0.3s						
QUOK	**Quay**	**1.04**	**129**		Pg	19 11 21.8	0.0
OK029	**Liberty Lake**	**1.06**	**169**		Pg	19 11 22.2	0.0
OK029				IAML		19 11 41.0	
	comp=N,121nm,0.4s						
OK029				IAML		19 11 41.0	
	comp=N,88nm,0.4s						
OK052	**Battle Ridge R**	**1.11**	**139**		Pg	19 11 23.3	+0.1
OK052				IAML		19 11 39.4	
	comp=N,186nm,0.2s						
OK031	**S. Brethren Rd**	**1.12**	**141**		Pg	19 11 23.4	-0.1
OK031				IAML		19 11 39.4	
	comp=N,164nm,0.2s						
OK031				IAML		19 11 39.5	
	comp=N,139nm,0.2s						
DEOK	**Depew**	**1.39**	**135**		Pn	19 11 27.6	-0.5
CSTR	**Hydro, Custer**	**1.43**	**214**		Pn	19 11 28.2	-0.6
OKCSW	**OKLAHOMA CITY**	**1.44**	**171**	IAmb_Lg		19 11 48.8	
	comp=Z,24nm,1.2s						
R32A	**Long Quarter,**	**1.77**	**333**	Pn	Pb	19 11 35.1	0.0
W35A	**Tecumseh**	**1.81**	**158**		Pn	19 11 34.4	+0.5
WMOK	**Wichita Mounta**	**2.27**	**203**		Pn	19 11 40.9	+0.6
KSU1	**Kansas State U**	**2.42**	**21**		Pn	19 11 42.9	+0.5
HHAR	**Hobbs**	**3.08**	**99**	Pn	Pn	19 11 51.4	-0.1
HHAR				IAmb_Lg		19 12 45.7	
	comp=Z,6.6nm,0.8s						
RTBA	**Rita Blanca**	**4.07**	**266**		Pn	19 12 05.0	-0.2
KSCO	**Kaye Shedlock'**	**4.46**	**301**	IAmb_Lg		19 13 21.2	
	comp=Z,5.8nm,0.9s						
BGNE	**Belgrade**	**4.58**	**356**	IAmb_Lg		19 13 31.4	
	comp=Z,10nm,0.7s						

TXNET 10 19:17:40.6, 31°.3N±0°.8×103°.4W±0°.7, h6km±2km, ML1.8/6, Error ellipse: s-maj=1.2km s-min=1.0km az=36.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.13**	**316**	P	Pg	19 17 44.0	+0.5
PCOS				S	Sg	19 17 46.4	+1.1
TPB03	**Saragosa**	**0.25**	**203**	P	Pg	19 17 46.0	+0.5
TPB03				S	Sg	19 17 50.5	+1.7
TPB10	**Southeast of T**	**0.30**	**265**	P	Pg	19 17 47.0	+0.4
TPB10				S	Sg	19 17 52.1	+1.4
TPB07	**Mentone**	**0.35**	**319**	P	Pg	19 17 48.2	+0.8
TPB07				S	Sb	19 17 53.9	-1.2
TPB05	**Hovey Rd**	**0.40**	**171**	P	Pb	19 17 49.2	-0.8
TPB05				S	Sb	19 17 55.1	-1.4
PECS	**Pecos**	**0.40**	**278**	P	Pg	19 17 48.6	+0.2
PECS				S	Sg	19 17 54.6	+0.8
PECS	**Pecos**	**0.40**	**278**	P	Pg	19 17 48.8	+0.4
TPB01	**Permian Basin**	**0.49**	**222**	P	Pg	19 17 50.1	0.0
TPB01				Pn	Pb	19 17 51.7	0.0
TPB01				S	Sb	19 17 57.9	-1.3
TPB01				Sn	Sg	19 18 00.9	+4.3
MNHN	**Monahans**	**0.55**	**87**	P	Pg	19 17 51.6	+0.4
MNHN				S	Sb	19 17 59.6	-1.1
TPB08	**Permian Basin**	**0.60**	**135**	S	Sb	19 18 01.6	-0.6
TPB11	**China Draw**	**0.82**	**319**	P	Pg	19 17 56.0	-0.5
TPB11				S	Sg	19 18 07.6	+0.5
ALPN	**Alpine**	**0.96**	**192**	P	Pg	19 17 58.4	-0.6
ALPN				S	Sg	19 18 11.3	-0.1
CLNB	**Carlsbad**	**1.03**	**337**	P	Pg	19 17 58.9	-1.6
ODSA	**Odessa**	**1.08**	**42**	P	Pg	19 18 00.8	-0.6
ODSA				S	Sb	19 18 16.4	+0.2
TMB02	**Rankin**	**1.17**	**95**	P	Pg	19 18 02.9	-0.2
TMB02				S	Sb	19 18 19.2	+0.5
VHRN	**Van Horn**	**1.46**	**249**	P	Pn	19 18 07.2	-0.4
VHRN				S	Sb	19 18 26.6	-0.5
VHRN	**Van Horn**	**1.46**	**249**	P	Pn	19 18 07.3	-0.3
TMB04	**Seminole**	**1.52**	**30**	P	Pn	19 18 08.7	+0.3
TMB04				S	Sg	19 18 29.9	+0.4
MNTX	**Cornudas Mount**	**1.74**	**283**	P	Pb	19 18 12.4	-0.5
MNTX				S	Sg	19 18 36.2	-0.2
MNTX	**Cornudas Mount**	**1.74**	**283**	P	Pb	19 18 13.1	+0.2
SAND	**Sanderson**	**1.75**	**141**	P	Pb	19 18 13.5	+0.4
SAND				S	Sg	19 18 36.8	+0.2
SAND	**Sanderson**	**1.75**	**141**	P	Pg	19 18 13.6	-0.4
TX31	**Lajitas Ar. Si**	**1.98**	**187**	P	Pn	19 18 16.0	+1.2
TX31				S	Sb	19 18 42.4	+0.2
TX31	**Lajitas Ar. Si**	**1.98**	**187**	P	Pb	19 18 16.8	-0.4
OZNA	**Ozona**	**1.99**	**101**	P	Pb	19 18 16.2	-1.0
OZNA				S	Sg	19 18 43.6	-0.8
SGCY	**Sterling City**	**2.03**	**72**	P	Pb	19 18 17.1	-0.8
SGCY				S	Sg	19 18 44.7	-1.2
SGCY	**Sterling City**	**2.03**	**72**	P	Pb	19 18 17.3	-0.6

*IDC **10** 19:35:39.1±0.8, 8°.76N×127°.24E, h0km, mb3.9/13, mbtmp3.9/14, ML4.1/1, MS3.1/5, Error ellipse: s-maj=28.6km s-min=15.5km az=78.0*
*NEIC **10** 19:35:41.7±2.3, 8°.93N±0°.08×127°.16E±0°.08, h10km±1km, mb4.5/12, Error ellipse: s-maj=17.9km s-min=5.1km az=136.0*

ISC 10 19:35:41.1±0.6, 8°.85N±0°.06×127°.2E±0°.1, h10km, n36, σ1§31/34, mb4.2/19, MS3.1/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.36**	**222**	Pn	**Pn**	**19 36 21.4**	**+1.5**
DAV	**Davao City (W)**	**2.36**	**222**	Pn	**Pn**	**19 36 19.4**	**-0.6**
	47nm,0.3s,baz=36,slow=6.5,SNR=7.0						
DAV				Sn	**Sn**	**19 36 50.4**	**+1.4**
	78nm,0.3s,baz=238,slow=22,SNR=13						
DAV				LR	LR	19 36 57.4	
	comp=Z,367nm,19.3s,baz=2.0,slow=33						
	166nm,0.4s						
FAKI	**Fak Fak**	**12.75**	**156**	Pn	**Pn**	**19 38 44.4**	**+1.9**
TPUB	**Ta-pu**	**15.67**	**337**	Pn	**Pn**	**19 39 22.2**	**+0.1**
TPUB				IAmb	IAmb	19 39 36.1	
	comp=Z,41nm,1.2s						
JOW	**Kunigami**	**17.91**	**3**	LR	LR	19 46 48.6	
	comp=Z,46nm,19.3s,baz=154,slow=37						
MTN	**Manton Dam**	**21.91**	**170**	P	**P**	**19 40 33.5**	**-1.2**
KNRA	**Kununurra**	**24.42**	**176**	P	**P**	**19 41 01.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**26.82**	**183**	P	**P**	**19 41 21.6**	**-0.2**
KSRS	**Korea Array**	**28.48**	**1**	LR	LR	19 53 59.1	
	comp=Z,31nm,19.8s,baz=130,slow=38						
CMAR	**Chiang Mai Arr**	**28.99**	**292**	P	**P**	**19 41 41.6**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=104,slow=5.6,SNR=5.9						
CMAR				LR	LR	19 53 50.0	
	comp=Z,42nm,18.0s,baz=90,slow=38						
	comp=Z,1.2nm,1.0s						
WB0	**Warramunga Arr**	**29.32**	**166**	P	**P**	**19 41 45.8**	**+1.7**
WB0				IAmb	IAmb	19 41 53.5	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**29.47**	**166**	P	**P**	**19 41 43.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=344,slow=8.9,SNR=1.9						
	comp=Z,0.3nm,0.5s						
WB2	**Warramunga Arr**	**29.48**	**166**	P	**P**	**19 41 46.2**	**+0.7**
WB2				IAmb	IAmb	19 41 48.7	
	comp=Z,14nm,1.3s						
ASAR	**Alice Springs**	**32.98**	**169**	P	**P**	**19 42 15.5**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=342,slow=7.3,SNR=11						
	comp=Z,0.3nm,0.6s						
MORW	**Morawa**	**39.20**	**195**	P	**P**	**19 43 07.9**	**-1.6**
MORW				IAmb	IAmb	19 43 28.4	
	comp=Z,8.7nm,1.0s						
FORT	**Forrest**	**39.41**	**179**	P	**P**	**19 43 11.2**	**-0.1**
FORT				IAmb	IAmb	19 43 24.2	
	comp=Z,15nm,1.0s						
BBOO	**Buckleboo**	**42.29**	**169**	P	**P**	**19 43 32.8**	**-2.2**
SONM	**Songino Array**	**42.65**	**339**	P	**P**	**19 43 37.3**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=162,slow=8.9,SNR=4.7						
	comp=Z,0.6nm,0.6s						
STKA	**Stephens Creek**	**42.79**	**162**	P	**P**	**19 43 36.7**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=352,slow=15,SNR=3.0						
	comp=Z,1.3nm,0.7s						
PETK	**Petropavlovsk-**	**50.57**	**23**	P	**P**	**19 44 39.2**	**-0.6**
MK31	**Makanchi Array**	**53.68**	**323**	P	**P**	**19 45 02.0**	**-1.1**
MKAR	**Makanchi Array**	**53.68**	**323**	P	**P**	**19 45 03.0**	**-0.1**
MKAR	**Makanchi Array**	**53.68**	**323**	P	**P**	**19 45 03.9**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=118,slow=8.8,SNR=17						
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**53.87**	**323**	P	**P**	**19 45 03.4**	**-1.1**
ZALV	**Zalesovo Beam**	**56.28**	**331**	P	**P**	**19 45 22.3**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=138,slow=8.3,SNR=4.6						
	comp=Z,0.5nm,0.4s						
AAK	**Ala-Archa**	**56.94**	**316**	LR	LR	20 15 09.2	
	comp=Z,33nm,18.3s,baz=43,slow=42						
KURK	**Kurchatov**	**57.73**	**326**	P	**P**	**19 45 32.2**	**+0.2**
KURK				IAmb	IAmb	19 45 34.7	
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**57.73**	**326**	P	**P**	**19 45 32.7**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=126,slow=6.6,SNR=23						
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	**59.87**	**315**	P	**P**	**19 45 47.9**	**+0.8**
BVAR	**Borovoye Array**	**63.32**	**326**	P	**P**	**19 46 11.3**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=114,slow=7.3,SNR=9.4						
	comp=Z,1.9nm,0.8s						
ABKAR	**Akbulak array**	**68.52**	**320**	P	**P**	**19 46 41.5**	**-2.3**
ILAR	**Eielson Array**	**80.33**	**26**	P	**P**	**19 47 52.8**	**+0.5**
	comp=Z,1.3nm,1.3s,baz=224,slow=5.9,SNR=4.6						
	comp=Z,1.3nm,1.3s						
ARCES	**ARCESS Array B**	**85.82**	**340**	P	**P**	**19 48 22.0**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=78,slow=5.8,SNR=2.2						
	comp=Z,3.2nm,0.9s						
BRTR	**Keskin Array B**	**87.10**	**310**	P	**P**	**19 48 26.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=106,slow=3.1,SNR=3.6						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**87.55**	**332**	P	**P**	**19 48 29.1**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=62,slow=3.3,SNR=9.7						
	comp=Z,2.9nm,0.9s						
YKA	**Yellowknife Ar**	**94.69**	**24**	P	**P**	**19 49 05.1**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=297,slow=4.5,SNR=3.9						

*NAO **10** 19:36:28.8±1.9, 79°.16N×2°.47E, ML3.1*
*BER **10** 19:36:31.4±3.0, 79°.24N×2°.70E, h10km, mb(Pn)3.8, ML3.1(NAO), Confirmed Earthquake*
*DNK **10** 19:36:31.5±2.9, 79°.03N×2°.88E, h26km±26km, ML1.9*
*KOLA **10** 19:36:33.8, 79°.09N×4°.05E, h0km, ML2.5, Error ellipse: s-maj=26.5km s-min=20.9km az=170.0, Greenland sea, Knipovich ridge, north*
*FCIAR **10** 19:36:36.0, 78°.74N×4°.43E, h10km, station ZFI2 has station magnitude of 3.60 station OMEGA has station magnitude of 3.50*

ISC 10 19:36:29.5±1.7, 79°.18N±0°.06×2°.28E±0°.04, h32km±16km, n40, σ2§48/70, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.86**	**93**	Pn	**Pb**	**19 37 01.3**	**-1.6**
KBS				Sn	**Sn**	**19 37 20.6**	**-0.8**
KBS	**Kingsbay**	**1.86**	**93**	⇑*i*P	**Pb**	**19 37 01.2**	**-1.6**
KBS				*e*S	**Sn**	**19 37 20.6**	**-0.8**
KBS				IAML		19 37 22.1	
	comp=Z,78nm,0.2s						
KBS	**Kingsbay**	**1.86**	**93**	P	**Pn**	**19 36 59.9**	**+0.8**
KBS				S	**Sn**	**19 37 19.9**	**-1.5**
KBS	**Kingsbay**	**1.86**	**93**	⇑*i*P	**Pb**	**19 37 01.2**	**-1.6**
KBS				*i* S	**Sn**	**19 37 20.3**	**-1.1**
KBS	**Kingsbay**	**1.86**	**93**	*i* P	**Pn**	**19 37 00.4**	**+1.3**
KBS				*i* S	**Sn**	**19 37 20.7**	**-0.8**
BRBB	**Barentsburg B**	**2.60**	**109**	Pn	**Pn**	**19 37 11.3**	**+2.1**
BRBB				Sn	**Sn**	**19 37 38.6**	**-1.0**
BRBB	**Barentsburg B**	**2.60**	**109**	*e*P	**Pn**	**19 37 11.1**	**+1.9**
BRBB				*e*S	**Sn**	**19 37 38.4**	**-1.2**
BRBB	**Barentsburg B**	**2.60**	**109**	P	**Pn**	**19 37 11.2**	**+1.9**
BRBB				S	**Sn**	**19 37 38.4**	**-1.2**
BRBA	**Barentsburg A**	**2.62**	**110**	Pn	**Pn**	**19 37 11.3**	**+1.9**
BRBA				Sn	**Sn**	**19 37 39.6**	**-0.4**
BRBA	**Barentsburg A**	**2.62**	**110**	*e*P	**Pb**	**19 37 12.6**	**-3.0**
BRBA				*e*S	**Sn**	**19 37 39.3**	**-0.8**
BRBA				IAML		19 37 43.8	
	comp=Z,34nm,0.2s						
SPA0	**Spitsbergen Ar**	**2.95**	**103**	Pn	**Pn**	**19 37 17.2**	**+3.1**
	baz=300,slow=7.4						
SPA0				Sn	**Sn**	**19 37 48.5**	**+0.2**
	baz=299,slow=12						
SPA0	**Spitsbergen Ar**	**2.95**	**103**	Pn	**Pn**	**19 37 17.2**	**+3.1**
	baz=300,slow=7.4						
SPA0				Sn	**Sn**	**19 37 48.5**	**+0.2**
	baz=299,slow=12						
SPA0	**Spitsbergen Ar**	**2.95**	**103**	⇑*i*P	**Pn**	**19 37 17.1**	**+3.1**
SPA0				*i* S	**Sn**	**19 37 46.4**	**-1.9**
SPITS	**Spitsbergen Ar**	**2.95**	**103**	P	**Pn**	**19 37 16.8**	**+2.7**
SPITS				S	**Sn**	**19 37 48.6**	**+0.3**
HSPB	**Hornsund (broa**	**3.50**	**122**	Pn	**Pn**	**19 37 23.9**	**+2.3**
HSPB				Sn	**Sn**	**19 38 00.8**	**-1.0**
HSPB	**Hornsund (broa**	**3.50**	**122**	*e*P	**Pn**	**19 37 23.7**	**+2.1**
HSPB				*e*S	**Sn**	**19 38 00.9**	**-1.0**
HSPB				IAML		19 38 07.5	
	comp=Z,6.4nm,0.3s						
HSPB	**Hornsund (broa**	**3.50**	**122**	P	**Pn**	**19 37 24.3**	**+2.6**
HSPB				S	**Sn**	**19 38 01.9**	**0.0**
NOR	**Nord**	**3.98**	**316**	Pn	**Pn**	**19 37 31.9**	**+3.7**
NOR	**Nord**	**3.98**	**316**	*i* P	**Pn**	**19 37 31.6**	**+3.4**
NOR	**Nord**	**3.98**	**316**	*i* P	**Pn**	**19 37 31.6**	**+3.4**
DAG	**Danmarks Havn**	**4.98**	**252**	*e*	**Pn**	**19 37 40.9**	**-0.9**
	baz=51,slow=18						
DAG				*i* P	**Pn**	**19 37 44.0**	**+2.2**
DAG				*i* P	**Pn**	**19 37 44.5**	**+2.7**
DAG				*i* S	**Sn**	**19 38 36.9**	**-1.2**
DAG				IAML		19 38 49.2	
	comp=Z,9.5nm,0.3s						
DAG	**Danmarks Havn**	**4.98**	**252**	*e*	**Pn**	**19 37 40.9**	**-0.9**
	baz=51,slow=18						
DAG				*i* P	**Pn**	**19 37 44.0**	**+2.2**
DAG				*i* P	**Pn**	**19 37 44.5**	**+2.7**
DAG				*i* S	**Sn**	**19 38 36.9**	**-1.2**
DAG				IAML		19 38 49.2	
	comp=Z,9.5nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**5.46**	**108**	Pn	**Pn**	**19 37 50.4**	**+1.9**
HOPEN				Sn	**Sn**	**19 38 48.5**	**-1.6**
HOPEN	**Hopen**	**5.46**	**108**	*e*P	**Pn**	**19 37 50.4**	**+1.9**
HOPEN				*e*S	**Sn**	**19 38 48.1**	**-2.0**
HOPEN				IAML		19 39 05.2	
	comp=Z,13nm,0.6s						
HOPEN	**Hopen**	**5.46**	**108**	*e*P	**Pn**	**19 37 50.2**	**+1.7**
HOPEN				*e*S	**Sn**	**19 38 45.0**	**-5.1**
BJO1	**Bjornoya**	**6.02**	**133**	*e*P	**Pn**	**19 37 57.5**	**+1.3**
DBG	**Daneborg**	**7.06**	**238**	Pn	**Pn**	**19 38 13.1**	**+2.7**
DBG				Sn	**Sn**	**19 39 26.0**	**-3.3**
DBG	**Daneborg**	**7.06**	**238**	*i* P	**Pn**	**19 38 13.5**	**+3.1**
DBG				*e*		19 39 20.6	
DBG				IAML		19 39 31.9	
	comp=Z,6.7nm,0.4s						
DBG	**Daneborg**	**7.06**	**238**	*i* P	**Pn**	**19 38 13.5**	**+3.1**
DBG				*e*		19 39 20.6	
DBG				IAML		19 39 31.9	
	comp=Z,6.7nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.88**	**57**	P	**Pn**	**19 38 26.0**	**+4.4**
ZFI2				*e*S	**Sn**	**19 39 47.4**	**-2.1**
	comp=Z,15nm,1.9s						
OMEGA	**Omega**	**7.90**	**57**	P	**Pn**	**19 38 26.3**	**+4.4**
OMEGA				*e*S	**Sn**	**19 39 47.6**	**-2.3**
	comp=Z,12nm,1.6s						
JNW	**Jan Mayen West**	**8.62**	**204**	*e*P	**Pn**	**19 38 35.4**	**+3.6**
JNE	**Jan Mayen East**	**8.65**	**204**	*e*P	**Pn**	**19 38 35.8**	**+3.6**
NEEM	**North Greenlan**	**10.62**	**288**	*i* P	**Pn**	**19 39 00.2**	**+0.9**
NEEM				*i* S	**Sn**	**19 40 52.3**	**-4.8**
NEEM				IAML		19 40 56.0	
	comp=Z,1.2nm,0.4s						
NEEM	**North Greenlan**	**10.62**	**288**	*i* P	**Pn**	**19 39 00.2**	**+0.9**
NEEM				*i* S	**Sn**	**19 40 52.3**	**-4.8**
NEEM				IAML		19 40 56.0	
	comp=Z,1.2nm,0.4s						
ARA0	**ARCESS Array S**	**11.39**	**135**	Pn	**Pn**	**19 39 12.7**	**+3.1**
	baz=347,slow=12						
ARA0	**ARCESS Array S**	**11.39**	**135**	Pn	**Pn**	**19 39 12.7**	**+3.1**
	baz=347,slow=12						
SUMG	**Summit**	**11.62**	**257**	*i* P	**Pn**	**19 39 16.0**	**+2.8**
SUMG				*e*		19 41 15.5	
SUMG				IAML		19 41 20.0	
	comp=Z,1.1nm,0.4s						
SUMG	**Summit**	**11.62**	**257**	*i* P	**Pn**	**19 39 16.0**	**+2.8**
SUMG				*e*		19 41 15.5	
SUMG				IAML		19 41 20.0	
	comp=Z,1.1nm,0.4s						
LSH	**Leshukonskoye**	**18.81**	**114**	P	P	19 40 38.2	-7.7

*KOLA **10** 20:04:59.0, 67°.63N×33°.76E, h0km, ML1.5, Error ellipse: s-maj=2.8km s-min=1.6km az=120.0, Khibiny, mines Kirovsk, Yukspor*

HEL 10 20:04:58.8±0.2, 67°.63N×33°.79E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**246**	P	Pg	20 05 01.5	-0.3
APA0	**Apatity Array**	**0.31**	**265**	P	Pg	20 05 03.8	-0.8
APA0				S	Sg	20 05 08.0	-0.6
LVZ	**Lovozero**	**0.42**	**51**	PG	Pg	20 05 06.4	-0.5
LVZ				SG	Sg	20 05 08.2	-4.1
KVDA	**Kovda**	**1.01**	**201**	P	Pg	20 05 17.1	-1.0
KVDA				S	Sg	20 05 30.2	-0.9
VRF	**Varrio**	**1.60**	**276**	PG	Pn	20 05 27.7	-0.6
VRF				MSG		20 05 46.8	
	comp=Z,2.2nm,0.2s						
VRF				SG	Sn	20 05 47.3	-2.3
TERR	**Teriberka**	**1.65**	**17**	P	Pn	20 05 27.9	-1.0
TERR				S	Sn	20 05 48.6	-2.2
OLKF	**Oulanka, Finla**	**2.17**	**235**	PG	Pb	20 05 37.6	-1.3
OLKF				MSG		20 06 03.1	
	comp=Z,1.2nm,0.2s						
OLKF				SG	Sb	20 06 06.7	+0.4
RAJF	**Raja-Jooseppi**	**2.23**	**295**	PB	Pn	20 05 36.9	+0.1
RAJF				SG	Sn	20 06 05.5	+0.5
KU6	**Riekki**	**2.23**	**225**	PG	Pb	20 05 38.5	-1.5
	baz=45						
KU6				MSG		20 06 04.9	
	comp=Z,1.0nm,0.2s						
KU6				SG	Sb	20 06 07.8	-0.3
MSF	**Maaselka**	**2.56**	**230**	PG	Pb	20 05 44.3	-1.2
	baz=50						
KMNF	**Kaamanen**	**2.94**	**304**	PN	Pn	20 05 46.3	-0.4
KMNF				SB	Sb	20 06 26.9	-1.5
RNF	**Rovaniemi**	**3.21**	**255**	PN	Pn	20 05 50.2	-0.1
	baz=67						
RNF				SN	Sn	20 06 29.2	0.0
RANF	**Ranua**	**3.21**	**243**	PB	Pb	20 05 54.3	-2.3
RANF				SG	Sb	20 06 37.4	+1.2
KEV	**Kevo**	**3.27**	**314**	PN	Pn	20 05 51.1	-0.1
	baz=126						
KEV				SN	Sn	20 06 29.6	-1.1
ARCES	**ARCESS Array B**	**3.59**	**306**	P	Pn	20 05 54.7	-0.9
ARCES				S	Sn	20 06 36.9	-1.7
OUL	**Oulu**	**4.08**	**235**	SG	Sb	20 07 04.0	+2.9
LANU	**Lannavaara**	**4.49**	**281**	SG	Sg	20 07 18.5	-4.2

*IDC **10** 20:21:10.1±0.8, 9°.81N×126°.39E, h0km, mb3.9/10, mbtmp3.9/11, ML3.8/1, MS2.8/2, Error ellipse: s-maj=43.3km s-min=15.8km az=79.0*

**ISC 10 20:21:16.0±0.8, 9°.77N±

mbtmp3.8/4, Error ellipse: s-maj=182.5km s-min=23.7km az=111.0
*NEIC **10** 20:21:39.5±1.2, 18°.54N±0°.07×145°.8E±0°.3, h110km±11km, mb4.2/9, Error ellipse: s-maj=41.1km s-min=8.7km az=95.0*
ISC 10 20:21:38.2±1.0, **18°.7N**±0°.1×**145°.8E**±0°.3, **h100**km, **n22**, σ1§**89**/**17**, **mb3.9**/**8**, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.17**	**190**	P	**Pn**	**20 22 55.9**	**+2.6**
	22nm,0.3s,baz=333,slow=18,SNR=1.2						
GUMO				S	**Sn**	**20 23 53.1**	**+1.4**
	70nm,0.7s,baz=18,slow=19,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**19.81**	**87**	T	T	20 46 59.6	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**19.82**	**87**	T	T	20 47 00.7	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**19.83**	**87**	T	T	20 47 00.4	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	**19.95**	**84**	T	T	20 47 11.0	
	baz=271						
H11N2	**WAKE ISLAND Hy**	**19.96**	**84**	T	T	20 47 20.7	
	baz=271						
H11N3	**WAKE ISLAND Hy**	**19.97**	**84**	T	T	20 47 21.2	
	baz=271						
COEN	**Coen**	**32.57**	**185**	P	**P**	**20 27 58.5**	**-1.6**
KNRA	**Kununurra**	**38.07**	**207**	P	**P**	**20 28 44.4**	**-2.8**
WB0	**Warramunga Arr**	**39.84**	**197**	P	**P**	**20 29 00.1**	**-2.0**
WB0				IAmb	IAmb	20 29 43.9	
	comp=Z,9.9nm,1.4s						
WB2	**Warramunga Arr**	**40.02**	**197**	P	**P**	**20 29 01.0**	**-2.5**
WB2				IAmb	IAmb	20 29 35.0	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**40.03**	**197**	P	**P**	**20 29 02.1**	**-1.5**
WRA	**Warramunga Arr**	**40.03**	**197**	P	**P**	**20 29 02.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=17,slow=8.4,SNR=7.3						
	comp=Z,0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.60**	**210**	P	**P**	**20 29 15.2**	**-1.3**
FITZ				IAmb	IAmb	20 29 43.3	
	comp=Z,4.6nm,1.4s						
AS31	**Alice Springs**	**43.69**	**196**	P	**P**	**20 29 31.4**	**-1.9**
ASAR	**Alice Springs**	**43.69**	**196**	P	**P**	**20 29 31.4**	**-2.0**
ASAR	**Alice Springs**	**43.69**	**196**	P	**P**	**20 29 31.8**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=14,slow=7.2,SNR=7.8						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**58.51**	**314**	P	**P**	**20 31 24.7**	**+0.6**
MK31				IAmb	IAmb	20 31 55.1	
	comp=Z,1.1nm,1.5s						
ILAR	**Eielson Array**	**63.59**	**26**	P	**P**	**20 31 57.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=256,slow=6.6,SNR=7.2						
	comp=Z,0.3nm,0.4s						
D24K	**Happy Valley**	**63.95**	**21**	P	**P**	**20 32 02.2**	**+1.9**
D24K				IAmb	IAmb	20 32 38.1	
	comp=Z,4.3nm,1.3s						
BMAR	**Burnt Mountain**	**65.07**	**24**	P	**P**	**20 32 09.1**	**+1.4**
BCAR	**Beaver Creek A**	**65.53**	**28**	P	**P**	**20 32 10.5**	**-0.2**

IDC 10 20:54:35.7±1.9, **3°.74N**×**124°.78E**, **h0**km, **mb3.5**/**4**, **mbtmp3.5**/**4**, **MS3.1**/**1**, **Error ellipse: s-maj=122.4km s-min=24.9km az=67.0**, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.72**	**178**	P	P	20 59 30.4	+1.8
	1.8nm,0.6s,baz=359,slow=8.2,SNR=7.8						
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**25.34**	**159**	P	P	21 00 04.0	-0.5
	0.8nm,0.4s,baz=334,slow=10,SNR=15						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**28.66**	**162**	P	P	21 00 33.5	-0.9
	0.2nm,0.4s,baz=340,slow=7.8,SNR=4.2						
ASAR				LR	LR	21 13 59.4	
	comp=Z,36nm,19.0s,baz=112,slow=41						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**56.45**	**326**	P	P	21 04 19.4	+0.1
	0.3nm,0.7s,baz=118,slow=7.2,SNR=5.4						
	0.3nm,0.7s						

*SJA **10** 21:00:35.6±1.7, 28°.04S×70°.69W, h102km±11km, ML4.2, MW4.1*
*NEIC **10** 21:00:36.7±1.0, 28°.02S±0°.02×70°.8W±0°.1, h101km±7km, mb4.5/9, Error ellipse: s-maj=14.0km s-min=2.6km az=89.0*
*GUC **10** 21:00:37.3±0.9, 28°.08S×70°.58W, h90km±6km, ML4.2*
*IDC **10** 21:00:38.6±0.9, 28°.11S×70°.30W, h84km±4km, mb3.8/5, mbtmp4.0/7, MS3.7/4, Error ellipse: s-maj=33.1km s-min=20.8km az=103.0*
ISC 10 21:00:36.3±0.5, **28°.03S**±0°.04×**70°.65W**±0°.05, **h93**km±3km, **h93**km:**pP-P**, **n76**, σ1§**27**/**97**, **mb4.3**/**10**, **2C-2D**, **Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.41**	**244**		**Pn**	**21 00 52.3**	**+1.6**
AC04				Sn	**Sn**	**21 01 03.0**	**+1.5**
AC04	**Llanos de Chal**	**0.41**	**244**	*e*P	**Pn**	**21 00 52.5**	**+1.8**
AC04				*e*S	**Sn**	**21 01 03.1**	**+1.7**
AC04				IAML		21 01 03.8	
	comp=Z,11μm,0.2s						
AC04	**Llanos de Chal**	**0.41**	**244**	*e*P	**Pn**	**21 00 52.5**	**+1.8**
AC04				*e*S	**Sn**	**21 01 03.0**	**+1.5**
LCO	**Las Campanas**	**0.98**	**182**	Pn	**Pn**	**21 00 57.4**	**+1.1**
LCO				Sn	**Sn**	**21 01 12.3**	**+1.1**
LCO	**Las Campanas**	**0.98**	**182**	*e*P	**Pn**	**21 00 57.4**	**+1.1**
LCO				*e*S	**Sn**	**21 01 12.5**	**+1.2**
LCO				IAML		21 01 13.7	
	comp=Z,13μm,0.2s						
LCO	**Las Campanas**	**0.98**	**182**	*i* P	**Pn**	**21 00 57.3**	**+1.1**
LCO				*e*S	**Sn**	**21 01 12.2**	**+0.9**
AC02	**Maricunga**	**1.80**	**49**		**Pn**	**21 01 07.9**	**+1.5**
AC02	**Maricunga**	**1.80**	**49**	*e*P	**Pn**	**21 01 08.1**	**+1.6**
AC02				*e*S	**Sn**	**21 01 30.7**	**+1.3**
AC02				IAML		21 01 32.1	
	comp=Z,1μm,0.3s						
AC02	**Maricunga**	**1.80**	**49**	⇓*i*P	**Pn**	**21 01 08.1**	**+1.6**
AC02				*e*S	**Sn**	**21 01 30.1**	**+0.7**
AC02				IAML		21 01 32.5	
	comp=N,3μm,0.3s						
AC01	**Pan de Azucar**	**1.87**	**2**	Pn	**Pn**	**21 01 08.3**	**+1.4**
AC01	**Pan de Azucar**	**1.87**	**2**	*e*P	**Pn**	**21 01 07.2**	**+0.3**
AC01				IAML		21 01 32.1	
	comp=Z,1μm,0.3s						
AC01	**Pan de Azucar**	**1.87**	**2**	⇑*i*P	**Pn**	**21 01 08.3**	**+1.4**
AC01				IAML		21 01 47.8	
	comp=E,2μm,0.3s						
CO05	**La Serena**	**1.96**	**195**		**Pn**	**21 01 08.8**	**+0.8**
CO05	**La Serena**	**1.96**	**195**	*i* P	**Pn**	**21 01 09.0**	**+1.0**
CO05				*e*S	**Sn**	**21 01 32.9**	**+0.8**
CO05				IAML		21 01 38.3	
	comp=N,4μm,0.4s						
CO01	**Juntas del Tor**	**2.01**	**166**		**Pn**	**21 01 10.4**	**+1.5**
CO01	**Juntas del Tor**	**2.01**	**166**	*e*P	**Pn**	**21 01 09.8**	**+0.9**
CO01				*e*S	**Sn**	**21 01 34.1**	**+0.3**
CO01				IAML		21 01 42.0	
	comp=Z,703nm,0.5s						
CO01	**Juntas del Tor**	**2.01**	**166**	⇑*i*P	**Pn**	**21 01 10.3**	**+1.5**
CO01				*e*S	**Sn**	**21 01 34.5**	**+0.7**
GO04	**Tololo Observa**	**2.14**	**183**	Pn	**Pn**	**21 01 12.2**	**+1.4**
GO04	**Tololo Observa**	**2.14**	**183**	*e*P	**Pn**	**21 01 11.9**	**+1.2**
GO04				*e*S	**Sn**	**21 01 37.1**	**+0.1**
GO04	**Tololo Observa**	**2.14**	**183**	*i* P	**Pn**	**21 01 12.0**	**+1.3**
GO04				*e*S	**Sn**	**21 01 38.5**	**+1.5**
VCA	**Vinchina**	**2.27**	**109**	*e*P	**Pn**	**21 01 14.2**	**+1.9**
VCA				*e*S	**Sn**	**21 01 41.8**	**+2.0**
VCA				*e*S		21 01 41.9	
VCA				IAML		21 01 46.6	
	comp=Z,1μm,0.3s						
CO06	**Fray Jorge**	**2.77**	**198**		**Pn**	**21 01 19.0**	**+0.2**
CO06	**Fray Jorge**	**2.77**	**198**	⇓*i*P	**Pn**	**21 01 19.0**	**+0.2**
CO06				IAML		21 01 53.2	
	comp=N,839nm,0.2s						
CO03	**El Pedregal**	**2.80**	**181**		**Pn**	**21 01 20.5**	**+1.2**
CO03	**El Pedregal**	**2.80**	**181**	*e*P	**Pn**	**21 01 20.6**	**+1.3**
CO03				IAML		21 01 55.6	
	comp=N,2μm,0.1s						
GO02	**Mina Guanaco**	**3.01**	**19**	Pn	**Pn**	**21 01 23.4**	**+1.1**
GO02	**Mina Guanaco**	**3.01**	**19**	*e*P	**Pn**	**21 01 23.4**	**+1.1**
PB14	**IPOC Station P**	**3.39**	**4**	Pn	**Pn**	**21 01 27.8**	**+0.3**
PB14	**IPOC Station P**	**3.39**	**4**	*e*P	**Pn**	**21 01 27.9**	**+0.4**
VA06	**Catapilco**	**4.55**	**187**	Pn	**Pn**	**21 01 42.8**	**-0.1**
VA03	**San Esteban**	**4.72**	**179**		**Pn**	**21 01 46.0**	**+0.8**
VA01	**Torpederas**	**5.05**	**190**	Pn	**Pn**	**21 01 48.7**	**-0.9**
PEL	**Peldehue**	**5.10**	**180**		**Pn**	**21 01 50.8**	**+0.5**
MT02	**Curacav**	**5.23**	**184**	Pn	**Pn**	**21 01 52.1**	**0.0**
MT05	**Renca**	**5.35**	**181**		**Pn**	**21 01 54.4**	**+0.6**
MT16	**CCHEN**	**5.39**	**179**		**Pn**	**21 01 55.2**	**+1.0**
MT08	**Bocatoma Ro**	**5.43**	**174**		**Pn**	**21 01 57.0**	**+2.1**
MT03	**Universidad Ad**	**5.45**	**179**		**Pn**	**21 01 55.5**	**+0.4**
VA05	**Santo Domingo**	**5.67**	**188**		**Pn**	**21 01 57.4**	**-0.7**
MT13	**San Alfonso**	**5.71**	**177**		**Pn**	**21 01 59.5**	**+0.8**
MT09	**Talagante**	**5.74**	**183**		**Pn**	**21 01 59.0**	**-0.1**
LMEL	**Las Melosas**	**5.82**	**176**		**Pn**	**21 02 00.5**	**+0.3**
MT01	**Popeta**	**5.84**	**185**	Pn	**Pn**	**21 01 59.8**	**-0.6**
BO04	**La Punta**	**5.95**	**180**	Pn	**Pn**	**21 02 01.2**	**-0.6**
PB09	**IPOC Station P**	**6.33**	**12**	Pn	**Pn**	**21 02 07.0**	**-0.3**
BO01	**Tunca**	**6.36**	**183**	Pn	**Pn**	**21 02 06.3**	**-1.1**
BO02	**Sierra Bellavi**	**6.75**	**181**		**Pn**	**21 02 12.0**	**-0.7**
BI02	**San Fabin de**	**8.63**	**183**	Pn	**Pn**	**21 02 37.5**	**-0.9**
VA04	**Juan Fernndez**	**8.98**	**229**	Pn	**Pn**	**21 02 42.1**	**-1.0**
LPAZ	**La Paz**	**11.91**	**12**	P	**Pn**	**21 03 23.1**	**-0.4**
	comp=N,2.3nm,0.6s,baz=208,slow=7.6,SNR=12						
CPUP	**Villa Florida**	**11.98**	**85**	P	**Pn**	**21 03 22.1**	**-1.8**
	comp=N,1.0nm,0.6s,baz=252,slow=11,SNR=3.3						
CPUP				LR	LR	21 08 51.5	
	comp=N,71nm,18.9s,baz=236,slow=42						
TRQA	**Tornquist**	**12.36**	**146**	Pn	**Pn**	**21 03 27.7**	**-1.2**
PLCA	**Paso Flores**	**12.68**	**180**	P	**Pn**	**21 03 34.5**	**+1.4**
	comp=N,1.1nm,0.9s,baz=352,slow=18,SNR=3.2						
SIV	**San Ignacio**	**14.90**	**39**	P	**Pn**	**21 03 59.3**	**-2.8**
	comp=N,1.4nm,0.4s,baz=228,slow=9.5,SNR=6.1						
ITAB	**Concordia**	**16.44**	**92**		**P**	**21 04 21.9**	**-0.5**
ITAB				IAmb	IAmb	21 04 31.7	
	comp=Z,35nm,1.4s						
AY01	**Puyuhuapi**	**16.44**	**185**		**Pn**	**21 04 21.0**	**-0.2**
VAO	**Valinhos**	**21.94**	**82**	P	**P**	**21 05 22.5**	**0.0**
VAO				IAmb	IAmb	21 05 23.8	
	comp=Z,16nm,0.8s						
BDFB	**Brasilia**	**24.31**	**64**	P	**P**	**21 05 47.9**	**+2.4**
	comp=Z,0.7nm,0.4s,baz=242,slow=14,SNR=3.1						
BDFB				pP	**pP**	**21 06 05.1**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=262,slow=9.2,SNR=2.8						
	comp=Z,0.7nm,0.4s						
MG02	**Cerro Sombrero**	**24.75**	**178**	P	**P**	**21 05 48.1**	**-0.8**
RUSC	**La Rusia**	**33.80**	**356**	P	**P**	**21 07 08.4**	**-1.7**
RUSC				IAmb	IAmb	21 07 43.8	
	comp=Z,6.1nm,0.8s						
PAPH	**Port-au-Prince**	**46.30**	**358**	P	**P**	**21 08 51.6**	**-1.2**
SNAA	**Sanae**	**56.70**	**159**	P	**P**	**21 10 09.4**	**-0.4**
SNAA				IAmb	IAmb	21 10 12.9	
	comp=Z,8.1nm,1.1s						
SNAA	**Sanae**	**56.70**	**159**	P	**P**	**21 10 11.9**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=271,slow=12,SNR=7.4						
SNAA				pP	**pP**	**21 10 33.6**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=307,slow=12,SNR=1.7						
SNAA				sP	**sP**	**21 10 42.3**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=310,slow=14,SNR=2.1						
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**62.19**	**180**	P	P	21 10 53.3	+5.6
	comp=Z,1.5nm,0.3s,baz=251,slow=3.8,SNR=4.3						
TXAR	**Lajitas Array**	**65.20**	**328**	pP	**pP**	**21 11 32.9**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=155,slow=8.3,SNR=3.8						
TXAR				sP	sP	21 11 43.0	+1.4
	comp=Z,1.0nm,0.8s,baz=152,slow=8.8,SNR=7.9						
DBIC	**Dimbokro**	**72.18**	**72**	P	**P**	**21 11 51.0**	**-0.5**
DBIC				IAmb	IAmb	21 12 08.0	
	comp=Z,15nm,1.4s						
DBIC	**Dimbokro**	**72.18**	**72**	P	**P**	**21 11 53.3**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=259,slow=8.4,SNR=3.8						
	comp=Z,2.1nm,0.6s						
PDAR	**Pinedale Array**	**79.02**	**332**	pP	**pP**	**21 12 56.4**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=132,slow=4.5,SNR=2.1						
PDAR				LR	LR	21 47 05.9	
	comp=Z,105nm,18.3s,baz=44,slow=35						
TORD	**Torodi Ar. Bea**	**81.06**	**70**	P	**P**	**21 12 40.5**	**-1.0**
TORD				pP	**pP**	**21 13 06.8**	**+0.6**
TORD	**Torodi Ar. Bea**	**81.06**	**70**	P	**P**	**21 12 42.7**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=275,slow=5.3,SNR=10						
TORD				pP	**pP**	**21 13 06.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=278,slow=4.7,SNR=3.8						
TORD				sP	**sP**	**21 13 15.0**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=273,slow=5.6,SNR=6.0						
	comp=Z,1.3nm,0.7s						
BOSA	**Boshof**	**81.80**	**118**	P	**P**	**21 12 47.0**	**+1.5**
	comp=Z,2.9nm,1.0s,baz=292,slow=3.4,SNR=4.0						
BOSA				sP	**sP**	**21 13 17.9**	**-2.5**
	comp=Z,2.3nm,0.8s,baz=208,slow=5.6,SNR=2.6						
BOSA				LR	LR	21 47 26.1	
	comp=Z,45nm,18.5s,baz=193,slow=34						
	comp=Z,2.9nm,1.0s						
LSZ	**Lusaka**	**90.50**	**108**	LR	LR	21 50 31.9	
	comp=Z,54nm,19.2s,baz=221,slow=33						
WRA	**Warramunga Arr**	**126.54**	**210**	pPKP	pPKPdf	21 19 57.0	+1.9
	comp=Z,0.2nm,0.5s,baz=158,slow=1.7,SNR=1.6						
KURBB	**Kurchatov Arra**	**147.56**	**37**	PKPbc	**PKPab**	**21 20 12.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=302,slow=3.2,SNR=7.3						
KURBB				pPKPbc	**pPKPdf**	**21 20 35.4**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=307,slow=3.1,SNR=6.5						
ZALV	**Zalesovo Beam**	**148.47**	**28**	PKPbc	**PKPab**	**21 20 14.6**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=300,slow=3.9,SNR=12						
ZALV				pPKPbc	**pPKPbc**	**21 20 38.2**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=302,slow=4.0,SNR=5.2						
MKAR	**Makanchi Array**	**151.71**	**41**	PKPbc	**PKiKP**	**21 20 22.1**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=321,slow=1.7,SNR=17						
MKAR				pPKPbc	**pPKPbc**	**21 20 45.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=321,slow=1.7,SNR=6.7						

*IDC **10** 21:12:44.6±2.1, 52°.43N×32°.03W, h0km, mb3.5/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=59.0km s-min=39.3km az=68.0*
ISC 10 21:12:46.4±1.9, **52°.4N**±0°.3×**32°.0W**±0°.3, **h13**km, **n7**, σ0§**64**/**7**, **mb3.5**/**4**, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.21**	**69**	Pn	**Pn**	**21 16 46.1**	**-0.2**
	baz=274,slow=15						
	2.5nm,0.8s						
BRTR	**Keskin Array B**	**45.75**	**79**	P	**P**	**21 21 07.2**	**-0.2**
	0.3nm,0.6s,baz=309,slow=9.1,SNR=2.9						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**47.56**	**133**	P	**P**	**21 21 21.7**	**+0.1**
	0.7nm,0.6s,baz=339,slow=9.7,SNR=6.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**66.35**	**43**	P	**P**	**21 23 35.5**	**+1.0**
	0.3nm,0.7s,baz=336,slow=6.3,SNR=3.3						
	0.3nm,0.7s						
SONM	**Songino Array**	**74.01**	**28**	P	**P**	**21 24 20.9**	**-0.6**
	0.3nm,0.6s,baz=318,slow=3.9,SNR=2.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**145.89**	**23**	PKPbc	**PKPbc**	**21 32 25.1**	**-0.3**
	0.2nm,0.7s,baz=360,slow=3.8,SNR=5.8						
ASAR	**Alice Springs**	**149.34**	**26**	PKPbc	**PKPbc**	**21 32 34.8**	**0.0**
	0.2nm,0.6s,baz=1.9,slow=3.0,SNR=1.6						

TAP 10 21:20:51.8, **23°.45N**×**120°.60E**, **h8**km, **ML2.0**, **2C-2D**, **A**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCKO	**Fanlu**	**0.01**	**162**	⇑*i*P	Pg	21 20 53.4	+0.2
WCKO				*e*S	Sg	21 20 54.8	+0.7
CHN2	**Minshiung**	**0.14**	**305**	⇓*i*P	Pg	21 20 55.6	+0.8
CHN2				S	Sg	21 20 58.5	+1.7
TPUB	**Ta-pu**	**0.15**	**170**	⇓*i*P	Pg	21 20 55.7	+0.7
TPUB				*i* S	Sg	21 20 58.9	+1.7
CHY	**Chiayi**	**0.17**	**286**	*i* P	Pg	21 20 55.8	+0.6
CHY				*i* S	Sg	21 20 59.1	+1.5
ALS	**Alishan**	**0.20**	**73**	*i* P	Pg	21 20 57.0	+1.1
ALS				S	Sg	21 21 00.7	+2.0
WTP	**Ta-pu**	**0.20**	**176**	*i* P	Pg	21 20 56.7	+0.8
WTP				*i* S	Sg	21 21 00.8	+2.0
TWK	**Hsinying**	**0.21**	**209**	⇑*i*P	Pg	21 20 56.9	+0.8
TWK				*i* S	Sg	21 21 01.4	+2.5
WGK	**Gukeng**	**0.24**	**351**	P	Pg	21 20 57.4	+0.9
WGK				*i* S	Sg	21 21 02.2	+2.5
WDLH	**Douliu**	**0.24**	**346**	*i* P	Pg	21 20 57.7	+1.1
WDLH				*i* S	Sg	21 21 02.2	+2.3
SNST	**Tainan City**	**0.25**	**202**	P	Pg	21 20 57.8	+1.0
SNST				*e*S	Sg	21 21 02.4	+2.3
WDL	**Douliou City**	**0.27**	**348**	*e*P	Pb	21 20 58.4	-0.5
WDL				S	Sb	21 21 03.7	+0.1
CHN1	**Nanshi**	**0.27**	**194**	*e*P	Pb	21 20 58.3	-0.7
CHN1				S	Sb	21 21 03.1	-0.7
WTK	**Tuku**	**0.30**	**320**	*e*P	Pg	21 20 58.6	+0.8
WTK				S	Sg	21 21 02.9	+1.0
ICHU	**Yijhu**	**0.31**	**253**	*e*P	Pb	21 20 59.0	-0.6
ICHU				S	Sb	21 21 04.5	-0.3
STYT	**Tauyuan**	**0.32**	**153**	*i* P	Pg	21 20 58.0	-0.1
STYT				*i* S	Sb	21 21 03.9	-1.4
STYH	**Taoyuan**	**0.32**	**150**	*e*P	Pb	21 20 59.0	-0.8
STYH				*i* S	Sb	21 21 04.3	-0.9
WHYT	**Xinyi Township**	**0.34**	**44**	*i* P	Pb	21 20 59.5	-0.6
WHYT				S	Sb	21 21 04.8	-0.8
WSL	**Shuilin Townsh**	**0.35**	**282**	P	Pg	21 20 59.4	+0.7
WSL				*e*S	Sb	21 21 05.3	-0.6
SGST	**Jiashian**	**0.37**	**182**	*i* P	Pg	21 20 59.3	+0.3
SGST				*i* S	Sb	21 21 06.0	-0.5
CHN8	**Yiju**	**0.37**	**254**	*i* P	Pb	21 21 00.1	-0.5
CHN8				S	Sb	21 21 06.1	-0.5
WJS	**Zhushan**	**0.39**	**18**	*i* P	Pb	21 21 00.5	-0.5
WJS				*i* S	Sb	21 21 06.9	-0.2
WNT	**Mingjian**	**0.43**	**10**	*i* P	Pb	21 21 01.5	-0.2
WNT				*i* S	Sb	21 21 08.1	-0.3
ELDTW	**Lidau**	**0.46**	**124**	*i* P	Pb	21 21 01.8	-0.5
ELDTW				*i* S	Sb	21 21 09.6	+0.2
SCLT	**Jiali**	**0.46**	**234**	P	Pb	21 21 02.1	-0.1
SCLT				*e*S	Sb	21 21 09.5	+0.2
SSLB	**Suanglung**	**0.47**	**44**	*i* P	Pb	21 21 01.8	-0.5
SSLB				S	Sb	21 21 09.3	-0.1
RLNB	**Erlin**	**0.49**	**333**	*e*P	Pb	21 21 02.0	-0.7
RLNB				*e*S	Sb	21 21 10.8	+0.8
WRL	**Guolierlin Hig**	**0.49**	**335**	*e*P	Pb	21 21 02.1	-0.6
WRL				*i* S	Sb	21 21 09.8	-0.3
TYC	**Yuchr**	**0.51**	**28**	*i* P	Pb	21 21 02.6	-0.4
TYC				*i* S	Sb	21 21 12.0	+1.4
SMLT	**Sun Moon Lake**	**0.51**	**33**	*i* P	Pg	21 21 01.9	+0.2
SMLT				*e*S	Sb	21 21 11.1	+0.3
TSCK	**Chigu Township**	**0.56**	**237**	*i* P	Pb	21 21 03.9	0.0
TSCK				*i* S	Sb	21 21 12.2	+0.2
SCST	**Cishan**	**0.57**	**190**	*e*P	Pb	21 21 04.9	+0.8
SCST				*e*S	Sb	21 21 13.1	+0.7
VWDT	**VWDT**	**0.58**	**59**	*i* P	Pb	21 21 04.1	-0.1
VWDT				*e*S	Sb	21 21 12.9	+0.3
WWF	**Wufeng**	**0.59**	**9**	*e*P	Pb	21 21 04.4	-0.1
WWF				*e*S	Sb	21 21 14.3	+1.2
WCHH	**Zhanghua**	**0.63**	**357**	P	Pg	21 21 04.4	+0.5
WCHH				S	Sb	21 21 14.6	+0.7
EHD	**Haiduan**	**0.63**	**118**	P	Pg	21 21 04.5	+0.5
EHD				*e*S	Sb	21 21 15.2	+1.0
YULB	**Yu-li**	**0.64**	**95**	*e*P	Pb	21 21 05.2	-0.1
YULB				*e*S	Sb	21 21 14.9	+0.4
TWF1	**Yuli**	**0.65**	**99**	*i* P	Pb	21 21 05.2	-0.2
TWF1				S	Sb	21 21 14.7	+0.1
EHY	**Hungye**	**0.67**	**85**	*i* P	Pb	21 21 05.9	+0.2
EHY				S	Sb	21 21 16.2	+1.2
EHY	**Hungye**	**0.67**	**85**	*i* P	Pb	21 21 06.1	+0.4
EHY				S	Sb	21 21 16.5	+1.4
WCS	**Beigang Elemen**	**0.67**	**25**	*i* P	Pb	21 21 05.4	-0.3
WCS				*i* S	Sb	21 21 15.5	+0.3
EYUL	**Yuli**	**0.67**	**99**	*i* P	Pb	21 21 05.8	0.0
EYUL				*e*S	Sb	21 21 15.3	+0.1
ECS	**Chishang**	**0.67**	**122**	*e*P	Pb	21 21 05.7	-0.1
ECS				S	Sb	21 21 16.6	+1.4
FULB	**Fuli**	**0.69**	**111**	*i* P	Pb	21 21 06.7	+0.6
FULB				*i* S	Sb	21 21 16.9	+1.2
WUSB	**Renai**	**0.72**	**41**	*i* P	Pb	21 21 06.3	-0.3
WUSB				S	Sb	21 21 16.8	+0.1
WUSB	**Renai**	**0.72**	**41**	P	Pb	21 21 06.4	-0.3
WUSB				S	Sb	21 21 16.9	+0.2
OWD	**Renai**	**0.73**	**46**	P	Pb	21 21 06.8	-0.1
OWD				S	Sb	21 21 16.4	-0.6
OWD	**Renai**	**0.73**	**46**	*i* P	Pb	21 21 06.5	-0.3
OWD				*i* S	Sb	21 21 16.2	-0.8
LONT	**Longtian**	**0.73**	**138**	P	Pg	21 21 06.0	+0.2
LONT				*i* S	Sb	21 21 17.8	+0.8
TSMG	**Majia**	**0.74**	**177**	*i* P	Pb	21 21 07.3	+0.3
TSMG				S	Sb	21 21 18.6	+1.3
**HG

ISC 10 21:25:33.9±1.7, 24°92N±0°06×122°77E±0°03, h137km±11km, n72, σ0°67/129, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.70**	**225**	*eP*	**Pn**	**21 25 55.3**	**+0.5**
EOS2				*eS*	**Sn**	**21 26 12.3**	**+1.6**
EOS3	**EOS3**	**0.75**	**214**	*eP*	**Pn**	**21 25 55.9**	**+0.7**
EOS3				*eS*	**Sn**	**21 26 13.3**	**+2.0**
TIPB	**Shuangxi**	**0.86**	**274**	⇑*eP*	**Pn**	**21 25 56.2**	**0.0**
TIPB				*eS*	**Sn**	**21 26 13.0**	**-0.3**
EOS4	**EOS4**	**0.89**	**208**	*eP*	**Pn**	**21 25 56.4**	**+0.4**
EOS4				*eS*	**Sn**	**21 26 13.8**	**+0.8**
TWC	**Suao**	**0.89**	**250**	*eP*	**Pn**	**21 25 56.4**	**0.0**
TWC				*eS*	**Sn**	**21 26 12.7**	**-0.9**
ESAO	**Su ao**	**0.91**	**248**	*eP*	**Pn**	**21 25 56.5**	**-0.2**
ESAO				*eS*	**Sn**	**21 26 13.0**	**-0.8**
EWUT	**Wuta**	**1.02**	**243**	*eP*	**Pn**	**21 25 57.8**	**+0.2**
EWUT				*eS*	**Sn**	**21 26 15.4**	**-0.1**
TWE	**Neicheng**	**1.02**	**259**	*eP*	**Pn**	**21 25 57.5**	**-0.1**
TWE				*eS*	**Sn**	**21 26 15.5**	**-0.2**
IRIF	**Iriomote-Funau**	**1.05**	**123**	P	**Pn**	**21 25 57.7**	**-0.1**
ENA	**Nanau**	**1.06**	**243**	*eP*	**Pn**	**21 25 58.0**	**+0.1**
ENA				*eS*	**Sn**	**21 26 16.4**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.09**	**262**	⇑*eP*	**Pn**	**21 25 58.1**	**-0.2**
FUSB				*eS*	**Sn**	**21 26 15.7**	**-1.2**
EAHA	**Aohua**	**1.11**	**238**	*eP*	**Pn**	**21 25 58.5**	**+0.1**
EAHA				*eS*	**Sn**	**21 26 17.5**	**+0.4**
YM01	**YM01**	**1.11**	**282**	*eP*	**Pn**	**21 25 58.1**	**-0.4**
ENTT	**Nioudou**	**1.13**	**256**	*eP*	**Pn**	**21 25 58.8**	**+0.2**
ENTT				*eS*	**Sn**	**21 26 18.0**	**+0.5**
ZUZH	**Zhuzihu**	**1.14**	**283**	*eP*	**Pn**	**21 25 58.6**	**-0.2**
ZUZH				*eS*	**Sn**	**21 26 18.1**	**+0.4**
NWLT	**Wulai**	**1.16**	**263**	*eP*	**Pn**	**21 25 58.6**	**-0.4**
NWLT				*eS*	**Sn**	**21 26 18.0**	**0.0**
LATG	**Datong**	**1.20**	**252**	*eP*	**Pn**	**21 25 59.6**	**+0.2**
LATG				*eS*	**Sn**	**21 26 19.5**	**+0.7**
HATJ	**Hateruma jima**	**1.27**	**132**	*eP*	**Pn**	**21 26 00.6**	**+0.6**
ETL	**Fush Village**	**1.29**	**234**	*eS*	**Sn**	**21 26 19.7**	**-0.7**
YHNB	**Yeheng**	**1.29**	**259**	P	**Pn**	**21 26 00.2**	**-0.1**
YHNB	**Yeheng**	**1.29**	**259**	⇑*eP*	**Pn**	**21 26 00.3**	**0.0**
YHNB				*eS*	**Sn**	**21 26 20.1**	**-0.4**
NACB	**Ninganchiao**	**1.30**	**236**	P	**Pn**	**21 26 00.1**	**-0.3**
NACB	**Ninganchiao**	**1.30**	**236**	*eP*	**Pn**	**21 26 00.0**	**-0.3**
NACB				*eS*	**Sn**	**21 26 19.1**	**-1.5**
NSK	**Sanguang**	**1.31**	**260**	⇑P	**Pn**	**21 26 00.4**	**-0.1**
NSK				*eS*	**Sn**	**21 26 20.3**	**-0.4**
JKRS	**Kuro-shima**	**1.31**	**121**	P	**Pn**	**21 26 00.9**	**+0.5**
JKRS				*eS*	**Sn**	**21 26 21.1**	**+0.4**
NNSB	**Datong**	**1.35**	**249**	*eP*	**Pn**	**21 26 01.1**	**0.0**
NNSB				*eS*	**Sn**	**21 26 21.5**	**-0.2**
TWD	**Chiawan**	**1.36**	**232**	*eP*	**Pn**	**21 26 00.5**	**-0.4**
TWD				*eS*	**Sn**	**21 26 21.1**	**-0.4**
NNS	**Nan Shan**	**1.36**	**250**	*eP*	**Pn**	**21 26 01.0**	**0.0**
NNS				*eS*	**Sn**	**21 26 21.5**	**-0.3**
JIJ	**Ishigaki jima**	**1.36**	**114**	P	**Pn**	**21 26 00.8**	**-0.2**
JIJ				S	**Sn**	**21 26 20.8**	**-0.8**
ETLH	**Xiulin Townshi**	**1.37**	**239**	*eP*	**Pn**	**21 26 00.8**	**-0.3**
ETLH				*eS*	**Sn**	**21 26 21.2**	**-0.8**
JISG	**Ishigakijimahi**	**1.44**	**103**	P	**Pn**	**21 26 01.2**	**-0.5**
JISG				S	**Sn**	**21 26 22.3**	**-0.7**
KSHI	**Guanxi Townshi**	**1.46**	**265**	*eP*	**Pn**	**21 26 02.2**	**+0.2**
KSHI				*eS*	**Sn**	**21 26 23.6**	**+0.2**
TEYL	**Yanliau Villag**	**1.50**	**226**	*eS*	**Sn**	**21 26 24.2**	**0.0**
ETM	**Tongmen**	**1.50**	**231**	*eP*	**Pn**	**21 26 01.9**	**-0.6**
ETM				*eS*	**Sn**	**21 26 23.1**	**-1.2**
LXIB	**Xiulin Townshi**	**1.53**	**235**	*eP*	**Pn**	**21 26 02.1**	**-0.9**
LXIB				*eS*	**Sn**	**21 26 24.1**	**-0.9**
NFF	**Wufeng Townshi**	**1.53**	**260**	*eP*	**Pn**	**21 26 02.5**	**-0.4**
NFF				*eS*	**Sn**	**21 26 23.8**	**-1.2**
FUSS	**Fushou**	**1.54**	**245**	*eP*	**Pn**	**21 26 03.3**	**+0.1**
FUSS				*eS*	**Sn**	**21 26 25.4**	**-0.1**
WHF	**Hehuan Shan**	**1.57**	**241**	*eP*	**Pn**	**21 26 03.8**	**0.0**
WHF				*eS*	**Sn**	**21 26 25.7**	**-0.8**
SHUL	**Shoufeng**	**1.57**	**225**	*eP*	**Pn**	**21 26 03.9**	**+0.6**
SHUL				*eS*	**Sn**	**21 26 25.9**	**+0.1**
TWT	**Tachien**	**1.60**	**246**	*eP*	**Pn**	**21 26 04.4**	**+0.7**
TWT				*eS*	**Sn**	**21 26 26.5**	**0.0**
TDCB	**Techi**	**1.61**	**246**	*eP*	**Pn**	**21 26 04.0**	**+0.2**
TDCB				*eS*	**Sn**	**21 26 26.6**	**-0.2**
LIOB	**Emei**	**1.62**	**261**	*eP*	**Pn**	**21 26 03.7**	**-0.2**
LIOB				*eS*	**Sn**	**21 26 26.4**	**-0.3**
ESL	**Shilin**	**1.64**	**228**	*eP*	**Pn**	**21 26 03.1**	**-1.0**
ESL				*eS*	**Sn**	**21 26 26.2**	**-0.9**
WARBT	**Fenglin Townsh**	**1.74**	**227**	⇑P	**Pn**	**21 26 04.2**	**-1.0**
WARBT				*eS*	**Sn**	**21 26 27.5**	**-1.6**
OWD	**Renai**	**1.74**	**237**	*eP*	**Pn**	**21 26 05.4**	**0.0**
OWD				*eS*	**Sn**	**21 26 28.9**	**-0.5**
EGFH	**Guangfu**	**1.75**	**225**	*eP*	**Pn**	**21 26 05.8**	**+0.5**
EGFH				*eS*	**Sn**	**21 26 28.0**	**-1.2**
WUSB	**Renai**	**1.77**	**239**	⇑P	**Pn**	**21 26 05.9**	**+0.3**
WUSB				*eS*	**Sn**	**21 26 29.8**	**-0.1**
JTJ	**Tarama**	**1.77**	**98**	*eP*	**Pn**	**21 26 05.4**	**-0.1**
JTJ				*eS*	**Sn**	**21 26 29.3**	**-0.5**
WHP	**Taichung City**	**1.78**	**249**	*eP*	**Pn**	**21 26 06.3**	**+0.5**
WHP				*eS*	**Sn**	**21 26 30.3**	**+0.2**
HGSD	**Ruisui**	**1.88**	**221**	*eP*	**Pn**	**21 26 06.5**	**-0.3**
HGSD				*eS*	**Sn**	**21 26 31.8**	**-0.2**
VWDT	**VWDT**	**1.89**	**232**	*eP*	**Pn**	**21 26 07.2**	**+0.3**
VWDT				*eS*	**Sn**	**21 26 31.6**	**-0.5**
WCS	**Beigang Elemen**	**1.90**	**244**	*eP*	**Pn**	**21 26 07.8**	**+0.7**
WCS				*eS*	**Sn**	**21 26 32.7**	**+0.3**
EHY	**Hungye**	**1.93**	**224**	*eP*	**Pn**	**21 26 06.7**	**-0.8**
SMLT	**Sun Moon Lake**	**1.99**	**239**	*eP*	**Pn**	**21 26 08.1**	**-0.2**
SMLT				*eS*	**Sn**	**21 26 34.8**	**+0.2**
SSLB	**Suanglung**	**2.00**	**236**	P	**Pn**	**21 26 09.4**	**+1.1**
SSLB	**Suanglung**	**2.00**	**236**	⇑P	**Pn**	**21 26 09.2**	**+0.9**
SSLB				*eS*	**Sn**	**21 26 35.4**	**+0.7**
TYC	**Yuchr**	**2.02**	**240**	*eP*	**Pn**	**21 26 08.9**	**+0.5**
TYC				*eS*	**Sn**	**21 26 35.7**	**+0.8**
YULB	**Yu-li**	**2.03**	**222**	P	**Pn**	**21 26 07.9**	**-0.7**
YULB	**Yu-li**	**2.03**	**222**	*eP*	**Pn**	**21 26 07.7**	**-0.9**
YULB				*eS*	**Sn**	**21 26 33.9**	**-1.3**
TWF1	**Yuli**	**2.06**	**221**	*eP*	**Pn**	**21 26 08.6**	**-0.4**
WHYT	**Xinyi Township**	**2.13**	**236**	*eP*	**Pn**	**21 26 10.8**	**+0.9**
WHYT				*eS*	**Sn**	**21 26 38.9**	**+1.5**
FULB	**Fuli**	**2.18**	**219**	*eP*	**Pn**	**21 26 10.2**	**-0.3**
FULB				*eS*	**Sn**	**21 26 38.8**	**+0.3**
JIRB	**Irabujima**	**2.18**	**92**	*eP*	**Pn**	**21 26 11.1**	**+0.7**
ALS	**Alishan**	**2.28**	**232**	*eP*	**Pn**	**21 26 12.8**	**+0.9**
ALS				*eS*	**Sn**	**21 26 41.9**	**+0.9**
JMJ2	**Miyako jima3**	**2.33**	**94**	*eP*	**Pn**	**21 26 12.7**	**+0.5**
JMJ2				*eS*	**Sn**	**21 26 41.5**	**-0.2**
ELDTW	**Lidau**	**2.35**	**223**	*eP*	**Pn**	**21 26 12.1**	**-0.5**
ELDTW				*eS*	**Sn**	**21 26 41.3**	**-1.2**
EDH	**Donghe**	**2.36**	**215**	*eP*	**Pn**	**21 26 12.0**	**-0.6**
EDH				*eS*	**Sn**	**21 26 41.5**	**-0.8**
WCKO	**Fanlu**	**2.47**	**234**	*eP*	**Pn**	**21 26 14.8**	**+0.8**
WCKO				*eS*	**Sn**	**21 26 46.5**	**+1.7**
STYH	**Taoyuan**	**2.52**	**227**	*eP*	**Pn**	**21 26 15.5**	**+0.8**
STYH				*eS*	**Sn**	**21 26 46.8**	**+0.8**
TPUB	**Ta-pu**	**2.53**	**231**	P	**Pn**	**21 26 15.5**	**+0.7**
TPUB	**Ta-pu**	**2.53**	**231**	*eP*	**Pn**	**21 26 15.1**	**+0.3**
SGST	**Jiashian**	**2.71**	**228**	*eP*	**Pn**	**21 26 16.6**	**-0.4**

*IDC **10** 21:48:55.8±1.5, 38°22N×23°71E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=64.5km s-min=24.9km az=155.0*
*ATH **10** 21:48:56.5, 38°25N×23°75E, h7km±1km, ML3.0/28, Manual Solution by M.Papanikolaou First location: 2019/02/10 21:49:10, This location: 2021/03/22 21:15:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **10** 21:48:57.2, 38°24N×23°77E, h10km±1km, ML3.0/14, Error ellipse: s-maj=2.0km s-min=0.7km az=119.0*

ISC 10 21:48:56.6±0.9, 38°25N±0°02×23°74E±0°02, h7km±7km, n81, σ0°59/111, mb3.2/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHAR	**Athens-Acharne**	**0.18**	**181**	P	**Pg**	**21 49 00.2**	**0.0**
ACHAR				S	**Sg**	**21 49 02.9**	**+0.3**
PTL	**Penteli**	**0.22**	**155**	P	**Pg**	**21 49 01.0**	**0.0**
PTL				S	**Sg**	**21 49 04.3**	**+0.2**
	5μm,0.6s						
PTL	**Penteli**	**0.22**	**155**	P	**Pg**	**21 49 01.3**	**+0.3**
PTL				S	**Sg**	**21 49 04.1**	**0.0**
ATHP	**Athens-Neo Psi**	**0.25**	**175**	P	**Pg**	**21 49 01.6**	**+0.1**
ATHP				S	**Sg**	**21 49 04.7**	**-0.2**
NOAC	**Athens-Thissio**	**0.28**	**184**	P	**Pg**	**21 49 02.1**	**+0.1**
NOAC				S	**Sg**	**21 49 05.2**	**-0.5**
ATH	**Athens Observa**	**0.28**	**184**	P	**Pg**	**21 49 02.1**	**0.0**
ATH				S	**Sg**	**21 49 06.6**	**+0.8**
	5μm,0.4s						
ATH	**Athens Observa**	**0.28**	**184**	P	**Pg**	**21 49 02.1**	**0.0**
ATH				S	**Sg**	**21 49 06.1**	**+0.3**
ATHU	**Athens Univers**	**0.29**	**174**	P	**Pg**	**21 49 02.1**	**-0.1**
ATHU				S	**Sg**	**21 49 06.0**	**-0.1**
VILL	**Villia**	**0.35**	**256**	P	**Pg**	**21 49 03.8**	**+0.3**
VIL2	**Platees**	**0.38**	**264**	P	**Pg**	**21 49 03.5**	**-0.4**
VIL2				S	**Sg**	**21 49 08.3**	**-0.6**
VLY	**Voula,Athens**	**0.40**	**174**	P	**Pg**	**21 49 04.3**	**-0.1**
VLY				S	**Sg**	**21 49 09.8**	**+0.2**
	3μm,0.5s						
VLY	**Voula,Athens**	**0.40**	**174**	P	**Pg**	**21 49 04.3**	**-0.1**
VLY				S	**Sg**	**21 49 09.5**	**-0.2**
KYMI	**Kymi, Euboea I**	**0.47**	**36**	P	**Pg**	**21 49 06.0**	**+0.3**
KYMI				S	**Sb**	**21 49 13.8**	**-0.6**
	3μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.47**	**36**	P	**Pg**	**21 49 06.3**	**+0.6**
KYMI				S	**Sg**	**21 49 11.9**	**0.0**
KARY	**Karystos**	**0.59**	**112**	P	**Pg**	**21 49 08.3**	**+0.4**
KARY	**Karystos**	**0.59**	**112**	P	**Pg**	**21 49 07.9**	**-0.1**
KARY				S	**Sg**	**21 49 15.8**	**+0.2**
LVRA	**Laurium**	**0.59**	**155**	P	**Pg**	**21 49 07.8**	**-0.2**
LTK	**Loutraki**	**0.65**	**250**	P	**Pg**	**21 49 09.3**	**+0.1**
LKR	**Lokris**	**0.71**	**304**	P	**Pg**	**21 49 09.6**	**-0.6**
SKY	**Skiros Island**	**0.89**	**45**	P	**Pg**	**21 49 13.7**	**+0.1**
SKY				S	**Sn**	**21 49 27.8**	**-0.8**
	4μm,0.4s						
SKY	**Skiros Island**	**0.89**	**45**	P	**Pg**	**21 49 13.8**	**+0.2**
AOS	**Alonnisos**	**0.92**	**7**	P	**Pg**	**21 49 13.5**	**-0.8**
AOS				S	**Sb**	**21 49 28.6**	**+1.2**
	3μm,0.7s						
KRND	**KRANIDI**	**0.99**	**209**	P	**Pg**	**21 49 15.2**	**-0.3**
KRND				S	**Sn**	**21 49 31.0**	**0.0**
	948nm,0.5s						
KRND	**KRANIDI**	**0.99**	**209**	P	**Pb**	**21 49 15.5**	**-0.5**
AXAR	**Agios Charalam**	**0.99**	**301**	P	**Pn**	**21 49 17.1**	**+0.1**
AXAR	**Agios Charalam**	**0.99**	**301**	P	**Pg**	**21 49 15.3**	**-0.4**
NEO	**Neokhori**	**1.13**	**339**	P	**Pg**	**21 49 18.0**	**-0.2**
NEO				S	**Sb**	**21 49 33.6**	**+0.3**
	1μm,0.6s						
NEO	**Neokhori**	**1.13**	**339**	P	**Pg**	**21 49 18.0**	**-0.2**
GUR	**Goura**	**1.15**	**255**	P	**Pg**	**21 49 18.2**	**-0.4**
GUR				S	**Sb**	**21 49 34.4**	**+0.4**
	1μm,0.6s						
GUR	**Goura**	**1.15**	**255**	P	**Pg**	**21 49 18.6**	**-0.1**
GUR				S	**Sb**	**21 49 33.8**	**-0.2**
XOR	**Xorichti**	**1.19**	**339**	P	**Pg**	**21 49 19.2**	**-0.3**
XOR				S	**Sb**	**21 49 35.7**	**+0.5**
	495nm,0.5s						
XOR	**Xorichti**	**1.19**	**339**	P	**Pg**	**21 49 19.2**	**-0.3**
XOR				S	**Sg**	**21 49 35.5**	**+0.5**
KALE	**Kalithea**	**1.27**	**277**	P	**Pn**	**21 49 20.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.27**	**261**	P	**Pn**	**21 49 20.6**	**-0.2**
KLV				S	**Sg**	**21 49 37.4**	**-0.1**
	260nm,0.6s						
KLV	**Kalavryta, Ach**	**1.27**	**261**	P	**Pn**	**21 49 20.4**	**-0.4**
KLV				S	**Sg**	**21 49 37.5**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.28**	**271**	P	**Pg**	**21 49 21.2**	**0.0**
TNSA	**Tinos**	**1.33**	**122**	P	**Pb**	**21 49 21.5**	**-0.3**
EFP	**Efpalio**	**1.46**	**277**	P	**Pn**	**21 49 23.3**	**0.0**
EFP				S	**Sg**	**21 49 44.5**	**+1.1**
	390nm,1.1s						
EFP	**Efpalio**	**1.46**	**277**	P	**Pn**	**21 49 23.3**	**0.0**
EFP				S	**Sn**	**21 49 42.3**	**-0.3**
ANX	**Ano Chora**	**1.47**	**284**	P	**Pn**	**21 49 23.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.47**	**302**	P	**Pb**	**21 49 24.3**	**0.0**
DRO	**Drossia**	**1.63**	**260**	P	**Pn**	**21 49 26.0**	**+0.3**
DRO				S	**Sg**	**21 49 48.6**	**-0.4**
	620nm,0.8s						
DRO	**Drossia**	**1.63**	**260**	P	**Pb**	**21 49 26.4**	**-0.6**
EVR	**Evrytania**	**1.66**	**294**	P	**Pb**	**21 49 27.8**	**+0.3**
VLI	**Veliai**	**1.66**	**203**	P	**Pn**	**21 49 25.6**	**-0.5**
PAIG	**Paliouri**	**1.67**	**358**	P	**Pn**	**21 49 25.7**	**-0.6**
PAIG				S	**Sn**	**21 49 48.4**	**+0.4**
AMT	**Artemida-Makis**	**1.76**	**247**	P	**Pb**	**21 49 29.2**	**0.0**
PVO	**Paravola**	**1.78**	**282**	P	**Pb**	**21 49 28.9**	**-0.6**
ITM	**Ithomi**	**1.79**	**234**	P	**Pb**	**21 49 28.8**	**-1.0**
RLS	**Riolos of Patr**	**1.81**	**265**	P	**Pb**	**21 49 29.5**	**-0.4**
APE	**Apeiranthos**	**1.84**	**129**	P	**Pn**	**21 49 27.8**	**-0.9**
APE	**Apeiranthos**	**1.84**	**129**	P	**Pn**	**21 49 28.3**	**-0.4**
AXS	**Araxos**	**1.87**	**269**	P	**Pn**	**21 49 29.6**	**+0.7**
TYRN	**Tyrnavos**	**1.87**	**322**	P	**Pn**	**21 49 29.1**	**+0.1**
TYRN				S	**Sb**	**21 49 54.3**	**-0.4**
	72nm,0.7s						
THL	**Klokotos Trika**	**1.88**	**315**	P	**Pn**	**21 49 29.2**	**0.0**
SIGR	**SIGRI**	**1.91**	**59**	P	**Pn**	**21 49 28.8**	**-0.7**
SIGR	**SIGRI**	**1.91**	**59**	P	**Pn**	**21 49 28.9**	**-0.6**
LIA	**Limnos Island**	**1.99**	**34**	P	**Pn**	**21 49 30.0**	**-0.6**
LIT	**Litokhoron**	**2.09**	**333**	P	**Pn**	**21 49 32.0**	**0.0**
OUR	**Ouranopolis**	**2.09**	**5**	P	**Pn**	**21 49 31.5**	**-0.4**
OUR				S	**Sn**	**21 49 58.5**	**+0.3**
OUR	**Ouranopolis**	**2.09**	**5**	P	**Pn**	**21 49 31.6**	**-0.4**
PLG	**Polygyros**	**2.13**	**354**	P	**Pn**	**21 49 32.4**	**-0.2**
PLG	**Polygyros**	**2.13**	**354**	P	**Pn**	**21 49 32.3**	**-0.4**
TETR	**Tetrakomo, Epi**	**2.22**	**300**	P	**Pn**	**21 49 34.3**	**+0.5**
THR3	**Thira Island,**	**2.26**	**144**	P	**Pn**	**21 49 35.4**	**+1.0**
KYPS	**Kipseli, Zakin**	**2.35**	**260**	P	**Pn**	**21 49 36.2**	**+0.7**
HORT	**Hortiatis**	**2.40**	**348**	P	**Pn**	**21 49 36.7**	**+0.4**
ORTH	**Orthonies,Zaky**	**2.44**	**261**	P	**Pb**	**21 49 39.0**	**-1.8**
EVGI	**Lefkada island**	**2.45**	**280**	P	**Pb**	**21 49 39.1**	**-1.9**
LKD2	**Lefkada island**	**2.48**	**283**	P	**Pn**	**21 49 38.1**	**+0.7**
VLS	**Valsamata**	**2.49**	**269**	P	**Pn**	**21 49 39.3**	**+1.9**
TSLK	**Tsoukalades, L**	**2.49**	**284**	P	**Pn**	**21 49 39.3**	**+1.8**
SMG	**Samos**	**2.50**	**102**	P	**Pn**	**21 49 37.6**	**-0.1**
FSK	**Fiskardo**	**2.51**	**276**	P	**Pn**	**21 49 39.5**	**+1.7**
KPRO	**Kipourio**	**2.51**	**313**	P	**Pn**	**21 49 38.4**	**+0.5**
IDI	**Anoyia**	**3.10**	**162**	P	**Pn**	**21 49 46.4**	**+0.4**
PEHC	**Pehcevo**	**3.58**	**350**	*i* Pn	**Pn**	**21 49 53.9**	**+1.3**
ESDC	**Sonseca Array**	**21.56**	**282**	P	**P**	**21 53 46.7**	**0.0**
	1.0nm,0.9s,baz=78,slow=11,SNR=4.6						
	1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**31.77**	**224**	P	**P**	**21 55 21.4**	**-0.1**
	0.3nm,0.8s,baz=27,slow=10,SNR=3.1						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**40.14**	**54**	P	**P**	**21 56 33.4**	**+0.5**
	0.3nm,0.7s,baz=279,slow=8.6,SNR=3.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**43.09**	**59**	P	**P**	**21 56 57.7**	**+0.5**
	0.4nm,0.7s,baz=284,slow=8.5,SNR=5.2						
	0.4nm,0.7s						

*IDC **10** 21:51:33.9±5.4, 9°07S×118°64E, h124km±48km, mb3.2/5, mbtmp3.6/8, Error ellipse: s-maj=97.7km s-min=17.8km az=63.0*

ISC 10 21:51:31.0±1.4, 9°3S±0°1×118°5E±0°3, h100km, n8, σ2°13/9, mb3.6/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.42**	**17**	P	**Pn**	**21 52 36.2**	**+0.4**
	5.9nm,0.4s,baz=148,slow=19,SNR=1.8						
FITZ	**Fitzroy Crossi**	**11.21**	**142**	P	**Pn**	**21 54 10.4**	**+2.2**
	3.4nm,0.5s,baz=337,slow=12,SNR=24						
FITZ				S	**Sn**	**21 56 07.7**	**-3.9**
	1.9nm,0.4s,baz=180,slow=22,SNR=6.6						
WRA	**Warramunga Arr**	**18.66**	**126**	P	**P**	**21 55 41.4**	**+0.1**
	0.3nm,0.4s,baz=300,slow=12,SNR=8.0						
WRA				S	S	21 58 58.7	-10
	0.3nm,0.5s,baz=315,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**20.57**	**136**	P	**P**	**21 56 04.2**	**+2.1**
	1.0nm,0.6s,baz=315,slow=9.3,SNR=13						
	1.0nm,0.6s						
SONM	**Songino Array**	**57.85**	**350**	P	**P**	**22 01 11.6**	**-0.8**
	0.4nm,0.5s,baz=169,slow=7.6,SNR=5.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**64.45**	**333**	P	**P**	**22 01 56.8**	**-0.1**
	0.3nm,0.5s,baz=148,slow=5.9,SNR=12						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**68.97**	**334**	P	**P**	**22 02 24.8**	**-0.7**
	0.2nm,0.5s,baz=142,slow=5.9,SNR=4.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**69.10**	**339**	P	**P**	**22 02 25.1**	**-1.1**
	0.4nm,0.4s,baz=135,slow=5.6,SNR=2.7						
	0.4nm,0.4s						

*NEIC **10** 22:05:27.7±1.2, 35°82N±0°01×98°26W±0°01, h7km±4km, Error ellipse: s-maj=1.6km s-min=1.5km az=177.0*

NEIC 10 22:05:27.5±1.2, 35°819N±0°010×98°26W±0°01, h5km±1km, ML2.6/25, ML2.2/54, Error ellipse: s-maj=2.8km s-min=1.7km az=11.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSTR	**Hydro, Custer**	**0.39**	**244**		Pg	22 05 35.5	+0.5
CSTR					Sg	22 05 41.1	+0.9
BCOK	**Bluff Creek, N**	**0.55**	**107**		Pg	22 05 38.4	+0.3
OK029	**Liberty Lake**	**0.65**	**92**		Pg	22 05 40.2	+0.2
OK029					Sg	22 05 49.6	+1.1
CROK	**Carrier**	**0.72**	**18**		Pg	22 05 41.6	+0.3
CROK					Sg	22 05 51.6	+0.9
CROK				IAML		22 05 54.9	
	comp=E,97nm,0.3s						
CROK				IAML		22 05 55.7	
	comp=N,75nm,0.3s						
ADOK	**Arcadia Dam**	**0.74**	**103**	Pg	Pg	22 05 41.7	+0.1
OK038	**West end E0370**	**0.77**	**329**		Pg	22 05 42.6	+0.4
OK038					Sg	22 05 53.0	+0.9
OKCSW	**OKLAHOMA CITY**	**0.78**	**121**	Pg	Pg	22 05 42.9	+0.4
OKCSW				IAML		22 06 07.9	
	comp=N,57nm,0.1s						
OKCSW				IAML		22 06 08.0	
	comp=E,59nm,2.4s						
FNO	**Franklin**	**0.90**	**128**		Pg	22 05 44.9	+0.2
FNO					Sg	22 05 56.8	+0.5
FNO				IAML		22 05 58.8	
	comp=N,59nm,0.1s						
FNO				IAML		22 05 59.6	
	comp=E,41nm,0.1s						
ELIS	**Ellis County**	**0.97**	**285**	Pg	Pg	22 05 46.3	+0.1
ELIS				IAML		22 06 07.0	
	comp=N,87nm,0.2s						
ELIS				IAML		22 06 16.4	
	comp=E,66nm,0.5s						
NOKA	**Waynoka**	**0.98**	**326**		Pg	22 05 46.6	+0.3
NOKA					Sg	22 05 59.3	+0.3
NOKA				IAML		22 06 04.3	
	comp=N,84nm,0.2s						
NOKA				IAML		22 06 07.7	
	comp=E,88nm,0.2s						
OK031	**S. Brethren Rd**	**1.16**	**83**		Pg	22 05 49.2	-0.5
OK031					Sb	22 06 05.2	-0.1
OK031				IAML		22 06 06.3	
	comp=E,79nm,0.1s						
OK031				IAML		22 06 08.3	
	comp=E,48nm,0.1s						
WMOK	**Wichita Mounta**	**1.16**	**202**		Pg	22 05 48.6	-1.1
WMOK	**Wichita Mounta**	**1.16**	**202**		Sg	22 06 04.2	-0.6
KAN14	**Manchester OK**	**1.16**	**12**		Pg	22 05 49.3	-0.5
KAN14					Sb	22 06 05.3	-0.2
KAN14				IAML		22 06 09.1	
	comp=E,74nm,0.1s						
OK052	**Battle Ridge R**	**1.19**	**81**		Pg	22 05 49.7	-0.7
OK052					Sb	22 06 06.3	0.0
OK052				IAML		22 06 10.3	
	comp=E,50nm,0.2s						
OK052				IAML		22 06 10.9	
	comp=E,55nm,0.3s						
BLOK	**Blackwell**	**1.26**	**42**		Pg	22 05 50.7	-1.0
X34A	**Smith Ranch, M**	**1.26**	**164**		Pg	22 05 51.5	-0.2
X34A					Sn	22 06 09.1	-0.1
X34A				IAML		22 06 17.8	
	comp=N,34nm,2.7s						
X34A				IAML		22 06 17.8	
	comp=E,33nm,2.6s						
KAN17	**Caldwell West**	**1.29**	**18**		Pn	22 05 51.1	-1.0
QUOK	**Quay**	**1.

E18K	**Tukpahlearik C**	**74.52**	**23**	P	**P**	**22 32 49.2**	**+0.4**
E18K				IAmb	IAmb	22 33 27.1	
comp=Z,3.3nm,1.2s							
B20K	**Meade River**	**76.23**	**20**	P	**P**	**22 32 58.7**	**+0.2**
B20K				IAmb	IAmb	22 33 36.0	
comp=Z,5.7nm,1.4s							
B21K	**Ikpikpuk River**	**77.05**	**21**	P	**P**	**22 33 03.7**	**+0.5**
B21K				IAmb	IAmb	22 33 40.2	
comp=Z,3.2nm,1.2s							
B22K	**Teshekpuk Lake**	**77.53**	**20**	P	**P**	**22 33 05.7**	**-0.2**
B22K				IAmb	IAmb	22 33 18.7	
comp=Z,5.1nm,1.4s							
C23K	**Itkillik River**	**78.46**	**21**	P	**P**	**22 33 11.1**	**+0.1**
C23K				IAmb	IAmb	22 33 39.5	
comp=Z,2.5nm,1.1s							
I23K	**Minto, Yukon-K**	**78.79**	**25**	P	**P**	**22 33 13.3**	**+0.4**
MCK	**McKinley**	**78.96**	**27**	P	**P**	**22 33 13.1**	**-0.9**
MCK				IAmb	IAmb	22 33 47.7	
comp=Z,6.3nm,1.4s							
D24K	**Happy Valley**	**79.06**	**21**	P	**P**	**22 33 14.3**	**-0.1**
D24K				IAmb	IAmb	22 33 18.4	
comp=Z,7.0nm,1.4s							
F24K	**Squaw Lake**	**79.40**	**23**	P	**P**	**22 33 16.4**	**+0.1**
POKR	**Poker Plat Res**	**79.61**	**25**	P	**P**	**22 33 17.2**	**-0.2**
POKR				IAmb	IAmb	22 33 50.9	
comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**79.84**	**26**	P	**P**	**22 33 17.2**	**-1.5**
comp=Z,0.2nm,0.7s,baz=250,slow=4.8,SNR=4.3							
comp=Z,0.2nm,0.7s							
BMAR	**Burnt Mountain**	**80.67**	**23**	P	**P**	**22 33 23.7**	**+0.5**
BCAR	**Beaver Creek A**	**82.21**	**27**	P	**P**	**22 33 32.2**	**+0.8**
I28M	**Miner Creek**	**82.72**	**25**	P	**P**	**22 33 34.9**	**+0.8**
I28M				IAmb	IAmb	22 33 42.6	
comp=Z,7.0nm,1.4s							
H29M	**Whitestone**	**83.25**	**24**	P	**P**	**22 33 36.4**	**-0.3**
H29M				IAmb	IAmb	22 33 58.7	
comp=Z,5.7nm,1.4s							
G29M	**Pine Creek**	**83.27**	**23**	P	**P**	**22 33 36.7**	**-0.2**
M29M	**Somme Creek**	**83.81**	**28**	P	**P**	**22 33 40.4**	**+0.5**
M29M				IAmb	IAmb	22 34 14.0	
comp=Z,2.9nm,1.2s							
L29M	**L29M**	**83.85**	**27**	P	**P**	**22 33 39.9**	**0.0**
L29M				IAmb	IAmb	22 33 54.5	
comp=Z,4.2nm,1.2s							
I30M	**Mount Dempster**	**84.23**	**25**	P	**P**	**22 33 42.3**	**+0.3**
I30M				IAmb	IAmb	22 34 09.0	
comp=Z,6.6nm,1.5s							
J30M	**Hart River**	**84.38**	**25**	P	**P**	**22 33 43.4**	**+0.7**
ARCES	**ARCESS Array B**	**84.49**	**340**	P	**P**	**22 33 42.4**	**-0.6**
ARCES	**ARCESS Array B**	**84.49**	**340**	P	**P**	**22 33 42.5**	**-0.6**
comp=Z,3.4nm,0.8s,baz=83,slow=6.0,SNR=7.1							
comp=Z,3.4nm,0.8s							
M30M	**Minto, Yukon**	**84.55**	**27**	P	**P**	**22 33 43.2**	**-0.3**
M30M				IAmb	IAmb	22 34 05.8	
comp=Z,5.6nm,1.3s							
N30M	**Aishikik Lake**	**84.62**	**29**	P	**P**	**22 33 44.9**	**+1.0**
G31M	**Satah River**	**84.72**	**23**	P	**P**	**22 33 45.2**	**+1.0**
G31M				IAmb	IAmb	22 34 28.6	
comp=Z,5.0nm,1.4s							
F31M	**Tsiigehtchic**	**84.81**	**22**	P	**P**	**22 33 44.5**	**-0.1**
F31M				IAmb	IAmb	22 34 17.8	
comp=Z,5.0nm,1.4s							
H31M	**Peel River**	**84.94**	**24**	P	**P**	**22 33 46.0**	**+0.5**
H31M				IAmb	IAmb	22 34 16.6	
comp=Z,4.4nm,1.2s							
FINES	**FINESS Array B**	**86.15**	**332**	P	**P**	**22 33 50.4**	**-1.0**
comp=Z,5.0nm,0.9s,baz=56,slow=7.1,SNR=8.6							
comp=Z,5.0nm,0.9s							
EIL	**Elat**	**86.17**	**299**	LR	LR	23 16 53.9	
comp=Z,98nm,18.2s,baz=240,slow=39							
HFS	**Hagfors**	**92.31**	**332**	P	**P**	**22 34 19.2**	**-1.4**
comp=Z,3.5nm,1.0s,baz=60,slow=8.7,SNR=2.2							
comp=Z,3.5nm,1.0s							
YKA	**Yellowknife Ar**	**94.16**	**24**	P	**P**	**22 34 28.4**	**-0.7**
comp=Z,0.4nm,0.6s,baz=296,slow=4.5,SNR=6.5							
comp=Z,0.4nm,0.6s							

NEIC ***10*** *22:52:53.8±1.8, 10°.24N±0°.05×62°.34W±0°.07, h10km±1km, mb4.6/63, Error ellipse: s-maj=13.2km s-min=7.7km az=116.0*
FUNV ***10*** *22:52:54.7, 10°.27N×62°.28W, h5km, MW4.3*
VAO ***10*** *22:52:54.2±0.4, 10°.23N×62°.39W, h10km, mb4.5*
RSNC ***10*** *22:52:54.7±0.4, 10°.N±4°.×6°.3W±°., h0km, M4.6, mb5.0, mB5.2, ML3.9, Mw(mB)4.6, MwMwp5.5, Mwp5.6, Hypocentre not reviewed by the ISC*
TRN ***10*** *22:52:55.6, 10°.30N×62°.29W, h13km, MD4.9, Gulf of Paria.*
IDC ***10*** *22:52:59.8±2.0, 10°.41N×62°.60W, h56km±18km, mb3.9/20, mbtmp4.2/22, ML3.7/3, MS3.8/11, Error ellipse: s-maj=16.4km s-min=12.8km az=101.0*
ISC 10 22:52:54.8±1.3, 10°.27N±0°.03×62°.36W±0°.03, h20km±6km, n216, σ1$40/229, mb4.5/48, MS3.7/7, 4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.92**	**63**	*e*P	**Pg**	**22 53 11.1**	**-1.8**
PSKH	**Kent House, Po**	**0.92**	**63**	*e*P	**Pg**	**22 53 11.1**	**-1.8**
TRN	**Trinidad (W)**	**1.02**	**68**	*e*P	**Pg**	**22 53 12.5**	**-2.2**
TRN	**Trinidad (W)**	**1.02**	**68**	*e*P	**Pg**	**22 53 12.5**	**-2.2**
TBH	**Brigand Hill**	**1.29**	**80**	*e*P	**Pg**	**22 53 19.6**	**-0.3**
TBH	**Brigand Hill**	**1.29**	**80**	*e*P	**Pg**	**22 53 19.6**	**-0.3**
CUMV	**Cumana_UDO**	**1.81**	**275**	*e*P	**Pb**	**22 53 27.3**	**0.0**
CUMV				*e*S	**Sb**	**22 53 50.8**	**+1.3**
TPR	**Prospect**	**1.81**	**59**	*e*P	**Pb**	**22 53 26.7**	**-0.6**
TPR	**Prospect**	**1.81**	**59**	*e*P	**Pb**	**22 53 26.7**	**-0.6**
GRFF	**Grenada Fort F**	**1.88**	**19**	*e*P	**Pb**	**22 53 27.5**	**-1.0**
GRFF				*e*S	**Sn**	**22 53 48.3**	**-0.7**
GRFF	**Grenada Fort F**	**1.88**	**19**	*e*P	**Pb**	**22 53 27.5**	**-1.0**
GRFF				*e*S	**Sn**	**22 53 48.3**	**-0.7**
GRGR	**Grenville**	**1.98**	**21**		**Pn**	**22 53 27.4**	**+0.1**
GRGR	**Grenville**	**1.98**	**21**	*e*P	**Pn**	**22 53 27.8**	**+0.5**
GRGR				*e*S	**Sn**	**22 53 51.4**	**-0.2**
GRGR	**Grenville**	**1.98**	**21**	*e*P	**Pn**	**22 53 27.8**	**+0.5**
GRGR				*e*S	**Sn**	**22 53 51.4**	**-0.2**
GRGR	**Grenville**	**1.98**	**21**	P		22 53 27.8	
GRGR				S		22 53 50.0	
GRW	**Mount Saint Ca**	**2.01**	**20**	*e*P	**Pn**	**22 53 28.5**	**+0.8**
GRW				*e*S	**Sn**	**22 53 52.5**	**+0.2**
GRW	**Mount Saint Ca**	**2.01**	**20**	*e*P	**Pn**	**22 53 28.5**	**+0.8**
GRW				*e*S	**Sn**	**22 53 52.5**	**+0.2**
TOSP	**Speyside**	**2.07**	**60**	*e*P	**Pb**	**22 53 30.1**	**-1.7**
TOSP	**Speyside**	**2.07**	**60**	*e*P	**Pb**	**22 53 30.1**	**-1.7**
GRHS	**Sauteurs**	**2.07**	**20**	*e*P	**Pn**	**22 53 29.9**	**+1.4**
GRHS				*e*S	**Sn**	**22 53 54.0**	**+0.1**
GRHS	**Sauteurs**	**2.07**	**20**	*e*P	**Pn**	**22 53 29.9**	**+1.4**
GRHS				*e*S	**Sn**	**22 53 54.0**	**+0.1**
GRSS	**Sisters**	**2.15**	**20**	*e*P	**Pn**	**22 53 31.3**	**+1.7**
GRSS				*e*S	**Sn**	**22 53 57.4**	**+1.6**
GRSS	**Sisters**	**2.15**	**20**	*e*P	**Pn**	**22 53 31.3**	**+1.7**
GRSS				*e*S	**Sn**	**22 53 57.4**	**+1.6**
PCRV	**Puerto La Cruz**	**2.24**	**268**	P	**Pn**	**22 53 31.4**	**+0.5**
176nm,0.3s,baz=71,slow=5.6,SNR=236							
PCRV				S	**Sn**	**22 54 00.1**	**+2.1**
811nm,0.6s,baz=233,slow=20,SNR=4.5							
PCRV				LR	LR	22 54 46.6	
comp=Z,1μm,18.9s,slow=54							
PCRV	**Puerto La Cruz**	**2.24**	**268**	*e*P	**Pn**	**22 53 32.2**	**+1.3**
PCRV				*e*S	**Sb**	**22 54 01.1**	**-0.9**
PCRV	**Puerto La Cruz**	**2.24**	**268**	*e*P	**Pn**	**22 53 32.4**	**+1.5**
PCRV	**Puerto La Cruz**	**2.24**	**268**	*e*P	**Pn**	**22 53 32.4**	**+1.5**
GCMP	**Grenada, Carri**	**2.39**	**23**	*e*P	**Pn**	**22 53 34.0**	**+1.0**
GCMP				*e*S	**Sn**	**22 54 01.5**	**-0.2**
GCMP	**Grenada, Carri**	**2.39**	**23**	*e*P	**Pn**	**22 53 34.0**	**+1.0**
GCMP				*e*S	**Sn**	**22 54 01.5**	**-0.2**
SVOC	**Richmond Hill,**	**3.08**	**21**	*e*P	**Pn**	**22 53 44.0**	**+1.6**
SVOC	**Richmond Hill,**	**3.08**	**21**	*e*P	**Pn**	**22 53 44.0**	**+1.6**
SVT	**Saint Vincent**	**3.09**	**21**	*e*P	**Pn**	**22 53 44.0**	**+1.5**
SVT	**Saint Vincent**	**3.09**	**21**	*e*P	**Pn**	**22 53 44.0**	**+1.5**
SVB	**Belmont**	**3.18**	**20**	*e*P	**Pn**	**22 53 46.1**	**+2.3**
SVB	**Belmont**	**3.18**	**20**	*e*P	**Pn**	**22 53 46.1**	**+2.3**
SVV	**Soufriere Volc**	**3.24**	**20**	*e*P	**Pn**	**22 53 47.1**	**+2.5**
SVV	**Soufriere Volc**	**3.24**	**20**	*e*P	**Pn**	**22 53 47.1**	**+2.5**
SSV	**Crater Summit**	**3.25**	**21**	*e*P	**Pn**	**22 53 47.3**	**+2.4**
SSV	**Crater Summit**	**3.25**	**21**	*e*P	**Pn**	**22 53 47.3**	**+2.4**
SLAC	**Saint Lucia, A**	**3.88**	**22**	*e*P	**Pn**	**22 53 56.1**	**+2.6**
SLAC	**Saint Lucia, A**	**3.88**	**22**	*e*P	**Pn**	**22 53 56.1**	**+2.6**
BBGH	**Gun Hill**	**3.97**	**44**	Pn	**Pn**	**22 53 55.4**	**+0.8**
BBGH	**Gun Hill**	**3.97**	**44**	*e*P	**Pn**	**22 53 55.6**	**+1.0**
BBGH	**Gun Hill**	**3.97**	**44**	*e*P	**Pn**	**22 53 55.6**	**+1.0**
BBGH	**Gun Hill**	**3.97**	**44**	P		22 53 59.1	
SLBI	**Saint Lucia, B**	**3.98**	**20**	*e*P	**Pn**	**22 53 56.2**	**+1.5**
SLBI	**Saint Lucia, B**	**3.98**	**20**	*e*P	**Pn**	**22 53 56.2**	**+1.5**
FUNV	**FUNVISIS**	**4.38**	**273**	*e*P	**Pn**	**22 54 01.5**	**+1.1**
FUNV				*e*S	**Sn**	**22 54 51.6**	**+0.7**
MPOM	**Morne Pois Mar**	**4.41**	**19**	Pn	**Pn**	**22 54 01.4**	**+0.8**
BIM	**Bigot**	**4.41**	**17**	Pn	**Pn**	**22 54 01.3**	**+0.5**
BIM	**Bigot**	**4.41**	**17**	*e*P	**Pn**	**22 54 01.9**	**+1.2**
BIM	**Bigot**	**4.41**	**17**	*e*P	**Pn**	**22 54 01.9**	**+1.2**
LUEV	**Luepa**	**4.48**	**168**	*e*P	**Pn**	**22 54 02.1**	**+0.2**
LUEV				*e*S	**Sn**	**22 54 51.3**	**-2.3**
TACV	**Tcata**	**4.59**	**269**	||*i*P	**Pn**	**22 54 05.2**	**+2.0**
TACV				*e*S	**Sn**	**22 54 56.6**	**+0.5**
FDF	**Fort de France**	**4.60**	**15**		**Pn**	**22 54 03.9**	**+0.5**
SVN	**Savane Anatole**	**4.70**	**14**		**Pn**	**22 54 04.5**	**-0.2**
SVN	**Savane Anatole**	**4.70**	**14**	*e*P	**Pn**	**22 54 06.2**	**+1.5**
SVN	**Savane Anatole**	**4.70**	**14**	*e*P	**Pn**	**22 54 06.2**	**+1.5**
CACV	**CAICARA DEL OR**	**4.92**	**237**	||*i*P	**Pn**	**22 54 03.1**	**-4.6**
CACV				*e*S	Sn	22 54 54.1	-10
MDN	**Morne-Daniel**	**5.11**	**11**	*e*P	**Pn**	**22 54 11.8**	**+1.4**
MDN	**Morne-Daniel**	**5.11**	**11**	*e*P	**Pn**	**22 54 11.8**	**+1.4**
BENV	**Beln**	**5.16**	**267**	*e*P	**Pn**	**22 54 13.2**	**+2.0**
BENV				*e*S	**Sn**	**22 55 09.1**	**-1.2**
DSLB	**Salisbury**	**5.22**	**10**	*e*P	**Pn**	**22 54 14.8**	**+2.8**
DSLB	**Salisbury**	**5.22**	**10**	*e*P	**Pn**	**22 54 14.8**	**+2.8**
TBG	**Guadaloupe-3**	**5.60**	**7**	*e*P	**Pn**	**22 54 19.1**	**+2.1**
TBG	**Guadaloupe-3**	**5.60**	**7**	*e*P	**Pn**	**22 54 19.1**	**+2.1**
MAGL	**Barre de l'ile**	**5.75**	**10**	Pn	**Pn**	**22 54 21.2**	**+2.1**
BAUV	**El Baul**	**5.75**	**257**	Pn	**Pn**	**22 54 20.0**	**+0.8**
BAUV	**El Baul**	**5.75**	**257**	||*i*P	**Pn**	**22 54 19.8**	**+0.6**
BAUV				*e*S	**Sn**	**22 55 22.9**	**-1.8**
BAUV	**El Baul**	**5.75**	**257**	*e*P	**Pn**	**22 54 21.6**	**+2.5**
BAUV	**El Baul**	**5.75**	**257**	*e*P	**Pn**	**22 54 21.6**	**+2.5**
CBE	**Ff, Capester**	**5.82**	**7**		**Pn**	**22 54 19.9**	**-0.2**
GDSD	**La Dsirade Is**	**6.14**	**12**	Pn	**Pn**	**22 54 25.3**	**+0.8**
JACV	**Jacura**	**6.41**	**278**	*e*P	**Pn**	**22 54 29.5**	**+1.3**
MBWH		**6.44**	**1**	*e*P	**Pn**	**22 54 31.6**	**+3.0**
MBWH		**6.44**	**1**	*e*P	**Pn**	**22 54 31.6**	**+3.0**
MBFL	**Flemmings, Mon**	**6.45**	**1**	*e*P	**Pn**	**22 54 31.6**	**+2.9**
MBFL	**Flemmings, Mon**	**6.45**	**1**	*e*P	**Pn**	**22 54 31.6**	**+2.9**
TEPV	**Terepaima**	**6.73**	**268**	||*i*P	**Pn**	**22 54 33.4**	**+0.7**
ANBD	**Bethesda, Anti**	**6.77**	**5**	*e*P	**Pn**	**22 54 35.7**	**+2.6**
ANBD	**Bethesda, Anti**	**6.77**	**5**	*e*P	**Pn**	**22 54 35.7**	**+2.6**
SKI	**Saint Kitts**	**7.04**	**357**	*e*P	**Pn**	**22 54 39.6**	**+2.7**
SKI	**Saint Kitts**	**7.04**	**357**	*e*P	**Pn**	**22 54 39.6**	**+2.7**
ANWB	**Willy Bob**	**7.38**	**4**	P		22 54 43.0	
141nm,1.0s							
BOAV	**Boa Vista**	**8.03**	**167**		**Pn**	**22 54 50.0**	**-0.5**
BOAV	**Boa Vista**	**8.03**	**167**	P		22 54 49.4	
SDV	**Santo Domingo**	**8.27**	**261**	P	**Pn**	**22 54 54.0**	**0.0**
25nm,0.3s,baz=88,slow=9.6,SNR=63							
SDV				S	**Sn**	**22 56 22.3**	**-4.6**
71nm,0.5s,baz=44,slow=18,SNR=3.9							
SDV				LR	LR	22 58 58.9	
comp=Z,404nm,20.1s,baz=78,slow=44							
SDV	**Santo Domingo**	**8.27**	**261**	*e*P	**Pn**	**22 54 54.2**	**+0.2**
SDV	**Santo Domingo**	**8.27**	**261**	P		22 54 53.8	
2μm118nm,0.7s							
SDV				S		22 56 24.5	
2μm118nm,0.7s							
SOCV	**Socops**	**8.61**	**257**	*e*P	**Pn**	**22 54 57.8**	**-0.7**
SJG	**San Juan**	**8.62**	**335**	P	**Pn**	**22 54 59.0**	**+0.5**
0.8nm,0.3s,baz=150,slow=20,SNR=2.3							
SJG				S	Sn	22 56 24.6	-11
18nm,0.9s,baz=329,slow=19,SNR=2.3							
SJG				LR	LR	22 58 37.0	
comp=Z,310nm,20.4s,baz=148,slow=40							
5.3nm,0.5s							
GCPR	**Guaynabo City**	**8.77**	**336**	Pn	**Pn**	**22 55 00.2**	**-0.4**
AOPR	**Arecibo Observ**	**9.09**	**333**		**Pn**	**22 55 06.2**	**+1.2**
URIC	**Uribia, Colomb**	**9.56**	**279**	P		22 55 11.0	
57nm,0.7s							
MCQV	**Machiques**	**10.02**	**270**	*e*P	**Pn**	**22 55 16.6**	**-1.1**
TAMC	**Tame, Arauca**	**10.07**	**249**	P		22 55 18.8	
2μm117nm,0.8s							
CAPV	**Capacho**	**10.11**	**257**	*e*P	**Pn**	**22 55 19.2**	**0.0**
CRJC	**Cerrejon, Guaj**	**10.37**	**275**	P		22 55 22.9	
7μm115nm,0.7s							
PAMC	**Pamplona, Colo**	**10.62**	**255**	P		22 55 25.9	
DR12	**Loma Pena Alta**	**10.86**	**322**	Pn	**Pn**	**22 55 29.8**	**+0.5**
MDP	**Montagnes des**	**10.91**	**117**	P	**Pn**	**22 55 28.2**	**-1.8**
7.1nm,0.6s,baz=305,slow=15,SNR=9.8							
MDP				S	Sn	22 57 21.3	-10
43nm,0.9s,baz=46,slow=20,SNR=8.4							
MDP				LR	LR	23 00 23.9	
comp=Z,360nm,18.7s,baz=303,slow=40							
OCAC	**Ocana**	**11.00**	**260**	P		22 55 30.5	
BANI	**BANI**	**11.19**	**317**		**Pn**	**22 55 35.2**	**+1.3**
BARC	**Barichara**	**11.30**	**252**	P		22 55 34.3	
RUSC	**La Rusia**	**11.47**	**249**	Pn	**Pn**	**22 55 38.0**	**-0.1**
RUSC	**La Rusia**	**11.47**	**249**	P		22 55 35.6	
789nm70nm,1.3s							
SMRC	**Santa Marta, M**	**11.69**	**275**	P		22 55 34.5	
48nm,0.7s							
ARGC	**Ariguani, Magd**	**11.71**	**269**	P		22 55 41.1	
86nm,0.6s							
BRJC	**Barrancabermej**	**11.72**	**255**	P		22 55 40.1	
36nm,0.8s							
SDDR	**Presa de Saban**	**12.23**	**316**	Pn	**Pn**	**22 55 48.7**	**+0.6**
SDDR	**Presa de Saban**	**12.23**	**316**	P		22 55 47.8	
32nm,0.9s							
CHIC	**Chingaza**	**12.58**	**244**	P		22 55 51.3	
686nm45nm,0.7s							
SJCC	**San Jacinto, C**	**12.62**	**269**	P		22 55 52.1	
1μm57nm,1.0s							
PAPH	**Port-au-Prince**	**12.64**	**312**		**Pn**	**22 55 54.9**	**+1.2**
ZARC	**Zaragoza, Cauc**	**12.65**	**258**	P		22 55 51.5	
693nm40nm,0.7s							
VILC	**Villavicencio,**	**12.79**	**242**	P		22 55 55.6	
2μm131nm,0.5s							
ROSC	**El Rosal**	**13.02**	**246**	P		22 55 58.8	
95nm,1.0s							
ROSC	**El Rosal**	**13.02**	**246**	Pn	**Pn**	**22 55 59.2**	**0.0**
ROSC	**El Rosal**	**13.02**	**246**	P	**Pn**	**22 55 59.9**	**+0.7**
6.3nm,0.3s,baz=96,slow=12,SNR=13							
ROSC				LR	LR	23 02 09.7	
comp=Z,1μm,19.1s,baz=46,slow=43							
16nm,0.3s							
NORC	**Norcasia**	**13.23**	**250**	P		22 55 58.8	
509nm43nm,0.7s							
UREC	**San Jos de Ur**	**13.24**	**260**	P		22 55 59.7	
14nm,0.7s							
MACA	**Manacapuru-AM**	**13.44**	**173**	*e*P	**Pn**	**22 56 05.2**	**+0.5**
URMC	**La Uribe, Meta**	**13.81**	**241**	P		22 56 08.3	
794nm89nm,0.7s							
GUY2C	**Guyana, Caldas**	**13.82**	**250**	P		22 56 09.3	
66nm,0.6s							
TEFE	**Tefe**	**13.87**	**189**	*e*P	**Pn**	**22 56 10.6**	**+0.2**
MACC	**Macarena, Meta**	**13.97**	**235**	P		22 56 10.2	
37nm,0.7s							
PRAC	**Prado**	**14.02**	**243**	P		22 56 12.1	
1μm65nm,0.6s							
DBBC	**Dabeiba**	**14.06**	**258**	P		22 56 11.3	
CBOC	**Ciudad Bolivar**	**14.20**	**253**	P		22 56 13.0	
7μm20nm,0.8s							
ORTC	**Ortega, Tolima**	**14.25**	**245**	P		22 56 14.7	
754nm48nm,1.0s							
MAL2	**Monte Alegre,**	**14.67**	**146**	Pn	**Pn**	**22 56 19.9**	**-1.6**
PLMC	**San Jos del P**	**14.78**	**250**	P		22 56 21.0	
500nm31nm,0.7s							
YOTC	**Yotoco, Valle**	**15.21**	**247**	P		22 56 27.6	
17nm,0.7s							
GARC	**Garzon, Huila**	**15.31**	**239**	P		22 56 27.8	
1μm50nm,0.6s							
FLOC	**Florencia**	**15.77**	**238**	P	**Pn**	**22 56 36.0**	**-0.1**
FLOC	**Florencia**	**15.77**	**238**	P		22 56 41.6	
368nm20nm,0.7s							
JAMC	**Jamundi, Valle**	**15.84**	**245**	P		22 56 40.6	
3μm25nm,0.7s							
ITTB	**Itaituba**	**15.96**	**155**	*e*P	**Pn**	**22 56 37.3**	**-1.2**
MALC	**Bahia Malaga**	**16.09**	**248**	P		22 56 41.9	
POPC	**Popayan, Colom**	**16.15**	**243**	P		22 56 39.8	
14nm,1.0s							
TBTG	**Tabatinga, AM**	**16.20**	**208**	*e*P	**Pn**	**22 56 42.0**	**+0.5**
MTDJ	**Mount Denham**	**16.69**	**300**		**P**	**22 56 51.4**	**+1.4**
MTDJ				IAmb	IAmb	22 57 31.1	
comp=Z,60nm,1.1s							
BBAC	**Balboa, Cauca**	**16.90**	**242**	P		22 56 51.4	
NPGB	**Novo Progresso**	**18.56**	**158**	*e*P	**P**	**22 57 10.4**	**-0.3**
OTAV	**Otavalo**	**18.85**	**239**		**Pn**	**22 57 15.1**	**+0.2**
OTAV	**Otavalo**	**18.85**	**239**	*e*P	**P**	**22 57 14.2**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**18.96**	**131**	*e*P	**Pn**	**22 57 15.9**	**+0.1**
PIAT	**Ana Tenorio**	**19.38**	**236**	P		22 57 23.5	
CZSB	**Cruzeiro do Su**	**20.63**	**210**	P	**P**	**22 57 34.1**	**+0.8**
CZSB				IAmb	IAmb	22 57 36.6	
comp=Z,34nm,0.9s							
CZSB	**Cruzeiro do Su**	**20.63**	**210**	*e*P	**P**	**22 57 33.8**	**+0.5**
COHC	**Cochancay**	**21.04**	**234**	P	**P**	**22 57 38.1**	**+0.3**
HDC	**Heredia**	**21.41**	**271**	*e*P	**P**	**22 57 41.4**	**-0.5**
PDRB	**Porto dos Gac**	**22.44**	**165**	*e*P	**P**	**22 57 53.4**	**+0.6**
VILB	**Vilhena**	**23.17**	**175**	P	**P**	**22 58 00.8**	**+0.5**
VILB				IAmb	IAmb	22 58 21.3	
comp=Z,15nm,0.8s							
VILB	**Vilhena**	**23.17**	**175**	*e*P	**P**	**22 58 01.1**	**+0.7**
ATAH	**Atahualpa**	**23.53**	**223**	P	**P**	**22 58 06.3**	**+1.9**
comp=Z,13nm,0.9s,baz=344,slow=6.7,SNR=4.9							
comp=Z,13nm,0.9s							
SMTB	**Santa Maria do**	**24.03**	**142**	*e*P	**P**	**22 58 09.8**	**+1.0**
SNDB	**Serra Nova Dou**	**24.68**	**153**	*e*P	**P**	**22 58 15.5**	**+0.8**
PTLB	**Pontes e Lacer**	**25.75**	**173**	*e*P	**P**	**22 58 25.1**	**+0.8**
SIV	**San Ignacio**	**26.12**	**177**	P	**P**	**22 58 29.1**	**+1.4**
comp=Z,2.8nm,0.7s,baz=3.7,slow=9.5,SNR=14							
comp=Z,2.8nm,0.7s							
SALV	**Santo Antonio**	**26.82**	**166**	*e*P	**P**	**22 58 35.1**	**+1.0**
LPAZ	**La Paz**	**26.99**	**192**	P	**P**	**22 58 39.5**	**+3.2**
comp=Z,1.0nm,0.6s,baz=331,slow=4.3,SNR=4.3							
LPAZ				LR	LR	23 09 37.1	
comp=Z,98nm,19.3s,baz=342,slow=37							
comp=Z,1.0nm,0.6s							
LPAZ	**La Paz**	**26.99**	**192**	*e*P	**P**	**22 58 36.2**	**-0.1**
SDBA	**SAO DESIDERIO**	**28.43**	**142**	*e*P	**P**	**22 58 49.2**	**+0.6**
BDFB	**Brasilia**	**29.40**	**151**	LR	LR	23 10 58.6	
comp=Z,173nm,18.8s,baz=322,slow=36							
RCBR	**Riachuelo**	**30.83**	**120**	LR	LR	23 10 35.4	
comp=Z,59nm,21.7s,baz=268,slow=34							
RCBR	**Riachuelo**	**30.83**	**120**	*e*P	**P**	**22 59 10.5**	**+0.6**
LRAL	**Lakeview Retre**	**32.05**	**319**	P	**P**	**22 59 21.0**	**+0.6**
LRAL				IAmb	IAmb	22 59 21.4	
comp=Z,7.0nm,0.8s							
VBMS	**Vicksburg**	**33.95**	**314**	P	**P**	**22 59 37.6**	**+0.5**
P49A	**Miami Univ. Ec**	**35.30**	**329**	P	**P**	**22 59 49.0**	**+0.5**
BLO	**Bloomington**	**35.96**	**327**	P	**P**	**22 59 54.5**	**+0.2**
CGM3	**Cape Girardeau**	**36.46**	**322**	P	**P**	**22 59 58.5**	**-0.1**
SIUC	**Southern Illin**	**36.47**	**323**	P	**P**	**22 59 58.9**	**+0.2**
SIUC				IAmb	IAmb	22 59 59.7	
comp=Z,17nm,1.1s							
OLIL	**Olney**	**36.51**	**325**	P	**P**	**22 59 59.4**	**+0.4**
WLAR	**White Oak Lake**	**36.58**	**314**	P	**P**	**23 00 00.2**	**+0.6**
WLAR				IAmb	IAmb	23 00 01.7	
comp=Z,12nm,0.8s							
PBMO	**Poplar Bluff**	**36.60**	**321**	P	**P**	**22 59 59.4**	**-0.4**
PBMO				IAmb	IAmb	23 00 00.3	
comp=Z,6.4nm,0.7s							
NATX	**Nacogdoches**	**36.73**	**310**	P	**P**	**23 00 00.8**	**-0.3**
L48A	**N Adams**	**37.03**	**332**	P	**P**	**23 00 03.0**	**-0.4**
L48A				IAmb	IAmb	23 00 04.5	
comp=Z,14nm,0.7s							
FCAR	**Ozark Folk Cen**	**37.15**	**318**	P	**P**	**23 00 02.9**	**-1.6**
FCAR				IAmb	IAmb	23 00 04.5	
comp=Z,9.

NEW	Newport	59.26	321	LR	LR		23 28 45.3	
	comp=Z,132nm,18.2s,baz=76,slow=36							
ESDC	Sonseca Array	59.30	50	P	P		23 02 58.0	+2.4
	comp=Z,1.0nm,0.9s,baz=252,slow=5.6,SNR=4.6							
	comp=Z,1.0nm,0.9s							
TORD	Torodi Ar. Bea	62.65	80	P	P		23 03 19.3	+0.6
	comp=Z,0.6nm,0.7s,baz=287,slow=6.1,SNR=6.4							
	comp=Z,0.6nm,0.7s							
SUMG	Summit	63.90	8	*i* P	P		23 03 25.0	-1.4
YKA	Yellowknife Ar	64.11	336	P	P		23 03 25.0	-2.4
	comp=Z,1.2nm,0.6s,baz=114,slow=7.2,SNR=19							
	comp=Z,1.2nm,0.6s							
M31M	Drury Creek, Y	72.62	332	P	P		23 04 20.4	-0.4
M31M				IAmb	IAmb		23 04 21.0	
	comp=Z,4.2nm,0.8s							
NB2	NORSAR Subarra	73.14	29	P	P		23 04 25.4	+1.5
	comp=Z,9.3nm,1.1s,baz=261,slow=6.2							
NOA	NORSAR Array B	73.14	29	P	P		23 04 24.8	+0.9
	comp=Z,2.7nm,0.8s,baz=262,slow=5.9,SNR=8.8							
	comp=Z,2.7nm,0.8s							
I30M	Mount Dempster	74.05	335	P	P		23 04 28.1	-1.2
HFS	Hagfors	74.22	30	P	P		23 04 31.2	+1.0
	comp=Z,5.3nm,0.7s,baz=198,slow=2.8,SNR=14							
	comp=Z,5.3nm,0.7s							
J29N	Klondike Camp	74.70	334	P	P		23 04 33.3	+0.3
J29N				IAmb	IAmb		23 04 37.7	
	comp=Z,6.5nm,0.7s							
G29M	Pine Creek	75.00	337	P	P		23 04 32.8	-1.8
G29M				IAmb	IAmb		23 05 03.0	
	comp=Z,7.4nm,1.2s							
EGAK	Eagle	76.00	334	P	P		23 04 39.5	-0.9
EGAK				IAmb	IAmb		23 05 05.9	
	comp=Z,4.6nm,0.8s							
SPITS	Spitsbergen Ar	77.71	12	P	P		23 04 49.7	-0.1
	comp=Z,16nm,1.0s,baz=232,slow=8.9,SNR=2.0							
	comp=Z,16nm,1.0s							
IL31		78.45	334	P	P		23 04 52.7	-1.4
ILAR	Eielson Array	78.45	334	P	P		23 04 52.0	-2.1
	comp=Z,0.8nm,0.6s,baz=99,slow=4.7,SNR=15							
ILAR				LR	LR		23 42 09.6	
	comp=Z,68nm,18.4s,baz=173,slow=38							
	comp=Z,0.8nm,0.6s							
NEA2	Nenana	79.39	334	P	P		23 04 58.0	-1.4
NEA2				IAmb	IAmb		23 04 59.2	
	comp=Z,5.5nm,0.8s							
ARCES	ARCESS Array B	79.71	21	P	P		23 05 00.2	-0.8
	comp=Z,4.1nm,1.0s,baz=297,slow=8.0,SNR=2.2							
	comp=Z,4.1nm,1.0s							
TRF	Thorofare Moun	79.97	333	P	P		23 05 02.1	-0.6
TRF				IAmb	IAmb		23 05 03.5	
	comp=Z,7.3nm,0.9s							
FINES	FINESS Array B	80.32	29	P	P		23 05 04.2	-0.2
	comp=Z,2.7nm,0.5s,baz=275,slow=3.4,SNR=18							
	comp=Z,2.7nm,0.5s							
B20K	Meade River	82.07	340	P	P		23 05 12.8	-0.7
B20K				IAmb	IAmb		23 05 14.6	
	comp=Z,3.6nm,0.8s							
AKASG	Malin Array Be	83.15	40	P	P		23 05 21.2	+1.7
	comp=Z,1.0nm,0.8s,baz=274,slow=3.7,SNR=4.3							
	comp=Z,1.0nm,0.8s							
BRTR	Keskin Array B	88.09	50	P	P		23 05 45.9	+1.3
	comp=Z,0.5nm,0.8s,baz=255,slow=4.4,SNR=4.3							
	comp=Z,0.5nm,0.8s							
CMAR	Chiang Mai Arr	146.02	33	PKPbc	PKPdf		23 12 33.8	+0.3
	comp=Z,1.7nm,0.3s,baz=325,slow=4.7,SNR=7.8							
STKA	Stephens Creek	149.12	222	PKPbc	PKPbc		23 12 42.0	-0.4
	comp=Z,1.5nm,0.5s,baz=169,slow=5.2,SNR=5.1							
ASAR	Alice Springs	159.54	227	PKPab	PKPab		23 13 30.5	-0.7
	comp=Z,0.5nm,0.7s,baz=141,slow=4.9,SNR=4.2							
WRA	Warramunga Arr	161.24	237	PKPab	PKPab		23 13 37.6	-1.0
	comp=Z,0.7nm,0.6s,baz=110,slow=4.2,SNR=14							

NEIC ***10*** *22:54:37.7±1.5, 7°.3S±0°.1×123°.0E±0°.1, h571km±8km, mb4.5/44, Error ellipse: s-maj=18.9km s-min=13.7km az=58.0*

IDC ***10*** *22:54:37.7±0.7, 7°.23S×123°.04E, h579km±8km, mb3.7/18, mbtmp4.8/23, Error ellipse: s-maj=16.9km s-min=7.8km az=69.0*

DJA ***10*** *22:54:37.2±0.1, 7°.S±2°×12°.3E±°, h575km±2km, M4.5/54, mb4.7/54, mB5.0/25, MLv4.9/23, Mw(mB)4.3/25*

ISC 10 22:54:36.2±0.3, 7°.28S±0°.04×122°.98E±0°.06, h563km, n236, σ1§64/248, mb4.4/52, 5C-1D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.53	208	P	P	22 55 47.6	+2.2
MMRI	Maumere	1.53	208	P	P	22 55 48.0	+2.6
MMRI	Maumere	1.53	208	P	P	22 55 47.6	+2.2
BBSI	Bau Bau	1.83	347	P	P	22 55 50.4	+3.9
BBSI				S	S	22 56 48.8	+5.3
BSSI	Bau Bau, Buton	2.71	294	P	P	22 55 53.6	+2.9
SOEI	Soe	2.77	153	P	P	22 55 53.6	+2.4
SOEI	Soe	2.77	153	P	P	22 55 53.8	+2.6
SOEI	Soe	2.77	153	P	P	22 55 53.5	+2.4
KDI	Kendari	3.32	354	P	P	22 55 57.5	+3.1
KDI				S	S	22 57 01.5	+3.5
BKSI	Bulukumba	3.44	304	P	P	22 55 58.0	+2.8
WSI	Waingapu	3.56	228	P	P	22 55 57.7	+1.8
BASI	Baing, Sumba	3.76	219	P	P	22 55 59.8	+2.5
BASI				S	S	22 57 05.3	+1.9
KAPI	Kappang	3.92	305	P	P	22 56 02.3	+3.8
	206nm,0.4s,baz=137,slow=4.1,SNR=90						
KAPI				S	S	22 57 09.6	+4.1
	42nm,1.0s,baz=263,slow=20,SNR=8.7						
KAPI	Kappang	3.92	305	P	P	22 56 02.1	+3.6
WBSI	Waikabubak, Su	4.25	236	P	P	22 56 02.3	+1.3
SPSI	Sidrap Palu	4.59	316	P	P	22 56 06.5	+2.9
TTSI	Tana Toraja	5.25	323	P	P	22 56 12.1	+3.1
	0.7nm2μm196nm,0.9s						
PLAI	Plampang	5.37	253	P	P	22 56 11.3	+1.3
PLAI	Plampang	5.37	253	S	S	22 57 26.7	+0.1
PLAI	Plampang	5.37	253	P	P	22 56 11.3	+1.3
NLAI	Namlea	5.74	46	P	P	22 56 15.1	+1.8
	2.5nm4μm271nm,0.5s						
SANI	Sanana	6.00	30	P	P	22 56 17.6	+2.0
SANI	Sanana	6.00	30	P	P	22 56 17.1	+1.5
	0.3nm97nm,0.6s						
LUWI	Luwuk	6.20	358	P	P	22 56 20.0	+2.6
LUWI	Luwuk	6.20	358	P	P	22 56 20.2	+2.8
LUWI	Luwuk	6.20	358	P	P	22 56 19.8	+2.4
	1.2nm4μm257nm,1.3s						
AAI	Ambon	6.30	56	P	P	22 56 20.0	+1.7
	0.6nm100nm,1.0s						
APSI	Ampana	6.46	348	P	P	22 56 21.8	+2.0
	0.7nm3μm209nm,1.5s						
PCI	Palu	7.06	334	P	P	22 56 27.9	+2.5
SRBI	Singaraja	7.73	264	P	P	22 56 32.7	+0.9
MRSI	Marisa	7.78	352	P	P	22 56 33.8	+1.5
DNP	Denpasar	7.81	259	P	P	22 56 35.1	+2.5
KMSI	Cibinong	7.87	7	P	P	22 56 35.1	+1.9
MPSI	Mapaga	8.17	338	P	P	22 56 37.8	+1.7
	2μm132nm,1.2s						
BKB	Balikpapan	8.51	314	P	P	22 56 42.9	+3.4
	192nm,1.1s						
TOLI2	Tolitoli	8.62	345	P	P	22 56 42.0	+1.4
TOLI2	Tolitoli	8.62	345	P	P	22 56 41.6	+1.0
TOLI2	Tolitoli	8.62	345	S	S	22 58 23.7	+1.2
ABJI	Asem Bagus	8.68	266	P	P	22 56 43.1	+2.0
JAGI	Jajag, Banyuwa	8.82	262	P	P	22 56 42.7	+0.2
JAGI	Jajag, Banyuwa	8.82	262	P	P	22 56 42.8	+0.2
JAGI	Jajag, Banyuwa	8.82	262	S	S	22 58 26.2	+0.1
JAGI	Jajag, Banyuwa	8.82	262	P	P	22 56 42.5	0.0
	2μm145nm,0.7s						
KMMI	Kalianget	8.94	271	P	P	22 56 46.1	+2.4
DRS	Darwin Rock St	9.33	124	P	P	22 56 49.4	+1.7
GMJI	Gumukmas	9.49	263	P	P	22 56 49.1	-0.2
MTN	Manton Dam	9.75	125	P	P	22 56 53.1	+1.2
MTN	Manton Dam	9.75	125	P	P	22 56 53.1	+1.2
KNRA	Kununurra	10.09	146	P	P	22 56 56.4	+1.2
FAKI	Fak Fak	10.20	65	P	P	22 56 58.1	+1.6
	91nm,0.9s						
SWI	Sorong	10.44	53	P	P	22 56 59.3	+0.4
	95nm,0.7s						
KDU	Kakadu	10.79	121	P	P	22 57 02.7	+0.3
FITZ	Fitzroy Crossi	11.06	167	P	P	22 57 05.9	+0.7
FITZ	Fitzroy Crossi	11.06	167	P	P	22 57 06.1	+1.0
	82nm,0.8s,baz=347,slow=9.7,SNR=149						
FITZ				S	S	22 59 06.2	-1.4
	45nm,1.1s,baz=16,slow=18,SNR=7.0						
FITZ	Fitzroy Crossi	11.06	167	P	P	22 57 06.5	+1.3
PCJI	Pacitan	11.73	265	P	P	22 57 11.1	-1.0
UGM	Wanagama	12.36	266	P	P	22 57 19.2	+0.5
	70nm,1.7s						
MYLDM	Lahad Datu	13.16	340	P	P	22 57 28.5	+1.7
MYLDM	Lahad Datu	13.16	340	P	P	22 57 28.7	+1.8
STKI	Sintang	13.59	302	P	P	22 57 33.0	+1.6
	98nm,1.0s						
KPJI	Karang Pucung	13.93	269	P	P	22 57 36.0	+1.2
	52nm,0.8s						
MBWA	Marble Bar	14.15	192	P	P	22 57 37.5	+0.6
MBWA	Marble Bar	14.15	192	P	P	22 57 37.8	+0.9
SBUM	Sibu	14.44	312	P	P	22 57 41.4	+1.4
SBUM	Sibu	14.44	312	P	P	22 57 41.8	+1.8
PSA00	Pilbara Seismi	14.53	192	P	P	22 57 41.0	+0.3
PSA00	Pilbara Seismi	14.53	192	P	P	22 57 41.7	+1.0
KKM	Kota Kinabalu	14.86	333	P	P	22 57 45.3	+1.1
KKM	Kota Kinabalu	14.86	333	P	P	22 57 45.0	+0.8
BBJI	Bungbulang	15.20	268	P	P	22 57 48.0	+0.3
LEM	Lembang	15.25	271	P	P	22 57 50.5	+2.3
	29nm,0.6s,baz=160,slow=23,SNR=5.9						
LEM	Lembang	15.25	271	P	P	22 57 49.0	+0.8
	40nm,0.8s						
KSM	Kuching	15.34	304	P	P	22 57 50.0	+1.0
KSM	Kuching	15.34	304	P	P	22 57 50.2	+1.2
CNJI	Cibinong	15.72	269	P	P	22 57 52.8	+0.1
	32nm,1.0s						
TPI	Tanjungpandan	15.91	286	P	P	22 57 55.5	+1.0
	737nm75nm,0.8s						
SMPI	Sarmi	16.54	72	P	P	22 58 00.5	+0.1
	145nm,1.2s						
WB0	Warramunga Arr	16.64	139	P	P	22 58 00.9	-0.3
WRA	Warramunga Arr	16.73	140	P	P	22 58 02.5	+0.5
	69nm,0.8s,baz=316,slow=11,SNR=272						
WRA				S	S	23 00 46.1	-3.6
	12nm,1.0s,baz=319,slow=18,SNR=14						
WRA				ScP	ScP	23 04 54.8	-3.1
	1.8nm,0.8s,baz=319,slow=2.7,SNR=4.7						
WRAB	Tennant Creek	16.73	140	P	P	22 58 02.2	+0.1
WB2	Warramunga Arr	16.74	140	P	P	22 58 02.9	+0.8
CGJI	Cibinong	17.17	271	P	P	22 58 05.4	-0.6
	43nm,0.8s						
WRKA	Warakurna	18.38	165	P	P	22 58 18.0	+1.0
MDSI	Maura Dua	18.90	277	P	P	22 58 22.7	+0.8
AS31	Alice Springs	19.38	148	P	P	22 58 27.1	+1.0
AS31				IAmb	IAmb	22 58 27.8	
	comp=Z,8.1nm,0.6s						
ASAR	Alice Springs	19.38	148	P	P	22 58 27.1	+1.0
	comp=Z,25nm,0.7s,baz=327,slow=8.8,SNR=198						
ASAR				S	S	23 01 29.8	-2.8
	comp=Z,3.7nm,1.0s,baz=346,slow=23,SNR=4.8						
ASAR				ScP	ScP	23 05 00.8	-2.8
	comp=Z,1.8nm,0.5s,baz=329,slow=2.4,SNR=8.3						
AS01	Alice Springs	19.40	148	P	P	22 58 27.4	+1.0
MEEK	Meekatharra	19.69	192	P	P	22 58 29.7	+0.8
QIS	Mount Isa	20.82	131	P	P	22 58 39.7	+0.5
COEN	Coen	20.92	110	P	P	22 58 40.1	-0.1
COEN				IAmb	IAmb	22 58 40.8	
	comp=Z,19nm,1.1s						
MORW	Morawa	22.64	196	P	P	22 58 56.3	+0.9
OOD	Oodnadatta	23.69	151	P	P	22 59 05.7	+1.0
FORT	Forrest	23.86	169	P	P	22 59 06.9	+0.7
FORT	Forrest	23.86	169	P	P	22 59 06.8	+0.7
KMBL	Kambalda	23.98	182	P	P	22 59 08.0	+0.7
KLBR	Kellerberrin	24.67	191	P	P	22 59 14.2	+0.8
MNSI	Mandailing Nat	24.68	288	P	P	22 59 13.7	0.0
RPSI	Rantau Prapat	25.97	292	P	P	22 59 26.1	+1.1
RPSI				IAmb	IAmb	22 59 26.9	
	comp=Z,14nm,0.8s						
INKA	Innaminka	26.41	143	P	P	22 59 29.8	+1.1
LCRK	Leigh Creek	27.12	150	P	P	22 59 36.0	+1.1
QLP	Quilpie	27.88	136	P	P	22 59 42.9	+1.3
SRIT	Nakonsritamara	28.13	304	P	P	22 59 45.4	+1.3
SRIT	Nakonsritamara	28.13	304	P	P	22 59 45.2	+1.2
BBOO	Buckleboo	28.16	156	P	P	22 59 44.5	+0.5
BBOO	Buckleboo	28.16	156	P	P	22 59 44.7	+0.7
SNSI	Sinabang, Aceh	28.28	289	P	P	22 59 45.4	+0.1
	comp=Z,78nm,0.9s						
UBPT	Khong Chiam	28.34	322	P	P	22 59 46.7	+0.8
UBPT				IAmb	IAmb	22 59 47.1	
	comp=Z,16nm,1.0s						
UBPT	Khong Chiam	28.34	322	P	P	22 59 46.6	+0.8
LHMI	Lhok Sumawe	28.79	295	P	P	22 59 49.9	+0.1
HTT	Hallett	29.92	153	P	P	23 00 00.5	+1.2
STKA	Stephens Creek	30.00	147	P	P	23 00 00.8	+0.8
STKA				IAmb	IAmb	23 00 02.0	
	comp=Z,7.5nm,0.8s						
STKA	Stephens Creek	30.00	147	P	P	23 00 01.0	+1.0
	comp=Z,34nm,0.6s,baz=317,slow=9.6,SNR=73						
STKA				S	S	23 04 18.1	-0.9
	comp=Z,4.9nm,0.8s,baz=176,slow=20,SNR=6.5						
	comp=Z,34nm,0.6s						
STKA	Stephens Creek	30.00	147	P	P	23 00 00.9	+0.9
NAYO	Nakonayok	30.36	315	P	P	23 00 04.2	+0.9
SRDT	SRDT	31.97	312	P	P	23 00 18.6	+1.6
CMSA	Cobar Meteorol	32.12	142	P	P	23 00 19.6	+1.5
ARPS	Mount Arapiles	34.02	152	P	P	23 00 35.4	+1.4
SLVN	Son La	34.05	327	P	P	23 00 35.3	+0.8
SLVN				IAmb	IAmb	23 00 36.8	
	comp=Z,14nm,1.0s						
SLVN	Son La	34.05	327	P	P	23 00 35.7	+1.2
AUDCS	Dubbo College	34.44	140	P	P	23 00 39.2	+1.6
CMAR	Chiang Mai Arr	34.88	317	P	P	23 00 41.8	+0.4
CMAR	Chiang Mai Arr	34.88	317	P	P	23 00 42.4	+1.0
	comp=Z,8.5nm,0.9s,baz=145,slow=6.5,SNR=42						
	comp=Z,8.5nm,0.9s						
CHTO	Chiang Mai	35.13	318	P	P	23 00 44.0	+0.5
CHTO				IAmb	IAmb	23 00 45.4	
	comp=Z,17nm,1.1s						
YNG	Young	35.67	142	P	P	23 00 49.7	+1.9
GYA	Guiyang	37.09	335	⇓P	P	23 01 00.3	+0.6
GYA				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI	Kunming	37.76	329	⇑P	P	23 01 06.7	+1.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WHN	Wuhan	38.51	348	P	P	23 01 11.9	+0.9
WHN				pmax	pmax		
	comp=Z,34nm,0.7s						
NJ2	Nanjing	39.31	354	*e*P	P	23 01 20.2	+2.8
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
PZH	PanZhiHua	39.40	329	P	P	23 01 18.7	+0.3
ENH	Enshi	39.52	342	P	P	23 01 19.1	-0.2
ENH				IAmb	IAmb	23 01 20.0	
	comp=Z,11nm,0.8s						
JMN	Monobe	42.08	14	P	P	23 01 39.8	+0.3
LYN	LuoYang	42.78	347	P	P	23 01 44.9	0.0
LYN				pmax	pmax		
	comp=Z,18nm,0.9s						
XAN	Xi'an	43.20	343	⇑P	P	23 01 47.6	-0.7
XAN				pmax	pmax		
	comp=Z,37nm,0.8s						
TIA	Tai'an	43.61	353	P	P	23 01 50.2	-1.1
TIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHL	Shillong	44.50	318	P	P	23 01 58.5	-0.2
SHL				IAmb	IAmb	23 01 58.6	
	comp=Z,8.2nm,0.7s						
KSRS	Korea Array	44.74	6	P	P	23 01 59.5	-0.5
	comp=Z,3.4nm,0.8s,baz=185,slow=9.8,SNR=9.7						
	comp=Z,3.4nm,0.8s						
HNS	HongShan	45.12	351	⇑P	P	23 02 02.5	-0.4
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	Matsushiro	45.88	17	P	P	23 02 08.5	-0.2
MAJO				IAmb	IAmb	23 02 09.0	
	comp=Z,16nm,0.8s						
MAJO	Matsushiro	45.88	17	P	P	23 02 08.3	-0.5
MJAR	Matsushiro Arr	45.88	17	P	P	23 02 07.8	-0.9
	comp=Z,15nm,0.7s,baz=190,slow=8.2,SNR=49						
MJAR				PcP	PcP	23 03 33.7	-0.4
	comp=Z,0.4nm,0.4s,baz=204,slow=2.7,SNR=4.1						
	comp=Z,15nm,0.7s						
MJB9	Matsu-Tunnel	45.88	17	P	P	23 02 09.1	+0.3
MJB9				IAmb	IAmb	23 02 10.0	
	comp=Z,16nm,0.8s						
LZH	Lanzhou	46.74	339	*e*P	P	23 02 16.1	+0.6
LZH				pmax	pmax		
	comp=Z,36nm,1.5s						
LZH				LR	LR		
	comp=N,370nm,15.1s						
LZH				LR	LR		
	comp=E,250nm,14.4s						
LZH				LR	LR		
	comp=Z,570nm,14.8s						
BJT	Baijiatuau	47.48	353	P	P	23 02 20.5	-0.2
BJI	Beijing	47.50	353	P	P	23 02 20.1	-0.8
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	Lhasa	47.83	322	P	P	23 02 24.4	+0.3
LSA				IAmb	IAmb	23 02 25.8	
	comp=Z,12nm,0.7s						
JMM	Marumori	47.89	19	P	P	23 02 24.5	+0.7
JMM	Marumori	47.89	19	P	P	23 02 24.5	+0.7
HHC	Hu-ho-hao-te	49.03	349	*e*P	P	23 02 32.3	-0.1
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,92nm,5.1s						
CN2	Changchun	50.89	2	P	P	23 02 46.5	+0.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	Gaotai	51.17	337	P	P	23 02 49.4	+1.3
GTA				PcP	PcP	23 03 54.7	+1.1
GTA				ScP	ScP	23 06 56.9	+0.3
GTA				S	S	23 09 23.8	-1.1
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GTA				LR	LR		
	comp=N,440nm,15.5s						
GTA				LR	LR		
	comp=E,170nm,17.1s						
GTA				LR	LR		
	comp=Z,370nm,16.7s						
XLT	XiLinHaoTe	51.32	354	*e*P	P	23 02 48.4	-0.6
XLT				pmax	pmax		
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	51.88	8	P	P	23 02 52.8	-0.2
	comp=Z,12nm,0.6s,baz=191,slow=7.1,SNR=28						
	comp=Z,12nm,0.6s						
MDJ	Mudanjiang	52.00	6	P	P	23 02 54.0	+0.2
MDJ				IAmb	IAmb	23 02 54.7	
	comp=Z,15nm,0.7s						
MDJ	Mudanjiang	52.00	6	P	P	23 02 53.9	+0.1
MDJ				pmax	pmax		
	comp=Z,25nm,0.6s						
MDJ	Mudanjiang	52.00	6	P	P	23 02 54.2	+0.4
BNX	BinXian	52.93	4	⇑P	P	23 02 59.9	-0.5
BNX				pmax	pmax		
	comp=Z,3.0nm,1.4s						
DCZ	Deep Cove	53.83	143	P	P	23 03 06.7	-0.2
ASAJ	Asahikawa	54.15	17	P	P	23 03 09.3	+0.3
	comp=Z,10nm,0.7s,baz=261,slow=32,SNR=3.9						
	comp=Z,10nm,0.7s						
JCZ	Jackson Bay	54.15	140	P	P	23 03 10.0	+0.8
FOZ	Fox Glacier	54.55	139	P	P	23 03 12.0	0.0
WVZ	Waitaha Valley	54.95	138	P	P	23 03 14.1	-0.6
APZ	The Paps	55.04	144	P	P	23 03 15.6	+0.3
DSZ	Denniston Nort	55.09	137	P	P	23 03 17.6	+1.7
LBZ	Lake Benmore	55.18	140	P	P	23 03 16.1	-0.3
QRZ	Quartz Range	55.22	135	P	P	23 03 17.8	+1.1
RPZ	Rata Peaks	55.44	139	P	P	23 03 18.8	+0.6
GRZ	Great Barrier	55.77	129	P	P	23 03 19.8	-0.8
ODZ	Otahua Downs	55.78	141	P	P	23 03 22.0	+1.6
THZ	Tophouse	55.85	136	P	P	23 03 21.5	+0.3
NNZ	Nelson	55.97	135	P	P	23 03 22.4	+0.6
GVZ	Greta Valley S	56.43	138	P	P	23 03 24.7	-0.3
KHZ	Kahutara	56.55	137	P	P	23 03 25.9	+0.2
ULN	Ulaanbaatar	56.68	347	P	P	23 03 26.9	+0.1
KLR	Kul'dur	56.80	7	P	P	23 03 26.8	-0.5
	comp=Z,2.1nm,0.7s,baz=240,slow=4.1,SNR=9.6						
	comp=Z,2.1nm,0.7s						
SONM	Songino Array	56.80	347	P	P	23 03 27.6	+0.1
	comp=Z,4.0nm,0.6s,baz=164,slow=8.4,SNR=39						
SONM				PcP	PcP	23 04 14.9	-0.4
	comp=Z,0.9nm,0.7s,baz=181,slow=3.8,SNR=3.6						
	comp=Z,4.0nm,0.6s						
HEH	HeiHe	57.43	3	*e*P	P	23 03 31.4	-0.2
HEH				pmax	pmax		
	comp=Z,20nm,0.9s						
BKZ	Black Stump Fm	57.47	132	P	P	23 03 32.4	+0.1
WIZ	White Island	57.48	130	P	P	23 03 32.1	-0.1
BFZ	Birch Farm	57.80	134	P	P	23 03 34.4	+0.1
MWZ	Matawai	57.98	131	P	P	23 03 35.7	0.0
HAZ	Te Kaha	58.00	130	P	P	23 03 35.4	-0.4
WMQ	Urumqi	60.05	331	*e*P	P	23 03 50.2	+0.8
WMQ				pmax	pmax		
	comp=Z,15nm,0.9s						
WMQ				LR	LR		
	comp=N,560nm,22.9s						
WMQ				LR	LR		
	comp=E,890nm,19.7s						
WMQ				LR	LR		
	comp=Z,240nm,18.1s						
NIL	Nilore	62.26	314	P	P	23 04 04.1	+0.1
NIL				IAmb	IAmb	23 04 04.5	
	comp=Z,9.3nm,0.7s						
WUS	Wushi	62.74	324	P	P	23 04 07.1	0.0
KSH	Kashi	63.67	321	P	P	23 04 13.6	+0.5
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MK31	Makanchi Array	64.83	330	P	P	23 04 20.3	+0.2
MKAR	Makanchi Array	64.83	330	P	P	23 04 20.4	+0.3
MKAR	Makanchi Array	64.83	330	P	P	23 04 20.2	+0.1
	comp=Z,7.6nm,0.8s,baz=134,slow=7.8,SNR=76						
MKAR				S	S	23 12 09.6	-8.0
	comp=Z,0.4nm,0.9s,baz=138,slow=13,SNR=3.7						
	comp=Z,7.6nm,0.8s						
MAKZ	Makanchi	64.99	330	P	P	23 04 21.2	0.0
KBL	Kabul	65.73	313	P	P	23 04 26.4	+0.1
KBL				IAmb	IAmb	23 04 27.1	
	comp=Z,8.8nm,0.8s						
DRK	Karamyk	66.32	319	P	P	23 04 30.1	+0.1
DRK				IAmb	IAmb	23 04 31.2	
	comp=Z,5.7nm,0.6s						

comp=Z,1.2nm,0.6s,baz=40,slow=2.9,SNR=10
TORD SKP **SKPdf** **23 15 09.1 -1.6**
comp=Z,0.8nm,1.0s,baz=24,slow=2.9,SNR=3.6
ULM Lac du Bonnet 126.34 30 PKP **PKPdf** **23 12 34.3 -1.1**
comp=Z,1.7nm,0.7s,baz=295,slow=3.8,SNR=4.3
Q24A Divide 126.52 46 **PKPdf** **23 12 35.4 -1.2**
TXAR Lajitas Array 131.00 57 PKP **PKiKP** **23 12 45.9 -0.2**
comp=Z,0.6nm,0.8s,baz=115,slow=0.5,SNR=6.0
TXAR SKPbc **SKPbc** **23 15 16.2 -1.4**
comp=Z,0.5nm,0.6s,baz=298,slow=2.5,SNR=6.9
DKNS Dickens 131.73 51 **PKPdf** **23 12 45.7 -0.6**
BRDY Brady 134.15 53 **PKPdf** **23 12 50.5 -0.3**
P57A Homestead Farm 142.80 27 **PKPdf** **23 13 03.6 -2.8**
V53A Saluda 143.17 36 PKPab 23 13 05.0 -0.1
BRAL Brewton 143.23 46 PKPbc 23 13 06.3 +0.6
SDMD Soldier's Deli 143.38 26 PKPab 23 13 05.5 -0.2
BG3 Lake Jocassee 143.56 37 PKPbc PKPab 23 13 05.8 -0.7
152A Waverly Hall 143.95 42 PKPbc 23 13 07.3 -0.6
V55A Taylorsville 143.96 34 PKPbc 23 13 07.5 -0.4
T57A Hurt 144.16 31 PKPbc 23 13 07.7 -0.8
PAULI Pauline 144.35 36 PKPbc 23 13 09.2 +0.1
KMSC Kings Mountain 144.40 35 PKPbc 23 13 08.4 -0.9
HODGE Hodges 144.49 37 **PKPdf** **23 13 08.9 -0.5**
T59A Double "B" Far 145.03 29 **PKPdf** **23 13 10.4 +0.1**
CPUP Villa Florida 146.59 180 PKPbc **PKPbc** **23 13 15.9 +0.1**
comp=Z,6.3nm,0.8s,baz=167,slow=2.8,SNR=11

IDC 10 22:56:10.7±6.3, 30°.55S×178°.45W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=243.1km s-min=64.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.72**	**267**	P	P	23 04 09.5	-0.3
	1.0nm,0.7s,baz=110,slow=8.2,SNR=2.8						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**43.72**	**273**	P	P	23 04 18.0	+0.1
	1.2nm,0.5s,baz=114,slow=8.0,SNR=3.5						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	PKPbc	23 15 48.0	-1.0
	4.0nm,1.0s,baz=68,slow=3.1,SNR=3.4						

HEL 10 22:59:46.9±0.2, 67°.86N×20°.24E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.69**	**73**	PG	Pg	22 59 59.1	-1.0
LANU				SG	Sg	23 00 07.8	-1.2
SALU	**Saltoluokta**	**0.82**	**235**	*e*P	Pg	22 59 58.7	-3.9
KIF	**Kilpisjarvi**	**1.17**	**10**	*e*P	Pg	23 00 08.1	-1.2
KIF	**Kilpisjarvi**	**1.17**	**10**	PG	Pg	23 00 08.4	-0.9
	baz=187						
KIF				MSG		23 00 23.5	
	comp=Z,2.8nm,0.2s						
KIF				SB	Sg	23 00 24.8	+0.3
HEF	**Hetta**	**1.40**	**65**	PG	Pn	23 00 11.8	-1.8
HEF				MSG		23 00 28.9	
	comp=Z,1.2nm,0.2s						
HEF				SN	Sn	23 00 32.8	+0.1
ERTU	**Ertsjaerv**	**1.51**	**149**	PG	Pn	23 00 13.8	-1.5
ERTU				SG	Sb	23 00 35.5	0.0
KLF	**Kolari**	**1.56**	**112**	PG	Pn	23 00 15.3	-0.6
	baz=291						
KLF				MSG		23 00 33.8	
	comp=Z,1.5nm,0.2s						
KLF				SN	Sn	23 00 36.4	-0.3
KTK1	**Kautokeino**	**1.60**	**42**	PN	Pn	23 00 16.6	+0.1
KTK1				SN	Sg	23 00 38.8	+0.4
TRO	**Tromso**	**1.85**	**346**	SG	Sn	23 00 44.2	+0.4
KALU	**Kalix**	**2.35**	**147**	PN	Pn	23 00 26.6	-0.1
KALU				SB	Sb	23 00 58.5	-1.1
TOF	**Tornio**	**2.40**	**136**	PN	Pn	23 00 27.8	+0.4
TOF				MSG		23 00 57.9	
	comp=Z,1.0nm,0.2s						
TOF				SG	Sb	23 01 01.1	+0.1
RNF	**Rovaniemi**	**2.57**	**116**	PB	Pn	23 00 30.8	+1.1
RNF				SG	Sb	23 01 04.7	-1.2
KMNF	**Kaamanen**	**2.81**	**59**	PB	Pn	23 00 35.1	+2.1
KMNF				SG	Sb	23 01 10.6	-2.1
RAJF	**Raja-Jooseppi**	**3.08**	**75**	SG	Sb	23 01 20.7	+0.1
KEV	**Kevo**	**3.11**	**49**	MSG		23 01 18.4	
	comp=Z,0.6nm,0.2s						
KEV				SG	Sb	23 01 20.1	-1.3
RANF	**Ranua**	**3.17**	**123**	SG	Sb	23 01 25.8	+2.6

UPP 10 23:00:11.2±0.0, 67°.18N×20°.57E, h0km, ML1.6, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**181**	P	Pg	23 00 12.6	+0.3
DUNU				S	Sg	23 00 13.6	+0.5
MASU	**Masugnsbyn**	**0.62**	**63**	P	Pg	23 00 23.0	-0.1
MASU				S	Sg	23 00 31.5	+0.5
RATU	**Laukkuluspa**	**0.75**	**330**	P	Pg	23 00 25.1	-0.4
KUA	**Kurravaara**	**0.78**	**353**	P	Pg	23 00 25.9	-0.3
KUA				S	Sg	23 00 36.5	+0.2
SALU	**Saltoluokta**	**0.83**	**285**	P	Pg	23 00 26.8	-0.2
ERTU	**Ertsjaerv**	**0.90**	**134**	P	Pg	23 00 27.5	-0.9
LANU	**Lannavaara**	**1.03**	**31**	P	Pg	23 00 30.2	-0.7
HARU	**Harads**	**1.03**	**171**	P	Pg	23 00 30.3	-0.7

---

*HLW **10** 23:08:48.2, 33°.34N×25°.57E, h10km±10km, Md3.5, Ml3.2*
*ATH **10** 23:08:48.5, 34°.32N×25°.02E, h30km±12km, ML2.3/5, Manual Solution by I.Dede First location: 2019/02/10 23:10:31, This location: 2020/09/30 05:47:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*
ISC 10 23:08:48.8±2.7, 34°.3N±0°.2×25°.02E±0°.05, h35km, n11, σ0°.50/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.95**	**306**	P	**Pn**	**23 09 05.4**	**-0.2**
GVD				S	**Sn**	**23 09 18.1**	**+0.2**
IDI	**Anoyia**	**1.01**	**354**	P	**Pn**	**23 09 06.4**	**-0.1**
IDI				S	**Sn**	**23 09 19.2**	**-0.3**
ZKR	**Zakros**	**1.29**	**50**	P	**Pn**	**23 09 10.4**	**+0.1**
ZKR				S	**Sn**	**23 09 26.0**	**-0.3**
IMMV	**Iera Moni Meta**	**1.45**	**324**	P	**Pn**	**23 09 12.5**	**0.0**
IMMV				S	**Sn**	**23 09 31.6**	**+1.2**
KARP	**Karpathos**	**2.17**	**54**	P	**Pn**	**23 09 22.3**	**-0.1**
KARP				S	**Sn**	**23 09 48.0**	**0.0**
SLUM	**Salum**	**2.79**	**177**	P	Pn	23 09 19.7	-11
VLI	**Veliai**	**2.96**	**326**	P	**Pn**	**23 09 32.9**	**-0.5**
VLI				S	**Sn**	**23 10 07.8**	**+0.2**
ARG	**Arkhangelos**	**3.19**	**52**	P	**Pn**	**23 09 36.2**	**-0.3**
ARG				S	**Sn**	**23 10 14.1**	**+0.8**
KRND	**KRANIDI**	**3.45**	**334**	P	**Pn**	**23 09 39.4**	**-0.6**
SWA2		**5.04**	**176**	P	Pn	23 09 50.2	-12
RYAN	**Fayoum**	**6.85**	**138**	P	Pn	23 10 15.1	-12

---

*IDC **10** 23:20:15.3±2.0, 6°.56S×130°.30E, h0km, mb3.5/1, mbtmp4.0/4, ML4.3/3, MS3.5/1, Error ellipse: s-maj=69.3km s-min=27.8km az=78.0*
ISC 10 23:20:33.4±3.8, 7°.5S±0°.2×130°.2E±0°.1, h100km, n8, σ2°.43/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**4.97**	**173**	P	**Pn**	**23 21 49.1**	**+3.4**
MTN	**Manton Dam**	**5.41**	**171**	P	**Pn**	**23 21 55.0**	**+3.3**
KDU	**Kakadu**	**5.62**	**157**	P	**Pn**	**23 21 56.2**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.47**	**203**	**Pn**	**Pn**	**23 23 13.3**	**-0.8**
	2.6nm,0.3s,baz=32,slow=12,SNR=48						
FITZ				Sn	**Sn**	**23 25 20.4**	**0.0**
	0.9nm,0.3s,baz=7.0,slow=21,SNR=7.7						
	4.8nm,0.3s						
WRA	**Warramunga Arr**	**13.01**	**163**	Pn	**Pn**	**23 23 32.4**	**-2.3**
	1.2nm,0.3s,baz=343,slow=14,SNR=46						
WRA				Sn	**Sn**	**23 25 55.6**	**-2.2**
	1.1nm,0.3s,baz=343,slow=22,SNR=9.0						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**16.48**	**168**	P	**P**	**23 24 19.1**	**-0.6**
	0.7nm,0.3s,baz=345,slow=10,SNR=26						
ASAR				S	**Sn**	**23 27 21.4**	**-0.1**
	0.6nm,0.5s,baz=334,slow=14,SNR=4.7						
	2.5nm,0.5s						
HNR	**Honiara**	**29.44**	**96**	LR	LR	23 38 30.3	
	comp=Z,74nm,18.1s,baz=322,slow=37						
MKAR	**Makanchi Array**	**68.75**	**327**	P	P	23 31 16.6	-10
	0.2nm,0.5s,baz=114,slow=7.0,SNR=7.9						
	0.2nm,0.5s						

---

*NEIC **10** 23:24:31.7±1.4, 66°.31N±0°.02×157°.21W±0°.05, h7km±10km, Error ellipse: s-maj=2.9km s-min=2.4km az=81.0*
AEIC 10 23:24:31.5±1.6, 66°.31N±0°.02×157°.21W±0°.05, h8km±6km, ML2.3, ML2.6/106(NEIC), Error ellipse: s-maj=3.1km s-min=2.5km az=96.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**163**	Pg	Pg	23 24 35.1	+0.1
G19K				Sg	Sg	23 24 37.6	+0.2
F19K	**Shaleruckik Mo**	**0.57**	**337**		Pg	23 24 42.6	+0.1
F19K					Sg	23 24 50.2	+0.2
G18K	**Tagagawik**	**0.72**	**235**		Pg	23 24 45.4	+0.1
G18K				Sg	Sb	23 24 55.6	-0.7
H19K	**Roundabout Mou**	**0.84**	**158**		Pg	23 24 47.2	-0.4
H19K					Sg	23 24 58.9	+0.3
H19K	**Roundabout Mou**	**0.84**	**158**	IAML		23 25 04.5	
	comp=N,218nm,0.1s						
F20K	**Avaraart Lake**	**0.95**	**38**		Pg	23 24 49.2	-0.5
F20K					Sg	23 25 02.2	+0.2
F20K	**Avaraart Lake**	**0.95**	**38**	IAML		23 25 06.0	
	comp=N,235nm,0.4s						
F20K				IAML		23 25 06.0	
	comp=E,207nm,0.6s						
F18K	**Selawik**	**1.02**	**288**		Pg	23 24 50.9	-0.1
F18K					Sb	23 25 05.4	+0.4
E19K	**Redstone River**	**1.15**	**360**		Pg	23 24 53.3	-0.3
E19K					Sg	23 25 08.2	-0.4
E19K	**Redstone River**	**1.15**	**360**	IAML		23 25 11.2	
	comp=N,154nm,0.5s						
E19K				IAML		23 25 11.6	
	comp=E,174nm,0.4s						
H18K	**Honhosa River**	**1.25**	**203**		Pn	23 24 54.5	-0.8
H18K					Sb	23 25 11.3	-0.4
H20K	**Anotleneega Mo**	**1.26**	**129**		Pn	23 24 54.7	-0.8
G21K	**Allakaket**	**1.51**	**80**		Pn	23 24 58.4	-0.4
G21K					Sn	23 25 18.2	-0.4
GCSA	**Galena City Sc**	**1.58**	**175**		Pn	23 24 59.9	+0.2
G17K	**Kiwalik Mounta**	**1.63**	**242**		Pn	23 24 59.9	-0.6
G17K					Sb	23 25 22.0	-0.4
F17K	**Baldwin Pennin**	**1.63**	**277**		Pn	23 25 00.1	-0.3
F17K	**Baldwin Pennin**	**1.63**	**277**	IAML		23 25 28.6	
	comp=E,41nm,0.8s						
F21K	**Alatna River**	**1.74**	**56**		Pn	23 25 01.8	-0.2
F21K	**Alatna River**	**1.74**	**56**	IAML		23 25 29.2	
	comp=E,55nm,0.6s						
F21K				IAML		23 25 31.2	
	comp=N,49nm,0.5s						
E18K	**Tukpahlearik C**	**1.74**	**311**		Pn	23 25 02.3	+0.3
H17K	**Granite Mounta**	**1.77**	**220**		Pn	23 25 02.1	-0.4
H17K					Sb	23 25 27.1	+0.4
H17K	**Granite Mounta**	**1.77**	**220**	IAML		23 25 29.2	
	comp=E,44nm,0.1s						
H17K				IAML		23 25 32.1	
	comp=N,46nm,0.6s						
I20K	**Naaghedeneel**	**1.90**	**142**		Pn	23 25 04.0	-0.1
I20K	**Naaghedeneel**	**1.90**	**142**	IAML		23 25 42.0	
	comp=E,67nm,0.8s						
H21K	**Melozitna Rive**	**1.92**	**108**		Pn	23 25 04.1	-0.4
H21K	**Melozitna Rive**	**1.92**	**108**	IAML		23 25 34.7	
	comp=N,49nm,0.5s						
E17K	**Hotham Inlet**	**1.99**	**295**		Pn	23 25 05.7	+0.3
E20K	**Nigu River**	**2.00**	**11**		Pn	23 25 06.7	+1.1
D19K	**Kuna River**	**2.22**	**351**	Pn	Pn	23 25 08.3	-0.3
D19K				IAML		23 25 44.0	
	comp=E,30nm,0.6s						
G16K	**Koyuk River**	**2.31**	**249**	Pn	Pn	23 25 08.6	-1.1
G16K				IAML		23 25 46.2	
	comp=E,23nm,0.4s						
G16K				IAML		23 25 46.6	
	comp=N,36nm,0.5s						
H22K	**Ishtalitna Cre**	**2.41**	**97**		Pn	23 25 11.4	+0.2
J19K	**Poorman**	**2.42**	**163**	Pn	Pn	23 25 11.0	-0.3
J19K				IAML		23 25 48.1	
	comp=E,29nm,1.0s						
J19K				IAML		23 25 48.3	
	comp=N,30nm,0.4s						
E21K	**Killik River**	**2.48**	**29**	Pn	Pn	23 25 12.4	+0.1
J20K	**Nowinta River**	**2.50**	**148**	Pn	Pn	23 25 13.4	+0.9
J20K				IAML		23 25 59.4	
	comp=E,20nm,0.5s						
C18K	**Utukok River**	**2.81**	**329**	Pn	Pn	23 25 16.9	+0.2
RDOG	**Red Dog Mine**	**2.83**	**311**	Pn	Pn	23 25 15.8	-1.1
I17K	**Unalakleet**	**2.84**	**213**	Pn	Pn	23 25 17.7	+0.6
I17K				IAML		23 26 05.9	
	comp=N,24nm,0.7s						
J18K	**Innoko River**	**2.86**	**176**	Pn	Pn	23 25 18.3	+0.8
G23K	**Bananza Creek**	**2.91**	**79**	Pn	Pn	23 25 18.6	+0.5
G23K				IAML		23 26 05.3	
	comp=E,20nm,0.8s						
G23K				IAML		23 26 10.1	
	comp=N,26nm,1.2s						
COLD	**Coldfoot**	**2.93**	**68**	Pn	Pn	23 25 19.1	+0.8
J17K	**VABM Dome**	**3.03**	**196**	Pn	Pn	23 25 20.3	+0.6
J17K				IAML		23 26 13.0	
	comp=N,14nm,1.2s						
J17K				IAML		23 26 13.8	
	comp=E,18nm,1.3s						
F15K	**North Star Dit**	**3.10**	**262**		Pg	23 25 29.6	-1.1
F15K				IAML		23 26 12.0	
	comp=N,13nm,0.9s						
F15K				IAML		23 26 19.8	
	comp=E,12nm,0.8s						
D22K	**Ayikyak River**	**3.11**	**32**	Pn	Pn	23 25 20.7	-0.2
D22K				IAML		23 26 16.9	
	comp=E,15nm,0.6s						
D22K				IAML		23 26 25.2	
	comp=N,12nm,1.4s						
K20K	**Telida**	**3.25**	**154**	Pn	Pn	23 25 22.9	+0.1
J16K	**Anvik River**	**3.37**	**207**	Pn	Pn	23 25 24.6	+0.3
J16K				IAML		23 26 21.8	
	comp=E,16nm,0.8s						
J16K				IAML		23 26 25.6	
	comp=N,16nm,1.3s						
TTA	**Tatalina**	**3.43**	**171**	Pn	Pn	23 25 25.6	+0.3
BPAW	**Bear Paw Mtn.**	**3.44**	**127**	Pn	Pn	23 25 25.7	+0.4
E23K	**Chandalar**	**3.44**	**56**	Pn	Pn	23 25 25.7	+0.2
E23K				IAML		23 26 26.5	
	comp=E,12nm,1.0s						
E23K				IAML		23 26 29.7	
	comp=N,8.8nm,0.6s						
I23K	**Minto, Yukon-K**	**3.45**	**106**	Pn	Pn	23 25 25.7	+0.3
B21K	**Ikpikpuk River**	**3.47**	**15**		Pn	23 25 27.0	+1.2
B21K				IAML		23 26 25.3	
	comp=N,13nm,0.6s						
B21K				IAML		23 26 28.7	
	comp=E,13nm,0.6s						
CAST	**Castle Rocks**	**3.63**	**141**	Pn	Pn	23 25 29.2	+1.2
TOLK	**Toolik Lake Re**	**3.76**	**48**	Pn	Pn	23 25 30.7	+1.0
TOLK				Pg	Pg	23 25 41.2	-2.2
TOLK				IAML		23 26 36.0	
	comp=E,9.2nm,1.2s						
TOLK				IAML		23 26 46.4	
	comp=N,9.4nm,0.8s						
NEA2	**Nenana**	**3.81**	**113**	Pn	Pn	23 25 30.5	+0.1
NEA2				IAML		23 26 35.9	
	comp=E,8.7nm,1.0s						
KTH	**Kantishna Hill**	**3.85**	**133**	Pn	Pn	23 25 32.5	+1.5
PPLA	**Purkeypile**	**4.05**	**145**	Pn	Pn	23 25 35.1	+1.3
TRF	**Thorofare Moun**	**4.12**	**131**	Pn	Pn	23 25 35.9	+1.1
TRF				IAML		23 26 50.2	
	comp=E,10nm,1.5s						
POKR	**Poker Plat Res**	**4.21**	**102**	Pn	Pn	23 25 36.8	+0.9
POKR				IAML		23 26 53.7	
	comp=E,7.3nm,0.7s						
WRH	**Wood River Hil**	**4.24**	**112**	Pn	Pn	23 25 37.0	+0.7
WRH				IAML		23 26 51.2	
	comp=N,4.6nm,1.2s						
CCB	**Clear Creek Bu**	**4.26**	**109**	Pn	Pn	23 25 36.5	-0.1
CCB				IAML		23 26 46.3	
	comp=N,4.4nm,1.4s						
CCB				IAML		23 26 47.6	
	comp=E,4.9nm,0.6s						
MCK	**McKinley**	**4.36**	**123**	Pn	Pn	23 25 39.2	+1.2
K15K	**Wolf Creek Mou**	**4.45**	**207**	Pn	Pn	23 25 38.8	-0.4
K15K				IAML		23 26 17.1	
	comp=N,5.9nm,1.2s						
IL31		**4.56**	**105**		Pn	23 25 40.9	+0.2
ILAR	**Eielson Array**	**4.56**	**105**	Pn	Pn	23 25 41.1	+0.3
RND	**Reindeer**	**4.60**	**125**	Pn	Pn	23 25 41.7	+0.3
RND				IAML		23 26 51.2	
	comp=N,3.7nm,1.4s						
HDA	**Harding Lake**	**4.70**	**109**	Pn	Pn	23 25 43.8	+1.2
L16K	**Owhat River**	**4.72**	**193**	Pn	Pn	23 25 42.9	0.0
L16K				IAML		23 27 23.9	
	comp=E,5.3nm,1.2s						
L16K				IAML		23 28 21.6	
	comp=N,3.9nm,1.4s						
M20K	**Styx River**	**4.79**	**156**	Pn	Pn	23 25 45.2	+1.2
FYU	**Fort Yukon**	**4.82**	**81**	Pn	Pn	23 25 46.1	+1.9
E25K	**Arctic Village**	**4.88**	**63**		Pn	23 25 44.9	-0.2
E25K				IAML		23 27 17.8	
	comp=N,4.0nm,1.3s						
E25K				IAML		23 27 23.7	
	comp=E,2.7nm,1.1s						
CUT	**Chulitna**	**4.94**	**139**	Pn	Pn	23 25 46.7	+0.8
SKT	**Skwentna**	**5.00**	**148**	Pn	Pn	23 25 48.0	+1.2
BMAR	**Burnt Mountain**	**5.11**	**72**	Pn	Pn	23 25 49.9	+1.2
J25K	**Salcha River,**	**5.22**	**104**	Pn	Pn	23 25 50.1	+0.2
F26K	**Sheenjek River**	**5.31**	**69**		Pn	23 25 50.7	-0.3
F26K				IAML		23 27 28.2	
	comp=N,3.5nm,0.8s						
F26K				IAML		23 27 30.6	
	comp=E,2.7nm,1.3s						

---

*IDC **10** 23:26:04.8±2.8, 42°.46N×142°.90E, h104km±18km, mb3.5/10, mbtmp3.9/10, Error ellipse: s-maj=26.9km s-min=22.8km az=168.0*
*JMA **10** 23:26:05.6±0.1, 42°.5N±0°.5×142°.9E±0°.6, h103km±1km, MV3.4/38, HIDAKA MOUNTAINS REGION*
*SKHL **10** 23:26:08.0±0.2, 42°.50N×143°.10E, h89km±6km, mb4.8/2, msha5.7/2*
ISC 10 23:26:05.1±0.7, 42°.45N±0°.05×142°.94E±0°.03, h111km±5km, n40, σ1°.03/55, mb3.9/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.22**	**219**	*i* P	**Pn**	**23 26 20.5**	**-0.1**
JNBK				S	**Sn**	**23 26 32.2**	**-0.1**
JTHR	**Tokachihiroo**	**0.31**	**120**	*i* P	**Pn**	**23 26 20.9**	**-0.1**
JTHR				S	**Sn**	**23 26 31.9**	**-1.0**
JSHD	**Hidakashinhida**	**0.35**	**264**	P	**Pn**	**23 26 21.3**	**+0.1**
JSHD				S	**Sn**	**23 26 33.2**	**-0.1**
JCH	**Churui**	**0.35**	**62**	*i* P	**Pn**	**23 26 20.8**	**-0.4**
JCH				S	**Sn**	**23 26 32.0**	**-1.4**
JEM	**Erimo**	**0.46**	**159**	*i* P	**Pn**	**23 26 22.0**	**+0.2**
JEM				*e*S	**Sn**	**23 26 35.3**	**+1.0**
JBT2	**Biratori 2**	**0.54**	**308**	*i* P	**Pn**	**23 26 21.4**	**-0.8**
JBT2				*e*S	**Sn**	**23 26 33.8**	**-1.4**
JFR	**Furan**	**0.76**	**341**	*i* P	**Pn**	**23 26 23.3**	**-0.8**
JFR				S	**Sn**	**23 26 36.9**	**-1.5**
JIAM	**Iburiatsuma**	**0.77**	**283**	*i* P	**Pn**	**23 26 24.5**	**+0.4**
JIAM				S	**Sn**	**23 26 39.2**	**+0.8**
JOB	**Onbets**	**0.80**	**55**	*i* P	**Pn**	**23 26 24.7**	**+0.3**
JOB				S	**Sn**	**23 26 39.2**	**+0.2**
JAR	**Ashorobuto**	**1.05**	**36**	*i* P	**Pn**	**23 26 26.5**	**-0.3**
JAR				S	**Sn**	**23 26 42.4**	**-0.9**
JEW	**Eniwo**	**1.17**	**290**	P	**Pn**	**23 26 27.7**	**-0.4**
JEW				S	**Sn**	**23 26 44.5**	**-1.0**
JAB	**Ashibetsu**	**1.18**	**334**	*i* P	**Pn**	**23 26 27.7**	**-0.5**
JISS	**Ishikarishitsu**	**1.39**	**307**	P	**Pn**	**23 26 30.2**	**-0.4**
JISS				S	**Sn**	**23 26 49.5**	**-0.5**
JAK	**Akkeshi**	**1.41**	**66**	P	**Pn**	**23 26 30.8**	**0.0**
JAK				S	**Sn**	**23 26 49.6**	**-0.7**
JKK2	**Kamakawa 2**	**1.43**	**355**	*i* P	**Pn**	**23 26 30.8**	**-0.3**
JKK2				S	**Sn**	**23 26 51.0**	**+0.1**
AKK	**Akkeshi**	**1.51**	**67**	*e*P	**Pn**	**23 26 32.0**	**-0.1**
JHR	**Hokuryu**	**1.57**	**326**	P	**Pn**	**23 26 32.5**	**-0.3**
JHR				S	**Sn**	**23 26 53.3**	**-0.5**
JTKR	**Abashiri--Toko**	**1.68**	**25**	*i* P	**Pn**	**23 26 34.1**	**+0.1**
JTKR				S	**Sn**	**23 26 56.0**	**-0.2**
ASAJ	**Asahikawa**	**1.69**	**352**	P	**Pn**	**23 26 33.9**	**-0.3**
	46nm,0.3s,baz=204,slow=14,SNR=41						
ASAJ				S	**Sn**	**23 26 55.2**	**-1.1**
	78nm,0.5s,baz=55,slow=29,SNR=22						
JOT	**Ohata**	**1.77**	**234**	P	**Pn**	**23 26 34.1**	**-1.1**
JOT				S	**Sn**	**23 26 54.9**	**-3.1**
NMR	**Nemuro--Hokkai**	**2.25**	**65**	*i* P	**Pn**	**23 26 41.3**	**+0.1**
NMR				*e*S	**Sn**	**23 27 06.4**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**2.66**	**52**	*e*P	**Pn**	**23 26 47.9**	**+1.3**
YUK				AMB	AMB	23 26 49.6	
	170nm,0.2s						
YUK				*i* S	**Sn**	**23 27 16.8**	**-1.7**
YUK				A	A	23 27 20.0	
	600nm,0.6s						
YUK				A	A	23 27 20.0	
	730nm,0.6s						
SHO	**Shikotan**	**3.18**	**62**	*e*P	**Pn**	**23 26 52.5**	**-0.9**
SHO				AMB	AMB	23 26 54.0	
	20nm,0.4s						
SHO				*e*S	**Sn**	**23 27 28.1**	**-2.7**
SHO				A	A	23 27 29.7	
	200nm,0.3s						
SHO				A	A	23 27 29.7	
	260nm,0.3s						
KUR	**Kuril'sk**	**4.52**	**50**	*e*S	**Sn**	**23 28 00.9**	**-2.0**
SONM	**Songino Array**	**26.16**	**295**	P	**P**	**23 31 29.5**	**+0.5**
	0.7nm,0.5s,baz=96,slow=8.2,SNR=5.7						
	0.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.37**	**131**	T	T	00 03 51.3	
	baz=326,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**30.38**	**131**	T	T	00 03 52.4	
	baz=326,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**30.38**	**131**	T	T	00 03 48.6	
	baz=326,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy**	**31.24**	**133**	T	T	00 04 58.5	
	baz=328,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**31.25**	**133**	T	T	00 04 57.5	
	baz=328,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**31.26**	**133**	T	T	00 04 59.0	
	baz=328,slow=76,SNR=7.6						
ZALV	**Zalesovo Beam**	**39.33**	**308**	P	**P**	**23 33 23.6**	**+0.5**
	1.0nm,0.4s,baz=99,slow=9.0,SNR=4.9						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**42.45**	**297**	P	**P**	**23 33 48.7**	**-0.1**
	1.1nm,0.7s,baz=80,slow=10,SNR=11						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**43

MTHZ	**Maungataniwha**	**0.34**	**181**	P	**Pb**	**23 44 16.9**	**-0.4**
MTHZ				S	**Sb**	**23 44 22.6**	**-0.3**
PRRZ	**Plateau Road**	**0.36**	**271**	P	**Pg**	**23 44 16.8**	**+0.5**
TARZ	**Mount Tarawera**	**0.38**	**315**	P	**Pg**	**23 44 17.5**	**+0.7**
ALRZ	**Allen Road**	**0.40**	**262**	P	**Pg**	**23 44 17.7**	**+0.6**
RAHZ	**Arahi**	**0.45**	**156**	P	**Pb**	**23 44 19.4**	**+0.3**
HRRZ	**Handcock Road**	**0.46**	**285**	P	**Pg**	**23 44 18.9**	**+0.7**
HRRZ				S	**Sg**	**23 44 25.4**	**+1.1**
HLRZ	**Highlands Stat**	**0.47**	**303**	P	**Pg**	**23 44 19.1**	**+0.8**
SNGZ	**Shannon Statio**	**0.47**	**126**	P	**Pn**	**23 44 19.7**	**-2.2**
SNGZ				S	**Sb**	**23 44 27.4**	**+0.9**
MRHZ	**Matea Rd**	**0.47**	**226**	P	**Pg**	**23 44 18.8**	**+0.4**
MRHZ				S	**Sg**	**23 44 25.4**	**+0.8**
MKRZ	**Makatiti**	**0.48**	**320**	P	**Pb**	**23 44 19.5**	**-0.1**
HSRZ	**Hossack Road**	**0.52**	**292**	P	**Pb**	**23 44 20.1**	**-0.2**
MARZ	**Manawahe**	**0.54**	**345**	P	**Pg**	**23 44 20.0**	**+0.4**
WPRZ	**Whakapapatarin**	**0.54**	**268**	P	**Pg**	**23 44 20.4**	**+0.7**
OMRZ	**Omania**	**0.55**	**317**	P	**Pb**	**23 44 20.6**	**-0.3**
OMRZ				S	**Sg**	**23 44 28.0**	**+0.8**
MWZ	**Matawai**	**0.56**	**72**	P	**Pb**	**23 44 20.4**	**-0.6**
MWZ				S	**Sb**	**23 44 28.3**	**-0.7**
NMHZ	**Naumai**	**0.59**	**183**	P	**Pn**	**23 44 22.3**	**-1.3**
NMHZ				S	**Sn**	**23 44 32.1**	**-1.2**
GRRZ	**Galatos Road**	**0.60**	**285**	P	**Pb**	**23 44 21.7**	**-0.1**
UTU	**Utuhina**	**0.61**	**302**	P	**Pb**	**23 44 23.0**	**+1.1**
LIRZ	**Lichensteins R**	**0.62**	**324**	P	**Pb**	**23 44 22.0**	**-0.1**
WHHZ	**Waihua**	**0.64**	**152**	P	**Pn**	**23 44 23.6**	**-0.7**
WHRZ	**Whale Island**	**0.66**	**8**	P	**Pb**	**23 44 23.0**	**+0.3**
NGRZ	**Ngongotaha**	**0.66**	**308**	P	**Pn**	**23 44 23.9**	**-0.6**
KARZ	**Kaharoa**	**0.68**	**315**	P	**Pg**	**23 44 22.3**	**-0.1**
OPRZ	**Ohinepanea**	**0.70**	**340**	P	**Pg**	**23 44 22.8**	**+0.1**
OPRZ				S	**Sg**	**23 44 32.0**	**+0.1**
HATZ	**Hinemaiaia**	**0.71**	**237**	P	**Pg**	**23 44 22.9**	**0.0**
BKZ	**Black Stump Fm**	**0.71**	**203**	P	**Pb**	**23 44 23.1**	**-0.6**
BKZ	**Black Stump Fm**	**0.71**	**203**	S	**Sb**	**23 44 33.7**	**+0.2**
BKZ	**Black Stump Fm**	**0.71**	**203**	P	**Pb**	**23 44 23.4**	**-0.3**
WHTZ	**Whakaora**	**0.72**	**257**	P	**Pb**	**23 44 24.3**	**+0.6**
RIGZ	**Rimuhau**	**0.74**	**106**	P	**Pn**	**23 44 25.6**	**0.0**
ARHZ	**Aropaoanui**	**0.76**	**172**	P	**Pn**	**23 44 25.8**	**-0.1**
TKGZ	**Te Karaka**	**0.79**	**85**	P	**Pn**	**23 44 25.8**	**-0.3**
TKGZ				S	**Sn**	**23 44 38.3**	**+0.4**
KUTZ	**Kaahu Road**	**0.81**	**271**	P	**Pb**	**23 44 25.5**	**+0.3**
KNZ	**Kokohu**	**0.82**	**129**	P	**Pn**	**23 44 27.1**	**+0.4**
RUGZ	**Raukumara Rang**	**0.85**	**50**	P	**Pb**	**23 44 25.4**	**-0.6**
WATZ	**Wairara**	**0.90**	**257**	P	**Pg**	**23 44 26.9**	**+0.4**
TGRZ	**Tauranga**	**0.91**	**329**	P	**Pb**	**23 44 27.0**	**+0.1**
PRGZ	**Paritu Road**	**0.91**	**118**	P	**Pn**	**23 44 29.5**	**+1.6**
RITZ	**Rihia Road**	**0.91**	**239**	P	**Pg**	**23 44 26.9**	**+0.2**
RATZ	**Rangitukua**	**0.92**	**247**	P	**Pg**	**23 44 27.2**	**+0.4**
MCHZ	**McNeill Hill**	**0.94**	**187**	P	**Pn**	**23 44 29.5**	**+1.1**
TWGZ	**Tauwhareparae**	**0.95**	**70**	P	**Pn**	**23 44 28.6**	**+0.1**
TWGZ				S	**Sn**	**23 44 42.8**	**+0.8**
KMRZ	**Kaimai**	**0.97**	**312**	P	**Pg**	**23 44 28.0**	**+0.1**
KWHZ	**Kaweka Forest**	**0.97**	**200**	P	**Pn**	**23 44 28.4**	**-0.5**
KATZ	**Kakaramea**	**1.02**	**242**	P	**Pg**	**23 44 28.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.05**	**128**	P	**Pn**	**23 44 31.6**	**+1.8**
TLZ	**Tolley Road**	**1.05**	**279**	P	**Pg**	**23 44 29.0**	**-0.3**
HAZ	**Te Kaha**	**1.05**	**45**	P	**Pn**	**23 44 29.0**	**-0.8**
HAZ				S	**Sn**	**23 44 42.8**	**-1.6**
CNGZ	**Carnagh Statio**	**1.06**	**89**	P	**Pn**	**23 44 32.4**	**+2.4**
TMVZ	**Te Maari**	**1.08**	**236**	P	**Pg**	**23 44 29.6**	**-0.4**
ETVZ	**East Tongariro**	**1.09**	**235**	P	**Pg**	**23 44 29.7**	**-0.4**
NTVZ	**North Tongarir**	**1.09**	**237**	P	**Pg**	**23 44 29.7**	**-0.4**
KRVZ	**Karewarewa**	**1.11**	**238**	P	**Pg**	**23 44 30.1**	**-0.4**
OTVZ	**Oturere**	**1.14**	**234**	P	**Pb**	**23 44 30.6**	**-0.3**
NNVZ	**North Ngauruho**	**1.15**	**237**	P	**Pb**	**23 44 30.8**	**-0.3**
WTVZ	**West Tongariro**	**1.16**	**238**	P	**Pb**	**23 44 30.9**	**-0.4**
PKGZ	**Pakihiroa**	**1.16**	**57**	P	**Pn**	**23 44 31.9**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.16**	**171**	P	**Pn**	**23 44 33.6**	**+2.2**
SNVZ	**South Ngauruho**	**1.16**	**234**	P	**Pb**	**23 44 31.1**	**-0.3**
NGZ	**Ngauruhoe**	**1.18**	**235**	P	**Pb**	**23 44 31.4**	**-0.3**
PUZ	**Puketiti**	**1.19**	**69**	P	**Pn**	**23 44 33.1**	**+1.4**
TUVZ	**Tukino**	**1.20**	**231**	P	**Pn**	**23 44 31.7**	**-0.3**
COVZ	**Chateau Observ**	**1.23**	**236**	P	**Pn**	**23 44 32.3**	**-0.1**
TWVZ	**Taurewa**	**1.24**	**243**	P	**Pn**	**23 44 32.3**	**-0.3**
MOVZ	**Moawhango**	**1.24**	**223**	P	**Pn**	**23 44 32.0**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.25**	**231**	P	**Pn**	**23 44 32.6**	**-0.2**
FWVZ	**Far West T-bar**	**1.26**	**233**	P	**Pn**	**23 44 32.7**	**-0.3**
MAVZ	**Matarangi**	**1.26**	**233**	P	**Pn**	**23 44 32.8**	**-0.2**
WNVZ	**Wahianoa**	**1.28**	**230**	P	**Pn**	**23 44 32.9**	**-0.2**
KAHZ	**Kahuranaki**	**1.28**	**179**	P	**Pg**	**23 44 35.3**	**+1.5**
TRVZ	**Turoa**	**1.29**	**232**	P	**Pn**	**23 44 33.1**	**-0.2**
MTVZ	**Mangateitei**	**1.39**	**230**	P	**Pn**	**23 44 34.7**	**+0.2**
PKVZ	**Pokaka**	**1.41**	**236**	P	**Pn**	**23 44 35.3**	**+0.5**
WMGZ	**Waiomatatini S**	**1.41**	**61**	P	**Pg**	**23 44 37.5**	**+1.2**
PMHZ	**Pukenui**	**1.49**	**200**	P	**Pg**	**23 44 37.7**	**-0.1**
PXZ	**Pawanui**	**1.52**	**180**	P	**Pg**	**23 44 37.9**	**-0.4**
HIZ	**Hauiti**	**1.57**	**269**	P	**Pb**	**23 44 38.7**	**+0.6**
HIZ	**Hauiti**	**1.57**	**269**	P	**Pn**	**23 44 36.8**	**-0.2**
WPHZ	**Waipukurau**	**1.59**	**191**	P	**Pg**	**23 44 39.8**	**+0.2**
TSZ	**Takapari Road**	**1.70**	**204**	P	**Pg**	**23 44 40.8**	**-0.9**
VRZ	**Vera Road**	**1.75**	**249**	P	**Pn**	**23 44 39.2**	**-0.2**
PRHZ	**Porangahau**	**1.77**	**185**	P	**Pb**	**23 44 40.9**	**-0.6**
DVHZ	**Dannevirke**	**1.87**	**196**	P	**Pb**	**23 44 42.5**	**-0.7**
BFZ	**Birch Farm**	**2.22**	**192**	P	**Pn**	**23 44 46.6**	**+0.7**
BFZ	**Birch Farm**	**2.22**	**192**	P	**Pn**	**23 44 46.7**	**+0.8**
KHEZ	**Kahui Hut**	**2.35**	**250**	P	**Pn**	**23 44 49.9**	**+2.1**
MRZ	**Mangatainoka R**	**2.37**	**204**	P	**Pb**	**23 44 50.2**	**-1.6**
OGWZ	**Otaki Gorge**	**2.65**	**209**	P	**Pb**	**23 44 55.5**	**-1.1**
KIW	**Kapiti Island**	**2.79**	**212**	P	**Pn**	**23 44 55.0**	**+1.3**
DUWZ	**D'Urville Isla**	**3.22**	**224**	P	**Pb**	**23 45 04.9**	**-1.4**

*NEIC **10** 23:57:59.5±0.7, 63°.17N±0°.04×150°.42W±0°.08, h109km±7km, Error ellipse: s-maj=5.1km s-min=4.9km az=146.0*

AEIC 10 23:57:59.8±0.9, 63°.16N±0°.04×150°.44W±0°.08, h105km±6km, ML2.6, ML2.9/156(NEIC), **Error ellipse: s-maj=5.2km s-min=4.8km az=139.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.30**	**13**	Pn	Pn	23 58 15.8	+0.6
TRF				Sn	Sn	23 58 27.5	+0.8
TRF				IAML		23 58 28.4	
	comp=E,762nm,0.3s						
TRF				IAML		23 58 28.4	
	comp=N,847nm,0.2s						
KTH	**Kantishna Hill**	**0.45**	**331**	Pn	Pn	23 58 16.4	+0.5
KTH				Sn	Sn	23 58 28.3	+0.4
KTH				IAML		23 58 29.3	
	comp=E,149nm,1.1s						
RND	**Reindeer**	**0.76**	**70**	Pn	Pn	23 58 18.3	+0.1
RND				Sn	Sn	23 58 32.2	+0.1
RND				IAML		23 58 34.6	
	comp=N,94nm,0.4s						
CUT	**Chulitna**	**0.76**	**174**		Pn	23 58 18.3	+0.1
CUT				Sn	Sn	23 58 32.6	+0.6
CAST	**Castle Rocks**	**0.79**	**290**	Pn	Pn	23 58 18.7	+0.2
CAST				Sn	Sn	23 58 32.4	-0.1
CAST				IAML		23 58 33.2	
	comp=E,97nm,0.5s						
PPLA	**Purkeypile**	**0.84**	**252**	Pn	Pn	23 58 19.6	+0.4
PPLA	**Purkeypile**	**0.84**	**252**		Sn	23 58 34.5	+0.8
MCK	**McKinley**	**0.89**	**49**	Pn	Pn	23 58 19.5	+0.1
MCK	**McKinley**	**0.89**	**49**		Sn	23 58 34.2	0.0
BPAW	**Bear Paw Mtn.**	**0.97**	**346**	Pn	Pn	23 58 20.4	+0.1
BPAW				Sn	Sn	23 58 35.5	-0.3
BWN	**Browne**	**1.10**	**23**	Pn	Pn	23 58 22.1	+0.5
BWN				IAML		23 58 39.5	
	comp=N,128nm,0.7s						
BWN				IAML		23 58 41.5	
	comp=E,81nm,0.9s						
CHUM	**Lake Minchumin**	**1.11**	**311**		Pn	23 58 21.9	+0.2
SKT	**Skwentna**	**1.29**	**204**	Pn	Pn	23 58 23.5	-0.3
SKT	**Skwentna**	**1.29**	**204**		Sn	23 58 42.3	+0.3
SKT	**Skwentna**	**1.29**	**204**	IAML		23 58 42.5	
	comp=N,135nm,0.2s						
SKT				IAML		23 58 44.9	
	comp=E,207nm,0.4s						
M22K	**Willow**	**1.42**	**174**		Pn	23 58 25.3	+0.1
NEA2	**Nenana**	**1.56**	**22**		Pn	23 58 26.5	-0.4
NEA2				IAML		23 58 47.1	
	comp=E,44nm,0.4s						
GHO	**Glory Hole Cre**	**1.56**	**153**		Pn	23 58 27.4	+0.3
GHO				IAML		23 58 54.6	
	comp=E,240nm,0.5s						
K20K	**Telida**	**1.66**	**278**		Pn	23 58 28.1	-0.1
K20K	**Telida**	**1.66**	**278**	IAML		23 58 49.9	
	comp=E,80nm,0.8s						
SML	**Sawmill**	**1.67**	**143**	Pn	Pn	23 58 28.4	-0.1
SML	**Sawmill**	**1.67**	**143**		Sn	23 58 50.6	+0.3
SML	**Sawmill**	**1.67**	**143**	IAML		23 58 54.5	
	comp=N,225nm,0.4s						
SML				IAML		23 58 55.3	
	comp=E,210nm,0.6s						
WRH	**Wood River Hil**	**1.68**	**37**	Pn	Pn	23 58 28.3	-0.1
PMR	**Palmer**	**1.69**	**158**		Pn	23 58 28.4	-0.1
PMR	**Palmer**	**1.69**	**158**		Sn	23 58 50.5	0.0
PMR	**Palmer**	**1.69**	**158**	IAML		23 58 56.0	
	comp=N,92nm,0.5s						
PMR				IAML		23 58 56.7	
	comp=E,148nm,0.4s						
SUA	**Susitna One**	**1.71**	**185**	Pn	Pn	23 58 29.2	+0.2
SUA				IAML		23 58 54.5	
	comp=N,71nm,1.2s						
SUA				IAML		23 58 57.4	
	comp=E,87nm,0.7s						
L20K	**Farewell, AK**	**1.72**	**248**		Pn	23 58 28.9	-0.1
STLK	**Strandline Lak**	**1.79**	**202**		Pn	23 58 29.9	-0.1
STLK				IAML		23 58 53.8	
	comp=E,73nm,0.2s						
STLK				IAML		23 58 56.0	
	comp=N,87nm,0.6s						
STLK	**Strandline Lak**	**1.79**	**202**		Sn	23 58 52.7	-0.2
M20K	**Styx River**	**1.79**	**225**		Pn	23 58 29.7	-0.3
M20K	**Styx River**	**1.79**	**225**	IAML		23 58 53.6	
	comp=N,60nm,0.4s						
M20K				IAML		23 58 53.8	
	comp=E,77nm,0.3s						
M23K	**Glacier View**	**1.86**	**136**		Sn	23 58 54.9	+0.4
CCB	**Clear Creek Bu**	**1.89**	**37**		Pn	23 58 30.8	-0.2
J20K	**Nowinta River**	**1.94**	**303**		Pn	23 58 31.8	+0.1
J20K					Sn	23 58 55.4	-0.8
SCM	**Sheep Creek Mo**	**1.96**	**131**		Pn	23 58 31.8	-0.3
SCM				IAML		23 59 02.6	
	comp=N,162nm,0.5s						
SCM				IAML		23 59 03.7	
	comp=E,122nm,0.8s						
KNK	**Knik Glacier**	**1.98**	**151**		Pn	23 58 32.2	-0.1
HDA	**Harding Lake**	**1.99**	**49**		Pn	23 58 32.0	-0.3
HDA				IAML		23 59 00.5	
	comp=E,112nm,0.3s						
HDA				IAML		23 59 01.3	
	comp=N,81nm,0.3s						
FIS	**Fire Island**	**2.03**	**177**	Pn	Pn	23 58 34.4	+1.6
FIS				IAML		23 59 14.9	
	comp=E,184nm,0.4s						
I23K	**Minto, Yukon-K**	**2.05**	**13**		Pn	23 58 32.7	-0.4
COLA	**College**	**2.06**	**32**		Pn	23 58 32.8	-0.4
COLA				IAML		23 59 04.4	
	comp=E,47nm,0.5s						
COLA				IAML		23 59 06.7	
	comp=E,46nm,0.5s						
RC01	**Rabbit Creek A**	**2.11**	**171**		Pn	23 58 34.1	+0.2
RC01				IAML		23 59 08.1	
	comp=E,95nm,0.3s						
RC01				IAML		23 59 09.8	
	comp=N,69nm,0.5s						
SPU	**Mount Spurr**	**2.13**	**202**		Pn	23 58 34.1	-0.1
SPU				IAML		23 59 06.2	
	comp=E,26nm,0.6s						
SPCR	**Spurr Chakacha**	**2.14**	**204**		Pn	23 58 34.8	+0.4
M24K	**Tolsona, Glenn**	**2.23**	**116**		Pn	23 58 35.5	-0.1
M24K				IAML		23 59 10.9	
	comp=E,130nm,0.9s						
M24K				IAML		23 59 11.4	
	comp=N,88nm,0.6s						
IL31		**2.25**	**43**		Pn	23 58 35.1	-0.5
ILAR	**Eielson Array**	**2.25**	**43**		Pn	23 58 35.2	-0.4
L19K	**White Mountain**	**2.26**	**246**		Pn	23 58 35.6	-0.3
L19K	**White Mountain**	**2.26**	**246**	IAML		23 59 06.3	
	comp=E,23nm,1.0s						
PAX	**Paxson**	**2.27**	**93**	Pn	Pn	23 58 36.0	0.0
POKR	**Poker Plat Res**	**2.36**	**32**		Pn	23 58 37.2	0.0
CAPN	**Captain Cook N**	**2.43**	**188**	Pn	Pn	23 58 39.5	+1.6
J19K	**Poorman**	**2.46**	**292**		Pn	23 58 38.5	0.0
J19K	**Poorman**	**2.46**	**292**	IAML		23 59 08.7	
	comp=N,43nm,0.7s						
PWL	**Port Wells**	**2.51**	**156**		Pn	23 58 38.6	-0.5
PWL				IAML		23 59 22.6	
	comp=E,101nm,0.6s						
TTA	**Tatalina**	**2.55**	**267**	Pn	Pn	23 58 39.4	-0.3
TTA				IAML		23 59 10.0	
	comp=N,20nm,1.0s						
RIDG	**Independent Ri**	**2.58**	**74**		Pn	23 58 40.3	+0.3
RIDG				IAML		23 59 16.7	
	comp=N,45nm,0.5s						
RIDG				IAML		23 59 19.3	
	comp=E,47nm,0.7s						
SLKM	**Skilak Lake**	**2.67**	**178**	Pn	Pn	23 58 41.3	+0.1
SLKM				IAML		23 59 24.5	
	comp=N,38nm,0.4s						
SLKM				IAML		23 59 26.2	
	comp=E,39nm,0.4s						
J25K	**Salcha River,**	**2.67**	**55**		Pn	23 58 40.6	-0.6
J25K	**Salcha River,**	**2.67**	**55**	IAML		23 59 19.5	
	comp=N,64nm,0.3s						
KLU	**Klutina**	**2.69**	**126**		Pn	23 58 40.7	-0.8
KLU				IAML		23 59 22.0	
	comp=N,98nm,0.4s						
KLU				IAML		23 59 23.9	
	comp=E,97nm,0.4s						
H21K	**Melozitna Rive**	**2.71**	**339**		Pn	23 58 41.5	-0.2
O22K	**Cooper Landing**	**2.71**	**173**		Pn	23 58 41.5	-0.2
RDT	**Redoubt**	**2.76**	**201**		Pn	23 58 42.9	+0.4
H22K	**Ishtalitna Cre**	**2.77**	**352**		Pn	23 58 42.1	-0.4
GLI	**Glacier Island**	**2.78**	**144**		Pn	23 58 42.5	-0.2
J18K	**Innoko River**	**2.85**	**279**		Pn	23 58 43.1	-0.5
NCT	**North Crescent**	**2.87**	**205**		Pn	23 58 44.0	+0.2
H24K	**Noodor Dome**	**2.91**	**21**		Pn	23 58 44.3	0.0
RDWB	**Redoubt West**	**2.92**	**204**		Pn	23 58 44.3	-0.3
DIV	**Divide**	**2.99**	**131**		Pn	23 58 44.0	-1.5
SCRK	**Sand Creek**	**3.00**	**71**	Pn	Pn	23 58 45.2	-0.4
SCRK				IAML		23 59 25.6	
	comp=E,38nm,0.4s						
SCRK				IAML		23 59 25.9	
	comp=N,55nm,0.5s						
L18K	**Granite Mounta**	**3.03**	**255**		Pn	23 58 45.7	-0.3
L18K	**Granite Mounta**	**3.03**	**255**	IAML		23 59 23.4	
	comp=N,13nm,1.1s						
N19K	**Bonanza Creek**	**3.03**	**221**		Pn	23 58 45.9	-0.2
H20K	**Anotleneega Mo**	**3.04**	**322**		Pn	23 58 46.0	-0.1
FID	**Port Fidalgo**	**3.06**	**141**		Pn	23 58 45.1	-1.2
MENT	**Mentasta**	**3.07**	**91**		Pn	23 58 46.3	-0.1
MENT				IAML		23 59 30.4	
	comp=N,51nm,1.0s						
MENT				IAML		23 59 33.3	
	comp=E,63nm,0.6s						
SEW	**Seward**	**3.10**	**171**	Pn	Pn	23 58 46.5	-0.4
N25K	**Chitina, Valde**	**3.13**	**117**		Pn	23 58 47.1	-0.3
N25K				IAML		23 59 34.3	
	comp=E,18nm,0.6s						
N25K				IAML		23 59 37.8	
	comp=N,24nm,0.6s						
PRP	**Porcupine Dome**	**3.19**	**40**	Pn	Pn	23 58 47.7	-0.5
PRP				IAML		23 59 28.1	
	comp=E,21nm,1.0s						
PRP				IAML		23 59 29.1	
	comp=N,16nm,0.4s						
L26K	**Log Cabin Wild**	**3.23**	**89**		Pn	23 58 48.3	-0.3
L26K				IAML		23 59 34.3	
	comp=N,62nm,0.4s						
L26K				IAML		23 59 37.4	
	comp=E,47nm,0.4s						
J26L	**Joseph Creek**	**3.33**	**63**	IAML		23 59 31.3	
	comp=N,53nm,0.5s						
J26L				IAML		23 59 32.4	
	comp=E,57nm,0.9s						
HIN	**Hinchinbrook I**	**3.34**	**144**	Pn	Pn	23 58 49.1	-1.0
BRLK	**Bradley Lake**	**3.42**	**184**	Pn	Pn	23 58 51.1	-0.1
BRLK				IAML		23 59 44.5	
	comp=E,22nm,0.6s						
BRLK				IAML		23 59 45.3	
	comp=N,35nm,1.1s						
EYAK	**Cordova Ski Ar**	**3.44**	**138**	Pn	Pn	23 58 51.0	-0.3
BRSE	**Bradley Lake S**	**3.44**	**183**		Pn	23 58 50.9	-0.5
ILSW	**Iliamna Southw**	**3.44**	**203**	Pn	Pn	23 58 52.4	+0.8
ILSW				IAML		23 59 53.0	
	comp=E,9.8nm,1.1s						
BMRM	**Bremner River**	**3.52**	**126**		Pn	23 58 52.1	-0.4
GLB	**Gilahina Butte**	**3.54**	**116**		Pn	23 58 52.3	-0.5
GLB				IAML		23 59 50.9	
	comp=E,18nm,0.5s						
GLB				IAML		23 59 52.5	
	comp=N,21nm,0.8s						
HOM	**Homer**	**3.56**	**190**	Pn	Pn	23 58 53.9	+0.9
G23K	**Bananza Creek**	**3.57**	**3**	IAML		23 59 33.9	
	comp=E,8.2nm,0.8s						
N18K	**Kilae Creek**	**3.58**	**228**	Pn	Pn	23 58 53.3	-0.1
CNPM	**China Poot**	**3.67**	**186**	Pn	Pn	23 58 54.4	-0.1
CNPM				IAML		23 59 48.4	
	comp=E,48nm,0.9s						
CNPM				IAML		23 59 49.9	
	comp=N,26nm,1.1s						
P19K	**Oil Pt**	**3.77**	**202**	Pn	Pn	23 58 55.2	-0.7
P19K				IAML		00 00 02.2	
	comp=N,32nm,1.1s						
P19K				IAML		00 00 47.5	
	comp=E,26nm,1.0s						
L17K	**Donlin**	**3.77**	**258**		Pn	23 58 55.5	-0.3
VRDI	**Verde Repeater**	**3.80**	**118**		Pn	23 58 55.5	-1.0
VRDI				IAML		23 59 58.1	
	comp=E,16nm,0.7s						
VRDI				IAML		23 59 58.9	
	comp=N,15nm,0.9s						
RAGM	**Ragged Mountai**	**3.90**	**133**	Pn	Pn	23 58 56.6	-1.1
BCAR	**Beaver Creek A**	**3.93**	**88**		Pn	23 58 56.7	-1.4
O18K	**Koktuh Hills**	**4.03**	**217**	Pn	Pn	23 59 00.3	+1.0
O18K				IAML		00 00 06.2	
	comp=N,8.8nm,1.1s						
O18K				IAML		00 00 15.9	
	comp=E,6.7nm,1.0s						
HMT	**Hamilton**	**4.08**	**131**	Pn	Pn	23 58 59.0	-1.0
COLD	**Coldfoot**	**4.08**	**1**	Pn	Pn	23 59 00.3	+0.3
EGAK	**Eagle**	**4.40**	**64**	Pn	Pn	23 59 05.1	+0.8
EGAK				IAML		23 59 57.3	
	comp=E,25nm,0.8s						
EGAK				IAML		23 59 58.3	
	comp=E,19nm,0.6s						
P18K	**Big Mountain,**	**4.43**	**214**	Pn	Pn	23 59 05.3	+0.5
P18K				IAML		00 01 54.4	
	comp=N,8.7nm,1.2s						
P18K				IAML		00 02 11.3	
	comp=E,4.4nm,0.9s						
L16K	**Owhat River**	**4.45**	**255**	Pn	Pn	23 59 04.7	-0.2
L16K				IAML		23 59 50.6	
	comp=E,4.3nm,1.1s						
Q19K	**Cape Douglas,**	**4.53**	**202**	Pn	Pn	23 59 06.1	0.0
SYI	**Shuyak Island**	**4.67**	**193**	Pn	Pn	23 59 07.8	-0.1
SYI				IAML		00 00 01.1	
	comp=E,24nm,1.1s						
SNH	**Sunshine Point**	**4.70**	**126**	Pn	Pn	23 59 07.7	-0.6
YUK3	**Moose Creek**	**4.83**	**102**		Pn	23 59 10.2	-0.2
H27K	**Steamboat Moun**	**4.91**	**47**		Pn	23 59 10.8	-0.4
BMAR	**Burnt Mountain**	**4.94**	**27**	Pn	Pn	23 59 11.6	+0.1
E24K	**Your Creek**	**5.00**	**8**	Pn	Pn	23 59 12.2	-0.2
DAWY	**Dawson**	**5.01**	**75**		Pn	23 59 12.5	-0.1
KDAK	**Kodiak Island**	**5.50**	**192**	Pn	Pn	23 59 17.1	-2.0
TOLK	**Toolik Lake Re**	**5.51**	**3**	Pn	Pn	23 59 19.7	+0.3
ACHA	**Angle Creek He**	**5.52**	**208**	Pn	Pn	23 59 19.4	-0.1
M29M	**Somme Creek**	**5.54**	**92**	Pn	Pn	23 59 19.6	-0.2
PCA	**Pinnacle**	**5.74**	**118**	Pn	Pn	23 59 21.5	-1.1
M14K	**Bethel**	**5.95**	**251**	Pn	Pn	23 59 25.2	0.0
OHAK	**Old Harbor**	**6.13**	**195**	Pn	Pn	23 59 27.9	+0.2
M30M	**Minto, Yukon**	**6.27**	**89**	Pn	Pn	23 59 29.1	-0.5
F28M	**Old Crow**	**6.27**	**40**	Pn	Pn	23 59 29.1	-0.5
HYT	**Haines Junctio**	**6.53**	**105**	Pn	Pn	23 59 32.1	-1.0
MAYO	**Mayo, Yukon**	**6.55**	**80**	Pn	Pn	23 59 33.8	+0.4
EPYK	**Eagle Plains**	**6.69**	**55**	Pn	Pn	23 59 34.5	-0.7
G31M	**Satah River**	**7.80**	**54**	Pn	Pn	23 59 50.1	-0.2
FARO	**Faro, Yukon**	**7.91**	**89**	Pn	Pn	23 59 53.4	+1.5
INK	**Inuvik**	**8.64**	**46**	Pn	Pn	00 00 01.6	-0.1

*PGC **11** 00:01:59.8±1.9, 50°.57N×130°.26W, h10km, ML3.7/39, MLSn3.7/39, Mw4.7, mb4.2(NEIC), 195km west of Port Hardy, Bc Vancouver Island, Canada Region*

*IDC **11** 00:01:59.2±0.8, 50°.56N×130°.20W, h0km, mb3.8/9, mbtmp3.8/18, ML3.8/9, MS3.6/37, Error ellipse: s-maj=13.8km s-min=9.3km az=63.0*

*NEIC **11** 00:02:01.1±1.7, 50°.72N±0°.07×130°.10W±0°.08, h10km±1km, mb4.2/106, Mwr4.1/17, Error ellipse: s-maj=13.3km s-min=5.3km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.17; $M_{

B010 North Saanich 4.76 112 Pn Pn 00 03 10.2 -2.3
PGC Sidney 4.76 112 Pn 00 03 11.6 -1.0
PGC Sidney 4.76 112 Pn Pn 00 03 10.3 -2.2
B011 North Saanich 4.77 112 Pn Pn 00 03 11.5 -1.0
V35K Ketchikan 4.78 350 Pn Pn 00 03 12.2 -0.5
V35K Ketchikan 4.78 350 Pn Pn 00 03 11.6 -1.1
SNB Saturna Island 4.88 110 Pn Pn 00 03 14.6 +0.5
STW Striped Peak 4.89 118 Pn Pn 00 03 14.0 -0.3
VGZ Gonzales 4.95 114 Pn Pn 00 03 13.6 -1.5
CRAG Craig 5.16 341 Pn Pn 00 03 16.7 -1.3
FSJB Fort St James 5.21 41 Pn Pn 00 03 20.1 +1.3
FSJB Sn Sn 00 04 19.6 +1.2
LLLB Lillooet 5.24 87 Pn Pn 00 03 19.5 +0.4
LLLB Lillooet 5.24 87 Pn Pn 00 03 19.5 +0.4
NLWA Neilton Lookou 5.24 126 Pn Pn 00 03 19.4 +0.3
U35K Hyder 5.28 1 Pn Pn 00 03 20.3 +0.8
WISH Wishkah 5.47 128 Pn Pn 00 03 22.5 +0.2
WISH Wishkah 5.47 128 Pn Pn 00 03 22.4 +0.2
HDW Hoodsport 5.52 120 Pn Pn 00 03 23.5 +0.6
GNW Green Mountain 5.69 120 Pn Pn 00 03 25.7 +0.5
GNW Green Mountain 5.69 120 Pn Pn 00 03 24.8 -0.5
HOPB Hope 5.74 99 Pn Pn 00 03 26.5 +0.5
U33K Whale Pass 5.77 343 Pn Pn 00 03 24.9 -1.4
U33K Whale Pass 5.77 343 Pn Pn 00 03 23.1 -3.1
JCW Jim Creek 5.88 112 Pn Pn 00 03 28.6 +0.8
WRAK Wrangell Islan 5.94 348 Pn Pn 00 03 28.3 -0.3
RADR Rader Ridge 5.95 133 Pn Pn 00 03 29.1 +0.3
T35M Bob Quinn 6.35 359 Pn 00 03 35.8 +1.4
T35M Bob Quinn 6.35 359 Pn Pn 00 03 35.3 +1.0
D05A Enumclaw 6.37 120 Pn 00 03 36.5 +1.8
D05A Enumclaw 6.37 120 Pn Pn 00 03 36.3 +1.7
GPW Glacier Peak 6.38 110 Pn Pn 00 03 35.6 +0.6
F03A Seaside 6.43 135 Pn Pn 00 03 36.9 +1.5
F04D Rainier, OR 6.57 131 Pn Pn 00 03 38.7 +1.4
FMW Mount Fremont 6.70 120 Pn Pn 00 03 40.3 +1.0
LON Longmire 6.73 122 Pn 00 03 40.4 +0.7
LON Longmire 6.73 122 Pn Pn 00 03 40.2 +0.5
LTY Liberty 7.08 115 Pn 00 03 45.3 +0.9
LTY Liberty 7.08 115 Pn Pn 00 03 45.0 +0.6
G03D McMinnville, O 7.12 137 Pn Pn 00 03 46.3 +1.5
SIT Sitka 7.12 336 Pn Pn 00 03 45.2 +0.3
BMTB Bullhead Mount 7.21 38 P Pn 00 03 47.8 +1.6
S34M Telegraph Cree 7.31 356 Pn Pn 00 03 48.2 +0.8
S34M Telegraph Cree 7.31 356 P Pn 00 03 49.0 +1.6
S32K Killisnoo 7.32 341 Pn Pn 00 03 48.3 +0.7
B08A Colville Reser 7.38 104 Pn Pn 00 03 49.4 +0.8
B08A Colville Reser 7.38 104 P Pn 00 03 49.3 +0.8
MXC Moxie City 7.67 118 Pn 00 03 53.4 +0.9
HOOD Mount Hood Mea 7.78 130 Pn Pn 00 03 52.0 -2.1
DLBC Dease Lake 7.81 0 Pn Pn 00 03 56.5 +2.1
DLBC Dease Lake 7.81 0 Pn Pn 00 03 55.1 +0.7
1.8nm,0.3s,baz=193,slow=16,SNR=37
DLBC Sn Sn 00 05 25.4 +3.0
0.6nm,0.3s,baz=241,slow=27,SNR=1.5
DLBC LR LR 00 06 58.7
comp=Z,638nm,18.8s,baz=180,slow=38
10nm,0.6s
DLBC Dease Lake 7.81 0 P Pn 00 03 56.0 +1.6
H04D Lebanon 7.89 138 Pn Pn 00 03 56.3 +0.8
E07A Sunnyside 7.93 117 Pn Pn 00 03 56.9 +0.9
BDMTA Bald Mountain 7.97 54 P Pn 00 03 57.5 +0.9
H04A Detroit Lake 8.01 135 Pn Pn 00 03 58.7 +1.6
BUCK Buck Mountain 8.05 140 Pn Pn 00 03 59.9 +2.1
D08A Wollman Farm, 8.21 112 Pn Pn 00 03 59.7 -0.1
HAWA Hanford 8.21 117 Pn 00 04 00.5 +0.7
C09A Chrisman Ranch 8.26 106 Pn 00 04 00.9 +0.4
C09A Chrisman Ranch 8.26 106 P Pn 00 04 00.6 +0.2
G06A Carlson Farm, 8.35 127 Pn Pn 00 04 04.0 +2.2
Q32M Nakina River 8.43 352 P Pn 00 04 01.1 -1.8
I04A Tendick Farm, 8.62 140 Pn Pn 00 04 07.5 +1.9
I05D Terrebonne, OR 8.66 133 Pn Pn 00 04 07.3 +1.2
R33M Jennings River 8.78 357 Pn Pn 00 04 07.7 -0.1
R33M Jennings River 8.78 357 P Pn 00 04 08.8 +1.1
NEW Newport 8.79 101 Pn Pn 00 04 07.8 0.0
NEW Newport 8.79 101 Pn Pn 00 04 08.2 +0.3
1.8nm,0.3s,baz=298,slow=12,SNR=32
NEW LR LR 00 07 30.8
comp=Z,711nm,18.7s,baz=278,slow=38
5.3nm,0.4s
DBO Dodson Butte 8.87 145 Pn Pn 00 04 09.4 +0.4
E09A Wood Farm, Sta 8.94 113 Pn 00 04 09.6 -0.3
G08A Pilot Rock 9.20 121 Pn 00 04 14.4 +0.9
P32M Atlin 9.20 348 Pn Pn 00 04 13.5 +0.1
P32M Atlin 9.20 348 P Pn 00 04 12.5 -0.8
L02F Cave Junction 9.64 150 Pn Pn 00 04 22.4 +2.8
P33M Teslin, Yukon 9.71 352 Pn Pn 00 04 20.2 -0.2
P33M Teslin, Yukon 9.71 352 P Pn 00 04 20.2 -0.2
I07A Izee 9.73 128 Pn 00 04 22.0 +1.2
F10A Beach Ranch, E 9.77 114 Pn 00 04 20.8 -0.5
YBH Yreka Blue Hor 10.28 147 Pn 00 04 30.6 +2.3
YBH Yreka Blue Hor 10.28 147 Pn Pn 00 04 28.1 -0.2
0.1nm,0.3s,baz=16,slow=5.5,SNR=4.1
YBH LR LR 00 08 12.0
comp=Z,176nm,19.0s,baz=325,slow=36
1.9nm,0.9s
BMO Blue Mountains 10.38 119 Pn Pn 00 04 30.5 +0.8
WHY Whitehorse 10.39 347 Pn Pn 00 04 29.4 -0.4
WHY Whitehorse 10.39 347 P Pn 00 04 28.6 -1.2
BSMT Bassoo Peak 10.40 100 P Pn 00 04 31.1 +1.1
N32M Quiet Lake 10.66 352 Pn Pn 00 04 32.8 -0.6
O30N Mendenhall 10.69 344 Pn Pn 00 04 33.4 -0.4
PLID Pearl Lake 10.98 115 Pn Pn 00 04 37.7 -0.3
MSO Missoula 11.34 103 Pn Pn 00 04 42.0 -0.7
FARO Faro, Yukon 11.75 353 Pn Pn 00 04 49.9 +1.7
BPMT Black Pine Rid 11.82 104 Pn Pn 00 04 49.3 -0.1
M31M Drury Creek, Y 11.82 350 Pn Pn 00 04 48.8 -0.4
MKRVA Milk River, Al 11.92 90 P Pn 00 04 52.2 +1.5
MMPY Sheldon Lake, 12.02 357 Pn 00 04 54.6 +2.7
MMPY Sheldon Lake, 12.02 357 P Pn 00 04 55.7 +3.7
MFID Camas Ranch 12.12 121 Pn Pn 00 04 54.5 +0.9
ORV Oroville 12.64 148 Pn 00 05 01.3 +0.9
HRY Holter Researc 12.70 101 Pn 00 05 01.3 -0.1
LRM Limekiln Ridge 12.72 105 Pn Pn 00 05 00.7 -1.0
HLID Hailey 12.81 118 Pn 00 05 04.0 +1.0
DLMT Dillon 12.85 108 Pn 00 05 03.5 0.0
VRDI Verde Repeater 12.94 330 Pn Pn 00 05 05.5 +0.8
MCMT McKenzie Canyo 12.98 110 Pn Pn 00 05 05.6 +0.3
EGMT Eagleton 13.53 93 Pn Pn 00 05 10.6 -2.0
YHL Hebgen Lake 13.98 107 Pn 00 05 18.1 -0.8
YHB Horse Butte 14.02 108 Pn Pn 00 05 18.4 -1.1
YMR Madison River 14.20 107 Pn 00 05 20.2 -1.8
YHH Holmes Hill 14.21 107 Pn Pn 00 05 22.6 +0.4
YKA Yellowknife Ar 14.57 30 Pn Pn 00 05 25.8 -0.9
0.2nm,0.3s,baz=224,slow=12,SNR=18
YKA Sn Sn 00 08 01.7 -6.0
0.2nm,0.3s,baz=231,slow=25,SNR=5.9
YKA LR LR 00 11 21.4
comp=Z,250nm,18.2s,baz=268,slow=38
2.0nm,0.9s
H17A Grant Village 14.58 108 Pn 00 05 27.1 -0.2
YKAW1 Yellowknife Wh 14.60 30 P Pn 00 05 26.5 -0.7
YNE Yellowstone No 14.62 105 Pn Pn 00 05 27.2 -0.5
YKAW3 Yellowknife Wh 14.62 29 P Pn 00 05 26.1 -1.3
YMP Mirror Lake Pl 14.66 106 Pn Pn 00 05 27.7 -0.6
FLWY Flagg Ranch 14.68 109 Pn Pn 00 05 28.4 -0.1
FXWY Fox Creek 14.73 111 Pn 00 05 28.5 -0.8
NVAR Mina Array Bea 14.81 141 Pn Pn 00 05 30.6 +0.3
NVAR Mina Array Bea 14.81 141 Pn Pn 00 05 30.3 0.0
0.1nm,0.3s,baz=332,slow=9.5,SNR=5.1
0.3nm,0.4s
MOOW Moose Ponds 14.84 110 Pn 00 05 31.3 +0.6
TPAW Teton Pass 14.86 111 Pn 00 05 31.6 +0.5
HVU Hansel Valley 14.89 120 Pn Pn 00 05 31.2 -0.1
KDAK Kodiak Island 14.91 307 LR LR 00 09 28.3
comp=Z,237nm,20.0s,baz=341,slow=30
I30M Mount Dempster 14.98 350 Pn 00 05 29.3 -3.1
SNOW Snow King Moun 15.00 111 Pn 00 05 31.4 -1.4
LOHW Long Hollow 15.00 110 Pn 00 05 32.2 -0.6
LOHW IAmb IAmb 00 05 42.7
comp=Z,11nm,0.9s
AHID Auburn Hatcher 15.21 114 Pn 00 05 35.3 -0.3
AHID IAmb IAmb 00 05 44.7
comp=Z,13nm,1.1s
SCRK Sand Creek 15.27 336 Pn Pn 00 05 35.5 -0.7
SCRK IAmb IAmb 00 05 51.4
comp=Z,18nm,1.2s
RIDG Independent Ri 15.30 335 Pn 00 05 36.0 -0.6
J26L Joseph Creek 15.60 338 Pn 00 05 39.0 -1.5
J26L IAmb IAmb 00 05 53.8
comp=Z,12nm,0.9s
HWUT Hardware Ranch 15.68 118 Pn 00 05 42.1 +0.3
HWUT IAmb IAmb 00 05 49.8
comp=Z,16nm,1.4s
I28M Miner Creek 15.70 345 Pn 00 05 40.6 -1.2
I28M Miner Creek 15.70 345 P P 00 05 46.5 +0.8
DUG Dugway, Tooele 15.98 124 Pn 00 05 46.2 +0.6
R11B Troy Canyon, C 16.04 134 Pn Pn 00 05 46.6 +0.2
PD31 Pinedale Array 16.11 111 Pn Pn 00 05 48.0 +0.6
PD31 IAmb IAmb 00 05 51.5
comp=Z,17nm,1.2s
PDAR Pinedale Array 16.11 111 Pn Pn 00 05 48.9 +1.5
PDAR Pinedale Array 16.11 111 Pn P 00 05 50.0 -0.7
comp=Z,0.2nm,0.3s,baz=311,slow=12,SNR=26
PDAR LR LR 00 11 59.3
comp=Z,129nm,22.0s,baz=354,slow=37
comp=Z,5.8nm,0.9s
I27K Kandik River 16.14 343 P P 00 05 53.5 +2.9
J25K Salcha River, 16.14 336 Pn 00 05 47.2 -0.2
J25K IAmb IAmb 00 05 59.5
comp=Z,25nm,1.4s
J25K Salcha River, 16.14 336 P P 00 05 53.2 +2.6
H29M Whitestone 16.18 348 P P 00 05 50.9 -0.1
I26K Coal Creek Min 16.19 340 Pn 00 05 47.3 -0.6
I26K IAmb IAmb 00 05 58.4
comp=Z,16nm,1.0s
I26K Coal Creek Min 16.19 340 P P 00 05 51.3 +0.2
G31M Satah River 16.46 354 P P 00 05 54.7 +0.6
MCK McKinley 16.52 330 Pn 00 05 51.2 -1.0
ILAR Eielson Array 16.67 334 Pn P 00 05 55.7 -0.7
comp=Z,0.1nm,0.3s,baz=148,slow=9.7,SNR=21
comp=Z,0.5nm,0.8s
H27K Steamboat Moun 16.68 344 P P 00 05 57.9 +1.3
TRF Thorofare Moun 16.78 328 P P 00 05 56.9 -0.8
TRF IAmb IAmb 00 06 06.8
comp=Z,18nm,1.2s
G29M Pine Creek 16.80 349 P P 00 05 57.9 +0.1
G29M Pine Creek 16.80 349 P P 00 05 57.5 -0.3
BSUT Blindstream Ca 16.85 119 Pn 00 05 56.5 -0.4
WCT Wildcat Mounta 16.89 140 Pn Pn 00 05 57.9 +0.7
WCT IAmb IAmb 00 06 02.9
comp=Z,23nm,1.5s
TPNV Topopah Spring 16.92 139 Pn 00 05 57.3 -0.2
M20K Styx River 16.92 320 Pn 00 05 57.1 -0.3
DGMT Dagmar 16.93 87 Pn 00 05 57.3 -0.2
DGMT IAmb IAmb 00 06 00.7
comp=Z,21nm,0.8s
PRN Pahroc Range 17.05 135 Pn Pn 00 05 59.8 +0.5
PRN IAmb IAmb 00 06 35.0
comp=Z,16nm,1.2s
KTH Kantishna Hill 17.06 327 Pn 00 05 58.4 -0.7
KTH IAmb IAmb 00 06 14.9
comp=Z,30nm,1.4s
NEA2 Nenana 17.17 332 Pn 00 05 59.9 -0.4
ISA Isabella, Lake 17.18 146 Pn 00 06 00.3 -0.4
ISA IAmb IAmb 00 06 10.8
comp=Z,18nm,1.4s
G27K Doyon Strip 17.23 344 P P 00 06 03.9 +1.3
F30M Barrier River 17.25 353 P Pn 00 06 01.7 +0.4
FFC Flin Flon 17.48 66 Pn Pn 00 06 03.6 -0.6
F28M Old Crow 17.70 348 P P 00 06 08.2 +0.4
FYU Fort Yukon 17.71 340 Pn Pn 00 06 05.9 -1.2
G26K Porcupine Rive 17.74 342 P P 00 06 10.9 +2.7
SHPR Sheep Range 17.76 137 Pn 00 06 08.0 0.0
H24K Noodor Dome 17.76 336 P Pn 00 06 07.7 0.0
H24K IAmb IAmb 00 06 19.9
comp=Z,14nm,1.1s
P18A Preston Nutter 17.77 121 P 00 06 08.7 -0.3
INK Inuvik 17.80 356 Pn Pn 00 06 06.2 -1.8
INK Inuvik 17.80 356 P P 00 06 09.7 +0.9
baz=176,slow=12,SNR=4.3
INK LR LR 00 12 48.8
comp=Z,93nm,19.8s,baz=269,slow=36
comp=Z,2.4nm,1.1s
INK Inuvik 17.80 356 P P 00 06 09.9 +1.2
MTPU Mount Pierson 17.92 128 P 00 06 10.6 -0.1
K22A Casper 18.00 107 Pn 00 06 09.2 -1.8
K22A IAmb IAmb 00 06 19.7
comp=Z,14nm,1.1s
BMAR Burnt Mountain 18.32 342 P 00 06 15.1 +0.6
F26K Sheenjek River 18.46 343 P Pn 00 06 16.8 +0.4
F26K IAmb IAmb 00 06 26.3
comp=Z,20nm,1.2s
F26K Sheenjek River 18.46 343 P Pn 00 06 19.6 +3.2
O20A White River Ci 18.54 116 P P 00 06 17.1 -0.3
O20A IAmb IAmb 00 06 53.0
comp=Z,25nm,1.4s
V12A Nelson 18.55 138 P Pn 00 06 17.9 +0.3
J20K Nowinta River 18.57 326 Pn 00 06 17.9 +0.2
J20K IAmb IAmb 00 06 24.5
comp=Z,26nm,1.5s
E28M Babbage River 18.59 349 P Pn 00 06 19.6 +1.7
F25K Christian Rive 18.67 341 P P 00 06 18.0 -0.5
F25K IAmb IAmb 00 06 26.0
comp=Z,13nm,1.1s
F25K Christian Rive 18.67 341 P Pn 00 06 22.5 +3.7
KUKN Kugluktuk,NWT 18.76 18 P Pn 00 06 21.7 +1.8
RSSD Black Hills 18.76 100 P 00 06 19.4 -0.4
C36M Paulatuk 18.99 7 P P 00 06 21.2 -0.6
G23K Bananza Creek 18.99 335 Pn 00 06 23.1 +0.3
J19K Poorman 19.01 324 P Pn 00 06 23.1 +0.2
J19K IAmb IAmb 00 06 32.5
comp=Z,25nm,1.3s
H21K Melozitna Rive 19.05 331 P Pn 00 06 23.3 -0.1
H21K IAmb IAmb 00 06 35.1
comp=Z,12nm,1.2s
F24K Squaw Lake 19.09 339 P P 00 06 23.5 +0.4
E25K Arctic Village 19.11 342 P P 00 06 22.9 -0.3
E25K IAmb IAmb 00 06 34.4
comp=Z,19nm,1.4s
J18K Innoko River 19.15 322 P P 00 06 22.5 -1.3
J18K IAmb IAmb 00 06 40.5
comp=Z,17nm,1.2s
PV23 Carpenter Ridg 19.28 121 P P 00 06 24.8 -0.8
PV10 Paradox Valley 19.32 121 P Pn 00 06 26.9 -0.2
D27M Malcolm River 19.37 348 P P 00 06 24.0 -2.2
COLD Coldfoot 19.43 336 P 00 06 25.9 -0.8
COLD IAmb IAmb 00 06 35.4
comp=Z,17nm,1.2s
COLD Coldfoot 19.43 336 P Pn 00 06 32.5 +4.6
PV11 David Mesa, Pa 19.46 121 P P 00 06 26.6 -0.9
PV11 IAmb IAmb 00 06 43.0
comp=Z,9.9nm,0.8s
W13A Hualapai Mount 19.50 137 P P 00 06 27.7 -0.2
E24K Your Creek 19.68 339 P P 00 06 28.1 -1.4
E23K Chandalar 19.92 338 P P 00 06 32.4 +0.1
E23K IAmb IAmb 00 06 41.4
comp=Z,23nm,1.3s
MDND Maddock 20.04 86 P 00 06 33.0 -0.6
C27K Jago River 20.11 346 P Pn 00 06 39.0 +2.9
H19K Roundabout Mou 20.16 328 P P 00 06 34.5 -0.2
H19K IAmb IAmb 00 06 48.0
comp=Z,13nm,1.1s
ISCO Idaho Springs 20.28 113 P P 00 06 35.9 -0.7
D25K Kavik River 20.29 343 P P 00 06 35.9 -0.3
D25K IAmb IAmb 00 06 46.0
comp=Z,8.5nm,1.1s
D25K Kavik River 20.29 343 P Pn 00 06 41.4 +3.2
F21K Alatna River 20.31 334 P P 00 06 35.9 -0.5
F21K IAmb IAmb 00 06 47.6
comp=Z,12nm,1.3s
TOLK Toolik Lake Re 20.37 339 P P 00 06 36.5 -0.5
TOLK IAmb IAmb 00 06 54.0
comp=Z,15nm,1.2s
M14K Bethel 20.39 312 P P 00 06 37.8 +0.6
MVCO Mesa Verde 20.46 123 P P 00 06 38.8 +0.3
BRIGG Briggsdale 20.56 109 P Pn 00 06 41.0 -0.7
BRIGG IAmb IAmb 00 06 47.1
comp=Z,14nm,1.0s
C26K Camden Bay 20.56 345 P Pn 00 06 42.3 +1.1
D24K Happy Valley 20.63 341 P P 00 06 39.3 -0.5
D24K IAmb IAmb 00 07 08.4
comp=Z,12nm,1.2s
Y14A Wickenburg 20.86 137 P P 00 06 43.1 +0.5
Y14A IAmb IAmb 00 06 48.6
comp=Z,5.6nm,0.8s
D23K Nanushuk River 20.88 339 P P 00 06 41.8 -0.7
D23K IAmb IAmb 00 06 52.9
comp=Z,17nm,1.2s
S22A 4UR Ranch, Cre 20.98 119 P P 00 06 44.5 +0.3
C24K Franklin Bluff 21.07 342 P P 00 06 44.2 -0.3
C24K IAmb IAmb 00 06 58.3
comp=Z,11nm,1.0s
G18K Tagagawik 21.12 327 P P 00 06 45.3 +0.1
X16A Lo Mia Camp, P 21.17 133 P P 00 06 47.3 +1.2
X16A IAmb IAmb 00 06 52.7
comp=Z,13nm,1.3s
F19K Shaleruckik Mo 21.36 330 P P 00 06 48.2 +0.5
F19K IAmb IAmb 00 06 56.0
comp=Z,9.6nm,1.1s
A36M Sachs Harbour 21.53 4 P P 00 06 48.5 -0.8
A36M IAmb IAmb 00 07 02.1
comp=Z,12nm,1.1s
A36M Sachs Harbour 21.53 4 P P 00 06 52.3 +2.9
C23K Itkillik River 21.55 341 P P 00 06 49.7 0.0
C23K IAmb IAmb 00 07 02.1
comp=Z,14nm,1.2s
ULM Lac du Bonnet 21.70 78 P P 00 06 50.7 -0.7
ULM Lac du Bonnet 21.70 78 P P 00 06 51.4 -0.1
comp=Z,4.5nm,0.6s,baz=288,slow=10,SNR=13
ULM LR LR 00 14 38.7
comp=Z,352nm,18.8s,baz=298,slow=35
comp=Z,4.5nm,0.6s
ULM Lac du Bonnet 21.70 78 P P 00 06 51.5 +0.1
OGNE Ogallala 21.73 106 P P 00 06 52.0 +0.1
X18A Snowflake 21.79 130 P P 00 06 53.4 +0.6
X18A IAmb IAmb 00 07 00.1
comp=Z,10nm,0.9s
VTX Valle De La Tr 21.99 146 P P 00 06 55.1 +0.3
FCC Fort Churchill 22.11 55 P P 00 06 56.4 +0.7
FCC IAmb IAmb 00 07 09.9
comp=Z,8.4nm,0.9s
FCC Fort Churchill 22.11 55 P P 00 06 56.3 +0.7
G16K Koyuk River 22.22 324 P P 00 06 57.3 +0.5
G16K IAmb IAmb 00 07 07.8
comp=Z,10nm,1.2s
AGMN Agassiz Nation 22.27 83 P P 00 06 58.4 +0.9
AGMN Agassiz Nation 22.27 83 P P 00 06 59.4 +1.9
B21K Ikpikpuk River 22.30 337 P P 00 06 57.4 -0.3
BLKN Baker Lake 22.52 40 P P 00 07 02.0 +2.0
B22K Teshekpuk Lake 22.55 340 P P 00 07 00.3 -0.1
PIX Pinacate 22.73 141 P P 00 07 03.1 +0.6
PIX IAmb IAmb 00 07 06.4
comp=Z,12nm,1.2s
T25A Trinidad 22.77 116 P P 00 07 04.8 +1.5
T25A IAmb IAmb 00 07 11.0
comp=Z,5.7nm,1.1s
F33A 5 Mile Ranch, 22.90 89 P P 00 07 04.8 +0.5
EPLO Experimental L 23.19 78 P P 00 07 07.1 -0.1
TUC Tucson 23.23 135 P P 00 07 08.8 +1.0
TUC IAmb IAmb 00 07 11.3
comp=Z,9.8nm,1.2s
ANMO Albuquerque 23.25 123 P P 00 07 08.6 +0.4
ANMO Albuquerque 23.25 123 LR LR 00 15 51.7
comp=Z,157nm,18.6s,baz=162,slow=36
C18K Utukok River 23.47 332 P P 00 07 10.7 +0.7
ECSD EROS Data Cent 23.64 94 P P 00 07 12.3 +0.6
SOLO Sioux Lookout 24.11 77 P P 00 07 16.5 +0.3
121A Cookes Peak, D 24.46 129 P P 00 07 20.8 +1.0
121A IAmb IAmb 00 07 23.1
comp=Z,7.2nm,1.2s
L34A Svendsen Farm, 24.69 97 P P 00 07 22.1 +0.6
319A Douglas 24.70 133 P P 00 07 22.5 +0.6
PKLO Pickle Lake 24.79 72 P P 00 07 22.9 +0.6
EYMN Ely 25.14 81 P P 00 07 25.6 +0.1
EYMN Ely 25.14 81 P P 00 07 26.5 +1.0
N35A Tabor 25.75 99 P P 00 07 31.4 +0.3
AMTX Amarillo 25.93 116 P P 00 07 31.8 -1.1
TBO Thunder Bay 26.20 78 P P 00 07 37.6 +2.4
VHRN Van Horn 27.28 127 P P 00 07 46.1 +1.0
VHRN IAmb IAmb 00 07 55.4
comp=Z,3.0nm,0.9s
SN07 Snyder 07 27.69 118 P P 00 07 48.7 0.0
WMOK Wichita Mounta 27.71 113 P P 00 07 48.3 -0.5
WMOK IAmb IAmb 00 07 51.4
comp=Z,5.0nm,0.8s
P38A Dawn 27.78 99 P P 00 07 49.7 +0.2
TX31 Lajitas Ar. Si 29.12 127 P P 00 08 01.8 +0.3
TX31 IAmb IAmb 00 08 04.4
comp=Z,6.9nm,1.3s
TXAR Lajitas Array 29.12 127 P P 00 08 02.5 +1.0
TXAR Lajitas Array 29.12 127 P P 00 08 02.1 +0.6
comp=Z,1.5nm,0.9s,baz=319,slow=5.2,SNR=12
comp=Z,1.5nm,0.9s
LPIG La Paz 30.62 143 LR LR 00 20 17.8
comp=Z,110nm,20.5s,baz=50,slow=36
SADO Sadowa 34.23 80 LR LR 00 24 12.7
comp=Z,124nm,20.1s,baz=50,slow=39
FRB Frobisher Bay 34.36 44 LR LR 00 23 25.4
comp=Z,258nm,20.1s,baz=122,slow=37
TKL Tuckaleechee C 36.34 96 LR LR 00 22 26.5
comp=Z,252nm,21.8s,baz=339,slow=34
PETK Petropavlovsk- 42.89 303 P P 00 09 60.0 +1.2
comp=Z,5.5nm,1.0s,baz=66,slow=14,SNR=4.0
PETK LR LR 00 25 50.2
comp=Z,69nm,18.2s,baz=69,slow=33
comp=Z,5.5nm,1.0s
MA2 Magadan 43.53 313 LR LR 00 25 49.2
comp=Z,58nm,20.6s,baz=92,slow=33
CMIG Matias Romero 43.73 127 LR LR 00 31 17.3
comp=Z,179nm,18.1s,baz=356,slow=40
SPITS Spitsbergen Ar 49.83 9 LR LR 00 32 37.4
comp=Z,71nm,18.2s,baz=254,slow=37
NRIK Noril'sk 57.18 345 P P 00 11 48.4 +1.5
comp=Z,3.0nm,0.8s,baz=35,slow=7.6,SNR=5.2
comp=Z,3.0nm,0.8s
H11N2 WAKE ISLAND Hy 57.92 262 T T 01 14 28.5
baz=42,slow=75,SNR=689
H11N3 WAKE ISLAND Hy 57.92 262 T T 01 14 28.6
baz=42,slow=75,SNR=631
H11N1 WAKE ISLAND Hy 57.93 262 T T 01 14 34.7
baz=42,slow=75,SNR=320
KLR Kul'dur 58.45 310 LR LR 00 37 02.0
comp=Z,29nm,18.4s,baz=32,slow=36
ARCES ARCESS Array B 58.81 10 LR LR 00 37 55.1
comp=Z,40nm,19.8s,baz=328,slow=37
H11S1 WAKE ISLAND Hy 58.95 261 T T 01 15 58.6
baz=45,slow=76,SNR=35
H11S2 WAKE ISLAND Hy 58.96 261 T T 01 15 53.1
baz=45,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 58.97 261 T T 01 15 52.6
baz=45,slow=76,SNR=24
MJAR Matsushiro Arr 63.76 296 LR LR 00 35 46.5
comp=Z,21nm,21.2s,baz=84,slow=32
NOA NORSAR Array B 64.42 20 LR LR 00 40 45.1
comp=Z,36nm,19.2s,baz=310,slow=36
ROSC El Rosal 65.08 115 LR LR 00 44 11.6
comp=Z,58nm,18.3s,baz=339,slow=39
FINES FINESS Array B 66.65 12 LR LR 00 41 44.9
comp=Z,52nm,18.3s,baz=3.0,slow=36
PCRV Puerto La Cruz 66.70 103 LR LR 00 41 20.0
comp=Z,29nm,21.8s,slow=35
JCJ Chichijima 68.16 286 LR LR 00 35 00.8
comp=Z,23nm,22.0s,baz=90,slow=29
KSRS Korea Array 68.78 303 LR LR 00 42 21.0
comp=Z,12nm,18.3s,baz=100,slow=35
JNU Nakatsue 70.39 298 LR LR 00 40 35.7
comp=Z,17nm,21.7s,baz=15,slow=33
SONM Songino Array 70.54 323 P P 00 13 16.1 +0.7
comp=Z,0.2nm,0.6s,baz=44,slow=4.4,SNR=3.8
SONM LR LR 00 46 35.8
comp=Z,28nm,19.1s,baz=0.5,slow=38
comp=Z,0.2nm,0.6s
KIRV Kirov 71.13 0 LR LR 00 49 18.3
comp=Z,36nm,18.2s,baz=338,slow=40
ZALV Zalesovo Beam 71.73 339 P P 00 13 22.7 +0.4
comp=Z,0.3nm,0.3s,baz=49,slow=4.5,SNR=5.5
comp=Z,0.3nm,0.3s
ATAH Atahualpa 72.77 125 P P 00 13 29.5 +0.1
comp=Z,27nm,1.0s,baz=345,slow=8.4,SNR=16
ARTI Arti 73.10 355 LR LR 00 47 16.9
comp=Z,27nm,19.6s,baz=8.5,slow=37
HHC Hu-ho-hao-te 74.14 316 eP P 00 13 36.8 -0.1
HHC pmax pmax
comp=Z,4.0nm,0.7s
HHC pmax pmax
comp=Z,180nm,4.6s
KURBB Kurchatov Arra 76.20 342 P P 00 13 49.6 +1.2
comp=Z,0.7nm,0.7s,baz=17,slow=5.5,SNR=4.4
comp=Z,0.7nm,0.7s
VRAC Vranov 76.42 22 LR LR 00 49 19.4
comp=Z,40nm,18.3s,baz=337,slow=37
DAVOX Davos/Dischmat 76.99 27 LR LR 00 50 36.0
comp=Z,75nm,18.0s,baz=263,slow=38
BELG Belogornoye 77.32 1 LR LR 00 54 09.4
comp=Z,23nm,18.6s,baz=328,slow=40
MDP Montagnes des 78.13 96 LR LR 00 54 17.9
comp=Z,33nm,18.0s,baz=332,slow=40
MKAR Makanchi Array 78.99 338 P P 00 14 04.5 +0.3
comp=Z,0.3nm,0.8s,baz=30,slow=3.5,SNR=9.5
comp=Z,0.3nm,0.8s
MLR Muntele Rosu 82.02 17 LR LR 00 52 25.6
comp=Z,45nm,18.6s,baz=358,slow=37

BRTR	Keskin Array B	88.88	12	P	P	00 14 54.5	-0.4
	comp=Z,0.1nm,0.4s,baz=326,slow=6.0,SNR=3.9						
	comp=Z,0.1nm,0.4s						
RCBR	Riachuelo	97.14	90	LR	LR	00 59 05.2	
	comp=Z,16nm,18.3s,baz=262,slow=35						

UCR ***11*** *00:08:48.7±0.6, 13°.20N×87°.72W, h193km, MW4.1, MW4.7(NEIC)*
IDC ***11*** *00:08:48.2±0.9, 13°.27N×87°.55W, h200km±8km, mb4.0/25, mbtmp4.6/28, MS3.4/1, Error ellipse: s-maj=14.3km s-min=6.5km az=59.0*
NEIC ***11*** *00:08:48.8, 13°.21N×87°.71W, h190km, Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}0.81; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.46; $M_{\theta\phi}$0.54; $M_{\phi r}$-1.04; Fault plane solution: $M_0$1.45000×10^{16} NP1: ϕ_s283.25000°, δ24.63000°, λ46.95000°. NP2: ϕ_s149.03000°, δ72.27000°, λ107.38000°. Principal axes: T 1.4563, Plg59.0000°, Azm83.0000°; N -0.0102, Plg17.0000°, Azm324.0000°; P -1.4461, Plg25.0000°, Azm226.0000°;*
NEIC ***11*** *00:08:48.8, 13°.21N×87°.71W, h190km*
GCG ***11*** *00:08:48.7±0.9, 13°.23N×87°.92W, h195km±9km, MD4.7, Hypocentre not reviewed by the ISC*
NEIC ***11*** *00:08:48.7±1.4, 13°.20N±0°.06×87°.72W±0°.07, h193km±4km, mb5.0/462, Mww4.7/15, Error ellipse: s-maj=11.1km s-min=6.6km az=48.0*
CATAC ***11*** *00:08:50.0±0.3, 13°N±3°×8°8W±°, h171km±2km, M4.5/31, MLv4.5/31, Error ellipse: s-maj=7.7km s-min=2.4km az=22.5, confirmed*
SNET ***11*** *00:08:49.0±0.7, 13°.17N×87°.86W, h182km±6km, ML4.5*
RSNC ***11*** *00:08:49.3±0.4, 13°N±4°×8°8W±°, h195km±2km, M4.3, mB5.2, mb4.6, ML4.0, Mw(mB)5.3*

ISC 11 00:08:47.8±0.4, 13°.17N±0°.04×87°.81W±0°.03, h201km±3km, h202km; pP-P, n800, σ1934/786, mb4.9/235, 2C-3D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.11	346	⇑iP	Pn	00 09 13.2	-1.1
CNCH	Conchagua	0.11	346	P	Pn	00 09 13.2	-1.1
CNCH	Conchagua	0.11	346	P	Pn	00 09 13.4	-1.0
CNCH	Conchagua	0.11	346	P	Pn	00 09 13.3	-1.0
CNCH	Conchagua	0.11	346	S	Sn	00 09 30.6	-4.5
LCND	La Caada	0.16	330	eP	Pn	00 09 13.2	-1.0
LCND	La Caada	0.16	330	P	Pn	00 09 13.2	-1.0
LCND	La Caada	0.16	330	P	Pn	00 09 13.4	-0.8
LCND	La Caada	0.16	330	P	Pn	00 09 13.4	-0.8
LCND	La Caada	0.16	330	S	Sn	00 09 33.8	-1.0
AMPH	Amapala	0.19	51	P	Pn	00 09 13.3	-0.9
AMPH	Amapala	0.19	51	P	Pn	00 09 13.4	-0.9
AMPH	Amapala	0.19	51	P	Pn	00 09 13.3	-0.9
AMPH	Amapala	0.19	51	S	Sn	00 09 33.3	-1.5
CNRM	Centro Naciona	0.47	311	iP	Pn	00 09 14.2	-0.7
CNRM	Centro Naciona	0.47	311	P	Pn	00 09 14.4	-0.6
VSM	San Miguel	0.52	300	iP	Pn	00 09 14.6	-0.9
LCY	Lacayo	0.54	298	iP	Pn	00 09 14.8	-0.5
RANC	El Ranchito	0.54	299	eP	Pn	00 09 14.7	-0.6
RANC	El Ranchito	0.54	299	P	Pn	00 09 14.8	-0.6
RANC	El Ranchito	0.54	299	P	Pn	00 09 14.9	-0.5
RANC	El Ranchito	0.54	299	P	Pn	00 09 14.9	-0.5
RANC	El Ranchito	0.54	299	S	Sn	00 09 33.0	-3.7
PACA	Pacayal	0.58	301	eP	Pn	00 09 15.0	-0.6
PACA	Pacayal	0.58	301	P	Pn	00 09 15.0	-0.6
PACA	Pacayal	0.58	301	P	Pn	00 09 15.2	-0.4
PACA	Pacayal	0.58	301	P	Pn	00 09 15.5	0.0
PACA	Pacayal	0.58	301	S	Sn	00 09 32.1	-4.9
CHOHN	Orocuina	0.70	64	P	Pn	00 09 15.1	-0.9
CHOHN	Orocuina	0.70	64	P	Pn	00 09 15.3	-0.8
CHOHN	Orocuina	0.70	64	S	Sn	00 09 35.8	-2.1
CHOHN	Orocuina	0.70	64	P	Pn	00 09 15.2	-0.9
CAHU	Cacacuatique	0.72	327	iP	Pn	00 09 15.7	-0.6
TECA	Tecapa	0.75	296	iP	Pn	00 09 15.8	-0.7
PQSS	Presa 15 de Se	0.86	302	eP	Pn	00 09 16.3	-0.5
PQSS	Presa 15 de Se	0.86	302	P	Pn	00 09 16.3	-0.5
PQSS	Presa 15 de Se	0.86	302	P	Pn	00 09 16.4	-0.5
PQSS	Presa 15 de Se	0.86	302	P	Pn	00 09 16.4	-0.5
PQSS	Presa 15 de Se	0.86	302	S	Sn	00 09 34.0	-5.3
CRIN	San Cristobal	0.87	122		Pn	00 09 16.7	-0.3
CRIN				Sn	Sn	00 09 38.4	-1.2
CRIN	San Cristobal	0.87	122	P	Pn	00 09 16.6	-0.3
CRIN				S	Sn	00 09 38.0	-1.5
CRIN	San Cristobal	0.87	122	P		00 09 16.6	
CRIN				S		00 09 38.0	
PKGN	Cerro Pekin	0.95	121	P	Pn	00 09 17.0	-0.4
PKGN	Cerro Pekin	0.95	121	P	Pn	00 09 17.0	-0.4
PKGN	Cerro Pekin	0.95	121	P	Pn	00 09 17.0	-0.4
PKGN				S	Sn	00 09 40.6	+0.4
TECO	Alcaldia de Te	1.02	291	iP	Pn	00 09 17.3	-0.5
TECO	Alcaldia de Te	1.02	291	P	Pn	00 09 17.3	-0.5
TECO	Alcaldia de Te	1.02	291	P	Pn	00 09 17.3	-0.5
TECO	Alcaldia de Te	1.02	291	P	Pn	00 09 17.4	-0.4
TECO	Alcaldia de Te	1.02	291	S	Sn	00 09 36.4	-4.7
TGUH	Tegucigalpa,Un	1.02	30	Pn	Pn	00 09 17.4	-0.6
TGUH				Sn	Sn	00 09 40.0	-1.5
TGUH	Tegucigalpa,Un	1.02	30	P	Pn	00 09 17.2	-0.8
TGUH				S	Sn	00 09 38.5	-3.1
TGUH	Tegucigalpa,Un	1.02	30	P		00 09 17.2	
TGUH				S		00 09 38.5	
SCLA	Alcaldia de Sa	1.04	301	eP	Pn	00 09 17.9	-0.2
SCLA	Alcaldia de Sa	1.04	301	P	Pn	00 09 17.8	-0.2
SCLA	Alcaldia de Sa	1.04	301	P	Pn	00 09 18.0	-0.1
SCLA	Alcaldia de Sa	1.04	301	P	Pn	00 09 17.9	-0.2
UESV	Universidad de	1.06	296	iP	Pn	00 09 17.8	-0.3
UESV	Universidad de	1.06	296	P	Pn	00 09 17.9	-0.3
UESV	Universidad de	1.06	296	P	Pn	00 09 17.8	-0.3
UESV	Universidad de	1.06	296	P	Pn	00 09 17.7	-0.3
UESV	Universidad de	1.06	296	S	Sn	00 09 38.5	-3.2
SNVI	San Vicente	1.10	294	eP	Pn	00 09 18.3	-0.3
COEG	Centro de Oper	1.14	293	⇑iP	Pn	00 09 18.3	-0.5
COEG	Centro de Oper	1.14	293	P	Pn	00 09 18.4	-0.3
COEG	Centro de Oper	1.14	293	P	Pn	00 09 18.5	-0.3
COEG	Centro de Oper	1.14	293	P	Pn	00 09 18.5	-0.3
COEG	Centro de Oper	1.14	293	S	Sn	00 09 38.4	-4.4
PLRN	Geotermica Pol	1.17	120	P	Pn	00 09 17.8	-1.2
PLRN	Geotermica Pol	1.17	120	P	Pn	00 09 17.6	-1.4
PLRN	Geotermica Pol	1.17	120	P	Pn	00 09 17.5	-1.4
PLRN				S	Sn	00 09 39.5	-3.5
ROCN	Rota Cerro Neg	1.22	122	P	Pn	00 09 18.9	-0.5
ROCN	Rota Cerro Neg	1.22	122	P	Pn	00 09 19.0	-0.3
ROCN	Rota Cerro Neg	1.22	122	P	Pn	00 09 18.9	-0.5
ROCN				S	Sn	00 09 41.6	-2.1
PAVA	Las Pavas	1.23	296	iP	Pn	00 09 19.1	-0.4
PAVA	Las Pavas	1.23	296	P	Pn	00 09 19.2	-0.2
PAVA	Las Pavas	1.23	296	P	Pn	00 09 19.3	-0.2
PAVA	Las Pavas	1.23	296	P	Pn	00 09 19.3	-0.2
PAVA	Las Pavas	1.23	296	S	Sn	00 09 44.3	+0.3
ILCN	San Idelfonso	1.23	118	P	Pn	00 09 18.1	-1.2
ILCN	San Idelfonso	1.23	118	P	Pn	00 09 18.2	-1.2
ILCN	San Idelfonso	1.23	118	P	Pn	00 09 18.1	-1.2
ILCN				S	Sn	00 09 42.4	-1.4
CNGA	Al SSO del Vol	1.27	122	P	Pn	00 09 20.0	+0.2
CNGA	Al SSO del Vol	1.27	122	P	Pn	00 09 19.6	-0.2
CNGA	Al SSO del Vol	1.27	122	P	Pn	00 09 19.3	-0.5
CNGA				S	Sn	00 09 44.2	-0.2
CNGN	Cerro Negro	1.27	121		Pn	00 09 19.1	-0.7
CNGN				Sn	Sn	00 09 42.7	-1.8
CNGN	Cerro Negro	1.27	121	P	Pn	00 09 19.1	-0.7
CNGN				S	Sn	00 09 43.0	-1.5
CNGN	Cerro Negro	1.27	121	P		00 09 19.1	
CNGN				S		00 09 43.0	
COMHN	El Horno	1.29	11	P	Pn	00 09 19.0	-1.1
COMHN	El Horno	1.29	11	P	Pn	00 09 19.2	-0.9
COMHN	El Horno	1.29	11	P	Pn	00 09 19.2	-0.9
COMHN	El Horno	1.29	11	S	Sn	00 09 43.0	-2.3
LFRS	El Faro	1.30	290	⇓iP	Pn	00 09 19.5	-0.6
MACN	El Madrono	1.31	122	P	Pn	00 09 19.8	-0.3
MACN	El Madrono	1.31	122	P	Pn	00 09 19.7	-0.3
MACN	El Madrono	1.31	122	P	Pn	00 09 19.6	-0.4
MACN				S	Sn	00 09 43.4	-1.6
LEVN	Ruinas Leon Vi	1.39	123	P	Pn	00 09 20.3	-0.4
LEVN	Ruinas Leon Vi	1.39	123	P	Pn	00 09 20.4	-0.2
LEVN	Ruinas Leon Vi	1.39	123	P	Pn	00 09 20.3	-0.4
LEVN				S	Sn	00 09 45.0	-1.1
PANCS	Alcalda de	1.41	288	P	Pn	00 09 20.5	-0.4
PANCS	Alcalda de	1.41	288	P	Pn	00 09 20.4	-0.5
PANCS	Alcalda de	1.41	288	S	Sn	00 09 39.9	-6.6
LOMA	Loma Larga	1.41	290	eP	Pn	00 09 20.8	-0.2
LOMA	Loma Larga	1.41	290	P	Pn	00 09 20.7	-0.2
LOMA	Loma Larga	1.41	290	P	Pn	00 09 20.8	-0.2
LOMA	Loma Larga	1.41	290	P	Pn	00 09 20.7	-0.2
LOMA	Loma Larga	1.41	290	S	Sn	00 09 43.1	-3.6
UDBS	Universidad Do	1.42	293	P	Pn	00 09 21.2	+0.2
UDBS	Universidad Do	1.42	293	P	Pn	00 09 20.9	-0.1
UDBS	Universidad Do	1.42	293	S	Sn	00 09 43.2	-3.5
IGN	Direccin Gen	1.43	292	P	Pn	00 09 21.1	0.0
IGN	Direccin Gen	1.43	292	P	Pn	00 09 20.9	-0.2
MOMN	Momotombo	1.45	121	P	Pn	00 09 20.8	-0.4
MOMN	Momotombo	1.45	121	P	Pn	00 09 21.0	-0.3
MOMN	Momotombo	1.45	121	P	Pn	00 09 20.9	-0.4
MOMN				S	Sn	00 09 45.9	-1.2
LLGN	La Laguna	1.48	312	eP	Pn	00 09 21.4	+0.1
LLGN	La Laguna	1.48	312	P	Pn	00 09 21.7	+0.1
LLGN	La Laguna	1.48	312	P	Pn	00 09 21.7	+0.1
UEES	Universidad Ev	1.50	292	iP	Pn	00 09 21.6	-0.1
UEES	Universidad Ev	1.50	292	P	Pn	00 09 21.6	-0.1
UEES	Universidad Ev	1.50	292	P	Pn	00 09 21.6	-0.1
UEES	Universidad Ev	1.50	292	P	Pn	00 09 21.7	0.0
UEES	Universidad Ev	1.50	292	S	Sn	00 09 44.0	-4.0
LALI	Alcalda de L	1.51	282	eP	Pn	00 09 21.2	-0.4
LALI				IAML		00 09 22.4	
	comp=Z,2μm,0.5s						
LALI				eS	Sn	00 09 46.2	-1.7
LALI	Alcalda de L	1.51	282	P	Pn	00 09 21.2	-0.4
LALI	Alcalda de L	1.51	282	P	Pn	00 09 21.4	-0.3
LALI	Alcalda de L	1.51	282	P	Pn	00 09 21.3	-0.4
LALI	Alcalda de L	1.51	282	S	Sn	00 09 47.7	-0.2
LALI	Alcalda de L	1.51	282	eP		00 09 21.1	
LALI				iS		00 09 46.9	
ITCA	Escuela Especi	1.52	290	P	Pn	00 09 22.0	+0.1
ITCA	Escuela Especi	1.52	290	P	Pn	00 09 21.6	-0.2
ITCA	Escuela Especi	1.52	290	S	Sn	00 09 45.4	-3.0
PIC2	El Picacho	1.52	292	eP	Pn	00 09 22.0	-0.1
BOQS	Boqueron	1.54	292	eP	Pn	00 09 22.0	-0.2
COPN	Copaltepe	1.54	129	P	Pn	00 09 21.7	-0.3
COPN	Copaltepe	1.54	129	P	Pn	00 09 21.9	-0.1
COPN	Copaltepe	1.54	129	P	Pn	00 09 21.7	-0.3
PMON	Piamonte	1.56	290	eP	Pn	00 09 21.9	-0.4
PMON	Piamonte	1.56	290	P	Pn	00 09 22.0	-0.3
PMON	Piamonte	1.56	290	P	Pn	00 09 22.2	-0.1
PMON	Piamonte	1.56	290	P	Pn	00 09 22.2	-0.1
PMON	Piamonte	1.56	290	S	Sn	00 09 45.8	-3.3
RCFN	Al S de San Ju	1.59	77	P	Pn	00 09 21.8	-0.8
RCFN	Al S de San Ju	1.59	77	P	Pn	00 09 21.9	-0.8
RCFN	Al S de San Ju	1.59	77	P	Pn	00 09 21.8	-0.8
RCFN				S	Sn	00 09 47.7	-2.0
RCVN	Varillal2	1.62	75	P	Pn	00 09 22.1	-0.8
RCVN	Varillal2	1.62	75	P	Pn	00 09 22.2	-0.8
RCVN	Varillal2	1.62	75	P	Pn	00 09 22.2	-0.8
RCVN	Varillal2	1.62	75	S	Sn	00 09 49.5	-0.6
CEDA	San Andres	1.67	292	iP	Pn	00 09 22.9	-0.2
CEDA				IAML		00 09 24.1	
	comp=Z,5μm,0.5s						
CEDA	San Andres	1.67	292	P	Pn	00 09 23.1	-0.1
CEDA	San Andres	1.67	292	P	Pn	00 09 23.1	-0.1
CEDA	San Andres	1.67	292	P	Pn	00 09 23.0	-0.2
CEDA	San Andres	1.67	292	S	Sn	00 09 50.8	+0.1
JAYA	Jayaque - finc	1.67	287	iP	Pn	00 09 23.0	-0.4
JAYA	Jayaque - finc	1.67	287	P	Pn	00 09 22.9	-0.4
JAYA	Jayaque - finc	1.67	287	P	Pn	00 09 23.1	-0.4
JAYA	Jayaque - finc	1.67	287	P	Pn	00 09 22.9	-0.4
JAYA	Jayaque - finc	1.67	287	S	Sn	00 09 46.1	-4.8
JAYA	Jayaque - finc	1.67	287	iP		00 09 23.0	
JAYA				eS		00 09 50.0	
APYN	Apoyeque	1.70	123	P	Pn	00 09 23.8	+0.3
APYN	Apoyeque	1.70	123	P	Pn	00 09 23.6	+0.2
RCPN	Sur Rio San Ju	1.71	78	P	Pn	00 09 22.6	-1.0
RCPN	Sur Rio San Ju	1.71	78	P	Pn	00 09 23.1	-0.6
RCPN	Sur Rio San Ju	1.71	78	P	Pn	00 09 23.0	-0.6
APQ2	Apoyeque	1.74	124	P	Pn	00 09 23.2	-0.6
APQ2	Apoyeque	1.74	124	P	Pn	00 09 24.0	+0.2
APQ2				S	Sn	00 09 51.5	-0.3
TISN	Laguna Tiscapa	1.81	124	P	Pn	00 09 24.4	-0.2
TISN	Laguna Tiscapa	1.81	124	P	Pn	00 09 24.8	+0.1
TISN	Laguna Tiscapa	1.81	124	P	Pn	00 09 24.7	+0.1
USIM	UNAN	1.82	125		Pn	00 09 23.9	-0.8
MGAN	Managua	1.83	124		Pn	00 09 23.7	-1.0
MGAN	Managua	1.83	124	P	Pn	00 09 24.5	-0.2
MGAN				S	Sn	00 09 51.7	-1.7
MGAN	Managua	1.83	124	P		00 09 24.5	
MGAN				S		00 09 51.7	
UNIC	Universidad Ca	1.88	296	P	Pn	00 09 25.1	-0.1
UNIC	Universidad Ca	1.88	296	P	Pn	00 09 25.2	-0.1
SNJE	San Jose	1.88	292	eP	Pn	00 09 25.6	+0.1
CRUN	El Crucero	1.88	129	P	Pn	00 09 20.3	-5.1
CRUN	El Crucero	1.88	129	P	Pn	00 09 20.4	-5.1
CRUN	El Crucero	1.88	129	P	Pn	00 09 20.3	-5.1
CEVE	Cerro Verde	1.89	291	iP	Pn	00 09 25.4	-0.1
CEVE	Cerro Verde	1.89	291	P	Pn	00 09 25.7	+0.1
CEVE	Cerro Verde	1.89	291	P	Pn	00 09 25.6	+0.1
CEVE	Cerro Verde	1.89	291	P	Pn	00 09 26.0	+0.4
CEVE	Cerro Verde	1.89	291	S	Sn	00 09 50.4	-4.4
SBLS	San Blas	1.89	291	eP	Pn	00 09 25.6	0.0
MTO3	Montecristo	1.94	309		Pn	00 09 26.4	+0.4
MTO3	Montecristo	1.94	309	iP	Pn	00 09 26.3	+0.2
MTO3	Montecristo	1.94	309	P	Pn	00 09 26.4	+0.4
MTO3	Montecristo	1.94	309	P	Pn	00 09 26.5	+0.4
MTO3	Montecristo	1.94	309	P	Pn	00 09 26.5	+0.4
MTO3	Montecristo	1.94	309	iP		00 09 26.4	
ESQI	Esquipulas	2.03	313		Pn	00 09 27.6	+0.7
ESQI	Esquipulas	2.03	313	iP	Pn	00 09 27.6	+0.7
ESQI				eS	Sn	00 09 56.7	-0.7
ESQI	Esquipulas	2.03	313	P	Pn	00 09 27.8	+0.9
NUBE	Las Nubes	2.05	291	iP	Pn	00 09 26.9	-0.2
NUBE	Las Nubes	2.05	291	P	Pn	00 09 27.1	0.0
NUBE	Las Nubes	2.05	291	P	Pn	00 09 27.2	0.0
NUBE	Las Nubes	2.05	291	P	Pn	00 09 27.2	0.0
NUBE	Las Nubes	2.05	291	iP		00 09 27.0	
NUBE				eS		00 09 57.2	
LOAL	Lomas de Alarc	2.09	293	P	Pn	00 09 27.8	+0.4
LOAL	Lomas de Alarc	2.09	293	P	Pn	00 09 25.9	-1.5
SLOZ	Alcaldia de Sa	2.10	294	eP	Pn	00 09 27.7	+0.2
SLOZ	Alcaldia de Sa	2.10	294	P	Pn	00 09 28.0	+0.4
SLOZ	Alcaldia de Sa	2.10	294	P	Pn	00 09 27.9	+0.4
NISHN	Nisperales Com	2.59	358	P	Pn	00 09 33.4	+0.5
NISHN	Nisperales Com	2.59	358	P	Pn	00 09 33.2	+0.3
NISHN	Nisperales Com	2.59	358	iP		00 09 33.2	
ACON	Acoyapa	2.83	115		Pn	00 09 35.0	-0.5
ACON	Acoyapa	2.83	115	P	Pn	00 09 35.6	0.0
ACON				S	Sn	00 10 09.7	-3.2
ACON	Acoyapa	2.83	115	P		00 09 35.6	
ACON				S		00 10 09.7	
GCG4	OSOP	3.00	298	iP		00 09 38.6	
ESSG	Sabana Grande	3.18	293	eP		00 09 39.8	
ESSG				eS		00 10 18.9	
ALIBA	Liberia Airpor	3.38	139	eP	Pn	00 09 44.0	+1.8
ESPN	Las Esperanzas	3.56	105		Pn	00 09 44.4	+0.1
ESPN	Las Esperanzas	3.56	105	P	Pn	00 09 44.3	+0.1
ESPN				S	Sn	00 10 26.6	-1.7
ESPN	Las Esperanzas	3.56	105	P		00 09 44.3	
ESPN				S		00 10 26.6	
COLC	Colonia	3.56	134	eP	Pn	00 09 45.5	+1.1
CUI	Cuipilapa	3.59	134	eP	Pn	00 09 45.9	+1.2
SACU	Santa Cruz	3.62	143	eP	Pn	00 09 46.2	+1.2
BAGA	Bagaces	3.62	136	eP	Pn	00 09 46.0	+1.1
PLVR	Palo Verde	3.69	139	eP	Pn	00 09 47.3	+1.2
NICO	Nicoya	3.80	142	eP	Pn	00 09 48.4	+1.2
QUIS	Sacapulas	3.82	304	eP		00 09 49.3	
SOKI	Kika Raxquin	3.86	296	eP		00 09 49.3	
SOKI				eS		00 10 37.0	
INDI	Punta indio, G	3.98	145	P	Pn	00 09 50.6	+1.1
INDI	Punta indio, G	3.98	145	P	Pn	00 09 50.8	+1.4
JTS	Las Juntas de	4.00	135	Pn	Pn	00 09 50.0	+0.3
JTS	Las Juntas de	4.00	135	P	Pn	00 09 50.4	+0.7
	comp=Z,62nm,0.3s,baz=336,slow=5.1,SNR=93						
JTS				S	Sn	00 10 34.8	-3.5
	comp=Z,409nm,0.3s,baz=285,slow=21,SNR=21						
JTS	Las Juntas de	4.00	135	P	Pn	00 09 50.8	+1.1
JTS				S	Sn	00 10 30.9	-7.4
JTS	Las Juntas de	4.00	135	eP	Pn	00 09 50.4	+0.7
JTS	Las Juntas de	4.00	135	P		00 09 50.8	
JTS				S		00 10 30.9	
JUNT	Juntas	4.00	136	eP	Pn	00 09 51.1	+1.4
RTAL	Retalhuleu	4.01	290		Pn	00 09 51.4	+1.6
CEDE	Laguna Cedeo	4.04	131	eP	Pn	00 09 52.4	+2.2
ARE1	Arenal 1	4.05	131	eP	Pn	00 09 52.4	+2.1
BLUN	Bluefields	4.10	106	P	Pn	00 09 51.0	+0.1
BLUN	Bluefields	4.10	106	P		00 09 51.0	
HUEH	Huehuetenango	4.17	301		Pn	00 09 53.5	+1.5
SOCE	Pocosol	4.17	131		Pn	00 09 53.0	+1.1
SOCE	Pocosol	4.17	131	P	Pn	00 09 53.2	+1.3
PETF	Flores	4.22	332		Pn	00 09 53.9	+1.5
HDC	Heredia	4.79	131		Pn	00 09 59.9	0.0
HDC	Heredia	4.79	131	eP	Pn	00 09 59.0	-0.9
CVTG	V. Turrialba,	4.96	127	eP	Pn	00 10 02.8	+1.0
ABE2	San Pablo	5.04	133	eP	Pn	00 10 04.6	+1.6
LCR2	La Lucha 2	5.05	132	eP	Pn	00 10 04.9	+1.8
RAFA	San Farael, Vo	5.05	129	P	Pn	00 10 05.7	+2.4
CCIG	Comitan	5.21	307		Pn	00 10 06.2	+1.1
EDPE	Pejibaye, P	5.76	133	eP	Pn	00 10 14.3	+2.3
BRU2	Volcan	6.64	130		Pn	00 10 23.8	+0.2
TEIG	Tepich	7.03	356	Pn	Pn	00 10 28.9	+0.5
TEIG	Tepich	7.03	356	P	Pn	00 10 29.3	+0.9
	comp=Z,0.1nm,0.4s,baz=161,slow=24,SNR=34						
TEIG	Tepich	7.03	356	P	Pn	00 10 28.8	+0.3
	comp=Z,569nm,0.8s						
TEIG	Tepich	7.03	356	P		00 10 28.8	
	comp=Z,569nm,0.8s						
MTDJ	Mount Denham	11.09	62	Pn	P	00 11 24.4	-3.0
MTDJ	Mount Denham	11.09	62	eP	P	00 11 29.6	+2.2
TLIG	Tlapa	11.26	294	Pn	Pn	00 11 24.7	+1.3
STH	Stony Hill	11.66	64	eP	P	00 11 35.7	+2.1
APAC	Apartado, Choc	12.21	114	P	Pn	00 11 37.0	+1.5
	comp=Z,89nm,1.0s						
APAC	Apartado, Choc	12.21	114	P		00 11 37.0	
	comp=Z,89nm,1.0s						
LMGC	Las Mercedes	12.41	55	eP	P	00 11 43.5	+1.6
SJCC	San Jacinto, C	12.79	103	P	P	00 11 48.4	+2.1
SJCC	San Jacinto, C	12.79	103	P		00 11 48.4	
CHIV	Chivirico	12.84	57	Pn	Pn	00 11 44.4	+1.1
CHIV	Chivirico	12.84	57	eP	P	00 11 48.3	+1.6
DBBC	Dabeiba	12.95	117	P	P	00 11 48.6	+0.6
DBBC	Dabeiba	12.95	117	P		00 11 48.6	
UREC	San Jos de Ur	13.21	113	P	Pn	00 11 48.5	+0.5
	comp=Z,57nm,1.4s						
UREC	San Jos de Ur	13.21	113	P		00 11 48.5	
	comp=Z,57nm,1.4s						
SMRC	Santa Marta, M	13.43	97	P	P	00 11 54.3	+1.0
RCC	Rio Carpintero	13.44	58	eP	P	00 11 53.8	+0.4
HLGC	Holguin	13.60	54	eP	P	00 11 56.4	+1.2
CBOC	Ciudad Bolivar	13.71	121	P	Pn	00 11 54.5	+0.2
	comp=Z,25nm,0.8s						
CBOC	Ciudad Bolivar	13.71	121	P		00 11 54.5	
	comp=Z,25nm,0.8s						
GTBY	Guantanamo Bay	13.90	59		P	00 12 00.6	+2.2
GTBY	Guantanamo Bay	13.90	59	eP	P	00 12 00.4	+2.0
GTBY	Guantanamo Bay	13.90	59	P	Pn	00 11 57.4	+0.9
	comp=Z,154nm,1.0s						
GTBY	Guantanamo Bay	13.90	59	P		00 11 57.4	
	comp=Z,154nm,1.0s						
ZARC	Zaragoza, Cauc	13.93	113	P	P	00 11 58.2	-0.7
	comp=Z,3μmcomp=Z,138nm,0.9s						
ZARC	Zaragoza, Cauc	13.93	113	P		00 11 58.2	
	comp=Z,3μmcomp=Z,138nm,0.9s						
PLMC	San Jos del P	14.03	125	P	P	00 11 59.6	-0.4
	comp=Z,45nm,0.9s						
PLMC	San Jos del P	14.03	125	P		00 11 59.6	
	comp=Z,45nm,0.9s						
061Z	Ochoppi	14.20	26	P	P	00 12 03.7	+1.9
QMBU	Quimbuelo	14.27	59

SDDR Presa de Saban 16.89 68 P 00 12 32.8
comp=Z,56nm,1.0s
PIAT Ana Tenorio 16.96 145 P **Pn 00 12 37.0 +2.9**
PIAT Ana Tenorio 16.96 145 P 00 12 37.0
TAMC Tame, Arauca 17.13 111 P **P 00 12 34.3 0.0**
comp=Z,3µmcomp=Z,80nm,0.7s
TAMC Tame, Arauca 17.13 111 P 00 12 34.3
comp=Z,3µmcomp=Z,80nm,0.7s
HBVL Hebbronville 17.16 325 Pn **Pn 00 12 37.4 +1.5**
HBVL IAmb IAmb 00 12 39.5
comp=Z,25nm,0.9s
553A Crawfordville 17.22 10 P **Pn 00 12 36.8 +0.2**
SDV Santo Domingo 17.38 102 P **Pn 00 12 38.1 -0.7**
SDV Santo Domingo 17.38 102 P **P 00 12 37.0 -0.2**
comp=Z,123nm,0.7s,baz=280,slow=4.5,SNR=57
SDV Santo Domingo 17.38 102 P **P 00 12 37.9 +0.7**
comp=Z,187nm,0.8s
SDV Santo Domingo 17.38 102 P 00 12 37.9
comp=Z,187nm,0.8s
451A Vernon 17.47 6 P **Pn 00 12 39.8 +0.3**
SC01 Santiago de lo 17.53 67 P **P 00 12 38.9 +0.4**
BANI BANI 17.57 71 P **Pn 00 12 40.6 -0.4**
BANI IAmb IAmb 00 12 48.4
comp=Z,51nm,0.8s
MACC Macarena, Meta 17.63 127 P **P 00 12 40.2 +0.5**
comp=Z,32nm,0.8s
MACC Macarena, Meta 17.63 127 P 00 12 40.2
comp=Z,32nm,0.8s
COHC Cochancay 17.70 151 P 00 12 42.5
comp=Z,8.3nm,1.1s
COHC Cochancay 17.70 151 P **Pn 00 12 42.5 +0.1**
comp=Z,8.3nm,1.1s
BRAL Brewton 17.93 2 P **Pn 00 12 44.7 -0.2**
GRTK Grand Turk 17.94 60 P **Pn 00 12 44.1 -1.0**
GRTK Grand Turk 17.94 60 eP **Pn 00 12 44.6 -0.5**
SDD Santo Domingo 18.00 71 P **P 00 12 43.0 -0.6**
441A DeRidder 18.19 345 P **P 00 12 46.6 +1.0**
346A Big Creek Wild 18.20 355 P **Pn 00 12 48.3 +0.3**
PTLC Puerto Leguiza 18.25 134 P **Pn 00 12 50.4 +1.6**
comp=Z,653nmcomp=Z,30nm,0.8s
PTLC Puerto Leguiza 18.25 134 P 00 12 50.4
comp=Z,653nmcomp=Z,30nm,0.8s
HKT Hockley 18.28 337 P **P 00 12 47.6 +1.1**
HKT IAmb IAmb 00 12 51.7
comp=Z,39nm,1.0s
352A Blakely 18.42 8 P **Pn 00 12 49.7 -0.9**
HATO Hato, Curacao 18.42 91 P **P 00 12 47.1 -1.1**
DR12 Loma Pena Alta 18.57 70 P **P 00 12 50.5 +0.6**
DR12 IAmb IAmb 00 12 56.1
comp=Z,81nm,1.2s
TIGA Tifton 18.59 11 P **Pn 00 12 51.7 -1.0**
MLDN Muldoon 18.63 334 P **Pn 00 12 52.4 -0.7**
MLDN IAmb IAmb 00 12 53.7
comp=Z,59nm,1.1s
250A Grady 18.77 4 P **P 00 12 53.2 +1.3**
250A IAmb IAmb 00 12 55.5
comp=Z,42nm,0.9s
HNVL Huntsville, TX 18.88 339 P **P 00 12 54.2 +1.1**
HNVL IAmb IAmb 00 12 56.8
comp=Z,84nm,1.0s
MCRA Macar, Loja 19.09 155 P **P 00 12 56.9 +1.4**
MCRA Macar, Loja 19.09 155 P 00 12 56.9
VBMS Vicksburg 19.12 353 P **Pn 00 12 57.8 -1.2**
VBMS IAmb IAmb 00 13 01.5
comp=Z,46nm,0.7s
146A Union 19.41 357 P **P 00 12 59.7 +0.9**
146A IAmb IAmb 00 13 04.2
comp=Z,60nm,0.9s
HNDO Hondo 19.45 329 P **P 00 12 59.7 +0.5**
NATX Nacogdoches 19.55 342 P **P 00 13 01.9 +1.7**
NATX IAmb IAmb 00 13 06.5
comp=Z,49nm,0.6s
152A Waverly Hall 19.62 8 P **P 00 13 02.3 +1.4**
435B Jarrell 19.72 334 P **P 00 13 03.4 +1.3**
435B IAmb IAmb 00 13 11.3
comp=Z,45nm,0.8s
143A Socs Landing, 19.72 351 P **P 00 13 03.7 +1.6**
143A IAmb IAmb 00 13 06.3
comp=Z,47nm,0.9s
LRAL Lakeview Retre 19.79 2 P **P 00 13 03.8 +0.9**
154A Montrose 19.83 12 P **P 00 13 04.6 +1.3**
BAUV El Baul 19.84 100 P **P 00 13 03.0 -0.6**
Z47A Carrollton 19.94 359 P **P 00 13 06.3 +1.9**
Z47A IAmb IAmb 00 13 08.7
comp=Z,58nm,0.8s
DRIO Del Rio 20.07 326 P Pn 00 13 08.3 -2.2
DRIO IAmb IAmb 00 13 10.1
comp=Z,26nm,0.8s
JCT Junction City 20.48 329 P **P 00 13 12.2 +1.8**
Z41A Richland Creek 20.51 348 P **P 00 13 10.9 +0.4**
MLPR Magueyes Islan 20.56 74 P **P 00 13 11.1 -0.1**
MLPR IAmb IAmb 00 13 12.9
comp=Z,48nm,0.8s
Y49A Blount Mountai 20.64 3 P **P 00 13 12.6 +0.7**
Y45A Yeager Farm, C 20.66 356 P **P 00 13 13.4 +1.3**
Y45A IAmb IAmb 00 13 15.6
comp=Z,56nm,0.8s
WHTX Lake Whitney, 20.72 336 IAmb IAmb 00 13 16.5
comp=Z,52nm,0.8s
BRDY Brady 20.77 332 IAmb IAmb 00 13 16.7
comp=Z,31nm,1.1s
Y52A Lilburn 20.88 9 P **P 00 13 15.5 +1.1**
TREL Terrell 20.89 340 P **P 00 13 16.2 +1.6**
TREL IAmb IAmb 00 13 18.6
comp=Z,84nm,1.2s
AOPR Arecibo Observ 20.90 73 P **P 00 13 14.5 -0.4**
AOPR IAmb IAmb 00 13 17.5
comp=Z,77nm,1.3s
UUPR Utuado, UPR, P 20.91 73 P **P 00 13 14.9 -0.1**
UUPR IAmb IAmb 00 13 17.4
comp=Z,52nm,0.7s
FW16 Waxahatchie 20.95 338 P **P 00 13 16.9 +1.7**
FW16 IAmb IAmb 00 13 19.0
comp=Z,71nm,0.9s
CCAR Cane Creek 20.97 351 P **P 00 13 16.7 +1.3**
CCAR IAmb IAmb 00 13 20.1
comp=Z,36nm,0.9s
OBIP Obispado Ponce 20.98 74 P **P 00 13 15.4 -0.3**
OBIP IAmb IAmb 00 13 38.7
comp=Z,42nm,1.1s
FW14 Alvarado 20.98 337 P **P 00 13 16.6 +1.0**
WLAR White Oak Lake 20.99 348 P **P 00 13 16.9 +1.4**
FW13 Cleburne 21.03 337 IAmb IAmb 00 13 21.0
comp=Z,59nm,0.7s
Z38A Mt. Pleasant 21.05 343 P **P 00 13 17.0 +0.9**
X48A Hartselle 21.20 2 P **P 00 13 18.4 +0.6**
X48A IAmb IAmb 00 13 26.5
comp=Z,19nm,0.7s
SAND Sanderson 21.32 324 P **P 00 13 20.2 +1.0**
FPAL Fort Paine 21.37 5 P **P 00 13 19.6 0.0**
FPAL IAmb IAmb 00 13 22.3
comp=Z,20nm,0.7s
SJG San Juan 21.42 74 P **P 00 13 20.2 0.0**
SJG IAmb IAmb 00 13 25.1
comp=Z,21nm,0.7s
SJG San Juan 21.42 74 P **P 00 13 19.9 -0.3**
comp=Z,14nm,0.5s,baz=234,slow=8.4,SNR=16
comp=Z,14nm,0.5s
IGPR InterUniversit 21.43 74 P **P 00 13 20.7 +0.3**
IGPR IAmb IAmb 00 13 24.6
comp=Z,32nm,0.8s
X51A Calhoun 21.47 7 P **P 00 13 21.2 +0.6**
X51A IAmb IAmb 00 13 24.1
comp=Z,48nm,1.1s
FW07 Weatherford 21.48 336 P **P 00 13 21.6 +0.8**
FW07 IAmb IAmb 00 13 23.4
comp=Z,80nm,1.0s
OZNA Ozona 21.52 327 P **P 00 13 22.5 +1.3**
OZNA IAmb IAmb 00 14 00.7
comp=Z,34nm,1.5s
PDPR Patillas Dam, 21.52 74 P **P 00 13 21.1 -0.2**
HODGE Hodges 21.57 13 P **P 00 13 22.4 +0.9**
HPIG 21.62 312 P **P 00 13 24.0 +1.6**
FW06 Azle 21.63 337 P **P 00 13 23.0 +0.7**
FW06 IAmb IAmb 00 13 25.8
comp=Z,76nm,1.0s
HUMP Col San Antoni 21.71 74 P **P 00 13 23.3 +0.1**
HUMP IAmb IAmb 00 13 26.4
comp=Z,30nm,0.9s
X40A Basin Creek Fa 21.71 349 P **P 00 13 24.2 +1.2**
PLAL Pickwick Lake 21.72 359 P **P 00 13 23.1 0.0**
PLAL IAmb IAmb 00 13 24.3
comp=Z,41nm,1.3s
PLPT Palo Pinto 21.79 336 P **P 00 13 24.5 +0.7**
PLPT IAmb IAmb 00 13 27.1
comp=Z,67nm,0.8s
TXAR Lajitas Array 21.80 320 P **P 00 13 25.4 +1.3**
TXAR Lajitas Array 21.80 320 P **P 00 13 25.4 +1.3**
comp=Z,10nm,0.8s,baz=141,slow=9.3,SNR=57
TXAR PP **pP 00 14 02.4 +3.6**
comp=Z,4.0nm,0.9s,baz=139,slow=9.7,SNR=7.6
TXAR PcP **PcP 00 17 17.3 +1.1**
comp=Z,0.5nm,0.7s,baz=150,slow=5.4,SNR=3.7
TXAR ScP **ScP 00 20 33.6 -0.8**
comp=Z,0.6nm,0.5s,baz=115,slow=3.5,SNR=9.1
comp=Z,10nm,0.8s
TX31 Lajitas Ar. Si 21.80 320 P **P 00 13 25.7 +1.5**
Y57A Sumter 21.82 17 P **P 00 13 24.9 +0.8**
Z35A Perchaven, San 21.84 338 P **P 00 13 25.3 +1.0**
Z35A IAmb IAmb 00 13 28.4
comp=Z,59nm,0.7s
JSC Jenkinsville 21.84 15 P **P 00 13 25.3 +1.0**
FW03 Perrin-Whitt E 21.89 336 P **P 00 13 25.8 +1.0**
FW03 IAmb IAmb 00 13 28.1
comp=Z,50nm,0.8s
UALR University of 21.90 350 P **P 00 13 25.3 +0.4**
UALR IAmb IAmb 00 13 26.6
comp=Z,43nm,0.9s
Y58A Scranton 21.93 18 P **P 00 13 25.8 +0.6**
Y58A IAmb IAmb 00 13 28.1
comp=Z,64nm,0.8s
W50A Signal Mountai 22.05 5 P **P 00 13 26.8 +0.4**
W52A Murphy 22.11 8 P **P 00 13 28.0 +1.1**
W52A IAmb IAmb 00 13 28.8
comp=Z,34nm,0.9s
BG3 Lake Jocassee 22.17 11 P **P 00 13 28.6 +1.0**
ABTX Abilene, Hawle 22.19 333 P **P 00 13 28.7 +1.0**
ABTX IAmb IAmb 00 13 30.8
comp=Z,31nm,1.0s
PAULI Pauline 22.23 13 P **P 00 13 29.1 +1.0**
SGCY Sterling City 22.31 329 P **P 00 13 29.6 +0.7**
SGCY IAmb IAmb 00 13 31.0
comp=Z,26nm,1.1s
CPCT Cooper Cave 22.38 7 P **P 00 13 29.8 +0.4**
CPCT IAmb IAmb 00 13 32.6
comp=Z,59nm,0.8s
BIRD Birdtown, Kers 22.39 16 P **P 00 13 30.0 +0.4**
WHAR Wooly Hollow 22.39 350 P **P 00 13 29.6 0.0**
WHAR IAmb IAmb 00 13 31.1
comp=Z,36nm,0.8s
HBAR Harrisburg 22.44 354 P **P 00 13 30.5 +0.6**
V48A Smith Brothers 22.49 2 P **P 00 13 30.3 -0.1**
V48A IAmb IAmb 00 13 33.4
comp=Z,27nm,0.7s
Y60A Bolivia 22.50 21 P **P 00 13 31.5 +1.0**
ALPN Alpine 22.52 322 P **P 00 13 31.6 +0.6**
X58A Rowland 22.64 18 P **P 00 13 32.6 +0.9**
KMSC Kings Mountain 22.65 14 P **P 00 13 32.5 +0.6**
WTFS Witchita Falls 22.68 336 P **P 00 13 33.5 +1.3**
TKL Tuckaleechee C 22.69 9 P **P 00 13 33.4 +1.2**
TKL Tuckaleechee C 22.69 9 P **P 00 13 32.9 +0.7**
comp=Z,111nm,0.8s,baz=185,slow=11,SNR=70
MNHN Monahans 22.73 325 P **P 00 13 34.5 +1.9**
MNHN IAmb IAmb 00 13 35.4
comp=Z,51nm,0.8s
GNAR Gosnell 22.79 355 P **P 00 13 33.2 +0.2**
GNAR IAmb IAmb 00 13 35.3
comp=Z,69nm,1.0s
WVT Waverly 22.86 360 P **P 00 13 33.7 -0.1**
PCRV Puerto La Cruz 22.88 95 P **P 00 13 34.9 +0.7**
comp=Z,22nm,0.5s,baz=182,slow=4.7,SNR=18
comp=Z,22nm,0.5s
LNXT Lenox 22.89 356 P **P 00 13 34.1 +0.2**
FCAR Ozark Folk Cen 22.96 351 IAmb IAmb 00 13 36.3
comp=Z,30nm,0.7s
APMT Aspermont 23.00 333 P **P 00 13 36.1 +1.1**
LCAR Lake Charles 23.00 353 IAmb IAmb 00 13 35.9
comp=Z,39nm,0.6s
GLAT Glass 23.04 357 P **P 00 13 36.4 +1.0**
UTMT University of 23.09 358 P **P 00 13 36.2 +0.4**
UTMT IAmb IAmb 00 13 37.5
comp=Z,48nm,0.7s
U49A Red Boiling Sp 23.32 4 IAmb IAmb 00 13 40.7
comp=Z,65nm,1.2s
V55A Taylorsville 23.35 14 P **P 00 13 39.4 +1.2**
W35A Tecumseh 23.37 341 IAmb IAmb 00 13 41.2
comp=Z,31nm,0.7s
PECS Pecos 23.38 323 P **P 00 13 40.2 +1.6**
POST Post 23.42 330 IAmb IAmb 00 13 42.0
comp=Z,22nm,0.7s
PARMO Parma 23.46 356 P **P 00 13 39.6 +0.5**
W59A Clinton 23.48 20 P **P 00 13 40.3 +0.9**
W59A IAmb IAmb 00 13 41.4
comp=Z,31nm,0.8s
PBMO Poplar Bluff 23.63 355 IAmb IAmb 00 13 42.7
comp=Z,41nm,0.6s
VHRN Van Horn 23.63 321 P **P 00 13 41.7 +0.7**
FNO Franklin 23.64 340 P **P 00 13 41.5 +0.6**
DKNS Dickens 23.64 332 P **P 00 13 42.4 +1.4**
DKNS IAmb IAmb 00 13 45.3
comp=Z,16nm,0.7s
WMOK Wichita Mounta 23.66 337 IAmb IAmb 00 13 44.0
comp=Z,73nm,1.4s
HHAR Hobbs 23.67 348 IAmb IAmb 00 13 44.4
comp=Z,17nm,0.6s
DEOK Depew 23.90 342 IAmb IAmb 00 13 44.1
comp=Z,35nm,0.7s
T50A Nancy 23.90 6 IAmb IAmb 00 13 46.5
comp=Z,19nm,0.6s
U38A Gravette 23.91 347 P **P 00 13 43.6 +0.3**
U38A IAmb IAmb 00 13 44.7
comp=Z,27nm,1.0s
U56A King 24.03 15 P **P 00 13 45.7 +1.4**
CGM3 Cape Girardeau 24.09 356 IAmb IAmb 00 13 45.9
comp=Z,22nm,0.7s
MGMO Mountain Grove 24.22 351 IAmb IAmb 00 13 47.4
comp=Z,33nm,1.1s
QUOK Quay 24.27 342 IAmb IAmb 00 13 48.0
comp=Z,50nm,0.8s
S44A Carbondale 24.46 357 IAmb IAmb 00 13 49.5
comp=Z,53nm,0.9s
SIUC Southern Illin 24.48 357 IAmb IAmb 00 13 49.6
comp=Z,51nm,0.8s
SMWD Samnorwood 24.57 335 P **P 00 13 50.2 +0.9**
S51A Beattyville 24.66 8 IAmb IAmb 00 13 53.6
comp=Z,32nm,0.7s
V61A Roper 24.70 22 P **P 00 13 51.1 +0.8**
MSTX Muleshoe 24.78 329 P **P 00 13 51.9 +0.6**
MSTX IAmb IAmb 00 13 53.2
comp=Z,32nm,0.7s
FVM French Village 24.82 355 P **P 00 13 50.9 -0.6**
BLA Blacksburg 24.84 14 P **P 00 13 52.1 +0.4**
BLA IAmb IAmb 00 13 54.1
comp=Z,37nm,0.8s
T35A Sooner Cattle 24.90 343 P **P 00 13 52.9 +0.6**
T35A IAmb IAmb 00 13 56.6
comp=Z,30nm,0.7s
T57A Hurt 24.94 16 P **P 00 13 53.1 +0.5**
T57A IAmb IAmb 00 13 54.7
comp=Z,50nm,0.8s
BLOK Blackwell 24.96 342 P **P 00 13 53.5 +0.7**
BLOK IAmb IAmb 00 13 53.9
comp=Z,16nm,0.7s
CROK Carrier 24.97 340 IAmb IAmb 00 13 56.0
comp=Z,33nm,0.6s
CCM Cathedral Cave 24.98 354 P **P 00 13 53.2 +0.3**
CCM IAmb IAmb 00 13 53.8
comp=Z,40nm,0.8s
WCI Wyandotte Cave 25.00 3 P **P 00 13 53.1 +0.1**
AMTX Amarillo 25.00 332 P **P 00 13 54.3 +1.0**
AMTX IAmb IAmb 00 13 58.0
comp=Z,31nm,0.8s
ELIS Ellis County 25.08 337 P **P 00 13 54.9 +1.0**
R49A Shelbyville 25.13 5 IAmb IAmb 00 13 55.2
comp=Z,20nm,0.5s
R50A Paris 25.20 6 P **P 00 13 55.3 +0.4**
R50A IAmb IAmb 00 13 56.5
comp=Z,20nm,1.0s
OK038 West end E0370 25.20 339 P **P 00 13 55.5 +0.5**
OK038 IAmb IAmb 00 13 56.3
comp=Z,35nm,0.7s
S54A Dingess, Beckl 25.20 12 P **P 00 13 56.0 +0.9**
S54A IAmb IAmb 00 13 58.6
comp=Z,76nm,1.5s
EPT El Paso 25.25 320 P **P 00 13 56.2 +0.6**
KAN13 South Haven SW 25.27 342 IAmb IAmb 00 14 01.4
comp=Z,15nm,0.8s
R40A Maddies Statio 25.33 352 IAmb IAmb 00 13 56.9
comp=Z,29nm,0.6s
RCRC Randolf Colleg 25.34 16 P **P 00 13 57.0 +0.8**
GDHS Morne Mazeau, 25.37 80 P **P 00 13 57.7 +0.9**
KAN14 Manchester OK 25.38 341 IAmb IAmb 00 13 57.4
comp=Z,33nm,1.1s
KAN17 Caldwell West 25.39 341 IAmb IAmb 00 14 00.3
comp=Z,34nm,0.7s
NOKA Waynoka 25.41 339 P **P 00 13 57.9 +1.0**
T59A Double "B" Far 25.42 19 P **P 00 13 57.6 +0.7**
T59A IAmb IAmb 00 13 59.0
comp=Z,36nm,0.8s
KAN09 Caldwell North 25.43 342 IAmb IAmb 00 13 58.0
comp=Z,21nm,0.8s
OLIL Olney 25.46 359 IAmb IAmb 00 13 58.5
comp=Z,47nm,0.8s
TDBA Terre de Bas, 25.47 81 P **P 00 13 56.3 -1.3**
KAN05 Bluff City Nor 25.49 341 P **P 00 13 57.5 0.0**
KAN05 IAmb IAmb 00 14 01.7
comp=Z,38nm,0.8s
KAN01 Argonia South 25.49 341 P **P 00 13 57.3 -0.3**
KAN01 IAmb IAmb 00 14 01.3
comp=Z,29nm,0.8s
CZSB Cruzeiro do Su 25.61 143 P **P 00 14 01.2 +2.3**
CZSB Cruzeiro do Su 25.61 143 eP **P 00 14 02.1 +3.2**
KAN08 Anthony NE Sta 25.63 341 IAmb IAmb 00 14 02.6
comp=Z,35nm,0.6s
Q44A Meyer Farm, Va 25.66 358 P **P 00 13 59.0 +0.1**
KAN12 Harper NE Stat 25.70 341 IAmb IAmb 00 14 03.8
comp=Z,40nm,0.9s
S57A Dark Hollow, R 25.73 16 P **P 00 14 00.4 +0.7**
S57A IAmb IAmb 00 14 01.1
comp=Z,12nm,0.7s
SSFO Shawnee State 25.75 8 P **P 00 14 00.2 +0.3**
SSFO IAmb IAmb 00 14 03.9
comp=Z,15nm,0.5s
BLO Bloomington 25.93 2 P **P 00 14 01.4 -0.1**
BLO IAmb IAmb 00 14 02.3
comp=Z,28nm,0.9s
R55A Marlinton 25.93 14 P **P 00 14 02.1 +0.6**
Q51A Peebles 26.06 8 P **P 00 14 03.1 +0.5**
Q52A Bidwell 26.16 10 P **P 00 14 03.6 +0.1**
MPOM Morne Pois Mar 26.20 84 P **P 00 14 03.8 -0.3**
R58B Mineral 26.23 18 P **P 00 14 04.9 +0.7**
R58B IAmb IAmb 00 14 06.4
comp=Z,26nm,0.8s
P48A Milroy 26.27 4 P **P 00 14 03.9 -0.7**
P48A IAmb IAmb 00 14 04.7
comp=Z,25nm,0.6s
P46A Rosedale 26.35 1 P **P 00 14 04.7 -0.5**
P46A IAmb IAmb 00 14 06.0
comp=Z,21nm,0.7s
P49A Miami Univ. Ec 26.40 5 P **P 00 14 05.2 -0.6**
P49A IAmb IAmb 00 14 06.3
comp=Z,20nm,0.6s
P43A Skaggs, Pawnee 26.41 357 P **P 00 14 05.9 +0.1**
P43A IAmb IAmb 00 14 06.8
comp=Z,15nm,1.0s
Q54A Coxs Mills 26.44 12 P **P 00 14 06.6 +0.5**
P40A Paris 26.52 353 P **P 00 14 06.1 -0.7**
P40A IAmb IAmb 00 14 07.5
comp=Z,19nm,1.2s
121A Cookes Peak, D 26.57 320 P **P 00 14 09.0 +1.5**
121A IAmb IAmb 00 14 52.1
comp=Z,22nm,1.1s
CBN Corbin Frederi 26.61 19 P **P 00 14 08.2 +0.7**
S61A Accomac 26.70 22 P **P 00 14 09.2 +0.8**
RTBA Rita Blanca 26.77 333 P **P 00 14 10.3 +1.1**
RTBA IAmb IAmb 00 14 15.0
comp=Z,16nm,0.9s
RTBA **pP 00 14 51.6 +1.5**
319A Douglas 26.80 316 P **P 00 14 12.1 +2.5**
P53A Whipple 26.82 11 P **P 00 14 10.1 +0.6**
P38A Dawn 26.83 350 P **P 00 14 09.5 0.0**
P52A Corning 26.83 10 P **P 00 14 10.0 +0.5**
Q56A Snyder Ridge, 26.88 15 P **P 00 14 10.5 +0.5**
CRNM Carthage 26.91 323 P **P 00 14 12.6 +2.1**
R32A Long Quarter, 26.95 341 P **P 00 14 11.2 +0.5**
R32A IAmb IAmb 00 14 12.1
comp=Z,22nm,0.6s
KSU1 Kansas State U 26.98 345 P **P 00 14 10.9 0.0**
KSU1 IAmb IAmb 00 14 12.2
comp=Z,59nm,1.1s
BNM Barren Site 26.99 324 **P 00 14 12.9 +1.6**
O48B Farmland 27.09 4 P **P 00 14 10.9 -0.9**
O48B IAmb IAmb 00 14 12.3
comp=Z,24nm,0.6s
O49A Covington 27.09 6 P **P 00 14 11.2 -0.7**
O49A IAmb IAmb 00 14 12.8
comp=Z,34nm,0.7s
SFIN Lafayette 27.11 1 P **P 00 14 11.5 -0.5**
SFIN IAmb IAmb 00 14 12.5
comp=Z,24nm,0.7s
ACSO Alum Creek Sta 27.29 8 P **P 00 14 14.2 +0.6**
ACSO IAmb IAmb 00 14 15.1
comp=Z,46nm,0.9s
MCWV Mont Chateau 27.31 13 P **P 00 14 14.5 +0.7**
HDIL Hopedale 27.31 358 P **P 00 14 13.6 -0.3**
HDIL IAmb IAmb 00 14 14.7
comp=Z,26nm,0.7s
O52A Adamsville 27.35 10 P **P 00 14 14.7 +0.6**
ANMO Albuquerque 27.47 325 P **P 00 14 17.2 +1.6**
N41A Harden Midland 27.57 355 P **P 00 14 15.4 -0.6**
N41A IAmb IAmb 00 14 16.4
comp=Z,20nm,0.7s
O53A New Philadelph 27.59 11 P **P 00 14 16.9 +0.6**
P57A Homestead Farm 27.60 17 P **P 00 14 17.5 +1.1**
CBKS Cedar Bluff 27.65 340 P **P 00 14 17.4 +0.5**
CBKS IAmb IAmb 00 14 18.7
comp=Z,20nm,0.8s
N47A Urbana 27.67 3 P **P 00 14 16.4 -0.6**
N47A IAmb IAmb 00 14 17.4
comp=Z,23nm,0.6s
O54A Avella 27.69 12 P **P 00 14 17.6 +0.4**
N49A Columbus Grove 27.83 6 P **P 00 14 17.8 -0.6**
N49A IAmb IAmb 00 14 19.4
comp=Z,40nm,0.9s
SDMD Soldier's Deli 27.88 18 P **P 00 14 19.8 +0.9**
SDMD IAmb IAmb 00 14 20.9
comp=Z,25nm,0.7s
N51A Ashland 28.05 9 P **P 00 14 20.6 +0.3**
N51A IAmb IAmb 00 14 21.6
comp=Z,22nm,0.4s
T25A Trinidad 28.11 331 P **P 00 14 21.8 +0.5**
N53A Lisbon 28.20 11 P **P 00 14 22.0 +0.3**
N53A IAmb IAmb 00 14 23.2
comp=Z,31nm,0.9s
TUC Tucson 28.39 316 P **P 00 14 25.3 +1.7**
N35A Tabor 28.43 347 P **P 00 14 23.9 +0.2**
N35A IAmb IAmb 00 14 25.8
comp=Z,40nm,0.8s
M50A Fremont 28.44 8 P **P 00 14 23.7 -0.1**
M50A IAmb IAmb 00 14 24.9
comp=Z,40nm,0.9s
BBSR BB Station 28.51 44 P **P 00 14 25.1 +0.5**
BBSR IAmb IAmb 00 14 26.7
comp=Z,56nm,1.1s
MVL Millersville 28.57 19 P **P 00 14 25.7 +0.8**
MVL IAmb IAmb 00 14 27.5
comp=Z,26nm,0.8s
SSPA Standing Stone 28.71 16 P **P 00 14 26.6 +0.4**
SSPA IAmb IAmb 00 14 28.1
comp=Z,29nm,0.7s
WUPA West Chester U 28.75 20 P **P 00 14 26.7 +0.2**
WUPA IAmb IAmb 00 14 28.6
comp=Z,17nm,0.8s
L46A Eue Claire 28.77 2 P **P 00 14 25.4 -1.3**
L42A Oliver, Polo 28.77 357 IAmb IAmb 00 14 27.3
comp=Z,53nm,1.2s
L48A N Adams 28.82 5 IAmb IAmb 00 14 27.4
comp=Z,24nm,0.6s
M52A Chesterland 28.82 10 P **P 00 14 27.3 +0.1**
M52A IAmb IAmb 00 14 28.3
comp=Z,14nm,0.8s
KSCO Kaye Shedlock' 28.89 336 P **P 00 14 28.6 +0.6**
KSCO IAmb IAmb 00 14 30.3
comp=Z,21nm,0.6s
L44A Lake County Fo 28.90 360 P **P 00 14 26.1 -1.8**
L40A Anamosa 28.94 355 IAmb IAmb 00 14 28.9
comp=Z,30nm,0.9s
SCIA State Center 29.02 352 IAmb IAmb 00 14 31.6
comp=Z,15nm,0.7s
BOAV Boa Vista 29.04 109 P **P 00 14 28.2 -1.2**
BOAV Boa Vista 29.04 109 eP **P 00 14 27.6 -1.8**
ALLY Alegheny Colle 29.15 12 P **P 00 14 30.4 +0.3**
ALLY IAmb IAmb 00 14 31.6
comp=Z,30nm,0.7s

N58A Sunbury 29.23 17 P **P 00 14 31.3 +0.5**
N58A IAmb IAmb 00 14 32.8
comp=Z,32nm,1.0s
LUPA Lehigh Univers 29.42 19 P **P 00 14 34.0 +1.5**
M57A Sunshine Farm, 29.57 16 P **P 00 14 34.3 +0.5**
ERPA Erie 29.63 12 IAmb IAmb 00 14 35.8
comp=Z,46nm,0.9s
L34A Svendsen Farm, 29.65 347 IAmb IAmb 00 14 35.3
comp=Z,38nm,0.9s
JFWS Jewell Farm 29.71 356 IAmb IAmb 00 14 38.7
comp=Z,15nm,0.6s
BRNJ Basking Ridge 29.77 21 P **P 00 14 36.3 +0.8**
S22A 4UR Ranch, Cre 29.78 329 P **P 00 14 37.5 +1.4**
K50A Casco 29.84 8 P **P 00 14 36.5 +0.3**
K50A IAmb IAmb 00 14 38.5
comp=Z,25nm,0.8s
J47A Sunmer 30.07 4 P **P 00 14 37.5 -0.7**
X16A Lo Mia Camp, P 30.11 319 P **P 00 14 40.7 +1.8**
ODNJ Ogdensburg 30.11 20 P **P 00 14 39.2 +0.6**
ODNJ IAmb IAmb 00 14 40.4
comp=Z,27nm,0.5s
KSPA Keystone Colle 30.17 18 P **P 00 14 39.7 +0.6**
KSPA IAmb IAmb 00 14 40.6
comp=Z,19nm,0.7s
L56A Greenwood 30.20 15 IAmb IAmb 00 14 42.1
comp=Z,16nm,0.6s
WVNY West Valley, N 30.21 14 P **P 00 14 39.7 +0.2**
WVNY IAmb IAmb 00 14 40.9
comp=Z,32nm,0.8s
MVCO Mesa Verde 30.25 326 P **P 00 14 41.2 +1.0**
PAL Palisades 30.28 21 P **P 00 14 41.0 +0.9**
TRNY Table Rock, Ra 30.30 21 P **P 00 14 40.4 +0.2**
TRNY IAmb IAmb 00 14 42.0
comp=Z,15nm,0.8s
OGNE Ogallala 30.34 338 P **P 00 14 42.0 +1.2**
OGNE IAmb IAmb 00 14 44.2
comp=Z,43nm,1.1s
I42A Draeger Farm, 30.63 358 IAmb IAmb 00 14 43.8
comp=Z,34nm,1.0s
MMNY Mt. Morris Dam 30.68 14 P **P 00 14 43.8 +0.3**
BINY Binghamton 30.69 17 P **P 00 14 44.0 +0.3**
BINY IAmb IAmb 00 14 45.6
comp=Z,34nm,0.8s
I40A Norwalk 30.71 356 IAmb IAmb 00 14 43.8
comp=Z,14nm,0.6s
BRIGG Briggsdale 30.91 335 P **P 00 14 45.9 0.0**
BRIGG IAmb IAmb 00 14 48.7
comp=Z,14nm,0.6s
MEDO Medina 30.96 13 P **P 00 14 46.6 +0.6**
I49A Point Hope 30.96 7 P **P 00 14 45.4 -0.6**
I49A IAmb IAmb 00 14 46.5
comp=Z,30nm,0.9s
L59A Walton 30.97 19 P **P 00 14 46.9 +0.7**
K57A Scipio Center 31.04 16 P **P 00 14 46.5 -0.2**
K57A IAmb IAmb 00 14 47.9
comp=Z,32nm,0.7s
KSCT Kent School, K 31.07 21 P **P 00 14 46.9 -0.1**
I37A Lemond, Waseca 31.11 352 P **P 00 14 47.3 -0.1**
I37A IAmb IAmb 00 14 48.1
comp=Z,26nm,0.7s
PV13 Radium Mtn., P 31.12 327 P **P 00 14 48.8 +1.0**
K30B Basset 31.13 343 P **P 00 14 48.6 +1.1**
PV07 Paradox Valley 31.24 327 P **P 00 14 50.4 +1.6**
PV07 IAmb IAmb 00 14 52.8
comp=Z,21nm,1.4s
PV11 David Mesa, Pa 31.25 327 P **P 00 14 49.8 +0.9**
PV11 IAmb IAmb 00 14 52.0
comp=Z,12nm,0.7s
M63A Gales Ferry 31.31 23 P **P 00 14 49.6 +0.5**
M63A IAmb IAmb 00 14 51.6
comp=Z,37nm,0.8s
ECSD EROS Data Cent 31.39 348 IAmb IAmb 00 14 51.0
comp=Z,31nm,0.8s
MACA Manacapuru-AM 31.44 119 P **P 00 14 49.9 -0.6**
MACA IAmb IAmb 00 14 50.1
comp=Z,23nm,0.7s
MACA Manacapuru-AM 31.44 119 *e*P **P 00 14 49.5 -1.0**
UCCT U. Connecticut 31.58 23 P **P 00 14 51.8 +0.3**
GLMI Grayling 31.67 4 P **P 00 14 51.6 -0.6**
J57A Williamstown 31.81 16 P **P 00 14 53.5 +0.1**
J57A IAmb IAmb 00 14 54.5
comp=Z,28nm,0.7s
TRY Troy 31.90 20 P **P 00 14 54.9 +0.7**
TRY IAmb IAmb 00 14 56.4
comp=Z,42nm,0.8s
L61B Northampton 31.99 21 P **P 00 14 55.5 +0.5**
L61B IAmb IAmb 00 14 56.6
comp=Z,29nm,0.8s
PECO Prince Edward 32.03 15 IAmb IAmb 00 14 56.0
comp=Z,14nm,0.5s
G40A Rib Lake 32.06 357 P **P 00 14 54.9 -0.7**
G40A IAmb IAmb 00 14 56.1
comp=Z,31nm,1.1s
W13A Hualapai Mount 32.12 317 P **P 00 14 58.2 +1.7**
SPMN Marine on St. 32.23 353 IAmb IAmb 00 14 57.3
comp=Z,51nm,1.0s
O20A White River Ci 32.32 330 P **P 00 14 59.9 +1.7**
O20A IAmb IAmb 00 15 01.7
comp=Z,22nm,1.1s
SADO Sadowa 32.35 12 IAmb IAmb 00 14 58.9
comp=Z,36nm,0.6s
DELO Deloro Mine 32.44 14 IAmb IAmb 00 14 59.9
comp=Z,14nm,0.6s
ACCN Adirondack Com 32.48 19 P **P 00 14 59.1 -0.2**
ACCN IAmb IAmb 00 15 00.5
comp=Z,11nm,0.8s
F42A Maple Grove Fa 32.48 360 IAmb IAmb 00 14 59.7
comp=Z,11nm,0.6s
MTPU Mount Pierson 32.92 323 P **P 00 15 04.5 +0.8**
P18A Preston Nutter 32.95 327 P **P 00 15 03.2 -0.6**
V12A Nelson 33.12 317 P **P 00 15 06.1 +0.9**
TMUT Trail Mountain 33.23 326 P **P 00 15 06.2 -0.1**
RDMU Red Mountain 33.31 329 P **P 00 15 08.2 +1.4**
LONY Lake Ozonia 33.32 17 P **P 00 15 06.7 +0.1**
LONY IAmb IAmb 00 15 07.5
comp=Z,17nm,0.7s
E38A The Farm, Brul 33.48 355 IAmb IAmb 00 15 07.8
comp=Z,20nm,0.7s
K22A Casper 33.55 335 P **P 00 15 09.7 +0.9**
I62A Tamworth 33.71 22 P **P 00 15 10.6 +0.7**
I62A IAmb IAmb 00 15 12.2
comp=Z,49nm,0.8s
FRNY Flat Rock 33.81 18 P **P 00 15 10.9 +0.2**
FRNY IAmb IAmb 00 15 12.3
comp=Z,17nm,0.9s
RSSD Black Hills 33.84 339 P **P 00 15 12.9 +1.6**
BSUT Blindstream Ca 33.89 328 P **P 00 15 13.4 +1.4**
MPU Maple Canyon 33.98 326 P **P 00 15 13.7 +1.2**
PSUT Pine Spring 34.23 322 P **P 00 15 16.8 +2.1**
TRQ Mont Tremblant 34.80 16 P **P 00 15 18.3 -1.0**
TRQ IAmb IAmb 00 15 20.6
comp=Z,13nm,0.9s
EYMN Ely 34.81 356 IAmb IAmb 00 15 19.2
comp=Z,41nm,1.5s
SPR3 Spring Creek 3 34.82 322 P **P 00 15 21.6 +1.6**
PDAR Pinedale Array 34.98 332 P **P 00 15 22.5 +1.4**
PDAR Pinedale Array 34.98 332 P **P 00 15 22.6 +1.4**
comp=Z,4.5nm,0.7s,baz=126,slow=9.6,SNR=48
PDAR PcP **PcP 00 17 48.5 -0.3**
comp=Z,0.8nm,0.7s,baz=138,slow=6.8,SNR=3.9
comp=Z,4.5nm,0.7s
HWUT Hardware Ranch 35.09 328 P **P 00 15 23.2 +1.2**
HWUT IAmb IAmb 00 15 24.7
comp=Z,20nm,0.8s
HWUT **PcP 00 17 50.0 +0.9**
LPAZ La Paz 35.14 146 P **P 00 15 24.2 +1.0**
LPAZ IAmb IAmb 00 15 25.5
comp=Z,9.5nm,0.6s
LPAZ La Paz 35.14 146 P **P 00 15 24.6 +1.4**
comp=Z,7.6nm,0.5s,baz=336,slow=6.0,SNR=38
comp=Z,7.6nm,0.5s
LPAZ La Paz 35.14 146 *e*P **P 00 15 25.0 +1.8**
G62A West of Eustis 35.16 21 P **P 00 15 23.4 +0.9**
G62A IAmb IAmb 00 15 24.4
comp=Z,38nm,0.8s
BGU Big Grassy Mou 35.37 326 IAmb IAmb 00 15 27.6
comp=Z,20nm,1.4s
PB18 Visviri 35.52 149 IAmb IAmb 00 15 54.4
comp=Z,22nm,0.9s
PKME Peaks-Kenny Pk 35.66 23 IAmb IAmb 00 15 28.7
comp=Z,27nm,0.8s
AGMN Agassiz Nation 35.66 351 IAmb IAmb 00 15 27.9
comp=Z,44nm,1.1s
AHID Auburn Hatcher 35.71 330 IAmb IAmb 00 15 30.9
comp=Z,13nm,0.8s

HVU Hansel Valley 35.84 327 P **P 00 15 30.0 +1.6**
VLDQ Val d'Or 35.89 12 IAmb IAmb 00 15 29.5
comp=Z,15nm,1.0s
SNOW Snow King Moun 36.07 331 P **P 00 15 31.9 +1.4**
SNOW IAmb IAmb 00 15 33.5
comp=Z,37nm,0.7s
SNOW **pP 00 16 15.0 +2.2**
LOHW Long Hollow 36.12 331 P **P 00 15 32.1 +1.3**
LOHW IAmb IAmb 00 15 33.6
comp=Z,21nm,1.2s
LOHW **pP 00 16 14.4 +1.3**
TPAW Teton Pass 36.19 331 P **P 00 15 32.6 +1.1**
TPAW IAmb IAmb 00 15 34.1
comp=Z,19nm,0.8s
TPAW **pP 00 16 13.5 -0.3**
G65A Princeton 36.27 24 P **P 00 15 32.6 +0.8**
G65A IAmb IAmb 00 15 34.3
comp=Z,52nm,1.2s
MOOW Moose Ponds 36.29 331 P **P 00 15 33.6 +1.3**
ITTB Itaituba 36.30 117 *e*P **P 00 15 29.7 -2.8**
ELK Elko 36.48 324 P **P 00 15 35.9 +1.9**
ELK Elko 36.48 324 P **P 00 15 36.1 +2.1**
comp=Z,3.1nm,0.8s,baz=130,slow=5.9,SNR=13
ELK PcP **PcP 00 17 53.8 +0.5**
comp=Z,0.6nm,0.5s,baz=165,slow=3.8,SNR=4.6
comp=Z,3.1nm,0.8s
FLWY Flagg Ranch 36.52 332 P **P 00 15 35.8 +1.6**
FLWY IAmb IAmb 00 15 37.2
comp=Z,15nm,0.8s
MAL2 Monte Alegre, 36.62 112 P **P 00 15 34.0 -1.1**
H17A Grant Village 36.71 332 P **P 00 15 37.8 +2.0**
YMP Mirror Lake Pl 36.79 333 P **P 00 15 38.5 +1.9**
LAO LASA Array 36.83 339 IAmb IAmb 00 15 38.7
comp=Z,18nm,1.0s
NV11 Mina Array Sit 36.84 319 P **P 00 15 39.1 +2.2**
YFT Old Faithful 36.87 332 P **P 00 15 39.5 +2.3**
YFT IAmb IAmb 00 15 41.1
comp=Z,20nm,1.3s
NVAR Mina Array Bea 36.94 318 P **P 00 15 38.6 +0.8**
NVAR Mina Array Bea 36.94 318 P **P 00 15 40.4 +2.6**
comp=Z,2.3nm,0.7s,baz=133,slow=6.9,SNR=11
NVAR PcP **PcP 00 17 55.8 +1.0**
comp=Z,1.6nm,0.7s,baz=126,slow=4.0,SNR=4.9
NVAR ScP **ScP 00 21 21.0 -1.6**
comp=Z,0.8nm,0.6s,baz=112,slow=5.8,SNR=5.1
comp=Z,2.3nm,0.7s
YNE Yellowstone No 36.94 334 P **P 00 15 39.0 +1.3**
LHV Little Huntoon 36.97 318 P **P 00 15 39.9 +2.1**
YNR Norris Junctio 37.01 333 P **P 00 15 39.5 +1.1**
YMR Madison River 37.10 332 P **P 00 15 41.1 +2.0**
YMR IAmb IAmb 00 15 42.4
comp=Z,20nm,1.0s
YMR **pP 00 16 24.1 +2.5**
YHH Holmes Hill 37.14 333 P **P 00 15 41.6 +2.1**
YHH **pP 00 16 23.3 +1.3**
LMQ La Malbaie 37.26 20 IAmb IAmb 00 15 41.4
comp=Z,43nm,1.3s
YHB Horse Butte 37.27 332 P **P 00 15 42.5 +2.0**
D62A Allapoint, All 37.29 21 P **P 00 15 40.8 +0.5**
D62A IAmb IAmb 00 15 42.0
comp=Z,40nm,1.0s
YHL Hebgen Lake 37.34 332 P **P 00 15 43.0 +1.8**
YHL **pP 00 16 25.1 +1.4**
ULM Lac du Bonnet 37.56 352 IAmb IAmb 00 15 42.7
comp=Z,56nm,1.1s
ULM Lac du Bonnet 37.56 352 P **P 00 15 41.8 -0.8**
comp=Z,28nm,0.8s,baz=168,slow=9.1,SNR=53
ULM ScP **ScP 00 21 22.1 -2.3**
comp=Z,1.9nm,0.4s,baz=155,slow=3.5,SNR=4.9
comp=Z,28nm,0.8s
VILB Vilhena 37.72 132 P **P 00 15 43.6 -0.7**
VILB IAmb IAmb 00 15 47.4
comp=Z,34nm,0.7s
VILB Vilhena 37.72 132 *e*P **P 00 15 43.2 -1.2**
DGMT Dagmar 37.73 342 P **P 00 15 45.6 +1.5**
PB08 IPOC Station P 37.85 151 P **P 00 15 46.8 +1.0**
YERR Yerington 37.85 319 **PcP 00 17 58.4 +0.9**
LMN Caledonia Moun 37.95 26 P **P 00 15 45.9 0.0**
LMN IAmb IAmb 00 15 47.7
comp=Z,48nm,0.8s
HLID Hailey 37.95 328 P **P 00 15 47.3 +1.1**
NPGB Novo Progresso 37.98 120 *e*P **P 00 15 43.4 -3.2**
MCMT McKenzie Canyo 38.09 331 P **P 00 15 49.6 +2.1**
MCMT **pP 00 16 33.4 +3.3**
BOZ Bozeman (W) 38.11 333 P **P 00 15 48.6 +1.1**
BOZ **pP 00 16 32.2 +2.0**
DLMT Dillon 38.38 332 P **P 00 15 51.4 +1.7**
DLMT IAmb IAmb 00 15 52.9
comp=Z,16nm,1.0s
LRM Limekiln Ridge 38.66 332 P **P 00 15 53.7 +1.6**
LRM **pP 00 16 37.1 +2.2**
HRY Holter Researc 39.06 334 P **P 00 15 56.4 +1.0**
SIV San Ignacio 39.22 137 P **P 00 15 56.1 -0.7**
comp=Z,7.1nm,0.6s,baz=306,slow=8.3,SNR=27
SIV PcP **PcP 00 18 02.6 +0.7**
comp=Z,4.5nm,0.6s,baz=278,slow=3.8,SNR=7.2
comp=Z,7.1nm,0.6s
PB09 IPOC Station P 39.23 152 P **P 00 15 59.1 +2.0**
PB09 IAmb IAmb 00 16 01.2
comp=Z,26nm,0.8s
EGMT Eagleton 39.26 337 P **P 00 15 57.4 +0.5**
EGMT IAmb IAmb 00 15 59.4
comp=Z,23nm,1.1s
EGMT **pP 00 16 39.3 -0.6**
PDRB Porto dos Gac 39.46 127 *e*P **P 00 15 56.4 -2.4**
LYMT Lyon Mountain 39.46 333 P **P 00 15 59.9 +1.1**
LYMT **pP 00 16 43.4 +1.7**
WVOR Wild Horse Val 39.52 323 P **P 00 16 00.3 +1.1**
BPMT Black Pine Rid 39.58 332 P **P 00 16 00.8 +1.1**
PLID Pearl Lake 39.83 328 P **P 00 16 03.0 +1.1**
MSO Missoula 40.09 332 P **P 00 16 05.3 +1.5**
PTLB Pontes e Lacer 40.16 134 *e*P **P 00 16 05.4 +0.9**
BMO Blue Mountains 40.35 327 P **P 00 16 06.5 +0.6**
AF01 San Pedro de A 40.72 152 P **P 00 16 11.6 +2.2**
AF01 IAmb IAmb 00 16 14.0
comp=Z,57nm,0.8s
F10A Beach Ranch, E 41.07 329 P **P 00 16 12.9 +1.2**
PB14 IPOC Station P 41.23 156 P **P 00 16 15.8 +2.2**
E09A Wood Farm, Sta 41.90 329 P **P 00 16 19.6 +1.2**
GO02 Mina Guanaco 42.04 155 P **P 00 16 22.5 +2.4**
GO02 IAmb IAmb 00 16 23.9
comp=Z,20nm,0.9s
HAWA Hanford 42.54 327 P **P 00 16 24.6 +1.0**
NEW Newport 42.62 331 P **P 00 16 24.6 +0.3**
comp=Z,2.8nm,0.7s,baz=156,slow=6.2,SNR=9.2
comp=Z,2.8nm,0.7s
E07A Sunnyside 42.82 327 IAmb IAmb 00 16 27.9
comp=Z,15nm,0.8s
C09A Chrisman Ranch 42.84 330 P **P 00 16 26.7 +0.7**
FFC Flin Flon 42.93 348 P **P 00 16 27.3 +0.7**
FFC IAmb IAmb 00 16 28.2
comp=Z,31nm,0.7s
SALV Santo Antonio 42.93 131 *e*P **P 00 16 25.7 -1.3**
HOOD Mount Hood Mea 43.02 325 P **P 00 16 28.8 +1.2**
HOOD **pP 00 17 11.3 +0.2**
HOOD IAmb IAmb 00 17 13.2
comp=Z,18nm,0.6s
MXC Moxie City 43.06 327 P **P 00 16 28.8 +1.1**
AC02 Maricunga 43.71 156 P **P 00 16 36.4 +2.6**
AC02 IAmb IAmb 00 16 38.0
comp=Z,16nm,0.8s
DRLN Deer Lake 43.78 29 P **P 00 16 33.1 -0.3**
DRLN IAmb IAmb 00 16 33.9
comp=Z,69nm,0.9s
SNDB Serra Nova Dou 44.00 123 *e*P **P 00 16 33.5 -2.1**
SCHQ Schefferville 44.70 17 P **P 00 16 40.3 -0.4**
SCHQ IAmb IAmb 00 16 41.2
comp=Z,67nm,0.9s
SCHQ Schefferville 44.70 17 P **P 00 16 40.1 -0.5**
comp=Z,49nm,0.7s,baz=214,slow=6.4,SNR=39
comp=Z,49nm,0.7s
RPN Rapa Nui 45.18 207 LR LR 00 30 35.9
comp=Z,38nm,18.9s,baz=298,slow=29
BDQN Bodoquena, MS 45.26 137 *e*P **P 00 16 44.2 -1.4**
AHML Horco Molle 45.32 151 *i*P **P 00 16 48.0 +2.1**
SMTB Santa Maria do 45.54 117 *e*P **P 00 16 46.2 -1.7**
MURT Porto Murtinho 45.57 139 *e*P **P 00 16 47.1 -0.8**
ARAG Araguaiana, MT 45.72 128 *e*P **P 00 16 47.2 -2.0**
FCC Fort Churchill 45.75 355 IAmb IAmb 00 16 49.6
comp=Z,34nm,0.9s
AQDB Aquidauana 45.98 136 *e*P **P 00 16 51.0 -0.2**
LLLB Lilooet 46.49 331 P **P 00 16 55.9 +1.2**
RPRD Ribas do Rio P 47.36 134 *e*P **P 00 17 01.6 -0.2**
VA03 San Esteban 48.56 161 IAmb IAmb 00 17 14.5
comp=Z,22nm,0.8s
BDFB Brasilia 48.67 125 P **P 00 17 09.9 -2.2**
comp=Z,2.2nm,0.7s,baz=292,slow=9.8,SNR=6.0
comp=Z,2.2nm,0.7s
CPUP Villa Florida 49.20 143 P **P 00 17 14.2 -1.6**
comp=Z,3.0nm,0.8s,baz=334,slow=8.9,SNR=5.6
CPUP PcP **PcP 00 18 36.4 +0.5**
comp=Z,1.5nm,0.6s,baz=233,slow=1.8,SNR=4.1
comp=Z,3.0nm,0.8s
CPUP Villa Florida 49.20 143 *e*P **P 00 17 15.4 -0.3**
ITRB Iturama 49.25 131 *e*P **P 00 17 14.7 -1.7**
MT09 Talagante 49.36 161 P **P 00 17 17.8 +0.8**
MT08 Bocatoma Ro 49.36 160 P **P 00 17 20.1 +2.8**
MT08 IAmb IAmb 00 17 21.6
comp=Z,29nm,0.8s
LMEL Las Melosas 49.67 161 P **P 00 17 21.3 +1.9**
LMEL IAmb IAmb 00 17 23.3
comp=Z,25nm,1.3s
IPMB Ipamari, GO 49.84 127 *e*P **P 00 17 18.9 -2.0**
BO01 Tunca 49.90 162 P **P 00 17 21.5 +0.5**
LDASE Londrina, Braz 51.08 135 *e*P **P 00 17 27.8 -2.2**
PTGB Pitanga 51.33 137 *e*P **P 00 17 30.3 -1.6**
JANB Januaria 51.38 122 *e*P **P 00 17 30.4 -2.0**
BB19B Bebedouro 51.44 131 *e*P **P 00 17 30.8 -2.0**
FRTB Fartura 52.12 134 *e*P **P 00 17 36.1 -1.7**
PSAL Palomas, Salto 52.70 147 *e*P **P 00 17 42.6 +0.8**
YKA Yellowknife Ar 52.83 345 P **P 00 17 42.4 0.0**
comp=Z,4.3nm,0.7s,baz=153,slow=6.6,SNR=79
YKA PcP **PcP 00 18 47.8 -0.9**
comp=Z,0.7nm,0.6s,baz=156,slow=3.9,SNR=7.1
YKA ScP **ScP 00 22 24.9 -2.1**
comp=Z,0.9nm,0.8s,baz=150,slow=4.4,SNR=8.1
comp=Z,4.3nm,0.7s
ITAB Concordia 53.02 139 *e*P **P 00 17 43.3 -1.0**
VAO Valinhos 53.77 132 *e*P **P 00 17 48.3 -1.6**
TBOT Tacuaremb 54.06 146 *e*P **P 00 17 51.9 +0.2**
BSCB Bom Sucesso 54.22 128 *e*P **P 00 17 51.9 -1.3**
CPSB Cacapava Do Su 54.51 143 *e*P **P 00 17 54.7 -0.3**
PLTB Pedras Altas 55.41 144 *e*P **P 00 18 01.5 +0.1**
PLCA Paso Flores 55.96 164 P **P 00 18 06.7 +1.5**
comp=Z,8.4nm,0.7s,baz=336,slow=8.8,SNR=29
PLCA PcP **PcP 00 19 01.6 +0.4**
comp=Z,3.1nm,0.7s,baz=326,slow=3.3,SNR=4.3
comp=Z,8.4nm,0.7s
PLCA Paso Flores 55.96 164 *e*P **P 00 18 03.9 -1.4**
BSFB Barra de Sao F 56.15 124 *e*P **P 00 18 05.8 -1.1**
NUUK Nuuk 56.75 18 *i*P **P 00 18 10.4 0.0**
NUUK IAmb IAmb 00 18 12.4
comp=Z,68nm,1.0s
RIB01 Linhares ES 56.76 124 *e*P **P 00 18 08.6 -2.6**
NRS Narsarsuaq 56.85 23 *i*P **P 00 18 09.8 -1.4**
NRS IAmb IAmb 00 18 17.6
comp=Z,734nm,2.1s
CAM01 Campos-RJ 57.09 127 *e*P **P 00 18 12.2 -1.3**
LL02 Futaleuf 57.96 166 P **P 00 18 20.6 +1.5**
LL02 IAmb IAmb 00 18 22.3
comp=Z,11nm,0.9s
SFJD Kangerlussuaq 59.13 16 *i*P **P 00 18 25.7 -1.1**
SFJD IAmb IAmb 00 18 27.4
comp=Z,20nm,1.0s
DY2G Dye2 60.00 18 *i*P **P 00 18 32.1 -1.1**
DY2G IAmb IAmb 00 18 33.1
comp=Z,19nm,0.7s
ILULI Ilulissat 60.64 14 *i*P **P 00 18 37.1 0.0**
ILULI IAmb IAmb 00 18 38.1
comp=Z,25nm,0.9s
M29M Somme Creek 60.82 336 P **P 00 18 38.9 +0.3**
I30M Mount Dempster 61.52 339 P **P 00 18 43.9 +0.6**
UMMG Uummannaq 61.52 13 *i*P **P 00 18 42.7 -0.3**
UMMG IAmb IAmb 00 18 44.9
comp=Z,19nm,1.1s
RES Resolute Bay 61.63 358 IAmb IAmb 00 18 44.3
comp=Z,11nm,0.6s
ISOG Isortoq, Green 61.79 21 *i*P **P 00 18 43.2 -1.7**
ISOG IAmb IAmb 00 18 45.1
comp=Z,41nm,0.8s
NUUG Nuugaatsiaq 61.97 12 *i*P **P 00 18 45.7 -0.3**
NUUG IAmb IAmb 00 18 47.1
comp=Z,20nm,0.8s
ANGG Ammassalik, Gr 62.29 21 *i*P **P 00 18 46.4 -1.8**
ANGG IAmb IAmb 00 18 48.3
comp=Z,52nm,1.0s
INK Inuvik 62.42 343 pP pP 00 19 35.0 -0.9
UPNV Upernavik 62.42 10 *i*P **P 00 18 48.1 -0.9**
UPNV IAmb IAmb 00 18 51.7
comp=Z,11nm,0.9s
BCAR Beaver Creek A 62.46 335 P **P 00 18 49.5 0.0**
ICESG Greenland Ices 63.61 17 *i*P **P 00 18 55.7 -1.5**
ICESG IAmb IAmb 00 18 57.8
comp=Z,42nm,0.6s
KULLO Kullorsuaq 63.74 9 *i*P **P 00 18 57.3 -0.3**
KULLO IAmb IAmb 00 18 58.8
comp=Z,8.2nm,0.7s
E29M Blow River 63.78 342 pP 00 19 44.4 -0.7
J26L Joseph Creek 63.81 336 pP 00 19 44.3 -1.1
F28M Old Crow 63.99 340 IAmb IAmb 00 19 01.7
comp=Z,10nm,0.8s
F28M pP pP 00 19 47.2 +0.7
ILAR Eielson Array 65.23 336 P **P 00 19 07.0 -0.4**
ILAR pP **pP 00 19 53.0 -1.5**
ILAR Eielson Array 65.23 336 P **P 00 19 07.3 -0.1**
comp=Z,2.6nm,0.9s,baz=161,slow=4.9,SNR=78
ILAR PP **PP 00 21 34.0 +0.6**
comp=Z,0.8nm,0.8s,baz=106,slow=6.5,SNR=6.3
comp=Z,2.6nm,0.9s
BMAR Burnt Mountain 65.49 339 P **P 00 19 09.8 +0.6**
BMAR pP **pP 00 19 56.5 +0.1**
RND Reindeer 65.52 334 IAmb IAmb 00 19 10.9
comp=Z,12nm,0.8s
SUMG Summit 65.98 14 P **P 00 19 11.8 -0.8**
SUMG IAmb IAmb 00 19 14.1
comp=Z,43nm,1.2s
SUMG pP **pP 00 19 59.8 -0.2**
SUMG Summit 65.98 14 *i*P **P 00 19 12.0 -0.6**
SUMG IAmb IAmb 00 19 16.1
comp=Z,19nm,0.8s
BWN Browne 66.04 335 IAmb IAmb 00 19 15.6
comp=Z,30nm,1.1s
D25K Kavik River 66.92 341 IAmb IAmb 00 19 19.8
comp=Z,10nm,0.8s
NEEM North Greenlan 66.94 8 *i*P **P 00 19 18.3 -0.2**
NEEM IAmb IAmb 00 19 20.1
comp=Z,41nm,0.7s
SCO Scoresbysund 69.69 19 *i*P **P 00 19 34.0 -1.3**
SCO IAmb IAmb 00 19 36.3
comp=Z,5.9nm,0.9s
DBG Daneborg 71.40 15 *i*P **P 00 19 45.1 -0.4**
DBG IAmb IAmb 00 19 46.2
comp=Z,13nm,1.4s
DAG Danmarks Havn 72.54 13 *i*P **P 00 19 50.8 -1.4**
DAG IAmb IAmb 00 19 52.9
comp=Z,11nm,0.5s
NOR Nord 74.32 8 *i*P **P 00 20 01.6 -1.0**
NOR IAmb IAmb 00 20 04.8
comp=Z,8.4nm,1.1s
EKA Eskdalemuir Ar 76.25 36 P **P 00 20 12.0 -2.1**
comp=Z,5.3nm,0.7s,baz=266,slow=6.0,SNR=15
comp=Z,5.3nm,0.7s
ESDC Sonseca Array 77.02 52 P **P 00 20 19.7 +0.9**
ESDC Sonseca Array 77.02 52 P **P 00 20 17.6 -1.2**
comp=Z,2.2nm,0.6s,baz=283,slow=5.3,SNR=18
comp=Z,2.2nm,0.6s
SPITS Spitsbergen Ar 80.08 12 P **P 00 20 35.0 +0.3**
comp=Z,13nm,1.1s,baz=270,slow=0.3,SNR=10
comp=Z,13nm,1.1s
BMRD Maredsous 81.63 40 *d*P **P 00 20 43.8 +0.4**
comp=Z,6.3nm,1.5s
NB2 NORSAR Subarra 82.91 29 P **P 00 20 50.6 +0.7**
comp=Z,1.2nm,0.7s,baz=285,slow=5.1
NOA NORSAR Array B 82.91 29 P **P 00 20 49.0 -0.8**
comp=Z,2.4nm,0.8s,baz=286,slow=5.1,SNR=6.2
comp=Z,2.4nm,0.8s
BILL Bilibino 83.73 339 P **P 00 20 54.2 +0.4**
BILL IAmb IAmb 00 20 54.9
comp=Z,16nm,1.3s
HFS Hagfors 84.33 30 P **P 00 20 56.2 -0.8**
comp=Z,3.1nm,0.8s,baz=231,slow=7.1,SNR=4.9
comp=Z,3.1nm,0.8s
DAVA Damuels 85.58 43 *e*P **P 00 21 03.5 -0.2**
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 85.62 19 P **P 00 21 02.3 -1.0**
comp=Z,1.2nm,0.6s,baz=287,slow=5.0,SNR=11
comp=Z,1.2nm,0.6s
RETA Reutte 86.11 42 *e*P **P 00 21 06.6 +0.4**
comp=Z,1.7nm,0.5s
MOTA Moosalm 86.37 42 *e*P **P 00 21 09.0 +1.4**

comp=Z,1.1nm,0.5s
SQTA Sankt Quirin 86.47 42 *e*P **P 00 21 08.2 +0.1**
comp=Z,9.3nm,1.5s
CLL Collm 86.47 38 *e*P **P 00 21 11.0 +3.2**
TORD Torodi Ar. Bea 86.59 77 P **P 00 21 07.3 -1.8**
comp=Z,0.3nm,0.4s,baz=304,slow=4.4,SNR=8.7
TORD PKKPbc **PKKPbc 00 39 05.6 +2.3**
comp=Z,0.6nm,0.6s,baz=61,slow=1.7,SNR=6.5
comp=Z,0.3nm,0.4s
ABTA Abfaltersbach 87.46 43 *e*P **P 00 21 09.3 -3.5**
comp=Z,3.1nm,0.9s
KEST Kesra 88.11 54 P **P 00 21 15.5 -0.6**
comp=Z,1.1nm,0.6s,baz=311,slow=8.2,SNR=4.5
comp=Z,1.1nm,0.6s
FINES FINESS Array B 89.48 26 P **P 00 21 21.9 +0.1**
comp=Z,1.9nm,0.8s,baz=298,slow=8.2,SNR=4.5
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 104.35 43 PKKPbc PKKPbc 00 38 17.9 +0.9
comp=Z,0.4nm,0.5s,baz=159,slow=5.2,SNR=4.7
ELIB Princess Elisa 108.95 162 *d*PKiKP **PKiKP 00 26 54.2 +1.4**
BVAR Borovoye Array 111.46 14 PP **PP 00 27 37.0 -3.9**
comp=Z,0.8nm,0.7s,baz=264,slow=1.5,SNR=4.8
ZALV Zalesovo Beam 112.86 5 PP **PP 00 27 47.1 -3.6**
comp=Z,2.2nm,0.7s,baz=339,slow=7.9,SNR=11
KURBB Kurchatov Arra 115.36 10 PP **PP 00 28 03.7 -4.8**
comp=Z,1.1nm,0.8s,baz=341,slow=6.5,SNR=6.2
KURBB PKKPbc **PKKPbc 00 37 41.0 -1.1**
comp=Z,0.2nm,0.4s,baz=178,slow=3.1,SNR=4.5
BOSA Boshof 116.32 116 PKP **PKPdf 00 27 07.0 -1.0**
comp=Z,2.4nm,0.6s,baz=317,slow=3.2,SNR=5.4
SONM Songino Array 117.97 349 PKKPbc PKKPbc 00 37 31.2 -1.9
comp=Z,0.7nm,0.6s,baz=178,slow=3.8,SNR=6.7
MKAR Makanchi Array 119.66 8 PKP **PKPdf 00 27 11.7 -2.2**
comp=Z,0.2nm,0.4s,baz=337,slow=2.6,SNR=8.4
MKAR PP **PP 00 28 33.1 -5.1**
comp=Z,0.4nm,0.6s,baz=16,slow=5.4,SNR=5.5
MKAR PKKPbc **PKKPbc 00 37 25.8 -1.1**
comp=Z,0.5nm,0.7s,baz=143,slow=3.0,SNR=7.5
WMQ Urumqi 123.14 4 *e*PKP **PKiKP 00 27 22.5 +1.5**
HHC Hu-ho-hao-te 123.34 342 *e*P **PKPdf 00 27 17.3 -4.0**
GTA Gaotai 127.21 353 *e*PKP **PKPdf 00 27 28.7 -0.1**
NJ2 Nanjing 128.29 331 *e*P **PKiKP 00 27 32.2 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.7s
STKA Stephens Creek 131.16 239 PKPdf **PKiKP 00 27 38.6 +1.3**
STKA Stephens Creek 131.16 239 PKP **PKiKP 00 27 38.5 +1.3**
comp=Z,7.8nm,0.6s,baz=106,slow=4.0,SNR=21
CD2 Chengdu 134.79 346 PKP **PKPdf 00 27 42.7 -0.6**
WRAB Tennant Creek 139.12 255 **PKiKP 00 27 52.9 -0.8**
WRA Warramunga Arr 139.13 255 PKhKP PKPpre 00 27 45.6
comp=Z,1.0nm,0.5s,baz=91,slow=3.2,SNR=16
WRA PKP **PKiKP 00 27 53.5 -0.2**
comp=Z,17nm,0.8s,baz=90,slow=2.4,SNR=52
WRA SKPbc **SKPbc 00 31 08.4 +0.6**
comp=Z,0.9nm,0.8s,baz=92,slow=2.6,SNR=4.8
ASAR Alice Springs 139.21 249 PKhKP PKPpre 00 27 44.6
comp=Z,1.5nm,0.6s,baz=105,slow=2.9,SNR=16
ASAR PKP **PKiKP 00 27 53.5 -0.4**
comp=Z,12nm,0.6s,baz=93,slow=1.7,SNR=70
ASAR SKPbc **SKPbc 00 31 08.3 +0.4**
comp=Z,0.8nm,0.7s,baz=108,slow=2.9,SNR=5.2
PZH PanZhiHua 139.49 347 PKP **PKPdf 00 27 51.9 -0.3**
FORT Forrest 142.62 236 PKPdf **PKPdf 00 27 56.3 -1.1**
HYB Hyderabad 146.76 24 *e*PKPab **PKPab 00 28 08.7 +0.1**
CMAR Chiang Mai Arr 147.88 348 PKPbc **PKPdf 00 28 07.5 +0.6**
comp=Z,1.9nm,0.3s,baz=340,slow=3.8,SNR=9.2
SOEI Soe 148.40 273 **PKPab 00 28 14.6 -0.9**
NWAO Narrogin (SRO) 149.84 225 **PKiKP 00 28 16.5 +1.1**

*IDC **11** 00:38:36.8±2.8, 26.°88N×55.°83E, h0km, mb3.5/6,*
mbtmp3.6/7, ML3.8/1, MS3.1/2, Error ellipse: s-maj=59.5km
s-min=26.5km az=161.0
*TEH **11** 00:38:39.7, 26.°82N×55.°67E, h15km±39km*
*OMAN **11** 00:38:44.6±0.8, 26.°77N×55.°74E, h12km±5km, ml3.0/19,*
Error ellipse: s-maj=6.8km s-min=4.5km az=52.0
ISC 11 00:38:41.4±1.7,**26.°93N**±0.°04×**55.°71E**±0.°05,**h17**km±12km,
n55,σ1°**63**/65,**mb3.5**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.90**	**55**	Pg	**Pg**	**00 38 58.7**	**-0.2**
SHME	**Shamm**	**0.96**	**156**	P	**Pn**	**00 39 00.8**	**+0.6**
	SNR=30						
SHME				S	**Sb**	**00 39 13.0**	**+1.0**
UMQ	**Umm Al-Quwin**	**1.40**	**182**	P	**Pn**	**00 39 07.1**	**+0.9**
UMQ				S	**Sb**	**00 39 24.8**	**+0.1**
MASF	**Masafi**	**1.61**	**165**	P	**Pb**	**00 39 11.1**	**+0.4**
	SNR=20						
NAZ	**Nazwa, Dubai**	**1.94**	**181**	P	**Pb**	**00 39 15.7**	**-0.6**
UOSS	**Minazif**	**2.03**	**167**	P	**Pn**	**00 39 16.4**	**+1.5**
UOSS				S	**Sb**	**00 39 41.9**	**-1.0**
KHNJ	**Kahnooj**	**2.04**	**60**	Pn	**Pn**	**00 39 16.0**	**+0.9**
HATD	**Hatta, Dubai**	**2.13**	**170**	P	**Pn**	**00 39 18.1**	**+1.8**
	SNR=8.0						
HATD				S	**Sb**	**00 39 44.9**	**-0.9**
FAQ	**Al Faqa, Dubai**	**2.18**	**183**	P	**Pn**	**00 39 18.7**	**+1.7**
FAQ				S	**Sn**	**00 39 44.4**	**+0.8**
ASHO	**Ashiyiah**	**2.26**	**172**	P	**Pn**	**00 39 20.1**	**+2.0**
	SNR=45						
ASHO				S	**Sb**	**00 39 48.9**	**-0.6**
ASUD	**Al Ashush, Dub**	**2.32**	**189**	P	**Pn**	**00 39 21.1**	**+2.2**
ASUD				S	**Sn**	**00 39 48.8**	**+1.7**
AJN	**Ajban**	**2.45**	**196**	P	**Pb**	**00 39 24.0**	**-1.0**
JHRM	**Jahrom**	**2.46**	**310**	Pn	**Pn**	**00 39 21.3**	**+0.5**
QIR1	**Qir**	**2.82**	**304**	Pn	**Pn**	**00 39 27.0**	**+1.2**
NGRK	**Negar Kerman**	**2.85**	**18**	Pn	**Pn**	**00 39 28.3**	**+1.8**
ALNE	**Al Ain**	**2.86**	**179**	P	**Pn**	**00 39 28.1**	**+1.7**
	SNR=7.1						
SOHO	**SOHO**	**2.88**	**165**	P	**Pn**	**00 39 27.0**	**+0.4**
KRBR	**Kerman**	**3.18**	**17**	Pn	**Pn**	**00 39 33.2**	**+2.3**
JRN	**Qarnain Island**	**3.25**	**233**	P	**Pn**	**00 39 35.1**	**+3.5**
CHMN	**Cheshme madani**	**3.33**	**28**	Pn	**Pn**	**00 39 35.2**	**+2.0**
KHGB	**Koh Gabri**	**3.50**	**11**	Pn	**Pn**	**00 39 37.0**	**+1.8**
MZWR	**Madinat Zayed**	**3.57**	**208**	P	**Pn**	**00 39 38.1**	**+2.1**
MZWR				S	**Sn**	**00 40 19.4**	**+1.6**
HOQ	**Hoqain**	**3.64**	**156**	P	**Pn**	**00 39 38.7**	**+1.7**
ARQ	**Araqi**	**3.66**	**168**	P	**Pn**	**00 39 38.2**	**+0.9**
	SNR=21						
ARQ				S	**Sn**	**00 40 21.6**	**+1.5**
KRM1	**Kerman Provinc**	**3.81**	**21**	Pn	**Pn**	**00 39 41.7**	**+2.1**
DSBU	**Dashti - Bushe**	**4.20**	**291**	Pn	**Pn**	**00 39 44.9**	**+0.1**
BSY	**Bisya**	**4.38**	**162**	P	**Pn**	**00 39 48.8**	**+1.5**
SMDO	**Samad**	**4.40**	**151**	P	**Pn**	**00 39 49.3**	**+1.7**
SMDO				S	**Sn**	**00 40 39.6**	**+1.0**
MZR	**Muzera**	**4.41**	**208**	P	**Pn**	**00 39 50.1**	**+2.5**
MZR				S	**Sn**	**00 40 40.7**	**+2.2**
CHBR	**Chabahar**	**4.49**	**106**	Pn	**Pn**	**00 39 49.1**	**+0.4**
WSAR	**Wadi Sarin**	**4.53**	**144**	LR	LR	00 41 38.1	
	comp=Z,50nm,20.7s,baz=90,slow=41						
IMEH	**Mehriz**	**4.54**	**348**	Pn	**Pn**	**00 39 51.6**	**+2.0**
JMDO	**Jabal Madar**	**5.04**	**154**	P	**Pn**	**00 39 57.9**	**+1.6**
JMDO				S	**Sn**	**00 40 56.0**	**+1.9**
NGCH	**Negor - Chabah**	**5.12**	**107**	Pn	**Pn**	**00 39 57.7**	**+0.3**
WBK	**Wadi Bani Khal**	**5.22**	**145**	P	**Pn**	**00 39 59.8**	**+1.0**
ISAD	**Sadrabad**	**5.27**	**341**	Pn	**Pn**	**00 40 01.6**	**+1.9**
KLNJ	**Kolanjah**	**5.43**	**319**	Pn	**Pn**	**00 40 02.4**	**+0.5**
IRAM	**Ramesheh**	**5.66**	**330**	Pn	**Pn**	**00 40 06.2**	**+1.2**
SRVN	**Saravan**	**5.98**	**84**	Pn	**Pn**	**00 40 11.0**	**+1.7**
TPRV	**Parvadeh(Tabas**	**6.13**	**8**	Pn	**Pn**	**00 40 13.5**	**+2.1**
IBRJ	**Brojen**	**6.30**	**323**	Pn	**Pn**	**00 40 14.9**	**+1.2**
ZNGN	**Zangian**	**6.68**	**322**	Pn	**Pn**	**00 40 20.0**	**+0.9**
DQM	**DQM**	**7.17**	**166**	P	**Pn**	**00 40 25.5**	**-0.1**
	SNR=12						
DOK	**Doka**	**8.40**	**190**	P	**Pn**	**00 40 42.6**	**+0.1**
RBK	**Rabkut**	**9.49**	**189**	P	**Pn**	**00 40 58.5**	**+1.1**
ABTO	**Aybut**	**9.79**	**194**	P	**Pn**	**00 41 01.6**	**0.0**
	SNR=6.0						
GNI	**Garni**	**16.02**	**328**	P	**P**	**00 42 34.1**	**+4.5**
MMAI	**Mount Meron Ar**	**18.60**	**294**	P	**P**	**00 42 56.0**	**-1.9**
	0.3nm,0.3s,baz=110,slow=16,SNR=2.7						
	4.4nm,0.9s						
BRTR	**Keskin Array B**	**22.35**	**310**	P	**P**	**00 43 38.4**	**-0.4**
	0.3nm,0.5s,baz=125,slow=11,SNR=5.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**28.85**	**40**	P	**P**	**00 44 36.4**	**-2.6**
	0.1nm,0.5s,baz=227,slow=8.7,SNR=4.0						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**34.47**	**31**	P	**P**	**00 45 26.3**	**-1.9**
	0.4nm,0.4s,baz=236,slow=7.9,SNR=4.5						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**39.83**	**338**	P	**P**	**00 46 12.0**	**-1.6**
	0.6nm,0.5s,baz=137,slow=9.2,SNR=5.6						
	0.6nm,0.5s						
HFS	**Hagfors**	**43.78**	**331**	P	**P**	**00 46 44.5**	**-1.4**
	2.5nm,1.0s,baz=114,slow=6.6,SNR=8.2						
	2.5nm,1.0s						
OPO	**Ambohidratompo**	**45.98**	**191**	LR	LR	01 04 49.3	
	comp=Z,92nm,18.6s,baz=335,slow=34						
TORD	**Torodi Ar. Bea**	**52.21**	**266**	P	**P**	**00 47 50.7**	**-1.1**
	0.3nm,0.6s,baz=65,slow=8.3,SNR=5.6						
	0.3nm,0.6s						

*SOME **11** 01:05:55.1, 43.°67N×84.°55E, h5km*
*NNC **11** 01:05:58.1±2.2, 43.°71N×84.°44E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=17.5km s-min=8.7km az=130.0
ISC 11 01:05:55.3±2.5,**43.°7N**±0.°1×**85.°0E**±0.°1,**h10**km,**n31,**
σ2°38/36,**6C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.59**	**329**	⇑Pg	**Pg**	**01 07 02.8**	**-1.2**
	0.6nm,0.3s,baz=148,slow=17,SNR=29						
MK31				⇑Lg	Lg	01 07 48.4	
	2.8nm,0.2s,baz=146,slow=29,SNR=15						
ZSN	**Zaisan**	**3.71**	**359**	Pg	**Pg**	**01 07 04.8**	**-1.5**
	5.7nm,0.3s						
ZSN				Lg	Lg	01 07 56.0	
	14nm,0.8s						
ZSN	**Zaisan**	**3.71**	**359**	*e*P	**Pg**	**01 07 05.6**	**-0.8**
	5.6nm,0.3s						
ZSN				*e*S	**Sg**	**01 07 56.0**	**+1.7**
	6.3nm,0.4s						
MAKZ	**Makanchi**	**3.72**	**326**	⇓Lg	Lg	01 07 52.5	
	6.4nm,0.4s						
DJR	**Jarkent**	**3.78**	**281**	Pg	**Pb**	**01 06 58.7**	**-3.5**
	3.4nm,0.3s						
DJR				Lg	Lg	01 07 45.5	
	7.4nm,0.4s						
DJR	**Jarkent**	**3.78**	**281**	*e*P	**Pb**	**01 06 59.9**	**-2.3**
	2.8nm,0.1s						
DJR				*e*S	**Sb**	**01 07 46.7**	**-1.3**
	10nm,0.3s						
PDGK	**Podgornoye**	**4.00**	**266**	⇑Pn	**Pn**	**01 06 57.3**	**+0.5**
	0.7nm,0.3s						
PDGK				⇑Pg	**Pg**	**01 07 09.6**	**-2.4**
	2.7nm,0.4s						
PDGK				⇓Lg	Lg	01 07 53.5	
	13nm,0.5s						
SHLS	**Shalkode**	**4.05**	**264**	Pg	**Pn**	**01 06 58.4**	**+0.9**
	13nm,0.2s						
SHLS				Lg	Lg	01 07 45.4	
	37nm,0.4s						
SHLS	**Shalkode**	**4.05**	**264**	*e*P	**Pn**	**01 06 59.1**	**+1.6**
	13nm,0.2s						
SHLS				*e*S	**Sn**	**01 07 45.0**	**0.0**
	39nm,0.4s						
UZB	**Uzynbulak**	**4.37**	**264**	Pg	**Pb**	**01 07 09.8**	**-2.5**
	1.4nm,0.3s						
UZB				Lg	Lg	01 08 05.1	
	6.1nm,0.3s						
UZB	**Uzynbulak**	**4.37**	**264**	*e*P	**Pb**	**01 07 10.2**	**-2.1**
	3.8nm,0.2s						
UZB				*e*S	**Sb**	**01 08 04.2**	**-0.9**
	6.1nm,0.5s						
KPKS	**Kokpek**	**4.57**	**269**	Pg	**Pb**	**01 07 12.9**	**-2.7**
	1.7nm,0.1s						
KPKS				Lg	Lg	01 08 09.9	
	9.7nm,0.5s						
KPKS	**Kokpek**	**4.57**	**269**	*e*P	**Pb**	**01 07 14.4**	**-1.2**
	1.4nm,0.2s						
KPKS				*e*S	**Sb**	**01 08 11.7**	**+0.8**
	12nm,0.2s						
KPKS	**Kokpek**	**4.57**	**269**	*e*P	**Sn**	**01 07 54.3**	**-3.5**
	0.9nm,0.4s						
KPKS				*e*S	Sg	01 09 20.6	+58
	4.3nm,0.3s						
BLB	**Baldybastay**	**4.70**	**277**	Pg	**Pb**	**01 07 14.8**	**-3.1**
	9.7nm,0.1s						
BLB				Lg	Lg	01 08 14.2	
	12nm,0.5s						
SATY	**Saty**	**4.83**	**264**	Pg	**Pb**	**01 07 19.3**	**-0.8**
	3.7nm,0.4s						
SATY				Lg	Lg	01 08 20.8	
	6.4nm,0.2s						
SATY	**Saty**	**4.83**	**264**	*e*P	**Pg**	**01 07 25.5**	**-2.3**
	0.9nm,0.1s						
SATY				*e*S	**Sg**	**01 08 31.3**	**+1.0**
	7.2nm,0.5s						
ARXS	**Arharly**	**5.17**	**278**	Pg	**Pb**	**01 07 25.5**	**-0.4**
	0.9nm,0.1s						
ARXS				Lg	Lg	01 08 31.3	
	7.2nm,0.5s						
KOTS	**Kotyrbulak**	**5.74**	**268**	Pg	**Pb**	**01 07 34.1**	**-1.5**
	1.6nm,0.2s						
KOTS				Lg	Lg	01 08 46.1	
	6.2nm,0.6s						
KOTS	**Kotyrbulak**	**5.74**	**268**	*e*P	**Pb**	**01 07 35.6**	**0.0**
	0.6nm,0.1s						
KOTS				*e*S	**Sb**	**01 08 48.1**	**+3.7**
	6.8nm,0.3s						
MDOK	**Medeo**	**5.79**	**267**	Lg	Lg	01 08 54.6	
	1.8nm,0.5s						
TNSS	**Tian-Shan**	**5.89**	**266**	Pg	**Pb**	**01 07 38.9**	**+0.6**
	1.1nm,0.3s						
TNSS				Lg	Lg	01 08 55.3	
	1.9nm,0.5s						
TNSS	**Tian-Shan**	**5.89**	**266**	*e*P	**Pb**	**01 07 39.2**	**+1.0**
	0.3nm,0.1s						
TNSS				*e*S	**Sb**	**01 08 54.1**	**+5.1**
	1.9nm,0.3s						
KTBS	**Karatobe**	**6.00**	**273**	Pg	**Pb**	**01 07 39.9**	**-0.1**
	0.7nm,0.3s						
KTBS				Lg	Lg	01 08 56.2	
	2.5nm,0.7s						
KST	**Kastek**	**6.60**	**267**	Pg	**Pb**	**01 07 51.6**	**+1.4**
	2.3nm,0.7s						
KST				Lg	Lg	01 09 17.8	
	2.8nm,0.4s						
KST	**Kastek**	**6.60**	**267**	*e*P	**Pb**	**01 07 51.6**	**+1.4**
	0.5nm,0.2s						
KST				*e*S	**Sb**	**01 09 15.9**	**+6.8**
	1.5nm,0.2s						
DGS	**Degeres**	**6.71**	**269**	Pg	**Pb**	**01 07 52.0**	**-0.1**
	1.5nm,0.4s						
DGS				Lg	Lg	01 09 16.7	
	2.9nm,0.6s						
KRBS	**Karabastau**	**6.73**	**273**	Pg	**Pb**	**01 07 55.2**	**+2.7**
	0.9nm,0.5s						
KRBS				Lg	Lg	01 09 22.4	
	2.4nm,0.3s						
TKM2	**Tokmak 2**	**6.88**	**266**	⇑Lg	Lg	01 09 26.5	
	2.2nm,0.6s						
KURBB	**Kurchatov Arra**	**8.16**	**330**	⇑Lg	Lg	01 10 13.5	
	15nm,0.6s						
KURK	**Kurchatov**	**8.20**	**330**	⇓Lg	Lg	01 10 14.7	
	4.4nm,0.6s						

*JMA **11** 01:19:53.0±0.1, 43.°1N±0.°6×145.°9E±0.°7, h45km±1km,*
MV2.7/23, OFF NEMURO PENINSULA
*SKHL **11** 01:19:54.1±0.4, 43.°10N×145.°80E, h29km±3km, mb4.0/2*
ISC 11 01:19:52.8±1.9,**43.°06N**±0.°10×**145.°86E**±0.°07,**h44**km±13km,
n9,σ0°**70**/18,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**345**	P	**Pn**	**01 20 01.6**	**+0.1**
NEM2				S	**Sn**	**01 20 07.6**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.32**	**343**	*e*P	**Pn**	**01 20 01.7**	**+0.1**
NMR				AMB	AMB	01 20 02.3	
	30nm,0.2s						
NMR				*e*S	**Sn**	**01 20 07.7**	**-0.1**
NMR				A	A	01 20 08.3	
	2μm,0.2s						
NMR				A	A	01 20 08.3	
	800nm,0.2s						
JKHN	**Kushirohamanak**	**0.51**	**273**	*i* P	**Pn**	**01 20 04.1**	**+0.2**
JKHN				*e*S	**Sn**	**01 20 11.9**	**+0.2**
AKK	**Akkeshi**	**0.75**	**267**	*e*P	**Pn**	**01 20 06.9**	**0.0**
AKK				*e*S	**Sn**	**01 20 16.2**	**-0.9**
JAK	**Akkeshi**	**0.85**	**266**	P	**Pn**	**01 20 08.6**	**+0.2**
JAK				S	**Sn**	**01 20 20.2**	**+0.4**
JNSB	**Nemuroshibetsu**	**0.95**	**319**	P	**Pn**	**01 20 09.9**	**+0.2**
JNSB				*e*S	**Sn**	**01 20 22.3**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.97**	**0**	*e*P	**Pn**	**01 20 10.7**	**+0.7**
YUK				AMB	AMB	01 20 12.3	
	130nm,0.2s						
YUK				*e*S	**Sn**	**01 20 22.0**	**-0.6**
YUK				A	A	01 20 23.8	
	140nm,0.2s						
YUK				A	A	01 20 23.8	
	120nm,0.2s						
JNK	**Nakash**	**0.98**	**303**	P	**Pn**	**01 20 10.2**	**0.0**
JNK				S	**Sn**	**01 20 22.3**	**-0.6**
SHO	**Shikotan**	**1.07**	**41**	*e*P	**Pn**	**01 20 12.4**	**+1.0**
SHO				*e*S	**Sn**	**01 20 23.3**	**-1.8**
SHO				A	A	01 20 26.4	
	50nm,0.3s						
SHO				A	A	01 20 26.4	
	50nm,0.3s						

*TEH **11** 01:20:42.5, 31.°81N×56.°35E, h8km±18km*
*IDC **11** 01:20:42.8±1.4, 31.°81N×56.°22E, h0km, mb3.6/10,*
mbtmp3.7/15, ML3.4/5, MS3.2/18, Error ellipse:
s-maj=28.2km s-min=19.0km az=157.0
ISC 11 01:20:43.9±0.6,**31.°81N**±0.°05×**56.°34E**±0.°05,**h10**km,**n92,**
σ1°32/80,**mb3.6**/11,**MS3.3**/12,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.86**	**169**	Pg	**Pg**	**01 20 59.6**	**-0.9**
TPRV	**Parvadeh(Tabas**	**1.25**	**13**	Pg	**Pn**	**01 21 07.0**	**-0.5**
KHGB	**Koh Gabri**	**1.44**	**175**	Pg	**Pn**	**01 21 09.7**	**-0.6**
KRM1	**Kerman Provinc**	**1.53**	**148**	Pg	**Pn**	**01 21 12.2**	**+0.7**
IMEH	**Mehriz**	**1.53**	**255**	Pg	**Pn**	**01 21 11.4**	**-0.2**
ICHK	**Chekchek**	**1.70**	**285**	Pg	**Pn**	**01 21 13.9**	**0.0**
KRBR	**Kerman**	**1.86**	**169**	Pn	**Pn**	**01 21 17.3**	**+1.2**
TKDS	**Koohdasht(Taba**	**1.92**	**20**	Pn	**Pn**	**01 21 17.4**	**+0.7**
TNSJ	**Nastanj**	**2.16**	**6**	Pn	**Pn**	**01 21 20.8**	**+0.7**
NGRK	**Negar Kerman**	**2.19**	**171**	Pn	**Pn**	**01 21 22.0**	**+1.3**
CHMN	**Cheshme madani**	**2.20**	**152**	Pn	**Pn**	**01 21 22.3**	**+1.4**
ISAD	**Sadrabad**	**2.26**	**273**	Pn	**Pn**	**01 21 22.4**	**+0.8**
ITEG	**Tejag**	**2.31**	**61**	Pn	**Pn**	**01 21 23.1**	**+0.8**
IKOO	**Kooshah**	**2.34**	**74**	Pn	**Pn**	**01 21 23.7**	**+0.9**
BSRN	**Basiran**	**2.38**	**86**	Pn	**Pn**	**01 21 24.1**	**+1.0**
ANAR	**Anarak**	**2.60**	**303**	Pn	**Pn**	**01 21 27.0**	**+0.8**
AFRZ	**Afriz**	**2.77**	**54**	Pn	**Pn**	**01 21 29.3**	**+0.7**
IDAH	**Dahanechah**	**3.13**	**72**	Pn	**Pn**	**01 21 34.4**	**+0.9**
TAPT	**Tabas- Tapeh t**	**3.14**	**12**	Pn	**Pn**	**01 21 34.5**	**+0.8**
NHDN	**Nehbandan**	**3.19**	**97**	Pn	**Pn**	**01 21 35.5**	**+1.2**
KBAM	**BAM**	**3.23**	**145**	Pn	**Pn**	**01 21 37.1**	**+2.3**
IZEF	**Zefreh**	**3.56**	**289**	Pn	**Pn**	**01 21 40.9**	**+1.3**
SHRT	**Shahrakht**	**3.80**	**60**	Pn	**Pn**	**01 21 43.9**	**+1.3**
SHI	**Shiraz**	**3.94**	**238**	Pn	**Pn**	**01 21 46.7**	**+2.1**
JHRM	**Jahrom**	**4.07**	**217**	Pn	**Pn**	**01 21 48.6**	**+2.2**
KLNJ	**Kolanjah**	**4.14**	**260**	Pn	**Pn**	**01 21 49.6**	**+2.1**
ISFB	**Sefidab**	**4.27**	**307**	Pn	**Pn**	**01 21 50.1**	**+1.0**
IKLH	**Kolahrood**	**4.29**	**292**	Pn	**Pn**	**01 21 51.3**	**+1.7**
IBRJ	**Brojen**	**4.32**	**273**	Pn	**Pn**	**01 21 52.1**	**+2.1**
QIR1	**Qir**	**4.38**	**222**	Pn	**Pn**	**01 21 52.1**	**+1.5**
ZHSF	**Zahedan**	**4.40**	**119**	Pn	**Pn**	**01 21 52.1**	**+1.1**
ILAS	**Lasjerd**	**4.54**	**323**	Pn	**Pn**	**01 21 55.0**	**+2.0**
ZNGN	**Zangian**	**4.67**	**275**	Pn	**Pn**	**01 21 56.1**	**+1.3**
SBZV	**Sabzevar**	**4.69**	**13**	Pn	**Pn**	**01 21 56.1**	**+1.2**
TBJM	**Torbat-e-JAM**	**4.79**	**43**	Pn	**Pn**	**01 21 57.4**	**+1.0**
IFIR	**Firoozkooh**	**4.85**	**323**	Pn	**Pn**	**01 21 57.9**	**+0.7**
IMOG	**Moghan**	**4.96**	**29**	Pn	**Pn**	**01 22 00.5**	**+1.8**
IVRN	**Varamin**	**5.00**	**311**	Pn	**Pn**	**01 22 00.4**	**+1.3**
IGLO	**Ghaloghah**	**5.12**	**337**	Pn	**Pn**	**01 22 02.7**	**+1.8**
IPAY	**Payeh**	**5.13**	**25**	Pn	**Pn**	**01 22 02.5**	**+1.6**
IALA	**Alasht**	**5.17**	**326**	Pn	**Pn**	**01 22 03.3**	**+1.6**
IAKL	**Akhelmad**	**5.18**	**22**	Pn	**Pn**	**01 22 03.3**	**+1.5**
IDMV	**Damavand**	**5.20**	**317**	Pn	**Pn**	**01 22 03.5**	**+1.5**
JRKH	**Jarkhoshk**	**5.28**	**38**	Pn	**Pn**	**01 22 04.4**	**+1.4**
IQOM	**Qom**	**5.35**	**306**	Pn	**Pn**	**01 22 04.5**	**+0.4**
ISFR	**Sfrayin**	**5.41**	**14**	Pn	**Pn**	**01 22 06.2**	**+1.3**
IMND	**Minoodasht**	**5.49**	**352**	Pn	**Pn**	**01 22 07.3**	**+1.5**
IMYA	**Miami**	**5.49**	**34**	Pn	**Pn**	**01 22 08.2**	**+2.2**
IPRN	**Peran**	**5.53**	**324**	Pn	**Pn**	**01 22 07.5**	**+1.1**
IHSB	**Hasanabad**	**5.56**	**312**	Pn	**Pn**	**01 22 08.4**	**+1.5**
DSBU	**Dashti - Bushe**	**5.58**	**233**	Pn	**Pn**	**01 22 08.9**	**+1.8**
MRVT	**Maraveh tapeh**	**5.84**	**358**	Pn	**Pn**	**01 22 11.8**	**+1.2**
IEMG	**Emamgholi**	**5.91**	**18**	Pn	**Pn**	**01 22 13.1**	**+1.3**
IMHD	**Mahdasht**	**6.10**	**311**	Pn	**Pn**	**01 22 15.0**	**+0.7**
IRAZ	**Razeghan**	**6.44**	**306**	Pn	**Pn**	**01 22 20.5**	**+1.5**
HAGD	**Aghdareh**	**6.73**	**298**	Pn	**Pn**	**01 22 25.0**	**+1.9**
IGZV	**Ghazvin**	**6.83**	**314**	Pn	**Pn**	**01 22 25.6**	**+1.3**
QABG	**Abgarm-Qazvin**	**6.84**	**306**	Pn	**Pn**	**01 22 25.8**	**+1.2**
SRVN	**Saravan**	**6.86**	**128**	Pn	**Pn**	**01 22 27.1**	**+2.3**
HSAM	**Samen**	**6.93**	**292**	Pn	**Pn**	**01 22 27.2**	**+1.5**
HGHA	**Hamedan- Ghaye**	**7.24**	**302**	Pn	**Pn**	**01 22 31.7**	**+1.7**
JIR1	**Jirandeh**	**7.29**	**314**	Pn	**Pn**	**01

comp=Z,0.6nm,0.8s,baz=56,slow=8.9,SNR=6.1
comp=Z,0.6nm,0.8s
YAK Yakutsk 54.71 34 LR LR 01 56 11.1
comp=Z,45nm,18.8s,baz=270,slow=39
KLR Kul'dur 57.54 49 LR LR 01 58 27.2
comp=Z,51nm,18.7s,baz=320,slow=39
KSRS Korea Array 57.88 63 LR LR 01 57 48.3
comp=Z,19nm,18.1s,baz=45,slow=38
YKA Yellowknife Ar 85.74 356 P **P 01 33 24.2 +1.3**
comp=Z,0.1nm,0.8s,baz=357,slow=4.8,SNR=4.4
comp=Z,0.1nm,0.8s

IDC 11 01:45:44.5±2.2, 2°.98N×127°.76E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=150.8km s-min=27.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**164**	P	P	01 50 57.9	-0.1
	2.3nm,0.7s,baz=344,slow=10,SNR=13						
	2.3nm,0.7s						
ASAR	**Alice Springs**	**27.15**	**168**	P	P	01 51 29.6	-0.2
	0.5nm,0.6s,baz=352,slow=7.3,SNR=4.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**58.76**	**325**	P	P	01 55 44.6	+0.2
	0.1nm,0.4s,baz=116,slow=7.5,SNR=4.0						
	0.1nm,0.4s						

---

*BEO **11** 01:46:09.8±0.7, 41°.00N×24°.93E, h2km±3km, ML3.2/9*
*ISK **11** 01:46:11.5, 41°.22N×24°.70E, h9km, ML2.9/26*
*SOF **11** 01:46:11.3, 41°.21N±0°.02×24°.72E±0°.01, h15km±1km, MD3.0/12*
*ATH **11** 01:46:12.8, 41°.21N×24°.68E, h11km±3km, ML2.9/18, Manual Solution by E.Daskalaki First location: 2019/02/11 01:46:35, This location: 2019/02/12 08:33:58 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km
*THE **11** 01:46:12.9, 41°.20N×24°.72E, h7km, ML2.8/14, Error ellipse: s-maj=1.0km s-min=0.5km az=5.0*
*AFAD **11** 01:46:14.8, 41°.10N×24°.75E, h28km±1km, ML2.6*

ISC 11 01:46:12.7±0.9, 41°.21N±0°.01×24°.72E±0°.01, h9km±8km, n118, σ0°.97/175, 11C-5D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.26**	**216**	P	**Pg**	**01 46 18.1**	**+0.2**
KAVA				S	**Sg**	**01 46 22.2**	**+0.8**
	6μm,0.3s						
KAVA	**Kavala**	**0.26**	**216**	P	**Pg**	**01 46 18.0**	**0.0**
KAVA				S	**Sg**	**01 46 21.3**	**-0.1**
XANC	**Avdira**	**0.29**	**142**	P	**Pg**	**01 46 19.0**	**+0.5**
XANC				S	**Sb**	**01 46 23.8**	**-1.2**
KVLA	**Kavala**	**0.37**	**223**	P	**Pg**	**01 46 20.1**	**+0.1**
KVLA				S	**Sg**	**01 46 25.2**	**+0.4**
RZN	**Rozhen**	**0.49**	**2⇑**	*i* Pg	**Pg**	**01 46 21.9**	**-0.3**
RZN				Sg	**Sg**	**01 46 27.9**	**-0.7**
KMT1	**Komotini**	**0.53**	**100**	P	**Pg**	**01 46 23.3**	**+0.3**
KMT1				S	**Sb**	**01 46 31.5**	**-0.4**
THAS	**Thassos island**	**0.60**	**180**	P	**Pg**	**01 46 24.5**	**+0.2**
THAS	**Thassos island**	**0.60**	**180**	P	**Pg**	**01 46 24.1**	**-0.2**
THAS				S	**Sg**	**01 46 32.6**	**+0.4**
RDO	**Rodhopi**	**0.62**	**95**	Pg	**Pg**	**01 46 24.2**	**-0.6**
RDO	**Rodhopi**	**0.62**	**95**	P	**Pg**	**01 46 24.4**	**-0.4**
RDO				S	**Sg**	**01 46 33.3**	**+0.4**
	578nm,0.2s						
RDO	**Rodhopi**	**0.62**	**95**	P	**Pg**	**01 46 24.3**	**-0.4**
RDO				S	**Sg**	**01 46 33.3**	**+0.4**
KDZ	**Kurdzhali**	**0.63**	**48**	Pg	**Pg**	**01 46 24.2**	**-0.7**
KDZ	**Kurdzhali**	**0.63**	**48⇑**	*i* Pg	**Pg**	**01 46 24.4**	**-0.5**
KDZ				Sg	**Sg**	**01 46 32.5**	**-0.7**
NVR	**Nevrokopi**	**0.66**	**283**	P	**Pg**	**01 46 25.5**	**+0.1**
NVR				S	**Sg**	**01 46 34.9**	**+0.8**
	468nm,0.4s						
NVR	**Nevrokopi**	**0.66**	**283**	P	**Pg**	**01 46 25.3**	**-0.1**
NVR				S	**Sg**	**01 46 33.7**	**-0.3**
KOKK	**Kokkinochori,**	**0.67**	**234**	P	**Pg**	**01 46 25.3**	**-0.3**
KOKK				S	**Sb**	**01 46 35.3**	**-0.6**
	470nm,0.4s						
MMB	**Musomishta**	**0.80**	**295**	*i* Pg	**Pg**	**01 46 27.8**	**-0.4**
MMB				Sg	**Sg**	**01 46 38.6**	**0.0**
SRS	**Serrai**	**0.85**	**264**	P	**Pg**	**01 46 28.3**	**-0.9**
SRS				S	**Sb**	**01 46 41.2**	**0.0**
	605nm,0.4s						
SRS	**Serrai**	**0.85**	**264**	*e* Pg	**Pg**	**01 46 28.2**	**-0.9**
SRS				*e* Sg	**Sb**	**01 46 41.8**	**+0.6**
SRS	**Serrai**	**0.85**	**264**	P	**Pg**	**01 46 28.1**	**-1.0**
SRS				S	**Sg**	**01 46 40.6**	**+0.4**
PLD	**Plovdiv**	**0.94**	**1**	Pg	**Pg**	**01 46 28.9**	**-1.9**
PLD	**Plovdiv**	**0.94**	**1⇑**	*i* Pg	**Pg**	**01 46 30.2**	**-0.6**
PLD				Sg	**Sg**	**01 46 42.9**	**-0.1**
PLD	**Plovdiv**	**0.94**	**1**	*e* Pg	**Pg**	**01 46 29.9**	**-0.9**
PLD				*e* Sg	**Sn**	**01 46 45.3**	**-0.3**
SMTH	**Samothraki Isl**	**0.96**	**140**	P	**Pg**	**01 46 31.3**	**+0.1**
SMTH				S	**Sn**	**01 46 44.9**	**-1.3**
	260nm,0.4s						
SMTH	**Samothraki Isl**	**0.96**	**140**	P	**Pg**	**01 46 31.1**	**-0.1**
SMTH				S	**Sb**	**01 46 44.0**	**-0.3**
ALEX	**Alexandroupoli**	**0.96**	**111**	P	**Pg**	**01 46 31.2**	**-0.1**
ALEX				S	**Sb**	**01 46 44.6**	**+0.3**
NGRA	**Nigrita**	**0.97**	**252**	P	**Pg**	**01 46 31.0**	**-0.3**
NGRA				S	**Sb**	**01 46 44.3**	**-0.2**
OUR	**Ouranopolis**	**1.03**	**213**	Pg	**Pb**	**01 46 31.9**	**-0.8**
OUR				Sg	**Sb**	**01 46 46.6**	**+0.2**
OUR	**Ouranopolis**	**1.03**	**213**	P	**Pg**	**01 46 32.7**	**+0.1**
OUR				S	**Sb**	**01 46 46.9**	**+0.5**
	2μm,0.5s						
OUR	**Ouranopolis**	**1.03**	**213**	P	**Pb**	**01 46 32.0**	**-0.8**
OUR				S	**Sb**	**01 46 46.2**	**-0.2**
ALN	**Alexandroupoli**	**1.05**	**107**	Pg	**Pb**	**01 46 32.5**	**-0.6**
ALN	**Alexandroupoli**	**1.05**	**107**	P	**Pb**	**01 46 32.7**	**-0.4**
ALN				S	**Sb**	**01 46 47.2**	**+0.3**
	622nm,0.6s						
DIM	**Dimitrovgrad**	**1.06**	**37⇑**	*i* Pg	**Pb**	**01 46 32.3**	**-0.9**
DIM				Sg	**Sb**	**01 46 46.1**	**-1.0**
SOH	**Sokhos**	**1.10**	**250**	P	**Pb**	**01 46 33.1**	**-0.8**
SOH				S	**Sg**	**01 46 48.7**	**+0.6**
	530nm,0.6s						
ENEZ	**Enez**	**1.19**	**113**	Pn	**Pb**	**01 46 34.9**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**1.22**	**115**	P	**Pg**	**01 46 36.3**	**+0.2**
CAVK				S	**Sn**	**01 46 53.6**	**+1.3**
CAVK				*i* AML	AML	01 46 56.0	
	comp=N,278nm,0.7s						
CAVK				*i* AML	AML	01 46 58.0	
	comp=E,115nm,0.3s						
CAVK	**Edirne/Enez-Ca**	**1.22**	**115**	⇑P	**Pg**	**01 46 36.7**	**+0.7**
CAVK				⇑S	**Sn**	**01 46 54.1**	**+1.8**
PLG	**Polygyros**	**1.27**	**230**	P	**Pn**	**01 46 36.3**	**-0.4**
PLG				S	**Sg**	**01 46 53.9**	**+0.2**
	610nm,0.5s						
PLG	**Polygyros**	**1.27**	**230**	P	**Pn**	**01 46 35.9**	**-0.8**
PLG				S	**Sb**	**01 46 52.5**	**-0.9**
TRGA	**Dikaia**	**1.29**	**67**	P	**Pb**	**01 46 36.8**	**-0.2**
KKB	**Krupnik**	**1.35**	**299**	*i* Pg	**Pb**	**01 46 38.0**	**-0.1**
KKB				Sg	**Sg**	**01 46 56.5**	**+0.4**
LIA	**Limnos Island**	**1.36**	**165**	P	**Pn**	**01 46 37.6**	**-0.2**
LIA				S	**Sn**	**01 46 55.7**	**-0.2**
	810nm,0.5s						
LIA	**Limnos Island**	**1.36**	**165**	P	**Pn**	**01 46 37.4**	**-0.4**
GADA	**Gvkgeada**	**1.36**	**138**	Pn	**Pn**	**01 46 37.5**	**-0.3**
PGB	**Panagyurishte**	**1.37**	**343**	*i* Pg	**Pn**	**01 46 37.9**	**-0.1**
PGB				Sg	**Sn**	**01 46 56.4**	**+0.2**
HORT	**Hortiatis**	**1.37**	**244**	Pn	**Pn**	**01 46 37.2**	**-0.8**
HORT	**Hortiatis**	**1.37**	**244**	P	**Pn**	**01 46 37.9**	**-0.1**
HORT				S	**Sg**	**01 46 57.4**	**+0.7**
	428nm,0.6s						
HORT	**Hortiatis**	**1.37**	**244**	P	**Pn**	**01 46 37.5**	**-0.5**
GOAD	**anakkale-G¶**	**1.39**	**139**	P	**Pg**	**01 46 39.4**	**+0.2**
GOAD				S	**Sg**	**01 46 58.8**	**+1.6**
GOAD				*i* AML	AML	01 47 00.0	
	comp=N,152nm,0.3s						
GOAD				*i* AML	AML	01 47 02.0	
	comp=E,190nm,0.5s						
THE	**Thessaloniki**	**1.45**	**247**	P	**Pn**	**01 46 39.0**	**0.0**
THE				S	**Sb**	**01 46 58.5**	**+0.3**
	202nm,0.6s						
THE	**Thessaloniki**	**1.45**	**247**	P	**Pn**	**01 46 39.0**	**0.0**
UKOP	**Uzunkopru-Edir**	**1.45**	**93**	Pn	**Pn**	**01 46 38.6**	**-0.5**
ERIK	**Erikli-Kesan**	**1.46**	**111**	Pn	**Pn**	**01 46 38.8**	**-0.4**
PEHC	**Pehcevo**	**1.48**	**293**	*i* Pn	**Pb**	**01 46 40.5**	**+0.1**
PEHC				*i* Sn	**Sg**	**01 47 02.4**	**+2.1**
PAIG	**Paliouri**	**1.50**	**212**	Pn	**Pn**	**01 46 39.0**	**-0.8**
PAIG	**Paliouri**	**1.50**	**212**	P	**Pn**	**01 46 39.3**	**-0.5**
PAIG				S	**Sn**	**01 46 59.3**	**-0.2**
	160nm,0.4s						
GELI	**Tayfur-Gelibol**	**1.56**	**121**	Pn	**Pn**	**01 46 39.9**	**-0.7**
PLNA	**Plana**	**1.59**	**323**	*i* P	**Pb**	**01 46 42.5**	**+0.1**
PLNA				S	**Sg**	**01 47 04.1**	**+0.2**
EDRB	**Edirne**	**1.65**	**67**	Pn	**Pn**	**01 46 41.3**	**-0.6**
EDRB	**Edirne**	**1.65**	**67**	P	**Pn**	**01 46 42.3**	**+0.4**
BOZC	**Bozcaada**	**1.70**	**143**	Pn	**Pn**	**01 46 42.3**	**-0.3**
BOZC	**Bozcaada**	**1.70**	**143**	P	**Pb**	**01 46 44.0**	**-0.2**
BOZC				S	**Sb**	**01 47 05.9**	**+0.3**
BOZC				*i* AML	AML	01 47 08.0	
	comp=N,63nm,0.9s						
BOZC				*i* AML	AML	01 47 09.0	
	comp=E,51nm,0.5s						
CNKL	**anakkale-Mer**	**1.71**	**131**	P	**Pb**	**01 46 44.6**	**+0.3**
CNKL				S	**Sn**	**01 47 03.9**	**-0.7**
CNKL				*i* AML	AML	01 47 32.0	
	comp=N,46nm,1.3s						
CNKL				*i* AML	AML	01 47 33.0	
	comp=E,43nm,1.1s						
COMU	**Canakkale**	**1.74**	**129**	Pn	**Pn**	**01 46 42.7**	**-0.3**
LPK	**Lapseki**	**1.76**	**118**	Pn	**Pn**	**01 46 42.9**	**-0.5**
GRG	**Griva**	**1.77**	**263**	Pn	**Pn**	**01 46 42.6**	**-0.9**
VTS	**Vitosha**	**1.79**	**322**	*i* Pg	**Pg**	**01 46 46.7**	**-0.3**
VTS				Sg	**Sg**	**01 47 10.3**	**0.0**
VTS	**Vitosha**	**1.79**	**322**	*e* Pn	**Pb**	**01 46 45.5**	**-0.3**
VTS				*e* Sn	**Sg**	**01 47 10.9**	**+0.6**
EZN	**Ezine**	**1.85**	**138**	Pn	**Pn**	**01 46 43.2**	**-1.3**
JMB	**Yambol**	**1.87**	**46**	*i* Pg	**Pg**	**01 46 47.9**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.94**	**105**	Pn	**Pn**	**01 46 45.1**	**-0.7**
PVL	**Pavlikeni**	**1.94**	**10**	*i* Pg	**Pb**	**01 46 49.0**	**+0.7**
LIT	**Litokhoron**	**2.02**	**238**	P	**Pn**	**01 46 46.6**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**2.02**	**136**	P	**Pb**	**01 46 48.3**	**-1.4**
BAYC				S	**Sb**	**01 47 13.5**	**-1.4**
BAYC				*i* AML	AML	01 47 21.0	
	comp=E,22nm,0.5s						
BAYC				*i* AML	AML	01 47 25.0	
	comp=N,25nm,0.8s						
BOSS	**Bosilegrad**	**2.11**	**308**	*e* Pn	**Pb**	**01 46 50.3**	**-0.8**
BOSS				*e* Sn	**Sg**	**01 47 19.2**	**-1.2**
TKR	**Tekirdag**	**2.14**	**95**	Pn	**Pn**	**01 46 48.3**	**-0.3**
CANM	**Can-anakkale**	**2.14**	**123**	Pn	**Pn**	**01 46 48.4**	**-0.2**
SIGR	**SIGRI**	**2.18**	**156**	P	**Pn**	**01 46 49.6**	**+0.5**
XOR	**Xorichti**	**2.18**	**213**	P	**Pn**	**01 46 48.8**	**-0.3**
XOR	**Xorichti**	**2.18**	**213**	P	**Pn**	**01 46 48.5**	**-0.6**
NEO	**Neokhori**	**2.22**	**211**	P	**Pn**	**01 46 49.3**	**-0.3**
NEO	**Neokhori**	**2.22**	**211**	P	**Pn**	**01 46 48.9**	**-0.7**
MPEP	**Malo Peshtene**	**2.27**	**342**	*i* P	**Pb**	**01 46 54.8**	**+1.0**
MPEP				S	**Sb**	**01 47 23.6**	**+1.7**
CRLT	**Corlu**	**2.28**	**91**	Pn	**Pn**	**01 46 50.0**	**-0.5**
PRK	**Paraskevi**	**2.29**	**148**	P	**Pn**	**01 46 51.6**	**+0.9**
PRK	**Paraskevi**	**2.29**	**148**	P	**Pn**	**01 46 51.4**	**+0.7**
KZN	**Kozani**	**2.41**	**249**	P	**Pn**	**01 46 51.2**	**-1.2**
AYVA	**Ayvalik**	**2.43**	**141**	P	**Pn**	**01 46 54.1**	**+1.6**
AYVA				S	**Sb**	**01 47 24.1**	**-2.3**
AYVA				*i* AML	AML	01 47 31.0	
	comp=E,35nm,1.0s						
AYVA				*i* AML	AML	01 47 39.0	
	comp=N,66nm,1.2s						
EDC	**Edincik**	**2.54**	**109**	Pn	**Pn**	**01 46 54.1**	**0.0**
FNA	**Florina**	**2.56**	**262**	Pn	**Pn**	**01 46 53.8**	**-0.7**
FNA	**Florina**	**2.56**	**262**	*e* Pn	**Pn**	**01 46 54.9**	**+0.5**
FNA				*e* Sn	**Sn**	**01 47 27.0**	**+1.2**
FNA	**Florina**	**2.56**	**262**	P	**Pn**	**01 46 53.8**	**-0.7**
ZAPS	**Zavoj**	**2.58**	**324**	*e* Pn	**Pn**	**01 46 56.1**	**+1.4**
ZAPS				*e* Sn	**Sb**	**01 47 31.2**	**+0.3**
SLVT	**Silivri**	**2.64**	**88**	Pn	**Pn**	**01 46 55.3**	**-0.1**
THL	**Klokotos Trika**	**2.64**	**232**	P	**Pn**	**01 46 55.2**	**-0.2**
BARS	**Barje**	**2.69**	**308**	*e* Pn	**Pn**	**01 46 57.2**	**+1.0**
BARS				*e* Sn	**Sb**	**01 47 33.5**	**-0.7**
CTYL	**Yalikoy Yolu**	**2.70**	**83**	Pn	**Pn**	**01 46 56.5**	**+0.2**
KPRO	**Kipourio**	**2.84**	**245**	P	**Pn**	**01 46 58.5**	**+0.1**
NEST	**Nestorio**	**2.89**	**255**	P	**Pn**	**01 46 59.8**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.96**	**223**	P	**Pn**	**01 47 00.1**	**+0.3**
ZAGS	**Zajecar**	**3.19**	**326**	*e* Pn	**Pn**	**01 47 04.2**	**+1.3**
ZAGS				*e* Sn	**Sb**	**01 47 44.8**	**-3.5**
SELS	**Selova**	**3.34**	**308**	*e* Pn	**Pn**	**01 47 06.4**	**+1.3**
SELS				*e* Sn	**Sb**	**01 47 49.2**	**-3.7**
BORS2	**Bor- Borsko je**	**3.50**	**326**	*e* Pn	**Pn**	**01 47 08.2**	**+0.9**
BORS2				*e* Sn	**Sb**	**01 47 53.8**	**-3.6**
GOCS	**Kraljevo Serbi**	**3.69**	**311**	*e* Pn	**Pn**	**01 47 10.6**	**+0.6**
GOCS				*e* Sn	**Sn**	**01 47 56.4**	**+2.7**
KUBS	**Kucevo**	**3.91**	**326**	*e* Pn	**Pn**	**01 47 12.9**	**0.0**
GRUS	**Gruza**	**3.99**	**314**	*e* Pn	**Pn**	**01 47 15.1**	**+1.1**
SJES	**Sjenica**	**4.08**	**302**	*e* Pn	**Pn**	**01 47 16.5**	**+1.2**
IVAS	**Ivanjica**	**4.12**	**307**	*e* Pn	**Pn**	**01 47 16.8**	**+0.9**
ARR	**Arges**	**4.16**	**359**	⇓P	**Pn**	**01 47 17.7**	**+1.3**
MDVR	**Moldovita**	**4.20**	**329**	⇓P	**Pn**	**01 47 17.6**	**+0.8**
VOIR		**4.23**	**3**	⇑P	**Pn**	**01 47 18.9**	**+1.5**
MLR	**Muntele Rosu**	**4.37**	**11**	⇑P	**Pn**	**01 47 21.6**	**+2.2**
GZR	**Gura Zlata**	**4.42**	**342**	⇑P	**Pn**	**01 47 20.1**	**+0.2**
DOPR	**Dopca**	**4.78**	**6**	⇓P	**Pn**	**01 47 26.7**	**+1.8**
PLOR	**Plostina**	**4.85**	**16**	⇑P	**Pn**	**01 47 28.5**	**+2.7**
VRI	**Vrincioaia**	**4.88**	**17**	⇑P	**Pn**	**01 47 28.5**	**+2.2**
OZUR		**4.95**	**9**	⇓P	**Pn**	**01 47 29.5**	**+2.3**
BZS	**Buzias**	**4.95**	**334**	⇓P	**Pn**	**01 47 28.0**	**+0.8**

---

*NEIC **11** 02:28:08.3±1.2, 35°.11N±0°.01×97°.87W±0°.01, h5km±1km, mb_Lg2.5/25, ML2.5/34, ML3.1/24, Error ellipse: s-maj=2.9km s-min=2.3km az=281.0*
*NEIC **11** 02:28:09.1±1.2, 35°.12N±0°.01×97°.88W±0°.01, h8km±4km, Error ellipse: s-maj=1.7km s-min=1.5km az=159.0*

ISC 11 02:28:07.8±1.2, 35°.11N±0°.02×97°.88W±0°.02, h1km±12km, n72, σ0°.83/75, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.42**	**69**	Pg	**Pb**	**02 28 17.3**	**-0.8**
FNO				Sg	**Sg**	**02 28 21.7**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.47**	**51**	Pg	**Pg**	**02 28 17.8**	**+1.0**
OKCSW				Sg	**Sg**	**02 28 23.0**	**+0.1**
OKCSW				IAML		02 28 25.0	
	comp=E,474nm,0.3s						
OKCSW				IAML		02 28 25.1	
	comp=N,480nm,0.2s						
X34A	**Smith Ranch, M**	**0.51**	**175**		**Pb**	**02 28 19.2**	**-0.4**
X34A					**Sg**	**02 28 23.7**	**-0.5**
X34A				IAML		02 28 32.7	
	comp=E,224nm,0.5s						
X34A				IAML		02 28 35.8	
	comp=N,303nm,1.1s						
BCOK	**Bluff Creek, N**	**0.59**	**22**		**Pb**	**02 28 20.2**	**-0.8**
ADOK	**Arcadia Dam**	**0.68**	**37**	Pg	**Pb**	**02 28 22.1**	**-0.5**
W35A	**Tecumseh**	**0.83**	**87**	Pg	**Pg**	**02 28 24.3**	**+0.6**
W35A				Sg	**Sg**	**02 28 35.3**	**+0.9**
W35A				IAML		02 28 43.1	
	comp=E,131nm,0.5s						
W35A				IAML		02 28 49.3	
	comp=N,111nm,0.3s						
WMOK	**Wichita Mounta**	**0.83**	**244**	Pg	**Pg**	**02 28 24.4**	**+0.7**
WMOK				Sg	**Sb**	**02 28 35.8**	**-0.9**
WMOK	**Wichita Mounta**	**0.83**	**244**	P	**Pb**	**02 28 24.7**	**-0.3**
CSTR	**Hydro, Custer**	**0.85**	**309**	Pg	**Pg**	**02 28 24.8**	**+0.7**
CSTR				Sg	**Sg**	**02 28 35.9**	**+0.8**
OK031	**S. Brethren Rd**	**1.20**	**45**	Pg	**Pg**	**02 28 30.4**	**-0.3**
OK031				Sg	**Sg**	**02 28 46.4**	**+0.2**
OK052	**Battle Ridge R**	**1.25**	**45**	Pg	**Pg**	**02 28 31.6**	**-0.1**
DEOK	**Depew**	**1.34**	**57**		**Pn**	**02 28 33.4**	**-0.4**
CROK	**Carrier**	**1.39**	**357**		**Pn**	**02 28 33.9**	**-0.6**
WTFS	**Witchita Falls**	**1.43**	**200**		**Pn**	**02 28 34.5**	**-0.4**
WTFS	**Witchita Falls**	**1.43**	**200**	P	**Pg**	**02 28 36.0**	**+0.9**
QUOK	**Quay**	**1.43**	**42**		**Pn**	**02 28 34.2**	**-0.7**
ELIS	**Ellis County**	**1.57**	**308**		**Pb**	**02 28 37.8**	**0.0**
OK051	**E0350 and S346**	**1.63**	**31**		**Pn**	**02 28 37.8**	**+0.1**
BLOK	**Blackwell**	**1.73**	**18**		**Pb**	**02 28 39.8**	**-0.6**
NOKA	**Waynoka**	**1.74**	**331**	Pn	**Pn**	**02 28 39.4**	**+0.1**
KAN14	**Manchester OK**	**1.84**	**358**	Pn	**Pn**	**02 28 40.6**	**0.0**
Z35A	**Perchaven, San**	**1.85**	**163**	P	**Pb**	**02 28 41.7**	**-0.8**
KAN13	**South Haven SW**	**1.93**	**10**	Pn	**Pn**	**02 28 42.3**	**+0.5**
KAN17	**Caldwell West**	**1.93**	**3**	Pn	**Pn**	**02 28 42.3**	**+0.5**
SMWD	**Samnorwood**	**1.94**	**271**	Pn	**Pb**	**02 28 43.2**	**-0.8**
SMWD	**Samnorwood**	**1.94**	**271**	P	**Pb**	**02 28 44.5**	**+0.6**
KAN05	**Bluff City Nor**	**1.99**	**0**	Pn	**Pn**	**02 28 43.4**	**+0.7**
KAN09	**Caldwell North**	**2.03**	**6**	Pn	**Pn**	**02 28 43.7**	**+0.4**
KAN01	**Argonia South**	**2.04**	**3**	Pn	**Pn**	**02 28 43.4**	**0.0**
KAN01				IAmb_Lg		02 29 15.9	
	comp=Z,22nm,0.7s						
FW03	**Perrin-Whitt E**	**2.07**	**184**	Pn	**Pb**	**02 28 45.0**	**-1.2**
KAN08	**Anthony NE Sta**	**2.11**	**358**	Pn	**Pn**	**02 28 44.3**	**-0.1**
KAN08				IAmb_Lg		02 29 16.6	
	comp=Z,18nm,0.7s						
FW06	**Azle**	**2.15**	**173**	Pn	**Pn**	**02 28 45.8**	**+0.9**
FW06	**Azle**	**2.15**	**173**	P	**Pb**	**02 28 47.3**	**-0.2**
KAN12	**Harper NE Stat**	**2.19**	**358**	Pn	**Pn**	**02 28 45.5**	**+0.2**
PLPT	**Palo Pinto**	**2.32**	**189**	Pn	**Pn**	**02 28 48.6**	**+1.4**
PLPT				IAmb_Lg		02 29 21.1	
	comp=Z,13nm,0.9s						
PLPT	**Palo Pinto**	**2.32**	**189**	P	**Pb**	**02 28 49.4**	**-1.1**
DRZT	**Darrouzett**	**2.37**	**305**	P	**Pb**	**02 28 51.1**	**-0.4**
DRZT				S	**Sg**	**02 29 23.6**	**-0.5**
FW07	**Weatherford**	**2.40**	**178**	Pn	**Pn**	**02 28 48.9**	**+0.5**
FW07				IAmb_Lg		02 29 25.9	
	comp=Z,16nm,0.8s						
FW07	**Weatherford**	**2.40**	**178**	P	**Sg**	**02 29 23.6**	**-1.5**
APMT	**Aspermont**	**2.57**	**227**	Pn	**Pn**	**02 28 51.1**	**+0.5**
APMT	**Aspermont**	**2.57**	**227**	P	**Pb**	**02 28 53.4**	**-1.4**
APMT	**Aspermont**	**2.57**	**227**	P	**Sg**	**02 29 28.3**	**-2.2**
FW16	**Waxahatchie**	**2.75**	**162**	P	**Sg**	**02 29 35.8**	**-0.3**
FW13	**Cleburne**	**2.78**	**172**	IAmb_Lg		02 29 34.7	
	comp=Z,10nm,1.0s						
ABTX	**Abilene, Hawle**	**2.88**	**211**	P	**Pn**	**02 28 57.0**	**+2.1**
DKNS	**Dickens**	**2.90**	**241**	Pn	**Pn**	**02 28 55.5**	**+0.3**
DKNS				IAmb_Lg		02 29 39.1	
	comp=Z,15nm,1.2s						
AMTX	**Amarillo**	**3.13**	**267**	Pn	**Pn**	**02 28 59.1**	**+0.7**
WHTX	**Lake Whitney,**	**3.13**	**173**	P	**Pn**	**02 29 00.3**	**+2.0**
SN07	**Snyder 07**	**3.21**	**232**	Pn	**Pn**	**02 28 59.3**	**-0.1**
R32A	**Long Quarter,**	**3.37**	**349**	Pn	**Pn**	**02 29 01.6**	**-0.1**
HHAR	**Hobbs**	**3.41**	**69**	Pn	**Pn**	**02 29 02.8**	**+0.5**
POST	**Post**	**3.63**	**237**	Pn	**Pn**	**02 29 04.7**	**-0.6**
BRDY	**Brady**	**3.93**	**194**	Pn	**Pn**	**02 29 09.9**	**+0.5**
BRDY				IAmb_Lg		02 30 22.3	
	comp=Z,9.5nm,0.9s						
BRDY	**Brady**	**3.93**	**194**	P	**Pn**	**02 29 10.7**	**+1.4**
BRDY	**Brady**	**3.93**	**194**	P	**Sn**	**02 29 57.1**	**+1.0**
CBKS	**Cedar Bluff**	**3.98**	**339**	Pn	**Pn**	**02 29 09.4**	**-0.7**
CBKS				IAmb_Lg		02 30 19.6	
	comp=Z,12nm,0.8s						
CBKS	**Cedar Bluff**	**3.98**	**339**	P	**Pn**	**02 29 12.0**	**+1.9**
KSU1	**Kansas State U**	**4.11**	**14**	Pn	**Pn**	**02 29 11.9**	**+0.1**
X40A	**Basin Creek Fa**	**4.20**	**97**	Pn	**Pn**	**02 29 13.8**	**+0.8**
435B	**Jarrell**	**4.32**	**177**	Pn	**Pn**	**02 29 15.2**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.76**	**79**	Pn	**Pn**	**02 29 20.4**	**-0.4**
JCT	**Junction City**	**4.89**	**200**	Pn	**Pn**	**02 29 22.6**	**0.0**
JCT				IAmb_Lg		02 30 56.3	
	comp=Z,14nm,1.0s						
JCT	**Junction City**	**4.89**	**200**	P	**Pn**	**02 29 24.4**	**+1.8**
MGMO	**Mountain Grove**	**4.98**	**64**	Pn	**Pn**	**02 29 23.9**	**+0.1**
OZNA	**Ozona**	**4.99**	**214**	Pn	**Pn**	**02 29 23.7**	**-0.3**
MNHN	**Monahans**	**5.55**	**229**	IAmb_Lg		02 31 09.3	
	comp=Z,5.2nm,0.8s						
HNDO	**Hondo**	**5.69**	**192**	Pn	**Pn**	**02 29 32.6**	**-1.0**
DRIO	**Del Rio**	**6.13**	**203**	IAmb_Lg		02 31 33.8	
	comp=Z,6.3nm,0.9s						
SAND	**Sanderson**	**6.26**	**216**	Pn	**Pn**	**02 29 41.1**	**-0.4**
SAND	**Sanderson**	**6.26**	**216**	P	**Pn**	**02 29 41.8**	**+0.3**
Q24A	**Divide**	**6.97**	**306**	IAmb_Lg		02 32 07.0	
	comp=Z,7.0nm,0.8s

TXAR	Lajitas Array	96.41	61	P	P	02 48 25.5	-0.3
	comp=Z,0.2nm,0.6s,baz=224,slow=6.2,SNR=4.0						
	comp=Z,0.2nm,0.6s						
WMQ	Urumqi	97.11	314	*e*P	Pdif	02 48 28.9	+0.3
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YKA	Yellowknife Ar	100.25	27	P	Pdif	02 48 42.0	0.0
	comp=Z,0.5nm,0.6s,baz=254,slow=4.9,SNR=7.9						
ARCES	ARCESS Array B	124.77	345	PKP	PKPdf	02 53 51.4	-2.6
	comp=Z,2.0nm,0.7s,baz=62,slow=2.9,SNR=9.7						
RONA	Rosalia, Austr	143.89	329	*e*PKP	PKPbc	02 54 28.7	+0.1
	comp=Z,5.5nm,0.7s						
CONA	Conrad Observa	143.94	329	*i* PKiKP	PKiKP	02 54 33.2	-0.7
	comp=Z,11nm,2.1s						
ARSA	Arzberg	144.58	329	*e*PKP	PKPab	02 54 29.9	-0.8
	comp=Z,3.8nm,0.8s						
MOA	Molln	144.75	331	*i* PKP	PKPbc	02 54 30.7	-0.5
	comp=Z,4.7nm,1.0s						
KBA	Koelnbreinsper	145.74	331	*e*PKP	PKPab	02 54 35.4	+0.1
	comp=Z,3.3nm,0.6s						
LESA	Schwarzleotal	145.79	332	*i* PKP	PKPdf	02 54 33.2	-0.3
	comp=Z,2.5nm,0.5s						
ITM	Ithomi	146.27	309	PKPdf	PKPdf	02 54 33.8	-0.8
ABTA	Abfaltersbach	146.37	331	*e*PKP	PKPdf	02 54 32.0	-2.6
	comp=Z,6.4nm,1.2s						
SABO	M.te Sabotino	146.42	329	PKPdf	PKPdf	02 54 34.6	0.0
MOTA	Moosalm	146.55	333	*e*PKP	PKPdf	02 54 35.3	+0.4
	comp=Z,3.3nm,0.8s						
SQTA	Sankt Quirin	146.60	333	*i* PKP	PKPdf	02 54 35.9	+0.9
	comp=Z,5.3nm,0.6s						
FETA	Feichten	146.96	333	*i* PKP	PKPdf	02 54 36.8	+1.1
	comp=Z,3.5nm,0.6s						
DAVA	Damuels	147.11	334	*e*PKP	PKPbc	02 54 37.4	-1.0
	comp=Z,13nm,1.3s						
FUORN	Ofenpass-Fuorn	147.47	333	PKPbc	PKPdf	02 54 38.2	+1.5
TUE	Stuetta	147.98	334	PKPbc	PKPbc	02 54 39.7	-1.1
NRCA	Norcia	148.86	325	PKPbc	PKPbc	02 54 41.9	-1.1
CUC	Castrocucco	149.06	318	PKPbc	PKPbc	02 54 42.3	-1.3
RAFF	Raffo Rosso	151.56	315	PKPbc	PKPbc	02 54 49.1	-0.4
TORD	Torodi Ar. Bea	166.94	246	PKP	PKPdf	02 54 57.8	-3.5
	comp=Z,0.6nm,0.8s,baz=78,slow=1.1,SNR=3.9						

*WEL **11** 02:36:02.6±0.4,42°S±3°×17°4E±°,h12km±3km,M3.0/15, ML3.3/15,MLv3.0/15,Error ellipse: s-maj=3.7km s-min=2.9km az=36.5,confirmed*
*NOU **11** 02:36:03.8,41°.69S×174°.14E,h5km,MLv3.5/11,Cook Strait, New Zealand*

ISC 11 02:36:03.3±0.8,41°.71S±0°.02×174°.16E±0°.02,h16km±5km, n88,σ1°20/97,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.06	134	P	Pg	02 36 06.1	-0.3
CMWZ				S	Sg	02 36 09.1	+0.7
SEDS	Seddon Fire St	0.07	300	P	Pg	02 36 05.9	-0.5
SEDS				S	Sg	02 36 08.3	-0.1
WDFS	Ward Fire Stat	0.12	186	P	Pg	02 36 06.6	-0.4
WDFS				S	Sg	02 36 09.7	+0.4
BSWZ	Blackbirch Sta	0.21	267	P	Pg	02 36 07.5	-0.7
BSWZ				S	Sg	02 36 11.2	-0.3
KEKS	Kekerengu Vall	0.28	207	P	Pg	02 36 09.1	-0.3
TUWZ	Tuamarina	0.32	330	P	Pb	02 36 10.5	-0.1
TUWZ				S	Sb	02 36 15.5	0.0
BWRS	Waikakaho Road	0.33	325	P	Pg	02 36 09.8	-0.3
BWRS				S	Sb	02 36 14.9	-0.9
TCW	Tory Channel	0.50	10	P	Pg	02 36 12.8	-0.6
HAVS	Havelock	0.52	327	P	Pg	02 36 12.8	-0.7
SNZO	South Karori	0.57	46	P	Pg	02 36 14.4	-0.2
SNZO	South Karori	0.57	46	S	Sb	02 36 24.0	+1.2
BHW	Baring Head	0.61	61	P	Pg	02 36 15.4	0.0
WEL	Wellington	0.62	48	P	Pg	02 36 15.5	-0.1
WEL				S	Sb	02 36 25.1	+0.8
NNZ	Nelson	0.76	310	P	Pg	02 36 17.2	-0.9
PLWZ	Palliser	0.84	81	P	Pg	02 36 19.4	-0.2
KHZ	Kahutara	0.84	213	P	Pg	02 36 19.7	-0.1
KHZ	Kahutara	0.84	213	P	Pg	02 36 19.7	-0.1
KHZ				S	Sb	02 36 32.5	+1.8
MSWZ	Moikau Station	0.87	71	P	Pg	02 36 20.2	-0.1
MSWZ				S	Sb	02 36 33.5	+2.0
CAW	Cannon Point	0.91	49	P	Pg	02 36 20.5	-0.5
DUWZ	D'Urville Isla	0.92	349	P	Pg	02 36 19.9	-1.2
THZ	Tophouse	0.94	266	P	Pg	02 36 20.4	-1.1
PAWZ	Paruwai Farm	1.01	72	P	Pg	02 36 21.7	-1.1
KIW	Kapiti Island	1.02	34	P	Pg	02 36 21.9	-1.1
MRNZ	Matariki Terra	1.09	286	P	Pg	02 36 23.5	-0.9
TKNZ	Takaka Hill	1.12	306	P	Pg	02 36 23.7	-1.3
MTW	Mount Morrison	1.15	62	P	Pb	02 36 23.9	-1.0
OGWZ	Otaki Gorge	1.17	41	P	Pb	02 36 24.8	-0.4
TRWZ	Traveller	1.19	76	P	Pb	02 36 24.8	-1.5
HOWZ	Holdsworth Sta	1.30	52	P	Pn	02 36 26.1	-0.8
TMWZ	Te Maipa	1.44	66	P	Pn	02 36 27.7	-1.0
MRZ	Mangatainoka R	1.50	46	P	Pn	02 36 29.0	-0.6
QRZ	Quartz Range	1.51	305	P	Pn	02 36 30.3	+0.6
QRZ	Quartz Range	1.51	305	S	Sb	02 36 50.4	+0.6
QRZ	Quartz Range	1.51	305	P	Pn	02 36 30.2	+0.6
GVZ	Greta Valley S	1.51	213	P	Pn	02 36 29.7	-0.1
TIWZ	Tintock	1.60	55	P	Pn	02 36 30.2	-0.9
DSZ	Denniston Nort	1.76	268	P	Pn	02 36 33.9	+0.7
LTZ	Lake Taylor	1.76	232	P	Pn	02 36 32.6	-0.7
PRWZ	Pori Road	1.79	51	P	Pn	02 36 33.0	-0.6
POWZ	Post Office Ro	1.79	43	P	Pn	02 36 33.3	-0.3
AMCZ	Amberley	1.84	217	P	Pb	02 36 37.5	+0.8
BFZ	Birch Farm	1.88	58	P	Pn	02 36 35.7	+0.9
BFZ	Birch Farm	1.88	58	P	Pn	02 36 33.2	-1.7
DVHZ	Dannevirke	2.07	48	P	Pn	02 36 36.0	-1.5
TSZ	Takapari Road	2.14	40	P	Pb	02 36 41.9	+0.1
OXZ	Oxford	2.25	223	P	Pn	02 36 41.2	+1.2
MQZ	McQueen's Vall	2.29	208	P	Pn	02 36 37.6	-2.7
AKCZ	Akaroa Harbour	2.35	203	P	Pn	02 36 39.0	-2.3
PNHZ	Pukenui	2.37	42	P	Pn	02 36 40.8	-0.8
KHEZ	Kahui Hut	2.41	357	P	Pb	02 36 44.9	-1.5
KHEZ	Kahui Hut	2.41	357	P	Pb	02 36 45.2	-1.2
NEZ	North Egmont	2.43	359	P	Pb	02 36 45.5	-1.2
NBEZ	Newall Road No	2.44	355	P	Pb	02 36 46.1	-0.8
PKE	Pukeiti	2.51	357	P	Pb	02 36 46.8	-1.3
MTVZ	Mangateitei	2.53	24	P	Pn	02 36 46.0	+2.2
PKVZ	Pokaka	2.58	21	P	Pn	02 36 47.0	+2.5
MOVZ	Moawhango	2.60	28	P	Pn	02 36 45.1	+0.4
WNVZ	Wahianoa	2.62	25	P	Pn	02 36 47.5	+2.4
VRZ	Vera Road	2.62	10	P	Pn	02 36 46.8	+1.9
TRVZ	Turoa	2.63	24	P	Pn	02 36 46.8	+1.5
MHCZ	Mount Hutt	2.64	225	P	Pn	02 36 44.6	-0.7
WHVZ	Whangaehu Hut	2.66	25	P	Pb	02 36 49.9	-0.8
KRHZ	Kereru	2.66	45	P	Pn	02 36 44.4	-1.2
FWVZ	Far West T-bar	2.67	24	P	Pb	02 36 51.5	+0.6
TUVZ	Tukino	2.69	26	P	Pn	02 36 46.8	+0.7
COVZ	Chateau Observ	2.72	23	P	Pb	02 36 51.2	-0.4
NGZ	Ngauruhoe	2.76	24	P	Pn	02 36 49.8	+2.8
SNVZ	South Ngauruho	2.76	25	P	Pn	02 36 48.0	+1.0
OTVZ	Oturere	2.79	25	P	Pn	02 36 48.1	+0.6
NNVZ	North Ngauruho	2.80	24	P	Pn	02 36 49.2	+1.6
TWVZ	Taurewa	2.81	21	P	Pb	02 36 53.3	+0.2
WTVZ	West Tongariro	2.81	23	P	Pb	02 36 52.0	-1.2
ETVZ	East Tongariro	2.83	25	P	Pn	02 36 49.8	+1.8
KRVZ	Karewarewa	2.84	24	P	Pb	02 36 53.5	-0.2
TMVZ	Te Maari	2.84	25	P	Pn	02 36 49.1	+0.9
NTVZ	North Tongarir	2.85	25	P	Pn	02 36 49.3	+1.0
KWHZ	Kaweka Forest	2.86	38	P	Pb	02 36 54.4	+0.4
WVZ	Waitaha Valley	2.88	240	P	Pb	02 36 52.3	-1.9
KATZ	Kakaramea	2.97	24	P	Pb	02 36 56.2	+0.2
RATZ	Rangitukua	3.09	24	P	Pb	02 36 58.1	+0.1
BKZ	Black Stump Fm	3.10	36	P	Pn	02 36 53.4	+1.7
BKZ	Black Stump Fm	3.10	36	P	Pb	02 36 56.7	-1.4
HIZ	Hauiti	3.23	10	P	Pn	02 36 55.1	+1.7
HIZ	Hauiti	3.23	10	P	Pn	02 36 55.1	+1.7
GCSZ	Gaunt Creek Bo	3.26	239	P	Pn	02 36 56.5	+2.8
MTHZ	Maungataniwha	3.51	37	P	Pb	02 37 04.4	-0.7
JCZ	Jackson Bay	4.60	237	P	Pn	02 37 14.2	+1.9
JCZ	Jackson Bay	4.60	237	P	Pn	02 37 14.4	+2.1

*IDC **11** 02:39:22.3±3.0,34°.89N×23°.99E,h0km,mb3.7/7, mbtmp3.6/10,MLv3.5/3,Error ellipse: s-maj=66.7km s-min=21.4km az=6.0*
*ISK **11** 02:39:24.9,35°.04N×23°.91E,h10km,ML3.1/14*
*THE **11** 02:39:26.7,35°.06N×23°.98E,h0km±2km,ML3.1/5,Error ellipse: s-maj=2.1km s-min=0.7km az=259.0*
*ATH **11** 02:39:26.0,35°.06N×23°.95E,h10km±2km,ML3.1/18, Manual Solution by A.Agalos First location: 2019/02/11*

02:40:22, This location: 2019/02/12 17:55:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 11 02:39:26.1±0.9,35°.05N±0°.03×23°.96E±0°.04,h16km±6km, n66,σ1°07/80,mb3.7/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.23	153	Pg	Pg	02 39 30.6	-0.7
GVD	Gavdhos	0.23	153	P	Pg	02 39 31.1	-0.2
GVD				S	Sg	02 39 35.6	+0.7
	15μm,0.3s						
GVD	Gavdhos	0.23	153	P	Pg	02 39 31.1	-0.2
GVD				S	Sg	02 39 34.8	-0.1
IMMV	Iera Moni Meta	0.41	2	Pg	Pg	02 39 33.9	-0.5
IMMV	Iera Moni Meta	0.41	2	P	Pg	02 39 34.1	-0.3
IMMV				S	Sb	02 39 41.4	+0.3
	9μm,0.2s						
IMMV	Iera Moni Meta	0.41	2	P	Pg	02 39 34.2	-0.2
IMMV				S	Sg	02 39 39.9	-0.2
IDI	Anoyia	0.80	72	Pg	Pg	02 39 41.2	-0.4
IDI				Sg	Sn	02 39 53.9	-0.5
IDI	Anoyia	0.80	72	P	Pg	02 39 41.0	-0.6
IDI				S	Sn	02 39 53.8	-0.6
	998nm,0.4s						
IDI	Anoyia	0.80	72	P	Pb	02 39 41.5	-0.2
IDI				S	Sb	02 39 52.8	+0.6
IACM	Heraklion	0.95	74	P	Pn	02 39 44.8	+0.1
IACM				S	Sb	02 39 56.6	+0.2
CMBO	Columbo, Santo	1.84	39	P	Pb	02 39 58.9	-0.5
CMBO	Columbo, Santo	1.84	39	P	Pn	02 39 58.0	+0.9
CMBO				S	Sb	02 40 21.6	-0.6
ZKR	Zakros	1.85	87	Pn	Pn	02 39 58.4	+1.2
ZKR	Zakros	1.85	87	P	Pn	02 39 58.4	+1.2
VLI	Veliai	1.86	334	P	Pn	02 39 58.5	+1.2
VLI	Veliai	1.86	334	P	Pn	02 39 57.8	+0.4
VLI				S	Sn	02 40 20.9	+0.4
APE	Apeiranthos	2.38	32	Pn	Pn	02 40 05.8	+1.2
APE	Apeiranthos	2.38	32	P	Pn	02 40 05.6	+1.0
APE				S	Sb	02 40 36.6	-1.3
	115nm,0.6s						
KRND	KRANIDI	2.42	345	P	Pn	02 40 06.7	+1.7
KRND				S	Sb	02 40 38.0	-0.8
	155nm,0.5s						
KRND	KRANIDI	2.42	345	P	Pn	02 40 05.4	+0.4
KRND				S	Sn	02 40 35.9	+1.6
KARP	Karpathos	2.67	78	Pn	Pn	02 40 09.9	+1.5
KARP	Karpathos	2.67	78	P	Pn	02 40 09.5	+1.1
ITM	Ithomi	2.69	323	Pn	Pn	02 40 09.3	+0.6
ITM	Ithomi	2.69	323	P	Pn	02 40 09.4	+0.7
VLY	Voula,Athens	2.80	357	P	Pn	02 40 11.8	+1.5
VLY	Voula,Athens	2.80	357	P	Pn	02 40 11.5	+1.2
VLY				S	Sn	02 40 44.2	+0.5
ATHU	Athens Univers	2.92	357	P	Pn	02 40 12.7	+0.9
PTL	Penteli	3.00	359	P	Pn	02 40 14.1	+1.2
PTL	Penteli	3.00	359	P	Pn	02 40 14.2	+1.3
KARY	Karystos	3.00	7	P	Pn	02 40 14.1	+1.1
LTK	Loutraki	3.07	345	P	Pn	02 40 15.3	+1.3
GUR	Goura	3.16	336	P	Pn	02 40 16.2	+0.9
VIL2	Platees	3.21	350	P	Pn	02 40 15.7	-0.1
KLV	Kalavryta, Ach	3.33	335	P	Pn	02 40 17.9	+0.4
BODT	Bodrum	3.38	53	Pn	Pn	02 40 20.0	+1.8
SMG	Samos	3.53	40	P	Pn	02 40 21.4	+1.2
KYMI	Kymi, Euboea I	3.58	2	P	Pn	02 40 21.9	+0.9
ARG	Arkhangelos	3.59	70	Pn	Pn	02 40 23.1	+2.0
ARG	Arkhangelos	3.59	70	P	Pn	02 40 22.3	+1.2
EFP	Efpalio	3.75	335	P	Pn	02 40 23.9	+0.6
AXS	Araxos	3.77	327	P	Pn	02 40 23.9	+0.5
MLSB	Milas	3.82	53	Pn	Pn	02 40 26.3	+2.1
AXAR	Agios Charalam	3.85	345	P	Pn	02 40 25.5	+0.8
TURN	Turunc	3.88	62	Pn	Pn	02 40 27.2	+2.1
ANX	Ano Chora	3.90	336	P	Pn	02 40 26.2	+0.8
PVO	Paravola	4.06	332	P	Pn	02 40 28.4	+0.8
YER	Yerkesik	4.07	58	Pn	Pn	02 40 29.9	+2.1
DALY	Dalyan (Mula)	4.20	64	Pn	Pn	02 40 31.6	+2.2
MAKR	Makrakomi, Fth	4.22	340	P	Pn	02 40 30.6	+0.8
EVR	Evrytania	4.23	337	P	Pn	02 40 30.4	+0.5
NEO	Neokhori	4.29	352	P	Pn	02 40 31.7	+0.9
XOR	Xorichti	4.35	352	P	Pn	02 40 32.4	+0.8
FETY	Fethiye	4.45	68	Pn	Pn	02 40 34.5	+1.5
KSL	Kastellorizon	4.71	75	P	Pn	02 40 36.8	+0.3
ELL	Elmali	5.12	69	P	Pn	02 40 42.9	+0.7
PLG	Polygyros	5.33	356	P	Pn	02 40 45.6	+0.5
BRTR	Keskin Array B	9.01	56	Pn	Pn	02 41 37.2	+1.6
	0.1nm,0.3s,baz=233,slow=12,SNR=6.7						
	0.3nm,0.6s						
GERES	GERESS Array B	15.73	334	Pn	Pn	02 43 09.2	+2.1
	0.2nm,0.3s,baz=146,slow=12,SNR=3.2						
	1.5nm,0.6s						
KBZ	Khabaz	16.98	54	P	Pn	02 43 23.9	+1.0
	0.1nm,0.3s,baz=230,slow=11,SNR=2.5						
	0.6nm,0.5s						
ESDC	Sonseca Array	22.63	290	P	P	02 44 25.8	-0.5
	0.6nm,0.8s,baz=87,slow=10,SNR=4.5						
	0.6nm,0.8s						
HFS	Hagfors	25.97	348	P	P	02 44 56.4	-1.4
	0.8nm,0.4s,baz=155,slow=7.9,SNR=4.9						
	0.8nm,0.4s						
EKA	Eskdalemuir Ar	27.57	326	P	P	02 45 12.9	+0.8
	1.6nm,0.8s,baz=123,slow=9.2,SNR=4.3						
	1.6nm,0.8s						
KURBB	Kurchatov Arra	41.96	51	P	P	02 47 15.0	-1.0
	0.5nm,0.4s,baz=272,slow=8.6,SNR=7.3						
	0.5nm,0.4s						
MKAR	Makanchi Array	44.66	56	P	P	02 47 37.1	-0.8
	0.3nm,0.4s,baz=268,slow=8.2,SNR=11						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	45.79	46	P	P	02 47 45.9	-0.9
	0.6nm,0.3s,baz=275,slow=7.1,SNR=3.9						
	0.6nm,0.3s						
SONM	Songino Array	60.31	50	P	P	02 49 33.3	-0.8
	0.3nm,0.4s,baz=295,slow=8.1,SNR=3.8						
	0.3nm,0.4s						

*ISU **11** 02:55:38,39°.77N×67°.94E,h10km*

ISC 11 02:55:37.6±0.9,39°.76N±0°.07×67°.96E±0°.06,h10km,n8, σ1°46/13,2C-2D,Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZI	Dzhizak	0.38	344	P	Pg	02 55 38.0	-7.1
AGL	Agalyk	0.86	254	P	Pn	02 55 55.9	0.0
AGL				S	Sn	02 56 08.7	+0.1
PKMR	Pachkamar	1.72	226	P	Pg	02 56 10.5	-0.1
PKMR				S	Sg	02 56 34.0	+1.2
CHMG	Chimgan	2.38	40	P	Pb	02 56 20.6	0.0
CHMG				S	Sg	02 56 52.8	-1.3
CHRV	Charvak	2.42	38	P	Pb	02 56 21.1	-0.2
CHRV				S	Sg	02 56 53.8	-1.5
SHAK	Shakhimardan	2.92	85	P	Pb	02 56 28.3	-1.6
SHAK				S	Sb	02 57 07.3	+1.6
KK31	Karatay Array	3.86	29	⇓Pn	Pn	02 56 39.7	+2.6
	0.2nm,0.2s,baz=165,slow=6.1,SNR=4.3						
KK31				⇑Pg	Pb	02 56 46.8	+1.0
	0.6nm,0.2s,baz=215,slow=17,SNR=9.9						
KK31				⇓Lg	Lg	02 57 37.0	
	4.5nm,0.4s,baz=211,slow=28,SNR=12						
AB31	Akbulak array	11.08	332	⇑P	Pn	02 58 14.3	-1.7
	0.1nm,0.3s,baz=167,slow=13,SNR=8.8						

DJA 11 03:07:43.3±0.4,10°S±5°×11°8E±°,h10km,M4.0/11, mb4.5/2,MLv3.8/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.00	335	P	Pg	03 08 02.6	0.0
PLAI				S	Sb	03 08 16.3	+0.3
WBSI	Waikabubak, Su	1.17	85	P	Pb	03 08 03.3	-2.3
TWSI	Taliwang, Sumb	1.65	307	P	Pn	03 08 11.3	-1.0
WSI	Waingapu	2.06	88	P	Pn	03 08 18.4	+0.4
BASI	Baing, Sumba	2.38	102	P	Pn	03 08 22.9	+0.5
SRBI	Singaraja	3.39	299	P	Pn	03 08 36.6	+0.3
JAGI	Jajag, Banyuwa	4.20	287	P	Pn	03 08 47.8	+0.3
BSSI	Bau Bau, Buton	4.23	32	P	Pn	03 08 47.8	0.0
BKSI	Bulukumba	4.78	23	P	Pn	03 08 56.6	+1.1
GMJI	Gumukmas	4.93	287	P	Pn	03 08 57.6	+0.1
PCJI	Pacitan	7.12	282	P	Pn	03 09 27.6	+0.1
	31nm,1.1s						
UGM	Wanagama	7.81	283	P	Pn	03 09 37.0	-0.1

*UCR **11** 03:20:41.6±0.9,7°.88N×82°.64W,h2km±17km,MW3.6*
*UPA **11** 03:20:44.8±2.0,7°.99N×82°.60W,h18km±13km,MD3.6, ML3.8,MW3.7*

ISC 11 03:20:42.7±1.5,7°.94N±0°.05×82°.56W±0°.03,h7km±11km, n33,σ0°67/53,4C-4D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	Limones	0.34	298	⇑*i*P	Pb	03 20 51.4	+0.3
LIMO3				*e*S	Sb	03 20 56.9	+0.2
PTPM	Petroterminale	0.41	310	⇑*i*P	Pb	03 20 52.5	+0.2
PTPM				AMP		03 20 52.8	
	comp=Z,11μm,0.1s						
PTPM				*e*S	Sb	03 21 00.2	+1.4
PEDE3	Pedregal, Chir	0.46	18	⇓*i*P	Pb	03 20 53.5	+0.3
PEDE3				*e*S	Sb	03 21 01.4	+1.1
DVD	David	0.50	13	⇓*e*P	Pb	03 20 54.3	+0.4
DVD				*e*S	Sb	03 21 02.3	+0.8
LOMA3	Las Lomas, Chi	0.51	19	⇓*i*P	Pb	03 20 54.5	+0.3
LOMA3				*i* S	Sb	03 21 02.4	+0.6
PTAR3	Potrerillos Ar	0.75	5	⇑*i*P	Pb	03 20 58.0	-0.2
PTAR3				*i* S	Sb	03 21 08.3	-0.4
PSOM3	Paja de Sombre	0.78	18	*e*P	Pg	03 20 58.1	+0.4
LNBQ3	Los Naranjos,	0.85	8	*e*P	Pg	03 20 58.1	-1.0
LNBQ3				*e*S	Sb	03 21 11.9	+0.2
BRU2	Volcan	0.86	351	*e*P	Pg	03 20 59.3	+0.1
BRU2				*e*S	Sb	03 21 11.6	-0.3
BRU2	Volcan	0.86	351	⇑*i*P	Pg	03 20 59.4	+0.1
BRU2				*e*S	Sb	03 21 11.3	-0.5
BC3P	Paso Ancho	0.87	357	*e*P	Pg	03 20 59.5	+0.1
BC3P				*e*S	Sb	03 21 12.2	-0.1
MLIR3	Monte Lirio, C	0.88	343	⇓*i*P	Pb	03 21 00.3	-0.2
MLIR3				*e*S	Sb	03 21 12.4	-0.2
VITO	San Vito	0.96	335	*e*P	Pg	03 21 01.2	0.0
VITO				*e*S	Sb	03 21 15.3	+0.5
ALCO	Alturas Coton,	1.04	345	*e*P	Pg	03 21 01.7	-1.0
ALCO				*e*S	Sg	03 21 16.7	+0.5
CHGR2	Aguacate	1.07	23	*i* P	Pg	03 21 02.4	-1.0
CHGR2				*i* S	Sg	03 21 16.6	-0.6
GMAL	Guarumal, Vera	1.33	98	*e*P	Pn	03 21 06.1	-1.6
GMAL				*e*S	Sb	03 21 24.7	-0.6
MESA3	La Mesa, Verag	1.38	81	*e*P	Pb	03 21 08.8	0.0
MESA3				*e*S	Sg	03 21 28.3	+1.2
CNI2	El Empalme, Bo	1.48	4	*e*P	Pn	03 21 09.1	-0.7
CNI2				*e*S	Sn	03 21 28.3	-1.1
STIA3	Santiago, Vera	1.58	84	*e*P	Pb	03 21 12.3	0.0
STIA3				*e*S	Sn	03 21 32.3	+0.2
CALO3	Calobre, Verag	1.75	77	*e*P	Pn	03 21 13.6	+0.1
CALO3				*e*S	Sn	03 21 37.0	+0.9
CHIT3	Chitre	2.12	89	*e*P	Pb	03 21 21.1	-0.6
CHIT3				*e*S	Sn	03 21 45.0	-0.4
AZU	Azuero	2.27	94	*e*P	Pn	03 21 21.8	+1.0
PNME	Penonome	2.28	76	*e*P	Pn	03 21 21.1	+0.3
LCR2	La Lucha 2	2.29	322	*e*P	Pn	03 21 19.9	-1.2
RVSTA	Santa Teresita	2.29	332	*e*P	Pn	03 21 21.3	+0.2
ABE2	San Pablo	2.29	320	*e*P	Pn	03 21 20.8	-0.4
PCAYA	Pacayas	2.32	328	*e*P	Pn	03 21 21.4	-0.2
VTCV	VTCV, Calle Va	2.33	331	*e*P	Pn	03 21 21.7	-0.1
CVTV	Tajo	2.36	330	*e*P	Pn	03 21 22.0	-0.2
VICA	Volcano Irazu	2.39	328	*e*P	Pn	03 21 22.6	-0.2
CVTG	V. Turrialba,	2.50	331	*e*P	Pn	03 21 24.5	+0.6
ZANG	Zanguenga, Cho	2.85	69	*e*P	Pn	03 21 29.9	+1.2
JTS	Las Juntas de	3.32	315	*e*P	Pn	03 21 35.0	-0.1

*DJA **11** 03:21:53.3±0.4,12°S±4°×11°7E±°,h10km,M4.1/10, mb4.4/7,MLv4.0/10*

ISC 11 03:21:56.2±1.2,11°.51S±0°.10×117°.35E±0°.07,h34km,n16, σ0°91/16,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.70	9	P	Pn	03 22 37.6	+0.4
PLAI	Plampang	2.70	9	P	Pn	03 22 37.3	+0.1
WBSI	Waikabubak, Su	2.73	47	P	Pn	03 22 36.3	-1.4
TWSI	Taliwang, Sumb	2.79	350	P	Pn	03 22 38.2	-0.3
SRBI	Singaraja	4.00	328	P	Pn	03 22 56.1	+1.0
JAGI	Jajag, Banyuwa	4.36	313	P	Pn	03 22 59.0

AP01 IAML 03 33 48.1
comp=Z,237nm,0.1s
AF01 San Pedro de A 2.92 165 *e*P Pn 03 33 33.4 +19
AF01 *e*S **Sn 03 33 48.1 -1.0**
LPAZ La Paz 3.91 13 *e*P **Pn 03 33 26.7 -1.1**
GO02 Mina Guanaco 5.04 186 *e*P **Pn 03 33 42.6 -0.2**
GO02 *e*S **Sn 03 34 39.4 -0.7**

SSNC ***11*** *03:37:37.6±2.1, 19°.76N×70°.99W, h20km±13km, MD3.3, ML3.4*
SDD ***11*** *03:37:41.8±2.7, 19°.65N×71°.41W, h24km±32km, MD3.4, ML3.4, MW3.8*
OSPL ***11*** *03:37:41.5±8.2, 19°.64N×71°.42W, h0km±36km, ML2.9, Hypocentre not reviewed by the ISC*
ISC 11 03:37:38.3±1.1, 19°.70N±0°.03×71°.36W±0°.02, h10km±9km, n32, σ1§31/62, 33C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.21**	**46**	*i* P		03 37 32.9	
LOPP1				*e*S		03 37 39.0	
LOPP1				IAML		03 37 40.1	
comp=Z,2μm,0.5s							
MAO1	**Mao**	**0.30**	**120**	⇓*e*Pg	**Pb**	**03 37 46.4**	**+0.6**
MCDR	**Montecristi**	**0.34**	**304**	⇓*e*Pg	**Pn**	**03 37 49.7**	**+0.5**
MCDR				IAML		03 38 01.7	
comp=N,2μm,0.2s							
LODA1	**ITESIL, Dajabo**	**0.36**	**244**	*i* P		03 37 35.2	
LODA1				*e*S		03 37 40.6	
LODA1				IAML		03 37 42.6	
comp=Z,2μm,0.5s							
REDR	**Restauracion**	**0.54**	**183**	⇓*e*Pg	**Pb**	**03 37 50.8**	**+1.0**
REDR				⇑*e*Sg	**Sb**	**03 37 57.4**	**-0.1**
REDR				IAML		03 37 58.5	
comp=N,6μm,0.3s							
SC01	**Santiago de Io**	**0.66**	**115**	⇑*e*Pg	**Pn**	**03 37 52.9**	**-0.8**
SC01				⇓*e*Sg	**Sn**	**03 38 02.9**	**-1.1**
SC01				IAML		03 38 04.9	
comp=N,2μm,0.7s							
SC01	**Santiago de Io**	**0.66**	**115**	*i* P		03 37 52.9	
SC01				*e*S		03 38 02.2	
SC01				IAML		03 38 08.3	
comp=Z,858nm,0.2s							
SDDR	**Presa de Saban**	**0.72**	**175**	*e*P	**Pb**	**03 37 52.9**	**-0.1**
SDDR				*e*S	**Sg**	**03 38 01.7**	**0.0**
SDDR				IAML		03 38 02.3	
comp=Z,1μm,0.3s							
SDDR				IAML		03 38 03.8	
comp=Z,623nm,0.3s							
SDDR	**Presa de Saban**	**0.72**	**175**	⇓*e*Pg	**Pb**	**03 37 52.9**	**-0.1**
SDDR				⇑*e*Sg	**Sg**	**03 38 02.1**	**+0.4**
SDDR				IAML		03 38 05.4	
comp=N,676nm,0.8s							
SDDR	**Presa de Saban**	**0.72**	**175**	*i* P		03 37 52.9	
SDDR				*e*S		03 38 01.9	
SDDR				IAML		03 38 03.2	
comp=Z,1μm,0.3s							
SODR	**Sosua Marina B**	**0.74**	**86**	⇑*e*Pg	**Pn**	**03 37 55.3**	**+0.5**
SODR				⇑*e*Sg	**Sn**	**03 38 06.8**	**+0.7**
SODR				IAML		03 38 10.0	
comp=N,1μm,0.7s							
ABDR	**Alto Bandera**	**1.13**	**142**	*e*Pg	**Pg**	**03 38 00.2**	**+0.3**
ABDR				⇑*e*Sg	**Sg**	**03 38 14.1**	**-0.5**
ABDR				IAML		03 38 24.1	
comp=N,576nm,0.3s							
SFDR	**San Fco. de Ma**	**1.13**	**111**	⇑*e*Pg	**Pn**	**03 38 00.7**	**+0.5**
SFDR				⇑*e*Sg	**Sn**	**03 38 17.2**	**+1.4**
SFDR				IAML		03 38 19.4	
comp=N,1μm,0.2s							
NEDR	**Neiba UASD**	**1.22**	**183**	⇑*e*Pg	**Pg**	**03 38 01.7**	**+0.1**
NEDR				⇑*e*Sg	**Sg**	**03 38 17.3**	**-0.1**
NEDR				IAML		03 38 18.0	
comp=N,918nm,0.2s							
JIDR	**Jimani**	**1.29**	**201**	⇑*e*Pg	**Pg**	**03 38 03.2**	**+0.1**
JIDR				⇑*e*Sg	**Sb**	**03 38 18.7**	**-0.6**
JIDR				IAML		03 38 29.7	
comp=N,699nm,0.5s							
CADR	**Cabrera**	**1.34**	**91**	⇑*e*Sg	**Sg**	**03 38 23.0**	**+1.6**
CADR				IAML		03 38 23.8	
comp=N,632nm,0.2s							
LODU1	**El Espartillar**	**1.35**	**185**	*i* P		03 38 04.2	
LONA1	**Toro Cenizo, N**	**1.45**	**103**	*i* P		03 37 30.3	
LONA1				*e*S		03 38 00.6	
NADR	**Nagua**	**1.46**	**104**	⇑*e*Pg	**Pg**	**03 38 06.3**	**-0.1**
NADR				⇓*e*Sg	**Sg**	**03 38 26.9**	**+1.6**
NADR				IAML		03 38 29.1	
comp=N,2μm,0.3s							
DR08	**Loma La Naviza**	**1.46**	**120**	⇑*e*Pg	**Pn**	**03 38 05.2**	**+0.4**
DR08				⇓*e*Sg	**Sg**	**03 38 26.4**	**+1.0**
DR08				IAML		03 38 27.6	
comp=N,9μm,0.1s							
PAPH	**Port-au-Prince**	**1.47**	**217**	*e*P	**Pg**	**03 38 06.4**	**-0.1**
PAPH				*e*S	**Sn**	**03 38 23.8**	**-0.4**
PAPH	**Port-au-Prince**	**1.47**	**217**	*i* P		03 38 06.6	
PODR	**Polo**	**1.53**	**177**	⇑*e*Pg	**Pb**	**03 38 06.8**	**-0.1**
PODR				⇑*e*Sg	**Sn**	**03 38 25.1**	**-0.8**
PODR				IAML		03 38 32.1	
comp=N,234nm,0.3s							
BANI	**BANI**	**1.61**	**144**	⇑*e*Pg	**Pg**	**03 38 09.5**	**+0.3**
BANI				IAML		03 38 35.1	
comp=N,658nm,0.7s							
LOBA2	**Hotel Casa Bon**	**1.63**	**171**	⇑*e*Pg	**Pb**	**03 38 08.2**	**-0.2**
LOBA2				⇑*e*Sg	**Sn**	**03 38 27.6**	**-0.6**
GRTK	**Grand Turk**	**1.81**	**7**	⇑*e*Sg	**Sg**	**03 38 36.7**	**+0.1**
GRTK				IAML		03 38 41.5	
comp=N,184nm,0.2s							
GRTK	**Grand Turk**	**1.81**	**7**	*i* P		03 38 11.8	
GRTK				*e*S		03 38 37.2	
GRTK				IAML		03 38 47.2	
comp=Z,78nm,1.9s							
SDD	**Santo Domingo**	**1.85**	**132**	⇑*e*Pg	**Pn**	**03 38 10.4**	**+0.4**
SDD				⇑*e*Sg	**Sb**	**03 38 34.8**	**-0.5**
SDD				IAML		03 38 42.7	
comp=N,46nm,0.8s							
LOBH	**Bahia de las A**	**1.85**	**188**	*i* P		03 38 12.2	
LOBH				*e*S		03 38 36.0	
LOBH				IAML		03 38 38.4	
comp=Z,106nm,0.7s							
HATOM	**Hato Mayor del**	**2.08**	**116**	⇑*e*Pg	**Pb**	**03 38 15.0**	**-1.1**
HATOM				⇑*e*Sg	**Sb**	**03 38 40.8**	**-1.3**
HATOM				IAML		03 38 43.5	
comp=N,228nm,0.2s							
SMDR	**Samana, DR**	**2.09**	**101**	⇑*e*Pg	**Pb**	**03 38 15.3**	**-1.0**
SMDR				⇑*e*Sg	**Sb**	**03 38 42.9**	**+0.6**
SMDR				IAML		03 38 48.6	
comp=N,210nm,0.7s							
MIDR	**Miches**	**2.30**	**108**	⇑*e*Pg	**Pb**	**03 38 19.0**	**-0.8**
MIDR				⇑*e*Sg	**Sb**	**03 38 49.5**	**+1.2**
MIDR				IAML		03 38 53.5	
comp=N,96nm,0.3s							
MASC	**Masc**	**2.74**	**280**	*e*P	**Pn**	**03 38 23.3**	**+1.0**
MASC				*e*Pg	**Pb**	**03 38 27.8**	**+0.4**
MASC				*e*S	**Sn**	**03 38 57.7**	**+2.2**
MASC				*e*Sg	**Sg**	**03 39 07.0**	**+0.7**
MASC				IAML		03 39 08.1	
comp=N,48nm,0.4s							
MASC				IAML		03 39 09.4	
comp=E,94nm,0.6s							
PCDR	**Punta Cana, DR**	**3.06**	**112**	⇑*e*Pg	**Pb**	**03 38 30.2**	**-2.6**
PCDR				⇑*e*Sg	**Sb**	**03 39 08.6**	**-1.6**
PCDR				IAML		03 39 11.3	
comp=N,140nm,0.8s							
QMBU	**Quimbuelo**	**3.28**	**279**	*e*P	**Pn**	**03 38 30.1**	**+0.3**
QMBU				*e*S	**Sn**	**03 39 09.4**	**+0.4**
QMBU				IAML		03 39 20.5	
comp=N,86nm,0.4s							
QMBU				IAML		03 39 20.9	
comp=E,68nm,0.4s							
NMDO	**Nuevo Mundo**	**3.51**	**285**	*e*P	**Pn**	**03 38 33.1**	**+0.3**
NMDO				*e*S	**Sn**	**03 39 13.0**	**-1.5**
MOAC	**Moa**	**3.51**	**286**	*e*P	**Pn**	**03 38 34.3**	**+1.3**
MOAC				*e*S	**Sn**	**03 39 15.3**	**+0.7**
GTBY	**Guantanamo Bay**	**3.54**	**274**	*e*P	**Pn**	**03 38 35.8**	**+2.5**
GTBY				*e*S	**Sn**	**03 39 16.2**	**+1.0**
GTBY	**Guantanamo Bay**	**3.54**	**274**	⇑*e*	**Pb**	**03 38 37.6**	**-3.4**
GTBY				⇑*e*Pg	**Pb**	**03 38 37.7**	**-3.3**
GTBY				*e*Sg	**Sn**	**03 39 19.5**	**+4.3**
GTBY				IAML		03 39 25.0	
comp=N,65nm,4.0s							
RCC	**Rio Carpintero**	**4.09**	**275**	*e*P	**Pn**	**03 38 41.3**	**+0.4**
RCC				*e*S	**Sn**	**03 39 30.4**	**+1.6**
PINC	**Pinares de May**	**4.24**	**281**	*e*P	**Pn**	**03 38 42.4**	**-0.5**
PINC				*e*S	**Sn**	**03 39 30.0**	**-2.5**

IDC 11 03:48:35.8±1.4, 0°.51N×126°.64E, h0km, mb3.4/4, mbtmp3.4/4, ML5.1/1, Error ellipse: s-maj=51.7km s-min=23.1km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.80**	**231**	Pn	Pn	03 50 44.7	+0.3
19nm,0.3s,baz=147,slow=19,SNR=30							
WRA	**Warramunga Arr**	**21.68**	**160**	P	P	03 53 27.5	-0.9
0.9nm,0.7s,baz=337,slow=11,SNR=6.0							
0.9nm,0.7s							
ASAR	**Alice Springs**	**25.05**	**164**	P	P	03 54 02.5	+0.6
0.8nm,0.7s,baz=356,slow=15,SNR=9.8							
0.8nm,0.7s							
SONM	**Songino Array**	**50.31**	**342**	P	P	03 57 35.4	+1.0
1.0nm,1.2s,baz=164,slow=5.7,SNR=2.9							
1.0nm,1.2s							
MKAR	**Makanchi Array**	**60.15**	**326**	P	P	03 58 44.1	-1.2
0.2nm,0.7s,baz=120,slow=7.3,SNR=2.3							
0.2nm,0.7s							

CATAC ***11*** *03:55:50.4±1.6, 13°N±11°×8°9W±°, h5km, M3.3/12, MLv3.3/12, Error ellipse: s-maj=22.9km s-min=9.1km az=7.9, confirmed*
SNET ***11*** *03:55:53.6±0.9, 12°.90N×88°.91W, h34km±9km, ML3.1*
ISC 11 03:55:51.7±2.2, 12°.9N±0°.1×88°.93W±0°.05, h10km, n33, σ0§37/37, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.64**	**13**	P	**Pg**	**03 56 03.5**	**-0.6**
COEG	**Centro de Oper**	**0.71**	**4**	*e*P	**Pn**	**03 56 07.5**	**-0.4**
COEG	**Centro de Oper**	**0.71**	**4**	P	**Pn**	**03 56 07.4**	**-0.4**
TECA	**Tecapa**	**0.71**	**35**	*e*P	**Pn**	**03 56 07.8**	**-0.2**
TECA				*e*P	**Pn**	**03 56 07.8**	**-0.2**
UESV	**Universidad de**	**0.73**	**11**	*e*P	**Pn**	**03 56 08.1**	**-0.1**
UESV	**Universidad de**	**0.73**	**11**	P	**Pn**	**03 56 08.0**	**-0.1**
LOMA	**Loma Larga**	**0.77**	**342**	*e*P	**Pn**	**03 56 08.6**	**-0.2**
LOMA	**Loma Larga**	**0.77**	**342**	P	**Pn**	**03 56 08.4**	**-0.3**
PQSS	**Presa 15 de Se**	**0.79**	**27**	*e*P	**Pn**	**03 56 09.2**	**+0.2**
PQSS				IAML		03 56 09.7	
comp=Z,584nm,0.1s							
PQSS	**Presa 15 de Se**	**0.79**	**27**	P	**Pn**	**03 56 09.2**	**+0.2**
PAVA	**Las Pavas**	**0.80**	**359**	*e*P	**Pn**	**03 56 09.0**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**359**	P	**Pn**	**03 56 09.2**	**0.0**
PACA	**Pacayal**	**0.81**	**47**	*e*P	**Pn**	**03 56 09.3**	**+0.1**
PACA	**Pacayal**	**0.81**	**47**	P	**Pn**	**03 56 09.4**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.81**	**14**	*i* P	**Pn**	**03 56 09.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.81**	**14**	P	**Pn**	**03 56 09.1**	**-0.1**
UDBS	**Universidad Do**	**0.83**	**344**	P	**Pn**	**03 56 09.7**	**+0.2**
BLLM	**Bellamira**	**0.85**	**52**	*e*P	**Pb**	**03 56 09.4**	**+0.8**
UEES	**Universidad Ev**	**0.86**	**339**	P	**Pn**	**03 56 09.7**	**-0.2**
PMON	**Piamonte**	**0.88**	**335**	*e*P	**Pn**	**03 56 10.0**	**-0.2**
PMON	**Piamonte**	**0.88**	**335**	P	**Pn**	**03 56 10.1**	**-0.2**
BOQS	**Boqueron**	**0.89**	**337**	*e*P	**Pn**	**03 56 10.3**	**-0.2**
JAYA	**Jayaque - finc**	**0.90**	**326**	*e*P	**Pb**	**03 56 10.1**	**+0.6**
JAYA				*e*S	**Sb**	**03 56 22.3**	**+0.7**
JAYA	**Jayaque - finc**	**0.90**	**326**	P	**Pb**	**03 56 10.1**	**+0.6**
CEDA	**San Andres**	**1.00**	**333**	P	**Pn**	**03 56 11.7**	**-0.1**
LCND	**La Caada**	**1.08**	**68**	*e*P	**Pg**	**03 56 12.2**	**-0.3**
LCND				*e*S	**Sg**	**03 56 26.3**	**-0.3**
LCND				*e*S	**Sg**	**03 56 26.4**	**-0.3**
LCND				IAML		03 56 29.3	
comp=Z,497nm,0.2s							
LCND	**La Caada**	**1.08**	**68**	P	**Pg**	**03 56 12.2**	**-0.3**
CNCH	**Conchagua**	**1.12**	**71**	*e*P	**Pg**	**03 56 12.7**	**-0.6**
CNCH	**Conchagua**	**1.12**	**71**	P	Pg	03 56 08.7	-4.6
SBLS	**San Blas**	**1.15**	**324**	*e*P	**Pb**	**03 56 14.2**	**+0.5**
UNIC	**Universidad Ca**	**1.22**	**330**	P	**Pb**	**03 56 15.2**	**+0.3**
NUBE	**Las Nubes**	**1.29**	**320**	*e*P	**Pn**	**03 56 15.7**	**-0.2**
NUBE				*e*S	**Sb**	**03 56 32.5**	**-0.3**
MTO3	**Montecristo**	**1.54**	**344**	*e*P	**Pn**	**03 56 19.8**	**+0.3**

SOME ***11*** *03:59:24.5, 39°.65N×80°.80E, h10km*
NNC ***11*** *03:59:27.7±6.6, 39°.91N×82°.36E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=54.5km s-min=40.7km az=1.0*
ISC 11 03:59:25.7±3.5, 39°.8N±0°.2×82°.7E±0°.1, h10km, n11, σ1§89/19, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**4.18**	**325**	*e*P	**Pn**	**04 00 30.3**	**+0.7**
8.0nm,0.3s							
SHLS				*e*S	**Sn**	**04 01 18.0**	**-0.6**
50nm,0.3s							
PDGK	**Podgornoye**	**4.30**	**327**	⇓Pn	**Pn**	**04 00 31.4**	**0.0**
5.8nm,0.5s							
PDGK				⇓Sn	**Sn**	**04 01 21.4**	**-0.3**
47nm,0.7s							
UZB	**Uzynbulak**	**4.37**	**321**	*e*P	**Pn**	**04 00 33.9**	**+1.5**
4.8nm,0.1s							
UZB				*e*S	**Sn**	**04 01 23.6**	**+0.2**
24nm,0.2s							
SATY	**Saty**	**4.62**	**317**	*e*P	Pg	04 01 01.3	+7.1
0.4nm,0.1s							
SATY				*e*S	Sg	04 02 11.2	+17
3.6nm,0.4s							
ZHN	**Zhinishke**	**4.68**	**318**	*e*P	**Pn**	**04 00 38.0**	**+1.5**
7.4nm,0.2s							
ZHN				*e*S	**Sn**	**04 01 30.6**	**-0.3**
32nm,0.2s							
KPKS	**Kokpek**	**4.77**	**322**	*e*P	**Pg**	**04 00 59.6**	**+2.4**
10nm,0.6s							
KPKS				*e*S	Sg	04 02 08.6	+10
6.4nm,0.5s							
DJR	**Jarkent**	**5.05**	**335**	*e*P	**Pb**	**04 00 52.1**	**-2.1**
0.7nm,0.1s							
DJR				*e*S	**Sb**	**04 01 55.5**	**+0.5**
4.9nm,0.4s							
KOTS	**Kotyrbulak**	**5.45**	**311**	*e*P	**Pn**	**04 00 48.8**	**+1.6**
8.8nm,0.4s							
KOTS				*e*S	**Sn**	**04 01 49.5**	**-0.5**
29nm,0.6s							
KST	**Kastek**	**6.05**	**305**	*e*P	**Pn**	**04 00 56.6**	**+1.2**
9.6nm,0.2s							
KST				*e*S	**Sn**	**04 02 02.8**	**-1.8**
13nm,0.4s							
TKM2	**Tokmak 2**	**6.22**	**303**	⇑Pn	**Pn**	**04 00 58.1**	**+0.3**
2.2nm,0.4s							
TKM2				⇑Sn	**Sn**	**04 02 03.5**	**-5.5**
3.4nm,0.6s							
TKM2				Lg	Lg	04 02 39.4	
4.0nm,0.5s							
MK31	**Makanchi Array**	**7.02**	**357**	⇑Pn	**Pn**	**04 01 08.5**	**0.0**
0.7nm,0.3s,baz=185,slow=12,SNR=54							
MK31				Sn	**Sn**	**04 02 26.9**	**-1.5**
0.4nm,0.3s,baz=187,slow=24,SNR=4.6							

KOLA 11 04:05:08.9, 68°.15N×33°.31E, h0km, ML1.4, Error ellipse: s-maj=5.9km s-min=3.2km az=100.0, Olenegorsk City, Mines, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.56**	**193**	P	Pg	04 05 18.9	-0.7
APA0				S	Sg	04 05 26.6	-0.2
TERR	**Teriberka**	**1.25**	**31**	P	Pg	04 05 31.6	-1.1
TERR				S	Sg	04 05 47.4	-1.5
PRVG	**Vayda Guba**	**1.66**	**346**	P	Pn	04 05 37.1	-2.1
PRVG				S	Sn	04 06 00.3	-0.9
VADS	**Vadso**	**2.44**	**326**	P	Pn	04 05 51.2	+1.3
ARCES	**ARCESS Array B**	**3.16**	**300**	P	Pn	04 05 58.9	-0.9
ARCES				S	Sn	04 06 35.4	-2.8

SFS ***11*** *04:08:18.8, 35°.73N×4°.83W, h0km, ML3.1/5, ML3.1/5, MLv3.1/5*
MDD ***11*** *04:08:23.3±0.9, 35°.72N×4°.65W, h105km±11km, Mb2.4/5, Error ellipse: s-maj=5.0km s-min=4.3km az=132.0*
INMG ***11*** *04:08:25.1±1.0, 35°.85N×4°.69W, h115km±8km, ML1.4, Error ellipse: s-maj=6.4km s-min=3.7km az=156.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
ISC 11 04:08:21.0±1.9, 35°.72N±0°.06×4°.64W±0°.05, h120km±17km, n24, σ1§63/38, 5C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**0.99**	**317**	P	**Pn**	**04 08 44.7**	**+1.8**
EJIF				S	**Sn**	**04 09 00.1**	**+0.6**
ELGU	**Los Guajares,**	**1.41**	**35**	S	**Sn**	**04 09 04.8**	**-2.6**
EXGRA	**Granada**	**1.69**	**29**	P	**Pn**	**04 08 50.6**	**0.0**
IFR	**Ifrane**	**2.24**	**191**	S	**Sn**	**04 09 23.2**	**-2.4**
E0803	**Jimena (Jaen)**	**2.31**	**24**	S	**Sn**	**04 09 27.3**	**+0.3**
EQES	**Quesada**	**2.43**	**31**	S	**Sn**	**04 09 29.8**	**0.0**
ECAB	**El Cabril**	**2.43**	**345**	S	**Sn**	**04 09 27.6**	**-2.1**
ECAB				P	**Pn**	**04 09 00.7**	**+0.8**
ECAB	**El Cabril**	**2.43**	**345**	P	**Pn**	**04 09 01.0**	**+1.2**
ECAB				S	**Sn**	**04 09 27.8**	**-2.0**
EADA	**Adamuz**	**2.44**	**1**	P	**Pn**	**04 09 01.5**	**+1.5**
EADA				S	**Sn**	**04 09 28.6**	**-1.3**
EADA	**Adamuz**	**2.44**	**1**	P	**Pn**	**04 09 01.8**	**+1.8**
EADA				S	**Sn**	**04 09 28.7**	**-1.3**
EMIN	**Mina Concepcio**	**2.62**	**322**	P	**Pn**	**04 09 03.5**	**+1.3**
EMIN				⇑*i*Vmb_V		04 09 06.1	
121nm,SNR=1.7							
EMIN				S	**Sn**	**04 09 31.9**	**-2.0**
EGRO	**El Granado**	**2.92**	**309**	P	**Pn**	**04 09 07.1**	**+0.9**
EGRO				S	**Sn**	**04 09 39.3**	**-1.7**
EGRO	**El Granado**	**2.92**	**309**	P	**Pn**	**04 09 07.5**	**+1.4**
EGRO				⇑*i*Vmb_V		04 09 10.2	
147nm,SNR=1.5							
EGRO				S	**Sn**	**04 09 39.1**	**-1.8**
PVAQ	**Vaqueiros**	**2.99**	**305**	*e*S	**Sn**	**04 09 41.5**	**-1.3**
ELOR	**Lorca, Murcia**	**3.01**	**50**	⇑*i*Vmb_V		04 09 10.8	
294nm,SNR=1.3							
ELOR				S	**Sn**	**04 09 43.2**	**0.0**
PBDV	**Barranco-do-Ve**	**3.06**	**301**	*e*P	**Pn**	**04 09 09.6**	**+1.6**
PBDV				*e*S	**Sn**	**04 09 42.8**	**-1.5**
PBDV				*i* AML	AML	04 09 44.8	
PBDV				*i* AML	AML	04 09 44.9	
PBAR	**Barrancos**	**3.11**	**323**	*e*P	**Pn**	**04 09 10.3**	**+1.7**
PBAR				*e*S	**Sn**	**04 09 44.2**	**-1.3**
PBAR				*i* AML	AML	04 09 44.8	
PBAR				*i* AML	AML	04 09 45.8	
PBAR	**Barrancos**	**3.11**	**323**	P	**Pn**	**04 09 09.6**	**+0.9**
PBAR				S	**Sn**	**04 09 43.8**	**-1.7**
PSIM	**Granatula de C**	**3.17**	**13**	S	**Sn**	**04 09 45.2**	**-1.8**
MESJ	**Messejana**	**3.57**	**307**	*e*P	**Pn**	**04 09 16.6**	**+1.9**
MESJ				*e*S	**Sn**	**04 09 55.2**	**-1.1**
EBAD	**Badajoz**	**3.57**	**329**	P	**Pn**	**04 09 16.3**	**+1.5**
EBAD				S	**Sn**	**04 09 54.6**	**-1.8**
EBAD	**Badajoz**	**3.57**	**329**	P	**Pn**	**04 09 16.7**	**+1.9**
EBAD				⇑*i*Vmb_V		04 09 19.0	
171nm,SNR=1.6							
EBAD				S	**Sn**	**04 09 54.9**	**-1.4**
PAB	**San Pablo**	**3.82**	**3**	⇑*i*Vmb_V		04 09 22.6	
77nm,SNR=0.9							
PAB				S	**Sn**	**04 10 00.4**	**-2.1**
PESTR	**Estremoz**	**3.92**	**324**	*e*S	**Sn**	**04 10 03.3**	**-1.5**

MOS ***11*** *04:12:29.6±1.2, 27°.07N×55°.64E, h10km, mb4.5/35, Error ellipse: s-maj=7.1km s-min=4.6km az=103.9*
IDC ***11*** *04:12:29.4±0.6, 27°.02N×55°.52E, h0km, mb4.2/30, mbtmp4.2/37, ML4.2/7, MS3.5/36, Error ellipse: s-maj=14.7km s-min=11.6km az=178.0*
TEH ***11*** *04:12:30.1, 26°.99N×55°.68E, h12km±26km*
OMAN ***11*** *04:12:31.7±0.7, 27°.04N×55°.71E, h10km, mb5.2/7, ml4.4/23, Error ellipse: s-maj=7.8km s-min=4.0km az=34.0*
NEIC ***11*** *04:12:31.3±1.7, 27°.07N±0°.06×55°.63E±0°.08, h10km±1km, mb4.5/53, Error ellipse: s-maj=12.0km s-min=9.9km az=76.0*
DSN ***11*** *04:12:33.6±0.6, 27°.02N×55°.61E, h15km, mb4.7/3, ML4.2/14, Error ellipse: s-maj=10.8km s-min=5.2km az=61.0*
ISC 11 04:12:31.8±1.1, 27°.04N±0°.03×55°.60E±0°.03, h15km±7km, n355, σ1§59/373, mb4.3/96, MS3.5/33, 25C-12D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.94**	**64**	Pg	**Pb**	**04 12 48.0**	**-1.7**
SHME	**Shamm**	**1.10**	**153**	P	**Pb**	**04 12 52.5**	**0.0**
SNR=173							
SHME				P	**Pn**	**04 12 52.6**	**0.0**
SNR=59							
SHME				S	**Sg**	**04 13 07.9**	**+0.5**
SNR=7.0							
SHME	**Shamm**	**1.10**	**153**	*e*P	**Pb**	**04 12 52.3**	**-0.2**
SNR=280							
SHME				S	**Sg**	**04 13 09.3**	**+1.9**
BANOM	**Banah**	**1.28**	**150**	P	**Pg**	**04 12 56.5**	**+0.1**
UMQ	**Umm Al-Quwin**	**1.51**	**178**	P	**Pg**	**04 13 00.9**	**+0.1**
SNR=8.5							
UMQ	**Umm Al-Quwin**	**1.51**	**178**	*e*P	**Pg**	**04 13 00.6**	**-0.2**
SNR=27							
MASF	**Masafi**	**1.73**	**163**	P	**Pb**	**04 13 03.3**	**-0.1**
SNR=114							
MASF				S	**Sb**	**04 13 26.1**	**+1.1**
MSFE	**Esma-Masafi**	**1.75**	**163**	*e*P	**Pb**	**04 13 03.2**	**-0.4**
SNR=115							
MDH	**Madha**	**1.84**	**160**	P	**Pn**	**04 13 04.0**	**+1.1**
SNR=74							
MDH				P	**Pb**	**04 13 04.1**	**-1.1**
SNR=271							
MDH				S	**Sb**	**04 13 27.7**	**-0.4**
MDH	**Madha**	**1.84**	**160**	*e*P	**Pn**	**04 13 04.0**	**+1.1**
SNR=271							
NAZ	**Nazwa, Dubai**	**2.04**	**178**	P	**Pb**	**04 13 08.4**	**-0.2**
SNR=17							
NAZ				S	**Sn**	**04 13 31.6**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.04**	**178**	*e*P	**Pb**	**04 13 08.0**	**-0.6**
SNR=60							
KHNJ	**Kahnooj**	**2.08**	**64**	Pn	**Pn**	**04 13 06.3**	**+0.1**
UOSS	**Minazif**	**2.15**	**165**	Pn	**Pn**	**04 13 07.8**	**+0.6**
UOSS				Sn	**Sn**	**04 13 33.7**	**+0.1**
UOSS	**Minazif**	**2.15**	**165**	Pn	**Pn**	**04 13 07.8**	**+0.6**
UOSS	**Minazif**	**2.15**	**165**	P	**Pn**	**04 13 08.6**	**+1.4**
UOSS	**Minazif**	**2.15**	**165**	*e*P	**Pn**	**04 13 08.5**	**+

DSBU Dashti - Bushe 4.07 290 Pn **Pn 04 13 36.2 +2.7**
BIDO Bidbid 4.18 146 P **Pn 04 13 35.0 -0.1**
SNR=12
BIDO S **Sn 04 14 25.2 +1.5**
KAZ2 Kazeron-Fars-I 4.31 307 Pn **Pn 04 13 39.4 +2.4**
SHMA Al-Shehemyia 4.32 255 P **Pn 04 13 40.0 +3.1**
SNR=24
SHMA S **Sn 04 14 31.2 +4.3**
IMEH Mehriz 4.42 349 Pn **Pn 04 13 41.3 +2.7**
MZR Muzera 4.45 206 P **Pn 04 13 40.0 +1.2**
SNR=13
MZR S **Sn 04 14 32.7 +2.3**
MZR Muzera 4.45 206 *i* P **Pn 04 13 40.0 +1.2**
SNR=13
BSY Bisya 4.51 161 P **Pn 04 13 41.1 +1.5**
SNR=16
BSY S **Sn 04 14 31.1 -0.8**
SMDO Samad 4.54 150 P **Pn 04 13 41.3 +1.2**
SNR=19
SMDO S **Sn 04 14 35.2 +2.5**
TRNA Turayna 4.56 241 P **Pn 04 13 42.0 +1.7**
SNR=75
TRNA S **Sn 04 14 35.3 +2.2**
CHBR Chabahar 4.61 107 Pn **Pn 04 13 41.2 +0.2**
SAKB Bahrain 4.66 258 P **Pn 04 13 44.4 +2.9**
SAKB S **Sn 04 14 40.0 +4.7**
WSAR Wadi Sarin 4.68 143 Pn **Pn 04 13 42.5 +0.6**
24nm,0.3s,baz=322,slow=7.2,SNR=152
WSAR Sn **Sn 04 14 34.6 -1.2**
15nm,0.3s,baz=234,slow=23,SNR=6.1
WSAR LR LR 04 16 09.2
comp=Z,432nm,21.1s,baz=343,slow=47
57nm,0.4s
SMRA Abu-Samra 4.87 243 P **Pn 04 13 46.5 +2.1**
SMRA S **Sn 04 14 43.5 +2.9**
ISAD Sadrabad 5.14 342 Pn **Pn 04 13 51.4 +2.9**
JMDO Jabal Madar 5.18 153 P **Pn 04 13 50.0 +1.2**
SNR=12
JMDO S **Sn 04 14 50.4 +2.1**
ZHSF Zahedan 5.24 59 Pn **Pn 04 13 51.0 +1.3**
NGCH Negor - Chabah 5.25 107 Pn **Pn 04 13 49.9 +0.1**
NGCH Negor - Chabah 5.25 107 P **Pn 04 13 50.0 +0.3**
NGCH S **Sn 04 14 47.9 -2.1**
ICHK Chekchek 5.29 349 Pn **Pn 04 13 52.7 +2.2**
WBK Wadi Bani Khal 5.37 144 P **Pn 04 13 51.3 -0.1**
SNR=72
WBK S **Sn 04 14 50.8 -2.2**
IRAM Ramesheh 5.52 330 Pn **Pn 04 13 56.4 +2.7**
BSRN Basiran 5.79 31 Pn **Pn 04 13 58.4 +1.0**
NHDN Nehbandan 5.83 41 Pn **Pn 04 13 59.2 +1.3**
JLN Jalan Bani Buh 5.98 144 P **Pn 04 13 59.4 -0.3**
SNR=35
TPRV Parvadeh(Tabas 6.04 9 Pn **Pn 04 14 03.2 +2.4**
SRVN Saravan 6.07 85 Pn **Pn 04 14 01.7 +0.6**
IBRJ Brojen 6.15 323 Pn **Pn 04 14 04.8 +2.5**
ANAR Anarak 6.34 346 Pn **Pn 04 14 06.7 +1.9**
ITEG Tejag 6.45 24 Pn **Pn 04 14 08.0 +1.6**
ZNGN Zangian 6.53 322 Pn **Pn 04 14 10.0 +2.4**
TKDS Koohdasht(Taba 6.69 11 Pn **Pn 04 14 12.3 +2.7**
IDAH Dahanechah 6.79 32 Pn **Pn 04 14 12.5 +1.4**
IPIR Pirpir 6.95 325 Pn **Pn 04 14 14.6 +1.2**
TNSJ Nastanj 6.96 7 Pn **Pn 04 14 15.1 +1.8**
AFRZ Afriz 7.02 24 Pn **Pn 04 14 16.0 +1.8**
DQM DQM 7.30 165 P **Pn 04 14 17.1 -0.8**
SNR=30
ISFB Sefidab 7.84 339 Pn **Pn 04 14 27.4 +2.0**
TAPT Tabas- Tapeh t 7.94 9 Pn **Pn 04 14 29.3 +2.6**
DOK Doka 8.49 189 P **Pn 04 14 34.0 -0.2**
SNR=18
IANJ Anjilo 8.53 351 Pn **Pn 04 14 37.5 +2.6**
IVRN Varamin 8.60 338 Pn **Pn 04 14 37.8 +2.0**
IQOM Qom 8.70 335 Pn **Pn 04 14 39.0 +1.7**
IDMV Damavand 9.04 341 Pn **Pn 04 14 44.3 +2.2**
WHFO Wadi Hawf 9.23 191 P **Pn 04 14 44.0 -0.5**
SNR=65
DMTO DMTO 9.30 184 P **Pn 04 14 44.6 -0.7**
SNR=49
IALA Alasht 9.32 346 Pn **Pn 04 14 48.6 +2.6**
SBZV Sabzevar 9.48 10 Pn **Pn 04 14 50.6 +2.6**
IGLO Ghaloghah 9.55 351 Pn **Pn 04 14 52.2 +3.2**
RBK Rabkut 9.57 188 P **Pn 04 14 50.4 +1.2**
RAYN Ar Rayn 9.78 251 Pn **Pn 04 14 50.5 -1.5**
RAYN Ar Rayn 9.78 251 P **Pn 04 14 50.5 -1.5**
RAYN Ar Rayn 9.78 251 *i* P **Pn 04 14 51.2 -0.8**
SNR=17
ABTO Aybut 9.87 193 P **Pn 04 14 52.1 -1.1**
SNR=31
IAKL Akhelmad 9.91 15 Pn **Pn 04 14 56.4 +2.5**
KBL Kabul 13.76 54 Pn Pn 04 15 40.0 -6.6
KBL Kabul 13.76 54 P Pn 04 15 40.0 -6.5
SIRT Sirnak 15.24 316 Pn **Pn 04 16 01.3 -5.2**
GNI Garni 15.88 328 Pn **Pn 04 16 13.6 -1.4**
GNI IAmb IAmb 04 16 37.7
comp=Z,27nm,0.8s
GNI Garni 15.88 328 Pn **Pn 04 16 16.4 +1.5**
comp=Z,1.8nm,0.3s,baz=255,slow=1.9,SNR=15
comp=Z,3.7nm,0.5s
GNI Garni 15.88 328 *i* P **Pn 04 16 15.3 +0.4**
SIMJ Simiganj 16.14 41 Pn **Pn 04 16 17.8 -0.5**
GURO Guroymak-BITLI 16.16 319 Pn **Pn 04 16 15.2 -3.3**
MARD Mardin 16.18 313 Pn **Pn 04 16 13.5 -5.2**
MARD IAmb IAmb 04 16 30.1
comp=Z,30nm,0.6s
NIL Nilore 16.59 62 Pn **Pn 04 16 22.8 -1.2**
NIL Nilore 16.59 62 P **Pn 04 16 22.8 -1.2**
NIL pmax pmax
comp=Z,16nm,1.1s
ASF Jabal al Asfar 17.04 292 Pn **Pn 04 16 29.4 -0.3**
comp=Z,1.0nm,0.3s,baz=118,slow=11,SNR=8.7
ASF Sn **Sn 04 19 29.7 -9.3**
comp=Z,0.4nm,0.3s,baz=116,slow=21,SNR=2.3
ASF LR LR 04 23 51.0
comp=Z,44nm,18.4s,baz=160,slow=40
comp=Z,2.5nm,0.5s
KARS Kars 17.06 326 P **P 04 16 35.9 +4.3**
KARS pmax pmax
comp=Z,28nm,1.5s
MAK Makhachkala 17.20 340 *e*P **Pn 04 16 29.9 -1.5**
MAK *e*S **Sn 04 19 42.0 -0.4**
MAK pmax pmax
comp=Z,129nm,1.5s
MAK MLR MLR
comp=Z,142nm,18.0s
KOPT Kop Dagi 18.02 320 **Pn 04 16 41.9 -0.1**
BTK Batken 18.12 40 Pn **Pn 04 16 40.0 -3.0**
BTK Batken 18.12 40 P **Pn 04 16 40.0 -3.0**
BTK pmax pmax
comp=Z,9.0nm,0.9s
EIL Elat 18.36 283 P **P 04 16 46.0 +0.1**
comp=Z,0.5nm,0.3s,baz=92,slow=6.2,SNR=4.6
EIL S **Sn 04 20 04.2 -6.5**
comp=Z,2.6nm,0.7s,baz=62,slow=22,SNR=1.2
EIL LR LR 04 25 15.9
comp=Z,71nm,18.2s,baz=86,slow=42
comp=Z,6.8nm,0.7s
BCA Borcka 18.40 325 ⇑P **Pn 04 16 49.2 +2.9**
MMAI Mount Meron Ar 18.46 294 P **Pn 04 16 47.6 +0.4**
comp=Z,0.7nm,0.3s,baz=105,slow=16,SNR=4.0
MMAI LR LR 04 24 38.4
comp=Z,84nm,21.4s,baz=104,slow=40
comp=Z,2.9nm,0.7s
GAZ Gaziantep 18.54 308 P **P 04 16 47.7 -0.2**
NCK Nalchik 19.09 332 *i* P **Pn 04 16 55.1 +0.4**
TRKS Terek-Say 19.29 38 P **Pn 04 16 57.5 +0.2**
TRKS pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 19.57 332 P **Pn 04 17 00.3 0.0**
comp=Z,0.6nm,0.3s,baz=139,slow=10,SNR=15
comp=Z,7.6nm,0.8s
KBZ Khabaz 19.57 332 *ce*P **P 04 16 59.1 +0.1**
SHA1 Shidzhatmaz 19.68 331 *i* P **P 04 17 00.6 +0.1**
KVAR Kislovodsk Arr 19.84 332 P **Pn 04 17 03.3 -0.4**
baz=74,slow=22
comp=Z,6.0nm,0.6s
KIV Kislovodsk 19.84 332 P **P 04 17 01.4 -0.7**
KIV Kislovodsk 19.84 332 ⇑P **Pn 04 17 05.4 +1.6**
KIV Kislovodsk 19.84 332 *e*P **P 04 17 02.6 +0.4**
KIV pmax pmax
comp=Z,51nm,1.1s
KIV Kislovodsk 19.84 332 *i* P **Pn 04 17 05.6 +1.8**
SNR=9.5
ARK Arkit 19.93 38 P **Pn 04 17 05.5 +0.7**
KK31 Karatay Array 20.10 33 P **P 04 17 04.4 -0.5**
KK31 Karatay Array 20.10 33 P **P 04 17 04.4 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 20.10 33 P **P 04 17 04.0 -0.9**
KKAR Karatay Array 20.10 33 P **P 04 17 04.0 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
ARSB Arslanbob 20.19 41 P **P 04 17 05.8 -0.3**
ARSB IAmb IAmb 04 17 24.6
comp=Z,11nm,0.6s
ARSB Arslanbob 20.19 41 P **P 04 17 05.8 -0.3**
ARSB pmax pmax
comp=Z,11nm,0.6s
BNN Bunyan 20.29 310 P **P 04 17 07.4 +0.3**
GOF Gofitskoye 20.61 334 *ce*P Pn 04 17 12.3 -0.3
VSLR Vesyoloye 20.68 326 *i* P **P 04 17 10.2 -1.0**
VSLR pmax pmax
comp=Z,32nm,0.9s
KSH Kashi 21.04 49 P **P 04 17 09.5 -5.7**
KSH sP pP 04 17 17.2 -2.5
KSH pmax pmax
comp=Z,3.0nm,0.9s
LABN Labinsk 21.25 330 *e*P **P 04 17 18.5 +1.3**
LABN pmax pmax
comp=Z,30nm,0.5s
KIRS Kirsehir-Merke 21.74 309 ⇓P **P 04 17 24.4 +1.6**
AAK Ala-Archa 21.90 40 P **P 04 17 24.8 +0.3**
AAK Ala-Archa 21.90 40 P **P 04 17 25.5 +1.1**
comp=Z,3.1nm,0.7s,baz=227,slow=8.9,SNR=10
AAK LR LR 04 27 18.7
comp=Z,122nm,20.6s,baz=242,slow=40
comp=Z,3.1nm,0.7s
AAK Ala-Archa 21.90 40 *ce*P **P 04 17 23.9 -0.6**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 21.90 40 *i* P **P 04 17 25.4 +0.9**
SNR=8.3
ERBR Yeremizino-Bor 22.19 331 *e*P **P 04 17 28.5 +1.1**
ERBR *e*S **S 04 21 31.5 +0.3**
ERBR pmax pmax
comp=Z,12nm,0.6s
BR104 Keskin Array S 22.20 310 P **P 04 17 29.0 +1.3**
comp=Z,166nmcomp=Z,24nm,1.1s
BR131 Keskin Array S 22.21 310 P **P 04 17 27.5 -0.3**
BR131 IAmb IAmb 04 17 34.4
comp=Z,17nm,0.7s
BR131 Keskin Array S 22.21 310 *i* P **P 04 17 28.1 +0.3**
BRTR Keskin Array B 22.21 310 P **P 04 17 27.8 0.0**
BRTR Keskin Array B 22.21 310 P **P 04 17 28.1 +0.3**
comp=Z,2.7nm,0.6s,baz=128,slow=12,SNR=28
BRTR LR LR 04 27 25.3
comp=Z,86nm,18.6s,baz=118,slow=40
comp=Z,2.7nm,0.6s
BR105 Keskin Array S 22.22 310 P **P 04 17 29.2 +1.3**
comp=Z,185nmcomp=Z,24nm,0.9s
BR106 Keskin Array S 22.23 310 P **P 04 17 29.2 +1.2**
comp=Z,162nmcomp=Z,21nm,0.9s
ABKAR Akbulak array 22.44 7 P **P 04 17 29.0 -0.9**
ABKAR IAmb IAmb 04 17 37.3
comp=Z,6.8nm,0.7s
BOOM Boomskoye usch 22.65 42 P **P 04 17 31.7 -0.8**
BOOM Boomskoye usch 22.65 42 P **P 04 17 31.7 -0.8**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
ILGA Ilgaz 22.81 313 P **P 04 17 34.3 0.0**
ILGA IAmb IAmb 04 18 02.3
comp=Z,30nm,1.1s
ANTO Ankara 22.85 310 P **P 04 17 35.3 +0.7**
ANTO Ankara 22.85 310 ⇑P **P 04 17 36.0 +1.5**
ANTO Ankara 22.85 310 P **P 04 17 35.3 +0.7**
ANTO pmax pmax
comp=Z,32nm,0.7s
ANN Anapa 22.94 325 *e*P **P 04 17 37.2 +1.8**
ANN pmax pmax
comp=Z,25nm,1.0s
KDJ Kajisay 23.20 44 P **P 04 17 37.9 -0.3**
KDJ IAmb IAmb 04 17 46.8
comp=Z,8.5nm,0.9s
KDJ Kajisay 23.20 44 P **P 04 17 37.9 -0.3**
KDJ pmax pmax
comp=Z,9.0nm,0.9s
AKTO Aktyubinsk 23.44 4 LR LR 04 28 46.1
comp=Z,103nm,18.9s,baz=274,slow=42
ISP Isparta 23.67 303 *ce*P **P 04 17 42.6 -0.3**
ISP pmax pmax
comp=Z,17nm,1.7s
ELL Elmali 23.80 300 P **P 04 17 45.4 +1.2**
ELL Elmali 23.80 300 P **P 04 17 45.4 +1.2**
WUS Wushi 24.03 48 P **P 04 17 44.9 -1.4**
WUS IAmb IAmb 04 17 50.5
comp=Z,18nm,1.5s
MDUB Mudurnu 24.21 310 P **P 04 17 46.6 -1.4**
BORA Eskisehir 24.48 308 P **P 04 17 50.1 -0.3**
BORA IAmb IAmb 04 18 11.6
comp=Z,14nm,1.2s
SIM Simferopol' 24.81 322 *e*P **P 04 17 56.3 +3.1**
SIM pmax pmax
comp=Z,12nm,0.8s
MANT Manisa 25.35 304 P **P 04 17 59.2 +0.8**
MANT IAmb IAmb 04 18 06.3
comp=Z,28nm,1.5s
BELG Belogornoye 26.02 349 *i* P **P 04 18 05.5 +1.4**
BELG pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 28.20 19 P **P 04 18 22.2 -1.5**
BRVK IAmb IAmb 04 18 27.0
comp=Z,2.9nm,0.7s
BRVK Borovoye 28.20 19 *ce*P **P 04 18 23.5 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 28.21 19 P **P 04 18 24.3 +0.6**
comp=Z,6.0nm,0.8s,baz=202,slow=8.8,SNR=24
BVAR LR LR 04 30 51.8
comp=Z,149nm,18.7s,baz=209,slow=39
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 28.83 40 P **P 04 18 28.3 -1.1**
MK31 Makanchi Array 28.83 40 *i* P **P 04 18 29.3 -0.1**
MKAR Makanchi Array 28.83 40 P **P 04 18 28.3 -1.1**
MKAR Makanchi Array 28.83 40 P **P 04 18 29.5 +0.1**
comp=Z,0.8nm,0.5s,baz=228,slow=6.0,SNR=16
MKAR LR LR 04 31 30.2
comp=Z,83nm,19.2s,baz=238,slow=40
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 28.83 40 *i* P **P 04 18 30.2 +0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 29.33 30 P **P 04 18 33.8 0.0**
comp=Z,0.9nm,0.2s,baz=229,slow=8.5,SNR=8.4
KURBB LR LR 04 30 59.1
comp=Z,95nm,20.6s,baz=174,slow=38
comp=Z,0.9nm,0.2s
ARTI Arti 29.40 3 LR LR 04 31 07.3
comp=Z,97nm,20.1s,baz=186,slow=38
ARTI Arti 29.40 3 *d i*P **P 04 18 31.7 -2.6**
ARTI 04 19 24.2
ARTI S **S 04 23 27.0 -0.4**
ARTI SS **SnSn 04 24 52.6 -1.6**
ARTI pmax pmax
comp=Z,21nm,4.0s
KURK Kurchatov 29.44 30 P **P 04 18 33.5 -1.3**
KURK Kurchatov 29.44 30 *i* P **P 04 18 34.9 +0.2**
KURK pmax pmax
comp=Z,9.0nm,2.0s
VRI Vrincioaia 29.63 317 ⇓P **P 04 18 37.1 +0.6**
PLOR Plostina 29.67 317 ⇓P **P 04 18 37.5 +0.6**
NEHR Nehoiu 29.68 316 ⇑P **P 04 18 37.6 +0.6**
SORM Soroca 29.90 322 ⇑P **P 04 18 39.2 +0.4**
MLR Muntele Rosu 29.93 316 LR LR 04 33 22.3
comp=Z,79nm,18.5s,baz=104,slow=42
MLR Muntele Rosu 29.93 316 ⇑P **P 04 18 38.9 -0.4**
COVR Voineasa-Covas 29.94 317 ⇓P **P 04 18 39.8 +0.6**
TESR Tescani 30.00 318 ⇑P **P 04 18 40.3 +0.5**
TESR Tescani 30.00 318 P **P 04 18 42.8 +3.1**
comp=Z,10nm,0.8s
ONER Baraj Valea Uz 30.06 318 ⇑P **P 04 18 41.2 +0.9**
VOIR 30.47 315 ⇑P **P 04 18 44.3 +0.3**
VOIR 30.47 315 P **P 04 18 45.7 +1.7**
VOIR pmax pmax
comp=Z,4.0nm,1.7s
VOIR 30.47 315 P **P 04 18 45.5 +1.5**
comp=Z,4.5nm,1.6s
DOPR Dopca 30.50 316 ⇑P **P 04 18 44.5 +0.3**
ARR Arges 30.70 315 ⇓P **P 04 18 45.8 -0.3**
WMQ Urumqi 30.81 49 *e*P **P 04 18 48.8 +1.8**
WMQ pmax pmax
comp=Z,11nm,0.7s
AK10 Malin Array Si 30.93 327 P **P 04 18 49.5 +1.6**
AK02 Malin Array Si 30.99 327 P **P 04 18 49.1 +0.7**
AK01 Malin Array Si 31.00 327 P **P 04 18 49.2 +0.7**
AKASG Malin Array Be 31.00 327 P **P 04 18 48.1 -0.4**
comp=Z,3.2nm,0.7s,baz=136,slow=8.5,SNR=16
comp=Z,3.2nm,0.7s
AKASG Malin Array Be 31.00 327 *i* P **P 04 18 49.0 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 31.00 327 P **P 04 18 47.2 -1.3**
AKBB IAmb IAmb 04 18 53.3
comp=Z,6.6nm,0.7s
AKBB Malin Array Si 31.00 327 *i* P **P 04 18 47.1 -1.5**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 31.00 327 P **P 04 18 49.5 +0.9**
KIEV Kiev 31.01 327 P **P 04 18 47.5 -1.1**
KIEV IAmb IAmb 04 18 53.3
comp=Z,5.9nm,0.7s
KIEV Kiev 31.01 327 ⇑P **P 04 18 49.2 +0.6**
KIEV Kiev 31.01 327 P **P 04 18 47.5 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 31.01 327 P **P 04 18 49.6 +1.0**
comp=Z,34nm,0.8s
AK03 Malin Array Si 31.02 327 P **P 04 18 48.6 -0.1**
LOT Lotru 31.28 314 ⇑P **P 04 18 51.1 -0.1**
OBN Obninsk 31.29 339 *e*P **P 04 18 52.9 +1.9**
OBN *e* 04 20 02.0
OBN *e* 04 21 45.2
OBN pmax pmax
comp=Z,6.0nm,1.0s
BURAR Bucovina Array 31.40 319 ⇑P **P 04 18 52.7 +0.5**
KIRV Kirov 31.83 354 LR LR 04 33 28.8
comp=Z,67nm,19.3s,baz=175,slow=40
KIRV Kirov 31.83 354 *ce*P **P 04 18 56.5 +0.8**
GZR Gura Zlata 31.90 314 ⇑P **P 04 18 56.1 -0.5**
HERR Herculane 31.93 313 ⇑P **P 04 18 56.3 -0.5**
DRGR 32.52 316 ⇓P **P 04 19 02.3 +0.2**
DRGR 32.52 316 P **P 04 19 03.6 +1.5**
DRGR pmax pmax
comp=Z,6.0nm,1.5s
BZS Buzias 32.73 313 ⇑P **P 04 19 03.3 -0.6**
KOLS Kolonicke sedl 33.76 319 *e*P **P 04 19 14.1 +1.3**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 33.76 319 *e*P **P 04 19 14.1 +1.3**
MNK Minsk 34.12 331 *e*P **P 04 19 14.9 -0.9**
comp=E,5.0nm,0.7s
MNK *e*P **P 04 19 14.9 -0.9**
comp=N,16nm,0.9s
MNK *e*P **P 04 19 14.9 -0.9**
comp=Z,9.0nm,0.9s,baz=132
MNK *i* PP **PnPn 04 20 29.2 -0.2**
MNK *i* PPP PPP 04 20 40.7
MNK *i* S **S 04 24 42.1 +1.0**
MNK *i* SS **SnSn 04 26 50.1 +1.1**
MNK *i* SSS SSS 04 27 07.3
MNK *i* LQ LQ 04 30 25.3
MNK *i* LR LR 04 33 29.4
MNK *i* LRM MLR 04 35 01.5
comp=N,246nm,19.7s
MNK *i* LRM MLR 04 35 06.3
comp=Z,76nm,17.4s
MNK *i* LRM MLR 04 35 20.8
comp=E,237nm,19.0s
MNK Minsk 34.12 331 *e*P **P 04 19 14.9 -0.9**
MNK *i* 04 20 29.2
MNK *i* S **S 04 24 42.1 +1.0**
MNK *i* SS **SnSn 04 26 50.1 +1.1**
MNK pmax pmax
comp=E,5.0nm,0.7s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK MLR MLR
comp=N,246nm,20.0s
MNK MLR MLR
comp=Z,76nm,17.0s
MNK MLR MLR
comp=E,237nm,19.0s
ZAA0 Zalesovo Array 34.43 31 P **P 04 19 16.8 -1.7**
ZAA0 IAmb IAmb 04 19 20.7
comp=Z,5.7nm,0.6s
ZALV Zalesovo Beam 34.43 31 P **P 04 19 17.8 -0.7**
ZALV Zalesovo Beam 34.43 31 P **P 04 19 18.6 +0.2**
comp=Z,6.8nm,0.4s,baz=243,slow=9.2,SNR=31
ZALV LR LR 04 33 49.7
comp=Z,49nm,20.2s,baz=230,slow=37
comp=Z,6.8nm,0.4s
STHS Stebnicka Huta 34.58 320 *e*P **P 04 19 23.2 +3.3**
STHS Stebnicka Huta 34.58 320 *e*P **P 04 19 23.2 +3.3**
MORH Mrgy, Hungar 34.88 313 ⇓P **P 04 19 22.2 -0.3**
LANS Liptovska Anna 35.51 318 *e*P **P 04 19 29.5 +1.6**
LANS pmax pmax
comp=Z,2.0nm,0.6s
LANS Liptovska Anna 35.51 318 *e*P **P 04 19 29.5 +1.6**
KLMR Klimovskoe 35.53 347 *e*P P 04 19 21.6 -6.3
KLMR pmax pmax
comp=Z,19nm,1.4s
VYHS Vyhne 35.62 317 *e*P **P 04 19 30.0 +1.2**
VYHS Vyhne 35.62 317 *e*P **P 04 19 30.0 +1.2**
STEB Steborice 36.84 319 *e*P **P 04 19 38.8 -0.4**
RONA Rosalia, Austr 36.91 315 *e*P **P 04 19 39.4 -0.5**
comp=Z,3.0nm,0.6s
MORC Moravsky Berou 36.91 318 ⇓P **P 04 19 40.3 +0.4**
CONA Conrad Observa 37.26 315 *e*P **P 04 19 42.1 -0.9**
comp=Z,9.6nm,1.8s
VRAC Vranov 37.30 317 LR LR 04 39 02.9
comp=Z,53nm,18.2s,baz=108,slow=43
VRAC Vranov 37.30 317 ⇓P **P 04 19 43.5 +0.4**
DPC Dobruska-Polom 37.86 319 *e*P **P 04 19 49.8 +1.8**
DPC Dobruska-Polom 37.86 319 *e*P **P 04 19 49.8 +1.8**
MOA Molln 38.25 314 *i* P **P 04 19 48.7 -2.6**
comp=Z,16nm,1.9s
BIOA Bad Ischl, Aus 38.60 314 *i* P **P 04 19 53.8 -0.5**
comp=Z,1.6nm,0.5s
KBA Koelnbreinsper 38.62 313 *e*P **P 04 19 54.7 +0.1**
comp=Z,2.1nm,0.6s
GTA Gaotai 38.64 60 *e*P **P 04 19 55.8 +1.1**
GTA pP pP 04 19 59.6 0.0
GTA pmax pmax
comp=Z,3.0nm,0.9s
ZVC Zvikov 38.81 316 *e*P **P 04 19 56.5 +0.6**
GERES GERESS Array B 38.92 315 P **P 04 19 56.6 -0.3**
comp=Z,0.6nm,0.4s,baz=122,slow=4.8,SNR=2.3
comp=Z,0.6nm,0.4s
ABTA Abfaltersbach 39.08 312 *i* pP **P 04 19 59.7 +1.4**
comp=Z,2.9nm,0.8s
KHC Kasperske Hory 39.09 316 *e*P **P 04 19 58.5 +0.2**
KHC Kasperske Hory 39.09 316 *e*P **P 04 19 58.5 +0.2**
LESA Schwarzleotal 39.15 313 *i* P **P 04 19 58.9 0.0**
comp=Z,1.0nm,0.3s
BRG Berggiesshubel 39.46 319 *e*P **P 04 20 02.8 +1.5**
BRG Amp 04 20 19.2
comp=Z,3.3nm,0.8s
FINES FINESS Array B 39.69 338 P **P 04 20 03.7 +0.7**
comp=Z,3.0nm,0.5s,baz=141,slow=8.9,SNR=16
comp=Z,3.0nm,0.5s
FINES FINESS Array B 39.69 338 *i* P **P 04 20 04.5 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
WTTA Wattenberg 39.79 312 *i* pP **P 04 20 05.4 +1.1**
comp=Z,2.2nm,0.3s
WATA Walderalm 39.85 312 *i* pP **P 04 20 06.5 +1.7**
comp=Z,2.6nm,0.4s
SQTA Sankt Quirin 40.06 312 *e*P **P 04 20 06.7 +0.1**
comp=Z,3.9nm,0.4s
KEST Kesra 40.12 294 P **P 04 20 07.3 +0.2**
comp=Z,2.5nm,0.8s,baz=97,slow=8.1,SNR=1.7
comp=Z,2.5nm,0.8s
MOTA Moosalm 40.16 312 *i* P **P 04 20 07.0 -0.5**
comp=Z,2.2nm,0.4s
CLL Collm 40.17 319 *e*P **P 04 20 09.0 +1.8**
FETA Feichten 40.34 312 *i* P **P 04 20 09.1 +0.2**
comp=Z,1.9nm,0.4s
RETA Reutte 40.42 312 *e*pP **P 04 20 10.9 +1.4**
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 40.72 93 P **P 04 20 12.9 +0.8**
comp=Z,0.9nm,0.3s,baz=298,slow=5.2,SNR=1.4
CMAR LR LR 04 42 24.1
comp=Z,26nm,18.6s,baz=290,slow=44
comp=Z,0.9nm,0.3s
DAVA Damuels 40.96 312 *i* P **P 04 20 13.9 -0.1**

comp=Z,18nm,0.6s
PZH PanZhiHua 41.02 80 P **P 04 20 15.4 +0.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
HFS Hagfors 43.64 331 P **P 04 20 35.1 -0.3**
comp=Z,4.7nm,0.6s,baz=132,slow=8.8,SNR=23
HFS LR LR 04 39 48.2
comp=Z,72nm,19.7s,baz=124,slow=38
comp=Z,4.7nm,0.6s
SONM Songino Array 44.44 48 P **P 04 20 42.7 +0.4**
SONM Songino Array 44.44 48 P **P 04 20 43.3 +1.0**
comp=Z,1.0nm,0.6s,baz=258,slow=8.7,SNR=7.7
SONM LR LR 04 41 15.6
comp=Z,52nm,19.2s,baz=180,slow=39
comp=Z,1.0nm,0.6s
NORES NORESS Array B 44.87 331 P **P 04 20 45.0 -0.2**
ULN Ulaanbaatar 44.89 48 *ce*P **P 04 20 45.4 -0.4**
ULN pmax pmax
comp=Z,5.0nm,1.7s
NB2 NORSAR Subarra 45.15 331 P **P 04 20 47.1 -0.5**
comp=Z,2.0nm,0.6s,baz=116,slow=7.9
NB2 NORSAR Subarra 45.15 331 P **P 04 20 51.5 +3.9**
NOA NORSAR Array B 45.15 331 P **P 04 20 47.1 -0.5**
comp=Z,1.9nm,0.7s,baz=117,slow=7.8,SNR=8.1
NOA LR LR 04 41 15.9
comp=Z,30nm,20.5s,baz=290,slow=38
comp=Z,1.9nm,0.7s
TAM Tamanrasset 45.38 276 P **P 04 20 49.6 -0.4**
TAM IAmb IAmb 04 20 52.7
comp=Z,2.9nm,0.9s
TAM Tamanrasset 45.38 276 P **P 04 20 49.6 -0.4**
TAM pmax pmax
comp=Z,3.0nm,0.9s
NC204 NORSAR Array S 45.46 331 P **P 04 20 48.6 -1.4**
ARCES ARCESS Array B 46.00 346 P **P 04 20 54.4 +0.3**
comp=Z,2.8nm,0.9s,baz=146,slow=9.5,SNR=5.9
comp=Z,2.8nm,0.9s
NRIK Noril'sk 46.27 15 P **P 04 20 55.2 -1.0**
comp=Z,2.0nm,0.6s,baz=243,slow=2.3,SNR=2.0
NRIK LR LR 04 44 16.0
comp=Z,62nm,20.3s,baz=190,slow=41
comp=Z,2.0nm,0.6s
NRIK Noril'sk 46.27 15 *i*P **P 04 20 54.7 -1.5**
NRIK pmax pmax
comp=Z,10.0nm,2.0s
HHC Hu-ho-hao-te 47.68 58 *eP* **P 04 21 07.8 0.0**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.1s
VOI Vohitsoka 49.40 191 P **P 04 21 20.7 -0.5**
LSZ Lusaka 49.77 216 LR LR 04 43 09.3
comp=Z,79nm,18.0s,baz=30,slow=37
ESDC Sonseca Array 50.48 300 P **P 04 21 29.0 -0.3**
comp=Z,0.8nm,0.6s,baz=63,slow=7.2,SNR=9.5
comp=Z,0.8nm,0.6s
EKA Eskdalemuir Ar 50.55 321 P **P 04 21 28.4 -1.0**
comp=Z,0.4nm,0.3s,baz=98,slow=7.5,SNR=5.0
comp=Z,0.4nm,0.3s
PAB San Pablo 50.79 300 P **P 04 21 31.7 +0.1**
PAB IAmb IAmb 04 21 32.4
comp=Z,14nm,1.4s
PAB San Pablo 50.79 300 P **P 04 21 31.7 +0.1**
PAB pmax pmax
comp=Z,14nm,1.4s
XLT XiLinHaoTe 50.94 54 *eP* **P 04 21 35.4 +2.7**
XLT pmax pmax
comp=Z,4.0nm,1.1s
TORD Torodi Ar. Bea 52.11 266 P **P 04 21 41.4 -0.3**
TORD IAmb IAmb 04 21 42.6
comp=Z,2.7nm,0.9s
TORD Torodi Ar. Bea 52.11 266 P **P 04 21 39.6 -2.1**
comp=Z,3.5nm,0.8s,baz=52,slow=8.0,SNR=31
comp=Z,3.5nm,0.8s
TIA Tai'an 52.42 64 P **P 04 21 44.8 +1.0**
SPB2 Spitsbergen Ar 54.20 351 P **P 04 21 57.7 +1.5**
SPITS Spitsbergen Ar 54.20 351 P **P 04 21 54.4 -1.8**
comp=Z,11nm,0.9s,baz=141,slow=8.4,SNR=5.5
comp=Z,11nm,0.9s
NJ2 Nanjing 54.58 69 *eP* **P 04 21 59.5 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
KBS Kingsbay 55.36 351 P **P 04 22 04.7 +0.1**
KBS Kingsbay 55.36 351 P **P 04 22 04.7 +0.1**
KBS pmax pmax
comp=Z,72nm,1.4s
CN2 Changchun 57.70 54 P **P 04 22 22.6 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ZEA Zeya 57.96 42 *eP* **P 04 22 26.0 +2.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 58.82 51 ||P **P 04 22 27.4 -2.2**
BNX pmax pmax
comp=Z,5.0nm,1.9s
TSUM Tsumeb 58.92 223 LR LR 04 48 34.1
comp=Z,50nm,18.7s,baz=60,slow=37
YAK Yakutsk 59.07 32 LR LR 04 51 13.3
comp=Z,40nm,18.2s,baz=273,slow=39
LBTB Lobatse 59.29 212 P **P 04 22 33.2 +0.1**
LBTB IAmb IAmb 04 22 34.3
comp=Z,4.7nm,0.8s
LBTB Lobatse 59.29 212 LR LR 04 48 21.5
comp=Z,50nm,19.1s,baz=64,slow=36
LBTB Lobatse 59.29 212 P **P 04 22 33.2 +0.1**
LBTB pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 59.32 21 P **P 04 22 33.2 +0.5**
TIXI IAmb IAmb 04 22 42.8
comp=Z,2.4nm,0.8s
TIXI Tiksi 59.32 21 P **P 04 22 32.2 -0.4**
comp=Z,5.7nm,0.4s,baz=295,slow=3.2,SNR=2.6
TIXI LR LR 04 49 02.0
comp=Z,39nm,18.6s,baz=184,slow=37
comp=Z,5.7nm,0.4s
TIXI Tiksi 59.32 21 *ce*P **P 04 22 33.9 +1.3**
TIXI pmax pmax
comp=Z,3.0nm,1.3s
BORG Borgarnes 60.33 331 LR LR 04 50 44.6
comp=Z,37nm,20.0s,baz=126,slow=38
KSRS Korea Array 60.71 60 P **P 04 22 42.8 +0.1**
comp=Z,1.4nm,0.5s,baz=284,slow=6.6,SNR=5.1
KSRS LR LR 04 53 34.6
comp=Z,28nm,18.2s,baz=80,slow=41
comp=Z,1.4nm,0.5s
DBIC Dimbokro 60.72 262 P **P 04 22 43.2 +0.1**
DBIC IAmb IAmb 04 23 20.1
comp=Z,7.2nm,1.1s
DBIC Dimbokro 60.72 262 P **P 04 22 42.5 -0.6**
comp=Z,4.1nm,0.9s,baz=60,slow=5.4,SNR=6.7
DBIC LR LR 04 48 57.8
comp=Z,62nm,18.1s,baz=47,slow=36
comp=Z,4.1nm,0.9s
DBIC Dimbokro 60.72 262 P **P 04 22 43.2 +0.1**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
KLR Kul'dur 61.23 47 P **P 04 22 46.4 +0.4**
comp=Z,2.6nm,0.8s,baz=298,slow=7.6,SNR=10
KLR LR LR 04 51 03.9
comp=Z,52nm,18.1s,baz=288,slow=38
comp=Z,2.6nm,0.8s
KLR Kul'dur 61.23 47 *eP* **P 04 22 45.6 -0.4**
KLR pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 62.52 210 P **P 04 22 54.8 -0.3**
BOSA Boshof 62.52 210 P **P 04 22 54.5 -0.5**
comp=Z,2.6nm,0.6s,baz=21,slow=6.6,SNR=12
BOSA LR LR 04 53 58.5
comp=Z,33nm,18.8s,baz=24,slow=40
comp=Z,2.6nm,0.6s
BOSA Boshof 62.52 210 P **P 04 22 54.8 -0.3**
BOSA pmax pmax
comp=Z,17nm,1.5s
JNU Nakatsue 64.15 64 LR LR 04 55 44.8
comp=Z,47nm,19.9s,baz=300,slow=40
GRHM Grahamstown, E 66.10 207 P **P 04 23 18.3 0.0**
SUR Sutherland 67.74 211 LR LR 04 52 39.1
comp=Z,28nm,20.1s,baz=23,slow=36
MJAR Matsushiro Arr 68.88 59 LR LR 04 58 40.2
comp=Z,27nm,19.3s,baz=200,slow=40
SEY Seymchan 69.28 29 P **P 04 23 38.8 +0.8**
comp=Z,3.9nm,0.7s,baz=291,slow=6.6,SNR=12
comp=Z,3.9nm,0.7s
SEY Seymchan 69.28 29 *eP* **P 04 23 38.3 +0.3**
SEY pmax pmax
comp=Z,7.0nm,1.2s
MA2 Magadan 69.62 33 LR LR 04 58 45.0
comp=Z,48nm,18.4s,baz=122,slow=40
ASAJ Asahikawa 69.68 50 LR LR 04 55 02.8
comp=Z,43nm,20.4s,slow=37
BILL Bilibino 72.51 22 P **P 04 23 58.6 +1.0**
BILL IAmb IAmb 04 24 01.1
comp=Z,6.5nm,1.1s
BILL Bilibino 72.51 22 *ce*P **P 04 23 58.8 +1.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s
PSA00 Pilbara Seismi 78.73 121 P **P 04 24 33.2 -0.7**
A36M Sachs Harbour 81.24 0 P **P 04 24 46.1 -0.6**
A36M IAmb IAmb 04 24 50.4
comp=Z,6.8nm,1.1s
TOLK Toolik Lake Re 82.82 9 P **P 04 24 55.4 +0.3**
TOLK IAmb IAmb 04 25 09.6
comp=Z,6.5nm,1.4s
ANM Nome 83.28 17 P **P 04 24 59.0 +1.5**
ANM Nome 83.28 17 P **P 04 24 59.0 +1.5**
ANM pmax pmax
comp=Z,13nm,1.3s
C36M Paulatuk 83.90 360 P **P 04 25 00.0 -0.6**
C36M IAmb IAmb 04 25 04.7
comp=Z,1.7nm,0.8s
COLD Coldfoot 84.04 10 P **P 04 25 03.1 +1.7**
COLD IAmb IAmb 04 25 05.5
comp=Z,3.4nm,0.9s
BMAR Burnt Mountain 84.61 8 P **P 04 25 05.0 +0.6**
INK Inuvik 84.70 3 P **P 04 25 04.0 -0.6**
INK IAmb IAmb 04 25 31.8
comp=Z,5.5nm,1.5s
INK Inuvik 84.70 3 P **P 04 25 04.1 -0.6**
INK pmax pmax
comp=Z,6.0nm,1.5s
ILAR Eielson Array 86.83 9 P **P 04 25 15.4 +0.1**
comp=Z,0.5nm,0.6s,baz=323,slow=4.4,SNR=12
comp=Z,0.5nm,0.6s
WRA Warramunga Arr 89.40 113 P **P 04 25 29.9 +1.5**
comp=Z,0.6nm,0.9s,baz=314,slow=4.1,SNR=4.8
comp=Z,0.6nm,0.9s
YKA Yellowknife Ar 90.44 355 P **P 04 25 33.1 +0.7**
comp=Z,0.2nm,0.6s,baz=8.4,slow=4.7,SNR=4.0
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 90.44 355 *i*P **P 04 25 32.5 +0.1**
ASAR Alice Springs 90.84 116 P **P 04 25 36.1 +1.1**
comp=Z,0.2nm,0.3s,baz=280,slow=5.0,SNR=4.5
comp=Z,0.2nm,0.3s
KDAK Kodiak Island 92.26 15 LR LR 05 11 03.9
comp=Z,34nm,20.7s,baz=334,slow=38
SYO Syowa Base 96.48 186 ||*ep*P pP 04 26 05.2 +0.1
SHPR Sheep Range 116.20 352 PKPdf **PKPdf 04 31 15.1 +0.1**

*IDC **11** 04:12:59.2±1.1,8°.98N×75°.14W,h0km,mb3.4/4,*
mbtmp3.8/8,ML3.4/4,Error ellipse: s-maj=31.8km
s-min=19.9km az=46.0
*RSNC **11** 04:13:04.9±0.0,8°.N±1°×7°.5W±°,h35km±8km,M3.2,ML3.0*
ISC 11 04:13:02.6±1.1,8°.48N±0°.02×75°.02W±0°.03,h31km±10km,
n39,σ2s39/62,mb3.5/4,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UREC	**San Jos de Ur**	**0.88**	**215**	P	**Pn**	**04 13 18.9**	**0.0**
UREC				S	**Sn**	**04 13 31.4**	**+0.7**
ZARC	**Zaragoza, Cauc**	**0.99**	**171**	P	**Pb**	**04 13 20.2**	**-1.1**
ZARC				S	**Sb**	**04 13 32.9**	**-1.1**
LCBC	**Los crdobas,**	**1.39**	**286**	P	**Pb**	**04 13 27.9**	**0.0**
LCBC				S	**Sb**	**04 13 48.4**	**+3.1**
SJCC	**San Jacinto, C**	**1.42**	**354**	P	**Pb**	**04 13 27.1**	**-1.4**
SJCC				S	**Sb**	**04 13 45.3**	**-1.0**
ARGC	**Ariguani, Magd**	**1.57**	**29**	P	**Pb**	**04 13 31.5**	**+0.5**
ARGC				S	**Sb**	**04 13 51.0**	**+0.5**
APAC	**Apartado, Choc**	**1.65**	**250**	P	**Pb**	**04 13 31.0**	**-1.4**
APAC				S	**Sb**	**04 13 57.6**	**+4.8**
OCAC	**Ocana**	**1.70**	**98**	P	**Pn**	**04 13 30.8**	**+0.6**
OCAC				S	**Sn**	**04 13 52.2**	**+1.2**
DBBC	**Dabeiba**	**1.87**	**219**	P	**Pn**	**04 13 32.9**	**+0.4**
DBBC				S	**Sn**	**04 13 56.5**	**+1.4**
BRJC	**Barrancabermej**	**1.96**	**140**	P	**Pn**	**04 13 35.1**	**+1.4**
BRJC				S	**Sn**	**04 13 59.2**	**+2.0**
CAPC	**Capurgana**	**2.31**	**274**	P	**Pn**	**04 13 38.8**	**+0.3**
CAPC				S	**Sn**	**04 14 05.5**	**-0.5**
PAMC	**Pamplona, Colo**	**2.56**	**116**	P	**Pn**	**04 13 44.0**	**+1.6**
PAMC				S	**Sn**	**04 14 13.9**	**+1.1**
BARC	**Barichara**	**2.61**	**136**	P	**Pn**	**04 13 44.5**	**+1.6**
BARC				S	**Sn**	**04 14 15.8**	**+2.1**
CBOC	**Ciudad Bolivar**	**2.78**	**201**	P	**Pn**	**04 13 46.8**	**+1.7**
CBOC				S	**Sn**	**04 14 19.7**	**+2.0**
NORC	**Norcasia**	**2.90**	**177**	P	**Pn**	**04 13 47.3**	**+0.6**
NORC				S	**Sb**	**04 14 25.6**	**-3.1**
PTAC	**Punta Ardita,**	**3.06**	**245**	P	**Pn**	**04 13 50.2**	**+1.3**
RUSC	**La Rusia**	**3.21**	**143**	P	**Pn**	**04 13 52.5**	**+1.2**
RUSC				S	**Sn**	**04 14 30.9**	**+2.2**
GUY2C	**Guyana, Caldas**	**3.25**	**186**	P	**Pn**	**04 13 54.4**	**+2.5**
SOLC	**Bahia Solano**	**3.26**	**227**	P	**Pb**	**04 13 57.1**	**-2.7**
CRJC	**Cerrejon, Guaj**	**3.29**	**40**	P	**Pn**	**04 13 54.8**	**+2.7**
CRJC				S	**Sn**	**04 14 28.8**	**-1.4**
ROSC	**El Rosal**	**3.68**	**169**	Pn	**Pb**	**04 14 03.4**	**-3.8**
	6.3nm,0.3s,baz=108,slow=17,SNR=9.0						
ROSC				Sn	**Sb**	**04 14 50.5**	**-1.0**
	13nm,0.3s,baz=56,slow=22,SNR=10.0						
	10nm,0.4s						
ROSC	**El Rosal**	**3.68**	**169**	P	**Pb**	**04 14 03.4**	**-3.8**
PLMC	**San Jos del P**	**3.76**	**200**	P	**Pn**	**04 14 00.4**	**+1.8**
PLMC				S	**Sn**	**04 14 45.1**	**+3.2**
TAMC	**Tame, Arauca**	**3.79**	**122**	P	**Pn**	**04 14 00.7**	**+1.8**
TAMC				S	**Sn**	**04 14 46.0**	**+3.5**
CHIC	**Chingaza**	**4.03**	**161**	P	**Pn**	**04 14 03.5**	**+0.9**
CHIC				S	**Sn**	**04 14 54.2**	**+5.2**
SDV	**Santo Domingo**	**4.36**	**84**	Pn	**Pn**	**04 14 09.0**	**+2.2**
	18nm,0.3s,baz=310,slow=14,SNR=54						
SDV				Sn	**Sn**	**04 14 57.0**	**+0.4**
	67nm,0.3s,baz=334,slow=17,SNR=9.6						
	35nm,0.3s						
SDV	**Santo Domingo**	**4.36**	**84**	P	**Pn**	**04 14 09.0**	**+2.2**
SDV				S	**Sn**	**04 14 58.0**	**+1.3**
URIC	**Uribia, Colomb**	**4.38**	**43**	P	**Pn**	**04 14 10.9**	**+4.0**
URIC				S	**Sn**	**04 14 59.3**	**+2.4**
VILC	**Villavicencio,**	**4.53**	**163**	P	**Pn**	**04 14 09.6**	**+0.4**
ORTC	**Ortega, Tolima**	**4.54**	**183**	P	Pn	04 14 15.3	+6.0
YOTC	**Yotoco, Valle**	**4.66**	**197**	P	**Pn**	**04 14 13.9**	**+3.0**
PRAC	**Prado**	**4.73**	**178**	P	**Pn**	**04 14 14.5**	**+2.6**
BCIP	**Isla Barro Col**	**4.81**	**279**	P	**Pn**	**04 14 12.6**	**-0.3**
BCIP				S	**Sn**	**04 15 07.1**	**-0.5**
URMC	**La Uribe, Meta**	**5.24**	**173**	P	**Pn**	**04 14 21.5**	**+2.7**
JTS	**Las Juntas de**	**9.97**	**281**	Pn	Pn	04 15 19.1	-4.7
	3.0nm,0.3s,baz=111,slow=17,SNR=17						
	7.6nm,0.2s						
PCRV	**Puerto La Cruz**	**10.38**	**80**	Pn	**Pn**	**04 15 29.4**	**-0.1**
	0.7nm,0.3s,baz=317,slow=6.0,SNR=1.7						
PCRV				Sn	**Sn**	**04 17 20.3**	**-4.6**
	baz=302,slow=7.1,SNR=3.9						
	13nm,0.9s						
LPAZ	**La Paz**	**25.53**	**165**	P	**P**	**04 18 35.9**	**+6.5**
	1.1nm,0.5s,baz=342,slow=6.4,SNR=6.0						
	1.1nm,0.5s						
TXAR	**Lajitas Array**	**33.96**	**311**	P	**P**	**04 19 42.4**	**-1.1**
	0.2nm,0.8s,baz=123,slow=8.4,SNR=2.3						
	0.2nm,0.8s						
PDAR	**Pinedale Array**	**45.64**	**324**	P	**P**	**04 21 18.9**	**-1.7**
	0.4nm,0.8s,baz=134,slow=4.3,SNR=2.8						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**61.08**	**340**	P	**P**	**04 23 09.9**	**-3.4**
	0.3nm,0.6s,baz=140,slow=6.9,SNR=5.6						
	0.3nm,0.6s						

*UCR **11** 04:14:50.7±0.9,8°.85N×84°.11W,h0km±2km,MW3.7*
*UPA **11** 04:14:50.9±2.2,8°.78N×84°.11W,h1km±15km,MD3.8,*
MW3.8
ISC 11 04:14:47.9±1.7,8°.71N±0°.05×84°.20W±0°.05,h4km±11km,
n49,σ0s76/61,8C-10D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPE	**Pejibaye, P**	**0.77**	**54**	*eP*	**Pg**	**04 15 02.8**	**+0.2**
EDPE				*eS*	**Sg**	**04 15 12.9**	**+0.3**
LLNJ	**Naranjito**	**0.77**	**7**	||*eP*	**Pb**	**04 15 03.8**	**-0.1**
LLNJ				*eS*	**Sg**	**04 15 13.4**	**+0.7**
FIMO	**Fila Mora**	**0.88**	**71**	||*eP*	**Pb**	**04 15 06.0**	**+0.1**
FIMO				*eS*	**Sb**	**04 15 18.2**	**+0.1**
PIRO	**Carate, Puerto**	**0.91**	**109**	*eP*	**Pn**	**04 15 08.2**	**+0.7**
PIRO				*eS*	**Sn**	**04 15 21.4**	**+0.5**
PICV	**PH. Pirrs**	**0.92**	**0**	||*eP*	**Pb**	**04 15 06.5**	**+0.1**
PISJ	**San Jernim**	**0.92**	**5**	||*eP*	**Pg**	**04 15 06.2**	**+0.5**
RAZU	**San Marcos de**	**0.96**	**10**	*eP*	**Pb**	**04 15 07.2**	**-0.1**
ABE2	**San Pablo**	**1.00**	**8**	*eP*	**Pg**	**04 15 07.7**	**+0.5**
LCR2	**La Lucha 2**	**1.05**	**11**	||*eP*	**Pg**	**04 15 07.9**	**-0.2**
LCR2				*eS*	**Sg**	**04 15 21.2**	**-0.4**
EDP2	**Potrero Grande**	**1.06**	**73**	*eP*	**Pn**	**04 15 09.3**	**-0.3**
ACOS	**Acosta**	**1.08**	**2**	||*iP*	**Pb**	**04 15 09.4**	**+0.1**
DRK0	**Durika**	**1.09**	**60**	||*iP*	**Pb**	**04 15 09.6**	**+0.1**
REPA	**Paraso**	**1.16**	**16**	*eP*	**Pg**	**04 15 10.4**	**+0.2**
TAGO	**Cartago**	**1.19**	**13**	*eP*	**Pg**	**04 15 10.7**	**0.0**
SJS3	**Mercedes San J**	**1.23**	**7**	*eP*	**Pg**	**04 15 11.8**	**+0.2**
SJS	**Escuela Geolog**	**1.23**	**7**	||*eP*	**Pg**	**04 15 11.7**	**0.0**
NELY	**Ciudad Neily**	**1.24**	**92**	*eP*	**Pb**	**04 15 12.4**	**+0.5**
PCAYA	**Pacayas**	**1.26**	**18**	*eP*	**Pn**	**04 15 11.8**	**-0.8**
PCAYA				*eS*	**Sg**	**04 15 27.8**	**-0.9**
RAFA	**San Farael, Vo**	**1.30**	**17**	||*eP*	**Pn**	**04 15 12.7**	**-0.5**
VICA	**Volcano Irazu**	**1.32**	**15**	||*eP*	**Pn**	**04 15 13.0**	**-0.6**
VERB	**Verbena**	**1.33**	**22**	||*eP*	**Pn**	**04 15 13.0**	**-0.4**
CVIMO	**Finca Echandi**	**1.33**	**11**	*eP*	**Pn**	**04 15 13.3**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.35**	**20**	||*eP*	**Pn**	**04 15 13.5**	**-0.3**
VTLA	**Turrialba Volc**	**1.35**	**18**	||*iP*	**Pn**	**04 15 13.8**	**-0.2**
CVTQ	**Turrialba Volc**	**1.36**	**18**	||*iP*	**Pn**	**04 15 13.8**	**-0.3**
MLIR3	**Monte Lirio, C**	**1.36**	**86**	*eP*	**Pg**	**04 15 15.6**	**+1.5**
MLIR3				*i* S	**Sn**	**04 15 33.8**	**+1.4**
CVTV	**Tajo**	**1.36**	**19**	||*eP*	**Pn**	**04 15 13.7**	**-0.4**
ALCO	**Alturas Coton,**	**1.37**	**80**	||*eP*	**Pg**	**04 15 14.3**	**0.0**
VTR0	**Volcan Turrial**	**1.37**	**18**	*eP*	**Pn**	**04 15 14.0**	**-0.2**
RVSTA	**Santa Teresita**	**1.38**	**23**	||*eP*	**Pn**	**04 15 13.9**	**-0.1**
CVTR	**Volcan Turrial**	**1.38**	**18**	*eP*	**Pn**	**04 15 14.1**	**-0.2**
PTPM	**Petroterminale**	**1.40**	**111**	*eP*	**Pg**	**04 15 15.2**	**+0.4**
PTPM				*i* S	**Sn**	**04 15 35.7**	**+2.5**
SRA1	**San Ramn**	**1.40**	**349**	*eP*	**Pn**	**04 15 14.3**	**0.0**
VBV1	**V. Barva**	**1.40**	**4**	*eP*	**Pb**	**04 15 14.8**	**-0.1**
CVTG	**V. Turrialba,**	**1.49**	**16**	||*iP*	**Pb**	**04 15 16.1**	**-0.2**
BRU2	**Volcan**	**1.49**	**87**	*eP*	**Pg**	**04 15 16.8**	**+0.2**
BRU2	**Volcan**	**1.49**	**87**	*i* P	**Pg**	**04 15 16.6**	**0.0**
BRU2				*i* S	**Sg**	**04 15 37.6**	**+1.6**
RVLA	**Villa Bonita**	**1.52**	**23**	*eP*	**Pn**	**04 15 16.1**	**+0.2**
BC3P	**Paso Ancho**	**1.57**	**86**	*eP*	**Pg**	**04 15 17.8**	**-0.4**
BC3P				*eS*	**Sn**	**04 15 37.1**	**-0.7**
PTAR3	**Potrerillos Ar**	**1.69**	**90**	*eP*	**Pg**	**04 15 19.9**	**-0.3**
CARI	**Cariari**	**1.71**	**15**	*eP*	**Pb**	**04 15 20.5**	**+0.6**
SOCE	**Pocosol**	**1.72**	**346**	*eP*	**Pb**	**04 15 20.2**	**+0.1**
JTS	**Las Juntas de**	**1.74**	**335**	*eP*	**Pg**	**04 15 20.8**	**-0.5**
JTS	**Las Juntas de**	**1.74**	**335**	*i* P	**Pg**	**04 15 21.2**	**-0.2**
LNBQ3	**Los Naranjos,**	**1.74**	**87**	*eP*	**Pn**	**04 15 16.3**	**-2.8**
VACR	**Volcan Arenal**	**1.82**	**345**	*eP*	**Pg**	**04 15 22.9**	**0.0**
CNI2	**El Empalme, Bo**	**1.85**	**67**	*i* P	**Pb**	**04 15 21.3**	**-1.0**
CNI2				*i* S	**Sn**	**04 15 44.5**	**+0.2**
CHGR2	**Aguacate**	**2.04**	**83**	*i* P	**Pb**	**04 15 24.3**	**-1.3**
CHGR2				*i* S	**Sn**	**04 15 48.8**	**-0.4**
GMAL	**Guarumal, Vera**	**3.08**	**107**	*eP*	**Pb**	**04 15 41.8**	**-1.6**

*SJA **11** 04:16:47.6±0.6,30°.12S×71°.42W,h17km±3km,ML2.9,*
MW3.0
*GUC **11** 04:16:51.3±0.6,30°.22S×71°.24W,h53km±3km,ML2.9*
ISC 11 04:16:52.7±1.3,30°.11S±0°.03×71°.38W±0°.05,h47km±9km,
n26,σ1s59/43,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**33**	*eP*	**Pn**	**04 17 01.3**	**+0.3**
CO05				*eS*	**Sn**	**04 17 08.7**	**+1.9**
CO05				IAML		04 17 09.4	
	comp=E,2μm,0.5s						
GO04	**Tololo Observa**	**0.51**	**97**	*eP*	Pn	04 16 57.6	-6.5
GO04				*eS*	**Sn**	**04 17 12.2**	**0.0**
GO04	**Tololo Observa**	**0.51**	**97**	*eP*	**Pn**	**04 17 03.1**	**-1.0**
GO04				*eS*	**Sn**	**04 17 12.1**	**-0.2**
GO04				IAML		04 17 13.1	
	comp=E,7μm,0.4s						
CO06	**Fray Jorge**	**0.60**	**201**	*eP*	**Pn**	**04 17 04.2**	**-0.9**
CO06				*eS*	**Sn**	**04 17 13.8**	**-0.1**
CO06				IAML		04 17 14.6	
	comp=E,598nm,0.2s						
CO03	**El Pedregal**	**0.94**	**141**	*eP*	**Pn**	**04 17 07.6**	**-2.1**
CO03				*eS*	**Sn**	**04 17 19.7**	**-2.3**
CO03				IAML		04 17 20.6	
	comp=Z,587nm,0.4s						
CO03	**El Pedregal**	**0.94**	**141**	*eP*	**Pn**	**04 17 07.6**	**-2.1**
CO03				*eS*	**Sn**	**04 17 19.8**	**-2.3**
CO01	**Juntas del Tor**	**1.12**	**83**	*eP*	**Pn**	**04 17 11.3**	**-1.0**
CO01				*eS*	**Sn**	**04 17 26.3**	**-0.5**
CO01				IAML		04 17 26.6	
	comp=Z,358nm,0.2s						
CO01	**Juntas del Tor**	**1.12**	**83**	||*iP*	**Pn**	**04 17 11.4**	**-0.9**
CO01				*eS*	**Sn**	**04 17 26.2**	**-0.5**
CO01				IAML		04 17 26.6	
	comp=N,360nm,0.2s						
LCO	**Las Campanas**	**1.25**	**29**	*eP*	**Pn**	**04 17 13.2**	**-0.8**
LCO				*eS*	**Sn**	**04 17 30.0**	**+0.2**
LCO				IAML		04 17 31.5	
	comp=Z,484nm,0.4s						
AC04	**Llanos de Chal**	**1.92**	**8**	*eP*	**Pn**	**04 17 21.8**	**-1.2**
AC04				*eS*	**Sn**	**04 17 47.2**	**+1.3**
AC04				IAML		04 17 53.2	
	comp=Z,54nm,0.3s						
ACCO	**Cerro Coronel**	**2.06**	**104**	*eP*	**Pn**	**04 17 26.2**	**+1.0**
ACCO				*eS*	Sn	04 17 56.5	+6.8
RTLS	**Leoncito**	**2.46**	**134**	*eP*	**Pn**	**04 17 30.9**	**+0.3**
RTLS				*eS*	**Sn**	**04 18 01.9**	**+2.3**
RTLS				IAML		04 18 07.7	
	comp=Z,76nm,1.1s						
AGUA	**GUANDACOL**	**2.59**	**77**	*eP*	**Pn**	**04 17 34.2**	**+1.9**
AGUA				IAML		04 18 11.1	
	comp=Z,25nm,0.4s						
VA03	**San Esteban**	**2.74**	**165**	*eP*	**Pn**	**04 17 33.5**	**-0.8**
VA03				*eS*	**Sn**	**04 18 07.6**	**+1.4**
VA03				IAML		04 18 16.6	
	comp=Z,39nm,0.2s						
ROC1	**El Roble**	**2.87**	**174**	*eP*	**Pn**	**04 17 35.4**	**-0.9**
ROC1				*eS*	**Sn**	**04 18 08.7**	**-1.0**
VA01	**Torpederas**	**2.91**	**184**	*eP*	Pn	04 17 18.1	-18
VA01				*eS*	Sn	04 18 18.1	+7.8
VA01				IAML		04 18 19.8	
	comp=Z,28nm,1.0s						
PEL	**Peldehue**	**3.08**	**169**	*eP*	**Pn**	**04 17 40.5**	**+1.6**
PEL				*eS*	**Sn**	**04 18 16.4**	**+1.8**
MT02	**Curacav**	**3.14**	**176**	*eP*	**Pn**	**04 17 38.0**	**-1.7**
MT02				*eS*	**Sn**	**04 18 20.5**	**+4.4**
MT02				IAML		04 18 23.1	
	comp=Z,25nm,0.3s						
MT05	**Renca**	**3.32**	**171**	*eP*	**Pn**	**04 17 42.9**	**+0.7**
MT05				*eS*	Sn	04 18 25.1	+4.7
MT05				IAML		04 18 32.4	
	comp=Z,28nm,0.7s						
MT04	**Ro Olivares**	**3.45**	**162**	*eP*	**Pn**	**04 17 44.8**	**+0.6**
MT04				*eS*	**Sn**	**04 18 21.8**	**-2.2**
MT04				*eS*		04 18 25.6	
MT04				IAML		04 18 33.6	
	comp=Z,18nm,0.5s						
MT03	**Universidad Ad**	**3.45**	**168**	*eP*	**Pn**	**04 17 44.6**	**+0.5**
MT03				*eS*	**Sn**	**04 18 25.1**	**+1.3**
MT03				IAML		04 18 38.4	
	comp=Z,

ISC 11 04:43:06.7±0.9, 28°.31N±0°.06×53°.20E±0°.05, h16km, n19, σ1°.44/19, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	Qir	0.22	321	Pg	Pg	04 43 10.1	-1.7
JHRM	Jahrom	0.39	59	Pg	Pg	04 43 13.0	-1.6
LMD1	Lamerd	0.96	182	Pg	Pb	04 43 24.8	-0.2
SHI	Shiraz	1.46	336	Pg	Pb	04 43 33.7	0.0
DSBU	Dashti - Bushe	1.71	272	Pg	Pb	04 43 37.8	0.0
AHBU	AHRAM	1.77	289	Pg	Pg	04 43 39.2	-1.4
KAZ2	Kazeron-Fars-I	1.88	314	Pn	Pb	04 43 39.7	-1.0
KHGB	Koh Gabri	3.52	53	Pn	Pn	04 44 02.5	+1.5
IRAM	Ramesheh	3.56	349	Pn	Pn	04 44 03.2	+1.7
ISAD	Sadrabad	3.62	7	Pn	Pn	04 44 04.2	+1.9
ZNGN	Zangian	4.31	332	Pn	Pn	04 44 14.2	+2.3
IZEF	Zefreh	4.64	351	Pn	Pn	04 44 18.0	+1.7
IPIR	Pirpir	4.80	336	Pn	Pn	04 44 20.3	+1.7
IKLH	Kolahrood	5.19	345	Pn	Pn	04 44 25.0	+1.1
TKDS	Koohdasht(Taba	6.27	31	Pn	Pn	04 44 40.0	+1.3
TNSJ	Nastanj	6.35	27	Pn	Pn	04 44 40.8	+1.0
BRTR	Keskin Array B 0.1nm,0.3s,baz=133,slow=12,SNR=8.1 0.6nm,0.6s	19.77	310	P	P	04 47 36.9	+0.6
ZALV	Zalesovo Beam 0.6nm,0.3s,baz=237,slow=9.3,SNR=4.5 0.6nm,0.3s	34.48	33	P	P	04 49 53.7	+0.1
FINES	FINESS Array B 1.2nm,0.7s,baz=140,slow=9.0,SNR=3.9 1.2nm,0.7s	37.74	339	P	P	04 50 20.9	-0.6

NEIC 11 04:54:34.6±1.4, 35°.27N±0°.01×97°.85W±0°.01, h7km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=190.0

NEIC 11 04:54:34.0±1.5, 35°.26N±0°.01×97°.85W±0°.01, h5km±1km, mb_Lg2.2/6, ML2.1/40, ML2.7/17, Error ellipse: s-maj=2.8km s-min=2.0km az=252.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	OKLAHOMA CITY	0.36	67	Pg	Pb	04 54 42.1	-0.9
OKCSW				Sg	Sg	04 54 46.3	+0.4
OKCSW				IAML		04 54 50.6	
	comp=E,132nm,0.5s						
OKCSW				IAML		04 54 53.8	
	comp=N,122nm,0.6s						
FNO	Franklin	0.37	91	Pg	Pg	04 54 41.8	+0.7
FNO				Sg	Sg	04 54 46.1	+0.2
FNO				IAML		04 54 54.0	
	comp=E,127nm,0.5s						
BCOK	Bluff Creek, N	0.44	26		Pb	04 54 43.4	-0.9
BCOK					Sg	04 54 48.1	-0.2
ADOK	Arcadia Dam	0.55	45	Pg	Pb	04 54 45.6	-0.6
ADOK				Sg	Sg	04 54 52.8	+1.1
X34A	Smith Ranch, M	0.66	179	Pg	Pb	04 54 47.6	-0.4
X34A				Sg	Sg	04 54 55.2	0.0
X34A				IAML		04 55 01.7	
	comp=N,59nm,0.5s						
CSTR	Hydro, Custer	0.79	299	Pg	Pg	04 54 48.4	-0.7
W35A	Tecumseh	0.81	98	Pg	Pg	04 54 49.6	+0.2
W35A				Sg	Sg	04 55 00.6	+0.7
W35A				IAML		04 55 04.1	
	comp=N,44nm,0.4s						
W35A				IAML		04 55 12.5	
	comp=E,32nm,0.2s						
WMOK	Wichita Mounta	0.93	236	Pg	Pg	04 54 51.3	-0.5
OK031	S. Brethren Rd	1.07	50	Pg	Pg	04 54 54.2	-0.4
OK031				IAML		04 55 20.4	
	comp=E,67nm,0.3s						
CROK	Carrier	1.24	355	Pg	Pg	04 54 56.8	-1.0
CROK				Sg	Sg	04 55 12.9	-1.0
DEOK	Depew	1.24	62	Pg	Pg	04 54 56.9	-0.9
DEOK				Sg	Sg	04 55 12.3	-1.6
DEOK				IAML		04 55 18.7	
	comp=E,51nm,0.2s						
DEOK				IAML		04 55 22.2	
	comp=N,46nm,0.3s						
QUOK	Quay	1.30	45		Pn	04 54 58.7	-0.1
OK051	E0350 and S346	1.49	33		Pn	04 55 00.8	-0.5
ELIS	Ellis County	1.51	303		Pn	04 55 01.0	-0.8
WTFS	Witchita Falls	1.58	199		Pb	04 55 03.6	0.0
BLOK	Blackwell	1.58	19		Pn	04 55 02.6	-0.1
NOKA	Waynoka	1.63	328		Pn	04 55 03.6	+0.3
KAN14	Manchester OK	1.69	357		Pn	04 55 04.5	+0.2
KAN13	South Haven SW	1.77	10	Pn	Pn	04 55 05.8	+0.5
KAN17	Caldwell West	1.78	2	Pn	Pn	04 55 05.3	-0.1
KAN09	Caldwell North	1.88	6	Pn	Pn	04 55 06.4	-0.4
KAN01	Argonia South	1.89	2	Pn	Pn	04 55 07.2	+0.3
KAN01				IAmb_Lg		04 55 39.0	
	comp=Z,11nm,0.9s						
SMWD	Samnorwood	1.97	266	Pn	Pn	04 55 08.1	+0.1
FW03	Perrin-Whitt E	2.23	185	Pn	Pn	04 55 11.6	+0.1
FW03				IAmb_Lg		04 55 44.8	
	comp=Z,18nm,0.8s						
R32A	Long Quarter,	3.23	348	Pn	Pn	04 55 22.9	-2.5
BRDY	Brady	4.08	194	Pn	Pn	04 55 37.8	+0.7
JCT	Junction City	5.04	200	IAmb_Lg		04 57 21.7	
	comp=Z,4.3nm,0.8s						

WEL 11 04:58:02.8±0.7, 33°.S±4°.×18°.0E±°, h33km, mB5.0/6, ML4.7/12, MLv4.7/9, Mw(mB)4.3/6, Error ellipse: s-maj=10.9km s-min=5.3km az=104.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.21	27	P	Pn	04 59 03.2	-1.4
WMGZ	Waiomatatini S	4.91	194	P	Pn	04 59 13.5	-0.8
WMGZ				S	Sn	05 00 10.0	+0.1
HAZ	Te Kaha	5.00	200	P	Pn	04 59 14.2	-1.4
PKGZ	Pakihiroa	5.03	197	P	Pn	04 59 15.4	-0.5
PKGZ				S	Sn	05 00 11.5	-1.4
PUZ	Puketiti	5.19	194	P	Pn	04 59 17.7	-0.4
PUZ				S	Sn	05 00 17.7	+1.0
RUGZ	Raukumara Rang	5.23	200	P	Pn	04 59 18.4	-0.3
RUGZ				S	Sn	05 00 18.9	+1.0
TWGZ	Tauwhareparae	5.35	196	P	Pn	04 59 19.6	-0.7
TWGZ				S	Sn	05 00 22.2	+1.4
TGRZ	Tauranga	5.53	211	P	Pn	04 59 26.2	+3.4
CNGZ	Carnagh Statio	5.59	194	P	Pn	04 59 22.1	-1.5
CNGZ				S	Sn	05 00 26.4	-0.3
MKAZ	Moumakai	5.61	223	P	Pn	04 59 29.4	+5.6
MWZ	Matawai	5.62	199	P	Pn	04 59 22.0	-1.9
MWZ				S	Sn	05 00 29.4	+2.0
TKGZ	Te Karaka	5.63	197	P	Pn	04 59 23.4	-0.7
OUZ	Omahuta	5.66	246	P	Pn	04 59 24.2	-0.2
OUZ				S	Sn	05 00 25.8	-2.5
URZ	Urewera	5.67	203	P	Pn	04 59 24.3	-0.4
URZ				S	Sn	05 00 28.4	-0.3
MKRZ	Makatiti	5.80	208	P	Pn	04 59 30.2	+3.8
RAGZ	Rawiri	5.80	200	P	Pn	04 59 26.9	+0.4
OMRZ	Omania	5.81	209	P	Pn	04 59 29.6	+3.0
TARZ	Mount Tarawera	5.87	207	P	Pn	04 59 30.6	+3.1
AWAZ	Awhitu Peninsu	5.88	226	P	Pn	04 59 29.4	+1.8
TOZ	Tahuroa Road	5.89	216	P	Pn	04 59 32.2	+4.5
RIGZ	Rimuhau	5.91	196	P	Pn	04 59 26.0	-1.9
RIGZ				S	Sn	05 00 34.5	0.0
MUGZ	Murupara	5.98	204	P	Pn	04 59 28.5	-0.5
MUGZ				S	Sn	05 00 37.8	+1.4
RTZ	Ruatahuna	6.04	202	P	Pn	04 59 29.7	-0.2
RTZ				S	Sn	05 00 39.8	+2.0
SNGZ	Shannon Statio	6.09	199	P	Pn	04 59 28.3	-2.1
SNGZ				S	Sn	05 00 40.0	+1.1
KNZ	Kokohu	6.23	196	P	Pn	04 59 29.9	-2.4
MTHZ	Maungataniwha	6.30	202	P	Pn	04 59 33.1	-0.3
MTHZ				S	Sn	05 00 43.2	-1.0
MRHZ	Matea Rd	6.43	205	P	Pn	04 59 35.2	+0.1
NMHZ	Naumai	6.53	202	P	Pn	04 59 36.1	-0.5
NMHZ				S	Sn	05 00 51.7	+1.7
BKZ	Black Stump Fm	6.70	203	P	Pn	04 59 37.3	-1.5
RATZ	Rangitukua	6.70	209	P	Pn	04 59 40.6	+1.8
KATZ	Kakaramea	6.82	209	P	Pn	04 59 42.9	+2.2
MCHZ	McNeill Hill	6.89	201	P	Pn	04 59 40.4	-1.0
NTVZ	North Tongarir	6.94	208	P	Pn	04 59 43.4	+1.2
TMVZ	Te Maari	6.94	208	P	Pn	04 59 42.5	+0.3
KWHZ	Kaweka Forest	6.95	203	P	Pn	04 59 40.7	-1.7
ETVZ	East Tongariro	6.96	208	P	Pn	04 59 43.2	+0.8
WTVZ	West Tongariro	6.99	209	P	Pn	04 59 43.9	+1.0
NNVZ	North Ngauruho	6.99	209	P	Pn	04 59 44.0	+1.1
OTVZ	Oturere	7.00	208	P	Pn	04 59 43.3	+0.3
SNVZ	South Ngauruho	7.03	208	P	Pn	04 59 44.2	+0.8
NGZ	Ngauruhoe	7.03	208	P	Pn	04 59 44.4	+0.9
FWVZ	Far West T-bar	7.12	208	P	Pn	04 59 45.7	+0.9
KAHZ	Kahuranaki	7.16	199	P	Pn	04 59 43.2	-1.9
TRVZ	Turoa	7.16	208	P	Pn	04 59 51.6	+6.2
WNVZ	Wahianoa	7.16	208	P	Pn	04 59 45.5	+0.1
KRHZ	Kereru	7.17	202	P	Pn	04 59 42.4	-2.8
MOVZ	Moawhango	7.17	207	P	Pn	04 59 45.0	-0.4
NEZ	North Egmont	7.78	215	P	Pn	05 00 00.3	+6.6
BFZ	Birch Farm	8.16	200	P	Pn	04 59 54.7	-4.2
MRZ	Mangatainoka R	8.35	203	P	Pn	04 59 57.1	-4.3

ASRS 11 05:23:34.0±1.2, 53°.72N×90°.10E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 11 05:23:39.5±3.7, 53°.67N×89°.91E, h0km, mbtmp2.7/3, ML2.0/2, Error ellipse: s-maj=32.4km s-min=25.4km az=85.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=89,slow=349,SNR=13	3.03	277	I	I	05 46 39.0	
ZALV	Zalesovo Beam 0.5nm,0.3s,baz=98,slow=12,SNR=8.3	3.03	277	Pn	Pn	05 24 28.9	+0.3
ZALV				Sn	Sn	05 25 07.8	+2.1
	0.7nm,0.3s,baz=90,slow=20,SNR=6.9 1.8nm,0.5s						
KURBB	Kurchatov Arra baz=65,slow=14,SNR=5.6	7.64	251	Pn	Pn	05 25 31.9	0.0
KURBB				Sn	Sn	05 26 58.1	-0.9
KURBB	baz=67,slow=23,SNR=1.5						
KURBB				Lg	Lg	05 27 38.4	
	baz=68,slow=34,SNR=1.7 0.4nm,0.5s						
MKAR	Makanchi Array 0.4nm,0.8s,baz=27,slow=14,SNR=1.6	8.44	218	Pn	Pn	05 25 43.9	+1.0
MKAR				Sn	Sn	05 27 17.9	-1.0
	0.1nm,0.3s,baz=27,slow=29,SNR=5.1						
I34MN	SONGINO INFRAS baz=305,slow=338,SNR=0.5	11.98	113	I	I	06 34 20.0	

ISK 11 05:23:55.9, 39°.15N×40°.45E, h12km, ML3.5/36
AFAD 11 05:23:56.5, 39°.15N×40°.44E, h7km±2km, MW3.6

ISC 11 05:23:56.5±1.2, 39°.15N±0°.02×40°.47E±0°.02, h8km±10km, n48, σ0°.58/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	Bingl	0.23	133	Pg	Pg	05 24 01.4	+0.2
YEDI	Yedisu-Bingol	0.29	12	Pg	Pg	05 24 02.5	0.0
SLHN	Bingol, Solhan	0.47	114	P	Pg	05 24 06.0	+0.2
SLHN				S	Sb	05 24 13.5	-0.9
SLHN				*i* AML	AML	05 24 17.0	
	comp=N,5μm,0.4s						
SLHN				*i* AML	AML	05 24 18.0	
	comp=E,7μm,0.3s						
KARO	Karliova-Bingo	0.48	70	Pg	Pg	05 24 06.1	+0.2
KARO				Sg	Sb	05 24 13.6	-1.1
ECAT	Cat-ERZURUM	0.60	41	P	Pg	05 24 08.1	-0.1
ECAT				S	Sb	05 24 17.6	-0.6
ECAT				*i* AML	AML	05 24 18.0	
	comp=N,2μm,0.3s						
ECAT				*i* AML	AML	05 24 24.0	
	comp=E,3μm,0.6s						
KOVA	Elazig, Kovanc	0.67	229	P	Pb	05 24 09.6	-1.0
KOVA				S	Sb	05 24 19.8	-0.4
KOVA				*i* AML	AML	05 24 22.0	
	comp=E,1μm,0.5s						
KOVA				*i* AML	AML	05 24 23.0	
	comp=N,721nm,0.5s						
HANI	Diyarbakir_Han	0.73	184	P	Pg	05 24 10.7	+0.1
HANI				*i* AML	AML	05 24 27.0	
	comp=N,573nm,0.4s						
HANI				*i* AML	AML	05 24 32.0	
	comp=E,732nm,0.7s						
VRTB	Varto-Mus	0.77	89	Pg	Pg	05 24 11.2	-0.1
VRTB				Sg	Sb	05 24 23.3	+0.4
VRTB	Varto-Mus	0.77	89	P	Pg	05 24 11.2	-0.1
VRTB				S	Sb	05 24 23.7	+0.8
VRTB				*i* AML	AML	05 24 32.0	
	comp=E,2μm,0.5s						
VRTB				*i* AML	AML	05 24 40.0	
	comp=N,2μm,0.8s						
ETEKE	Tekederesi - E	0.83	39	P	Pg	05 24 12.6	+0.1
ETEKE				*i* AML	AML	05 24 30.0	
	comp=N,1μm,0.6s						
ETEKE				*i* AML	AML	05 24 30.0	
	comp=E,1μm,0.4s						
PTK	Pertek	0.88	253	Pg	Pg	05 24 12.9	-0.5
MUSM	Mu-Merkez	0.92	117	P	Pg	05 24 13.3	-0.9
MUSM				S	Sg	05 24 26.1	0.0
MUSM				*i* AML	AML	05 24 27.0	
	comp=N,1μm,0.3s						
MUSM				*i* AML	AML	05 24 27.0	
	comp=E,947nm,0.4s						
EJDE	Erzurum, Palan	0.94	43	P	Pg	05 24 14.6	-0.1
EJDE				*i* AML	AML	05 24 36.0	
	comp=E,3μm,0.6s						
EJDE				*i* AML	AML	05 24 39.0	
	comp=N,2μm,0.6s						
EDAM	Erzurum-Paland	0.97	39	Pg	Pg	05 24 15.1	-0.1
ERZM	Erzurum	1.03	42	P	Pb	05 24 16.4	-0.3
ERZM				S	Sn	05 24 33.3	+1.1
SVAN	Silvan-Diyarba	1.15	150	Pn	Pn	05 24 18.6	-0.3
SVAN	Silvan-Diyarba	1.15	150	P	Pn	05 24 19.0	+0.1
SVAN				S	Sn	05 24 35.3	+0.4
SVAN				*i* AML	AML	05 24 39.0	
	comp=N,662nm,1.3s						
SVAN				*i* AML	AML	05 24 40.0	
	comp=E,721nm,0.4s						
BAYT	Aydintepe-Bayb	1.27	349	Pn	Pn	05 24 19.9	-0.8
GURO	Guroymak-BITLI	1.36	116	Pn	Pn	05 24 20.6	-1.3
KOPR	Koprukoy-ERZUR	1.36	51	Pn	Pn	05 24 20.7	-1.3
BLIS	Bitlis-Merkez	1.48	119	P	Pn	05 24 23.2	-0.4
BLIS				S	Sg	05 24 45.1	+0.9
BLIS				*i* AML	AML	05 24 49.0	
	comp=N,500nm,0.6s						
BLIS				*i* AML	AML	05 24 53.0	
	comp=E,464nm,0.5s						
MLAZ	Malazgirt-MUS	1.62	90	Pn	Pn	05 24 25.3	-0.2
MAZI	Mazidag	1.69	181	Pn	Pn	05 24 26.2	-0.2
KTUT	Trabzon	1.91	344	Pn	Pn	05 24 29.3	-0.1
CHOM	Cayeli-Rize	1.96	7	Pn	Pn	05 24 30.1	0.0
AGRB	Hanur-Agry	2.00	77	Pn	Pn	05 24 30.7	-0.1
SENK	Senkaya-Erzuru	2.02	45	Pn	Pn	05 24 31.1	0.0
URFA	Urfa	2.14	218	Pn	Pn	05 24 32.5	-0.1
ESPY	Espiye-Giresun	2.21	323	Pn	Pn	05 24 33.5	-0.1
SIRT	Sirnak	2.26	136	Pn	Pn	05 24 34.3	0.0
VANB	Van	2.35	103	Pn	Pn	05 24 36.1	+0.6
HOPA	Hopa-Artvin	2.36	18	Pn	Pn	05 24 35.7	+0.2
DARE	Darende-Malaty	2.40	257	Pn	Pn	05 24 35.9	-0.3
BCA	Borcka	2.46	21	Pn	Pn	05 24 37.2	+0.3
KARS	Kars	2.50	53	Pn	Pn	05 24 37.5	0.0
RSDY	Resadiye-TOKAT	2.72	298	Pn	Pn	05 24 40.7	+0.2
SVSK	Karacayir	2.79	287	Pn	Pn	05 24 41.5	+0.1
TASB	TASBURUN-IGDIR	3.03	73	Pn	Pn	05 24 45.8	+0.9
CUKT	Cukurca	3.12	127	Pn	Pn	05 24 46.9	+0.8
GAZ	Gaziantep	3.24	233	Pn	Pn	05 24 47.9	+0.2
TOKT	Tokat	3.24	292	Pn	Pn	05 24 48.2	+0.5
SARI	SarD1z-Kayseri	3.25	258	Pn	Pn	05 24 48.1	+0.2
GNI	Garni	3.45	72	Pn	Pn	05 24 50.7	0.0
BNN	Bunyan	3.61	267	Pn	Pn	05 24 53.5	+0.6
KVT	Kavak	3.90	301	Pn	Pn	05 24 57.2	+0.5
KOZT	Kozan	4.01	247	Pn	Pn	05 24 59.2	+0.9
YOZ	Yozgat	4.02	279	Pn	Pn	05 24 59.3	+0.8
TAHT	Tahtakopru-Hat	4.38	232	Pn	Pn	05 25 04.3	+1.0

IDC 11 05:33:30.0±0.7, 2°.29N×128°.69E, h0km, mb3.9/14, mbtmp3.9/14, MS3.2/1, Error ellipse: s-maj=39.6km s-min=14.1km az=75.0
NEIC 11 05:33:36.8±1.1, 2°.28N±0°.06×128°.65E±0°.08, h35km±2km, mb4.3/28, Error ellipse: s-maj=16.4km s-min=4.3km az=230.0

ISC 11 05:33:35.5±0.6, 2°.32N±0°.08×128°.7E±0°.1, h35km, n58, σ1°.19/50, mb4.2/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.03	221	Pn	Pn	05 34 09.6	+2.4
FAKI	Fak Fak	6.30	146	Pn	Pn	05 35 05.7	-0.3
TOLI2	Tolitoli	7.99	262	Pn	Pn	05 35 29.2	-0.1
MYLDM	Lahad Datu	10.56	286	Pn	Pn	05 36 02.7	-1.6
SBUM	Sibu	16.45	271	Pn	Pn	05 37 24.1	+0.2
KNRA	Kununurra	17.88	180	P	P	05 37 41.9	-0.1
KNRA				IAmb	IAmb	05 37 51.5	
	comp=Z,27nm,1.4s						
FITZ	Fitzroy Crossi	20.51	188	P	Pn	05 38 11.8	-1.3
FITZ	Fitzroy Crossi comp=Z,2.9nm,1.0s,baz=9.5,slow=6.1,SNR=2.2 comp=Z,2.9nm,1.0s	20.51	188	P	P	05 38 08.4	-2.4
WB0	Warramunga Arr	22.65	166	P	P	05 38 34.8	+0.9
WRA	Warramunga Arr	22.81	166	P	P	05 38 35.4	-0.1
WRA	Warramunga Arr comp=Z,0.9nm,0.4s,baz=342,slow=10,SNR=13 comp=Z,0.9nm,0.4s	22.81	166	P	P	05 38 34.4	-1.1
WB2	Warramunga Arr	22.81	166	P	P	05 38 35.8	+0.3
WB2				IAmb	IAmb	05 38 41.1	
	comp=Z,7.1nm,0.7s						
PSA00	Pilbara Seismi	25.27	200	P	P	05 38 58.3	-0.4
PSA00				IAmb	IAmb	05 39 41.4	
	comp=Z,6.8nm,0.9s						
AS31	Alice Springs	26.32	169	P	P	05 39 08.3	0.0
ASAR	Alice Springs	26.32	169	P	P	05 39 08.9	+0.7
ASAR	Alice Springs comp=Z,1.0nm,0.6s,baz=8.2,slow=6.7,SNR=10.0 comp=Z,1.0nm,0.6s	26.32	169	P	P	05 39 08.1	-0.1
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.3s,baz=95,slow=10,SNR=1.5 comp=Z,0.6nm,0.3s	33.27	301	P	P	05 40 09.0	-0.9
KSRS	Korea Array comp=Z,1.0nm,0.5s,baz=165,slow=8.8,SNR=2.9 comp=Z,1.0nm,0.5s	34.97	359	P	P	05 40 24.6	+0.3
MJAR	Matsushiro Arr comp=Z,2.4nm,0.8s,baz=185,slow=10.0,SNR=4.2 comp=Z,2.4nm,0.8s	35.17	13	P	P	05 40 24.7	-1.4
BBOO	Buckleboo	35.63	169	P	P	05 40 30.2	+0.1
STKA	Stephens Creek	36.15	161	P	P	05 40 34.3	-0.3
STKA	Stephens Creek comp=Z,3.9nm,0.6s,baz=333,slow=8.9,SNR=7.0 comp=Z,3.9nm,0.6s	36.15	161	P	P	05 40 34.3	-0.3
ARMA	Armidale	39.23	148	P	P	05 41 00.1	-0.7
H11S3	WAKE ISLAND Hy baz=251,slow=74,SNR=20	40.54	64	T	T	06 24 33.8	
H11S2	WAKE ISLAND Hy baz=251,slow=74,SNR=15	40.56	64	T	T	06 24 28.2	
H11S1	WAKE ISLAND Hy baz=251,slow=74,SNR=14	40.56	64	T	T	06 24 28.2	
H11N1	WAKE ISLAND Hy baz=250,slow=75,SNR=150	41.13	62	T	T	06 25 11.1	
H11N2	WAKE ISLAND Hy baz=250,slow=75,SNR=65	41.14	62	T	T	06 25 12.4	
H11N3	WAKE ISLAND Hy baz=250,slow=75,SNR=116	41.15	62	T	T	06 25 12.5	
SONM	Songino Array comp=Z,0.8nm,0.7s,baz=159,slow=8.5,SNR=6.9 comp=Z,0.8nm,0.7s	49.26	340	P	P	05 42 20.9	0.0
MA2	Magadan comp=Z,19nm,18.0s,baz=128,slow=39	59.61	13	LR	LR	06 12 13.8	
MK31	Makanchi Array	59.83	325	P	P	05 43 38.7	+1.2
MK31				IAmb	IAmb	05 43 39.5	
	comp=Z,3.7nm,1.5s						
MKAR	Makanchi Array	59.83	325	P	P	05 43 38.3	+0.8
MKAR	Makanchi Array comp=Z,0.6nm,0.4s,baz=114,slow=8.3,SNR=22 comp=Z,0.6nm,0.4s	59.83	325	P	P	05 43 38.1	+0.6
MAKZ	Makanchi	60.01	325	P	P	05 43 40.0	+1.2
MAKZ				IAmb	IAmb	05 44 17.8	
	comp=Z,2.7nm,1.3s						
ZALV	Zalesovo Beam comp=Z,0.4nm,0.5s,baz=130,slow=8.3,SNR=1.7 comp=Z,0.4nm,0.5s	62.73	333	P	P	05 43 57.0	0.0
KURK	Kurchatov	63.98	327	P	P	05 44 06.5	+1.2
KURK				IAmb	IAmb	05 44 40.7	
	comp=Z,2.8nm,1.1s						
KURBB	Kurchatov Arra comp=Z,1.0nm,0.6s,baz=127,slow=6.1,SNR=11 comp=Z,1.0nm,0.6s	63.98	327	P	P	05 44 05.7	+0.4
KKAR	Karatay Array	65.59	317	P	P	05 44 16.3	+0.3
BVAR	Borovoye Array comp=Z,0.5nm,0.4s,baz=103,slow=6.5,SNR=2.9 comp=Z,0.5nm,0.4s	69.56	327	P	P	05 44 41.3	+0.5
ABKAR	Akbulak array	74.47	321	P	P	05 45 10.9	+0.6
G18K	Tagagawik	80.85	23	P	P	05 45 47.0	+1.4
G18K				IAmb	IAmb	05 45 54.7	
	comp=Z,8.1nm,1.4s						
TTA	Tatalina	81.27	27	P	P	05 45 49.6	+1.7
TTA				IAmb	IAmb	05 46 10.8	
	comp=Z,6.8nm,1.4s						
G19K	Purcell Mounta	81.53	23	P	P	05 45 51.5	+2.3
G19K				IAmb	IAmb	05 45 53.7	
	comp=Z,2.2nm,0.8s						
E19K	Redstone River	81.79	22	P	P	05 45 52.7	+2.2
E19K				IAmb	IAmb	05 45 53.9	
	comp=Z,3.7nm,0.9s						
G21K	Allakaket	83.03	23	P	P	05 45 58.7	+1.7
CAST	Castle Rocks	83.11	26	P	P	05 45 59.1	+1.6
CAST				IAmb	IAmb	05 46 14.3	
	comp=Z,3.4nm,1.1s						
H21K	Melozitna Rive	83.16	24	P	P	05 45 59.1	+1.4
H21K				IAmb	IAmb	05 46 07.9	
	comp=Z,6.1nm,1.5s						
B22K	Teshekpuk Lake	83.76	19	P	P	05 46 02.4	+1.8
B22K				IAmb	IAmb	05 46 11.9	
	comp=Z,1.7nm,0.9s						
COLD	Coldfoot	84.43	23	P	P	05 46 06.4	+2.2
RND	Reindeer	84.55	27	P	P	05 46 05.9	+0.9
SML	Sawmill	84.64	28	P	P	05 46 06.6	+1.2
C24K	Franklin Bluff	85.27	20	P	P	05 46 09.4	+1.1
C24K				IAmb	IAmb	05 46 22.4	
	comp=Z,2.0nm,1.1s						
ILAR	Eielson Array comp=Z,0.6nm,1.0s,baz=251,slow=5.7,SNR=5.5 comp=Z,0.6nm,1.0s	85.53	25	P	P	05 46 10.2	+0.4
BMAR	Burnt Mountain	86.61	23	P	P	05 46 15.1	0.0
I28M	Miner Creek	88.48	25	P	P	05 46 25.8	+1.6
ARCES	ARCESS Array B comp=Z,2.2nm,0

AKBBA	Akutan Broad B	1.84	235		Pn	05 51 14.1	+0.2
LVA	Lava Point	1.85	238	Pn	Pn	05 51 14.7	+0.7
LVA				IAML		05 52 19.9	
	comp=E,280nm,2.0s						
ZRO	Akutan Zero	1.87	235		Pn	05 51 14.2	+0.1
CNBA	Chernabura Isl	2.21	98	Pn	Pn	05 51 17.7	-0.1
UNV	Unalaska Valle	2.27	235		Pn	05 51 18.4	0.0
UNV	Unalaska Valle	2.27	235		Sn	05 51 48.2	-1.0
MSW	Makushin Switc	2.36	239		Pn	05 51 19.2	-0.3
MAPS	Pakushin South	2.50	238		Pn	05 51 21.3	+0.2
CHGN	Chignik	3.02	66	Pn	Pn	05 51 27.9	+0.6
CHGN				IAML		05 52 11.0	
	comp=E,64nm,0.1s						
OKTU	Okmok Mt. Tuli	3.28	239		Pn	05 51 30.6	-0.1
O14K	Tigyukauivet M	4.24	15	Pn	Pn	05 51 42.0	-0.6
O14K				IAML		05 53 12.8	
	comp=N,37nm,3.6s						
O14K				IAML		05 54 37.8	
	comp=E,40nm,4.5s						
P16K	Nushagak River	4.85	35		Pn	05 51 51.1	+0.7
CNTC	Contact Creek	5.15	50		Pn	05 51 55.5	+0.9
O16K	Kokwok River B	5.26	31	Pn	Pn	05 51 55.5	-0.4
O16K				IAML		05 53 44.1	
	comp=N,17nm,4.5s						
O16K				IAML		05 54 29.5	
	comp=E,21nm,4.4s						
ANCK	Angle Creek	5.29	52		Pn	05 51 57.4	+1.0
N15K	Kwethluk River	5.30	18	Pn	Pn	05 51 56.3	-0.1
ACHA	Angle Creek He	5.37	52	Pn	Pn	05 51 58.8	+1.3
ACHA				IAML		05 55 28.8	
	comp=N,20nm,4.5s						
ACHA				IAML		05 55 29.5	
	comp=E,30nm,4.0s						
M14K	Bethel	5.63	7	Pn	Pn	05 52 00.4	-0.4
N17K	Nushagak Hills	6.29	29	Pn	Pn	05 52 09.4	0.0
M16K	Timber Creek	6.30	20	Pn	Pn	05 52 09.1	-0.4
O18K	Koktuh Hills	6.42	40	Pn	Pn	05 52 12.0	+0.8
Q19K	Cape Douglas,	6.50	51	Pn	Pn	05 52 12.6	+0.4
KDAK	Kodiak Island	6.52	62	Pn	Pn	05 52 11.6	-0.8
SYI	Shuyak Island	6.92	56	Pn	Pn	05 52 17.5	-0.2
M17K	Holitna River	6.97	24	Pn	Pn	05 52 18.1	-0.3
K15K	Wolf Creek Mou	7.20	7	Pn	Pn	05 52 20.4	-0.8
N19K	Bonanza Creek	7.36	36	Pn	Pn	05 52 22.0	-1.5
CNPM	China Poot	7.87	51	Pn	Pn	05 52 29.6	-0.6
BRLK	Bradley Lake	8.14	51	Pn	Pn	05 52 33.7	-0.1
SPU	Mount Spurr	8.47	40	Pn	Pn	05 52 39.1	+1.0
STLK	Strandline Lak	8.76	39	Pn	Pn	05 52 43.9	+1.9
SLKM	Skilak Lake	8.80	47	Pn	Pn	05 52 42.5	0.0
SEW	Seward	8.94	51	Pn	Pn	05 52 43.2	-1.0
Q22K	Cooper Landing	9.00	48	Pn	Pn	05 52 44.5	-0.6
SUA	Susitna One	9.14	41	Pn	Pn	05 52 47.3	+0.3
K20K	Telida	9.47	26	Pn	Pn	05 52 52.7	+1.5
J19K	Poorman	9.66	21	Pn	Pn	05 52 53.8	+0.1
PWL	Port Wells	9.78	48	Pn	Pn	05 52 53.6	-1.8
KNK	Knik Glacier	10.01	45	Pn	Pn	05 52 57.8	-0.6
GHO	Glory Hole Cre	10.03	43	Pn	Pn	05 52 57.8	-0.8
SML	Sawmill	10.28	44	Pn	Pn	05 53 00.6	-1.3
HIN	Hinchinbrook I	10.40	53	Pn	Pn	05 53 02.4	-1.0
FID	Port Fidalgo	10.55	51	Pn	Pn	05 53 03.1	-2.3
SCM	Sheep Creek Mo	10.70	45	Pn	Pn	05 53 05.9	-1.4
EYAK	Cordova Ski Ar	10.80	53	Pn	Pn	05 53 07.2	-1.4
M24K	Tolsona, Glenn	11.30	45	Pn	Pn	05 53 14.4	-0.8
HMT	Hamilton	11.42	55	Pn	Pn	05 53 16.9	+0.3
BMRM	Bremner River	11.48	52	Pn	Pn	05 53 16.9	-0.5
BERG	Berg Lake	11.70	56	Pn	Pn	05 53 19.5	-0.7
N25K	Chitina, Valde	11.73	49	Pn	Pn	05 53 19.9	-0.8
GLB	Gilahina Butte	12.02	51	Pn	Pn	05 53 23.8	-0.6
VRDI	Verde Repeater	12.10	52	Pn	Pn	05 53 25.4	0.0
RIDG	Independent Ri	12.69	40	Pn	Pn	05 53 33.9	+0.9
M26K	Nabesna, AK	12.76	47	Pn	Pn	05 53 33.4	-0.4
M27K	Edge Creek, AK	13.22	48	Pn	Pn	05 53 39.9	+0.2
L27K	Beaver Creek,	13.53	46	Pn	Pn	05 53 43.5	-0.1
BCAR	Beaver Creek A	13.55	46	Pn	Pn	05 53 44.0	+0.2
M29M	Somme Creek	14.73	50	Pn	Pn	05 53 58.4	-0.2
HYT	Haines Junctio	14.77	57		Pn	05 53 59.1	+0.1
BMAR	Burnt Mountain	15.14	28		Pn	05 54 03.8	+0.3
I28M	Miner Creek	15.40	39	P	P	05 54 08.3	+0.9
J30M	Hart River	16.38	44	P	Pn	05 54 19.1	+0.5
J30M				IAmb	IAmb	05 54 33.2	
	comp=Z,5.3nm,1.5s						
G30M	tAoh Zraii Nji	17.47	37	P	Pn	05 54 31.8	+0.3
G30M				IAmb	IAmb	05 54 46.4	
	comp=Z,6.6nm,1.3s						
G31M	Satah River	18.12	38	P	Pn	05 54 38.1	-1.0

PGC 11 05:54:37.8±1.4, 50°.48N×130°.36W, h10km, MLSn3.0/21, Mw3.6/21, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.43	83	Pn	Pn	05 55 01.7	-2.1
HOLB				Sn	Sn	05 55 18.1	-4.6
BPEB	Brooks Peninsu	1.69	100	Pn	Pn	05 55 05.1	-2.3
PACB	Port Alice, BC	1.84	90	Pn	Pn	05 55 07.1	-2.2
PHC	Port Hardy	1.88	82	Pn	Pn	05 55 08.2	-1.7
PHC				Sn	Sn	05 55 29.1	-4.6
JEDB	Jedway, Haida	1.89	344	Pn	Pn	05 55 07.9	-2.1
MAYB	Maynard	2.04	91	Pn	Pn	05 55 10.3	-2.0
EDB	Eliza Dome	2.17	105	Pn	Pn	05 55 12.1	-1.9
BBB	Bella Bella	2.21	39	Pn	Pn	05 55 12.5	-1.9
BAIB	Barry Inlet	2.27	338	Pn	Pn	05 55 13.5	-1.8
NTKA	Nootka	2.58	109	Pn	Pn	05 55 17.6	-1.9
NCRB	Newcastle Ridg	2.76	90	Pn	Pn	05 55 20.5	-1.6
NCRB				Sn	Sn	05 55 52.0	-3.4
NCSB	Newcastle Ridg	2.76	90	Pn	Pn	05 55 20.5	-1.6
BUTB	Butedale	2.84	24	Pn	Pn	05 55 22.5	-0.7
BUTB				Sn	Sn	05 55 54.3	-3.2
MOBC	Moresby Island	2.84	340	Pn	Pn	05 55 21.3	-1.9
GDR	Gold River	2.88	103	Pn	Pn	05 55 21.6	-2.0
GRIB	Gribbell Islan	2.96	14	Pn	Pn	05 55 23.2	-1.6
GRIB				Sn	Sn	05 55 57.0	-3.3
BNAB	Bonilla	3.02	357	Pn	Pn	05 55 23.9	-1.7
DI2B	Dawson Inlet	3.02	335	Pn	Pn	05 55 24.3	-1.2
DIB	Dawson Inlet,	3.02	335	Pn	Pn	05 55 24.3	-1.2
CBB	Campbell River	3.24	96	Pn	Pn	05 55 27.7	-0.9
GRNB	Grenville Isla	3.38	4	Pn	Pn	05 55 29.2	-1.3
GRNB				Sn	Sn	05 56 05.8	-4.8
PCLB	Port Clements	3.50	338	Pn	Pn	05 55 33.8	+1.6
OZB	Mount Ozzard	3.51	114	Pn	Pn	05 55 30.4	-2.0
KITB	Kitimat	3.75	16	Pn	Pn	05 55 34.4	-1.2
KITB				Sn	Sn	05 56 17.1	-2.7
TXB	Texada	3.90	99	Pn	Pn	05 55 37.4	-0.3
MGRB	Mount Grey	3.96	110	Pn	Pn	05 55 37.6	-1.1
UBRB	Upper Baezaeko	4.59	56	Pn	Pn	05 55 46.6	-0.6
UBRB				Sn	Sn	05 56 38.3	-2.4
LLLB	Lillooet	5.41	85	Pn	Pn	05 55 58.3	-0.2

*ASRS **11** 06:00:10.0±0.6, 54°.14N×86°.50E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 11 06:00:14.4±2.6, 54°.11N×86°.39E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=20.7km s-min=11.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.94	261	I	I	06 06 06.1	
	baz=79,slow=352,SNR=8.4						
ZALV	Zalesovo Beam	0.94	261	Pg	Pg	06 00 31.9	-0.4
	0.5nm,0.3s,baz=78,slow=17,SNR=8.9						
ZALV				Lg	Lg	06 00 45.8	
	1.6nm,0.3s,baz=79,slow=30,SNR=13						
KURBB	Kurchatov Arra	5.95	237	Pn	Pn	06 01 44.3	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=5.1						
	0.5nm,0.6s						
MKAR	Makanchi Array	7.78	201	Pn	Pn	06 02 10.2	+1.4
	0.1nm,0.3s,baz=22,slow=14,SNR=6.7						
MKAR				Sn	Sn	06 03 35.8	-1.7
	baz=24,slow=26,SNR=1.7						
	0.1nm,0.3s						

*ASRS **11** 06:01:08.0±1.4, 54°.46N×86°.80E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 11 06:01:10.4±3.1, 54°.45N×87°.02E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=26.7km s-min=18.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.39	250	I	I	06 08 40.7	
	baz=68,slow=353,SNR=5.4						
ZALV	Zalesovo Beam	1.39	250	Pg	Pg	06 01 34.9	-2.0
	1.1nm,0.3s,baz=68,slow=10,SNR=9.3						
ZALV				Lg	Lg	06 01 53.1	
	1.0nm,0.3s,baz=67,slow=13,SNR=4.1						
KURBB	Kurchatov Arra	6.44	237	Pn	Pn	06 02 47.9	+1.5
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Lg	Lg	06 04 36.8	
	baz=53,slow=30,SNR=4.7						
	1.4nm,0.7s						
MKAR	Makanchi Array	8.23	203	Pn	Pn	06 03 10.7	-0.2
	0.1nm,0.3s,baz=20,slow=35,SNR=2.2						
MKAR				Sn	Sn	06 04 44.9	+0.3
	0.1nm,0.3s,baz=22,slow=26,SNR=2.5						
MKAR				Lg	Lg	06 05 31.4	
	baz=26,slow=26,SNR=3.8						
	0.1nm,0.3s						

*IDC **11** 06:03:48.4±1.0, 9°.51N×125°.28E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=68.8km s-min=18.7km az=72.0*

ISC 11 06:03:50.1±0.9, 9°.5N±0°.2×125°.1E±0°.4, h10km, n15, σ1§12/9, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	27.42	179	P	P	06 09 34.5	-1.6
	1.6nm,0.9s,baz=302,slow=16,SNR=1.5						
	1.6nm,0.9s						
WRA	Warramunga Arr	30.62	163	P	P	06 10 05.5	+0.9
	0.3nm,0.9s,baz=344,slow=8.8,SNR=1.8						
	0.3nm,0.9s						
ASAR	Alice Springs	34.05	166	P	P	06 10 35.0	+0.3
	0.2nm,0.3s,baz=348,slow=8.9,SNR=2.1						
	0.2nm,0.3s						
H11S3	WAKE ISLAND Hy	41.21	73	T	T	06 54 18.3	
	baz=261,slow=74						
H11S1	WAKE ISLAND Hy	41.22	73	T	T	06 54 18.3	
	baz=261						
H11S2	WAKE ISLAND Hy	41.23	73	T	T	06 54 19.7	
	baz=261,slow=74						
SONM	Songino Array	41.37	341	P	P	06 11 36.9	+0.4
	0.4nm,0.6s,baz=152,slow=9.0,SNR=4.4						
	0.4nm,0.6s						
H11N1	WAKE ISLAND Hy	41.56	71	T	T	06 54 40.0	
	baz=263,slow=75,SNR=8.2						
H11N2	WAKE ISLAND Hy	41.56	71	T	T	06 54 43.0	
	baz=263,slow=75,SNR=8.2						
H11N3	WAKE ISLAND Hy	41.57	71	T	T	06 54 41.1	
	baz=263,slow=75,SNR=8.9						
MKAR	Makanchi Array	51.98	324	P	P	06 13 00.8	+1.3
	0.8nm,0.6s,baz=118,slow=7.9,SNR=14						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	56.08	326	P	P	06 13 29.7	+0.3
	0.7nm,0.7s,baz=127,slow=6.7,SNR=6.9						
	0.7nm,0.7s						
ILAR	Eielson Array	80.62	26	P	P	06 16 02.3	-0.5
	0.2nm,0.9s,baz=285,slow=6.2,SNR=1.2						
	0.2nm,0.9s						
ARCES	ARCESS Array B	84.53	340	P	P	06 16 22.1	-1.0
	1.7nm,0.8s,baz=72,slow=4.4,SNR=1.0						
	1.7nm,0.8s						
FINES	FINESS Array B	86.04	332	P	P	06 16 29.8	-1.0
	2.3nm,0.9s,baz=78,slow=4.8,SNR=3.5						
	2.3nm,0.9s						

TXNET 11 06:07:00.2, 32°.1N±0°.8×102°.6W±0°.9, h9km±1km, ML1.6/7, 1D, Error ellipse: s-maj=1.4km s-min=1.1km az=100.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODSA	Odessa	0.08	102	P	Pg	06 07 02.3	-0.1
ODSA	Odessa	0.08	102	↓P	Pg	06 07 02.3	-0.1
ODSA				S	Sg	06 07 03.9	-0.2
TMB04	Seminole	0.50	15	P	Pg	06 07 10.1	0.0
TMB04				S	Sg	06 07 17.2	+0.5
NM01	Eunice	0.68	289	S	Sg	06 07 22.9	+0.6
TPB06	Permian Basin	0.69	226	S	Sb	06 07 23.6	-0.6
MNHN	Monahans	0.80	188	P	Pg	06 07 15.5	-0.1
MNHN	Monahans	0.80	188	P	Pg	06 07 15.4	-0.2
MNHN				S	Sg	06 07 26.3	+0.3
HTMS	Hat Mesa	0.91	292	S	Sg	06 07 29.6	+0.1
TMB02	Rankin	1.07	151	P	Pb	06 07 21.1	+0.3
TPB08	Permian Basin	1.26	191	S	Sn	06 07 41.3	0.0
PECS	Pecos	1.30	234	P	Pb	06 07 24.7	-0.1
PECS	Pecos	1.30	234	P	Pn	06 07 24.6	0.0
PECS				S	Sg	06 07 41.8	-0.1
SGCY	Sterling City	1.30	99	P	Pn	06 07 24.4	-0.3
POST	Post	1.33	46	P	Pn	06 07 24.9	-0.2
POST				S	Sb	06 07 42.5	-0.2
TPB05	Hovey Rd	1.35	206	S	Sg	06 07 43.8	+0.3
TPB12	Southwest of T	1.45	231	P	Pg	06 07 27.8	-0.2
TPB12				S	Sg	06 07 47.4	+0.4
TPB01	Permian Basin	1.54	220	S	Sb	06 07 48.9	+0.3
OZNA	Ozona	1.77	133	S	Sg	06 07 56.5	-0.6
MSTX	Muleshoe	1.83	357	S	Sb	06 07 57.9	+0.8
ALPN	Alpine	1.95	206	P	Pb	06 07 35.8	-0.2
SAND	Sanderson	2.22	168	P	Pb	06 07 40.1	-0.5
MNTX	Cornudas Mount	2.37	260	P	Pb	06 07 42.8	-0.3
VHRN	Van Horn	2.42	237	P	Pb	06 07 44.1	+0.2

*IDC **11** 06:08:46.3±0.7, 7°.35S×107°.35E, h0km, mb4.1/13, mbtmp4.1/13, MS3.8/39, Error ellipse: s-maj=16.1km s-min=8.9km az=109.0*

*DJA **11** 06:08:50.3±0.2, 7°.S±2°.×107°.8E±°., h10km, M4.4/25, mB5.2/3, mb4.6/8, MLv4.3/25, Mw(mB)4.5/3*

ISC 11 06:08:48.9±0.6, 7°.33S±0°.06×107°.65E±0°.05, h10km, n74, σ1§52/43, mb4.1/13, MS3.9/38, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	0.50	356	Pg	Pg	06 08 57.9	-0.9
	530nm,0.3s,baz=151,slow=5.1,SNR=239						
LEM				Lg	Lg	06 09 05.7	
	909nm,0.3s,baz=278,slow=18,SNR=25						
LEM	Lembang	0.50	356	P	Pg	06 08 57.6	-1.1
CNJI	Cibinong	0.52	272	P	Pb	06 09 00.4	+0.2
CMJI	Cimerak	0.91	120	P	Pg	06 09 05.0	-1.4
SKJI	Sukabumi	1.14	286	P	Pn	06 09 11.9	+1.0
KPJI	Karang Pucung	1.27	90	P	Pn	06 09 12.2	-0.5
TNG	Tangerang	1.53	319	P	Pb	06 09 17.1	-0.3
TNG				P	Pb	06 09 17.0	-0.3
SBJI	Serang	1.93	308	P	Pb	06 09 23.9	-0.4
CGJI	Cibinong	2.07	290	P	Pb	06 09 26.4	-0.2
YOGI	Yogyakarta	2.66	101	P	Pn	06 09 32.7	+0.8
SMRI	Semarang	2.78	84	P	Pn	06 09 34.7	+1.2
UGM	Wanagama	2.90	102	P	Pn	06 09 37.0	+1.8
PCJI	Pacitan	3.59	104	P	Pn	06 09 46.2	+1.5
KLI	Kotabumi	3.71	311	P	Pn	06 09 48.4	+2.1
NGJI	Ngawi	3.78	91	P	Pn	06 09 48.3	+1.1
LWLI	Liwa	4.25	303	P	Pn	06 09 55.9	+2.1
MDSI	Maura Dua	4.46	309	P	Pn	06 09 58.9	+2.2
TPI	Tanjungpandan	4.54	360	P	Pn	06 09 59.7	+1.9
GRJI	Gresik	4.81	85	P	Pn	06 10 03.0	+1.6
PPBI	Pangkal Pinang	5.35	344	P	Pn	06 10 10.2	+1.3
GMJI	Gumukmas	5.81	100	P	Pn	06 10 16.3	+1.1
	0.3nm988nm60nm,1.2s						
JAGI	Jajag, Banyuwa	6.54	100	P	Pn	06 10 26.3	+1.1
	1μm93nm,1.2s						
ABJI	Asem Bagus	6.54	94	P	Pn	06 10 26.5	+1.3
	76nm,1.6s						
SISI	Saibi	10.41	305	P	Pn	06 11 20.0	+1.6
KAPI	Kappang	12.24	80	LR	LR	06 17 11.8	
	comp=Z,587nm,18.6s,baz=250,slow=40						
PSI	Prapat	13.31	319	LR	LR	06 17 51.1	
	comp=Z,2μm,18.6s,baz=144,slow=42						
FITZ	Fitzroy Crossi	20.53	123	P	P	06 13 28.4	+0.8
	15nm,1.1s,baz=315,slow=7.4,SNR=9.2						
FITZ				LR	LR	06 22 33.9	
	comp=Z,248nm,18.9s,baz=316,slow=40						
	15nm,1.1s						
QIZ	Qiongzhong	26.28	5	P	P	06 14 26.8	+2.1
QIZ				S	S	06 19 00.0	+2.5
QIZ				LR	LR		
	comp=N,270nm,17.5s						
QIZ				LR	LR		
	comp=E,390nm,18.6s						
QIZ				LR	LR		
	comp=Z,280nm,14.8s						
NWAO	Narrogin (SRO)	26.98	162	LR	LR	06 24 32.8	
	comp=Z,127nm,19.4s,baz=281,slow=35						
CMAR	Chiang Mai Arr	27.03	342	P	P	06 14 29.4	-2.1
	comp=Z,1.0nm,0.3s,baz=168,slow=8.9,SNR=7.0						
CMAR				LR	LR	06 27 19.2	
	comp=Z,140nm,18.4s,baz=165,slow=41						
	comp=Z,1.0nm,0.3s						
WRA	Warramunga Arr	28.75	119	P	P	06 14 47.6	+0.7
	comp=Z,3.8nm,1.1s,baz=291,slow=11,SNR=7.6						
WRA				LR	LR	06 26 02.2	
	comp=Z,105nm,21.8s,baz=282,slow=36						
	comp=Z,3.8nm,1.1s						
ASAR	Alice Springs	29.97	126	P	P	06 14 59.0	+1.3
	comp=Z,3.0nm,1.0s,baz=301,slow=8.3,SNR=24						
ASAR				PcP	PcP	06 17 58.9	-1.4
	comp=Z,0.6nm,0.8s,baz=300,slow=3.3,SNR=2.3						
ASAR				LR	LR	06 27 33.7	
	comp=Z,166nm,20.0s,baz=301,slow=37						
	comp=Z,3.0nm,1.0s						
BRDH	Bariadhala	33.69	333	LR	LR	06 31 30.3	
	comp=Z,276nm,18.9s,baz=164,slow=41						
H08S2	Diego Garcia H	34.86	267	T	T	06 53 22.8	
	baz=92,slow=76,SNR=5.7						
H08S3	Diego Garcia H	34.87	267	T	T	06 53 17.4	
	baz=92,slow=76,SNR=5.1						
H08S1	Diego Carcia H	34.88	267	T	T	06 53 24.3	
	baz=92,slow=76,SNR=3.0						
PMG	Port Moresby	39.12	96	LR	LR	06 37 52.1	
	comp=Z,33nm,18.3s,baz=336,slow=44						
STKA	Stephens Creek	39.94	132	P	P	06 16 24.9	+1.3
	comp=Z,7.2nm,0.7s,baz=316,slow=8.9,SNR=9.7						
STKA				LR	LR	06 34 54.0	
	comp=Z,89nm,18.4s,baz=291,slow=39						
	comp=Z,7.2nm,0.7s						
GTA	Gaotai	47.07	352	eP	P	06 17 24.0	+3.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
JCJ	Chichijima	47.85	43	LR	LR	06 38 48.8	
	comp=Z,37nm,20.2s,baz=144,slow=38						
KSRS	Korea Array	48.41	22	P	P	06 17 31.4	0.0
	comp=Z,1.3nm,0.8s,baz=216,slow=7.1,SNR=1.7						
	comp=Z,1.3nm,0.8s						
MJAR	Matsushiro Arr	52.21	31	LR	LR	06 40 51.4	
	comp=Z,42nm,20.6s,baz=163,slow=37						
SONM	Songino Array	54.94	359	P	P	06 18 19.1	-1.1
	comp=Z,0.2nm,0.4s,baz=196,slow=8.5,SNR=3.6						
SONM				LR	LR	06 43 56.3	
	comp=Z,87nm,18.8s,baz=168,slow=38						
	comp=Z,0.2nm,0.4s						
USRK	Ussuriysk Ar.	55.81	21	LR	LR	06 44 59.9	
	comp=Z,35nm,18.9s,baz=135,slow=39						
WSAR	Wadi Sarin	56.73	304	LR	LR	06 41 32.8	
	comp=Z,142nm,20.1s,baz=144,slow=35						
AAK	Ala-Archa	58.18	332	LR	LR	06 47 29.3	
	comp=Z,60nm,20.0s,baz=142,slow=40						
MKAR	Makanchi Array	58.42	340	LR	LR	06 46 39.1	
	comp=Z,82nm,20.7s,baz=154,slow=39						
KLR	Kul'dur	60.14	18	LR	LR	06 46 38.3	
	comp=Z,42nm,18.3s,baz=232,slow=38						
H04N2	CROZET ISLANDS	61.44	221	T	T	07 26 02.2	
	baz=67,slow=75,SNR=13						
H04N1	CROZET ISLANDS	61.45	221	T	T	07 26 09.3	
	baz=67,slow=75,SNR=14						
H04N3	CROZET ISLANDS	61.45	221	T	T	07 26 04.0	
	baz=67,slow=75,SNR=12						
KURBB	Kurchatov Arra	62.98	340	P	P	06 19 14.1	-1.6
	comp=Z,0.6nm,0.2s,baz=155,slow=5.5,SNR=5.1						
KURBB				LR	LR	06 52 30.5	
	comp=Z,60nm,19.7s,baz=176,slow=42						
	comp=Z,0.6nm,0.2s						
ZALV	Zalesovo Beam	64.01	345	P	P	06 19 22.4	-0.1
	comp=Z,0.5nm,0.3s,baz=160,slow=9.0,SNR=2.1						
ZALV				LR	LR	06 49 59.3	
	comp=Z,100nm,18.1s,baz=135,slow=39						
	comp=Z,0.5nm,0.3s						
BVAR	Borovoye Array	67.92	337	P	P	06 19 46.8	-1.0
	comp=Z,0.7nm,0.5s,baz=145,slow=7.9,SNR=2.0						
BVAR				LR	LR	06 54 07.1	
	comp=Z,95nm,18.1s,baz=138,slow=40						
	comp=Z,0.7nm,0.5s						
URZ	Urewera	69.38	128	LR	LR	06 50 47.7	
	comp=Z,156nm,20.0s,baz=28,slow=36						
AKTO	Aktyubinsk	71.74	329	LR	LR	06 56 01.5	
	comp=Z,73nm,18.6s,baz=126,slow=40						
GNI	Garni	74.64	315	LR	LR	06 56 46.6	
	comp=Z,34nm,20.4s,baz=111,slow=39						
ARTI	Arti	75.25	334	LR	LR	06 57 02.7	
	comp=Z,117nm,19.3s,baz=138,slow=38						
NRIK	Noril'sk	77.75	353	LR	LR	06 58 28.2	
	comp=Z,73nm,18.4s,baz=176,slow=38						
EIL	Elat	78.80	302	LR	LR	06 56 54.2	
	comp=Z,64nm,18.7s,baz=65,slow=37						
MMAI	Mount Meron Ar	79.32	305	P	P	06 20 53.2	-2.1
	comp=Z,0.4nm,0.3s,baz=90,slow=7.2,SNR=5.9						
MMAI				LR	LR	06 58 04.8	
	comp=Z,64nm,18.8s,baz=113,slow=37						
	comp=Z,0.4nm,0.3s						
KIRV	Kirov	80.47	333	LR	LR	07 00 12.2	
	comp=Z,58nm,19.1s,baz=149,slow=38						
BRTR	Keskin Array B	82.53	312	P	P	06 21 09.8	-2.6
	comp=Z,2.1nm,0.9s,baz=142,slow=6.3,SNR=7.2						
BRTR				LR	LR	06 59 57.3	
	comp=Z,60nm,19.9s,baz=126,slow=37						
	comp=Z,2.1nm,0.9s						
SUR	Sutherland	83.47	238	LR	LR	06 53 24.6	
	comp=Z,53nm,

ICHK	**Chekchek**	**4.71**	**90**	Pn	**Pn**	**06 42 25.6**	**+0.1**
IMEH	**Mehriz**	**5.00**	**100**	Pn	**Pn**	**06 42 29.9**	**+0.4**
IHRS	**Heris**	**6.12**	**347**	Pn	**Pn**	**06 42 45.8**	**+0.9**
MKAR	**Makanchi Array**	**29.28**	**51**	P	**P**	**06 47 15.6**	**-0.5**
	0.2nm,0.6s,baz=248,slow=9.7,SNR=6.0						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**32.64**	**340**	P	**P**	**06 47 44.0**	**-1.4**
	0.5nm,0.3s,baz=143,slow=9.6,SNR=5.2						
	0.5nm,0.3s						
HFS	**Hagfors**	**36.15**	**331**	P	**P**	**06 48 14.5**	**-1.4**
	0.9nm,0.4s,baz=133,slow=9.5,SNR=8.3						
	0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**47.08**	**257**	P	P	06 49 51.2	+5.3
	0.3nm,0.5s,baz=57,slow=11,SNR=2.0						
	0.3nm,0.5s						

TXNET 11 06:49:02.7,31°.2N±0°.8×103°.5W±0°.7,h5km±1km,ML1.5/9, Error ellipse: s-maj=1.4km s-min=0.9km az=34.9,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.10**	**196**	P	Pg	06 49 05.2	+0.5
TPB03				S	Sg	06 49 06.8	+0.6
PCOS	**Crockett Middl**	**0.23**	**354**	P	Pg	06 49 07.8	+0.5
PCOS				S	Sg	06 49 11.2	+0.9
TPB10	**Southeast of T**	**0.26**	**294**	P	Pg	06 49 08.7	+1.0
TPB10				S	Sg	06 49 12.6	+1.5
TPB05	**Hovey Rd**	**0.29**	**152**	P	Pb	06 49 09.5	-0.9
TPB05				S	Sb	06 49 14.2	-1.5
TPB01	**Permian Basin**	**0.35**	**228**	P	Pg	06 49 10.0	+0.6
TPB01				S	Sb	06 49 16.0	-1.4
PECS	**Pecos**	**0.38**	**300**	P	Pb	06 49 11.9	-0.1
PECS				S	Sg	06 49 16.6	+1.5
PECS	**Pecos**	**0.38**	**300**	P	Pb	06 49 11.8	-0.2
PECS				S	Sg	06 49 16.6	+1.5
TPB12	**Southwest of T**	**0.41**	**275**	P	Pb	06 49 11.7	-0.8
TPB12				S	Sb	06 49 17.8	-1.3
TPB07	**Mentone**	**0.43**	**338**	P	Pb	06 49 12.5	-0.4
TPB07				S	Sg	06 49 18.1	+1.4
TPB08	**Permian Basin**	**0.57**	**120**	S	Sb	06 49 22.6	-1.1
MNHN	**Monahans**	**0.64**	**75**	P	Pb	06 49 15.8	-0.6
MNHN				S	Sg	06 49 23.0	-0.2
MNHN	**Monahans**	**0.64**	**75**	P	Pg	06 49 15.6	+0.7
MNHN				S	Sg	06 49 23.4	+0.2
ALPN	**Alpine**	**0.81**	**190**	P	Pg	06 49 18.6	+0.3
ALPN				S	Sg	06 49 29.7	+0.9
ALPN	**Alpine**	**0.81**	**190**	P	Pg	06 49 18.4	+0.1
ALPN				S	Sg	06 49 29.7	+0.8
ODSA	**Odessa**	**1.23**	**40**	S	Sb	06 49 42.7	-0.1
TMB02	**Rankin**	**1.24**	**89**	S	Sb	06 49 43.3	+0.4
HTMS	**Hat Mesa**	**1.30**	**354**	P	Pn	06 49 27.6	0.0
HTMS				S	Sn	06 49 46.6	+1.2
VHRN	**Van Horn**	**1.35**	**254**	P	Pn	06 49 28.3	-0.1
VHRN				S	Sn	06 49 47.2	+0.4
VHRN	**Van Horn**	**1.35**	**254**	P	Pn	06 49 28.2	-0.1
VHRN				S	Sn	06 49 47.1	+0.4
TMB04	**Seminole**	**1.67**	**30**	P	Pn	06 49 33.0	+0.2
SAND	**Sanderson**	**1.69**	**136**	P	Pb	06 49 33.8	-0.6
SAND				S	Sg	06 49 57.0	0.0
SAND	**Sanderson**	**1.69**	**136**	P	Pb	06 49 33.7	-0.7
SAND				S	Sg	06 49 57.1	+0.1
MNTX	**Cornudas Mount**	**1.71**	**288**	P	Pb	06 49 34.6	0.0
MNTX				S	Sg	06 49 58.0	+0.5
TX31	**Lajitas Ar. Si**	**1.84**	**185**	P	Pb	06 49 36.3	-0.7
TX31				S	Sb	06 50 01.1	+0.6
OZNA	**Ozona**	**2.04**	**97**	P	Pn	06 49 38.9	+1.1
OZNA				S	Sb	06 50 06.9	+0.9
SGCY	**Sterling City**	**2.14**	**69**	S	Sb	06 50 09.6	+0.7
POST	**Post**	**2.52**	**41**	S	Sb	06 50 21.5	+1.5

*SOME **11** 07:19:55.9,49°.10N×80°.92E,h0km*
*NNC **11** 07:19:57.9±4.2,50°.09N×82°.22E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=53.3km s-min=12.2km az=42.0, Suspected Mining explosion.*
*IDC **11** 07:19:58.8±1.3,49°.81N×81°.67E,h0km,mbtmp2.6/2, ML2.5/1,Error ellipse: s-maj=17.9km s-min=9.3km az=53.0.*

ISC 11 07:19:58.4±0.9,49°.66N±0°.05×81°.85E±0°.06,h0km,n12, σ1§05/18,2C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.28**	**307**	P	**Pb**	**07 20 22.7**	**-0.8**
	3.6nm,0.1s						
SEM				S	**Sn**	**07 20 43.4**	**+1.7**
	12nm,0.1s						
SEM	**Semipalatinsk**	**1.28**	**307**	*e*P	**Pg**	**07 20 22.5**	**-0.4**
	3.8nm,0.1s						
SEM				*e*S	**Sn**	**07 20 43.4**	**+1.7**
	20nm,0.2s						
KURK	**Kurchatov**	**2.33**	**298**	⇓Pn	**Pn**	**07 20 37.7**	**-0.3**
	10nm,0.6s						
KURK				⇓Sn	**Sn**	**07 21 07.5**	**+0.2**
	17nm,0.5s						
KURBB	**Kurchatov Arra**	**2.34**	**296**	Pg	**Pn**	**07 20 37.8**	**-0.4**
	0.3nm,0.3s,baz=112,slow=19,SNR=44						
KURBB				Lg	Lg	07 21 08.7	
	0.6nm,0.3s,baz=112,slow=31,SNR=18						
KURBB	**Kurchatov Arra**	**2.34**	**296**	⇑Pn	**Pn**	**07 20 38.3**	**+0.1**
	15nm,0.7s						
KURBB				⇓Sn	**Sn**	**07 21 07.7**	**0.0**
	43nm,0.6s						
MK31	**Makanchi Array**	**2.88**	**174**	⇑Pn	**Pb**	**07 20 50.6**	**0.0**
	1.5nm,0.5s,baz=0.5,slow=12,SNR=36						
MK31				⇓Sn	**Sg**	**07 21 30.4**	**-0.5**
	8.5nm,0.6s,baz=357,slow=27,SNR=19						
MKAR	**Makanchi Array**	**2.88**	**174**	Pn	**Pb**	**07 20 49.3**	**-1.4**
	0.6nm,0.3s,baz=351,slow=13,SNR=36						
MKAR				Sn	**Sb**	**07 21 26.5**	**+0.1**
	0.6nm,0.3s,baz=353,slow=28,SNR=4.3						
	1.8nm,0.5s						
ZSN	**Zaisan**	**2.98**	**137**	Pg	**Pg**	**07 20 54.8**	**-0.8**
	3.4nm,0.1s						
ZSN				Lg	Lg	07 21 36.6	
	9.7nm,0.6s						
ZSN	**Zaisan**	**2.98**	**137**	*e*P	**Pg**	**07 20 54.8**	**-0.8**
	3.4nm,0.1s						
ZSN				*e*S	**Sg**	**07 21 36.6**	**+2.4**
	9.7nm,0.6s						
I46RU	**ZALESOVO INFRA**	**4.68**	**22**	I	I	07 50 10.0	
	baz=200,slow=313,SNR=2.0						
ZALV	**Zalesovo Beam**	**4.68**	**22**	Pn	**Pn**	**07 21 10.0**	**-0.3**
	0.9nm,0.6s,baz=205,slow=14,SNR=1.5						
ZALV				Lg	Lg	07 22 24.2	
	0.4nm,0.3s,baz=200,slow=25,SNR=7.8						
SATY	**Saty**	**7.01**	**201**	Pg	**Pb**	**07 22 01.8**	**+0.6**
	0.5nm,0.1s						
SATY				Lg	Lg	07 23 32.2	
	1.9nm,0.1s						

*ASRS **11** 07:24:18.4±0.3,50°.N±2°.×8°.2E±°.,h1km,MLh3.1/7,Error ellipse: s-maj=4.0km s-min=3.0km az=129.7,confirmed*
*IDC **11** 07:24:23.4±1.2,49°.81N×81°.66E,h0km,mbtmp3.0/3, ML2.4/3,Error ellipse: s-maj=16.7km s-min=8.1km az=53.0*
*NNC **11** 07:24:31.1±1.8,49°.39N×81°.03E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=33.0km s-min=10.0km az=62.0, Suspected Mining explosion.*

ISC 11 07:24:22.7±0.7,49°.55N±0°.03×81°.42E±0°.03,h0km,n26, σ1§33/38,5C-4D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.14**	**319**	P	Pn	07 24 54.1	+7.9
	16nm,0.6s						
SEM				S	Sn	07 25 12.5	+10
	21nm,0.3s						
KURK	**Kurchatov**	**2.14**	**304**	⇓Pn	**Pb**	**07 25 02.4**	**0.0**
	20nm,0.6s						
KURK				⇑Sn	**Sg**	**07 25 32.2**	**+0.6**
	20nm,0.4s						
KURK	**Kurchatov**	**2.14**	**304**	⇑Pg	**Pb**	**07 25 02.4**	**0.0**
KURK				Sg	**Sb**	**07 25 28.8**	**-0.8**
KURBB	**Kurchatov Arra**	**2.15**	**301**	Pg	**Pb**	**07 25 01.6**	**-0.8**
	0.7nm,0.3s,baz=112,slow=19,SNR=46						
KURBB				Lg	Lg	07 25 32.0	
	2.0nm,0.3s,baz=108,slow=31,SNR=25						
KURBB	**Kurchatov Arra**	**2.15**	**301**	⇑Pn	**Pg**	**07 25 02.8**	**-1.1**
	25nm,0.6s						
KURBB				⇑Sn	**Sg**	**07 25 32.8**	**+1.1**
	85nm,0.7s						
UKR	**Ust'-Kan**	**2.56**	**56**	Pg	**Pn**	**07 25 07.0**	**+1.4**
UKR				Sg	**Sn**	**07 25 37.3**	**-0.2**
MAKZ	**Makanchi**	**2.77**	**172**	⇑Pn	**Pg**	**07 25 14.6**	**-1.2**
	2.7nm,0.6s						
MAKZ				⇓Sn	**Sg**	**07 25 54.0**	**+2.3**
	6.3nm,0.5s						
MAKZ	**Makanchi**	**2.77**	**172**	Pg	**Pb**	**07 25 11.9**	**-1.2**
MAKZ				Sg	**Sg**	**07 25 51.2**	**-0.5**
MK31	**Makanchi Array**	**2.82**	**168**	⇓Pn	**Pg**	**07 25 15.2**	**-1.6**
	4.5nm,0.6s,baz=356,slow=12,SNR=58						
MK31				⇓Sn	**Sg**	**07 25 54.4**	**+1.1**
	15nm,0.6s,baz=359,slow=30,SNR=15						
MKAR	**Makanchi Array**	**2.82**	**168**	Pn	**Pb**	**07 25 13.6**	**-0.4**
	1.5nm,0.3s,baz=356,slow=12,SNR=38						
MKAR				Sn	**Sg**	**07 25 51.9**	**-1.4**
	2.6nm,0.3s,baz=357,slow=23,SNR=18						
	5.7nm,0.6s						
MKAR	**Makanchi Array**	**2.82**	**168**	Pg	**Pb**	**07 25 14.6**	**+0.7**
MKAR				Sg	**Sg**	**07 25 54.7**	**+1.4**
ZSN	**Zaisan**	**3.11**	**131**	Pg	**Pb**	**07 25 20.1**	**+1.2**
	5.8nm,0.8s						
ZSN				Lg	Lg	07 26 00.1	
	24nm,0.5s						
ELDR	**Elanda**	**3.42**	**59**	Pg	**Pb**	**07 25 22.3**	**-2.0**
ELDR				Sg	**Sb**	**07 26 04.1**	**-2.3**
DGZ	**Jazzator, Alta**	**3.91**	**86**	Pg	**Pb**	**07 25 31.3**	**-1.4**
DGZ				Sg	**Sb**	**07 26 22.3**	**+1.7**
CHBI	**Chibit, Altay**	**4.01**	**77**	Pg	**Pb**	**07 25 34.6**	**+0.4**
CHBI				Sg	**Sb**	**07 26 24.0**	**+0.7**
ARTR	**Artybash**	**4.36**	**57**	Pg	**Pb**	**07 25 40.4**	**+0.3**
ARTR				Sg	**Sb**	**07 26 32.9**	**-0.3**
ELT	**Eltsovka**	**4.79**	**37**	Sg	**Sb**	**07 26 46.6**	**+1.1**
I46RU	**ZALESOVO INFRA**	**4.88**	**24**	I	I	07 53 10.0	
	0.1nm,1.0s,baz=200,slow=311,SNR=1.6						
ZALV	**Zalesovo Beam**	**4.88**	**24**	Pn	**Pn**	**07 25 35.5**	**-1.9**
	0.4nm,0.3s,baz=210,slow=16,SNR=4.9						
ZALV				Lg	Lg	07 26 49.1	
	1.1nm,0.3s,baz=205,slow=27,SNR=15						
	2.0nm,0.7s						
DJR	**Jarkent**	**5.34**	**193**	Pg	**Pg**	**07 26 04.5**	**-0.5**
	1.0nm,0.5s						
DJR				Lg	Lg	07 27 13.9	
	2.1nm,0.7s						
NVS	**Novosibirsk**	**5.42**	**11**	Sg	**Sb**	**07 27 06.3**	**+2.7**
BRZS	**Berezniki**	**5.68**	**278**	Pg	**Pg**	**07 26 10.5**	**-1.0**
	2.3nm,0.8s						
BRZS				Lg	Lg	07 27 24.6	
	4.8nm,1.1s						
BLB	**Baldybastay**	**5.82**	**201**	Pg	**Pg**	**07 26 12.2**	**-1.9**
	9.3nm,0.5s						
BLB				Lg	Lg	07 27 27.5	
	6.8nm,0.6s						
ARXS	**Arharly**	**5.88**	**206**	Pg	**Pg**	**07 26 14.6**	**-0.7**
	0.2nm,0.1s						
ARXS				Lg	Lg	07 27 31.8	
	3.5nm,0.6s						
KPKS	**Kokpek**	**6.37**	**198**	Pg	**Pg**	**07 26 22.8**	**-2.0**
	0.8nm,0.3s						
KPKS				Lg	Lg	07 27 45.3	
	3.1nm,0.4s						
BVAR	**Borovoye Array**	**7.74**	**301**	Pn	**Pn**	**07 26 17.2**	**+0.6**
	0.1nm,0.3s,baz=98,slow=10,SNR=2.6						
BVAR				Sn	**Sn**	**07 27 44.0**	**-0.8**
	0.1nm,0.3s,baz=108,slow=24,SNR=8.5						
BVAR				Lg	Lg	07 28 29.5	
	baz=112,slow=31,SNR=2.4						
	0.6nm,0.5s						

RSNC 11 07:32:11.4±0.4,1°S±3°.×7°9W±°.,h120km±6km,M3.1,mb3.2, mB6.1,ML2.8,Mw(mB)5.7,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.93**	**90**	P	Pn	07 32 33.2	0.0
PIAT	**Ana Tenorio**	**0.93**	**90**	P		07 32 33.2	
PAC1	**Pacto, Paraso**	**1.32**	**18**	P	Pn	07 32 36.1	-0.9
PAC1				S	Sn	07 32 53.5	-2.9
PAC1	**Pacto, Paraso**	**1.32**	**18**	P		07 32 36.1	
PAC1				S		07 32 53.5	
OTAV	**Otavalo**	**1.43**	**31**	P	Pn	07 32 38.3	-0.3
OTAV				S	Sn	07 32 59.0	-0.1
OTAV	**Otavalo**	**1.43**	**31**	P		07 32 38.3	
OTAV				S		07 32 59.0	
COHC	**Cochancay**	**1.46**	**183**	P	Pn	07 32 38.3	-0.1
COHC				S	Sn	07 32 58.8	-0.1
COHC	**Cochancay**	**1.46**	**183**	P		07 32 38.3	
COHC				S		07 32 58.8	
CUSE	**Cuicocha Este**	**1.52**	**31**	P	Pn	07 32 39.4	-0.1
CUSE				S	Sn	07 33 04.1	+3.3
CUSE	**Cuicocha Este**	**1.52**	**31**	P		07 32 39.4	
CUSE				S		07 33 04.1	
PPLP	**Puerto Lpez**	**1.68**	**251**	P	Pn	07 32 41.0	+0.1
PPLP				S	Sn	07 33 05.8	+2.4
PPLP	**Puerto Lpez**	**1.68**	**251**	P		07 32 41.0	
PPLP				S		07 33 05.8	
TULM	**Tulcn-Chalpat**	**2.21**	**39**	P	Pn	07 32 49.1	+1.1
TULM	**Tulcn-Chalpat**	**2.21**	**39**	P		07 32 49.1	
MCRA	**Macar, Loja**	**3.43**	**193**	P	Pn	07 33 04.0	+0.5
MCRA				S	Sn	07 33 43.5	-0.3
MCRA	**Macar, Loja**	**3.43**	**193**	P		07 33 04.0	
MCRA				S		07 33 43.5	
BBAC	**Balboa, Cauca**	**3.58**	**33**	P	Pn	07 33 05.6	+0.1
BBAC				S	Sn	07 33 49.0	+1.6
BBAC	**Balboa, Cauca**	**3.58**	**33**	P		07 33 05.6	
BBAC				S		07 33 49.0	
GR1C	**Gorgona, Isla**	**4.11**	**14**	P	Pn	07 33 12.1	-0.3
GR1C				S	Sn	07 33 57.9	-1.8
GR1C	**Gorgona, Isla**	**4.11**	**14**	P		07 33 12.1	
GR1C				S		07 33 57.9	
POPC	**Popayan, Colom**	**4.32**	**36**	P	Pn	07 33 15.3	-0.2
POPC				S	Sn	07 34 03.2	-2.0
POPC	**Popayan, Colom**	**4.32**	**36**	P		07 33 15.3	
POPC				S		07 34 03.2	
JAMC	**Jamundi, Valle**	**4.88**	**31**	P	Pn	07 33 22.6	-0.4
JAMC				S	Sn	07 34 16.1	-2.6
JAMC	**Jamundi, Valle**	**4.88**	**31**	P		07 33 22.6	
JAMC				S		07 34 16.1	
MALC	**Bahia Malaga**	**5.31**	**20**	P	Pn	07 33 27.2	-1.4
MALC				S	Sn	07 34 24.9	-3.9
MALC	**Bahia Malaga**	**5.31**	**20**	P		07 33 27.2	
MALC				S		07 34 24.9	
YOTC	**Yotoco, Valle**	**5.71**	**30**	P		07 33 32.0	
YOTC				S		07 34 31.7	
YOTC	**Yotoco, Valle**	**5.71**	**30**	P	Pn	07 33 32.0	-2.1
YOTC				S	Sn	07 34 31.7	-6.8

IDC 11 07:34:27.5±2.6,53°.93N×86°.44E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=20.9km s-min=12.6km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**272**	I	I	07 40 37.1	
	baz=87,slow=350,SNR=4.1						
ZALV	**Zalesovo Beam**	**0.96**	**272**	Pg	Pg	07 34 45.3	-0.5
	0.5nm,0.3s,baz=93,slow=16,SNR=7.4						
ZALV				Lg	Lg	07 34 59.0	
	1.2nm,0.3s,baz=95,slow=30,SNR=8.9						
KURBB	**Kurchatov Arra**	**5.88**	**239**	Pn	Pn	07 35 57.6	+1.9
	0.1nm,0.3s,baz=56,slow=14,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.62**	**202**	Pn	Pn	07 36 20.2	+0.5
	0.1nm,0.3s,baz=26,slow=15,SNR=5.7						
	0.1nm,0.3s						

*IDC **11** 07:45:26.9±2.2,23°.37S×179°.74E,h550km±24km,mb3.1/8, mbtmp3.9/9,Error ellipse: s-maj=26.1km s-min=19.3km az=150.0*

ISC 11 07:45:25.3±0.9,23°.57S±0°.08×180°.0E±0°.2,h550km,n46, σ1§41/48,mb3.7/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.08**	**343**	P	**P**	**07 47 03.5**	**-1.4**
	4.7nm,0.4s,baz=186,slow=10.0,SNR=7.3						
MKAZ	**Moumakai**	**14.10**	**196**	P	**P**	**07 48 26.0**	**+0.7**
HAZ	**Te Kaha**	**14.26**	**187**	P	**P**	**07 48 27.8**	**+0.9**
HAZ				S	**S**	**07 50 54.9**	**-1.7**
RUGZ	**Raukumara Rang**	**14.48**	**187**	P	**P**	**07 48 29.2**	**-0.1**
RUGZ				S	**S**	**07 50 59.0**	**-2.0**
TWGZ	**Tauwhareparae**	**14.65**	**186**	P	**P**	**07 48 30.7**	**-0.4**
TWGZ				S	**S**	**07 51 03.8**	**-0.4**
URZ	**Urewera**	**14.84**	**189**	P	**P**	**07 48 31.7**	**-1.2**
URZ				S	**S**	**07 51 04.5**	**-3.0**
MWZ	**Matawai**	**14.86**	**187**	P	**P**	**07 48 32.7**	**-0.5**
TKGZ	**Te Karaka**	**14.93**	**186**	P	**P**	**07 48 35.0**	**+1.2**
CNGZ	**Carnagh Statio**	**14.94**	**185**	P	**P**	**07 48 36.0**	**+2.1**
MUGZ	**Murupara**	**15.10**	**190**	P	**P**	**07 48 35.0**	**-0.6**
RIGZ	**Rimuhau**	**15.20**	**187**	P	**P**	**07 48 37.4**	**+0.7**
SNGZ	**Shannon Statio**	**15.32**	**188**	P	**P**	**07 48 37.6**	**-0.4**
MTHZ	**Maungataniwha**	**15.46**	**189**	P	**P**	**07 48 40.4**	**+1.1**
HIZ	**Hauiti**	**15.52**	**195**	P	**P**	**07 48 45.7**	**+5.8**
KNZ	**Kokohu**	**15.52**	**187**	P	**P**	**07 48 40.4**	**+0.5**
NMHZ	**Naumai**	**15.71**	**189**	P	**P**	**07 48 42.5**	**+0.6**
BKZ	**Black Stump Fm**	**15.82**	**190**	P	**P**	**07 48 42.4**	**-0.6**
TMVZ	**Te Maari**	**15.91**	**192**	P	**P**	**07 48 44.2**	**+0.3**
NGZ	**Ngauruhoe**	**15.99**	**192**	P	**P**	**07 48 46.0**	**+1.2**
SNVZ	**South Ngauruho**	**15.99**	**192**	P	**P**	**07 48 44.1**	**-0.7**
KWHZ	**Kaweka Forest**	**16.09**	**190**	P	**P**	**07 48 45.2**	**-0.4**
WNVZ	**Wahianoa**	**16.14**	**192**	P	**P**	**07 48 47.0**	**+0.9**
ANWZ	**Angora Road**	**17.09**	**189**	P	**P**	**07 48 54.1**	**-0.5**
BFZ	**Birch Farm**	**17.34**	**190**	P	**P**	**07 48 55.4**	**-1.6**
MRZ	**Mangatainoka R**	**17.43**	**191**	P	**P**	**07 48 55.7**	**-2.0**
OGWZ	**Otaki Gorge**	**17.66**	**192**	P	**P**	**07 48 58.4**	**-1.5**
TRWZ	**Traveller**	**18.13**	**190**	P	**P**	**07 49 04.2**	**0.0**
QRZ	**Quartz Range**	**18.30**	**198**	P	**P**	**07 49 06.6**	**+0.9**
NNZ	**Nelson**	**18.44**	**196**	P	**P**	**07 49 07.4**	**+0.5**
THZ	**Tophouse**	**19.07**	**196**	P	**P**	**07 49 13.0**	**+0.2**
DSZ	**Denniston Nort**	**19.36**	**199**	P	**P**	**07 49 16.7**	**+1.3**
KHZ	**Kahutara**	**19.54**	**194**	P	**P**	**07 49 17.3**	**+0.4**
LTZ	**Lake Taylor**	**20.19**	**197**	P	**P**	**07 49 22.4**	**-0.5**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**07 51 31.4**	**+0.8**
	1.6nm,0.7s,baz=72,slow=13,SNR=1.6						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**42.05**	**260**	P	**P**	**07 52 29.8**	**+0.4**
	1.5nm,0.7s,baz=100,slow=7.9,SNR=13						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	**07 52 31.9**	**-0.1**
	1.7nm,0.6s,baz=103,slow=7.8,SNR=20						
	1.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P	**P**	**07 53 36.5**	**+0.9**
	2.7nm,0.8s,baz=90,slow=5.1,SNR=2.6						
	2.7nm,0.8s						
QSPA	**South Pole Qui**	**66.51**	**180**	P	**P**	**07 55 23.1**	**+2.6**
	1.4nm,0.6s,baz=5.3,slow=1.1,SNR=11						
	1.4nm,0.6s						
TXAR	**Lajitas Array**	**90.29**	**58**	P	P	07 57 31.7	+3.5
	0.4nm,0.7s,baz=212,slow=6.2,SNR=5.3						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**92.48**	**44**	P	**P**	**07 57 39.1**	**+0.9**
	0.2nm,0.7s,baz=240,slow=9.7,SNR=2.3						
	0.2nm,0.7s						
SONM	**Songino Array**	**96.83**	**319**	P	**P**	**07 57 56.7**	**-0.9**
	0.1nm,0.5s,baz=108,slow=3.2,SNR=1.2						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**114.98**	**316**	PKP	**PKiKP**	**08 03 03.5**	**-0.3**
	0.2nm,0.5s,baz=126,slow=2.5,SNR=2.7						
BVAR	**Borovoye Array**	**120.17**	**319**	PKP	**PKiKP**	**08 03 13.1**	**-0.7**
	0.3nm,0.4s,baz=10,slow=3.2,SNR=2.5						
HFS	**Hagfors**	**142.22**	**349**	PKhKP	PKPpre	08 03 52.2	
	1.5nm,0.4s,baz=57,slow=5.5,SNR=9.4						
AKASG	**Malin Array Be**	**144.68**	**327**	PKP	**PKPab**	**08 03 59.9**	**-0.5**
	0.8nm,0.5s,baz=49,slow=3.8,SNR=8.4						
MMAI	**Mount Meron Ar**	**147.53**	**295**	PKPbc	**PKiKP**	**08 04 09.4**	**-0.5**
	1.4nm,0.4s,baz=60,slow=4.9,SNR=2.9						

*IDC **11** 08:10:13.6±1.7,60°.69S×26°.61W,h0km,mb4.0/2, mbtmp4.1/3,ML4.3/1,MS3.2/1,Error ellipse: s-maj=62.3km s-min=40.4km az=46.0*
*NEIC **11** 08:10:22.1±1.5,61°.1S±0°.1×24°.9W±0°.2,h10km±2km, mb4.6/6,Error ellipse: s-maj=17.6km s-min=14.0km az=14.0*

ISC 11 08:10:21.6±0.7,61°.1S±0°.1×24°.8W±0°.1,h10km,n29, σ1§47/28,mb4.3/4,4C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**9.21**	**312**	Pn	**Pn**	**08 12 34.8**	**+0.5**
VNA1	**Neumayer--Stat**	**11.72**	**152**	P	**Pn**	**08 13 11.0**	**+2.4**
VNA1	**Neumayer--Stat**	**11.72**	**152**	⇑P	**Pn**	**08 13 11.0**	**+2.4**
	comp=Z,34nm,0.3s						
VNA3	**Neumayer Olymp**	**11.88**	**156**	P	**Pn**	**08 13 11.4**	**+0.7**
VNA3	**Neumayer Olymp**	**11.88**	**156**	⇑P	**Pn**	**08 13 11.4**	**+0.7**
	comp=Z,25nm,0.6s						
VNA2	**Neumayer--Watz**	**12.12**	**152**	P	**Pn**	**08 13 16.1**	**+2.0**
	baz=308,slow=15						
VNA2	**Neumayer--Watz**	**12.12**	**152**	⇑P	**Pn**	**08 13 16.1**	**+2.0**
	comp=Z,5.5nm,0.2s,baz=308,slow=15						
SNAA	**Sanae**	**13.71**	**150**	P	**Pn**	**08 13 37.5**	**+1.8**
SNAA	**Sanae**	**13.71**	**150**	Pn	**Pn**	**08 13 37.7**	**+2.0**
SNAA	**Sanae**	**13.71**	**150**	⇑P	**Pn**	**08 13 37.5**	**+1.8**
	comp=Z,78nm,0.3s						
SNAA	**Sanae**	**13.71**	**150**	Pn	**Pn**	**08 13 37.3**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=312,slow=16,SNR=24						
	comp=Z,4.0nm,0.5s						
BELA	**Belgrano 2**	**17.20**	**187**	Pn	**Pn**	**08 14 21.1**	**-0.5**
PMSA	**Palmer Station**	**18.03**	**241**	P	**P**	**08 14 32.3**	**0

ERTU	**Ertsjaerv**	**0.84 139**	P		**Pb**	**08 13 30.9**	**-0.4**
ERTU	**Ertsjaerv**	**0.84 139**	*i* P		**Pb**	**08 13 30.9**	**-0.4**
SALU	**Saltoluokta**	**0.91 283**	P		**Pg**	**08 13 30.8**	**-0.6**
SALU	**Saltoluokta**	**0.91 283**	*i* P		**Pg**	**08 13 30.8**	**-0.6**
LANU	**Lannavaara**	**0.98 27**	P		**Pb**	**08 13 33.3**	**-0.5**
LANU	**Lannavaara**	**0.98 27**	*e*P		**Pb**	**08 13 33.3**	**-0.5**
LANU			*e*S		**Sb**	**08 13 46.4**	**-0.8**
HARU	**Harads**	**1.03 176**	P		**Pg**	**08 13 33.8**	**+0.2**
HARU	**Harads**	**1.03 176**	*e*P		**Pg**	**08 13 33.8**	**+0.2**
KLF	**Kolari**	**1.23 86**	*e*P		**Pn**	**08 13 38.4**	**+0.1**
KLF			*e*S		**Sb**	**08 13 55.0**	**+0.7**
HEF	**Hetta**	**1.64 40**	*e*P		**Pn**	**08 13 44.0**	**+0.1**
HEF			*e*S		**Sn**	**08 14 05.4**	**-0.3**
HEF	**Hetta**	**1.64 40**	*e*P		**Pb**	**08 13 44.9**	**0.0**
HEF			*e*S		**Sg**	**08 14 06.9**	**+0.4**
HEF			MSG			08 14 08.6	
comp=Z,2.8nm,0.1s							
KALU	**Kalix**	**1.68 141**	P		**Pb**	**08 13 45.8**	**+0.3**
KALU	**Kalix**	**1.68 141**	*e*P		**Pb**	**08 13 45.8**	**+0.3**
SJUU	**Sjulsmark**	**1.71 169**	P		**Pb**	**08 13 46.0**	**-0.2**
SJUU	**Sjulsmark**	**1.71 169**	*e*P		**Pb**	**08 13 46.0**	**-0.2**
TOF	**Tornio**	**1.79 127**	*e*PN		**Pg**	**08 13 48.0**	**-0.1**
TOF			*e*SG		**Sg**	**08 14 11.8**	**+0.6**
TOF			MSG			08 14 14.5	
comp=Z,5.0nm,0.1s							
KIF	**Kilpisjarvi**	**1.83 360**	*e*P		**Pb**	**08 13 48.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.83 360**	*e*P		**Pb**	**08 13 48.2**	**0.0**
KIF			*e*SN		**Sg**	**08 14 12.6**	**0.0**
KIF			MSG			08 14 14.4	
comp=Z,6.3nm,0.1s							
KTK1	**Kautokeino**	**2.05 25**	*e*P		**Pb**	**08 13 52.1**	**+0.2**
KTK1			IAML			08 14 21.2	
comp=Z,40nm,0.5s							
KTK1	**Kautokeino**	**2.05 25**	*e*P		**Pb**	**08 13 52.1**	**+0.2**
KTK1			IAML			08 14 21.2	
comp=Z,40nm,0.5s							
RNF	**Rovaniemi**	**2.13 103**	*e*PB		**Pb**	**08 13 53.5**	**+0.1**
RNF			*e*SB		**Sg**	**08 14 21.7**	**-0.7**
RNF			MSG			08 14 24.9	
comp=Z,9.9nm,0.2s							
FAUS	**Fauske**	**2.15 278**	*e*P		**Pn**	**08 13 52.2**	**+1.3**
FAUS			*e*S		**Sn**	**08 14 18.9**	**+0.6**
FAUS			IAML			08 14 24.5	
comp=Z,33nm,0.5s							
FAUS	**Fauske**	**2.15 278**	*e*P		**Pn**	**08 13 52.2**	**+1.3**
FAUS			*e*S		**Sn**	**08 14 18.9**	**+0.6**
FAUS			IAML			08 14 24.5	
comp=Z,33nm,0.5s							
SGF	**Sodankyl**	**2.23 81**	*e*P		**Pb**	**08 13 54.1**	**-0.9**
SGF			*e*S		**Sb**	**08 14 22.9**	**-0.3**
SGF			MSG			08 14 27.4	
comp=Z,6.4nm,0.2s							
JETT	**Jettan, Norway**	**2.39 357**	*e*P		**Pb**	**08 13 56.8**	**-0.9**
JETT			*e*S		**Sn**	**08 14 25.8**	**+1.6**
JETT			IAML			08 14 31.5	
comp=Z,28nm,0.4s							
JETT	**Jettan, Norway**	**2.39 357**	*e*P		**Pb**	**08 13 56.8**	**-0.9**
JETT			*e*S		**Sn**	**08 14 25.8**	**+1.6**
JETT			IAML			08 14 31.5	
comp=Z,28nm,0.4s							
ARA0	**ARCESS Array S**	**2.93 34**	*e*P		**Pn**	**08 14 03.3**	**+1.6**
ARA0			IAML			08 14 53.8	
comp=Z,4.5nm,0.4s							
ARA0	**ARCESS Array S**	**2.93 34**	*e*P		**Pn**	**08 14 03.3**	**+1.6**
ARA0			IAML			08 14 53.8	
comp=Z,4.5nm,0.4s							
ARCES	**ARCESS Array B**	**2.93 34**	Pn		**Pn**	**08 14 03.2**	**+1.5**
comp=Z,0.4nm,0.3s,baz=216,slow=13,SNR=70							
ARCES			Sn		**Sn**	**08 14 40.1**	**+2.5**
comp=Z,0.9nm,0.3s,baz=213,slow=24,SNR=9.5							
comp=Z,1.1nm,0.3s							
FINES	**FINESS Array B**	**6.20 156**	Pn		**Pn**	**08 14 48.4**	**+1.8**
comp=Z,0.4nm,0.3s,baz=345,slow=13,SNR=13							
FINES			Sn		**Sn**	**08 15 58.1**	**+0.1**
comp=Z,0.5nm,0.3s,baz=347,slow=25,SNR=6.1							
FINES			Lg		Lg	08 16 26.1	
comp=Z,0.7nm,0.3s,baz=339,slow=31,SNR=5.8							
comp=Z,1.5nm,0.5s							
NOA	**NORSAR Array B**	**7.45 219**	Pn		**Pn**	**08 15 04.1**	**+0.3**
baz=26,slow=12,SNR=2.0							
NOA			Sn		**Sn**	**08 16 25.7**	**-3.1**
baz=36,slow=10.0,SNR=1.6							
NOA			Lg		Lg	08 17 06.5	
baz=34,slow=14,SNR=4.0							
comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**7.75 207**	Pn		**Pn**	**08 15 07.2**	**-0.6**
comp=Z,0.2nm,0.3s,baz=16,slow=15,SNR=4.8							
HFS			Sn		**Sn**	**08 16 32.1**	**-4.0**
comp=Z,0.4nm,0.3s,baz=24,slow=22,SNR=7.6							
HFS			Lg		Lg	08 17 11.7	
comp=Z,0.3nm,0.3s,baz=35,slow=33,SNR=2.6							
comp=Z,0.8nm,0.4s							

TRN 11 08:15:35.3, 17°.35N×61°.61W, h30km, MD4.0, 6D,
South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.34 206**		⇓*i*P	Pn	08 15 45.7	+1.5
ANBD				*e*S	Sn	08 15 52.1	+2.1
ANBD	**Bethesda, Anti**	**0.34 206**		⇓*i*P	Pn	08 15 45.7	+1.5
ANBD				*e*S	Sn	08 15 52.1	+2.1
ANWB	**Willy Bob**	**0.36 332**		*e*P	Pn	08 15 45.5	+1.0
ANWB				*e*S	Sn	08 15 51.6	+1.0
ANWB	**Willy Bob**	**0.36 332**		*e*P	Pn	08 15 45.5	+1.0
ANWB				*e*S	Sn	08 15 51.6	+1.0
MBWH		**0.82 223**		⇓*i*P	Pb	08 15 52.0	+0.8
MBWH				*e*S	Sn	08 16 03.2	+1.2
MBWH		**0.82 223**		⇓*i*P	Pb	08 15 52.0	+0.8
MBWH				*e*S	Sn	08 16 03.2	+1.2
MBFL	**Flemmings, Mon**	**0.83 224**		⇓*i*P	Pb	08 15 52.2	+0.9
MBFL				*e*S	Sn	08 16 03.7	+1.4
MBFL	**Flemmings, Mon**	**0.83 224**		⇓*i*P	Pb	08 15 52.2	+0.9
MBFL				*e*S	Sn	08 16 03.7	+1.4
SKOC	**St. Kitts, UWI**	**1.08 267**		*e*P	Pb	08 15 55.6	+0.3
SKOC				*e*S	Sb	08 16 10.2	+1.1
SKOC	**St. Kitts, UWI**	**1.08 267**		*e*P	Pb	08 15 55.6	+0.3
SKOC				*e*S	Sb	08 16 10.2	+1.1
SKI	**Saint Kitts**	**1.08 269**		*e*P	Pb	08 15 56.0	+0.5
SKI				*e*S	Sb	08 16 12.0	+2.7
SKI	**Saint Kitts**	**1.08 269**		*e*P	Pb	08 15 56.0	+0.5
SKI				*e*S	Sb	08 16 12.0	+2.7
TBG	**Guadaloupe-3**	**1.49 181**		*e*P	Pn	08 16 01.2	+1.2
TBG				*e*S	Sb	08 16 21.4	+0.4
TBG	**Guadaloupe-3**	**1.49 181**		*e*P	Pn	08 16 01.2	+1.2
TBG				*e*S	Sb	08 16 21.4	+0.4
DSLB	**Salisbury**	**1.91 175**		*e*P	Pn	08 16 07.3	+1.4
DSLB				*e*S	Sb	08 16 31.4	-1.7
DSLB	**Salisbury**	**1.91 175**		*e*P	Pn	08 16 07.3	+1.4
DSLB				*e*S	Sb	08 16 31.4	-1.7
MDN	**Morne-Daniel**	**2.03 174**		*e*P	Pn	08 16 09.0	+1.5
MDN				*e*S	Sn	08 16 34.0	+2.2
MDN	**Morne-Daniel**	**2.03 174**		*e*P	Pn	08 16 09.0	+1.5
MDN				*e*S	Sn	08 16 34.0	+2.2
BIM	**Bigot**	**2.87 170**		*e*P	Pn	08 16 21.5	+2.4
BIM				*e*S	Sn	08 16 55.0	+2.5
BIM	**Bigot**	**2.87 170**		*e*P	Pn	08 16 21.5	+2.4
BIM				*e*S	Sn	08 16 55.0	+2.5
SLBI	**Saint Lucia, B**	**3.37 169**		*e*P	Pn	08 16 27.3	+1.4
SLBI				*e*S	Sn	08 17 07.2	+2.4
SLBI	**Saint Lucia, B**	**3.37 169**		*e*P	Pn	08 16 27.3	+1.4
SLBI				*e*S	Sn	08 17 07.2	+2.4
AOPR	**Arecibo Observ**	**5.00 282**		*e*P	Pn	08 16 50.8	+2.4
AOPR				*e*S	Sn	08 17 47.4	+2.2
AOPR	**Arecibo Observ**	**5.00 282**		*e*P	Pn	08 16 50.8	+2.4

SJA 11 08:16:33.4±0.6, 21°.16S×68°.70W, h137km±4km, ML3.3, MW3.4
IDC 11 08:16:34.9±3.0, 21°.27S×68°.16W, h112km±28km, mb3.5/1, mbtmp3.6/4, MS3.6/1, Error ellipse: s-maj=56.7km s-min=29.7km az=108.0
GUC 11 08:16:36.0±0.6, 21°.13S×68°.66W, h119km±3km, ML3.1
ISC 11 08:16:34.1±0.9, 21°.20S±0°.04×68°.77W±0°.05, h137km±7km, n29, σ0°99/42, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.69 283**		*e*P	**Pn**	**08 16 55.2**	**0.0**
PB01				*e*S	**Sn**	**08 17 11.9**	**+0.7**
PB01				IAML		08 17 13.1	
comp=Z,469nm,0.2s							
PB01	**IPOC Station P**	**0.69 283**		⇑*e*P	**Pn**	**08 16 55.2**	**0.0**
PB01				*i* S	**Sn**	**08 17 10.6**	**-0.7**
PB01				IAML		08 17 11.9	
comp=N,701nm,0.3s							
PB09	**IPOC Station P**	**0.74 217**		*e*P	**Pn**	**08 16 56.6**	**+0.9**
PB09				*e*S	**Sn**	**08 17 12.9**	**+0.8**
PB09				IAML		08 17 13.8	
comp=Z,494nm,0.4s							
PB09	**IPOC Station P**	**0.74 217**		⇑*i*P	**Pn**	**08 16 56.5**	**+0.9**
PB09				*i* S	**Sn**	**08 17 13.0**	**+0.9**
PB09				IAML		08 17 15.2	
comp=E,492nm,0.4s							
PB08	**IPOC Station P**	**1.11 341**		*e*P	**Pn**	**08 16 58.9**	**-0.2**
PB08				*e*S	**Sn**	**08 17 17.7**	**-0.4**
PB08				IAML		08 17 17.9	
comp=Z,286nm,0.5s							
PB08	**IPOC Station P**	**1.11 341**		⇓*i*P	**Pn**	**08 16 58.9**	**-0.2**
PB08				*i* S	**Sn**	**08 17 16.9**	**-1.2**
PB08				IAML		08 17 17.9	
comp=E,503nm,0.2s							
PX03	**IPOC Station P**	**1.13 314**		*e*P	**Pn**	**08 16 58.2**	**-0.8**
PX03				*i* S	**Sn**	**08 17 17.1**	**-0.8**
PX03				IAML		08 17 18.6	
comp=Z,631nm,0.4s							
TA01	**Diego Aracena**	**1.47 295**		*e*P	**Pn**	**08 17 03.0**	**+0.8**
TA01				*e*S	**Sn**	**08 17 24.4**	**+0.6**
TA01				IAML		08 17 27.7	
comp=Z,175nm,0.3s							
TA01	**Diego Aracena**	**1.47 295**		*e*P	**Pn**	**08 17 02.7**	**+0.4**
TA01				*e*S	**Sn**	**08 17 23.9**	**+0.2**
TA01				IAML		08 17 26.3	
comp=N,565nm,0.3s							
TA02	**Huaiquique**	**1.58 306**		*e*P	**Pn**	**08 17 03.9**	**+0.4**
TA02				*e*S	**Sn**	**08 17 26.6**	**+0.6**
TA02				IAML		08 17 30.0	
comp=Z,276nm,0.1s							
TA02	**Huaiquique**	**1.58 306**		*e*P	**Pn**	**08 17 04.0**	**+0.4**
TA02				*i* S	**Sn**	**08 17 25.6**	**-0.4**
AF01	**San Pedro de A**	**1.83 163**		*e*P	**Pn**	**08 17 06.3**	**-0.4**
AF01				*e*S	**Sn**	**08 17 29.2**	**-2.5**
AF01				IAML		08 17 49.1	
comp=Z,130nm,0.9s							
AF01	**San Pedro de A**	**1.83 163**		*e*P	**Pn**	**08 17 07.8**	**+1.1**
AF01				IAML		08 17 37.2	
comp=E,313nm,0.6s							
PB12	**IPOC Station P**	**2.96 330**		*e*P	**Pn**	**08 17 19.5**	**-1.1**
PB12				*e*S	**Sn**	**08 17 56.7**	**+0.2**
PB12				IAML		08 17 57.2	
comp=Z,66nm,0.3s							
PB12	**IPOC Station P**	**2.96 330**		*e*P	**Pn**	**08 17 19.6**	**-1.1**
YJA	**Yavi**	**3.18 108**		*e*P	**Pn**	**08 17 25.8**	**+2.1**
YJA				*e*S	**Sn**	**08 18 01.8**	**-0.1**
YJA	**Yavi**	**3.18 108**		*e*P	**Pn**	**08 17 23.4**	**-0.2**
AP01	**Chacalluta**	**3.18 332**		*e*P	**Pn**	**08 17 24.9**	**+1.6**
AP01				IAML		08 18 06.2	
comp=Z,81nm,0.2s							
PB18	**Visviri**	**3.66 349**		*e*P	**Pn**	**08 17 31.2**	**+1.2**
GO02	**Mina Guanaco**	**4.02 191**		*e*P	**Pn**	**08 17 35.8**	**+1.3**
GO02				*e*S	Sn	08 18 06.8	-15
AZAP	**Zapla**	**4.55 132**		*e*P	**Pn**	**08 17 41.7**	**+0.2**
AZAP				IAML		08 18 58.9	
comp=Z,12nm,2.0s							
LPAZ	**La Paz**	**4.92 7**		P	**Pn**	**08 17 47.8**	**+0.8**
comp=Z,4.1nm,0.5s,baz=196,slow=6.3,SNR=24							
LPAZ	**La Paz**	**4.92 7**		*e*P	**Pn**	**08 17 48.6**	**+1.7**
AC01	**Pan de Azucar**	**5.20 198**		*e*P	**Pn**	**08 17 49.9**	**-0.2**
AC01				*e*S	**Sn**	**08 18 48.0**	**-1.1**
AC01				IAML		08 19 11.1	
comp=Z,15nm,0.5s							
SIV	**San Ignacio**	**8.95 56**		P	Pn	08 18 35.7	-4.6
comp=Z,1.2nm,0.6s,baz=249,slow=12,SNR=9.7							
PLCA	**Paso Flores**	**19.53 184**		P	**Pn**	**08 20 53.4**	**-0.2**
comp=Z,1.7nm,0.9s,baz=15,slow=12,SNR=2.9							
CMIG	**Matias Romero**	**45.87 324**		LR	LR	08 42 53.9	
comp=Z,58nm,18.1s,baz=334,slow=34							
TORD	**Torodi Ar. Bea**	**77.13 70**		P	**P**	**08 28 13.7**	**+0.6**
comp=Z,0.6nm,0.5s,baz=258,slow=4.1,SNR=5.6							
comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**145.31 36**		PKPbc	**PKiKP**	**08 35 58.0**	**-1.7**
comp=Z,0.4nm,0.6s,baz=323,slow=3.8,SNR=4.6							

IDC 11 08:16:37.8±1.0, 2°.82S×140°.38E, h0km, mb3.9/10, mbtmp3.9/11, ML4.2/1, MS2.9/4, Error ellipse: s-maj=26.0km s-min=7.3km az=142.0
DJA 11 08:16:39.6±0.4, 2°.5±4°.4×14°.0E±°, h14km±2km, M4.6/6, mB6.2/1, mb4.6/4, MLv4.5/6, Mw(mB)6.0/1
NEIC 11 08:16:43.7±1.6, 2°.87S±0°.03×140°.33E±0°.08, h35km±1km, mb4.2/24, Error ellipse: s-maj=14.5km s-min=4.6km az=100.0
ISC 11 08:16:39.5±0.5, 2°.77S±0°.05×140°.38E±0°.05, h10km, n67, σ1§26/62, mb4.2/20, MS2.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.27 309**		P	**Pb**	**08 16 46.4**	**-0.1**
GENI				S	**Sb**	**08 16 51.9**	**+0.8**
JAY	**Jayapura**	**0.41 53**		Pg	**Pg**	**08 16 46.7**	**-0.9**
1μm,0.3s,baz=219,slow=12,SNR=2832							
JAY				Lg	Lg	08 16 52.1	
2μm,0.3s,baz=323,slow=20,SNR=39							
JAY	**Jayapura**	**0.41 53**		P	**Pg**	**08 16 46.6**	**-1.0**
JAY				S	**Sg**	**08 16 52.0**	**-1.0**
SMPI	**Sarmi**	**1.84 295**		P	**Pn**	**08 17 10.0**	**-1.1**
WAMI	**Wamena**	**2.00 236**		P	**Pb**	**08 17 15.7**	**-0.3**
WAMI				S	**Sg**	**08 17 43.3**	**-0.6**
SRPI	**Serui, Papua**	**4.23 282**		P	**Pn**	**08 17 44.0**	**0.0**
BAKI	**Biak**	**4.55 290**		P	**Pn**	**08 17 47.0**	**-1.4**
MMPI	**Merauke**	**5.66 180**		P	**Pn**	**08 18 08.1**	**+4.4**
KMPI	**Kaimana, Papua**	**6.72 262**		P	**Pn**	**08 18 18.6**	**+0.3**
1.0nm204nm,0.7s							
MANU	**Manus Island**	**7.02 84**		Pn	**Pn**	**08 18 24.8**	**+2.4**
FAKI	**Fak Fak**	**8.12 269**		Pn	**Pn**	**08 18 37.9**	**+0.3**
FAKI	**Fak Fak**	**8.12 269**		P	**Pn**	**08 18 37.9**	**+0.3**
26nm,1.0s							
SWI	**Sorong**	**9.31 282**		P	**Pn**	**08 18 53.6**	**-0.2**
22nm,0.6s							
COEN	**Coen**	**11.46 166**		Pn	**Pn**	**08 19 23.4**	**+0.1**
KRVT	**Keravat (AS076**	**11.73 98**		LR	LR	08 23 50.6	
comp=Z,90nm,18.5s,baz=19,slow=37							
MTN	**Manton Dam**	**13.56 222**		Pn	**Pn**	**08 19 52.9**	**+0.8**
KNRA	**Kununurra**	**17.19 221**			**Pn**	**08 20 40.3**	**+0.4**
KNRA				IAmb	IAmb	08 20 42.7	
comp=Z,26nm,1.5s							
SOEI	**Soe**	**17.45 246**			**Pn**	**08 20 43.0**	**-0.2**
SOEI				IAmb	IAmb	08 21 07.0	
comp=Z,36nm,1.3s							
WB0	**Warramunga Arr**	**17.88 199**			**Pn**	**08 20 47.0**	**-1.5**
WR0	**Warramunga Arr**	**18.02 198**			**Pn**	**08 20 49.0**	**-1.1**
WRAB	**Tennant Creek**	**18.05 199**			**Pn**	**08 20 49.5**	**-1.1**
WRAB				IAmb	IAmb	08 20 55.9	
comp=Z,7.1nm,0.7s							
WB2	**Warramunga Arr**	**18.06 199**		P	**Pn**	**08 20 50.5**	**-0.2**
WRA	**Warramunga Arr**	**18.06 199**			**Pn**	**08 20 49.4**	**-1.3**
WRA	**Warramunga Arr**	**18.06 199**		P	**Pn**	**08 20 50.0**	**-0.7**
comp=Z,0.8nm,0.3s,baz=28,slow=12,SNR=27							
comp=Z,5.9nm,0.7s							
KAPI	**Kappang**	**20.70 263**		LR	LR	08 31 18.5	
comp=Z,26nm,19.0s,baz=118,slow=43							
FITZ	**Fitzroy Crossi**	**21.00 222**		P	**P**	**08 21 22.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**21.00 222**		P	**P**	**08 21 22.8**	**-0.5**
comp=Z,2.5nm,0.5s,baz=39,slow=12,SNR=7.4							
FITZ				LR	LR	08 30 17.7	
comp=Z,64nm,20.3s,baz=70,slow=39							
comp=Z,2.5nm,0.5s							
AS31	**Alice Springs**	**21.70 196**		P	**P**	**08 21 30.2**	**-0.7**
ASAR	**Alice Springs**	**21.70 196**		P	**P**	**08 21 30.0**	**-0.8**
ASAR	**Alice Springs**	**21.70 196**		P	**P**	**08 21 30.2**	**-0.6**
comp=Z,3.3nm,0.7s,baz=31,slow=10.0,SNR=68							
comp=Z,3.3nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**33.43 50**		T	T	08 58 13.4	
baz=232,slow=75,SNR=30							
H11S2	**WAKE ISLAND Hy**	**33.44 50**		T	T	08 58 09.1	
baz=232,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**33.44 50**		T	T	08 58 14.5	
baz=232,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**34.31 48**		T	T	08 59 21.8	
baz=228,slow=74							
H11N2	**WAKE ISLAND Hy**	**34.33 48**		T	T	08 59 20.3	
baz=228,slow=74							
H11N3	**WAKE ISLAND Hy**	**34.33 48**		T	T	08 59 23.5	
baz=228							
SLVN	**Son La**	**42.99 306**		P	**P**	**08 24 37.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**45.92 299**		P	**P**	**08 25 02.6**	**-0.2**
comp=Z,1.6nm,0.3s,baz=129,slow=8.2,SNR=5.5							
CMAR				LR	LR	08 46 33.2	
comp=Z,6.2nm,18.1s,baz=295,slow=39							
comp=Z,1.6nm,0.3s							
KLR	**Kul'dur**	**52.33 353**		P	**P**	**08 25 51.7**	**+0.4**
comp=Z,0.6nm,0.5s,baz=196,slow=7.8,SNR=3.7							
comp=Z,0.6nm,0.5s							
GTA	**Gaotai**	**56.11 323**		*e*P	**P**	**08 26 21.5**	**+2.1**
GTA				pP	sP	08 26 26.4	+2.5
GTA				pmax	pmax		
comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**58.49 334**		P	**P**	**08 26 36.6**	**+0.5**
comp=Z,0.4nm,0.6s,baz=129,slow=6.1,SNR=2.9							
comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**70.86 322**		P	**P**	**08 27 57.5**	**+0.8**
comp=Z,0.6nm,0.6s,baz=109,slow=7.7,SNR=11							
comp=Z,0.6nm,0.6s							
MAKZ	**Makanchi**	**71.06 322**		P	**P**	**08 27 58.8**	**+0.9**
MAKZ				IAmb	IAmb	08 28 03.1	
comp=Z,2.0nm,1.0s							
KSH	**Kashi**	**72.34 313**		P	**P**	**08 28 07.7**	**+1.8**
KSH				pmax	pmax		
comp=Z,3.0nm,0.7s							
ZALV	**Zalesovo Beam**	**72.83 329**		P	**P**	**08 28 07.5**	**-0.8**
comp=Z,0.6nm,0.4s,baz=101,slow=7.5,SNR=2.2							
comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**74.74 324**		P	**P**	**08 28 19.6**	**+0.1**
comp=Z,0.4nm,0.7s,baz=114,slow=5.1,SNR=5.2							
comp=Z,0.4nm,0.7s							
L14K	**Kuka Creek**	**77.25 24**		P	**P**	**08 28 34.1**	**+0.5**
KKAR	**Karatay Array**	**77.34 315**		P	**P**	**08 28 35.2**	**+0.6**
BVAR	**Borovoye Array**	**80.31 325**		P	**P**	**08 28 51.6**	**+0.8**
comp=Z,1.0nm,0.5s,baz=109,slow=6.9,SNR=6.0							
comp=Z,1.0nm,0.5s							
TTA	**Tatalina**	**80.77 25**		P	**P**	**08 28 54.1**	**+1.1**
TTA				IAmb	IAmb	08 29 16.4	
comp=Z,2.0nm,1.2s							
C18K	**Utukok River**	**81.55 18**		P	**P**	**08 28 57.7**	**+0.6**
C18K				IAmb	IAmb	08 29 37.4	
comp=Z,3.7nm,1.4s							
K20K	**Telida**	**81.75 25**		P	**P**	**08 28 58.2**	**+0.1**
E19K	**Redstone River**	**82.28 20**		P	**P**	**08 29 01.1**	**+0.2**
E19K				IAmb	IAmb	08 29 06.7	
comp=Z,2.3nm,1.1s							
CAST	**Castle Rocks**	**82.59 25**		P	**P**	**08 29 04.1**	**+1.5**
CAST				IAmb	IAmb	08 29 13.1	
comp=Z,3.5nm,1.3s							
RC01	**Rabbit Creek A**	**82.82 27**		P	**P**	**08 29 04.1**	**+0.3**
RND	**Reindeer**	**83.96 25**		P	**P**	**08 29 10.4**	**+0.7**
E23K	**Chandalar**	**85.19 21**		P	**P**	**08 29 16.3**	**+0.4**
IL31		**85.20 24**		P	**P**	**08 29 15.1**	**-0.7**
IL31				IAmb	IAmb	08 29 58.9	
comp=Z,5.1nm,1.4s							
ILAR	**Eielson Array**	**85.20 24**		P	**P**	**08 29 14.2**	**-1.6**
comp=Z,0.5nm,0.9s,baz=256,slow=4.1,SNR=7.2							
comp=Z,0.5nm,0.9s							
TOLK	**Toolik Lake Re**	**85.40 20**		P	**P**	**08 29 17.3**	**+0.5**
TOLK				IAmb	IAmb	08 29 58.9	
comp=Z,3.1nm,1.2s							
C23K	**Itkillik River**	**85.46 19**		P	**P**	**08 29 18.0**	**+1.0**
C23K				IAmb	IAmb	08 29 18.5	
comp=Z,1.3nm,0.7s							
QSPA	**South Pole Qui**	**87.18 180**		P	**P**	**08 29 26.4**	**+0.5**
QSPA				IAmb	IAmb	08 29 57.2	
comp=Z,4.7nm,1.4s							
N35A	**Tabor**	**117.04 45**			**PKPdf**	**08 35 24.3**	**-0.8**
OTAV	**Otavalo**	**141.11 93**		PKPdf	**PKPdf**	**08 36 07.0**	**-4.9**
DBIC	**Dimbokro**	**145.15 278**		PKPbc	**PKPab**	**08 36 18.4**	**+0.3**
LPAZ	**La Paz**	**146.06 125**		PKPbc	**PKPdf**	**08 36 19.1**	**-1.6**
MACI	**Morro de la Ar**	**146.41 321**		PKPbc	**PKPdf**	**08 36 20.6**	**+0.1**

UCR 11 08:39:13.4±0.7, 11°.90N×86°.28W, h152km±6km, MW3.6
CATAC 11 08:39:14.3±2.0, 12°N±12°×8°6W±°, h128km±17km, M3.0/11, MLv3.0/11, Error ellipse: s-maj=25.9km s-min=18.0km az=19.8, rejected
ISC 11 08:39:15.6±1.4, 11°.85N±0°.07×86°.48W±0°.09, h122km, n38, σ1§23/40, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABN	**Sabanita**	**0.33 72**		P	**Pn**	**08 39 33.4**	**+0.5**
USIM	**UNAN**	**0.33 38**		P	**Pn**	**08 39 33.2**	**+0.3**
COPN	**Copaltepe**	**0.34 342**		P	**Pn**	**08 39 33.3**	**+0.3**
COPN	**Copaltepe**	**0.34 342**		P	**Pn**	**08 39 33.4**	**+0.4**
TISN	**Laguna Tiscapa**	**0.35 36**		P	**Pn**	**08 39 33.

SUMG	**Summit**	**11.60**	**258**	*eP*	**Pn**	**08 45 31.7**	**+1.2**

*UCR **11** 08:47:19.0±1.2, 10°.17N×83°.13W, h13km±5km, MW3.5*
*UPA **11** 08:47:21.9±1.8, 10°.16N×83°.02W, h32km±18km, MW3.7*
ISC 11 08:47:16.1±1.5, 10°.26N±0°.06×83°.05W±0°.04, h15km±9km, n62, σ0°.60/81, 5C-11D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAAN	**Batan**	**0.34**	**240**	*eP*	**Pb**	**08 47 25.0**	**+1.1**
RVLA	**Villa Bonita**	**0.55**	**255**	*eP*	**Pn**	**08 47 28.7**	**-0.8**
RVLA				*eS*	**Sg**	**08 47 35.9**	**+1.5**
RVSTA	**Santa Teresita**	**0.65**	**245**	⇓*eP*	**Pb**	**08 47 29.6**	**+0.3**
RVSTA				*eS*	**Sg**	**08 47 37.6**	**0.0**
CARI	**Cariari**	**0.69**	**279**	⇑*iP*	**Pn**	**08 47 32.1**	**+0.7**
CARI				*eS*	**Sn**	**08 47 41.7**	**-0.1**
VERB	**Verbena**	**0.71**	**244**	*eP*	**Pb**	**08 47 30.7**	**+0.4**
VERB				*eS*	**Sg**	**08 47 40.0**	**+0.6**
TURIB	**Turrialba**	**0.72**	**241**	⇓*iP*	**Pg**	**08 47 30.5**	**+0.4**
TURIB				*eS*	**Sg**	**08 47 38.7**	**-0.9**
VTCV	**VTCV, Calle Va**	**0.72**	**248**	⇓*eP*	**Pb**	**08 47 30.9**	**+0.3**
VTCV				*eS*	**Sg**	**08 47 39.7**	**-0.1**
CVTG	**V. Turrialba,**	**0.72**	**261**	⇑*iP*	**Pn**	**08 47 31.4**	**-0.6**
CVTG				*eS*	**Sg**	**08 47 39.5**	**-0.3**
CVTV	**Tajo**	**0.73**	**250**	*eP*	**Pb**	**08 47 31.1**	**+0.2**
CVTR	**Volcan Turrial**	**0.74**	**251**	*eP*	**Pb**	**08 47 31.3**	**+0.3**
CVTR				*eS*	**Sg**	**08 47 39.9**	**-0.5**
VTR0	**Volcan Turrial**	**0.74**	**251**	*eP*	**Pb**	**08 47 31.7**	**+0.7**
CVTQ	**Turrialba Volc**	**0.75**	**251**	*eP*	**Pb**	**08 47 31.6**	**+0.5**
VTLA	**Turrialba Volc**	**0.76**	**251**	*eP*	**Pb**	**08 47 31.9**	**+0.6**
PCAYA	**Pacayas**	**0.82**	**246**	*eP*	**Pg**	**08 47 32.3**	**+0.2**
PCAYA				*eS*	**Sg**	**08 47 42.4**	**-0.7**
VICA	**Volcano Irazu**	**0.83**	**251**	*eP*	**Pb**	**08 47 33.0**	**+0.5**
VICA				*eS*	**Sg**	**08 47 42.8**	**-0.5**
CVIMO	**Finca Echandi**	**0.91**	**255**	⇑*iP*	**Pg**	**08 47 34.1**	**+0.3**
REPA	**Paraso**	**0.91**	**242**	⇓*eP*	**Pb**	**08 47 33.8**	**0.0**
SARA	**Sarapiqu**	**0.98**	**281**	⇓*eP*	**Pn**	**08 47 35.5**	**+0.2**
CORON	**Coronado**	**0.98**	**253**	*eP*	**Pn**	**08 47 36.2**	**+0.6**
TRIO	**Tres Rios**	**0.99**	**249**	*eP*	**Pn**	**08 47 36.0**	**+0.2**
TRIO				*eS*	**Sb**	**08 47 46.7**	**-1.5**
CNI2	**El Empalme, Bo**	**1.00**	**145**	*eP*	**Pn**	**08 47 36.8**	**+1.1**
CNI2				*eS*	**Sn**	**08 47 50.0**	**+0.4**
DRK0	**Durika**	**1.01**	**191**	⇓*eP*	**Pb**	**08 47 35.5**	**+0.1**
LUPE	**Guadalupe**	**1.04**	**253**	*eP*	**Pg**	**08 47 36.8**	**+0.6**
SJS3	**Mercedes San J**	**1.04**	**252**	*eP*	**Pg**	**08 47 36.8**	**+0.6**
SJS	**Escuela Geolog**	**1.04**	**252**	*eP*	**Pg**	**08 47 36.6**	**+0.4**
VBV1	**V. Barva**	**1.04**	**262**	*eP*	**Pb**	**08 47 36.1**	**0.0**
AMPA	**Desamparados**	**1.06**	**250**	*eP*	**Pn**	**08 47 36.7**	**+0.1**
LUJA	**Lujan**	**1.06**	**252**	*eP*	**Pg**	**08 47 37.8**	**+1.1**
DOMI	**Santo Domingo**	**1.06**	**255**	*eP*	**Pn**	**08 47 36.7**	**0.0**
LCR2	**La Lucha 2**	**1.07**	**242**	⇓*eP*	**Pb**	**08 47 36.0**	**-0.5**
ZELE	**Perez Zeledon**	**1.09**	**217**	⇓*iP*	**Pn**	**08 47 36.4**	**-0.6**
BURE	**Buenos Aires**	**1.11**	**195**	⇓*iP*	**Pn**	**08 47 37.0**	**-0.3**
RAZU	**San Marcos de**	**1.13**	**238**	*eP*	**Pn**	**08 47 36.0**	**-1.6**
ABE2	**San Pablo**	**1.13**	**241**	*eP*	**Pn**	**08 47 37.4**	**-0.3**
BELE	**Belen**	**1.16**	**256**	*eP*	**Pg**	**08 47 38.9**	**+0.4**
SANTA	**Santa Ana**	**1.17**	**254**	*eP*	**Pn**	**08 47 38.1**	**+0.1**
ACOS	**Acosta**	**1.19**	**247**	*eP*	**Pn**	**08 47 38.4**	**0.0**
PISJ	**San Jernim**	**1.23**	**240**	⇓*eP*	**Pn**	**08 47 38.5**	**-0.4**
EDP2	**Potrero Grande**	**1.24**	**186**	⇓*iP*	**Pb**	**08 47 39.4**	**+0.2**
PICV	**PH. Pirrs**	**1.29**	**241**	*eP*	**Pn**	**08 47 39.5**	**-0.2**
LLNJ	**Naranjito**	**1.30**	**233**	⇓*iP*	**Pn**	**08 47 40.2**	**+0.5**
RAMO	**San Ramon**	**1.41**	**263**	*eP*	**Pg**	**08 47 42.9**	**-0.3**
SRA1	**San Ramn**	**1.42**	**263**	*eP*	**Pb**	**08 47 42.5**	**0.0**
VITO	**San Vito**	**1.43**	**177**	*eP*	**Pg**	**08 47 43.6**	**-0.1**
MLIR3	**Monte Lirio, C**	**1.47**	**171**	*eP*	**Pg**	**08 47 44.8**	**+0.3**
MLIR3				*eS*	**Sb**	**08 48 03.0**	**+1.2**
BRU2	**Volcan**	**1.50**	**166**	*eP*	**Pb**	**08 47 43.8**	**+0.1**
BRU2	**Volcan**	**1.50**	**166**	*eP*	**Pg**	**08 47 44.2**	**-0.7**
BRU2				*eS*	**Sn**	**08 48 02.5**	**+0.4**
SOCE	**Pocosol**	**1.55**	**275**	*eP*	**Pb**	**08 47 44.7**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.57**	**158**	*eP*	**Pg**	**08 47 46.8**	**+0.3**
LNBQ3				*eS*	**Sb**	**08 48 04.8**	**-0.1**
CHGR2	**Aguacate**	**1.58**	**146**	*eP*	**Pg**	**08 47 45.3**	**-1.3**
CHGR2				*eS*	**Sb**	**08 48 04.5**	**-0.5**
EDAD	**Golfito**	**1.60**	**184**	*eP*	**Pb**	**08 47 44.9**	**-0.5**
NELY	**Ciudad Neily**	**1.60**	**176**	*eP*	**Pg**	**08 47 46.5**	**-0.4**
FORC	**Fortuna**	**1.61**	**278**	*eP*	**Pb**	**08 47 46.0**	**+0.5**
VACR	**Volcan Arenal**	**1.62**	**278**	⇑*iP*	**Pb**	**08 47 46.2**	**+0.5**
PTAR3	**Potrerillos Ar**	**1.65**	**161**	*eP*	**Pg**	**08 47 48.2**	**+0.4**
PTAR3				*eS*	**Sb**	**08 48 07.6**	**+0.7**
ARE1	**Arenal 1**	**1.66**	**277**	*eP*	**Pb**	**08 47 46.8**	**+0.4**
PSOM3	**Paja de Sombre**	**1.72**	**155**	*eP*	**Pg**	**08 47 49.4**	**+0.2**
LCHIL	**Los Chiles**	**1.81**	**295**	*eP*	**Pg**	**08 47 50.3**	**-0.6**
JTS	**Las Juntas de**	**1.88**	**271**	*eP*	**Pb**	**08 47 49.3**	**-0.8**
JUNT	**Juntas**	**1.88**	**271**	*eP*	**Pb**	**08 47 49.5**	**-0.8**
DVD	**David**	**1.90**	**162**	*eP*	**Pg**	**08 47 52.1**	**-0.6**
DVD				*eS*	**Sb**	**08 48 13.7**	**-0.5**
PTPM	**Petroterminale**	**2.05**	**175**	*eP*	**Pb**	**08 47 53.1**	**0.0**
PTPM				*eS*	**Sn**	**08 48 15.8**	**+0.4**

*ASRS **11** 08:51:33.0±1.8, 53°.74N×90°.98E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 11 08:51:39.1±6.3, 53°.56N×90°.89E, h0km, mbtmp2.9/4, ML2.1/4, Error ellipse: s-maj=69.0km s-min=30.7km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.62**	**279**	I	I	09 13 10.0	
	baz=91,slow=351,SNR=4.4						
ZALV	**Zalesovo Beam**	**3.62**	**279**	Pn	Pn	08 52 38.2	**+1.8**
	0.4nm,0.3s,baz=95,slow=15,SNR=5.4						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**8.16**	**254**	Pn	Pn	08 53 37.5	**-1.1**
	baz=66,slow=16,SNR=4.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.73**	**223**	Pn	Pn	08 53 47.3	**+0.8**
	baz=38,slow=13,SNR=1.7						
MKAR				Lg	Lg	08 56 16.8	
	0.1nm,0.3s,baz=33,slow=30,SNR=2.7						
	0.2nm,0.4s						
SONM	**Songino Array**	**11.37**	**114**	Lg	Lg	08 57 32.6	
	baz=290,slow=21						
I34MN	**SONGINO INFRAS**	**11.40**	**114**	I	I	09 57 50.0	
	baz=307,slow=340,SNR=0.8						
BVAR	**Borovoye Array**	**12.27**	**276**	Pn	Pn	08 54 33.5	**-1.5**
	baz=82,slow=13,SNR=1.7						
	0.3nm,0.4s						

ASRS 11 08:52:48.0±0.8, 54°.26N×86°.79E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 11 08:53:08.0±0.7, 54°.69N×83°.64E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*WEL **11** 09:08:47.2, 35°.81S×174°.96E, h7km, ML3.8, Mw3.8, Moment Tensor Solution. s6 Moment tensor: Scale 10^{14} Nm; M_{rr}=4.86; $M_{\theta\theta}$3.19; $M_{\phi\phi}$1.67; $M_{r\theta}$-3.02; $M_{\theta\phi}$4.38; $M_{\phi r}$-2.38; Fault plane solution: $M_0$7.01000×10^{14} NP1: ϕ_s52.00000°, δ62.00000°, λ-88.00000°. NP2:ϕ_s228.00000°, δ28.00000°, λ-93.00000°. Principal axes: T 8.0190, Plg17.0000°, Azm141.0000°; N -2.0090, Plg2.0000°, Azm231.0000°; P -6.0100, Plg73.0000°, Azm327.0000°; Stations used: WCZ KUZ MKAZ TOZ HIZ VRZ NORMAL FAULTING*
WEL 11 09:08:47.0±0.8, 36°S±5°×17°5E±°, h12km, M3.5/13, ML3.6/12, MLv3.5/13 Error ellipse: s-maj=7.1km s-min=3.8km az=41.3, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**0.52**	**253**	P	Pg	09 08 57.6	+0.4
WCZ				S	Sg	09 09 04.8	+0.6
WBSC	**Whangarei Boys**	**0.53**	**278**	P	Pb	09 08 58.1	-0.1
WBSC				S	Sb	09 09 05.5	-0.3
GRZ	**Great Barrier**	**0.61**	**139**	P	Pg	09 08 58.8	-0.2
GRZ				S	Sb	09 09 08.3	0.0
ABAZ	**Army Bay**	**0.82**	**187**	P	Pg	09 09 02.7	-0.1
ABAZ				S	Sb	09 09 13.9	-0.2
MBAZ	**Motutapu North**	**0.98**	**183**	P	Pg	09 09 05.4	-0.5
WIAZ	**Waiheke Island**	**1.01**	**172**	P	Pb	09 09 05.9	-0.6
WIAZ				S	Sg	09 09 19.1	-0.7
RVAZ	**Riverhead Bore**	**1.03**	**197**	P	Pg	09 09 06.8	0.0
RVAZ				S	Sg	09 09 20.8	+0.6
KAAZ	**Kauri Point**	**1.05**	**191**	P	Pn	09 09 07.9	+0.3
HBAZ	**Herne Bay Bore**	**1.07**	**190**	P	Pg	09 09 07.7	0.0
HBAZ				S	Sn	09 09 22.3	-0.5
EPAZ	**Eden Park BICE**	**1.10**	**189**	P	Pb	09 09 08.1	+0.1
EPAZ				S	Sg	09 09 22.7	+0.2
ETAZ	**East Tamaki Re**	**1.16**	**181**	P	Pb	09 09 08.6	-0.5
WTAZ	**Waiatarua**	**1.18**	**195**	P	Pg	09 09 10.4	+0.6
WTAZ				S	Sn	09 09 26.5	+1.0
PTHS	**Papatoetoe Hig**	**1.19**	**183**	P	Pn	09 09 08.7	-0.7
OUZ	**Omahuta**	**1.25**	**297**	P	Pb	09 09 10.4	-0.1
AWAZ	**Awhitu Peninsu**	**1.30**	**191**	P	Pn	09 09 10.7	-0.3
KBAZ	**Karaka Road Bo**	**1.30**	**182**	P	Pb	09 09 11.3	-0.1
KBAZ				S	Sn	09 09 28.3	-0.1
MKAZ	**Moumakai**	**1.32**	**173**	P	Pn	09 09 10.5	-0.8
TOZ	**Tahuroa Road**	**1.99**	**167**	P	Pn	09 09 19.7	-0.8
KARZ	**Kaharoa**	**2.45**	**156**	P	Pn	09 09 25.7	-1.2
NGRZ	**Ngongotaha**	**2.51**	**157**	P	Pn	09 09 27.3	-0.4
OMRZ	**Omania**	**2.58**	**154**	P	Pn	09 09 30.7	+2.1
UTU	**Utuhina**	**2.58**	**158**	P	Pn	09 09 30.6	+2.0
HLRZ	**Highlands Stat**	**2.70**	**156**	P	Pg	09 09 39.2	+0.4
GRRZ	**Galatos Road**	**2.72**	**161**	P	Pg	09 09 37.7	-1.4
HSRZ	**Hossack Road**	**2.72**	**158**	P	Pn	09 09 32.4	+1.8
TARZ	**Mount Tarawera**	**2.74**	**154**	P	Pb	09 09 34.3	-1.6
KUTZ	**Kaahu Road**	**2.78**	**166**	P	Pg	09 09 39.2	-1.2
WATZ	**Wairara**	**2.98**	**168**	P	Pb	09 09 37.5	-2.6
WHTZ	**Whakaora**	**2.98**	**165**	P	Pg	09 09 44.6	+0.4
RATZ	**Rangitukua**	**3.14**	**168**	P	Pb	09 09 43.0	+0.2
KATZ	**Kakaramea**	**3.23**	**170**	P	Pg	09 09 47.5	-1.6
KRVZ	**Karewarewa**	**3.34**	**171**	P	Pn	09 09 40.3	+1.1
ETVZ	**East Tongariro**	**3.39**	**170**	P	Pn	09 09 40.4	+0.4
SNVZ	**South Ngauruho**	**3.44**	**171**	P	Pn	09 09 40.8	+0.2
WNVZ	**Wahianoa**	**3.57**	**172**	P	Pn	09 09 43.6	+1.3

IDC 11 09:42:33.5±1.7, 54°.69N×83°.71E, h0km, mbtmp2.7/3, ML2.0/2, Error ellipse: s-maj=16.0km s-min=10.5km az=12.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**138**	I	I	09 48 18.6	
	0.1nm,2.0s,baz=318,slow=333,SNR=7.1						
ZALV	**Zalesovo Beam**	**0.98**	**138**	Pg	Pg	09 42 51.9	-0.4
	1.1nm,0.3s,baz=319,slow=15,SNR=17						
ZALV				Lg	Lg	09 43 06.7	
	6.5nm,0.3s,baz=320,slow=29,SNR=28						
KURBB	**Kurchatov Arra**	**5.15**	**220**	Pn	Pn	09 43 53.1	+1.4
	baz=40,slow=13,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**7.96**	**187**	Pn	Pn	09 44 29.8	-0.6
	0.2nm,0.5s,baz=7.7,slow=14,SNR=1.5						
MKAR				Lg	Lg	09 46 44.8	
	0.1nm,0.3s,baz=22,slow=27,SNR=5.3						
BVAR	**Borovoye Array**	**8.05**	**264**	Pn	Pn	09 44 30.4	-1.3
	baz=69,slow=13,SNR=4.2						
	0.7nm,0.5s						

*BER **11** 10:00:14.8±2.0, 67°.59N×26°.95E, h0km, ML1.0, Suspected explosion*
HEL 11 10:00:13.7±0.1, 67°.71N×26°.98E, h0km, ML1.3, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**0.92**	**32**	PG	Pg	10 00 30.8	-0.5
RAJF				SG	Sg	10 00 40.2	-2.9
VRF	**Varrio**	**1.00**	**87**	PB	Pg	10 00 32.2	-0.7
VRF				MSG		10 00 44.3	
	comp=Z,3.1nm,0.2s						
VRF				SB	Sg	10 00 45.1	-0.7
RNF	**Rovaniemi**	**1.17**	**199**	PG	Pg	10 00 35.0	-1.1
RNF				SB	Sg	10 00 50.6	-0.6
KLF	**Kolari**	**1.26**	**249**	PG	Pg	10 00 36.3	-1.5
	baz=63						
KLF				MSG		10 00 51.8	
	comp=Z,1.6nm,0.2s						
KLF				SG	Sg	10 00 53.2	-0.7
HEF	**Hetta**	**1.43**	**301**	*eP*	Pn	10 00 39.6	-1.3
HEF				*eS*	Sg	10 00 58.9	-0.8
HEF	**Hetta**	**1.43**	**301**	PG	Pn	10 00 40.0	-0.9
	baz=117						
HEF				MSG		10 00 56.7	
	comp=Z,3.1nm,0.2s						
HEF				SG	Sg	10 00 59.0	-0.6
OLKF	**Oulanka, Finla**	**1.69**	**145**	PG	Pn	10 00 44.3	-0.1
OLKF				MSG		10 01 04.0	
	comp=Z,2.9nm,0.2s						
OLKF				SG	Sn	10 01 05.9	-0.8
RANF	**Ranua**	**1.70**	**183**	PG	Pn	10 00 44.5	-0.1
	baz=2.0						
RANF				SG	Sn	10 01 05.8	-1.3
KTK1	**Kautokeino**	**1.91**	**315**	*eP*	Pn	10 00 47.8	+0.4
KTK1				*eS*	Sn	10 01 12.8	+0.6
KTK1				IAML		10 01 13.8	
	comp=Z,2.4nm,0.3s						
KTK1	**Kautokeino**	**1.91**	**315**	PG	Pn	10 00 47.9	+0.4
KTK1				SG	Sb	10 01 13.2	-0.4
ARA0	**ARCESS Array S**	**1.91**	**344**	*eP*	Pn	10 00 47.9	+0.4
ARA0				*eS*	Sn	10 01 12.8	+0.5
ARA0				IAML		10 01 13.7	
	comp=Z,2.1nm,0.2s						
LANU	**Lannavaara**	**1.92**	**283**	PG	Pn	10 00 47.8	+0.2
LANU				SG	Sg	10 01 15.9	+0.7
TOF	**Tornio**	**1.94**	**214**	PG	Pn	10 00 48.0	+0.1
	baz=30						
TOF				MSG		10 01 11.5	
	comp=Z,1.3nm,0.2s						
TOF				SG	Sn	10 01 13.3	+0.3
MSF	**Maaselka**	**1.98**	**155**	PG	Pn	10 00 49.4	+0.9
MSF				SG	Sb	10 01 15.6	-0.2
KU6	**Riekki**	**2.04**	**144**	PG	Pn	10 00 50.3	+1.0
KU6				MSG		10 01 14.3	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sn	10 01 16.3	+0.9
KEV	**Kevo**	**2.06**	**0**	*eP*	Pn	10 00 49.8	+0.3
KEV				*eS*	Sn	10 01 16.7	+0.9
KEV	**Kevo**	**2.06**	**0**	PG	Pn	10 00 50.0	+0.5
KEV				MSG		10 01 14.9	
	comp=Z,2.1nm,0.2s						
KEV				SG	Sb	10 01 16.9	-1.0
KU2	**Taivalkoski**	**2.07**	**166**	PG	Pn	10 00 50.6	+0.9
KU2				SG	Sb	10 01 17.6	-0.7
ERTU	**Ertsjaerv**	**2.20**	**240**	PB	Pn	10 00 51.7	+0.2
ERTU				SG	Sb	10 01 21.2	-0.9
KALU	**Kalix**	**2.35**	**219**	PB	Pn	10 00 54.7	+1.2
KALU				SG	Sb	10 01 25.1	-1.2
KU1	**Kurvinen**	**2.39**	**153**	PG	Pn	10 00 55.7	+1.7
KU1				SG	Sb	10 01 26.3	-1.1
KIF	**Kilpisjarvi**	**2.63**	**302**	*eP*	Pb	10 00 59.5	-2.1
KIF	**Kilpisjarvi**	**2.63**	**302**	PB	Pb	10 00 59.8	-1.9
KIF				MSG		10 01 31.9	
	comp=Z,0.8nm,0.2s						
KIF				SG	Sb	10 01 35.4	+0.8

HEL 11 10:01:11.2±0.1, 61°.75N×23°.90E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.62**	**47**	PG	Pg	10 01 22.5	-0.7
	baz=230						
KEF				SG	Sg	10 01 30.3	-0.9
KEF				MSG		10 01 30.9	
	comp=Z,4.4nm,0.2s						
KPF	**Kankaanpaa**	**0.87**	**277**	PG	Pg	10 01 26.6	-1.3
KPF				SG	Sg	10 01 38.3	-0.9
FIA0	**FINESS Array S**	**1.09**	**105**	PG	Pg	10 01 30.8	-1.2
	baz=290						
FIA0				MSG		10 01 44.4	
	comp=Z,1.5nm,0.2s						
FIA0				SN	Sn	10 01 49.5	+0.2
KAF	**Kangasniemi**	**1.20**	**71**	PG	Pg	10 01 33.0	-1.1
	baz=251						
KAF				MSG		10 01 47.5	
	comp=Z,1.5nm,0.2s						
KAF				SN	Sb	10 01 50.4	-0.3
RAF	**Rauma**	**1.26**	**236**	PB	Pg	10 01 34.0	-1.3
RAF				MSG		10 01 49.3	
	comp=Z,1.1nm,0.2s						
RAF				SB	Sg	10 01 50.9	-0.6
NUR	**Nurmijarvi**	**1.29**	**163**	MSG		10 01 50.4	
	comp=Z,2.8nm,0.2s						
NUR				SG	Sg	10 01 50.8	-2.0
VAF	**Ylistaro**	**1.42**	**337**	PN	Pn	10 01 38.2	0.0
VAF				MSG		10 01 54.0	
	comp=Z,1.4nm,0.2s						
VAF				SN	Sb	10 01 57.1	-0.1
SUF	**Sumiainen**	**1.44**	**46**	MSG		10 01 54.5	
	comp=Z,1.3nm,0.2s						
SUF				SN	Sg	10 01 57.3	0.0
PVF	**Pernaja**	**1.54**	**141**	MSG		10 01 57.3	
	comp=Z,1.3nm,0.2s						
PVF				SG	Sn	10 01 58.5	-2.0
MEF	**Metsahovi**	**1.55**	**171**	MSG		10 01 57.9	
	comp=Z,2.1nm,0.2s						
MEF				SG	Sn	10 01 58.7	-2.1
VJF	**Virojoki**	**2.15**	**123**	MSG		10 02 14.9	
	comp=Z,1.3nm,0.2s						
VJF				SG	Sb	10 02 17.1	-1.0
NIF	**Nilsia**	**2.45**	**46**	SG	Sb	10 02 26.8	0.0
NIF	**Nilsia**	**2.45**	**46**	SG	Sb	10 02 26.8	0.0
UMAU	**Umeaa**	**2.60**	**327**	SB	Sb	10 02 31.4	+0.3
UMAU	**Umeaa**	**2.60**	**327**	SG	Sb	10 02 31.4	+0.3
OUF	**Merijarvi**	**2.66**	**8**	MSG		10 02 29.4	
	comp=Z,1.4nm,0.2s						
OUF				SG	Sb	10 02 32.5	-0.2
HEMU	**Hemsoen**	**2.90**	**291**	SG	Sb	10 02 38.3	-1.4
VSU	**Vasula**	**3.59**	**155**	PG	Pb	10 02 14.4	-1.0
KU2	**Taivalkoski**	**4.42**	**24**	SB	Sb	10 03 22.3	-1.1

HEL 11 10:02:11.3±0.6, 67°.12N×20°.61E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.84**	**131**	PG	Pg	10 02 25.9	-1.4
	baz=312						
ERTU				SB	Sg	10 02 39.4	+1.2
LANU	**Lannavaara**	**1.07**	**29**	PN	Pg	10 02 32.1	+0.2
LANU				SB	Sb	10 02 46.7	-0.6
KLF	**Kolari**	**1.31**	**83**	PG	Pg	10 02 34.2	-2.2
	baz=268						
KLF				MSG		10 02 51.0	
	comp=Z,1.7nm,0.2s						
KLF				SN	Sg	10 02 53.4	+0.1
KALU	**Kalix**	**1.67**	**138**	PG	Pn	10 02 41.4	-0.4
HEF	**Hetta**	**1.74**	**40**	PN	Pn	10 02 43.1	+0.4
HEF				MSG		10 03 03.1	
	comp=Z,2.1nm,0.2s						
HEF				SG	Sn	10 03 04.8	-0.8
TOF	**Tornio**	**1.81**	**123**	MSG		10 03 05.5	
	comp=Z,2.5nm,0.2s						
TOF				SN	Sb	10 03 08.5	+0.1
KIF	**Kilpisjarvi**	**1.90**	**2**	PG	Pb	10 02 46.1	-0.6
	baz=179						
KIF				MSG		10 03 08.8	
	comp=Z,2.9nm,0.2s						
KIF				SG	Sn	10 03 09.6	+0.2
KTK1	**Kautokeino**	**2.14**	**26**	PG	Pb	10 02 49.9	-1.1
KTK1				SB	Sn	10 03 15.3	-0.3
RNF	**Rovaniemi**	**2.19**	**101**	PG	Pb	10 02 50.5	-1.3
RNF				SG	Sb	10 03 20.2	+0.7
BURU	**Burvik**	**2.56**	**173**	PG	Pb	10 02 57.3	-0.8
RANF	**Ranua**	**2.71**	**111**	SG	Sb	10 03 35.0	+0.9
VRF	**Varrio**	**3.53**	**76**	SG	Sb	10 03 58.4	+0.6
KEV	**Kevo**	**3.55**	**39**	PG	Pb	10 03 16.2	+1.3
KEV				SN	Sn	10 03 49.3	-0.8

JMA 11 10:06:19.2±0.1, 37°.7N±0°.3×138°.9E±0°.3, h19km±1km, MV1.1/29, NE NIIGATA PREF, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.26**	**223**	*eP*	Pg	10 06 25.5	+0.4
JIZZ				*eS*	Sg	10 06 30.5	+1.4
JNS	**Sasagawa**	**0.32**	**72**	P	Pb	10 06 26.4	-0.1
JNS				*eS*	Sb	10 06 31.3	0.0
JUON	**Uonuma**	**0.52**	**169**	*eP*	Pb	10 06 28.8	-0.9
JUON				*eS*	Sg	10 06 35.4	-1.4
JSD	**Sado**	**0.62**	**301**	P	Pb	10 06 30.8	-0.5
JSD				*eS*	Sb	10 06 39.1	-0.4
JFY	**Yanaizu**	**0.69**	**117**	*eS*	Sb	10 06 41.2	-0.5
JKT	**Katashina**	**0.98**	**165**	*eS*	Sb	10 06 49.2	-1.0

*IDC **11** 10:07:47.2±1.9, 33°.69N×134°.44E, h0km, mb3.2/3, mbtmp3.4/7, ML3.0/3, MS3.1/3, Error ellipse: s-maj=38.1km s-min=17.1km az=165.0*
*NIED **11** 10:07:50.8, 33°.58N×134°.44E, h34km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.73; $M_{\theta\theta}$-5.39; $M_{\phi\phi}$4.66; $M_{r\theta}$-1.29; $M_{\theta\phi}$4.23; $M_{\phi r}$-0.37; Fault plane solution: $M_0$6.70000×10^{14} NP1: ϕ_s155.00000°, δ79.00000°, λ180.00000°. NP2: ϕ_s245.00000°, δ90.00000°, λ11.00000°.*
*JMA **11** 10:07:50.8±0.1, 33°.6N±0°.2×134

baz=302,slow=75,SNR=14
H11S3 WAKE ISLAND Hy 32.47 109 T T 10 48 41.6
baz=304,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 32.47 109 T T 10 48 38.8
baz=304,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 32.49 109 T T 10 48 40.1
baz=304,slow=75,SNR=15
MKAR Makanchi Array 41.25 305 P **P 10 15 32.7 +0.1**
0.5nm,0.8s,baz=89,slow=9.4,SNR=4.7
0.5nm,0.8s
HNR Honiara 49.16 146 LR LR 10 35 13.3
comp=Z,120nm,20.5s,slow=33
ILAR Eielson Array 55.43 31 P **P 10 17 22.2 +0.5**
0.2nm,0.6s,baz=268,slow=6.0,SNR=5.3
0.2nm,0.6s

*NEIC **11** 10:14:06.1±1.6, 17°.13N±0°.07×64°.48W±0°.05, h10km±2km, ML2.6/20, Md3.2/3(RSPR), Error ellipse: s-maj=13.8km s-min=4.7km az=211.0*
*RSPR **11** 10:14:09.0, 17°.96N×64°.39W, h124km±5km, MD3.2/3*
ISC 11 10:14:10.8±1.8, 17°.4N±0°.2×64°.48W±0°.05, h35km, n19, σ1°37/19, 3C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	**Saba**	**1.21**	**77**	Pn	**Pn**	**10 14 30.0**	**-1.2**
SABA				IAML		10 14 58.2	
	comp=N,165nm,1.5s						
SMRT	**St. Maarten**	**1.50**	**62**	Pn	**Pn**	**10 14 34.6**	**-0.7**
HUMP	**Col San Antoni**	**1.53**	**301**		**Pn**	**10 14 35.5**	**-0.1**
HUMP					**Sn**	**10 14 55.9**	**+1.6**
HUMP	**Col San Antoni**	**1.53**	**301⇑**	*eP*	**Pn**	**10 14 35.5**	**-0.1**
HUMP	**Col San Antoni**	**1.53**	**301**	*eS*	**Sn**	**10 14 55.9**	**+1.6**
PDPR	**Patillas Dam,**	**1.62**	**294**	Pn	**Pn**	**10 14 37.5**	**+0.7**
IGPR	**InterUniversit**	**1.67**	**292**	Pn	**Pn**	**10 14 37.0**	**-0.6**
IGPR				IAML		10 15 16.1	
	comp=E,34nm,2.2s						
GCPR	**Guaynabo City**	**1.80**	**302**	Pn	**Pn**	**10 14 37.3**	**-2.1**
GCPR				IAML		10 15 09.4	
	comp=E,20nm,1.6s						
GCPR				IAML		10 15 15.0	
	comp=N,25nm,2.5s						
ECPR	**Experimental S**	**2.04**	**298⇑**	*eP*	**Pn**	**10 14 41.7**	**-1.0**
ECPR	**Experimental S**	**2.04**	**298**	*eS*	**Sn**	**10 15 06.6**	**-0.3**
CELP	**Cerrillos**	**2.13**	**290**		**Pn**	**10 14 43.3**	**-0.7**
CELP				IAML		10 15 26.2	
	comp=E,22nm,3.0s						
CELP	**Cerrillos**	**2.13**	**290**		**Sn**	**10 15 10.8**	**+1.7**
CELP	**Cerrillos**	**2.13**	**290**	IAML		10 14 59.4	
	comp=N,30nm,3.0s						
CELP	**Cerrillos**	**2.13**	**290⇑**	*eP*	**Pn**	**10 14 43.3**	**-0.7**
CELP	**Cerrillos**	**2.13**	**290**	*eS*	**Sn**	**10 15 10.8**	**+1.7**
UUPR	**Utuado, UPR, P**	**2.32**	**293**	Pn	**Pn**	**10 14 45.2**	**-1.3**
AOPR	**Arecibo Observ**	**2.38**	**295**	Pn	**Pn**	**10 14 45.4**	**-2.0**
AOPR				IAML		10 15 29.9	
	comp=E,43nm,1.7s						
AOPR				IAML		10 16 09.8	
	comp=N,44nm,2.4s						
CRPR	**Cabo Rojo, PR**	**2.59**	**285**	Pn	**Pn**	**10 14 48.1**	**-2.2**
CRPR				IAML		10 15 07.5	
	comp=E,46nm,2.5s						
CRPR				IAML		10 15 11.4	
	comp=N,48nm,2.6s						
ANBD	**Bethesda, Anti**	**2.61**	**96**	*eP*	**Pn**	**10 14 50.6**	**+0.2**

*TAP **11** 10:14:55.9, 24°.72N×122°.33E, h109km, ML3.2, C*
*JMA **11** 10:14:55.8±0.1, 25°.N±1°.×122°.5E±0°.4, h105km±1km, MV2.1/10, NW OFF ISHIGAKIJIMA IS*
ISC 11 10:14:55.8±1.5, 24°.69N±0°.04×122°.46E±0°.03, h102km±8km, n82, σ0°82/138, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**217**	P	**Pn**	**10 15 11.3**	**+0.6**
EOS2				*eS*	**Sn**	**10 15 23.7**	**+1.9**
EOS3	**EOS3**	**0.42**	**197**	P	**Pn**	**10 15 11.9**	**+0.8**
EOS3				*eS*	**Sn**	**10 15 24.6**	**+2.0**
JYNG	**Yonagunijimaku**	**0.51**	**118**	P	**Pn**	**10 15 11.9**	**+0.1**
JYNG				S	**Sn**	**10 15 24.0**	**+0.2**
TWB1	**Santiao Chiao**	**0.53**	**307**	*eP*	**Pn**	**10 15 12.1**	**+0.1**
TWB1				*eS*	**Sn**	**10 15 24.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.56**	**114**	*eS*	**Sn**	**10 15 24.5**	**0.0**
YOJ	**Yonaguni jima**	**0.56**	**114**	*eS*	**Sn**	**10 15 24.7**	**+0.2**
TWC	**Suao**	**0.56**	**262**	P	**Pn**	**10 15 11.9**	**-0.2**
TWC				*eS*	**Sn**	**10 15 23.8**	**-0.7**
ESAO	**Su ao**	**0.57**	**258**	*eP*	**Pn**	**10 15 12.2**	**-0.1**
ESAO				*eS*	**Sn**	**10 15 23.9**	**-0.8**
EOS4	**EOS4**	**0.58**	**192**	*eP*	**Pn**	**10 15 12.0**	**0.0**
EOS4				*eS*	**Sn**	**10 15 24.9**	**+0.7**
TIPB	**Shuangxi**	**0.64**	**296**	P	**Pn**	**10 15 12.8**	**0.0**
TIPB				S	**Sn**	**10 15 25.2**	**-0.5**
SXI1	**Grass Mountain**	**0.66**	**307**	*eP*	**Pn**	**10 15 13.0**	**-0.1**
EWUT	**Wuta**	**0.66**	**248**	*eP*	**Pn**	**10 15 13.2**	**+0.1**
EWUT				*eS*	**Sn**	**10 15 26.1**	**0.0**
ENA	**Nanau**	**0.70**	**248**	*eP*	**Pn**	**10 15 13.7**	**+0.3**
ENA				*eS*	**Sn**	**10 15 26.6**	**0.0**
TWE	**Neicheng**	**0.72**	**272**	P	**Pn**	**10 15 13.8**	**+0.3**
TWE				*eS*	**Sn**	**10 15 26.5**	**-0.3**
EAHA	**Aohua**	**0.75**	**241**	*eP*	**Pn**	**10 15 13.8**	**0.0**
EAHA				*eS*	**Sn**	**10 15 27.6**	**+0.3**
EHP	**Heping Village**	**0.75**	**240**	*eS*	**Sn**	**10 15 27.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.79**	**275**	*i* P	**Pn**	**10 15 14.4**	**+0.1**
FUSB				S	**Sn**	**10 15 27.3**	**-0.9**
ENTT	**Nioudou**	**0.81**	**266**	*eP*	**Pn**	**10 15 14.9**	**+0.4**
ENTT				*eS*	**Sn**	**10 15 28.9**	**+0.4**
LATG	**Datong**	**0.86**	**260**	P	**Pn**	**10 15 15.5**	**+0.5**
LATG				*eS*	**Sn**	**10 15 29.1**	**-0.4**
NWLT	**Wulai**	**0.87**	**276**	*eP*	**Pn**	**10 15 14.9**	**-0.2**
NWLT				*eS*	**Sn**	**10 15 29.0**	**-0.5**
YM01	**YM01**	**0.92**	**300**	P	**Pn**	**10 15 15.8**	**+0.2**
YM01				S	**Sn**	**10 15 29.9**	**-0.5**
ETL	**Fush Village**	**0.93**	**235**	*eP*	**Pn**	**10 15 15.4**	**-0.2**
ETL				*eS*	**Sn**	**10 15 29.7**	**-0.8**
YM08	**YM08**	**0.93**	**302**	*eS*	**Sn**	**10 15 28.4**	**-2.2**
NACB	**Ninganchiao**	**0.94**	**237**	P	**Pn**	**10 15 15.1**	**-0.6**
NACB	**Ninganchiao**	**0.94**	**237**	S	**Sn**	**10 15 30.7**	**0.0**
NACB	**Ninganchiao**	**0.94**	**237**	*eP*	**Pn**	**10 15 15.3**	**-0.4**
NACB				S	**Sn**	**10 15 29.8**	**-0.9**
ZUZH	**Zhuzihu**	**0.95**	**300**	*eP*	**Pn**	**10 15 15.5**	**-0.4**
ZUZH				*eS*	**Sn**	**10 15 29.7**	**-1.3**
YHNB	**Yeheng**	**0.98**	**269**	P	**Pn**	**10 15 16.8**	**+0.5**
YHNB	**Yeheng**	**0.98**	**269**	S	**Sn**	**10 15 32.1**	**+0.4**
YHNB	**Yeheng**	**0.98**	**269**	P	**Pn**	**10 15 16.6**	**+0.4**
YHNB				S	**Sn**	**10 15 31.7**	**0.0**
TWD	**Chiawan**	**0.99**	**232**	*eS*	**Sn**	**10 15 31.2**	**-0.5**
NSK	**Sanguang**	**1.00**	**269**	*eP*	**Pn**	**10 15 16.6**	**+0.2**
NSK				*eS*	**Sn**	**10 15 31.5**	**-0.4**
ETLH	**Xiulin Townshi**	**1.01**	**242**	*eP*	**Pn**	**10 15 16.4**	**-0.2**
ETLH				*eS*	**Sn**	**10 15 31.4**	**-0.8**
NNSB	**Datong**	**1.01**	**255**	*eP*	**Pn**	**10 15 16.7**	**+0.1**
NNSB				*eS*	**Sn**	**10 15 31.7**	**-0.6**
NNS	**Nan Shan**	**1.02**	**256**	*eP*	**Pn**	**10 15 16.8**	**+0.1**
NNS				*eS*	**Sn**	**10 15 31.9**	**-0.5**
NTST	**Danshui**	**1.03**	**297**	*eS*	**Sn**	**10 15 32.2**	**-0.2**
TWS1	**Kuangyinshan**	**1.03**	**294**	*eS*	**Sn**	**10 15 31.4**	**-1.0**
TEYL	**Yanliau Villag**	**1.13**	**224**	*eS*	**Sn**	**10 15 33.9**	**-0.6**
ETM	**Tongmen**	**1.14**	**231**	*eP*	**Pn**	**10 15 17.4**	**-0.5**
ETM				*eS*	**Sn**	**10 15 32.8**	**-1.7**
LXIB	**Xiulin Townshi**	**1.16**	**235**	P	**Pn**	**10 15 17.6**	**-0.7**
LXIB				S	**Sn**	**10 15 34.1**	**-1.2**
KSHI	**Guanxi Townshi**	**1.17**	**274**	*eP*	**Pn**	**10 15 18.7**	**+0.5**
KSHI				*eS*	**Sn**	**10 15 35.5**	**+0.3**
FUSS	**Fushou**	**1.19**	**248**	*eP*	**Pn**	**10 15 18.6**	**-0.2**
FUSS				*eS*	**Sn**	**10 15 35.4**	**-0.7**
WHF	**Hehuan Shan**	**1.21**	**244**	*eP*	**Pn**	**10 15 19.5**	**+0.3**
WHF				*eS*	**Sn**	**10 15 36.2**	**-0.6**
SHUL	**Shoufeng**	**1.22**	**222**	*eS*	**Sn**	**10 15 35.7**	**-0.4**
NFF	**Wufeng Townshi**	**1.22**	**267**	*eP*	**Pn**	**10 15 19.0**	**+0.2**
NFF				*eS*	**Sn**	**10 15 36.0**	**-0.3**
TWT	**Tachien**	**1.25**	**250**	*eS*	**Sn**	**10 15 37.1**	**0.0**
TDCB	**Techi**	**1.26**	**250**	P	**Pn**	**10 15 20.0**	**+0.6**
TDCB				S	**Sn**	**10 15 37.1**	**-0.2**
ESL	**Shilin**	**1.28**	**227**	*eP*	**Pn**	**10 15 18.9**	**-0.6**
ESL				*eS*	**Sn**	**10 15 35.8**	**-1.7**
LIOB	**Emei**	**1.31**	**268**	*eP*	**Pn**	**10 15 20.4**	**+0.5**
LIOB				*eS*	**Sn**	**10 15 38.0**	**-0.2**
WARBT	**Fenglin Townsh**	**1.38**	**225**	*eP*	**Pn**	**10 15 19.6**	**-1.1**
WARBT				*eS*	**Sn**	**10 15 37.7**	**-1.9**
OWD	**Renai**	**1.38**	**238**	*eP*	**Pn**	**10 15 21.4**	**+0.5**
OWD				*eS*	**Sn**	**10 15 38.5**	**-1.3**
EGFH	**Guangfu**	**1.39**	**223**	*eS*	**Sn**	**10 15 38.0**	**-1.7**
WUSB	**Renai**	**1.41**	**240**	*eP*	**Pn**	**10 15 21.4**	**+0.2**
WHP	**Taichung City**	**1.44**	**254**	*eP*	**Pn**	**10 15 22.4**	**+0.9**
WHP				*eS*	**Sn**	**10 15 41.2**	**+0.3**
JKRS	**Kuro-shima**	**1.49**	**107**	P	**Pn**	**10 15 22.4**	**+0.5**
JKRS				S	**Sn**	**10 15 42.1**	**+0.2**
VWDT	**VWDT**	**1.52**	**232**	*eP*	**Pn**	**10 15 22.7**	**+0.3**
VWDT				*eS*	**Sn**	**10 15 41.9**	**-0.7**
HGSD	**Ruisui**	**1.52**	**218**	*eP*	**Pn**	**10 15 22.2**	**-0.3**
HGSD				*eS*	**Sn**	**10 15 41.8**	**-0.9**
NMLH	**Miaoli**	**1.52**	**264**	*eS*	**Sn**	**10 15 42.7**	**+0.1**
WCS	**Beigang Elemen**	**1.54**	**246**	*eP*	**Pn**	**10 15 23.2**	**+0.5**
WCS				*eS*	**Sn**	**10 15 43.3**	**+0.2**
EHY	**Hungye**	**1.57**	**221**	*eP*	**Pn**	**10 15 23.3**	**+0.3**
EHY				*eS*	**Sn**	**10 15 41.6**	**-2.1**
JIJ	**Ishigaki jima**	**1.57**	**102**	P	**Pn**	**10 15 23.1**	**0.0**
JIJ				*eS*	**Sn**	**10 15 42.9**	**-0.8**
SMLT	**Sun Moon Lake**	**1.63**	**241**	*eP*	**Pn**	**10 15 23.9**	**-0.1**
SMLT				*eS*	**Sn**	**10 15 45.6**	**+0.4**
SSLB	**Suanglung**	**1.64**	**237**	P	**Pn**	**10 15 24.9**	**+1.0**
SSLB	**Suanglung**	**1.64**	**237**	S	**Sn**	**10 15 47.0**	**+1.7**
SSLB	**Suanglung**	**1.64**	**237**	*eP*	**Pn**	**10 15 24.4**	**+0.4**
SSLB				*eS*	**Sn**	**10 15 45.5**	**+0.2**
TYC	**Yuchr**	**1.66**	**242**	*eP*	**Pn**	**10 15 25.3**	**+1.2**
TYC				*eS*	**Sn**	**10 15 45.6**	**0.0**
YULB	**Yu-li**	**1.67**	**219**	P	**Pn**	**10 15 23.5**	**-0.8**
YULB	**Yu-li**	**1.67**	**219**	S	**Sn**	**10 15 46.2**	**+0.2**
YULB	**Yu-li**	**1.67**	**219**	*eP*	**Pn**	**10 15 23.1**	**-1.3**
JISG	**Ishigakijimahi**	**1.69**	**93**	P	**Pn**	**10 15 24.6**	**+0.1**
JISG				*eS*	**Sn**	**10 15 46.1**	**-0.3**
WHYT	**Xinyi Township**	**1.77**	**236**	*eP*	**Pn**	**10 15 26.0**	**+0.5**
WHYT				*eS*	**Sn**	**10 15 48.8**	**+0.6**
WJS	**Zhushan**	**1.80**	**242**	*eS*	**Sn**	**10 15 50.1**	**+1.3**
FULB	**Fuli**	**1.83**	**216**	*eP*	**Pn**	**10 15 25.9**	**-0.4**
FULB				*eS*	**Sn**	**10 15 48.8**	**-0.7**
ALS	**Alishan**	**1.91**	**232**	*eP*	**Pn**	**10 15 28.5**	**+0.9**
ALS				*eS*	**Sn**	**10 15 53.4**	**+1.5**
CHN5	**Tsauling**	**1.96**	**236**	*eP*	**Pn**	**10 15 28.8**	**+0.8**
CHN5				*eS*	**Sn**	**10 15 53.8**	**+1.3**
ELDTW	**Lidau**	**1.99**	**222**	*eP*	**Pn**	**10 15 27.6**	**-0.9**
ELDTW				*eS*	**Sn**	**10 15 52.4**	**-1.0**
EDH	**Donghe**	**2.01**	**212**	*eP*	**Pn**	**10 15 27.7**	**-0.9**
EDH				S	**Sn**	**10 15 51.6**	**-2.1**
STYH	**Taoyuan**	**2.16**	**226**	*eP*	**Pn**	**10 15 31.1**	**+0.6**
STYH				*eS*	**Sn**	**10 15 57.2**	**+0.1**
CHN4	**Tsaushan**	**2.16**	**232**	*eP*	**Pn**	**10 15 31.4**	**+0.8**
CHN4				*eS*	**Sn**	**10 15 59.3**	**+2.1**
TPUB	**Ta-pu**	**2.17**	**231**	P	**Pn**	**10 15 31.7**	**+1.0**
TPUB	**Ta-pu**	**2.17**	**231**	S	**Sn**	**10 15 59.2**	**+1.8**
TPUB	**Ta-pu**	**2.17**	**231**	P	**Pn**	**10 15 30.8**	**+0.1**
TPUB				*eS*	**Sn**	**10 15 58.8**	**+1.4**

*CRAAG **11** 10:23:34.4, 35°.71N×0°.95W, Ml3.1, Algerie 08km NW El-Anor*
*CNRM **11** 10:23:34.9, 35°.81N×1°.01W, h16km, ML2.7*
*MDD **11** 10:23:38.4±1.1, 35°.87N×1°.02W, h11km±19km, mb_Lg2.7/12, Error ellipse: s-maj=23.1km s-min=4.9km az=143.0*
ISC 11 10:23:34.5±1.2, 35°.78N±0°.03×0°.94W±0°.03, h15km±10km, n57, σ1°44/79, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.32**	**98**	P	**Pn**	**10 23 46.0**	**+1.4**
OSBL	**Sidi Abdelli**	**0.72**	**194**	P	**Pg**	**10 23 48.6**	**+0.1**
ODJA	**Bouhanifia**	**0.78**	**125**	P	**Pg**	**10 23 50.2**	**+0.4**
OFRG	**Douar Fergoug**	**0.84**	**108**	P	**Pg**	**10 23 49.4**	**-1.4**
OJBR	**Djebel Berber**	**1.06**	**100**	P	**Pb**	**10 23 52.0**	**-2.6**
OBBL	**Beni Bahdel**	**1.17**	**204**	P	**Pb**	**10 23 55.5**	**-0.9**
ESMB	**Sidi M'hamed B**	**1.25**	**99**	P	**Pn**	**10 23 59.1**	**+1.6**
CHAS	**Isla Isabel II**	**1.36**	**244**	S	**Sg**	**10 24 19.6**	**+1.3**
CHAS				P	**Pn**	**10 23 58.6**	**-0.3**
EKMS	**Oued Kramis**	**1.39**	**67**	P	**Pg**	**10 24 02.4**	**+1.2**
TAF	**Taforalt**	**1.54**	**232**	P	**Pn**	**10 24 01.4**	**-0.1**
TAF	**Taforalt**	**1.54**	**232**	S	**Sb**	**10 24 22.2**	**0.0**
ENIJ	**Nijar**	**1.57**	**320**	S	**Sb**	**10 24 21.6**	**-1.3**
ENIJ				P	**Pb**	**10 24 02.7**	**-0.5**
ENIJ	**Nijar**	**1.57**	**320**	Pn	**Pb**	**10 24 03.0**	**-0.3**
ENIJ				Sn	**Sb**	**10 24 21.9**	**-1.0**
ENIJ				*i* Vmb_Lg		10 24 25.4	
EANR	**'Ain N'Sour**	**1.66**	**84**	P	**Pn**	**10 24 05.0**	**+1.8**
EALB	**Alboran**	**1.71**	**276**	P	**Pn**	**10 24 03.9**	**+0.2**
EALB				S	**Sb**	**10 24 25.2**	**-1.7**
EALB	**Alboran**	**1.71**	**276**	Pn	**Pn**	**10 24 04.1**	**+0.3**
EALB				*i* Vmb_Lg		10 24 21.0	
EALB				Sn	**Sb**	**10 24 25.6**	**-1.3**
GOG	**Mont Gurugu**	**1.77**	**252**	P	**Pn**	**10 24 04.8**	**+0.2**
GOG	**Mont Gurugu**	**1.77**	**252**	S	**Sn**	**10 24 27.1**	**+0.2**
CART	**Cartagena**	**1.80**	**358**	P	**Pn**	**10 24 05.6**	**+0.6**
CART				S	**Sn**	**10 24 26.6**	**-1.0**
CART	**Cartagena**	**1.80**	**358**	P	**Pn**	**10 24 05.8**	**+0.8**
CART	**Cartagena**	**1.80**	**358**	S	**Sn**	**10 24 27.6**	**0.0**
EBER	**Berja**	**1.93**	**306**	P	**Pb**	**10 24 08.1**	**-1.4**
EBER	**Berja**	**1.93**	**306**	Pn	**Pb**	**10 24 08.1**	**-1.4**
EBER				Sn	**Sn**	**10 24 31.0**	**0.0**
JBK	**JBK**	**1.97**	**223**	P	**Pn**	**10 24 08.7**	**+1.3**
JBK	**JBK**	**1.97**	**223**	S	**Sb**	**10 24 35.1**	**+0.6**
EMUR	**La Murta**	**2.07**	**353**	P	**Pn**	**10 24 10.1**	**+1.3**
EMUR				S	**Sn**	**10 24 33.4**	**-1.0**
EMUR	**La Murta**	**2.07**	**353**	Pn	**Pn**	**10 24 10.0**	**+1.3**
EMUR				Sn	**Sn**	**10 24 34.0**	**-0.3**
EMUR				*i* Vmb_Lg		10 24 40.3	
EZAR	**Zarzadilla de**	**2.18**	**344**	Pn	**Pb**	**10 24 12.2**	**-1.4**
EZAR				Sn	**Sn**	**10 24 35.0**	**-2.0**
EZAR				*i* Vmb_Lg		10 24 45.2	
ELGU	**Los Guajares,**	**2.43**	**297**	P	**Pn**	**10 24 13.9**	**+0.2**
ELGU				S	**Sn**	**10 24 44.1**	**+1.0**
ELGU	**Los Guajares,**	**2.43**	**297**	Pn	**Pn**	**10 24 14.4**	**+0.7**
ELGU				Sn	**Sn**	**10 24 43.2**	**0.0**
ELGU				*i* Vmb_Lg		10 24 48.1	
EQUE	**Quentar**	**2.47**	**306**	Pn	**Pb**	**10 24 16.9**	**-1.7**
EQUE				Sn	**Sn**	**10 24 44.9**	**+0.7**
EQUE				*i* Vmb_Lg		10 24 54.2	
EQTA	**Presa de Quent**	**2.47**	**306**	P	**Pb**	**10 24 16.7**	**-1.9**
EGOR	**Sierra Gorda,**	**2.88**	**298**	P	**Pn**	**10 24 21.7**	**+1.7**
EGOR	**Sierra Gorda,**	**2.88**	**298**	Pn	**Pn**	**10 24 22.2**	**+2.2**
EGOR				Sn	**Sn**	**10 24 55.2**	**+0.8**
EGOR				*i* Vmb_Lg		10 25 07.2	
E0803	**Jimena (Jaen)**	**2.89**	**316**	Pn	**Pb**	**10 24 24.0**	**-1.7**
E0803				Sn	**Sb**	**10 24 58.4**	**-2.5**
EVIV	**Cofrentes, Val**	**3.48**	**358**	Pn	**Pn**	**10 24 30.0**	**+1.8**
EVIV				Sn	**Sn**	**10 25 09.6**	**+0.4**
EVIV				*i* Vmb_Lg		10 25 17.2	
SMIR	**Smir Dam**	**3.62**	**270**	P	**Pn**	**10 24 29.6**	**-0.4**
SMIR	**Smir Dam**	**3.62**	**270**	S	**Sn**	**10 25 12.6**	**+0.2**
EADA	**Adamuz**	**3.76**	**310**	P	**Pn**	**10 24 34.2**	**+2.2**
EADA				S	**Sn**	**10 25 16.8**	**+0.8**
ECHE	**Chera**	**3.80**	**360**	P	**Pn**	**10 24 33.8**	**+1.2**
MDT	**Midelt**	**4.24**	**227**	P	**Pn**	**10 24 38.6**	**0.0**
MDT	**Midelt**	**4.24**	**227**	S	**Sn**	**10 25 28.5**	**+0.5**
ECAB	**El Cabril**	**4.26**	**304**	P	**Pn**	**10 24 40.6**	**+1.8**
ECAB	**El Cabril**	**4.26**	**304**	Pn	**Pn**	**10 24 40.7**	**+1.9**
ECAB				Sn	**Sn**	**10 25 26.7**	**-1.5**
ECAB				*i* Vmb_Lg		10 25 38.5	
MD31	**MD31**	**4.29**	**228**	P	**Pn**	**10 24 39.9**	**+0.5**
MD31	**MD31**	**4.29**	**228**	S	**Sn**	**10 25 30.4**	**+1.2**
EMOS	**Mosqueruela**	**4.59**	**4**	Pn	**Pn**	**10 24 47.2**	**+3.6**
EMOS				Sn	**Sn**	**10 25 36.5**	**-0.2**
EMOS				*i* Vmb_Lg		10 25 40.7	
PAB	**San Pablo**	**4.63**	**325**	Pn	**Pn**	**10 24 46.2**	**+2.3**
PAB				*i* Vmb_Lg		10 24 51.4	
PAB				Sn	**Sn**	**10 25 35.0**	**-2.5**
EMIN	**Mina Concepcio**	**5.01**	**295**	P	**Pn**	**10 24 50.5**	**+1.4**
PBAR	**Barrancos**	**5.44**	**298**	*eP*	**Pn**	**10 24 56.6**	**+1.6**
PBAR	**Barrancos**	**5.44**	**298**	P	**Pn**	**10 24 55.5**	**+0.5**
PBAR				S	**Sn**	**10 25 59.7**	**+2.4**
EGRO	**El Granado**	**5.54**	**290**	S	**Sn**	**10 26 02.0**	**+2.1**
EBAD	**Badajoz**	**5.68**	**303**	P	**Pn**	**10 25 00.0**	**+1.7**
EBAD				S	**Sn**	**10 26 04.9**	**+1.6**
PVAQ	**Vaqueiros**	**5.69**	**289**	P	**Pn**	**10 25 00.1**	**+1.7**
PCVE	**Castro Verde**	**6.00**	**290**	*eP*	**Pn**	**10 25 04.7**	**+2.1**
PESTR	**Estremoz**	**6.13**	**302**	*eP*	**Pn**	**10 25 06.2**	**+1.7**
PMRV	**Marv??o**	**6.29**	**307**	*eP*	**Pn**	**10 25 09.1**	**+2.4**

*IDC **11** 10:29:56.9±1.3, 11°.35S×118°.20E, h0km, mb4.1/8, mbtmp4.0/12, ML3.9/4, MS3.1/3, Error ellipse:*
s-maj=48.8km s-min=19.7km az=51.0
*DJA **11** 10:29:59.1±0.2, 11°.S±2°.×118°.8E±°, h10km, M4.6/21, mB5.3/6, mb4.7/21, MLv4.6/19, Mw(mB)4.7/6*
*NEIC **11** 10:30:02.6±2.2, 11°.33S±0°.08×118°.32E±0°.08, h38km±9km, mb4.3/19, Error ellipse: s-maj=12.0km s-min=10.4km az=220.0*
ISC 11 10:30:00.6±0.5, 11°.34S±0°.06×118°.40E±0°.07, h26km, n74, σ1°65/75, mb4.4/17, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.95**	**30**	P	**Pn**	**10 30 32.7**	**+0.6**
BASI	**Baing, Sumba**	**2.41**	**63**	P	**Pn**	**10 30 39.7**	**+1.4**
WSI	**Waingapu**	**2.50**	**48**	P	**Pn**	**10 30 40.8**	**+1.3**
PLAI	**Plampang**	**2.57**	**346**	P	**Pn**	**10 30 39.6**	**-1.0**
PLAI	**Plampang**	**2.57**	**346**	P	**Pn**	**10 30 39.5**	**-1.0**
TWSI	**Taliwang, Sumb**	**2.99**	**330**	P	**Pn**	**10 30 44.8**	**-1.5**
DNP	**Denpasar**	**4.11**	**310**	P	**Pn**	**10 31 00.6**	**-1.1**
SRBI	**Singaraja**	**4.51**	**316**	P	**Pn**	**10 31 06.2**	**-1.1**
MMRI	**Maumere**	**4.64**	**55**	Pn	**Pn**	**10 31 10.4**	**+1.4**
MMRI	**Maumere**	**4.64**	**55**	P	**Pn**	**10 31 09.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.07**	**304**	Pn	**Pn**	**10 31 12.2**	**-2.7**
JAGI	**Jajag, Banyuwa**	**5.07**	**304**	P	**Pn**	**10 31 13.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**5.07**	**304**	P	**Pn**	**10 31 12.1**	**-2.8**
BATI	**Baumata**	**5.29**	**78**	P	**Pn**	**10 31 20.2**	**+2.2**
	0.3nm52nm,0.6s						
BSSI	**Bau Bau, Buton**	**5.56**	**22**	P	**Pn**	**10 31 23.8**	**+2.1**
GMJI	**Gumukmas**	**5.76**	**302**	P	**Pn**	**10 31 22.9**	**-1.5**
SOEI	**Soe**	**5.98**	**75**		**Pn**	**10 31 27.6**	**0.0**
SOEI	**Soe**	**5.98**	**75**	P	**Pn**	**10 31 26.6**	**-0.9**
	0.3nm94nm,0.7s						
KMMI	**Kalianget**	**6.11**	**314**	P	**Pn**	**10 31 28.6**	**-0.7**
BKSI	**Bulukumba**	**6.22**	**16**	P	**Pn**	**10 31 32.3**	**+1.6**
	0.6nm66nm,0.8s						
KAPI	**Kappang**	**6.43**	**12**	Pn	**Pn**	**10 31 35.0**	**+1.4**
KAPI	**Kappang**	**6.43**	**12**	Pn	**Pn**	**10 31 35.0**	**+1.4**
	4.0nm,0.3s,baz=190,slow=7.3,SNR=10						
KAPI				Sn	**Sn**	**10 32 42.1**	**-4.1**
	12nm,0.3s,baz=198,slow=20,SNR=14						
KAPI				LR	LR	10 34 25.2	
	comp=Z,82nm,20.2s,baz=186,slow=41						
	15nm,0.5s						
SPSI	**Sidrap Palu**	**7.45**	**11**	P	**Pn**	**10 31 48.8**	**+1.1**
	0.1nm10.0nm,0.5s						
PCJI	**Pacitan**	**7.78**	**293**	P	**Pn**	**10 31 51.6**	**-0.5**
	54nm,0.5s						
UGM	**Wanagama**	**8.48**	**293**	Pn	**Pn**	**10 32 01.3**	**-0.6**
UGM	**Wanagama**	**8.48**	**293**	P	**Pn**	**10 32 01.1**	**-0.8**
UGM	**Wanagama**	**8.48**	**293**	P	**Pn**	**10 32 01.1**	**-0.8**
	56nm,1.0s						
FITZ	**Fitzroy Crossi**	**9.70**	**135**		**Pn**	**10 32 19.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**9.70**	**135**	Pn	**Pn**	**10 32 19.3**	**+0.8**
	1.4nm,0.3s,baz=320,slow=8.4,SNR=18						
FITZ				Sn	**Sn**	**10 34 02.1**	**-4.6**
	2.2nm,0.3s,baz=271,slow=3.3,SNR=7.5						
FITZ				LR	LR	10 36 42.0	
	comp=Z,50nm,18.3s,baz=354,slow=41						

LWLI	**Liwa**	**1.80 111**	P	Pn	10 33 18.6	-0.1
MDSI	**Maura Dua**	**1.80 94**	P	Pn	10 33 18.9	+0.3
MDSI			S	Sn	10 33 41.1	+0.5
PPSI	**Pulau Pagai**	**2.85 304**	P	Pn	10 33 34.2	+1.1
PPSI			S	Sn	10 34 05.8	-0.8
CGJI	**Cibinong**	**3.99 124**	P	Pn	10 33 49.1	+0.3
SISI	**Saibi**	**4.46 312**	P	Pn	10 33 55.9	+0.6
CNJI	**Cibinong**	**5.56 122**	P	Pn	10 34 10.5	+0.1
	0.1nm562nm15nm,1.1s					
PBSI	**Pulau Batu**	**5.92 316**	P	Pn	10 34 15.6	+0.2
	123nm,1.2s					

*NEIC **11** 10:50:10.7±0.8, 61°.42N±0°.02×150°.78W±0°.05, h64km±6km, Error ellipse: s-maj=3.7km s-min=2.7km az=225.0*
AEIC 11 10:50:11.2±1.1, 61°.43N±0°.02×150°.74W±0°.05, h64km±5km, ML2.3, ML2.6/110(NEIC), Error ellipse: s-maj=4.0km s-min=3.0km az=221.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.03 357**			Pn	10 50 20.0	-0.8
SUA				IAML		10 50 27.7	
	comp=N,282nm,0.6s						
SUA				IAML		10 50 28.0	
	comp=E,250nm,0.3s						
SUA	**Susitna One**	**0.03 357**			Sn	10 50 27.6	-0.2
FIS	**Fire Island**	**0.38 139**			Pn	10 50 22.5	+0.1
M22K	**Willow**	**0.44 43**			Pn	10 50 22.3	-0.6
M22K					Sn	10 50 31.8	+0.4
STLK	**Strandline Lak**	**0.53 278**			Pn	10 50 22.9	-0.9
STLK					Sn	10 50 32.4	-0.7
STLK	**Strandline Lak**	**0.53 278**		IAML		10 50 33.0	
	comp=N,225nm,0.2s						
STLK				IAML		10 50 33.2	
	comp=E,162nm,0.2s						
RC01	**Rabbit Creek A**	**0.60 125**			Pn	10 50 23.9	-0.6
RC01	**Rabbit Creek A**	**0.60 125**			Sn	10 50 34.1	-0.2
SPCG	**Spurr Capps Gl**	**0.63 258**			Pn	10 50 24.0	-1.0
SPCG					Sn	10 50 34.3	-0.9
SKT	**Skwentna**	**0.67 326**			Pn	10 50 24.6	-0.8
SKT				IAML		10 50 35.6	
	comp=N,297nm,0.2s						
SKT	**Skwentna**	**0.67 326**			Sn	10 50 35.3	-0.4
SPU	**Mount Spurr**	**0.68 249**			Pn	10 50 24.4	-1.1
SPU				IAML		10 50 35.5	
	comp=E,130nm,0.3s						
SPU				IAML		10 50 35.5	
	comp=N,169nm,0.2s						
SPU	**Mount Spurr**	**0.68 249**			Sn	10 50 35.0	-1.0
CAPN	**Captain Cook N**	**0.70 197**			Pn	10 50 26.3	+0.7
CAPN	**Captain Cook N**	**0.70 197**		IAML		10 50 40.0	
	comp=E,352nm,0.3s						
CAPN				IAML		10 50 40.3	
	comp=N,350nm,0.3s						
PMR	**Palmer**	**0.79 78**			Pn	10 50 25.9	-0.8
PMR				IAML		10 50 38.5	
	comp=E,196nm,0.4s						
PMR				IAML		10 50 38.5	
	comp=N,251nm,0.5s						
PMR	**Palmer**	**0.79 78**			Sn	10 50 37.9	-0.2
SPBG	**Spurr Blockage**	**0.80 258**			Pn	10 50 26.2	-0.8
GHO	**Glory Hole Cre**	**0.93 68**			Pn	10 50 28.2	-0.4
GHO				IAML		10 50 42.2	
	comp=E,251nm,0.5s						
GHO				IAML		10 50 42.9	
	comp=N,218nm,0.7s						
GHO	**Glory Hole CR**	**0.93 68**			Sn	10 50 41.8	+0.3
SLKM	**Skilak Lake**	**0.96 164**			Pn	10 50 27.8	-1.2
SLKM				IAML		10 50 44.2	
	comp=E,106nm,0.4s						
SLKM				IAML		10 50 45.8	
	comp=N,144nm,0.3s						
CUT	**Chulitna**	**1.00 13**			Pn	10 50 28.9	-0.5
CUT	**Chulitna**	**1.00 13**			Sn	10 50 43.2	+0.4
O22K	**Cooper Landing**	**1.08 152**			Pn	10 50 29.6	-0.7
KNK	**Knik Glacier**	**1.10 90**			Pn	10 50 30.4	-0.3
KNK	**Knik Glacier**	**1.10 90**		IAML		10 50 46.9	
	comp=E,109nm,0.3s						
SML	**Sawmill**	**1.21 71**	Pn		Pn	10 50 31.6	-0.7
SML				IAML		10 50 49.2	
	comp=N,71nm,0.7s						
SML				IAML		10 50 50.8	
	comp=E,71nm,0.4s						
M20K	**Styx River**	**1.23 293**			Pn	10 50 32.0	-0.4
PWL	**Port Wells**	**1.30 115**			Pn	10 50 32.5	-0.9
PWL				IAML		10 50 56.5	
	comp=N,108nm,0.5s						
PWL				IAML		10 50 57.0	
	comp=E,111nm,0.3s						
NCT	**North Crescent**	**1.38 232**			Pn	10 50 33.9	-0.5
RDWB	**Redoubt West**	**1.39 228**			Pn	10 50 34.0	-0.7
SEW	**Seward**	**1.48 154**			Pn	10 50 35.8	+0.2
M23K	**Glacier View**	**1.49 75**			Pn	10 50 35.3	-0.5
PPLA	**Purkeypile**	**1.62 336**			Pn	10 50 37.2	-0.5
O20K	**Slope Mountain**	**1.64 215**			Pn	10 50 37.8	-0.1
BRLK	**Bradley Lake**	**1.68 182**			Pn	10 50 37.5	-0.9
BRLK	**Bradley Lake**	**1.68 182**		IAML		10 51 01.9	
	comp=E,83nm,0.3s						
BRLK				IAML		10 51 04.5	
	comp=N,81nm,0.4s						
SCM	**Sheep Creek Mo**	**1.68 75**			Pn	10 50 37.9	-0.6
SCM	**Sheep Creek Mo**	**1.68 75**		IAML		10 51 00.0	
	comp=E,69nm,0.7s						
SCM				IAML		10 51 00.7	
	comp=N,60nm,0.8s						
BRSE	**Bradley Lake S**	**1.70 180**			Pn	10 50 37.4	-1.2
L20K	**Farewell, AK**	**1.82 307**			Pn	10 50 39.6	-0.6
HOM	**Homer**	**1.83 194**			Pn	10 50 40.8	+0.3
GLI	**Glacier Island**	**1.85 106**			Pn	10 50 38.9	-1.8
GLI	**Glacier Island**	**1.85 106**		IAML		10 51 10.8	
	comp=N,59nm,0.5s						
GLI				IAML		10 51 11.3	
	comp=E,71nm,0.7s						
ILS	**Iliamna Low So**	**1.87 219**			Pn	10 50 40.9	-0.1
ILSW	**Iliamna Southw**	**1.87 220**			Pn	10 50 40.8	-0.3
ILSW	**Iliamna Southw**	**1.87 220**		IAML		10 51 06.5	
	comp=E,38nm,1.2s						
ILSW				IAML		10 51 07.8	
	comp=N,39nm,1.3s						
N19K	**Bonanza Creek**	**1.92 253**			Pn	10 50 40.9	-0.7
CNPM	**China Poot**	**1.93 187**			Pn	10 50 40.8	-1.0
CNPM	**China Poot**	**1.93 187**		IAML		10 51 12.6	
	comp=N,63nm,0.6s						
TRF	**Thorofare Moun**	**2.04 6**			Pn	10 50 43.0	-0.4
TRF	**Thorofare Moun**	**2.04 6**		IAML		10 51 13.7	
	comp=N,46nm,0.7s						
TRF				IAML		10 51 26.3	
	comp=E,28nm,1.0s						
CAST	**Castle Rocks**	**2.09 343**			Pn	10 50 43.4	-0.5
CAST	**Castle Rocks**	**2.09 343**		IAML		10 51 11.4	
	comp=E,24nm,0.5s						
KTH	**Kantishna Hill**	**2.13 358**			Pn	10 50 44.4	-0.2
KTH	**Kantishna Hill**	**2.13 358**		IAML		10 51 13.9	
	comp=E,40nm,0.7s						
KTH				IAML		10 51 15.2	
	comp=N,41nm,1.0s						
P19K	**Oil Pt**	**2.17 216**			Pn	10 50 45.2	+0.2
RND	**Reindeer**	**2.17 23**			Pn	10 50 44.5	-0.6
RND	**Reindeer**	**2.17 23**		IAML		10 51 24.2	
	comp=N,35nm,0.7s						
RND				IAML		10 51 25.1	
	comp=E,25nm,0.8s						
FID	**Port Fidalgo**	**2.18 106**			Pn	10 50 43.1	-2.1
FID	**Port Fidalgo**	**2.18 106**		IAML		10 51 23.6	
	comp=N,31nm,1.1s						
FID				IAML		10 51 27.8	
	comp=E,32nm,0.6s						
P23K	**Montague Islan**	**2.18 130**			Pn	10 50 43.4	-1.7
M24K	**Tolsona, Glenn**	**2.27 71**			Pn	10 50 46.8	+0.3
M24K	**Tolsona, Glenn**	**2.27 71**		IAML		10 51 17.3	
	comp=N,43nm,0.5s						
M24K				IAML		10 51 26.2	
	comp=E,41nm,1.4s						
KLU	**Klutina**	**2.31 86**			Pn	10 50 46.1	-1.0
KLU				IAML		10 51 26.5	
	comp=E,20nm,0.5s						
KLU				IAML		10 51 27.5	
	comp=N,28nm,0.9s						
M18K	**Stony River**	**2.44 274**			Pn	10 50 47.9	-0.7
MCK	**McKinley**	**2.46 19**	Pn		Pn	10 50 46.5	-2.4
K20K	**Telida**	**2.48 323**			Pn	10 50 48.9	-0.3
K20K	**Telida**	**2.48 323**		IAML		10 51 23.7	
	comp=N,18nm,0.6s						
K20K				IAML		10 51 25.7	
	comp=E,24nm,1.0s						
CHUM	**Lake Minchumin**	**2.56 344**			Pn	10 50 49.9	-0.4
N18K	**Kilae Creek**	**2.61 255**			Pn	10 50 50.1	-1.0
BPAW	**Bear Paw Mtn.**	**2.68 358**			Pn	10 50 50.9	-1.0
O18K	**Koktuh Hills**	**2.71 236**			Pn	10 50 51.4	-1.0
O18K	**Koktuh Hills**	**2.71 236**		IAML		10 51 41.2	
	comp=N,13nm,1.4s						
TTA	**Tatalina**	**2.89 304**			Pn	10 50 54.2	-0.7
PAX	**Paxson**	**2.91 56**			Pn	10 50 56.1	+0.9
L18K	**Granite Mounta**	**2.93 288**			Pn	10 50 54.3	-1.0
N25K	**Chitina, Valde**	**2.95 84**			Pn	10 50 54.5	-1.2
N25K	**Chitina, Valde**	**2.95 84**		IAML		10 51 42.4	
	comp=N,13nm,0.4s						
SYI	**Shuyak Island**	**2.95 197**			Pn	10 50 54.7	-0.9
BMRM	**Bremner River**	**3.01 96**			Pn	10 50 54.7	-1.8
P18K	**Big Mountain,**	**3.02 229**			Pn	10 50 55.8	-0.9
RAGM	**Ragged Mountai**	**3.14 107**	Pn		Pn	10 50 59.5	+1.2
J20K	**Nowinta River**	**3.17 332**			Pn	10 50 58.2	-0.3
J20K	**Nowinta River**	**3.17 332**		IAML		10 51 34.8	
	comp=E,10.0nm,1.1s						
J20K				IAML		10 51 35.3	
	comp=N,13nm,0.5s						
M17K	**Holitna River**	**3.22 272**			Pn	10 50 58.6	-0.6
M17K	**Holitna River**	**3.22 272**		IAML		10 51 57.4	
	comp=E,13nm,1.2s						
M17K				IAML		10 52 07.2	
	comp=N,11nm,1.0s						
N17K	**Nushagak Hills**	**3.27 257**			Pn	10 50 59.1	-0.9
J19K	**Poorman**	**3.41 321**			Pn	10 51 01.7	-0.2
J18K	**Innoko River**	**3.44 309**			Pn	10 51 02.2	-0.1
HDA	**Harding Lake**	**3.46 28**			Pn	10 51 03.1	+0.6
HDA				IAML		10 52 02.1	
	comp=N,18nm,1.5s						
HDA				IAML		10 52 03.9	
	comp=E,11nm,0.5s						
CCB	**Clear Creek Bu**	**3.49 21**	Pn	Pn	10 51 03.4	+0.4
VRDI	**Verde Repeater**	**3.52 90**	Pn	Pn	10 51 05.7	+2.2
O17K	**Koliganek Bris**	**3.55 245**		Pn	10 51 03.1	-0.6
KDAK	**Kodiak Island**	**3.78 195**	Pn	Pn	10 51 09.0	+2.1
KDAK				IAML		10 51 41.1	
	comp=E,10nm,1.3s						
KDAK				IAML		10 52 05.4	
	comp=E,18nm,1.5s						
IL31		**3.78 26**			Pn	10 51 06.5	-0.4
ILAR	**Eielson Array**	**3.78 26**	Pn	Pn	10 51 07.7	+0.8
M16K	**Timber Creek**	**3.99 268**	Pn	Pn	10 51 08.9	-1.0
M16K				IAML		10 52 33.1	
	comp=N,6.3nm,1.4s						
M16K				IAML		10 53 50.3	
	comp=E,7.4nm,1.2s						
BCAR	**Beaver Creek A**	**4.50 65**	Pn	Pn	10 51 16.8	+0.1

*NIED **11** 10:57:38.0, 23°.19N×120°.91E, h0km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr1.46; Mθθ-0.89; Mφφ-0.57; Mrθ1.90; Mθφ-0.84; Mφr1.47; Fault plane solution: M0 2.85000×10^15 NP1: φs228.00000°, δ16.00000°, λ87.00000°. NP2: φs52.00000°, δ74.00000°, λ91.00000°.*
*JMA **11** 10:57:38.0±0.1, 23°.2N±0°.2×120°.9E±0°.6, h0km, MV3.5/13, TAIWAN REGION*
*ASIES **11** 10:57:39.7, 23°.15N×120°.92E, h1km, ML4.1, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr-3.34; Mθθ2.09; Mφφ1.26; Mrθ1.26; Mθφ-2.66; Mφr1.00; Fault plane solution: M0 4.27009×10^21 NP1: φs154.95000°, δ48.65000°, λ-53.20000°. NP2: φs286.40000°, δ53.05000°, λ-124.25000°. Principal axes: T Plg2.4140°, Azm39.8660°; N Plg26.7230°, Azm308.6500°; P Plg63.1510°, Azm134.6420°;*
*TAP **11** 10:57:39.7, 23°.15N×120°.92E, h1km, ML4.1, C*
ISC 11 10:57:39.5±0.9, 23°.15N±0°.01×120°.92E±0°.01, h5km±7km, n159, σ0.983/258, 32C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.10**	**68**	↑iP	**Pg**	**10 57 41.5**	**-0.2**
ELDTW				S	**Sg**	**10 57 43.3**	**+0.1**
STYH	**Taoyuan**	**0.13**	**278**	↓iP	**Pg**	**10 57 41.1**	**-1.1**
STYH				*i* S	**Sg**	**10 57 43.1**	**-0.9**
EHD	**Haiduan**	**0.27**	**90**	↑iP	**Pg**	**10 57 44.8**	**+0.1**
EHD				eS	**Sg**	**10 57 48.9**	**+0.7**
ECS	**Chishang**	**0.28**	**101**	↑iP	**Pg**	**10 57 45.5**	**+0.4**
ECS				eS	**Sg**	**10 57 50.2**	**+1.4**
WTP	**Ta-pu**	**0.29**	**289**	↓iP	**Pg**	**10 57 45.0**	**-0.3**
WTP				*i* S	**Sg**	**10 57 49.8**	**+0.6**
TPUB	**Ta-pu**	**0.30**	**299**	↓iP	**Pg**	**10 57 45.2**	**-0.3**
TPUB				S	**Sg**	**10 57 49.7**	**+0.2**
LONT	**Longtian**	**0.31**	**141**	↓iP	**Pg**	**10 57 45.8**	**+0.2**
LONT				S	**Sg**	**10 57 50.6**	**+0.8**
SGST	**Jiashian**	**0.32**	**257**	↑eP	**Pg**	**10 57 44.4**	**-1.3**
SGST				eS	**Sg**	**10 57 49.2**	**-0.6**
FULB	**Fuli**	**0.35**	**82**	↑iP	**Pg**	**10 57 47.0**	**+0.7**
FULB				eS	**Sg**	**10 57 52.7**	**+1.7**
CHN4	**Tsaushan**	**0.36**	**304**	↓iP	**Pg**	**10 57 46.5**	**0.0**
CHN4				*i* S	**Sg**	**10 57 52.2**	**+1.0**
CHN1	**Nanshi**	**0.36**	**275**	↓iP	**Pg**	**10 57 46.6**	**+0.1**
CHN1				eS	**Sg**	**10 57 52.3**	**+1.1**
TWG	**Pinlang**	**0.36**	**156**	↓iP	**Pg**	**10 57 46.6**	**+0.1**
TWG				eS	**Sg**	**10 57 51.8**	**+0.6**
TWGBT	**Beinan**	**0.36**	**156**	↓iP	**Pg**	**10 57 46.6**	**0.0**
TWGBT				S	**Sg**	**10 57 51.8**	**+0.4**
ALS	**Alishan**	**0.37**	**344**	↓iP	**Pg**	**10 57 46.3**	**-0.6**
ALS				eS	**Sg**	**10 57 51.6**	**-0.2**
SNST	**Tainan City**	**0.39**	**280**	↓iP	**Pg**	**10 57 47.4**	**+0.3**
SNST				S	**Sg**	**10 57 53.7**	**+1.4**
EDH	**Donghe**	**0.40**	**116**	eP	**Pg**	**10 57 48.1**	**+0.9**
EDH				eS	**Sb**	**10 57 54.6**	**-0.9**
TWF1	**Yuli**	**0.40**	**60**	↑iP	**Pg**	**10 57 47.3**	**-0.1**
TWF1				S	**Sg**	**10 57 52.8**	**+0.1**
WCKO	**Fanlu**	**0.41**	**315**	↓iP	**Pg**	**10 57 47.4**	**0.0**
WCKO				*i* S	**Sg**	**10 57 53.8**	**+1.1**
TWK	**Hsinying**	**0.41**	**286**	↓iP	**Pg**	**10 57 47.7**	**+0.2**
TWK				eS	**Sg**	**10 57 54.3**	**+1.4**
CHKT	**Chengkung**	**0.42**	**97**	↑iP	**Pg**	**10 57 48.7**	**+1.2**
CHKT				eS	**Sb**	**10 57 55.3**	**-0.7**
EYUL	**Yuli**	**0.42**	**62**	↑P	**Pg**	**10 57 47.5**	**-0.1**
EYUL				eS	**Sg**	**10 57 54.0**	**+0.9**
YULB	**Yu-li**	**0.42**	**56**	↑iP	**Pg**	**10 57 47.4**	**-0.4**
YULB				eS	**Sg**	**10 57 52.6**	**-0.7**
CHKH	**Chenggong**	**0.44**	**85**	↑P	**Pg**	**10 57 48.6**	**+0.6**
CHKH				eS	**Sb**	**10 57 55.9**	**-0.8**
TTN	**Taitung**	**0.45**	**152**	eP	**Pg**	**10 57 49.0**	**+0.8**
SCST	**Cishan**	**0.47**	**236**	↑P	**Pg**	**10 57 48.8**	**+0.2**
SCST				eS	**Sb**	**10 57 57.2**	**-0.3**
CHN5	**Tsauling**	**0.49**	**334**	↓iP	**Pg**	**10 57 49.0**	**-0.1**
CHN5				eS	**Sg**	**10 57 56.2**	**+0.7**
TSMG	**Majia**	**0.51**	**210**	↓eP	**Pg**	**10 57 48.3**	**-1.0**
CHN3	**Shinhua**	**0.51**	**262**	eP	**Pb**	**10 57 51.0**	**0.0**
EHY	**Hungye**	**0.51**	**46**	↑iP	**Pg**	**10 57 49.0**	**-0.5**
EHY				eS	**Sg**	**10 57 55.7**	**-0.4**
ECBN	**Changbin**	**0.52**	**71**	↑eP	**Pg**	**10 57 50.6**	**+1.1**
ECBN				eS	**Sb**	**10 57 58.3**	**-0.6**
EHYH	**Wanrong**	**0.52**	**49**	↑iP	**Pg**	**10 57 49.2**	**-0.4**
EHYH				eS	**Sg**	**10 57 56.1**	**-0.2**
SHHT	**Tainan City**	**0.54**	**256**	eP	**Pb**	**10 57 52.1**	**+0.6**
WHYT	**Xinyi Township**	**0.55**	**354**	↑iP	**Pg**	**10 57 49.7**	**-0.3**
WHYT				*i* S	**Sg**	**10 57 57.3**	**+0.1**
ECL	**Taimali**	**0.55**	**176**	↑iP	**Pg**	**10 57 49.6**	**-0.6**
ECL				eS	**Sg**	**10 57 58.0**	**+0.6**
CHN2	**Minshiung**	**0.56**	**313**	↓iP	**Pg**	**10 57 51.0**	**+0.8**
CHN2				eS	**Sb**	**10 57 59.7**	**-0.3**
TWM1	**Shoushan**	**0.56**	**234**	eP	**Pg**	**10 57 51.3**	**+1.0**
CHY	**Chiayi**	**0.57**	**307**	↓eP	**Pg**	**10 57 51.1**	**+0.6**
CHY				eS	**Sb**	**10 58 00.1**	**-0.3**
HGSD	**Ruisui**	**0.58**	**54**	*i* P	**Pg**	**10 57 50.9**	**+0.3**
HGSD				eS	**Sg**	**10 57 58.8**	**+0.7**
SGLT	**Jiouru**	**0.58**	**223**	eP	**Pg**	**10 57 50.7**	**0.0**
SGLT				eS	**Sb**	**10 57 60.0**	**-0.7**
MASBT	**Mashibuluo**	**0.60**	**206**	↑P	**Pg**	**10 57 50.0**	**-1.1**
ICHU	**Yijhu**	**0.62**	**290**	eP	**Pg**	**10 57 51.9**	**+0.4**
ICHU				eS	**Sb**	**10 58 02.0**	**+0.1**
WGK	**Gukeng**	**0.62**	**329**	P	**Pg**	**10 57 52.2**	**+0.6**
WGK				eS	**Sb**	**10 58 01.9**	**-0.1**
SSLB	**Suanglung**	**0.63**	**3**	↑eP	**Pg**	**10 57 50.6**	**-1.1**
SSLB				eS	**Sg**	**10 57 59.4**	**-0.6**
VWDT	**VWDT**	**0.63**	**19**	↑iP	**Pg**	**10 57 50.8**	**-1.0**
VWDT				eS	**Sg**	**10 57 59.1**	**-0.9**
WDLH	**Douliu**	**0.64**	**327**	↓P	**Pg**	**10 57 52.6**	**+0.8**
WDLH				eS	**Sb**	**10 58 02.5**	**+0.1**
TAI1	**Yung-k'ang**	**0.64**	**260**	eP	**Pb**	**10 57 53.8**	**+0.5**
WDL	**Douliou City**	**0.66**	**328**	eP	**Pg**	**10 57 53.1**	**+0.9**
WDL				eS	**Sb**	**10 58 04.1**	**+1.1**
SCLT	**Jiali**	**0.67**	**272**	eP	**Pb**	**10 57 53.4**	**-0.2**
SNJT	**Kaohsiung City**	**0.67**	**234**	eP	**Pn**	**10 57 55.2**	**-0.4**
CHN8	**Yiju**	**0.68**	**287**	eP	**Pg**	**10 57 53.0**	**+0.4**
CHN8				eS	**Sb**	**10 58 04.7**	**+1.2**
TAI	**Tainan**	**0.68**	**257**	eP	**Pb**	**10 57 54.0**	**+0.1**
WJS	**Zhushan**	**0.69**	**345**	eP	**Pg**	**10 57 53.3**	**+0.5**
WJS				eS	**Sb**	**10 58 04.2**	**+0.3**
EGFH	**Guangfu**	**0.70**	**42**	*i* P	**Pg**	**10 57 52.1**	**-0.8**
EGFH				eS	**Sg**	**10 58 01.4**	**-0.6**
LDUT	**Ludao**	**0.70**	**133**	eP	**Pg**	**10 57 53.2**	**+0.3**
LDUT				eS	**Sb**	**10 58 04.4**	**+0.3**
WARBT	**Fenglin Townsh**	**0.71**	**37**	↑*i*P	**Pg**	**10 57 52.1**	**-1.1**
WARBT				eS	**Sg**	**10 58 01.5**	**-0.9**
WTK	**Tuku**	**0.72**	**318**	eP	**Pg**	**10 57 54.1**	**+0.8**
WTK				eS	**Sb**	**10 58 05.7**	**+0.9**
SMLT	**Sun Moon Lake**	**0.73**	**359**	↑eP	**Pg**	**10 57 52.0**	**-1.5**
SMLT				eS	**Sg**	**10 58 03.0**	**0.0**
WSL	**Shuilin Townsh**	**0.73**	**300**	eP	**Pg**	**10 57 54.0**	**+0.4**
TYC	**Yuchr**	**0.75**	**356**	↑*i*P	**Pg**	**10 57 53.6**	**-0.4**
TYC				eS	**Sg**	**10 58 04.3**	**+0.6**
WNT	**Mingjian**	**0.75**	**344**	↓*i*P	**Pg**	**10 57 54.9**	**+0.9**
WNT				eS	**Sb**	**10 58 06.6**	**+0.9**
TSCK	**Chigu Township**	**0.77**	**270**	P	**Pg**	**10 57 55.0**	**+0.8**
EAST	**Anshuo**	**0.77**	**185**	↑*i*P	**Pg**	**10 57 53.6**	**-0.6**
WNT1	**Nantou City**	**0.78**	**344**	eP	**Pg**	**10 57 55.3**	**+0.7**
WNT1				eS	**Sb**	**10 58 07.5**	**+0.9**
WSSB	**Gushan**	**0.79**	**230**	eP	**Pb**	**10 57 55.9**	**+0.1**
TAW	**Tawu**	**0.79**	**181**	eP	**Pg**	**10 57 54.2**	**-0.5**
TAWH	**Dawu Township**	**0.81**	**182**	eP	**Pg**	**10 57 54.0**	**-1.1**
TAWH				eS	**Sg**	**10 58 05.7**	**+0.2**
ESL	**Shilin**	**0.81**	**36**	↑eP	**Pg**	**10 57 54.1**	**-1.1**
ESL				eS	**Sg**	**10 58 05.2**	**-0.5**
SCZT	**Fangliau**	**0.82**	**200**	↑eP	**Pg**	**10 57 54.3**	**-1.0**
OWD	**Renai**	**0.83**	**17**	↑eP	**Pg**	**10 57 54.0**	**-1.5**
WUSB	**Renai**	**0.86**	**12**	↑eP	**Pg**	**10 57 54.5**	**-1.5**
SHUL	**Shoufeng**	**0.87**	**43**	eP	**Pg**	**10 57 56.0**	**-0.2**
SHUL				eS	**Sb**	**10 58 09.4**	**+0.3**
DPDB	**Guoxing**	**0.88**	**1**	↑eP	**Pg**	**10 57 55.5**	**-0.9**
DPDB				eS	**Sb**	**10 58 09.9**	**+0.5**
WRL	**Guolierlin Hig**	**0.90**	**327**	*i* P	**Pg**	**10 57 56.9**	**+0.1**
WRL				S	**Sb**	**10 58 10.2**	**+0.4**
RLNB	**Erlin**	**0.90**	**325**	P	**Pg**	**10 57 57.0**	**+0.2**
RLNB				S	**Sb**	**10 58 10.4**	**+0.6**
WCS	**Beigang Elemen**	**0.90**	**360**	↓eP	**Pg**	**10 57 56.3**	**-0.6**
WCS				eS	**Sb**	**10 58 10.3**	**+0.3**
WWF	**Wufeng**	**0.91**	**347**	eP	**Pg**	**10 57 57.6**	**+0.6**
WWF				eS	**Sb**	**10 58 10.9**	**+0.7**
WTCT	**Ta-ch'eng**	**0.92**	**321**	*i* P	**Pg**	**10 57 57.3**	**+0.1**
WTCT				*i* S	**Sb**	**10 58 11.3**	**+0.8**
TEYL	**Yanliau Villag**	**0.95**	**41**	eP	**Pb**	**10 57 58.4**	**0.0**
TEYL				eS	**Sn**	**10 58 13.2**	**-0.2**
TWP	**Hsiaoliuchiu**	**0.95**	**213**	eP	**Pn**	**10 58 00.6**	**+1.1**
ETM	**Tongmen**	**0.97**	**33**	P	**Pg**	**10 57 57.4**	**-0.7**
WCH1	**Changhua City**	**0.98**	**340**	eP	**Pg**	**10 57 58.5**	**+0.2**
WCH1				eS	**Sb**	**10 58 13.4**	**+1.3**
LXIB	**Xiulin Townshi**	**0.98**	**28**	eP	**Pg**	**10 57 56.9**	**-1.4**
LXIB				S	**Sb**	**10 58 12.8**	**+0.5**
WCHH	**Zhanghua**	**0.98**	**340**	eP	**Pg**	**10 57 58.7**	**+0.3**
WCHH				*i* S	**Sb**	**10 58 12.8**	**+0.5**
TCU	**Taichung**	**1.02**	**348**	P	**Pg**	**10 57 59.3**	**+0.3**
TCU				eS	**Sb**	**10 58 14.0**	**+0.7**
HWA	**Hwalien**	**1.04**	**37**	eP	**Pg**	**10 57 59.2**	**-0.3**
WHF	**Hehuan Shan**	**1.04**	**18**	↑eP	**Pg**	**10 57 57.8**	**-1.7**
WHF				eS	**Sb**	**10 58 14.8**	**+0.2**
TWD	**Chiawan**	**1.11**	**34**	eP	**Pg**	**10 58 00.0**	**-0.9**
TWD				eS	**Sb**	**10 58 16.2**	**0.0**
TDCB	**Techi**	**1.12**	**11**	eP	**Pg**	**10 57 59.5**	**-1.5**
TWT	**Tachien**	**1.12**	**12**	eP	**Pg**	**10 57 59.5**	**-1.6**
TWT				eS	**Sg**	**10 58 15.3**	**-0.4**
WHP	**Taichung City**	**1.12**	**1**	eP	**Pb**	**10 58 01.7**	**+0.2**
WHP				eS	**Sb**	**10 58 16.5**	**+0.1**
FUSS	**Fushou**	**1.13**	**15**	↑eP	**Pg**	**10 57 59.6**	**-1.7**
HEN	**Hengchun**	**1.15**	**188**	eP	**Pn**	**10 58 02.7**	**+0.4**
WDGT	**Dungji**	**1.16**	**276**	eP	**Pg**	**10 58 01.0**	**-0.8**
WDGT				S	**Sg**	**10 58 17.0**	**+0.1**
ETLH	**Xiulin Townshi**	**1.17**	**26**	eP	**Pg**	**10

YOJ	Yonaguni jima	2.32	55	eP	Pn	10 58 18.2	-0.2
PTMZ	Houxiangcun	2.50	319	eP	Pn	10 58 19.5	-1.3
KNM	Kinmen	2.60	299	eP	Pn	10 58 22.2	0.0
KNMB	Chin-men Tao	2.66	300	eP	Pn	10 58 21.5	-1.6
IRIF	Iriomote-Funau	2.83	65	eP	Pn	10 58 25.2	-0.2
ZPLA	Ao Xicun	3.01	286	eP	Pn	10 58 26.8	-1.0
JKRS	Kuro-shima	3.03	69	eP	Pn	10 58 28.4	+0.2
MATB	Ma-tsu	3.12	344	eP	Pn	10 58 28.5	-0.8
JIJ	Ishigaki jima	3.19	67	eP	Pn	10 58 29.4	-1.0
JIJ				eS	Sn	10 59 09.2	+0.4
AXDP	Jialang	3.21	303	eP	Pn	10 58 29.3	-1.3
DSXP	Dongshan	3.25	280	eP	Pn	10 58 30.6	-0.6
MHZQ	Yeshan	3.40	330	eP	Pn	10 58 32.4	-0.8
JISG	Ishigakijimahi	3.42	65	P	Pn	10 58 32.6	-0.9
JISG				eS	Sn	10 59 13.4	-1.0
XPSS	Dashiqiu	3.82	350	eP	Pn	10 58 38.6	-0.4

IDC 11 11:02:45.0±5.6, 16°.69S×173°.90W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=181.0km s-min=111.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	42.99	241	P	P	11 10 46.8	+0.6
	2.0nm,0.9s,baz=94,slow=14,SNR=2.9 2.0nm,0.9s						
WRA	Warramunga Arr	49.09	258	P	P	11 11 34.0	-0.5
	1.7nm,0.5s,baz=95,slow=7.5,SNR=21 1.7nm,0.5s						
ASAR	Alice Springs	49.27	253	P	P	11 11 35.9	0.0
	5.8nm,0.5s,baz=91,slow=8.1,SNR=73						
ASAR				PcP	PcP	11 12 58.5	-0.4
	0.3nm,0.8s,baz=93,slow=3.6,SNR=1.6 5.8nm,0.5s						

AUST 11 11:03:49.7±0.3, 17°S±2°×12°9E±°, h0km, mb3.8/1, ML2.6/5, Error ellipse: s-maj=5.3km s-min=3.5km az=95.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	Kununurra	1.07	357	P	Pb	11 04 10.9	-0.1
KNRA				S	Sg	11 04 24.5	+0.5
FITZ	Fitzroy Crossi	3.31	246	P	Pn	11 04 43.2	+0.4
FITZ	Fitzroy Crossi	3.31	246	S	Sn	11 05 22.5	-0.5
MTN	Manton Dam	4.48	30	P	Pn	11 05 00.8	+1.8
MTN	Manton Dam	4.48	30	S	Sn	11 05 50.5	-1.4
DRS	Darwin Rock St	4.74	25	P	Pn	11 05 02.7	+0.1
DRS				S	Sn	11 05 56.6	-1.7
KDU	Kakadu	5.37	42	P	Pn	11 05 12.8	+1.7
	comp=Z,0.1nmcomp=Z,15nm,1.6s						
KDU	Kakadu	5.37	42	S	Sn	11 06 12.8	-0.9
WRAB	Tennant Creek	6.14	122	P	Pn	11 05 24.4	+2.7
WRAB				S	Sn	11 06 33.9	+1.1
WB2	Warramunga Arr	6.14	122	S	Sn	11 06 33.1	+0.3
WRKA	Warakurna	8.26	183	P	Pn	11 05 52.4	+1.5
WRKA	Warakurna	8.26	183	S	Sn	11 07 22.8	-2.2
AS31	Alice Springs	8.38	146	S	Sn	11 07 27.8	-0.1

IDC 11 11:29:22.7±2.3, 1°.89N×127°.66E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=162.4km s-min=27.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.67	164	P	P	11 34 25.6	-0.2
	0.2nm,0.5s,baz=343,slow=11,SNR=4.8 0.2nm,0.5s						
ASAR	Alice Springs	26.12	167	P	P	11 34 58.4	-0.1
	0.2nm,0.8s,baz=348,slow=9.0,SNR=1.3 0.2nm,0.8s						
H11S3	WAKE ISLAND Hy	41.65	64	T	T	12 20 20.5	
	baz=249						
H11S2	WAKE ISLAND Hy	41.67	64	T	T	12 20 21.3	
	baz=249						
H11S1	WAKE ISLAND Hy	41.67	64	T	T	12 20 18.9	
	baz=249						
H11N1	WAKE ISLAND Hy	42.24	62	T	T	12 21 03.1	
	baz=250,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	42.25	62	T	T	12 21 02.6	
	baz=250,slow=75,SNR=8.9						
H11N3	WAKE ISLAND Hy	42.25	62	T	T	12 21 05.9	
	baz=250,slow=75,SNR=11						
MKAR	Makanchi Array	59.59	325	P	P	11 39 28.5	+0.2
	0.2nm,0.4s,baz=107,slow=8.7,SNR=4.3 0.2nm,0.4s						

IDC 11 11:34:20.6±1.2, 0°.88N×126°.67E, h0km, mb3.8/5, mbtmp3.8/6, ML3.5/1, MS2.9/1, Error ellipse: s-maj=102.7km s-min=18.3km az=70.0
DJA 11 11:34:24.1±0.6, 1°N±3°×12°7E±°, h13km±5km, M3.9/12, mb4.2/1, MLv3.8/12

ISC 11 11:34:25.7±0.9, 0°.99N±0°.08×126°.78E±0°.08, h35km, n13, σ1°06/15, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.63	110	P	Pn	11 34 37.7	-0.4
TNTI				S	Sn	11 34 46.6	-0.4
LBMI	Labuha	1.77	156	P	Pn	11 34 55.0	+1.1
SGSI	Sangihe	2.95	335	P	Pn	11 35 09.1	-1.1
SANI	Sanana	3.12	195	P	Pn	11 35 12.8	+0.3
NLAI	Namlea	4.21	176	P	Pn	11 35 28.3	+0.8
SWI	Sorong	4.84	112	P	Pn	11 35 37.2	+1.0
FAKI	Fak Fak	6.71	125	P	Pn	11 36 02.6	+0.8
FITZ	Fitzroy Crossi	19.00	183	P	P	11 38 42.9	-1.7
	0.1nm,0.3s,baz=14,slow=12,SNR=1.5						
FITZ				LR	LR	11 47 11.3	
	comp=Z,38nm,18.6s,baz=76,slow=41 3.7nm,1.2s						
WRA	Warramunga Arr	22.09	161	P	P	11 39 17.0	-0.9
	3.6nm,0.6s,baz=339,slow=11,SNR=44 3.6nm,0.6s						
ASAR	Alice Springs	25.47	165	P	P	11 39 50.0	-0.7
	2.1nm,0.4s,baz=344,slow=11,SNR=50						
ASAR				PcP	PcP	11 43 21.1	-1.1
	0.4nm,0.9s,baz=351,slow=2.7,SNR=1.9 2.1nm,0.4s						
SONM	Songino Array	49.90	342	P	P	11 43 17.3	+1.4
	0.2nm,0.4s,baz=143,slow=7.0,SNR=2.3 0.2nm,0.4s						
MKAR	Makanchi Array	59.83	326	P	P	11 44 27.5	-0.2
	0.2nm,0.3s,baz=120,slow=7.2,SNR=8.4 0.2nm,0.3s						
KURBB	Kurchatov Arra	64.06	328	P	P	11 44 57.1	+1.0
	0.6nm,0.4s,baz=124,slow=6.4,SNR=5.0 0.6nm,0.4s						

SOME 11 11:51:11.2, 41°.32N×83°.30E, h0km
NNC 11 11:51:14.3±3.1, 41°.05N×82°.93E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.0km s-min=17.4km az=167.0

ISC 11 11:51:08.7±3.7, 41°.3N±0°.1×83°.3E±0°.1, h10km, n17, σ1°06/23, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.45	305	Pg	Pb	11 52 11.8	+1.8
	7.8nm,0.3s						
SHLS				Lg	Lg	11 52 55.0	
	27nm,0.5s						
SHLS	Shalkode	3.45	305	eP	Pb	11 52 10.5	+0.6
	8.7nm,0.2s						
SHLS				eS	Sb	11 52 52.8	+0.8
	29nm,0.2s						
PDGK	Podgornoye	3.53	307	⇑Pg	Pg	11 52 15.9	-0.4
	1.8nm,0.5s						
PDGK				⇑Lg	Lg	11 53 00.8	
	12nm,0.7s						
UZB	Uzynbulak	3.72	302	Pg	Pg	11 52 19.9	-0.1
	3.5nm,0.3s						
UZB				Lg	Lg	11 53 08.9	
	13nm,0.6s						
UZB	Uzynbulak	3.72	302	eP	Pg	11 52 19.9	-0.1
	3.5nm,0.3s						
UZB				eS	Sg	11 53 08.9	+0.7
	13nm,0.6s						
DJR	Jarkent	4.03	321	Pg	Pg	11 52 25.1	-0.8
	1.3nm,0.3s						
DJR				Lg	Lg	11 53 18.4	
	2.5nm,0.3s						
DJR	Jarkent	4.03	321	eP	Pg	11 52 25.1	-0.8
	1.3nm,0.3s						
DJR				eS	Sg	11 53 18.4	+0.3
	2.5nm,0.3s						
SATY	Saty	4.08	298	Pg	Pg	11 52 27.7	+0.7
	0.3nm,0.2s						
SATY				Lg	Lg	11 53 22.4	
	9.9nm,0.3s						
KPKS	Kokpek	4.09	304	Pg	Pg	11 52 26.3	-0.9
	2.4nm,0.2s						
KPKS				Lg	Lg	11 53 20.1	
	8.6nm,0.3s						
KPKS	Kokpek	4.09	304	eP	Pg	11 52 26.3	-0.9
	2.4nm,0.2s						
KPKS				eS	Sg	11 53 20.1	0.0
	8.6nm,0.3s						
KNOS	Konyrlen	4.36	317	Pg	Pg	11 52 31.6	-0.6
	0.9nm,0.4s						
KNOS				Lg	Lg	11 53 29.3	
	2.8nm,0.3s						
BLB	Baldybastay	4.57	310	Pg	Pg	11 52 34.6	-1.7
	4.7nm,0.2s						
BLB				Lg	Lg	11 53 35.4	
	3.2nm,0.3s						
ARXS	Arharly	5.02	308	Pg	Pg	11 52 43.5	-1.3
	0.6nm,0.1s						
ARXS				Lg	Lg	11 53 50.1	
	5.5nm,0.2s						
TNSS	Tian-Shan	5.07	293	Pg	Pg	11 52 44.5	-1.4
	1.2nm,0.4s						
TNSS				Lg	Lg	11 53 51.0	
	2.4nm,0.4s						
TNSS	Tian-Shan	5.07	293	eP	Pg	11 52 44.5	-1.4
	1.2nm,0.4s						
TNSS				eS	Sg	11 53 51.0	-0.6
	2.4nm,0.4s						
KTBS	Karatobe	5.50	299	Pg	Pg	11 52 51.9	-2.0
	1.2nm,0.6s						
KTBS				Lg	Lg	11 54 04.0	
	3.1nm,0.4s						
MK31	Makanchi Array	5.59	353	⇓Pg	Pg	11 52 55.4	-0.3
	0.3nm,0.5s,baz=173,slow=15,SNR=6.6						
MK31				⇑Sn	Sb	11 53 52.4	-1.0
	0.5nm,0.5s						
MK31				⇑Lg	Lg	11 54 13.7	
	1.1nm,0.4s,baz=170,slow=27,SNR=3.9						

IDC 11 11:59:37.3±1.1, 14°.22N×96°.58E, h0km, mb3.8/7, mbtmp3.8/8, ML4.2/1, MS3.5/1, Error ellipse: s-maj=34.2km s-min=16.9km az=72.0

ISC 11 11:59:42.8±1.6, 14°.3N±0°.2×96°.8E±0°.3, h35km, n9, σ0°33/8, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.61	27	Pn	Pn	12 00 49.8	-0.2
	2.4nm,0.3s,baz=218,slow=15,SNR=18						
CMAR				Lg	Lg	12 02 10.1	
	3.0nm,0.3s,baz=213,slow=33,SNR=8.9 6.6nm,0.4s						
SONM	Songino Array	34.35	12	P	P	12 06 26.8	+0.4
	0.3nm,0.5s,baz=187,slow=11,SNR=2.6 0.3nm,0.5s						
MKAR	Makanchi Array	34.55	342	P	P	12 06 28.0	-0.1
	0.8nm,0.8s,baz=152,slow=10,SNR=5.2 0.8nm,0.8s						
KURBB	Kurchatov Arra	39.10	342	P	P	12 07 06.3	-0.3
	2.1nm,0.8s,baz=153,slow=8.4,SNR=12 2.1nm,0.8s						
ZALV	Zalesovo Beam	40.63	349	P	P	12 07 19.6	+0.4
	2.3nm,0.8s,baz=175,slow=7.4,SNR=8.9 2.3nm,0.8s						
BVAR	Borovoye Array	43.90	337	P	P	12 07 45.7	-0.3
	1.0nm,0.7s,baz=147,slow=8.6,SNR=1.9 1.0nm,0.7s						
WRA	Warramunga Arr	50.27	132	P	P	12 08 36.0	-0.1
	0.9nm,0.5s,baz=312,slow=8.0,SNR=20 0.9nm,0.5s						
GNI	Garni	52.03	310	LR	LR	12 34 27.9	
	comp=Z,44nm,19.2s,baz=32,slow=40						
ASAR	Alice Springs	52.40	136	P	P	12 08 52.1	+0.1
	0.6nm,0.6s,baz=313,slow=7.1,SNR=15 0.6nm,0.6s						

HEL 11 12:08:42.3±0.1, 61°.55N×23°.86E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.78	37	eP	Pg	12 08 56.2	-1.1
KEF	Keuruu	0.78	37	PG	Pg	12 08 56.1	-1.2
	baz=220						
KEF				MSG		12 09 06.7	
	comp=Z,3.4nm,0.2s						
KEF				SB	Sg	12 09 07.4	0.0
KPF	Kankaanpaa	0.90	289	PB	Pg	12 08 59.2	-0.3
FIA0	FINESS Array S	1.07	95	PG	Pg	12 09 01.5	-1.2
FIA0				MSG		12 09 15.0	
	comp=Z,2.6nm,0.2s						
FIA0				SN	Sn	12 09 19.2	-0.8
RAF	Rauma	1.14	243	eP	Pb	12 09 05.0	+0.2
RAF	Rauma	1.14	243	PN	Pb	12 09 04.6	-0.3
	baz=61						
RAF				MSG		12 09 17.0	
	comp=Z,1.2nm,0.2s						
RAF				SN	Sn	12 09 21.7	-0.1
KAF	Kangasniemi	1.29	63	PG	Pg	12 09 05.6	-1.4
KAF				MSG		12 09 21.2	
	comp=Z,1.2nm,0.2s						
KAF				SN	Sn	12 09 25.5	0.0
MEF	Metsahovi	1.36	169	eP	Pg	12 09 04.3	-4.1
MEF	Metsahovi	1.36	169	PN	Pb	12 09 08.8	+0.2
MEF				MSG		12 09 23.3	
	comp=Z,1.3nm,0.2s						
PVF	Pernaja	1.40	135	PN	Pn	12 09 08.7	-0.4
PVF				MSG		12 09 24.6	
	comp=Z,1.1nm,0.2s						
SUF	Sumiainen	1.59	42	PG	Pn	12 09 10.9	-0.8
SUF				MSG		12 09 30.0	
	comp=Z,1.1nm,0.2s						
SUF				SN	Sn	12 09 32.8	-0.2
VAF	Ylistaro	1.60	340	eP	Pn	12 09 11.9	+0.2
VAF	Ylistaro	1.60	340	PN	Pn	12 09 12.1	+0.4
VAF				MSG		12 09 30.2	
	comp=Z,1.3nm,0.2s						
VAF				SN	Sn	12 09 32.9	-0.2
VJF	Virojoki	2.06	118	MSG		12 09 43.5	
	comp=Z,1.4nm,0.2s						
VJF				SG	Sb	12 09 46.9	+0.2
RUF	Ruokolahti	2.44	91	MSG		12 09 54.6	
	comp=Z,0.6nm,0.2s						
RUF				SG	Sb	12 09 58.1	+0.4
NIF	Nilsia	2.60	43	PB	Pn	12 09 27.4	+1.8
	baz=228						
NIF				SG	Sb	12 10 01.0	-1.3
UMAU	Umeaa	2.76	329	SG	Sb	12 10 07.2	+0.4
HEMU	Hemsoen	2.96	295	PG	Pb	12 09 34.0	-1.8

TXNET 11 12:12:37.3, 31°.2N±0°.6×103°.5W±0°.6, h8km±2km, ML1.3/7, Error ellipse: s-maj=1.0km s-min=0.8km az=36.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	Saragosa	0.13	173	P	Pg	12 12 41.0	+0.7
TPB03				S	Sg	12 12 43.1	+0.7
PCOS	Crockett Middl	0.19	6	S	Sg	12 12 45.1	+1.1
TPB10	Southeast of T	0.20	289	P	Pg	12 12 42.1	+0.6
TPB10				S	Sg	12 12 45.2	+0.9
PECS	Pecos	0.32	298	S	Sg	12 12 49.2	+1.1
TPB01	Permian Basin	0.35	218	P	Pg	12 12 44.6	+0.4
TPB01				S	Sb	12 12 50.4	-1.0
TPB05	Hovey Rd	0.35	149	P	Pg	12 12 44.8	+0.7
TPB05				S	Sg	12 12 50.1	+1.3
TPB12	Southwest of T	0.36	269	P	Pg	12 12 44.9	+0.4
TPB12				S	Sb	12 12 50.8	-1.2
TPB07	Mentone	0.38	342	S	Sb	12 12 51.6	-0.8
TPB08	Permian Basin	0.63	121	P	Pb	12 12 50.2	-0.4
TPB08				S	Sb	12 12 58.8	-0.8
MNHN	Monahans	0.67	79	P	Pg	12 12 50.8	+0.4
MNHN				S	Sb	12 13 00.2	-0.7
ALPN	Alpine	0.84	186	P	Pb	12 12 54.2	-0.2
ALPN				S	Sb	12 13 06.1	+0.2
CLNB	Carlsbad	1.08	344	P	Pb	12 12 58.4	0.0
TMB02	Rankin	1.28	90	P	Pb	12 13 01.7	0.0
TMB02				S	Sn	12 13 19.8	+0.8
VHRN	Van Horn	1.32	251	P	Pn	12 13 02.0	-0.2
VHRN				S	Sn	12 13 20.4	+0.4
MNTX	Cornudas Mount	1.65	287	P	Pb	12 13 08.1	+0.1
MNTX				S	Sg	12 13 30.1	-0.3
TMB04	Seminole	1.66	32	P	Pn	12 13 07.5	+0.6
SAND	Sanderson	1.75	136	P	Pb	12 13 09.7	0.0
SAND				S	Sg	12 13 33.3	-0.3
TX31	Lajitas Ar. Si	1.88	184	P	Pb	12 13 11.0	-1.0
TX31				S	Sb	12 13 36.6	+1.0
OZNA	Ozona	2.08	98	P	Pb	12 13 15.2	-0.3
OZNA				S	Sb	12 13 41.9	+0.4

IDC 11 12:24:31.9±2.5, 6°.16S×146°.75E, h105km±28km, mb3.1/5, mbtmp3.6/7, MS4.0/1, Error ellipse: s-maj=39.9km s-min=14.9km az=108.0

ISC 11 12:24:26.8±0.7, 5°.85S±0°.07×146°.31E±0°.10, h35km, n25, σ2°12/26, mb3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.63	167	P	Pn	12 25 22.0	+1.5
	33nm,0.4s,baz=22,slow=6.0,SNR=34						
PMG				S	Sn	12 25 59.5	-2.7
	65nm,0.4s,baz=0.2,slow=21,SNR=8.1						
COEN	Coen	8.63	201	P	Pn	12 26 33.2	+4.0
COEN	Coen	8.63	201	S	Sn	12 28 03.3	-2.1
MTSU	Mount Surprise	12.37	189	P	Pn	12 27 24.2	+3.8
TV1H	Townsville Har	13.34	178	P	Pn	12 27 35.9	+2.2
TATA	Tatamba Isabel	13.62	101	P	P	12 27 46.9	+0.9
ALEG	Aligegeo Malai	14.56	102	P	P	12 27 58.0	+1.6
KDU	Kakadu	15.25	243	P	P	12 28 04.1	0.0
QIS	Mount Isa	16.01	203	P	P	12 28 11.1	-1.4
MTN	Manton Dam	16.50	244	P	P	12 28 20.5	+2.4
WRA	Warramunga Arr	18.21	219	P	P	12 28 36.6	-0.4
	0.6nm,0.3s,baz=38,slow=11,SNR=34						
AS01	Alice Springs	21.34	213	P	P	12 29 10.8	-0.2
ASAR	Alice Springs	21.37	213	P	P	12 29 10.8	-0.5
	0.6nm,0.4s,baz=50,slow=9.3,SNR=44						
ASAR				S	S	12 33 02.6	-4.2
	0.7nm,1.0s,baz=7.9,slow=19,SNR=4.2 0.6nm,0.4s						
INKA	Innaminka	22.41	193	P	P	12 29 21.2	-1.2
OOD	Oodnadatta	24.05	204	P	P	12 29 37.6	-1.1
CMSA	Cobar Meteorol	25.56	181	P	P	12 29 50.9	-1.6
LCRK	Leigh Creek	25.63	196	P	P	12 29 51.5	-1.6
WRKA	Warakurna	25.73	220	P	P	12 29 53.5	-0.7
RPZ	Rata Peaks	43.54	154	LR	LR	12 50 24.2	
	comp=Z,192nm,18.6s,baz=139,slow=36						
CMAR	Chiang Mai Arr	52.58	298	P	P	12 33 39.9	+2.5
	0.6nm,0.6s,baz=128,slow=5.7,SNR=4.8 0.6nm,0.6s						
SONM	Songino Array	63.94	331	P	P	12 34 55.9	-0.6
	0.1nm,0.3s,baz=145,slow=5.3,SNR=2.1 0.1nm,0.3s						
MKAR	Makanchi Array	76.95	321	P	P	12 36 15.5	-0.3
	0.2nm,0.4s,baz=112,slow=6.4,SNR=2.6 0.2nm,0.4s						
ILAR	Eielson Array	85.61	23	P	P	12 36 58.5	-2.9
	0.1nm,0.4s,baz=255,slow=5.2,SNR=5.5 0.1nm,0.4s						
TORD	Torodi Ar. Bea	144.39	284	PKP	PKPab	12 43 57.9	-0.7
	2.9nm,0.7s,baz=63,slow=4.0,SNR=18						
DBIC	Dimbokro	151.33	273	PKPbc	PKPbc	12 44 16.5	-1.4
	0.8nm,0.4s,baz=100,slow=2.0,SNR=3.5						

NEIC 11 12:34:03.1±1.6, 18°.9N±0°.1×145°.4E±0°.2, h215km±11km, mb4.2/9, Error ellipse: s-maj=22.3km s-min=15.0km az=102.0
IDC 11 12:34:06.3±6.6, 18°.85N×145°.52E, h253km±65km, mb2.9/8, mbtmp3.5/9, Error ellipse: s-maj=34.8km s-min=15.8km az=88.0

ISC 11 12:34:02.3±0.9, 18°.8N±0°.1×145°.5E±0°.2, h214km, n22, σ0°80/22, mb3.5/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	19.35	320	P	P	12 38 12.3	+0.5
JNU	Nakatsue	19.35	320	P	P	12 38 13.2	+1.4
	9.0nm,1.0s,baz=148,slow=18,SNR=6.2						
WB0	Warramunga Arr	39.84	196	P	P	12 41 14.7	-0.4
WB0				IAmb	IAmb	12 41 34.3	
	comp=Z,14nm,1.4s						
WRAB	Tennant Creek	40.01	196	P	P	12 41 17.2	+0.7
WRAB				IAmb	IAmb	12 41 23.4	
	comp=Z,10nm,1.5s						
WB2	Warramunga Arr	40.02	196	P	P	12 41 16.8	+0.2
WB2				IAmb	IAmb	12 41 57.1	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	40.02	196	P	P	12 41 16.1	-0.5
WRA	Warramunga Arr	40.02	196	P	P	12 41 17.4	+0.8
	comp=Z,0.4nm,0.3s,baz=14,slow=8.5,SNR=12 comp=Z,0.4nm,0.3s						
FITZ	Fitzroy Crossi	41.52	209	P	P	12 41 29.5	+0.6
ASAR	Alice Springs	43.69	195	P	P	12 41 46.8	+0.5
	comp=Z,0.1nm,0.5s,baz=14,slow=6.5,SNR=1.1 comp=Z,0.1nm,0.5s						
MKAR	Makanchi Array	58.24	314	P	P	12 43 34.0	-0.3
MKAR	Makanchi Array	58.24	314	P	P	12 43 34.3	0.0
	comp=Z,0.1nm,0.5s,baz=94,slow=8.9,SNR=1.7 comp=Z,0.1nm,0.5s						
KURBB	Kurchatov Arra	61.10	318	P	P	12 43 54.4	+0.7
	comp=Z,0.1nm,0.3s,baz=91,slow=7.5,SNR=6.1 comp=Z,0.1nm,0.3s						
H24K	Noodor Dome	63.48	25	P	P	12 44 09.8	+0.5
H24K				IAmb	IAmb	12 44 20.7	
	comp=Z,3.4nm,1.4s						
TOLK	Toolik Lake Re	63.58	22	P	P	12 44 10.5	+0.6
TOLK				IAmb	IAmb	12 44 19.6	
	comp=Z,5.6nm,1.4s						
ILAR	Eielson Array	63.65	26	P	P	12 44 09.2	-1.1
	comp=Z,0.1nm,0.4s,baz=255,slow=5.9,SNR=4.7 comp=Z,0.1nm,0.4s						
BMAR	Burnt Mountain	65.11	24	P	P	12 44 20.9	+1.0
BCAR	Beaver Creek A	65.60	29	P	P	12 44 23.1	+0.1
ABKAR	Akbulak array	73.12	317	P	P	12 45 08.9	-0.4
ABKAR	Akbulak array	73.12	317	P	P	12 45 08.6	-0.7
ABKAR				IAmb	IAmb	12 45 36.1	
	comp=Z,2.3nm,1.1s						
YKA	Yellowknife Ar	78.00	28	P	P	12 45 36.2	-0.5
	comp=Z,0.2nm,0.6s,baz=265,slow=7.1,SNR=2.8 comp=Z,0.2nm,0.6s						
NVAR	Mina Array Bea	83.25	52	P	P	12 46 06.1	+0.8
	comp=Z,0.6nm,0.7s,baz=284,slow=5.4,SNR=4.3 comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	86.70	335	P	P	12 46 20.1	-1.6
	comp=Z,0.5nm,0.4s,baz=57,slow=7.0,SNR=5.0 comp=Z,0.5nm,0.4s						

TXNET 11 12:37:01.2, 31°.4N±0°.7×103°.4W±0°.6, h5km±1km, ML1.9/8, Error ellipse: s-maj=1.0km s-min=0.9km az=33.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.07	302	P	Pg	12 37 03.2	+0.3
PCOS				S	Sg	12 37 04.7	+0.6
TPB07	Mentone	0.28	317	S	Sb	12 37 12.9	-1.0
TPB10	Southeast of T	0.28	251	P	Pg	12 37 07.6	+0.9
TPB10				S	Sb	12 37 12.5	-1.4
TPB03	Saragosa	0.29	192	P	Pg	12 37 07.8	+0.8
TPB03				S	Sb	12 37 12.6	-1.6
TPB06	Permian Basin	0.33	35	P	Pb	12 37 09.4	-0.4
TPB06				S	Sb	12 37 15.9	+0.5
PECS	Pecos	0.36	270	P	Pg	12 37 08.9	+0.6
PECS				S	Sb	12 37 14.7	-1.5
TPB05	Hovey Rd	0.46	167	P	Pg	12 37 10.8	+0.6
TPB05				S	Sb	12 37 17.7	-1.4
TPB12	Southwest of T	0.47	250	P	Pg	12 37 10.7	+0.5

TMB02			S	Sn	12 37 41.4	-0.5
VHRN	**Van Horn**	**1.45 247**	P	Pn	12 37 27.9	-0.3
VHRN			S	Sg	12 37 48.1	+0.4
TMB04	**Seminole**	**1.49 33**	P	Pb	12 37 29.4	-0.1
TMB04			S	Sg	12 37 50.6	+1.4
MNTX	**Cornudas Mount**	**1.69 282**	P	Pb	12 37 32.8	+0.1
MNTX			S	Sg	12 37 55.6	+0.2
SAND	**Sanderson**	**1.82 141**	P	Pb	12 37 34.9	-0.1
SAND			S	Sg	12 37 59.1	-0.6
OZNA	**Ozona**	**2.04 102**	P	Pb	12 37 37.9	-0.9
OZNA			S	Sg	12 38 06.0	-0.8
TX31	**Lajitas Ar. Si**	**2.04 185**	P	Pb	12 37 37.9	-1.0
TX31			S	Sg	12 38 05.9	-1.0
SGCY	**Sterling City**	**2.05 74**	P	Pb	12 37 38.7	-0.3
SGCY			S	Sg	12 38 06.3	-0.8

JMA 11 12:37:44.9±0.1, 37°.1N±0°.2×141°.1E±0°.6, h30km, MV1.1/29, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.21 278**	*i* P		Pb	12 37 51.1	-0.1
ONAJ				S	Sb	12 37 55.4	-0.3
JFK	**Kawauchi**	**0.33 334**	P		Pb	12 37 52.4	-0.3
JFK				S	Sb	12 37 57.6	-0.6
JFFD	**Fukushimafurud**	**0.40 273**	P		Pb	12 37 53.5	-0.2
JFFD				*e*S	Sb	12 37 59.5	-0.3
JHO	**Hitachi**	**0.60 220**	*e*P		Pb	12 37 56.3	-0.7
JHO				*e*S	Sb	12 38 04.0	-1.2
JOTO	**OTAMA OYAMA**	**0.75 310**	*e*P		Pb	12 37 59.5	0.0
JOTO				*e*S	Sn	12 38 10.3	+0.5
JMM	**Marumori**	**0.82 345**	*e*P		Pn	12 37 59.7	-0.6
JMM				*e*S	Sb	12 38 10.4	-0.9
JMM	**Marumori**	**0.82 345**	P		Sb	12 38 10.1	-1.2

*KOLA **11** 13:12:49.3, 67°.63N×33°.86E, h0km, ML2.5, Error ellipse: s-maj=3.2km s-min=1.8km az=130.0, Khibiny, mines Rasvumchorr, Central*
*HEL **11** 13:12:50.4±0.3, 67°.65N×33°.83E, h0km, ML2.2, Suspected explosion*
*IDC **11** 13:12:51.2±1.3, 67°.65N×33°.11E, h0km, mb3.0/1, mbtmp3.5/6, ML2.5/4, Error ellipse: s-maj=14.1km s-min=8.9km az=84.0*
ISC 11 13:12:48.1±0.8, 67°.59N±0°.03×33°.84E±0°.04, h0km, n27, σ1°73/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.17 263**		P	**Pg**	**13 12 52.4**	**+1.1**
APA0	**Apatity Array**	**0.32 273**		P	**Pg**	**13 12 55.0**	**+0.7**
APA0				S	**Sg**	**13 12 59.8**	**+1.3**
LVZ	**Lovozero**	**0.44 45**		P	**Pg**	**13 12 56.8**	**+0.4**
LVZ				S	**Sg**	**13 13 02.4**	**+0.3**
KVDA	**Kovda**	**0.98 203**		P	**Pg**	**13 13 07.7**	**+0.9**
KVDA				S	**Sg**	**13 13 20.7**	**+1.2**
VRF	**Varrio**	**1.62 278**	*e*P		**Pn**	**13 13 18.2**	**+0.3**
VRF			*e*S		**Sg**	**13 13 39.5**	**-0.6**
VRF				MSG		13 13 40.9	
	comp=Z,17nm,0.2s						
TERR	**Teriberka**	**1.69 16**	P		**Pn**	**13 13 17.0**	**-1.7**
TERR				S	**Sn**	**13 13 40.0**	**-1.0**
OLKF	**Oulanka, Finla**	**2.16 236**	*e*P		**Pb**	**13 13 28.6**	**+0.6**
OLKF			*e*S		**Sg**	**13 13 57.4**	**-0.1**
OLKF				MSG		13 14 00.6	
	comp=Z,12nm,0.2s						
KU6	**Riekki**	**2.22 227**	*e*P		**Pb**	**13 13 28.8**	**-0.1**
KU6			*e*S		**Sg**	**13 13 58.2**	**-1.0**
KU6				MSG		13 13 59.8	
	comp=Z,8.7nm,0.2s						
PRVG	**Vayda Guba**	**2.25 345**	S		**Sn**	**13 13 55.2**	**+0.3**
RAJF	**Raja-Jooseppi**	**2.26 296**	*e*P		**Pn**	**13 13 28.0**	**+1.4**
RAJF			*e*S		**Sn**	**13 13 56.0**	**+0.9**
MSF	**Maaselka**	**2.54 231**	*e*P		**Pb**	**13 13 34.7**	**+0.2**
MSF			*e*S		**Sb**	**13 14 06.5**	**+0.3**
MSF				MSG		13 14 14.6	
	comp=Z,15nm,0.2s						
KU1	**Kurvinen**	**2.66 222**	*e*P		**Pb**	**13 13 36.2**	**-0.3**
KU1			*e*S		**Sb**	**13 14 08.6**	**-1.0**
KU1				MSG		13 14 21.3	
	comp=Z,6.5nm,0.2s						
KU2	**Taivalkoski**	**2.92 232**	*e*P		**Pb**	**13 13 39.1**	**-1.9**
KU2			*e*S		**Sb**	**13 14 15.8**	**-1.4**
KMNF	**Kaamanen**	**2.98 305**	*e*P		**Pn**	**13 13 37.4**	**+0.9**
KMNF			*e*S		**Sn**	**13 14 12.3**	**-0.5**
VADS	**Vadso**	**3.01 330**	P		**Pn**	**13 13 37.2**	**+0.3**
VADS			S		**Sn**	**13 14 13.0**	**-0.7**
RNF	**Rovaniemi**	**3.21 256**	*e*S		**Sn**	**13 14 20.8**	**+2.1**
KEV	**Kevo**	**3.31 314**	*e*P		**Pn**	**13 13 42.1**	**+1.1**
KEV	**Kevo**	**3.31 314**	*e*P		**Pn**	**13 13 42.4**	**+1.4**
KEV			*e*S		**Sn**	**13 14 20.3**	**-0.6**
KEV				MSG		13 14 35.4	
	comp=Z,13nm,0.2s						
ARA0	**ARCESS Array S**	**3.63 306**	*e*P		**Pn**	**13 13 46.1**	**+0.6**
ARCES	**ARCESS Array B**	**3.63 306**	Pn		**Pn**	**13 13 45.7**	**+0.3**
	comp=Z,4.5nm,0.3s,baz=122,slow=15,SNR=510						
ARCES			Pg		**Pb**	**13 13 53.5**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=119,slow=15,SNR=5.3						
ARCES			Sn		**Sn**	**13 14 23.1**	**-5.8**
	comp=Z,1.7nm,0.3s,baz=119,slow=26,SNR=13						
ARCES			Lg	Lg		13 14 36.7	
	comp=Z,1.1nm,0.3s,baz=124,slow=23,SNR=5.6 comp=Z,9.9nm,0.3s						
ARCES	**ARCESS Array B**	**3.63 306**	P		**Pn**	**13 13 45.6**	**+0.3**
ARCES			S		**Sn**	**13 14 28.1**	**-0.7**
FINES	**FINESS Array B**	**7.01 212**	Pn		**Pn**	**13 14 32.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=23,slow=18,SNR=2.2						
FINES			Sn		**Sn**	**13 15 48.9**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=24,slow=21,SNR=6.3						
FINES			Lg	Lg		13 16 24.9	
	comp=Z,1.2nm,0.3s,baz=24,slow=25,SNR=7.3 comp=Z,2.4nm,0.8s						
FAUS	**Fauske**	**7.12 277**	S		**Sn**	**13 15 50.9**	**-3.8**
HFS	**Hagfors**	**11.55 239**	Pn		**Pn**	**13 15 31.7**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=2.0						
HFS			Lg	Lg		13 18 45.6	
	comp=Z,0.6nm,0.3s,baz=47,slow=29,SNR=5.9 comp=Z,1.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**11.72 342**	Pn		**Pn**	**13 15 33.5**	**-2.7**
	comp=Z,4.8nm,0.7s,baz=143,slow=17,SNR=11						
SPITS			Sn		Sn	13 17 32.5	-15
	baz=130,slow=27						
NOA	**NORSAR Array B**	**11.75 247**	Pn		Pn	13 15 32.1	-4.6
	baz=46,slow=11,SNR=1.6						
NOA			Lg		Lg	13 18 50.1	
	baz=31,slow=17,SNR=4.5 comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**22.77 112**	P		**P**	**13 17 55.9**	**+4.3**
	comp=Z,0.3nm,0.5s,baz=332,slow=8.8,SNR=1.7 comp=Z,0.3nm,0.5s						

NOU 11 13:41:19.2, 22°.13S×170°.05E, h0km, MLv3.7/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.98 289**		P	Pn	13 41 53.2	-0.8
PINNC	**Pines Island,**	**2.46 258**		P	Pn	13 42 00.2	-0.3
YATNC	**Mamie plateau,**	**2.93 271**		P	Pn	13 42 06.2	-0.9
OUENC	**Ouen Island, N**	**2.99 264**		P	Pn	13 42 07.9	+0.1
ONTNC	**Ouen Toro**	**3.34 266**		P	Pn	13 42 12.3	-0.4
ONTNC	**Ouen Toro**	**3.34 266**		S	Sn	13 42 53.4	+0.4
DZM	**Mont Dzumac**	**3.34 270**		P	Pn	13 42 13.1	+0.2
KOUNC	**Koumac, New Ca**	**5.60 285**		P	Pn	13 42 44.3	+0.5

*SJA **11** 13:56:11.1±0.7, 34°.28S×70°.77W, h101km±2km, ML3.8, MW3.7*
*NEIC **11** 13:56:12.4±0.7, 34°.27S±0°.04×70°.79W±0°.08, h95km±3km, mb4.3/3, Error ellipse: s-maj=9.5km s-min=6.1km az=106.0*
*GUC **11** 13:56:12.8±0.8, 34°.27S×70°.76W, h95km±2km, ML3.9*
ISC 11 13:56:12.1±0.9, 34°.28S±0°.03×70°.78W±0°.04, h100km±5km, n84, σ0°97/132, 21C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO01	**Tunca**	**0.28 247**		Pn	**Pn**	**13 56 26.3**	**-0.3**
BO01					Sn	13 56 36.4	-1.0
BO01	**Tunca**	**0.28 247**		*e*P	**Pn**	**13 56 26.2**	**-0.3**
BO01				*e*S	**Sn**	**13 56 37.4**	**-0.1**
BO01				IAML		13 56 38.2	
	comp=Z,1μm,0.3s						
BO01	**Tunca**	**0.28 247**	⇑	*i*P	**Pn**	**13 56 26.4**	**-0.3**
BO01				*e*S	**Sn**	**13 56 36.4**	**-1.0**
BO04	**La Punta**	**0.32 26**			**Pn**	**13 56 26.2**	**-0.7**
BO04	**La Punta**	**0.32 26**	⇑	*i*P	**Pn**	**13 56 26.2**	**-0.7**
BO04				*i* S	**Sn**	**13 56 36.6**	**-1.3**
BO04				IAML		13 56 37.9	
	comp=N,6μm,0.3s						
BO02	**Sierra Bellavi**	**0.51 180**		Pn	**Pn**	**13 56 27.9**	**-0.1**
BO02	**Sierra Bellavi**	**0.51 180**		*e*P	**Pn**	**13 56 28.1**	**+0.1**
BO02				*e*S	**Sn**	**13 56 40.3**	**+0.2**
BO02				IAML		13 56 41.4	
	comp=Z,7μm,0.2s						
BO02	**Sierra Bellavi**	**0.51 180**	⇓	*i*P	**Pn**	**13 56 28.1**	**+0.1**
BO02				*i* S	**Sn**	**13 56 40.1**	**+0.1**
BO02				IAML		13 56 41.5	
	comp=E,11μm,0.2s						
MT09	**Talagante**	**0.53 341**			**Pn**	**13 56 27.9**	**-0.4**
MT09	**Talagante**	**0.53 341**	⇑	*i*P	**Pn**	**13 56 28.1**	**-0.3**
MT09				*e*S	**Sn**	**13 56 40.1**	**-0.3**
MT09				IAML		13 56 41.3	
	comp=N,7μm,0.1s						
MT01	**Popeta**	**0.57 317**		Pn	**Pn**	**13 56 28.1**	**-0.3**
MT01	**Popeta**	**0.57 317**		*e*P	**Pn**	**13 56 28.1**	**-0.3**
MT01				*e*S	**Sn**	**13 56 41.0**	**+0.3**
MT01				IAML		13 56 41.5	
	comp=Z,2μm,0.1s						
MT01	**Popeta**	**0.57 317**	⇑	*i*P	**Pn**	**13 56 28.3**	**-0.2**
MT01				*i* S	**Sn**	**13 56 39.8**	**-0.9**
MT01				IAML		13 56 40.5	
	comp=E,5μm,0.2s						
LMEL	**Las Melosas**	**0.64 48**			**Pn**	**13 56 28.7**	**-0.5**
LMEL	**Las Melosas**	**0.64 48**		*e*P	**Pn**	**13 56 28.9**	**-0.3**
LMEL				*e*S	**Sn**	**13 56 42.2**	**+0.2**
LMEL	**Las Melosas**	**0.64 48**	⇑	*i*P	**Pn**	**13 56 28.8**	**-0.4**
LMEL				*i* S	**Sn**	**13 56 41.1**	**-0.9**
LMEL				IAML		13 56 42.9	
	comp=N,6μm,0.1s						
MT13	**San Alfonso**	**0.67 37**			**Pn**	**13 56 29.2**	**-0.2**
MT13	**San Alfonso**	**0.67 37**		*e*P	**Pn**	**13 56 29.2**	**-0.2**
MT13				*e*S	**Sn**	**13 56 42.7**	**+0.2**
MT13				IAML		13 56 43.4	
	comp=Z,3μm,0.1s						
MT13	**San Alfonso**	**0.67 37**	⇑	*i*P	**Pn**	**13 56 29.3**	**-0.1**
MT13				*i* S	**Sn**	**13 56 42.3**	**-0.2**
MT13				IAML		13 56 43.2	
	comp=E,11μm,0.2s						
MT15	**Las Vizcachas**	**0.72 18**	*i* P		**Pn**	**13 56 29.5**	**-0.2**
MT15				*i* S	**Sn**	**13 56 42.5**	**-0.5**
MT15				IAML		13 56 44.3	
	comp=E,9μm,0.2s						
MT03	**Universidad Ad**	**0.82 16**			**Pn**	**13 56 30.4**	**-0.4**
MT03	**Universidad Ad**	**0.82 16**		*e*P	**Pn**	**13 56 30.6**	**-0.2**
MT03				*e*S	**Sn**	**13 56 45.1**	**+0.4**
MT03				IAML		13 56 45.4	
	comp=Z,3μm,0.1s						
MT03	**Universidad Ad**	**0.82 16**	⇑	*i*P	**Pn**	**13 56 30.5**	**-0.2**
MT03				*i* S	**Sn**	**13 56 44.3**	**-0.4**
MT03				IAML		13 56 45.2	
	comp=N,5μm,0.2s						
MT16	**CCHEN**	**0.88 14**			**Pn**	**13 56 31.0**	**-0.4**
MT16	**CCHEN**	**0.88 14**	⇑	*i*P	**Pn**	**13 56 31.2**	**-0.1**
MT16				*i* S	**Sn**	**13 56 45.2**	**-0.5**
MT05	**Renca**	**0.89 2**			**Pn**	**13 56 31.4**	**0.0**
MT05	**Renca**	**0.89 2**		*e*P	**Pn**	**13 56 31.4**	**0.0**
MT05				*e*S	**Sn**	**13 56 46.8**	**+0.8**
MT05				IAML		13 56 47.2	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**0.89 2**	⇑	*i*P	**Pn**	**13 56 31.4**	**0.0**
MT05				*i* S	**Sn**	**13 56 46.0**	**0.0**
MT05				IAML		13 56 48.4	
	comp=E,7μm,0.3s						
MT14	**Cerro Calı̨n**	**0.91 13**	⇑	*i*P	**Pn**	**13 56 31.6**	**0.0**
MT14				*i* S	**Sn**	**13 56 46.1**	**-0.2**
MT14				IAML		13 56 46.9	
	comp=E,5μm,0.4s						
VA05	**Santo Domingo**	**0.93 312**			**Pn**	**13 56 31.7**	**-0.1**
VA05	**Santo Domingo**	**0.93 312**	⇑	*i*P	**Pn**	**13 56 31.9**	**+0.1**
VA05				*i* S	**Sn**	**13 56 46.3**	**-0.3**
VA05				IAML		13 56 48.6	
	comp=N,6μm,0.1s						
BO03	**Pichilemu**	**1.00 257**	⇓	*i*P	**Pn**	**13 56 33.0**	**+0.5**
BO03				*i* S	**Sn**	**13 56 48.4**	**+0.5**
MT04	**Ro Olivares**	**1.02 32**		*e*P	**Pn**	**13 56 33.2**	**+0.2**
MT04				*e*S	**Sn**	**13 56 49.0**	**+0.2**
MT04				IAML		13 56 50.7	
	comp=Z,790nm,0.1s						
MT04	**Ro Olivares**	**1.02 32**	⇑	*i*P	**Pn**	**13 56 33.0**	**-0.1**
MT04				*i* S	**Sn**	**13 56 48.5**	**-0.3**
MT10	**Hacienda Santa**	**1.03 11**	⇑	*i*P	**Pn**	**13 56 32.9**	**-0.1**
MT10				*i* S	**Sn**	**13 56 48.5**	**-0.2**
MT10				IAML		13 56 56.0	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.03 23**	⇑	*i*P	**Pn**	**13 56 33.0**	**-0.2**
FCH				*i* S	**Sn**	**13 56 48.1**	**-1.0**
FCH				IAML		13 56 50.4	
	comp=N,3μm,0.2s						
MT08	**Bocatoma Ro**	**1.05 37**			**Pn**	**13 56 33.3**	**0.0**
MT08	**Bocatoma Ro**	**1.05 37**		*e*P	**Pn**	**13 56 33.5**	**+0.2**
MT08				*e*S	**Sn**	**13 56 49.9**	**+0.7**
MT08				IAML		13 56 51.0	
	comp=Z,639nm,0.3s						
MT08	**Bocatoma Ro**	**1.05 37**	⇑	*i*P	**Pn**	**13 56 33.5**	**+0.2**
MT08				*i* S	**Sn**	**13 56 49.4**	**+0.2**
MT02	**Curacav**	**1.06 344**		Pn	**Pn**	**13 56 33.2**	**0.0**
MT02	**Curacav**	**1.06 344**		*e*P	**Pn**	**13 56 33.1**	**0.0**
MT02				*e*S	**Sn**	**13 56 49.3**	**+0.1**
MT02				IAML		13 56 50.0	
	comp=Z,914nm,0.3s						
MT02	**Curacav**	**1.06 344**	⇑	*i*P	**Pn**	**13 56 33.3**	**0.0**
MT02				*i* S	**Sn**	**13 56 48.6**	**-0.5**
MT02				IAML		13 56 49.7	
	comp=N,2μm,0.1s						
PEL	**Peldehue**	**1.14 4**			**Pn**	**13 56 34.1**	**0.0**
PEL	**Peldehue**	**1.14 4**		*e*P	**Pn**	**13 56 34.1**	**0.0**
PEL				*e*S	**Sn**	**13 56 51.6**	**+0.9**
PEL	**Peldehue**	**1.14 4**	⇑	*i*P	**Pn**	**13 56 34.2**	**0.0**
PEL				*i* S	**Sn**	**13 56 50.8**	**0.0**
PEL				IAML		13 56 52.4	
	comp=E,4μm,0.4s						
GO05	**Hualane**	**1.20 232**		*e*P	**Pn**	**13 56 35.0**	**+0.3**
GO05				*e*S	**Sn**	**13 56 52.0**	**+0.1**
ROC1	**El Roble**	**1.32 351**		*e*P	**Pn**	**13 56 36.1**	**-0.3**
ROC1				*e*S	**Sn**	**13 56 54.5**	**-0.2**
ROCH	**El Roble**	**1.32 351**	⇑	*i*P	**Pn**	**13 56 36.4**	**-0.1**
ROCH			⇑	*i*P	**Pn**	**13 56 36.4**	**-0.1**
ROCH				*i* S	**Sn**	**13 56 54.4**	**-0.3**
ROCH				IAML		13 56 59.1	
	comp=N,3μm,0.4s						
VA01	**Torpederas**	**1.45 330**			**Pn**	**13 56 37.9**	**+0.2**
VA01	**Torpederas**	**1.45 330**		*e*P	**Pn**	**13 56 38.4**	**+0.7**
VA01				*e*S	**Sn**	**13 56 58.5**	**+1.4**
VA01				IAML		13 56 58.7	
	comp=Z,686nm,0.5s						
VA01	**Torpederas**	**1.45 330**		*e*P	**Pn**	**13 56 38.4**	**+0.7**
VA01				*e*S	**Sn**	**13 56 56.7**	**-0.4**
VA03	**San Esteban**	**1.53 7**			**Pn**	**13 56 38.8**	**0.0**
VA03	**San Esteban**	**1.53 7**		*e*P	**Pn**	**13 56 38.9**	**+0.1**
VA03				*e*S	**Sn**	**13 57 00.5**	**+1.4**
VA03				IAML		13 57 02.4	
	comp=Z,1μm,0.3s						
VA03	**San Esteban**	**1.53 7**	⇑	*i*P	**Pn**	**13 56 38.9**	**+0.1**
VA03				*i* S	**Sn**	**13 56 58.7**	**-0.3**
VA03				IAML		13 57 03.7	
	comp=E,2μm,0.2s						
ML02	**Panimavida**	**1.57 199**			**Pn**	**13 56 39.4**	**+0.2**
ML02	**Panimavida**	**1.57 199**		*e*P	**Pn**	**13 56 34.8**	**-4.4**
ML02				*e*P		13 56 39.8	
ML02				*e*S	**Sn**	**13 56 55.3**	**-4.4**
ML02				IAML		13 57 01.8	
	comp=Z,500nm,0.2s						
ML02	**Panimavida**	**1.57 199**		*e*P	**Pn**	**13 56 39.6**	**+0.5**
ML02				*e*S	**Sn**	**13 57 00.4**	**+0.7**
ML02				IAML		13 57 01.3	
	comp=E,2μm,0.4s						
VA06	**Catapilco**	**1.77 346**		Pn	**Pn**	**13 56 41.6**	**-0.1**
VA06	**Catapilco**	**1.77 346**	⇑	*i*P	**Pn**	**13 56 41.9**	**+0.1**
VA06				*i* S	**Sn**	**13 57 03.3**	**-1.0**
VA06				IAML		13 57 06.2	
	comp=N,2μm,0.3s						
EDS3	**Malargue**	**1.87 143**		*e*P	**Pn**	**13 56 44.5**	**+1.4**
EDS3				*e*S	Sn	13 56 48.0	-19
RFA	**San Rafael**	**1.97 105**		*e*P	**Pn**	**13 56 44.2**	**-0.1**
RFA				*e*S	**Sn**	**13 57 08.2**	**-0.7**
BI02	**San Fabin de**	**2.41 190**		Pn	**Pn**	**13 56 50.7**	**+0.6**
BI02	**San Fabin de**	**2.41 190**		*e*P	**Pn**	**13 56 50.3**	**+0.2**
RTLS	**Leoncito**	**2.77 27**		*e*P	**Pn**	**13 56 56.9**	**+1.8**
RTLS				IAML		13 57 34.0	
	comp=Z,124nm,0.3s						
RTCV	**Cerro Valdivia**	**3.06 39**		*e*S	**Sn**	**13 57 34.8**	**+0.2**
RTCV				IAML		13 57 38.7	
	comp=Z,187nm,0.1s						
BI05	**Punta Hualpn**	**3.15 218**		Pn	**Pn**	**13 56 59.0**	**-0.8**
CO03	**El Pedregal**	**3.43 1**			**Pn**	**13 57 03.7**	**0.0**
CO03	**El Pedregal**	**3.43 1**		*e*P	**Pn**	**13 57 04.2**	**+0.4**
CO03				*e*S	**Sn**	**13 57 43.2**	**-0.4**
CO03				IAML		13 57 43.8	
	comp=Z,279nm,0.3s						
CO06	**Fray Jorge**	**3.67 348**			**Pn**	**13 57 06.2**	**-0.6**
ACCO	**Cerro Coronel**	**3.96 22**		*e*P	**Pn**	**13 57 11.4**	**+0.4**
ACCO				*e*S	**Sn**	**13 57 55.2**	**-1.5**
GO04	**Tololo Observa**	**4.10 360**			**Pn**	**13 57 12.1**	**-0.7**
GO04	**Tololo Observa**	**4.10 360**		*e*P	**Pn**	**13 57 12.4**	**-0.4**
GO04				*e*S	**Sn**	**13 57 56.8**	**-3.1**
AROD	**Rodeo**	**4.25 15**		*e*P	**Pn**	**13 57 16.1**	**+1.1**
CO01	**Juntas del Tor**	**4.33 8**			**Pn**	**13 57 16.2**	**+0.2**
AVFE	**Valle Fertil**	**4.57 39**		*e*P	**Pn**	**13 57 18.8**	**-0.4**
AVFE				*e*S	**Sn**	**13 58 06.3**	**-4.9**
LCO	**Las Campanas**	**5.25 1**		Pn	**Pn**	**13 57 27.5**	**-1.1**
LCO	**Las Campanas**	**5.25 1**		*e*P	Pn	13 57 15.0	-14
LCO				*e*S	**Sn**	**13 58 25.3**	**-2.7**
LCO				IAML		13 58 26.7	
	comp=Z,131nm,0.5s						
APLL	**PUNTA DE LOS L**	**5.29 44**		*e*P	**Pn**	**13 57 27.5**	**-1.3**
AC04	**Llanos de Chal**	**6.06 358**		Pn	**Pn**	**13 57 38.5**	**-0.8**
PLCA	**Paso Flores**	**6.44 178**		Pn	**Pn**	**13 57 43.7**	**-0.7**
TRQA	**Tornquist**	**8.05 120**		Pn	**Pn**	**13 58 06.3**	**+0.1**
PB18	**Visviri**	**16.66 4**		Pn	**Pn**	**13 59 59.3**	**-0.8**
PB18				IAmb	IAmb	14 00 32.7	
	comp=Z,16nm,0.5s						
BELA	**Belgrano 2**	**46.42 170**		P	**P**	**14 04 29.5**	**+1.4**
BELA				IAmb	IAmb	14 04 37.8	
	comp=Z,3.8nm,1.2s						
QSPA	**South Pole Qui**	**55.96 180**		P	**P**	**14 05 40.3**	**+0.6**
QSPA				IAmb	IAmb	14 05 57.3	
	comp=Z,3.6nm,1.2s						

JMA 11 13:56:27.5±0.2, 24°.3N±0°.3×123°.8E±0°.4, h17km±1km, MV1.2/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11 319**		P	Pg	13 56 31.1	-0.1
IRIF				*e*S	Sb	13 56 33.8	+0.1
JKRS	**Kuro-shima**	**0.18 94**		P	Pg	13 56 32.0	+0.1
HATJ	**Hateruma jima**	**0.19 182**		P	Pg	13 56 32.0	-0.2
HATJ				*e*S	Sg	13 56 35.5	+0.2
JIJ	**Ishigaki jima**	**0.32 69**		P	Pg	13 56 34.1	-0.2
JIJ				*e*S	Sg	13 56 38.8	-0.2
JISG	**Ishigakijimahi**	**0.56 53**		*e*P	Pg	13 56 38.6	-0.1
JISG				*e*S	Sb	13 56 46.9	+0.1

TAP 11 13:57:02.6, 24°.81N×121°.92E, h15km, ML2.0, 3C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.09 298**		*e*P	**Pg**	13 57 06.1	+0.4
TIPB	**Shuangxi**	**0.18 332**	⇑	*i*P	Pg	13 57 07.1	+0.1
TIPB				*i* S	Sg	13 57 09.9	0.0
TWB1	**Santiao Chiao**	**0.21 18**		P	Pg	13 57 06.8	-0.5
TWB1				*e*S	Sg	13 57 09.5	-1.0
TWC	**Suao**	**0.21 198**	⇑	*i*P	Pg	13 57 07.5	+0.1
TWC				S	Sg	13 57 10.3	-0.3
ESAO	**Su ao**	**0.24 196**		P	Pg	13 57 08.1	+0.2
ESAO				S	Sg	13 57 11.3	-0.2
TWE	**Neicheng**	**0.25 249**		P	Pb	13 57 08.4	-0.3
TWE				S	Sg	13 57 12.2	+0.6
NDS	**Dongshan**	**0.26 226**		P	Pb	13 57 08.6	-0.3
NDS				*e*S	Sg	13 57 12.2	+0.4
SXI1	**Grass Mountain**	**0.28 352**		P	Pg	13 57 08.9	+0.2
SXI1				*e*S	Sg	13 57 12.9	+0.1
NWF	**Wu-fen Shan**	**0.29 334**		S	Sb	13 57 14.1	-0.1
WFSB	**Wu-fen Shan**	**0.29 334**		P	Pb	13 57 09.2	-0.2
WFSB				S	Sb	13 57 13.8	-0.3
FUSB	**Fushanzhiwuyua**	**0.31 260**		P	Pb	13 57 09.6	-0.2
FUSB				*e*S	Sg	13 57 13.7	+0.3
ENTT	**Nioudou**	**0.36 242**		P	Pb	13 57 10.5	-0.2
ENTT				*e*S	Sb	13 57 15.9	-0.4
NWLT	**Wulai**	**0.38 265**		P	Pb	13 57 11.1	0.0
NWLT				*i* S	Sg	13 57 15.9	+0.3
EWUT	**Wuta**	**0.39 199**		P	Pg	13 57 10.5	+0.1
ENA	**Nanau**	**0.41 203**		P	Pg	13 57 11.2	+0.3
ENA				*e*S	Sg	13 57 16.3	-0.3
LATG	**Datong**	**0.45 233**		*e*P	Pb

51nm,1.6s
SPSI Sidrap Palu 7.64 237 P **Pn 14 11 32.7 +0.7**
MYLDM Lahad Datu 9.09 303 Pn **Pn 14 11 48.0 -3.9**
KNRA Kununurra 16.03 171 Pn **Pn 14 13 23.9 -1.8**
FITZ Fitzroy Crossi 18.24 182 **P 14 13 50.0 -2.9**
FITZ Fitzroy Crossi 18.24 182 P **P 14 13 50.1 -2.9**
0.1nm,0.3s,baz=351,slow=12,SNR=2.2
1.9nm,0.8s
WB0 Warramunga Arr 21.47 158 P **P 14 14 26.8 -1.3**
WB0 IAmb IAmb 14 14 32.4
comp=Z,27nm,1.4s
WRAB Tennant Creek 21.60 159 P **P 14 14 28.5 -1.1**
WRAB IAmb IAmb 14 14 33.5
comp=Z,16nm,1.1s
WRA Warramunga Arr 21.61 159 P **P 14 14 28.3 -1.3**
WRA Warramunga Arr 21.61 159 P **P 14 14 28.5 -1.1**
comp=Z,4.7nm,0.5s,baz=338,slow=11,SNR=44
comp=Z,4.7nm,0.5s
WB2 Warramunga Arr 21.61 159 P **P 14 14 28.3 -1.3**
WB2 IAmb IAmb 14 14 33.6
comp=Z,18nm,1.1s
WR0 Warramunga Arr 21.70 158 P **P 14 14 29.4 -1.2**
AS31 Alice Springs 24.93 163 P **P 14 15 02.2 -0.3**
ASAR Alice Springs 24.93 163 P **P 14 15 03.8 +1.2**
comp=Z,2.0nm,0.5s,baz=336,slow=8.5,SNR=47
comp=Z,2.0nm,0.5s
TATO Taipei 24.99 350 P **P 14 15 01.9 -1.0**
HNR Honiara 34.98 107 LR LR 14 32 09.9
comp=Z,59nm,18.1s,slow=38
STKA Stephens Creek 35.13 157 P **P 14 16 33.4 +0.7**
STKA IAmb IAmb 14 16 49.3
comp=Z,7.7nm,1.0s
STKA Stephens Creek 35.13 157 P **P 14 16 33.2 +0.6**
comp=Z,3.2nm,0.8s,baz=328,slow=8.3,SNR=3.5
comp=Z,3.2nm,0.8s
KSRS Korea Array 37.06 2 P **P 14 16 50.0 +1.0**
comp=Z,2.7nm,0.8s,baz=178,slow=10,SNR=9.6
comp=Z,2.7nm,0.8s
JMM Marumori 39.79 18 P **P 14 17 12.5 +0.5**
TOO Toolangi 41.66 157 P **P 14 17 27.5 0.0**
TOO IAmb IAmb 14 17 48.6
comp=Z,7.7nm,1.3s
JTM Tenmabayashi 42.56 17 P **P 14 17 35.3 +0.6**
USA0B Ussuriysk Arra 44.07 6 P **P 14 17 46.8 0.0**
USA0B IAmb IAmb 14 18 18.2
comp=Z,12nm,1.4s
USRK Ussuriysk Ar. 44.07 6 P **P 14 17 46.7 -0.1**
USRK Ussuriysk Ar. 44.07 6 P **P 14 17 47.4 +0.6**
comp=Z,3.9nm,0.7s,baz=186,slow=8.4,SNR=7.2
comp=Z,3.9nm,0.7s
BNX BinXian 45.31 1 ⇓P **P 14 17 55.9 -0.8**
BNX pmax pmax
comp=Z,7.0nm,1.5s
GTA Gaotai 45.82 331 *e*P **P 14 18 03.9 +2.9**
GTA pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 50.41 343 P **P 14 18 36.7 +0.3**
SONM Songino Array 50.41 343 P **P 14 18 37.3 +0.9**
comp=Z,1.3nm,0.6s,baz=155,slow=8.3,SNR=6.7
comp=Z,1.3nm,0.6s
PEA0B Petropavlovsk- 58.85 22 P **P 14 19 38.1 +0.8**
PETK Petropavlovsk- 58.85 22 P **P 14 19 38.1 +0.8**
PETK Petropavlovsk- 58.85 22 P **P 14 19 38.2 +0.9**
comp=Z,3.1nm,0.7s,baz=161,slow=2.0,SNR=8.4
comp=Z,3.1nm,0.7s
MK31 Makanchi Array 60.10 327 P **P 14 19 45.4 -0.7**
MK31 IAmb IAmb 14 20 02.5
comp=Z,2.2nm,1.1s
MKAR Makanchi Array 60.10 327 P **P 14 19 45.5 -0.6**
MKAR Makanchi Array 60.10 327 P **P 14 19 46.1 0.0**
comp=Z,0.9nm,0.4s,baz=127,slow=7.9,SNR=11
MKAR PcP **PcP 14 20 31.7 +0.2**
comp=Z,1.0nm,0.6s,baz=125,slow=4.9,SNR=4.7
comp=Z,0.9nm,0.4s
MAKZ Makanchi 60.28 327 P **P 14 19 46.9 -0.4**
MAKZ IAmb IAmb 14 19 49.7
comp=Z,2.8nm,0.9s
MA2 Magadan 62.20 14 P **P 14 20 00.7 +0.7**
ZALV Zalesovo Beam 63.43 334 P **P 14 20 07.8 -0.5**
comp=Z,0.7nm,0.5s,baz=132,slow=7.0,SNR=4.6
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 64.37 329 P **P 14 20 14.1 -0.5**
comp=Z,1.5nm,0.7s,baz=126,slow=6.0,SNR=16
comp=Z,1.5nm,0.7s
KURK Kurchatov 64.38 329 P **P 14 20 14.7 +0.1**
KURK IAmb IAmb 14 20 26.0
comp=Z,4.7nm,1.0s
BVAR Borovoye Array 69.93 328 P **P 14 20 50.1 +0.3**
comp=Z,1.6nm,0.8s,baz=95,slow=5.1,SNR=6.7
comp=Z,1.6nm,0.8s
MSEY Mahe Island 70.77 265 P **P 14 20 54.8 -1.0**
MSEY IAmb IAmb 14 21 24.5
comp=Z,16nm,1.4s
NRIK Noril'sk 73.66 347 P **P 14 21 12.1 +0.2**
comp=Z,2.5nm,0.6s,baz=121,slow=5.5,SNR=5.3
comp=Z,2.5nm,0.6s
ABKAR Akbulak array 74.49 322 P **P 14 21 16.4 -0.6**
F17K Baldwin Pennin 82.86 23 P **P 14 22 04.0 +1.2**
F17K IAmb IAmb 14 22 08.1
comp=Z,13nm,1.5s
K17K Iditarod 83.17 27 P **P 14 22 05.6 +1.1**
E18K Tukpahlearik C 83.38 22 P **P 14 22 06.8 +1.3**
E18K IAmb IAmb 14 22 08.2
comp=Z,2.5nm,0.8s
E19K Redstone River 84.65 22 P **P 14 22 12.8 +0.9**
E19K IAmb IAmb 14 22 22.8
comp=Z,3.9nm,1.3s
KBZ Khabaz 84.95 314 P **P 14 22 14.4 +0.6**
comp=Z,1.6nm,0.9s,baz=229,slow=5.4,SNR=3.6
comp=Z,1.6nm,0.9s
SYO Syowa Base 89.00 201 ⇓*e*P **P 14 22 33.4 +0.4**
BMAR Burnt Mountain 89.48 23 P **P 14 22 36.1 +0.7**
QSPA South Pole Qui 90.18 180 P **P 14 22 39.0 +0.3**
comp=Z,2.3nm,1.0s,baz=140,slow=12,SNR=3.0
comp=Z,2.3nm,1.0s

*NEIC **11** 14:15:50.2±1.7,23°.11S±0°.09×179°.4W±0°.2,h432km±13km, mb4.3/19,Error ellipse: s-maj=31.9km s-min=13.0km az=97.0*
*IDC **11** 14:15:53.0±3.9,23°.03S×179°.52W,h465km±34km,mb3.6/6, mbtmp4.4/7,Error ellipse: s-maj=47.2km s-min=19.9km az=33.0*
ISC 11 14:15:51.3±0.9,23°.10S±0°.08×179°.6W±0°.2,h450km,n69, σ2s04/72,mb4.2/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.31**	**167**	P	**P**	**14 17 31.8**	**+3.2**
680nm,0.4s,baz=73,slow=21,SNR=3.5							
FUTU	**Fugatoga**	**8.85**	**9**	P	**P**	**14 17 54.1**	**-1.9**
HAZ	**Te Kaha**	**14.79**	**188**	P	**P**	**14 19 04.7**	**+4.7**
HAZ				S	**S**	**14 21 31.1**	**-4.8**
TWGZ	**Tauwhareparae**	**15.18**	**187**	P	**P**	**14 19 07.8**	**+3.6**
TWGZ				S	**S**	**14 21 42.8**	**-0.8**
URZ	**Urewera**	**15.38**	**190**	P	**P**	**14 19 08.7**	**+2.4**
4.9nm,0.4s,baz=65,slow=1.9,SNR=20							
URZ	**Urewera**	**15.38**	**190**	P	**P**	**14 19 07.8**	**+1.5**
URZ				S	**S**	**14 21 40.5**	**-6.9**
MWZ	**Matawai**	**15.39**	**189**	P	**P**	**14 19 08.4**	**+2.0**
MWZ				S	**S**	**14 21 42.3**	**-5.4**
TLZ	**Tolley Road**	**15.75**	**194**	P	**P**	**14 19 15.4**	**+5.1**
KNZ	**Kokohu**	**16.05**	**188**	P	**P**	**14 19 15.5**	**+2.1**
HIZ	**Hauiti**	**16.09**	**196**	P	**P**	**14 19 19.6**	**+5.7**
BKZ	**Black Stump Fm**	**16.37**	**191**	P	**P**	**14 19 16.1**	**-0.7**
BKZ				IAmb	IAmb	14 19 17.8	
comp=Z,28nm,1.5s							
BKZ	**Black Stump Fm**	**16.37**	**191**	P	**P**	**14 19 17.0**	**+0.2**
TMVZ	**Te Maari**	**16.47**	**193**	P	**P**	**14 19 19.4**	**+1.5**
ETVZ	**East Tongariro**	**16.49**	**193**	P	**P**	**14 19 19.4**	**+1.2**
OTVZ	**Oturere**	**16.52**	**193**	P	**P**	**14 19 20.0**	**+1.4**
KWHZ	**Kaweka Forest**	**16.63**	**191**	P	**P**	**14 19 21.1**	**+1.5**
VRZ	**Vera Road**	**16.69**	**196**	P	**P**	**14 19 24.6**	**+4.4**
PNHZ	**Pukenui**	**17.15**	**191**	P	**P**	**14 19 24.1**	**-0.9**
TSZ	**Takapari Road**	**17.33**	**192**	P	**P**	**14 19 27.4**	**+0.5**
DVHZ	**Dannevirke**	**17.53**	**191**	P	**P**	**14 19 29.0**	**0.0**
BFZ	**Birch Farm**	**17.89**	**190**	P	**P**	**14 19 31.9**	**-0.8**
BFZ	**Birch Farm**	**17.89**	**190**	P	**P**	**14 19 31.8**	**-0.8**
MRZ	**Mangatainoka R**	**17.98**	**192**	P	**P**	**14 19 31.9**	**-1.8**
TCW	**Tory Channel**	**18.79**	**195**	P	**P**	**14 19 42.0**	**+0.7**
QRZ	**Quartz Range**	**18.89**	**199**	P	**P**	**14 19 43.3**	**+0.9**
QRZ	**Quartz Range**	**18.89**	**199**	P	**P**	**14 19 43.7**	**+1.3**
NNZ	**Nelson**	**19.02**	**197**	P	**P**	**14 19 43.5**	**0.0**
TUWZ	**Tuamarina**	**19.07**	**195**	P	**P**	**14 19 43.4**	**-0.7**
MRNZ	**Matariki Terra**	**19.35**	**198**	P	**P**	**14 19 46.5**	**-0.1**
THZ	**Tophouse**	**19.65**	**197**	P	**P**	**14 19 48.1**	**-1.3**
DSZ	**Denniston Nort**	**19.95**	**199**	P	**P**	**14 19 52.4**	**+0.3**
KHZ	**Kahutara**	**20.11**	**195**	P	**P**	**14 19 52.6**	**-0.8**
GVZ	**Greta Valley S**	**20.75**	**195**	P	**P**	**14 19 58.4**	**-0.9**
LTZ	**Lake Taylor**	**20.77**	**197**	P	**P**	**14 20 00.7**	**+1.2**
INZ	**Inchbonnie**	**20.95**	**199**	P	**P**	**14 20 00.2**	**-1.0**
INZ	**Inchbonnie**	**20.95**	**199**	P	**P**	**14 20 00.5**	**-0.7**
OXZ	**Oxford**	**21.34**	**197**	P	**P**	**14 20 03.5**	**-1.2**
WVZ	**Waitaha Valley**	**21.49**	**200**	P	**P**	**14 20 05.4**	**-0.6**
MQZ	**McQueen's Vall**	**21.54**	**196**	P	**P**	**14 20 05.6**	**-0.8**
FOZ	**Fox Glacier**	**22.19**	**201**	P	**P**	**14 20 11.0**	**-1.4**
MLZ	**Mavora Lakes**	**24.38**	**201**	P	**P**	**14 20 31.9**	**-0.1**
TUZ	**Tuapeka**	**24.43**	**198**	P	**P**	**14 20 31.3**	**-1.1**
DCZ	**Deep Cove**	**24.80**	**203**	P	**P**	**14 20 36.4**	**+0.7**
WHZ	**Wether Hill Ro**	**24.90**	**201**	P	**P**	**14 20 37.6**	**+0.9**
TOO	**Toolangi**	**33.22**	**236**	P	**P**	**14 21 50.4**	**+1.0**
STKA	**Stephens Creek**	**35.39**	**247**	P	**P**	**14 22 08.6**	**+0.8**
STKA	**Stephens Creek**	**35.39**	**247**	P	**P**	**14 22 09.1**	**+1.2**
comp=Z,2.1nm,0.4s,baz=81,slow=9.0,SNR=10							
comp=Z,2.1nm,0.4s							
BBOO	**Buckleboo**	**40.13**	**246**	P	**P**	**14 22 46.6**	**-0.1**
BBOO				IAmb	IAmb	14 22 50.4	
comp=Z,34nm,1.4s							
AS31	**Alice Springs**	**42.56**	**260**	P	**P**	**14 23 06.6**	**+0.3**
ASAR	**Alice Springs**	**42.56**	**260**	P	**P**	**14 23 06.0**	**-0.4**
ASAR	**Alice Springs**	**42.56**	**260**	P	**P**	**14 23 07.2**	**+0.8**
comp=Z,3.5nm,0.4s,baz=94,slow=7.3,SNR=174							
ASAR				S	S	14 28 47.5	-7.9
comp=Z,0.5nm,0.7s,baz=96,slow=14,SNR=5.9							
comp=Z,3.5nm,0.4s							
WR0	**Warramunga Arr**	**42.67**	**265**	P	**P**	**14 23 07.5**	**+0.3**
WR0				IAmb	IAmb	14 23 11.9	
comp=Z,12nm,1.4s							
WB2	**Warramunga Arr**	**42.85**	**265**	P	**P**	**14 23 09.1**	**+0.5**
WB2				IAmb	IAmb	14 23 09.8	
comp=Z,6.9nm,0.6s							
WB0	**Warramunga Arr**	**42.85**	**265**	P	**P**	**14 23 09.1**	**+0.5**
WB0				IAmb	IAmb	14 23 09.6	
comp=Z,7.7nm,0.8s							
WRAB	**Tennant Creek**	**42.85**	**265**	P	**P**	**14 23 09.0**	**+0.3**
WRAB				IAmb	IAmb	14 23 09.8	
comp=Z,9.0nm,0.9s							
WRA	**Warramunga Arr**	**42.86**	**265**	P	**P**	**14 23 09.1**	**+0.4**
comp=Z,6.1nm,0.5s,baz=92,slow=8.5,SNR=192							
comp=Z,6.1nm,0.5s							
FORT	**Forrest**	**46.97**	**249**	P	**P**	**14 23 40.0**	**-0.3**
KNRA	**Kununurra**	**49.09**	**269**	P	**P**	**14 23 57.4**	**+1.0**
KNRA				IAmb	IAmb	14 23 58.8	
comp=Z,20nm,1.4s							
FITZ	**Fitzroy Crossi**	**51.29**	**265**	P	**P**	**14 24 13.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**51.29**	**265**	P	**P**	**14 24 13.6**	**+0.9**
comp=Z,2.9nm,0.5s,baz=56,slow=2.8,SNR=12							
comp=Z,2.9nm,0.5s							
VNDA	**Vanda**	**55.21**	**185**	P	**P**	**14 24 41.1**	**+1.3**
VNDA				IAmb	IAmb	14 25 22.9	
comp=Z,38nm,1.5s							
NWAO	**Narrogin (SRO)**	**55.93**	**245**	P	**P**	**14 24 44.5**	**-1.0**
NWAO				IAmb	IAmb	14 24 58.0	
comp=Z,47nm,1.5s							
MORW	**Morawa**	**57.52**	**249**	P	**P**	**14 24 56.2**	**-0.5**
MORW				IAmb	IAmb	14 25 36.5	
comp=Z,12nm,1.1s							
QSPA	**South Pole Qui**	**66.98**	**180**	P	**P**	**14 25 57.8**	**-0.1**
QSPA				IAmb	IAmb	14 25 59.1	
comp=Z,7.6nm,1.1s							
QSPA	**South Pole Qui**	**66.98**	**180**	P	**P**	**14 25 58.4**	**+0.5**
comp=Z,2.7nm,0.6s,baz=0.5,slow=0.5,SNR=16							
comp=Z,2.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**14 28 00.8**	**+0.4**
comp=Z,0.7nm,0.7s,baz=115,slow=4.0,SNR=4.7							
comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**141.84**	**349**	PKhKP	PKPpre	14 34 26.8	
comp=Z,0.9nm,0.3s,baz=45,slow=0.6,SNR=9.2							
AKASG	**Malin Array Be**	**144.51**	**328**	PKP	**PKPdf**	**14 34 34.5**	**-0.7**
comp=Z,0.2nm,0.3s,baz=50,slow=1.8,SNR=5.0							
MMAI	**Mount Meron Ar**	**147.72**	**296**	PKPbc	**PKiKP**	**14 34 45.5**	**-1.0**
comp=Z,1.8nm,0.4s,baz=90,slow=3.2,SNR=3.5							

*IDC **11** 14:51:52.0±1.5,23°.97N×109°.04W,h0km,mb3.5/3, mbtmp3.5/6,ML3.5/3,MS3.7/19,Error ellipse: s-maj=26.6km s-min=14.6km az=180.0*
*MEX **11** 14:51:55.0±0.6,24°.03N×108°.86W,h16km±16km,MD4.1*
ISC 11 14:51:52.9±2.2,24°.01N±0°.05×108°.94W±0°.03, h16km±16km,n40,σ2s37/31,mb3.3/3,MS3.8/13,3C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.97**	**251**	*e*P	**Pb**	**14 52 11.6**	**+0.2**
SLBS				*e*S	**Sb**	**14 52 23.6**	**-0.5**
SLBS	**Sierra La Lagu**	**0.97**	**251**	⇑*i*P	**Pb**	**14 52 11.6**	**+0.2**
SLBS				*e*S	**Sb**	**14 52 23.8**	**-0.3**
SLBS				IAML		14 52 25.4	
comp=Z,3μm,0.4s							
SLBS				IAML		14 52 27.5	
comp=N,3μm,0.5s							
LPIG	**La Paz**	**1.25**	**275**	Pg	**Pn**	**14 52 14.7**	**-1.1**
comp=N,187nm,0.3s,baz=75,slow=16,SNR=26							
LPIG				Lg	Lg	14 52 29.8	
comp=N,485nm,0.3s,baz=48,slow=23,SNR=9.0							
LPIG	**La Paz**	**1.25**	**275**	⇑*i*P	**Pn**	**14 52 14.5**	**-1.3**
TSIG	**Topolobambo**	**1.59**	**357**	*e*P	**Pn**	**14 52 18.8**	**-1.7**
TSIG				*i*S	**Sn**	**14 52 37.1**	**-3.6**
TSIG	**Topolobambo**	**1.59**	**357**	*e*P	**Pn**	**14 52 19.8**	**-0.6**
TSIG				*e*S	**Sn**	**14 52 38.2**	**-2.5**
TSIG				IAML		14 52 48.8	
comp=N,396nm,0.4s							
SSIG	**Sanalona**	**1.83**	**63**	*e*P	**Pn**	**14 52 20.9**	**-2.9**
SSIG				*i*S	**Sn**	**14 52 41.4**	**-5.3**
EVAR0	**San Evaristo**	**1.85**	**300**	⇑*i*P	Pn	14 52 21.7	-2.3
EVAR0				IAML		14 53 07.9	
comp=N,445nm,0.8s							
MAIG	**Mazatlaan**	**2.45**	**109**	*e*P	**Pn**	**14 52 31.9**	**-0.3**
MAIG				*i*S	**Sn**	**14 52 58.4**	**-3.5**
MAIG	**Mazatlaan**	**2.45**	**109**	*e*P	**Pb**	**14 52 38.2**	**+1.6**
MAIG				*e*S	**Sg**	**14 53 09.3**	**-2.3**
UAGRB	**Rancho Ultima**	**2.61**	**307**	*e*P	**Pn**	**14 52 32.7**	**-1.9**
UAGRB				*e*S	**Sn**	**14 53 00.8**	**-5.2**
CSIG	**Choix**	**2.86**	**10**	*e*P	**Pn**	**14 52 37.5**	**-0.4**
CSIG				*i*S	**Sn**	**14 53 08.3**	**-3.8**
CDOB	**Cd. Obregon**	**3.56**	**343**	*e*P	**Pn**	**14 52 49.4**	**+1.8**
BCIG	**La Boquilla**	**4.75**	**41**	*e*P	**Pn**	**14 53 03.6**	**-0.4**
BCIG				*e*S	**Sn**	**14 53 56.4**	**-2.4**
TXAR	**Lajitas Array**	**7.10**	**40**	Pn	**Pn**	**14 53 35.9**	**-0.4**
comp=N,0.2nm,0.3s,baz=215,slow=14,SNR=13							
TXAR				Sn	**Sn**	**14 54 55.7**	**-1.0**
comp=N,0.4nm,0.3s,baz=212,slow=16,SNR=3.8							
TXAR				Lg	Lg	14 55 34.1	
comp=N,0.7nm,0.3s,baz=215,slow=32,SNR=6.4							
TXAR				LR	LR	14 56 06.3	
comp=N,108nm,21.4s,baz=221,slow=35							
ANMO	**Albuquerque**	**11.12**	**11**	LR	LR	14 58 19.6	
comp=N,235nm,20.2s,baz=355,slow=35							
PFO	**Pinyon Flats O**	**11.62**	**327**	LR	LR	14 58 57.7	
comp=N,218nm,18.5s,baz=251,slow=37							
CMIG	**Matias Romero**	**14.85**	**115**	LR	LR	15 01 04.4	
comp=N,649nm,20.5s,baz=292,slow=37							
NVAR	**Mina Array Bea**	**16.44**	**333**	Pn	**P**	**14 55 46.9**	**+0.9**
comp=N,0.1nm,0.3s,baz=148,slow=14,SNR=22							
comp=N,4.6nm,0.9s							
ELK	**Elko**	**17.51**	**344**	P	**Pn**	**14 55 58.2**	**+1.6**
comp=N,0.1nm,0.3s,baz=276,slow=13,SNR=2.0							
ELK				LR	LR	15 02 03.0	
comp=N,159nm,21.5s,baz=175,slow=35							
comp=N,0.3nm,0.4s							
PDAR	**Pinedale Array**	**18.72**	**359**	P	**Pn**	**14 56 13.3**	**+1.8**
baz=179,slow=12,SNR=4.9							
PDAR				LR	LR	15 03 45.8	
comp=N,167nm,19.9s,baz=179,slow=38							
comp=N,0.4nm,0.6s							
APG	**El Apazote**	**19.57**	**114**	LR	LR	15 05 06.0	
comp=N,18nm,19.7s,baz=358,slow=40							
TKL	**Tuckaleechee C**	**24.66**	**56**	LR	LR	15 07 21.8	
comp=N,247nm,20.3s,baz=252,slow=38							
NEW	**Newport**	**25.07**	**347**	LR	LR	15 07 05.7	
comp=N,139nm,18.6s,baz=181,slow=36							
JTS	**Las Juntas de**	**26.61**	**117**	LR	LR	15 08 01.8	
comp=N,172nm,20.1s,baz=78,slow=36							
ULM	**Lac du Bonnet**	**28.11**	**18**	LR	LR	15 08 36.6	
comp=N,120nm,19.4s,baz=204,slow=36							
BBB	**Bella Bella**	**31.72**	**337**	LR	LR	15 11 38.1	
comp=N,173nm,18.3s,baz=200,slow=37							
SADO	**Sadowa**	**31.87**	**42**	LR	LR	15 11 44.9	
comp=N,186nm,19.9s,baz=279,slow=37							
YKA	**Yellowknife Ar**	**38.66**	**356**	P	**P**	**14 59 16.4**	**+0.8**
comp=N,0.2nm,0.8s,baz=175,slow=8.4,SNR=5.1							
YKA				LR	LR	15 15 39.2	
comp=N,190nm,18.2s,baz=304,slow=37							
comp=N,0.2nm,0.8s							
SJG	**San Juan**	**40.25**	**90**	LR	LR	15 19 35.2	
comp=N,89nm,18.0s,baz=202,slow=41							
INK	**Inuvik**	**46.79**	**348**	LR	LR	15 20 34.5	
comp=N,114nm,19.0s,baz=230,slow=37							
ILAR	**Eielson Array**	**47.58**	**339**	P	**P**	**15 00 29.5**	**+1.9**
comp=N,0.3nm,0.9s,baz=149,slow=6.0,SNR=8.2							
comp=N,0.3nm,0.9s							
RES	**Resolute Bay**	**51.26**	**5**	LR	LR	15 23 48.8	
comp=N,118nm,18.8s,baz=276,slow=37							
PPT	**Papeete**	**57.27**	**228**	LR	LR	15 18 39.4	
comp=N,42nm,18.4s,slow=28							
H03N2	**Juan Fernandez**	**63.88**	**152**	T	T	16 11 59.1	
baz=331,slow=78,SNR=14							
H03N1	**Juan Fernandez**	**63.89**	**152**	T	T	16 12 01.0	
baz=331,slow=78,SNR=14							
H03N3	**Juan Fernandez**	**63.89**	**152**	T	T	16 11 59.7	
baz=331,slow=78,SNR=15							
RAR	**Rarotonga**	**66.83**	**232**	LR	LR	15 23 40.6	
comp=N,113nm,21.9s,baz=160,slow=29							
PLCA	**Paso Flores**	**73.64**	**151**	P	**P**	**15 03 27.4**	**+1.7**
comp=N,2.8nm,0.9s,baz=342,slow=6.4,SNR=3.7							
comp=N,2.8nm,0.9s							
MSVF	**Nonsavu**	**82.40**	**247**	LR	LR	15 34 46.8	
comp=N,215nm,18.2s,baz=9.9,slow=31							

*IDC **11** 14:54:11.1±12.0,36°.35N×71°.51E,h164km±70km,mb3.5/5, mbtmp3.9/11,Error ellipse: s-maj=133.0km s-min=36.5km az=176.0*
*NNC **11** 14:54:14.7±13.0,37°.06N×70°.50E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=132.5km s-min=88.3km az=158.0*
*NEIC **11** 14:54:15.0±0.8,36°.72N±0°.08×71°.4E±0°.1,h182km±7km, mb4.2/11,Error ellipse: s-maj=12.3km s-min=11.3km az=95.0*
ISC 11 14:54:15.3±0.6,36°.65N±0°.05×71°.52E±0°.07,h200km,n56, σ2s33/61,mb4.1/13,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.53**	**338**	Pn	**Pn**	**14 54 57.5**	**-2.1**
CHGR	**Chuyangaron**	**2.75**	**318**	Pn	**Pn**	**14 54 58.9**	**-3.2**
SIMJ	**Simiganj**	**2.83**	**316**	Pn	**Pn**	**14 54 60.0**	**-3.1**
DRK	**Karamyk**	**2.83**	**4**		**Pn**	**14 55 01.6**	**-1.7**
KBL	**Kabul**	**2.92**	**225**		**Pn**	**14 55 01.8**	**-2.5**
NIL	**Nilore**	**3.31**	**154**	Pn	**Pn**	**14 55 09.2**	**+0.5**
BTK	**Batken**	**3.45**	**351**		**Pn**	**14 55 08.6**	**-1.7**
SRNI	**Srinagar**	**3.72**	**132**	*e*S	**Sn**	**14 55 58.9**	**-0.5**
SRNI				IAML		14 56 01.3	
comp=E,570nm,0.4s							
SRNI				IAML		14 56 01.6	
comp=N,416nm,0.2s							
KSH	**Kashi**	**4.53**	**49**	Pn	**Pn**	**14 55 19.8**	**-4.0**
KSH				Sn	Sn	14 56 06.1	-12
KSH				smax	smax		
comp=N,94nm,0.7s							
KSH				smax	smax		
comp=E,68nm,0.5s							
ARSB	**Arslanbob**	**4.80**	**13**	Pn	**Pn**	**14 55 25.1**	**-2.1**
JMU	**Jammu**	**4.81**	**144**	*e*S	**Sn**	**14 56 21.3**	**-2.6**
JMU				IAML		14 56 23.2	
comp=E,146nm,0.7s							
JMU				IAML		14 56 29.9	
comp=N,130nm,0.8s							
DHRM	**DHARAMSHALA**	**5.90**	**137**	*e*P	**Pn**	**14 55 41.9**	**+0.4**
DHRM				*e*S	**Sn**	**14 56 45.5**	**-4.2**
DHRM				*e*S		14 56 46.5	
DHRM				IAML		14 56 50.8	
comp=E,267nm,0.4s							
DHRM				IAML		14 56 51.5	
comp=N,176nm,0.4s							
AAK	**Ala-Archa**	**6.40**	**20**	Pn	**Pn**	**14 55 46.7**	**-1.2**
AAK	**Ala-Archa**	**6.40**	**20**	P	**Pn**	**14 55 47.2**	**-0.7**
comp=N,4.9nm,0.3s,baz=172,slow=6.6,SNR=28							
AAK				S	**Sn**	**14 56 56.1**	**-5.1**
comp=N,9.2nm,0.5s,baz=342,slow=24,SNR=14							
KK31	**Karatay Array**	**6.49**	**353**	Pn	**Pn**	**14 55 46.9**	**-2.0**
KK31	**Karatay Array**	**6.49**	**353**	⇑P	**Pn**	**14 55 46.8**	**-2.0**
comp=N,1.8nm,0.2s,baz=179,slow=13,SNR=84							
KK31				⇓S	**Sn**	**14 56 55.3**	**-7.8**
comp=N,14nm,0.6s,baz=178,slow=20,SNR=5.2							
KKAR	**Karatay Array**	**6.49**	**353**	Pn	**Pn**	**14 55 46.9**	**-1.9**
KKAR	**Karatay Array**	**6.49**	**353**	Pn	**Pn**	**14 55 47.0**	**-1.9**
BHK	**Bhakra**	**6.61**	**141**	IAML		14 57 05.6	
comp=E,41nm,0.2s							
SRGN	**SRI GANGA NAGA**	**7.00**	**163**	*e*P	**Pn**	**14 55 56.9**	**+1.4**
SRGN				IAML		14 55 57.4	
comp=N,7μm,0.2s							
SRGN				IAML		14 55 57.9	
comp=E,6μm,0.3s							
SRGN				*e*S	**Sn**	**14 57 10.5**	**-4.6**
KDJ	**Kajisay**	**7.01**	**37**	Pn	**Pn**	**14 55 55.1**	**-0.7**
SMLA	**Simla**	**7.23**	**138**	*e*P	**Pn**	**14 55 58.2**	**-0.4**
SMLA				IAML		14 56 00.8	
comp=E,229nm,0.2s							
SMLA				IAML		14 56 01.8	
comp=N,185nm,0.4s							
SMLA				*e*S	**Sn**	**14 57 16.3**	**-4.4**
SMLA				IAML		14 57 19.0	
comp=N,80nm,0.3s							
SMLA				IAML		14 57 19.4	
comp=E,58nm,0.3s							
KUDL	**Kundal**	**9.46**	**152**	*e*P	**Pn**	**14 56 27.8**	**+0.2**
KUDL				IAML		14 58 06.5	
comp=E,12nm,0.6s							
KUDL				IAML		14 58 06.9	
comp=N,6.9nm,0.6s							
KUDL				*e*S	**Sn**	**14 58 07.7**	**-5.8**

comp=Z,4.1nm,0.9s
HFS Hagfors 43.21 322 P **P 15 01 57.4 +1.1**
comp=Z,1.5nm,0.4s,baz=98,slow=9.1,SNR=11
comp=Z,1.5nm,0.4s
NC303 NORSAR Array S 44.45 323 P **P 15 02 06.5 +0.3**
NB201 NORSAR Array S 44.48 323 P **P 15 02 06.8 +0.5**
NB201 IAmb IAmb 15 02 48.1
comp=Z,15nm,1.1s
NOA NORSAR Array B 44.51 323 P **P 15 02 07.3 +0.6**
comp=Z,0.6nm,0.5s,baz=106,slow=7.2,SNR=4.0
comp=Z,0.6nm,0.5s
NC204 NORSAR Array S 44.75 323 P **P 15 02 08.6 0.0**
TIXI Tiksi 45.48 22 P **P 15 02 15.3 +1.3**
TIXI IAmb IAmb 15 02 39.0
comp=Z,6.0nm,1.5s
G31M Satah River 74.88 10 P **P 15 05 34.9 +1.4**
G31M IAmb IAmb 15 05 55.6
comp=Z,5.0nm,1.4s
RND Reindeer 75.22 18 P **P 15 05 37.0 +1.4**
RND IAmb IAmb 15 06 17.7
comp=Z,5.8nm,1.4s
BCAR Beaver Creek A 77.11 15 P **P 15 05 48.3 +2.1**
YKA Yellowknife Ar 81.07 3 P **P 15 06 09.2 +1.6**
comp=Z,0.3nm,0.7s,baz=343,slow=5.3,SNR=3.4
comp=Z,0.3nm,0.7s

---

*BEO **11** 14:54:25.5±0.3, 43°.40N×17°.85E, h2km±2km, ML2.5/14*
*RHSSO **11** 14:54:25.0±0.2, 43°.39N×17°.86E, h8km±1km, ML2.7/12*
*PDG **11** 14:54:25.0±0.2, 43°.33N×17°.89E, h11km, ML2.8/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
ISC 11 14:54:24.9±1.0, **43°.38N**±0°.02×**17°.88E**±0°.01, **h9**km±8km, **n69**, σ0°89/138, **26C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALIN	**Kalinovik**	**0.43**	**74**	↑*i*Pg	**Pg**	**14 54 33.2**	**-0.2**
KALIN				*e*Sg	**Sg**	**14 54 40.6**	**+1.5**
STON	**Ston**	**0.53**	**194**	↓*i*Pg	**Pg**	**14 54 34.1**	**-1.0**
STON				*e*Sg	**Sg**	**14 54 42.6**	**+0.6**
STON	**Ston**	**0.53**	**194**	*e*Pg	**Pg**	**14 54 34.5**	**-0.6**
STON				Sg	**Sg**	**14 54 42.1**	**+0.1**
STON	**Ston**	**0.53**	**194**	*e*Pg	**Pg**	**14 54 34.5**	**-0.6**
STON				*e*Sg	**Sg**	**14 54 43.0**	**+1.0**
RICI	**Ricice**	**0.55**	**282**	*i* Pg	**Pg**	**14 54 35.4**	**-0.2**
RICI				Sg	**Sb**	**14 54 44.6**	**-0.2**
KLINJ	**Klinje**	**0.56**	**112**	*e*Pg	**Pg**	**14 54 35.1**	**-0.7**
KLINJ				*e*Sg	**Sg**	**14 54 44.6**	**+1.5**
MAKA	**Makarska**	**0.63**	**262**	*e*Pg	**Pg**	**14 54 36.6**	**-0.5**
MAKA				Sg	**Sb**	**14 54 46.5**	**-0.5**
BRY	**Bratogost**	**0.68**	**135**	*e*Pg	**Pg**	**14 54 37.3**	**-0.8**
BRY				*e*Sg	**Sg**	**14 54 48.3**	**+1.2**
BRY	**Bratogost**	**0.68**	**135**	↑*i*Pg	**Pg**	**14 54 37.1**	**-1.0**
BRY				*i* Sg	**Sg**	**14 54 46.9**	**-0.2**
DBRK	**Dubrovnik**	**0.74**	**164**	*e*Pg	**Pg**	**14 54 38.7**	**-0.5**
DBRK				Sg	**Sg**	**14 54 49.6**	**+0.8**
UPM	**Unac-Piva**	**0.77**	**103**	*e*Pg	**Pg**	**14 54 38.9**	**-0.9**
UPM				*e*Sg	**Sg**	**14 54 50.6**	**+0.7**
UPM	**Unac-Piva**	**0.77**	**103**	↓*i*Pg	**Pg**	**14 54 38.9**	**-0.9**
UPM				*i* Sg	**Sg**	**14 54 50.6**	**+0.7**
LSTV	**Lastovo**	**0.95**	**230**	*e*Pg	**Pg**	**14 54 41.8**	**-1.3**
LSTV				Sg	**Sb**	**14 54 55.8**	**-0.4**
NKME	**Niksic**	**1.00**	**128**	↑*i*Pg	**Pg**	**14 54 43.0**	**-1.1**
NKME				*i* Sg	**Sg**	**14 54 57.6**	**+0.5**
HCY	**Herceg Novi**	**1.04**	**154**	↓*i*Pg	**Pg**	**14 54 43.4**	**-1.5**
HCY				*e*Sg	**Sg**	**14 54 59.0**	**+0.6**
HCY	**Herceg Novi**	**1.04**	**154**	↑*i*Pg	**Pg**	**14 54 42.9**	**-2.0**
HCY				*i* Sg	**Sg**	**14 54 58.8**	**+0.4**
HAPS	**Han Pijesak,BI**	**1.05**	**48**	↓*i*Pg	**Pg**	**14 54 44.2**	**-0.9**
HAPS				*e*Sg	**Sg**	**14 54 58.6**	**-0.1**
HAPS	**Han Pijesak,BI**	**1.05**	**48**	*e*Pg	**Pg**	**14 54 45.0**	**-0.1**
HAPS				*e*Sg	**Sg**	**14 54 59.2**	**+0.5**
HVAR	**Hvar**	**1.06**	**259**	*e*Pg	**Pg**	**14 54 44.2**	**-1.1**
HVAR				Sg	**Sb**	**14 54 59.6**	**+0.2**
PLE	**Pljevlja**	**1.10**	**92**	↑*i*Pg	**Pg**	**14 54 45.8**	**-0.3**
PLE				*i* Sg	**Sn**	**14 55 02.1**	**0.0**
RUDO	**Rudo**	**1.11**	**77**	*e*Pg	**Pg**	**14 54 45.1**	**-1.1**
RUDO				*e*Sg	**Sg**	**14 55 00.3**	**-0.4**
CEME	**Cevo**	**1.13**	**137**	↑*i*Pg	**Pg**	**14 54 44.7**	**-2.0**
CEME				*i* Sg	**Sb**	**14 55 02.2**	**+0.6**
BBLS	**Lazi&#263i**	**1.21**	**66**	↓*i*Pg	**Pb**	**14 54 47.1**	**-0.9**
BBLS				*e*Sg	**Sg**	**14 55 03.5**	**-0.3**
BBLS	**Lazi&#263i**	**1.21**	**66**	*e*Pg	**Pb**	**14 54 47.5**	**-0.5**
BBLS				*e*Sg	**Sn**	**14 55 05.0**	**+0.4**
KIJV	**Kijevo**	**1.23**	**301**	*i* Pg	**Pb**	**14 54 48.3**	**-0.1**
KIJV				Sg	**Sn**	**14 55 06.1**	**+0.9**
KOME	**Kolasin**	**1.31**	**113**	↑*i*Pg	**Pn**	**14 54 49.5**	**0.0**
KOME				*i* Sg	**Sn**	**14 55 08.5**	**+1.3**
BUM	**Brajici-Budva**	**1.32**	**145**	↑*i*Pg	**Pn**	**14 54 48.3**	**-1.2**
BUM				*i* Sg	**Sn**	**14 55 08.5**	**+1.3**
PDG	**Podgorica**	**1.39**	**133**	↓*i*Pg	**Pn**	**14 54 49.7**	**-0.8**
PDG				*e*Sg	**Sg**	**14 55 10.3**	**+0.7**
PDG	**Podgorica**	**1.39**	**133**	↑P	**Pb**	**14 54 51.2**	**+0.2**
PDG				↑S	**Sg**	**14 55 11.1**	**+1.5**
PDG	**Podgorica**	**1.39**	**133**	*e*Pg	**Pn**	**14 54 50.7**	**+0.2**
PDG				*e*Sg	**Sg**	**14 55 11.6**	**+2.0**
PDG	**Podgorica**	**1.39**	**133**	↑*i*Pg	**Pn**	**14 54 50.0**	**-0.5**
PDG				*i* Sg	**Sg**	**14 55 10.6**	**+1.0**
BLY	**Banja Luka**	**1.45**	**340**	*e*Pg	**Pn**	**14 54 51.5**	**+0.2**
BLY				*e*Sg	**Sb**	**14 55 10.7**	**0.0**
BLY	**Banja Luka**	**1.45**	**340**	*e*Pg	**Pg**	**14 54 52.9**	**+0.1**
BLY				*e*Sg	**Sg**	**14 55 11.7**	**+0.1**
A050A	**Klekovaca**	**1.47**	**319**	↑*i*Pg	**Pn**	**14 54 51.7**	**+0.1**
A050A				*e*Sg	**Sb**	**14 55 11.1**	**-0.1**
SJES	**Sjenica**	**1.54**	**94**	*e*Pn	**Pn**	**14 54 53.2**	**+0.6**
SJES				*e*Sn	**Sn**	**14 55 13.3**	**+0.6**
SJES	**Sjenica**	**1.54**	**94**	*e*Pg	**Pn**	**14 54 53.2**	**+0.6**
SJES				*e*Sg	**Sg**	**14 55 14.6**	**+0.3**
DRME	**Dracevica, Mon**	**1.54**	**141**	*e*Pn	**Pn**	**14 54 52.9**	**+0.4**
DRME				*e*Sn	**Sb**	**14 55 13.5**	**+0.4**
DRME	**Dracevica, Mon**	**1.54**	**141**	↑*i*Pg	**Pn**	**14 54 52.4**	**-0.1**
DRME				*i* Sg	**Sg**	**14 55 14.5**	**+0.2**
IVA	**Berane**	**1.56**	**108**	↑*i*Pg	**Pn**	**14 54 53.3**	**+0.4**
IVA				*i* Sg	**Sg**	**14 55 15.9**	**+0.8**
ZIRJ	**Zirje**	**1.65**	**280**	*e*Pg	**Pg**	**14 54 56.4**	**-0.1**
ZIRJ				Sn	**Sg**	**14 55 18.1**	**+0.3**
MORI	**Morici**	**1.65**	**288**	*e*Pn	**Pb**	**14 54 54.9**	**-0.5**
MORI				Sn	**Sg**	**14 55 18.4**	**+0.6**
TEKS	**Tekeris**	**1.67**	**45**	*e*Pn	**Pn**	**14 54 54.7**	**+0.4**
TEKS				*e*Sn	**Sn**	**14 55 16.2**	**+0.3**
TEKS	**Tekeris**	**1.67**	**45**	*e*Pg	**Pb**	**14 54 56.1**	**+0.3**
TEKS				*e*Sg	**Sb**	**14 55 17.8**	**+0.9**
IVAS	**Ivanjica**	**1.67**	**83**	*e*Pn	**Pb**	**14 54 55.5**	**-0.3**
IVAS				*e*Sn	**Sb**	**14 55 18.2**	**+1.3**
DIVS	**Divibare**	**1.69**	**64**	*e*Pg	**Pb**	**14 54 56.4**	**+0.2**
DIVS				*e*Sg	**Sg**	**14 55 19.4**	**+0.1**
PVY	**Plav**	**1.72**	**117**	↑*i*Pn	**Pn**	**14 54 55.7**	**+0.6**
PVY				*i* Sn	**Sb**	**14 55 19.4**	**+0.9**
A051A	**Mrakovica**	**1.77**	**337**	*e*Pn	**Pn**	**14 54 55.9**	**+0.1**
A051A				*e*Sn	**Sn**	**14 55 18.0**	**-0.5**
UDBI	**Udbina**	**1.91**	**308**	*i* Pn	**Pg**	**14 55 00.6**	**-0.9**
UDBI				Sn	**Sg**	**14 55 26.1**	**-0.1**
GRUS	**Gruza**	**2.12**	**75**	*e*Pn	**Pb**	**14 55 02.8**	**-0.7**
GRUS				*e*Sn	**Sb**	**14 55 30.7**	**+0.8**
DUGI	**Dugi Otok**	**2.13**	**288**	*e*Pn	**Pb**	**14 55 03.4**	**-0.3**
DUGI				Sn	**Sb**	**14 55 31.2**	**+0.9**
GOCS	**Kraljevo Serbi**	**2.19**	**84**	*e*Pn	**Pn**	**14 55 03.1**	**+1.5**
GOCS				*e*Sn	**Sb**	**14 55 31.2**	**-0.8**
PLIT	**Plitvice**	**2.21**	**313**	*e*Pn	**Pb**	**14 55 04.4**	**-0.5**
PLIT				Sn	**Sb**	**14 55 33.4**	**+1.0**
VIRC	**Vir**	**2.23**	**295**	*e*Pn	**Pb**	**14 55 04.7**	**-0.7**
VIRC				Sn	**Sb**	**14 55 34.1**	**+0.9**
FRGS	**Fruska Gora**	**2.25**	**37**	↑*i*Pn	**Pn**	**14 55 03.1**	**+0.7**
FRGS				*e*Sn	**Sn**	**14 55 29.9**	**-0.4**
FRGS	**Fruska Gora**	**2.25**	**37**	*e*Pn	**Pn**	**14 55 03.6**	**+1.2**
FRGS				*e*Sn	**Sn**	**14 55 31.0**	**+0.7**
SELS	**Selova**	**2.37**	**93**	*e*Pn	**Pn**	**14 55 04.9**	**+0.9**
SELS				*e*Sn	**Sb**	**14 55 35.8**	**-1.4**
NVLJ	**Novalja**	**2.47**	**300**	*e*Pn	**Pb**	**14 55 08.1**	**-1.3**
NVLJ				Sn	**Sb**	**14 55 38.9**	**-1.0**
RABC	**Rab**	**2.62**	**303**	*e*Pn	**Pn**	**14 55 08.6**	**+1.3**
RABC				Sn	**Sb**	**14 55 42.8**	**-1.3**
BOVS	**Bovan**	**2.80**	**84**	↑P	**Pn**	**14 55 09.9**	**0.0**
BOVS				↓S	**Sn**	**14 55 43.1**	**-0.6**
BOJS	**Bojanci**	**2.83**	**319**	*e*Pn	**Pn**	**14 55 10.7**	**+0.4**
BOJS				*e*Sn	**Sn**	**14 55 44.1**	**-0.4**
MORH	**Mrgy, Hungar**	**2.88**	**11**	↓P	**Pn**	**14 55 10.5**	**-0.5**
MORH				↓S	**Sn**	**14 55 46.9**	**+1.2**
BARS	**Barje**	**2.94**	**100**	*e*Pn	**Pn**	**14 55 12.6**	**+0.8**
BARS				*e*Sn	**Sn**	**14 55 49.2**	**+2.0**
CRES	**Cresnjevec Ost**	**2.99**	**326**	↑*i*Pn	**Pn**	**14 55 12.4**	**-0.1**
CRES				*e*Sn	**Sn**	**14 55 48.5**	**0.0**
MDVR	**Moldovita**	**3.10**	**62**	↑P	**Pn**	**14 55 13.4**	**-0.6**
MDVR				↑S	**Sn**	**14 55 48.8**	**-2.4**
BRJN	**Brijuni**	**3.34**	**299**	*e*Pg	**Pb**	**14 55 26.0**	**+1.8**
BRJN				Sn	**Sn**	**14 55 59.7**	**+2.8**
CEY	**Cerknica**	**3.41**	**315**	*e*Pn	**Pn**	**14 55 18.1**	**-0.2**
CEY				*e*Sn	**Sn**	**14 55 57.9**	**-0.9**
BZS	**Buzias**	**3.48**	**49**	↑P	**Pn**	**14 55 19.6**	**+0.3**
BZS				↑S	**Sn**	**14 55 59.9**	**-0.7**
GZR	**Gura Zlata**	**4.05**	**59**	↑P	**Pn**	**14 55 27.1**	**+0.1**
GZR				↑S	**Sn**	**14 56 12.9**	**-1.6**
DRGR		**4.83**	**43**	↑P	**Pn**	**14 55 37.4**	**-0.4**
DRGR				↑S	**Sn**	**14 56 32.2**	**-1.7**

NNC 11 15:05:32.2±7.3, **37°.00N**×**70°.54E**, **h121**km±114km, **mb3.2, mpv3.8, 3C-1D, Error ellipse: s-maj=69.8km s-min=51.1km az=162.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.09**	**360**	P	Pn	15 06 59.0	-0.9
	2.7nm,0.2s,baz=172,slow=11,SNR=48						
KK31				↑S	Sn	15 08 10.2	+1.9
	2.9nm,0.5s,baz=178,slow=20,SNR=5.8						
TKM2	**Tokmak 2**	**7.07**	**32**	↓P	Pn	15 07 14.3	+1.1
	2.6nm,0.5s						
TKM2				↑S	Sn	15 08 32.1	0.0
	6.2nm,0.8s						
AB31	**Akbulak array**	**14.47**	**331**	P	Pn	15 08 50.0	-1.1
	0.6nm,0.3s,baz=153,slow=12,SNR=50						
AKTO	**Aktyubinsk**	**16.16**	**330**	↑P	P	15 09 13.3	+0.2
	1.6nm,0.8s						

---

*IDC **11** 15:07:08.9±1.8, 2°.46N×129°.29E, h0km, mb3.6/5, mbtmp3.6/5, ML6.2/1, Error ellipse: s-maj=164.5km s-min=18.9km az=69.0*
*NEIC **11** 15:07:10.9±0.7, 2°.34N±0°.06×129°.0E±0°.1, h10km±2km, mb4.1/7, Error ellipse: s-maj=24.4km s-min=5.1km az=69.0*
*DJA **11** 15:07:13.0±0.6, 2°N±6°×12°9E±°, h10km, M4.2/10, mb4.6/3, MLv3.9/10*
ISC 11 15:07:11.0±0.7, **2°.28N**±0°.08×**128°.78E**±0°.08, **h10**km, **n28**, σ1§31/22, **mb3.8/9, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.06**	**223**	Pn	**Pb**	**15 07 47.5**	**-0.9**
TNTI	**Ternate**	**2.06**	**223**	P	**Pn**	**15 07 47.2**	**+1.5**
SWI	**Sorong**	**3.99**	**141**	P	**Pn**	**15 08 14.1**	**+1.9**
KMSI	**Cibinong**	**5.08**	**251**	P	**Pn**	**15 08 28.4**	**+1.1**
	0.4nm68nm,0.7s						
MSAI	**Masohi**	**5.59**	**178**	P	**Pn**	**15 08 35.7**	**+1.4**
	0.1nm38nm,0.7s						
FAKI	**Fak Fak**	**6.22**	**146**	P	**Pn**	**15 08 45.0**	**+2.0**
LUWI	**Luwuk**	**6.85**	**241**	Pn	**Pn**	**15 08 54.2**	**+2.5**
TGY	**Tagaytay City**	**14.07**	**327**	Pn	**Pn**	**15 10 32.8**	**+2.1**
	115nm,0.3s,baz=196,slow=7.4,SNR=3.7						
TPUB	**Ta-pu**	**22.34**	**340**	P	**P**	**15 12 08.3**	**-0.9**
WB0	**Warramunga Arr**	**22.59**	**166**	P	**P**	**15 12 11.1**	**-0.8**
WB0				IAmb	IAmb	15 12 11.8	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**22.74**	**166**	P	**P**	**15 12 12.8**	**-0.7**
WRAB				IAmb	IAmb	15 12 45.4	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**22.75**	**166**	P	**P**	**15 12 13.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=348,slow=10,SNR=5.8						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**26.27**	**169**	P	**P**	**15 12 46.8**	**0.0**
	comp=Z,0.6nm,1.0s,baz=359,slow=8.2,SNR=6.9						
	comp=Z,0.6nm,1.0s						
STKA	**Stephens Creek**	**36.08**	**161**	P	**P**	**15 14 11.5**	**-1.6**
STKA	**Stephens Creek**	**36.08**	**161**	P	**P**	**15 14 12.8**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=359,slow=7.7,SNR=3.9						
	comp=Z,3.7nm,0.9s						
H11S3	**WAKE ISLAND Hy 40.48**	**64**		T	T	15 58 09.4	
	baz=250,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy 40.50**	**64**		T	T	15 58 06.6	
	baz=250,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 40.50**	**64**		T	T	15 58 09.5	
	baz=250,slow=75,SNR=9.4						
H11N1	**WAKE ISLAND Hy 41.07**	**62**		T	T	15 58 49.1	
	baz=250,slow=75,SNR=114						
H11N2	**WAKE ISLAND Hy 41.08**	**62**		T	T	15 58 50.7	
	baz=250,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy 41.09**	**62**		T	T	15 58 50.5	
	baz=250,slow=75,SNR=75						
SONM	**Songino Array**	**49.33**	**340**	P	**P**	**15 15 59.4**	**-1.2**
SONM	**Songino Array**	**49.33**	**340**	P	**P**	**15 16 00.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=140,slow=7.4,SNR=2.9						
	comp=Z,0.4nm,0.5s						
MK31	**Makanchi Array**	**59.91**	**325**	P	**P**	**15 17 17.2**	**-0.1**
MK31				IAmb	IAmb	15 17 21.9	
	comp=Z,0.6nm,1.0s						
MKAR	**Makanchi Array**	**59.91**	**325**	P	**P**	**15 17 16.9**	**-0.4**
MKAR	**Makanchi Array**	**59.91**	**325**	P	**P**	**15 17 17.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=112,slow=8.2,SNR=13						
	comp=Z,0.3nm,0.4s						
MAKZ	**Makanchi**	**60.10**	**325**	P	**P**	**15 17 18.2**	**-0.3**
MAKZ				IAmb	IAmb	15 18 01.5	
	comp=Z,2.9nm,1.5s						
ABKAR	**Akbulak array**	**74.56**	**321**	P	**P**	**15 18 49.0**	**-1.2**

---

*IDC **11** 15:13:53.0±3.7, 7°.25S×108°.35E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/2, Error ellipse: s-maj=210.0km s-min=24.4km az=49.0*
*DJA **11** 15:13:59.0±0.5, 8°S±3°×10°8E±°, h24km±4km, M4.2/18, mB5.2/1, mb4.3/7, MLv4.1/18, Mw(mB)4.6/1*
ISC 11 15:13:58.5±1.0, **8°.13S**±0°.07×**107°.83E**±0°.06, **h35**km, **n34**, σ1§65/27, **mb3.6/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJI	**Bungbulang**	**0.69**	**345**	P	**Pn**	**15 14 13.4**	**+1.5**
CMJI	**Cimerak**	**0.70**	**60**	P	**Pn**	**15 14 12.8**	**+0.8**
CMJI				S	**Sn**	**15 14 21.6**	**0.0**
CNJI	**Cibinong**	**1.08**	**320**	P	**Pn**	**15 14 18.9**	**+1.8**
CNJI				S	**Sn**	**15 14 32.6**	**+1.8**
LEM	**Lembang**	**1.32**	**351**	P	**Pn**	**15 14 22.4**	**+1.8**
KPJI	**Karang Pucung**	**1.35**	**54**	P	**Pn**	**15 14 21.7**	**+0.8**
KPJI				S	**Sn**	**15 14 39.4**	**+1.8**
SKJI	**Sukabumi**	**1.69**	**311**	P	**Pn**	**15 14 27.0**	**+1.4**
CGJI	**Cibinong**	**2.60**	**305**	P	**Pn**	**15 14 39.9**	**+1.7**
UGM	**Wanagama**	**2.67**	**85**	P	**Pn**	**15 14 39.5**	**+0.4**
SMRI	**Semarang**	**2.80**	**68**	P	**Pn**	**15 14 39.5**	**-1.4**
SMRI	**Semarang**	**2.80**	**68**	P	**Pn**	**15 14 41.9**	**+1.0**
XMI	**Christmas Isla**	**3.12**	**222**	P	**Pn**	**15 14 47.6**	**+2.2**
XMIS	**Christmas Isla**	**3.17**	**223**	P	**Pn**	**15 14 48.0**	**+2.0**
PCJI	**Pacitan**	**3.31**	**91**	P	**Pn**	**15 14 49.3**	**+1.4**
NGJI	**Ngawi**	**3.67**	**78**	P	**Pn**	**15 14 53.4**	**+0.5**
GMJI	**Gumukmas**	**5.56**	**92**	P	**Pn**	**15 15 19.6**	**+0.8**
	0.1nm13nm,0.7s						
MNAI	**Manna**	**6.13**	**307**	P	**Pn**	**15 15 28.2**	**+1.5**
JAGI	**Jajag, Banyuwa**	**6.26**	**94**	P	Pn	15 15 33.3	+4.8
JAGI	**Jajag, Banyuwa**	**6.26**	**94**	P	**Pn**	**15 15 29.0**	**+0.5**
	0.2nm16nm,0.7s						
SRBI	**Singaraja**	**7.31**	**90**	P	**Pn**	**15 15 44.7**	**+1.9**
	0.1nm22nm,1.2s						
TWSI	**Taliwang, Sumb**	**8.97**	**94**	P	**Pn**	**15 16 07.0**	**+1.3**
PLAI	**Plampang**	**9.86**	**95**	P	**Pn**	**15 16 20.4**	**+2.5**
PLAI	**Plampang**	**9.86**	**95**	P	**Pn**	**15 16 19.1**	**+1.2**
KAPI	**Kappang**	**12.24**	**76**	LR	LR	15 21 16.1	
	comp=Z,20nm,18.6s,baz=228,slow=38						
WRA	**Warramunga Arr**	**28.21**	**117**	P	**P**	**15 19 47.9**	**-0.5**
	0.3nm,0.6s,baz=295,slow=10.0,SNR=1.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**29.36**	**125**	P	**P**	**15 19 58.6**	**+0.1**
	0.4nm,0.9s,baz=303,slow=8.5,SNR=4.4						
	0.4nm,0.9s						
H08S2	**Diego Garcia H**	**35.00**	**268**	T	T	15 57 50.5	
	baz=92,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**35.01**	**268**	T	T	15 57 50.7	
	baz=92,slow=76,SNR=78						
H08S1	**Diego Carcia H**	**35.02**	**268**	T	T	15 57 51.4	
	baz=92,slow=76,SNR=85						
KRVT	**Keravat (AS076**	**44.08**	**88**	LR	LR	15 46 18.7	
	comp=Z,83nm,18.7s,baz=202,slow=45						
MKAR	**Makanchi Array**	**59.23**	**340**	P	P	15 23 51.1	-5.2
	0.7nm,0.5s,baz=150,slow=7.8,SNR=13						
	0.7nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.95**	**221**	T	T	16 31 02.8	
	baz=67,slow=75,SNR=71						
H04N1	**CROZET ISLANDS**	**60.97**	**221**	T	T	16 31 01.9	
	baz=67,slow=75,SNR=61						
H04N3	**CROZET ISLANDS**	**60.97**	**221**	T	T	16 31 06.5	
	baz=67,slow=75,SNR=59						
KURBB	**Kurchatov Arra**	**63.79**	**340**	P	**P**	**15 24 23.4**	**-3.6**
	0.4nm,0.3s,baz=155,slow=5.7,SNR=2.4						
	0.4nm,0.3s						

---

*IDC **11** 15:17:34.1±0.5, 6°.20N×82°.30W, h0km, mb4.3/21, mbtmp4.3/27, ML4.5/6, MS4.0/45, Error ellipse: s-maj=20.9km s-min=12.0km az=62.0*
*NEIC **11** 15:17:34.7±1.2, 6°.06N±0°.07×82°.65W±0°.08, h10km±1km, mb4.9/88, Error ellipse: s-maj=15.3km s-min=10.1km az=239.0*
*RSNC **11** 15:17:34.0±0.0, 6°N±8°×8°3W±°, h10km±19km, M4.5, mb5.0, mB5.2, ML3.7, Mw(mB)4.9, MwMwp5.0, Mwp5.3*
*UCR **11** 15:17:36.2±1.0, 6°.14N×82°.41W, h35km±999km, MW4.8*
*GCMT **11** 15:17:37.7±0.2, 6°.13N±0°.01×82°.51W±0°.02, h13km, MW5.0/115, Moment Tensor Solution. s56,c76; s115,c167; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.45±.12; Mθθ3.25±.09; Mφφ0.20±.10; Mrθ1.71±.21; Mθφ0.58±.06; Mφr0.86±.28; Best double couple: M0 3.90400×1016 NP1:φs87.00000°, δ31.00000°, λ-77.00000°. NP2:φs252.00000°, δ60.00000°, λ-98.00000°. Principal axes: T 3.8280, Plg14.0000°, Azm347.0000°; N 0.1570, Plg7.0000°, Azm256.0000°; P -3.9810, Plg74.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UPA **11** 15:17:37.1±1.4, 6°.23N×82°.43W, h23km±15km, MW5.2*
ISC 11 15:17:36.9±0.9, **6°.12N**±0°.04×**82°.45W**±0°.05, **h24**km±6km, **n309**, σ1§71/280, **mb4.8**/62, **MS4.0**/41, **24C-15D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**1.99**	**52**	P		15 18 07.3	
CACAO				S		15 18 30.6	
CACAO	**El Cacao, Vera**	**1.99**	**52**	P	**Pn**	**15 18 07.3**	**-1.8**
CACAO				S	**Sn**	**15 18 30.6**	**-2.6**
CACAO	**El Cacao, Vera**	**1.99**	**52**	↓*i*P	**Pn**	**15 18 07.4**	**-1.7**
CACAO				*e*S	**Sn**	**15 18 30.4**	**-2.9**
LIMO3	**Limones**	**2.01**	**348**	↓*e*P	**Pn**	**15 18 07.2**	**-2.1**
GMAL	**Guarumal, Vera**	**2.03**	**36**	P	**Pn**	**15 18 07.9**	**-1.7**
GMAL				S	**Sn**	**15 18 32.1**	**-2.1**
GMAL	**Guarumal, Vera**	**2.03**	**36**	*e*P	**Pn**	**15 18 07.9**	**-1.7**
GMAL				*e*S	**Sn**	**15 18 32.3**	**-1.9**
GMAL	**Guarumal, Vera**	**2.03**	**36**	↑*e*P	**Pn**	**15 18 08.0**	**-1.6**
GMAL				*e*S	**Sn**	**15 18 32.7**	**-1.5**
GMAL	**Guarumal, Vera**	**2.03**	**36**	P		15 18 07.9	
GMAL				S		15 18 32.1	
PTPM	**Petroterminale**	**2.12**	**348**	↑*i*P	**Pn**	**15 18 08.4**	**-2.4**
PTPM				↓*e*P	**Pn**	**15 18 08.8**	**-2.1**
PTPM				*e*S	**Sn**	**15 18 32.7**	**-3.7**
PEDE3	**Pedregal, Chir**	**2.25**	**1**	↓*e*P	**Pn**	**15 18 10.8**	**-1.9**
LOMA3	**Las Lomas, Chi**	**2.30**	**1**	↓*e*P	**Pn**	**15 18 11.7**	**-1.6**
DVD	**David**	**2.30**	**360**	*e*P	**Pn**	**15 18 11.2**	**-2.2**
DVD				*e*S	**Sn**	**15 18 37.5**	**-3.5**
GUAL3	**Gualaca, Chiri**	**2.40**	**3**	↓*e*P	**Pn**	**15 18 13.1**	**-1.7**
LPPC	**Paso Canoas**	**2.43**	**351**	*e*P	**Pn**	**15 18 13.1**	**-2.1**
STIA3	**Santiago, Vera**	**2.45**	**37**	*e*P	**Pn**	**15 18 14.6**	**-0.9**
STIA3				*e*S	**Sn**	**15 18 41.7**	**-3.0**
PTJ1	**Puerto Jimnez**	**2.55**	**341**	*e*P	**Pn**	**15 18 14.6**	**-2.1**
PSOM3	**Paja de Sombre**	**2.55**	**3**	↓*e*P	**Pn**	**15 18 15.4**	**-1.5**
JIME	**Puerto Jimenez**	**2.56

JTS S Sn 15 19 42.0 -1.4
JTS Las Juntas de 4.83 329⇑ iP Pn 15 18 46.3 -1.9
JTS Las Juntas de 4.83 329⇑ eP Pn 15 18 46.4 -1.8
JTS ⇑ eP Pn 15 18 47.5 -0.8
JTS eS Sn 15 19 41.0 -2.5
JTS Las Juntas de 4.83 329 P 15 18 46.1
JTS S 15 19 42.0
VACR Volcan Arenal 4.86 333 eP Pn 15 18 47.9 -0.7
ARE1 Arenal 1 4.87 333⇑ iP Pn 15 18 48.1 -0.6
VARE2 V. Arenal 4.87 333 eP Pn 15 18 47.3 -1.5
SOLC Bahia Solano 5.01 89 P Pn 15 18 51.0 +0.4
SOLC S Sn 15 19 38.6 -9.2
SOLC Bahia Solano 5.01 89 P 15 18 51.0
SOLC S 15 19 38.6
PLVR Palo Verde 5.09 326⇓ iP Pn 15 18 50.6 -1.4
PIZC Pizarro, Choco 5.19 103 P Pn 15 18 53.8 +0.7
156nm,0.8s
PIZC S Sn 15 19 50.4 -1.9
156nm,0.8s
PIZC Pizarro, Choco 5.19 103 P 15 18 53.8
156nm,0.8s
PIZC S 15 19 50.4
156nm,0.8s
TENO El Achiote 5.20 331 eP Pn 15 18 52.5 -0.8
GR1C Gorgona, Isla 5.27 126 P Pn 15 18 52.5 -1.7
GR1C S Sn 15 19 49.4 -4.8
GR1C Gorgona, Isla 5.27 126 P 15 18 52.5
GR1C S 15 19 49.4
COLC Colonia 5.28 329 eP Pn 15 18 53.0 -1.3
VERA Finca Concepci 5.28 333 eP Pn 15 18 53.6 -0.7
ALIBA Liberia Airpor 5.40 326 eP Pn 15 18 55.2 -0.8
MALC Bahia Malaga 5.50 112 P Pn 15 18 58.2 +0.8
165nm,1.2s
MALC S Sn 15 20 01.4 +1.4
165nm,1.2s
MALC Bahia Malaga 5.50 112 P 15 18 58.2
165nm,1.2s
MALC S 15 20 01.4
165nm,1.2s
CAPC Capurgana 5.64 63 P Pn 15 19 00.3 +1.0
77nm,0.8s
CAPC Capurgana 5.64 63 P 15 19 00.3
77nm,0.8s
BLUN Bluefields 5.99 347 P 15 19 02.9
3µm143nm,1.6s
BLUN Bluefields 5.99 347 P Pn 15 19 02.9 -1.3
3µm143nm,1.6s
APAC Apartado, Choc 6.08 73 P Pn 15 19 10.0 +4.6
78nm,0.6s
APAC S Sn 15 20 15.0 +0.7
78nm,0.6s
APAC Apartado, Choc 6.08 73 P 15 19 10.0
78nm,0.6s
APAC S 15 20 15.0
78nm,0.6s
PLMC San Jos del P 6.25 101 P Pn 15 19 07.9 +0.1
2µm72nm,0.9s
PLMC S Sn 15 20 16.8 -1.8
2µm72nm,0.9s
PLMC San Jos del P 6.25 101 P 15 19 07.9
2µm72nm,0.9s
PLMC S 15 20 16.8
2µm72nm,0.9s
ESPN Las Esperanzas 6.31 343 Pn 15 19 07.4 -1.0
ESPN Las Esperanzas 6.31 343 P Pn 15 19 07.5 -1.0
27µm2µm155nm,1.0s
ESPN Las Esperanzas 6.31 343 eP Pn 15 19 07.6 -0.9
ESPN Las Esperanzas 6.31 343 P 15 19 07.5
27µm2µm155nm,1.0s
CBOC Ciudad Bolivar 6.40 92 P Pn 15 19 10.5 +0.5
43nm,0.7s
CBOC S Sn 15 20 18.2 -4.3
43nm,0.7s
CBOC Ciudad Bolivar 6.40 92 P 15 19 10.5
43nm,0.7s
CBOC S 15 20 18.2
43nm,0.7s
ACON Acoyapa 6.41 335 Pn 15 19 08.8 -1.0
ACON Acoyapa 6.41 335 P Pn 15 19 08.8 -1.0
3µm201nm,0.7s
ACON Acoyapa 6.41 335⇑ iP Pn 15 19 08.4 -1.4
ACON Acoyapa 6.41 335 P 15 19 08.8
3µm201nm,0.7s
JAMC Jamundi, Valle 6.44 116 P Pn 15 19 09.7 -0.8
1µm122nm,0.6s
JAMC S Sn 15 20 20.3 -3.0
1µm122nm,0.6s
JAMC Jamundi, Valle 6.44 116 P 15 19 09.7
1µm122nm,0.6s
JAMC S 15 20 20.3
1µm122nm,0.6s
YOTC Yotoco, Valle 6.44 109 P Pn 15 19 10.3 -0.1
623nm66nm,0.6s
YOTC Yotoco, Valle 6.44 109 P 15 19 10.3
623nm66nm,0.6s
BBAC Balboa, Cauca 6.59 128 P Pn 15 19 12.7 +0.1
4µm1µm126nm,0.7s
BBAC Balboa, Cauca 6.59 128 P 15 19 12.7
4µm1µm126nm,0.7s
POPC Popayan, Colom 6.76 121 P Pn 15 19 14.6 -0.4
2µm221nm,0.7s
POPC S Sn 15 20 28.6 -2.8
2µm221nm,0.7s
POPC Popayan, Colom 6.76 121 P 15 19 14.6
2µm221nm,0.7s
POPC S 15 20 28.6
2µm221nm,0.7s
PAC1 Pacto, Paraso 6.86 148 P 15 19 14.6
PAC1 S 15 20 31.3
PAC1 Pacto, Paraso 6.86 148 P Pn 15 19 14.6 -1.7
PAC1 S Sn 15 20 31.3 -2.5
GCUF Volcan Galeras 7.04 133 P Pn 15 19 20.5 +1.5
3µm223nm,0.8s
GCUF Volcan Galeras 7.04 133 P 15 19 20.5
3µm223nm,0.8s
CUSE Cuicocha Este 7.05 145 P Pn 15 19 22.7 +3.6
CUSE Cuicocha Este 7.05 145 P 15 19 22.7
UREC San Jos de Ur 7.05 76 P Pn 15 19 21.1 +2.4
866nm46nm,0.7s
UREC San Jos de Ur 7.05 76 P 15 19 21.1
866nm46nm,0.7s
OTAV Otavalo 7.07 146 Pn Pn 15 19 18.7 -0.7
OTAV Otavalo 7.07 146 P Pn 15 19 19.1 -0.3
4µm32nm,0.8s
OTAV Otavalo 7.07 146 eP Pn 15 19 18.7 -0.7
OTAV Otavalo 7.07 146 P 15 19 19.1
4µm32nm,0.8s
GUY2C Guyana, Caldas 7.10 97 P Pn 15 19 22.3 +2.5
1µm103nm,0.7s
GUY2C S Sn 15 20 42.5 +2.4
1µm103nm,0.7s
GUY2C Guyana, Caldas 7.10 97 P 15 19 22.3
1µm103nm,0.7s
GUY2C S 15 20 42.5
1µm103nm,0.7s
CRUC La Cruz 7.11 129 P Pn 15 19 21.6 +1.8
CRUC La Cruz 7.11 129 P 15 19 21.6
ORTC Ortega, Tolima 7.50 107 P Pn 15 19 27.1 +2.2
4µm536nm,0.8s
ORTC S Sn 15 20 51.9 +2.6
4µm536nm,0.8s
ORTC Ortega, Tolima 7.50 107 P 15 19 27.1
4µm536nm,0.8s
ORTC S 15 20 51.9
4µm536nm,0.8s
NORC Norcasia 7.56 94 P Pn 15 19 28.5 +2.8
634nm55nm,0.8s
NORC Norcasia 7.56 94 P 15 19 28.5
634nm55nm,0.8s
ZARC Zaragoza, Cauc 7.66 79 P Pn 15 19 29.4 +2.4
37nm,0.7s
ZARC Zaragoza, Cauc 7.66 79 P 15 19 29.4
37nm,0.7s
BETC Betania 7.77 116 P Pn 15 19 31.4 +2.7
27µm1µm,0.8s
BETC Betania 7.77 116 P 15 19 31.4
27µm1µm,0.8s
PPLP Puerto Lpez 7.79 168 P Pn 15 19 26.9 -2.1
459nm19nm,0.5s
PPLP Puerto Lpez 7.79 168 P 15 19 26.9
459nm19nm,0.5s
PRAC Prado 7.90 107 P Pn 15 19 32.1 +1.7
2µm192nm,0.9s
PRAC Prado 7.90 107 P 15 19 32.1
2µm192nm,0.9s
GARC Garzon, Huila 7.96 119 P Pn 15 19 33.2 +1.8
5µm131nm,0.7s
GARC Garzon, Huila 7.96 119 P 15 19 33.2
5µm131nm,0.7s
SJCC San Jacinto, C 8.11 62 P Pn 15 19 35.4 +2.0
54nm,1.4s
SJCC San Jacinto, C 8.11 62 P 15 19 35.4
54nm,1.4s
FLOC Florencia 8.14 123 Pn Pn 15 19 35.2 +1.5
FLOC Florencia 8.14 123 P Pn 15 19 35.7 +2.0
1µm102nm,1.1s
FLOC Florencia 8.14 123 P 15 19 35.7
1µm102nm,1.1s
ROSC El Rosal 8.19 99 Pn Pn 15 19 36.9 +2.2
ROSC El Rosal 8.19 99 Pn Pn 15 19 38.4 +3.7
7.7nm,0.3s,baz=173,slow=13,SNR=8.4
ROSC LR LR 15 22 45.9
comp=Z,676nm,20.7s,baz=276,slow=39
ROSC El Rosal 8.19 99 P Pn 15 19 38.1 +3.4
57nm,0.9s
ROSC El Rosal 8.19 99 P 15 19 38.1
57nm,0.9s
URMC La Uribe, Meta 8.53 109 P Pn 15 19 40.6 +1.5
1µm152nm,0.9s
URMC La Uribe, Meta 8.53 109 P 15 19 40.6
1µm152nm,0.9s
CHIC Chingaza 8.80 99 P Pn 15 19 46.8 +3.7
2µm214nm,1.0s
CHIC Chingaza 8.80 99 P 15 19 46.8
2µm214nm,1.0s
ARGC Ariguani, Magd 8.93 65 P Pn 15 19 48.0 +3.5
78nm,1.1s
ARGC Ariguani, Magd 8.93 65 P 15 19 48.0
78nm,1.1s
VILC Villavicencio, 8.94 102 P Pn 15 19 49.0 +4.2
1µm188nm,0.7s
VILC Villavicencio, 8.94 102 P 15 19 49.0
1µm188nm,0.7s
COHC Cochancay 9.10 159 Pn 15 19 45.9 -1.0
COHC Cochancay 9.10 159 P Pn 15 19 45.9 -1.0
197nm15nm,0.8s
COHC Cochancay 9.10 159 P 15 19 45.9
197nm15nm,0.8s
OCAC Ocana 9.30 76 P Pn 15 19 53.5 +3.8
OCAC Ocana 9.30 76 P 15 19 53.5
RUSC La Rusia 9.31 91 Pn Pn 15 19 52.3 +2.1
PAMC Pamplona, Colo 9.76 82 P Pn 15 20 00.3 +4.0
PAMC Pamplona, Colo 9.76 82 P 15 20 00.3
MTO3 Montecristo 10.67 321 Pn 15 20 05.8 -2.8
APG El Apazote 11.83 319 Pn Pn 15 20 28.6 +4.1
0.3nm,0.3s,baz=129,slow=11,SNR=12
APG LR LR 15 24 27.9
comp=Z,116nm,21.7s,baz=260,slow=35
SDV Santo Domingo 12.03 76 Pn Pn 15 20 28.9 +1.8
SDV Santo Domingo 12.03 76 Pn Pn 15 20 30.0 +2.8
0.8nm,0.3s,baz=268,slow=9.4,SNR=10
SDV Sn Sn 15 22 37.1 -3.6
1.2nm,0.3s,baz=56,slow=17,SNR=1.9
SDV Santo Domingo 12.03 76 eP Pn 15 20 30.0 +2.8
ATAH Atahualpa 13.77 163 Pn Pn 15 20 53.3 +2.1
0.5nm,0.3s,baz=344,slow=11,SNR=13
ATAH LR LR 15 25 53.4
comp=Z,1µm,21.1s,baz=8.6,slow=36
15nm,0.8s
BAUV El Baul 14.55 78 Pn 15 21 02.6 +1.2
TBTG Tabatinga, AM 16.17 129 eP Pn 15 21 21.8 -1.0
CMIG Matias Romero 16.34 313 Pn P 15 21 26.7 -0.9
1.5nm,0.3s,baz=148,slow=9.6,SNR=13
CMIG LR LR 15 26 58.2
comp=Z,567nm,20.4s,baz=130,slow=34
4.6nm,0.4s
SDDR Presa de Saban 16.78 39 Pn P 15 21 32.0 -0.5
CZSB Cruzeiro do Su 16.84 145 P 15 21 30.8
CZSB Cruzeiro do Su 16.84 145 Pn 15 21 30.3 -1.0
CZSB IAmb IAmb 15 21 31.5
comp=Z,69nm,1.1s
CZSB Cruzeiro do Su 16.84 145 P Pn 15 21 30.8 -0.5
CZSB Cruzeiro do Su 16.84 145 eP Pn 15 21 30.7 -0.6
PCRV Puerto La Cruz 18.08 76 P Pn 15 21 45.0 -1.7
comp=Z,0.5nm,0.3s,baz=28,slow=14,SNR=1.3
comp=Z,7.6nm,0.9s
NNA Nana 18.83 163 P P 15 21 54.8 -0.4
NNA Nana 18.83 163 P Pn 15 21 55.8 0.0
comp=Z,1.2nm,0.3s,baz=346,slow=12,SNR=7.6
comp=Z,21nm,0.7s
SJG San Juan 19.87 52 P P 15 22 06.5 -0.1
comp=Z,7.3nm,0.3s,baz=300,slow=8.9,SNR=4.2
comp=Z,7.2nm,0.4s
TEFE Tefe 20.19 118 eP Pn 15 22 11.1 -1.0
BOAV Boa Vista 22.17 99 P P 15 22 32.4 +0.9
BOAV Boa Vista 22.17 99 eP P 15 22 32.3 +0.9
ETMB Extrema 22.63 134 P P 15 22 35.4 -1.0
ETMB IAmb IAmb 15 22 38.4
comp=Z,44nm,0.9s
ETMB Extrema 22.63 134 eP P 15 22 35.5 -0.9
MACA Manacapuru-AM 23.61 112 eP P 15 22 48.6 +2.3
LPAZ La Paz 26.39 148 P P 15 23 12.8 +0.5
comp=Z,1.2nm,0.7s,baz=314,slow=6.9,SNR=4.5
comp=Z,1.2nm,0.7s
LPAZ La Paz 26.39 148 eP P 15 23 10.9 -1.5
ITTB Itaituba 28.63 111 eP P 15 23 33.3 +1.4
VILB Vilhena 29.11 131 eP P 15 23 36.5 +0.3
TKL Tuckaleechee C 29.42 358 LR LR 15 35 48.4
comp=Z,497nm,18.4s,baz=185,slow=37
MDP Montagnes des 29.68 90 LR LR 15 35 14.3
comp=Z,210nm,19.6s,baz=298,slow=36
PB01 IPOC Station P 29.84 155 IAmb IAmb 15 23 52.9
comp=Z,44nm,1.9s
NPGB Novo Progresso 30.02 115 eP P 15 23 44.5 +0.2
U49A Red Boiling Sp 30.40 355 IAmb IAmb 15 23 56.1
comp=Z,20nm,1.3s
SIV San Ignacio 30.50 136 LR LR 15 37 14.0
comp=Z,469nm,18.9s,baz=291,slow=39
TXAR Lajitas Array 30.57 322 P P 15 23 50.8 +1.8
comp=Z,0.7nm,0.9s,baz=142,slow=10,SNR=5.2
TXAR LR LR 15 38 17.7
comp=Z,122nm,19.0s,baz=122,slow=41
comp=Z,0.7nm,0.9s
LCAR Lake Charles 30.86 346 IAmb IAmb 15 24 04.3
comp=Z,42nm,1.9s
PDRB Porto dos Gac 31.06 125 eP P 15 23 53.2 -0.2
S51A Beattyville 31.39 358 IAmb IAmb 15 24 06.0
comp=Z,12nm,0.8s
PTLB Pontes e Lacer 31.50 133 P P 15 23 56.6 -0.6
PTLB Pontes e Lacer 31.50 133 eP P 15 23 57.4 +0.2
T42A Van Buren 31.77 347 IAmb IAmb 15 24 11.7
comp=Z,38nm,1.8s
R50A Paris 32.06 357 IAmb IAmb 15 24 10.8
comp=Z,23nm,1.2s
R49A Shelbyville 32.12 356 IAmb IAmb 15 24 10.9
comp=Z,19nm,1.0s
MGMO Montain Grove 32.17 345 IAmb IAmb 15 24 11.5
comp=Z,17nm,1.2s
LPIG La Paz 32.18 307 LR LR 15 35 44.8
comp=Z,168nm,18.6s,baz=130,slow=34
VHRN Van Horn 32.40 322 IAmb IAmb 15 24 07.9
comp=Z,10nm,1.1s
SSFO Shawnee State 32.44 359 IAmb IAmb 15 24 10.2
comp=Z,27nm,1.1s
Q51A Peebles 32.77 359 IAmb IAmb 15 24 13.0
comp=Z,29nm,1.2s
CCM Cathedral Cave 32.78 347 P P 15 24 07.5 -0.7
CCM IAmb IAmb 15 24 16.4
comp=Z,48nm,1.9s
S39A Bolivar 32.95 344 P P 15 24 09.2 -0.5
S39A IAmb IAmb 15 24 17.4
comp=Z,25nm,1.7s
P53A Whipple 33.23 1 P P 15 24 12.8 +0.7
ACSO Alum Creek Sta 33.97 359 IAmb IAmb 15 24 27.8
comp=Z,28nm,1.1s
SALV Santo Antonio 34.35 130 eP P 15 24 22.3 +0.1
AC02 Maricunga 35.21 159 IAmb IAmb 15 24 32.9
comp=Z,16nm,1.1s
N41A Harden Midland 35.25 349 IAmb IAmb 15 24 37.4
comp=Z,46nm,1.6s
RTBA Rita Blanca 35.44 331 IAmb IAmb 15 24 33.9
comp=Z,7.4nm,0.7s
SNDB Serra Nova Dou 35.82 120 eP P 15 24 35.2 +0.3
ANMO Albuquerque 36.24 326 P P 15 24 37.0 -1.5
ANMO Albuquerque 36.24 326 LR LR 15 41 09.0
comp=Z,208nm,18.7s,baz=292,slow=39
BDQN Bodoquena, MS 36.54 137 eP P 15 24 40.5 -0.3
L40A Anamosa 36.63 349 IAmb IAmb 15 24 50.5
comp=Z,36nm,1.3s
MURT Porto Murtinho 36.81 139 eP P 15 24 42.6 -0.6
AQDB Aquidauana 37.27 136 P P 15 24 46.8 -0.3
AQDB Aquidauana 37.27 136 eP P 15 24 47.1 -0.1
ARAG Araguaiana, MT 37.29 126 eP P 15 24 46.5 -0.9
SMTB Santa Maria do 37.80 113 eP P 15 24 50.9 -0.9
SADO Sadowa 38.61 4 LR LR 15 40 33.2
comp=Z,471nm,20.6s,baz=250,slow=36
H03N2 Juan Fernandez 39.48 175 T T 16 06 54.6
baz=354,slow=76,SNR=8.9
H03N1 Juan Fernandez 39.49 175 T T 16 06 55.7
baz=354,slow=76,SNR=8.6
H03N3 Juan Fernandez 39.50 175 T T 16 06 54.5
baz=354,slow=76,SNR=8.3
SPMN Marine on St. 39.99 349 P P 15 25 09.1 -0.6
BDFB Brasilia 40.38 123 P P 15 25 13.4 0.0
comp=Z,2.9nm,0.7s,baz=290,slow=11,SNR=3.8
BDFB LR LR 15 41 41.3
comp=Z,242nm,20.3s,baz=305,slow=36
comp=Z,2.9nm,0.7s
CPUP Villa Florida 40.42 144 P P 15 25 14.9 +1.4
comp=Z,2.0nm,0.9s,baz=307,slow=8.8,SNR=3.4
CPUP LR LR 15 44 57.1
comp=Z,365nm,18.1s,baz=317,slow=41
comp=Z,2.0nm,0.9s
CPUP Villa Florida 40.42 144 eP P 15 25 13.3 -0.2
F33A 5 Mile Ranch, 41.35 345 IAmb IAmb 15 25 29.2
comp=Z,13nm,0.9s
IPMB Ipameri, GO 41.41 126 eP P 15 25 21.5 -0.3
SDBA SAO DESIDERIO 41.61 116 eP P 15 25 23.5 0.0
RPN Rapa Nui 42.06 217 LR LR 15 38 14.4
comp=Z,393nm,21.8s,baz=46,slow=29
EYMN Ely 42.39 351 IAmb IAmb 15 25 50.9
comp=Z,38nm,1.9s
BSUT Blindstream Ca 42.63 328 P P 15 25 31.2 -0.7
BSUT IAmb IAmb 15 25 54.1
comp=Z,27nm,1.7s
JANB Januaria 43.26 119 eP P 15 25 35.9 -1.0
AGMN Agassiz Nation 43.56 347 IAmb IAmb 15 25 48.0
comp=Z,50nm,1.9s
PDAR Pinedale Array 43.66 331 P P 15 25 39.0 -1.0
PDAR Pinedale Array 43.66 331 P P 15 25 41.5 +1.5
comp=Z,1.2nm,0.8s,baz=120,slow=7.8,SNR=7.8
PDAR PcP PcP 15 27 27.2 +0.2
comp=Z,0.7nm,0.7s,baz=145,slow=5.4,SNR=4.1
PDAR LR LR 15 45 54.6
comp=Z,181nm,20.6s,baz=136,slow=39
comp=Z,1.2nm,0.8s
FLWY Flagg Ranch 45.20 331 IAmb IAmb 15 26 04.3
comp=Z,13nm,1.1s
ELK Elko 45.26 325 LR LR 15 45 18.3
comp=Z,180nm,21.5s,baz=144,slow=37
NBCL Cascavel-CE 45.27 102 eP P 15 25 51.4 -1.7
ULM Lac du Bonnet 45.40 348 P P 15 25 52.5 -1.0
ULM IAmb IAmb 15 26 01.8
comp=Z,14nm,1.0s
ULM Lac du Bonnet 45.40 348 P P 15 25 53.0 -0.5
comp=Z,6.2nm,0.7s,baz=162,slow=6.9,SNR=14
ULM LR LR 15 45 09.7
comp=Z,168nm,21.9s,baz=166,slow=36
comp=Z,6.2nm,0.7s
NV11 Mina Array Sit 45.60 320 IAmb IAmb 15 26 04.6
comp=Z,20nm,1.8s
NVAR Mina Array Bea 45.69 320 P P 15 25 58.6 +2.3
comp=Z,1.1nm,0.7s,baz=120,slow=7.3,SNR=10
NVAR PcP PcP 15 27 35.6 +1.5
comp=Z,0.8nm,0.7s,baz=130,slow=4.0,SNR=4.4
NVAR LR LR 15 45 53.4
comp=Z,159nm,18.1s,baz=140,slow=37
comp=Z,1.1nm,0.7s
YHL Hebgen Lake 46.00 332 IAmb IAmb 15 26 11.5
comp=Z,15nm,1.1s
PARB Paraibuna 46.38 130 eP P 15 26 01.4 -0.3
HLID Hailey 46.69 328 IAmb IAmb 15 27 46.1
comp=Z,14nm,1.8s
BOZ Bozeman (W) 46.77 332 IAmb IAmb 15 26 16.6
comp=Z,16nm,1.2s
SJMB Sao Joao De Ma 47.56 122 eP P 15 26 11.4 +0.5
CMC01 Camacan, BA 47.58 117 eP P 15 26 11.7 +0.5
PLCA Paso Flores 47.89 168 P P 15 26 14.1 +0.9
comp=Z,2.3nm,0.8s,baz=357,slow=7.4,SNR=5.1
PLCA LR LR 15 44 10.9
comp=Z,114nm,18.3s,baz=3.0,slow=33
comp=Z,2.3nm,0.8s
PLCA Paso Flores 47.89 168 eP P 15 26 12.9 -0.3
RCBR Riachuelo 47.95 103 LR LR 15 48 28.2
comp=Z,66nm,19.8s,baz=279,slow=39
WVOR Wild Horse Val 48.30 324 IAmb IAmb 15 26 28.1
comp=Z,18nm,1.2s
RIB01 Linhares ES 48.51 122 eP P 15 26 19.9 +1.6
SCHQ Schefferville 50.17 12 P P 15 26 29.6 -0.8
comp=Z,11nm,1.0s,baz=150,slow=4.7,SNR=3.7
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 50.35 321 LR LR 15 49 04.0
comp=Z,146nm,19.7s,baz=143,slow=38
NEW Newport 51.30 331 LR LR 15 49 39.6
comp=Z,220nm,21.3s,baz=128,slow=38
FRB Frobisher Bay 58.39 7 LR LR 15 53 25.9
comp=Z,163nm,18.1s,baz=175,slow=37
BBB Bella Bella 59.25 329 LR LR 15 55 33.4
comp=Z,125nm,21.1s,baz=180,slow=38
YKA Yellowknife Ar 61.01 344 P P 15 27 48.7 +0.6
comp=Z,2.6nm,1.0s,baz=144,slow=6.6,SNR=15
YKA PcP PcP 15 28 32.5 +1.3
comp=Z,0.3nm,0.5s,baz=157,slow=4.2,SNR=4.1
YKA LR LR 15 56 32.1
comp=Z,110nm,18.0s,baz=292,slow=38
comp=Z,2.6nm,1.0s
USHA Ushuaia 61.85 171 LR LR 15 51 15.8
comp=Z,206nm,18.4s,baz=344,slow=33
DLBC Dease Lake 63.71 334 P P 15 28 08.0 +1.5
comp=Z,3.1nm,0.8s,baz=129,slow=7.1,SNR=5.1
comp=Z,3.1nm,0.8s
SFJD Kangerlussuaq 64.57 13 LR LR 15 55 27.1
comp=Z,112nm,21.9s,baz=214,slow=35
RES Resolute Bay 68.89 356 P P 15 28 38.5 -0.7
comp=Z,1.2nm,0.8s,baz=185,slow=8.7,SNR=3.7
RES LR LR 15 59 57.5
comp=Z,355nm,18.1s,baz=184,slow=37
comp=Z,1.2nm,0.8s
H31M Peel River 69.55 340 IAmb IAmb 15 28 55.7
comp=Z,15nm,1.2s
J30M Hart River 69.60 338 IAmb IAmb 15 28 56.3
comp=Z,21nm,1.4s
INK Inuvik 70.70 342 IAmb IAmb 15 29 02.4
comp=Z,21nm,1.2s
INK Inuvik 70.70 342 LR LR 16 02 05.2
comp=Z,262nm,18.0s,baz=242,slow=38
BCAR Beaver Creek A 71.02 336 P P 15 28 53.9 +1.2
SUMG Summit 71.55 13 P P 15 28 56.2 +0.1
SUMG IAmb IAmb 15 28 59.7
comp=Z,18nm,1.1s
PMSA Palmer Station 72.02 172 LR LR 15 58 15.3
comp=Z,151nm,18.1s,baz=312,slow=34
SCRK Sand Creek 72.30 336 IAmb IAmb 15 29 06.8
comp=Z,29nm,1.9s
F28M Old Crow 72.37 340 IAmb IAmb 15 29 11.8
comp=Z,30nm,1.8s
PRP Porcupine Dome 73.51 337 IAmb IAmb 15 29 19.3
comp=Z,19nm,1.4s
IL31 73.77 336 IAmb IAmb 15 29 19.5
comp=Z,23nm,1.4s
ILAR Eielson Array 73.77 336 P P 15 29 09.8 +0.9
ILAR Eielson Array 73.77 336 P P 15 29 10.1 +1.2
comp=Z,5.1nm,1.2s,baz=114,slow=4.0,SNR=17
ILAR LR LR 16 05 45.4
comp=Z,170nm,18.2s,baz=96,slow=39
comp=Z,5.1nm,1.2s
BMAR Burnt Mountain 73.91 339 P P 15 29 11.1 +1.3
RND Reindeer 74.12 335 IAmb IAmb 15 29 22.8
comp=Z,14nm,1.0s
KDAK Kodiak Island 74.31 328 LR LR 16 06 02.4
comp=Z,108nm,18.6s,baz=340,slow=39
SKT Skwentna 74.87 333 IAmb IAmb 15 29 26.7
comp=Z,21nm,1.3s
BPAW Bear Paw Mtn. 75.23 335 IAmb IAmb 15 29 27.9
comp=Z,19nm,1.2s
MDT Midelt 76.50 58 LR LR 15 57 01.3
comp=Z,28nm,21.5s,baz=345,slow=31
ESDC Sonseca Array 77.26 51 P P 15 29 29.6 +0.1
ESDC Sonseca Array 77.26 51 P P 15 29 30.5 +0.9
comp=Z,2.3nm,1.1s,baz=278,slow=5.9,SNR=7.8
ESDC LR LR 15 57 10.0
comp=Z,73nm,20.1s,baz=276,slow=31
comp=Z,2.3nm,1.1s
G19K Purcell Mounta 78.24 336 IAmb IAmb 15 29 45.9
comp=Z,16nm,1.3s
G18K Tagagawik 78.82 336 IAmb IAmb 15 29 48.8
comp=Z,8.5nm,0.9s
EKA Eskdalemuir Ar 78.90 35 P P 15 29 38.5 +0.2
comp=Z,2.4nm,0.7s,baz=260,slow=5.2,SNR=9.6
comp=Z,2.4nm,0.7s

JMIC Jan Mayen 79.03 19 LR LR 16 04 12.6
comp=Z,37nm,20.0s,baz=265,slow=36
TORD Torodi Ar. Bea 82.94 78 P **P** **15 30 00.8 +0.2**
TORD Torodi Ar. Bea 82.94 78 P **P** **15 30 01.2 +0.6**
comp=Z,1.3nm,0.7s,baz=270,slow=5.1,SNR=7.8
comp=Z,1.3nm,0.7s
SPITS Spitsbergen Ar 85.86 12 P **P** **15 30 14.9 +0.7**
comp=Z,12nm,1.0s,baz=267,slow=6.7,SNR=2.2
SPITS LR LR 16 09 15.4
comp=Z,110nm,21.1s,baz=246,slow=36
comp=Z,12nm,1.0s
NOA NORSAR Array B 86.47 29 P **P** **15 30 18.1 +0.6**
comp=Z,3.6nm,1.1s,baz=275,slow=4.6,SNR=4.5
NOA LR LR 16 07 56.0
comp=Z,23nm,18.4s,baz=265,slow=35
comp=Z,3.6nm,1.1s
DAVOX Davos/Dischmat 87.18 43 LR LR 16 04 45.6
comp=Z,57nm,19.8s,baz=262,slow=32
HFS Hagfors 87.80 30 P **P** **15 30 24.7 +0.8**
comp=Z,3.9nm,1.0s,baz=278,slow=4.5,SNR=2.5
HFS LR LR 16 05 48.8
comp=Z,28nm,20.5s,baz=276,slow=33
comp=Z,3.9nm,1.0s
CLL Collm 88.67 39 *e*P **P** **15 30 29.0 +0.7**
GERES GERESS Array B 89.47 41 LR LR 16 04 09.2
comp=Z,45nm,19.4s,baz=289,slow=31
ARCES ARCESS Array B 90.50 20 LR LR 16 06 17.6
comp=Z,53nm,19.9s,baz=324,slow=32
VRAC Vranov 91.27 40 LR LR 16 03 37.1
comp=Z,70nm,21.3s,baz=292,slow=30
FINES FINESS Array B 93.38 27 LR LR 16 11 48.0
comp=Z,54nm,18.0s,baz=284,slow=35
QSPA South Pole Qui 96.13 180 P **P** **15 31 03.8 +1.3**
comp=Z,1.4nm,0.9s,baz=329,slow=9.8,SNR=1.8
QSPA LR LR 16 06 17.3
comp=Z,71nm,18.9s,baz=146,slow=30
comp=Z,1.4nm,0.9s
AKASG Malin Array Be 98.73 37 LR LR 16 10 47.9
comp=Z,56nm,19.4s,baz=269,slow=32
SEY Seymchan 99.66 338 P **Pdif** **15 31 19.9 +1.6**
comp=Z,0.5nm,0.6s,baz=177,slow=23,SNR=2.2
comp=Z,0.5nm,0.6s
H11S1 WAKE ISLAND Hyl 07.61 292 T T 17 32 20.9
baz=77,slow=75,SNR=14
H11S2 WAKE ISLAND Hyl 07.61 291 T T 17 32 20.3
baz=77,slow=75,SNR=19
H11S3 WAKE ISLAND Hyl 07.62 292 T T 17 32 22.1
baz=77,slow=75,SNR=21
SONM Songino Array 125.71 353 PKP **PKiKP** **15 36 37.3 0.0**
comp=Z,0.5nm,0.9s,baz=30,slow=1.6,SNR=4.2
KSRS Korea Array 128.22 329 PKP **PKiKP** **15 36 42.7 +0.4**
comp=Z,1.7nm,0.8s,baz=347,slow=0.9,SNR=5.0
HHC Hu-ho-hao-te 131.52 346 *e*P **PKPdf** **15 36 43.8 -4.3**
NJ2 Nanjing 136.95 333 *e*P **PKPdf** **15 36 57.4 -1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
ASAR Alice Springs 140.95 240 PKhKP PKPpre 15 36 58.5
comp=Z,0.8nm,0.7s,baz=123,slow=3.4,SNR=7.3
ASAR PKP **PKPdf** **15 37 05.7 -0.3**
comp=Z,1.1nm,0.8s,baz=116,slow=2.7,SNR=5.5
WRA Warramunga Arr 141.73 245 PKhKP PKPpre 15 37 01.8
comp=Z,0.6nm,0.7s,baz=100,slow=2.9,SNR=6.9
WRA PKP **PKPdf** **15 37 07.4 0.0**
comp=Z,1.6nm,0.9s,baz=98,slow=2.7,SNR=12
CD2 Chengdu 142.71 351 PKP **PKPdf** **15 37 07.0 -1.9**
PZH PanZhiHua 147.32 353 PKPbc **PKPdf** **15 37 16.5 -0.6**
FITZ Fitzroy Crossi 150.12 244 PKPbc **PKPbc** **15 37 27.0 +0.3**
comp=Z,9.5nm,0.9s,baz=145,slow=3.0,SNR=14
FITZ PKPab **pPKPbc** **15 37 34.0 +0.2**
comp=Z,5.6nm,0.8s,baz=197,slow=3.2,SNR=5.2
CMAR Chiang Mai Arr 155.54 357 PKP **PKPdf** **15 37 30.4 +0.8**
comp=Z,0.3nm,0.3s,baz=351,slow=2.6,SNR=6.5
CMAR PKPbc **sPKPdf** **15 37 38.6 -0.4**
comp=Z,0.5nm,0.4s,baz=316,slow=1.7,SNR=7.1
CMAR PKPab **PKPab** **15 37 55.0 -0.2**
comp=Z,0.5nm,0.3s,baz=357,slow=1.6,SNR=6.3

DJA 11 15:25:41.7±1.0, 4°N±6°×12°5E±°, h11km±8km, M4.1/12, mb4.2/5, MLv4.1/12, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	0.87	115	P	Pb	15 25 58.7	-0.1
SGSI				S	Sb	15 26 10.8	+0.3
MRSI	Marisa	4.53	218	P	Pn	15 26 50.1	-0.1
LUWI	Luwuk	5.44	201	P	Pn	15 27 03.1	+0.4
	46nm,1.3s						
APSI	Ampana	5.82	212	P	Pn	15 27 08.1	0.0
SANI	Sanana	6.20	168	P	Pn	15 27 13.6	+0.4

MOS 11 15:29:30.2±1.4, 40°.71N×48°.72E, h8km, mb4.3/6, Error ellipse: s-maj=6.7km s-min=4.1km az=115.3
AZER 11 15:29:31.4, 40°.75N×48°.49E, h12km, ml4.0
IDC 11 15:29:31.0±1.0, 40°.99N×48°.43E, h0km, mb3.9/12, mbtmp3.9/21, ML3.8/8, MS3.2/5, Error ellipse: s-maj=18.4km s-min=9.8km az=166.0
TEH 11 15:29:32.7, 40°.75N×48°.48E, h20km±64km
ISC 11 15:29:32.2±0.6, 40°.75N±0°.02×48°.48E±0°.02, h17km±4km, n177, σ1§84/231, mb4.0/18, 12C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	Pirkuli	0.09	66	Pg	Pg	15 29 35.9	+0.1
PQL	Pirkuli	0.09	66	P	Pg	15 29 36.0	+0.1
PQL				S	Sg	15 29 39.0	+0.7
IML	Ismayilli	0.23	280	Pg	Pb	15 29 38.3	+0.4
IML	Ismayilli	0.23	280	P	Pb	15 29 38.4	+0.4
IML				S	Sb	15 29 43.4	+1.6
ATGJ	Altiaghaj	0.36	72	Pg	Pb	15 29 40.6	+0.4
ATGJ	Altiaghaj	0.36	72	P	Pb	15 29 40.6	+0.4
ATGJ				S	Sb	15 29 47.1	+1.4
GBS	Qobustan	0.41	122	Pg	Pb	15 29 42.2	+1.2
GBS	Qobustan	0.41	122	P	Pb	15 29 42.2	+1.2
GBS				S	Sn	15 29 50.7	0.0
KDMR	Kurdemir	0.44	211	P	Pb	15 29 42.5	+1.1
KDMR				S	Sb	15 29 49.7	+2.0
SIZA	Siyzn	0.45	44	Pg	Pb	15 29 42.5	+0.7
SIZA	Siyzn	0.45	44	P	Pb	15 29 42.5	+0.7
SIZA				S	Sn	15 29 51.5	-0.2
XNQ	Khinaliq	0.49	329	Pg	Pb	15 29 42.8	+0.3
XNQ	Khinaliq	0.49	329	P	Pb	15 29 42.8	+0.3
XNQ				S	Sb	15 29 50.7	+1.1
QBL	Gabala	0.53	292	Pg	Pb	15 29 43.4	+0.5
QBL	Gabala	0.53	292	P	Pb	15 29 43.4	+0.5
QBL				S	Sb	15 29 52.4	+2.1
QUBA	Quba, Azerbaij	0.60	1	P	Pn	15 29 45.9	-0.1
QUBA				S	Sn	15 29 55.7	+0.3
QUB	Quba	0.63	352	Pg	Pb	15 29 45.8	+0.9
ZRD	Zardab	0.77	232	Pg	Pn	15 29 48.6	+0.4
ZRD	Zardab	0.77	232	P	Pn	15 29 48.6	+0.4
ZRD				S	Sn	15 30 02.0	+2.7
QSAR	Qusar	0.78	348	Pg	Pn	15 29 48.5	+0.1
QSAR	Qusar	0.78	348	P	Pn	15 29 48.6	+0.1
QSAR				S	Sn	15 29 60.0	+0.2
ALIB	&Aumlli-Bayram	0.89	153	Pg	Pn	15 29 52.1	+2.3
ALIB	&Aumlli-Bayram	0.89	153	P	Pn	15 29 51.9	+2.1
ALIB				S	Sn	15 30 06.6	+4.3
KSMR	Kasumkent	0.89	343	*i* PG	Pn	15 29 50.5	+0.5
SAAT	Saatly	0.89	183	P	Pn	15 29 50.0	+0.2
SAAT				S	Sn	15 30 02.8	+0.5
AKT	Akhty	0.92	322	*c i* PG	Pb	15 29 50.2	+0.4
GOBA	Gobu	1.02	110	P	Pn	15 29 54.2	+2.6
GOBA				S	Sn	15 30 08.1	+2.6
MNGR	Mingechevir, A	1.06	272	P	Pg	15 29 53.4	+0.7
MNGR				S	Sn	15 30 09.4	+2.9
MNGR	Mingechevir, A	1.06	272	PG	Pg	15 29 53.4	+0.7
SEKA	Sheki	1.07	296	P	Pb	15 29 52.3	0.0
SEKA				S	Sn	15 30 08.6	+1.6
SEKA	Sheki	1.07	296	PG	Pb	15 29 52.3	0.0
BRDA	Brd	1.11	244	P	Pg	15 29 54.6	+1.0
BRDA				S	Sn	15 30 11.1	+3.4
NDR	Nardaran	1.16	98	P	Pg	15 29 55.4	+0.8
NDR				S	Sg	15 30 11.1	+1.4
AGDM	Agdam	1.23	239	P	Pg	15 29 55.7	-0.2
AGDM				S	Sg	15 30 14.7	+2.8
BLQ	Beylaqan	1.25	215	P	Pb	15 29 55.5	+0.2
BLQ				S	Sg	15 30 13.2	+0.6
DRN	Derbent	1.28	355	*ce* PG	Pg	15 29 57.4	+0.5
DRN				*e*S	Sg	15 30 15.2	+1.6
DRN				smax	smax		
	comp=E,2.0nm,0.4s						
GALA	Gala	1.32	104	Pn	Pb	15 29 57.0	+0.5
GALA				Sn	Sg	15 30 16.3	+1.5
GLBA	Clilabad	1.51	183	Pn	Pn	15 29 59.2	+0.8
GLBA				Sn	Sg	15 30 20.7	-0.2
URKR	Urkarakh	1.55	336	*i* PN	Pg	15 30 02.6	+0.6
QRD	Qoradiz	1.57	215	Pn	Pn	15 29 59.6	+0.4
QRD				Sn	Sg	15 30 22.2	-0.5
GANJ	Ganja	1.65	267	Pn	Pn	15 30 00.6	+0.3
GANJ				Sn	Sb	15 30 22.9	+0.4
GANJ	Ganja	1.65	267	PN	Pn	15 30 01.0	+0.7
VSHL	Vashlovani	1.65	288	P	Pb	15 30 02.8	+0.7
VSHL				S	Sg	15 30 27.6	+2.4
ZKTA	Zakatala	1.66	303	Pn	Pb	15 30 02.4	+0.1
ZKTA				Sn	Sg	15 30 26.0	+0.3
SGKR	Sergokala	1.81	340	*i* PN	Pb	15 30 05.9	+1.0
YRD	Yardimli	1.84	186	Pn	Pn	15 30 03.9	+0.7
YRD				Sn	Sb	15 30 28.6	+0.3
GNBR	Gunib	1.99	326	*d i* PN	Pg	15 30 09.6	-0.8
GNBR				*i* S	Sg	15 30 41.6	+5.3
GNBR				pmax	pmax		
	comp=Z,396nm,0.9s						
LGD	Lagodekhi	2.00	303	P	Pb	15 30 08.5	+0.3
LGD				S	Sg	15 30 38.0	+1.3
LGD	Lagodekhi	2.00	303	*e*PN	Pb	15 30 08.4	+0.3
LGD				*e*S	Sg	15 30 37.9	+1.3
LKRN	Lenkeran, Azer	2.05	173	Pn	Pn	15 30 07.2	+1.3
LKRN				Sn	Sb	15 30 34.1	0.0
LKRN	Lenkeran, Azer	2.05	173	PN	Pn	15 30 06.9	+1.0
GDB	GEDABAY	2.07	270	Pn	Pn	15 30 07.0	+0.7
GDB				Sn	Sn	15 30 33.4	+1.6
LRK	Lerik	2.11	183	Pn	Pn	15 30 07.6	+0.7
LRK				Sn	Sb	15 30 36.0	0.0
ARKR	Arakani	2.16	329	*i* PN	Pb	15 30 11.3	+0.5
ASTR	Astara	2.20	174	Pn	Pn	15 30 08.3	+0.4
ASTR				Sn	Sb	15 30 37.5	-1.0
MAK	Makhachkala	2.33	342⇑	*i* PN	Pb	15 30 14.0	+0.4
MAK				*e*		15 30 18.0	
MAK				*e*		15 30 19.4	
MAK				*e*S	Sg	15 30 45.9	-1.0
MAK				*e*		15 30 50.4	
MAK				pmax	pmax		
	comp=Z,207nm,0.3s						
MAK				smax	smax		
	comp=E,765nm,0.6s						
MAK				smax	smax		
	comp=N,923nm,0.5s						
MAK				MLR	MLR		
	comp=Z,579nm,13.0s						
QZX	Qazax, Azerbai	2.38	278	Pn	Pn	15 30 11.7	+1.3
QZX				Sn	Sb	15 30 42.0	-1.5
GAS1	Astara - Iran	2.38	173	Pn	Pn	15 30 11.0	+0.6
KRNR	Karanay	2.38	331	*i* PN	Pb	15 30 14.9	+0.2
BTLR	Botlikh	2.55	319⇓	*e*PN	Pb	15 30 16.5	-1.0
BTLR				*e*S	Sg	15 30 57.1	+2.9
BTLR				pmax	pmax		
	comp=Z,168nm,0.6s						
BTLR				smax	smax		
	comp=Z,350nm,1.1s						
DBC	Dubki	2.58	332	*d i* PN	Pb	15 30 17.3	-0.7
DBC				*i* S	Sb	15 30 51.6	+2.2
DBC				pmax	pmax		
	comp=Z,88nm,0.6s						
SBZ	Shahbuz	2.62	240	Pn	Pb	15 30 16.9	-1.8
SBZ				Sg	Sb	15 30 52.7	+2.0
ORD	Ordubad	2.64	227	Pn	Pn	15 30 15.6	+1.5
ORD				Sn	Sb	15 30 49.3	-2.0
IHRS	Heris	2.67	205	Pn	Pn	15 30 16.4	+1.8
NAX	Nakhchivan	2.78	236	Pn	Pn	15 30 18.6	+2.6
NAX				Sn	Sb	15 30 53.7	-1.7
NAX	Nakhchivan	2.78	236	PN	Pb	15 30 19.4	-2.1
DVE	Vedeno	2.82	322	*c i* PN	Pb	15 30 20.0	-2.1
GNI	Garni	2.92	259	Pn	Pb	15 30 22.7	-1.1
	comp=Z,5.8nm,0.3s,baz=290,slow=10,SNR=14						
GNI				Sn	Sg	15 31 03.9	-2.0
	comp=Z,17nm,0.3s,baz=120,slow=10,SNR=4.1						
GNI				LR	LR	15 31 49.0	
	comp=Z,143nm,18.9s,baz=45,slow=47						
	comp=Z,18nm,0.3s						
GNI	Garni	2.92	259	*c i* PN	Pb	15 30 22.0	-1.8
GNI	Garni	2.92	259	P	Pb	15 30 22.8	-1.0
BTNK	Botanikuri	2.93	290	*e*PN	Pn	15 30 21.1	+3.1
BTNK				*e*S	Sb	15 31 03.1	+3.6
IMRD	Marand	2.96	227	Pn	Pn	15 30 20.4	+1.9
HYR	Heyderabad	2.96	251	Pn	Pn	15 30 21.3	+2.9
HYR				Sn	Sb	15 30 58.7	-1.8
ISRB	Sarab	2.99	192	Pn	Pn	15 30 21.1	+2.1
ITBZ	Tabriz	3.10	216	Pn	Pn	15 30 21.9	+1.5
CHRG	Chargali	3.10	302	P	Pn	15 30 23.0	+2.6
KZRT	Kazreti	3.15	283	P	Pn	15 30 24.4	+3.3
KZRT				S	Sb	15 31 07.1	+1.2
KZRT	Kazreti	3.15	283	*e*PN	Pn	15 30 24.3	+3.3
KZRT				*e*S	Sb	15 31 07.0	+1.2
MAKU	Maku	3.23	246	Pn	Pn	15 30 24.2	+1.9
ISHB	Shabestar	3.31	223	Pn	Pn	15 30 24.6	+1.1
TRLG	Trialeti	3.40	285	P	Pn	15 30 26.8	+2.2
TRLG				S	Sb	15 31 10.2	-2.9
TRLG	Trialeti	3.40	285	*e*PN	Pn	15 30 26.7	+2.2
TRLG				*e*S	Sb	15 31 10.2	-2.9
MTEO	Meteo	3.53	304	P	Pn	15 30 30.7	+4.1
MTEO	Meteo	3.53	304	*e*PN	Pn	15 30 30.6	+4.1
IHSH	Hashtrud	3.57	196	Pn	Pn	15 30 28.7	+1.7
IAZR	Azarshahr	3.63	213	Pn	Pn	15 30 29.9	+2.1
GARIG	Gari	4.18	298	P	Pn	15 30 38.6	+3.3
TKB	Tkibuli	4.42	293	P	Pn	15 30 41.2	+2.8
TKB	Tkibuli	4.42	293	*e*PN	Pn	15 30 41.2	+2.8
KBZ	Khabaz	5.10	308	Pn	Pn	15 30 48.9	+1.2
	comp=Z,0.9nm,0.6s,baz=114,slow=13,SNR=5.4						
KBZ				Lg	Lg	15 32 07.6	
	comp=Z,0.6nm,0.3s,baz=333,slow=10.0,SNR=4.8						
KBZ	Khabaz	5.10	308⇓	*e*PN	Pn	15 30 52.2	+4.5
QABG	Abgarm-Qazvin	5.11	170	Pn	Pn	15 30 48.4	+0.2
SHA1	Shidzhatmaz	5.25	307	*de*P	Pn	15 30 53.7	+3.6
HGHA	Hamedan- Ghaye	5.26	177	Pn	Pn	15 30 52.7	+2.5
KVAR	Kislovodsk Arr	5.35	309	Pn	Pn	15 30 52.7	+1.4
	baz=97,slow=23						
KVAR				Lg	Lg	15 32 12.3	
	baz=208,slow=23						
	comp=Z,1.3nm,0.3s						
KIV	Kislovodsk	5.36	309	*e*P	Pn	15 30 54.0	+2.7
KIV				*e*S	Sn	15 31 59.5	+6.9
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
KIV				MLR	MLR		
	comp=Z,28nm,9.0s						
IPRN	Peran	5.42	145	Pn	Pn	15 30 52.5	+0.2
IALA	Alasht	5.77	143	Pn	Pn	15 30 57.8	+0.5
IGLO	Ghaloghah	5.96	134	Pn	Pn	15 31 00.7	+0.9
IKIA	Kiasar	6.10	136	Pn	Pn	15 31 02.9	+1.1
MRVT	Maraveh tapeh	6.67	115	Pn	Pn	15 31 09.3	-0.1
ISFR	Sfrayin	8.29	113	Pn	Pn	15 31 32.6	+0.8
IEMG	Emamgholi	8.58	110	Pn	Pn	15 31 35.2	-0.6
VRH	Novokhopyorsk	11.45	338	*e*P	Pn	15 32 31.5	+17
VRH				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BELG	Belogornoye	11.66	357	Pn	Pn	15 32 15.3	-2.3
	comp=Z,2.7nm,0.3s,baz=144,slow=1.4,SNR=7.4						
BELG				Sn	Sn	15 34 23.0	-4.3
	comp=Z,0.7nm,0.3s,baz=296,slow=22,SNR=1.6						
BELG				LR	LR	15 38 45.0	
	comp=Z,86nm,18.0s,baz=66,slow=48						
	comp=Z,9.3nm,0.4s						
BELG	Belogornoye	11.66	357	*c i* P	Pn	15 32 18.8	+1.2
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AB31	Akbulak array	11.74	40	P	Pn	15 32 17.3	-1.5
AB31				*e*S	Sn	15 34 27.2	-2.1
AKTO	Aktyubinsk	11.75	31	Pn	Pn	15 32 16.7	-2.2
	comp=Z,0.4nm,0.3s,baz=216,slow=4.9,SNR=8.2						
AKTO				Sn	Sn	15 34 22.6	-7.0
	comp=Z,0.2nm,0.3s,baz=254,slow=22,SNR=1.6						
AKTO				LR	LR	15 37 38.8	
	comp=Z,66nm,18.1s,baz=195,slow=42						
	comp=Z,1.0nm,0.4s						
AKTO	Aktyubinsk	11.75	31	P	Pn	15 32 17.8	-1.1
AKTO				S	Sn	15 34 27.6	-2.0
VORR	Voronezh	12.66	333	*e*P	Pn	15 32 34.9	+3.7
VORR				pmax	pmax		
	comp=Z,85nm,0.4s						
MMAI	Mount Meron Ar	13.00	238	LR	LR	15 38 30.5	
	comp=Z,49nm,19.0s,baz=335,slow=41						
LPSR	Galich'ya Gora	13.53	334	*e*P	Pn	15 32 40.8	-2.3
LPSR				pmax	pmax		
	comp=Z,22nm,0.7s						
OBN	Obninsk	16.40	335	*e*P	P	15 33 23.3	-0.8
OBN				pmax	pmax		
	comp=Z,8.0nm,0.3s						
OBN				MLR	MLR		
	comp=Z,175nm,5.0s						
KK31	Karatay Array	16.56	75	*i* P	P	15 33 27.9	+1.9
AK09	Malin Array Si	16.60	313	P	Pn	15 33 24.8	+0.9
AK10	Malin Array Si	16.61	313	P	Pn	15 33 24.9	+0.8
AK07	Malin Array Si	16.62	313	P	Pn	15 33 24.6	+0.5
AK08	Malin Array Si	16.63	313	P	Pn	15 33 24.8	+0.5
AK06	Malin Array Si	16.64	313	P	Pn	15 33 25.1	+0.7
AK05	Malin Array Si	16.65	313	P	Pn	15 33 25.2	+0.7
AKASG	Malin Array Be	16.68	313	Pn	Pn	15 33 19.3	-5.6
	comp=Z,1.6nm,0.3s,baz=334,slow=35,SNR=12						
	comp=Z,0.3nm,0.4s						
AKASG	Malin Array Be	16.68	313	*i* P	P	15 33 27.7	+0.5
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	Malin Array Si	16.68	313⇑	*e*P	P	15 33 27.5	+0.3
AKBB				pmax	pmax		
	comp=Z,24nm,2.8s						
AK01	Malin Array Si	16.68	313	P	Pn	15 33 25.4	+0.5
AK12	Malin Array Si	16.69	313	P	Pn	15 33 25.6	+0.6
AK03	Malin Array Si	16.69	313	P	P	15 33 27.0	-0.3
AK11	Malin Array Si	16.70	313	P	Pn	15 33 26.6	+1.4
AK14	Malin Array Si	16.71	313	P	Pn	15 33 26.7	+1.4
AK14				pP	pP	15 33 31.1	-1.5
AK04	Malin Array Si	16.72	313	P	Pn	15 33 26.9	+1.5
AK04				pP	pP	15 33 31.4	-1.4
AK13	Malin Array Si	16.73	313	P	Pn	15 33 27.0	+1.5
AK16	Malin Array Si	16.73	313	P	Pn	15 33 27.0	+1.5
AK15	Malin Array Si	16.73	313	P	Pn	15 33 27.0	+1.4
AK17	Malin Array Si	16.76	313	P	Pn	15 33 27.4	+1.4
AK23	Malin Array Si	16.76	313	P	Pn	15 33 27.4	+1.4
AK18	Malin Array Si	16.78	313	P	Pn	15 33 27.6	+1.5
AK22	Malin Array Si	16.79	313	P	Pn	15 33 27.8	+1.5
AK19	Malin Array Si	16.81	313	P	Pn	15 33 28.0	+1.5
AK21	Malin Array Si	16.82	313	P	Pn	15 33 28.1	+1.5
AK20	Malin Array Si	16.82	313	P	Pn	15 33 27.3	+0.6
ARTI	Arti	16.93	19	Pn	Pn	15 33 24.2	-3.9
	comp=Z,0.3nm,0.3s,baz=213,slow=12,SNR=4.8						
ARTI	Arti	16.93	19	P	Pn	15 33 24.7	-3.4
ARTI				S	Sn	15 36 32.1	-3.6
BTK	Batken	17.03	85	P	Pn	15 33 29.8	+0.3
KIRV	Kirov	17.86	2	P	Pn	15 33 37.9	-1.7
	comp=Z,2.1nm,0.3s,baz=208,slow=2.0,SNR=12						
	comp=Z,19nm,0.6s						
KIRV	Kirov	17.86	2⇓	*i* P	Pn	15 33 39.7	+0.1
SVE	Sverdlovsk	17.92	22	*e*P	P	15 33 42.1	+1.2
SVE				pmax	pmax		
	comp=Z,19nm,0.8s						
BRVK	Borovoye	19.23	43⇓	*i* P	P	15 33 54.9	-0.4
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BVAR	Borovoye Array	19.27	43	P	P	15 33 54.4	-1.3
	comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=13						
	comp=Z,3.2nm,0.7s						
AAK	Ala-Archa	19.50	76	P	P	15 33 58.8	+0.3
	comp=Z,0.2nm,0.3s,baz=242,slow=5.9,SNR=7.9						
	comp=Z,1.7nm,0.7s						
AAK	Ala-Archa	19.50	76⇓	*e*P	P	15 33 59.4	+0.9
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NACGM	Naroch	20.20	322	*e*P	P	15 34 04.9	-0.9
KLMR	Klimovskoe	20.87	348	*e*P	P	15 34 09.5	-3.5
KLMR				pmax	pmax		
	comp=Z,30nm,1.6s						
KSH	Kashi	21.03	84	P	P	15 34 12.7	-2.4
KSH				pP	pP	15 34 18.7	-1.7
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VSU	Vasula	22.47	329	*d i* P	P	15 34 30.2	0.0
VSU				pmax	pmax		
	comp=Z,31nm,0.7s						
KURBB	Kurchatov Arra	23.05	55	P	P	15 34 37.7	+1.2
	comp=Z,0.5nm,0.3s,baz=260,slow=9.0,SNR=6.7						
	comp=Z,0.5nm,0.3s						
KURK	Kurchatov	23.13	54⇑	*i* P	P	15 34 38.5	+1.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	24.80	334	P	P	15 34 52.5	-0.4
	comp=Z,6.5nm,0.6s,baz=133,slow=9.7,SNR=30						
	comp=Z,6.5nm,0.6s						
MK31	Makanchi Array	25.02	65⇑	*e*P	P	15 34 56.1	+1.0
MKAR	Makanchi Array	25.02	65	P	P	15 34 55.6	+0.5
	comp=Z,3.4nm,0.7s,baz=264,slow=8.3,SNR=5.2						
	comp=Z,3.4nm,0.7s						
MKAR	Makanchi Array	25.02	65	*i* P	P	15 34 55.5	+0.4
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZALV	Zalesovo Beam	27.59	49	P	P	15 35 18.5	+0.2
	comp=Z,0.4nm,0.3s,baz=263,slow=10.0,SNR=2.9						
	comp=Z,0.4nm,0.3s						
HFS	Hagfors	28.93	324	P	P	15 35 29.8	-0.3
	comp=Z,5.3nm,0.6s,baz=119,slow=9.2,SNR=16						
	comp=Z,5.3nm,0.6s						
NORES	NORESS Array B	30.15	324	P	P	15 35 41.2	+0.3
NB2	NORSAR Subarra	30.42	324	P	P	15 35 42.3	-1.1
	comp=Z,2.0nm,0.5s,baz=114,slow=8.6						
NB2	NORSAR Subarra	30.42	324	P	P	15 35 42.2	-1.1
NOA	NORSAR Array B	30.42	324	P	P	15 35 42.5	-0.9
	comp=Z,1.1nm,0.7s,baz=117,slow=8.3,SNR=10						
	comp=Z,1.1nm,0.7s						
ARCES	ARCESS Array B	31.27	345	P	P	15 35 50.8	+0.1
	comp=Z,0.7nm,0.4s,baz=141,slow=7.8,SNR=11						
	comp=Z,0.7nm,0.4s						
EKA	Eskdalemuir Ar	36.58	311	P	P	15 36 35.8	-1.1
	comp=Z,0.5nm,0.4s,baz=90,slow=9.0,SNR=5.0						
	comp=Z,0.5nm,0.4s						
GTA	Gaotai	38.84	75	*e*PKP	P	15 36 54.4	-2.0
GTA	

PB14				*e*S	**Sn**	**15 31 55.3**	**-1.2**
PB14				IAML		15 31 56.7	
	comp=Z,104nm,0.1s						
PB14	**IPOC Station P**	**2.03**	**179**	*e*P	**Pn**	**15 31 31.7**	**+0.9**
PB14				*e*S	**Sn**	**15 31 54.2**	**-2.3**
AF01	**San Pedro de A**	**2.12**	**100**	*e*P	**Pn**	**15 31 32.1**	**+0.2**
AF01				*e*S	**Sn**	**15 31 57.6**	**-0.9**
AF01				IAML		15 32 12.4	
	comp=E,1μm,0.5s						
PX03	**IPOC Station P**	**2.30**	**19**	*e*P	**Pn**	**15 31 34.1**	**-0.1**
TA02	**Huaiquique**	**2.32**	**7**	*e*P	**Pn**	**15 31 34.8**	**+0.5**
GO02	**Mina Guanaco**	**2.68**	**163**	*e*P	**Pn**	**15 31 40.8**	**+1.1**
GO02				*e*S	**Sn**	**15 32 12.5**	**0.0**
GO02	**Mina Guanaco**	**2.68**	**163⇑**	*i*P	**Pn**	**15 31 41.1**	**+1.5**
GO02				IAML		15 32 14.3	
	comp=N,241nm,0.1s						
PB08	**IPOC Station P**	**2.71**	**27**	*e*P	**Pn**	**15 31 41.3**	**+1.2**
PB08				*e*S	**Sn**	**15 32 14.2**	**+0.9**
PB08				IAML		15 32 20.6	
	comp=Z,36nm,0.5s						
AC01	**Pan de Azucar**	**3.55**	**182**	*e*P	**Pn**	**15 31 51.3**	**-0.1**
AC01				IAML		15 32 32.0	
	comp=E,79nm,0.1s						
AC02	**Maricunga**	**4.40**	**165**	*e*P	**Pn**	**15 32 05.2**	**+1.7**
AC02				*e*S	**Sn**	**15 32 55.1**	**0.0**

*SOME **11** 15:31:25.8, 42.°20N×83.°65E, h15km*
*NNC **11** 15:31:28.3±2.6, 42.°12N×83.°45E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=21.8km s-min=11.0km az=159.0*
ISC 11 15:31:22.0±3.1, 42.°1N±0.°1×83.°63E±0.°09, h15km, n17, σ1°20/25, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.25**	**290**	Pg	**Pb**	**15 32 20.9**	**+1.4**
SHLS	7.2nm,0.2s			Lg	Lg	15 33 01.8	
	38nm,0.4s						
SHLS	**Shalkode**	**3.25**	**290**	*e*P	**Pb**	**15 32 19.5**	**0.0**
SHLS	2.6nm,0.2s			*e*S	**Sb**	**15 32 58.9**	**-0.1**
	24nm,0.4s						
UZB	**Uzynbulak**	**3.56**	**289**	Pg	**Pg**	**15 32 30.6**	**+0.4**
UZB	3.7nm,0.3s			Lg	Lg	15 33 17.9	
	11nm,0.3s						
UZB	**Uzynbulak**	**3.56**	**289**	*e*P	**Pg**	**15 32 30.6**	**+0.4**
UZB	3.7nm,0.3s			*e*S	**Sg**	**15 33 17.9**	**+1.6**
	11nm,0.3s						
DJR	**Jarkent**	**3.59**	**310**	Pg	**Pg**	**15 32 30.2**	**-0.6**
DJR	1.5nm,0.3s			Lg	Lg	15 33 18.0	
	8.1nm,0.4s						
DJR	**Jarkent**	**3.59**	**310**	*e*P	**Pg**	**15 32 30.3**	**-0.4**
DJR	1.5nm,0.3s			*e*S	**Sg**	**15 33 17.1**	**-0.1**
	6.5nm,0.4s						
KPKS	**Kokpek**	**3.89**	**292**	Pg	**Pg**	**15 32 35.2**	**-1.2**
KPKS	2.1nm,0.2s			Lg	Lg	15 33 26.1	
	14nm,0.3s						
KPKS	**Kokpek**	**3.89**	**292**	*e*P	**Pg**	**15 32 35.2**	**-1.2**
KPKS	2.1nm,0.2s			*e*S	**Sg**	**15 33 26.1**	**-0.8**
	14nm,0.3s						
SATY	**Saty**	**3.98**	**286**	Pg	**Pg**	**15 32 38.5**	**+0.3**
SATY	2.9nm,0.2s			Lg	Lg	15 33 31.3	
	12nm,0.4s						
SATY	**Saty**	**3.98**	**286**	*e*P	Pg	15 32 51.9	+14
SATY	0.7nm,0.1s			*e*S	Sg	15 33 53.9	+24
	4.2nm,0.3s						
ZHN	**Zhinishke**	**3.98**	**287**	*e*P	**Pg**	**15 32 38.4**	**+0.1**
ZHN	1.1nm,0.2s			*e*S	**Sg**	**15 33 30.5**	**+0.8**
	15nm,0.2s						
BLB	**Baldybastay**	**4.27**	**300**	Pg	**Pg**	**15 32 42.5**	**-1.3**
BLB	5.4nm,0.4s			Lg	Lg	15 33 39.7	
	11nm,0.2s						
MK31	**Makanchi Array**	**4.79**	**349**	⇑Pn	**Pb**	**15 32 42.8**	**-2.8**
MK31	baz=187,slow=13,SNR=25			⇓Pg	**Pg**	**15 32 56.4**	**+2.7**
	0.4nm,0.2s,baz=171,slow=15,SNR=12						
MK31				⇑Lg	Lg	15 33 57.6	
	1.0nm,0.3s,baz=165,slow=27,SNR=9.1						
KOTS	**Kotyrbulak**	**4.94**	**285**	*e*P	**Pg**	**15 32 56.1**	**-0.5**
KOTS	1.6nm,0.2s			*e*S	**Sg**	**15 34 01.2**	**+0.7**
	8.6nm,0.3s						
MDOK	**Medeo**	**4.97**	**285**	*e*P	**Pg**	**15 32 56.9**	**-0.3**
MDOK	0.7nm,0.1s			*e*S	**Sg**	**15 34 02.5**	**+0.9**
	1.4nm,0.2s						
ZSN	**Zaisan**	**5.42**	**9**	Pg	**Pg**	**15 33 05.7**	**-0.1**
ZSN	3.2nm,0.4s			Lg	Lg	15 34 17.8	
	11nm,0.8s						
ZSN	**Zaisan**	**5.42**	**9**	*e*P	**Pg**	**15 33 05.7**	**-0.1**
ZSN	3.2nm,0.4s			*e*S	**Sg**	**15 34 17.8**	**+1.8**
	11nm,0.8s						

IDC 11 15:38:40.3±1.7, 9.°69N×125.°74E, h0km, mb3.5/4, mbtmp3.5/4, MS3.4/4, Error ellipse: s-maj=165.0km s-min=22.3km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.60**	**183**	LR	LR	15 40 43.1	
	comp=Z,299nm,19.3s,baz=344,slow=47						
JCJ	**Chichijima**	**23.26**	**40**	LR	LR	15 52 19.4	
	comp=Z,62nm,20.4s,baz=29,slow=35						
WRA	**Warramunga Arr**	**30.64**	**164**	P	P	15 44 56.9	+0.5
	0.2nm,0.6s,baz=344,slow=8.9,SNR=1.6						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**34.10**	**167**	P	P	15 45 26.4	-0.4
	0.3nm,0.7s,baz=351,slow=7.0,SNR=7.9						
	0.3nm,0.7s						
KLR	**Kul'dur**	**39.74**	**6**	LR	LR	16 03 58.5	
	comp=Z,53nm,18.6s,baz=118,slow=38						
SONM	**Songino Array**	**41.38**	**340**	P	P	15 46 28.0	-0.3
	0.8nm,0.6s,baz=155,slow=8.6,SNR=4.4						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**52.17**	**323**	P	P	15 47 52.9	+0.1
	0.9nm,0.7s,baz=131,slow=7.5,SNR=9.2						
	0.9nm,0.7s						
NRIK	**Noril'sk**	**64.45**	**346**	LR	LR	16 18 00.8	
	comp=Z,86nm,21.4s,baz=360,slow=37						

*FCIAR **11** 15:49:42.0, 80.°19N×2.°23W, h10km, station OMEGA has station magnitude of 3.40*
*BER **11** 15:49:44.9±1.9, 79.°92N×1.°74W, h10km, mb(Pn)2.7, ML0.9(DNK), Confirmed Earthquake*
*DNK **11** 15:49:45.8±1.6, 80.°02N×1.°47W, h36km±50km, ML0.9*
ISC 11 15:49:36.5±1.3, 80.°44N±0.°09×2.°28W±0.°06, h10km, n13, σ2°99/21, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.97**	**114**	*e*P	**Pn**	**15 50 25.7**	**+2.2**
KBS				IAML		15 51 01.6	
	comp=Z,5.3nm,0.8s						
KBS	**Kingsbay**	**2.97**	**114**	*e*P	**Pn**	**15 50 25.3**	**+1.7**
KBS				*e*S	**Sn**	**15 50 57.8**	**-1.3**
KBS	**Kingsbay**	**2.97**	**114**	*i*P	**Pn**	**15 50 25.3**	**+1.7**
KBS				*i*S	**Sn**	**15 50 55.0**	**-4.1**
BRBB	**Barentsburg B**	**3.87**	**119**	*e*P	**Pn**	**15 50 39.5**	**+3.7**
SPA0	**Spitsbergen Ar**	**4.13**	**114⇑**	*i*P	**Pn**	**15 50 42.3**	**+2.8**
SPA0				*e*S	**Sn**	**15 51 27.2**	**-0.6**
DAG	**Danmarks Havn**	**4.89**	**230**	*i*P	**Pn**	**15 50 52.4**	**+2.5**
DAG				*i*S	**Sn**	**15 51 43.5**	**-2.9**
DAG				IAML		15 51 52.1	
	comp=Z,0.8nm,0.2s						
DAG	**Danmarks Havn**	**4.89**	**230**	*i*P	**Pn**	**15 50 52.4**	**+2.5**
DAG				*i*S	**Sn**	**15 51 43.5**	**-2.9**
DAG				IAML		15 51 52.1	
	comp=Z,0.8nm,0.2s						
HOPEN	**Hopen**	**6.66**	**112**	*e*P	**Pn**	**15 51 16.0**	**+1.9**
HOPEN				IAML		15 52 25.2	
	comp=Z,5.1nm,0.8s						
HOPEN	**Hopen**	**6.66**	**112**	*e*P	**Pn**	**15 51 15.9**	**+1.8**
HOPEN				*e*S	**Sn**	**15 52 25.6**	**-4.3**
DBG	**Daneborg**	**7.25**	**222**	*i*P	**Pn**	**15 51 25.1**	**+2.8**
DBG				*e*S	Sn	15 52 36.0	-8.5
DBG				IAML		15 52 50.9	
	comp=Z,0.3nm,0.3s						
DBG	**Daneborg**	**7.25**	**222**	*i*P	**Pn**	**15 51 25.1**	**+2.8**
DBG				*e*S	Sn	15 52 36.0	-8.5
DBG				IAML		15 52 50.9	
	comp=Z,0.3nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.95**	**63**	*e*P	**Pn**	**15 51 34.5**	**+2.8**
ZFI2				*e*S	**Sn**	**15 52 58.4**	**-3.0**
OMEGA	**Omega**	**7.97**	**63**	*e*P	**Pn**	**15 51 34.6**	**+2.6**
OMEGA				*e*S	**Sn**	**15 52 58.0**	**-3.9**
	comp=Z,11nm,3.2s						

HEL 11 16:02:30.9±0.4, 69.°36N×30.°54E, h0km, ML1.2, Suspected explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAJF	**Raja-Jooseppi**	**1.20**	**223**	PG	Pg	16 02 52.4	-1.4
RAJF				SB	Sg	16 03 08.2	-1.2
KEV	**Kevo**	**1.30**	**289**	PG	Pg	16 02 54.1	-1.7
KEV				MSG		16 03 10.3	
	comp=Z,1.3nm,0.2s						
KEV				SB	Sg	16 03 11.9	-0.8
VRF	**Varrio**	**1.66**	**192**	PG	Pn	16 03 00.6	-0.6
VRF				MSG		16 03 20.4	
	comp=Z,2.0nm,0.2s						
VRF				SG	Sn	16 03 22.2	-0.9
KTK1	**Kautokeino**	**2.63**	**266**	PG	Pb	16 03 17.6	-1.3
KTK1				SG	Sb	16 03 50.7	-1.0
HEF	**Hetta**	**2.67**	**252**	MSG		16 03 49.4	
	comp=Z,0.6nm,0.2s						
HEF				SG	Sb	16 03 51.6	-1.1
KLF	**Kolari**	**3.24**	**232**	SG	Sb	16 04 11.7	+2.5
KIF	**Kilpisjarvi**	**3.50**	**269**	SG	Sb	16 04 18.7	+2.2
ERTU	**Ertsjaerv**	**4.22**	**232**	SN	Sn	16 04 24.4	-1.9

KOLA 11 16:03:18.7, 69.°44N×30.°61E, h0km, ML1.4, Error ellipse: s-maj=2.8km s-min=1.7km az=10.0, Zapolyarny City, Mines, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVG	**Vayda Guba**	**0.63**	**60**	P	Pg	16 03 29.9	-0.8
PRVG				S	Sg	16 03 38.0	-0.9
VADS	**Vadso**	**0.81**	**328**	P	Pg	16 03 32.8	-1.3
VADS				S	Sg	16 03 43.8	-0.8
ARCES	**ARCESS Array B**	**1.80**	**275**	P	Pn	16 03 50.1	-0.8
ARCES				S	Sn	16 04 13.1	-1.3
APA0	**Apatity Array**	**2.04**	**153**	S	Sn	16 04 17.7	-2.7
KVDA	**Kovda**	**2.89**	**162**	S	Sn	16 04 43.1	+1.9

*TIR **11** 16:08:20.9, 41.°48N×20.°26E, h13km, Md2.6/6, Ml2.2/4*
*BEO **11** 16:08:22.5±0.3, 41.°42N×20.°24E, h9km±4km, ML2.1/5*
*SKO **11** 16:08:22.1, 41.°44N×20.°19E, h5km, ML2.4*
ISC 11 16:08:21.7±1.1, 41.°46N±0.°02×20.°26E±0.°03, h5km±10km, n20, σ0°82/36, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.26**	**31**	Pg	**Pg**	**16 08 26.1**	**-0.6**
PHP				Sg	**Sg**	**16 08 30.0**	**-0.3**
PHP				AML	AML	16 08 30.6	
	3.2nm,0.2s						
PHP				AMd		16 09 00.3	
TIR	**Tirane**	**0.32**	**249**	Pg	**Pg**	**16 08 27.8**	**0.0**
TIR				Sg	**Sg**	**16 08 33.0**	**+1.0**
TIR				AML	AML	16 08 34.1	
	0.6nm,0.2s						
TIR				AMd		16 09 07.4	
TIR	**Tirane**	**0.32**	**249**	*e*Pg	**Pg**	**16 08 28.1**	**+0.3**
TIR				*e*Sg	**Sb**	**16 08 34.0**	**-1.3**
OHR	**Ohrid**	**0.53**	**131**	*i*Pg	**Pg**	**16 08 32.2**	**+0.3**
OHR				*i*Sg	**Sb**	**16 08 40.6**	**-0.9**
OHR				*e*Lg	Lg	16 08 41.3	
	comp=N,142nm,0.3s						
OHR				*e*Lg	Lg	16 08 42.5	
	comp=E,160nm,0.4s						
OHR	**Ohrid**	**0.53**	**131**	*e*Pg	**Pg**	**16 08 31.8**	**-0.1**
OHR				*e*Sg	**Sb**	**16 08 40.5**	**-1.1**
PUK	**Puka**	**0.64**	**335**	Pg	**Pg**	**16 08 33.3**	**-0.8**
PUK				Sg	**Sg**	**16 08 42.6**	**+0.1**
PUK				AML	AML	16 08 45.7	
	comp=E,0.4nm,0.3s						
PUK				AMd		16 09 24.4	
ULC	**Ulcinj**	**0.91**	**304**	*i*Pg	**Pg**	**16 08 38.0**	**-1.2**
BCI	**Bajram Curri**	**0.92**	**351**	Pn	**Pn**	**16 08 42.2**	**+0.9**
BCI				Sn	**Sg**	**16 08 51.7**	**+0.5**
KBN	**Korca**	**0.93**	**154**	Pn	**Pg**	**16 08 39.1**	**-0.3**
KBN				Sn	**Sb**	**16 08 52.8**	**-0.1**
KBN				AMd		16 09 15.7	
FNA	**Florina**	**1.08**	**128**	Pg	**Pg**	**16 08 42.3**	**0.0**
FNA				Sg	**Sg**	**16 08 56.7**	**+0.4**
FNA				AML	AML	16 09 01.4	
	comp=E,0.3nm,0.4s						
FNA				AMd		16 09 35.2	
FNA	**Florina**	**1.08**	**128**	*i*Pg	**Pg**	**16 08 41.8**	**-0.5**
FNA				*i*Sg	**Sn**	**16 08 58.1**	**-0.8**
FNA	**Florina**	**1.08**	**128**	*e*Pg	**Pg**	**16 08 41.4**	**-1.0**
FNA				*e*Sg	**Sg**	**16 08 56.9**	**+0.6**
LSK	**Leskovik**	**1.33**	**169**	Pn	**Pn**	**16 08 46.8**	**-0.2**
LSK				AMd		16 09 58.8	
BEY	**Berane**	**1.44**	**349**	*i*Pg	**Pg**	**16 08 49.9**	**+0.6**
GRG	**Griva**	**1.69**	**107**	*i*Pn	**Pn**	**16 08 52.5**	**+0.6**
GRG				*i*Sn	**Sn**	**16 09 14.2**	**+0.3**
VAY	**Valandovo**	**1.74**	**94**	*i*Pn	**Pn**	**16 08 53.5**	**+0.9**
VAY				*i*Sn	**Sb**	**16 09 16.7**	**+0.4**
VAY				*e*Lg	Lg	16 09 17.7	
	comp=E,54nm,1.6s						
VAY				*e*Lg	Lg	16 09 19.9	
	comp=N,52nm,1.4s						
BARS	**Barje**	**1.78**	**40**	*e*Pg	**Pn**	**16 08 50.7**	**-2.4**
BARS				*i*Sg	Sn	16 09 07.4	-8.7
SJES	**Sjenica**	**1.81**	**353**	*e*Pn	**Pn**	**16 08 54.2**	**+0.6**
SJES				*e*Sn	**Sb**	**16 09 18.3**	**-0.2**
SELS	**Selova**	**1.87**	**20**	*e*Pn	**Pn**	**16 08 55.0**	**+0.6**
SELS				*e*Sn	**Sn**	**16 09 18.5**	**+0.1**
BOSS	**Bosilegrad**	**1.95**	**57**	*e*Pn	**Pn**	**16 08 55.9**	**+0.4**
BOSS				*e*Sn	**Sn**	**16 09 21.7**	**+1.4**

*NEIC **11** 16:18:10.8±1.0, 18.°0S±0.°2×178.°0W±0.°2, h571km±10km, mb4.3/16, Error ellipse: s-maj=29.4km s-min=23.7km az=112.0*
*IDC **11** 16:18:13.0±2.4, 17.°95S×178.°10W, h596km±24km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=41.5km s-min=30.0km az=147.0*
ISC 11 16:18:12.4±1.3, 18.°0S±0.°2×178.°1W±0.°2, h590km, n24, σ0°71/24, mb4.2/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.68**	**273**	P	**P**	**16 19 35.9**	**+0.8**
	6.4nm,0.6s,baz=141,slow=21,SNR=4.4						
DZM	**Mont Dzumac**	**15.09**	**252**	P	**P**	**16 21 23.3**	**+1.5**
DZM	**Mont Dzumac**	**15.09**	**252**	P	**P**	**16 21 23.5**	**+1.6**
	4.4nm,0.8s,baz=69,slow=21,SNR=1.6						
EIDS	**Eidsvold**	**29.52**	**250**	P	**P**	**16 23 29.6**	**-1.0**
EIDS				IAmb	IAmb	16 23 44.1	
	comp=Z,12nm,1.3s						
TOO	**Toolangi**	**37.35**	**231**	P	**P**	**16 24 35.6**	**-0.6**
TOO				IAmb	IAmb	16 24 52.7	
	comp=Z,7.8nm,1.3s						
STKA	**Stephens Creek**	**38.85**	**241**	P	**P**	**16 24 47.8**	**-0.5**
STKA				IAmb	IAmb	16 24 49.7	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**38.85**	**241**	P	**P**	**16 24 49.0**	**+0.7**
	comp=Z,6.5nm,1.0s,baz=82,slow=14,SNR=5.1						
	comp=Z,6.5nm,1.0s						
BBOO	**Buckleboo**	**43.63**	**241**	P	**P**	**16 25 25.9**	**-0.1**
WB0	**Warramunga Arr**	**44.88**	**260**	P	**P**	**16 25 35.2**	**-0.6**
WB0				IAmb	IAmb	16 25 39.8	
	comp=Z,9.3nm,1.4s						
WB2	**Warramunga Arr**	**44.90**	**260**	P	**P**	**16 25 35.3**	**-0.7**
WB2				IAmb	IAmb	16 26 01.4	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**44.90**	**260**	P	**P**	**16 25 35.1**	**-0.9**
WRAB				IAmb	IAmb	16 25 49.0	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**16 25 35.5**	**-0.6**
WRA	**Warramunga Arr**	**44.91**	**260**	P	**P**	**16 25 36.0**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=96,slow=7.3,SNR=38						
	comp=Z,1.0nm,0.3s						
AS31	**Alice Springs**	**45.06**	**254**	P	**P**	**16 25 36.7**	**-0.5**
ASAR	**Alice Springs**	**45.06**	**254**	P	**P**	**16 25 36.5**	**-0.6**
ASAR	**Alice Springs**	**45.06**	**254**	P	**P**	**16 25 37.1**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=89,slow=8.5,SNR=147						
	comp=Z,5.3nm,0.6s						
MTN	**Manton Dam**	**49.10**	**268**	P	**P**	**16 26 07.3**	**-0.1**
KNRA	**Kununurra**	**50.78**	**264**	P	**P**	**16 26 19.6**	**-0.1**
KNRA				IAmb	IAmb	16 26 56.8	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.31**	**261**	P	**P**	**16 26 37.9**	**+0.1**
MAJO	**Matsushiro**	**68.16**	**323**	P	**P**	**16 28 14.8**	**0.0**
MAJO				IAmb	IAmb	16 28 37.5	
	comp=Z,14nm,1.2s						
UGM	**Wanagama**	**69.94**	**268**	P	**P**	**16 28 25.5**	**-0.6**
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**16 28 37.7**	**+0.2**
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**16 28 37.8**	**+0.2**
	comp=Z,2.0nm,1.1s,baz=44,slow=4.1,SNR=1.3						
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**16 29 50.3**	**0.0**
	comp=Z,0.3nm,0.9s,baz=208,slow=5.3,SNR=4.3						
	comp=Z,0.3nm,0.9s						

*SOME **11** 16:28:26.6, 41.°53N×78.°27E*
KRNET 11 16:28:05.8±0.1, 40.°62N×77.°95E, mb2.2, 2C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.61**	**339⇓**	*e*P	Pn	16 28 35.8	+0.1
KDJ				⇓*e*S	Sn	16 28 57.3	0.0
PRZ	**Przheval'sk**	**1.89**	**10⇓**	*e*P	Pb	16 28 41.0	-0.3
PRZ				⇓*e*S	Sg	16 29 06.5	0.0
ANVS	**Anan'yevo**	**2.17**	**355⇑**	*e*P	Pn	16 28 44.6	+1.2
ANVS				⇑*e*S	Sb	16 29 13.1	-0.5
BOOM	**Boomskoye usch**	**2.40**	**322⇓**	*e*P	Pn	16 28 47.7	+1.2
BOOM				⇓*e*S	Sb	16 29 18.8	-1.4
TNSS	**Tian-Shan**	**2.52**	**343**	*e*P	Pg	16 29 06.5	+12
	0.3nm,0.0s						
TNSS				*e*S	Sg	16 29 25.9	-1.1
	2.7nm,0.4s						
MDOK	**Medeo**	**2.62**	**345**	*e*P	Pg	16 29 08.8	+13
	2.0nm,0.5s						
MDOK				*e*S	Sg	16 29 29.6	-0.5
	6.0nm,0.7s						
KST	**Kastek**	**2.84**	**329**	*e*P	Pg	16 29 12.5	+12
	0.9nm,0.1s						
KST				*e*S	Sg	16 29 35.9	-1.0
	2.4nm,0.1s						
KPKS	**Kokpek**	**2.89**	**11**	*e*P	Pg	16 29 16.4	+15
	1.8nm,0.3s						
KPKS				*e*S	Sg	16 29 42.5	+3.7
	4.7nm,0.5s						
ARLS	**Aral**	**3.00**	**296⇓**	*e*P	Pn	16 28 56.2	+1.4
ARLS				⇓*e*S	Sn	16 29 32.7	+1.2

*MOS **11** 16:38:01.5±1.2, 36.°37N×28.°91E, h13km, mb4.4/5, Error ellipse: s-maj=7.1km s-min=4.6km az=84.9*
*GII **11** 16:38:02.5±0.0, 36.°200N±0.°002×28.°823E±0.°001, h10km, Mws3.8, confirmed*
*AFAD **11** 16:38:03.3, 36.°52N×28.°83E, h13km±1km, MW4.0*
*ISK **11** 16:38:03.4, 36.°54N×28.°83E, h9km, ML3.9/50*
*NEIC **11** 16:38:03.5±1.9, 36.°43N±0.°06×28.°91E±0.°06, h10km±1km, mb4.1/4, Error ellipse: s-maj=10.6km s-min=7.8km az=152.0*
*ATH **11** 16:38:04.0, 36.°44N×28.°94E, h9km±1km, ML3.7/8, Manual Solution by F.Gkika First location: 2019/02/11 16:39:28, This location: 2020/09/30 13:10:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*NIC **11** 16:38:05.9, 36.°45N×29.°02E, h24km±2km, Ml3.6/9*
*IDC **11** 16:38:06.6±1.1, 36.°37N×28.°93E, h42km±13km, mb3.8/11, mbtmp4.0/20, ML4.0/8, MS3.1/9, Error ellipse: s-maj=12.9km s-min=8.6km az=171.0*
*HLW **11** 16:38:09.6, 36.°04N×29.°03E, h33km±22km, Md4.5, Ml3.9*
ISC 11 16:38:03.4±0.8, 36.°46N±0.°02×28.°88E±0.°01, h15km±5km, n300, σ1°66/356, mb4.2/20, MS3.3/3, 17C-11D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.24**	**43**	Pg	**Pg**	**16 38 8.4**	**-0.4**
FETY				Sg	**Sg**	**16 38 12.1**	**-0.3**
FETY	**Fethiye**	**0.24**	**43**	P	**Pg**	**16 38 09.0**	**+0.2**
FETY				S	**Sg**	**16 38 12.8**	**+0.3**
IZZE	**Mula-Seydike**	**0.28**	**95**	P	**Pb**	**16 38 10.2**	**0.0**
IZZE				S	**Sb**	**16 38 14.8**	**0.0**
SABU	**Mula-Dalaman**	**0.37**	**11**	P	**Pg**	**16 38 10.2**	**-0.8**
SABU				S	**Sg**	**16 38 15.2**	**-1.0**
DALY	**Dalyan (Mula)**	**0.40**	**333**	Pg	**Pg**	**16 38 10.1**	**-1.4**
RODB	**Rodos**	**0.53**	**269**	P	**Pb**	**16 38 15.1**	**+0.7**
RODB				S	**Sb**	**16 38 22.9**	**+1.1**
CAME	**Cameli-Denizli**	**0.59**	**35**	Pg	**Pg**	**16 38 14.5**	**-0.6**
TURN	**Turunc**	**0.60**	**302**	Pg	**Pg**	**16 38 14.2**	**-1.0**
TURN	**Turunc**	**0.60**	**302**	P	**Pg**	**16 38 14.2**	**-1.0**
TURN				S	**Sg**	**16 38 21.7**	**-1.5**
MRSB	**Marmaris-Mugla**	**0.60**	**295**	Pg	**Pg**	**16 38 14.4**	**-0.9**
AKAS	**Kas**	**0.63**	**111**	Pg	**Pn**	**16 38 17.2**	**-0.8**
AKAS	**Kas**	**0.63**	**111**	Pg	**Pb**	**16 38 16.7**	**+0.5**
AKAS	**Kas**	**0.63**	**111**	P	**Pn**	**16 38 17.1**	**-0.8**
AKAS				S	**Sn**	**16 38 28.6**	**+0.9**
KSL	**Kastellorizon**	**0.65**	**118**	P	**Pn**	**16 38 17.2**	**-0.9**
KSL				S	**Sn**	**16 38 29.1**	**+1.1**
KSL	**Kastellorizon**	**0.65**	**118**	P	**Pb**	**16 38 16.8**	**+0.4**
KSL				S	**Sg**	**16 38 23.8**	**-1.0**
ARG	**Arkhangelos**	**0.65**	**248**	Pg	**Pg**	**16 38 16.4**	**+0.2**
ARG	**Arkhangelos**	**0.65**	**248**		**Pg**	**16 38 15.9**	**-0.3**
ARG	**Arkhangelos**	**0.65**	**248**	P	**Pg**	**16 38 15.9**	**-0.3**
ARG	**Arkhangelos**	**0.65**	**248**	P	**Pg**	**16 38 16.5**	**+0.3**
ARG				S	**Sb**	**16 38 26.6**	**+1.2**
KNIK	**Mula-Seydike**	**0.68**	**55**	P	**Pg**	**16 38 16.0**	**-0.7**
KNIK				S	**Sb**	**16 38 26.6**	**+0.3**
CAEL	**Denizli, Camel**	**0.75**	**28**	P	**Pg**	**16 38 17.2**	**-0.9**
CAEL				S	**Sg**	**16 38 26.1**	**-2.0**
DNZT	**Denizli-Tavas-**	**0.82**	**8**	P	**Pg**	**16 38 18.2**	**-1.3**
DNZT				P	**Pb**	**16 38 18.5**	**-1.0**
DNZT				S	**Sg**	**16 38 26.7**	**-3.7**

AYDN Tasoluk 1.44 327 P **Pn 16 38 29.7 +0.7**
YKAV Yalikavak-Bodr 1.44 298 Pn **Pn 16 38 29.5 +0.5**
ANTB Antalya 1.49 72 Pn **Pg 16 38 32.1 -0.1**
BRDR BURDUR-Merkez 1.56 37 P **Pb 16 38 32.3 +0.3**
BRDR S **Sg 16 38 54.5 +0.9**
NAZL Nazilli-Aydin 1.57 343 Pn **Pn 16 38 31.1 +0.3**
DIDI Didim-Aydin 1.60 305 Pn **Pn 16 38 31.6 +0.5**
BUCA Burdur, Bucak- 1.60 57 P **Pg 16 38 34.0 -0.3**
BUCA S **Sg 16 38 56.7 +1.6**
KLNA Kalymnos 1.61 289 P **Pb 16 38 33.9 +1.1**
DDIM Aydin, Didim 1.65 308 P **Pn 16 38 31.7 -0.1**
DDIM S **Sn 16 38 51.9 -0.8**
KARP Karpathos 1.66 237 Pn **Pb 16 38 33.7 -0.1**
KARP Karpathos 1.66 237 **Pn 16 38 33.0 +1.0**
KARP Karpathos 1.66 237 P **Pb 16 38 33.4 -0.4**
KARP S **Sg 16 38 58.0 +0.9**
KARP Karpathos 1.66 237 P **Pb 16 38 33.4 -0.4**
KARP S **Sg 16 38 56.2 -0.8**
AYDB Zeytinkoy-Aydi 1.68 332 Pn **Pn 16 38 32.7 +0.3**
BCK Bucak 1.70 53 Pn **Pb 16 38 33.8 -0.6**
BCK Bucak 1.70 53 P **Pg 16 38 35.8 -0.2**
BASM Basmaki-Afyon 1.73 32 Pn **Pn 16 38 33.7 +0.7**
KIRA zmir-Kiraz 1.77 348 P **Pn 16 38 34.2 +0.6**
KIRA S **Sn 16 38 55.5 -0.5**
GCAM G?zelcaml? 1.81 314 Pn **Pn 16 38 34.4 +0.4**
GCAM G?zelcaml? 1.81 314 P **Pn 16 38 35.0 +1.1**
GCAM S **Sn 16 38 55.6 -0.9**
ISP Isparta 1.89 44 Pn **Pn 16 38 36.5 +1.2**
ISP Isparta 1.89 44 Pn **Pn 16 38 36.8 +1.6**
ISP Isparta 1.89 44*d iP* **Pn 16 38 36.9 +1.6**
ISP Isparta 1.89 44 P **Pb 16 38 37.1 -0.6**
ISP Isparta 1.89 44 P **Pb 16 38 37.0 -0.6**
ISP S **Sb 16 38 01.3 +0.1**
ODEM Odemis-Izmir 1.92 341 Pn **Pn 16 38 36.1 +0.4**
KHL Karahalli 1.93 15 Pn **Pn 16 38 36.4 +0.6**
PASA Karahalli, USA 1.95 14 P **Pn 16 38 36.5 +0.5**
SMG Samos 2.05 308 P **Pb 16 38 40.1 -0.3**
SMG S **Sn 16 39 05.4 +2.7**
KZIL AFYON_Kizioren 2.06 29 P **Pn 16 38 38.8 +1.2**
KZIL S **Sb 16 39 06.1 +0.1**
KULA Kula-Manisa 2.06 355 Pn **Pn 16 38 37.7 +0.2**
MNVG Manavgat-Antal 2.07 80 Pn **Pb 16 38 39.8 -0.9**
AFYN Afyon-Dinar-K 2.22 35 P **Pn 16 38 41.5 +1.6**
GMLD Gumuldur 2.25 316 Pn **Pn 16 38 41.1 +1.1**
USAK Uak-Merkez 2.25 3 P **Pn 16 38 40.5 +0.3**
USAK S **Sn 16 39 07.2 -0.6**
BNAZ Uak-Banaz 2.35 19 P **Pn 16 38 42.3 +0.7**
BLCB Balcova 2.41 323 Pn **Pn 16 38 43.1 +0.8**
SHUT Suhut-Afyon 2.48 32 Pn **Pn 16 38 44.4 +1.1**
GORD Gordes-Manisa 2.51 347 Pn **Pn 16 38 43.9 +0.2**
ALAN Alanya-ANTALYA 2.54 87 Pn **Pn 16 38 46.1 +2.0**
ZKR Zakros 2.55 239 Pn **Pn 16 38 46.3 +2.1**
ZKR Zakros 2.55 239 P **Pn 16 38 46.3 +2.1**
SEYD Seydisehir-KON 2.55 67 Pn **Pn 16 38 46.3 +1.9**
AKS Akhisar 2.56 341 Pn **Pn 16 38 44.6 +0.3**
SHAP Saphane-Kutahy 2.57 6 Pn **Pn 16 38 45.5 +0.9**
GEDZ Gediz 2.61 9 Pn **Pn 16 38 46.2 +1.0**
SIMA Simav-Kutahya 2.62 2 Pn **Pn 16 38 45.7 +0.4**
SMAA Simav-Kutahya 2.64 2 Pn **Pn 16 38 46.4 +0.9**
APE Apeiranthos 2.75 284 Pn **Pn 16 38 48.4 +1.3**
APE Apeiranthos 2.75 284⇓*eP* **Pn 16 38 48.3 +1.2**
APE Apeiranthos 2.75 284 P **Pn 16 38 46.9 -0.2**
APE Apeiranthos 2.75 284 P **Pn 16 38 48.4 +1.3**
APE S **Sn 16 39 23.3 +3.2**
GAZI Gazipasa 2.79 94 Pn **Pn 16 38 48.4 +0.9**
FOCM Foa 2.82 323 Pn **Pn 16 38 48.9 +1.0**
SOMA Soma-Manisa 2.89 339 Pn **Pn 16 38 49.5 +0.5**
HDMB Hadim 2.94 79 Pn **Pn 16 38 52.3 +2.5**
TVSB Tavsanli 3.02 9 Pn **Pn 16 38 50.8 0.0**
DKL Dikili 3.04 330 Pn **Pn 16 38 51.9 +0.9**
DKL Dikili 3.04 330 P **Pn 16 38 51.8 +0.9**
DKL S **Sn 16 39 29.6 +2.6**
KONT Konya--Tatoy 3.15 61 Pn **Pn 16 38 54.8 +2.3**
AKMS Akamas 3.16 116 P **Pn 16 38 52.9 +0.3**
AKMS S **Sn 16 39 29.4 -0.6**
AKMS AML AML 16 39 33.8
0.9nm,0.5s
AKMS AML AML 16 39 54.4
0.5nm,0.6s
AKMS Akamas 3.16 116 P **Pn 16 38 52.7 +0.1**
AKMS S **Sn 16 39 30.1 0.0**
LADK Ladik-KONYA 3.28 57 Pn **Pn 16 38 54.4 +2.1**
ALFC Alefka 3.29 112 P **Pn 16 38 55.7 +1.2**
ALFC S **Sn 16 39 31.8 -1.6**
ALFC AML AML 16 39 42.0
0.8nm,0.5s
ALFC AML AML 16 39 42.4
0.5nm,0.4s
ALFC Alefka 3.29 112 P **Pn 16 38 55.3 +0.9**
ALFC S **Sn 16 39 33.7 +0.3**
CIFT Cifteler, Eski 3.37 30 Pn **Pn 16 38 56.6 +1.0**
KIZT Kizilcal 3.39 44 Pn **Pn 16 38 56.6 +0.7**
IDI Anoyia 3.44 251 Pn **Pn 16 38 57.4 +0.9**
IDI Anoyia 3.44 251 P **Pn 16 38 57.8 +1.3**
16nm,0.3s,baz=39,slow=5.5,SNR=21
IDI S **Sn 16 39 38.0 +0.9**
46nm,0.5s,baz=278,slow=14,SNR=3.9
IDI LR LR 16 40 35.0
comp=Z,165nm,21.0s,baz=116,slow=43
IDI Anoyia 3.44 251 P **Pn 16 38 58.2 +1.7**
IDI S **Sn 16 39 40.2 +3.1**
NATA Nata 3.44 118 P **Pn 16 38 57.1 +0.5**
NATA S **Sn 16 39 37.5 +0.4**
NATA AML AML 16 39 59.8
1.1nm,0.6s
NATA AML AML 16 40 04.6
1.0nm,0.8s
NATA Nata 3.44 118 P **Pn 16 38 56.8 +0.3**
NATA S **Sn 16 39 37.9 +0.8**
PRK Paraskevi 3.46 324 P **Pn 16 38 59.1 +2.4**
BORA Eskisehir 3.63 20 Pn **Pn 16 38 59.9 +0.7**
SIGR SIGRI 3.64 320 P **Pn 16 39 01.4 +2.2**
APOL The Sanctuary 3.71 118 P **Pn 16 39 01.1 +1.0**
APOL S **Sn 16 39 42.8 -0.7**
APOL AML AML 16 39 56.5
0.4nm,0.6s
APOL AML AML 16 39 59.0
0.3nm,0.4s
KARY Karystos 3.88 295 P **Pn 16 39 04.8 +2.4**
ATHAL Athalassa 3.90 108 P **Pn 16 39 03.6 +0.8**
ATHAL S **Sn 16 39 49.8 +1.5**
ATHAL AML AML 16 40 05.4
0.6nm,0.8s
ATHAL AML AML 16 40 40.5
1.3nm,1.0s
CSS Mathiatis 3.92 111 Pn **Pn 16 39 02.5 -0.5**
CSS Mathiatis 3.92 111 P **Pn 16 39 04.3 +1.3**
CSS S **Sn 16 39 46.1 -2.7**
CSS AML AML 16 39 55.9
0.4nm,0.7s
CSS AML AML 16 40 07.2
0.3nm,0.6s
CSS Mathiatis 3.92 111 P **Pn 16 39 01.0 -2.1**
CSS Mathiatis 3.92 111 P **Pn 16 39 03.6 +0.6**
ASGA Asgata 3.93 114 P **Pn 16 39 04.2 +1.0**
ASGA S **Sn 16 39 47.8 -1.3**
ASGA AML AML 16 39 54.6
0.4nm,0.6s
ASGA AML AML 16 39 58.2
0.2nm,1.0s
ASGA Asgata 3.93 114 P **Pn 16 39 03.7 +0.5**
BAND Balkesir-Ban 3.94 351 ⇑P **Pn 16 39 03.7 +0.4**
IMMV Iera Moni Meta 4.09 257 P **Pn 16 39 07.6 +2.1**
MVOU Mavrovouni 4.13 109 P **Pn 16 39 06.0 +0.1**
MVOU S **Sn 16 39 52.0 -1.9**
MVOU AML AML 16 39 59.7
0.4nm,0.6s
MVOU AML AML 16 39 60.0
0.3nm,0.6s
MVOU Mavrovouni 4.13 109 P **Pn 16 39 06.4 +0.5**
GVD Gavdhos 4.22 249 P **Pn 16 39 09.6 +2.4**
DION Dionisos Attik 4.26 294 P **Pn 16 39 10.0 +2.3**
VLY Voula,Athens 4.29 290 P **Pn 16 39 10.3 +2.2**
PTL Penteli 4.30 293 P **Pn 16 39 10.9 +2.6**
ATHU Athens Univers 4.33 292 P **Pn 16 39 11.0 +2.3**
ATHP Athens-Neo Psi 4.35 292 P Pn 16 39 03.2 -5.8
KYMI Kymi, Euboea I 4.37 301 P **Pn 16 39 11.5 +2.2**
MDUB Mudurnu 4.40 24 Pn **Pn 16 39 11.2 +1.4**
PARAL Paralimni 4.45 108 P **Pn 16 39 13.5 +3.2**
PARAL S **Sn 16 40 03.2 +1.5**
PARAL AML AML 16 40 14.3
0.4nm,0.7s
PARAL AML AML 16 40 14.5
0.4nm,0.7s
LIA Limnos Island 4.50 321 P **Pn 16 39 12.8 +1.8**
ANTO Ankara 4.59 41 P **Pn 16 39 14.0 +1.6**
ANTO Ankara 4.59 41 ⇑P **Pn 16 39 14.3 +1.9**
ANTO Ankara 4.59 41 P **Pn 16 39 14.3 +1.9**
VLI Veliai 4.79 275 P **Pn 16 39 17.2 +2.3**
SMTH Samothraki Isl 4.79 328 P **Pn 16 39 16.2 +1.2**
KIRS Kirsehir-Merke 4.80 55 ⇑P **Pn 16 39 17.1 +1.8**
VIL2 Platees 4.80 293 P **Pn 16 39 16.7 +1.5**
ALN Alexandroupoli 4.95 334 **Pn 16 39 18.1 +0.9**
ALN Alexandroupoli 4.95 334 P **Pn 16 39 18.1 +0.9**
LTK Loutraki 4.97 290 P **Pn 16 39 19.5 +2.0**
BRTR Keskin Array B 4.97 48 **Pn 16 39 18.3 +0.7**
BRTR Keskin Array B 4.97 48 P **Pn 16 39 19.8 +2.1**
3.3nm,0.3s,baz=228,slow=14,SNR=40
BRTR S **Sn 16 40 16.5 +1.6**
10.0nm,0.6s,baz=231,slow=24,SNR=8.4
BRTR LR LR 16 41 59.4
comp=Z,178nm,20.6s,baz=225,slow=47
9.7nm,0.4s
BR131 Keskin Array S 4.97 48 Pn **Pn 16 39 18.8 +1.2**
BR131 Keskin Array S 4.97 48*ceP* **Pn 16 39 19.8 +2.1**
KDZE Karadeniz Ereo 5.24 22 ⇑P **Pn 16 39 23.3 +2.1**
NEO Neokhori 5.30 304 P **Pn 16 39 24.0 +2.0**
XOR Xorichti 5.35 305 P **Pn 16 39 25.2 +2.5**
RDO Rodhopi 5.36 332 Pn **Pn 16 39 22.5 -0.2**
RDO Rodhopi 5.36 332 P **Pn 16 39 24.2 +1.5**
DB3 El Dabaa 5.42 183 P **Pn 16 39 22.7 -0.9**
DB3 S **Sn 16 40 20.6 -5.1**
GUR Goura 5.42 288 P **Pn 16 39 26.1 +2.3**
KLV Kalavryta, Ach 5.59 288 P **Pn 16 39 28.4 +2.3**
ITM Ithomi 5.62 279 P **Pn 16 39 29.0 +2.5**
SLUM Salum 5.82 213 P **Pn 16 39 29.8 +0.7**
ILGA Ilgaz 5.94 38 Pn **Pn 16 39 32.6 +1.6**
BNN Bunyan 6.02 65 **Pn 16 39 34.3 +2.2**
HWQ Hawqa 6.17 109 *eP* **Pn 16 39 34.3 +0.2**
LIT Litokhoron 6.20 308 Pn **Pn 16 39 37.2 +2.8**
LIT Litokhoron 6.20 308 P **Pn 16 39 37.2 +2.8**
SRS Serrai 6.22 320 P **Pn 16 39 36.1 +1.5**
THL Klokotos Trika 6.24 302 P **Pn 16 39 37.4 +2.4**
NVR Nevrokopi 6.25 323 P **Pn 16 39 37.0 +1.8**
BEIL Beino 6.26 106 *eP* **Pn 16 39 35.7 +0.5**
CIDE Kastamonu/Cide 6.27 29 ⇑P **Pn 16 39 36.7 +1.4**
QRWL Qaraoun 6.29 116 *eP* **Pn 16 39 35.6 -0.2**
OFRI `Ofer 6.33 125 P **Pn 16 39 34.3 -1.9**
OFRI `Ofer 6.33 125 S **Sn 16 40 45.8 -2.5**
MMC7 Mount Meron ar 6.37 121 P **Pn 16 39 35.3 -1.5**
MMA0B Mount Meron ar 6.38 121 P **Pn 16 39 35.7 -1.2**
MMA0B Mount Meron ar 6.38 121 S **Sn 16 40 47.7 -1.8**
MMAI Mount Meron Ar 6.38 121 P **Pn 16 39 36.5 -0.3**
17nm,0.3s,baz=310,slow=12,SNR=46
MMAI S **Sn 16 40 48.0 -1.4**
10nm,0.4s,baz=304,slow=24,SNR=6.7
MMAI LR LR 16 43 54.6
comp=Z,77nm,18.1s,baz=306,slow=55
15nm,0.3s
BLGI Bet Lehem HaGe 6.40 124 P **Pn 16 39 35.2 -1.9**
BLGI Bet Lehem HaGe 6.40 124 S **Sn 16 40 48.1 -1.8**
RCY Rachaya 6.43 115 *eP* **Pn 16 39 37.1 -0.6**
SHBL Chebaa 6.44 117 *eP* **Pn 16 39 37.9 0.0**
GEM Giv'at Ha'Em 6.45 118 P **Pn 16 39 36.8 -1.1**
GEM Giv'at Ha'Em 6.45 118 S **Sn 16 40 49.3 -1.9**
NATI Neve Ativ 6.48 118 P **Pn 16 39 37.2 -1.0**
NATI Neve Ativ 6.48 118 S **Sn 16 40 49.9 -1.9**
FKH Fakeheh 6.54 108 *eP* **Pn 16 39 38.4 +0.3**
SLTI Sal'it 6.61 128 P **Pn 16 39 38.1 -1.9**
SLTI Sal'it 6.61 128 S **Sn 16 40 52.9 -2.2**
KSHT Keshet 6.68 119 P **Pn 16 39 39.9 -1.2**
KSHT Keshet 6.68 119 S **Sn 16 40 55.6 -1.3**
GAZ Gaziantep 6.72 81 **Pn 16 39 42.8 +1.1**
MMLI Mount Malkishu 6.73 125 P **Pn 16 39 39.8 -1.9**
MMLI Mount Malkishu 6.73 125 S **Sn 16 40 56.0 -2.2**
GRG Griva 6.77 314 P **Pn 16 39 45.6 +3.4**
GRG pmax pmax
comp=Z,27nm,1.3s
SALP Salfit 6.82 128 P **Pn 16 39 41.1 -1.8**
SALP Salfit 6.82 128 S **Sn 16 40 57.9 -2.4**
HMDT Nahal Hemdat 6.92 125 P **Pn 16 39 42.4 -1.9**
HMDT Nahal Hemdat 6.92 125 S **Sn 16 41 00.4 -2.2**
AMAZ Amatzia 7.02 133 P **Pn 16 39 43.8 -1.9**
AMAZ Amatzia 7.02 133 S **Sn 16 41 02.5 -2.8**
KZIT Kziot 7.20 139 P **Pn 16 39 46.2 -1.9**
KZIT Kziot 7.20 139 S **Sn 16 41 05.8 -3.8**
YTIR Yattir 7.26 133 P **Pn 16 39 47.4 -1.7**
YTIR Yattir 7.26 133 S **Sn 16 41 08.5 -2.8**
DSI Dead Sea 7.27 130 P **Pn 16 39 47.2 -1.9**
DSI Dead Sea 7.27 130 S **Sn 16 41 08.3 -3.2**
MSBI Mazada 7.44 132 P **Pn 16 39 49.5 -1.9**
MSBI Mazada 7.44 132 S **Sn 16 41 12.7 -2.8**
RYAN Fayoum 7.45 171 P **Pn 16 39 50.8 -0.8**
SWA2 7.75 203 P **Pn 16 39 56.1 +0.4**
ASF Jabal al Asfar 7.89 120 P **Pn 16 39 57.7 0.0**
comp=Z,1.5nm,0.3s,baz=356,slow=17,SNR=8.2
ASF S **Sn 16 41 25.5 -1.3**
comp=Z,3.5nm,0.5s,baz=154,slow=18,SNR=1.7
comp=Z,2.9nm,0.3s
ZFRI Zfri 7.90 136 P **Pn 16 39 55.1 -2.6**
ZFRI Zfri 7.90 136 S **Sn 16 41 23.3 -3.4**
PRNI Paran 7.96 138 P **Pn 16 39 56.6 -2.0**
PRNI Paran 7.96 138 S **Sn 16 41 24.4 -4.0**
TIRR Tirgusor 8.00 358 **Pn 16 39 59.5 +0.6**
TIRR Tirgusor 8.00 358 ⇑P **Pn 16 39 59.7 +0.7**
TIRR Tirgusor 8.00 358 P **Pn 16 39 59.6 +0.6**
NBNS Bani Suef 8.08 165 P **Pn 16 39 59.2 -1.0**
MBRI Mt Berech 8.35 141 P **Pn 16 40 02.3 -1.7**
MBRI Mt Berech 8.35 141 S **Sn 16 41 33.1 -5.0**
EIL Elat 8.47 141 P **Pn 16 40 05.2 -0.4**
comp=Z,1.7nm,0.3s,baz=1.5,slow=4.5,SNR=13
EIL S **Sn 16 41 35.5 -5.5**
comp=Z,9.5nm,0.5s,baz=68,slow=16,SNR=4.0
comp=Z,4.5nm,0.4s
EIL Elat 8.47 141 P **Pn 16 40 03.2 -2.4**
EIL Elat 8.47 141 S **Sn 16 41 37.3 -3.7**
TLCR 8.72 360 ⇓P **Pn 16 40 10.2 +1.3**
TLCR 8.72 360 P **Pn 16 40 10.2 +1.3**
CFR Carcaliu 8.73 357 ⇑P **Pn 16 40 09.7 +0.6**
CFR Carcaliu 8.73 357 P **Pn 16 40 09.6 +0.6**
TAMRE El Minia 8.92 168 P **Pn 16 40 10.5 -1.2**
HKAT Jabal Katrina 9.02 150 P **Pn 16 40 12.3 -0.9**
BOVS Bovan 9.03 325 ⇑P **Pn 16 40 14.9 +1.7**
MLR Muntele Rosu 9.29 347 **Pn 16 40 18.9 +2.0**
MLR Muntele Rosu 9.29 347 P **Pn 16 40 20.0 +3.2**
comp=Z,0.4nm,0.3s,baz=202,slow=10,SNR=12
comp=Z,10nm,0.8s
MLR Muntele Rosu 9.29 347 ⇑P **Pn 16 40 18.9 +2.0**
SIM Simferopol' 9.36 23 *eP* Pn 16 40 22.9 +5.1
SIM S **Sn 16 42 03.7 +1.0**
SIM pmax pmax
comp=Z,15nm,0.7s
SIM smax smax
comp=E,36nm,0.9s
VOIR 9.42 343 ⇓P **Pn 16 40 20.9 +2.2**
VOIR 9.42 343 P **Pn 16 40 20.8 +2.2**
PLOR Plostina 9.53 351 ⇑P **Pn 16 40 22.3 +2.1**
PLOR Plostina 9.53 351 P **Pn 16 40 22.2 +2.1**
MARD Mardin 9.57 81 **Pn 16 40 21.0 +0.2**
COVR Voineasa-Covas 9.59 349 ⇓P **Pn 16 40 23.4 +2.5**
DOPR Dopca 9.85 346 ⇑P **Pn 16 40 25.5 +1.0**
OZUR 9.90 347 ⇑P **Pn 16 40 26.1 +1.0**
ONER Baraj Valea Uz 10.04 350 ⇑P **Pn 16 40 29.3 +2.2**
SOC Sochi 10.93 46 *eP* **Pn 16 40 37.9 -1.4**
SOC *e* 16 42 40.2
SOC MLR MLR
comp=Z,126nm,14.0s
BURAR Bucovina Array 11.47 347 ⇓P **Pn 16 40 49.5 +2.7**
BURAR Bucovina Array 11.47 347 P **Pn 16 40 49.4 +2.7**
BUR08 Bucovina Ar. S 11.50 347 **Pn 16 40 49.5 +2.4**
SORM Soroca 11.67 358 ⇑P **Pn 16 40 50.5 +1.2**
SORM Soroca 11.67 358 P **Pn 16 40 50.5 +1.2**
SHA1 Shidzhatmaz 12.80 51⇓*eP* **Pn 16 41 08.2 +3.2**
KIV Kislovodsk 12.93 50 *eP* **Pn 16 41 07.0 +0.4**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,13.0s
KBZ Khabaz 12.95 52 P **P 16 41 15.3 -2.0**
comp=Z,3.5nm,0.9s,baz=242,slow=16,SNR=9.9
GNI Garni 12.99 69 LR LR 16 46 16.3
comp=Z,33nm,19.2s,baz=279,slow=38
NCK Nalchik 13.29 54⇓*eP* **Pn 16 41 12.7 +1.3**

AKASG Malin Array Be 14.24 1 P **Pn 16 41 24.8 +0.5**
comp=Z,0.4nm,0.3s,baz=186,slow=12,SNR=6.5
AKASG LR LR 16 47 55.7
comp=Z,78nm,18.1s,baz=203,slow=41
comp=Z,0.4nm,0.5s
CKRC Cesky Krumlov 16.32 324 *eP* **P 16 42 02.0 +7.2**
CKRC Cesky Krumlov 16.32 324 *eP* **P 16 42 02.0 +7.2**
GERES GERESS Array B 16.63 323 P **P 16 41 58.8 +0.4**
comp=Z,0.2nm,0.3s,baz=134,slow=11,SNR=9.0
comp=Z,1.6nm,0.8s
KHC Kasperske Hory 16.88 323 *eP* **P 16 42 03.6 +2.5**
KHC Kasperske Hory 16.88 323⇓*eP* **P 16 42 02.4 +1.3**
KHC pmax pmax
comp=Z,41nm,3.1s
DAVOX Davos/Dischmat 17.51 312 P **P 16 42 09.4 +1.2**
comp=Z,0.1nm,0.3s,baz=136,slow=14,SNR=4.5
DAVOX LR LR 16 48 52.5
comp=Z,74nm,18.7s,baz=74,slow=37
comp=Z,2.2nm,0.7s
SENIN Lac Senin/Sane 18.91 308 P **P 16 42 24.6 +0.9**
OBN Obninsk 19.39 13 *eP* **Pn 16 42 31.9 +2.2**
OBN pmax pmax
comp=Z,34nm,1.6s
BELG Belogornoye 20.71 34 P **P 16 42 42.8 -0.1**
comp=Z,12nm,1.0s,baz=66,slow=4.6,SNR=5.0
comp=Z,12nm,1.0s
BELG Belogornoye 20.71 34⇑*eP* **P 16 42 42.3 -0.6**
BELG pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 25.07 357 P **P 16 43 27.0 +0.1**
comp=Z,4.2nm,0.9s,baz=174,slow=9.6,SNR=6.6
comp=Z,4.2nm,0.9s
KLMR Klimovskoe 25.34 12 *eP* **P 16 43 26.3 -3.1**
KLMR pmax pmax
comp=Z,25nm,1.4s
HFS Hagfors 25.62 342 P **P 16 43 32.6 +0.6**
comp=Z,4.6nm,0.8s,baz=152,slow=9.9,SNR=4.0
HFS LR LR 16 55 12.3
comp=Z,93nm,18.6s,baz=144,slow=40
comp=Z,4.6nm,0.8s
ABKAR Akbulak array 25.92 51 P **P 16 43 34.8 0.0**
ESDC Sonseca Array 25.97 287 P **P 16 43 36.0 +0.5**
comp=Z,1.4nm,0.9s,baz=77,slow=8.8,SNR=6.4
comp=Z,1.4nm,0.9s
NOA NORSAR Array B 27.03 341 LR LR 16 55 53.2
comp=Z,34nm,19.1s,baz=325,slow=39
CHGR Chuyangaron 31.83 74 P **P 16 44 27.5 -0.2**
CHGR pmax pmax
comp=Z,9.0nm,0.6s
GAR Garm 32.67 73 P **P 16 44 35.7 +0.6**
GAR IAmb IAmb 16 44 52.8
comp=Z,4.2nm,0.9s
TORD Torodi Ar. Bea 33.66 233 P **P 16 44 43.2 -0.6**
comp=Z,1.3nm,0.7s,baz=34,slow=9.7,SNR=8.5
comp=Z,1.3nm,0.7s
KURBB Kurchatov Arra 37.95 52 P **P 16 45 19.4 -0.8**
comp=Z,1.9nm,0.9s,baz=274,slow=8.7,SNR=11
KURBB PcP **PcP 16 47 34.9 -0.9**
comp=Z,0.6nm,0.8s,baz=277,slow=4.2,SNR=4.4
comp=Z,1.9nm,0.9s
KURK Kurchatov 38.01 52⇑*eP* **P 16 45 20.1 -0.6**
KURK pmax pmax
comp=Z,12nm,2.7s
MAKZ Makanchi 40.31 58 P **P 16 45 39.1 -1.0**
MAKZ Makanchi 40.31 58 P **P 16 45 39.1 -1.0**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 40.53 58 P **P 16 45 41.1 -0.7**
MK31 IAmb IAmb 16 45 41.8
comp=Z,1.6nm,0.8s
MK31 Makanchi Array 40.53 58⇓*eP* **P 16 45 40.9 -1.0**
MKAR Makanchi Array 40.53 58 P **P 16 45 41.0 -0.8**
MKAR Makanchi Array 40.53 58 P **P 16 45 41.2 -0.6**
comp=Z,2.0nm,0.8s,baz=277,slow=6.9,SNR=23
MKAR PcP **PcP 16 47 42.7 -1.4**
comp=Z,0.4nm,0.8s,baz=258,slow=4.7,SNR=2.7
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 41.92 47 P **P 16 45 52.9 -0.2**
comp=Z,0.3nm,0.4s,baz=272,slow=7.7,SNR=2.3
comp=Z,0.3nm,0.4s
WMQ Urumqi 44.73 62 *eP* **P 16 46 16.0 -0.1**
WMQ pP sP 16 46 24.1 +1.9
WMQ pmax pmax
comp=Z,27nm,0.7s
TSUM Tsumeb 56.38 193 LR LR 17 15 46.4
comp=Z,23nm,19.9s,baz=159,slow=40
PZH PanZhiHua 61.61 77 P **P 16 48 19.9 -0.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,6.0s
HHC Hu-ho-hao-te 62.40 58 *eP* **P 16 48 26.5 +0.8**
CMAR Chiang Mai Arr 63.44 86 P **P 16 48 32.3 -0.6**
comp=Z,2.5nm,0.8s,baz=298,slow=8.4,SNR=22
comp=Z,2.5nm,0.8s
TIA Tai'an 68.41 60 P **P 16 49 04.7 +0.1**
TIA PcP **PcP 16 49 31.0 +1.0**
TIA pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 70.79 43⇓*iP* **P 16 49 18.6 -0.4**
KLR pmax pmax
comp=Z,4.0nm,1.1s
USRK Ussuriysk Ar. 73.77 47 P **P 16 49 36.6 -0.3**
comp=Z,3.3nm,0.9s,baz=343,slow=6.0,SNR=7.3
comp=Z,3.3nm,0.9s
KSRS Korea Array 75.08 54 P **P 16 49 44.4 -0.3**
comp=Z,2.0nm,0.8s,baz=305,slow=4.4,SNR=5.5
comp=Z,2.0nm,0.8s

---

*NEIC **11** 16:39:08.2±1.8, 9.91N±0.08×126.3E±0.1, h10km±1km, mb4.6/50, Error ellipse: s-maj=20.5km s-min=13.0km az=268.0*
*IDC **11** 16:39:20.2±1.9, 9.66N×126.24E, h123km±18km, mb3.8/20, mbtmp4.2/21, MS3.3/7, Error ellipse: s-maj=24.6km s-min=11.6km az=71.0*
ISC 11 16:39:18.0±0.4, 9.71N±0.05×126.27E±0.10, h100km, n93, σ1918/85, mb4.4/42, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71**	**195**	Pn	**Pn**	**16 39 55.5**	**-4.4**
DAV	**Davao City (W)**	**2.71**	**195**	P	**Pn**	**16 40 03.9**	**+3.9**
DAV	190nm,0.3s,baz=318,slow=10,SNR=4.0			S	**Sn**	**16 40 34.7**	**+2.5**
TGY	**Tagaytay City**	**6.80**	**310**	LR	LR	16 43 50.3	
FAKI	**Fak Fak**	**13.89**	**154**	Pn	**Pn**	**16 42 27.1**	**-3.6**
YOJ	**Yonaguni jima**	**14.99**	**348**		**Pn**	**16 42 45.1**	**+0.5**
YHNB	**Yeheng**	**15.59**	**343**		**Pn**	**16 42 51.9**	**-0.3**
YHNB	comp=Z,107nm,1.5s			IAmb	IAmb	16 42 58.0	
JOW	**Kunigami**	**17.13**	**6**	LR	LR	16 48 11.0	
GUMO	**Guam**	**18.62**	**76**	LR	LR	16 48 35.3	
SOEI	**Soe**	**19.44**	**186**	P	**Pn**	**16 43 37.6**	**-1.4**
SOEI	comp=Z,31nm,0.9s			IAmb	IAmb	16 44 00.8	
MTN	**Manton Dam**	**22.92**	**168**	P	**P**	**16 44 13.7**	**0.0**
MTN	comp=Z,55nm,1.4s			IAmb	IAmb	16 44 20.7	
MYKOM	**Kota Tinggi**	**23.64**	**252**	P	**P**	**16 44 20.4**	**0.0**
MYKOM	comp=Z,16nm,0.8s			IAmb	IAmb	16 44 25.7	
KNRA	**Kununurra**	**25.35**	**174**	P	**P**	**16 44 36.0**	**+0.2**
KNRA	comp=Z,13nm,0.6s			IAmb	IAmb	16 44 48.0	
KULM	**Kulim**	**25.77**	**262**	P	**P**	**16 44 39.8**	**+0.1**
KULM	comp=Z,20nm,1.3s			IAmb	IAmb	16 45 15.8	
FITZ	**Fitzroy Crossi**	**27.64**	**181**	P	**P**	**16 44 56.6**	**+0.2**
KSRS	**Korea Array**	**27.66**	**3**	P	**P**	**16 44 55.7**	**-0.7**
KSRS	comp=Z,2.1nm,1.1s,baz=185,slow=11,SNR=3.0			LR	LR	16 58 37.7	
CMAR	**Chiang Mai Arr**	**27.86**	**291**	P	**P**	**16 44 59.1**	**+0.6**
CMAR	comp=Z,1.3nm,0.8s,baz=101,slow=7.3,SNR=10			LR	LR	16 56 39.5	
XMIS	**Christmas Isla**	**28.69**	**226**	P	**P**	**16 45 07.1**	**+1.2**
MJAR	**Matsushiro Arr**	**28.82**	**20**	LR	LR	16 57 17.2	
	comp=Z,40nm,18.2s,baz=138,slow=37						

COEN	Coen	28.89	144	P	P	16 45 07.0	-0.6
COEN				IAmb	IAmb	16 45 17.9	
comp=Z,16nm,1.4s							
GSI	Gunungsitoli	29.73	255	P	P	16 45 12.8	-2.3
WB0	Warramunga Arr	30.37	165	P	P	16 45 19.3	-1.3
WB0				IAmb	IAmb	16 45 57.7	
comp=Z,13nm,1.4s							
WRAB	Tennant Creek	30.52	165	P	P	16 45 20.7	-1.2
WRA	Warramunga Arr	30.52	165	P	P	16 45 20.4	-1.5
comp=Z,0.7nm,0.5s,baz=342,slow=8.7,SNR=10							
comp=Z,0.7nm,0.5s							
WB2	Warramunga Arr	30.52	165	P	P	16 45 20.4	-1.5
WR0	Warramunga Arr	30.59	165	P	P	16 45 21.0	-1.6
BJT	Baijiatuan	31.49	345	P	P	16 45 29.9	-0.4
BJT				IAmb	IAmb	16 45 31.5	
comp=Z,3.4nm,0.5s							
PSA00	Pilbara Seismi	31.72	191	P	P	16 45 32.9	+0.4
AS31	Alice Springs	34.00	167	P	P	16 45 51.4	-1.0
ASAR	Alice Springs	34.00	167	P	P	16 45 51.7	-0.7
ASAR	Alice Springs	34.00	167	P	P	16 45 51.5	-0.9
comp=Z,0.7nm,0.4s,baz=351,slow=7.2,SNR=33							
ASAR				PcP	PcP	16 48 27.7	-0.7
comp=Z,0.6nm,0.6s,baz=343,slow=2.8,SNR=3.0							
comp=Z,0.7nm,0.4s							
USRK	Ussuriysk Ar.	34.72	7	P	P	16 45 59.2	+0.9
comp=Z,3.0nm,1.1s,baz=188,slow=9.0,SNR=3.1							
comp=Z,3.0nm,1.1s							
MORW	Morawa	39.80	194	P	P	16 46 42.3	+0.9
MORW				IAmb	IAmb	16 47 08.1	
comp=Z,14nm,1.1s							
H11S3	WAKE ISLAND Hy	40.08	73	T	T	17 29 39.4	
baz=262,slow=75,SNR=53							
H11S1	WAKE ISLAND Hy	40.09	73	T	T	17 29 39.9	
baz=262,slow=75,SNR=28							
H11S2	WAKE ISLAND Hy	40.10	73	T	T	17 29 41.9	
baz=262,slow=75,SNR=22							
FORT	Forrest	40.30	178	P	P	16 46 46.1	+0.7
H11N1	WAKE ISLAND Hy	40.43	71	T	T	17 30 11.1	
baz=265,slow=74,SNR=66							
H11N2	WAKE ISLAND Hy	40.44	71	T	T	17 30 12.5	
baz=265,slow=74,SNR=44							
H11N3	WAKE ISLAND Hy	40.45	71	T	T	17 30 12.6	
baz=265,slow=74,SNR=46							
ULN	Ulaanbaatar	41.34	340	P	P	16 46 53.6	-0.6
SONM	Songino Array	41.54	340	P	P	16 46 55.7	0.0
comp=Z,0.5nm,0.3s,baz=152,slow=8.4,SNR=6.5							
comp=Z,0.5nm,0.3s							
EIDS	Eidsvold	42.43	146	P	P	16 47 03.8	+0.8
EIDS				IAmb	IAmb	16 47 22.8	
comp=Z,17nm,1.4s							
NWAO	Narrogin (SRO)	43.27	191	P	P	16 47 11.0	+1.4
BBOO	Buckleboo	43.30	168	P	P	16 47 10.4	+0.5
BBOO				IAmb	IAmb	16 47 11.0	
comp=Z,26nm,1.1s							
STKA	Stephens Creek	43.88	161	P	P	16 47 14.6	0.0
STKA				IAmb	IAmb	16 47 18.8	
comp=Z,10nm,1.1s							
STKA	Stephens Creek	43.88	161	P	P	16 47 14.7	0.0
comp=Z,2.7nm,0.6s,baz=328,slow=7.1,SNR=6.0							
comp=Z,2.7nm,0.6s							
PETK	Petropavlovsk-	50.14	24	P	P	16 48 03.7	+0.6
PETK	Petropavlovsk-	50.14	24	P	P	16 48 02.7	-0.4
comp=Z,2.1nm,0.8s,baz=216,slow=3.0,SNR=4.0							
comp=Z,2.1nm,0.8s							
TOO	Toolangi	50.37	160	P	P	16 48 06.5	+1.5
TOO				IAmb	IAmb	16 48 46.2	
comp=Z,6.5nm,1.2s							
DZM	Mont Dzumac	50.50	129	P	P	16 48 07.2	+0.9
MK31	Makanchi Array	52.47	323	P	P	16 48 19.5	-1.1
MKAR	Makanchi Array	52.47	323	P	P	16 48 19.6	-1.0
MKAR	Makanchi Array	52.47	323	P	P	16 48 20.1	-0.5
comp=Z,1.9nm,0.6s,baz=127,slow=7.7,SNR=33							
MKAR				PcP	PcP	16 49 29.2	-0.7
comp=Z,0.7nm,0.6s,baz=120,slow=3.9,SNR=1.5							
comp=Z,1.9nm,0.6s							
MAKZ	Makanchi	52.66	323	P	P	16 48 21.2	-0.8
KDJ	Kajisay	53.68	316	P	P	16 48 29.4	-0.4
ZAA0	Zalesovo Array	55.11	332	P	P	16 48 37.9	-1.8
ZALV	Zalesovo Beam	55.11	332	P	P	16 48 38.3	-1.4
comp=Z,0.9nm,0.4s,baz=116,slow=7.7,SNR=4.2							
comp=Z,0.9nm,0.4s							
AAK	Ala-Archa	55.72	315	LR	LR	17 14 12.0	
comp=Z,65nm,21.8s,slow=38							
KURK	Kurchatov	56.52	326	P	P	16 48 49.1	-0.7
KURK				IAmb	IAmb	16 48 56.0	
comp=Z,3.6nm,0.8s							
KURBB	Kurchatov Arra	56.53	326	P	P	16 48 49.0	-0.8
comp=Z,1.5nm,0.6s,baz=126,slow=7.0,SNR=26							
comp=Z,1.5nm,0.6s							
KKAR	Karatay Array	58.64	315	P	P	16 49 04.4	-0.4
BVAR	Borovoye Array	62.12	326	P	P	16 49 28.5	+0.1
comp=Z,1.1nm,0.7s,baz=134,slow=8.5,SNR=5.7							
comp=Z,1.1nm,0.7s							
BILL	Bilibino	63.94	16	P	P	16 49 40.7	+0.7
BILL				IAmb	IAmb	16 49 44.5	
comp=Z,5.8nm,1.4s							
NRIK	Noril'sk	64.55	346	P	P	16 49 44.9	+0.8
comp=Z,1.4nm,0.6s,baz=125,slow=8.1,SNR=5.8							
comp=Z,1.4nm,0.6s							
ABKAR	Akbulak array	67.30	319	P	P	16 50 01.1	-0.9
BKZ	Black Stump Fm	67.36	140	P	P	16 50 03.9	+1.2
P08K	Saint George I	67.85	33	P	P	16 50 05.0	-0.4
ARTI	Arti	69.78	327	P	P	16 50 16.3	-1.1
ARTI				IAmb	IAmb	16 50 26.9	
comp=Z,3.5nm,1.0s							
K15K	Wolf Creek Mou	73.20	28	P	P	16 50 37.9	+0.1
C18K	Utukok River	74.67	21	P	P	16 50 47.0	+0.6
C18K				IAmb	IAmb	16 51 22.8	
comp=Z,7.2nm,1.5s							
D19K	Kuna River	75.75	22	P	P	16 50 53.3	+0.8
D19K				IAmb	IAmb	16 51 05.7	
comp=Z,8.2nm,1.3s							
F20K	Avaraart Lake	76.44	23	P	P	16 50 56.9	+0.6
B22K	Teshekpuk Lake	77.65	20	P	P	16 51 04.2	+1.2
B22K				IAmb	IAmb	16 51 04.9	
comp=Z,4.3nm,0.7s							
D22K	Ayikyak River	77.77	21	P	P	16 51 04.8	+1.0
D22K				IAmb	IAmb	16 51 30.1	
comp=Z,6.0nm,1.4s							
TOLK	Toolik Lake Re	78.89	22	P	P	16 51 10.6	+0.6
MCK	McKinley	79.05	27	P	P	16 51 11.3	+0.3
MCK				IAmb	IAmb	16 51 12.7	
comp=Z,15nm,1.4s							
E24K	Your Creek	79.28	22	P	P	16 51 11.7	-0.5
HDA	Harding Lake	79.92	26	P	P	16 51 15.6	-0.1
HDA				IAmb	IAmb	16 51 19.5	
comp=Z,4.5nm,1.0s							
ILAR	Eielson Array	79.94	26	P	P	16 51 15.8	0.0
comp=Z,0.6nm,0.9s,baz=237,slow=4.6,SNR=12							
comp=Z,0.6nm,0.9s							
BCAR	Beaver Creek A	82.30	27	P	P	16 51 30.6	+2.3
G30M	tAoh Zraii Nji	84.06	23	P	P	16 51 37.4	+0.1
G30M				IAmb	IAmb	16 52 15.0	
comp=Z,10nm,1.5s							
SPB2	Spitsbergen Ar	84.56	349	P	P	16 51 39.7	+0.1
SPITS	Spitsbergen Ar	84.56	349	P	P	16 51 39.6	0.0
comp=Z,8.5nm,0.8s,baz=101,slow=8.6,SNR=8.5							
comp=Z,8.5nm,0.8s							
ARCES	ARCESS Array B	84.71	340	P	P	16 51 40.8	+0.3
ARCES				IAmb	IAmb	16 51 46.0	
comp=Z,8.8nm,1.2s							
ARCES	ARCESS Array B	84.71	340	P	P	16 51 41.0	+0.4
comp=Z,1.4nm,0.4s,baz=72,slow=5.4,SNR=19							
comp=Z,1.4nm,0.4s							
INK	Inuvik	84.80	22	P	P	16 51 41.2	+0.3
INK				IAmb	IAmb	16 51 42.9	
comp=Z,3.5nm,1.1s							
FIA1	FINESS Array S	86.38	332	P	P	16 51 49.1	+0.3
FINES	FINESS Array B	86.38	332	P	P	16 51 49.0	+0.2
FINES	FINESS Array B	86.38	332	P	P	16 51 49.2	+0.3
comp=Z,2.1nm,0.5s,baz=67,slow=5.0,SNR=27							
comp=Z,2.1nm,0.5s							
AKASG	Malin Array Be	86.99	321	P	P	16 51 52.2	+0.1
comp=Z,0.2nm,0.3s,baz=63,slow=5.2,SNR=5.0							
comp=Z,0.2nm,0.3s							
HFS	Hagfors	92.54	332	P	P	16 52 16.9	-1.0
comp=Z,2.9nm,0.7s,baz=77,slow=4.6,SNR=11							
comp=Z,2.9nm,0.7s							
YKA	Yellowknife Ar	94.26	24	P	P	16 52 26.9	+1.1
comp=Z,1.2nm,0.6s,baz=298,slow=4.7,SNR=17							
comp=Z,1.2nm,0.6s							
PLCA	Paso Flores	145.70	157	PKPbc	PKPdf	16 58 44.3	-0.9
comp=Z,1.3nm,0.7s,baz=232,slow=2.6,SNR=3.7							

IDC ***11*** *16:55:30.0±1.2, 32°.84N×87°.55E, h0km, mb3.4/5,*

mbtmp3.4/8, ML3.1/3, MS3.2/6, Error ellipse: s-maj=41.1km s-min=20.5km az=66.0

ISC 11 16:55:34.9±1.1, **32°.9N**±0°.1×**87°.6E**±0°.2, **h35**km, **n12,** σ0**74/8, mb3.3**/4, **MS3.3**/4, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.44	345	Pn	Pn	16 58 55.9	-0.7
baz=162,slow=14,SNR=4.2							
MKAR				LR	LR	17 05 17.3	
comp=Z,47nm,21.3s,baz=134,slow=40							
0.3nm,0.7s							
CMAR	Chiang Mai Arr	17.64	142	P	Pn	16 59 37.0	-1.1
0.1nm,0.3s,baz=323,slow=11,SNR=7.3							
CMAR				LR	LR	17 06 15.6	
comp=Z,30nm,18.8s,baz=35,slow=37							
0.5nm,0.4s							
KURBB	Kurchatov Arra	18.91	342	P	Pn	16 59 53.1	-0.1
baz=153,slow=12,SNR=7.8							
1.4nm,1.0s							
SONM	Songino Array	20.59	38	P	P	17 00 11.6	+0.7
1.3nm,0.8s,baz=228,slow=12,SNR=7.7							
1.3nm,0.8s							
ZALV	Zalesovo Beam	21.11	355	P	P	17 00 16.2	-0.1
1.0nm,0.8s,baz=172,slow=12,SNR=5.3							
1.0nm,0.8s							
USRK	Ussuriysk Ar.	36.09	59	LR	LR	17 18 11.5	
comp=Z,52nm,19.0s,baz=37,slow=38							
JNU	Nakatsue	36.10	78	LR	LR	17 18 03.5	
comp=Z,40nm,18.3s,baz=78,slow=37							
NRIK	Noril'sk	36.47	360	LR	LR	17 19 18.5	
comp=Z,58nm,18.4s,baz=176,slow=39							
EIL	Elat	44.72	281	LR	LR	17 26 26.2	
comp=Z,39nm,19.4s,baz=58,slow=42							
WRA	Warramunga Arr	68.97	133	P	P	17 06 37.1	+0.3
0.5nm,0.8s,baz=320,slow=6.5,SNR=8.4							
0.5nm,0.8s							
ASAR	Alice Springs	71.53	136	P	P	17 06 53.0	+0.5
0.2nm,0.6s,baz=313,slow=5.9,SNR=4.1							
0.2nm,0.6s							
TORD	Torodi Ar. Bea	79.58	279	P	P	17 07 39.3	+0.4
0.1nm,0.3s,baz=61,slow=7.1,SNR=1.5							
0.1nm,0.3s							

NEIC 11 17:20:11.9±1.7, **37°.41N**±0°.03×**106°.57W**±0°.03, **h5**km±1km, **ML1.6**/20, **Error ellipse: s-maj=5.6km s-min=3.0km az=216.0, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S22A	4UR Ranch, Cre	0.39	329		Pg	17 20 19.8	+0.2
MVCO	Mesa Verde	1.55	263		Pn	17 20 40.6	+0.2
MVCO				IAML		17 21 03.3	
8.2nm,0.4s							
MVCO				IAML		17 21 03.6	
7.3nm,0.2s							
T25A	Trinidad	1.74	98	Pn	Pb	17 20 44.1	-0.4
T25A				IAML		17 21 11.1	
comp=E,6.7nm,0.4s							
T25A				IAML		17 21 11.2	
comp=N,6.5nm,0.5s							
PV15	Paradox Valley	1.77	302	Pn	Pn	17 20 43.5	+0.1
PV15				IAML		17 21 04.5	
comp=N,4.7nm,1.4s							
PV02	Paradox Valley	1.89	296	Pn	Pn	17 20 46.0	+0.9
PV07	Paradox Valley	1.94	303	Pn	Pn	17 20 45.3	-0.3
PV07				IAML		17 21 19.1	
comp=E,4.1nm,1.4s							
PV12	Saucer Basin,	1.98	298	Pn	Pn	17 20 46.4	+0.1
PV12				IAML		17 21 38.9	
comp=E,5.3nm,1.3s							

ROM ***11*** *17:21:09.3±0.3, 42°.05N±0°.02×16°.34E±0°.02, h10km, ML2.7/8, Error ellipse: s-maj=1.9km s-min=1.0km az=30.0*

ISC 11 17:21:09.3±1.1, **42°.03N**±0°.02×**16°.35E**±0°.03, **h11**km±9km, **n38,** σ0**64/56, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	Monte S. Angel	0.46	226	P	Pg	17 21 18.2	-0.1
MSAG				S	Sg	17 21 25.2	+0.7
APRC	Apricena	0.67	246	P	Pg	17 21 21.9	-0.3
APRC				S	Sg	17 21 31.3	+0.4
APRC				AML	AML		
comp=E,888μm,1.5s							
APRC				AML	AML		
comp=N,1705μm,0.3s							
APRC				AML	AML		
comp=E,888μm,1.5s							
APRC				AML	AML		
comp=N,1706μm,0.3s							
APRC				AML	AML		
comp=E,763μm,0.2s							
APRC				AML	AML		
comp=E,768μm,0.2s							
APRC				AML	AML		
comp=N,1706μm,1.7s							
LSTV	Lastovo	0.84	28	*e*Pg	Pb	17 21 26.2	+0.4
LSTV				Sg	Sn	17 21 38.4	-0.9
MRVN	Minervino Murg	0.98	187	P	Pg	17 21 27.4	-0.7
MRVN				S	Sb	17 21 41.5	+0.3
MRVN				AML	AML		
comp=E,230μm,0.1s							
MRVN				AML	AML		
comp=N,223μm,0.9s							
MRVN				AML	AML		
comp=E,230μm,0.1s							
MRVN				AML	AML		
comp=N,219μm,0.1s							
MRVN				AML	AML		
comp=E,176μm,0.2s							
PALZ	Palazzo San Ge	1.13	195	P	Pb	17 21 30.5	-0.3
PALZ				S	Sb	17 21 45.9	+0.4
AMUR	Altamura	1.14	170	P	Pb	17 21 30.7	-0.3
AMUR				S	Sb	17 21 46.5	+0.7
AMUR				AML	AML		
comp=N,246μm,1.4s							
AMUR				AML	AML		
comp=E,343μm,0.4s							
AMUR				AML	AML		
comp=E,285μm,0.1s							
AMUR				AML	AML		
comp=N,209μm,0.1s							
CIGN	Sant'Elia a Pi	1.15	251	P	Pb	17 21 30.4	-0.7
CIGN				S	Sg	17 21 46.0	-0.2
HVAR	Hvar	1.15	3	*e*Pg	Pb	17 21 30.4	-0.7
HVAR				Sg	Sg	17 21 46.4	+0.1
SGTA	Sant Agata di	1.16	220	P	Pb	17 21 30.8	-0.6
FRES	Fresagrandinar	1.26	268	P	Pn	17 21 32.7	-0.1
STON	Ston	1.30	49	*i* Pg	Pg	17 21 34.2	-0.1
STON				Sg	Sn	17 21 51.1	+0.3
CAFE	Carife	1.31	220	P	Pn	17 21 33.5	-0.1
CLT3	Calitri	1.33	213	P	Pb	17 21 34.6	+0.3
NOCI	Noci	1.35	156	P	Pn	17 21 32.8	-1.3
NOCI				AML	AML		
comp=E,366μm,0.4s							
NOCI				AML	AML		
comp=N,574μm,0.9s							
NOCI				AML	AML		
comp=E,353μm,0.3s							
NOCI				AML	AML		
comp=N,531μm,0.2s							
SACR	S. Croce Del S	1.39	243	P	Pn	17 21 34.9	+0.2
MATE	Matera	1.41	169	P	Pn	17 21 35.4	+0.5
MATE				AML	AML		
comp=E,316μm,1.4s							
MATE				AML	AML		
comp=N,440μm,1.3s							
MATE				AML	AML		
comp=N,357μm,0.2s							
MATE				AML	AML		
comp=E,237μm,0.3s							
PSB1	Pescosannita	1.41	236	P	Pn	17 21 34.5	-0.4
MRLC	Muro Lucano	1.43	207	P	Pb	17 21 36.0	0.0
LTRZ	Laterza	1.47	166	P	Pb	17 21 36.8	+0.1
LTRZ				S	Sg	17 21 56.7	+0.2
DBRK	Dubrovnik	1.47	64	*e*Pg	Pn	17 21 35.8	0.0
DBRK				Sn	Sn	17 21 54.1	-1.0
PTRP	Pietrapertosa	1.52	188	P	Pb	17 21 38.0	+0.3
RICI	Ricice	1.57	21	*e*Pn	Pn	17 21 37.2	+0.1
RICI				Sn	Sn	17 21 57.1	-0.4
SGG	Gregorio Mates	1.61	247	P	Pn	17 21 38.3	+0.5
TAR1	Taranto	1.66	155	P	Pb	17 21 40.3	+0.5
CRAC	Craco	1.67	178	P	Pn	17 21 39.2	+0.8
RNI2	Rionero Sannit	1.68	259	P	Pb	17 21 39.8	-0.5
VAGA	Valle Agricola	1.70	250	P	Pn	17 21 39.7	+0.7
ZIRJ	Zirje	1.70	342	*e*Pn	Pn	17 21 38.4	-0.5
ZIRJ				Sn	Sn	17 22 00.1	-0.6
SIRI	Monte Sirino -	1.88	191	P	Pb	17 21 43.2	-0.5
MORI	Morici	1.89	346	*e*Pn	Pn	17 21 41.4	-0.2
MORI				Sn	Sn	17 22 05.1	-0.4
KIJV	Kijevo	1.97	1	*e*Pn	Pn	17 21 43.2	+0.5
KIJV				Sn	Sb	17 22 08.5	-1.3
DUGI	Dugi Otok	2.18	335	*e*Pn	Pn	17 21 45.3	-0.2
DUGI				Sn	Sn	17 22 12.7	+0.2
VIRC	Vir	2.45	338	*e*Pn	Pn	17 21 49.8	+0.6
VIRC				Sn	Sn	17 22 19.4	+0.2
UDBI	Udbina	2.53	350	*e*Pg	Pb	17 21 55.5	+0.7
UDBI				Sn	Sn	17 22 23.0	+1.7
NVLJ	Novalja	2.75	337	*e*Pn	Pn	17 21 53.5	+0.2
NVLJ				Sn	Sn	17 22 27.0	+0.4
CAR1	CAROLEI	2.78	182	AML	AML		
comp=N,412μm,1.2s							
CAR1				AML	AML		
comp=E,347μm,1.5s							
PLIT	Plitvice	2.90	350	*e*Pn	Pn	17 21 57.2	+1.9
PLIT				Sn	Sn	17 22 30.1	-0.1
MTGR	Montagna Grand	4.97	215	AML	AML		
comp=N,12991μm,0.1s							

BGR ***11*** *17:28:21.0, 51°.87N×155°.21E, h33km, mb5.0*

KRSC ***11*** *17:28:23.1±1.6, 51°.27N×157°.27E, h140km±11km, Mc4.5, Ml5.4, Felt [IV] at Severo-Kurilsk; [III] at lighthouse Chibuiny; [II-III] at Podgornay; [II] at lighthouse Krugliy.*

BJI ***11*** *17:28:24.6, 51°.49N×157°.15E, h143km, mB4.9/23, mb4.8/68*

MOS ***11*** *17:28:25.4±0.9, 51°.47N×156°.83E, h137km, mb5.0/101, Error ellipse: s-maj=5.7km s-min=4.1km az=136.7*

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

NEIC ***11*** *17:28:27.1±1.5, 51°.54N±0°.09×156°.9E±0°.2, h137km±6km, mb4.9/363, Error ellipse: s-maj=16.1km s-min=10.9km az=133.0*

GCMT ***11*** *17:28:27.1±0.3, 51°.35N±0°.02×157°.25E±0°.03, h140km±3km, MW5.0/109, Moment Tensor Solution. s35,c37; s109,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.54±.13; Mθθ-1.23±.16; Mφφ0.69±.16; Mrθ-2.67±.10; Mrφ-0.27±.14; Mθφ-2.23±.09; Best double couple: M0 3.64500×10^16 NP1:φs121.00000°, δ15.00000°, λ160.00000°. NP2:φs230.00000°, δ85.00000°, λ76.00000°. Principal axes: T 3.5480, Plg48.0000°, Azm125.0000°; N 0.1940, Plg14.0000°, Azm232.0000°; P -3.7430, Plg38.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***11*** *17:28:28.2±0.5, 51°.61N×156°.87E, h143km±3km, mb4.6/34, mbtmp5.0/40, MS3.5/38 Error ellipse: s-maj=9.4km s-min=7.0km az=148.0*

ISC 11 17:28:26.4±0.3, **51°.41N**±0°.04×**157°.00E**±0°.03, **h136**km±2km, **h136**km**:pP-P, n1192,** σ1**9**20/1123, **mb4.9**/389, **36C-45D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.14	296	PN	Pn	17 28 44.2	-0.6
PAU				S	Sn	17 28 58.2	-0.6
PAU	Pauzhetka	0.14	296	*i* P	Pn	17 28 44.3	-0.6
PAU				*e*S	Sn	17 28 58.2	-0.6
KDTR	Khodutka, Kamc	0.78	59	PN	Pn	17 28 45.9	-2.1
KDTR				S	Sn	17 29 00.3	-4.1
KDTR	Khodutka, Kamc	0.78	59	*i* P	Pn	17 28 45.9	-2.1
KDTR				*e*S	Sn	17 29 00.4	-4.1
SKR	Severo-Kuril's	0.92	218	⇓*i* PN	Pn	17 28 48.6	-0.5
SKR				*i* S	Sn	17 29 05.0	-1.3
SKR				pmax	pmax		
comp=Z,25μm,0.4s							
SKR				smax	smax		
comp=N,190μm,0.6s							
SKR				smax	smax		
comp=E,186μm,0.6s							
SKR				MLR	MLR		
comp=Z,3μm,11.5s							
SKR	Severo-Kuril's	0.92	218	*i* P	Pn	17 28 48.5	-0.6
SKR				*e*S	Sn	17 29 05.1	-1.2
GRL	Gorelyy	1.32	30	PN	Pn	17 28 52.7	-0.4
GRL	Gorelyy	1.32	30	*e*P	Pn	17 28 52.8	-0.4
RUS	Russkaya	1.39	42	PN	Pn	17 28 52.1	-1.5
RUS	Russkaya	1.39	42	*e*P	Pn	17 28 52.2	-1.5
APC	Apacha	1.52	4	PN	Pn	17 28 55.2	+0.1
APC				S	Sn	17 29 17.2	+0.1
APC	Apacha	1.52	4	*i* P	Pn	17 28 55.3	+0.1
APC				*e*S	Sn	17 29 17.2	+0.1
KRMR	Karymshinskiy	1.58	26	PN	Pn	17 28 55.5	-0.3
KRMR				S	Sn	17 29 17.9	-0.4
KRMR	Karymshinskiy	1.58	26	*e*P	Pn	17 28 55.6	-0.3
KRMR				*e*S	Sn	17 29 18.0	-0.4
PEA0B	Petropavlovsk-	1.76	14	Pn	Pn	17 28 57.3	-0.5
PEA0B	Petropavlovsk-	1.76	14	*e* iPN	Pn	17 28 57.8	0.0
PETK	Petropavlovsk-	1.76	14	Pn	Pn	17 28 56.7	-1.1
PETK	Petropavlovsk-	1.76	14	P	Pn	17 28 57.3	-0.5
comp=Z,604nm,0.5s,baz=175,slow=11,SNR=932							
PETK				S	Sn	17 29 21.6	-0.3
comp=Z,536nm,0.6s,baz=183,slow=19,SNR=6.2							
PET	Petropavlovsk	1.91	31		Pn	17 28 58.5	-1.1
PET	Petropavlovsk	1.91	31	*d* iPN	Pn	17 28 59.0	-0.6
PET				*i* S	Sn	17 29 05.0	-20
PET				pmax	pmax		
comp=Z,749nm,0.4s							
PET				pmax	pmax		
comp=Z,900nm,1.6s							
PET				smax	smax		
comp=E,9μm,1.7s							
PET				smax	smax		
comp=E,45μm,0.6s							
PET				smax	smax		
comp=N,11μm,1.5s							
PET				smax	smax		
comp=N,77μm,0.5s							
PET				MLR	MLR		
comp=Z,4μm,5.0s							
PET				MLR	MLR		
comp=Z,2μm,4.0s							
PET	Petropavlovsk	1.91	31	P	Pn	17 28 58.9	-0.6
PET	Petropavlovsk	1.91	31	*i* P	Pn	17 28 59.0	-0.6
PET				*e*S	Sn	17 29 23.5	-1.5
INSR	Institute	1.93	30	PN	Pn	17 28 59.4	-0.4
INSR				S	Sn	17 29 24.0	-1.5
INSR	Institute	1.93	30	*e*P	Pn	17 28 59.4	-0.4
INSR				*e*S	Sn	17 29 24.0	-1.5
DALK	Dalny	1.95	33	PN	Pn	17 28 59.4	-0.6
DALK				S	Sn	17 29 24.0	-1.9
DALK	Dalny	1.95	33	*i* P	Pn	17 28 59.5	-0.6
DALK				*e*S	Sn	17 29 24.0	-1.9
UGLR	Uglovaya	2.12	31	PN	Pn	17 29 02.3	+0.1
UGLR	Uglovaya	2.12	31	*i* P	Pn	17 29 02.4	+0.1
KOK	Koryaka	2.14	27	PN	Pn	17 29 03.2	+0.8
KOK	Koryaka	2.14	27	*i* P	Pn	17 29 03

KOZ	**Kozyrevsk**	**4.96**	**19**	*e*P	**Pn**	**17 29 39.4**	**+0.4**
KIRR	**Kirishev**	**4.97**	**22**	PN	**Pn**	**17 29 39.5**	**+0.3**
KIRR	**Kirishev**	**4.97**	**22**	*e*P	**Pn**	**17 29 39.5**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**5.04**	**24**	PN	**Pn**	**17 29 40.7**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**5.04**	**24**	*e*P	**Pn**	**17 29 40.7**	**+0.6**
SRDR	**Sredinnyy**	**5.17**	**17**	PN	**Pn**	**17 29 42.4**	**+0.5**
SRDR	**Sredinnyy**	**5.17**	**17**	*e*P	**Pn**	**17 29 42.4**	**+0.5**
KRSR	**Krestovskiy**	**5.26**	**22**	PN	**Pn**	**17 29 42.9**	**-0.1**
KRSR	**Krestovskiy**	**5.26**	**22**	*e*P	**Pn**	**17 29 43.0**	**-0.1**
KLY	**Klyuchi**	**5.37**	**22**	PN	**Pn**	**17 29 45.3**	**+1.0**
KLY	**Klyuchi**	**5.37**	**22**	*e*P	**Pn**	**17 29 45.4**	**+1.0**
SMKR	**Semkarok**	**5.81**	**25**	PN	**Pn**	**17 29 50.3**	**-0.1**
SMKR	**Semkarok**	**5.81**	**25**	*e*P	**Pn**	**17 29 50.3**	**-0.1**
KBG	**Krutoberegovo**	**5.91**	**33**	PN	**Pn**	**17 29 49.9**	**-1.7**
KBG	**Krutoberegovo**	**5.91**	**33**	*e*P	**Pn**	**17 29 49.9**	**-1.7**
KBTR	**Krutoberegovo**	**5.92**	**33**	PN	**Pn**	**17 29 50.0**	**-1.7**
KBTR	**Krutoberegovo**	**5.92**	**33**	*e*P	**Pn**	**17 29 50.1**	**-1.7**
TIGL	**Tigil**	**6.44**	**8**	*e*P	**Pn**	**17 29 60.0**	**+1.2**
BKI	**Bering**	**6.58**	**51**	PN	**Pn**	**17 29 58.5**	**-2.1**
BKI	**Bering**	**6.58**	**51**	*e*P	**Pn**	**17 29 58.6**	**-2.1**
BKI				*e*S	Sn	17 31 04.3	-10
PALN	**Palana**	**7.88**	**11**	PN	**Pn**	**17 30 18.1**	**+0.1**
PALN	**Palana**	**7.88**	**11**	*e*P	**Pn**	**17 30 18.2**	**+0.1**
OSSR	**Ossora**	**8.58**	**21**	PN	**Pn**	**17 30 25.8**	**-1.6**
OSSR	**Ossora**	**8.58**	**21**	*e*P	**Pn**	**17 30 25.8**	**-1.6**
KUR	**Kuril'sk**	**8.67**	**228**	*e*PN	**Pn**	**17 30 29.4**	**+0.7**
KUR				*e*S	**Sn**	**17 32 04.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				pmax	pmax		
	comp=N,61nm,0.4s						
KUR				pmax	pmax		
	comp=E,35nm,0.4s						
KUR				smax	smax		
	comp=E,111nm,0.7s						
KUR				smax	smax		
	comp=N,79nm,0.4s						
KUR	**Kuril'sk**	**8.67**	**228**	*e*P	**Pn**	**17 30 29.1**	**+0.4**
OKH	**Okha**	**8.85**	**290**	*de*PN	Pn	17 30 22.5	-8.6
OKH				MLR	MLR		
	comp=Z,200nm,9.0s						
OKH				MLR	MLR		
	comp=E,300nm,16.0s						
MA2	**Magadan**	**8.91**	**339**	Pn	**Pn**	**17 30 32.2**	**+0.3**
MA2	**Magadan**	**8.91**	**339**	P	**Pn**	**17 30 32.6**	**+0.7**
	comp=E,203nm,0.8s,baz=150,slow=9.2,SNR=347						
MA2				LR	LR	17 34 37.8	
	comp=E,200nm,18.1s,baz=160,slow=42						
MA2	**Magadan**	**8.91**	**339**	P	**Pn**	**17 30 33.3**	**+1.4**
MA2	**Magadan**	**8.91**	**339**	*d*PN	**Pn**	**17 30 32.9**	**+1.0**
MA2				pmax	pmax		
	comp=Z,440nm,1.3s						
TYV	**Tymovskoe**	**9.04**	**272**	*e*PN	Pn	17 30 37.3	+3.6
TYV				*e*S	**Sn**	**17 32 15.9**	**+2.2**
TYV				pmax	pmax		
	comp=Z,300nm,3.3s						
TYV				pmax	pmax		
	comp=Z,28nm,1.3s						
TYV				smax	smax		
	comp=E,9.0nm,1.4s						
TYV				smax	smax		
	comp=N,500nm,5.3s						
TYV				smax	smax		
	comp=E,600nm,5.3s						
TYV	**Tymovskoe**	**9.04**	**272**	*e*P	**Pn**	**17 30 35.4**	**+1.7**
UGL	**Uglegorsk**	**9.85**	**262**	*e*PN	Pn	17 30 36.6	-7.9
UGL				pmax	pmax		
	comp=Z,70nm,1.1s						
SHO	**Shikotan**	**10.19**	**226**	*e*PN	**Pn**	**17 30 44.7**	**-4.4**
SHO				pmax	pmax		
	comp=Z,85nm,0.6s						
SHO				pmax	pmax		
	comp=N,32nm,0.5s						
SHO				pmax	pmax		
	comp=E,33nm,0.3s						
SHO	**Shikotan**	**10.19**	**226**	*e*P	**Pn**	**17 30 45.4**	**-3.6**
YSS	**Yuzhno-Sakhali**	**10.34**	**250**	*e*PN	**Pn**	**17 30 53.6**	**+2.6**
YSS				pmax	pmax		
	comp=Z,4μm,0.9s						
YSS				pmax	pmax		
	comp=N,3μm,0.5s						
YSS				pmax	pmax		
	comp=E,4μm,0.8s						
TILK	**Tilichiki**	**10.40**	**26**	PN	**Pn**	**17 30 50.8**	**-0.9**
TILK	**Tilichiki**	**10.40**	**26**	*e*P	**Pn**	**17 30 50.8**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**10.52**	**230**	*e*PN	**Pn**	**17 30 51.6**	**-1.8**
YUK				*e*S	**Sn**	**17 32 44.7**	**-4.7**
YUK				pmax	pmax		
	comp=E,164nm,0.4s						
YUK				pmax	pmax		
	comp=Z,326nm,0.4s						
YUK				pmax	pmax		
	comp=N,104nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**10.52**	**230**	*e*P	**Pn**	**17 30 51.6**	**-1.8**
SHEM	**Shemya Is, Ala**	**10.61**	**76**	P	**Pn**	**17 30 56.8**	**+2.3**
	comp=N,93nm,0.6s,baz=275,slow=5.7,SNR=4.3						
SHEM				LR	LR	17 34 53.1	
	comp=N,229nm,21.4s,baz=314,slow=36						
NMR	**Nemuro--Hokkai**	**11.08**	**228**	*e*PN	Pn	17 30 56.1	-4.8
SEY	**Seymchan**	**11.82**	**350**	P	**Pn**	**17 31 11.2**	**+0.7**
	comp=N,18nm,0.8s,baz=151,slow=12,SNR=58						
SEY	**Seymchan**	**11.82**	**350**	⇓*i*PN	**Pn**	**17 31 11.5**	**+1.0**
SEY				pmax	pmax		
	comp=Z,67nm,1.7s						
JKA	**Kamikawa-asahi**	**12.12**	**239**	Pn	**Pn**	**17 31 15.6**	**+1.1**
ASAJ	**Asahikawa**	**12.12**	**239**	P	P	17 31 16.5	-5.0
	comp=Z,51nm,0.6s,baz=69,slow=14,SNR=134						
ASAJ	**Asahikawa**	**12.12**	**239**	PN	**Pn**	**17 31 15.6**	**+1.1**
KMSK	**Kamenskaya**	**12.15**	**21**	PN	**Pn**	**17 31 15.4**	**+0.6**
KMSK	**Kamenskaya**	**12.15**	**21**	*e*P	**Pn**	**17 31 15.5**	**+0.6**
GRNR	**Gornyy**	**12.95**	**275**	⇑*i*PN	**P**	**17 31 28.1**	**-2.6**
GRNR				pmax	pmax		
	comp=E,8.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ERM	**Erimo**	**13.34**	**231**	Pn	**Pn**	**17 31 27.0**	**-3.3**
ERM	**Erimo**	**13.34**	**231**	P	**Pn**	**17 31 26.8**	**-3.5**
ERM	**Erimo**	**13.34**	**231**	*d*PN	**Pn**	**17 31 30.3**	**0.0**
JEM	**Erimo**	**13.34**	**231**	P	**Pn**	**17 31 27.1**	**-3.2**
JTM	**Tenmabayashi**	**15.29**	**232**	Pn	**Pn**	**17 31 50.7**	**-4.3**
KLR	**Kul'dur**	**16.25**	**272**	P	**P**	**17 32 09.7**	**+2.5**
	comp=Z,36nm,0.7s,baz=72,slow=12,SNR=92						
KLR	**Kul'dur**	**16.25**	**272**	*e*P	**P**	**17 32 07.5**	**+0.3**
KLR				pmax	pmax		
	comp=Z,72nm,1.3s						
BILL	**Bilibino**	**17.29**	**12**	P	**Pn**	**17 32 18.4**	**-0.7**
BILL	**Bilibino**	**17.29**	**12**	*d*P	**Pn**	**17 32 18.0**	**-1.1**
BILL				pmax	pmax		
	comp=Z,70nm,0.5s						
JMM	**Marumori**	**17.73**	**227**	P	**P**	**17 32 20.4**	**-3.1**
JMM	**Marumori**	**17.73**	**227**	P	**Pn**	**17 32 23.0**	**-1.6**
ZEA	**Zeya**	**18.17**	**289**	*e*P	**Pn**	**17 32 29.4**	**-0.4**
ZEA				pmax	pmax		
	comp=E,20nm,1.1s						
ZEA				pmax	pmax		
	comp=N,20nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,100nm,2.7s						
USA0B	**Ussuriysk Arra**	**18.23**	**257**	P	**Pn**	**17 32 28.5**	**-2.0**
USA0B	**Ussuriysk Arra**	**18.23**	**257**	*de*P	**Pn**	**17 32 28.7**	**-1.8**
USRK	**Ussuriysk Ar.**	**18.23**	**257**	P	**Pn**	**17 32 29.8**	**-0.7**
	comp=Z,16nm,0.8s,baz=64,slow=8.6,SNR=20						
YAK	**Yakutsk**	**18.23**	**316**		**Pn**	**17 32 28.4**	**-1.9**
YAK	**Yakutsk**	**18.23**	**316**	P	**Pn**	**17 32 28.7**	**-1.6**
	comp=Z,325nm,0.8s,baz=100,slow=4.1,SNR=141						
YAK	**Yakutsk**	**18.23**	**316**	*d*P	**Pn**	**17 32 28.6**	**-1.7**
YAK				*e*S	**S**	**17 35 48.0**	**-2.0**
YAK				pmax	pmax		
	comp=Z,318nm,0.9s						
YAK				pmax	pmax		
	comp=N,49nm,1.2s						
YAK				pmax	pmax		
	comp=E,113nm,1.3s						
YAK				smax	smax		
	comp=N,309nm,4.9s						
YAK				smax	smax		
	comp=E,230nm,4.4s						
HEH	**HeiHe**	**18.67**	**278**	*e*P	**Pn**	**17 32 34.7**	**-1.0**
HEH				pmax	pmax		
	comp=E,160nm,0.8s						
HEH				pmax	pmax		
	comp=E,320nm,5.3s						
JSD	**Sado**	**18.80**	**232**	P	**Pn**	**17 32 34.9**	**-2.3**
VLA	**Vladivostok**	**18.88**	**254**	*ce*P	**Pn**	**17 32 35.6**	**-2.6**
VLA				pmax	pmax		
	comp=Z,45nm,1.2s						
MDJ	**Mudanjiang**	**19.48**	**260**	P	**Pn**	**17 32 41.9**	**-3.3**
MDJ	**Mudanjiang**	**19.48**	**260**	P	**Pn**	**17 32 42.5**	**-2.7**
MDJ				pmax	pmax		
	comp=Z,28nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,270nm,5.5s						
MDJ	**Mudanjiang**	**19.48**	**260**	P	**Pn**	**17 32 45.8**	**+0.6**
SPIA	**Saint Paul Isl**	**19.83**	**60**	P	**P**	**17 32 46.0**	**-0.2**
	baz=268						
MJB9	**Matsu-Tunnel**	**20.01**	**229**	P	**Pn**	**17 32 49.9**	**-1.6**
MAJO	**Matsushiro**	**20.01**	**229**	P	**Pn**	**17 32 49.7**	**-1.7**
MAJO	**Matsushiro**	**20.01**	**229**	P	**Pn**	**17 32 50.0**	**-1.4**
MAJO	**Matsushiro**	**20.01**	**229**	*ce*P	**Pn**	**17 32 50.2**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,53nm,0.9s						
MJAR	**Matsushiro Arr**	**20.01**	**229**	P	**Pn**	**17 32 50.0**	**-1.4**
	comp=Z,24nm,1.0s,baz=26,slow=10,SNR=34						
	comp=Z,24nm,1.0s						
MJAR	**Matsushiro Arr**	**20.01**	**229**	P	**Pn**	**17 32 50.0**	**-1.4**
P08K	**Saint George I**	**20.20**	**62**	P	**P**	**17 32 49.6**	**-0.5**
	baz=270						
BNX	**BinXian**	**20.30**	**265**	⇓P	Pn	17 32 52.6	-2.2
BNX				pP	pP	17 33 19.1	+3.4
BNX				S	**S**	**17 36 30.3**	**-1.1**
BNX				pmax	pmax		
	comp=Z,37nm,0.7s						
BNX				pmax	pmax		
	comp=Z,230nm,6.4s						
GAMB	**Gambell**	**20.58**	**41**	P	**P**	**17 32 54.1**	**-0.1**
GAMB	**Gambell**	**20.58**	**41**	P	**P**	**17 32 53.7**	**-0.4**
	baz=248						
JGF	**Kuroka**	**21.17**	**229**	P	**P**	**17 33 02.1**	**+1.2**
JGF	**Kuroka**	**21.17**	**229**	P	**P**	**17 33 02.4**	**+1.6**
INU	**Inuyama**	**21.54**	**230**	P	**P**	**17 33 06.4**	**+1.7**
INU	**Inuyama**	**21.54**	**230**	P	**P**	**17 33 06.5**	**+1.8**
UNV	**Unalaska Valle**	**22.13**	**69**	P	**P**	**17 33 11.0**	**+0.4**
	baz=279						
M11K	**Mekoryuk**	**22.22**	**52**	P	**P**	**17 33 11.3**	**-0.2**
	baz=263						
CN2	**Changchun**	**22.46**	**263**	P	**P**	**17 33 09.9**	**-4.2**
CN2				pP	pP	17 33 41.0	+1.9
CN2				S	S	17 36 59.1	-11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
K13K	**Kusilvak Mount**	**23.19**	**48**	P	**P**	**17 33 20.6**	**-0.1**
	baz=261						
F14K	**Arctic Creek**	**23.35**	**39**	P	**P**	**17 33 22.0**	**-0.2**
	baz=251						
ANM	**Nome**	**23.46**	**41**	P	**P**	**17 33 24.7**	**+1.5**
ANM				IAmb	IAmb	17 33 25.6	
	comp=Z,33nm,0.9s						
ANM	**Nome**	**23.46**	**41**	P	**P**	**17 33 23.1**	**-0.1**
	baz=254,SNR=7.1						
ANM	**Nome**	**23.46**	**41**	P	**P**	**17 33 24.7**	**+1.5**
ANM				pmax	pmax		
	comp=Z,33nm,0.9s						
M13K	**Dall Lake**	**23.64**	**52**	P	**P**	**17 33 24.6**	**-0.2**
	baz=266						
HIA	**Hailar**	**23.72**	**280**	P	**P**	**17 33 26.1**	**+0.4**
HIA	**Hailar**	**23.72**	**280**	P	**P**	**17 33 26.1**	**+0.4**
HIA				pmax	pmax		
	comp=Z,87nm,1.0s						
FALS	**False Pass**	**23.77**	**66**	P	**P**	**17 33 26.8**	**+0.8**
	baz=278						
J14K	**Nanvaranak Lak**	**23.84**	**46**	P	**P**	**17 33 26.9**	**+0.3**
	baz=260						
TIXI	**Tiksi**	**23.89**	**338**	P	**P**	**17 33 26.0**	**-0.9**
TIXI	**Tiksi**	**23.89**	**338**	P	**P**	**17 33 26.5**	**-0.4**
	comp=Z,69nm,0.6s,baz=141,slow=8.4,SNR=98						
TIXI				PcP	**PcP**	**17 37 06.5**	**+1.0**
	comp=Z,6.2nm,0.6s,baz=90,slow=1.0,SNR=2.7						
	comp=Z,69nm,0.6s						
TIXI	**Tiksi**	**23.89**	**338**	*de*P	**P**	**17 33 26.3**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,104nm,0.8s						
L14K	**Kuka Creek**	**24.05**	**50**	P	**P**	**17 33 28.3**	**-0.2**
	baz=264						
F15K	**North Star Dit**	**24.09**	**39**	P	**P**	**17 33 28.4**	**-0.4**
	baz=252						
G15K	**Niukluk**	**24.13**	**41**	P	**P**	**17 33 28.6**	**-0.6**
	baz=255						
M14K	**Bethel**	**24.34**	**51**	P	**P**	**17 33 30.9**	**-0.3**
	baz=266						
JMN	**Monobe**	**24.37**	**232**	P	**P**	**17 33 34.7**	**+2.9**
N14K	**Kuskokwak Cree**	**24.44**	**53**	P	**P**	**17 33 32.0**	**0.0**
	baz=268						
L15K	**Ungalak Mounta**	**24.65**	**49**	P	**P**	**17 33 33.7**	**-0.3**
	baz=265						
K15K	**Wolf Creek Mou**	**24.70**	**48**	IAmb	IAmb	17 33 37.7	
	comp=Z,48nm,1.1s						
K15K	**Wolf Creek Mou**	**24.70**	**48**	P	**P**	**17 33 33.8**	**-0.6**
	baz=263						
C16K	**Lisburne Hills**	**24.75**	**33**	P	**P**	**17 33 34.4**	**-0.4**
	baz=246						
H16K	**Elim**	**24.79**	**42**	P	**P**	**17 33 35.2**	**+0.1**
	baz=258,SNR=12						
KS19	**Wonju Array Si**	**24.82**	**247**	P	**P**	**17 33 37.9**	**+2.2**
KSRS	**Korea Array**	**24.82**	**247**	P	**P**	**17 33 38.0**	**+2.3**
	comp=Z,3.6nm,0.4s,baz=45,slow=9.5,SNR=15						
	comp=Z,3.6nm,0.4s						
KSRS	**Korea Array**	**24.82**	**247**	P	**P**	**17 33 38.0**	**+2.3**
G16K	**Koyuk River**	**24.92**	**40**	P	**P**	**17 33 36.3**	**-0.1**
	baz=256						
M15K	**Kasigluk River**	**24.96**	**52**	P	**P**	**17 33 36.6**	**-0.2**
	baz=268						
N15K	**Kwethluk River**	**25.24**	**53**	IAmb	IAmb	17 33 42.6	
	comp=Z,30nm,0.8s						
N15K	**Kwethluk River**	**25.24**	**53**	P	**P**	**17 33 39.1**	**-0.3**
	baz=269						
J16K	**Anvik River**	**25.25**	**46**	P	**P**	**17 33 38.7**	**-0.7**
	baz=262						
I17K	**Unalakleet**	**25.30**	**44**	P	**P**	**17 33 40.1**	**+0.2**
	baz=261						
D17K	**Noatak River**	**25.32**	**35**	P	**P**	**17 33 40.0**	**0.0**
	baz=250						
BOD	**Bodaibo**	**25.36**	**302**	*e*P	**P**	**17 33 39.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,35nm,1.0s						
O15K	**Ungalikthiuk R**	**25.38**	**55**	P	**P**	**17 33 41.5**	**+0.9**
	baz=272						
RDOG	**Red Dog Mine**	**25.51**	**34**	P	**P**	**17 33 41.6**	**-0.1**
	baz=250,SNR=29						
C17K	**DeLong Mountai**	**25.57**	**33**	P	**P**	**17 33 42.2**	**0.0**
	baz=249						
E17K	**Hotham Inlet**	**25.59**	**37**	P	**P**	**17 33 42.8**	**+0.4**
	baz=253,SNR=147						
F17K	**Baldwin Pennin**	**25.63**	**38**	P	**P**	**17 33 43.1**	**+0.3**
	baz=255						
G17K	**Kiwalik Mounta**	**25.63**	**40**	P	**P**	**17 33 43.5**	**+0.7**
	baz=258						
H17K	**Granite Mounta**	**25.82**	**42**	IAmb	IAmb	17 33 49.9	
	comp=Z,18nm,0.6s						
H17K	**Granite Mounta**	**25.82**	**42**	P	**P**	**17 33 45.5**	**+0.9**
	baz=260						
M16K	**Timber Creek**	**25.82**	**51**	P	**P**	**17 33 45.3**	**+0.7**
	baz=268						
J17K	**VABM Dome**	**25.95**	**46**	P	**P**	**17 33 46.6**	**+0.9**
	baz=264						
CHNA	**Chernabura Isl**	**25.96**	**65**	P	**P**	**17 33 47.5**	**+1.6**
	baz=281						
JTU	**Tsushima**	**26.09**	**240**	P	**P**	**17 33 49.1**	**+1.8**
E18K	**Tukpahlearik C**	**26.14**	**36**	P	**P**	**17 33 48.0**	**+0.6**
	baz=254						
L17K	**Donlin**	**26.19**	**48**	P	**P**	**17 33 48.6**	**+0.7**
	baz=267						
K17K	**Iditarod**	**26.23**	**47**	IAmb	IAmb	17 34 31.5	
	comp=Z,30nm,1.0s						
K17K	**Iditarod**	**26.23**	**47**	P	**P**	**17 33 48.4**	**+0.1**
	baz=266						
O16K	**Kokwok River B**	**26.26**	**54**	P	**P**	**17 33 49.5**	**+1.0**
	baz=272						
F18K	**Selawik**	**26.29**	**38**	P	**P**	**17 33 49.5**	**+0.8**
	baz=256						
C18K	**Utukok River**	**26.31**	**33**	P	**P**	**17 33 48.6**	**-0.4**
	baz=251						
P16K	**Nushagak River**	**26.33**	**56**	P	**P**	**17 33 50.0**	**+0.8**
	baz=273						
B18K	**Kokolik River**	**26.36**	**32**	P	**P**	**17 33 49.9**	**+0.6**
	baz=248						
CHGN	**Chignik**	**26.38**	**62**	P	**P**	**17 33 50.4**	**+0.8**
	baz=279						
JNU	**Nakatsue**	**26.38**	**236**	P	**P**	**17 33 52.0**	**+2.1**
JNU				IAmb	IAmb	17 33 58.4	
	comp=Z,32nm,0.8s						
JNU	**Nakatsue**	**26.38**	**236**	P	**P**	**17 33 52.6**	**+2.7**
H18K	**Honhosa River**	**26.51**	**42**	IAmb	IAmb	17 33 52.0	
	comp=Z,68nm,1.6s						
H18K	**Honhosa River**	**26.51**	**42**	P	**P**	**17 33 51.2**	**+0.4**
	baz=261						
G18K	**Tagagawik**	**26.52**	**40**	IAmb	IAmb	17 33 52.2	
	comp=Z,39nm,0.8s						
G18K	**Tagagawik**	**26.52**	**40**	P	**P**	**17 33 51.1**	**+0.2**
	baz=259						
M17K	**Holitna River**	**26.57**	**50**	IAmb	IAmb	17 34 35.3	
	comp=Z,57nm,1.1s						
M17K	**Holitna River**	**26.57**	**50**	P	**P**	**17 33 51.9**	**+0.6**
	baz=269,SNR=5.4						
CIT	**Chita**	**26.64**	**289**	*e*P	**P**	**17 33 51.4**	**-0.7**
CIT				*e*		17 34 22.2	
CIT				*e*		17 34 31.2	
CIT				*e*		17 34 41.6	
N17K	**Nushagak Hills**	**26.69**	**52**	P	**P**	**17 33 52.9**	**+0.5**
	baz=271						
JCJ	**Chichijima**	**26.75**	**210**	LR	LR	17 44 09.7	
	comp=Z,40nm,20.9s,baz=100,slow=35						
O17K	**Koliganek Bris**	**26.75**	**54**	P	**P**	**17 33 52.8**	**-0.1**
	baz=273						
J18K	**Innoko River**	**27.01**	**46**	P	**P**	**17 33 55.6**	**+0.4**
	baz=266						
F19K	**Shaleruckik Mo**	**27.07**	**38**	IAmb	IAmb	17 33 56.5	
	comp=Z,37nm,0.9s						
F19K	**Shaleruckik Mo**	**27.07**	**38**	P	**P**	**17 33 55.7**	**+0.1**
	baz=258						
P17K	**Kvichak River**	**27.12**	**55**	P	**P**	**17 33 56.3**	**+0.1**
	baz=274						
G19K	**Purcell Mounta**	**27.20**	**40**	P	**P**	**17 33 56.8**	**-0.1**
	baz=260						
TTA	**Tatalina**	**27.29**	**47**	P	**P**	**17 33 57.8**	**0.0**
	baz=267						
TTA	**Tatalina**	**27.29**	**47**	P	**P**	**17 33 57.9**	**0.0**
N18K	**Kilae Creek**	**27.32**	**52**	P	**P**	**17 33 58.1**	**0.0**
	baz=272						
D19K	**Kuna River**	**27.34**	**35**	P	**P**	**17 33 58.1**	**-0.1**
	baz=254						
M18K	**Stony River**	**27.35**	**50**	P	**P**	**17 33 58.6**	**+0.4**
	baz=270						
H19K	**Roundabout Mou**	**27.36**	**41**	P	**P**	**17 33 58.5**	**+0.2**
	baz=262						
E19K	**Redstone River**	**27.41**	**37**	P	**P**	**17 33 59.0**	**+0.2**
	baz=257,SNR=43						
J19K	**Poorman**	**27.54**	**45**	P	**P**	**17 33 59.5**	**-0.4**
	baz=266,SNR=6.3						
DL2	**Dalian**	**27.62**	**257**	*e*P	**P**	**17 34 01.3**	**+0.4**
DL2				pmax	pmax		
	comp=Z,17nm,0.8s						
P18K	**Big Mountain,**	**27.73**	**55**	P	**P**	**17 34 01.4**	**-0.3**
P18K				IAmb	IAmb	17 34 11.0	
	comp=Z,26nm,1.2s						
P18K	**Big Mountain,**	**27.73**	**55**	P	**P**	**17 34 02.1**	**+0.4**
	baz=275						
F20K	**Avaraart Lake**	**27.90**	**38**	P	**P**	**17 34 03.0**	**-0.1**
	baz=260						
D20K	**Etivluk River**	**27.93**	**34**	P	**P**	**17 34 03.7**	**+0.3**
	baz=256						
E20K	**Nigu River**	**27.98**	**35**	P	**P**	**17 34 04.0**	**+0.1**
	baz=257						
CHIR	**Chirikof Islan**	**28.00**	**62**	P	**P**	**17 34 04.3**	**+0.2**
	baz=281						
H20K	**Anotleneega Mo**	**28.00**	**41**	P	**P**	**17 34 04.0**	**-0.1**
	baz=264						
N19K	**Bonanza Creek**	**28.01**	**51**	P	**P**	**17 34 04.2**	**-0.1**
	baz=273						
B20K	**Meade River**	**28.11**	**32**	P	**P**	**17 34 05.0**	**+0.1**
	baz=253						
K20K	**Telida**	**28.19**	**46**	P	**P**	**17 34 06.0**	**+0.2**
	baz=268						
J20K	**Nowinta River**	**28.20**	**44**	IAmb	IAmb	17 34 07.2	
	comp=Z,50nm,1.7s						
J20K	**Nowinta River**	**28.20**	**44**	P	**P**	**17 34 05.7**	**-0.1**
	baz=267						
L20K	**Farewell, AK**	**28.26**	**48**	P	**P**	**17 34 06.3**	**-0.1**
	baz=270						
XLT	**XiLinHaoTe**	**28.27**	**271**	*e*P	**P**	**17 34 07.2**	**+0.5**
XLT				pP	pP	17 34 37.3	+1.8
XLT				sP	sP	17 34 51.2	0.0
XLT				PP	**PnPn**	**17 35 00.0**	**-2.7**
XLT				ScP	**ScP**	**17 40 47.8**	**+3.4**
XLT				pmax	pmax		
	comp=Z,51nm,0.8s						
R18K	**Karluk**	**28.34**	**58**	P	**P**	**17 34 07.8**	**+0.7**
	baz=279						
Q19K	**Cape Douglas,**	**28.58**	**55**	P	**P**	**17 34 09.4**	**+0.1**
Q19K				IAmb	IAmb	17 35 03.8	
	comp=Z,50nm,1.1s						
Q19K	**Cape Douglas,**	**28.58**	**55**	P	**P**	**17 34 08.9**	**-0.3**
	baz=277						
M20K	**Styx River**	**28.62**	**49**	P	**P**	**17 34 09.8**	**+0.2**
	baz=272						
SII	**Sitkinak Islan**	**28.65**	**60**	P	**P**	**17 34 10.0**	**+0.1**
	baz=281						
C21K	**Knifeblade Rid**	**28.68**	**34**	P	**P**	**17 34 10.3**	**+0.2**
	baz=257						
G21K	**Allakaket**	**28.69**	**39**	P	**P**	**17 34 09.9**	**-0.2**
	baz=263						
A21K	**Barrow**	**28.69**	**29**	P	**P**	**17 34 09.7**	**-0.3**
	baz=251						
P19K	**Oil Pt**	**28.72**	**54**	P	**P**	**17 34 10.5**	**+0.1**
	baz=276						
F21K	**Alatna River**	**28.79**	**38**	IAmb	IAmb	17 34 14.2	
	comp=Z,14nm,0.8s						
F21K	**Alatna River**	**28.79**	**38**	P	**P**	**17 34 11.1**	**+0.1**
	baz=262						
E21K	**Killik River**	**28.82**	**35**	P	**P**	**17 34 11.3**	**0.0**
	baz=259						
B21K	**Ikpikpuk River**	**28.85**	**33**	P	**P**	**17 34 12.1**	**+0.6**
	baz=256						
H21K	**Melozitna Rive**	**28.88**	**41**	IAmb	IAmb	17 34 13.0	
	comp=Z,20nm,0.9s						
H21K	**Melozitna Rive**	**28.88**	**41**	P	**P**	**17 34 11.9**	**+0.1**
	baz=265						
O20K	**Slope Mountain**	**28.98**	**53**	P

baz=266
D23K Nanushuk River 30.09 35 P **P 17 34 23.5 +1.0**
baz=262
BWN Browne 30.25 44 IAmb IAmb 17 34 26.2
comp=Z,40nm,1.0s
C23K Itkillik River 30.26 33 P **P 17 34 24.0 +0.1**
baz=260
I23K Minto, Yukon-K 30.29 42 P **P 17 34 24.3 0.0**
baz=269,SNR=7.4
RC01 Rabbit Creek A 30.30 51 P **P 17 34 24.6 +0.2**
baz=276
E23K Chandalar 30.37 37 P **P 17 34 25.6 +0.6**
baz=264
NEA2 Nenana 30.41 44 IAmb IAmb 17 34 26.3
comp=Z,44nm,1.6s
NEA2 Nenana 30.41 44 P **P 17 34 25.2 -0.1**
baz=271,SNR=14
TOLK Toolik Lake Re 30.45 35 P **P 17 34 25.7 0.0**
TOLK Toolik Lake Re 30.45 35 P **P 17 34 25.6 -0.1**
baz=263,SNR=38
MCK McKinley 30.49 45 P **P 17 34 26.0 -0.1**
MCK McKinley 30.49 45 P **P 17 34 26.1 -0.1**
baz=272,SNR=5.3
MCK McKinley 30.49 45 P **P 17 34 26.0 -0.1**
MCK pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 30.54 46 P **P 17 34 26.0 -0.6**
SEW Seward 30.56 52 P **P 17 34 26.9 +0.2**
baz=278
GHO Glory Hole Cre 30.62 49 IAmb IAmb 17 34 34.7
comp=Z,47nm,1.7s
D24K Happy Valley 30.78 35 P **P 17 34 28.7 +0.2**
baz=263,SNR=35
E24K Your Creek 30.79 37 P **P 17 34 29.2 +0.5**
baz=265
WRH Wood River Hil 30.84 44 P **P 17 34 28.5 -0.6**
WRH IAmb IAmb 17 34 34.1
comp=Z,28nm,0.9s
KNK Knik Glacier 30.88 50 IAmb IAmb 17 35 03.5
comp=Z,21nm,1.0s
KNK Knik Glacier 30.88 50 P **P 17 34 28.4 -1.1**
baz=277
C24K Franklin Bluff 30.90 33 P **P 17 34 30.1 +0.6**
baz=262
SML Sawmill 30.90 49 IAmb IAmb 17 34 30.4
comp=Z,24nm,0.6s
SML Sawmill 30.90 49 P **P 17 34 29.8 +0.1**
baz=276,SNR=9.3
H24K Noodor Dome 30.92 41 P **P 17 34 30.2 +0.3**
baz=270
COLA College 30.93 43 P **P 17 34 29.7 -0.2**
COLA IAmb IAmb 17 34 30.7
comp=Z,19nm,0.5s
COLA College 30.93 43 P **P 17 34 29.7 -0.2**
baz=271
COLA College 30.93 43 P **P 17 34 30.3 +0.4**
COLA College 30.93 43 *d i* P **P 17 34 30.2 +0.4**
COLA pmax pmax
comp=Z,32nm,1.1s
COLA College 30.93 43 P **P 17 34 30.2 +0.4**
COLA sP **sP 17 35 15.4 +0.4**
CCB Clear Creek Bu 30.96 43 IAmb IAmb 17 34 34.9
comp=Z,16nm,1.0s
F24K Squaw Lake 30.98 38 P **P 17 34 30.7 +0.4**
baz=267
PWL Port Wells 31.01 51 P **P 17 34 30.4 -0.2**
baz=278
G24K Hadweenzic Riv 31.10 39 P **P 17 34 32.3 +0.9**
baz=269
POKR Poker Plat Res 31.11 42 IAmb IAmb 17 34 33.2
comp=Z,16nm,0.5s
POKR Poker Plat Res 31.11 42 P **P 17 34 32.4 +0.9**
baz=271,SNR=8.1
M23K Glacier View 31.19 49 P **P 17 34 31.7 -0.5**
baz=276
HDA Harding Lake 31.34 44 P **P 17 34 33.2 -0.3**
baz=273,SNR=12
IL31 31.35 43 IAmb IAmb 17 34 37.9
comp=Z,13nm,0.8s
ILAR Eielson Array 31.35 43 P **P 17 34 33.4 -0.2**
ILAR Eielson Array 31.35 43 P **P 17 34 33.1 -0.4**
comp=Z,6.6nm,0.6s,baz=265,slow=5.4,SNR=106
ILAR pP **pP 17 35 05.3 +2.4**
comp=Z,6.1nm,0.7s,baz=256,slow=7.3,SNR=5.0
ILAR PcP **PcP 17 37 23.4 -0.4**
comp=Z,0.6nm,0.4s,baz=291,slow=3.5,SNR=4.6
ILAR ScP **ScP 17 40 54.1 +0.2**
comp=Z,0.3nm,0.6s,baz=280,slow=3.6,SNR=4.2
comp=Z,6.6nm,0.6s
SCM Sheep Creek Mo 31.37 49 IAmb IAmb 17 34 41.0
comp=Z,15nm,0.7s
SCM Sheep Creek Mo 31.37 49 P **P 17 34 33.9 0.0**
baz=277
D25K Kavik River 31.67 34 P **P 17 34 36.9 +0.5**
baz=265
H25L Birch Creek 31.76 40 P **P 17 34 38.2 +1.1**
baz=271,SNR=8.2
F25K Christian Rive 31.84 38 IAmb IAmb 17 34 39.8
comp=Z,21nm,0.9s
F25K Christian Rive 31.84 38 P **P 17 34 38.2 +0.3**
baz=269
M24K Tolsona, Glenn 31.88 48 P **P 17 34 38.2 -0.1**
baz=277
K24K Donnelly Dome 31.89 45 P **P 17 34 38.1 -0.3**
baz=275,SNR=7.4
PRP Porcupine Dome 31.90 42 P **P 17 34 38.1 -0.4**
baz=272,SNR=24
FYU Fort Yukon 31.99 40 P **P 17 34 39.9 +0.8**
J25K Salcha River, 32.01 43 P **P 17 34 38.9 -0.5**
baz=274
ULN Ulaanbaatar 32.04 284 P **P 17 34 40.6 +0.6**
ULN Ulaanbaatar 32.04 284 ⇑ *i* P **P 17 34 40.1 +0.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 32.04 284 P **P 17 34 40.5 +0.6**
ULN pP **pP 17 35 10.8 +1.7**
ULN PcP **PcP 17 37 26.7 +0.5**
ULN ScP **ScP 17 40 59.5 +2.7**
KLU Klutina 32.08 49 P **P 17 34 40.2 +0.1**
baz=278
TIA Tai'an 32.09 257 P **P 17 34 40.5 +0.1**
TIA pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 32.10 46 IAmb IAmb 17 34 42.7
comp=Z,23nm,1.7s
PAX Paxson 32.10 46 P **P 17 34 40.8 +0.4**
baz=276
C26K Camden Bay 32.23 33 P **P 17 34 41.9 +0.7**
baz=266
BMAR Burnt Mountain 32.25 38 P **P 17 34 42.2 +0.8**
RIDG Independent Ri 32.31 45 P **P 17 34 41.6 -0.4**
baz=276,SNR=5.8
HARP HAARP 32.32 48 P **P 17 34 42.9 +0.8**
baz=278,SNR=5.1
F26K Sheenjek River 32.41 38 IAmb IAmb 17 34 45.8
comp=Z,15nm,0.8s
F26K Sheenjek River 32.41 38 P **P 17 34 43.1 +0.2**
baz=270,SNR=21
SONM Songino Array 32.45 284 P **P 17 34 43.9 +0.3**
comp=Z,2.2nm,0.4s,baz=69,slow=7.9,SNR=50
SONM pP **pP 17 35 15.7 +3.0**
comp=Z,1.9nm,0.7s,baz=50,slow=8.4,SNR=3.6
SONM PcP **PcP 17 37 28.0 +0.7**
comp=Z,4.2nm,0.6s,baz=77,slow=1.9,SNR=11
SONM ScP **ScP 17 40 59.6 +1.5**
comp=Z,1.2nm,0.7s,baz=60,slow=2.9,SNR=6.5
SONM LR LR 17 50 09.5
comp=Z,99nm,18.8s,baz=42,slow=40
comp=Z,2.2nm,0.4s
H11N2 WAKE ISLAND Hy 32.56 162 T T 18 09 01.5
baz=349,slow=76,SNR=803
G26K Porcupine Rive 32.56 39 P **P 17 34 44.8 +0.6**
baz=272
H11N3 WAKE ISLAND Hy 32.57 162 T T 18 08 53.5
baz=349,slow=76,SNR=580
H11N1 WAKE ISLAND Hy 32.57 163 T T 18 09 09.0
baz=349,slow=76,SNR=631
C27K Jago River 32.62 34 P **P 17 34 44.8 +0.1**
baz=267,SNR=34
SCRK Sand Creek 32.66 44 IAmb IAmb 17 34 45.4
comp=Z,16nm,1.1s
SCRK Sand Creek 32.66 44 P **P 17 34 45.0 -0.2**
baz=276,SNR=10
N25K Chitina, Valde 32.69 49 IAmb IAmb 17 34 58.0
comp=Z,26nm,1.5s
N25K Chitina, Valde 32.69 49 P **P 17 34 45.7 +0.2**
baz=279

HHC Hu-ho-hao-te 32.72 269 *e* P **P 17 34 47.1 +1.1**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,89nm,7.0s
JOW Kunigami 32.78 232 LR LR 17 48 50.0
comp=Z,43nm,18.3s,baz=118,slow=37
JOW Kunigami 32.78 232 P **P 17 34 48.3 +1.8**
BMRM Bremner River 32.79 50 P **P 17 34 46.0 -0.3**
baz=280
J26L Joseph Creek 32.80 43 P **P 17 34 45.9 -0.5**
baz=276
HNS HongShan 32.82 261 ⇑ P **P 17 34 47.7 +1.0**
HNS pmax pmax
comp=Z,10.0nm,0.8s
I26K Coal Creek Min 32.90 42 P **P 17 34 47.0 -0.2**
baz=275
L26K Log Cabin Wild 33.06 46 P **P 17 34 48.7 +0.1**
baz=278
KAIM Kayak Island 33.08 52 P **P 17 34 49.4 +0.6**
baz=282
ZAK Zakamensk 33.27 290 *e* P **P 17 34 51.3 +0.7**
ZAK *e* 17 35 21.5
ZAK pmax pmax
comp=Z,12nm,1.3s
M26K Nabesna, AK 33.31 47 P **P 17 34 51.1 +0.3**
baz=279
G27K Doyon Strip 33.41 39 IAmb IAmb 17 34 53.9
comp=Z,12nm,0.7s
G27K Doyon Strip 33.41 39 P **P 17 34 52.2 +0.6**
baz=274
H27K Steamboat Moun 33.50 40 P **P 17 34 53.2 +0.9**
baz=275
I27K Kandik River 33.52 41 P **P 17 34 52.7 +0.2**
baz=276
D27M Malcolm River 33.59 35 P **P 17 34 53.7 +0.6**
baz=271
H11S1 WAKE ISLAND Hy 33.71 163 T T 18 10 16.4
baz=349,slow=76,SNR=493
H11S3 WAKE ISLAND Hy 33.72 163 T T 18 10 11.7
baz=349,slow=76,SNR=1158
H11S2 WAKE ISLAND Hy 33.73 163 T T 18 10 13.7
baz=349,slow=76,SNR=757
L27K Beaver Creek, 33.74 46 P **P 17 34 54.7 +0.3**
baz=279
BCAR Beaver Creek A 33.76 46 P **P 17 34 55.3 +0.7**
EGAK Eagle 33.80 43 IAmb IAmb 17 34 55.2
comp=Z,18nm,0.6s
EGAK Eagle 33.80 43 P **P 17 34 54.0 -0.9**
baz=277,SNR=17
BTO Baotou 33.83 270 *e* P **P 17 34 57.1 +1.6**
BTO pP **pP 17 35 27.6 +2.8**
BTO sP **sP 17 35 44.0 +3.7**
BTO pmax pmax
comp=Z,13nm,0.8s
BTO pmax pmax
comp=Z,170nm,4.5s
M27K Edge Creek, AK 33.83 47 IAmb IAmb 17 35 03.4
comp=Z,11nm,0.8s
M27K Edge Creek, AK 33.83 47 P **P 17 34 55.3 -0.1**
baz=280
NJ2 Nanjing 33.91 250 *e* P **P 17 34 56.3 +0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.7s
F28M Old Crow 34.05 38 P **P 17 34 57.9 +0.8**
baz=274,SNR=41
MOY Mondy 34.11 293 *e* P **P 17 34 58.3 +0.4**
MOY pmax pmax
comp=Z,29nm,1.2s
E28M Babbage River 34.12 36 P **P 17 34 58.0 +0.4**
baz=273
I28M Miner Creek 34.23 41 IAmb IAmb 17 35 00.9
comp=Z,35nm,1.5s
I28M Miner Creek 34.23 41 P **P 17 35 00.1 +1.4**
baz=277,SNR=13
MESA MESA 34.23 51 P **P 17 35 00.2 +1.2**
baz=283
BVCY Beaver Creek 34.29 47 P **P 17 35 00.3 +1.1**
baz=281,SNR=12
D28M Stokes Point 34.38 35 P **P 17 35 01.0 +1.2**
baz=272
YUK3 Moose Creek 34.60 48 P **P 17 35 02.8 +0.7**
baz=282,SNR=5.9
DAWY Dawson 34.66 44 P **P 17 35 03.4 +1.0**
baz=280
E29M Blow River 34.74 36 P **P 17 35 03.6 +0.7**
baz=275
H29M Whitestone 34.77 40 P **P 17 35 04.1 +0.9**
baz=277
G29M Pine Creek 34.83 39 P **P 17 35 05.0 +1.3**
baz=277
I29M Ogilvie Camp, 34.92 41 P **P 17 35 05.4 +0.8**
baz=279
O28M Mount Upton 34.95 50 P **P 17 35 06.0 +0.8**
baz=284
YUK8 Steele Glacier 35.03 49 P **P 17 35 06.6 +0.7**
baz=283
PINM Pinnacle 35.08 51 P **P 17 35 07.1 +1.0**
baz=285
J29N Klondike Camp 35.10 43 P **P 17 35 06.9 +0.7**
baz=280
M29M Somme Creek 35.38 46 IAmb IAmb 17 35 10.5
comp=Z,14nm,0.6s
M29M Somme Creek 35.38 46 P **P 17 35 09.9 +1.3**
baz=283
L29M L29M 35.39 45 IAmb IAmb 17 35 10.9
comp=Z,28nm,1.0s
L29M L29M 35.39 45 P **P 17 35 10.0 +1.3**
baz=282
EPYK Eagle Plains 35.41 40 IAmb IAmb 17 35 10.6
comp=Z,23nm,0.8s
EPYK Eagle Plains 35.41 40 P **P 17 35 09.7 +0.8**
baz=278,SNR=5.6
K29M Barlow Dome 35.51 44 P **P 17 35 10.5 +0.8**
baz=281
G30M tAoh Zraii Nji 35.52 38 IAmb IAmb 17 35 11.3
comp=Z,27nm,0.8s
G30M tAoh Zraii Nji 35.52 38 P **P 17 35 10.4 +0.7**
baz=278
YUK4 Talbot Arm 35.54 48 P **P 17 35 11.0 +0.9**
baz=284
F30M Barrier River 35.61 37 P **P 17 35 12.0 +1.6**
baz=278
I30M Mount Dempster 35.74 41 IAmb IAmb 17 35 18.2
comp=Z,20nm,0.8s
I30M Mount Dempster 35.74 41 P **P 17 35 12.0 +0.4**
baz=280
YUK6 Outpost Mounta 35.77 49 P **P 17 35 12.7 +0.5**
baz=285
O29M Mount Kennedy 35.84 50 P **P 17 35 13.1 +0.6**
baz=286
J30M Hart River 35.88 43 P **P 17 35 12.8 -0.1**
baz=281
M30M Minto, Yukon 36.10 46 P **P 17 35 15.6 +0.9**
baz=284
HYT Haines Junctio 36.21 49 P **P 17 35 16.6 +0.9**
baz=286
NRIK Noril'sk 36.21 326 P **P 17 35 14.5 -1.0**
NRIK IAmb IAmb 17 35 47.7
comp=Z,14nm,1.0s
NRIK Noril'sk 36.21 326 P **P 17 35 14.0 -1.5**
comp=Z,4.3nm,0.7s,baz=89,slow=10,SNR=13
NRIK PcP **PcP 17 37 38.6 +1.0**
comp=Z,5.7nm,0.6s,baz=32,slow=4.4,SNR=5.5
NRIK ScP **ScP 17 41 12.2 +1.2**
comp=Z,2.5nm,0.6s,baz=74,slow=4.3,SNR=4.9
NRIK LR LR 17 50 55.5
comp=Z,78nm,18.7s,baz=87,slow=37
comp=Z,4.3nm,0.7s
NRIK Noril'sk 36.21 326 ⇓ *i* P **P 17 35 14.2 -1.3**
NRIK pmax pmax
comp=Z,7.0nm,0.9s
MAYO Mayo, Yukon 36.27 44 P **P 17 35 17.2 +1.1**
baz=283
G31M Satah River 36.29 38 P **P 17 35 16.8 +0.6**
baz=280,SNR=18
INK Inuvik 36.36 36 P **P 17 35 17.6 +0.9**
baz=279,SNR=31
INK Inuvik 36.36 36 P **P 17 35 17.6 +0.9**
INK pmax pmax
comp=Z,74nm,0.8s
F31M Tsiigehtchic 36.41 37 P **P 17 35 17.8 +0.6**
baz=280,SNR=24
H31M Peel River 36.46 40 P **P 17 35 18.6 +0.9**
baz=281
P30M Million Dollar 36.66 50 P **P 17 35 21.0 +1.4**
baz=287
N31M Braeburn, Yuko 36.84 48 IAmb IAmb 17 35 23.5
comp=Z,16nm,0.6s
N31M Braeburn, Yuko 36.84 48 P **P 17 35 22.4 +1.4**
baz=286,SNR=6.7
O30N Mendenhall 36.89 49 IAmb IAmb 17 35 23.6
comp=Z,12nm,0.6s
O30N Mendenhall 36.89 49 P **P 17 35 22.9 +1.4**
baz=287,SNR=5.6
PLBC Pleasant Camp 37.15 51 P **P 17 35 24.9 +1.4**
baz=288
M31M Drury Creek, Y 37.28 46 P **P 17 35 26.1 +1.4**
baz=286
WHY Whitehorse 37.49 49 IAmb IAmb 17 35 28.6
comp=Z,10nm,0.7s
WHY Whitehorse 37.49 49 P **P 17 35 27.9 +1.3**
baz=288,SNR=8.1
SKAG Skagway 37.65 51 P **P 17 35 29.6 +1.8**
baz=289
WHN Wuhan 37.66 253 P **P 17 35 29.7 +1.5**
S31K Pelican 37.70 53 P **P 17 35 29.4 +1.2**
baz=290
FARO Faro, Yukon 37.74 46 P **P 17 35 29.9 +1.3**
baz=287,SNR=9.2
N32M Quiet Lake 38.18 47 P **P 17 35 33.6 +1.3**
baz=288
P32M Atlin 38.38 50 P **P 17 35 35.2 +1.3**
baz=290
R32K Eaglecrest 38.44 52 P **P 17 35 35.7 +1.3**
baz=291
SIT Sitka 38.47 54 P **P 17 35 36.8 +2.2**
baz=292
A36M Sachs Harbour 38.54 29 P **P 17 35 36.2 +1.2**
baz=281,SNR=19
P33M Teslin, Yukon 38.60 49 IAmb IAmb 17 35 38.3
comp=Z,20nm,1.3s
P33M Teslin, Yukon 38.60 49 P **P 17 35 37.7 +1.8**
baz=289,SNR=6.5
S32K Killisnoo 38.70 53 P **P 17 35 38.4 +1.9**
baz=292
Q32M Nakina River 39.30 51 P **P 17 35 43.7 +1.9**
baz=291
C36M Paulatuk 39.51 33 P **P 17 35 43.9 +0.8**
baz=285,SNR=36
R33M Jennings River 39.77 50 P **P 17 35 47.5 +1.9**
baz=292
TGTN Hyland Airport 40.24 46 P **P 17 35 50.7 +1.3**
baz=291
S34M Telegraph Cree 40.25 52 P **P 17 35 51.4 +2.0**
baz=293
LZH Lanzhou 40.42 269 *e* P **P 17 35 52.2 +0.9**
LZH pP pP 17 36 24.7 +3.5
LZH ScP **ScP 17 41 30.6 +2.7**
LZH pmax pmax
comp=Z,55nm,1.5s
WTLY Watson Lake, Y 40.52 48 P **P 17 35 53.2 +1.6**
baz=292
DLBC Dease Lake 40.58 51 P **P 17 35 54.4 +2.2**
DLBC Dease Lake 40.58 51 P **P 17 35 54.2 +2.0**
baz=293
ENH Enshi 40.80 258 P **P 17 35 54.4 +0.1**
ENH PcP **PcP 17 37 53.7 +1.0**
ENH ScP **ScP 17 41 31.3 +2.0**
GTA Gaotai 40.90 276 *e* P **P 17 35 55.6 +0.4**
GTA pP pP 17 36 27.7 +2.5
GTA ScP **ScP 17 41 31.9 +2.2**
GTA pmax pmax
comp=Z,23nm,1.3s
T35M Bob Quinn 41.06 53 P **P 17 35 59.0 +2.9**
T35M Bob Quinn 41.06 53 P **P 17 35 58.4 +2.3**
baz=295
ZAA0 Zalesovo Array 42.09 303 IAmb IAmb 17 36 37.3
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 42.09 303 P **P 17 36 03.5 -1.0**
comp=Z,12nm,0.7s,baz=59,slow=6.9,SNR=45
ZALV pP **pP 17 36 36.0 +1.1**
comp=Z,16nm,1.0s,baz=60,slow=6.0,SNR=7.1
ZALV PcP **PcP 17 37 56.6 +0.1**
comp=Z,4.7nm,0.6s,baz=79,slow=4.3,SNR=7.4
ZALV ScP **ScP 17 41 34.9 +1.0**
comp=Z,0.9nm,0.7s,baz=62,slow=9.9,SNR=4.1
comp=Z,12nm,0.7s
KOTAN Kotaneelee Air 42.69 46 P **P 17 36 10.5 +1.2**
baz=295
TOAD Toad River Com 42.70 49 P **P 17 36 11.1 +1.7**
baz=296
EUNU Eureka 44.03 13 P **P 17 36 20.2 +0.4**
BBB Bella Bella 44.37 58 LR LR 17 52 58.9
comp=Z,72nm,18.6s,baz=214,slow=33
ALE Alert 44.83 7 P **P 17 36 26.4 +0.3**
ALE PcP **PcP 17 38 06.4 +1.1**
ALE ScP **ScP 17 41 44.9 +0.2**
GYA Guiyang 45.27 256 P **P 17 36 31.9 +1.5**
GYA pmax pmax
comp=Z,14nm,0.8s
ZSN Zaisan 45.34 295 *e* P **P 17 36 30.4 -0.2**
ZSN Zaisan 45.34 295 *e* P **P 17 36 30.4 -0.2**
RES Resolute Bay 45.59 21 P **P 17 36 32.3 +0.2**
RES IAmb IAmb 17 36 33.7
comp=Z,24nm,0.7s
RES Resolute Bay 45.59 21 LR LR 17 58 33.9
comp=Z,43nm,19.8s,baz=354,slow=40
RES Resolute Bay 45.59 21 P **P 17 36 32.3 +0.2**
RES pmax pmax
comp=Z,24nm,0.7s
YKA Yellowknife Ar 45.69 40 P **P 17 36 33.8 +0.7**
comp=Z,12nm,0.7s,baz=297,slow=8.0,SNR=131
YKA PcP **PcP 17 38 09.5 +0.9**
comp=Z,1.9nm,0.7s,baz=301,slow=3.5,SNR=5.7
comp=Z,12nm,0.7s
WMQ Urumqi 45.73 289 *e* P **P 17 36 34.4 +0.7**
WMQ pP pP 17 37 07.2 +2.8
WMQ PcP **PcP 17 38 09.4 +0.2**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ Urumqi 45.73 289 P **P 17 36 34.9 +1.2**
WMQ pP **pP 17 37 06.2 +1.8**
WMQ PcP **PcP 17 38 09.4 +0.2**
GOMU GeErMu 45.99 276 P **P 17 36 36.0 -0.3**
GOMU pmax pmax
comp=Z,9.0nm,0.5s
KURK Kurchatov 47.01 302 P **P 17 36 42.9 -0.6**
KURK Kurchatov 47.01 302 *d i* P **P 17 36 43.0 -0.5**
KURK *i* *PP **pP 17 37 14.8 +0.5**
KURK *i* *SP **sP 17 37 31.0 +1.4**
KURK pmax pmax
comp=Z,133nm,1.3s
KURK Kurchatov 47.01 302 P **P 17 36 43.3 -0.2**
KURK pP **pP 17 37 15.2 +0.9**
KURK sP **sP 17 37 30.6 +1.1**
KURK PcP **PcP 17 38 13.7 +0.3**
KURBB Kurchatov Arra 47.10 302 P **P 17 36 43.8 -0.5**
comp=Z,29nm,0.4s,baz=61,slow=7.2,SNR=154
KURBB pP **pP 17 37 16.9 +1.7**
comp=Z,22nm,0.8s,baz=62,slow=8.1,SNR=6.8
KURBB PcP **PcP 17 38 13.8 +0.1**
comp=Z,7.6nm,0.7s,baz=57,slow=3.2,SNR=6.4
KURBB ScP **ScP 17 41 55.6 +1.0**
comp=Z,1.9nm,0.4s,baz=60,slow=3.5,SNR=7.1
comp=Z,29nm,0.4s
MK31 Makanchi Array 47.17 295 IAmb IAmb 17 36 46.2
comp=Z,48nm,1.2s
MK31 Makanchi Array 47.17 295 *d i* P **P 17 36 44.3 -0.6**
MKAR Makanchi Array 47.17 295 P **P 17 36 44.0 -0.9**
MKAR Makanchi Array 47.17 295 P **P 17 36 44.5 -0.4**
comp=Z,18nm,0.6s,baz=60,slow=6.9,SNR=290
MKAR pP **pP 17 37 17.9 +2.1**
comp=Z,16nm,0.8s,baz=62,slow=8.7,SNR=7.1
MKAR ScP **ScP 17 41 55.8 +0.8**
comp=Z,1.5nm,0.9s,baz=29,slow=2.8,SNR=4.9
MKAR S **S 17 43 24.6 -2.2**
comp=Z,0.4nm,1.0s,baz=64,slow=20,SNR=2.0
MKAR LR LR 17 59 31.3
comp=Z,56nm,18.3s,baz=133,slow=40
comp=Z,18nm,0.6s
NOR Nord 47.19 359 P **P 17 36 44.7 +0.1**
NOR pmax pmax
comp=Z,26nm,1.6s
NOR Nord 47.19 359 *i* P **P 17 36 43.0 -1.6**
NOR IAmb IAmb 17 36 45.6
comp=Z,14nm,0.8s
MAKZ Makanchi 47.34 296 P **P 17 36 45.2 -0.9**
MAKZ IAmb IAmb 17 36 47.4
comp=Z,30nm,0.8s
MAKZ Makanchi 47.34 296 P **P 17 36 45.2 -0.9**
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ Makanchi 47.34 296 P **P 17 36 45.8 -0.4**

MAKZ pP **pP** **17 37 17.9 +0.9**
PZH PanZhiHua 48.25 261 P **P** **17 36 54.2 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,160nm,6.3s
KBS Kingsbay 48.27 351 *e*P **P** **17 36 53.4 +0.5**
KBS Kingsbay 48.27 351 *i* P **P** **17 36 52.4 -0.5**
SPA0 Spitsbergen Ar 48.48 350 *e*P **P** **17 36 54.4 -0.1**
SPITS Spitsbergen Ar 48.48 350 P **P** **17 36 54.0 -0.5**
comp=Z,24nm,0.5s,baz=61,slow=10,SNR=136
comp=Z,24nm,0.5s
SPITS Spitsbergen Ar 48.48 350 P **P** **17 36 54.0 -0.5**
SPB2 Spitsbergen Ar 48.48 350 P **P** **17 36 54.1 -0.3**
HOPEN Hopen 48.75 347 *e*P **P** **17 36 57.1 +0.6**
TULEG Thule 49.03 13 *i* P **P** **17 36 57.6 -1.1**
TULEG IAmb IAmb 17 36 59.5
comp=Z,26nm,0.8s
QIZ Qiongzhong 49.04 247 P **P** **17 37 01.9 +2.4**
BVA0 Borovoye Array 49.94 308 *i* P **P** **17 37 04.7 -1.2**
BVAR Borovoye Array 49.94 308 P **P** **17 37 05.0 -0.9**
comp=Z,34nm,0.5s,baz=54,slow=7.7,SNR=224
BVAR pP **pP** **17 37 38.6 +1.4**
comp=Z,18nm,0.7s,baz=56,slow=8.3,SNR=5.5
BVAR PcP **PcP** **17 38 23.9 -0.2**
comp=Z,7.2nm,0.5s,baz=73,slow=2.2,SNR=8.8
BVAR ScP **ScP** **17 42 07.7 +1.0**
comp=Z,1.4nm,0.6s,baz=63,slow=3.5,SNR=4.5
BVAR LR LR 17 58 19.4
comp=Z,60nm,19.7s,baz=48,slow=36
comp=Z,34nm,0.5s
BRVK Borovoye 49.97 308 P **P** **17 37 04.9 -1.2**
BRVK Borovoye 49.97 308 *d i*P **P** **17 37 05.4 -0.8**
BRVK pmax pmax
comp=Z,36nm,0.7s
BRVK Borovoye 49.97 308 P **P** **17 37 05.3 -0.8**
BRVK pP **pP** **17 37 38.3 +0.9**
BRVK sP **sP** **17 37 53.5 +1.0**
BRVK PcP **PcP** **17 38 24.4 +0.2**
BRVK ScP **ScP** **17 42 08.1 +1.3**
NEEM North Greenlan 50.23 8 *i* P **P** **17 37 07.0 -1.1**
NEEM IAmb IAmb 17 37 08.4
comp=Z,77nm,0.5s
TDK Taldyqorghan 50.41 296 *e*P **P** **17 37 09.5 -0.1**
TDK pmax pmax
comp=Z,23nm,0.5s
TDK Taldyqorghan 50.41 296 *e*P **P** **17 37 09.5 -0.1**
comp=Z,23nm,0.5s
BRZS Berezniki 50.56 304 *e*P **P** **17 37 09.9 -0.7**
BRZS pmax pmax
comp=Z,11nm,0.5s
BRZS Berezniki 50.56 304 *e*P **P** **17 37 09.9 -0.7**
comp=Z,11nm,0.5s
SLVN Son La 50.76 254 P **P** **17 37 14.4 +1.8**
SLVN IAmb IAmb 17 37 15.4
comp=Z,11nm,0.8s
SLVN Son La 50.76 254 P **P** **17 37 14.9 +2.3**
PDGK Podgornoye 50.81 293 P **P** **17 37 12.1 -0.7**
SHLS Shalkode 50.94 293 *e*P **P** **17 37 11.6 -2.1**
SHLS Shalkode 50.94 293 *e*P **P** **17 37 11.6 -2.1**
KPKS Kokpek 51.19 294 *e*P **P** **17 37 15.4 -0.2**
KPKS Kokpek 51.19 294 *e*P **P** **17 37 15.4 -0.2**
UZB Uzynbulak 51.20 293 *e*P **P** **17 37 15.4 -0.3**
UZB Uzynbulak 51.20 293 *e*P **P** **17 37 15.4 -0.3**
TNCH TengChong 51.32 262 P **P** **17 37 18.4 +1.6**
TNCH pP pP 17 37 48.3 +0.2
TNCH S **S** **17 44 20.6 -5.0**
TNCH sS sS 17 45 18.5 -1.7
TNCH SS **SS** **17 47 56.7 -5.9**
TNCH pmax pmax
comp=Z,15nm,1.0s
TNCH pmax pmax
comp=Z,75nm,3.9s
ZHN Zhinishke 51.52 294 *e*P **P** **17 37 17.9 -0.1**
ZHN Zhinishke 51.52 294 *e*P **P** **17 37 18.0 -0.1**
SATY Saty 51.60 294 *e*P **P** **17 37 18.5 -0.2**
SATY Saty 51.60 294 *e*P **P** **17 37 18.6 -0.2**
OTUK Ortayu 51.78 302 P **P** **17 37 19.0 -0.8**
PRZ Przheval'sk 51.97 293 IAmb IAmb 17 37 23.5
comp=Z,12nm,0.9s
DAG Danmarks Havn 52.06 359 P **P** **17 37 21.1 -0.3**
DAG pmax pmax
comp=Z,200nm,0.8s
DAG Danmarks Havn 52.06 359 *i* P **P** **17 37 20.0 -1.4**
DAG IAmb IAmb 17 37 22.1
comp=Z,119nm,0.8s
SVE Sverdlovsk 52.19 316 *ce*P **P** **17 37 22.1 -0.6**
SVE pmax pmax
comp=Z,64nm,0.9s
KULLO Kullorsuaq 52.22 11 *i* P **P** **17 37 21.5 -1.1**
KULLO IAmb IAmb 17 37 23.1
comp=Z,81nm,0.7s
WUS Wushi 52.30 291 P **P** **17 37 23.9 0.0**
WUS pP **pP** **17 37 56.8 +1.4**
WUS PcP **PcP** **17 38 33.5 +0.3**
MDOK Medeo 52.32 294 *e*P **P** **17 37 23.7 -0.3**
MDOK Medeo 52.32 294 *e*P **P** **17 37 23.8 -0.3**
AAA Alma-Ata 52.36 295 *e*P **P** **17 37 24.1 -0.1**
AAA pmax pmax
comp=Z,19nm,0.7s
AAA Alma-Ata 52.36 295 *e*P **P** **17 37 24.2 -0.1**
comp=Z,19nm,0.7s
NEW Newport 52.40 57 LR LR 18 01 09.1
comp=Z,56nm,18.0s,baz=298,slow=37
TNSS Tian-Shan 52.45 294 *e*P **P** **17 37 24.7 -0.6**
TNSS Tian-Shan 52.45 294 *e*P **P** **17 37 24.7 -0.6**
LSA Lhasa 52.61 272 IAmb IAmb 17 37 30.3
comp=Z,10nm,0.7s
LSA Lhasa 52.61 272 P **P** **17 37 28.3 +1.6**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 52.61 272 P **P** **17 37 28.1 +1.4**
LSA pmax pmax
comp=Z,16nm,0.9s
TARG Taragay, Kyrgy 52.79 293 P **P** **17 37 28.2 +0.4**
TARG pmax pmax
comp=Z,13nm,0.8s
BTLS Baital 52.83 298 *e*P **P** **17 37 27.1 -0.4**
BTLS Baital 52.83 298 *e*P **P** **17 37 27.1 -0.4**
KDJ Kajisay 52.89 293 P **P** **17 37 28.6 +0.3**
KDJ pmax pmax
comp=Z,38nm,1.0s
E09A Wood Farm, Sta 52.94 60 IAmb IAmb 17 38 01.0
comp=Z,55nm,2.0s
VADS Vadso 53.01 340 *e*P **P** **17 37 27.0 -1.5**
PINE Pine Mountain 53.11 64 IAmb IAmb 17 37 32.6
comp=Z,20nm,0.7s
TKM2 Tokmak 2 53.30 295 P **P** **17 37 31.3 0.0**
SNR=35
TKM2 Tokmak 2 53.30 295 *i* P **P** **17 37 30.5 -0.8**
TKM2 pmax pmax
comp=Z,15nm,0.6s
ULHL Ulahol 53.36 294 P **P** **17 37 32.1 +0.4**
SNR=16
YBH Yreka Blue Hor 53.41 67 LR LR 17 57 13.0
comp=Z,29nm,20.3s,baz=286,slow=32
ARTI Arti 53.44 317 P **P** **17 37 30.1 -1.7**
ARTI Arti 53.44 317 P **P** **17 37 30.7 -1.2**
comp=Z,26nm,0.9s,baz=47,slow=4.4,SNR=39
ARTI pP **pP** **17 38 03.8 +0.4**
comp=Z,20nm,0.8s,baz=56,slow=6.4,SNR=7.2
ARTI PcP **PcP** **17 38 37.3 +0.2**
comp=Z,12nm,0.5s,baz=53,slow=4.2,SNR=8.6
ARTI LR LR 18 02 28.0
comp=Z,37nm,18.7s,baz=32,slow=38
comp=Z,26nm,0.9s
ARTI Arti 53.44 317 *d i*P **P** **17 37 30.4 -1.4**
ARTI *PP **pP** **17 38 02.9 -0.6**
ARTI 17 38 36.2
ARTI 17 39 30.2
ARTI S **S** **17 44 53.3 0.0**
ARTI SS **SKiKP** **17 48 31.0 -1.5**
ARTI pmax pmax
comp=Z,51nm,1.1s
ARTI Arti 53.44 317 P **P** **17 37 30.5 -1.4**
ARTI pP **pP** **17 38 03.0 -0.4**
ARTI sP **sP** **17 38 18.4 -0.2**
ARTI PcP **PcP** **17 38 37.3 +0.2**
SGDS Sogindy 53.50 296 *e*P **P** **17 37 32.3 -0.3**
SGDS Sogindy 53.50 296 *e*P **P** **17 37 32.4 -0.3**
CHMS Chumysh 53.72 296 P **P** **17 37 34.4 +0.3**
SNR=9.6
NONG Nongkai 53.72 252 P **P** **17 37 37.2 +2.8**
KBK Karagaybulak 53.83 295 P **P** **17 37 35.2 +0.1**
SNR=25
FRU1 Bishkek 53.91 296 P **P** **17 37 36.2 +0.6**
FRU1 pmax pmax
comp=Z,85nm,0.7s
UPNV Upernavik 53.98 12 *i* P **P** **17 37 33.4 -2.1**
UPNV IAmb IAmb 17 37 36.2
comp=Z,42nm,1.0s
APA Apatity 54.07 337 ↓*i*P P 17 37 30.0 -6.2
APA *i* 17 38 19.0
APA pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 54.10 295 P **P** **17 37 36.6 -0.5**
AAK Ala-Archa 54.10 295 LR LR 18 01 18.7
comp=Z,51nm,19.9s,slow=36
AAK Ala-Archa 54.10 295 P **P** **17 37 37.4 +0.3**
SNR=8.6
AAK Ala-Archa 54.10 295 *d i*P **P** **17 37 37.0 -0.1**
AAK pmax pmax
comp=Z,20nm,0.6s
AAK Ala-Archa 54.10 295 P **P** **17 37 37.1 +0.1**
AAK pP **pP** **17 38 10.2 +1.5**
AAK PcP **PcP** **17 38 40.5 +0.4**
ARA0 ARCESS Array S 54.28 341 *e*P **P** **17 37 37.7 -0.1**
ARCES ARCESS Array B 54.28 341 P **P** **17 37 37.3 -0.5**
comp=Z,4.8nm,0.7s,baz=31,slow=11,SNR=23
ARCES PcP **PcP** **17 38 40.0 -0.1**
comp=Z,5.2nm,0.7s,baz=15,slow=5.1,SNR=5.2
ARCES LR LR 18 05 36.3
comp=Z,36nm,19.1s,baz=0.0,slow=41
comp=Z,4.8nm,0.7s
EKS2 Erkin-Say 54.49 296 P **P** **17 37 40.2 +0.4**
SNR=10
UBPT Khong Chiam 54.54 248 IAmb IAmb 17 37 43.8
comp=Z,12nm,0.6s
UBPT Khong Chiam 54.54 248 P **P** **17 37 42.9 +2.6**
DBG Daneborg 54.56 359 *i* P **P** **17 37 37.8 -1.9**
DBG IAmb IAmb 17 37 39.8
comp=Z,48nm,0.7s
AML Almayashu 54.88 295 P **P** **17 37 44.5 +1.5**
SNR=13
SHL Shillong 55.07 268 P **P** **17 37 44.8 +0.5**
SHL pmax pmax
comp=Z,74nm,0.9s
KTK1 Kautokeino 55.17 342 *e*P **P** **17 37 43.5 -0.7**
JETT Jettan, Norway 55.25 343 *e*P **P** **17 37 44.3 -0.4**
WVOR Wild Horse Val 55.27 64 P **P** **17 37 47.7 +2.2**
WVOR pmax pmax
comp=Z,13nm,2.5s
KSH Kashi 55.28 292 P **P** 17 37 49.4 +3.9
KSH pP sP 17 38 24.0 -8.2
KSH pmax pmax
comp=Z,20nm,1.2s
TRO Tromso 55.45 344 *e*P **P** **17 37 46.1 -0.1**
NUUG Nuugaatsiaq 55.49 11 *i* P **P** **17 37 47.4 +1.0**
NUUG IAmb IAmb 17 37 48.8
comp=Z,9.9nm,0.6s
FFC Flin Flon 55.56 44 P **P** **17 37 47.7 +0.6**
FFC IAmb IAmb 17 37 49.0
comp=Z,11nm,0.9s
FFC Flin Flon 55.56 44 P **P** **17 37 47.7 +0.6**
FFC pmax pmax
comp=Z,11nm,0.9s
KIRV Kirov 55.60 323 LR LR 18 03 43.4
comp=Z,95nm,18.2s,baz=33,slow=38
KIRV Kirov 55.60 323 *d i*P **P** **17 37 45.9 -1.4**
CHTO Chiang Mai 55.68 257 P **P** **17 37 50.2 +1.7**
CHTO Chiang Mai 55.68 257 P **P** **17 37 50.2 +1.7**
CHTO pmax pmax
comp=Z,32nm,0.7s
DZA Taraz 55.71 298 *e*P **P** **17 37 48.0 -0.4**
DZA Taraz 55.71 298 *e*P **P** **17 37 48.0 -0.4**
SUMG Summit 55.84 6 P **P** **17 37 49.6 +0.2**
SUMG Summit 55.84 6 P **P** **17 37 49.6 +0.2**
SUMG pmax pmax
comp=Z,105nm,0.9s
SUMG Summit 55.84 6 *i* P **P** **17 37 48.4 -1.0**
SUMG IAmb IAmb 17 37 50.5
comp=Z,88nm,0.7s
CMAR Chiang Mai Arr 55.96 256 P **P** **17 37 52.5 +2.0**
CMAR Chiang Mai Arr 55.96 256 P **P** **17 37 52.6 +2.2**
comp=Z,17nm,0.7s,baz=29,slow=6.9,SNR=130
CMAR ScP **ScP** **17 42 34.3 +0.9**
comp=Z,0.1nm,0.3s,baz=16,slow=4.3,SNR=4.7
CMAR LR LR 18 05 21.1
comp=Z,16nm,18.9s,baz=65,slow=40
comp=Z,17nm,0.7s
CMAR Chiang Mai Arr 55.96 256 P **P** **17 37 52.5 +2.0**
KK31 Karatay Array 56.02 298 IAmb IAmb 17 37 51.4
comp=Z,12nm,0.7s
KK31 Karatay Array 56.02 298 *i* P **P** **17 37 49.5 -1.2**
KKAR Karatay Array 56.02 298 P **P** **17 37 50.0 -0.7**
KKAR Karatay Array 56.02 298 IAmb IAmb 17 37 51.3
comp=Z,7.6nm,0.7s
KKAR Karatay Array 56.02 298 P **P** **17 37 50.0 -0.7**
ARK Arkit 56.07 296 P **P** **17 37 51.5 +0.3**
ARK pmax pmax
comp=Z,12nm,0.8s
EGMT Eagleton 56.36 54 IAmb IAmb 17 38 04.1
comp=Z,41nm,1.9s
BRLS Borolday 56.45 298 *e*P **P** **17 37 54.8 +1.2**
BRLS Borolday 56.45 298 *e*P **P** **17 37 54.9 +1.2**
PAHR Pah Rah Range 56.65 67 IAmb IAmb 17 38 02.1
comp=Z,37nm,2.0s
TRKS Terek-Say 56.71 296 P **P** **17 37 56.1 +0.3**
TRKS pmax pmax
comp=Z,7.0nm,1.1s
PNTR Pine Nut 56.94 67 IAmb IAmb 17 38 00.1
comp=Z,11nm,0.9s
CMB Columbia Colle 57.19 69 IAmb IAmb 17 38 01.4
comp=Z,13nm,1.4s
YERR Yerington 57.21 67 IAmb IAmb 17 38 02.0
comp=Z,6.9nm,0.7s
AB31 Akbulak array 57.42 309 *i* P **P** **17 37 59.3 -1.1**
ABKAR Akbulak array 57.42 309 P **P** **17 37 58.8 -1.6**
WAKR Walker 57.42 68 IAmb IAmb 17 38 03.5
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 57.44 329 *e*P **P** **17 37 55.6 -4.7**
KLMR pmax pmax
comp=Z,32nm,1.3s
AKTO Aktyubinsk 57.54 312 P **P** **17 37 59.6 -1.6**
STEI Steigen 57.60 344 *e*P **P** **17 38 00.7 -0.6**
LOF Lofoten 57.71 345 *e*P **P** **17 38 01.2 -0.9**
DRK Karamyk 57.71 294 IAmb IAmb 17 38 04.9
comp=Z,19nm,0.8s
DRK Karamyk 57.71 294 P **P** **17 38 03.1 +0.1**
YHB Horse Butte 57.80 57 IAmb IAmb 17 38 05.6
comp=Z,10nm,1.0s
BTK Batken 57.88 295 P **P** **17 38 03.8 -0.1**
BTK pmax pmax
comp=Z,49nm,1.2s
ILULI Ilulissat 57.93 11 *i* P **P** **17 38 02.4 -1.3**
ILULI IAmb IAmb 17 38 04.1
comp=Z,32nm,0.7s
FAUS Fauske 58.08 344 *e*P **P** **17 38 03.5 -1.2**
FAKI Fak Fak 58.09 210 P **P** **17 38 06.4 +1.0**
NVAR Mina Array Bea 58.13 67 P **P** **17 38 07.2 +1.4**
NVAR Mina Array Bea 58.13 67 P **P** **17 38 07.0 +1.3**
comp=Z,5.3nm,0.6s,baz=296,slow=7.3,SNR=46
NVAR pP **pP** **17 38 37.2 -0.7**
comp=Z,3.1nm,0.8s,baz=294,slow=7.3,SNR=3.4
comp=Z,5.3nm,0.6s
LHV Little Huntoon 58.13 67 IAmb IAmb 17 38 08.7
comp=Z,10nm,0.9s
NV11 Mina Array Sit 58.21 67 IAmb IAmb 17 38 13.7
comp=Z,29nm,1.8s
YNE Yellowstone No 58.24 56 IAmb IAmb 17 38 45.7
comp=Z,16nm,0.7s
JOF Joensuu 58.27 334 *e*P **P** **17 38 04.8 -1.3**
ELK Elko 58.30 63 P **P** **17 38 08.8 +1.8**
H17A Grant Village 58.36 57 IAmb IAmb 17 38 42.3
comp=Z,12nm,1.1s
SCO Scoresbysund 58.42 360 P **P** **17 38 07.4 +0.4**
SCO Scoresbysund 58.42 360 P **P** **17 38 07.4 +0.4**
SCO pmax pmax
comp=Z,74nm,1.2s
SCO Scoresbysund 58.42 360 *i* P **P** **17 38 07.0 0.0**
SCO IAmb IAmb 17 38 08.5
comp=Z,61nm,1.1s
TPAW Teton Pass 58.78 58 IAmb IAmb 17 38 17.3
comp=Z,14nm,1.4s
LAO LASA Array 59.03 53 IAmb IAmb 17 38 17.8
comp=Z,20nm,1.1s
DSP Deep Springs 59.04 68 IAmb IAmb 17 38 14.8
comp=Z,8.9nm,1.0s
ICESG Greenland Ices 59.19 7 *i* P **P** **17 38 12.0 -0.8**
ICESG IAmb IAmb 17 38 14.1
comp=Z,109nm,0.6s
MOR8 Moi Rana 59.32 343 *e*P **P** **17 38 10.9 -2.4**
LEIR Leirfjorden 59.61 344 *e*P **P** **17 38 13.6 -1.6**
R11B Troy Canyon, C 59.74 65 IAmb IAmb 17 38 24.1
comp=Z,26nm,1.9s
R11B Troy Canyon, C 59.74 65 P **P** **17 38 18.7 +1.8**
baz=314
CHGR Chuyangaron 59.77 295 P **P** **17 38 16.4 -0.6**
CHGR pmax pmax
comp=Z,89nm,0.9s
FRB Frobisher Bay 59.79 22 LR LR 18 06 06.2
comp=Z,43nm,18.7s,baz=16,slow=38
FRB Frobisher Bay 59.79 22 P **P** **17 38 15.7 -0.8**
FRB pmax pmax
comp=Z,71nm,1.0s
SIMJ Simiganj 59.86 295 P **P** **17 38 16.8 -0.8**
SIMJ Simiganj 59.86 295 P **P** **17 38 16.9 -0.7**
SIMJ pP **pP** **17 38 49.3 -0.6**
SIMJ PcP **sP** **17 39 02.5 -2.2**
SPR3 Spring Creek 3 60.00 64 IAmb IAmb 17 38 21.9
comp=Z,8.2nm,0.7s
PD31 Pinedale Array 60.02 58 IAmb IAmb 17 38 54.3
comp=Z,9.2nm,1.0s
PDAR Pinedale Array 60.02 58 P **P** **17 38 19.3 +0.5**
PDAR Pinedale Array 60.02 58 P **P** **17 38 20.0 +1.2**
comp=Z,4.2nm,0.6s,baz=315,slow=1.9,SNR=46
PDAR pP **pP** **17 38 51.5 +0.4**
comp=Z,5.7nm,0.8s,baz=305,slow=3.0,SNR=6.2
comp=Z,4.2nm,0.6s
DUG Dugway, Tooele 60.03 62 P **P** **17 38 20.7 +2.0**
DUG pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 60.09 12 *i* P **P** **17 38 17.3 -1.2**
SFJD IAmb IAmb 17 38 18.8
comp=Z,36nm,1.0s
SFJD Kangerlussuaq 60.09 12 P **P** **17 38 18.1 -0.4**
SFJD pP **pP** **17 38 52.0 +1.0**
SFJD PcP **sP** **17 39 03.2 -2.7**
S11A Rachel 60.13 66 IAmb IAmb 17 38 21.8
comp=Z,12nm,0.7s
TPNV Topopah Spring 60.33 67 IAmb IAmb 17 38 23.2
comp=Z,9.5nm,0.9s
VAF Ylistaro 60.37 338 *e*P **P** **17 38 20.0 -0.4**
KEF Keuruu 60.58 336 *e*P **P** **17 38 21.2 -0.8**
GWY Greenwater Val 60.61 68 IAmb IAmb 17 38 25.0
comp=Z,9.4nm,0.9s
BELG Belogornoye 60.75 319 LR LR 18 06 22.6
comp=Z,56nm,18.7s,baz=64,slow=38
BELG Belogornoye 60.75 319 *d i*P **P** **17 38 21.8 -1.4**
BELG pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 60.87 288 P **P** **17 38 24.8 +0.4**
NIL Nilore 60.87 288 P **P** **17 38 24.8 +0.4**
NIL pmax pmax
comp=Z,22nm,0.9s
NIL Nilore 60.87 288 P **P** **17 38 24.8 +0.4**
NIL pP **pP** **17 38 57.6 +0.9**
NIL PcP **PcP** **17 39 06.2 -0.5**
FINES FINESS Array B 60.89 335 P **P** **17 38 22.7 -1.3**
comp=Z,6.6nm,0.6s,baz=30,slow=8.0,SNR=45
FINES PcP **PcP** **17 39 06.0 -0.1**
comp=Z,5.2nm,0.6s,baz=56,slow=4.8,SNR=5.8
FINES LR LR 18 07 08.7
comp=Z,37nm,18.5s,baz=20,slow=38
comp=Z,6.6nm,0.6s
PUL Pulkovo 61.11 332 ↑*e*P **P** **17 38 26.3 +0.8**
DY2G Dye2 61.12 10 *i* P **P** **17 38 24.4 -1.4**
DY2G IAmb IAmb 17 38 26.3
comp=Z,32nm,0.8s
PMG Port Moresby 61.16 191 LR LR 18 05 38.8
comp=Z,29nm,18.5s,baz=64,slow=36
NSS Namsos 61.25 344 *e*P **P** **17 38 25.4 -1.0**
ULM Lac du Bonnet 61.36 44 IAmb IAmb 17 38 33.2
comp=Z,45nm,1.9s
ULM Lac du Bonnet 61.36 44 P **P** **17 38 27.8 +0.4**
comp=Z,2.8nm,0.5s,baz=320,slow=7.0,SNR=9.0
comp=Z,2.8nm,0.5s
MVU Marysvale 61.54 63 IAmb IAmb 17 38 37.5
comp=Z,20nm,1.1s
RSSD Black Hills 61.93 54 P **P** **17 38 32.1 +0.5**
RSSD IAmb IAmb 17 39 06.4
comp=Z,10nm,0.8s
RSSD Black Hills 61.93 54 P **P** **17 38 32.1 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD Black Hills 61.93 54 P **P** **17 38 32.1 +0.5**
RSSD pP **pP** **17 39 03.8 -0.3**
RSSD PcP **PcP** **17 39 10.8 -0.2**
SRU San Rafael Swe 62.05 62 IAmb IAmb 17 38 40.4
comp=Z,13nm,0.8s
RAF Rauma 62.33 337 *e*P **P** **17 38 32.1 -1.6**
MEF Metsahovi 62.37 335 *e*P **P** **17 38 33.3 -0.7**
NUUK Nuuk 62.59 14 *i* P **P** **17 38 35.2 -0.2**
NUUK IAmb IAmb 17 38 36.6
comp=Z,60nm,1.1s
ARBE Arbavere 62.61 334 *e*P **P** **17 38 33.3 -2.3**
KBL Kabul 62.72 292 P **P** **17 38 35.4 -1.6**
KBL IAmb IAmb 17 38 37.4
comp=Z,14nm,0.8s
KBL Kabul 62.72 292 P **P** **17 38 35.4 -1.6**
KBL pmax pmax
comp=Z,14nm,0.8s
ISOG Isortoq, Green 62.73 7 *i* P **P** **17 38 35.4 -0.9**
ISOG IAmb IAmb 17 38 37.0
comp=Z,52nm,0.9s
ANGG Ammassalik, Gr 62.77 7 *i* P **P** **17 38 35.4 -1.1**
ANGG IAmb IAmb 17 38 37.2
comp=Z,45nm,0.8s
OBN Obninsk 62.89 326 LR LR 18 07 28.0
comp=Z,56nm,19.4s,baz=178,slow=37
OBN Obninsk 62.89 326 ↓*e*P **P** **17 38 36.5 -0.9**
OBN *e**PP **PcP** **17 39 11.0 -3.4**
OBN *e* 17 39 14.4
OBN *e**SP **sP** **17 39 27.4 +2.5**
OBN *e* 17 40 55.7
OBN *e*PPP PPP 17 42 26.7
OBN pmax pmax
comp=Z,53nm,2.7s
U15A North Rim 62.96 65 IAmb IAmb 17 38 47.2
comp=Z,18nm,1.8s
VSU Vasula 63.23 333 ↑*e*P **P** **17 38 37.7 -2.0**
VSU pmax pmax
comp=Z,27nm,1.0s
VSU Vasula 63.23 333 *e*P **P** **17 38 38.2 -1.5**
N23A Red Feather La 63.25 57 IAmb IAmb 17 38 45.6
comp=Z,9.3nm,0.9s
N23A Red Feather La 63.25 57 P **P** **17 38 41.8 +1.3**
baz=316
PV23 Carpenter Ridg 63.35 61 IAmb IAmb 17 38 44.9
comp=Z,15nm,0.6s
PV11 David Mesa, Pa 63.53 61 IAmb IAmb 17 38 44.6
comp=Z,13nm,0.6s
PV15 Paradox Valley 63.72 61 IAmb IAmb 17 38 45.7
comp=Z,11nm,0.7s
MTSE Matsula 63.81 335 *e*P **P** **17 38 42.2 -1.3**
MOL Molde 63.83 345 *e*P **P** **17 38 43.5 0.0**
GLA Glamis 63.90 69 IAmb IAmb 17 38 50.5
comp=Z,15nm,0.8s
LPSR Galich'ya Gora 64.03 323 *e*P **P** **17 38 42.1 -2.9**
LPSR *e* 17 39 17.7
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 64.05 321 *e*P **P** **17 38 41.7 -3.4**
VRH *e* 17 39 18.0
VRH pmax pmax
comp=Z,10.0nm,0.9s
DOMB Dombas 64.06 344 *e*P **P** **17 38 44.7 -0.5**
ISCO Idaho Springs 64.21 58 P **P** **17 38 45.6 -1.3**
AKN Aaknes 64.28 345 *e*P **P** **17 38 46.7 +0.1**
F33A 5 Mile Ranch, 64.43 48 IAmb IAmb 17 38 50.0
comp=Z,16nm,1.4s
NB2 NORSAR Subarra 64.60 342 P **P** **17 38 47.7 -1.0**
comp=Z,9.1nm,0.5s,baz=23,slow=6.5
NB2 PCP **PcP** **17 39 21.0 -0.5**
comp=Z,2.2nm,0.6s,baz=25,slow=4.4
NB2 NORSAR Subarra 64.60 342 P **P** **17 38 47.7 -1.0**
baz=23,slow=6.5
NOA NORSAR Array B 64.60 342 P **P** **17 38 47.8 -0.9**
comp=Z,13nm,0.6s,baz=23,slow=6.6,SNR=54
NOA pP **PcP** **17 39 21.2 -0.3**
comp=Z,3.0nm,0.7s,baz=24,slow=3.4,SNR=3.6
NOA LR LR 18 13 13.0
comp=Z,18nm,18.4s,baz=20,slow=42
comp=Z,13nm,0.6s

NC602 NORSAR Array S 64.82 342 *eP* **P 17 38 49.9 -0.1**
NORES NORESS Array B 64.82 342 P **P 17 38 49.7 -0.4**
HFS Hagfors 64.94 341 P **P 17 38 49.7 -1.2**
comp=Z,11nm,0.6s,baz=45,slow=5.1,SNR=46
HFS PcP **pP 17 39 22.4 -1.3**
comp=Z,5.7nm,0.5s,baz=79,slow=3.2,SNR=5.8
HFS LR LR 18 10 19.6
comp=Z,22nm,20.8s,baz=28,slow=39
comp=Z,11nm,0.6s
EYMN Ely 64.99 44 IAmb IAmb 17 38 56.4
comp=Z,15nm,0.9s
VSR Storozhevoye 65.03 322 *eP* **P 17 38 48.8 -2.8**
VSR *e* 17 39 21.5
VSR pmax pmax
comp=Z,8.0nm,0.9s
S22A 4UR Ranch, Cre 65.05 60 P **P 17 38 53.6 +1.3**
baz=317
Q24A Divide 65.07 58 P **P 17 38 54.2 +1.8**
baz=317
VORD Divnogorie 65.18 322 *eP* **P 17 38 48.9 -3.6**
VORD *e* 17 39 21.7
VORD pmax pmax
comp=Z,8.0nm,0.9s
KULM Kulim 65.36 246 P P 17 38 58.6 +4.5
HYA Hoyanger 65.37 345 *eP* **P 17 38 53.2 -0.3**
SKAR Skarslia 65.47 344 *eP* **P 17 38 54.1 -0.2**
IPM Ipoh 65.80 245 P P 17 39 00.8 +3.8
ECSD EROS Data Cent 65.86 50 IAmb IAmb 17 39 02.0
comp=Z,14nm,1.1s
IVI Ivigtut 65.94 13 P **P 17 38 57.5 +0.2**
E38A The Farm, Brul 66.00 45 IAmb IAmb 17 39 02.4
comp=Z,20nm,1.2s
IIGN Ignalina 66.03 332 *eP* **P 17 38 58.6 +0.7**
COEN Coen 66.20 195 P **P 17 39 00.3 +1.0**
COEN IAmb IAmb 17 39 01.6
comp=Z,22nm,1.0s
COEN Coen 66.20 195 P **P 17 39 00.8 +1.4**
comp=Z,24nm,1.1s
COEN Coen 66.20 195 P **P 17 39 00.7 +1.3**
KONO Kongsberg 66.20 343 *eP* **P 17 38 59.0 +0.1**
KONO Kongsberg 66.20 343 P **P 17 38 58.1 -0.8**
MNK Minsk 66.25 330 *i P* **P 17 38 58.1 -1.2**
MNK *i* *PP **pP 17 39 31.5 -0.7**
MNK *i* 17 41 23.3
MNK *i* PPP PPP 17 43 01.2
MNK *i* S **S 17 47 36.7 -0.5**
MNK *i* *SS **sS 17 48 35.0 +1.1**
MNK *i* SS **SS 17 51 56.9 +2.2**
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,26nm,0.8s
MNK pmax pmax
comp=E,17nm,0.9s
MNK MLR MLR
comp=Z,109nm,17.0s
STRU Stroemstad 66.46 342 *i* P **P 17 39 00.0 -0.6**
ODD1 Odda 66.48 344 *eP* **P 17 39 00.8 0.0**
SPMN Marine on St. 66.50 46 IAmb IAmb 17 39 06.0
comp=Z,13nm,1.1s
PABE Paberze 66.55 333 P **P 17 39 00.0 -1.2**
PABE Paberze 66.55 333 *eP* **P 17 39 00.5 -0.7**
TUC Tucson 66.78 67 P **P 17 39 05.4 +2.2**
TUC pmax pmax
comp=Z,7.0nm,1.6s
T25A Trinidad 66.80 59 P **P 17 39 05.3 +1.9**
baz=318
BLS5 Blasjo 66.97 344 *eP* **P 17 39 03.7 -0.2**
KDU Kakadu 67.30 206 P **P 17 39 07.5 +1.1**
comp=Z,42nm,0.7s
KDU Kakadu 67.30 206 P **P 17 39 07.6 +1.3**
ANMO Albuquerque 67.30 62 P **P 17 39 07.4 +0.8**
ANMO Albuquerque 67.30 62 P **P 17 39 07.4 +0.8**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 67.30 62 P **P 17 39 07.0 +0.5**
ANMO pP **pP 17 39 39.8 +0.2**
ANMO sP **sP 17 39 56.1 +1.8**
TJOU Tjoern 67.30 341 *i P* **P 17 39 05.2 -0.7**
HOMB Homborsund 67.69 343 *i P* **P 17 39 07.6 -0.7**
MTN Manton Dam 67.82 207 P **P 17 39 10.6 +0.9**
comp=Z,38nm,0.8s
MTN Manton Dam 67.82 207 P **P 17 39 10.9 +1.2**
ONAU Onsala 67.83 340 *i P* **P 17 39 07.9 -1.4**
SNART Snartemo 67.86 343 *eP* **P 17 39 10.0 +0.6**
SNART Snartemo 67.86 343 *i P* **P 17 39 09.6 +0.1**
MAK Makhachkala 67.92 312 *eP* **P 17 39 10.8 +0.8**
MAK *e*PP **pP 17 39 38.8 -4.3**
MAK *e* 17 41 45.6
MAK *e*PPP PPP 17 43 22.1
MAK *e*S **S 17 47 59.9 +2.3**
MAK *e*SS **SKiKP 17 48 45.4 -6.3**
MAK pmax pmax
comp=Z,100nm,1.4s
BLEU Blekinge 67.96 338 *i P* **P 17 39 07.9 -2.2**
SCHQ Schefferville 68.01 26 P **P 17 39 10.7 +0.2**
comp=Z,27nm,0.5s,baz=339,slow=5.6,SNR=114
comp=Z,27nm,0.5s
FABU Falkenberg 68.02 340 *i P* **P 17 39 09.8 -0.7**
DEL Delary 68.26 339 *i P* **P 17 39 11.4 -0.5**
121A Cookes Peak, D 68.34 65 P **P 17 39 14.4 +1.4**
baz=318
319A Douglas 68.34 67 IAmb IAmb 17 39 20.5
comp=Z,16nm,1.2s
BJUU Bjuv 68.81 339 *i P* **P 17 39 14.7 -0.6**
WBSI Waikabubak, Su 68.93 220 P **P 17 39 19.5 +2.9**
comp=Z,65nm,0.8s
AK03 Malin Array Si 69.03 327 P **P 17 39 14.8 -2.0**
AK21 Malin Array Si 69.04 328 P **P 17 39 15.0 -1.9**
AKASG Malin Array Be 69.05 327 P **P 17 39 15.1 -1.8**
AKASG Malin Array Be 69.05 327 P **P 17 39 15.4 -1.6**
comp=Z,8.2nm,0.4s,baz=32,slow=6.7,SNR=68
AKASG LR LR 18 15 19.5
comp=Z,28nm,18.1s,baz=38,slow=41
comp=Z,8.2nm,0.4s
AKASG Malin Array Be 69.05 327 *i P* **P 17 39 15.3 -1.6**
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKBB Malin Array Si 69.05 327 IAmb IAmb 17 39 16.1
comp=Z,13nm,0.8s
AKBB Malin Array Si 69.05 327*d iP* **P 17 39 15.1 -1.8**
AKBB pmax pmax
comp=Z,12nm,0.7s
AKBB Malin Array Si 69.05 327 P **P 17 39 14.9 -2.0**
AK04 Malin Array Si 69.05 327 P **P 17 39 14.9 -2.0**
AK22 Malin Array Si 69.05 328 P **P 17 39 14.9 -2.0**
KIEV Kiev 69.06 327 P **P 17 39 15.0 -2.0**
KIEV IAmb IAmb 17 39 16.1
comp=Z,12nm,0.8s
KIEV Kiev 69.06 327 P **P 17 39 15.0 -2.0**
KIEV pmax pmax
comp=Z,12nm,0.8s
KIEV Kiev 69.06 327 P **P 17 39 15.0 -2.0**
comp=Z,79nm,1.1s
KIEV Kiev 69.06 327 P **P 17 39 15.1 -1.8**
KIEV PcP **PcP 17 39 40.1 0.0**
AK01 Malin Array Si 69.06 327 P **P 17 39 15.2 -1.8**
AK18 Malin Array Si 69.08 328 P **P 17 39 15.1 -2.0**
AK20 Malin Array Si 69.08 328 P **P 17 39 15.1 -2.0**
AK11 Malin Array Si 69.08 327 P **P 17 39 15.3 -1.8**
AK15 Malin Array Si 69.08 327 P **P 17 39 15.2 -1.9**
AK02 Malin Array Si 69.09 327 P **P 17 39 15.2 -2.0**
AK08 Malin Array Si 69.09 327 P **P 17 39 15.5 -1.7**
AK09 Malin Array Si 69.10 327 P **P 17 39 15.5 -1.7**
AK19 Malin Array Si 69.10 328 P **P 17 39 15.5 -1.7**
AK16 Malin Array Si 69.11 327 P **P 17 39 15.6 -1.7**
AK12 Malin Array Si 69.12 327 P **P 17 39 15.4 -2.0**
NCK Nalchik 69.29 314⇑*eP* **P 17 39 18.7 +0.1**
KIV Kislovodsk 69.33 315 P **P 17 39 18.5 -0.5**
KIV IAmb IAmb 17 39 21.4
comp=Z,10nm,0.8s
KIV Kislovodsk 69.33 315 *eP* **P 17 39 19.3 +0.3**
KIV pmax pmax
comp=Z,11nm,1.1s
MI28 Mi28,Pidlybu 69.37 328 P **P 17 39 16.9 -2.0**
KBZ Khabaz 69.42 315 P **P 17 39 19.0 -0.3**
comp=Z,8.9nm,0.8s,baz=33,slow=13,SNR=25
KBZ LR LR 18 12 14.3
comp=Z,30nm,19.8s,baz=24,slow=38
comp=Z,8.9nm,0.8s
KBZ Khabaz 69.42 315*d iP* **P 17 39 19.1 -0.3**
KBZ pmax pmax
comp=Z,12nm,0.9s
SEKA Sheki 69.42 311 P **P 17 39 19.0 -0.5**

SHA1 Shidzhatmaz 69.52 315*d iP* **P 17 39 19.6 -0.7**
RNPP9 Sopachiv 69.52 330 P **P 17 39 18.3 -1.5**
RNPP8 Varash 69.60 330 P **P 17 39 19.3 -1.0**
RNPP5 Staryi Chortor 69.68 330 P **P 17 39 19.4 -1.4**
N38A Joes South For 69.72 50 IAmb IAmb 17 39 21.9
comp=Z,16nm,0.5s
MNGR Mingechevir, A 69.81 310 P **P 17 39 21.6 -0.2**
MTSU Mount Surprise 70.13 193 P **P 17 39 22.8 -1.0**
LUBAR Lubar, Ukraine 70.20 328 P **P 17 39 22.4 -1.6**
GANJ Ganja 70.28 311 P **P 17 39 24.9 +0.2**
GSI Gunungsitoli 70.36 246 P P 17 39 30.0 +4.5
GSI Gunungsitoli 70.36 246 P P 17 39 31.0 +5.5
VLDQ Val d'Or 70.45 35 P **P 17 39 24.1 -1.4**
P38A Dawn 70.49 51 IAmb IAmb 17 39 30.8
comp=Z,18nm,1.3s
SMWD Samnorwood 70.56 58 IAmb IAmb 17 39 28.5
comp=Z,17nm,0.8s
LKRN Lenkeran, Azer 70.59 308 P **P 17 39 26.4 -0.2**
DRUM Mains of Drumt 70.73 348 *eP* **P 17 39 26.9 -0.1**
VSLR Vesyoloye 70.88 317⇑*eP* **P 17 39 27.5 -0.8**
VSLR pmax pmax
comp=Z,11nm,0.8s
L44A Lake County Fo 71.09 45 P **P 17 39 29.4 -0.1**
baz=323
BSEG Bad Segeberg 71.39 340 *eP* **P 17 39 31.0 -0.1**
comp=Z,13nm,0.9s,baz=22,slow=5.8
INVG Invergeldie, C 71.39 349 *eP* **P 17 39 30.7 -0.4**
GNI Garni 71.41 312 P **P 17 39 30.8 -0.9**
GNI IAmb IAmb 17 39 58.9
comp=Z,12nm,0.9s
GNI Garni 71.41 312 LR LR 18 13 29.0
comp=Z,36nm,18.4s,baz=45,slow=38
GNI Garni 71.41 312⇑*eP* **P 17 39 31.9 +0.2**
GNI pmax pmax
comp=Z,14nm,1.0s
GNI Garni 71.41 312 P **P 17 39 32.1 +0.4**
comp=Z,17nm,1.1s
NDNU Novodnistrovsk 71.47 327 P **P 17 39 30.2 -1.5**
SORM Soroca 71.53 327 ⇑P **P 17 39 30.8 -1.3**
SORM Soroca 71.53 327 P **P 17 39 30.7 -1.3**
SORM Soroca 71.53 327 P **P 17 39 30.0 -2.1**
comp=Z,20nm,0.7s
WMOK Wichita Mounta 71.61 57 P **P 17 39 33.7 +0.9**
WMOK pmax pmax
comp=Z,8.0nm,0.6s
ESY Stoneypath 71.71 348 *eP* **P 17 39 32.5 -0.5**
LAWE Loch Awe, Argy 71.71 350 *eP* **P 17 39 33.1 +0.1**
LAWE IAmb IAmb 17 39 33.7
comp=Z,62nm,1.0s
KMPD K-Podol'skiy 71.81 328 P **P 17 39 31.9 -1.8**
NAX Nakhchivan 71.82 310 P **P 17 39 33.8 -0.3**
MNHN Monahans 72.05 62 IAmb IAmb 17 39 37.5
comp=Z,18nm,0.6s
PGBU Glenifferbraes 72.05 349 *eP* **P 17 39 35.2 +0.2**
MORS Morshin 72.14 330 P **P 17 39 35.1 -0.6**
MORS Morshin 72.14 330 P **P 17 39 35.1 -0.6**
STNU Starunia 72.32 329 P **P 17 39 35.4 -1.4**
EKA Eskdalemuir Ar 72.36 348 P **P 17 39 36.9 0.0**
comp=Z,16nm,0.3s,baz=19,slow=5.2,SNR=262
comp=Z,16nm,0.3s
ESK Eskdalemuir 72.38 348 P **P 17 39 35.8 -1.2**
ESK Eskdalemuir 72.38 348 *eP* **P 17 39 37.1 +0.1**
ESK Eskdalemuir 72.38 348 P **P 17 39 35.8 -1.2**
ESK pmax pmax
comp=Z,38nm,0.9s
OJC Ojcow 72.41 333 *eP* **P 17 39 37.2 -0.1**
OJC Ojcow 72.41 333 IAmb IAmb 17 39 37.4
comp=Z,9.7nm,0.6s
OJC Ojcow 72.41 333 P **P 17 39 36.9 -0.4**
OJC Ojcow 72.41 333 P **P 17 39 36.7 -0.6**
comp=Z,17nm,0.8s
KSV Kosov 72.48 329 P **P 17 39 36.5 -1.3**
KSV Kosov 72.48 329 P **P 17 39 36.5 -1.3**
ICQ Pointe Anglais 72.60 28 IAmb IAmb 17 39 39.6
comp=Z,32nm,0.8s
FLTG Flechtingen 72.68 339 *eP* **P 17 39 38.2 -0.6**
comp=Z,15nm,1.0s,baz=22,slow=5.8
NEWG New Galloway 72.70 349 *eP* **P 17 39 38.8 -0.1**
NEWG IAmb IAmb 17 39 39.9
comp=Z,36nm,0.9s
STHS Stebnicka Huta 72.70 331 *eP* **P 17 39 38.6 -0.5**
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 72.70 331 *eP* **P 17 39 38.6 -0.5**
RETH Rethem/Aller, 72.71 340 *eP* **P 17 39 38.9 0.0**
comp=Z,77nm,1.1s,baz=22,slow=5.8
NRDL Niedersach Rie 72.78 340 *eP* **P 17 39 39.3 0.0**
comp=Z,17nm,1.3s,baz=22,slow=5.8
KSP Ksiaz 72.81 335 *eP* **P 17 39 39.5 -0.2**
KSP Ksiaz 72.81 335 P **P 17 39 39.3 -0.4**
KSP pmax pmax
comp=Z,11nm,1.2s
KSP Ksiaz 72.81 335 P **P 17 39 39.0 -0.7**
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 72.82 331 *eP* **P 17 39 39.2 -0.6**
KOLS pmax pmax
comp=Z,10.0nm,0.6s
KOLS Kolonicke sedl 72.82 331 *eP* **P 17 39 39.2 -0.6**
HHAR Hobbs 72.90 53 IAmb IAmb 17 39 40.9
comp=Z,13nm,0.5s
CLGH Cloghs, Cushen 72.95 350 *eP* **P 17 39 40.5 +0.2**
CLGH IAmb IAmb 17 39 41.2
comp=Z,63nm,0.9s
NIE Niedzica 72.98 332 *eP* **P 17 39 40.9 +0.1**
GAL1 Galloway 73.00 349 *eP* **P 17 39 40.4 -0.3**
GAL1 IAmb IAmb 17 39 41.3
comp=Z,41nm,0.6s
BURAR Bucovina Array 73.04 328 ⇑P **P 17 39 40.5 -0.7**
BURAR Bucovina Array 73.04 328 P **P 17 39 40.5 -0.7**
TXAR Lajitas Array 73.06 64 P **P 17 39 42.3 +0.7**
TXAR Lajitas Array 73.06 64 P **P 17 39 42.8 +1.1**
comp=Z,6.1nm,0.4s,baz=298,slow=5.1,SNR=92
comp=Z,6.1nm,0.4s
TXAR Lajitas Array 73.06 64 P **P 17 39 42.3 +0.7**
KESW Keswick, Cumbr 73.08 348 *eP* **P 17 39 41.3 +0.1**
TRQ Mont Tremblant 73.10 35 IAmb IAmb 17 39 42.3
comp=Z,24nm,0.8s
IDGL Inch Island, C 73.11 351 P **P 17 39 41.6 +0.3**
CLL Collm 73.22 337 IAmb IAmb 17 39 43.0
comp=Z,17nm,1.0s
CLL Collm 73.22 337 *i P* **P 17 39 41.3 -0.7**
CLL *e* 17 39 53.0
CLL pmax pmax
comp=Z,20nm,1.0s
CLL Collm 73.22 337 P **P 17 39 41.0 -1.0**
comp=Z,22nm,1.2s
CLL Collm 73.22 337 *i P* **P 17 39 41.3 -0.7**
comp=Z,20nm,1.0s
CLL Collm 73.22 337 *eP* **P 17 39 41.2 -0.7**
comp=Z,17nm,1.0s,baz=22,slow=5.8
STEB Steborice 73.24 334 *eP* **P 17 39 41.9 -0.3**
STEB *ex* x 17 39 50.3
KORU Korolevo 73.24 330 P **P 17 39 41.9 -0.3**
DPC Dobruska-Polom 73.25 335 *eP* **P 17 39 42.4 +0.1**
DPC *ex* x 17 39 51.0
DPC Dobruska-Polom 73.25 335 *eP* **P 17 39 42.4 +0.1**
DPC Dobruska-Polom 73.25 335 P **P 17 39 41.5 -0.8**
comp=Z,11nm,1.0s
QIS Mount Isa 73.27 197 P **P 17 39 43.2 +0.6**
comp=Z,12nm,2.2s
QIS Mount Isa 73.27 197 P **P 17 39 43.3 +0.7**
OZNA Ozona 73.27 61 IAmb IAmb 17 39 48.5
comp=Z,31nm,1.7s
BERU Beregovo 73.33 330 P **P 17 39 41.6 -1.1**
CLZ Clausthal 73.33 339 *eP* **P 17 39 42.9 +0.2**
comp=Z,30nm,1.1s,baz=22,slow=5.8
BRG Berggiesshubel 73.39 337 *eP* **P 17 39 43.0 0.0**
BRG Amp 17 39 43.7
comp=Z,11nm,1.2s
BRG Berggiesshubel 73.39 337 P P 17 39 49.6 +6.6
BRG Amp 17 39 50.5
comp=Z,3.3nm,0.6s
BRG Berggiesshubel 73.39 337 *eP* **P 17 39 42.3 -0.8**
comp=Z,11nm,1.2s,baz=22,slow=5.8
MORC Moravsky Berou 73.44 334 *eP* **P 17 39 43.2 -0.3**
MORC Moravsky Berou 73.44 334 ⇑P **P 17 39 43.6 +0.1**
MORC Moravsky Berou 73.44 334 P **P 17 39 43.6 +0.1**
IBBN Ibbenburen 73.45 341 *eP* **P 17 39 43.2 -0.2**
comp=Z,27nm,0.9s,baz=22,slow=5.8
SAND Sanderson 73.46 63 IAmb IAmb 17 39 51.4
comp=Z,35nm,1.9s
LANS Liptovska Anna 73.47 332 *eP* **P 17 39 44.2 +0.6**
LANS pmax pmax
comp=Z,11nm,0.6s
LANS Liptovska Anna 73.47 332 *eP* **P 17 39 44.2 +0.6**

TESR Tescani 73.52 327 ⇑P **P 17 39 43.2 -0.7**
TESR Tescani 73.52 327 P **P 17 39 42.7 -1.2**
comp=Z,17nm,0.7s
IOMK Kirk Michael 73.58 349 *eP* **P 17 39 44.1 0.0**
WB0 Warramunga Arr 73.59 202 P **P 17 39 45.1 +0.6**
WB0 IAmb IAmb 17 39 46.2
comp=Z,21nm,0.7s
DZM Mont Dzumac 73.63 171 LR LR 18 07 09.3
comp=Z,45nm,19.6s,baz=20,slow=31
GTTG Gottingen 73.70 339 *eP* **P 17 39 44.4 -0.5**
comp=Z,10nm,0.8s,baz=22,slow=5.8
WIM Isle of Man 73.70 349 *eP* **P 17 39 44.8 -0.1**
T42A Van Buren 73.71 51 IAmb IAmb 17 40 45.7
comp=Z,35nm,2.0s
HSKC Hora Svate Kat 73.76 337 *eP* **P 17 39 45.1 -0.1**
ONER Baraj Valea Uz 73.76 327 ⇑P **P 17 39 44.9 -0.5**
WRAB Tennant Creek 73.76 202 P **P 17 39 45.9 +0.5**
WRAB IAmb IAmb 17 39 47.3
comp=Z,14nm,0.8s
WRAB Tennant Creek 73.76 202*c iP* **P 17 39 46.4 +0.9**
WRAB pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 73.76 332 *eP* **P 17 39 44.8 -0.5**
KECS Kecovo 73.76 332 *eP* **P 17 39 44.8 -0.5**
WB2 Warramunga Arr 73.77 202 P **P 17 39 46.2 +0.6**
WB2 IAmb IAmb 17 39 47.4
comp=Z,19nm,0.7s
WRA Warramunga Arr 73.77 202 P **P 17 39 46.5 +1.0**
comp=Z,15nm,0.6s,baz=18,slow=6.2,SNR=106
WRA pP **pP 17 40 17.4 -1.7**
comp=Z,5.7nm,0.6s,baz=19,slow=6.3,SNR=5.1
comp=Z,15nm,0.6s
O48B Farmland 73.86 45 P **P 17 39 45.5 -0.5**
baz=325
WBO Williamsburg 73.89 36 IAmb IAmb 17 39 46.4
comp=Z,13nm,0.7s
TLCR 73.90 325 ⇑P **P 17 39 45.6 -0.5**
TLCR 73.90 325 P **P 17 39 45.5 -0.5**
ILTH Belurgan, Co L 74.01 350 P **P 17 39 47.4 +0.8**
LBWR Ladybower, Pea 74.05 347 *eP* **P 17 39 47.2 +0.4**
LBWR IAmb IAmb 17 39 47.7
comp=Z,111nm,1.1s
PRU Pruhonice 74.05 336 *eP* **P 17 39 46.4 -0.5**
PRU Pruhonice 74.05 336 *eP* **P 17 39 46.4 -0.5**
MNTQ Montreal, Queb 74.05 34 IAmb IAmb 17 39 47.8
comp=Z,22nm,0.9s
VRI Vrincioaia 74.05 326 ⇑P **P 17 39 46.5 -0.5**
VRI Vrincioaia 74.05 326 P **P 17 39 46.5 -0.5**
S44A Carbondale 74.06 49 IAmb IAmb 17 39 48.2
comp=Z,13nm,0.7s
SIUC Southern Illin 74.06 49 IAmb IAmb 17 39 48.1
comp=Z,14nm,0.6s
PLOR Plostina 74.09 326 ⇑P **P 17 39 48.0 +0.6**
PLOR Plostina 74.09 326 P **P 17 39 47.9 +0.6**
FCAR Ozark Folk Cen 74.11 52 IAmb IAmb 17 39 47.9
comp=Z,9.4nm,0.5s
VRAC Vranov 74.13 334 LR LR 18 16 47.0
comp=Z,55nm,18.6s,baz=10,slow=39
VRAC Vranov 74.13 334 *eP* **P 17 39 47.5 +0.1**
VRAC *e* 17 39 55.5
VRAC Vranov 74.13 334 ⇑P **P 17 39 47.2 -0.3**
VRAC Vranov 74.13 334 P **P 17 39 47.1 -0.3**
CFR Carcaliu 74.15 325 ⇑P **P 17 39 46.8 -0.7**
CFR Carcaliu 74.15 325 P **P 17 39 46.8 -0.7**
MOX Moxa 74.16 338 P **P 17 39 47.7 +0.1**
MOX pmax pmax
comp=Z,12nm,1.5s
MOX Moxa 74.16 338 *eP* **P 17 39 47.1 -0.5**
comp=Z,8.8nm,0.8s,baz=22,slow=5.8
TANN Tannenbergstha 74.17 337 *eP* **P 17 39 47.6 -0.1**
comp=Z,12nm,1.3s,baz=22,slow=5.8
PLN Plauen 74.18 338 *eP* **P 17 39 47.5 -0.2**
comp=Z,4.5nm,1.2s,baz=22,slow=5.8
PBMO Poplar Bluff 74.23 50 IAmb IAmb 17 39 53.3
comp=Z,32nm,1.6s
VYHS Vyhne 74.24 333 *eP* **P 17 39 48.2 +0.1**
VYHS pmax pmax
comp=Z,8.0nm,0.7s
VYHS Vyhne 74.24 333 *eP* **P 17 39 48.2 +0.1**
JAVC Velka Javorina 74.24 333 *eP* **P 17 39 48.7 +0.6**
COVR Voineasa-Covas 74.25 327 ⇑P **P 17 39 48.3 0.0**
TPGR Topolog 74.33 325 ⇓P **P 17 39 48.2 -0.5**
KASTN Kahler Asten 74.36 340 *eP* **P 17 39 49.0 +0.3**
comp=Z,10nm,0.8s,baz=22,slow=5.8
CJR Cluj-Napoca 74.36 329 ⇓P **P 17 39 48.9 0.0**
CJR Cluj-Napoca 74.36 329 P **P 17 39 48.8 0.0**
UBBA Unterbreizbach 74.37 339 *eP* **P 17 39 48.4 -0.2**
comp=Z,80nm,2.4s,baz=22,slow=5.8
BUG Bochum-Univer 74.37 341 *eP* **P 17 39 48.5 -0.2**
comp=Z,17nm,0.7s,baz=22,slow=5.8
P48A Milroy 74.39 45 IAmb IAmb 17 39 49.3
comp=Z,11nm,0.7s
WME Myndd Eilian 74.39 349 *eP* **P 17 39 48.6 -0.3**
KRUC Moravsky 74.41 334 *eP* **P 17 39 48.9 -0.1**
KRUC *e* 17 39 56.6
KRUC Moravsky 74.41 334 P **P 17 39 49.1 +0.1**
KRUC pmax pmax
comp=Z,21nm,0.8s
WPS Cemaes, Angles 74.42 349 *eP* **P 17 39 48.6 -0.3**
WPS IAmb IAmb 17 39 49.4
comp=Z,22nm,0.7s
DOPR Dopca 74.42 327 ⇑P **P 17 39 49.3 +0.1**
PSZ Piszkesteto 74.45 332 IAmb IAmb 17 39 58.6
comp=Z,23nm,1.0s
PSZ Piszkesteto 74.45 332 ⇑P **P 17 39 49.5 +0.2**
PSZ Piszkesteto 74.45 332 P **P 17 39 49.5 +0.2**
FITZ Fitzroy Crossi 74.45 211 P **P 17 39 51.0 +1.5**
comp=Z,2.2nm,1.2s
FITZ Fitzroy Crossi 74.45 211 P **P 17 39 51.2 +1.7**
ERPA Erie 74.51 40 IAmb IAmb 17 39 50.9
comp=Z,29nm,0.8s
MARR Marisel-Cluj 74.55 329 ⇓P **P 17 39 49.1 -1.0**
DRGR 74.58 329 ⇓P **P 17 39 49.7 -0.5**
DRGR 74.58 329 P **P 17 39 49.6 -0.5**
MLR Muntele Rosu 74.65 327 LR LR 18 16 59.5
comp=Z,58nm,18.1s,baz=38,slow=39
MLR Muntele Rosu 74.65 327 ⇓P **P 17 39 50.9 +0.3**
MLR Muntele Rosu 74.65 327 P **P 17 39 50.9 +0.3**
MLR Muntele Rosu 74.65 327 P **P 17 39 50.6 0.0**
comp=Z,15nm,0.9s
MANZ Manzenberg 74.66 337 *eP* **P 17 39 50.2 -0.3**
comp=Z,2.9nm,1.1s,baz=22,slow=5.8
TIRR Tirgusor 74.67 325 ⇓P **P 17 39 49.9 -0.7**
TIRR Tirgusor 74.67 325 P **P 17 39 49.9 -0.7**
DRIO Del Rio 74.70 62 IAmb IAmb 17 39 58.2
comp=Z,21nm,1.4s
FOEL Foel Wylfa 74.75 348 *eP* **P 17 39 51.0 +0.1**
FOEL IAmb IAmb 17 39 51.9
comp=Z,78nm,0.9s
DSB Dublin 74.79 350 P **P 17 39 51.0 -0.1**
MMNY Mt. Morris Dam 74.83 39 IAmb IAmb 17 39 52.1
comp=Z,14nm,0.7s
WVNY West Valley, N 74.83 39 IAmb IAmb 17 39 52.5
comp=Z,28nm,0.8s
ROTZ Rotzenmuhle 74.83 337 *eP* **P 17 39 51.5 0.0**
comp=Z,2.4nm,0.9s,baz=22,slow=5.8
LLW Llanuwchllyn 74.85 348 *eP* **P 17 39 51.4 -0.1**
ELMS Elmsett, Ipswi 74.90 345 *eP* **P 17 39 51.6 -0.1**
IGLA Glengowla, Co 74.92 352 P **P 17 39 52.0 +0.2**
BATG Bathurst New B 74.97 29 P **P 17 39 52.8 +0.5**
BATG IAmb IAmb 17 39 53.7
comp=Z,29nm,0.8s
VOIR 75.00 327 ⇓P **P 17 39 52.5 -0.2**
VOIR 75.00 327 P **P 17 39 52.4 -0.2**
VOIR 75.00 327 P **P 17 39 52.2 -0.4**
comp=Z,15nm,1.0s
HLM1 Long Mynd 75.07 347 *eP* **P 17 39 52.8 0.0**
HLM1 IAmb IAmb 17 39 53.7
comp=Z,42nm,1.0s
KHC Kasperske Hory 75.08 336 *eP* **P 17 39 53.3 +0.3**
KHC *ex* x 17 39 59.7
KHC Kasperske Hory 75.08 336⇓*iP* **P 17 39 53.0 0.0**
KHC pmax pmax
comp=Z,30nm,0.8s
KHC Kasperske Hory 75.08 336 P **P 17 39 52.6 -0.4**
comp=Z,19nm,1.2s
GRA1 Grafenberg Arr 75.14 338 IAmb IAmb 17 39 54.7
comp=Z,32nm,1.1s
GRF Grafenberg Arr 75.14 338 P **P 17 39 53.3 +0.1**
GRF pmax pmax
comp=Z,32nm,1.1s
GRF Grafenberg Arr 75.14 338 *eP* **P 17 39 53.4 +0.1**
comp=Z,24nm,0.9s,baz=22,slow=5.8
GRFO Grafenberg 75.14 338 P **P 17 39 53.6 +0.4**
GRFO IAmb IAmb 17 39 54.7

comp=Z,34nm,1.1s
GRFO Grafenberg 75.14 338 P **P 17 39 53.6 +0.4**
GRFO pmax pmax
comp=Z,34nm,1.1s
NCB Newcomb 75.16 36 IAmb IAmb 17 39 55.2
comp=Z,22nm,1.2s
CKRC Cesky Krumlov 75.18 336 *eP* **P 17 39 53.1 -0.4**
CKRC Cesky Krumlov 75.18 336 *eP* **P 17 39 53.1 -0.4**
ICOR Ion Corvin 75.19 325 ⇓P **P 17 39 53.7 +0.2**
ARR Arges 75.21 327 ⇓P **P 17 39 54.2 +0.5**
N53A Lisbon 75.26 42 IAmb IAmb 17 39 54.8
comp=Z,18nm,0.6s
TNS Taunus Mts 75.27 340 P **P 17 39 54.5 +0.5**
TNS pmax pmax
comp=Z,23nm,1.1s
TNS Taunus Mts 75.27 340 *eP* **P 17 39 54.0 -0.1**
comp=Z,25nm,1.1s,baz=22,slow=5.8
GEC2 GERESS Array S 75.32 336 P **P 17 39 54.2 -0.2**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 75.32 336 *eP* **P 17 39 53.7 -0.7**
comp=Z,14nm,1.4s,baz=22,slow=5.8
GERES GERESS Array B 75.32 336 P **P 17 39 52.8 -1.6**
GERES GERESS Array B 75.32 336 P **P 17 39 54.0 -0.4**
comp=Z,3.0nm,0.5s,baz=18,slow=6.3,SNR=11
GERES LR LR 18 15 23.2
comp=Z,20nm,21.8s,slow=38
comp=Z,3.0nm,0.5s
GERES GERESS Array B 75.32 336 P **P 17 39 52.8 -1.6**
G62A West of Eustis 75.37 33 IAmb IAmb 17 39 57.0
comp=Z,31nm,0.8s
VT1 Waterbury 75.37 34 IAmb IAmb 17 39 56.0
comp=Z,28nm,0.9s
SIRR Siria 75.38 330 ⇑P **P 17 39 54.6 -0.1**
BTNL Ternell 75.41 341 *dP* **P 17 39 54.9 +0.2**
comp=Z,14nm,1.0s
MEM Membach 75.42 341 *dP* **P 17 39 54.6 -0.1**
comp=Z,34nm,0.9s
MEM Membach 75.42 341 P **P 17 39 55.3 +0.6**
MEM pmax pmax
comp=Z,55nm,1.3s
O52A Adamsville 75.42 43 IAmb IAmb 17 39 55.9
comp=Z,24nm,1.1s
J59A Piesco 75.49 36 IAmb IAmb 17 39 56.0
comp=Z,13nm,0.8s
MARD Mardin 75.53 312 IAmb IAmb 17 39 58.0
comp=Z,13nm,0.8s
O53A New Philadelph 75.57 42 IAmb IAmb 17 39 56.9
comp=Z,19nm,0.8s
CONA Conrad Observa 75.59 334 *eP* **P 17 39 56.6 +0.7**
comp=Z,17nm,0.8s
MCH1 Michaelchurch 75.59 347 *eP* **P 17 39 55.8 0.0**
MCH1 IAmb IAmb 17 39 57.0
comp=Z,30nm,0.9s
BHOU Houvegnez 75.66 341 *dP* **P 17 39 56.7 +0.5**
comp=Z,14nm,1.0s
RONA Rosalia, Austr 75.68 334 *i P* **P 17 39 57.1 +0.8**
comp=Z,23nm,0.7s
IWEX Carrickbyrne, 75.69 350 P **P 17 39 56.6 +0.3**
SURR Surduc 75.69 329 ⇑P **P 17 39 56.0 -0.4**
MONM Monmouth 75.72 347 *eP* **P 17 39 56.5 +0.1**
MONM IAmb IAmb 17 39 57.5
comp=Z,62nm,0.9s
BCLA Clavier 75.74 342 *dP* **P 17 39 56.8 +0.2**
comp=Z,16nm,0.9s
GZR Gura Zlata 75.80 329 ⇑P **P 17 39 56.7 -0.4**
GZR Gura Zlata 75.80 329 P **P 17 39 56.7 -0.4**
BGES Gesves 75.81 342 *dP* **P 17 39 56.7 -0.3**
comp=Z,11nm,1.0s
RSBS Rosebush, Pemb 75.86 348 *eP* **P 17 39 57.5 +0.2**
ACCN Adirondack Com 75.87 36 IAmb IAmb 17 39 58.4
comp=Z,26nm,0.9s
SWN1 Swindon 75.90 347 *eP* **P 17 39 58.0 +0.6**
BMRD Maredsous 75.95 342 *dP* **P 17 39 58.0 +0.2**
comp=Z,21nm,1.0s
BZS Buzias 75.97 329 ⇑P **P 17 39 57.3 -0.7**
BZS Buzias 75.97 329 P **P 17 39 57.3 -0.7**
O54A Avella 75.97 42 IAmb IAmb 17 40 00.1
comp=Z,28nm,1.2s
RCHB Rochefort 76.00 342 *dP* **P 17 39 58.1 +0.1**
comp=Z,12nm,1.1s
WOL Wolverton 76.00 346 *eP* **P 17 39 58.2 +0.2**
SSFO Shawnee State 76.01 44 IAmb IAmb 17 39 59.7
comp=Z,24nm,0.6s
MOA Molln 76.09 335 *i P* **P 17 39 58.0 -0.7**
comp=Z,9.5nm,0.7s
GIVF Givet 76.13 342 *eP* **P 17 39 57.9 -0.9**
GIVF pmax pmax
comp=Z,24nm,1.0s
DOU Dourbes 76.18 342 *dP* **P 17 39 59.4 +0.3**
comp=Z,12nm,1.1s
BAIF Baives 76.29 342 *eP* **P 17 39 59.0 -0.7**
BAIF pmax pmax
comp=Z,18nm,0.9s
ARSA Arzberg 76.30 334 *eP* **P 17 39 59.7 -0.2**
comp=Z,12nm,1.3s
J61A Chester 76.30 35 IAmb IAmb 17 40 01.3
comp=Z,24nm,0.9s
M57A Sunshine Farm, 76.31 39 IAmb IAmb 17 40 01.0
comp=Z,26nm,0.8s
MORH Mrgy, Hungar 76.35 332 ⇑P **P 17 39 59.5 -0.6**
HERR Herculane 76.37 329 ⇑P **P 17 39 59.6 -0.7**
L59A Walton 76.39 37 IAmb IAmb 17 40 01.3
comp=Z,28nm,0.8s
BIOA Bad Ischl, Aus 76.40 335 *i P* **P 17 40 01.4 +0.9**
comp=Z,16nm,1.2s
VAL Valentia 76.47 352 P **P 17 40 01.9 +1.3**
BNN Bunyan 76.47 317 IAmb IAmb 17 40 04.2
comp=Z,31nm,0.9s
STU Stuttgart 76.47 339 *eP* **P 17 40 00.5 -0.2**
comp=Z,34nm,0.7s,baz=22,slow=5.8
FUR Furstenfeldbru 76.55 337 *eP* **P 17 40 01.3 0.0**
comp=Z,27nm,0.9s,baz=22,slow=5.8
SSPA Standing Stone 76.61 40 P **P 17 40 01.9 +0.2**
SSPA IAmb IAmb 17 40 02.8
comp=Z,27nm,1.1s
EIDS Eidsvold 76.62 186 P **P 17 40 03.6 +1.9**
BRTR Keskin Array B 76.67 319 P **P 17 40 00.9 -1.3**
BRTR Keskin Array B 76.67 319 P **P 17 40 01.6 -0.6**
comp=Z,4.8nm,0.9s,baz=30,slow=3.4,SNR=11
comp=Z,4.8nm,0.9s
BRTR Keskin Array B 76.67 319 *i P* **P 17 40 02.0 -0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BR104 Keskin Array S 76.68 319 P **P 17 40 02.7 +0.4**
comp=Z,51nmcomp=Z,7.0nm,0.9s
MDVR Moldovita 76.69 329 ⇓P **P 17 40 01.2 -0.9**
CLTN Cedars of Leba 76.73 48 IAmb IAmb 17 40 08.2
comp=Z,28nm,1.5s
LESA Schwarzleotal 76.89 336 *i P* **P 17 40 04.0 +0.8**
comp=Z,18nm,0.7s
ANTO Ankara 76.90 319 P **P 17 40 03.1 -0.3**
ANTO Ankara 76.90 319 P **P 17 40 03.1 -0.3**
comp=Z,5.3nm,0.8s
N58A Sunbury 76.90 39 IAmb IAmb 17 40 04.3
comp=Z,17nm,1.0s
SOKA Soboth 76.96 334 *i P* **P 17 40 04.2 +0.5**
comp=Z,14nm,0.9s,SNR=5.3
PERS Pernice 76.98 334 *i P* **P 17 40 03.8 +0.1**
PERS *ep*P **PcP 17 40 08.5 -5.7**
GROS Grobnik 77.03 334 *i P* **P 17 40 04.0 -0.1**
L61B Northampton 77.04 35 P **P 17 40 03.9 -0.2**
baz=331
KBA Koelnbreinsper 77.04 335 *i P* **P 17 40 05.3 +1.0**
comp=Z,48nm,0.9s,SNR=14
KBA Koelnbreinsper 77.04 335 P **P 17 40 04.8 +0.6**
KBA pmax pmax
comp=Z,86nm,1.2s
KIRS Kirsehir-Merke 77.05 318 ⇑P **P 17 40 04.2 -0.1**
BFO Black Forest 77.08 339 P **P 17 40 03.7 -0.5**
BFO IAmb IAmb 17 40 05.2
comp=Z,18nm,1.0s
BFO Black Forest 77.08 339 P **P 17 40 03.7 -0.5**
BFO pmax pmax
comp=Z,18nm,1.0s
BFO Black Forest 77.08 339 *eP* **P 17 40 03.9 -0.3**
comp=Z,19nm,1.0s,baz=22,slow=5.8
SBD Saint Breward 77.22 348 *eP* **P 17 40 04.7 -0.2**
CDF Champ du Feu 77.24 340 *eP* **P 17 40 04.3 -0.9**
CDF pmax pmax
comp=Z,24nm,0.9s
OBKA Obir 77.25 334 *i P* **P 17 40 05.8 +0.5**
comp=Z,32nm,1.9s
DYA Yadsworthy 77.25 348 *eP* **P 17 40 04.7 -0.3**
DYA IAmb IAmb 17 40 06.0
comp=Z,82nm,0.8s

WATA Walderalm 77.25 337 *i P* **P 17 40 06.0 +0.7**
comp=Z,26nm,1.2s,SNR=5.5
UBR Ueberruh 77.28 338 *eP* **P 17 40 05.4 -0.1**
comp=Z,21nm,1.2s,baz=22,slow=5.8
WTTA Wattenberg 77.30 337 *i P* **P 17 40 06.1 +0.4**
comp=Z,39nm,1.0s,SNR=8.0
WTTA Wattenberg 77.30 337 P **P 17 40 06.4 +0.7**
WTTA pmax pmax
comp=Z,34nm,1.5s
RETA Reutte 77.31 337 *i P* **P 17 40 05.9 +0.3**
comp=Z,16nm,1.0s
MOTA Moosalm 77.36 337 *i P* **P 17 40 06.0 +0.1**
comp=Z,38nm,1.0s
MYKA Terra Mystica 77.38 335 *i P* **P 17 40 06.2 +0.2**
comp=Z,13nm,1.1s
AS06 Alice Springs 77.43 202 P **P 17 40 08.2 +1.9**
comp=Z,16nm,0.7s
ECH Echery 77.45 340 IAmb IAmb 17 40 07.3
comp=Z,23nm,1.0s
ECH Echery 77.45 340 P **P 17 40 06.6 +0.3**
ECH pmax pmax
comp=Z,147nm,1.4s
SQTA Sankt Quirin 77.45 337 *i P* **P 17 40 06.9 +0.5**
comp=Z,39nm,1.1s,SNR=10
AS01 Alice Springs 77.45 202 P **P 17 40 08.2 +1.8**
AS31 Alice Springs 77.46 202 P **P 17 40 08.4 +1.9**
comp=Z,7.4nm,0.7s
ASAR Alice Springs 77.46 202 P **P 17 40 08.2 +1.7**
comp=Z,13nm,0.7s,baz=14,slow=5.0,SNR=409
ASAR pP **pP 17 40 39.5 -0.9**
comp=Z,3.7nm,0.6s,baz=15,slow=5.4,SNR=4.6
comp=Z,13nm,0.7s
AS19 Alice Springs 77.49 202 P **P 17 40 08.8 +2.2**
comp=Z,19nm,0.7s
ABTA Abfaltersbach 77.56 336 *i P* **P 17 40 07.3 +0.2**
comp=Z,26nm,1.1s,SNR=8.5
SLE Schleitheim 77.58 339 P **P 17 40 07.1 +0.1**
SLE pmax pmax
comp=Z,21nm,0.9s
HBVL Hebbronville 77.61 62 IAmb IAmb 17 40 10.9
comp=Z,27nm,1.1s
DAVA Damuels 77.71 338 *i P* **P 17 40 08.4 +0.5**
comp=Z,26nm,0.9s,SNR=6.4
BOVS Bovan 77.71 328 ⇑P **P 17 40 07.9 +0.1**
FETA Feichten 77.75 337 *i P* **P 17 40 08.4 +0.2**
comp=Z,23nm,0.9s,SNR=7.0
UCCT U. Connecticut 77.78 35 IAmb IAmb 17 40 09.5
comp=Z,30nm,0.9s
HAU Haudompre 77.82 340 *eP* **P 17 40 07.4 -1.0**
HAU pmax pmax
comp=Z,14nm,0.8s
PAL Palisades 77.84 37 IAmb IAmb 17 40 09.5
comp=Z,22nm,0.8s
HINF Hinteralfeld 77.89 340 *eP* **P 17 40 07.5 -1.3**
HINF pmax pmax
comp=Z,22nm,1.4s
DAVOX Davos/Dischmat 78.18 338 LR LR 18 18 28.0
comp=Z,28nm,20.8s,baz=81,slow=38
FUORN Ofenpass-Fuorn 78.24 337 IAmb IAmb 17 40 16.4
comp=Z,19nm,0.9s
FLN La Foliniere 78.37 345 *eP* **P 17 40 10.6 -0.7**
FLN pmax pmax
comp=Z,67nm,1.0s
CTI Castel Tesino 78.43 336 IAmb IAmb 17 40 12.3
comp=Z,22nm,1.2s
QLP Quilpie 78.46 192 P **P 17 40 13.0 +1.1**
comp=Z,42nm,1.2s
LDF La Druitiere 78.47 345 *eP* **P 17 40 11.1 -0.8**
LDF pmax pmax
comp=Z,51nm,1.0s
RDO Rodhopi 78.59 325 IAmb IAmb 17 40 22.2
comp=Z,56nm,1.8s
TUE Stuetta 78.60 338 IAmb IAmb 17 40 14.4
comp=Z,26nm,0.8s
TUE Stuetta 78.60 338 P **P 17 40 12.8 -0.1**
comp=Z,133nm,0.8s
GRR Gorron 78.79 345 *eP* **P 17 40 13.1 -0.5**
GRR pmax pmax
comp=Z,112nm,0.8s
LOR Lormes 79.03 342 *eP* **P 17 40 15.0 0.0**
LOR pmax pmax
comp=Z,57nm,1.3s
SGMF Saint Gilles 79.18 346 *eP* **P 17 40 15.4 -0.4**
SGMF pmax pmax
comp=Z,86nm,0.7s
CABF La Chapelle 79.20 340 *eP* **P 17 40 15.5 -0.5**
CABF pmax pmax
comp=Z,31nm,1.0s
ROSF Rostrenen 79.21 347 *eP* **P 17 40 15.6 -0.3**
ROSF pmax pmax
comp=Z,114nm,0.8s
SSF Saint Saulge 79.30 342 *eP* **P 17 40 15.7 -0.7**
SSF pmax pmax
comp=Z,22nm,0.8s
MBWA Marble Bar 79.31 215 P **P 17 40 17.9 +1.2**
AVF Avril sur Loir 79.59 342 *eP* **P 17 40 17.4 -0.6**
AVF pmax pmax
comp=Z,54nm,0.9s
BGF Bois d'Agland 79.91 342 *eP* **P 17 40 20.2 +0.4**
BGF pmax pmax
comp=Z,12nm,0.5s
INKA Innaminka 80.10 195 P **P 17 40 22.7 +2.0**
LPL La Plagne 80.10 339 *eP* **P 17 40 21.1 0.0**
LPL pmax pmax
comp=Z,36nm,0.8s
LPG La Plagne 80.11 339 *eP* **P 17 40 21.3 +0.1**
LPG pmax pmax
comp=Z,51nm,0.9s
WRKA Warakurna 80.20 206 P **P 17 40 18.4 -3.0**
comp=Z,20nm,0.9s
WRKA Warakurna 80.20 206 P **P 17 40 23.2 +1.8**
TCF Toulx Ste Croi 80.29 343 *eP* **P 17 40 21.5 -0.3**
TCF pmax pmax
comp=Z,44nm,0.9s
MFF Saint Martin d 80.41 344 *eP* **P 17 40 22.3 -0.1**
MFF pmax pmax
comp=Z,61nm,0.7s
BNI Bardonecchia 80.55 339 IAmb IAmb 17 40 33.9
comp=Z,27nm,1.1s
BNI Bardonecchia 80.55 339 P **P 17 40 23.8 +0.4**
BNI pmax pmax
comp=Z,26nm,1.0s
SSB Saint Sauveur 80.80 341 IAmb IAmb 17 40 26.2
comp=Z,42nm,1.1s
SSB Saint Sauveur 80.80 341 P **P 17 40 25.5 +0.9**
SSB pmax pmax
comp=Z,39nm,1.1s
MBDF Montbardon 80.84 339 *eP* **P 17 40 24.4 -0.6**
MBDF pmax pmax
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 80.86 340 *eP* **P 17 40 25.0 0.0**
ORIF pmax pmax
comp=Z,28nm,0.8s
OSSC Osservatorio P 80.89 336 IAmb IAmb 17 40 25.9
comp=Z,24nm,0.9s
OOD Oodnadatta 81.06 199 P **P 17 40 27.6 +1.7**
VIVF Saint-Julien-l 81.17 340 *eP* **P 17 40 27.3 +0.7**
VIVF pmax pmax
comp=Z,50nm,1.0s
RJF Les Rejaudoux 81.37 343 *eP* **P 17 40 27.5 0.0**
RJF pmax pmax
comp=Z,39nm,0.8s
CESX Cesi 81.39 334 IAmb IAmb 17 40 30.6
comp=Z,23nm,0.7s
SBF Sospel 81.51 338 *eP* **P 17 40 28.5 +0.1**
SBF pmax pmax
comp=Z,45nm,0.8s
MMAI Mount Meron Ar 81.55 314 P **P 17 40 29.0 +0.2**
comp=Z,16nm,0.7s,baz=49,slow=6.7,SNR=32
MMAI LR LR 18 23 21.0
comp=Z,26nm,18.7s,baz=12,slow=40
comp=Z,16nm,0.7s
ASF Jabal al Asfar 81.57 312 LR LR 18 23 49.2
comp=Z,28nm,18.5s,baz=343,slow=41
CAF Calviac 81.63 342 *eP* **P 17 40 29.2 +0.2**
CAF pmax pmax
comp=Z,35nm,0.7s
RAR Rarotonga 81.64 140 LR LR 18 08 46.5
comp=Z,41nm,20.3s,baz=192,slow=30
LFF La Frestale 81.86 343 *eP* **P 17 40 30.3 +0.2**
LFF pmax pmax
comp=Z,59nm,0.8s
PGF Pioggiola 82.38 337 *eP* **P 17 40 31.9 -1.1**
PGF pmax pmax
comp=Z,48nm,1.0s
GHAJ Ghor Haditha 82.91 313 IAmb IAmb 17 40 37.0
comp=Z,17nm,0.6s

MTLF Montolieu 83.12 342 *eP* **P 17 40 36.8 +0.1**
MTLF pmax pmax
comp=Z,45nm,0.9s
LCRK Leigh Creek 83.17 196 P **P 17 40 38.8 +2.0**
CMSA Cobar Meteorol 83.19 190 P **P 17 40 38.6 +1.7**
comp=Z,15nm,1.5s
TIP Timpagrande 83.33 330 ⇓P **P 17 40 37.1 -0.8**
EPF Esparros 83.78 343 *eP* **P 17 40 40.4 +0.3**
EPF pmax pmax
comp=Z,25nm,0.8s
SJPF Ste Jean 83.98 344 *eP* **P 17 40 41.5 +0.4**
SJPF pmax pmax
comp=Z,18nm,0.8s
STKA Stephens Creek 84.03 193 P **P 17 40 42.3 +1.1**
comp=Z,5.4nm,0.8s,baz=6.0,slow=8.0,SNR=5.5
comp=Z,5.4nm,0.8s
ETSF Etsaut 84.07 344 *eP* **P 17 40 41.9 +0.3**
ETSF pmax pmax
comp=Z,13nm,0.6s
RAYN Ar Rayn 84.34 301 P **P 17 40 42.9 -0.4**
RAYN Ar Rayn 84.34 301 P **P 17 40 42.9 -0.4**
RAYN pmax pmax
comp=Z,36nm,0.8s
EIL Elat 84.57 312 LR LR 18 22 46.0
comp=Z,30nm,18.8s,baz=50,slow=39
FORT Forrest 85.71 205 P **P 17 40 51.1 +1.5**
HTT Hallett 85.96 195 P **P 17 40 52.7 +1.9**
PBRG Braganca 86.09 348 *eP* **P 17 40 51.4 -0.3**
PGAV Gavieira, Arco 86.13 349 *eP* **P 17 40 53.3 +1.3**
PCAB Cabril 86.35 349 *eP* **P 17 40 54.5 +1.6**
POLO Lamas de Olo 86.65 349 *eP* **P 17 40 54.5 0.0**
PVRL Vila Real 86.74 349 *eP* **P 17 40 54.9 0.0**
MVO Moncorvo 86.76 348 *eP* **P 17 40 54.8 -0.2**
PVIS Viseu 87.31 349 *eP* **P 17 40 57.4 -0.3**
MTE Manteigas 87.58 348 IAmb IAmb 17 40 59.5
comp=Z,16nm,0.8s
MTE Manteigas 87.58 348 *eP* **P 17 40 58.8 -0.2**
ESBB Sonseca Array 87.78 345 IAmb IAmb 17 41 00.5
comp=Z,18nm,0.8s
ESDC Sonseca Array 87.78 345 P **P 17 40 59.2 -0.7**
ESDC Sonseca Array 87.78 345 P **P 17 40 59.6 -0.4**
comp=Z,22nm,1.0s,baz=3.8,slow=4.3,SNR=81
ESDC LR LR 18 24 50.0
comp=Z,19nm,20.7s,slow=39
comp=Z,22nm,1.0s
PAB San Pablo 87.97 346 P **P 17 41 00.4 -0.4**
PAB IAmb IAmb 17 41 01.3
comp=Z,12nm,0.7s
PAB San Pablo 87.97 346 P **P 17 41 00.4 -0.4**
PAB pmax pmax
comp=Z,12nm,0.7s
PCAS Casmilo, Conde 88.04 349 *eP* **P 17 41 01.0 0.0**
PCBR Castelo Branco 88.12 348 *eP* **P 17 41 00.9 -0.5**
PMRV Marv??o 88.52 348 *eP* **P 17 41 02.9 -0.4**
PSBE So Bento 88.61 349 *eP* **P 17 41 03.7 -0.1**
KEST Kesra 88.70 334 P **P 17 41 04.7 +0.4**
comp=Z,35nm,0.6s,baz=94,slow=0.5,SNR=49
comp=Z,35nm,0.6s
PMTG Montargil 88.98 349 *eP* **P 17 41 04.9 -0.5**
PESTR Estremoz 89.09 348 *eP* **P 17 41 05.4 -0.6**
EVO Evora 89.48 348 *eP* **P 17 41 07.4 -0.4**
PBAR Barrancos 89.70 347 *eP* **P 17 41 08.4 -0.5**
PBEJ Beja 89.96 348 *eP* **P 17 41 09.9 -0.1**
PCVE Castro Verde 90.37 348 *eP* **P 17 41 11.7 -0.3**
URZ Urewera 91.01 164 LR LR 18 17 13.9
comp=Z,23nm,18.9s,baz=106,slow=32
TORD Torodi Ar. Bea 112.22 334 PKKPab PKKPab 17 57 46.4 -2.1
comp=Z,1.9nm,0.8s,baz=337,slow=1.6,SNR=11
DBIC Dimbokro 120.08 339 PKP **PKiKP 17 47 01.8 +0.5**
comp=Z,5.8nm,0.6s,baz=348,slow=2.4,SNR=7.4
H03N2 Juan Fernandez 136.13 88 T T 20 18 27.5
baz=314,slow=77,SNR=208
H03N1 Juan Fernandez 136.14 88 T T 20 18 28.7
baz=314,slow=77,SNR=190
H03N3 Juan Fernandez 136.15 88 T T 20 18 28.2
baz=314,slow=77,SNR=130
QSPA South Pole Qui 141.15 180 PKhKP PKPpre 17 47 32.4
comp=Z,2.9nm,0.6s,baz=290,slow=0.7,SNR=28
CPUP Villa Florida 143.91 59 PKP **PKPdf 17 47 43.9 -1.4**
comp=Z,3.9nm,0.9s,baz=333,slow=2.3,SNR=4.9
PLCA Paso Flores 145.89 91 PKPbc **PKPab 17 47 49.9 -0.1**
comp=Z,9.5nm,0.7s,baz=305,slow=3.7,SNR=30
PLCA pPKP **pPKPdf 17 48 24.2 -0.6**
comp=Z,3.5nm,0.8s,baz=252,slow=8.3,SNR=2.4
TROLL Troll, Antarti 156.43 200 P **PKPab 17 48 31.4 -1.5**
TROLL Troll, Antarti 156.43 200 ⇑P **PKPab 17 48 31.4 -1.5**
comp=Z,470nm,0.5s
VNA3 Neumayer Olymp 159.19 192 P **PKPab 17 48 43.9 -0.8**
VNA3 Neumayer Olymp 159.19 192 ⇑P **PKPab 17 48 43.9 -0.8**
comp=Z,6.6nm,0.7s

---

*IDC **11** 17:44:53.2±0.9,2°.04N×128°.70E,h0km,mb4.0/11,*
mbtmp4.0/11,Error ellipse: s-maj=56.8km s-min=14.0km
az=71.0
*NEIC **11** 17:44:59.7±1.1,1°.88N±0°.10×128°.3E±0°.1,h35km±2km,*
mb4.3/18,Error ellipse: s-maj=20.1km s-min=15.8km
az=72.0
*DJA **11** 17:45:04.9±0.3,2°.N±3°×12°.8E±°,h53km±6km,M4.1/13,*
mb4.2/5,MLv4.1/13
ISC 11 17:45:04.4±0.6,1.78N±0°.07×128°.27E±0°.09,h92km,n50,
σ1°36/44,mb4.1/21,Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**222**		Pn	17 45 23.5	-4.8
TNTI	**Ternate**	**1.35**	**222**	P	**Pn**	**17 45 28.5**	**+0.1**
TNTI				S	**Sn**	**17 45 46.4**	**-0.1**
SWI	**Sorong**	**3.98**	**131**	P	**Pn**	**17 46 02.6**	**-0.6**
SANI	**Sanana**	**4.44**	**211**	P	**Pn**	**17 46 09.3**	**-0.1**
KMSI	**Cibinong**	**4.45**	**254**	P	**Pn**	**17 46 10.5**	**+0.9**
FAKI	**Fak Fak**	**6.13**	**140**	Pn	Pn	17 46 26.8	-5.7
FAKI	**Fak Fak**	**6.13**	**140**	P	**Pn**	**17 46 32.5**	**0.0**
57nm,1.8s							
MRSI	**Marisa**	**6.46**	**258**	P	**Pn**	**17 46 37.1**	**+0.2**
TOLI2	**Tolitoli**	**7.51**	**265**	Pn	**Pn**	**17 46 47.5**	**-3.8**
KDI	**Kendari**	**8.03**	**225**	P	**Pn**	**17 47 00.4**	**+2.1**
KAPI	**Kappang**	**10.86**	**232**	Pn	**Pn**	**17 47 32.7**	**-4.3**
MTN	**Manton Dam**	**14.81**	**169**	Pn	**Pn**	**17 48 27.0**	**-2.1**
KNRA	**Kununurra**	**17.35**	**178**		**P**	**17 48 59.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**19.92**	**187**	P	**P**	**17 49 29.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.92**	**187**	P	**P**	**17 49 30.2**	**+1.3**
3.3nm,0.8s,baz=322,slow=21,SNR=2.7							
3.3nm,0.8s							
WB0	**Warramunga Arr**	**22.24**	**165**	P	**P**	**17 49 53.5**	**-0.3**
WB0				IAmb	IAmb	17 50 00.7	
comp=Z,8.2nm,0.7s							
WRAB	**Tennant Creek**	**22.39**	**165**	P	**P**	**17 49 55.0**	**-0.4**
WRAB				IAmb	IAmb	17 50 02.6	
comp=Z,7.6nm,0.8s							
WRA	**Warramunga Arr**	**22.40**	**165**	P	**P**	**17 49 54.4**	**-1.0**
WRA	**Warramunga Arr**	**22.40**	**165**	P	**P**	**17 49 55.8**	**+0.4**
comp=Z,3.9nm,0.8s,baz=343,slow=10,SNR=16							
comp=Z,3.9nm,0.8s							
WB2	**Warramunga Arr**	**22.40**	**165**	P	**P**	**17 49 55.4**	**-0.1**
WB2				IAmb	IAmb	17 50 02.6	
comp=Z,7.7nm,0.8s							
WR0	**Warramunga Arr**	**22.47**	**164**	P	**P**	**17 49 56.4**	**+0.2**
WR0				IAmb	IAmb	17 50 14.6	
comp=Z,14nm,1.5s							
AS31	**Alice Springs**	**25.88**	**168**	P	**P**	**17 50 29.0**	**+1.2**
ASAR	**Alice Springs**	**25.88**	**168**	P	**P**	**17 50 26.7**	**-1.1**
ASAR	**Alice Springs**	**25.88**	**168**	P	**P**	**17 50 28.4**	**+0.6**
comp=Z,0.9nm,0.7s,baz=352,slow=7.6,SNR=17							
ASAR				PcP	**PcP**	**17 53 54.7**	**-0.1**
comp=Z,0.3nm,0.8s,baz=354,slow=2.9,SNR=2.2							
comp=Z,0.9nm,0.7s							
UBPT	**Khong Chiam**	**26.19**	**302**	P	**P**	**17 50 30.6**	**0.0**
UBPT				IAmb	IAmb	17 50 38.0	
comp=Z,11nm,1.3s							
CMAR	**Chiang Mai Arr**	**33.19**	**302**	P	**P**	**17 51 35.1**	**+2.5**
comp=Z,0.3nm,0.3s,baz=119,slow=8.1,SNR=5.4							
comp=Z,0.3nm,0.3s							
CHTO	**Chiang Mai**	**33.35**	**302**	P	**P**	**17 51 32.2**	**-1.7**
KSRS	**Korea Array**	**35.50**	**360**	P	**P**	**17 51 50.4**	**-1.9**
comp=Z,1.1nm,0.8s,baz=175,slow=9.1,SNR=2.8							
comp=Z,1.1nm,0.8s							
STKA	**Stephens Creek**	**35.78**	**160**	P	**P**	**17 51 56.1**	**+1.3**
STKA	**Stephens Creek**	**35.78**	**160**	P	**P**	**17 51 55.5**	**+0.7**
comp=Z,7.6nm,1.0s,baz=332,slow=11,SNR=5.6							
comp=Z,7.6nm,1.0s							
LZH	**Lanzhou**	**40.95**	**329**	*eP*	**P**	**17 52 40.2**	**+1.9**
LZH				sP	pP	17 53 03.3	+3.6
LZH				pmax	pmax		

comp=Z,18nm,1.3s
H11S3 WAKE ISLAND Hy 41.16 64 T T 18 37 11.0
baz=250,slow=75,SNR=3.7
H11S2 WAKE ISLAND Hy 41.17 64 T T 18 37 09.5
baz=250,slow=75,SNR=3.6
H11S1 WAKE ISLAND Hy 41.17 64 T T 18 37 11.6
baz=250,slow=75,SNR=2.4
H11N1 WAKE ISLAND Hy 41.75 62 T T 18 38 03.5
baz=249,slow=75,SNR=7.1
H11N2 WAKE ISLAND Hy 41.76 62 T T 18 38 04.0
baz=249,slow=75,SNR=3.8
H11N3 WAKE ISLAND Hy 41.77 62 T T 18 38 05.6
baz=249,slow=75,SNR=4.3
LSA Lhasa 44.87 312 P **P** **17 53 10.8 +0.4**
LSA IAmb IAmb 17 53 13.4
comp=Z,2.7nm,0.6s
GTA Gaotai 45.55 329 *e*P **P** **17 53 17.1 +1.9**
GTA pmax pmax
comp=Z,3.0nm,1.2s
ULN Ulaanbaatar 49.44 341 P **P** **17 53 45.9 +0.6**
ULN IAmb IAmb 17 53 46.7
comp=Z,3.0nm,0.7s
SONM Songino Array 49.63 341 P **P** **17 53 47.0 +0.4**
SONM IAmb IAmb 17 53 48.0
comp=Z,1.6nm,0.7s
SONM Songino Array 49.63 341 P **P** **17 53 47.1 +0.4**
comp=Z,1.8nm,0.7s,baz=155,slow=7.8,SNR=14
comp=Z,1.8nm,0.7s
MK31 Makanchi Array 60.02 325 P **P** **17 55 02.0 +0.5**
MK31 IAmb IAmb 17 55 03.0
comp=Z,2.5nm,1.1s
MKAR Makanchi Array 60.02 325 P **P** **17 55 02.0 +0.5**
comp=Z,1.8nm,0.4s,baz=116,slow=8.3,SNR=74
comp=Z,1.8nm,0.4s
MAKZ Makanchi 60.21 325 P **P** **17 55 03.3 +0.5**
ZALV Zalesovo Beam 63.01 333 P **P** **17 55 20.3 -1.2**
comp=Z,0.8nm,0.7s,baz=172,slow=11,SNR=3.8
comp=Z,0.8nm,0.7s
KURBB Kurchatov Arra 64.20 327 P **P** **17 55 29.6 +0.2**
comp=Z,3.2nm,0.8s,baz=124,slow=6.0,SNR=35
comp=Z,3.2nm,0.8s
KURK Kurchatov 64.20 327 P **P** **17 55 29.5 +0.2**
BVAR Borovoye Array 69.78 327 P **P** **17 56 04.5 -0.3**
comp=Z,1.2nm,0.7s,baz=106,slow=7.9,SNR=6.6
comp=Z,1.2nm,0.7s
BRVK Borovoye 69.85 327 P **P** **17 56 05.0 -0.1**
BRVK IAmb IAmb 17 56 06.5
comp=Z,5.0nm,1.4s

---

*DJA **11** 17:48:23.7±1.5,5°N±12°×9°5E±1°0,h20km±8km,M3.6/6, mb3.5/2,MLv3.7/6*
*IDC **11** 17:49:02.2±5.8,0°93N×98°39E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=295.0km s-min=32.1km az=55.0*
ISC 11 17:48:21.5±3.1,5°4N±0°2×94°4E±0°2,h35km,n7,σ0°92/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.87**	**83**	P	**Pn**	**17 48 37.7**	**+0.5**
BSI				S	**Sn**	**17 48 47.5**	**-1.2**
MLSI	**Meulaboh, Aceh**	**2.26**	**119**	P	**Pn**	**17 48 57.1**	**+0.8**
LHMI	**Lhok Sumawe**	**2.51**	**93**	P	**Pn**	**17 49 01.0**	**+1.2**
LHMI				S	**Sn**	**17 49 29.1**	**-0.1**
SNSI	**Sinabang, Aceh**	**3.51**	**147**	P	**Pn**	**17 49 14.0**	**+0.4**
MKAR	**Makanchi Array**	**42.56**	**348**				
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**46.62**	**124**	P	**P**	**17 56 46.2**	**-0.4**
	0.5nm,0.9s,baz=299,slow=8.8,SNR=2.5						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**48.13**	**128**	P	**P**	**17 56 58.0**	**-0.5**
	0.2nm,0.5s,baz=300,slow=7.8,SNR=5.7						
	0.2nm,0.5s						

---

*ISK **11** 17:51:52.9,33°85N×28°35E,h28km,ML2.7/21*
*GII **11** 17:51:57.4±0.0,33°673N±0°004×28°462E±0°001,h11km, Mws2.7,confirmed*
*AFAD **11** 17:52:01.7,34°61N×28°47E,h11km±5km,ML2.1*
ISC 11 17:51:52.5±3.3,34°00N±0°05×28°33E±0°05,h7km±23km, n49,σ1°96/60,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.82**	**328**	Pn	**Pn**	**17 52 25.7**	**+1.4**
KARP				Sn	**Sn**	**17 52 48.5**	**+0.9**
ZKR	**Zakros**	**2.07**	**303**	Pn	**Pn**	**17 52 28.1**	**+0.4**
ZKR				Sn	**Sn**	**17 52 53.7**	**0.0**
ARG	**Arkhangelos**	**2.22**	**356**	Pn	**Pn**	**17 52 30.9**	**+1.2**
ARG				Sn	**Sn**	**17 52 58.0**	**+0.6**
AKAS	**Kas**	**2.46**	**25**	Pn	**Pn**	**17 52 34.1**	**+0.9**
AKAS				Sn	**Sn**	**17 53 04.2**	**+0.7**
AKAS	**Kas**	**2.46**	**25**	P	**Pb**	**17 52 37.4**	**+0.2**
AKAS				*i* AML	AML	17 53 05.0	
	comp=N,29nm,1.0s						
AKAS				*i* AML	AML	17 53 07.0	
	comp=E,25nm,0.6s						
IZZE	**Mula-Seydike**	**2.54**	**16**	P	**Pn**	**17 52 36.0**	**+1.9**
IZZE				S	**Sn**	**17 53 03.1**	**-2.2**
IZZE				*i* AML	AML	17 53 10.0	
	comp=E,16nm,0.4s						
IZZE				*i* AML	AML	17 53 13.0	
	comp=N,16nm,0.3s						
FETY	**Fethiye**	**2.70**	**13**	Pn	**Pn**	**17 52 37.9**	**+1.5**
TURN	**Turunc**	**2.77**	**359**	Pn	**Pn**	**17 52 38.8**	**+1.5**
TURN	**Turunc**	**2.77**	**359**	P	**Pn**	**17 52 40.1**	**+2.8**
TURN				S	**Sn**	**17 53 09.9**	**-1.1**
TURN				*i* AML	AML	17 53 13.0	
	comp=N,18nm,0.3s						
TURN				*i* AML	AML	17 53 18.0	
	comp=E,9.7nm,0.4s						
DALY	**Dalyan (Mula)**	**2.83**	**5**	Pn	**Pn**	**17 52 39.2**	**+1.2**
IDI	**Anoyia**	**3.12**	**295**	Pn	**Pn**	**17 52 42.8**	**+0.7**
YER	**Yerkesik**	**3.13**	**359**	Pn	**Pn**	**17 52 43.9**	**+1.6**
BODT	**Bodrum**	**3.17**	**345**	Pn	**Pn**	**17 52 44.5**	**+1.7**
DNZT	**Denizli-Tavas-**	**3.32**	**10**	P	**Pn**	**17 52 48.5**	**+3.6**
DNZT				S	**Sn**	**17 53 23.9**	**-0.8**
DNZT				*i* AML	AML	17 53 55.0	
	comp=E,9.0nm,2.8s						
DNZT				*i* AML	AML	17 54 13.0	
	comp=N,6.8nm,2.4s						
MLSB	**Milas**	**3.32**	**352**	Pn	**Pn**	**17 52 46.7**	**+1.8**
GOLH	**Golhisar**	**3.38**	**17**	P	**Pb**	**17 52 50.1**	**-2.7**
GOLH				S	**Sn**	**17 53 28.0**	**+1.8**
GOLH				*i* AML	AML	17 53 32.0	
	comp=N,12nm,0.9s						
GOLH				*i* AML	AML	17 53 43.0	
	comp=E,14nm,1.6s						
KORT	**Korkueli**	**3.42**	**28**	Pn	**Pn**	**17 52 47.6**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.49**	**8**	P	**Pn**	**17 52 50.7**	**+3.4**
TAVA				S	**Sn**	**17 53 24.5**	**-4.4**
TAVA				*i* AML	AML	17 53 30.0	
	comp=N,9.8nm,0.2s						
TAVA				*i* AML	AML	17 53 31.0	
	comp=E,7.7nm,0.3s						
APMY	**Acipayam-Deniz**	**3.56**	**13**	Pn	**Pn**	**17 52 49.9**	**+1.7**
GVD	**Gavdhos**	**3.61**	**285**	Pn	**Pn**	**17 52 49.4**	**+0.6**
ESEN	**Aydn-Nazilli**	**3.79**	**0**	P	**Pn**	**17 52 53.8**	**+2.5**
ESEN				S	**Sn**	**17 53 34.2**	**-2.0**
ESEN				*i* AML	AML	17 53 36.0	
	comp=N,5.8nm,0.2s						
ESEN				*i* AML	AML	17 54 21.0	
	comp=E,7.2nm,1.9s						
APE	**Apeiranthos**	**3.82**	**324**	Pn	**Pn**	**17 52 53.7**	**+1.9**
IMMV	**Iera Moni Meta**	**3.87**	**293**	Pn	**Pn**	**17 52 53.5**	**+1.1**
LEF	**Lefka**	**3.92**	**72**	Pn	**Pn**	**17 52 53.3**	**+0.2**
GAZI	**Gazipasa**	**3.95**	**54**	Pn	**Pn**	**17 52 54.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.96**	**355**	Pn	**Pn**	**17 52 55.6**	**+1.9**
KIRA	**zmir-Kiraz**	**4.19**	**1**	P	**Pn**	**17 52 58.6**	**+1.7**
KIRA				S	**Sn**	**17 53 40.8**	**-5.3**
KIRA				*i* AML	AML	17 53 43.0	
	comp=N,10.0nm,2.0s						
KIRA				*i* AML	AML	17 54 40.0	
	comp=E,9.6nm,2.1s						
CSS	**Mathiatis**	**4.24**	**75**	Pn	**Pn**	**17 52 58.0**	**+0.5**
LFK	**Lefkose**	**4.47**	**72**	Pn	**Pn**	**17 53 01.4**	**+0.7**
HDMB	**Hadim**	**4.50**	**48**	Pn	**Pn**	**17 53 02.2**	**+1.0**
BERE	**Bereket-Mersin**	**4.64**	**58**	Pn	**Pn**	**17 53 04.0**	**+0.9**
MMC7	**Mount Meron ar**	**5.98**	**97**	P	**Pn**	**17 53 22.8**	**+1.4**
MMC7	**Mount Meron ar**	**5.98**	**97**	S	**Sn**	**17 54 30.4**	**+0.3**
AMAZ	**Amatzia**	**6.06**	**112**	P	**Pn**	**17 53 24.3**	**+1.7**
AMAZ	**Amatzia**	**6.06**	**112**	S	**Sn**	**17 54 31.2**	**-1.0**
GEM	**Giv'at Ha'Em**	**6.17**	**95**	P	**Pn**	**17 53 26.9**	**+2.9**
GEM	**Giv'at Ha'Em**	**6.17**	**95**	S	**Sn**	**17 54 36.4**	**+1.7**
NATI	**Neve Ativ**	**6.22**	**95**	P	**Pn**	**17 53 28.4**	**+3.7**
NATI	**Neve Ativ**	**6.22**	**95**	S	**Sn**	**17 54 37.9**	**+2.0**
HMDT	**Nahal Hemdat**	**6.28**	**104**	P	**Pn**	**17 53 27.9**	**+2.4**
HMDT	**Nahal Hemdat**	**6.28**	**104**	S	**Sn**	**17 54 38.2**	**+0.7**
DSI	**Dead Sea**	**6.41**	**110**	P	**Pn**	**17 53 29.6**	**+2.3**
DSI	**Dead Sea**	**6.41**	**110**	S	**Sn**	**17 54 40.2**	**-0.5**
MSBI	**Mazada**	**6.50**	**112**	P	**Pn**	**17 53 30.1**	**+1.6**
MSBI	**Mazada**	**6.50**	**112**	S	**Sn**	**17 54 42.2**	**-0.7**
MBRI	**Mt Berech**	**6.99**	**125**	P	**Pn**	**17 53 36.4**	**+1.0**
MBRI	**Mt Berech**	**6.99**	**125**	S	**Sn**	**17 54 52.9**	**-2.2**
EIL	**Elat**	**7.09**	**126**	P	**Pn**	**17 53 37.9**	**+1.2**
EIL	**Elat**	**7.09**	**126**	S	**Sn**	**17 54 55.2**	**-2.3**

---

*SOME **11** 18:10:34.8,40°82N×83°68E,h10km*
*NNC **11** 18:10:38.3±3.5,40°97N×83°67E,h0km,mb3.5,mpv3.4, Error ellipse: s-maj=32.8km s-min=22.6km az=26.0*
ISC 11 18:10:30.0±3.9,40°7N±0°2×83°8E±0°1,h10km,n17, σ1°11/23,1C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**4.05**	**309**	Pg	**Pb**	**18 11 42.1**	**+0.6**
	3.9nm,0.2s						
SHLS				Lg	Lg	18 12 32.5	
	27nm,0.3s						
SHLS	**Shalkode**	**4.05**	**309**	*e*P	**Pb**	**18 11 42.8**	**+1.2**
	2.9nm,0.2s						
SHLS				*e*S	**Sb**	**18 12 32.1**	**+1.4**
	27nm,0.3s						
PDGK	**Podgornoye**	**4.14**	**311**	⇑Pg	**Pg**	**18 11 49.5**	**+0.2**
	2.4nm,0.6s						
PDGK				⇓Lg	Lg	18 12 42.7	
	13nm,0.7s						
UZB	**Uzynbulak**	**4.31**	**307**	Pg	**Pg**	**18 11 51.8**	**-0.8**
	3.4nm,0.1s						
UZB				Lg	Lg	18 12 48.8	
	9.2nm,0.4s						
UZB	**Uzynbulak**	**4.31**	**307**	*e*P	**Pg**	**18 11 52.1**	**-0.5**
	2.9nm,0.2s						
UZB				*e*S	**Sg**	**18 12 47.9**	**-0.6**
	10nm,0.4s						
SATY	**Saty**	**4.65**	**303**	Pg	**Pg**	**18 11 59.1**	**0.0**
	1.0nm,0.2s						
SATY				Lg	Lg	18 13 00.2	
	13nm,0.5s						
KPKS	**Kokpek**	**4.70**	**308**	Pg	**Pg**	**18 11 59.2**	**-0.7**
	2.8nm,0.2s						
KPKS				Lg	Lg	18 13 00.2	
	14nm,0.3s						
KPKS	**Kokpek**	**4.70**	**308**	*e*P	**Pg**	**18 11 59.2**	**-0.7**
	2.8nm,0.2s						
KPKS				*e*S	**Sg**	**18 13 00.2**	**-0.5**
	14nm,0.3s						
KNOS	**Konyrlen**	**5.00**	**319**	Pg	**Pg**	**18 12 04.8**	**-1.1**
	1.4nm,0.2s						
KNOS				Lg	Lg	18 13 10.2	
	18nm,0.2s						
KURS	**Kuram**	**5.02**	**306**	Pg	**Pg**	**18 12 05.8**	**-0.3**
	1.4nm,0.3s						
KURS				Lg	Lg	18 13 11.7	
	3.6nm,0.3s						
BLB	**Baldybastay**	**5.20**	**313**	Pg	**Pg**	**18 12 06.7**	**-2.8**
	4.7nm,0.2s						
BLB				Lg	Lg	18 13 14.2	
	6.0nm,0.2s						
KOTS	**Kotyrbulak**	**5.58**	**300**	*e*P	**Pg**	**18 12 16.2**	**-0.6**
	1.9nm,0.4s						
KOTS				*e*S	**Sg**	**18 13 29.5**	**+0.5**
	7.1nm,0.5s						
MDOK	**Medeo**	**5.59**	**299**	Pg	**Pg**	**18 12 15.4**	**-1.6**
	0.8nm,0.1s						
MDOK				Pg	Pb	18 12 24.9	+17
	1.2nm,0.5s						
MDOK				Lg	Lg	18 13 28.3	
	5.1nm,0.6s						
MDOK				Lg	Lg	18 13 29.5	
	3.5nm,0.6s						
MDOK	**Medeo**	**5.59**	**299**	*e*P	**Pg**	**18 12 15.4**	**-1.6**
	0.8nm,0.1s						
MDOK				*e*S	**Sg**	**18 13 28.3**	**-1.1**
	5.1nm,0.6s						
TNSS	**Tian-Shan**	**5.61**	**297**	Pg	**Pg**	**18 12 16.3**	**-1.1**
	0.6nm,0.2s						
TNSS				Lg	Lg	18 13 30.6	
	3.3nm,0.5s						
TNSS	**Tian-Shan**	**5.61**	**297**	*e*P	**Pg**	**18 12 16.6**	**-0.7**
	0.3nm,0.1s						
TNSS				*e*S	**Sg**	**18 13 30.3**	**+0.3**
	3.1nm,0.4s						
MK31	**Makanchi Array**	**6.22**	**351**	Pg	**Pg**	**18 12 28.4**	**-0.6**
	0.8nm,0.6s,baz=176,slow=15,SNR=6.9						
MK31				⇓Lg	Lg	18 13 46.1	
	2.5nm,0.7s						

IDC 11 18:12:02.7±1.8,8°19S×158°25E,h0km,mb3.4/3, mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=43.1km s-min=30.4km az=23.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.08**	**126**	Pn	Pn	18 12 38.5	-0.4
	22nm,0.3s,baz=203,slow=3.8,SNR=11						
HNR				Sn	Sn	18 12 58.2	-7.3
	42nm,0.3s,baz=350,slow=22,SNR=7.0						
	164nm,0.7s						
WRA	**Warramunga Arr**	**25.92**	**241**	P	P	18 17 37.1	+0.3
	0.4nm,0.9s,baz=61,slow=9.2,SNR=1.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**27.93**	**234**	P	P	18 17 54.5	-0.4
	0.3nm,0.6s,baz=61,slow=9.4,SNR=4.3						
	0.3nm,0.6s						
SONM	**Songino Array**	**72.10**	**326**	P	P	18 23 29.5	+0.4
	0.3nm,0.6s,baz=134,slow=4.4,SNR=3.0						
	0.3nm,0.6s						

---

*IPEC **11** 18:17:41.9±0.3,51°47N×16°40E,h1km,ML2.8/5,Error ellipse: s-maj=2.8km s-min=1.6km az=69.0*
*IDC **11** 18:17:42.8±0.6,51°43N×16°06E,h0km,mbtmp3.3/9, ML2.9/9,Error ellipse: s-maj=10.4km s-min=6.2km az=106.0*
*BGR **11** 18:17:43.8±0.5,51°41N×16°26E,h1km,ML3.1/14,Error ellipse: s-maj=5.6km s-min=2.2km az=20.0*
*PRU **11** 18:17:43.8,51°40N×16°24E,h0km*
*VIE **11** 18:17:44.5±0.8,51°31N×16°24E,h0km,mb2.9/10, ml3.0/13,ms3.7/1,Error ellipse: s-maj=7.2km s-min=4.5km az=56.0,Suspected Mining induced.*
*DNK **11** 18:17:46.9±0.7,51°81N×15°59E,h0km,ML2.6(UPP), Suspected explosion*
*UPP **11** 18:17:50.3±3.0,51°97N×15°63E,h0km,ML2.6*
ISC 11 18:17:40.2±0.6,51°51N±0°03×16°26E±0°02,h0km,n94, σ1°73/152,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**178**	*i* Pg	**Pb**	**18 17 54.3**	**-0.3**
KSP				*e*Sg	**Sg**	**18 18 02.0**	**+0.6**
KSP	**Ksiaz**	**0.66**	**178**	*e*Pg	**Pb**	**18 17 54.4**	**-0.3**
KSP				*e*Sg	**Sg**	**18 18 02.1**	**+0.6**
CHVC	**Chvalec**	**0.93**	**188**	*e*PG	**Pb**	**18 17 59.4**	**+0.3**
CHVC				*e*SG	**Sg**	**18 18 10.8**	**+0.9**
OSTC	**Ostas**	**0.95**	**182**	*e*PG	**Pb**	**18 17 59.8**	**+0.3**
OSTC				*e*SG	**Sg**	**18 18 11.5**	**+0.8**
UPC	**Upice**	**1.01**	**189**	*e*PG	**Pg**	**18 18 00.4**	**+0.9**
UPC				*e*SG	**Sb**	**18 18 14.4**	**0.0**
	comp=Z,197nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**178**	*e*PG	**Pb**	**18 18 03.2**	**+0.1**
DPC				*e*SG	**Sg**	**18 18 17.0**	**-0.3**
	comp=Z,98nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**178**	*e*Pg	**Pb**	**18 18 03.2**	**+0.1**
PIVO	**Bartosovice**	**1.33**	**172**	*e*Pg	**Pn**	**18 18 06.4**	**+0.3**
	baz=356						
PIVO				*e*Sg	**Sg**	**18 18 22.5**	**-0.5**
	102nm,0.4s,baz=356						
PVCC	**Panska Ves**	**1.45**	**228**	*e*PG	**Pb**	**18 18 09.5**	**+1.5**
PVCC				*e*SG	**Sb**	**18 18 27.5**	**+0.6**
	comp=Z,356nm,0.3s						
KRLC	**Kraliky**	**1.47**	**167**	*e*PG	**Pb**	**18 18 09.2**	**+0.8**
KRLC				*e*SG	**Sg**	**18 18 27.5**	**+0.2**
	comp=Z,94nm,0.5s						
BRG	**Berggiesshubel**	**1.59**	**247**	Pn	**Pb**	**18 18 10.7**	**+0.3**
BRG				Pg	**Pg**	**18 18 12.1**	**+1.5**
BRG				Sg	**Sg**	**18 18 32.5**	**+1.3**
BRG				Amp		18 18 34.9	
	comp=Z,70nm,0.4s						
BRG	**Berggiesshubel**	**1.59**	**247**	*e*Pn	**Pb**	**18 18 10.7**	**+0.3**
BRG				*e*Sg	**Sg**	**18 18 32.9**	**+1.8**
RICC	**Richard**	**1.67**	**236**	*e*SG	**Sg**	**18 18 34.7**	**+1.0**
	comp=Z,131nm,0.4s						
STEB	**Steborice**	**1.84**	**148**	*e*SG	**Sb**	**18 18 38.4**	**0.0**
PRU	**Pruhonice**	**1.87**	**216**	*e*PG	**Pb**	**18 18 16.0**	**+0.8**
PRU				*e*SG	**Sb**	**18 18 39.4**	**+0.3**
	comp=Z,97nm,0.6s						
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn	**Pn**	**18 18 14.6**	**+0.5**
	baz=337						
MORC				*e*Sg	**Sn**	**18 18 39.7**	**+0.9**
	comp=Z,59nm,0.6s,baz=337						
MORC	**Moravsky Berou**	**1.91**	**154**	*e*PN	**Pn**	**18 18 14.6**	**+0.5**
MORC				*e*SG	**Sn**	**18 18 39.8**	**+0.9**
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn	**Pn**	**18 18 15.1**	**+1.0**
MORC				*e*Sg	**Sg**	**18 18 41.9**	**+0.2**
FBE	**Freiberg**	**1.92**	**253**	*e*Sg	**Sg**	**18 18 43.4**	**+1.7**
HSKC	**Hora Svate Kat**	**2.00**	**244**	*e*SG	**Sg**	**18 18 44.6**	**+0.3**
	comp=Z,84nm,0.5s						
CLL	**Collm**	**2.05**	**266**	*e*Pn	**Pb**	**18 18 17.7**	**-0.5**
CLL				*e*Sg	**Sg**	**18 18 48.7**	**+2.8**
CLL	**Collm**	**2.05**	**266**	*e*Pn	**Pb**	**18 18 18.0**	**-0.2**
CLL				*i* Pg	**Pg**	**18 18 20.5**	**+1.1**
CLL				*e*Sg	**Sg**	**18 18 48.0**	**+2.1**
	comp=Z,55nm,0.4s						
OKC	**Ostrava-Krasne**	**2.06**	**143**	*e*PG	**Pg**	**18 18 19.7**	**+0.1**
VRAC	**Vranov**	**2.21**	**174**	Pn	**Pb**	**18 18 20.3**	**-0.7**
	comp=Z,6.0nm,0.3s,baz=347,slow=14,SNR=19						
VRAC				Lg	Lg	18 18 49.9	
	comp=Z,3.4nm,0.3s,baz=60,slow=20,SNR=3.8						
	comp=Z,14nm,0.4s						
VRAC	**Vranov**	**2.21**	**174**	*e*Pn	**Pn**	**18 18 19.4**	**+1.3**
	baz=357						
VRAC				*e*Sg	**Sb**	**18 18 49.8**	**+0.9**
	comp=Z,54nm,0.5s,baz=357						
VRAC	**Vranov**	**2.21**	**174**	*e*PN	**Pn**	**18 18 19.4**	**+1.3**
VRAC				*e*SG	**Sb**	**18 18 49.8**	**+0.9**
MAUC	**Maruska**	**2.37**	**154**	*e*PG	**Pg**	**18 18 25.9**	**+0.4**
KRUC	**Moravsky**	**2.45**	**178**	*e*Pn	**Pn**	**18 18 22.5**	**+1.1**
	baz=0.1						
KRUC				*e*Sg	**Sb**	**18 18 57.4**	**+1.7**
	comp=Z,38nm,0.6s,baz=0.1						
KRUC	**Moravsky**	**2.45**	**178**	*e*PN	**Pn**	**18 18 22.5**	**+1.1**
KRUC				*e*SG	**Sb**	**18 18 57.4**	**+1.7**
ZVC	**Zvikov**	**2.45**	**213**	*e*SG	**Sg**	**18 18 58.2**	**-0.7**
OJC	**Ojcow**	**2.59**	**118**	*e*Pg	**Pg**	**18 18 30.3**	**+0.5**
OJC				*e*Sg	**Sg**	**18 19 05.1**	**+1.8**
OJC	**Ojcow**	**2.59**	**118**	*e*Pn	**Pn**	**18 18 24.7**	**+1.4**
TANN	**Tannenbergstha**	**2.64**	**247**	*e*Pn	**Pn**	**18 18 26.0**	**+2.0**
TANN				*e*Sg	**Sg**	**18 19 06.3**	**+1.5**
WERD	**Werda**	**2.71**	**249**	*e*Pn	**Pn**	**18 18 26.8**	**+1.7**
KHC	**Kasperske Hory**	**2.93**	**217**	*e*PN	**Pn**	**18 18 29.2**	**+1.1**
KHC				*e*PG	**Pg**	**18 18 35.6**	**-0.7**
KHC				*e*SG	**Sg**	**18 19 13.5**	**-0.8**
	comp=Z,34nm,0.6s						
CKRC	**Cesky Krumlov**	**2.96**	**206**	*e*PN	**Pn**	**18 18 30.4**	**+1.9**
CKRC				*e*PG	**Pg**	**18 18 36.4**	**-0.6**
MANZ	**Manzenberg**	**3.04**	**242**	*e*Pn	**Pn**	**18 18 31.7**	**+2.1**
MOX	**Moxa**	**3.05**	**255**	*e*Pn	**Pn**	**18 18 31.5**	**+1.9**
MOX				*e*Sg	**Sg**	**18 19 20.2**	**+2.1**
ROTZ	**Rotzenmuhle**	**3.11**	**238**	*e*Pn	**Pn**	**18 18 32.3**	**+1.8**
GEC2	**GERESS Array S**	**3.13**	**213**	*e*Pn	**Pn**	**18 18 33.3**	**+2.5**
GERES	**GERESS Array B**	**3.13**	**213**	Pn	**Pn**	**18 18 32.2**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=28,slow=14,SNR=9.2						
GERES				Pg	**Pb**	**18 18 37.5**	**+0.8**
	comp=Z,7.2nm,0.3s,baz=26,slow=17,SNR=49						
GERES				Lg	Lg	18 19 17.3	
	comp=Z,6.2nm,0.3s,baz=33,slow=28,SNR=8.8						
	comp=Z,1.3nm,0.4s						
LANS	**Liptovska Anna**	**3.13**	**138**	*e*PG	**Pg**	**18 18 42.4**	**+2.3**
LANS				*e*SG	**Sg**	**18 19 21.6**	**+1.0**
LANS				*e*LG	Lg	18 19 37.2	
MODS	**Modra-Piesok**	**3.20**	**168**	*e*PG	**Pg**	**18 18 42.9**	**+1.4**
MODS				*e*SG	**Sg**	**18 19 23.5**	**+0.5**
MODS				*e*LG	Lg	18 19 30.3	
VYHS	**Vyhne**	**3.44**	**150**	*e*PG	**Pg**	**18 18 46.6**	**+0.5**
VYHS				*e*SG	**Sg**	**18 19 30.5**	**-0.2**
CONA	**Conrad Observa**	**3.59**	**184**	*i* Pn	**Pn**	**18 18 39.1**	**+1.9**
	comp=Z,0.9nm,0.2s						
CONA				*e*Sg	**Sg**	**18 19 35.8**	**+0.3**
	comp=Z,21nm,0.4s						
CLZ	**Clausthal**	**3.68**	**278**	*e*Pn	**Pn**	**18 18 41.4**	**+3.0**
GRF	**Grafenberg Arr**	**3.69**	**242**	*e*Sg	**Sg**	**18 19 39.4**	**+0.9**
BSD	**Bornholm Skovb**	**3.70**	**348**	*i* P	**Pn**	**18 18 40.0**	**+1.4**
BSD				*i* S	**Sn**	**18 19 22.1**	**-0.8**
BSD				IAML		18 19 26.1	
	comp=Z,6.3nm,0.2s						
STHS	**Stebnicka Huta**	**3.81**	**121**	*e*PN	**Pn**	**18 18 42.7**	**+2.6**
STHS				*e*PG	**Pg**	**18 18 54.9**	**+1.7**
STHS				*e*SG	**Sg**	**18 19 45.3**	**+2.8**
STHS				*e*LG	Lg	18 20 07.3	
MOA	**Molln**	**3.88**	**200**	*i* Pn	**Pn**	**18 18 42.7**	**+1.6**
	comp=Z,1.8nm,0.2s						
MOA				*e*Pg	**Pg**	**18 18 54.2**	**-0.3**
	comp=Z,11nm,0.5s						
MOA				Sg	**Sg**	**18 19 44.2**	**-0.6**
	comp=Z,41nm,0.5s						
KECS	**Kecovo**	**4.07**	**136**	*e*PG	**Pg**	**18 19 02.3**	**+4.1**
KECS				*e*SG	**Sg**	**18 19 51.9**	**+0.9**
KECS				*e*LG	Lg	18 20 03.9	
BIOA	**Bad Ischl, Aus**	**4.18**	**205**	*i* Pn	**Pn**	**18 18 47.1**	**+1.9**
	comp=Z,2.0nm,0.3s						
BIOA				*e*Sg	**Sg**	**18 19 52.8**	**-1.6**
	comp=Z,16nm,0.3s						
ARSA	**Arzberg**	**4.29**	**187**	*i* Pn	**Pn**	**18 18 49.9**	**+3.2**
	comp=Z,1.3nm,0.2s						
ARSA				*e*Pg	**Pg**	**18 19 03.1**	**+0.8**
	comp=Z,4.8nm,0.4s						
ARSA				*e*Sg	**Sg**	**18 19 59

FABU *e*S **Sn** **18 20 16.0 -0.6**
GNOU Gnosjoe 5.98 347 P **Pn** **18 19 12.0 +2.2**
GNOU Gnosjoe 5.98 347 P **Pn** **18 19 12.0 +2.2**
EKSU Eksjoe 6.11 355 P **Pn** **18 19 14.3 +2.7**
EKSU Eksjoe 6.11 355 P **Pn** **18 19 14.3 +2.7**
DAVOX Davos/Dischmat 6.31 224 Pn **Pn** **18 19 14.9 +0.3**
baz=22,slow=19,SNR=2.9
DAVOX Sn **Sn** **18 20 24.3 -3.2**
comp=Z,0.6nm,0.3s,baz=358,slow=23,SNR=3.6
DAVOX Lg Lg 18 20 57.8
comp=Z,0.5nm,0.3s,baz=19,slow=0.9,SNR=3.1
comp=Z,0.6nm,0.3s
ONAU Onsala 6.42 339 *i* S **Sn** **18 20 29.9 +0.1**
LNKU Linkoeping 6.75 357 P **Pn** **18 19 22.5 +2.1**
LNKU Linkoeping 6.75 357 P **Pn** **18 19 22.5 +2.1**
AKASG Malin Array Be 8.21 91 Pn **Pn** **18 19 41.3 +1.0**
comp=Z,0.7nm,0.3s,baz=282,slow=12,SNR=5.6
AKASG Sn **Sn** **18 21 10.6 -3.2**
comp=Z,0.7nm,0.3s,baz=275,slow=22,SNR=4.2
AKASG Lg Lg 18 22 06.5
baz=274,slow=27
comp=Z,0.7nm,0.5s
HFS Hagfors 8.77 352 Pn **Pn** **18 19 49.5 +1.4**
comp=Z,0.2nm,0.3s,baz=164,slow=15,SNR=8.4
HFS Sn **Sn** **18 21 25.0 -2.6**
comp=Z,0.2nm,0.3s,baz=165,slow=24,SNR=3.5
comp=Z,3.1nm,0.9s
NOA NORSAR Array B 9.96 346 Pn **Pn** **18 20 03.9 -0.5**
baz=164,slow=12,SNR=4.4
comp=Z,0.8nm,0.8s
FINES FINESS Array B 11.33 25 Pn **Pn** **18 20 22.9 -0.2**
comp=Z,0.2nm,0.3s,baz=212,slow=9.2,SNR=8.4
FINES Sn **Sn** **18 22 25.9 -4.3**
comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=4.1
comp=Z,1.1nm,0.5s
EKA Eskdalemuir Ar 12.19 296 Pn **Pn** **18 20 34.3 -0.6**
baz=104,slow=14
comp=Z,0.2nm,0.3s
ARCES ARCESS Array B 18.61 10 Pn **P** **18 21 57.5 -1.3**
comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=9.2
comp=Z,2.8nm,1.0s

---

*IDC **11** 18:17:50.2±2.7,21°.96S×169°.41E,h42km±23km,mb3.9/7,*
mbtmp4.1/9,ML4.4/2,Error ellipse: s-maj=33.3km
s-min=17.1km az=167.0
*NOU **11** 18:17:59.7,22°.01S×168°.31E,h0km,MLv2.9/7,New*
Caledonia
ISC 11 18:17:49.7±0.8,22°.0S±0°.1×169°.40E±0°.0,h35km,n18,
σ0.93/19,mb4.0/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.38**	**292**	P	**Pn**	**18 18 11.0**	**-1.4**
PINNC	**Pines Island,**	**1.91**	**251**	P	**Pn**	**18 18 19.0**	**-0.7**
YATNC	**Mamie plateau,**	**2.33**	**268**	P	**Pn**	**18 18 24.3**	**-1.3**
OUENC	**Ouen Island, N**	**2.41**	**260**	P	**Pn**	**18 18 26.2**	**-0.4**
DZM	**Mont Dzumac**	**2.75**	**268**	P	**Pn**	**18 18 30.9**	**-0.4**
	11nm,0.3s,baz=106,slow=16,SNR=79						
DZM				S	**Sn**	**18 19 04.6**	**+1.2**
	76nm,0.6s,baz=52,slow=18,SNR=5.3						
	48nm,0.5s						
DZM	**Mont Dzumac**	**2.75**	**268**	P	**Pn**	**18 18 30.9**	**-0.4**
ONTNC	**Ouen Toro**	**2.75**	**263**	P	**Pn**	**18 18 29.7**	**-1.6**
KOUNC	**Koumac, New Ca**	**4.99**	**286**	P	**Pn**	**18 19 02.6**	**+0.5**
MSVF	**Nonsavu**	**9.18**	**64**	P	**Pn**	**18 20 00.7**	**+0.9**
	0.4nm,0.3s,baz=270,slow=12,SNR=4.0						
	2.8nm,0.5s						
STKA	**Stephens Creek**	**26.60**	**242**	P	**P**	**18 23 26.1**	**+1.2**
	1.5nm,0.7s,baz=64,slow=9.9,SNR=3.9						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**32.71**	**260**	P	**P**	**18 24 19.2**	**+0.1**
	3.6nm,0.8s,baz=84,slow=8.7,SNR=29						
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**32.76**	**267**	P	**P**	**18 24 18.6**	**-1.0**
	2.1nm,0.9s,baz=117,slow=11,SNR=6.9						
	2.1nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.19**	**267**	P	**P**	**18 25 31.4**	**+0.2**
	9.2nm,0.8s,baz=126,slow=9.7,SNR=8.6						
	9.2nm,0.8s						
QSPA	**South Pole Qui**	**68.06**	**180**	P	**P**	**18 28 45.3**	**-0.3**
	3.3nm,1.0s,baz=69,slow=1.2,SNR=7.8						
	3.3nm,1.0s						
SONM	**Songino Array**	**89.51**	**323**	P	**P**	**18 30 42.9**	**-0.4**
	0.3nm,0.6s,baz=144,slow=5.4,SNR=2.6						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**90.51**	**48**	P	**P**	**18 30 47.4**	**-0.9**
	0.7nm,0.8s,baz=218,slow=7.6,SNR=4.4						
	0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**146.26**	**352**	PKPbc	**PKPdf**	**18 37 24.7**	**-0.3**
	1.1nm,0.5s,baz=357,slow=3.2,SNR=7.7						
GERES	**GERESS Array B**	**146.97**	**330**	PKPbc	**PKPdf**	**18 37 27.1**	**+0.5**
	0.7nm,0.6s,baz=56,slow=4.5,SNR=4.0						

---

*DJA **11** 18:38:58.5±0.8,5°.S±4°.×13°.9E±°,h11km±5km,M4.2/7,*
mb4.5/1,MLv4.1/7
*IDC **11** 18:38:58.2±1.4,4°.38S×139°.03E,h0km,mb3.7/3,*
mbtmp3.7/7,ML3.6/4,Error ellipse: s-maj=37.7km
s-min=20.8km az=118.0
ISC 11 18:39:03.4±0.7,4°.57S±0°.06×139°.05E±0°.06,h44km,n22,
σ2.35/25,mb3.8/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.26**	**30**	P	**Pn**	**18 39 37.7**	**-0.6**
GENI	**Genyem**	**2.26**	**30**	P	**Pn**	**18 39 37.0**	**-1.3**
GENI				S	**Sn**	**18 40 05.3**	**+0.3**
TABU	**Tabubil**	**2.27**	**108**	P	**Pn**	**18 39 41.2**	**+2.7**
TABU	**Tabubil**	**2.27**	**108**	S	**Sn**	**18 40 09.6**	**+4.2**
SMPI	**Sarmi**	**2.59**	**352**	P	**Pn**	**18 39 41.6**	**-1.2**
JAY	**Jayapura**	**2.63**	**39**	Pn	**Pn**	**18 39 40.4**	**-3.0**
	7.6nm,0.3s,baz=218,slow=8.7,SNR=22						
JAY				Sn	**Sn**	**18 40 12.9**	**-1.1**
	3.2nm,0.3s,baz=172,slow=20,SNR=3.7						
	17nm,0.3s						
JAY	**Jayapura**	**2.63**	**39**	P	**Pn**	**18 39 40.9**	**-2.5**
SRPI	**Serui, Papua**	**3.88**	**314**	P	**Pn**	**18 39 59.5**	**-1.1**
MMPI	**Merauke**	**4.09**	**161**	P	**Pn**	**18 39 59.3**	**-4.1**
BAKI	**Biak**	**4.46**	**319**	P	**Pn**	**18 40 09.9**	**+1.3**
FAKI	**Fak Fak**	**6.98**	**283**	P	**Pn**	**18 40 42.5**	**-0.7**
KDU	**Kakadu**	**10.36**	**218**	P	**Pn**	**18 41 30.5**	**+1.1**
MTN	**Manton Dam**	**11.34**	**223**	P	**Pn**	**18 41 44.3**	**+1.3**
WRA	**Warramunga Arr**	**15.95**	**196**	Pn	**P**	**18 42 48.1**	**+0.2**
	0.4nm,0.3s,baz=18,slow=13,SNR=28						
WRA				Sn	**Sn**	**18 45 33.9**	**-6.9**
	0.2nm,0.3s,baz=17,slow=22,SNR=2.6						
	1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.78**	**223**	P	**Pn**	**18 43 20.5**	**+0.6**
	0.1nm,0.3s,baz=32,slow=13,SNR=1.6						
FITZ				S	Sn	18 46 37.0	-12
	1.6nm,0.8s,baz=18,slow=20,SNR=1.2						
	2.2nm,1.0s						
AS01	**Alice Springs**	**19.61**	**194**	P	**P**	**18 43 29.6**	**+1.4**
	3.6nm,1.2s						
ASAR	**Alice Springs**	**19.62**	**194**	P	**Pn**	**18 43 29.9**	**0.0**
	0.2nm,0.3s,baz=23,slow=9.7,SNR=34						
	1.8nm,0.7s						
WRKA	**Warakurna**	**22.82**	**206**	P	**P**	**18 44 03.3**	**+0.5**
OOD	**Oodnadatta**	**23.32**	**188**	P	**P**	**18 44 08.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**45.67**	**301**	P	**P**	**18 47 20.9**	**+0.6**
	0.4nm,0.3s,baz=104,slow=6.7,SNR=4.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**71.46**	**323**	P	**P**	**18 50 19.4**	**-0.1**
	0.3nm,0.7s,baz=121,slow=8.0,SNR=2.5						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**81.03**	**325**	P	**P**	**18 51 13.6**	**+0.1**
	0.7nm,0.6s,baz=111,slow=6.8,SNR=5.0						
	0.7nm,0.6s						

---

*IDC **11** 18:47:43.1±0.8,3°.44N×126°.84E,h0km,mb3.8/10,*
mbtmp3.9/10,MS2.4/1,Error ellipse: s-maj=58.6km
s-min=14.7km az=73.0
*DJA **11** 18:47:48.1±0.4,3°.N±4°.×12°.7E±°,h10km,M4.0/12,mb4.4/4,*
MLv3.9/12
ISC 11 18:47:49.9±0.7,3°.46N±0°.09×127°.1E±0°.1,h48km,n19,
σ0.97/19,mb3.8/10,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.56**	**278**	P	**Pn**	**18 48 15.1**	**-0.2**
TNTI	**Ternate**	**2.68**	**174**	P	**Pn**	**18 48 30.4**	**-0.2**
LBMI	**Labuha**	**4.09**	**174**	P	**Pn**	**18 48 49.3**	**-0.6**
KMSI	**Cibinong**	**4.21**	**227**	P	**Pn**	**18 48 53.0**	**+1.3**
SANI	**Sanana**	**5.58**	**191**	P	**Pn**	**18 49 10.2**	**-0.2**
	0.1nm16nm,0.8s						
SWI	**Sorong**	**5.99**	**136**	P	**Pn**	**18 49 17.5**	**+1.5**
	0.1nm25nm,1.1s						
FAKI	**Fak Fak**	**8.17**	**141**	P	**Pn**	**18 49 47.1**	**+1.1**
KDI	**Kendari**	**8.61**	**211**	P	**Pn**	**18 49 51.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.46**	**184**	P	**P**	**18 52 35.0**	**+0.5**
	2.8nm,0.9s,baz=232,slow=22,SNR=2.9						
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**24.32**	**163**	P	**P**	**18 53 02.5**	**-0.7**
	1.3nm,0.4s,baz=338,slow=10,SNR=24						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**27.77**	**166**	P	**P**	**18 53 33.5**	**-0.9**
	0.5nm,0.5s,baz=345,slow=7.8,SNR=18						
ASAR				PcP	**PcP**	**18 56 51.5**	**+1.3**
	0.5nm,0.7s,baz=335,slow=2.7,SNR=4.7						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.31**	**301**	LR	LR	19 08 21.3	
	comp=Z,7.1nm,18.5s,baz=200,slow=40						
STKA	**Stephens Creek**	**37.75**	**160**	P	**P**	**18 55 01.6**	**+0.2**
	3.9nm,0.8s,baz=342,slow=6.8,SNR=7.8						
	3.9nm,0.8s						
SONM	**Songino Array**	**47.67**	**341**	P	**P**	**18 56 22.1**	**+0.4**
	0.2nm,0.4s,baz=145,slow=8.1,SNR=2.0						
	0.2nm,0.4s						
PETK	**Petropavlovsk-**	**55.55**	**22**	P	**P**	**18 57 21.1**	**+0.8**
	3.3nm,0.9s,baz=230,slow=8.2,SNR=1.1						
	3.3nm,0.9s						
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**18 57 36.7**	**-0.9**
	0.4nm,0.4s,baz=115,slow=7.9,SNR=15						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.16**	**327**	P	**P**	**18 58 05.0**	**-1.2**
	0.5nm,0.6s,baz=127,slow=5.9,SNR=8.2						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**67.74**	**327**	P	**P**	**18 58 40.7**	**-1.7**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.4						
	0.3nm,0.4s						
NRIK	**Noril'sk**	**70.78**	**346**	P	**P**	**18 59 00.7**	**-0.2**
	1.1nm,0.3s,baz=100,slow=6.4,SNR=4.1						
	1.1nm,0.3s						

---

*NAO **11** 19:12:37.9,39°.95N×24°.04E,h10km,mb3.6*
*ATH **11** 19:12:41.6,39°.83N×20°.36E,h9km±1km,ML3.6/37,*
Manual Solution by F.Gkika First location: 2019/02/11
19:13:37, This location: 2020/09/30 13:14:38 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 1 km
*TIR **11** 19:12:41.8,39°.69N×20°.47E,h11km,Md2.9/8,Ml3.7/9*
*BEO **11** 19:12:43.9±0.6,39°.68N×20°.44E,h11km±3km,ML3.3/13*
*THE **11** 19:12:43.4,39°.70N×20°.49E,h0km±1km,ML3.4/7,Error*
ellipse: s-maj=1.6km s-min=0.4km az=298.0
*IDC **11** 19:12:49.7±2.5,39°.91N×20°.38E,h74km±25km,mb3.4/10,*
mbtmp3.6/17,MS2.7/5,Error ellipse: s-maj=22.2km
s-min=15.2km az=139.0
ISC 11 19:12:43.1±0.8,39°.72N±0°.01×20°.44E±0°.02,h14km±5km,
n197,σ1.49/252,mb3.8/9,36C-3D,Greece-Albania
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.20**	**204**	Pg	**Pg**	**19 12 46.2**	**-1.5**
IGT				Sg	**Sg**	**19 12 49.6**	**-1.2**
IGT				AML	AML	19 12 52.8	
	96nm,0.3s						
IGT				AMd		19 13 17.1	
IGT	**Igoumenitsa**	**0.20**	**204**	P	**Pg**	**19 12 47.5**	**-0.2**
IGT				S	**Sg**	**19 12 51.3**	**+0.5**
	36μm,0.3s						
IGT	**Igoumenitsa**	**0.20**	**204**	P	**Pg**	**19 12 47.6**	**-0.2**
IGT				S	**Sg**	**19 12 51.9**	**+1.1**
JAN	**Janina**	**0.32**	**100**	P	**Pg**	**19 12 49.9**	**+0.1**
JAN				S	**Sg**	**19 12 54.8**	**+0.5**
SRN	**Sarande**	**0.38**	**296**	Pg	**Pg**	**19 12 50.7**	**0.0**
SRN				Sg	**Sb**	**19 12 57.4**	**+0.2**
SRN				AML	AML	19 13 00.7	
	28nm,0.4s						
SRN				AMd		19 13 30.8	
SRN	**Sarande**	**0.38**	**296**	P	**Pg**	**19 12 50.7**	**0.0**
SRN				S	**Sb**	**19 12 57.9**	**+0.7**
	6μm,0.4s						
LFKM	**Lefkimmi**	**0.40**	**228**	P	**Pb**	**19 12 51.7**	**-0.2**
LFKM				S	**Sb**	**19 12 57.8**	**0.0**
PRGA	**Parga**	**0.43**	**184**	P	**Pb**	**19 12 52.3**	**-0.1**
PRGA				S	**Sb**	**19 12 59.9**	**+1.2**
LSK	**Leskovik**	**0.45**	**16**	Pg	**Pg**	**19 12 51.2**	**-0.9**
LSK				Sg	**Sg**	**19 12 58.4**	**+0.1**
LSK				AML	AML	19 13 08.3	
	29nm,0.5s						
LSK				AMd		19 13 45.4	
LSK	**Leskovik**	**0.45**	**16**	P	**Pg**	**19 12 51.8**	**-0.3**
LSK				S	**Sg**	**19 12 59.1**	**+0.8**
	8μm,0.6s						
MSVA	**Metsovo**	**0.57**	**84**	P	**Pg**	**19 12 54.2**	**-0.2**
MSVA				S	**Sg**	**19 13 02.9**	**+0.8**
ARTB	**Arta**	**0.70**	**143**	P	**Pb**	**19 12 57.5**	**+0.5**
ARTB				S	**Sn**	**19 13 08.6**	**-0.4**
PENT	**Pentalofos**	**0.72**	**48**	P	**Pg**	**19 12 56.0**	**-1.2**
PENT				S	**Sg**	**19 13 04.9**	**-1.7**
TETR	**Tetrakomo, Epi**	**0.74**	**120**	P	**Pg**	**19 12 57.4**	**-0.2**
TETR				S	**Sb**	**19 13 09.7**	**+1.8**
KPRO	**Kipourio**	**0.75**	**71**	P	**Pg**	**19 12 57.0**	**-0.7**
KPRO				S	**Sg**	**19 13 07.8**	**+0.2**
	12μm,0.6s						
KPRO	**Kipourio**	**0.75**	**71**	P	**Pg**	**19 12 57.0**	**-0.7**
KPRO				S	**Sg**	**19 13 07.5**	**-0.1**
NEST	**Nestorio**	**0.84**	**34**	Pg	**Pg**	**19 12 58.6**	**-0.8**
NEST				Sg	**Sg**	**19 13 11.2**	**+0.7**
NEST				AML	AML	19 13 14.6	
	5.1nm,0.4s						
NEST				AMd		19 13 51.7	
NEST	**Nestorio**	**0.84**	**34**	P	**Pg**	**19 12 59.0**	**-0.4**
NEST	**Nestorio**	**0.84**	**34**	P	**Pg**	**19 12 58.6**	**-0.8**
NEST				S	**Sg**	**19 13 07.8**	**-2.7**
TSLK	**Tsoukalades, L**	**0.91**	**169**	P	**Pg**	**19 13 00.2**	**-0.4**
TSLK	**Tsoukalades, L**	**0.91**	**169**	P	**Pg**	**19 13 00.5**	**-0.1**
TSLK				S	**Sn**	**19 13 15.3**	**+1.2**
LKD2	**Lefkada island**	**0.94**	**170**	Pn	**Pg**	**19 12 59.8**	**-1.5**
LKD2				Sn	**Sg**	**19 13 13.4**	**-0.2**
LKD2				AML	AML	19 13 18.8	
	8.6nm,0.3s						
LKD2				AMd		19 14 02.6	
LKD2	**Lefkada island**	**0.94**	**170**	P	**Pg**	**19 13 00.6**	**-0.7**
LKD2				S	**Sb**	**19 13 14.4**	**+0.9**
	2μm,0.4s						
LKD2	**Lefkada island**	**0.94**	**170**	P	**Pb**	**19 13 01.7**	**+0.5**
LKD2				S	**Sn**	**19 13 16.4**	**+1.3**
KBN	**Korca**	**0.94**	**16**	Pn	**Pg**	**19 13 01.0**	**-0.4**
KBN				Sn	**Sg**	**19 13 14.2**	**+0.4**
KBN				AML	AML	19 13 16.3	
	4.6nm,0.8s						
KBN	**Korca**	**0.94**	**16**	P	**Pg**	**19 13 01.3**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.02**	**169**	P	**Pg**	**19 13 01.8**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.03**	**174**	P	**Pg**	**19 13 02.7**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.03**	**174**	P	**Pn**	**19 13 03.5**	**+0.4**
DRAG				S	**Sn**	**19 13 19.2**	**+1.8**
VLO	**Vlora**	**1.04**	**316**	Pn	**Pg**	**19 13 02.4**	**-0.9**
VLO				Sn	**Sb**	**19 13 17.7**	**+1.3**
VLO				AML	AML	19 13 24.6	
	31nm,0.5s						
VLO				AMd		19 14 07.8	
EVGI	**Lefkada island**	**1.11**	**171**	P	**Pb**	**19 13 03.2**	**-0.8**
EVGI	**Lefkada island**	**1.11**	**171**	P	**Pn**	**19 13 05.0**	**+0.9**
EVGI				S	**Sn**	**19 13 21.6**	**+2.4**
KZN	**Kozani**	**1.18**	**60**	P	**Pb**	**19 13 04.0**	**-1.3**
KZN				S	**Sb**	**19 13 20.3**	**-0.2**
THL	**Klokotos Trika**	**1.23**	**97**	P	**Pn**	**19 13 05.3**	**-0.4**
FSK	**Fiskardo**	**1.26**	**176**	P	**Pb**	**19 13 06.9**	**+0.4**
FSK				S	**Sn**	**19 13 24.8**	**+1.9**
	1μm,0.5s						
FSK	**Fiskardo**	**1.26**	**176**	P	**Pn**	**19 13 06.5**	**+0.3**
FNA	**Florina**	**1.28**	**34**	P	**Pn**	**19 13 06.6**	**-0.1**
FNA	**Florina**	**1.28**	**34**	*e*Pg	**Pn**	**19 13 06.6**	**-0.1**
FNA				*e*Sg	**Sg**	**19 13 25.3**	**+0.7**
FNA	**Florina**	**1.28**	**34**	P	**Pn**	**19 13 04.9**	**-1.8**
FNA				S	**Sb**	**19 13 21.2**	**-2.3**
EVR	**Evrytania**	**1.33**	**126**	P	**Pg**	**19 13 08.7**	**0.0**
EVR				S	**Sg**	**19 13 26.8**	**+0.8**
TYRN	**Tyrnavos**	**1.38**	**90**	P	**Pn**	**19 13 07.8**	**-0.1**
TYRN				S	**Sg**	**19 13 28.5**	**+0.8**
	1μm,0.5s						
PVO	**Paravola**	**1.38**	**142**	P	**Pg**	**19 13 09.5**	**-0.2**
OHR	**Ohrid**	**1.42**	**11**	*i* Pn	**Pg**	**19 13 10.8**	**+0.3**
OHR				*i* Sn	**Sg**	**19 13 35.8**	**+6.9**
OHR	**Ohrid**	**1.42**	**11**	*e*Pg	**Pg**	**19 13 10.7**	**+0.3**
OHR				*e*Sg	**Sg**	**19 13 30.9**	**+2.0**
SMHA	**Samh**	**1.47**	**174**	P	**Pn**	**19 13 10.0**	**+0.9**
DMLN	**Damoulianata-K**	**1.48**	**182**	P	**Pn**	**19 13 10.1**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.49**	**118**	P	**Pb**	**19 13 10.6**	**+0.1**
LRSO	**Larissa Observ**	**1.51**	**91**	P	**Pn**	**19 13 10.4**	**+0.8**
VLS	**Valsamata**	**1.54**	**176**	P	**Pn**	**19 13 10.8**	**+0.7**
SCTE	**Santa Cesarea**	**1.56**	**284**	Pn	**Pn**	**19 13 11.5**	**+1.2**
SCTE				AML	AML	19 13 35.7	
	4.4nm,0.5s						
SCTE				AMd		19 14 11.7	
PSDA	**Pessada-Kefalo**	**1.60**	**176**	P	**Pn**	**19 13 11.8**	**+0.9**
PSDA	**Pessada-Kefalo**	**1.60**	**176**	P	**Pn**	**19 13 11.8**	**+0.9**
ANX	**Ano Chora**	**1.61**	**134**	P	**Pn**	**19 13 12.0**	**+0.9**
LIT	**Litokhoron**	**1.62**	**76**	P	**Pn**	**19 13 12.3**	**+1.0**
LIT	**Litokhoron**	**1.62**	**76**	P	**Pn**	**19 13 11.2**	**0.0**
VERN	**Vergina**	**1.64**	**61**	P	**Pn**	**19 13 10.8**	**-0.6**
AXS	**Araxos**	**1.68**	**154**	P	**Pn**	**19 13 13.2**	**+1.2**
TIR	**Tirane**	**1.69**	**345**	Pn	**Pb**	**19 13 14.4**	**+0.5**
TIR				Sn	**Sg**	**19 13 38.8**	**+1.3**
TIR				AML	AML	19 13 48.2	
	1.5nm,0.5s						
TIR				AMd		19 14 11.9	
TIR	**Tirane**	**1.69**	**345**	⇑P	**Pb**	**19 13 14.6**	**+0.7**
TIR				⇑S	**Sn**	**19 13 35.3**	**+1.8**
TIR	**Tirane**	**1.69**	**345**	*e*Pn	**Pb**	**19 13 13.9**	**0.0**
TIR				*e*Sn	**Sb**	**19 13 36.2**	**+1.2**
EFP	**Efpalio**	**1.72**	**138**	P	**Pb**	**19 13 14.6**	**+0.1**
RLS	**Riolos of Patr**	**1.84**	**154**	P	**Pn**	**19 13 15.7**	**+1.5**
ORTH	**Orthonies,Zaky**	**1.87**	**174**	P	**Pb**	**19 13 16.4**	**-0.7**
KYPS	**Kipseli, Zakin**	**1.92**	**171**	P	**Pn**	**19 13 16.4**	**+1.1**
GRG	**Griva**	**1.94**	**50**	P	**Pn**	**19 13 14.9**	**-0.8**
AXAR	**Agios Charalam**	**1.97**	**118**	P	**Pn**	**19 13 16.8**	**+0.8**
PHP	**Peshkopia**	**1.97**	**0**	P	**Pb**	**19 13 18.6**	**-0.1**
DRO	**Drossia**	**2.02**	**150**	P	**Pn**	**19 13 17.6**	**+0.9**
LTHK	**Lithakia**	**2.03**	**171**	P	**Pn**	**19 13 17.7**	**+0.9**
KLV	**Kalavryta, Ach**	**2.14**	**141**	P	**Pn**	**19 13 19.4**	**+1.1**
THE	**Thessaloniki**	**2.14**	**64**	P	**Pn**	**19 13 17.6**	**-0.8**
XOR	**Xorichti**	**2.16**	**98**	P	**Pn**	**19 13 20.1**	**+1.5**
XOR	**Xorichti**	**2.16**	**98**	P	**Pn**	**19 13 19.3**	**+0.7**
MESG	**Mesagne**	**2.17**	**295**	P	**Pn**	**19 13 17.3**	**-1.4**
NEO	**Neokhori**	**2.19**	**100**	P	**Pn**	**19 13 19.5**	**+0.5**
HORT	**Hortiatis**	**2.22**	**66**	P	**Pn**	**19 13 18.7**	**-0.8**
LKR	**Lokris**	**2.26**	**117**	P	**Pn**	**19 13 20.6**	**+0.7**
VAY	**Valandovo**	**2.28**	**45**	*i* Pn	**Pn**	**19 13 22.1**	**+1.8**
GUR	**Goura**	**2.32**	**139**	P	**Pn**	**19 13 22.3**	**+1.5**
AMT	**Artemida-Makis**	**2.40**	**155**	P	**Pn**	**19 13 23.7**	**+1.8**
PLG	**Polygyros**	**2.40**	**73**	P	**Pn**	**19 13 21.6**	**-0.4**
LTK	**Loutraki**	**2.60**	**130**	P	**Pn**	**19 13 25.6**	**+1.0**
DRME	**Dracevica, Mon**	**2.65**	**339**	*e*Pn	**Pn**	**19 13 26.1**	**+0.8**
VIL2	**Platees**	**2.67**	**123**	P	**Pn**	**19 13 27.6**	**+2.0**
AOS	**Alonnisos**	**2.72**	**100**	P	**Pn**	**19 13 27.6**	**+1.3**
PEHC	**Pehcevo**	**2.78**	**41**	*i* Pn	**Pn**	**19 13 29.5**	**+2.2**
SRS	**Serrai**	**2.78**	**59**	P	**Pn**	**19 13 28.8**	**+1.6**
SRS	**Serrai**	**2.78**	**59**	*e*Pn	**Pn**	**19 13 28.2**	**+1.0**
SRS				*e*Sn	**Sn**	**19 14 02.5**	**+1.9**
SRS	**Serrai**	**2.78**	**59**	P	**Pn**	**19 13 26.5**	**-0.7**
ITM	**Ithomi**	**2.79**	**155**	P	**Pn**	**19 13 29.0**	**+1.8**
OUR	**Ouranopolis**	**2.79**	**76**	P	**Pn**	**19 13 28.5**	**+1.3**
OUR	**Ouranopolis**	**2.79**	**76**	P	**Pn**	**19 13 27.6**	**+0.4**
PDG	**Podgorica**	**2.86**	**342**	⇑*i*Pn	**Pn**	**19 13 28.7**	**+0.5**
PDG	**Podgorica**	**2.86**	**342**	⇓P	**Pn**	**19 13 30.0**	**+1.8**
PDG	**Podgorica**	**2.86**	**342**	*e*Pn	**Pn**	**19 13 29.9**	**+1.7**
PDG				*e*Sn	**Sn**	**19 14 03.6**	**+1.3**
TIP	**Timpagrande**	**2.90**	**261**	⇑P	**Pn**	**19 13 29.8**	**+1.0**
TIP				⇑S	**Sn**	**19 14 04.6**	**+1.1**
KOKK	**Kokkinochori,**	**2.94**	**67**	P	**Pn**	**19 13 30.9**	**+1.6**
MATE	**Matera**	**3.01**	**289**	⇑P	**Pn**	**19 13 32.3**	**+2.0**
KYMI	**Kymi, Euboea I**	**3.04**	**110**	P	**Pn**	**19 13 31.4**	**+0.6**
HCY	**Herceg Novi**	**3.10**	**332**	⇑*i*Pn	**Pn**	**19 13 31.2**	**-0.3**
ATHU	**Athens Univers**	**3.14**	**123**	P	**Pn**	**19 13 32.9**	**+0.8**
PTL	**Penteli**	**3.15**	**121**	P	**Pn**	**19 13 33.1**	**+0.9**
KRND	**KRANIDI**	**3.15**	**137**	P	**Pn**	**19 13 33.2**	**+1.0**
BOSS	**Bosilegrad**	**3.18**	**28**	*e*Pn	**Pn**	**19 13 35.2**	**+2.6**
BOSS				*e*Sn	**Sn**	**19 14 11.3**	**+1.0**
DION	**Dionisos Attik**	**3.18**	**120**	P	**Pn**	**19 13 33.3**	**+0.6**
VLY	**Voula,Athens**	**3.21**	**124**	P	**Pn**	**19 13 34.0**	**+0.9**
BARS	**

OBKA Obir 8.04 330⇑ *i* Pn **Pn 19 14 39.6 +0.1**
ARSA Arzberg 8.34 336 *i* Pn **Pn 19 14 43.8 +0.4**
1.7nm,0.3s
ABTA Abfaltersbach 9.10 323 *e*Pn **Pn 19 14 54.9 +0.9**
1.0nm,0.2s
ABTA *i* Sn **Sn 19 16 32.2 -4.0**
1.7nm,0.3s
BIOA Bad Ischl, Aus 9.37 331 *i* Pn **Pn 19 14 58.1 +0.5**
3.6nm,0.3s
LESA Schwarzleotal 9.54 326 *i* Pn **Pn 19 15 01.1 +1.1**
1.3nm,0.2s
LESA *i* Sn **Sn 19 16 42.8 -4.2**
1.1nm,0.2s
WTTA Wattenberg 9.89 323 *i* Pn **Pn 19 15 06.1 +1.3**
2.0nm,0.2s
WTTA *i* Sn **Sn 19 16 53.1 -2.5**
0.7nm,0.2s
WATA Walderalm 9.97 323 *i* Pn **Pn 19 15 07.2 +1.3**
1.6nm,0.2s
WATA *i* Sn **Sn 19 16 56.3 -1.2**
3.6nm,0.4s
VRAC Vranov 9.97 345 LR LR 19 19 07.3
comp=Z,57nm,18.3s,baz=134,slow=39
SQTA Sankt Quirin 10.06 321 *i* Pn **Pn 19 15 07.4 +0.3**
1.2nm,0.3s
SQTA *e*Sn **Sn 19 16 56.2 -3.6**
1.4nm,0.3s
MOTA Moosalm 10.20 321 *i* Pn **Pn 19 15 09.9 +0.9**
2.1nm,0.4s
MOTA *i* Sn **Sn 19 16 59.0 -4.2**
4.3nm,0.6s
GERES GERESS Array B 10.32 334 P **Pn 19 15 10.8 +0.1**
0.5nm,0.4s,baz=151,slow=13,SNR=2.7
DAVOX Davos/Dischmat 10.44 316 P **Pn 19 15 14.0 +1.5**
1.2nm,0.6s,baz=144,slow=18,SNR=4.7
KHC Kasperske Hory 10.61 335 *e*PN **Pn 19 15 13.5 -1.1**
KHC *e*SN **Sn 19 17 15.8 +2.6**
AKASG Malin Array Be 12.60 26 P **Pn 19 15 43.3 +1.6**
0.1nm,0.3s,baz=213,slow=10,SNR=1.5
AKASG LR LR 19 20 25.2
comp=Z,12nm,21.3s,baz=226,slow=37
NACGM Naroch 15.78 14 *e*P **P 19 16 28.2 -0.3**
baz=199
KBZ Khabaz 17.23 69 P **P 19 16 45.9 +1.3**
1.6nm,0.8s,baz=283,slow=7.3,SNR=5.6
ESDC Sonseca Array 18.77 278 P **P 19 17 01.7 0.0**
0.3nm,0.7s,baz=87,slow=12,SNR=1.8
HFS Hagfors 20.88 351 P **P 19 17 23.2 -1.2**
1.2nm,0.4s,baz=177,slow=10,SNR=9.2
1.2nm,0.4s
FINES FINESS Array B 22.03 7 P **P 19 17 35.5 -1.3**
1.8nm,0.6s,baz=178,slow=12,SNR=9.0
1.8nm,0.6s
NB2 NORSAR Subarra 22.10 348 P **P 19 17 37.1 -0.6**
comp=Z,1.2nm,0.5s,baz=154,slow=10
NOA NORSAR Array B 22.10 348 P **P 19 17 36.6 -1.1**
comp=Z,0.7nm,0.5s,baz=163,slow=9.6,SNR=7.1
NOA LR LR 19 26 52.2
comp=Z,15nm,20.5s,baz=300,slow=38
comp=Z,0.7nm,0.5s
EKA Eskdalemuir Ar 22.15 323 P **P 19 17 38.0 -0.2**
comp=Z,3.0nm,0.8s,baz=126,slow=9.6,SNR=6.4
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 30.00 4 P **P 19 18 49.3 -1.6**
comp=Z,4.1nm,1.1s,baz=188,slow=8.8,SNR=6.8
comp=Z,4.1nm,1.1s
TORD Torodi Ar. Bea 31.20 217 P **P 19 19 02.9 +1.0**
comp=Z,1.8nm,0.6s,baz=31,slow=10.0,SNR=14
comp=Z,1.8nm,0.6s
KURBB Kurchatov Arra 41.38 55 P **P 19 20 28.0 -0.6**
comp=Z,0.2nm,0.7s,baz=284,slow=8.9,SNR=1.9
comp=Z,0.2nm,0.7s
MKAR Makanchi Array 44.56 60 P **P 19 20 53.3 -1.1**
comp=Z,1.3nm,0.6s,baz=283,slow=7.5,SNR=36
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 44.72 49 P **P 19 20 54.2 -1.3**
comp=Z,1.0nm,0.4s,baz=282,slow=7.4,SNR=6.2
comp=Z,1.0nm,0.4s
SONM Songino Array 59.54 51 P **P 19 22 44.7 -1.3**
comp=Z,0.4nm,0.9s,baz=283,slow=8.7,SNR=3.2
comp=Z,0.4nm,0.9s
SUR Sutherland 71.73 180 LR LR 19 58 50.4
comp=Z,27nm,19.1s,baz=172,slow=38

*IDC **11** 19:25:52.3±1.8, 6°.52S×130°.25E, h0km, mb3.7/3, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=86.8km s-min=25.6km az=79.0*

ISC 11 19:26:04.7±0.8, 7°.08S±0°.06×130°.08E±0°.07, h100km, n17, σ3§08/18, mb3.5/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.67**	**28**	P	**Pn**	**19 27 12.7**	**-0.3**
FAKI	**Fak Fak**	**4.67**	**28**	S	**Sn**	**19 28 03.9**	**-2.1**
DRS	**Darwin Rock St**	**5.38**	**171**	P	Pn	19 27 28.0	+5.4
MTN	**Manton Dam**	**5.82**	**170**	P	Pn	19 27 33.9	+5.3
KDU	**Kakadu**	**6.05**	**157**	P	**Pn**	**19 27 36.0**	**+4.2**
SOEI	**Soe**	**6.33**	**245**	P	**Pn**	**19 27 37.2**	**+1.5**
SOEI	**Soe**	**6.33**	**245**	S	**Sn**	**19 28 49.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.78**	**201**	Pn	**Pn**	**19 28 48.7**	**-0.8**
	0.6nm,0.3s,baz=27,slow=11,SNR=35						
FITZ				Sn	**Sn**	**19 30 53.1**	**-5.9**
	0.9nm,0.3s,baz=67,slow=19,SNR=6.9						
	2.0nm,0.2s						
PLAI	**Plampang**	**12.30**	**261**	P	**Pn**	**19 28 58.6**	**+2.0**
	11nm,1.8s						
PLAI	**Plampang**	**12.30**	**261**	S	**Sn**	**19 31 13.9**	**+2.0**
	11nm,1.8s						
WRA	**Warramunga Arr**	**13.44**	**162**	Pn	**Pn**	**19 29 11.3**	**-0.2**
	1.2nm,0.3s,baz=348,slow=14,SNR=37						
WRA				Sn	**Sn**	**19 31 35.8**	**-3.7**
	1.2nm,0.3s,baz=350,slow=21,SNR=8.7						
	1.0nm,0.3s						
COEN	**Coen**	**14.57**	**119**	P	**P**	**19 29 32.0**	**+2.1**
QIS	**Mount Isa**	**16.27**	**146**	P	**P**	**19 29 53.7**	**+5.0**
ASAR	**Alice Springs**	**16.90**	**168**	Pn	**P**	**19 29 57.5**	**+1.9**
	0.5nm,0.3s,baz=347,slow=10,SNR=30						
ASAR				Sn	**Sn**	**19 32 60.0**	**-3.1**
	0.3nm,0.3s,baz=355,slow=26,SNR=4.7						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**19 36 53.8**	**-1.5**
	0.4nm,0.6s,baz=124,slow=8.0,SNR=3.9						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**71.69**	**334**	P	**P**	**19 37 13.2**	**-2.4**
	0.3nm,0.4s,baz=143,slow=5.0,SNR=2.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.62**	**328**	P	**P**	**19 37 19.0**	**-2.2**
	0.4nm,0.4s,baz=127,slow=5.0,SNR=7.4						
	0.4nm,0.4s						

*GUC **11** 20:02:21.4±0.8, 22°.23S×68°.78W, h140km±5km, ML3.9*
*SJA **11** 20:02:21.7±1.5, 22°.31S×68°.68W, h100km, ML3.8, MW3.7*

ISC 11 20:02:20.8±1.4, 22°.21S±0°.03×68°.83W±0°.06, h147km±9km, n22, σ1§03/37, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56**	**317**	*e*P	**Pn**	**20 02 42.8**	**+0.5**
PB09				*e*S	**Sn**	**20 02 58.0**	**-0.6**
PB09				IAML		20 02 59.0	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**0.56**	**317⇑**	*i*P	**Pn**	**20 02 42.6**	**+0.3**
PB09				*i* S	**Sn**	**20 02 57.4**	**-1.2**
AF01	**San Pedro de A**	**0.96**	**141**	*e*P	**Pn**	**20 02 44.1**	**-1.1**
AF01				*e*S	**Sn**	**20 03 05.5**	**+1.6**
AF01				IAML		20 03 18.0	
	comp=Z,2μm,0.3s						
AF01	**San Pedro de A**	**0.96**	**141**	*i* P	**Pn**	**20 02 44.0**	**-1.2**
PB01	**IPOC Station P**	**1.31**	**332**	*e*P	**Pn**	**20 02 48.1**	**-0.2**
PB01				*e*S	**Sn**	**20 03 09.7**	**+0.6**
PB01				IAML		20 03 10.4	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**1.31**	**332⇓**	*i*P	**Pn**	**20 02 48.8**	**+0.5**
PB01				*i* S	**Sn**	**20 03 08.8**	**-0.4**
PB01				IAML		20 03 10.4	
	comp=N,2μm,0.5s						
PX03	**IPOC Station P**	**1.94**	**337**	*e*P	**Pn**	**20 02 55.5**	**+0.3**
PX03				*e*S	**Sn**	**20 03 21.5**	**0.0**
PX03				IAML		20 03 22.9	
	comp=N,2μm,0.4s						
TA01	**Diego Aracena**	**2.06**	**322**	*e*P	**Pn**	**20 02 57.0**	**+0.6**
TA01				*e*S	**Sn**	**20 03 25.9**	**+2.1**
TA01				IAML		20 03 27.0	
	comp=Z,414nm,0.7s						
TA01	**Diego Aracena**	**2.06**	**322⇓**	*i*P	**Pn**	**20 02 56.9**	**+0.4**
TA01				*e*S	**Sn**	**20 03 23.9**	**+0.1**
TA01				IAML		20 03 26.4	
	comp=N,618nm,0.6s						
PB08	**IPOC Station P**	**2.08**	**352**	*e*P	**Pn**	**20 02 57.5**	**+0.5**
PB08				*e*S	**Sn**	**20 03 26.0**	**+1.2**
PB08	**IPOC Station P**	**2.08**	**352⇓**	*i*P	**Pn**	**20 02 58.1**	**+1.1**
PB08				*i* S	**Sn**	**20 03 25.2**	**+0.4**
PB08				IAML		20 03 27.7	
	comp=E,510nm,0.2s						
PB14	**IPOC Station P**	**2.81**	**211**	*e*P	**Pn**	**20 03 06.5**	**+0.6**
PB14				*e*S	**Sn**	**20 03 39.5**	**-1.2**
PB14	**IPOC Station P**	**2.81**	**211**	*e*P	**Pn**	**20 03 06.8**	**+0.9**
GO02	**Mina Guanaco**	**3.02**	**193**	*e*P	**Pn**	**20 03 08.7**	**+0.1**
GO02				*e*S	Sn	20 03 33.2	-12
GO02				IAML		20 03 49.9	
	comp=Z,354nm,0.1s						
GO02	**Mina Guanaco**	**3.02**	**193⇑**	*i*P	**Pn**	**20 03 09.4**	**+0.8**
GO02				*e*S	**Sn**	**20 03 45.0**	**-0.6**
GO02				IAML		20 03 48.3	
	comp=N,442nm,0.4s						
YJA	**Yavi**	**3.08**	**90**	*e*P	**Pn**	**20 03 09.5**	**+0.1**
PB12	**IPOC Station P**	**3.84**	**338**	*e*P	**Pn**	**20 03 18.5**	**-0.5**
PB12				*e*S	**Sn**	**20 04 02.5**	**-1.7**
PB12	**IPOC Station P**	**3.84**	**338**	*e*P	**Pn**	**20 03 18.4**	**-0.6**
PB12				*e*S	**Sn**	**20 04 01.5**	**-2.6**
SLA	**San Lorenzo**	**3.95**	**130**	*e*P	**Pn**	**20 03 21.8**	**+1.3**
AZAP	**Zapla**	**4.01**	**121**	*e*P	**Pn**	**20 03 20.9**	**-0.4**
AZAP				*e*S	Sn	20 04 25.1	+17
AC01	**Pan de Azucar**	**4.24**	**202**	*e*P	**Pn**	**20 03 24.1**	**0.0**
AC01				*e*S	**Sn**	**20 04 12.5**	**-1.0**
AC02	**Maricunga**	**4.62**	**183**	*e*P	**Pn**	**20 03 30.9**	**+1.3**
AC02				*e*S	Sn	20 04 14.6	-8.4

AUST 11 20:04:11.2±0.4, 17°.S±2°.×12°.9E±°, h10km, mb3.7/3, ML2.7/4, Error ellipse: s-maj=6.7km s-min=4.5km az=85.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**1.00**	**354**	P	Pb	20 04 30.8	+0.2
KNRA				S	Sb	20 04 43.7	-0.1
FITZ	**Fitzroy Crossi**	**3.40**	**245**	P	Pn	20 05 02.9	-1.4
MTN	**Manton Dam**	**4.39**	**30**	P	Pn	20 05 19.9	+1.9
MTN	**Manton Dam**	**4.39**	**30**	S	Sn	20 06 10.1	+0.8
DRS	**Darwin Rock St**	**4.65**	**25**	S	Sn	20 06 16.2	+0.5
KDU	**Kakadu**	**5.28**	**42**	P	Pn	20 05 31.4	+1.2
	comp=Z,0.0nmcomp=Z,11nm,2.0s						
KDU	**Kakadu**	**5.28**	**42**	S	Sn	20 06 31.2	+0.1
WRAB	**Tennant Creek**	**6.13**	**123**	P	Pn	20 05 43.0	+1.1
WRAB				S	Sn	20 06 53.1	+1.0
BOXOZ	**Borroloola**	**7.16**	**86**	S	Sn	20 07 17.5	+0.1
WRKA	**Warakurna**	**8.34**	**184**	P	Pn	20 06 12.6	+0.3
	comp=Z,0.1nmcomp=Z,13nm,2.2s						
WRKA	**Warakurna**	**8.34**	**184**	S	Sn	20 07 41.0	-5.5
AS08	**Alice Springs**	**8.45**	**146**	P	Pn	20 06 13.2	-0.6
	comp=Z,0.0nmcomp=Z,5.4nm,1.1s						

*GUC **11** 20:11:35.6±0.4, 18°.78S×67°.58W, h286km±7km, ML3.5*
*SCB **11** 20:11:35.4±1.2, 18°.72S×67°.18W, h248km±15km, ML3.0/3, MW3.4, Error ellipse: s-maj=5.7km s-min=3.1km az=1.0*

ISC 11 20:11:34.1±2.4, 18°.71S±0°.06×67°.23W±0°.05, h256km±19km, n18, σ1§56/27, 3D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.64**	**283**	Pg	**Pn**	**20 12 10.2**	**+1.4**
SOET	**ToroToro**	**1.47**	**67**	Pg	**Pn**	**20 12 13.6**	**+0.4**
SOEJ	**Jacaque**	**1.95**	**332**	Pg	**Pn**	**20 12 19.2**	**+1.9**
AOEA	**Aiquile**	**1.97**	**75**	Pg	**Pn**	**20 12 17.8**	**+0.6**
AOEA				Sg	**S**	**20 12 49.2**	**-1.9**
AOEA				IAML		20 12 51.1	
	68nm,0.8s						
BBOE	**La Paz, Chanca**	**2.02**	**339**	Pg	**Pn**	**20 12 19.7**	**+1.8**
PB08	**IPOC Station P**	**2.31**	**231⇓**	*i*P	**Pn**	**20 12 21.8**	**+1.5**
PB08				*e*S	**S**	**20 12 57.4**	**+0.5**
PB08				IAML		20 13 06.6	
	comp=E,80nm,0.2s						
PB08	**IPOC Station P**	**2.31**	**231**	Pg	**Pn**	**20 12 21.9**	**+1.6**
BBOD	**La Paz, Gloria**	**2.44**	**327**	Pg	**Pn**	**20 12 23.5**	**+1.7**
LPAZ	**La Paz**	**2.55**	**340**	Pg	**Pn**	**20 12 24.0**	**+0.9**
PB12	**IPOC Station P**	**2.94**	**271**	*i* P	**Pn**	**20 12 26.8**	**+0.4**
PB12				*i* S	**S**	**20 13 05.7**	**-2.1**
PB12				IAML		20 13 07.8	
	comp=E,305nm,0.1s						
MOCB	**Mochara**	**2.94**	**150**	Pg	**Pn**	**20 12 27.8**	**+1.0**
MOCB				Sg	**S**	**20 13 07.7**	**-0.8**
MOCB				IAML		20 13 15.4	
	comp=E,11nm,1.0s						
AP01	**Chacalluta**	**2.97**	**276**	*e*P	**Pn**	**20 12 27.4**	**+0.8**
AP01				*e*S	**S**	**20 13 06.5**	**-1.8**
PB01	**IPOC Station P**	**3.15**	**222**	*e*P	**Pn**	**20 12 29.4**	**+0.8**
PB01				*e*S	**S**	**20 13 10.3**	**-1.6**
PB01	**IPOC Station P**	**3.15**	**222**	Pg	**Pn**	**20 12 29.8**	**+1.2**
PB01				Sg	**S**	**20 13 11.3**	**-0.6**
PB01				IAML		20 13 15.9	
	comp=E,31nm,0.3s						
TA01	**Diego Aracena**	**3.34**	**236**	*e*P	**Pn**	**20 12 31.3**	**+0.7**
TA01				*e*S	**S**	**20 13 12.4**	**-3.1**
PB09	**IPOC Station P**	**3.61**	**211⇓**	*e*P	**Pn**	**20 12 35.7**	**+1.9**
PB09				*e*S	**S**	**20 13 20.8**	**-0.4**
PB09	**IPOC Station P**	**3.61**	**211**	Pg	**Pn**	**20 12 36.2**	**+2.4**
GO02	**Mina Guanaco**	**6.79**	**198⇓**	*e*P	**Pn**	**20 13 12.7**	**+0.2**

*IDC **11** 20:39:53.8±1.1, 9°.92N×126°.50E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=59.6km s-min=19.9km az=69.0*

ISC 11 20:39:59.8±1.1, 9°.9N±0°.2×126°.5E±0°.4, h42km, n17, σ0§83/11, mb3.9/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**28.00**	**291**	P	**P**	**20 45 47.3**	**+0.3**
	0.4nm,0.5s,baz=97,slow=6.5,SNR=5.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**30.63**	**165**	P	**P**	**20 46 10.1**	**-0.2**
	1.1nm,1.2s,baz=343,slow=8.0,SNR=2.0						
	1.1nm,1.2s						
ASAR	**Alice Springs**	**34.12**	**168**	P	**P**	**20 46 41.1**	**+0.2**
	0.3nm,0.6s,baz=350,slow=7.0,SNR=4.5						
	0.3nm,0.6s						
H11S3	**WAKE ISLAND Hy 39.83**	**73**	T	T		21 30 25.2	
	baz=262,slow=74,SNR=6.7						
H11S1	**WAKE ISLAND Hy 39.84**	**73**	T	T		21 30 26.5	
	baz=262,slow=74,SNR=6.0						
H11S2	**WAKE ISLAND Hy 39.84**	**73**	T	T		21 30 27.9	
	baz=262,slow=74,SNR=5.9						
H11N1	**WAKE ISLAND Hy 40.17**	**71**	T	T		21 31 02.2	
	baz=265,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy 40.18**	**71**	T	T		21 30 58.5	
	baz=265,slow=74,SNR=11						
H11N3	**WAKE ISLAND Hy 40.19**	**71**	T	T		21 30 57.1	
	baz=265,slow=74,SNR=13						
SONM	**Songino Array**	**41.45**	**340**	P	**P**	**20 47 43.6**	**+1.0**
	1.2nm,0.7s,baz=158,slow=9.5,SNR=10						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**52.46**	**323**	P	**P**	**20 49 08.1**	**-0.4**
	1.2nm,0.7s,baz=123,slow=8.4,SNR=18						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**55.06**	**331**	P	**P**	**20 49 26.4**	**-0.9**
	0.4nm,0.3s,baz=140,slow=8.3,SNR=2.2						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**56.51**	**325**	P	**P**	**20 49 37.4**	**-0.3**
	1.0nm,0.3s,baz=128,slow=6.1,SNR=4.2						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**62.10**	**325**	P	**P**	**20 50 14.6**	**-1.8**
	0.2nm,0.5s,baz=115,slow=6.8,SNR=2.0						
	0.2nm,0.5s						
NRIK	**Noril'sk**	**64.44**	**346**	P	**P**	**20 50 31.4**	**-0.1**
	0.8nm,0.3s,baz=129,slow=4.7,SNR=3.8						
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**84.63**	**340**	P	**P**	**20 52 29.1**	**+0.4**
	1.5nm,0.6s,baz=74,slow=5.3,SNR=5.9						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**86.33**	**332**	P	**P**	**20 52 37.4**	**+0.1**
	1.2nm,0.8s,baz=49,slow=4.2,SNR=3.7						
	1.2nm,0.8s						

*IDC **11** 21:00:20.7±2.1, 43°.78N×105°.28W, h0km, mbtmp3.4/2, ML3.0/2, Error ellipse: s-maj=54.4km s-min=9.7km az=150.0*

*NEIC **11** 21:00:23.8±0.4, 43°.58N±0°.03×105°.3W±0°.2, h0km±1km, ML3.2/52, Error ellipse: s-maj=18.9km s-min=5.5km az=87.0*

ISC 11 21:00:23.6±1.1, 43°.56N±0°.05×105°.28W±0°.05, h0km, n33, σ1§47/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**58**		**Pg**	**21 00 44.9**	**+1.0**
K22A	**Casper**	**1.29**	**225**		**Pg**	**21 00 48.4**	**+0.1**
N23A	**Red Feather La**	**2.71**	**191**	Pn	**Pn**	**21 01 10.3**	**+1.6**
N23A				IAML		21 01 59.4	
	comp=E,80nm,0.5s						
LAO	**LASA Array**	**3.20**	**348**	Pn	**Pn**	**21 01 16.5**	**+1.4**
LAO				IAML		21 02 13.5	
	comp=E,91nm,2.4s						
LAO				IAML		21 02 16.6	
	comp=E,82nm,2.5s						
PD31	**Pinedale Array**	**3.23**	**257**	Pn	**Pn**	**21 01 17.8**	**+2.0**
PDAR	**Pinedale Array**	**3.23**	**257**	Pn	**Pb**	**21 01 19.8**	**-2.1**
PDAR	**Pinedale Array**	**3.23**	**257**	Pn	**Pn**	**21 01 16.7**	**+1.0**
	comp=E,0.9nm,0.3s,baz=76,slow=16,SNR=24						
PDAR				Lg	Lg	21 02 03.2	
	comp=E,5.8nm,0.3s,baz=70,slow=33,SNR=5.4						
	comp=E,1.0nm,0.3s						
RLMT	**Red Lodge**	**3.26**	**300**	Pn	**Pn**	**21 01 16.8**	**+0.7**
RLMT				IAML		21 02 23.7	
	comp=E,47nm,2.3s						
OGNE	**Ogallala**	**3.56**	**136**	Pn	**Pn**	**21 01 18.6**	**-1.5**
YNE	**Yellowstone No**	**3.69**	**295**	Pn	**Pn**	**21 01 22.3**	**+0.3**
YNE				IAML		21 02 24.6	
	comp=N,51nm,0.4s						
YNE				IAML		21 02 27.0	
	comp=E,42nm,0.5s						
ISCO	**Idaho Springs**	**3.77**	**184**	Pn	**Pn**	**21 01 22.7**	**-0.5**
FLWY	**Flagg Ranch**	**3.96**	**279**	Pn	**Pn**	**21 01 27.0**	**+1.3**
FLWY				IAML		21 02 37.3	
	comp=E,41nm,2.0s						
MOOW	**Moose Ponds**	**3.97**	**275**	Pn	**Pn**	**21 01 27.0**	**+1.1**
SNOW	**Snow King Moun**	**3.98**	**270**	Pn	**Pn**	**21 01 27.2**	**+1.1**
O20A	**White River Ci**	**4.08**	**214**	Pn	**Pn**	**21 01 27.6**	**+0.2**
TPAW	**Teton Pass**	**4.12**	**271**	Pn	**Pn**	**21 01 30.2**	**+2.1**
TPAW				IAML		21 03 02.4	
	comp=E,41nm,0.7s						
TPAW				IAML		21 03 03.2	
	comp=E,29nm,0.5s						
YHH	**Holmes Hill**	**4.19**	**289**	Pn	**Pn**	**21 01 28.0**	**-1.0**
RDMU	**Red Mountain**	**4.37**	**228**	Pn	**Pn**	**21 01 33.1**	**+1.6**
RDMU				IAML		21 02 49.7	
	comp=E,29nm,1.8s						
RDMU				IAML		21 04 02.5	
	comp=N,21nm,4.1s						
YHL	**Hebgen Lake**	**4.43**	**289**	Pn	**Pn**	**21 01 33.7**	**+1.3**
YHL				IAML		21 03 02.5	
	comp=N,30nm,1.7s						
YHL				IAML		21 03 10.5	
	comp=E,29nm,2.5s						
Q24A	**Divide**	**4.59**	**179**	Pn	**Pn**	**21 01 36.3**	**+1.7**
DGMT	**Dagmar**	**4.97**	**8**	Pn	**Pn**	**21 01 39.7**	**+0.2**
BOZ	**Bozeman (W)**	**4.97**	**296**	Pn	**Pn**	**21 01 39.8**	**+0.2**
BOZ				IAML		21 03 30.7	
	comp=E,13nm,4.9s						
BOZ				IAML		21 04 42.4	
	comp=E,17nm,4.2s						
HWUT	**Hardware Ranch**	**5.04**	**249**	Pn	**Pn**	**21 01 41.4**	**+0.9**
HWUT				IAML		21 03 24.5	
	comp=E,20nm,2.8s						
BSUT	**Blindstream Ca**	**5.08**	**235**	Pn	**Pn**	**21 01 42.5**	**+1.2**
BSUT				IAML		21 03 23.4	
	comp=N,15nm,4.1s						
BSUT				IAML		21 03 24.5	
	comp=E,20nm,4.8s						
TCUT	**Toone Canyon**	**5.16**	**244**	Pn	**Pn**	**21 01 41.2**	**-1.0**
P18A	**Preston Nutter**	**5.41**	**225**	Pn	**Pn**	**21 01 46.8**	**+1.0**
EGMT	**Eagleton**	**5.45**	**327**	Pn	**Pn**	**21 01 47.3**	**+1.2**
HRY	**Holter Researc**	**5.60**	**306**	Pn	**Pn**	**21 01 48.5**	**+0.3**
PV11	**David Mesa, Pa**	**5.92**	**209**	Pn	**Pn**	**21 01 55.4**	**+2.7**
PV13	**Radium Mtn., P**	**6.03**	**208**	Pn	**Pn**	**21 01 56.3**	**+2.1**
MSU	**Marysvale**	**7.25**	**228**	Pn	**Pn**	**21 02 13.9**	**+2.9**
I10CA	**LAC DU BONNET**	**9.17**	**40**	I	I	21 53 30.0	
	comp=E,0.3nm,1.4s,baz=224,slow=319,SNR=1.8						
ULM	**Lac du Bonnet**	**9.28**	**41**	Pn	Pn	21 02 30.6	-7.9
	comp=E,0.6nm,0.3s,baz=235,slow=14,SNR=6.6						
ULM				Lg	Lg	21 05 05.6	
	comp=E,0.3nm,0.3s,baz=327,slow=22,SNR=1.4						
	comp=E,1.6nm,0.3s						

*IDC **11** 21:06:50.8±3.8, 11°.68N×86°.17W, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=116.6km s-min=66.6km az=44.0*
*CATAC **11** 21:06:52.1±0.7, 11°.N±5°.×8°.7W±°., h5km, M4.2/18, MLv4.2/18, Error ellipse: s-maj=12.3km s-min=7.2km az=39.2, rejected*
*UCR **11** 21:06:59.9±1.1, 11°.63N×87°.10W, h26km±17km, MW4.1*
*SNET **11** 21:07:00.0±1.1, 11°.50N×87°.22W, h35km±312km, ML3.8*

ISC 11 21:07:00.5±0.9, 11°.63N±0°.05×87°.10W±0°.05, h49km, n74, σ1§05/77, mb3.6/5, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.73**	**42**	P	**Pn**	**21 07 14.6**	**-0.1**
COPN	**Copaltepe**	**0.73**	**42**	P	**Pn**	**21 07 14.4**	**-0.2**
LEVN	**Ruinas Leon Vi**	**0.90**	**32**	P	**Pn**	**21 07 16.8**	**0.0**
LEVN	**Ruinas Leon Vi**	**0.90**	**32**	P	**Pn**	**21 07 16.7**	**-0.1**
MACN	**El Madrono**	**0.92**	**26**	P	**Pn**	**21 07 17.2**	**-0.1**
MACN	**El Madrono**	**0.92**	**26**	P	**Pn**	**21 07 17.1**	**-0.1**
CNGA	**AI SSO del Vol**	**0.94**	**24**	P	**Pn**	**21 07 17.4**	**0.0**
CNGA	**AI SSO del Vol**	**0.94**	**24**	P	**Pn**	**21 07 17.3**	**0.0**
APQ2	**Apoyeque**	**0.94**	**53**	P	**Pn**	**21 07 17.1**	**-0.2**
APQ2	**Apoyeque**	**0.94**	**53**	P	**Pn**	**21 07 15.7**	**-1.7**
APYN	**Apoyeque**	**0.94**	**51**	P	**Pn**	**21 07 17.2**	**-0.2**
MOMN	**Momotombo**	**0.94**	**35**	P	**Pn**	**21 07 17.3**	**-0.2**
MOMN	**Momotombo**	**0.94**	**35**	P	**Pn**	**21 07 17.4**	**-0.1**
ROCN	**Rota Cerro Neg**	**0.94**	**21**	P	**Pn**	**21 07 16.1**	**-1.4**
ROCN	**Rota Cerro Neg**	**0.94**	**21**	P	**Pn**	**21 07 16.0**	**-1.4**
TISN	**Laguna Tiscapa**	**0.95**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	Pacayal	2.18	327	eP	Pn	21 07 35.1	+0.6
TENO	El Achiote	2.27	114	eP	Pn	21 07 35.9	+0.2
VERA	Finca Concepci	2.32	109	eP	Pn	21 07 36.2	0.0
INDI	Punta indio, G	2.35	138	P	Pn	21 07 30.0	-6.6
SCLA	Alcaldia de Sa	2.60	322	P	Pn	21 07 36.3	-3.8
VARE2	V. Arenal	2.61	116	eP	Pn	21 07 40.8	+0.5
ARE1	Arenal 1	2.61	116	eP	Pn	21 07 40.9	+0.7
CEDE	Laguna Cedeo	2.61	116	eP	Pn	21 07 41.2	+1.0
COEG	Centro de Oper	2.63	319	eS	Sn	21 08 13.4	+2.0
COEG				IAML		21 08 18.8	
	comp=Z,200nm,0.4s						
SOCE	Pocosol	2.73	117	eP	Pn	21 07 42.7	+0.8
LFRS	El Faro	2.75	316	eP	Pn	21 07 42.7	+0.4
ESPN	Las Esperanzas	2.79	78	eP	Pn	21 07 43.0	+0.3
NUBE	Las Nubes	3.46	311	eP	Pn	21 07 50.8	-1.2
NUBE				eS	Sn	21 08 31.6	-0.2
TXAR	Lajitas Array	23.42	321	P	P	21 12 06.7	+1.2
	comp=Z,1.4nm,0.7s,baz=136,slow=10,SNR=12						
	comp=Z,1.4nm,0.7s						
PDAR	Pinedale Array	36.65	332	P	P	21 14 03.6	+1.0
	comp=Z,0.2nm,0.4s,baz=141,slow=8.3,SNR=2.9						
	comp=Z,0.2nm,0.4s						
ULM	Lac du Bonnet	39.17	351	P	P	21 14 20.4	-3.1
	comp=Z,1.6nm,0.7s,baz=163,slow=10.0,SNR=2.9						
	comp=Z,1.6nm,0.7s						
YKA	Yellowknife Ar	54.48	345	P	P	21 16 21.7	-1.2
	comp=Z,0.6nm,0.8s,baz=146,slow=7.2,SNR=9.9						
	comp=Z,0.6nm,0.8s						
ILAR	Eielson Array	66.90	336	P	P	21 17 46.8	-0.6
	comp=Z,0.2nm,0.6s,baz=121,slow=7.1,SNR=2.6						
	comp=Z,0.2nm,0.6s						
CMAR	Chiang Mai Arr	149.51	349	PKPbc	PKPdf	21 26 42.8	+2.0
	comp=Z,0.4nm,0.5s,baz=31,slow=4.0,SNR=4.2						

TAP ***11*** *21:14:51.9, 23°.93N×122°.43E, h20km, ML2.6, D*
JMA ***11*** *21:14:52.3±0.2, 24°.N±1°.×122°.5E±0°.7, h20km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*

ISC 11 21:14:52.2±1.0, 23°.93N±0°.03×122°.45E±0°.02, h26km±8km, n59, σ0s57/91, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.23	329	iP	Pb	21 14 57.9	0.0
EOS4				iS	Sb	21 15 02.1	+0.3
EOS3	EOS3	0.38	342	iP	Pb	21 15 00.3	0.0
EOS3				S	Sb	21 15 05.9	0.0
EOS2	EOS2	0.53	338	iP	Pb	21 15 03.1	+0.3
JYNG	Yonagunijimaku	0.69	41	P	Pb	21 15 04.9	-0.8
JYNG				S	Sb	21 15 13.2	-1.7
YOJ	Yonaguni jima	0.74	44	eP	Pb	21 15 06.1	-0.4
YOJ	Yonaguni jima	0.74	44	eP	Pb	21 15 05.8	-0.6
YOJ				S	Sb	21 15 14.7	-1.5
EAHA	Aohua	0.76	302	eS	Sn	21 15 18.4	+0.5
TEYL	Yanliau Villag	0.78	266	eS	Sn	21 15 18.8	+0.4
TWD	Chiawan	0.79	281	eS	Sb	21 15 17.9	+0.2
EWUT	Wuta	0.80	310	P	Pb	21 15 07.3	-0.1
EWUT				S	Sn	21 15 18.8	-0.1
ENA	Nanau	0.81	308	eP	Pb	21 15 07.4	-0.3
ENA				eS	Sn	21 15 18.9	-0.4
NACB	Ninganchiao	0.82	288	eP	Pb	21 15 07.5	-0.3
NACB				eS	Sn	21 15 19.1	-0.2
SHUL	Shoufeng	0.82	260	eS	Sn	21 15 19.8	+0.4
TWC	Suao	0.87	321	eP	Pb	21 15 07.9	-0.8
ETM	Tongmen	0.87	273	eP	Pb	21 15 08.1	-0.6
ETM				eS	Sn	21 15 20.7	-0.1
ETLH	Xiulin Townshi	0.92	288	eP	Pb	21 15 09.2	-0.5
ETLH				eS	Sn	21 15 22.3	+0.2
ESL	Shilin	0.94	263	eP	Pb	21 15 08.8	-1.0
ESL				eS	Sb	21 15 21.8	0.0
LXIB	Xiulin Townshi	0.95	276	P	Pb	21 15 09.6	-0.5
LXIB				eS	Sn	21 15 22.9	0.0
EGFH	Guangfu	0.97	255	eS	Sn	21 15 23.4	+0.3
NDS	Dongshan	0.97	317	eP	Pn	21 15 10.5	+0.3
WARBT	Fenglin Townsh	0.99	258	eP	Pb	21 15 10.1	-0.7
WARBT				eS	Sn	21 15 24.0	+0.2
HGSD	Ruisui	1.03	245	eP	Pn	21 15 11.6	+0.6
HGSD				eS	Sn	21 15 26.3	+1.6
LATG	Datong	1.03	306	eP	Pn	21 15 11.3	+0.1
LATG				eS	Sn	21 15 25.5	+0.5
TWE	Neicheng	1.06	318	eP	Pn	21 15 11.8	+0.4
ENTT	Nioudou	1.07	312	eP	Pn	21 15 11.9	+0.3
NNSB	Datong	1.09	297	P	Pb	21 15 12.1	-0.4
NNSB				S	Sn	21 15 26.9	+0.6
NNSH	Datong	1.09	297	eP	Pb	21 15 11.8	-0.7
WHF	Hehuan Shan	1.10	282	eP	Pb	21 15 12.2	-0.6
NNS	Nan Shan	1.10	298	eP	Pb	21 15 12.2	-0.5
NNS				eS	Sn	21 15 27.0	+0.3
FUSB	Fushanzhiwuyua	1.14	317	eP	Pb	21 15 13.2	-0.1
FUSB				eS	Sn	21 15 28.2	+0.7
FUSS	Fushou	1.14	286	eP	Pn	21 15 13.0	+0.2
FUSS				eS	Sn	21 15 28.3	+0.5
OWD	Renai	1.16	272	eP	Pn	21 15 13.1	+0.1
OWD				eS	Sn	21 15 28.4	+0.2
YULB	Yu-li	1.18	243	eP	Pn	21 15 13.2	+0.1
YULB				iS	Sb	21 15 28.3	-0.5
TIPB	Shuangxi	1.18	332	eP	Pn	21 15 13.3	+0.2
TIPB				eS	Sn	21 15 28.8	+0.3
EYUL	Yuli	1.19	241	eP	Pn	21 15 13.5	+0.3
EYUL				eS	Sn	21 15 29.1	+0.7
TWF1	Yuli	1.20	242	eP	Pn	21 15 14.0	+0.6
TWT	Tachien	1.21	286	eP	Pb	21 15 14.4	-0.1
NWLT	Wulai	1.21	315	eP	Pn	21 15 13.7	+0.2
VWDT	VWDT	1.21	262	eP	Pn	21 15 13.9	+0.5
VWDT				eS	Sn	21 15 29.5	+0.6
WUSB	Renai	1.22	273	eP	Pn	21 15 13.9	+0.2
WUSB				eS	Sn	21 15 30.0	+0.6
YHNB	Yeheng	1.22	307	eP	Pb	21 15 14.2	-0.6
IRIF	Iriomote-Funau	1.24	71	eP	Pb	21 15 14.6	-0.4
IRIF				eS	Sn	21 15 31.0	+1.2
NSK	Sanguang	1.24	307	eP	Pn	21 15 14.3	+0.3
HATJ	Hateruma jima	1.25	84	eS	Sb	21 15 30.9	+0.2
SXI1	Grass Mountain	1.27	336	eP	Pn	21 15 14.3	-0.1
SXI1				eS	Sn	21 15 31.7	+1.0
FULB	Fuli	1.28	236	eP	Pn	21 15 14.5	-0.1
FULB				eS	Sn	21 15 30.8	-0.2
NWF	Wu-fen Shan	1.29	332	eP	Pn	21 15 14.9	+0.3
NWF				eS	Sb	21 15 32.0	0.0
SSLB	Suanglung	1.37	264	eP	Pn	21 15 16.5	+0.7
SSLB				eS	Sn	21 15 32.9	-0.3
NFF	Wufeng Townshi	1.40	300	eP	Pb	21 15 17.5	-0.2
NFF				eS	Sb	21 15 35.0	-0.2
WCS	Beigang Elemen	1.41	276	eP	Pn	21 15 16.9	+0.6
WHP	Taichung City	1.42	285	eP	Pb	21 15 18.7	+0.7
WHP				eS	Sb	21 15 35.3	-0.3
KSHI	Guanxi Townshi	1.43	306	eP	Pb	21 15 17.7	-0.5
TYC	Yuchr	1.46	269	eP	Pb	21 15 17.8	-0.8
TYC				eS	Sn	21 15 35.9	+0.8
JKRS	Kuro-shima	1.46	78	eS	Sb	21 15 37.5	+0.6
WHYT	Xinyi Township	1.48	261	eP	Pb	21 15 18.3	-0.8
ZUZH	Zhuzihu	1.48	326	eP	Pb	21 15 17.9	-1.1
LIOB	Emei	1.49	299	eP	Pb	21 15 18.5	-0.7
ELDTW	Lidau	1.50	241	eP	Pn	21 15 17.3	-0.3
JIJ	Ishigaki jima	1.61	74	eS	Sb	21 15 41.6	+0.5

IDC ***11*** *21:36:13.9±0.8, 24°.09N×141°.87E, h83km±6km, mb3.5/9, mbtmp3.9/12, Error ellipse: s-maj=23.4km s-min=15.1km az=86.0*
NEIC ***11*** *21:36:14.4±1.4, 24°.05N±0°.09×141°.8E±0°.2, h74km±8km, mb4.3/26, Error ellipse: s-maj=28.3km s-min=13.3km az=95.0*

ISC 11 21:36:14.1±0.7, 24°.11N±0°.07×141°.8E±0°.2, h80km, n54, σ1s35/54, mb4.3/22, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.99	6	P	Pn	21 37 00.3	+1.0
JCJ				Sn	Sn	21 37 34.6	+0.5
JCJ	Chichijima	2.99	6	P	Pn	21 36 55.2	-4.2
	156nm,0.4s,baz=69,slow=24,SNR=28						
JCJ				S	Sn	21 37 30.2	-4.0
	226nm,0.3s,baz=118,slow=22,SNR=7.3						
JGF	Kuroka	12.09	342		Pn	21 39 02.4	-1.0
MJAR	Matsushiro Arr	12.78	347	P	Pn	21 39 11.1	-1.6
	0.9nm,0.3s,baz=161,slow=10.0,SNR=2.8						
MAJO	Matsushiro	12.78	347	Pn	Pn	21 39 11.1	-1.6
MJB9	Matsu-Tunnel	12.79	347	Pn	Pn	21 39 13.4	+0.7
JMM	Marumori	13.74	356	Pn	Pn	21 39 22.1	-3.2
JTM	Tenmabayashi	16.64	358		P	21 40 04.9	+1.5
KSRS	Korea Array	17.86	321	P	P	21 40 16.8	0.0
	0.4nm,0.4s,baz=125,slow=12,SNR=1.8						
ASAJ	Asahikawa	19.97	2	P	P	21 40 38.2	-1.6
	9.1nm,1.1s,baz=170,slow=6.1,SNR=4.2						
JKA	Kamikawa-asahi	19.97	2		P	21 40 41.1	+1.3
JKA				IAmb	IAmb	21 40 43.3	
	comp=Z,29nm,1.4s						
H11N1	WAKE ISLAND Hy 23.63	96		T	T	22 05 37.1	
	baz=283,slow=75,SNR=7.6						
H11N2	WAKE ISLAND Hy 23.63	96		T	T	22 05 43.4	
	baz=283,slow=75,SNR=8.9						
H11N3	WAKE ISLAND Hy 23.65	96		T	T	22 05 47.9	
	baz=283,slow=75,SNR=11						
H11S3	WAKE ISLAND Hy 23.79	99		T	T	22 06 49.5	
	baz=289,slow=75,SNR=3.4						
H11S1	WAKE ISLAND Hy 23.80	99		T	T	22 06 51.3	
	baz=289,slow=75,SNR=5.0						
H11S2	WAKE ISLAND Hy 23.81	99		T	T	22 06 52.0	
	baz=289,slow=75,SNR=4.0						
WB0	Warramunga Arr	44.21	190	P	P	21 44 14.8	-0.7
WB0				IAmb	IAmb	21 44 57.4	
	comp=Z,4.6nm,1.1s						
WR0	Warramunga Arr	44.38	190	P	P	21 44 15.9	-0.8
WR0				IAmb	IAmb	21 44 20.6	
	comp=Z,7.2nm,1.4s						
WRAB	Tennant Creek	44.38	190	P	P	21 44 16.1	-0.7
WB2	Warramunga Arr	44.39	190	P	P	21 44 15.7	-1.2
WB2				IAmb	IAmb	21 44 16.8	
	comp=Z,4.4nm,0.7s						
WRA	Warramunga Arr	44.39	190	P	P	21 44 15.2	-1.7
WRA	Warramunga Arr	44.39	190	P	P	21 44 16.1	-0.8
	comp=Z,2.4nm,0.5s,baz=9.0,slow=8.5,SNR=30						
WRA				PcP	PcP	21 45 58.9	-0.7
	comp=Z,0.7nm,0.6s,baz=18,slow=3.9,SNR=7.0						
	comp=Z,2.4nm,0.5s						
FITZ	Fitzroy Crossi	44.83	202	P	P	21 44 20.2	-0.2
ASAR	Alice Springs	48.11	190	P	P	21 44 44.8	-1.2
	comp=Z,0.7nm,0.5s,baz=15,slow=9.3,SNR=12						
	comp=Z,0.7nm,0.5s						
MK31	Makanchi Array	52.17	311	P	P	21 45 17.8	+1.3
MKAR	Makanchi Array	52.17	311	P	P	21 45 17.2	+0.6
MKAR	Makanchi Array	52.17	311	P	P	21 45 16.3	-0.3
	comp=Z,0.3nm,0.4s,baz=84,slow=8.8,SNR=13						
	comp=Z,0.3nm,0.4s						
KURBB	Kurchatov Arra	54.93	316	P	P	21 45 36.0	-0.7
	comp=Z,0.4nm,0.4s,baz=92,slow=8.0,SNR=3.3						
	comp=Z,0.4nm,0.4s						
K20K	Telida	57.14	29	P	P	21 45 53.4	+1.2
J20K	Nowinta River	57.28	28	P	P	21 45 55.1	+2.0
B20K	Meade River	57.74	21	P	P	21 45 57.5	+1.2
B20K				IAmb	IAmb	21 46 38.5	
	comp=Z,3.8nm,1.1s						
H21K	Melozitna Rive	58.16	26	P	P	21 46 01.6	+2.3
H21K				IAmb	IAmb	21 46 05.0	
	comp=Z,5.1nm,1.2s						
B21K	Ikpikpuk River	58.46	22	P	P	21 46 03.5	+2.2
B21K				IAmb	IAmb	21 46 05.0	
	comp=Z,3.5nm,1.1s						
D22K	Ayikyak River	58.93	23	P	P	21 46 06.0	+1.4
C23K	Itkillik River	59.87	22	P	P	21 46 12.6	+1.6
BVAR	Borovoye Array	60.05	319	P	P	21 46 12.5	-0.1
	comp=Z,0.7nm,0.4s,baz=84,slow=6.4,SNR=13						
BVAR				pP	pP	21 46 33.7	+0.9
	comp=Z,0.8nm,0.4s,baz=86,slow=6.6,SNR=4.2						
	comp=Z,0.7nm,0.4s						
H24K	Noodor Dome	60.19	27	P	P	21 46 15.2	+1.8
H24K				IAmb	IAmb	21 46 28.5	
	comp=Z,4.0nm,1.4s						
ILAR	Eielson Array	60.48	28	P	P	21 46 14.5	-0.8
	comp=Z,1.0nm,0.8s,baz=271,slow=5.4,SNR=9.5						
ILAR				pP	pP	21 46 35.9	+1.0
	comp=Z,0.7nm,0.7s,baz=254,slow=5.7,SNR=4.4						
	comp=Z,1.0nm,0.8s						
D25K	Kavik River	61.24	23	P	P	21 46 20.8	+0.4
D25K				IAmb	IAmb	21 46 23.0	
	comp=Z,2.1nm,0.7s						
BMAR	Burnt Mountain	61.68	25	P	P	21 46 25.2	+1.8
F26K	Sheenjek River	61.87	25	P	P	21 46 26.1	+1.4
F26K				IAmb	IAmb	21 46 49.1	
	comp=Z,3.7nm,1.4s						
E28M	Babbage River	63.64	24	P	P	21 46 38.1	+1.7
E28M				IAmb	IAmb	21 47 04.8	
	comp=Z,4.4nm,1.4s						
E29M	Blow River	64.24	24	P	P	21 46 41.8	+1.5
E29M				IAmb	IAmb	21 46 52.7	
	comp=Z,4.1nm,1.2s						
G30M	tAoh Zraii Nji	64.92	25	P	P	21 46 44.7	-0.1
G30M				IAmb	IAmb	21 46 56.3	
	comp=Z,6.4nm,1.4s						
G31M	Satah River	65.69	25	P	P	21 46 50.4	+0.7
ABKAR	Akbulak array	66.97	315	P	P	21 46 58.2	0.0
YKA	Yellowknife Ar	74.91	28	P	P	21 47 46.3	+0.3
	comp=Z,0.1nm,0.3s,baz=292,slow=6.1,SNR=4.0						
YKA				pP	pP	21 48 07.2	+1.0
	comp=Z,0.5nm,0.7s,baz=291,slow=6.1,SNR=6.0						
	comp=Z,0.1nm,0.3s						
FINES	FINESS Array B	80.48	334	P	P	21 48 17.0	-0.1
	comp=Z,3.8nm,1.0s,baz=62,slow=4.8,SNR=3.4						
FINES				pP	pP	21 48 38.4	+0.8
	comp=Z,3.4nm,1.0s,baz=66,slow=4.6,SNR=1.5						
	comp=Z,3.8nm,1.0s						
NVAR	Mina Array Bea	82.61	51	P	P	21 48 28.9	-0.2
	comp=Z,0.6nm,0.7s,baz=274,slow=4.3,SNR=4.3						
	comp=Z,0.6nm,0.7s						
GMN	Gold Mountain	83.84	52	P	P	21 48 35.6	+0.2
TPNV	Topopah Spring	84.72	52	P	P	21 48 40.0	+0.2
TPNV				IAmb	IAmb	21 49 09.4	
	comp=Z,4.8nm,1.3s						
PLCA	Paso Flores	148.25	129	PKPbc	PKPbc	21 55 50.0	-1.2
	comp=Z,1.9nm,0.9s,baz=229,slow=3.1,SNR=2.9						
HOPE	Hope Point	149.84	182	PKPdf	PKPdf	21 55 49.0	-0.8

DRS ***11*** *21:46:43.4, 41°.84N×49°.23E, h18km*

MOS 11 21:46:42.2, 41°.96N×49°.10E, h7km, MPVA3.7, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	Derbent	0.57	278	ePg	Pn	21 46 57.1	+0.4
DRN				eSg	Sn	21 47 05.9	-0.6
KSMR	Kasumkent	0.80	244	ePg	Pb	21 46 59.0	+0.4
KSMR				eSg	Sn	21 47 11.9	-0.4
URKR	Urkarakh	1.11	281	ePg	Pn	21 47 04.6	+0.3
URKR				eSg	Sn	21 47 20.2	+0.3
SGKR	Sergokala	1.18	296	ePg	Pn	21 47 05.7	+0.6
SGKR				eSg	Sn	21 47 22.8	+1.2
GNBR	Gunib	1.64	286	ePg	Pg	21 47 13.4	-0.3
GNBR				eSg	Sg	21 47 37.2	+2.2
KANR	Karaman	1.72	317	ePg	Pg	21 47 14.7	-0.4
KANR				eSg	Sg	21 47 39.4	+2.0
KRNR	Karanay	1.84	299	ePg	Pb	21 47 16.0	-0.3
KRNR				eSg	Sg	21 47 40.6	-0.7
UNCR	Uncukul	1.87	295	iPg	Pb	21 47 17.1	+0.5
UNCR				eSg	Sg	21 47 42.1	0.0
XNZR	Khunzakh	1.87	289	ePg	Pb	21 47 16.5	-0.3
XNZR				eSg	Sb	21 47 41.1	+0.7
DBC	Dubki	1.98	303	ePg	Pb	21 47 18.4	-0.3
DBC				eSg	Sg	21 47 45.2	-0.8
BTLR	Botlikh	2.25	289	ePn	Pb	21 47 21.8	-1.3
BTLR				eSn	Sb	21 47 51.5	+0.4
DVE	Vedeno	2.41	295	ePn	Pn	21 47 23.8	+1.7
DVE				eSn	Sn	21 47 53.7	+1.7
LACR	Lac	3.66	285	ePn	Pn	21 47 40.3	+1.0
LACR				eSn	Sn	21 48 21.6	-1.2
LSNR	Lesken	4.11	291	ePn	Pb	21 47 51.1	-3.7
LSNR				eSn	Sn	21 48 36.9	+3.1
KBZ	Khabaz	4.89	293	ePn	Pn	21 47 57.4	+1.3
KBZ				eSn	Sn	21 48 51.6	-1.3
SHA1	Shidzhatmaz	5.06	293	ePn	Pn	21 47 59.9	+1.2
SHA1				eSn	Sn	21 48 55.8	-1.6
KIV0	Kislovodsk Arr	5.11	295	ePn	Pn	21 48 00.5	+1.3
KIV0				eSn	Sn	21 48 56.5	-1.9
KIV	Kislovodsk	5.11	295	ePn	Pn	21 48 02.4	+3.1
KIV				eSn	Sn	21 48 56.0	-2.6

WEL 11 21:49:46.1±0.7, 32°S±7°×17°9W±1°7, h236km±14km, mB4.4/6, ML4.8/12, MLv4.6/12, Mw(mB)3.6/6, Error ellipse: s-maj=23.0km s-min=5.0km az=108.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.73	28	P	Pn	21 50 33.6	-1.1
GLKZ				S	S	21 51 13.9	+0.9
WMGZ	Waiomatatini S	6.38	196	P	Pn	21 51 19.4	+0.8
WMGZ				S	S	21 52 36.4	+3.9
HAZ	Te Kaha	6.49	200	P	Pn	21 51 19.1	-0.8
HAZ				S	S	21 52 35.4	+0.5
PKGZ	Pakihiroa	6.51	198	P	Pn	21 51 18.4	-1.8
PKGZ				S	S	21 52 35.9	+0.4
RUGZ	Raukumara Rang	6.71	200	P	Pn	21 51 20.7	-2.3
RUGZ				S	S	21 52 39.1	-1.3
WCZ	Waipu Caves	6.72	229	P	Pn	21 51 22.7	-0.3
TWGZ	Tauwhareparae	6.83	198	P	Pn	21 51 27.6	+3.3
TWGZ				S	S	21 52 44.1	+1.2
OUZ	Omahuta	6.84	237	P	Pn	21 51 25.8	+1.3
CNGZ	Carnagh Statio	7.06	196	P	Pn	21 51 28.0	+0.7
CNGZ				S	S	21 52 47.0	-1.3
MWZ	Matawai	7.10	200	P	Pn	21 51 27.2	-0.6
MWZ				S	S	21 52 48.7	-0.5
URZ	Urewera	7.16	203	P	Pn	21 51 28.2	-0.3
URZ				S	S	21 52 50.7	+0.2
MUGZ	Murupara	7.47	204	P	Pn	21 51 33.4	+0.9
RTZ	Ruatahuna	7.52	202	P	Pn	21 51 34.3	+1.0
KNZ	Kokohu	7.70	197	P	Pn	21 51 36.3	+0.9
MTHZ	Maungataniwha	7.79	202	P	Pn	21 51 37.6	+1.1
BKZ	Black Stump Fm	8.18	203	P	Pn	21 51 42.1	+0.4
TMVZ	Te Maari	8.42	207	P	Pn	21 51 45.1	+0.3
ETVZ	East Tongariro	8.44	207	P	Pn	21 51 45.1	+0.2
KWHZ	Kaweka Forest	8.44	203	P	Pn	21 51 44.6	-0.3
KWHZ				S	S	21 53 18.8	-1.7
OTVZ	Oturere	8.48	207	P	Pn	21 51 45.9	+0.4
SNVZ	South Ngauruho	8.51	207	P	Pn	21 51 46.1	+0.2
KAHZ	Kahuranaki	8.64	200	P	Pn	21 51 47.5	+0.1
WNVZ	Wahianoa	8.65	207	P	Pn	21 51 47.0	-0.7
KRHZ	Kereru	8.65	202	P	Pn	21 51 45.8	-1.8
MOVZ	Moawhango	8.66	206	P	Pn	21 51 46.3	-1.4
PXZ	Pawanui	8.86	199	P	Pn	21 51 49.2	-1.0
PNHZ	Pukenui	8.96	202	P	Pn	21 51 48.6	-2.8
PRHZ	Porangahau	9.15	200	P	Pn	21 51 52.6	-1.2
BFZ	Birch Farm	9.64	200	P	Pn	21 51 57.5	-2.6
MRZ	Mangatainoka R	9.83	203	P	Pn	21 51 58.1	-4.5

IDC ***11*** *21:59:19.4±1.5, 1°.97N×121°.35E, h0km, mb3.4/4, mbtmp3.5/4, MS2.4/1, Error ellipse: s-maj=141.6km s-min=24.3km az=63.0*
DJA ***11*** *21:59:20.4±0.4, 2°N±3°×12°1E±°, h10km, M4.7/9, mb5.2/1, MLv4.4/9*

ISC 11 21:59:25.0±1.4, 1°.9N±0°.1×121°.0E±0°.2, h41km, n10, σ2s01/9, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.74	146	P	Pn	21 59 51.7	-1.1
APSI	Ampana	2.91	167	P	Pn	22 00 08.2	-0.6
PCI	Palu	3.04	202	P	Pn	22 00 04.5	-6.2
KMSI	Cibinong	3.30	114	P	Pn	22 00 13.4	-0.8
LUWI	Luwuk	3.46	149	P	Pn	22 00 15.5	-0.9
LUWI				S	Sn	22 01 00.0	+3.8
KAPI	Kappang	7.01	190	LR	LR	22 03 56.2	
	comp=Z,28nm,20.8s,baz=2.5,slow=39						
FITZ	Fitzroy Crossi	20.43	167	P	P	22 03 58.2	-0.8
	0.7nm,0.4s,baz=349,slow=5.2,SNR=1.2						
	0.7nm,0.4s						
WRA	Warramunga Arr	25.39	150	P	P	22 04 47.3	-1.5
	0.4nm,0.4s,baz=327,slow=11,SNR=12						
	0.4nm,0.4s						
ASAR	Alice Springs	28.39	154	P	P	22 05 14.5	-1.3
	0.6nm,0.6s,baz=344,slow=14,SNR=12						
	0.6nm,0.6s						
MKAR	Makanchi Array	55.91	329	P	P	22 09 00.5	+1.5
	0.2nm,0.5s,baz=131,slow=7.8,SNR=6.1						
	0.2nm,0.5s						

IDC ***11*** *22:03:23.4±1.1, 4°.34S×136°.97E, h0km, mb3.6/3, mbtmp3.7/7, ML3.7/4, MS3.1/1, Error ellipse: s-maj=36.7km s-min=14.7km az=97.0*

ISC 11 22:03:27.7±0.9, 4°.47S±0°.10×137°.3E±0°.1, h35km, n7, σ2s17/11, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.94	61	Pn	Pn	22 04 26.1	+0.4
	2.0nm,0.3s,baz=248,slow=18,SNR=5.3						
JAY				Sn	Sn	22 05 09.4	-1.3
	baz=150,slow=20						
	16nm,0.9s						
WRA	Warramunga Arr	15.65	190	Pn	Pn	22 07 04.4	-1.3
	0.2nm,0.3s,baz=6.4,slow=12,SNR=8.1						
WRA				Sn	Sn	22 09 55.5	-2.6
	0.1nm,0.3s,baz=8.5,slow=22,SNR=1.7						
	0.6nm,0.4s						
FITZ	Fitzroy Crossi	17.69	219	P	Pn	22 07 32.1	+0.6
	0.3nm,0.3s,baz=40,slow=14,SNR=1.9						
FITZ				S	Sn	22 10 44.3	-3.4
	1.5nm,0.8s,baz=287,slow=21,SNR=1.6						
	1.1nm,0.3s						
ASAR	Alice Springs	19.36	189	P	Pn	22 07 53.4	+1.6
	0.8nm,0.3s,baz=14,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**1.20**	**0**	P	**Pb**	**22 10 33.2**	**+0.2**
FSK				S	**Sn**	**22 10 46.2**	**-0.6**
EVGI	**Lefkada island**	**1.36**	**3**	P	**Pb**	**22 10 35.4**	**-0.3**
EVGI	**Lefkada island**	**1.36**	**3**	P	**Pb**	**22 10 35.6**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.46**	**5**	P	**Pb**	**22 10 37.3**	**0.0**
NYDR	**Nydri-Lefkada**	**1.46**	**5**	P	**Pb**	**22 10 37.4**	**0.0**
NYDR				S	**Sn**	**22 10 52.3**	**-0.8**
KLV	**Kalavryta, Ach**	**1.49**	**58**	P	**Pn**	**22 10 37.0**	**+1.4**
LKD2	**Lefkada island**	**1.53**	**3**	P	**Pb**	**22 10 38.2**	**-0.4**
PVO	**Paravola**	**1.56**	**29**	P	**Pb**	**22 10 39.1**	**+0.1**
PVO				S	**Sn**	**22 10 55.4**	**-0.2**
TSLK	**Tsoukalades, L**	**1.57**	**3**	P	**Pb**	**22 10 38.5**	**-0.7**
GUR	**Goura**	**1.58**	**64**	P	**Pn**	**22 10 38.2**	**+1.4**
GUR	**Goura**	**1.58**	**64**	P	**Pn**	**22 10 38.4**	**+1.6**
GUR				S	**Sn**	**22 10 55.2**	**-0.9**
EFP	**Efpalio**	**1.59**	**42**	P	**Pb**	**22 10 39.6**	**+0.1**
EFP	**Efpalio**	**1.59**	**42**	P	**Pn**	**22 10 38.6**	**+1.9**
EVR	**Evrytania**	**1.93**	**31**	P	**Pb**	**22 10 45.1**	**-0.3**
KRND	**KRANIDI**	**2.08**	**86**	P	**Pn**	**22 10 44.5**	**+1.0**
KRND	**KRANIDI**	**2.08**	**86**	P	**Pn**	**22 10 44.4**	**+1.0**
TYRN	**Tyrnavos**	**2.78**	**28**	P	**Pn**	**22 10 55.6**	**+2.4**
KEST	**Kesra**	**9.15**	**264**	P	**Pn**	**22 12 22.3**	**+1.5**
	0.1nm,0.3s,baz=94,slow=14,SNR=1.9						
KEST				S	**Sn**	**22 14 01.3**	**-1.4**
	3.7nm,0.8s,baz=178,slow=22,SNR=1.4						
	4.2nm,0.9s						
MLR	**Muntele Rosu**	**9.17**	**25**	P	**Pn**	**22 12 22.2**	**+1.2**
	1.6nm,0.8s,baz=213,slow=18						
GERES	**GERESS Array B**	**12.61**	**339**	P	**Pn**	**22 13 07.6**	**-0.4**
	0.1nm,0.3s,baz=169,slow=11,SNR=1.9						
	0.4nm,0.5s						
KBZ	**Khabaz**	**18.16**	**62**	P	**Pn**	**22 14 18.9**	**-1.6**
	baz=286,slow=7.4,SNR=2.2						
	1.0nm,0.9s						
HFS	**Hagfors**	**23.31**	**351**	P	**P**	**22 15 15.5**	**-0.4**
	5.1nm,0.9s,baz=158,slow=12,SNR=6.1						
	5.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**24.20**	**326**	P	**P**	**22 15 23.1**	**-1.3**
	2.1nm,0.8s,baz=106,slow=8.8,SNR=3.5						
	2.1nm,0.8s						
FINES	**FINESS Array B**	**24.46**	**6**	P	**P**	**22 15 26.2**	**-0.5**
	2.3nm,0.8s,baz=180,slow=9.0,SNR=3.9						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**24.53**	**349**	P	**P**	**22 15 26.6**	**-0.7**
	0.9nm,0.8s,baz=161,slow=9.2,SNR=3.4						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.34**	**220**	P	**P**	**22 16 11.6**	**+0.7**
	0.3nm,0.6s,baz=17,slow=9.9,SNR=3.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.77**	**58**	P	**P**	**22 18 28.9**	**-0.5**
	0.3nm,0.6s,baz=270,slow=7.6,SNR=6.5						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.29**	**47**	P	**P**	**22 18 33.0**	**-0.4**
	0.2nm,0.4s,baz=272,slow=10,SNR=4.2						
	0.2nm,0.4s						

*IDC **11** 22:46:43.5±1.3, 33°.01N×139°.05E, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/1, MS3.2/3, Error ellipse: s-maj=25.7km s-min=15.2km az=5.0*
*JMA **11** 22:46:46.2±0.1, 33°.6N±0°.4×140°.5E±0°.8, h44km, MV3.3/34, E OFF HACHIJOJIMA ISLAND*
ISC 11 22:46:45.8±1.2, **33°.50N**±0°.05×**140°.54E**±0°.07, **h54**km±12km, **n28**, σ0°**82**/28, **mb3.3**/3, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.71**	**238**	P	**Pn**	**22 47 00.7**	**+0.8**
JHJ2				S	**Sn**	**22 47 10.3**	**+0.2**
JHJ	**Hachijo jima 2**	**0.73**	**239**	Pn	**Pn**	**22 47 00.6**	**+0.5**
	46nm,0.3s,baz=342,slow=20,SNR=20						
JHJ				Sn	**Sn**	**22 47 10.3**	**-0.2**
	522nm,0.3s,baz=21,slow=22,SNR=52						
JHCJ	**Hachijojimakas**	**0.75**	**236**	S	**Sn**	**22 47 10.7**	**-0.3**
JMKN	**Mikurajimanish**	**0.88**	**297**	*e*P	**Pn**	**22 47 02.2**	**+0.2**
JMKN				*e*S	**Sn**	**22 47 13.1**	**-0.9**
JMYK	**Miyake Tsubota**	**0.99**	**305**	P	**Pn**	**22 47 03.8**	**+0.3**
JMYK				S	**Sn**	**22 47 16.2**	**-0.4**
BSO1	**Boso 1**	**1.21**	**18**	*e*P	**Pn**	**22 47 05.9**	**0.0**
BSO1				*e*S	**Sn**	**22 47 20.3**	**-0.7**
BSO2	**Boso 2**	**1.26**	**8**	*e*S	**Sn**	**22 47 22.9**	**+0.2**
BSO3	**Boso 3**	**1.30**	**359**	*i* P	**Pn**	**22 47 07.8**	**+0.4**
BSO3				S	**Sn**	**22 47 24.0**	**+0.4**
JKO	**Kozu shima**	**1.35**	**301**	*e*P	**Pn**	**22 47 08.7**	**+0.4**
JTHY	**Toshimahigashi**	**1.46**	**315**	P	**Pn**	**22 47 10.0**	**+0.2**
JTHY				S	**Sn**	**22 47 27.1**	**-0.6**
BSO4	**Boso 4**	**1.50**	**354**	P	**Pn**	**22 47 10.7**	**+0.5**
JIM2	**Oshima 3**	**1.52**	**323**	P	**Pn**	**22 47 10.5**	**-0.2**
JIM2				*e*S	**Sn**	**22 47 28.0**	**-1.4**
JIZS	**Izushimoda**	**1.83**	**312**	P	**Pn**	**22 47 15.5**	**+0.5**
KTJ3	**Kamata3**	**1.88**	**320**	P	**Pn**	**22 47 15.6**	**+0.1**
JOD2	**Odawara 2**	**2.13**	**326**	P	**Pn**	**22 47 19.1**	**+0.1**
MJAR	**Matsushiro Arr**	**3.59**	**328**	Pn	**Pn**	**22 47 40.9**	**+2.0**
	0.6nm,0.3s,baz=170,slow=14,SNR=19						
MJAR				Sn	**Sn**	**22 48 22.4**	**+2.4**
	baz=294,slow=11						
	6.6nm,0.3s						
JOW	**Kunigami**	**12.51**	**241**	LR	LR	22 53 36.1	
	comp=Z,23nm,18.4s,baz=120,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.17**	**114**	T	T	23 21 13.5	
	baz=306,slow=75,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**27.18**	**114**	T	T	23 21 14.5	
	baz=306,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.19**	**114**	T	T	23 21 16.2	
	baz=306,slow=75,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**27.75**	**116**	T	T	23 21 57.3	
	baz=308,slow=75,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**27.75**	**116**	T	T	23 21 57.1	
	baz=308,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**27.76**	**116**	T	T	23 21 58.2	
	baz=308,slow=75,SNR=4.4						
KRVT	**Keravat (AS076**	**39.14**	**162**	LR	LR	23 08 46.0	
	comp=Z,72nm,18.4s,baz=24,slow=34						
PMG	**Port Moresby**	**43.13**	**170**	LR	LR	23 09 18.4	
	comp=Z,68nm,21.4s,baz=14,slow=32						
ZALV	**Zalesovo Beam**	**43.84**	**315**	P	**P**	**22 54 45.8**	**-0.6**
	0.2nm,0.4s,baz=76,slow=9.2,SNR=1.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.47**	**305**	P	**P**	**22 54 58.9**	**-0.6**
	0.3nm,0.9s,baz=94,slow=8.3,SNR=4.0						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**53.47**	**187**	P	**P**	**22 56 00.6**	**0.0**
	0.7nm,1.0s,baz=7.9,slow=7.8,SNR=4.9						
	0.7nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.14**	**202**	Pn	**Pn**	**22 59 18.9**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=18,slow=8.6,SNR=24						
FITZ				Sn	**Sn**	**23 02 00.1**	**-7.5**
	comp=Z,0.4nm,0.3s,baz=53,slow=22,SNR=1.5						
WB0	**Warramunga Arr**	**15.90**	**170**	Pn	**Pn**	**22 59 29.4**	**-1.2**
WRA	**Warramunga Arr**	**16.06**	**170**	Pn	**Pn**	**22 59 30.9**	**-1.8**
WRA	**Warramunga Arr**	**16.06**	**170**	Pn	**Pn**	**22 59 31.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=14,SNR=16						
WRA				Sn	**Sn**	**23 02 24.7**	**-5.3**
	comp=Z,0.6nm,0.3s,baz=346,slow=22,SNR=6.6						
WB2	**Warramunga Arr**	**16.06**	**170**	Pn	**Pn**	**22 59 31.6**	**-1.1**
WB2				IAmb	IAmb	22 59 39.6	
	comp=Z,5.9nm,0.7s						
WR0	**Warramunga Arr**	**16.11**	**170**	Pn	**Pn**	**22 59 31.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**17.85**	**255**	Pn	**Pn**	**22 59 54.0**	**-1.1**
JAGI				IAmb	IAmb	23 00 05.1	
	comp=Z,23nm,1.2s						
QIS	**Mount Isa**	**18.21**	**155**	P	**P**	**23 00 03.1**	**+3.4**
AS31	**Alice Springs**	**19.67**	**174**	P	**Pn**	**23 00 18.2**	**+1.1**
AS31				IAmb	IAmb	23 00 22.4	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**19.67**	**174**	P	**Pn**	**23 00 18.6**	**+1.5**
ASAR	**Alice Springs**	**19.67**	**174**	P	**Pn**	**23 00 19.1**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=353,slow=10.0,SNR=98						
ASAR				S	**S**	**23 03 52.3**	**-3.7**
	comp=Z,1.0nm,0.8s,baz=359,slow=27,SNR=3.1						
	comp=Z,8.4nm,0.6s						
AS01	**Alice Springs**	**19.67**	**173**	P	**Pn**	**23 00 19.5**	**+2.3**
SBUM	**Sibu**	**20.36**	**288**	P	**P**	**23 00 23.8**	**+0.7**
SBUM				IAmb	IAmb	23 00 25.9	
	comp=Z,4.5nm,0.8s						
MBWA	**Marble Bar**	**20.55**	**213**	P	Pn	23 00 25.9	-1.6
MBWA				IAmb	IAmb	23 01 01.6	
	comp=Z,22nm,1.1s						
PSA00	**Pilbara Seismi**	**20.83**	**212**	P	**P**	**23 00 28.4**	**+0.3**
PSA00	**Pilbara Seismi**	**20.83**	**212**	P	Pn	23 00 29.3	-1.4
WRKA	**Warakurna**	**21.13**	**188**	P	**P**	**23 00 34.3**	**+2.8**
OOD	**Oodnadatta**	**23.97**	**171**	P	**P**	**23 01 03.7**	**+2.9**
LEM	**Lembang**	**23.99**	**262**	LR	LR	23 11 38.4	
	comp=Z,169nm,21.7s,baz=172,slow=39						
BBJI	**Bungbulang**	**24.02**	**261**	P	**P**	**23 01 01.1**	**-0.4**
	comp=Z,13nm,0.8s						
FORT	**Forrest**	**26.82**	**187**	P	**P**	**23 01 28.7**	**+2.1**
FORT	**Forrest**	**26.82**	**187**	P	**P**	**23 01 29.8**	**+3.1**
KMBL	**Kambalda**	**28.69**	**197**	P	**P**	**23 01 45.6**	**+2.2**
MORW	**Morawa**	**28.94**	**209**	P	**P**	**23 01 47.1**	**+1.5**
STKA	**Stephens Creek**	**29.28**	**162**	P	**P**	**23 01 46.5**	**-2.1**
	comp=Z,2.1nm,0.6s,baz=343,slow=14,SNR=4.8						
JOW	**Kunigami**	**30.83**	**354**	LR	LR	23 15 31.2	
	comp=Z,44nm,19.4s,baz=28,slow=39						
CMAR	**Chiang Mai Arr**	**39.13**	**306**	P	**P**	**23 03 14.4**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=134,slow=7.0,SNR=9.3						
	comp=Z,1.2nm,0.3s						
BNX	**BinXian**	**49.67**	**356**	⇓P	**P**	**23 04 39.6**	**+1.7**
BNX				pmax	pmax		
	comp=Z,7.0nm,2.7s						
SONM	**Songino Array**	**56.16**	**340**	P	**P**	**23 05 25.5**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=145,slow=5.3,SNR=2.9						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**66.62**	**325**	P	**P**	**23 06 36.8**	**+0.1**
MK31				IAmb	IAmb	23 07 00.2	
	comp=Z,1.8nm,1.2s						
MKAR	**Makanchi Array**	**66.62**	**325**	P	**P**	**23 06 36.3**	**-0.3**
MKAR	**Makanchi Array**	**66.62**	**325**	P	**P**	**23 06 36.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.4,SNR=7.7						
	comp=Z,0.6nm,0.7s						
MAKZ	**Makanchi**	**66.81**	**325**	P	**P**	**23 06 37.4**	**-0.4**
MAKZ				IAmb	IAmb	23 06 50.1	
	comp=Z,1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**69.63**	**333**	P	**P**	**23 06 54.1**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=108,slow=4.8,SNR=3.7						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**70.82**	**327**	P	**P**	**23 07 02.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=120,slow=5.0,SNR=7.8						
	comp=Z,1.5nm,0.3s						
VNDA	**Vanda**	**75.21**	**173**	P	**P**	**23 07 30.9**	**+2.7**
BVAR	**Borovoye Array**	**76.40**	**327**	P	**P**	**23 07 34.2**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=111,slow=8.1,SNR=6.0						
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**76.47**	**327**	P	**P**	**23 07 35.8**	**0.0**
BRVK				IAmb	IAmb	23 08 00.4	
	comp=Z,3.7nm,1.2s						
ABKAR	**Akbulak array**	**81.16**	**321**	P	**P**	**23 08 02.1**	**+0.5**
ABKAR				IAmb	IAmb	23 08 42.8	
	comp=Z,2.0nm,1.4s						
QSPA	**South Pole Qui**	**85.94**	**180**	P	**P**	**23 08 27.3**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=358,slow=4.2,SNR=6.0						
	comp=Z,2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**129.68**	**284**	PKP	**PKiKP**	**23 14 57.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=52,slow=3.0,SNR=4.9						
CPUP	**Villa Florida**	**148.63**	**165**	PKPbc	**PKPbc**	**23 15 33.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=198,slow=2.6,SNR=3.3						

*RSNC **11** 22:58:11.7±0.0, 7°.N±1°.×7°.3W±°, h145km±2km, M1.8, ML1.7*
*FUNV **11** 22:58:12.0, 6°.79N×73°.07W, h156km, MW2.6*
ISC 11 22:58:10.8±2.0, **6°.79N**±0°.08×**73°.10W**±0°.09, **h147**km±13km, **n8**, σ0°**69**/16, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**203**	P	**Pn**	**22 58 30.9**	**-0.3**
BARC				S	**Sn**	**22 58 46.4**	**-0.2**
BRJC	**Barrancabermej**	**0.67**	**286**	P	**Pn**	**22 58 32.6**	**-0.2**
BRJC				S	**Sn**	**22 58 49.6**	**+0.1**
PAMC	**Pamplona, Colo**	**0.67**	**36**	P	**Pn**	**22 58 33.8**	**+0.3**
PAMC				S	**Sn**	**22 58 51.0**	**+0.4**
RUSC	**La Rusia**	**0.90**	**179**	P	**Pn**	**22 58 35.1**	**0.0**
RUSC				S	**Sn**	**22 58 52.9**	**-0.6**
CAPV	**Capacho**	**1.32**	**36**	*e*P	**Pn**	**22 58 39.0**	**+0.4**
CAPV				*e*S	**Sn**	**22 59 00.4**	**+0.6**
NORC	**Norcasia**	**2.14**	**235**	P	**Pn**	**22 58 47.6**	**0.0**
NORC				S	**Sn**	**22 59 15.2**	**-0.6**
CHIC	**Chingaza**	**2.24**	**196**	P	**Pn**	**22 58 49.2**	**+0.1**
CHIC				S	**Sn**	**22 59 19.6**	**+1.1**
SOCV	**Socops**	**2.67**	**56**	*e*P	**Pn**	**22 58 54.2**	**+0.2**
SOCV				*e*S	**Sn**	**22 59 25.6**	**-1.7**

IDC 11 23:05:26.5±2.1, **9°.05N**×**124°.71E**, **h0**km, **mb3.6**/5, **mbtmp3.6**/5, **Error ellipse: s-maj=237.2km s-min=23.8km az=66.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.33**	**162**	P	P	23 11 39.8	-0.2
	0.4nm,0.3s,baz=342,slow=8.1,SNR=1.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**33.74**	**165**	P	P	23 12 09.8	-0.1
	0.3nm,0.6s,baz=345,slow=8.9,SNR=1.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**52.08**	**324**	P	P	23 14 39.0	+0.7
	0.2nm,0.5s,baz=125,slow=8.4,SNR=5.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**56.21**	**326**	P	P	23 15 06.4	-1.9
	0.2nm,0.6s,baz=122,slow=7.5,SNR=2.0						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**86.22**	**332**	P	P	23 18 10.6	+0.8
	4.0nm,0.9s,baz=67,slow=5.1,SNR=5.9						
	4.0nm,0.9s						

*SDD **11** 23:23:18.5±1.1, 18°.20N×67°.71W, h23km±34km, MD3.4, ML2.4, MW2.7*
*NEIC **11** 23:23:19.2±2.2, 18°.23N±0°.03×67°.66W±0°.02, h16km±3km, ML2.3/32, Md2.6/13(RSPR), Error ellipse: s-maj=4.2km s-min=2.0km az=201.0*
*OSPL **11** 23:23:19.0±0.3, 18°.24N×67°.65W, h54km±6km, ML2.1, Hypocentre not reviewed by the ISC*
*RSPR **11** 23:23:20.9, 18°.31N×67°.67W, h17km±1km, MD2.6/13*
ISC 11 23:23:18.4±1.1, **18°.20N**±0°.05×**67°.69W**±0°.02, **h15**km±9km, **n66**, σ0°**71**/74, **21C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.27**	**48**		**Pb**	**23 23 25.3**	**+0.3**
IDE					**Sb**	**23 23 29.5**	**+0.1**
IDE	**Isla Desecheo**	**0.27**	**48**	⇓*i*P	**Pb**	**23 23 25.3**	**+0.3**
IDE	**Isla Desecheo**	**0.27**	**48**	*e*S	**Sb**	**23 23 29.5**	**+0.1**
LSP	**Las Mesas**	**0.57**	**93**		**Pg**	**23 23 30.0**	**+0.3**
LSP					**Sb**	**23 23 39.4**	**+1.3**
LSP	**Las Mesas**	**0.57**	**93**	⇑*e*P	**Pg**	**23 23 30.0**	**+0.3**
LSP	**Las Mesas**	**0.57**	**93**	*e*S	**Sb**	**23 23 39.4**	**+1.3**
CRPR	**Cabo Rojo, PR**	**0.58**	**110**		**Pg**	**23 23 30.4**	**+0.5**
CRPR					**Sb**	**23 23 39.3**	**+1.0**
CRPR				IAML		23 23 41.8	
	comp=E,72nm,1.9s						
CRPR	**Cabo Rojo, PR**	**0.58**	**110**	⇑*e*P	**Pg**	**23 23 30.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.58**	**110**	*e*S	**Sb**	**23 23 39.4**	**+1.0**
CRPR	**Cabo Rojo, PR**	**0.58**	**110**	*i* P		23 23 30.4	
CRPR				*e*S		23 23 38.9	
CRPR				IAML		23 23 40.0	
	comp=Z,72nm,0.7s						
AGPR	**Aguadilla, PR**	**0.60**	**64**		**Pg**	**23 23 30.6**	**+0.2**
AGPR	**Aguadilla, PR**	**0.60**	**64**		**Sb**	**23 23 38.7**	**-0.3**
AGPR				IAML		23 23 39.3	
	comp=E,347nm,0.1s						
AGPR				IAML		23 23 39.3	
	comp=N,528nm,0.2s						
AGPR	**Aguadilla, PR**	**0.60**	**64**	⇑*e*Pg	**Pg**	**23 23 29.5**	**-0.9**
AGPR				⇑*e*Sg	**Sb**	**23 23 38.7**	**-0.3**
AGPR				IAML		23 23 39.2	
	comp=N,551nm,0.2s						
AGPR	**Aguadilla, PR**	**0.60**	**64**	⇓*i*P	**Pg**	**23 23 30.6**	**+0.2**
AGPR	**Aguadilla, PR**	**0.60**	**64**	*e*S	**Sb**	**23 23 38.8**	**-0.3**
AGPR	**Aguadilla, PR**	**0.60**	**64**	*i* P		23 23 30.5	
AGPR				*e*S		23 23 38.8	
AGPR				IAML		23 23 39.3	
	comp=Z,136nm,0.2s						
MLPR	**Magueyes Islan**	**0.65**	**111**		**Pg**	**23 23 30.6**	**-0.6**
MLPR					**Sg**	**23 23 39.5**	**-0.4**
MLPR	**Magueyes Islan**	**0.65**	**111**	⇑*e*P	**Pg**	**23 23 30.5**	**-0.8**
MLPR	**Magueyes Islan**	**0.65**	**111**	*e*S	**Sg**	**23 23 39.5**	**-0.4**
PCDR	**Punta Cana, DR**	**0.73**	**295**		**Pb**	**23 23 33.4**	**+0.6**
PCDR	**Punta Cana, DR**	**0.73**	**295**		**Sb**	**23 23 43.3**	**+0.7**
PCDR	**Punta Cana, DR**	**0.73**	**295**	IAML		23 23 56.0	
	comp=N,206nm,2.5s						
PCDR				IAML		23 23 59.5	
	comp=E,97nm,2.2s						
PCDR	**Punta Cana, DR**	**0.73**	**295**	⇑*e*Pg	**Pb**	**23 23 31.4**	**-1.5**
PCDR				⇑*e*Sg	**Sb**	**23 23 41.4**	**-1.3**
PCDR				IAML		23 23 55.3	
	comp=N,195nm,2.3s						
PCDR	**Punta Cana, DR**	**0.73**	**295**	⇓*e*P	**Pb**	**23 23 32.7**	**-0.1**
PCDR	**Punta Cana, DR**	**0.73**	**295**	*e*S	**Sb**	**23 23 43.3**	**+0.7**
PCDR	**Punta Cana, DR**	**0.73**	**295**	*i* P		23 23 32.6	
PCDR				*e*S		23 23 42.9	
PCDR				IAML		23 23 46.3	
	comp=Z,59nm,1.4s						
GBPR	**Guanica, Bosqu**	**0.80**	**106**		**Pn**	**23 23 35.6**	**+0.5**
GBPR					**Sn**	**23 23 46.2**	**-0.6**
GBPR	**Guanica, Bosqu**	**0.80**	**106**	⇑*e*P	**Pn**	**23 23 35.6**	**+0.5**
GBPR	**Guanica, Bosqu**	**0.80**	**106**	*e*S	**Sn**	**23 23 46.2**	**-0.6**
AOPR	**Arecibo Observ**	**0.90**	**81**		**Pb**	**23 23 35.2**	**-0.5**
AOPR					**Sb**	**23 23 46.9**	**-0.6**
AOPR	**Arecibo Observ**	**0.90**	**81**	IAML		23 23 47.3	
	comp=E,182nm,0.3s						
AOPR				IAML		23 23 48.6	
	comp=N,121nm,0.1s						
AOPR	**Arecibo Observ**	**0.90**	**81**	⇓*e*Pg	**Pb**	**23 23 35.0**	**-0.7**
AOPR				IAML		23 23 47.4	
	comp=N,131nm,0.1s						
AOPR	**Arecibo Observ**	**0.90**	**81**	⇑*e*P	**Pb**	**23 23 35.2**	**-0.5**
AOPR	**Arecibo Observ**	**0.90**	**81**	*e*S	**Sb**	**23 23 46.9**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.92**	**87**		**Pb**	**23 23 35.7**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**87**		**Sb**	**23 23 48.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.92**	**87**	⇑*e*P	**Pb**	**23 23 35.7**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.92**	**87**	*e*S	**Sb**	**23 23 47.8**	**-0.2**
OBIP	**Obispado Ponce**	**1.04**	**99**		**Pb**	**23 23 37.5**	**-0.6**
OBIP					**Sb**	**23 23 50.7**	**-0.8**
OBIP	**Obispado Ponce**	**1.04**	**99**	⇑*e*P	**Pb**	**23 23 37.1**	**-1.0**
OBIP	**Obispado Ponce**	**1.04**	**99**	*e*S	**Sb**	**23 23 50.7**	**-0.8**
CELP	**Cerrillos**	**1.06**	**97**		**Pb**	**23 23 38.4**	**-0.1**
CELP	**Cerrillos**	**1.06**	**97**		**Sb**	**23 23 52.1**	**0.0**
CELP	**Cerrillos**	**1.06**	**97**	IAML		23 23 48.6	
	comp=E,28nm,3.1s						
CELP	**Cerrillos**	**1.06**	**97**	⇑*e*Pg	**Pb**	**23 23 36.9**	**-1.6**
CELP				⇑*e*Sg	**Sb**	**23 23 51.8**	**-0.3**
CELP				IAML		23 23 53.1	
	comp=N,34nm,2.0s						
CELP	**Cerrillos**	**1.06**	**97**	⇑*e*P	**Pb**	**23 23 38.4**	**-0.1**
CELP	**Cerrillos**	**1.06**	**97**	*e*S	**Sb**	**23 23 52.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.13**	**76**		**Pn**	**23 23 40.3**	**+0.6**
EMPR				IAML		23 23 52.0	
	comp=N,164nm,2.4s						
EMPR	**Esperanza - Ma**	**1.13**	**76**		**Sg**	**23 23 55.2**	**+0.1**
EMPR	**Esperanza - Ma**	**1.13**	**76**	⇑*e*P	**Pg**	**23 23 41.2**	**+0.9**
EMPR	**Esperanza - Ma**	**1.13**	**76**	*e*S	**Sg**	**23 23 55.2**	**+0.1**
ECPR	**Experimental S**	**1.26**	**85**	⇑*e*P	**Pn**	**23 23 41.0**	**-0.5**
ECPR	**Experimental S**	**1.26**	**85**	*e*S	**Sb**	**23 23 57.5**	**-0.4**
IGPR	**InterUniversit**	**1.52**	**99**		**Pg**	**23 23 48.1**	**+0.4**
IGPR	**InterUniversit**	**1.52**	**99**	IAML		23 24 03.9	
	comp=E,26nm,1.9s						
IGPR				IAML		23 24 20.9	
	comp=N,26nm,2.0s						
IGPR	**InterUniversit**	**1.52**	**99**	⇑*e*P	**Pg**	**23 23 48.1**	**+0.4**
GCPR	**Guaynabo City**	**1.52**	**86**	Pn	**Pb**	**23 23 46.1**	**-0.3**
GCPR					**Sb**	**23 24 05.3**	**-0.2**
GCPR				IAML		23 24 09.6	
	comp=E,36nm,1.9s						
GCPR				IAML		23 24 16.0	
	comp=N,41nm,2.7s						
GCPR	**Guaynabo City**	**1.52**	**86**	*e*S	**Sn**	**23 24 04.7**	**0.0**
PDPR	**Patillas Dam,**	**1.59**	**96**	Pn	**Pn**	**23 23 47.1**	**+1.1**
PDPR	**Patillas Dam,**	**1.59**	**96**	⇑*e*P	**Pb**	**23 23 47.5**	**-0.1**
PDPR	**Patillas Dam

JNY	**Yasuok**	**5.39 320**	P	Pn		23 28 16.8 +5.0
JRY	**Ryogami san**	**5.43 332**	*e*P	**Pn**		**23 28 14.3 +2.1**
JRY			*e*S	**Sn**		**23 29 14.0 -0.7**
JHO	**Hitachi**	**5.48 347**	*e*P	**Pn**		**23 28 13.3 +0.5**
JHO			*e*S	**Sn**		**23 29 11.6 -4.4**
JAG	**Ashikaga**	**5.59 338**	*e*P	**Pn**		**23 28 15.7 +1.3**
JAG			*e*S	**Sn**		**23 29 16.5 -2.2**
JGF	**Kuroka**	**5.85 319**		**Pn**		**23 28 21.0 +3.0**
JGF	**Kuroka**	**5.85 319**	P	Pn		23 28 23.8 +5.8
INU	**Inuyama**	**5.87 315**		**Pn**		**23 28 22.2 +4.0**
MJAR	**Matsushiro Arr**	**6.16 330**	Pn	**Pn**		**23 28 23.6 +1.3**
	1.2nm,0.3s,baz=157,slow=11,SNR=52					
MJAR			Sn	**Sn**		**23 29 33.0 +0.1**
	0.4nm,0.3s,baz=158,slow=19,SNR=6.5					
	18nm,0.5s					
MAJO	**Matsushiro**	**6.17 330**		**Pn**		**23 28 23.6 +1.2**
MAJO	**Matsushiro**	**6.17 330**	P	**Pn**		**23 28 24.3 +2.0**
MAJO	**Matsushiro**	**6.17 330***d i*P		**Pn**		**23 28 24.1 +1.8**
MJB9	**Matsu-Tunnel**	**6.17 330**		**Pn**		**23 28 24.5 +2.1**
JMM	**Marumori**	**6.67 351**		**Pn**		**23 28 29.8 +0.5**
JMM	**Marumori**	**6.67 351**	P	**Pn**		**23 28 30.4 +1.2**
JMN	**Monobe**	**7.34 292**	Pn	**Pn**		**23 28 40.7 +2.3**
JSD	**Sado**	**7.45 336**	Pn	**Pn**		**23 28 40.2 +0.3**
JMK	**Ichinoseki**	**7.70 355**	*e*P	**Pn**		**23 28 44.5 +1.0**
JMK			*e*S	**Sn**		**23 30 03.2 -7.5**
JTM	**Tenmabayashi**	**9.54 355**		**Pn**		**23 29 08.3 -0.3**
JNU	**Nakatsue**	**9.66 284**		**Pn**		**23 29 11.9 +1.6**
JNU	**Nakatsue**	**9.66 284**	Pn	**Pn**		**23 29 08.2 -2.1**
	0.3nm,0.3s,baz=74,slow=7.4,SNR=5.7					
JNU			LR	LR		23 32 54.6
	comp=Z,323nm,18.3s,baz=96,slow=38					
	4.7nm,0.9s					
ERM	**Erimo**	**10.77 4**	Pn	**Pn**		**23 29 22.7 -2.7**
ERM	**Erimo**	**10.77 4***ce*P		**Pn**		**23 29 24.0 -1.4**
ASAJ	**Asahikawa**	**12.84 2**	Pn	**Pn**		**23 29 53.5 -0.2**
	1.0nm,0.3s,baz=220,slow=21,SNR=4.4					
ASAJ			Sn	Sn		23 32 07.4 -9.3
	baz=127,slow=20					
ASAJ			LR	LR		23 35 49.5
	comp=Z,263nm,20.4s,slow=42					
	5.4nm,0.4s					
JKA	**Kamikawa-asahi**	**12.84 2**	Pn	**Pn**		**23 29 51.9 -1.9**
JOW	**Kunigami**	**12.84 253**	LR	LR		23 34 35.5
	comp=Z,200nm,18.8s,baz=106,slow=36					
KSRS	**Korea Array**	**13.21 302**	Pn	**Pn**		**23 30 00.2 +1.4**
	0.2nm,0.3s,baz=112,slow=13,SNR=11					
KSRS			LR	LR		23 35 17.7
	comp=Z,299nm,18.4s,baz=105,slow=39					
	5.7nm,0.9s					
USA0B	**Ussuriysk Arra**	**15.16 331**⇑*e*P		**Pn**		**23 30 25.5 +0.2**
USRK	**Ussuriysk Ar.**	**15.16 331**	Pn	**Pn**		**23 30 24.8 -0.6**
	0.3nm,0.3s,baz=142,slow=12,SNR=4.9					
	4.8nm,0.9s					
MDJ	**Mudanjiang**	**16.54 327**	P	**P**		**23 30 46.1 +0.3**
MDJ	**Mudanjiang**	**16.54 327**	P	**Pn**		**23 30 44.1 +0.9**
MDJ			pmax	pmax		
	comp=Z,20nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,330nm,6.2s					
SSE	**Sheshan**	**17.87 275**	P	**Pn**		**23 30 59.5 -0.4**
SSE			S	**S**		**23 34 23.2 -2.6**
SSE			pmax	pmax		
	comp=Z,4.0nm,0.9s					
SSE			pmax	pmax		
	comp=Z,130nm,6.9s					
SSE			LR	LR		
	comp=N,150nm,16.6s					
SSE			LR	LR		
	comp=E,210nm,17.5s					
CN2	**Changchun**	**18.13 318**	P	**Pn**		**23 31 02.3 -0.8**
CN2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
CN2			LR	LR		
	comp=N,400nm,10.0s					
CN2			LR	LR		
	comp=E,300nm,10.0s					
CN2			LR	LR		
	comp=Z,400nm,12.0s					
SNY	**Shenyang**	**18.18 311** ⇑P		**Pn**		**23 31 02.8 -0.8**
SNY			S	**Sn**		**23 34 19.2 -7.3**
SNY			pmax	pmax		
	comp=Z,40nm,1.0s					
SNY			pmax	pmax		
	comp=Z,130nm,5.3s					
SNY			LR	LR		
	comp=N,360nm,10.7s					
SNY			LR	LR		
	comp=E,130nm,8.7s					
SNY			LR	LR		
	comp=Z,220nm,13.9s					
BNX	**BinXian**	**18.41 326** ⇑P		**P**		**23 31 04.9 -1.5**
BNX			sP	**sP**		**23 31 12.1 +4.8**
BNX			S	**Sn**		**23 34 29.9 -2.2**
BNX			pmax	pmax		
	comp=Z,6.0nm,1.1s					
BNX			pmax	pmax		
	comp=Z,170nm,5.6s					
BNX			LR	LR		
	comp=N,320nm,13.8s					
BNX			LR	LR		
	comp=E,340nm,13.1s					
BNX			LR	LR		
	comp=Z,320nm,14.6s					
NACB	**Ninganchiao**	**19.43 254**	P	**P**		**23 31 18.0 +0.2**
NACB			IAmb	IAmb		23 31 29.9
	comp=Z,43nm,0.7s					
KLR	**Kul'dur**	**19.57 339**	P	**P**		**23 31 19.4 +0.3**
	comp=Z,0.5nm,0.3s,baz=137,slow=13,SNR=10					
	comp=Z,4.7nm,0.6s					
KLR	**Kul'dur**	**19.57 339**⇓*e*P		**P**		**23 31 18.8 -0.3**
KLR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
TYV	**Tymovskoe**	**19.59 1**	*e*P	**Pn**		**23 31 23.4 +2.8**
TYV			pmax	pmax		
	comp=Z,200nm,5.1s					
TYV			pmax	pmax		
	comp=Z,6.0nm,0.9s					
NJ2	**Nanjing**	**19.77 278**	*e*P	**P**		**23 31 22.0 +0.5**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.6s					
GRNR	**Gornyy**	**19.94 349**⇑*i*P		**P**		**23 31 23.9 +0.8**
GRNR			pmax	pmax		
	comp=N,6.0nm,1.2s					
GRNR			pmax	pmax		
	comp=Z,8.0nm,1.0s					
GRNR			MLR	MLR		
	comp=E,360nm,16.0s					
GRNR			MLR	MLR		
	comp=Z,220nm,16.0s					
YULB	**Yu-li**	**20.02 252**	P	**P**		**23 31 23.1 -1.2**
YULB			IAmb	IAmb		23 31 36.7
	comp=Z,72nm,0.9s					
SSLB	**Suanglung**	**20.13 253**		**P**		**23 31 25.4 -0.1**
TIA	**Tai'an**	**21.30 290**	P	**P**		**23 31 39.4 +1.4**
TIA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
TIA			LR	LR		
	comp=Z,560nm,14.1s					
TIA			LR	LR		
	comp=Z,630nm,15.4s					
TIA			LR	LR		
	comp=Z,690nm,14.7s					
HEH	**HeiHe**	**21.91 334**	*e*P	**P**		**23 31 43.5 -0.9**
HEH			pmax	pmax		
	comp=Z,14nm,1.0s					
KNMB	**Chin-men Tao**	**21.98 258**	P	**P**		**23 31 44.5 -0.9**
KNMB			IAmb	IAmb		23 31 47.5
	comp=Z,70nm,1.3s					
BJI	**Beijing**	**22.73 300**	P	**P**		**23 31 51.1 -2.2**
BJI			pmax	pmax		
	comp=Z,10.0nm,1.0s					
BJI			LR	LR		
	comp=Z,110nm,16.2s					
BJI			LR	LR		
	comp=Z,200nm,13.2s					
BJI			LR	LR		
	comp=Z,170nm,10.0s					
BJT	**Baijiatuau**	**22.73 300**	P	**P**		**23 31 51.7 -1.6**
BJT			IAmb	IAmb		23 32 05.1
	comp=Z,41nm,1.4s					
BJT	**Baijiatuau**	**22.73 300**	P	**P**		**23 31 51.7 -1.6**
BJT			pmax	pmax		
	comp=Z,41nm,1.4s					
HNS	**HongShan**	**23.36 293** ⇑P		**P**		**23 31 57.2 -2.6**
HNS			S	**S**		**23 36 11.8 -0.9**
HNS			pmax	pmax		
	comp=Z,6.0nm,1.4s					
HNS			LR	LR		
	comp=Z,530nm,16.9s					
HNS			LR	LR		
	comp=Z,660nm,16.7s					
XLT	**XiLinHaoTe**	**24.04 309**	*e*P	**P**		**23 32 04.5 -2.0**
XLT			S	**S**		**23 36 22.6 -1.0**
XLT			SS	**SnSn**		**23 37 08.3 +4.3**
XLT			pmax	pmax		
	comp=Z,5.0nm,0.8s					
XLT			LR	LR		
	comp=Z,26nm,11.6s					
XLT			LR	LR		
	comp=Z,200nm,12.1s					
XLT			LR	LR		
	comp=Z,190nm,6.8s					
PETK	**Petropavlovsk-**	**24.61 23**	LR	LR		23 42 16.8
	comp=Z,134nm,20.6s,baz=214,slow=38					
HIA	**Hailar**	**24.62 323**	P	**P**		**23 32 11.9 +0.3**
HIA			IAmb	IAmb		23 32 12.6
	comp=Z,18nm,1.0s					
HIA	**Hailar**	**24.62 323***de*P		**P**		**23 32 11.4 -0.3**
HIA			pmax	pmax		
	comp=Z,21nm,1.0s					
ZEA	**Zeya**	**24.88 339** *e*P		**P**		**23 32 14.7 +0.8**
ZEA			pmax	pmax		
	comp=N,20nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,40nm,0.9s					
LYN	**LuoYang**	**25.02 285**	P	**P**		**23 32 12.8 -2.6**
LYN			sP	sP		23 32 18.6 +2.3
LYN			pmax	pmax		
	comp=Z,12nm,0.7s					
LYN			pmax	pmax		
	comp=Z,410nm,6.2s					
LYN			LR	LR		
	comp=Z,380nm,10.6s					
LYN			LR	LR		
	comp=Z,590nm,8.4s					
LYN			LR	LR		
	comp=Z,530nm,13.3s					
TIY	**Taiyuan**	**25.19 293**	P	**P**		**23 32 16.3 -0.7**
TIY			pmax	pmax		
	comp=Z,32nm,0.5s					
TIY			LR	LR		
	comp=Z,320nm,16.5s					
TIY			LR	LR		
	comp=Z,500nm,17.2s					
TIY			LR	LR		
	comp=Z,540nm,17.2s					
HHC	**Hu-ho-hao-te**	**26.34 300** *e*P		**P**		**23 32 26.4 -1.0**
HHC			pmax	pmax		
	comp=Z,11nm,0.6s					
HHC			pmax	pmax		
	comp=Z,150nm,4.8s					
HHC			LR	LR		
	comp=Z,190nm,18.1s					
HHC			LR	LR		
	comp=Z,510nm,14.2s					
HHC			LR	LR		
	comp=Z,620nm,13.1s					
BTO	**Baotou**	**27.44 299** *e*P		**P**		**23 32 37.6 +0.2**
BTO			pP	**sP**		**23 32 41.9 +3.6**
BTO			sP	**pwP**		**23 32 44.7 -3.8**
BTO			PP	**PnPn**		**23 33 26.6 +4.9**
BTO			S	**S**		**23 37 18.3 +0.4**
BTO			sS	**sS**		**23 37 24.6 +5.2**
BTO			pmax	pmax		
	comp=Z,46nm,1.0s					
BTO			pmax	pmax		
	comp=Z,400nm,4.9s					
BTO			LR	LR		
	comp=Z,760nm,16.5s					
BTO			LR	LR		
	comp=Z,1μm,14.7s					
BTO			LR	LR		
	comp=Z,2μm,18.4s					
XAN	**Xi'an**	**27.98 285** ⇑P		**P**		**23 32 40.6 -1.5**
XAN			pmax	pmax		
	comp=Z,18nm,0.8s					
XAN			LR	LR		
	comp=Z,250nm,10.3s					
XAN			LR	LR		
	comp=Z,490nm,14.4s					
XAN			LR	LR		
	comp=Z,490nm,13.7s					
MA2	**Magadan**	**28.92 9**	LR	LR		23 44 42.7
	comp=Z,36nm,21.2s,baz=136,slow=37					
MA2	**Magadan**	**28.92 9**⇑*e*P		**P**		**23 32 50.6 +0.4**
MA2			pmax	pmax		
	comp=Z,27nm,3.4s					
ULN	**Ulaanbaatar**	**31.34 312**	P	**P**		**23 33 13.0 +1.0**
ULN			IAmb	IAmb		23 33 14.2
	comp=Z,15nm,1.0s					
ULN	**Ulaanbaatar**	**31.34 312***c i*P		**P**		**23 33 12.8 +0.8**
ULN			pmax	pmax		
	comp=Z,19nm,1.1s					
QIZ	**Qiongzhong**	**31.49 255**	P	**P**		**23 33 13.5 +0.2**
QIZ			S	**S**		**23 38 20.4 -1.2**
QIZ			LR	LR		
	comp=Z,200nm,12.4s					
QIZ			LR	LR		
	comp=Z,240nm,11.0s					
QIZ			LR	LR		
	comp=Z,190nm,19.9s					
SHEM	**Shemya Is, Ala**	**31.64 38**	LR	LR		23 44 53.0
	comp=Z,116nm,19.4s,baz=290,slow=34					
SONM	**Songino Array**	**31.75 312**	P	**P**		**23 33 16.4 +0.8**
SONM			IAmb	IAmb		23 33 17.6
	comp=Z,15nm,1.0s					
SONM	**Songino Array**	**31.75 312**	P	**P**		**23 33 16.7 +1.2**
	comp=Z,9.1nm,0.9s,baz=115,slow=8.1,SNR=56					
SONM			LR	LR		23 46 45.7
	comp=Z,241nm,18.6s,baz=94,slow=38					
	comp=Z,9.1nm,0.9s					
LZH	**Lanzhou**	**32.03 289** *e*P		**P**		**23 33 14.8 -3.3**
LZH			sP	sP		23 33 22.8 +3.8
LZH			pmax	pmax		
	comp=Z,11nm,1.4s					
LZH			LR	LR		
	comp=Z,310nm,10.0s					
LZH			LR	LR		
	comp=Z,310nm,9.3s					
LZH			LR	LR		
	comp=Z,220nm,10.0s					
SEY	**Seymchan**	**32.37 9**⇓*e*P		**P**		**23 33 23.5 +2.9**
SEY			pmax	pmax		
	comp=Z,25nm,4.0s					
CD2	**Chengdu**	**32.70 280**	P	**P**		**23 33 23.0 -0.9**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
ZAK	**Zakamensk**	**34.51 315** *e*P		**P**		**23 33 39.1 -0.4**
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.6s					
GTA	**Gaotai**	**35.15 295** *e*P		**P**		**23 33 43.8 -1.5**
GTA			pP	sP		23 33 47.8 +1.6
GTA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GTA			LR	LR		
	comp=Z,130nm,14.9s					
GTA			LR	LR		
	comp=Z,300nm,15.3s					
GTA			LR	LR		
	comp=Z,340nm,13.4s					
PZH	**PanZhiHua**	**35.48 273**	P	**P**		**23 33 47.0 -1.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,120nm,5.0s					
MOY	**Mondy**	**36.28 316** *e*P		**P**		**23 33 54.3 -0.5**
MOY			pmax	pmax		
	comp=Z,11nm,1.7s					
TNCH	**TengChong**	**38.70 272**	P	**P**		**23 34 16.6 +0.9**
TNCH			pP	sP		23 34 19.3 +2.7
TNCH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
GOMU	**GeErMu**	**39.30 290**	P	**P**		**23 34 20.1 -0.7**
GOMU			pP	sP		23 34 23.8 +2.1
GOMU			sP	pwP		23 34 30.9 -1.0
GOMU			S	**S**		**23 40 16.5 -5.5**
GOMU			pmax	pmax		
	comp=Z,35nm,0.9s					
GOMU			LR	LR		
	comp=Z,280nm,15.6s					
GOMU			LR	LR		
	comp=Z,300nm,15.9s					
GOMU			LR	LR		
	comp=Z,290nm,15.1s					
BILL	**Bilibino**	**39.44 14**⇑*e*P		**P**		**23 34 23.2 +2.1**
BILL			pmax	pmax		
	comp=Z,25nm,3.0s					
PHRA	**Phrae**	**39.79 261**	P	**P**		**23 34 23.8 -0.9**
CHTO	**Chiang Mai**	**40.74 263**	P	**P**		**23 34 31.4 -1.2**
CHTO	**Chiang Mai**	**40.74 263**	P	**P**		**23 34 31.4 -1.2**
CHTO			pmax	pmax		
	comp=Z,6.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**40.90 262**	P	**P**		**23 34 33.0 -0.9**
	comp=Z,0.8nm,0.3s,baz=53,slow=6.9,SNR=4.5					
CMAR			LR	LR		23 53 13.3
	comp=Z,115nm,18.3s,baz=75,slow=39					
	comp=Z,0.8nm,0.3s					
CMAR	**Chiang Mai Arr**	**40.90 262** *i* P		**P**		**23 34 31.8 -2.1**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
WMQ	**Urumqi**	**44.16 302** *e*P		**P**		**23 35 00.6 +0.5**
WMQ			pP	sP		23 35 04.6 +3.5
WMQ			pmax	pmax		
	comp=Z,15nm,1.3s					
WMQ			LR	LR		
	comp=Z,120nm,18.9s					
ZAA0	**Zalesovo Array**	**46.34 317**	P	**P**		**23 35 17.9 +0.7**
ZAA0			IAmb	IAmb		23 35 18.4
	comp=Z,9.6nm,1.2s					
ZALV	**Zalesovo Beam**	**46.34 317**	P	**P**		**23 35 16.6 -0.5**
ZALV	**Zalesovo Beam**	**46.34 317**	P	**P**		**23 35 17.5 +0.3**
	comp=Z,2.4nm,0.6s,baz=98,slow=7.0,SNR=16					
ZALV			PcP	**PcP**		**23 36 53.2 +0.9**
	comp=Z,2.0nm,0.7s,baz=69,slow=3.2,SNR=2.8					
ZALV			LR	LR		23 55 49.0
	comp=Z,100nm,18.2s,baz=82,slow=38					
	comp=Z,2.4nm,0.6s					
MK31	**Makanchi Array**	**47.82 307**	P	**P**		**23 35 28.9 0.0**
MK31			IAmb	IAmb		23 35 41.0
	comp=Z,7.9nm,1.0s					
MK31	**Makanchi Array**	**47.82 307***c i*P		**P**		**23 35 28.9 0.0**
MKAR	**Makanchi Array**	**47.82 307** P		**P**		**23 35 29.2 +0.2**
	comp=Z,4.2nm,0.8s,baz=89,slow=9.5,SNR=39					
MKAR			LR	LR		23 56 36.1
	comp=Z,77nm,20.8s,baz=78,slow=37					
	comp=Z,4.2nm,0.8s					
MAKZ	**Makanchi**	**48.04 307**	P	**P**		**23 35 30.9 +0.3**
MAKZ	**Makanchi**	**48.04 307**	P	**P**		**23 35 30.9 +0.3**
MAKZ			pmax	pmax		
	comp=Z,6.0nm,0.9s					
NRIK	**Noril'sk**	**48.76 337**	P	**P**		**23 35 35.7 -0.1**
NRIK			IAmb	IAmb		23 35 54.2
	comp=Z,11nm,1.1s					
NRIK	**Noril'sk**	**48.76 337**	P	**P**		**23 35 35.7 -0.1**
	comp=Z,4.4nm,0.9s,baz=111,slow=9.8,SNR=9.5					
	comp=Z,4.4nm,0.9s					
NRIK	**Noril'sk**	**48.76 337***de*P		**P**		**23 35 36.4 +0.6**
NRIK			pmax	pmax		
	comp=Z,7.0nm,1.0s					
M17K	**Holitna River**	**49.03 34**	P	**P**		**23 35 37.2 -0.8**
P18K	**Big Mountain,**	**49.87 36**	P	**P**		**23 35 44.3 -0.1**
P18K			IAmb	IAmb		23 36 23.5
	comp=Z,24nm,1.2s					
O18K	**Koktuh Hills**	**49.92 36**		**P**		**23 35 43.6 -1.2**
KURK	**Kurchatov**	**50.06 312**	P	**P**		**23 35 45.6 -0.4**
KURK			IAmb	IAmb		23 35 47.1
	comp=Z,16nm,1.1s					
KURK	**Kurchatov**	**50.06 312***c i*P		**P**		**23 35 45.6 -0.4**
KURK			pmax	pmax		
	comp=Z,21nm,1.3s					
KURBB	**Kurchatov Arra**	**50.12 312**	P	**P**		**23 35 46.4 0.0**
	comp=Z,6.4nm,0.9s,baz=86,slow=7.3,SNR=48					
	comp=Z,6.4nm,0.9s					
PRZ	**Przheval'sk**	**51.06 302**	P	**P**		**23 35 54.2 +0.3**
PRZ			IAmb	IAmb		23 35 56.7
	comp=Z,16nm,1.0s					
PRZ	**Przheval'sk**	**51.06 302**	P	**P**		**23 35 54.2 +0.3**
PRZ			pmax	pmax		
	comp=Z,16nm,1.0s					
KDAK	**Kodiak Island**	**51.15 39**	P	**P**		**23 35 50.3 -3.8**
KDAK	**Kodiak Island**	**51.15 39**	P	**P**		**23 35 50.3 -3.8**
KDAK			pmax	pmax		
	comp=Z,163nm,2.0s					
WB0	**Warramunga Arr**	**51.27 189**	IAmb	IAmb		23 36 16.0
	comp=Z,14nm,1.1s					
WB0	**Warramunga Arr**	**51.27 189**	P	**P**		**23 35 55.9 +0.5**
WRAB	**Tennant Creek**	**51.44 189**	IAmb	IAmb		23 36 17.3
	comp=Z,11nm,0.9s					
WRAB	**Tennant Creek**	**51.44 189**	P	**P**		**23 35 57.5 +0.9**
WRAB			pmax	pmax		
	comp=Z,11nm,1.0s					
WRAB	**Tennant Creek**	**51.44 189**	P	**P**		**23 35 57.5 +0.9**
WB2	**Warramunga Arr**	**51.45 189**	IAmb	IAmb		23 36 16.9
	comp=Z,16nm,1.1s					
WB2	**Warramunga Arr**	**51.45 189**	P	**P**		**23 35 57.3 +0.6**
WRA	**Warramunga Arr**	**51.45 189**	P	**P**		**23 35 57.1 +0.4**
	comp=Z,3.9nm,0.5s,baz=8.2,slow=7.6,SNR=35					
	comp=Z,3.9nm,0.5s					
WRA	**Warramunga Arr**	**51.45 189** *i* P		**P**		**23 35 56.9 +0.2**
WRA			pmax	pmax		
	comp=Z,4.0nm,0.5s					
TARG	**Taragay, Kyrgy**	**51.62 301**	P	**P**		**23 35 57.9 -0.5**
TARG			pmax	pmax		
	comp=Z,8.0nm,1.0s					
CAST	**Castle Rocks**	**51.77 32**	P	**P**		**23 35 58.0 -0.8**
CAST			IAmb	IAmb		23 36 54.1
	comp=Z,30nm,1.8s					
KDJ	**Kajisay**	**52.01 301**	P	**P**		**23 36 02.0 +0.9**
KDJ	**Kajisay**	**52.01 301**	P	**P**		**23 36 02.0 +0.9**
KDJ			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BRLK	**Bradley Lake**	**52.09 36**	P	**P**		**23 36 00.7 -0.5**
SUA	**Susitna One**	**52.24 34**	P	**P**		**23 36 01.9 -0.4**
SUA			IAmb	IAmb		23 36 57.6
	comp=Z,42nm,2.0s					
D22K	**Ayikyak River**	**52.32 25**	P	**P**		**23 36 03.8 +1.1**
D22K			IAmb	IAmb		23 36 25.1
	comp=Z,22nm,1.6s					
TKM2	**Tokmak 2**	**53.02 303**	P	**P**		**23 36 09.8 +1.3**
	SNR=8.2					
RND	**Reindeer**	**53.22 32**	P	**P**		**23 36 10.1 +0.6**
RND	**Reindeer**	**53.22 32**	P	**P**		**23 36 10.1 +0.6**
RND			pmax	pmax		
	comp=Z,43nm,2.0s					
TOLK	**Toolik Lake Re**	**53.40 25**	P	**P**		**23 36 08.2 -2.6**
KSH	**Kashi**	**53.43 298**	P	**P**		**23 36 15.9 +4.4**
KSH			pP	pwP		23 36 19.6 -3.0
KSH			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KSH			LR	LR		
	comp=Z,270nm,17.2s					
KSH			LR	LR		
	comp=Z,250nm,13.4s					
KSH			LR	LR		
	comp=Z,350nm,17.9s					
KBK	**Karagaybulak**	**53.54 302**	P	**P**		**23 36 13.3 +1.0**
	SNR=11					
FRU1	**Bishkek**	**53.74 303**	P	**P**		**23 36 14.6 +1.0**
FRU1			IAmb	IAmb		23 36 15.3
	comp=Z,12nm,1.1s					
FRU1	**Bishkek**	**53.74 303**	P	**P**		**23 36 14.6 +1.0**
FRU1			pmax	pmax		
	comp=Z,12nm,1.1s					
USP	**Ospenovka**	**53.74 303**	P	**P**		**23 36 14.3 +0.7**
	SNR=5.3					
AAK	**Ala-Archa**	**53.87 302**	P	**P**		**23 36 14.9 +0.2**
AAK	**Ala-Archa**	**53.87 302**	LR	LR		23 59 55.5
	comp=Z,114nm,18.2s,slow=37					
AAK	**Ala-Archa**	**53.87 302**	P	**P**		**23 36 15.4 +0.7**
	SNR=6.3					
AAK	**Ala-Archa**	**53.87 302***c i*P		**P**		**23 36 14.7 0.0**
AAK			pmax	pmax		
	comp=Z,5.0nm,1.0s					
IL31		**54.14 30**	P	**P**		**23 36 14.8 -1.4**
ILAR	**Eielson Array**	**54.14 30**	P	**P**		**23 36 15.7 -0.5**
ILAR	**Eielson Array**	**54.14 30**	P	**P**		**23 36 17.1 +0.9**
	comp=Z,1.5nm,0.7s,baz=269,slow=7.1,SNR=17					
	comp=Z,1.5nm,0.7s					
ARLS	**Aral**	**54.15 301**	P	**P**		**23 36 18.3 +1.5**
AML	**Almayashu**	**54.55 302**	P	**P**		**23 36 21.5 +1.5**
	SNR=18					
KLU	**Klutina**	**54.55 34**	P	**P**		**23 36 20.5 +1.2**
D25K	**Kavik River**	**54.62 24**	P	**P**		**23 36 20.7 +1.0**
BVAR	**Borovoye Array**	**54.96 316**	P	**P**		**23 36 22.6 +0.3**
	comp=Z,4.7nm,0.7s,baz=95,slow=7.0,SNR=20					
	comp=Z,4.7nm,0.7s					
BRVK	**Borovoye**	**55.02 316**	P	**P**		**23 36 23.2 +0.5**
BRVK	**Borovoye**	**55.02 316***d i*P		**P**		**23 36 23.0 +0.3**

BRVK pmax pmax
comp=Z,5.0nm,0.8s
ASAR Alice Springs 55.17 189 P **P 23 36 25.2 +1.1**
comp=Z,2.6nm,0.7s,baz=1.7,slow=5.9,SNR=5.3
comp=Z,2.6nm,0.7s
ARSB Arslanbob 55.25 301 P **P 23 36 24.8 0.0**
ARSB Arslanbob 55.25 301 P **P 23 36 24.8 0.0**
ARSB pmax pmax
comp=Z,7.0nm,1.4s
F26K Sheenjek River 55.35 26 P **P 23 36 26.9 +1.9**
VRDI Verde Repeater 55.75 34 P **P 23 36 26.1 -2.0**
ARK Arkit 55.89 302 P **P 23 36 30.7 +1.4**
TRKS Terek-Say 56.55 302 P **P 23 36 34.9 +0.8**
KK31 Karatay Array 56.63 304 P **P 23 36 34.9 +0.4**
KK31 Karatay Array 56.63 304 P **P 23 36 34.9 +0.4**
KK31 pmax pmax
comp=Z,28nm,1.1s
KKAR Karatay Array 56.63 304 P **P 23 36 34.9 +0.4**
KKAR IAmb IAmb 23 36 35.9
comp=Z,16nm,1.0s
KKAR Karatay Array 56.63 304 P **P 23 36 34.8 +0.3**
KKAR Karatay Array 56.63 304 P **P 23 36 34.8 +0.3**
KKAR pmax pmax
comp=Z,16nm,1.0s
NIL Nilore 57.11 292 P **P 23 36 37.9 -0.2**
NIL IAmb IAmb 23 36 51.5
comp=Z,14nm,0.9s
NIL Nilore 57.11 292 P **P 23 36 37.9 -0.2**
NIL pmax pmax
comp=Z,14nm,1.0s
BTK Batken 57.16 300 P **P 23 36 38.8 +0.5**
BTK IAmb IAmb 23 37 08.2
comp=Z,27nm,2.0s
BTK Batken 57.16 300 P **P 23 36 38.8 +0.5**
BTK pmax pmax
comp=Z,27nm,2.0s
GAR Garm 57.81 299 P **P 23 36 42.8 -0.3**
GAR IAmb IAmb 23 36 44.5
comp=Z,17nm,1.0s
M29M Somme Creek 58.00 33 pP 23 36 46.8 +2.5
K29M Barlow Dome 58.26 31 P **P 23 36 44.2 -1.5**
K29M IAmb IAmb 23 37 11.3
comp=Z,20nm,1.7s
CHGR Chuyangaron 58.78 299 P **P 23 36 49.5 -0.2**
CHGR Chuyangaron 58.78 299 P **P 23 36 49.6 -0.2**
CHGR pmax pmax
comp=Z,39nm,0.8s
SIMJ Simiganj 58.89 299 P **P 23 36 50.5 0.0**
G31M Satah River 59.22 27 P **P 23 36 52.0 -0.1**
INK Inuvik 59.31 25 P **P 23 36 53.4 +0.6**
INK IAmb IAmb 23 38 29.6
comp=Z,15nm,1.8s
INK Inuvik 59.31 25 P **P 23 36 53.4 +0.6**
INK pmax pmax
comp=Z,15nm,1.8s
SVE Sverdlovsk 59.90 321 *e*P **P 23 36 57.7 +0.7**
SVE pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 60.14 294 P **P 23 36 58.4 -0.9**
KBL Kabul 60.14 294 P **P 23 36 58.4 -0.9**
KBL pmax pmax
comp=Z,5.0nm,0.9s
ARTI Arti 61.21 321 P **P 23 37 05.4 -0.7**
ARTI Arti 61.21 321 *c i*P **P 23 37 06.2 +0.2**
ARTI 23 37 47.2
ARTI 23 39 22.9
ARTI S **S 23 45 29.5 +3.9**
ARTI SS **SS 23 49 30.1 +5.0**
ARTI pmax pmax
comp=Z,14nm,1.0s
AB31 Akbulak array 62.16 313 *i* P **P 23 37 12.7 +0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 62.16 313 P **P 23 37 12.3 -0.3**
ABKAR IAmb IAmb 23 37 25.4
comp=Z,6.9nm,0.6s
ABKAR Akbulak array 62.16 313 P **P 23 37 11.7 -0.8**
AKTO Aktyubinsk 63.01 314 LR LR 00 05 38.7
comp=Z,65nm,18.4s,slow=37
KIRV Kirov 65.22 325⇓ *e*P **P 23 37 33.2 +0.7**
BELG Belogornoye 68.44 319⇑ *e*P **P 23 37 54.2 +1.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 68.55 29 P **P 23 37 54.6 +1.0**
comp=Z,1.3nm,1.0s,baz=293,slow=6.5,SNR=6.8
comp=Z,1.3nm,1.0s
ARCES ARCESS Array B 69.59 340 P **P 23 37 60.0 -0.1**
comp=Z,8.0nm,1.1s,baz=57,slow=4.5,SNR=4.7
comp=Z,8.0nm,1.1s
ARCES ARCESS Array B 69.59 340 P **P 23 38 00.0 -0.1**
OBN Obninsk 73.07 325⇓ *e*P **P 23 38 22.4 +1.1**
OBN *e* 23 38 36.4
OBN *e* 23 41 04.3
OBN *e*PPP PPP 23 42 47.6
OBN pmax pmax
comp=Z,16nm,1.1s
OBN MLR MLR
comp=Z,154nm,18.0s
FINES FINESS Array B 74.18 333 P **P 23 38 28.1 +0.4**
comp=Z,4.7nm,1.0s,baz=43,slow=3.9,SNR=8.5
comp=Z,4.7nm,1.0s
FINES FINESS Array B 74.18 333 *i* P **P 23 38 31.3 +3.6**
FINES pmax pmax
comp=Z,2.0nm,0.7s
GOF Gofitskoye 74.39 313 *c e*P P 23 38 35.3 +6.0
NCK Nalchik 74.79 312⇑ *e*P **P 23 38 33.2 +1.5**
NCK pmax pmax
comp=Z,25nm,2.4s
KBZ Khabaz 75.12 312 P **P 23 38 34.4 +1.0**
comp=Z,4.2nm,0.8s,baz=79,slow=2.2,SNR=17
comp=Z,4.2nm,0.8s
KBZ Khabaz 75.12 312⇑ *e*P **P 23 38 34.5 +1.0**
KBZ pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 75.14 313 P **P 23 38 34.1 +0.4**
KIV IAmb IAmb 23 38 49.9
comp=Z,13nm,0.9s
KIV Kislovodsk 75.14 313 *e*P **P 23 38 35.2 +1.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,80nm,18.0s
GNI Garni 75.64 308 P **P 23 38 36.4 -0.4**
GNI IAmb IAmb 23 38 54.0
comp=Z,23nm,1.4s
GNI Garni 75.64 308 *c e*P **P 23 38 38.1 +1.3**
GNI pmax pmax
comp=Z,18nm,1.4s
VSLR Vesyoloye 77.06 313⇑ *i*P **P 23 38 46.3 +1.7**
VSLR pmax pmax
comp=Z,21nm,1.1s
YERR Yerington 77.14 52 P **P 23 38 41.7 -3.6**
YERR IAmb IAmb 23 39 04.4
comp=Z,14nm,1.3s
MNK Minsk 77.59 327 *i* P **P 23 38 45.8 -1.5**
MNK *i* 23 41 42.4
MNK *i* PPP PPP 23 43 28.5
MNK *i* S **S 23 48 40.1 +1.4**
MNK *i* SS **SS 23 53 42.5 +5.4**
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,8.0nm,1.0s
MNK MLR MLR
comp=N,127nm,17.0s
MNK MLR MLR
comp=Z,93nm,15.0s
MNK MLR MLR
comp=E,82nm,14.0s
RYN Ryan 77.80 52 P **P 23 38 44.3 -4.7**
NVAR Mina Array Bea 78.05 52 P **P 23 38 51.3 +0.8**
comp=E,2.1nm,0.6s,baz=299,slow=6.2,SNR=6.1
comp=E,2.1nm,0.6s
NV11 Mina Array Sit 78.15 52 P **P 23 38 47.9 -3.1**
NV11 IAmb IAmb 23 38 56.7
comp=Z,14nm,1.3s
GURO Guroymak-BITLI 78.25 308 P **P 23 38 50.1 -1.4**
KOPT Kop Dagi 78.53 310 P **P 23 38 52.0 -1.2**
DSP Deep Springs 78.81 53 P **P 23 38 50.6 -3.8**
DSP IAmb IAmb 23 38 53.9
comp=Z,17nm,1.6s
AKASG Malin Array Be 79.21 323 P **P 23 38 56.2 -0.1**
comp=Z,0.7nm,0.4s,baz=53,slow=5.5,SNR=8.3
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 79.21 323⇓ *e*P **P 23 38 56.8 +0.4**
AKBB pmax pmax
comp=Z,41nm,4.0s
AKBB Malin Array Si 79.21 323 P **P 23 38 56.1 -0.3**
KIEV Kiev 79.22 323 P **P 23 38 55.5 -0.9**
KIEV Kiev 79.22 323 P **P 23 38 55.5 -0.9**
comp=Z,24nm,0.7s
AK08 Malin Array Si 79.24 323 P **P 23 38 55.0 -1.5**
HFS Hagfors 79.57 336 P **P 23 38 58.8 +0.6**
comp=Z,1.5nm,0.5s,baz=76,slow=6.3,SNR=6.9
comp=Z,1.5nm,0.5s
NB2 NORSAR Subarra 79.72 338 P **P 23 38 59.2 +0.2**
comp=Z,0.9nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 79.72 338 P **P 23 38 59.2 +0.2**
comp=Z,1.9nm,0.9s,baz=41,slow=5.4,SNR=4.8
comp=Z,1.9nm,0.9s
MARD Mardin 79.74 307 P **P 23 38 58.7 -1.0**
LUBAR Lubar, Ukraine 80.43 323 P **P 23 39 00.8 -2.2**
RNPP9 Sopachiv 80.44 325 P **P 23 39 00.7 -2.3**
RNPP2 Kostyukhnivka 80.50 325 P **P 23 39 01.5 -1.8**
BAL3X Bal3x, Balta 80.67 321 P **P 23 39 02.9 -1.4**
DUG Dugway, Tooele 80.75 49 P **P 23 39 03.5 -1.6**
DUG pmax pmax
comp=Z,8.0nm,1.1s
HWUT Hardware Ranch 80.76 47 P **P 23 39 02.3 -2.9**
HWUT IAmb IAmb 23 39 30.0
comp=Z,22nm,1.7s
PRN Pahroc Range 80.78 52 P **P 23 39 01.3 -4.0**
PSUT Pine Spring 80.97 50 P **P 23 39 02.4 -4.0**
PSUT IAmb IAmb 23 39 15.2
comp=Z,12nm,1.4s
SHPR Sheep Range 81.18 53 P P 23 39 02.1 -5.4
PDAR Pinedale Array 81.34 45 P **P 23 39 09.9 +1.6**
comp=Z,1.1nm,0.7s,baz=101,slow=1.5,SNR=8.6
comp=Z,1.1nm,0.7s
KMPD K-Podol'skiy 81.94 323 P **P 23 39 10.0 -1.0**
BNN Bunyan 82.19 311 P **P 23 39 12.0 -0.8**
GAZ Gaziantep 82.22 309 P **P 23 39 12.1 -0.8**
GAZ IAmb IAmb 23 39 29.1
comp=Z,5.7nm,0.7s
MTPU Mount Pierson 82.34 50 P P 23 39 08.5 -5.3
CHRU Chernivtsi 82.39 323 P **P 23 39 11.9 -1.5**
PKCU Pink Cliffs 82.59 51 P **P 23 39 11.7 -3.4**
PKCU IAmb IAmb 23 39 16.9
comp=Z,16nm,1.1s
RDMU Red Mountain 82.59 47 P **P 23 39 12.1 -2.8**
RDMU IAmb IAmb 23 39 39.1
comp=Z,6.6nm,0.7s
P18A Preston Nutter 82.70 48 P **P 23 39 12.9 -2.7**
P18A IAmb IAmb 23 39 30.0
comp=Z,20nm,1.5s
SRU San Rafael Swe 82.82 48 P **P 23 39 13.0 -3.1**
SRU IAmb IAmb 23 41 15.3
comp=Z,7.2nm,0.6s
SRU San Rafael Swe 82.82 48 P **P 23 39 13.0 -3.1**
SRU pmax pmax
comp=Z,7.0nm,0.6s
BR131 Keskin Array S 83.11 313⇓ *e*P **P 23 39 18.4 +0.9**
BRTR Keskin Array B 83.11 313 P **P 23 39 16.8 -0.8**
BRTR Keskin Array B 83.11 313 P **P 23 39 18.4 +0.9**
comp=Z,3.5nm,0.9s,baz=92,slow=5.5,SNR=9.4
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 83.11 313 *i* P **P 23 39 18.6 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
RAYN Ar Rayn 83.39 293 P **P 23 39 19.3 +0.2**
RAYN Ar Rayn 83.39 293 P **P 23 39 19.3 +0.2**
RAYN pmax pmax
comp=Z,14nm,0.9s
TRSU Trosnyk 84.03 324 P **P 23 39 22.3 +0.4**
TRSU Trosnyk 84.03 324 P **P 23 39 22.3 +0.4**
PV23 Carpenter Ridg 84.16 48 P **P 23 39 20.4 -2.7**
PV13 Radium Mtn., P 84.45 48 P P 23 39 19.6 -5.0
PV13 IAmb IAmb 23 41 58.0
comp=Z,7.4nm,0.7s
MMAI Mount Meron Ar 85.77 306 P **P 23 39 32.2 +1.2**
comp=Z,1.2nm,0.7s,baz=35,slow=5.3,SNR=2.0
comp=Z,1.2nm,0.7s
Q24A Divide 86.28 46 P **P 23 39 31.3 -2.5**
Q24A IAmb IAmb 23 39 47.7
comp=Z,16nm,1.3s
CLL Collm 86.37 331 *e*P **P 23 39 34.0 +0.4**
CLL Collm 86.37 331 *e*P **P 23 39 34.0 +0.4**
CLL *ex* x 23 39 51.0
E38A The Farm, Brul 88.64 34 P **P 23 39 43.0 -1.6**
E38A IAmb IAmb 23 41 31.6
comp=Z,10nm,1.1s
LPIG La Paz 91.56 61 LR LR 00 16 53.1
comp=Z,74nm,19.1s,baz=17,slow=33
TXAR Lajitas Array 93.19 53 P **P 23 40 08.6 +2.4**
comp=Z,2.1nm,0.6s,baz=276,slow=2.0,SNR=13
comp=Z,2.1nm,0.6s
SADO Sadowa 95.54 28 LR LR 00 21 39.5
comp=Z,24nm,21.9s,baz=272,slow=34
LPAZ La Paz 148.74 69 PKPbc **PKPbc 23 46 40.2 0.0**
comp=Z,1.2nm,0.6s,baz=351,slow=3.5,SNR=4.8

NEIC ***11*** *23:27:00.6±2.8, 15°.76S±0°.06×172°.18W±0°.09, h10km±1km, mb5.0/42, Error ellipse: s-maj=14.6km s-min=9.5km az=93.0*
IDC ***11*** *23:27:01.1±0.6, 15°.94S×172°.84W, h0km, mb4.2/15, mbtmp4.2/15, MS3.9/39, Error ellipse: s-maj=25.1km s-min=19.6km az=145.0*
NOU ***11*** *23:27:02.1, 15°.81S×172°.06W, h0km, mb5.2/8, Samoa Islands Region*
GCMT ***11*** *23:27:07.6±0.2, 15°.84S±0°.02×172°.43W±0°.01, h19km±1km, MW5.0/98, Moment Tensor Solution. s30,c36; s98,c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.71±.14; Mθθ-2.47±.12; Mφφ1.76±.11; Mrθ-0.25±.24; Mrφ2.71±.11; Mθφ1.58±.28; Best double couple: M0 3.83200×10^16 NP1:φs73.00000°, δ64.00000°, λ10.00000°. NP2: φs339.00000°, δ81.00000°, λ154.00000°. Principal axes: T 3.6820, Plg25.0000°, Azm293.0000°; N 0.2970, Plg62.0000°, Azm142.0000°; P -3.9820, Plg12.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 23:27:00.5±0.3, **15°.82S**±0°.04×**172°.22W**±0°.05, **h10**km, **n219**, σ**2**§**13**/195, **mb4.9**/51, **MS4.0**/38, **18C-13D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.95**	**13**	P	**Pn**	**23 27 32.5**	**-1.2**
AFI				Sn	**Sn**	**23 27 55.6**	**-2.7**
AFI	**Afiamalu**	**1.95**	**13**	P	**Pn**	**23 27 33.0**	**-0.8**
NIUE	**Niue**	**3.91**	**146**	Pn	**Pn**	**23 28 00.5**	**-0.2**
NIUE				Sn	**Sn**	**23 28 43.5**	**-3.1**
NIUE	**Niue**	**3.91**	**146**	P	**Pn**	**23 28 00.8**	**+0.1**
FUTU	**Fugatoga**	**5.89**	**284**	Pn	**Pn**	**23 28 28.3**	**+0.3**
MSVF	**Nonsavu**	**9.51**	**257**	Pn	**Pn**	**23 29 16.4**	**-1.3**
MSVF	**Nonsavu**	**9.51**	**257**	Pn	**Pn**	**23 29 18.8**	**+1.1**
1.4nm,0.3s,baz=108,slow=15,SNR=12							
RAR	**Rarotonga**	**12.96**	**116**	Pn	**Pn**	**23 30 05.2**	**+0.2**
RAR	**Rarotonga**	**12.96**	**116**	Pn	**Pn**	**23 30 06.6**	**+1.7**
8.5nm,0.3s,baz=303,slow=14,SNR=6.4							
RAR				Sn	**Sn**	**23 32 25.5**	**-3.9**
baz=22,slow=21							
RAR				LR	LR	23 33 53.9	
comp=Z,531nm,21.0s,baz=267,slow=31							
RAR	**Rarotonga**	**12.96**	**116**	P	**Pn**	**23 30 06.3**	**+1.4**
RAR	**Rarotonga**	**12.96**	**116**	P	**Pn**	**23 30 04.9**	**-0.1**
RAR				S	**Sn**	**23 32 24.0**	**-5.4**
DZM	**Mont Dzumac**	**21.10**	**250**	P	**P**	**23 31 44.8**	**-0.7**
DZM	**Mont Dzumac**	**21.10**	**250**	P	**P**	**23 31 44.1**	**-1.4**
23nm,0.9s,baz=84,slow=17,SNR=8.7							
DZM				LR	LR	23 38 13.3	
comp=Z,634nm,21.7s,baz=79,slow=33							
DZM	**Mont Dzumac**	**21.10**	**250**	P	**P**	**23 31 48.5**	**+3.0**
ONTNC	**Ouen Toro**	**21.15**	**249**	P	**P**	**23 31 45.5**	**-0.4**
ONTNC				IAmb	IAmb	23 32 05.5	
comp=Z,53nm,0.9s							
PPT	**Papeete**	**21.76**	**98**	LR	LR	23 39 19.2	
comp=Z,194nm,18.0s,slow=33							
GRZ	**Great Barrier**	**23.12**	**206**	P	**P**	**23 32 07.3**	**+0.6**
OUZ	**Omahuta**	**23.12**	**211**	P	**P**	**23 32 08.9**	**+2.1**
WCZ	**Waipu Caves**	**23.35**	**208**	P	**P**	**23 32 09.2**	**+0.1**
HAZ	**Te Kaha**	**23.57**	**200**	P	**P**	**23 32 12.3**	**+1.0**
PUZ	**Puketiti**	**23.70**	**199**	P	**P**	**23 32 16.5**	**+3.9**
MWZ	**Matawai**	**24.18**	**200**	P	**P**	**23 32 17.5**	**+0.4**
URZ	**Urewera**	**24.25**	**201**	P	**P**	**23 32 18.2**	**+0.5**
RTZ	**Ruatahuna**	**24.61**	**201**	P	**P**	**23 32 20.4**	**-0.8**
RTZ				IAmb	IAmb	23 32 24.5	
comp=Z,35nm,0.8s							
RTZ	**Ruatahuna**	**24.61**	**201**	P	**P**	**23 32 22.1**	**+0.9**
TLZ	**Tolley Road**	**24.88**	**203**	P	**P**	**23 32 25.4**	**+1.8**
BKZ	**Black Stump Fm**	**25.27**	**201**	P	**P**	**23 32 25.6**	**-1.5**
BKZ				IAmb	IAmb	23 32 31.2	
comp=Z,43nm,1.4s							
BKZ	**Black Stump Fm**	**25.27**	**201**	P	**P**	**23 32 31.1**	**+4.0**
BKZ	**Black Stump Fm**	**25.27**	**201**	P	**P**	**23 32 29.9**	**+2.8**
HIZ	**Hauiti**	**25.30**	**204**	P	**P**	**23 32 27.1**	**-0.2**
HIZ				IAmb	IAmb	23 32 30.7	
comp=Z,55nm,0.9s							
HIZ	**Hauiti**	**25.30**	**204**	P	**P**	**23 32 30.8**	**+3.5**
HIZ	**Hauiti**	**25.30**	**204**	P	**P**	**23 32 29.7**	**+2.4**
BFZ	**Birch Farm**	**26.72**	**200**	P	**P**	**23 32 40.1**	**0.0**
BFZ				IAmb	IAmb	23 33 02.9	
comp=Z,85nm,1.3s							
MRZ	**Mangatainoka R**	**26.92**	**201**	P	**P**	**23 32 43.4**	**+1.4**
MSWZ	**Moikau Station**	**27.71**	**201**	P	**P**	**23 32 48.1**	**-0.9**
TCW	**Tory Channel**	**27.87**	**202**	P	**P**	**23 32 51.6**	**+1.2**
HNR	**Honiara**	**27.87**	**280**	LR	LR	23 42 11.8	
comp=Z,292nm,18.0s,slow=33							
NNZ	**Nelson**	**28.21**	**203**	P	**P**	**23 32 53.7**	**+0.2**
NNZ				IAmb	IAmb	23 33 04.6	
comp=Z,50nm,1.2s							
NNZ	**Nelson**	**28.21**	**203**	P	**P**	**23 32 56.8**	**+3.3**
QRZ	**Quartz Range**	**28.21**	**205**	P	**P**	**23 32 54.6**	**+1.1**
QRZ	**Quartz Range**	**28.21**	**205**	P	**P**	**23 32 57.4**	**+3.9**
QRZ	**Quartz Range**	**28.21**	**205**	P	**P**	**23 32 57.5**	**+3.9**
TKNZ	**Takaka Hill**	**28.21**	**204**	P	**P**	**23 32 54.0**	**+0.4**
BSWZ	**Blackbirch Sta**	**28.46**	**202**	P	**P**	**23 32 57.3**	**+1.6**
MRNZ	**Matariki Terra**	**28.61**	**204**	P	**P**	**23 32 58.9**	**+1.8**
THZ	**Tophouse**	**28.86**	**203**	P	**P**	**23 33 01.0**	**+1.6**
THZ				IAmb	IAmb	23 33 07.9	
comp=Z,24nm,0.8s							
THZ	**Tophouse**	**28.86**	**203**	P	**P**	**23 33 02.3**	**+3.0**
KHZ	**Kahutara**	**29.19**	**202**	P	**P**	**23 33 04.3**	**+2.2**
KHZ	**Kahutara**	**29.19**	**202**	P	P	23 33 07.0	+4.8
DSZ	**Denniston Nort**	**29.28**	**205**	P	**P**	**23 33 03.3**	**+0.2**
GVZ	**Greta Valley S**	**29.85**	**202**	P	**P**	**23 33 09.1**	**+1.0**
LTZ	**Lake Taylor**	**29.98**	**203**	P	**P**	**23 33 12.1**	**+2.9**
LTZ	**Lake Taylor**	**29.98**	**203**	P	**P**	**23 33 12.6**	**+3.4**
OXZ	**Oxford**	**30.53**	**203**	P	P	23 33 18.9	+4.9
WVZ	**Waitaha Valley**	**30.82**	**205**	P	**P**	**23 33 19.1**	**+2.5**
RPZ	**Rata Peaks**	**31.24**	**204**	P	**P**	**23 33 24.6**	**+4.3**
FOZ	**Fox Glacier**	**31.58**	**205**	P	**P**	**23 33 22.1**	**-1.2**
MLZ	**Mavora Lakes**	**33.78**	**205**	P	**P**	**23 33 41.2**	**-1.4**
MLZ				IAmb	IAmb	23 33 42.6	
comp=Z,14nm,1.0s							
DCZ	**Deep Cove**	**34.26**	**206**	P	**P**	**23 33 48.3**	**+1.6**
DCZ				IAmb	IAmb	23 33 50.8	
comp=Z,11nm,0.8s							
WHZ	**Wether Hill Ro**	**34.28**	**205**	P	**P**	**23 33 47.0**	**+0.1**
ARMA	**Armidale**	**36.11**	**240**	P	**P**	**23 34 01.0**	**-2.0**
KRVT	**Keravat (AS076**	**36.94**	**284**	LR	LR	23 47 36.9	
comp=Z,139nm,21.2s,baz=194,slow=34							
H11S2	**WAKE ISLAND Hy**	**39.93**	**328**	T	T	00 15 24.8	
baz=146,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**39.93**	**328**	T	T	00 15 26.4	
baz=146,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.93**	**328**	T	T	00 15 24.4	
baz=146,slow=76,SNR=9.8							
TOO	**Toolangi**	**43.09**	**232**	P	**P**	**23 34 59.4**	**-1.6**
COEN	**Coen**	**43.09**	**266**	IAmb	IAmb	23 35 12.8	
comp=Z,12nm,0.8s							
COEN	**Coen**	**43.09**	**266**	P	**P**	**23 34 59.5**	**-1.7**
COEN	**Coen**	**43.09**	**266**	P	**P**	**23 34 59.5**	**-1.7**
STKA	**Stephens Creek**	**44.81**	**241**	P	**P**	**23 35 13.2**	**-1.7**
STKA	**Stephens Creek**	**44.81**	**241**	P	**P**	**23 35 12.4**	**-2.5**
comp=Z,9.4nm,0.8s,baz=61,slow=7.5,SNR=9.0							
STKA				LR	LR	23 50 34.9	
comp=Z,162nm,19.1s,baz=62,slow=32							
comp=Z,9.4nm,0.8s							
JAY	**Jayapura**	**48.18**	**281**	LR	LR	23 54 01.5	
comp=Z,107nm,20.9s,slow=34							
BBOO	**Buckleboo**	**49.59**	**240**	P	**P**	**23 35 50.5**	**-1.6**
BBOO				IAmb	IAmb	23 36 04.2	
comp=Z,21nm,0.9s							
AS31	**Alice Springs**	**51.06**	**252**	P	**P**	**23 36 01.1**	**-2.5**
AS31				IAmb	IAmb	23 36 14.1	
comp=Z,10nm,0.8s							
ASAR	**Alice Springs**	**51.06**	**252**	P	**P**	**23 36 00.8**	**-2.8**
comp=Z,9.4nm,0.7s,baz=86,slow=8.2,SNR=69							
ASAR				LR	LR	23 57 30.6	
comp=Z,186nm,18.8s,baz=95,slow=36							
comp=Z,9.4nm,0.7s							
GUMO	**Guam**	**51.52**	**302**	LR	LR	23 57 40.0	
comp=Z,64nm,18.1s,slow=36							
FORT	**Forrest**	**56.24**	**243**	P	**P**	**23 36 39.2**	**-2.2**
KNRA	**Kununurra**	**56.63**	**261**	P	**P**	**23 36 42.6**	**-1.7**
KNRA				IAmb	IAmb	23 36 55.7	
comp=Z,14nm,1.0s							
RPN	**Rapa Nui**	**59.08**	**112**	LR	LR	23 55 23.0	
comp=Z,97nm,21.6s,baz=290,slow=29							
FITZ	**Fitzroy Crossi**	**59.23**	**258**	P	**P**	**23 37 00.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**59.23**	**258**	LR	LR	00 00 28.8	
comp=Z,147nm,19.6s,baz=100,slow=34							
PSA00	**Pilbara Seismi**	**64.17**	**253**	P	**P**	**23 37 34.5**	**-1.4**
PSA00				IAmb	IAmb	23 37 46.3	
comp=Z,19nm,0.9s							
MBWA	**Marble Bar**	**64.33**	**254**	P	**P**	**23 37 35.5**	**-1.4**
MBWA				IAmb	IAmb	23 37 46.9	
comp=Z,14nm,0.9s							
NWAO	**Narrogin (SRO)**	**65.40**	**241**	P	**P**	**23 37 41.6**	**-2.1**
NWAO	**Narrogin (SRO)**	**65.40**	**241**	LR	LR	00 03 29.6	
comp=Z,147nm,19.1s,baz=256,slow=34							
NWAO	**Narrogin (SRO)**	**65.40**	**241**	P	**P**	**23 37 41.6**	**-2.1**
NWAO	**Narrogin (SRO)**	**65.40**	**241**	pmax	pmax		
comp=Z,47nm,1.4s							
KAPI	**Kappang**	**67.52**	**271**	LR	LR	00 06 35.9	
comp=Z,37nm,19.1s,baz=102,slow=36							
SHEM	**Shemya Is, Ala**	**69.28**	**351**	LR	LR	00 01 34.2	
comp=Z,198nm,22.0s,baz=196,slow=30							
MJAR	**Matsushiro Arr**	**69.99**	**319**	P	**P**	**23 38 12.8**	**+0.3**
comp=Z,2.0nm,0.6s,baz=153,slow=6.4,SNR=4.6							
MJAR				LR	LR	00 03 56.5	
comp=Z,58nm,21.8s,baz=114,slow=32							
comp=Z,2.0nm,0.6s							
PFO	**Pinyon Flats O**	**72.38**	**46**	LR	LR	00 04 43.3	
comp=Z,111nm,20.3s,baz=245,slow=31							
JNU	**Nakatsue**	**72.92**	**313**	LR	LR	00 02 20.0	
comp=Z,51nm,21.3s,baz=65,slow=29							
PETK	**Petropavlovsk-**	**73.38**	**342**	P	**P**	**23 38 33.2**	**+0.6**
comp=Z,2.2nm,0.8s,baz=181,slow=6.5,SNR=1.5							
comp=Z,2.2nm,0.8s							
NVAR	**Mina Array Bea**	**73.89**	**41**	P	P	23 38 41.0	+4.9
comp=Z,1.4nm,0.7s,baz=227,slow=8.7,SNR=4.9							
NVAR				LR	LR	00 06 53.6	
comp=Z,151nm,19.4s,baz=217,slow=32							
comp=Z,1.4nm,0.7s							
QSPA	**South Pole Qui**	**74.23**	**180**	P	**P**	**23 38 39.5**	**+1.9**
comp=Z,3.0nm,0.8s,baz=357,slow=2.7,SNR=5.1							
QSPA				LR	LR	00 06 50.2	
comp=Z,99nm,20.4s,baz=37,slow=32							
comp=Z,3.0nm,0.8s							
KDAK	**Kodiak Island**	**75.11**	**11**	LR	LR	00 03 37.4	
comp=Z,272nm,20.4s,baz=55,slow=29							
KSRS	**Korea Array**	**77.25**	**315**	P	**P**	**23 38 55.9**	**+0.8**
comp=Z,1.2nm,0.8s,baz=114,slow=5.9,SNR=5.1							
KSRS				LR	LR	00 09 57.6	
comp=Z,22nm,19.6s,baz=105,slow=34							
comp=Z,1.2nm,0.8s							
KSAR	**Wonju Array Be**	**77.28**	**315**	P	**P**	**23 38 55.5**	**+0.2**
BBB	**Bella Bella**	**77.76**	**26**	LR	LR	00 08 36.9	
comp=Z,90nm,19.6s,baz=274,slow=32							
TXAR	**Lajitas Array**	**79.91**	**56**	P	P	23 39 16.8	+6.7
comp=Z,0.8nm,0.9s,baz=216,slow=6.2,SNR=13							
TXAR				LR	LR	00 08 59.6	
comp=Z,33nm,19.2s,baz=243,slow=31							
comp=Z,0.8nm,0.9s							
ANMO	**Albuquerque**	**80.21**	**49**	LR	LR	00 08 30.9	
comp=Z,68nm,19.6s,baz=66,slow=31							
TRF	**Thorofare Moun**	**80.84**	**10**	P	**P**	**23 39 13.5**	**-0.9**
MA2	**Magadan**	**80.91**	**342**	LR	LR	00 13 22.8	
comp=Z,48nm,19.6s,baz=116,slow=34							
NJ2	**Nanjing**	**81.33**	**307**	*e*P	**P**	**23 39 18.2**	**+0.7**
NJ2				pmax	pmax		
comp=Z,4.0nm,0.6s							
MCK	**McKinley**	**81.33**	**10**	P	**P**	**23 39 16.7**	**-0.2**
MCK				IAmb	IAmb	23 39 26.7	
comp=Z,14nm,1.1s							
KLR	**Kul'dur**	**81.49**	**327**	P	**P**	**23 39 19.3**	**+1.3**
comp=Z,1.1nm,0.8s,baz=59,slow=5.9,SNR=2.9							
KLR				LR	LR	00 10 22.4	

comp=Z,48nm,19.7s,baz=356,slow=32
comp=Z,1.1nm,0.8s
PDAR Pinedale Array 81.82 41 P **P 23 39 24.9 +4.6**
comp=Z,0.9nm,0.7s,baz=284,slow=5.3,SNR=5.2
PDAR LR LR 00 11 30.6
comp=Z,100nm,20.3s,baz=228,slow=32
comp=Z,0.9nm,0.7s
BNX BinXian 81.96 322 ⇓P **P 23 39 22.6 +2.0**
BNX pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 82.14 320 P **P 23 39 23.8 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
WRH Wood River Hil 82.16 10 P **P 23 39 21.2 0.0**
WRH IAmb IAmb 23 39 44.2
comp=Z,17nm,1.0s
CCB Clear Creek Bu 82.37 10 P **P 23 39 22.0 -0.2**
CCB IAmb IAmb 23 39 42.9
comp=Z,8.8nm,0.9s
IL31 82.64 11 P **P 23 39 22.1 -1.6**
IL31 IAmb IAmb 23 39 41.8
comp=Z,15nm,1.5s
ILAR Eielson Array 82.64 11 P **P 23 39 26.4 +2.6**
comp=Z,1.0nm,0.7s,baz=229,slow=6.3,SNR=15
ILAR LR LR 00 07 41.2
comp=Z,100nm,21.1s,baz=232,slow=29
comp=Z,1.0nm,0.7s
K29M Barlow Dome 83.81 15 **P 23 39 30.7 +0.8**
TIA Tai'an 84.35 310 P **P 23 39 35.3 +2.1**
TIA pmax pmax
comp=Z,5.0nm,1.0s
USHA Ushuaia 84.94 146 LR LR 00 10 38.5
comp=Z,113nm,18.2s,baz=249,slow=31
D22K Ayikyak River 85.63 7 P **P 23 39 41.7 +2.8**
D22K IAmb IAmb 23 39 56.9
comp=Z,9.6nm,0.9s
TOLK Toolik Lake Re 85.79 8 P **P 23 39 39.7 0.0**
HNS HongShan 86.60 310 ⇑P **P 23 39 46.6 +2.3**
HNS pmax pmax
comp=Z,13nm,1.3s
LYN LuoYang 87.22 307 ⇑P **P 23 39 49.6 +2.2**
LYN pmax pmax
comp=Z,12nm,0.8s
MAW Mawson 87.75 198 LR LR 00 17 55.5
comp=Z,160nm,18.3s,slow=35
XLT XiLinHaoTe 88.21 317 *e*P **P 23 39 54.0 +1.9**
XLT pmax pmax
comp=Z,8.0nm,1.1s
PLCA Paso Flores 88.39 132 P **P 23 39 55.2 +2.1**
comp=Z,1.4nm,0.9s,baz=262,slow=7.1,SNR=2.9
PLCA LR LR 00 10 50.0
comp=Z,79nm,20.0s,baz=220,slow=30
comp=Z,1.4nm,0.9s
INK Inuvik 88.41 13 LR LR 00 16 38.3
comp=Z,113nm,19.4s,baz=238,slow=34
PSI Prapat 89.65 273 LR LR 00 21 47.0
comp=Z,59nm,18.1s,slow=37
XAN Xi'an 89.80 305 ⇑P **P 23 40 01.8 +2.0**
XAN pmax pmax
comp=Z,9.0nm,1.3s
YKA Yellowknife Ar 90.03 23 P **P 23 40 03.0 +2.9**
comp=Z,0.2nm,0.7s,baz=234,slow=4.9,SNR=9.5
YKA LR LR 00 12 56.4
comp=Z,96nm,20.3s,baz=310,slow=30
comp=Z,0.2nm,0.7s
HHC Hu-ho-hao-te 90.15 313 *e*P **P 23 40 04.1 +2.8**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.6s
BTO Baotou 91.16 312 *e*P **P 23 40 09.3 +3.3**
BTO pP **pwP 23 40 14.1 -2.8**
BTO sP sP 23 40 16.5 +9.4
BTO pmax pmax
comp=Z,25nm,1.0s
ATAH Atahualpa 91.74 98 LR LR 00 13 02.1
comp=Z,125nm,19.6s,baz=245,slow=30
ELIB Princess Elisa 91.81 185 *d*P **P 23 40 09.9 +1.3**
comp=Z,5.2nm,0.8s
SYO Syowa Base 92.41 191 ⇓*e*pP **P 23 40 13.2 +2.0**
SNAA Sanae 92.42 177 LR LR 00 17 25.4
comp=Z,85nm,19.0s,baz=196,slow=33
A36M Sachs Harbour 93.05 13 P **P 23 40 13.2 -0.7**
PZH PanZhiHua 93.48 296 P **P 23 40 16.1 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,6.0s
CMAR Chiang Mai Arr 93.83 288 P **P 23 40 17.5 -1.2**
comp=Z,0.9nm,0.3s,baz=102,slow=2.3,SNR=9.4
CMAR LR LR 00 17 56.8
comp=Z,24nm,21.8s,baz=85,slow=33
comp=Z,0.9nm,0.3s
LZH Lanzhou 94.39 306 *e*P **P 23 40 24.0 +2.9**
LZH pP pwP 23 40 30.4 -1.6
LZH pmax pmax
comp=Z,7.0nm,1.5s
TNCH TengChong 95.89 294 P **P 23 40 27.6 -0.7**
TNCH pmax pmax
comp=Z,7.0nm,0.7s
SONM Songino Array 95.92 318 P **P 23 40 27.6 -0.2**
comp=Z,0.4nm,0.8s,baz=86,slow=4.5,SNR=2.2
SONM LR LR 00 16 07.0
comp=Z,47nm,21.1s,baz=94,slow=31
comp=Z,0.4nm,0.8s
GTA Gaotai 98.33 309 *e*P Pdif 23 40 40.6 +1.7
GTA pmax pmax
comp=Z,2.0nm,1.2s
LPAZ La Paz 98.60 110 LR LR 00 19 35.2
comp=Z,22nm,18.1s,baz=255,slow=32
WMQ Urumqi 108.00 311 Pdif **Pdif 23 41 22.5 +0.8**
GNI Garni 139.78 314 PKP **PKPdf 23 46 26.9 -2.5**
PLTM Poltava 139.90 333 PKP **PKPdf 23 46 26.6 -2.4**
AK23 Malin Array Si 141.14 338 PKP **PKPdf 23 46 28.5 -2.7**
AKBB Malin Array Si 141.16 338 PKP **PKPdf 23 46 28.9 -2.4**
AK22 Malin Array Si 141.16 338 PKP **PKPdf 23 46 29.3 -2.0**
KIEV Kiev 141.17 338 PKP **PKPdf 23 46 28.7 -2.6**
AK11 Malin Array Si 141.19 338 PKP **PKPdf 23 46 29.6 -1.7**
AK20 Malin Array Si 141.20 338 PKP **PKPdf 23 46 29.2 -2.1**
AK06 Malin Array Si 141.26 338 PKP **PKPdf 23 46 29.3 -2.2**
AK07 Malin Array Si 141.29 338 PKP **PKPdf 23 46 29.2 -2.3**
AK13 Malin Array Si 141.29 338 PKP **PKPdf 23 46 29.5 -2.0**
MI28 Mi28,Pidlybu 141.50 340 PKP **PKPdf 23 46 30.8 -1.1**
RNPP9 Sopachiv 141.65 342 PKP **PKPdf 23 46 31.1 -1.0**
RNPP2 Kostyukhnivka 141.72 342 PKP **PKPdf 23 46 29.2 -3.1**
BAL3X Bal3x, Balta 143.27 335 PKP **PKPdf 23 46 33.6 -1.5**
NDNU Novodnistrovsk 143.58 338 PKP **PKPdf 23 46 34.4 -1.3**
KMPD K-Podol'skiy 143.93 339 PKP **PKPdf 23 46 35.2 -1.0**
STHS Stebnicka Huta 144.74 345 *e*PKP **PKPdf 23 46 38.3 +0.6**
DPC Dobruska-Polom 144.87 350 *e*PKP **PKiKP 23 46 39.8 -1.9**
KOLS Kolonicke sedl 144.91 343 *e*PKP **PKiKP 23 46 40.7 -1.1**
STEB Steborice 145.02 349 *e*PKP **PKPab 23 46 37.5 +0.1**
KIBK Kibwezi 145.06 242 **PKPdf 23 46 40.9 +1.5**
BURAR Bucovina Array 145.17 339 ⇑P **PKPdf 23 46 40.1 +1.4**
MORC Moravsky Berou 145.22 349 ⇓P **PKiKP 23 46 45.5 +4.1**
LANS Liptovska Anna 145.41 346 *e*PKP **PKiKP 23 46 41.8 -1.1**
VLDR Vladesti 145.57 335 ⇓P **PKiKP 23 46 48.7 +5.5**
BMR Baia Mare 145.68 341 ⇓P PKiKP 23 46 53.4 +10
KECS Kecovo 145.79 345 *e*PKP **PKPab 23 46 40.3 0.0**
VRAC Vranov 145.84 350 *e*PKP **PKiKP 23 46 48.1 +4.4**
VRAC Vranov 145.84 350 ⇑P **PKiKP 23 46 48.1 +4.4**
ODBI Odobesti 146.05 336 ⇓P **PKiKP 23 46 43.3 -0.9**
ZVC Zvikov 146.07 352 *e*PKP **PKiKP 23 46 44.0 -0.1**
CFR Carcaliu 146.08 334 ⇑P **PKiKP 23 46 49.7 +5.5**
VRI Vrincioaia 146.10 336 ⇓P **PKiKP 23 46 49.4 +5.1**
KRUC Moravsky 146.11 350 *e*PKP **PKiKP 23 46 48.5 +4.3**
VYHS Vyhne 146.17 347 *e*PKP **PKiKP 23 46 45.8 +1.4**
CIDE Kastamonu/Cide 146.18 325 ⇑P **PKiKP 23 46 50.6 +6.0**
TPGR Topolog 146.22 333 ⇑P **PKiKP 23 46 44.2 -0.4**
OZUR 146.26 337 ⇑P **PKiKP 23 46 46.6 +1.9**
COVR Voineasa-Covas 146.32 337 ⇓P **PKiKP 23 46 49.2 +4.4**
BNN Bunyan 146.36 318 PKPdf **PKPdf 23 46 40.9 -0.1**
KMBO Kilima Mbogo 146.36 243 **PKPdf 23 46 40.9 -1.0**
KHC Kasperske Hory 146.44 353 *e*PKP **PKiKP 23 46 44.5 -0.5**
PSZ Piszkesteto 146.47 345 ⇑P PKiKP 23 46 55.9 +11
DOPR Dopca 146.52 338 ⇑P **PKiKP 23 46 45.6 +0.3**
MARR Marisel-Clui 146.69 341 ⇑P **PKiKP 23 46 45.2 -0.4**
GERES GERESS Array B 146.71 353 PKPbc **PKPab 23 46 44.3 +0.4**
comp=Z,1.5nm,0.8s,baz=101,slow=1.4,SNR=3.9
DRGR 146.71 341 ⇓P **PKPab 23 46 44.6 +0.6**
MLR Muntele Rosu 146.71 336 ⇑P **PKiKP 23 46 50.5 +4.7**
ISR Istrita 146.79 335 ⇑P PKiKP 23 46 56.3 +10
BRTR Keskin Array B 147.19 322 **PKPbc 23 46 45.0 +0.4**
BRTR Keskin Array B 147.19 322 PKPbc **PKiKP 23 46 47.3 +0.3**
comp=Z,4.2nm,0.8s,baz=123,slow=2.4,SNR=12
CONA Conrad Observa 147.29 350 *e*pPKP **PKiKP 23 46 47.5 +0.7**
comp=Z,13nm,1.0s
ARR Arges 147.31 338 ⇓P **PKPab 23 46 46.2 -0.2**
KIRS Kirsehir-Merke 147.40 321 ⇑P **PKiKP 23 46 47.5 +0.2**
RONA Rosalia, Austr 147.44 349 *e*PKP **PKPdf 23 46 39.4 -2.9**
comp=Z,3.3nm,0.7s
RONA *e*pPKP **PKiKP 23 46 47.1 0.0**
comp=Z,7.1nm,1.0s
ANTO Ankara 147.60 323 ⇓P **PKPab 23 46 48.3 +0.6**
MOA Molln 147.62 352 *e*pPKP **PKiKP 23 46 47.3 -0.1**
comp=Z,4.1nm,1.0s
SURR Surduc 147.82 341 ⇑P **PKPab 23 46 48.3 0.0**
BIOA Bad Ischl, Aus 147.85 353 *i* PKP **PKPdf 23 46 41.4 -1.6**
comp=Z,4.8nm,1.2s
BIOA *i* pPKP **sPKPab 23 46 49.5 0.0**
comp=Z,5.3nm,1.1s
BZS Buzias 148.10 341 ⇑P **PKiKP 23 46 48.3 -0.1**
LESA Schwarzleotal 148.23 354 *e*PKP **PKPdf 23 46 42.8 -1.0**
comp=Z,2.4nm,1.2s
RETA Reutte 148.33 356 *e*PKP **PKPdf 23 46 42.5 -1.4**
comp=Z,9.3nm,1.5s
RETA *e*PKP **PKiKP 23 46 48.9 0.0**
comp=Z,12nm,1.6s
MORH Mrgy, Hungar 148.36 346 ⇓P **PKPab 23 46 52.7 +2.3**
WATA Walderalm 148.42 355 *e*pPKiKP **PKPab 23 46 51.1 +0.3**
comp=Z,8.4nm,1.6s
MOTA Moosalm 148.45 356 *i* PKP **PKPdf 23 46 43.1 -1.1**
comp=Z,5.1nm,1.4s
MOTA *e*pPKP **PKPab 23 46 50.3 -0.7**
comp=Z,4.4nm,0.8s
HERR Herculane 148.50 340 ⇑P **PKPab 23 46 50.1 -0.9**
DAVA Damuels 148.58 357 *e*pPKiKP **PKPab 23 46 51.7 +0.3**
comp=Z,7.2nm,0.9s
SOKA Soboth 148.65 350 *i* PKP **PKPab 23 46 51.1 -0.5**
comp=Z,5.2nm,1.1s
FETA Feichten 148.79 356 *e*PKP **PKPdf 23 46 40.8 -4.0**
comp=Z,7.7nm,1.5s
FETA *e*pPKiKP **PKPab 23 46 52.0 -0.3**
comp=Z,3.1nm,0.9s
MYKA Terra Mystica 148.90 352 *e*pPKP **PKiKP 23 46 50.7 +0.5**
comp=Z,10.0nm,1.3s
ABTA Abfaltersbach 148.91 354 *i* PKP **PKPbc 23 46 48.1 -0.7**
comp=Z,7.3nm,1.3s
FUORN Ofenpass-Fuorn 149.22 357 **PKPab 23 46 52.8 -1.4**
MMAI Mount Meron Ar 149.71 309 PKPbc **PKiKP 23 46 53.4 +1.2**
comp=Z,14nm,0.9s,baz=46,slow=6.0,SNR=14
CSS Mathiatis 150.21 315 PKPdf **PKPdf 23 46 45.2 -2.0**
CSS PKPab **PKPab 23 46 58.3 0.0**
ESDC Sonseca Array 154.11 21 PKPbc **PKiKP 23 47 04.7 +3.6**
comp=Z,0.7nm,0.9s,baz=352,slow=2.8,SNR=2.9
TORD Torodi Ar. Bea 173.54 113 PKP **PKPdf 23 47 12.2 +1.0**
comp=Z,0.6nm,0.9s,baz=279,slow=2.8,SNR=2.7
TORD PKPab **sPKPab 23 48 44.1 +2.6**
comp=Z,0.9nm,1.0s,baz=296,slow=2.9,SNR=3.1

*THE **11** 23:28:41.9, 39°.19N×23°.48E, h9km±1km, ML2.5/4, Error ellipse: s-maj=1.5km s-min=0.7km az=28.0*
*ATH **11** 23:28:42.2, 39°.21N×23°.48E, h10km±4km, ML2.5/6, Manual Solution by A.Moschou First location: 2019/02/11 23:29:09, This location: 2019/02/11 23:42:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*
ISC 11 23:28:41.6±0.9, 39°.20N±0°.03×23°.51E±0°.03, h11km±8km, n14, σ6°32/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.25**	**297**	P		**Pg**	**23 28 46.9**	**0.0**
NEO				S		**Sg**	**23 28 50.2**	**-0.1**
AOS	**Alonnisos**	**0.29**	**95**	P		**Pg**	**23 28 47.5**	**0.0**
AOS				S		**Sg**	**23 28 51.8**	**+0.4**
1μm,0.3s								
XOR	**Xorichti**	**0.30**	**305**	P		**Pg**	**23 28 47.9**	**+0.1**
XOR				S		**Sg**	**23 28 51.5**	**-0.4**
2μm,0.2s								
XOR	**Xorichti**	**0.30**	**305**	P		**Pg**	**23 28 47.9**	**+0.1**
XOR				S		**Sg**	**23 28 51.8**	**-0.1**
AIDA	**Aidipsos**	**0.49**	**227**	P		**Pg**	**23 28 51.8**	**+0.4**
AIDA				S		**Sg**	**23 28 57.9**	**0.0**
LKR	**Lokris**	**0.67**	**216**	P		**Pg**	**23 28 54.7**	**-0.1**
LKR				S		**Sg**	**23 29 03.8**	**+0.2**
KYMI	**Kymi, Euboea I**	**0.72**	**140**	P		**Pn**	**23 28 57.4**	**-0.4**
KYMI				S		**Sb**	**23 29 06.0**	**-0.1**
PAIG	**Paliouri**	**0.74**	**10**	P		**Pb**	**23 28 56.9**	**+0.3**
PAIG				S		**Sb**	**23 29 07.3**	**+0.6**
208nm,0.5s								
AXAR	**Agios Charalam**	**0.79**	**237**	P		**Pg**	**23 28 56.8**	**-0.1**
AXAR				S		**Sg**	**23 29 07.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.09**	**261**	P		**Pb**	**23 29 02.3**	**-0.1**
MAKR				S		**Sb**	**23 29 17.2**	**+0.5**
PLG	**Polygyros**	**1.18**	**358**	P		**Pb**	**23 29 03.8**	**-0.2**
PLG				S		**Sb**	**23 29 19.1**	**-0.2**
LIT	**Litokhoron**	**1.20**	**319**	P		**Pn**	**23 29 03.8**	**-0.5**
LIT				S		**Sn**	**23 29 20.9**	**+0.3**
248nm,0.3s								
LIT	**Litokhoron**	**1.20**	**319**	P		**Pg**	**23 29 05.0**	**+0.3**
LIT				S		**Sg**	**23 29 20.4**	**+0.1**
KOKK	**Kokkinochori,**	**1.66**	**13**	P		**Pn**	**23 29 10.3**	**-0.4**

*IDC **11** 23:58:18.8±0.6, 12°.85S×45°.43E, h0km, mb4.0/14, mbtmp4.1/16, ML4.8/3, MS3.3/5, Error ellipse: s-maj=20.0km s-min=16.1km az=130.0*
*NEIC **11** 23:58:19.2±1.5, 12°.75S±0°.07×45°.5E±0°.1, h10km±2km, mb4.5/6, Error ellipse: s-maj=18.7km s-min=12.0km az=284.0*
ISC 11 23:58:19.8±0.5, 12°.96S±0°.06×45°.36E±0°.08, h10km, n37, σ1°82/36, mb4.2/15, MS3.2/4, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.86**	**163**	Pn		**Pn**	**23 59 48.4**	**+1.5**
8.7nm,0.3s,baz=335,slow=12,SNR=566								
OPO				Sn		**Sn**	**00 00 50.3**	**-3.9**
9.3nm,0.3s,baz=236,slow=16,SNR=16								
OPO				LR		LR	00 02 09.3	
comp=Z,189nm,18.0s,baz=166,slow=39								
ABPO	**Ambohimpanom**	**6.29**	**164**			**Pn**	**23 59 54.1**	**+1.2**
ABPO				Sn		**Sn**	**00 01 01.4**	**-3.6**
VOI	**Vohitsoka**	**9.01**	**171**	Pn		**Pn**	**00 00 31.4**	**+1.3**
FOMA	**Nahampoana Res**	**12.05**	**173**	Pn		**Pn**	**00 01 12.2**	**+0.4**
KIBK	**Kibwezi**	**12.79**	**325**			**Pn**	**00 01 19.4**	**-2.6**
RER	**Riviere de l'E**	**12.85**	**131**	Pn		**Pn**	**00 01 21.7**	**-1.0**
MSEY	**Mahe Island**	**12.95**	**51**			Sn	00 03 33.7	-15
LSZ	**Lusaka**	**16.81**	**260**			**Pn**	**00 02 16.9**	**+1.2**
LSZ				IAmb		IAmb	00 02 21.4	
comp=Z,30nm,0.9s								
LSZ	**Lusaka**	**16.81**	**260**	Pn		**Pn**	**00 02 16.8**	**+1.2**
comp=Z,1.0nm,0.3s,baz=89,slow=11,SNR=28								
LSZ				Sn		**Sn**	**00 05 16.4**	**-6.3**
comp=Z,0.2nm,0.3s,baz=202,slow=8.5,SNR=2.2								
comp=Z,29nm,1.0s								
MATP	**Matopo**	**17.77**	**243**	P		**Pn**	**00 02 28.8**	**+1.3**
comp=Z,0.7nm,0.3s,baz=65,slow=13,SNR=14								
comp=Z,8.8nm,0.8s								
POGA	**Pongola**	**19.19**	**220**	P		**Pn**	**00 02 46.2**	**+1.5**
LBTB	**Lobatse**	**22.17**	**234**	P		**P**	**00 03 17.6**	**+1.3**
LBTB				IAmb		IAmb	00 03 21.2	
comp=Z,15nm,0.8s								
LBTB	**Lobatse**	**22.17**	**234**	P		**P**	**00 03 17.6**	**+1.2**
comp=Z,11nm,0.8s,baz=58,slow=11,SNR=13								
LBTB				LR		LR	00 11 20.4	
comp=Z,21nm,18.2s,baz=92,slow=35								
comp=Z,11nm,0.8s								
BOSA	**Boshof**	**24.35**	**227**	P		**P**	**00 03 38.7**	**+0.5**
BOSA				IAmb		IAmb	00 03 40.5	
comp=Z,18nm,1.4s								
BOSA	**Boshof**	**24.35**	**227**	P		**P**	**00 03 39.6**	**+1.4**
comp=Z,2.7nm,0.5s,baz=58,slow=10,SNR=18								
comp=Z,2.7nm,0.5s								
TSUM	**Tsumeb**	**27.38**	**253**	LR		LR	00 15 01.4	
comp=Z,57nm,18.8s,baz=97,slow=36								
SUR	**Sutherland**	**29.65**	**225**	P		**P**	**00 04 27.3**	**+1.3**
EIL	**Elat**	**43.55**	**347**	LR		LR	00 22 46.0	
comp=Z,28nm,18.2s,baz=67,slow=34								
TORD	**Torodi Ar. Bea**	**50.46**	**299**	P		**P**	**00 07 19.8**	**+1.6**
comp=Z,1.2nm,0.9s,baz=121,slow=6.7,SNR=6.9								
comp=Z,1.2nm,0.9s								
CMAR	**Chiang Mai Arr**	**61.37**	**60**	P		**P**	**00 08 36.2**	**-0.2**
comp=Z,1.3nm,0.3s,baz=219,slow=7.4,SNR=1.0								
comp=Z,1.3nm,0.3s								
ABKAR	**Akbulak array**	**63.26**	**11**	P		**P**	**00 08 48.3**	**-0.3**
ABKAR	**Akbulak array**	**63.26**	**11**	P		**P**	**00 08 47.9**	**-0.6**
ABKAR				IAmb		IAmb	00 08 50.5	
comp=Z,4.3nm,1.1s								
GERES	**GERESS Array B**	**67.61**	**338**	P		**P**	**00 09 16.3**	**-0.5**
comp=Z,0.2nm,0.3s,baz=120,slow=3.5,SNR=2.2								
comp=Z,0.2nm,0.3s								
MKAR	**Makanchi Array**	**68.06**	**26**	P		**P**	**00 09 19.5**	**-0.2**
comp=Z,0.3nm,0.8s,baz=214,slow=6.0,SNR=4.6								
comp=Z,0.3nm,0.8s								
BVAR	**Borovoye Array**	**69.14**	**16**	P		**P**	**00 09 25.3**	**-1.0**
comp=Z,2.0nm,1.1s,baz=208,slow=5.9,SNR=4.7								
comp=Z,2.0nm,1.1s								
ESDC	**Sonseca Array**	**69.59**	**321**	P		**P**	**00 09 30.7**	**+1.4**
comp=Z,1.6nm,0.9s,baz=127,slow=5.6,SNR=10.0								
comp=Z,1.6nm,0.9s								
KURBB	**Kurchatov Arra**	**69.63**	**22**	P		**P**	**00 09 29.2**	**-0.1**
comp=Z,0.4nm,0.8s,baz=223,slow=6.9,SNR=3.6								
comp=Z,0.4nm,0.8s								
ZALV	**Zalesovo Beam**	**74.62**	**23**	P		**P**	**00 09 57.9**	**-1.2**
comp=Z,0.2nm,0.3s,baz=212,slow=5.1,SNR=2.2								
comp=Z,0.2nm,0.3s								
QSPA	**South Pole Qui**	**77.14**	**180**	P		**P**	**00 10 14.9**	**+1.3**
comp=Z,6.5nm,1.1s,baz=259,slow=3.2,SNR=6.3								
comp=Z,6.5nm,1.1s								
SONM	**Songino Array**	**81.17**	**37**	P		**P**	**00 10 36.5**	**+0.7**
comp=Z,0.5nm,0.8s,baz=225,slow=3.3,SNR=2.4								
comp=Z,0.5nm,0.8s								
ASAR	**Alice Springs**	**83.59**	**113**	P		**P**	**00 10 49.9**	**+0.8**
comp=Z,1.7nm,0.7s,baz=264,slow=4.6,SNR=16								
comp=Z,1.7nm,0.7s								
WRA	**Warramunga Arr**	**84.73**	**109**	P		**P**	**00 10 55.7**	**+0.8**
comp=Z,2.2nm,0.9s,baz=261,slow=3.3,SNR=9.9								
comp=Z,2.2nm,0.9s								
CPUP	**Villa Florida**	**95.39**	**242**	LR		LR	00 54 18.2	
comp=Z,47nm,20.7s,baz=232,slow=35								
YKA	**Yellowknife Ar**	**128.50**	**348**	PKP		**PKiKP**	**00 17 27.8**	**+0.5**
comp=Z,0.1nm,0.4s,baz=19,slow=2.0,SNR=2.3								
PDAR	**Pinedale Array**	**143.22**	**329**	PKP		**PKPdf**	**00 17 55.5**	**+0.6**
comp=Z,1.0nm,0.9s,baz=92,slow=4.5,SNR=5.7								
TXAR	**Lajitas Array**	**146.97**	**304**	PKPbc		**PKPbc**	**00 18 03.1**	**-0.4**
comp=Z,0.7nm,0.9s,baz=90,slow=2.6,SNR=4.4								
NVAR	**Mina Array Bea**	**150.77**	**333**	PKPbc		**PKPbc**	**00 18 11.4**	**-1.8**
comp=Z,0.4nm,0.5s,baz=37,slow=2.8,SNR=3.5								

*IDC **11** 23:59:00.0±2.6, 4°.17S×133°.11E, h0km, mb3.7/3, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=129.9km s-min=24.9km az=81.0*
ISC 11 23:59:07.0±1.4, 4°.85S±0°.10×131°.8E±0°.3, h35km, n6, σ2°64/8, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.48**	**204**	Pn		P	00 02 40.7	+5.0
0.8nm,0.3s,baz=38,slow=11,SNR=15								
FITZ				Sn		**S**	**00 05 27.7**	**0.0**
0.2nm,0.3s,baz=123,slow=22,SNR=1.6								
3.5nm,0.5s								
WRA	**Warramunga Arr**	**15.20**	**171**	Pn		**P**	**00 02 41.9**	**-1.9**
0.2nm,0.3s,baz=356,slow=12,SNR=8.0								
WRA				Sn		**Sn**	**00 05 26.1**	**-0.3**
0.2nm,0.3s,baz=2.2,slow=23,SNR=5.3								
0.6nm,0.4s								
ASAR	**Alice Springs**	**18.81**	**174**	P		**Pn**	**00 03 28.9**	**+4.4**
0.4nm,0.3s,baz=7.1,slow=11,SNR=26								
ASAR				S		**S**	**00 06 53.5**	**-2.4**
0.6nm,0.9s,baz=4.0,slow=28,SNR=2.1								
3.3nm,0.7s								
MKAR	**Makanchi Array**	**67.45**	**326**	P		**P**	**00 09 59.8**	**+0.5**
0.5nm,0.5s,baz=111,slow=8.2,SNR=15								
0.5nm,0.5s								
KURBB	**Kurchatov Arra**	**71.66**	**327**	P		**P**	**00 10 23.0**	**-2.1**
0.2nm,0.5s,baz=126,slow=4.9,SNR=1.9								
0.2nm,0.5s								
BVAR	**Borovoye Array**	**77.23**	**327**	P		**P**	**00 10 56.4**	**-1.0**
0.4nm,0.5s,baz=115,slow=6.4,SNR=2.7								
0.4nm,0.5s								

*NEIC **12** 00:21:03.4±1.5, 43°.81N±0°.04×105°.41W±0°.04, h0km±1km, ML2.7/18, Error ellipse: s-maj=7.2km s-min=3.9km az=28.0*
*IDC **12** 00:21:06.8±2.0, 43°.75N×105°.49W, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=57.3km s-min=9.1km az=150.0*
ISC 12 00:21:05.3±1.0, 43°.76N±0°.07×105°.41W±0°.05, h0km, n14, σ1°35/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**69**			**Pg**	**00 21 26.5**	**+0.8**
K22A	**Casper**	**1.37**	**217**			**Pg**	**00 21 31.7**	**+0.1**
K22A				IAML			00 21 54.0	
comp=E,74nm,0.4s								
N23A	**Red Feather La**	**2.88**	**188**			**Pn**	**00 21 52.1**	**-0.7**
N23A				IAML			00 22 36.1	
comp=N,22nm,1.6s								
N23A				IAML			00 22 38.6	
comp=E,20nm,0.8s								
RLMT	**Red Lodge**	**3.08**	**298**	Pn		**Pn**	**00 21 54.8**	**-0.7**
RLMT				IAML			00 22 30.4	
comp=E,20nm,4.9s								
PD31	**Pinedale Array**	**3.18**	**253**			**Pn**	**00 21 56.6**	**-0.3**
PDAR	**Pinedale Array**	**3.18**	**253**			**Pb**	**00 22 02.1**	**-0.8**
PDAR	**Pinedale Array**	**3.18**	**253**	Pn		**Pn**	**00 22 00.1**	**+3.3**
comp=E,1.2nm,0.3s,baz=80,slow=16,SNR=20								
PDAR				Pg		**Pg**	**00 22 07.6**	**+1.3**
comp=E,2.5nm,0.3s,baz=71,slow=16,SNR=17								
PDAR				Lg		Lg	00 22 43.7	
comp=E,2.5nm,0.3s,baz=72,slow=30,SNR=2.9								
comp=E,1.2nm,0.3s								
OGNE	**Ogallala**	**3.76**	**137**	Pn		**Pn**	**00 22 04.4**	**-0.3**
LOHW	**Long Hollow**	**3.77**	**270**			**Pn**	**00 22 04.0**	**-0.8**
LOHW				IAML			00 23 40.9	
comp=E,11nm,5.0s								
LOHW				IAML			00 24 15.7	
comp=E,9.7nm,4.7s								
FLWY	**Flagg Ranch**	**3.83**	**277**			**Pn**	**00 22 04.1**	**-1.7**
FLWY				IAML			00 22 56.1	
comp=E,20nm,4.8s								
FLWY				IAML			00 22 58.4	
comp=E,20nm,4.8s								
SNOW	**Snow King Moun**	**3.89**	**268**	Pn		**Pn**	**00 22 06.4**	**-0.2**
AHID	**Auburn Hatcher**	**4.27**	**259**	IAML			00 23 18.1	
comp=E,13nm,3.9s								
AHID				IAML			00 23 44.1	
comp=E,12nm,4.6s								
I10CA	**LAC DU BONNET**	**9.09**	**42**	I		I	01 18 00.0	
baz=224,slow=325,SNR=1.3								
ULM	**Lac du Bonnet**	**9.20**	**42**	Pn		**Pn**	**00 23 19.3**	**+0.1**
comp=E,0.5nm,0.3s,baz=235,slow=13,SNR=6.8								
ULM				Lg		Lg	00 25 49.4	
comp=E,0.1nm,0.3s,baz=151,slow=19,SNR=1.4								
comp=E,1.1nm,0.3s								

*NEIC **12** 00:22:47.9±1.4, 35°.824N±0°.008×98°.25W±0°.01, h6km±3km, Error ellipse: s

OK031			IAML			00 23 26.4	
	comp=E,41nm,0.1s						
X34A	**Smith Ranch, M**	**1.27 163**		Pg		00 23 11.7	-0.1
X34A				Sn		00 23 29.5	+0.1
X34A			IAML			00 23 30.6	
	comp=E,23nm,0.4s						
X34A			IAML			00 23 49.0	
	comp=N,32nm,4.6s						
KAN17	**Caldwell West**	**1.29 18**		Pn		00 23 11.7	-0.6
KAN17				Sg		00 23 29.0	0.0
KAN17			IAML			00 23 33.1	
	comp=N,35nm,0.2s						
QUOK	**Quay**	**1.32 74**		Pn		00 23 11.9	-0.7
QUOK				Sg		00 23 29.9	0.0
W35A	**Tecumseh**	**1.32 120**		Pn		00 23 11.8	-0.9
KAN08	**Anthony NE Sta**	**1.43 10**		Pn		00 23 13.9	-0.2

*TAP **12** 00:25:06.0,24.′90N×122.′00E,h111km,ML3.9,C*
*JMA **12** 00:25:06.1±0.2,24.′8N±0.′8×122.′0E±0.′5,h111km±1km,*
MV3.1/14,TAIWAN REGION
*IDC **12** 00:25:19.2±22.0,24.′99N×122.′16E,h257km±266km,*
mb2.6/3,mbtmp3.4/4,ML3.7/1,Error ellipse:
s-maj=190.7km s-min=25.4km az=59.0
ISC 12 00:25:05.9±0.8,**24.′91N**±0.′03×**122.′00E**±0.′02,**h115**km±4km,
n178,σ0°**86**/326,**mb3.1**/3,**3C-8D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.10**	**352**	*i* P	**Pn**	**00 25 21.4**	**-0.3**
TWB1				S	**Sn**	**00 25 32.5**	**-1.2**
TIPB	**Shuangxi**	**0.17**	**290**	*i* P	**Pn**	**00 25 21.5**	**-0.4**
TIPB				S	**Sn**	**00 25 32.4**	**-1.6**
SXI1	**Grass Mountain**	**0.21**	**327**	P	**Pn**	**00 25 21.7**	**-0.5**
SXI1				S	**Sn**	**00 25 33.4**	**-1.0**
NWF	**Wu-fen Shan**	**0.26**	**308**	*i* P	**Pn**	**00 25 21.9**	**-0.4**
NWF				S	**Sn**	**00 25 32.9**	**-1.7**
WFSB	**Wu-fen Shan**	**0.26**	**308**	P	**Pn**	**00 25 22.0**	**-0.2**
WFSB				S	**Sn**	**00 25 33.2**	**-1.1**
ILA	**Ilan**	**0.27**	**238**	*eP*	**Pn**	**00 25 21.9**	**-0.3**
ILA				*eS*	**Sn**	**00 25 34.4**	**-0.1**
TWC	**Suao**	**0.33**	**205**	*i* P	**Pn**	**00 25 22.1**	**-0.4**
TWC				*i* S	**Sn**	**00 25 33.5**	**-1.3**
TWE	**Neicheng**	**0.36**	**238**	*eP*	**Pn**	**00 25 22.4**	**-0.1**
TWE				*eS*	**Sn**	**00 25 35.1**	**0.0**
ESAO	**Su ao**	**0.37**	**203**	*i* P	**Pn**	**00 25 22.3**	**-0.3**
ESAO				*i* S	**Sn**	**00 25 34.1**	**-1.1**
NDS	**Dongshan**	**0.38**	**223**	*eP*	**Pn**	**00 25 23.4**	**+0.7**
NDS				*eS*	**Sn**	**00 25 36.4**	**+1.1**
TWA	**Mucha**	**0.39**	**280**	*eP*	**Pn**	**00 25 23.2**	**+0.5**
TWA				*eS*	**Sn**	**00 25 34.5**	**-0.9**
FUSB	**Fushanzhiwuyua**	**0.41**	**248**	P	**Pn**	**00 25 22.7**	**-0.3**
FUSB				*eS*	**Sn**	**00 25 34.7**	**-1.0**
NHY	**Taipei**	**0.41**	**288**	*eP*	**Pn**	**00 25 23.1**	**+0.3**
NHY				*eS*	**Sn**	**00 25 34.0**	**-1.6**
YM01	**YM01**	**0.46**	**301**	*eP*	**Pn**	**00 25 22.9**	**-0.3**
YM01				S	**Sn**	**00 25 34.7**	**-1.4**
YM08	**YM08**	**0.46**	**306**	*eP*	**Pn**	**00 25 23.6**	**+0.4**
YM08				*eS*	**Sn**	**00 25 34.1**	**-2.1**
TAP	**Taipei**	**0.47**	**286**	*eP*	**Pn**	**00 25 23.5**	**+0.4**
TAP				*eS*	**Sn**	**00 25 35.8**	**-0.3**
TATO	**Taipei**	**0.47**	**278**	P	**Pn**	**00 25 23.0**	**-0.2**
TATO	**Taipei**	**0.47**	**278**	⇓P	**Pn**	**00 25 23.0**	**-0.2**
TATO				S	**Sn**	**00 25 35.5**	**-0.6**
NWLT	**Wulai**	**0.47**	**254**	*i* P	**Pn**	**00 25 22.9**	**-0.3**
NWLT				S	**Sn**	**00 25 35.0**	**-1.2**
ENTT	**Nioudou**	**0.48**	**236**	P	**Pn**	**00 25 23.4**	**+0.1**
ENTT				S	**Sn**	**00 25 36.2**	**-0.1**
ZUZH	**Zhuzihu**	**0.48**	**301**	P	**Pn**	**00 25 23.3**	**0.0**
ZUZH				*eS*	**Sn**	**00 25 34.6**	**-1.9**
EWUT	**Wuta**	**0.51**	**204**	*i* P	**Pn**	**00 25 23.5**	**+0.1**
EWUT				S	**Sn**	**00 25 36.3**	**-0.3**
TWY	**Chenhua**	**0.51**	**315**	*eP*	**Pn**	**00 25 22.6**	**-0.9**
TWY				*eS*	**Sn**	**00 25 35.1**	**-1.6**
ANP	**Anpu**	**0.52**	**302**	*eP*	**Pn**	**00 25 24.2**	**+0.6**
ANP				*eS*	**Sn**	**00 25 37.6**	**+0.7**
BACT	**New Taipei Cit**	**0.52**	**279**	*eP*	**Pn**	**00 25 23.4**	**0.0**
EOS2	**EOS2**	**0.53**	**157**	*eP*	**Pn**	**00 25 24.0**	**+0.5**
EOS2				*eS*	**Sn**	**00 25 37.2**	**+0.6**
ENA	**Nanau**	**0.54**	**206**	*i* P	**Pn**	**00 25 23.7**	**+0.1**
ENA				*eS*	**Sn**	**00 25 37.3**	**+0.3**
NTST	**Danshui**	**0.56**	**297**	⇑*i* P	**Pn**	**00 25 23.7**	**-0.1**
NTST				*eS*	**Sn**	**00 25 37.6**	**+0.5**
TWS1	**Kuangyinshan**	**0.56**	**290**	P	**Pn**	**00 25 23.0**	**-0.8**
TWS1				*i* S	**Sn**	**00 25 35.9**	**-1.3**
LATG	**Datong**	**0.57**	**229**	*i* P	**Pn**	**00 25 24.3**	**+0.2**
LATG				*i* S	**Sn**	**00 25 37.8**	**+0.2**
YHNB	**Yeheng**	**0.62**	**247**	P	**Pn**	**00 25 23.9**	**-0.4**
YHNB	**Yeheng**	**0.62**	**247**	S	**Sn**	**00 25 37.1**	**-1.0**
YHNB	**Yeheng**	**0.62**	**247**	P	**Pn**	**00 25 24.0**	**-0.3**
YHNB				S	**Sn**	**00 25 36.9**	**-1.2**
EAHA	**Aohua**	**0.63**	**202**	*i* P	**Pn**	**00 25 24.3**	**0.0**
EAHA				*i* S	**Sn**	**00 25 38.3**	**+0.2**
NSK	**Sanguang**	**0.63**	**248**	P	**Pn**	**00 25 24.0**	**-0.4**
NSK				S	**Sn**	**00 25 36.8**	**-1.5**
EOS3	**EOS3**	**0.69**	**155**	*eP*	**Pn**	**00 25 25.1**	**+0.6**
EOS3				*eS*	**Sn**	**00 25 39.7**	**+1.1**
PCYT	**Pengchaiyu**	**0.72**	**5**	*i* P	**Pn**	**00 25 25.2**	**+0.3**
PCYT				*eS*	**Sn**	**00 25 38.9**	**-0.4**
NNS	**Nan Shan**	**0.74**	**231**	P	**Pn**	**00 25 25.3**	**0.0**
NNS				S	**Sn**	**00 25 39.6**	**-0.3**
NNSH	**Datong**	**0.74**	**230**	⇑P	**Pn**	**00 25 25.2**	**-0.1**
NNSH				*i* S	**Sn**	**00 25 39.2**	**-0.7**
NCU	**National Centr**	**0.74**	**275**	*eP*	**Pn**	**00 25 25.3**	**+0.2**
NCU				*eS*	**Sn**	**00 25 39.4**	**-0.2**
NCUH	**Zhongli**	**0.74**	**274**	*i* P	**Pn**	**00 25 25.4**	**+0.2**
NCUH				*i* S	**Sn**	**00 25 39.4**	**-0.3**
KSHI	**Guanxi Townshi**	**0.76**	**260**	P	**Pn**	**00 25 25.7**	**+0.3**
KSHI				*eS*	**Sn**	**00 25 40.2**	**+0.2**
NACB	**Ninganchiao**	**0.82**	**207**	P	**Pn**	**00 25 25.2**	**-0.7**
NACB	**Ninganchiao**	**0.82**	**207**	P	**Pn**	**00 25 25.2**	**-0.7**
NACB				S	**Sn**	**00 25 40.4**	**-0.6**
ETL	**Fush Village**	**0.83**	**205**	*eP*	**Pn**	**00 25 25.4**	**-0.6**
ETL				*eS*	**Sn**	**00 25 40.8**	**-0.3**
EOS4	**EOS4**	**0.84**	**160**	*eP*	**Pn**	**00 25 25.7**	**0.0**
EOS4				S	**Sn**	**00 25 40.1**	**-0.4**
ETLH	**Xiulin Townshi**	**0.85**	**214**	*eP*	**Pn**	**00 25 25.7**	**-0.5**
ETLH				S	**Sn**	**00 25 40.8**	**-0.8**
NJD	**Zhudong**	**0.85**	**258**	P	**Pn**	**00 25 26.1**	**0.0**
NJD				*eS*	**Sn**	**00 25 40.9**	**-0.5**
NFF	**Wufeng Townshi**	**0.85**	**251**	P	**Pn**	**00 25 25.9**	**-0.3**
NFF				*i* S	**Sn**	**00 25 40.4**	**-1.1**
NHW	**Xinwu Township**	**0.87**	**276**	*eP*	**Pn**	**00 25 26.0**	**-0.3**
NHW				*eS*	**Sn**	**00 25 41.8**	**+0.1**
HSN1	**Hsinchu**	**0.91**	**262**	*i* P	**Pn**	**00 25 26.7**	**+0.1**
HSN1				*eS*	**Sn**	**00 25 42.1**	**-0.2**
TWD	**Chiawan**	**0.91**	**204**	*eP*	**Pn**	**00 25 25.4**	**-1.2**
TWD				S	**Sn**	**00 25 41.0**	**-1.3**
SBCB	**Hsinchu**	**0.93**	**263**	P	**Pn**	**00 25 27.3**	**+0.4**
SBCB				*eS*	**Sn**	**00 25 43.0**	**+0.3**
LIOB	**Emei**	**0.94**	**254**	*i* P	**Pn**	**00 25 26.9**	**0.0**
LIOB				S	**Sn**	**00 25 42.1**	**-0.7**
HSN	**Hsinchu**	**0.94**	**264**	*eP*	**Pn**	**00 25 26.6**	**-0.4**
HSN				S	**Sn**	**00 25 41.2**	**-1.8**
FUSS	**Fushou**	**0.96**	**226**	*i* P	**Pn**	**00 25 27.8**	**+0.3**
FUSS				S	**Sn**	**00 25 43.7**	**+0.1**
JYNG	**Yonagunijimaku**	**0.97**	**118**	*eP*	**Pn**	**00 25 26.6**	**-0.7**
JYNG				S	**Sn**	**00 25 42.5**	**-0.9**
TWT	**Tachien**	**1.00**	**229**	*i* P	**Pn**	**00 25 28.4**	**+0.6**
TWT				*i* S	**Sn**	**00 25 44.4**	**+0.2**
HWA	**Hwalien**	**1.00**	**201**	*i* P	**Pn**	**00 25 27.4**	**-0.1**
HWA				*eS*	**Sn**	**00 25 44.8**	**+0.9**
TDCB	**Techi**	**1.01**	**230**	*i* P	**Pn**	**00 25 28.4**	**+0.5**
TDCB				S	**Sn**	**00 25 44.3**	**-0.1**
WHF	**Hehuan Shan**	**1.02**	**221**	*eP*	**Pn**	**00 25 27.9**	**-0.3**
WHF				*eS*	**Sn**	**00 25 43.4**	**-1.6**
YOJ	**Yonaguni jima**	**1.02**	**116**	P	**Pn**	**00 25 27.7**	**-0.1**
YOJ				*i* S	**Sn**	**00 25 43.6**	**-0.7**
YOJ	**Yonaguni jima**	**1.02**	**116**	P	**Pn**	**00 25 27.6**	**-0.2**
YOJ				S	**Sn**	**00 25 43.4**	**-0.9**
LXIB	**Xiulin Townshi**	**1.04**	**211**	P	**Pn**	**00 25 27.4**	**-0.8**
LXIB				*eS*	**Sn**	**00 25 44.1**	**-0.8**
ETM	**Tongmen**	**1.05**	**206**	*i* P	**Pn**	**00 25 27.2**	**-0.9**
ETM				S	**Sn**	**00 25 43.5**	**-1.4**
NJN	**Zhunan**	**1.05**	**258**	*eP*	**Pn**	**00 25 28.4**	**+0.3**
NJN				*eS*	**Sn**	**00 25 44.6**	**-0.2**
TEYL	**Yanliau Villag**	**1.10**	**200**	*eP*	**Pn**	**00 25 28.4**	**-0.3**
TEYL				*eS*	**Sn**	**00 25 45.3**	**-0.6**
WHP	**Taichung City**	**1.15**	**237**	P	**Pn**	**00 25 29.6**	**+0.4**
WHP				S	**Sn**	**00 25 46.2**	**-0.6**
NMLH	**Miaoli**	**1.16**	**251**	*i* P	**Pn**	**00 25 29.5**	**+0.2**
NMLH				S	**Sn**	**00 25 46.5**	**-0.4**
SHUL	**Shoufeng**	**1.19**	**200**	P	**Pn**	**00 25 29.4**	**-0.2**
SHUL				*eS*	**Sn**	**00 25 47.7**	**+0.2**
ESL	**Shilin**	**1.21**	**206**	*eP*	**Pn**	**00 25 28.5**	**-1.3**
ESL				*eS*	**Sn**	**00 25 47.0**	**-0.9**
OWD	**Renai**	**1.22**	**218**	*i* P	**Pn**	**00 25 30.1**	**+0.1**
OWD				*eS*	**Sn**	**00 25 48.3**	**0.0**
WUSB	**Renai**	**1.22**	**222**	*i* P	**Pn**	**00 25 30.7**	**+0.6**
WUSB				S	**Sn**	**00 25 48.7**	**+0.4**
NSY	**Sanyi**	**1.23**	**247**	*eP*	**Pn**	**00 25 30.4**	**+0.3**
NSY				*eS*	**Sn**	**00 25 46.8**	**-1.5**
TWQ1	**Liyutan**	**1.25**	**244**	*i* P	**Pn**	**00 25 29.7**	**-0.6**
TWQ1				*eS*	**Sn**	**00 25 46.2**	**-2.5**
WCS	**Beigang Elemen**	**1.31**	**230**	P	**Pn**	**00 25 31.2**	**+0.3**
WCS				*eS*	**Sn**	**00 25 49.7**	**-0.1**
WPL	**Puli Township**	**1.31**	**227**	*eP*	**Pn**	**00 25 29.4**	**-1.5**
WPL				*eS*	**Sn**	**00 25 47.7**	**-2.1**
DPDB	**Guoxing**	**1.31**	**228**	⇓*i*P	**Pn**	**00 25 31.2**	**+0.2**
DPDB				*eS*	**Sn**	**00 25 50.3**	**+0.2**
WARBT	**Fenglin Townsh**	**1.32**	**205**	P	**Pn**	**00 25 29.9**	**-1.1**
WARBT				*i* S	**Sn**	**00 25 47.7**	**-2.3**
EGFH	**Guangfu**	**1.34**	**203**	*eP*	**Pn**	**00 25 30.1**	**-1.2**
EGFH				*i* S	**Sn**	**00 25 48.5**	**-2.1**
WDJ	**Dajia District**	**1.36**	**246**	*eP*	**Pn**	**00 25 31.8**	**+0.3**
WDJ				*eS*	**Sn**	**00 25 51.2**	**+0.4**
VWDT	**VWDT**	**1.40**	**214**	*eP*	**Pn**	**00 25 32.5**	**+0.6**
VWDT				*eS*	**Sn**	**00 25 52.1**	**+0.6**
TCU	**Taichung**	**1.43**	**238**	⇓P	**Pn**	**00 25 32.6**	**+0.4**
TCU				*eS*	**Sn**	**00 25 52.3**	**+0.1**
SMLT	**Sun Moon Lake**	**1.44**	**225**	*eP*	**Pn**	**00 25 31.9**	**-0.5**
SMLT				S	**Sn**	**00 25 52.3**	**-0.3**
TYC	**Yuchr**	**1.45**	**226**	*i* P	**Pn**	**00 25 32.8**	**+0.3**
TYC				S	**Sn**	**00 25 52.9**	**+0.2**
WWF	**Wufeng**	**1.47**	**234**	*i* P	**Pn**	**00 25 33.1**	**+0.3**
WWF				*eS*	**Sn**	**00 25 53.7**	**+0.6**
SSLB	**Suanglung**	**1.47**	**221**	P	**Pn**	**00 25 33.2**	**+0.4**
SSLB	**Suanglung**	**1.47**	**221**	P	**Pn**	**00 25 33.3**	**+0.4**
SSLB				*eS*	**Sn**	**00 25 53.9**	**+0.7**
HGSD	**Ruisui**	**1.51**	**201**	P	**Pn**	**00 25 33.3**	**+0.1**
HGSD				*eS*	**Sn**	**00 25 54.4**	**+0.5**
EHY	**Hungye**	**1.53**	**204**	*eP*	**Pn**	**00 25 32.1**	**-1.4**
EHY				*eS*	**Sn**	**00 25 53.2**	**-1.2**
EHYH	**Wanrong**	**1.54**	**203**	*eP*	**Pn**	**00 25 34.4**	**+0.9**
EHYH				*eS*	**Sn**	**00 25 52.9**	**-1.6**
WCHH	**Zhanghua**	**1.56**	**238**	*eP*	**Pn**	**00 25 33.8**	**0.0**
WCHH				*eS*	**Sn**	**00 25 54.4**	**-0.4**
WNT1	**Nantou City**	**1.57**	**231**	*eP*	**Pn**	**00 25 34.2**	**+0.3**
WNT1				*eS*	**Sn**	**00 25 54.8**	**-0.3**
WCH1	**Changhua City**	**1.57**	**238**	*eP*	**Pn**	**00 25 34.1**	**+0.2**
WCH1				*eS*	**Sn**	**00 25 54.9**	**-0.2**
WNT	**Mingjian**	**1.58**	**230**	*eP*	**Pn**	**00 25 34.4**	**+0.3**
WNT				*eS*	**Sn**	**00 25 55.8**	**+0.4**
WJS	**Zhushan**	**1.59**	**227**	*i* P	**Pn**	**00 25 34.6**	**+0.4**
WJS				*i* S	**Sn**	**00 25 56.5**	**+0.8**
WHYT	**Xinyi Township**	**1.60**	**221**	*eP*	**Pn**	**00 25 35.1**	**+0.7**
WHYT				*eS*	**Sn**	**00 25 56.6**	**+0.7**
YULB	**Yu-li**	**1.65**	**203**	P	**Pn**	**00 25 33.9**	**-1.0**
YULB	**Yu-li**	**1.65**	**203**	*eP*	**Pn**	**00 25 33.8**	**-1.0**
YULB				*eS*	**Sn**	**00 25 55.8**	**-1.0**
ECBN	**Changbin**	**1.67**	**198**	*eP*	**Pn**	**00 25 34.9**	**-0.2**
ECBN				*eS*	**Sn**	**00 25 56.4**	**-0.9**
IRIF	**Iriomote-Funau**	**1.67**	**110**	P	**Pn**	**00 25 34.6**	**-0.5**
IRIF				*eS*	**Sn**	**00 25 55.9**	**-1.5**
EYUL	**Yuli**	**1.68**	**202**	*eP*	**Pn**	**00 25 36.1**	**+0.9**
EYUL				*eS*	**Sn**	**00 25 56.8**	**-0.7**
TWF1	**Yuli**	**1.68**	**203**	*eP*	**Pn**	**00 25 34.2**	**-1.8**
TWF1				S	**Sn**	**00 25 56.1**	**-1.6**
YUS	**Yu-Shan**	**1.71**	**214**	*eP*	**Pn**	**00 25 35.5**	**-0.7**
YUS				*eS*	**Sn**	**00 25 58.9**	**-0.2**
ALS	**Alishan**	**1.77**	**218**	*i* P	**Pn**	**00 25 37.1**	**+0.4**
ALS				*i* S	**Sn**	**00 26 02.2**	**+2.1**
CHN5	**Tsauling**	**1.78**	**223**	*i* P	**Pn**	**00 25 36.9**	**+0.3**
CHN5				*eS*	**Sn**	**00 26 00.5**	**+0.5**
WDL	**Douliou City**	**1.79**	**229**	*eP*	**Pn**	**00 25 36.6**	**0.0**
WDL				*eS*	**Sn**	**00 26 02.7**	**+2.7**
WRL	**Guolierlin Hig**	**1.79**	**236**	P	**Pn**	**00 25 36.4**	**-0.2**
WRL				*i* S	**Sn**	**00 25 58.5**	**-1.5**
WGK	**Gukeng**	**1.79**	**227**	*i* P	**Pn**	**00 25 37.2**	**+0.6**
WGK				*eS*	**Sn**	**00 26 00.4**	**+0.4**
CHKH	**Chenggong**	**1.80**	**198**	*eP*	**Pn**	**00 25 36.0**	**-0.7**
CHKH				S	**Sn**	**00 25 58.4**	**-1.7**
WDLH	**Douliu**	**1.81**	**228**	*i* P	**Pn**	**00 25 37.2**	**+0.4**
WDLH				*i* S	**Sn**	**00 26 00.8**	**+0.4**
RLNB	**Erlin**	**1.81**	**236**	*eP*	**Pn**	**00 25 38.8**	**-0.1**
RLNB				*eS*	**Sn**	**00 25 59.7**	**-0.7**
FULB	**Fuli**	**1.83**	**201**	*eP*	**Pn**	**00 25 37.0**	**-0.1**
FULB				S	**Sn**	**00 26 00.8**	**+0.1**
HATJ	**Hateruma jima**	**1.85**	**117**	*eP*	**Pn**	**00 25 37.3**	**0.0**
HATJ				*eS*	**Sn**	**00 26 00.6**	**-0.6**
CHKT	**Chengkung**	**1.90**	**198**	*eP*	**Pn**	**00 25 37.5**	**-0.4**
CHKT				*i* S	**Sn**	**00 25 60.0**	**-2.3**
EHD	**Haiduan**	**1.90**	**203**	*eP*	**Pn**	**00 25 38.9**	**+0.9**
WTK	**Tuku**	**1.91**	**231**	P	**Pn**	**00 25 38.0**	**0.0**
WTK				S	**Sn**	**00 26 02.3**	**-0.3**
ELDTW	**Lidau**	**1.94**	**208**	*i* P	**Pn**	**00 25 38.1**	**-0.5**
ELDTW				*eS*	**Sn**	**00 26 03.6**	**+0.2**
ECS	**Chishang**	**1.95**	**202**	*eP*	**Pn**	**00 25 39.0**	**+0.4**
ECS				*eS*	**Sn**	**00 26 03.0**	**-0.5**
WCKO	**Fanlu**	**1.95**	**221**	P	**Pn**	**00 25 39.2**	**+0.7**
WCKO				S	**Sn**	**00 26 04.5**	**+1.1**
JKRS	**Kuro-shima**	**1.95**	**110**	*eP*	**Pn**	**00 25 38.9**	**+0.4**
JKRS				*eS*	**Sn**	**00 25 02.7**	**-0.7**
CHN2	**Minshiung**	**1.96**	**226**	*eP*	**Pn**	**00 25 38.9**	**+0.2**
CHN2				*eS*	**Sn**	**00 26 04.9**	**+1.2**
CHY	**Chiayi**	**2.02**	**226**	P	**Pn**	**00 25 39.6**	**+0.3**
CHY				*i* S	**Sn**	**00 26 05.0**	**+0.1**
CHN4	**Tsaushan**	**2.02**	**220**	*eP*	**Pn**	**00 25 39.9**	**+0.5**
CHN4				*eS*	**Sn**	**00 26 04.7**	**-0.4**
JIJ	**Ishigaki jima**	**2.02**	**105**	*eP*	**Pn**	**00 25 39.3**	**-0.1**
JIJ				*eS*	**Sn**	**00 26 03.5**	**-1.5**
EDH	**Donghe**	**2.04**	**198**	*eP*	**Pn**	**00 25 39.1**	**-0.5**
EDH				*eS*	**Sn**	**00 26 03.9**	**-1.5**
TPUB	**Ta-pu**	**2.04**	**218**	P	**Pn**	**00 25 40.0**	**+0.3**
TPUB	**Ta-pu**	**2.04**	**218**	*eP*	**Pn**	**00 25 40.1**	**+0.3**
TPUB				*eS*	**Sn**	**00 26 05.2**	**-0.3**
WSF	**Szhu**	**2.06**	**232**	*eP*	**Pn**	**00 25 40.2**	**+0.3**
WSF				*eS*	**Sn**	**00 26 05.1**	**-0.8**
STYH	**Taoyuan**	**2.07**	**213**	*eP*	**Pn**	**00 25 40.6**	**+0.6**
STYH				*eS*	**Sn**	**00 26 07.3**	**+1.2**
STYT	**Tauyuan**	**2.08**	**213**	⇓*eP*	**Pn**	**00 25 39.6**	**-0.7**
STYT				*eS*	**Sn**	**00 26 06.1**	**-0.4**
WTP	**Ta-pu**	**2.09**	**218**	⇓P	**Pn**	**00 25 40.4**	**0.0**
WTP				*eS*	**Sn**	**00 26 07.1**	**+0.5**
JISG	**Ishigakijimahi**	**2.12**	**98**	*eP*	**Pn**	**00 25 41.0**	**+0.2**
JISG				*eS*	**Sn**	**00 26 07.0**	**-0.3**
WSL	**Shuilin Townsh**	**2.13**	**230**	*i* P	**Pn**	**00 25 40.7**	**-0.1**
WSL				*i* S	**Sn**	**00 26 07.1**	**-0.4**
TWK	**Hsinying**	**2.15**	**220**	⇓P	**Pn**	**00 25 41.1**	**0.0**
TWK				*eS*	**Sn**	**00 26 07.3**	**-0.6**
LONT	**Longtian**	**2.15**	**202**	*eP*	**Pn**	**00 25 40.4**	**-0.8**
LONT				*eS*	**Sn**	**00 26 06.5**	**-1.5**
SNST	**Tainan City**	**2.18**	**220**	*eP*	**Pn**	**00 25 41.4**	**0.0**
SNST				*eS*	**Sn**	**00 26 08.2**	**-0.4**
CHN1	**Nanshi**	**2.19**	**218**	P	**Pn**	**00 25 41.9**	**+0.4**
CHN1				*eS*	**Sn**	**00 26 08.5**	**-0.3**
ICHU	**Yijhu**	**2.21**	**226**	*eP*	**Pn**	**00 25 42.1**	**+0.3**
ICHU				S	**Sn**	**00 26 08.9**	**-0.4**
MATB	**Ma-tsu**	**2.23**	**304**	*i* P	**Pn**	**00 25 41.7**	**-0.4**
MATB				*eS*	**Sn**	**00 26 07.7**	**-2.1**
SGST	**Jiashian**	**2.24**	**216**	*eP*	**Pn**	**00 25 42.2**	**0.0**
SGST				*eS*	**Sn**	**00 26 08.9**	**-1.1**
TWG	**Pinlang**	**2.25**	**202**	*eP*	**Pn**	**00 25 42.3**	**-0.1**
TWG				*eS*	**Sn**	**00 26 08.2**	**-2.1**
TWGBT	**Beinan**	**2.25**	**202**	P	**Pn**	**00 25 44.1**	**+1.7**
TWGBT	**Beinan**	**2.25**	**202**	*eP*	**Pn**	**00 25 42.2**	**-0.2**
TWGBT				*eS*	**Sn**	**00 26 08.4**	**-1.9**
CHN8	**Yiju**	**2.26**	**227**	*eP*	**Pn**	**00 25 42.6**	**+0.2**
CHN8				*i* S	**Sn**	**00 26 10.9**	**+0.4**
LDUT	**Ludao**	**2.28**	**192**	*eP*	**Pn**	**00 25 41.9**	**-0.9**
LDUT				*i* S	**Sn**	**00 26 08.1**	**-2.8**
VWUC	**VWUC**	**2.32**	**272**	P	**Pn**	**00 25 43.0**	**-0.2**
VWUC				*eS*	**Sn**	**00 26 09.8**	**-2.0**
CHN3	**Shinhua**	**2.36**	**220**	*eP*	**Pn**	**00 25 44.7**	**+0.9**
SCST	**Cishan**	**2.45**	**215**	*eP*	**Pn**	**00 25 45.7**	**+0.8**
SCST				*eS*	**Sn**	**00 26 14.0**	**-0.7**
JTJ	**Tarama**	**2.47**	**96**	*eP*	**Pn**	**00 25 45.4**	**+0.2**
JTJ				*eS*	**Sn**	**00 26 15.3**	**+0.1**
TAI1	**Yung-k'ang**	**2.47**	**221**	*eP*	**Pn**	**00 25 45.8**	**+0.6**
TAI1				*eS*	**Sn**	**00 26 14.6**	**-0.7**
TSCK	**Chigu Township**	**2.48**	**225**	*eP*	**Pn**	**00 25 45.9**	**+0.5**
TSCK				*i* S	**Sn**	**00 26 15.2**	**-0.4**
SSD	**Sandimen**	**2.50**	**210**	*eP*	**Pn**	**00 25 46.1**	**+0.6**
ECL	**Taimali**	**2.50**	**203**	*eP*	**Pn**	**00 25 44.4**	**-1.2**
ECL				*eS*	**Sn**	**00 26 13.7**	**-2.2**
TSMG	**Majia**	**2.52**	**210**	*eP*	**Pn**	**00 25 46.4**	**+0.5**
TSMG				*eS*	**Sn**	**00 26 16.0**	**-0.6**
XPSS	**Dashiqiu**	**2.59**	**321**	*eP*	**Pn**	**00 25 46.0**	**-0.7**
XPSS				*eS*	**Sn**	**00 26 17.6**	**-0.4**
PNG	**Penghu**	**2.60**	**240**	*i* P	**Pn**	**00 25 46.1**	**-0.8**
PNG				S	**Sn**	**00 26 16.5**	**-1.9**
MASBT	**Mashibuluo**	**2.61**	**209**	*eP*	**Pn**	**00 25 48.0**	**+1.0**
MASBT				*eS*	**Sn**	**00 26 17.8**	**-0.9**
PTMZ	**Houxiangcun**	**2.62**	**273**	*i* P	**Pn**	**00 25 47.0**	**-0.1**
PTMZ				*eS*	**Sn**	**00 26 16.6**	**-2.1**
PHUB	**P'eng-hu**	**2.62**	**238**	*i* P	**Pn**	**00 25 46.4**	**-0.7**
PHUB				*eS*	**Sn**	**00 26 16.5**	**-2.2**
WDGT	**Dungji**	**2.70**	**233**	*eP*	**Pn**	**00 25 47.0**	**-1.2**
EAST	**Anshuo**	**2.73**	**203**	*eP*	**Pn**	**00 25 47.4**	**-1.3**
TAWH	**Dawu Township**	**2.76**	**202**	*eP*	**Pn**	**00 25 48.9**	**0.0**
SCZT	**Fangliau**	**2.83**	**207**	*eP*	**Pn**	**00 25 50.1**	**+0.2**
LAY	**Lan-yu**	**2.89**	**188**	*eP*	**Pn**	**00 25 49.7**	**-1.1**
VCHM	**Qimei**	**2.90**	**235**	⇑P	**Pn**	**00 25 50.0**	**-0.8**
LYUB	**Lan-yu**	**2.92**	**188**	*eP*	**Pn**	**00 25 49.5**	**-1.6**
MHZQ	**Yeshan**	**2.94**	**294**	⇓*eP*	**Pn**	**00 25 50.8**	**-0.5**
KNM	**Kinmen**	**3.29**	**262**	*eP*	**Pn**	**00 25 57.1**	**+1.3**
KNMB	**Chin-men Tao**	**3.32**	**263**	⇓*eP*	**Pn**	**00 25 55.7**	**-0.6**
AXDP	**Jialang**	**3.66**	**271**	*eP*	**Pn**	**00 26 00.5**	**-0.4**
ZPLA	**Ao Xicun**	**4.00**	**257**	*eP*	**Pn**	**00 26 05.3**	**-0.1**
SXFK	**Yanhouchang**	**4.20**	**292**	*eP*	**Pn**	**00 26 08.0**	**-0.1**
DSXP	**Dongshan**	**4.34**	**255**	*eP*	**Pn**	**00 26 09.9**	**-0.1**
KSRS	**Korea Array**	**13.48**	**21**	P	**P**	**00 28 19.1**	**+1.5**
	0.4nm,0.3s,baz=204,slow=12,SNR=9.

FETY	**Fethiye**	**0.58**	**142**	Pg	**Pg**	**00 56 12.5**	**0.0**
APMY	**Acipayam-Deniz**	**0.65**	**55**	Pg	**Pg**	**00 56 13.5**	**-0.3**
MLSB	**Milas**	**0.71**	**286**	Pg	**Pg**	**00 56 15.0**	**+0.1**
RODB	**Rodos**	**0.73**	**207**	P	**Pn**	**00 56 17.5**	**0.0**
AYDN	**Tasoluk**	**0.82**	**313**	P	**Pb**	**00 56 17.0**	**-0.6**
AYDN				S	**Sg**	**00 56 27.7**	**-0.1**
AYDN				*i* AML	AML	00 56 29.0	
	comp=N,319nm,0.3s						
AYDN				*i* AML	AML	00 56 35.0	
	comp=E,402nm,0.5s						
NAZL	**Nazilli-Aydin**	**0.91**	**343**	Pg	**Pg**	**00 56 18.3**	**-0.3**
BDRM	**Kayabasi**	**0.95**	**269**	P	**Pg**	**00 56 19.3**	**-0.2**
BDRM				S	**Sn**	**00 56 34.5**	**+0.3**
BDRM				*i* AML	AML	00 56 36.0	
	comp=E,242nm,0.4s						
ARG	**Arkhangelos**	**0.97**	**205**	Pg	**Pb**	**00 56 20.1**	**+0.1**
ARG	**Arkhangelos**	**0.97**	**205**	P	**Pg**	**00 56 19.8**	**0.0**
ARG				S	**Sg**	**00 56 32.6**	**+0.2**
YAZI	**Mula-Dat§a-**	**1.03**	**247**	P	**Pb**	**00 56 21.4**	**+0.3**
YAZI				S	**Sg**	**00 56 34.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**325**	Pg	**Pb**	**00 56 20.8**	**-0.4**
BODT	**Bodrum**	**1.06**	**269**	Pg	**Pn**	**00 56 22.1**	**0.0**
ELL	**Elmali**	**1.08**	**108**	Pg	**Pn**	**00 56 22.1**	**-0.3**
ELL	**Elmali**	**1.08**	**108**	P	**Pn**	**00 56 22.2**	**-0.2**
ELL				S	**Sb**	**00 56 35.7**	**-0.4**
AKAS	**Kas**	**1.16**	**138**	Pn	**Pn**	**00 56 23.7**	**+0.1**
DDIM	**Aydin, Didim**	**1.17**	**288**	P	**Pn**	**00 56 24.2**	**+0.7**
DDIM				*i* AML	AML	00 56 50.0	
	comp=E,189nm,0.5s						
KSL	**Kastellorizon**	**1.21**	**141**	P	**Pn**	**00 56 24.8**	**+0.7**
ODEM	**Odemis-Izmir**	**1.26**	**340**	Pn	**Pg**	**00 56 25.0**	**-0.3**
GCAM	**G?zelcaml?**	**1.27**	**299**	Pn	**Pg**	**00 56 25.1**	**-0.4**
GCAM	**G?zelcaml?**	**1.27**	**299**	P	**Pg**	**00 56 25.6**	**+0.1**
GCAM				S	**Sb**	**00 56 41.4**	**0.0**
GCAM				*i* AML	AML	00 56 44.0	
	comp=N,182nm,0.9s						
GCAM				*i* AML	AML	00 56 48.0	
	comp=E,232nm,0.9s						
KORT	**Korkueli**	**1.38**	**93**	Pn	**Pg**	**00 56 26.9**	**-0.7**
BASM	**Basmaki-Afyon**	**1.39**	**53**	Pn	**Pb**	**00 56 26.9**	**-0.4**
KULA	**Kula-Manisa**	**1.42**	**1**	Pn	**Pb**	**00 56 27.4**	**-0.3**
SMG	**Samos**	**1.56**	**294**	P	**Pn**	**00 56 29.1**	**+0.2**
ISP	**Isparta**	**1.67**	**64**	P	**Pb**	**00 56 31.6**	**-0.5**
GORD	**Gordes-Manisa**	**1.85**	**349**	Pn	**Pb**	**00 56 33.7**	**-1.3**
KARP	**Karpathos**	**1.95**	**218**	P	**Pn**	**00 56 33.4**	**-1.0**
BRTR	**Keskin Array B**	**4.73**	**55**	Pn	**Pn**	**00 57 15.2**	**+2.5**
	0.7nm,0.3s,baz=236,slow=12,SNR=14						
BRTR				Sn	**Sn**	**00 58 10.5**	**+3.0**
	0.1nm,0.3s,baz=261,slow=35,SNR=1.6 1.7nm,0.6s						
MMAI	**Mount Meron Ar**	**6.88**	**124**	Pn	**Pn**	**00 57 43.0**	**+0.8**
	1.1nm,0.3s,baz=307,slow=12,SNR=10						
MMAI				Sn	**Sn**	**00 58 58.9**	**-1.7**
	0.8nm,0.3s,baz=308,slow=26,SNR=1.9 0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**33.89**	**232**	P	**P**	**01 02 44.1**	**-0.1**
	0.2nm,0.5s,baz=40,slow=7.5,SNR=6.5 0.2nm,0.5s						
MKAR	**Makanchi Array**	**40.37**	**59**	P	**P**	**01 03 38.8**	**-0.2**
	0.1nm,0.5s,baz=280,slow=8.5,SNR=1.5 0.1nm,0.5s						

IDC 12 01:12:03.9±4.7, 15°.15S×68°.86W, h166km±67km, mb3.2/1, mbtmp3.6/1, Error ellipse: s-maj=175.9km s-min=67.7km az=15.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.34**	**148**	P	Pn	01 12 33.8	-0.1
	40nm,0.3s,baz=330,slow=4.8,SNR=325						
LPAZ				S	Sn	01 12 57.0	+0.1
	24nm,0.7s,baz=137,slow=24,SNR=20						
TORD	**Torodi Ar. Bea**	**75.26**	**72**	P	P	01 23 29.1	+0.1
	0.4nm,0.6s,baz=249,slow=5.0,SNR=5.0 0.4nm,0.6s						
SONM	**Songino Array**	**147.17**	**6**	PKPbc	PKPbc	01 31 26.9	-0.8
	0.2nm,0.6s,baz=355,slow=2.4,SNR=2.4						

*IDC **12** 01:21:58.2±9.4, 18°.68S×177°.82W, h513km±44km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=250.9km s-min=30.5km az=141.0*

*NEIC **12** 01:21:58.7±1.3, 18°.7S±0°.3×177°.84W±0°.07, h507km±12km, mb4.2/15, Error ellipse: s-maj=38.6km s-min=9.0km az=187.0*

ISC 12 01:21:57.1±0.9, 18°.9S±0°.2×177°.8W±0°.1, h500km, n23, σ0.99/23, mb4.1/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16**	**286**	P	**P**	**01 23 17.5**	**+0.5**
MSVF	**Nonsavu**	**4.16**	**286**	P	**P**	**01 23 17.9**	**+0.9**
	7.9nm,0.4s,baz=125,slow=6.5,SNR=12						
RAR	**Rarotonga**	**17.05**	**101**	P	**P**	**01 25 30.5**	**+2.0**
EIDS	**Eidsvold**	**29.52**	**252**	P	**P**	**01 27 21.0**	**+0.6**
EIDS				IAmb	IAmb	01 27 37.7	
	comp=Z,8.6nm,1.4s						
COEN	**Coen**	**37.74**	**272**	P	**P**	**01 28 29.0**	**-0.9**
COEN				IAmb	IAmb	01 28 38.4	
	comp=Z,7.6nm,1.1s						
WR0	**Warramunga Arr**	**44.88**	**260**	P	**P**	**01 29 27.1**	**+0.5**
WB0	**Warramunga Arr**	**45.04**	**261**	P	**P**	**01 29 28.2**	**+0.3**
WB0				IAmb	IAmb	01 29 35.9	
	comp=Z,8.9nm,1.4s						
WB2	**Warramunga Arr**	**45.05**	**260**	P	**P**	**01 29 28.1**	**+0.2**
WB2				IAmb	IAmb	01 29 30.6	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**01 29 27.3**	**-0.8**
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**01 29 27.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.6,SNR=15 comp=Z,0.3nm,0.3s						
AS31	**Alice Springs**	**45.12**	**255**	P	**P**	**01 29 28.9**	**+0.4**
ASAR	**Alice Springs**	**45.12**	**255**	P	**P**	**01 29 28.5**	**0.0**
ASAR	**Alice Springs**	**45.12**	**255**	P	**P**	**01 29 28.9**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=90,slow=8.5,SNR=41 comp=Z,2.5nm,0.5s						
PWL	**Port Wells**	**82.98**	**14**	P	**P**	**01 33 27.5**	**-1.3**
PWL				IAmb	IAmb	01 33 29.2	
	comp=Z,6.2nm,1.0s						
J16K	**Anvik River**	**83.05**	**8**	P	**P**	**01 33 30.2**	**+1.1**
FID	**Port Fidalgo**	**83.32**	**15**	P	**P**	**01 33 29.5**	**-1.0**
FID				IAmb	IAmb	01 33 39.2	
	comp=Z,16nm,1.4s						
ILAR	**Eielson Array**	**86.75**	**13**	P	**P**	**01 33 45.8**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=206,slow=4.5,SNR=6.3 comp=Z,0.2nm,0.5s						
F24K	**Squaw Lake**	**88.97**	**11**	P	**P**	**01 33 58.6**	**+1.1**
D22K	**Ayikyak River**	**89.42**	**9**	P	**P**	**01 34 00.1**	**+0.6**
D22K				IAmb	IAmb	01 34 05.6	
	comp=Z,9.3nm,1.5s						
BMAR	**Burnt Mountain**	**89.53**	**12**	P	**P**	**01 33 59.3**	**-0.8**
H29M	**Whitestone**	**89.89**	**15**	P	**P**	**01 34 02.6**	**+0.9**
H29M				IAmb	IAmb	01 34 05.3	
	comp=Z,3.2nm,1.5s						
G31M	**Satah River**	**91.47**	**16**	P	**P**	**01 34 08.9**	**-0.1**
G31M				IAmb	IAmb	01 34 10.7	
	comp=Z,1.9nm,0.9s						
MT09	**Talagante**	**92.81**	**127**	P	**P**	**01 34 14.4**	**-1.8**

*BGR **12** 01:32:22.6, 13°.64N×86°.74E, h33km, mb5.0*

*IDC **12** 01:32:24.6±0.5, 14°.39N×85°.66E, h0km, mb4.5/27, mbtmp4.4/29, ML5.0/3, MS3.9/53, Error ellipse: s-maj=14.6km s-min=13.2km az=62.0*

*BJI **12** 01:32:25.7, 14°.45N×85°.73E, h9km, mB5.1/13, mb4.5/45, Ms4.1/20, Ms7 4.0/20*

*NEIC **12** 01:32:27.3±1.7, 14°.40N±0°.06×85°.73E±0°.06, h10km±1km, mb4.9/68, Error ellipse: s-maj=13.5km s-min=5.4km az=134.0*

*NDI **12** 01:32:29.6, 14°.48N×85°.69E, h20km, mb4.7, ML4.8, mb4.9(NEIC)*

*GCMT **12** 01:32:32.3±0.4, 14°.46N±0°.02×85°.83E±0°.02, h41km±1km, MW4.9/74, Moment Tensor Solution. s16,c21; s74,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32±.20; $M_{\theta\theta}$-2.81±.12; $M_{\phi\phi}$1.49±.13; $M_{r\theta}$0.35±.10; $M_{\theta\phi}$0.28±.10; $M_{\phi r}$1.02±.11; Best double couple: $M_0$2.65800×10^{16} NP1:ϕ_s310.00000°, δ58.00000°, λ150.00000°. NP2: ϕ_s58.00000°, δ65.00000°, λ36.00000°. Principal axes: T 2.4660, Plg43.0000°, Azm277.0000°; N 0.3830, Plg47.0000°, Azm88.0000°; P -2.8490, Plg4.0000°,*

Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 01:32:27.0±0.3, 14°.51N±0°.05×85°.72E±0°.04, h10km, n388, σ1.24/371, mb4.9/122, MS3.9/53, 11C-21D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**3.94**	**325**	*e*P	**Pn**	**01 33 29.3**	**+1.7**
VIS				IAML		01 34 13.5	
	comp=E,3μm,0.5s						
VIS				*e*S	**Sn**	**01 34 14.2**	**+0.4**
VIS				IAML		01 34 16.6	
	comp=E,3μm,0.4s						
RAGD	**RAYAGADA**	**5.19**	**336**	*e*P	**Pn**	**01 33 47.2**	**+2.3**
RAGD				*e*S	**Sn**	**01 34 41.7**	**-3.1**
MDRS	**Chennai**	**5.51**	**256**	*e*P	**Pn**	**01 33 49.7**	**+0.5**
MDRS				*e*S	**Sn**	**01 34 48.0**	**-4.6**
MDRS				IAML		01 34 50.9	
	comp=N,6μm,0.2s						
MDRS				IAML		01 34 51.0	
	comp=E,4μm,0.1s						
DGPR	**DIGLIPUR**	**7.13**	**100**	*e*P	**Pn**	**01 34 12.1**	**+0.7**
DGPR				*e*S	**Sn**	**01 35 28.4**	**-4.2**
DGPR				IAML		01 35 30.5	
	comp=E,2μm,0.7s						
DGPR				IAML		01 35 33.0	
	comp=E,1μm,0.6s						
PBA	**Port Blair**	**7.40**	**112**	Pn	**Pn**	**01 34 15.5**	**+0.2**
PBA	**Port Blair**	**7.40**	**112**	*e*P	**Pn**	**01 34 15.6**	**+0.4**
PBA				*e*S	**Sn**	**01 35 35.0**	**-4.4**
PBA				IAML		01 35 35.3	
	comp=E,3μm,0.5s						
PBA				IAML		01 35 39.8	
	comp=E,2μm,0.7s						
JHSG	**JHARSUGUGA**	**7.45**	**346**	*e*P	**Pn**	**01 34 16.8**	**+0.9**
JHSG				*e*S	**Sn**	**01 35 34.9**	**-5.6**
HYB	**Hyderabad**	**7.48**	**294**	*e*P	**Pn**	**01 34 17.0**	**+0.7**
HYB				*e*		01 35 35.7	
HYB				*e*		01 35 48.0	
HYB				IAML		01 35 50.5	
	comp=N,1μm,0.3s						
SALM	**Salem**	**7.86**	**250**	*e*P	**Pn**	**01 34 21.2**	**-0.2**
SALM				*e*S	Sn	01 35 43.5	-7.1
BLSP	**Bilaspur**	**8.31**	**336**	*e*P	**Pn**	**01 34 27.6**	**-0.2**
BLSP				*e*S	Sn	01 35 52.1	-10
KNTI	**KHUNTI**	**8.52**	**357**	*e*P	Pn	01 34 40.9	+10
KNTI				*e*S	**Sn**	**01 36 10.4**	**+3.6**
PALK	**Pallekele**	**8.71**	**215**	Pn	Pn	01 34 27.7	-5.5
PALK	**Pallekele**	**8.71**	**215**	Pn	Pn	01 34 29.6	-3.7
	comp=N,56nm,0.3s,baz=37,slow=13,SNR=80						
PALK				Sn	Sn	01 35 59.0	-13
	comp=N,163nm,0.3s,baz=156,slow=16,SNR=30						
PALK				LR	LR	01 37 37.4	
	comp=N,825nm,21.3s,baz=44,slow=36						
BOK	**Bokaro**	**9.24**	**1**	*e*P	**Pn**	**01 34 40.1**	**-0.4**
BOK				*e*S	**Sn**	**01 36 18.3**	**-6.3**
BOK				IAML		01 36 37.8	
	comp=E,258nm,0.7s						
BOK				IAML		01 36 42.3	
	comp=E,204nm,0.7s						
LATR	**Latur**	**9.61**	**295**	*e*P	**Pn**	**01 34 46.8**	**+1.3**
LATR				*e*S	Sn	01 36 25.4	-8.3
BRDH	**Bariadhala**	**9.88**	**34**	Pn	**Pn**	**01 34 49.1**	**0.0**
	comp=E,30nm,0.3s,baz=187,slow=10,SNR=4.7						
BRDH				Sn	Sn	01 36 30.8	-9.3
	comp=E,80nm,0.3s,baz=1.0,slow=23,SNR=12						
BRDH				LR	LR	01 40 19.2	
	comp=E,735nm,19.7s,baz=174,slow=47						
AKL	**Akola**	**10.34**	**308**	*e*P	**Pn**	**01 34 56.0**	**+0.5**
AKL				*e*S	Sn	01 36 44.4	-7.1
TRD	**Trivandrum**	**10.45**	**236**	*e*P	**Pn**	**01 34 57.4**	**+0.3**
TRD				*e*S	Sn	01 36 43.1	-11
SAIH	**SAIHA**	**10.51**	**40**	*e*P	**Pn**	**01 34 58.8**	**+0.8**
SAIH				*e*S	Sn	01 36 45.9	-10
MNGI	**Mangalore**	**10.70**	**263**	*e*P	**Pn**	**01 34 59.8**	**-0.7**
MNGI				*e*S	Sn	01 36 48.6	-12
CMBY	**CAMPBELL BAY**	**10.97**	**132**	*e*P	**Pn**	**01 35 04.5**	**+0.3**
CMBY				IAmb	IAmb	01 35 06.5	
	comp=Z,389nm,0.6s						
CMBY				*e*S	Sn	01 36 57.7	-9.4
AZL	**Aizawl**	**11.30**	**35**	*e*P	**Pn**	**01 35 08.6**	**-0.1**
AZL				*e*S	Sn	01 37 08.4	-6.8
AZL				IAML		01 37 08.6	
	comp=E,410nm,1.1s						
AZL				IAML		01 37 13.0	
	comp=E,346nm,0.8s						
ALBI	**Allahabad**	**11.36**	**342**	*e*P	**Pn**	**01 35 10.3**	**+0.9**
ALBI				*e*S	Sn	01 37 06.9	-10
KAD	**Karad**	**11.44**	**286**	*e*P	**Pn**	**01 35 12.4**	**+1.7**
KAD				*e*S	Sn	01 37 06.9	-12
NRDN	**NARMADA NAGAR**	**11.51**	**316**	*e*S	Sn	01 37 07.4	-13
GOA	**Goa**	**11.54**	**276**	*e*P	**Pn**	**01 35 11.5**	**-0.4**
GOA				IAmb	IAmb	01 35 14.3	
	comp=Z,80nm,0.5s						
GOA				*e*S	Sn	01 37 13.1	-7.8
BHPL	**Bhopal**	**11.71**	**319**	*e*P	**Pn**	**01 35 15.8**	**+1.5**
BHPL				*e*S	Sn	01 37 17.0	-8.2
BHPL				IAML		01 37 21.2	
	comp=E,262nm,0.5s						
BHPL				IAML		01 37 24.8	
	comp=E,197nm,0.6s						
POO	**Poona**	**12.07**	**291**	*e*P	**Pn**	**01 35 18.4**	**-0.8**
POO				*e*S	Sn	01 37 24.1	-10
POO				IAML		01 37 27.2	
	comp=E,262nm,0.4s						
POO				IAML		01 37 28.4	
	comp=E,176nm,0.4s						
SHL	**Shillong**	**12.43**	**27**	Pn	**Pn**	**01 35 22.8**	**-1.5**
SHL	**Shillong**	**12.43**	**27**	*e*P	**Pn**	**01 35 24.9**	**+0.6**
SHL				*e*S	Sn	01 37 32.2	-11
SHL				IAML		01 37 34.9	
	comp=E,104nm,0.5s						
SHL				IAML		01 37 36.6	
	comp=E,346nm,0.5s						
GUNA	**GUNA**	**12.81**	**323**	*e*P	**Pn**	**01 35 32.3**	**+2.9**
GUNA				*e*S	Sn	01 37 42.0	-10
JHNI	**Jhansi**	**12.82**	**329**	*e*P	**Pn**	**01 35 30.3**	**+0.8**
JHNI				*e*S	Sn	01 37 41.4	-11
IMP	**Imphal**	**12.86**	**36**	*e*P	**Pn**	**01 35 29.9**	**-0.2**
IMP				*e*S	Sn	01 37 44.4	-9.1
IMP				IAML		01 37 54.6	
	comp=E,42nm,1.6s						
IMP				IAML		01 37 58.3	
	comp=E,35nm,1.3s						
BSI	**Banda Aceh**	**13.00**	**133**	P	Pn	01 35 29.7	-2.2
GTK	**Tadong**	**13.03**	**11**	*e*P	**Pn**	**01 35 34.9**	**+2.5**
GTK				*e*S	Sn	01 37 44.7	-13
GTK				IAML		01 37 53.8	
	comp=E,113nm,1.6s						
GTK				IAML		01 37 57.8	
	comp=E,122nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.28**	**71**	Pn	**Pn**	**01 35 36.5**	**+0.7**
	comp=E,0.8nm,0.3s,baz=256,slow=14,SNR=21						
CMAR				Sn	Sn	01 37 53.4	-10
	comp=E,2.2nm,0.3s,baz=256,slow=27,SNR=8.4						
CMAR				LR	LR	01 41 24.6	
	comp=E,191nm,18.9s,baz=250,slow=40 comp=E,4.2nm,0.6s						
CHTO	**Chiang Mai**	**13.37**	**70**	Pn	**Pn**	**01 35 38.0**	**+0.9**
MNCI	**Minicoy**	**13.86**	**245**	Pn	**Pn**	**01 35 44.7**	**+1.0**
TAWA	**Tawang**	**14.23**	**23**	*e*P	**Pn**	**01 35 49.2**	**+0.1**
TAWA				*e*S	Sn	01 38 15.2	-12
TAWA				IAML		01 38 20.5	
	comp=N,148nm,0.5s						
TAWA				IAML		01 38 21.0	
	comp=E,133nm,0.8s						
MOKO	**MOKOCHONG**	**14.35**	**34**	*e*P	**Pn**	**01 35 50.5**	**-0.1**
MOKO				*e*S	Sn	01 38 19.0	-11
MOKO				IAML		01 38 19.9	
	comp=E,142nm,1.1s						
MOKO				IAML		01 38 23.5	
	comp=E,295nm,0.3s						
PHRA	**Phrae**	**14.47**	**72**	Pn	**Pn**	**01 35 53.2**	**+1.1**
MLSI	**Meulaboh, Aceh**	**14.64**	**133**	P	**Pn**	**01 35 54.5**	**+0.1**
	comp=E,57nm,0.8s						
LGTI	**Lohaghat**	**15.71**	**342**	*e*P	**Pn**	**01 36 07.6**	**-0.9**
LGTI				*e*S	Sn	01 38 49.2	-14
LSA	**Lhasa**	**15.93**	**17**	Pn	**Pn**	**01 36 11.3**	**-0.5**
LSA				IAmb	IAmb	01 36 14.3	
	comp=Z,138nm,1.5s						
LSA	**Lhasa**	**15.93**	**17**	P	**Pn**	**01 36 10.5**	**-1.4**
TNCH	**TengChong**	**15.95**	**47**	*e*P	**Pn**	**01 36 12.9**	**+1.1**
TNCH				pP	P	01 36 15.8	+0.4
TNCH				sP	pP	01 36 20.3	+2.9
TNCH				PP	**pwP**	**01 36 24.1**	**+2.7**
TNCH				pmax	pmax		
	comp=Z,180nm,1.4s						
KUDL	**Kundal**	**16.05**	**329**	*e*P	**Pn**	**01 36 12.4**	**-0.6**
KUDL				*e*S	Sn	01 38 58.4	-13
NPLP	**NPLP New Delhi**	**16.14**	**332**	*e*P	**Pn**	**01 36 14.3**	**+0.1**
NPLP				*e*S	Sn	01 38 59.4	-14
DDI	**Dehra Dun**	**17.25**	**337**	*e*P	**Pn**	**01 36 28.4**	**+0.1**
DDI				*e*S	Sn	01 39 26.4	-14
PSI	**Prapat**	**17.46**	**131**	P	**Pn**	**01 36 30.8**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=313,slow=21,SNR=2.0						
PSI				LR	LR	01 43 32.5	
	comp=Z,924nm,20.8s,baz=302,slow=38						
BHUJ	**Bhuj**	**17.50**	**302**	*e*P	**Pn**	**01 36 34.6**	**+3.3**
BHUJ				*e*S	Sn	01 39 30.1	-16
RPSI	**Rantau Prapat**	**17.54**	**131**	P	**Pn**	**01 36 30.8**	**-1.0**
GSI	**Gunungsitoli**	**17.59**	**137**		**Pn**	**01 36 33.4**	**+1.0**
GSI				IAmb	IAmb	01 36 38.9	
	comp=Z,47nm,0.9s						
GSI	**Gunungsitoli**	**17.59**	**137**	P	**Pn**	**01 36 33.9**	**+1.4**
	comp=Z,3μmcomp=Z,88nm,1.4s						
SMLA	**Simla**	**18.31**	**336**	*e*P	**Pn**	**01 36 40.8**	**-0.5**
SMLA				IAmb	IAmb	01 36 49.2	
	comp=Z,42nm,0.7s						
SMLA				*e*S	Sn	01 39 52.2	-14
BHK	**Bhakra**	**18.87**	**335**	*e*P	**P**	**01 36 46.5**	**-1.1**
BHK				*e*S	Sn	01 39 54.7	-25
UBPT	**Khong Chiam**	**19.10**	**85**	P	**P**	**01 36 51.2**	**+1.0**
PZH	**PanZhiHua**	**19.15**	**49**	P	**P**	**01 36 52.3**	**+1.5**
PZH				S	**Sn**	**01 40 23.0**	**-3.4**
PZH				pmax	pmax		
	comp=Z,20nm,1.4s						
PZH				pmax	pmax		
	comp=Z,140nm,6.3s						
PZH				LR	LR		
	comp=Z,600nm,20.0s						
PZH				LR	LR		
	comp=Z,330nm,18.6s						
PZH				LR	LR		
	comp=Z,590nm,25.0s						
KMI	**Kunming**	**19.16**	**54**	⇓P	**P**	**01 36 52.1**	**+1.1**
KMI				sP	sP	01 36 57.0	+3.1
KMI				S	**Sn**	**01 40 27.4**	**+0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				LR	LR		
	comp=Z,300nm,13.8s						
KMI				LR	LR		
	comp=Z,250nm,15.9s						
KMI				LR	LR		
	comp=Z,290nm,15.8s						
MNSI	**Mandailing Nat**	**19.32**	**134**	P	**P**	**01 36 53.6**	**+1.0**
DHRM	**DHARAMSHALA**	**19.65**	**336**	*e*P	**P**	**01 36 59.2**	**+3.0**
DHRM				IAML		01 40 54.3	
	comp=Z,149nm,1.0s						
DHRM				IAML		01 41 05.1	
	comp=E,166nm,0.8s						
SISI	**Saibi**	**20.56**	**139**	P	**P**	**01 37 07.7**	**+1.6**
	comp=E,109nm,1.2s						
PPI	**Padang Panjang**	**20.78**	**134**	P	**P**	**01 37 09.4**	**+0.9**
	comp=E,56nm,1.3s						
NIL	**Nilore**	**22.16**	**331**	P	**P**	**01 37 24.1**	**+0.9**
NIL				IAmb	IAmb	01 37 27.3	
	comp=Z,87nm,1.2s						
GOMU	**GeErMu**	**23.09**	**19**	P	**P**	**01 37 34.3**	**+0.9**
GOMU				pP	pP	01 37 36.6	+1.2
GOMU				sP	pwP	01 37 42.1	+2.7
GOMU				S	**S**	**01 41 43.5**	**-1.4**
GOMU				pmax	pmax		
	comp=Z,19nm,1.1s						
GOMU				LR	LR		
	comp=Z,380nm,15.3s						
GOMU				LR	LR		
	comp=Z,180nm,15.2s						
GOMU				LR	LR		
	comp=Z,400nm,15.5s						
QIZ	**Qiongzhong**	**23.52**	**76**	P	**P**	**01 37 36.3**	**-1.3**
QIZ				S	**S**	**01 41 49.7**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,26nm,1.6s						
QIZ				LR	LR		
	comp=Z,210nm,10.1s						
QIZ				LR	LR		
	comp=Z,250nm,13.0s						
QIZ				LR	LR		
	comp=Z,240nm,17.3s						
KBL	**Kabul**	**24.99**	**326**	P	**P**	**01 37 52.3**	**+1.0**
KBL				IAmb	IAmb	01 38 20.1	
	comp=Z,13nm,0.9s						
KSH	**Kashi**	**26.35**	**343**	P	**P**	**01 38 02.4**	**-1.1**
KSH				sP	sP	01 38 10.8	+4.3
KSH				S	**S**	**01 42 31.7**	**-4.9**
KSH				pmax	pmax		
	comp=Z,18nm,0.6s						
KSH				LR	LR		
	comp=Z,430nm,19.6s						
KSH				LR	LR		
	comp=Z,300nm,13.1s						
KSH				LR	LR		
	comp=Z,460nm,19.2s						
ENH	**Enshi**	**26.92**	**50**	P	**P**	**01 38 09.0**	**+0.4**
WSAR	**Wadi Sarin**	**27.03**	**293**	LR	LR	01 48 56.9	
	comp=Z,84nm,21.3s,baz=125,slow=37						
WUS	**Wushi**	**27.19**	**349**	P	**P**	**01 38 11.9**	**+0.8**
WUS				IAmb	IAmb	01 38 29.4	
	comp=Z,17nm,0.9s						
DRK	**Karamyk**	**27.73**	**336**	P	**P**	**01 38 17.0**	**+0.9**
GTA	**Gaotai**	**27.73**	**24**	*e*P	**P**	**01 38 17.5**	**+1.6**
GTA				sP	pwP	01 38 23.4	+1.3
GTA				PcP	**PcP**	**01 41 32.0**	**-0.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.5s						
GTA				LR	LR		
	comp=Z,140nm,14.9s						
GTA				LR	LR		
	comp=Z,180nm,14.9s						
GTA				LR	LR		
	comp=Z,230nm,16.4s						
GAR	**Garm**	**27.92**	**334**	P	**P**	**01 38 17.5**	**-0.1**
GAR				IAmb	IAmb	01 38 18.7	
	comp=Z,22nm,0.9s						
CHGR	**Chuyangaron**	**28.16**	**332**	P	**P**	**01 38 19.7**	**0.0**
CHGR				IAmb	IAmb	01 38 20.4	
	comp=Z,36nm,1.0s						
SIMJ	**Simiganj**	**28.23**	**332**	P	**P**	**01 38 20.7**	**+0.4**
SIMJ				IAmb	IAmb	01 39 15.7	
	comp=Z,16nm,0.8s						
BTK

comp=Z,10.0nm,1.0s
BTO pmax pmax
comp=Z,380nm,7.8s
TGY Tagaytay City 34.11 86 LR LR 01 51 56.5
comp=Z,261nm,21.6s,baz=114,slow=34
HNS HongShan 34.39 43 ⇑P P 01 39 24.0 +10
HNS pmax pmax
comp=Z,6.0nm,0.8s
HHC Hu-ho-hao-te 34.57 36 *e*P **P 01 39 14.5 -1.6**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
NJ2 Nanjing 34.90 54 *e*P **P 01 39 19.0 +0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.7s
KURBB Kurchatov Arra 36.49 352 P **P 01 39 32.6 +0.3**
comp=Z,4.0nm,0.8s,baz=171,slow=7.7,SNR=45
KURBB PcP **PcP 01 41 55.0 -1.0**
comp=Z,3.3nm,0.9s,baz=172,slow=2.5,SNR=9.2
KURBB LR LR 01 56 01.8
comp=Z,256nm,20.0s,baz=162,slow=39
comp=Z,4.0nm,0.8s
KURK Kurchatov 36.57 352 P **P 01 39 33.5 +0.5**
KURK IAmb IAmb 01 39 49.0
comp=Z,17nm,1.1s
BRZS Berezniki 36.95 346 *e*P **P 01 39 36.1 -0.2**
SONM Songino Array 37.40 23 P **P 01 39 40.7 +0.5**
SONM IAmb IAmb 01 39 54.2
comp=Z,20nm,1.6s
SONM Songino Array 37.40 23 P **P 01 39 40.8 +0.6**
comp=Z,3.7nm,1.1s,baz=207,slow=9.0,SNR=14
SONM LR LR 01 56 44.0
comp=Z,233nm,19.2s,baz=168,slow=39
comp=Z,3.7nm,1.1s
ULN Ulaanbaatar 37.67 24 P **P 01 39 43.5 +0.9**
KAPI Kappang 38.92 117 LR LR 01 56 42.1
comp=Z,68nm,18.7s,baz=298,slow=37
RAYN Ar Rayn 38.96 290 P **P 01 39 55.0 +1.4**
RAYN IAmb IAmb 01 39 56.0
comp=Z,34nm,1.7s
XLT XiLinHaoTe 39.10 35 *e*P **P 01 39 56.1 +1.5**
XLT pP sP 01 40 00.8 +3.2
XLT pmax pmax
comp=Z,6.0nm,1.1s
XLT pmax pmax
comp=Z,230nm,4.7s
ZAA0 Zalesovo Array 39.36 359 P **P 01 39 57.0 +0.5**
ZALV Zalesovo Beam 39.36 359 P **P 01 39 57.0 +0.5**
comp=Z,6.1nm,0.6s,baz=191,slow=7.6,SNR=29
ZALV LR LR 01 58 14.7
comp=Z,244nm,18.3s,baz=160,slow=39
comp=Z,6.1nm,0.6s
DAV Davao City (W) 39.80 96 LR LR 01 58 33.8
comp=Z,54nm,19.1s,baz=340,slow=39
BVAR Borovoye Array 40.31 346 P **P 01 40 04.0 -0.5**
comp=Z,1.6nm,0.7s,baz=156,slow=9.4,SNR=9.6
BVAR PcP **PcP 01 42 06.3 -1.6**
comp=Z,2.6nm,0.8s,baz=150,slow=4.5,SNR=5.6
BVAR LR LR 01 58 14.6
comp=Z,427nm,19.2s,baz=161,slow=38
comp=Z,1.6nm,0.7s
BRVK Borovoye 40.37 346 P **P 01 40 05.2 +0.3**
ABKAR Abkulak array 40.58 334 P **P 01 40 07.7 +0.9**
ABKAR Abkulak array 40.58 334 P **P 01 40 07.4 +0.6**
ATD Arta Tunnel 41.83 271 P P 01 40 15.6 -2.0
ATD IAmb IAmb 01 40 20.2
comp=Z,17nm,1.1s
KSRS Korea Array 43.81 51 P **P 01 40 33.0 -0.2**
comp=Z,0.5nm,0.3s,baz=253,slow=6.6,SNR=7.8
KSRS LR LR 02 02 31.6
comp=Z,91nm,18.6s,baz=245,slow=41
comp=Z,0.5nm,0.3s
GNI Garni 43.92 314 P **P 01 40 35.2 +0.9**
GNI IAmb IAmb 01 40 37.9
comp=Z,40nm,1.1s
GNI Garni 43.92 314 LR LR 02 01 37.1
comp=Z,125nm,21.0s,baz=97,slow=40
GNI Garni 43.92 314 P **P 01 40 35.9 +1.5**
comp=Z,43nm,1.2s
CN2 Changchun 44.68 41 *e*P **P 01 40 42.1 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
JNU Nakatsue 44.89 57 LR LR 02 00 43.3
comp=Z,25nm,19.6s,baz=260,slow=38
KARS Kars 45.28 313 P **P 01 40 46.5 +1.3**
MARD Mardin 45.83 308 P **P 01 40 50.5 +0.9**
KBZ Khabaz 46.65 317 P **P 01 40 54.9 -0.9**
comp=Z,5.1nm,0.9s,baz=137,slow=8.0,SNR=11
comp=Z,5.1nm,0.9s
ARTI Arti 46.74 339 P **P 01 40 56.5 +0.3**
ARTI IAmb IAmb 01 40 57.5
comp=Z,13nm,1.0s
ARTI Arti 46.74 339 LR LR 02 01 43.5
comp=Z,185nm,18.2s,baz=140,slow=38
KIV Kislovodsk 46.89 318 P **P 01 40 58.0 +0.2**
KIV Kislovodsk 46.89 318 ⇑P **P 01 40 59.3 +1.5**
KIV Kislovodsk 46.89 318 P **P 01 40 59.0 +1.3**
comp=Z,33nm,1.1s
ASF Jabal al Asfar 47.73 300 LR LR 02 04 16.1
comp=Z,122nm,20.0s,baz=166,slow=40
BELG Belogornoye 48.41 330 LR LR 02 03 35.7
comp=Z,172nm,20.7s,baz=138,slow=39
GAZ Gaziantep 48.53 307 P **P 01 41 11.4 +0.8**
GAZ IAmb IAmb 01 41 12.8
comp=Z,22nm,1.0s
EIL Elat 49.03 297 LR LR 02 03 11.6
comp=Z,51nm,21.8s,baz=93,slow=38
HEH HeiHe 49.07 34 *e*P **P 01 41 18.5 +4.1**
HEH pmax pmax
comp=Z,5.0nm,1.0s
MMAI Mount Meron Ar 49.11 301 P **P 01 41 14.7 -0.4**
comp=Z,3.1nm,0.8s,baz=94,slow=10,SNR=5.2
MMAI PcP **PcP 01 42 39.0 +0.3**
comp=Z,5.6nm,1.2s,baz=138,slow=6.7,SNR=3.7
MMAI LR LR 02 05 30.5
comp=Z,129nm,19.9s,baz=94,slow=40
comp=Z,3.1nm,0.8s
USRK Ussuriysk Ar. 49.12 43 P **P 01 41 15.6 +0.7**
comp=Z,0.8nm,0.5s,baz=248,slow=10,SNR=1.4
comp=Z,0.8nm,0.5s
TOKA Tokat 49.92 311 P **P 01 41 21.0 -0.1**
TOKA IAmb IAmb 01 41 22.7
comp=Z,7.5nm,0.8s
KMBO Kilima Mbogo 50.42 256 P **P 01 41 25.3 -0.2**
LODK Lodwar 50.83 263 P **P 01 41 27.7 -0.8**
FITZ Fitzroy Crossi 50.97 128 P **P 01 41 28.1 -1.2**
FITZ Fitzroy Crossi 50.97 128 LR LR 02 03 24.4
comp=Z,161nm,21.7s,baz=303,slow=36
KLR Kul'dur 51.04 37 LR LR 02 08 34.7
comp=Z,119nm,18.3s,baz=227,slow=42
CSS Mathiatis 51.14 303 P **P 01 41 31.1 +0.7**
comp=Z,7.3nm,0.9s
DIKM Dikmen 51.18 312 P **P 01 41 31.4 +0.8**
comp=Z,41nm,1.6s
MJAR Matsushiro Arr 51.50 55 LR LR 02 06 26.9
comp=Z,50nm,18.9s,baz=304,slow=40
KIRS Kirsehir-Merke 51.52 309 ⇑P **P 01 41 33.1 -0.2**
BR104 Keskin Array S 51.86 309 P **P 01 41 34.7 -1.2**
comp=Z,68nmcomp=Z,6.5nm,1.0s
BRTR Keskin Array B 51.87 309 P **P 01 41 35.3 -0.7**
BRTR Keskin Array B 51.87 309 P **P 01 41 35.4 -0.6**
comp=Z,3.8nm,0.6s,baz=119,slow=8.5,SNR=13
BRTR LR LR 02 07 34.7
comp=Z,66nm,18.4s,baz=122,slow=41
comp=Z,3.8nm,0.6s
BR105 Keskin Array S 51.88 309 P **P 01 41 35.5 -0.6**
comp=Z,89nmcomp=Z,9.0nm,1.0s
BR106 Keskin Array S 51.89 309 P **P 01 41 35.5 -0.6**
comp=Z,66nmcomp=Z,7.3nm,1.0s
ELL Elmali 54.17 305 P **P 01 41 52.5 -0.5**
NRIK Noril'sk 54.81 1 P **P 01 41 57.2 +0.3**
NRIK IAmb IAmb 01 41 58.0
comp=Z,9.7nm,0.8s
NRIK Noril'sk 54.81 1 P **P 01 41 57.0 +0.1**
comp=Z,8.0nm,0.7s,baz=167,slow=4.8,SNR=24
NRIK LR LR 02 07 42.3
comp=Z,89nm,19.0s,baz=173,slow=39
comp=Z,8.0nm,0.7s
OBN Obninsk 55.41 328 LR LR 02 09 14.9
comp=Z,173nm,18.4s,baz=183,slow=40
OBN Obninsk 55.41 328 P **P 01 42 01.2 -0.2**
comp=Z,18nm,1.2s
CTYL Yalikoy Yolu 56.22 310 P **P 01 42 07.2 -0.3**
comp=Z,14nm,1.0s
PURM Purcari 56.26 317 P **P 01 42 07.4 -0.3**
comp=Z,22nm,0.9s

ASAJ Asahikawa 56.37 46 LR LR 02 08 13.7
comp=Z,48nm,19.9s,baz=226,slow=38
TIRR Tirgusor 56.75 314 P **P 01 42 10.3 -0.9**
comp=Z,15nm,1.4s
YAK Yakutsk 56.76 23 LR LR 02 08 37.2
comp=Z,142nm,20.9s,baz=192,slow=38
BAL3X Bal3x, Balta 56.82 318 P **P 01 42 10.7 -1.0**
MILM Milestii Mici 57.06 317 ⇓P **P 01 42 12.8 -0.6**
KIS Kishinev 57.08 317 P **P 01 42 13.2 -0.3**
comp=Z,24nm,0.6s
CFR Carcaliu 57.10 315 ⇑P **P 01 42 13.2 -0.5**
SORM Soroca 57.68 318 ⇓P **P 01 42 17.4 -0.4**
SORM Soroca 57.68 318 P **P 01 42 16.7 -1.0**
comp=Z,16nm,1.1s
AK09 Malin Array Si 57.79 321 P **P 01 42 18.0 -0.5**
AK10 Malin Array Si 57.81 321 P **P 01 42 18.4 -0.2**
AK08 Malin Array Si 57.82 321 P **P 01 42 18.6 0.0**
AK07 Malin Array Si 57.82 321 P **P 01 42 18.5 -0.2**
AK05 Malin Array Si 57.84 321 P **P 01 42 18.4 -0.4**
AKASG Malin Array Be 57.86 321 P **P 01 42 18.9 -0.1**
AKASG IAmb IAmb 01 42 19.5
comp=Z,9.4nm,0.9s
AKASG Malin Array Be 57.86 321 P **P 01 42 18.4 -0.5**
comp=Z,24nm,1.2s,baz=97,slow=5.3,SNR=62
AKASG LR LR 02 11 35.8
comp=Z,117nm,18.3s,baz=112,slow=41
comp=Z,24nm,1.2s
AKBB Malin Array Si 57.86 321 P **P 01 42 18.9 -0.1**
AKBB IAmb IAmb 01 42 19.5
comp=Z,20nm,0.9s
AKBB Malin Array Si 57.86 321 P **P 01 42 18.2 -0.7**
KIEV Kiev 57.86 321 P **P 01 42 18.4 -0.6**
KIEV IAmb IAmb 01 42 19.5
comp=Z,20nm,1.0s
KIEV Kiev 57.86 321 ⇓P **P 01 42 18.8 -0.1**
KIEV Kiev 57.86 321 P **P 01 42 18.2 -0.8**
comp=Z,84nm,1.1s
AK03 Malin Array Si 57.87 321 P **P 01 42 18.7 -0.3**
AK12 Malin Array Si 57.88 321 P **P 01 42 18.5 -0.6**
AK11 Malin Array Si 57.88 321 P **P 01 42 18.3 -0.8**
AK04 Malin Array Si 57.90 321 P **P 01 42 18.5 -0.7**
AK21 Malin Array Si 57.99 321 P **P 01 42 18.8 -1.1**
AK19 Malin Array Si 57.99 321 P **P 01 42 19.0 -0.9**
AK20 Malin Array Si 58.00 321 P **P 01 42 19.0 -0.9**
ISR Istrita 58.19 314 P **P 01 42 21.3 -0.2**
comp=Z,26nm,1.2s
VRI Vrincioaia 58.22 315 ⇓P **P 01 42 22.3 +0.6**
VRI Vrincioaia 58.22 315 P **P 01 42 21.4 -0.2**
comp=Z,17nm,1.5s
PLOR Plostina 58.27 315 ⇓P **P 01 42 22.8 +0.8**
PLOR3 Plostina Array 58.27 315 P **P 01 42 22.1 +0.1**
comp=Z,21nm,1.0s
TESR Tescani 58.41 316 ⇓P **P 01 42 22.9 0.0**
TESR Tescani 58.41 316 P **P 01 42 21.5 -1.4**
comp=Z,23nm,1.2s
NEHR Nehoiu 58.42 315 ⇓P **P 01 42 23.9 +0.8**
NDNU Novodnistrovsk 58.43 318 P **P 01 42 21.3 -1.7**
MI30 MI30,Zelenitsa 58.50 321 P **P 01 42 22.7 -0.7**
comp=Z,24nm,1.2s
LUBAR Lubar, Ukraine 58.53 320 P **P 01 42 23.1 -0.6**
ONER Baraj Valea Uz 58.55 316 ⇓P **P 01 42 24.3 +0.4**
COVR Voineasa-Covas 58.57 315 ⇓P **P 01 42 24.3 +0.2**
MLR Muntele Rosu 58.68 315 P **P 01 42 24.4 -0.5**
MLR IAmb IAmb 01 42 26.8
comp=Z,20nm,1.1s
MLR Muntele Rosu 58.68 315 LR LR 02 13 50.5
comp=Z,42nm,18.6s,baz=76,slow=42
MLR Muntele Rosu 58.68 315 ⇓P **P 01 42 25.6 +0.7**
MLR Muntele Rosu 58.68 315 P **P 01 42 24.7 -0.3**
comp=Z,21nm,1.2s
WB0 Warramunga Arr 58.76 124 P **P 01 42 24.2 -1.5**
WRA Warramunga Arr 58.80 124 P **P 01 42 25.1 -0.9**
comp=Z,1.2nm,0.4s,baz=309,slow=7.5,SNR=40
WRA LR LR 02 08 05.2
comp=Z,48nm,21.2s,baz=278,slow=36
comp=Z,1.2nm,0.4s
WB2 Warramunga Arr 58.81 124 P **P 01 42 25.0 -1.1**
MI28 Mi28,Pidlybu 58.87 321 P **P 01 42 25.6 -0.4**
PRAR RASCA 58.88 317 ⇑P **P 01 42 26.0 -0.2**
KMPD K-Podol'skiy 59.01 318 P **P 01 42 25.5 -1.5**
DOPR Dopca 59.15 315 ⇓P **P 01 42 27.9 -0.3**
VOIR 59.28 314 ⇓P **P 01 42 29.1 0.0**
VLAD Vladila 59.48 313 ⇑P **P 01 42 30.0 -0.4**
ARR Arges 59.56 314 ⇓P **P 01 42 30.6 -0.4**
BURAR Bucovina Array 59.61 317 ⇑P **P 01 42 31.6 +0.2**
BUR08 Bucovina Ar. S 59.62 317 P **P 01 42 31.7 +0.2**
BUR08 IAmb IAmb 01 42 34.5
comp=Z,8.0nm,1.1s
KSV Kosov 59.86 318 P **P 01 42 32.4 -0.5**
RNPP5 Staryi Chortor 60.03 321 P **P 01 42 32.9 -1.1**
RNPP9 Sopachiv 60.07 321 P **P 01 42 33.4 -0.9**
STNU Starunia 60.31 318 P **P 01 42 35.4 -0.6**
ASAR Alice Springs 60.48 128 P **P 01 42 36.3 -1.3**
comp=Z,1.4nm,0.8s,baz=309,slow=7.7,SNR=7.9
comp=Z,1.4nm,0.8s
NACGM Naroch 60.54 325 *i* P **P 01 42 37.6 +0.1**
baz=108
BMR Baia Mare 60.76 317 ⇓P **P 01 42 38.7 -0.4**
MORS Morshin 60.79 318 P **P 01 42 39.8 +0.5**
DEV Deva 60.84 315 ⇑P **P 01 42 39.8 +0.1**
LVV L'vov 60.85 319 P **P 01 42 39.4 -0.3**
MEZ Mezhgor'ye 60.91 318 P **P 01 42 40.1 0.0**
HERR Herculane 61.03 313 ⇓P **P 01 42 40.7 -0.3**
DRGR 61.13 316 ⇓P **P 01 42 41.9 +0.1**
SHIU Shidnytsya 61.15 318 P **P 01 42 41.9 +0.1**
SURR Surduc 61.36 314 ⇑P **P 01 42 43.3 0.0**
BOVS Bovan 61.36 312 ⇓P **P 01 42 42.0 -1.3**
BERU Beregovo 61.42 317 P **P 01 42 43.9 +0.3**
MUKU Mukachevo 61.44 318 P **P 01 42 44.1 +0.4**
KWP Kalwaria Pacla 61.65 319 P **P 01 42 45.3 +0.2**
BZS Buzias 61.70 314 ⇑P **P 01 42 45.1 -0.4**
KOLS Kolonicke sedl 61.80 318 *e*P **P 01 42 47.7 +1.6**
STHS Stebnicka Huta 62.55 318 *e*P **P 01 42 51.2 0.0**
TIXI Tiksi 62.62 14 P **P 01 42 50.5 -0.7**
TIXI IAmb IAmb 01 42 51.1
comp=Z,14nm,1.2s
FINES FINESS Array B 63.03 332 P **P 01 42 54.0 -0.1**
comp=Z,7.6nm,0.5s,baz=108,slow=7.5,SNR=44
FINES LR LR 02 13 11.3
comp=Z,117nm,19.2s,baz=64,slow=39
comp=Z,7.6nm,0.5s
NIE Niedzica 63.16 318 P **P 01 42 55.5 +0.3**
comp=Z,4.5nm,1.4s
PSZ Piszkesteto 63.20 317 P **P 01 42 55.3 -0.2**
PSZ IAmb IAmb 01 42 55.8
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 63.20 317 ⇑P **P 01 42 55.4 -0.2**
OJC Ojcow 63.60 319 P **P 01 42 57.6 -0.6**
OJC IAmb IAmb 01 42 59.1
comp=Z,19nm,1.0s
OJC Ojcow 63.60 319 P **P 01 42 57.5 -0.6**
comp=Z,24nm,1.0s
LANS Liptovska Anna 63.65 318 *e*P **P 01 42 59.8 +1.3**
MORH Mrgy, Hungar 63.83 315 ⇓P **P 01 42 59.1 -0.6**
MORH Mrgy, Hungar 63.83 315 P **P 01 42 58.4 -1.3**
comp=Z,11nm,1.1s
VYHS Vyhne 63.98 317 *e*P **P 01 43 00.8 +0.2**
LSZ Lusaka 64.11 245 P **P 01 43 01.4 -0.8**
LSZ Lusaka 64.11 245 LR LR 02 06 48.0
comp=Z,109nm,21.8s,baz=94,slow=32
MPLH Magyarpolny 64.69 316 P **P 01 43 04.7 -0.6**
comp=Z,59nm,1.1s
STEB Steborice 64.85 319 *e*P **P 01 43 06.6 +0.2**
MORC Moravsky Berou 64.98 318 P **P 01 43 06.6 -0.6**
MORC IAmb IAmb 01 43 08.4
comp=Z,10nm,0.9s
MORC Moravsky Berou 64.98 318 *e*P **P 01 43 06.8 -0.5**
MORC Moravsky Berou 64.98 318 ⇓P **P 01 43 07.3 0.0**
MA2 Magadan 65.03 31 LR LR 02 15 46.6
comp=Z,88nm,18.8s,baz=112,slow=40
VRAC Vranov 65.54 318 LR LR 02 15 45.8
comp=Z,53nm,18.4s,baz=66,slow=40
VRAC Vranov 65.54 318 *e*P **P 01 43 10.2 -0.7**
RONA Rosalia, Austr 65.58 316 *i* P **P 01 43 10.6 -0.5**
comp=Z,7.2nm,0.8s
KRUC Moravsky 65.64 318 *e*P **P 01 43 10.9 -0.6**
DPC Dobruska-Polom 65.83 319 *e*P **P 01 43 12.8 +0.1**
CONA Conrad Observa 65.89 316 *i* P **P 01 43 12.6 -0.6**
comp=Z,9.3nm,1.1s
KSP Ksiaz 65.91 319 P **P 01 43 13.4 +0.3**
comp=Z,19nm,1.1s
OSTC Ostas 65.92 319 *e*P **P 01 43 13.7 +0.4**
CHVC Chvalec 66.03 319 *e*P **P 01 43 14.3 +0.3**
ARSA Arzberg 66.06 315 *i* P **P 01 43 13.1 -1.2**
comp=Z,17nm,1.7s
ARCES ARCESS Array B 66.28 341 P **P 01 43 15.1 -0.1**
comp=Z,14nm,0.9s,baz=94,slow=5.2,SNR=40
ARCES LR LR 02 13 57.6
comp=Z,155nm,19.0s,baz=125,slow=38
comp=Z,14nm,0.9s
SOKA Soboth 66.36 315 *i* P **P 01 43 15.5 -0.7**
comp=Z,8.0nm,0.9s,SNR=7.3
OBKA Obir 66.68 315 *i* P **P 01 43 17.8 -0.5**
comp=Z,9.9nm,1.4s
PRU Pruhonice 66.93 318 *e*P **P 01 43 19.6 -0.1**
MOA Molln 66.95 316 *i* P **P 01 43 19.2 -0.7**
comp=Z,4.1nm,0.9s
PVCC Panska Ves 66.96 319 *e*P **P 01 43 20.0 +0.1**
CKRC Cesky Krumlov 66.99 317 *e*P **P 01 43 20.1 -0.1**
BIOA Bad Ischl, Aus 67.37 316 *i* P **P 01 43 21.7 -0.9**
comp=Z,4.8nm,1.2s
BRG Berggiesshubel 67.39 319 *e*P **P 01 43 23.0 +0.4**
BRG Amp 01 43 24.7
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 67.39 319 *e*P **P 01 43 22.4 -0.2**
comp=Z,4.6nm,0.9s,baz=92,slow=6.1
GEC2 GERESS Array S 67.40 317 P **P 01 43 23.1 +0.2**
GEC2 IAmb IAmb 01 43 23.5
comp=Z,13nm,1.2s
GEC2 GERESS Array S 67.40 317 *e*P **P 01 43 22.5 -0.4**
comp=Z,14nm,1.2s,baz=92,slow=6.1
GERES GERESS Array B 67.40 317 P **P 01 43 22.2 -0.7**
GERES GERESS Array B 67.40 317 P **P 01 43 21.6 -1.2**
comp=Z,4.6nm,0.9s,baz=73,slow=4.6,SNR=14
GERES LR LR 02 16 18.0
comp=Z,27nm,18.0s,baz=136,slow=39
comp=Z,4.6nm,0.9s
KHC Kasperske Hory 67.50 317 *e*P **P 01 43 23.3 -0.1**
KHC Kasperske Hory 67.50 317 P **P 01 43 22.8 -0.6**
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 67.54 315 *i* P **P 01 43 22.7 -1.2**
comp=Z,7.3nm,1.0s
RUE Ruedersdorf 67.63 321 *e*P **P 01 43 23.9 -0.2**
comp=Z,17nm,0.9s,baz=92,slow=6.1
PETK Petropavlovsk- 67.72 38 LR LR 02 17 22.6
comp=Z,99nm,19.5s,baz=45,slow=40
LESA Schwarzleotal 68.01 316 *i* P **P 01 43 25.3 -1.4**
comp=Z,8.0nm,0.9s
CLL Collm 68.02 320 ⇓*i* P **P 01 43 26.4 -0.2**
CLL Collm 68.02 320 *e*P **P 01 43 26.3 -0.3**
comp=Z,17nm,1.4s,baz=92,slow=6.1
ABTA Abfaltersbach 68.09 315 *i* P **P 01 43 26.0 -1.3**
comp=Z,8.6nm,1.3s,SNR=4.1
TANN Tannenbergstha 68.30 319 *e*P **P 01 43 28.5 +0.1**
comp=Z,7.2nm,1.2s,baz=92,slow=6.1
ROTZ Rotzenmuhle 68.43 318 *e*P **P 01 43 29.3 +0.1**
comp=Z,3.8nm,1.3s,baz=92,slow=6.1
PLN Plauen 68.50 319 *e*P **P 01 43 29.4 -0.3**
comp=Z,4.1nm,1.3s,baz=92,slow=6.1
MANZ Manzenberg 68.50 318 *e*P **P 01 43 29.8 +0.1**
comp=Z,5.8nm,1.2s,baz=92,slow=6.1
HFS Hagfors 68.59 329 P **P 01 43 29.1 -0.9**
comp=Z,7.6nm,0.8s,baz=111,slow=8.3,SNR=15
HFS LR LR 02 18 02.8
comp=Z,69nm,18.7s,baz=100,slow=40
comp=Z,7.6nm,0.8s
CTI Castel Tesino 68.67 314 P **P 01 43 30.4 -0.5**
CTI IAmb IAmb 01 43 30.8
comp=Z,8.6nm,0.8s
WTTA Wattenberg 68.71 315 *i* P **P 01 43 29.8 -1.4**
comp=Z,9.7nm,0.8s
WATA Walderalm 68.75 315 *i* P **P 01 43 29.7 -1.7**
comp=Z,5.5nm,0.8s
MOX Moxa 68.85 319 *e*P **P 01 43 31.5 -0.3**
comp=Z,3.3nm,0.6s,baz=92,slow=6.1
SQTA Sankt Quirin 69.00 315 *e*P **P 01 43 31.3 -1.6**
comp=Z,6.4nm,0.7s,SNR=4.7
GRF Grafenberg Arr 69.06 318 *e*P **P 01 43 33.2 0.0**
comp=Z,268nm,4.4s,baz=92,slow=6.1
MOTA Moosalm 69.07 315 *i* P **P 01 43 31.6 -1.8**
comp=Z,8.5nm,0.8s
GORT1 Trebel 69.17 321 *e*P **P 01 43 33.7 +0.1**
comp=Z,46nm,1.3s,baz=92,slow=6.1
RETA Reutte 69.31 316 *e*P **P 01 43 33.4 -1.4**
comp=Z,19nm,1.6s,SNR=5.6
FETA Feichten 69.32 315 *i* P **P 01 43 33.6 -1.4**
comp=Z,11nm,1.2s
CLZ Clausthal 69.69 320 *e*P **P 01 43 36.2 -0.8**
comp=Z,7.3nm,0.8s,baz=92,slow=6.1
UBR Ueberruh 69.75 316 *e*P **P 01 43 36.5 -1.1**
comp=Z,12nm,0.8s,baz=92,slow=6.1
NRDL Niedersach Rie 69.87 321 *e*P **P 01 43 37.9 -0.1**
comp=Z,20nm,1.3s,baz=92,slow=6.1
DAVA Damuels 69.90 315 *e*P **P 01 43 37.6 -1.0**
comp=Z,18nm,0.8s
DAVOX Davos/Dischmat 69.90 315 LR LR 02 21 07.8
comp=Z,33nm,18.2s,baz=81,slow=42
NB2 NORSAR Subarra 69.92 330 P **P 01 43 37.4 -0.9**
comp=Z,2.4nm,0.6s,baz=98,slow=5.9
NOA NORSAR Array B 69.92 330 P **P 01 43 37.4 -0.9**
comp=Z,4.1nm,0.7s,baz=96,slow=6.3,SNR=9.8
NOA LR LR 02 18 28.2
comp=Z,64nm,18.9s,baz=105,slow=40
comp=Z,4.1nm,0.7s
RETH Rethem/Aller, 70.34 321 *e*P **P 01 43 40.2 -0.7**
comp=Z,124nm,1.5s,baz=92,slow=6.1
KEST Kesra 70.71 303 P **P 01 43 43.3 -0.4**
comp=Z,20nm,1.0s,baz=343,slow=3.9,SNR=6.8
comp=Z,20nm,1.0s
TNS Taunus Mts 70.86 318 *e*P **P 01 43 44.1 -0.2**
comp=Z,26nm,1.5s,baz=92,slow=6.1
KASTN Kahler Asten 70.89 319 *e*P **P 01 43 43.8 -0.6**
comp=Z,16nm,1.4s,baz=92,slow=6.1
BUG Bochum–Univer 71.61 320 *e*P **P 01 43 48.3 -0.4**
comp=Z,6.2nm,0.9s,baz=92,slow=6.1
SENIN Lac Senin/Sane 71.69 314 P **P 01 43 49.3 -0.2**
SPITS Spitsbergen Ar 71.70 348 P **P 01 43 48.8 0.0**
comp=Z,8.5nm,1.0s,baz=78,slow=8.0,SNR=1.8
SPITS LR LR 02 20 07.5
comp=Z,185nm,18.4s,baz=80,slow=40
comp=Z,8.5nm,1.0s
WLF Walferdange 72.35 318 *e*P **P 01 43 53.3 +0.1**
comp=Z,22nm,1.4s,baz=92,slow=6.1
BOSA Boshof 72.47 233 P **P 01 43 53.4 -1.0**
comp=Z,5.0nm,0.8s,baz=55,slow=6.3,SNR=7.4
BOSA PP **PP 01 46 40.0 +4.3**
comp=Z,2.3nm,1.1s,baz=40,slow=5.9,SNR=3.1
comp=Z,5.0nm,0.8s
TSUM Tsumeb 74.96 245 LR LR 02 13 13.4
comp=Z,110nm,21.3s,baz=152,slow=33
TAM Tamanrasset 75.64 290 P **P 01 44 12.5 -0.6**
TAM IAmb IAmb 01 44 14.0
comp=Z,12nm,1.2s
EKA Eskdalemuir Ar 77.58 324 P **P 01 44 22.4 -0.9**
comp=Z,8.1nm,0.8s,baz=99,slow=6.0,SNR=13
comp=Z,8.1nm,0.8s
ESDC Sonseca Array 80.65 309 P **P 01 44 39.9 -0.6**
ESDC Sonseca Array 80.65 309 P **P 01 44 39.2 -1.3**
comp=Z,2.0nm,0.9s,baz=68,slow=5.1,SNR=9.2
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 81.11 281 P **P 01 44 42.7 -0.6**
TORD Torodi Ar. Bea 81.11 281 P **P 01 44 42.9 -0.5**
comp=Z,5.5nm,0.7s,baz=67,slow=5.3,SNR=43
comp=Z,5.5nm,0.7s
MDT Midelt 82.56 302 LR LR 02 28 41.5
comp=Z,26nm,18.2s,baz=116,slow=41
MVO Moncorvo 82.64 310 *e*P **P 01 44 50.8 -0.2**
MVO *i* Amb 01 44 52.5
comp=Z,16nm,1.7s
PVRL Vila Real 83.12 311 *e*P **P 01 44 53.5 0.0**
POLO Lamas de Olo 83.15 311 *e*P **P 01 44 53.9 +0.1**
MTE Manteigas 83.19 310 *e*P **P 01 44 53.9 0.0**
PCBR Castelo Branco 83.27 309 *e*P **P 01 44 54.1 -0.1**
PCBR *i* Amb 01 44 55.0
comp=Z,23nm,1.5s
PMRV Marv??o 83.30 309 *e*P **P 01 44 54.1 -0.3**
PMRV *i* Amb 01 44 55.0
comp=Z,26nm,1.6s
PBAR Barrancos 83.31 308 *e*P **P 01 44 54.4 -0.1**
PBAR *i* Amb 01 44 56.1
comp=Z,23nm,1.4s
PVIS Viseu 83.38 310 *e*P **P 01 44 54.9 +0.1**
PESTR Estremoz 83.58 308 *e*P **P 01 44 54.7 -1.2**
EVO Evora 83.98 308 *e*P **P 01 44 57.8 -0.1**
PCAS Casmilo, Conde 83.98 310 *e*P **P 01 44 57.7 -0.2**
PCAS *i* Amb 01 45 11.8
comp=Z,45nm,1.9s
PBEJ Beja 83.98 308 *e*P **P 01 44 57.9 0.0**
PMTG Montargil 84.01 309 *e*P **P 01 44 57.5 -0.6**
PVAQ Vaqueiros 84.01 307 *e*P **P 01 44 58.4 +0.4**
PVAQ *i* Amb 01 44 59.4
comp=Z,31nm,1.7s

MESJ	**Messejana**	**84.30**	**307**	*e*P	**P**	**01 44 59.2**	**-0.3**
MESJ				IAmb	IAmb	01 44 59.7	
	comp=Z,14nm,1.1s						
MESJ	**Messejana**	**84.30**	**307**	*e*P	**P**	**01 44 59.5**	**-0.1**
EUNU	**Eureka**	**85.51**	**359**	P	**P**	**01 45 04.5**	**-0.4**
EUNU				IAmb	IAmb	01 45 05.7	
	comp=Z,7.5nm,0.9s						
D22K	**Ayikyak River**	**87.25**	**18**	P	**P**	**01 45 13.6**	**0.0**
F21K	**Alatna River**	**87.93**	**20**	P	**P**	**01 45 16.6**	**-0.3**
TOLK	**Toolik Lake Re**	**88.31**	**18**	P	**P**	**01 45 18.6**	**-0.1**
DBIC	**Dimbokro**	**88.91**	**277**	P	**P**	**01 45 21.6**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=81,slow=4.4,SNR=5.3						
DBIC				LR	LR	02 26 07.8	
	comp=Z,40nm,18.2s,baz=136,slow=36						
	comp=Z,2.3nm,0.5s						
F24K	**Squaw Lake**	**89.50**	**18**	P	**P**	**01 45 23.9**	**-0.4**
F25K	**Christian Rive**	**90.11**	**17**	P	**P**	**01 45 27.4**	**+0.2**
BMAR	**Burnt Mountain**	**90.53**	**17**	P	**P**	**01 45 29.5**	**+0.4**
RES	**Resolute Bay**	**91.00**	**0**	P	**P**	**01 45 31.2**	**+0.2**
RES				IAmb	IAmb	01 45 31.9	
	comp=Z,5.6nm,1.0s						
A36M	**Sachs Harbour**	**91.25**	**9**	P	**P**	**01 45 31.6**	**-0.7**
ILAR	**Eielson Array**	**91.56**	**20**	P	P	01 45 31.6	-2.3
	comp=Z,0.5nm,0.7s,baz=312,slow=5.6,SNR=7.9						
ILAR				LR	LR	02 33 12.4	
	comp=Z,117nm,18.0s,baz=257,slow=40						
	comp=Z,0.5nm,0.7s						
SFJD	**Kangerlussuaq**	**92.67**	**344**	LR	LR	02 31 52.9	
	comp=Z,70nm,19.2s,baz=4.5,slow=38						
F31M	**Tsiigehtchic**	**93.38**	**14**	P	**P**	**01 45 42.0**	**-0.2**
BBTS	**Babate**	**97.84**	**287**	LR	LR	02 31 45.6	
	comp=Z,61nm,19.3s,baz=310,slow=36						
FRB	**Frobisher Bay**	**99.50**	**349**	LR	LR	02 36 59.4	
	comp=Z,79nm,18.5s,baz=54,slow=39						
URZ	**Urewera**	**99.90**	**127**	LR	LR	02 33 47.3	
	comp=Z,40nm,19.3s,baz=32,slow=37						
YKA	**Yellowknife Ar**	**101.61**	**9**	P	**Pdif**	**01 46 17.8**	**-1.7**
	comp=Z,0.5nm,0.9s,baz=338,slow=5.5,SNR=5.7						
PLID	**Pearl Lake**	**117.50**	**17**	PKPdf	**PKPdf**	**01 51 11.9**	**-1.8**
PDAR	**Pinedale Array**	**121.31**	**13**	PKP	**PKPdf**	**01 51 19.2**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=58,slow=2.4,SNR=10						
ECSD	**EROS Data Cent**	**122.01**	**2**	PKPdf	**PKPdf**	**01 51 20.6**	**-1.5**
NVAR	**Mina Array Bea**	**122.73**	**22**	PKP	**PKPdf**	**01 51 23.5**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=273,slow=1.0,SNR=13						
SPR3	**Spring Creek 3**	**123.57**	**19**	PKPdf	**PKPdf**	**01 51 25.1**	**-0.6**
Q16A	**Castle Valley**	**124.56**	**16**	PKPdf	PKPdf	01 51 22.6	-4.8
U15A	**North Rim**	**126.56**	**18**	PKPdf	**PKPdf**	**01 51 31.1**	**-0.4**
ANMO	**Albuquerque**	**129.48**	**13**	PKPdf	**PKPdf**	**01 51 36.8**	**-0.1**
TXAR	**Lajitas Array**	**135.49**	**12**	PKP	**PKPdf**	**01 51 47.8**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=22,slow=1.3,SNR=8.3						
CPUP	**Villa Florida**	**143.55**	**245**	PKP	PKPab	01 52 02.0	+2.8
	comp=Z,4.6nm,0.9s,baz=152,slow=0.8,SNR=7.0						
TEIG	**Tepich**	**144.99**	**350**		**PKPab**	**01 52 04.0**	**-0.6**
MACA	**Manacapuru-AM**	**145.00**	**286**		**PKPab**	**01 52 05.0**	**0.0**
BAUV	**El Baul**	**145.07**	**310**		**PKPbc**	**01 52 03.8**	**-1.4**
PTLB	**Pontes e Lacer**	**146.06**	**264**	PKPdf	**PKPdf**	**01 52 06.5**	**-0.9**
PLCA	**Paso Flores**	**146.68**	**214**	PKPbc	**PKPdf**	**01 52 07.7**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=133,slow=3.7,SNR=12						
VILB	**Vilhena**	**146.88**	**268**	PKPab	**PKPdf**	**01 52 09.3**	**+0.4**
SDV	**Santo Domingo**	**146.98**	**313**		**PKPdf**	**01 52 10.0**	**+0.7**
BO02	**Sierra Bellavi**	**150.74**	**222**		**PKPdf**	**01 52 19.1**	**+4.4**
TGUH	**Tegucigalpa,Un**	**150.79**	**346**		**PKPdf**	**01 52 19.9**	**+4.5**
LPAZ	**La Paz**	**154.73**	**263**	PKPab	**PKPab**	**01 52 43.8**	**-1.4**
LPAZ	**La Paz**	**154.73**	**263**	PKP	**PKPdf**	**01 52 20.6**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=111,slow=4.3,SNR=4.0						
LPAZ				PKPbc	**sPKPdf**	**01 52 29.4**	**+4.5**
	comp=Z,0.7nm,0.5s,baz=160,slow=8.8,SNR=3.6						
LPAZ				PKPab	**PKPab**	**01 52 44.0**	**-1.1**
	comp=Z,7.3nm,1.0s,baz=89,slow=3.1,SNR=14						
CZSB	**Cruzeiro do Su**	**157.80**	**285**	PKPab	**PKPab**	**01 52 56.4**	**-1.2**

*KRNET **12** 01:33:49.6±0.1, 43°.38N×78°.24E, h19km, mb2.4*
*NNC **12** 01:33:49.2±0.7, 43°.38N×78°.26E, h7km±3km, mpv2.9,*
Error ellipse: s-maj=4.4km s-min=2.3km az=64.0
*SOME **12** 01:33:50.1, 43°.38N×78°.18E, h10km*
ISC 12 01:33:49.6±0.8, 43°.39N±0°.02×78°.24E±0°.02, h15km±6km,
n26, σ0s.35/50, 6C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.11**	**332**	P	**Pg**	**01 33 53.0**	**-0.2**
	14nm,0.1s						
KURS				S	**Sg**	**01 33 55.5**	**0.0**
	42nm,0.2s						
KURS	**Kuram**	**0.11**	**332**	*e*P	**Pg**	**01 33 53.0**	**-0.2**
KURS				*e*S	**Sg**	**01 33 55.4**	**-0.1**
ZHN	**Zhinishke**	**0.26**	**147**	P	**Pg**	**01 33 55.2**	**-0.2**
	3.3nm,0.1s						
ZHN				S	**Sg**	**01 33 59.2**	**-0.2**
	25nm,0.1s						
ZHN	**Zhinishke**	**0.26**	**147**	*e*P	**Pg**	**01 33 55.2**	**-0.2**
ZHN				*e*S	**Sg**	**01 33 59.1**	**-0.2**
ZHN	**Zhinishke**	**0.26**	**147**	*e*P	**Pg**	**01 33 55.2**	**-0.2**
	3.3nm,0.1s						
ZHN				*e*S	**Sg**	**01 33 59.2**	**-0.2**
	25nm,0.1s						
KPKS	**Kokpek**	**0.33**	**77**	P	**Pg**	**01 33 56.6**	**0.0**
	3.3nm,0.1s						
KPKS				S	**Sg**	**01 34 01.6**	**+0.2**
	30nm,0.1s						
KPKS	**Kokpek**	**0.33**	**77**	*e*P	**Pg**	**01 33 56.6**	**0.0**
KPKS				*e*S	**Sg**	**01 34 01.6**	**+0.2**
KPKS	**Kokpek**	**0.33**	**77**	*e*P	**Pg**	**01 33 56.6**	**0.0**
	2.3nm,0.1s						
KPKS				*e*S	**Sg**	**01 34 01.6**	**+0.2**
	30nm,0.1s						
SATY	**Saty**	**0.35**	**160**	P	**Pg**	**01 33 56.8**	**-0.2**
	5.4nm,0.1s						
SATY				S	**Sg**	**01 34 01.8**	**-0.1**
	25nm,0.1s						
SATY	**Saty**	**0.35**	**160**	*e*P	**Pg**	**01 33 56.8**	**-0.2**
SATY				*e*S	**Sg**	**01 34 01.9**	**-0.1**
SATY	**Saty**	**0.35**	**160**	*e*P	Pn	01 34 05.9	+5.6
	1.3nm,0.1s						
SATY				*e*S	Sn	01 34 17.4	+10
	3.5nm,0.1s						
UZB	**Uzynbulak**	**0.62**	**113**	P	**Pg**	**01 34 01.4**	**-0.5**
	2.8nm,0.3s						
UZB				S	**Sg**	**01 34 09.7**	**-0.4**
	5.2nm,0.1s						
UZB	**Uzynbulak**	**0.62**	**113**	*e*P	**Pg**	**01 34 01.4**	**-0.5**
UZB				*e*S	**Sg**	**01 34 09.7**	**-0.4**
UZB	**Uzynbulak**	**0.62**	**113**	*e*P	**Pg**	**01 34 01.4**	**-0.5**
	0.8nm,0.1s						
UZB				*e*S	**Sg**	**01 34 09.7**	**-0.4**
	5.2nm,0.1s						
BLB	**Baldybastay**	**0.73**	**14**	P	**Pg**	**01 34 03.3**	**-0.6**
	19nm,0.1s						
BLB				S	**Sg**	**01 34 13.1**	**-0.4**
	6.2nm,0.1s						
ANVS	**Anan'yevo**	**0.74**	**215**	⇑*i*P	**Pg**	**01 34 03.9**	**-0.2**
ANVS				⇑*i*S	**Sg**	**01 34 13.1**	**-0.7**
KNOS	**Konyrlen**	**1.18**	**35**	P	**Pn**	**01 34 11.6**	**-0.2**
	0.5nm,0.1s						
KNOS				S	**Sb**	**01 34 27.2**	**+0.2**
	4.6nm,0.1s						
MTBS	**Maitube**	**1.35**	**260**	*e*P	**Pn**	**01 34 14.4**	**+0.4**
MTBS				*e*S	**Sb**	**01 34 32.0**	**+0.3**
MTBS	**Maitube**	**1.35**	**260**	*e*P	**Pn**	**01 34 14.4**	**+0.4**
	0.7nm,0.1s						
MTBS				*e*S	**Sb**	**01 34 32.0**	**+0.3**
	1.6nm,0.1s						
DJR	**Jarkent**	**1.46**	**49**	P	**Pb**	**01 34 16.5**	**-0.1**
	0.5nm,0.1s						
DJR				S	**Sb**	**01 34 35.8**	**+0.7**
	1.9nm,0.2s						
DJR	**Jarkent**	**1.46**	**49**	*e*P	**Pb**	**01 34 16.6**	**-0.1**
	0.5nm,0.1s						
DJR				*e*S	**Sb**	**01 34 35.8**	**+0.7**
	1.9nm,0.2s						
KDJ	**Kajisay**	**1.48**	**212**	⇓*i*P	**Pb**	**01 34 17.0**	**0.0**
KDJ				⇓*i*S	**Sb**	**01 34 35.9**	**+0.2**
TARG	**Taragay, Kyrgy**	**1.69**	**191**	⇓*i*P	**Pb**	**01 34 20.7**	**0.0**
TARG				⇓*i*S	**Sb**	**01 34 42.5**	**+0.6**
ULHL	**Ulahol**	**1.86**	**233**	⇑*i*P	**Pb**	**01 34 23.4**	**-0.1**
ULHL				⇑*i*S	**Sb**	**01 34 47.2**	**+0.5**
BOOM	**Boomskoye usch**	**1.91**	**243**	⇑*e*P	**Pb**	**01 34 24.4**	**+0.1**
BOOM				⇑*e*S	**Sb**	**01 34 48.5**	**+0.4**
TKM2	**Tokmak 2**	**1.99**	**257**	⇓*i*P	**Pb**	**01 34 25.3**	**-0.4**
TKM2				⇓*i*S	**Sb**	**01 34 50.4**	**+0.1**

*AEIC **12** 01:45:38.4±1.7, 69°.54N±0°.03×144°.86W±0°.05, h11km±4km,*
ML3.2, ML3.4/106(NEIC), Error ellipse: s-maj=4.9km
s-min=2.0km az=163.0
*NEIC **12** 01:45:39.8±1.1, 69°.61N±0°.04×144°.87W±0°.06, h10km±1km,*
Error ellipse: s-maj=6.7km s-min=2.8km az=335.0
*IDC **12** 01:45:40.0±5.3, 69°.63N×144°.56W, h0km, mb2.9/1,*
mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=74.1km
s-min=30.0km az=145.0
ISC 12 01:45:38.8±1.1, 69°.59N±0°.03×144°.84W±0°.02, h6km±9km,
n110, σ0s.92/113, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C26K	**Camden Bay**	**0.33**	**356**		**Pg**	**01 45 46.1**	**+0.9**
C26K					**Sb**	**01 45 51.3**	**-1.2**
C26K	**Camden Bay**	**0.33**	**356**	IAML		01 45 51.7	
	comp=E,3μm,0.5s						
C26K	**Camden Bay**	**0.33**	**356**	P	**Pg**	**01 45 46.1**	**+0.9**
	baz=178						
C26K				S	**Sb**	**01 45 51.3**	**-1.2**
	baz=178						
C27K	**Jago River**	**0.40**	**85**		**Pg**	**01 45 46.6**	**+0.1**
C27K					**Sg**	**01 45 51.9**	**+0.1**
C27K	**Jago River**	**0.40**	**85**	IAML		01 45 54.2	
	comp=E,3μm,0.5s						
C27K				IAML		01 45 54.5	
	comp=N,3μm,0.5s						
C27K	**Jago River**	**0.40**	**85**	P	**Pg**	**01 45 46.6**	**+0.1**
	baz=259						
C27K				S	**Sg**	**01 45 51.9**	**+0.1**
	baz=259						
D25K	**Kavik River**	**0.61**	**244**		**Pg**	**01 45 49.5**	**-0.9**
D25K					**Sg**	**01 45 58.0**	**-0.4**
D25K	**Kavik River**	**0.61**	**244**	P	**Pg**	**01 45 49.6**	**-0.9**
	baz=66						
D25K				S	**Sg**	**01 45 58.0**	**-0.4**
	baz=66						
C24K	**Franklin Bluff**	**1.36**	**277**		**Pn**	**01 46 03.9**	**-0.3**
C24K	**Franklin Bluff**	**1.36**	**277**		**Sg**	**01 46 23.2**	**+0.9**
C24K	**Franklin Bluff**	**1.36**	**277**	P	**Pn**	**01 46 04.7**	**+0.5**
	baz=96						
C24K				S	**Sg**	**01 46 23.2**	**+0.9**
	baz=96						
D27M	**Malcolm River**	**1.41**	**103**		**Pn**	**01 46 04.4**	**-0.7**
D27M					**Sn**	**01 46 24.6**	**+0.6**
D27M	**Malcolm River**	**1.41**	**103**	IAML		01 46 28.0	
	comp=N,611nm,0.4s						
D27M				IAML		01 46 28.6	
	comp=E,683nm,0.6s						
D27M	**Malcolm River**	**1.41**	**103**	P	**Pn**	**01 46 04.4**	**-0.7**
	baz=284						
D27M				S	**Sn**	**01 46 24.6**	**+0.6**
	baz=284						
D24K	**Happy Valley**	**1.48**	**254**		**Pn**	**01 46 06.1**	**+0.2**
D24K					**Sg**	**01 46 27.7**	**+1.4**
D24K	**Happy Valley**	**1.48**	**254**	IAML		01 46 29.5	
	comp=N,660nm,0.3s						
D24K	**Happy Valley**	**1.48**	**254**	P	**Pn**	**01 46 06.1**	**+0.2**
	baz=72						
D24K				S	**Sg**	**01 46 27.7**	**+1.4**
	baz=72						
F26K	**Sheenjek River**	**1.93**	**172**		**Pn**	**01 46 13.2**	**+1.1**
F26K					**Sb**	**01 46 38.9**	**+0.4**
F26K	**Sheenjek River**	**1.93**	**172**	IAML		01 46 42.3	
	comp=E,310nm,0.6s						
F26K	**Sheenjek River**	**1.93**	**172**	P	**Pn**	**01 46 13.2**	**+1.1**
	baz=352						
F26K				S	**Sb**	**01 46 38.9**	**+0.4**
	baz=352						
TOLK	**Toolik Lake Re**	**1.95**	**243**	Pn	**Pn**	**01 46 12.8**	**+0.4**
TOLK				IAML		01 46 49.6	
	comp=E,290nm,0.7s						
TOLK	**Toolik Lake Re**	**1.95**	**243**	P	**Pn**	**01 46 12.7**	**+0.3**
	baz=60						
E24K	**Your Creek**	**2.02**	**223**		**Pn**	**01 46 14.8**	**+1.4**
E24K	**Your Creek**	**2.02**	**223**	P	**Pn**	**01 46 14.8**	**+1.4**
	baz=40						
C23K	**Itkillik River**	**2.03**	**280**		**Pn**	**01 46 14.2**	**+0.7**
C23K	**Itkillik River**	**2.03**	**280**	P	**Pn**	**01 46 14.2**	**+0.7**
	baz=96						
F25K	**Christian Rive**	**2.03**	**189**		**Pn**	**01 46 14.5**	**+0.9**
F25K	**Christian Rive**	**2.03**	**189**	IAML		01 46 44.6	
	comp=E,242nm,0.6s						
F25K				IAML		01 46 46.9	
	comp=N,319nm,0.9s						
F25K	**Christian Rive**	**2.03**	**189**	P	**Pn**	**01 46 14.5**	**+0.9**
	baz=7.9						
E28M	**Babbage River**	**2.15**	**115**		**Pn**	**01 46 15.8**	**+0.7**
E28M	**Babbage River**	**2.15**	**115**	IAML		01 46 49.4	
	comp=N,233nm,0.5s						
E28M	**Babbage River**	**2.15**	**115**	P	**Pn**	**01 46 15.8**	**+0.7**
	baz=299						
D28M	**Stokes Point**	**2.17**	**94**		**Pn**	**01 46 16.6**	**+1.2**
D28M	**Stokes Point**	**2.17**	**94**	P	**Pn**	**01 46 16.6**	**+1.2**
	baz=279						
D23K	**Nanushuk River**	**2.17**	**256**		**Pn**	**01 46 16.3**	**+0.8**
D23K	**Nanushuk River**	**2.17**	**256**	P	**Pn**	**01 46 16.3**	**+0.8**
	baz=72						
BMAR	**Burnt Mountain**	**2.18**	**177**	Pn	**Pn**	**01 46 16.0**	**+0.5**
E23K	**Chandalar**	**2.32**	**231**		**Pn**	**01 46 18.1**	**+0.6**
E23K	**Chandalar**	**2.32**	**231**	IAML		01 46 54.7	
	comp=E,196nm,0.6s						
E23K	**Chandalar**	**2.32**	**231**	P	**Pn**	**01 46 18.1**	**+0.6**
	baz=47						
F24K	**Squaw Lake**	**2.37**	**210**		**Pn**	**01 46 19.0**	**+0.9**
F24K	**Squaw Lake**	**2.37**	**210**	P	**Pn**	**01 46 19.0**	**+0.9**
	baz=27						
G26K	**Porcupine Rive**	**2.69**	**171**		**Pn**	**01 46 23.1**	**+0.7**
G26K	**Porcupine Rive**	**2.69**	**171**	P	**Pn**	**01 46 23.1**	**+0.7**
	baz=352						
F28M	**Old Crow**	**2.70**	**135**	Pn	**Pn**	**01 46 23.1**	**+0.5**
F28M				IAML		01 47 06.7	
	comp=N,165nm,0.5s						
F28M				IAML		01 47 10.3	
	comp=E,154nm,0.7s						
F28M	**Old Crow**	**2.70**	**135**	P	**Pn**	**01 46 23.2**	**+0.5**
	baz=319						
E29M	**Blow River**	**2.78**	**113**		**Pn**	**01 46 24.7**	**+0.9**
E29M	**Blow River**	**2.78**	**113**	IAML		01 47 12.5	
	comp=E,158nm,0.6s						
E29M				IAML		01 47 13.6	
	comp=N,184nm,0.6s						
E29M	**Blow River**	**2.78**	**113**	P	**Pn**	**01 46 24.7**	**+0.9**
	baz=298						
D22K	**Ayikyak River**	**2.88**	**259**	Pn	**Pn**	**01 46 25.4**	**+0.2**
D22K				IAML		01 47 23.9	
	comp=E,144nm,0.8s						
G27K	**Doyon Strip**	**3.04**	**155**		**Pn**	**01 46 27.7**	**+0.4**
G27K	**Doyon Strip**	**3.04**	**155**	P	**Pn**	**01 46 27.7**	**+0.4**
	baz=336						
FYU	**Fort Yukon**	**3.04**	**183**	Pn	**Pn**	**01 46 28.5**	**+1.1**
FYU				IAML		01 47 22.5	
	comp=N,143nm,1.7s						
FYU				IAML		01 47 22.6	
	comp=E,150nm,1.2s						
B22K	**Teshekpuk Lake**	**3.05**	**288**	Pn	**Pn**	**01 46 28.5**	**+1.1**
G24K	**Hadweenzic Riv**	**3.07**	**200**		**Pn**	**01 46 28.3**	**+0.5**
G24K	**Hadweenzic Riv**	**3.07**	**200**	P	**Pn**	**01 46 28.3**	**+0.5**
	baz=18						
COLD	**Coldfoot**	**3.09**	**222**	Pn	**Pn**	**01 46 29.0**	**+0.9**
COLD	**Coldfoot**	**3.09**	**222**	P	**Pn**	**01 46 29.1**	**+1.0**
	baz=38						
H25L	**Birch Creek**	**3.36**	**187**		**Pn**	**01 46 32.4**	**+0.6**
H25L	**Birch Creek**	**3.36**	**187**	P	**Pn**	**01 46 32.4**	**+0.6**
	baz=5.8						
B21K	**Ikpikpuk River**	**3.42**	**275**		**Pn**	**01 46 33.2**	**+0.7**
B21K	**Ikpikpuk River**	**3.42**	**275**	IAML		01 47 48.4	
	comp=E,95nm,1.4s						
B21K	**Ikpikpuk River**	**3.42**	**275**	P	**Pn**	**01 46 33.2**	**+0.7**
	baz=87						
E21K	**Killik River**	**3.48**	**255**		**Pn**	**01 46 34.0**	**+0.6**
E21K				IAML		01 47 39.9	
	comp=N,101nm,0.9s						
G23K	**Bananza Creek**	**3.48**	**216**	Pn	**Pn**	**01 46 34.7**	**+1.2**
G23K				IAML		01 47 34.5	
	comp=E,75nm,1.3s						
C21K	**Knifeblade Rid**	**3.55**	**268**		**Pn**	**01 46 35.1**	**+0.8**
C21K	**Knifeblade Rid**	**3.55**	**268**	P	**Pn**	**01 46 35.1**	**+0.8**
	baz=79						
H27K	**Steamboat Moun**	**3.60**	**158**		**Pn**	**01 46 35.9**	**+0.7**
H27K	**Steamboat Moun**	**3.60**	**158**	P	**Pn**	**01 46 35.9**	**+0.7**
	baz=341						
G29M	**Pine Creek**	**3.70**	**133**		**Pn**	**01 46 37.2**	**+0.8**
G29M	**Pine Creek**	**3.70**	**133**	P	**Pn**	**01 46 37.3**	**+0.8**
	baz=319						
F30M	**Barrier River**	**3.87**	**117**		**Pn**	**01 46 39.9**	**+1.2**
F30M	**Barrier River**	**3.87**	**117**	P	**Pn**	**01 46 39.9**	**+1.2**
	baz=304						
H24K	**Noodor Dome**	**3.95**	**198**		**Pn**	**01 46 40.5**	**+0.6**
H24K				IAML		01 47 51.8	
	comp=E,53nm,1.5s						
H24K				IAML		01 47 52.8	
	comp=N,53nm,1.1s						
H24K	**Noodor Dome**	**3.95**	**198**	P	**Pn**	**01 46 40.5**	**+0.6**
	baz=16						
F21K	**Alatna River**	**3.98**	**237**	Pn	**Pn**	**01 46 40.8**	**+0.4**
F21K				IAML		01 47 52.7	
	comp=N,44nm,0.6s						
F21K				IAML		01 47 52.9	
	comp=E,49nm,0.8s						
PRP	**Porcupine Dome**	**4.10**	**184**	Pn	**Pn**	**01 46 43.5**	**+1.4**
PRP				IAML		01 47 37.9	
	comp=N,39nm,0.4s						
G30M	**tAoh Zraii Nji**	**4.14**	**125**	Pn	**Pn**	**01 46 43.8**	**+1.4**
G30M				IAML		01 48 04.3	
	comp=N,48nm,0.8s						
H29M	**Whitestone**	**4.18**	**141**		**Pn**	**01 46 44.2**	**+1.2**
H29M				IAML		01 48 06.4	
	comp=N,60nm,0.9s						
INK	**Inuvik**	**4.28**	**102**	Pn	**Pn**	**01 46 45.1**	**+0.8**
I26K	**Coal Creek Min**	**4.36**	**171**		**Pn**	**01 46 46.1**	**+0.7**
I26K				IAML		01 47 58.7	
	comp=E,49nm,1.4s						
EPYK	**Eagle Plains**	**4.45**	**133**		**Pn**	**01 46 47.7**	**+0.9**
G21K	**Allakaket**	**4.48**	**231**	Pn	**Pn**	**01 46 46.2**	**-1.0**
G21K				IAML		01 48 13.0	
	comp=N,36nm,1.0s						
G21K				IAML		01 48 13.3	
	comp=E,34nm,0.8s						
I28M	**Miner Creek**	**4.57**	**153**		**Pn**	**01 46 49.1**	**+0.7**
I28M				IAML		01 47 45.9	
	comp=N,36nm,0.5s						
I28M				IAML		01 48 12.3	
	comp=E,29nm,1.4s						
POKR	**Poker Plat Res**	**4.61**	**194**	Pn	**Pn**	**01 46 49.8**	**+0.9**
POKR	**Poker Plat Res**	**4.61**	**194**	IAML		01 48 09.3	
	comp=N,34nm,0.8s						
POKR				IAML		01 48 16.0	
	comp=E,31nm,0.9s						
F31M	**Tsiigehtchic**	**4.62**	**113**	Pn	**Pn**	**01 46 50.5**	**+1.5**
F31M				IAML		01 48 11.4	
	comp=E,36nm,0.8s						
F31M				IAML		01 48 14.0	
	comp=N,26nm,0.8s						
G31M	**Satah River**	**4.75**	**119**		**Pn**	**01 46 52.0**	**+1.1**
G31M				IAML		01 48 14.6	
	comp=N,35nm,2.1s						
F20K	**Avaraart Lake**	**4.78**	**243**		**Pn**	**01 46 52.6**	**+1.5**
I23K	**Minto, Yukon-K**	**4.79**	**203**		**Pn**	**01 46 51.6**	**+0.2**
I23K				IAML		01 48 23.1	
	comp=N,30nm,1.6s						
D19K	**Kuna River**	**4.89**	**263**		**Pn**	**01 46 52.9**	**+0.1**
IL31		**4.91**	**190**		**Pn**	**01 46 53.6**	**+0.6**
ILAR	**Eielson Array**	**4.91**	**190**		**Pn**	**01 46 53.3**	**+0.3**
ILAR	**Eielson Array**	**4.91**	**190**	Pn	**Pn**	**01 46 53.8**	**+0.8**
	comp=N,1.0nm,0.3s,baz=2.5,slow=14,SNR=51						
ILAR				Sn	**Sn**	**01 47 51.0**	**+0.9**
	comp=N,0.8nm,0.3s,baz=16,slow=16,SNR=4.3						
ILAR				Lg	Lg	01 48 09.2	
	comp=N,1.8nm,0.3s,baz=9.1,slow=30,SNR=5.8						
	comp=N,3.2nm,0.5s						
H21K	**Melozitna Rive**	**4.99**	**221**	Pn	**Pn**	**01 46 54.4**	**+0.3**
H21K				IAML		01 48 37.4	
	comp=E,24nm,3.4s						
H21K				IAML		01 48 51.7	
	comp=N,24nm,3.7s						
J25K	**Salcha River,**	**5.01**	**183**		**Pn**	**01 46 54.6**	**+0.2**
J25K				IAML		01 47 45.2	
	comp=E,20nm,4.8s						
J25K				IAML		01 48 30.1	
	comp=N,24nm,4.2s						
E19K	**Redstone River**	**5.03**	**251**		**Pn**	**01 46 53.9**	**-0.8**
E19K				IAML		01 48 45.5	
	comp=N,27nm,1.1s						
E19K				IAML		01 48 45.6	
	comp=E,23nm,1.0s						
EGAK	**Eagle**	**5.04**	**162**	Pn	**Pn**	**01 46 55.5**	**+0.6**
EGAK				IAML		01 47 54.6	
	comp=E,27nm,0.7s						
EGAK				IAML		01 48 15.5	
	comp=E,23nm,4.2s						
CCB	**Clear Creek Bu**	**5.10**	**195**	Pn	**Pn**	**01 46 56.1**	**+0.5**
CCB				IAML		01 48 41.0	
	comp=E,21nm,4.8s						
J26L	**Joseph Creek**	**5.14**	**174**		**Pn**	**01 46 57.3**	**+1.0**
J26L				IAML		01 48 28.6	
	comp=E,20nm,0.8s						
I21K	**Tanana**	**5.22**	**215**		**Pn**	**01 46 58.0**	**+0.8**
HDA	**Harding Lake**	**5.27**	**190**		**Pn**	**01 46 58.1**	**+0.1**
HDA				IAML		01 48 38.0	
	comp=N,24nm,2.5s						
NEA2	**Nenana**	**5.29**	**200**		**Pn**	**01 46 58.6**	**+0.4**
NEA2				IAML		01 48 32.4	
	comp=E,23nm,4.0s						
NEA2				IAML		01 50 14.9	
	comp=N,20nm,4.5s						
WRH	**Wood River Hil**	**5.30**	**195**	Pn	**Pn**	**01 46 58.9**	**+0.5**
WRH				IAML		01 48 25.1	
	comp=E,23nm,3.5s						
WRH				IAML		01 48 54.0	
	comp=N,24nm,4.8s						
I30M

comp=Z,4.1nm,0.8s
VNA3 Neumayer Olymp 21.34 197 P **P** **02 06 54.7 +3.1**
VNA3 Neumayer Olymp 21.34 197 ⇑P **P** **02 06 54.7 +3.1**
comp=Z,6.3nm,0.8s
BOSA Boshof 25.95 33 P **P** **02 07 38.8 +1.5**
comp=Z,2.7nm,1.0s,baz=27,slow=22,SNR=1.8
comp=Z,2.7nm,1.0s
LSZ Lusaka 39.36 29 LR LR 02 22 53.6
comp=Z,75nm,20.6s,baz=178,slow=32
TORD Torodi Ar. Bea 65.10 351 P **P** **02 12 44.9 -0.4**
comp=Z,0.2nm,0.5s,baz=174,slow=4.9,SNR=1.7
comp=Z,0.2nm,0.5s
MMAI Mount Meron Ar 87.46 21 LR LR 02 54 01.8
comp=Z,27nm,18.5s,baz=225,slow=36
KBZ Khabaz 99.43 24 LR LR 02 59 56.2
comp=Z,21nm,18.3s,baz=354,slow=35
NVAR Mina Array Bea 141.77 270 PKP **PKiKP** **02 21 37.5 -1.5**
comp=Z,2.5nm,1.0s,baz=158,slow=4.7,SNR=11
YKA Yellowknife Ar 148.99 312 PKPbc **PKPbc** **02 21 51.1 -0.4**
comp=Z,0.8nm,1.0s,baz=108,slow=2.1,SNR=9.0

---

*IDC **12** 02:10:13.1±3.2,21°.29S×69°.86W,h0km,mb3.5/1, mbtmp3.7/3,ML3.6/2,Error ellipse: s-maj=83.2km s-min=57.4km az=111.0*
*SJA **12** 02:10:22.7±0.6,20°.33S×69°.95W,h56km±3km,ML4.0, MW4.0*
*GUC **12** 02:10:24.9±0.4,20°.34S×69°.89W,h50km±1km,ML3.3*
ISC 12 02:10:23.8±1.6,**20°.35S**±0°.04×**69°.86W**±0°.04,**h27**km±15km, **n28**,σ1§**70**/28,**2C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.26**	**286**	*eP*	**Pn**	**02 10 32.4**	**+0.5**
TA02				*eS*	**Sn**	**02 10 39.3**	**+2.2**
TA02				IAML		02 10 39.8	
comp=Z,36μm,0.1s							
TA02	**Huaiquique**	**0.26**	**286**	⇑*eP*	**Pn**	**02 10 32.6**	**+0.8**
TA02				*eS*	**Sn**	**02 10 38.7**	**+1.6**
TA01	**Diego Aracena**	**0.37**	**234**	*eP*	**Pn**	**02 10 33.1**	**-0.3**
TA01				*eS*	**Sn**	**02 10 41.0**	**+1.3**
TA01	**Diego Aracena**	**0.37**	**234**	⇑*iP*	**Pn**	**02 10 33.5**	**+0.1**
TA01				*eS*	**Sn**	**02 10 40.3**	**+0.6**
PB08	**IPOC Station P**	**0.70**	**73**	*eP*	**Pn**	**02 10 39.2**	**+1.0**
PB08				*eS*	**Sn**	**02 10 51.0**	**+2.6**
PB08	**IPOC Station P**	**0.70**	**73**	⇓*eP*	**Pn**	**02 10 39.3**	**+1.0**
PB08				*eS*	**Sn**	**02 10 50.5**	**+2.2**
PB08				IAML		02 10 51.0	
comp=E,907nm,0.2s							
PB01	**IPOC Station P**	**0.78**	**153**	*eP*	**Pn**	**02 10 39.4**	**+0.3**
PB01				*eS*	**Sn**	**02 10 51.6**	**+1.7**
PB01	**IPOC Station P**	**0.78**	**153**	*eP*	**Pn**	**02 10 39.6**	**+0.4**
PB01				*eS*	**Sn**	**02 10 50.9**	**+0.9**
PB01				IAML		02 10 51.6	
comp=N,3μm,0.1s							
PB09	**IPOC Station P**	**1.56**	**158**	*eP*	**Pb**	**02 10 51.4**	**-0.7**
PB09				*eS*	**Sb**	**02 11 11.0**	**-0.4**
PB09				IAML		02 11 18.5	
comp=Z,1μm,0.7s							
PB09	**IPOC Station P**	**1.56**	**158**	*eP*	**Pb**	**02 10 51.4**	**-0.7**
PB09				*eS*	**Sb**	**02 11 11.8**	**+0.4**
PB09				IAML		02 11 18.9	
comp=N,906nm,0.5s							
PB12	**IPOC Station P**	**1.78**	**346**	*eP*	**Pn**	**02 10 52.0**	**-0.9**
PB12				*eS*	**Sn**	**02 11 14.3**	**-0.3**
PB12	**IPOC Station P**	**1.78**	**346**	*eP*	**Pn**	**02 10 51.9**	**-0.9**
AP01	**Chacalluta**	**2.02**	**347**	*eP*	**Pn**	**02 10 55.6**	**-0.4**
AP01				*eS*	Sn	02 11 10.7	-10
AP01				IAML		02 11 35.1	
comp=Z,624nm,0.1s							
AP01	**Chacalluta**	**2.02**	**347**	*eP*	**Pn**	**02 10 56.2**	**+0.2**
AF01	**San Pedro de A**	**3.03**	**149**	*eP*	Pb	02 11 24.7	+7.4
AF01				*eS*	Sb	02 12 04.9	+11
AF01				IAML		02 12 28.4	
comp=Z,286nm,0.5s							
LPAZ	**La Paz**	**4.36**	**22**	Pn	**Pn**	**02 11 33.1**	**+4.3**
comp=Z,1.0nm,0.3s,baz=196,slow=5.7,SNR=26							
comp=Z,5.1nm,0.5s							
SIV	**San Ignacio**	**9.41**	**64**	Pn	**Pn**	**02 12 36.6**	**-1.1**
comp=Z,0.1nm,0.3s,baz=246,slow=14,SNR=16							
comp=Z,3.2nm,0.6s							
H03N1	**Juan Fernandez**	**15.33**	**210**	T	T	02 29 07.4	
baz=33,slow=72,SNR=22							
H03N2	**Juan Fernandez**	**15.34**	**210**	T	T	02 29 06.2	
baz=33,slow=72,SNR=16							
H03N3	**Juan Fernandez**	**15.35**	**210**	T	T	02 29 05.2	
baz=33,slow=72,SNR=14							
TORD	**Torodi Ar. Bea**	**77.82**	**71**	P	P	02 22 14.3	-5.0
comp=Z,0.2nm,0.4s,baz=259,slow=6.0,SNR=4.4							
comp=Z,0.2nm,0.4s							
H11S2	**WAKE ISLAND Hyl**	**26.84**	**278**	T	T	04 48 47.1	
baz=102,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hyl**	**26.85**	**278**	T	T	04 48 49.2	
baz=102,slow=75,SNR=42							
H11S3	**WAKE ISLAND Hyl**	**26.86**	**278**	T	T	04 48 48.5	
baz=102,slow=75,SNR=38							
H11N3	**WAKE ISLAND Hyl**	**26.89**	**280**	T	T	04 48 49.6	
baz=102,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hyl**	**26.91**	**280**	T	T	04 48 54.7	
baz=102,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hyl**	**26.91**	**280**	T	T	04 48 52.1	
baz=102,slow=75,SNR=12							
MKAR	**Makanchi Array**	**145.20**	**34**	PKPbc	**PKPbc**	**02 29 54.3**	**-4.3**
comp=Z,0.2nm,0.6s,baz=319,slow=3.6,SNR=2.1							

---

*IDC **12** 02:16:27.6±1.2,10°.13S×125°.09E,h0km,mb3.9/5, mbtmp3.9/8,ML3.8/3,MS3.0/4,Error ellipse: s-maj=83.6km s-min=22.7km az=65.0*
ISC 12 02:16:31.6±0.9,**10°.28S**±0°.10×**125°.3E**±0°.2,**h35**km,**n10**, σ1§**81**/11,**mb3.9/5**,**Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.56**	**313**	LR	LR	02 21 18.3	
comp=Z,119nm,20.0s,baz=146,slow=40							
FITZ	**Fitzroy Crossi**	**7.78**	**177**	Pn	**Pn**	**02 18 24.8**	**+2.3**
1.1nm,0.3s,baz=358,slow=8.9,SNR=30							
FITZ				Sn	**Sn**	**02 19 47.9**	**-1.4**
4.3nm,0.3s,baz=94,slow=18,SNR=17							
FITZ				LR	LR	02 22 11.3	
comp=Z,102nm,18.5s,baz=11,slow=43							
4.0nm,0.4s							
WRA	**Warramunga Arr**	**12.99**	**139**	Pn	**Pn**	**02 19 36.7**	**+2.8**
0.4nm,0.3s,baz=324,slow=13,SNR=20							
WRA				Sn	**Sn**	**02 21 54.9**	**-2.4**
0.8nm,0.3s,baz=222,slow=30,SNR=8.1							
3.0nm,0.9s							
ASAR	**Alice Springs**	**15.66**	**149**	Pn	**P**	**02 20 11.8**	**-1.7**
0.3nm,0.3s,baz=316,slow=12,SNR=14							
ASAR				Sn	**Sn**	**02 23 01.6**	**-0.7**
0.3nm,0.3s,baz=313,slow=22,SNR=5.8							
0.9nm,0.5s							
LEM	**Lembang**	**17.79**	**280**	LR	LR	02 27 49.6	
comp=Z,45nm,19.0s,baz=343,slow=39							
CMAR	**Chiang Mai Arr**	**38.60**	**318**	P	**P**	**02 23 50.5**	**-1.1**
1.1nm,0.2s,baz=121,slow=8.5,SNR=4.1							
CMAR				LR	LR	02 41 12.9	
comp=Z,14nm,19.6s,baz=150,slow=39							
1.1nm,0.2s							
SONM	**Songino Array**	**60.24**	**345**	P	**P**	**02 26 36.6**	**+0.2**
0.5nm,0.6s,baz=166,slow=8.6,SNR=4.5							
0.5nm,0.6s							
MKAR	**Makanchi Array**	**68.54**	**330**	P	**P**	**02 27 30.6**	**-0.1**
1.1nm,0.7s,baz=131,slow=7.8,SNR=13							
1.1nm,0.7s							
ZALV	**Zalesovo Beam**	**72.56**	**336**	P	**P**	**02 27 55.6**	**+0.6**
0.4nm,0.4s,baz=138,slow=5.4,SNR=2.1							
0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**72.97**	**331**	P	**P**	**02 27 57.4**	**-0.1**
0.4nm,0.3s,baz=146,slow=5.8,SNR=4.8							
0.4nm,0.3s							

---

*IDC **12** 02:21:05.1±12.0,6°.38S×128°.98E,h181km±141km, mb3.0/2,mbtmp4.0/5,ML4.2/3,Error ellipse: s-maj=85.6km s-min=50.1km az=30.0*
*NEIC **12** 02:21:12.3±1.4,6°.58S±0°.08×128°.99E±0°.06,h261km±8km, mb4.5/7,Error ellipse: s-maj=11.8km s-min=7.2km az=155.0*
ISC 12 02:21:11.2±0.7,**6°.63S**±0°.06×**128°.99E**±0°.07,**h250**km,**n25**, σ1§**36**/31,**mb4.5/6**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.65**	**121**	Pn	**Pn**	**02 22 03.0**	**+2.9**
SAUI				Sn	**S**	**02 22 39.2**	**+0.6**
FAKI	**Fak Fak**	**4.91**	**42**	Pn	**Pn**	**02 22 27.3**	**+1.3**
FAKI				Sn	**S**	**02 23 23.5**	**-2.0**
SOEI	**Soe**	**5.62**	**236**	Pn	**Pn**	**02 22 36.5**	**+1.8**
SOEI				Sn	**S**	**02 23 41.0**	**-0.4**
MTN	**Manton Dam**	**6.53**	**161**		**Pn**	**02 22 47.0**	**+1.1**
KNRA	**Kununurra**	**8.99**	**181**	Pn	**Pn**	**02 23 17.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.86**	**196**	Pn	**Pn**	**02 23 54.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.86**	**196**	P	**Pn**	**02 23 52.8**	**-0.3**
0.9nm,0.3s,baz=20,slow=11,SNR=8.7							
FITZ				S	**S**	**02 26 06.5**	**+1.0**
2.5nm,0.4s,baz=128,slow=23,SNR=1.9							
5.4nm,0.6s							
WB0	**Warramunga Arr**	**14.07**	**159**		**Pn**	**02 24 19.6**	**-0.8**
WRAB	**Tennant Creek**	**14.21**	**159**		**Pn**	**02 24 21.5**	**-0.5**
WRA	**Warramunga Arr**	**14.22**	**159**	P	**Pn**	**02 24 21.2**	**-0.8**
1.0nm,0.3s,baz=337,slow=13,SNR=7.9							
WRA				S	**S**	**02 26 56.2**	**-3.3**
4.0nm,0.9s,baz=337,slow=21,SNR=6.6							
7.8nm,0.6s							
WB2	**Warramunga Arr**	**14.22**	**159**	Pn	**Pn**	**02 24 21.0**	**-1.2**
WR0	**Warramunga Arr**	**14.30**	**158**	P	**Pn**	**02 24 23.0**	**-0.1**
COEN	**Coen**	**15.73**	**119**		**P**	**02 24 39.8**	**+0.5**
COEN				IAmb	IAmb	02 24 41.0	
comp=Z,9.6nm,0.9s							
AS31	**Alice Springs**	**17.59**	**165**	P	**P**	**02 25 00.1**	**+0.6**
ASAR	**Alice Springs**	**17.59**	**165**	P	**P**	**02 24 59.9**	**+0.4**
ASAR	**Alice Springs**	**17.59**	**165**	P	**P**	**02 25 00.1**	**+0.6**
comp=Z,1.0nm,0.3s,baz=344,slow=11,SNR=11							
ASAR				S	**S**	**02 28 05.6**	**-3.6**
comp=Z,1.1nm,0.7s,baz=351,slow=24,SNR=3.1							
comp=Z,3.3nm,0.3s							
QRZ	**Quartz Range**	**51.60**	**138**	P	**P**	**02 29 52.7**	**+0.4**
QRZ				IAmb	IAmb	02 30 33.3	
comp=Z,65nm,1.5s							
PRZ	**Przheval'sk**	**67.09**	**322**	P	**P**	**02 31 37.5**	**-0.7**
MKAR	**Makanchi Array**	**67.37**	**327**	P	**P**	**02 31 39.2**	**-0.5**
MKAR	**Makanchi Array**	**67.37**	**327**	P	**P**	**02 31 39.7**	**0.0**
comp=Z,0.3nm,0.6s,baz=126,slow=7.4,SNR=4.7							
comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**71.67**	**329**	P	**P**	**02 32 05.4**	**-0.4**
comp=Z,0.1nm,0.3s,baz=130,slow=4.9,SNR=1.8							
comp=Z,0.1nm,0.3s							
VNDA	**Vanda**	**72.94**	**173**	P	**P**	**02 32 13.5**	**+0.7**
VNDA				IAmb	IAmb	02 32 43.6	
comp=Z,23nm,1.4s							
ABKAR	**Akbulak array**	**81.60**	**322**	P	**P**	**02 33 00.7**	**-0.6**
CCB	**Clear Creek Bu**	**93.03**	**25**	P	**P**	**02 33 55.7**	**-0.4**
CCB				IAmb	IAmb	02 34 05.7	
comp=Z,5.8nm,1.4s							
J26L	**Joseph Creek**	**94.83**	**26**	P	**P**	**02 34 04.6**	**+0.1**
J26L				IAmb	IAmb	02 34 09.3	
comp=Z,5.2nm,1.5s							

---

*NEIC **12** 02:31:21.9±2.0,6°.31S±0°.07×152°.5E±0°.1,h10km±2km, mb4.5/24,Error ellipse: s-maj=21.1km s-min=4.6km az=54.0*
*IDC **12** 02:31:30.8±5.6,5°.80S×151°.52E,h63km±47km,mb3.6/6, mbtmp3.9/7,ML2.3/1,Error ellipse: s-maj=53.7km s-min=26.6km az=116.0*
ISC 12 02:31:27.5±0.9,**5°.9S**±0°.2×**151°.9E**±0°.2,**h36**km,**n41**, σ1§**31**/42,**mb4.4**/18,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.74**	**11**	Pn	**Pn**	**02 31 56.0**	**+0.8**
PMG	**Port Moresby**	**5.80**	**233**	P	**Pn**	**02 32 52.4**	**+1.4**
6.3nm,0.3s,baz=49,slow=7.6,SNR=8.9							
PMG				S	**Sn**	**02 33 55.9**	**-0.4**
47nm,0.4s,baz=115,slow=3.7,SNR=11							
35nm,0.6s							
MANU	**Manus Island**	**5.89**	**311**	Pn	Pn	02 33 00.1	+7.8
WB0	**Warramunga Arr**	**21.86**	**229**	P	**P**	**02 36 16.5**	**-0.8**
WB0				IAmb	IAmb	02 36 17.8	
comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**21.86**	**229**	P	**P**	**02 36 16.3**	**-1.0**
WRAB	**Tennant Creek**	**21.99**	**229**	P	**P**	**02 36 18.0**	**-0.7**
WB2	**Warramunga Arr**	**21.99**	**229**	P	**P**	**02 36 17.4**	**-1.3**
WB2				IAmb	IAmb	02 36 21.0	
comp=Z,5.3nm,0.7s							
WRA	**Warramunga Arr**	**22.00**	**229**	P	**P**	**02 36 17.4**	**-1.4**
comp=Z,2.8nm,0.6s,baz=54,slow=10,SNR=17							
WRA				PcP	**PcP**	**02 40 15.7**	**-0.8**
comp=Z,0.5nm,0.9s,baz=69,slow=2.6,SNR=1.5							
comp=Z,2.8nm,0.6s							
KNRA	**Kununurra**	**24.64**	**245**	P	**P**	**02 36 45.1**	**+0.2**
AS31	**Alice Springs**	**24.69**	**223**	P	**P**	**02 36 44.0**	**-1.5**
ASAR	**Alice Springs**	**24.69**	**223**	P	**P**	**02 36 44.1**	**-1.3**
ASAR	**Alice Springs**	**24.69**	**223**	P	**P**	**02 36 45.3**	**-0.1**
comp=Z,3.0nm,0.6s,baz=55,slow=9.0,SNR=40							
comp=Z,3.0nm,0.6s							
STKA	**Stephens Creek**	**27.56**	**199**	P	**P**	**02 37 11.8**	**+0.7**
comp=Z,3.4nm,1.0s,baz=32,slow=15,SNR=1.6							
comp=Z,3.4nm,1.0s							
FITZ	**Fitzroy Crossi**	**28.30**	**242**	P	**P**	**02 37 16.9**	**-1.0**
PSA00	**Pilbara Seismi**	**34.65**	**240**	P	**P**	**02 38 13.9**	**+0.1**
SONM	**Songino Array**	**66.76**	**328**	P	**P**	**02 42 14.0**	**-1.4**
comp=Z,0.3nm,0.6s,baz=134,slow=6.2,SNR=1.6							
comp=Z,0.3nm,0.6s							
K15K	**Wolf Creek Mou**	**76.77**	**20**	P	**P**	**02 43 16.6**	**+1.5**
CNPM	**China Poot**	**79.12**	**26**	P	**P**	**02 43 26.4**	**-1.8**
G19K	**Purcell Mounta**	**80.75**	**19**	P	**P**	**02 43 36.9**	**0.0**
PWL	**Port Wells**	**81.05**	**25**	P	**P**	**02 43 36.5**	**-2.1**
PWL				IAmb	IAmb	02 43 44.4	
comp=Z,11nm,1.2s							
SML	**Sawmill**	**81.52**	**25**	P	**P**	**02 43 40.8**	**-0.3**
SML				IAmb	IAmb	02 43 50.3	
comp=Z,4.3nm,0.9s							
TRF	**Thorofare Moun**	**81.58**	**23**	P	**P**	**02 43 41.5**	**0.0**
RND	**Reindeer**	**82.11**	**23**	P	**P**	**02 43 43.2**	**-1.0**
RND				IAmb	IAmb	02 43 55.9	
comp=Z,8.5nm,1.4s							
BERG	**Berg Lake**	**82.86**	**27**	P	**P**	**02 43 46.5**	**-1.6**
IL31		**83.54**	**22**	P	**P**	**02 43 49.7**	**-1.7**
IL31				IAmb	IAmb	02 43 56.7	
comp=Z,5.3nm,1.3s							
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**02 43 50.7**	**-0.8**
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**02 43 51.6**	**+0.1**
comp=Z,0.9nm,0.8s,baz=244,slow=5.5,SNR=15							
comp=Z,0.9nm,0.8s							
IL03	**Eielson Array**	**83.55**	**22**	P	**P**	**02 43 49.8**	**-1.8**
J25K	**Salcha River,**	**84.04**	**23**	P	**P**	**02 43 52.8**	**-1.4**
J25K				IAmb	IAmb	02 43 59.7	
comp=Z,7.5nm,1.4s							
D23K	**Nanushuk River**	**84.39**	**18**	P	**P**	**02 43 56.5**	**+0.7**
D23K				IAmb	IAmb	02 43 59.1	
comp=Z,3.0nm,0.9s							
BCAR	**Beaver Creek A**	**84.81**	**25**	P	**P**	**02 43 56.7**	**-1.3**
BMAR	**Burnt Mountain**	**85.61**	**20**	P	**P**	**02 44 02.9**	**+0.9**
I28M	**Miner Creek**	**86.49**	**23**	P	**P**	**02 44 04.0**	**-2.4**
K29M	**Barlow Dome**	**86.88**	**25**	P	**P**	**02 44 05.6**	**-2.8**
C27K	**Jago River**	**86.88**	**18**	P	**P**	**02 44 06.5**	**-1.6**
C27K				IAmb	IAmb	02 44 11.4	
comp=Z,3.3nm,1.4s							
J30M	**Hart River**	**87.61**	**24**	P	**P**	**02 44 10.3**	**-1.6**
J30M				IAmb	IAmb	02 44 21.6	
comp=Z,2.5nm,1.1s							
E28M	**Babbage River**	**87.83**	**20**	P	**P**	**02 44 12.6**	**-0.1**
E28M				IAmb	IAmb	02 44 25.8	
comp=Z,3.2nm,1.4s							
H31M	**Peel River**	**88.79**	**23**	P	**P**	**02 44 17.2**	**-0.1**
H31M				IAmb	IAmb	02 44 23.8	
comp=Z,5.1nm,1.4s							
NVAR	**Mina Array Bea**	**93.51**	**52**	P	**P**	**02 44 41.4**	**+1.2**
comp=Z,0.2nm,0.6s,baz=292,slow=6.7,SNR=1.4							
comp=Z,0.2nm,0.6s							
ABKAR	**Akbulak array**	**95.68**	**319**	P	**P**	**02 44 51.5**	**+2.0**
TORD	**Torodi Ar. Bea**	**149.72**	**286**	PKPbc	**PKPbc**	**02 51 13.9**	**-0.7**
comp=Z,0.5nm,0.7s,baz=60,slow=4.0,SNR=4.3							

---

*JMA **12** 02:34:30.2±0.4,23°.N±2°.×123°.1E±1°.0,h54km,MV2.9/11, FAR S OFF ISHIGAKIJIMA*
*TAP **12** 02:34:31.6,22°.91N×122°.94E,h70km±2km,ML3.2,D*
ISC 12 02:34:27.0±1.5,**22°.94N**±0°.04×**123°.02E**±0°.03,**h11**km±10km, **n58**,σ0§**81**/116,**Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.33**	**33**	P	**Pn**	**02 34 52.6**	**+1.2**
HATJ				S	**Sb**	**02 35 08.4**	**-0.6**
EOS4	**EOS4**	**1.34**	**332**	*eP*	**Pg**	**02 34 53.4**	**+0.6**
EOS4				*eS*	**Sb**	**02 35 09.0**	**+0.1**
LDUT	**Ludao**	**1.45**	**260**	P	**Pg**	**02 34 54.7**	**-0.2**
LDUT				S	**Sb**	**02 35 10.6**	**-1.9**
EOS3	**EOS3**	**1.49**	**335**	*eP*	**Pg**	**02 34 55.9**	**+0.3**
EOS3				S	**Sg**	**02 35 14.5**	**-0.4**
CHKH	**Chenggong**	**1.52**	**280**	*eP*	**Pg**	**02 34 56.9**	**+0.8**
CHKH				S	**Sn**	**02 35 12.3**	**-1.4**
YOJ	**Yonaguni jima**	**1.52**	**360**	*eP*	**Pb**	**02 34 55.7**	**+0.5**
YOJ				*eS*	**Sn**	**02 35 13.9**	**+0.1**
IRIF	**Iriomote-Funau**	**1.54**	**25**	*eP*	**Pn**	**02 34 55.7**	**+1.4**
IRIF				*eS*	**Sn**	**02 35 13.8**	**-0.5**
HGSD	**Ruisui**	**1.57**	**291**	P	**Pb**	**02 34 55.7**	**-0.3**
HGSD				S	**Sn**	**02 35 13.7**	**-1.3**
EDH	**Donghe**	**1.58**	**272**	*eP*	**Pb**	**02 34 56.5**	**+0.3**
EDH				S	**Sn**	**02 35 14.2**	**-1.1**
SHUL	**Shoufeng**	**1.58**	**303**	*eP*	**Pg**	**02 34 57.0**	**-0.4**
SHUL				*i* S	**Sn**	**02 35 15.0**	**-0.4**
FULB	**Fuli**	**1.61**	**280**	P	**Pb**	**02 34 56.7**	**0.0**
FULB				*i* S	**Sn**	**02 35 15.0**	**-1.1**
EYUL	**Yuli**	**1.61**	**285**	P	**Pb**	**02 34 57.0**	**+0.2**
EYUL				S	**Sn**	**02 35 15.7**	**-0.5**
LYUB	**Lan-yu**	**1.62**	**235**	P	**Pb**	**02 34 57.0**	**+0.2**
LYUB				S	**Sn**	**02 35 15.2**	**-1.1**
LAY	**Lan-yu**	**1.62**	**237**	P	**Pb**	**02 34 57.3**	**+0.3**
LAY				S	**Sn**	**02 35 15.5**	**-1.0**
EGFH	**Guangfu**	**1.63**	**297**	*eP*	**Pn**	**02 34 56.1**	**+0.5**
EGFH				*eS*	**Sn**	**02 35 16.8**	**+0.1**
TWF1	**Yuli**	**1.64**	**285**	P	**Pb**	**02 34 56.8**	**-0.4**
TWF1				*eS*	**Sn**	**02 35 14.8**	**-1.9**
EOS2	**EOS2**	**1.64**	**334**	*eP*	**Pg**	**02 34 58.0**	**-0.4**
EOS2				*eS*	**Sb**	**02 35 18.2**	**+0.4**
YULB	**Yu-li**	**1.65**	**286**	P	**Pb**	**02 34 57.1**	**-0.2**
YULB				*eS*	**Sn**	**02 35 17.5**	**+0.5**
EHD	**Haiduan**	**1.68**	**278**	*eP*	**Pg**	**02 34 58.6**	**-0.7**
EHD				*eS*	**Sn**	**02 35 18.4**	**+0.6**
WARBT	**Fenglin Townsh**	**1.69**	**298**	*i* P	**Pb**	**02 34 57.6**	**-0.4**
WARBT				S	**Sn**	**02 35 17.2**	**-0.8**
ESL	**Shilin**	**1.70**	**301**	*i* P	**Pn**	**02 34 57.3**	**+0.8**
ESL				S	**Sn**	**02 35 16.7**	**-1.5**
TWD	**Chiawan**	**1.73**	**311**	*eP*	**Pb**	**02 34 58.4**	**-0.4**
TWD				S	**Sn**	**02 35 17.9**	**-1.1**
ETM	**Tongmen**	**1.73**	**306**	P	**Pb**	**02 34 58.3**	**-0.5**
ETM				*eS*	**Sn**	**02 35 18.5**	**-0.7**
JIJ	**Ishigaki jima**	**1.76**	**36**	*eP*	**Pn**	**02 34 58.2**	**+0.9**
JIJ				*eS*	**Sn**	**02 35 17.8**	**-1.9**
NACB	**Ninganchiao**	**1.79**	**314**	*i* P	**Pb**	**02 34 59.3**	**-0.6**
NACB				*i* S	**Sn**	**02 35 19.5**	**-1.1**
EAHA	**Aohua**	**1.81**	**320**	P	**Pb**	**02 34 59.7**	**-0.5**
EAHA				*eS*	**Sn**	**02 35 21.1**	**0.0**
LXIB	**Xiulin Townshi**	**1.82**	**307**	*i* P	**Pb**	**02 34 60.0**	**-0.5**
LXIB				*eS*	**Sn**	**02 35 22.2**	**+0.6**
EWUT	**Wuta**	**1.88**	**323**	P	**Pb**	**02 35 01.0**	**-0.3**
EWUT				*eS*	**Sn**	**02 35 23.0**	**+0.2**
ENA	**Nanau**	**1.89**	**322**	*i* P	**Pb**	**02 35 01.1**	**-0.4**
ENA				*i* S	**Sn**	**02 35 22.6**	**-0.4**
ETLH	**Xiulin Townshi**	**1.89**	**312**	*i* P	**Pb**	**02 35 00.9**	**-0.7**
ETLH				S	**Sn**	**02 35 22.4**	**-0.8**
VWDT	**VWDT**	**1.91**	**296**	*eP*	**Pb**	**02 35 02.3**	**+0.6**
VWDT				*eS*	**Sn**	**02 35 24.0**	**+0.7**
OWD	**Renai**	**1.97**	**301**	*i* P	**Pb**	**02 35 02.2**	**-0.7**
OWD				S	**Sn**	**02 35 23.9**	**-1.3**
TWC	**Suao**	**1.98**	**328**	*i* P	**Pn**	**02 35 01.5**	**+1.1**
TWC				S	**Sn**	**02 35 25.1**	**0.0**
WHF	**Hehuan Shan**	**2.01**	**307**	*i* P	**Pb**	**02 35 03.0**	**-0.7**
WHF				*eS*	**Sn**	**02 35 26.2**	**-0.3**
JISG	**Ishigakijimahi**	**2.03**	**36**	P	**Pn**	**02 35 01.9**	**+0.8**
JISG				S	**Sn**	**02 35 24.9**	**-1.4**
WUSB	**Renai**	**2.04**	**301**	*eP*	**Pb**	**02 35 04.0**	**-0.1**
WUSB				S	**Sn**	**02 35 27.0**	**+0.2**
TAWH	**Dawu Township**	**2.06**	**254**	*eP*	**Pb**	**02 35 04.9**	**+0.6**
TAWH				*eS*	**Sn**	**02 35 28.3**	**+1.2**
SSLB	**Suanglung**	**2.08**	**294**	*eP*	**Pn**	**02 35 03.2**	**+1.4**
SSLB				S	**Sn**	**02 35 28.0**	**+0.4**
STYH	**Taoyuan**	**2.08**	**277**	P	**Pb**	**02 35 04.8**	**+0.2**
STYH				*eS*	**Sn**	**02 35 27.3**	**-0.3**
EAST	**Anshuo**	**2.08**	**255**	*i* P	**Pb**	**02 35 04.4**	**-0.3**
EAST				S	**Sn**	**02 35 28.6**	**+0.9**
FUSS	**Fushou**	**2.08**	**309**	*i* P	**Pb**	**02 35 04.1**	**-0.8**
FUSS				*i* S	**Sn**	**02 35 28.6**	**+0.4**
LATG	**Datong**	**2.10**	**320**	*eP*	**Pb**	**02 35 04.5**	**-0.6**
LATG				*eS*	**Sn**	**02 35 28.2**	**0.0**
WHYT	**Xinyi Township**	**2.13**	**291**	*eP*

BO04 IAmb IAmb 02 43 09.8
comp=Z,8.3nm,0.9s
MT09 Talagante 39.87 292 P **P 02 43 10.0 -1.0**
MT09 IAmb IAmb 02 43 15.3
comp=Z,29nm,1.4s
MT01 Popeta 39.92 291 P **P 02 43 10.4 -0.8**
MT01 IAmb IAmb 02 43 19.8
comp=Z,30nm,1.4s
CPUP Villa Florida 40.80 313 P **P 02 43 17.0 -1.5**
CPUP Villa Florida 40.80 313 P **P 02 43 15.9 -2.7**
comp=Z,0.7nm,0.6s,baz=162,slow=6.4,SNR=3.2
comp=Z,0.7nm,0.6s
VNDA Vanda 41.76 182 P **P 02 43 27.4 +1.4**
VNDA IAmb IAmb 02 43 27.7
comp=Z,25nm,1.4s
LPAZ La Paz 54.00 306 P **P 02 45 01.5 -0.6**
LPAZ IAmb IAmb 02 45 06.2
comp=Z,5.2nm,0.6s
LPAZ La Paz 54.00 306 P **P 02 45 00.7 -1.4**
comp=Z,4.3nm,0.5s,baz=177,slow=4.7,SNR=25
comp=Z,4.3nm,0.5s
TORD Torodi Ar. Bea 76.88 27 P **P 02 47 30.4 +1.0**
TORD Torodi Ar. Bea 76.88 27 P **P 02 47 30.1 +0.8**
comp=Z,1.6nm,0.7s,baz=198,slow=4.8,SNR=13
comp=Z,1.6nm,0.7s
YKA Yellowknife Ar 140.32 313 PKP **PKPdf 02 55 02.4 -2.3**
comp=Z,0.3nm,0.7s,baz=135,slow=2.4,SNR=5.9
SONM Songino Array 149.76 93 PKPbc **PKPbc 02 55 26.8 +0.4**
comp=Z,0.9nm,0.9s,baz=208,slow=3.8,SNR=5.6
ILAR Eielson Array 153.86 304 PKPbc **PKiKP 02 55 36.3 +1.1**
comp=Z,0.6nm,0.7s,baz=152,slow=1.3,SNR=6.8

---

*IDC **12** 02:50:35.4±0.6,2°.53N×126°.78E,h0km,mb4.1/16, mbtmp4.1/16,MS3.8/16,Error ellipse: s-maj=36.2km s-min=12.3km az=73.0*
*DJA **12** 02:50:39.2±0.3,3°N±4°×12°7E±°,h10km,M4.4/7,mb4.7/2, MLv4.3/7*
*NEIC **12** 02:50:40.9±1.8,2°.62N±0°.08×127°.09E±0°.09,h35km±2km, mb4.6/43,Error ellipse: s-maj=17.8km s-min=11.0km az=236.0*
ISC 12 02:50:42.4±0.4,2°.57N±0°.06×127°.04E±0°.09,h53km,n97, σ1§99/82,mb4.5/41,MS3.9/17,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**170**	Pn	**Pn**	**02 51 10.4**	**-0.9**
SGSI	**Sangihe**	**1.87**	**306**	P	**Pn**	**02 51 12.4**	**+0.4**
KMSI	**Cibinong**	**3.64**	**237**	P	**Pn**	**02 51 37.7**	**+1.4**
LUWI	**Luwuk**	**5.57**	**230**	Pn	**Pn**	**02 52 02.4**	**-0.4**
TOLI2	**Tolitoli**	**6.42**	**257**	Pn	**Pn**	**02 52 14.4**	**0.0**
MYLDM	**Lahad Datu**	**8.91**	**287**		**Pn**	**02 52 48.2**	**-0.2**
SBUM	**Sibu**	**14.81**	**270**	Pn	**Pn**	**02 54 09.2**	**+0.5**
KSM	**Kuching**	**16.76**	**267**		**P**	**02 54 34.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**16.89**	**229**		**P**	**02 54 36.7**	**0.0**
JAGI				IAmb	IAmb	02 55 06.3	
comp=Z,38nm,1.1s							
KNRA	**Kununurra**	**18.21**	**175**		**P**	**02 54 50.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.58**	**184**	P	**P**	**02 55 16.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.58**	**184**	P	**P**	**02 55 16.2**	**-0.9**
comp=Z,2.9nm,0.6s,baz=28,slow=6.3,SNR=11							
comp=Z,2.9nm,0.6s							
TPUB	**Ta-pu**	**21.52**	**344**	P	**P**	**02 55 25.5**	**-1.7**
PMG	**Port Moresby**	**23.31**	**121**	LR	LR	03 07 12.4	
comp=Z,413nm,21.0s,baz=298,slow=42							
WB0	**Warramunga Arr**	**23.34**	**162**	P	**P**	**02 55 45.2**	**-1.1**
WB0				IAmb	IAmb	02 55 57.2	
comp=Z,18nm,0.9s							
QIZ	**Qiongzhong**	**23.47**	**315**	P	**P**	**02 55 46.5**	**-1.0**
QIZ				S	**S**	**03 00 00.3**	**+3.0**
QIZ				pmax	pmax		
comp=Z,290nm,5.3s							
QIZ				LR	LR		
comp=N,270nm,13.6s							
QIZ				LR	LR		
comp=E,240nm,19.7s							
QIZ				LR	LR		
comp=Z,250nm,24.7s							
WRAB	**Tennant Creek**	**23.48**	**163**	P	**P**	**02 55 46.1**	**-1.5**
WRAB				IAmb	IAmb	02 55 59.2	
comp=Z,37nm,1.2s							
WRA	**Warramunga Arr**	**23.49**	**163**	P	**P**	**02 55 45.9**	**-1.8**
WRA	**Warramunga Arr**	**23.49**	**163**	P	**P**	**02 55 46.6**	**-1.0**
comp=Z,8.0nm,0.7s,baz=344,slow=11,SNR=58							
WRA				PcP	**PcP**	**02 59 33.4**	**+1.1**
comp=Z,0.7nm,0.8s,baz=330,slow=1.9,SNR=2.6							
comp=Z,8.0nm,0.7s							
WB2	**Warramunga Arr**	**23.50**	**163**	P	**P**	**02 55 46.3**	**-1.3**
WB2				IAmb	IAmb	02 55 59.3	
comp=Z,22nm,0.8s							
WR0	**Warramunga Arr**	**23.57**	**162**	P	**P**	**02 55 47.4**	**-0.9**
WR0				IAmb	IAmb	02 56 00.2	
comp=Z,51nm,1.4s							
JOW	**Kunigami**	**24.16**	**3**	LR	LR	03 05 32.4	
comp=Z,177nm,21.1s,baz=144,slow=37							
MBWA	**Marble Bar**	**24.64**	**197**	P	**P**	**02 55 58.9**	**+0.7**
MBWA				IAmb	IAmb	02 56 03.6	
comp=Z,26nm,1.2s							
PSA00	**Pilbara Seismi**	**25.00**	**196**	P	**P**	**02 56 01.4**	**0.0**
PSA00				IAmb	IAmb	02 56 15.3	
comp=Z,40nm,1.4s							
AS31	**Alice Springs**	**26.92**	**166**	P	**P**	**02 56 18.2**	**-0.6**
ASAR	**Alice Springs**	**26.92**	**166**	P	**P**	**02 56 18.6**	**-0.3**
ASAR	**Alice Springs**	**26.92**	**166**	P	**P**	**02 56 18.4**	**-0.5**
comp=Z,2.4nm,0.8s,baz=345,slow=6.9,SNR=25							
ASAR				PcP	**PcP**	**02 59 41.0**	**+1.0**
comp=Z,1.1nm,0.7s,baz=350,slow=1.6,SNR=5.1							
comp=Z,2.4nm,0.8s							
CNSH	**ChangSha**	**28.81**	**333**	P	P	02 56 28.3	-7.3
CNSH				pmax	pmax		
comp=Z,8.0nm,0.6s							
NJ2	**Nanjing**	**30.32**	**346**	*eP*	**P**	**02 56 49.9**	**+1.0**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.7s							
PHRA	**Phrae**	**30.67**	**303**	P	**P**	**02 56 52.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**02 56 60.0**	**-1.6**
comp=Z,1.3nm,0.3s,baz=110,slow=8.4,SNR=6.8							
comp=Z,1.3nm,0.3s							
FORT	**Forrest**	**33.18**	**178**	P	**P**	**02 57 14.2**	**+0.2**
MORW	**Morawa**	**33.18**	**198**	P	**P**	**02 57 14.1**	**0.0**
LYN	**LuoYang**	**34.59**	**339**	*eP*	**P**	**02 57 28.8**	**+2.5**
LYN				pmax	pmax		
comp=Z,17nm,0.7s							
KSRS	**Korea Array**	**34.73**	**1**	P	**P**	**02 57 28.0**	**+0.6**
comp=Z,1.4nm,0.7s,baz=179,slow=10,SNR=6.4							
KSRS				LR	LR	03 11 33.2	
comp=Z,79nm,21.8s,baz=195,slow=36							
comp=Z,1.4nm,0.7s							
BBOO	**Buckleboo**	**36.21**	**167**	P	**P**	**02 57 40.7**	**+0.5**
EIDS	**Eidsvold**	**36.25**	**141**	P	**P**	**02 57 41.3**	**+0.6**
EIDS				IAmb	IAmb	02 57 54.8	
comp=Z,15nm,1.3s							
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**02 57 46.6**	**+0.1**
STKA				IAmb	IAmb	02 57 54.2	
comp=Z,14nm,1.0s							
STKA	**Stephens Creek**	**36.94**	**159**	P	**P**	**02 57 46.7**	**+0.2**
comp=Z,4.3nm,0.4s,baz=343,slow=8.9,SNR=16							
STKA				PcP	**PcP**	**03 00 08.2**	**+1.2**
comp=Z,4.7nm,0.9s,baz=5.2,slow=3.9,SNR=3.8							
comp=Z,4.3nm,0.4s							
BJT	**Baijiatuau**	**38.56**	**347**	P	**P**	**02 57 58.1**	**-1.9**
BJT				IAmb	IAmb	02 58 01.2	
comp=Z,12nm,1.0s							
BJI	**Beijing**	**38.58**	**347**	P	**P**	**02 58 00.4**	**+0.2**
BJI				pmax	pmax		
comp=Z,6.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**41.69**	**5**	P	**P**	**02 58 25.8**	**0.0**
comp=Z,3.2nm,0.9s,baz=180,slow=10,SNR=5.1							
USRK				LR	LR	03 15 37.2	
comp=Z,76nm,21.8s,baz=185,slow=36							
comp=Z,3.2nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**41.93**	**65**	T	T	03 43 14.6	
baz=252,slow=75,SNR=47							
H11S1	**WAKE ISLAND Hy**	**41.94**	**65**	T	T	03 43 15.3	
baz=252,slow=75,SNR=19							
H11S2	**WAKE ISLAND Hy**	**41.94**	**65**	T	T	03 43 21.8	
baz=252,slow=75,SNR=16							
XLT	**XiLinHaoTe**	**42.29**	**348**	*eP*	**P**	**02 58 31.1**	**+0.2**
XLT				pP	pP	02 58 39.0	-5.2
XLT				pmax	pmax		
comp=Z,6.0nm,1.0s							
XLT				pmax	pmax		
comp=Z,100nm,6.8s							
H11N1	**WAKE ISLAND Hy**	**42.48**	**63**	T	T	03 44 02.0	
baz=254							
H11N2	**WAKE ISLAND Hy**	**42.49**	**63**	T	T	03 44 05.3	
baz=254							
H11N3	**WAKE ISLAND Hy**	**42.50**	**63**	T	T	03 43 55.3	
baz=254							
PALK	**Pallekele**	**46.38**	**278**	LR	LR	03 20 34.4	
comp=Z,52nm,19.8s,baz=95,slow=39							
KLR	**Kul'dur**	**46.66**	**4**	P	**P**	**02 59 05.9**	**+0.3**
comp=Z,2.3nm,0.8s,baz=235,slow=5.8,SNR=6.4							
comp=Z,2.3nm,0.8s							
ULN	**Ulaanbaatar**	**48.31**	**342**	P	**P**	**02 59 18.8**	**+0.1**
ULN				IAmb	IAmb	02 59 40.9	
comp=Z,7.3nm,1.1s							
SONM	**Songino Array**	**48.49**	**342**	P	**P**	**02 59 19.1**	**-0.9**
SONM	**Songino Array**	**48.49**	**342**	P	**P**	**02 59 19.8**	**-0.2**
comp=Z,1.5nm,0.9s,baz=162,slow=8.0,SNR=7.3							
SONM				LR	LR	03 22 26.4	
comp=Z,64nm,21.3s,baz=176,slow=39							
comp=Z,1.5nm,0.9s							
DGAR	**Diego Garcia**	**55.36**	**259**	P	**P**	**03 00 11.9**	**+0.4**
PETK	**Petropavlovsk-**	**56.38**	**22**	LR	LR	03 23 04.6	
comp=Z,36nm,22.0s,baz=99,slow=34							
MK31	**Makanchi Array**	**58.68**	**326**	P	**P**	**03 00 33.8**	**-0.7**
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**03 00 34.2**	**-0.3**
MKAR	**Makanchi Array**	**58.68**	**326**	P	**P**	**03 00 34.0**	**-0.5**
comp=Z,1.0nm,0.5s,baz=117,slow=8.7,SNR=9.9							
comp=Z,1.0nm,0.5s							
MAKZ	**Makanchi**	**58.87**	**325**	P	**P**	**03 00 35.5**	**-0.3**
MAKZ				IAmb	IAmb	03 01 18.8	
comp=Z,4.6nm,1.2s							
URZ	**Urewera**	**61.49**	**137**	LR	LR	03 30 28.4	
comp=Z,172nm,18.0s,baz=40,slow=39							
BHW	**Baring Head**	**61.63**	**141**	P	**P**	**03 00 54.2**	**-0.5**
ZALV	**Zalesovo Beam**	**61.76**	**333**	P	**P**	**03 00 55.0**	**-0.4**
comp=Z,0.4nm,0.3s,baz=98,slow=4.5,SNR=3.9							
comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**62.88**	**328**	P	**P**	**03 01 02.3**	**-0.6**
comp=Z,2.3nm,0.2s,baz=126,slow=6.4,SNR=15							
comp=Z,2.3nm,0.2s							
KURK	**Kurchatov**	**62.88**	**328**	P	**P**	**03 01 02.4**	**-0.5**
KURK				IAmb	IAmb	03 01 16.2	
comp=Z,4.4nm,0.8s							
GAR	**Garm**	**62.93**	**313**	P	**P**	**03 01 02.8**	**-0.9**
GAR				IAmb	IAmb	03 01 04.7	
comp=Z,5.0nm,0.7s							
KK31	**Karatay Array**	**64.29**	**317**	P	**P**	**03 01 11.7**	**-0.7**
KK31				IAmb	IAmb	03 01 15.7	
comp=Z,3.5nm,1.1s							
KKAR	**Karatay Array**	**64.29**	**317**	P	**P**	**03 01 11.2**	**-1.3**
KKAR	**Karatay Array**	**64.29**	**317**	P	**P**	**03 01 11.4**	**-1.0**
KKAR				IAmb	IAmb	03 01 15.6	
comp=Z,2.5nm,1.1s							
BVAR	**Borovoye Array**	**68.46**	**327**	P	**P**	**03 01 38.1**	**-0.7**
comp=Z,2.5nm,0.9s,baz=120,slow=8.8,SNR=7.6							
comp=Z,2.5nm,0.9s							
BRVK	**Borovoye**	**68.53**	**327**	P	**P**	**03 01 38.6**	**-0.7**
BRVK				IAmb	IAmb	03 02 04.2	
comp=Z,3.3nm,0.9s							
NRIK	**Noril'sk**	**71.62**	**346**	P	**P**	**03 01 57.9**	**0.0**
comp=Z,2.2nm,0.6s,baz=98,slow=3.8,SNR=4.8							
NRIK				LR	LR	03 35 31.3	
comp=Z,88nm,20.7s,baz=140,slow=38							
comp=Z,2.2nm,0.6s							
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**03 02 07.3**	**-0.7**
ABKAR				IAmb	IAmb	03 02 39.0	
comp=Z,7.3nm,1.4s							
ABKAR	**Akbulak array**	**73.24**	**321**	P	**P**	**03 02 06.7**	**-1.3**
AKTO	**Aktyubinsk**	**74.76**	**322**	LR	LR	03 39 03.7	
comp=Z,97nm,20.2s,baz=336,slow=39							
ARTI	**Arti**	**76.16**	**328**	P	**P**	**03 02 23.8**	**-1.0**
ARTI				IAmb	IAmb	03 02 27.6	
comp=Z,13nm,1.3s							
M16K	**Timber Creek**	**80.04**	**28**	P	**P**	**03 02 45.2**	**-1.0**
E18K	**Tukpahlearik C**	**80.91**	**22**	P	**P**	**03 02 50.0**	**-0.7**
KDAK	**Kodiak Island**	**82.70**	**32**	LR	LR	03 34 23.6	
comp=Z,224nm,21.8s,baz=127,slow=32							
B21K	**Ikpikpuk River**	**83.55**	**20**	P	**P**	**03 03 03.6**	**-0.8**
B21K				IAmb	IAmb	03 03 20.8	
comp=Z,5.4nm,1.1s							
H21K	**Melozitna Rive**	**83.61**	**24**	P	**P**	**03 03 06.6**	**+1.8**
H21K				IAmb	IAmb	03 03 17.2	
comp=Z,9.0nm,1.2s							
CAST	**Castle Rocks**	**83.63**	**27**	P	**P**	**03 03 06.8**	**+1.8**
KARS	**Kars**	**83.75**	**310**	P	**P**	**03 03 06.0**	**-0.2**
KBZ	**Khabaz**	**84.00**	**314**	P	**P**	**03 03 07.7**	**+0.4**
comp=Z,1.7nm,0.9s,baz=109,slow=4.4,SNR=4.1							
comp=Z,1.7nm,0.9s							
SUA	**Susitna One**	**84.03**	**29**	P	**P**	**03 03 08.3**	**+1.1**
SUA				IAmb	IAmb	03 03 14.3	
comp=Z,7.3nm,1.0s							
B22K	**Teshekpuk Lake**	**84.07**	**20**	P	**P**	**03 03 08.2**	**+1.1**
B22K				IAmb	IAmb	03 03 43.4	
comp=Z,4.1nm,1.1s							
GURO	**Guroymak-BITLI**	**84.50**	**308**	P	**P**	**03 03 10.2**	**+0.1**
GURO				IAmb	IAmb	03 03 12.5	
comp=Z,7.0nm,0.9s							
KOPT	**Kop Dagi**	**85.71**	**310**	P	**P**	**03 03 16.0**	**-0.4**
ILAR	**Eielson Array**	**86.01**	**25**	P	**P**	**03 03 19.4**	**+2.4**
comp=Z,0.3nm,0.8s,baz=266,slow=6.1,SNR=2.0							
comp=Z,0.3nm,0.8s							
BRTR	**Keskin Array B**	**91.00**	**310**	LR	LR	03 49 50.0	
comp=Z,33nm,21.0s,baz=24,slow=39							
SYO	**Syowa Base**	**91.46**	**201⇑**	*eP*	**P**	**03 03 43.5**	**+0.9**
ARCES	**ARCESS Array B**	**91.64**	**340**	LR	LR	03 48 21.0	
comp=Z,53nm,20.2s,baz=61,slow=38							
SPITS	**Spitsbergen Ar**	**91.67**	**349**	LR	LR	03 50 27.5	
comp=Z,45nm,19.6s,baz=350,slow=39							
MLR	**Muntele Rosu**	**95.94**	**316**	LR	LR	03 54 47.6	
comp=Z,79nm,18.1s,baz=58,slow=40							
NOA	**NORSAR Array B**	**99.96**	**334**	LR	LR	03 53 22.7	
comp=Z,45nm,18.1s,baz=65,slow=38							
TORD	**Torodi Ar. Bea**	**123.57**	**288**	PKP	**PKiKP**	**03 09 35.6**	**+0.3**
comp=Z,0.5nm,0.7s,baz=37,slow=3.2,SNR=3.9							
PLCA	**Paso Flores**	**138.82**	**160**	PKP	**PKiKP**	**03 10 05.2**	**-0.2**
comp=Z,0.8nm,0.8s,baz=248,slow=18,SNR=1.0							

IDC 12 02:52:41.4±1.1,28°.95N×103°.94E,h0km,mb3.7/4, mbtmp3.6/5,ML2.9/1,MS3.6/3,Error ellipse: s-maj=83.2km s-min=20.5km az=60.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.96**	**5**	P	P	02 57 04.0	-0.2
baz=183,slow=11,SNR=1.4							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**24.56**	**322**	P	P	02 58 03.3	+0.4
0.6nm,0.5s,baz=124,slow=11,SNR=8.8							
0.6nm,0.5s							
PSI	**Prapat**	**26.44**	**191**	LR	LR	03 09 39.6	
comp=Z,58nm,18.3s,baz=98,slow=38							
KURBB	**Kurchatov Arra**	**28.90**	**326**	P	P	02 58 41.6	-0.3
0.3nm,0.3s,baz=133,slow=10.0,SNR=4.9							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**56.77**	**145**	P	P	03 02 27.2	-0.2
1.0nm,0.7s,baz=326,slow=7.1,SNR=18							
1.0nm,0.7s							
ASAR	**Alice Springs**	**59.73**	**148**	P	P	03 02 48.4	+0.2
0.4nm,0.4s,baz=332,slow=7.1,SNR=4.2							
0.4nm,0.4s							
LBTB	**Lobatse**	**92.40**	**243**	LR	LR	03 47 29.9	
comp=Z,29nm,19.2s,baz=139,slow=36							
BOSA	**Boshof**	**94.49**	**240**	LR	LR	03 48 26.1	
comp=Z,36nm,18.8s,baz=184,slow=35							

---

*IDC **12** 02:54:29.7±1.4,27°.54N×101°.89E,h0km,mb3.6/3, mbtmp3.7/4,ML4.2/1,Error ellipse: s-maj=69.6km s-min=24.6km az=63.0*
ISC 12 02:54:30.5±1.0,27°.63N±0°.09×102°.0E±0°.2,h10km,n6, σ1§74/6,mb3.7/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**8.57**	**10**	Pg	**Pg**	**02 57 13.3**	**-1.3**
LZH				Sg	Sg	02 58 47.8	-18
LZH				smax	smax		
comp=N,60nm,1.5s							
LZH				smax	smax		
comp=E,110nm,1.5s							
LZH				LR	LR		
comp=N,390nm,7.6s							
LZH				LR	LR		
comp=E,410nm,7.6s							
LZH				LR	LR		
comp=Z,190nm,8.9s							
CMAR	**Chiang Mai Arr**	**9.55**	**198**	Pn	**Pn**	**02 56 47.2**	**-0.9**
comp=Z,0.7nm,0.3s,baz=3.3,slow=14,SNR=2.1							
comp=Z,1.6nm,0.3s							
HHC	**Hu-ho-hao-te**	**15.37**	**28**	*eP*	**P**	**02 58 13.4**	**+1.2**
HHC				sP	sP	02 58 29.4	+12
HHC				pmax	pmax		
comp=Z,9.0nm,0.6s							
MKAR	**Makanchi Array**	**24.61**	**326**	P	**P**	**02 59 53.1**	**+2.2**
comp=Z,0.4nm,0.6s,baz=116,slow=11,SNR=3.9							
comp=Z,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**29.06**	**329**	P	**P**	**03 00 30.9**	**+0.1**
comp=Z,0.5nm,0.3s,baz=114,slow=8.2,SNR=1.7							
comp=Z,0.5nm,0.3s							
WRA	**Warramunga Arr**	**56.73**	**143**	P	**P**	**03 04 15.0**	**+0.4**
comp=Z,0.6nm,0.7s,baz=327,slow=7.2,SNR=10							
comp=Z,0.6nm,0.7s							

---

*IDC **12** 02:55:06.5±0.7,36°.12S×100°.75W,h0km,mb4.0/12, mbtmp4.0/12,MS4.0/19,Error ellipse: s-maj=23.8km s-min=19.4km az=70.0*
*NEIC **12** 02:55:10.9±1.4,35°.97S±0°.04×100°.4W±0°.2,h10km±1km, mb4.8/36,Error ellipse: s-maj=22.4km s-min=6.9km az=273.0*
*GCMT **12** 02:55:10.9±0.4,36°.12S±0°.02×100°.58W±0°.03,h17km±1km, MW4.8/93,Moment Tensor Solution. s17,c18; s93,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.68±.12; $M_{\theta\theta}$-0.39±.09; $M_{\phi\phi}$1.08±.10; $M_{r\theta}$0.65±.24; $M_{\theta\phi}$-2.08±.08; $M_{\phi r}$-0.69±.24; Best double couple: $M_0$2.34200×10^{16} NP1:φs191.00000°,δ74.00000°,λ6.00000°. NP2: φs100.00000°,δ85.00000°,λ164.00000°. Principal axes: T 2.8040, Plg15.0000°, Azm54.0000°; N -0.9180, Plg73.0000°, Azm262.0000°; P -1.8810, Plg7.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 02:55:09.6±0.5,36°.12S±0°.10×100°.56W±0°.10,h16km, n103,σ1§06/78,mb4.6/28,MS4.0/18,1C-1D,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.67**	**318**	LR	LR	03 01 05.1	
comp=Z,1μm,19.5s,baz=124,slow=31							
H03S2	**Juan Fernandez**	**17.87**	**89**	T	T	03 17 47.8	
baz=253							
H03S1	**Juan Fernandez**	**17.89**	**89**	T	T	03 17 57.9	
baz=253							
H03S3	**Juan Fernandez**	**17.89**	**89**	T	T	03 17 47.3	
baz=253,slow=74							
H03N2	**Juan Fernandez**	**17.96**	**88**	T	T	03 17 57.4	
baz=247,slow=72,SNR=17							
H03N3	**Juan Fernandez**	**17.96**	**88**	T	T	03 17 55.5	
baz=247,slow=72,SNR=23							
H03N1	**Juan Fernandez**	**17.98**	**88**	T	T	03 17 58.1	
baz=247,slow=72,SNR=18							
AY01	**Puyuhuapi**	**22.77**	**120**	P	**P**	**03 00 11.2**	**0.0**
AY01				IAmb	IAmb	03 00 11.4	
comp=Z,46nm,1.9s							
LL02	**Futaleuf**	**23.13**	**117**	P	**P**	**03 00 15.9**	**+1.0**
COYC	**Coyhaique**	**23.41**	**123**	P	**P**	**03 00 19.3**	**+1.5**
COYC				IAmb	IAmb	03 00 20.8	
comp=Z,26nm,1.3s							
BI02	**San Fabin de**	**23.54**	**100**	P	**P**	**03 00 20.1**	**+0.9**
PLCA	**Paso Flores**	**23.89**	**110**	P	**P**	**03 00 23.5**	**+0.9**
PLCA	**Paso Flores**	**23.89**	**110**	P	**P**	**03 00 23.6**	**+0.9**
comp=Z,6.7nm,0.8s,baz=281,slow=8.4,SNR=14							
PLCA				LR	LR	03 06 56.0	
comp=Z,205nm,19.2s,baz=272,slow=30							
comp=Z,6.7nm,0.8s							
PLCA	**Paso Flores**	**23.89**	**110**	*eP*	**P**	**03 00 24.3**	**+1.7**
BO01	**Tunca**	**24.09**	**95**	P	**P**	**03 00 24.6**	**+0.2**
BO02	**Sierra Bellavi**	**24.25**	**96**	P	**P**	**03 00 26.0**	**0.0**
BO02				IAmb	IAmb	03 00 27.8	
comp=Z,53nm,1.6s							
MT09	**Talagante**	**24.31**	**93**	P	**P**	**03 00 26.8**	**+0.1**
MT09				IAmb	IAmb	03 00 28.9	
comp=Z,41nm,1.4s							
BO04	**La Punta**	**24.57**	**94**	P	**P**	**03 00 27.6**	**-1.3**
BO04				IAmb	IAmb	03 00 31.8	
comp=Z,26nm,1.1s							
MT05	**Renca**	**24.61**	**92**	P	**P**	**03 00 28.9**	**-0.4**
PEL	**Peldehue**	**24.71**	**92**	P	**P**	**03 00 31.1**	**+0.9**
MT03	**Universidad Ad**	**24.77**	**93**	P	**P**	**03 00 30.9**	**+0.2**
MT03				IAmb	IAmb	03 00 37.2	
comp=Z,42nm,1.1s							
MT16	**CCHEN**	**24.77**	**93**	P	**P**	**03 00 32.1**	**+1.3**
MT13	**San Alfonso**	**24.88**	**93**	P	**P**	**03 00 32.1**	**+0.3**
MT13				IAmb	IAmb	03 00 40.3	
comp=Z,29nm,1.2s							
VA03	**San Esteban**	**24.93**	**91**	P	**P**	**03 00 32.5**	**+0.3**
LMEL	**Las Melosas**	**24.93**	**94**	P	**P**	**03 00 32.2**	**0.0**
LMEL				IAmb	IAmb	03 00 35.5	
comp=Z,30nm,0.9s							
MT08	**Bocatoma Ro**	**25.18**	**93**	P	**P**	**03 00 33.5**	**-1.0**
MT08				IAmb	IAmb	03 00 38.2	
comp=Z,26nm,0.9s							
LCO	**Las Campanas**	**26.07**	**83**	P	**P**	**03 00 42.0**	**-0.8**
CO01	**Juntas del Tor**	**26.19**	**85**	P	**P**	**03 00 44.9**	**+1.0**
CO01				IAmb	IAmb	03 01 19.4	
comp=Z,48nm,1.9s							
AC02	**Maricunga**	**28.26**	**80**	P	**P**	**03 01 03.1**	**+0.4**
AC02				IAmb	IAmb	03 01 10.6	
comp=Z,11nm,1.1s							
USHA	**Ushuaia**	**28.90**	**140**	LR	LR	03 09 57.6	
comp=Z,588nm,18.8s,baz=300,slow=31							
NNA	**Nana**	**32.17**	**48**	LR	LR	03 11 10.4	
comp=Z,324nm,21.6s,baz=231,slow=30							
LPAZ	**La Paz**	**34.92**	**64**	P	**P**	**03 02 00.5**	**-1.0**
LPAZ				IAmb	IAmb	03 02 05.5	
comp=Z,9.4nm,1.2s							
LPAZ	**La Paz**	**34.92**	**64**	P	**P**	**03 02 02.0**	**+0.5**
comp=Z,5.5nm,1.1s,baz=212,slow=9.2,SNR=8.7							
LPAZ				LR	LR	03 12 50.5	
comp=Z,146nm,19.9s,baz=227,slow=30				

comp=Z,49nm,19.8s,baz=196,slow=31
BOAV Boa Vista 53.49 53 *e*P **P 03 04 30.4 +1.0**
QSPA South Pole Qui 54.09 180 P **P 03 04 32.7 -0.7**
comp=Z,2.5nm,0.7s,baz=96,slow=1.2,SNR=4.0
comp=Z,2.5nm,0.7s
JANB Januaria 54.12 82 *e*P **P 03 04 34.6 +0.5**
SJMB Sao Joao De Ma 54.69 88 *e*P **P 03 04 39.9 +1.7**
SDBA SAO DESIDERIO 55.14 79 *e*P **P 03 04 41.9 +0.4**
JRQG Juriquilla Cam 56.52 0 P **P 03 04 51.9 +0.5**
JRQG IAmb IAmb 03 05 40.8
comp=Z,4.9nm,0.4s
VNDA Vanda 56.66 195 P **P 03 04 49.9 -1.6**
comp=Z,2.5nm,0.8s,baz=39,slow=3.0,SNR=1.3
comp=Z,2.5nm,0.8s
PCRV Puerto La Cruz 57.15 43 LR LR 03 27 55.3
comp=Z,439nm,18.0s,slow=34
SNAA Sanae 58.51 158 P **P 03 05 04.9 +0.2**
comp=Z,2.9nm,1.0s,baz=284,slow=5.8,SNR=3.0
comp=Z,2.9nm,1.0s
MDP Montagnes des 60.75 58 LR LR 03 29 08.3
comp=Z,198nm,19.1s,baz=237,slow=34
NBLA Lagarto - SE 61.64 83 *e*P **P 03 05 26.9 -0.1**
SJG San Juan 63.00 37 LR LR 03 31 00.6
comp=Z,66nm,19.2s,baz=232,slow=34
TXAR Lajitas Array 65.18 357 P **P 03 05 48.5 -1.5**
comp=Z,0.2nm,0.5s,baz=187,slow=8.3,SNR=3.7
comp=Z,0.2nm,0.5s
NBCL Cascavel-CE 65.25 76 *e*P **P 03 05 50.8 0.0**
RCBR Riachuelo 66.17 79 LR LR 03 34 00.8
comp=Z,40nm,18.0s,baz=254,slow=35
AFI Afiamalu 66.84 269 P **P 03 06 03.6 +2.5**
MNHN Monahans 67.14 358 P **P 03 06 04.7 +2.1**
MNHN IAmb IAmb 03 06 11.6
comp=Z,4.8nm,0.7s
X18A Snowflake 70.84 352 P **P 03 06 27.8 +2.1**
X18A IAmb IAmb 03 06 35.9
comp=Z,7.2nm,1.1s
SYO Syowa Base 71.12 166▯ *e*P **P 03 06 27.7 +0.9**
SYO Syowa Base 71.12 166▯ *e*pP pP 03 06 31.0 +0.3
KAN12 Harper NE Stat 73.09 2 P **P 03 06 39.7 +0.9**
TKL Tuckaleechee C 73.11 14 LR LR 03 36 09.8
comp=Z,74nm,19.1s,baz=278,slow=34
NVAR Mina Array Bea 75.98 346 P **P 03 06 55.0 -0.9**
comp=Z,0.9nm,0.9s,baz=181,slow=7.1,SNR=5.2
comp=Z,0.9nm,0.9s
PD31 Pinedale Array 78.94 353 P **P 03 07 13.7 +1.2**
PDAR Pinedale Array 78.94 353 P **P 03 07 12.3 -0.1**
comp=Z,0.8nm,0.7s,baz=155,slow=6.5,SNR=8.4
comp=Z,0.8nm,0.7s
HLID Hailey 80.31 350 P **P 03 07 21.9 +2.2**
ULM Lac du Bonnet 86.10 3 P **P 03 07 47.9 -1.4**
comp=Z,1.0nm,0.6s,baz=190,slow=6.1,SNR=2.2
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 98.93 353 P **P 03 08 48.1 -0.3**
comp=Z,0.1nm,0.4s,baz=170,slow=5.6,SNR=1.7
comp=Z,0.1nm,0.4s
H01W1 Cape Leeuwin H 102.29 209 T T 05 03 49.4
baz=150
H01W2 Cape Leeuwin H 102.29 209 T T 05 04 01.7
baz=150
H01W3 Cape Leeuwin H 102.30 209 T T 05 04 02.8
baz=150
OBN Obninsk 145.22 43 PKPbc **PKPbc 03 14 44.1 -1.3**
comp=Z,9.6nm,0.4s,baz=144,slow=21,SNR=3.6
NRIK Noril'sk 146.43 355 PKPbc **PKPdf 03 14 48.0 +0.6**
comp=Z,0.8nm,0.3s,baz=65,slow=9.4,SNR=3.7
KIRV Kirov 150.13 32 PKPbc **PKiKP 03 14 59.5 -0.2**
comp=Z,5.7nm,0.7s,baz=280,slow=3.3,SNR=3.5
KVAR Kislovodsk Arr 150.99 63 PKPbc **PKPbc 03 15 01.7 +0.2**
comp=Z,1.3nm,0.6s,baz=282,slow=19,SNR=1.9
KBZ Khabaz 151.14 63 PKPbc **PKPbc 03 15 01.4 -0.4**
comp=Z,3.3nm,0.8s,baz=358,slow=2.7,SNR=9.7
CMAR Chiang Mai Arr 155.38 230 PKPab **PKPab 03 15 26.2 -1.9**
comp=Z,0.7nm,0.3s,baz=124,slow=4.4,SNR=1.6
SONM Songino Array 156.92 309 PKPab **PKPab 03 15 33.7 -0.5**
comp=Z,0.2nm,0.4s,baz=90,slow=4.3,SNR=1.7
MKAR Makanchi Array 169.13 350 PKPab **PKPab 03 16 25.3 -2.1**
comp=Z,0.1nm,0.4s,baz=37,slow=3.6,SNR=1.6

IDC 12 02:55:19.2±1.6, 28°.10N×102°.45E, h0^{km}, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=495.3km s-min=30.6km az=56.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**11.49**	**350**	*e*P	Pn	02 57 58.1	-6.6
GTA				pmax	pmax		
comp=Z,2.0nm,1.1s							
KSH	**Kashi**	**24.68**	**304**	P	P	03 00 41.4	-0.6
KSH				pmax	pmax		
comp=Z,3.0nm,0.8s							
WRA	**Warramunga Arr**	**56.85**	**144**	P	P	03 05 05.0	-0.8
comp=Z,1.9nm,0.8s,baz=328,slow=9.1,SNR=16							
comp=Z,1.9nm,0.8s							
FINES	**FINESS Array B**	**59.27**	**327**	P	P	03 05 22.1	-0.2
comp=Z,3.3nm,0.9s,baz=77,slow=5.8,SNR=3.3							
comp=Z,3.3nm,0.9s							
ASAR	**Alice Springs**	**59.74**	**146**	P	P	03 05 27.0	+0.9
comp=Z,1.1nm,0.8s,baz=334,slow=8.1,SNR=7.0							
comp=Z,1.1nm,0.8s							

IDC 12 03:03:26.4±3.2, 4°.34S×132°.93E, h0^{km}, mb3.1/1, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=138.7km s-min=32.0km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.42**	**207**	Pn	Pn	03 07 05.6	+0.1
0.1nm,0.3s,baz=21,slow=12,SNR=2.2							
2.9nm,0.9s							
WRA	**Warramunga Arr**	**15.57**	**175**	Pn	Pn	03 07 06.4	-1.0
0.1nm,0.3s,baz=356,slow=12,SNR=5.0							
0.5nm,0.8s							
ASAR	**Alice Springs**	**19.24**	**177**	P	Pn	03 07 52.9	-0.4
0.1nm,0.3s,baz=352,slow=11,SNR=2.8							
0.6nm,0.9s							
MKAR	**Makanchi Array**	**67.67**	**325**	P	P	03 14 25.5	0.0
0.1nm,0.5s,baz=120,slow=7.1,SNR=1.6							
0.1nm,0.5s							

---

*NEIC **12** 03:18:42.9±1.2, 61°.36N±0°.02×150°.00W±0°.05, h44^{km}±3^{km}, Error ellipse: s-maj=3.7km s-min=3.3km az=103.0*
*AEIC **12** 03:18:43.4±0.8, 61°.34N±0°.03×149°.98W±0°.06, h42^{km}±4^{km}, ML3.0, ML3.3/112(NEIC), Error ellipse: s-maj=4.0km s-min=3.6km az=119.0*
*IDC **12** 03:18:43.2±1.2, 61°.13N×149°.94W, h85^{km}±24^{km}, mb2.9/1, mbtmp3.1/5, Error ellipse: s-maj=39.7km s-min=9.6km az=114.0*

ISC 12 03:18:42.6±0.9, 61°.33N±0°.02×149°.98W±0°.02, h46^{km}±6^{km}, n167, σ0°.91/163, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.22**	**212**		**Pn**	**03 18 51.4**	**+0.8**
FIS	**Fire Island**	**0.22**	**212**	IAML		03 18 59.2	
comp=N,4μm,0.7s							
FIS				IAML		03 18 59.4	
comp=E,3μm,0.8s							
RC01	**Rabbit Creek A**	**0.27**	**154**		**Pn**	**03 18 50.9**	**-0.2**
RC01					**Sn**	**03 18 57.4**	**+0.4**
RC01				IAML		03 18 58.2	
comp=E,2μm,0.6s							
RC01				IAML		03 18 58.7	
comp=N,2μm,0.3s							
RC01	**Rabbit Creek A**	**0.27**	**154**	P	**Pn**	**03 18 50.9**	**-0.2**
baz=335							
RC01				S	**Sn**	**03 18 57.4**	**+0.4**
baz=335							
SUA	**Susitna One**	**0.39**	**290**		**Pn**	**03 18 52.0**	**-0.5**
SUA					**Sn**	**03 18 59.1**	**-0.4**
SUA				IAML		03 19 00.0	
comp=N,2μm,0.6s							
SUA	**Susitna One**	**0.39**	**290**	P	**Pn**	**03 18 52.1**	**-0.5**
baz=109							
SUA				S	**Sn**	**03 18 59.3**	**-0.1**
baz=109							
M22K	**Willow**	**0.43**	**351**		**Pn**	**03 18 51.8**	**-1.0**
M22K					**Sn**	**03 18 59.6**	**-0.4**
M22K	**Willow**	**0.43**	**351**	IAML		03 18 59.8	
comp=N,2μm,0.7s							
M22K				IAML		03 19 00.7	
comp=E,2μm,0.4s							
M22K	**Willow**	**0.43**	**351**	P	**Pn**	**03 18 51.8**	**-1.0**
baz=171							
M22K				S	**Sn**	**03 18 59.6**	**-0.4**
baz=171							
PMR	**Palmer**	**0.49**	**57**		**Pn**	**03 18 52.9**	**-0.5**
PMR					**Sn**	**03 19 00.9**	**-0.2**
PMR	**Palmer**	**0.49**	**57**	IAML		03 19 01.5	
comp=N,2μm,0.5s							
PMR				IAML		03 19 01.8	
comp=E,2μm,0.4s							
PMR	**Palmer**	**0.49**	**57**	P	**Pn**	**03 18 52.9**	**-0.5**
baz=238							
PMR				S	**Sn**	**03 19 00.9**	**-0.2**
baz=238							
GHO	**Glory Hole Cre**	**0.67**	**48**		**Pn**	**03 18 55.6**	**-0.4**
GHO				IAML		03 19 07.2	
comp=E,2μm,0.3s							
GHO				IAML		03 19 07.3	
comp=N,1μm,0.4s							
GHO	**Glory Hole Cre**	**0.67**	**48**		**Sn**	**03 19 05.6**	**+0.1**
KNK	**Knik Glacier**	**0.74**	**83**		**Pn**	**03 18 56.8**	**0.0**
KNK				IAML		03 19 10.8	
comp=N,1μm,0.5s							
KNK				IAML		03 19 11.8	
comp=E,1μm,0.5s							
KNK	**Knik Glacier**	**0.74**	**83**	P	**Pn**	**03 18 56.7**	**0.0**
baz=265							
CAPN	**Captain Cook N**	**0.80**	**226**		**Pn**	**03 18 59.0**	**+1.4**
CAPN	**Captain Cook N**	**0.80**	**226**	P	**Pn**	**03 18 58.9**	**+1.4**
baz=44							
SLKM	**Skilak Lake**	**0.83**	**188**		**Pn**	**03 18 58.0**	**0.0**
SLKM				IAML		03 19 11.9	
comp=N,764nm,0.3s							
O22K	**Cooper Landing**	**0.86**	**171**		**Pn**	**03 18 58.3**	**0.0**
O22K	**Cooper Landing**	**0.86**	**171**		**Sn**	**03 19 11.0**	**+1.3**
O22K	**Cooper Landing**	**0.86**	**171**	IAML		03 19 13.8	
comp=E,2μm,0.7s							
O22K				IAML		03 19 14.6	
comp=N,2μm,0.7s							
O22K	**Cooper Landing**	**0.86**	**171**	P	**Pn**	**03 18 58.4**	**0.0**
baz=352							
O22K				S	**Sn**	**03 19 11.0**	**+1.3**
baz=352							
STLK	**Strandline Lak**	**0.91**	**282**		**Pn**	**03 18 59.2**	**+0.1**
STLK				IAML		03 19 12.1	
comp=E,885nm,0.6s							
STLK				IAML		03 19 12.1	
comp=N,1μm,0.4s							
STLK	**Strandline Lak**	**0.91**	**282**		**Sn**	**03 19 11.1**	**+0.1**
SML	**Sawmill**	**0.92**	**58**		**Pn**	**03 18 59.1**	**-0.2**
SML				IAML		03 19 14.5	
comp=N,726nm,0.6s							
SML				IAML		03 19 14.7	
comp=E,687nm,0.9s							
SML	**Sawmill**	**0.92**	**58**	P	**Pn**	**03 18 59.1**	**-0.2**
baz=240							
PWL	**Port Wells**	**0.93**	**120**		**Pn**	**03 18 59.5**	**+0.2**
PWL	**Port Wells**	**0.93**	**120**	P	**Pn**	**03 18 59.5**	**+0.2**
baz=302							
SPCG	**Spurr Capps Gl**	**0.98**	**269**		**Pn**	**03 19 00.2**	**0.0**
SKT	**Skwentna**	**0.99**	**312**		**Pn**	**03 18 59.7**	**-0.4**
SKT					**Sn**	**03 19 12.8**	**-0.1**
SKT	**Skwentna**	**0.99**	**312**	P	**Pn**	**03 18 59.7**	**-0.4**
baz=130							
SKT				S	**Sn**	**03 19 12.8**	**-0.1**
baz=130							
SPU	**Mount Spurr**	**1.01**	**262**		**Pn**	**03 19 00.1**	**-0.3**
SPU				IAML		03 19 21.0	
comp=E,471nm,0.4s							
SPCN	**Chakachatna No**	**1.07**	**265**		**Pn**	**03 19 01.4**	**+0.2**
CUT	**Chulitna**	**1.09**	**353**		**Pn**	**03 19 01.2**	**-0.2**
CUT	**Chulitna**	**1.09**	**353**	P	**Pn**	**03 19 01.3**	**-0.1**
baz=173							
CKL	**Chakachamna La**	**1.15**	**264**		**Pn**	**03 19 02.3**	**0.0**
SPBG	**Spurr Blockage**	**1.16**	**268**		**Pn**	**03 19 02.6**	**+0.1**
M23K	**Glacier View**	**1.18**	**66**		**Pn**	**03 19 03.0**	**+0.4**
M23K	**Glacier View**	**1.18**	**66**	P	**Pn**	**03 19 03.0**	**+0.4**
baz=248							
SEW	**Seward**	**1.26**	**168**		**Pn**	**03 19 03.4**	**-0.3**
SEW	**Seward**	**1.26**	**168**	P	**Pn**	**03 19 03.4**	**-0.3**
baz=348							
SPNN	**North Nagishla**	**1.31**	**273**		**Pn**	**03 19 05.0**	**+0.4**
SCM	**Sheep Creek Mo**	**1.37**	**67**		**Pn**	**03 19 05.6**	**+0.3**
SCM				IAML		03 19 26.4	
comp=N,708nm,0.6s							
SCM	**Sheep Creek Mo**	**1.37**	**67**	P	**Pn**	**03 19 05.9**	**+0.6**
baz=250							
RDT	**Redoubt**	**1.41**	**238**		**Pn**	**03 19 05.9**	**+0.1**
GLI	**Glacier Island**	**1.47**	**107**		**Pn**	**03 19 06.9**	**+0.2**
GLI				IAML		03 19 29.9	
comp=E,442nm,0.6s							
GLI				IAML		03 19 31.3	
comp=N,432nm,0.4s							
GLI	**Glacier Island**	**1.47**	**107**	P	**Pn**	**03 19 06.9**	**+0.2**
baz=290							
RDJH	**Redoubt Jeurge**	**1.56**	**243**		**Pn**	**03 19 08.2**	**+0.2**
M20K	**Styx River**	**1.60**	**292**		**Pn**	**03 19 08.3**	**-0.2**
M20K				IAML		03 19 32.1	
comp=N,387nm,0.9s							
M20K				IAML		03 19 32.7	
comp=E,271nm,0.8s							
M20K	**Styx River**	**1.60**	**292**	P	**Pn**	**03 19 09.0**	**+0.5**
baz=109							
RDWB	**Redoubt West**	**1.63**	**240**		**Pn**	**03 19 09.3**	**+0.3**
BRLK	**Bradley Lake**	**1.63**	**196**		**Pn**	**03 19 09.3**	**+0.4**
BRLK	**Bradley Lake**	**1.63**	**196**	IAML		03 19 33.8	
comp=E,195nm,0.4s							
BRLK				IAML		03 19 36.7	
comp=N,199nm,0.1s							
BRSE	**Bradley Lake S**	**1.64**	**194**		**Pn**	**03 19 09.1**	**+0.1**
BRSE	**Bradley Lake S**	**1.64**	**194**	P	**Pn**	**03 19 09.1**	**+0.1**
baz=13							
FID	**Port Fidalgo**	**1.80**	**107**		**Pn**	**03 19 10.8**	**-0.4**
FID	**Port Fidalgo**	**1.80**	**107**	IAML		03 19 35.6	
comp=N,307nm,0.6s							
FID				IAML		03 19 35.7	
comp=E,297nm,0.7s							
O20K	**Slope Mountain**	**1.80**	**227**		**Pn**	**03 19 12.5**	**+1.2**
O20K	**Slope Mountain**	**1.80**	**227**	P	**Pn**	**03 19 12.5**	**+1.2**
baz=45							
P23K	**Montague Islan**	**1.84**	**135**		**Pn**	**03 19 11.4**	**-0.3**
P23K	**Montague Islan**	**1.84**	**135**	P	**Pn**	**03 19 11.4**	**-0.3**
baz=318							
PPLA	**Purkeypile**	**1.88**	**328**	Pn	**Pn**	**03 19 12.9**	**+0.4**
PPLA	**Purkeypile**	**1.88**	**328**	P	**Pn**	**03 19 13.0**	**+0.6**
baz=145							
CNPM	**China Poot**	**1.91**	**200**	Pn	**Pn**	**03 19 13.1**	**+0.3**
CNPM				IAML		03 19 41.3	
comp=N,234nm,0.4s							
HIN	**Hinchinbrook I**	**1.94**	**117**		**Pn**	**03 19 13.0**	**-0.1**
HIN	**Hinchinbrook I**	**1.94**	**117**	IAML		03 19 44.7	
comp=E,337nm,0.9s							
KLU	**Klutina**	**1.96**	**83**		**Pn**	**03 19 13.6**	**+0.1**
KLU				IAML		03 19 45.6	
comp=E,172nm,0.5s							
KLU				IAML		03 19 46.3	
comp=N,262nm,0.6s							
KLU	**Klutina**	**1.96**	**83**	P	**Pn**	**03 19 13.8**	**+0.4**
baz=267							
M24K	**Tolsona, Glenn**	**1.97**	**65**		**Pn**	**03 19 14.8**	**+1.2**
M24K	**Tolsona, Glenn**	**1.97**	**65**	P	**Pn**	**03 19 14.8**	**+1.2**
baz=249							
DIV	**Divide**	**2.05**	**94**		**Pn**	**03 19 14.8**	**+0.2**
ILS	**Iliamna Low So**	**2.05**	**229**		**Pn**	**03 19 15.5**	**+0.8**
ILSW	**Iliamna Southw**	**2.06**	**230**		**Pn**	**03 19 15.7**	**+0.9**
ILSW	**Iliamna Southw**	**2.06**	**230**	IAML		03 19 45.6	
comp=E,162nm,0.7s							
TRF	**Thorofare Moun**	**2.13**	**356**		**Pn**	**03 19 16.3**	**+0.4**
TRF	**Thorofare Moun**	**2.13**	**356**	IAML		03 19 56.1	
comp=N,159nm,0.7s							
TRF	**Thorofare Moun**	**2.13**	**356**	P	**Pn**	**03 19 16.3**	**+0.4**
baz=176							
RND	**Reindeer**	**2.15**	**14**		**Pn**	**03 19 16.5**	**+0.4**
L20K	**Farewell, AK**	**2.18**	**304**		**Pn**	**03 19 16.9**	**+0.6**
L20K	**Farewell, AK**	**2.18**	**304**	P	**Pn**	**03 19 16.9**	**+0.6**
baz=120							
EYAK	**Cordova Ski Ar**	**2.21**	**109**		**Pn**	**03 19 16.7**	**0.0**
EYAK	**Cordova Ski Ar**	**2.21**	**109**	P	**Pn**	**03 19 16.7**	**0.0**
baz=293							
N19K	**Bonanza Creek**	**2.25**	**259**		**Pn**	**03 19 18.0**	**+0.7**
N19K	**Bonanza Creek**	**2.25**	**259**	P	**Pn**	**03 19 18.0**	**+0.7**
baz=74							
KTH	**Kantishna Hill**	**2.27**	**349**		**Pn**	**03 19 18.4**	**+0.7**
KTH	**Kantishna Hill**	**2.27**	**349**	IAML		03 20 08.8	
comp=E,124nm,0.7s							
KTH				IAML		03 20 12.7	
comp=N,112nm,0.9s							
CAST	**Castle Rocks**	**2.31**	**336**		**Pn**	**03 19 18.6**	**+0.4**
CAST	**Castle Rocks**	**2.31**	**336**	IAML		03 20 02.7	
comp=E,102nm,1.1s							
CAST	**Castle Rocks**	**2.31**	**336**	P	**Pn**	**03 19 18.6**	**+0.4**
baz=154							
O19K	**Port Alsworth**	**2.41**	**244**	Pn	**Pn**	**03 19 19.9**	**+0.4**
MCK	**McKinley**	**2.46**	**11**	Pn	**Pn**	**03 19 20.9**	**+0.6**
HARP	**HAARP**	**2.53**	**63**		**Pn**	**03 19 22.3**	**+1.2**
HARP	**HAARP**	**2.53**	**63**	P	**Pn**	**03 19 22.3**	**+1.2**
baz=247							
N25K	**Chitina, Valde**	**2.60**	**82**		**Pn**	**03 19 22.2**	**0.0**
N25K	**Chitina, Valde**	**2.60**	**82**	IAML		03 20 03.8	
comp=N,95nm,0.6s							
N25K				IAML		03 20 07.9	
comp=E,78nm,0.5s							
N25K	**Chitina, Valde**	**2.60**	**82**	P	**Pn**	**03 19 22.2**	**0.0**
baz=266							
BMRM	**Bremner River**	**2.63**	**96**		**Pn**	**03 19 22.3**	**-0.3**
BMRM	**Bremner River**	**2.63**	**96**	P	**Pn**	**03 19 22.3**	**-0.3**
baz=280							
GOAT	**Goat Mountain**	**2.67**	**104**		**Pn**	**03 19 23.0**	**-0.1**
PAX	**Paxson**	**2.68**	**50**		**Pn**	**03 19 24.4**	**+1.1**
PAX	**Paxson**	**2.68**	**50**	P	**Pn**	**03 19 24.4**	**+1.1**
baz=234							
CHUM	**Lake Minchumin**	**2.78**	**338**		**Pn**	**03 19 25.0**	**+0.4**
CHUM	**Lake Minchumin**	**2.78**	**338**	P	**Pn**	**03 19 25.0**	**+0.4**
baz=156							
K20K	**Telida**	**2.79**	**319**	P	**Pn**	**03 19 25.0**	**+0.3**
baz=135							
M18K	**Stony River**	**2.81**	**276**		**Pn**	**03 19 25.6**	**+0.5**
M18K	**Stony River**	**2.81**	**276**	P	**Pn**	**03 19 25.6**	**+0.5**
baz=91							
BPAW	**Bear Paw Mtn.**	**2.82**	**351**		**Pn**	**03 19 25.1**	**0.0**
BPAW	**Bear Paw Mtn.**	**2.82**	**351**	P	**Pn**	**03 19 25.1**	**0.0**
baz=170							
N18K	**Kilae Creek**	**2.95**	**260**		**Pn**	**03 19 27.1**	**+0.2**
N18K	**Kilae Creek**	**2.95**	**260**	P	**Pn**	**03 19 27.1**	**+0.2**
baz=74							
GLB	**Gilahina Butte**	**2.97**	**85**		**Pn**	**03 19 26.9**	**-0.3**
GLB	**Gilahina Butte**	**2.97**	**85**	IAML		03 20 15.3	
comp=E,60nm,0.5s							
GLB				IAML		03 20 21.9	
comp=N,92nm,0.8s							
O18K	**Koktuh Hills**	**2.97**	**242**		**Pn**	**03 19 27.1**	**-0.1**
O18K	**Koktuh Hills**	**2.97**	**242**	IAML		03 20 19.5	
comp=N,56nm,1.1s							
O18K	**Koktuh Hills**	**2.97**	**242**	P	**Pn**	**03 19 27.1**	**-0.1**
baz=58							
HMT	**Hamilton**	**2.97**	**107**		**Pn**	**03 19 26.8**	**-0.5**
SYI	**Shuyak Island**	**2.98**	**205**		**Pn**	**03 19 27.8**	**+0.4**
Q20K	**Shuyak Island**	**2.99**	**205**	P	**Pn**	**03 19 27.8**	**+0.4**
baz=23							
Q19K	**Cape Douglas,**	**3.03**	**219**		**Pn**	**03 19 28.8**	**+0.8**
Q19K	**Cape Douglas,**	**3.03**	**219**	P	**Pn**	**03 19 28.8**	**+0.8**
baz=36							
VRDI	**Verde Repeater**	**3.15**	**89**	Pn	**Pn**	**03 19 29.8**	**-0.1**
VRDI				IAML		03 20 24.2	
comp=N,53nm,1.1s							
BERG	**Berg Lake**	**3.21**	**104**		**Pn**	**03 19 29.9**	**-0.6**
TTA	**Tatalina**	**3.25**	**302**	Pn	**Pn**	**03 19 31.3**	**+0.1**
TTA	**Tatalina**	**3.25**	**302**	P	**Pn**	**03 19 31.3**	**+0.1**
baz=117							
WRH	**Wood River Hil**	**3.27**	**15**	Pn	**Pn**	**03 19 31.7**	**+0.4**
L18K	**Granite Mounta**	**3.31**	**289**		**Pn**	**03 19 32.2**	**+0.4**
L18K	**Granite Mounta**	**3.31**	**289**	P	**Pn**	**03 19 32.2**	**+0.4**
baz=103							
RIDG	**Independent Ri**	**3.39**	**42**	Pn	**Pn**	**03 19 33.6**	**+0.5**
J20K	**Nowinta River**	**3.44**	**328**	Pn	**Pn**	**03 19 34.2**	**+0.6**
J20K				IAML		03 20 15.2	
comp=E,61nm,0.4s							
J20K				IAML		03 20 15.2	
comp=N,67nm,0.6s							
J20K	**Nowinta River**	**3.44**	**328**	P	**Pn**	**03 19 34.2**	**+0.6**
baz=144							
CCB	**Clear Creek Bu**	**3.48**	**16**	Pn	**Pn**	**03 19 34.8**	**+0.7**
CCB				IAML		03 20 32.7	
comp=E,37nm,0.9s							
M17K	**Holitna River**	**3.59**	**274**		**Pn**	**03 19 36.1**	**+0.4**
M17K	**Holitna River**	**3.59**	**274**	IAML		03 20 36.3	
comp=E,71nm,0.8s							
M17K				IAML		03 20 37.0	
comp=N,77nm,0.8s							
M17K	**Holitna River**	**3.59**	**274**	P	**Pn**	**03 19 36.1**	**+0.4**
baz=88							
N17K	**Nushagak Hills**	**3.61**	**260**		**Pn**	**03 19 36.1**	**+0.2**
N17K	**Nushagak Hills**	**3.61**	**260**	IAML		03 20 18.4	
comp=E,57nm,0.8s							
N17K				IAML		03 20 54.6	
comp=N,44nm,0.9s							
N17K	**Nushagak Hills**	**3.61**	**260**	P	**Pn**	**03 19 36.1**	**+0.2**
baz=74							
BALM	**Baldy**	**3.71**	**91**		**Pn**	**03 19 37.5**	**0.0**
KIAG	**Kiagna River**	**3.72**	**93**		**Pn**	**03 19 37.4**	**-0.2**
ILAR	**Eielson Array**	**3.73**	**21**	Pn	**Pn**	**03 19 39.5**	**+1.9**
ILAR	**Eielson Array**	**3.73**	**21**	P	**Pn**	**03 19 40.8**	**+3.2**
comp=N,2.2nm,0.4s,baz=199,slow=13,SNR=32							
ILAR				S	**Sn**	**03 20 26.2**	**+5.9**
comp=N,3.6nm,0.5s,baz=204,slow=24,SNR=5.7							
BARK	**Barkley Ridge**	**3.78**	**101**		**Pn**	**03 19 38.3**	**-0.1**
KDAK	**Kodiak Island**	**3.80**	**202**	IAML		03 20 39.4	
comp=N,33nm,1.0s							
KDAK				IAML		03 20 44.0	
comp=N,31nm,0.8s							
KDAK	**Kodiak Island**	**3.80**	**202**	P	**Pn**	**03 19 37.5**	**-1.0**
comp=N,7.7nm,1.1s,baz=18,slow=9.6,SNR=12							
KDAK				S	**Sn**	**03 20 18.8**	**-3.1**
comp=N,11nm,0.5s,baz=199,slow=7.2,SNR=4.1							
SCRK	**Sand Creek**	**3.83**	**44**	Pn	**Pn**	**03 19 40.0**	**+0.8**
SCRK				IAML		03 20 41.5	
comp=E,50nm,0.6s							
SCRK				IAML		03 20 46.5	
comp=N,34nm,0.8s							
I23K	**Minto, Yukon-K**	**3.84**	**4**	P	**Pn**	**03 19 40.1**	**+1.0**
baz=184							
POKR	**Poker Plat Res**	**3.97**	**16**	P	**Pn**	**03 19 40.4**	**-0.6**
baz=198							
L17K	**Donlin**	**4.04**	**285**		**Pn**	**03 19 42.3**	**+0.4**
L17K	**Donlin**	**4.04**	**285**	P	**Pn**	**03 19 42.3**	**+0.4**
baz=98							
K17K	**Iditarod**	**4.16**	**293**		**Pn**	**03 19 43.8**	**+0.3**
K17K	**Iditarod**	**4.16**	**293**	IAML		03 20 55.0	
comp=E,38nm,0.9s							
K17K				IAML		03 21 05.9	
comp=N,34nm,1.0s							
K17K	**Iditarod**	**4.16**	**293**	P	**Pn**	**03 19 43.8**	**+0.3**
baz=106							
L27K	**Beaver Creek,**	**4.20**	**62**		**Pn**	**03 19 44.7**	**+0.6**
L27K	**Beaver Creek,**	**4.20**	**62**	P	**P

comp=Z,145nm,18.1s,baz=344,slow=34
168nm,0.7s
DZM Mont Dzumac 11.34 169 Pn **Pn 03 27 33.3 -0.2**
DZM Mont Dzumac 11.34 169 Pn **Pn 03 27 32.5 -0.9**
0.8nm,0.3s,baz=295,slow=19,SNR=5.8
7.8nm,0.9s
COEN Coen 20.74 259 P Pn 03 29 33.0 -1.3
H11S2 WAKE ISLAND Hy 29.29 5 T T 04 01 25.0
baz=184
H11S3 WAKE ISLAND Hy 29.29 5 T T 04 01 42.0
baz=184
H11S1 WAKE ISLAND Hy 29.31 5 T T 04 02 22.0
baz=184
WB0 Warramunga Arr 30.02 249 P **P 03 30 58.5 -1.3**
WB2 Warramunga Arr 30.09 249 P **P 03 31 00.4 -0.1**
WB2 IAmb IAmb 03 31 08.7
comp=Z,12nm,1.5s
WRA Warramunga Arr 30.10 249 P **P 03 30 59.9 -0.8**
comp=Z,0.8nm,0.7s,baz=79,slow=9.4,SNR=4.8
comp=Z,0.8nm,0.7s
H11N1 WAKE ISLAND Hy 30.52 5 T T 04 03 30.1
baz=184
H11N3 WAKE ISLAND Hy 30.52 5 T T 04 03 22.0
baz=184
H11N2 WAKE ISLAND Hy 30.54 5 T T 04 03 12.8
baz=184
ASAR Alice Springs 31.50 242 P **P 03 31 11.8 -1.2**
comp=Z,0.4nm,0.7s,baz=63,slow=10,SNR=5.1
comp=Z,0.4nm,0.7s
AMCZ Amberley 33.01 169 P **P 03 31 25.0 -0.8**
KNRA Kununurra 34.77 258 P **P 03 31 40.4 -1.1**
KNRA IAmb IAmb 03 31 42.1
comp=Z,9.0nm,1.2s
FITZ Fitzroy Crossi 37.94 255 P **P 03 32 07.3 -1.2**
MORW Morawa 48.36 241 P **P 03 33 34.9 +2.2**
TGY Tagaytay City 49.55 299 LR LR 03 52 44.9
comp=Z,127nm,21.9s,baz=123,slow=34
INU Inuyama 52.67 332 P **P 03 34 05.4 +0.3**
INU IAmb IAmb 03 34 05.8
comp=Z,12nm,0.8s
CASY Casey 65.98 201 P **P 03 35 37.4 +0.8**
VNDA Vanda 66.64 181 P **P 03 35 41.4 +0.8**
CMAR Chiang Mai Arr 70.64 294 P **P 03 36 06.7 0.0**
comp=Z,1.2nm,0.3s,baz=110,slow=6.1,SNR=1.1
comp=Z,1.2nm,0.3s
M16K Timber Creek 77.36 17 P **P 03 36 45.8 +0.7**
M16K IAmb IAmb 03 36 46.7
comp=Z,17nm,1.1s
SONM Songino Array 77.63 324 P **P 03 36 47.7 +0.7**
comp=Z,0.4nm,0.7s,baz=151,slow=5.0,SNR=4.0
comp=Z,0.4nm,0.7s
K15K Wolf Creek Mou 77.67 16 P **P 03 36 47.5 +0.7**
M17K Holitna River 78.11 18 P **P 03 36 49.8 +0.5**
K17K Iditarod 78.90 17 P **P 03 36 54.3 +0.8**
K17K IAmb IAmb 03 36 55.6
comp=Z,17nm,1.2s
L18K Granite Mounta 78.97 18 P **P 03 36 55.0 +1.0**
QSPA South Pole Qui 79.12 180 P **P 03 36 55.6 +0.5**
comp=Z,3.5nm,1.0s,baz=25,slow=2.5,SNR=4.8
comp=Z,3.5nm,1.0s
J17K VABM Dome 79.23 16 P **P 03 36 56.2 +0.9**
BERG Berg Lake 82.14 23 P **P 03 37 11.8 +0.8**
N25K Chitina, Valde 82.57 22 P **P 03 37 13.6 +0.2**
N25K IAmb IAmb 03 37 14.2
comp=Z,7.0nm,1.0s
GLB Gilahina Butte 82.76 22 P **P 03 37 14.8 +0.5**
VRDI Verde Repeater 82.76 23 P **P 03 37 14.3 -0.2**
VRDI IAmb IAmb 03 37 21.3
comp=Z,20nm,1.8s
ILAR Eielson Array 83.85 19 P **P 03 37 19.4 -0.4**
ILAR Eielson Array 83.85 19 P **P 03 37 18.9 -0.9**
comp=Z,1.9nm,0.8s,baz=228,slow=5.8,SNR=19
comp=Z,1.9nm,0.8s
M27K Edge Creek, AK 84.04 22 P **P 03 37 21.5 +0.5**
M27K IAmb IAmb 03 37 22.3
comp=Z,10nm,1.1s
J25K Salcha River, 84.24 20 P **P 03 37 22.2 +0.4**
J25K IAmb IAmb 03 37 24.7
comp=Z,6.1nm,0.8s
SCRK Sand Creek 84.29 20 P **P 03 37 22.5 +0.3**
L27K Beaver Creek, 84.49 22 P **P 03 37 23.6 +0.5**
BCAR Beaver Creek A 84.51 22 P **P 03 37 23.9 +0.6**
HYT Haines Junctio 84.88 25 P **P 03 37 25.6 +0.4**
HYT IAmb IAmb 03 37 30.2
comp=Z,9.6nm,1.5s
L29M L29M 85.89 23 P **P 03 37 30.4 +0.3**
L29M IAmb IAmb 03 37 31.9
comp=Z,4.3nm,1.1s
B22K Teshekpuk Lake 86.04 13 P **P 03 37 32.0 +1.4**
B22K IAmb IAmb 03 37 36.0
comp=Z,19nm,1.9s
BMAR Burnt Mountain 86.31 18 P **P 03 37 33.5 +1.4**
G27K Doyon Strip 86.82 19 P **P 03 37 35.1 +0.5**
G27K IAmb IAmb 03 37 36.5
comp=Z,6.8nm,1.4s
NVAR Mina Array Bea 87.09 50 P **P 03 37 36.5 -0.4**
comp=Z,0.5nm,0.9s,baz=275,slow=6.4,SNR=2.1
comp=Z,0.5nm,0.9s
G29M Pine Creek 88.05 20 P **P 03 37 41.4 +0.9**
E28M Babbage River 88.53 18 P **P 03 37 44.2 +1.4**
E28M IAmb IAmb 03 37 51.4
comp=Z,15nm,2.0s
E29M Blow River 88.91 18 P **P 03 37 45.5 +0.9**
MKAR Makanchi Array 92.36 317 P **P 03 38 00.6 -0.5**
comp=Z,0.7nm,0.8s,baz=89,slow=5.5,SNR=4.8
comp=Z,0.7nm,0.8s
ZALV Zalesovo Beam 92.53 324 P **P 03 38 00.1 -1.5**
comp=Z,0.3nm,0.4s,baz=110,slow=7.8,SNR=1.5
comp=Z,0.3nm,0.4s
YKA Yellowknife Ar 95.53 27 P **P 03 38 14.4 -0.9**
comp=Z,0.3nm,0.8s,baz=268,slow=2.3,SNR=4.8
comp=Z,0.3nm,0.8s

---

*IDC **12** 03:35:55.5±0.8, 10.°88S×164.°12E, h0km, mb4.1/11, mbtmp4.1/13, ML4.4/2, MS3.7/19, Error ellipse: s-maj=27.5km s-min=19.3km az=128.0*
*NEIC **12** 03:35:56.1±1.1, 11.°4S±0.°2×164.°7E±0.°1, h10km±1km, mb4.6/54, Error ellipse: s-maj=25.6km s-min=20.9km az=168.0*
ISC 12 03:35:59.3±0.5,**11.°04S**±0.°10×**164.°4E**±0.°1,**h29**km,**n93**, σ1§**26**/76,**mb4.5**/38,**MS3.8**/17,**1C**,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.65**	**290**	Pn	**Pn**	**03 37 11.2**	**+3.4**
HNR	**Honiara**	**4.65**	**290**	Pn	Pn	03 37 03.4	-4.3
35nm,0.3s,baz=112,slow=7.9,SNR=1.5							
131nm,0.6s							
DZM	**Mont Dzumac**	**11.14**	**170**	Pn	**Pn**	**03 38 40.2**	**+3.3**
1.6nm,0.3s,baz=135,slow=23,SNR=10							
DZM				LR	LR	03 42 14.6	
comp=Z,285nm,21.4s,baz=79,slow=33							
4.7nm,0.5s							
KRVT	**Keravat (AS076**	**13.95**	**298**	LR	LR	03 45 00.5	
comp=Z,157nm,19.1s,baz=222,slow=40							
COEN	**Coen**	**20.91**	**260**	P	**P**	**03 40 40.7**	**+1.0**
COEN				IAmb	IAmb	03 40 51.4	
comp=Z,16nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**29.43**	**4**	T	T	04 13 14.7	
baz=184							
H11S3	**WAKE ISLAND Hy**	**29.44**	**4**	T	T	04 13 34.1	
baz=184							
H11S1	**WAKE ISLAND Hy**	**29.45**	**4**	T	T	04 13 43.2	
baz=184							
STKA	**Stephens Creek**	**29.54**	**222**	P	**P**	**03 42 01.2**	**-0.3**
comp=Z,1.9nm,0.7s,baz=40,slow=8.3,SNR=1.2							
STKA				LR	LR	03 52 29.2	
comp=Z,223nm,21.7s,baz=30,slow=34							
comp=Z,1.9nm,0.7s							
WR0	**Warramunga Arr**	**30.05**	**249**	P	**P**	**03 42 04.3**	**-1.9**
WB0	**Warramunga Arr**	**30.15**	**250**	P	**P**	**03 42 06.6**	**-0.5**
WB0				IAmb	IAmb	03 42 25.1	
comp=Z,9.6nm,1.1s							
WB2	**Warramunga Arr**	**30.22**	**249**	P	**P**	**03 42 07.4**	**-0.4**
WB2				IAmb	IAmb	03 42 26.0	
comp=Z,12nm,1.2s							
WRA	**Warramunga Arr**	**30.23**	**249**	P	**P**	**03 42 07.5**	**-0.4**
WRA	**Warramunga Arr**	**30.23**	**249**	P	**P**	**03 42 07.2**	**-0.7**
comp=Z,4.1nm,0.9s,baz=78,slow=8.8,SNR=9.8							
WRA				LR	LR	03 53 15.8	
comp=Z,172nm,20.3s,baz=84,slow=35							
comp=Z,4.1nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**30.66**	**5**	T	T	04 14 38.8	
baz=187							
H11N3	**WAKE ISLAND Hy**	**30.67**	**5**	T	T	04 14 16.3	
baz=187							
H11N2	**WAKE ISLAND Hy**	**30.68**	**5**	T	T	04 14 17.9	
baz=187							
ASAR	**Alice Springs**	**31.61**	**243**	P	**P**	**03 42 18.8**	**-1.2**
comp=Z,1.2nm,0.8s,baz=66,slow=9.4,SNR=7.7							
ASAR				LR	LR	03 54 53.1	
comp=Z,160nm,18.5s,baz=67,slow=36							
comp=Z,1.2nm,0.8s							
RPZ	**Rata Peaks**	**33.06**	**171**	LR	LR	03 54 21.0	
comp=Z,127nm,20.9s,baz=122,slow=33							
BBOO	**Buckleboo**	**33.87**	**226**	P	**P**	**03 42 36.1**	**-3.4**
KNRA	**Kununurra**	**34.94**	**258**	P	**P**	**03 42 47.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**38.09**	**255**	P	**P**	**03 43 15.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**38.09**	**255**	P	**P**	**03 43 14.5**	**-1.4**
comp=Z,6.9nm,0.8s,baz=88,slow=9.3,SNR=6.9							
FITZ				LR	LR	03 58 04.8	
comp=Z,177nm,19.4s,baz=85,slow=35							
comp=Z,6.9nm,0.8s							
MORW	**Morawa**	**48.46**	**241**	P	**P**	**03 44 38.5**	**-1.1**
MORW				IAmb	IAmb	03 44 38.8	
comp=Z,12nm,1.2s							
VNDA	**Vanda**	**66.48**	**181**	P	**P**	**03 46 43.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**70.89**	**294**	LR	LR	04 18 25.1	
comp=Z,12nm,20.0s,baz=60,slow=36							
SONM	**Songino Array**	**77.88**	**324**	P	**P**	**03 47 53.5**	**-1.1**
comp=Z,1.0nm,0.8s,baz=146,slow=7.0,SNR=8.7							
comp=Z,1.0nm,0.8s							
QSPA	**South Pole Qui**	**78.96**	**180**	P	**P**	**03 48 01.2**	**+1.0**
comp=Z,1.5nm,0.6s,baz=297,slow=1.0,SNR=5.5							
QSPA				LR	LR	04 19 53.5	
comp=Z,61nm,19.1s,baz=338,slow=33							
comp=Z,1.5nm,0.6s							
L18K	**Granite Mounta**	**79.06**	**17**	P	**P**	**03 48 02.5**	**+2.0**
L18K				IAmb	IAmb	03 48 13.1	
comp=Z,8.7nm,0.9s							
J17K	**VABM Dome**	**79.33**	**16**	P	**P**	**03 48 03.1**	**+1.2**
M20K	**Styx River**	**79.90**	**19**	P	**P**	**03 48 06.0**	**+0.7**
J18K	**Innoko River**	**80.03**	**17**	P	**P**	**03 48 06.8**	**+1.0**
J18K				IAmb	IAmb	03 48 14.9	
comp=Z,11nm,1.4s							
CAST	**Castle Rocks**	**81.36**	**18**	P	**P**	**03 48 13.0**	**0.0**
CAST				IAmb	IAmb	03 48 24.1	
comp=Z,3.4nm,0.9s							
KTH	**Kantishna Hill**	**81.82**	**19**	P	**P**	**03 48 16.1**	**+0.6**
TRF	**Thorofare Moun**	**81.94**	**19**	P	**P**	**03 48 15.9**	**-0.3**
BERG	**Berg Lake**	**82.21**	**23**	P	**P**	**03 48 18.6**	**+1.1**
E18K	**Tukpahlearik C**	**82.24**	**13**	P	**P**	**03 48 17.8**	**+0.3**
E18K				IAmb	IAmb	03 48 29.7	
comp=Z,4.4nm,0.9s							
RND	**Reindeer**	**82.37**	**19**	P	**P**	**03 48 18.9**	**+0.6**
RND				IAmb	IAmb	03 48 37.4	
comp=Z,4.2nm,1.0s							
N25K	**Chitina, Valde**	**82.64**	**22**	P	**P**	**03 48 20.4**	**+0.6**
H21K	**Melozitna Rive**	**82.80**	**16**	P	**P**	**03 48 21.5**	**+1.0**
H21K				IAmb	IAmb	03 48 31.7	
comp=Z,6.5nm,1.2s							
VRDI	**Verde Repeater**	**82.83**	**23**	P	**P**	**03 48 21.1**	**+0.2**
VRDI				IAmb	IAmb	03 48 24.2	
comp=Z,5.4nm,1.0s							
E19K	**Redstone River**	**83.04**	**14**	P	**P**	**03 48 23.2**	**+1.5**
CCB	**Clear Creek Bu**	**83.56**	**19**	P	**P**	**03 48 24.6**	**+0.2**
CCB				IAmb	IAmb	03 48 33.6	
comp=Z,3.1nm,1.1s							
KMRM	**Mail Ridge**	**83.62**	**47**	P	**P**	**03 48 23.8**	**-1.6**
M26K	**Nabesna, AK**	**83.73**	**22**	P	**P**	**03 48 27.0**	**+1.6**
M26K				IAmb	IAmb	03 48 37.0	
comp=Z,3.4nm,1.1s							
ILAR	**Eielson Array**	**83.94**	**19**	P	**P**	**03 48 26.4**	**+0.1**
ILAR	**Eielson Array**	**83.94**	**19**	P	**P**	**03 48 26.2**	**-0.1**
comp=Z,2.0nm,0.8s,baz=244,slow=5.2,SNR=23							
ILAR				LR	LR	04 19 02.9	
comp=Z,65nm,20.4s,baz=246,slow=31							
comp=Z,2.0nm,0.8s							
IL03	**Eielson Array**	**83.95**	**19**	P	**P**	**03 48 26.5**	**+0.2**
J25K	**Salcha River,**	**84.32**	**19**	P	**P**	**03 48 28.9**	**+0.5**
SCRK	**Sand Creek**	**84.37**	**20**	P	**P**	**03 48 29.6**	**+0.9**
SCRK				IAmb	IAmb	03 48 34.2	
comp=Z,4.2nm,1.2s							
L27K	**Beaver Creek,**	**84.56**	**22**	P	**P**	**03 48 30.3**	**+0.7**
L27K				IAmb	IAmb	03 48 34.2	
comp=Z,3.0nm,0.9s							
BCAR	**Beaver Creek A**	**84.58**	**22**	P	**P**	**03 48 30.4**	**+0.8**
YBH	**Yreka Blue Hor**	**84.85**	**46**	LR	LR	04 16 59.6	
comp=Z,44nm,21.6s,baz=244,slow=29							
J26L	**Joseph Creek**	**84.85**	**20**	P	**P**	**03 48 31.3**	**+0.2**
HYT	**Haines Junctio**	**84.94**	**25**	P	**P**	**03 48 32.8**	**+1.2**
HYT				IAmb	IAmb	03 48 40.4	
comp=Z,6.1nm,1.5s							
G24K	**Hadweenzic Riv**	**85.07**	**17**	P	**P**	**03 48 33.0**	**+1.0**
G24K				IAmb	IAmb	03 48 49.5	
comp=Z,4.2nm,1.2s							
BBB	**Bella Bella**	**85.33**	**35**	LR	LR	04 17 18.6	
comp=Z,51nm,20.1s,baz=240,slow=29							
B21K	**Ikpikpuk River**	**85.34**	**13**	P	**P**	**03 48 34.9**	**+1.7**
B21K				IAmb	IAmb	03 48 46.8	
comp=Z,5.2nm,1.0s							
I26K	**Coal Creek Min**	**85.49**	**20**	P	**P**	**03 48 35.6**	**+1.5**
O30N	**Mendenhall**	**85.49**	**25**	P	**P**	**03 48 34.4**	**+0.1**
O30N				IAmb	IAmb	03 48 34.8	
comp=Z,8.1nm,1.4s							
F24K	**Squaw Lake**	**85.51**	**17**	P	**P**	**03 48 35.4**	**+1.1**
L29M	**L29M**	**85.96**	**23**	P	**P**	**03 48 36.8**	**+0.2**
L29M				IAmb	IAmb	03 48 54.9	
comp=Z,5.5nm,1.1s							
DAWY	**Dawson**	**86.04**	**21**	P	**P**	**03 48 37.9**	**+0.9**
DAWY				IAmb	IAmb	03 48 56.9	
comp=Z,7.7nm,1.4s							
B22K	**Teshekpuk Lake**	**86.15**	**13**	P	**P**	**03 48 38.3**	**+1.0**
M30M	**Minto, Yukon**	**86.18**	**23**	P	**P**	**03 48 38.0**	**+0.4**
BMAR	**Burnt Mountain**	**86.40**	**18**	P	**P**	**03 48 40.0**	**+1.3**
I28M	**Miner Creek**	**86.65**	**20**	P	**P**	**03 48 40.8**	**+0.8**
F26K	**Sheenjek River**	**86.70**	**17**	P	**P**	**03 48 41.2**	**+1.1**
G27K	**Doyon Strip**	**86.90**	**19**	P	**P**	**03 48 42.0**	**+0.9**
G27K				IAmb	IAmb	03 48 55.1	
comp=Z,3.2nm,1.1s							
NVAR	**Mina Array Bea**	**87.04**	**50**	P	**P**	**03 48 45.0**	**+2.3**
comp=Z,0.2nm,0.6s,baz=267,slow=4.2,SNR=2.2							
NVAR				LR	LR	04 20 11.2	
comp=Z,49nm,19.6s,baz=263,slow=30							
comp=Z,0.2nm,0.6s							
PFO	**Pinyon Flats O**	**87.17**	**55**	LR	LR	04 18 20.4	
comp=Z,37nm,21.4s,baz=256,slow=29							
H29M	**Whitestone**	**87.62**	**20**	P	**P**	**03 48 45.5**	**+0.9**
F28M	**Old Crow**	**87.94**	**18**	P	**P**	**03 48 48.4**	**+2.3**
F28M				IAmb	IAmb	03 48 58.1	
comp=Z,2.7nm,1.1s							
C27K	**Jago River**	**88.06**	**16**	P	**P**	**03 48 48.0**	**+1.4**
C27K				IAmb	IAmb	03 49 05.7	
comp=Z,3.7nm,1.1s							
G29M	**Pine Creek**	**88.13**	**19**	P	**P**	**03 48 47.7**	**+0.7**
LLLB	**Lillooet**	**88.36**	**38**	P	**P**	**03 48 46.1**	**-2.3**
LLLB				IAmb	IAmb	03 48 52.1	
comp=Z,6.0nm,1.2s							
E28M	**Babbage River**	**88.62**	**18**	P	**P**	**03 48 50.7**	**+1.4**
E28M				IAmb	IAmb	03 49 01.8	
comp=Z,4.4nm,1.1s							
G30M	**tAoh Zraii Nji**	**88.76**	**20**	P	**P**	**03 48 49.5**	**-0.5**
G30M				IAmb	IAmb	03 49 05.6	
comp=Z,6.4nm,1.4s							
H31M	**Peel River**	**88.79**	**21**	P	**P**	**03 48 50.8**	**+0.6**
G31M	**Satah River**	**89.39**	**20**	P	**P**	**03 48 52.2**	**-0.6**
INK	**Inuvik**	**90.33**	**19**	LR	LR	04 25 21.1	
comp=Z,51nm,21.1s,baz=240,slow=33							
BELA	**Belgrano 2**	**90.58**	**176**	P	**P**	**03 48 58.9**	**+0.4**
BELA				IAmb	IAmb	03 49 11.5	
comp=Z,6.3nm,1.0s							
NEW	**Newport**	**90.61**	**41**	LR	LR	04 25 48.7	
comp=Z,25nm,20.2s,baz=293,slow=33							
SYO	**Syowa Base**	**91.39**	**197**	ePcP	**P**	**03 49 02.2**	**-0.1**
MKAR	**Makanchi Array**	**92.61**	**317**	P	**P**	**03 49 08.5**	**+0.1**
MKAR	**Makanchi Array**	**92.61**	**317**	P	**P**	**03 49 07.3**	**-1.1**
comp=Z,1.0nm,0.8s,baz=97,slow=6.0,SNR=11							
comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**92.78**	**324**	P	**P**	**03 49 08.8**	**-0.1**
comp=Z,0.6nm,0.6s,baz=81,slow=9.2,SNR=1.9							
comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**94.53**	**47**	LR	LR	04 32 58.6	
comp=Z,13nm,18.1s,baz=326,slow=36							
ANMO	**Albuquerque**	**95.55**	**56**	LR	LR	04 27 09.9	
comp=Z,22nm,18.4s,baz=58,slow=32							
YKA	**Yellowknife Ar**	**95.58**	**27**	P	**P**	**03 49 22.7**	**+1.1**
comp=Z,0.4nm,0.9s,baz=262,slow=4.8,SNR=5.9							
YKA				LR	LR	04 24 45.9	
comp=Z,63nm,21.9s,baz=294,slow=31							
comp=Z,0.4nm,0.9s							
ARCES	**ARCESS Array B**	**115.99**	**345**	PKP	**PKiKP**	**03 54 38.2**	**-0.7**
comp=Z,6.0nm,1.0s,baz=47,slow=2.3,SNR=2.5							
KEST	**Kesra**	**146.59**	**321**	PKPbc	**PKPbc**	**03 55 38.5**	**-0.2**
comp=Z,5.5nm,0.9s,baz=325,slow=12,SNR=2.1							
ESDC	**Sonseca Array**	**149.66**	**342**	PKPbc	**PKPbc**	**03 55 47.2**	**+0.4**
comp=Z,0.5nm,0.8s,baz=16,slow=3.9,SNR=4.3							

---

*IDC **12** 03:42:55.5±1.3, 2.°74N×127.°26E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/3, Error ellipse: s-maj=94.1km s-min=17.7km az=69.0*
*DJA **12** 03:42:59.7±1.1, 3.°N±4.°×12.°7E±.°, h10km±11km, M3.6/7, MLv3.6/7*
*NEIC **12** 03:42:59.4±1.9, 2.°9N±0.°1×127.°2E±0.°1, h35km±2km, mb4.3/14, Error ellipse: s-maj=25.2km s-min=14.9km az=242.0*
ISC 12 03:43:01.2±0.7,**2.°73N**±0.°09×**127.°2E**±0.°1,**h53**km,**n33**, σ1§**14**/29,**mb4.2**/11,**MS3.5**/3,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.93**	**300**	P	**Pn**	**03 43 31.8**	**+0.1**
SGSI				S	**Sn**	**03 43 56.0**	**+1.1**
TNTI	**Ternate**	**1.95**	**176**	Pn	**Pn**	**03 43 32.3**	**+0.3**
TNTI	**Ternate**	**1.95**	**176**	P	**Pn**	**03 43 30.9**	**-1.1**
TOLI2	**Tolitoli**	**6.63**	**256**	Pn	**Pn**	**03 44 34.2**	**-1.9**
MTN	**Manton Dam**	**15.95**	**166**		**P**	**03 46 43.8**	**-1.3**
MTN				IAmb	IAmb	03 47 09.9	
comp=Z,21nm,1.1s							
KNRA	**Kununurra**	**18.35**	**175**	P	**Pn**	**03 47 11.5**	**-0.5**
KNRA				IAmb	IAmb	03 47 24.5	
comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.75**	**184**	P	**P**	**03 47 37.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**20.75**	**184**	P	**P**	**03 47 37.9**	**+0.1**
comp=Z,2.2nm,0.7s,baz=5.4,slow=11,SNR=6.2							
comp=Z,2.2nm,0.7s							
WB0	**Warramunga Arr**	**23.44**	**163**	P	**P**	**03 48 06.1**	**0.0**
WB0				IAmb	IAmb	03 48 10.2	
comp=Z,16nm,1.4s							
WRAB	**Tennant Creek**	**23.59**	**163**	P	**P**	**03 48 06.2**	**-1.2**
WRAB				IAmb	IAmb	03 48 44.4	
comp=Z,22nm,1.5s							
WRA	**Warramunga Arr**	**23.59**	**163**	P	**P**	**03 48 07.0**	**-0.4**
WRA	**Warramunga Arr**	**23.59**	**163**	P	**P**	**03 48 07.3**	**-0.1**
comp=Z,2.8nm,0.6s,baz=343,slow=10.0,SNR=25							
comp=Z,2.8nm,0.6s							
WB2	**Warramunga Arr**	**23.59**	**163**	P	**P**	**03 48 07.5**	**0.0**
WB2				IAmb	IAmb	03 48 34.7	
comp=Z,13nm,1.4s							
WR0	**Warramunga Arr**	**23.67**	**163**	P	**P**	**03 48 08.3**	**+0.2**
WR0				IAmb	IAmb	03 48 12.5	
comp=Z,14nm,1.4s							
ASAR	**Alice Springs**	**27.03**	**166**	P	**P**	**03 48 39.4**	**+0.7**
comp=Z,0.7nm,0.5s,baz=352,slow=7.5,SNR=9.7							
ASAR				PcP	**PcP**	**03 52 01.4**	**+2.3**
comp=Z,0.3nm,0.4s,baz=349,slow=2.5,SNR=1.8							
comp=Z,0.7nm,0.5s							
KSRS	**Korea Array**	**34.56**	**1**	LR	LR	04 03 32.1	
comp=Z,12nm,21.5s,baz=55,slow=36							
STKA	**Stephens Creek**	**37.03**	**159**	P	**P**	**03 50 07.3**	**+1.2**
STKA	**Stephens Creek**	**37.03**	**159**	P	**P**	**03 50 07.5**	**+1.5**
comp=Z,1.3nm,0.4s,baz=354,slow=9.7,SNR=1.5							
comp=Z,1.3nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**41.70**	**65**	T	T	04 35 43.5	
baz=252,slow=74							
H11S2	**WAKE ISLAND Hy**	**41.72**	**65**	T	T	04 35 33.2	
baz=252							
H11S1	**WAKE ISLAND Hy**	**41.72**	**65**	T	T	04 35 39.1	
baz=252							
PALK	**Pallekele**	**46.53**	**277**	LR	LR	04 13 29.5	
comp=Z,51nm,19.6s,baz=147,slow=39							
MK31	**Makanchi Array**	**58.65**	**325**	P	**P**	**03 52 53.9**	**+0.8**
MKAR	**Makanchi Array**	**58.65**	**325**	P	**P**	**03 52 54.1**	**+1.0**
MKAR	**Makanchi Array**	**58.65**	**325**	P	**P**	**03 52 54.8**	**+1.6**
comp=Z,0.5nm,0.5s,baz=122,slow=8.0,SNR=15							
comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**62.84**	**327**	P	**P**	**03 53 23.3**	**+1.8**
comp=Z,0.9nm,0.6s,baz=130,slow=6.5,SNR=8.6							
comp=Z,0.9nm,0.6s							
KURK	**Kurchatov**	**62.84**	**328**	P	**P**	**03 53 21.6**	**+0.1**
KURK				IAmb	IAmb	03 53 28.8	
comp=Z,5.2nm,1.4s							
ABKAR	**Akbulak array**	**73.23**	**321**	P	**P**	**03 54 25.3**	**-1.4**
ABKAR	**Akbulak array**	**73.23**	**321**	P	**P**	**03 54 26.8**	**0.0**
ABKAR				IAmb	IAmb	03 55 10.1	
comp=Z,2.6nm,1.4s							
L14K	**Kuka Creek**	**78.15**	**28**	P	**P**	**03 54 52.5**	**-2.1**
BMAR	**Burnt Mountain**	**86.81**	**23**	P	**P**	**03 55 39.0**	**-0.7**
I26K	**Coal Creek Min**	**87.39**	**25**	P	**P**	**03 55 42.0**	**-0.4**
MLR	**Muntele Rosu**	**95.95**	**316**	LR	LR	04 44 57.2	
comp=Z,27nm,19.0s,baz=34,slow=39							

---

*IDC **12** 03:52:23.5±1.2, 44.°43N×129.°95W, h0km, mb3.6/10, mbtmp3.6/15, ML4.0/3, MS3.6/15, Error ellipse: s-maj=30.2km s-min=13.5km az=37.0*
*NEIC **12** 03:52:30.7±0.9, 44.°53N±0.°09×129.°5W±0.°1, h10km±2km, mb4.2/48, Error ellipse: s-maj=16.8km s-min=13.1km az=233.0*
ISC 12 03:52:29.6±1.0,**44.°50N**±0.°09×**129.°58W**±0.°09,**h13**km, **n123**, σ0§**91**/94,**mb4.1**/18,**MS3.7**/10,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**4.13**	**93**	Pn	**Pn**	**03 53 31.1**	**-1.3**
HEBO	**Mount Hebo**	**4.20**	**78**	Pn	**Pn**	**03 53 33.1**	**-0.3**
J01E	**Myrtle Point**	**4.30**	**106**	Pn	**Pn**	**03 53 33.1**	**-1.6**
COR	**Corvallis**	**4.49**	**87**		**Pn**	**03 53 37.0**	**-0.2**
F03A	**Seaside**	**4.49**	**69**		**Pn**	**03 53 37.0**	**-0.3**
F03A				Sn	**Sn**	**03 54 27.8**	**-1.5**
RADR	**Rader Ridge**	**4.50**	**63**	Pn	**Pn**	**03 53 37.3**	**-0.2**
G03D	**McMinnville, O**	**4.55**	**79**		**Pn**	**03 53 38.1**	**0.0**
BUCK	**Buck Mountain**	**4.74**	**91**	Pn	**Pn**	**03 53 40.8**	**0.0**
DBO	**Dodson Butte**	**4.79**	**105**	Pn	**Pn**	**03 53 40.6**	**-0.9**
WISH	**Wishkah**	**4.83**	**55**		**Pn**	**03 53 42.1**	**+0.1**
H04D	**Lebanon**	**

4.8nm,0.9s,baz=295,slow=11,SNR=10
BPMT Black Pine Rid 11.50 75 Pn Pn 03 55 12.3 -1.3
ISA Isabella, Lake 12.24 132 Pn 03 55 23.6 -0.1
BGU Big Grassy Mou 12.68 101 Pn 03 55 29.8 0.0
GWY Greenwater Val 12.87 126 Pn **Pn 03 55 33.2 +0.9**
S34M Telegraph Cree 13.47 356 Pn **Pn 03 55 40.9 +0.6**
EGMT Eagleton 14.16 69 Pn **Pn 03 55 48.0 -1.8**
V12A Nelson 14.26 123 Pn **Pn 03 55 51.0 -0.3**
MSU Marysvale 14.33 109 Pn **Pn 03 55 52.1 -0.3**
PDAR Pinedale Array 14.60 90 Pn **Pn 03 55 58.3 +2.3**
0.1nm,0.3s,baz=291,slow=9.4,SNR=10
PDAR LR LR 04 01 30.8
comp=Z,178nm,18.9s,baz=270,slow=37
1.6nm,0.9s
KNB Kanab 14.72 115 Pn **Pn 03 55 58.0 +0.4**
PFO Pinyon Flats O 14.88 132 LR LR 04 01 13.7
comp=Z,135nm,18.4s,baz=298,slow=35
SRU San Rafael Swe 15.18 104 IAmb IAmb 03 56 12.4
comp=Z,21nm,1.0s
U15A North Rim 15.41 116 IAmb IAmb 03 56 19.0
comp=Z,11nm,1.0s
O20A White River Ci 16.36 98 IAmb IAmb 03 56 24.7
comp=Z,17nm,1.1s
LAO LASA Array 16.48 74 P **P 03 56 23.8 +0.6**
PV10 Paradox Valley 16.55 105 IAmb IAmb 03 56 27.1
comp=Z,47nm,1.5s
DGMT Dagmar 17.89 68 Pn 03 56 37.7 -0.5
DGMT IAmb IAmb 03 56 42.5
comp=Z,30nm,1.1s
FARO Faro, Yukon 17.90 354 P 03 56 39.4 +0.7
RSSD Black Hills 18.27 82 Pn 03 56 42.7 -0.2
RSSD IAmb IAmb 03 56 48.8
comp=Z,12nm,1.2s
S22A 4UR Ranch, Cre 18.39 104 P 03 56 43.6 -0.9
BRIGG Briggsdale 18.99 93 IAmb IAmb 03 56 50.1
comp=Z,16nm,0.8s
N25K Chitina, Valde 19.28 338 P **Pn 03 56 55.2 +0.2**
PWL Port Wells 19.82 332 IAmb IAmb 03 57 07.1
comp=Z,34nm,1.4s
YKA Yellowknife Ar 20.02 21 P **P 03 56 59.9 -1.9**
comp=Z,0.2nm,0.6s,baz=208,slow=12,SNR=8.9
comp=Z,0.2nm,0.6s
ANMO Albuquerque 20.12 110 P **P 03 57 04.0 +0.6**
ANMO Albuquerque 20.12 110 P **P 03 57 03.0 -0.4**
comp=Z,1.1nm,0.8s,baz=128,slow=11,SNR=7.4
comp=Z,1.1nm,0.8s
SLKM Skilak Lake 20.23 330 IAmb IAmb 03 57 10.3
comp=Z,28nm,1.3s
E28A Huff 20.29 74 P **P 03 57 04.7 -0.3**
FFC Flin Flon 20.47 50 P **P 03 57 07.4 +0.5**
FFC IAmb IAmb 03 57 08.4
comp=Z,10nm,0.8s
BNM Barren Site 20.48 112 P **P 03 57 07.5 +0.2**
SML Sawmill 20.53 334 P **P 03 57 08.4 +0.9**
PMR Palmer 20.62 333 P **P 03 57 08.9 +0.5**
GHO Glory Hole Cre 20.69 334 P **P 03 57 10.0 +0.7**
GHO IAmb IAmb 03 57 20.1
comp=Z,17nm,1.2s
121A Cookes Peak, D 20.75 118 IAmb IAmb 03 57 19.0
comp=Z,10nm,1.1s
I30M Mount Dempster 21.11 352 IAmb IAmb 03 57 31.4
comp=Z,9.5nm,1.4s
H31M Peel River 21.52 355 IAmb IAmb 03 57 36.0
comp=Z,9.9nm,1.1s
K30B Basset 21.73 84 P **P 03 57 20.7 +0.2**
RTBA Rita Blanca 21.88 102 P **P 03 57 22.7 +0.4**
RTBA IAmb IAmb 03 57 24.8
comp=Z,13nm,1.3s
ILAR Eielson Array 22.50 341 P **P 03 57 25.2 -3.4**
comp=Z,0.9nm,1.1s,baz=155,slow=8.4,SNR=11
ILAR LR LR 04 04 33.8
comp=Z,165nm,19.8s,baz=110,slow=32
comp=Z,0.9nm,1.1s
WRH Wood River Hil 22.55 339 P **P 03 57 29.7 +0.6**
WRH IAmb IAmb 03 57 33.0
comp=Z,15nm,1.2s
ULM Lac du Bonnet 23.40 64 P **P 03 57 36.6 -1.4**
ULM Lac du Bonnet 23.40 64 P **P 03 57 36.8 -1.2**
comp=Z,6.4nm,0.7s,baz=280,slow=11,SNR=13
ULM LR LR 04 06 21.7
comp=Z,96nm,20.2s,baz=290,slow=35
comp=Z,6.4nm,0.7s
AGMN Agassiz Nation 23.45 69 IAmb IAmb 03 57 40.0
comp=Z,6.5nm,0.8s
ECSD EROS Data Cent 23.59 80 P **P 03 57 40.0 0.0**
ECSD IAmb IAmb 03 57 47.7
comp=Z,13nm,1.2s
SMWD Samnorwood 24.30 103 P **P 03 57 47.3 +0.4**
TXAR Lajitas Array 25.51 118 P **P 03 57 55.9 -2.0**
comp=Z,0.9nm,0.8s,baz=299,slow=9.0,SNR=11
comp=Z,0.9nm,0.8s
LPIG La Paz 25.71 136 LR LR 04 06 45.0
comp=Z,79nm,19.2s,baz=14,slow=33
FCC Fort Churchill 25.87 44 P **P 03 58 01.2 +0.5**
FCC IAmb IAmb 03 58 16.2
comp=Z,5.9nm,1.1s
G19K Purcell Mounta 26.33 335 P **P 03 58 06.4 +1.6**
EYMN Ely 26.39 69 P **P 03 58 05.9 +0.3**
EYMN IAmb IAmb 03 58 07.3
comp=Z,8.2nm,0.8s
NATX Nacogdoches 30.03 103 P **P 03 58 39.7 +1.5**
C16K Lisburne Hills 30.18 334 P **P 03 58 39.4 +0.3**
C16K IAmb IAmb 03 58 40.3
comp=Z,4.4nm,1.2s
RES Resolute Bay 33.93 16 P **P 03 59 12.5 +0.6**
SADO Sadowa 35.42 71 LR LR 04 14 06.4
comp=Z,195nm,19.0s,baz=250,slow=36
TKL Tuckaleechee C 35.74 88 LR LR 04 14 36.3
comp=Z,204nm,18.8s,baz=320,slow=37
SSPA Standing Stone 37.75 77 P **P 03 59 45.2 +0.1**
TRQ Mont Tremblant 38.05 67 P **P 03 59 47.6 -0.1**
N58A Sunbury 38.48 76 P **P 03 59 51.2 -0.1**
SCHQ Schefferville 40.60 52 LR LR 04 17 06.1
comp=Z,142nm,18.1s,baz=329,slow=36
ICQ Pointe Anglais 41.71 60 P **P 04 00 17.9 0.0**
ICQ IAmb IAmb 04 00 46.8
comp=Z,11nm,1.2s
F64A Sherman 42.24 66 P **P 04 00 23.0 +0.7**
H11N3 WAKE ISLAND Hy 57.66 266 T T 05 04 21.4
baz=49,slow=75,SNR=1287
H11N2 WAKE ISLAND Hy 57.66 266 T T 05 04 28.1
baz=49,slow=75,SNR=822
H11N1 WAKE ISLAND Hy 57.67 266 T T 05 04 25.8
baz=49,slow=75,SNR=785
H11S1 WAKE ISLAND Hy 58.60 265 T T 05 05 36.9
baz=48,slow=75,SNR=183
H11S2 WAKE ISLAND Hy 58.61 265 T T 05 05 42.0
baz=48,slow=75,SNR=90
H11S3 WAKE ISLAND Hy 58.62 265 T T 05 05 36.8
baz=48,slow=75,SNR=100
KLR Kul'dur 62.83 313 LR LR 04 30 02.7
comp=Z,56nm,18.7s,baz=358,slow=36
NRIK Noril'sk 63.22 346 LR LR 04 31 05.3
comp=Z,46nm,21.6s,baz=35,slow=37
HFS Hagfors 71.48 18 LR LR 04 35 18.5
comp=Z,21nm,20.7s,baz=356,slow=36
SONM Songino Array 75.74 325 P P 04 04 10.3 -4.6
comp=Z,0.2nm,0.4s,baz=42,slow=4.5,SNR=4.0
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 81.35 348 P **P 04 04 41.9 -3.7**
comp=Z,0.4nm,0.6s,baz=7.6,slow=4.4,SNR=1.7
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 82.16 342 P P 04 04 45.4 -4.5
comp=Z,0.5nm,0.7s,baz=23,slow=4.5,SNR=5.0
comp=Z,0.5nm,0.7s
LPAZ La Paz 82.31 122 P P 04 04 47.8 -4.0
comp=Z,1.2nm,0.7s,baz=9.0,slow=9.8,SNR=4.3
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 83.41 13 P P 04 04 52.1 -4.2
comp=Z,0.3nm,0.5s,baz=349,slow=6.5,SNR=2.3
comp=Z,0.3nm,0.5s
KRVT Keravat (AS076 84.75 259 LR LR 04 36 53.0
comp=Z,50nm,18.4s,baz=186,slow=32
ABKAR Akbulak array 86.26 354 P **P 04 05 12.2 +1.4**

*IDC **12** 03:55:53.0±3.8, 9°.09S×117°.27E, h138km±30km, mb3.5/4, mbtmp3.8/7, Error ellipse: s-maj=54.9km s-min=13.4km az=49.0*
*DJA **12** 03:55:53.7±0.4, 8°.5±7°×11°.8E±°, h134km±6km, M4.1/12, mb4.4/2, MLv4.0/12*
ISC 12 03:55:54.2±0.8, 9°.04S±0°.09×117°.66E±0°.06, h154km±7km, n21, σ1°.70/26, mb3.8/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.24**	**29**	P	**Pn**	**03 56 15.4**	**+0.3**
PLAI				S	**Sn**	**03 56 29.7**	**-1.3**
TWSI	**Taliwang, Sumb**	**0.82**	**291**	P	**Pn**	**03 56 19.0**	**+1.0**
TWSI				S	**Sn**	**03 56 35.6**	**-0.5**
WBSI	**Waikabubak, Su**	**1.81**	**109**	P	**Pn**	**03 56 28.6**	**+1.1**
DNP	**Denpasar**	**2.45**	**278**	P	**Pn**	**03 56 36.0**	**+1.1**
SRBI	**Singaraja**	**2.60**	**291**	P	**Pn**	**03 56 35.3**	**-1.4**
SRBI				S	**Sn**	**03 57 09.8**	**+0.3**
WSI	**Waingapu**	**2.68**	**104**	P	**Pn**	**03 56 35.5**	**-2.2**
BASI	**Baing, Sumba**	**3.11**	**112**	P	**Pn**	**03 56 45.2**	**+2.1**
BASI				S	**Sn**	**03 57 22.5**	**+1.6**
JAGI	**Jajag, Banyuwa**	**3.51**	**279**	P	**Pn**	**03 56 48.6**	**+0.3**
ABJI	**Asem Bagus**	**3.61**	**290**	P	**Pn**	**03 56 49.8**	**+0.3**
BSSI	**Bau Bau, Buton**	**4.02**	**44**	P	Pn	03 56 45.1	-10
GMJI	**Gumukmas**	**4.24**	**280**	P	**Pn**	**03 56 57.3**	**-0.4**
KAPI	**Kappang**	**4.51**	**28**	P	**Pn**	**03 57 02.3**	**+1.1**
	17nm,0.6s,baz=221,slow=11,SNR=4.8						
PCJI	**Pacitan**	**6.46**	**277**	P	**Pn**	**03 57 29.2**	**+2.0**
	0.2nm36nm,1.2s						
UGM	**Wanagama**	**7.15**	**278**	P	**Pn**	**03 57 37.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.88**	**140**	P	**Pn**	**03 58 41.5**	**+2.6**
	2.2nm,0.5s,baz=323,slow=12,SNR=11						
FITZ				S	**Sn**	**04 00 47.1**	**-3.3**
	2.4nm,0.4s,baz=186,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**19.43**	**126**	P	**Pn**	**04 00 12.2**	**+0.5**
	0.4nm,0.7s,baz=302,slow=12,SNR=8.7						
WRA				S	**Sn**	**04 03 47.2**	**-4.1**
	0.3nm,0.5s,baz=292,slow=26,SNR=1.6						
HHC	**Hu-ho-hao-te**	**49.96**	**354**	*e*P	**P**	**04 04 31.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,6.2s						
SONM	**Songino Array**	**57.50**	**351**	P	**P**	**04 05 27.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=167,slow=7.4,SNR=7.2						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**63.90**	**334**	P	**P**	**04 06 10.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=146,slow=6.4,SNR=15						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**68.61**	**340**	P	**P**	**04 06 39.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=160,slow=4.9,SNR=2.6						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**73.71**	**332**	P	**P**	**04 07 11.4**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=124,slow=7.2,SNR=4.0						
	comp=Z,0.9nm,0.6s						

*STR **12** 04:06:12.8±0.3, 49°.N±1°×±°, h10km, MLv1.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=104.3, preliminary*
LDG 12 04:06:12.7±0.1, 48°.54N×7°.53E, h10km, Md1.3/1, Ml1.8/10, Error ellipse: s-maj=1.1km s-min=1.0km az=135.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOHE	**HOHENGOEFT**	**0.12**	**346**	Pg	Pg	04 06 15.8	+0.1
HOHE				Sg	Sg	04 06 17.8	+0.1
WLS	**Welschbruch**	**0.17**	**223**	Pg	Pg	04 06 16.4	-0.1
WLS				Sg	Sg	04 06 19.1	+0.1
CDF	**Champ du Feu**	**0.21**	**233**	*e*Pg	Pg	04 06 17.1	0.0
CDF				*e*Sg	Sg	04 06 20.0	-0.1
	1.7nm,0.1s						
ZELS	**Zelsheim**	**0.25**	**164**	Pg	Pg	04 06 17.9	+0.2
ZELS				Sg	Sg	04 06 21.5	+0.4
CIEL	**Dossenheim-sur**	**0.31**	**340**	Pg	Pg	04 06 19.2	+0.2
CIEL				Sg	Sg	04 06 23.9	+0.7
ECH	**Echery**	**0.41**	**217**	Pg	Pg	04 06 20.5	-0.2
ECH				Sg	Sg	04 06 26.3	+0.2
OPP	**Oppenau**	**0.44**	**95**	Sg	Sg	04 06 26.5	-0.6
OPP	**Oppenau**	**0.44**	**95**	Pg	Pg	04 06 21.0	-0.3
VOGT	**Vogtsburg - To**	**0.47**	**168**	Sg	Sg	04 06 28.1	+0.2
VOGT	**Vogtsburg - To**	**0.47**	**168**	Pg	Pg	04 06 21.6	-0.2
BABA	**Baden-Baden-Ne**	**0.48**	**68**	Pg	Pg	04 06 21.8	-0.2
BABA	**Baden-Baden-Ne**	**0.48**	**68**	Sg	Sg	04 06 28.1	-0.1
VOEL	**Voellerdingen**	**0.51**	**328**	Pg	Pg	04 06 22.7	+0.1
VOEL				Sg	Sg	04 06 29.7	+0.5
LEMB	**Lembach**	**0.52**	**17**	Pg	Pg	04 06 22.7	-0.1
LEMB				Sg	Sg	04 06 29.9	+0.3
WALT	**Westhalten**	**0.60**	**196**	Pg	Pg	04 06 24.6	+0.3
WALT				Sg	Sb	04 06 33.1	-0.7
XAFF	**Xaffevillers**	**0.62**	**258**	Pg	Pg	04 06 25.0	+0.4
XAFF				Sg	Sg	04 06 33.5	+0.7
KIZ	**Kirchzarten**	**0.64**	**156**	Sg	Sg	04 06 34.0	+0.5
KIZ	**Kirchzarten**	**0.64**	**156**	Pg	Pg	04 06 24.8	-0.3
FELD	**Feldberg im Sc**	**0.74**	**154**	Pg	Pg	04 06 26.8	-0.1
FELD	**Feldberg im Sc**	**0.74**	**154**	Sg	Sg	04 06 36.6	+0.1
ENDD	**Endenburg**	**0.84**	**170**	Pg	Pg	04 06 29.0	+0.2
ENDD	**Endenburg**	**0.84**	**170**	Sg	Sb	04 06 40.3	-0.3
HINF	**Hinteralfeld**	**0.85**	**212**	*e*Pg	Pg	04 06 28.5	-0.6
HINF				*e*Sg	Sg	04 06 40.2	0.0
	2.3nm,0.2s						
HAU	**Haudompre**	**0.95**	**236**	*e*Pg	Pg	04 06 30.7	-0.3
HAU				*e*Sg	Sb	04 06 43.9	-0.1
	2.9nm,0.2s						
SLE	**Schleitheim**	**1.01**	**140**	Pg	Pg	04 06 31.7	-0.4
SLE	**Schleitheim**	**1.01**	**140**	Sg	Sg	04 06 44.6	-0.6
RONF	**Ronchamp**	**1.02**	**216**	Pg	Pb	04 06 32.4	0.0
RONF				Sg	Sb	04 06 45.7	-0.1
PAGF	**Fort de Pagny**	**1.20**	**271**	*e*Pg	Pb	04 06 34.7	-0.8
PAGF				*e*Sg	Sb	04 06 48.7	-2.3
	1.5nm,0.2s						
CHMF	**Charmoille**	**1.42**	**205**	Pg	Pn	04 06 38.8	+0.2
CHMF				Sg	Sg	04 06 58.4	+0.1
SAVF	**Savonnieres en**	**1.60**	**274**	*e*Pg	Pn	04 06 40.9	-0.1
SAVF	**Savonnieres en**	**1.60**	**274**	*e*Pn	Pn	04 06 40.9	-0.1
SAVF				*e*Sn	Sn	04 06 59.4	-2.3
	0.3nm,0.2s						
SAVF				*e*Sg	Sb	04 07 01.5	-1.0
	2.1nm,0.3s						
SFTF	**Sexfontaines**	**1.69**	**260**	*e*Pn	Pn	04 06 41.6	-0.7
SFTF				*e*Sg	Sb	04 07 05.2	-0.1
	4.0nm,0.2s						
LOR	**Lormes**	**2.78**	**244**	*e*Pg	Pb	04 07 03.5	+1.1
	baz=60						
LOR				*e*Sg	Sb	04 07 38.8	+2.3
	0.5nm,0.2s,baz=54						
SSF	**Saint Saulge**	**3.09**	**243**	*e*Sg	Sg	04 07 48.9	-2.9
	0.3nm,0.2s						
SMF	**Signal de Mont**	**3.13**	**234**	*e*Pg	Pg	04 07 11.1	-1.6
SMF				*e*Sg	Sg	04 07 51.1	-2.2
	0.4nm,0.2s						

KOLA 12 04:08:38.1, 67°.65N×33°.75E, h0km, ML1.1, Error ellipse: s-maj=3.1km s-min=1.7km az=130.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**238**	S	Sg	04 08 43.3	+0.3
APA0	**Apatity Array**	**0.29**	**262**	P	Pg	04 08 43.5	-0.1
APA0				S	Sg	04 08 47.4	-0.1
LVZ	**Lovozero**	**0.42**	**54**	S	Sg	04 08 51.8	+0.2
KVDA	**Kovda**	**1.02**	**200**	P	Pg	04 08 56.7	-0.9
KVDA				S	Sg	04 09 09.7	-1.1
TERR	**Teriberka**	**1.64**	**17**	P	Pn	04 09 07.5	-0.5
TERR				S	Sn	04 09 28.4	-1.3
ARCES	**ARCESS Array B**	**3.57**	**306**	P	Pn	04 09 34.4	-0.1

IDC 12 04:09:00.4±1.7, 10°.72S×164°.96E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS3.5/3, Error ellipse: s-maj=54.2km s-min=30.9km az=128.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.38**	**173**	Pn	Pn	04 11 44.6	+0.2
	0.3nm,0.3s,baz=355,slow=21,SNR=1.1						
DZM				LR	LR	04 15 13.2	
	comp=Z,123nm,19.5s,baz=358,slow=33						
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**30.88**	**249**	P	P	04 15 19.1	+0.3
	0.8nm,0.9s,baz=80,slow=9.3,SNR=5.4						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**32.26**	**242**	P	P	04 15 30.6	-0.4
	0.5nm,0.8s,baz=70,slow=8.8,SNR=4.1						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**83.45**	**19**	P	P	04 21 29.6	0.0
	0.9nm,0.9s,baz=239,slow=5.7,SNR=9.7						
	0.9nm,0.9s						
LPIG	**La Paz**	**89.57**	**66**	LR	LR	04 57 35.4	
	comp=Z,34nm,18.0s,baz=348,slow=32						
ANMO	**Albuquerque**	**94.90**	**56**	LR	LR	04 58 47.1	
	comp=Z,24nm,18.7s,baz=55,slow=32						

*HEL **12** 04:09:21.0±0.4, 69°.34N×30°.43E, h0km, ML1.4, Explosion*
KOLA 12 04:09:20.6, 69°.45N×30°.62E, h0km, ML1.4, Zapolyarny City, Mines, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVG	**Vayda Guba**	**0.62**	**61**	S	Sg	04 09 40.1	-0.4
PRVG	**Vayda Guba**	**0.62**	**61**	P	Pg	04 09 32.0	-0.5
PRVG				S	Sg	04 09 40.1	-0.5
VADS	**Vadso**	**0.80**	**328**	P	Pg	04 09 35.0	-0.9
VADS				S	Sg	04 09 45.6	-0.8
RAJF	**Raja-Jooseppi**	**1.29**	**221**	*e*P	Pg	04 09 41.7	-3.4
RAJF				*e*S	Sg	04 09 57.1	-4.7
KEV	**Kevo**	**1.30**	**285**	*e*P	Pg	04 09 43.7	-1.8
KEV	**Kevo**	**1.30**	**285**	*e*P	Pg	04 09 43.6	-1.9
KEV				*e*SB	Sg	04 10 01.2	-1.2
KEV				MSG		04 10 03.0	
	comp=Z,2.7nm,0.2s						
KMNF	**Kaamanen**	**1.32**	**258**	*e*PB	Pg	04 09 43.5	-2.3
VRF	**Varrio**	**1.75**	**193**	*e*PG	Pn	04 09 50.0	-2.1
VRF				*e*SG	Sn	04 10 11.4	-3.7
ARA0	**ARCESS Array S**	**1.80**	**275**	*e*P	Pn	04 09 52.2	-0.7
ARA0	**ARCESS Array S**	**1.80**	**275**	*e*PG	Pn	04 09 52.3	-0.5
ARA0				*e*SN	Sn	04 10 15.8	-0.6
ARCES	**ARCESS Array B**	**1.80**	**275**	P	Pn	04 09 51.9	-1.0
ARCES				S	Sn	04 10 15.9	-0.6
ARCES	**ARCESS Array B**	**1.80**	**275**	S	Sn	04 10 15.9	-0.6
APA0	**Apatity Array**	**2.05**	**154**	S	Sn	04 10 20.1	-2.4
SGF	**Sodankyl**	**2.52**	**219**	*e*P	Pn	04 10 01.4	-1.3
SGF				*e*SB	Sn	04 10 32.3	-1.8
KTK1	**Kautokeino**	**2.67**	**264**	*e*PB	Pn	04 10 06.6	+1.8
KTK1				*e*SG	Sb	04 10 40.5	-1.9
HEF	**Hetta**	**2.72**	**251**	*e*PG	Pn	04 10 07.3	+1.8
HEF				MSG		04 10 37.1	
	comp=Z,1.1nm,0.2s						
HEF				*e*SG	Sn	04 10 41.1	+2.0
KVDA	**Kovda**	**2.90**	**162**	S	Sn	04 10 43.3	0.0

*BUG **12** 04:21:27.6, 50°.35N×7°.46E, h2km±1km, MD3.2/12, ML3.1/15*
*BNS **12** 04:21:28.0±0.8, 50°.33N×7°.47E, h4km±2km, ML2.4*
*LDG **12** 04:21:28.2±0.1, 50°.31N×7°.40E, h6km, Ml2.8/34, Error ellipse: s-maj=1.6km s-min=1.3km az=47.0*
*UCC **12** 04:21:28.7±0.8, 50°.28N×7°.40E, h10km±1km, ML2.3*
*BGR **12** 04:21:28.1±0.3, 50°.34N×7°.45E, h10km, ML2.4/11, Error ellipse: s-maj=4.4km s-min=2.2km az=169.0*
*STR **12** 04:21:29.7±0.7, 50°.N±4°×±°, h5km, MLv2.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=42.8, preliminary*
*PRU **12** 04:21:31.6, 50°.17N×7°.69E, h10km*
ISC 12 04:21:28.0±0.7, 50°.32N±0°.01×7°.44E±0°.01, h17km±4km, n185, σ1°.64/318, 22C-45D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHT	**Ochtendung**	**0.06**	**289**	⇑Pg	**Pg**	**04 21 30.2**	**-1.0**
OCHT				Sg	**Sg**	**04 21 31.6**	**-1.7**
BGG	**Burgeitz**	**0.13**	**211**	*e*Pg	**Pg**	**04 21 31.2**	**-0.7**
BGG				*e*Sg	**Sg**	**04 21 33.2**	**-1.3**
	3µm,0.1s						
NICK	**Nickenich**	**0.14**	**319**	⇑*i*Pg	**Pg**	**04 21 31.7**	**-0.4**
NICK				Sg	**Sg**	**04 21 34.2**	**-0.6**
BHE	**Schloss Buerre**	**0.17**	**281**	⇑Pg	**Pg**	**04 21 32.3**	**-0.2**
BHE				Sg	**Sg**	**04 21 34.9**	**-0.6**
	934nm,0.1s						
LAGB	**Langenfeld Gru**	**0.22**	**281**	⇓*i*Pg	**Pg**	**04 21 33.2**	**0.0**
LAGB				Sg	**Sg**	**04 21 36.3**	**-0.5**
NAST	**IGS Nastaetten**	**0.30**	**115**	*e*Sg	**Sg**	**04 21 37.6**	**-1.2**
	585nm,0.2s						
FACH	**Fachingen**	**0.35**	**84**	⇑Pg	**Pg**	**04 21 34.7**	**-0.7**
FACH				Sg	**Sg**	**04 21 38.9**	**-1.6**
GWBD	**Espenschied/He**	**0.36**	**125**	⇑Pg	**Pg**	**04 21 35.2**	**-0.4**
GWBD				Sg	**Sg**	**04 21 39.6**	**-1.0**
TDN	**Todenfeld**	**0.41**	**309**	⇓Pg	**Pg**	**04 21 36.5**	**+0.2**
TDN				Sg	**Sg**	**04 21 41.7**	**-0.3**
	471nm,0.2s						
BA10	**Klein Altendor**	**0.41**	**316**	*e*Sg	**Sg**	**04 21 41.9**	**-0.2**
ABH	**Alteburg**	**0.45**	**171**	Pg	**Pg**	**04 21 36.9**	**-0.1**
ABH				Sg	**Sg**	**04 21 41.9**	**-1.3**
ABH	**Alteburg**	**0.45**	**171**	⇑*i*Pg	**Pg**	**04 21 37.0**	**-0.1**
ABH				Sg	**Sg**	**04 21 42.6**	**-0.5**
BA18	**Steinbach**	**0.47**	**306**	*e*Sg	**Sg**	**04 21 43.6**	**-0.4**
STB	**Steinbach**	**0.47**	**306**	*e*Pg	**Pg**	**04 21 37.6**	**+0.1**
STB				*e*Sg	**Sg**	**04 21 43.9**	**0.0**
	121nm,0.1s						
BIW	**Bindweide**	**0.48**	**31**	⇑*i*Pg	**Pg**	**04 21 36.8**	**-0.9**
BIW				Sg	**Sg**	**04 21 42.1**	**-2.1**
HILG	**Hillesheim**	**0.49**	**267**	*e*Pg	**Pg**	**04 21 38.0**	**+0.1**
HILG				*e*Sg	**Sg**	**04 21 44.9**	**+0.4**
	184nm,0.3s						
WBS	**Wahnbachtalspe**	**0.50**	**348**	⇑Pg	**Pb**	**04 21 38.1**	**-0.2**
WBS				Sg	**Sg**	**04 21 44.3**	**-0.4**
	669nm,0.1s						
BA15	**Heimerzheim**	**0.51**	**320**	*e*Pg	**Pg**	**04 21 38.1**	**-0.2**
BA15				*e*Sg	**Sg**	**04 21 44.8**	**-0.4**
GWBE	**Wiesbaden**	**0.52**	**114**	⇑Pg	**Pg**	**04 21 37.9**	**-0.5**
GWBE				Sg	**Sg**	**04 21 43.8**	**-1.6**
GWBC	**Aumenau**	**0.54**	**82**	Pg	**Pg**	**04 21 38.2**	**-0.5**
LOH	**Wallersheim-Lo**	**0.60**	**257**	*e*Pg	**Pg**	**04 21 40.0**	**+0.1**
TNS	**Taunus Mts**	**0.65**	**98**	⇑Pg	**Pg**	**04 21 40.2**	**-0.7**
TNS				*e*Sg	**Sb**	**04 21 51.0**	**+1.2**
BA09	**Bensberg**	**0.67**	**345**	*e*Sg	**Sg**	**04 21 49.5**	**-0.6**
BNS	**Bensberg**	**0.67**	**345**	*e*Pg	**Pg**	**04 21 41.0**	**-0.1**
BNS				*e*Sg	**Sg**	**04 21 49.5**	**-0.5**
	461nm,0.5s						
HOBG	**Hohbusch**	**0.67**	**354**	*e*Pg	**Pg**	**04 21 41.0**	**-0.2**
HOBG				*e*Sg	**Sg**	**04 21 49.2**	**-0.9**
	541nm,0.4s						
WBFO	**Grube Fortuna**	**0.68**	**68**	Pg	**Pg**	**04 21 40.5**	**-0.8**
WBFO				Sg	**Sb**	**04 21 50.7**	**+0.3**
OLFT	**Oleftalsperre**	**0.68**	**285**	*e*Pg	**Pg**	**04 21 41.4**	**+0.1**
BODE	**Bodenheim**	**0.69**	**126**	⇓*i*Pg	**Pg**	**04 21 41.2**	**-0.3**
BODE				Sg	**Sg**	**04 21 50.3**	**-0.3**
RIVT	**Riveris**	**0.75**	**216**	⇑P*	**Pg**	**04 21 41.4**	**-1.3**
RIVT				*e*Sg	**Sg**	**04 21 53.1**	**+0.4**
IMS	**Imsbach**	**0.79**	**158**	⇓Pg	**Pg**	**04 21 43.2**	**-0.1**
IMS				⇓*i*PmP		04 21 44.4	
IMS				Sg	**Sg**	**04 21 53.9**	**+0.2**
IMS				SmS		04 21 55.8	
PLH	**Pulheim**	**0.79**	**330**	⇑P*	**Pb**	**04 21 43.5**	**+0.2**
PLH				*e*Sg	**Sb**	**04

WLF	**Walferdange**	**1.06 232**	P*	**Pg**	**04 21 46.8**	**-1.8**
WLF			Sg	**Sb**	**04 22 03.1**	**+1.7**
HGN	**Heimansgroeve**	**1.06 295**	Pn	**Pb**	**04 21 48.5**	**+0.6**
HGN			Sg	**Sg**	**04 22 02.1**	**-0.4**
HES	**Velbert-Hesper**	**1.08 347**	P*	**Pg**	**04 21 48.2**	**-0.7**
HES			Sg	**Sb**	**04 22 02.8**	**+0.8**
comp=E,96nm,0.2s						
KASTN	**Kahler Asten**	**1.08 35**	*e*Pg	**Pg**	**04 21 47.4**	**-1.5**
KASTN			*e*Sg	**Sg**	**04 22 02.4**	**-0.7**
SORT	**Sorpetalsperre**	**1.08 18**	⇓P*	**Pg**	**04 21 48.4**	**-0.6**
SORT			*e*Sg	**Sg**	**04 22 02.5**	**-0.7**
comp=E,163nm,0.3s						
WBA	**Furth**	**1.11 126**	⇓Pn	**Pb**	**04 21 48.5**	**-0.2**
WBA			Sg	**Sg**	**04 22 02.3**	**-1.7**
BKLB	**Ruhr-Universit**	**1.13 354**	Pg	**Pb**	**04 21 49.0**	**0.0**
BUG	**Bochum--Univer**	**1.13 354**	*e*Pg	**Pb**	**04 21 48.9**	**-0.2**
BUG			*e*Sg	**Sn**	**04 22 04.9**	**+0.8**
RWB	**Wassenberg**	**1.13 314**	*e*Pg	**Pg**	**04 21 49.7**	**-0.3**
BTEZ	**Ruhr-Universit**	**1.14 355**	Pn	**Pb**	**04 21 49.2**	**0.0**
BTEZ			Sg	**Sb**	**04 22 04.0**	**+0.4**
BULI	**Ruhr-Universit**	**1.14 354**	Pg	**Pb**	**04 21 49.2**	**-0.1**
BULI			Sg	**Sb**	**04 22 03.8**	**0.0**
RODG	**Roetgen-Dahlhe**	**1.15 316**	*e*Pg	**Pg**	**04 21 50.0**	**-0.3**
RODG			*e*Sg	**Sn**	**04 22 05.6**	**+0.9**
GWBF	**Romrod**	**1.18 69**	Pg	**Pg**	**04 21 50.8**	**0.0**
GWBF			Sg	**Sn**	**04 22 06.2**	**+0.8**
BLCH	**La Chartreuse**	**1.22 286**	κP	**Pn**	**04 21 50.9**	**+0.6**
BLCH			*d*S	**Sb**	**04 22 06.6**	**+0.5**
comp=N,44nm,0.3s						
BEBN	**Eben Emael**	**1.22 294**	*b*P	**Pn**	**04 21 50.8**	**+0.5**
BEBN			*d*S	**Sg**	**04 22 07.3**	**-0.3**
comp=N,75nm,0.3s						
BSTI	**Sart Tilman**	**1.23 283**	*d*P	**Pn**	**04 21 51.0**	**+0.6**
WBG	**Bieber**	**1.23 96**	Pg	**Pn**	**04 21 50.4**	**-0.1**
WBG			Sg	**Sb**	**04 22 06.2**	**-0.2**
PEB	**Petersbachel**	**1.27 173**	Pn	**Pn**	**04 21 50.6**	**-0.3**
PEB			Sg	**Sb**	**04 22 07.8**	**+0.4**
ROTT	**Steinweiler**	**1.28 159**	*e*Pg	**Pn**	**04 21 51.0**	**-0.1**
ROTT			*e*Sg	**Sb**	**04 22 07.7**	**0.0**
MILB	**Miltenberg**	**1.29 112**	Pn	**Pn**	**04 21 51.6**	**+0.3**
MILB			Sg	**Sb**	**04 22 08.5**	**+0.4**
LEMB	**Lembach**	**1.30 171**	Pg	**Pn**	**04 21 52.3**	**+0.8**
LEMB			Sg	**Sb**	**04 22 09.4**	**+0.9**
HMES	**Hamm, Michael-**	**1.35 8**	Sg	**Sg**	**04 22 11.0**	**-0.7**
BZER	**Hlnxe**	**1.35 345**	Sg	**Sg**	**04 22 11.2**	**-0.5**
VOEL	**Voellerdingen**	**1.37 189**	Pg	**Pn**	**04 21 53.7**	**+1.3**
VOEL			Sg	**Sb**	**04 22 10.9**	**+0.4**
BCLA	**Clavier**	**1.37 275**	*b*P	**Pn**	**04 21 53.2**	**+0.8**
BCLA			*d*S	**Sb**	**04 22 11.2**	**+0.6**
comp=N,33nm,0.2s						
BOPT	**Opiter**	**1.40 305**	*b*P	**Pn**	**04 21 53.3**	**+0.6**
BOPT			*d*S	**Sg**	**04 22 12.5**	**-0.6**
SZBH	**soultz borehol**	**1.42 169**	Pg	**Pn**	**04 21 54.2**	**+1.2**
SZBH			Sg	**Sb**	**04 22 13.2**	**+1.5**
NEEW	**Neewiller pres**	**1.43 162**	Pg	**Pb**	**04 21 55.0**	**+0.8**
NEEW			Sg	**Sb**	**04 22 13.8**	**+1.6**
RCHB	**Rochefort**	**1.43 264**	Pn	**Pn**	**04 21 54.0**	**+0.9**
RCHB	**Rochefort**	**1.43 264**	Sn	**Sg**	**04 22 14.3**	**+0.1**
RCHB	**Rochefort**	**1.43 264**	*b*P	**Pn**	**04 21 54.1**	**+0.9**
RCHB			*d*S	**Sn**	**04 22 12.1**	**+0.5**
comp=N,34nm,0.3s						
RCHB	**Rochefort**	**1.43 264**	*e*Pn	**Pn**	**04 21 54.1**	**+0.9**
RCHB			*e*Sg	**Sn**	**04 22 13.0**	**+1.4**
BAVN	**Auguste-Victor**	**1.43 352**	Pn	**Pn**	**04 21 54.0**	**+0.8**
BAVN			Sg	**Sg**	**04 22 14.0**	**-0.3**
CIEL	**Dossenheim-sur**	**1.49 182**	Pn	**Pn**	**04 21 54.6**	**+0.6**
CIEL			Sn	**Sn**	**04 22 14.6**	**+1.6**
BGES	**Gesves**	**1.51 273**	*d*P	**Pn**	**04 21 55.7**	**+1.4**
BGES			*d*S	**Sn**	**04 22 13.4**	**-0.1**
comp=E,24nm,0.3s						
SPAHL	**Spahl**	**1.61 77**	*e*Pn	**Pn**	**04 21 55.6**	**-0.1**
SPAHL			Sn	**Sn**	**04 22 17.3**	**+1.2**
SPAHL			*e*Sg	**Sg**	**04 22 19.4**	**-0.5**
HOHE	**HOHENGOEFT**	**1.66 179**	Pn	**Pn**	**04 21 57.4**	**+1.0**
HOHE			Sn	**Sn**	**04 22 19.5**	**+2.1**
BABA	**Baden-Baden-Ne**	**1.68 163**	Pn	**Pn**	**04 21 57.8**	**+1.2**
BABA	**Baden-Baden-Ne**	**1.68 163**	Sn	**Sn**	**04 22 19.8**	**+2.1**
GIVF	**Givet**	**1.70 264**	*e*Pg	**Pb**	**04 21 58.8**	**0.0**
GIVF			*e*Sg	**Sb**	**04 22 20.3**	**+0.5**
comp=E,80nm,0.3s						
SIND	**Sindeldorf**	**1.71 124**	Pn	**Pn**	**04 21 57.7**	**+0.7**
UBBA	**Unterbreizbach**	**1.71 72**	Pg	**Pb**	**04 21 59.4**	**+0.6**
UBBA			*e*Sg	**Sb**	**04 22 21.3**	**+1.3**
BMRD	**Maredsous**	**1.71 270**	*b*P	**Pb**	**04 21 58.8**	**-0.2**
BMRD			*d*S	**Sn**	**04 22 19.9**	**+1.3**
comp=E,28nm,0.2s						
HROE	**Hohe Rhon--Fla**	**1.75 82**	Pn	**Pn**	**04 21 58.5**	**+0.9**
HROE			*e*Sg	**Sg**	**04 22 24.5**	**+0.1**
BDSL	**Dessel**	**1.76 302**	*b*P	**Pn**	**04 21 59.2**	**+1.5**
BDSL			*d*S	**Sn**	**04 22 20.9**	**+1.3**
comp=N,8.9nm,0.2s						
GALG	**Neuhausen (Enz**	**1.77 150**	Pn	**Pn**	**04 21 58.3**	**+0.5**
VITZ	**Vitzeroda**	**1.78 70**	Pn	**Pn**	**04 21 58.6**	**+0.6**
MANO	**Manonville**	**1.79 214**	Pn	**Pn**	**04 21 58.7**	**+0.5**
MANO			Sn	**Sn**	**04 22 21.9**	**+1.4**
DOU	**Dourbes**	**1.84 264**	Pn	**Pn**	**04 22 00.1**	**+1.2**
DOU			Sn	**Sb**	**04 22 24.5**	**+0.5**
DOU	**Dourbes**	**1.84 264**	*b*P	**Pn**	**04 21 59.7**	**+0.9**
DOU			*d*S	**Sn**	**04 22 22.1**	**+0.3**
comp=E,31nm,0.2s						
OPP	**Oppenau**	**1.89 165**	Sn	**Sn**	**04 22 24.6**	**+1.6**
OPP	**Oppenau**	**1.89 165**	Pn	**Pn**	**04 21 59.9**	**+0.4**
OPP	**Oppenau**	**1.89 165**	Pn	**Pn**	**04 21 59.9**	**+0.4**
CDF	**Champ du Feu**	**1.91 183**	*e*Pg	**Pb**	**04 22 02.9**	**-0.4**
CDF			*e*Sg	**Sn**	**04 22 26.1**	**+2.5**
comp=E,8.2nm,0.1s						
IBBE	**Ibbenbueren Ea**	**2.00 6**	Pn	**Pb**	**04 22 04.2**	**+0.4**
IBBE			Sn	**Sb**	**04 22 28.5**	**+0.1**
IBBN	**Ibbenburen**	**2.00 6**	Pg	**Pg**	**04 22 06.4**	**0.0**
IBBN			*e*Sg	**Sb**	**04 22 30.1**	**+1.6**
GTTG	**Gottingen**	**2.01 51**	*e*Pn	**Pn**	**04 22 00.6**	**-0.6**
GTTG			*e*Sn	**Sn**	**04 22 24.7**	**-1.2**
URBA	**Urbach, Forsts**	**2.04 136**	Pn	**Pn**	**04 22 02.0**	**+0.4**
BFO	**Black Forest**	**2.08 163**	Pn	**Pn**	**04 22 02.5**	**+0.4**
BFO			Pg	**Pg**	**04 22 08.4**	**+0.6**
BRQR	**Ronquire**	**2.08 279**	*d*P	**Pb**	**04 22 05.3**	**+0.1**
PAGF	**Fort de Pagny**	**2.09 213**	*e*Pn	**Pn**	**04 22 02.4**	**+0.1**
PAGF	**Fort de Pagny**	**2.09 213**	*e*Pg	**Pb**	**04 22 06.8**	**+1.3**
baz=33						
PAGF			*e*Sg	**Sb**	**04 22 33.8**	**+2.6**
comp=E,24nm,0.3s						
BAIF	**Baives**	**2.10 264**	*e*Pg	**Pb**	**04 22 05.5**	**-0.1**
BAIF			*e*Sn	**Sn**	**04 22 26.6**	**-1.4**
comp=E,3.0nm,0.2s						
BAIF			*e*Sg	**Sb**	**04 22 32.3**	**+1.0**
comp=E,54nm,0.3s						
A100A	**Rottenburg, We**	**2.10 152**	Pn	**Pn**	**04 22 04.0**	**+1.5**
A100A			Pg	**Pg**	**04 22 09.2**	**+0.8**
ECH	**Echery**	**2.12 185**	Pn	**Pn**	**04 22 02.3**	**-0.4**
BSKQ	**Steenkerk**	**2.17 280**	*d*P	**Pb**	**04 22 06.5**	**-0.3**
BSKQ			*d*S	**Sn**	**04 22 31.4**	**+1.5**
VOGT	**Vogtsburg - To**	**2.25 176**	Pg	**Pb**	**04 22 10.0**	**+1.8**
ETNF	**Estrennes**	**2.26 205**	Pn	**Pn**	**04 22 04.7**	**+0.1**
DEGG	**Deggingen-Nord**	**2.27 138**	Pn	**Pn**	**04 22 05.7**	**+1.0**
SAVF	**Savonnieres en**	**2.28 222**	*e*Pg	**Pb**	**04 22 09.6**	**+0.9**
SAVF	**Savonnieres en**	**2.28 222**	*e*Pg	**Pb**	**04 22 09.7**	**+1.0**
SAVF			*e*Sn	**Sn**	**04 22 30.7**	**-1.9**
SAVF			*e*Sg	**Sb**	**04 22 38.8**	**+2.2**
comp=E,13nm,0.2s						
SAVF			*e*Sg	**Sg**	**04 22 39.3**	**-2.0**
comp=E,12nm,0.2s						
SAVF	**Savonnieres en**	**2.28 222**	Sn	**Sn**	**04 22 35.0**	**+2.5**
SAVF	**Savonnieres en**	**2.28 222**	Pn	**Pn**	**04 22 05.6**	**+0.7**
A101B	**Rottweil, Deis**	**2.32 161**	Pn	**Pn**	**04 22 07.1**	**+1.6**
A101B			Pg	**Pg**	**04 22 12.7**	**+0.1**
FREU	**Neufra-Freuden**	**2.36 151**	Pn	**Pn**	**04 22 06.8**	**+0.7**
MSS	**Messtetten**	**2.36 155**	Pn	**Pn**	**04 22 07.4**	**+1.3**
KIZ	**Kirchzarten**	**2.39 172**	Pn	**Pn**	**04 22 06.5**	**+0.1**
KIZ	**Kirchzarten**	**2.39 172**	Pn	**Pn**	**04 22 06.4**	**0.0**
CLZ	**Clausthal**	**2.40 49**	Pn	**Pn**	**04 22 07.6**	**+1.1**
CLZ			Pg	**Pb**	**04 22 11.6**	**+0.9**
HAU	**Haudompre**	**2.43 198**	*e*Pn	**Pn**	**04 22 06.7**	**-0.2**
HAU	**Haudompre**	**2.43 198**	*e*Pg	**Pb**	**04 22 13.2**	**+2.0**
HAU			*e*Sg	**Sb**	**04 22 43.0**	**+2.2**
comp=E,14nm,0.2s						
A102A	**Sigmaringen, J**	**2.47 152**	Pn	**Pn**	**04 22 08.6**	**+1.1**
FELD	**Feldberg im Sc**	**2.48 171**	Pn	**Pn**	**04 22 07.8**	**+0.1**
GUT	**Gutenstein**	**2.50 153**	Pn	**Pn**	**04 22 08.6**	**+0.6**
GUT	**Gutenstein**	**2.50 153**	Pn	**Pn**	**04 22 08.6**	**+0.6**
HINF	**Hinteralfeld**	**2.54 189**	*e*Pn	**Pn**	**04 22 07.6**	**-0.8**
HINF	**Hinteralfeld**	**2.54 189**	*e*Pg	**Pb**	**04 22 15.3**	**+2.2**
HINF			*e*Sn	**Sn**	**04 22 36.8**	**-2.1**
comp=E,3.6nm,0.2s						
HINF			*e*Sg	**Sb**	**04 22 47.4**	**+3.4**
comp=E,11nm,0.3s						
ENDD	**Endenburg**	**2.62 176**	Pn	**Pn**	**04 22 09.5**	**0.0**
SFTF	**Sexfontaines**	**2.64 218**	*e*Pn	**Pn**	**04 22 08.9**	**-0.9**
SFTF	**Sexfontaines**	**2.64 218**	*e*Pg	**Pb**	**04 22 15.8**	**+1.0**
SFTF			*e*Sg	**Sb**	**04 22 50.3**	**+3.4**
comp=E,21nm,0.2s						
SLE	**Schleitheim**	**2.65 164**	Pn	**Pn**	**04 22 10.3**	**+0.3**
RONF	**Ronchamp**	**2.66 192**	Pn	**Pn**	**04 22 10.0**	**-0.2**
BALST	**Balsthal**	**2.99 177**	Pn	**Pn**	**04 22 14.8**	**+0.1**
CHMF	**Charmoille**	**3.12 190**	Pn	**Pn**	**04 22 16.3**	**-0.2**
NKC	**Novy Kostel**	**3.21 90**	*e*SG	**Sg**	**04 23 09.2**	**-2.0**
DAVA	**Damuels**	**3.44 151**	*i* Pn	**Pn**	**04 22 22.1**	**+1.1**
comp=E,2.1nm,0.3s						
DAVA			*i* Sn	**Sn**	**04 23 02.8**	**+1.5**
comp=E,2.8nm,0.3s						
DAVA			*e*Sg	**Sg**	**04 23 17.7**	**-0.7**
comp=E,5.2nm,0.4s						
BRANT	**Les Verrieres**	**3.45 191**	Pn	**Pn**	**04 22 20.9**	**-0.1**
RETA	**Reutte**	**3.58 141**	*i* Pn	**Pn**	**04 22 25.3**	**+2.4**
comp=E,0.7nm,0.1s						
RETA			*i* Sn	**Sn**	**04 23 04.7**	**-0.1**
comp=E,0.7nm,0.2s						
CLL	**Collm**	**3.66 72**	*e*Pg	**Pg**	**04 22 37.0**	**-1.1**
CLL			*e*Sg	**Sg**	**04 23 22.0**	**-3.6**
CABF	**La Chapelle**	**3.82 194**	*e*Pn	**Pn**	**04 22 25.8**	**-0.3**
CABF			*e*Sn	**Sn**	**04 23 08.5**	**-2.2**
comp=E,0.9nm,0.2s						
CABF			*e*Sg	**Sg**	**04 23 27.1**	**-3.6**
comp=E,0.9nm,0.2s						
MOTA	**Moosalm**	**3.84 140**	*e*Pn	**Pn**	**04 22 28.6**	**+2.2**
comp=E,0.8nm,0.2s						
MOTA			*i* Sn	**Sn**	**04 23 09.8**	**-1.4**
comp=E,0.8nm,0.2s						
LOR	**Lormes**	**3.87 219**	*e*Pn	**Pn**	**04 22 25.6**	**-1.1**
LOR	**Lormes**	**3.87 219**	*e*Pg	**Pb**	**04 22 38.7**	**+3.0**
LOR			*e*Sn	**Sn**	**04 23 08.7**	**-3.0**
comp=E,4.5nm,0.2s						
LOR			*e*Sg	**Sg**	**04 23 28.8**	**-3.3**
comp=E,4.5nm,0.3s						
GIMEL	**St. Georges /**	**3.87 192**	Pn	**Pn**	**04 22 26.8**	**0.0**
FETA	**Feichten**	**3.96 145**	*i* Pn	**Pn**	**04 22 30.1**	**+2.1**
comp=E,0.5nm,0.2s						
FETA			*i* Sn	**Sn**	**04 23 13.9**	**-0.2**
comp=E,0.4nm,0.3s						
FETA			*i* Sg	**Sg**	**04 23 34.7**	**-0.2**
comp=E,0.7nm,0.3s						
SQTA	**Sankt Quirin**	**3.98 140**	*i* Pn	**Pn**	**04 22 30.1**	**+1.8**
comp=E,2.1nm,0.5s						
SQTA			*i* Sn	**Sn**	**04 23 13.0**	**-1.6**
comp=E,3.1nm,0.3s						
WATA	**Walderalm**	**4.05 136**	*i* Pn	**Pn**	**04 22 30.1**	**+0.8**
comp=E,0.7nm,0.2s						
WATA			*i* Sn	**Sn**	**04 23 17.1**	**+0.7**
comp=E,2.4nm,0.3s						
WTTA	**Wattenberg**	**4.13 136**	*i* Pn	**Pn**	**04 22 32.1**	**+1.7**
comp=E,1.2nm,0.3s						
WTTA			*i* Sn	**Sn**	**04 23 19.3**	**+0.9**
comp=E,4.1nm,0.5s						
KHC	**Kasperske Hory**	**4.16 104**	*e*PN	**Pn**	**04 22 32.3**	**+1.6**
KHC			*e*SN	**Sn**	**04 23 17.3**	**-1.6**
KHC			*e*SG	**Sg**	**04 23 36.9**	**-4.5**
SSF	**Saint Saulge**	**4.17 220**	*e*Pn	**Pn**	**04 22 29.8**	**-1.1**
SSF	**Saint Saulge**	**4.17 220**	*e*Pg	**Pb**	**04 22 43.1**	**+2.1**
SSF			*e*Sn	**Sn**	**04 23 17.1**	**-2.2**
comp=E,1.9nm,0.2s						
SSF			*e*Sg	**Sg**	**04 23 38.1**	**-3.9**
comp=E,3.5nm,0.3s						
BRG	**Berggiesshubel**	**4.18 80**	Sg	**Sg**	**04 23 43.2**	**+1.1**
BRG			Amp		04 23 48.9	
comp=Z,2.7nm,0.5s						
SMF	**Signal de Mont**	**4.39 214**	*e*Pn	**Pn**	**04 22 32.4**	**-1.5**
SMF	**Signal de Mont**	**4.39 214**	*e*Pg	**Pb**	**04 22 48.5**	**+3.8**
SMF			*e*Sn	**Sn**	**04 23 21.2**	**-3.4**
comp=Z,1.9nm,0.2s						
SMF			*e*Sg	**Sg**	**04 23 45.4**	**-3.5**
comp=Z,2.4nm,0.2s						
HYF	**Humbligny**	**4.41 228**	*e*Pn	**Pn**	**04 22 34.0**	**-0.1**
HYF	**Humbligny**	**4.41 228**	*e*Pg	**Pb**	**04 22 47.7**	**+2.8**
HYF			*e*Sn	**Sn**	**04 23 21.9**	**-3.1**
HYF			*e*Sg	**Sb**	**04 23 44.3**	**+6.6**
AVF	**Avril sur Loir**	**4.46 219**	*e*Pn	**Pn**	**04 22 33.7**	**-1.1**
AVF	**Avril sur Loir**	**4.46 219**	*e*Pg	**Pb**	**04 22 49.6**	**+3.8**
AVF			*e*Sn	**Sn**	**04 23 23.3**	**-2.9**
comp=Z,0.5nm,0.2s						
AVF			*e*Sg	**Sg**	**04 23 47.2**	**-3.8**
comp=Z,1.3nm,0.2s						
LESA	**Schwarzleotal**	**4.51 128**	*i* Pn	**Pn**	**04 22 37.4**	**+1.8**
comp=Z,0.4nm,0.1s						
LESA			*i* Sn	**Sn**	**04 23 25.5**	**-2.1**
comp=Z,2.7nm,0.3s						
LPL	**La Plagne**	**4.83 186**	*e*Pn	**Pn**	**04 22 39.2**	**-0.9**
LPL			*e*Sn	**Sn**	**04 23 31.5**	**-4.3**
comp=Z,1.2nm,0.4s						
LPG	**La Plagne**	**4.85 186**	*e*Pn	**Pn**	**04 22 40.1**	**-0.3**
LPG			*e*Sn	**Sn**	**04 23 33.4**	**-2.9**
comp=Z,0.5nm,0.3s						
BGF	**Bois d'Agland**	**4.85 221**	*e*Pn	**Pn**	**04 22 38.9**	**-1.3**
BGF	**Bois d'Agland**	**4.85 221**	*e*Pg	**Pb**	**04 22 56.9**	**+4.4**
BGF			*e*Sn	**Sn**	**04 23 32.1**	**-3.9**
comp=Z,3.6nm,0.3s						
BGF			*e*Sg	**Sg**	**04 23 59.0**	**-4.7**
comp=Z,7.6nm,0.4s						
ABTA	**Abfaltersbach**	**4.91 135**	*e*Pn	**Pn**	**04 22 44.3**	**+3.1**
comp=Z,0.1nm,0.1s						
ABTA			*i* Sn	**Sn**	**04 23 37.2**	**-0.3**
comp=Z,0.5nm,0.2s						
KBA	**Koelnbreinsper**	**5.08 127**	*i* Pn	**Pn**	**04 22 45.0**	**+1.5**
comp=Z,0.8nm,0.2s						
KBA			*e*Sn	**Sn**	**04 23 40.0**	**-1.8**
comp=Z,1.2nm,0.2s						
MOA	**Molln**	**5.12 116**	*i* Pn	**Pn**	**04 22 46.0**	**+2.1**
comp=Z,1.1nm,0.3s						
MOA			*i* Sn	**Sn**	**04 23 41.5**	**-1.1**
comp=Z,2.9nm,0.3s						
LDF	**La Druitiere**	**5.23 254**	*e*Sn	**Sn**	**04 23 41.0**	**-4.2**
comp=Z,0.8nm,0.2s						
TCF	**Toulx Ste Croi**	**5.33 223**	*e*Pn	**Pn**	**04 22 46.1**	**-0.8**
TCF	**Toulx Ste Croi**	**5.33 223**	*e*Pg	**Pb**	**04 23 05.2**	**+4.4**
TCF			*e*Sn	**Sn**	**04 23 43.6**	**-4.3**
TCF			*e*Sg	**Sg**	**04 24 14.7**	**-4.5**
comp=Z,0.9nm,0.2s						
FLN	**La Foliniere**	**5.39 256**	*e*Pn	**Pn**	**04 22 45.7**	**-1.9**
FLN	**La Foliniere**	**5.39 256**	*e*Pg	**Pb**	**04 23 05.4**	**+3.7**
FLN			*e*Sn	**Sn**	**04 23 45.4**	**-3.8**
comp=Z,1.4nm,0.3s						
FLN			*e*Sg	**Sg**	**04 24 14.7**	**-6.2**
comp=Z,4.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**5.51 192**	*e*Pn	**Pn**	**04 22 48.5**	**-0.8**
ORIF			*e*Sn	**Sn**	**04 23 47.7**	**-4.6**
ORIF			*e*Sg	**Sg**	**04 24 20.7**	**-4.0**
comp=Z,0.5nm,0.3s						
SOKA	**Soboth**	**6.22 123**	*i* Pn	**Pn**	**04 22 59.7**	**+0.6**
comp=Z,0.2nm,0.1s						
MFF	**Saint Martin d**	**6.27 237**	*e*Pn	**Pn**	**04 22 58.0**	**-1.7**
CAF	**Calviac**	**6.50 216**	*e*Pn	**Pn**	**04 23 01.3**	**-1.7**
SGMF	**Saint Gilles**	**6.86 256**	*e*Pn	**Pn**	**04 23 07.4**	**-0.4**
SGMF			*e*Sn	**Sn**	**04 24 21.0**	**-4.4**
comp=Z,0.8nm,0.2s						

*SDD **12** 04:21:27.6±0.8, 16°.91N×68°.13W, h23km±964km, MD3.5, ML2.6, MW2.1*
*NEIC **12** 04:21:33.2±0.8, 17°.1N±0°.1×68°.24W±0°.04, h35km±2km, ML2.4/16, Md3.0/5(RSPR), Error ellipse: s-maj=17.7km s-min=5.3km az=192.0*
*RSPR **12** 04:21:35.5, 17°.18N×68°.26W, h52km±18km, MD3.0/5*
ISC 12 04:21:28.6±2.7, 17°.1N±0°.1×68°.16W±0°.05, h6km±12km, n24, σ0s76/32, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.39**	**46**		**Pg**	**04 21 56.0**	**+0.8**
CRPR					**Sn**	**04 22 13.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.39**	**46**	⇑*e*P	**Pg**	**04 21 57.1**	**+1.9**
CRPR	**Cabo Rojo, PR**	**1.39**	**46**	*e*S	**Sn**	**04 22 14.2**	**+1.1**
MLPR	**Magueyes Islan**	**1.41**	**49**		**Pb**	**04 21 55.2**	**0.0**
MLPR					**Sb**	**04 22 13.9**	**+0.4**
MLPR				IAML		04 22 38.0	
comp=E,40nm,2.5s							
MLPR	**Magueyes Islan**	**1.41**	**49**	⇓*e*P	**Pb**	**04 21 55.3**	**0.0**
MLPR	**Magueyes Islan**	**1.41**	**49**	*e*S	**Sn**	**04 22 14.1**	**+0.4**
PCDR	**Punta Cana, DR**	**1.47 352**			**Pg**	**04 21 57.0**	**+0.2**
PCDR	**Punta Cana, DR**	**1.47 352**		⇑*e*Pg	**Pn**	**04 21 55.5**	**-0.2**
PCDR				⇑*e*Sg	**Sg**	**04 22 15.1**	**-0.9**
PCDR				IAML		04 22 37.7	
comp=N,213nm,1.9s							
PCDR	**Punta Cana, DR**	**1.47 352**		⇑*e*P	**Pg**	**04 21 57.2**	**+0.3**
CELP	**Cerrillos**	**1.82 56**			**Pb**	**04 22 02.5**	**+0.1**
CELP					**Sn**	**04 22 25.1**	**+1.2**
CELP				IAML		04 22 52.5	
comp=E,24nm,3.0s							
CELP				IAML		04 23 12.7	
comp=N,30nm,3.1s							
CELP	**Cerrillos**	**1.82 56**		⇑*e*Pg	**Pn**	**04 21 59.2**	**-1.3**
CELP				⇑*e*Sg	**Sn**	**04 22 23.2**	**-0.8**
CELP				IAML		04 22 23.6	
comp=N,19nm,2.5s							
CELP	**Cerrillos**	**1.82 56**		⇑*e*P	**Pb**	**04 22 03.0**	**+0.6**
CELP	**Cerrillos**	**1.82 56**		*e*S	**Sb**	**04 22 25.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.82 49**			**Pb**	**04 22 02.9**	**+0.5**
UUPR					**Sn**	**04 22 25.0**	**+1.0**
UUPR				IAML		04 22 26.9	
comp=N,28nm,0.5s							
UUPR	**Utuado, UPR, P**	**1.82 49**		⇓*e*P	**Pg**	**04 22 03.7**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.82 49**		*e*S	**Sn**	**04 22 24.7**	**+0.7**
AOPR	**Arecibo Observ**	**1.86 46**			**Pb**	**04 22 03.3**	**+0.2**
AOPR	**Arecibo Observ**	**1.86 46**			**Sb**	**04 22 26.3**	**-0.4**
AOPR	**Arecibo Observ**	**1.86 46**		⇑*e*Pg	**Pn**	**04 22 00.3**	**-0.8**
AOPR				⇑*e*Sg	**Sn**	**04 22 24.3**	**-0.7**
AOPR				IAML		04 22 40.7	
comp=N,40nm,3.2s							
AOPR	**Arecibo Observ**	**1.86 46**		⇑*e*P	**Pg**	**04 22 04.1**	**-0.3**
AOPR	**Arecibo Observ**	**1.86 46**		*e*S	**Sb**	**04 22 26.3**	**-0.4**
DR12	**Loma Pena Alta**	**2.08 326**	Pn		**Pn**	**04 22 04.5**	**+0.3**
DR12				IAML		04 22 41.7	
comp=E,28nm,2.3s							
DR12				IAML		04 22 53.5	
comp=N,26nm,4.5s							
HATOM	**Hato Mayor del**	**2.08 326**		⇑*e*Pg	**Pn**	**04 22 04.4**	**+0.2**
HATOM				⇑*e*Sg	**Sb**	**04 22 32.3**	**-0.7**
HATOM				IAML		04 23 15.8	
comp=N,36nm,2.7s							
IGPR	**InterUniversit**	**2.16 65**	Pn		**Pb**	**04 22 07.4**	**-0.8**
IGPR				IAML		04 23 03.9	
comp=N,24nm,2.8s							
IGPR				IAML		04 23 05.6	
comp=E,28nm,2.5s							

*IDC **12** 04:50:34.4±5.8, 23°.93N×108°.42W, h0km, mb2.7/1, mbtmp2.7/3, ML3.1/1, Error ellipse: s-maj=88.3km s-min=32.0km az=150.0*
*MEX **12** 04:50:40.3±0.5, 24°.09N×109°.10W, h5km, MD3.7*
ISC 12 04:50:37.4±1.0, 23°.98N±0°.07×108°.97W±0°.05, h22km, n7, σ2s32/11, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.94 252**		*e*P	**Pn**	**04 50 55.0**	**-0.4**
SLBS				*e*S	**Sn**	**04 51 06.9**	**-1.3**
LPIG	**La Paz**	**1.23 276**		*e*P	**Pn**	**04 50 58.2**	**-1.1**
LPIG				*e*S	**Sn**	**04 51 13.5**	**-1.7**
TSIG	**Topolobambo**	**1.61 358**		*e*P	**Pn**	**04 51 03.8**	**-0.8**
TSIG				*e*S	**Sn**	**04 51 23.5**	**-1.2**
MAIG	**Mazatlaan**	**2.47 108**		*e*P	**Pb**	**04 51 20.0**	**-1.1**
MAIG				*e*S	**Sb**	**04

1μm,0.1s
ZHN Zhinishke 0.24 31 P Pg 05 13 56.0 +0.1
18nm,0.1s
ZHN S Sg 05 13 59.5 -0.1
853nm,0.1s
ZHN Zhinishke 0.24 31 *eP* **Pg 05 13 56.0 +0.1**
16nm,0.1s
ZHN *eS* Sg 05 13 59.5 -0.1
790nm,0.1s
ANVS Anan'yevo 0.47 248⇓*eP* **Pg 05 14 00.2 +0.2**
ANVS ⇓*eS* Sg 05 14 05.6 -0.8
PRZ Przheval'sk 0.49 168⇑*iP* **Pn 05 14 02.4 -0.6**
PRZ ⇑*iS* Sn 05 14 10.2 -1.1
KURS Kuram 0.53 352 P **Pg 05 14 00.9 -0.1**
15nm,0.1s
KURS S Sg 05 14 07.8 -0.3
62nm,0.2s
UZB Uzynbulak 0.58 71 P **Pb 05 14 02.8 +0.4**
9.0nm,0.1s
UZB S Sb 05 14 11.3 +0.7
57nm,0.1s
UZB Uzynbulak 0.58 71 *eP* **Pb 05 14 02.8 +0.4**
3.8nm,0.0s
UZB *eS* Sb 05 14 11.3 +0.7
57nm,0.1s
KPKS Kokpek 0.59 31 P **Pb 05 14 02.4 -0.1**
9.8nm,0.1s
KPKS S Sb 05 14 10.4 -0.3
73nm,0.5s
KPKS Kokpek 0.59 31 *eP* **Pb 05 14 02.4 -0.1**
7.8nm,0.1s
KPKS *eS* Sb 05 14 10.4 -0.3
54nm,0.2s
KOTS Kotyrbulak 0.89 288 P **Pg 05 14 07.3 -0.4**
8.8nm,0.2s
KOTS S Sg 05 14 19.1 -0.4
21nm,0.2s
KOTS Kotyrbulak 0.89 288 *eP* **Pg 05 14 07.3 -0.4**
8.8nm,0.2s
KOTS *eS* Sg 05 14 19.1 -0.4
22nm,0.1s
SHLS Shalkode 0.90 77 P Pn 05 14 14.1 +5.5
3.9nm,0.1s
SHLS S Sn 05 14 30.7 +9.3
552nm,0.2s
SHLS Shalkode 0.90 77 *eP* Pn 05 14 14.1 +5.5
3.4nm,0.1s
SHLS *eS* Sn 05 14 30.7 +9.3
8.9nm,0.1s
MDOK Medeo 0.92 283 P **Pb 05 14 07.1 -1.0**
1.9nm,0.4s
MDOK Pg **Pb 05 14 07.6 -0.5**
5.4nm,0.2s
MDOK S **Sg 05 14 18.9 -1.4**
4.1nm,0.4s
MDOK Lg Lg 05 14 19.3
7.3nm,0.2s
MDOK Medeo 0.92 283 *eP* **Pb 05 14 07.6 -0.5**
3.7nm,0.1s
MDOK *eS* **Sg 05 14 19.3 -1.0**
9.7nm,0.1s
PDGK Podgornoye 0.97 67⇑P **Pb 05 14 09.0 0.0**
1.6nm,0.3s
PDGK ⇑S **Sb 05 14 21.7 +0.1**
11nm,0.6s
TNSS Tian-Shan 0.97 275 P **Pb 05 14 08.9 -0.3**
2.1nm,0.1s
TNSS S **Sg 05 14 21.4 -0.7**
3.4nm,0.1s
TNSS Tian-Shan 0.97 275 *eP* **Pb 05 14 08.9 -0.3**
2.0nm,0.1s
TNSS *eS* **Sg 05 14 21.4 -0.7**
3.8nm,0.1s
BLB Baldybastay 1.15 8 P **Pg 05 14 12.2 -0.4**
14nm,0.1s
BLB S **Sg 05 14 27.1 -0.6**
24nm,0.1s
KDJ Kajisay 1.15 224⇑*iP* **Pn 05 14 12.5 +0.3**
KDJ ⇑*iS* **Sb 05 14 27.2 +0.2**
TARG Taragay, Kyrgy 1.28 196⇑*iP* **Pg 05 14 15.3 +0.2**
TARG ⇑*iS* **Sg 05 14 32.3 +0.5**
ARXS Arharly 1.29 346 P **Pb 05 14 14.7 +0.2**
4.2nm,0.1s
ARXS S **Sg 05 14 31.3 -0.9**
23nm,0.1s
MTBS Maitube 1.36 278 P **Pb 05 14 15.7 +0.1**
2.1nm,0.2s
MTBS S **Sb 05 14 33.3 +0.5**
4.9nm,0.4s
MTBS Maitube 1.36 278 *eP* **Pb 05 14 15.7 +0.1**
1.6nm,0.1s
MTBS *eS* **Sb 05 14 33.3 +0.5**
8.5nm,0.1s
KTBS Karatobe 1.38 304 P **Pb 05 14 16.1 +0.2**
3.1nm,0.1s
KTBS S **Sb 05 14 33.6 +0.2**
7.7nm,0.2s
KNOS Konyrlen 1.55 25 P **Pg 05 14 19.7 -0.6**
13nm,0.1s
KNOS S **Sg 05 14 40.0 -0.4**
15nm,0.2s
ULHL Ulahol 1.66 245⇓*iP* **Pb 05 14 20.3 -0.5**
ULHL ⇓*iS* **Sb 05 14 41.0 -0.5**
KST Kastek 1.69 274 P **Pb 05 14 21.9 +0.6**
0.9nm,0.3s
KST S **Sg 05 14 43.8 -1.2**
2.8nm,0.2s
KST Kastek 1.69 274 *eP* **Pb 05 14 21.9 +0.6**
0.3nm,0.1s
KST *eS* **Sg 05 14 43.8 -1.2**
2.3nm,0.2s
DJR Jarkent 1.76 38 P **Pg 05 14 23.4 -0.9**
7.4nm,0.2s
DJR S **Sg 05 14 46.7 -0.5**
28nm,0.3s
DJR Jarkent 1.76 38 *eP* **Pg 05 14 23.4 -0.9**
6.0nm,0.1s
DJR *eS* **Sg 05 14 46.7 -0.5**
41nm,0.2s
BOOM Boomskoye usch 1.78 255⇑*iP* **Pb 05 14 21.9 -0.9**
BOOM ⇑*iS* **Sn 05 14 43.5 +0.3**
DGS Degeres 1.85 280 P **Pb 05 14 23.8 -0.2**
2.2nm,0.3s
DGS S **Sb 05 14 47.8 +0.8**
15nm,0.3s
TKM2 Tokmak 2 1.96 270⇓Pn **Pg 05 14 28.1 -0.1**
0.8nm,0.3s
TKM2 ⇑Sn **Sg 05 14 54.6 +1.0**
4.7nm,0.3s
TKM2 Tokmak 2 1.96 270⇑*iP* **Pn 05 14 24.3 +1.0**
TKM2 ⇑*iS* **Sn 05 14 48.1 +0.4**
KRBS Karabastau 2.03 292 Pg **Pb 05 14 27.3 +0.3**
3.1nm,0.2s
KRBS Lg Lg 05 14 53.5
18nm,0.2s
KBK Karagaybulak 2.46 264⇓*iP* **Pn 05 14 31.2 +1.0**
KBK ⇓*iS* **Sn 05 15 00.0 0.0**
CHMS Chumysh 2.58 272⇓*iP* **Pn 05 14 32.8 +1.1**
CHMS ⇓*iS* **Sn 05 15 02.6 -0.2**
AAK Ala-Archa 2.79 265⇑*iP* **Pn 05 14 36.0 +1.3**
AAK ⇑*iS* **Sn 05 15 08.0 -0.2**
MAKZ Makanchi 4.66 33⇓Pn **Pn 05 14 58.4 -1.9**
0.4nm,0.3s
MAKZ ⇓Lg Lg 05 16 11.2
0.9nm,0.7s
MK31 Makanchi Array 4.78 35 Pn **Pn 05 15 05.4 +3.5**
0.3nm,0.3s,baz=213,slow=15,SNR=11
MK31 Lg Lg 05 16 18.5
0.8nm,0.6s,baz=217,slow=28,SNR=7.7

FUNV ***12*** *05:22:55.7,8.°25N×71.°91W,h2km,MW2.5*
RSNC ***12*** *05:22:59.8±0.0,8.°N±6.°×7.°2W±.°,h23km±23km,M1.9,ML1.7*
ISC 12 05:22:55.3±1.3,8.°30N±0.°06×71.°93W±0.°04,h13km±11km,
n9,σ0°89/18,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.58**	**221**	*eP*	**Pg**	**05 23 06.6**	**-0.1**
CAPV				*eS*	**Sg**	**05 23 14.2**	**-0.2**
SOCV	**Socops**	**1.07**	**91**	*eP*	**Pg**	**05 23 15.9**	**0.0**
SOCV				*eS*	**Sg**	**05 23 29.8**	**0.0**
PAMC	**Pamplona, Colo**	**1.22**	**218**	P	**Pn**	**05 23 18.3**	**-0.2**
PAMC				S	**Sn**	**05 23 34.7**	**-0.4**
PAMC	**Pamplona, Colo**	**1.22**	**218**	P		05 23 18.3	
PAMC				S		05 23 34.7	
OCAC	**Ocana**	**1.37**	**267**	P	**Pb**	**05 23 20.8**	**-0.2**
OCAC				S	**Sb**	**05 23 39.1**	**+0.6**
OCAC	**Ocana**	**1.37**	**267**	P		05 23 20.8	
OCAC				S		05 23 39.1	
SDV	**Santo Domingo**	**1.41**	**66**	P	**Pb**	**05 23 22.0**	**+0.4**
SDV				S	**Sg**	**05 23 40.7**	**-0.1**
SDV	**Santo Domingo**	**1.41**	**66**	P		05 23 22.0	
SDV				S		05 23 40.7	
TAMC	**Tame, Arauca**	**1.86**	**176**	P	**Pg**	**05 23 30.8**	**-0.3**
TAMC				S	**Sg**	**05 23 55.2**	**0.0**
TAMC	**Tame, Arauca**	**1.86**	**176**	P		05 23 30.8	
TAMC				S		05 23 55.2	
BARC	**Barichara**	**2.10**	**216**	P		05 23 16.2	
BARC				S		05 23 34.2	
RUSC	**La Rusia**	**2.65**	**206**	P	**Pb**	**05 23 43.9**	**+0.9**
RUSC				S	**Sg**	**05 24 19.2**	**-1.5**
RUSC	**La Rusia**	**2.65**	**206**	P		05 23 43.9	
RUSC				S		05 24 19.2	
PTBC	**PUERTO BERRIO,**	**3.06**	**235**	P	**Pb**	**05 23 49.6**	**0.0**
PTBC				S	**Sb**	**05 24 28.6**	**+1.8**
PTBC	**PUERTO BERRIO,**	**3.06**	**235**	P		05 23 49.6	
PTBC				S		05 24 28.6	
BAUV	**El Baul**	**3.90**	**80**	*eP*	**Pn**	**05 23 55.4**	**+0.4**
BAUV				*eS*	**Sn**	**05 24 38.7**	**-1.9**

IDC ***12*** *05:29:00.1±1.2,13.°30N×50.°63E,h0km,mb3.7/10,*
mbtmp3.7/10,MS3.2/12,Error ellipse: s-maj=30.0km
s-min=24.5km az=173.0
OMAN ***12*** *05:29:02.6±2.9,13.°78N×50.°43E,h10km,ml3.6/3,Error*
ellipse: s-maj=66.1km s-min=28.6km az=134.0
ISC 12 05:29:03.9±1.1,13.°5N±0.°2×50.°6E±0.°1,h21km,n25,
σ1°20/18,mb3.6/10,MS3.2/12,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.61**	**33**	P	**Pn**	**05 30 11.0**	**-1.5**
	SNR=6.2						
ABTO				S	**Sn**	**05 31 04.4**	**-1.1**
RBK	**Rabkut**	**5.26**	**40**	P	**Pn**	**05 30 20.6**	**-0.8**
RBK				S	**Sn**	**05 31 21.0**	**-0.5**
WHFO	**Wadi Hawf**	**5.33**	**34**	P	**Pn**	**05 30 20.9**	**-1.4**
	SNR=20						
DMTO	**DMTO**	**5.90**	**44**	P	**Pn**	**05 30 29.5**	**-0.6**
	SNR=14						
DMTO				S	**Sn**	**05 31 39.2**	**+2.0**
DOK	**Doka**	**6.10**	**33**	P	**Pn**	**05 30 31.8**	**-1.1**
	SNR=7.4						
EIL	**Elat**	**21.68**	**320**	LR	LR	05 42 21.5	
	comp=Z,46nm,18.6s,baz=70,slow=37						
MMAI	**Mount Meron Ar**	**23.89**	**327**	LR	LR	05 43 57.1	
	comp=Z,40nm,20.4s,baz=153,slow=37						
GNI	**Garni**	**27.05**	**350**	LR	LR	05 47 18.6	
	comp=Z,76nm,19.4s,baz=162,slow=40						
KBZ	**Khabaz**	**30.86**	**349**	LR	LR	05 49 21.1	
	comp=Z,63nm,18.8s,baz=164,slow=39						
AKTO	**Aktyubinsk**	**37.33**	**8**	LR	LR	05 52 53.8	
	comp=Z,23nm,20.9s,baz=248,slow=38						
BELG	**Belogornoye**	**38.88**	**357**	LR	LR	05 56 22.8	
	comp=Z,30nm,20.7s,baz=264,slow=42						
AKASG	**Malin Array Be**	**40.99**	**339**	P	**P**	**05 36 46.2**	**+0.9**
	1.1nm,0.8s,baz=153,slow=7.8,SNR=5.7						
AKASG				LR	LR	05 58 37.9	
	comp=Z,58nm,18.7s,baz=359,slow=43						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**42.45**	**18**	P	**P**	**05 36 58.7**	**+1.5**
	0.3nm,0.4s,baz=169,slow=1.5,SNR=4.3						
BVAR				LR	LR	05 56 28.4	
	comp=Z,42nm,18.4s,baz=123,slow=39						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**42.49**	**32**	P	**P**	**05 36 58.9**	**+1.2**
	0.4nm,0.5s,baz=216,slow=8.9,SNR=7.3						
	0.4nm,0.5s						
ARTI	**Arti**	**43.22**	**6**	LR	LR	05 59 24.1	
	comp=Z,24nm,18.2s,baz=56,slow=42						
KURBB	**Kurchatov Arra**	**43.42**	**26**	P	**P**	**05 37 05.6**	**+0.6**
	1.2nm,0.9s,baz=225,slow=8.4,SNR=12						
	1.2nm,0.9s						
LBTB	**Lobatse**	**45.41**	**213**	LR	LR	05 54 48.4	
	comp=Z,54nm,18.2s,baz=94,slow=34						
TORD	**Torodi Ar. Bea**	**47.56**	**276**	P	**P**	**05 37 38.8**	**+0.3**
	0.3nm,0.5s,baz=82,slow=7.2,SNR=8.5						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**48.49**	**26**	P	**P**	**05 37 44.8**	**-0.3**
	1.4nm,0.7s,baz=237,slow=8.3,SNR=6.6						
	1.4nm,0.7s						
BOSA	**Boshof**	**48.53**	**210**	LR	LR	05 57 50.7	
	comp=Z,44nm,18.1s,baz=52,slow=36						
ESDC	**Sonseca Array**	**54.39**	**309**	P	**P**	**05 38 28.5**	**-1.0**
	1.0nm,1.0s,baz=90,slow=10,SNR=4.8						
	1.0nm,1.0s						
NOA	**NORSAR Array B**	**55.37**	**338**	LR	LR	06 04 55.8	
	comp=Z,8.8nm,20.9s,baz=10.0,slow=39						
SONM	**Songino Array**	**57.31**	**41**	P	**P**	**05 38 51.8**	**+1.3**
	0.4nm,0.9s,baz=246,slow=7.1,SNR=2.2						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**88.75**	**111**	P	**P**	**05 41 55.6**	**-1.0**
	1.3nm,0.8s,baz=299,slow=4.2,SNR=6.7						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**89.31**	**114**	P	**P**	**05 41 58.5**	**-0.8**
	1.1nm,0.8s,baz=296,slow=5.1,SNR=5.7						
	1.1nm,0.8s						

IDC ***12*** *06:07:40.3±2.4,3.°53S×130.°20E,h0km,mb3.5/2,*
mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=148.5km
s-min=28.7km az=70.0
DJA ***12*** *06:07:43.4±2.1,3.°S±7.°×13.°1E±.°,h20km±21km,M3.5/6,*
MLv3.5/6
ISC 12 06:07:43.8±1.0,3.°36S±0.°07×130.°94E±0.°05,h35km,n8,
σ3°62/11,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.38**	**71**	P	**Pn**	**06 08 08.3**	**+1.8**
MSAI	**Masohi**	**2.01**	**270**	P	**Pn**	**06 08 17.7**	**+2.4**
MSAI				S	**Sn**	**06 08 42.5**	**+3.3**
SWI	**Sorong**	**2.50**	**7**	P	**Pn**	**06 08 21.4**	**-0.7**
SWI				S	**Sn**	**06 08 49.9**	**-1.5**
AAI	**Ambon**	**2.76**	**263**	P	**Pn**	**06 08 25.2**	**-0.4**
KMPI	**Kaimana, Papua**	**2.77**	**96**	P	**Pn**	**06 08 29.3**	**+3.6**
WRA	**Warramunga Arr**	**16.81**	**169**	Pn	**Pn**	**06 11 36.0**	**-0.6**
	0.2nm,0.3s,baz=347,slow=9.7,SNR=12						
WRA				Sn	**Sn**	**06 14 34.2**	**-8.2**
	0.1nm,0.3s,baz=342,slow=22,SNR=2.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**20.39**	**172**	P	**P**	**06 12 18.9**	**+1.2**
	0.9nm,0.4s,baz=350,slow=11,SNR=18						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**65.75**	**326**	P	**P**	**06 18 25.2**	**0.0**
	0.5nm,0.7s,baz=126,slow=6.2,SNR=5.7						
	0.5nm,0.7s						

IDC 12 06:10:57.2±78.0,23.°43S×177.°20W,h0km,mb4.1/3,
mbtmp4.1/3,Error ellipse: s-maj=1432.0km
s-min=184.5km az=88.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.27**	**248**	P	P	06 18 11.2	+0.2
	1.9nm,0.4s,baz=83,slow=8.1,SNR=3.5						
	1.9nm,0.4s						
ASAR	**Alice Springs**	**44.64**	**259**	P	P	06 19 11.5	-0.4
	0.4nm,0.4s,baz=99,slow=8.0,SNR=9.6						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**45.00**	**265**	P	P	06 19 14.7	-0.1
	1.6nm,0.4s,baz=105,slow=7.9,SNR=34						
	1.6nm,0.4s						

IDC ***12*** *06:29:33.6±9.7,19.°65S×176.°33W,h198km±92km,mb3.4/9,*
mbtmp4.0/10,Error ellipse: s-maj=28.6km s-min=23.0km
az=5.0
ISC 12 06:29:33.9±0.8,19.°6S±0.°2×176.°5W±0.°2,h200km,n11,
σ0°95/11,mb3.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.42**	**195**	P	**P**	**06 33 44.1**	**-0.7**
	7.2nm,0.4s,baz=28,slow=3.0,SNR=11						
RPZ	**Rata Peaks**	**26.23**	**201**	P	**P**	**06 34 51.1**	**+0.8**
	6.3nm,0.4s,baz=35,slow=4.6,SNR=6.3						
	6.3nm,0.4s						
TAOE	**Nuku Hiva Isla**	**36.70**	**78**	*e*Pg	**P**	**06 36 23.4**	**+1.3**
	7.9nm,0.1s						
ASAR	**Alice Springs**	**46.14**	**256**	P	**P**	**06 37 39.6**	**+0.9**
	2.5nm,0.6s,baz=99,slow=8.4,SNR=36						
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**46.16**	**261**	P	**P**	**06 37 39.5**	**+0.6**
	0.7nm,0.4s,baz=96,slow=7.5,SNR=26						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	**06 40 25.6**	**-0.8**
	2.5nm,0.7s,baz=28,slow=11,SNR=7.7						
	2.5nm,0.7s						
NVAR	**Mina Array Bea**	**79.38**	**43**	P	**P**	**06 41 18.1**	**+0.1**
	0.7nm,0.6s,baz=228,slow=8.3,SNR=7.6						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**85.35**	**57**	P	**P**	**06 41 48.9**	**0.0**
	0.5nm,0.8s,baz=230,slow=8.8,SNR=4.5						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**87.12**	**12**	P	**P**	**06 41 56.5**	**-0.2**
	0.3nm,0.9s,baz=217,slow=5.1,SNR=4.2						
	0.3nm,0.9s						
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**06 41 58.6**	**+0.2**
	0.2nm,0.7s,baz=238,slow=4.9,SNR=1.8						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**95.10**	**24**	P	**P**	**06 42 32.1**	**-1.6**
	0.1nm,0.7s,baz=239,slow=5.9,SNR=2.5						
	0.1nm,0.7s						

JMA ***12*** *06:46:15.6±0.2,24.°N±1.°×122.°4E±0.°5,h25km,MV2.7/13,*
NW OFF ISHIGAKIJIMA IS
TAP ***12*** *06:46:15.6,24.°00N×122.°44E,h26km,ML3.3,C*
ISC 12 06:46:13.3±1.0,23.°85N±0.°02×122.°44E±0.°02,h10km±8km,
n110,σ0°87/219,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.29**	**337**	*iP*	**Pb**	**06 46 20.8**	**+0.4**
EOS4				*iS*	**Sg**	**06 46 24.9**	**+1.9**
EOS3	**EOS3**	**0.45**	**345**⇓	*iP*	**Pb**	**06 46 23.3**	**+0.1**
EOS3				S	**Sg**	**06 46 29.0**	**+0.9**
EOS2	**EOS2**	**0.60**	**341**	*eP*	**Pb**	**06 46 26.0**	**+0.2**
EOS2				*eS*	**Sg**	**06 46 33.6**	**+0.9**
JYNG	**Yonagunijimaku**	**0.76**	**37**	*eP*	**Pg**	**06 46 27.8**	**-0.1**
JYNG				*eS*	**Sg**	**06 46 36.4**	**-1.4**
TEYL	**Yanliau Villag**	**0.77**	**272**	P	**Pb**	**06 46 29.4**	**+0.6**
TEYL				S	**Sb**	**06 46 40.7**	**+1.4**
HWA	**Hwalien**	**0.78**	**280**	*eP*	**Pb**	**06 46 29.3**	**+0.5**
HWA				*eS*	**Sb**	**06 46 41.2**	**+1.8**
EAHA	**Aohua**	**0.80**	**307**	*iP*	**Pb**	**06 46 30.0**	**+0.7**
EAHA				*eS*	**Sb**	**06 46 40.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.80**	**40**	P	**Pg**	**06 46 29.3**	**+0.5**
YOJ				S	**Sg**	**06 46 38.3**	**-0.9**
YOJ	**Yonaguni jima**	**0.80**	**40**	*eP*	**Pg**	**06 46 29.3**	**+0.5**
YOJ				*eS*	**Sg**	**06 46 38.1**	**-1.2**
SHUL	**Shoufeng**	**0.81**	**266**	*iP*	**Pn**	**06 46 30.8**	**+0.1**
SHUL				S	**Sb**	**06 46 42.0**	**+1.6**
TWD	**Chiawan**	**0.81**	**287**	*eP*	**Pb**	**06 46 29.8**	**+0.4**
TWD				S	**Sb**	**06 46 40.5**	**+0.2**
ETL	**Fush Village**	**0.81**	**293**	P	**Pb**	**06 46 29.3**	**-0.2**
ETL				S	**Sb**	**06 46 41.4**	**+0.9**
NACB	**Ninganchiao**	**0.84**	**293**	*iP*	**Pb**	**06 46 30.4**	**+0.5**
NACB				*eS*	**Sg**	**06 46 40.5**	**0.0**
EWUT	**Wuta**	**0.85**	**315**	*iP*	**Pg**	**06 46 29.9**	**+0.2**
EWUT				S	**Sg**	**06 46 40.8**	**0.0**
ENA	**Nanau**	**0.86**	**312**	*iP*	**Pg**	**06 46 30.2**	**+0.3**
ENA				S	**Sg**	**06 46 41.6**	**+0.4**
ETM	**Tongmen**	**0.88**	**278**	*eP*	**Pb**	**06 46 31.1**	**+0.6**
ETM				S	**Sb**	**06 46 43.1**	**+0.8**
ESAO	**Su ao**	**0.91**	**323**	*iP*	**Pg**	**06 46 30.5**	**-0.2**
ESAO				*eS*	**Sg**	**06 46 41.0**	**-1.6**
ESL	**Shilin**	**0.93**	**268**	*iP*	**Pb**	**06 46 31.7**	**+0.3**
ESL				*eS*	**Sb**	**06 46 44.4**	**+0.7**
TWC	**Suao**	**0.93**	**325**	*iP*	**Pg**	**06 46 30.7**	**-0.6**
TWC				*iS*	**Sg**	**06 46 41.5**	**-1.9**
EGFH	**Guangfu**	**0.95**	**259**	*eP*	**Pn**	**06 46 33.0**	**+0.4**
EGFH				S	**Sb**	**06 46 45.2**	**+0.9**
ETLH	**Xiulin Townshi**	**0.95**	**292**	*iP*	**Pb**	**06 46 32.1**	**+0.3**
ETLH				S	**Sg**	**06 46 44.3**	**+0.4**
LXIB	**Xiulin Townshi**	**0.96**	**281**	*iP*	**Pb**	**06 46 32.4**	**+0.4**
LXIB				*eS*	**Sb**	**06 46 46.0**	**+1.2**
WARBT	**Fenglin Townsh**	**0.98**	**263**	*iP*	**Pb**	**06 46 32.9**	**+0.6**
WARBT				S	**Sb**	**06 46 45.9**	**+0.7**
HGSD	**Ruisui**	**1.00**	**249**	*iP*	**Pn**	**06 46 33.5**	**+0.2**
HGSD				*eS*	**Sb**	**06 46 46.7**	**+0.8**
NDS	**Dongshan**	**1.03**	**320**	*eP*	**Pg**	**06 46 31.5**	**-1.5**
NDS				*eS*	**Sg**	**06 46 44.9**	**-1.5**
EHYH	**Wanrong**	**1.07**	**251**	P	**Pn**	**06 46 35.8**	**+1.6**
EHYH				S	**Sn**	**06 46 49.5**	**+0.4**
LATG	**Datong**	**1.08**	**309**	*iP*	**Pg**	**06 46 34.2**	**+0.1**
LATG				S	**Sg**	**06 46 48.6**	**+0.4**
EHY	**Hungye**	**1.08**	**252**	*iP*	**Pn**	**06 46 35.5**	**+1.1**
EHY				S	**Sn**	**06 46 49.5**	**0.0**
ILA	**Ilan**	**1.11**	**325**	*eP*	**Pg**	**06 46 33.6**	**-1.0**
ILA				*eS*	**Sg**	**06 46 48.4**	**-0.8**
WHF	**Hehuan Shan**	**1.12**	**286**	*iP*	**Pb**	**06 46 35.1**	**+0.2**
WHF				S	**Sg**	**06 46 49.6**	**+0.2**
TWE	**Neicheng**	**1.12**	**321**	*iP*	**Pg**	**06 46 34.8**	**0.0**
TWE				S	**Sg**	**06 46 48.3**	**-1.1**
ENTT	**Nioudou**	**1.12**	**315**	*iP*	**Pg**	**06 46 34.8**	**-0.1**
ENTT				S	**Sg**	**06 46 48.8**	**-0.7**
NNS	**Nan Shan**	**1.14**	**301**	*iP*	**Pg**	**06 46 35.3**	**0.0**
NNS				S	**Sg**	**06 46 50.5**	**+0.4**
YULB	**Yu-li**	**1.14**	**247**	*iP*	**Pn**	**06 46 36.2**	**+0.9**
YULB				*iS*	**Sn**	**06 46 51.4**	**+0.3**
EYUL	**Yuli**	**1.15**	**244**	*iP*	**Pn**	**06 46 36.3**	**+1.0**
EYUL				S	**Sn**	**06 46 52.2**	**+1.1**
TWF1	**Yuli**	**1.16**	**245**	*iP*	**Pn**	**06 46 36.6**	**+1.0**
TWF1				*iS*	**Sn**	**06 46 52.0**	**+0.6**
CHKH	**Chenggong**	**1.16**	**236**	*eP*	**Pb**	**06 46 35.5**	**+0.1**
CHKH				*eS*	**Sn**	**06 46 51.5**	**+0.1**
OWD	**Renai**	**1.16**	**275**	*eP*	**Pb**	**06 46 36.0**	**+0.5**
OWD				*eS*	**Sg**	**06 46 50.5**	**-0.3**
FUSS	**Fushou**	**1.17**	**290**	*iP*	**Pb**	**06 46 35.9**	**+0.2**
FUSS				*eS*	**Sg**	**06 46 50.8**	**-0.2**
VWDT	**VWDT**	**1.20**	**266**	*iP*	**Pn**	**06 46 36.6**	**+0.6**
VWDT				S	**Sb**	**06 46 51.7**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.20**	**319**	*iP*	**Pg**	**06 46 36.1**	**-0.2**
FUSB				S	**Sg**	**06 46 51.4**	**-0.4**
WUSB	**Renai**	**1.22**	**277**	P	**Pb**	**06 46 36.9**	**+0.4**
WUSB				*eS*	**Sg**	**06 46 52.2**	**-0.5**
TWT	**Tachien**	**1.23**	**289**	*iP*	**Pb**	**06 46 37.0**	**+0.4**
TWT				S	**Sb**	**06 46 53.7**	**+1.1**
TWB1	**Santiao Chiao**	**1.23**	**340**	*iP*	**Pg**	**06 46 35.6**	**-1.3**
TWB1				*eS*	**Sg**	**06 46 51.8**	**-1.0**
FULB	**Fuli**	**1.24**	**239**	*iP*	**Pn**	**06 46 37.2**	**+0.6**
FULB				S	**Sn**	**06 46 54.3**	**+0.9**
CHKT	**Chengkung**	**1.24**	**233**	P	**Pn**	**06 46 37.3**	**+0.7**
CHKT				S	**Sb**	**06 46 52.9**	**+0.1**
TDCB	**Techi**	**1.24**	**289**	P	**Pn**	**06 46 37.4**	**+0.7**
TDCB				*eS*	**Sb**	**06 46 53.8**	**+0.8**
TIPB	**Shuangxi**	**1.25**	**333**	*iP*	**Pg**	**06 46 36.6**	**-0.8**
TIPB				*eS*	**Sg**	**06 46 51.5**	**-2.1**
NWLT	**Wulai**	**1.26**	**317**	*eP*	**Pg**	**06 46 37.0**	**-0.6**
NWLT				S	**Sg**	**06 46 53.4**	**-0.5**
HATJ	**Hateruma jima**	**1.26**	**80**	*eP*	**Pn**	**06 46 38.0**	**+1.1**
HATJ				*eS*	**Sb**	**06 46 54.6**	**+1.2**
IRIF	**Iriomote-Funau**	**1.27**	**67**	*eP*	**Pg**	**06 46 37.7**	**0.0**
IRIF				*eS*	**Sg**	**06 46 53.5**	**-0.7**
YHNB	**Yeheng**	**1.27**	**310**	*iP*	**Pg**	**06 46 37.2**	**-0.6**
YHNB				S	**Sg**	**06 46 54.3**	**0.0**
NSK	**Sanguang**	**1.29**	**310**	*iP*	**Pg**	**06 46 37.2**	**-0.9**
NSK				S	**Sg**	**06 46 52.9**	**-1.9**
SXI1	**Grass Mountain**	**1.34**	**338**	*iP*	**Pn**	**06 46 37.4**	**-0.8**
SXI1				S	**Sg**	**06 46 55.1**	**-1.4**
WFSB	**Wu-fen Shan**	**1.36**	**334**	P	**Pn**	**06 46 38.4**	**+0

WHYT	**Xinyi Township**	**1.46 264**	P		**Pg**	**06 46 41.6**	**+0.2**
WHYT			*i* S		**Sg**	**06 46 59.4**	**-1.0**
LDUT	**Ludao**	**1.47 218**	P		**Pg**	**06 46 40.6**	**-0.9**
LDUT			S		**Sg**	**06 46 58.5**	**-2.1**
KSHI	**Guanxi Townshi**	**1.48 309**	*e*P		**Pn**	**06 46 41.0**	**+1.1**
KSHI			*e*S		**Sb**	**06 46 58.8**	**-0.9**
JKRS	**Kuro-shima**	**1.48 75**	*e*P		**Pn**	**06 46 41.1**	**+1.1**
JKRS			*e*S		**Sb**	**06 47 00.5**	**+0.7**
YM01	**YM01**	**1.52 329**	*i* P		**Pn**	**06 46 41.0**	**+0.6**
YM01			*e*S		**Sn**	**06 46 58.7**	**-1.6**
LIOB	**Emei**	**1.53 302**	*e*P		**Pb**	**06 46 41.8**	**+0.1**
LIOB			*e*S		**Sn**	**06 47 00.4**	**-0.1**
LONT	**Longtian**	**1.53 232**	P		**Pb**	**06 46 41.3**	**-0.4**
LONT			*e*S		**Sg**	**06 47 02.0**	**-0.4**
ALS	**Alishan**	**1.54 258**	*i* P		**Pg**	**06 46 42.9**	**0.0**
ALS			S		**Sg**	**06 47 01.4**	**-1.4**
ZUZH	**Zhuzihu**	**1.54 328**	*i* P		**Pn**	**06 46 41.4**	**+0.5**
ZUZH			S		**Sn**	**06 47 00.3**	**-0.6**
YM08	**YM08**	**1.54 330**	*e*P		**Pn**	**06 46 40.6**	**-0.2**
YM08			*e*S		**Sn**	**06 46 59.1**	**-1.9**
TWS1	**Kuangyinshan**	**1.56 323**	P		**Pn**	**06 46 40.5**	**-0.5**
TWS1			*e*S		**Sn**	**06 47 00.6**	**-0.7**
WJS	**Zhushan**	**1.57 269**	*e*P		**Pg**	**06 46 44.0**	**+0.5**
WJS			*e*S		**Sg**	**06 47 04.0**	**+0.2**
TWQ1	**Liyutan**	**1.60 288**	*i* P		**Pg**	**06 46 43.6**	**-0.5**
TWQ1			*e*S		**Sn**	**06 47 03.4**	**+1.0**
WNT	**Mingjian**	**1.61 271**	*e*P		**Pg**	**06 46 44.9**	**+0.7**
WNT			S		**Sg**	**06 47 05.6**	**+0.6**
TWY	**Chenhua**	**1.62 332**	*e*P		**Pn**	**06 46 42.0**	**+0.2**
TWY			*e*S		**Sn**	**06 47 01.6**	**-1.1**
TWG	**Pinlang**	**1.62 231**	*e*P		**Pg**	**06 46 44.1**	**-0.3**
TWG			S		**Sg**	**06 47 04.8**	**-0.7**
CHN5	**Tsauling**	**1.64 262**	*i* P		**Pg**	**06 46 44.3**	**-0.4**
CHN5			S		**Sg**	**06 47 06.3**	**+0.4**
JIJ	**Ishigaki jima**	**1.64 71**	*e*P		**Pn**	**06 46 42.8**	**+0.7**
STYH	**Taoyuan**	**1.67 247**	P		**Pb**	**06 46 43.8**	**-0.3**
STYH			S		**Sg**	**06 47 06.0**	**-1.0**
WCKO	**Fanlu**	**1.73 257**	*i* P		**Pg**	**06 46 47.1**	**+0.5**
WCKO			S		**Sg**	**06 47 08.2**	**-0.8**
WCHH	**Zhanghua**	**1.74 278**	*e*P		**Pg**	**06 46 46.0**	**-0.7**
WCHH			S		**Sb**	**06 47 07.7**	**+0.6**
TPUB	**Ta-pu**	**1.75 252**	*i* P		**Pg**	**06 46 46.7**	**-0.2**
TPUB			*i* S		**Sg**	**06 47 08.8**	**-0.8**
WDLH	**Douliu**	**1.75 265**	P		**Pb**	**06 46 45.5**	**0.0**
WDLH			S		**Sg**	**06 47 08.8**	**-0.8**
CHN4	**Tsaushan**	**1.77 254**	*i* P		**Pg**	**06 46 47.1**	**-0.1**
CHN4			S		**Sg**	**06 47 09.6**	**-0.6**
WTP	**Ta-pu**	**1.78 251**	*i* P		**Pg**	**06 46 47.3**	**-0.2**
WTP			*i* S		**Sg**	**06 47 09.8**	**-0.8**
JISG	**Ishigakijimahi**	**1.86 66**	*e*P		**Pn**	**06 46 45.6**	**+0.5**
JISG			*e*S		**Sn**	**06 47 07.7**	**-0.9**
SGST	**Jiashian**	**1.87 246**	*i* P		**Pb**	**06 46 47.8**	**+0.2**
SGST			*i* S		**Sg**	**06 47 11.9**	**-1.5**
CHN1	**Nanshi**	**1.88 250**	*i* P		**Pg**	**06 46 48.5**	**-0.8**
CHN1			*i* S		**Sg**	**06 47 12.8**	**-0.9**
CHY	**Chiayi**	**1.88 260**	*e*P		**Pg**	**06 46 49.8**	**+0.4**
CHY			S		**Sb**	**06 47 12.1**	**+0.8**
TWK	**Hsinying**	**1.89 253**	*i* P		**Pg**	**06 46 48.5**	**-0.9**
TWK			*i* S		**Sg**	**06 47 13.2**	**-0.7**
WTK	**Tuku**	**1.89 266**	*e*P		**Pg**	**06 46 49.0**	**-0.5**
WTK			*i* S		**Sb**	**06 47 12.4**	**+1.0**
WRL	**Guolierlin Hig**	**1.89 272**	*e*P		**Pb**	**06 46 48.3**	**+0.5**
WRL			S		**Sb**	**06 47 11.7**	**+0.1**
LAY	**Lan-yu**	**1.98 205**	*i* P		**Pn**	**06 46 47.8**	**+0.9**
LAY			*i* S		**Sn**	**06 47 12.0**	**+0.3**
LYUB	**Lan-yu**	**2.00 203**	*e*P		**Pn**	**06 46 47.9**	**+0.8**
LYUB			*e*S		**Sn**	**06 47 12.6**	**+0.4**
TSMG	**Majia**	**2.01 236**	P		**Pg**	**06 51.0**	**-0.7**
TSMG			*e*S		**Sb**	**06 47 15.6**	**+0.7**
WSL	**Shuilin Townsh**	**2.06 261**	P		**Pb**	**06 46 49.9**	**-0.7**
WSL			*i* S		**Sb**	**06 47 16.1**	**-0.1**
EAST	**Anshuo**	**2.07 226**	*i* P		**Pb**	**06 46 50.0**	**-0.9**
EAST			*e*S		**Sn**	**06 47 14.8**	**+0.8**
MASBT	**Mashibuluo**	**2.07 234**	*i* P		**Pb**	**06 46 50.0**	**-0.9**
MASBT			*e*S		**Sb**	**06 47 17.1**	**+0.4**
TAWH	**Dawu Township**	**2.07 224**	P		**Pn**	**06 46 49.0**	**+0.9**
TAWH			*e*S		**Sb**	**06 47 15.8**	**-0.9**
SCZT	**Fangliau**	**2.23 229**	*i* P		**Pb**	**06 46 54.3**	**+0.7**
SCZT			*e*S		**Sb**	**06 47 20.6**	**-0.7**
TWKBT	**Hengchun**	**2.42 219**	*e*P		**Pb**	**06 46 55.4**	**-1.5**
TWKBT			*e*S		**Sb**	**06 47 26.9**	**+0.1**
WDGT	**Dungji**	**2.62 258**	P		**Pn**	**06 46 57.4**	**+1.8**
WDGT			*e*S		**Sn**	**06 47 29.1**	**+1.6**
PNG	**Penghu**	**2.66 265**	P		**Pn**	**06 46 58.1**	**+1.9**
PNG			*e*S		**Sn**	**06 47 29.2**	**+0.7**
VWUC	**VWUC**	**2.96 293**	P		**Pn**	**06 47 00.4**	**+0.1**
VWUC			*e*S		**Sn**	**06 47 33.9**	**-1.9**
PTMZ	**Houxiangcun**	**3.25 292**	P		**Pn**	**06 47 03.8**	**-0.5**
PTMZ			S		**Sn**	**06 47 41.7**	**-1.4**
KNMB	**Chin-men Tao**	**3.75 280**	P		**Pn**	**06 47 11.2**	**0.0**
KNMB			S		**Sn**	**06 47 54.6**	**-0.9**

*GUC **12** 06:50:03.7±0.7, 33.°00S×70.°83W, h81km±2km, ML2.7*
*SJA **12** 06:50:04.0, 33.°05S×70.°83W, h44km, ML2.7*
ISC 12 06:50:04.8±1.4, **33.°03S**±0.°03×**70.°83W**±0.°04, **h70**km±7km, **n44**, σ**0**s**77**/67, **2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.16**	**132**	*e*P	**Pn**	**06 50 14.8**	**-0.5**
PEL				*e*S	**Sn**	**06 50 23.3**	**+0.3**
PEL				IAML		06 50 23.9	
	comp=N,821nm,0.1s						
ROCH	**El Roble**	**0.17**	**292**	*e*P	**Pn**	**06 50 15.2**	**-0.4**
ROCH				*e*S	**Sn**	**06 50 23.9**	**+0.6**
ROCH				IAML		06 50 24.7	
	comp=N,2μm,0.2s						
MT10	**Hacienda Santa**	**0.34**	**134**	⇓*i*P	**Pn**	**06 50 16.0**	**-0.4**
MT10				*e*S	**Sn**	**06 50 25.4**	**+0.5**
MT10				IAML		06 50 26.0	
	comp=E,263nm,0.2s						
MT02	**Curacav**	**0.34**	**229**	*i* P	**Pn**	**06 50 15.3**	**-0.9**
MT02	**Curacav**	**0.34**	**229**	⇓*i*P	**Pn**	**06 50 16.0**	**-0.2**
MT02				*e*S	**Sn**	**06 50 25.5**	**+0.8**
MT02				IAML		06 50 25.9	
	comp=E,365nm,0.2s						
VA03	**San Esteban**	**0.36**	**41**	*i* P	**Pn**	**06 50 15.0**	**-1.5**
VA03	**San Esteban**	**0.36**	**41**	*e*P	**Pn**	**06 50 15.8**	**-0.7**
VA03				*e*S	**Sn**	**06 50 25.0**	**0.0**
VA03				IAML		06 50 25.8	
	comp=E,1μm,0.2s						
MT05	**Renca**	**0.36**	**168**	*i* P	**Pn**	**06 50 15.5**	**-1.0**
MT05	**Renca**	**0.36**	**168**	⇓*i*P	**Pn**	**06 50 16.3**	**-0.2**
MT05				*e*S	**Sn**	**06 50 26.0**	**+0.9**
MT14	**Cerro Calı̣n**	**0.44**	**146**	*e*P	**Pn**	**06 50 16.8**	**-0.3**
MT14				*e*S	**Sn**	**06 50 26.9**	**+0.7**
MT14				IAML		06 50 28.5	
	comp=E,252nm,0.1s						
MT16	**CCHEN**	**0.47**	**147**	*e*P	**Pn**	**06 50 17.1**	**-0.3**
MT16				*e*S	**Sn**	**06 50 27.3**	**+0.6**
MT03	**Universidad Ad**	**0.53**	**150**	*i* P	**Pn**	**06 50 16.9**	**-1.1**
MT03	**Universidad Ad**	**0.53**	**150**	*e*P	**Pn**	**06 50 17.6**	**-0.4**
MT03				*e*S	**Sn**	**06 50 28.3**	**+0.5**
MT03				IAML		06 50 28.6	
	comp=N,757nm,0.1s						
FCH	**Farellones**	**0.54**	**123**	*e*P	**Pn**	**06 50 17.9**	**-0.4**
FCH				*e*S	**Sn**	**06 50 29.1**	**+0.8**
FCH				IAML		06 50 30.1	
	comp=E,212nm,0.1s						
VA06	**Catapilco**	**0.61**	**320**	⇑*i*P	**Pn**	**06 50 18.0**	**-0.7**
VA06				*e*S	**Sn**	**06 50 28.8**	**-0.1**
VA06				IAML		06 50 29.2	
	comp=N,783nm,0.2s						
MT15	**Las Vizcachas**	**0.62**	**154**	*i* P	**Pn**	**06 50 18.4**	**-0.6**
MT15				*e*S	**Sn**	**06 50 29.7**	**+0.3**
MT15				IAML		06 50 30.5	
	comp=E,600nm,0.1s						
MT04	**Ro Olivares**	**0.69**	**123**	*i* P	**Pn**	**06 50 18.7**	**-1.1**
MT04	**Ro Olivares**	**0.69**	**123**	⇑*i*P	**Pn**	**06 50 19.4**	**-0.4**
MT04				*e*S	**Sn**	**06 50 31.5**	**+0.7**
MT04				IAML		06 50 32.7	
	comp=E,240nm,0.1s						
VA01	**Torpederas**	**0.69**	**271**	*i* P	**Pn**	**06 50 19.4**	**-0.1**
VA01	**Torpederas**	**0.69**	**271**	*e*P	**Pn**	**06 50 19.6**	**+0.1**
VA01				*e*S	**Sn**	**06 50 31.6**	**+1.2**
VA01				IAML		06 50 33.5	
	comp=E,587nm,0.1s						
MT09	**Talagante**	**0.75**	**190**	*e*P	**Pn**	**06 50 19.8**	**-0.6**
MT09				*e*S	**Sn**	**06 50 32.6**	**+0.7**
MT09				IAML		06 50 34.7	
	comp=N,448nm,0.2s						
MT08	**Bocatoma Ro**	**0.80**	**121**	*i* P	**Pn**	**06 50 20.3**	**-0.7**
MT08	**Bocatoma Ro**	**0.80**	**121**	*e*P	**Pn**	**06 50 20.8**	**-0.2**
MT08				*e*S	**Sn**	**06 50 33.8**	**+0.8**
MT13	**San Alfonso**	**0.84**	**147**	*i* P	**Pn**	**06 50 20.8**	**-0.6**
MT13	**San Alfonso**	**0.84**	**147**	*e*P	**Pn**	**06 50 21.4**	**0.0**
MT13				*e*S	**Sn**	**06 50 34.6**	**+0.8**
MT13				IAML		06 50 36.0	
	comp=N,465nm,0.3s						
MT01	**Popeta**	**0.90**	**203**	*i* P	**Pn**	**06 50 20.8**	**-1.2**
MT01	**Popeta**	**0.90**	**203**	*e*P	**Pn**	**06 50 21.6**	**-0.5**
MT01				*e*S	**Sn**	**06 50 35.0**	**+0.1**
MT01				IAML		06 50 36.4	
	comp=E,318nm,0.1s						
VA05	**Santo Domingo**	**0.91**	**226**	*e*P	**Pn**	**06 50 21.8**	**-0.2**
VA05				*e*S	**Sn**	**06 50 36.0**	**+1.1**
VA05				IAML		06 50 39.6	
	comp=E,306nm,0.3s						
LMEL	**Las Melosas**	**0.97**	**147**	*i* P	**Pn**	**06 50 22.4**	**-0.6**
LMEL	**Las Melosas**	**0.97**	**147**	*e*P	**Pn**	**06 50 22.9**	**-0.1**
LMEL				*e*S	**Sn**	**06 50 37.5**	**+1.0**
LMEL				IAML		06 50 39.1	
	comp=N,828nm,0.1s						
BO04	**La Punta**	**0.97**	**169**	*e*P	**Pn**	**06 50 22.3**	**-0.7**
BO04				*e*S	**Sn**	**06 50 37.0**	**+0.5**
BO04				IAML		06 50 37.5	
	comp=N,373nm,0.3s						
BO01	**Tunca**	**1.37**	**189**	*i* P	**Pn**	**06 50 26.9**	**-1.2**
BO01	**Tunca**	**1.37**	**189**	*e*P	**Pn**	**06 50 27.4**	**-0.6**
BO01				*e*S	**Sn**	**06 50 45.5**	**0.0**
BO01				IAML		06 50 46.9	
	comp=E,131nm,0.2s						
BO02	**Sierra Bellavi**	**1.75**	**179**	*i* P	**Pn**	**06 50 32.4**	**-0.8**
BO02	**Sierra Bellavi**	**1.75**	**179**	*e*P	**Pn**	**06 50 32.9**	**-0.4**
BO02				*e*S	**Sn**	**06 50 55.4**	**+0.7**
BO02				IAML		06 50 58.5	
	comp=N,193nm,0.2s						
RTLS	**Leoncito**	**1.79**	**47**	*i* P	**Pn**	**06 50 34.5**	**+0.7**
CO03	**El Pedregal**	**2.19**	**3**	*i* P	**Pn**	**06 50 37.9**	**-1.2**
RFA	**San Rafael**	**2.62**	**132**	*i* P	**Pn**	**06 50 44.0**	**-0.8**
GO04	**Tololo Observa**	**2.85**	**1**	*i* P	**Pn**	**06 50 46.6**	**-1.6**
ACCO	**Cerro Coronel**	**2.86**	**32**	*i* P	**Pn**	**06 50 49.7**	**+1.2**
AROD	**Rodeo**	**3.08**	**22**	*i* P	**Pn**	**06 50 52.4**	**+0.9**
BI02	**San Fabin de**	**3.64**	**186**	*i* P	**Pn**	**06 50 58.4**	**-0.4**
AGUA	**GUANDACOL**	**4.06**	**30**	*i* P	**Pn**	**06 51 04.6**	**0.0**
APLL	**PUNTA DE LOS L**	**4.51**	**55**	*i* P	**Pn**	**06 51 09.0**	**-1.7**

*IDC **12** 06:53:59.9±2.0, 6.°50S×129.°49E, h0km, mb3.6/1, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=80.9km s-min=27.2km az=76.0*
*NEIC **12** 06:54:13.8±1.7, 6.°9S±0.°1×129.°66E±0.°10, h178km±19km, mb4.3/4, Error ellipse: s-maj=17.7km s-min=11.6km az=144.0*
ISC 12 06:54:14.3±1.0, **6.°90S**±0.°09×**129.°76E**±0.°08, **h200**km, **n33**, σ**2**s**58**/33, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**125**	Pn	**Pn**	**06 54 51.2**	**-0.2**
SAUI	**Saumlaki**	**1.86**	**125**	S	**Sn**	**06 55 14.8**	**-5.5**
FAKI	**Fak Fak**	**4.67**	**32**	Pn	**Pn**	**06 55 23.7**	**-0.9**
FAKI	**Fak Fak**	**4.67**	**32**	P	Pn	06 55 16.0	-8.5
DRS	**Darwin Rock St**	**5.61**	**169**	P	**Pn**	**06 55 36.8**	**+0.3**
MTN	**Manton Dam**	**6.06**	**167**		**Pn**	**06 55 42.1**	**-0.2**
MTN	**Manton Dam**	**6.06**	**167**	P	**Pn**	**06 55 42.1**	**-0.2**
SOEI	**Soe**	**6.13**	**242**	Pn	**Pn**	**06 55 41.6**	**-1.9**
KDU	**Kakadu**	**6.34**	**155**	P	**Pn**	**06 55 45.9**	**0.0**
KNRA	**Kununurra**	**8.78**	**186**		**Pn**	**06 56 16.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.83**	**199**	Pn	**Pn**	**06 56 56.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.83**	**199**	Pn	**Pn**	**06 56 55.3**	**-1.8**
	0.9nm,0.3s,baz=23,slow=9.8,SNR=36						
FITZ				Sn	Sn	06 58 57.5	-12
	4.5nm,0.3s,baz=16,slow=18,SNR=10						
	2.1nm,0.3s						
PLAI	**Plampang**	**12.03**	**260**	P	**Pn**	**06 56 58.2**	**-1.4**
WB0	**Warramunga Arr**	**13.56**	**161**		**Pn**	**06 57 18.3**	**-0.5**
WRAB	**Tennant Creek**	**13.70**	**161**	Pn	**Pn**	**06 57 20.2**	**-0.3**
WRA	**Warramunga Arr**	**13.70**	**162**	Pn	**Pn**	**06 57 19.9**	**-0.7**
WRA	**Warramunga Arr**	**13.70**	**162**	Pn	**Pn**	**06 57 20.8**	**+0.1**
	1.0nm,0.3s,baz=338,slow=14,SNR=33						
WRA				Sn	**S**	**06 59 47.0**	**-6.4**
	1.6nm,0.3s,baz=334,slow=23,SNR=7.0						
	1.1nm,0.3s						
WB2	**Warramunga Arr**	**13.71**	**161**		**Pn**	**06 57 20.8**	**+0.1**
WR0	**Warramunga Arr**	**13.78**	**161**	Pn	**Pn**	**06 57 21.5**	**-0.1**
COEN	**Coen**	**14.93**	**119**		**P**	**06 57 37.7**	**+1.2**
COEN				IAmb	IAmb	06 57 44.5	
	comp=Z,12nm,1.0s						
JAGI	**Jajag, Banyuwa**	**15.55**	**263**	P	**P**	**06 57 42.3**	**-1.1**
QIS	**Mount Isa**	**16.59**	**146**	P	**Pn**	**06 58 00.4**	**+4.6**
AS31	**Alice Springs**	**17.14**	**167**	P	**Pn**	**06 58 04.0**	**+1.7**
ASAR	**Alice Springs**	**17.14**	**167**	P	**Pn**	**06 58 02.2**	**0.0**
ASAR	**Alice Springs**	**17.14**	**167**	P	**Pn**	**06 58 06.3**	**+4.0**
	comp=Z,0.7nm,0.3s,baz=347,slow=11,SNR=47						
ASAR				S	**S**	**07 01 08.9**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=356,slow=27,SNR=5.2						
	comp=Z,3.1nm,0.6s						
AS01	**Alice Springs**	**17.15**	**167**	P	**Pn**	**06 58 06.0**	**+3.6**
	comp=Z,7.4nm,0.8s						
MBWA	**Marble Bar**	**17.18**	**213**	P	**Pn**	**06 58 01.6**	**-1.1**
MBWA				IAmb	IAmb	06 58 40.3	
	comp=Z,22nm,1.3s						
PSA00	**Pilbara Seismi**	**17.45**	**212**	P	**Pn**	**06 58 05.1**	**-0.9**
PSA00	**Pilbara Seismi**	**17.45**	**212**	P	**Pn**	**06 58 07.7**	**+1.7**
	comp=Z,21nm,1.2s						
WRKA	**Warakurna**	**18.09**	**184**	P	**Pn**	**06 58 16.2**	**+2.8**
OOD	**Oodnadatta**	**21.53**	**166**	P	**P**	**06 58 54.2**	**+6.4**
GIRL	**Giralia**	**21.65**	**222**	P	**P**	**06 58 51.7**	**+2.6**
	comp=Z,79nm,1.6s						
MKAR	**Makanchi Array**	**68.02**	**327**	P	P	07 04 58.0	+6.0
	comp=Z,0.2nm,0.3s,baz=117,slow=7.8,SNR=8.7						
	comp=Z,0.2nm,0.3s						

*NNC **12** 07:06:35.2±0.7, 49.°96N×78.°68E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=13.6km s-min=3.4km az=79.0, Suspected Mining explosion.*
*IDC **12** 07:06:36.4±1.1, 50.°06N×78.°72E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=12.6km s-min=6.7km az=65.0*
ISC 12 07:06:36.9±1.0, **50.°06N**±0.°05×**78.°68E**±0.°08, **h0**km, **n17**, σ**0**s**53**/28, **2C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54**	**349**	⇑P	**Pg**	**07 06 47.4**	**+0.2**
KUR07				⇑S	**Sb**	**07 06 57.2**	**-0.4**
KUR06	**Kurchatov Arra**	**0.56**	**350**	⇑P	**Pg**	**07 06 47.9**	**+0.3**
KUR06				⇑S	**Sb**	**07 06 58.0**	**0.0**
KUR14	**Kurchatov Arra**	**0.56**	**354**	⇑P	**Pg**	**07 06 47.9**	**+0.2**
KUR14				⇑S	**Sb**	**07 06 57.5**	**-0.7**
KUR15	**Kurchatov Arra**	**0.57**	**352**	⇑P	**Pg**	**07 06 48.0**	**+0.2**
KUR15				⇑S	**Sb**	**07 06 58.6**	**+0.3**
KURBB	**Kurchatov Arra**	**0.58**	**350**	Pg	**Pg**	**07 06 46.9**	**-1.0**
	0.6nm,0.3s,baz=167,slow=19,SNR=14						
KURBB				Lg	Lg	07 06 56.2	
	1.8nm,0.3s,baz=167,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**0.58**	**350**	⇑P	**Pg**	**07 06 47.9**	**0.0**
	8.1nm,0.5s						
KURBB				⇑S	**Sb**	**07 06 58.3**	**-0.3**
	87nm,0.6s						
KUR16	**Kurchatov Arra**	**0.58**	**349**	⇑P	**Pg**	**07 06 48.4**	**+0.3**
KUR16				⇓S	**Sb**	**07 06 59.1**	**+0.3**
KUR17	**Kurchatov Arra**	**0.59**	**347**	⇑P	**Pg**	**07 06 48.4**	**+0.1**
KUR17				⇑S	**Sb**	**07 06 59.2**	**+0.2**
KUR05	**Kurchatov Arra**	**0.59**	**351**	⇑P	**Pg**	**07 06 48.6**	**+0.3**
KUR05				⇑S	**Sb**	**07 06 58.3**	**-0.9**
KUR04	**Kurchatov Arra**	**0.61**	**352**	⇑P	**Pg**	**07 06 48.9**	**+0.3**
KUR04				⇑S	**Sb**	**07 06 59.1**	**-0.6**
KURK	**Kurchatov**	**0.66**	**357**	⇑P	**Pg**	**07 06 49.3**	**-0.3**
	5.9nm,0.7s						
KURK				⇓S	**Sb**	**07 07 00.4**	**-0.7**
	75nm,1.3s						
MAKZ	**Makanchi**	**3.92**	**145**	⇑Pg	**Pb**	**07 07 47.0**	**+0.1**
	0.4nm,0.4s						
MAKZ				⇑Lg	Lg	07 08 37.2	
	4.1nm,0.6s						
MK31	**Makanchi Array**	**4.05**	**142**	⇑Pn	**Pn**	**07 07 40.0**	**-0.2**
	0.1nm,0.3s,baz=321,slow=10.0,SNR=12						
MK31				⇑Pg	**Pb**	**07 07 50.1**	**+1.0**
	0.7nm,0.5s,baz=328,slow=12,SNR=10						
MK31				⇓Lg	Lg	07 08 42.9	
	5.2nm,0.6s,baz=324,slow=26,SNR=16						
MKAR	**Makanchi Array**	**4.05**	**142**	Pn	**Pn**	**07 07 40.5**	**+0.3**
	0.1nm,0.3s,baz=321,slow=12,SNR=14						
MKAR				Sn	**Sn**	**07 08 27.1**	**-1.2**
	0.2nm,0.3s,baz=319,slow=5.3,SNR=4.8						
MKAR				Lg	Lg	07 08 43.3	
	0.9nm,0.3s,baz=321,slow=24,SNR=14						
	0.3nm,0.4s						
OTUK	**Ortayu**	**4.54**	**249**	⇑Pg	**Pb**	**07 07 57.7**	**+0.2**
	0.6nm,0.5s						
OTUK				⇓Lg	Lg	07 08 59.5	
	3.3nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.44**	**42**	I	I	07 40 00.0	
	0.1nm,0.9s,baz=223,slow=332,SNR=4.7						
ZALV	**Zalesovo Beam**	**5.44**	**42**	Pn	**Pn**	**07 07 59.5**	**+0.4**
	0.2nm,0.3s,baz=228,slow=15,SNR=4.3						
ZALV				Lg	Lg	07 09 29.1	
	0.1nm,0.3s,baz=225,slow=26,SNR=5.7						
	0.7nm,0.3s						

IDC 12 07:12:04.0±1.4, **38.°96S**×**46.°53E**, **h0**km, **mb4.0**/4, **mbtmp3.9**/4, **MS3.2**/6, **Error ellipse: s-maj=83.1km s-min=38.5km az=34.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.17**	**153**	T	T	07 22 38.0	
	baz=329,slow=77,SNR=522						
H04N2	**CROZET ISLANDS**	**8.18**	**153**	T	T	07 22 35.5	
	baz=329,slow=77,SNR=602						
H04N3	**CROZET ISLANDS**	**8.19**	**153**	T	T	07 22 38.9	
	baz=329,slow=77,SNR=287						
BOSA	**Boshof**	**20.43**	**294**	LR	LR	07 22 22.5	
	comp=Z,36nm,21.2s,baz=189,slow=30						
LBTB	**Lobatse**	**22.48**	**302**	LR	LR	07 24 22.8	
	comp=Z,51nm,18.4s,baz=144,slow=33						
LSZ	**Lusaka**	**28.58**	**321**	LR	LR	07 27 58.2	
	comp=Z,80nm,20.0s,baz=141,slow=33						
TSUM	**Tsumeb**	**31.84**	**300**	LR	LR	07 29 04.8	
	comp=Z,48nm,19.3s,baz=154,slow=32						
H01W2	**Cape Leeuwin H**	**53.07**	**108**	T	T	08 18 16.6	
	baz=245,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**53.08**	**108**	T	T	08 18 17.6	
	baz=245,slow=75,SNR=4.6						
H01W1	**Cape Leeuwin H**	**53.08**	**108**	T	T	08 18 18.6	
	baz=245,slow=75,SNR=4.3						
PALK	**Pallekele**	**55.87**	**42**	LR	LR	07 40 59.1	
	comp=Z,12nm,18.9s,baz=194,slow=31						
ASAR	**Alice Springs**	**73.58**	**107**	P	P	07 23 39.1	-0.1
	0.8nm,0.7s,baz=227,slow=5.4,SNR=8.0						
	0.8nm,0.7s						
STKA	**Stephens Creek**	**74.31**	**118**	P	P	07 23 43.8	+0.5
	1.9nm,0.9s,baz=258,slow=9.3,SNR=1.2						
	1.9nm,0.9s						
WRA	**Warramunga Arr**	**76.09**	**104**	P	P	07 23 53.7	-0.1
	1.9nm,0.9s,baz=223,slow=4.6,SNR=7.9						
	1.9nm,0.9s						
BBTS	**Babate**	**79.38**	**299**	LR	LR	07 56 00.6	
	comp=Z,19nm,19.8s,baz=272,slow=33						
MKAR	**Makanchi Array**	**91.17**	**24**	P	P	07 25 11.0	+0.6
	0.2nm,0.6s,baz=200,slow=4.2,SNR=2.8						
	0.2nm,0.6s						
INK	**Inuvik**	**150.60**	**0**	PKPbc	PKPbc	07 31 56.3	-0.4
	1.5nm,0.9s,baz=26,slow=1.3,SNR=3.8						
ILAR	**Eielson Array**	**152.98**	**13**	PKPbc	PKPbc	07 32 01.4	-0.9
	0.1nm,0.6s,baz=334,slow=2.8,SNR=4.2						
TXAR	**Lajitas Array**	**153.63**	**258**	PKPbc	PKiKP	07 32 05.1	+0.1
	1.0nm,1.0s,baz=130,slow=5.1,SNR=5.2						

*IDC **12** 07:23:49.5±2.6, 36.°39N×70.°96E, h194km±23km, mb3.7/19, mbtmp4.3/24, Error ellipse: s-maj=15.7km s-min=11.7km az=29.0*
*M

SRGN SRI GANGA NAGA 7.05 159 *e*P **Pn 07 25 35.4 +3.2**
SRGN *e*S **Sn 07 26 51.9 -0.5**
CHMS Chumysh 7.07 23 P **Pn 07 25 33.4 +1.0**
SNR=9.7
CHMS Chumysh 7.07 23 ⇑P **Pn 07 25 32.9 +0.5**
comp=N,29nm,0.6s
CHMS ⇑S **Sn 07 26 48.5 -4.2**
comp=N,21nm,0.7s
CHMS Chumysh 7.07 23 PN **Pn 07 25 32.9 +0.5**
BOOM Boomskoye usch 7.07 31 P **Pn 07 25 33.5 +1.1**
BOOM Boomskoye usch 7.07 31 PN **Pn 07 25 33.6 +1.1**
KDJ Kajisay 7.37 39 Pn **Pn 07 25 37.3 +0.9**
KDJ Kajisay 7.37 39 PN **Pn 07 25 37.3 +0.9**
TARG Taragay, Kyrgy 7.42 44 **Pn 07 25 38.2 +0.9**
TARG Taragay, Kyrgy 7.42 44 PN **Pn 07 25 38.2 +0.9**
SMLA Simla 7.48 135 *e*P **Pn 07 25 39.1 +1.4**
SMLA *e*S **Sn 07 26 57.4 -5.0**
SMLA IAML 07 27 01.4
comp=N,172nm,0.8s
SMLA IAML 07 27 02.4
comp=E,245nm,0.4s
HNLY HANLEY 7.60 117 *e*P **Pn 07 25 41.5 +1.7**
HNLY *e*S Sn 07 26 58.0 -8.1
WUS Wushi 7.94 52 Pn **Pn 07 25 44.8 +1.0**
PRZ Przheval'sk 8.26 42 Pn **Pn 07 25 48.7 +0.8**
PRZ Przheval'sk 8.26 42 PN **Pn 07 25 48.7 +0.8**
DDI Dehra Dun 8.59 134 *e*P **Pn 07 25 53.4 +1.1**
DDI *e*S **Sn 07 27 25.7 -3.1**
JOSI Joshimath 9.34 127 *e*P **Pn 07 26 03.8 +1.6**
JOSI *e*S Sn 07 27 40.8 -6.1
KUDL Kundal 9.60 149 *e*P **Pn 07 26 05.3 0.0**
KUDL IAML 07 27 46.8
comp=E,55nm,0.9s
KUDL *e*S **Sn 07 27 48.2 -4.5**
KUDL IAML 07 27 50.4
comp=N,29nm,0.6s
SONA Sohna 9.76 146 *e*P **Pn 07 26 08.0 +0.6**
SONA *e*S Sn 07 27 50.3 -6.4
SONA IAML 07 27 56.2
comp=E,78nm,0.6s
SONA IAML 07 27 58.8
comp=N,35nm,0.4s
PTH Pithoragarh 10.45 129 *e*P **Pn 07 26 16.7 +0.3**
AJM Ajmer 10.52 162 *e*P **Pn 07 26 21.4 +4.1**
LGTI Lohaghat 10.53 130 *e*P **Pn 07 26 16.2 -1.2**
LGTI IAML 07 28 13.1
comp=E,25nm,0.5s
LGTI IAML 07 28 16.6
comp=N,38nm,0.4s
JHNI Jhansi 12.82 147 *e*P **Pn 07 26 46.5 0.0**
GUNA GUNA 13.07 153 *e*P **P 07 26 55.3 +2.5**
GUNA *e*S S 07 29 08.5 -7.0
MAKZ Makanchi 13.13 35 Pn **Pn 07 26 50.0 -0.3**
MAKZ Makanchi 13.13 35 P **Pn 07 26 50.0 -0.3**
MK31 Makanchi Array 13.27 36 **Pn 07 26 52.5 +0.5**
MK31 Makanchi Array 13.27 36*ce*P **Pn 07 26 52.0 0.0**
MKAR Makanchi Array 13.27 36 Pn **Pn 07 26 52.1 +0.1**
MKAR Makanchi Array 13.27 36 P **Pn 07 26 52.5 +0.5**
comp=N,2.1nm,0.4s,baz=220,slow=17,SNR=27
MKAR S **Sn 07 29 22.4 +2.4**
comp=N,0.2nm,0.5s,baz=182,slow=22,SNR=2.2
MKAR Makanchi Array 13.27 36 *i*P **Pn 07 26 52.2 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
BHPL Bhopal 14.40 155 *e*P **P 07 27 10.0 +2.4**
BHPL *e*S **S 07 29 41.8 -4.6**
NRDN NARMADA NAGAR 14.80 157 *e*P P 07 27 16.9 +5.0
AB31 Akbulak array 15.02 331 ⇑P **Pn 07 27 12.0 -1.5**
comp=Z,6.6nm,0.5s,baz=144,slow=11,SNR=146
AB31 S **S 07 29 59.8 -0.3**
comp=Z,7.4nm,1.0s,baz=154,slow=24,SNR=5.0
AB31 Akbulak array 15.02 331 P **Pn 07 27 12.0 -1.5**
AB31 S **S 07 29 59.8 -0.3**
ABKAR Akbulak array 15.02 331 **Pn 07 27 12.7 -0.8**
ABKAR Akbulak array 15.02 331 **Pn 07 27 12.9 -0.6**
KURBB Kurchatov Arra 15.09 19 P **Pn 07 27 13.4 -0.9**
comp=Z,1.8nm,0.5s,baz=210,slow=9.9,SNR=6.7
KURBB S **Sn 07 30 04.9 +1.8**
comp=Z,0.6nm,0.3s,baz=202,slow=25,SNR=4.2
KURK Kurchatov 15.20 19 P **Pn 07 27 15.7 +0.1**
KURK Kurchatov 15.20 19 P **Pn 07 27 15.7 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 16.48 359 P **P 07 27 30.7 +0.5**
comp=Z,4.0nm,0.5s,baz=162,slow=14,SNR=22
BVAR S **S 07 30 32.8 +0.5**
comp=Z,3.8nm,0.7s,baz=166,slow=19,SNR=6.9
BRVK Borovoye 16.51 359 P **P 07 27 31.4 +0.8**
BRVK IAmb IAmb 07 27 43.2
comp=Z,6.7nm,0.8s
BRVK Borovoye 16.51 359*ce*P **P 07 27 31.3 +0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 16.72 330 P **P 07 27 33.8 +1.0**
comp=Z,12nm,0.7s,baz=136,slow=8.2,SNR=38
AKTO S **S 07 30 36.1 -0.9**
comp=Z,2.2nm,0.7s,baz=20,slow=20,SNR=2.0
AKTO Aktyubinsk 16.72 330 ⇑P **P 07 27 33.2 +0.4**
comp=Z,7.7nm,0.8s
AKTO ⇑S **S 07 30 33.6 -3.4**
comp=Z,4.1nm,1.1s
ZAA0 Zalesovo Array 19.88 25 P **P 07 28 07.4 +0.2**
ZALV Zalesovo Beam 19.88 25 P **P 07 28 07.0 -0.1**
comp=Z,6.1nm,0.4s,baz=214,slow=11,SNR=29
comp=Z,6.1nm,0.4s
ZALV Zalesovo Beam 19.88 25 *i*P **P 07 28 06.9 -0.2**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ARTI Arti 21.58 341 P **P 07 28 25.6 +0.6**
comp=Z,1.5nm,0.4s,baz=136,slow=6.6,SNR=3.9
comp=Z,1.5nm,0.4s
ARTI Arti 21.58 341*d i*P **P 07 28 24.1 -0.9**
ARTI 07 29 08.5
ARTI S **S 07 32 09.8 -0.6**
ARTI pmax pmax
comp=Z,23nm,3.6s
KIV Kislovodsk 22.73 298 *e*P **P 07 28 36.5 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
BELG Belogornoye 22.82 321 P **P 07 28 37.1 +0.4**
comp=Z,6.1nm,0.7s,baz=123,slow=16,SNR=3.6
comp=Z,6.1nm,0.7s
GTA Gaotai 22.89 74 *e*P **P 07 28 38.5 +0.9**
GTA pP pP 07 28 43.4 -31
GTA pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 27.99 102 P **P 07 29 25.0 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.4s
SONM Songino Array 28.34 55 P **P 07 29 26.8 +0.3**
comp=Z,1.5nm,0.7s,baz=257,slow=9.5,SNR=11
comp=Z,1.5nm,0.7s
OBN Obninsk 29.87 319⇑*e*P **P 07 29 39.6 -0.1**
OBN *e**PP **pP 07 30 23.2 +2.5**
OBN *e* 07 30 46.9
OBN pmax pmax
comp=Z,13nm,0.6s
CMAR Chiang Mai Arr 30.51 119*ce*P **P 07 29 47.9 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
XAN Xi'an 30.96 83 ⇑P **P 07 29 50.7 +1.0**
AK07 Malin Array Si 32.87 308 P **P 07 30 04.8 -1.3**
AK06 Malin Array Si 32.88 309 P **P 07 30 05.0 -1.1**
AK05 Malin Array Si 32.88 309 P **P 07 30 05.5 -0.7**
AKASG Malin Array Be 32.88 309 P **P 07 30 06.4 +0.2**
comp=Z,0.4nm,0.5s,baz=79,slow=7.5,SNR=5.0
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 32.88 309*ce*P **P 07 30 07.9 +1.7**
AK03 Malin Array Si 32.89 309 P **P 07 30 05.4 -0.8**
CTYL Yalikoy Yolu 33.26 292 P **P 07 30 10.4 +0.9**
comp=Z,2μmcomp=Z,39nm,0.5s
NRIK Noril'sk 34.08 10 P **P 07 30 16.9 +0.6**
NRIK Noril'sk 34.08 10 P **P 07 30 17.2 +0.9**
comp=Z,4.9nm,0.7s,baz=198,slow=5.3,SNR=12
comp=Z,4.9nm,0.7s
NRIK Noril'sk 34.08 10*ce*P **P 07 30 16.4 +0.1**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 37.42 326 P **P 07 30 44.9 +0.2**
comp=Z,2.2nm,0.5s,baz=115,slow=9.1,SNR=10
comp=Z,2.2nm,0.5s
ARCES ARCESS Array B 41.08 338 P **P 07 31 15.2 +0.3**
comp=Z,3.4nm,0.5s,baz=112,slow=7.8,SNR=30
comp=Z,3.4nm,0.5s
HFS Hagfors 43.00 322 P **P 07 31 30.5 -0.1**
comp=Z,2.1nm,0.5s,baz=91,slow=8.9,SNR=8.9
comp=Z,2.1nm,0.5s
YAK Yakutsk 43.95 35 *i*P **P 07 31 38.9 +0.9**
YAK pmax pmax
comp=Z,9.0nm,0.4s
NB2 NORSAR Subarra 44.32 323 P **P 07 31 40.3 -0.7**
comp=Z,1.1nm,0.6s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.32 323 P **P 07 31 40.7 -0.3**
NOA NORSAR Array B 44.32 323 P **P 07 31 40.5 -0.5**
comp=Z,1.7nm,0.7s,baz=96,slow=7.7,SNR=6.3
comp=Z,1.7nm,0.7s
TIXI Tiksi 45.74 22 P **P 07 31 51.5 -0.5**
TIXI IAmb IAmb 07 31 52.6
comp=Z,6.2nm,0.8s
TIXI Tiksi 45.74 22*ce*P **P 07 31 52.1 +0.1**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 47.43 347 P **P 07 32 06.1 +1.0**
comp=Z,4.3nm,0.7s,baz=93,slow=9.2,SNR=6.8
comp=Z,4.3nm,0.7s
SEY Seymchan 54.40 34*ce*P **P 07 32 58.1 +1.0**
SEY pmax pmax
comp=Z,9.0nm,2.5s
DAG Danmarks Havn 54.67 344 P **P 07 32 58.6 -0.3**
BILL Bilibino 58.58 26 *i*P **P 07 33 26.5 0.0**
BILL pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 65.68 269 P **P 07 34 12.5 -2.0**
comp=Z,1.1nm,0.4s,baz=49,slow=6.3,SNR=16
comp=Z,1.1nm,0.4s
TOLK Toolik Lake Re 70.88 15 P **P 07 34 46.3 +0.3**
A36M Sachs Harbour 71.16 5 P **P 07 34 47.6 +0.1**
INK Inuvik 73.86 9 P **P 07 35 03.9 +0.4**
INK IAmb IAmb 07 35 04.0
comp=Z,3.0nm,0.6s
INK Inuvik 73.86 9 P **P 07 35 03.9 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
G27K Doyon Strip 73.99 13 P **P 07 35 05.1 +0.8**
G27K IAmb IAmb 07 35 05.8
comp=Z,3.2nm,0.8s
K20K Telida 74.18 19 P **P 07 35 05.8 +0.3**
K20K IAmb IAmb 07 35 06.4
comp=Z,3.2nm,0.7s
POKR Poker Flat Res 74.32 16 P **P 07 35 06.7 +0.4**
POKR IAmb IAmb 07 35 06.8
comp=Z,3.7nm,0.7s
NEA2 Nenana 74.40 17 P **P 07 35 06.7 0.0**
NEA2 IAmb IAmb 07 35 07.4
comp=Z,4.8nm,0.9s
CAST Castle Rocks 74.65 19 P **P 07 35 08.1 -0.1**
F31M Tsiigehtchic 74.65 10 P **P 07 35 08.2 +0.2**
F31M IAmb IAmb 07 35 08.7
comp=Z,5.7nm,1.1s
G30M tAoh Zraii Nji 74.72 11 P **P 07 35 08.4 -0.2**
ILAR Eielson Array 74.74 16 P **P 07 35 07.8 -0.9**
comp=Z,0.7nm,0.7s,baz=308,slow=5.1,SNR=11
comp=Z,0.7nm,0.7s
KTH Kantishna Hill 74.83 18 P **P 07 35 08.9 -0.4**
KTH IAmb IAmb 07 35 09.6
comp=Z,3.4nm,0.8s
FITZ Fitzroy Crossi 74.95 127 P **P 07 35 09.5 -1.0**
comp=Z,2.2nm,0.9s,baz=109,slow=21,SNR=1.8
comp=Z,2.2nm,0.9s
I26K Coal Creek Min 75.05 14 P **P 07 35 10.6 +0.1**
I26K IAmb IAmb 07 35 11.8
comp=Z,4.2nm,1.1s
H29M Whitestone 75.09 12 P **P 07 35 11.1 +0.4**
H29M IAmb IAmb 07 35 11.5
comp=Z,3.6nm,0.7s
J26L Joseph Creek 75.68 15 P **P 07 35 13.9 -0.3**
SCRK Sand Creek 76.06 15 P **P 07 35 16.4 +0.1**
DAWY Dawson 76.88 13 P **P 07 35 20.6 -0.2**
BOSA Boshof 77.76 220 P **P 07 35 24.8 -1.4**
comp=Z,3.4nm,1.0s,baz=157,slow=2.4,SNR=3.4
comp=Z,3.4nm,1.0s
KDAK Kodiak Island 79.17 22 P **P 07 35 32.9 -0.5**
comp=Z,4.3nm,0.8s,baz=224,slow=2.4,SNR=8.7
comp=Z,4.3nm,0.8s
YKA Yellowknife Ar 81.20 3 P **P 07 35 43.8 -0.4**
comp=Z,0.8nm,0.5s,baz=347,slow=5.3,SNR=26
comp=Z,0.8nm,0.5s
WRA Warramunga Arr 82.05 122 P **P 07 35 47.5 -1.8**
comp=Z,1.4nm,0.5s,baz=324,slow=5.0,SNR=23
comp=Z,1.4nm,0.5s
ASAR Alice Springs 84.32 125 P **P 07 35 59.4 -1.5**
comp=Z,2.1nm,0.7s,baz=309,slow=4.8,SNR=19
comp=Z,2.1nm,0.7s

IDC 12 07:24:24.4±2.2, 5°.74S×130°.15E, h0km, mb3.7/1, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=96.1km s-min=28.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.05	199	Pn	Pn	07 27 33.2	+2.0
	0.1nm,0.3s,baz=19,slow=8.9,SNR=6.4						
FITZ				Sn	Sn	07 29 45.4	-12
	0.3nm,0.3s,baz=178,slow=20,SNR=6.5						
	0.7nm,0.3s						
WRA	Warramunga Arr	14.70	164	Pn	Pn	07 27 52.6	-1.1
	0.2nm,0.3s,baz=345,slow=13,SNR=9.6						
WRA				Sn	Sn	07 30 25.0	-12
	0.1nm,0.3s,baz=341,slow=23,SNR=1.8						
	0.2nm,0.3s						
ASAR	Alice Springs	18.19	169	P	Pn	07 28 37.9	-0.6
	0.1nm,0.3s,baz=347,slow=9.5,SNR=7.0						
	0.2nm,0.3s						
MKAR	Makanchi Array	67.26	326	P	P	07 35 20.8	0.0
	0.3nm,0.4s,baz=114,slow=7.7,SNR=6.3						
	0.3nm,0.4s						

---

*NNC **12** 07:45:08.6±0.9, 50°.83N×73°.62E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=10.1km s-min=7.4km az=32.0, Suspected Mining explosion.*
*IDC **12** 07:45:14.4±1.2, 51°.18N×73°.99E, h0km, mbtmp2.6/4, ML1.9/3, Error ellipse: s-maj=28.2km s-min=8.1km az=31.0*
ISC 12 07:45:10.2±1.0, 51°.03N±0°.08×73°.62E±0°.05, h0km, n12, σ1§02/12, 6C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	Borovoye Array	2.82	316	⇑Pg	Pb	07 46 02.1	+0.6
	2.9nm,0.7s,baz=120,slow=16,SNR=13						
BVA0				⇑Lg	Lg	07 46 42.7	
	11nm,0.7s,baz=113,slow=28,SNR=14						
BVAR	Borovoye Array	2.82	316	Pn	Pb	07 46 01.4	0.0
	0.1nm,0.3s,baz=126,slow=15,SNR=9.7						
BVAR				Sn	Sb	07 46 37.6	+1.1
	0.1nm,0.3s,baz=130,slow=24,SNR=3.6						
BVAR				Lg	Lg	07 46 45.4	
	0.3nm,0.3s,baz=127,slow=29,SNR=16						
	2.2nm,0.5s						
BRVK	Borovoye	2.89	316	⇓Pg	Pg	07 46 04.5	-1.1
	2.7nm,0.7s						
BRVK				⇑Lg	Lg	07 46 46.1	
	18nm,0.9s						
OTUK	Ortayu	2.91	197	⇓Pg	Pn	07 45 57.3	-0.5
	2.9nm,0.6s						
OTUK				⇑Lg	Lg	07 46 36.4	
	22nm,0.8s						
KURBB	Kurchatov Arra	3.14	96	Pn	Pn	07 46 01.6	+0.8
	0.1nm,0.3s,baz=281,slow=15,SNR=19						
KURBB				Lg	Lg	07 46 46.4	
	0.2nm,0.3s,baz=287,slow=28,SNR=4.5						
	2.8nm,0.7s						
KURBB	Kurchatov Arra	3.14	96	⇓Pg	Pb	07 46 06.8	0.0
	8.8nm,0.7s						
KURBB				⇓Lg	Lg	07 46 48.2	
	87nm,0.8s						
KURK	Kurchatov	3.18	94	⇑Pg	Pb	07 46 06.5	-1.0
	4.7nm,0.7s						
KURK				⇓Lg	Lg	07 46 46.9	
	31nm,1.2s						
MK31	Makanchi Array	7.11	123	⇑Lg	Lg	07 48 53.8	
	6.3nm,0.7s,baz=320,slow=28,SNR=5.7						
MKAR	Makanchi Array	7.11	123	Pn	Pn	07 46 56.5	+1.0
	baz=308,slow=9.8,SNR=2.0						
MKAR				Sn	Sn	07 48 18.2	+1.3
	0.1nm,0.3s,baz=315,slow=22,SNR=2.6						
MKAR				Lg	Lg	07 48 48.4	
	0.4nm,0.3s,baz=318,slow=24,SNR=8.4						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	7.43	63	Pn	Pn	07 47 00.6	+0.9
	0.4nm,0.4s,baz=255,slow=16,SNR=1.1						
ZALV				Sn	Sn	07 48 23.6	-1.1
	baz=249,slow=24						
I46RU	ZALESOVO INFRA	7.43	63	I	I	08 30 50.0	
	baz=247,slow=325,SNR=2.8						
AAK	Ala-Archa	8.42	176	Lg	Lg	07 49 27.6	
	0.2nm,0.3s,baz=344,slow=22,SNR=4.4						

---

*BJI **12** 08:01:15.6, 4°.31N×126°.75E, h94km, mB5.0/21, mb4.6/61*
*MAN **12** 08:01:18.6, 4°.70N×126°.19E, h41km, mb5.6, ML4.6, MS4.9*
*NEIC **12** 08:01:22.2±2.0, 4°.93N±0°.06×126°.30E±0°.09, h89km±7km, mb4.9/75, Error ellipse: s-maj=12.8km s-min=8.4km az=75.0*
*DJA **12** 08:01:22.5±0.3, 5°N±2°×12°6E±°, h84km±3km, M5.0/43, mb4.9/43, mB5.4/17, MLv5.3/17, Mw(mB)4.8/17*
*IDC **12** 08:01:22.8±1.1, 4°.94N×126°.18E, h101km±8km, mb4.3/23, mbtmp4.7/27, MS3.5/31, Error ellipse: s-maj=19.8km s-min=8.8km az=75.0*
ISC 12 08:01:22.0±0.4, 4°.93N±0°.04×126°.26E±0°.05, h90km±3km, h91km: pP-P, n460, σ1§16/466, mb4.8/96, 4C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.44	211	P	Pn	08 01 46.4	-0.6
DAV	Davao City (W)	2.23	342		Pn	08 01 56.8	-0.6
DAV	Davao City (W)	2.23	342	P	Pn	08 01 57.5	+0.2
	520nm,0.4s,baz=130,slow=1.6,SNR=13						
DAV				S	Sn	08 02 26.7	+2.3
	1μm,0.5s,baz=98,slow=20,SNR=6.2						
DAV	Davao City (W)	2.23	342	P	Pn	08 01 58.0	+0.6
TNTI	Ternate	4.27	165	Pn	Pn	08 02 22.8	-2.0
TNTI	Ternate	4.27	165	P	Pn	08 02 24.6	-0.2
KMSI	Cibinong	4.89	208	P	Pn	08 02 34.3	+1.1
LBMI	Labuha	5.66	167	P	Pn	08 02 44.3	+0.5
	2.8nm4μm236nm,0.6s						
MRSI	Marisa	6.18	224	P	Pn	08 02 51.0	+0.2
TOLI2	Tolitoli	6.66	235	Pn	Pn	08 02 56.0	-1.3
LUWI	Luwuk	6.88	211	Pn	Pn	08 03 01.9	+1.6
LUWI	Luwuk	6.88	211	P	Pn	08 03 03.6	+3.3
LUWI	Luwuk	6.88	211	P	Pn	08 03 03.4	+3.1
SANI	Sanana	6.94	182	P	Pn	08 02 57.9	-3.2
	0.7nm5μm137nm,0.7s						
APSI	Ampana	7.41	219	P	Pn	08 03 09.7	+2.2
SWI	Sorong	7.62	139	P	Pn	08 03 08.1	-2.2
	0.7nm2μm136nm,0.5s						
MYLDM	Lahad Datu	7.74	272	Pn	Pn	08 03 12.9	+0.9
MYLDM	Lahad Datu	7.74	272	P	Pn	08 03 13.9	+1.9
NLAI	Namlea	8.15	174	P	Pn	08 03 15.7	-2.0
	196nm,0.6s						
AAI	Ambon	8.77	167	P	Pn	08 03 25.5	-0.6
	3μm203nm,0.7s						
KDI	Kendari	9.55	202	P	Pn	08 03 36.9	+0.2
	2μm54nm,0.7s						
FAKI	Fak Fak	9.82	142	Pn	Pn	08 03 39.9	-0.6
FAKI	Fak Fak	9.82	142	P	Pn	08 03 40.4	-0.1
FAKI	Fak Fak	9.82	142	P	Pn	08 03 40.4	-0.1
	77nm,0.8s						
KKM	Kota Kinabalu	10.06	277	Pn	Pn	08 03 45.2	+1.4
TTSI	Tana Toraja	10.21	219	P	Pn	08 03 48.0	+2.3
	2μm90nm,0.9s						
TGY	Tagaytay City	10.52	330	P	Pn	08 03 49.7	-0.3
	107nm,0.3s,baz=174,slow=18,SNR=1.3						
TGY				LR	LR	08 07 59.9	
	comp=Z,342nm,19.9s,baz=142,slow=38						
SPSI	Sidrap Palu	10.96	216	P	Pn	08 03 57.5	+1.6
	35nm,0.8s						
KAPI	Kappang	11.82	213	P	Pn	08 04 08.0	+0.4
	12nm,0.4s,baz=40,slow=11,SNR=5.3						
KAPI				LR	LR	08 08 58.2	
	comp=Z,132nm,19.0s,baz=38,slow=39						
BSSI	Bau Bau, Buton	12.42	208	P	P	08 04 20.1	-3.8
	62nm,0.7s						
SBUM	Sibu	14.23	261	Pn	Pn	08 04 41.2	+1.7
SOEI	Soe	14.72	188		Pn	08 04 46.5	+0.6
SOEI	Soe	14.72	188	P	P	08 04 47.8	-1.8
	1μm67nm,0.8s						
BATI	Baumata	15.26	190	P	P	08 04 55.9	+0.4
	117nm,1.3s						
WBSI	Waikabubak, Su	16.01	205	P	Pn	08 05 02.1	0.0
	65nm,1.0s						
PLAI	Plampang	16.07	212	P	P	08 05 06.1	+1.6
PLAI	Plampang	16.07	212	P	Pn	08 05 02.9	+0.1
	66nm,0.8s						
BASI	Baing, Sumba	16.08	201	P	Pn	08 05 03.6	+0.7
	137nm,1.2s						
JAY	Jayapura	16.21	117	P	P	08 05 06.4	+0.3
	14nm,0.7s,baz=327,slow=17,SNR=1.6						
KSM	Kuching	16.29	258		Pn	08 05 06.3	+0.7
KSM	Kuching	16.29	258	P	P	08 05 08.7	+1.7
TWSI	Taliwang, Sumb	16.49	215	P	P	08 05 09.3	+0.2
	60nm,0.7s						
DRS	Darwin Rock St	17.85	165	P	Pn	08 05 27.9	+3.3
JAGI	Jajag, Banyuwa	17.97	222	P	Pn	08 05 28.3	+2.2
JAGI	Jajag, Banyuwa	17.97	222	P	Pn	08 05 27.6	+1.5
	27nm,0.8s						
MTN	Manton Dam	18.30	165		P	08 05 27.7	-1.4
MTN	Manton Dam	18.30	165	P	Pn	08 05 30.7	+0.6
	comp=Z,33nm,0.9s						
KDU	Kakadu	18.55	161	P	Pn	08 05 33.2	+0.1
	comp=Z,31nm,1.0s						
YULB	Yu-li	18.97	346	P	P	08 05 34.4	-2.0
TPUB	Ta-pu	19.06	344	P	P	08 05 35.4	-1.9
SSLB	Suanglung	19.44	345	P	P	08 05 39.9	-1.6
NACB	Ninganchiao	19.66	347	P	Pn	08 05 47.0	+1.0
PCJI	Pacitan	19.91	229	P	Pn	08 05 48.4	-0.7
	comp=Z,23nm,0.6s						
YHNB	Yeheng	20.18	347	P	P	08 05 49.7	+0.1
YHNB	Yeheng	20.18	347	P	P	08 05 51.3	+1.7
GUMO	Guam	20.26	64	LR	LR	08 12 25.7	
	comp=Z,108nm,21.8s,baz=29,slow=33						
KNRA	Kununurra	20.62	173	P	P	08 05 54.0	-0.3
KNRA	Kununurra	20.62	173	P	P	08 05 54.3	+0.1
	comp=Z,42nm,1.1s						
KNMB	Chin-men Tao	20.85	339	P	P	08 05 56.1	-0.6
QIZ	Qiongzhong	21.29	313	P	P	08 06 02.6	+1.2
QIZ				S	S	08 09 56.5	+3.4
QIZ				pmax	pmax		
	comp=Z,48nm,1.2s						
QIZ				LR	LR		
	comp=Z,220nm,14.3s						
QIZ				LR	LR		
	comp=Z,250nm,6.7s						
QIZ				LR	LR		
	comp=Z,260nm,20.1s						
JOW	Kunigami	21.87	5	P	P	08 06 06.6	-0.9
JOW	Kunigami	21.87	5	P	P	08 06 07.2	-0.3
	comp=Z,34nm,0.6s,baz=158,slow=9.7,SNR=16						
	comp=Z,34nm,0.6s						
JOW	Kunigami	21.87	5	P	P	08 06 10.1	+2.6
LEM	Lembang	21.97	238	LR	LR	08 15 26.3	
	comp=Z,122nm,20.9s,baz=150,slow=38						
MYKOM	Kota Tinggi	22.59	263	P	P	08 06 16.1	+0.8
UBPT	Khong Chiam	22.89	298	P	P	08 06 18.0	-0.3
FITZ	Fitzroy Crossi	22.89	182	P	P	08 06 16.9	-1.4
FITZ	Fitzroy Crossi	22.89	182	P	P	08 06 18.2	-0.1
MDSI	Maura Dua	23.96	247	P	P	08 06 28.6	+0.4
IPM	Ipoh	25.16	270	P	P	08 06 39.9	+0.7
COEN	Coen	25.17	138	P	P	08 06 37.1	-2.1
COEN	Coen	25.17	138	P	P	08 06 39.6	+0.3
	comp=Z,25nm,1.0s						
PMG	Port Moresby	25.23	124	LR	LR	08 17 04.9	
	comp=Z,103nm,19.7s,baz=280,slow=37						
GULI	GuiLin	25.35	325	P	P	08 06 44.3	+3.5
GULI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WB0	Warramunga Arr	25.81	162	P	P	08 06 44.2	-0.7
WB0				IAmb	IAmb	08 07 20.8	
	comp=Z,33nm,0.7s						
WC1	Warramunga Arr	25.94	162	P	P	08 06 45.9	-0.3
WRAB	Tennant Creek	25.95	162	P	P	08 06 45.7	-0.6
WRAB				IAmb	IAmb	08 07 14.7	
	comp=Z,41nm,1.1s						
WRA	Warramunga Arr	25.96	162	P	P	08 06 45.5	-0.9
	comp=Z,12nm,0.9s,baz=335,slow=11,SNR=39						
WRA				PcP	PcP	08 10 12.8	0.0
	comp=Z,2.6nm,0.9s,baz=335,slow=2.3,SNR=4.1						
WRA				ScP	ScP	08 13 44.3	-0.2
	comp=Z,1.5nm,0.8s,baz=348,slow=3.1,SNR=4.4						
	comp=Z,12nm,0.9s						
WB2	Warramunga Arr	25.96	162	P	P	08 06 45.5	-0.9

WB2 IAmb IAmb 08 07 26.0
comp=Z,26nm,0.8s
PPI Padang Panjang 26.39 259 P P 08 06 53.2 +2.9
comp=Z,31nm,1.1s
JCJ Chichijima 26.77 33 LR LR 08 16 03.1
comp=Z,45nm,20.7s,baz=81,slow=33
PSAC1 Pilbara Seismi 27.05 193 P **P 08 06 55.8 -0.3**
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 27.08 193 P **P 08 06 54.7 -1.7**
PSA00 IAmb IAmb 08 07 00.7
comp=Z,19nm,0.8s
PSA00 Pilbara Seismi 27.08 193 P **P 08 06 55.4 -0.9**
comp=Z,29nm,0.9s
KRVT Keravat (AS076 27.32 109 LR LR 08 15 55.6
comp=Z,161nm,19.9s,baz=22,slow=32
PSI Prapat 27.36 267 LR LR 08 19 25.4
comp=Z,74nm,21.8s,slow=40
RPSI Rantau Prapat 27.37 266 P **P 08 06 58.8 -0.2**
NJ2 Nanjing 27.86 346 *e*P **P 08 07 05.9 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,1.0s
JNU Nakatsue 28.38 8 P **P 08 07 06.5 -1.4**
JNU IAmb IAmb 08 07 18.4
comp=Z,24nm,1.0s
QIS Mount Isa 28.52 153 P **P 08 07 08.6 -0.6**
comp=Z,19nm,0.7s
PHRA Phrae 28.78 300 P **P 08 07 11.0 -0.6**
MTSU Mount Surprise 29.02 143 P **P 08 07 16.4 +2.7**
AS14 Alice Springs 29.37 166 P **P 08 07 18.1 +1.3**
comp=Z,10nm,0.6s
AS31 Alice Springs 29.38 166 P **P 08 07 16.0 -0.8**
AS31 Alice Springs 29.38 166 P **P 08 07 16.5 -0.4**
comp=Z,3.1nm,0.7s
ASAR Alice Springs 29.38 166 P **P 08 07 16.6 -0.3**
comp=Z,2.1nm,0.6s,baz=349,slow=7.6,SNR=24
ASAR PcP **PcP 08 10 21.1 -0.1**
comp=Z,3.2nm,0.6s,baz=348,slow=2.5,SNR=7.8
ASAR ScP **ScP 08 13 54.8 -0.2**
comp=Z,2.1nm,0.8s,baz=349,slow=2.8,SNR=7.4
comp=Z,2.1nm,0.6s
JMN Monobe 29.52 13 P **P 08 07 17.9 -0.1**
JMN IAmb IAmb 08 08 20.2
comp=Z,50nm,1.3s
GIRL Giralia 29.82 203 P **P 08 07 22.1 +1.4**
comp=Z,123nm,1.5s
WRKA Warakurna 29.85 176 P **P 08 07 20.9 -0.1**
comp=Z,16nm,1.1s
CM31 Chiang Mai Arr 29.88 299 P **P 08 07 21.6 +0.3**
CMAR Chiang Mai Arr 29.88 299 P **P 08 07 21.5 +0.1**
comp=Z,5.3nm,0.7s,baz=115,slow=7.3,SNR=28
CMAR ScP **ScP 08 13 55.7 -1.0**
comp=Z,5.5nm,0.8s,baz=146,slow=1.7,SNR=28
CMAR LR LR 08 19 54.3
comp=Z,62nm,18.4s,baz=100,slow=37
comp=Z,5.3nm,0.7s
CHTO Chiang Mai 30.02 300 P **P 08 07 23.4 +0.8**
PZH PanZhiHua 31.77 315 P **P 08 07 40.2 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.5s
INU Inuyama 31.86 17 P **P 08 07 39.5 +1.0**
LYN LuoYang 32.13 338 P P 08 07 46.1 +5.1
LYN pmax pmax
comp=Z,15nm,0.7s
MEEK Meekatharra 32.24 193 P **P 08 07 39.8 -2.3**
TIA Tai'an 32.25 346 P **P 08 07 43.3 +1.3**
TIA pmax pmax
comp=Z,10.0nm,0.8s
KSAR Wonju Array Be 32.40 2 P **P 08 07 43.1 -0.1**
KSRS Korea Array 32.41 2 P **P 08 07 43.8 +0.5**
comp=Z,5.1nm,0.5s,baz=185,slow=9.9,SNR=30
KSRS PcP **PcP 08 10 28.4 -0.5**
comp=Z,1.2nm,0.6s,baz=164,slow=2.7,SNR=4.3
comp=Z,5.1nm,0.5s
KS19 Wonju Array Si 32.45 2 P **P 08 07 43.8 0.0**
KS19 IAmb IAmb 08 07 45.1
comp=Z,55nm,1.6s
XAN Xi'an 33.15 333 ⇑P **P 08 07 48.2 -1.7**
XAN pmax pmax
comp=Z,13nm,1.3s
MJAR Matsushiro Arr 33.32 18 P **P 08 07 49.4 -2.0**
comp=Z,3.9nm,1.0s,baz=197,slow=8.5,SNR=4.6
MJAR LR LR 08 21 14.0
comp=Z,31nm,19.6s,baz=206,slow=36
comp=Z,3.9nm,1.0s
CD2 Chengdu 33.41 323 P **P 08 07 54.0 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
HNS HongShan 34.00 343 ⇑P **P 08 08 00.7 +3.5**
HNS pmax pmax
comp=Z,16nm,0.7s
MORW Morawa 35.20 196 P **P 08 08 06.9 -0.7**
comp=Z,18nm,1.9s
JMM Marumori 35.36 20 P **P 08 08 08.3 -0.6**
FORT Forrest 35.55 177 P **P 08 08 10.5 0.0**
comp=Z,35nm,1.3s
BJT Baijiatuau 36.10 347 P **P 08 08 14.1 -1.2**
BJT IAmb IAmb 08 08 19.2
comp=Z,40nm,1.5s
BJT Baijiatuau 36.10 347 P **P 08 08 13.9 -1.3**
BJT pP **pP 08 08 33.8 -1.4**
BJI Beijing 36.12 347 P **P 08 08 14.2 -1.2**
BJI pP **pP 08 08 34.7 -0.6**
BJI sP **sP 08 08 47.2 +1.8**
BJI pmax pmax
comp=Z,6.0nm,0.7s
KMBL Kambalda 36.33 186 P **P 08 08 16.6 -0.7**
comp=Z,21nm,1.5s
BLDU Ballidu 36.50 194 P **P 08 08 18.2 -0.6**
comp=Z,22nm,2.1s
KLBR Kellerberrin 37.21 192 P **P 08 08 23.8 -0.9**
comp=Z,24nm,1.0s
LZH Lanzhou 37.24 329 *e*P P 08 08 33.2 +8.0
LZH pP pP 08 08 44.5 -0.7
LZH pmax pmax
comp=Z,25nm,1.4s
BRDH Bariadhala 37.81 301 LR LR 08 25 31.0
comp=Z,38nm,18.4s,baz=306,slow=38
JTM Tenmabayashi 38.10 18 P **P 08 08 32.5 +0.4**
HHC Hu-ho-hao-te 38.12 342 *e*P **P 08 08 35.2 +2.7**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.1s
BTO Baotou 38.41 340 *e*P **P 08 08 39.6 +4.7**
BTO pP **sP 08 09 02.3 -2.6**
BTO sP pwP 08 09 14.0 +15
BTO pmax pmax
comp=Z,7.0nm,0.8s
BTO pmax pmax
comp=Z,310nm,4.8s
EIDS Eidsvold 38.58 142 P **P 08 08 36.5 +0.2**
EIDS IAmb IAmb 08 08 41.5
comp=Z,31nm,1.3s
EIDS Eidsvold 38.58 142 P **P 08 08 36.0 -0.4**
comp=Z,23nm,1.4s
NWAO Narrogin (SRO) 38.61 192 P **P 08 08 35.8 -0.7**
NWAO Narrogin (SRO) 38.61 192 P **P 08 08 37.2 +0.7**
BBOO Buckleboo 38.66 167 P **P 08 08 37.9 +0.9**
comp=Z,29nm,1.8s
CN2 Changchun 38.72 359 *e*P **P 08 08 39.1 +1.8**
CN2 *es*P sP 08 09 12.0 +4.5
CN2 *e*S **S 08 14 29.1 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
SHL Shillong 38.80 306 P **P 08 08 38.2 -0.3**
STKA Stephens Creek 39.41 159 P **P 08 08 42.7 -0.5**
STKA Stephens Creek 39.41 159 P **P 08 08 43.7 +0.5**
comp=Z,5.1nm,1.1s
STKA Stephens Creek 39.41 159 P **P 08 08 43.8 +0.5**
comp=Z,15nm,0.9s,baz=337,slow=9.3,SNR=12
STKA PcP **PcP 08 10 49.9 +0.2**
comp=Z,7.4nm,0.6s,baz=336,slow=7.1,SNR=4.4
comp=Z,15nm,0.9s
USA0B Ussuriysk Arra 39.44 6 P **P 08 08 43.2 0.0**
USA0B IAmb IAmb 08 08 49.4
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 39.44 6 P **P 08 08 43.2 0.0**
comp=Z,7.5nm,0.6s,baz=183,slow=6.1,SNR=16
comp=Z,7.5nm,0.6s
MDJ Mudanjiang 39.64 4 P **P 08 08 44.6 -0.3**
MDJ IAmb IAmb 08 08 46.6
comp=Z,21nm,0.8s
MDJ Mudanjiang 39.64 4 P **P 08 08 44.8 -0.1**
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ Mudanjiang 39.64 4 P **P 08 08 45.8 +0.9**
MDJ pP **pP 08 09 07.1 +1.8**
MDJ sP **sP 08 09 16.9 +1.6**
XLT XiLinHaoTe 39.84 348 *e*P **P 08 08 47.8 +1.1**
XLT pmax pmax
comp=Z,5.0nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.8s
HTT Hallett 39.99 163 P **P 08 08 48.3 +0.2**
comp=Z,29nm,2.8s
BNX BinXian 40.66 1 ⇑P **P 08 08 53.2 -0.2**
BNX pmax pmax
comp=Z,6.0nm,1.5s
CMSA Cobar Meteorol 40.72 154 P **P 08 08 55.4 +1.4**
comp=Z,14nm,2.9s
JKA Kamikawa-asahi 41.59 18 P **P 08 09 01.4 +0.3**
JKA IAmb IAmb 08 09 25.9
comp=Z,18nm,0.8s
GTA Gaotai 41.84 329 *e*P **P 08 09 02.7 -0.6**
GTA PcP **PcP 08 10 58.5 +0.8**
GTA ScP **ScP 08 14 39.5 -0.6**
GTA ScS **ScS 08 18 55.9 -1.5**
GTA pmax pmax
comp=Z,1.0nm,0.7s
H11N1 WAKE ISLAND Hy 42.18 66 T T 08 55 09.1
baz=255,slow=75,SNR=8.9
H11N2 WAKE ISLAND Hy 42.19 66 T T 08 55 09.4
baz=255,slow=75,SNR=8.8
H11N3 WAKE ISLAND Hy 42.20 66 T T 08 55 10.2
baz=255,slow=75,SNR=6.9
ARPS Mount Arapiles 43.96 162 P **P 08 09 20.9 +0.6**
HIA Hailar 44.53 354 P **P 08 09 24.9 +0.3**
HEH HeiHe 45.18 1 *e*P **P 08 09 30.1 +0.3**
HEH pmax pmax
comp=Z,16nm,1.1s
HEH pmax pmax
comp=Z,130nm,6.8s
ULN Ulaanbaatar 45.84 342 P **P 08 09 36.7 +1.4**
SONM Songino Array 46.02 341 P **P 08 09 36.4 -0.3**
comp=Z,1.3nm,0.6s,baz=162,slow=8.2,SNR=11
SONM PcP **PcP 08 11 11.2 -0.6**
comp=Z,1.6nm,0.6s,baz=160,slow=5.0,SNR=4.3
SONM ScP **ScP 08 14 55.2 -1.8**
comp=Z,0.1nm,0.4s,baz=31,slow=32,SNR=2.0
SONM LR LR 08 29 32.8
comp=Z,73nm,22.0s,baz=206,slow=37
comp=Z,1.3nm,0.6s
NOUC Port Laguerre 47.51 126 P **P 08 09 50.0 +1.5**
DZM Mont Dzumac 47.60 126 LR LR 08 30 20.5
comp=Z,79nm,18.4s,baz=6.5,slow=36
DZM Mont Dzumac 47.60 126 P **P 08 09 50.5 +1.2**
DZM pP **pP 08 10 11.1 +0.3**
WMQ Urumqi 51.48 325 *e*P **P 08 10 21.7 +3.2**
PETK Petropavlovsk- 54.51 23 P **P 08 10 40.4 0.0**
comp=Z,12nm,0.7s,baz=200,slow=4.1,SNR=15
PETK PcP **PcP 08 11 41.9 -0.9**
comp=Z,3.5nm,0.8s,baz=225,slow=7.4,SNR=1.1
PETK LR LR 08 34 12.0
comp=Z,25nm,19.5s,baz=66,slow=36
comp=Z,12nm,0.7s
PET Petropavlovsk 54.81 23 P **P 08 10 42.9 +0.3**
MSVF Nonsavu 55.83 115 LR LR 08 33 11.7
comp=Z,74nm,18.4s,baz=309,slow=34
MSVF Nonsavu 55.83 115 P **P 08 10 52.5 +1.9**
MK31 Makanchi Array 56.31 325 P **P 08 10 52.1 -1.4**
MKAR Makanchi Array 56.31 325 P **P 08 10 52.0 -1.6**
MKAR Makanchi Array 56.31 325 P **P 08 10 52.3 -1.3**
comp=Z,3.4nm,0.4s,baz=120,slow=7.7,SNR=37
MKAR PcP **PcP 08 11 49.1 -0.8**
comp=Z,1.8nm,0.6s,baz=141,slow=3.3,SNR=1.5
MKAR ScP **ScP 08 15 38.8 -2.4**
comp=Z,1.9nm,0.8s,baz=117,slow=4.7,SNR=6.0
MKAR LR LR 08 36 40.3
comp=Z,80nm,18.2s,baz=108,slow=38
comp=Z,3.4nm,0.4s
MAKZ Makanchi 56.50 325 P **P 08 10 54.3 -0.6**
MAKZ IAmb IAmb 08 10 59.4
comp=Z,5.2nm,0.7s
MAKZ Makanchi 56.50 325 P **P 08 10 53.7 -1.2**
MAKZ pP **pP 08 11 14.4 -1.8**
KSH Kashi 56.88 315 P **P 08 11 00.5 +2.7**
KSH pmax pmax
comp=Z,2.0nm,0.9s
YAK Yakutsk 57.03 2 P **P 08 10 57.2 -1.0**
YAK Yakutsk 57.03 2 LR LR 08 37 08.2
comp=Z,25nm,19.4s,baz=112,slow=38
MA2 Magadan 57.67 14 P **P 08 11 02.1 -0.7**
MA2 IAmb IAmb 08 11 04.4
comp=Z,15nm,0.8s
MA2 Magadan 57.67 14 P **P 08 11 03.0 +0.2**
comp=Z,27nm,0.9s
MA2 Magadan 57.67 14 P **P 08 11 03.3 +0.5**
MA2 pP **pP 08 11 23.9 -0.3**
AAK Ala-Archa 59.17 318 LR LR 08 39 13.7
comp=Z,67nm,20.0s,baz=98,slow=38
ZAA0 Zalesovo Array 59.32 333 P **P 08 11 13.2 -1.2**
ZALV Zalesovo Beam 59.32 333 P **P 08 11 13.6 -0.8**
ZALV Zalesovo Beam 59.32 333 P **P 08 11 13.0 -1.4**
comp=Z,1.6nm,0.4s,baz=135,slow=7.8,SNR=9.1
ZALV LR LR 08 37 25.5
comp=Z,32nm,19.5s,baz=94,slow=36
comp=Z,1.6nm,0.4s
KURBB Kurchatov Arra 60.49 327 P **P 08 11 21.4 -1.0**
comp=Z,2.5nm,0.5s,baz=129,slow=6.0,SNR=26
comp=Z,2.5nm,0.5s
KURK Kurchatov 60.49 327 P **P 08 11 20.8 -1.6**
KURK IAmb IAmb 08 11 48.2
comp=Z,16nm,1.2s
KURK Kurchatov 60.49 327 P **P 08 11 20.8 -1.6**
KURK pP **pP 08 11 42.5 -1.5**
KURK sP **sP 08 11 52.3 -1.3**
GAR Garm 60.78 312 P **P 08 11 25.1 +0.2**
GAR IAmb IAmb 08 11 49.6
comp=Z,16nm,1.0s
KK31 Karatay Array 62.05 317 P **P 08 11 31.8 -1.4**
KKAR Karatay Array 62.05 317 P **P 08 11 32.1 -1.1**
KKAR Karatay Array 62.05 317 P **P 08 11 31.8 -1.4**
KKAR IAmb IAmb 08 11 58.8
comp=Z,3.3nm,1.1s
QRZ Quartz Range 62.15 142 P **P 08 11 34.3 +0.5**
TOZ Tahuroa Road 62.37 137 P **P 08 11 35.8 +0.5**
THZ Tophouse 62.92 142 P **P 08 11 38.9 -0.2**
GVZ Greta Valley S 63.71 143 P **P 08 11 44.4 +0.2**
URZ Urewera 63.73 137 LR LR 08 39 09.8
comp=Z,35nm,19.5s,slow=36
RTZ Ruatahuna 63.82 137 P **P 08 11 44.3 -0.7**
JOHN Johnston Islan 63.91 74 P **P 08 11 46.4 +0.5**
JOHN pP **pP 08 12 07.7 +0.1**
BVAR Borovoye Array 66.07 327 P **P 08 11 57.6 -1.7**
comp=Z,2.4nm,0.5s,baz=149,slow=9.4,SNR=12
BVAR LR LR 08 42 03.8
comp=Z,66nm,18.1s,baz=82,slow=37
comp=Z,2.4nm,0.5s
BRVK Borovoye 66.14 327 P **P 08 11 58.6 -1.2**
BRVK IAmb IAmb 08 12 25.5
comp=Z,8.8nm,0.9s
BRVK Borovoye 66.14 327 P **P 08 11 58.0 -1.8**
BRVK pP **pP 08 12 19.7 -2.0**
TIXI Tiksi 66.66 1 P **P 08 12 01.8 -0.9**
TIXI IAmb IAmb 08 12 08.3
comp=Z,9.5nm,0.8s
TIXI Tiksi 66.66 1 P **P 08 12 02.1 -0.6**
BILL Bilibino 68.52 15 P **P 08 12 14.0 -0.5**
BILL Bilibino 68.52 15 P **P 08 12 14.7 +0.2**
NRIK Noril'sk 69.16 346 P **P 08 12 17.6 -0.9**
NRIK Noril'sk 69.16 346 P **P 08 12 17.8 -0.7**
comp=Z,4.3nm,0.5s,baz=130,slow=8.2,SNR=15
NRIK LR LR 08 45 24.1
comp=Z,44nm,18.3s,baz=142,slow=38
comp=Z,4.3nm,0.5s
ABKAR Abkulak array 70.94 321 P **P 08 12 28.2 -1.5**
ABKAR Abkulak array 70.94 321 P **P 08 12 28.5 -1.2**
ABKAR IAmb IAmb 08 12 52.1
comp=Z,2.8nm,0.8s
AKTO Aktyubinsk 72.44 321 LR LR 08 45 57.6
comp=Z,63nm,20.5s,baz=117,slow=37
UNV Unalaska Valle 72.71 35 P **P 08 12 40.2 0.0**
baz=254
ARTI Arti 73.77 328 LR LR 08 45 09.1
comp=Z,25nm,21.0s,baz=82,slow=36
FALS False Pass 74.71 34 P **P 08 12 51.6 -0.2**
baz=256
L14K Kuka Creek 76.66 28 P **P 08 13 03.9 +1.1**
baz=256
M14K Bethel 76.86 29 P **P 08 13 04.9 +0.9**
baz=256
CHNA Chernabura Isl 76.88 35 P **P 08 13 04.9 +0.7**
baz=260
F15K North Star Dit 77.01 23 P **P 08 13 05.8 +1.0**
baz=253
L15K Ungalak Mounta 77.30 28 P **P 08 13 07.5 +1.0**
baz=256
K15K Wolf Creek Mou 77.42 27 P **P 08 13 08.6 +1.5**
baz=256
M15K Kasigluk River 77.45 29 P **P 08 13 08.3 +1.0**
baz=257
C16K Lisburne Hills 77.54 21 P **P 08 13 07.7 +0.1**
C16K Lisburne Hills 77.54 21 P **P 08 13 08.8 +1.1**
baz=252
O15K Ungalikthiuk R 77.57 30 P **P 08 13 08.7 +0.7**
baz=258
N15K Kwethluk River 77.63 29 P **P 08 13 08.6 +0.2**
baz=258
H16K Elim 77.69 25 P **P 08 13 09.3 +0.8**
baz=255
CHGN Chignik 77.79 33 P **P 08 13 09.4 +0.2**
baz=260
J16K Anvik River 78.07 26 P **P 08 13 11.6 +0.9**
baz=257
I17K Unalakleet 78.16 26 P **P 08 13 12.3 +1.1**
baz=257
D17K Noatak River 78.18 22 P **P 08 13 12.3 +1.1**
baz=254
L16K Owhat River 78.24 28 P **P 08 13 12.7 +1.0**
baz=258
RDOG Red Dog Mine 78.34 21 P **P 08 13 13.3 +1.1**
baz=254
M16K Timber Creek 78.35 29 P **P 08 13 13.6 +1.3**
baz=259
C17K DeLong Mountai 78.36 21 P **P 08 13 13.0 +0.7**
baz=254
E17K Hotham Inlet 78.48 22 P **P 08 13 14.3 +1.4**
baz=255
O16K Kokwok River B 78.51 30 P **P 08 13 14.0 +0.8**
baz=260
F17K Baldwin Pennin 78.54 23 P **P 08 13 13.4 +0.2**
F17K IAmb IAmb 08 13 15.1
comp=Z,12nm,0.7s
F17K Baldwin Pennin 78.54 23 P **P 08 13 14.5 +1.3**
baz=256
G17K Kiwalik Mounta 78.56 24 P **P 08 13 14.5 +1.2**
baz=256
H17K Granite Mounta 78.73 25 P **P 08 13 15.2 +0.8**
baz=257
J17K VABM Dome 78.76 26 P **P 08 13 15.8 +1.3**
J17K VABM Dome 78.76 26 P **P 08 13 15.8 +1.3**
baz=258
L17K Donlin 78.87 28 P **P 08 13 16.6 +1.4**
baz=259
KIRV Kirov 78.96 329 LR LR 08 52 02.1
comp=Z,44nm,18.1s,baz=55,slow=38
K17K Iditarod 78.98 27 P **P 08 13 17.3 +1.6**
baz=259
E18K Tukpahlearik C 79.03 22 P **P 08 13 17.4 +1.5**
baz=256
O17K Koliganek Bris 79.04 30 P **P 08 13 16.9 +0.8**
baz=261
B18K Kokolik River 79.09 20 P **P 08 13 17.5 +1.3**
baz=255
Q16K King Salmon 79.10 31 P **P 08 13 16.9 +0.5**
baz=261
C18K Utukok River 79.11 21 P **P 08 13 16.1 -0.3**
C18K Utukok River 79.11 21 P **P 08 13 17.1 +0.6**
baz=255,SNR=7.0
N17K Nushagak Hills 79.12 29 P **P 08 13 17.8 +1.2**
baz=261
M17K Holitna River 79.14 28 P **P 08 13 18.3 +1.6**
baz=260
F18K Selawik 79.20 23 P **P 08 13 18.1 +1.2**
baz=257
P17K Kvichak River 79.28 31 P **P 08 13 18.2 +0.7**
baz=262
H18K Honhosa River 79.42 25 P **P 08 13 19.0 +0.9**
baz=259
G18K Tagagawik 79.45 24 P **P 08 13 19.2 +0.9**
baz=258
L18K Granite Mounta 79.63 28 P **P 08 13 20.1 +0.8**
L18K Granite Mounta 79.63 28 P **P 08 13 20.7 +1.4**
baz=261
N18K Kilae Creek 79.78 29 P **P 08 13 20.9 +0.7**
baz=262
J18K Innoko River 79.82 26 P **P 08 13 21.1 +0.8**
baz=260
M18K Stony River 79.92 28 P **P 08 13 22.0 +1.2**
baz=262
GCSA Galena City Sc 79.96 25 P **P 08 13 21.9 +0.9**
baz=260
F19K Shaleruckik Mo 79.98 23 P **P 08 13 22.0 +1.0**
baz=259
O18K Koktuh Hills 80.00 30 P **P 08 13 22.5 +1.2**
baz=262
TTA Tatalina 80.05 27 P **P 08 13 22.5 +0.8**
baz=261
G19K Purcell Mounta 80.12 24 P **P 08 13 22.1 +0.2**
G19K IAmb IAmb 08 13 23.7
comp=Z,17nm,0.9s
G19K Purcell Mounta 80.12 24 P **P 08 13 23.3 +1.4**
baz=260
SII Sitkinak Islan 80.15 34 P **P 08 13 22.5 +0.3**
baz=264
D19K Kuna River 80.18 21 P **P 08 13 23.1 +0.9**
baz=258
H19K Roundabout Mou 80.28 24 P **P 08 13 24.2 +1.5**
baz=260
E19K Redstone River 80.31 22 P **P 08 13 23.9 +1.1**
E19K IAmb IAmb 08 13 25.0
comp=Z,20nm,0.8s
E19K Redstone River 80.31 22 P **P 08 13 24.0 +1.1**
baz=259
J19K Poorman 80.38 26 P **P 08 13 24.4 +1.1**
baz=261
N19K Bonanza Creek 80.48 29 P **P 08 13 24.7 +0.7**
N19K IAmb IAmb 08 13 26.9
comp=Z,15nm,0.8s
N19K Bonanza Creek 80.48 29 P **P 08 13 25.2 +1.2**
baz=263
O19K Port Alsworth 80.48 30 P **P 08 13 25.1 +1.2**
baz=263
Q19K Cape Douglas, 80.68 31 P **P 08 13 25.3 +0.2**
baz=264
OHAK Old Harbor 80.70 33 P **P 08 13 25.6 +0.5**
baz=265
D20K Etivluk River 80.76 21 P **P 08 13 26.2 +0.9**
baz=260
E20K Nigu River 80.84 22 P **P 08 13 26.7 +1.0**
baz=260,SNR=13
H20K Anotleneega Mo 80.92 24 P **P 08 13 27.2 +1.0**
baz=262
L20K Farewell, AK 80.96 28 P **P 08 13 26.7 +0.2**
baz=263
P19K Oil Pt 80.97 30 P **P 08 13 27.5 +0.9**
baz=264
K20K Telida 80.98 27 P **P 08 13 28.2 +1.7**
baz=263
I20K Naaghedeneel 80.99 25 P **P 08 13 27.7 +1.3**
baz=262
J20K Nowinta River 81.05 26 P **P 08 13 27.9 +1.1**
baz=263
KDAK Kodiak Island 81.13 32 P **P 08 13 27.6 +0.2**
baz=265
A21K Barrow 81.24 19 P **P 08 13 28.8 +1.1**
baz=259,SNR=14
M20K Styx River 81.25 28 P **P 08 13 29.1 +1.0**
M20K IAmb IAmb 08 13 30.2
comp=Z,24nm,0.9s
M20K Styx River 81.25 28 P **P 08 13 29.1 +1.0**
baz=264
C21K Knifeblade Rid 81.49 21 P **P 08 13 30.5 +1.4**
baz=261
G21K Allakaket 81.61 24 P **P 08 13 30.2 +0.4**
G21K IAmb IAmb 08 13 32.8
comp=Z,13nm,0.8s
G21K Allakaket 81.61 24 P **P 08 13 30.7 +0.9**
baz=263
B21K Ikpikpuk River 81.62 20 P **P 08 13 30.2 +0.5**
B21K IAmb IAmb 08 13 31.8
comp=Z,17nm,0.7s
B21K Ikpikpuk River 81.62 20 P **P 08 13 30.9 +1.2**
baz=261
SPCR Spurr Chakacha 81.62 29 P **P 08 13 30.3 +0.3**

	baz=265						
E21K	Killik River	81.68	22	P	P	08 13 31.0	+0.9
	baz=262						
F21K	Alatna River	81.70	23	P	P	08 13 31.1	+0.7
	baz=263						
PPLA	Purkeypile	81.78	27	P	P	08 13 31.9	+0.9
	baz=265						
H21K	Melozitna Rive	81.79	24	P	P	08 13 32.0	+1.3
	baz=264,SNR=7.4						
CHUM	Lake Minchumin	81.82	26	P	P	08 13 32.2	+1.3
	baz=264,SNR=6.0						
STLK	Strandline Lak	81.83	29	P	P	08 13 30.5	-0.6
CAST	Castle Rocks	81.88	27	P	P	08 13 32.0	+0.7
CAST				IAmb	IAmb	08 13 32.9	
	comp=Z,15nm,0.8s						
CAST	Castle Rocks	81.88	27	P	P	08 13 32.4	+1.1
	baz=265,SNR=12						
SKT	Skwentna	82.01	28	P	P	08 13 31.6	-0.4
SKT				IAmb	IAmb	08 13 32.7	
	comp=Z,17nm,1.1s						
SKT	Skwentna	82.01	28	P	P	08 13 31.7	-0.3
	baz=265						
I21K	Tanana	82.09	25	P	P	08 13 33.8	+1.5
	baz=264						
CAPN	Captain Cook N	82.10	29	P	P	08 13 33.2	+0.8
	baz=266						
B22K	Teshekpuk Lake	82.12	20	P	P	08 13 32.8	+0.4
B22K				IAmb	IAmb	08 13 35.2	
	comp=Z,13nm,0.6s						
B22K	Teshekpuk Lake	82.12	20	P	P	08 13 33.8	+1.5
	baz=262						
D22K	Ayikyak River	82.20	21	P	P	08 13 34.3	+1.5
	baz=263						
BRSE	Bradley Lake S	82.23	30	P	P	08 13 33.1	-0.1
	baz=266						
SUA	Susitna One	82.34	29	P	P	08 13 33.7	-0.2
	baz=266,SNR=7.1						
H22K	Ishtalitna Cre	82.40	24	P	P	08 13 35.4	+1.4
	baz=265,SNR=6.1						
BPAW	Bear Paw Mtn.	82.42	26	P	P	08 13 35.2	+1.1
	baz=266,SNR=10						
G22K	Bettles	82.44	23	P	P	08 13 35.1	+1.0
	baz=265						
M22K	Willow	82.66	28	P	P	08 13 35.4	+0.1
	baz=267						
TRF	Thorofare Moun	82.69	27	P	P	08 13 36.1	+0.4
	baz=266,SNR=6.7						
O22K	Cooper Landing	82.78	30	P	P	08 13 36.4	+0.4
	baz=267						
RC01	Rabbit Creek A	82.81	29	P	P	08 13 36.4	+0.2
	baz=267,SNR=5.1						
SEW	Seward	82.90	30	P	P	08 13 36.9	+0.3
	baz=267						
D23K	Nanushuk River	82.93	21	P	P	08 13 37.8	+1.1
	baz=265						
COLD	Coldfoot	82.98	23	P	P	08 13 37.7	+0.8
COLD				IAmb	IAmb	08 13 39.8	
	comp=Z,13nm,0.7s						
COLD	Coldfoot	82.98	23	P	P	08 13 38.2	+1.3
	baz=266,SNR=18						
G23K	Bananza Creek	83.01	23	P	P	08 13 37.8	+0.6
G23K				IAmb	IAmb	08 13 39.7	
	comp=Z,13nm,0.9s						
G23K	Bananza Creek	83.01	23	P	P	08 13 38.7	+1.6
	baz=266,SNR=9.3						
C23K	Itkillik River	83.03	20	P	P	08 13 38.0	+0.9
C23K	Itkillik River	83.03	20	P	P	08 13 38.4	+1.3
	baz=265						
PMR	Palmer	83.12	29	P	P	08 13 38.0	+0.3
	baz=268,SNR=6.0						
I23K	Minto, Yukon-K	83.19	25	P	P	08 13 38.5	+0.5
I23K				IAmb	IAmb	08 13 40.1	
	comp=Z,20nm,0.9s						
I23K	Minto, Yukon-K	83.19	25	P	P	08 13 39.1	+1.1
	baz=267,SNR=11						
E23K	Chandalar	83.26	22	P	P	08 13 39.7	+1.3
E23K	Chandalar	83.26	22	P	P	08 13 40.0	+1.5
	baz=266						
NEA2	Nenana	83.28	26	P	P	08 13 39.3	+0.8
	baz=267,SNR=7.2						
MCK	McKinley	83.31	26	P	P	08 13 38.4	-0.3
	baz=267,SNR=7.9						
TOLK	Toolik Lake Re	83.31	22	P	P	08 13 39.6	+0.9
	baz=266,SNR=11						
KNK	Knik Glacier	83.44	29	P	P	08 13 39.7	+0.2
KNK	Knik Glacier	83.44	29	P	P	08 13 40.2	+0.8
	baz=268,SNR=6.6						
PWL	Port Wells	83.48	29	P	P	08 13 39.6	0.0
PWL	Port Wells	83.48	29	P	P	08 13 40.0	+0.4
	baz=268,SNR=9.5						
SML	Sawmill	83.51	28	P	P	08 13 39.8	-0.1
SML				IAmb	IAmb	08 13 41.1	
	comp=Z,22nm,0.9s						
SML	Sawmill	83.51	28	P	P	08 13 40.0	+0.1
	baz=268,SNR=5.5						
D24K	Happy Valley	83.61	21	P	P	08 13 41.3	+1.2
D24K	Happy Valley	83.61	21	P	P	08 13 41.5	+1.4
	baz=267						
E24K	Your Creek	83.68	22	P	P	08 13 41.9	+1.4
	baz=267,SNR=8.8						
C24K	Franklin Bluff	83.68	20	P	P	08 13 41.6	+1.2
	baz=267						
M23K	Glacier View	83.80	28	P	P	08 13 41.7	+0.4
	baz=269						
CCB	Clear Creek Bu	83.83	26	P	P	08 13 40.7	-0.6
CCB				IAmb	IAmb	08 14 06.9	
	comp=Z,25nm,1.5s						
H24K	Noodor Dome	83.84	24	P	P	08 13 42.7	+1.3
	baz=268						
F24K	Squaw Lake	83.89	23	P	P	08 13 43.0	+1.4
	baz=268						
P23K	Montague Islan	83.93	30	P	P	08 13 42.9	+1.0
	baz=269						
SCM	Sheep Creek Mo	83.99	28	P	P	08 13 43.0	+0.7
	baz=269						
POKR	Poker Plat Res	84.00	25	P	P	08 13 43.3	+1.1
	baz=269						
G24K	Hadweenzic Riv	84.02	24	P	P	08 13 43.7	+1.4
	baz=268,SNR=16						
GLI	Glacier Island	84.09	29	P	P	08 13 43.1	+0.3
	baz=269,SNR=6.3						
HDA	Harding Lake	84.20	26	P	P	08 13 43.0	-0.2
	baz=269,SNR=5.4						
ILAR	Eielson Array	84.23	25	P	P	08 13 42.5	-0.9
	comp=Z,2.3nm,0.7s,baz=251,slow=5.9,SNR=47						
	comp=Z,2.3nm,0.7s						
Q23K	Middleton Isla	84.46	31	P	P	08 13 45.3	+0.7
	baz=270						
D25K	Kavik River	84.49	21	P	P	08 13 45.8	+1.1
	baz=269						
M24K	Tolsona, Glenn	84.53	28	P	P	08 13 46.0	+0.9
	baz=270						
KLU	Klutina	84.66	29	P	P	08 13 46.7	+1.0
	baz=270						
H25L	Birch Creek	84.68	24	P	P	08 13 47.1	+1.6
	baz=270,SNR=6.4						
K24K	Donnelly Dome	84.71	26	P	P	08 13 46.4	+0.5
	baz=270						
F25K	Christian Rive	84.75	23	P	P	08 13 47.4	+1.4
	baz=270						
EYAK	Cordova Ski Ar	84.75	30	P	P	08 13 46.2	+0.2
	baz=271						
PAX	Paxson	84.86	27	P	P	08 13 47.6	+0.9
	baz=271						
J25K	Salcha River,	84.88	26	P	P	08 13 46.3	-0.4
	baz=271						
C26K	Camden Bay	85.00	20	P	P	08 13 49.0	+1.9
	baz=270						
HARP	HAARP	85.01	28	P	P	08 13 48.7	+1.3
	baz=271						
RIDG	Independent Ri	85.12	27	P	P	08 13 48.1	+0.2
	baz=271						
BMAR	Burnt Mountain	85.16	23	P	P	08 13 48.7	+0.6
N25K	Chitina, Valde	85.29	29	P	P	08 13 49.7	+0.9
	baz=272						
BMRM	Bremner River	85.31	29	P	P	08 13 49.8	+0.9
	baz=272						
F26K	Sheenjek River	85.32	23	P	P	08 13 50.2	+1.4
	baz=271						
C27K	Jago River	85.42	21	P	P	08 13 50.9	+1.6
	baz=272						
KAIM	Kayak Island	85.43	30	P	P	08 13 50.9	+1.4
	baz=272						
G26K	Porcupine Rive	85.48	23	P	P	08 13 50.9	+1.4
	baz=272						
SCRK	Sand Creek	85.50	26	P	P	08 13 50.2	+0.3
SCRK				IAmb	IAmb	08 13 58.6	
	comp=Z,21nm,1.8s						
SCRK	Sand Creek	85.50	26	P	P	08 13 50.4	+0.5
	baz=272						
J26L	Joseph Creek	85.66	26	P	P	08 13 50.9	+0.3
	baz=272,SNR=6.4						
I26K	Coal Creek Min	85.80	25	P	P	08 13 51.2	0.0
I26K	Coal Creek Min	85.80	25	P	P	08 13 51.6	+0.4
	baz=272						
G27K	Doyon Strip	86.33	23	P	P	08 13 54.6	+0.8
	baz=274						
D27M	Malcolm River	86.41	21	P	P	08 13 54.8	+0.6
	baz=274						
H27K	Steamboat Moun	86.42	24	P	P	08 13 55.8	+1.4
	baz=274						
I27K	Kandik River	86.43	25	P	P	08 13 55.9	+1.5
	baz=274						
L27K	Beaver Creek,	86.51	27	P	P	08 13 55.3	+0.5
	baz=274						
EGAK	Eagle	86.68	25	P	P	08 13 56.0	+0.5
	baz=274						
F28M	Old Crow	86.96	23	P	P	08 13 57.1	+0.3
F28M				IAmb	IAmb	08 13 58.5	
	comp=Z,9.7nm,0.8s						
F28M	Old Crow	86.96	23	P	P	08 13 57.4	+0.6
	baz=275						
E28M	Babbage River	86.99	21	P	P	08 13 57.4	+0.5
E28M				IAmb	IAmb	08 13 58.3	
	comp=Z,7.2nm,0.7s						
E28M	Babbage River	86.99	21	P	P	08 13 57.6	+0.6
	baz=275						
BVCY	Beaver Creek	87.00	28	P	P	08 13 57.6	+0.4
	baz=275						
I28M	Miner Creek	87.14	25	P	P	08 13 59.2	+1.3
	baz=275						
D28M	Stokes Point	87.19	21	P	P	08 13 58.5	+0.6
	baz=276						
YUK3	Moose Creek	87.25	28	P	P	08 13 59.6	+1.0
	baz=275						
O28M	Mount Upton	87.47	29	P	P	08 14 00.2	+0.4
	baz=275						
PINM	Pinnacle	87.51	30	P	P	08 14 00.4	+0.7
	baz=275						
DAWY	Dawson	87.51	26	P	P	08 14 00.4	+0.8
	baz=276						
E29M	Blow River	87.61	22	P	P	08 13 59.8	-0.2
E29M				IAmb	IAmb	08 16 09.6	
	comp=Z,21nm,1.9s						
E29M	Blow River	87.61	22	P	P	08 14 00.5	+0.5
	baz=277						
YUK8	Steele Glacier	87.63	29	P	P	08 14 01.0	+0.4
	baz=276						
H29M	Whitestone	87.70	24	P	P	08 14 01.0	+0.6
	baz=277						
G29M	Pine Creek	87.75	23	P	P	08 14 01.3	+0.7
	baz=277						
I29M	Ogilvie Camp,	87.83	25	P	P	08 14 01.6	+0.5
	baz=277						
MMAI	Mount Meron Ar	88.07	303	LR	LR	08 59 20.8	
	comp=Z,14nm,19.5s,baz=108,slow=40						
M29M	Somme Creek	88.11	28	P	P	08 14 03.1	+0.5
	baz=277						
YUK4	Talbot Arm	88.16	29	P	P	08 14 03.7	+0.8
	baz=277						
L29M	L29M	88.18	27	P	P	08 14 03.7	+0.9
	baz=277						
EPYK	Eagle Plains	88.34	24	P	P	08 14 03.8	+0.3
	baz=278						
K29M	Barlow Dome	88.36	26	P	P	08 14 03.8	+0.1
	baz=278						
G30M	tAoh Zraii Nji	88.44	23	P	P	08 14 03.9	-0.1
	baz=279						
F30M	Barrier River	88.51	22	P	P	08 14 04.0	-0.2
	baz=279						
I30M	Mount Dempster	88.65	25	P	P	08 14 04.8	-0.3
	baz=279						
EIL	Elat	88.73	300	LR	LR	09 00 06.6	
	comp=Z,16nm,19.6s,baz=102,slow=40						
HYT	Haines Junctio	88.78	29	P	P	08 14 05.9	+0.1
	baz=278						
M30M	Minto, Yukon	88.86	27	P	P	08 14 06.5	+0.5
	baz=278						
ARCES	ARCESS Array B	89.17	340	P	P	08 14 05.9	-1.4
	comp=Z,2.7nm,0.5s,baz=88,slow=5.7,SNR=23						
ARCES				LR	LR	08 57 25.5	
	comp=Z,42nm,19.3s,baz=14,slow=38						
	comp=Z,2.7nm,0.5s						
G31M	Satah River	89.21	23	P	P	08 14 06.8	-0.7
G31M				IAmb	IAmb	08 14 07.9	
	comp=Z,10nm,0.9s						
G31M	Satah River	89.21	23	P	P	08 14 07.3	-0.2
	baz=281						
SPITS	Spitsbergen Ar	89.22	349	P	P	08 14 06.7	-0.7
	comp=Z,1.7nm,0.4s,baz=94,slow=8.7,SNR=29						
	comp=Z,1.7nm,0.4s						
INK	Inuvik	89.22	21	P	P	08 14 07.2	-0.3
	baz=281						
F31M	Tsiigehtchic	89.31	22	P	P	08 14 08.1	+0.1
	baz=281						
H31M	Peel River	89.39	24	P	P	08 14 08.4	0.0
	baz=280						
O30N	Mendenhall	89.47	29	P	P	08 14 09.1	+0.2
	baz=279						
N31M	Braeburn, Yuko	89.50	28	P	P	08 14 09.8	+0.7
	baz=279						
SKAG	Skagway	90.06	30	P	P	08 14 11.9	+0.3
	baz=280						
WHY	Whitehorse	90.07	29	P	P	08 14 12.6	+0.8
	baz=280						
FARO	Faro, Yukon	90.50	27	P	P	08 14 14.0	+0.3
	baz=281						
FINES	FINESS Array B	90.56	332	P	P	08 14 11.8	-2.2
	comp=Z,3.1nm,0.7s,baz=94,slow=2.5,SNR=8.7						
FINES				LR	LR	08 56 33.7	
	comp=Z,20nm,19.1s,baz=36,slow=37						
	comp=Z,3.1nm,0.7s						
AK08	Malin Array Si	90.67	321	P	P	08 14 14.5	-0.1
AKASG	Malin Array Be	90.68	321	LR	LR	09 00 31.8	
	comp=Z,29nm,18.3s,baz=48,slow=39						
N32M	Quiet Lake	90.84	28	P	P	08 14 15.7	+0.4
	baz=282						
P32M	Atlin	90.84	30	P	P	08 14 15.2	-0.2
	baz=281						
A36M	Sachs Harbour	90.99	17	P	P	08 14 17.0	+1.3
	baz=289						
CRAG	Craig	91.97	34	P	P	08 14 20.4	-0.1
	baz=282						
C36M	Paulatuk	92.25	20	P	P	08 14 21.4	-0.1
	baz=290						
RNPP5	Staryi Chortor	92.67	322	P	P	08 14 23.8	-0.1
RNPP1	Kostyukhnivka	92.72	322	P	P	08 14 24.0	-0.1
KMPD	K-Podol'skiy	92.81	319	P	P	08 14 24.4	-0.2
DLBC	Dease Lake	92.96	31	P	P	08 14 25.7	+0.5
	baz=284						
WTLY	Watson Lake, Y	93.14	29	P	P	08 14 26.6	+0.7
	baz=285						
T35M	Bob Quinn	93.20	32	P	P	08 14 25.4	-0.9
	baz=284						
SYO	Syowa Base	93.37	201⇑	eP	P	08 14 27.0	+0.3
U35K	Hyder	93.58	33	P	P	08 14 28.2	+0.2
	baz=284						
WRGLY	Wrigley	94.61	25	P	P	08 14 32.5	0.0
	baz=290						
QSPA	South Pole Qui	94.83	180	P	P	08 14 33.5	-0.1
	comp=Z,1.7nm,0.5s,baz=276,slow=0.8,SNR=8.4						
	comp=Z,1.7nm,0.5s						
TOAD	Toad River Com	95.25	30	P	P	08 14 35.7	+0.1
	baz=288						
KOTAN	Kotaneelee Air	95.40	28	P	P	08 14 37.0	+0.7
	baz=290						
HFS	Hagfors	96.75	332	P	P	08 14 40.8	-1.5
	comp=Z,6.2nm,1.1s,baz=47,slow=2.8,SNR=4.8						
	comp=Z,6.2nm,1.1s						
NB2	NORSAR Subarra	97.52	334	P	P	08 14 43.8	-2.1
	comp=Z,7.4nm,1.1s,baz=67,slow=4.6						
NB2	NORSAR Subarra	97.52	334	P	P	08 14 43.8	-2.1
	baz=67,slow=4.6						
NOA	NORSAR Array B	97.52	334	P	P	08 14 44.0	-1.9
	comp=Z,1.3nm,0.8s,baz=65,slow=4.6,SNR=4.7						
NOA				LR	LR	09 01 31.6	
	comp=Z,20nm,18.5s,baz=280,slow=37						
	comp=Z,1.3nm,0.8s						
YKA	Yellowknife Ar	98.61	24	P	P	08 14 50.4	-0.2
	comp=Z,1.2nm,0.7s,baz=296,slow=4.7,SNR=18						
	comp=Z,1.2nm,0.7s						
R11B	Troy Canyon, C	108.47	47	P	PKiKP	08 19 40.8	-0.1
	baz=292						
N23A	Red Feather La	114.03	41	P	PKPdf	08 19 51.4	0.0
	baz=300						
121A	Cookes Peak, D	116.64	50	P	PKPdf	08 19 56.4	-0.2
	baz=296						
T25A	Trinidad	116.95	44	P	PKPdf	08 19 57.4	+0.2
	baz=300						
SCHQ	Schefferville	119.46	9	PKP	PKPdf	08 20 01.1	-0.1
	comp=Z,3.6nm,1.0s,baz=323,slow=1.3,SNR=5.3						
TXAR	Lajitas Array	121.23	51	PKP	PKiKP	08 20 05.8	+0.3
	comp=Z,0.6nm,0.7s,baz=248,slow=0.7,SNR=5.1						
TORD	Torodi Ar. Bea	122.10	289	PKP	PKPdf	08 20 06.4	-0.9
	comp=Z,1.1nm,0.6s,baz=38,slow=2.6,SNR=8.3						
PLCA	Paso Flores	141.28	159	PKhKP	PKPpre	08 20 36.8	
	comp=Z,2.5nm,1.0s,baz=221,slow=4.0,SNR=3.6						
CPUP	Villa Florida	158.44	171	PKP	PKPdf	08 21 08.8	-0.9
	comp=Z,1.7nm,0.9s,baz=243,slow=4.5,SNR=2.2						
LPAZ	La Paz	161.92	130	PKP	PKPdf	08 21 14.1	-0.5
	comp=Z,1.1nm,0.7s,baz=34,slow=6.1,SNR=3.6						

FUNV **12** *08:14:50.0, 7°.83N×72°.08W, h3km, MW3.5*
RSNC **12** *08:14:51.0±0.0, 8°N±1°×7°.2W±°, h3km±2km, M2.9, mB4.5, mb3.6, ML2.7, Mw(mB)3.6*

ISC 12 08:14:48.5±1.1, 7°.95N±0°.03×72°.04W±0°.02, h7km±9km, n36, σ1§88/55, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAPV	Capacho	0.29	253	eP	Pg		08 14 54.6	+0.4
CAPV				eS	Sg		08 14 58.5	+0.4
PAMC	Pamplona, Colo	0.89	227	P	Pg		08 15 05.8	+0.1
PAMC				S	Sg		08 15 16.6	-0.8
PAMC	Pamplona, Colo	0.89	227	P			08 15 05.8	
PAMC				S			08 15 16.6	
SOCV	Socops	1.22	74	eP	Pg		08 15 12.8	+1.0
SOCV				eS	Sn		08 15 31.5	+2.8
OCAC	Ocana	1.30	283	P	Pn		08 15 12.1	-1.2
OCAC				S	Sb		08 15 28.5	-2.0
OCAC	Ocana	1.30	283	P			08 15 12.1	
OCAC				S			08 15 28.5	
TAMC	Tame, Arauca	1.52	171	P	Pb		08 15 17.9	+0.8
TAMC				S	Sg		08 15 39.5	+2.0
TAMC	Tame, Arauca	1.52	171	P			08 15 17.9	
TAMC				S			08 15 39.5	
SDV	Santo Domingo	1.67	56	P	Pb		08 15 20.2	+0.4
SDV				S	Sg		08 15 41.8	-0.5
SDV	Santo Domingo	1.67	56	P			08 15 20.2	
SDV				S			08 15 41.8	
BARC	Barichara	1.76	220	P	Pg		08 15 21.9	-0.5
BARC				S	Sb		08 15 44.5	+0.7
BARC	Barichara	1.76	220	P			08 15 21.9	
BARC				S			08 15 44.5	
BRJC	Barrancabermej	1.95	240	P	Pb		08 15 24.6	+0.2
BRJC				S	Sg		08 15 50.2	-1.1
BRJC	Barrancabermej	1.95	240	P			08 15 24.6	
BRJC				S			08 15 50.2	
MCQV	Machiques	2.15	347	eP	Pb		08 15 27.6	-0.1
MCQV				eS	Sg		08 15 55.9	-1.6
RUSC	La Rusia	2.29	207	P	Pb		08 15 28.9	-1.6
RUSC				S	Sg		08 16 01.2	-1.1
RUSC	La Rusia	2.29	207	P			08 15 28.9	
RUSC				S			08 16 01.2	
PTBC	PUERTO BERRIO,	2.78	240	P	Pn		08 15 33.7	+0.2
PTBC				S	Sn		08 16 08.1	+0.7
PTBC	PUERTO BERRIO,	2.78	240	P			08 15 33.7	
PTBC				S			08 16 08.1	
ZARC	Zaragoza, Cauc	2.83	261	P	Pn		08 15 35.0	+0.8
ZARC				S	Sn		08 16 08.4	-0.3
ZARC	Zaragoza, Cauc	2.83	261	P			08 15 35.0	
ZARC				S			08 16 08.4	
ARGC	Ariguani, Magd	2.89	311	P	Pn		08 15 35.5	+0.4
ARGC				S	Sn		08 16 11.2	+1.0
ARGC	Ariguani, Magd	2.89	311	P			08 15 35.5	
ARGC				S			08 16 11.2	
CRJC	Cerrejon, Guaj	3.17	345	P	Pn		08 15 40.3	+1.4
CRJC	Cerrejon, Guaj	3.17	345	P			08 15 40.3	
TEPV	Terepaima	3.45	54	eP	Pn		08 15 45.0	+2.2
TEPV				eS	Sn		08 16 26.1	+2.1
UREC	San Jos de Ur	3.47	267	P	Pn		08 15 44.9	+1.9
UREC				S	Sn		08 16 26.8	+2.4
UREC	San Jos de Ur	3.47	267	P			08 15 44.9	
UREC				S			08 16 26.8	
SJCC	San Jacinto, C	3.66	302	P	Pn		08 15 47.4	+1.7
SJCC				S	Sn		08 16 30.3	+1.1
SJCC	San Jacinto, C	3.66	302	P			08 15 47.4	
SJCC				S			08 16 30.3	
NORC	Norcasia	3.68	230	P	Pn		08 15 49.2	+3.3
NORC	Norcasia	3.68	230	P			08 15 49.2	
CHIC	Chingaza	3.70	207	P			08 15 48.0	
CHIC	Chingaza	3.70	207	P	Pn		08 15 48.0	+1.4
URIC	Uribia, Colomb	3.73	1	P	Pn		08 15 46.2	-0.4
URIC	Uribia, Colomb	3.73	1	P			08 15 46.2	
ROSC	El Rosal	3.83	216	P	Pn		08 15 51.5	+3.2
ROSC	El Rosal	3.83	216	P			08 15 51.5	
BAUV	El Baul	4.07	76	eP	Pn		08 15 52.9	+1.6
BAUV				eS	Sn		08 16 39.1	-0.2
VILC	Villavicencio,	4.15	203	P	Pn		08 15 53.1	+0.6
VILC	Villavicencio,	4.15	203	P			08 15 53.1	
DBBC	Dabeiba	4.24	258	P	Pn		08 15 57.8	+4.1
DBBC	Dabeiba	4.24	258	P			08 15 57.8	
GUY2C	Guyana, Caldas	4.27	231	P	Pn		08 15 55.3	+0.8
GUY2C	Guyana, Caldas	4.27	231	P			08 15 55.3	
CBOC	Ciudad Bolivar	4.46	243	P	Pn		08 16 01.4	+4.7
CBOC	Ciudad Bolivar	4.46	243	P			08 16 01.4	
APAC	Apartado, Choc	4.50	270	P	Pn		08 16 00.6	+3.4
APAC	Apartado, Choc	4.50	270	P			08 16 00.6	
BENV	Beln	4.82	65	eP	Pn		08 16 03.7	+2.0
BENV				eS	Sn		08 16 57.0	-0.8
PRAC	Prado	5.07	214	P	Pn		08 16 06.6	+1.5
	6.4nm,1.5s							
PRAC	Prado	5.07	214	P			08 16 06.6	
	6.4nm,1.5s							
ORTC	Ortega, Tolima	5.13	219	P	Pn		08 16 07.3	+1.4
	3.8nm,0.5s							
ORTC	Ortega, Tolima	5.13	219	P			08 16 07.3	
	3.8nm,0.5s							
URMC	La Uribe, Meta	5.22	207	P			08 16 08.6	
	409nm6.0nm,1.0s							
URMC	La Uribe, Meta	5.22	207	P	Pn		08 16 08.6	+1.4
	409nm6.0nm,1.0s							
GUVC	San Jose del G	5.40	186	P			08 16 09.3	
GUVC	San Jose del G	5.40	186	P	Pn		08 16 09.3	-0.3
TACV	Tcata	5.41	66	eP	Pn		08 16 11.0	+1.3
TACV				eS	Sn		08 17 11.0	-1.3
CACV	CAICARA DEL OR	5.46	94	eP	Pb		08 16 18.1	-6.2
CACV				eS	Sb		08 17 23.9	-6.2
MACC	Macarena, Meta	6.04	197	P	Pn		08 16 17.5	-0.9
MACC				S	Sn		08 17 23.9	-4.0
MACC	Macarena, Meta	6.04	197	P			08 16 17.5	
MACC				S			08 17 23.9	
GARC	Garzon, Huila	6.68	211	P	Pn		08 16 28.1	+0.7
GARC	Garzon, Huila	6.68	211	P			08 16 28.1	

IDC 12 08:20:04.3±1.8, 54°.70N×83°.80E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=16.1km s-min=10.4km az=20.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.96	141	I	I		08 25 43.6	
	0.1nm,0.7s,baz=321,slow=274,SNR=4.0							
ZALV	Zalesovo Beam	0.96	141	Pg	Pg		08 20 22.2	-0.5

CD-ROM, 2021.

NNC 12 08:23:52.1±3.6, 53°80N×90°42E, h0km, mb3.7, mpv3.4, 7C-7D, Error ellipse: s-maj=26.7km s-min=19.3km az=54.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.32	275	⇓Pg	Pb	08 24 51.8	0.0
	2.0nm,0.6s						
ZAA0				⇑Lg	Lg	08 25 36.5	
	14nm,0.8s						
KURK	Kurchatov	7.87	252	⇑Pn	Pn	08 25 48.9	+1.2
	4.2nm,0.9s						
KURK				⇓Sn	Sn	08 27 21.1	+3.7
	27nm,1.0s						
KURK				⇓Lg	Lg	08 28 03.9	
	40nm,1.1s						
KURBB	Kurchatov Arra	7.96	251	⇑Pn	Pn	08 25 49.4	+0.5
	3.9nm,0.6s						
KURBB				⇑Sn	Sn	08 27 20.6	+0.8
	49nm,1.0s						
KURBB				⇓Lg	Lg	08 28 06.2	
	70nm,1.0s						
MK31	Makanchi Array	8.73	220	⇑Pn	Pn	08 25 59.5	0.0
	0.9nm,0.7s,baz=41,slow=13,SNR=34						
MK31				⇑Sn	Sn	08 27 39.3	+0.8
	3.8nm,0.8s,baz=251,slow=22,SNR=3.5						
MK31				⇓Lg	Lg	08 28 32.1	
	13nm,1.1s,baz=31,slow=26						
MAKZ	Makanchi	8.84	221	⇓Pn	Pn	08 26 00.8	-0.1
	0.7nm,0.5s						
MAKZ				⇓Sn	Sn	08 27 40.5	-0.7
	2.0nm,0.7s						
MAKZ				⇑Lg	Lg	08 28 33.5	
	12nm,1.1s						

IDC 12 08:29:15.8±3.2, 5°65S×133°91E, h0km, mb3.4/1, mbtmp3.4/4, ML3.4/3, MS3.4/1, Error ellipse: s-maj=121.5km s-min=32.0km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.21	178	Pn	Pn	08 32 38.7	+0.2
	0.1nm,0.3s,baz=360,slow=13,SNR=7.8						
WRA				Sn	Sn	08 35 09.7	-7.4
	0.1nm,0.3s,baz=358,slow=24,SNR=1.5						
	0.4nm,0.7s						
FITZ	Fitzroy Crossi	14.77	212	Pn	Pn	08 32 46.4	+0.2
	0.2nm,0.3s,baz=33,slow=10.0,SNR=8.1						
FITZ				Sn	Sn	08 35 21.0	-10
	0.2nm,0.3s,baz=52,slow=17,SNR=1.6						
	1.5nm,0.7s						
DAV	Davao City (W)	15.12	327	LR	LR	08 38 12.6	
	comp=Z,158nm,20.1s,slow=36						
ASAR	Alice Springs	17.91	180	P	Pn	08 33 26.2	-0.3
	0.2nm,0.3s,baz=6.5,slow=8.9,SNR=11						
	0.3nm,0.6s						
MKAR	Makanchi Array	69.30	325	P	P	08 40 25.0	0.0
	0.2nm,0.4s,baz=140,slow=7.6,SNR=3.1						
	0.2nm,0.4s						

KRSC 12 09:10:53.3±2.0, 50°52N×157°66E, h61km±23km, MI3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.00	280	eP	Pn	09 11 11.6	+0.3
SKR				eS	Sn	09 11 23.9	-0.8
PAU	Pauzhetka	1.09	331	eP	Pn	09 11 14.5	+1.9
PAU				eS	Sn	09 11 28.8	+1.9
KDTR	Khodutka, Kamc	1.32	11	eP	Pn	09 11 17.9	+2.3
KDTR				eS	Sn	09 11 34.7	+2.4
RUS	Russkaya	1.99	15	eP	Pn	09 11 26.6	+2.0
RUS				eS	Sn	09 11 50.3	+1.9
GRL	Gorelyy	2.06	7	eP	Pn	09 11 28.4	+2.7
GRL				eS	Sn	09 11 53.3	+3.1
KRMR	Karymshinskiy	2.34	7	eP	Pn	09 11 32.4	+3.0
KRMR				eS	Sn	09 12 01.2	+4.3
APC	Apacha	2.43	353	eP	Pn	09 11 33.2	+2.6
PET	Petropavlovsk	2.59	13	eP	Pn	09 11 35.4	+2.7
PET				eS	Sn	09 12 05.8	+2.8
DALK	Dalny	2.61	15	eP	Pn	09 11 35.6	+2.6
DALK				eS	Sn	09 12 06.2	+2.7
INSR	Institute	2.62	13	eS	Sn	09 12 08.1	+4.3
UGLR	Uglovaya	2.79	15	eP	Pn	09 11 38.8	+3.2
AVH	Avacha	2.83	13	eP	Pn	09 11 39.8	+3.6
KOK	Koryaka	2.84	12	eP	Pn	09 11 40.1	+3.8
NLC	Nalytchevo	2.86	21	eS	Sn	09 12 09.1	-0.5
KRX	Arik	2.91	12	eP	Pn	09 11 40.8	+3.4
SPN	Mys Shipunski	2.97	29	eP	Pn	09 11 41.0	+3.0
SPN				eS	Sn	09 12 14.8	+2.3
GNL	Ganaly	3.19	3	eP	Pn	09 11 44.4	+3.3
KBTR	Krutoberegovo	6.48	26	eP	Pn	09 12 28.1	+2.1

FUNV 12 09:34:51.5, 11°61N×61°10W, h64km, MW3.8
TRN 12 09:34:53.0, 11°56N×61°47W, h77km, MD2.7, South-east of Grenada.

ISC 12 09:34:51.9±1.3, 11°54N±0°03×61°45W±0°05, h87km±8km, n32, σ1°96/58, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFF	Grenada Fort F	0.57	331	eP	Pn	09 35 06.7	-0.3
GRFF				eS	Sn	09 35 17.4	-0.8
GRFF	Grenada Fort F	0.57	331	eP	Pn	09 35 06.7	-0.3
GRFF				eS	Sn	09 35 17.4	-0.8
GRGR	Grenville	0.62	342	eP	Pn	09 35 06.9	-0.5
GRGR				eS	Sn	09 35 18.8	0.0
GRGR	Grenville	0.62	342	eP	Pn	09 35 06.9	-0.5
GRGR				eS	Sn	09 35 18.8	0.0
GRW	Mount Saint Ca	0.65	342	eP	Pn	09 35 08.4	+0.6
GRW				eS	Sn	09 35 19.3	-0.1
GRW	Mount Saint Ca	0.65	342	eP	Pn	09 35 08.4	+0.6
GRW				eS	Sn	09 35 19.3	-0.1
GRHS	Sauteurs	0.70	345	eP	Pn	09 35 08.0	-0.2
GRHS				eS	Sn	09 35 19.4	-0.8
GRHS	Sauteurs	0.70	345	eP	Pn	09 35 08.0	-0.2
GRHS				eS	Sn	09 35 19.4	-0.8
GRSS	Sisters	0.77	348	eP	Pn	09 35 08.7	-0.1
GRSS				eS	Sn	09 35 20.7	-0.7
GRSS	Sisters	0.77	348	eP	Pn	09 35 08.7	-0.1
GRSS				eS	Sn	09 35 20.7	-0.7
PSMG	Mucurapo Girls	0.87	185	eS	Sn	09 35 23.1	-0.2
PSMG	Mucurapo Girls	0.87	185	eS	Sn	09 35 23.1	-0.2
PSQC	Port of Spain	0.87	184	eS	Sn	09 35 23.6	+0.2
PSQC	Port of Spain	0.87	184	eS	Sn	09 35 23.6	+0.2
PSGH	Port of Spain	0.88	183	eP	Pn	09 35 11.6	+1.6
PSGH				eS	Sn	09 35 23.9	+0.3
PSGH	Port of Spain	0.88	183	eP	Pn	09 35 11.6	+1.6
PSGH				eS	Sn	09 35 23.9	+0.3
TRN	Trinidad (W)	0.89	177	eP	Pn	09 35 10.9	+0.7
TRN				eS	Sn	09 35 23.6	-0.1
TRN	Trinidad (W)	0.89	177	eP	Pn	09 35 10.9	+0.7
TRN				eS	Sn	09 35 23.6	-0.1
TOSP	Speyside	0.93	105	eP	Pn	09 35 11.0	+0.4
TOSP				eS	Sn	09 35 25.2	+0.6
TOSP	Speyside	0.93	105	eP	Pn	09 35 11.0	+0.4
TOSP				eS	Sn	09 35 25.2	+0.6
GCMP	Grenada, Carri	0.94	2	eP	Pn	09 35 10.1	-0.6
GCMP				eS	Sn	09 35 23.2	-1.5
GCMP	Grenada, Carri	0.94	2	eP	Pn	09 35 10.1	-0.6
GCMP				eS	Sn	09 35 23.2	-1.5
SVOC	Richmond Hill,	1.62	8	eS	Sn	09 35 40.2	+0.7
SVOC	Richmond Hill,	1.62	8	eS	Sn	09 35 40.2	+0.7
SVT	Saint Vincent	1.63	7	eP	Pn	09 35 20.8	+1.6
SVT				eS	Sn	09 35 39.0	-0.9
SVT	Saint Vincent	1.63	7	eP	Pn	09 35 20.8	+1.6
SVT				eS	Sn	09 35 39.0	-0.9
SVB	Belmont	1.73	7	eP	Pn	09 35 21.8	+1.2
SVB				eS	Sn	09 35 42.1	-0.2
SVB	Belmont	1.73	7	eP	Pn	09 35 21.8	+1.2
SVB				eS	Sn	09 35 42.1	-0.2
SLBI	Saint Lucia, B	2.51	11	eP	Pn	09 35 31.5	+0.7
SLBI				eS	Sn	09 36 00.1	-0.5
SLBI	Saint Lucia, B	2.51	11	eP	Pn	09 35 31.5	+0.7
SLBI				eS	Sn	09 36 00.1	-0.5
LUEV	Luepa	5.66	180	eP	Pn	09 36 12.1	-1.7
LUEV				eS	Sn	09 37 13.0	-4.6
BAUV	El Baul	6.98	249	eP	Pn	09 36 34.1	+2.5
BAUV				eS	Sn	09 37 49.0	-0.5

IDC 12 09:34:47.6±1.1, 9°83S×119°36E, h0km, mb3.7/4, mbtmp3.8/8, ML3.9/4, MS2.9/1, Error ellipse: s-maj=58.8km s-min=19.1km az=62.0
DJA 12 09:34:51.3±0.3, 10°S±3°×11°9E±°, h10km, M4.3/12, mB4.9/1, mb4.5/6, MLv4.3/12, Mw(mB)4.2/1
NEIC 12 09:34:52.3±1.5, 9°99S±0°05×119°28E±0°07, h35km±2km, mb4.3/11, Error ellipse: s-maj=13.5km s-min=6.3km az=64.0

ISC 12 09:34:52.0±0.5, 9°99S±0°05×119°36E±0°05, h35km, n55, σ2°21/56, mb4.5/11, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.35	5	P	Pn	09 34 58.9	-1.7
WBSI				S	Sn	09 35 04.3	-2.1
WSI	Waingapu	0.97	71	P	Pn	09 35 09.1	-0.1
WSI				S	Sn	09 35 23.3	+1.5
BASI	Baing, Sumba	1.22	101	P	Pn	09 35 13.7	+1.2
BASI				S	Sn	09 35 32.6	+4.8
PLAI	Plampang	1.94	306	P	Pn	09 35 21.3	-1.2
PLAI				S	Sn	09 35 48.2	+2.4
TWSI	Taliwang, Sumb	2.75	297	P	Pn	09 35 33.5	-0.1
MMRI	Maumere	3.14	65	Pn	Pn	09 35 38.9	-0.1
MMRI	Maumere	3.14	65	P	Pn	09 35 40.9	+1.9
BSSI	Bau Bau, Buton	3.98	16	P	Pn	09 35 52.4	+1.8
SRBI	Singaraja	4.51	294	P	Pn	09 36 00.1	+2.2
BKSI	Bulukumba	4.70	9	P	Pn	09 36 02.7	+2.3
SOEI	Soe	4.84	88	Pn	Pn	09 36 04.3	+1.9
SOEI	Soe	4.84	88	P	Pn	09 36 06.1	+3.6
KAPI	Kappang	4.96	4	Pn	Pn	09 36 04.1	+0.1
KAPI	Kappang	4.96	4	Pn	Pn	09 36 03.2	-0.8
	7.6nm,0.3s,baz=169,slow=9.2,SNR=7.3						
KAPI				Sn	Sn	09 36 59.0	-1.1
	8.3nm,0.3s,baz=160,slow=18,SNR=4.5						
KAPI				LR	LR	09 38 16.3	
	comp=Z,112nm,18.8s,baz=176,slow=44						
	5.2nm,0.2s						
JAGI	Jajag, Banyuwa	5.36	286		Pn	09 36 08.5	-1.0
JAGI	Jajag, Banyuwa	5.36	286	P	Pn	09 36 10.3	+0.8
	0.4nm1μm84nm,0.5s						
SPSI	Sidrap Palu	6.00	4	P	Pn	09 36 25.0	+6.7
GMJI	Gumukmas	6.09	286	P	Pn	09 36 21.4	+1.9
	0.1nm32nm,1.0s						
PCJI	Pacitan	8.28	282	P	Pn	09 36 50.2	+0.6
	21nm,1.1s						
FITZ	Fitzroy Crossi	10.10	144	Pn	Pn	09 37 15.3	+0.7
	0.8nm,0.3s,baz=328,slow=13,SNR=16						
FITZ				Sn	Sn	09 39 00.6	-6.1
	3.7nm,0.3s,baz=184,slow=18,SNR=13						
	3.6nm,0.5s						
KNRA	Kununurra	10.77	123	Pn	Pn	09 37 24.3	+0.5
MBWA	Marble Bar	11.11	178	Pn	Pn	09 37 27.5	-1.0
PSA00	Pilbara Seismi	11.53	178	Pn	Pn	09 37 33.3	-0.8
MTN	Manton Dam	11.88	105		Pn	09 37 39.6	+0.6
GIRL	Giralia	13.51	201	Pn	Pn	09 38 00.5	-0.7
FAKI	Fak Fak	14.60	62	Pn	Pn	09 38 16.7	+0.5
WRA	Warramunga Arr	17.51	126		Pn	09 38 53.6	0.0
WRA	Warramunga Arr	17.51	126	P	Pn	09 38 53.2	-0.4
	0.3nm,0.3s,baz=303,slow=13,SNR=8.0						
WRA				S	Sn	09 41 56.5	-11
	1.6nm,0.8s,baz=299,slow=26,SNR=5.7						
	2.0nm,0.7s						
WB2	Warramunga Arr	17.52	126		Pn	09 38 53.7	0.0
WB2				IAmb	IAmb	09 39 33.8	
	comp=Z,15nm,1.5s						
MORW	Morawa	19.24	189		Pn	09 39 13.7	-0.8
MORW				IAmb	IAmb	09 39 53.9	
	comp=Z,17nm,1.2s						
AS31	Alice Springs	19.43	136	P	P	09 39 15.4	-0.2
ASAR	Alice Springs	19.43	136	P	Pn	09 39 16.6	-0.4
ASAR	Alice Springs	19.43	136	P	Pn	09 39 18.4	+1.4
	comp=Z,0.3nm,0.3s,baz=315,slow=11,SNR=16						
ASAR				S	S	09 42 45.7	-7.8
	comp=Z,1.4nm,0.6s,baz=313,slow=22,SNR=6.7						
	comp=Z,1.3nm,0.5s						
NWAO	Narrogin (SRO)	22.91	185	P	P	09 39 52.9	0.0
NWAO				IAmb	IAmb	09 40 11.1	
	comp=Z,30nm,1.2s						
PZH	PanZhiHua	40.11	335	P	P	09 42 27.7	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,5.3s						
H08S2	Diego Garcia H	46.35	269	T	T	10 32 39.8	
	baz=95,slow=76,SNR=20						
H08S3	Diego Garcia H	46.36	269	T	T	10 32 40.6	
	baz=95,slow=76,SNR=17						
H08S1	Diego Garcia H	46.37	269	T	T	10 32 41.2	
	baz=95,slow=76,SNR=13						
MAJO	Matsushiro	49.56	20	P	P	09 43 40.0	+0.3
MAJO				IAmb	IAmb	09 44 07.5	
	comp=Z,15nm,1.4s						
MJB9	Matsu-Tunnel	49.57	20	P	P	09 43 40.1	+0.4
BTO	Baotou	51.08	351	eP	P	09 43 50.1	-1.0
BTO				pP	pP	09 43 54.6	-6.7
BTO				sP	sP	09 43 57.1	-8.2
BTO				pmax	pmax		
	comp=Z,18nm,0.9s						
BTO				pmax	pmax		
	comp=Z,250nm,4.8s						
BKZ	Black Stump Fm	58.40	130	P	P	09 44 45.6	+1.3
SONM	Songino Array	58.71	350	P	P	09 44 46.0	-0.2
	comp=Z,0.4nm,0.4s,baz=170,slow=8.2,SNR=2.7						
	comp=Z,0.4nm,0.4s						
KSH	Kashi	63.61	324	P	P	09 45 19.9	+0.3
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	Makanchi Array	65.49	333	P	P	09 45 31.2	-0.5
MK31				IAmb	IAmb	09 45 37.7	
	comp=Z,0.7nm,0.9s						
MKAR	Makanchi Array	65.49	333	P	P	09 45 30.9	-0.8
MKAR	Makanchi Array	65.49	333	P	P	09 45 31.6	-0.1
	comp=Z,0.4nm,0.4s,baz=143,slow=6.1,SNR=9.8						
	comp=Z,0.4nm,0.4s						
ARSB	Arslanbob	66.52	324	P	P	09 45 38.2	-0.3
ARSB				IAmb	IAmb	09 45 38.9	
	comp=Z,2.9nm,0.6s						
H04N2	CROZET ISLANDS	67.34	224	T	T	10 59 27.7	
	baz=79						
H04N1	CROZET ISLANDS	67.36	224	T	T	10 59 32.3	
	baz=79						
H04N3	CROZET ISLANDS	67.36	224	T	T	10 59 24.1	
	baz=79						
KURBB	Kurchatov Arra	70.01	334	P	P	09 45 59.5	-0.4
	comp=Z,0.3nm,0.5s,baz=140,slow=5.5,SNR=5.6						
	comp=Z,0.3nm,0.5s						
ABKAR	Akbulak array	78.57	325	P	P	09 46 49.9	0.0
QSPA	South Pole Qui	80.01	180	P	P	09 46 59.7	+2.0
QSPA				IAmb	IAmb	09 47 35.6	
	comp=Z,5.8nm,1.5s						
QSPA	South Pole Qui	80.01	180	P	P	09 47 00.5	+2.8
	comp=Z,0.8nm,0.7s,baz=334,slow=7.1,SNR=1.6						
	comp=Z,0.8nm,0.7s						

AEIC 12 09:43:24.4±2.6, 51°62N±0°06×178°39W±0°06, h5km±5km, Error ellipse: s-maj=8.4km s-min=5.4km az=167.0

NEIC 12 09:43:23.6±1.3, 51°45N±0°06×178°36W±0°06, h8km±12km, ML3.7(AEIC), Error ellipse: s-maj=9.9km s-min=3.4km az=149.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	Tanaga Southea	0.43	28		Pg	09 43 32.0	0.0
GANO	Gareloi North	0.46	323		Pg	09 43 31.8	-0.7
TAFP	Tanaga Falls P	0.51	28		Pg	09 43 33.0	-0.4
KIWB	Kanaga Island	0.85	62		Pg	09 43 39.9	-0.1
KIRH	Kanaga Island	0.91	60		Pg	09 43 41.1	0.0
ADK	Adak	1.13	67		Sg	09 43 59.0	-1.0
GSCK	Great Sitkin C	1.48	67		Sn	09 44 09.9	-0.1
GSTR	Great Sitkin T	1.57	65	Pn	Pn	09 43 51.2	-0.5
ATKA	Atka Island	2.69	72	Pn	Pn	09 44 08.0	+0.9
UNV	Unalaska Valle	7.60	67	Pn	Pn	09 45 16.1	+1.6

AEIC 12 09:44:00.6±1.0, 51°66N±0°05×178°35W±0°03, h13km±4km, Error ellipse: s-maj=7.5km s-min=2.2km az=171.0

NEIC 12 09:43:58.9±0.6, 51°46N±0°04×178°36W±0°04, h10km±1km, ML2.9(AEIC), Error ellipse: s-maj=8.2km s-min=3.2km az=27.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	Tanaga Southea	0.43	28		Pg	09 44 07.4	+0.1
GANO	Gareloi North	0.46	323		Pg	09 44 07.3	-0.5
TAFP	Tanaga Falls P	0.50	28		Pg	09 44 08.3	-0.3
KIWB	Kanaga Island	0.85	62		Pg	09 44 15.3	+0.1
KIKV	Kanaga Island	0.85	60		Pg	09 44 15.4	+0.2
KIKV					Sg	09 44 26.3	0.0
KINC	Kanaga Island	0.90	58		Pg	09 44 16.1	0.0
KIRH	Kanaga Island	0.90	60		Pg	09 44 16.3	+0.1
ADK	Adak	1.12	67		Pb	09 44 19.7	-0.7
ADK					Sb	09 44 34.3	-0.7
GSSP	Great Sitkin S	1.50	64		Pn	09 44 25.7	-0.1
GSSP					Sn	09 44 44.8	-0.5
ATKA	Atka Island	2.69	72		Pn	09 44 41.9	-0.2
ATKA	Atka Island	2.69	72	Pn	Pn	09 44 42.0	-0.1
ATKA	Atka Island	2.69	72		Sn	09 45 16.9	+2.3

IDC 12 09:45:47.8±0.6, 3°21S×146°33E, h0km, mb4.4/20, mbtmp4.4/22, ML2.8/2, MS4.2/47, Error ellipse: s-maj=23.3km s-min=13.6km az=84.0
NEIC 12 09:45:49.8±2.2, 3°09S±0°07×146°28E±0°06, h10km±1km, mb5.0/49, Error ellipse: s-maj=13.3km s-min=10.0km az=149.0
BJI 12 09:45:50.1, 3°01S×146°14E, h12km, mB5.1/20, mb4.6/55, Ms4.8/41, Ms7 4.5/43
GCMT 12 09:45:52.8±0.2, 3°22S±0°01×146°33E±0°01, h15km, MW5.1/124, Moment Tensor Solution. s49,c60; s124,c197; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=0.42±.11; $M_{\theta\theta}$=1.06±.10; $M_{\phi\phi}$=1.48±.10; $M_{r\theta}$=1.62±.33; $M_{\theta\phi}$=4.73±.09; $M_{\phi r}$=0.88±.30; Best double couple: M_0=5.20500×10^16 NP1:φs=172.00000°, δ71.00000°, λ176.00000°. NP2:φs=263.00000°, δ86.00000°, λ19.00000°. Principal axes: T 5.5860, Plg16.0000°, Azm129.0000°; N -0.7600, Plg71.0000°, Azm274.0000°; P -4.8230, Plg10.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 12 09:46:00.7±1.1, 4°S±6°×14°6E±°, h52km±8km, M4.9/14, mb4.9/14, mB5.6/4, MLv4.8/3, Mw(mB)5.1/4, MwMwp4.8/1, Mwp5.1/1

ISC 12 09:45:53.0±0.4, 3°26S±0°05×146°36E±0°06, h35km, n160, σ1°87/142, mb4.8/62, MS4.4/58, 3C-1D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.57	40	Pn	Pn	09 46 14.6	-3.8
TABU	Tabubil	5.50	249	P	Pn	09 47 14.9	+2.3
JAY	Jayapura	5.70	277	Pn	Pn	09 47 14.1	-1.2
	1.2nm,0.3s,baz=109,slow=3.1,SNR=6.2						
JAY				LR	LR	09 49 13.1	
	comp=Z,3μm,20.6s,baz=76,slow=36						
	26nm,0.8s						
JAY	Jayapura	5.70	277	P	Pn	09 47 17.7	+2.4
	0.2nm50nm,1.1s						
RABL	Rabaul	5.86	99	Pn	Pn	09 47 19.2	+1.7
PMG	Port Moresby	6.16	173	Pn	Pn	09 47 22.0	+0.4
	5.1nm,0.3s,baz=5.7,slow=4.7,SNR=12						
PMG				Sn	Sn	09 48 25.7	-5.2
	0.7nm,0.3s,baz=6.0,slow=7.3,SNR=3.8						
PMG				LR	LR	09 49 30.9	
	comp=Z,1μm,18.9s,baz=352,slow=36						
	86nm,1.0s						
GENI	Genyem	6.22	276	P	Pn	09 47 25.6	+3.1
	0.8nm223nm,1.5s						
SMPI	Sarmi	7.75	279	P	Pn	09 47 44.5	+1.1
	0.7nm3μm176nm,0.9s						
COEN	Coen	11.09	196	Pn	Pn	09 48 30.5	+1.2
COEN	Coen	11.09	196	P	Pn	09 48 30.4	+1.2
	comp=Z,80nm,1.1s						
COEN	Coen	11.09	196	P	Pn	09 48 31.5	+2.2
HNR	Honiara	14.82	115	Pn	Pn	09 49 23.3	+3.1
HNR	Honiara	14.82	115	LR	LR	09 55 11.2	
	comp=Z,803nm,19.0s,baz=140,slow=38						
MTSU	Mount Surprise	14.92	188	P	Pn	09 49 23.6	+2.1
	comp=Z,51nm,1.1s						
MTSU	Mount Surprise	14.92	188	P	Pn	09 49 24.4	+2.8
SWI	Sorong	15.28	279	P	P	09 49 34.7	+4.0
KDU	Kakadu	16.63	235	P	Pn	09 49 42.6	-1.0
	comp=Z,107nm,1.2s						
KDU	Kakadu	16.63	235	P	Pn	09 49 43.6	0.0
MTN	Manton Dam	17.82	237	Pn	Pn	09 49 57.1	-1.3
MTN	Manton Dam	17.82	237	P	Pn	09 49 57.1	-1.3
	comp=Z,58nm,0.9s						
MTN	Manton Dam	17.82	237	P	Pn	09 49 57.6	-0.9
QIS	Mount Isa	18.41	200	P	P	09 50 03.7	-1.7
QIS	Mount Isa	18.41	200	P	P	09 50 05.4	-0.1
WB0	Warramunga Arr	20.15	215	P	P	09 50 24.0	-0.4
WB2	Warramunga Arr	20.31	214	P	P	09 50 26.0	-0.2
WB2				IAmb	IAmb	09 50 28.5	
	comp=Z,91nm,0.8s						
WRA	Warramunga Arr	20.32	214	P	P	09 50 25.7	-0.6
	comp=Z,118nm,1.1s,baz=37,slow=12,SNR=95						
WRA				LR	LR	09 58 11.9	
	comp=Z,685nm,20.1s,baz=40,slow=37						
KNRA	Kununurra	21.27	233	P	P	09 50 35.2	-1.4
KNRA	Kununurra	21.27	233	P	P	09 50 34.3	-2.3
EIDS	Eidsvold	22.45	169	P	P	09 50 49.8	+0.7
EIDS	Eidsvold	22.45	169	P	P	09 50 51.1	+1.9
	comp=Z,31nm,1.1s						
SOEI	Soe	22.87	253	P	P	09 50 51.9	-2.0
SOEI				IAmb	IAmb	09 51 15.0	
	comp=Z,87nm,0.9s						
SOEI	Soe	22.87	253	P	P	09 50 55.0	+1.1
SOEI	Soe	22.87	253	P	P	09 50 54.8	+0.9
	comp=Z,1μmcomp=Z,122nm,1.1s						
DAV	Davao City (W)	23.14	296	LR	LR	09 59 51.1	
	comp=Z,397nm,19.1s,slow=36						
QLP	Quilpie	23.28	185	P	P	09 50 59.4	+1.6
	comp=Z,194nm,1.3s						
QLP	Quilpie	23.28	185	P	P	09 51 00.3	+2.5
AS31	Alice Springs	23.59	210	P	P	09 51 00.0	-0.9
AS31	Alice Springs	23.59	210	P	P	09 51 00.9	0.0
	comp=Z,19nm,1.0s						
ASAR	Alice Springs	23.60	210	P	P	09 51 00.8	-0.1
	comp=Z,42nm,0.9s,baz=39,slow=8.5,SNR=181						
ASAR				LR	LR	10 00 06.7	
	comp=Z,943nm,21.9s,baz=41,slow=36						
	comp=Z,42nm,0.9s						
MRSI	Marisa	24.69	278	P	P	09 51 14.6	+3.5
	comp=Z,44nm,1.0s						
INKA	Innaminka	24.93	192	P	P	09 51 15.4	+2.3
FITZ	Fitzroy Crossi	25.09	233	P	P	09 51 13.3	-1.4
FITZ	Fitzroy Crossi	25.09	233	P	P	09 51 13.9	-0.

FORT	**Forrest**	**32.38 210**	P	**P**	**09 52 19.0**	**-0.5**
MSVF	**Nonsavu**	**34.23 117**	P	**P**	**09 52 37.2**	**+1.3**
MSVF			IAmb	IAmb	09 52 52.1	
	comp=Z,57nm,1.8s					
SBUM	**Sibu**	**34.60 279**	P	**P**	**09 52 36.0**	**-3.0**
JOW	**Kunigami**	**34.64 331**	LR	LR	10 03 41.7	
	comp=Z,672nm,21.6s,baz=156,slow=31					
FUTU	**Fugatoga**	**36.71 110**	P	**P**	**09 52 57.9**	**+0.7**
YHNB	**Yeheng**	**36.88 320**	P	**P**	**09 52 55.7**	**-2.9**
YHNB			IAmb	IAmb	09 53 06.3	
	comp=Z,42nm,1.0s					
MORW	**Morawa**	**38.58 225**	P	**P**	**09 53 11.4**	**-1.4**
KNMB	**Chin-men Tao**	**38.72 317**	P	**P**	**09 53 11.0**	**-2.9**
LEM	**Lembang**	**38.75 263**	LR	LR	10 12 34.8	
	comp=Z,302nm,18.1s,baz=84,slow=42					
JNU	**Nakatsue**	**39.04 339**	LR	LR	10 06 23.8	
	comp=Z,224nm,22.0s,baz=156,slow=32					
NWAO	**Narrogin (SRO)**	**40.18 219**	LR	LR	10 11 15.2	
	comp=Z,1μm,19.1s,baz=38,slow=38					
MJAR	**Matsushiro Arr**	**40.32 350**	P	**P**	**09 53 26.6**	**-0.6**
	comp=Z,3.0nm,1.1s,baz=230,slow=1.0,SNR=4.6					
	comp=Z,3.0nm,1.1s					
SSE	**Sheshan**	**41.75 327**	P	**P**	**09 53 37.8**	**-1.2**
SSE			S	**S**	**09 59 58.1**	**+4.1**
SSE			pmax	pmax		
	comp=Z,6.0nm,1.2s					
SSE			pmax	pmax		
	comp=Z,68nm,3.0s					
SSE			LR	LR		
	comp=Z,200nm,22.2s					
SSE			LR	LR		
	comp=Z,220nm,17.9s					
QIZ	**Qiongzhong**	**42.20 303**	P	**P**	**09 53 39.9**	**-3.0**
QIZ			S	**S**	**10 00 04.1**	**+3.0**
QIZ			LR	LR		
	comp=Z,290nm,14.6s					
QIZ			LR	LR		
	comp=Z,330nm,18.9s					
QIZ			LR	LR		
	comp=Z,600nm,24.9s					
NJ2	**Nanjing**	**43.77 325**	*e*P	**P**	**09 53 55.4**	**0.0**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.7s					
NJ2			LR	LR		
	comp=Z,690nm,22.7s					
KSRS	**Korea Array**	**43.98 339**	P	**P**	**09 53 56.5**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=158,slow=9.9,SNR=7.1					
KSRS			LR	LR	10 09 15.6	
	comp=Z,258nm,21.6s,baz=150,slow=32					
	comp=Z,2.3nm,0.8s					
JTM	**Tenmabayashi**	**44.10 354**	P	**P**	**09 53 55.0**	**-2.9**
URZ	**Urewera**	**44.74 145**	LR	LR	10 10 04.3	
	comp=Z,575nm,21.8s,slow=32					
RPZ	**Rata Peaks**	**45.84 155**	LR	LR	10 13 02.0	
	comp=Z,455nm,18.0s,baz=317,slow=36					
ASAJ	**Asahikawa**	**47.28 356**	LR	LR	10 16 24.9	
	comp=Z,82nm,18.0s,baz=178,slow=39					
DL2	**Dalian**	**47.76 334**	P	P	09 54 33.1	+6.3
DL2			S	S	10 01 31.4	+10
DL2			pmax	pmax		
	comp=Z,51nm,1.8s					
DL2			pmax	pmax		
	comp=Z,370nm,6.0s					
DL2			LR	LR		
	comp=N,530nm,22.2s					
DL2			LR	LR		
	comp=E,400nm,20.4s					
DL2			LR	LR		
	comp=Z,720nm,17.0s					
PSI	**Prapat**	**47.80 277**	LR	LR	10 19 54.0	
	comp=Z,129nm,18.2s,slow=43					
USA0B	**Ussuriysk Arra**	**48.97 346**	P	**P**	**09 54 34.5**	**-1.6**
USA0B			IAmb	IAmb	09 54 45.4	
	comp=Z,10nm,0.8s					
USRK	**Ussuriysk Ar.**	**48.97 346**	P	**P**	**09 54 36.2**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=172,slow=6.2,SNR=12					
USRK			LR	LR	10 12 13.9	
	comp=Z,114nm,21.4s,baz=160,slow=32					
	comp=Z,5.5nm,0.8s					
HNS	**HongShan**	**50.01 327**	⇑P	**P**	**09 54 44.0**	**-0.1**
HNS			pmax	pmax		
	comp=Z,8.0nm,1.0s					
HNS			LR	LR		
	comp=Z,350nm,16.1s					
HNS			LR	LR		
	comp=Z,460nm,18.1s					
HNS			LR	LR		
	comp=Z,570nm,19.8s					
PHRA	**Phrae**	**50.30 297**	P	**P**	**09 54 45.3**	**-1.3**
KMI	**Kunming**	**50.85 306**	⇑P	**P**	**09 54 55.1**	**+4.1**
KMI			S	**S**	**10 02 05.7**	**+0.4**
KMI			pmax	pmax		
	comp=Z,10.0nm,1.2s					
KMI			LR	LR		
	comp=Z,220nm,28.1s					
KMI			LR	LR		
	comp=Z,160nm,17.6s					
KMI			LR	LR		
	comp=Z,440nm,29.7s					
XAN	**Xi'an**	**51.18 320**	⇓P	**P**	**09 54 53.1**	**0.0**
XAN			pmax	pmax		
	comp=Z,11nm,1.7s					
XAN			LR	LR		
	comp=Z,360nm,17.9s					
XAN			LR	LR		
	comp=Z,330nm,18.6s					
XAN			LR	LR		
	comp=Z,470nm,20.6s					
CM31	**Chiang Mai Arr**	**51.43 297**	P	**P**	**09 54 53.8**	**-1.4**
CM31			IAmb	IAmb	09 55 03.8	
	comp=Z,19nm,0.9s					
CMAR	**Chiang Mai Arr**	**51.43 297**	P	**P**	**09 54 54.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**51.43 297**	P	**P**	**09 54 55.2**	**0.0**
	comp=Z,2.2nm,0.6s,baz=120,slow=6.0,SNR=18					
CMAR			LR	LR	10 17 49.9	
	comp=Z,102nm,18.5s,baz=120,slow=37					
	comp=Z,2.2nm,0.6s					
CHTO	**Chiang Mai**	**51.55 297**	P	**P**	**09 54 54.9**	**-1.2**
BNX	**BinXian**	**51.61 343**	⇑P	**P**	**09 54 55.7**	**-0.3**
BNX			pmax	pmax		
	comp=Z,9.0nm,1.0s					
PZH	**PanZhiHua**	**52.28 307**	P	**P**	**09 55 02.1**	**+0.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,150nm,5.4s					
CD2	**Chengdu**	**52.93 313**	*e*P	**P**	**09 55 04.8**	**-1.4**
CD2			S	**S**	**10 02 38.9**	**+5.5**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.4s					
CD2			LR	LR		
	comp=Z,310nm,15.7s					
CD2			LR	LR		
	comp=Z,390nm,16.2s					
KLR	**Kul'dur**	**53.79 348**	P	**P**	**09 55 12.2**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=198,slow=3.8,SNR=6.4					
KLR			LR	LR	10 14 22.1	
	comp=Z,116nm,21.6s,baz=171,slow=32					
	comp=Z,4.2nm,0.8s					
HHC	**Hu-ho-hao-te**	**54.19 328**	*e*P	**P**	**09 55 15.9**	**+0.6**
HHC			pP	pP	09 55 20.2	-5.2
HHC			sP	pwP	09 55 22.7	-2.7
HHC			pmax	pmax		
	comp=Z,8.0nm,1.0s					
HHC			pmax	pmax		
	comp=Z,90nm,4.5s					
HHC			LR	LR		
	comp=Z,370nm,19.8s					
HHC			LR	LR		
	comp=Z,400nm,19.0s					
HHC			LR	LR		
	comp=Z,380nm,17.9s					
BTO	**Baotou**	**54.85 327**	*e*P	**P**	**09 55 22.1**	**+2.0**
BTO			pP	**pP**	**09 55 26.8**	**-3.5**
BTO			sP	**pwP**	**09 55 29.2**	**-1.1**
BTO			S	**S**	**10 03 03.2**	**+4.1**
BTO			sS	**pS**	**10 03 10.8**	**-0.4**
BTO			pmax	pmax		
	comp=Z,16nm,0.9s					
BTO			pmax	pmax		
	comp=Z,220nm,4.1s					
BTO			LR	LR		
	comp=Z,750nm,17.8s					
BTO			LR	LR		
	comp=Z,540nm,20.6s					
BTO			LR	LR		
	comp=Z,1μm,20.6s					
RAR	**Rarotonga**	**55.27 114**	LR	LR	10 16 37.7	
	comp=Z,101nm,19.6s,baz=254,slow=33					
LZH	**Lanzhou**	**55.74 319**	*e*P	**P**	**09 55 27.3**	**+0.6**
LZH			sP	pP	09 55 34.5	-2.4
LZH			pmax	pmax		
	comp=Z,10.0nm,1.4s					
LZH			LR	LR		
	comp=Z,250nm,13.7s					
LZH			LR	LR		
	comp=Z,240nm,13.4s					
LZH			LR	LR		
	comp=Z,380nm,15.5s					
BRDH	**Bariadhala**	**59.27 299**	LR	LR	10 20 07.7	
	comp=Z,84nm,21.9s,baz=158,slow=35					
SHL	**Shillong**	**60.02 302**	P	**P**	**09 55 56.2**	**-0.7**
GTA	**Gaotai**	**60.25 320**	*e*P	**P**	**09 55 59.6**	**+1.4**
GTA			pP	pP	09 56 03.7	-4.8
GTA			pmax	pmax		
	comp=Z,3.0nm,0.9s					
GTA			LR	LR		
	comp=Z,210nm,16.7s					
GTA			LR	LR		
	comp=Z,160nm,17.1s					
GTA			LR	LR		
	comp=Z,200nm,18.9s					
ULN	**Ulaanbaatar**	**61.42 331**	P	**P**	**09 56 04.1**	**-1.9**
ULN			IAmb	IAmb	09 56 33.4	
	comp=Z,14nm,1.4s					
SONM	**Songino Array**	**61.72 331**	P	**P**	**09 56 07.8**	**-0.2**
SONM			IAmb	IAmb	09 56 24.2	
	comp=Z,9.2nm,1.5s					
SONM	**Songino Array**	**61.72 331**	P	**P**	**09 56 08.5**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=145,slow=6.3,SNR=8.4					
SONM			LR	LR	10 22 30.6	
	comp=Z,402nm,19.5s,baz=148,slow=36					
	comp=Z,1.1nm,0.7s					
MA2	**Magadan**	**62.74 3**	P	**P**	**09 56 12.6**	**-1.8**
	comp=Z,12nm,1.9s					
PPT	**Papeete**	**64.31 108**	LR	LR	10 22 16.4	
	comp=Z,147nm,18.1s,baz=240,slow=34					
PALK	**Pallekele**	**66.35 279**	LR	LR	10 28 20.1	
	comp=Z,35nm,18.2s,baz=98,slow=38					
WMQ	**Urumqi**	**70.31 319**	*e*P	**P**	**09 57 04.3**	**+1.0**
WMQ			S	**S**	**10 06 12.9**	**-0.3**
WMQ			pmax	pmax		
	comp=Z,12nm,0.9s					
WMQ			LR	LR		
	comp=Z,130nm,20.5s					
M11K	**Mekoryuk**	**73.35 22**	P	**P**	**09 57 21.5**	**+0.5**
VNDA	**Vanda**	**74.67 177**	LR	LR	10 28 44.9	
	comp=Z,157nm,18.1s,baz=351,slow=34					
MK31	**Makanchi Array**	**74.99 320**	P	**P**	**09 57 30.5**	**-0.5**
MK31			IAmb	IAmb	09 57 39.0	
	comp=Z,10nm,1.1s					
MKAR	**Makanchi Array**	**74.99 320**	P	**P**	**09 57 30.4**	**-0.6**
MKAR	**Makanchi Array**	**74.99 320**	P	**P**	**09 57 31.4**	**+0.4**
	comp=Z,8.8nm,0.9s,baz=110,slow=6.8,SNR=29					
MKAR			LR	LR	10 28 42.1	
	comp=Z,146nm,21.9s,baz=140,slow=34					
	comp=Z,8.8nm,0.9s					
MAKZ	**Makanchi**	**75.20 320**	P	**P**	**09 57 31.4**	**-0.8**
MAKZ			IAmb	IAmb	09 57 40.0	
	comp=Z,14nm,0.8s					
ZAA0	**Zalesovo Array**	**76.37 328**	P	**P**	**09 57 37.4**	**-1.2**
ZALV	**Zalesovo Beam**	**76.37 328**	P	**P**	**09 57 37.3**	**-1.4**
ZALV	**Zalesovo Beam**	**76.37 328**	P	**P**	**09 57 38.3**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=112,slow=6.7,SNR=8.1					
ZALV			LR	LR	10 29 47.3	
	comp=Z,235nm,21.9s,baz=115,slow=35					
	comp=Z,2.2nm,0.6s					
KSH	**Kashi**	**77.09 312**	P	**P**	**09 57 45.6**	**+2.4**
KSH			pP	pP	09 57 48.9	-4.7
KSH			pmax	pmax		
	comp=Z,3.0nm,1.0s					
KSH			LR	LR		
	comp=Z,240nm,16.8s					
KSH			LR	LR		
	comp=Z,320nm,19.2s					
KSH			LR	LR		
	comp=Z,230nm,17.2s					
KURBB	**Kurchatov Arra**	**78.67 323**	P	**P**	**09 57 51.8**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=107,slow=4.7,SNR=4.6					
KURBB			LR	LR	10 31 21.4	
	comp=Z,232nm,21.9s,baz=182,slow=35					
	comp=Z,5.2nm,1.0s					
AAK	**Ala-Archa**	**78.98 314**	P	**P**	**09 57 54.5**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=192,slow=18,SNR=4.0					
AAK			LR	LR	10 32 27.1	
	comp=Z,322nm,21.4s,baz=98,slow=36					
	comp=Z,1.8nm,0.8s					
BTK	**Batken**	**81.08 311**	P	**P**	**09 58 03.8**	**-1.2**
KTH	**Kantishna Hill**	**81.11 24**	P	**P**	**09 58 04.0**	**-0.6**
KTH			IAmb	IAmb	09 58 19.6	
	comp=Z,47nm,1.8s					
SML	**Sawmill**	**81.46 26**	P	**P**	**09 58 07.1**	**+0.6**
RND	**Reindeer**	**81.89 24**	P	**P**	**09 58 09.6**	**+0.8**
RND			IAmb	IAmb	09 58 28.0	
	comp=Z,17nm,1.1s					
KKAR	**Karatay Array**	**81.93 314**	P	**P**	**09 58 09.7**	**+0.3**
WRH	**Wood River Hil**	**82.63 23**	P	**P**	**09 58 14.3**	**+1.8**
WRH			IAmb	IAmb	09 58 31.6	
	comp=Z,11nm,1.0s					
CCB	**Clear Creek Bu**	**82.81 23**	P	**P**	**09 58 14.8**	**+1.4**
CCB			IAmb	IAmb	09 58 19.1	
	comp=Z,33nm,1.8s					
BMRM	**Bremner River**	**82.82 27**	P	**P**	**09 58 13.1**	**-0.5**
BMRM			IAmb	IAmb	09 59 05.0	
	comp=Z,29nm,1.6s					
IL31		**83.23 23**	P	**P**	**09 58 15.4**	**-0.1**
IL31			IAmb	IAmb	09 58 19.9	
	comp=Z,5.1nm,0.8s					
ILAR	**Eielson Array**	**83.23 23**	P	**P**	**09 58 15.0**	**-0.6**
ILAR	**Eielson Array**	**83.23 23**	P	**P**	**09 58 14.9**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=252,slow=5.0,SNR=32					
ILAR			LR	LR	10 30 00.7	
	comp=Z,127nm,19.7s,baz=254,slow=32					
	comp=Z,2.5nm,0.6s					
BVAR	**Borovoye Array**	**84.19 324**	P	**P**	**09 58 20.9**	**+0.1**
	comp=Z,14nm,0.9s,baz=104,slow=6.3,SNR=21					
BVAR			LR	LR	10 36 01.0	
	comp=Z,72nm,19.5s,baz=75,slow=36					
	comp=Z,14nm,0.9s					
BRVK	**Borovoye**	**84.26 324**	P	**P**	**09 58 20.5**	**-0.7**
BRVK			IAmb	IAmb	09 58 38.8	
	comp=Z,16nm,0.9s					
MAW	**Mawson**	**84.52 202**	LR	LR	10 34 55.3	
	comp=Z,121nm,18.8s,baz=62,slow=35					
M29M	**Somme Creek**	**86.05 27**	P	**P**	**09 58 31.4**	**+1.4**
HYT	**Haines Junctio**	**86.10 28**	P	**P**	**09 58 31.3**	**+1.0**
HYT			IAmb	IAmb	09 58 40.0	
	comp=Z,6.7nm,1.0s					
L29M	**L29M**	**86.37 26**	P	**P**	**09 58 31.9**	**+0.4**
L29M			IAmb	IAmb	09 58 36.6	
	comp=Z,22nm,1.6s					
QSPA	**South Pole Qui**	**86.69 180**	P	**P**	**09 58 33.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=290,slow=12,SNR=2.5					
QSPA			LR	LR	10 36 38.4	
	comp=Z,144nm,18.0s,baz=7.0,slow=35					
	comp=Z,0.6nm,0.4s					
F28M	**Old Crow**	**86.86 22**	P	**P**	**09 58 33.2**	**-0.6**
G30M	**tAoh Zraii Nji**	**88.07 23**	P	**P**	**09 58 39.7**	**0.0**
G30M			IAmb	IAmb	09 59 17.4	
	comp=Z,11nm,1.2s					
DLBC	**Dease Lake**	**89.40 32**	LR	LR	10 38 25.7	
	comp=Z,133nm,18.4s,baz=274,slow=35					
BBB	**Bella Bella**	**89.80 38**	LR	LR	10 29 56.9	
	comp=Z,185nm,21.0s,baz=213,slow=30					
ABKAR	**Akbulak array**	**90.10 319**	P	**P**	**09 58 47.1**	**-2.4**
ABKAR	**Akbulak array**	**90.10 319**	P	**P**	**09 58 47.7**	**-1.8**
AKTO	**Aktyubinsk**	**91.43 320**	P	**P**	**09 58 54.0**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=78,slow=3.7,SNR=4.6					
AKTO			LR	LR	10 39 04.9	
	comp=Z,208nm,21.6s,baz=12,slow=35					
	comp=Z,1.1nm,0.6s					
ARTI	**Arti**	**91.56 326**	P	**P**	**09 58 54.5**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=70,slow=7.9,SNR=2.2					
ARTI			LR	LR	10 39 32.9	
	comp=Z,152nm,21.9s,baz=98,slow=35					
	comp=Z,0.9nm,0.3s					
YBH	**Yreka Blue Hor**	**92.84 49**	LR	LR	10 32 46.4	
	comp=Z,240nm,21.1s,baz=274,slow=30					
NVAR	**Mina Array Bea**	**96.19 52**	P	**P**	**09 59 19.3**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=260,slow=6.2,SNR=4.5					
NVAR			LR	LR	10 34 56.5	
	comp=Z,148nm,21.2s,baz=265,slow=31					
	comp=Z,0.4nm,0.6s					
KIRV	**Kirov**	**96.39 328**	LR	LR	10 43 29.9	
	comp=Z,533nm,20.4s,baz=83,slow=36					
NEW	**Newport**	**96.76 42**	LR	LR	10 36 59.9	
	comp=Z,96nm,18.6s,baz=284,slow=32					
YKA	**Yellowknife Ar**	**97.05 28**	P	**P**	**09 59 21.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=279,slow=5.1,SNR=7.4					
YKA			LR	LR	10 41 51.2	
	comp=Z,145nm,18.9s,baz=276,slow=35					
	comp=Z,0.3nm,0.6s					
PFO	**Pinyon Flats O**	**97.77 57**	LR	LR	10 35 48.1	
	comp=Z,169nm,20.7s,baz=279,slow=31					
BELG	**Belogornoye**	**97.91 322**	P	**P**	**09 59 23.9**	**-1.3**
	comp=Z,9.0nm,0.9s,baz=139,slow=10,SNR=3.8					
BELG			LR	LR	10 45 39.7	
	comp=Z,104nm,19.5s,baz=77,slow=37					
AKBB	**Malin Array Si**	**109.46 323**	P	**Pdif**	**10 00 14.9**	**-1.8**
RNPP5	**Staryi Chortor**	**111.24 324**	P	**Pdif**	**10 00 23.0**	**-1.6**
LPAZ	**La Paz**	**140.76 121**	PKP	**PKPdf**	**10 05 20.2**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=241,slow=9.8,SNR=3.9					
TORD	**Torodi Ar. Bea**	**143.73 288**	PKP	PKPbc	10 05 23.1	0.0
	comp=Z,1.3nm,0.9s,baz=55,slow=3.0,SNR=4.3					
DBIC	**Dimbokro**	**151.13 278**	PKPbc	**PKPbc**	**10 05 41.8**	**-1.9**
	comp=Z,9.3nm,1.0s,baz=39,slow=1.6,SNR=5.8					

KOLA ***12*** *09:59:54.7, 64°.56N×30°.84E, h0km, ML2.3, Error ellipse: s-maj=13.0km s-min=9.3km az=140.0, Karelia*
IDC ***12*** *09:59:54.3±3.0, 64°.75N×32°.03E, h0km, mbtmp3.4/4, ML2.5/4, Error ellipse: s-maj=40.9km s-min=10.6km az=101.0*
MOS ***12*** *09:59:57.0±0.3, 64°.76N±0°.03×30°.8E±0°.3, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
BER ***12*** *10:00:02.9±1.4, 65°.15N×30°.77E, h0km±124km, ML1.7*
ISC 12 09:59:58.1±1.3, 64°.91N±0°.05×30°.52E±0°.06, h0km, n20, σ1°.75/30, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVDA	**Kovda**	**2.04**	**27**	P	**Pn**	**10 00 32.9**	**-0.8**
KVDA				S	**Sg**	**10 01 02.6**	**-0.9**
APA0	**Apatity Array**	**2.89**	**19**	P	**Pn**	**10 00 45.5**	**+0.2**
APA0				S	**Sn**	**10 01 22.5**	**+1.7**
APA	**Apatity**	**2.92**	**22**	P	**Pn**	**10 00 45.3**	**-0.4**
APA				S	**Sn**	**10 01 22.2**	**+0.8**
LVZ	**Lovozero**	**3.44**	**27**	S	**Sn**	**10 01 36.0**	**+1.8**
FINES	**FINESS Array B**	**4.01**	**212**	Pn	**Pn**	**10 00 59.5**	**-1.2**
	0.4nm,0.3s,baz=35,slow=14,SNR=12						
FINES				Sn	**Sn**	**10 01 50.6**	**+2.2**
	1.4nm,0.3s,baz=35,slow=23,SNR=8.1						
FINES				Lg	Lg	10 02 00.0	
	1.6nm,0.3s,baz=33,slow=29,SNR=6.1						
	1.1nm,0.2s						
HEF	**Hetta**	**4.45**	**325**	*e*P	**Pn**	**10 01 08.7**	**+1.9**
TERR	**Teriberka**	**4.67**	**21**	S	**Sn**	**10 02 04.6**	**0.0**
PRVG	**Vayda Guba**	**4.91**	**7**	P	**Pn**	**10 01 13.3**	**+0.4**
PRVG				S	**Sn**	**10 02 09.8**	**-0.6**
KTK1	**Kautokeino**	**5.02**	**329**	*e*P	**Pn**	**10 01 14.7**	**+0.2**
KTK1				*e*S	**Sn**	**10 02 08.0**	**-5.1**
KTK1				IAML		10 02 23.6	
	comp=Z,2.8nm,0.8s						
ARA0	**ARCESS Array S**	**5.04**	**340**	*e*P	**Pn**	**10 01 14.7**	**-0.1**
ARA0				*e*S	**Sn**	**10 02 09.5**	**-4.2**
ARA0				IAML		10 02 17.9	
	comp=Z,2.7nm,0.9s						
ARCES	**ARCESS Array B**	**5.04**	**340**	Pn	**Pn**	**10 01 14.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=52						
ARCES				Sn	**Sn**	**10 02 14.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=154,slow=25,SNR=4.0						
ARCES				Lg	Lg	10 02 37.8	
	comp=Z,0.7nm,0.3s,baz=148,slow=31,SNR=7.3						
	comp=Z,1.4nm,0.3s						
ARCES	**ARCESS Array B**	**5.04**	**340**	P	**Pn**	**10 01 14.6**	**-0.3**
ARCES				S	**Sn**	**10 02 13.9**	**+0.3**
KEV	**Kevo**	**5.06**	**346**	*e*P	**Pn**	**10 01 15.0**	**0.0**
VADS	**Vadso**	**5.26**	**356**	*e*P	**Pn**	**10 01 17.8**	**0.0**
VADS				IAML		10 02 21.2	
	comp=Z,3.0nm,0.6s						
VADS	**Vadso**	**5.26**	**356**	P	**Pn**	**10 01 17.8**	**0.0**
VADS				S	**Sn**	**10 02 21.8**	**+2.8**
SALU	**Saltoluokta**	**5.47**	**302**	*e*P	**Pn**	**10 01 23.7**	**+3.0**
JETT	**Jettan, Norway**	**6.09**	**324**	*e*P	**Pn**	**10 01 29.0**	**-0.3**
FAUS	**Fauske**	**6.65**	**299**	S	**Sn**	**10 02 54.8**	**+1.5**
HFS	**Hagfors**	**9.11**	**246**	Pn	**Pn**	**10 02 10.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=58,slow=13,SNR=13						
	comp=Z,3.2nm,0.9s						
NOA	**NORSAR Array B**	**9.58**	**255**	Pn	**Pn**	**10 02 16.4**	**-0.8**
	baz=65,slow=21,SNR=11						
	comp=Z,0.2nm,0.3s						

KRNET ***12*** *10:04:15.2±0.1, 43°.85N×69°.91E, mb2.6*
SOME ***12*** *10:04:15.6, 43°.65N×69°.72E*
NNC ***12*** *10:04:21.5±1.9, 43°.53N×69°.97E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=12.9km s-min=11.5km az=52.0, Suspected Mining explosion.*
ISC 12 10:04:22.9±2.3, 43°.59N±0°.07×70°.32E±0°.10, h0km, n13, σ0°.89/19, 10C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKAR	**Karatay Array**	**0.51**	**164**	⇑*i*P	**Pg**	**10 04 31.8**	**-0.8**
KKAR				⇑*i*S	**Sb**	**10 04 44.0**	**+1.3**
MNAS	**Manas**	**1.94**	**124**	⇑*i*P	**Pn**	**10 04 57.0**	**-0.3**
MNAS				⇑*i*S	**Sg**	**10 05 27.4**	**+2.1**
TRKS	**Terek-Say**	**2.15**	**163**	⇑*i*P	**Pn**	**10 05 00.1**	**0.0**
TRKS				⇑*i*S	**Sg**	**10 05 33.0**	**+1.1**
ARK	**Arkit**	**2.16**	**145**	⇑*e*P	**Pn**	**10 04 59.8**	**-0.5**
ARK				⇑*e*S	**Sg**	**10 05 32.3**	**-0.1**
MRKS	**Merke**	**2.29**	**111**	Pg	**Pg**	**10 05 06.7**	**0.0**
	3.7nm,0.5s						
MRKS				Lg	Lg	10 05 42.0	
	5.9nm,0.6s						
EKS2	**Erkin-Say**	**2.69**	**109**	⇓*i*P	**Pn**	**10 05 07.0**	**-0.6**
EKS2				⇓*i*S	**Sb**	**10 05 44.9**	**-0.8**
AML	**Almayashu**	**2.88**	**119**	⇑*i*P	**Pn**	**10 05 10.0**	**-0.3**
AML				⇑*i*S	**Sb**	**10 05 50.0**	**-1.2**
BTLS	**Baital**	**3.04**	**60**	Pg	**Pg**	**10 05 21.6**	**+0.5**
	7.9nm,0.7s						
BTLS				Lg	Lg	10 06 06.4	
	4.2nm,0.7s						
KRBS	**Karabastau**	**3.89**	**87**	Pg	**Pg**	**10 05 36.3**	**-1.0**
	3.2nm,0.5s						
KRBS				Lg	Lg	10 06 31.3	
	1.7nm,0.2s						
DGS	**Degeres**	**3.98**	**93**	Pg	**Pg**	**10 05 39.7**	**+0.5**
	2.2nm,0.4s						
DGS				Lg	Lg	10 06 37.0	
	5.4nm,0.5s						
KST	**Kastek**	**4.15**	**96**	Pg	**Pg**	**10 05 42.5**	**+0.1**
	2.4nm,0.9s						
KST				Lg	Lg	10 06 42.0	
	3.7nm,0.9s						
KTBS	**Karatobe**	**4.62**	**86**	Pg	**Pg**	**10 05 51.5**	**+0.2**
	2.6nm,0.5s						
KTBS				Lg	Lg	10 06 55.7	
	3.9nm,0.6s						
TNSS	**Tian-Shan**	**4.87**	**94**	Pg	**Pg**	**10 05 55.5**	**-0.6**
	0.9nm,0.6s						
TNSS				Lg	Lg	10 07 04.7	
	1.5nm,0.7s						

IDC ***12*** *10:05:41.9±0.7, 8°.35S×116°.96E, h0km, mb4.1/15, mbtmp4.2/17, ML4.1/2, MS3.5/5, Error ell

JAGI Jajag, Banyuwa 2.63 269 P **Pn 10 06 27.0 +0.1**
JAGI Jajag, Banyuwa 2.63 269 P **Pn 10 06 27.1 +0.1**
WBSI Waikabubak, Su 2.81 115 P **Pn 10 06 30.2 +0.7**
KMMI Kalianget 3.14 296 P **Pn 10 06 35.2 +1.3**
GMJI Gumukmas 3.34 273 P **Pn 10 06 36.3 -0.3**
WSI Waingapu 3.66 110 P **Pn 10 06 41.2 +0.2**
BASI Baing, Sumba 4.12 116 P **Pn 10 06 49.6 +2.2**
BSSI Bau Bau, Buton 4.30 58 P **Pn 10 06 48.8 -1.1**
KAPI Kappang 4.48 41 Pn **Pn 10 06 51.5 -0.9**
KAPI Kappang 4.48 41 Pn **Pn 10 06 50.3 -2.0**
10.0nm,0.3s,baz=212,slow=8.4,SNR=16
KAPI Sn **Sn 10 07 42.1 -1.2**
21nm,0.3s,baz=220,slow=24,SNR=14
KAPI LR LR 10 08 55.0
comp=Z,592nm,19.2s,baz=171,slow=45
27nm,0.2s
BKSI Bulukumba 4.51 47 P **Pn 10 06 51.8 -1.0**
GRJI Gresik 4.55 289 P **Pn 10 06 53.2 -0.2**
SPSI Sidrap Palu 5.33 34 P **Pn 10 07 02.6 -1.4**
0.6nm32nm,0.7s
MMRI Maumere 5.37 93 Pn **Pn 10 07 04.2 -0.4**
PCJI Pacitan 5.58 272 P **Pn 10 07 07.7 +0.2**
0.6nm111nm,1.2s
UGM Wanagama 6.25 274 Pn **Pn 10 07 15.7 -1.0**
UGM Wanagama 6.25 274 P **Pn 10 07 17.4 +0.7**
0.6nm106nm,1.1s
SMRI Semarang 6.46 282 Pn **Pn 10 07 17.5 -2.1**
SOEI Soe 7.48 101 Pn **Pn 10 07 32.9 -0.8**
SOEI Soe 7.48 101 P Pn 10 07 43.0 +9.3
SOEI Soe 7.48 101 P **Pn 10 07 34.0 +0.3**
FITZ Fitzroy Crossi 12.88 139 Pn **Pn 10 08 47.2 -0.4**
FITZ Fitzroy Crossi 12.88 139 Pn **Pn 10 08 46.6 -1.1**
0.8nm,0.3s,baz=330,slow=9.9,SNR=13
FITZ Sn **Sn 10 11 06.4 -3.4**
1.5nm,0.3s,baz=197,slow=16,SNR=9.9
FITZ LR LR 10 13 48.2
comp=Z,287nm,19.0s,baz=324,slow=38
3.3nm,0.4s
PSA00 Pilbara Seismi 13.38 168 Pn **Pn 10 08 53.5 -1.0**
KNRA Kununurra 13.72 123 Pn **Pn 10 08 59.5 +0.4**
GIRL Giralia 14.34 190 Pn **Pn 10 09 06.4 -1.2**
KKM Kota Kinabalu 14.40 358 Pn **Pn 10 09 07.3 -1.1**
MTN Manton Dam 14.74 109 Pn **Pn 10 09 10.7 -2.3**
FAKI Fak Fak 16.30 71 Pn **Pn 10 09 32.3 -1.1**
MEEK Meekatharra 18.18 175 P **P 10 09 58.6 +1.8**
WRKA Warakurna 19.81 148 P **Pn 10 10 17.4 +1.0**
WB0 Warramunga Arr 20.41 125 P **P 10 10 20.7 -0.5**
WB0 IAmb IAmb 10 10 31.0
comp=Z,12nm,0.6s
WRA Warramunga Arr 20.46 126 P **P 10 10 22.0 +0.3**
comp=Z,8.2nm,1.0s,baz=300,slow=12,SNR=35
WRA S **S 10 14 09.3 +0.3**
comp=Z,1.7nm,0.7s,baz=296,slow=21,SNR=6.1
WRA LR LR 10 18 01.1
comp=Z,123nm,19.9s,baz=255,slow=36
comp=Z,8.2nm,1.0s
WRAB Tennant Creek 20.46 126 P **P 10 10 22.0 +0.3**
WRAB IAmb IAmb 10 10 34.5
comp=Z,9.7nm,0.7s
WB2 Warramunga Arr 20.47 126 P **P 10 10 22.1 +0.2**
WB1 Warramunga Ar. 20.47 126 P Pn 10 10 27.3 +3.1
MORW Morawa 20.54 182 P **P 10 10 23.4 +0.9**
MORW IAmb IAmb 10 10 30.5
comp=Z,21nm,1.3s
PSI Prapat 21.04 301 P **P 10 10 29.9 +1.7**
comp=Z,3.6nm,0.4s,baz=130,slow=11,SNR=4.3
comp=Z,3.6nm,0.4s
KULM Kulim 21.11 310 P **P 10 10 26.9 -1.9**
AS31 Alice Springs 22.30 135 P **P 10 10 42.7 +1.2**
ASAR Alice Springs 22.30 135 P **P 10 10 42.0 +0.4**
comp=Z,2.7nm,0.5s,baz=309,slow=9.3,SNR=33
ASAR S **S 10 14 48.2 +3.3**
comp=Z,2.0nm,0.8s,baz=307,slow=23,SNR=5.4
ASAR LR LR 10 19 40.1
comp=Z,135nm,19.5s,baz=280,slow=38
comp=Z,2.7nm,0.5s
AS01 Alice Springs 22.33 135 P **P 10 10 45.9 +4.0**
NWAO Narrogin (SRO) 24.38 179 P **P 10 11 02.2 +0.3**
JAY Jayapura 24.49 77 LR LR 10 22 15.7
comp=Z,68nm,19.2s,baz=312,slow=41
FORT Forrest 24.59 156 P **P 10 11 05.5 +1.7**
FORT IAmb IAmb 10 11 45.6
comp=Z,58nm,1.2s
QIS Mount Isa 25.10 121 P **P 10 11 14.4 +5.7**
COEN Coen 26.42 104 P **P 10 11 21.1 +0.5**
COEN IAmb IAmb 10 11 48.5
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 32.02 327 P **P 10 12 10.3 0.0**
CMAR Chiang Mai Arr 32.02 327 P **P 10 12 10.8 +0.5**
comp=Z,1.8nm,0.4s,baz=152,slow=7.1,SNR=27
comp=Z,1.8nm,0.4s
CHTO Chiang Mai 32.31 327 P **P 10 12 12.9 0.0**
CHTO IAmb IAmb 10 12 15.6
comp=Z,4.5nm,0.8s
STKA Stephens Creek 32.78 139 P **P 10 12 17.3 +0.4**
comp=Z,3.4nm,0.8s,baz=330,slow=11,SNR=4.9
comp=Z,3.4nm,0.8s
KMI Kunming 36.06 338 ⇓P **P 10 12 46.1 +0.5**
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=N,140nm,12.4s
KMI LR LR
comp=E,120nm,9.6s
KMI LR LR
comp=Z,200nm,15.2s
PZH PanZhiHua 37.69 338 P **P 10 13 01.5 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,160nm,6.7s
NJ2 Nanjing 40.31 3 *e*P **P 10 13 22.8 +1.9**
NJ2 pmax pmax
comp=Z,9.0nm,1.0s
SHL Shillong 41.60 325 P **P 10 13 31.8 -0.2**
SHL IAmb IAmb 10 13 33.9
comp=Z,16nm,0.9s
JCJ Chichijima 43.04 34 P **P 10 13 41.9 -1.5**
TIA Tai'an 44.41 0 P **P 10 13 54.6 +0.3**
TIA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 45.25 328 P **P 10 14 01.2 -0.5**
LSA IAmb IAmb 10 14 04.6
comp=Z,5.9nm,0.7s
KSAR Wonju Array Be 46.80 12 P **P 10 14 11.6 -1.6**
KSRS Korea Array 46.82 12 P **P 10 14 12.8 -0.6**
comp=Z,3.0nm,1.0s,baz=191,slow=8.1,SNR=7.7
comp=Z,3.0nm,1.0s
JGF Kuroka 47.89 23 P **P 10 14 19.7 -2.2**
MAJO Matsushiro 49.05 23 P **P 10 14 29.2 -1.4**
MAJO IAmb IAmb 10 14 55.1
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 49.05 23 P **P 10 14 29.7 -1.0**
comp=Z,3.5nm,0.9s,baz=208,slow=7.7,SNR=6.6
comp=Z,3.5nm,0.9s
MJB9 Matsu-Tunnel 49.05 23 P **P 10 14 29.8 -0.9**
MJB9 IAmb IAmb 10 14 56.0
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 49.28 355 *e*P **P 10 14 33.2 +0.8**
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.1s
GTA Gaotai 50.15 343 *e*P **P 10 14 41.1 +2.0**
GTA sP pP 10 14 47.5 -2.0
GTA pmax pmax
comp=Z,6.0nm,1.2s
XLT XiLinHaoTe 52.09 359 *e*P **P 10 14 54.0 +0.4**
XLT S **S 10 22 21.9 +6.6**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,130nm,4.6s
MDJ Mudanjiang 54.05 11 P **P 10 15 08.1 +0.3**
MDJ Mudanjiang 54.05 11 P **P 10 15 08.2 +0.3**
MDJ pmax pmax
comp=Z,26nm,1.2s
USRK Ussuriysk Ar. 54.16 13 P **P 10 15 08.4 -0.3**
USRK Ussuriysk Ar. 54.16 13 P **P 10 15 08.9 +0.2**
comp=Z,7.7nm,0.8s,baz=196,slow=6.9,SNR=14
comp=Z,7.7nm,0.8s
BNX BinXian 54.76 9 ⇓P **P 10 15 14.4 +1.4**
BNX pmax pmax
comp=Z,5.0nm,1.6s
SONM Songino Array 56.78 352 P **P 10 15 27.6 -0.1**
SONM IAmb IAmb 10 15 29.0
comp=Z,3.2nm,0.9s
SONM Songino Array 56.78 352 P **P 10 15 28.1 +0.5**
comp=Z,2.1nm,0.8s,baz=170,slow=9.7,SNR=14
comp=Z,2.1nm,0.8s
WMQ Urumqi 58.33 336 *e*P **P 10 15 40.2 +1.6**
WMQ sP pP 10 15 50.5 +1.4
WMQ pmax pmax
comp=Z,18nm,0.7s
HEH HeiHe 59.17 8 *e*P **P 10 15 44.5 +0.3**
HEH pmax pmax
comp=Z,6.0nm,1.4s
KSH Kashi 60.88 325 P **P 10 15 57.4 +1.1**
KSH pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 62.99 334 P **P 10 16 10.5 +0.3**
MKAR Makanchi Array 62.99 334 P **P 10 16 09.2 -1.0**
MKAR Makanchi Array 62.99 334 P **P 10 16 09.4 -0.9**
comp=Z,2.0nm,0.8s,baz=146,slow=7.8,SNR=19
comp=Z,2.0nm,0.8s
ARSB Arslanbob 63.79 324 P **P 10 16 14.8 -1.0**
AAK Ala-Archa 63.80 326 P **P 10 16 15.5 -0.4**
AAK IAmb IAmb 10 16 18.2
comp=Z,2.7nm,0.9s
AAK Ala-Archa 63.80 326 P **P 10 16 16.0 +0.1**
comp=Z,1.4nm,0.7s,baz=199,slow=4.0,SNR=5.5
comp=Z,1.4nm,0.7s
KURBB Kurchatov Arra 67.52 335 P **P 10 16 39.3 -0.1**
comp=Z,0.2nm,0.3s,baz=64,slow=4.2,SNR=1.2
comp=Z,0.2nm,0.3s
ZAA0 Zalesovo Array 67.76 340 P **P 10 16 40.1 -0.8**
ZAA0 IAmb IAmb 10 16 53.4
comp=Z,2.2nm,0.9s
ZALV Zalesovo Beam 67.76 340 P **P 10 16 41.0 +0.1**
ZALV Zalesovo Beam 67.76 340 P **P 10 16 39.6 -1.3**
comp=Z,0.8nm,0.6s,baz=144,slow=5.2,SNR=3.9
comp=Z,0.8nm,0.6s
PETK Petropavlovsk- 70.45 25 P **P 10 16 56.8 -0.9**
comp=Z,7.9nm,1.0s,baz=256,slow=5.8,SNR=3.6
comp=Z,7.9nm,1.0s
BVAR Borovoye Array 72.80 333 P **P 10 17 10.9 -0.9**
comp=Z,1.1nm,0.8s,baz=147,slow=8.2,SNR=3.8
comp=Z,1.1nm,0.8s
ABKAR Akbulak array 75.87 326 P **P 10 17 28.3 -1.4**
SYO Syowa Base 77.60 201⇑ *e*PcP **PcP 10 17 49.4 +0.1**
UNV Unalaska Valle 88.99 35 P **P 10 18 37.9 -0.1**
AKASG Malin Array Be 94.93 320 PKiKP **PKiKP 10 23 47.0 -0.4**
comp=Z,0.4nm,0.3s,baz=17,slow=36,SNR=3.6
CPUP Villa Florida 144.98 189 PKPbc **PKPdf 10 25 21.7 +0.4**
comp=Z,3.5nm,0.8s,baz=130,slow=6.6,SNR=3.8

IDC 12 10:06:57.3±999.0, 45°.62N×38°.74E, h0km, Error ellipse: s-maj=6586.0km s-min=266.0km az=62.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**13.77**	**63**	I	I	11 29 10.0	
	0.2nm,0.6s,baz=258,slow=316,SNR=4.5						
I46RU	**ZALESOVO INFRA**	**30.42**	**57**	I	I	13 13 50.0	
	baz=274,slow=328,SNR=2.3						
I34MN	**SONGINO INFRAS**	**45.10**	**62**	I	I	14 41 40.0	
	baz=291,slow=336,SNR=0.5						

RSNC 12 10:17:46.7±0.0, 4°N±2°×7°1W±°, h-1km±2km, M3.1, mB4.8, mb3.6, ML2.8, MLv3.6, Mw(mB)4.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVC	**San Jose del G**	**1.85**	**225**	P	Pn	10 18 18.7	-1.0
GUVC				S	Sn	10 18 41.0	-2.8
VILC	**Villavicencio,**	**2.37**	**276**	P	Pn	10 18 26.3	-0.7
VILC				S	Sn	10 18 56.4	-0.5
CHIC	**Chingaza**	**2.51**	**288**	P	Pn	10 18 28.0	-1.2
CHIC				S	Sn	10 18 59.1	-1.6
TAMC	**Tame, Arauca**	**2.59**	**350**	P	Pn	10 18 29.6	-0.3
TAMC				S	Sn	10 19 02.4	+0.2
RUSC	**La Rusia**	**2.66**	**319**	P	Pn	10 18 30.9	-0.4
RUSC				S	Sn	10 19 04.4	-0.2
MACC	**Macarena, Meta**	**3.04**	**236**	P	Pn	10 18 35.2	-1.0
MACC				S	Sn	10 19 13.3	0.0
URMC	**La Uribe, Meta**	**3.10**	**259**	P	Pn	10 18 35.9	-1.2
URMC				S	Sn	10 19 14.4	-0.6
ROSC	**El Rosal**	**3.13**	**288**	P	Pn	10 18 36.2	-1.5
ROSC				S	Sn	10 19 16.1	0.0
BARC	**Barichara**	**3.27**	**326**	P	Pn	10 18 38.4	-1.1
BARC				S	Sn	10 19 17.9	-1.4
PRAC	**Prado**	**3.55**	**268**	P	Pn	10 18 43.3	+0.1
PRAC				S	Sn	10 19 26.1	+0.2
PAMC	**Pamplona, Colo**	**3.71**	**338**	P	Pn	10 18 44.8	-0.9
PAMC				S	Sn	10 19 27.3	-3.1
VMM09	**Lebrija**	**3.78**	**329**	P	Pn	10 18 45.7	-0.7
VMM09				S	Sn	10 19 29.4	-2.2
ORTC	**Ortega, Tolima**	**3.91**	**271**	P	Pn	10 18 47.4	-0.7
ORTC				S	Sn	10 19 35.3	+0.6
NORC	**Norcasia**	**3.91**	**296**	P	Pn	10 18 47.8	-0.3
NORC				S	Sn	10 19 32.9	-1.9
PTBC	**PUERTO BERRIO,**	**4.09**	**311**	P	Pn	10 18 49.0	-1.6
PTBC				S	Sn	10 19 39.1	-0.1
GUY2C	**Guyana, Caldas**	**4.24**	**289**	P	Pn	10 18 51.9	-1.2
GUY2C				S	Sn	10 19 42.0	-1.6
GARC	**Garzon, Huila**	**4.48**	**248**	P	Pn	10 18 54.9	-1.3
GARC				S	Sn	10 19 49.2	0.0
OCAC	**Ocana**	**4.77**	**336**	P	Pn	10 18 59.7	-0.3
OCAC				S	Sn	10 19 53.6	-2.6
FLOC	**Florencia**	**4.88**	**242**	P	Pn	10 19 01.4	0.0
FLOC				S	Sn	10 19 59.8	+1.1
YOTC	**Yotoco, Valle**	**5.00**	**271**	P	Pn	10 19 02.7	-0.6
	0.0nm2.8nm,0.6s						
YOTC				S	Sn	10 20 00.0	-1.9
	0.0nm2.8nm,0.6s						
ZARC	**Zaragoza, Cauc**	**5.03**	**316**	P	Pn	10 19 02.9	-0.6
	0.1nm5.6nm,1.8s						
ZARC				S	Sn	10 19 58.8	-3.5
	0.1nm5.6nm,1.8s						
PTLC	**Puerto Leguiza**	**5.05**	**223**	P	Pn	10 19 03.1	-0.7
	0.1nm187nm8.2nm,0.5s						
PTLC				S	Sn	10 20 04.0	+1.1
	0.1nm187nm8.2nm,0.5s						
AGCC	**Aguachica**	**5.13**	**334**	P	Pn	10 19 03.0	-1.9
	0.1nm751nm7.6nm,0.7s						
AGCC				S	Sn	10 20 00.8	-4.0
	0.1nm751nm7.6nm,0.7s						
JAMC	**Jamundi, Valle**	**5.37**	**263**	P	Pn	10 19 06.7	-1.7
	0.0nm967nm6.6nm,0.6s						
POPC	**Popayan, Colom**	**5.50**	**256**	P	Pn	10 19 09.3	-0.8
	2.0nm,0.7s						
POPC				S	Sn	10 20 15.1	+0.8
	2.0nm,0.7s						
UREC	**San Jos de Ur**	**5.69**	**313**	P	Pn	10 19 11.0	-1.5
	4.2nm,1.0s						
UREC				S	Sn	10 20 14.2	-4.4
	4.2nm,1.0s						
DBBC	**Dabeiba**	**5.78**	**303**	P	Pn	10 19 13.4	-0.4
DBBC				S	Sn	10 20 20.4	-0.5

---

*IDC **12** 10:32:39.2±1.7, 6°.09S×145°.18E, h108km±18km, mb3.9/13, mbtmp4.4/16, MS3.6/3, Error ellipse: s-maj=22.5km s-min=12.5km az=69.0*

*NEIC **12** 10:32:40.0±1.6, 6°.04S±0°.06×145°.00E±0°.06, h106km±8km, mb4.7/38, Error ellipse: s-maj=11.1km s-min=4.0km az=222.0*

*DJA **12** 10:32:43.9±1.3, 6°S±9°×14°5E±1°8, h101km±15km, M4.9/11, mb4.9/11, mB5.3/5, MLv5.1/5, Mw(mB)4.7/5*

ISC 12 10:32:38.9±0.4, 6°.04S±0°.05×145°.03E±0°.06, h100km, n94, σ1§23/90, mb4.5/26, 1C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**3.87**	**281**	P	**Pn**	**10 33 37.6**	**+1.2**
TABU	**Tabubil**	**3.87**	**281**	S	**Sn**	**10 34 23.0**	**+2.0**
PMG	**Port Moresby**	**3.95**	**148**	P	**Pn**	**10 33 37.3**	**-0.1**
	321nm,0.3s,baz=0.9,slow=6.3,SNR=338						
PMG				S	**Sn**	**10 34 21.3**	**-1.5**
	254nm,0.3s,baz=308,slow=24,SNR=11						
MANU	**Manus Island**	**4.61**	**30**	Pn	**Pn**	**10 33 47.7**	**+1.4**
JAY	**Jayapura**	**5.56**	**309**	P	**Pn**	**10 33 59.9**	**+0.6**
	51nm,0.6s,baz=154,slow=6.7,SNR=15						
JAY				S	**Sn**	**10 34 57.2**	**-4.8**
	60nm,0.7s,baz=275,slow=4.6,SNR=4.0						
JAY	**Jayapura**	**5.56**	**309**	P	**Pn**	**10 34 02.1**	**+2.8**
GENI	**Genyem**	**5.94**	**305**	P	Pn	10 34 09.5	+5.1
GENI	**Genyem**	**5.94**	**305**	P	**Pn**	**10 34 08.4**	**+4.0**
	0.9nm3μm205nm,0.9s						
RABL	**Rabaul**	**7.34**	**76**		**Pn**	**10 34 25.7**	**+2.3**
SMPI	**Sarmi**	**7.48**	**302**	P	**Pn**	**10 34 26.8**	**+1.4**
	0.5nm77nm,0.9s						
COEN	**Coen**	**8.07**	**193**	Pn	**Pn**	**10 34 34.3**	**+0.9**
COEN	**Coen**	**8.07**	**193**	P	**Pn**	**10 34 35.6**	**+2.1**
SRPI	**Serui, Papua**	**9.70**	**295**	P	**Pn**	**10 34 55.6**	**0.0**
	224nm,0.9s						
MTSU	**Mount Surprise**	**12.04**	**183**	P	**Pn**	**10 35 29.2**	**+2.0**
FAKI	**Fak Fak**	**13.12**	**283**	Pn	**Pn**	**10 35 41.4**	**0.0**
FAKI	**Fak Fak**	**13.12**	**283**	P	**Pn**	**10 35 42.2**	**+0.8**
	28nm,1.2s						
TV1H	**Townsville Har**	**13.25**	**173**	P	**P**	**10 35 46.6**	**-2.6**
SAUI	**Saumlaki**	**13.77**	**261**	Pn	**Pn**	**10 35 47.4**	**-2.6**
KDU	**Kakadu**	**14.04**	**241**	P	**Pn**	**10 35 53.7**	**+0.3**
SWI	**Sorong**	**14.68**	**290**	P	**Pn**	**10 36 02.0**	**+0.4**
MTN	**Manton Dam**	**15.28**	**243**	Pn	**Pn**	**10 36 09.3**	**0.0**
MTN				IAmb	IAmb	10 36 12.4	
	comp=Z,69nm,0.7s						
MTN	**Manton Dam**	**15.28**	**243**	P	**Pn**	**10 36 10.1**	**+0.8**
DRS	**Darwin Rock St**	**15.32**	**245**	P	**Pn**	**10 36 11.2**	**+1.4**
QIS	**Mount Isa**	**15.36**	**200**	P	**Pn**	**10 36 10.6**	**+0.3**
WB0	**Warramunga Arr**	**17.12**	**216**		**Pn**	**10 36 31.0**	**-1.1**
WB0				IAmb	IAmb	10 36 33.4	
	comp=Z,56nm,1.1s						
WR0	**Warramunga Arr**	**17.19**	**215**	P	**Pn**	**10 36 32.6**	**-0.3**
WR0				IAmb	IAmb	10 36 34.1	
	comp=Z,30nm,0.9s						
WB2	**Warramunga Arr**	**17.28**	**216**		**P**	**10 36 33.5**	**-0.5**
WB2				IAmb	IAmb	10 36 34.8	
	comp=Z,38nm,0.7s						
WRA	**Warramunga Arr**	**17.29**	**216**	P	**P**	**10 36 33.4**	**-0.7**
WRA	**Warramunga Arr**	**17.29**	**216**	P	**P**	**10 36 33.5**	**-0.5**
	comp=Z,26nm,0.6s,baz=40,slow=12,SNR=111						
KNRA	**Kununurra**	**18.61**	**238**		**P**	**10 36 48.8**	**+0.2**
EIDS	**Eidsvold**	**20.07**	**164**	P	**P**	**10 37 04.0**	**-0.4**
EIDS				IAmb	IAmb	10 37 47.0	
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**20.07**	**164**	P	Pn	10 37 06.9	-0.2
QLP	**Quilpie**	**20.44**	**182**	P	**P**	**10 37 10.2**	**+1.8**
AS01	**Alice Springs**	**20.51**	**210**	P	**P**	**10 37 09.3**	**+0.1**
AS31	**Alice Springs**	**20.53**	**210**	P	**P**	**10 37 09.2**	**-0.3**
ASAR	**Alice Springs**	**20.54**	**210**	P	**P**	**10 37 09.2**	**-0.3**
ASAR	**Alice Springs**	**20.54**	**210**	P	**P**	**10 37 09.1**	**-0.5**
	comp=Z,12nm,0.7s,baz=39,slow=9.5,SNR=110						
	comp=Z,12nm,0.7s						
SOEI	**Soe**	**20.89**	**259**	P	**P**	**10 37 14.2**	**+0.7**
SOEI				IAmb	IAmb	10 37 57.5	
	comp=Z,79nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.40**	**236**	P	**P**	**10 37 28.6**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.40**	**236**	LR	LR	10 47 05.4	
	comp=Z,111nm,20.2s,baz=44,slow=38						
FITZ	**Fitzroy Crossi**	**22.40**	**236**	P	**P**	**10 37 29.6**	**+0.3**
OOD	**Oodnadatta**	**23.38**	**201**	P	**P**	**10 37 38.6**	**-0.2**
WRKA	**Warakurna**	**24.78**	**219**	P	**P**	**10 37 50.1**	**-1.5**
ARMA	**Armidale**	**25.03**	**166**	P	**P**	**10 37 54.5**	**+0.6**
AUPHS	**Peel High Scho**	**25.52**	**168**	P	**P**	**10 38 00.8**	**+2.5**
STKA	**Stephens Creek**	**25.90**	**187**	P	**P**	**10 38 00.9**	**-0.7**
STKA	**Stephens Creek**	**25.90**	**187**	P	**P**	**10 38 00.8**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=0.9,slow=9.6,SNR=8.7						
	comp=Z,4.4nm,0.7s						
MBWA	**Marble Bar**	**28.75**	**236**	P	**P**	**10 38 26.2**	**-1.1**
MBWA				IAmb	IAmb	10 38 59.3	
	comp=Z,20nm,1.3s						
PSA00	**Pilbara Seismi**	**28.85**	**235**	P	**P**	**10 38 28.3**	**+0.2**
GIRL	**Giralia**	**33.98**	**238**	P	**P**	**10 39 13.6**	**+0.4**
MORW	**Morawa**	**35.70**	**227**	P	**P**	**10 39 26.6**	**-1.3**
MORW				IAmb	IAmb	10 40 04.1	
	comp=Z,27nm,1.4s						
LEM	**Lembang**	**37.18**	**267**	LR	LR	10 57 54.3	
	comp=Z,41nm,18.2s,baz=276,slow=41						
NWAO	**Narrogin (SRO)**	**37.21**	**220**	LR	LR	10 56 50.9	
	comp=Z,211nm,19.5s,baz=206,slow=39						
NACB	**Ninganchiao**	**37.74**	**324**	P	**P**	**10 39 44.5**	**-0.8**
YHNB	**Yeheng**	**38.25**	**324**	P	**P**	**10 39 49.5**	**0.0**
KNMB	**Chin-men Tao**	**39.92**	**320**	P	**P**	**10 40 04.1**	**+0.7**
JMN	**Monobe**	**40.94**	**346**	P	**P**	**10 40 12.5**	**+0.8**
MRNZ	**Matariki Terra**	**43.01**	**149**	P	**P**	**10 40 28.3**	**-0.2**
THZ	**Tophouse**	**43.35**	**149**	P	**P**	**10 40 32.0**	**+0.7**
THZ				IAmb	IAmb	10 40 57.2	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**46.12**	**341**	P	**P**	**10 40 53.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=153,slow=9.9,SNR=5.1						
	comp=Z,0.9nm,0.6s						
JTM	**Tenmabayashi**	**46.74**	**356**	P	**P**	**10 40 56.8**	**-1.2**
PHRA	**Phrae**	**50.46**	**300**	P	**P**	**10 41 26.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**51.38**	**348**	P	**P**	**10 41 33.7**	**+0.4**
USA0B				IAmb	IAmb	10 41 45.0	
	comp=Z,18nm,1.4s						
USRK	**Ussuriysk Ar.**	**51.38**	**348**	P	**P**	**10 41 34.0**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=163,slow=7.0,SNR=6.2						
	comp=Z,2.0nm,0.6s						
CM31	**Chiang Mai Arr**	**51.55**	**299**	P	**P**	**10 41 35.7**	**+0.6**
CM31				IAmb	IAmb	10 42 17.2	
	comp=Z,5.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.55**	**299**	P	**P**	**10 41 35.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**51.55**	**299**	P	**P**	**10 41 36.8**	**+1.7**
	comp=Z,2.8nm,0.7s,baz=122,slow=5.9,SNR=18						
	comp=Z,2.8nm,0.7s						
CHTO	**Chiang Mai**	**51.70**	**300**	P	**P**	**10 41 36.5**	**+0.3**
CHTO				IAmb	IAmb	10 41 38.1	
	comp=Z,3.8nm,0.9s						
PETK	**Petropavlovsk-**	**59.90**	**9**	P	**P**	**10 42 33.9**	**-0.3**
PETK	**Petropavlovsk-**	**59.90**	**9**	P	**P**	**10 42 34.0**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=181,slow=10,SNR=4.6						
	comp=Z,4.9nm,0.7s						
KIP	**Kipapa**	**62.14**	**62**	P	**P**	**10 42 50.2**	**+0.3**
SONM	**Songino Array**	**63.51**	**332**	P	**P**	**10 42 58.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=160,slow=8.3,SNR=5.4						
	comp=Z,0.4nm,0.3s						
MA2	**Magadan**	**65.57**	**3**	P	**P**	**10 43 12.0**	**+0.4**
MA2				IAmb	IAmb	10 43 12.3	
	comp=Z,6.4nm,0.7s						
MK31	**Makanchi Array**	**76.29**	**321**	P	**P**	**10 44 17.3**	**+0.4**
MKAR	**Makanchi Array**	**76.29**	**321**	P	**P**	**10 44 16.9**	**0.0**
MKAR	**Makanchi Array**	**76.29**	**321**	P	**P**	**10 44 17.6**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=99,slow=7.8,SNR=23						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**76.50**	**321**	P	**P**	**10 44 18.8**	**+0.8**
ZALV	**Zalesovo Beam**	**78.02**	**328**	P	**P**	**10 44 25.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=104,slow=6.3,SNR=8.2						
	comp=Z,1.6nm,0.5s						
KURK	**Kurchatov**	**80.08**	**324**	P	**P**	**10 44 37.8**	**+0.2**
KURK				IAmb	IAmb	10 45 17.6	
	comp=Z,7.0nm,1.1s						
KURBB	**Kurchatov Arra**	**80.10**	**324**	P	**P**	**10 44 37.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=112,slow=4.3,SNR=9.9						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**10 44 57.1**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=274,slow=1.0,SNR=16						
	comp=Z,3.2nm,0.5s						
BVAR	**Borovoye Array**	**85.66**	**324**	P	**P**	**10 45 06.6**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=114,slow=7.0,SNR=6.0						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**86.30**	**23**	P	**P**	**10 45 07.5**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=252,slow=4.9,SNR=44						
	comp=Z,1.5nm,0.6s						
J25K	**Salcha River,**	**86.84**	**24**	P	**P**	**10 45 10.8**	**-1.2**
J25K				IAmb	IAmb	10 45 15.8	
	comp=Z,7.8n

*SJA **12** 10:34:47.0, 30.°18S×71.°47W, h10km, ML2.7*
ISC 12 10:34:47.0±2.1, 30.°23S±0.°04×71.°30W±0.°05, h2km±16km, n18, σ1°83/23, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.32**	**10**	*eP*	**Pn**	**10 34 58.3**	**-0.4**
CO05				*eS*	**Sb**	**10 35 05.8**	**+4.8**
CO05				IAML		10 35 06.2	
	comp=E,189nm,0.3s						
GO04	**Tololo Observa**	**0.44**	**82**	*i* P	**Pn**	**10 34 59.4**	**-1.2**
GO04	**Tololo Observa**	**0.44**	**82**	*eP*	**Pn**	**10 34 59.9**	**-0.7**
GO04				*eS*	**Sb**	**10 35 08.9**	**+4.1**
GO04				IAML		10 35 10.9	
	comp=E,868nm,0.1s						
CO06	**Fray Jorge**	**0.52**	**213**	*eP*	**Pn**	**10 35 01.0**	**-0.6**
CO06				*i* S	**Sn**	**10 35 10.3**	**-0.8**
CO03	**El Pedregal**	**0.80**	**139**	*i* P	**Pb**	**10 35 03.7**	**-0.1**
CO03	**El Pedregal**	**0.80**	**139**	*eP*	**Pn**	**10 35 04.4**	**-1.1**
CO03				*eS*	**Sn**	**10 35 16.3**	**-1.8**
CO03				IAML		10 35 16.7	
	comp=N,265nm,0.1s						
CO01	**Juntas del Tor**	**1.08**	**77**	*i* P	**Pg**	**10 35 07.8**	**0.0**
CO01	**Juntas del Tor**	**1.08**	**77**	*eP*	**Pb**	**10 35 08.4**	**-0.2**
CO01				*eS*	**Sb**	**10 35 23.1**	**-0.1**
CO01				IAML		10 35 23.7	
	comp=E,72nm,0.3s						
LCO	**Las Campanas**	**1.33**	**23**	*i* P	**Pn**	**10 35 10.6**	**-2.3**
AROD	**Rodeo**	**1.59**	**88**	*i* P	**Pn**	**10 35 16.9**	**-0.4**
ACCO	**Cerro Coronel**	**1.96**	**101**	*i* P	**Pb**	**10 35 23.3**	**-0.5**
AC04	**Llanos de Chal**	**2.03**	**6**	*i* P	**Pn**	**10 35 20.7**	**-1.6**
RTLS	**Leoncito**	**2.32**	**133**	*i* P	**Pb**	**10 35 28.6**	**-1.3**
AGUA	**GUANDACOL**	**2.55**	**74**	*i* P	**Pb**	**10 35 31.9**	**-1.8**
VA03	**San Esteban**	**2.60**	**166**	*i* P	**Pn**	**10 35 31.8**	**+1.5**
VCA	**Vinchina**	**3.08**	**62**	*i* P	**Pn**	**10 35 38.0**	**+1.0**
AC02	**Maricunga**	**3.89**	**30**	*i* P	**Pn**	**10 35 48.0**	**-0.3**
APLL	**PUNTA DE LOS L**	**4.13**	**93**	*i* P	**Pn**	**10 35 51.2**	**0.0**

*IDC **12** 10:41:02.3±2.3, 14.°67N×92.°38W, h77km±16km, mb3.2/3, mbtmp3.6/7, Error ellipse: s-maj=49.9km s-min=12.9km az=35.0*
*GCG **12** 10:41:02.3±1.3, 14.°65N×92.°53W, h70km±12km, MD4.5, MW3.6, Hypocentre not reviewed by the ISC*
*MEX **12** 10:41:03.8±0.8, 14.°58N×92.°61W, h67km±19km, MD4.4*
*SNET **12** 10:41:05.0±0.9, 14.°81N×92.°26W, h89km±48km, ML4.6*
*UCR **12** 10:41:06.7±0.6, 14.°57N×92.°12W, h12km±999km, MW3.6*
*CATAC **12** 10:41:30.7±2.2, 14.°N±11.°×9.°1W±1.°5, h5km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=33.7km s-min=20.5km az=117.9*
ISC 12 10:41:02.5±0.8, 14.°67N±0.°06×92.°56W±0.°04, h73km±8km, n98, σ2°61/139, mb3.5/3, 2C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.37**	**50**	*eP*	**Pn**	**10 41 14.1**	**-0.5**
THIG				*eS*	**Sn**	**10 41 22.8**	**-0.5**
THIG		**0.37**	**50**	*eP*	**Pn**	**10 41 14.0**	**-0.5**
THIG				*eS*	**Sn**	**10 41 22.9**	**-0.5**
THIG		**0.37**	**50**	*eP*		10 41 14.0	
THIG				*eS*		10 41 22.8	
SOKI	**Kika Raxquin**	**1.13**	**82**	*eP*		10 41 23.9	
PCIG		**1.21**	**328**	*eP*	**Pn**	**10 41 24.3**	**+0.5**
PCIG				*eS*	**Sn**	**10 41 39.8**	**0.0**
PCIG		**1.21**	**328**	*eP*	**Pn**	**10 41 24.3**	**+0.5**
PCIG				*eS*	**Sn**	**10 41 37.9**	**-1.9**
QUIS	**Sacapulas**	**1.55**	**66**	*eP*		10 41 29.0	
CCIG	**Comitan**	**1.65**	**14**	*eP*	**Pn**	**10 41 30.9**	**+1.1**
CCIG				*eS*	**Sn**	**10 41 52.5**	**+2.1**
CCIG	**Comitan**	**1.65**	**14**	*eP*	**Pn**	**10 41 30.5**	**+0.7**
CCIG				*eS*	**Sn**	**10 41 53.3**	**+2.9**
CCIG	**Comitan**	**1.65**	**14**	*eP*		10 41 30.8	
ESSG	**Sabana Grande**	**1.70**	**99**	*eP*		10 41 30.1	
CARR	**Arriaga**	**2.04**	**320**	*eP*	**Pn**	**10 41 36.6**	**+1.8**
CARR				*eS*	**Sn**	**10 42 01.5**	**+2.1**
CARR	**Arriaga**	**2.04**	**320**	*eP*	**Pn**	**10 41 36.5**	**+1.8**
CARR				*eS*	**Sn**	**10 42 01.9**	**+2.5**
TGBT	**Tuxtla Gutierr**	**2.16**	**346**	*eP*	**Pn**	**10 41 37.5**	**+1.1**
TGBT				*eS*	**Sn**	**10 42 01.5**	**-0.6**
TGIG		**2.17**	**346**	*eP*	**Pn**	**10 41 36.0**	**-0.5**
TGIG				*eS*	**Sn**	**10 42 02.1**	**-0.4**
TGIG		**2.17**	**346**	*eP*	**Pn**	**10 41 36.1**	**-0.5**
TGIG		**2.17**	**346**	*eP*		10 41 36.1	
AVCB	**Coban**	**2.23**	**69**	*eP*		10 41 38.4	
NILT	**Santiago Nilte**	**2.74**	**314**	*eP*	**Pn**	**10 41 45.5**	**+1.4**
NILT				*eS*	**Sn**	**10 42 17.1**	**+0.9**
NILT	**Santiago Nilte**	**2.74**	**314**	*eP*	**Pn**	**10 41 45.5**	**+1.4**
NILT				*eS*	**Sn**	**10 42 16.5**	**+0.3**
SLOZ	**Alcaldia de Sa**	**2.76**	**103**	*eP*	**Pn**	**10 41 44.4**	**-0.2**
SLOZ				*eS*	**Sn**	**10 42 16.1**	**-0.9**
LOAL	**Lomas de Alarc**	**2.77**	**104**	*eP*	**Pn**	**10 41 45.1**	**+0.4**
LOAL				*eS*	**Sn**	**10 42 15.9**	**-1.3**
LOAL	**Lomas de Alarc**	**2.77**	**104**	P	**Pn**	**10 41 45.5**	**+0.8**
NUBE	**Las Nubes**	**2.80**	**105**	*eP*	**Pn**	**10 41 45.4**	**+0.2**
NUBE				*eS*	**Sn**	**10 42 16.2**	**-1.8**
NUBE	**Las Nubes**	**2.80**	**105**	P	**Pn**	**10 41 45.5**	**+0.3**
NUBE	**Las Nubes**	**2.80**	**105**	*eP*		10 41 45.4	
NUBE				*eS*		10 42 16.7	
SBLS	**San Blas**	**2.96**	**106**	*eP*	**Pn**	**10 41 47.8**	**+0.3**
CEVE	**Cerro Verde**	**2.96**	**106**	*eP*	**Pn**	**10 41 47.8**	**+0.3**
CEVE				IAML		10 42 40.4	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**2.96**	**106**	P	**Pn**	**10 41 48.1**	**+0.6**
SNJE	**San Jose**	**2.97**	**105**	*eP*	**Pn**	**10 41 47.9**	**+0.3**
UNIC	**Universidad Ca**	**3.00**	**103**	P	**Pn**	**10 41 50.1**	**+2.4**
UXUV	**UXUV**	**3.04**	**330**	*eP*	**Pn**	**10 41 49.7**	**+1.3**
UXUV				*eS*	**Sn**	**10 42 25.5**	**+1.8**
UXUV	**UXUV**	**3.04**	**330**	*eP*	**Pn**	**10 41 49.5**	**+1.2**
MTO3	**Montecristo**	**3.11**	**95**	*eP*	**Pn**	**10 41 49.2**	**-0.2**
MTO3	**Montecristo**	**3.11**	**95**	P	**Pn**	**10 41 53.1**	**+3.7**
MTO3	**Montecristo**	**3.11**	**95**	*eP*		10 41 49.4	
JAYA	**Jayaque - finc**	**3.18**	**108**	*eP*	**Pn**	**10 41 50.5**	**+0.1**
JAYA				*eS*	**Sn**	**10 42 25.8**	**-1.5**
JAYA				IAML		10 42 36.2	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**3.18**	**108**	P	**Pn**	**10 41 51.6**	**+1.3**
JAYA	**Jayaque - finc**	**3.18**	**108**	*eP*		10 41 50.7	
JAYA				*eS*		10 42 25.1	
CMIG	**Matias Romero**	**3.29**	**317**	P	**Pn**	**10 41 52.6**	**+1.0**
	comp=Z,62nm,0.3s,baz=133,slow=10,SNR=124						
CMIG				S	**Sn**	**10 42 32.9**	**+3.3**
	comp=Z,184nm,0.3s,baz=10,slow=13,SNR=9.7						
CMIG	**Matias Romero**	**3.29**	**317**	*eP*	**Pn**	**10 41 52.5**	**+0.8**
CMIG				*eS*	**Sn**	**10 42 31.9**	**+2.2**
CMIG	**Matias Romero**	**3.29**	**317**	*eP*	**Pn**	**10 41 52.7**	**+1.0**
PMON	**Piamonte**	**3.29**	**106**	*eP*	**Pn**	**10 41 52.2**	**+0.5**
PMON				*eS*	**Sn**	**10 42 28.4**	**-1.4**
PMON	**Piamonte**	**3.29**	**106**	P	**Pn**	**10 41 53.4**	**+1.7**
VHSA	**Villahermosa**	**3.31**	**354**	*eP*	**Pn**	**10 41 52.1**	**+0.1**
VHSA				*eS*	**Sn**	**10 42 31.7**	**+1.4**
LALI	**Alcalda de L**	**3.35**	**110**	*eP*	**Pn**	**10 41 52.5**	**0.0**
LALI	**Alcalda de L**	**3.35**	**110**	P	**Pn**	**10 41 54.0**	**+1.4**
LALI	**Alcalda de L**	**3.35**	**110**	*eP*		10 41 52.5	
LALI				*eS*		10 42 27.9	
UEES	**Universidad Ev**	**3.35**	**106**	P	**Pn**	**10 41 55.0**	**+2.3**
LOMA	**Loma Larga**	**3.44**	**107**	*eP*	**Pn**	**10 41 55.0**	**+1.1**
LOMA	**Loma Larga**	**3.44**	**107**	P	**Pn**	**10 41 55.8**	**+2.0**
LFRS	**El Faro**	**3.55**	**107**	*eP*	**Pn**	**10 41 55.8**	**+0.5**
HUIG	**Huatulco**	**3.60**	**288**	*eP*	**Pn**	**10 41 56.1**	**+0.2**
HUIG				*eS*	**Sn**	**10 42 32.9**	**-4.3**
HUIG	**Huatulco**	**3.60**	**288**	*eP*	**Pn**	**10 41 56.0**	**+0.2**
HUIG				*eS*	**Sn**	**10 42 32.4**	**-4.9**
HUIG	**Huatulco**	**3.60**	**288**	*eP*		10 41 56.0	
PAVA	**Las Pavas**	**3.64**	**105**	*eP*	**Pn**	**10 41 57.1**	**+0.6**
PAVA	**Las Pavas**	**3.64**	**105**	P	**Pn**	**10 41 59.4**	**+2.8**
COEG	**Centro de Oper**	**3.72**	**106**	*eP*	**Pn**	**10 41 57.6**	**0.0**
COEG				*eS*	**Sn**	**10 42 38.9**	**-1.3**
COEG				IAML		10 42 56.9	
	comp=Z,781nm,0.5s						
COEG	**Centro de Oper**	**3.72**	**106**	P	**Pn**	**10 42 00.5**	**+2.9**
SCLA	**Alcaldia de Sa**	**3.84**	**104**	P	**Pn**	**10 42 03.3**	**+4.1**
PQSS	**Presa 15 de Se**	**4.01**	**105**	P	Pn	10 42 06.6	+5.1
PACA	**Pacayal**	**4.28**	**106**	P	Pn	10 42 10.7	+5.4
NEUV	**Arroyo Zacate**	**4.34**	**315**	*eP*	**Pn**	**10 42 06.9**	**+0.8**
NEUV				*eS*	**Sn**	**10 42 55.5**	**0.0**
NEUV	**Arroyo Zacate**	**4.34**	**315**	*eP*	**Pn**	**10 42 06.9**	**+0.8**
PEIG	**Puerto Escondi**	**4.62**	**287**	*eP*	**Pn**	**10 42 10.4**	**+0.6**
NISHN	**Nisperales Com**	**4.64**	**76**	*eP*		10 42 09.4	
VHO	**Vista Hermosa**	**4.67**	**301**	*eP*	**Pn**	**10 42 10.4**	**-0.4**
VHO				*eS*	**Sn**	**10 43 04.7**	**+0.8**
LCND	**La Caada**	**4.73**	**106**	P	**Pn**	**10 42 15.2**	**+3.8**
CNCH	**Conchagua**	**4.79**	**106**	*eP*	**Pn**	**10 42 13.4**	**+1.1**
CNCH	**Conchagua**	**4.79**	**106**	P	**Pn**	**10 42 15.6**	**+3.3**
YOIG	**Yosondua**	**5.27**	**295**	*eP*	**Pn**	**10 42 22.1**	**+3.2**
TOIG	**Toxpalan**	**5.51**	**309**	*eP*	**Pn**	**10 42 24.9**	**+2.9**
TOIG				*eS*	**Sn**	**10 43 26.0**	**+2.0**
TXIG	**Tlaxiaco**	**5.63**	**298**	*eP*	**Pn**	**10 42 27.2**	**+3.3**
PNIG	**Pinotepa**	**5.63**	**288**	*eP*	**Pn**	**10 42 25.0**	**+1.3**
PKGN	**Cerro Pekin**	**5.78**	**109**	P	**Pn**	**10 42 27.8**	**+2.1**
TPIG	**Tehuac#an**	**5.93**	**310**	*eP*	**Pn**	**10 42 29.1**	**+1.3**
TPIG				*eS*	**Sn**	**10 43 26.2**	**-8.3**
HLIG	**Huajuapan de L**	**5.94**	**303**	*eP*	**Pn**	**10 42 31.5**	**+3.4**
HLIG				*eS*	**Sn**	**10 43 35.8**	**+1.0**
HLIG	**Huajuapan de L**	**5.94**	**303**	*eP*	**Pn**	**10 42 31.7**	**+3.7**
JAUV	**Jalcomulco**	**6.19**	**320**	*eP*	**Pn**	**10 42 30.2**	**-1.1**
JAUV				*eS*	**Sn**	**10 43 36.7**	**-4.0**
LVIG	**Laguna Verde**	**6.23**	**324**	*eP*	**Pn**	**10 42 30.4**	**-1.5**
LVIG				*eS*	**Sn**	**10 43 34.2**	**-7.5**
FTIG	**Fresnillo de T**	**6.25**	**302**	*eP*	**Pn**	**10 42 35.7**	**+3.5**
FTIG				*eS*	**Sn**	**10 43 41.0**	**-1.3**
POHV	**Veracruz**	**6.29**	**315**	*eP*	**Pn**	**10 42 35.1**	**+2.0**
COPN	**Copaltepe**	**6.31**	**112**	P	**Pn**	**10 42 33.6**	**+0.7**
MGIG	**Malinaltepec**	**6.38**	**294**	*eP*	**Pn**	**10 42 36.8**	**+2.8**
MGIG				*eS*	**Sn**	**10 43 46.5**	**+1.0**
TLIG	**Tlapa**	**6.45**	**297**	*eP*	**Pn**	**10 42 38.2**	**+3.2**
TLIG				*eS*	**Sn**	**10 43 44.5**	**-2.8**
TEIG	**Tepich**	**6.87**	**36**	P	**Pn**	**10 42 39.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=52,slow=20,SNR=118						
TEIG				S	**Sn**	**10 43 51.4**	**-6.0**
	comp=Z,0.3nm,0.4s,baz=211,slow=24,SNR=12						
PBCV	**Popocatepetl**	**7.17**	**308**	*eP*	Pn	10 42 51.2	+6.2
PBCV				*eS*	**Sn**	**10 44 10.2**	**+5.0**
DAIG	**Los Arroyos**	**7.21**	**290**	*eP*	**Pn**	**10 42 47.5**	**+2.2**
DAIG				*eS*	**Sn**	**10 44 04.1**	**-1.8**
PBXN	**Popocatepetl**	**7.26**	**307**	*eP*	Pn	10 42 51.6	+5.2
PBXN				*eP*		10 42 54.0	
PBXN				*eS*	**Sn**	**10 44 03.3**	**-4.4**
PBXN				*eS*		10 44 07.0	
PPM	**Popocatepetl**	**7.27**	**308**	*eP*	Pn	10 42 52.0	+5.4
PPM				*eS*	**Sn**	**10 44 00.5**	**-7.4**
CXUV	**Coxquihui**	**7.28**	**319**	*eP*	**Pn**	**10 42 46.5**	**+0.3**
CXUV				*eS*	**Sn**	**10 44 04.3**	**-3.1**
YAIG	**Yautepec**	**7.50**	**305**	*eP*	**Pn**	**10 42 53.2**	**+3.9**
YAIG				*eS*	**Sn**	**10 44 12.6**	**-0.4**
PLIG	**Platanillo**	**7.62**	**300**	*eP*	**Pn**	**10 42 53.9**	**+2.9**
PLIG				*eS*	**Sn**	**10 44 07.9**	**-7.9**
LCRUZ	**La Cruz**	**7.64**	**117**	*eP*	**Pn**	**10 42 52.5**	**+1.3**
CAIG	**El Cayaco**	**7.79**	**289**	*eP*	**Pn**	**10 42 55.3**	**+2.2**
CAIG				*eS*	**Sn**	**10 44 12.9**	**-6.9**
CAIG	**El Cayaco**	**7.79**	**289**	*eP*	**Pn**	**10 42 55.5**	**+2.4**
PLVR	**Palo Verde**	**8.24**	**121**	*eP*	**Pn**	**10 43 01.3**	**+1.8**
PLVR				*eS*	**Sn**	**10 44 29.9**	**-1.4**
ARIG	**Puente Sto Nin**	**8.29**	**297**	*eP*	**Pn**	**10 43 03.7**	**+3.7**
ARIG				*eS*	**Sn**	**10 44 30.2**	**-2.0**
ARIG	**Puente Sto Nin**	**8.29**	**297**	*eP*	**Pn**	**10 43 04.0**	**+4.0**
DEIG	**Demacu**	**8.34**	**313**	*eP*	**Pn**	**10 43 03.2**	**+2.4**
JTS	**Las Juntas de**	**8.61**	**120**	P	**Pn**	**10 43 02.0**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=286,slow=7.4,SNR=12						
JTS				S	**Sn**	**10 44 37.4**	**-2.5**
	comp=Z,2.3nm,0.4s,baz=270,slow=15,SNR=1.2						
JTS	**Las Juntas de**	**8.61**	**120**	*eP*	**Pn**	**10 43 05.6**	**+1.2**
CTUV	**Llano Grande**	**8.72**	**322**	*eS*	**Sn**	**10 44 34.9**	**-7.9**
ZIIG	**Zihuatanejo**	**9.04**	**290**	*eP*	**Pn**	**10 43 11.6**	**+1.3**
LCR2	**La Lucha 2**	**9.69**	**119**	*eP*	**Pn**	**10 43 21.8**	**+2.5**
EDPE	**Pejibaye, P**	**10.36**	**121**	*eP*	**Pn**	**10 43 30.3**	**+2.0**
TXAR	**Lajitas Array**	**17.84**	**327**	P	**Pn**	**10 45 07.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=144,slow=13,SNR=11						
NVAR	**Mina Array Bea**	**32.81**	**321**	P	**P**	**10 47 30.3**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=133,slow=6.6,SNR=4.1						
	comp=Z,0.6nm,0.7s						
YKA	**Yellowknife Ar**	**50.25**	**347**	P	**P**	**10 49 50.2**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=143,slow=8.8,SNR=7.3						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**62.01**	**337**	P	**P**	**10 51 14.7**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=131,slow=5.4,SNR=14						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.19**	**341**	PKPbc	**PKPbc**	**11 00 30.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=338,slow=3.0,SNR=7.0						

*NEIC **12** 10:46:39.1±2.1, 18.°2S±0.°1×177.°8W±0.°1, h612km±10km, mb4.4/28, Error ellipse: s-maj=18.9km s-min=15.8km az=174.0*
*IDC **12** 10:46:40.2±1.1, 18.°24S×178.°00W, h613km±11km, mb3.3/14, mbtmp4.2/16, Error ellipse: s-maj=17.6km s-min=13.8km az=123.0*
ISC 12 10:46:38.0±0.5, 18.°22S±0.°09×177.°87W±0.°09, h590km, n54, σ1°19/57, mb4.3/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.89**	**356**	P	**P**	**10 48 04.2**	**+2.1**
MSVF	**Nonsavu**	**3.91**	**276**	P	**P**	**10 48 05.8**	**+3.6**
	89nm,0.6s,baz=129,slow=3.7,SNR=67						
MSVF				S	**S**	**10 49 15.5**	**+4.6**
	14nm,0.9s,baz=126,slow=21,SNR=6.9						
AFI	**Afiamalu**	**7.25**	**55**	P	**P**	**10 48 31.0**	**+0.8**
RAO	**Raoul Island**	**10.99**	**180**	P	**P**	**10 49 07.2**	**+0.8**
PINNC	**Pines Island,**	**14.44**	**250**	P	**P**	**10 49 41.1**	**-0.2**
DZM	**Mont Dzumac**	**15.22**	**253**	P	**P**	**10 49 49.1**	**+0.4**
DZM				IAmb	IAmb	10 49 49.1	
	comp=Z,45nm,1.4s						
DZM	**Mont Dzumac**	**15.22**	**253**	P	**P**	**10 49 48.8**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=82,slow=14,SNR=8.4						
URZ	**Urewera**	**20.45**	**191**	P	**P**	**10 50 35.2**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=311,slow=15						
	comp=Z,5.0nm,0.8s						
HNR	**Honiara**	**23.22**	**289**	P	**P**	**10 51 00.4**	**-0.7**
HNR	**Honiara**	**23.22**	**289**	P	**P**	**10 51 00.9**	**-0.3**
	comp=Z,159nm,0.7s,baz=51,slow=13,SNR=8.1						
THZ	**Tophouse**	**24.76**	**197**	P	**P**	**10 51 14.6**	**+0.2**
THZ				IAmb	IAmb	10 51 33.8	
	comp=Z,23nm,1.2s						
KHZ	**Kahutara**	**25.21**	**195**	P	**P**	**10 51 17.4**	**-0.9**
FOZ	**Fox Glacier**	**27.30**	**200**	P	**P**	**10 51 36.0**	**-0.6**
TOO	**Toolangi**	**37.38**	**231**	P	**P**	**10 53 02.0**	**+0.1**
TOO				IAmb	IAmb	10 53 22.3	
	comp=Z,11nm,1.2s						
COEN	**Coen**	**37.62**	**271**	P	**P**	**10 53 04.0**	**-0.3**
STKA	**Stephens Creek**	**38.93**	**242**	P	**P**	**10 53 14.5**	**-0.1**
STKA				IAmb	IAmb	10 53 15.4	
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**38.93**	**242**	P	**P**	**10 53 14.8**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=86,slow=9.5,SNR=9.3						
	comp=Z,5.0nm,0.7s						
BBOO	**Buckleboo**	**43.71**	**241**	P	**P**	**10 53 52.3**	**+0.1**
WRAB	**Tennant Creek**	**45.07**	**260**	P	**P**	**10 54 02.0**	**-0.9**
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**10 54 01.6**	**-1.4**
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**10 54 02.1**	**-0.8**
	comp=Z,2.5nm,0.4s,baz=97,slow=6.7,SNR=121						
WRA				PcP	**PcP**	**10 55 30.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=96,slow=3.7,SNR=1.8						
	comp=Z,2.5nm,0.4s						
AS31	**Alice Springs**	**45.20**	**255**	P	**P**	**10 54 03.4**	**-0.4**
AS31				IAmb	IAmb	10 54 04.7	
	comp=Z,3.4nm,0.4s						
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**10 54 02.7**	**-1.1**
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**10 54 03.6**	**-0.2**
	comp=Z,4.9nm,0.4s,baz=91,slow=7.8,SNR=86						
ASAR				PcP	**PcP**	**10 55 30.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=99,slow=4.0,SNR=6.9						
	comp=Z,4.9nm,0.4s						
MTN	**Manton Dam**	**49.30**	**269**	P	**P**	**10 54 33.4**	**-1.2**
MTN				IAmb	IAmb	10 54 41.2	
	comp=Z,23nm,1.2s						
KNRA	**Kununurra**	**50.97**	**264**	P	**P**	**10 54 46.2**	**-0.5**
KNRA				IAmb	IAmb	10 54 58.7	
	comp=Z,19nm,1.1s						
MBWA	**Marble Bar**	**58.50**	**256**	P	**P**	**10 55 37.8**	**-1.4**
MJAR	**Matsushiro Arr**	**68.46**	**323**	P	**P**	**10 56 42.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=161,slow=5.9,SNR=3.8						
	comp=Z,1.3nm,0.5s						
UGM	**Wanagama**	**70.15**	**268**	P	**P**	**10 56 51.6**	**-1.2**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**10 57 03.2**	**+1.3**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**10 57 02.8**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=147,slow=1.0,SNR=9.6						
	comp=Z,1.3nm,0.5s						
PETK	**Petropavlovsk-**	**74.11**	**345**	P	**P**	**10 57 15.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=106,slow=11,SNR=2.2						
	comp=Z,2.2nm,0.7s						
NVAR	**Mina Array Bea**	**79.29**	**44**	P	**P**	**10 57 44.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.2,SNR=5.8						
	comp=Z,0.8nm,0.7s						
O18K	**Koktuh Hills**	**79.95**	**11**	P	**P**	**10 57 45.1**	**-1.2**
O18K				IAmb	IAmb	10 58 17.1	
	comp=Z,25nm,1.4s						
M16K	**Timber Creek**	**80.42**	**9**	P	**P**	**10 57 49.0**	**+0.4**
M16K				IAmb	IAmb	10 57 59.2	
	comp=Z,28nm,1.4s						
M17K	**Holitna River**	**81.01**	**10**	P	**P**	**10 57 52.0**	**+0.2**
M17K				IAmb	IAmb	10 58 03.8	
	comp=Z,26nm,1.4s						
K15K	**Wolf Creek Mou**	**81.28**	**8**	P	**P**	**10 57 53.1**	**0.0**
SLKM	**Skilak Lake**	**81.57**	**13**	P	**P**	**10 57 53.8**	**-0.9**
SLKM				IAmb	IAmb	10 57 54.9	
	comp=Z,8.7nm,0.9s						
L18K	**Granite Mounta**	**81.91**	**10**	P	**P**	**10 57 56.6**	**+0.4**
L18K				IAmb	IAmb	10 57 57.6	
	comp=Z,16nm,1.2s						
STLK	**Strandline Lak**	**82.12**	**12**	P	**P**	**10 57 55.1**	**-2.4**
SUA	**Susitna One**	**82.32**	**13**	P	**P**	**10 57 57.7**	**-0.8**
CAST	**Castle Rocks**	**83.83**	**11**	P	**P**	**10 58 04.3**	**-1.6**
TRF	**Thorofare Moun**	**84.20**	**12**	P	**P**	**10 58 06.8**	**-1.1**
TRF				IAmb	IAmb	10 58 08.3	
	comp=Z,6.5nm,0.7s						
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**10 58 17.8**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=216,slow=6.3,SNR=13						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**86.07**	**13**	P	**P**	**10 58 16.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=220,slow=4.8,SNR=31						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**87.22**	**43**	P	**P**	**10 58 22.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=208,slow=2.7,SNR=5.9						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**10 58 33.1**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=90,slow=2.3,SNR=5.4						
	comp=Z,1.2nm,0.3s						
G30M	**tAoh Zraii Nji**	**90.36**	**15**	P	**P**	**10 58 35.7**	**-1.0**
G30M				IAmb	IAmb	10 58 37.3	
	comp=Z,3.1nm,0.9s						
SONM	**Songino Array**	**94.12**	**319**	P	**P**	**10 58 53.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=111,slow=7.9,SNR=1.8						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**94.40**	**25**	P	**P**	**10 58 54.9**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=241,slow=4.8,SNR=3.8						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**126.71**	**350**	PKP	**PKPdf**	**11 04 33.2**	**-1.4**
	comp=Z,3.2nm,1.1s,baz=352,slow=1.1,SNR=5.2						
BRTR	**Keskin Array B**	**145.36**	**315**	PKPbc	**PKPbc**	**11 05 10.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=92,slow=6.4,SNR=4.1						
MMAI	**Mount Meron Ar**	**146.74**	**303**	PKPbc	**PKPbc**	**11 05 14.6**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=62,slow=5

comp=Z,42nm,2.1s
COEN Coen 24.10 269 P P 10 58 23.8 +1.3
HIZ Hauiti 24.16 167 P P 10 58 23.0 +0.3
HIZ IAmb IAmb 10 58 26.6
comp=Z,158nm,1.2s
HIZ Hauiti 24.16 167 P P 10 58 22.4 -0.3
RIV Riverview 24.16 216 P P 10 58 24.9 +2.1
HAZ Te Kaha 24.23 161 P P 10 58 25.7 +2.3
SYDH Sydney Hard Ro 24.35 217 P P 10 58 25.9 +1.3
URZ Urewera 24.49 163 P P 10 58 25.7 -0.1
comp=Z,36nm,0.9s,baz=335,slow=14,SNR=8.0
comp=Z,36nm,0.9s
URZ Urewera 24.49 163 P P 10 58 26.4 +0.6
PUZ Puketiti 24.67 160 P P 10 58 27.6 +0.1
TWGZ Tauwhareparae 24.68 161 P P 10 58 29.3 +1.7
MWZ Matawai 24.68 162 P P 10 58 27.8 +0.2
WOLH Wollongong Har 24.74 216 P P 10 58 29.6 +1.5
RTZ Ruatahuna 24.79 163 P P 10 58 28.6 0.0
RTZ IAmb IAmb 10 58 33.1
comp=Z,105nm,1.1s
TMVZ Te Maari 24.93 166 P P 10 58 31.1 +1.2
ETVZ East Tongariro 24.95 166 P P 10 58 31.5 +1.5
QLP Quilpie 25.00 239 P P 10 58 30.8 +0.2
comp=Z,131nm,1.3s
QLP Quilpie 25.00 239 P P 10 58 31.7 +1.1
CNGZ Carnagh Statio 25.03 161 P P 10 58 30.1 -0.6
RAHZ Arahi 25.09 163 P P 10 58 31.6 +0.3
RIGZ Rimuhau 25.10 162 P P 10 58 32.0 +0.7
WNVZ Wahianoa 25.10 166 P P 10 58 35.6 +4.0
BKZ Black Stump Fm 25.17 164 P P 10 58 31.7 -0.3
BKZ IAmb IAmb 10 58 38.3
comp=Z,61nm,1.0s
BKZ Black Stump Fm 25.17 164 P P 10 58 32.4 +0.4
BKZ Black Stump Fm 25.17 164 P P 10 58 32.2 +0.2
KNZ Kokohu 25.36 162 P P 10 58 31.9 -1.7
KRHZ Kereru 25.59 165 P P 10 58 35.7 0.0
KAHZ Kahuranaki 25.86 164 P P 10 58 38.7 +0.5
YNG Young 26.12 219 P P 10 58 41.9 +1.2
CMSA Cobar Meteorol 26.21 227 P P 10 58 40.7 -0.8
comp=Z,44nm,1.1s
CMSA Cobar Meteorol 26.21 227 P P 10 58 42.0 +0.5
CNB Canberra Magne 26.25 216 P P 10 58 44.5 +2.6
CNB Canberra Magne 26.25 216 P P 10 58 43.1 +1.2
MRZ Mangatainoka R 26.37 167 P P 10 58 44.8 +2.0
QIS Mount Isa 27.61 254 P P 10 58 55.1 +0.9
comp=Z,61nm,1.2s
QIS Mount Isa 27.61 254 P P 10 58 55.3 +1.1
LTZ Lake Taylor 27.90 173 P P 10 58 56.4 -0.2
INKA Innaminka 28.32 239 P P 10 59 01.9 +1.5
RPZ Rata Peaks 28.71 175 P P 10 59 02.9 -0.9
STKA Stephens Creek 29.38 231 P P 10 59 10.8 +1.0
STKA IAmb IAmb 10 59 12.0
comp=Z,65nm,1.3s
STKA Stephens Creek 29.38 231 P P 10 59 11.0 +1.2
comp=Z,8.5nm,1.4s
STKA Stephens Creek 29.38 231 P P 10 59 10.8 +1.0
comp=Z,16nm,0.7s,baz=70,slow=9.1,SNR=9.7
STKA PcP PcP 11 02 15.4 -0.5
comp=Z,4.6nm,0.8s,baz=135,slow=2.9,SNR=2.9
STKA LR LR 11 11 03.1
comp=Z,398nm,18.7s,baz=58,slow=37
comp=Z,16nm,0.7s
STKA Stephens Creek 29.38 231 P P 10 59 10.9 +1.0
STKA Stephens Creek 29.38 231 *e*P **P 10 59 10.2 +0.4**
STKA pmax pmax
comp=Z,16nm,0.7s
ODZ Otahua Downs 30.00 176 P P 10 59 15.0 -0.2
TOO Toolangi 30.06 217 P P 10 59 17.1 +1.3
TOO Toolangi 30.06 217 P P 10 59 15.3 -0.6
comp=Z,18nm,1.5s
TOO Toolangi 30.06 217 P P 10 59 17.2 +1.3
TOO pmax pmax
comp=Z,32nm,1.4s
EAZ Earnscleugh 30.13 178 P P 10 59 19.1 +2.8
TUZ Tuapeka 30.86 178 P P 10 59 22.3 -0.4
BRAT Ballarat 30.98 219 P P 10 59 25.1 +1.2
RAR Rarotonga 31.16 106 LR LR 11 09 17.5
comp=Z,296nm,20.4s,baz=262,slow=31
LCRK Leigh Creek 31.37 236 P P 10 59 28.4 +0.9
HTT Hallett 32.09 230 P P 10 59 33.7 -0.2
comp=Z,42nm,1.0s
HTT Hallett 32.09 230 P P 10 59 35.1 +1.2
WB0 Warramunga Arr 32.42 257 P P 10 59 36.5 -0.3
WB0 IAmb IAmb 10 59 37.5
comp=Z,36nm,0.8s
WB2 Warramunga Arr 32.47 256 P P 10 59 36.8 -0.5
WB2 IAmb IAmb 10 59 38.0
comp=Z,37nm,1.0s
WRAB Tennant Creek 32.47 256 P P 10 59 36.7 -0.6
WRAB IAmb IAmb 10 59 37.9
comp=Z,37nm,1.1s
WRAB Tennant Creek 32.47 256 *i* P **P 10 59 36.7 -0.6**
WRAB pmax pmax
comp=Z,32nm,1.0s
WRA Warramunga Arr 32.48 256 P P 10 59 37.1 -0.2
comp=Z,24nm,0.9s,baz=80,slow=6.0,SNR=92
WRA PcP PcP 11 02 24.4 0.0
comp=Z,4.9nm,1.1s,baz=76,slow=2.7,SNR=4.8
WRA LR LR 11 12 10.3
comp=Z,1μm,19.2s,baz=76,slow=35
comp=Z,24nm,0.9s
OOD Oodnadatta 32.58 242 P P 10 59 39.4 +1.2
AS01 Alice Springs 33.23 250 P P 10 59 43.9 0.0
AS31 Alice Springs 33.27 250 P P 10 59 44.6 +0.3
AS31 IAmb IAmb 10 59 48.5
comp=Z,21nm,0.8s
AS31 Alice Springs 33.27 250 P P 10 59 43.0 -1.2
comp=Z,31nm,0.9s
ASAR Alice Springs 33.27 250 P P 10 59 44.0 -0.2
comp=Z,73nm,0.9s,baz=76,slow=9.0,SNR=195
ASAR PcP PcP 11 02 27.1 +0.6
comp=Z,2.9nm,0.9s,baz=106,slow=2.4,SNR=4.0
ASAR LR LR 11 12 20.5
comp=Z,1μm,21.0s,baz=86,slow=35
comp=Z,73nm,0.9s
BBOO Buckleboo 33.99 233 P P 10 59 51.8 +1.4
comp=Z,53nm,1.6s
BBOO Buckleboo 33.99 233 P P 10 59 51.5 +1.1
KDU Kakadu 34.59 269 P P 10 59 56.8 +1.0
comp=Z,26nm,1.4s
KDU Kakadu 34.59 269 P P 10 59 56.4 +0.6
MTN Manton Dam 35.86 269 P P 11 00 07.4 +0.6
MTN Manton Dam 35.86 269 P P 11 00 07.9 +1.1
comp=Z,17nm,1.3s
GUMO Guam 36.53 320 LR LR 11 13 49.2
comp=Z,156nm,21.8s,baz=126,slow=34
FAKI Fak Fak 37.27 285 P P 11 00 19.6 +0.8
FAKI IAmb IAmb 11 00 20.9
comp=Z,58nm,1.1s
FAKI Fak Fak 37.27 285 P P 11 00 20.2 +1.4
KNRA Kununurra 37.85 264 P P 11 00 23.7 0.0
KNRA IAmb IAmb 11 00 24.7
comp=Z,75nm,1.0s
KNRA Kununurra 37.85 264 P P 11 00 23.6 -0.1
comp=Z,84nm,1.2s
WRKA Warakurna 38.52 249 P P 11 00 29.2 -0.2
comp=Z,67nm,1.0s
WRKA Warakurna 38.52 249 P P 11 00 30.0 +0.7
FORT Forrest 39.79 240 P P 11 00 40.6 +0.8
FORT Forrest 39.79 240 P P 11 00 39.8 0.0
comp=Z,329nm,0.9s
FORT Forrest 39.79 240 P P 11 00 41.2 +1.4
FITZ Fitzroy Crossi 40.70 260 P P 11 00 47.8 +0.3
FITZ Fitzroy Crossi 40.70 260 P P 11 00 48.4 +0.9
comp=Z,23nm,1.1s
FITZ Fitzroy Crossi 40.70 260 LR LR 11 17 13.7
comp=Z,2μm,19.3s,baz=87,slow=36
FITZ Fitzroy Crossi 40.70 260 P P 11 00 47.9 +0.5
PPT Papeete 40.70 100 LR LR 11 13 19.2
comp=Z,489nm,21.2s,baz=246,slow=30
SANI Sanana 43.44 283 P P 11 01 12.3 +2.4
KMBL Kambalda 45.09 241 P P 11 01 22.7 -0.3
comp=Z,102nm,1.8s
KMBL Kambalda 45.09 241 P P 11 01 23.5 +0.5
MMRI Maumere 45.21 273 P P 11 01 24.3 +0.2
PSA00 Pilbara Seismi 46.08 254 P P 11 01 31.1 +0.2
PSA00 Pilbara Seismi 46.08 254 P P 11 01 31.1 +0.2
PSA00 Pilbara Seismi 46.08 254 P P 11 01 33.2 +2.3
PSAC1 Pilbara Seismi 46.11 254 P P 11 01 31.4 +0.2
comp=Z,69nm,1.0s
MBWA Marble Bar 46.19 255 P P 11 01 31.8 +0.1
MBWA Marble Bar 46.19 255 P P 11 01 32.3 +0.5
comp=Z,66nm,0.9s
MBWA Marble Bar 46.19 255 P P 11 01 32.4 +0.6
KMSI Cibinong 46.23 286 P P 11 01 33.7 +1.5

MEEK Meekatharra 47.36 248 P P 11 01 40.1 -0.8
comp=Z,75nm,1.0s
DAV Davao City (W) 47.47 295 LR LR 11 21 47.6
comp=Z,51nm,19.1s,slow=36
WBSI Waikabubak, Su 47.76 271 P P 11 01 44.0 -0.2
comp=Z,95nm,1.0s
KAPI Kappang 48.48 277 P P 11 01 49.6 -0.1
KAPI Kappang 48.48 277 LR LR 11 21 49.2
comp=Z,144nm,20.9s,baz=100,slow=36
KAPI Kappang 48.48 277 *i* P **P 11 01 50.0 +0.3**
KAPI pmax pmax
comp=Z,30nm,1.0s
KLBR Kellerberrin 48.61 241 P P 11 01 47.9 -2.6
KLBR Kellerberrin 48.61 241 P P 11 01 50.3 -0.2
SPSI Sidrap Palu 48.76 278 P P 11 01 52.6 +0.8
comp=Z,41nm,1.1s
JCJ Chichijima 48.82 329 LR LR 11 22 40.5
comp=Z,30nm,19.4s,baz=72,slow=36
NWAO Narrogin (SRO) 49.24 239 P P 11 01 55.7 +0.4
NWAO Narrogin (SRO) 49.24 239 LR LR 11 21 54.4
comp=Z,764nm,20.4s,baz=39,slow=35
NWAO Narrogin (SRO) 49.24 239 P P 11 01 55.7 +0.4
NWAO pmax pmax
comp=Z,99nm,1.0s
BLDU Ballidu 49.38 242 P P 11 01 55.3 -1.2
comp=Z,44nm,1.6s
TOLI2 Tolitoli 49.41 285 P P 11 01 56.9 0.0
PCI Palu 49.62 282 P P 11 02 00.8 +2.4
MORW Morawa 49.81 245 P P 11 02 00.4 +0.6
MORW Morawa 49.81 245 P P 11 01 58.2 -1.5
comp=Z,73nm,1.4s
MUN Mundaring 49.97 241 P P 11 01 58.7 -2.2
comp=Z,80nm,1.4s
TWSI Taliwang, Sumb 50.36 271 P P 11 02 05.1 +1.0
MYLDM Lahad Datu 53.03 288 P P 11 02 23.9 -0.1
KKM Kota Kinabalu 55.46 288 P P 11 02 41.7 -0.2
PCJI Pacitan 55.99 270 P P 11 02 46.3 +0.7
UGM Wanagama 56.69 270 P P 11 02 52.0 +1.4
JOW Kunigami 56.77 317 LR LR 11 27 25.7
comp=Z,69nm,18.3s,baz=120,slow=36
STKI Sintang 57.85 280 P P 11 03 00.5 +1.7
comp=Z,44nm,1.0s
SBUM Sibu 57.90 283 P P 11 02 59.5 +0.3
KPJI Karang Pucung 58.35 271 P P 11 03 03.1 +0.8
comp=Z,77nm,0.9s
MJA0 Matsu Arr-Jizo 58.50 332 *e*P **P 11 03 02.8 -0.1**
MJA0 pmax pmax
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 58.52 332 P P 11 03 02.9 -0.1
comp=Z,12nm,1.2s,baz=160,slow=6.8,SNR=10
comp=Z,12nm,1.2s
MAJO Matsushiro 58.52 332 P P 11 03 03.3 +0.3
MAJO IAmb IAmb 11 03 08.5
comp=Z,52nm,1.6s
MAJO Matsushiro 58.52 332 P P 11 03 03.3 +0.3
MAJO pmax pmax
comp=Z,52nm,1.6s
MJB9 Matsu-Tunnel 58.52 332 P P 11 03 03.6 +0.6
MJB9 IAmb IAmb 11 03 09.5
comp=Z,49nm,1.6s
KSM Kuching 59.40 281 P P 11 03 09.4 -0.2
LEM Lembang 59.74 271 LR LR 11 31 41.3
comp=Z,104nm,18.1s,baz=156,slow=39
XMIS Christmas Isla 60.86 266 P P 11 03 19.4 -0.2
CGJI Cibinong 61.65 271 P P 11 03 24.3 -0.6
VNDA Vanda 62.58 182 P P 11 03 30.6 +0.4
comp=Z,5.5nm,0.9s,baz=351,slow=5.3,SNR=2.1
VNDA LR LR 11 27 48.9
comp=Z,51nm,19.2s,baz=338,slow=33
comp=Z,5.5nm,0.9s
ASAJ Asahikawa 63.28 340 LR LR 11 26 27.0
comp=Z,44nm,21.3s,baz=167,slow=32
MDSI Maura Dua 63.62 272 P P 11 03 37.2 -0.9
KSRS Korea Array 64.41 325 P P 11 03 42.1 -0.6
comp=Z,1.2nm,0.7s,baz=124,slow=6.1,SNR=5.3
comp=Z,1.2nm,0.7s
KSAR Wonju Array Be 64.42 325 P P 11 03 43.2 +0.3
KSAR Wonju Array Be 64.42 325 P P 11 03 43.2 +0.3
NJ2 Nanjing 66.41 315 *e*P **P 11 03 52.4 -3.5**
NJ2 pmax pmax
comp=Z,15nm,1.3s
NJ2 pmax pmax
comp=Z,110nm,5.2s
QIZ Qiongzhong 66.54 299 P P 11 03 58.5 +1.6
QIZ S **S 11 12 47.6 0.0**
QIZ pmax pmax
comp=Z,20nm,1.6s
QIZ LR LR
comp=Z,180nm,12.4s
QIZ LR LR
comp=Z,190nm,14.4s
QIZ LR LR
comp=Z,190nm,27.5s
USA0B Ussuriysk Arra 67.49 333 P P 11 04 02.9 +0.4
USA0B Ussuriysk Arra 67.49 333 P P 11 04 02.9 +0.4
USA0B pmax pmax
comp=Z,90nm,1.7s
USRK Ussuriysk Ar. 67.49 333 P P 11 04 02.6 +0.1
comp=Z,14nm,1.2s,baz=158,slow=5.6,SNR=16
comp=Z,14nm,1.2s
PPSI Pulau Pagai 68.08 273 P P 11 04 08.0 +1.1
comp=Z,119nm,1.5s
PETK Petropavlovsk- 68.44 353 P P 11 04 07.0 -1.2
comp=Z,3.4nm,0.8s,baz=140,slow=11,SNR=5.9
comp=Z,3.4nm,0.8s
WHN Wuhan 68.70 312 P P 11 04 11.1 +0.7
WHN pmax pmax
comp=Z,22nm,0.6s
MDJ Mudanjiang 68.89 332 P P 11 04 11.9 +0.6
MDJ pmax pmax
comp=Z,31nm,1.2s
DL2 Dalian 68.99 323 P P 11 04 06.2 -5.8
DL2 pmax pmax
comp=Z,64nm,1.7s
GULI GuiLin 69.01 305 P P 11 04 13.9 +1.5
GULI pmax pmax
comp=Z,20nm,1.4s
IPM Ipoh 69.14 281 P P 11 04 13.5 0.0
TYV Tymovskoe 69.28 343 *e*P **P 11 04 13.9 +0.4**
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,300nm,6.2s
MNSI Mandailing Nat 69.44 277 P P 11 04 15.0 -0.4
TIA Tai'an 70.06 318 P P 11 04 18.6 -0.1
TIA pmax pmax
comp=Z,12nm,1.2s
CN2 Changchun 70.29 329 *e*P **P 11 04 23.5 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 70.61 278 P P 11 04 22.4 -0.1
RPSI IAmb IAmb 11 04 23.2
comp=Z,26nm,1.1s
PSI Prapat 70.64 278 P P 11 04 22.5 -0.4
PSI pmax pmax
comp=Z,26nm,1.1s
BNX BinXian 70.76 331 ⇑P **P 11 04 22.7 0.0**
BNX pP **pP 11 04 26.8 -1.0**
BNX pmax pmax
comp=Z,24nm,1.6s
GRNR Gornyy 71.13 339⇑*i*P **P 11 04 26.2 +1.3**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GSI Gunungsitoli 71.51 277 P P 11 04 28.8 +0.7
GSI Gunungsitoli 71.51 277 P P 11 04 28.7 +0.7
comp=Z,66nm,1.1s
KLR Kul'dur 71.58 336 LR LR 11 32 30.5
comp=Z,38nm,20.0s,baz=168,slow=33
KLR Kul'dur 71.58 336*c i*P **P 11 04 28.4 +0.7**
KLR pmax pmax
comp=Z,15nm,1.5s
SRIT Nakonsritamara 71.77 284 P P 11 04 29.8 +0.3
LYN LuoYang 72.22 314 P P 11 04 32.7 +0.9
LYN pP pP 11 04 35.7 -1.2
LYN sP sP 11 04 41.4 +2.7
LYN pmax pmax
comp=Z,30nm,1.0s
HNS HongShan 72.32 318 ⇑P **P 11 04 33.4 +1.1**
HNS pmax pmax
comp=Z,15nm,1.1s
GYA Guiyang 72.50 304 P P 11 04 37.1 +3.3
GYA pmax pmax
comp=Z,17nm,0.6s
BJI Beijing 72.97 321 P P 11 04 36.5 +0.4
BJI pmax pmax
comp=Z,6.0nm,1.4s

MLSI Meulaboh, Aceh 73.47 279 P P 11 04 40.1 +0.4
comp=Z,88nm,1.0s
TIY Taiyuan 73.98 317 *e*P **P 11 04 43.6 +1.3**
TIY pmax pmax
comp=Z,17nm,0.7s
HEH HeiHe 74.15 334 *e*P **P 11 04 42.8 0.0**
HEH pmax pmax
comp=Z,17nm,1.4s
XAN Xi'an 74.44 312 ⇓P **P 11 04 46.0 +1.0**
XAN sP sP 11 04 53.2 +1.2
XAN pmax pmax
comp=Z,16nm,1.0s
BSI Banda Aceh 74.88 280 P P 11 04 47.9 -0.1
comp=Z,57nm,1.1s
QSPA South Pole Qui 75.00 180 P P 11 04 47.6 -0.3
comp=Z,20nm,1.0s,baz=17,slow=2.3,SNR=25
QSPA LR LR 11 35 30.8
comp=Z,67nm,18.0s,baz=5.5,slow=34
comp=Z,20nm,1.0s
KMI Kunming 75.10 302 ⇑P **P 11 04 50.6 +1.4**
KMI pmax pmax
comp=Z,25nm,1.2s
KMI pmax pmax
comp=Z,200nm,5.1s
XLT XiLinHaoTe 75.38 324 *e*P **P 11 04 51.0 +0.7**
XLT pP pP 11 04 54.6 -0.8
XLT sP sP 11 04 57.8 +0.5
XLT PcP **PcP 11 05 05.8 +2.3**
XLT pmax pmax
comp=Z,23nm,1.2s
XLT pmax pmax
comp=Z,140nm,3.9s
MA2 Magadan 75.65 351 LR LR 11 37 38.9
comp=Z,24nm,18.4s,baz=155,slow=35
MA2 Magadan 75.65 351 *i* P **P 11 04 51.4 0.0**
MA2 pmax pmax
comp=Z,4.0nm,1.2s
MA2 Magadan 75.65 351 P P 11 04 51.0 -0.4
comp=Z,8.3nm,1.9s
CMAR Chiang Mai Arr 75.75 294 P P 11 04 53.7 +0.9
CMAR Chiang Mai Arr 75.75 294 P P 11 04 52.9 0.0
comp=Z,4.1nm,0.9s,baz=116,slow=3.7,SNR=31
CMAR PKPPKP **P'P'df 11 32 12.2 -0.7**
comp=Z,0.5nm,0.3s,baz=295,slow=3.7,SNR=6.9
CMAR LR LR 11 37 41.5
comp=Z,14nm,21.9s,baz=115,slow=35
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 75.75 294 *e*P **P 11 04 54.5 +1.6**
CMAR pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 75.88 294 P P 11 04 54.5 +0.9
CHTO IAmb IAmb 11 04 55.9
comp=Z,42nm,1.5s
CHTO Chiang Mai 75.88 294 P P 11 04 54.5 +0.9
CHTO pmax pmax
comp=Z,42nm,1.5s
HHC Hu-ho-hao-te 76.30 319 *e*P **P 11 04 57.2 +1.6**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,210nm,4.1s
PZH PanZhiHua 76.49 302 P P 11 04 57.0 0.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,150nm,5.1s
CD2 Chengdu 76.78 307 *e*P **P 11 05 00.0 +1.5**
RPN Rapa Nui 76.86 115 LR LR 11 32 52.8
comp=Z,40nm,20.0s,baz=286,slow=31
ZEA Zeya 76.86 337 *e*P **P 11 04 59.6 +1.2**
ZEA *e* 11 05 08.3
ZEA pmax pmax
comp=N,10.0nm,1.5s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
BTO Baotou 77.14 319 *e*P **P 11 05 02.9 +2.5**
BTO pP **sP 11 05 07.6 +0.3**
BTO sP **PcP 11 05 09.9 -1.3**
BTO pmax pmax
comp=Z,35nm,1.7s
M11K Mekoryuk 77.96 13 P P 11 05 05.4 +1.1
baz=205
TNCH TengChong 78.57 300 ⇑P **P 11 05 09.7 +0.9**
TNCH S **S 11 15 05.4 +0.1**
TNCH sS sS 11 15 14.2 +1.3
TNCH SKS **SKSac 11 15 19.6 -4.2**
TNCH pmax pmax
comp=Z,150nm,1.5s
TNCH LR LR
comp=Z,88nm,10.4s
M13K Dall Lake 78.62 14 P P 11 05 09.1 +1.1
baz=208
SEY Seymchan 78.67 353 *i* P **P 11 05 08.8 +0.6**
SEY pmax pmax
comp=Z,29nm,1.6s
OHAK Old Harbor 78.81 20 P P 11 05 08.9 -0.2
baz=218
Q16K King Salmon 78.92 18 P P 11 05 09.4 -0.3
baz=215
LZH Lanzhou 79.07 312 *e*P **P 11 05 12.9 +1.6**
LZH pmax pmax
comp=Z,22nm,1.4s
N15K Kwethluk River 79.21 16 P P 11 05 11.7 +0.4
baz=211
KDAK Kodiak Island 79.48 20 LR LR 11 36 58.9
comp=Z,106nm,18.6s,baz=72,slow=33
L14K Kuka Creek 79.60 14 P P 11 05 14.0 +0.7
baz=209
K13K Kusilvak Mount 79.68 13 P P 11 05 15.1 +1.3
baz=207
L15K Ungalak Mounta 80.17 14 P P 11 05 15.7 -0.8
baz=210
Q20K Shuyak Island 80.19 20 P P 11 05 16.7 +0.1
baz=219
M16K Timber Creek 80.24 16 P P 11 05 17.6 +0.8
baz=212
O18K Koktuh Hills 80.31 18 P P 11 05 18.9 +1.6
baz=216
L16K Owhat River 80.69 15 P P 11 05 20.1 +0.8
baz=212
K15K Wolf Creek Mou 80.70 14 P P 11 05 19.5 +0.2
baz=210
P19K Oil Pt 80.75 19 P P 11 05 19.7 0.0
baz=218
N18K Kilae Creek 80.79 17 P P 11 05 19.6 -0.2
baz=215
O19K Port Alsworth 80.85 18 P P 11 05 21.2 +1.1
baz=217
O20K Slope Mountain 81.28 19 P P 11 05 22.3 -0.2
baz=218
N19K Bonanza Creek 81.30 18 P P 11 05 22.6 -0.1
baz=216
M18K Stony River 81.47 17 P P 11 05 22.2 -1.2
baz=215
BRSE Bradley Lake S 81.61 20 P P 11 05 23.2 -1.0
baz=220
L18K Granite Mounta 81.84 16 P P 11 05 25.1 -0.2
baz=214
K17K Iditarod 81.84 15 P P 11 05 24.2 -1.2
baz=213
MAW Mawson 81.89 202 LR LR 11 36 53.1
comp=Z,68nm,21.0s,baz=89,slow=32
ANM Nome 81.91 11 P P 11 05 24.9 -0.8
baz=206
J17K VABM Dome 82.23 14 P P 11 05 26.5 -0.8
baz=212
SPCR Spurr Chakacha 82.28 18 P P 11 05 27.2 -0.6
baz=218
SEW Seward 82.31 20 P P 11 05 26.9 -0.9
baz=221
O22K Cooper Landing 82.50 20 P P 11 05 28.9 0.0
baz=221
YAK Yakutsk 82.53 343 LR LR 11 43 05.8
comp=Z,34nm,18.0s,baz=110,slow=36
YAK Yakutsk 82.53 343 *e*P **P 11 05 28.5 -0.4**
YAK *e* 11 05 33.3
YAK *e* 11 08 41.1
YAK *e*S **S 11 15 46.5 +1.6**
YAK *e*SS **SS 11 21 09.7 +2.8**
YAK pmax pmax
comp=Z,38nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=Z,191nm,5.9s

YAK smax smax
comp=N,123nm,5.2s
YAK smax smax
comp=E,93nm,4.8s
M20K Styx River 82.55 17 P **P** 11 05 29.1 -0.1
baz=218
G15K Niukluk 82.55 12 P **P** 11 05 29.9 +0.9
baz=207
F14K Arctic Creek 82.56 10 P **P** 11 05 29.2 +0.2
baz=205
H16K Elim 82.59 12 P **P** 11 05 28.4 -0.8
baz=209
L20K Farewell, AK 82.81 17 P **P** 11 05 30.8 +0.3
baz=217
ULN Ulaanbaatar 82.82 324 P **P** 11 05 31.2 +0.2
ULN Ulaanbaatar 82.82 324 *i* P **P** 11 05 31.4 +0.4
ULN pmax pmax
comp=Z,59nm,1.3s
BILL Bilibino 82.85 359 *i* P **P** 11 05 30.7 +0.2
BILL pmax pmax
comp=Z,24nm,1.1s
J18K Innoko River 82.86 15 P **P** 11 05 31.0 +0.3
baz=214
P23K Montague Islan 82.92 21 P **P** 11 05 29.7 -1.3
baz=223
SUA Susitna One 82.93 19 P **P** 11 05 31.2 0.0
baz=220,SNR=6.9
RC01 Rabbit Creek A 82.96 19 P **P** 11 05 31.1 -0.1
baz=221
SONM Songino Array 83.18 323 P **P** 11 05 33.1 +0.3
SONM IAmb IAmb 11 05 34.7
comp=Z,36nm,1.2s
SONM Songino Array 83.18 323 P **P** 11 05 32.7 -0.1
comp=Z,16nm,1.0s,baz=137,slow=4.6,SNR=67
SONM LR LR 11 42 38.9
comp=Z,28nm,18.4s,baz=180,slow=36
comp=Z,16nm,1.0s
SONM Songino Array 83.18 323 *e*P **P** 11 05 33.7 +0.8
SONM pmax pmax
comp=Z,16nm,1.0s
PWL Port Wells 83.24 20 P **P** 11 05 32.6 -0.1
baz=222,SNR=6.1
M22K Willow 83.35 19 P **P** 11 05 33.1 0.0
baz=220,SNR=8.0
H17K Granite Mounta 83.35 13 P **P** 11 05 32.0 -1.2
baz=211
GTA Gaotai 83.41 314 P **P** 11 05 35.6 +1.3
GTA pP pP 11 05 39.1 -0.3
GTA pmax pmax
comp=Z,22nm,1.5s
K20K Telida 83.47 16 P **P** 11 05 32.5 -1.3
baz=217
PMR Palmer 83.53 19 P **P** 11 05 32.9 -1.3
baz=221,SNR=7.5
J19K Poorman 83.58 15 P **P** 11 05 35.5 +1.2
baz=215
KNK Knik Glacier 83.61 19 P **P** 11 05 34.7 +0.1
baz=222
PPLA Purkeypile 83.62 17 P **P** 11 05 34.8 0.0
baz=218
GLI Glacier Island 83.67 20 P **P** 11 05 34.8 -0.1
baz=223
G17K Kiwalik Mounta 83.68 13 P **P** 11 05 35.8 +1.0
baz=210
CUT Chulitna 83.80 18 P **P** 11 05 35.5 0.0
baz=220
H18K Honhosa River 83.88 14 P **P** 11 05 34.4 -1.6
baz=212
GCSA Galena City Sc 83.89 14 P **P** 11 05 33.7 -2.1
baz=214
KAIM Kayak Island 83.92 22 P **P** 11 05 35.6 -0.6
baz=226
SML Sawmill 83.95 19 P **P** 11 05 35.0 -1.4
baz=222
CAST Castle Rocks 84.06 17 P **P** 11 05 36.3 -0.5
baz=218,SNR=16
J20K Nowinta River 84.11 16 P **P** 11 05 37.5 +0.4
baz=216
M23K Glacier View 84.13 19 P **P** 11 05 35.6 -1.7
baz=223
SCM Sheep Creek Mo 84.29 20 P **P** 11 05 36.0 -2.1
baz=223
CHUM Lake Minchumin 84.36 16 P **P** 11 05 38.7 +0.4
baz=218
SHL Shillong 84.36 298 P **P** 11 05 39.1 -0.4
SHL Shillong 84.36 298 P **P** 11 05 39.1 -0.4
SHL pmax pmax
comp=Z,43nm,1.0s
G18K Tagagawik 84.45 13 P **P** 11 05 37.9 -0.9
baz=212
BGLC Bering Glacier 84.47 22 P **P** 11 05 37.9 -1.0
baz=227
KLU Klutina 84.51 20 P **P** 11 05 36.8 -2.5
baz=224
BMRM Bremner River 84.58 21 P **P** 11 05 39.5 -0.1
baz=226
TRF Thorofare Moun 84.60 17 P **P** 11 05 36.6 -3.2
baz=220,SNR=5.0
H19K Roundabout Mou 84.64 14 P **P** 11 05 37.8 -1.9
baz=214
BCW Bitter Crk WRg 84.77 52 P **P** 11 05 41.8 +0.5
BCW IAmb IAmb 11 05 43.4
comp=Z,22nm,1.1s
F18K Selawik 84.84 12 P **P** 11 05 39.5 -1.2
baz=211
M24K Tolsona, Glenn 84.86 20 P **P** 11 05 39.2 -1.8
baz=224
BPAW Bear Paw Mtn. 84.90 17 P **P** 11 05 40.5 -0.6
baz=219
H20K Anotleneega Mo 84.99 15 P **P** 11 05 40.5 -1.0
baz=216
MESA MESA 85.00 23 P **P** 11 05 41.4 -0.5
baz=228
G19K Purcell Mounta 85.01 13 P **P** 11 05 40.3 -1.3
baz=214
N25K Chitina, Valde 85.03 21 P **P** 11 05 42.1 +0.2
N25K Chitina, Valde 85.03 21 P **P** 11 05 39.4 -2.5
baz=225
BOD Bodaibo 85.07 334 *e*P **P** 11 05 42.0 0.0
BOD pmax pmax
comp=Z,36nm,1.6s
YBH Yreka Blue Hor 85.10 45 LR LR 11 36 57.6
comp=Z,75nm,18.5s,baz=236,slow=31
D17K Noatak River 85.14 11 P **P** 11 05 41.6 -0.5
baz=208
MCK McKinley 85.21 18 P **P** 11 05 41.9 -0.8
baz=221,SNR=5.9
CMB Columbia Colle 85.23 49 P **P** 11 05 43.3 -0.1
CMB Columbia Colle 85.23 49 P **P** 11 05 43.3 -0.1
CMB pmax pmax
comp=Z,11nm,1.2s
C16K Lisburne Hills 85.27 10 P **P** 11 05 42.0 -0.8
baz=206
E18K Tukpahlearik C 85.36 12 P **P** 11 05 43.0 -0.2
baz=210,SNR=6.1
I21K Tanana 85.47 16 P **P** 11 05 43.2 -0.6
baz=218
RDOG Red Dog Mine 85.48 11 P **P** 11 05 44.0 +0.1
baz=208,SNR=7.7
H21K Melozitna Rive 85.64 15 P **P** 11 05 45.3 +0.5
baz=218
GOMU GeErMu 85.75 309 P **P** 11 05 47.4 +0.9
GOMU pP pP 11 05 50.5 -1.1
GOMU sP sP 11 05 55.5 +2.1
GOMU pmax pmax
comp=Z,7.0nm,0.7s
C17K DeLong Mountai 85.81 10 P **P** 11 05 45.3 -0.3
baz=208,SNR=7.0
NEA2 Nenana 85.82 17 P **P** 11 05 44.9 -0.8
baz=221
ELS Elsinore Mount 85.82 54 P **P** 11 05 46.8 +0.3
ELS IAmb IAmb 11 05 48.3
comp=Z,24nm,1.4s
S31K Pelican 85.87 26 P **P** 11 05 45.1 -0.9
baz=233
CCAC Calif City Air 85.91 52 P **P** 11 05 46.1 -0.8
CCAC IAmb IAmb 11 05 49.0
comp=Z,23nm,1.4s
O28M Mount Upton 86.04 23 P **P** 11 05 44.7 -2.5
baz=229
F20K Avaraart Lake 86.06 13 P **P** 11 05 46.8 0.0
baz=215
E19K Redstone River 86.07 13 P **P** 11 05 46.2 -0.6
baz=213
WAKR Walker 86.10 49 P **P** 11 05 47.9 -0.1
WAKR IAmb IAmb 11 05 50.1
comp=Z,26nm,1.3s

M26K Nabesna, AK 86.13 21 P **P** 11 05 45.1 -2.2
baz=227
G21K Allakaket 86.15 14 P **P** 11 05 47.5 +0.3
baz=217
H22K Ishtalitna Cre 86.19 16 P **P** 11 05 46.1 -1.4
baz=219
K24K Donnelly Dome 86.21 19 P **P** 11 05 45.1 -2.6
baz=224
ZAK Zakamensk 86.23 325 *e*P **P** 11 05 47.5 -0.6
ZAK pmax pmax
comp=Z,18nm,1.4s
HDA Harding Lake 86.30 18 P **P** 11 05 47.6 -0.4
baz=223
C18K Utukok River 86.31 11 P **P** 11 05 47.4 -0.7
baz=210
VTX Valle De La Tr 86.33 56 P **P** 11 05 50.0 +1.0
VTX IAmb IAmb 11 05 51.8
comp=Z,25nm,1.3s
LSA Lhasa 86.35 302 P **P** 11 05 50.3 +0.6
LSA pmax pmax
comp=Z,9.0nm,1.2s
BELA Belgrano 2 86.37 175 P **P** 11 05 47.0 -1.4
COLA College 86.38 17 P **P** 11 05 48.8 +0.4
baz=222
COLA College 86.38 17 *i* P **P** 11 05 48.8 +0.4
COLA pmax pmax
comp=Z,8.0nm,1.3s
ESJX Sierra Juarez 86.41 56 P **P** 11 05 50.1 +0.6
ESJX IAmb IAmb 11 06 26.1
comp=Z,24nm,1.5s
YERR Yerington 86.43 48 P **P** 11 05 49.8 +0.2
YERR IAmb IAmb 11 05 50.6
comp=Z,37nm,1.8s
RIDG Independent Ri 86.46 19 P **P** 11 05 48.9 0.0
baz=225
YUK8 Steele Glacier 86.53 22 P **P** 11 05 49.1 -0.5
baz=230
PFO Pinyon Flats O 86.56 54 P **P** 11 05 50.4 +0.2
PFO Pinyon Flats O 86.56 54 LR LR 11 39 05.9
comp=Z,184nm,18.1s,baz=259,slow=32
PFO Pinyon Flats O 86.56 54 *i* P **P** 11 05 50.2 0.0
PFO pmax pmax
comp=Z,16nm,1.1s
IL31 86.58 18 P **P** 11 05 48.4 -0.9
ILAR Eielson Array 86.58 18 P **P** 11 05 48.4 -1.0
ILAR Eielson Array 86.58 18 P **P** 11 05 47.6 -1.8
comp=Z,3.1nm,0.7s,baz=235,slow=4.2,SNR=39
ILAR LR LR 11 37 07.8
comp=Z,114nm,20.1s,baz=236,slow=31
comp=Z,3.1nm,0.7s
ILAR Eielson Array 86.58 18 P **P** 11 05 48.4 -1.0
PAHR Pah Rah Range 86.60 48 P **P** 11 05 50.9 +0.6
PAHR IAmb IAmb 11 05 53.9
comp=Z,17nm,1.2s
YUK3 Moose Creek 86.60 22 P **P** 11 05 49.4 -0.4
baz=229
BBB Bella Bella 86.61 34 LR LR 11 35 28.6
comp=Z,82nm,21.5s,baz=212,slow=29
LHV Little Huntoon 86.69 49 P **P** 11 05 51.1 +0.6
LHV IAmb IAmb 11 05 58.1
comp=Z,35nm,1.3s
F21K Alatna River 86.72 14 P **P** 11 05 49.0 -1.0
baz=217,SNR=5.8
D19K Kuna River 86.77 12 P **P** 11 05 50.8 +0.5
baz=212
B18K Kokolik River 86.83 10 P **P** 11 05 51.3 +0.8
baz=209
YUK6 Outpost Mounta 86.84 23 P **P** 11 05 50.7 -0.4
baz=231
P30M Million Dollar 86.88 24 P **P** 11 05 50.4 -0.6
baz=232
BVCY Beaver Creek 86.88 21 P **P** 11 05 50.9 -0.1
baz=229
SCRK Sand Creek 86.90 19 P **P** 11 05 51.2 +0.1
baz=226
NVAR Mina Array Bea 86.90 49 P **P** 11 05 52.6 +0.7
NVAR Mina Array Bea 86.90 49 P **P** 11 05 51.6 -0.2
comp=Z,8.5nm,1.0s,baz=232,slow=7.1,SNR=24
NVAR PP **PP** 11 09 17.6 +2.5
comp=Z,0.7nm,0.9s,baz=246,slow=7.3,SNR=3.6
NVAR LR LR 11 36 08.5
comp=Z,124nm,21.9s,baz=244,slow=30
comp=Z,8.5nm,1.0s
J25K Salcha River, 86.92 18 P **P** 11 05 49.0 -2.2
baz=225
G22K Bettles 86.96 15 P **P** 11 05 49.9 -1.3
baz=219
E20K Nigu River 86.96 13 P **P** 11 05 51.5 +0.2
baz=214,SNR=10
HYT Haines Junctio 87.10 24 P **P** 11 05 51.3 -0.9
baz=232
SKAG Skagway 87.14 25 P **P** 11 05 51.6 -0.6
baz=234
G23K Bananza Creek 87.17 15 P **P** 11 05 51.2 -1.1
baz=220
D20K Etivluk River 87.25 12 P **P** 11 05 51.6 -1.0
baz=214
GWY Greenwater Val 87.30 52 P **P** 11 05 54.0 +0.2
J26L Joseph Creek 87.39 19 P **P** 11 05 53.5 0.0
baz=226
COLD Coldfoot 87.52 15 P **P** 11 05 55.1 +1.2
COLD Coldfoot 87.52 15 P **P** 11 05 53.2 -0.7
baz=220
WCT Wildcat Mounta 87.55 51 P **P** 11 05 55.4 +0.5
WCT IAmb IAmb 11 05 58.6
comp=Z,22nm,1.3s
E21K Killik River 87.59 13 P **P** 11 05 55.4 +1.1
baz=216
M29M Somme Creek 87.75 22 P **P** 11 05 55.0 -0.3
baz=231
G24K Hadweenzic Riv 87.83 16 P **P** 11 05 55.8 +0.3
baz=223
C21K Knifeblade Rid 88.00 12 P **P** 11 05 57.1 +0.9
baz=216
I26K Coal Creek Min 88.08 18 P **P** 11 05 56.1 -0.5
baz=227
S34M Telegraph Cree 88.08 28 P **P** 11 05 55.4 -1.3
baz=238
D22K Ayikyak River 88.23 13 P **P** 11 05 56.2 -1.1
baz=218
L29M L29M 88.29 22 P **P** 11 05 56.1 -1.7
baz=231
E23K Chandalar 88.30 15 P **P** 11 05 56.2 -1.5
baz=221
EGAK Eagle 88.35 19 P **P** 11 05 55.4 -2.5
baz=228
B21K Ikpikpuk River 88.41 12 P **P** 11 05 56.8 -1.3
baz=216
DAWY Dawson 88.46 20 P **P** 11 05 56.9 -1.6
baz=230
S11A Rachel 88.50 50 P **P** 11 05 59.6 +0.1
S11A IAmb IAmb 11 06 03.5
comp=Z,20nm,1.2s
SHPR Sheep Range 88.56 52 P **P** 11 06 00.6 +0.8
E24K Your Creek 88.59 15 P **P** 11 05 58.2 -0.9
baz=222
SYO Syowa Base 88.63 196⇑ *i*sP sP 11 06 04.2 -2.0
D23K Nanushuk River 88.75 14 P **P** 11 05 58.6 -1.1
baz=220
I27K Kandik River 88.75 19 P **P** 11 05 59.1 -0.8
baz=228
TOLK Toolik Lake Re 88.76 14 P **P** 11 05 59.0 -0.8
baz=221
DLBC Dease Lake 88.85 28 LR LR 11 44 09.6
comp=Z,83nm,18.1s,baz=219,slow=34
PRN Pahroc Range 88.94 51 P **P** 11 06 01.7 +0.1
PRN IAmb IAmb 11 06 04.0
comp=Z,32nm,1.3s
F25K Christian Rive 88.97 16 P **P** 11 06 00.3 -0.6
baz=224
G26K Porcupine Rive 89.03 17 P **P** 11 06 01.2 +0.1
baz=226
BMAR Burnt Mountain 89.15 17 P **P** 11 06 01.5 -0.2
H27K Steamboat Moun 89.20 18 P **P** 11 06 00.4 -1.6
baz=228
B22K Teshekpuk Lake 89.23 12 P **P** 11 06 03.3 +1.4
baz=217
PALK Pallekele 89.31 278 LR LR 11 45 51.9
comp=Z,101nm,21.4s,baz=110,slow=36
D24K Happy Valley 89.32 14 P **P** 11 06 03.4 +1.0
baz=221
Y14A Wickenburg 89.38 55 P **P** 11 06 03.8 +0.2
A21K Barrow 89.43 11 P **P** 11 06 02.5 -0.3
baz=214
C23K Itkillik River 89.44 13 P **P** 11 06 02.8 -0.1
baz=220
F26K Sheenjek River 89.45 16 P **P** 11 06 02.6 -0.5

baz=226
G27K Doyon Strip 89.55 18 P **P** 11 06 03.2 -0.4
baz=228
C24K Franklin Bluff 89.78 14 P **P** 11 06 04.1 -0.4
baz=221
ELIB Princess Elisa 90.06 190 *d*P **P** 11 06 07.3 +1.0
comp=Z,4.9nm,1.2s
TUC Tucson 90.66 57 P **P** 11 06 10.4 +0.8
TUC pmax pmax
comp=Z,12nm,1.1s
U15A North Rim 90.72 53 P **P** 11 06 10.8 +0.7
U15A IAmb IAmb 11 06 12.5
comp=Z,21nm,1.1s
X16A Lo Mia Camp, P 90.77 55 P **P** 11 06 10.9 +0.6
X16A IAmb IAmb 11 06 12.7
comp=Z,13nm,1.1s
C26K Camden Bay 90.82 15 P **P** 11 06 10.4 +1.0
baz=225
C27K Jago River 90.92 15 P **P** 11 06 10.3 +0.5
baz=226
WUAZ Wupatki 91.15 54 P **P** 11 06 13.2 +1.2
WUAZ IAmb IAmb 11 06 14.2
comp=Z,16nm,1.1s
H31M Peel River 91.23 20 P **P** 11 06 10.7 -0.8
baz=235
TOAD Toad River Com 91.24 29 P **P** 11 06 10.6 -1.0
baz=242
G30M tAoh Zraii Nji 91.31 19 P **P** 11 06 11.3 -0.6
baz=233
E28M Babbage River 91.34 17 P **P** 11 06 11.8 0.0
baz=230
HLID Hailey 91.46 45 P **P** 11 06 13.8 +0.6
319A Douglas 91.61 58 P **P** 11 06 13.7 -0.4
319A IAmb IAmb 11 06 16.5
comp=Z,14nm,1.0s
X18A Snowflake 91.97 55 P **P** 11 06 16.3 +0.5
X18A IAmb IAmb 11 06 18.1
comp=Z,16nm,1.3s
KOTAN Kotaneelee Air 92.36 28 P **P** 11 06 19.1 +2.4
baz=244
INK Inuvik 92.93 18 LR LR 11 43 05.3
comp=Z,112nm,20.7s,baz=250,slow=32
SNAA Sanae 93.29 183 P **P** 11 06 22.7 +1.6
comp=Z,4.2nm,1.0s,baz=186,slow=2.1,SNR=9.0
comp=Z,4.2nm,1.0s
WMQ Urumqi 93.47 314 *e*P **P** 11 06 23.2 +0.8
WMQ pmax pmax
comp=Z,23nm,1.5s
PV23 Carpenter Ridg 93.81 51 P **P** 11 06 25.2 +0.9
PV23 IAmb IAmb 11 07 52.0
comp=Z,38nm,1.9s
PDAR Pinedale Array 94.60 47 P **P** 11 06 27.8 -0.1
comp=Z,0.3nm,0.6s,baz=209,slow=1.5,SNR=3.9
PDAR PKKPbc **PKKPdf** 11 23 28.2 +0.8
comp=Z,0.2nm,0.6s,baz=54,slow=3.8,SNR=3.6
PDAR LR LR 11 47 44.8
comp=Z,52nm,19.0s,baz=229,slow=35
comp=Z,0.3nm,0.6s
ANMO Albuquerque 94.86 55 P **P** 11 06 29.2 +0.1
ANMO Albuquerque 94.86 55 LR LR 11 40 33.2
comp=Z,136nm,21.6s,baz=50,slow=30
ANMO Albuquerque 94.86 55 *i* P **P** 11 06 28.9 -0.2
ANMO pmax pmax
comp=Z,1.0nm,1.1s
TXAR Lajitas Array 95.76 61 P **P** 11 06 33.9 +0.6
comp=Z,1.1nm,0.9s,baz=224,slow=4.9,SNR=6.5
TXAR PP **PP** 11 10 23.9 -1.3
comp=Z,0.7nm,1.1s,baz=50,slow=2.0,SNR=3.4
TXAR LR LR 11 43 18.5
comp=Z,68nm,18.1s,baz=236,slow=32
comp=Z,1.1nm,0.9s
C36M Paulatuk 96.42 19 P **P** 11 06 35.4 +0.3
baz=244
N23A Red Feather La 96.72 50 P **P** 11 06 36.4 -1.2
baz=256
T25A Trinidad 97.00 54 P **P** 11 06 36.8 -2.1
baz=256
A36M Sachs Harbour 97.24 17 P **P** 11 06 38.2 -0.6
A36M IAmb IAmb 11 06 38.4
comp=Z,9.0nm,1.4s
A36M Sachs Harbour 97.24 17 P **P** 11 06 38.2 -0.6
baz=243
YKA Yellowknife Ar 97.47 27 P **P** 11 06 39.2 -0.8
comp=Z,1.7nm,0.9s,baz=253,slow=4.9,SNR=18
YKA PP **PP** 11 10 33.9 -3.5
comp=Z,0.7nm,1.1s,baz=253,slow=8.1,SNR=4.3
YKA LR LR 11 45 00.6
comp=Z,48nm,18.5s,baz=284,slow=32
comp=Z,1.7nm,0.9s
MK31 Makanchi Array 97.93 316 P **P** 11 06 42.5 -0.1
MK31 IAmb IAmb 11 06 44.0
comp=Z,14nm,1.2s
MK31 Makanchi Array 97.93 316 *i* P Pdif 11 06 43.1 +0.5
MKAR Makanchi Array 97.93 316 P Pdif 11 06 42.7 +0.1
MKAR Makanchi Array 97.93 316 P **P** 11 06 42.5 -0.1
comp=Z,4.2nm,0.9s,baz=98,slow=6.2,SNR=32
comp=Z,4.2nm,0.9s
MKAR Makanchi Array 97.93 316 *e*P Pdif 11 06 43.0 +0.4
MKAR pmax pmax
comp=Z,4.0nm,0.9s
ZALV Zalesovo Beam 98.07 324 P **P** 11 06 42.2 -0.7
comp=Z,3.0nm,0.8s,baz=108,slow=4.8,SNR=12
ZALV LR LR 11 48 59.8
comp=Z,25nm,21.9s,baz=70,slow=34
comp=Z,3.0nm,0.8s
833A Chaparral WMA, 99.19 63 P **Pdif** 11 06 46.7 -1.9
baz=258
H03N2 Juan Fernandez 100.06 129 T T 12 56 16.7
baz=240,slow=72,SNR=22
H03N3 Juan Fernandez 100.06 129 T T 12 56 14.1
baz=240,slow=72,SNR=7.1
H03N1 Juan Fernandez 100.08 129 T T 12 56 15.7
baz=240,slow=72,SNR=12
KURK Kurchatov 101.11 320 *i* P **Pdif** 11 06 56.6 0.0
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURBB Kurchatov Arra 101.15 320 P **Pdif** 11 06 55.4 -1.4
comp=Z,0.6nm,0.2s,baz=119,slow=3.4,SNR=4.8
KURBB PP **PP** 11 11 04.3 -1.5
comp=Z,0.4nm,0.2s,baz=106,slow=6.9,SNR=4.2
AAK Ala-Archa 102.59 311 *i* P **Pdif** 11 07 03.2 -0.4
AAK pmax pmax
comp=Z,1.0nm,0.9s
L44A Lake County Fo 110.28 50 P **PKiKP** 11 11 37.5 -1.3
baz=268
ARTI Arti 113.26 325 *i* PKIKP **PKiKP** 11 11 44.1 +0.1
ARTI 11 12 34.2
ARTI 11 18 56.3
ARTI SS SS 11 28 15.1 -3.9
LPAZ La Paz 116.41 117 PKP **PKPdf** 11 11 51.5 -0.6
comp=Z,1.3nm,0.5s,baz=324,slow=2.4,SNR=4.5
LPAZ La Paz 116.41 117 *e*PKIKP **PKiKP** 11 11 53.3 +1.3
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
BELG Belogornoye 120.22 322 *i* PKIKP **PKiKP** 11 11 58.5 +0.9
ARCES ARCESS Array B 120.73 346 PKP **PKPdf** 11 11 57.4 -0.6
comp=Z,3.8nm,0.7s,baz=79,slow=2.6,SNR=16
ARCES ARCESS Array B 120.73 346 *e*PKIKP **PKiKP** 11 11 58.2 +0.1
ARCES pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 125.35 328⇑ *e*PKIKP **PKPdf** 11 12 07.2 0.0
OBN *e* 11 13 54.4
OBN *i* 11 19 20.4
OBN pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 125.59 314 *i* PKIKP **PKiKP** 11 12 08.8 +0.2
KIV pmax pmax
comp=Z,4.0nm,1.0s
SHA1 Shidzhatmaz 125.67 313 *i* PKIKP **PKPdf** 11 12 08.5 -0.1
FINES FINESS Array B 126.27 338 PKP **PKPdf** 11 12 08.2 -0.6
comp=Z,4.2nm,1.0s,baz=349,slow=5.1,SNR=2.5
VSU Vasula 128.00 335 *i* PKIKP **PKiKP** 11 12 12.9 +0.1
MNK Minsk 129.94 331 *i* PKIKP **PKPdf** 11 12 15.0 -1.0
MNK *i* 11 14 27.4
MNK *i* PPP PPP 11 17 14.8
MNK *i* 11 19 26.5
MNK *i* PS **PS** 11 24 38.2 -0.7
MNK *i* SS SS 11 31 54.3 +2.8
MNK *i* SSS SSS 11 36 42.5
MNK pmax pmax
comp=Z,6.0nm,0.5s
MNK pmax pmax
comp=N,9.0nm,0.6s
MNK pmax pmax
comp=E,19nm,0.8s
MNK MLR MLR
comp=Z,60nm,16.0s

MNK				MLR	MLR		
	comp=N,246nm,16.0s						
MNK				MLR	MLR		
	comp=E,247nm,19.0s						
NOA	**NORSAR Array B**	**131.10**	**345**	PKP	**PKPdf**	**11 12 16.7**	**-1.4**
	comp=E,0.6nm,0.8s,baz=32,slow=2.5,SNR=2.3						
AKASG	**Malin Array Be**	**131.40**	**326**	PKP	**PKPdf**	**11 12 19.1**	**+0.2**
	comp=E,0.7nm,0.6s,baz=85,slow=1.3,SNR=6.2						
AKASG	**Malin Array Be**	**131.40**	**326**	*i* PKIKP	**PKiKP**	**11 12 19.7**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKBB	**Malin Array Si**	**131.40**	**326**	PKP	**PKiKP**	**11 12 19.6**	**-0.3**
RNPP9	**Sopachiv**	**132.74**	**328**	PKP	**PKPdf**	**11 12 21.7**	**+0.3**
BDFB	**Brasilia**	**133.12**	**129**	PKP	**PKPdf**	**11 12 23.6**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=344,slow=2.6,SNR=3.6						
BRTR	**Keskin Array B**	**133.27**	**311**	PKP	**PKPdf**	**11 12 21.4**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=314,slow=39,SNR=2.4						
EKA	**Eskdalemuir Ar**	**139.21**	**352**	PKP	**PKPdf**	**11 12 31.4**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=110,slow=1.9,SNR=2.6						
CONA	**Conrad Observa**	**139.94**	**331**	*i* PKP	PKPpre	11 12 30.4	
	comp=Z,4.9nm,1.2s						
SOKA	**Soboth**	**141.23**	**330**	*i* PKP	PKPpre	11 12 33.1	
	comp=Z,3.7nm,1.2s						
KBA	**Koelnbreinsper**	**141.73**	**332**	*i* PKP	PKPpre	11 12 33.3	
	comp=Z,9.0nm,1.3s						
LESA	**Schwarzleotal**	**141.77**	**333**	*i* PKP	PKPpre	11 12 32.7	
	comp=Z,8.5nm,1.1s						
BMRD	**Maredsous**	**142.29**	**342**	*d*PKPdf	**PKiKP**	**11 12 40.9**	**-1.2**
WATA	**Walderalm**	**142.32**	**334**	*i* PKP	PKPpre	11 12 35.8	
	comp=Z,8.8nm,1.2s						
WTTA	**Wattenberg**	**142.35**	**333**	*e*PKP	PKPpre	11 12 36.1	
	comp=Z,24nm,1.5s						
ABTA	**Abfaltersbach**	**142.36**	**332**	*i* PKP	PKPpre	11 12 35.1	
	comp=Z,11nm,1.2s						
MOTA	**Moosalm**	**142.51**	**334**	*i* PKP	PKPpre	11 12 36.6	
	comp=Z,11nm,1.0s						
RETA	**Reutte**	**142.54**	**334**	*e*PKP	PKPpre	11 12 36.7	
	comp=Z,8.1nm,1.1s						
SQTA	**Sankt Quirin**	**142.56**	**334**	*i* PKP	PKPpre	11 12 36.2	
	comp=Z,14nm,1.0s						
FETA	**Feichten**	**142.92**	**334**	*e*PKP	PKPpre	11 12 37.3	
	comp=Z,15nm,1.2s						
DAVA	**Damuels**	**143.07**	**335**	*i* PKP	PKPbc	11 12 38.8	+1.2
	comp=Z,7.1nm,0.9s						
SENIN	**Lac Senin/Sane**	**144.84**	**337**	PKPdf	PKPbc	11 12 43.2	+0.2
TIP	**Timpagrande**	**145.16**	**319**		**PKPab**	**11 12 44.2**	**+0.1**
BNI	**Bardonecchia**	**146.17**	**336**	PKPab	**PKPbc**	**11 12 46.9**	**-0.3**
BNI	**Bardonecchia**	**146.17**	**336**	PKP2	**PKPbc**	**11 12 46.9**	**-0.3**
KEST	**Kesra**	**151.91**	**321**	PKPbc	**PKiKP**	**11 13 03.0**	**+0.5**
	comp=Z,13nm,1.0s,baz=270,slow=2.0,SNR=3.5						
PCAB	**Cabril**	**153.19**	**353**	*e*PKPdf	**PKPdf**	**11 12 56.8**	**-0.5**
PVIS	**Viseu**	**154.16**	**353**	*e*PKPdf	**PKPdf**	**11 12 58.4**	**-0.4**
ESDC	**Sonseca Array**	**154.47**	**346**	PKP	**PKPdf**	**11 12 58.9**	**-0.3**
	comp=Z,1.6nm,1.1s,baz=356,slow=4.0,SNR=5.6						
ESDC				PKPab	**PKPab**	**11 13 21.4**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=355,slow=3.6,SNR=5.1						
PCBR	**Castelo Branco**	**154.97**	**352**	*e*PKPdf	**PKPdf**	**11 13 00.9**	**+1.1**
PBAR	**Barrancos**	**156.54**	**350**	*e*PKPdf	**PKPdf**	**11 13 00.4**	**-1.6**
PBEJ	**Beja**	**156.81**	**352**	*e*PKPdf	**PKPdf**	**11 13 01.5**	**-0.8**
PVAQ	**Vaqueiros**	**157.40**	**351**	*e*PKPdf	**PKPdf**	**11 12 59.9**	**-3.2**
PMPST	**Porto Santo, M**	**161.59**	**12**	*e*PKPdf	**PKPdf**	**11 13 10.2**	**+2.1**
TORD	**Torodi Ar. Bea**	**166.62**	**264**	PKP	**PKPdf**	**11 13 11.8**	**-1.3**
	comp=Z,3.0nm,1.2s,baz=264,slow=1.4,SNR=7.0						
TORD				PKPab	**PKPab**	**11 14 14.1**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=76,slow=4.0,SNR=5.0						

AFAD ***12*** *10:56:14.7, 34°.68N×31°.76E, h20km±4km, ML1.9*
ISK ***12*** *10:56:14.7, 34°.26N×32°.42E, h8km, ML2.8/10*
NIC ***12*** *10:56:16.6, 34°.43N×32°.24E, h29km, Ml2.4/7*
GII ***12*** *10:56:16.3±0.0, 34°.46N±0°.02×32°.420E±0°.007, h10km, Mws2.6, confirmed*

ISC 12 10:56:17.2±1.3, 34°.41N±0°.03×32°.40E±0°.05, h16km±9km, n47, σ1902/64, 3C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.39**	**21**	⇑ *iP*	**Pb**	**10 56 26.6**	**+0.7**
NATA				S	**Sn**	**10 56 34.2**	**-1.3**
NATA				AML	AML	10 56 38.1	
	1.4nm,0.2s						
NATA				AML	AML	10 56 39.1	
	0.9nm,0.2s						
APOL	**The Sanctuary**	**0.46**	**56**	P	**Pb**	**10 56 28.0**	**+1.0**
APOL				S	**Sn**	**10 56 37.0**	**-0.1**
APOL				AML	AML	10 56 38.0	
	0.6nm,0.2s						
APOL				AML	AML	10 56 38.2	
	1.0nm,0.3s						
AKMS	**Akamas**	**0.61**	**355**	⇑ *iP*	**Pg**	**10 56 28.7**	**-0.5**
AKMS				S	**Sg**	**10 56 38.1**	**+0.8**
AKMS				AML	AML	10 56 38.8	
	1.0nm,0.4s						
AKMS				AML	AML	10 56 39.3	
	0.8nm,0.3s						
ALFC	**Alefka**	**0.76**	**13**	⇑ *eP*	**Pg**	**10 56 31.2**	**-0.9**
ALFC				S	**Sg**	**10 56 42.5**	**+0.3**
ALFC				AML	AML	10 56 44.5	
	0.9nm,0.2s						
ALFC				AML	AML	10 56 46.0	
	1.1nm,0.5s						
ASGA	**Asgata**	**0.80**	**62**	P	**Pg**	**10 56 32.9**	**+0.2**
ASGA				S	**Sn**	**10 56 45.0**	**-0.3**
ASGA				AML	AML	10 56 47.0	
	1.0nm,0.3s						
ASGA				AML	AML	10 56 47.7	
	0.5nm,0.2s						
LEF	**Lefka**	**0.82**	**30**	Pg	**Pb**	**10 56 32.8**	**-0.2**
LEF				Sg	**Sn**	**10 56 46.1**	**+0.3**
LEF	**Lefka**	**0.82**	**30**	P	**Pn**	**10 56 34.5**	**+0.5**
LEF				S	**Sn**	**10 56 47.2**	**+1.4**
CSS	**Mathiatis**	**0.95**	**54**	Pg	**Pb**	**10 56 34.8**	**-0.4**
CSS				Sg	**Sn**	**10 56 49.5**	**+0.5**
CSS	**Mathiatis**	**0.95**	**54**	P	**Pb**	**10 56 34.9**	**-0.4**
CSS				S	**Sn**	**10 56 49.6**	**+0.5**
CSS				AML	AML	10 56 54.0	
	0.3nm,0.5s						
CSS				AML	AML	10 56 56.6	
	0.3nm,0.3s						
CSS	**Mathiatis**	**0.95**	**54**	P	**Pb**	**10 56 33.1**	**-2.1**
CSS				S	**Sb**	**10 56 45.7**	**-1.9**
AKDN	**Akdeniz- Kıbrı**	**1.00**	**28**	Pn	**Pb**	**10 56 36.9**	**+0.7**
AKIN	**Akıncılar- Kıb**	**1.07**	**55**	Pn	**Pb**	**10 56 37.3**	**0.0**
MVOU	**Mavrovouni**	**1.18**	**59**	P	**Pb**	**10 56 38.9**	**-0.4**
MVOU				S	**Sg**	**10 56 55.7**	**+0.2**
MVOU				AML	AML	10 57 00.2	
	0.1nm,0.4s						
MVOU				AML	AML	10 57 02.9	
	0.1nm,0.4s						
LFK	**Lefkose**	**1.27**	**47**	Pn	**Pn**	**10 56 40.9**	**+0.5**
LFK				Sn	**Sg**	**10 56 59.8**	**+1.4**
GAZI	**Gazipasa**	**1.82**	**358**	Pn	**Pn**	**10 56 49.3**	**+1.4**
GAZI	**Gazipasa**	**1.82**	**358**	P	**Pn**	**10 56 45.8**	**-2.1**
GAZI				S	**Sn**	**10 57 07.5**	**-3.1**
GAZI				*i* AML	AML	10 57 10.0	
	comp=E,9.7nm,0.8s						
GAZI				*i* AML	AML	10 57 24.0	
	comp=N,12nm,0.7s						
GULN	**MERSIN_Gulnar**	**2.00**	**28**	P	**Pn**	**10 56 50.2**	**-0.2**
GULN				S	**Sb**	**10 57 17.0**	**-1.0**
GULN				*i* AML	AML	10 57 18.0	
	comp=E,12nm,0.7s						
GULN				*i* AML	AML	10 57 23.0	
	comp=N,8.3nm,0.5s						
BERE	**Bereket-Mersin**	**2.05**	**19**	Pn	**Pn**	**10 56 51.4**	**+0.3**
IKL	**Isikli**	**2.11**	**30**	Pn	**Pn**	**10 56 53.5**	**+1.7**
TEVE	**Tevekalti-Mers**	**2.19**	**23**	Pn	**Pn**	**10 56 54.1**	**+1.0**
KIZK	**Mersin**	**2.51**	**34**	Pn	**Pn**	**10 56 57.9**	**+0.6**
KIZK	**Mersin**	**2.51**	**34**	P	**Pn**	**10 56 56.6**	**-0.8**
KIZK				S	**Sn**	**10 57 26.6**	**-1.0**
KIZK				*i* AML	AML	10 57 32.0	
	comp=N,13nm,1.1s						
KIZK				*i* AML	AML	10 57 33.0	
	comp=E,8.2nm,0.3s						
KKBE	**Karaman, Kazim**	**2.84**	**9**	P	**Pn**	**10 57 03.1**	**+1.2**
KKBE				S	**Sn**	**10 57 37.3**	**+1.4**
KKBE				*i* AML	AML	10 57 38.0	
	comp=E,9.4nm,1.8s						
KKBE				*i* AML	AML	10 57 39.0	
	comp=N,3.0nm,0.7s						
MMA0B	**Mount Meron ar**	**2.87**	**118**	P	**Pn**	**10 57 02.1**	**-0.2**
MMA0B	**Mount Meron ar**	**2.87**	**118**	S	**Sn**	**10 57 36.5**	**0.0**
MMA3	**Mount Meron ar**	**2.87**	**118**	P	**Pn**	**10 57 01.8**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.97**	**113**	P	**Pn**	**10 57 03.4**	**-0.3**
GEM	**Giv'at Ha'Em**	**2.97**	**113**	S	**Sn**	**10 57 39.0**	**+0.1**
NATI	**Neve Ativ**	**3.01**	**111**	P	**Pn**	**10 57 03.8**	**-0.3**
NATI	**Neve Ativ**	**3.01**	**111**	S	**Sn**	**10 57 40.1**	**+0.3**
MMLI	**Mount Malkishu**	**3.20**	**127**	P	**Pn**	**10 57 06.7**	**-0.2**
MMLI	**Mount Malkishu**	**3.20**	**127**	S	**Sn**	**10 57 44.9**	**+0.1**
SALP	**Salfit**	**3.31**	**134**	P	**Pn**	**10 57 08.4**	**+0.1**
SALP	**Salfit**	**3.31**	**134**	S	**Sn**	**10 57 48.0**	**+0.7**
KERG	**Konya-Eregli**	**3.31**	**25**	P	**Pn**	**10 57 10.4**	**+1.9**
KERG				*i* AML	AML	10 57 50.0	
	comp=N,11nm,1.1s						
KERG				S	**Sn**	**10 57 50.3**	**+2.8**
HMDT	**Nahal Hemdat**	**3.39**	**129**	P	**Pn**	**10 57 09.4**	**0.0**
HMDT	**Nahal Hemdat**	**3.39**	**129**	S	**Sn**	**10 57 49.7**	**+0.4**
DSI	**Dead Sea**	**3.78**	**138**	P	**Pn**	**10 57 14.4**	**-0.4**
DSI	**Dead Sea**	**3.78**	**138**	S	**Sn**	**10 57 59.2**	**+0.2**
YTIR	**Yattir**	**3.80**	**142**	P	**Pn**	**10 57 15.3**	**+0.1**
YTIR	**Yattir**	**3.80**	**142**	S	**Sn**	**10 58 00.3**	**+0.6**
PRNI	**Paran**	**4.61**	**151**	P	**Pn**	**10 57 25.9**	**-0.3**
PRNI	**Paran**	**4.61**	**151**	S	**Sn**	**10 58 20.7**	**+1.2**
MBRI	**Mt Berech**	**5.07**	**154**	P	**Pn**	**10 57 33.0**	**+0.3**
MBRI	**Mt Berech**	**5.07**	**154**	S	**Sn**	**10 58 32.4**	**+1.4**
EIL	**Elat**	**5.20**	**155**	P	**Pn**	**10 57 34.6**	**+0.3**
EIL	**Elat**	**5.20**	**155**	S	**Sn**	**10 58 34.2**	**+0.2**

IDC ***12*** *11:11:32.8±1.3, 61°.24N×150°.35W, h45km±13km, mb3.6/14, mbtmp3.7/19, ML3.3/5, Error ellipse: s-maj=16.5km s-min=9.2km az=107.0*
NEIC ***12*** *11:11:34.2±1.1, 61°.28N±0°.03×149°.93W±0°.01, h47km±3km, Error ellipse: s-maj=3.9km s-min=0.3km az=167.0*
AEIC ***12*** *11:11:34.9±1.2, 61°.27N±0°.01×149°.93W±0°.05, h46km±2km, ML3.7, ML3.8/172(NEIC), Error ellipse: s-maj=3.6km s-min=1.6km az=84.0*

ISC 12 11:11:34.1±0.7, 61°.25N±0°.03×149°.98W±0°.02, h51km±5km, n257, σ678/240, mb3.9/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.16**	**227**		**Pn**	**11 11 42.7**	**+0.5**
FIS	**Fire Island**	**0.16**	**227**	IAML		11 11 50.5	
	comp=N,24μm,0.7s						
FIS				IAML		11 11 51.3	
	comp=E,18μm,0.6s						
RC01	**Rabbit Creek A**	**0.20**	**144**		**Pn**	**11 11 42.2**	**-0.3**
RC01					**Sn**	**11 11 48.5**	**0.0**
RC01	**Rabbit Creek A**	**0.20**	**144**	IAML		11 11 49.0	
	comp=N,20μm,0.5s						
RC01				IAML		11 11 49.3	
	comp=E,16μm,0.5s						
RC01	**Rabbit Creek A**	**0.20**	**144**	P	**Pn**	**11 11 42.2**	**-0.3**
	baz=333						
RC01				S	**Sn**	**11 11 48.5**	**0.0**
	baz=333						
SUA	**Susitna One**	**0.43**	**300**		**Pn**	**11 11 44.2**	**-0.5**
SUA					**Sn**	**11 11 52.0**	**-0.2**
SUA	**Susitna One**	**0.43**	**300**	IAML		11 11 52.6	
	comp=N,4μm,0.6s						
SUA				IAML		11 11 52.8	
	comp=E,8μm,0.8s						
SUA	**Susitna One**	**0.43**	**300**	P	**Pn**	**11 11 44.2**	**-0.5**
	baz=116						
SUA				S	**Sn**	**11 11 52.0**	**-0.2**
	baz=116						
M22K	**Willow**	**0.51**	**352**		**Pn**	**11 11 44.4**	**-1.0**
M22K					**Sn**	**11 11 52.7**	**-0.9**
M22K	**Willow**	**0.51**	**352**	IAML		11 11 53.1	
	comp=N,5μm,0.7s						
M22K				IAML		11 12 02.4	
	comp=E,4μm,0.6s						
M22K	**Willow**	**0.51**	**352**	P	**Pn**	**11 11 44.4**	**-1.0**
	baz=169						
M22K				S	**Sn**	**11 11 52.7**	**-0.9**
	baz=169						
PMR	**Palmer**	**0.53**	**50**		**Pn**	**11 11 45.0**	**-0.7**
PMR					**Sn**	**11 11 53.2**	**-0.9**
PMR	**Palmer**	**0.53**	**50**	IAML		11 11 53.9	
	comp=N,5μm,0.2s						
PMR				IAML		11 11 53.9	
	comp=E,7μm,0.6s						
PMR	**Palmer**	**0.53**	**50**	P	**Pn**	**11 11 45.0**	**-0.7**
	baz=230						
PMR				S	**Sn**	**11 11 53.2**	**-0.9**
	baz=230						
PMR	**Palmer**	**0.53**	**50**	P	**Pn**	**11 11 44.9**	**-0.8**
PMR	**Palmer**	**0.53**	**50**	S	**Sn**	**11 11 53.2**	**-0.9**
GHO	**Glory Hole Cre**	**0.73**	**44**		**Pn**	**11 11 47.5**	**-0.8**
GHO				IAML		11 12 00.0	
	comp=N,5μm,0.4s						
GHO	**Glory Hole Cre**	**0.73**	**44**		**Sn**	**11 11 58.4**	**-0.2**
CAPN	**Captain Cook N**	**0.75**	**230**		**Pn**	**11 11 49.9**	**+1.5**
CAPN	**Captain Cook N**	**0.75**	**230**	P	**Pn**	**11 11 49.9**	**+1.5**
	baz=49						
KNK	**Knik Glacier**	**0.75**	**77**		**Pn**	**11 11 48.4**	**-0.1**
KNK				IAML		11 12 02.1	
	comp=E,4μm,0.3s						
KNK				IAML		11 12 02.3	
	comp=N,5μm,0.4s						
KNK	**Knik Glacier**	**0.75**	**77**	P	**Pn**	**11 11 48.5**	**-0.1**
	baz=259						
SLKM	**Skilak Lake**	**0.76**	**189**		**Pn**	**11 11 48.2**	**-0.4**
SLKM				IAML		11 12 01.4	
	comp=N,2μm,0.7s						
SLKM				IAML		11 12 01.8	
	comp=E,4μm,0.4s						
O22K	**Cooper Landing**	**0.78**	**171**		**Pn**	**11 11 48.8**	**-0.1**
O22K	**Cooper Landing**	**0.78**	**171**	P	**Pn**	**11 11 48.9**	**0.0**
	baz=353						
PWL	**Port Wells**	**0.89**	**116**		**Pn**	**11 11 50.4**	**0.0**
PWL	**Port Wells**	**0.89**	**116**		**Sn**	**11 12 03.5**	**+1.1**
PWL	**Port Wells**	**0.89**	**116**	P	**Pn**	**11 11 50.6**	**+0.2**
	baz=299						
PWL				S	**Sn**	**11 12 03.4**	**+1.1**
	baz=299						
STLK	**Strandline Lak**	**0.93**	**286**		**Pn**	**11 11 51.0**	**+0.1**
STLK	**Strandline Lak**	**0.93**	**286**		**Sn**	**11 12 03.6**	**+0.4**
STLK	**Strandline Lak**	**0.93**	**286**	IAML		11 12 04.4	
	comp=N,12μm,0.3s						
STLK				IAML		11 12 04.4	
	comp=E,6μm,0.5s						
SML	**Sawmill**	**0.97**	**54**		**Pn**	**11 11 51.1**	**-0.3**
SML				IAML		11 12 05.3	
	comp=N,3μm,0.8s						
SML				IAML		11 12 05.9	
	comp=E,4μm,0.6s						
SML	**Sawmill**	**0.97**	**54**		**Sn**	**11 12 04.5**	**+0.4**
SML	**Sawmill**	**0.97**	**54**	P	**Pn**	**11 11 51.1**	**-0.3**
	baz=236						
SML				S	**Sn**	**11 12 04.5**	**+0.4**
	baz=236						
SPCG	**Spurr Capps Gl**	**0.99**	**273**		**Pn**	**11 11 51.7**	**0.0**
SPCG					**Sn**	**11 12 05.1**	**+0.4**
SPU	**Mount Spurr**	**1.01**	**267**		**Pn**	**11 11 51.5**	**-0.4**
SPU	**Mount Spurr**	**1.01**	**267**		**Sn**	**11 12 05.0**	**-0.1**
SKT	**Skwentna**	**1.04**	**315**		**Pn**	**11 11 51.9**	**-0.5**
SKT				IAML		11 12 06.8	
	comp=E,4μm,0.5s						
SKT	**Skwentna**	**1.04**	**315**		**Sn**	**11 12 06.3**	**+0.4**
SKT	**Skwentna**	**1.04**	**315**	P	**Pn**	**11 11 52.2**	**-0.2**
	baz=132						
SKT				S	**Sn**	**11 12 06.3**	**+0.4**
	baz=132						
SPCN	**Chakachatna No**	**1.07**	**270**		**Pn**	**11 11 52.9**	**+0.2**
CKL	**Chakachamna La**	**1.14**	**268**		**Pn**	**11 11 53.8**	**0.0**
SPBG	**Spurr Blockage**	**1.16**	**271**		**Pn**	**11 11 54.0**	**+0.1**
CUT	**Chulitna**	**1.17**	**353**		**Pn**	**11 11 53.6**	**-0.4**
CUT	**Chulitna**	**1.17**	**353**	P	**Pn**	**11 11 54.0**	**0.0**
	baz=172						
SEW	**Seward**	**1.18**	**167**		**Pn**	**11 11 53.9**	**-0.3**
SEW	**Seward**	**1.18**	**167**	P	**Pn**	**11 11 53.9**	**-0.3**
	baz=349						
M23K	**Glacier View**	**1.21**	**62**		**Pn**	**11 11 55.0**	**+0.4**
M23K	**Glacier View**	**1.21**	**62**	P	**Pn**	**11 11 55.0**	**+0.4**
	baz=245						
SPNN	**North Nagishla**	**1.32**	**276**		**Pn**	**11 11 56.5**	**+0.3**
RDT	**Redoubt**	**1.37**	**241**		**Pn**	**11 11 56.9**	**+0.1**
SCM	**Sheep Creek Mo**	**1.40**	**64**		**Pn**	**11 11 57.5**	**+0.3**
SCM	**Sheep Creek Mo**	**1.40**	**64**	P	**Pn**	**11 11 57.5**	**+0.3**
	baz=247						
GLI	**Glacier Island**	**1.45**	**104**		**Pn**	**11 11 57.8**	**-0.1**
GLI	**Glacier Island**	**1.45**	**104**	P	**Pn**	**11 11 57.8**	**-0.1**
	baz=287						
DFR	**Drift River**	**1.48**	**245**		**Pn**	**11 11 58.6**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.53**	**246**		**Pn**	**11 11 59.5**	**+0.4**
BRSE	**Bradley Lake S**	**1.56**	**194**		**Pn**	**11 11 59.5**	**+0.1**
BRSE	**Bradley Lake S**	**1.56**	**194**	P	**Pn**	**11 11 59.5**	**+0.1**
	baz=14						
RDWB	**Redoubt West**	**1.60**	**243**		**Pn**	**11 12 00.3**	**+0.3**
NCT	**North Crescent**	**1.60**	**246**		**Pn**	**11 12 00.4**	**+0.4**
M20K	**Styx River**	**1.64**	**294**		**Pn**	**11 12 01.3**	**+0.8**
M20K	**Styx River**	**1.64**	**294**	IAML		11 12 24.8	
	comp=E,988nm,0.6s						
M20K				IAML		11 12 27.1	
	comp=N,742nm,0.8s						
O20K	**Slope Mountain**	**1.75**	**229**		**Pn**	**11 12 03.2**	**+1.2**
O20K	**Slope Mountain**	**1.75**	**229**	P	**Pn**	**11 12 03.2**	**+1.2**
	baz=47						
FID	**Port Fidalgo**	**1.78**	**105**		**Pn**	**11 12 01.6**	**-0.7**
FID	**Port Fidalgo**	**1.78**	**105**	IAML		11 12 26.3	
	comp=N,2μm,0.6s						
FID				IAML		11 12 33.8	
	comp=E,2μm,0.6s						
P23K	**Montague Islan**	**1.79**	**134**		**Pn**	**11 12 01.9**	**-0.6**
P23K	**Montague Islan**	**1.79**	**134**	P	**Pn**	**11 12 02.1**	**-0.4**
	baz=317						
HOM	**Homer**	**1.80**	**208**		**Pn**	**11 12 03.4**	**+0.8**
HOM	**Homer**	**1.80**	**208**	IAML		11 12 28.7	
	comp=N,2μm,0.9s						
HOM	**Homer**	**1.80**	**208**	P	**Pn**	**11 12 03.5**	**+0.9**
	baz=27						
CNPM	**China Poot**	**1.84**	**200**	Pn	**Pn**	**11 12 03.3**	**+0.1**
CNPM				IAML		11 12 30.3	
	comp=E,593nm,0.4s						
CNPM				IAML		11 12 35.2	
	comp=N,596nm,0.4s						
HIN	**Hinchinbrook I**	**1.91**	**115**		**Pn**	**11 12 04.1**	**0.0**
HIN				IAML		11 12 35.7	
	comp=N,1μm,0.8s						
HIN				IAML		11 12 40.3	
	comp=E,1μm,1.2s						
PPLA	**Purkeypile**	**1.95**	**329**		**Pn**	**11 12 05.4**	**+0.5**
PPLA	**Purkeypile**	**1.95**	**329**	P	**Pn**	**11 12 05.5**	**+0.7**
	baz=146						
KLU	**Klutina**	**1.97**	**81**		**Pn**	**11 12 04.7**	**-0.3**
KLU				IAML		11 12 37.2	
	comp=N,949nm,0.4s						
KLU				IAML		11 12 40.3	
	comp=E,542nm,0.7s						
KLU	**Klutina**	**1.97**	**81**	P	**Pn**	**11 12 05.1**	**+0.1**
	baz=265						
ILS	**Iliamna Low So**	**2.00**	**231**		**Pn**	**11 12 06.6**	**+1.2**
M24K	**Tolsona, Glenn**	**2.01**	**63**	Pn	**Pn**	**11 12 06.4**	**+0.9**
M24K				IAML		11 12 40.1	
	comp=N,1μm,0.9s						
M24K	**Tolsona, Glenn**	**2.01**	**63**	P	**Pn**	**11 12 06.6**	**+1.1**
	baz=247						
ILSW	**Iliamna Southw**	**2.01**	**232**		**Pn**	**11 12 06.5**	**+0.9**
DIV	**Divide**	**2.04**	**92**		**Pn**	**11 12 05.8**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.18**	**107**		**Pn**	**11 12 07.7**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.18**	**107**	P	**Pn**	**11 12 07.7**	**-0.1**
	baz=291						
EYAK	**Cordova Ski Ar**	**2.18**	**107**	P	**Pn**	**11 12 08.0**	**+0.2**
TRF	**Thorofare Moun**	**2.21**	**356**	Pn	**Pn**	**11 12 08.7**	**+0.3**
TRF				IAML		11 12 50.1	
	comp=N,542nm,0.5s						
TRF				IAML		11 12 56.8	
	comp=E,439nm,0.9s						
TRF	**Thorofare Moun**	**2.21**	**356**	P	**Pn**	**11 12 08.5**	**+0.1**
	baz=176						
L20K	**Farewell, AK**	**2.22**	**305**		**Pn**	**11 12 08.8**	**+0.4**
RND	**Reindeer**	**2.23**	**13**	Pn	**Pn**	**11 12 08.7**	**+0.1**
RND				IAML		11 12 48.3	
	comp=E,444nm,0.7s						
N19K	**Bonanza Creek**	**2.24**	**261**		**Pn**	**11 12 09.3**	**+0.6**
P19K	**Oil Pt**	**2.27**	**227**		**Pn**	**11 12 10.3**	**+1.2**
P19K				IAML		11 13 00.1	
	comp=N,686nm,0.6s						
P19K	**Oil Pt**	**2.27**	**227**	P	**Pn**	**11 12 10.3**	**+1.2**
	baz=44						
KTH	**Kantishna Hill**	**2.35**	**350**		**Pn**	**11 12 10.0**	**-0.2**
KTH	**Kantishna Hill**	**2.35**	**350**	IAML		11 12 43.2	
	comp=N,443nm,0.6s						
O19K	**Port Alsworth**	**2.38**	**245**	Pn	**Pn**	**11 12 10.4**	**-0.2**
O19K				IAML		11 12 41.4	
	comp=E,878nm,0.4s						
O19K	**Port Alsworth**	**2.38**	**245**	P	**Pn**	**11 12 11.0**	**+0.4**
	baz=61						
CAST	**Castle Rocks**	**2.39**	**337**	Pn	**Pn**	**11 12 10.7**	**0.0**
CAST				IAML		11 12 44.3	
	comp=E,356nm,0.5s						
CAST	**Castle Rocks**	**2.39**	**337**	P	**Pn**	**11 12 10.8**	**+0.2**
	baz=154						
MCK	**McKinley**	**2.54**	**11**	Pn	**Pn**	**11 12 13.9**	**+1.2**
MCK	**McKinley**	**2.54**	**11**	P	**Pn**	**11 12 13.7**	**+0.9**
	baz=191						
HARP	**HAARP**	**2.56**	**61**		**Pn**	**11 12 14.0**	**+0.9**
HARP	**HAARP**	**2.56**	**61**	P	**Pn**	**11 12 14.0**	**+0.9**
	baz=246						
N25K	**Chitina, Valde**	**2.61**	**80**	Pn	**Pn**	**11 12 13.7**	**-0.1**
N25K				IAML		11 12 54.0	
	comp=N,467nm,0.6s						
N25K

HDA IAML 11 13 15.1
comp=N,222nm,0.3s
HDA IAML 11 13 22.8
comp=E,256nm,1.4s
J20K Nowinta River 3.51 329 Pn **Pn 11 12 26.3 +0.3**
J20K IAML 11 13 06.9
comp=N,316nm,0.6s
J20K IAML 11 13 35.1
comp=E,200nm,0.7s
J20K Nowinta River 3.51 329 P **Pn 11 12 26.5 +0.5**
baz=144
M26K Nabesna, AK 3.51 68 Pn 11 12 26.5 +0.4
M26K IAML 11 13 32.4
comp=N,163nm,0.5s
CCB Clear Creek Bu 3.55 15 Pn 11 12 26.6 +0.1
CCB Clear Creek Bu 3.55 15 IAML 11 13 29.0
comp=E,148nm,0.6s
N17K Nushagak Hills 3.60 261 Pn 11 12 27.5 +0.3
N17K Nushagak Hills 3.60 261 IAML 11 13 09.6
comp=E,136nm,0.7s
N17K IAML 11 13 30.9
comp=N,113nm,0.6s
M17K Holitna River 3.60 276 Pn 11 12 27.8 +0.5
M17K Holitna River 3.60 276 IAML 11 13 28.3
comp=N,348nm,0.8s
DOT Dot Lake 3.65 46 Pn 11 12 28.6 +0.6
SNH Sunshine Point 3.67 104 Pn 11 12 27.3 -0.9
SNH Sunshine Point 3.67 104 IAML 11 13 36.0
comp=E,132nm,1.2s
KDAK Kodiak Island 3.72 202 P **Pn 11 12 27.6 -1.4**
comp=E,0.7nm,0.3s,baz=348,slow=20,SNR=18
KDAK S **Sn 11 13 08.6 -2.9**
comp=E,37nm,0.5s,baz=231,slow=9.4,SNR=5.2
comp=E,2.3nm,0.3s
COLA College 3.76 14 Pn 11 12 29.7 +0.3
COLA College 3.76 14 IAML 11 13 37.7
comp=E,292nm,0.5s
COLA College 3.76 14 P **Pn 11 12 31.0 +1.6**
BARK Barkley Ridge 3.76 100 Pn 11 12 29.3 -0.3
J19K Poorman 3.79 319 Pn 11 12 30.2 +0.4
J19K Poorman 3.79 319 IAML 11 13 29.4
comp=E,120nm,1.1s
J19K IAML 11 13 33.5
comp=N,141nm,1.0s
IL31 3.80 20 Pn 11 12 30.0 0.0
ILAR Eielson Array 3.80 20 Pn **Pn 11 12 31.1 +1.1**
ILAR Eielson Array 3.80 20 P **Pn 11 12 29.9 -0.1**
comp=N,1.6nm,0.3s,baz=202,slow=13,SNR=72
ILAR S **Sn 11 13 14.9 +1.4**
comp=N,14nm,0.6s,baz=212,slow=16,SNR=2.5
comp=N,2.3nm,0.3s
O17K Koliganek Bris 3.82 250 Pn 11 12 30.7 +0.5
O17K Koliganek Bris 3.82 250 P **Pn 11 12 30.8 +0.5**
baz=64
P17K Kvichak River 3.83 240 P **Pn 11 12 31.9 +1.6**
baz=54
J18K Innoko River 3.84 308 Pn 11 12 31.1 +0.5
J18K Innoko River 3.84 308 IAML 11 13 15.5
comp=N,137nm,0.6s
SCRK Sand Creek 3.89 43 IAML 11 13 33.5
comp=N,176nm,0.8s
SCRK IAML 11 13 33.9
comp=E,128nm,0.6s
SCRK Sand Creek 3.89 43 P **Pn 11 12 32.1 +0.7**
baz=228
I23K Minto, Yukon-K 3.92 4 Pn 11 12 31.7 0.0
I23K Minto, Yukon-K 3.92 4 IAML 11 13 42.4
comp=N,95nm,0.7s
I23K Minto, Yukon-K 3.92 4 P **Pn 11 12 32.0 +0.4**
baz=184
J25K Salcha River, 3.98 30 Pn 11 12 33.8 +1.3
J25K IAML 11 13 29.6
comp=N,121nm,0.6s
J25K IAML 11 13 30.1
comp=E,180nm,0.7s
I21K Tanana 4.05 348 Pn 11 12 34.1 +0.7
POKR Poker Plat Res 4.05 15 Pn 11 12 34.2 +0.8
POKR Poker Plat Res 4.05 15 IAML 11 13 46.7
comp=E,105nm,0.9s
POKR Poker Plat Res 4.05 15 P **Pn 11 12 34.2 +0.8**
baz=197
L17K Donlin 4.06 286 Pn 11 12 33.9 +0.4
ACHA Angle Creek He 4.08 224 Pn **Pn 11 12 34.9 +1.0**
MESA MESA 4.09 102 Pn 11 12 33.4 -0.7
MESA MESA 4.09 102 IAML 11 13 22.3
comp=E,185nm,0.4s
ANCK Angle Creek 4.14 225 Pn 11 12 35.6 +0.8
K17K Iditarod 4.19 294 Pn **Pn 11 12 35.7 +0.3**
K17K IAML 11 13 54.8
comp=N,171nm,1.1s
K17K IAML 11 13 55.0
comp=E,202nm,0.8s
K17K Iditarod 4.19 294 P **Pn 11 12 35.9 +0.5**
baz=106
L27K Beaver Creek, 4.23 61 Pn 11 12 36.5 +0.5
O16K Kokwok River B 4.35 251 Pn 11 12 37.7 +0.2
O16K Kokwok River B 4.35 251 IAML 11 14 11.2
comp=N,80nm,0.9s
M16K Timber Creek 4.36 271 Pn 11 12 38.2 +0.5
M16K Timber Creek 4.36 271 IAML 11 13 50.7
comp=E,76nm,3.4s
M16K IAML 11 14 04.6
comp=N,76nm,4.6s
YUK2 White River 4.41 79 Pn 11 12 38.2 -0.2
L16K Owhat River 4.58 280 Pn 11 12 40.6 0.0
L16K IAML 11 14 15.0
comp=E,65nm,2.1s
P16K Nushagak River 4.58 244 Pn 11 12 41.2 +0.5
H21K Melozitna Rive 4.60 345 Pn 11 12 41.2 +0.2
H24K Noodor Dome 4.70 11 Pn 11 12 43.7 +1.4
H24K IAML 11 14 07.6
comp=E,69nm,0.9s
GCSA Galena City Sc 4.71 321 Pn 11 12 43.0 +0.5
PRP Porcupine Dome 4.73 23 Pn **Pn 11 12 44.1 +1.3**
PRP IAML 11 13 46.1
comp=N,132nm,0.6s
PRP IAML 11 14 01.5
comp=E,65nm,0.8s
J17K VABM Dome 4.76 301 Pn 11 12 42.9 -0.2
J17K VABM Dome 4.76 301 IAML 11 14 17.2
comp=N,80nm,0.9s
J17K IAML 11 14 19.9
comp=E,66nm,0.8s
O28M Mount Upton 4.79 91 Pn 11 12 44.2 +0.4
H20K Anotleneega Mo 4.79 335 Pn 11 12 43.8 +0.2
PCA Pinnacle 4.92 99 Pn 11 12 44.9 -0.5
N15K Kwethluk River 5.08 262 Pn 11 12 48.3 +0.7
N15K Kwethluk River 5.08 262 IAML 11 14 32.0
comp=E,94nm,1.7s
N15K IAML 11 14 36.8
comp=N,90nm,3.4s
I26K Coal Creek Min 5.10 34 Pn 11 12 48.9 +1.1
SII Sitkinak Islan 5.19 207 P Pn 11 12 54.3 +5.3
O15K Ungalikthiuk R 5.33 251 Pn 11 12 51.6 +0.6
J16K Anvik River 5.36 297 Pn 11 12 51.5 +0.1
J16K Anvik River 5.36 297 IAML 11 14 56.0
comp=N,44nm,4.9s
J16K IAML 11 14 59.7
comp=E,48nm,3.9s
H18K Honhosa River 5.45 320 Pn 11 12 53.4 +0.8
K15K Wolf Creek Mou 5.58 286 Pn 11 12 55.2 +0.8
M29M Somme Creek 5.58 73 Pn 11 12 54.9 +0.4
DAWY Dawson 5.64 55 Pn 11 12 55.8 +0.6
FYU Fort Yukon 5.73 19 Pn **Pn 11 12 57.4 +1.0**
H17K Granite Mounta 5.83 314 Pn 11 12 57.9 +0.1
M14K Bethel 5.85 270 Pn 11 12 58.9 +0.9
L29M L29M 5.85 66 Pn 11 12 58.6 +0.5
N14K Kuskokwak Cree 5.92 262 Pn 11 12 59.8 +0.8
O14K Tigyukauivet M 5.96 255 Pn 11 13 00.5 +0.9
G18K Tagagawik 6.06 324 Pn 11 13 01.5 +0.6
L14K Kuka Creek 6.12 276 Pn 11 13 03.1 +1.3
K29M Barlow Dome 6.32 60 Pn 11 13 04.8 +0.2
F20K Avaraart Lake 6.34 339 Pn 11 13 05.8 +1.2
BMAR Burnt Mountain 6.63 18 Pn **Pn 11 13 10.0 +1.3**
F25K Christian Rive 6.64 15 Pn 11 13 09.6 +0.7
G27K Doyon Strip 6.66 30 Pn 11 13 09.7 +0.4
N31M Braeburn, Yuko 6.83 82 Pn **Pn 11 13 11.2 -0.4**
F26K Sheenjek River 6.94 19 Pn 11 13 13.9 +0.9
E19K Redstone River 6.97 336 Pn 11 13 14.8 +1.3
J30M Hart River 7.06 56 Pn **Pn 11 13 16.1 +1.3**
SKAG Skagway 7.48 97 P **Pn 11 13 21.8 +1.4**
F28M Old Crow 7.73 30 Pn **Pn 11 13 24.3 +0.5**
JIS Juneau Island 8.41 104 P **Pn 11 13 35.3 +2.2**
INK Inuvik 9.94 38 P **Pn 11 13 53.9 0.0**
comp=E,0.3nm,0.3s,baz=237,slow=14,SNR=12
INK S **Sn 11 15 47.1 +3.4**
comp=E,3.9nm,0.7s,baz=145,slow=16,SNR=6.1
comp=E,0.4nm,0.4s
DLBC Dease Lake 10.41 97 P **Pn 11 14 00.6 0.0**
comp=E,0.2nm,0.3s,baz=229,slow=13,SNR=4.0
comp=E,1.6nm,0.8s
A36M Sachs Harbour 14.41 32 Pn **Pn 11 14 55.8 +1.1**
YKA Yellowknife Ar 16.60 70 P **Pn 11 15 22.9 0.0**
comp=E,0.1nm,0.3s,baz=281,slow=11,SNR=11
comp=E,0.3nm,0.6s
NVAR Mina Array Bea 30.12 125 P **P 11 17 39.7 +0.8**
comp=E,0.4nm,0.6s,baz=317,slow=10,SNR=4.6
comp=E,0.4nm,0.6s
PDAR Pinedale Array 30.32 109 P **P 11 17 42.6 +2.0**
comp=E,0.2nm,0.5s,baz=314,slow=4.8,SNR=3.6
comp=E,0.2nm,0.5s
ULM Lac du Bonnet 31.45 85 P **P 11 17 51.8 +1.6**
comp=E,0.8nm,0.4s,baz=280,slow=6.5,SNR=3.9
comp=E,0.8nm,0.4s
SPITS Spitsbergen Ar 40.56 4 P **P 11 19 07.2 -0.5**
comp=E,2.2nm,0.5s,baz=38,slow=4.2,SNR=11
comp=E,2.2nm,0.5s
TXAR Lajitas Array 44.09 115 P **P 11 19 36.5 -0.5**
comp=E,0.3nm,0.9s,baz=270,slow=5.6,SNR=2.6
comp=E,0.3nm,0.9s
SONM Songino Array 55.24 307 P **P 11 21 01.6 0.0**
comp=E,0.3nm,0.3s,baz=69,slow=4.3,SNR=3.2
comp=E,0.3nm,0.3s
FINES FINESS Array B 57.59 2 P **P 11 21 16.8 -1.1**
comp=E,4.9nm,0.9s,baz=348,slow=8.0,SNR=5.9
comp=E,4.9nm,0.9s
HFS Hagfors 58.29 10 P **P 11 21 22.3 -0.6**
comp=E,1.5nm,0.7s,baz=14,slow=7.6,SNR=5.5
comp=E,1.5nm,0.7s
EKA Eskdalemuir Ar 60.84 21 P **P 11 21 39.9 -0.6**
comp=E,2.0nm,0.9s,baz=342,slow=6.2,SNR=3.6
comp=E,2.0nm,0.9s
BVAR Borovoye Array 61.63 334 P **P 11 21 44.8 -1.1**
comp=E,1.0nm,0.5s,baz=47,slow=11,SNR=4.0
comp=E,1.0nm,0.5s
KURBB Kurchatov Arra 61.91 327 P **P 11 21 46.6 -1.1**
comp=E,0.4nm,0.3s,baz=30,slow=7.2,SNR=1.5
comp=E,0.4nm,0.3s
MKAR Makanchi Array 64.36 323 P **P 11 22 02.2 -1.9**
comp=E,0.4nm,0.5s,baz=37,slow=6.6,SNR=5.6
comp=E,0.4nm,0.5s
AKASG Malin Array Be 68.40 1 P **P 11 22 28.3 -1.4**
comp=E,0.5nm,0.3s,baz=2.9,slow=6.5,SNR=3.5
comp=E,0.5nm,0.3s
ESDC Sonseca Array 75.69 26 P **P 11 23 13.3 -0.3**
comp=E,0.9nm,0.8s,baz=340,slow=6.1,SNR=4.1
comp=E,0.9nm,0.8s
QSPA South Pole Qui 151.06 180 PKPbc **PKPbc 11 31 19.2 -0.4**
comp=E,1.5nm,0.7s,baz=318,slow=1.7,SNR=6.5

WEL 12 11:15:24.3±0.8, 33°S±16″×17°9W±4°2, h33km, M4.1/12, mB4.6/2, ML4.5/17, MLv4.1/12, Mw(mB)3.8/2, Error ellipse: s-maj=59.0km s-min=5.0km az=110.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.50**	**15**	S	Sn	11 16 56.1	-0.6
WMGZ	**Waiomatatini S**	**5.58**	**202**	P	Pn	11 16 46.1	+1.1
WMGZ				S	Sn	11 17 49.5	+1.5
HAZ	**Te Kaha**	**5.75**	**207**	P	Pn	11 16 47.5	+0.2
HAZ				S	Sn	11 17 53.0	+0.9
PUZ	**Puketiti**	**5.86**	**202**	P	Pn	11 16 47.5	-1.4
PUZ				S	Sn	11 17 53.4	-1.6
RUGZ	**Raukumara Rang**	**5.97**	**207**	P	Pn	11 16 51.5	+1.0
RUGZ				S	Sn	11 17 57.9	+0.1
TWGZ	**Tauwhareparae**	**6.05**	**204**	P	Pn	11 16 51.4	-0.1
TWGZ				S	Sn	11 18 00.4	+0.7
CNGZ	**Carnagh Statio**	**6.26**	**201**	P	Pn	11 16 54.5	+0.2
TKGZ	**Te Karaka**	**6.33**	**204**	P	Pn	11 16 55.9	+0.6
TKGZ				S	Sn	11 18 06.1	-0.4
MWZ	**Matawai**	**6.35**	**206**	P	Pn	11 16 55.4	-0.3
MWZ				S	Sn	11 18 06.7	-0.3
URZ	**Urewera**	**6.45**	**209**	P	Pn	11 16 57.6	+0.7
RAGZ	**Rawiri**	**6.54**	**206**	P	Pn	11 16 58.5	+0.3
RIGZ	**Rimuhau**	**6.60**	**203**	P	Pn	11 16 58.5	-0.6
OUZ	**Omahuta**	**6.71**	**246**	P	Pn	11 17 07.0	+6.4
MUGZ	**Murupara**	**6.78**	**210**	P	Pn	11 17 03.6	+2.2
SNGZ	**Shannon Statio**	**6.82**	**205**	P	Pn	11 17 00.5	-1.5
KNZ	**Kokohu**	**6.92**	**203**	P	Pn	11 17 03.4	+0.1
MHGZ	**Mahia Peninsul**	**6.96**	**201**	P	Pn	11 17 05.1	+1.1
RAHZ	**Arahi**	**7.03**	**206**	P	Pn	11 17 05.3	+0.4
MTHZ	**Maungataniwha**	**7.07**	**208**	P	Pn	11 17 06.6	+1.1
ARHZ	**Aropaoanui**	**7.37**	**205**	P	Pn	11 17 11.2	+1.6
BKZ	**Black Stump Fm**	**7.47**	**208**	P	Pn	11 17 11.1	+0.1
MCHZ	**McNeill Hill**	**7.64**	**206**	P	Pn	11 17 14.0	+0.8
KWHZ	**Kaweka Forest**	**7.72**	**208**	P	Pn	11 17 14.2	-0.3
PXZ	**Pawanui**	**8.10**	**204**	P	Pn	11 17 18.8	-0.7
BFZ	**Birch Farm**	**8.89**	**204**	P	Pn	11 17 34.6	+4.2
MRZ	**Mangatainoka R**	**9.12**	**207**	P	Pn	11 17 30.2	-3.3
QRZ	**Quartz Range**	**10.64**	**218**	P	Pn	11 17 54.4	0.0
THZ	**Tophouse**	**11.17**	**213**	P	Pn	11 17 54.0	-7.7
GVZ	**Greta Valley S**	**12.08**	**209**	P	Pn	11 18 08.8	-5.3
LTZ	**Lake Taylor**	**12.26**	**212**	P	Pn	11 18 12.9	-3.7

*NEIC **12** 11:18:52.0±0.9, 18°.98N±0°.10×64°.59W±0°.04, h35km±2km, ML3.2/34, Md3.4/12(RSPR), Error ellipse: s-maj=17.7km s-min=3.1km az=17.0*
*RSPR **12** 11:18:52.0, 19°.00N×64°.56W, h46km±15km, MD3.4/12*
ISC 12 11:18:50.5±1.8, 19°.0N±0°.1×64°.54W±0°.03, h42km, n59, σ0°68/61, 7C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.53**	**235**		**Pn**	**11 19 14.9**	**-0.5**
HUMP					**Sn**	**11 19 33.5**	**-0.6**
HUMP	**Col San Antoni**	**1.53**	**235**	IAML		11 19 39.8	
comp=E,284nm,0.2s							
HUMP				IAML		11 19 39.8	
comp=N,269nm,0.4s							
HUMP	**Col San Antoni**	**1.53**	**235**	i*eP*	**Pn**	**11 19 14.9**	**-0.5**
HUMP	**Col San Antoni**	**1.53**	**235**	*eS*	**Sn**	**11 19 33.5**	**-0.6**
GCPR	**Guaynabo City**	**1.64**	**244**		**Pn**	**11 19 16.6**	**-0.2**
GCPR					**Sn**	**11 19 36.9**	**+0.2**
GCPR	**Guaynabo City**	**1.64**	**244**	i*eP*	**Pn**	**11 19 16.6**	**-0.2**
GCPR	**Guaynabo City**	**1.64**	**244**	*eS*	**Sn**	**11 19 36.9**	**+0.2**
SMRT	**St. Maarten**	**1.70**	**125**	Pn	**Pn**	**11 19 17.9**	**+0.2**
SMRT				IAML		11 19 40.7	
comp=N,311nm,0.4s							
SMRT				IAML		11 20 22.0	
comp=E,399nm,0.1s							
PDPR	**Patillas Dam,**	**1.74**	**235**		**Pn**	**11 19 17.1**	**-1.0**
PDPR	**Patillas Dam,**	**1.74**	**235**	i*eP*	**Pn**	**11 19 18.6**	**+0.4**
PDPR	**Patillas Dam,**	**1.74**	**235**	*eS*	**Sn**	**11 19 39.2**	**+0.1**
SJG	**San Juan**	**1.79**	**239**		**Pn**	**11 19 18.9**	**+0.1**
SJG	**San Juan**	**1.79**	**239**	IAML		11 19 47.5	
comp=E,181nm,0.4s							
SJG				IAML		11 19 48.9	
comp=E,143nm,0.2s							
SJG	**San Juan**	**1.79**	**239**	i*eP*	**Pn**	**11 19 18.9**	**+0.1**
IGPR	**InterUniversit**	**1.83**	**235**		**Pn**	**11 19 20.2**	**+0.7**
IGPR					**Sn**	**11 19 40.8**	**-0.7**
IGPR	**InterUniversit**	**1.83**	**235**	IAML		11 19 50.2	
comp=E,349nm,0.3s							
IGPR	**InterUniversit**	**1.83**	**235**	i*eP*	**Pn**	**11 19 20.2**	**+0.7**
IGPR	**InterUniversit**	**1.83**	**235**	*eS*	**Sn**	**11 19 40.8**	**-0.7**
SABA	**Saba**	**1.87**	**139**	Pn	**Pn**	**11 19 20.6**	**+0.6**
SABA				IAML		11 19 49.5	
comp=N,301nm,1.0s							
ECPR	**Experimental S**	**1.87**	**248**	i*eP*	**Pn**	**11 19 20.3**	**+0.2**
ECPR	**Experimental S**	**1.87**	**248**	*eS*	**Sn**	**11 19 41.7**	**-0.8**
EMPR	**Esperanza - Ma**	**1.97**	**254**		**Pn**	**11 19 21.8**	**+0.4**
EMPR					**Sn**	**11 19 44.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.97**	**254**	IAML		11 19 47.8	
comp=E,257nm,0.7s							
EMPR				IAML		11 19 51.2	
comp=N,218nm,1.0s							
EMPR	**Esperanza - Ma**	**1.97**	**254**	i*eP*	**Pn**	**11 19 21.8**	**+0.4**
EMPR	**Esperanza - Ma**	**1.97**	**254**	*eS*	**Sn**	**11 19 44.5**	**-0.3**
SEUS	**St. Eustatius**	**2.13**	**136**	Pn	**Pn**	**11 19 26.3**	**+2.7**
SEUS				IAML		11 20 19.6	
comp=E,244nm,0.8s							
CELP	**Cerrillos**	**2.16**	**244**		**Pn**	**11 19 24.3**	**+0.3**
CELP					**Sn**	**11 19 49.2**	**-0.4**
CELP	**Cerrillos**	**2.16**	**244**	IAML		11 19 51.6	
comp=E,104nm,1.0s							
CELP	**Cerrillos**	**2.16**	**244**	i*eP*	**Pn**	**11 19 24.3**	**+0.3**
CELP	**Cerrillos**	**2.16**	**244**	*eS*	**Sn**	**11 19 49.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.20**	**244**		**Pn**	**11 19 25.1**	**+0.5**
OBIP					**Sn**	**11 19 50.2**	**-0.4**
OBIP	**Obispado Ponce**	**2.20**	**244**	IAML		11 19 53.0	
comp=E,92nm,0.9s							
OBIP	**Obispado Ponce**	**2.20**	**244**	i*eP*	**Pn**	**11 19 25.1**	**+0.5**
OBIP	**Obispado Ponce**	**2.20**	**244**	*eS*	**Sn**	**11 19 50.2**	**-0.4**
AOPR	**Arecibo Observ**	**2.21**	**252**		**Pn**	**11 19 24.9**	**+0.2**
AOPR					**Sn**	**11 19 50.6**	**-0.3**
AOPR	**Arecibo Observ**	**2.21**	**252**	IAML		11 20 05.7	
comp=N,232nm,0.4s							
AOPR	**Arecibo Observ**	**2.21**	**252**	i*eP*	**Pn**	**11 19 24.9**	**+0.2**
AOPR	**Arecibo Observ**	**2.21**	**252**	*eS*	**Sn**	**11 19 50.6**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.21**	**250**		**Pn**	**11 19 24.7**	**-0.1**
UUPR					**Sn**	**11 19 50.9**	**0.0**
UUPR	**Utuado, UPR, P**	**2.21**	**250**	i*eP*	**Pn**	**11 19 24.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.21**	**250**	*eS*	**Sn**	**11 19 50.9**	**0.0**
SKI	**Saint Kitts**	**2.40**	**134**	*eP*	**Pn**	**11 19 27.1**	**-0.3**
SKI				*eS*	**Sn**	**11 19 56.4**	**+0.7**
AGPR	**Aguadilla, PR**	**2.51**	**257**		**Pn**	**11 19 29.6**	**+0.8**
AGPR	**Aguadilla, PR**	**2.51**	**257**		**Sn**	**11 19 58.3**	**+0.2**
AGPR	**Aguadilla, PR**	**2.51**	**257**	IAML		11 19 55.8	
comp=N,150nm,2.8s							
AGPR	**Aguadilla, PR**	**2.51**	**257**	IAML		11 20 32.2	
comp=E,131nm,2.6s							
AGPR	**Aguadilla, PR**	**2.51**	**257**	i*eP*	**Pn**	**11 19 29.6**	**+0.8**
AGPR	**Aguadilla, PR**	**2.51**	**257**	*eS*	**Sn**	**11 19 58.3**	**+0.2**
MLPR	**Magueyes Islan**	**2.61**	**246**		**Pn**	**11 19 29.8**	**-0.3**
MLPR					**Sn**	**11 20 00.4**	**-0.2**
MLPR	**Magueyes Islan**	**2.61**	**246**	IAML		11 20 05.8	
comp=E,63nm,0.5s							
MLPR	**Magueyes Islan**	**2.61**	**246**	i*eP*	**Pn**	**11 19 29.8**	**-0.3**
MLPR	**Magueyes Islan**	**2.61**	**246**	*eS*	**Sn**	**11 20 00.4**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.65**	**248**		**Pn**	**11 19 31.3**	**+0.6**
CRPR					**Sn**	**11 20 02.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.65**	**248**	IAML		11 20 02.9	
comp=N,65nm,2.5s							
CRPR	**Cabo Rojo, PR**	**2.65**	**248**	i*eP*	**Pn**	**11 19 31.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.65**	**248**	*eS*	**Sn**	**11 20 02.0**	**+0.4**
ANWB	**Willy Bob**	**2.94**	**117**	*eP*	**Pn**	**11 19 32.6**	**-2.2**
ANWB				*eS*	**Sn**	**11 20 10.0**	**+1.1**
ANBD	**Bethesda, Anti**	**3.29**	**126**	*eP*	**Pn**	**11 19 39.1**	**-0.4**
ANBD				*eS*	**Sn**	**11 20 16.2**	**-1.3**
PCDR	**Punta Cana, DR**	**3.68**	**263**	Pn	**Pn**	**11 19 45.5**	**+0.6**

IDC 12 11:46:12.3±1.7, 3°21S×131°12E, h0km, mb3.5/2, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=69.1km s-min=27.5km az=65.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.93**	**170**	Pn	Pn	11 50 09.9	-0.8
0.1nm,0.3s,baz=350,slow=11,SNR=8.9							
WRA				Sn	Sn	11 53 11.1	-8.6
0.1nm,0.3s,baz=344,slow=22,SNR=1.5							
0.5nm,0.5s							
PMG	**Port Moresby**	**17.08**	**112**	P	Pn	11 50 12.6	-0.1
0.6nm,0.3s,baz=270,slow=15,SNR=1.4							
3.9nm,0.5s							
ASAR	**Alice Springs**	**20.52**	**173**	P	P	11 50 52.7	+0.4
1.1nm,0.4s,baz=350,slow=10,SNR=50							
1.1nm,0.4s							
MKAR	**Makanchi Array**	**65.72**	**325**	P	P	11 56 59.0	0.0
0.4nm,0.6s,baz=132,slow=7.5,SNR=5.8							
0.4nm,0.6s							

IDC 12 12:02:12.0±2.3, 6°87S×129°23E, h0km, mb3.4/1, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=118.3km s-min=33.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**160**	Pn	Pn	12 05 30.4	-0.2
0.1nm,0.3s,baz=338,slow=13,SNR=9.5							
WRA				Sn	Sn	12 07 51.5	-14
0.3nm,0.3s,baz=339,slow=22,SNR=7.4							
0.3nm,0.6s							
ASAR	**Alice Springs**	**17.29**	**165**	P	Pn	12 06 15.2	+0.2
0.1nm,0.3s,baz=340,slow=9.5,SNR=10							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	12 13 11.2	0.0
0.2nm,0.4s,baz=120,slow=6.6,SNR=3.0							
0.2nm,0.4s							

*VIE **12** 12:17:05.8±0.3, 48°.21N×8°.81E, h0km, mb1.9/2, ml2.3/5, Error ellipse: s-maj=3.4km s-min=1.7km az=6.0, Suspected Mining explosion.*
*STR **12** 12:17:06.3±0.5, 48°N±2°×°±°, h0km, MLv2.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=61.4, preliminary*
ISC 12 12:17:06.4±1.2, 48°.20N±0°.03×8°.81E±0°.03, h4km±10km, n25, σ0°59/35, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.24**	**122**	Pg	**Pg**	**12 17 10.6**	**-0.4**
GUT				Sg	**Sg**	**12 17 14.3**	**+0.1**
SLE	**Schleitheim**	**0.48**	**207**	Pg	**Pg**	**12 17 15.2**	**-0.5**
SLE	**Schleitheim**	**0.48**	**207**	Sg	**Sg**	**12 17 22.6**	**+0.7**
OPP	**Oppenau**	**0.52**	**306**	Sg	**Sg**	**12 17 24.0**	**+1.0**
OPP	**Oppenau**	**0.52**	**306**	Pg	**Pg**	**12 17 15.8**	**-0.5**
KIZ	**Kirchzarten**	**0.65**	**248**	Pg	**Pg**	**12 17 18.8**	**0.0**
KIZ	**Kirchzarten**	**0.65**	**248**	Sg	**Sb**	**12 17 28.6**	**-1.0**
BABA	**Baden-Baden-Ne**	**0.67**	**322**	Pg	**Pg**	**12 17 19.3**	**+0.1**
BABA	**Baden-Baden-Ne**	**0.67**	**322**	Sg	**Sb**	**12 17 28.8**	**-1.3**
SULZ	**Cheisacher**	**0.82**	**215**	Pg	**Pg**	**12 17 22.3**	**+0.2**
SULZ	**Cheisacher**	**0.82**	**215**	Sg	**Sg**	**12 17 33.5**	**+0.8**
ENDD	**Endenburg**	**0.87**	**237**	Pg	**Pg**	**12 17 23.1**	**0.0**
ENDD	**Endenburg**	**0.87**	**237**	Sg	**Sg**	**12 17 34.9**	**+0.5**
HOHE	**HOHENGOEFT**	**1.00**	**298**	Pg	**Pg**	**12 17 25.2**	**-0.3**
HOHE				Sg	**Sb**	**12 17 39.6**	**-0.2**
WLS	**Welschbruch**	**1.00**	**283**	Pg	**Pg**	**12 17 25.2**	**-0.3**
WLS				Sg	**Sb**	**12 17 39.5**	**-0.3**
LEMB	**Lembach**	**1.09**	**321**	Pg	**Pg**	**12 17 26.9**	**-0.4**
LEMB				Sg	**Sb**	**12 17 42.2**	**-0.2**
ECH	**Echery**	**1.11**	**272**	Pg	**Pg**	**12 17 26.7**	**-0.9**
ECH				Sg	**Sb**	**12 17 42.7**	**-0.2**
BALST	**Balsthal**	**1.15**	**222**	Sg	**Sg**	**12 17 43.6**	**+0.5**
BALST	**Balsthal**	**1.15**	**222**	Pg	**Pg**	**12 17 28.0**	**-0.3**
DAVA	**Damuels**	**1.16**	**141**	*e*Pg	**Pb**	**12 17 28.9**	**-0.2**
1.8nm,0.2s							
DAVA				*e*Sg	**Sn**	**12 17 46.0**	**+0.1**
12nm,0.4s							
BOURR	**Bourrignon**	**1.34**	**234**	Pn	**Pg**	**12 17 30.8**	**-1.2**
RETA	**Reutte**	**1.49**	**118**	*i* Pg	**Pn**	**12 17 34.4**	**+0.3**
1.4nm,0.2s							
RETA				*i* Sg	**Sn**	**12 17 55.0**	**+1.1**
15nm,0.6s							
FETA	**Feichten**	**1.75**	**132**	*i* Pn	**Pn**	**12 17 37.8**	**+0.1**
0.1nm,0.1s							
FETA				*e*Pg	**Pg**	**12 17 39.5**	**-0.4**
0.8nm,0.3s							
FETA				*e*Sn	**Sn**	**12 18 00.8**	**+0.3**
4.0nm,0.6s							
MOTA	**Moosalm**	**1.77**	**118**	*i* Pn	**Pn**	**12 17 38.1**	**+0.3**
0.7nm,0.1s							
MOTA				*e*Sn	**Sb**	**12 18 01.7**	**-0.2**
2.0nm,0.3s							
SQTA	**Sankt Quirin**	**1.89**	**120**	*e*Sn	**Sn**	**12 18 03.6**	**-0.2**
27nm,0.8s							

*NEI

comp=Z,14nm,1.3s
MLZ Mavora Lakes 26.89 201 P **P 12 34 28.4 +0.4**
MLZ IAmb IAmb 12 34 39.4
comp=Z,8.9nm,1.4s
COEN Coen 37.05 274 P **P 12 35 55.0 +0.5**
STKA Stephens Creek 37.19 244 P **P 12 35 56.0 +0.6**
STKA IAmb IAmb 12 35 58.2
comp=Z,16nm,1.3s
JAY Jayapura 43.60 289 P **P 12 36 46.8 +0.2**
comp=Z,9.4nm,0.4s,baz=153,slow=2.3,SNR=5.3
comp=Z,9.4nm,0.4s
WR0 Warramunga Arr 43.83 262 P **P 12 36 48.2 -0.1**
WR0 IAmb IAmb 12 36 55.1
comp=Z,13nm,1.5s
AS31 Alice Springs 43.93 257 P **P 12 36 49.4 +0.3**
ASAR Alice Springs 43.93 257 P **P 12 36 48.7 -0.3**
ASAR Alice Springs 43.93 257 P **P 12 36 49.7 +0.7**
comp=Z,0.7nm,0.5s,baz=88,slow=8.4,SNR=28
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 44.02 262 P **P 12 36 48.8 -1.0**
WRA Warramunga Arr 44.02 262 P **P 12 36 49.8 +0.1**
comp=Z,0.5nm,0.3s,baz=96,slow=7.2,SNR=62
comp=Z,0.5nm,0.3s
QSPA South Pole Qui 69.32 180 P **P 12 39 43.4 +1.3**
QSPA IAmb IAmb 12 40 17.4
comp=Z,3.1nm,1.1s
QSPA South Pole Qui 69.32 180 P **P 12 39 44.1 +2.0**
baz=69,slow=18,SNR=11
ILAR Eielson Array 88.67 13 P **P 12 41 23.6 -0.2**
comp=Z,0.3nm,1.0s,baz=216,slow=5.3,SNR=5.4
comp=Z,0.3nm,1.0s
AKASG Malin Array Be 142.96 330 PKP **PKPdf 12 47 58.9 -1.3**
comp=Z,8.3nm,0.8s,baz=51,slow=4.7,SNR=4.2

---

*DJA **12** 12:34:12.2±0.8, 19°N±2°×14°E±°, h112km±8km, M5.9/126, mB6.3/109, mb5.9/126, Mw(mB)6.0/109, MwMwp5.8/84, Mwp5.8/84*
*BJI **12** 12:34:13.2, 19°.19N×146°.06E, h140km, mB5.5/62, mb5.4/92*
*IPGP **12** 12:34:15.0, 19°.07N×145°.77E, h138km, Mw6.1, Fault plane solution: NP1:φs289.00000°, δ87.00000°, λ38.00000°. NP2:φs197.00000°, δ52.00000°, λ176.00000°.*
*RSNC **12** 12:34:15.6±1.2, 19°N±10°×14°E±1°0, h130km, MwMwp5.6, Mwp5.9, Hypocentre not reviewed by the ISC*
*NEIC **12** 12:34:15.5, 19°.06N×145°.76E, h150km*
*NEIC **12** 12:34:15.5, 19°.16N×146°.40E, h150km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^18Nm; Mrr0.05; Mθθ0.48; Mφφ-0.53; Mrθ-0.81; Mφθ1.08; Mφr0.11; Fault plane solution: M0 1.45000×10^18 NP1: φs191.42000°, δ55.59000°, λ177.14000°. NP2: φs283.04000°, δ87.64000°, λ34.44000°. Principal axes: T 1.4639, Plg25.0000°, Azm153.0000°; N -0.0335, Plg55.0000°, Azm286.0000°; P -1.4304, Plg22.0000°, Azm52.0000°;*
*NEIC **12** 12:34:16.5±1.7, 19°.02N±0°.02×145°.80E±0°.09, h144km±4km, mb6.0/533, Mww6.0/46 Error ellipse: s-maj=12.6km s-min=3.1km az=88.0*
*MOS **12** 12:34:16.2±1.0, 19°.04N×145°.76E, h160km, mb5.7/90, MS5.4/10, Error ellipse: s-maj=6.8km s-min=3.6km az=111.3*
*IDC **12** 12:34:17.7±0.6, 19°.01N×145°.83E, h166km±4km, mb5.3/30, mbtmp5.7/34, MS5.0/50, Error ellipse: s-maj=8.8km s-min=5.1km az=79.0*
*JMA **12** 12:34:17.8±0.5, 19°N±2°×14°E±°, h1km, MD6.5/38, MV6.6/38, FAR FIELD .*
JMA Felt I J1 at FAR FIELD .
*PPT **12** 12:34:17.4±0.7, 19°.03N×145°.84E, h152km±6km, mb5.8/94, MLv7.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GCMT **12** 12:34:18.5±0.1, 19°.01N×146°.05E, h139km, MW6.1/172, Moment Tensor Solution. s166,c374; s172,c610; Duration: 2s6 Moment tensor: Scale 10^18Nm; Mrr-0.12±.01; Mθθ0.63±.01; Mφφ-0.50±.01; Mrθ-0.93±.01; Mφθ1.06±.01; Mφr0.24±.01; Best double couple: M0 1.54100×10^18 NP1:φs195.00000°, δ51.00000°, λ-176.00000°. NP2:φs103.00000°, δ87.00000°, λ-39.00000°. Principal axes: T 1.5630, Plg24.0000°, Azm156.0000°; N -0.0440, Plg51.0000°, Azm279.0000°; P -1.5190, Plg29.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 12 12:34:16.5±0.2, 19°.08N±0°.02×145°.84E±0°.03, h153km±1km, h153km; pP-P, n1934, σ1s71/1730, mb5.9/524, 36C-29D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.53**	**190**	P	**Pn**	**12 35 37.5**	**+0.5**
	2μm,0.3s,baz=339,slow=1.5,SNR=280						
GUMO				S	**Sn**	**12 36 40.0**	**0.0**
	10μm,0.4s,baz=324,slow=20,SNR=13						
GUMO				LR	LR	12 37 21.6	
	comp=Z,13μm,19.8s,baz=2.5,slow=34						
JHH2	**Haha-jima-NKT2**	**8.24**	**337**	P	**Pn**	**12 36 11.4**	**-1.7**
JHH2				*e*S	**Sn**	**12 37 40.3**	**-4.7**
JHH2	**Haha-jima-NKT2**	**8.24**	**337**	A	A	12 36 11.4	
	comp=N,64nm,1.9s,comp=E,77nm,0.4s						
CBIJ	**Chichi jima**	**8.66**	**338**	P	**Pn**	**12 36 16.7**	**-2.0**
CBIJ				S	**Sn**	**12 37 49.8**	**-5.2**
CBIJ	**Chichi jima**	**8.66**	**338**	A	A	12 36 16.7	
	comp=N,34nm,1.9s,comp=E,51nm,2.1s						
JCJ	**Chichijima**	**8.66**	**338**	Pn	**Pn**	**12 36 17.0**	**-1.6**
JCJ	**Chichijima**	**8.66**	**338**	P	Pn	12 36 11.0	-7.7
	comp=E,3μm,0.4s,baz=98,slow=19,SNR=76						
JCJ				S	Sn	12 37 44.6	-10
	comp=E,3μm,0.4s,baz=86,slow=24,SNR=13						
JCJ	**Chichijima**	**8.66**	**338**	P	**Pn**	**12 36 16.9**	**-1.8**
JHCJ	**Hachijojimakas**	**14.95**	**340**	*e*P	**Pn**	**12 37 40.4**	**+0.3**
JHCJ	**Hachijojimakas**	**14.95**	**340**	A	A	12 37 40.4	
	comp=N,11nm,7.0s,comp=E,18nm,4.4s						
JHJ2	**Mitsune**	**14.98**	**340**	Pn	**Pn**	**12 37 40.7**	**+0.2**
JHJ2	**Mitsune**	**14.98**	**340**	P	**P**	**12 37 42.2**	**0.0**
JHJ2	**Mitsune**	**14.98**	**340**	*e*P	**Pn**	**12 37 39.7**	**-0.8**
JHJ2	**Mitsune**	**14.98**	**340**	A	A	12 37 39.7	
	comp=N,13nm,4.9s,comp=E,22nm,3.4s						
JHJ	**Hachijo jima 2**	**15.00**	**340**	P	**Pn**	**12 37 39.4**	**-1.3**
	comp=E,904nm,0.5s,baz=155,slow=12,SNR=17						
JHJ				S	**Sn**	**12 40 22.5**	**-5.0**
	comp=E,337nm,0.5s,baz=106,slow=16,SNR=2.4						
JHJ				ScP	**ScP**	**12 45 55.9**	**-2.7**
	comp=E,373nm,1.0s,baz=161,slow=5.1,SNR=5.0						
JKDJ	**Kitadaitoujima**	**15.07**	**300**	*e*P	**Pn**	**12 37 42.3**	**+0.6**
JKDJ	**Kitadaitoujima**	**15.07**	**300**	A	A	12 37 42.3	
	comp=N,11nm,7.7s,comp=E,12nm,9.6s						
JMZ	**Minamidaito 2**	**15.08**	**299**	Pn	**Pn**	**12 37 39.5**	**-2.2**
JMZ	**Minamidaito 2**	**15.08**	**299**	P	**P**	**12 37 44.8**	**+1.4**
JMZ	**Minamidaito 2**	**15.08**	**299**	*e*P	**P**	**12 37 44.1**	**+0.7**
JMZ	**Minamidaito 2**	**15.08**	**299**	A	A	12 37 44.1	
	comp=N,16nm,11.1s,comp=E,10.0nm,12.3s						
JMKN	**Mikurajimanish**	**15.78**	**341**	A	A	12 37 49.5	
	comp=N,24nm,4.3s,comp=E,28nm,6.0s						
JMYK	**Miyake Tsubota**	**15.94**	**341**	*e*P	**Pn**	**12 37 51.7**	**-0.6**
JMYK				*e*S	**S**	**12 40 45.3**	**-4.6**
JMYK	**Miyake Tsubota**	**15.94**	**341**	A	A	12 37 51.7	
	comp=N,36nm,4.1s,comp=E,32nm,5.4s						
BSO1	**Boso 1**	**16.11**	**345**	P	**P**	**12 37 54.6**	**+0.5**
JKO	**Kozu shima**	**16.19**	**340**	*e*P	**Pn**	**12 37 55.3**	**0.0**
JNIO	**Niijimaoohara**	**16.30**	**340**	A	A	12 37 56.1	
	comp=N,31nm,2.1s,comp=E,33nm,2.4s						
JSKK	**Shikinejimakit**	**16.30**	**340**	A	A	12 37 56.1	
	comp=N,19nm,7.5s,comp=E,27nm,4.5s						
JTHY	**Toshimahigashi**	**16.45**	**341**	A	A	12 37 58.0	
	comp=N,33nm,5.6s,comp=E,32nm,7.8s						
TTO3	**TONANKAI O.B.S**	**16.54**	**335**	A	A	12 37 59.1	
	comp=N,21nm,8.8s,comp=E,17nm,5.2s						
TTO2	**TONANKAI O.B.S**	**16.58**	**333**	A	A	12 37 59.6	
	comp=N,21nm,9.7s,comp=E,19nm,5.0s						
JIM2	**Oshima 3**	**16.59**	**341**	A	A	12 37 59.7	
	comp=N,33nm,5.2s,comp=E,24nm,3.2s						
TTO1	**TONANKAI O.B.S**	**16.59**	**333**	*e*P	**Pn**	**12 37 60.0**	**0.0**
TTO1	**TONANKAI O.B.S**	**16.59**	**333**	A	A	12 37 60.0	
	comp=N,22nm,4.6s,comp=E,22nm,5.7s						
TTO4	**TONANKAI O.B.S**	**16.61**	**335**	A	A	12 37 59.9	
	comp=N,17nm,6.1s,comp=E,19nm,5.4s						
TATJ	**Tateyama 2**	**16.75**	**343**	A	A	12 38 01.7	
	comp=N,38nm,1.5s,comp=E,68nm,4.6s						
TTO5	**TONANKAI O.B.S**	**16.76**	**336**	A	A	12 38 01.7	
	comp=N,21nm,3.9s,comp=E,24nm,4.7s						
JIZS	**Izushimoda**	**16.76**	**340**	A	A	12 38 01.9	
	comp=N,8.0nm,5.7s,comp=E,16nm,4.9s						
JKUC	**kamogawauchiur**	**16.78**	**344**	A	A	12 38 02.1	
	comp=N,26nm,2.0s,comp=E,30nm,6.0s						
JHTM	**Izuhatsuma**	**16.94**	**340**	A	A	12 38 04.0	
	comp=N,47nm,4.6s,comp=E,42nm,5.0s						
JSG	**Sagara**	**16.96**	**338**	P	**P**	**12 38 04.1**	**+0.1**
JSG	**Sagara**	**16.96**	**338**	P	**Pn**	**12 38 06.2**	**+1.6**
JSG	**Sagara**	**16.96**	**338**	S	**Sn**	**12 41 15.5**	**+1.2**
JSG	**Sagara**	**16.96**	**338**	A	A	12 38 04.3	
	comp=N,14nm,3.7s,comp=E,14nm,5.5s						
JYO	**Yokosk**	**16.99**	**342**	A	A	12 38 04.7	
	comp=N,29nm,7.9s,comp=E,62nm,1.4s						
JCN	**Nagara**	**17.03**	**344**	A	A	12 38 05.2	
	comp=N,27nm,1.5s,comp=E,59nm,5.5s						
JMMH	**Miemihama**	**17.10**	**331**	A	A	12 38 06.0	
	comp=N,4.0nm,5.1s,comp=E,3.0nm,2.9s						
JKKS	**Kakegawashinom**	**17.10**	**338**	A	A	12 38 06.0	
	comp=N,17nm,6.8s,comp=E,15nm,5.0s						
JSMT	**Sammumatsuo**	**17.18**	**345**	A	A	12 38 07.0	
	comp=N,54nm,6.7s,comp=E,35nm,4.2s						
JOD2	**Odawara 2**	**17.20**	**341**	P	**P**	**12 38 06.8**	**+0.1**
JOD2	**Odawara 2**	**17.20**	**341**	A	A	12 38 06.8	
	comp=N,19nm,4.0s,comp=E,21nm,4.9s						
JFNN	**Fujinakano**	**17.26**	**340**	A	A	12 38 08.0	
	comp=N,22nm,5.0s,comp=E,33nm,4.5s						
JIE	**Ise**	**17.28**	**334**	*e*P	**P**	**12 38 08.0**	**+0.4**
JIE				*e*S	**S**	**12 41 17.4**	**-2.5**
JIE	**Ise**	**17.28**	**334**	A	A	12 38 08.0	
	comp=N,4.0nm,2.8s,comp=E,3.0nm,6.1s						
JTNC	**Tanabenakahech**	**17.29**	**330**	P	**Pn**	**12 38 08.2**	**-0.4**
JTNC				*e*S	**S**	**12 41 12.5**	**-7.6**
HMMJ	**Hamamatsu 2**	**17.29**	**337**	A	A	12 38 08.4	
	comp=N,5.0nm,3.9s,comp=E,5.0nm,7.8s						
SHZ3	**Shizuoka 3**	**17.30**	**339**	A	A	12 38 08.6	
	comp=N,8.0nm,6.5s,comp=E,9.0nm,2.0s						
JAA	**Atsumi**	**17.31**	**335**	A	A	12 38 08.7	
	comp=N,5.0nm,4.7s,comp=E,3.0nm,6.9s						
TOK	**Tokyo**	**17.40**	**343**	A	A	12 38 09.7	
	comp=N,47nm,4.9s,comp=E,59nm,3.4s						
JSSY	**Shinshiroyabe**	**17.42**	**337**	A	A	12 38 09.9	
	comp=N,5.0nm,8.8s,comp=E,6.0nm,6.7s						
JWM	**Minabe**	**17.43**	**330**	A	A	12 38 10.2	
	comp=N,4.0nm,8.0s,comp=E,5.0nm,4.4s						
JIHU	**Itakohorinouch**	**17.47**	**346**	A	A	12 38 10.5	
	comp=N,37nm,4.3s,comp=E,41nm,2.8s						
JSGW	**Sagamiharawaka**	**17.48**	**342**	A	A	12 38 10.6	
	comp=N,11nm,4.9s,comp=E,15nm,3.0s						
JAM	**Amami Oshima**	**17.51**	**305**	A	A	12 38 11.7	
	comp=N,3.0nm,6.8s,comp=E,4.0nm,7.5s						
JYN	**Shimob**	**17.59**	**340**	A	A	12 38 12.0	
	comp=N,12nm,11.5s,comp=E,16nm,5.2s						
JMTN	**Minamitane**	**17.62**	**313**	A	A	12 38 12.7	
	comp=N,3.0nm,6.8s,comp=E,5.0nm,6.4s						
JWY	**Kouya**	**17.63**	**331**	A	A	12 38 12.5	
	comp=N,6.0nm,4.2s,comp=E,7.0nm,6.5s						
MRT2	**Murotomisaki 2**	**17.68**	**326**	A	A	12 38 13.2	
	comp=N,6.0nm,5.4s,comp=E,6.0nm,5.8s						
JNY	**Yasuok**	**17.69**	**338**	A	A	12 38 13.3	
	comp=N,8.0nm,6.8s,comp=E,8.0nm,8.1s						
JTN	**Tanegashima 3**	**17.72**	**313**	A	A	12 38 14.0	
	comp=N,2.0nm,8.0s,comp=E,4.0nm,6.5s						
JTK	**Tokunoshima**	**17.74**	**302**	A	A	12 38 14.7	
	comp=N,3.0nm,6.6s,comp=E,6.0nm,10.2s						
JAMN	**Amaminishikomi**	**17.77**	**304**	*e*P	**Pn**	**12 38 14.3**	**0.0**
JYT	**Yasato**	**17.80**	**345**	A	A	12 38 14.6	
	comp=N,13nm,7.3s,comp=E,14nm,6.0s						
JHYU	**Hitachinakayam**	**17.81**	**346**	A	A	12 38 14.7	
	comp=N,13nm,4.0s,comp=E,11nm,5.5s						
JAO	**Obara**	**17.83**	**337**	A	A	12 38 14.9	
	comp=N,9.0nm,3.3s,comp=E,10.0nm,2.1s						
JAI	**Aioi**	**17.83**	**328**	A	A	12 38 15.1	
	comp=N,5.0nm,4.8s,comp=E,4.0nm,4.0s						
JYRO	**Yoronjima**	**17.84**	**300**	A	A	12 38 15.9	
	comp=N,5.0nm,6.9s,comp=E,7.0nm,8.0s						
JOKE	**Okinoerabujima**	**17.87**	**301**	A	A	12 38 16.3	
	comp=N,3.0nm,9.3s,comp=E,5.0nm,7.1s						
JOW	**Kunigami**	**17.91**	**299**	P	**Pn**	**12 38 15.7**	**-0.4**
JOW	**Kunigami**	**17.91**	**299**	P	**Pn**	**12 38 15.4**	**-0.7**
	comp=E,224nm,0.7s,baz=134,slow=9.6,SNR=37						
JOW				ScP	**ScP**	**12 46 02.2**	**-2.2**
	comp=E,37nm,0.7s,baz=159,slow=4.4,SNR=7.0						
JOW	**Kunigami**	**17.91**	**299**	P	**Pn**	**12 38 16.9**	**+0.8**
JOW	**Kunigami**	**17.91**	**299**	*e*P	**Pn**	**12 38 16.3**	**+0.3**
JHE	**Heguri**	**17.95**	**332**	A	A	12 38 16.4	
	comp=N,2.0nm,8.1s,comp=E,3.0nm,7.6s						
JRY	**Ryogami san**	**17.95**	**341**	P	**Pn**	**12 38 16.0**	**-0.5**
JRY	**Ryogami san**	**17.95**	**341**	A	A	12 38 16.0	
	comp=N,29nm,4.5s,comp=E,14nm,4.3s						
INU	**Inuyama**	**17.99**	**336**	P	**P**	**12 38 15.0**	**-0.4**
INU	**Inuyama**	**17.99**	**336**	P	**Pn**	**12 38 16.3**	**-0.7**
INU	**Inuyama**	**17.99**	**336**	S	**Sn**	**12 41 37.9**	**-1.1**
JICN	**Ichinomiyachia**	**18.02**	**336**	A	A	12 38 17.2	
	comp=N,16nm,2.4s,comp=E,8.0nm,4.1s						
JTO	**Tosashimizu**	**18.02**	**322**	P	**Pn**	**12 38 17.1**	**-0.3**
JTO	**Tosashimizu**	**18.02**	**322**	A	A	12 38 17.1	
	comp=N,4.0nm,5.9s,comp=E,4.0nm,6.4s						
JNN	**Nakanoshima**	**18.04**	**309**	A	A	12 38 17.9	
	comp=N,6.0nm,6.6s,comp=E,7.0nm,7.4s						
JEG	**Eigenji**	**18.05**	**334**	A	A	12 38 17.7	
	comp=N,3.0nm,4.3s,comp=E,6.0nm,6.0s						
JNT	**Takato**	**18.06**	**339**	A	A	12 38 17.8	
	comp=N,13nm,5.9s,comp=E,15nm,4.2s						
JHO	**Hitachi**	**18.07**	**346**	A	A	12 38 18.0	
	comp=N,10.0nm,10.8s,comp=E,10.0nm,5.0s						
JMN	**Monobe**	**18.08**	**326**	P	**P**	**12 38 17.1**	**+0.7**
JMN	**Monobe**	**18.08**	**326**	P	**Pn**	**12 38 18.4**	**+0.3**
JMN	**Monobe**	**18.08**	**326**	S	**Sn**	**12 41 38.5**	**-2.7**
JMN	**Monobe**	**18.08**	**326**	A	A	12 38 18.1	
	comp=N,12nm,5.4s,comp=E,8.0nm,4.2s						
JJT3	**Tagagusuku3**	**18.08**	**296**	A	A	12 38 19.0	
	comp=N,16nm,7.8s,comp=E,19nm,4.3s						
JNKG	**Nichinankitago**	**18.08**	**317**	A	A	12 38 18.2	
	comp=N,4.0nm,7.3s,comp=E,4.0nm,5.0s						
JGF	**Kuroka**	**18.09**	**337**	P	**P**	**12 38 16.8**	**+0.3**
JGF	**Kuroka**	**18.09**	**337**	P	**Pn**	**12 38 17.6**	**-0.5**
JGF	**Kuroka**	**18.09**	**337**	S	**Sn**	**12 41 39.1**	**-2.3**
JGF	**Kuroka**	**18.09**	**337**	A	A	12 38 18.1	
	comp=N,7.0nm,6.8s,comp=E,7.0nm,8.7s						
JKHR	**Kochiharuno**	**18.11**	**325**	A	A	12 38 18.5	
	comp=N,9.0nm,5.0s,comp=E,8.0nm,3.3s						
JKC	**Kuchinoerabu**	**18.15**	**312**	A	A	12 38 19.3	
	comp=N,5.0nm,7.1s,comp=E,5.0nm,4.1s						
JAWN	**Awajishima-nag**	**18.17**	**330**	A	A	12 38 19.1	
	comp=N,5.0nm,4.5s,comp=E,5.0nm,12.1s						
JAG	**Ashikaga**	**18.18**	**343**	A	A	12 38 19.2	
	comp=N,20nm,3.4s,comp=E,20nm,2.7s						
JTAJ	**Takarajima**	**18.18**	**307**	A	A	12 38 19.7	
	comp=N,5.0nm,3.8s,comp=E,6.0nm,3.9s						
JMAF	**Mimaanabuki**	**18.18**	**327**	A	A	12 38 19.3	
	comp=N,6.0nm,6.1s,comp=E,7.0nm,4.6s						
JKU	**Kubokawa**	**18.20**	**324**	A	A	12 38 19.6	
	comp=N,5.0nm,3.3s,comp=E,6.0nm,5.0s						
JIH	**Iheya**	**18.24**	**299**	A	A	12 38 20.8	
	comp=N,6.0nm,6.0s,comp=E,7.0nm,4.8s						
JYTA	**Yamagatataniai**	**18.32**	**336**	A	A	12 38 20.8	
	comp=N,2.0nm,3.5s,comp=E,2.0nm,4.8s						
JMIK	**Miki**	**18.36**	**331**	A	A	12 38 27.5	
	comp=N,6.0nm,4.3s,comp=E,5.0nm,3.4s						
JTSN	**Tsuno**	**18.38**	**318**	A	A	12 38 27.6	
	comp=N,4.0nm,5.3s,comp=E,5.0nm,3.4s						
UWA2	**Uwa jima 2**	**18.38**	**323**	A	A	12 38 27.6	
	comp=N,7.0nm,5.9s,comp=E,8.0nm,5.8s						
JHHC	**Hyugahichiya**	**18.43**	**319**	A	A	12 38 27.8	
	comp=N,6.0nm,3.1s,comp=E,4.0nm,3.6s						
ONAJ	**Iwakimizuishiy**	**18.50**	**347**	A	A	12 38 27.9	
	comp=N,19nm,6.7s,comp=E,11nm,6.6s						
JSKE	**Saikikamae**	**18.52**	**320**	A	A	12 38 28.0	
	comp=N,5.0nm,3.2s,comp=E,6.0nm,3.5s						
JFFD	**Fukushimafurud**	**18.54**	**347**	A	A	12 38 28.0	
	comp=N,20nm,5.7s,comp=E,12nm,10.1s						
JGK	**Kuni**	**18.54**	**342**	A	A	12 38 28.0	
	comp=N,16nm,2.6s,comp=E,14nm,7.6s						
JKT	**Katashina**	**18.55**	**343**	A	A	12 38 28.1	
	comp=N,16nm,2.4s,comp=E,14nm,6.5s						
JJS	**Sakaide**	**18.56**	**328**	A	A	12 38 28.1	
	comp=N,8.0nm,5.4s,comp=E,8.0nm,5.6s						
JNG	**Nsakai**	**18.56**	**340**	A	A	12 38 28.1	
	comp=N,16nm,7.4s,comp=E,10.0nm,6.6s						
JFM	**Mihama**	**18.56**	**334**	A	A	12 38 28.1	
	comp=N,4.0nm,5.7s,comp=E,4.0nm,2.1s						
JET	**Tanbara**	**18.56**	**325**	A	A	12 38 28.1	
	comp=N,9.0nm,5.8s,comp=E,10.0nm,5.1s						
JSB	**Shiboa**	**18.57**	**345**	A	A	12 38 28.1	
	comp=N,74nm,4.5s,comp=E,55nm,6.6s						
JSU	**Suzuyama**	**18.59**	**315**	A	A	12 38 28.3	
	comp=N,3.0nm,3.9s,comp=E,3.0nm,6.3s						
JWT	**Wachi**	**18.60**	**332**	A	A	12 38 28.2	
	comp=N,3.0nm,5.7s,comp=E,3.0nm,5.1s						
JKS	**Kasai**	**18.60**	**331**	A	A	12 38 28.2	
	comp=N,5.0nm,4.5s,comp=E,3.0nm,3.9s						
MJAR	**Matsushiro Arr**	**18.65**	**340**	P	**P**	**12 38 22.8**	**+0.2**
	comp=E,139nm,0.4s,baz=169,slow=11,SNR=247						
MJAR				S	**S**	**12 41 43.6**	**-3.4**
	comp=E,89nm,1.0s,baz=176,slow=6.9,SNR=4.2						
MJAR				ScP	**ScP**	**12 46 02.2**	**-3.7**
	comp=E,50nm,0.7s,baz=157,slow=3.8,SNR=27						
MAJO	**Matsushiro**	**18.65**	**340**	P	**P**	**12 38 23.1**	**+0.5**
MAJO	**Matsushiro**	**18.65**	**340**	P	**P**	**12 38 23.2**	**+0.6**
MAJO	**Matsushiro**	**18.65**	**340**	S	**S**	**12 41 49.7**	**+2.7**
MAJO	**Matsushiro**	**18.65**	**340**	*c iP*	**P**	**12 38 23.2**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,699nm,0.8s						
MJB9	**Matsu-Tunnel**	**18.66**	**340**		**Pn**	**12 38 23.8**	**-1.0**
JGN	**Niukaw**	**18.66**	**338**	A	A	12 38 28.4	
	comp=N,5.0nm,12.7s,comp=E,4.0nm,8.3s						
JKIT	**Kitakata**	**18.67**	**319**	A	A	12 38 28.5	
	comp=N,5.0nm,3.2s,comp=E,8.0nm,2.9s						
JAGN	**Aguni-jima**	**18.69**	**297**	A	A	12 38 28.3	
	comp=N,8.0nm,5.9s,comp=E,10.0nm,3.4s						
JNA	**Nagahama**	**18.72**	**323**	A	A	12 38 28.7	
	comp=N,11nm,4.8s,comp=E,9.0nm,5.1s						
JFK	**Kawauchi**	**18.73**	**348**	A	A	12 38 28.7	
	comp=N,16nm,4.4s,comp=E,14nm,5.1s						
JUS	**Usuki**	**18.79**	**321**	A	A	12 38 28.5	
	comp=N,10.0nm,2.7s,comp=E,10.0nm,3.2s						
JZO	**Okuchi**	**18.89**	**316**	A	A	12 38 28.9	
	comp=N,4.0nm,6.0s,comp=E,4.0nm,5.2s						
JKE	**Kume jima 2**	**18.99**	**296**	P	**Pn**	**12 38 28.9**	**+0.2**
JKE	**Kume jima 2**	**18.99**	**296**	A	A	12 38 28.9	
	comp=N,7.0nm,6.6s,comp=E,9.0nm,3.7s						
JTT	**Ttatey**	**19.00**	**339**	A	A	12 38 29.3	
	comp=N,14nm,5.4s,comp=E,17nm,3.0s						
JUON	**Uonuma**	**19.02**	**343**	A	A	12 38 29.4	
	comp=N,16nm,3.0s,comp=E,17nm,4.3s						
JKY	**Yasaka**	**19.02**	**332**	A	A	12 38 29.5	
	comp=N,6.0nm,6.1s,comp=E,3.0nm,3.4s						
JOTO	**OTAMA OYAMA**	**19.04**	**346**	A	A	12 38 29.6	
	comp=N,22nm,8.3s,comp=E,24nm,4.0s						
JFY	**Yanaizu**	**19.04**	**345**	A	A	12 38 29.6	
	comp=N,19nm,4.3s,comp=E,35nm,6.0s						
JKG	**Kaga**	**19.07**	**336**	A	A	12 38 29.8	
	comp=N,6.0nm,9.6s,comp=E,7.0nm,4.5s						
JMST	**Minamisoumatoc**	**19.08**	**348**	A	A	12 38 29.8	
	comp=N,21nm,5.6s,comp=E,14nm,8.2s						
JJG	**Jouge**	**19.16**	**327**	A	A	12 38 30.4	
	comp=N,9.0nm,8.2s,comp=E,4.0nm,4.8s						
JJN	**Nakama**	**19.18**	**341**	A	A	12 38 30.5	
	comp=N,15nm,4.0s,comp=E,12nm,4.7s						
JKSM	**Kasumi**	**19.19**	**331**	A	A	12 38 30.5	
	comp=N,4.0nm,66.1s,comp=E,2.0nm,2.4s						
JBEP	**Beppuamama**	**19.19**	**321**	A	A	12 38 30.6	
	comp=N,9.0nm,4.1s,comp=E,9.0nm,5.3s						
JSJ	**Shimokoshiki**	**19.20**	**314**	P	**P**	**12 38 29.2**	**+0.7**
JMM	**Marumori**	**19.23**	**348**	P	**Pn**	**12 38 30.9**	**-0.5**
JMM	**Marumori**	**19.23**	**348**	P	**Pn**	**12 38 31.2**	**-0.3**
JMM	**Marumori**	**19.23**	**348**	S	**S**	**12 42 02.5**	**+4.0**
JMM	**Marumori**	**19.23**	**348**	A	A	12 38 30.9	
	comp=N,23nm,6.4s,comp=E,19nm,6.8s						
JKI	**Kunimi**	**19.30**	**322**	A	A	12 38 31.4	
	comp=N,10.0nm,5.8s,comp=E,7.0nm,5.5s						
JNU	**Nakatsue**	**19.36**	**319**	P	**P**	**12 38 30.5**	**+0.1**
JNU	**Nakatsue**	**19.36**	**319**	P	**P**	**12 38 30.4**	**0.0**
	comp=E,248nm,0.9s,baz=115,slow=6.1,SNR=101						
JNU				S	**S**	**12 42 04.0**	**+2.8**
	comp=E,54nm,1.0s,baz=66,slow=20,SNR=7.8						
JNU				ScP	**ScP**	**12 46 04.0**	**-3.6**
	comp=E,31nm,0.9s,baz=84,slow=1.4,SNR=6.5						
JNU	**Nakatsue**	**19.36**	**319**	P	**P**	**12 38 31.7**	**+1.3**
JNU	**Nakatsue**	**19.36**	**319**	A	A	12 38 32.0	
	comp=N,3.0nm,9.8s,comp=E,4.0nm,6.4s						
JHD	**Hondo**	**19.40**	**316**	A	A	12 38 32.3	
	comp=N,4.0nm,5.3s,comp=E,6.0n

comp=N,65nm,5.1s,comp=E,46nm,5.8s
JII Iki 20.52 319 A A 12 38 44.5
comp=N,4.0nm,5.0s,comp=E,4.0nm,4.4s
JOM Ohasama 20.70 350 A A 12 38 46.3
comp=N,20nm,5.9s,comp=E,9.0nm,4.0s
JISG Ishigakijimahi 20.71 289 A A 12 38 47.4
comp=N,4.0nm,7.0s,comp=E,5.0nm,5.7s
MIYJ Miyakonagasawa 20.72 351 A A 12 38 46.4
comp=N,15nm,10.5s,comp=E,10.0nm,8.3s
JRG Rokugo 20.75 349 A A 12 38 46.7
comp=N,37nm,7.2s,comp=E,20nm,6.9s
JTB Tobi-shima 20.77 346 A A 12 38 46.9
comp=N,27nm,8.7s,comp=E,17nm,4.8s
JIJ Ishigaki jima 20.82 288 A A 12 38 48.5
comp=N,5.0nm,7.7s,comp=E,7.0nm,5.9s
JKRS Kuro-shima 20.92 288 A A 12 38 49.6
comp=N,20nm,4.8s,comp=E,34nm,4.9s
JYW Yuwa 20.97 348 A A 12 38 48.9
comp=N,52nm,5.0s,comp=E,22nm,6.3s
JSZI Iwateshizukuis 21.02 349 A A 12 38 49.4
comp=N,34nm,6.8s,comp=E,18nm,3.0s
MANU Manus Island 21.04 176 P **P** **12 38 46.8 -1.7**
HATJ Hateruma jima 21.07 287 A A 12 38 51.1
comp=N,11nm,5.3s,comp=E,15nm,4.5s
JTH Tanohata 21.07 351 A A 12 38 50.0
comp=N,20nm,5.4s,comp=E,7.0nm,7.4s
JTSM Tsushimamitsus 21.10 319 A A 12 38 50.3
comp=N,3.0nm,2.3s,comp=E,5.0nm,5.1s
IRIF Iriomote-Funau 21.19 288 A A 12 38 52.2
comp=N,8.0nm,19.0s,comp=E,7.0nm,5.1s
JKZ Kuzumaki 21.20 350 A A 12 38 51.2
comp=N,21nm,7.0s,comp=E,7.0nm,6.0s
JTU Tsushima 21.21 320 P **P** **12 38 50.0 -0.2**
JTU Tsushima 21.21 320 S **S** **12 42 41.2 +4.2**
JTU Tsushima 21.21 320 *eP* **P** **12 38 49.7 -0.5**
JTU Tsushima 21.21 320 A A 12 38 49.7
comp=N,8.0nm,5.3s,comp=E,8.0nm,4.7s
JKEN Kujiedanarisaw 21.36 351 A A 12 38 52.8
comp=N,26nm,4.6s,comp=E,11nm,7.0s
JAH Hinai 21.51 349 A A 12 38 54.3
comp=N,33nm,5.3s,comp=E,10.0nm,4.5s
JANG Nango 21.55 351 A A 12 38 54.7
comp=N,22nm,5.5s,comp=E,6.0nm,4.8s
JOG3 Oga3 21.57 346 A A 12 38 53.3
comp=N,34nm,6.2s,comp=E,19nm,4.9s
JNTW Noshirotokiwa 21.68 348 A A 12 38 56.0
comp=N,69nm,5.3s,comp=E,49nm,3.6s
YOJ Yonaguni jima 21.86 288 P **P** **12 38 58.0 +0.9**
YOJ IAmb IAmb 12 39 06.0
comp=Z,435nm,0.7s
YOJ Yonaguni jima 21.86 288 P **P** **12 38 59.0 +2.0**
YOJ Yonaguni jima 21.86 288 P **P** **12 38 58.0 +0.9**
YOJ pmax pmax
comp=Z,435nm,0.7s
YOJ Yonaguni jima 21.86 288 *eP* **P** **12 38 58.7 +1.6**
YOJ Yonaguni jima 21.86 288 A A 12 38 58.7
comp=N,14nm,15.3s,comp=E,5.0nm,5.9s
JYNG Yonagunijimaku 21.91 288 A A 12 38 59.4
comp=N,10.0nm,7.5s,comp=E,5.0nm,4.9s
JHHS Hirosakihyakuz 22.01 349 A A 12 38 59.2
comp=N,92nm,4.9s,comp=E,29nm,5.3s
JIW Iwasaki 22.02 348 A A 12 38 59.4
comp=N,18nm,6.1s,comp=E,10.0nm,6.4s
JTM Tenmabayashi 22.02 350 P **P** **12 38 59.4 +0.8**
JTM Tenmabayashi 22.02 350 P **P** **12 39 00.2 +1.6**
JTM Tenmabayashi 22.02 350 S **S** **12 42 54.8 +4.1**
JTM Tenmabayashi 22.02 350 A A 12 38 59.4
comp=N,17nm,5.7s,comp=E,10.0nm,6.3s
JAY Jayapura 22.04 194 P **P** **12 38 57.9 -1.1**
comp=E,270nm,0.7s,baz=342,slow=3.9,SNR=44
JAY ScP **ScP** **12 46 13.2 -1.1**
comp=E,28nm,1.0s,baz=44,slow=1.4,SNR=3.5
comp=E,270nm,0.7s
JAY Jayapura 22.04 194 P **P** **12 38 57.1 -1.9**
comp=E,15μmcomp=E,12μmcomp=E,524nm,1.0s
SMPI Sarmi 22.07 199 P **P** **12 38 57.8 -1.5**
comp=E,983nm,0.8s
JARK Aomorirokkasho 22.19 351 A A 12 39 01.0
comp=N,16nm,5.9s,comp=E,9.0nm,7.6s
GENI Genyem 22.24 195 P **P** **12 39 01.6 +0.6**
GENI Genyem 22.24 195 P **P** **12 38 59.7 -1.3**
comp=E,20μmcomp=E,20μmcomp=E,2μm,1.4s
BAKI Biak 22.29 206 P **P** **12 39 02.4 +0.9**
JSI2 Shiura 2 22.40 349 A A 12 39 03.0
comp=N,15nm,8.3s,comp=E,13nm,4.4s
JAHD Aomorihigashid 22.45 351 A A 12 39 03.6
comp=N,14nm,1.6s,comp=E,11nm,6.1s
JOT Ohata 22.61 351 *eP* **P** **12 39 05.5 +1.3**
JOT Ohata 22.61 351 A A 12 39 05.5
comp=N,10.0nm,6.6s,comp=E,6.0nm,8.3s
SRPI Serui, Papua 22.85 205 P **P** **12 39 07.1 +0.4**
comp=E,11μmcomp=E,25μmcomp=E,2μm,1.2s
JSR Shiriuchi 22.86 349 A A 12 39 07.5
comp=N,13nm,7.3s,comp=E,7.0nm,11.6s
JOMM Oshimamatsumae 22.92 349 A A 12 39 08.1
comp=N,9.0nm,8.9s,comp=E,7.0nm,8.9s
ERM Erimo 22.98 355 P **P** **12 39 09.1 +1.4**
ERM IAmb IAmb 12 39 11.9
comp=Z,749nm,1.1s
ERM Erimo 22.98 355 P **P** **12 39 09.9 +2.3**
ERM Erimo 22.98 355 *deP* **P** **12 39 08.6 +1.0**
ERM pmax pmax
comp=Z,485nm,1.1s
JEM Erimo 22.98 355 P **P** **12 39 10.2 +2.6**
JEM Erimo 22.98 355 A A 12 39 08.8
comp=N,5.0nm,3.6s,comp=E,4.0nm,7.5s
DAV Davao City (W) 23.03 241 P **P** **12 39 09.0 +0.6**
NACB Ninganchiao 23.09 287 P **P** **12 39 09.8 +0.9**
NACB Ninganchiao 23.09 287 P **P** **12 39 09.9 +1.0**
JKB Kayabe 23.11 351 A A 12 39 10.0
comp=N,13nm,5.3s,comp=E,7.0nm,8.3s
JTHR Tokachihiroo 23.24 355 A A 12 39 11.3
comp=N,6.0nm,18.8s,comp=E,5.0nm,6.6s
YULB Yu-li 23.26 285 P **P** **12 39 10.5 0.0**
YULB Yu-li 23.26 285 P **P** **12 39 12.0 +1.5**
JNBK Urakawa-nobuka 23.28 354 A A 12 39 11.7
comp=N,9.0nm,4.9s,comp=E,10.0nm,10.9s
YHNB Yeheng 23.36 288 P **P** **12 39 11.4 0.0**
YHNB IAmb IAmb 12 39 20.2
comp=Z,574nm,0.8s
YHNB Yeheng 23.36 288 P **P** **12 39 12.7 +1.3**
YHNB Yeheng 23.36 288 S **S** **12 43 16.6 +3.7**
TWGBT Beinan 23.41 283 P **P** **12 39 13.1 +1.3**
TWGBT Beinan 23.41 283 S **S** **12 43 17.5 +3.9**
TWG Pinlang 23.42 283 P **P** **12 39 11.2 -0.7**
JYM2 Yakumo 2 23.43 350 A A 12 39 13.1
comp=N,11nm,6.0s,comp=E,5.0nm,6.1s
JSHD Hidakashinhida 23.44 354 A A 12 39 13.2
comp=N,15nm,2.6s,comp=E,10.0nm,5.8s
RKPI Ransiki, Papua 23.45 211 P **P** **12 39 12.3 +0.1**
comp=E,17μmcomp=E,16μmcomp=E,556nm,0.8s
JCH Churui 23.56 355 A A 12 39 14.4
comp=N,5.0nm,4.7s,comp=E,7.0nm,4.2s
JOSM Okushiri--Mats 23.56 348 A A 12 39 14.3
comp=N,5.0nm,15.7s,comp=E,6.0nm,7.4s
SSLB Suanglung 23.62 286 P **P** **12 39 14.3 +0.6**
SSLB IAmb IAmb 12 39 25.0
comp=Z,518nm,1.0s
SSLB Suanglung 23.62 286 P **P** **12 39 15.7 +1.9**
JNB Noboribetsu 23.67 351 A A 12 39 15.4
comp=N,4.0nm,9.9s,comp=E,3.0nm,3.1s
TJN Taejon 23.69 320 P **P** **12 39 13.5 -0.6**
TJN IAmb IAmb 12 39 15.2
comp=Z,770nm,0.8s
TJN Taejon 23.69 320 P **P** **12 39 14.3 +0.1**
TJN Taejon 23.69 320 *c iP* **P** **12 39 11.6 -2.6**
JIAM Iburiatsuma 23.71 353 A A 12 39 15.8
comp=N,13nm,5.9s,comp=E,12nm,5.0s
JBT2 Biratori 2 23.81 354 A A 12 39 16.8
comp=N,7.0nm,5.6s,comp=E,9.0nm,6.9s
JOB Onbets 23.82 356 A A 12 39 16.9
comp=N,7.0nm,6.6s,comp=E,8.0nm,9.2s
JHST Hiyamasetana 23.82 349 A A 12 39 16.8
comp=N,9.0nm,2.8s,comp=E,7.0nm,3.5s
TPUB Ta-pu 23.86 285 P **P** **12 39 16.0 0.0**
TPUB Ta-pu 23.86 285 P **P** **12 39 17.7 +1.7**
JAK Akkeshi 23.87 358 A A 12 39 17.4
comp=N,7.0nm,4.2s,comp=E,5.0nm,6.8s
WAMI Wamena 23.87 198 P **P** **12 39 17.3 +1.3**
JKHN Kushirohamanak 23.94 359 A A 12 39 18.1
comp=N,6.0nm,4.3s,comp=E,7.0nm,8.1s
RABL Rabaul 23.94 164 P **P** **12 39 15.0 -1.7**
JEW Eniwo 23.98 352 A A 12 39 18.4
comp=N,8.0nm,3.8s,comp=E,7.0nm,4.1s
JSH Shimam 24.00 349 A A 12 39 18.6
comp=N,11nm,3.5s,comp=E,3.0nm,5.0s

KRVT Keravat (AS076 24.02 165 LR LR 12 48 31.1
comp=E,3μm,19.4s,baz=96,slow=36
KSRS Korea Array 24.09 323 P **P** **12 39 18.1 +0.3**
comp=E,253nm,0.7s,baz=141,slow=8.8,SNR=567
KSRS pP **pwP** **12 39 50.9 -0.6**
comp=E,178nm,0.8s,baz=145,slow=8.6,SNR=3.9
KSRS S **S** **12 43 26.2 +1.9**
comp=E,15nm,0.9s,baz=156,slow=17,SNR=4.9
KSRS ScP **ScP** **12 46 16.6 -2.7**
comp=E,31nm,0.7s,baz=133,slow=3.1,SNR=38
KSRS P3KPbc 13 12 28.1
comp=E,6.0nm,1.0s,baz=330,slow=3.8,SNR=14
comp=E,253nm,0.7s
KSAR Wonju Array Be 24.11 323 P **P** **12 39 18.5 +0.5**
KSAR Wonju Array Be 24.11 323 P **P** **12 39 18.5 +0.5**
KS19 Wonju Array Si 24.16 323 P **P** **12 39 18.3 -0.2**
KS19 IAmb IAmb 12 39 21.2
comp=Z,425nm,0.8s
JFR Furan 24.17 354 A A 12 39 20.3
comp=N,6.0nm,6.7s,comp=E,5.0nm,5.7s
NEM2 Nemuro 2 24.22 360 A A 12 39 20.8
comp=N,3.0nm,11.5s,comp=E,5.0nm,15.6s
JISS Ishikarishitsu 24.41 352 A A 12 39 22.5
comp=N,14nm,5.0s,comp=E,10.0nm,3.4s
SWI Sorong 24.45 217 P **P** **12 39 22.0 +0.8**
comp=E,18μmcomp=E,12μmcomp=E,396nm,0.6s
JAB Ashibetsu 24.55 354 A A 12 39 23.8
comp=N,7.0nm,4.7s,comp=E,8.0nm,3.0s
TABU Tabubil 24.61 191 P **P** **12 39 23.3 +0.5**
TABU Tabubil 24.61 191 S **S** **12 43 34.4 +1.4**
JSK Shakotan 24.62 351 A A 12 39 24.5
comp=N,7.0nm,7.7s,comp=E,6.0nm,2.6s
JNSB Nemuroshibetsu 24.64 359 A A 12 39 24.8
comp=N,21nm,5.0s,comp=E,13nm,5.5s
JHR Hokuryu 24.84 353 A A 12 39 26.6
comp=N,7.0nm,4.4s,comp=E,7.0nm,8.1s
JKK2 Kamakawa 2 24.86 355 A A 12 39 26.8
comp=N,9.0nm,8.0s,comp=E,6.0nm,3.3s
INCN Inchon 24.86 322 P **P** **12 39 24.5 -0.4**
INCN Inchon 24.86 322 P **P** **12 39 25.2 +0.3**
INCN Inchon 24.86 322 P **P** **12 39 24.5 -0.4**
INCN pmax pmax
comp=Z,258nm,1.0s
JTKR Abashiri--Toko 24.88 357 A A 12 39 27.0
comp=N,8.0nm,3.5s,comp=E,3.0nm,4.7s
YUK Yuzh-Kuril'sk 24.89 0*d iP* **P** **12 39 26.0 +1.1**
YUK *i* *PP **pP** **12 39 54.3 -1.3**
YUK *eS* **S** **12 43 37.7 +1.0**
YUK *i* 12 50 10.0
YUK pmax pmax
comp=Z,674nm,1.1s
YUK pmax pmax
comp=N,246nm,0.9s
YUK pmax pmax
comp=E,543nm,0.9s
YUK pmax pmax
comp=Z,776nm,2.0s
JMP Maruseppu 24.95 356 A A 12 39 27.7
comp=N,7.0nm,6.2s,comp=E,4.0nm,7.3s
ASAJ Asahikawa 25.11 354 P **P** **12 39 28.6 +1.6**
ASAJ pmax pmax
comp=Z,1μm,1.3s
ASAJ Asahikawa 25.11 354 A A 12 39 29.2
comp=N,7.0nm,3.8s,comp=E,6.0nm,3.6s
JKA Kamikawa-asahi 25.11 355 P **P** **12 39 28.6 +1.5**
SSE Sheshan 25.27 303 P **P** **12 39 28.7 +0.1**
SSE pP **pP** **12 39 59.1 -0.3**
SSE sP **sP** **12 40 16.7 0.0**
SSE S **S** **12 43 42.8 -0.2**
SSE sS **sS** **12 44 36.3 -1.6**
SSE ScP **ScP** **12 46 19.8 -3.0**
SSE pmax pmax
comp=E,82nm,0.9s
SSE pmax pmax
comp=E,3μm,9.3s
JSS Shosan 25.47 353 A A 12 39 32.6
comp=N,10.0nm,4.9s,comp=E,7.0nm,3.8s
KMPI Kaimana, Papua 25.55 209 P **P** **12 39 31.9 +0.6**
FAKI Fak Fak 25.62 213 P **P** **12 39 30.7 -1.2**
FAKI Fak Fak 25.62 213 P **P** **12 39 32.1 +0.2**
FAKI Fak Fak 25.62 213 P **P** **12 39 31.7 -0.2**
comp=E,17μmcomp=E,11μmcomp=E,339nm,0.8s
TNTI Ternate 25.67 227 P **P** **12 39 34.7 +2.4**
TNTI IAmb IAmb 12 40 11.0
comp=Z,663nm,1.8s
TNTI Ternate 25.67 227 P **P** **12 39 34.3 +1.9**
TNTI Ternate 25.67 227 P **P** **12 39 33.3 +0.9**
QZH Quanzhou 25.90 288 P **P** **12 39 35.3 +0.9**
QZH pP **pwP** **12 40 08.4 -1.5**
QZH sP **sP** **12 40 25.4 +3.0**
QZH S **S** **12 43 55.3 +2.1**
QZH pmax pmax
comp=Z,230nm,0.7s
QZH pmax pmax
comp=Z,790nm,5.9s
QZH LR LR
comp=Z,8μm,13.3s
QZH LR LR
comp=Z,5μm,8.3s
QZH LR LR
comp=Z,8μm,14.9s
KNMB Chin-men Tao 26.02 287 P **P** **12 39 35.9 +0.4**
KNMB IAmb IAmb 12 40 12.9
comp=Z,521nm,1.7s
HHU Hamhung 26.09 327 P **P** **12 39 35.3 -0.6**
HHU S **S** **12 43 57.5 +1.8**
HHU AmB
comp=Z,634nm,1.8s
HHU AMS AMS
comp=Z,1μm,4.2s
KUR Kuril'sk 26.14 3*d iP* **P** **12 39 37.5 +1.3**
KUR *e*SP **pP** **12 40 08.8 +1.6**
KUR *i* 12 40 19.9
KUR *eS* **S** **12 43 57.9 +1.5**
KUR pmax pmax
comp=Z,1μm,1.4s
KUR pmax pmax
comp=Z,3μm,6.4s
JWK2 Keihoku 26.37 354 A A 12 39 41.0
comp=N,5.0nm,5.9s,comp=E,5.0nm,7.2s
PYAG Pyongyang 26.43 323 P **P** **12 39 38.8 -0.1**
PYAG S **S** **12 44 03.3 +2.1**
PYAG AmB
comp=Z,729nm,2.3s
PYAG AMS AMS
comp=Z,3μm,14.5s
MSHR Mys Shultsa 26.53 335*ceP* **P** **12 39 40.9 +1.1**
MSHR pmax pmax
comp=Z,116nm,1.0s
LBMI Labuha 26.61 225 P **P** **12 39 42.8 +2.0**
comp=Z,8μmcomp=Z,250nm,1.1s
VLA Vladivostok 26.71 337*d iP* **P** **12 39 43.1 +1.7**
VLA pmax pmax
comp=Z,1μm,1.6s
PSTR Posyet 26.73 335*d iP* **P** **12 39 42.8 +1.2**
TEY Ternei 27.00 345‖*eP* **P** **12 39 44.9 +0.9**
TEY pmax pmax
comp=E,60nm,0.7s
TEY pmax pmax
comp=N,160nm,0.9s
TEY pmax pmax
comp=Z,160nm,0.9s
TEY pmax pmax
comp=N,300nm,2.2s
TEY pmax pmax
comp=E,100nm,2.2s
TEY pmax pmax
comp=Z,500nm,2.1s
NJ2 Nanjing 27.47 303 *eP* **P** **12 39 50.6 +2.3**
NJ2 pP **pP** **12 40 19.4 +0.1**
NJ2 sP **sP** **12 40 36.4 -0.2**
NJ2 S **S** **12 44 16.0 -1.8**
NJ2 ScP **ScP** **12 46 27.2 -2.1**
NJ2 pmax pmax
comp=Z,16nm,0.6s
USA0B Ussuriysk Arra 27.61 338 P **P** **12 39 50.6 +1.2**
USA0B IAmb IAmb 12 39 53.5
comp=Z,392nm,1.1s
USA0B Ussuriysk Arra 27.61 338 *i* P **P** **12 39 50.0 +0.6**
USRK Ussuriysk Ar. 27.61 338 P **P** **12 39 50.6 +1.2**
USRK Ussuriysk Ar. 27.61 338 P **P** **12 39 50.2 +0.8**
comp=Z,182nm,0.7s,baz=152,slow=8.8,SNR=164
USRK ScP **ScP** **12 46 26.3 -3.1**
comp=Z,20nm,0.8s,baz=162,slow=3.6,SNR=8.9
USRK LR LR 12 49 38.2
comp=Z,3μm,21.6s,baz=138,slow=33

USRK P3KPbc 13 12 12.1
comp=Z,5.9nm,0.9s,baz=337,slow=4.0,SNR=8.4
comp=Z,182nm,0.7s
USRK Ussuriysk Ar. 27.61 338 P **P** **12 39 50.6 +1.2**
MSAI Masohi 27.81 218 P **P** **12 39 52.7 +1.2**
comp=Z,6μmcomp=Z,295nm,0.7s
SUJ Sinuiju 27.86 323 P **P** **12 39 51.3 -0.4**
SUJ pP **pP** **12 40 20.4 -2.6**
SUJ S **S** **12 44 24.8 +1.1**
SUJ AmB
comp=Z,398nm,1.3s
SUJ AMS AMS
comp=Z,3μm,11.7s
MMPI Merauke 27.89 192 P **P** **12 39 52.6 +0.4**
comp=Z,11μmcomp=Z,524nm,1.4s
YSS Yuzhno-Sakhali 27.92 355 P **P** **12 39 52.9 +0.8**
YSS Yuzhno-Sakhali 27.92 355 P **P** **12 39 53.7 +1.6**
YSS Yuzhno-Sakhali 27.92 355 *eP* **P** **12 39 53.2 +1.1**
YSS *e* 12 40 29.7
YSS *e* 12 43 03.0
YSS *eS* **S** **12 44 23.8 -0.7**
KMSI Cibinong 28.24 232 P **P** **12 39 56.8 +1.5**
comp=Z,14μmcomp=Z,480nm,1.2s
AAI Ambon 28.52 219 P **P** **12 39 58.8 +1.0**
comp=Z,3μmcomp=Z,359nm,0.9s
SANI Sanana 28.66 225 P **P** **12 39 57.1 -2.0**
SANI Sanana 28.66 225 P **P** **12 39 59.6 +0.5**
SANI Sanana 28.66 225 P **P** **12 39 58.6 -0.5**
comp=Z,10μmcomp=Z,3μmcomp=Z,82nm,0.9s
DL2 Dalian 28.81 318 P **P** **12 39 59.6 -0.6**
DL2 pP **pwP** **12 40 34.2 -1.3**
DL2 PcP **PcP** **12 43 03.8 -2.3**
DL2 S **S** **12 44 38.4 -0.3**
DL2 pmax pmax
comp=Z,92nm,0.8s
DL2 pmax pmax
comp=Z,2μm,8.8s
NLAI Namlea 28.84 222 P **P** **12 40 01.5 +0.9**
comp=Z,12μmcomp=Z,3μmcomp=Z,150nm,1.0s
MDJ Mudanjiang 28.85 336 P **P** **12 40 01.0 +0.5**
MDJ Mudanjiang 28.85 336 P **P** **12 40 01.5 +1.0**
MDJ PP **sP** **12 40 54.0 +4.4**
MDJ S **S** **12 44 39.8 +0.6**
MDJ sS sS 12 45 29.9 -4.8
MDJ pmax pmax
comp=Z,97nm,1.0s
MDJ pmax pmax
comp=Z,470nm,3.6s
MDJ Mudanjiang 28.85 336 P **P** **12 40 02.1 +1.6**
MDJ Mudanjiang 28.85 336 S **S** **12 44 42.8 +3.6**
SNY Shenyang 29.54 325 ‖P **P** **12 40 06.6 0.0**
SNY PP **PnPn** **12 41 04.9 -4.0**
SNY S **S** **12 44 48.1 -2.0**
SNY pmax pmax
comp=Z,87nm,1.2s
SNY pmax pmax
comp=Z,240nm,3.8s
SNY LR LR
comp=Z,1μm,9.0s
SNY LR LR
comp=Z,1μm,12.4s
SNY LR LR
comp=Z,2μm,18.6s
MRSI Marisa 29.85 234 P **P** **12 40 10.9 +1.3**
comp=Z,9μmcomp=Z,5μmcomp=Z,170nm,1.0s
CN2 Changchun 30.01 330 ‖P **P** **12 40 10.4 -0.3**
CN2 *eP* pP 12 40 40.5 -2.1
CN2 *eS* **S** **12 44 57.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,300nm,6.0s
MYLDM Lahad Datu 30.02 246 P **P** **12 40 13.6 +2.6**
MYLDM Lahad Datu 30.02 246 P **P** **12 40 12.7 +1.6**
UGL Uglegorsk 30.09 355 ‖*iP* **P** **12 40 12.9 +1.6**
UGL *eS* **S** **12 44 59.9 +1.5**
UGL pmax pmax
comp=Z,2μm,2.9s
UGL pmax pmax
comp=Z,510nm,1.2s
UGL smax smax
comp=N,4μm,7.5s
UGL smax smax
comp=E,5μm,7.5s
LUWI Luwuk 30.21 231 P **P** **12 40 09.6 -3.2**
LUWI Luwuk 30.21 231 P **P** **12 40 14.0 +1.2**
LUWI Luwuk 30.21 231 P **P** **12 40 12.9 +0.1**
comp=E,5μmcomp=E,267nm,0.8s
TOLI2 Tolitoli 30.36 237 P **P** **12 40 14.2 +0.1**
TOLI2 IAmb IAmb 12 40 16.8
comp=Z,288nm,1.3s
TOLI2 Tolitoli 30.36 237 P **P** **12 40 16.0 +1.9**
SAUI Saumlaki 30.47 209 P **P** **12 40 15.9 +0.9**
SAUI Saumlaki 30.47 209 P **P** **12 40 16.9 +1.9**
SAUI Saumlaki 30.47 209 P **P** **12 40 16.2 +1.2**
TIA Tai'an 30.47 310 P **P** **12 40 16.0 +1.1**
TIA pP **pP** **12 40 41.4 -4.9**
TIA S **S** **12 45 06.0 +1.2**
TIA sS **sS** **12 45 57.6 -2.8**
TIA ScP **ScP** **12 46 35.7 -3.1**
TIA ScS **ScS** **12 50 34.3 -0.9**
TIA pmax pmax
comp=Z,110nm,1.2s
TIA LR LR
comp=Z,3μm,13.3s
TIA LR LR
comp=Z,5μm,13.5s
TIA LR LR
comp=Z,5μm,18.0s
GZH Guangzhou 30.54 283 P **P** **12 40 12.5 -3.2**
GZH PP **PnPn** **12 41 20.6 -1.2**
GZH S **S** **12 45 06.8 +0.6**
GZH LR LR
comp=Z,8μm,15.3s
GZH LR LR
comp=Z,4μm,14.9s
TATA Tatamba Isabel 30.57 152 P **P** **12 40 15.2 -0.7**
BNX BinXian 30.66 334 ‖P **P** **12 40 17.2 +0.8**
BNX pP **pP** **12 40 47.7 -0.7**
BNX S **S** **12 45 05.3 -2.1**
BNX pmax pmax
comp=Z,200nm,1.1s
BNX LR LR
comp=Z,2μm,15.6s
BNX LR LR
comp=Z,2μm,13.7s
BNX LR LR
comp=Z,2μm,15.5s
WHN Wuhan 30.68 298 P **P** **12 40 20.4 +3.7**
WHN sP **sP** **12 41 09.1 +3.8**
WHN PP **PnPn** **12 41 24.2 +0.8**
WHN S **S** **12 45 05.0 -3.1**
WHN ScP **ScP** **12 46 37.1 -2.4**
WHN pmax pmax
comp=Z,36nm,0.5s
WHN LR LR
comp=Z,42μm,17.7s
WHN LR LR
comp=Z,20μm,17.0s
WHN LR LR
comp=Z,26μm,19.5s
APSI Ampana 30.96 233 P **P** **12 40 20.0 +0.6**
comp=Z,2μmcomp=Z,255nm,1.3s
ALEG Aligegeo Malai 31.29 151 P **P** **12 40 22.4 +0.1**
CNSH ChangSha 31.40 293 P **P** **12 40 26.5 +3.4**
CNSH S **S** **12 45 21.1 +1.6**
CNSH pmax pmax
comp=Z,8.0nm,0.7s
CNSH LR LR
comp=Z,8μm,16.8s
CNSH LR LR
comp=Z,3μm,11.8s
CNSH LR LR
comp=Z,3μm,12.4s
HNR Honiara 31.56 153 LR LR 12 52 31.9
comp=Z,4μm,20.6s,baz=331,slow=35
KKM Kota Kinabalu 31.61 250 P **P** **12 40 25.7 +0.5**
KKM IAmb IAmb 12 41 04.0
comp=Z,338nm,1.5s
KKM Kota Kinabalu 31.61 250 P **P** **12 40 27.9 +2.7**
TYV Tymovskoe 31.82 356 *eP* **P** **12 40 27.8 +1.3**
TYV *eS* **S** **12 45 29.1 +3.7**
TYV pmax pmax
comp=Z,2μm,3.6s
TYV pmax pmax

comp=Z,209nm,1.0s
TYV smax smax
comp=N,1μm,5.5s
TYV smax smax
comp=E,4μm,5.5s
TYV smax smax
comp=N,63nm,1.5s
TYV smax smax
comp=E,35nm,1.5s
KLR Kul'dur 32.15 343 *ce*P **P 12 40 30.7 +1.3**
KLR pmax pmax
comp=Z,623nm,0.8s
KDI Kendari 32.34 227 P **P 12 40 32.9 +1.4**
comp=Z,11μmcomp=Z,3μmcomp=Z,207nm,1.1s
PCI Palu 32.34 235 P **P 12 40 32.9 +1.4**
GRNR Gornyy 32.50 349 ⇓*i*P **P 12 40 34.5 +2.0**
GRNR *e*S **S 12 45 43.4 +7.4**
GRNR pmax pmax
comp=N,200nm,0.9s
GRNR pmax pmax
comp=E,80nm,0.9s
GRNR pmax pmax
comp=Z,380nm,0.8s
GRNR smax smax
comp=E,8.0nm,0.8s
SKR Severo-Kuril's 32.58 12 *e*P **P 12 40 34.2 +1.1**
SKR *e*S **S 12 45 33.0 -4.2**
SKR *e*SS **ScP 12 46 36.7 -8.8**
SKR pmax pmax
comp=Z,2μm,5.5s
HNS HongShan 32.73 310 ⇑P **P 12 40 35.4 +0.7**
HNS pP **pP 12 41 05.6 -0.6**
HNS sP **sP 12 41 21.8 -1.6**
HNS S **S 12 45 40.3 +0.3**
HNS ScP **ScP 12 46 43.4 -2.9**
HNS ScS **ScS 12 50 46.0 -0.4**
HNS pmax pmax
comp=Z,310nm,1.3s
HNS LR LR
comp=Z,3μm,14.3s
HNS LR LR
comp=Z,3μm,15.3s
HNS LR LR
comp=Z,4μm,16.3s
COEN Coen 32.93 185 P **P 12 40 35.3 -1.2**
COEN IAmb IAmb 12 40 39.5
comp=Z,195nm,0.7s
COEN Coen 32.93 185 P **P 12 40 35.3 -1.2**
comp=Z,0.0nmcomp=Z,314nm,0.6s
COEN Coen 32.93 185 P **P 12 40 35.5 -1.0**
BJT Baijiatuau 32.95 316 P **P 12 40 36.6 +0.1**
BJT IAmb IAmb 12 40 38.7
comp=Z,584nm,1.7s
BJT Baijiatuau 32.95 316 P **P 12 40 37.7 +1.2**
BJT Baijiatuau 32.95 316 P **P 12 40 36.6 +0.1**
BJT pmax pmax
comp=Z,584nm,1.7s
BJT Baijiatuau 32.95 316 P **P 12 40 37.1 +0.6**
BJT ScP **ScP 12 46 44.1 -2.9**
BJI Beijing 32.96 316 P **P 12 40 36.7 +0.1**
BJI pP **pP 12 41 05.2 -3.0**
BJI sP **sP 12 41 22.0 -3.5**
BJI PP **PP 12 41 54.1 0.0**
BJI S **S 12 45 43.4 +0.1**
BJI sS **sS 12 46 36.7 -2.5**
BJI pmax pmax
comp=Z,70nm,0.8s
BJI pmax pmax
comp=Z,850nm,9.4s
BJI LR LR
comp=Z,2μm,13.5s
BJI LR LR
comp=Z,2μm,14.0s
BJI LR LR
comp=Z,1μm,14.8s
LYN LuoYang 33.35 304 ⇓P **P 12 40 42.4 +2.3**
LYN sP sP 12 41 27.7 -1.1
LYN S **S 12 45 52.5 +2.9**
LYN ScP **ScP 12 46 45.0 -3.6**
LYN sS sS 12 46 45.3 -0.2
LYN ScS **ScS 12 50 49.0 -0.8**
LYN pmax pmax
comp=Z,59nm,1.3s
LYN pmax pmax
comp=Z,470nm,5.0s
HURO Huro Makira 33.35 150 P **P 12 40 38.7 -1.5**
GULI GuiLin 33.35 287 P **P 12 40 41.5 +1.3**
GULI pP **pP 12 41 13.9 +2.2**
GULI sP **sP 12 41 27.8 -1.0**
GULI PP **PnPn 12 41 57.4 +0.5**
GULI S **S 12 45 50.4 +0.5**
GULI sS **sS 12 46 47.1 +1.3**
GULI SS **SnSn 12 48 09.7 +0.1**
GULI pmax pmax
comp=Z,60nm,1.0s
GULI pmax pmax
comp=Z,530nm,5.7s
GULI LR LR
comp=Z,5μm,15.3s
GULI LR LR
comp=Z,2μm,15.8s
GULI LR LR
comp=Z,4μm,15.9s
BBSI Bau Bau 33.48 225 P **P 12 40 43.5 +2.1**
comp=Z,10μmcomp=Z,4μmcomp=Z,305nm,1.0s
NGOA Tingoa Renbel 33.51 154 P **P 12 40 41.4 -0.2**
TTSI Tana Toraja 33.74 232 P **P 12 40 45.5 +1.9**
comp=Z,9μmcomp=Z,5μmcomp=Z,457nm,0.8s
QIZ Qiongzhong 33.99 276 P **P 12 40 46.1 +0.3**
QIZ pP **pP 12 41 13.0 -4.3**
QIZ PP **PP 12 42 06.8 +1.0**
QIZ S **S 12 46 01.0 +1.2**
QIZ pmax pmax
comp=Z,58nm,1.6s
QIZ pmax pmax
comp=Z,500nm,6.7s
QIZ LR LR
comp=Z,5μm,13.1s
QIZ LR LR
comp=Z,3μm,17.2s
QIZ LR LR
comp=Z,6μm,16.1s
QIZ Qiongzhong 33.99 276 P **P 12 40 47.9 +2.1**
SMKI Samarinda 34.15 239 P **P 12 40 50.6 +3.4**
comp=Z,11μmcomp=Z,400nm,1.1s
KDU Kakadu 34.20 204 P **P 12 40 46.4 -1.1**
comp=Z,0.0nmcomp=Z,340nm,1.6s
KDU Kakadu 34.20 204 P **P 12 40 46.9 -0.6**
KDU Kakadu 34.20 204 S **S 12 46 04.4 +1.5**
NKL Nikolayevsk 34.24 354 *e*P **P 12 40 46.9 -0.6**
NKL *e*S **S 12 46 03.8 +1.0**
NKL pmax pmax
comp=N,529nm,1.0s
NKL pmax pmax
comp=E,729nm,1.0s
NKL pmax pmax
comp=Z,2μm,1.0s
NKL smax smax
comp=E,844nm,4.5s
NKL smax smax
comp=N,3μm,5.3s
NKL MLR MLR
comp=E,7μm,15.0s
NKL MLR MLR
comp=N,8μm,14.0s
NKL MLR MLR
comp=Z,11μm,14.0s
SPSI Sidrap Palu 34.39 231 P **P 12 40 50.0 +0.8**
comp=Z,10μmcomp=Z,3μmcomp=Z,351nm,1.2s
HEH HeiHe 34.40 339 *e*P **P 12 40 49.8 +0.9**
HEH pP **pP 12 41 20.8 -0.2**
HEH S **S 12 46 05.7 +0.3**
HEH ScP **ScP 12 46 48.7 -3.3**
HEH ScS **ScS 12 50 51.2 -3.5**
TIY Taiyuan 34.51 310 *e*P **P 12 40 52.6 +2.5**
TIY pP **pP 12 41 21.6 -0.3**
TIY sP **sP 12 41 35.4 -3.6**
TIY PP **PP 12 42 12.8 +1.3**
TIY sS **sS 12 47 01.3 -2.3**
TIY pmax pmax
comp=Z,44nm,0.7s
TIY pmax pmax
comp=Z,330nm,4.1s
TIY LR LR
comp=Z,4μm,12.5s
TIY LR LR
comp=Z,2μm,12.6s
TIY LR LR
comp=Z,3μm,12.5s
DRS Darwin Rock St 34.60 206 P **P 12 40 50.8 -0.1**
ENH Enshi 34.72 296 P **P 12 40 51.1 -0.9**
ENH Enshi 34.72 296 P **P 12 40 53.5 +1.5**
ENH Enshi 34.72 296 P **P 12 40 52.5 +0.5**
ENH ScP **ScP 12 46 51.0 -2.6**
MTN Manton Dam 34.87 206 P **P 12 40 52.7 -0.6**
MTN Manton Dam 34.87 206 P **P 12 40 52.8 -0.5**
comp=Z,0.0nmcomp=Z,1μm,1.1s
MTN Manton Dam 34.87 206 P **P 12 40 53.6 +0.3**
BKSI Bulukumba 35.06 229 P **P 12 40 56.0 +1.0**
comp=Z,9μmcomp=Z,116nm,1.0s
KAPI Kappang 35.11 230 P **P 12 40 56.2 +0.7**
KAPI IAmb IAmb 12 40 58.7
comp=Z,262nm,1.1s
KAPI Kappang 35.11 230 P **P 12 40 56.6 +1.1**
KAPI Kappang 35.11 230 *c i*P **P 12 40 55.7 +0.3**
KAPI pmax pmax
comp=Z,124nm,0.9s
KAPI Kappang 35.11 230 P **P 12 40 56.5 +1.1**
KAPI ScP **ScP 12 46 56.8 +1.7**
XLT XiLinHaoTe 35.12 321 *e*P **P 12 40 56.1 +0.8**
XLT pP pP 12 41 28.9 +1.7
XLT PP **PP 12 42 12.2 -5.9**
XLT ScP **ScP 12 46 52.0 -2.8**
XLT pmax pmax
comp=Z,300nm,1.2s
XLT LR LR
comp=Z,290nm,13.9s
XLT LR LR
comp=Z,3μm,13.0s
XLT LR LR
comp=Z,3μm,12.4s
PEA0B Petropavlovsk- 35.20 12 P **P 12 40 56.6 +0.9**
PEA0B Petropavlovsk- 35.20 12 *de*P **P 12 40 57.3 +1.6**
PETK Petropavlovsk- 35.20 12 P **P 12 40 56.7 +1.0**
comp=Z,89nm,0.7s,baz=152,slow=4.3,SNR=158
PETK PcP **PcP 12 43 22.8 -0.5**
comp=Z,30nm,0.9s,baz=206,slow=6.2,SNR=3.2
PETK ScP **ScP 12 46 54.1 -0.6**
comp=Z,17nm,0.7s,baz=170,slow=2.4,SNR=8.7
comp=Z,89nm,0.7s
PET Petropavlovsk 35.32 13 P **P 12 40 57.3 +0.5**
PET IAmb IAmb 12 40 59.9
comp=Z,363nm,1.2s
PET Petropavlovsk 35.32 13 P **P 12 40 58.5 +1.8**
PET Petropavlovsk 35.32 13 *e*P **P 12 40 58.1 +1.3**
PET *e**PP **pP 12 41 28.5 -0.2**
PET *e*S **S 12 46 22.8 +3.5**
PET pmax pmax
comp=Z,1μm,12.6s
PET Petropavlovsk 35.32 13 P **P 12 40 56.7 0.0**
comp=Z,5μmcomp=Z,315nm,1.6s
PET Petropavlovsk 35.32 13 P **P 12 40 58.0 +1.3**
PET ScP **ScP 12 46 53.1 -2.0**
BSSI Bau Bau, Buton 35.38 227 P **P 12 40 58.9 +1.2**
SOEI Soe 35.68 218 P **P 12 40 59.0 -1.4**
SOEI IAmb IAmb 12 41 36.8
comp=Z,442nm,1.1s
SOEI Soe 35.68 218 P **P 12 40 56.9 -3.5**
SOEI Soe 35.68 218 P **P 12 40 59.3 -1.1**
SOEI Soe 35.68 218 P **P 12 40 59.5 -0.9**
comp=Z,7μmcomp=Z,8μmcomp=Z,363nm,0.7s
XAN Xi'an 36.01 302 ⇓P **P 12 41 03.9 +0.9**
XAN pP pP 12 41 36.0 +1.1
XAN S **S 12 46 34.1 +3.5**
XAN ScP **ScP 12 46 55.7 -2.5**
XAN sS sS 12 47 24.6 -2.3
XAN SS **SS 12 49 07.3 -6.0**
XAN ScS **ScS 12 51 02.5 -1.8**
XAN pmax pmax
comp=Z,39nm,1.3s
XAN pmax pmax
comp=Z,440nm,8.8s
XAN LR LR
comp=Z,9μm,20.6s
XAN LR LR
comp=Z,6μm,17.2s
XAN LR LR
comp=Z,4μm,15.1s
MMRI Maumere 36.05 222 P **P 12 41 02.6 -0.9**
MMRI IAmb IAmb 12 41 04.9
comp=Z,314nm,0.9s
MMRI Maumere 36.05 222 P **P 12 41 04.5 +1.1**
MMRI Maumere 36.05 222 P **P 12 41 03.4 0.0**
comp=Z,8μmcomp=Z,8μmcomp=Z,402nm,1.6s
HHC Hu-ho-hao-te 36.43 314 ⇓*i*P **P 12 41 07.9 +1.3**
HHC pP pP 12 41 35.8 -2.8
HHC sP sP 12 41 50.1 -5.6
HHC S **S 12 46 38.0 +1.0**
HHC SS **SS 12 49 13.1 -9.4**
HHC pmax pmax
comp=Z,65nm,0.7s
HHC pmax pmax
comp=Z,260nm,3.6s
HHC LR LR
comp=Z,2μm,11.6s
HHC LR LR
comp=Z,4μm,16.3s
HHC LR LR
comp=Z,2μm,17.2s
DLV Lat 36.62 264 P **P 12 41 11.9 +3.3**
HIA Hailar 36.70 331 P **P 12 41 08.6 0.0**
HIA Hailar 36.70 331 P **P 12 41 09.5 +0.9**
HIA Hailar 36.70 331 P **P 12 41 08.6 0.0**
HIA pmax pmax
comp=Z,135nm,0.8s
HIA Hailar 36.70 331 P **P 12 41 09.1 +0.5**
HIA pP **pP 12 41 41.7 +0.8**
HIA ScP **ScP 12 46 57.0 -3.4**
GYA Guiyang 36.75 289 ⇑P **P 12 41 11.6 +2.1**
GYA pP pP 12 41 40.1 -1.2
GYA S **S 12 46 43.3 +1.1**
GYA pmax pmax
comp=Z,17nm,0.6s
GYA LR LR
comp=Z,3μm,11.4s
GYA LR LR
comp=Z,2μm,17.6s
GYA LR LR
comp=Z,4μm,18.0s
SBUM Sibu 36.80 247 P **P 12 41 11.1 +1.2**
SBUM Sibu 36.80 247 P **P 12 41 12.2 +2.3**
MTSU Mount Surprise 37.01 182 P **P 12 41 10.6 -0.9**
comp=Z,271nm,0.6s
MTSU Mount Surprise 37.01 182 P **P 12 41 10.8 -0.7**
BTO Baotou 37.39 313 *e*P **P 12 41 17.5 +2.8**
BTO pP **pP 12 41 48.7 +1.9**
BTO sP **sP 12 42 04.7 +0.8**
BTO PP **PnPn 12 42 50.4 +4.6**
BTO S **S 12 46 56.2 +4.7**
BTO sS **sS 12 47 48.9 +0.9**
BTO pmax pmax
comp=Z,230nm,0.8s
BTO pmax pmax
comp=Z,650nm,3.7s
BTO LR LR
comp=Z,5μm,19.5s
BTO LR LR
comp=Z,7μm,16.7s
BTO LR LR
comp=Z,7μm,16.1s
ZEA Zeya 37.45 342 *e*P **P 12 41 15.9 +1.1**
ZEA *e**SP **pwP 12 41 55.3 +5.1**
ZEA *e* 12 42 44.3
ZEA *e*S **S 12 46 50.8 -1.0**
ZEA pmax pmax
comp=E,200nm,2.1s
ZEA pmax pmax
comp=N,500nm,2.0s
ZEA pmax pmax
comp=Z,800nm,1.9s
ZEA pmax pmax
comp=N,220nm,0.9s
ZEA pmax pmax
comp=Z,360nm,0.9s
ZEA pmax pmax
comp=E,70nm,0.8s
ZEA pmax pmax
comp=Z,500nm,2.2s
ZEA smax smax
comp=E,700nm,6.8s
ZEA smax smax
comp=N,1μm,10.6s
WSI Waingapu 38.08 224 P **P 12 41 18.8 -1.7**
comp=N,7μmcomp=N,7μmcomp=N,646nm,1.1s
TV1H Townsville Har 38.11 179 P **P 12 41 20.0 -0.7**
BASI Baing, Sumba 38.31 223 P **P 12 41 20.8 -1.7**
comp=N,6μmcomp=N,9μmcomp=N,786nm,1.3s
KNRA Kununurra 38.41 207 P **P 12 41 22.9 -0.3**
KNRA Kununurra 38.41 207 P **P 12 41 23.0 -0.2**
comp=Z,0.0nmcomp=Z,1μm,0.8s
AUAYR Ayr State High 38.45 178 P **P 12 41 23.2 -0.3**
STKI Sintang 38.64 245 P **P 12 41 26.9 +1.6**
comp=Z,8μmcomp=Z,10μmcomp=Z,84nm,0.8s
WBSI Waikabubak, Su 38.65 225 P **P 12 41 23.3 -2.1**
comp=Z,7μmcomp=Z,4μmcomp=Z,388nm,0.7s
UBPT Khong Chiam 38.69 271 P **P 12 41 29.4 +3.7**
KSM Kuching 38.95 248 P **P 12 41 27.6 -0.3**
KSM Kuching 38.95 248 P **P 12 41 29.5 +1.6**
PLAI Plampang 39.17 227 P **P 12 41 29.8 +0.2**
PLAI Plampang 39.17 227 P **P 12 41 29.0 -0.6**
comp=Z,8μmcomp=Z,4μmcomp=Z,236nm,1.8s
SLVN Son La 39.34 281 P **P 12 41 32.5 +1.4**
SLVN Son La 39.34 281 P **P 12 41 33.7 +2.6**
CD2 Chengdu 39.70 296 P **P 12 41 34.3 +0.3**
CD2 pP pP 12 42 01.6 -4.8
CD2 sP sP 12 42 19.1 -4.2
CD2 S **S 12 47 26.8 +0.5**
CD2 sS sS 12 48 19.8 -3.5
CD2 SS **SS 12 50 26.5 -1.7**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,340nm,6.0s
CD2 LR LR
comp=Z,10μm,18.8s
CD2 LR LR
comp=Z,7μm,14.3s
CD2 LR LR
comp=Z,5μm,16.9s
TWSI Taliwang, Sumb 39.73 228 P **P 12 41 34.4 +0.1**
comp=Z,8μmcomp=Z,6μmcomp=Z,574nm,1.1s
QIS Mount Isa 39.86 189 P **P 12 41 33.9 -1.3**
comp=Z,0.0nmcomp=Z,374nm,1.0s
QIS Mount Isa 39.86 189 P **P 12 41 34.2 -1.1**
WB0 Warramunga Arr 40.20 197 P **P 12 41 37.3 -0.8**
SANVU Saraoutou 40.24 147 P **P 12 41 37.5 -0.9**
SANVU pP **pP 12 42 10.7 -0.1**
KMI Kunming 40.26 287 ⇓P **P 12 41 38.1 -0.8**
KMI pP pwP 12 42 14.0 -2.3
KMI S **S 12 47 37.5 +2.5**
KMI SS **SS 12 50 40.7 +1.1**
KMI pmax pmax
comp=Z,37nm,1.3s
KMI pmax pmax
comp=Z,410nm,7.7s
KMI LR LR
comp=Z,3μm,14.6s
KMI LR LR
comp=Z,2μm,12.4s
KMI LR LR
comp=Z,3μm,15.0s
WRAB Tennant Creek 40.37 197 P **P 12 41 38.9 -0.6**
WRAB Tennant Creek 40.37 197 *c i*P **P 12 41 38.8 -0.6**
WRAB pmax pmax
comp=Z,669nm,1.1s
WB2 Warramunga Arr 40.38 197 P **P 12 41 39.0 -0.6**
WRA Warramunga Arr 40.38 197 P **P 12 41 38.6 -1.0**
comp=Z,615nm,1.1s,baz=14,slow=8.4,SNR=157
WRA ScP **ScP 12 47 12.9 -2.0**
comp=Z,35nm,0.8s,baz=14,slow=3.9,SNR=8.6
WRA S **S 12 47 34.3 -2.1**
comp=Z,41nm,0.9s,baz=13,slow=14,SNR=8.7
WRA LR LR 12 59 48.9
comp=Z,2μm,18.4s,baz=18,slow=38
comp=Z,615nm,1.1s
NONG Nongkai 40.41 276 P **P 12 41 43.1 +3.2**
SRBI Singaraja 40.49 231 P **P 12 41 42.1 +1.5**
comp=Z,10μmcomp=Z,5μmcomp=Z,220nm,1.0s
LZH Lanzhou 40.55 304 *e*P **P 12 41 42.7 +1.6**
LZH pP pP 12 42 14.1 +0.6
LZH ScP **ScP 12 47 13.5 -2.2**
LZH S **S 12 47 35.4 -3.6**
LZH ScS **ScS 12 51 29.0 -1.7**
LZH pmax pmax
comp=Z,16nm,1.4s
LZH pmax pmax
comp=Z,410nm,5.8s
LZH LR LR
comp=Z,3μm,14.8s
LZH LR LR
comp=Z,4μm,15.1s
LZH LR LR
comp=Z,6μm,14.1s
MA2 Magadan 40.61 4 P **P 12 41 42.0 +1.0**
MA2 Magadan 40.61 4 P **P 12 41 42.4 +1.4**
MA2 Magadan 40.61 4 *de*P **P 12 41 42.4 +1.4**
MA2 pmax pmax
comp=Z,431nm,1.0s
MA2 Magadan 40.61 4 P **P 12 41 41.2 +0.2**
comp=Z,8μmcomp=Z,594nm,1.5s
MA2 Magadan 40.61 4 P **P 12 41 42.4 +1.4**
MA2 pP **pwP 12 42 15.8 -1.3**
MA2 PcP **PcP 12 43 41.0 +1.1**
MA2 ScP **ScP 12 47 12.7 -2.4**
KMMI Kalianget 40.75 233 P **P 12 41 45.2 +2.5**
comp=Z,10μmcomp=Z,5μmcomp=Z,213nm,1.1s
DNP Denpasar 40.89 230 P **P 12 41 45.6 +1.8**
comp=Z,713nm,1.2s
ABJI Asem Bagus 41.03 232 P **P 12 41 47.0 +2.0**
comp=Z,7μmcomp=Z,157nm,1.1s
PZH PanZhiHua 41.16 289 P **P 12 41 47.6 +1.4**
PZH pP **pwP 12 42 21.2 -2.2**
PZH S **S 12 47 48.6 +0.3**
PZH sS **sS 12 48 43.7 -1.8**
PZH SS **SS 12 50 56.3 -1.0**
PZH ScS **ScS 12 51 36.2 +1.6**
PZH pmax pmax
comp=Z,100nm,0.8s
PZH pmax pmax
comp=Z,2μm,7.7s
PZH LR LR
comp=Z,4μm,19.8s
PZH LR LR
comp=Z,2μm,20.9s
PZH LR LR
comp=Z,4μm,22.6s
CIT Chita 41.45 330 *e*P **P 12 41 49.6 +1.5**
CIT *e* 12 42 41.4
CIT *e* 12 43 39.0
CIT *e* 12 44 05.0
CIT *e*S **S 12 47 52.4 +0.6**
CIT pmax pmax
comp=Z,710nm,1.5s
JAGI Jajag, Banyuwa 41.53 232 P **P 12 41 47.7 -1.4**
JAGI Jajag, Banyuwa 41.53 232 P **P 12 41 49.6 +0.5**
JAGI Jajag, Banyuwa 41.53 232 P **P 12 41 49.3 +0.2**
comp=Z,8μmcomp=Z,3μmcomp=Z,205nm,1.1s
GRJI Gresik 41.80 235 P **P 12 41 53.3 +2.0**
comp=Z,10μmcomp=Z,468nm,0.9s
GMJI Gumukmas 41.93 233 P **P 12 41 53.1 +0.8**
comp=Z,2μmcomp=Z,78nm,0.9s
FITZ Fitzroy Crossi 41.93 209 P **P 12 41 52.9 +0.6**
comp=Z,382nm,0.7s,baz=28,slow=5.6,SNR=419
FITZ ScP **ScP 12 47 19.7 -1.4**
comp=Z,43nm,0.9s,baz=3.1,slow=7.8,SNR=4.6
FITZ S **S 12 47 58.9 -0.4**
comp=Z,57nm,0.9s,baz=154,slow=18,SNR=12
FITZ LR LR 12 59 06.4
comp=Z,2μm,21.4s,baz=32,slow=36
comp=Z,382nm,0.7s
ULN Ulaanbaatar 42.56 321 P **P 12 41 57.6 +0.4**
ULN Ulaanbaatar 42.56 321 *c i*P **P 12 41 58.1 +0.9**
ULN pmax pmax
comp=Z,262nm,1.5s
ULN Ulaanbaatar 42.56 321 P **P 12 41 58.3 +1.1**
ULN pP **pP 12 42 30.8 +0.5**
ULN ScP **ScP 12 47 20.9 -2.5**
DVP Devils Point 42.66 148 P **P 12 41 58.9 +0.8**
NAYO Nakonayok 42.82 271 P **P 12 42 02.8 +3.3**
NGJI Ngawi 42.87 235 P **P 12 42 02.1 +2.1**
comp=Z,5μmcomp=Z,140nm,1.1s
SONM Songino Array 42.93 321 P **P 12 42 00.5 +0.3**
SONM IAmb IAmb 12 42 03.0
comp=Z,440nm,1.7s
SONM Songino Array 42.93 321 P **P 12 42 01.2 +0.9**

comp=Z,86nm,0.7s,baz=138,slow=9.0,SNR=444
SONM ScP **ScP** **12 47 21.9 -3.0**
comp=Z,14nm,1.0s,baz=159,slow=3.9,SNR=6.2
SONM PKP2ab 13 15 09.0
comp=Z,1.1nm,1.0s,baz=281,slow=4.8,SNR=5.5
comp=Z,86nm,0.7s
GD1S Gladstone Soft 42.97 173 P **P** **12 42 00.3 -0.2**
KOUNC Koumac, New Ca 43.33 154 P **P** **12 42 03.6 +0.1**
TPI Tanjungpandan 43.36 244 P **P** **12 42 05.2 +1.3**
comp=Z,8µm,0.5µm,0.3µmcomp=Z,113nm,0.9s
SMRI Semarang 43.48 237 P **P** **12 42 06.0 +1.1**
SMRI IAmb IAmb 12 42 48.4
comp=Z,351nm,1.2s
SMRI Semarang 43.48 237 P **P** **12 42 06.5 +1.6**
SMRI Semarang 43.48 237 P **P** **12 42 06.3 +1.4**
PCJI Pacitan 43.61 235 P **P** **12 42 06.4 +0.6**
comp=Z,7µmcomp=Z,5µmcomp=Z,202nm,0.8s
KIWB Kanaga Island 43.68 33 P **P** **12 42 07.0 +1.1**
ADK Adak 43.94 33 P **P** **12 42 09.1 +1.1**
ADK Adak 43.94 33 P **P** **12 42 09.4 +1.4**
ADK Adak 43.94 33 P **P** **12 42 09.1 +1.1**
ADK pmax pmax
comp=Z,853nm,1.2s
ADK Adak 43.94 33 P **P** **12 42 09.1 +1.1**
ADK ScP **ScP** **12 47 27.6 -1.0**
UGM Wanagama 43.94 236 P **P** **12 42 08.6 0.0**
UGM IAmb IAmb 12 42 47.3
comp=Z,800nm,1.3s
UGM Wanagama 43.94 236 P **P** **12 42 09.8 +1.2**
UGM Wanagama 43.94 236 P **P** **12 42 09.2 +0.6**
comp=Z,8µmcomp=Z,8µmcomp=Z,348nm,1.3s
AS01 Alice Springs 44.03 196 P **P** **12 42 08.8 -0.3**
AS31 Alice Springs 44.05 196 P **P** **12 42 08.8 -0.4**
AS31 Alice Springs 44.05 196 P **P** **12 42 08.1 -1.2**
comp=Z,52nm,0.8s
ASAR Alice Springs 44.05 196 P **P** **12 42 08.5 -0.7**
comp=Z,104nm,0.7s,baz=14,slow=5.9,SNR=278
ASAR PP **PP** **12 43 59.2 +4.1**
comp=Z,28nm,0.8s,baz=26,slow=10,SNR=4.6
ASAR ScP **ScP** **12 47 28.4 -1.1**
comp=Z,27nm,0.8s,baz=18,slow=4.2,SNR=9.9
ASAR S **S** **12 48 28.9 -1.3**
comp=Z,42nm,0.8s,baz=17,slow=19,SNR=22
ASAR LR LR 13 01 11.0
comp=Z,2µm,20.5s,baz=24,slow=37
comp=Z,104nm,0.7s
SEY Seymchan 44.05 4*ce*P **P** **12 42 10.4 +1.6**
SEY pmax pmax
comp=Z,618nm,1.5s
YOGI Yogyakarta 44.06 236 P **P** **12 42 10.2 +0.7**
comp=Z,5µmcomp=Z,197nm,0.8s
TNCH TengChong 44.08 287 P **P** **12 42 12.2 +2.4**
TNCH pP pP 12 42 44.2 +1.5
TNCH sP sP 12 43 00.0 +0.5
TNCH S **S** **12 48 32.8 +1.6**
TNCH sS sS 12 49 28.9 -0.1
TNCH SS **ScS** **12 51 47.3 -5.6**
TNCH pmax pmax
comp=Z,68nm,0.9s
TNCH pmax pmax
comp=Z,350nm,3.5s
TNCH LR LR
comp=Z,1µm,15.4s
TNCH LR LR
comp=Z,1µm,15.4s
TNCH LR LR
comp=Z,4µm,16.9s
CHTO Chiang Mai 44.25 278 P **P** **12 42 13.2 +2.2**
CHTO pmax pmax
comp=Z,223nm,1.7s
CMAR Chiang Mai Arr 44.30 277 P **P** **12 42 13.4 +2.0**
CMAR Chiang Mai Arr 44.30 277 P **P** **12 42 12.0 +0.6**
comp=Z,12nm,0.7s,baz=65,slow=7.6,SNR=49
CMAR ScP **ScP** **12 47 31.0 +0.1**
comp=Z,8.0nm,0.9s,baz=91,slow=2.0,SNR=4.4
CMAR LR LR 12 59 20.6
comp=Z,2µm,21.3s,baz=90,slow=34
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 44.30 277 P **P** **12 42 13.4 +2.0**
YAK Yakutsk 44.38 349 P **P** **12 42 12.1 +0.7**
YAK Yakutsk 44.38 349 LR LR 13 01 22.6
comp=Z,673nm,21.7s,baz=146,slow=37
YAK Yakutsk 44.38 349*d iP* **P** **12 42 12.0 +0.7**
YAK *e* 12 43 53.0
YAK *e* 12 43 58.4
YAK *e*S **S** **12 48 37.1 +3.1**
YAK pmax pmax
comp=Z,2µm,0.9s
YAK pmax pmax
comp=N,497nm,1.1s
YAK pmax pmax
comp=E,146nm,0.9s
YAK pmax pmax
comp=Z,164nm,1.5s
YAK pmax pmax
comp=E,123nm,1.6s
YAK pmax pmax
comp=N,154nm,1.4s
YAK smax smax
comp=E,342nm,1.9s
YAK smax smax
comp=N,661nm,1.9s
YAK Yakutsk 44.38 349 P **P** **12 42 12.0 +0.7**
YAK ScP **ScP** **12 47 27.2 -3.0**
GTA Gaotai 44.42 307 *eP* **P** **12 42 13.2 +0.9**
GTA pP pP 12 42 46.6 +1.3
GTA sP sP 12 43 00.6 -1.5
GTA ScP **ScP** **12 47 29.3 -1.9**
GTA S **S** **12 48 33.7 -2.0**
GTA SS **ScS** **12 51 53.6 -0.9**
GTA pmax pmax
comp=N,26nm,1.4s
GTA pmax pmax
comp=N,240nm,5.9s
GTA LR LR
comp=N,6µm,18.9s
GTA LR LR
comp=N,3µm,18.2s
GTA LR LR
comp=N,4µm,19.3s
EIDS Eidsvold 44.47 173 P **P** **12 42 10.6 -1.9**
comp=Z,0.0nmcomp=Z,132nm,0.9s
EIDS Eidsvold 44.47 173 P **P** **12 42 11.0 -1.5**
MYKOM Kota Tinggi 44.54 252 P **P** **12 42 14.2 +0.8**
MYKOM Kota Tinggi 44.54 252 P **P** **12 42 16.4 +3.0**
KPJI Karang Pucung 44.85 238 P **P** **12 42 16.3 +0.6**
comp=Z,9µmcomp=Z,4µmcomp=Z,182nm,1.2s
SRDT SRDT 44.89 271 P **P** **12 42 19.8 +3.7**
ATKA Atka Island 45.40 34 P **P** **12 42 20.7 +1.1**
ATKA IAmb IAmb 12 42 22.6
comp=Z,462nm,0.9s
ATKA Atka Island 45.40 34 P **P** **12 42 20.3 +0.7**
QLP Quilpie 45.41 182 P **P** **12 42 17.6 -2.3**
QLP Quilpie 45.41 182 P **P** **12 42 17.8 -2.1**
NOUC Port Laguerre 45.55 153 P **P** **12 42 21.1 -0.1**
NOUC ScP **ScP** **12 47 35.9 +0.1**
DZM Mont Dzumac 45.59 153 P **P** **12 42 21.3 -0.2**
DZM Mont Dzumac 45.59 153 *eP* **P** **12 42 21.9 +0.4**
comp=Z,3µm,1.1s
DZM Mont Dzumac 45.59 153 P **P** **12 42 21.9 +0.4**
comp=Z,1µm,0.8s,baz=356,slow=6.6,SNR=382
DZM LR LR 12 59 48.3
comp=Z,3µm,20.2s,baz=2.5,slow=34
DZM Mont Dzumac 45.59 153 P **P** **12 42 21.6 +0.1**
DZM Mont Dzumac 45.59 153 P **P** **12 42 21.9 +0.4**
DZM ScP **ScP** **12 47 37.3 +1.2**
LEM Lembang 45.61 239 P **P** **12 42 22.5 +0.5**
comp=Z,3µmcomp=Z,125nm,0.9s
YATNC Mamie plateau, 45.77 152 P **P** **12 42 23.1 +0.2**
MARNC Mare, Loyalty 45.79 151 P **P** **12 42 23.2 +0.3**
ONTNC Ouen Toro 45.80 153 P **P** **12 42 22.6 -0.5**
ONTNC Ouen Toro 45.80 153 P **P** **12 42 23.0 -0.1**
ZAK Zakamensk 45.93 323 *eP* **P** **12 42 24.2 +0.3**
ZAK *e* 12 43 16.7
ZAK pmax pmax
comp=Z,82nm,1.2s
ZAK pmax pmax
comp=Z,64nm,1.6s
BBJI Bungbulang 45.95 239 P **P** **12 42 23.6 -0.9**
IPM Ipoh 46.04 257 P **P** **12 42 26.6 +1.4**
OUENC Ouen Island, N 46.07 153 P **P** **12 42 25.3 +0.2**
KULM Kulim 46.09 259 P **P** **12 42 28.7 +3.1**
IRK Irkutsk 46.27 326 *eP* **P** **12 42 26.2 -0.2**
IRK *e*S **S** **12 49 03.8 +2.3**
IRK pmax pmax
comp=Z,296nm,1.7s
CNJI Cibinong 46.29 239 P **P** **12 42 26.7 -0.3**
LKP Lekhapani 46.43 290 *eP* **P** **12 42 30.2 +2.2**
SBJI Serang 46.44 241 P **P** **12 42 29.7 +1.5**
comp=Z,8µmcomp=Z,253nm,0.8s
PINNC Pines Island, 46.50 152 P **P** **12 42 28.4 -0.2**
PINNC Pines Island, 46.50 152 P **P** **12 42 28.7 +0.2**
TW1H Toowoomba 1 Ha 46.72 173 P **P** **12 42 29.8 -0.5**
AUWSH Wavell State H 46.72 171 P **P** **12 42 30.2 0.0**
BLSI Bandar Lampung 46.77 243 P **P** **12 42 32.2 +1.3**
comp=Z,7µmcomp=Z,249nm,0.9s
INKA Innaminka 46.80 186 P **P** **12 42 29.2 -1.5**
WRKA Warakurna 47.05 202 P **P** **12 42 32.8 -0.1**
comp=Z,0.0nmcomp=Z,626nm,1.4s
WRKA Warakurna 47.05 202 P **P** **12 42 33.1 +0.2**
CGJI Cibinong 47.07 241 P **P** **12 42 31.7 -1.5**
comp=Z,3µmcomp=Z,267nm,0.8s
MDSI Maura Dua 47.22 245 P **P** **12 42 34.2 -0.1**
YSA Yasawairara 47.31 137 P **P** **12 42 35.7 +0.8**
MBWA Marble Bar 47.46 214 P **P** **12 42 35.5 -0.5**
MBWA IAmb IAmb 12 42 38.1
comp=Z,232nm,1.1s
MBWA Marble Bar 47.46 214 P **P** **12 42 36.0 0.0**
comp=Z,0.0nmcomp=Z,204nm,2.0s
MBWA Marble Bar 47.46 214 P **P** **12 42 36.1 +0.1**
MBWA Marble Bar 47.46 214 P **P** **12 42 36.2 +0.2**
MBWA pP **pP** **12 43 10.3 +1.0**
GC1S Gold Coast 1 S 47.54 171 P **P** **12 42 36.3 -0.2**
OOD Oodnadatta 47.62 192 P **P** **12 42 36.3 -0.8**
BKNI Bangkinang 47.70 252 P **P** **12 42 38.5 +0.4**
PSAC1 Pilbara Seismi 47.72 214 P **P** **12 42 38.0 -0.1**
comp=Z,410nm,1.6s
PSA00 Pilbara Seismi 47.74 213 P **P** **12 42 38.3 +0.1**
comp=Z,379nm,1.6s
PSA00 Pilbara Seismi 47.74 213 P **P** **12 42 38.6 +0.5**
GOMU GeErMu 47.76 302 P **P** **12 42 41.0 +2.3**
GOMU S **S** **12 49 24.8 +0.9**
GOMU pmax pmax
comp=Z,47nm,1.0s
GOMU LR LR
comp=Z,620nm,15.6s
GOMU LR LR
comp=Z,3µm,16.0s
GOMU LR LR
comp=Z,5µm,15.2s
MOY Mondy 47.80 324 *eP* **P** **12 42 39.0 +0.6**
MOY pmax pmax
comp=Z,138nm,1.9s
KOHI KOHIMA 48.04 288 *eP* **P** **12 42 43.0 +2.3**
KOHI IAmb IAmb 12 42 55.1
comp=Z,426nm,0.7s
KSI Kapahiang 48.16 247 P **P** **12 42 41.7 0.0**
comp=Z,7µmcomp=Z,384nm,0.9s
ZIRO ZIRO 48.20 290 *eP* **P** **12 42 43.3 +1.3**
MNAI Manna 48.20 246 P **P** **12 42 42.9 +1.0**
MNAI Manna 48.20 246 P **P** **12 42 42.3 +0.4**
comp=Z,4µmcomp=Z,274nm,1.1s
IMP Imphal 48.24 287 IAmb IAmb 12 42 43.1
comp=Z,169nm,0.7s
IMP *e*P **P** **12 42 43.4 +1.2**
AULRC Lightning Ridg 48.27 177 P **P** **12 42 40.1 -1.9**
MSVF Nonsavu 48.37 137 P **P** **12 42 43.5 +0.3**
MSVF IAmb IAmb 12 42 45.9
comp=Z,478nm,1.0s
MSVF Nonsavu 48.37 137 LR LR 13 03 07.8
comp=Z,1µm,18.0s,baz=319,slow=36
MSVF Nonsavu 48.37 137 P **P** **12 42 43.9 +0.8**
MSVF Nonsavu 48.37 137 *i* P **P** **12 42 43.6 +0.4**
MSVF pmax pmax
comp=Z,88nm,0.6s
MSVF Nonsavu 48.37 137 P **P** **12 42 43.9 +0.8**
MSVF ScP **ScP** **12 47 48.7 +0.9**
DGTI Dogotuki 48.45 134 P **P** **12 42 44.7 +1.0**
PSI Prapat 48.62 256 LR LR 13 04 06.9
comp=Z,983nm,20.1s,slow=37
PSI Prapat 48.62 256 P **P** **12 42 47.5 +2.2**
PSI Prapat 48.62 256 P **P** **12 42 48.0 +2.7**
PSI pmax pmax
comp=Z,142nm,0.9s
PPI Padang Panjang 48.62 252 P **P** **12 42 46.6 +1.5**
RPSI Rantau Prapat 48.66 256 P **P** **12 42 46.5 +1.1**
MNSI Mandailing Nat 48.83 254 P **P** **12 42 49.1 +2.4**
comp=Z,6µmcomp=Z,145nm,1.1s
TAVE Taveuni 48.98 134 P **P** **12 42 48.8 +1.1**
XMI Christmas Isla 49.27 237 P **P** **12 42 49.7 -0.3**
XMIS Christmas Isla 49.31 237 P **P** **12 42 49.6 -0.7**
XMIS IAmb IAmb 12 43 27.7
comp=Z,369nm,1.4s
XMIS Christmas Isla 49.31 237 P **P** **12 42 49.8 -0.6**
KCSI Kotacane, Aceh 49.41 258 P **P** **12 42 54.2 +3.1**
comp=Z,3µmcomp=Z,100nm,0.9s
AZL Aizawl 49.47 285 *eP* **P** **12 42 55.7 +4.1**
AZL IAmb IAmb 12 43 00.1
comp=Z,90nm,0.7s
ARMA Armidale 49.52 173 P **P** **12 42 51.1 -0.7**
ARMA IAmb IAmb 12 42 52.8
comp=Z,384nm,1.6s
ARMA Armidale 49.52 173 P **P** **12 42 50.5 -1.3**
comp=Z,0.0nmcomp=Z,139nm,1.8s
ARMA Armidale 49.52 173 P **P** **12 42 51.2 -0.6**
LCRK Leigh Creek 49.78 189 P **P** **12 42 52.7 -0.9**
SPIA Saint Paul Isl 49.95 30 P **P** **12 42 56.1 +1.6**
baz=239
TAWA Tawang 49.95 290 *eP* **P** **12 42 57.1 +1.6**
TAWA IAmb IAmb 12 43 09.8
comp=Z,338nm,1.5s
P08K Saint George I 49.99 30 P **P** **12 42 56.2 +1.4**
baz=240
PPSI Pulau Pagai 50.01 249 P **P** **12 42 56.7 +1.1**
comp=Z,4µmcomp=Z,252nm,1.2s
SHL Shillong 50.05 288 *eP* **P** **12 42 57.5 +1.4**
SHL IAmb IAmb 12 43 19.4
comp=Z,149nm,0.7s
AUPHS Peel High Scho 50.12 174 P **P** **12 42 54.9 -1.3**
SISI Saibi 50.18 251 P **P** **12 42 57.8 +0.9**
comp=Z,5µmcomp=Z,2µmcomp=Z,157nm,0.7s
UNV Unalaska Valle 50.27 35 P **P** **12 42 57.2 +0.2**
UNV IAmb IAmb 12 43 00.1
comp=Z,276nm,1.1s
UNV Unalaska Valle 50.27 35 P **P** **12 42 57.6 +0.5**
baz=245,SNR=17
UNV Unalaska Valle 50.27 35 P **P** **12 42 57.5 +0.5**
CMSA Cobar Meteorol 50.32 180 P **P** **12 42 56.0 -1.7**
comp=Z,118nm,1.0s
CMSA Cobar Meteorol 50.32 180 P **P** **12 42 56.3 -1.3**
PBSI Pulau Batu 50.36 253 P **P** **12 43 00.2 +1.9**
comp=Z,7µmcomp=Z,2µmcomp=Z,119nm,1.0s
MLSI Meulaboh, Aceh 50.40 259 P **P** **12 43 02.1 +3.5**
GSI Gunungsitoli 50.45 255 P **P** **12 43 00.9 +1.9**
GSI Gunungsitoli 50.45 255 P **P** **12 43 00.9 +1.9**
comp=Z,6µmcomp=Z,4µmcomp=Z,435nm,0.9s
LSA Lhasa 50.52 293 P **P** **12 43 01.0 +1.1**
LSA Lhasa 50.52 293 P **P** **12 43 02.1 +2.2**
LSA S **S** **12 50 04.8 +2.0**
LSA pmax pmax
comp=Z,23nm,1.3s
LSA LR LR
comp=Z,2µm,17.2s
LSA LR LR
comp=Z,2µm,31.6s
LSA Lhasa 50.52 293 P **P** **12 43 01.0 +1.1**
LSA pmax pmax
comp=Z,104nm,0.9s
BILL Bilibino 50.63 10 P **P** **12 43 00.5 +0.9**
BILL Bilibino 50.63 10*ce*P **P** **12 43 00.8 +1.3**
BILL pmax pmax
comp=Z,609nm,0.9s
BILL Bilibino 50.63 10 P **P** **12 43 00.9 +1.4**
BILL ScP **ScP** **12 47 55.2 -1.3**
LVA Lava Point 50.66 34 P **P** **12 43 00.1 +0.1**
LKBA Tubou, Lakemba 50.79 135 P **P** **12 43 02.8 +1.4**
STKA Stephens Creek 50.82 185 P **P** **12 42 59.7 -1.7**
STKA Stephens Creek 50.82 185 P **P** **12 42 59.8 -1.6**
comp=Z,20nm,1.3s
STKA Stephens Creek 50.82 185 P **P** **12 43 00.0 -1.4**
comp=Z,47nm,0.8s,baz=348,slow=7.2,SNR=31
STKA S **S** **12 50 02.1 -3.5**
comp=Z,21nm,1.2s,baz=148,slow=13,SNR=5.0
STKA LR LR 13 05 44.4
comp=Z,2µm,18.3s,baz=354,slow=37
comp=Z,47nm,0.8s
STKA Stephens Creek 50.82 185 P **P** **12 42 59.9 -1.4**
BSI Banda Aceh 51.01 261 P **P** **12 43 06.4 +3.2**
DGPR DIGLIPUR 51.01 272 *eP* **P** **12 43 04.9 +1.8**
DGPR IAmb IAmb 12 43 14.3
comp=Z,147nm,1.1s
AUDCS Dubbo College 51.08 177 P **P** **12 43 02.5 -0.8**
SNSI Sinabang, Aceh 51.16 257 P **P** **12 43 08.4 +4.1**
comp=Z,4µmcomp=Z,180nm,0.9s
GIRL Giralia 51.70 218 P **P** **12 43 09.3 +1.2**
comp=Z,0.0nmcomp=Z,486nm,1.1s
LHI Lord Howe Isla 51.88 166 P **P** **12 43 08.8 -0.5**
LHI IAmb IAmb 12 43 10.6
comp=Z,480nm,1.4s
LHI Lord Howe Isla 51.88 166 P **P** **12 43 08.9 -0.4**
comp=Z,266nm,1.9s
NTLH Newcastle Hard 51.98 174 P **P** **12 43 08.9 -1.1**
FALS False Pass 52.33 34 P **P** **12 43 12.8 +0.5**
baz=248,SNR=17
FALS False Pass 52.33 34 P **P** **12 43 12.9 +0.5**
WHYH Whyalla 52.41 189 P **P** **12 43 14.0 +0.9**
BBOO Buckleboo 52.43 190 P **P** **12 43 12.0 -1.3**
comp=Z,238nm,0.6s
BBOO Buckleboo 52.43 190 P **P** **12 43 12.9 -0.4**
FORT Forrest 52.43 199 P **P** **12 43 13.3 0.0**
FORT Forrest 52.43 199 P **P** **12 43 13.5 +0.2**
comp=Z,0.0nmcomp=Z,674nm,0.7s
FORT Forrest 52.43 199 P **P** **12 43 13.6 +0.2**
KIP Kipapa 52.49 77 P **P** **12 43 15.5 +1.4**
KIP IAmb IAmb 12 43 36.6
comp=Z,691nm,1.8s
KIP Kipapa 52.49 77*ce*P **P** **12 43 16.2 +2.1**
KIP pmax pmax
comp=Z,34nm,1.0s
KIP Kipapa 52.49 77 P **P** **12 43 14.8 +0.7**
KIP ScP **ScP** **12 48 08.8 +3.3**
MEEK Meekatharra 52.56 211 P **P** **12 43 13.9 -0.6**
comp=Z,0.0nmcomp=Z,195nm,1.5s
MEEK Meekatharra 52.56 211 P **P** **12 43 14.0 -0.4**
HTT Hallett 52.63 187 P **P** **12 43 14.3 -0.5**
comp=Z,136nm,1.3s
HTT Hallett 52.63 187 P **P** **12 43 14.6 -0.2**
HTT Hallett 52.63 187 P **P** **12 43 14.5 -0.2**
SYDH Sydney Hard Ro 52.75 175 P **P** **12 43 15.6 0.0**
JPG JALPAIGURI 52.82 289 *eP* **P** **12 43 17.9 +1.4**
RIV Riverview 52.85 174 P **P** **12 43 16.8 +0.4**
comp=Z,255nm,1.6s
RIV Riverview 52.85 174 P **P** **12 43 16.4 +0.1**
GTK Tadong 52.87 290 *eP* **P** **12 43 19.7 +2.8**
GTK IAmb IAmb 12 43 32.5
comp=Z,100nm,0.9s
GAMB Gambell 53.06 22 IAmb IAmb 12 43 20.8
comp=Z,329nm,1.1s
GAMB Gambell 53.06 22 P **P** **12 43 19.4 +1.9**
baz=233,SNR=5.3
GAMB Gambell 53.06 22 P **ScP** **12 48 05.5 -1.6**
baz=237
AFI Afiamalu 53.08 125 P **P** **12 43 19.0 +0.5**
AFI IAmb IAmb 12 43 21.1
comp=Z,380nm,1.4s
AFI Afiamalu 53.08 125 P **P** **12 43 18.2 -0.3**
AFI Afiamalu 53.08 125 P **P** **12 43 19.0 +0.5**
AFI pmax pmax
comp=Z,380nm,1.4s
YNG Young 53.13 177 P **P** **12 43 17.7 -0.7**
comp=Z,834nm,0.8s
YNG Young 53.13 177 P **P** **12 43 18.1 -0.3**
M11K Mekoryuk 53.38 27 P **P** **12 43 21.9 +1.9**
baz=241
WOLH Wollongong Har 53.40 175 P **P** **12 43 20.3 0.0**
TIXI Tiksi 53.51 353 P **P** **12 43 21.1 +0.4**
TIXI IAmb IAmb 12 43 22.6
comp=Z,170nm,1.1s
TIXI Tiksi 53.51 353 P **P** **12 43 21.1 +0.4**
TIXI pmax pmax
comp=Z,170nm,1.1s
TIXI Tiksi 53.51 353 P **P** **12 43 21.1 +0.4**
TIXI pP **pP** **12 43 56.2 +0.9**
SHBG Sahibganj 53.88 288 *eP* **P** **12 43 25.8 +1.6**
GHSS Government Hou 54.13 187 P **P** **12 43 26.1 +0.4**
WMQ Urumqi 54.16 311 ⇓P **P** **12 43 27.4 +1.3**
WMQ pP pP 12 44 00.6 +0.2
WMQ ScP **ScP** **12 48 09.4 -3.1**
WMQ S **S** **12 50 52.9 +1.7**
WMQ sS sS 12 51 51.1 +0.4
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ pmax pmax
comp=Z,350nm,3.6s
WMQ LR LR
comp=Z,3µm,14.7s
WMQ LR LR
comp=Z,2µm,17.3s
WMQ LR LR
comp=Z,2µm,21.7s
CAN Canberra 54.18 177 P **P** **12 43 25.5 -0.6**
CAN pP **pP** **12 43 59.6 -1.5**
CAN ScP **ScP** **12 48 11.9 -0.6**
CNB Canberra Magne 54.19 176 P **P** **12 43 25.5 -0.7**
comp=Z,129nm,0.9s
CNB Canberra Magne 54.19 176 P **P** **12 43 25.7 -0.5**
AUMBR Murray Bridge 54.27 187 P **P** **12 43 27.0 +0.4**
AUUHS Ulladulla High 54.31 175 P **P** **12 43 27.5 +0.5**
CNBA Chernabura Isl 54.40 35 IAmb IAmb 12 43 29.8
comp=Z,150nm,0.8s
CHNA Chernabura Isl 54.40 35 P **P** **12 43 28.2 +0.8**
baz=251,SNR=8.1
CHNA Chernabura Isl 54.40 35 P **P** **12 43 28.6 +1.2**
M13K Dall Lake 54.65 28 P **P** **12 43 31.0 +1.9**
baz=244
K13K Kusilvak Mount 54.78 26 IAmb IAmb 12 43 33.7
comp=Z,304nm,0.9s
K13K Kusilvak Mount 54.78 26 P **P** **12 43 32.1 +2.1**
baz=242
K13K Kusilvak Mount 54.78 26 P **ScP** **12 48 14.2 -0.5**
baz=243
HPAH Hawaii Prepara 54.85 79 IAmb IAmb 12 43 33.6
comp=Z,185nm,0.6s
AUMAG Moama Anglican 54.88 181 P **P** **12 43 32.1 +1.0**
S14K Fog Glacier 54.89 34 P **P** **12 43 32.0 +0.9**
baz=250
S14K Fog Glacier 54.89 34 P **ScP** **12 48 14.5 -0.9**
baz=248
POHA Pohakuloa 55.05 79 P **P** **12 43 34.6 +1.6**
POHA IAmb IAmb 12 43 35.5
comp=Z,150nm,0.7s
POHA Pohakuloa 55.05 79 P **P** **12 43 34.1 +1.1**
O14K Tigyukauivet M 55.12 30 IAmb IAmb 12 43 35.6
comp=Z,158nm,0.9s
O14K Tigyukauivet M 55.12 30 P **P** **12 43 34.1 +1.5**
baz=247
O14K Tigyukauivet M 55.12 30 P **ScP** **12 48 16.3 0.0**
baz=246
KMBL Kambalda 55.17 205 P **P** **12 43 32.1 -1.2**
comp=Z,297nm,1.4s
KMBL Kambalda 55.17 205 P **P** **12 43 32.6 -0.7**
N14K Kuskokwak Cree 55.20 29 P **P** **12 43 34.8 +1.7**
baz=246,SNR=17
AUSMG Snowy Mountain 55.26 177 P **P** **12 43 34.0 +0.1**
DGZ Jazzator, Alta 55.34 318*d iP* **P** **12 43 36.1 +1.6**
DGZ pmax pmax
comp=Z,51nm,1.0s
L14K Kuka Creek 55.35 27 IAmb IAmb 12 43 37.6
comp=Z,338nm,1.1s
L14K Kuka Creek 55.35 27 P **P** **12 43 35.9 +1.8**
baz=244,SNR=26
L14K Kuka Creek 55.35 27 P **ScP** **12 48 17.7 +0.5**
baz=245
PUH Pauahi 55.41 79 IAmb IAmb 12 43 48.3
comp=Z,132nm,1.0s
M14K Bethel 55.41 28 P **P** **12 43 36.5 +1.9**
baz=245,SNR=33
M14K Bethel 55.41 28 P **ScP** **12 48 18.1 +0.7**
baz=245
STCH Steam Cracks 55.49 79 IAmb IAmb 12 43 38.4
comp=Z,152nm,0.7s
CHGN Chignik 55.50 34 IAmb IAmb 12 43 37.2
comp=Z,410nm,1.2s
CHGN Chignik 55.50 34 P **P** **12 43 35.6 +0.4**
baz=252,SNR=17
JOKA Jonika Flow 55.60 79 IAmb IAmb 12 43 39.6
comp=Z,507nm,1.8s
J14K Nanvaranak Lak 55.62 26 IAmb IAmb 12 43 39.6
comp=Z,319nm,1.0s
J14K Nanvaranak Lak 55.62 26 P **P** **12 43 38.1 +2.1**
baz=242,SNR=17
J14K Nanvaranak Lak 55.62 26 P **ScP** **12 48 18.6 +0.2**
baz=244
BOK Bokaro 55.66 286 *eP* **P** **12 43 38.2 +1.2**
BOK IAmb IAmb 12 43 49.1
comp=Z,95nm,1.1s

ARPS	Mount Arapiles	55.67	184	P	P	12 43 35.7	-1.0
	comp=Z,318nm,0.9s						
ARPS	Mount Arapiles	55.67	184	P	P	12 43 36.8	+0.1
O15K	Ungalikthiuk R	55.78	30	P	P	12 43 38.8	+1.5
	baz=248						
O15K	Ungalikthiuk R	55.78	30	P	ScP	12 48 19.6	+0.5
	baz=247						
ANM	Nome	55.80	23	IAmb	IAmb	12 43 40.7	
	comp=Z,271nm,0.9s						
ANM	Nome	55.80	23	P	P	12 43 39.3	+2.0
	baz=239,SNR=34						
ANM	Nome	55.80	23	P	ScP	12 48 18.9	-0.2
	baz=242						
MORW	Morawa	55.84	212	P	P	12 43 37.5	-0.6
	comp=Z,0.0nmcomp=Z,500nm,1.4s						
MORW	Morawa	55.84	212	P	P	12 43 38.0	-0.1
MILA	Mila	55.91	177	P	P	12 43 38.0	-0.5
	comp=Z,58nm,0.9s						
M15K	Kasigluk River	55.96	28	P	P	12 43 40.0	+1.5
	baz=246,SNR=22						
M15K	Kasigluk River	55.96	28	P	ScP	12 48 20.5	+0.6
	baz=246,SNR=5.4						
L15K	Ungalak Mounta	56.01	27	P	P	12 43 40.2	+1.3
	baz=245,SNR=16						
L15K	Ungalak Mounta	56.01	27	P	ScP	12 48 20.3	+0.2
	baz=246						
N15K	Kwethluk River	56.03	29	P	P	12 43 40.9	+1.8
	baz=248,SNR=33						
N15K	Kwethluk River	56.03	29	P	ScP	12 48 20.5	+0.2
	baz=247						
K15K	Wolf Creek Mou	56.26	27	P	P	12 43 42.4	+1.8
	baz=245,SNR=30						
K15K	Wolf Creek Mou	56.26	27	P	ScP	12 48 21.5	+0.3
	baz=246						
R16K	Pilot Point	56.34	33	P	P	12 43 42.9	+1.7
	baz=252						
TOO	Toolangi	56.34	180	P	P	12 43 41.1	-0.4
	comp=Z,63nm,1.6s						
BRAT	Ballarat	56.35	182	P	P	12 43 41.9	+0.4
G15K	Niukluk	56.51	23	P	P	12 43 43.8	+1.4
	baz=240						
P16K	Nushagak River	56.61	31	P	P	12 43 45.0	+1.9
	baz=250,SNR=30						
P16K	Nushagak River	56.61	31	P	ScP	12 48 23.5	+0.7
	baz=249						
ZSN	Zaisan	56.63	315	eP	P	12 43 44.6	+1.1
ZSN				eS	S	12 51 26.5	+2.8
ZSN				pmax	pmax		
	comp=Z,56nm,0.9s						
ZSN	Zaisan	56.63	315	eP	P	12 43 44.6	+1.1
	comp=Z,56nm,0.9s						
ZSN				eS	S	12 51 26.6	+2.8
F15K	North Star Dit	56.65	22	IAmb	IAmb	12 43 46.7	
	comp=Z,322nm,1.1s						
F15K	North Star Dit	56.65	22	P	P	12 43 45.0	+1.6
	baz=240						
F15K	North Star Dit	56.65	22	P	ScP	12 48 22.7	-0.2
	baz=243						
O16K	Kokwok River B	56.76	30	IAmb	IAmb	12 43 47.3	
	comp=Z,204nm,0.8s						
O16K	Kokwok River B	56.76	30	P	P	12 43 45.7	+1.6
	baz=250						
O16K	Kokwok River B	56.76	30	P	ScP	12 48 23.7	+0.2
	baz=249						
BLDU	Ballidu	56.80	210	P	P	12 43 44.4	-0.4
	comp=Z,803nm,1.4s						
BLDU	Ballidu	56.80	210	P	P	12 43 44.6	-0.2
CHIR	Chirikof Islan	56.86	35	P	P	12 43 45.9	+1.0
	baz=254,SNR=5.5						
CHIR	Chirikof Islan	56.86	35	P	ScP	12 48 23.4	-0.6
	baz=251						
CHIR	Chirikof Islan	56.86	35	P	P	12 43 46.5	+1.6
M16K	Timber Creek	56.87	29	IAmb	IAmb	12 43 48.2	
	comp=Z,241nm,0.8s						
M16K	Timber Creek	56.87	29	P	P	12 43 46.6	+1.6
	baz=248						
M16K	Timber Creek	56.87	29	P	ScP	12 48 24.0	+0.1
	baz=248						
L16K	Owhat River	56.90	28	IAmb	IAmb	12 43 48.1	
	comp=Z,330nm,1.4s						
L16K	Owhat River	56.90	28	P	P	12 43 46.5	+1.3
	baz=247,SNR=24						
L16K	Owhat River	56.90	28	P	ScP	12 48 24.4	+0.3
	baz=248						
GEXS	Deakin Univers	56.99	181	P	P	12 43 47.4	+1.4
H16K	Elim	57.02	24	P	P	12 43 47.2	+1.3
	baz=243						
J16K	Anvik River	57.07	26	IAmb	IAmb	12 43 50.0	
	comp=Z,260nm,0.8s						
J16K	Anvik River	57.07	26	P	P	12 43 48.4	+2.1
	baz=245						
J16K	Anvik River	57.07	26	P	ScP	12 48 25.2	+0.5
	baz=247						
KLBR	Kellerberrin	57.13	209	P	P	12 43 46.5	-0.7
	comp=Z,1µm,0.8s						
KLBR	Kellerberrin	57.13	209	P	P	12 43 47.3	+0.1
Q16K	King Salmon	57.15	32	P	P	12 43 47.2	+0.2
	baz=252,SNR=11						
I17K	Unalakleet	57.29	25	IAmb	IAmb	12 43 51.4	
	comp=Z,309nm,0.9s						
I17K	Unalakleet	57.29	25	P	P	12 43 49.9	+2.1
	baz=245						
O17K	Koliganek Bris	57.29	30	P	P	12 43 49.7	+1.7
	baz=251,SNR=74						
O17K	Koliganek Bris	57.29	30	P	ScP	12 48 26.0	+0.2
	baz=250						
COCO	West Island	57.42	241	P	P	12 43 50.2	+0.7
P17K	Kvichak River	57.42	31	P	P	12 43 49.4	+0.6
	baz=252,SNR=8.5						
N17K	Nushagak Hills	57.50	29	IAmb	IAmb	12 43 53.0	
	comp=Z,238nm,0.8s						
N17K	Nushagak Hills	57.50	29	P	P	12 43 51.4	+2.0
	baz=250,SNR=51						
N17K	Nushagak Hills	57.50	29	P	ScP	12 48 26.8	0.0
	baz=250						
L17K	Donlin	57.58	27	P	P	12 43 51.8	+1.8
	baz=248						
L17K	Donlin	57.58	27	P	ScP	12 48 27.6	+0.5
	baz=249						
NIUE	Niue	57.63	129	P	P	12 43 52.2	+1.3
NIUE	Niue	57.63	129	P	P	12 43 51.5	+0.6
M17K	Holitna River	57.69	28	IAmb	IAmb	12 43 54.5	
	comp=Z,294nm,1.1s						
M17K	Holitna River	57.69	28	P	P	12 43 52.9	+2.2
	baz=249,SNR=35						
M17K	Holitna River	57.69	28	P	ScP	12 48 28.1	+0.6
	baz=249						
J17K	VABM Dome	57.74	26	P	P	12 43 53.1	+2.1
	baz=246						
J17K	VABM Dome	57.74	26	P	ScP	12 48 28.4	+0.7
	baz=248						
C16K	Lisburne Hills	57.77	19	P	P	12 43 52.6	+1.4
	baz=237						
C16K	Lisburne Hills	57.77	19	P	ScP	12 48 26.9	-0.9
	baz=242						
K17K	Iditarod	57.80	27	P	P	12 43 53.7	+2.2
	baz=248,SNR=91						
K17K	Iditarod	57.80	27	P	ScP	12 48 28.3	+0.3
	baz=249						
ZALV	Zalesovo Beam	57.80	322	P	P	12 43 51.6	0.0
	comp=Z,84nm,0.7s,baz=103,slow=7.0,SNR=385						
ZALV				ScP	ScP	12 48 25.4	-2.8
	comp=Z,16nm,0.8s,baz=98,slow=5.2,SNR=4.0						
ZALV				S	S	12 51 37.8	-0.9
	comp=Z,13nm,1.0s,baz=97,slow=11,SNR=9.4						
ZALV				LR	LR	13 09 52.6	
	comp=Z,1µm,18.9s,baz=107,slow=37						
ZALV				PKP2bc		13 13 40.4	
	comp=Z,2.2nm,0.8s,baz=298,slow=3.2,SNR=6.2						
	comp=Z,84nm,0.7s						
SII	Sitkinak Islan	57.83	34	P	P	12 43 53.4	+1.7
	baz=255,SNR=29						
SII	Sitkinak Islan	57.83	34	P	ScP	12 48 28.2	-0.1
	baz=252						
SII	Sitkinak Islan	57.83	34	P	P	12 43 53.2	+1.4
JHSG	JHARSUGUGA	57.88	284	eP	P	12 43 54.4	+1.6
R18K	Karluk	57.95	33	P	P	12 43 53.0	+0.4
	baz=254						
H17K	Granite Mounta	58.04	24	P	P	12 43 55.0	+1.9
	baz=245						
H17K	Granite Mounta	58.04	24	P	ScP	12 48 28.9	-0.2
	baz=247,SNR=11						
P18K	Big Mountain,	58.07	31	IAmb	IAmb	12 43 56.5	
	comp=Z,82nm,0.7s						
P18K	Big Mountain,	58.07	31	P	P	12 43 53.9	+0.4
	baz=253,SNR=14						
P18K	Big Mountain,	58.07	31	P	ScP	12 48 29.5	+0.2
	baz=251						
N18K	Kilae Creek	58.16	30	IAmb	IAmb	12 43 57.5	
	comp=Z,217nm,0.8s						
N18K	Kilae Creek	58.16	30	P	P	12 43 55.9	+1.9
	baz=251						
N18K	Kilae Creek	58.16	30	P	ScP	12 48 30.1	+0.4
	baz=251						
MUN	Mundaring	58.17	210	P	P	12 43 53.9	-0.4
	comp=Z,0.0nmcomp=Z,573nm,1.3s						
MUN	Mundaring	58.17	210	P	P	12 43 54.2	-0.2
MUN	Mundaring	58.17	210	P	P	12 43 54.0	-0.4
D17K	Noatak River	58.20	20	P	P	12 43 55.8	+1.7
	baz=240						
D17K	Noatak River	58.20	20	P	ScP	12 48 29.0	-0.7
	baz=244						
O18K	Koktuh Hills	58.22	31	P	P	12 43 56.1	+1.6
	baz=252,SNR=49						
MK31	Makanchi Array	58.30	314	ceP	P	12 43 55.9	+0.6
MKAR	Makanchi Array	58.30	314	P	P	12 43 55.8	+0.6
	comp=Z,40nm,0.7s,baz=89,slow=7.4,SNR=241						
MKAR				ScP	ScP	12 48 25.8	-4.9
	comp=Z,16nm,0.8s,baz=87,slow=5.5,SNR=3.8						
MKAR				S	S	12 51 45.2	-0.3
	comp=Z,2.6nm,1.0s,baz=94,slow=18,SNR=5.6						
MKAR				PKPPKP	P'P'df	13 13 29.2	-5.8
	comp=Z,0.3nm,0.7s,baz=318,slow=3.3,SNR=3.6						
MKAR				PKP2bc		13 13 41.7	
	comp=Z,8.8nm,1.2s,baz=279,slow=2.3,SNR=11						
	comp=Z,40nm,0.7s						
L18K	Granite Mounta	58.32	28	P	P	12 43 57.2	+2.2
	baz=250						
MTKN	Mount Kenneth	58.33	210	P	P	12 43 57.3	+1.7
MTKN	Mount Kenneth	58.33	210	P	P	12 43 56.4	+0.9
RDOG	Red Dog Mine	58.43	20	P	P	12 43 57.5	+1.7
	baz=240,SNR=117						
RDOG	Red Dog Mine	58.43	20	P	ScP	12 48 30.0	-0.7
	baz=245						
M18K	Stony River	58.45	29	P	P	12 43 58.0	+2.0
	baz=251						
M18K	Stony River	58.45	29	P	ScP	12 48 31.6	+0.7
	baz=251						
OHAK	Old Harbor	58.47	34	P	P	12 43 57.4	+1.3
	baz=256,SNR=41						
OHAK	Old Harbor	58.47	34	P	P	12 43 57.3	+1.1
NWAO	Narrogin (SRO)	58.49	208	P	P	12 43 56.5	-0.1
NWAO	Narrogin (SRO)	58.49	208	LR	LR	13 08 20.8	
	comp=Z,1µm,21.8s,baz=340,slow=35						
NWAO	Narrogin (SRO)	58.49	208	P	P	12 43 56.9	+0.3
NWAO	Narrogin (SRO)	58.49	208	P	P	12 43 56.5	-0.1
NWAO				pmax	pmax		
	comp=Z,448nm,0.8s						
NWAO	Narrogin (SRO)	58.49	208	P	P	12 43 56.3	-0.3
MAKZ	Makanchi	58.51	314	P	P	12 43 57.5	+0.7
MAKZ	Makanchi	58.51	314	P	P	12 43 57.5	+0.7
MAKZ				pmax	pmax		
	comp=Z,79nm,0.9s						
MAKZ	Makanchi	58.51	314	P	P	12 43 57.4	+0.6
MAKZ				pP	pP	12 44 32.9	+1.3
C17K	DeLong Mountai	58.56	20	P	P	12 43 58.3	+1.7
	baz=240,SNR=217						
C17K	DeLong Mountai	58.56	20	P	ScP	12 48 30.1	-1.2
	baz=244						
Q19K	Cape Douglas,	58.73	32	P	P	12 43 58.0	0.0
Q19K				IAmb	IAmb	12 43 59.4	
	comp=Z,186nm,0.8s						
Q19K	Cape Douglas,	58.73	32	P	P	12 43 57.9	0.0
	baz=254,SNR=11						
Q19K	Cape Douglas,	58.73	32	P	ScP	12 48 33.2	+0.9
	baz=252						
H18K	Honhosa River	58.73	24	P	P	12 43 59.2	+1.3
	baz=246						
H18K	Honhosa River	58.73	24	P	ScP	12 48 31.7	-0.4
	baz=249,SNR=7.1						
J18K	Innoko River	58.75	26	IAmb	IAmb	12 44 01.2	
	comp=Z,475nm,1.6s						
J18K	Innoko River	58.75	26	P	P	12 43 59.3	+1.3
	baz=249,SNR=25						
J18K	Innoko River	58.75	26	P	ScP	12 48 31.7	-0.5
	baz=250						
O19K	Port Alsworth	58.75	30	P	P	12 43 59.4	+1.4
O19K	Port Alsworth	58.75	30	P	P	12 43 59.3	+1.3
	baz=253,SNR=67						
N19K	Bonanza Creek	58.86	30	P	P	12 44 00.9	+1.9
	baz=253						
N19K	Bonanza Creek	58.86	30	P	ScP	12 48 31.9	-0.9
	baz=252						
TTA	Tatalina	58.86	27	IAmb	IAmb	12 44 01.9	
	comp=Z,216nm,1.0s						
TTA	Tatalina	58.86	27	P	P	12 44 00.2	+1.3
	baz=250,SNR=68						
TTA	Tatalina	58.86	27	P	ScP	12 48 32.8	0.0
	baz=251,SNR=5.3						
TTA	Tatalina	58.86	27	P	P	12 44 00.2	+1.3
F18K	Selawik	58.86	22	P	P	12 44 00.1	+1.4
	baz=244,SNR=48						
F18K	Selawik	58.86	22	P	ScP	12 48 32.6	0.0
	baz=248						
E18K	Tukpahlearik C	58.90	21	IAmb	IAmb	12 44 02.5	
	comp=Z,318nm,1.1s						
E18K	Tukpahlearik C	58.90	21	P	P	12 44 00.8	+1.8
	baz=243						
E18K	Tukpahlearik C	58.90	21	P	ScP	12 48 32.7	-0.1
	baz=247						
G18K	Tagagawik	58.93	23	P	P	12 44 00.7	+1.4
	baz=246						
G18K	Tagagawik	58.93	23	P	ScP	12 48 32.1	-0.9
	baz=248						
KDAK	Kodiak Island	58.97	33	P	P	12 44 00.6	+1.0
KDAK				IAmb	IAmb	12 44 02.4	
	comp=Z,243nm,0.8s						
KDAK	Kodiak Island	58.97	33	LR	LR	13 10 00.1	
	comp=Z,974nm,18.9s,baz=94,slow=36						
KDAK	Kodiak Island	58.97	33	P	P	12 44 00.8	+1.1
	baz=256						
KDAK	Kodiak Island	58.97	33	P	P	12 44 00.6	+1.0
KDAK				pmax	pmax		
	comp=Z,243nm,0.9s						
KDAK	Kodiak Island	58.97	33	P	P	12 44 00.6	+1.0
VIS	Vishakhapatnam	59.04	280	eP	P	12 44 03.4	+2.6
VIS				IAmb	IAmb	12 44 42.5	
	comp=Z,72nm,1.0s						
P19K	Oil Pt	59.12	31	P	P	12 44 01.4	+0.7
	baz=254,SNR=20						
ALBI	Allahabad	59.14	289	eP	P	12 44 02.1	+0.7
GCSA	Galena City Sc	59.16	25	P	P	12 44 01.9	+1.1
	baz=248,SNR=25						
GCSA	Galena City Sc	59.16	25	P	ScP	12 48 33.9	-0.1
	baz=250,SNR=9.6						
AUHAR	St Anne's Scho	59.24	209	P	P	12 44 02.7	+0.9
ILSW	Ilianna Southw	59.26	31	IAmb	IAmb	12 44 03.5	
	comp=Z,446nm,1.6s						
Q20K	Shuyak Island	59.27	32	P	P	12 44 02.4	+0.7
	baz=256,SNR=28						
C18K	Utukok River	59.28	20	IAmb	IAmb	12 44 04.5	
	comp=Z,232nm,0.9s						
C18K	Utukok River	59.28	20	P	P	12 44 02.9	+1.2
	baz=242						
C18K	Utukok River	59.28	20	P	ScP	12 48 33.8	-0.8
	baz=246						
BLSP	Bilaspur	59.33	285	eP	P	12 44 03.1	+0.3
BLSP				IAmb	IAmb	12 44 45.0	
	comp=Z,200nm,1.2s						
J19K	Poorman	59.39	26	IAmb	IAmb	12 44 05.6	
	comp=Z,293nm,0.9s						
J19K	Poorman	59.39	26	P	P	12 44 04.0	+1.6
	baz=250,SNR=76						
J19K	Poorman	59.39	26	P	ScP	12 48 35.3	+0.2
	baz=251,SNR=5.5						
RAO	Raoul Island	59.43	143	LR	LR	13 07 09.7	
	comp=Z,949nm,19.7s,baz=334,slow=33						
B18K	Kokolik River	59.44	19	P	P	12 44 04.8	+2.1
	baz=240,SNR=332						
B18K	Kokolik River	59.44	19	P	ScP	12 48 34.9	-0.2
	baz=246,SNR=5.8						
O20K	Slope Mountain	59.53	31	P	P	12 44 04.0	+0.4
	baz=255,SNR=9.1						
O20K	Slope Mountain	59.53	31	P	ScP	12 48 36.1	+0.2
	baz=254						
G19K	Purcell Mounta	59.61	23	IAmb	IAmb	12 44 07.0	
	comp=Z,264nm,0.8s						
G19K	Purcell Mounta	59.61	23	P	P	12 44 05.5	+1.6
	baz=247						
G19K	Purcell Mounta	59.61	23	P	ScP	12 48 35.9	-0.1
	baz=250						
H19K	Roundabout Mou	59.62	24	P	P	12 44 05.6	+1.7
	baz=248,SNR=59						
H19K	Roundabout Mou	59.62	24	P	ScP	12 48 35.7	-0.3
	baz=250,SNR=6.2						
L20K	Farewell, AK	59.64	28	P	P	12 44 05.8	+1.6
	baz=252						
L20K	Farewell, AK	59.64	28	P	ScP	12 48 36.2	-0.1
	baz=252						
M20K	Styx River	59.80	29	IAmb	IAmb	12 44 08.9	
	comp=Z,178nm,0.8s						
M20K	Styx River	59.80	29	P	P	12 44 07.3	+1.9
	baz=253						
K20K	Telida	59.83	27	P	P	12 44 07.4	+1.9
	baz=252						
HOM	Homer	59.91	31	P	P	12 44 06.4	+0.4
	baz=256						
AUALB	St Joseph's Co	59.97	206	P	P	12 44 08.7	+2.0
LGTI	Lohaghat	60.01	294	eP	P	12 44 06.6	-0.7
PTH	Pithoragarh	60.03	294	eP	P	12 44 08.0	+0.4
PTH				IAmb	IAmb	12 44 50.3	
	comp=Z,241nm,1.0s						
RKGY	Rocky Gully	60.03	207	P	P	12 44 08.1	+1.0
	comp=Z,1µm,0.8s						
RKGY	Rocky Gully	60.03	207	P	P	12 44 08.2	+1.0
SPCR	Spurr Chakacha	60.03	30	P	P	12 44 07.9	+0.9
	baz=254,SNR=25						
SPCR	Spurr Chakacha	60.03	30	P	ScP	12 48 38.5	+0.5
	baz=254						
J20K	Nowinta River	60.06	26	P	P	12 44 09.2	+2.2
	baz=251,SNR=205						
J20K	Nowinta River	60.06	26	P	ScP	12 48 38.5	+0.5
	baz=252						
SHLS	Shalkode	60.08	309	eP	P	12 44 06.4	-1.3
SHLS				pmax	pmax		
	comp=Z,49nm,1.2s						
SHLS	Shalkode	60.08	309	eP	P	12 44 06.4	-1.3
	comp=Z,49nm,1.2s						
E19K	Redstone River	60.09	22	IAmb	IAmb	12 44 10.4	
	comp=Z,371nm,1.2s						
E19K	Redstone River	60.09	22	P	P	12 44 08.8	+1.7
	baz=246						
SPU	Mount Spurr	60.10	30	IAmb	IAmb	12 44 09.8	
	comp=Z,220nm,1.8s						
I20K	Naaghedeneel	60.13	25	P	P	12 44 09.4	+1.9
	baz=250						
H20K	Anotleneega Mo	60.22	24	P	P	12 44 09.9	+1.8
	baz=250						
CORO	Coronation Par	60.23	179	P	P	12 44 09.0	+0.7
BRLK	Bradley Lake	60.30	31	IAmb	IAmb	12 44 10.5	
	comp=Z,187nm,0.8s						
BRSE	Bradley Lake S	60.37	31	P	P	12 44 09.6	+0.4
	baz=257,SNR=35						
UZB	Uzynbulak	60.40	309	eP	P	12 44 10.7	+0.8
UZB	Uzynbulak	60.40	309	eP	P	12 44 10.8	+0.8
CAPN	Captain Cook N	60.41	30	IAmb	IAmb	12 44 12.4	
	comp=Z,196nm,0.7s						
CAPN	Captain Cook N	60.41	30	P	P	12 44 11.0	+1.6
	baz=256,SNR=6.8						
F20K	Avaraart Lake	60.47	23	IAmb	IAmb	12 44 13.1	
	comp=Z,345nm,1.3s						
F20K	Avaraart Lake	60.47	23	P	P	12 44 11.7	+2.1
	baz=249						
PPLA	Purkeypile	60.51	28	P	P	12 44 11.7	+1.5
	baz=254,SNR=52						
PPLA	Purkeypile	60.51	28	P	ScP	12 48 40.8	+0.5
	baz=254						
SKT	Skwentna	60.55	29	IAmb	IAmb	12 44 12.5	
	comp=Z,195nm,1.0s						
SKT	Skwentna	60.55	29	P	P	12 44 11.0	+0.5
	baz=255,SNR=76						
SKT	Skwentna	60.55	29	P	ScP	12 48 40.4	+0.1
	baz=255						
KPKS	Kokpek	60.66	310	eP	P	12 44 12.3	+0.7
KPKS				eS	S	12 52 18.6	+2.5
KPKS	Kokpek	60.66	310	eP	P	12 44 12.4	+0.7
KPKS				eS	S	12 52 18.6	+2.5
CAST	Castle Rocks	60.70	27	P	P	12 44 12.9	+1.5
	baz=253,SNR=254						
CAST	Castle Rocks	60.70	27	P	ScP	12 48 41.1	+0.1
	baz=254						
CHUM	Lake Minchumin	60.74	27	P	P	12 44 13.6	+2.0
	baz=253,SNR=84						
CHUM	Lake Minchumin	60.74	27	P	ScP	12 48 41.0	-0.1
	baz=254						
E20K	Nigu River	60.77	21	P	P	12 44 13.6	+1.7
	baz=247,SNR=182						
E20K	Nigu River	60.77	21	P	ScP	12 48 40.8	-0.4
	baz=251						
SUA	Susitna One	60.78	29	P	P	12 44 12.4	+0.3
	baz=256,SNR=49						
SUA	Susitna One	60.78	29	P	ScP	12 48 41.8	+0.3
	baz=255						
D20K	Etivluk River	60.81	21	P	P	12 44 13.8	+1.8
	baz=246,SNR=408						
D20K	Etivluk River	60.81	21	P	ScP	12 48 40.6	-0.7
	baz=250,SNR=9.0						
FRKB	FARRUKHABAD	60.85	291	eP	P	12 44 11.9	-1.1
SATY	Saty	60.85	309	eP	P	12 44 13.6	+0.7
SATY				eS	S	12 52 20.9	+2.2
SATY	Saty	60.85	309	eP	P	12 44 13.7	+0.7
SATY				eS	S	12 52 20.9	+2.2
O22K	Cooper Landing	61.03	31	P	P	12 44 14.4	+0.8
	baz=257,SNR=75						
KURK	Kurchatov	61.08	318	P	P	12 44 14.4	+0.2
KURK				IAmb	IAmb	12 44 18.9	
	comp=Z,167nm,1.2s						
KURK	Kurchatov	61.08	318	ceP	P	12 44 14.4	+0.2
KURK				pmax	pmax		
	comp=Z,86nm,1.0s						
KURK	Kurchatov	61.08	318	P	P	12 44 14.0	-0.1
KURK				pP	pP	12 44 49.9	+0.5
SEW	Seward	61.08	31	P	P	12 44 14.8	+0.9
	baz=258,SNR=66						
H21K	Melozitna Rive	61.08	25	IAmb	IAmb	12 44 17.4	
	comp=Z,369nm,1.1s						
H21K	Melozitna Rive	61.08	25	P	P	12 44 15.8	+1.9
	baz=252,SNR=159						
H21K	Melozitna Rive	61.08	25	P	ScP	12 48 43.1	+0.5
	baz=254						
G21K	Allakaket	61.10	24	IAmb	IAmb	12 44 17.3	
	comp=Z,310nm,1.1s						
G21K	Allakaket	61.10	24	P	P	12 44 15.7	+1.6
	baz=250						
KURBB	Kurchatov Arra	61.13	318	P	P	12 44 14.7	+0.2
	comp=Z,67nm,0.6s,baz=95,slow=7.5,SNR=325						
KURBB				S	S	12 52 20.8	-0.8
	comp=Z,5.0nm,0.9s,baz=96,slow=10,SNR=6.9						
KURBB				LR	LR	13 09 40.5	
	comp=Z,2µm,21.8s,baz=112,slow=35						
KURBB				PKP2bc		13 13 33.5	
	comp=Z,0.9nm,0.2s,baz=274,slow=3.3,SNR=11						
	comp=Z,67nm,0.6s						
M22K	Willow	61.14	29	P	P	12 44 14.6	+0.3
	baz=256,SNR=78						
M22K	Willow	61.14	29	P	ScP	12 48 43.1	+0.2
	baz=256						
RC01	Rabbit Creek A	61.16	30	P	P	12 44 15.1	+0.5
	baz=257,SNR=101						
RC01	Rabbit Creek A	61.16	30	P	ScP	12 48 43.9	+0.9
	baz=256						
MOO	Moorlands	61.22	179	P	P	12 44 15.1	+0.1
	comp=Z,154nm,1.3s						
MOO	Moorlands	61.22	179	P	P	12 44 15.0	0.0
CUT	Chulitna	61.23	28	IAmb	IAmb	12 44 16.8	
	comp=Z,304nm,1.0s						
CUT	Chulitna	61.23	28	P	P	12 44 15.3	+0.4
	baz=256,SNR=48						
I21K	Tanana	61.26	25	IAmb	IAmb	12 44 18.6	

comp=Z,362nm,1.2s
PMR Palmer 61.56 30 P **P 12 44 17.6 +0.5**
baz=257,SNR=120
PMR Palmer 61.56 30 P **ScP 12 48 45.6 +0.9**
baz=257
PMR Palmer 61.56 30 P **P 12 44 17.5 +0.3**
PMR Palmer 61.56 30 P **P 12 44 16.3 -0.9**
C21K Knifeblade Rid 61.59 20 P **P 12 44 19.2 +1.9**
baz=248,SNR=204
C21K Knifeblade Rid 61.59 20 P **ScP 12 48 44.5 -0.2**
baz=252,SNR=6.2
E21K Killik River 61.60 21 P **P 12 44 18.9 +1.5**
baz=249
TAU Tasmania Unive 61.69 179 P **P 12 44 17.8 -0.3**
TAU IAmb IAmb 12 44 19.1
comp=Z,123nm,0.7s
TAU Tasmania Unive 61.69 179 P **P 12 44 17.8 -0.3**
TAU Tasmania Unive 61.69 179 P **P 12 44 17.8 -0.3**
TAU pmax pmax
comp=Z,123nm,0.7s
GHO Glory Hole Cre 61.70 29 IAmb IAmb 12 44 20.4
comp=Z,240nm,0.7s
H22K Ishtalitna Cre 61.72 25 P **P 12 44 20.1 +1.8**
baz=253,SNR=88
H22K Ishtalitna Cre 61.72 25 P **ScP 12 48 45.7 +0.4**
baz=255
KDJ Kajisay 61.76 308 P **P 12 44 21.1 +2.0**
KDJ pmax pmax
comp=Z,77nm,1.0s
PWL Port Wells 61.78 30 P **P 12 44 19.7 +1.0**
baz=258,SNR=172
B21K Ikpikpuk River 61.83 20 IAmb IAmb 12 44 22.1
comp=Z,330nm,1.0s
B21K Ikpikpuk River 61.83 20 P **P 12 44 20.6 +1.8**
baz=248
B21K Ikpikpuk River 61.83 20 P **ScP 12 48 45.7 0.0**
baz=252,SNR=8.8
KNK Knik Glacier 61.84 30 P **P 12 44 20.0 +0.9**
baz=258,SNR=113
KNK Knik Glacier 61.84 30 P **ScP 12 48 47.0 +0.9**
baz=257
MDOK Medeo 61.85 309 *e*P **P 12 44 20.3 +0.6**
MDOK *e*S **S 12 52 33.6 +2.3**
MDOK Medeo 61.85 309 *e*P **P 12 44 20.3 +0.6**
MDOK *e*S **S 12 52 33.7 +2.3**
A21K Barrow 61.90 18 P **P 12 44 20.9 +1.7**
baz=245,SNR=514
A21K Barrow 61.90 18 P **ScP 12 48 45.1 -1.0**
baz=251,SNR=6.9
TNSS Tian-Shan 61.92 309 *e*P **P 12 44 20.8 +0.4**
TNSS Tian-Shan 61.92 309 *e*P **P 12 44 20.9 +0.4**
AAA Alma-Ata 61.95 309 *e*P **P 12 44 21.0 +0.8**
AAA pmax pmax
comp=Z,134nm,1.0s
AAA Alma-Ata 61.95 309 *e*P **P 12 44 21.1 +0.8**
comp=Z,134nm,1.0s
G22K Bettles 61.98 23 P **P 12 44 21.3 +1.4**
baz=252
G22K Bettles 61.98 23 P **ScP 12 48 47.0 +0.5**
baz=255
SML Sawmill 61.98 29 P **P 12 44 21.0 +0.9**
baz=258,SNR=241
JHNI Jhansi 62.04 289 *e*P **P 12 44 20.2 -0.8**
JHNI IAmb IAmb 12 44 28.1
comp=Z,44nm,0.8s
P23K Montague Islan 62.07 32 P **P 12 44 22.2 +1.6**
baz=260,SNR=28
P23K Montague Islan 62.07 32 P **ScP 12 48 47.4 +0.4**
baz=258
MCK McKinley 62.14 27 P **P 12 44 21.5 +0.4**
baz=256,SNR=80
MCK McKinley 62.14 27 P **ScP 12 48 47.6 +0.3**
baz=257
UGON Onchagaon 62.19 293 *e*P **P 12 44 21.1 -0.9**
D22K Ayikyak River 62.20 21 P **P 12 44 23.6 +2.2**
baz=250
D22K Ayikyak River 62.20 21 P **ScP 12 48 47.9 +0.4**
baz=254
M23K Glacier View 62.26 29 P **P 12 44 22.8 +0.9**
baz=258,SNR=111
M23K Glacier View 62.26 29 P **ScP 12 48 48.5 +0.7**
baz=258
KUZ Kuaotunu 62.28 153 P **P 12 44 22.7 +0.5**
NEA2 Nenana 62.30 26 IAmb IAmb 12 44 25.5
comp=Z,207nm,0.9s
NEA2 Nenana 62.30 26 P **P 12 44 22.7 +0.6**
baz=256,SNR=175
NEA2 Nenana 62.30 26 P **ScP 12 48 48.4 +0.5**
baz=257
I23K Minto, Yukon-K 62.32 26 P **P 12 44 23.7 +1.5**
baz=255,SNR=182
I23K Minto, Yukon-K 62.32 26 P **ScP 12 48 48.0 0.0**
baz=257
NGP Nagpur 62.32 284 *e*P **P 12 44 23.7 +0.7**
NGP IAmb IAmb 12 45 04.1
comp=Z,244nm,1.6s
GLI Glacier Island 62.38 31 P **P 12 44 23.7 +1.1**
baz=260,SNR=81
GLI Glacier Island 62.38 31 P **ScP 12 48 48.9 +0.4**
baz=258
SCM Sheep Creek Mo 62.45 29 P **P 12 44 24.6 +1.4**
baz=259,SNR=173
SCM Sheep Creek Mo 62.45 29 P **ScP 12 48 49.5 +0.6**
baz=258
ULHL Ulahol 62.46 308 P **P 12 44 26.4 +2.6**
SNR=7.3
B22K Teshekpuk Lake 62.48 19 P **P 12 44 24.6 +1.4**
baz=249
B22K Teshekpuk Lake 62.48 19 P **ScP 12 48 48.2 -0.4**
baz=254
SMLA Simla 62.48 296 *e*P **P 12 44 24.4 +0.6**
SMLA IAmb IAmb 12 45 05.0
comp=Z,788nm,1.8s
G23K Bananza Creek 62.48 24 IAmb IAmb 12 44 26.8
comp=Z,336nm,1.1s
G23K Bananza Creek 62.48 24 P **P 12 44 25.2 +1.9**
baz=254
G23K Bananza Creek 62.48 24 P **ScP 12 48 48.8 0.0**
baz=256
Q23K Middleton Isla 62.50 32 P **P 12 44 25.3 +1.8**
baz=261,SNR=7.4
COLD Coldfoot 62.56 23 IAmb IAmb 12 44 27.2
comp=Z,266nm,1.1s
COLD Coldfoot 62.56 23 P **P 12 44 25.7 +1.9**
baz=253,SNR=177
COLD Coldfoot 62.56 23 P **ScP 12 48 49.0 0.0**
baz=256
BOOM Boomskoye usch 62.67 309 P **P 12 44 26.6 +1.4**
BOOM pmax pmax
comp=Z,78nm,1.0s
WRH Wood River Hil 62.68 26 IAmb IAmb 12 44 26.5
comp=Z,209nm,1.0s
KSH Kashi 62.76 305 P **P 12 44 29.4 +3.6**
KSH S **S 12 52 47.4 +4.6**
KSH pmax pmax
comp=Z,64nm,0.9s
KSH LR LR
comp=Z,2μm,17.2s
KSH LR LR
comp=Z,3μm,14.8s
KSH LR LR
comp=Z,3μm,17.5s
NPLP NPLP New Delhi 62.79 293 *e*P **P 12 44 26.2 +0.2**
CCB Clear Creek Bu 62.84 26 IAmb IAmb 12 44 27.5
comp=Z,459nm,1.5s
GNR GANAUR 62.85 294 *e*P **P 12 44 26.5 +0.1**
COLA College 62.87 26 P **P 12 44 25.9 +0.1**
COLA IAmb IAmb 12 44 30.0
comp=Z,171nm,0.7s
COLA College 62.87 26 P **P 12 44 26.3 +0.5**
baz=257
COLA College 62.87 26 P **P 12 44 26.3 +0.5**
COLA College 62.87 26 *i* P **P 12 44 25.9 +0.1**
COLA pmax pmax
comp=Z,147nm,0.9s
COLA College 62.87 26 P **P 12 44 26.0 +0.2**
D23K Nanushuk River 62.91 21 P **P 12 44 28.4 +2.3**
baz=252
D23K Nanushuk River 62.91 21 P **ScP 12 48 50.6 0.0**
baz=256
SONA Sohna 62.91 293 *e*P **P 12 44 27.0 +0.2**
EYAK Cordova Ski Ar 62.98 31 IAmb IAmb 12 44 29.7
comp=Z,259nm,0.9s
EYAK Cordova Ski Ar 62.98 31 P **P 12 44 28.0 +1.5**
baz=261,SNR=51
EYAK Cordova Ski Ar 62.98 31 P **ScP 12 48 51.9 +0.9**
baz=259
EYAK Cordova Ski Ar 62.98 31 P **P 12 44 27.9 +1.3**
E23K Chandalar 63.01 22 P **P 12 44 29.1 +2.2**
baz=253
E23K Chandalar 63.01 22 P ScP 12 48 51.3
baz=257
TOZ Tahuroa Road 63.02 154 P **P 12 44 27.7 +0.5**
M24K Tolsona, Glenn 63.04 29 IAmb IAmb 12 44 30.3
comp=Z,357nm,1.1s
M24K Tolsona, Glenn 63.04 29 P **P 12 44 28.8 +1.7**
baz=260,SNR=45
M24K Tolsona, Glenn 63.04 29 P ScP 12 48 52.6
baz=259
KLU Klutina 63.05 30 IAmb IAmb 12 44 30.2
comp=Z,228nm,0.9s
KLU Klutina 63.05 30 P **P 12 44 28.7 +1.5**
baz=260,SNR=93
KLU Klutina 63.05 30 P ScP 12 48 52.1
baz=259
BHK Bhakra 63.08 296 *e*P **P 12 44 28.6 +0.7**
BHK IAmb IAmb 12 44 30.8
comp=Z,128nm,0.8s
DHRM DHARAMSHALA 63.09 297 *e*P **P 12 44 27.9 -0.3**
DHRM IAmb IAmb 12 45 09.2
comp=Z,156nm,1.1s
H24K Noodor Dome 63.09 25 IAmb IAmb 12 44 30.4
comp=Z,159nm,0.7s
H24K Noodor Dome 63.09 25 P **P 12 44 28.9 +1.6**
baz=256,SNR=186
H24K Noodor Dome 63.09 25 P ScP 12 48 51.9
baz=258
POKR Poker Plat Res 63.10 26 IAmb IAmb 12 44 29.3
comp=Z,203nm,1.1s
POKR Poker Plat Res 63.10 26 P **P 12 44 27.8 +0.4**
baz=257,SNR=91
POKR Poker Plat Res 63.10 26 P ScP 12 48 52.2
baz=258
HDA Harding Lake 63.15 27 IAmb IAmb 12 44 29.2
comp=Z,209nm,0.9s
HDA Harding Lake 63.15 27 P **P 12 44 27.6 -0.1**
baz=258,SNR=141
TOLK Toolik Lake Re 63.20 22 P **P 12 44 30.1 +2.1**
baz=253,SNR=242
TOLK Toolik Lake Re 63.20 22 P ScP 12 48 52.1
baz=257
C23K Itkillik River 63.21 20 P **P 12 44 29.9 +1.9**
baz=252
C23K Itkillik River 63.21 20 P ScP 12 48 51.7
baz=256
GUNA GUNA 63.25 289 *e*P **P 12 44 29.6 +0.5**
GUNA IAmb IAmb 12 45 10.2
comp=Z,269nm,1.5s
IL31 63.25 26 IAmb IAmb 12 44 29.7
comp=Z,312nm,0.9s
ILAR Eielson Array 63.25 26 P **P 12 44 28.1 -0.3**
comp=Z,151nm,0.9s,baz=257,slow=4.4,SNR=1118
ILAR PKP2bc 13 13 26.1
comp=Z,0.8nm,0.9s,baz=136,slow=1.9,SNR=4.2
comp=Z,151nm,0.9s
KMRZ Kaimai 63.30 154 P **P 12 44 30.5 +1.5**
TGRZ Tauranga 63.34 153 P **P 12 44 30.4 +1.2**
KBK Karagaybulak 63.40 309 P **P 12 44 31.1 +1.0**
SNR=25
BHPL Bhopal 63.41 287 *e*P **P 12 44 30.2 0.0**
BHPL IAmb IAmb 12 45 11.4
comp=Z,84nm,1.1s
E24K Your Creek 63.42 22 P **P 12 44 31.5 +2.0**
baz=255
HIZ Hauiti 63.42 155 P **P 12 44 30.4 +0.6**
HIZ Hauiti 63.42 155 P **P 12 44 30.6 +0.8**
KUDL Kundal 63.45 293 *e*P **P 12 44 30.3 0.0**
KUDL IAmb IAmb 12 44 34.3
comp=Z,55nm,1.2s
G24K Hadweenzic Riv 63.45 24 IAmb IAmb 12 44 33.1
comp=Z,217nm,0.8s
G24K Hadweenzic Riv 63.45 24 P **P 12 44 31.6 +1.9**
baz=256,SNR=185
G24K Hadweenzic Riv 63.45 24 P ScP 12 48 53.4
baz=259
F24K Squaw Lake 63.50 23 IAmb IAmb 12 44 33.6
comp=Z,233nm,0.9s
F24K Squaw Lake 63.50 23 P **P 12 44 32.0 +2.0**
baz=255
F24K Squaw Lake 63.50 23 P ScP 12 48 53.3
baz=258
PAX Paxson 63.52 28 IAmb IAmb 12 44 32.9
comp=Z,227nm,0.8s
PAX Paxson 63.52 28 P **P 12 44 31.4 +1.1**
baz=260,SNR=160
PAX Paxson 63.52 28 P ScP 12 48 54.1
baz=260
K24K Donnelly Dome 63.53 27 P **P 12 44 31.0 +0.7**
baz=259,SNR=50
KAIM Kayak Island 63.54 32 P **P 12 44 32.3 +1.9**
baz=262,SNR=37
THN Thein Dam 63.55 297 *e*P **P 12 44 31.0 +0.1**
THN IAmb IAmb 12 45 12.2
comp=Z,139nm,1.0s
HYB Hyderabad 63.56 280 *e*P **P 12 44 31.8 +0.6**
HYB *e* 12 45 05.3
HYB IVmB_BB 12 45 11.9
comp=Z,1μm,1.7s
HYB *e*PP **PP 12 46 50.2 -2.7**
HYB *e*S **S 12 52 52.7 -0.4**
HYB *es*S **sS 12 53 52.0 -2.6**
HARP HAARP 63.56 29 P **P 12 44 32.0 +1.6**
baz=260,SNR=128
OPRZ Ohinepanea 63.56 153 P **P 12 44 31.6 +0.9**
KARZ Kaharoa 63.58 153 P **P 12 44 32.2 +1.3**
BMRM Bremner River 63.60 31 P **P 12 44 32.2 +1.5**
baz=262,SNR=139
BMRM Bremner River 63.60 31 P ScP 12 48 54.6
baz=260
D24K Happy Valley 63.60 21 P **P 12 44 32.8 +2.2**
baz=254
D24K Happy Valley 63.60 21 P ScP 12 48 53.5
baz=258
SGDS Sogindy 63.61 310 *e*P **P 12 44 31.8 +0.6**
SGDS Sogindy 63.61 310 *e*P **P 12 44 31.8 +0.6**
NGRZ Ngongotaha 63.62 154 P **P 12 44 32.6 +1.4**
FRU1 Bishkek 63.63 309 P **P 12 44 32.7 +1.3**
FRU1 pmax pmax
comp=Z,51nm,1.1s
UTU Utuhina 63.69 154 P **P 12 44 33.4 +1.8**
N25K Chitina, Valde 63.69 30 IAmb IAmb 12 44 34.6
comp=Z,205nm,0.8s
N25K Chitina, Valde 63.69 30 P **P 12 44 33.1 +1.7**
baz=261,SNR=112
N25K Chitina, Valde 63.69 30 P ScP 12 48 54.0
baz=261
OMRZ Omania 63.70 153 P **P 12 44 32.7 +1.0**
MARZ Manawahe 63.73 153 P **P 12 44 32.8 +0.9**
AAK Ala-Archa 63.74 309 P **P 12 44 33.0 +0.8**
AAK Ala-Archa 63.74 309 LR LR 13 13 03.5
comp=Z,2μm,20.4s,baz=96,slow=36
AAK Ala-Archa 63.74 309 P **P 12 44 33.0 +0.8**
SNR=25
AAK Ala-Archa 63.74 309 *ce*P **P 12 44 32.8 +0.6**
AAK pmax pmax
comp=Z,47nm,1.7s
AAK Ala-Archa 63.74 309 P **P 12 44 33.1 +0.9**
UCH Uchtor 63.74 308 P **P 12 44 34.2 +1.7**
SNR=12
NRDN NARMADA NAGAR 63.74 286 *e*P **P 12 44 37.1 +4.8**
NRDN IAmb IAmb 12 45 19.9
comp=Z,507nm,1.8s
DREZ Durham Road 63.75 156 P **P 12 44 33.5 +1.6**
KHEZ Kahui Hut 63.77 156 P **P 12 44 33.3 +1.2**
KUTZ Kaahu Road 63.80 154 P **P 12 44 33.2 +0.9**
GRRZ Galatos Road 63.80 154 P **P 12 44 33.5 +1.2**
C24K Franklin Bluff 63.81 21 P **P 12 44 33.7 +1.8**
baz=254
HLRZ Highlands Stat 63.82 154 P **P 12 44 34.7 +2.3**
HSRZ Hossack Road 63.83 154 P **P 12 44 34.0 +1.5**
J25K Salcha River, 63.86 27 IAmb IAmb 12 44 33.8
comp=Z,134nm,0.8s
J25K Salcha River, 63.86 27 P **P 12 44 32.2 -0.2**
baz=259
J25K Salcha River, 63.86 27 P ScP 12 48 55.5
baz=260
TARZ Mount Tarawera 63.87 153 P **P 12 44 34.1 +1.3**
ARLS Aral 63.90 308 P **P 12 44 34.7 +1.4**
ARLS pmax pmax
comp=Z,50nm,0.8s
HRRZ Handcock Road 63.91 154 P **P 12 44 34.2 +1.2**
RIDG Independent Ri 63.93 28 P **P 12 44 33.8 +1.0**
baz=260,SNR=299
RIDG Independent Ri 63.93 28 P ScP 12 48 56.2
baz=261
WATZ Wairara 63.95 154 P **P 12 44 34.3 +1.0**
RRRZ Republican Roa 63.96 153 P **P 12 44 34.8 +1.5**
WPRZ Whakapapatarin 63.97 154 P **P 12 44 34.4 +1.0**
PRP Porcupine Dome 63.97 26 P **P 12 44 32.4 -0.8**
baz=259,SNR=19
BTLS Baital 63.98 311 *e*P **P 12 44 34.3 +0.8**
BTLS Baital 63.98 311 *e*P **P 12 44 34.3 +0.8**
H25L Birch Creek 64.00 25 P **P 12 44 34.9 +1.7**
baz=258,SNR=213
WHTZ Whakaora 64.00 154 P **P 12 44 35.0 +1.3**
HAZ Te Kaha 64.02 152 P **P 12 44 32.7 -1.0**
PRRZ Plateau Road 64.05 154 P **P 12 44 34.3 +0.4**
ALRZ Allen Road 64.08 154 P **P 12 44 35.4 +1.3**
MXZ Matakaoa Point 64.09 152 IAmb IAmb 12 44 34.3
comp=Z,231nm,0.8s
MXZ Matakaoa Point 64.09 152 P **P 12 44 32.1 -2.1**
MXZ Matakaoa Point 64.09 152 P **P 12 44 33.4 -0.8**
RATZ Rangitukua 64.10 154 P **P 12 44 35.4 +1.1**
BGLC Bering Glacier 64.13 32 P **P 12 44 36.3 +2.2**
baz=263
TWVZ Taurewa 64.14 155 P **P 12 44 35.3 +0.7**
RUGZ Raukumara Rang 64.15 152 P **P 12 44 33.2 -1.5**
URZ Urewera 64.15 153 P **P 12 44 33.1 -1.4**
comp=Z,327nm,1.0s,baz=346,slow=3.6,SNR=69
URZ LR LR 13 11 19.6
comp=Z,912nm,18.9s,slow=35
comp=Z,327nm,1.0s
URZ Urewera 64.15 153 P **P 12 44 33.6 -0.9**
URZ Urewera 64.15 153 P **P 12 44 33.4 -1.1**
KATZ Kakaramea 64.16 154 P **P 12 44 36.2 +1.4**
MUGZ Murupara 64.19 153 P **P 12 44 34.8 0.0**
VRDI Verde Repeater 64.19 30 IAmb IAmb 12 44 37.6
comp=Z,254nm,0.8s
PALK Palkele 64.19 269 LR LR 13 11 27.0
comp=Z,1μm,19.7s,baz=68,slow=35
JMU Jammu 64.21 298 *e*P **P 12 44 36.6 +1.4**
RITZ Rihia Road 64.23 154 P **P 12 44 36.1 +1.0**
WTVZ West Tongariro 64.24 155 P **P 12 44 35.9 +0.6**
KRVZ Karewarewa 64.24 155 P **P 12 44 36.0 +0.7**
NTVZ North Tongarir 64.26 155 P **P 12 44 36.0 +0.6**
NNVZ North Ngauruho 64.26 155 P **P 12 44 36.1 +0.6**
EKS2 Erkin-Say 64.26 309 P **P 12 44 36.7 +1.1**
SNR=18
AKL Akola 64.28 284 *e*P **P 12 44 36.7 +0.8**
TMVZ Te Maari 64.28 155 P **P 12 44 35.9 +0.4**
COVZ Chateau Observ 64.29 155 P **P 12 44 36.0 +0.4**
MENT Mentasta 64.30 29 IAmb IAmb 12 44 38.5
comp=Z,635nm,1.8s
MENT Mentasta 64.30 29 P **P 12 44 36.6 +1.3**
ETVZ East Tongariro 64.30 155 P **P 12 44 36.1 +0.4**
OTVZ Oturere 64.31 155 P **P 12 44 36.1 +0.3**
SNVZ South Ngauruho 64.32 155 P **P 12 44 36.7 +0.8**
FWVZ Far West T-bar 64.34 155 P **P 12 44 36.4 +0.3**
SCRK Sand Creek 64.34 27 P **P 12 44 36.5 +0.8**
baz=261,SNR=317
AML Almayashu 64.35 308 P **P 12 44 37.9 +1.4**
SNR=38
F25K Christian Rive 64.36 23 IAmb IAmb 12 44 39.4
comp=Z,328nm,0.9s
F25K Christian Rive 64.36 23 P **P 12 44 37.8 +2.2**
baz=258
F25K Christian Rive 64.36 23 P ScP 12 48 57.4
baz=260
MAVZ Matarangi 64.36 155 P **P 12 44 36.6 +0.4**
WHVZ Whangaehu Hut 64.38 155 P **P 12 44 36.8 +0.4**
MWZ Matawai 64.39 153 P **P 12 44 34.9 -1.3**
TUVZ Tukino 64.39 155 P **P 12 44 36.6 +0.3**
MTVZ Mangateitei 64.42 155 P **P 12 44 36.7 +0.3**
WNVZ Wahianoa 64.42 155 P **P 12 44 36.9 +0.4**
TWGZ Tauwhareparae 64.46 152 P **P 12 44 35.9 -0.8**
RAGZ Rawiri 64.48 153 P **P 12 44 36.3 -0.4**
L26K Log Cabin Wild 64.48 29 IAmb IAmb 12 44 39.5
comp=Z,182nm,1.1s
L26K Log Cabin Wild 64.48 29 P **P 12 44 38.0 +1.5**
baz=262,SNR=110
D25K Kavik River 64.49 21 P **P 12 44 38.3 +1.9**
baz=256
D25K Kavik River 64.49 21 P ScP 12 48 57.1
baz=260
MOVZ Moawhango 64.55 155 P **P 12 44 36.9 -0.3**
QRZ Quartz Range 64.55 158 P **P 12 44 37.3 +0.2**
M26K Nabesna, AK 64.55 29 IAmb IAmb 12 44 40.0
comp=Z,259nm,1.4s
M26K Nabesna, AK 64.55 29 P **P 12 44 38.2 +1.2**
baz=262,SNR=66
J26L Joseph Creek 64.61 27 P **P 12 44 38.2 +0.8**
baz=261
J26L Joseph Creek 64.61 27 P ScP 12 48 59.1
baz=262
TKGZ Te Karaka 64.62 153 P **P 12 44 36.5 -1.1**
BKZ Black Stump Fm 64.65 154 P **P 12 44 36.7 -1.2**
BKZ Black Stump Fm 64.65 154 P **P 12 44 36.9 -1.0**
SNGZ Shannon Statio 64.68 153 P **P 12 44 37.8 -0.2**
BMAR Burnt Mountain 64.72 24 P **P 12 44 39.9 +1.9**
MESA MESA 64.80 32 P **P 12 44 40.7 +1.9**
baz=264,SNR=39
BRZS Berezniki 64.85 317 *e*P **P 12 44 39.6 +0.5**
BRZS Berezniki 64.85 317 *e*P **P 12 44 39.6 +0.5**
I26K Coal Creek Min 64.91 26 IAmb IAmb 12 44 40.6
comp=Z,352nm,1.6s
I26K Coal Creek Min 64.91 26 P **P 12 44 39.1 -0.1**
baz=261,SNR=104
G26K Porcupine Rive 64.93 24 P **P 12 44 41.5 +2.2**
baz=260
G26K Porcupine Rive 64.93 24 P ScP 12 49 00.5
baz=262
F26K Sheenjek River 64.94 23 P **P 12 44 41.6 +2.2**
baz=259
F26K Sheenjek River 64.94 23 P ScP 12 48 59.9
baz=262
KRHZ Kereru 65.00 154 P **P 12 44 39.2 -0.9**
M27K Edge Creek, AK 65.07 29 IAmb IAmb 12 44 43.4
comp=Z,192nm,0.9s
M27K Edge Creek, AK 65.07 29 P **P 12 44 41.8 +1.4**
baz=264,SNR=128
M27K Edge Creek, AK 65.07 29 P ScP 12 49 00.9
baz=263
DSZ Denniston Nort 65.11 159 IAmb IAmb 12 44 42.1
comp=Z,363nm,1.1s
C26K Camden Bay 65.13 21 P **P 12 44 43.2 +2.7**
baz=257,SNR=852
C26K Camden Bay 65.13 21 P ScP 12 48 59.9
baz=262
OHH Osh 65.14 307 P **P 12 44 42.6 +1.4**
OHH pmax pmax
comp=Z,67nm,1.0s
L27K Beaver Creek, 65.17 29 IAmb IAmb 12 44 43.9
comp=Z,164nm,0.8s
L27K Beaver Creek, 65.17 29 P **P 12 44 42.4 +1.4**
baz=263,SNR=197
L27K Beaver Creek, 65.17 29 P ScP 12 49 01.5
baz=263
BCAR Beaver Creek A 65.19 29 P **P 12 44 42.3 +1.2**
AJM Ajmer 65.33 291 *e*P **P 12 44 42.8 +0.1**
AJM IAmb IAmb 12 44 47.0
comp=Z,48nm,1.0s
C27K Jago River 65.47 21 IAmb IAmb 12 44 46.2
comp=Z,273nm,0.9s
C27K Jago River 65.47 21 P **P 12 44 44.8 +2.0**
baz=258,SNR=233
C27K Jago River 65.47 21 P ScP 12 49 01.3
baz=263
THZ Tophouse 65.51 158 P **P 12 44 42.2 -1.1**
THZ IAmb IAmb 12 44 43.6
comp=Z,190nm,1.2s
BVCY Beaver Creek 65.54 29 P **P 12 44 44.9 +1.5**
baz=264,SNR=106
BVCY Beaver Creek 65.54 29 P ScP 12 49 02.3
baz=264
I27K Kandik River 65.59 26 P **P 12 44 44.6 +0.9**
baz=262
I27K Kandik River 65.59 26 P ScP 12 49 02.9
baz=264
PCA Pinnacle 65.64 32 IAmb IAmb 12 44 47.2
comp=Z,304nm,1.1s
PINM Pinnacle 65.64 32 P **P 12 44 45.7 +1.6**
baz=266,SNR=33
PINM Pinnacle 65.64 32 P ScP 12 49 03.3
baz=264
ARK Arkit 65.66 308 P **P 12 44 45.7 +1.1**
ARK pmax pmax
comp=Z,57nm,0.9s
EGAK Eagle 65.67 27 IAmb IAmb 12 44 46.7

comp=Z,401nm,1.4s
EGAK Eagle 65.67 27 P P 12 44 45.1 +1.0
baz=263,SNR=60
EGAK Eagle 65.67 27 P ScP 12 49 03.9
baz=264
YUK3 Moose Creek 65.67 30 P P 12 44 45.8 +1.4
baz=265,SNR=200
YUK3 Moose Creek 65.67 30 P ScP 12 49 03.2
baz=264
H27K Steamboat Moun 65.71 25 P P 12 44 46.1 +1.7
baz=262
H27K Steamboat Moun 65.71 25 P ScP 12 49 03.8
baz=264
O28M Mount Upton 65.72 31 P P 12 44 46.6 +1.7
baz=266,SNR=198
G27K Doyon Strip 65.74 24 P P 12 44 46.2 +1.6
baz=262
SNZO South Karori 65.78 156 P P 12 44 43.8 -1.2
SNZO South Karori 65.78 156 P P 12 44 43.7 -1.2
BFZ Birch Farm 65.83 155 P P 12 44 44.1 -1.3
INZ Inchbonnie 65.87 160 IAmb IAmb 12 44 46.1
comp=Z,309nm,0.9s
YUK8 Steele Glacier 65.97 31 P P 12 44 48.2 +1.8
baz=266,SNR=218
DZA Taraz 66.05 309 *e*P **P 12 44 47.4 +0.5**
DZA Taraz 66.05 309 *e*P **P 12 44 47.5 +0.5**
LTZ Lake Taylor 66.19 159 IAmb IAmb 12 44 49.2
comp=Z,219nm,0.7s
JCZ Jackson Bay 66.26 162 P P 12 44 48.1 -0.1
I28M Miner Creek 66.26 26 IAmb IAmb 12 44 50.8
comp=Z,242nm,1.1s
I28M Miner Creek 66.26 26 P P 12 44 49.2 +1.2
baz=264
I28M Miner Creek 66.26 26 P ScP 12 49 06.6
baz=265
BVAR Borovoye Array 66.27 320 P P 12 44 48.0 -0.2
comp=Z,119nm,0.6s,baz=94,slow=7.2,SNR=381
BVAR S **S 12 53 24.9 -0.2**
comp=Z,27nm,0.9s,baz=90,slow=10,SNR=15
BVAR PKP2bc 13 13 21.1
comp=Z,1.4nm,0.8s,baz=220,slow=3.9,SNR=8.6
BVAR LR LR 13 16 15.2
comp=Z,2μm,18.1s,baz=84,slow=38
comp=Z,119nm,0.6s
TRKS Terek-Say 66.30 308 P P 12 44 49.4 +0.6
TRKS pmax pmax
comp=Z,18nm,0.9s
KHZ Kahutara 66.31 158 IAmb IAmb 12 44 48.0
comp=Z,255nm,0.7s
KHZ Kahutara 66.31 158 P P 12 44 46.5 -1.8
BRVK Borovoye 66.33 320 P P 12 44 49.0 +0.4
BRVK IAmb IAmb 12 44 50.4
comp=Z,116nm,0.8s
BRVK Borovoye 66.33 320*ce*P **P 12 44 49.1 +0.6**
BRVK pmax pmax
comp=Z,133nm,0.9s
BRVK Borovoye 66.33 320 P **P 12 44 49.1 +0.6**
BRVK pP **pP 12 45 25.4 +0.7**
DAWY Dawson 66.36 28 IAmb IAmb 12 44 51.7
comp=Z,214nm,0.9s
DAWY Dawson 66.36 28 P P 12 44 50.2 +1.6
baz=265,SNR=157
DAWY Dawson 66.36 28 P ScP 12 49 06.6
baz=266
D27M Malcolm River 66.36 22 IAmb IAmb 12 44 52.2
comp=Z,317nm,0.8s
D27M Malcolm River 66.36 22 P P 12 44 50.7 +2.2
baz=261
KOD Kodaikanal 66.39 273 *e*P **P 12 44 51.0 +1.1**
KOD IAmb IAmb 12 44 57.5
comp=Z,50nm,0.9s
O29M Mount Kennedy 66.49 32 P P 12 44 51.7 +2.2
baz=267
O29M Mount Kennedy 66.49 32 P ScP 12 49 06.9
baz=266
YUK4 Talbot Arm 66.51 31 P P 12 44 52.3 +2.6
baz=267,SNR=258
F28M Old Crow 66.54 24 IAmb IAmb 12 44 52.9
comp=Z,236nm,0.8s
F28M Old Crow 66.54 24 P P 12 44 51.5 +1.9
baz=263,SNR=269
F28M Old Crow 66.54 24 P ScP 12 49 07.7
baz=266
RAR Rarotonga 66.61 124 P P 12 44 52.1 +1.4
RAR IAmb IAmb 12 44 53.3
comp=Z,234nm,1.0s
RAR Rarotonga 66.61 124 LR LR 13 08 06.3
comp=Z,934nm,21.7s,baz=299,slow=30
RAR Rarotonga 66.61 124 P P 12 44 52.4 +1.7
RAR Rarotonga 66.61 124 P P 12 44 52.1 +1.4
RAR pmax pmax
comp=Z,234nm,1.0s
YUK6 Outpost Mounta 66.62 31 P P 12 44 52.8 +2.2
baz=267,SNR=109
RPZ Rata Peaks 66.63 160 P P 12 44 48.7 -1.7
RPZ Rata Peaks 66.63 160 LR LR 13 11 58.8
comp=Z,1μm,19.5s,baz=332,slow=34
KKAR Karatay Array 66.63 309 P P 12 44 50.9 +0.2
KKAR Karatay Array 66.63 309 IAmb IAmb 12 44 53.3
comp=Z,48nm,0.9s
KKAR Karatay Array 66.63 309 P P 12 44 50.9 +0.2
M29M Somme Creek 66.66 29 IAmb IAmb 12 44 54.2
comp=Z,250nm,0.8s
M29M Somme Creek 66.66 29 P P 12 44 52.7 +2.1
baz=267
BTK Batken 66.68 306 P P 12 44 51.7 +0.6
BTK pmax pmax
comp=Z,25nm,0.8s
E28M Babbage River 66.78 23 IAmb IAmb 12 44 54.9
comp=Z,492nm,1.2s
E28M Babbage River 66.78 23 P P 12 44 53.2 +2.1
baz=263
L29M L29M 66.85 29 P P 12 44 53.9 +2.2
baz=267,SNR=363
J29N Klondike Camp 66.90 27 IAmb IAmb 12 44 55.4
comp=Z,198nm,0.8s
J29N Klondike Camp 66.90 27 P P 12 44 53.8 +1.8
baz=266
I29M Ogilvie Camp, 66.93 26 IAmb IAmb 12 44 54.9
comp=Z,303nm,1.1s
I29M Ogilvie Camp, 66.93 26 P P 12 44 53.4 +1.3
baz=266
LBZ Lake Benmore 66.96 161 P P 12 44 51.3 -1.2
LBZ IAmb IAmb 12 44 52.9
comp=Z,159nm,0.9s
H29M Whitestone 66.98 25 IAmb IAmb 12 44 55.5
comp=Z,230nm,0.8s
H29M Whitestone 66.98 25 P P 12 44 54.0 +1.5
baz=265
WKZ Wanaka 67.02 162 IAmb IAmb 12 44 54.4
comp=Z,612nm,1.9s
HYT Haines Junctio 67.04 31 IAmb IAmb 12 44 56.8
comp=Z,367nm,0.9s
HYT Haines Junctio 67.04 31 P P 12 44 55.3 +2.3
baz=268,SNR=269
DCZ Deep Cove 67.09 164 IAmb IAmb 12 44 53.8
comp=Z,127nm,0.8s
BRLS Borolday 67.13 309 *e*P **P 12 44 55.1 +1.3**
BRLS Borolday 67.13 309 *e*P **P 12 44 55.1 +1.3**
D28M Stokes Point 67.16 22 P P 12 44 55.2 +1.8
baz=263
D28M Stokes Point 67.16 22 P ScP 12 49 08.8
baz=267
K29M Barlow Dome 67.17 28 IAmb IAmb 12 44 57.2
comp=Z,274nm,0.8s
K29M Barlow Dome 67.17 28 P P 12 44 55.7 +1.9
baz=267,SNR=318
K29M Barlow Dome 67.17 28 P ScP 12 49 09.8
baz=267
G29M Pine Creek 67.18 25 IAmb IAmb 12 44 57.1
comp=Z,322nm,0.8s
G29M Pine Creek 67.18 25 P P 12 44 55.6 +1.9
baz=265
G29M Pine Creek 67.18 25 P ScP 12 49 09.0
baz=267
MLZ Mavora Lakes 67.26 163 IAmb IAmb 12 44 54.9
comp=Z,186nm,1.1s
P30M Million Dollar 67.29 32 P P 12 44 56.8 +2.3
baz=269
E29M Blow River 67.36 23 P P 12 44 56.6 +1.8
baz=265
CHM Chimkent 67.37 309 *e*P **P 12 44 55.9 +0.6**
CHM Chimkent 67.37 309 *e*P **P 12 44 56.0 +0.6**
M30M Minto, Yukon 67.44 29 IAmb IAmb 12 44 58.8
comp=Z,153nm,0.8s
M30M Minto, Yukon 67.44 29 P P 12 44 57.3 +1.9
baz=268,SNR=148
PLBC Pleasant Camp 67.58 33 P P 12 44 58.3 +2.0
baz=270,SNR=129
KAD Karad 67.64 281 *e*P **P 12 44 57.4 -0.1**
KAD IAmb IAmb 12 45 05.0
comp=Z,35nm,1.1s
S31K Pelican 67.65 34 IAmb IAmb 12 45 00.1
comp=Z,275nm,1.3s
S31K Pelican 67.65 34 P P 12 44 58.4 +1.7
baz=270,SNR=15
S31K Pelican 67.65 34 P ScP 12 49 11.5
baz=267
EPYK Eagle Plains 67.66 25 IAmb IAmb 12 44 59.6
comp=Z,314nm,0.8s
EPYK Eagle Plains 67.66 25 P P 12 44 58.1 +1.4
baz=266,SNR=204
EPYK Eagle Plains 67.66 25 P ScP 12 49 11.9
baz=268
POO Poona 67.66 283 *e*P **P 12 44 57.7 +0.1**
POO IAmb IAmb 12 45 38.6
comp=Z,139nm,1.2s
J30M Hart River 67.72 27 IAmb IAmb 12 45 00.5
comp=Z,205nm,0.9s
J30M Hart River 67.72 27 P P 12 44 59.0 +1.7
baz=268
J30M Hart River 67.72 27 P ScP 12 49 12.7
baz=268
O30N Mendenhall 67.73 31 IAmb IAmb 12 45 00.5
comp=Z,135nm,0.9s
O30N Mendenhall 67.73 31 P P 12 44 58.9 +1.6
baz=269,SNR=56
I30M Mount Dempster 67.73 26 P P 12 44 58.5 +1.2
baz=267,SNR=108
I30M Mount Dempster 67.73 26 P ScP 12 49 12.5
baz=268
MAYO Mayo, Yukon 67.88 28 P P 12 45 00.2 +2.1
baz=268
N31M Braeburn, Yuko 67.89 30 IAmb IAmb 12 45 01.9
comp=Z,389nm,0.9s
N31M Braeburn, Yuko 67.89 30 P P 12 45 00.4 +2.1
baz=269,SNR=176
G30M tAoh Zraii Nji 67.89 25 IAmb IAmb 12 45 00.8
comp=Z,383nm,1.1s
G30M tAoh Zraii Nji 67.89 25 P P 12 44 59.3 +1.1
baz=267
R31K City Hall, Gus 67.91 34 P P 12 44 59.9 +1.6
baz=271
F30M Barrier River 68.10 24 P P 12 45 01.2 +1.8
baz=267
SKAG Skagway 68.11 33 IAmb IAmb 12 45 03.1
comp=Z,236nm,1.0s
SKAG Skagway 68.11 33 P P 12 45 01.7 +2.1
baz=271,SNR=52
SKAG Skagway 68.11 33 P P 12 45 00.9 +1.3
CHGR Chuyangaron 68.12 305 IAmb IAmb 12 45 02.9
comp=Z,193nm,0.8s
CHGR Chuyangaron 68.12 305 P P 12 45 00.7 +0.5
CHGR pmax pmax
comp=Z,279nm,0.8s
SIT Sitka 68.16 35 P P 12 45 01.5 +1.6
baz=272,SNR=6.0
SIT Sitka 68.16 35 P P 12 45 01.3 +1.4
SIT Sitka 68.16 35 P P 12 45 01.4 +1.6
SIMJ Simiganj 68.23 305 P P 12 45 01.3 +0.3
SIMJ Simiganj 68.23 305 P P 12 45 01.4 +0.5
SIMJ pP **pP 12 45 38.2 +1.5**
WHY Whitehorse 68.33 31 IAmb IAmb 12 45 04.6
comp=Z,551nm,1.4s
WHY Whitehorse 68.33 31 P P 12 45 03.0 +1.9
baz=270,SNR=132
BESE Bessie Mountai 68.37 34 IAmb IAmb 12 45 04.8
comp=Z,298nm,0.9s
S32K Killisnoo 68.55 35 IAmb IAmb 12 45 05.6
comp=Z,210nm,1.2s
S32K Killisnoo 68.55 35 P P 12 45 04.1 +1.8
baz=272,SNR=28
M31M Drury Creek, Y 68.55 30 IAmb IAmb 12 45 05.4
comp=Z,196nm,0.9s
M31M Drury Creek, Y 68.55 30 P P 12 45 03.9 +1.5
baz=270
R32K Eaglecrest 68.55 34 P P 12 45 04.3 +1.9
baz=272,SNR=6.7
H31M Peel River 68.60 26 IAmb IAmb 12 45 06.1
comp=Z,356nm,0.9s
H31M Peel River 68.60 26 P P 12 45 03.9 +1.3
baz=269
SYZ Scrubby Hill 68.62 163 P P 12 45 01.9 -0.8
JIS Juneau Island 68.63 34 P P 12 45 04.6 +1.8
G31M Satah River 68.66 25 P P 12 45 04.1 +1.3
baz=269,SNR=495
G31M Satah River 68.66 25 P ScP 12 49 16.2
baz=271
KBU Kabul Universi 68.72 300 P P 12 45 03.1 -1.0
KBL Kabul 68.80 300 P P 12 45 05.0 +0.4
KBL Kabul 68.80 300 P P 12 45 05.0 +0.4
KBL pmax pmax
comp=Z,124nm,1.0s
F31M Tsiigehtchic 68.87 24 IAmb IAmb 12 45 06.5
comp=Z,194nm,0.8s
F31M Tsiigehtchic 68.87 24 P P 12 45 05.1 +0.9
baz=269,SNR=151
F31M Tsiigehtchic 68.87 24 P ScP 12 49 17.4
baz=271
P32M Atlin 68.93 33 IAmb IAmb 12 45 08.1
comp=Z,192nm,0.8s
P32M Atlin 68.93 33 P P 12 45 06.7 +1.9
baz=272,SNR=79
INK Inuvik 68.98 23 IAmb IAmb 12 45 07.2
comp=Z,268nm,0.8s
INK Inuvik 68.98 23 P P 12 45 05.7 +1.0
baz=269,SNR=358
INK Inuvik 68.98 23 P ScP 12 49 17.5
baz=272
INK Inuvik 68.98 23 P P 12 45 05.8 +1.0
INK pmax pmax
comp=Z,425nm,1.1s
FARO Faro, Yukon 69.04 30 P P 12 45 06.9 +1.5
baz=271
N32M Quiet Lake 69.19 31 IAmb IAmb 12 45 09.6
comp=Z,326nm,0.9s
N32M Quiet Lake 69.19 31 P P 12 45 08.0 +1.7
baz=272
P33M Teslin, Yukon 69.36 32 IAmb IAmb 12 45 10.6
comp=Z,194nm,1.0s
P33M Teslin, Yukon 69.36 32 P P 12 45 09.1 +1.7
baz=272,SNR=110
U33K Whale Pass 69.42 36 IAmb IAmb 12 45 11.2
comp=Z,158nm,0.9s
U33K Whale Pass 69.42 36 P P 12 45 09.6 +1.9
baz=274,SNR=17
U33K Whale Pass 69.42 36 P ScP 12 49 19.3
baz=269
CRAG Craig 69.46 37 P P 12 45 09.8 +1.9
baz=274,SNR=9.3
CRAG Craig 69.46 37 P P 12 45 09.5 +1.5
T33K Petersburg 69.47 35 P P 12 45 09.9 +2.0
baz=274,SNR=14
Q32M Nakina River 69.70 33 P P 12 45 11.8 +2.1
baz=273
Q32M Nakina River 69.70 33 P ScP 12 49 20.6
baz=271
WRAK Wrangell Islan 69.83 36 IAmb IAmb 12 45 13.6
comp=Z,149nm,0.8s
WRAK Wrangell Islan 69.83 36 P P 12 45 12.0 +1.8
baz=274,SNR=15
MOBC Moresby Island 70.33 39 IAmb IAmb 12 45 16.0
comp=Z,185nm,1.1s
V35K Ketchikan 70.33 37 IAmb IAmb 12 45 16.3
comp=Z,304nm,1.5s
V35K Ketchikan 70.33 37 P P 12 45 14.6 +1.3
baz=275,SNR=10
V35K Ketchikan 70.33 37 P ScP 12 49 22.9
baz=270
R33M Jennings River 70.34 33 IAmb IAmb 12 45 17.1
comp=Z,188nm,1.0s
R33M Jennings River 70.34 33 P P 12 45 15.7 +2.2
baz=274
S34M Telegraph Cree 70.37 34 IAmb IAmb 12 45 17.2
comp=Z,210nm,0.8s
S34M Telegraph Cree 70.37 34 P P 12 45 15.7 +2.2
baz=275,SNR=130
HG4B Hotspring 70.88 40 P P 12 45 18.4 +1.6
HG4B IAmb IAmb 12 45 19.5
comp=Z,128nm,0.8s
DLBC Dease Lake 70.91 34 IAmb IAmb 12 45 20.5
comp=Z,285nm,0.8s
DLBC Dease Lake 70.91 34 LR LR 13 13 04.3
comp=Z,596nm,21.3s,baz=293,slow=33
DLBC Dease Lake 70.91 34 P P 12 45 19.1 +2.2
baz=275,SNR=128
DLBC Dease Lake 70.91 34 P ScP 12 49 27.3
baz=272
T35M Bob Quinn 70.93 35 IAmb IAmb 12 45 20.6
comp=Z,220nm,1.1s
T35M Bob Quinn 70.93 35 P P 12 45 19.1 +2.2
baz=276,SNR=45
U35K Hyder 71.16 36 P P 12 45 20.0 +1.7
baz=276
CTZ Chatham Island 71.35 152 IAmb IAmb 12 45 22.6
comp=Z,359nm,1.2s
CTZ Chatham Island 71.35 152 P P 12 45 20.6 +1.1
WTLY Watson Lake, Y 71.37 32 P P 12 45 21.7 +2.1
baz=276
GRNB Grenville Isla 71.44 38 IAmb IAmb 12 45 23.1
comp=Z,148nm,0.8s
SVE Sverdlovsk 71.65 325*c i*P **P 12 45 22.1 +0.9**
SVE *e*S **S 12 54 27.7 -0.5**
SVE pmax pmax
comp=Z,144nm,0.9s
A36M Sachs Harbour 71.68 19 IAmb IAmb 12 45 23.9
comp=Z,309nm,0.8s
A36M Sachs Harbour 71.68 19 P P 12 45 22.5 +1.3
baz=275,SNR=288
C36M Paulatuk 72.35 22 IAmb IAmb 12 45 27.4
comp=Z,335nm,0.8s
C36M Paulatuk 72.35 22 P P 12 45 26.1 +0.9
baz=277,SNR=192
BBB Bella Bella 72.78 40 LR LR 13 11 26.0
comp=Z,660nm,20.9s,slow=31
ARTI Arti 72.94 324 P P 12 45 28.7 -0.2
ARTI Arti 72.94 324 LR LR 13 19 51.7
comp=Z,1μm,18.0s,baz=72,slow=38
ARTI Arti 72.94 324*d i*P **P 12 45 29.2 +0.3**
ARTI 12 48 13.2
ARTI S **SKiKP 12 54 46.4 +0.1**
ARTI *SS pS 12 55 36.0 +9.4
ARTI SS **SS 12 59 35.1 +9.0**
ARTI pmax pmax
comp=Z,147nm,0.9s
ABKAR Akbulak array 73.16 317 P P 12 45 30.4 0.0
ABKAR Akbulak array 73.16 317 IAmb IAmb 12 45 32.2
comp=Z,55nm,0.8s
PPT Papeete 73.16 116 P P 12 45 31.3 +0.4
comp=Z,98nm,0.8s,baz=89,slow=23,SNR=7.9
PPT LR LR 13 11 28.0
comp=Z,2μm,19.2s,baz=287,slow=30
comp=Z,98nm,0.8s
PPTF Pamatai, Papee 73.18 116 P P 12 45 33.4 +2.4
PPTF IAmb IAmb 12 45 35.2
comp=Z,548nm,1.6s
PPTF Pamatai, Papee 73.18 116 P P 12 45 32.4 +1.4
PAE Paea 73.20 116 *e*P **P 12 45 32.8 +1.8**
comp=Z,62nm,1.3s
TOAD Toad River Com 73.34 33 P P 12 45 32.5 +1.2
baz=279,SNR=180
WRGLY Wrigley 73.48 28 P P 12 45 33.7 +1.8
baz=280
PMOR Pomariorio Ree 73.49 113 *e*P **P 12 45 34.4 +1.6**
comp=Z,477nm,1.2s
KOTAN Kotaneelee Air 73.72 31 P P 12 45 35.0 +1.5
baz=280,SNR=78
VAH Vaihoa 73.82 113 *e*P **P 12 45 36.0 +1.3**
comp=Z,231nm,1.3s
AKTO Aktyubinsk 74.17 318 LR LR 13 19 21.3
comp=Z,2μm,20.4s,baz=64,slow=36
CBB Campbell River 74.87 42 P P 12 45 42.4 +2.1
OZB Mount Ozzard 75.00 43 IAmb IAmb 12 45 44.6
comp=Z,149nm,0.8s
PGC Sidney 76.39 43 P P 12 45 50.8 +1.9
PGC IAmb IAmb 12 45 52.2
comp=Z,147nm,0.7s
NLWA Neilton Lookou 76.41 44 IAmb IAmb 12 45 53.0
comp=Z,168nm,0.8s
WISH Wishkah 76.53 45 IAmb IAmb 12 45 53.9
comp=Z,269nm,0.8s
F03A Seaside 76.96 46 IAmb IAmb 12 45 55.9
comp=Z,338nm,0.8s
GNW Green Mountain 77.05 44 IAmb IAmb 12 45 56.5
comp=Z,223nm,0.9s
I02E Swisshome, OR 77.20 48 IAmb IAmb 12 45 57.2
comp=Z,274nm,0.7s
KIRV Kirov 77.21 328 LR LR 13 20 32.3
comp=Z,2μm,20.3s,baz=66,slow=36
KIRV Kirov 77.21 328*de*P **P 12 45 53.9 +0.6**
F04D Rainier, OR 77.29 46 IAmb IAmb 12 46 00.4
comp=Z,692nm,1.8s
G03D McMinnville, O 77.33 46 IAmb IAmb 12 45 56.9
comp=Z,974nm,1.9s
KBO Bosley Butte 77.39 50 IAmb IAmb 12 45 57.9
comp=Z,669nm,1.7s
COR Corvallis 77.46 47 P P 12 45 57.7 +2.7
COR IAmb IAmb 12 45 58.9
comp=Z,231nm,0.9s
COR Corvallis 77.46 47 P P 12 45 57.7 +2.7
COR pmax pmax
comp=Z,231nm,0.9s
YKA Yellowknife Ar 77.60 28 P P 12 45 56.1 +0.8
comp=Z,120nm,0.7s,baz=288,slow=5.7,SNR=1096
YKA pP **pwP 12 46 35.4 -1.0**
comp=Z,25nm,0.7s,baz=288,slow=5.7,SNR=3.0
YKA S **S 12 55 32.1 -2.0**
comp=Z,1.4nm,1.0s,baz=290,slow=10,SNR=3.9
YKA LR LR 13 20 54.7
comp=Z,620nm,19.5s,baz=288,slow=36
comp=Z,120nm,0.7s
D05A Enumclaw 77.70 44 IAmb IAmb 12 46 00.1
comp=Z,294nm,0.8s
BUCK Buck Mountain 77.78 47 IAmb IAmb 12 46 00.7
comp=Z,302nm,0.8s
KRMB Red Mountain 77.80 50 IAmb IAmb 12 46 00.8
comp=Z,487nm,2.0s
KRPM Rodgers 77.81 51 IAmb IAmb 12 46 01.1
comp=Z,456nm,1.4s
H04D Lebanon 77.87 47 IAmb IAmb 12 46 00.9
comp=Z,357nm,1.3s
JCC Jacoby Creek, 77.89 51 IAmb IAmb 12 46 01.3
comp=Z,230nm,1.2s
KMPM Mount Pierce 77.92 51 IAmb IAmb 12 46 01.6
comp=Z,171nm,0.8s
H04A Detroit Lake 78.21 47 IAmb IAmb 12 46 02.2
comp=Z,196nm,0.9s
KMRM Mail Ridge 78.28 51 IAmb IAmb 12 46 03.6
comp=Z,260nm,1.3s
I04A Tendick Farm, 78.28 48 IAmb IAmb 12 46 02.6
comp=Z,164nm,0.7s
HOPEN Hopen 78.35 348 *e*P **P 12 46 00.7 +1.4**
HOPEN IVmBBB 12 46 01.7
comp=Z,3μm,1.1s
HOPEN *ep*P **pP 12 46 36.3 0.0**
HOPEN *es*P **sP 12 46 47.5 -4.9**
HOPEN *e* 12 49 35.1
HOPEN *eS* **S 12 55 42.4 +0.7**
HOPEN *eSS* **SS 13 00 48.9 +2.0**
HOPEN IVMs_BB IVMs_BB 13 24 46.7
comp=Z,2μm,3.9s
HOOD Mount Hood Mea 78.41 46 IAmb IAmb 12 46 03.6
comp=Z,316nm,1.2s
KCPM Cahto Peak 78.51 52 IAmb IAmb 12 46 04.6
comp=Z,257nm,0.7s
LTY Liberty 78.55 44 IAmb IAmb 12 46 03.9
comp=Z,149nm,0.8s
YBH Yreka Blue Hor 78.61 50 LR LR 13 18 26.8
comp=Z,355nm,18.4s,baz=288,slow=34
L04D Klamath Falls 78.77 49 IAmb IAmb 12 46 05.6
comp=Z,288nm,1.2s
SPA0 Spitsbergen Ar 78.82 351 *e*P **P 12 46 02.3 +0.4**
SPA0 IVmB_BB 12 46 03.3
comp=Z,2μm,1.7s
SPA0 *ep*P **pP 12 46 36.6 -2.4**
SPA0 *es*P **sP 12 46 52.7 -2.3**
SPA0 *eS* **S 12 55 46.0 -0.7**
SPA0 IVMs_BB IVMs_BB 13 16 24.0
comp=Z,1μm,3.8s
SPB2 Spitsbergen Ar 78.82 351 IAmb IAmb 12 46 04.9
comp=Z,185nm,1.0s
SPITS Spitsbergen Ar 78.82 351 P P 12 46 02.7 +0.8
comp=Z,31nm,0.5s,baz=97,slow=6.8,SNR=76
comp=Z,31nm,0.5s
SPITS Spitsbergen Ar 78.82 351 P P 12 46 03.3 +1.4
SPITS pmax pmax
comp=Z,250nm,1.1s
I05D Terrebonne, OR 78.88 47 IAmb IAmb 12 46 06.2
comp=Z,629nm,1.8s
KBS Kingsbay 78.93 352 P P 12 46 03.7 +1.2
KBS IAmb IAmb 12 46 04.9

comp=Z,160nm,0.7s
KBS Kingsbay 78.93 352 *e*P **P 12 46 03.5 +1.0**
KBS IVmB_BB 12 46 04.3
comp=Z,2µm,2.0s
KBS *e*pP **pP 12 46 37.2 -2.4**
KBS *e*S **S 12 55 48.0 +0.1**
KBS *e*SS **SS 13 00 46.7 -8.9**
KBS IVMs_BB IVMs_BB 13 18 44.1
comp=Z,1µm,3.8s
KBS Kingsbay 78.93 352 P **P 12 46 03.7 +1.2**
KBS pmax pmax
comp=Z,160nm,0.7s
KBS Kingsbay 78.93 352 *i* P **P 12 46 03.2 +0.7**
O02D Mt. Diablo Mer 78.97 51 IAmb IAmb 12 46 07.3
comp=Z,250nm,1.3s
MXC Moxie City 78.98 45 IAmb IAmb 12 46 06.6
comp=Z,319nm,1.3s
RES Resolute Bay 79.03 14 LR LR 13 22 06.3
comp=Z,636nm,20.9s,baz=299,slow=36
RES Resolute Bay 79.03 14 P **P 12 46 04.1 +1.0**
RES pmax pmax
comp=Z,176nm,1.5s
K04D Chiloquin, OR 79.06 49 IAmb IAmb 12 46 07.3
comp=Z,286nm,0.9s
B08A Colville Reser 79.11 43 IAmb IAmb 12 46 07.0
comp=Z,194nm,0.8s
G06A Carlson Farm, 79.12 46 IAmb IAmb 12 46 07.3
comp=Z,680nm,1.9s
NOR Nord 79.12 357 P **P 12 46 04.2 +0.7**
NOR pmax pmax
comp=Z,66nm,1.4s
NOR Nord 79.12 357 *i* P **P 12 46 03.0 -0.5**
NOR IAmb IAmb 12 46 05.3
comp=Z,136nm,1.5s
J05D Fort Rock, OR 79.24 48 IAmb IAmb 12 46 08.5
comp=Z,322nm,0.7s
E07A Sunnyside 79.28 44 IAmb IAmb 12 46 08.3
comp=Z,230nm,0.8s
HAWA Hanford 79.54 45 IAmb IAmb 12 46 09.6
comp=Z,216nm,1.1s
D08A Wollman Farm, 79.75 44 IAmb IAmb 12 46 10.6
comp=Z,176nm,0.8s
HSPB Hornsund (broa 79.75 350 *e*P **P 12 46 08.5 +1.6**
HSPB Hornsund (broa 79.75 350 *e*P **P 12 46 07.8 +0.8**
HATC Hat Creek Radi 79.77 50 IAmb IAmb 12 46 11.1
comp=Z,290nm,1.1s
E08A Dider Farm, El 79.82 44 IAmb IAmb 12 46 11.0
comp=Z,158nm,0.8s
C09A Chrisman Ranch 79.95 43 IAmb IAmb 12 46 11.4
comp=Z,193nm,0.7s
BELG Belogornoye 79.98 322 LR LR 13 21 22.6
comp=Z,1µm,21.8s,slow=35
BELG Belogornoye 79.98 322 *d i*P **P 12 46 09.0 +0.4**
BELG pmax pmax
comp=Z,46nm,1.0s
LVZ Lovozero 80.13 339 P **P 12 46 09.6 +0.3**
LVZ Lovozero 80.13 339 *e*P **P 12 46 10.6 +1.4**
LVZ pmax pmax
comp=Z,198nm,1.4s
WSAR Wadi Sarin 80.22 291 LR LR 13 21 58.5
comp=Z,863nm,21.8s,baz=98,slow=36
E09A Wood Farm, Sta 80.42 44 IAmb IAmb 12 46 14.2
comp=Z,262nm,0.7s
NEW Newport 80.55 42 LR LR 13 13 56.7
comp=Z,691nm,21.3s,baz=287,slow=30
NEW Newport 80.55 42 P **P 12 46 13.2 +1.4**
NEW pmax pmax
comp=Z,202nm,1.2s
APA Apatity 80.71 339 ⇓ *i*P **P 12 46 11.7 -0.5**
APA *i* *PP **pwP 12 46 52.0 -0.4**
APA *i* S **S 12 56 05.0 -1.8**
APA *i* SSS SSS 13 04 46.0
APA pmax pmax
comp=Z,124nm,1.1s
APA MLR MLR
comp=Z,2µm,15.0s
VADS Vadso 80.73 342 *e*P **P 12 46 12.8 +0.5**
VADS IVmB_BB 12 46 13.5
comp=Z,4µm,0.9s
VADS *e*sP **sP 12 47 01.6 -3.8**
VADS *e*S **S 12 56 06.2 -0.8**
VADS IVMs_BB IVMs_BB 13 13 59.6
comp=Z,3µm,3.8s
BJO1 Bjornoya 80.77 347 *e*P **P 12 46 13.4 +1.0**
BJO1 *e*S **S 12 56 08.8 +1.6**
SAO San Andreas Ge 80.93 54 P **P 12 46 14.0 -0.1**
KLMR Klimovskoe 81.19 332 *e*P **P 12 46 11.4 -3.5**
KLMR *e* 12 49 20.3
KLMR S **S 12 56 06.1 -5.9**
KLMR pmax pmax
comp=Z,313nm,1.3s
KLMR MLR MLR
comp=Z,2µm,16.0s
F10A Beach Ranch, E 81.19 44 IAmb IAmb 12 46 18.2
comp=Z,306nm,1.6s
MPK Martis Peak 81.26 52 IAmb IAmb 12 46 19.2
comp=Z,196nm,0.8s
WVOR Wild Horse Val 81.32 48 P **P 12 46 17.6 +1.5**
WVOR pmax pmax
comp=Z,175nm,1.5s
CMB Columbia Colle 81.37 53 P **P 12 46 17.5 +1.1**
BMO Blue Mountains 81.49 46 IAmb IAmb 12 46 19.8
comp=Z,406nm,1.4s
KEV Kevo 81.62 342 P **P 12 46 17.5 +0.5**
KEV IAmb IAmb 12 46 18.7
comp=Z,221nm,0.8s
KEV Kevo 81.62 342 P **P 12 46 17.5 +0.5**
KEV pmax pmax
comp=Z,221nm,0.8s
PNTR Pine Nut 81.64 52 IAmb IAmb 12 46 21.3
comp=Z,345nm,0.7s
WAKR Walker 81.94 52 IAmb IAmb 12 46 22.9
comp=Z,136nm,0.7s
YERR Yerington 81.94 52 IAmb IAmb 12 46 22.6
comp=Z,183nm,0.7s
HAMF Hammerfest 82.04 343 *e*P **P 12 46 19.9 +0.7**
HAMF IVmB_BB 12 46 20.4
comp=Z,5µm,3.4s
HAMF *e*S **S 12 56 19.3 -1.1**
HAMF IVMs_BB IVMs_BB 13 20 16.3
comp=Z,4µm,4.5s
ARA0 ARCESS Array S 82.18 342 *e*P **P 12 46 20.3 +0.4**
ARA0 IVmB_BB 12 46 21.1
comp=Z,4µm,0.9s
ARA0 *e*S **S 12 56 22.2 +0.3**
ARA0 IVMs_BB IVMs_BB 13 23 52.3
comp=Z,3µm,4.1s
ARCES ARCESS Array B 82.18 342 P **P 12 46 20.4 +0.5**
comp=Z,177nm,0.7s,baz=68,slow=7.3,SNR=404
ARCES LR LR 13 24 51.8
comp=Z,1µm,21.8s,baz=60,slow=37
comp=Z,177nm,0.7s
TULEG Thule 82.33 8 IAmb IAmb 12 46 23.2
comp=Z,188nm,1.0s
TULEG Thule 82.33 8 *i* P **P 12 46 20.5 0.0**
TULEG IAmb IAmb 12 46 22.9
comp=Z,161nm,0.9s
RYN Ryan 82.58 52 IAmb IAmb 12 46 26.0
comp=Z,141nm,0.8s
LHV Little Huntoon 82.71 52 IAmb IAmb 12 46 25.9
comp=Z,466nm,1.8s
NVAR Mina Array Bea 82.81 52 P **P 12 46 25.4 +1.3**
NVAR Mina Array Bea 82.81 52 P **P 12 46 25.6 +1.5**
comp=Z,149nm,0.6s,baz=271,slow=5.6,SNR=896
NVAR pP **pwP 12 47 05.2 -0.3**
comp=Z,26nm,0.6s,baz=265,slow=5.6,SNR=2.1
comp=Z,149nm,0.6s
MFID Camas Ranch 82.96 47 IAmb IAmb 12 46 27.7
comp=Z,174nm,1.0s
MSF Maaselka 83.04 338 P **P 12 46 24.8 +0.4**
MSF pmax pmax
comp=Z,232nm,1.2s
SGF Sodankyl 83.05 340 P **P 12 46 24.9 +0.5**
SGF pmax pmax
comp=Z,275nm,1.1s
MAK Makhachkala 83.11 313 *c i*P **P 12 46 23.6 -1.6**
MAK *e**PP **pP 12 47 02.2 -0.7**
MAK *e**SP **sP 12 47 18.3 -0.6**
MAK *e* 12 49 39.0
MAK *e*S **S 12 56 29.9 -2.4**
MAK *e**SS **sS 12 57 29.7 -6.7**
MAK pmax pmax
comp=Z,147nm,0.8s
MAK MLR MLR
comp=Z,1µm,14.0s
KTK1 Kautokeino 83.14 342 *e*P **P 12 46 25.4 +0.4**
KTK1 IVmB_BB 12 46 25.6
comp=Z,2µm,1.1s
KTK1 *e*SKSac **SKSac 12 56 33.4 +1.2**
KTK1 IVMs_BB IVMs_BB 13 21 21.3
comp=Z,3µm,4.3s
NEEM North Greenlan 83.17 4 *i* P **P 12 46 25.3 0.0**
NEEM IAmb IAmb 12 46 27.8
comp=Z,3µm,2.5s
SNCC San Nicolas Is 83.50 57 IAmb IAmb 12 46 30.3
comp=Z,151nm,1.0s
JETT Jettan, Norway 83.60 343 *e*P **P 12 46 27.6 +0.4**
JETT IVmBBB 12 46 28.4
comp=Z,5µm,0.6s
JETT *e*SKSac **SKSac 12 56 35.6 +0.3**
JETT IVMs_BB IVMs_BB 13 18 48.6
comp=Z,4µm,4.0s
LKRN Lenkeran, Azer 83.60 309 P **P 12 46 29.0 +1.1**
JOF Joensuu 83.73 335 *e*P **P 12 46 28.5 +0.4**
VRH Novokhopyorsk 83.83 322 *e*P **P 12 46 27.0 -1.8**
VRH *e*S **SKSac 12 56 30.5 -6.9**
VRH pmax pmax
comp=Z,30nm,0.5s
VRH smax smax
comp=N,1µm,9.0s
DAG Danmarks Havn 83.90 356 P **P 12 46 28.9 +0.3**
DAG pmax pmax
comp=Z,97nm,2.1s
DAG Danmarks Havn 83.90 356 *i* P **P 12 46 28.0 -0.6**
DAG IAmb IAmb 12 46 30.0
comp=Z,45nm,0.8s
SEKA Sheki 83.92 311 P **P 12 46 29.9 +0.4**
TRO Tromso 83.95 344 *e*P **P 12 46 29.3 +0.3**
TRO IVmBBB 12 46 29.8
comp=Z,3µm,0.5s
TRO *e*SKSac **SKSac 12 56 37.7 +0.3**
TRO IVMs_BB IVMs_BB 13 26 40.9
comp=Z,4µm,4.0s
MNGR Mingechevir, A 84.14 311 P **P 12 46 32.9 +2.3**
MOS Moscow 84.22 327 *e*P **P 12 46 28.8 -1.8**
MOS *e**PP **pP 12 47 04.7 -3.4**
MOS *e*S **SKSac 12 56 33.9 -5.8**
MOS *e* 12 57 33.5
MOS *e*SS **SS 13 02 15.8 +1.0**
MOS pmax pmax
comp=Z,200nm,1.2s
MOS pmax pmax
comp=Z,114nm,1.0s
MOS MLR MLR
comp=Z,2µm,19.0s
ELK Elko 84.28 49 P **P 12 46 33.0 +1.4**
DLMT Dillon 84.45 44 IAmb IAmb 12 46 34.9
comp=Z,270nm,1.4s
OUL Oulu 84.59 338 P **P 12 46 32.4 +0.1**
OUL pmax pmax
comp=Z,302nm,1.5s
GANJ Ganja 84.73 311 P **P 12 46 35.0 +1.4**
GWY Greenwater Val 84.77 54 IAmb IAmb 12 46 36.7
comp=Z,268nm,1.6s
R11B Troy Canyon, C 84.85 51 P **P 12 46 35.9 +1.5**
baz=290
LPSR Galich'ya Gora 84.86 324 *e*P **P 12 46 32.4 -1.5**
LPSR *e*S **SKSac 12 56 42.9 -1.0**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR smax smax
comp=N,960nm,9.4s
OBN Obninsk 85.03 327 P **P 12 46 35.7 +1.0**
OBN Obninsk 85.03 327 LR LR 13 27 08.8
comp=N,2µm,18.6s,baz=56,slow=37
OBN Obninsk 85.03 327 *d i*P **P 12 46 34.1 -0.6**
OBN *e**PP **pP 12 47 11.4 -0.8**
OBN *e* 12 49 53.0
OBN *e*PPP PPP 12 51 48.4
OBN *i* S **SKSac 12 56 43.3 -1.5**
OBN *i* SS **SS 13 02 21.3 -5.5**
OBN pmax pmax
comp=Z,56nm,1.1s
VORR Voronezh 85.09 323 *e*P **P 12 46 33.6 -1.5**
VORR *e*S **SKSac 12 56 44.8 -0.6**
VORR *e* 12 57 40.0
VORR pmax pmax
comp=Z,60nm,0.4s
VORR smax smax
comp=N,60nm,3.5s
EGMT Eagleton 85.25 41 IAmb IAmb 12 46 38.6
comp=Z,218nm,1.3s
VSR Storozhevoye 85.30 323 *e*P **P 12 46 33.8 -2.3**
VSR *e*S **SKSac 12 56 51.4 +4.7**
VSR pmax pmax
comp=Z,60nm,0.8s
VSR smax smax
comp=N,1µm,10.8s
VORD Divnogorie 85.33 323 *e*P **P 12 46 34.5 -1.8**
VORD *e*S **SKSac 12 56 48.6 +1.7**
VORD pmax pmax
comp=Z,40nm,0.7s
VORD smax smax
comp=N,190nm,5.3s
KULLO Kullorsuaq 85.40 6 *i* P **P 12 46 36.9 +0.7**
KULLO IAmb IAmb 12 46 38.4
comp=Z,179nm,1.0s
SPR3 Spring Creek 3 85.54 50 IAmb IAmb 12 46 41.2
comp=Z,250nm,1.5s
HVU Hansel Valley 85.64 47 IAmb IAmb 12 46 41.5
comp=Z,363nm,1.4s
PFO Pinyon Flats O 85.80 56 P **P 12 46 40.0 +0.8**
PFO Pinyon Flats O 85.80 56 *i* P **P 12 46 39.9 +0.8**
PFO pmax pmax
comp=Z,91nm,1.3s
YNM Yellowstone No 85.93 44 IAmb IAmb 12 46 45.1
comp=Z,314nm,1.1s
YFT Old Faithful 85.95 44 IAmb IAmb 12 46 44.7
comp=Z,646nm,1.8s
YNR Norris Junctio 85.95 44 IAmb IAmb 12 46 44.8
comp=Z,361nm,1.1s
KBZ Khabaz 85.97 315 P **P 12 46 39.7 +0.1**
comp=Z,8.7nm,0.7s,baz=114,slow=3.7,SNR=21
comp=Z,8.7nm,0.7s
KBZ Khabaz 85.97 315 *ce*P **P 12 46 39.4 -0.2**
KBZ pmax pmax
comp=Z,13nm,1.0s
TRLG Trialeti 85.97 313 P **P 12 46 40.4 +0.5**
KVAR Kislovodsk Arr 86.02 315 LR LR 13 25 46.3
comp=Z,795nm,20.6s,baz=230,slow=36
KIV Kislovodsk 86.03 315 P **P 12 46 42.8 +2.7**
KIV Kislovodsk 86.03 315 *e*P **P 12 46 39.2 -0.8**
KIV *e* 12 50 00.6
KIV *e*SS SS 13 02 43.5 +1.2
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,830nm,20.0s
KIV Kislovodsk 86.03 315 P **P 12 46 40.8 +0.8**
comp=Z,759nmcomp=Z,16nm,0.8s
GNI Garni 86.04 311 P **P 12 46 41.8 +1.6**
GNI Garni 86.04 311 *i* P **P 12 46 40.0 -0.3**
GNI pmax pmax
comp=Z,26nm,0.7s
GNI Garni 86.04 311 P **P 12 46 40.7 +0.4**
comp=Z,840nmcomp=Z,37nm,0.7s
SPUT South Promonto 86.05 48 IAmb IAmb 12 46 43.3
comp=Z,191nm,1.2s
STEI Steigen 86.09 343 *e*P **P 12 46 39.9 +0.2**
STEI IVmB_BB 12 46 40.3
comp=Z,5µm,1.1s
SHA1 Shidzhatmaz 86.13 315 *i* P **P 12 46 41.2 +0.5**
H17A Grant Village 86.15 44 IAmb IAmb 12 46 45.6
comp=Z,450nm,1.7s
FLWY Flagg Ranch 86.19 45 IAmb IAmb 12 46 45.3
comp=Z,177nm,0.8s
DUG Dugway, Tooele 86.20 49 P **P 12 46 42.3 +1.3**
DUG pmax pmax
comp=Z,157nm,1.6s
TPAW Teton Pass 86.25 45 IAmb IAmb 12 46 43.6
comp=Z,249nm,1.6s
MOOW Moose Ponds 86.28 45 IAmb IAmb 12 46 44.7
comp=Z,272nm,1.8s
DBG Daneborg 86.40 356 *i* P **P 12 46 40.8 -0.3**
DBG IAmb IAmb 12 46 42.9
comp=Z,139nm,0.8s
LOF Lofoten 86.40 344 *e*P **P 12 46 41.6 +0.4**
AHID Auburn Hatcher 86.42 46 IAmb IAmb 12 46 45.0
comp=Z,351nm,1.6s
FAUS Fauske 86.46 343 *e*P **P 12 46 41.8 +0.3**
FAUS IVmB_BB 12 46 43.3
comp=Z,3µm,4.7s
FAUS *e*SKSac **SKSac 12 56 55.6 +2.3**
FAUS IVMs_BB IVMs_BB 13 18 14.5
comp=Z,6µm,4.9s
HWUT Hardware Ranch 86.55 47 IAmb IAmb 12 46 46.1
comp=Z,141nm,0.9s
FIA1 FINESS Array S 86.60 335 IAmb IAmb 12 46 42.1
comp=Z,157nm,0.6s
FINES FINESS Array B 86.60 335 P **P 12 46 41.3 -1.0**
FINES FINESS Array B 86.60 335 P **P 12 46 41.5 -0.8**
comp=Z,50nm,0.4s,baz=69,slow=4.9,SNR=398
FINES PP **PP 12 50 04.8 -0.9**
comp=Z,14nm,0.8s,baz=54,slow=9.7,SNR=3.4
FINES LR LR 13 26 16.5
comp=Z,1µm,20.4s,baz=50,slow=36
comp=Z,50nm,0.4s
KEF Keuruu 86.65 336 *e*P **P 12 46 41.6 -0.9**
FFC Flin Flon 86.71 33 P **P 12 46 44.0 +1.0**
FFC IAmb IAmb 12 46 45.4
comp=Z,426nm,1.5s
FFC Flin Flon 86.71 33 P **P 12 46 44.0 +1.0**
RLMT Red Lodge 86.72 43 IAmb IAmb 12 46 47.1
comp=Z,618nm,1.8s
ERBR Yeremizino-Bor 86.77 317 *e*P **P 12 46 42.7 -0.8**
ERBR *e* 12 50 11.6
ERBR *e*S **SKSac 12 56 56.6 +0.5**
ERBR *e*SSS SSS 13 06 31.7
ERBR pmax pmax
comp=Z,127nm,1.0s
VAF Ylistaro 86.94 338 *e*P **P 12 46 44.0 +0.1**
KARS Kars 87.03 312 P **P 12 46 46.7 +1.6**
KARS pmax pmax
comp=Z,39nm,1.1s
LABN Labinsk 87.05 316 *e*P **P 12 46 43.3 -1.6**
LABN *e*S **SKSac 12 56 56.0 -1.9**
LABN *e*SS **SS 13 03 04.6 +7.6**
LABN pmax pmax
comp=Z,42nm,0.6s
MPU Maple Canyon 87.11 49 IAmb IAmb 12 46 48.3
comp=Z,200nm,1.5s
UPNV Upernavik 87.20 6 *i* P **P 12 46 45.4 +0.5**
UPNV IAmb IAmb 12 46 46.9
comp=Z,40nm,0.9s
MVU Marysvale 87.26 50 IAmb IAmb 12 46 49.6
comp=Z,296nm,1.2s
BLYC Blythe 87.27 55 IAmb IAmb 12 46 49.0
comp=Z,263nm,1.8s
MTPU Mount Pierson 87.46 51 IAmb IAmb 12 46 49.9
comp=Z,207nm,1.9s
PDAR Pinedale Array 87.47 46 P **P 12 46 47.6 +0.4**
comp=Z,11nm,0.6s,baz=86,slow=0.9,SNR=76
PDAR PP **PP 12 50 12.4 -1.2**
comp=Z,3.1nm,0.8s,baz=298,slow=3.2,SNR=4.1
comp=Z,11nm,0.6s
MOR8 Moi Rana 87.55 342 *e*P **P 12 46 45.8 -1.0**
MOR8 IVmB_BB 12 46 55.5
comp=Z,3µm,3.9s
MOR8 *e*SKSac **SKSac 12 57 01.4 +1.2**
MOR8 IVMs_BB IVMs_BB 13 19 29.6
comp=Z,4µm,5.0s
TMUT Trail Mountain 87.69 49 IAmb IAmb 12 46 51.4
comp=Z,242nm,1.8s
BCA Borcka 87.73 313 ⇓ P **P 12 46 47.8 -0.5**
ARBE Arbavere 87.78 334 *e*P **P 12 46 47.9 -0.1**
STOK Stokkvaagen 87.84 343 *e*P **P 12 46 47.8 -0.3**
STOK *e*SKSac **SKSac 12 57 02.9 +1.1**
Q16A Castle Valley 87.86 50 IAmb IAmb 12 46 52.3
comp=Z,285nm,1.3s
LEIR Leirfjorden 87.97 343 *e*P **P 12 46 48.5 -0.3**
LEIR IVmB_BB 12 46 56.5
comp=Z,3µm,4.7s
LEIR *e*SKSac **SKSac 12 57 05.3 +2.7**
LEIR IVMs_BB IVMs_BB 13 25 09.0
comp=Z,4µm,4.4s
SFX San Felipe 87.98 58 IAmb IAmb 12 46 52.2
comp=Z,260nm,1.7s
MEF Metsahovi 87.98 335 *e*P **P 12 46 48.1 -0.8**
VSLR Vesyoloye 87.99 315 *i* P **P 12 46 49.6 +0.2**
VSLR pmax pmax
comp=Z,79nm,1.1s
LAO LASA Array 87.99 41 IAmb IAmb 12 46 52.2
comp=Z,262nm,1.6s
VSU Vasula 88.02 333 *i* P **P 12 46 48.0 -1.1**
VSU pmax pmax
comp=Z,58nm,0.8s
VSU Vasula 88.02 333 *e*P **P 12 46 47.6 -1.5**
SOC Sochi 88.15 316 *e*P **P 12 46 52.6 +2.5**
SOC *e**SP **pwP 12 47 35.5 +5.1**
SOC *e* 12 50 16.1
SOC *e*PPP PPP 12 52 17.0
SOC *e*S **SKSac 12 57 08.9 +4.4**
SOC *e*SS **SS 13 03 18.4 +5.5**
113A Mohawk Valley, 88.21 56 IAmb IAmb 12 46 53.5
comp=Z,214nm,1.9s
P18A Preston Nutter 88.24 49 IAmb IAmb 12 46 54.0
comp=Z,162nm,1.7s
SRU San Rafael Swe 88.25 49 IAmb IAmb 12 46 53.5
comp=Z,274nm,1.6s
FCC Fort Churchill 88.27 27 IAmb IAmb 12 46 52.4
comp=Z,325nm,1.7s
Y14A Wickenburg 88.38 55 IAmb IAmb 12 46 54.4
comp=Z,85nm,0.7s
RAF Rauma 88.53 336 *e*P **P 12 46 50.2 -1.2**
SUMG Summit 88.53 1 P **P 12 46 53.1 +1.3**
SUMG pmax pmax
comp=Z,103nm,0.9s
SUMG Summit 88.53 1 *i* P **P 12 46 52.0 +0.2**
SUMG IAmb IAmb 12 46 55.7
comp=Z,56nm,0.9s
NUUG Nuugaatsiaq 88.68 6 *i* P **P 12 46 52.0 0.0**
NUUG IAmb IAmb 12 46 53.2
comp=Z,68nm,1.4s
ANN Anapa 89.11 317 *e*P P 12 46 49.2 -5.4
ANN *e*S **SKSac 12 57 06.0 -4.1**
ANN *e* 12 57 22.5
ANN pmax pmax
comp=Z,101nm,1.3s
MTSE Matsula 89.12 334 *e*P **P 12 46 54.3 +0.1**
O20A White River Ci 89.45 48 IAmb IAmb 12 46 59.0
comp=Z,257nm,1.7s
NSS Namsos 89.46 342 *e*P **P 12 46 55.6 -0.2**
NSS IVMs_BB IVMs_BB 13 24 17.1
comp=Z,4µm,4.4s
K22A Casper 89.55 45 IAmb IAmb 12 46 59.8
comp=Z,220nm,1.9s
UMMG Uummannaq 89.61 6 *i* P **P 12 46 56.5 +0.1**
UMMG IAmb IAmb 12 46 58.0
comp=Z,128nm,1.4s
MNK Minsk 89.70 329 *i* P **P 12 46 57.2 +0.1**
MNK *i* 12 50 30.7
MNK *i* PPP PPP 12 52 28.2
MNK *i* S **SKSac 12 57 14.8 +1.6**
MNK *i* PS **PnS 12 59 10.3 +8.9**
MNK *i* SS **SS 13 03 38.6 +3.9**
MNK *i* SSS SSS 13 07 18.2
MNK pmax pmax
comp=Z,153nm,0.8s
MNK pmax pmax
comp=N,33nm,1.1s
MNK pmax pmax
comp=E,56nm,1.0s
MNK MLR MLR
comp=E,1µm,20.0s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=Z,1µm,19.0s
IIGN Ignalina 90.02 330 *e*P **P 12 46 59.7 +1.1**
SCO Scoresbysund 90.27 356 P **P 12 46 59.3 -0.2**
SCO pmax pmax
comp=Z,58nm,1.4s
SCO Scoresbysund 90.27 356 *i* P **P 12 47 00.0 +0.5**
SCO IAmb IAmb 12 47 00.8
comp=Z,76nm,1.2s
SLIT Slitere, Latvi 90.42 333 *e*P **P 12 46 58.9 -1.5**
RSSD Black Hills 90.52 43 P **P 12 47 02.1 +0.6**
RSSD pmax pmax
comp=Z,74nm,1.6s
VSVD Vaisvydziai 90.70 332 *e*P **P 12 47 02.1 +0.3**
N23A Red Feather La 90.70 46 P **P 12 47 04.0 +1.6**
baz=296,SNR=72
TUC Tucson 90.72 55 P **P 12 47 04.0 +1.5**
TUC pmax pmax
comp=Z,20nm,2.5s
PABE Paberze 90.97 331 *e*P **P 12 47 02.7 -0.3**

AKASG Malin Array Be 91.07 325 P **P 12 47 01.4 -2.2**
comp=Z,2.6nm,0.5s,baz=53,slow=5.2,SNR=24
AKASG PP **PP 12 50 38.7 -2.9**
comp=Z,4.2nm,0.8s,baz=47,slow=7.6,SNR=4.2
AKASG PKKPbc **PKKPbc 13 04 25.8 -1.8**
comp=Z,0.4nm,0.4s,baz=263,slow=2.9,SNR=4.8
AKASG LR LR 13 28 24.1
comp=Z,2μm,21.7s,baz=45,slow=36
AKBB Malin Array Si 91.07 325 *c*eP **P 12 47 01.5 -2.1**
AKBB pmax pmax
comp=Z,42nm,2.1s
KIEV Kiev 91.08 325 P **P 12 47 03.6 0.0**
KIEV pmax pmax
comp=Z,71nm,1.5s
ILULI Ilulissat 91.12 6 *i* P **P 12 47 03.8 +0.4**
ILULI IAmb IAmb 12 47 05.0
comp=Z,34nm,0.7s
SIM Simferopol' 91.14 319 *e*P **P 12 47 02.7 -1.3**
SIM pmax pmax
comp=Z,39nm,1.2s
ISCO Idaho Springs 91.41 47 P **P 12 47 07.4 +1.5**
ISCO pmax pmax
comp=Z,30nm,1.0s
S22A 4UR Ranch, Cre 91.45 49 P **P 12 47 07.5 +1.5**
baz=296,SNR=74
RAYN Ar Rayn 91.54 295 P **P 12 47 06.2 -0.2**
PBUR Paburge 91.57 332 *e*P **P 12 47 05.5 -0.2**
ICESG Greenland Ices 91.99 2 *i* P **P 12 47 07.9 -0.1**
ICESG IAmb IAmb 12 47 09.5
comp=Z,74nm,0.9s
HFS Hagfors 92.08 338 P **P 12 47 07.1 -1.0**
comp=Z,12nm,0.4s,baz=85,slow=3.4,SNR=105
HFS PP **PP 12 50 46.6 -2.7**
comp=Z,12nm,0.7s,baz=91,slow=8.9,SNR=5.0
HFS PKKPbc **PKKPdf 13 04 22.4 +1.1**
comp=Z,3.2nm,0.8s,baz=208,slow=5.0,SNR=7.0
HFS LR LR 13 30 18.4
comp=Z,2μm,20.1s,baz=46,slow=36
comp=Z,12nm,0.4s
Q24A Divide 92.11 48 P **P 12 47 10.3 +1.2**
baz=297,SNR=18
DOMB Dombas 92.19 341 *e*P **P 12 47 08.5 -0.1**
DOMB IVMs_BB IVMs_BB 13 20 35.1
comp=Z,4μm,4.2s
ULM Lac du Bonnet 92.22 34 P **P 12 47 08.2 -0.7**
comp=Z,27nm,0.7s,baz=308,slow=4.6,SNR=57
ULM LR LR 13 31 22.8
comp=Z,463nm,18.0s,baz=316,slow=37
comp=Z,27nm,0.7s
SUW Suwalki 92.23 330 *e*P **P 12 47 08.4 -0.5**
SUW Suwalki 92.23 330 P **P 12 47 08.6 -0.3**
SUW pmax pmax
comp=Z,187nm,0.9s
SUW Suwalki 92.23 330 *e*P **P 12 47 08.8 -0.1**
MOL Molde 92.24 342 *e*P **P 12 47 09.8 +1.0**
MOL *e*SKSac **SKSac 12 57 31.7 +4.3**
MOL IVMs_BB IVMs_BB 13 20 29.9
comp=Z,4μm,3.9s
NB2 NORSAR Subarra 92.27 340 P **P 12 47 07.6 -1.4**
comp=Z,66nm,1.4s,baz=42,slow=4.6
NB2 PP **PP 12 50 50.3 -0.4**
comp=Z,27nm,0.9s,baz=38,slow=7.9
NB2 NORSAR Subarra 92.27 340 P **P 12 47 07.6 -1.4**
baz=42,slow=4.6
NOA NORSAR Array B 92.27 340 P **P 12 47 07.9 -1.1**
comp=Z,16nm,0.9s,baz=45,slow=4.5,SNR=25
NOA PP **PP 12 50 50.4 -0.4**
comp=Z,12nm,0.8s,baz=39,slow=7.8,SNR=9.6
NOA LR LR 13 32 31.8
comp=Z,896nm,21.5s,baz=40,slow=38
comp=Z,16nm,0.9s
NC602 NORSAR Array S 92.38 339 *e*P **P 12 47 08.5 -0.9**
NC602 IVmB_BB 12 47 22.8
comp=Z,2μm,3.8s
NC602 *e*SKSac **SKSac 12 57 30.9 +2.6**
NC602 IVMs_BB IVMs_BB 13 23 28.2
comp=Z,3μm,4.7s
NORES NORESS Array B 92.38 339 P **P 12 47 08.5 -1.0**
RNPP9 Sopachiv 92.43 327 P **P 12 47 08.7 -1.2**
RNPP8 Varash 92.49 327 P **P 12 47 09.2 -0.9**
AKN Aaknes 92.70 342 *e*P **P 12 47 12.1 +1.2**
ANMO Albuquerque 92.93 52 LR LR 13 24 08.6
comp=Z,435nm,20.3s,baz=116,slow=32
ANMO Albuquerque 92.93 52 *d* *i*P **P 12 47 13.5 +0.7**
ANMO pmax pmax
comp=Z,22nm,1.1s
SORM Soroca 92.94 323 ⇑P **P 12 47 10.6 -1.7**
121A Cookes Peak, D 92.95 54 P **P 12 47 14.8 +1.9**
baz=295,SNR=27
Y22D IRIS PASSCAL I 92.95 53 P **P 12 47 14.4 +1.6**
baz=295
FRB Frobisher Bay 93.22 15 P **P 12 47 13.3 +0.1**
FRB pmax pmax
comp=Z,42nm,1.5s
OSL Oslo 93.25 339 *e*SKSac **SKSac 12 57 37.6 +4.5**
SFJD Kangerlussuaq 93.31 6 P **P 12 47 14.5 +0.9**
SFJD pmax pmax
comp=Z,66nm,1.3s
SFJD Kangerlussuaq 93.31 6 *i* P **P 12 47 13.6 0.0**
SFJD IAmb IAmb 12 47 15.5
comp=Z,72nm,1.1s
MILM Milestii Mici 93.33 322 *e*P **P 12 47 12.0 -2.1**
MILM *e* 12 57 29.0
MILM pmax pmax
comp=Z,400nm,3.4s
T25A Trinidad 93.45 49 P **P 12 47 16.4 +1.3**
baz=297,SNR=28
SKAR Skarslia 93.47 341 *e*P **P 12 47 14.4 -0.2**
SKAR IVmB_BB 12 47 22.1
comp=Z,2μm,3.9s
SKAR *e*SKSac **SKSac 12 57 38.3 +3.9**
SKAR IVMs_BB IVMs_BB 13 24 24.0
comp=Z,3μm,4.4s
FOO Floro 93.73 342 *e*P **P 12 47 16.5 +0.9**
FOO *e*SKSac **SKSac 12 57 40.2 +4.6**
FOO IVMs_BB IVMs_BB 13 24 24.4
comp=Z,5μm,4.4s
HYA Hoyanger 93.74 342 *e*P **P 12 47 16.2 +0.6**
HYA *e*SKSac **SKSac 12 57 39.1 +3.4**
HYA IVMs_BB IVMs_BB 13 30 27.7
comp=Z,4μm,4.1s
STRU Stroemstad 93.76 338 *i* P **P 12 47 14.3 -1.5**
KONO Kongsberg 93.84 339 *e*SKSac **SKSac 12 57 40.2 +3.9**
BR131 Keskin Array S 93.94 314 *i* P **P 12 47 16.8 -0.5**
BRTR Keskin Array B 93.94 314 P **P 12 47 16.1 -1.2**
comp=Z,8.5nm,0.9s,baz=100,slow=3.2,SNR=22
BRTR LR LR 13 33 27.5
comp=Z,379nm,20.8s,baz=48,slow=38
comp=Z,8.5nm,0.9s
KIRS Kirsehir-Merke 94.04 314 ⇑P **P 12 47 16.7 -1.0**
BORU Boraas 94.22 337 *i* P **P 12 47 16.0 -1.9**
DY2G Dye2 94.23 5 *i* P **P 12 47 18.1 0.0**
DY2G IAmb IAmb 12 47 21.0
comp=Z,72nm,1.2s
SUE Sulen 94.25 342 *e*P **P 12 47 19.4 +1.4**
SUE *e*SKSac **SKSac 12 57 39.0 +0.5**
SUE IVMs_BB IVMs_BB 13 27 03.0
comp=Z,6μm,4.6s
TJOU Tjoern 94.35 338 *i* P **P 12 47 16.8 -1.7**
DEL Delary 94.63 336 *i* P **P 12 47 18.0 -1.8**
FABU Falkenberg 94.69 336 *i* P **P 12 47 17.6 -2.5**
ONAU Onsala 94.71 337 *i* P **P 12 47 18.1 -2.0**
TIRR Tirgusor 94.89 320 ⇑P P 12 47 31.2 +10
BURAR Bucovina Array 94.97 324 ⇑P **P 12 47 21.2 -0.6**
BLS5 Blasjo 95.04 340 *e*P **P 12 47 21.5 -0.2**
BLS5 *e*SKSac **SKSac 12 57 46.7 +3.8**
BLS5 IVMs_BB IVMs_BB 13 24 25.7
comp=Z,3μm,4.5s
HARR Harsova 95.05 321 ⇑P P 12 47 29.7 +7.7
ASF Jabal al Asfar 95.06 306 LR LR 13 34 53.5
comp=Z,292nm,20.2s,baz=83,slow=38
KWP Kalwaria Pacla 95.12 327 *e*P **P 12 47 21.0 -1.3**
BSD Bornholm Skovb 95.17 334 *i* P **P 12 47 19.0 -3.3**
BSD IAmb IAmb 12 47 21.9
comp=Z,44nm,1.0s
BJUU Bjuv 95.25 336 *i* P **P 12 47 21.5 -1.2**
HOMB Homborsund 95.26 339 *e*P **P 12 47 21.9 -0.7**
HOMB *e*SKSac **SKSac 12 57 46.0 +2.0**
HOMB IVMs_BB IVMs_BB 13 21 22.1
comp=Z,2μm,4.6s
LUNU Lund 95.39 335 *i* P **P 12 47 20.9 -2.4**
ANGG Ammassalik, Gr 95.53 1 *i* P **P 12 47 23.2 -0.6**
ANGG IAmb IAmb 12 47 24.1
comp=Z,26nm,0.8s
SNART Snartemo 95.64 339 *i* P **P 12 47 23.5 -1.0**

COP Copenhagen 95.76 336 *i* P **P 12 47 22.0 -3.0**
COP IAmb IAmb 12 47 23.0
comp=Z,84nm,1.0s
MMAI Mount Meron Ar 95.81 308 P **P 12 47 25.1 -0.8**
comp=Z,3.4nm,0.6s,baz=18,slow=2.9,SNR=6.5
MMAI PP **PP 12 51 19.2 -0.1**
comp=Z,0.7nm,0.4s,baz=30,slow=8.6,SNR=3.8
MMAI LR LR 13 35 06.6
comp=Z,550nm,20.5s,baz=46,slow=38
comp=Z,3.4nm,0.6s
OJC Ojcow 96.23 328 *e*P **P 12 47 28.5 +1.2**
OJC Ojcow 96.23 328 P **P 12 47 28.0 +0.7**
OJC pmax pmax
comp=Z,13nm,1.3s
VNDA Vanda 96.85 177 LR LR 13 29 11.7
comp=Z,528nm,20.3s,baz=341,slow=34
OKC Ostrava-Krasne 97.29 329 AMS AMS 13 31 50.0
comp=Z,2μm,20.3s
RUE Ruedersdorf 97.50 333 *e*PP **PP 12 51 32.9 +1.5**
baz=43,slow=7.7
KSP Ksiaz 97.50 330 *e*P **P 12 47 32.3 -0.7**
TXAR Lajitas Array 97.52 56 P **P 12 47 33.3 -0.4**
comp=Z,1.3nm,0.6s,baz=5.8,slow=1.6,SNR=24
TXAR PP **PP 12 51 29.7 -3.0**
comp=Z,1.1nm,0.7s,baz=289,slow=4.9,SNR=1.5
TXAR PKKPbc **PKKPbc 13 04 10.0 -0.2**
comp=Z,0.6nm,0.7s,baz=123,slow=6.6,SNR=3.9
comp=Z,1.3nm,0.6s
MORC Moravsky Berou 97.62 329 *e*PP **PP 12 51 33.5 +1.0**
MORC Moravsky Berou 97.62 329 ⇑P **P 12 47 33.1 -0.6**
MORC Moravsky Berou 97.62 329 P Pdif 12 47 34.5 +0.8
MORC pmax pmax
comp=Z,9.0nm,2.2s
EIL Elat 97.67 305 LR LR 13 35 17.1
comp=Z,375nm,21.5s,baz=66,slow=38
OSTC Ostas 97.73 330 AMS AMS 13 33 10.0
comp=Z,2μm,17.0s
KRLC Kraliky 97.79 330 P **P 12 47 33.7 -0.7**
KRLC pmax pmax
comp=Z,11nm,2.1s
VYHS Vyhne 97.82 328 *e*P **P 12 47 34.1 -0.4**
VYHS *e* 12 51 37.7
VYHS Vyhne 97.82 328 *e*PDIFF **P 12 47 34.1 -0.4**
VYHS *e*PP **PP 12 51 37.6 +3.6**
DPC Dobruska-Polom 97.82 330 *e*PP **PP 12 51 34.3 +0.3**
DPC AMS AMS 13 31 10.0
comp=Z,1μm,18.5s
UPC Upice 97.86 330 AMS AMS 13 33 20.0
comp=Z,2μm,16.7s
BSEG Bad Segeberg 97.88 335 *e*PP **PP 12 51 35.7 +1.5**
baz=43,slow=7.7
JAVC Velka Javorina 98.17 328 *e*PP **PP 12 51 38.9 +2.2**
GORT1 Trebel 98.17 334 *e*PP **PP 12 51 37.5 +1.1**
baz=43,slow=7.7
ATD Arta Tunnel 98.27 285 LR LR 13 30 32.1
comp=Z,22nm,21.1s,baz=66,slow=34
VRAC Vranov 98.39 329 *e*PP **PP 12 51 38.1 -0.3**
VRAC Vranov 98.39 329 ⇓P Pdif 12 47 37.6 +0.5
BRG Berggiesshubel 98.56 332 ⇓ *i* Pif Pdif 12 47 37.1 -0.7
BRG Amp 12 47 38.6
comp=Z,8.0nm,1.1s
BRG pP pP 12 48 13.2 -2.6
BRG Amp 12 48 13.5
comp=Z,4.6nm,0.7s
BRG Berggiesshubel 98.56 332 S **S 12 58 50.0 -3.4**
BRG Berggiesshubel 98.56 332 SS SS 13 05 45.0 +4.4
BRG Berggiesshubel 98.56 332 *e*PP **PP 12 51 40.5 +0.9**
baz=43,slow=7.7
WMOK Wichita Mounta 98.60 49 P Pdif 12 47 38.9 +0.5
WMOK pmax pmax
comp=Z,9.0nm,1.3s
KRUC Moravsky 98.66 329 *e*PP **PP 12 51 40.7 +0.3**
CLL Collm 98.67 332 *i* P **P 12 47 37.4 -0.8**
CLL *e*S **S 12 58 51.0 -3.3**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 98.67 332 *e*Pdiff **P 12 47 37.3 -0.9**
baz=46,slow=4.6
CLL *e*PP **PP 12 51 41.0 +0.6**
baz=43,slow=7.7
FLTG Flechtingen 98.69 334 *e*PP **PP 12 51 40.9 +0.5**
baz=43,slow=7.7
RICC Richard 98.72 331 AMS AMS 13 35 50.0
comp=Z,2μm,15.7s
PRU Pruhonice 98.90 331 AMS AMS 13 37 10.0
comp=Z,1μm,17.5s
HSKC Hora Svate Kat 98.98 332 AMS AMS 13 34 40.0
comp=Z,2μm,16.9s
NRDL Niedersach Rie 99.03 334 *e*PP **PP 12 51 44.8 +1.8**
baz=43,slow=7.7
RETH Rethem/Aller, 99.15 335 *e*PP **PP 12 51 44.5 +0.6**
baz=43,slow=7.7
NEUB Neuenburg 99.28 333 *e*Pdiff **Pdif 12 47 40.1 -0.8**
baz=46,slow=4.6
MORH Mrgy, Hungar 99.39 326 ⇑P **Pdif 12 47 40.6 -1.0**
CLZ Clausthal 99.41 334 *e*PP **PP 12 51 46.7 +0.8**
baz=43,slow=7.7
ZVC Zvikov 99.45 330 *e*PP **PP 12 51 48.0 +1.7**
TANN Tannenbergstha 99.55 332 *e*Pdiff **Pdif 12 47 41.8 -0.5**
baz=46,slow=4.6
TANN *e*PP **PP 12 51 47.5 +0.4**
baz=43,slow=7.7
RONA Rosalia, Austr 99.62 328 *i* PP **PP 12 51 48.4 +0.6**
comp=Z,20nm,1.1s
PLN Plauen 99.63 332 *e*PP **PP 12 51 48.7 +1.0**
baz=43,slow=7.7
CONA Conrad Observa 99.69 328 *i* PP **PP 12 51 50.1 +1.8**
comp=Z,37nm,1.4s,SNR=7.1
CONA *e*SKS **SKSac 12 58 06.4 -0.8**
comp=Z,11nm,0.9s
CONA *e*PKKP **PKKPbc 13 04 03.8 -1.0**
comp=Z,8.7nm,1.6s
MOX Moxa 99.76 332 P **Pdif 12 47 43.0 -0.1**
MOX pmax pmax
comp=Z,9.0nm,2.7s
MOX Moxa 99.76 332 *e*PP **PP 12 51 49.3 +0.7**
baz=43,slow=7.7
GTTG Gottingen 99.80 334 *e*PP **PP 12 51 51.1 +2.2**
baz=43,slow=7.7
CKRC Cesky Krumlov 99.83 330 *e*PP **PP 12 51 50.7 +1.5**
CKRC AMS AMS 13 34 20.0
comp=Z,2μm,20.3s
KHC Kasperske Hory 99.95 330 *e*PDIFF **Pdif 12 47 44.0 -0.1**
KHC *e*PP **PP 12 51 51.0 +0.8**
KHC *e*SDIF **S 12 59 04.2 -1.1**
KHC AMS AMS 13 36 30.0
comp=Z,2μm,17.1s
KHC Kasperske Hory 99.95 330 *e*P **Pdif 12 47 44.0 -0.1**
KHC *e* 12 51 51.0
KHC *e*S **S 12 59 04.2 -1.1**
KHC MLR MLR
comp=Z,2μm,17.1s
MANZ Manzenberg 100.02 332 *e*PP **PP 12 51 51.6 +0.9**
baz=43,slow=7.7
GEC2 GERESS Array S 100.09 330 *e*Pdiff **Pdif 12 47 43.4 -1.3**
baz=46,slow=4.6
GEC2 *e*PP **PP 12 51 52.5 +1.1**
baz=43,slow=7.7
GERES GERESS Array B 100.09 330 P **Pdif 12 47 44.0 -0.8**
comp=Z,2.2nm,0.7s,baz=102,slow=3.1,SNR=6.2
GERES PP **PP 12 51 52.5 +1.1**
comp=Z,3.2nm,0.7s,baz=44,slow=7.8,SNR=6.9
IBBN Ibbenburen 100.12 335 *e*PP **PP 12 51 51.8 +0.5**
baz=43,slow=7.7
ROTZ Rotzenmuhle 100.13 332 *e*PP **PP 12 51 52.8 +1.3**
baz=43,slow=7.7
ARSA Arzberg 100.31 328 *i* PP **PP 12 51 51.2 -1.7**
comp=Z,34nm,1.6s
UBBA Unterbreizbach 100.33 333 *e*Pdiff **Pdif 12 47 46.0 +0.5**
baz=46,slow=4.6
UBBA *e*PP **PP 12 51 53.5 +0.7**
baz=43,slow=7.7
MOA Molln 100.52 329 *i* PP **PP 12 51 52.8 -1.7**
comp=Z,7.9nm,0.6s
GRF Grafenberg Arr 100.62 332 *e*PP **PP 12 51 55.7 +0.5**
baz=43,slow=7.7
KASTN Kahler Asten 100.70 334 *e*PP **PP 12 51 57.5 +1.8**
baz=43,slow=7.7
SOKA Soboth 100.95 328 *e*PP **PP 12 51 56.9 -1.0**
comp=Z,54nm,1.6s,SNR=8.4
SOKA *e*PKKP **PKKPbc 13 03 57.9 -3.3**
comp=Z,1.4nm,0.7s
BUG Bochum--Univer 100.98 335 *e*PP **PP 12 51 58.9 +1.2**
baz=43,slow=7.7
SCHQ Schefferville 101.28 19 P **Pdif 12 47 49.8 0.0**
comp=Z,2.6nm,0.6s,baz=302,slow=4.9,SNR=6.0
833A Chaparral WMA, 101.30 55 Pdiff **Pdif 12 47 51.7 +1.3**
baz=299
OBKA Obir 101.31 328 *i* PP **PP 12 52 00.5 -0.1**
comp=Z,44nm,1.2s
OBKA *e*PKKP **PKKPbc 13 03 56.6 -3.6**
comp=Z,7.1nm,1.1s
EKA Eskdalemuir Ar 101.34 343 P **Pdif 12 47 48.1 -1.9**
comp=Z,0.9nm,0.5s,baz=12,slow=5.1,SNR=4.4
EKA PP **PP 12 52 00.0 -0.3**
comp=Z,52nm,1.2s,baz=33,slow=8.0,SNR=13
EKA PKKPbc **PKKPbc 13 04 01.3 +1.1**
comp=Z,0.5nm,0.4s,baz=225,slow=3.9,SNR=3.8
TNS Taunus Mts 101.43 334 *e*Pdiff **Pdif 12 47 50.2 -0.4**
baz=46,slow=4.6
TNS *e*PP **PP 12 52 02.3 +1.0**
baz=43,slow=7.7
KBA Koelnbreinsper 101.51 329 *i* PP **PP 12 52 01.1 -1.0**
comp=Z,33nm,1.2s
KBA *e*SKS **SKSac 12 58 17.0 +0.7**
comp=Z,5.1nm,0.8s
KBA *e*PKKP **PKKPdf 13 04 05.6 +1.0**
comp=Z,8.0nm,1.3s
LESA Schwarzleotal 101.58 330 *i* PP **PP 12 52 04.0 +1.4**
comp=Z,27nm,1.3s
LESA *e*SKS **SKSac 12 58 13.3 -3.1**
comp=Z,7.5nm,1.1s
LESA *i* PKKP **PKKPbc 13 03 58.1 -1.3**
comp=Z,3.1nm,0.7s
MYKA Terra Mystica 101.68 329 *i* PP **PP 12 52 03.6 +0.3**
comp=Z,45nm,1.5s,SNR=6.2
MYKA *i* PKKP **PKKPbc 13 03 57.8 -1.3**
comp=Z,17nm,1.6s
FUR Furstenfeldbru 101.71 331 *e*PP **PP 12 52 04.7 +1.3**
baz=43,slow=7.7
ABTA Abfaltersbach 102.14 329 *i* PP **PP 12 52 05.4 -1.4**
comp=Z,17nm,1.2s
ABTA *i* SKS **SKSac 12 58 15.7 -3.4**
comp=Z,6.7nm,0.9s
ABTA *e*PKKP **PKKPbc 13 03 57.6 -0.1**
comp=Z,7.6nm,1.3s
WATA Walderalm 102.17 330 *i* PKKP **PKKPbc 13 03 56.5 -1.3**
comp=Z,6.8nm,0.7s
WTTA Wattenberg 102.19 330 *i* PP **PP 12 52 04.7 -2.5**
comp=Z,28nm,1.4s
WTTA *i* SKS **SKSac 12 58 22.2 +2.6**
comp=Z,6.4nm,0.9s
WTTA *e*PKKP **PKKPbc 13 03 56.8 -1.0**
comp=Z,2.6nm,0.6s
MOTA Moosalm 102.39 330 *i* PP **PP 12 52 09.8 +1.2**
comp=Z,34nm,1.2s
MOTA *e*SKS **SKSac 12 58 20.8 +0.4**
comp=Z,6.4nm,0.9s
MOTA *e*PKKP **PKKPbc 13 03 55.6 -1.6**
comp=Z,2.3nm,0.5s
SQTA Sankt Quirin 102.43 330 *i* PP **PP 12 52 04.8 -4.2**
comp=Z,30nm,1.4s
SQTA *i* PKKP **PKKPbc 13 03 56.7 -0.3**
comp=Z,2.3nm,0.5s
RETA Reutte 102.44 331 *i* PP **PP 12 52 08.3 -0.6**
comp=Z,20nm,1.3s
RETA *i* PKKP **PKKPbc 13 03 56.0 -0.9**
comp=Z,4.4nm,0.9s
UBR Ueberruh 102.60 331 *e*PP **PP 12 52 12.1 +2.0**
baz=43,slow=7.7
FETA Feichten 102.80 330 *i* PP **PP 12 52 12.7 +1.0**
comp=Z,32nm,1.5s
FETA *i* SKS **SKSac 12 58 22.1 -0.3**
comp=Z,16nm,2.0s
FETA *e*PKKP **PKKPbc 13 03 57.7 +1.8**
comp=Z,5.5nm,1.2s
WLF Walferdange 102.81 334 *e*PP **PP 12 52 13.6 +2.1**
baz=43,slow=7.7
BFO Black Forest 102.91 332 *e*PP **PP 12 52 13.6 +1.2**
baz=43,slow=7.7
DAVA Damuels 103.00 331 *i* PP **PP 12 52 14.2 +1.0**
comp=Z,39nm,1.5s
DAVA *e*SKS **SKSac 12 58 16.7 -6.6**
comp=Z,2.5nm,0.5s
DAVA *e*PKKP **PKKPbc 13 03 54.9 -0.5**
comp=Z,3.0nm,0.7s
L61B Northampton 109.22 29 PKiKP **PKiKP 12 52 30.0 +1.5**
baz=322
SYO Syowa Base 113.47 202 ⇓ *e*PP **PP 12 53 30.0 +0.6**
ECHE Chera 113.91 332 PP **PP 12 53 28.4 -3.9**
UCM Universidad Co 114.28 334 PP PP 12 53 26.3 -8.5
PBRG Braganca 114.33 338 *e*tx tx 12 55 56.3
PGAV Gavieira, Arco 114.72 339 *e*tx tx 12 55 57.3
MVO Moncorvo 114.99 338 *e*PP **PP 12 53 40.8 +1.0**
MVO *e*tx tx 12 55 58.0
POLO Lamas de Olo 115.08 338 *e*PKPdf **PKPdf 12 52 44.0 +4.2**
POLO *e*PP **PP 12 53 36.7 -3.7**
POLO *e*tx tx 12 55 58.1
ESDC Sonseca Array 115.11 335 PKP **PKPdf 12 52 40.0 +0.1**
comp=Z,0.9nm,0.8s,baz=29,slow=2.9,SNR=4.8
ESDC SKP 12 55 58.1
comp=Z,2.2nm,0.7s,baz=1.8,slow=3.1,SNR=5.4
ESDC PKKPbc **PKKPbc 13 03 16.1 -0.5**
comp=Z,0.6nm,0.7s,baz=186,slow=4.2,SNR=5.2
ESDC PKKPab **PKKPab 13 03 22.7 -1.4**
comp=Z,11nm,0.8s,baz=226,slow=3.2,SNR=38
PVRL Vila Real 115.14 338 *e*PKPdf **PKPdf 12 52 42.2 +2.3**
PVRL *e*PP **PP 12 53 40.5 -0.3**
PVRL *e*tx tx 12 55 58.2
PVIS Viseu 115.69 338 *e*PP **PP 12 53 37.5 -7.2**
PVIS *e*tx tx 12 55 59.2
MTE Manteigas 115.85 338 *e*PKPdf **PKPdf 12 52 42.4 +1.1**
MTE *e*PP **PP 12 53 45.3 -0.5**
MTE *e*tx tx 12 55 59.5
PCBR Castelo Branco 116.32 337 *e*PKPdf **PKiKP 12 52 43.1 +1.0**
PCBR *e*PP **PP 12 53 49.4 +0.4**
PCBR *e*tx tx 12 56 00.6
PCAS Casmilo, Conde 116.50 338 *e*PKPdf **PKiKP 12 52 47.0 +4.5**
PCAS *e*PP **PP 12 53 51.8 +1.6**
PCAS *e*tx tx 12 56 00.5
PMRV Marv??o 116.65 337 *e*PKPdf **PKiKP 12 52 44.0 +1.2**
PMRV *e*tx tx 12 56 01.1
PESTR Estremoz 117.21 337 *e*PKPdf **PKiKP 12 52 44.0 +0.1**
PESTR *e*tx tx 12 56 00.9
PMTG Montargil 117.27 337 *e*tx tx 12 56 01.8
PBAR Barrancos 117.61 336 *e*PKPdf **PKiKP 12 52 46.1 +1.4**
PBAR *e*PP **sPKPdf 12 53 46.0 +6.4**
PBAR *e*tx tx 12 56 03.1
EVO Evora 117.67 337 *e*PKPdf **PKiKP 12 52 45.5 +0.7**
EVO *e*PP **PP 12 54 00.2 +1.9**
EVO *e*tx tx 12 56 03.3
PBEJ Beja 118.06 337 *e*tx tx 12 56 03.5
MESJ Messejana 118.35 337 *e*tx tx 12 56 04.6
PCVE Castro Verde 118.47 337 *e*PKPdf **PKiKP 12 52 46.9 +0.5**
PCVE *e*tx tx 12 56 05.0
PBDV Barranco-do-Ve 118.77 336 *e*tx tx 12 56 06.1
PTEO Sao Teotonio 118.80 337 *e*tx tx 12 56 05.6
MORF Marmelete 118.98 337 *e*tx tx 12 56 05.8
LSZ Lusaka 120.57 263 PKP **PKPdf 12 52 50.3 -0.7**
comp=Z,7.4nm,0.6s,baz=65,slow=2.2,SNR=11
LSZ SKP 12 56 10.5
comp=Z,8.6nm,0.8s,baz=26,slow=8.1,SNR=3.1
MATP Matopo 121.34 257 PKP **PKPdf 12 52 51.4 -1.0**
comp=Z,1.7nm,0.5s,baz=332,slow=0.4,SNR=4.6
MATP SKP 12 56 10.3
comp=Z,3.3nm,0.9s,baz=57,slow=3.7,SNR=3.8
TAM Tamanrasset 123.13 315 PKIKP **PKiKP 12 52 56.6 +0.5**
SNAA Sanae 124.32 191 PKPdf **PKPdf 12 52 56.2 -0.3**
SNAA Sanae 124.32 191 ⇑PKPdf **PKPdf 12 52 56.2 -0.3**
comp=Z,130nm,0.6s
SNAA Sanae 124.32 191 PKP **PKPdf 12 52 56.0 -0.5**
comp=Z,13nm,1.1s,baz=180,slow=5.1,SNR=8.1
SNAA PP **PP 12 54 40.8 -3.1**
comp=Z,17nm,1.1s,baz=165,slow=7.3,SNR=6.9
SNAA Sanae 124.32 191 *c* *i*PKIKP **PKPdf 12 52 56.5 0.0**
SNAA pmax pmax
comp=Z,19nm,1.0s
LBTB Lobatse 124.66 252 PKP **PKPdf 12 52 58.2 -0.4**
comp=Z,5.4nm,0.6s,baz=152,slow=3.9,SNR=7.4
BOSA Boshof 125.30 248 PKP **PKPdf 12 52 59.8 0.0**
comp=Z,1.4nm,0.8s,baz=165,slow=9.8,SNR=1.5
VNA2 Neumayer--Watz 125.76 191 PKPdf **PKiKP 12 52 59.5 -0.2**
baz=163,slow=0.9
VNA2 Neumayer--Watz 125.76 191 ⇑PKPdf **PKiKP 12 52 59.5 -0.2**
comp=Z,15nm,0.6s,baz=163,slow=0.9
VNA3 Neumayer Olymp 125.86 190 PKPdf **PKPdf 12 52 59.1 -0.3**
VNA3 Neumayer Olymp 125.86 190 ⇑PKPdf **PKPdf 12 52 59.1 -0.3**
comp=Z,12nm,0.7s
VNA1 Neumayer--Stat 126.15 190 PKPdf **PKiKP 12 53 00.3 -0.1**
VNA1 Neumayer--Stat 126.15 190 ⇑PKPdf **PKiKP 12 53 00.3 -0.1**
comp=Z,21nm,1.0s
TSUM Tsumeb 131.27 261 SKPbc **SKPbc 12 56 19.8 -2.5**
comp=Z,18nm,0.5s,baz=69,slow=4.2,SNR=24

TORD	Torodi Ar. Bea	132.32	309	PKP	PKPdf	12 53 12.9	-0.4
	comp=Z,3.1nm,0.5s,baz=22,slow=2.9,SNR=21						
TORD				pPKP	pPKPdf	12 53 56.9	+3.8
	comp=Z,2.0nm,0.6s,baz=24,slow=3.1,SNR=1.8						
TORD				PP	PP	12 55 36.3	-0.8
	comp=Z,4.1nm,0.9s,baz=26,slow=5.3,SNR=4.3						
TORD				SKPbc	SKPbc	12 56 23.4	-2.6
	comp=Z,27nm,1.1s,baz=19,slow=6.2,SNR=4.3						
TORD				SKKPbc	SKKPbc	13 05 46.2	-2.6
	comp=Z,1.1nm,0.8s,baz=305,slow=2.6,SNR=4.2						
OTAV	Otavalo	132.51	71	eP	PKPdf	12 53 11.4	-2.9
ROSC	El Rosal	133.87	63	PKP	PKPdf	12 53 16.9	0.0
	comp=Z,11nm,0.4s,baz=258,slow=13,SNR=5.2						
ROSC				SKPbc	SKPbc	12 56 31.2	-0.6
	comp=Z,37nm,0.7s,baz=51,slow=2.0,SNR=16						
SDV	Santo Domingo	134.56	56	eP	PKPdf	12 53 17.4	-0.5
USHA	Ushuaia	135.82	152	PKP	PKPdf	12 53 17.7	-1.0
	comp=Z,13nm,1.0s,baz=68,slow=5.4,SNR=2.3						
USHA				SKPbc	SKPbc	12 56 34.9	-1.2
	comp=Z,34nm,1.1s,baz=287,slow=7.4,SNR=4.3						
H03N2	Juan Fernandez	137.70	119	T	T	15 26 59.4	
	baz=266,slow=74,SNR=10.0						
H03N3	Juan Fernandez	137.70	119	T	T	15 27 00.7	
	baz=266,slow=74,SNR=4.7						
H03N1	Juan Fernandez	137.72	119	T	T	15 27 00.2	
	baz=266,slow=74,SNR=4.3						
NNA	Nana	138.36	87	c iPKIKP	PKiKP	12 53 26.5	-0.3
NNA				pmax	pmax		
	comp=Z,74nm,1.7s						
LL04	Puerto Octay	140.79	132		PKiKP	12 53 29.6	-1.3
CZSB	Cruzeiro do Su	140.94	79	eP	PKPdf	12 53 26.9	-2.5
LR05	Currie	141.33	131	PKPdf	PKiKP	12 53 31.1	-0.9
DBIC	Dimbokro	141.42	309	PKhKP	PKPpre	12 53 24.1	
	comp=Z,6.1nm,0.5s,baz=42,slow=3.1,SNR=14						
DBIC				SKPbc	SKPbc	12 56 50.1	-3.0
	comp=Z,82nm,0.8s,baz=41,slow=2.8,SNR=13						
PLCA	Paso Flores	142.16	133	PKhKP	PKPpre	12 53 27.2	
	comp=Z,9.4nm,0.7s,baz=143,slow=0.8,SNR=40						
PLCA				SKPbc	SKPbc	12 56 52.0	-2.3
	comp=Z,19nm,0.8s,baz=230,slow=3.8,SNR=8.7						
BO01	Tunca	143.89	123	PKPdf	PKPbc	12 53 32.2	+0.1
BO02	Sierra Bellavi	144.02	123	PKPdf	PKPbc	12 53 32.9	+0.3
CO06	Fray Jorge	144.25	116		PKPab	12 53 32.9	-0.1
HOPE	Hope Point	144.81	178	PKIKP	PKPab	12 53 33.9	-0.3
TA01	Diego Aracena	146.12	99		PKPdf	12 53 38.6	+0.4
AROD	Rodeo	146.18	116	i P	PKPab	12 53 40.8	+0.1
BOAV	Boa Vista	146.43	53	eP	PKPbc	12 53 39.8	-0.7
ACCO	Cerro Coronel	146.44	117	i P	PKPbc	12 53 40.8	+0.3
ACDV	Cuesta del Vie	146.48	116	i P	PKPab	12 53 41.1	-0.5
GO02	Mina Guanaco	146.69	107	i P	PKPdf	12 53 40.2	+0.7
AC02	Maricunga	146.97	110	i P	PKPbc	12 53 43.0	+0.6
VCA	Vinchina	147.52	114	i P	PKPbc	12 53 43.5	+0.1
LPAZ	La Paz	147.55	91	PKPbc	PKPdf	12 53 41.8	+0.4
	comp=Z,32nm,0.8s,baz=297,slow=1.6,SNR=30						
LPAZ	La Paz	147.55	91	eP	PKPdf	12 53 40.7	-0.8
ETMB	Extrema	147.68	78	eP	PKPdf	12 53 41.1	+0.1
AVFE	Valle Fertil	147.78	117	i P	PKPdf	12 53 42.1	+1.3
ACHE	Chepes	148.32	119	⇑iP	PKPdf	12 53 43.1	+1.3
ACLC	CERRO LA CRUZ	148.47	115	i P	PKPdf	12 53 43.1	+1.0
APLL	PUNTA DE LOS L	148.62	117	i P	PKPdf	12 53 43.1	+1.0
TRQA	Tornquist	149.29	134	PKHKP	PKPbc	12 53 45.0	-2.4
MACA	Manacapuru-AM	149.63	62	eP	PKPdf	12 53 44.6	+0.4
CYA	Choya	149.66	114	i P	PKPbc	12 53 46.8	-1.9
CYA				i P	PKiKP	12 53 49.1	-0.5
SALTA		149.70	106	i P	PKPdf	12 53 46.8	+2.1
FSA	Cafayete	149.86	109	i P	PKiKP	12 53 50.8	+0.5
SLA	San Lorenzo	150.42	107	i P	PKiKP	12 53 51.8	+0.3
ASTB	Santa Barbara	151.44	105	⇓iP	PKPdf	12 53 42.8	-4.1
VILB	Vilhena	154.26	80	eP	PKPdf	12 53 51.2	+0.1
ITTB	Itaituba	154.37	58	eP	PKPdf	12 53 52.1	+0.8
PSAL	Palomas, Salto	155.69	124	eP	PKPdf	12 53 52.0	-0.6
PTLB	Pontes e Lacer	155.89	85	eP	PKPdf	12 53 50.9	-2.2
NPGB	Novo Progresso	156.18	63	eP	PKPdf	12 53 53.9	+0.2
TBOT	Tacuaremb	156.72	127	eP	PKPdf	12 53 54.3	+0.5
PDRB	Porto dos Gac	157.03	74	eP	PKPdf	12 53 53.1	-1.6
CPUP	Villa Florida	157.46	113	PKP	PKPdf	12 53 54.5	-0.5
	comp=Z,3.8nm,0.9s,baz=23,slow=6.8,SNR=3.7						
CPUP				PKPab	PKPab	12 54 27.4	0.0
	comp=Z,32nm,1.0s,baz=269,slow=6.1,SNR=15						
CPUP				pPKPab	pPKPab	12 55 08.8	+3.6
	comp=Z,51nm,1.0s,baz=264,slow=5.5,SNR=9.7						
MURT	Porto Murtinho	157.87	101	eP	PKPdf	12 53 55.4	-0.2
PLTB	Pedras Altas	158.41	130	eP	PKPdf	12 53 56.0	0.0
TMAB	Tom-Au,PA,Br	158.51	41	eP	PKPdf	12 53 54.9	-1.8
BDQN	Bodoquena, MS	158.70	97	eP	PKPdf	12 53 56.4	-0.2
CPSB	Cacapava Do Su	159.21	127	eP	PKPdf	12 53 57.6	+0.6
SALV	Santo Antonio	159.22	85	eP	PKPdf	12 53 57.6	+0.3
AQDB	Aquidauana	159.68	98	eP	PKPdf	12 53 58.8	+1.0
SNDB	Serra Nova Dou	162.06	69	eP	PKPdf	12 54 01.0	+0.5
ARAG	Araguaiana, MT	162.83	81	eP	PKPdf	12 53 59.8	-1.4
SMTB	Santa Maria do	163.50	54	eP	PKPdf	12 54 01.9	-0.1
BDFB	Brasilia	166.34	78	PKP	PKPdf	12 54 05.2	+0.8
	comp=Z,6.3nm,1.0s,baz=211,slow=5.4,SNR=4.4						
BDFB				pPKPab	PKPab	12 55 04.9	-1.8
	comp=Z,4.6nm,0.8s,baz=184,slow=14,SNR=3.4						
BDFB				pPKPab	pPKPab	12 55 48.2	+3.7
	comp=Z,15nm,1.1s,baz=243,slow=2.1,SNR=2.8						
CMC01	Camacan, BA	173.69	55	eP	PKPdf	12 54 08.6	+0.1

*BUL **12** 13:09:23.8±1.1, 18°.08S×26°.34E, h10km, MD3.5*
*BGSI **12** 13:09:29.6±1.4, 18°.28S×26°.26E, h0km±97km, ML2.9*
ISC 12 13:09:26.8±1.4, 18°.36S±0°.08×26°.31E±0°.06, h10km, n9,
σ2°03/16, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSANE	Kasane	1.23	297	i P			Pn	13 09 49.3	-0.9
KSANE				i S			Sg	13 10 06.0	-0.5
KSANE				IAML				13 10 14.4	
	comp=N,1μm,0.2s								
BLWY	Bulawayo	2.80	130	i P			Pn	13 10 10.4	-1.4
BLWY				i S			Sn	13 10 46.2	+0.4
BROLN	Tlhalogang	2.89	161	i P			Pb	13 10 17.1	-1.4
BROLN				IAML				13 11 01.7	
	comp=E,82nm,0.8s								
MATP	Matopo	2.91	135	i P			Pn	13 10 13.0	-0.4
MATP				i S			Sn	13 10 47.6	-0.8
LPHEP	Lephephe	4.99	185	i P			Pn	13 10 44.5	+2.5
LPHEP				i S			Sn	13 11 40.3	+0.5
LPHEP				IAML				13 12 12.3	
	comp=E,15nm,1.5s								
KDWAN	Kaudwane	5.23	197	i P			Pn	13 10 47.4	+2.2
KDWAN				i S			Sn	13 11 45.6	0.0
KDWAN				IAML				13 12 30.4	
	comp=E,20nm,0.6s								
LBTB	Lobatse	6.65	186	i P			Pn	13 11 05.1	+0.3
LBTB				i S			Sn	13 12 18.4	-2.3
MOPA	Mopani	6.99	138	i P			Pn	13 11 12.6	+3.2
MOPA				i S			Sn	13 12 33.2	+4.3
BOSA	Boshof	10.25	185	i P			Pn	13 11 52.7	-1.4
BOSA				i S			Sn	13 13 39.7	-10

WEL 12 13:18:41.1±1.5, 34°S±17°×17°9W±1°8, h195km±52km,
M3.8/8, mB4.0/1, ML4.0/6, MLv3.8/8, Mw(mB)3.0/1, Error
ellipse: s-maj=23.7km s-min=22.5km az=86.7,
confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAZ	Te Kaha	4.54	209	P			Pn	13 19 49.1	-0.3
HAZ				S			Sn	13 20 44.6	+1.3
PUZ	Puketiti	4.65	203	P			Pn	13 19 51.1	+0.3
PUZ				S			Sn	13 20 46.2	+0.5
RUGZ	Raukumara Rang	4.76	209	P			Pn	13 19 52.6	+0.2
RUGZ				S			Sn	13 20 47.6	-1.0
TWGZ	Tauwhareparae	4.84	205	P			Pn	13 19 52.5	-0.7
TWGZ				S			Sn	13 20 51.4	+1.3
CNGZ	Carnagh Statio	5.04	202	P			Pn	13 19 55.6	-0.2
MWZ	Matawai	5.14	208	P			Pn	13 19 57.1	0.0
MWZ				S			Sn	13 20 57.2	0.0
URZ	Urewera	5.25	211	P			Pn	13 19 57.1	-1.4
URZ				S			Sn	13 20 57.6	-2.0
RIGZ	Rimuhau	5.39	204	P			Pn	13 19 59.9	-0.3
RIGZ				S			Sn	13 21 04.6	+1.8
MUGZ	Murupara	5.58	212	P			Pn	13 20 00.8	-1.9
MUGZ				S			Sn	13 21 07.9	+0.6
SNGZ	Shannon Statio	5.60	207	P			Pn	13 20 03.8	+0.7
SNGZ				S			Sn	13 21 09.1	+1.2
RAHZ	Arahi	5.82	208	P			Pn	13 20 06.5	+0.6
OUZ	Omahuta	5.93	254	P			Pn	13 20 08.4	+1.0
BKZ	Black Stump Fm	6.27	210	P			Pn	13 20 13.0	+1.2
BKZ				S			Sn	13 21 23.3	-0.3

*KRSC **12** 13:30:44.6±4.4, 60°.45N×171°.15E, h18km±71km, Ml4.1*
*IDC **12** 13:30:50.4±2.0, 60°.80N×170°.37E, h0km, mb3.4/4,*
mbtmp3.5/6, ML2.9/2, Error ellipse: s-maj=56.8km
s-min=23.7km az=166.0
ISC 12 13:30:50.5±1.1, 60°.57N±0°.10×170°.48E±0°.09, h10km, n11,
σ1°06/11, mb3.4/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TILK	Tilichiki	2.15	269	eP			Pn	13 31 26.6	+0.2
TILK				eS			Sb	13 31 56.2	+0.2
KMSK	Kamenskaya	2.80	315	eP			Pn	13 31 35.2	0.0
OSSR	Ossora	3.96	254	eP			Pn	13 31 48.9	-2.3
PALN	Palana	5.51	259	eP			Pn	13 32 18.5	+6.1
KBTR	Krutoberegovo	5.94	226	eP			Pn	13 32 18.3	-0.1
KBTR				eS			Sn	13 33 28.1	+1.6
PETK	Petropavlovsk-	10.23	229	Pn			Pn	13 33 21.5	+4.3
	0.1nm,0.3s,baz=60,slow=18,SNR=4.8								
	5.0nm,1.0s								
ILAR	Eielson Array	19.72	59	P			Pn	13 35 20.8	-0.5
	0.1nm,0.3s,baz=262,slow=9.0,SNR=15								
	0.9nm,0.7s								
YKA	Yellowknife Ar	33.92	53	P			P	13 37 33.7	+0.5
	0.2nm,0.5s,baz=302,slow=8.7,SNR=5.9								
	0.2nm,0.5s								
KURBB	Kurchatov Arra	48.73	302	P			P	13 39 34.4	-0.4
	0.3nm,0.6s,baz=42,slow=7.9,SNR=4.8								
	0.3nm,0.6s								
MKAR	Makanchi Array	50.02	296	P			P	13 39 44.8	+0.1
	0.1nm,0.5s,baz=40,slow=7.8,SNR=1.9								
	0.1nm,0.5s								
BVAR	Borovoye Array	50.16	309	P			P	13 39 45.5	-0.1
	0.6nm,0.5s,baz=38,slow=7.5,SNR=4.1								
	0.6nm,0.5s								

AUST 12 13:53:03.4±0.2, 38°S±3°×14°6E±°, h10km, mb4.0/3,
ML3.2/5, Error ellipse: s-maj=6.4km s-min=3.7km
az=173.8, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AUSSC	Sale College,	0.66	121	P			Pg	13 53 15.9	-0.2
TOO	Toolangi	0.72	285	P			Pg	13 53 16.8	-0.4
TOO				S			Sg	13 53 26.3	-0.3
GVL	Greenvale	1.17	277	P			Pb	13 53 24.9	-0.7
GVL				S			Sg	13 53 41.1	+0.1
GEXS	Deakin Univers	1.69	254	P			Pb	13 53 34.0	-0.7
GEXS				S			Sb	13 53 56.0	0.0
BRAT	Ballarat	1.94	275	P			Pn	13 53 36.3	0.0
AUMTC	Mt Clear Colle	1.98	274	P			Pn	13 53 37.0	+0.2
AUMAG	Moama Anglican	2.10	322	P			Pn	13 53 38.9	+0.3
AUSMG	Snowy Mountain	2.24	54	P			Pn	13 53 40.8	+0.2
MILA	Mila	2.33	73	P			Pn	13 53 42.0	+0.2
AUMTS	Mt Stromlo	3.23	42	P			Pn	13 53 54.2	0.0
AUBRN	Burnie High Sc	3.30	187	P			Pn	13 53 55.0	0.0
AUSIS	Research Schoo	3.32	43	P			Pn	13 53 55.5	+0.1
CNB	Canberra Magne	3.44	46	P			Pn	13 53 57.3	+0.2
ARPS	Mount Arapiles	3.74	284	P			Pn	13 54 01.0	-0.2
ARPS	Mount Arapiles	3.74	284	S			Sn	13 54 45.8	+0.5
DLN	Dalton (NSW)	3.79	38	P			Pn	13 54 02.2	+0.4
YNG	Young	3.83	26	P			Pn	13 53 57.6	-4.8
AUUHS	Ulladulla High	4.08	55	P			Pn	13 54 05.8	0.0
MOO	Moorlands	4.72	173	P			Pn	13 54 14.0	-0.6
MOO	Moorlands	4.72	173	S			Sn	13 55 06.3	-3.1
CMSA	Cobar Meteorol	6.23	355	P			Pn	13 54 35.3	-0.2
CMSA	Cobar Meteorol	6.23	355	S			Sn	13 55 41.8	-4.9
SDAN	Sedan	6.54	298	P			Pn	13 54 39.7	0.0
	comp=Z,0.0nmcomp=Z,7.2nm,1.2s								
STKA	Stephens Creek	7.06	325	P			Pn	13 54 46.2	-0.6
STKA	Stephens Creek	7.06	325	S			Sn	13 56 01.6	-5.4
HTT	Hallett	7.44	303	P			Pn	13 54 51.5	-0.6
	comp=Z,0.1nmcomp=Z,17nm,1.2s								
AUJCS	Jamestown Cent	7.79	303	P			Pn	13 54 56.5	-0.3
	comp=Z,0.2nmcomp=Z,31nm,2.8s								
YAPP	Yappala Statio	8.85	309	P			Pn	13 55 11.1	-0.2

KRSC 12 13:54:47.4±1.8, 60°.47N×171°.03E, h15km±30km, MI3.8,
Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TILK	Tilichiki	2.42	272	eP			Pn	13 55 28.0	+1.7
TILK				eS			Sb	13 55 58.2	-2.0
KMSK	Kamenskaya	3.06	313	eP			Pn	13 55 38.0	+2.9
KBTR	Krutoberegovo	6.08	229	eP			Pn	13 56 20.2	+3.6
KMNR	Kamenistaya	7.41	235	eP			Pn	13 56 41.0	+6.0

*UPA **12** 14:00:40.5±1.1, 9°.21N×83°.85W, h6km±4km, MW4.2*
*UCR **12** 14:00:41.3±1.2, 9°.18N×83°.87W, h28km±3km, MW4.1*
ISC 12 14:00:40.4±1.2, 9°.16N±0°.03×83°.89W±0°.03, h14km±10km,
n60, σ0°58/80, 4C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZELE	Perez Zeledon	0.28	40	eP			Pb	14 00 47.9	+0.7
ZELE				eS			Sb	14 00 53.2	+1.4
LLNJ	Naranjito	0.38	326	eP			Pb	14 00 49.1	+0.2
LLNJ				eS			Sb	14 00 55.8	+1.2
RAZU	San Marcos de	0.52	345	eP			Pb	14 00 51.6	+0.2
RAZU				eS			Sb	14 00 59.7	+1.0
PISJ	San Jernim	0.53	334	⇑eP			Pb	14 00 51.5	0.0
PISJ				eS			Sb	14 00 59.9	+0.9
BURE	Buenos Aires	0.54	88	eP			Pb	14 00 51.6	-0.1
BURE				eS			Sb	14 00 59.8	+0.4
PICV	PH. Pirrs	0.56	327	eP			Pb	14 00 51.9	0.0
PICV				eS			Sb	14 01 00.7	+0.9
ABE2	San Pablo	0.57	343	⇑eP			Pb	14 00 52.4	+0.1
LCR2	La Lucha 2	0.59	349	⇓iP			Pg	14 00 52.3	+0.1
DRK0	Durika	0.64	81	eP			Pb	14 00 53.2	-0.3
REPA	Paraso	0.67	1	⇓eP			Pb	14 00 53.6	-0.3
ACOS	Acosta	0.69	337	eP			Pg	14 00 53.9	-0.1
EDP2	Potrero Grande	0.71	101	eP			Pg	14 00 54.3	-0.1
TRIO	Tres Rios	0.75	352	eP			Pg	14 00 54.7	-0.4
AMPA	Desamparados	0.75	347	eP			Pg	14 00 54.4	-0.7
RAFA	San Farael, Vo	0.80	5	⇓eP			Pg	14 00 55.8	-0.2
VERB	Verbena	0.80	14	eP			Pg	14 00 55.9	-0.2
CORON	Coronado	0.82	352	eP			Pb	14 00 56.2	-0.3
VICA	Volcano Irazu	0.82	3	⇓eP			Pg	14 00 56.3	-0.2
JIME	Puerto Jimenez	0.83	138	eP			Pb	14 00 57.1	+0.5
VTCV	VTCV, Calle Va	0.83	11	⇓iP			Pb	14 00 56.4	-0.4
RVSTA	Santa Teresita	0.84	16	⇑iP			Pg	14 00 56.7	-0.2
VTLA	Turrialba Volc	0.84	7	⇓iP			Pg	14 00 56.8	-0.1
PTJ1	Puerto Jimnez	0.85	137	eP			Pb	14 00 56.7	-0.2
CVTQ	Turrialba Volc	0.85	8	⇓iP			Pg	14 00 56.8	-0.2
CVTV	Tajo	0.85	9	⇓iP			Pg	14 00 57.0	0.0
CVIMO	Finca Echandi	0.86	356	⇓iP			Pb	14 00 56.9	-0.4
VTR0	Volcan Turrial	0.86	8	⇓iP			Pg	14 00 57.1	-0.1
CVTR	Volcan Turrial	0.86	8	⇓iP			Pb	14 00 57.1	-0.4
EDAD	Golfito	0.87	125	eP			Pb	14 00 56.9	-0.5
PIRO	Carate, Puerto	0.93	144	⇓eP			Pb	14 00 57.7	-0.5
VITO	San Vito	0.97	110	eP			Pn	14 01 00.2	+0.6
VBV1	V. Barva	0.97	348	⇓eP			Pb	14 00 58.8	-0.5
CVTG	V. Turrialba,	0.99	6	⇓iP			Pb	14 00 59.0	-0.3
RVLA	Villa Bonita	0.99	17	⇓eP			Pg	14 00 59.1	-0.4
ALCO	Alturas Coton,	1.06	101	⇓eP			Pb	14 00 59.3	-1.3
SRA1	San Ramn	1.09	328	eP			Pb	14 01 00.5	-0.6
MLIR3	Monte Lirio, C	1.11	109	eP			Pb	14 01 01.5	0.0
MLIR3				eS			Sg	14 01 17.1	+0.7
CARI	Cariari	1.21	7	eP			Pb	14 01 02.9	-0.2
BRU2	Volcan	1.23	107	eP			Pn	14 01 02.4	-1.0
BRU2	Volcan	1.23	107	eP			Pn	14 01 02.8	-0.6
BRU2				eS			Sn	14 01 19.8	-0.1
CBL1	Cabuya	1.26	290	eP			Pn	14 01 02.1	-1.6
BC3P	Paso Ancho	1.31	105	eP			Pn	14 01 03.7	-0.7
BC3P				eS			Sn	14 01 21.8	0.0
ITAL	Pital	1.34	344	eP			Pn	14 01 04.2	-0.5
PTPM	Petroterminale	1.38	134	eP			Pn	14 01 05.7	+0.5
PTPM				eS			Sb	14 01 24.2	+0.8
SOCE	Pocosol	1.41	329	eP			Pn	14 01 06.1	+0.4
CNI2	El Empalme, Bo	1.42	79	eP			Pn	14 01 05.1	-0.7
CNI2				eS			Sn	14 01 22.7	-1.6
PTAR3	Potrerillos Ar	1.45	109	eP			Pb	14 01 07.0	-0.3
PTAR3				eS			Sb	14 01 26.1	+0.5
LIMO3	Limones	1.46	136	eP			Pn	14 01 06.8	+0.5
LIMO3				eS			Sn	14 01 25.6	+0.4
MTEVE	Monteverde	1.48	321	eP			Pn	14 01 07.1	+0.3
VACR	Volcan Arenal	1.52	329	eP			Pb	14 01 07.9	-0.5
ARE1	Arenal 1	1.53	328	eP			Pb	14 01 08.5	-0.2
JUNT	Juntas	1.54	317	eP			Pn	14 01 07.2	-0.2
JTS	Las Juntas de	1.54	317	⇓iP			Pn	14 01 07.3	-0.2
JTS				eS			Sb	14 01 27.9	-0.2
DVD	David	1.59	117	eP			Pn	14 01 08.0	-0.1
DVD				eS			Sb	14 01 29.7	+0.2
PSOM3	Paja de Sombre	1.62	107	eP			Pn	14 01 08.4	-0.1
PSOM3				eS			Sb	14 01 29.8	-0.6
PEDE3	Pedregal, Chir	1.64	118	eP			Pn	14 01 08.6	-0.2
PEDE3				eS			Sb	14 01 30.3	-0.6
CHGR2	Aguacate	1.73	97	eP			Pn	14 01 09.6	-0.6
CHGR2				eS			Sn	14 01 31.5	-0.5
GMAL	Guarumal, Vera	2.97	118	eP			Pn	14 01 27.2	+0.1
GMAL				eS			Sn	14 02 03.5	+0.9
CHIT3	Chitre	3.63	109	eP			Pn	14 01 37.0	+0.8
AZU	Azuero	3.82	111	eP			Pn	14 01 38.7	-0.2
AZU				eS			Sn	14 02 24.1	+0.5

*IDC **12** 14:08:54.7±14.0, 22°.38S×178°.78W, h288km±93km,*
mb3.1/4, mbtmp3.8/5, MS3.7/1, Error ellipse:
s-maj=195.4km s-min=30.7km az=140.0
ISC 12 14:08:56.1±1.9, 22°.2S±0°.2×178°.8W±0°.3, h300km, n6,
σ1°36/6, mb3.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.37	326	P			Pn	14 10 18.0	-0.2
	13nm,0.8s,baz=142,slow=11,SNR=7.4								
ASAR	Alice Springs	43.41	259	P			P	14 16 29.1	-1.0
	0.7nm,0.8s,baz=93,slow=7.3,SNR=9.6								
	0.7nm,0.8s								
WRA	Warramunga Arr	43.64	264	P			P	14 16 31.5	-0.5
	0.9nm,0.6s,baz=96,slow=8.4,SNR=13								
WRA				LR			LR	14 34 16.0	
	comp=Z,94nm,20.8s,baz=44,slow=35								
	0.9nm,0.6s								
CMAR	Chiang Mai Arr	89.99	290	P			P	14 21 24.3	+2.0
	0.4nm,0.3s,baz=128,slow=4.9,SNR=4.7								
	0.4nm,0.3s								
ILAR	Eielson Array	90.18	13	P			P	14 21 21.6	-0.6
	0.2nm,0.7s,baz=207,slow=5.0,SNR=2.1								
	0.2nm,0.7s								
AKASG	Malin Array Be	144.14	329	PKP			PKPdf	14 27 55.7	-0.3
	0.5nm,0.4s,baz=50,slow=2.4,SNR=2.6								

SNET 12 14:10:47.6±1.2, 12°.48N×87°.95W, h15km±999km, ML2.3,
Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.80	8	eP			Pg	14 11 01.9	-1.3
CNCH				eS			Sb	14 11 14.8	+0.7
LCND	La Caada	0.83	4	IAML				14 11 11.3	
	comp=Z,113nm,0.1s								
PACA	Pacayal	1.05	340	eP			Pb	14 11 07.1	-0.5
PACA				eS			Sg	14 11 22.0	+0.2
TECA	Tecapa	1.15	332	eP			Pb	14 11 09.0	-0.3
TECA				eS			Sb	14 11 24.3	+0.2

*SNET **12** 14:11:28.5±0.9, 13°.93N×87°.17W, h15km±8km, ML2.8*
CATAC 12 14:11:26.8±0.4, 12°N±3°×8°8W±°, h41km±10km, M3.1/11,
MLv3.1/11, Error ellipse: s-maj=7.1km s-min=2.8km
az=31.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.64	52	S			Sn	14 11 50.6	+1.8
CRIN	San Cristobal	0.64	52	P			Pn	14 11 41.1

CO01			*i* S		Sn	14 13 42.9	-2.7
CO03	**El Pedregal**	**1.34 150**			**Pn**	**14 13 29.8**	**-1.3**
CO03			IAML			14 13 46.5	
comp=E,4μm,0.4s							
CO03			IAML			14 13 46.7	
comp=N,4μm,0.1s							
CO03	**El Pedregal**	**1.34 150**	*e*P		**Pn**	**14 13 29.9**	**-1.2**
CO03			*e*S		**Sn**	**14 13 45.9**	**-2.0**
CO03			IAML			14 13 46.7	
comp=Z,2μm,0.3s							
CO03	**El Pedregal**	**1.34 150**	‖*i*P		**Pn**	**14 13 29.9**	**-1.3**
CO03			*i* S		**Sn**	**14 13 45.8**	**-2.1**
AC04	**Llanos de Chal**	**1.51 14**	Pn		**Pn**	**14 13 33.1**	**-0.3**
AC04			IAML			14 13 57.0	
comp=E,2μm,0.8s							
AC04	**Llanos de Chal**	**1.51 14**	*e*P		**Pn**	**14 13 33.2**	**-0.2**
AC04			*e*S		**Sn**	**14 13 51.6**	**-0.3**
AC04			IAML			14 13 55.8	
comp=Z,670nm,0.3s							
AC04	**Llanos de Chal**	**1.51 14**	*e*P		**Pn**	**14 13 33.1**	**-0.3**
AC04			*e*S		**Sn**	**14 13 52.2**	**+0.2**
AROD	**Rodeo**	**1.80 106**	*e*P		**Pn**	**14 13 37.9**	**+0.2**
AROD			*e*S		**Sn**	**14 13 59.6**	**+0.1**
ACDV	**Cuesta del Vie**	**2.10 104**	*e*P		**Pn**	**14 13 43.0**	**+1.4**
ACDV			*e*S		**Sn**	**14 14 06.9**	**+0.2**
ACDV			IAML			14 14 09.9	
comp=Z,1μm,0.6s							
ACCO	**Cerro Coronel**	**2.27 114**	*e*P		**Pn**	**14 13 45.2**	**+1.1**
ACCO			*e*S		**Sn**	**14 14 13.7**	**+2.6**
AGUA	**GUANDACOL**	**2.61 86**	*e*P		**Pn**	**14 13 50.2**	**+1.8**
AGUA			*e*S		**Sn**	**14 14 22.5**	**+3.6**
AGUA			IAML			14 14 30.8	
comp=Z,330nm,0.2s							
RTLS	**Leoncito**	**2.82 139**	*e*P		**Pn**	**14 13 53.5**	**+1.9**
RTLS			IAML			14 14 37.0	
comp=Z,1μm,0.6s							
VA06	**Catapilco**	**2.88 177**	Pn		**Pn**	**14 13 48.7**	**-3.4**
VCA	**Vinchina**	**3.01 73**	*e*P		**Pn**	**14 13 56.5**	**+2.4**
VCA			IAML			14 14 43.0	
comp=Z,558nm,0.3s							
SJA	**San Juan**	**3.11 127**	*e*P		Pn	14 14 02.9	+7.5
SJA			*e*S		**Sn**	**14 14 29.6**	**-1.8**
SJA			IAML			14 14 46.1	
comp=Z,161nm,0.6s							
VA03	**San Esteban**	**3.17 166**			**Pn**	**14 13 56.4**	**+0.2**
VA03	**San Esteban**	**3.17 166**	*e*P		**Pn**	**14 13 57.0**	**+0.8**
VA03			IAML			14 14 52.5	
comp=Z,308nm,0.3s							
VA03	**San Esteban**	**3.17 166**	*e*P		**Pn**	**14 13 56.7**	**+0.5**
VA03			*e*S		**Sn**	**14 14 31.2**	**-1.6**
VA03			IAML			14 14 47.6	
comp=N,1μm,0.6s							
ROCH	**El Roble**	**3.30 173**⇑	*e*P		**Pn**	**14 13 58.8**	**+0.7**
ROCH			IAML			14 14 51.8	
comp=N,343nm,0.5s							
ROC1	**El Roble**	**3.31 173**	*e*P		**Pn**	**14 13 59.1**	**+0.9**
ROC1			*e*S		**Sn**	**14 14 38.1**	**+1.7**
VA01	**Torpederas**	**3.33 183**			**Pn**	**14 13 58.2**	**-0.1**
VA01			IAML			14 14 49.6	
comp=E,300nm,0.8s							
AC02	**Maricunga**	**3.51 37**	Pn		**Pn**	**14 14 01.5**	**+0.3**
AC02			IAML			14 14 48.6	
comp=E,332nm,0.8s							
AC02			IAML			14 15 05.0	
comp=N,224nm,0.4s							
AC02	**Maricunga**	**3.51 37**	*e*P		**Pn**	**14 14 01.9**	**+0.7**
AC02			IAML			14 15 03.7	
comp=Z,137nm,1.1s							
AC02	**Maricunga**	**3.51 37**	*e*P		**Pn**	**14 14 01.3**	**+0.1**
AC02			*e*S		**Sn**	**14 14 40.7**	**-1.1**
AC02			IAML			14 15 05.8	
comp=N,217nm,0.5s							
PEL	**Peldehue**	**3.52 169**			**Pn**	**14 14 01.6**	**+0.7**
PEL			IAML			14 14 54.7	
comp=N,381nm,0.5s							
PEL			IAML			14 15 00.5	
comp=E,285nm,0.6s							
PEL	**Peldehue**	**3.52 169**	*e*P		**Pn**	**14 14 00.1**	**-0.8**
PEL			*e*S		**Sn**	**14 14 40.4**	**-0.9**
PEL			IAML			14 14 54.6	
comp=N,393nm,0.5s							
MT02	**Curacav**	**3.58 175**	Pn		**Pn**	**14 14 02.0**	**+0.3**
MT02	**Curacav**	**3.58 175**	*e*P		**Pn**	**14 14 02.1**	**+0.4**
MT02			IAML			14 15 00.7	
comp=Z,139nm,0.5s							
MT02	**Curacav**	**3.58 175**	*e*P		**Pn**	**14 14 01.6**	**0.0**
MT02			*e*S		**Sn**	**14 14 41.0**	**-1.7**
AC01	**Pan de Azucar**	**3.60 13**	Pn		**Pn**	**14 14 00.0**	**-2.1**
AC01	**Pan de Azucar**	**3.60 13**	*e*P		**Pn**	**14 14 00.3**	**-1.7**
AC01			IAML			14 15 03.0	
comp=Z,88nm,0.8s							
ASAL	**Salagasta**	**3.68 143**	*e*P		**Pn**	**14 14 04.9**	**+1.7**
ASAL			IAML			14 15 09.4	
comp=Z,122nm,2.1s							
MT05	**Renca**	**3.75 171**	Pn		**Pn**	**14 14 05.1**	**+1.0**
MT05	**Renca**	**3.75 171**	*e*P		**Pn**	**14 14 05.5**	**+1.3**
MT05			*e*S		**Sn**	**14 14 51.7**	**+4.6**
MT05			IAML			14 15 10.2	
comp=Z,220nm,0.5s							
MT05	**Renca**	**3.75 171**	*e*P		**Pn**	**14 14 03.2**	**-0.9**
MT05			*e*S		**Sn**	**14 14 45.3**	**-1.8**
FCH	**Farellones**	**3.77 165**	*e*P		**Pn**	**14 14 04.1**	**-0.5**
MT16	**CCHEN**	**3.82 168**			**Pn**	**14 14 05.5**	**+0.4**
MT16			IAML			14 15 09.0	
comp=E,231nm,0.8s							
MT04	**Ro Olivares**	**3.88 163**	*e*P		**Pn**	**14 14 08.3**	**+2.2**
MT04			*e*S		**Sn**	**14 14 51.1**	**+0.6**
MT04			IAML			14 15 12.7	
comp=Z,185nm,0.6s							
MT03	**Universidad Ad**	**3.89 168**			**Pn**	**14 14 05.2**	**-0.9**
MT03	**Universidad Ad**	**3.89 168**	*e*P		**Pn**	**14 14 08.0**	**+1.9**
MT03			*e*S		**Sn**	**14 14 51.5**	**+1.1**
MT03			IAML			14 15 12.5	
comp=Z,337nm,0.4s							
AAGR	**Agrelo**	**4.08 147**	*e*P		**Pn**	**14 14 10.5**	**+1.8**
AAGR			*e*S		Sn	14 15 03.5	+8.3
AAGR			IAML			14 15 30.9	
comp=Z,510nm,0.1s							
MT09	**Talagante**	**4.10 174**			**Pn**	**14 14 09.6**	**+0.6**
MT09			IAML			14 15 12.8	
comp=N,336nm,0.5s							
MT01	**Popeta**	**4.17 177**	Pn		**Pn**	**14 14 10.0**	**+0.1**
MT01			IAML			14 15 12.2	
comp=N,271nm,0.8s							
MT01			IAML			14 15 12.5	
comp=E,285nm,0.5s							
MT01	**Popeta**	**4.17 177**	*e*P		**Pn**	**14 14 10.5**	**+0.6**
MT01			IAML			14 15 19.7	
comp=Z,124nm,0.6s							
MT13	**San Alfonso**	**4.17 166**			**Pn**	**14 14 09.8**	**-0.2**
MT13			IAML			14 15 16.4	
comp=N,323nm,0.5s							
LMEL	**Las Melosas**	**4.29 166**	*e*P		**Pn**	**14 14 14.0**	**+2.3**
LMEL			*e*S		**Sn**	**14 15 02.2**	**+1.7**
BO04	**La Punta**	**4.36 170**			**Pn**	**14 14 13.0**	**+0.5**
BO04			IAML			14 15 20.1	
comp=E,265nm,0.6s							
BO04			IAML			14 15 20.4	
comp=N,254nm,0.6s							
BO01	**Tunca**	**4.71 176**	Pn		**Pn**	**14 14 17.5**	**+0.3**
BO01			IAML			14 15 30.7	
comp=N,134nm,0.9s							
BO01			IAML			14 15 32.7	
comp=E,126nm,0.6s							
BO01	**Tunca**	**4.71 176**	*e*P		**Pn**	**14 14 18.4**	**+1.2**
BO01			*e*S		**Sn**	**14 15 13.8**	**+3.3**
BO01			IAML			14 15 33.1	
comp=Z,94nm,0.7s							
GO02	**Mina Guanaco**	**4.80 21**	Pn		**Pn**	**14 14 18.1**	**-0.7**
GO02			IAML			14 15 47.4	
comp=N,212nm,0.7s							
GO02			IAML			14 15 49.5	
comp=E,200nm,1.0s							
GO02	**Mina Guanaco**	**4.80 21**	*e*P		**Pn**	**14 14 18.4**	**-0.4**
GO02			*e*S		Sn	14 15 25.0	+12
PB14	**IPOC Station P**	**5.12 11**	Pn		**Pn**	**14 14 20.3**	**-3.0**
BI02	**San Fabin de**	**6.96 179**	Pn		**Pn**	**14 14 47.5**	**-0.7**
TRQA	**Tornquist**	**11.48 139**	Pn		**Pn**	**14 15 46.8**	**-3.2**

WEL 12 14:16:39.9±10.0, 33°S±71°×17°9W±6°5, h200km, M4.3/9, mB4.8/5, MLv4.7/7, Mw(mB)4.0/9, Error ellipse: s-maj=120.9km s-min=34.6km az=42.3, confirmed,

South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**5.34**	**237**	P	Pn	14 17 58.4	-0.1
MWZ	**Matawai**	**5.63**	**209**	P	Pn	14 18 02.0	-0.4
URZ	**Urewera**	**5.75**	**212**	P	Pn	14 18 04.6	+0.8
KNZ	**Kokohu**	**6.18**	**205**	P	Pn	14 18 09.5	+0.1
NGZ	**Ngauruhoe**	**7.19**	**216**	P	Pn	14 18 22.3	-0.3
TUVZ	**Tukino**	**7.23**	**215**	P	Pn	14 18 25.3	+2.1
FWVZ	**Far West T-bar**	**7.27**	**215**	P	Pn	14 18 23.6	-0.2
WHVZ	**Whangaehu Hut**	**7.28**	**215**	P	Pn	14 18 22.5	-1.3
MAVZ	**Matarangi**	**7.28**	**215**	P	Pn	14 18 22.9	-1.1
WNVZ	**Wahianoa**	**7.31**	**215**	P	Pn	14 18 24.0	-0.2
TRVZ	**Turoa**	**7.31**	**215**	P	Pn	14 18 23.0	-1.3
PKVZ	**Pokaka**	**7.40**	**216**	P	Pn	14 18 26.0	+0.7
TSZ	**Takapari Road**	**7.74**	**210**	P	Pn	14 18 29.8	+0.1
NEZ	**North Egmont**	**8.04**	**222**	P	Pn	14 18 32.3	-1.4
BFZ	**Birch Farm**	**8.16**	**206**	P	Pn	14 18 35.0	-0.2
MRZ	**Mangatainoka R**	**8.40**	**209**	P	Pn	14 18 37.4	-0.9
OXZ	**Oxford**	**12.11**	**213**	P	Pn	14 19 26.4	+0.4

*ATH **12** 14:22:03.9, 37°57N×20°35E, h5km±1km, ML3.4/24, Manual Solution by A.Agalos First location: 2019/02/12 14:22:52, This location: 2019/02/12 15:09:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **12** 14:22:04.5, 37°63N×20°39E, h14km, ML3.5/4, Error ellipse: s-maj=1.3km s-min=0.4km az=48.0*
*IDC **12** 14:22:08.3±3.3, 38°29N×21°29E, h0km, mb3.7/9, mbtmp3.7/11, ML3.7/1, Error ellipse: s-maj=67.5km s-min=19.5km az=47.0*
ISC 12 14:22:04.6±1.3, 37°62N±0°04×20°36E±0°04, h14km±7km, n74, σ1°11/102, mb3.8/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.35**	**49**	P	**Pg**	**14 22 11.6**	**-0.1**
ORTH				S	**Sg**	**14 22 16.5**	**-0.2**
LTHK	**Lithakia**	**0.39**	**76**	P	**Pg**	**14 22 11.8**	**-0.6**
LTHK				S	**Sg**	**14 22 17.5**	**-0.2**
19μm,0.4s							
LTHK	**Lithakia**	**0.39**	**76**	P	**Pg**	**14 22 12.1**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.42**	**61**	P	**Pg**	**14 22 12.9**	**0.0**
KYPS				S	**Sg**	**14 22 18.7**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.53**	**20**	P	**Pg**	**14 22 14.4**	**-0.5**
PSDA				S	**Sg**	**14 22 22.2**	**+0.3**
7μm,0.1s							
PSDA	**Pessada-Kefalo**	**0.53**	**20**	P	**Pb**	**14 22 15.2**	**-0.4**
PSDA				S	**Sb**	**14 22 22.5**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.56**	**35**	P	**Pg**	**14 22 15.0**	**-0.6**
RTZL				S	**Sg**	**14 22 23.1**	**0.0**
2μm,0.3s							
VLS	**Valsamata**	**0.59**	**18**	P	**Pg**	**14 22 15.7**	**-0.4**
DMLN	**Damoulianata-K**	**0.62**	**1**	P	**Pg**	**14 22 16.2**	**-0.5**
DMLN				S	**Sg**	**14 22 25.4**	**+0.5**
6μm,0.3s							
DMLN	**Damoulianata-K**	**0.62**	**1**	P	**Pg**	**14 22 16.7**	**0.0**
DMLN				S	**Sb**	**14 22 26.0**	**+0.2**
SMHA	**Samh**	**0.67**	**20**	P	**Pg**	**14 22 17.6**	**-0.1**
LCHA	**Lechaina**	**0.78**	**66**	P	**Pg**	**14 22 19.4**	**-0.4**
FSK	**Fiskardo**	**0.85**	**11**	P	**Pg**	**14 22 20.4**	**-0.7**
FSK	**Fiskardo**	**0.85**	**11**	P	**Pb**	**14 22 21.2**	**0.0**
FSK				S	**Sb**	**14 22 32.9**	**+0.3**
RLS	**Riolos of Patr**	**0.98**	**63**	P	**Pg**	**14 22 22.8**	**-0.7**
RLS				S	**Sb**	**14 22 36.9**	**+0.8**
AXS	**Araxos**	**0.99**	**54**	P	**Pg**	**14 22 23.1**	**-0.6**
AXS				S	**Sb**	**14 22 37.5**	**+1.1**
EVGI	**Lefkada island**	**1.03**	**13**	P	**Pg**	**14 22 23.3**	**-1.1**
EVGI	**Lefkada island**	**1.03**	**13**	P	**Pg**	**14 22 23.6**	**-0.8**
EVGI				S	**Sb**	**14 22 38.9**	**+1.3**
ZARO	**Zacharo**	**1.03**	**97**	P	**Pg**	**14 22 23.7**	**-0.8**
AMT	**Artemida-Makis**	**1.07**	**94**	P	**Pg**	**14 22 24.9**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.08**	**9**	P	**Pb**	**14 22 25.6**	**+0.6**
DRAG				S	**Sb**	**14 22 40.4**	**+1.5**
DRO	**Drossia**	**1.12**	**72**	P	**Pg**	**14 22 24.6**	**-1.6**
DRO	**Drossia**	**1.12**	**72**	P	**Pg**	**14 22 25.5**	**-0.6**
DRO				S	**Sb**	**14 22 40.8**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.12**	**14**	P	**Pg**	**14 22 24.9**	**-1.4**
LKD2	**Lefkada island**	**1.19**	**11**	P	**Pb**	**14 22 27.4**	**+0.4**
LKD2				S	**Sn**	**14 22 43.7**	**+0.8**
TSLK	**Tsoukalades, L**	**1.23**	**11**	P	**Pn**	**14 22 28.2**	**+0.8**
TSLK				S	**Sn**	**14 22 44.7**	**+1.0**
ITM	**Ithomi**	**1.32**	**109**	P	**Pn**	**14 22 28.6**	**-0.1**
MTHA	**Methoni**	**1.34**	**126**	P	**Pn**	**14 22 28.2**	**-0.6**
PVO	**Paravola**	**1.35**	**42**	P	**Pn**	**14 22 29.9**	**+0.8**
PVO				S	**Sn**	**14 22 48.1**	**+1.3**
EFP	**Efpalio**	**1.46**	**56**	P	**Pn**	**14 22 31.3**	**+0.7**
EFP				S	**Sg**	**14 22 51.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.48**	**73**	P	**Pn**	**14 22 31.6**	**+0.8**
KLV				S	**Sn**	**14 22 51.1**	**+1.1**
ANX	**Ano Chora**	**1.57**	**51**	P	**Pn**	**14 22 32.1**	**0.0**
ANX	**Ano Chora**	**1.57**	**51**	P	**Pn**	**14 22 33.1**	**+1.0**
ANX				S	**Sg**	**14 22 54.3**	**-0.8**
GUR	**Goura**	**1.60**	**78**	P	**Pn**	**14 22 33.4**	**+0.8**
GUR				S	**Sb**	**14 22 54.4**	**+0.3**
KALE	**Kalithea**	**1.60**	**61**	P	**Pn**	**14 22 33.0**	**+0.4**
KALE				S	**Sg**	**14 22 55.0**	**-1.2**
EVR	**Evrytania**	**1.73**	**41**	P	**Pb**	**14 22 36.4**	**+0.3**
EVR				S	**Sb**	**14 22 58.7**	**+1.0**
TETR	**Tetrakomo, Epi**	**1.87**	**22**	P	**Pn**	**14 22 37.8**	**+1.5**
TETR				S	**Sb**	**14 23 02.5**	**+0.8**
DLFA	**Delphi**	**1.89**	**62**	P	**Pn**	**14 22 37.2**	**+0.7**
IGT	**Igoumenitsa**	**1.91**	**359**	P	**Pn**	**14 22 36.0**	**-0.8**
IGT	**Igoumenitsa**	**1.91**	**359**	P	**Pb**	**14 22 38.8**	**-0.4**
IGT				S	**Sb**	**14 23 03.7**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.97**	**44**	P	**Pn**	**14 22 39.1**	**+1.5**
MAKR				S	**Sb**	**14 23 04.5**	**-0.2**
LTK	**Loutraki**	**2.10**	**78**	P	**Pn**	**14 22 40.2**	**+0.8**
LTK				S	**Sn**	**14 23 07.5**	**+2.1**
KEK	**Kerkira**	**2.14**	**348**	P	**Pn**	**14 22 41.1**	**+1.2**
AXAR	**Agios Charalam**	**2.14**	**57**	P	**Pn**	**14 22 41.3**	**+1.3**
KRND	**KRANIDI**	**2.23**	**95**	P	**Pn**	**14 22 41.7**	**+0.5**
VLI	**Veliai**	**2.25**	**113**	P	**Pn**	**14 22 41.8**	**+0.5**
LKR	**Lokris**	**2.32**	**63**	P	**Pn**	**14 22 43.4**	**+1.0**
THL	**Klokotos Trika**	**2.33**	**33**	P	**Pn**	**14 22 43.5**	**+1.0**
VIL2	**Platees**	**2.37**	**75**	P	**Pn**	**14 22 44.0**	**+0.9**
KPRO	**Kipourio**	**2.46**	**18**	P	**Pn**	**14 22 46.2**	**+1.9**
VLY	**Voula,Athens**	**2.73**	**84**	P	**Pn**	**14 22 48.5**	**+0.5**
NEST	**Nestorio**	**2.84**	**11**	P	**Pn**	**14 22 51.2**	**+1.6**
SCTE	**Santa Cesarea**	**2.86**	**329**	P	**Pn**	**14 22 50.9**	**+1.1**
DION	**Dionisos Attik**	**2.87**	**80**	P	**Pn**	**14 22 50.2**	**+0.3**
KZN	**Kozani**	**2.90**	**22**	P	**Pn**	**14 22 50.9**	**+0.5**
LIT	**Litokhoron**	**2.98**	**33**	P	**Pn**	**14 22 52.2**	**+0.7**
KYMI	**Kymi, Euboea I**	**3.12**	**70**	P	**Pn**	**14 22 53.9**	**+0.5**
TIP	**Tinpagrande**	**3.23**	**300**	P	**Pn**	**14 22 55.3**	**+0.4**
KARY	**Karystos**	**3.25**	**81**	P	**Pn**	**14 22 55.4**	**+0.2**
FNA	**Florina**	**3.26**	**14**	P	**Pn**	**14 22 56.4**	**+1.1**
CEL	**Celeste**	**3.59**	**282**	P	**Pn**	**14 22 59.8**	**-0.1**
PLG	**Polygyros**	**3.65**	**40**	P	**Pn**	**14 23 01.6**	**+0.9**
IDI	**Anoyia**	**4.33**	**121**	Pn	**Pn**	**14 23 13.8**	**+3.8**
7.8nm,0.8s,baz=18,slow=14,SNR=1.8							
IDI				Sn	**Sn**	**14 24 03.4**	**+3.1**
1.5nm,0.3s,baz=326,slow=22,SNR=5.7							
MLR	**Muntele Rosu**	**8.91**	**26**	Pn	**Pn**	**14 24 11.2**	**-1.7**
0.3nm,0.3s,baz=219,slow=13,SNR=3.0							
GERES	**GERESS Array B**	**12.22**	**339**	Pn	**Pn**	**14 25 01.6**	**+3.4**
0.2nm,0.3s,baz=142,slow=18,SNR=1.5							
0.3nm,0.3s							
HFS	**Hagfors**	**22.93**	**351**	P	**P**	**14 27 07.3**	**-0.7**
3.4nm,0.9s,baz=172,slow=12,SNR=4.2							
3.4nm,0.9s							
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**14 27 18.8**	**-0.8**
3.0nm,1.0s,baz=186,slow=9.6,SNR=4.6							
3.0nm,1.0s							
NOA	**NORSAR Array B**	**24.14**	**349**	P	**P**	**14 27 21.4**	**+1.5**
0.4nm,0.6s,baz=161,slow=12,SNR=1.8							
0.4nm,0.6s							
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**14 28 29.6**	**-1.3**
3.0nm,1.0s,baz=186,slow=9.2,SNR=7.0							
3.0nm,1.0s							
BVAR	**Borovoye Array**	**37.58**	**49**	P	**P**	**14 29 16.6**	**-1.8**
0.3nm,0.4s,baz=284,slow=7.1,SNR=1.8							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**14 29 59.1**	**-1.5**
0.5nm,0.2s,baz=305,slow=3.3,SNR=1.0							
0.5nm,0.2s							
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**14 30 23.1**	**-1.9**
0.4nm,0.5s,baz=272,slow=7.1,SNR=14							
0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**14 30 26.4**	**-2.1**
1.3nm,0.5s,baz=277,slow=9.9,SNR=6.2							
1.3nm,0.5s							
SONM	**Songino Array**	**60.91**	**50**	P	**P**	**14 32 14.7**	**-2.2**
0.3nm,0.7s,baz=280,slow=7.6,SNR=2.9							
0.3nm,0.7s							

*IDC **12** 14:32:18.1±2.2, 7°55S×129°55E, h0km, mb3.3/1, mbtmp3.9/4, ML4.2/3, Error ellipse: s-maj=74.8km s-min=30.2km az=77.0*
ISC 12 14:32:25.8±1.2, 7°92S±0°09×129°23E±0°08, h50km, n11, σ3°23/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.05**	**92**	P	**Pn**	**14 33 01.6**	**+3.7**
DRS	**Darwin Rock St**	**4.78**	**160**	P	Pn	14 33 42.4	+7.1
SOEI	**Soe**	**5.23**	**249**	P	**Pn**	**14 33 46.1**	**+4.4**
MTN	**Manton Dam**	**5.24**	**159**	P	Pn	14 33 48.0	+6.3
KDU	**Kakadu**	**5.71**	**146**	P	**Pn**	**14 33 52.9**	**+4.7**
FAKI	**Fak Fak**	**5.80**	**31**	P	Pn	14 33 39.8	-10
FITZ	**Fitzroy Crossi**	**10.71**	**199**	Pn	**Pn**	**14 34 58.5**	**+1.9**
2.2nm,0.3s,baz=32,slow=12,SNR=43							
FITZ				Sn	**Sn**	**14 36 55.9**	**+0.8**
0.6nm,0.3s,baz=277,slow=22,SNR=2.1							
5.4nm,0.4s							
PLAI	**Plampang**	**11.37**	**265**	P	**Pn**	**14 35 04.3**	**-1.4**
WRA	**Warramunga Arr**	**12.94**	**158**	Pn	**Pn**	**14 35 27.0**	**-0.1**
1.3nm,0.3s,baz=339,slow=13,SNR=55							
WRA				Sn	**Sn**	**14 37 47.4**	**-2.3**
1.3nm,0.3s,baz=332,slow=22,SNR=11							
2.3nm,0.4s							
ASAR	**Alice Springs**	**16.29**	**165**	Pn	**Pn**	**14 36 11.7**	**+0.3**
0.5nm,0.3s,baz=341,slow=9.2,SNR=47							
ASAR				Sn	**Sn**	**14 39 07.4**	**-3.8**
0.3nm,0.3s,baz=348,slow=25,SNR=6.4							
1.0nm,0.5s							
MKAR	**Makanchi Array**	**68.58**	**327**	P	**P**	**14 43 22.0**	**-1.4**
0.1nm,0.5s,baz=114,slow=8.0,SNR=2.3							
0.1nm,0.5s							

*UCR **12** 14:34:51.6±0.6, 8°86N×84°11W, h0km±4km, MW3.9*
*UPA **12** 14:34:52.9±1.8, 8°84N×84°06W, h0km±31km*
ISC 12 14:34:52.3±1.6, 8°89N±0°05×84°09W±0°05, h7km±11km, n57, σ0°48/70, 7C-10D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPE	**Pejibaye, P**	**0.58**	**62**‖	*e*P	**Pg**	**14 35 03.8**	**+0.4**
LLNJ	**Naranjito**	**0.58**	**359**	*e*P	**Pg**	**14 35 04.3**	**+0.7**
ZELE	**Perez Zeledon**	**0.61**	**38**	*e*P	**Pb**	**14 35 05.1**	**-0.3**
FIMO	**Fila Mora**	**0.73**	**82**‖	*e*P	**Pb**	**14 35 07.2**	**-0.3**
PISJ	**San Jernim**	**0.74**	**357**‖	*e*P	**Pg**	**14 35 07.1**	**+0.5**
PICV	**PH. Pirrs**	**0.74**	**352**	*e*P	**Pg**	**14 35 07.0**	**+0.4**
RAZU	**San Marcos de**	**0.77**	**5**	*e*P	**Pg**	**14 35 07.8**	**+0.7**
ABE2	**San Pablo**	**0.81**	**2**	*e*P	**Pg**	**14 35 08.4**	**+0.4**
JIME	**Puerto Jimenez**	**0.83**	**115**	*e*P	**Pb**	**14 35 09.0**	**0.0**
PTJ1	**Puerto Jimnez**	**0.85**	**114**	*e*P	**Pb**	**14 35 09.0**	**-0.4**
LCR2	**La Lucha 2**	**0.85**	**5**‖	*e*P	**Pg**	**14 35 08.8**	**0.0**
PIRO	**Carate, Puerto**	**0.88**	**123**‖	*e*P	**Pb**	**14 35 09.5**	**-0.5**
ACOS	**Acosta**	**0.91**	**355**	*e*P	**Pg**	**14 35 09.9**	**+0.1**
EDP2	**Potrero Grande**	**0.91**	**82**	*e*P	**Pb**	**14 35 10.3**	**-0.1**
DRK0	**Durika**	**0.91**	**66**	*e*P	**Pg**	**14 35 10.0**	**+0.2**
REPA	**Paraso**	**0.96**	**13**	*e*P	**Pg**	**14 35 11.1**	**+0.3**
TAGO	**Cartago**	**0.99**	**9**	*e*P	**Pg**	**14 35 11.2**	**-0.1**
TRIO	**Tres Rios**	**1.02**	**5**	*e*P	**Pg**	**14 35 11.5**	**-0.4**
LUJA	**Lujan**	**1.03**	**1**	*e*P	**Pn**	**14 35 13.2**	**-0.1**
SANTA	**Santa Ana**	**1.04**	**355**⇑	*i*P	**Pg**	**14 35 12.1**	**-0.3**
SJS3	**Mercedes San J**	**1.04**	**2**	*e*P	**Pg**	**14 35 12.7**	**+0.3**
SJS	**Escuela Geolog**	**1.05**	**2**	*e*P	**Pg**	**14 35 12.7**	**+0.2**
PCAYA	**Pacayas**	**1.06**	**15**	*e*P	**Pg**	**14 35 12.7**	**0.0**
CORON	**Coronado**	**1.08**	**4**	*e*P	**Pg**	**14 35 13.3**	**+0.2**
TURIB	**Turrialba**	**1.09**	**21**	*e*P	**Pb**	**14 35 13.2**	**-0.3**
VICA	**Volcano Irazu**	**1.12**	**12**⇑	*i*P	**Pg**	**14 35 13.8**	**0.0**
VERB	**Verbena**	**1.12**	**20**⇑	*e*P	**Pb**	**14 35 13.8**	**-0.3**
CVIMO	**Finca Echandi**	**1.14**	**7**⇑	*e*P	**Pb**	**14 35 14.1**	**-0.4

az=131.0
ISC 12 14:49:58.3±0.5, 22°.88N±0°.03×101°.47E±0°.04, h10km, n76, σ1§66/58, mb4.2/22, MS3.7/26, 3C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.07**	**136**	*e*Pg	**Pb**	**14 50 35.6**	**-0.4**
KMI	**Kunming**	**2.52**	**27**	⇑Pn	**Pb**	**14 50 40.6**	**-3.2**
KMI				Sn	**Sb**	**14 51 13.8**	**-1.1**
KMI				smax	smax		
	comp=N,500nm,0.8s						
KMI				smax	smax		
	comp=E,400nm,0.9s						
SLVN	**Son La**	**2.73**	**124**	Pn	**Pn**	**14 50 42.1**	**-0.2**
SLVN	**Son La**	**2.73**	**124**	*e*Pg	**Pg**	**14 50 50.1**	**-0.6**
SLVN				*e*Sg	**Sg**	**14 51 27.1**	**+1.0**
SLVN				IAML		14 51 41.7	
	comp=E,650nm,1.0s						
SLVN				IAML		14 51 44.2	
	comp=N,314nm,1.0s						
MLVB	**It Ong**	**2.74**	**119**	*e*Pn	Pn	14 50 27.3	-15
MLVB				*e*Pg	Pb	14 50 30.1	-17
MLVB				*e*Pg	Pg	14 50 30.2	-21
MLVB				*e*Sg	Sn	14 50 55.0	-20
MLVB				IAML		14 50 58.2	
	comp=N,2μm,1.0s						
MLVB				IAML		14 50 58.2	
	comp=N,2μm,1.0s						
MLVB				IAML		14 50 59.7	
	comp=E,3μm,0.8s						
MLVB				IAML		14 50 59.7	
	comp=E,3μm,0.8s						
TNCH	**TengChong**	**3.45**	**309**	Pn	Pb	14 50 51.7	-7.9
TNCH				Pg	**Pg**	**14 51 01.6**	**-2.8**
TNCH				Sg	**Sg**	**14 51 48.6**	**-0.5**
TNCH				smax	smax		
	comp=E,920nm,0.8s						
TNCH				smax	smax		
	comp=E,950nm,0.8s						
TNCH				LR	LR		
	comp=E,7μm,4.1s						
TNCH				LR	LR		
	comp=E,5μm,4.8s						
TNCH				LR	LR		
	comp=E,4μm,8.2s						
PZH	**PanZhiHua**	**3.62**	**4**	Pn	**Pn**	**14 50 54.6**	**+0.1**
PZH				Pg	**Pg**	**14 51 03.3**	**-4.3**
PZH				Sg	**Sg**	**14 51 52.7**	**-1.8**
PZH				smax	smax		
	comp=E,350nm,1.2s						
PZH				smax	smax		
	comp=E,590nm,1.3s						
PZH				LR	LR		
	comp=E,4μm,4.4s						
PZH				LR	LR		
	comp=E,4μm,4.8s						
PZH				LR	LR		
	comp=E,2μm,5.7s						
PHRA	**Phrae**	**4.51**	**195**	Pn	**Pn**	**14 51 06.3**	**-0.4**
CHTO	**Chiang Mai**	**4.69**	**211**	Pn	**Pn**	**14 51 07.8**	**-1.4**
CM31	**Chiang Mai Arr**	**5.00**	**209**		**Pn**	**14 51 12.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**5.00**	**209**		**Pn**	**14 51 12.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**5.00**	**209**	Pn	**Pn**	**14 51 14.1**	**+0.7**
	comp=E,1.0nm,0.3s,baz=34,slow=13,SNR=4.2						
CMAR				Pg	**Pg**	**14 51 30.2**	**-3.9**
	comp=E,6.0nm,0.3s,baz=38,slow=18,SNR=12						
CMAR				Lg	Lg	14 52 33.8	
	comp=E,7.6nm,0.3s,baz=234,slow=30,SNR=5.3						
CMAR				LR	LR	14 53 36.1	
	comp=E,640nm,19.7s,baz=30,slow=43						
	comp=E,3.1nm,0.6s						
GULI	**GuiLin**	**8.47**	**72**	Pn	Pn	14 51 46.9	-14
GULI				Sn	Sn	14 53 23.2	-14
GULI				smax	smax		
	comp=N,210nm,1.7s						
GULI				smax	smax		
	comp=E,110nm,1.8s						
QIZ	**Qiongzhong**	**8.71**	**115**	P	**Pn**	**14 52 03.3**	**-1.1**
QIZ				S	**Sn**	**14 53 43.8**	**+1.1**
QIZ				smax	smax		
	comp=E,69nm,1.5s						
QIZ				smax	smax		
	comp=E,47nm,1.2s						
QIZ				LR	LR		
	comp=E,1μm,6.9s						
QIZ				LR	LR		
	comp=E,770nm,7.2s						
QIZ				LR	LR		
	comp=E,970nm,11.1s						
BRDH	**Bariadhala**	**9.07**	**271**	LR	LR	14 56 29.2	
	comp=E,337nm,20.1s,baz=147,slow=43						
ENH	**Enshi**	**10.28**	**43**	Pn	**Pn**	**14 52 25.6**	**-0.3**
LSA	**Lhasa**	**11.48**	**308**	Pn	**Pn**	**14 52 41.9**	**-0.9**
LSA	**Lhasa**	**11.48**	**308**	P	Pn	14 52 45.4	+2.6
LSA				pmax	pmax		
	comp=E,4.0nm,0.7s						
LSA				LR	LR		
	comp=E,830nm,17.2s						
LSA				LR	LR		
	comp=E,820nm,14.7s						
XAN	**Xi'an**	**12.90**	**29**	⇑P	Pn	14 53 04.5	+2.7
XAN				pP		14 53 07.5	
XAN				pmax	pmax		
	comp=E,7.0nm,2.0s						
XAN				LR	LR		
	comp=E,2μm,10.0s						
XAN				LR	LR		
	comp=E,2μm,11.3s						
LZH	**Lanzhou**	**13.32**	**8**	*e*P	P	14 53 11.1	-6.3
LZH				pP	Pn	14 53 16.8	+9.1
LZH				pmax	pmax		
	comp=E,8.0nm,1.5s						
LZH				LR	LR		
	comp=E,1μm,9.6s						
LZH				LR	LR		
	comp=E,2μm,11.0s						
LZH				LR	LR		
	comp=E,1μm,10.3s						
GOMU	**GeErMu**	**14.48**	**338**	P	P	14 53 32.1	+1.6
GOMU				pP	Pn	14 53 36.0	+12
GOMU				sP		14 53 40.5	
GOMU				S	S	14 56 10.8	-14
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GOMU				LR	LR		
	comp=N,2μm,11.3s						
GOMU				LR	LR		
	comp=E,3μm,11.9s						
GOMU				LR	LR		
	comp=E,1μm,11.3s						
LYN	**LuoYang**	**15.09**	**37**	P	**P**	**14 53 34.0**	**-3.0**
LYN				pP	pP	14 53 37.7	-2.5
LYN				PP	**sP**	**14 53 43.0**	**+1.3**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LYN				LR	LR		
	comp=Z,2μm,13.1s						
LYN				LR	LR		
	comp=Z,2μm,11.0s						
LYN				LR	LR		
	comp=Z,2μm,9.3s						
GTA	**Gaotai**	**16.54**	**355**	*e*P	**P**	**14 53 55.6**	**+2.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				LR	LR		
	comp=Z,310nm,10.2s						
GTA				LR	LR		
	comp=Z,470nm,8.4s						
GTA				LR	LR		
	comp=Z,350nm,10.9s						
NJ2	**Nanjing**	**17.91**	**56**	*e*P	**P**	**14 54 07.7**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HNS	**HongShan**	**18.42**	**35**	⇑P	**Pn**	**14 54 15.9**	**+2.1**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HNS				LR	LR		
	comp=Z,760nm,13.7s						
HNS				LR	LR		
	comp=Z,630nm,11.3s						
HNS				LR	LR		
	comp=Z,1μm,14.3s						
BTO	**Baotou**	**19.09**	**20**	*e*P	**Pn**	**14 54 23.4**	**+1.4**
BTO				pP	**sP**	**14 54 27.1**	**+1.2**
BTO				sP	pP	14 54 30.4	+6.0
BTO				PP	**PnPn**	**14 54 40.6**	**+5.9**
BTO				SS	S	14 58 20.8	+23
BTO				pmax	pmax		
	comp=Z,32nm,0.8s						
BTO				pmax	pmax		
	comp=Z,220nm,4.1s						
BTO				LR	LR		
	comp=Z,3μm,12.7s						
BTO				LR	LR		
	comp=Z,2μm,13.9s						
BTO				LR	LR		
	comp=Z,3μm,13.6s						
HHC	**Hu-ho-hao-te**	**19.83**	**23**	*e*P	**Pn**	**14 54 33.3**	**+2.4**
HHC				pP	sP	14 54 37.4	+3.3
HHC				S	**S**	**14 58 10.1**	**-2.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,82nm,4.5s						
HHC				LR	LR		
	comp=Z,810nm,10.6s						
HHC				LR	LR		
	comp=Z,620nm,10.2s						
HHC				LR	LR		
	comp=Z,940nm,16.1s						
PSI	**Prapat**	**20.11**	**187**	P	Pn	14 54 35.9	+1.5
	comp=Z,4.1nm,0.4s						
PSI				LR	LR	15 02 19.4	
	comp=Z,289nm,18.8s,slow=37						
	comp=Z,4.1nm,0.4s						
RPSI	**Rantau Prapat**	**20.22**	**187**	P	Pn	14 54 32.7	-2.8
RPSI				IAmb	IAmb	14 54 37.2	
	comp=Z,22nm,1.1s						
BJI	**Beijing**	**21.16**	**33**	P	**P**	**14 54 45.1**	**+1.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				LR	LR		
	comp=Z,310nm,13.9s						
BJI				LR	LR		
	comp=Z,310nm,13.0s						
BJI				LR	LR		
	comp=Z,450nm,13.8s						
DL2	**Dalian**	**23.46**	**42**	P	**P**	**14 55 08.1**	**+0.1**
DL2				S	**S**	**14 59 21.5**	**0.0**
DL2				pmax	pmax		
	comp=Z,43nm,1.3s						
DL2				pmax	pmax		
	comp=Z,460nm,5.4s						
DL2				LR	LR		
	comp=Z,830nm,11.0s						
DL2				LR	LR		
	comp=Z,1μm,11.5s						
DL2				LR	LR		
	comp=Z,510nm,12.6s						
WMQ	**Urumqi**	**23.78**	**335**	*e*P	**P**	**14 55 10.9**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,420nm,11.3s						
WMQ				LR	LR		
	comp=Z,130nm,16.5s						
XLT	**XiLinHaoTe**	**24.18**	**26**	*e*P	**P**	**14 55 14.2**	**-0.8**
XLT				sP	sP	14 55 21.2	+1.4
XLT				pmax	pmax		
	comp=Z,5.0nm,1.5s						
XLT				pmax	pmax		
	comp=Z,130nm,4.2s						
XLT				LR	LR		
	comp=Z,55nm,10.5s						
XLT				LR	LR		
	comp=Z,350nm,8.7s						
XLT				LR	LR		
	comp=Z,700nm,10.5s						
SONM	**Songino Array**	**25.21**	**8**	P	**P**	**14 55 25.6**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=188,slow=9.6,SNR=18						
SONM				LR	LR	15 06 35.8	
	comp=Z,282nm,20.1s,baz=175,slow=40						
	comp=Z,3.0nm,0.8s						
PALK	**Pallekele**	**25.30**	**235**	LR	LR	15 06 07.9	
	comp=Z,165nm,19.4s,baz=184,slow=38						
ULN	**Ulaanbaatar**	**25.33**	**9**	P	**P**	**14 55 26.0**	**+0.6**
ULN				IAmb	IAmb	14 55 28.2	
	comp=Z,7.8nm,1.1s						
WUS	**Wushi**	**26.13**	**320**	P	**P**	**14 55 33.5**	**+0.8**
WUS				IAmb	IAmb	14 55 38.2	
	comp=Z,18nm,0.9s						
KSRS	**Korea Array**	**26.97**	**51**	LR	LR	15 07 43.1	
	comp=Z,92nm,21.9s,baz=230,slow=40						
KSH	**Kashi**	**27.27**	**313**	P	**P**	**14 55 44.6**	**+1.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK31	**Makanchi Array**	**28.43**	**332**	*e*P	P	14 55 54.1	+0.9
MKAR	**Makanchi Array**	**28.43**	**332**	P	P	14 55 53.9	+0.7
MKAR	**Makanchi Array**	**28.43**	**332**	P	P	14 55 54.4	+1.1
	comp=Z,2.3nm,0.7s,baz=140,slow=9.7,SNR=18						
MKAR				LR	LR	15 07 26.4	
	comp=Z,151nm,20.1s,baz=148,slow=37						
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**32.97**	**333**	P	P	14 56 34.5	+1.3
	comp=Z,2.5nm,0.2s,baz=136,slow=9.3,SNR=7.3						
	comp=Z,2.5nm,0.2s						
KAPI	**Kappang**	**32.98**	**145**	LR	LR	15 11 34.8	
	comp=Z,118nm,19.6s,baz=294,slow=39						
ZALV	**Zalesovo Beam**	**33.48**	**342**	P	**P**	**14 56 37.3**	**-0.3**
ZALV	**Zalesovo Beam**	**33.48**	**342**	P	**P**	**14 56 37.6**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=152,slow=8.3,SNR=11						
ZALV				LR	LR	15 11 22.7	
	comp=Z,96nm,19.7s,baz=190,slow=38						
	comp=Z,2.6nm,0.7s						
HEH	**HeiHe**	**34.02**	**30**	*e*P	**P**	**14 56 42.1**	**-0.3**
HEH				LR	LR		
	comp=Z,290nm,12.8s						
HEH				LR	LR		
	comp=Z,450nm,11.8s						
HEH				LR	LR		
	comp=Z,500nm,12.9s						
BVAR	**Borovoye Array**	**38.26**	**330**	P	**P**	**14 57 17.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=152,slow=6.5,SNR=2.2						
BVAR				LR	LR	15 13 51.6	
	comp=Z,138nm,19.5s,baz=105,slow=37						
	comp=Z,0.8nm,0.4s						
WSAR	**Wadi Sarin**	**39.31**	**279**	LR	LR	15 15 46.3	
	comp=Z,97nm,18.6s,baz=93,slow=39						
ABKAR	**Akbulak array**	**41.89**	**319**	P	**P**	**14 57 48.9**	**+0.1**
AKTO	**Aktyubinsk**	**43.51**	**320**	LR	LR	15 18 23.7	
	comp=Z,160nm,18.6s,baz=202,slow=39						
JAY	**Jayapura**	**45.83**	**118**	LR	LR	15 18 58.9	
	comp=Z,63nm,18.5s,baz=232,slow=38						
ARTI	**Arti**	**45.90**	**328**	LR	LR	15 17 47.8	
	comp=Z,100nm,20.6s,baz=138,slow=36						
KIRV	**Kirov**	**51.22**	**328**	LR	LR	15 25 05.3	
	comp=Z,61nm,18.9s,baz=169,slow=41						
WB0	**Warramunga Arr**	**53.19**	**140**	P	**P**	**14 59 16.5**	**-0.5**
WB0				IAmb	IAmb	14 59 48.0	
	comp=Z,7.3nm,1.2s						
WRAB	**Tennant Creek**	**53.30**	**140**	P	**P**	**14 59 17.4**	**-0.3**
WRAB				IAmb	IAmb	14 59 35.9	
	comp=Z,8.1nm,1.2s						
WRA	**Warramunga Arr**	**53.30**	**140**	P	**P**	**14 59 17.1**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=331,slow=8.1,SNR=8.3						
	comp=Z,1.6nm,0.8s						
ASAR	**Alice Springs**	**55.98**	**144**	P	**P**	**14 59 37.1**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=323,slow=7.4,SNR=11						
ASAR				LR	LR	15 25 17.4	
	comp=Z,62nm,20.1s,baz=238,slow=38						
	comp=Z,1.7nm,0.9s						
KRVT	**Keravat (AS076**	**56.26**	**112**	LR	LR	15 21 37.8	
	comp=Z,44nm,22.0s,baz=208,slow=34						
MMAI	**Mount Meron Ar**	**58.40**	**296**	LR	LR	15 31 14.7	
	comp=Z,59nm,18.2s,baz=51,slow=42						
EIL	**Elat**	**59.33**	**292**	LR	LR	15 28 22.9	
	comp=Z,59nm,19.3s,baz=74,slow=39						
AKASG	**Malin Array Be**	**61.50**	**316**	P	P	15 00 17.5	+2.2
	comp=Z,1.4nm,0.7s,baz=78,slow=6.2,SNR=5.2						
	comp=Z,1.4nm,0.7s						
MLR	**Muntele Rosu**	**64.09**	**311**	LR	LR	15 33 06.3	
	comp=Z,94nm,18.9s,baz=50,slow=40						
HFS	**Hagfors**	**69.36**	**328**	P	**P**	**15 01 06.3**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=91,slow=7.4,SNR=1.7						
	comp=Z,3.4nm,0.8s						
NOA	**NORSAR Array B**	**70.39**	**329**	P	P	15 01 14.4	+2.0
	comp=Z,1.9nm,0.9s,baz=71,slow=6.0,SNR=3.5						
	comp=Z,1.9nm,0.9s						
C18K	**Utukok River**	**71.54**	**23**	P	**P**	**15 01 19.1**	**-0.2**
E18K	**Tukpahlearik C**	**72.09**	**24**	P	**P**	**15 01 23.0**	**+0.4**
E18K				IAmb	IAmb	15 01 41.4	
	comp=Z,10nm,1.4s						
B22K	**Teshekpuk Lake**	**73.59**	**20**	P	**P**	**15 01 31.4**	**0.0**
B22K				IAmb	IAmb	15 01 46.3	
	comp=Z,6.2nm,1.3s						
K17K	**Iditarod**	**74.48**	**28**	P	**P**	**15 01 37.3**	**+0.6**
DAVOX	**Davos/Dischmat**	**74.74**	**315**	LR	LR	15 42 04.6	
	comp=Z,53nm,18.2s,baz=44,slow=42						
BMAR	**Burnt Mountain**	**77.75**	**21**	P	**P**	**15 01 56.2**	**+0.9**
ILAR	**Eielson Array**	**78.26**	**24**	P	**P**	**15 01 56.7**	**-1.4**
	comp=Z,0.5nm,1.0s,baz=271,slow=7.2,SNR=3.6						
	comp=Z,0.5nm,1.0s						
KDAK	**Kodiak Island**	**79.00**	**32**	LR	LR	15 39 23.2	
	comp=Z,105nm,18.7s,baz=62,slow=38						
SML	**Sawmill**	**79.11**	**27**	P	**P**	**15 02 03.0**	**+0.1**
M24K	**Tolsona, Glenn**	**79.85**	**26**	P	**P**	**15 02 07.5**	**+0.5**
SFJD	**Kangerlussuaq**	**87.99**	**349**	LR	LR	15 44 49.4	
	comp=Z,50nm,21.5s,baz=7.0,slow=37						

JMA 12 14:55:23.2±0.1, 32°.7N±0°.2×129°.7E±0°.6, h10km±1km, MV0.3/13, NAGASAKI PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGSJ	**Nagasakinomoza**	**0.11**	**143**	*i* P	Pg	14 55 25.9	+0.1
NGSJ				S	Sg	14 55 27.8	+0.1
JUR	**Ureshino**	**0.42**	**27**	*e*S	Sg	14 55 37.3	+0.4
JHD	**Hondo**	**0.43**	**126**	P	Pg	14 55 31.7	+0.1
JHD				*e*S	Sg	14 55 37.2	-0.2

BJI ***12*** *14:55:42.1, 44°.41N×142°.19E, h231km, mB4.8/15, mb4.6/58*
MOS ***12*** *14:55:43.2±0.8, 44°.47N×142°.18E, h242km, mb4.2/16, Error ellipse: s-maj=6.8km s-min=5.7km az=88.3*
SKHL ***12*** *14:55:43.0±0.9, 44°.50N×142°.20E, h226km±5km, mb5.3/15, mbv5.6/4, msh5.3/8, msha5.5/8*
JMA ***12*** *14:55:43.6±0.2, 44°.5N±0°.9×14°.2E±°, h241km±1km, MD4.5/38, MV4.6/38, KAMIKAWA-SORACHI REGION*
JMA Felt I J1 at KAMIKAWA-SORACHI REGION .
NIED ***12*** *14:55:43.6, 44°.51N×142°.20E, h241km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.68; $M_{\theta\theta}$-5.44; $M_{\phi\phi}$7.12; $M_{r\theta}$0.92; $M_{\theta\phi}$-6.16; $M_{\phi r}$0.17; Fault plane solution: $M_0$8.86000×10^{15} NP1: ϕ_s203.00000°, δ84.00000°, λ-5.00000°. NP2:ϕ_s293.00000°, δ85.00000°, λ-174.00000°.*
NEIC ***12*** *14:55:44.3±1.8, 44°.51N±0°.07×142°.1E±0°.1, h234km±5km, mb4.2/77 Error ellipse: s-maj=12.2km s-min=9.1km az=110.0*
IDC ***12*** *14:55:44.0±0.4, 44°.57N×142°.16E, h230km±3km, mb3.8/26, mbtmp4.5/36, Error ellipse: s-maj=8.2km s-min=6.1km az=109.0*
ISC 12 14:55:44.0±0.4, 44°.49N±0°.03×142°.24E±0°.03, h234km±3km, n498, σ1§12/503, mb4.2/83, 20C-30D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.29**	**251**	⇓P	**Pn**	**14 56 15.2**	**+0.7**
JSS				⇓*e*S	**S**	**14 56 39.5**	**+1.1**
ASAJ	**Asahikawa**	**0.46**	**145**	P	**Pn**	**14 56 15.2**	**+0.3**
	276nm,0.3s,baz=315,slow=5.7,SNR=979						
ASAJ				S	**S**	**14 56 39.7**	**+0.5**
	113nm,0.4s,baz=8.2,slow=25,SNR=5.8						
ASAJ	**Asahikawa**	**0.46**	**145**	⇓P	**Pn**	**14 56 15.6**	**+0.6**
ASAJ				⇓S	**S**	**14 56 40.1**	**+1.0**
JKA	**Kamikawa-asahi**	**0.46**	**145**	Pn	**Pn**	**14 56 15.3**	**+0.3**
JKA	**Kamikawa-asahi**	**0.46**	**145**	*e*P	**Pn**	**14 56 15.3**	**+0.3**
JSE	**Soyaes**	**0.53**	**28**	⇓P	**Pn**	**14 56 15.6**	**+0.6**
JSE				⇓*e*S	**S**	**14 56 39.5**	**0.0**
JSE	**Soyaes**	**0.53**	**28**	A	A	14 56 15.6	
	comp=N,6.0nm,3.6s,comp=E,11nm,3.0s						
JYG	**Yagishiri**	**0.58**	**264**	⇓P	**Pn**	**14 56 15.7**	**+0.4**
JYG	**Yagishiri**	**0.58**	**264**	A	A	14 56 15.7	
	comp=N,11nm,2.7s,comp=E,3.0nm,2.8s						
JKK2	**Kamakawa 2**	**0.72**	**149**	⇓P	**Pn**	**14 56 16.9**	**+0.9**
JKK2				⇓S	**S**	**14 56 42.1**	**+1.2**
JHR	**Hokuryu**	**0.84**	**206**	⇓P	**Pn**	**14 56 17.3**	**+0.8**
JWK2	**Keihoku**	**0.86**	**344**	⇓P	**Pn**	**14 56 16.9**	**+0.5**
JWK2				⇓*e*S	**S**	**14 56 42.0**	**0.0**
JWK2	**Keihoku**	**0.86**	**344**	A	A	14 56 16.9	
	comp=N,8.0nm,2.7s,comp=E,3.0nm,7.0s						
JRR	**Rishiri**	**0.92**	**315**	P	**Pn**	**14 56 17.4**	**+0.6**
JMP	**Maruseppu**	**0.94**	**121**	P	**Pn**	**14 56 17.8**	**+0.8**
JAB	**Ashibetsu**	**0.99**	**181**	⇓P	**Pn**	**14 56 17.9**	**+0.6**
JRBN	**Rebuntou**	**1.25**	**319**	⇓P	**Pn**	**14 56 18.5**	**-0.3**
JRBN				⇓S	**S**	**14 56 45.2**	**-1.0**
JTKR	**Abashiri--Toko**	**1.31**	**113**	P	**Pn**	**14 56 20.5**	**+1.1**
JTKR				*e*S	**S**	**14 56 48.1**	**+1.2**
JTKR	**Abashiri--Toko**	**1.31**	**113**	A	A	14 56 20.5	
	comp=N,4.0nm,2.4s,comp=E,3.0nm,1.5s						
JAR	**Ashorobuto**	**1.63**	**137**	P	**Pn**	**14 56 22.9**	**+1.1**
JAR				S	**S**	**14 56 52.6**	**+1.1**
JAR	**Ashorobuto**	**1.63**	**137**	A	A	14 56 22.9	
	comp=N,6.0nm,1.8s,comp=E,5.0nm,0.7s						
JEW	**Eniwo**	**1.75**	**199**	⇓P	**Pn**	**14 56 23.9**	**+1.0**
JEW				⇓*e*S	**S**	**14 56 53.7**	**+0.4**
JEW	**Eniwo**	**1.75**	**199**	A	A	14 56 23.9	
	comp=N,14nm,6.4s,comp=E,8.0nm,3.2s						
JIAM	**Iburiatsuma**	**1.88**	**187**	A	A	14 56 24.6	
	comp=N,8.0nm,1.4s,comp=E,9.0nm,5.2s						
JOB	**Onbets**	**1.97**	**143**	A	A	14 56 25.5	
	comp=N,4.0nm,1.8s,comp=E,4.0nm,3.2s						
JCH	**Churui**	**2.05**	**156**	⇓P	**Pn**	**14 56 24.8**	**-0.8**
JCH				⇓S	**S**	**14 56 56.0**	**-2.2**
JCH	**Churui**	**2.05**	**156**	A	A	14 56 24.8	
	comp=N,2.0nm,1.3s,comp=E,2.0nm,3.1s						
JSHD	**Hidakashinhida**	**2.09**	**175**	A	A	14 56 26.6	
	comp=N,6.0nm,4.7s,comp=E,5.0nm,0.8s						
JNSB	**Nemuroshibetsu**	**2.12**	**109**	A	A	14 56 27.0	
	comp=N,19nm,5.6s,comp=E,10.0nm,2.4s						
JRA	**Rausu**	**2.15**	**104**	P	**Pn**	**14 56 27.9**	**+1.4**
JRA	**Rausu**	**2.15**	**104**	A	A	14 56 27.9	
	comp=N,7.0nm,2.5s,comp=E,6.0nm,2.0s						
RUSJ	**Misakicho**	**2.20**	**99**	*e*PN	**Pn**	**14 56 28.8**	**+1.8**
RUSJ				*i* S	**S**	**14 57 04.6**	**+3.9**
JNBK	**Urakawa-nobuka**	**2.24**	**170**	P	**Pn**	**14 56 27.3**	**-0.2**
JNBK				*e*S	**S**	**14 57 01.6**	**0.0**
JNBK	**Urakawa-nobuka**	**2.24**	**170**	A	A	14 56 27.3	
	comp=N,7.0nm,0.6s,comp=E,8.0nm,0.4s						
JAK	**Akkeshi**	**2.33**	**129**	*e*P	**Pn**	**14 56 27.6**	**-0.7**
JAK				S	**S**	**14 57 02.0**	**-1.0**
JAK	**Akkeshi**	**2.33**	**129**	A	A	14 56 27.6	
	comp=N,3.0nm,0.9s,comp=E,3.0nm,1.7s						
AKK	**Akkeshi**	**2.40**	**127**	*e*P	**Pn**	**14 56 30.7**	**+1.7**
YSS	**Yuzhno-Sakhali**	**2.49**	**8**	Pn	**Pn**	**14 56 30.0**	**+0.1**
YSS	**Yuzhno-Sakhali**	**2.49**	**8**	P	**Pn**	**14 56 30.3**	**+0.4**
YSS	**Yuzhno-Sakhali**	**2.49**	**8**	⇓*e*PN	**Pn**	**14 56 34.0**	**+4.1**
YSS				*e*S	**S**	**14 57 09.3**	**+3.3**
YSS				pmax	pmax		
	comp=Z,780nm,1.0s						
YSS	**Yuzhno-Sakhali**	**2.49**	**8**	*e*P	**Pn**	**14 56 30.0**	**+0.1**
YSS				AMB	AMB	14 56 34.7	
	comp=Z,780nm,0.7s						
YSS				*e*S	**S**	**14 57 05.0**	**-1.0**
JEM	**Erimo**	**2.56**	**164**	P	**Pn**	**14 56 31.5**	**+0.7**
ERM	**Erimo**	**2.57**	**165**	Pn	**Pn**	**14 56 30.5**	**-0.3**
ERM	**Erimo**	**2.57**	**165**	P	**Pn**	**14 56 31.4**	**+0.6**
ERM	**Erimo**	**2.57**	**165**	*ce*PN	**Pn**	**14 56 31.3**	**+0.5**
ERM				pmax	pmax		
	comp=Z,447nm,1.3s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**99**	*c i*PN	**Pn**	**14 56 32.7**	**+1.1**
YUK				*i* S	**S**	**14 57 11.5**	**+2.6**
YUK				pmax	pmax		
	comp=Z,62nm,0.3s						
YUK				pmax	pmax		
	comp=N,53

YUK				A	A	14 57 13.9	
	comp=E,620nm,0.8s						
YUK				A	A	14 57 13.9	
	comp=E,1μm,0.8s						
YUK				A	A	14 57 17.4	
	comp=E,4μm,2.0s						
YUK				A	A	14 57 17.4	
	comp=E,2μm,2.0s						
JKB	**Kayabe**	**2.75**	**199**	A	A	14 56 33.1	
	comp=N,5.0nm,1.2s,comp=E,7.0nm,4.5s						
NMR	**Nemuro--Hokkai**	**2.76**	**113**	*e*PN	**Pn**	**14 56 32.0**	**-0.8**
NMR				*i* S	**S**	**14 57 09.0**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.76**	**113**	*e*P	**Pn**	**14 56 35.2**	**+2.4**
NEM2	**Nemuro 2**	**2.77**	**113**	P	**Pn**	**14 56 32.2**	**-0.8**
NEM2				S	**S**	**14 57 09.4**	**-2.0**
JOT	**Ohata**	**3.23**	**196**	A	A	14 56 38.5	
	comp=N,4.0nm,0.5s,comp=E,3.0nm,2.3s						
JAHD	**Aomorihigashid**	**3.29**	**192**	A	A	14 56 39.2	
	comp=N,11nm,0.6s,comp=E,11nm,0.4s						
SHO	**Shikotan**	**3.36**	**99**	*c i*PN	**Pn**	**14 56 38.6**	**-0.9**
SHO				*i* S	**S**	**14 57 21.0**	**-2.3**
SHO				pmax	pmax		
	comp=N,23nm,0.3s						
SHO				pmax	pmax		
	comp=Z,65nm,0.3s						
SHO				pmax	pmax		
	comp=E,27nm,0.2s						
SHO				smax	smax		
	comp=N,396nm,0.3s						
SHO				smax	smax		
	comp=E,624nm,0.2s						
SHO	**Shikotan**	**3.36**	**99**	*i* P	**Pn**	**14 56 38.6**	**-0.9**
SHO				AMB	AMB	14 56 40.7	
	comp=E,70nm,0.3s						
SHO				*i* S	**S**	**14 57 21.0**	**-2.3**
SHO				A	A	14 57 23.6	
	comp=E,400nm,0.3s						
SHO				A	A	14 57 23.6	
	comp=E,620nm,0.3s						
JARK	**Aomorirokkasho**	**3.54**	**191**	A	A	14 56 42.1	
	comp=N,9.0nm,0.7s,comp=E,8.0nm,0.9s						
JSI2	**Shiura 2**	**3.69**	**202**	A	A	14 56 43.7	
	comp=N,5.0nm,0.9s,comp=E,4.0nm,2.3s						
JTM	**Tenmabayashi**	**3.80**	**194**	Pn	**Pn**	**14 56 43.7**	**-1.1**
JTM	**Tenmabayashi**	**3.80**	**194**	P	**Pn**	**14 56 44.0**	**-0.8**
JTM	**Tenmabayashi**	**3.80**	**194**	A	A	14 56 45.1	
	comp=N,5.0nm,3.8s,comp=E,5.0nm,5.6s						
TEY	**Ternei**	**4.05**	**280⇑**	*e*PN	**Pn**	**14 56 47.5**	**-0.1**
TEY				*e*		14 57 34.3	
TEY				pmax	pmax		
	comp=Z,230nm,0.6s						
TEY				pmax	pmax		
	comp=E,220nm,0.6s						
TEY				pmax	pmax		
	comp=E,200nm,3.9s						
TEY				pmax	pmax		
	comp=N,300nm,5.5s						
TEY				pmax	pmax		
	comp=Z,100nm,6.3s						
TEY	**Ternei**	**4.05**	**280**	*e*P	**Pn**	**14 56 47.5**	**-0.1**
TEY				AMB	AMB	14 56 48.1	
	comp=Z,230nm,0.6s						
TEY				A	A	14 57 38.7	
	comp=Z,300nm,6.3s						
TEY				A	A	14 57 38.7	
	comp=Z,200nm,6.3s						
TEY				A	A	14 57 38.7	
	comp=Z,100nm,6.3s						
KUR	**Kuril'sk**	**4.07**	**78**	*c i*PN	**Pn**	**14 56 49.2**	**+1.4**
KUR				*i* S	**S**	**14 57 39.9**	**+1.6**
KUR				pmax	pmax		
	comp=Z,356nm,0.8s						
KUR				pmax	pmax		
	comp=N,105nm,0.4s						
KUR				pmax	pmax		
	comp=E,56nm,0.4s						
KUR				smax	smax		
	comp=E,69nm,0.6s						
KUR				smax	smax		
	comp=N,133nm,0.7s						
KUR	**Kuril'sk**	**4.07**	**78**	*i* P	**Pn**	**14 56 49.2**	**+1.4**
KUR				AMB	AMB	14 56 50.1	
	comp=N,2μm,1.9s						
KUR				AMB	AMB	14 56 50.7	
	comp=N,360nm,0.8s						
KUR				*i* S	**S**	**14 57 39.9**	**+1.6**
KUR				A	A	14 57 41.9	
	comp=N,2μm,4.1s						
KUR				A	A	14 57 41.9	
	comp=N,2μm,4.1s						
KUR				A	A	14 57 48.1	
	comp=N,170nm,1.0s						
KUR				A	A	14 57 48.1	
	comp=N,110nm,1.0s						
JKEN	**Kujiedanarisaw**	**4.30**	**185**	A	A	14 56 51.2	
	comp=N,27nm,0.6s,comp=E,23nm,0.3s						
UGL	**Uglegorsk**	**4.59**	**359**	⇓*i*PN	**Pn**	**14 56 54.4**	**+0.4**
UGL				*i* S	**S**	**14 57 49.7**	**+0.1**
UGL				pmax	pmax		
	comp=Z,200nm,0.7s						
UGL				smax	smax		
	comp=E,2μm,7.3s						
UGL				smax	smax		
	comp=N,2μm,5.0s						
UGL	**Uglegorsk**	**4.59**	**359**	*i* P	**Pn**	**14 56 54.4**	**+0.4**
UGL				AMB	AMB	14 56 55.6	
	comp=N,210nm,0.5s						
UGL				*i* S	**S**	**14 57 49.7**	**+0.1**
UGL				A	A	14 57 54.9	
	comp=N,2μm,7.3s						
UGL				A	A	14 57 54.9	
	comp=N,2μm,7.3s						
JSZI	**Iwateshizukuis**	**4.84**	**192**	A	A	14 56 57.7	
	comp=N,6.0nm,2.8s,comp=E,6.0nm,0.8s						
JOM	**Ohasama**	**5.07**	**188**	A	A	14 57 00.5	
	comp=N,5.0nm,0.5s,comp=E,8.0nm,0.3s						
JRG	**Rokugo**	**5.23**	**194**	A	A	14 57 02.5	
	comp=N,4.0nm,1.4s,comp=E,4.0nm,1.5s						
OFUJ	**Ofunato**	**5.42**	**185**	A	A	14 57 05.0	
	comp=N,3.0nm,0.5s,comp=E,3.0nm,1.4s						
TYV	**Tymovskoe**	**6.38**	**2**	*e*PN	**Pn**	**14 57 17.2**	**+0.8**
TYV				*e*S	**S**	**14 58 31.3**	**+1.1**
TYV				pmax	pmax		
	comp=Z,51nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,2.3s						
TYV				smax	smax		
	comp=N,45nm,1.2s						
TYV				smax	smax		
	comp=E,34nm,1.2s						
TYV				smax	smax		
	comp=N,700nm,4.6s						
TYV				smax	smax		
	comp=E,500nm,4.6s						
TYV	**Tymovskoe**	**6.38**	**2**	*e*P	**Pn**	**14 57 17.2**	**+0.8**
TYV				AMB	AMB	14 57 18.8	
	comp=E,50nm,0.6s						
TYV				AMB	AMB	14 57 19.7	
	comp=E,200nm,2.3s						
TYV				*e*S	**S**	**14 58 31.3**	**+1.1**
TYV				A	A	14 58 33.1	
	comp=E,50nm,0.9s						
TYV				A	A	14 58 33.1	
	comp=E,40nm,0.9s						
TYV				A	A	14 58 34.0	
	comp=E,700nm,4.9s						
TYV				A	A	14 58 34.0	
	comp=E,500nm,4.9s						
JMM	**Marumori**	**6.71**	**190**	Pn	**Pn**	**14 57 18.8**	**-2.0**
JMM	**Marumori**	**6.71**	**190**	P	**Pn**	**14 57 19.0**	**-1.8**
JSD	**Sado**	**7.11**	**206**	Pn	**Pn**	**14 57 24.7**	**-1.2**
JSD	**Sado**	**7.11**	**206**	P	**Pn**	**14 57 24.9**	**-1.0**
USA0B	**Ussuriysk Arra**	**7.35**	**271**	Pn	**Pn**	**14 57 28.6**	**-0.3**
USA0B	**Ussuriysk Arra**	**7.35**	**271**	*i* PN	**Pn**	**14 57 28.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**7.35**	**271**		**Pn**	**14 57 28.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**7.35**	**271**	P	**Pn**	**14 57 28.9**	**+0.1**
	comp=E,223nm,0.8s,baz=85,slow=13,SNR=202						
USRK	**Ussuriysk Ar.**	**7.35**	**271**	PN	**Pn**	**14 57 29.0**	**+0.1**
GRNR	**Gornyy**	**7.41**	**330**	⇓*i*PN	**Pn**	**14 57 29.5**	**0.0**
GRNR				pmax	pmax		
	comp=N,20nm,0.7s						
GRNR				pmax	pmax		
	comp=E,20nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,40nm,0.7s						
GRNR	**Gornyy**	**7.41**	**330**	*e*P	**Pn**	**14 57 29.5**	**0.0**
VLA	**Vladivostok**	**7.61**	**263**	*d i*PN	**Pn**	**14 57 32.2**	**0.0**
MSHR	**Mys Shultsa**	**8.28**	**261**	*c e*PN	**Pn**	**14 57 40.4**	**-0.3**
MSHR				pmax	pmax		
	comp=Z,126nm,0.7s						
PSTR	**Posyet**	**8.50**	**261**	*i* PN	**Pn**	**14 57 43.6**	**0.0**
PSTR	**Posyet**	**8.50**	**261**	*e*P	**Pn**	**14 57 43.6**	**0.0**
MJB9	**Matsu-Tunnel**	**8.51**	**203**	Pn	**Pn**	**14 57 43.1**	**-0.7**
MAJO	**Matsushiro**	**8.51**	**202**	Pn	**Pn**	**14 57 42.2**	**-1.6**
MAJO	**Matsushiro**	**8.51**	**202**	P	**Pn**	**14 57 42.3**	**-1.6**
MAJO	**Matsushiro**	**8.51**	**202**	*i* PN	**Pn**	**14 57 42.5**	**-1.3**
MJAR	**Matsushiro Arr**	**8.51**	**202**	P	**Pn**	**14 57 42.9**	**-0.9**
	comp=Z,11nm,0.4s,baz=8.2,slow=14,SNR=24						
MJAR				S	**S**	**14 59 17.5**	**-2.7**
	comp=Z,11nm,0.8s,baz=17,slow=17,SNR=4.9						
KLR	**Kul'dur**	**8.61**	**307**	P	**Pn**	**14 57 45.0**	**+0.2**
	comp=Z,22nm,0.9s,baz=116,slow=14,SNR=41						
KLR				S	**S**	**14 59 19.7**	**-2.4**
	comp=Z,5.7nm,0.8s,baz=91,slow=15,SNR=1.9						
KLR	**Kul'dur**	**8.61**	**307**	*e*PN	**Pn**	**14 57 42.4**	**-2.4**
KLR				pmax	pmax		
	comp=Z,35nm,1.3s						
KLR	**Kul'dur**	**8.61**	**307**	*e*P	**Pn**	**14 57 45.0**	**+0.2**
NKL	**Nikolayevsk**	**8.72**	**354**	*e*P	**Pn**	**14 57 45.8**	**-0.4**
NKL				AMB	AMB	14 57 52.4	
	comp=Z,50nm,0.7s						
MDJ	**Mudanjiang**	**9.03**	**275**		**Pn**	**14 57 50.0**	**-0.4**
MDJ	**Mudanjiang**	**9.03**	**275**	P	**Pn**	**14 57 50.4**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,260nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,500nm,3.5s						
MDJ				LR	LR		
	comp=Z,470nm,10.3s						
MDJ				LR	LR		
	comp=Z,480nm,9.6s						
MDJ				LR	LR		
	comp=Z,280nm,8.9s						
MDJ	**Mudanjiang**	**9.03**	**275**	P	**Pn**	**14 57 50.3**	**0.0**
OKH	**Okha**	**9.08**	**3**	*d e*PN	**Pn**	**14 57 48.2**	**-2.5**
OKH	**Okha**	**9.08**	**3**	*e*P	**Pn**	**14 57 48.2**	**-2.5**
JGF	**Kuroka**	**9.63**	**204**	Pn	**Pn**	**14 57 56.1**	**-2.0**
JGF	**Kuroka**	**9.63**	**204**	P	**Pn**	**14 57 57.1**	**-1.0**
INU	**Inuyama**	**9.97**	**205**	Pn	**Pn**	**14 57 59.8**	**-2.5**
INU	**Inuyama**	**9.97**	**205**	P	**Pn**	**14 58 01.3**	**-1.1**
BNX	**BinXian**	**10.56**	**282**	⇑P	**Pn**	**14 58 08.9**	**-0.8**
BNX				S	**S**	**15 00 07.7**	**-0.3**
BNX				pmax	pmax		
	comp=Z,120nm,0.8s						
BNX				LR	LR		
	comp=Z,510nm,5.3s						
BNX				LR	LR		
	comp=Z,220nm,5.3s						
BNX				LR	LR		
	comp=Z,220nm,6.4s						
SKR	**Severo-Kuril's**	**11.22**	**52**	*e*PN	**Pn**	**14 58 17.8**	**-0.2**
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				MLR	MLR		
	comp=Z,700nm,11.0s						
SKR	**Severo-Kuril's**	**11.22**	**52**	*e*S	**S**	**15 00 21.2**	**-1.2**
SKR				*e*P	**Pn**	**14 58 19.6**	**+1.6**
SKR				AMB	AMB	14 58 20.7	
	comp=Z,1μm,3.0s						
SKR				A	A	15 00 29.4	
	comp=Z,1μm,4.0s						
SKR				A	A	15 00 29.4	
	comp=Z,880nm,4.0s						
JHJ	**Hachijo jima 2**	**11.52**	**190**	P	**Pn**	**14 58 21.1**	**-0.8**
	comp=Z,113nm,0.4s,baz=102,slow=19,SNR=6.8						
JHJ				S	S	15 00 19.6	-10
	comp=Z,199nm,0.4s,baz=45,slow=24,SNR=8.3						
JHJ2	**Mitsune**	**11.52**	**190**	P	**Pn**	**14 58 21.3**	**-0.6**
HEH	**HeiHe**	**11.58**	**305**	*e*P	**Pn**	**14 58 22.2**	**-0.3**
HEH				pmax	pmax		
	comp=Z,11nm,0.9s						
JMN	**Monobe**	**12.55**	**214**	P	**Pn**	**14 58 34.2**	**-0.6**
KSRS	**Korea Array**	**12.89**	**242**	P	**Pn**	**14 58 38.4**	**-0.6**
	comp=Z,17nm,0.7s,baz=55,slow=12,SNR=41						
KSRS				S	**S**	**15 00 58.4**	**-3.3**
	comp=Z,2.4nm,0.9s,baz=123,slow=31,SNR=1.1						
KS19	**Wonju Array Si**	**12.90**	**242**	Pn	**Pn**	**14 58 37.7**	**-1.3**
KSAR	**Wonju Array Be**	**12.92**	**242**	Pn	**Pn**	**14 58 37.8**	**-1.5**
KSAR	**Wonju Array Be**	**12.92**	**242**	PN	**Pn**	**14 58 37.8**	**-1.5**
KSAR	**Wonju Array Be**	**12.92**	**242**	*e*P	**Pn**	**14 58 37.8**	**-1.5**
PEA0B	**Petropavlovsk-**	**13.32**	**44**	Pn	**Pn**	**14 58 44.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**13.32**	**44**	*c e*PN	**Pn**	**14 58 45.0**	**+0.9**
PETK	**Petropavlovsk-**	**13.32**	**44**	Pn	**Pn**	**14 58 44.5**	**+0.4**
PETK	**Petropavlovsk-**	**13.32**	**44**	P	**P**	**14 58 45.3**	**-0.6**
	comp=Z,81nm,0.9s,baz=266,slow=19,SNR=53						
ZEA	**Zeya**	**13.46**	**319**	*e*PN	**Pn**	**14 58 46.6**	**+0.8**
ZEA				pmax	pmax		
	comp=N,30nm,0.7s						
ZEA				pmax	pmax		
	comp=E,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.6s						
ZEA	**Zeya**	**13.46**	**319**	*e*P	**Pn**	**14 58 46.6**	**+0.8**
PET	**Petropavlovsk**	**13.76**	**46**		**P**	**14 58 50.1**	**-0.6**
PET	**Petropavlovsk**	**13.76**	**46**	*c e*P	**Pn**	**14 58 50.0**	**+0.5**
PET				pmax	pmax		
	comp=Z,190nm,1.7s						
PET	**Petropavlovsk**	**13.76**	**46**	*e*S	**S**	**15 01 17.9**	**-3.7**
PET				*e*P	**P**	**14 58 50.2**	**-0.6**
PET				AMB	AMB	14 58 51.5	
	comp=Z,110nm,0.8s						
SNY	**Shenyang**	**13.88**	**265**	⇑P	**Pn**	**14 58 50.6**	**-0.4**
SNY				pmax	pmax		
	comp=Z,30nm,1.0s						
TJN	**Taejon**	**13.91**	**239**		**Pn**	**14 58 50.3**	**-1.3**
TJN	**Taejon**	**13.91**	**239**	P	**Pn**	**14 58 50.3**	**-1.3**
JTU	**Tsushima**	**14.03**	**229**	P	**Pn**	**14 58 52.9**	**-0.1**
JNU	**Nakatsue**	**14.38**	**222**		**Pn**	**14 58 56.3**	**-1.0**
JNU	**Nakatsue**	**14.38**	**222**	P	**Pn**	**14 58 56.1**	**-1.2**
	comp=Z,80nm,0.9s,baz=40,slow=7.7,SNR=38						
JNU				S	**S**	**15 01 38.0**	**+1.6**
	comp=Z,31nm,1.3s,baz=140,slow=16,SNR=3.5						
JNU	**Nakatsue**	**14.38**	**222**	P	**Pn**	**14 58 56.7**	**-0.6**
MA2	**Magadan**	**15.97**	**16**	P	**P**	**14 59 15.2**	**+0.1**
MA2	**Magadan**	**15.97**	**16**	P	**Pn**	**14 59 15.6**	**-0.4**
	comp=Z,32nm,0.7s,baz=203,slow=8.8,SNR=41						
MA2	**Magadan**	**15.97**	**16**	*c e*P	**Pn**	**14 59 15.7**	**-0.4**
MA2				pmax	pmax		
	comp=Z,41nm,0.8s						
HIA	**Hailar**	**16.08**	**295**	P	**P**	**14 59 15.8**	**-0.7**
HIA	**Hailar**	**16.08**	**295**	P	**Pn**	**14 59 17.2**	**-0.4**
HIA	**Hailar**	**16.08**	**295**	P	**P**	**14 59 15.8**	**-0.7**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s						
JCJ	**Chichijima**	**17.36**	**180**	P	**P**	**14 59 25.1**	**-5.5**
	comp=Z,64nm,0.4s,baz=288,slow=19,SNR=3.0						
JCJ				S	**S**	**15 02 31.9**	**-7.0**
	comp=Z,87nm,0.9s,baz=107,slow=20,SNR=2.2						
XLT	**XiLinHaoTe**	**18.74**	**277**	*e*P	**P**	**14 59 44.4**	**-1.1**
XLT				pmax	pmax		
	comp=Z,45nm,1.0s						
XLT				pmax	pmax		
	comp=Z,140nm,4.1s						
YAK	**Yakutsk**	**19.04**	**342**	P	**P**	**14 59 46.3**	**-2.1**
YAK	**Yakutsk**	**19.04**	**342**	P	**P**	**14 59 46.0**	**-2.4**
	comp=Z,8.5nm,0.3s,baz=40,slow=3.8,SNR=6.3						
YAK				S	**S**	**15 03 05.9**	**-5.6**
	comp=Z,8.4nm,0.3s,baz=149,slow=23,SNR=8.7						
YAK	**Yakutsk**	**19.04**	**342**	*e*P	**P**	**14 59 46.3**	**-2.1**
YAK				*e*S	**S**	**15 03 10.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,21nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK				smax	smax		
	comp=E,28nm,1.4s						
YAK				smax	smax		
	comp=N,18nm,1.0s						
SEY	**Seymchan**	**19.38**	**14**	P	**P**	**14 59 51.5**	**-0.5**
	comp=N,21nm,0.8s,baz=212,slow=7.9,SNR=82						
SEY				S	**S**	**15 03 15.1**	**-3.1**
	comp=N,1.0nm,0.8s,baz=95,slow=22,SNR=7.5						
SEY	**Seymchan**	**19.38**	**14**	*e*P	**P**	**14 59 50.6**	**-1.4**
SEY				pmax	pmax		
	comp=Z,36nm,1.2s						
BJT	**Baijiatuau**	**19.77**	**266**	P	**P**	**14 59 55.0**	**-1.5**
BJT	**Baijiatuau**	**19.77**	**266**	P	**P**	**14 59 55.8**	**-0.7**
BJT	**Baijiatuau**	**19.77**	**266**	P	**P**	**14 59 55.0**	**-1.5**
BJT				pmax	pmax		
	comp=Z,51nm,0.7s						
TIA	**Tai'an**	**20.79**	**255**	P	**P**	**15 00 04.3**	**-3.1**
TIA				PcP	**PcP**	**15 04 06.1**	**+0.3**
TIA				pmax	pmax		
	comp=Z,120nm,0.9s						
JOW	**Kunigami**	**20.91**	**217**	P	**P**	**15 00 07.9**	**-0.7**
	comp=Z,7.4nm,0.3s,baz=103,slow=14,SNR=9.5						
JOW				S	**S**	**15 03 46.3**	**-0.7**
	comp=Z,10nm,0.9s,baz=87,slow=26,SNR=1.9						
	comp=Z,7.4nm,0.3s						
JOW	**Kunigami**	**20.91**	**217**	P	**P**	**15 00 08.5**	**-0.1**
HNS	**HongShan**	**21.90**	**261**	⇑P	**P**	**15 00 17.1**	**-1.1**
HNS				pmax	pmax		
	comp=Z,61nm,1.1s						
NJ2	**Nanjing**	**22.08**	**244**	⇓P	**P**	**15 00 19.7**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,35nm,0.5s						
HHC	**Hu-ho-hao-te**	**22.78**	**272**	*e*P	**P**	**15 00 26.4**	**0.0**
HHC				pmax	pmax		
	comp=Z,26nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,3.8s						
ULN	**Ulaanbaatar**	**24.46**	**290**	P	**P**	**15 00 41.3**	**-0.3**
ULN	**Ulaanbaatar**	**24.46**	**290**	*i* P	**P**	**15 00 41.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,18nm,1.1s						
ULN	**Ulaanbaatar**	**24.46**	**290**	*e*P	**P**	**15 00 41.5**	**-0.1**
LYN	**LuoYang**	**24.90**	**257**	P	**P**	**15 00 47.0**	**+1.5**
LYN				pmax	pmax		
	comp=Z,40nm,0.8s						
SONM	**Songino Array**	**24.91**	**290**	P	**P**	**15 00 45.7**	**+0.1**
SONM	**Songino Array**	**24.91**	**290**	P	**P**	**15 00 46.3**	**+0.7**
	comp=Z,24nm,0.7s,baz=86,slow=8.8,SNR=146						
SONM				PcP	**PcP**	**15 04 14.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=71,slow=3.2,SNR=2.0						
SONM				S	**S**	**15 04 54.0**	**+2.8**
	comp=Z,0.6nm,1.0s,baz=86,slow=12,SNR=2.1						
SONM				ScP	**ScP**	**15 07 30.6**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=173,slow=5.0,SNR=4.4						
	comp=Z,24nm,0.7s						
WHN	**Wuhan**	**25.98**	**247**	P	**P**	**15 00 56.8**	**+1.5**
NACB	**Ninganchiao**	**26.35**	**227**	P	**P**	**15 00 59.2**	**+0.6**
BILL	**Bilibino**	**26.75**	**20**	P	**P**	**15 01 00.7**	**-1.0**
BILL				IAmb	IAmb	15 01 15.0	
	comp=Z,6.9nm,1.2s						
BILL	**Bilibino**	**26.75**	**20**	*i* P	**P**	**15 01 02.9**	**+1.2**
BILL				pmax	pmax		
	comp=Z,20nm,2.9s						
BILL	**Bilibino**	**26.75**	**20**	*e*P	**P**	**15 01 02.9**	**+1.2**
ZAK	**Zakamensk**	**26.77**	**297**	*e*P	**P**	**15 01 02.2**	**0.0**
ZAK				*e*		15 01 49.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YULB	**Yu-li**	**27.14**	**226**	P	**P**	**15 01 07.0**	**+1.3**
ENH	**Enshi**	**29.42**	**252**	P	**P**	**15 01 25.0**	**-0.9**
LZH	**Lanzhou**	**30.24**	**267**	*e*P	**P**	**15 01 34.1**	**+1.0**
LZH				pP	pP	15 02 25.3	+5.9
LZH				sP	sP	15 02 43.7	-2.6
LZH				pmax	pmax		
	comp=Z,36nm,1.5s						
GTA	**Gaotai**	**31.69**	**276**	P	**P**	**15 01 46.4**	**+0.7**
GTA				pP	pP	15 02 36.6	+4.3
GTA				S	S	**15 06 40.4**	**+2.8**
GTA				ScS	**ScS**	**15 11 51.0**	**+0.3**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SPIA	**Saint Paul Isl**	**31.90**	**49**	P	**P**	**15 01 47.1**	**0.0**
	baz=267						
GAMB	**Gambell**	**32.18**	**37**	P	**P**	**15 01 50.4**	**+0.9**
	baz=255						
P08K	**Saint George I**	**32.26**	**51**	P	**P**	**15 01 49.6**	**-0.7**
	baz=269						
UNV	**Unalaska Valle**	**34.11**	**56**	P	**P**	**15 02 06.6**	**+0.3**
	baz=275						
M11K	**Mekoryuk**	**34.19**	**44**	P	**P**	**15 02 07.5**	**+0.6**
	baz=266						
F14K	**Arctic Creek**	**34.83**	**35**	P	**P**	**15 02 11.2**	**-1.1**
	baz=258						
K13K	**Kusilvak Mount**	**35.06**	**41**	P	**P**	**15 02 14.1**	**-0.2**
	baz=265						
ANM	**Nome**	**35.06**	**37**	P	**P**	**15 02 13.6**	**-0.7**
	baz=261						
M13K	**Dall Lake**	**35.61**	**44**	P	**P**	**15 02 19.4**	**+0.4**
	baz=268						
J14K	**Nanvaranak Lak**	**35.64**	**40**	P	**P**	**15 02 19.3**	**+0.1**
	baz=265						
C16K	**Lisburne Hills**	**35.83**	**30**	IAmb	IAmb	15 02 20.6	
	comp=Z,5.1nm,0.8s						
C16K	**Lisburne Hills**	**35.83**	**30**	P	**P**	**15 02 19.7**	**-1.1**
	baz=256						
M14K	**Bethel**	**36.30**	**43**	P	**P**	**15 02 24.7**	**-0.1**
	baz=269						
H16K	**Elim**	**36.41**	**37**	P	**P**	**15 02 24.7**	**-1.0**
	baz=264						
N14K	**Kuskokwak Cree**	**36.44**	**45**	P	**P**	**15 02 26.1**	**+0.1**
	baz=271						
D17K	**Noatak River**	**36.54**	**32**	P	**P**	**15 02 26.9**	**+0.1**
	baz=259						
K15K	**Wolf Creek Mou**	**36.55**	**41**	P	**P**	**15 02 27.3**	**+0.3**
	baz=268						
GOMU	**GeErMu**	**36.65**	**274**	P	**P**	**15 02 28.3**	**-0.3**
GOMU				pmax	pmax		
	comp=Z,12nm,0.8s						
C17K	**DeLong Mountai**	**36.66**	**30**	P	**P**	**15 02 27.7**	**-0.1**
	baz=258						
RDOG	**Red Dog Mine**	**36.67**	**31**	P	**P**	**15 02 27.7**	**-0.2**
	baz=258						
J16K	**Anvik River**	**37.02**	**39**	P	**P**	**15 02 30.8**	**-0.1**
	baz=267						
PZH	**PanZhiHua**	**37.09**	**255**	P	**P**	**15 02 32.2**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,6.3s						
KMI	**Kunming**	**37.30**	**252**	⇑P	**P**	**15 02 34.3**	**+0.3**
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
B18K	**Kokolik River**	**37.34**	**29**	P	**P**	**15 02 32.9**	**-0.6**
	baz=258						
C18K	**Utukok River**	**37.41**	**30**	P	**P**	**15 02 32.7**	**-1.5**
C18K				IAmb	IAmb	15 02 33.9	
	comp=Z,6.7nm,1.0s						
C18K	**Utukok River**	**37.41**	**30**	P	**P**	**15 02 33.4**	**-0.8**
	baz=260						
E18K	**Tukpahlearik C**	**37.43**	**32**	P	**P**	**15 02 33.7**	**-0.6**
	baz=262						
L16K	**Owhat River**	**37.51**	**42**	P	**P**	**15 02 34.6**	**-0.4**
	baz=270						
F18K	**Selawik**	**37.69**	**34**	P	**P**	**15 02 36.2**	**-0.2**
	baz=264						
ZALV	**Zalesovo Beam**	**37.71**	**305**	P	**P**	**15 02 36.2**	**-0.6**

baz=269
E19K **Redstone River** 38.72 32 P P 15 02 45.0 -0.1
baz=265
H19K **Roundabout Mou** 38.92 36 P P 15 02 46.6 -0.1
baz=268
D20K **Etivluk River** 39.08 30 P P 15 02 47.8 -0.2
baz=264
E20K **Nigu River** 39.19 31 P P 15 02 48.7 -0.3
baz=265
M18K **Stony River** 39.26 42 P P 15 02 49.1 -0.5
baz=274
F20K **Avaraart Lake** 39.28 33 P P 15 02 49.2 -0.4
baz=267
N18K **Kilae Creek** 39.28 43 P P 15 02 49.0 -0.8
baz=275
A21K **Barrow** 39.42 26 P P 15 02 49.8 -1.0
baz=261,SNR=8.0
O18K **Koktuh Hills** 39.70 45 P P 15 02 52.7 -0.5
baz=276
P18K **Big Mountain,** 39.74 45 P P 15 02 52.8 -0.8
baz=277
C21K **Knifeblade Rid** 39.78 30 P P 15 02 53.4 -0.4
baz=265
B21K **Ikpikpuk River** 39.88 29 P P 15 02 54.2 -0.3
baz=265
J20K **Nowinta River** 39.90 38 P P 15 02 55.8 +1.0
J20K IAmb IAmb 15 02 57.9
comp=Z,7.3nm,0.9s
J20K **Nowinta River** 39.90 38 P P 15 02 54.3 -0.5
baz=272
N19K **Bonanza Creek** 39.96 43 P P 15 02 54.4 -1.1
baz=276
K20K **Telida** 39.97 39 P P 15 02 54.6 -0.7
baz=273
CHIR **Chirikof Islan** 40.06 51 P P 15 02 55.8 -0.5
baz=281
O19K **Port Alsworth** 40.10 44 P P 15 02 56.0 -0.5
baz=276
L20K **Farewell, AK** 40.11 40 P P 15 02 55.9 -0.7
baz=274
G21K **Allakaket** 40.14 34 P P 15 02 56.4 -0.4
baz=270
F21K **Alatna River** 40.16 33 P P 15 02 56.1 -0.9
baz=269
B22K **Teshekpuk Lake** 40.35 28 P P 15 02 57.6 -0.8
baz=265
H21K **Melozitna Rive** 40.43 35 IAmb IAmb 15 03 01.8
comp=Z,6.6nm,0.8s
H21K **Melozitna Rive** 40.43 35 P P 15 02 57.9 -1.3
baz=271
D22K **Ayikyak River** 40.52 30 P P 15 02 59.2 -0.6
baz=268
Q19K **Cape Douglas,** 40.61 46 P P 15 02 59.7 -1.0
baz=278
P19K **Oil Pt** 40.72 45 P P 15 02 60.0 -1.6
baz=278
SII **Sitkinak Islan** 40.72 49 P P 15 03 00.7 -0.9
baz=281
I21K **Tanana** 40.79 36 P P 15 03 01.6 -0.5
baz=272
PPLA **Purkeypile** 40.85 40 P P 15 03 01.5 -1.3
baz=275
CAST **Castle Rocks** 40.86 39 IAmb IAmb 15 03 04.5
comp=Z,12nm,1.2s
CAST **Castle Rocks** 40.86 39 P P 15 03 01.5 -1.1
baz=274
G22K **Bettles** 40.93 33 P P 15 03 03.0 -0.1
baz=271
O20K **Slope Mountain** 40.96 44 P P 15 03 02.3 -1.3
baz=278
OHAK **Old Harbor** 41.08 48 P P 15 03 03.1 -1.4
baz=281
MK31 **Makanchi Array** 41.09 295*ce*P P 15 03 04.9 +0.1
MKAR **Makanchi Array** 41.09 295 P P 15 03 04.7 -0.1
MKAR **Makanchi Array** 41.09 295 P P 15 03 05.2 +0.4
comp=Z,3.2nm,0.6s,baz=81,slow=8.8,SNR=36
MKAR PcP **PcP** 15 04 59.4 -0.1
comp=Z,0.4nm,0.3s,baz=74,slow=4.1,SNR=2.4
MKAR ScP **ScP** 15 08 26.5 -0.1
comp=Z,1.1nm,0.8s,baz=63,slow=4.7,SNR=6.7
MKAR S **S** 15 08 59.3 -0.2
comp=Z,1.9nm,1.1s,baz=73,slow=17,SNR=8.2
comp=Z,3.2nm,0.6s
SPU **Mount Spurr** 41.09 42 IAmb IAmb 15 03 09.8
comp=Z,16nm,1.3s
D23K **Nanushuk River** 41.24 30 P P 15 03 05.2 -0.5
baz=269
C23K **Itkillik River** 41.28 29 P P 15 03 05.1 -0.9
baz=268
MAKZ **Makanchi** 41.28 295 P P 15 03 06.3 -0.1
MAKZ IAmb IAmb 15 03 09.9
comp=Z,5.9nm,0.9s
MAKZ **Makanchi** 41.28 295 P P 15 03 06.3 -0.1
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
Q20K **Shuyak Island** 41.30 46 P P 15 03 05.4 -0.8
baz=280
KDAK **Kodiak Island** 41.35 47 P P 15 03 05.6 -1.1
baz=280
COLD **Coldfoot** 41.44 33 IAmb IAmb 15 03 09.0
comp=Z,7.2nm,1.0s
COLD **Coldfoot** 41.44 33 P P 15 03 07.0 -0.3
baz=272,SNR=7.0
G23K **Bananza Creek** 41.53 34 IAmb IAmb 15 03 09.6
comp=Z,9.9nm,1.1s
G23K **Bananza Creek** 41.53 34 P P 15 03 07.7 -0.4
baz=272
CAPN **Captain Cook N** 41.59 43 P P 15 03 08.3 -0.3
baz=278
E23K **Chandalar** 41.64 32 P P 15 03 08.7 -0.3
baz=271
TOLK **Toolik Lake Re** 41.65 31 IAmb IAmb 15 03 30.8
comp=Z,11nm,1.4s
TOLK **Toolik Lake Re** 41.65 31 P P 15 03 09.0 0.0
baz=271
TRF **Thorofare Moun** 41.66 39 P P 15 03 09.3 -0.1
baz=276
I23K **Minto, Yukon-K** 41.90 36 IAmb IAmb 15 03 13.4
comp=Z,8.5nm,1.1s
I23K **Minto, Yukon-K** 41.90 36 P P 15 03 10.9 -0.2
baz=275
D24K **Happy Valley** 41.91 30 P P 15 03 10.3 -0.7
baz=271
C24K **Franklin Bluff** 41.95 29 P P 15 03 10.6 -0.7
baz=270
BRSE **Bradley Lake S** 41.95 44 P P 15 03 10.7 -0.8
baz=280
E24K **Your Creek** 42.06 32 P P 15 03 12.4 0.0
baz=272
NEA2 **Nenana** 42.08 37 IAmb IAmb 15 03 15.6
comp=Z,9.4nm,0.8s
NEA2 **Nenana** 42.08 37 P P 15 03 12.4 -0.1
baz=276,SNR=5.8
KURK **Kurchatov** 42.16 302 P P 15 03 13.4 +0.1
KURK IAmb IAmb 15 03 16.7
comp=Z,11nm,1.3s
KURK **Kurchatov** 42.16 302*ce*P P 15 03 14.4 +1.1
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURK **Kurchatov** 42.16 302 *e*P P 15 03 14.4 +1.1
RC01 **Rabbit Creek A** 42.22 42 P 15 03 14.2 +0.5
RC01 IAmb IAmb 15 03 16.5
comp=Z,14nm,1.0s
RC01 **Rabbit Creek A** 42.22 42 P P 15 03 13.7 0.0
baz=279
MCK **McKinley** 42.23 38 P P 15 03 13.5 -0.3
baz=277
KURBB **Kurchatov Arra** 42.24 302 P P 15 03 14.5 +0.6
comp=Z,2.6nm,0.2s,baz=68,slow=8.7,SNR=16
comp=Z,2.6nm,0.2s
F24K **Squaw Lake** 42.32 32 P P 15 03 14.4 0.0
baz=274
PMR **Palmer** 42.43 41 P P 15 03 15.7 +0.4
baz=279
H24K **Noodor Dome** 42.45 35 IAmb IAmb 15 03 19.0
comp=Z,5.2nm,0.8s
H24K **Noodor Dome** 42.45 35 P P 15 03 13.7 -1.9
baz=275
GHO **Glory Hole Cre** 42.50 41 P P 15 03 16.7 +0.6
WRH **Wood River Hil** 42.51 37 IAmb IAmb 15 03 18.9
comp=Z,7.6nm,1.0s
SEW **Seward** 42.53 44 P P 15 03 16.6 +0.5
baz=280
G24K **Hadweenzic Riv** 42.54 34 P P 15 03 16.2 0.0
baz=275
COLA **College** 42.56 36 P P 15 03 16.6 +0.2
baz=276
COLA **College** 42.56 36 P P 15 03 18.3 +1.9
COLA **College** 42.56 36 P P 15 03 16.9 +0.5
COLA pmax pmax
comp=Z,20nm,0.9s
POKR **Poker Plat Res** 42.71 36 IAmb IAmb 15 03 21.9
comp=Z,5.9nm,0.7s
POKR **Poker Plat Res** 42.71 36 P P 15 03 17.4 -0.2
baz=277
SML **Sawmill** 42.77 41 P P 15 03 17.8 -0.4
baz=279
D25K **Kavik River** 42.78 30 P P 15 03 17.8 -0.3
baz=273
KNK **Knik Glacier** 42.78 41 P P 15 03 17.8 -0.4
baz=280
PWL **Port Wells** 42.93 42 P P 15 03 19.5 +0.1
baz=280
IL31 42.99 36 IAmb IAmb 15 03 22.5
comp=Z,8.5nm,0.8s
ILAR **Eielson Array** 42.99 36 P P 15 03 19.8 0.0
comp=Z,7.0nm,0.8s,baz=275,slow=6.9,SNR=43
comp=Z,7.0nm,0.8s
HDA **Harding Lake** 43.01 37 P P 15 03 19.5 -0.5
baz=278
M23K **Glacier View** 43.06 41 P P 15 03 19.4 -1.1
baz=280
F25K **Christian Rive** 43.17 32 P P 15 03 20.8 -0.5
baz=276
SCM **Sheep Creek Mo** 43.24 41 P P 15 03 21.4 -0.6
baz=280
H25L **Birch Creek** 43.24 34 P P 15 03 21.0 -0.8
baz=277
PRP **Porcupine Dome** 43.46 35 P P 15 03 24.6 +0.9
PRP IAmb IAmb 15 03 26.8
comp=Z,11nm,0.8s
PRP **Porcupine Dome** 43.46 35 P P 15 03 22.6 -1.1
baz=278
GLI **Glacier Island** 43.53 42 P P 15 03 23.8 -0.4
baz=281
PHRA **Phrae** 43.54 247 P P 15 03 25.6 +0.8
K24K **Donnelly Dome** 43.61 38 P P 15 03 24.1 -0.7
baz=279
J25K **Salcha River,** 43.65 37 P P 15 03 24.9 -0.3
baz=279
M24K **Tolsona, Glenn** 43.72 40 P P 15 03 25.4 -0.3
baz=281
PAX **Paxson** 43.89 39 P P 15 03 26.6 -0.5
baz=280
KLU **Klutina** 43.96 41 P P 15 03 26.7 -0.9
baz=282
G26K **Porcupine Rive** 43.96 33 P P 15 03 26.5 -1.0
baz=278,SNR=5.5
RIDG **Independent Ri** 44.02 38 IAmb IAmb 15 03 30.9
comp=Z,8.4nm,0.9s
RIDG **Independent Ri** 44.02 38 P P 15 03 27.7 -0.5
baz=280
HARP **HAARP** 44.14 40 P P 15 03 28.6 -0.4
baz=281
CHTO **Chiang Mai** 44.17 249 P P 15 03 30.0 +0.2
CHTO IAmb IAmb 15 03 31.0
comp=Z,4.6nm,0.6s
CHTO **Chiang Mai** 44.17 249 P P 15 03 30.0 +0.2
CHTO pmax pmax
comp=Z,5.0nm,0.6s
EYAK **Cordova Ski Ar** 44.24 42 P P 15 03 29.9 +0.1
baz=283
EYAK **Cordova Ski Ar** 44.24 42 P P 15 03 31.6 +1.8
SCRK **Sand Creek** 44.36 37 P P 15 03 30.3 -0.5
SCRK IAmb IAmb 15 03 32.9
comp=Z,8.7nm,0.7s
SCRK **Sand Creek** 44.36 37 P P 15 03 30.8 -0.1
baz=281,SNR=10
CMAR **Chiang Mai Arr** 44.42 248 P P 15 03 31.9 +0.2
comp=Z,0.9nm,0.6s,baz=39,slow=6.7,SNR=8.9
CMAR PcP **PcP** 15 05 12.4 +1.3
comp=Z,1.4nm,0.7s,baz=56,slow=2.2,SNR=8.3
CMAR ScP **ScP** 15 08 41.5 +1.1
comp=Z,1.0nm,0.8s,baz=38,slow=4.0,SNR=6.5
comp=Z,0.9nm,0.6s
J26L **Joseph Creek** 44.44 37 P P 15 03 31.4 -0.1
baz=280
N25K **Chitina, Valde** 44.56 41 P P 15 03 32.1 -0.3
baz=282
BMRM **Bremner River** 44.70 42 P P 15 03 33.7 +0.2
baz=283
G27K **Doyon Strip** 44.82 33 P P 15 03 34.6 +0.2
baz=280
L26K **Log Cabin Wild** 44.83 39 P P 15 03 34.5 +0.1
baz=282
H27K **Steamboat Moun** 44.97 34 P P 15 03 35.7 +0.2
baz=280
KAIM **Kayak Island** 45.03 43 P P 15 03 36.3 +0.3
baz=284
I27K **Kandik River** 45.05 35 P P 15 03 36.5 +0.3
baz=281
M26K **Nabesna, AK** 45.12 39 P P 15 03 37.0 +0.2
baz=283
WUS **Wushi** 45.31 289 IAmb IAmb 15 03 42.4
comp=Z,6.7nm,0.7s
E28M **Babbage River** 45.31 30 P P 15 03 38.4 +0.3
baz=280
F28M **Old Crow** 45.36 32 P P 15 03 38.7 +0.1
baz=280
EGAK **Eagle** 45.40 36 IAmb IAmb 15 03 41.8
comp=Z,10.0nm,0.8s
EGAK **Eagle** 45.40 36 P P 15 03 38.7 -0.2
baz=282,SNR=7.3
L27K **Beaver Creek,** 45.49 38 P P 15 03 40.1 +0.4
baz=283
BCAR **Beaver Creek A** 45.51 38 P P 15 03 40.6 +0.7
M27K **Edge Creek, AK** 45.64 39 P P 15 03 40.8 -0.2
baz=284
I28M **Miner Creek** 45.77 35 P P 15 03 42.1 +0.2
baz=282
E29M **Blow River** 45.94 30 P P 15 03 43.1 0.0
baz=281
BVCY **Beaver Creek** 46.08 39 P P 15 03 45.0 +0.8
baz=285
MESA **MESA** 46.16 42 P P 15 03 44.2 -0.9
baz=286
G29M **Pine Creek** 46.20 33 P P 15 03 45.0 -0.1
baz=283
H29M **Whitestone** 46.22 34 P P 15 03 45.1 -0.2
baz=283
BVAR **Borovoye Array** 46.27 307 P P 15 03 46.0 +0.2
comp=Z,1.7nm,0.3s,baz=78,slow=11,SNR=10
BVAR PcP **PcP** 15 05 17.2 +0.1
comp=Z,0.6nm,0.4s,baz=74,slow=6.3,SNR=1.7
comp=Z,1.7nm,0.3s
DAWY **Dawson** 46.31 37 P P 15 03 46.8 +0.7
baz=284
BRVK **Borovoye** 46.32 307 P P 15 03 46.4 +0.2
BRVK **Borovoye** 46.32 307*ce*P P 15 03 45.8 -0.4
BRVK **Borovoye** 46.32 307 *e*P P 15 03 45.8 -0.4
YUK3 **Moose Creek** 46.43 40 P P 15 03 47.9 +0.7
baz=286
O28M **Mount Upton** 46.83 41 P P 15 03 49.8 -0.6
baz=287
EPYK **Eagle Plains** 46.84 33 IAmb IAmb 15 03 52.8
comp=Z,7.4nm,0.7s
EPYK **Eagle Plains** 46.84 33 P P 15 03 50.5 +0.4
baz=284
G30M **tAoh Zraii Nji** 46.88 32 P P 15 03 49.9 -0.5
baz=284
YUK8 **Steele Glacier** 46.89 40 P P 15 03 50.2 -0.6
baz=286
F30M **Barrier River** 46.89 31 P P 15 03 50.9 +0.5
baz=284,SNR=5.7
PINM **Pinnacle** 47.00 42 P P 15 03 51.4 -0.1
baz=287
L29M **L29M** 47.11 38 IAmb IAmb 15 03 55.1
comp=Z,10nm,1.1s
L29M **L29M** 47.11 38 P P 15 03 52.5 +0.3
baz=286
M29M **Somme Creek** 47.15 39 P P 15 03 51.8 -0.8
baz=286
K29M **Barlow Dome** 47.17 37 P P 15 03 52.7 0.0
baz=286
TOLI2 **Tolitoli** 47.20 210 P P 15 03 53.7 +0.3
I30M **Mount Dempster** 47.27 35 IAmb IAmb 15 03 57.7
comp=Z,7.7nm,0.9s
I30M **Mount Dempster** 47.27 35 P P 15 03 53.6 +0.1
baz=286
YUK4 **Talbot Arm** 47.38 40 P P 15 03 54.3 -0.2
baz=287
J30M **Hart River** 47.47 35 P P 15 03 54.3 -0.7
baz=286
INK **Inuvik** 47.54 30 P P 15 03 55.2 -0.2
baz=285
G31M **Satah River** 47.64 32 P P 15 03 56.2 +0.1
baz=286,SNR=5.8
YUK6 **Outpost Mounta** 47.64 40 P P 15 03 56.7 +0.1
baz=288
F31M **Tsiigehtchic** 47.69 31 P P 15 03 56.2 -0.3
baz=286
O29M **Mount Kennedy** 47.74 41 P P 15 03 57.4 +0.3
baz=288
AAK **Ala-Archa** 47.83 293 P P 15 03 58.5 +0.3
AAK **Ala-Archa** 47.83 293 P P 15 03 58.5 +0.3
AAK pmax pmax
comp=Z,6.0nm,1.4s
M30M **Minto, Yukon** 47.85 38 P P 15 03 58.3 +0.4
baz=288
H31M **Peel River** 47.92 33 IAmb IAmb 15 04 01.3
comp=Z,8.1nm,0.7s
H31M **Peel River** 47.92 33 P P 15 03 59.1 +0.7
baz=287
FAKI **Fak Fak** 48.04 193 P P 15 04 00.1 +0.2
FAKI **Fak Fak** 48.04 193 P P 15 04 00.5 +0.7
HYT **Haines Junctio** 48.07 40 P P 15 04 01.3 +1.6
HYT **Haines Junctio** 48.07 40 P P 15 04 00.9 +1.2
baz=289,SNR=23
KSH **Kashi** 48.28 288 P P 15 04 05.2 +3.6
KSH pmax pmax
comp=Z,2.0nm,0.9s
P30M **Million Dollar** 48.56 41 P P 15 04 04.6 +1.2
baz=290
SANI **Sanana** 48.56 202 P P 15 04 04.2 +0.4
N31M **Braeburn, Yuko** 48.65 39 IAmb IAmb 15 04 07.4
comp=Z,14nm,0.8s
N31M **Braeburn, Yuko** 48.65 39 P P 15 04 05.2 +1.2
baz=289,SNR=5.5
O30N **Mendenhall** 48.75 40 IAmb IAmb 15 04 07.7
comp=Z,7.7nm,0.8s
O30N **Mendenhall** 48.75 40 P P 15 04 05.3 +0.6
baz=290,SNR=5.8
M31M **Drury Creek, Y** 49.03 38 P P 15 04 08.2 +1.3
baz=290
PLBC **Pleasant Camp** 49.07 42 P P 15 04 08.3 +1.1
baz=291
A36M **Sachs Harbour** 49.16 24 IAmb IAmb 15 04 10.3
comp=Z,4.9nm,0.7s
A36M **Sachs Harbour** 49.16 24 P P 15 04 07.6 0.0
baz=289,SNR=5.9
WHY **Whitehorse** 49.34 40 IAmb IAmb 15 04 12.4
comp=Z,8.5nm,1.0s
WHY **Whitehorse** 49.34 40 P P 15 04 09.8 +0.5
baz=291
FARO **Faro, Yukon** 49.48 38 P P 15 04 10.1 -0.2
baz=290
SKAG **Skagway** 49.56 42 P P 15 04 10.3 -0.6
baz=291
S31K **Pelican** 49.68 44 P P 15 04 11.9 +0.2
baz=292
N32M **Quiet Lake** 49.99 39 P P 15 04 14.9 +0.8
baz=292
KKAR **Karatay Array** 50.22 295 P P 15 04 15.6 -0.5
KKAR **Karatay Array** 50.22 295 IAmb IAmb 15 04 17.1
comp=Z,1.8nm,0.6s
KKAR **Karatay Array** 50.22 295 P P 15 04 15.6 -0.5
P32M **Atlin** 50.28 41 P P 15 04 15.4 -0.9
baz=292
R32K **Eaglecrest** 50.40 43 P P 15 04 17.6 +0.4
baz=293
C36M **Paulatuk** 50.46 27 P P 15 04 18.2 +0.8
baz=292
P33M **Teslin, Yukon** 50.46 40 P P 15 04 18.1 +0.4
baz=292,SNR=14
SIT **Sitka** 50.48 45 P P 15 04 17.7 0.0
baz=293
S32K **Killisnoo** 50.69 44 P P 15 04 19.2 0.0
baz=293
Q32M **Nakina River** 51.21 42 P P 15 04 22.6 -0.8
baz=294
ARTI **Arti** 51.46 315*d i*P P 15 04 24.4 -0.7
ARTI *PP **pP** 15 05 15.9 0.0
ARTI 15 06 21.4
ARTI S **S** 15 11 26.3 0.0
ARTI SS **SS** 15 15 03.4 -1.4
ARTI pmax pmax
comp=Z,5.0nm,1.0s
R33M **Jennings River** 51.64 41 P P 15 04 26.2 -0.4
baz=294
CHGR **Chuyangaron** 53.30 291 P P 15 04 39.0 0.0
SPITS **Spitsbergen Ar** 53.35 348 P P 15 04 39.2 +0.6
comp=Z,12nm,1.0s,baz=57,slow=5.3,SNR=7.3
comp=Z,12nm,1.0s
DZET **Dzherino** 53.45 291 P P 15 04 43.6 +3.5
ABKAR **Akbulak array** 53.81 306 P P 15 04 42.2 -0.1
ABKAR **Akbulak array** 53.81 306 IAmb IAmb 15 04 45.9
comp=Z,5.9nm,1.0s
KOTAN **Kotaneelee Air** 54.45 38 P P 15 04 45.8 -0.9
baz=299
TOAD **Toad River Com** 54.53 40 P P 15 04 47.4 -0.1
baz=299
RES **Resolute Bay** 55.24 16 IAmb IAmb 15 04 58.9
comp=Z,3.8nm,0.8s
YKA **Yellowknife Ar** 57.12 33 P P 15 05 06.2 +0.6
comp=Z,2.8nm,0.6s,baz=304,slow=6.8,SNR=43
comp=Z,2.8nm,0.6s
ARCES **ARCESS Array B** 57.28 338 P P 15 05 06.0 -0.7
comp=Z,4.9nm,0.9s,baz=59,slow=5.8,SNR=5.0
comp=Z,4.9nm,0.9s
ARCES **ARCESS Array B** 57.28 338 P P 15 05 06.0 -0.7
KDU **Kakadu** 57.59 191 P P 15 05 09.2 -0.3
MTN **Manton Dam** 57.95 193 P P 15 05 12.7 +0.8
COEN **Coen** 58.17 179 P P 15 05 14.4 +0.9
COEN **Coen** 58.17 179 P P 15 05 14.5 +1.0
MTSU **Mount Surprise** 62.35 178 P P 15 05 43.2 +1.5
FINES **FINESS Array B** 62.55 331 P P 15 05 42.0 -0.5
comp=Z,1.8nm,0.6s,baz=44,slow=6.0,SNR=1.5
comp=Z,1.8nm,0.6s
OBN **Obninsk** 62.58 321⇑*e*P P 15 05 42.3 -0.5
OBN *e*PP **pP** 15 06 36.9 +1.1
OBN *e*PPP PPP 15 09 33.1
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN **Obninsk** 62.58 321 *e*P P 15 05 42.3 -0.5
FITZ **Fitzroy Crossi** 64.11 198 P P 15 05 54.1 +0.9
WB0 **Warramunga Arr** 64.35 188 P P 15 05 54.6 -0.2
WRAB **Tennant Creek** 64.52 188 P P 15 05 55.8 0.0
WRAB IAmb IAmb 15 05 56.9
comp=Z,5.5nm,0.7s
WRAB **Tennant Creek** 64.52 188 P P 15 05 55.8 0.0
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRA **Warramunga Arr** 64.53 188 P P 15 05 55.6 -0.2
comp=Z,5.8nm,0.7s,baz=5.6,slow=7.1,SNR=59
comp=Z,5.8nm,0.7s
QIS **Mount Isa** 64.78 183 P P 15 05 58.6 +1.1
KIV **Kislovodsk** 66.59 309 *e*P P 15 06 09.9 +0.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV **Kislovodsk** 66.59 309 *e*P P 15 06 09.9 +0.9
KBZ **Khabaz** 66.62 309 P P 15 06 10.1 +1.1
comp=Z,2.0nm,0.9s,baz=11,slow=6.4,SNR=5.1
comp=Z,2.0nm,0.9s
KBZ **Khabaz** 66.62 309*ce*P P 15 06 08.2 -0.8
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ **Khabaz** 66.62 309 *e*P P 15 06 08.2 -0.8
FCC **Fort Churchill** 67.09 28 P P 15 06 11.7 0.0
FCC IAmb IAmb 15 06 16.5
comp=Z,7.6nm,1.1s
FCC **Fort Churchill** 67.09 28 P P 15 06 11.7 0.0
FCC pmax pmax
comp=Z,8.0nm,1.2s
FFC **Flin Flon** 67.15 35 P P 15 06 12.4 +0.1
FFC IAmb IAmb 15 06 17.8
comp=Z,4.2nm,0.8s
FFC **Flin Flon** 67.15 35 P P 15 06 12.4 +0.1
FFC pmax pmax
comp=Z,4.0nm,0.8s
NOA **NORSAR Array B** 67.57 337 P P 15 06 14.2 -0.7
comp=Z,1.2nm,0.8s,baz=34,slow=6.4,SNR=1.4
comp=Z,1.2nm,0.8s
HFS **Hagfors** 67.58 335 P P 15 06 14.6 -0.2
comp=Z,2.1nm,0.3s,baz=54,slow=7.5,SNR=13
comp=Z,2.1nm,0.3s
AS01 **Alice Springs** 68.25 188 P P 15 06 20.5 +1.1
AS31 **Alice Springs** 68.25 188 P P 15 06 20.3 +0.9
ASAR **Alice Springs** 68.25 188 P P 15 06 20.6 +1.1
comp=Z,6.8nm,0.7s,baz=1.2,slow=5.0,SNR=100
comp=Z,6.8nm,0.7s
AKASG **Malin Array Be** 68.83 321 P P 15 06 23.1 +0.4
comp=Z,0.6nm,0.4s,baz=45,slow=6.0,SNR=8.1
comp=Z,0.6nm,0.4s

AKBB	**Malin Array Si**	**68.83**	**321**	*ce*P	**P**	**15 06 22.7**	**0.0**
AKBB				pmax	pmax		
comp=Z,4.0nm,1.0s							
NVAR	**Mina Array Bea**	**70.13**	**55**	P	**P**	**15 06 32.9**	**+1.7**
comp=Z,0.3nm,0.3s,baz=290,slow=7.6,SNR=6.2							
comp=Z,0.3nm,0.3s							
WRKA	**Warakurna**	**70.36**	**193**	P	**P**	**15 06 33.9**	**+1.6**
QLP	**Quilpie**	**70.75**	**178**	P	**P**	**15 06 36.9**	**+2.3**
R11B	**Troy Canyon, C**	**71.77**	**54**	P	**P**	**15 06 40.2**	**-0.8**
baz=313							
INKA	**Innaminka**	**71.90**	**181**	P	**P**	**15 06 43.0**	**+1.6**
PD31	**Pinedale Array**	**72.07**	**47**	P	**P**	**15 06 43.3**	**+0.5**
PDAR	**Pinedale Array**	**72.07**	**47**	P	**P**	**15 06 43.8**	**+1.0**
comp=Z,1.6nm,0.6s,baz=350,slow=1.9,SNR=21							
comp=Z,1.6nm,0.6s							
OOD	**Oodnadatta**	**72.19**	**186**	P	**P**	**15 06 45.0**	**+1.9**
ULM	**Lac du Bonnet**	**72.97**	**35**	P	**P**	**15 06 47.2**	**-0.5**
comp=Z,3.7nm,0.9s,baz=321,slow=8.7,SNR=7.2							
comp=Z,3.7nm,0.9s							
MEEK	**Meekatharra**	**74.01**	**202**	P	**P**	**15 06 53.5**	**-0.4**
LCRK	**Leigh Creek**	**74.67**	**184**	P	**P**	**15 06 59.2**	**+1.7**
CLL	**Collm**	**74.96**	**330**	*i* P	**P**	**15 07 00.6**	**+1.5**
CLL	**Collm**	**74.96**	**330**	*i* P	**P**	**15 07 00.6**	**+1.5**
N23A	**Red Feather La**	**75.30**	**47**	P	**P**	**15 07 01.5**	**-0.1**
baz=317							
CMSA	**Cobar Meteorol**	**75.73**	**177**	P	**P**	**15 07 04.9**	**+1.4**
STKA	**Stephens Creek**	**76.01**	**181**	P	**P**	**15 07 06.1**	**+1.0**
comp=Z,7.5nm,0.8s,baz=348,slow=7.7,SNR=8.8							
comp=Z,7.5nm,0.8s							
FORT	**Forrest**	**76.02**	**193**	P	**P**	**15 07 06.3**	**+1.1**
EKA	**Eskdalemuir Ar**	**76.31**	**340**	P	**P**	**15 07 07.4**	**+0.7**
comp=Z,2.7nm,0.9s,baz=38,slow=4.6,SNR=2.2							
comp=Z,2.7nm,0.9s							
MORW	**Morawa**	**77.02**	**203**	P	**P**	**15 07 12.1**	**+1.3**
S22A	**4UR Ranch, Cre**	**77.11**	**49**	P	**P**	**15 07 11.5**	**-0.3**
baz=317							
Q24A	**Divide**	**77.12**	**48**	P	**P**	**15 07 10.9**	**-1.0**
baz=318							
SCHQ	**Schefferville**	**78.01**	**17**	P	**P**	**15 07 14.6**	**-1.5**
comp=Z,4.7nm,1.1s,baz=344,slow=7.4,SNR=1.9							
comp=Z,4.7nm,1.1s							
BLDU	**Ballidu**	**78.30**	**202**	P	**P**	**15 07 19.0**	**+1.2**
T25A	**Trinidad**	**78.86**	**48**	P	**P**	**15 07 20.2**	**-1.1**
baz=318							
NWAO	**Narrogin (SRO)**	**80.35**	**201**	P	**P**	**15 07 30.4**	**+1.6**
TXAR	**Lajitas Array**	**85.11**	**53**	P	**P**	**15 07 55.0**	**+1.2**
comp=Z,1.6nm,0.8s,baz=290,slow=3.8,SNR=12							
comp=Z,1.6nm,0.8s							
TXAR	**Lajitas Array**	**85.11**	**53**	P	**P**	**15 07 55.0**	**+1.2**
L61B	**Northampton**	**87.97**	**25**	P	**P**	**15 08 06.1**	**-1.1**
baz=336							
ESDC	**Sonseca Array**	**90.85**	**335**	P	**P**	**15 08 22.8**	**+2.0**
comp=Z,0.4nm,0.9s,baz=41,slow=6.5,SNR=4.5							
comp=Z,0.4nm,0.9s							
TROLL	**Troll, Antarti**	**146.46**	**201**	PKPbc	**PKPbc**	**15 14 56.8**	**+0.6**
TROLL	**Troll, Antarti**	**146.46**	**201**	⇓PKPbc	**PKPbc**	**15 14 56.8**	**+0.6**
comp=Z,729nm,0.6s							
SNAA	**Sanae**	**148.02**	**200**	PKPbc	**PKPbc**	**15 15 00.6**	**+0.1**
SNAA	**Sanae**	**148.02**	**200**	⇓PKPbc	**PKPbc**	**15 15 00.6**	**+0.1**
comp=Z,108nm,0.6s							
SNAA	**Sanae**	**148.02**	**200**	PKPbc	**PKPbc**	**15 15 00.3**	**-0.1**
comp=Z,2.5nm,0.4s,baz=48,slow=1.0,SNR=11							
VNA2	**Neumayer--Watz**	**149.61**	**199**	PKPbc	**PKiKP**	**15 15 05.0**	**-0.2**
baz=143,slow=2.0							
VNA2	**Neumayer--Watz**	**149.61**	**199**	⇓PKPbc	**PKiKP**	**15 15 05.0**	**-0.2**
comp=Z,35nm,0.6s,baz=143,slow=2.0							
VNA3	**Neumayer Olymp**	**149.90**	**198**	PKPbc	**PKPbc**	**15 15 05.1**	**+0.1**
VNA3	**Neumayer Olymp**	**149.90**	**198**	⇓PKPbc	**PKPbc**	**15 15 05.1**	**+0.1**
comp=Z,4.8nm,0.3s							
VNA1	**Neumayer--Stat**	**150.01**	**199**	PKPbc	**PKiKP**	**15 15 06.1**	**+0.1**
VNA1	**Neumayer--Stat**	**150.01**	**199**	⇑PKPbc	**PKiKP**	**15 15 06.1**	**+0.1**
comp=Z,11nm,0.8s							

*NEIC **12** 15:12:29.4±1.0, 61°.48N±0°.03×149°.94W±0°.04, h41km±7km, Error ellipse: s-maj=3.8km s-min=2.8km az=175.0*

AEIC 12 15:12:29.7±1.2, 61°.50N±0°.04×149°.92W±0°.08, h46km±6km, ML2.3, ML2.5/66(NEIC), Error ellipse: s-maj=6.4km s-min=5.5km az=161.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**340**		Pn	15 12 36.9	-1.3
M22K					Sn	15 12 43.5	-0.7
M22K	**Willow**	**0.28**	**340**	IAML		15 12 43.8	
M22K				IAML		15 12 44.1	
comp=E,360nm,0.5s							
PMR	**Palmer**	**0.39**	**75**		Pn	15 12 38.3	-1.1
PMR				IAML		15 12 46.3	
comp=E,305nm,0.3s							
PMR				IAML		15 12 46.6	
comp=N,325nm,0.4s							
PMR	**Palmer**	**0.39**	**75**		Sn	15 12 45.6	-0.6
SUA	**Susitna One**	**0.40**	**266**		Sn	15 12 46.3	-0.3
SUA	**Susitna One**	**0.40**	**266**		Pn	15 12 38.7	-0.9
SUA	**Susitna One**	**0.40**	**266**	IAML		15 12 47.2	
comp=E,658nm,0.8s							
SUA				IAML		15 12 47.3	
comp=N,948nm,0.7s							
RC01	**Rabbit Creek A**	**0.42**	**168**		Pn	15 12 38.8	-0.9
RC01	**Rabbit Creek A**	**0.42**	**168**		Sn	15 12 46.4	-0.4
RC01	**Rabbit Creek A**	**0.42**	**168**	IAML		15 12 47.7	
comp=E,278nm,0.3s							
RC01				IAML		15 12 47.8	
comp=N,244nm,0.1s							
GHO	**Glory Hole Cre**	**0.55**	**59**		Pn	15 12 40.3	-1.2
GHO	**Glory Hole Cre**	**0.55**	**59**		Sn	15 12 49.4	-0.4
GHO	**Glory Hole Cre**	**0.55**	**59**	IAML		15 12 50.6	
comp=E,363nm,0.3s							
KNK	**Knik Glacier**	**0.70**	**96**		Pn	15 12 42.8	-0.6
SML	**Sawmill**	**0.82**	**67**		Pn	15 12 44.0	-0.9
SML	**Sawmill**	**0.82**	**67**		Sn	15 12 55.6	-0.4
SML	**Sawmill**	**0.82**	**67**	IAML		15 12 58.9	
comp=E,83nm,0.5s							
SML				IAML		15 12 59.6	
comp=N,124nm,0.7s							
SKT	**Skwentna**	**0.91**	**303**	Pn	Pn	15 12 44.8	-1.4
SKT	**Skwentna**	**0.91**	**303**		Sn	15 12 57.2	-1.0
SKT	**Skwentna**	**0.91**	**303**	IAML		15 12 57.6	
comp=E,304nm,0.3s							
SKT				IAML		15 12 57.7	
comp=N,397nm,0.2s							
STLK	**Strandline Lak**	**0.92**	**271**		Pn	15 12 45.4	-1.0
STLK				IAML		15 12 58.7	
comp=N,193nm,0.3s							
STLK				IAML		15 12 58.7	
comp=E,122nm,0.3s							
CUT	**Chulitna**	**0.93**	**350**		Pn	15 12 45.4	-1.0
CUT				IAML		15 13 00.7	
comp=N,179nm,0.4s							
CUT	**Chulitna**	**0.93**	**350**		Sn	15 12 57.9	-0.7
CAPN	**Captain Cook N**	**0.94**	**220**		Pn	15 12 47.5	+1.0
PWL	**Port Wells**	**1.00**	**129**	Pn	Pn	15 12 46.8	-0.5
SLKM	**Skilak Lake**	**1.00**	**189**	Pn	Pn	15 12 47.0	-0.4
SLKM	**Skilak Lake**	**1.00**	**189**		Sn	15 13 01.1	+0.7
SLKM	**Skilak Lake**	**1.00**	**189**	IAML		15 13 03.4	
comp=E,107nm,0.4s							
SLKM				IAML		15 13 03.8	
comp=N,76nm,0.2s							
SPU	**Mount Spurr**	**1.08**	**254**		Pn	15 12 47.6	-0.9
SPU	**Mount Spurr**	**1.08**	**254**		Sn	15 13 02.2	0.0
SPU	**Mount Spurr**	**1.08**	**254**	IAML		15 13 02.8	
comp=N,52nm,0.3s							
SPU				IAML		15 13 04.0	
comp=E,46nm,0.3s							
SPBG	**Spurr Blockage**	**1.20**	**260**		Pn	15 12 49.9	-0.3
SCM	**Sheep Creek Mo**	**1.28**	**73**		Pn	15 12 51.1	-0.1
SCM				IAML		15 13 09.9	
comp=N,121nm,0.7s							
SEW	**Seward**	**1.41**	**171**	Pn	Pn	15 12 52.3	-0.7
GLI	**Glacier Island**	**1.50**	**113**		Pn	15 12 53.7	-0.4
GLI				IAML		15 13 14.6	
comp=N,78nm,0.3s							
GLI				IAML		15 13 18.1	
comp=E,88nm,0.3s							
RDT	**Redoubt**	**1.52**	**234**		Pn	15 12 54.2	-0.4
M20K	**Styx River**	**1.58**	**286**		Pn	15 12 55.0	-0.4
M20K	**Styx River**	**1.58**	**286**	IAML		15 13 18.6	
comp=E,34nm,0.8s							
RDWB	**Redoubt West**	**1.75**	**236**		Pn	15 12 57.5	-0.2
PPLA	**Purkeypile**	**1.76**	**324**		Pn	15 12 57.5	-0.4
BRSE	**Bradley Lake S**	**1.81**	**193**		Pn	15 12 57.5	-0.8
FID	**Port Fidalgo**	**1.83**	**113**	Pn	Pn	15 12 58.0	-0.7
FID				IAML		15 13 25.1	
comp=E,44nm,0.3s							
FID				IAML		15 13 27.1	
comp=N,47nm,0.5s							
M24K	**Tolsona, Glenn**	**1.88**	**69**		Pn	15 13 00.3	+0.9
M24K				IAML		15 13 34.5	
comp=N,52nm,1.1s							
KLU	**Klutina**	**1.92**	**88**		Pn	15 12 59.8	-0.1
KLU				IAML		15 13 26.9	
comp=N,34nm,0.4s							
KLU				IAML		15 13 28.4	
comp=E,27nm,0.5s							
P23K	**Montague Islan**	**1.94**	**139**		Pn	15 12 59.0	-1.2
TRF	**Thorofare Moun**	**1.97**	**355**	Pn	Pn	15 13 00.7	0.0
TRF				IAML		15 13 29.0	
comp=N,20nm,1.1s							
HIN	**Hinchinbrook I**	**2.00**	**122**	Pn	Pn	15 13 00.7	-0.3
HIN				IAML		15 13 27.7	
comp=N,38nm,1.1s							
HIN				IAML		15 13 38.1	
comp=E,53nm,1.0s							
DIV	**Divide**	**2.03**	**99**		Pn	15 13 01.2	-0.3
L20K	**Farewell, AK**	**2.12**	**300**		Pn	15 13 02.5	-0.1
CAST	**Castle Rocks**	**2.18**	**333**		Pn	15 13 02.8	-0.7
EYAK	**Cordova Ski Ar**	**2.24**	**113**	Pn	Pn	15 13 03.8	-0.5
MCK	**McKinley**	**2.29**	**11**		Pn	15 13 04.3	-0.7
N19K	**Bonanza Creek**	**2.32**	**255**		Pn	15 13 05.4	-0.1
HARP	**HAARP**	**2.43**	**66**		Pn	15 13 08.7	+1.8
N25K	**Chitina, Valde**	**2.55**	**85**		Pn	15 13 09.0	+0.4
N25K				IAML		15 13 47.9	
comp=N,22nm,0.5s							
PAX	**Paxson**	**2.56**	**53**		Pn	15 13 09.4	+0.7
BMRM	**Bremner River**	**2.62**	**99**		Pn	15 13 10.1	+0.5
BPAW	**Bear Paw Mtn.**	**2.66**	**350**	Pn	Pn	15 13 09.9	-0.2
BPAW				IAML		15 13 43.6	
comp=E,19nm,0.6s							
BPAW				IAML		15 13 45.8	
comp=N,15nm,1.1s							
K20K	**Telida**	**2.69**	**316**		Pn	15 13 10.1	-0.4
M18K	**Stony River**	**2.83**	**273**		Pn	15 13 12.3	-0.1
N18K	**Kilae Creek**	**3.01**	**257**		Pn	15 13 14.5	-0.4
TTA	**Tatalina**	**3.20**	**299**		Pn	15 13 17.1	-0.4
RIDG	**Independent Ri**	**3.25**	**44**	Pn	Pn	15 13 19.6	+1.4
RIDG				IAML		15 14 11.0	
comp=N,10nm,0.8s							
RIDG				IAML		15 14 12.6	
comp=E,12nm,0.9s							
L18K	**Granite Mounta**	**3.29**	**286**		Pn	15 13 18.4	-0.3
L18K	**Granite Mounta**	**3.29**	**286**	IAML		15 13 54.8	
comp=N,7.7nm,1.1s							
IL31		**3.56**	**21**		Pn	15 13 23.0	+0.6
SCRK	**Sand Creek**	**3.69**	**45**	Pn	Pn	15 13 25.3	+0.9
SCRK				IAML		15 14 31.2	
comp=E,5.0nm,1.0s							

*NEIC **12** 15:17:15.4±1.2, 61°.49N±0°.03×149°.94W±0°.06, h46km±6km, Error ellipse: s-maj=4.9km s-min=3.3km az=49.0*

AEIC 12 15:17:16.1±1.0, 61°.46N±0°.03×149°.93W±0°.07, h46km±6km, ML2.8, ML2.9/116(NEIC), Error ellipse: s-maj=5.7km s-min=3.3km az=138.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**342**		Pn	15 17 23.8	-1.2
M22K					Sn	15 17 30.4	-0.7
M22K	**Willow**	**0.31**	**342**	IAML		15 17 31.0	
comp=E,3μm,0.5s							
M22K				IAML		15 17 33.5	
comp=N,3μm,0.4s							
FIS	**Fire Island**	**0.35**	**204**		Pn	15 17 25.1	-0.3
FIS				IAML		15 17 34.3	
comp=N,1μm,0.6s							
RC01	**Rabbit Creek A**	**0.39**	**166**		Sn	15 17 32.2	-0.4
RC01	**Rabbit Creek A**	**0.39**	**166**		Pn	15 17 24.7	-1.1
RC01				IAML		15 17 32.6	
comp=E,1μm,0.4s							
RC01				IAML		15 17 33.4	
comp=N,1μm,0.4s							
SUA	**Susitna One**	**0.39**	**271**		Sn	15 17 32.3	-0.7
SUA	**Susitna One**	**0.39**	**271**		Pn	15 17 24.8	-1.2
SUA	**Susitna One**	**0.39**	**271**	IAML		15 17 33.5	
comp=E,1μm,0.6s							
SUA				IAML		15 17 33.8	
comp=N,1μm,0.4s							
PMR	**Palmer**	**0.40**	**71**		Pn	15 17 24.8	-1.2
PMR				IAML		15 17 32.9	
comp=E,632nm,0.4s							
PMR				IAML		15 17 34.5	
comp=N,565nm,0.4s							
PMR	**Palmer**	**0.40**	**71**		Sn	15 17 32.2	-0.7
GHO	**Glory Hole Cre**	**0.57**	**57**		Pn	15 17 27.1	-1.1
GHO	**Glory Hole Cre**	**0.57**	**57**		Sn	15 17 36.6	-0.1
GHO	**Glory Hole Cre**	**0.57**	**57**	IAML		15 17 37.6	
comp=N,627nm,0.4s							
GHO				IAML		15 17 37.7	
comp=E,778nm,0.3s							
KNK	**Knik Glacier**	**0.71**	**93**		Pn	15 17 29.1	-0.7
KNK				IAML		15 17 42.9	
comp=E,674nm,0.4s							
SML	**Sawmill**	**0.84**	**65**		Pn	15 17 30.6	-1.0
SML				IAML		15 17 45.4	
comp=E,295nm,0.7s							
SML				IAML		15 17 45.7	
comp=N,378nm,0.6s							
STLK	**Strandline Lak**	**0.92**	**273**		Pn	15 17 31.5	-1.2
STLK				IAML		15 17 46.3	
comp=E,240nm,0.5s							
CAPN	**Captain Cook N**	**0.92**	**221**		Pn	15 17 33.2	+0.6
SKT	**Skwentna**	**0.93**	**305**		Sn	15 17 44.0	-1.0
SKT	**Skwentna**	**0.93**	**305**		Pn	15 17 31.1	-1.6
SKT	**Skwentna**	**0.93**	**305**	IAML		15 17 44.6	
comp=N,713nm,0.3s							
SKT				IAML		15 17 44.6	
comp=E,717nm,0.4s							
CUT	**Chulitna**	**0.96**	**350**		Pn	15 17 32.1	-1.1
CUT	**Chulitna**	**0.96**	**350**		Sn	15 17 45.3	-0.4
CUT	**Chulitna**	**0.96**	**350**	IAML		15 17 47.9	
comp=E,1μm,0.3s							
CUT				IAML		15 17 48.1	
comp=N,774nm,0.4s							
SLKM	**Skilak Lake**	**0.97**	**189**		Pn	15 17 32.3	-1.1
SLKM				IAML		15 17 47.1	
comp=N,389nm,0.2s							
SLKM				IAML		15 17 48.2	
comp=E,551nm,0.4s							
PWL	**Port Wells**	**0.98**	**127**		Sn	15 17 47.2	+1.0
PWL	**Port Wells**	**0.98**	**127**		Pn	15 17 32.7	-0.8
PWL	**Port Wells**	**0.98**	**127**	IAML		15 17 48.8	
comp=N,994nm,0.2s							
PWL				IAML		15 17 49.8	
comp=E,808nm,0.3s							
O22K	**Cooper Landing**	**0.99**	**174**	Pn	Pn	15 17 32.8	-0.8
SPU	**Mount Spurr**	**1.06**	**256**		Sn	15 17 48.0	-0.4
SPU	**Mount Spurr**	**1.06**	**256**		Pn	15 17 33.3	-1.3
SPU	**Mount Spurr**	**1.06**	**256**	IAML		15 17 48.8	
comp=E,165nm,0.2s							
SPU				IAML		15 17 48.8	
comp=N,313nm,0.3s							
M23K	**Glacier View**	**1.10**	**72**		Sn	15 17 50.2	+1.0
SCM	**Sheep Creek Mo**	**1.29**	**72**		Pn	15 17 37.6	-0.3
SCM				IAML		15 17 56.6	
comp=N,331nm,0.6s							
SEW	**Seward**	**1.38**	**170**		Pn	15 17 38.0	-0.9
GLI	**Glacier Island**	**1.49**	**112**		Pn	15 17 39.5	-1.0
GLI				IAML		15 18 04.8	
comp=N,251nm,0.4s							
RDT	**Redoubt**	**1.50**	**235**		Pn	15 17 40.0	-0.7
M20K	**Styx River**	**1.59**	**287**		Pn	15 17 41.4	-0.4
M20K	**Styx River**	**1.59**	**287**	IAML		15 18 04.2	
comp=E,124nm,0.8s							
NCT	**North Crescent**	**1.72**	**240**		Pn	15 17 43.3	-0.4
BRLK	**Bradley Lake**	**1.77**	**196**		Pn	15 17 43.4	-0.8
BRLK	**Bradley Lake**	**1.77**	**196**	IAML		15 18 10.2	
comp=N,74nm,0.2s							
BRLK				IAML		15 18 11.2	
comp=E,93nm,0.2s							
BRSE	**Bradley Lake S**	**1.77**	**193**		Pn	15 17 43.3	-1.0
PPLA	**Purkeypile**	**1.79**	**325**		Pn	15 17 44.0	-0.6
FID	**Port Fidalgo**	**1.82**	**112**		Pn	15 17 44.0	-1.0
FID				IAML		15 18 14.0	
comp=N,121nm,0.4s							
FID				IAML		15 18 15.8	
comp=E,123nm,0.3s							
M24K	**Tolsona, Glenn**	**1.90**	**68**	IAML		15 18 17.2	
comp=N,124nm,0.5s							
O20K	**Slope Mountain**	**1.92**	**225**		Pn	15 17 46.5	+0.1
KLU	**Klutina**	**1.92**	**87**		Pn	15 17 45.6	-0.8
KLU				IAML		15 18 16.7	
comp=N,99nm,0.3s							
KLU				IAML		15 18 18.2	
comp=E,66nm,0.6s							
P23K	**Montague Islan**	**1.92**	**139**		Pn	15 17 44.9	-1.5
HIN	**Hinchinbrook I**	**1.98**	**121**		Pn	15 17 46.5	-0.8
HIN				IAML		15 18 21.9	
comp=N,92nm,0.7s							
HIN				IAML		15 18 23.0	
comp=E,113nm,0.7s							
TRF	**Thorofare Moun**	**2.00**	**355**		Pn	15 17 46.4	-1.2
TRF				IAML		15 18 15.8	
comp=E,94nm,0.6s							
TRF				IAML		15 18 24.7	
comp=N,76nm,0.9s							
RND	**Reindeer**	**2.01**	**14**	Pn	Pn	15 17 47.5	-0.2
DIV	**Divide**	**2.03**	**98**		Pn	15 17 47.2	-0.8
L20K	**Farewell, AK**	**2.13**	**300**		Pn	15 17 48.7	-0.5
KTH	**Kantishna Hill**	**2.15**	**348**		Pn	15 17 49.5	-0.1
KTH	**Kantishna Hill**	**2.15**	**348**	IAML		15 18 16.8	
comp=E,73nm,0.5s							
KTH				IAML		15 18 18.6	
comp=N,66nm,0.5s							
CAST	**Castle Rocks**	**2.21**	**334**		Pn	15 17 49.6	-0.7
CAST				IAML		15 18 20.5	
comp=E,46nm,0.4s							
N19K	**Bonanza Creek**	**2.31**	**256**		Pn	15 17 51.4	-0.3
MCK	**McKinley**	**2.33**	**11**	Pn	Pn	15 17 51.8	-0.1
HARP	**HAARP**	**2.44**	**65**		Pn	15 17 54.0	+0.5
O19K	**Port Alsworth**	**2.50**	**241**		Pn	15 17 53.5	-0.7
N25K	**Chitina, Valde**	**2.56**	**84**		Pn	15 17 54.8	-0.3
N25K				IAML		15 18 35.6	
comp=E,52nm,0.5s							
N25K				IAML		15 18 37.5	
comp=N,65nm,0.6s							
PAX	**Paxson**	**2.58**	**52**		Pn	15 17 55.6	+0.2
BMRM	**Bremner River**	**2.62**	**99**	Pn	Pn	15 17 55.6	-0.4
GOAT	**Goat Mountain**	**2.68**	**107**		Pn	15 17 55.6	-1.2
K20K	**Telida**	**2.71**	**316**		Pn	15 17 56.5	-0.6
WACK	**Wrangell Chich**	**2.72**	**76**		Pn	15 17 57.2	-0.3
M18K	**Stony River**	**2.83**	**273**		Pn	15 17 58.3	-0.5
GLB	**Gilahina Butte**	**2.94**	**88**		Pn	15 18 00.8	+0.5
GLB				IAML		15 18 46.1	
comp=N,44nm,0.9s							
HMT	**Hamilton**	**2.99**	**110**		Pn	15 17 59.3	-1.7
N18K	**Kilae Creek**	**3.00**	**257**		Pn	15 18 00.5	-0.7
O18K	**Koktuh Hills**	**3.06**	**241**		Pn	15 18 01.0	-1.0
O18K	**Koktuh Hills**	**3.06**	**241**	IAML		15 19 04.7	
comp=N,23nm,0.8s							
SYI	**Shuyak Island**	**3.12**	**204**		Pn	15 18 02.2	-0.5
SYI	**Shuyak Island**	**3.12**	**204**	IAML		15 18 50.9	
comp=E,23nm,1.1s							
VRDI	**Verde Repeater**	**3.13**	**91**		Pn	15 18 01.9	-1.1
VRDI	**Verde Repeater**	**3.13**	**91**	IAML		15 18 56.6	
comp=N,23nm,1.0s							
TTA	**Tatalina**	**3.21**	**300**		Pn	15 18 03.3	-0.8
BERG	**Berg Lake**	**3.22**	**107**		Pn	15 18 02.6	-1.5
HDA	**Harding Lake**	**3.26**	**23**		Pn	15 18 05.2	+0.5
HDA				IAML		15 19 02.5	
comp=N,26nm,0.8s							
RIDG	**Independent Ri**	**3.28**	**44**		Pn	15 18 06.1	+1.1
RIDG				IAML		15 18 53.7	
comp=E,36nm,0.7s							
RIDG				IAML		15 18 53.9	
comp=N,29nm,1.2s							
L18K	**Granite Mounta**	**3.29**	**286**		Pn	15 18 04.4	-0.7
CCB	**Clear Creek Bu**	**3.34**	**16**		Pn	15 18 05.5	-0.3
J20K	**Nowinta River**	**3.34**	**326**		Pn	15 18 04.9	-0.9
J20K				IAML		15 18 45.6	
comp=E,50nm,0.4s							
IL31		**3.60**	**21**		Pn	15 18 09.7	+0.4
M17K	**Holitna River**	**3.61**	**272**		Pn	15 18 08.9	-0.6
M17K	**Holitna River**	**3.61**	**272**	IAML		15 19 15.2	
comp=N,40nm,0.9s							
M17K				IAML		15 19 20.5	
comp=E,39nm,1.2s							
J19K	**Poorman**	**3.65**	**317**		Pn	15 18 09.4	-0.7
J19K	**Poorman**	**3.65**	**317**	IAML		15 19 10.2	
comp=N,21nm,0.8s							
J19K				IAML		15 19 10.7	
comp=E,17nm,0.8s							
N17K	**Nushagak Hills**	**3.66**	**258**		Pn	15 18 09.5	-0.6
BALM	**Baldy**	**3.69**	**93**		Pn	15 18 09.6	-1.1
KIAG	**Kiagna River**	**3.70**	**95**		Pn	15 18 09.8	-1.1
I23K	**Minto, Yukon-K**	**3.71**	**4**		Pn	15 18 10.4	-0.4
BARK	**Barkley Ridge**	**3.78**	**103**		Pn	15 18 10.9	-1.0
J25K	**Salcha River,**	**3.78**	**31**	IAML		15 19 05.7	
comp=E,16nm,0.5s							
L17K	**Donlin**	**4.03**	**283**		Pn	15 18 14.7	-0.6
K17K	**Iditarod**	**4.13**	**291**		Pn	15 18 16.1	-0.6
K17K	**Iditarod**	**4.13**	**291**	IAML		15 19 26.7	
comp=N,17nm,1.2s							
K17K				IAML		15 19 38.1	
comp=E,13nm,1.2s							
J26L	**Joseph Creek**	**4.21**	**41**	IAML		15 19 28.8	
comp=N,12nm,0.6s							
J26L				IAML		15 19 30.5	
comp=E,9.4nm,0.8s							
M16K	**Timber Creek**	**4.39**	**268**		Pn	15 18 19.6	-0.5
M16K	**Timber Creek**	**4.39**	**268**	IAML		15 19 59.9	
comp=N,7.8nm,1.1s							
O16K	**Kokwok River B**	**4.45**	**249**		Pn	15 18 20.4	-0.5
J16K	**Anvik River**	**5.29**	**295**		Pn	15 18 31.7	-0.9
J16K	**Anvik River**	**5.29**	**295**	IAML		15 20 14.1	
comp=N,6.9nm,1.1s							
J16K				IAML		15 20 33.9

OSSR Ossora 3.94 253 *eP* **Pn 15 26 07.1 -2.5**
PALN Palana 5.48 258 PN **Pn 15 26 31.7 +0.9**
PALN Palana 5.48 258 *eP* **Pn 15 26 31.8 +0.9**
BKI Bering 5.91 206 PN **Pn 15 26 36.5 -0.2**
BKI Bering 5.91 206 *eP* **Pn 15 26 36.5 -0.2**
KBTR Krutoberegovo 5.94 225 PN **Pn 15 26 36.1 -1.1**
KBTR Krutoberegovo 5.94 225 *eP* **Pn 15 26 36.1 -1.1**
KBTR *eS* **Sn 15 27 44.5 -0.7**
KBG Krutoberegovo 5.95 226 PN **Pn 15 26 36.4 -0.8**
KBG Krutoberegovo 5.95 226 *eP* **Pn 15 26 36.4 -0.8**
SMKR Semkarok 6.17 233 PN **Pn 15 26 41.2 +0.8**
SMKR Semkarok 6.17 233 *eP* **Pn 15 26 41.3 +0.8**
KLY Klyuchi 6.68 234 PN **Pn 15 26 46.9 -0.4**
KLY Klyuchi 6.68 234 *eP* **Pn 15 26 47.0 -0.4**
KLY *eS* **Sn 15 28 02.2 -1.2**
KRSR Krestovskiy 6.79 234 PN **Pn 15 26 49.7 +0.9**
KRSR Krestovskiy 6.79 234 *eP* **Pn 15 26 49.7 +0.9**
BZGR Bezymyannyi-Gr 6.93 232 PN **Pn 15 26 52.2 +1.3**
BZGR Bezymyannyi-Gr 6.93 232 *eP* **Pn 15 26 52.2 +1.3**
KIRR Kirishev 7.06 233 PN **Pn 15 26 54.1 +1.4**
KIRR Kirishev 7.06 233 *eP* **Pn 15 26 54.1 +1.4**
SRDR Sredinnyy 7.06 237 PN **Pn 15 26 54.8 +2.2**
SRDR Sredinnyy 7.06 237 *eP* **Pn 15 26 54.9 +2.2**
KPT Kopyto 7.10 234 PN **Pn 15 26 54.6 +1.5**
KPT Kopyto 7.10 234 *eP* **Pn 15 26 54.6 +1.5**
KOZ Kozyrevsk 7.17 235 PN **Pn 15 26 55.5 +1.4**
KOZ Kozyrevsk 7.17 235 *eP* **Pn 15 26 55.5 +1.4**
KMNR Kamenistaya 7.24 232 PN **Pn 15 26 56.7 +1.6**
KMNR Kamenistaya 7.24 232 *eP* **Pn 15 26 56.7 +1.6**
TUMD Tumrok D 7.59 229 *eP* **Pn 15 26 59.9 0.0**
BILL Bilibino 7.68 348 **Pn 15 27 00.3 -0.6**
BILL Bilibino 7.68 348 *ce*PN **Pn 15 27 00.8 -0.1**
BILL pmax pmax
comp=Z,24nm,2.5s
ESO Esso 7.75 238 PN **Pn 15 27 05.7 +3.7**
ESO Esso 7.75 238 *eP* **Pn 15 27 05.8 +3.7**
KII Karymskiy 8.85 227 PN **Pn 15 27 19.0 +1.9**
KII Karymskiy 8.85 227 *eP* **Pn 15 27 19.1 +1.9**
SEY Seymchan 8.85 293 Pn **Pn 15 27 16.8 -0.3**
comp=Z,1.9nm,0.7s,baz=114,slow=12,SNR=12
SEY Seymchan 8.85 293 *i* PN **Pn 15 27 16.1 -0.9**
GNL Ganaly 9.67 230 PN **Pn 15 27 31.3 +2.9**
GNL Ganaly 9.67 230 *eP* **Pn 15 27 31.4 +2.9**
KRX Arik 9.68 227 PN **Pn 15 27 31.2 +2.7**
KRX Arik 9.68 227 *eP* **Pn 15 27 31.3 +2.7**
AVH Avacha 9.72 226 PN **Pn 15 27 31.9 +2.9**
AVH Avacha 9.72 226 *eP* **Pn 15 27 32.0 +2.9**
KOK Koryaka 9.74 226 PN **Pn 15 27 33.1 +3.8**
KOK Koryaka 9.74 226 *eP* **Pn 15 27 33.1 +3.8**
UGLR Uglovaya 9.74 226 PN **Pn 15 27 32.7 +3.4**
UGLR Uglovaya 9.74 226 *eP* **Pn 15 27 32.7 +3.4**
MA2 Magadan 9.86 273 Pn **Pn 15 27 30.6 -0.2**
MA2 Magadan 9.86 273 Pn **Pn 15 27 31.0 +0.1**
comp=Z,0.3nm,0.3s,baz=75,slow=12,SNR=9.6
comp=Z,3.6nm,0.7s
MA2 Magadan 9.86 273 *ce*PN **Pn 15 27 31.5 +0.6**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
MA2 Magadan 9.86 273 P **Pn 15 27 29.7 -1.2**
comp=Z,8.7nm,0.9s
DALK Dalny 9.91 225 PN **Pn 15 27 32.8 +1.3**
DALK Dalny 9.91 225 *eP* **Pn 15 27 32.8 +1.3**
PET Petropavlovsk 9.95 225 **Pn 15 27 32.1 0.0**
PET Petropavlovsk 9.95 225 *e*PN **Pn 15 27 33.8 +1.7**
PET pmax pmax
comp=Z,25nm,0.8s
PET Petropavlovsk 9.95 225 P **Pn 15 27 31.9 -0.2**
comp=Z,34nm,0.8s
PEA0B Petropavlovsk- 10.22 228 *ce*PN **Pn 15 27 35.3 -0.6**
PETK Petropavlovsk- 10.22 228 Pn **Pn 15 27 36.8 +0.9**
PETK Petropavlovsk- 10.22 228 Pn **Pn 15 27 36.9 +1.0**
comp=Z,6.2nm,0.8s,baz=73,slow=18,SNR=14
PETK LR LR 15 31 38.4
comp=Z,139nm,18.7s,baz=59,slow=38
PETK Petropavlovsk- 10.22 228 PN **Pn 15 27 36.8 +0.9**
KRMR Karymshinskiy 10.29 226 PN **Pn 15 27 36.4 -0.3**
KRMR Karymshinskiy 10.29 226 *eP* **Pn 15 27 36.4 -0.3**
RUS Russkaya 10.48 224 PN **Pn 15 27 40.2 +0.8**
RUS Russkaya 10.48 224 *eP* **Pn 15 27 40.2 +0.8**
GRL Gorelyy 10.54 226 PN **Pn 15 27 42.4 +2.2**
GRL Gorelyy 10.54 226 *eP* **Pn 15 27 42.5 +2.2**
SPIA Saint Paul Isl 10.57 100 **Pn 15 27 43.1 +2.6**
ANM Nome 11.81 60 Pn **Pn 15 27 58.4 +0.9**
ANM Nome 11.81 60 PN **Pn 15 27 58.4 +0.9**
C16K Lisburne Hills 12.90 43 **Pn 15 28 11.8 -0.5**
L14K Kuka Creek 13.05 75 **Pn 15 28 14.6 +0.2**
RDOG Red Dog Mine 13.65 46 Pn **Pn 15 28 23.3 +0.7**
C18K Utukok River 14.46 44 Pn **Pn 15 28 34.6 +1.0**
TTA Tatalina 15.95 67 Pn **P 15 28 55.5 -1.6**
TTA IAmb IAmb 15 29 09.2
comp=Z,22nm,1.2s
TTA Tatalina 15.95 67 P **P 15 28 55.5 -1.6**
TTA pmax pmax
comp=Z,22nm,1.2s
OKH Okha 16.43 257 *de*P Pn 15 28 52.5 -7.0
OKH MLR MLR
comp=N,500nm,16.0s
OKH MLR MLR
comp=E,400nm,13.0s
F21K Alatna River 16.98 52 P **P 15 29 08.6 +0.1**
D22K Ayikyak River 17.51 46 **P 15 29 14.3 0.0**
B22K Teshekpuk Lake 17.58 41 Pn **Pn 15 29 13.0 -1.0**
B22K IAmb IAmb 15 29 31.8
comp=Z,12nm,0.9s
D23K Nanushuk River 18.24 46 P **P 15 29 22.8 +0.5**
G23K Bananza Creek 18.32 54 IAmb IAmb 15 29 28.0
comp=Z,15nm,1.0s
C23K Itkillik River 18.41 44 IAmb IAmb 15 29 30.0
comp=Z,12nm,0.8s
TRF Thorofare Moun 18.45 64 **Pn 15 29 25.7 +0.8**
TRF IAmb IAmb 15 29 31.0
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 18.60 48 P **Pn 15 29 26.6 +0.1**
SUA Susitna One 18.65 70 P **Pn 15 29 28.2 +1.0**
SUA IAmb IAmb 15 29 34.0
comp=Z,17nm,0.9s
KDAK Kodiak Island 19.00 82 P **Pn 15 29 31.0 -0.3**
comp=Z,0.5nm,0.3s,baz=154,slow=5.0,SNR=4.4
comp=Z,3.8nm,0.6s
KDAK Kodiak Island 19.00 82 P **Pn 15 29 31.0 -0.3**
MCK McKinley 19.00 63 P **Pn 15 29 31.9 +0.5**
MCK IAmb IAmb 15 29 35.0
comp=Z,12nm,0.9s
MCK McKinley 19.00 63 P **Pn 15 29 31.9 +0.5**
MCK pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 19.09 64 P **Pn 15 29 33.0 +0.4**
RND IAmb IAmb 15 29 34.9
comp=Z,9.7nm,0.8s
RND Reindeer 19.09 64 P **Pn 15 29 33.0 +0.4**
RND pmax pmax
comp=Z,10.0nm,0.8s
F24K Squaw Lake 19.16 51 P **Pn 15 29 33.5 +0.2**
WRH Wood River Hil 19.26 61 P **Pn 15 29 34.3 -0.2**
WRH IAmb IAmb 15 29 43.3
comp=Z,7.1nm,0.8s
COLA College 19.31 59 P **Pn 15 29 37.7 +2.6**
COLA pmax pmax
comp=Z,44nm,2.7s
CCB Clear Creek Bu 19.36 60 P **Pn 15 29 35.2 -0.4**
YAK Yakutsk 19.38 292 **P 15 29 34.6 -0.1**
YAK IAmb IAmb 15 29 38.0
comp=Z,14nm,0.8s
YAK Yakutsk 19.38 292 P **P 15 29 34.8 0.0**
comp=Z,1.6nm,0.3s,baz=82,slow=18,SNR=11
YAK LR LR 15 36 46.3
comp=Z,83nm,19.2s,baz=332,slow=36
comp=Z,7.2nm,0.3s
YAK Yakutsk 19.38 292 *eP* **P 15 29 34.6 -0.1**
YAK *eS* **Sn 15 33 12.4 -0.5**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,14nm,1.4s
YAK smax smax
comp=E,84nm,3.8s
YAK smax smax
comp=N,51nm,3.4s
IL31 19.73 59 IAmb IAmb 15 29 46.0
comp=Z,8.2nm,0.7s
ILAR Eielson Array 19.73 59 P **Pn 15 29 39.4 -0.8**
comp=Z,0.5nm,0.3s,baz=262,slow=7.9,SNR=41
comp=Z,3.6nm,0.7s
HDA Harding Lake 19.76 60 IAmb IAmb 15 29 49.4
comp=Z,8.5nm,0.8s
SCM Sheep Creek Mo 20.13 68 P **P 15 29 43.0 -0.1**
SCM Sheep Creek Mo 20.13 68 P **P 15 29 43.0 -0.1**
SCM pmax pmax
comp=Z,22nm,1.2s
J25K Salcha River, 20.40 60 IAmb IAmb 15 29 48.8
comp=Z,7.9nm,0.8s
BMAR Burnt Mountain 20.44 51 P **P 15 29 46.8 +0.4**
F26K Sheenjek River 20.60 51 IAmb IAmb 15 29 52.0
comp=Z,9.8nm,0.8s
RIDG Independent Ri 20.79 62 IAmb IAmb 15 30 09.6
comp=Z,9.2nm,1.0s
KLU Klutina 20.87 68 P **P 15 29 50.8 -0.3**
KLU IAmb IAmb 15 30 04.9
comp=Z,8.6nm,0.8s
SCRK Sand Creek 21.11 61 IAmb IAmb 15 30 06.0
comp=Z,8.9nm,0.8s
N25K Chitina, Valde 21.44 68 IAmb IAmb 15 30 05.1
comp=Z,5.8nm,0.7s
M26K Nabesna, AK 21.93 65 IAmb IAmb 15 30 15.5
comp=Z,11nm,1.2s
F28M Old Crow 22.23 51 IAmb IAmb 15 30 09.4
comp=Z,5.9nm,1.0s
L27K Beaver Creek, 22.27 63 IAmb IAmb 15 30 10.4
comp=Z,7.3nm,0.9s
BCAR Beaver Creek A 22.29 63 P **P 15 30 06.3 0.0**
DAWY Dawson 23.06 60 IAmb IAmb 15 30 18.5
comp=Z,6.3nm,0.8s
I29M Ogilvie Camp, 23.21 56 IAmb IAmb 15 30 20.0
comp=Z,9.1nm,1.1s
ASAJ Asahikawa 23.41 238 LR LR 15 39 31.0
comp=Z,91nm,20.0s,baz=14,slow=37
EPYK Eagle Plains 23.64 53 IAmb IAmb 15 30 47.1
comp=Z,9.7nm,1.2s
G30M tAoh Zraii Nji 23.72 52 IAmb IAmb 15 30 27.7
comp=Z,7.5nm,1.1s
L29M L29M 23.87 62 IAmb IAmb 15 30 36.2
comp=Z,6.6nm,0.9s
K29M Barlow Dome 23.92 60 IAmb IAmb 15 30 26.8
comp=Z,3.8nm,0.8s
ZEA Zeya 24.01 273 *eP* **P 15 30 23.0 -0.8**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
I30M Mount Dempster 24.03 56 IAmb IAmb 15 30 26.9
comp=Z,6.6nm,1.1s
INK Inuvik 24.51 48 P **P 15 30 27.8 -0.5**
KLR Kul'dur 24.58 260 LR LR 15 40 54.0
comp=Z,120nm,19.1s,baz=32,slow=38
KLR Kul'dur 24.58 260 *i* P **P 15 30 29.1 +0.1**
KLR pmax pmax
comp=Z,12nm,2.8s
M30M Minto, Yukon 24.62 62 IAmb IAmb 15 31 02.6
comp=Z,7.8nm,1.4s
HEH HeiHe 26.03 266 *eP* **P 15 30 41.0 -1.2**
HEH pmax pmax
comp=Z,4.0nm,0.7s
FARO Faro, Yukon 26.24 62 IAmb IAmb 15 30 52.4
comp=Z,7.6nm,1.2s
A36M Sachs Harbour 26.73 39 P **P 15 30 48.1 -0.2**
USRK Ussuriysk Ar. 28.07 252 LR LR 15 43 37.4
comp=Z,70nm,19.1s,baz=51,slow=40
MJAR Matsushiro Arr 31.59 235 LR LR 15 45 29.7
comp=Z,75nm,20.1s,baz=42,slow=39
YKA Yellowknife Ar 33.93 53 P **P 15 31 51.1 -0.9**
comp=Z,1.7nm,0.7s,baz=298,slow=8.7,SNR=20
YKA PcP **PcP 15 34 27.9 -2.0**
comp=Z,0.3nm,0.7s,baz=287,slow=3.3,SNR=3.6
comp=Z,1.7nm,0.7s
KSRS Korea Array 35.29 248 LR LR 15 46 57.2
comp=Z,43nm,19.1s,baz=65,slow=37
SONM Songino Array 37.96 280 P **P 15 32 29.3 +2.5**
comp=Z,0.3nm,0.8s,baz=60,slow=8.5,SNR=2.1
SONM PcP **PcP 15 34 41.7 -0.6**
comp=Z,0.5nm,0.6s,baz=71,slow=1.9,SNR=3.3
BJT Baijiatuau 38.87 263 P **P 15 32 33.4 -1.0**
HHC Hu-ho-hao-te 40.50 268 *eP* **P 15 32 47.8 -0.3**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.0s
H11N2 WAKE ISLAND Hy 40.91 185 T T 16 15 58.2
baz=2.4,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 40.92 185 T T 16 15 59.9
baz=2.4,slow=76,SNR=25
H11N1 WAKE ISLAND Hy 40.92 185 T T 16 15 59.3
baz=2.4,slow=76,SNR=29
NEW Newport 41.72 73 LR LR 15 52 57.1
comp=Z,50nm,19.6s,baz=328,slow=40
H11S1 WAKE ISLAND Hy 42.13 185 T T 16 17 39.5
baz=2.5,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 42.14 185 T T 16 17 37.9
baz=2.5,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 42.15 185 T T 16 17 41.1
baz=2.5,slow=76,SNR=22
LYN LuoYang 44.99 262 P **P 15 33 26.5 +2.0**
LYN pmax pmax
comp=Z,28nm,0.6s
GTA Gaotai 47.39 277 *eP* **P 15 33 45.0 +1.5**
GTA sP sP 15 33 53.6 +5.6
GTA pmax pmax
comp=Z,2.0nm,1.2s
ELK Elko 48.19 79 P **P 15 33 49.3 -0.5**
NVAR Mina Array Bea 48.49 83 P **P 15 33 51.8 -0.3**
comp=Z,1.2nm,0.6s,baz=315,slow=8.0,SNR=9.5
NVAR PcP **PcP 15 35 17.6 -0.4**
comp=Z,0.2nm,0.5s,baz=343,slow=5.5,SNR=1.6
comp=Z,1.2nm,0.6s
KURK Kurchatov 48.57 302 *ce*P **P 15 33 52.3 0.0**
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURBB Kurchatov Arra 48.68 302 P **P 15 33 53.4 +0.3**
comp=Z,1.6nm,0.8s,baz=41,slow=7.5,SNR=10
KURBB PcP **PcP 15 35 16.4 -1.8**
comp=Z,0.5nm,0.6s,baz=57,slow=3.4,SNR=1.8
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 49.36 73 P **P 15 33 58.3 -0.4**
comp=Z,0.7nm,0.7s,baz=332,slow=6.8,SNR=6.4
comp=Z,0.7nm,0.7s
ULM Lac du Bonnet 49.73 57 P **P 15 34 03.0 +1.9**
ULM Lac du Bonnet 49.73 57 P **P 15 34 01.6 +0.4**
comp=Z,4.4nm,0.9s,baz=315,slow=6.2,SNR=7.1
comp=Z,4.4nm,0.9s
DUG Dugway, Tooele 49.79 78 P **P 15 34 00.9 -1.0**
WMQ Urumqi 49.80 290 *eP* **P 15 34 03.2 +1.3**
WMQ pmax pmax
comp=Z,9.0nm,1.3s
MK31 Makanchi Array 49.97 296 P **P 15 34 02.5 -0.6**
MK31 Makanchi Array 49.97 296 ⇓Pg **P 15 34 01.5 -1.6**
comp=Z,0.6nm,0.6s,baz=50,slow=6.2,SNR=7.0
MK31 ⇑Lg Lg 15 35 47.1
comp=Z,1.0nm,0.5s,baz=42,slow=28,SNR=2.7
MK31 Makanchi Array 49.97 296 *i* P **P 15 34 02.9 -0.2**
MKAR Makanchi Array 49.97 296 P **P 15 34 01.6 -1.5**
comp=Z,0.6nm,0.6s,baz=53,slow=7.4,SNR=6.6
MKAR PcP **PcP 15 35 22.6 -0.4**
comp=Z,0.2nm,0.5s,baz=29,slow=3.3,SNR=1.9
comp=Z,0.6nm,0.6s
SPR3 Spring Creek 3 49.99 80 P **P 15 34 03.4 -0.3**
SPR3 IAmb IAmb 15 34 05.3
comp=Z,2.6nm,0.9s
MAKZ Makanchi 50.10 296 ⇑Pg **P 15 33 59.7 -4.4**
comp=Z,0.4nm,0.7s
MAKZ ⇑Lg Lg 15 35 51.5
comp=Z,3.6nm,1.1s
BVAR Borovoye Array 50.11 309 P **P 15 34 03.7 -0.3**
comp=Z,1.5nm,0.6s,baz=55,slow=7.9,SNR=12
BVAR PcP **PcP 15 35 21.6 -1.7**
comp=Z,0.4nm,0.5s,baz=69,slow=4.8,SNR=2.2
comp=Z,1.5nm,0.6s
BRVK Borovoye 50.12 309 P **P 15 34 04.1 +0.1**
BRVK Borovoye 50.12 309 *ce*P **P 15 34 04.7 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BSUT Blindstream Ca 50.51 76 P **P 15 34 07.7 +0.1**
BSUT IAmb IAmb 15 34 11.2
comp=Z,3.0nm,0.9s
FINES FINESS Array B 55.23 340 P **P 15 34 41.0 -0.7**
comp=Z,1.6nm,0.7s,baz=1.2,slow=6.9,SNR=3.4
comp=Z,1.6nm,0.7s
FINES FINESS Array B 55.23 340 *eP* **P 15 34 42.4 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
SCHQ Schefferville 56.29 36 LR LR 16 01 18.7
comp=Z,43nm,19.3s,baz=11,slow=38
AAK Ala-Archa 56.67 299 *i* P **P 15 34 52.7 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.7s
PZH PanZhiHua 56.84 266 P **P 15 34 54.9 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.5s
NOA NORSAR Array B 57.63 348 P **P 15 34 59.5 +0.6**
comp=Z,0.7nm,0.7s,baz=11,slow=7.1,SNR=1.8
comp=Z,0.7nm,0.7s
HFS Hagfors 58.25 347 P **P 15 35 03.6 +0.5**
comp=Z,3.9nm,1.1s,baz=287,slow=10,SNR=1.6
comp=Z,3.9nm,1.1s
KSH Kashi 58.55 295 P **P 15 35 10.5 +4.7**
KSH sP sP 15 35 20.2 +10
KSH pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 58.96 331⇑ *eP* **P 15 35 08.4 +0.2**
OBN *e* 15 37 25.3
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,45nm,15.0s
BTK Batken 60.36 299 P **P 15 35 18.2 0.0**
MNK Minsk 61.43 336 *i* P **P 15 35 24.1 -1.0**
MNK *i* 15 36 05.9
MNK *i* 15 37 39.3
MNK *i* S **S 15 43 45.9 +0.2**
MNK *i* 15 45 15.5
MNK *i* SS **SS 15 47 47.9 +2.6**
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,17nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.6s
MNK MLR MLR
comp=E,611nm,19.0s
MNK MLR MLR
comp=N,588nm,18.0s
MNK MLR MLR
comp=Z,62nm,15.0s
TXAR Lajitas Array 62.96 78 P **P 15 35 36.0 +0.1**
comp=Z,1.8nm,0.7s,baz=333,slow=6.8,SNR=12
TXAR LR LR 16 03 57.7
comp=Z,18nm,20.1s,baz=320,slow=37
comp=Z,1.8nm,0.7s
WCI Wyandotte Cave 63.47 59 P **P 15 35 38.0 -1.0**
EKA Eskdalemuir Ar 64.30 356 P **P 15 35 45.5 +1.3**
comp=Z,1.1nm,0.7s,baz=208,slow=14,SNR=2.0
comp=Z,1.1nm,0.7s
WVT Waverly 64.58 61 P **P 15 35 48.9 +2.5**
WVT pmax pmax
comp=Z,3.0nm,0.8s
AK21 Malin Array Si 64.70 334 P **P 15 35 45.9 -1.0**
AK03 Malin Array Si 64.71 334 P **P 15 35 45.9 -1.0**
AK22 Malin Array Si 64.71 334 P **P 15 35 45.9 -1.0**
AK04 Malin Array Si 64.72 334 P **P 15 35 46.0 -1.0**
AKASG Malin Array Be 64.73 334 P **P 15 35 45.3 -1.8**
comp=Z,4.2nm,0.8s,baz=22,slow=7.3,SNR=12
comp=Z,4.2nm,0.8s
AKASG Malin Array Be 64.73 334 *eP* **P 15 35 44.8 -2.3**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 64.73 334 *ce*P **P 15 35 47.1 0.0**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
AKBB Malin Array Si 64.73 334 P **P 15 35 46.1 -1.0**
AK20 Malin Array Si 64.74 334 P **P 15 35 46.1 -1.0**
KIEV Kiev 64.74 334 P **P 15 35 48.9 +1.7**
RNPP9 Sopachiv 64.75 336 P **P 15 35 46.2 -1.0**
RNPP1 Kostyukhnivka 64.84 336 P **P 15 35 46.7 -1.1**
CMAR Chiang Mai Arr 65.00 263 P **P 15 35 47.8 -1.6**
comp=Z,0.2nm,0.4s,baz=13,slow=8.1,SNR=4.7
comp=Z,0.2nm,0.4s
KBL Kabul 65.75 297 P **P 15 35 54.9 +0.6**
KBL pmax pmax
comp=Z,3.0nm,0.9s
HKT Hockley 66.17 71 P **P 15 35 56.6 0.0**
KRVT Keravat (AS076 66.30 200 LR LR 16 05 39.6
comp=Z,16nm,18.1s,baz=113,slow=37
CLL Collm 66.97 345 P **P 15 36 00.3 -1.2**
CLL Collm 66.97 345 P **P 15 36 00.3 -1.2**
NDNU Novodnistrovsk 67.12 334 P **P 15 36 01.3 -1.2**
KBZ Khabaz 67.58 322 P **P 15 36 05.0 -0.4**
comp=Z,2.8nm,1.1s,baz=204,slow=17,SNR=3.9
KBZ LR LR 16 08 13.6
comp=Z,32nm,18.4s,baz=36,slow=38
comp=Z,2.8nm,1.1s
KBZ Khabaz 67.58 322 *ce*P **P 15 36 05.8 +0.3**
KBZ pmax pmax
comp=Z,3.0nm,1.1s
GERES GERESS Array B 69.29 344 P **P 15 36 15.0 -1.2**
comp=Z,0.9nm,0.6s,baz=21,slow=8.4,SNR=4.1
comp=Z,0.9nm,0.6s
GNI Garni 70.24 319 LR LR 16 12 50.8
comp=Z,26nm,18.0s,baz=354,slow=41
RAYN Ar Rayn 85.06 311 P **P 15 37 46.7 +1.6**
RAYN pmax pmax
comp=Z,1.0nm,1.4s
WRA Warramunga Arr 85.40 214 P **P 15 37 44.0 -2.5**
comp=Z,0.9nm,0.9s,baz=16,slow=5.3,SNR=3.9
comp=Z,0.9nm,0.9s
JTS Las Juntas de 88.19 72 LR LR 16 23 20.7
comp=Z,17nm,18.9s,baz=320,slow=40
ASAR Alice Springs 89.06 213 P **P 15 38 03.2 -1.0**
comp=Z,0.4nm,0.9s,baz=21,slow=5.9,SNR=2.0
comp=Z,0.4nm,0.9s
QSPA South Pole Qui 150.37 180 PKPbc **PKPdf 15 44 56.0 +2.2**
comp=Z,1.9nm,0.8s,baz=23,slow=1.5,SNR=8.6

---

*NAO **12** 15:52:17.5±1.4, 77°.06N×19°.03E, h9km±13km, ML2.3*
*KOLA **12** 15:52:17.1, 77°.04N×18°.96E, h0km, ML2.2, Error ellipse: s-maj=34.1km s-min=18.0km az=60.0, Storfjorden zone*
*FCIAR **12** 15:52:18.0, 77°.06N×19°.18E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.30*

BER 12 15:52:20.2±4.2, 76°.97N×18°.83E, h20km±16km, ML2.0, ML2.3(NAO)**, 1D, Confirmed Earthquake, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.75**	**274**	Pg	Pb	15 52 31.5	-3.0
HSPB				Lg	Lg	15 52 44.9	
HSPB	**Hornsund (broa**	**0.75**	**274**	⇓*i*P	Pb	15 52 31.4	-3.0
HSPB				*e*S	Sb	15 52 43.6	-0.6
HSPB				IAML		15 52 46.1	
SPA0	**Spitsbergen Ar**	**1.32**	**338**	Pn	Pn	15 52 41.6	-1.8
SPA0	baz=151,slow=22			Lg	Lg	15 52 58.8	
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.32**	**338**	Pn	Pn	15 52 41.6	-1.8
SPA0	baz=151,slow=22			Sg	Sn	15 52 58.8	-1.7
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.32**	**338**	*e*P	Pn	15 52 41.6	-1.9
SPA0				*e*S	Sn	15 52 58.2	-2.3
SPITS	**Spitsbergen Ar**	**1.32**	**338**	P	Pn	15 52 41.5	-1.9
SPITS				S	Sn	15 52 58.3	-2.2
BRBA	**Barentsburg A**	**1.48**	**320**	Pn	Pn	15 52 44.5	-1.1
BRBA				Lg	Lg	15 53 04.0	
BRBA	**Barentsburg A**	**1.48**	**320**	*e*P	Pn	15 52 45.1	-0.6
BRBA				*e*S	Sn	15 53 04.1	-0.3
BRBA				IAML		15 53 07.1	
HOPEN	**Hopen**	**1.50**	**105**	Pn	Pn	15 52 44.1	-1.7
HOPEN				Lg	Lg	15 53 06.0	
HOPEN	**Hopen**	**1.50**	**105**	*e*P	Pn	15 52 44.0	-1.8
HOPEN				*e*S	Sn	15 53 03.2	-1.5
HOPEN				*e*Sg	Sb	15 53 06.2	+0.5
HOPEN				IAML		15 53 08.1	
HOPEN	**Hopen**	**1.50**	**105**	*e*P	Pn	15 52 43.9	-2.0
HOPEN				*e*S	Sn	15 53 02.6	-2.1
BRBB	**Barentsburg B**	**1.51**	**321**	Pn	Pn	15 52 44.0	-2.0
BRBB				Lg	Lg	15 53 05.0	
BRBB	**Barentsburg B**	**1.51**	**321**	*e*P	Pn	15 52 44.2	-1.8
BRBB	**Barentsburg B**	**1.51**	**321**	P	Pn	15 52 44.1	-1.9
BRBB				S	Sn	15 53 04.3	-0.7
KBS	**Kingsbay**	**2.44**	**327**	Pn	Pn	15 52 56.2	-2.6
KBS				Pg	Pb	15 53 01.8	-1.4

KBS				Lg	Lg	15 53 31.9	
KBS	**Kingsbay**	**2.44**	**327**	*e*P	Pn	15 52 56.5	-2.3
KBS				*e*Pg	Pb	15 53 02.3	-0.9
KBS				*e*Sg	Sb	15 53 32.9	+0.2
KBS				IAML		15 53 37.4	
	comp=Z,33nm,0.2s						
KBS	**Kingsbay**	**2.44**	**327**	P	Pn	15 52 56.4	-2.4
KBS				S	Sn	15 53 29.5	+1.6
KBS	**Kingsbay**	**2.44**	**327**	*e*P	Pn	15 52 56.2	-2.5
KBS				*e*S	Sn	15 53 25.0	-2.8
BJO1	**Bjornoya**	**2.48**	**179**	*e*Sg	Sb	15 53 36.0	+2.0
BJO1				IAML		15 53 42.1	
	comp=Z,16nm,0.5s						
BJO1	**Bjornoya**	**2.48**	**179**	*e*P	Pb	15 53 02.3	-1.8
BJO1				*e*S	Sb	15 53 33.9	-0.2
ZFI2	**Zemlya Franca-**	**6.68**	**42**	P	Pn	15 53 55.0	-1.9
ZFI2				*e*S	Sn	15 55 06.1	-6.2
	comp=Z,13nm,3.5s						
OMEGA	**Omega**	**6.68**	**42**	*e*P	Pn	15 53 55.4	-1.6
OMEGA				*e*S	Sn	15 55 06.7	-5.6
	comp=Z,10nm,2.7s						
VADS	**Vadso**	**7.49**	**151**	S	Sn	15 55 24.5	-7.7
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn	Pn	15 54 10.2	-0.9
ARA0	baz=1.3,slow=9.3						
				Sn	Sn	15 55 28.1	-10
ARA0	**ARCESS Array S**	**7.71**	**162**	Pn	Pn	15 54 10.2	-0.9
ARA0	baz=1.3,slow=9.3						
				Sn	Sn	15 55 28.1	-10
	baz=3.5,slow=28						
ARCES	**ARCESS Array B**	**7.71**	**162**	P	Pn	15 54 07.3	-3.8
ARCES				S	Sn	15 55 28.1	-10
PRVG	**Vayda Guba**	**8.18**	**146**	P	Pn	15 54 14.3	-3.1
PRVG				S	Sn	15 55 40.2	-8.9

NEIC ***12*** *15:59:39.9±1.6,51°.99N±0°.07×174°.38W±0°.07,h4km±6km, mb4.1/45,ML4.0(AEIC),Error ellipse: s-maj=10.0km s-min=6.2km az=168.0*

AEIC ***12*** *15:59:40.9±2.5,52°.15N±0°.05×174°.33W±0°.09,h13km±4km, Error ellipse: s-maj=9.2km s-min=5.3km az=126.0*

IDC ***12*** *15:59:50.5±4.6,52°.31N×174°.40W,h97km±41km,mb3.5/16, mbtmp3.8/18,MS3.2/4,Error ellipse: s-maj=26.9km s-min=12.3km az=2.0*

ISC 12 15:59:40.7±1.5,52°.1N±0°.1×174°.36W±0°.05,h15km±8km, n97,σ1§17/77,mb4.0/23,MS3.0/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.17**	**36**	Pg	**Pg**	**15 59 44.4**	**-0.4**
ATKA				Sg	**Sb**	**15 59 47.2**	**-1.6**
GSMY	**Great Sitkin M**	**1.05**	**269**		**Pb**	**15 59 59.8**	**-0.7**
GSTR	**Great Sitkin T**	**1.05**	**272**	Pg	**Pb**	**15 59 59.9**	**-0.7**
GSCK	**Great Sitkin C**	**1.12**	**268**		**Pb**	**16 00 00.7**	**-1.0**
ADAG	**Mount Adagdak**	**1.39**	**267**		**Pn**	**16 00 05.8**	**+0.2**
ADK	**Adak**	**1.45**	**264**		**Sn**	**16 00 25.7**	**+0.6**
ADK	**Adak**	**1.45**	**264**		**Pn**	**16 00 06.1**	**-0.3**
KIRH	**Kanaga Island**	**1.70**	**265**		**Pn**	**16 00 10.9**	**+1.1**
KIWB	**Kanaga Island**	**1.74**	**264**		**Pn**	**16 00 10.8**	**+0.4**
KICM	**Kanaga Island**	**1.76**	**266**		**Pn**	**16 00 11.8**	**+1.1**
KICM					**Sb**	**16 00 34.9**	**+0.3**
TAFP	**Tanaga Falls P**	**2.25**	**267**		**Pn**	**16 00 18.2**	**+0.8**
TAFP					**Sn**	**16 00 45.9**	**+1.0**
TASE	**Tanaga Southea**	**2.29**	**266**		**Pn**	**16 00 18.9**	**+0.9**
GALAA	**Gareloi Lava P**	**2.75**	**265**		**Pn**	**16 00 25.5**	**+1.2**
GANO	**Gareloi North**	**2.76**	**267**		**Pn**	**16 00 25.5**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**4.06**	**69**		**Pn**	**16 00 42.2**	**-0.1**
OKER	**Okmok East Rim**	**4.08**	**68**		**Pn**	**16 00 42.9**	**+0.4**
OKFG	**Magazine Ridge**	**4.14**	**68**		**Pn**	**16 00 44.7**	**+1.3**
MAPS	**Pakushin South**	**4.81**	**66**		**Pn**	**16 00 53.2**	**+0.7**
MGOD	**Makushin Gods**	**4.85**	**66**		**Pn**	**16 00 54.0**	**+0.9**
MSW	**Makushin Switc**	**4.94**	**65**		**Pn**	**16 00 54.3**	**0.0**
UNV	**Unalaska Valle**	**5.07**	**66**	Pn	**Pn**	**16 00 58.0**	**+1.9**
P08K	**Saint George I**	**5.34**	**30**		**Pn**	**16 01 01.4**	**+1.6**
LVA	**Lava Point**	**5.43**	**64**		**Pn**	**16 01 02.8**	**+1.7**
SHEM	**Shemya Is, Ala**	**7.10**	**280**	P	**Pn**	**16 01 23.7**	**-0.1**
	50nm,0.3s,baz=65,slow=1.7,SNR=11						
N15K	**Kwethluk River**	**11.35**	**39**		**Pn**	**16 02 24.0**	**+1.8**
O16K	**Kokwok River B**	**11.83**	**44**	Pn	**Pn**	**16 02 30.6**	**+2.0**
KDAK	**Kodiak Island**	**13.73**	**57**	P	**Pn**	**16 02 57.4**	**+2.7**
KDAK	12nm,1.1s,baz=136,slow=1.0,SNR=7.7						
				LR	LR	16 09 24.3	
	comp=Z,152nm,18.9s,baz=85,slow=42						
N19K	**Bonanza Creek**	**14.00**	**44**	Pn	**Pn**	**16 03 00.9**	**+2.5**
SKT	**Skwentna**	**15.81**	**42**	Pn	**P**	**16 03 25.3**	**-1.0**
SKT				IAmb	IAmb	16 03 35.4	
	comp=Z,13nm,1.0s						
PPLA	**Purkeypile**	**16.02**	**39**		**P**	**16 03 28.2**	**-0.5**
PPLA				IAmb	IAmb	16 03 35.7	
	comp=Z,22nm,1.2s						
H19K	**Roundabout Mou**	**16.28**	**27**	Pn	**P**	**16 03 29.9**	**-1.6**
H19K				IAmb	IAmb	16 03 35.9	
	comp=Z,27nm,0.9s						
CAST	**Castle Rocks**	**16.34**	**37**	Pn	**P**	**16 03 31.6**	**-0.6**
C18K	**Utukok River**	**17.79**	**16**		**P**	**16 03 49.6**	**+1.4**
I23K	**Minto, Yukon-K**	**18.30**	**35**	P	**P**	**16 03 55.0**	**+1.3**
I23K				IAmb	IAmb	16 04 05.7	
	comp=Z,13nm,1.1s						
F21K	**Alatna River**	**18.34**	**26**	P	**P**	**16 03 56.1**	**+1.9**
BILL	**Bilibino**	**18.56**	**337**	P	**Pn**	**16 03 58.2**	**+1.3**
HDA	**Harding Lake**	**18.80**	**38**	P	**Pn**	**16 03 59.7**	**-0.1**
HDA				IAmb	IAmb	16 04 15.8	
	comp=Z,6.5nm,0.6s						
POKR	**Poker Flat Res**	**18.97**	**36**	P	**Pn**	**16 04 02.2**	**+0.4**
IL31		**19.00**	**37**	P	**Pn**	**16 04 02.1**	**0.0**
ILAR	**Eielson Array**	**19.00**	**37**	P	**P**	**16 04 01.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=230,slow=8.9,SNR=41						
G23K	**Bananza Creek**	**19.00**	**30**	IAmb	IAmb	16 04 10.4	
	comp=Z,9.0nm,1.0s						
COLD	**Coldfoot**	**19.28**	**29**		**Pn**	**16 04 06.4**	**+0.8**
RIDG	**Independent Ri**	**19.34**	**41**	P	**P**	**16 04 04.8**	**-0.5**
RIDG				IAmb	IAmb	16 04 12.9	
	comp=Z,29nm,1.5s						
J25K	**Salcha River,**	**19.50**	**39**	IAmb	IAmb	16 04 13.9	
	comp=Z,8.3nm,0.7s						
D22K	**Ayikyak River**	**19.76**	**23**	IAmb	IAmb	16 04 16.3	
	comp=Z,7.1nm,0.8s						
SCRK	**Sand Creek**	**19.79**	**41**	P	**P**	**16 04 10.0**	**-0.2**
SCRK				IAmb	IAmb	16 04 17.4	
	comp=Z,11nm,0.7s						
D23K	**Nanushuk River**	**20.32**	**25**	IAmb	IAmb	16 04 25.6	
	comp=Z,12nm,0.8s						
FYU	**Fort Yukon**	**20.49**	**34**	IAmb	IAmb	16 04 24.5	
	comp=Z,14nm,1.1s						
SEY	**Seymchan**	**20.66**	**315**	P	Pn	16 04 21.4	-0.5
	comp=Z,12nm,0.9s,baz=108,slow=11,SNR=47						
	comp=Z,12nm,0.9s						
MA2	**Magadan**	**20.78**	**305**		**P**	**16 04 21.7**	**+0.8**
MA2				IAmb	IAmb	16 04 24.5	
	comp=Z,10.0nm,0.8s						
MA2	**Magadan**	**20.78**	**305**	P	Pn	16 04 22.7	-0.6
	comp=Z,13nm,1.0s,baz=95,slow=11,SNR=26						
	comp=Z,13nm,1.0s						
F25K	**Christian Rive**	**20.91**	**31**	IAmb	IAmb	16 04 28.9	
	comp=Z,11nm,1.2s						
BMAR	**Burnt Mountain**	**21.16**	**32**	P	**P**	**16 04 26.5**	**+1.5**
EGAK	**Eagle**	**21.23**	**40**	P	**P**	**16 04 25.5**	**-0.1**
DAWY	**Dawson**	**21.72**	**43**	P	**P**	**16 04 31.3**	**+0.3**
DAWY				IAmb	IAmb	16 04 43.2	
	comp=Z,5.7nm,0.9s						
I28M	**Miner Creek**	**21.95**	**39**	IAmb	IAmb	16 04 40.3	
	comp=Z,7.8nm,0.8s						
C27K	**Jago River**	**22.65**	**28**	IAmb	IAmb	16 04 46.1	
	comp=Z,4.7nm,0.8s						
F28M	**Old Crow**	**22.84**	**34**	P	**P**	**16 04 43.6**	**+0.7**
F28M				IAmb	IAmb	16 04 51.1	
	comp=Z,3.6nm,0.8s						
F31M	**Tsiigehtchic**	**24.96**	**37**	IAmb	IAmb	16 05 09.9	
	comp=Z,4.6nm,0.9s						
INK	**Inuvik**	**25.32**	**35**	P	**P**	**16 05 06.0**	**-0.2**
INK				IAmb	IAmb	16 05 12.3	
	comp=Z,2.7nm,0.8s						
BBB	**Bella Bella**	**28.02**	**71**	LR	LR	16 15 36.1	
	comp=Z,42nm,19.5s,baz=48,slow=34						
A36M	**Sachs Harbour**	**29.15**	**29**	IAmb	IAmb	16 05 42.3	
	comp=Z,3.6nm,0.8s						
YKA	**Yellowknife Ar**	**32.74**	**48**	P	**P**	**16 06 12.8**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=278,slow=9.5,SNR=4.1						
YKA				PcP	**PcP**	**16 08 56.9**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=268,slow=3.2,SNR=4.0						
	comp=Z,0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.44**	**211**	T	T	16 44 01.7	
	baz=20,slow=76,SNR=386						
H11N3	**WAKE ISLAND Hy**	**35.45**	**211**	T	T	16 44 00.8	
	baz=20,slow=76,SNR=296						
H11N1	**WAKE ISLAND Hy**	**35.46**	**211**	T	T	16 44 03.1	
	baz=20,slow=76,SNR=408						
MJAR	**Matsushiro Arr**	**36.61**	**264**	P	**P**	**16 06 46.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=318,slow=9.9,SNR=1.8						
	comp=Z,0.9nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**36.65**	**211**	T	T	16 45 37.2	
	baz=20,slow=76,SNR=1405						
H11S2	**WAKE ISLAND Hy**	**36.66**	**211**	T	T	16 45 34.3	
	baz=20,slow=76,SNR=1151						
H11S3	**WAKE ISLAND Hy**	**36.67**	**211**	T	T	16 45 33.7	
	baz=20,slow=76,SNR=299						
LYMT	**Lyon Mountain**	**39.53**	**72**	P	**P**	**16 07 11.5**	**+0.5**
NVAR	**Mina Array Bea**	**40.74**	**87**	P	**P**	**16 07 23.2**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=350,slow=11,SNR=4.5						
	comp=Z,0.8nm,0.7s						
KSRS	**Korea Array**	**42.37**	**273**	P	**P**	**16 07 35.8**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=60,slow=8.3,SNR=1.7						
	comp=Z,0.3nm,0.4s						
DUG	**Dugway, Tooele**	**43.02**	**81**	P	**P**	**16 07 40.4**	**+0.7**
DUG				IAmb	IAmb	16 07 45.3	
	comp=Z,5.8nm,1.2s						
JNU	**Nakatsue**	**43.39**	**266**	LR	LR	16 29 36.0	
	comp=Z,18nm,18.7s,baz=64,slow=41						
PD31	**Pinedale Array**	**43.46**	**76**	P	**P**	**16 07 42.7**	**-0.5**
PD31				IAmb	IAmb	16 07 47.5	
	comp=Z,2.2nm,0.7s						
PDAR	**Pinedale Array**	**43.46**	**76**	P	**P**	**16 07 42.6**	**-0.7**
PDAR	**Pinedale Array**	**43.46**	**76**	P	**P**	**16 07 42.9**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=301,slow=3.4,SNR=15						
	comp=Z,1.5nm,0.5s						
TMUT	**Trail Mountain**	**44.55**	**81**	P	**P**	**16 07 53.0**	**+0.9**
U15A	**North Rim**	**45.70**	**85**	P	**P**	**16 08 01.9**	**+0.6**
O20A	**White River Ci**	**45.83**	**78**	P	**P**	**16 08 01.9**	**-0.2**
ULM	**Lac du Bonnet**	**46.98**	**59**	P	**P**	**16 08 11.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=313,slow=5.7,SNR=2.0						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**48.78**	**298**	P	**P**	**16 08 24.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=56,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**55.53**	**315**	LR	LR	16 34 22.8	
	comp=Z,19nm,18.8s,baz=74,slow=38						
TXAR	**Lajitas Array**	**55.83**	**85**	P	**P**	**16 09 17.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=290,slow=5.1,SNR=6.7						
	comp=Z,0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**60.61**	**316**	P	**P**	**16 09 49.1**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=44,slow=6.8,SNR=5.0						
	comp=Z,0.6nm,0.7s						
WMQ	**Urumqi**	**61.25**	**305**	*e*P	**P**	**16 09 55.8**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**61.73**	**311**	P	**P**	**16 09 55.8**	**-2.3**
	comp=Z,0.1nm,0.4s,baz=45,slow=7.2,SNR=7.2						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**62.10**	**322**	P	**P**	**16 09 59.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=50,slow=5.9,SNR=5.2						
BVAR				PcP	**PcP**	**16 10 38.1**	**-2.5**
	comp=Z,0.6nm,0.7s,baz=40,slow=6.0,SNR=1.8						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**67.97**	**356**	P	**P**	**16 10 36.0**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=52,slow=2.6,SNR=5.5						
	comp=Z,1.1nm,0.7s						
WRA	**Warramunga Arr**	**84.47**	**228**	P	**P**	**16 12 12.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=25,slow=5.1,SNR=2.3						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**87.91**	**226**	P	**P**	**16 12 29.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=28,slow=5.3,SNR=7.0						
	comp=Z,0.8nm,0.7s						
H03N2	**Juan Fernandez**	**118.70**	**108**	T	T	18 28 20.6	
	baz=317,slow=77,SNR=40						
H03N1	**Juan Fernandez**	**118.72**	**108**	T	T	18 28 22.3	
	baz=317,slow=77,SNR=34						
H03N3	**Juan Fernandez**	**118.72**	**108**	T	T	18 28 21.2	
	baz=317,slow=77,SNR=23						
QSPA	**South Pole Qui**	**141.82**	**180**	PKhKP	PKPpre	16 19 04.1	
	comp=Z,0.7nm,0.8s,baz=180,slow=1.0,SNR=1.3						
BOSA	**Boshof**	**152.38**	**320**	PKPbc	**PKPbc**	**16 19 34.9**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=48,slow=1.8,SNR=5.6						

NEIC ***12*** *16:03:51.6±0.8,29°.1S±0°.2×179°.1W±0°.2,h346km±10km, mb4.1/13,Error ellipse: s-maj=30.9km s-min=23.9km az=70.0*

IDC ***12*** *16:03:51.6±1.3,29°.04S×179°.11W,h345km±12km,mb3.5/8, mbtmp4.2/9,Error ellipse: s-maj=22.9km s-min=19.2km az=146.0*

NOU ***12*** *16:03:57.1,30°.09S×178°.37W,h344km,mb4.0/11, Kermadec Islands, New Zealand*

ISC 12 16:03:51.3±0.6,29°.36S±0°.06×179°.1W±0°.1,h350km,n84, σ1§49/88,mb3.9/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.00**	**84**	P	**Pn**	**16 04 37.0**	**-0.1**
GLKZ	**Green Lake**	**1.01**	**85**	P	**Pn**	**16 04 36.7**	**-0.4**
GLKZ				S	**S**	**16 05 14.2**	**+0.4**
RAO	**Raoul Island**	**1.01**	**84**	P	**Pn**	**16 04 36.8**	**-0.2**
	1um,0.2s,baz=253,slow=19,SNR=6.7						
MXZ	**Matakaoa Point**	**8.47**	**194**	Pn	**Pn**	**16 05 53.7**	**+2.8**
WCZ	**Waipu Caves**	**8.60**	**219**	P	**P**	**16 05 57.4**	**+2.4**
WMGZ	**Waiomatatini S**	**8.70**	**193**	P	**Pn**	**16 05 52.5**	**-1.1**
WMGZ				S	**S**	**16 07 31.1**	**-2.5**
HAZ	**Te Kaha**	**8.78**	**197**	P	**Pn**	**16 05 54.9**	**+0.3**
HAZ				S	S	16 07 29.5	-5.8
PUZ	**Puketiti**	**8.97**	**194**	P	Pn	16 05 55.1	-1.8
PUZ				S	S	16 07 36.2	-3.4
RUGZ	**Raukumara Rang**	**9.00**	**197**	P	**Pn**	**16 05 57.3**	**-0.1**
RUGZ				S	**S**	**16 07 37.5**	**-3.0**
TWGZ	**Tauwhareparae**	**9.13**	**195**	P	**Pn**	**16 05 58.7**	**-0.1**
TWGZ				S	**S**	**16 07 41.2**	**-2.0**
CNGZ	**Carnagh Statio**	**9.38**	**193**	P	**Pn**	**16 06 01.1**	**-0.7**
MWZ	**Matawai**	**9.39**	**197**	P	**Pn**	**16 06 00.4**	**-1.5**
MWZ				S	**S**	**16 07 46.4**	**-2.4**
TKGZ	**Te Karaka**	**9.41**	**195**	P	Pn	16 05 60.0	-2.2
TKGZ				S	**S**	**16 07 46.9**	**-2.4**
URZ	**Urewera**	**9.43**	**199**	P	**Pn**	**16 06 01.4**	**-1.0**
	10nm,0.3s,baz=354,slow=4.0,SNR=38						
URZ				S	**S**	**16 07 47.2**	**-2.4**
	9.2nm,0.4s,baz=279,slow=22,SNR=9.0						
URZ	**Urewera**	**9.43**	**199**	P	**Pn**	**16 06 02.9**	**+0.6**
URZ	**Urewera**	**9.43**	**199**	S	S	16 07 45.7	-3.9
URZ	**Urewera**	**9.43**	**199**	P	**Pn**	**16 06 01.5**	**-0.8**
URZ				S	**S**	**16 07 47.3**	**-2.4**
TOZ	**Tahuroa Road**	**9.50**	**207**	P	**P**	**16 06 07.4**	**+2.4**
RIGZ	**Rimuhau**	**9.69**	**195**	P	**Pn**	**16 06 04.2**	**-1.2**
RIGZ				S	S	16 07 51.9	-3.5
MUGZ	**Murupara**	**9.73**	**200**	P	**Pn**	**16 06 04.8**	**-1.2**
MUGZ				S	**S**	**16 07 54.8**	**-1.5**
RTZ	**Ruatahuna**	**9.80**	**198**	P	**Pn**	**16 06 06.2**	**-0.6**
SNGZ	**Shannon Statio**	**9.86**	**197**	P	Pn	16 06 05.2	-2.3
SNGZ				S	**S**	**16 07 56.2**	**-2.9**
RAHZ	**Arahi**	**10.05**	**197**	P	**Pn**	**16 06 08.5**	**-1.3**
RAHZ				S	S	16 07 58.8	-4.6
MTHZ	**Maungataniwha**	**10.06**	**199**	P	**Pn**	**16 06 08.9**	**-1.0**
MTHZ				S	**S**	**16 08 00.5**	**-3.0**
MRHZ	**Matea Rd**	**10.17**	**200**	P	**Pn**	**16 06 11.7**	**+0.6**
MRHZ				S	**S**	**16 08 03.1**	**-2.8**
HIZ	**Hauiti**	**10.43**	**207**	P	**P**	**16 06 18.3**	**+2.9**
BKZ	**Black Stump Fm**	**10.45**	**199**	P	**Pn**	**16 06 14.6**	**0.0**
BKZ	**Black Stump Fm**	**10.45**	**199**	S	S	16 08 07.2	-5.0
BKZ	**Black Stump Fm**	**10.45**	**199**	P	**Pn**	**16 06 13.1**	**-1.4**
ANWZ	**Angora Road**	**11.66**	**197**	P	**P**	**16 06 29.4**	**+0.4**
MSVF	**Nonsavu**	**11.87**	**347**	P	**Pn**	**16 06 29.1**	**-2.6**
	5.3nm,0.4s,baz=173,slow=8.6,SNR=8.2						
PRWZ	**Pori Road**	**11.89**	**199**	P	**P**	**16 06 31.5**	**0.0**
BFZ	**Birch Farm**	**11.93**	**197**	P	**P**	**16 06 30.6**	**-1.4**
BFZ	**Birch Farm**	**11.93**	**197**	P	**P**	**16 06 32.5**	**+0.5**
BFZ	**Birch Farm**	**11.93**	**197**	S	S	16 08 40.0	-4.8
TIWZ	**Tintock**	**12.12**	**199**	P	**P**	**16 06 34.7**	**+0.6**
HOWZ	**Holdsworth Sta**	**12.34**	**200**	P	P	16 06 34.6	-1.9
OGWZ	**Otaki Gorge**	**12.37**	**201**	P	**P**	**16 06 35.4**	**-1.4**
TMWZ	**Te Maipa**	**12.42**	**198**	P	**P**	**16 06 37.5**	**0.0**
TRWZ	**Traveller**	**12.75**	**198**	P	**P**	**16 06 40.8**	**-0.3**
DUWZ	**D'Urville Isla**	**12.78**	**205**	P	**P**	**16 06 40.7**	**-0.7**
PAWZ	**Paruwai Farm**	**12.81**	**199**	P	**P**	**16 06 41.1**	**-0.6**
MSWZ	**Moikau Station**	**12.89**	**200**	P	**P**	**16 06 40.8**	**-1.9**
SNZO	**South Karori**	**12.96**	**201**	P	**P**	**16 06 41.6**	**-1.7**
SNZO	**South Karori**	**12.96**	**201**	S	**S**	**16 09 03.0**	**-2.9**
PLWZ	**Palliser**	**13.03**	**199**	P	**P**	**16 06 44.8**	**+0.6**
TUWZ	**Tuamarina**	**13.32**	**203**	P	**P**	**16 06 47.0**	**-0.4**
QRZ	**Quartz Range**	**13.34**	**209**	P	**P**	**16 06 49.6**	**+2.0**
QRZ	**Quartz Range**	**13.34**	**209**	S	**S**	**16 09 14.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**13.60**	**203**	P	**P**	**16 06 51.2**	**+0.8**
KHZ	**Kahutara**	**14.34**	**203**	P	**P**	**16 06 59.7**	**+1.2**
KHZ	**Kahutara**	**14.34**	**203**	S	**S**	**16 09 31.6**	**-2.0**
DSZ	**Denniston Nort**	**14.41**	**208**	P	**P**	**16 06 59.9**	**+0.5**
STKA	**Stephens Creek**	**33.82**	**256**	P	**P**	**16 10 02.6**	**+0.7**
STKA				IAmb	IAmb	16 10 31.3	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**33.82**	**256**	P	**P**	**16 10 03.4**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=103,slow=13,SNR=6.1						
	comp=Z,1.5nm,0.4s						
BBOO	**Buckleboo**	**38.37**	**253**	P	**P**	**16 10 40.5**	**+0.4**
AS31	**Alice Springs**	**42.24**	**266**	P	**P**	**16 11 11.4**	**-0.3**
ASAR	**Alice Springs**	**42.24**	**266**	P	**P**	**16 11 11.3**	**-0.4**
ASAR	**Alice Springs**	**42.24**	**266**	P	**P**	**16 11 11.7**	**0.0**
	comp=Z,2.0nm,0.5s,baz=100,slow=6.4,SNR=103						
	comp=Z,2.0nm,0.5s						
WR0	**Warramunga Arr**	**42.95**	**272**	P	**P**	**16 11 17.1**	**-0.2**
WR0				IAmb	IAmb	16 11 25.2	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**43.12**	**272**	P	**P**	**16 11 18.3**	**-0.4**
WB2				IAmb	IAmb	16 11 19.4	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**43.14**	**272**	P	**P**	**16 11 18.5**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=110,slow=8.0,SNR=31						
	comp=Z,4.2nm,0.6s						
WB0	**Warramunga Arr**	**43.15**	**272**	P	**P**	**16 11 18.7**	**-0.3**
MTN	**Manton Dam**	**48.91**	**279**	P	**P**	**16 12 03.1**	**-0.3**
MTN				IAmb	IAmb	16 12 23.7	
	comp=Z,28nm,1.2s						
KNRA	**Kununurra**	**49.70**	**274**	P	**P**	**16 12 09.5**	**+0.2**
KNRA				IAmb	IAmb	16 12 38.6	
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.44**	**270**	P	**P**	**16 12 22.2**	**+0.1**
MBWA	**Marble Bar**	**55.42**	**263**	P	**P**	**16 12 50.5**	**-0.3**
QSPA	**South Pole Qui**	**60.75**	**180**	P	**P**	**16 13 30.5**	**+3.7**
QSPA				IAmb	IAmb	16 13 31.4	
	comp=Z,3.8nm,1.2s						
QSPA	**South Pole Qui**	**60.75**	**180**	P	**P**	**16 13 30.1**	**+3.3**
	comp=Z,0.7nm,0.6s,baz=354,slow=0.1,SNR=5.4						
	comp=Z,0.7nm,0.6s						
BELA	**Belgrano 2**	**70.94**	**173**	P	**P**	**16 14 32.6**	**+1.8**
BELA				IAmb	IAmb	16 14 47.4	
	comp=Z,5.7nm,1.3s						
JGF	**Kuroka**	**76.54**	**325**	P	**P**	**16 15 02.4**	**-1.3**
KSRS	**Korea Array**	**82.95**	**320**	P	**P**	**16 15 37.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=136,slow=6.4,SNR=4.3						
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**84.58**	**346**	P	**P**	**16 15 44.5**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=123,slow=8.0,SNR=6.9						
	comp=Z,3.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**85.78**	**327**	P	**P**	**16 15 52.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=176,slow=7.1,SNR=2.3						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**92.18**	**290**	P	**P**	**16 16 23.2**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=109,slow=5.8,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**116.39**	**311**	PKP	**PKPdf**	**16 21 52.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=95,slow=3.0,SNR=1.9						
KURBB	**Kurchatov Arra**	**119.70**	**314**	PKP	**PKPdf**	**16 21 58.5**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=87,slow=1.9,SNR=2.9						
BVAR	**Borovoye Array**	**125.01**	**316**	PKP	**PKPdf**	**16 22 09.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=119,slow=1.8,SNR=6.9						
FINES	**

JYNG	**Yonagunijimaku**	**0.47 150**	*i* P	**Pb**	**16 39 10.2**	**-1.2**			
JYNG			S	**Sb**	**16 39 18.1**	**+0.2**			
YOJ	**Yonaguni jima**	**0.50 143**		**Pb**	**16 39 10.7**	**-1.1**			
YOJ	**Yonaguni jima**	**0.50 143**	P	**Pb**	**16 39 10.8**	**-0.9**			
YOJ	**Yonaguni jima**	**0.50 143**	S	**Sb**	**16 39 18.0**	**-0.6**			
YOJ	**Yonaguni jima**	**0.50 143** ⇑	*i* P	**Pb**	**16 39 10.9**	**-0.9**			
YOJ			*i* S	**Sb**	**16 39 17.8**	**-0.8**			
YOJ	**Yonaguni jima**	**0.50 143**	*e*P	**Pb**	**16 39 10.6**	**-1.1**			
YOJ			S	**Sb**	**16 39 17.8**	**-0.8**			
EOS2	**EOS2**	**0.60 223**	⇑P	**Pb**	**16 39 12.4**	**-1.0**			
EOS2			*e*S	**Sb**	**16 39 21.5**	**+0.1**			
TWB1	**Santiao Chiao**	**0.65 283**	*i* P	**Pb**	**16 39 12.1**	**-2.2**			
EOS3	**EOS3**	**0.66 210**	⇑P	**Pb**	**16 39 13.5**	**-0.9**			
EOS3			*e*S	**Sb**	**16 39 23.3**	**+0.2**			
SXI1	**Grass Mountain**	**0.77 288**	*i* P	**Pb**	**16 39 14.5**	**-1.9**			
SXI1			S	**Sb**	**16 39 25.7**	**-0.7**			
TIPB	**Shuangxi**	**0.79 278**	⇓P	**Pb**	**16 39 14.8**	**-1.9**			
TIPB			S	**Sb**	**16 39 24.2**	**-2.7**			
TWC	**Suao**	**0.80 252**	⇓*i*P	**Pb**	**16 39 14.7**	**-2.2**			
TWC			*e*S	**Sb**	**16 39 24.8**	**-2.4**			
EOS4	**EOS4**	**0.81 204**	*e*P	**Pb**	**16 39 16.1**	**-0.7**			
EOS4			*e*S	**Sb**	**16 39 27.3**	**+0.2**			
ESAO	**Su ao**	**0.81 250**	⇓P	**Pb**	**16 39 15.1**	**-2.0**			
ESAO			*e*S	**Sb**	**16 39 25.6**	**-2.0**			
NWF	**Wu-fen Shan**	**0.84 285**	⇓P	**Pb**	**16 39 15.8**	**-1.9**			
WFSB	**Wu-fen Shan**	**0.84 285**	⇓*i*P	**Pb**	**16 39 15.8**	**-1.9**			
ILA	**Ilan**	**0.85 264**	*e*P	**Pb**	**16 39 16.2**	**-1.6**			
ILA			*e*S	**Sb**	**16 39 27.5**	**-1.3**			
NDS	**Dongshan**	**0.91 256**	⇓P	**Pb**	**16 39 16.8**	**-1.9**			
NDS			*e*S	**Sb**	**16 39 29.3**	**-1.1**			
EWUT	**Wuta**	**0.92 243**	⇓P	**Pb**	**16 39 16.9**	**-2.0**			
EWUT			*e*S	**Sb**	**16 39 29.6**	**-1.2**			
TWE	**Neicheng**	**0.93 262**	⇓*i*P	**Pb**	**16 39 16.9**	**-2.2**			
TWE			*e*S	**Sb**	**16 39 30.2**	**-0.9**			
PCYT	**Pengchaiyu**	**0.94 324**	⇓P	**Pb**	**16 39 17.6**	**-1.7**			
PCYT			*e*S	**Sb**	**16 39 30.6**	**-0.8**			
ENA	**Nanau**	**0.96 243**	⇓*i*P	**Pb**	**16 39 17.4**	**-2.2**			
ENA			S	**Sb**	**16 39 29.7**	**-2.1**			
FUSB	**Fushanzhiwuyua**	**1.00 264**	⇓P	**Pb**	**16 39 18.0**	**-2.3**			
FUSB			*e*S	**Sn**	**16 39 33.7**	**0.0**			
TWA	**Mucha**	**1.00 277**	⇓*e*P	**Pb**	**16 39 19.4**	**-1.0**			
EAHA	**Aohua**	**1.01 239**	*e*P	**Pn**	**16 39 18.2**	**-2.1**			
EAHA			*e*S	**Sb**	**16 39 31.9**	**-1.3**			
EHP	**Heping Village**	**1.02 238**	*e*P	**Pn**	**16 39 19.4**	**-1.1**			
EHP			*e*S	**Sb**	**16 39 32.8**	**-0.7**			
NHY	**Taipei**	**1.03 280**	*e*P	**Pn**	**16 39 18.9**	**-1.7**			
ENTT	**Nioudou**	**1.04 258**	⇓P	**Pn**	**16 39 18.7**	**-2.1**			
ENTT			*e*S	**Sb**	**16 39 33.1**	**-1.0**			
YM08	**YM08**	**1.04 288**	⇓P	**Pn**	**16 39 18.7**	**-2.1**			
YM01	**YM01**	**1.05 286**	⇓P	**Pn**	**16 39 19.0**	**-1.9**			
TWY	**Chenhua**	**1.07 293**	*e*P	**Pn**	**16 39 18.5**	**-2.7**			
ZUZH	**Zhuzihu**	**1.07 286**	⇓*e*P	**Pn**	**16 39 19.4**	**-1.9**			
NWLT	**Wulai**	**1.08 266**	*e*P	**Pn**	**16 39 19.8**	**-1.5**			
TAP	**Taipei**	**1.08 280**	*e*P	**Pn**	**16 39 19.7**	**-1.6**			
TAP			S	**Sb**	**16 39 33.8**	**-1.6**			
TATO	**Taipei**	**1.09 276**		**Pn**	**16 39 19.5**	**-2.0**			
TATO	**Taipei**	**1.09 276**	P	**Pn**	**16 39 19.7**	**-1.7**			
TATO	**Taipei**	**1.09 276**	⇓P	**Pn**	**16 39 19.7**	**-1.7**			
LATG	**Datong**	**1.10 253**	⇓P	**Pn**	**16 39 19.9**	**-1.8**			
LATG			S	**Sb**	**16 39 34.7**	**-1.3**			
ANP	**Anpu**	**1.10 287**	*e*P	**Pn**	**16 39 19.9**	**-1.9**			
NTST	**Danshui**	**1.16 285**	*e*P	**Pn**	**16 39 21.6**	**-0.7**			
TWS1	**Kuangyinshan**	**1.17 282**	*e*P	**Pn**	**16 39 20.5**	**-2.1**			
ETL	**Fush Village**	**1.19 234**	*e*P	**Pn**	**16 39 22.3**	**-0.6**			
ETL			S	**Sn**	**16 39 37.7**	**-0.7**			
NACB	**Ninganchiao**	**1.20 236**		**Pn**	**16 39 21.0**	**-2.1**			
NACB	**Ninganchiao**	**1.20 236**	P	**Pn**	**16 39 21.9**	**-1.1**			
NACB	**Ninganchiao**	**1.20 236**	*e*P	**Pn**	**16 39 21.5**	**-1.5**			
NACB			S	**Sn**	**16 39 37.7**	**-1.0**			
YHNB	**Yeheng**	**1.20 261**		**Pn**	**16 39 21.1**	**-1.9**			
YHNB	**Yeheng**	**1.20 261**	P	**Pn**	**16 39 22.1**	**-1.0**			
YHNB	**Yeheng**	**1.20 261**	*e*P	**Pn**	**16 39 21.8**	**-1.3**			
NSK	**Sanguang**	**1.22 262**	⇓P	**Pn**	**16 39 21.6**	**-1.6**			
NSK			*e*S	**Sn**	**16 39 37.5**	**-1.6**			
NNSB	**Datong**	**1.26 250**	P	**Pn**	**16 39 22.9**	**-1.0**			
NNSB			*e*S	**Sn**	**16 39 39.6**	**-0.6**			
NNSH	**Datong**	**1.26 250**	*e*P	**Pn**	**16 39 23.0**	**-0.9**			
NNSH			*e*S	**Sn**	**16 39 40.0**	**-0.2**			
TWD	**Chiawan**	**1.26 232**	*e*P	**Pn**	**16 39 23.2**	**-0.6**			
TWD			S	**Sn**	**16 39 39.5**	**-0.5**			
NNS	**Nan Shan**	**1.26 251**	⇑P	**Pn**	**16 39 22.9**	**-1.0**			
NNS			*e*S	**Sn**	**16 39 39.3**	**-1.0**			
ETLH	**Xiulin Townshi**	**1.27 239**	*e*P	**Pn**	**16 39 23.0**	**-1.0**			
ETLH			S	**Sn**	**16 39 40.1**	**-0.3**			
HATJ	**Hateruma jima**	**1.30 128**	P	**Pn**	**16 39 21.7**	**-2.6**			
HWA	**Hwalien**	**1.32 228**	*e*P	**Pn**	**16 39 24.4**	**-0.2**			
JKRS	**Kuro-shima**	**1.36 117**	P	**Pn**	**16 39 21.8**	**-3.3**			
NCU	**National Centr**	**1.36 275**	*e*P	**Pb**	**16 39 26.2**	**-0.3**			
NCUH	**Zhongli**	**1.36 275**	*e*P	**Pb**	**16 39 26.2**	**-0.2**			
KSHI	**Guanxi Townshi**	**1.37 267**	*e*P	**Pn**	**16 39 24.7**	**-0.7**			
TEYL	**Yanliau Villag**	**1.40 225**	*e*P	**Pn**	**16 39 25.1**	**-0.5**			
ETM	**Tongmen**	**1.40 231**	*e*P	**Pn**	**16 39 25.4**	**-0.3**			
JIJ	**Ishigaki jima**	**1.42 110**	P	**Pn**	**16 39 23.4**	**-2.5**			
LXIB	**Xiulin Townshi**	**1.43 234**	P	**Pn**	**16 39 25.7**	**-0.5**			
LXIB			*e*S	**Sb**	**16 39 45.2**	**-0.2**			
NFF	**Wufeng Townshi**	**1.44 261**	*e*P	**Pn**	**16 39 25.6**	**-0.8**			
FUSS	**Fushou**	**1.45 245**	*e*P	**Pn**	**16 39 26.1**	**-0.5**			
FUSS			*e*S	**Sn**	**16 39 44.8**	**-0.2**			
NJD	**Zhudong**	**1.46 265**	*e*P	**Pn**	**16 39 26.9**	**+0.5**			
WHF	**Hehuan Shan**	**1.48 241**	*e*P	**Pn**	**16 39 27.0**	**-0.2**			
SHUL	**Shoufeng**	**1.48 224**	*e*P	**Pn**	**16 39 26.5**	**-0.3**			
TWT	**Tachien**	**1.50 247**	*e*P	**Pn**	**16 39 27.6**	**+0.3**			
JISG	**Ishigakijimahi**	**1.50 100**	P	**Pn**	**16 39 24.7**	**-2.5**			
TDCB	**Techi**	**1.51 247**	*e*P	**Pn**	**16 39 27.6**	**+0.1**			
TDCB			*e*S	**Sn**	**16 39 47.1**	**+0.6**			
HSN1	**Hsinchu**	**1.52 267**	*e*P	**Pb**	**16 39 28.8**	**-0.2**			
LIOB	**Emei**	**1.53 262**	*e*P	**Pn**	**16 39 27.2**	**-0.3**			
SBCB	**Hsinchu**	**1.54 268**	*e*P	**Pn**	**16 39 26.9**	**-0.8**			
ESL	**Shilin**	**1.54 228**	*e*P	**Pn**	**16 39 27.0**	**-0.7**			
ESL			*e*S	**Sn**	**16 46 9.9**	**-0.2**			
HSN	**Hsinchu**	**1.56 268**	*e*P	**Pn**	**16 39 27.9**	**0.0**			
WARBT	**Fenglin Townsh**	**1.64 226**	*e*P	**Pn**	**16 39 28.2**	**-0.9**			
OWD	**Renai**	**1.64 237**	*e*P	**Pn**	**16 39 29.3**	**+0.1**			
OWD			*e*S	**Sn**	**16 39 50.4**	**+0.7**			
EGFH	**Guangfu**	**1.65 224**	*e*P	**Pn**	**16 39 28.6**	**-0.6**			
WUSB	**Renai**	**1.67 239**	⇓*e*P	**Pn**	**16 39 29.8**	**+0.2**			
WUSB			*e*S	**Sn**	**16 39 51.0**	**+0.7**			
WHP	**Taichung City**	**1.69 250**	*e*P	**Pn**	**16 39 30.2**	**+0.5**			
NMLH	**Miaoli**	**1.75 260**	*e*P	**Pb**	**16 39 32.8**	**-0.2**			
HGSD	**Ruisui**	**1.78 220**	⇓*e*P	**Pn**	**16 39 30.5**	**-0.5**			
WPI	**Puli Township**	**1.79 242**	*e*P	**Pn**	**16 39 31.3**	**+0.3**			
VWDT	**VWDT**	**1.79 232**	*e*P	**Pn**	**16 39 31.0**	**0.0**			
VWDT			*e*S	**Sn**	**16 39 53.4**	**+0.4**			
DPDB	**Guoxing**	**1.80 243**	*e*P	**Pn**	**16 39 32.0**	**+0.7**			
DPDB			*e*S	**Sb**	**16 39 55.5**	**-0.6**			
WCS	**Beigang Elemen**	**1.80 244**	*e*P	**Pn**	**16 39 32.2**	**+0.9**			
NSY	**Sanyi**	**1.80 256**	*e*P	**Pb**	**16 39 32.6**	**-1.4**			
TWQ1	**Liyutan**	**1.81 254**	*e*P	**Pb**	**16 39 33.0**	**-1.2**			
EHYH	**Wanrong**	**1.83 222**	*e*P	**Pn**	**16 39 29.8**	**-1.9**			
EHY	**Hungye**	**1.83 223**	P	**Pn**	**16 39 30.7**	**-1.0**			
JTJ	**Tarama**	**1.85 96**	P	**Pn**	**16 39 29.0**	**-2.9**			
SMLT	**Sun Moon Lake**	**1.90 239**	P	**Pn**	**16 39 32.4**	**-0.3**			
SSLB	**Suanglung**	**1.91 236**		**Pn**	**16 39 31.9**	**-0.8**			
SSLB	**Suanglung**	**1.91 236**	P	**Pn**	**16 39 33.4**	**+0.7**			
SSLB	**Suanglung**	**1.91 236**	*e*P	**Pn**	**16 39 32.9**	**+0.1**			
ECBN	**Changbin**	**1.91 216**	*e*P	**Pn**	**16 39 32.0**	**-0.6**			
ECBN			*e*S	**Sn**	**16 39 55.7**	**-0.2**			
TYC	**Yuchr**	**1.92 241**	*e*P	**Pn**	**16 39 33.8**	**+0.9**			
YULB	**Yu-li**	**1.93 221**		**Pn**	**16 39 31.8**	**-1.3**			
YULB	**Yu-li**	**1.93 221**	P	**Pn**	**16 39 32.2**	**-0.9**			
YULB	**Yu-li**	**1.93 221**	*e*P	**Pn**	**16 39 32.1**	**-0.9**			
EYUL	**Yuli**	**1.96 220**	*e*P	**Pn**	**16 39 33.2**	**-0.2**			
EYUL			*e*S	**Sn**	**16 39 57.8**	**+0.6**			
TCU	**Taichung**	**1.96 249**	*e*P	**Pb**	**16 39 35.0**	**-1.6**			
TWF1	**Yuli**	**1.96 220**	P	**Pn**	**16 39 32.5**	**-1.0**			
WWF	**Wufeng**	**1.98 246**	*e*P	**Pn**	**16 39 34.8**	**+1.1**			
WHYT	**Xinyi Township**	**2.03 236**	*e*P	**Pn**	**16 39 35.0**	**+0.5**			
CHKH	**Chenggong**	**2.04 216**	*e*P	**Pn**	**16 39 33.3**	**-1.1**			
WNT1	**Nantou City**	**2.06 243**	*e*P	**Pn**	**16 39 36.2**	**+1.4**			
WJS	**Zhushan**	**2.06 240**	*e*P	**Pn**	**16 39 35.6**	**+0.8**			
WNT	**Mingjian**	**2.07 242**	*e*P	**Pn**	**16 39 35.7**	**+0.8**			
FULB	**Fuli**	**2.09 218**	*e*P	**Pn**	**16 39 34.3**	**-0.9**			
WCHH	**Zhanghua**	**2.09 249**	*e*P	**Pn**	**16 39 36.7**	**+1.5**			
YUS	**Yu-Shan**	**2.09 230**	P	**Pn**	**16 39 34.4**	**-1.2**			
CHKT	**Chengkung**	**2.13 215**	*e*P	**Pn**	**16 39 34.2**	**-1.5**			
CHKT			*e*S	**Sn**	**16 39 58.8**	**-2.6**			
EHD	**Haiduan**	**2.17 219**	*e*P	**Pn**	**16 39 35.5**	**-0.9**			
ALS	**Alishan**	**2.18 232**	*e*P	**Pn**	**16 39 37.2**	**+0.5**			
ECS	**Chishang**	**2.21 218**	*e*P	**Pn**	**16 39 36.7**	**-0.2**			
CHN5	**Tsauling**	**2.22 236**	*e*P	**Pn**	**16 39 38.1**	**+1.0**			
ELDTW	**Lidau**	**2.26 223**	*e*P	**Pn**	**16 39 36.7**	**-1.0**			
WGK	**Gukeng**	**2.26 239**	*e*P	**Pn**	**16 39 38.8**	**+1.2**			
EDH	**Donghe**	**2.26 214**	*e*P	**Pn**	**16 39 36.2**	**-1.4**			
EDH			*e*S	**Sn**	**16 40 02.4**	**-2.4**			
WDL	**Douliou City**	**2.27 240**	*e*P	**Pn**	**16 39 37.7**	**+0.1**			
WDLH	**Douliu**	**2.28 240**	*e*P	**Pn**	**16 39 39.2**	**+1.4**			
WRL	**Guolierlin Hig**	**2.31 246**	*e*P	**Pn**	**16 39 38.8**	**+0.6**			
RLNB	**Erlin**	**2.33 246**	*e*P	**Pn**	**16 39 40.0**	**+1.5**			
WCKO	**Fanlu**	**2.37 234**	⇓*e*P	**Pn**	**16 39 40.2**	**+1.2**			
JMJ	**Miyako jima 2**	**2.37 91**	*e*P	**Pn**	**16 39 39.6**	**+0.5**			
WTK	**Tuku**	**2.40 241**	*e*P	**Pn**	**16 39 40.2**	**+0.7**			
LONT	**Longtian**	**2.41 216**	*e*P	**Pn**	**16 39 39.3**	**-0.3**			
CHN2	**Minshiung**	**2.41 237**	*e*P	**Pn**	**16 39 40.8**	**+1.2**			
STYH	**Taoyuan**	**2.42 226**	*e*P	**Pn**	**16 39 40.3**	**+0.5**			
STYH			*e*S	**Sn**	**16 40 10.0**	**+1.3**			
CHN4	**Tsaushan**	**2.43 232**	*e*P	**Pn**	**16 39 41.0**	**+1.1**			
CHN4			*e*S	**Sn**	**16 40 10.5**	**+1.5**			
TPUB	**Ta-pu**	**2.44 231**	P	**Pn**	**16 39 41.3**	**+1.3**			
TPUB	**Ta-pu**	**2.44 231**	⇓*e*P	**Pn**	**16 39 40.9**	**+0.9**			
TPUB			*e*S	**Sn**	**16 40 10.5**	**+1.4**			
STYT	**Tauyuan**	**2.44 227**	P	**Pn**	**16 39 39.7**	**-0.4**			
STYT			*e*S	**Sn**	**16 40 09.7**	**+0.4**			
LDUT	**Ludao**	**2.44 207**	*e*P	**Pn**	**16 39 38.5**	**-1.6**			
LDUT			*e*S	**Sn**	**16 40 07.3**	**-2.0**			
CHY	**Chiayi**	**2.47 237**	*e*P	**Pn**	**16 39 41.3**	**+0.9**			
WTP	**Ta-pu**	**2.48 230**	*e*P	**Pn**	**16 39 41.5**	**+0.8**			
WTP			*e*S	**Sn**	**16 40 10.7**	**+0.4**			
TWGBT	**Beinan**	**2.51 216**	*e*P	**Pn**	**16 39 39.6**	**-1.4**			
TWGBT			*e*S	**Sn**	**16 40 08.9**	**-2.0**			
TWG	**Pinlang**	**2.51 216**		**Pn**	**16 39 39.5**	**-1.5**			
TWG	**Pinlang**	**2.51 216**	*e*P	**Pn**	**16 39 39.7**	**-1.3**			
TTN	**Taitung**	**2.53 216**	*e*P	**Pn**	**16 39 41.0**	**-0.2**			
WSF	**Szhu**	**2.56 242**	*e*P	**Pn**	**16 39 41.9**	**+0.3**			
TWK	**Hsinying**	**2.56 232**	⇑*e*P	**Pn**	**16 39 43.0**	**+1.3**			
SNST	**Tainan City**	**2.58 231**	*e*P	**Pn**	**16 39 42.8**	**+0.8**			
CHN1	**Nanshi**	**2.58 230**	*e*P	**Pn**	**16 39 42.9**	**+0.9**			
CHN1			*e*S	**Sn**	**16 40 13.7**	**+1.0**			
WSL	**Shuilin Townsh**	**2.61 240**	*e*P	**Pn**	**16 39 43.6**	**+1.2**			
SGST	**Jiashian**	**2.61 228**	⇓*e*P	**Pn**	**16 39 42.7**	**+0.2**			
SGST			*e*S	**Sn**	**16 40 15.0**	**+1.6**			
ICHU	**Yijhu**	**2.66 236**	*e*P	**Pn**	**16 39 44.4**	**+1.4**			
ICHU			*e*S	**Sn**	**16 40 17.5**	**+3.0**			
CHN8	**Yiju**	**2.72 237**	*e*P	**Pn**	**16 39 43.9**	**+0.1**			
ECL	**Taimali**	**2.75 215**	*e*P	**Pn**	**16 39 42.7**	**-1.7**			
CHN3	**Shinhua**	**2.77 231**	*e*P	**Pn**	**16 39 45.9**	**+1.3**			
MATB	**Ma-tsu**	**2.79 298**	*e*P	**Pn**	**16 39 43.2**	**-1.6**			
SCST	**Cishan**	**2.81 226**	*e*P	**Pn**	**16 39 46.4**	**+1.3**			
SHHT	**Tainan City**	**2.81 230**	*e*P	**Pn**	**16 39 47.6**	**+2.4**			
SSD	**Sandimen**	**2.82 222**	*e*P	**Pn**	**16 39 46.2**	**+0.9**			
SCLT	**Jiali**	**2.83 234**	*e*P	**Pn**	**16 39 45.9**	**+0.5**			
TSMG	**Majia**	**2.84 221**	*e*P	**Pn**	**16 39 46.4**	**+0.8**			
TSMG			*e*S	**Sn**	**16 40 20.6**	**+1.4**			
TWM1	**Shoushan**	**2.90 226**	*e*P	**Pn**	**16 39 48.7**	**+2.4**			
MASBT	**Mashibuluo**	**2.92 220**	P	**Pn**	**16 39 46.9**	**+0.2**			
MASBT			*e*S	**Sn**	**16 40 23.2**	**+2.1**			
SGLT	**Jiouru**	**2.92 224**	*e*P	**Pn**	**16 39 48.6**	**+1.9**			
TSCK	**Chigu Township**	**2.92 235**	*e*P	**Pn**	**16 39 47.2**	**+0.5**			
TSCK			*e*S	**Sn**	**16 40 21.3**	**+0.2**			
VWUC	**VWUC**	**2.94 273**	*e*P	**Pn**	**16 39 45.0**	**-1.9**			
EAST	**Anshuo**	**2.99 215**	*e*P	**Pn**	**16 39 47.3**	**-0.3**			
LAY	**Lan-yu**	**3.00 201**	*e*P	**Pn**	**16 39 46.1**	**-1.6**			
TAWH	**Dawu Township**	**3.00 214**	*e*P	**Pn**	**16 39 47.4**	**-0.4**			
LYUB	**Lan-yu**	**3.02 200**	*e*P	**Pn**	**16 39 46.0**	**-2.0**			
XPSS	**Dashiqiu**	**3.05 313**	⇑*e*P	**Pn**	**16 39 47.2**	**-1.1**			
SCZT	**Fangliau**	**3.12 218**	*e*P	**Pn**	**16 39 50.9**	**+1.5**			
PNG	**Penghu**	**3.13 246**	*e*P	**Pn**	**16 39 49.9**	**+0.4**			
PHUB	**P'eng-hu**	**3.14 245**	*e*P	**Pn**	**16 39 49.6**	**-0.1**			
WDGT	**Dungji**	**3.19 241**	*e*P	**Pn**	**16 39 51.0**	**+0.6**			
PTMZ	**Houxiangcun**	**3.24 274**	*e*P	**Pn**	**16 39 50.3**	**-0.7**			
TWP	**Hsiaoliuchiu**	**3.29 221**	*e*P	**Pn**	**16 39 54.2**	**+2.6**			
HEN	**Hengchun**	**3.36 213**	*e*P	**Pn**	**16 39 53.4**	**+0.8**			
TSEB	**Hengchuen, Pin**	**3.37 209**	*e*P	**Pn**	**16 39 54.4**	**+1.5**			
TWKBT	**Hengchun**	**3.38 211**	P	**Pn**	**16 39 52.3**	**-0.6**			
TWKBT			*e*S	**Sn**	**16 40 32.3**	**0.0**			
TWK1	**Hengchun**	**3.38 211**	*e*P	**Pn**	**16 39 52.3**	**-0.7**			
VCHM	**Qimei**	**3.40 242**	*e*P	**Pn**	**16 39 53.5**	**+0.3**			
MHZQ	**Yeshan**	**3.52 291**	*e*P	**Pn**	**16 39 53.3**	**-1.7**			
QZH	**Quanzhou**	**3.72 272**	Pn	**Pn**	**16 39 56.2**	**-1.4**			
QZH			smax	smax					
	comp=N,320nm,1.1s								
QZH			smax	smax					
	comp=E,320nm,1.0s								
QZH			LR	LR					
	comp=N,5μm,10.4s								
QZH			LR	LR					
	comp=E,5μm,10.6s								
QZH			LR	LR					
	comp=Z,4μm,9.9s								
KNM	**Kinmen**	**3.89 264**	*e*P	**Pn**	**16 40 01.8**	**+1.8**			
KNMB	**Chin-men Tao**	**3.93 265**	Pn	**Pn**	**16 39 58.9**	**-1.6**			
KNMB	**Chin-men Tao**	**3.93 265**	*e*P	**Pn**	**16 40 00.3**	**-0.2**			
AXDP	**Jialang**	**4.28 272**	*e*P	**Pn**	**16 40 04.4**	**-0.9**			
ZPLA	**Ao Xicun**	**4.59 259**	*e*P	**Pn**	**16 40 09.6**	**-0.1**			
SXFK	**Yanhouchang**	**4.80 290**	*e*P	**Pn**	**16 40 14.0**	**+1.5**			
DSXP	**Dongshan**	**4.93 258**	*e*P	**Pn**	**16 40 14.1**	**-0.3**			
JOW	**Kunigami**	**5.41 68**	Pn	**Pn**	**16 40 21.8**	**+1.0**			
JOW	**Kunigami**	**5.41 68**	P	**Pn**	**16 40 21.4**	**+0.6**			
	0.9nm,0.3s,baz=259,slow=7.8,SNR=9.2								
	51nm,1.0s								
JOW	**Kunigami**	**5.41 68**	*e*P	**Pn**	**16 40 21.5**	**+0.7**			
SSE	**Sheshan**	**6.35 348**	Pn	Pn	16 40 38.0	+4.2			
SSE			Sn	**Sn**	**16 41 50.7**	**+5.1**			
SSE			smax	smax					
	comp=N,34nm,1.6s								
SSE			smax	smax					
	comp=E,55nm,1.0s								
SSE			LR	LR					
	comp=N,2μm,12.0s								
SSE			LR	LR					
	comp=E,670nm,11.9s								
NJ2	**Nanjing**	**7.92 336**	*e*Pn	**Pn**	**16 40 54.4**	**-0.9**			
NJ2			Sn	**Sn**	**16 42 25.2**	**+1.1**			
NJ2			smax	smax					
	comp=N,88nm,0.8s								
NJ2			smax	smax					
	comp=E,50nm,1.2s								
NJ2			LR	LR					
	comp=N,2μm,10.9s								
NJ2			LR	LR					
	comp=E,750nm,7.1s								
NJ2			LR	LR					
	comp=Z,2μm,10.4s								
TGY	**Tagaytay City**	**10.83 189**	LR	LR	16 45 53.0				
	comp=Z,327nm,20.3s,baz=92,slow=38								
JNU	**Nakatsue**	**10.91 39**	LR	LR	16 46 30.2				
	comp=Z,466nm,19.1s,baz=222,slow=41								
LYN	**LuoYang**	**13.11 320**	P	**Pn**	**16 42 08.2**	**+1.8**			
LYN			pmax	pmax					
	comp=Z,12nm,0.5s								
LYN			LR	LR					
	comp=N,4μm,14.1s								
LYN			LR	LR					
	comp=E,5μm,13.4s								
LYN			LR	LR					
	comp=Z,3μm,9.6s								
QIZ	**Qiongzhong**	**13.25 247**	P	**Pn**	**16 42 08.2**	**-0.2**			
QIZ			S	**Sn**	**16 44 34.8**	**-0.2**			
QIZ			pmax	pmax					
	comp=Z,20nm,1.8s								
QIZ			pmax	pmax					
	comp=Z,330nm,3.2s								
QIZ			LR	LR					
	comp=N,840nm,12.5s								
QIZ			LR	LR					
	comp=E,900nm,14.3s								
QIZ			LR	LR					
	comp=Z,530nm,13.0s								
KSRS	**Korea Array**	**13.33 18**	P	**Pn**	**16 42 13.2**	**+3.8**			
	0.5nm,0.3s,baz=200,slow=11,SNR=28								
KSRS			LR	LR	16 47 55.8				
	comp=Z,950nm,18.2s,baz=195,slow=40								
	0.7nm,0.9s								
DL2	**Dalian**	**14.03 357**	P	**Pn**	**16 42 16.4**	**-2.6**			
DL2			S	**Sn**	**16 44 50.0**	**-3.9**			
DL2			pmax	pmax					
	comp=Z,33nm,1.7s								
DL2			pmax	pmax					
	comp=Z,250nm,5.2s								
DL2			LR	LR					
	comp=N,2μm,14.3s								
DL2			LR	LR					
	comp=E,1μm,12.9s								
DL2			LR	LR					
	comp=Z,3μm,11.4s								
HNS	**HongShan**	**14.23 333**	⇑P	**Pn**	**16 42 24.9**	**+3.2**			
HNS			LR	LR					
	comp=Z,950nm,16.1s								
HNS			LR	LR					
	comp=Z,2μm,16.9s								
HNS			LR	LR					
	comp=Z,1μm,11.4s								
XAN	**Xi'an**	**15.06 311**	⇓P	**Pn**	**16 42 34.3**	**+1.2**			
XAN			pP	P	16 42 37.8	-0.4			
XAN			sP	pP	16 42 40.7	-3.5			
XAN			pmax	pmax					
	comp=Z,8.0nm,1.2s								
XAN			LR	LR					
	comp=Z,4μm,14.2s								
XAN			LR	LR					
	comp=Z,2μm,14.8s								
XAN			LR	LR					
	comp=Z,1μm,16.1s								
JCJ	**Chichijima**	**17.68 79**	LR	LR	16 48 30.0				
	comp=Z,122nm,20.3s,baz=354,slow=32								
MJAR	**Matsushiro Arr**	**17.69 45**	LR	LR	16 50 41.4				
	comp=Z,339nm,18.0s,baz=226,slow=39								
DAV	**Davao City (W)**	**17.91 171**	LR	LR	16 49 42.7				
	comp=Z,324nm,21.8s,baz=324,slow=36								
KMI	**Kunming**	**18.08 275**	⇑P	**P**	**16 43 14.0**	**+2.1**			
KMI			pmax	pmax					
	comp=Z,6.0nm,1.4s								
KMI			LR	LR					
	comp=Z,390nm,8.8s				

GOMU			pmax	pmax		
	comp=Z,5.0nm,1.0s					
GOMU			LR	LR		
	comp=Z,1μm,14.4s					
GOMU			LR	LR		
	comp=Z,810nm,14.1s					
GOMU			LR	LR		
	comp=Z,820nm,14.5s					
LSA	**Lhasa**	**28.39 287**	P	**P**	**16 44 52.0**	**-2.9**
BRDH	**Bariadhala**	**28.46 272**	LR	LR	16 57 57.2	
	comp=Z,128nm,19.1s,baz=180,slow=40					
KAPI	**Kappang**	**29.83 186**	LR	LR	16 57 13.7	
	comp=Z,60nm,19.1s,baz=355,slow=36					
PSI	**Prapat**	**31.71 230**	LR	LR	16 58 48.6	
	comp=Z,52nm,19.1s,baz=46,slow=37					
JAY	**Jayapura**	**32.35 145**	LR	LR	16 56 13.6	
	comp=Z,120nm,19.8s,baz=292,slow=32					
WMQ	**Urumqi**	**34.19 312**	*eP*	**P**	**16 45 46.0**	**+0.7**
WMQ			pP	pP	16 45 49.0	-2.9
WMQ			sP	sP	16 45 53.7	-0.9
WMQ			pmax	pmax		
	comp=Z,11nm,1.1s					
WMQ			LR	LR		
	comp=Z,640nm,16.9s					
WMQ			LR	LR		
	comp=Z,600nm,13.9s					
WMQ			LR	LR		
	comp=Z,130nm,12.3s					
LEM	**Lembang**	**34.75 207**	LR	LR	17 00 41.5	
	comp=Z,89nm,18.6s,baz=5.5,slow=37					
MNAI	**Manna**	**34.81 216**	P	**P**	**16 45 50.7**	**-0.1**
YAK	**Yakutsk**	**37.46 5**	LR	LR	17 01 37.4	
	comp=Z,212nm,20.1s,baz=122,slow=36					
PEA0B	**Petropavlovsk-**	**38.55 34**	P	**P**	**16 46 20.9**	**-1.4**
PETK	**Petropavlovsk-**	**38.55 34**	P	**P**	**16 46 21.1**	**-1.2**
PETK	**Petropavlovsk-**	**38.55 34**	LR	LR	17 02 42.4	
	comp=Z,185nm,18.0s,baz=227,slow=37					
MK31	**Makanchi Array**	**38.82 315**	P	**P**	**16 46 24.1**	**-0.6**
MKAR	**Makanchi Array**	**38.82 315**	P	**P**	**16 46 24.2**	**-0.5**
MKAR	**Makanchi Array**	**38.82 315**	P	**P**	**16 46 24.8**	**0.0**
	comp=Z,5.6nm,0.8s,baz=105,slow=10,SNR=58					
MKAR			PcP	**PcP**	**16 48 34.7**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=101,slow=6.0,SNR=2.8					
	comp=Z,5.6nm,0.8s					
MAKZ	**Makanchi**	**39.02 315**	P	**P**	**16 46 25.9**	**-0.6**
MAKZ			IAmb	IAmb	16 46 27.6	
	comp=Z,7.9nm,0.8s					
MA2	**Magadan**	**39.84 22**	LR	LR	17 03 28.4	
	comp=Z,230nm,19.3s,baz=225,slow=37					
ZAA0	**Zalesovo Array**	**40.43 326**	P	**P**	**16 46 36.5**	**-1.5**
ZALV	**Zalesovo Beam**	**40.43 326**	P	**P**	**16 46 36.4**	**-1.6**
ZALV	**Zalesovo Beam**	**40.43 326**	P	**P**	**16 46 37.4**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=110,slow=8.5,SNR=15					
	comp=Z,2.2nm,0.6s					
PMG	**Port Moresby**	**41.59 142**	LR	LR	17 03 30.5	
	comp=Z,92nm,19.1s,baz=304,slow=35					
KSH	**Kashi**	**41.69 302**	P	**P**	**16 46 50.7**	**+2.0**
KSH			sP	sP	16 46 58.9	+0.8
KSH			pmax	pmax		
	comp=Z,3.0nm,1.3s					
KSH			LR	LR		
	comp=Z,510nm,14.1s					
KSH			LR	LR		
	comp=Z,410nm,11.7s					
KSH			LR	LR		
	comp=Z,390nm,11.3s					
KURK	**Kurchatov**	**42.46 319**	P	**P**	**16 46 53.1**	**-1.6**
KURK			IAmb	IAmb	16 46 56.0	
	comp=Z,6.9nm,0.8s					
KURBB	**Kurchatov Arra**	**42.48 319**	P	**P**	**16 46 54.5**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=109,slow=8.1,SNR=30					
KURBB			LR	LR	17 05 02.1	
	comp=Z,171nm,18.2s,baz=173,slow=37					
	comp=Z,4.6nm,0.9s					
FITZ	**Fitzroy Crossi**	**42.80 176**	P	**P**	**16 46 55.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**42.80 176**	P	**P**	**16 46 55.8**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=6.1,slow=12,SNR=5.7					
	comp=Z,3.0nm,0.8s					
AAK	**Ala-Archa**	**43.19 307**	LR	LR	17 05 34.0	
	comp=Z,281nm,19.6s,baz=97,slow=37					
COEN	**Coen**	**43.46 150**	P	**P**	**16 47 02.8**	**-0.2**
COEN			IAmb	IAmb	16 47 28.6	
	comp=Z,14nm,1.1s					
WB0	**Warramunga Arr**	**45.80 165**	P	**P**	**16 47 21.1**	**-0.7**
WB0			IAmb	IAmb	16 47 32.3	
	comp=Z,10nm,1.0s					
WRA	**Warramunga Arr**	**45.96 165**	P	**P**	**16 47 22.4**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=346,slow=8.6,SNR=14					
	comp=Z,3.4nm,0.8s					
WB2	**Warramunga Arr**	**45.96 165**	P	**P**	**16 47 22.5**	**-0.5**
WB2			IAmb	IAmb	16 47 30.9	
	comp=Z,11nm,0.8s					
KKAR	**Karatay Array**	**46.16 307**	P	**P**	**16 47 24.7**	**+0.3**
SHEM	**Shemya Is, Ala**	**47.44 40**	LR	LR	17 06 47.6	
	comp=Z,68nm,21.5s,baz=268,slow=35					
BVAR	**Borovoye Array**	**48.02 320**	P	**P**	**16 47 38.5**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=108,slow=8.3,SNR=19					
BVAR			LR	LR	17 08 00.8	
	comp=Z,139nm,18.3s,baz=95,slow=36					
	comp=Z,3.3nm,0.6s					
BRVK	**Borovoye**	**48.10 320**	P	**P**	**16 47 39.3**	**0.0**
BRVK			IAmb	IAmb	16 47 40.2	
	comp=Z,6.8nm,0.9s					
AS31	**Alice Springs**	**49.45 166**	P	**P**	**16 47 49.7**	**-0.4**
ASAR	**Alice Springs**	**49.45 166**	P	**P**	**16 47 49.9**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=348,slow=8.5,SNR=19					
	comp=Z,0.6nm,0.7s					
ABKAR	**Akbulak array**	**53.95 314**	P	**P**	**16 48 23.1**	**-0.3**
FORT	**Forrest**	**55.56 174**	P	**P**	**16 48 35.0**	**-0.2**
NWAO	**Narrogin (SRO)**	**57.70 185**	LR	LR	17 14 30.5	
	comp=Z,58nm,18.1s,baz=48,slow=37					
STKA	**Stephens Creek**	**59.24 161**	LR	LR	17 16 13.9	
	comp=Z,60nm,18.9s,baz=19,slow=38					
DZM	**Mont Dzumac**	**63.10 134**	LR	LR	17 15 32.9	
	comp=Z,38nm,18.0s,baz=282,slow=35					
ILAR	**Eielson Array**	**67.99 28**	P	**P**	**16 49 58.4**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=253,slow=4.8,SNR=2.5					
ILAR			LR	LR	17 22 19.5	
	comp=Z,59nm,18.2s,baz=247,slow=38					
	comp=Z,0.4nm,1.0s					
BMAR	**Burnt Mountain**	**68.35 25**	P	**P**	**16 50 01.8**	**+0.9**
BCAR	**Beaver Creek A**	**70.59 29**	P	**P**	**16 50 15.7**	**+1.0**
FIA1	**FINESS Array S**	**71.55 330**	P	**P**	**16 50 20.0**	**-0.5**
FINES	**FINESS Array B**	**71.55 330**	P	**P**	**16 50 19.7**	**-0.8**
	comp=Z,3.0nm,0.6s,baz=57,slow=7.0,SNR=11					
	comp=Z,3.0nm,0.6s					
HFS	**Hagfors**	**77.64 331**	P	**P**	**16 50 53.4**	**-2.5**
	comp=Z,3.0nm,0.7s,baz=77,slow=6.5,SNR=2.7					
HFS			LR	LR	17 30 11.5	
	comp=Z,288nm,18.8s,baz=90,slow=40					
	comp=Z,3.0nm,0.7s					
NB2	**NORSAR Subarra**	**78.26 332**	P	**P**	**16 50 58.0**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=61,slow=6.2					
NOA	**NORSAR Array B**	**78.26 332**	P	**P**	**16 50 57.8**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=59,slow=5.8,SNR=6.2					
	comp=Z,2.4nm,0.8s					
YKA	**Yellowknife Ar**	**81.81 23**	P	**P**	**16 51 17.4**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=308,slow=5.4,SNR=15					
	comp=Z,1.0nm,0.7s					
BORG	**Borgarnes**	**86.42 345**	LR	LR	17 32 30.6	
	comp=Z,76nm,21.2s,baz=351,slow=37					
FRB	**Frobisher Bay**	**91.25 5**	LR	LR	17 36 45.6	
	comp=Z,82nm,18.7s,baz=35,slow=38					

JMA ***12*** *16:53:54.9±0.2,25°N±1°×122°7E±1°0,h0km,MV2.0/6,NW OFF ISHIGAKIJIMA IS*
TAP ***12*** *16:53:56.7,24°84N×122°76E,h28km,ML2.8,D*
ISC 12 16:53:54.6±1.3,24°83N±0°03×122°71E±0°03,h5km±10km, n61,σ1°40/119,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**150**	P	**Pb**	**16 54 05.2**	**+0.5**
JYNG				*eS*	**Sb**	**16 54 12.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.46**	**143**	P	**Pb**	**16 54 05.3**	**+0.2**
YOJ				S	**Sb**	**16 54 13.1**	**+0.9**
YOJ	**Yonaguni jima**	**0.46**	**143**	P	**Pb**	**16 54 05.4**	**+0.3**
YOJ				*eS*	**Sb**	**16 54 12.6**	**+0.4**
EOS2	**EOS2**	**0.60**	**227**	*eP*	**Pb**	**16 54 07.7**	**+0.3**
EOS2				*eS*	**Sb**	**16 54 17.1**	**+1.0**
EOS3	**EOS3**	**0.65**	**214**	*eP*	**Pb**	**16 54 08.9**	**+0.6**
EOS3				S	**Sb**	**16 54 18.9**	**+1.3**
TWB1	**Santiao Chiao**	**0.68**	**285**	P	**Pn**	**16 54 09.8**	**-1.1**
TWB1				*eS*	**Sn**	**16 54 22.8**	**+1.0**
EOS4	**EOS4**	**0.79**	**207**	P	**Pn**	**16 54 11.8**	**-0.2**
EOS4				S	**Sb**	**16 54 23.2**	**+1.8**
SXI1	**Grass Mountain**	**0.80**	**289**	*eP*	**Pg**	**16 54 10.2**	**+0.2**
SXI1				*eS*	**Sb**	**16 54 21.8**	**-0.5**
TWC	**Suao**	**0.81**	**255**	*eP*	**Pg**	**16 54 10.7**	**+0.5**
TWC				*eS*	**Sg**	**16 54 21.4**	**+0.6**
TIPB	**Shuangxi**	**0.82**	**280**	*eP*	**Pb**	**16 54 11.2**	**-0.1**
TIPB				*i* S	**Sn**	**16 54 24.3**	**-0.9**
ESAO	**Su ao**	**0.83**	**252**	P	**Pn**	**16 54 12.8**	**-0.1**
ESAO				*i* S	**Sn**	**16 54 24.6**	**-0.8**
WFSB	**Wu-fen Shan**	**0.88**	**286**	*eP*	Pn	16 54 19.6	+6.0
WFSB				*eS*	**Sn**	**16 54 32.2**	**+5.5**
NDS	**Dongshan**	**0.93**	**258**	*eP*	**Pg**	**16 54 12.6**	**+0.3**
NDS				S	**Sn**	**16 54 27.4**	**-0.5**
EWUT	**Wuta**	**0.93**	**246**	P	**Pn**	**16 54 14.4**	**+0.1**
EWUT				S	**Sb**	**16 54 26.8**	**+1.0**
TWE	**Neicheng**	**0.95**	**264**	P	**Pb**	**16 54 13.6**	**0.0**
TWE				*eS*	**Sn**	**16 54 28.8**	**+0.2**
ENA	**Nanau**	**0.97**	**246**	P	**Pb**	**16 54 14.3**	**+0.4**
ENA				*eS*	**Sg**	**16 54 25.9**	**+0.1**
PCYT	**Pengchaiyu**	**0.98**	**324**	*eP*	**Pg**	**16 54 12.6**	**-0.9**
EAHA	**Aohua**	**1.01**	**241**	*eP*	**Pg**	**16 54 14.6**	**+0.6**
EAHA				*eS*	**Sg**	**16 54 27.9**	**+0.7**
FUSB	**Fushanzhiwuyua**	**1.02**	**266**	*eP*	**Pg**	**16 54 14.5**	**+0.3**
FUSB				*eS*	**Sn**	**16 54 29.7**	**-0.7**
ENTT	**Nioudou**	**1.06**	**260**	*eP*	**Pn**	**16 54 16.3**	**+0.3**
ENTT				*eS*	**Sb**	**16 54 29.9**	**+0.3**
YM08	**YM08**	**1.08**	**290**	*eP*	**Pn**	**16 54 17.8**	**+1.5**
YM08				*eS*	**Sg**	**16 54 26.6**	**-2.6**
YM01	**YM01**	**1.08**	**287**	*eP*	**Pn**	**16 54 17.6**	**+1.1**
YM01				*eS*	**Sg**	**16 54 27.1**	**-2.3**
NWLT	**Wulai**	**1.10**	**268**	P	**Pg**	**16 54 15.7**	**0.0**
NWLT				*eS*	**Sn**	**16 54 34.2**	**+1.9**
TWY	**Chenhua**	**1.10**	**294**	*eP*	**Pn**	**16 54 18.6**	**+1.9**
TWY				*eS*	**Sg**	**16 54 26.4**	**-3.6**
ZUZH	**Zhuzihu**	**1.11**	**288**	*eP*	**Pn**	**16 54 17.6**	**+0.8**
ZUZH				*eS*	**Sg**	**16 54 28.8**	**-1.4**
LATG	**Datong**	**1.12**	**255**	*eP*	**Pg**	**16 54 16.0**	**0.0**
LATG				*eS*	**Sb**	**16 54 32.1**	**+0.8**
NACB	**Ninganchiao**	**1.21**	**238**	P	**Pg**	**16 54 18.5**	**+0.7**
NACB				S	**Sb**	**16 54 33.5**	**-0.3**
YHNB	**Yeheng**	**1.22**	**263**	P	**Pg**	**16 54 18.6**	**+0.5**
YHNB				S	**Sb**	**16 54 34.7**	**+0.3**
NSK	**Sanguang**	**1.24**	**263**	*eP*	**Pg**	**16 54 19.1**	**+0.8**
NSK				S	**Sg**	**16 54 35.3**	**+0.9**
TWD	**Chiawan**	**1.26**	**234**	*eP*	**Pb**	**16 54 19.2**	**+0.4**
TWD				*eS*	**Sb**	**16 54 33.1**	**-2.2**
NNSB	**Datong**	**1.27**	**252**	P	**Pg**	**16 54 19.6**	**+0.6**
NNSB				S	**Sb**	**16 54 35.8**	**0.0**
NNS	**Nan Shan**	**1.28**	**253**	*eP*	**Pg**	**16 54 20.4**	**+1.3**
NNS				S	**Sb**	**16 54 36.0**	**0.0**
ETLH	**Xiulin Townshi**	**1.28**	**241**	P	**Pb**	**16 54 19.5**	**+0.3**
ETLH				*eS*	**Sb**	**16 54 35.1**	**-0.9**
KSHI	**Guanxi Townshi**	**1.40**	**268**	P	**Pb**	**16 54 21.0**	**-0.1**
KSHI				*eS*	**Sb**	**16 54 39.5**	**+0.3**
ETM	**Tongmen**	**1.40**	**232**	*eP*	**Pn**	**16 54 21.3**	**+0.5**
ETM				*eS*	**Sn**	**16 54 38.1**	**-1.6**
LXIB	**Xiulin Townshi**	**1.43**	**236**	*eP*	**Pn**	**16 54 21.7**	**+0.3**
LXIB				*eS*	**Sn**	**16 54 39.6**	**-0.9**
FUSS	**Fushou**	**1.46**	**247**	*eP*	**Pb**	**16 54 22.4**	**+0.1**
FUSS				S	**Sn**	**16 54 40.3**	**-1.0**
NFF	**Wufeng Townshi**	**1.46**	**263**	*eP*	**Pg**	**16 54 24.5**	**+1.8**
NFF				*eS*	**Sn**	**16 54 41.3**	**+0.1**
WHF	**Hehuan Shan**	**1.48**	**243**	*eP*	**Pn**	**16 54 20.4**	**-1.9**
WHF				*eS*	**Sn**	**16 54 39.4**	**-2.8**
TWT	**Tachien**	**1.51**	**248**	*eP*	**Pg**	**16 54 24.7**	**+1.2**
TWT				*eS*	**Sb**	**16 54 43.4**	**+0.6**
LIOB	**Emei**	**1.55**	**264**	*eP*	**Pg**	**16 54 24.5**	**+0.1**
LIOB				*eS*	**Sb**	**16 54 44.8**	**+1.0**
WARBT	**Fenglin Townsh**	**1.64**	**228**	*eP*	**Pb**	**16 54 25.5**	**+0.2**
WARBT				*eS*	**Sn**	**16 54 46.2**	**+0.6**
OWD	**Renai**	**1.65**	**238**	P	**Pb**	**16 54 25.2**	**-0.3**
OWD				*eS*	**Sn**	**16 54 43.1**	**-2.8**
WUSB	**Renai**	**1.67**	**240**	*eP*	**Pn**	**16 54 25.1**	**+0.4**
WUSB				*eS*	**Sn**	**16 54 47.2**	**+0.6**
WHP	**Taichung City**	**1.70**	**252**	*eP*	**Pb**	**16 54 26.5**	**+0.2**
WHP				*eS*	**Sn**	**16 54 46.0**	**-1.1**
HGSD	**Ruisui**	**1.77**	**222**	*eP*	**Pg**	**16 54 28.8**	**+0.2**
HGSD				*eS*	**Sn**	**16 54 47.6**	**-1.3**
VWDT	**VWDT**	**1.79**	**234**	*eP*	**Pn**	**16 54 27.1**	**+1.1**
VWDT				S	**Sn**	**16 54 48.2**	**-0.9**
WCS	**Beigang Elemen**	**1.81**	**245**	*eP*	**Pn**	**16 54 26.8**	**+0.4**
WCS				*eS*	**Sn**	**16 54 49.5**	**-0.2**
EHY	**Hungye**	**1.83**	**224**	*eP*	**Pn**	**16 54 25.6**	**-1.1**
EHY				S	**Sn**	**16 54 49.7**	**-0.5**
SMLT	**Sun Moon Lake**	**1.90**	**241**	*eP*	**Pg**	**16 54 31.1**	**+0.1**
SMLT				*eS*	**Sn**	**16 54 52.3**	**+0.2**
SSLB	**Suanglung**	**1.91**	**237**	*eP*	**Pg**	**16 54 31.1**	**-0.1**
SSLB				*eS*	**Sn**	**16 54 53.2**	**+1.0**
TYC	**Yuchr**	**1.92**	**242**	*eP*	**Pg**	**16 54 33.5**	**+2.0**
TYC				*eS*	**Sn**	**16 54 51.8**	**-0.8**
YULB	**Yu-li**	**1.93**	**222**	*eP*	**Pn**	**16 54 26.9**	**-1.1**
YULB				*eS*	**Sn**	**16 54 47.4**	**-5.2**
EYUL	**Yuli**	**1.95**	**221**	*eP*	**Pn**	**16 54 27.1**	**-1.2**
EYUL				*eS*	**Sn**	**16 54 49.1**	**-4.0**
TWF1	**Yuli**	**1.96**	**222**	*eP*	**Pb**	**16 54 30.2**	**-0.5**
TWF1				*eS*	**Sn**	**16 54 52.2**	**-1.2**
WHYT	**Xinyi Township**	**2.04**	**237**	*eP*	**Pn**	**16 54 30.7**	**+1.2**
WHYT				*eS*	**Sn**	**16 54 54.9**	**-0.5**
ELDTW	**Lidau**	**2.25**	**224**	*eP*	**Pn**	**16 54 33.4**	**+0.8**
STYH	**Taoyuan**	**2.42**	**227**	*eP*	**Pn**	**16 54 36.3**	**+1.6**
STYH				*eS*	**Sn**	**16 55 00.1**	**-4.7**
TPUB	**Ta-pu**	**2.44**	**232**	*eP*	**Pn**	**16 54 36.3**	**+1.3**
TPUB				*eS*	**Sn**	**16 55 04.7**	**-0.5**
SGST	**Jiashian**	**2.61**	**229**	*eP*	**Pn**	**16 54 39.8**	**+2.4**
SGST				*eS*	**Sn**	**16 55 08.9**	**-0.6**
TWKBT	**Hengchun**	**3.36**	**212**	*eP*	**Pn**	**16 54 48.3**	**+0.6**
TWKBT				*eS*	**Sn**	**16 55 26.6**	**-1.4**

AFAD ***12*** *17:03:11.9,36°91N×27°57E,h8km±2km,ML2.7*
ISK ***12*** *17:03:11.8,36°92N×27°55E,h10km,ML2.7/29*
THE ***12*** *17:03:11.9,36°92N×27°58E,h4km±1km,ML2.9/3,Error ellipse: s-maj=1.0km s-min=0.3km az=209.0*
ATH ***12*** *17:03:12.5,36°88N×27°52E,h12km±2km,ML3.1/10, Manual Solution by A.Agalos First location: 2019/02/12 17:04:42, This location: 2019/02/12 17:25:32 MI Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 12 17:03:12.2±0.8,36°92N±0°02×27°56E±0°02,h12km±6km, n74,σ0°88/97,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.17**	**328**	P	**Pg**	**17 03 16.0**	**-0.2**
BDRM				S	**Sg**	**17 03 18.8**	**-0.2**
BDRM				*i* AML	AML	17 03 19.0	
	comp=E,3μm,0.2s						
DATC	**Datca-Mugla**	**0.18**	**153**	Pg	**Pg**	**17 03 16.3**	**0.0**
DATC				Sg	**Sg**	**17 03 19.3**	**+0.2**
BODT	**Bodrum**	**0.24**	**305**	Pg	**Pg**	**17 03 17.4**	**0.0**
BODT				Sg	**Sg**	**17 03 21.4**	**+0.5**
YAZI	**Mula-Dat§a-**	**0.25**	**200**	P	**Pg**	**17 03 17.4**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.30**	**312**	Pg	**Pg**	**17 03 18.3**	**-0.1**
YKAV				Sg	**Sg**	**17 03 23.0**	**+0.4**
MLSB	**Milas**	**0.41**	**25**	Pg	**Pb**	**17 03 20.8**	**-0.7**
MLSB				Sg	**Sg**	**17 03 26.5**	**+0.5**
NISR	**Nisiros**	**0.46**	**228**	P	**Pg**	**17 03 21.4**	**0.0**
NISR				S	**Sb**	**17 03 28.9**	**-0.2**
	4μm,0.2s						
KLNA	**Kalymnos**	**0.47**	**275**	P	**Pg**	**17 03 21.4**	**-0.1**
KLNA				S	**Sg**	**17 03 27.4**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.55**	**112**	Pg	**Pg**	**17 03 22.6**	**-0.4**
DDIM	**Aydin, Didim**	**0.59**	**335**	P	**Pg**	**17 03 23.7**	**-0.2**
DDIM				S	**Sb**	**17 03 32.7**	**-0.2**
DDIM				*i* AML	AML	17 03 39.0	
	comp=N,480nm,0.6s						
YER	**Yerkesik**	**0.62**	**70**	Pg	**Pg**	**17 03 23.8**	**-0.5**
YER				Sg	**Sb**	**17 03 33.9**	**+0.3**
MULA	**Mugla, Merkez-**	**0.69**	**61**	P	**Pg**	**17 03 25.3**	**-0.5**
AYDN	**Tasoluk**	**0.78**	**19**	P	**Pg**	**17 03 27.2**	**-0.2**
AYDN				S	**Sg**	**17 03 37.7**	**0.0**
AYDN				*i* AML	AML	17 03 40.0	
	comp=N,382nm,0.6s						
AYDN				*i* AML	AML	17 03 42.0	
	comp=N,655nm,0.7s						
GCAM	**G?zelcaml?**	**0.82**	**342**	Pg	**Pg**	**17 03 27.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.82**	**342**	P	**Pb**	**17 03 28.5**	**+0.1**
ARG	**Arkhangelos**	**0.84**	**147**	Pg	**Pb**	**17 03 28.5**	**-0.2**
ARG	**Arkhangelos**	**0.84**	**147**	P	**Pg**	**17 03 27.8**	**-0.7**
ARG				S	**Sb**	**17 03 40.6**	**+0.7**
ARG	**Arkhangelos**	**0.84**	**147**	P	**Pb**	**17 03 28.2**	**-0.5**
ARG				S	**Sb**	**17 03 39.8**	**-0.1**
DALY	**Dalyan (Mula)**	**0.88**	**96**	Pg	**Pb**	**17 03 29.4**	**-0.1**
SMG	**Samos**	**0.97**	**324**	P	**Pg**	**17 03 30.4**	**-0.7**
SMG				S	**Sb**	**17 03 44.8**	**+0.9**
	760nm,0.4s						
SMG	**Samos**	**0.97**	**324**	P	**Pn**	**17 03 31.4**	**-0.3**
SMG				S	**Sn**	**17 03 45.1**	**-0.3**
ASTA	**Astypalaia**	**1.04**	**249**	P	**Pg**	**17 03 31.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**14**	Pg	**Pg**	**17 03 32.1**	**-0.6**
ESEN	**Aydn-Nazilli**	**1.08**	**35**	P	**Pb**	**17 03 31.9**	**-0.9**
ESEN				S	**Sg**	**17 03 44.4**	**-2.6**
SABU	**Mula-Dalaman**	**1.14**	**94**	P	**Pb**	**17 03 33.0**	**-0.8**
SABU				S	**Sn**	**17 03 49.9**	**+0.4**
SABU				*i* AML	AML	17 03 54.0	
	comp=N,95nm,0.6s						
NAZL	**Nazilli-Aydin**	**1.19**	**29**	Pn	**Pn**	**17 03 34.7**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.21**	**63**	P	**Pg**	**17 03 35.4**	**-0.2**
TAVA				S	**Sn**	**17 03 52.1**	**+0.7**
DNZT	**Denizli-Tavas-**	**1.23**	**73**	P	**Pg**	**17 03 35.3**	**-0.5**
DGB	**zmir**	**1.25**	**335**	P	**Pn**	**17 03 34.4**	**-1.1**
FETY	**Fethiye**	**1.26**	**103**	Pn	**Pg**	**17 03 35.9**	**-0.5**
FETY	**Fethiye**	**1.26**	**103**	P	**Pg**	**17 03 38.0**	**+1.6**
FETY				S	**Sn**	**17 03 57.7**	**+5.3**
DNIZ	**Denizli-Tavas-**	**1.37**	**59**	P	**Pg**	**17 03 38.2**	**-0.5**
DNIZ				S	**Sg**	**17 03 56.4**	**-0.1**
DNIZ				*i* AML	AML	17 04 01.0	
	comp=E,165nm,0.4s						
CAME	**Cameli-Denizli**	**1.40**	**89**	Pn	**Pb**	**17 03 38.1**	**-0.2**
KARP	**Karpathos**	**1.41**	**193**	Pn	**Pn**	**17 03 37.6**	**-0.1**
KARP	**Karpathos**	**1.41**	**193**	P	**Pn**	**17 03 36.9**	**-0.8**
KARP				S	**Sn**	**17 03 56.2**	**0.0**
	200nm,0.4s						
KARP	**Karpathos**	**1.41**	**193**	P	**Pn**	**17 03 37.2**	**-0.5**
KARP				S	**Sn**	**17 03 55.6**	**-0.6**
ODEM	**Odemis-Izmir**	**1.41**	**17**	Pn	**Pb**	**17 03 38.1**	**-0.5**
IZZE	**Mula-Seydike**	**1.42**	**109**	P	**Pb**	**17 03 38.2**	**-0.5**
IZZE				S	**Sg**	**17 03 57.4**	**-0.7**
IZZE				*i* AML	AML	17 04 04.0	
	comp=E,162nm,0.4s						
IZZE				*i* AML	AML	17 04 07.0	
	comp=N,339nm,0.4s						
KIRA	**zmir-Kiraz**	**1.44**	**27**	P	**Pn**	**17 03 37.9**	**-0.3**
KIRA				S	**Sn**	**17 03 55.5**	**-1.5**
KIRA				*i* AML	AML	17 04 04.0	
	comp=E,79nm,0.5s						
APMY	**Acipayam-Deniz**	**1.50**	**68**	Pn	**Pg**	**17 03 40.2**	**-0.8**
BLCB	**Balcova**	**1.52**	**344**	Pn	**Pn**	**17 03 38.9**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**1.56**	**328**	P	**Pb**	**17 03 41.0**	**0.0**
KNIK	**Mula-Seydike**	**1.62**	**92**	P	**Pg**	**17 03 42.4**	**-0.9**
URLA	**Izmir**	**1.63**	**332**	P	**Pb**	**17 03 42.7**	**+0.5**
APE	**Apeiranthos**	**1.63**	**276**	Pn	**Pn**	**17 03 40.7**	**0.0**
APE	**Apeiranthos**	**1.63**	**276**	P	**Pn**	**17 03 40.1**	**-0.7**
APE	**Apeiranthos**	**1.63**	**276**	P	**Pn**	**17 03 40.8**	**0.0**
GOLH	**Golhisar**	**1.63**	**78**	P	**Pg**	**17 03 44.9**	**+1.3**
AKAS	**Kas**	**1.79**	**112**	Pn	**Pb**	**17 03 44.2**	**-0.7**
AKAS	**Kas**	**1.79**	**112**	P	**Pg**	**17 03 46.4**	**-0.1**
INCE	**Denizli-Bozkur**	**1.79**	**63**	P	**Pg**	**17 03 45.9**	**-0.7**
KULA	**Kula-Manisa**	**1.81**	**28**	Pn	**Pn**	**17 03 43.6**	**+0.2**
ELL	**Elmali**	**1.89**	**95**	Pn	**Pn**	**17 03 45.0**	**+0.5**
ELL	**Elmali**	**1.89**	**95**	P	**Pb**	**17 03 46.0**	**-0.8**
GORD	**Gordes-Manisa**	**2.04**	**14**	Pn	**Pn**	**17 03 47.6**	**+1.1**
ZKR	**Zakros**	**2.10**	**212**	Pn	**Pn**	**17 03 47.4**	**+0.1**
DKL	**Dikili**	**2.21**	**347**	Pn	**Pn**	**17 03 49.4**	**+0.7**
SOMA	**Soma-Manisa**	**2.23**	**360**	Pn	**Pn**	**17 03 50.4**	**+1.4**
KORT	**Korkueli**	**2.24**	**87**	Pn	**Pb**	**17 03 50.7**	**-1.9**
SIMA	**Simav-Kutahya**	**2.43**	**27**	Pn	**Pn**	**17 03 52.

M₀2.01700×10¹⁶ NP1:φ₀145.00000°, δ41.00000°, λ-76.00000°. NP2:φ₀306.00000°, δ50.00000°, λ-102.00000°. Principal axes: T 2.0560, Plg5.0000°, Azm45.0000°; N -0.0800, Plg9.0000°, Azm314.0000°; P -1.9780, Plg79.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

MCSM ***12*** *17:14:31.5±0.5, 41°N±2°×3°3E±°, h6km±4km, mb4.9, mB5.2, MLv5.1, Mw(mB)4.7*

GII ***12*** *17:14:32.5±0.0, 40°.57N×33°.03E, h7km, confirmed*

CFUSG ***12*** *17:14:33.6, 40°.57N×33°.18E, h33km, mb4.2/8, Central Turkey Magtype MSH 4.0 from 8 stations*

ISC 12 17:14:31.2±0.6, **40°.57N**±0°.01×**33°.02E**±0°.01, **h12**km±3km, **n855**, σ1§62/847, **mb4.8**/198, **MS4.0**/53, **72C-25D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.32**	**105**	P		**Pg**	**Pg**	**17 14 37.5**	**-0.3**
ELDT				S		**Sg**	**Sg**	**17 14 42.3**	**+0.1**
ELDT				*i* AML		AML	AML	17 14 43.0	
	comp=N,9μm,0.3s								
CMDR	**Camlidere-ANKA**	**0.42**	**260**	P		**Pg**	**Pg**	**17 14 38.6**	**-1.0**
DERS	**Karabk-Eskip**	**0.46**	**308**	P		**Pg**	**Pg**	**17 14 40.6**	**+0.3**
DERS				S		**Sb**	**Sb**	**17 14 47.3**	**-0.9**
DERS				*i* AML		AML	AML	17 14 48.0	
	comp=E,6μm,0.4s								
CANT	**Cankiri**	**0.46**	**86**	Pg		**Pg**	**Pg**	**17 14 40.3**	**+0.1**
CANT				Sg		**Sb**	**Sb**	**17 14 47.5**	**-0.6**
GOKD	**Ankara-Kalecik**	**0.61**	**145**	P		**Pg**	**Pg**	**17 14 42.8**	**-0.2**
GOKD				S		**Sb**	**Sb**	**17 14 52.7**	**+0.3**
GOKD				*i* AML		AML	AML	17 14 54.0	
	comp=N,1μm,0.3s								
YENC	**ankr-Yen**	**0.63**	**80**	P		**Pg**	**Pg**	**17 14 43.7**	**+0.1**
YENC				S		**Sb**	**Sb**	**17 14 53.3**	**+0.1**
LOD	**Lodumlu**	**0.71**	**196**	Pg		**Pg**	**Pg**	**17 14 44.2**	**-0.8**
LOD				Sg		**Sb**	**Sb**	**17 14 55.4**	**0.0**
ILGA	**Ilgaz**	**0.71**	**47**	Pg		**Pg**	**Pg**	**17 14 44.0**	**-1.2**
ILGA				Sg		**Sg**	**Sg**	**17 14 55.0**	**+0.5**
ILGA	**Ilgaz**	**0.71**	**47**	P		**Pg**	**Pg**	**17 14 44.8**	**-0.3**
ILGA				S		**Sg**	**Sg**	**17 14 54.6**	**+0.1**
ILGA				*i* AML		AML	AML	17 14 58.0	
	comp=N,4μm,0.8s								
ANTO	**Ankara**	**0.72**	**194**			**Pg**	**Pg**	**17 14 44.3**	**-1.0**
ANTO				Sg		**Sb**	**Sb**	**17 14 55.3**	**-0.5**
ANTO	**Ankara**	**0.72**	**194**	P		**Pg**	**Pg**	**17 14 44.3**	**-1.0**
ANTO								17 14 55.3	
KBUK	**KARABUK-Merkez**	**0.73**	**336**	P		**Pg**	**Pg**	**17 14 45.3**	**0.0**
KBUK				S		**Sg**	**Sg**	**17 14 54.0**	**-0.9**
KBUK				*i* AML		AML	AML	17 14 56.0	
	comp=N,3μm,0.3s								
KBUK				*i* AML		AML	AML	17 14 56.0	
	comp=E,3μm,0.5s								
PELI	**Kastamonı-Ara**	**0.76**	**17**	P		**Pg**	**Pg**	**17 14 45.6**	**-0.4**
PELI				S		**Sg**	**Sg**	**17 14 56.3**	**+0.3**
PELI				*i* AML		AML	AML	17 14 58.0	
	comp=N,4μm,0.3s								
BCAM	**Yenicaga**	**0.77**	**289**	P		**Pg**	**Pg**	**17 14 46.1**	**0.0**
BCAM				S		**Sb**	**Sb**	**17 14 56.7**	**-0.4**
BCAM				*i* AML		AML	AML	17 14 57.0	
	comp=E,10μm,0.5s								
TOS	**Tosya**	**0.89**	**58**	Pg		**Pg**	**Pg**	**17 14 47.3**	**-1.1**
TOS				Sg		**Sb**	**Sb**	**17 15 00.4**	**-0.2**
DELI	**KIRIKKALE**	**0.90**	**130**	P		**Pg**	**Pg**	**17 14 47.6**	**-0.9**
DELI				S		**Sb**	**Sb**	**17 15 00.5**	**-0.2**
BR106	**Keskin Array S**	**0.95**	**151**	P		**Pg**	**Pg**	**17 14 49.2**	**-0.4**
BR105	**Keskin Array S**	**0.97**	**152**	P		**Pg**	**Pg**	**17 14 49.9**	**0.0**
BR131	**Keskin Array S**	**0.97**	**151**	Pg		**Pg**	**Pg**	**17 14 49.5**	**-0.5**
BR131	**Keskin Array S**	**0.97**	**151**			**Pg**	**Pg**	**17 14 49.3**	**-0.6**
BR131				Sg		**Sg**	**Sg**	**17 15 02.7**	**+0.1**
BR131	**Keskin Array S**	**0.97**	**151**	*c iP*		**Pg**	**Pg**	**17 14 49.3**	**-0.6**
BRTR	**Keskin Array B**	**0.97**	**151**			**Pg**	**Pg**	**17 14 49.3**	**-0.6**
BRTR	**Keskin Array B**	**0.97**	**151**	Pg		**Pg**	**Pg**	**17 14 49.4**	**-0.5**
	500nm,0.3s,baz=334,slow=14,SNR=389								
BRTR				Lg		Lg	Lg	17 15 03.1	
	946nm,0.3s,baz=324,slow=24,SNR=32								
DEVR	**Zonguldak/Devr**	**0.98**	**306**	P		**Pn**	**Pn**	**17 14 50.9**	**0.0**
DEVR				S		**Sg**	**Sg**	**17 15 01.9**	**-1.0**
DEVR				*i* AML		AML	AML	17 15 11.0	
	comp=N,1μm,0.5s								
BR104	**Keskin Array S**	**0.98**	**151**	P		**Pg**	**Pg**	**17 14 50.1**	**-0.1**
KMON	**Kastamonu**	**0.99**	**35**	Pg		**Pg**	**Pg**	**17 14 49.7**	**-0.6**
KMON				Sg		**Sb**	**Sb**	**17 15 04.2**	**+0.8**
SUNG	**orum-Sungurl**	**1.01**	**112**	P		**Pg**	**Pg**	**17 14 50.0**	**-0.7**
SUNG				S		**Sb**	**Sb**	**17 15 04.5**	**+0.5**
KESK	**Krkkale-Ke**	**1.03**	**155**	P		**Pg**	**Pg**	**17 14 50.2**	**-0.9**
KESK				S		**Sg**	**Sg**	**17 15 03.5**	**-1.0**
KESK				*i* AML		AML	AML	17 15 05.0	
	comp=N,10μm,0.4s								
KESK				*i* AML		AML	AML	17 15 09.0	
	comp=E,6μm,0.3s								
BBAL	**Bala**	**1.03**	**176**	P		**Pg**	**Pg**	**17 14 50.4**	**-0.7**
BBAL				S		**Sg**	**Sg**	**17 15 04.5**	**-0.1**
BBAL				*i* AML		AML	AML	17 15 15.0	
	comp=E,5μm,0.5s								
YUVA	**Yuva-Kibriscik**	**1.03**	**260**	Pg		**Pg**	**Pg**	**17 14 50.6**	**-0.6**
BOLU	**Bolu-Merkez-Mu**	**1.04**	**282**	P		**Pb**	**Pb**	**17 14 50.4**	**-1.0**
BOLU				S		**Sb**	**Sb**	**17 15 05.0**	**0.0**
BOLU				*i* AML		AML	AML	17 15 11.0	
	comp=E,5μm,0.6s								
AFSR	**Afar-Bala (An**	**1.12**	**178**	Pn		**Pb**	**Pb**	**17 14 52.5**	**-0.2**
SEYI	**Kastamonu-Seyd**	**1.19**	**27**	P		**Pb**	**Pb**	**17 14 53.5**	**-0.5**
SEYI				S		**Sb**	**Sb**	**17 15 09.1**	**-0.2**
SEYI				*i* AML		AML	AML	17 15 14.0	
	comp=N,4μm,0.6s								
SEYI				*i* AML		AML	AML	17 15 14.0	
	comp=E,4μm,0.6s								
BTIN	**Bartın**	**1.21**	**331**	P		**Pg**	**Pg**	**17 14 56.0**	**+1.4**
BTIN				S		**Sn**	**Sn**	**17 15 11.9**	**+1.5**
KAGI	**orum-Kargı**	**1.24**	**62**	P		**Pn**	**Pn**	**17 14 53.5**	**-1.0**
KAGI				S		**Sb**	**Sb**	**17 15 10.8**	**+0.2**
YIGI	**Dzce**	**1.26**	**289**	P		**Pn**	**Pn**	**17 14 54.2**	**-0.6**
YIGI				S		**Sb**	**Sb**	**17 15 11.1**	**0.0**
YIGI				*i* AML		AML	AML	17 15 16.0	
	comp=N,2μm,0.5s								
CORM	**Corum**	**1.29**	**107**	Pn		**Pn**	**Pn**	**17 14 55.3**	**0.0**
KURC	**Kurucasile-Bar**	**1.29**	**351**	Pn		**Pn**	**Pn**	**17 14 55.2**	**+0.1**
AKPI	**Kirsehir/Akpin**	**1.30**	**145**	P		**Pn**	**Pn**	**17 14 55.0**	**-0.4**
AKPI				S		**Sb**	**Sb**	**17 15 11.8**	**-0.7**
AKPI				*i* AML		AML	AML	17 15 20.0	
	comp=E,6μm,0.4s								
CIDE	**Kastamonu/Cide**	**1.31**	**358**	P		**Pn**	**Pn**	**17 14 55.6**	**+0.2**
CIDE	**Kastamonu/Cide**	**1.31**	**358**	⇑P		**Pg**	**Pg**	**17 14 56.4**	**0.0**
KAMT	**Kaman**	**1.31**	**156**	Pn		**Pn**	**Pn**	**17 14 55.5**	**-0.1**
AUMIH	**MIHALICIK**	**1.37**	**240**	P		**Pn**	**Pn**	**17 14 55.8**	**-0.6**
AUMIH				S		**Sg**	**Sg**	**17 15 17.2**	**+1.7**
MDUB	**Mudurnu**	**1.40**	**266**	Pn		**Pb**	**Pb**	**17 14 57.1**	**-0.2**
MDUB				Sn		**Sg**	**Sg**	**17 15 17.6**	**+1.4**
MDUB	**Mudurnu**	**1.40**	**266**	Pn		**Pn**	**Pn**	**17 14 57.0**	**+0.3**
MDUB				Sn		**Sg**	**Sg**	**17 15 16.4**	**+0.2**
AYAZ	**Ayas K¶y, M**	**1.40**	**85**	P		**Pn**	**Pn**	**17 14 56.4**	**-0.4**
AYAZ				S		**Sn**	**Sn**	**17 15 14.1**	**-1.2**
AYAZ				*i* AML		AML	AML	17 15 19.0	
	comp=N,1μm,0.9s								
KKUL	**Konya-Kulu**	**1.40**	**183**	P		**Pb**	**Pb**	**17 14 57.5**	**0.0**
KKUL				S		**Sg**	**Sg**	**17 15 17.7**	**+1.3**
CDAG	**Cicekdag**	**1.40**	**132**	P		**Pn**	**Pn**	**17 14 57.0**	**+0.2**
CDAG				S		**Sn**	**Sn**	**17 15 13.8**	**-1.6**
CDAG				*i* AML		AML	AML	17 15 20.0	
	comp=N,4μm,0.6s								
KDZE	**Karadeniz Ereo**	**1.41**	**302**	Pn		**Pb**	**Pb**	**17 14 57.6**	**+0.1**
KDZE	**Karadeniz Ereo**	**1.41**	**302**	⇑P		**Pg**	**Pg**	**17 14 58.1**	**-0.2**
KULU	**Kulu**	**1.53**	**181**	Pn		**Pb**	**Pb**	**17 14 59.4**	**-0.2**
COAL	**Corum-Alaca**	**1.53**	**101**	P		**Pn**	**Pn**	**17 14 58.8**	**+0.2**
BTAS	**Taskesti**	**1.54**	**271**	P		**Pb**	**Pb**	**17 14 59.4**	**-0.4**
BTAS				S		**Sg**	**Sg**	**17 15 20.1**	**-0.7**
BTAS				*i* AML		AML	AML	17 15 25.0	
	comp=E,3μm,0.5s								
BTAS				*i* AML		AML	AML	17 15 30.0	
	comp=N,2μm,1.1s								
BZK	**Bozkurt**	**1.57**	**28**	Pn		**Pb**	**Pb**	**17 14 59.9**	**-0.4**
BZK	**Bozkurt**	**1.57**	**28**			**Pb**	**Pb**	**17 14 59.8**	**-0.5**
BZK				Sn		**Sg**	**Sg**	**17 15 22.0**	**+0.2**
BZK	**Bozkurt**	**1.57**	**28**	⇑P		**Pb**	**Pb**	**17 15 00.1**	**-0.2**
YOZG	**Bozok Univ. Me**	**1.57**	**120**	P		**Pb**	**Pb**	**17 15 00.1**	**-0.3**
BOYA	**Sinop/Boyabat-**	**1.58**	**52**	P		**Pn**	**Pn**	**17 14 59.0**	**-0.1**
BOYA				S		**Sb**	**Sb**	**17 15 21.2**	**+0.8**
BOYA				*i* AML		AML	AML	17 15 26.0	
	comp=E,1μm,0.6s								
KIRS	**Kirsehir-Merke**	**1.59**	**154**	P		**Pb**	**Pb**	**17 15 00.8**	**+0.1**
KIRS				S		**Sg**	**Sg**	**17 15 22.0**	**-0.5**
KIRS				*i* AML		AML	AML	17 15 24.0	
	comp=N,4μm,0.7s								
KIRS				*i* AML		AML	AML	17 15 25.0	
	comp=E,4μm,0.4s								
AUSIV	**SIVRIHISAR**	**1.60**	**226**	P		**Pn**	**Pn**	**17 14 59.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.61**	**226**	Pn		**Pb**	**Pb**	**17 15 00.3**	**-0.7**
SERE	**Sereflikochisa**	**1.68**	**165**	Pn		**Pb**	**Pb**	**17 15 01.4**	**-0.7**
SUSU	**Bolu-G¶lynk-**	**1.68**	**263**	P		**Pb**	**Pb**	**17 15 02.4**	**+0.3**
SUSU				S		**Sg**	**Sg**	**17 15 24.2**	**-1.0**
SUSU				*i* AML		AML	AML	17 15 30.0	
	comp=N,9μm,1.0s								
MCUR	**KIREHR**	**1.82**	**140**	P		**Pn**	**Pn**	**17 15 03.2**	**+0.6**
MCUR				S		**Sb**	**Sb**	**17 15 28.2**	**+0.7**
MCUR				*i* AML		AML	AML	17 15 33.0	
	comp=E,3μm,0.7s								
CTIK	**Konya-Celtik**	**1.87**	**215**	P		**Pn**	**Pn**	**17 15 04.3**	**+1.0**
CBEY	**Konya-Cihanbey**	**1.89**	**186**	P		**Pn**	**Pn**	**17 15 04.6**	**+1.1**
KIZT	**Kizilcal**	**1.91**	**208**	Pn		**Pn**	**Pn**	**17 15 04.1**	**+0.4**
GULT	**Gulveren**	**1.92**	**267**	Pn		**Pn**	**Pn**	**17 15 04.8**	**+0.9**
CIFT	**Cifteler, Eski**	**1.93**	**232**	Pn		**Pn**	**Pn**	**17 15 04.7**	**+0.7**
CKRK	**Yozgat, Cekere**	**1.96**	**104**	P		**Pb**	**Pb**	**17 15 05.9**	**-1.0**
CKRK				S		**Sb**	**Sb**	**17 15 32.7**	**+1.3**
CKRK				*i* AML		AML	AML	17 15 36.0	
	comp=N,5μm,1.0s								
CKRK				*i* AML		AML	AML	17 15 39.0	
	comp=E,2μm,1.0s								
SGAZ	**Eskisehir, Sey**	**1.97**	**239**	P		**Pn**	**Pn**	**17 15 05.2**	**+0.6**
CHBY	**Cihanbeyli**	**1.99**	**183**	Pn		**Pn**	**Pn**	**17 15 04.9**	**0.0**
YOZ	**Yozgat**	**1.99**	**117**	Pn		**Pn**	**Pn**	**17 15 05.9**	**+1.0**
AKSY	**AKSARAY - Alti**	**2.00**	**163**	P		**Pn**	**Pn**	**17 15 05.8**	**+0.8**
AKSY				S		**Sb**	**Sb**	**17 15 31.8**	**-0.8**
DIKM	**Dikmen**	**2.00**	**57**	⇑P		**Pn**	**Pn**	**17 15 05.9**	**+0.9**
DIKM	**Dikmen**	**2.00**	**57**	P		**Pn**	**Pn**	**17 15 06.0**	**+1.0**
SIRC	**Yozgat**	**2.05**	**126**	P		**Pn**	**Pn**	**17 15 06.1**	**+0.4**
SAUV	**Serdivan-Sakar**	**2.06**	**276**	Pn		**Pn**	**Pn**	**17 15 06.6**	**+0.9**
KAYN	**Sakarya, Kayna**	**2.08**	**282**	P		**Pb**	**Pb**	**17 15 07.9**	**-1.0**
KAYN				S		**Sg**	**Sg**	**17 15 36.3**	**-1.6**
KAYN				*i* AML		AML	AML	17 15 43.0	
	comp=N,2μm,0.9s								
GEYV	**SAKARYA_Geyve**	**2.08**	**268**	P		**Pn**	**Pn**	**17 15 07.3**	**+1.3**
BORA	**Eskisehir**	**2.08**	**251**	Pn		**Pn**	**Pn**	**17 15 06.8**	**+0.6**
BORA				Sn		**Sn**	**Sn**	**17 15 32.3**	**+0.1**
BORA	**Eskisehir**	**2.08**	**251**	P		**Pn**	**Pn**	**17 15 06.8**	**+0.6**
GPA	**Golpazari**	**2.09**	**263**	Pn		**Pn**	**Pn**	**17 15 07.0**	**+0.8**
SINP	**Sinop**	**2.10**	**47**	Pn		**Pn**	**Pn**	**17 15 07.5**	**+1.2**
HAVZ	**Havza**	**2.11**	**75**	P		**Pn**	**Pn**	**17 15 07.5**	**+1.1**
HAVZ				S		**Sb**	**Sb**	**17 15 35.9**	**+0.4**
AMSY	**Amasya-Merkez**	**2.14**	**87**	P		**Pg**	**Pg**	**17 15 13.5**	**+1.2**
YARM	**Yarimca-Ladik(**	**2.16**	**80**	Pn		**Pn**	**Pn**	**17 15 08.4**	**+1.2**
KDHN	**Kadinhani**	**2.17**	**199**	P		**Pn**	**Pn**	**17 15 07.3**	**+0.1**
SNOP	**Sinop**	**2.19**	**48**	Pn		**Pn**	**Pn**	**17 15 08.2**	**+0.7**
KAND	**Kocaeli-Kandir**	**2.21**	**285**	P		**Pn**	**Pn**	**17 15 09.2**	**+1.4**
KIZO	**Buyukkizoglu-L**	**2.24**	**81**	Pn		**Pn**	**Pn**	**17 15 09.4**	**+1.2**
HACI	**Hacifakili, Ak**	**2.25**	**112**	P		**Pn**	**Pn**	**17 15 08.6**	**+0.1**
HACI				S		**Sb**	**Sb**	**17 15 38.4**	**-1.4**
HACI				*i* AML		AML	AML	17 15 44.0	
	comp=E,3μm,1.1s								
BYAT	**Afyon-Bayat**	**2.26**	**225**	P		**Pn**	**Pn**	**17 15 09.2**	**+0.6**
UCKU	**Afyonkarahisar**	**2.29**	**213**	P		**Pn**	**Pn**	**17 15 09.7**	**+0.7**
AUKIR	**Kırka- Seyitga**	**2.31**	**237**	P		**Pn**	**Pn**	**17 15 08.6**	**-0.7**
KVT	**Kavak**	**2.35**	**77**	Pn		**Pn**	**Pn**	**17 15 10.9**	**+1.1**
KVT	**Kavak**	**2.35**	**77**	P		**Pn**	**Pn**	**17 15 11.1**	**+1.3**
HISA	**Bilecik-Osmane**	**2.37**	**268**	P		**Pn**	**Pn**	**17 15 11.1**	**+1.0**
AUBOZ	**BOZOYUK**	**2.38**	**255**	P		**Pn**	**Pn**	**17 15 10.2**	**0.0**
GULA	**Gulagac**	**2.42**	**157**	Pn		**Pn**	**Pn**	**17 15 11.9**	**+1.2**
LADK	**Ladik-KONYA**	**2.42**	**192**	Pn		**Pn**	**Pn**	**17 15 11.4**	**+0.6**
BILE	**Bilecik/Merkez**	**2.44**	**261**	P		**Pn**	**Pn**	**17 15 12.0**	**+1.0**
KURO	**Afyon-Bolvadin**	**2.44**	**222**	P		**Pn**	**Pn**	**17 15 11.5**	**+0.4**
CAVI	**Cavuskoy**	**2.46**	**262**	Pn		**Pn**	**Pn**	**17 15 12.3**	**+1.1**
ADVT	**Abdulvahap**	**2.51**	**268**	Pn		**Pn**	**Pn**	**17 15 12.8**	**+0.9**
SEMS	**Kocaeli-K¶rfe**	**2.51**	**278**	P		**Pn**	**Pn**	**17 15 11.6**	**-0.4**
OSMT	**Osmaniye**	**2.53**	**272**	Pn		**Pn**	**Pn**	**17 15 13.4**	**+1.1**
HRT	**Hereke**	**2.56**	**277**	Pn		**Pn**	**Pn**	**17 15 13.7**	**+1.0**
SILT	**Sile**	**2.63**	**284**	Pn		**Pn**	**Pn**	**17 15 14.9**	**+1.4**
TOKA	**Tokat**	**2.65**	**94**	Pn		**Pn**	**Pn**	**17 15 15.0**	**+1.1**
KONT	**Konya--Tatoy**	**2.67**	**191**	Pn		**Pn**	**Pn**	**17 15 14.6**	**+0.4**
TOKT	**Tokat**	**2.70**	**94**	Pn		**Pn**	**Pn**	**17 15 16.3**	**+1.7**
NIG	**Nigde**	**2.75**	**153**	Pn		**Pn**	**Pn**	**17 15 16.6**	**+1.1**
BNN	**Bunyan**	**2.77**	**127**	Pn		**Pn**	**Pn**	**17 15 17.0**	**+1.3**
BNN	**Bunyan**	**2.77**	**127**	Pn		**Pn**	**Pn**	**17 15 16.2**	**+0.5**
BNN				Sn		**Sb**	**Sb**	**17 15 52.9**	**-2.0**
SHUT	**Suhut-Afyon**	**2.78**	**224**	Pn		**Pn**	**Pn**	**17 15 16.9**	**+1.2**
YLV	**Yalova**	**2.78**	**271**	Pn		**Pn**	**Pn**	**17 15 16.6**	**+0.9**
YLV	**Yalova**	**2.78**	**271**	P		**Pn**	**Pn**	**17 15 17.2**	**+1.5**
YESY	**Yesilyurt**	**2.84**	**168**	Pn		**Pn**	**Pn**	**17 15 17.9**	**+1.3**
TVSB	**Tavsanli**	**2.96**	**249**	Pn		**Pn**	**Pn**	**17 15 19.1**	**+1.0**
KAVV	**Kandilli-Istan**	**3.05**	**281**	Pn		**Pn**	**Pn**	**17 15 20.7**	**+1.4**
ISK	**Istanbul-Kandi**	**3.05**	**281**	Pn		**Pn**	**Pn**	**17 15 20.2**	**+0.9**
ISK	**Istanbul-Kandi**	**3.05**	**281**	P		**Pn**	**Pn**	**17 15 20.2**	**+0.9**
KLYT	**Kilyos**	**3.09**	**284**	Pn		**Pn**	**Pn**	**17 15 20.9**	**+1.0**
KLYT	**Kilyos**	**3.09**	**284**	P		**Pn**	**Pn**	**17 15 21.5**	**+1.6**
SVSK	**Karacayir**	**3.11**	**101**	Pn		**Pn**	**Pn**	**17 15 21.8**	**+1.6**
GEDZ	**Gediz**	**3.17**	**242**	Pn		**Pn**	**Pn**	**17 15 22.2**	**+1.1**
CMRD	**Camardi-Nigde**	**3.28**	**152**	Pn		**Pn**	**Pn**	**17 15 24.5**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.29**	**92**	Pn		**Pn**	**Pn**	**17 15 24.3**	**+1.7**
SEYD	**Seydisehir-KON**	**3.29**	**197**	Pn		**Pn**	**Pn**	**17 15 24.5**	**+1.7**
ISP	**Isparta**	**3.36**	**216**	Pn		**Pn**	**Pn**	**17 15 24.4**	**+0.6**
ISP	**Isparta**	**3.36**	**216**	*ce*P		**Pn**	**Pn**	**17 15 25.0**	**+1.2**
ISP				pmax		pmax	pmax		
	comp=Z,281nm,0.8s								
ISP	**Isparta**	**3.36**	**216**	P		**Pn**	**Pn**	**17 15 24.9**	**+1.2**
ISP	**Isparta**	**3.36**	**216**	S		**Sn**	**Sn**	**17 16 06.1**	**+2.4**
KRMN	**Karaman**	**3.40**	**177**	Pn		**Pn**	**Pn**	**17 15 25.8**	**+1.6**
SARI	**SarD1z-Kayseri**	**3.40**	**128**	Pn		**Pn**	**Pn**	**17 15 26.1**	**+1.7**
KARA	**Karaisali**	**3.67**	**154**	Pn		**Pn**	**Pn**	**17 15 29.6**	**+1.8**
CTYL	**Yalikoy Yolu**	**3.69**	**286**	P		**Pn**	**Pn**	**17 15 30.2**	**+2.0**
BAND	**Balkesir-Ban**	**3.76**	**268**	⇑P		**Pn**	**Pn**	**17 15 30.1**	**+1.0**
KOZT	**Kozan**	**3.78**	**144**	Pn		**Pn**	**Pn**	**17 15 31.4**	**+2.0**
SEV	**Sevastopol'**	**4.00**	**7**	⇓*iP*		**Pn**	**Pn**	**17 15 33.7**	**+1.3**
SEV				Pm				17 15 43.5	
	comp=Z,60nm,0.4s								
SEV				*i* S		**Sn**	**Sn**	**17 16 19.1**	**-0.1**
SEV				Sm				17 16 21.0	
	comp=E,256nm,0.6s								
SEV				Sm				17 16 21.1	
	comp=N,184nm,0.6s								
YAL	**Yalta**	**4.00**	**12**	⇓*iP*		**Pn**	**Pn**	**17 15 34.0**	**+1.6**
YAL				*i* S		**Sn**	**Sn**	**17 16 19.6**	**+0.4**
YAL	**Yalta**	**4.00**	**12**	⇓*iP*		**Pn**	**Pn**	**17 15 34.0**	**+1.6**
YAL				Pm				17 15 38.1	
	comp=Z,235nm,0.6s								
YAL				*i* S		**Sn**	**Sn**	**17 16 19.6**	**+0.4**
YAL				Sm				17 16 26.3	
	comp=N,281nm,0.6s								
YAL				Sm				17 16 26.3	
	comp=E,1μm,0.7s								
MANT	**Manisa**	**4.03**	**240**			**Pn**	**Pn**	**17 15 33.0**	**0.0**
ALU	**Alushta**	**4.23**	**13**	⇑*iP*		**Pn**	**Pn**	**17 15 36.0**	**+0.4**
ALU				*e*S		**Sn**	**Sn**	**17 16 24.2**	**-0.7**
ALU	**Alushta**	**4.23**	**13**	⇑*iP*		**Pn**	**Pn**	**17 15 36.0**	**+0.4**
ALU				Pm				17 15 43.7	
	comp=Z,177nm,0.7s								
ALU				*e*S		**Sn**	**Sn**	**17 16 24.2**	**-0.7**
ALU				Sm				17 16 33.6	
	comp=E,293nm,0.6s								
ALU				Sm				17 16 33.7	
	comp=N,371nm,0.6s								
SIM	**Simferopol'**	**4.45**	**10**	*e*P		**Pn**	**Pn**	**17 15 40.3**	**+1.7**
SIM				*e*S		**Sn**	**Sn**	**17 16 32.4**	**+2.1**
SIM				pmax		pmax	pmax		
	comp=Z,212nm,0.8s								
SIM				smax		smax	smax		
	comp=E,1μm,0.9s								
SIM				smax		smax	smax		
	comp=N,2μm,0.9s								
SIM				MLR		MLR	MLR		
	comp=Z,895nm,15.0s								
SIM	**Simferopol'**	**4.45**	**10**	⇑*iP*		**Pn**	**Pn**	**17 15 40.4**	**+1.8**
SIM				Pm				17 15 49.5	
	comp=Z,91nm,0.3s								
SIM				*e*S		**Sn**	**Sn**	**17 16 32.6**	**+2.3**
SIM				Sm				17 16 41.9	
	comp=N,2μm,0.9s								
SIM				Sm				17 16 42.0	
	comp=E,744nm,0.7s								
ELL	**Elmali**	**4.53**	**214**	Pn		**Pn**	**Pn**	**17 15 41.5**	**+1.7**
ELL	**Elmali**	**4.53**	**214**	P		**Pn**	**Pn**	**17 15 41.5**	**+1.7**
SUDU	**Sudak**	**4.55**	**18**	⇑*iP*		**Pn**	**Pn**	**17 15 40.4**	**+0.4**
SUDU				*i* S		**Sn**	**Sn**	**17 16 33.2**	**+0.3**
SUDU	**Sudak**	**4.55**	**18**	⇑*iP*		**Pn**	**Pn**	**17 15 40.6**	**+0.6**
SUDU				Pm				17 15 49.7	
	comp=Z,565nm,0.8s								
SUDU				*i* S		**Sn**	**Sn**	**17 16 33.2**	**+0.3**
SUDU				Sm				17 16 43.0	
	comp=N,2μm,0.6s								
SUDU				Sm				17 16 43.0	
	comp=E,257nm,0.5s								
MANR	**Mangalia**	**4.62**	**316**	⇑P		**Pn**	**Pn**	**17 15 42.0**	**+1.1**
GAZ	**Gaziantep**	**4.71**	**135**	Pn		**Pn**	**Pn**	**17 15 44.0**	**+1.7**
PSN	**Preselentsi**	**4.75**	**312**	P		**Pn**	**Pn**	**17 15 44.4**	**+1.7**
PSN				S		**Sn**	**Sn**	**17 16 34.0**	**-3.8**
FEO	**Feodosiya**	**4.77**	**21**	*e*P		**Pn**	**Pn**	**17 15 43.2**	**+0.2**
FEO				*e*S		**Sn**	**Sn**	**17 16 37.1**	**-1.1**
FEO	**Feodosiya**	**4.77**	**21**	*e*P		**Pn**	**Pn**	**17 15 43.2**	**+0.2**
FEO				Pm				17 15 43.6	
	comp=Z,121nm,0.3s								
FEO				*e*S		**Sn**	**Sn**	**17 16 37.1**	**-1.1**
FEO				Sm				17 16 46.0	
	comp=N,197nm,0.6s								
FEO				Sm				17 16 46.1	
	comp=E,340nm,0.6s								
EFOR	**EFORIE**	**4.78**	**319**	⇑P		**Pn**	**Pn**	**17 15 43.7**	**+0.6**
DNZ2	**Donuzlav2**	**4.80**	**2**	⇓*iP*		**Pn**	**Pn**	**17 15 45.0**	**+1

GEM	Giv'at Ha'Em	7.64 163	P	Pn	17 16 24.8 +2.3
KARS	Kars	7.65 86	Pn	Pn	17 16 23.8 +1.1
KARS	Kars	7.65 86	P	Pn	17 16 23.8 +1.1
PEHC	Pehcevo	7.73 282	*i* Pn	Pn	17 16 25.2 +1.5
DOPR	Dopca	7.75 317	⇑P	Pn	17 16 24.6 +0.7
BAL3X	Bal3x, Balta	7.76 343	P	Pn	17 16 23.2 -0.8
MMC7	Mount Meron ar	7.77 165	P	Pn	17 16 26.8 +2.5
VALD	Valchedram	7.78 297	P	Pn	17 16 23.9 -0.3
MMAI	Mount Meron Ar	7.78 165	Pn	Pn	17 16 26.3 +1.9
	comp=Z,4.2nm,0.3s,baz=349,slow=13,SNR=22				
	comp=Z,10nm,0.5s				
ARR	Arges	7.80 311	⇑P	Pn	17 16 26.3 +1.7
SHA1	Shidzhatmaz	7.83 63	*i* P	Pn	17 16 26.0 +0.9
KSHT	Keshet	7.90 163	P	Pn	17 16 28.6 +2.6
KIV	Kislovodsk	7.92 62		Pn	17 16 27.0 +0.6
KIV	Kislovodsk	7.92 62	*e*P	Pn	17 16 27.7 +1.3
KIV			*e*S	Sn	17 17 58.8 +2.8
KIV			pmax	pmax	
	comp=Z,37nm,1.0s				
KIV			MLR	MLR	
	comp=Z,385nm,11.0s				
KIV	Kislovodsk	7.92 62	P	Pn	17 16 28.0 +1.6
	comp=Z,0.3nmcomp=Z,839nmcomp=Z,78nm,1.0s				
KVAR	Kislovodsk Arr	7.93 62	Pn	Pn	17 16 28.3 +1.8
	baz=240,slow=18				
	comp=Z,3.1nm,0.4s				
SIRT	Sirnak	7.94 110	Pn	Pn	17 16 27.2 +0.5
KBZ	Khabaz	7.99 63	Pn	Pn	17 16 27.7 +0.6
	comp=Z,0.1nm,0.3s,baz=260,slow=14,SNR=8.6				
KBZ			LR	LR	17 20 46.8
	comp=Z,1μm,19.2s,baz=254,slow=47				
GEVA	Gevas	8.09 103	Pn	Pn	17 16 29.0 +0.3
SORM	Soroca	8.27 338	⇑P	Pn	17 16 30.6 -0.4
SORM	Soroca	8.27 338	P	Pn	17 16 30.5 -0.4
SORM	Soroca	8.27 338	P	Pn	17 16 30.0 -0.9
	comp=Z,92nm,0.9s				
IDI	Anoyia	8.31 233		Pn	17 16 31.9 +0.2
IDI	Anoyia	8.31 233	Pn	Pn	17 16 30.1 -1.6
	comp=Z,17nm,0.8s,baz=55,slow=16,SNR=16				
IDI			LR	LR	17 20 18.6
	comp=Z,1μm,18.9s,baz=48,slow=42				
MMLI	Mount Malkishu	8.34 166	P	Pn	17 16 34.2 +2.1
LOT	Lotru	8.35 309	⇑P	Pn	17 16 33.8 +1.6
PRAR	RASCA	8.37 326	⇓P	Pn	17 16 32.5 +0.1
HMDT	Nahal Hemdat	8.54 166	P	Pn	17 16 37.1 +2.3
GOF	Gofitskoye	8.62 55	*e*P	Pn	17 16 32.9 -2.9
FNA	Florina	8.85 275		Pn	17 16 39.2 +0.1
FNA	Florina	8.85 275	P	Pn	17 16 39.2 +0.1
HERR	Herculane	8.91 302	⇓P	Pn	17 16 41.2 +1.4
ASF	Jabal al Asfar	8.94 158	Pn	Pn	17 16 40.2 -0.2
	comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=7.0				
ASF			LR	LR	17 20 55.8
	comp=Z,423nm,20.2s,baz=50,slow=43				
	comp=Z,3.4nm,0.8s				
BOVS	Bovan	8.95 294	⇑P	Pn	17 16 41.6 +1.2
GNI	Garni	8.96 89	Pn	Pn	17 16 40.0 -0.6
GNI	Garni	8.96 89	Pn	Pn	17 16 41.6 +1.0
	comp=Z,0.6nm,0.3s,baz=264,slow=10,SNR=11				
	comp=Z,2.9nm,0.6s				
BURAR	Bucovina Array	9.00 324	⇑P	Pn	17 16 41.8 +0.7
BURAR	Bucovina Array	9.00 324	P	Pn	17 16 41.8 +0.7
BUR08	Bucovina Ar. S	9.03 324	Pn	Pn	17 16 41.5 -0.1
ARCR	ARCALIA	9.03 319	⇑P	Pn	17 16 42.0 +0.6
DEV	Deva	9.09 309	⇑P	Pn	17 16 43.6 +1.3
DEV	Deva	9.09 309	P	Pn	17 16 43.6 +1.3
ITM	Ithomi	9.29 252	Pn	Pn	17 16 45.9 +0.8
MDVR	Moldovita	9.33 301	⇑P	Pn	17 16 46.2 +0.6
MARR	Marisel-Cluj	9.42 314	⇑P	Pn	17 16 48.1 +1.2
GHAJ	Ghor Haditha	9.47 167	Pn	Pn	17 16 48.4 +0.8
SURR	Surduc	9.50 307	⇑P	Pn	17 16 48.6 +0.8
DRGR		9.71 313	⇑P	Pn	17 16 51.2 +0.3
DRGR		9.71 313	P	Pn	17 16 51.2 +0.3
BZS	Buzias	9.74 305	⇑P	Pn	17 16 51.9 +0.7
BZS	Buzias	9.74 305	P	Pn	17 16 51.9 +0.7
RAKU	Rahkiv	9.78 323	P	Pn	17 16 54.5 +2.7
BMR	Baia Mare	9.86 319	P	Pn	17 16 53.9 +1.1
BMR			pmax	pmax	
	comp=Z,62nm,0.9s				
STNU	Starunia	10.15 326	P	Pn	17 16 56.3 -0.4
KEK	Kerkira	10.16 269	Pn	Pn	17 16 55.8 -1.2
KIEV	Kiev	10.47 347	Pn	Pn	17 16 58.5 -2.6
KIEV	Kiev	10.47 347	P	Pn	17 16 58.5 -2.6
AKASG	Malin Array Be	10.47 347	Pn	Pn	17 16 57.4 -3.7
AKASG	Malin Array Be	10.47 347	Pn	Pn	17 16 59.1 -2.0
	comp=Z,5.8nm,0.3s,baz=163,slow=13,SNR=54				
AKASG			Sn	Sn	17 18 49.5 -8.8
	comp=Z,7.1nm,0.3s,baz=159,slow=24,SNR=6.7				
	comp=Z,5.3nm,0.5s				
AKBB	Malin Array Si	10.47 347	Pn	Pn	17 16 57.9 -3.2
AKBB	Malin Array Si	10.47 347	*i* P	Pn	17 17 00.6 -0.5
AKBB	Malin Array Si	10.47 347	P	Pn	17 17 00.0 -1.1
PDG	Podgorica	10.49 285	Pn	Pn	17 16 59.3 -2.1
EIL	Elat	10.99 171	Pn	Pn	17 17 07.1 -1.2
	comp=Z,0.1nm,0.3s,baz=65,slow=14,SNR=1.9				
EIL			LR	LR	17 22 26.1
	comp=Z,462nm,18.1s,baz=346,slow=43				
	comp=Z,1.4nm,0.6s				
MAK	Makhachkala	11.08 73	*e*P	Pn	17 17 08.0 -1.5
MAK			*e*S	Sn	17 19 11.8 -1.5
MAK			pmax	pmax	
	comp=Z,114nm,1.4s				
MAK			MLR	MLR	
	comp=Z,511nm,9.0s				
VORD	Divnogorie	11.27 21	*e*P	Pn	17 17 11.0 -1.1
VORD			pmax	pmax	
	comp=Z,10.0nm,0.9s				
KOLS	Kolonicke sedl	11.32 321	*e*P	Pn	17 17 12.8 +0.1
KOLS	Kolonicke sedl	11.32 321	*e*PN	Pn	17 17 12.8 +0.1
VSR	Storozhevoye	11.47 20	*e*P	Pn	17 17 11.9 -2.9
VSR			pmax	pmax	
	comp=Z,20nm,0.8s				
VORR	Voronezh	11.90 19	*e*P	Pn	17 17 23.8 +3.2
VORR			pmax	pmax	
	comp=Z,35nm,0.4s				
KECS	Kecovo	11.93 316	*e*P	Pn	17 17 20.9 -0.2
KECS	Kecovo	11.93 316	*e*PN	Pn	17 17 20.9 -0.2
PSZ	Piszkesteto	11.93 312	Pn	Pn	17 17 18.5 -2.7
PSZ	Piszkesteto	11.93 312	P	Pn	17 17 18.5 -2.7
VRH	Novokhopyorsk	12.23 27	*e*P	Pn	17 17 28.9 +3.8
VRH			pmax	pmax	
	comp=Z,112nm,1.3s				
TIP	Timpagrande	12.57 269	Pn	Pn	17 17 28.5 -1.6
NIE	Niedzica	12.61 319	*e*P	Pn	17 17 31.3 +0.9
NIE	Niedzica	12.61 319	P	Pn	17 17 31.4 +1.0
NIE			pmax	pmax	
	comp=Z,17nm,1.2s				
NIE	Niedzica	12.61 319	P	Pn	17 17 31.7 +1.3
	comp=Z,17nm,1.2s				
LPSR	Galich'ya Gora	12.69 17	*e*P	Pn	17 17 30.8 -0.7
LPSR			pmax	pmax	
	comp=Z,70nm,0.8s				
VYHS	Vyhne	12.84 313	*e*P	P	17 17 43.6 -0.9
MPLH	Magyarpolny	12.96 306	P	Pn	17 17 37.8 +2.6
	comp=Z,43nm,1.2s				
CUC	Castrocucco	13.15 273	Pn	Pn	17 17 37.7 -0.2
BEHE	Becsehely	13.17 302	Pn	Pn	17 17 33.9 -4.2
OJC	Ojcow	13.37 321	*e*P	Pn	17 17 30.9 -10
OJC	Ojcow	13.37 321	Pn	Pn	17 17 37.9 -2.9
OJC	Ojcow	13.37 321	P	Pn	17 17 37.9 -2.9
CEL	Celeste	13.45 266	Pn	Pn	17 17 41.0 -0.9
JAVC	Velka Javorina	13.69 312	*e*P	Pn	17 17 49.4 +4.3
RONA	Rosalia, Austr	13.95 306	*e*P	P	17 17 59.3 +2.4
	comp=Z,19nm,0.7s,SNR=7.4				
PAOL	Paolisi	13.99 278	Pn	Pn	17 17 49.4 0.0
STEB	Steborice	14.22 316	*e*P	P	17 18 03.6 +3.8
MORC	Moravsky Berou	14.26 315	Pn	Pn	17 17 51.0 -1.9
MORC	Moravsky Berou	14.26 315	*e*P	P	17 17 59.1 -1.2
MORC	Moravsky Berou	14.26 315	P	Pn	17 17 51.0 -1.9
ARSA	Arzberg	14.26 304	*e*pP	P	17 18 05.3 +5.0
	comp=Z,0.4nm,0.4s				
ARSA	Arzberg	14.26 304		Pn	17 17 51.9 -1.1
CONA	Conrad Observa	14.31 307	*i* pP	P	17 18 03.8 +2.8
	comp=Z,12nm,0.8s,SNR=7.4				
MNK	Minsk	14.36 348	*i* P	Pn	17 17 52.1 -2.1
	comp=E,27nm,0.8s				
MNK			*i* P	Pn	17 17 52.1 -2.1
	comp=N,13nm,0.7s				
MNK			*i* P	Pn	17 17 52.1 -2.1
	comp=Z,43nm,0.8s,baz=164				
MNK			*i* PP	P	17 18 00.1 -1.2
MNK			*i* PPP	PPP	17 18 07.7
MNK			*i* S	Sn	17 20 31.6 -1.7
MNK			*i* SS	SnSn	17 20 45.3 -0.5
MNK			*i* SSS	SSS	17 20 57.8
MNK			*i* LR	LR	17 23 48.2
MNK			*i* LRM	MLR	17 24 54.1
	comp=N,840nm,22.7s				
MNK			*i* LRM	MLR	17 24 58.9
	comp=Z,232nm,15.9s				
MNK			*i* LRM	MLR	17 25 02.8
	comp=E,1μm,21.4s				
MNK	Minsk	14.36 348	*i* P	Pn	17 17 52.1 -2.1
MNK			*i* S	Sn	17 20 31.6 -1.7
MNK			pmax	pmax	
	comp=E,27nm,0.8s				
MNK			pmax	pmax	
	comp=N,13nm,0.7s				
MNK			pmax	pmax	
	comp=Z,43nm,0.8s				
MNK			MLR	MLR	
	comp=N,840nm,23.0s				
MNK			MLR	MLR	
	comp=Z,232nm,16.0s				
MNK			MLR	MLR	
	comp=E,1μm,21.0s				
SOKA	Soboth	14.38 301	*e*P	Pn	17 17 57.2 +2.6
	comp=E,6.1nm,0.9s				
INTR	Introdacqua	14.45 282		Pn	17 17 53.8 -1.8
KRUC	Moravsky	14.51 311	*e*P	P	17 18 04.1 +1.0
VRAC	Vranov	14.52 312	Pn	Pn	17 17 56.3 -0.3
	comp=E,0.2nm,0.3s,baz=113,slow=13,SNR=6.6				
VRAC			LR	LR	17 24 36.6
	comp=E,255nm,18.1s,baz=134,slow=42				
	comp=E,1.3nm,0.4s				
VRAC	Vranov	14.52 312	*e*P	P	17 18 04.1 +0.9
OBKA	Obir	14.64 300	*i* pP	P	17 18 08.9 +4.3
	comp=E,21nm,1.7s				
OBN	Obninsk	14.74 8		Pn	17 17 58.3 -1.2
OBN	Obninsk	14.74 8	Pn	Pn	17 17 57.7 -1.8
	comp=E,4.5nm,0.3s,baz=133,slow=19,SNR=5.8				
OBN			Sn	Sn	17 20 35.8 -6.8
	comp=E,2.1nm,0.3s,baz=192,slow=20,SNR=4.9				
OBN			LR	LR	17 24 32.3
	comp=E,366nm,18.9s,baz=183,slow=41				
	comp=E,6.7nm,0.3s				
OBN	Obninsk	14.74 8	*c*eP	Pn	17 18 01.5 +2.1
OBN			pmax	pmax	
	comp=Z,66nm,1.3s				
OBN			MLR	MLR	
	comp=Z,279nm,16.0s				
VAE	Valguarnera	14.79 264	LR	LR	17 23 37.5
	comp=Z,438nm,19.4s,baz=14,slow=37				
CAMP	Campotosto	14.82 284		Pn	17 17 57.7 -3.0
KRLC	Kraliky	14.83 315	*e*P	P	17 18 10.8 +4.2
KRLC	Kraliky	14.83 315	*e*P	P	17 18 10.8 +4.2
GUMA	Gualdo di Mace	14.89 286		Pn	17 17 58.9 -2.7
RAFF	Raffo Rosso	14.91 263		Pn	17 17 57.9 -4.0
NACGM	Naroch	14.93 346	⇑*i* P	P	17 18 09.5 +1.8
SUW	Suwalki	14.99 337	*e*P	Pn	17 17 59.6 -3.3
SUW	Suwalki	14.99 337	Pn	Pn	17 17 59.2 -3.6
SUW	Suwalki	14.99 337	P	Pn	17 17 59.2 -3.6
SUW	Suwalki	14.99 337	*e*P	P	17 18 08.7 +0.4
NRCA	Norcia	15.04 285		Pn	17 18 00.5 -3.1
FDMO	Fiordimonte	15.07 286		Pn	17 17 59.9 -4.2
SABO	M.te Sabotino	15.13 297		Pn	17 18 00.9 -3.9
SABO			IAmb	IAmb	17 18 06.5
	comp=Z,44nm,1.6s				
DPC	Dobruska-Polom	15.23 316	*e*P	P	17 18 15.1 +4.0
DPC	Dobruska-Polom	15.23 316	*e*P	P	17 18 15.1 +4.0
MOA	Molln	15.27 305	*i* P	P	17 18 14.5 +3.0
	comp=Z,5.8nm,0.7s				
MOA	Molln	15.27 305	*e*P	P	17 18 14.0 +2.5
	comp=Z,21nm,1.3s,baz=113,slow=12				
MYKA	Terra Mystica	15.28 300	*i* P	P	17 18 15.0 +3.4
	comp=Z,18nm,1.1s				
WDD	Wied Dalam	15.29 258		Pn	17 18 04.3 -2.5
CESX	Cesi	15.43 284		Pn	17 18 06.3 -2.5
IIGN	Ignalina	15.46 345	*e*P	P	17 18 14.2 +0.7
MOS	Moscow	15.48 10	*e*P	Pn	17 18 02.9 -6.3
MOS			*e*		17 21 06.2
BELG	Belogornoye	15.48 35	Pn	Pn	17 18 07.1 -2.3
	comp=Z,0.6nm,0.3s,baz=195,slow=1.7,SNR=8.2				
BELG			Sn	Sn	17 20 50.5 -10
	comp=Z,0.8nm,0.3s,baz=222,slow=16,SNR=1.9				
BELG			LR	LR	17 25 11.1
	comp=Z,382nm,21.2s,baz=232,slow=41				
BELG	Belogornoye	15.48 35	*i* P	Pn	17 18 08.5 -0.8
BELG			pmax	pmax	
	comp=Z,22nm,1.1s				
KSP	Ksiaz	15.52 317	*e*P	Pn	17 18 06.7 -3.2
KSP	Ksiaz	15.52 317	P	P	17 18 12.7 -1.5
KSP	Ksiaz	15.52 317	P	P	17 18 12.7 -1.5
	comp=Z,17nm,1.1s				
KBA	Koelnbreinsper	15.60 301	*i* P	P	17 18 18.6 +3.2
	comp=Z,21nm,0.9s,SNR=12				
KBA	Koelnbreinsper	15.60 301	P	P	17 18 18.5 +3.2
KBA	Koelnbreinsper	15.60 301	*e*P	P	17 18 17.6 +2.2
	comp=Z,28nm,1.0s,baz=113,slow=12				
BIOA	Bad Ischl, Aus	15.61 304	*i* pP	P	17 18 18.0 +2.7
	comp=Z,12nm,0.8s,SNR=5.6				
CKRC	Cesky Krumlov	15.62 308	*e*P	P	17 18 17.8 +2.4
CKRC	Cesky Krumlov	15.62 308	*e*P	P	17 18 17.8 +2.4
GEC2	GERESS Array S	16.00 308		Pn	17 18 13.3 -2.9
GEC2	GERESS Array S	16.00 308	*e*P	Pn	17 18 17.4 +1.2
	comp=Z,12nm,0.9s,baz=113,slow=12				
GERES	GERESS Array B	16.00 308		Pn	17 18 13.7 -2.5
GERES	GERESS Array B	16.00 308	Pn	Pn	17 18 17.7 +1.5
	comp=Z,0.3nm,0.3s,baz=112,slow=9.0,SNR=15				
GERES			LR	LR	17 25 47.1
	comp=Z,188nm,18.4s,baz=139,slow=42				
	comp=Z,7.4nm,0.8s				
PRU	Pruhonice	16.02 312	*e*P	P	17 18 22.2 +2.4
PRU			AMS	AMS	17 24 10.0
PRU	Pruhonice	16.02 312	P	P	17 18 18.2 -1.6
PRU			pmax	pmax	
	comp=Z,12nm,1.1s				
ABTA	Abfaltersbach	16.05 299	*i* P	P	17 18 19.7 -0.6
	comp=Z,13nm,1.9s				
PABE	Paberze	16.10 341	Pn	Pn	17 18 13.6 -3.7
PABE			IAmb	IAmb	17 18 22.3
	comp=Z,59nm,0.7s				
PABE	Paberze	16.10 341	*e*P	P	17 18 20.9 +0.4
LESA	Schwarzleotal	16.14 302	*i* pP	P	17 18 23.9 +2.7
	comp=Z,11nm,0.7s,SNR=9.1				
KHC	Kasperske Hory	16.19 308	*e*P	Pn	17 18 20.1 +1.5
KHC	Kasperske Hory	16.19 308	*e*P	Pn	17 18 20.1 +1.5
KHC	Kasperske Hory	16.19 308	P	Pn	17 18 19.2 +0.6
	comp=Z,10nm,0.8s				
TEOL	Teolo	16.33 294		Pn	17 18 16.2 -4.2
OSSC	Osservatorio P	16.44 288		Pn	17 18 17.8 -4.0
CTI	Castel Tesino	16.47 296		Pn	17 18 18.3 -3.9
CTI	Castel Tesino	16.47 296	P	Pn	17 18 18.3 -3.9
CTI			pmax	pmax	
	comp=Z,27nm,1.1s				
WTTA	Wattenberg	16.77 301	*i* pP	P	17 18 30.9 +2.6
	comp=Z,54nm,1.2s,SNR=12				
WTTA	Wattenberg	16.77 301	P	P	17 18 31.3 +3.0
WTTA			pmax	pmax	
	comp=Z,39nm,1.4s				
WTTA	Wattenberg	16.77 301	*e*P	P	17 18 30.8 +2.5
	comp=Z,47nm,1.1s,baz=113,slow=12				
BRG	Berggiesshubel	16.79 314	*e*P	P	17 18 28.9 +0.6
BRG			Amp		17 18 34.5
	comp=Z,6.9nm,1.2s				
BRG	Berggiesshubel	16.79 314	*e*P	P	17 18 29.2 +0.9
	comp=Z,7.7nm,1.2s,baz=113,slow=12				
WATA	Walderalm	16.83 301	*e*pP	P	17 18 31.3 +2.4
	comp=Z,20nm,0.9s,SNR=9.4				
SQTA	Sankt Quirin	17.04 300	*e*pP	P	17 18 34.0 +2.8
	comp=Z,44nm,1.4s,SNR=11				
MOTA	Moosalm	17.14 301	*e*pP	P	17 18 34.3 +1.9
	comp=Z,44nm,1.1s				
FUR	Furstenfeldbru	17.27 303	P	P	17 18 36.2 +2.6
FUR			pmax	pmax	
	comp=Z,40nm,1.1s				
FUR	Furstenfeldbru	17.27 303	*e*P	P	17 18 35.6 +2.0
	comp=Z,37nm,1.0s,baz=113,slow=12				
FETA	Feichten	17.31 299	*e*pP	P	17 18 37.1 +2.8
	comp=Z,20nm,1.5s				
TANN	Tannenbergstha	17.40 311	*e*P	P	17 18 36.5 +1.3
	comp=Z,20nm,1.0s,baz=113,slow=12				
RETA	Reutte	17.40 301	*e*pP	P	17 18 37.2 +2.0
	comp=Z,38nm,0.8s,SNR=18				
CLL	Collm	17.52 314		Pn	17 18 31.2 -4.1
CLL	Collm	17.52 314	⇑*i*P	P	17 18 37.0 +0.6
CLL			*e*S	Sn	17 21 54.0 +3.8
CLL			pmax	pmax	
	comp=Z,35nm,1.5s				
CLL			MLR	MLR	
	comp=Z,400nm,18.2s				
CLL	Collm	17.52 314	P	P	17 18 37.1 +0.6
	comp=Z,15nm,1.6s				
CLL	Collm	17.52 314	⇑*i*P	P	17 18 37.0 +0.6
	comp=Z,35nm,1.5s				
CLL			*i* (PP)		17 18 42.4
CLL			*i* sPP		17 18 48.4
CLL			*e*S	Sn	17 21 54.0 +3.8
CLL			AMS	AMS	17 29 00.0
	comp=Z,400nm,18.2s				
CLL	Collm	17.52 314	*e*P	P	17 18 37.2 +0.8
	comp=Z,33nm,1.5s,baz=113,slow=12				
FUORN	Ofenpass-Fuorn	17.53 298		Pn	17 18 32.8 -2.9
PLN	Plauen	17.61 311	*e*P	P	17 18 37.7 +0.3
	comp=Z,8.0nm,1.2s,baz=113,slow=12				
RUE	Ruedersdorf	17.74 319	*e*P	Pn	17 18 38.4 +0.4
	comp=Z,26nm,0.6s,baz=113,slow=12				
DAVOX	Davos/Dischmat	17.82 298	P	P	17 18 41.1 +1.2
	comp=Z,0.4nm,0.3s,baz=118,slow=12,SNR=12				
DAVOX			LR	LR	17 26 16.9
	comp=Z,354nm,20.2s,baz=102,slow=40				
	comp=Z,5.2nm,0.7s				
GRA1	Grafenberg Arr	17.83 308	P	Pn	17 18 38.7 -0.4
GRF	Grafenberg Arr	17.83 308	P	Pn	17 18 38.7 -0.4
GRF			pmax	pmax	
	comp=Z,19nm,1.1s				
GRF	Grafenberg Arr	17.83 308	*e*P	P	17 18 41.9 +2.1
	comp=Z,18nm,1.1s,baz=113,slow=12				
GRFO	Grafenberg	17.83 308	P	Pn	17 18 38.6 -0.5
GRFO	Grafenberg	17.83 308	P	Pn	17 18 38.6 -0.5
GRFO			pmax	pmax	
	comp=Z,18nm,1.1s				
UBR	Ueberruh	17.88 301	*e*P	P	17 18 41.9 +1.4
	comp=Z,82nm,1.6s,baz=113,slow=12				
DAVA	Damuels	17.93 300	*e*pP	P	17 18 43.3 +2.2
	comp=Z,26nm,0.7s,SNR=13				
DAVA	Damuels	17.93 300	*e*P	P	17 18 43.0 +1.9
	comp=Z,28nm,0.8s,baz=113,slow=12				
MOX	Moxa	17.99 311	P	P	17 18 42.3 +0.8
MOX			pmax	pmax	
	comp=Z,21nm,1.4s				
MOX	Moxa	17.99 311	*e*P	P	17 18 42.4 +0.8
	comp=Z,24nm,1.1s,baz=113,slow=12				
TUE	Stuetta	18.12 297	P	Pn	17 18 42.4 -0.5
TUE	Stuetta	18.12 297	P	P	17 18 45.1 +1.8
	comp=Z,87nm,0.8s				
NEUB	Neuenburg	18.15 313	*e*P	P	17 18 44.6 +1.3
	comp=Z,25nm,1.0s,baz=113,slow=12				
VSU	Vasula	18.35 349	*c*eP	P	17 18 46.7 +1.3
VSU			pmax	pmax	
	comp=Z,115nm,1.7s				
VSU	Vasula	18.35 349	*e*P	P	17 18 46.3 +0.9
STU	Stuttgart	18.77 304	P	P	17 18 49.4 -0.8
STU	Stuttgart	18.77 304	P	P	17 18 49.4 -0.8
STU			pmax	pmax	
	comp=Z,25nm,1.0s				
STU	Stuttgart	18.77 304	*e*P	Pn	17 18 50.7 +0.1
STU	Stuttgart	18.77 304	*e*P	Pn	17 18 52.1 +1.5
	comp=Z,58nm,0.9s,baz=113,slow=12				
BSD	Bornholm Skovb	18.87 326	*i* P	P	17 18 50.3 -0.9
SLE	Schleitheim	18.96 300	P	Pn	17 18 53.6 +0.6
SLE			pmax	pmax	
	comp=Z,30nm,1.1s				
FLTG	Flechtingen	18.98 316	*e*P	Pn	17 18 52.8 -0.3
	comp=Z,18nm,0.8s,baz=113,slow=12				
UBBA	Unterbreizbach	18.99 310	*e*P	Pn	17 18 54.9 +1.7
	comp=Z,101nm,1.9s,baz=113,slow=12				
MTSE	Matsula	19.08 345	*e*P	P	17 18 53.8 +0.3
RGN	Rugen	19.20 323	P	P	17 18 54.8 0.0
RGN			IAmb	IAmb	17 19 03.5
	comp=Z,118nm,1.1s				
BFO	Black Forest	19.20 302	P	P	17 18 54.6 -0.3
BFO			IAmb	IAmb	17 18 58.5
	comp=Z,68nm,1.1s				
BFO	Black Forest	19.20 302	P	P	17 18 54.7 -0.3
BFO			pmax	pmax	
	comp=Z,68nm,1.1s				
BFO	Black Forest	19.20 302	*e*P	Pn	17 18 57.0 +1.1
	comp=Z,74nm,1.1s,baz=113,slow=12				
KEST	Kesra	19.22 263	P	P	17 18 53.5 -1.7
KEST	Kesra	19.22 263	P	Pn	17 18 56.3 +0.1
	comp=Z,0.3nm,0.3s,baz=66,slow=6.6,SNR=6.1				
KEST			LR	LR	17 28 01.0
	comp=Z,660nm,18.1s,baz=283,slow=42				
	comp=Z,11nm,0.9s				
CLZ	Clausthal	19.22 313	*e*P	Pn	17 18 57.1 +1.0
	comp=Z,47nm,1.5s,baz=113,slow=12				
GORT1	Trebel	19.28 317	*e*P	Pn	17 18 57.6 +0.9
	comp=Z,251nm,2.0s,baz=113,slow=12				
GTTG	Gottingen	19.32 312	*e*P	Pn	17 18 57.9 +0.7
	comp=Z,20nm,1.0s,baz=113,slow=12				
BLEU	Blekinge	19.36 330	*i* P	Pn	17 18 57.4 -0.2
ARBE	Arbavere	19.40 349	*e*P	Pn	17 19 00.8 +2.7
SENIN	Lac Senin/Sane	19.50 296	P	P	17 18 58.2 -0.3
NRDL	Niedersach Rie	19.67 315	*e*P	Pn	17 19 02.0 +0.7
	comp=Z,34nm,1.0s,baz=113,slow=12				
TNS	Taunus Mts	19.69 308	P	Pn	17 19 01.7 0.0
TNS			pmax	pmax	
	comp=Z,17nm,1.0s				
TNS	Taunus Mts	19.69 308	*e*P	Pn	17 19 02.5 +0.8
	comp=Z,9.4nm,0.9s,baz=113,slow=12				
MBDF	Montbardon	19.72 291	*e*P	Pn	17 19 03.5 +1.3
MBDF			pmax	pmax	
	comp=Z,20nm,0.8s				
LPG	La Plagne	19.79 293	*e*P	Pn	17 19 04.6 +1.5
LPG			pmax	pmax	
	comp=Z,36nm,1.1s				
LPL	La Plagne	19.80 293	*e*P	Pn	17 19 03.7 +0.5
LPL			pmax	pmax	
	comp=Z,40nm,1.0s				
BNI	Bardonecchia	19.80 292		P	17 19 02.1 +0.4
BNI			IAmb	IAmb	17 19 10.3
	comp=Z,121nm,1.6s				
BNI	Bardonecchia	19.80 292	P	P	17 19 02.1 +0.4
BNI			pmax	pmax	
	comp=Z,121nm,1.7s				
LUNU	Lund	19.84 326	*i* P	P	17 19 00.0 -1.8
LMR	La Mourre	19.88 287	*e*P	Pn	17 19 06.5 +2.5
LMR			pmax	pmax	
	comp=Z,59nm,1.6s				
CDF	Champ du Feu	19.90 302	*e*P	P	17 19 03.4 +0.7
CDF			pmax	pmax	
	comp=Z,27nm,1.0s				
ECH	Echery	19.93 301	P	P	17 19 03.7 +0.8
ECH			IAmb	IAmb	17 19 10.6
	comp=Z,79nm,0.8s				
ECH	Echery	19.93 301	P	P	17 19 03.7 +0.8
ECH			pmax	pmax	
	comp=Z,79nm,0.8s				
RAYN	Ar Ray

BUG pmax pmax
comp=Z,75nm,1.1s
BUG Bochum--Univer 20.82 310 *e*P Pn 17 19 14.8 -0.1
comp=Z,62nm,0.9s,baz=113,slow=12
KIRV Kirov 20.83 25 P **P 17 19 12.7 +0.3**
comp=Z,24nm,0.7s,baz=193,slow=3.6,SNR=7.0
KIRV LR LR 17 27 50.6
comp=Z,190nm,20.5s,baz=224,slow=38
comp=Z,24nm,0.7s
KIRV Kirov 20.83 25*ce*P **P 17 19 12.3 -0.1**
ABKAR Akbulak array 20.86 56 P **P 17 19 13.4 +0.4**
ABKAR Akbulak array 20.86 56 P **P 17 19 13.1 +0.2**
IBBN Ibbenburen 20.88 313 *e*P Pn 17 19 15.0 -0.6
comp=Z,65nm,1.0s,baz=113,slow=12
WLF Walferdange 20.93 305 P **P 17 19 13.0 -0.7**
WLF IAmb IAmb 17 19 20.1
comp=Z,69nm,1.0s
WLF Walferdange 20.93 305 *d*P Pn 17 19 15.4 -0.9
comp=Z,40nm,1.0s
WLF Walferdange 20.93 305 P **P 17 19 13.0 -0.7**
WLF pmax pmax
comp=Z,69nm,1.0s
WLF Walferdange 20.93 305 *e*P Pn 17 19 16.4 +0.1
comp=Z,59nm,0.9s,baz=113,slow=12
FABU Falkenberg 21.06 328 *i*P **P 17 19 15.7 +0.7**
BTNL Ternell 21.21 307 *d*P **P 17 19 19.4 +2.6**
comp=Z,10nm,1.0s
VIVF Saint-Julien-l 21.21 291 *e*P **P 17 19 16.8 -0.1**
VIVF pmax pmax
comp=Z,19nm,0.9s
BHOU Houvegnez 21.22 306 *d*P **P 17 19 18.9 +2.1**
comp=Z,30nm,1.1s
MEM Membach 21.29 307 *d*P **P 17 19 19.8 +2.2**
comp=Z,16nm,1.0s
MEM Membach 21.29 307 P **P 17 19 20.0 +2.4**
MEM pmax pmax
comp=Z,27nm,1.2s
SSB Saint Sauveur 21.32 292 P **P 17 19 17.2 -0.8**
SSB IAmb IAmb 17 19 23.9
comp=Z,57nm,1.6s
SSB Saint Sauveur 21.32 292 P **P 17 19 17.2 -0.8**
SSB pmax pmax
comp=Z,57nm,1.6s
FINES FINESS Array B 21.33 351 P **P 17 19 17.3 -0.5**
comp=Z,14nm,0.5s,baz=156,slow=9.8,SNR=60
FINES S **S 17 23 06.0 -8.3**
comp=Z,5.8nm,0.8s,baz=149,slow=20,SNR=3.1
FINES LR LR 17 28 29.0
comp=Z,208nm,19.6s,baz=155,slow=39
comp=Z,14nm,0.5s
FIA1 FINESS Array S 21.33 351 P **P 17 19 16.9 -0.9**
FIA1 IAmb IAmb 17 19 31.7
comp=Z,92nm,1.0s
SSRD Sdr. Stenderup 21.46 322 *i*P **P 17 19 18.7 -0.6**
SSRD IAmb IAmb 17 19 20.2
comp=Z,56nm,0.7s
BORU Boraas 21.48 329 *i*P **P 17 19 24.2 +4.7**
BSTI Sart Tilman 21.55 307 *d*P **P 17 19 22.8 +2.4**
comp=Z,6.1nm,1.0s
RAF Rauma 21.62 345 *e*P **P 17 19 21.9 +1.0**
RCHB Rochefort 21.64 306 *d*P **P 17 19 20.8 -0.5**
comp=Z,36nm,0.8s
BCLA Clavier 21.67 306 *d*P **P 17 19 22.8 +1.2**
comp=Z,19nm,1.0s
BGES Gesves 21.79 306 *d*P **P 17 19 24.7 +1.8**
comp=Z,26nm,1.0s
SMF Signal de Mont 21.91 296 *e*P **P 17 19 27.4 +3.1**
SMF pmax pmax
comp=Z,52nm,1.5s
LOR Lormes 21.96 297 P **P 17 19 25.2 +0.3**
LOR pmax pmax
comp=Z,53nm,1.1s
BMRD Maredsous 21.97 306 *d*P **P 17 19 26.1 +1.3**
comp=Z,22nm,1.0s
DOU Dourbes 22.02 305 *d*P **P 17 19 26.8 +1.4**
comp=Z,30nm,0.9s
SSF Saint Saulge 22.18 297 *e*P **P 17 19 29.3 +2.1**
SSF pmax pmax
comp=Z,64nm,1.1s
KEF Keuruu 22.18 350 *e*P **P 17 19 28.1 +1.1**
TJOU Tjoern 22.20 329 *i*P **P 17 19 29.4 +2.2**
MUD Monsted U'grnd 22.23 324 P **P 17 19 31.2 +3.6**
MUD pmax pmax
comp=Z,94nm,1.2s
MUD Monsted U'grnd 22.23 324 *i*P **P 17 19 31.7 +4.1**
MUD IAmb IAmb 17 19 32.5
comp=Z,120nm,1.2s
AVF Avril sur Loir 22.26 296 *e*P **P 17 19 30.0 +2.0**
AVF pmax pmax
comp=Z,26nm,1.0s
UCC Uccle 22.35 307 P **P 17 19 26.2 -2.7**
UCC Uccle 22.35 307 *d*P **P 17 19 29.2 +0.3**
comp=Z,16nm,1.0s
UCC Uccle 22.35 307 P **P 17 19 26.2 -2.7**
UCC pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 22.40 358 *e*P **P 17 19 29.8 +0.4**
ARTI Arti 22.89 38 P **P 17 19 34.0 -0.6**
ARTI IAmb IAmb 17 19 52.6
comp=Z,58nm,1.0s
ARTI Arti 22.89 38 LR LR 17 31 36.9
comp=Z,242nm,18.4s,baz=241,slow=45
ARTI Arti 22.89 38*d*i P **P 17 19 36.0 +1.4**
ARTI 17 19 59.2
ARTI S **S 17 23 46.7 +2.7**
ARTI SS **SnSn 17 24 17.0 +1.9**
ARTI pmax pmax
comp=Z,37nm,0.9s
HFS Hagfors 22.98 335 P **P 17 19 34.9 -0.6**
comp=Z,38nm,0.7s,baz=146,slow=9.0,SNR=37
comp=Z,38nm,0.7s
TCF Toulx Ste Croi 23.00 295 *e*P **P 17 19 38.1 +2.1**
TCF pmax pmax
comp=Z,24nm,1.1s
STRU Stroemstad 23.05 331 *i*P **P 17 19 37.3 +1.0**
CLF Chambon-Foret 23.13 299 P **P 17 19 35.6 -1.5**
VAF Ylistaro 23.34 348 P **P 17 19 41.3 +2.2**
VAF pmax pmax
comp=Z,53nm,0.8s
VAF Ylistaro 23.34 348 *e*P **P 17 19 39.9 +0.8**
HOMB Homborsund 23.61 327 *i*P **P 17 19 43.6 +1.8**
CEST Esterri de Car 23.78 285 P **P 17 19 42.8 -1.0**
HRA Herat 23.93 96 P **P 17 19 45.0 -0.5**
HRA IAmb IAmb 17 19 51.5
comp=Z,25nm,1.1s
KONO Kongsberg 24.07 330 P **P 17 19 44.9 -1.3**
KONO IAmb IAmb 17 19 49.7
comp=Z,52nm,1.1s
KONO Kongsberg 24.07 330 P **P 17 19 44.9 -1.3**
KONO pmax pmax
comp=Z,52nm,1.1s
NC602 NORSAR Array S 24.14 334 P **P 17 19 46.2 -0.6**
NC602 IAmb IAmb 17 19 55.4
comp=Z,42nm,1.4s
NORES NORESS Array B 24.14 334 P **P 17 19 48.4 +1.5**
SVE Sverdlovsk 24.18 38 *e*P **P 17 19 50.5 +3.2**
SVE pmax pmax
comp=Z,67nm,1.4s
SNART Snartemo 24.20 326 *i*P **P 17 19 49.0 +1.6**
NC405 NORSAR Array S 24.36 335 P **P 17 19 48.0 -0.9**
NC405 IAmb IAmb 17 20 12.5
comp=Z,45nm,1.3s
EPF Esparros 24.41 287 *e*P **P 17 19 49.2 -0.4**
EPF pmax pmax
comp=Z,7.0nm,1.1s
NAO01 NORSAR Array S 24.44 334 P **P 17 19 49.1 -0.5**
NAO01 IAmb IAmb 17 19 51.8
comp=Z,23nm,0.8s
NB201 NORSAR Array S 24.45 334 P **P 17 19 47.2 -2.6**
NB201 IAmb IAmb 17 19 51.9
comp=Z,38nm,1.1s
NB2 NORSAR Subarra 24.47 334 P **P 17 19 50.4 +0.4**
comp=Z,19nm,1.0s,baz=137,slow=9.3
NOA NORSAR Array B 24.47 334 P **P 17 19 49.8 -0.2**
comp=Z,8.7nm,0.9s,baz=136,slow=9.6,SNR=27
comp=Z,8.7nm,0.9s
NC303 NORSAR Array S 24.56 335 P **P 17 19 50.3 -0.4**
NC303 IAmb IAmb 17 19 55.0
comp=Z,32nm,1.1s
NBO00 NORSAR Array S 24.61 334 P **P 17 19 50.2 -1.0**
NBO00 IAmb IAmb 17 19 53.0
comp=Z,21nm,0.8s
MFF Saint Martin d 24.65 295 *e*P **P 17 19 52.0 +0.3**
MFF pmax pmax
comp=Z,37nm,1.3s
LDF La Druitiere 24.78 300 *e*P **P 17 19 54.1 +1.3**
LDF pmax pmax
comp=Z,41nm,1.3s
NC204 NORSAR Array S 24.79 334 P **P 17 19 51.6 -1.3**
NC204 IAmb IAmb 17 19 59.6
comp=Z,19nm,0.9s
UOSS Minazif 24.85 122 P **P 17 19 53.1 -0.6**
OUL Oulu 24.90 353 P **P 17 19 55.0 +1.3**
OUL pmax pmax
comp=Z,68nm,0.8s
FLN La Foliniere 25.04 300 *e*P **P 17 19 55.6 +0.5**
FLN pmax pmax
comp=Z,12nm,0.8s
ETSF Etsaut 25.07 286 *e*P **P 17 19 56.5 +0.8**
ETSF pmax pmax
comp=Z,17nm,0.8s
WACR West Acre 25.11 310 *e*P **P 17 19 57.3 +1.5**
WACR IAmb IAmb 17 19 57.9
comp=Z,112nm,0.9s
GRR Gorron 25.25 299 *e*P **P 17 19 56.6 -0.4**
GRR pmax pmax
comp=Z,33nm,1.0s
MSF Maaselka 25.49 356 P **P 17 20 00.6 +1.6**
MSF pmax pmax
comp=Z,115nm,1.1s
SJPF Ste Jean 25.54 287 *e*P **P 17 20 00.8 +1.0**
SJPF pmax pmax
comp=Z,13nm,1.0s
JSA Saint Aubin 26.19 301 *e*P **P 17 20 05.4 -0.1**
JSA IAmb IAmb 17 20 06.6
comp=Z,38nm,0.9s
CWF Charnwood Fore 26.25 309 *e*P **P 17 20 06.8 +0.7**
SGMF Saint Gilles 26.36 299 *e*P **P 17 20 08.1 +0.9**
SGMF pmax pmax
comp=Z,73nm,1.4s
GDLE Glaisdale, N Y 26.43 313 *e*P **P 17 20 08.6 +0.9**
GDLE IAmb IAmb 17 20 09.6
comp=Z,64nm,0.8s
STRD Stroud 26.56 307 *e*P **P 17 20 08.8 -0.1**
STRD IAmb IAmb 17 20 12.8
comp=Z,61nm,0.9s
QUIF Quistinic 26.75 298 *e*P **P 17 20 11.4 +0.7**
QUIF pmax pmax
comp=Z,15nm,1.0s
ROSF Rostrenen 26.85 299 *e*P **P 17 20 12.1 +0.6**
ROSF pmax pmax
comp=Z,23nm,1.1s
MCH1 Michaelchurch 27.11 307 *e*P **P 17 20 14.2 +0.3**
MCH1 IAmb IAmb 17 20 14.6
comp=Z,43nm,1.1s
HLM1 Long Mynd 27.14 308 *e*P **P 17 20 14.0 -0.2**
LVZ Lovozero 27.40 1 P **P 17 20 15.4 -0.9**
LVZ IAmb IAmb 17 20 46.2
comp=Z,63nm,1.5s
LVZ Lovozero 27.40 1 *i*P **P 17 20 16.6 +0.3**
LVZ pmax pmax
comp=Z,16nm,1.4s
FOEL Foel Wylfa 27.41 309 *e*P **P 17 20 17.8 +1.2**
SIMJ Simiganj 27.67 82 P **P 17 20 19.4 +0.2**
CHGR Chuyangaron 27.78 82 P **P 17 20 19.4 -0.8**
CHGR IAmb IAmb 17 20 44.1
comp=Z,25nm,1.3s
CHGR Chuyangaron 27.78 82 P **P 17 20 19.4 -0.8**
CHGR pmax pmax
comp=Z,25nm,1.3s
KK31 Karatay Array 27.90 72 P **P 17 20 19.4 -1.7**
KK31 Karatay Array 27.90 72 P **P 17 20 19.4 -1.7**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 27.90 72 P **P 17 20 19.6 -1.4**
KKAR Karatay Array 27.90 72 P **P 17 20 20.4 -0.7**
KKAR Karatay Array 27.90 72 P **P 17 20 20.4 -0.7**
EKA Eskdalemuir Ar 27.99 314 P **P 17 20 22.2 +0.5**
comp=Z,12nm,0.7s,baz=111,slow=9.6,SNR=24
comp=Z,12nm,0.7s
ESK Eskdalemuir 28.01 314 P **P 17 20 20.3 -1.6**
ESK Eskdalemuir 28.01 314 P **P 17 20 20.3 -1.6**
ESK pmax pmax
comp=Z,100nm,1.8s
BRVK Borovoye 28.06 51 P **P 17 20 20.3 -2.0**
BRVK IAmb IAmb 17 20 51.0
comp=Z,26nm,1.1s
BRVK Borovoye 28.06 51 *i*P **P 17 20 24.7 +2.4**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BVAR Borovoye Array 28.11 51 P **P 17 20 25.2 +2.4**
comp=Z,0.5nm,0.6s,baz=251,slow=7.5,SNR=8.5
BVAR LR LR 17 34 27.5
comp=Z,484nm,21.6s,baz=259,slow=42
comp=Z,0.5nm,0.6s
ESBB Sonseca Array 28.16 280 P **P 17 20 21.6 -1.9**
ESBB IAmb IAmb 17 20 34.0
comp=Z,22nm,1.7s
ESDC Sonseca Array 28.17 280 P **P 17 20 21.7 -1.8**
ESDC IAmb IAmb 17 21 19.2
comp=Z,56nm,1.9s
ESDC Sonseca Array 28.17 280 P **P 17 20 24.0 +0.5**
comp=Z,2.9nm,0.8s,baz=68,slow=9.0,SNR=19
ESDC PcP **PcP 17 23 37.1 -0.2**
comp=Z,0.7nm,0.9s,baz=31,slow=2.3,SNR=5.4
ESDC LR LR 17 32 03.4
comp=Z,146nm,19.1s,baz=106,slow=37
comp=Z,2.9nm,0.8s
RSBS Rosebush, Pemb 28.17 307 *e*P **P 17 20 23.9 +0.5**
CCA1 Carnmenellis 28.26 303 *e*P **P 17 20 24.7 +0.6**
CCA1 IAmb IAmb 17 20 25.9
comp=Z,56nm,0.9s
PAB San Pablo 28.49 280 P **P 17 20 25.2 -1.2**
PAB San Pablo 28.49 280 P **P 17 20 25.2 -1.2**
PAB pmax pmax
comp=Z,9.0nm,1.1s
IOMK Kirk Michael 28.50 311 *e*P **P 17 20 26.1 -0.2**
IOMK IAmb IAmb 17 20 28.2
comp=Z,24nm,0.8s
GAR Garm 28.57 81 P **P 17 20 27.4 +0.2**
GAR IAmb IAmb 17 20 36.8
comp=Z,20nm,0.9s
BTK Batken 28.68 79 P **P 17 20 27.2 -0.9**
BTK Batken 28.68 79 P **P 17 20 27.2 -0.9**
BTK pmax pmax
comp=Z,8.0nm,1.0s
MCD Coleburn Disti 28.76 319 *e*P **P 17 20 29.1 +0.5**
KBL Kabul 29.04 90 P **P 17 20 30.5 -1.0**
KBL Kabul 29.04 90 P **P 17 20 30.5 -1.0**
KBL pmax pmax
comp=Z,3.0nm,0.6s
TAM Tamanrasset 29.18 241 P **P 17 20 30.8 -2.0**
TAM Tamanrasset 29.18 241 P **P 17 20 30.8 -2.0**
TAM pmax pmax
comp=Z,9.0nm,1.2s
ARCES ARCESS Array B 29.30 355 P **P 17 20 34.3 +1.1**
comp=Z,8.5nm,0.7s,baz=165,slow=8.2,SNR=18
ARCES LR LR 17 33 10.4
comp=Z,242nm,18.3s,baz=161,slow=38
comp=Z,8.5nm,0.7s
DRK Karamyk 29.56 79 P **P 17 20 33.4 -2.8**
DRK Karamyk 29.56 79 P **P 17 20 33.4 -2.8**
DRK pmax pmax
comp=Z,9.0nm,1.2s
CLGH Cloghs, Cushen 29.56 313 *e*P **P 17 20 37.3 +1.6**
CLGH IAmb IAmb 17 20 37.9
comp=Z,78nm,0.9s
ARSB Arslanbob 30.01 75 P **P 17 20 38.7 -1.3**
ARSB IAmb IAmb 17 21 07.7
comp=Z,15nm,1.2s
ARSB Arslanbob 30.01 75 P **P 17 20 38.7 -1.3**
ARSB pmax pmax
comp=Z,15nm,1.2s
ATD Arta Tunnel 30.20 161 P **P 17 20 40.9 -0.8**
ATD IAmb IAmb 17 21 44.2
comp=Z,12nm,1.0s
ATD Arta Tunnel 30.20 161 LR LR 17 32 53.3
comp=Z,4.4nm,18.8s,baz=10.0,slow=37
POLO Lamas de Olo 30.63 285 *e*P **P 17 20 46.1 +0.7**
POLO *i* Amb 17 20 55.4
comp=Z,9.8nm,1.8s
MTE Manteigas 30.66 283 P **P 17 20 44.3 -1.4**
MTE IAmb IAmb 17 20 46.8
comp=Z,10nm,1.0s
MTE Manteigas 30.66 283 *e*P **P 17 20 46.2 +0.5**
MTE *i* Amb 17 20 47.0
comp=Z,13nm,1.1s
PCBR Castelo Branco 30.75 282 *e*P **P 17 20 47.7 +1.4**
PCBR *i* Amb 17 21 01.2
comp=Z,12nm,2.9s
PMRV Marv??o 30.79 281 *e*P **P 17 20 47.3 +0.5**
PMRV *i* Amb 17 21 01.3
comp=Z,11nm,1.6s
PVIS Viseu 30.85 284 *e*P **P 17 20 47.3 0.0**
AAK Ala-Archa 30.86 72 P **P 17 20 47.2 -0.3**
AAK Ala-Archa 30.86 72 LR LR 17 36 55.1
comp=Z,190nm,19.6s,baz=284,slow=44
AAK Ala-Archa 30.86 72*ce*P **P 17 20 49.5 +2.0**
AAK pmax pmax
comp=Z,5.0nm,0.8s
MDT Midelt 30.97 268 LR LR 17 33 29.3
comp=Z,165nm,21.4s,baz=74,slow=37
PMTG Montargil 31.51 281 *e*P **P 17 20 53.2 +0.1**
PMTG *i* Amb 17 20 55.9
comp=Z,26nm,1.8s
PVAQ Vaqueiros 31.63 278 *e*P **P 17 20 55.0 +0.9**
PVAQ *i* Amb 17 21 07.1
comp=Z,16nm,2.1s
PCVE Castro Verde 31.80 278 *e*P **P 17 20 56.3 +0.7**
PCVE *i* Amb 17 21 09.8
comp=Z,18nm,1.9s
MESJ Messejana 31.87 279 *e*P **P 17 20 59.8 +3.6**
MESJ *i* Amb 17 21 04.1
comp=Z,25nm,1.8s
KSH Kashi 32.66 78 P **P 17 21 01.6 -1.7**
KSH pP pP 17 21 05.8 -1.5
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,330nm,16.1s
KSH LR LR
comp=Z,170nm,13.7s
KSH LR LR
comp=Z,180nm,14.1s
AVE Averroes 32.90 270 P **P 17 21 03.4 -2.0**
KURBB Kurchatov Arra 32.91 57 P **P 17 21 07.2 +2.0**
comp=Z,4.4nm,0.7s,baz=277,slow=9.3,SNR=35
KURBB PcP **PcP 17 23 50.7 +1.3**
comp=Z,1.0nm,0.4s,baz=270,slow=2.8,SNR=5.8
KURBB LR LR 17 37 42.9
comp=Z,225nm,20.7s,baz=176,slow=42
comp=Z,4.4nm,0.7s
KURK Kurchatov 32.97 57 P **P 17 21 05.8 0.0**
KURK Kurchatov 32.97 57*ce*P **P 17 21 08.3 +2.6**
KURK pmax pmax
comp=Z,17nm,2.5s
WUS Wushi 34.61 73 P **P 17 21 20.5 +0.1**
WUS IAmb IAmb 17 21 25.0
comp=Z,12nm,1.3s
MAKZ Makanchi 35.47 63 P **P 17 21 27.5 0.0**
MAKZ Makanchi 35.47 63 P **P 17 21 27.5 0.0**
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 35.68 63 P **P 17 21 29.1 -0.2**
MK31 Makanchi Array 35.68 63*ce*P **P 17 21 33.0 +3.6**
MKAR Makanchi Array 35.68 63 P **P 17 21 29.4 0.0**
MKAR Makanchi Array 35.68 63 P **P 17 21 31.1 +1.8**
comp=Z,4.2nm,0.8s,baz=272,slow=7.8,SNR=26
MKAR PcP **PcP 17 23 57.9 +0.4**
comp=Z,1.3nm,0.7s,baz=289,slow=3.7,SNR=4.7
MKAR LR LR 17 40 18.7
comp=Z,179nm,18.7s,baz=260,slow=43
comp=Z,4.2nm,0.8s
MKAR Makanchi Array 35.68 63 P **P 17 21 29.4 0.0**
ZAA0 Zalesovo Array 36.77 51 P **P 17 21 38.0 -0.5**
ZALV Zalesovo Beam 36.77 51 P **P 17 21 37.2 -1.3**
ZALV Zalesovo Beam 36.77 51 P **P 17 21 40.0 +1.5**
comp=Z,3.1nm,0.7s,baz=269,slow=8.3,SNR=11
ZALV LR LR 17 39 51.6
comp=Z,339nm,21.3s,baz=262,slow=41
comp=Z,3.1nm,0.7s
LODK Lodwar 37.04 176 P **P 17 21 40.2 -1.1**
SPITS Spitsbergen Ar 38.33 355 P **P 17 21 52.6 +1.1**
comp=Z,20nm,1.0s,baz=133,slow=10,SNR=5.8
SPITS PcP **PcP 17 24 04.1 -0.8**
comp=Z,9.5nm,0.9s,baz=173,slow=2.5,SNR=2.1
SPITS ScP **ScP 17 27 55.0 +2.5**
comp=Z,16nm,1.2s,baz=148,slow=8.5,SNR=5.7
SPITS LR LR 17 39 18.4
comp=Z,184nm,18.8s,baz=134,slow=39
comp=Z,20nm,1.0s
TORD Torodi Ar. Bea 38.71 234 P **P 17 21 54.4 -0.9**
TORD Torodi Ar. Bea 38.71 234 P **P 17 21 56.1 +0.8**
comp=Z,7.9nm,1.0s,baz=31,slow=10,SNR=32
TORD PcP **PcP 17 24 05.9 -1.2**
comp=Z,2.3nm,0.9s,baz=24,slow=3.8,SNR=5.6
comp=Z,7.9nm,1.0s
WMQ Urumqi 40.02 67 *e*P **P 17 22 08.2 +2.2**
WMQ pP sP 17 22 12.4 +0.7
WMQ PcP **PcP 17 24 14.8 +3.9**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ LR LR
comp=Z,340nm,17.9s
WMQ LR LR
comp=Z,680nm,17.9s
WMQ LR LR
comp=Z,430nm,22.5s
SCO Scoresbysund 40.79 335 *i*P **P 17 22 14.2 +2.3**
SCO IAmb IAmb 17 22 16.1
comp=Z,19nm,1.1s
DBG Daneborg 41.63 341 *i*P **P 17 22 20.0 +1.2**
DBG IAmb IAmb 17 22 24.3
comp=Z,36nm,1.5s
DAG Danmarks Havn 42.33 344 *i*P **P 17 22 24.7 +0.2**
DAG IAmb IAmb 17 22 26.7
comp=Z,16nm,1.1s
NOR Nord 44.50 351 *i*P **P 17 22 41.9 0.0**
NOR IAmb IAmb 17 22 43.9
comp=Z,13nm,0.9s
ANGG Ammassalik, Gr 46.04 327 *i*P **P 17 22 57.5 +3.1**
SUMG Summit 46.32 337 P **P 17 22 56.5 -0.4**
SUMG IAmb IAmb 17 22 59.5
comp=Z,13nm,1.1s
SUMG Summit 46.32 337 P **P 17 22 56.5 -0.4**
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 46.32 337 *i*P **P 17 22 57.8 +0.9**
ICESG Greenland Ices 46.67 332 *i*P **P 17 23 00.9 +1.1**
ICESG IAmb IAmb 17 23 02.4
comp=Z,46nm,1.2s
MOY Mondy 46.78 52 *e*P **P 17 23 02.4 +1.9**
MOY pmax pmax
comp=Z,12nm,1.7s
DBIC Dimbokro 47.78 235 P **P 17 23 07.0 -1.6**
comp=Z,4.9nm,0.8s,baz=37,slow=3.7,SNR=4.6
comp=Z,4.9nm,0.8s
LSA Lhasa 47.98 84 P **P 17 23 11.8 +1.2**
LSA pmax pmax
comp=Z,3.0nm,0.9s
ZAK Zakamensk 48.51 54 *e*P **P 17 23 14.2 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
IRK Irkutsk 48.59 51 *e*P **P 17 23 13.6 -0.8**
IRK pmax pmax
comp=Z,43nm,1.5s
DY2G Dye2 49.44 329 *i*P **P 17 23 21.5 +0.5**
DY2G IAmb IAmb 17 23 23.5
comp=Z,68nm,1.0s
NEEM North Greenlan 49.51 343 *i*P **P 17 23 21.9 +0.4**
NEEM IAmb IAmb 17 23 26.5
comp=Z,18nm,1.1s
MSEY Mahe Island 49.52 150 P **P 17 23 21.6 -0.3**
MSEY Mahe Island 49.52 150 P **P 17 23 21.7 -0.3**
MSEY pmax pmax
comp=Z,40nm,1.6s
GTA Gaotai 50.04 68 *e*P **P 17 23 27.0 +1.1**
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,180nm,22.2s
GTA LR LR
comp=Z,220nm,19.3s
ILULI Ilulissat 50.73 333 P **P 17 23 30.5 +0.1**
ILULI IAmb IAmb 17 23 32.2
comp=Z,19nm,0.8s
ILULI Ilulissat 50.73 333 P **P 17 23 30.5 +0.1**
ILULI pmax pmax
comp=Z,19nm,0.8s
ILULI Ilulissat 50.73 333 *i*P **P 17 23 30.9 +0.4**
ILULI IAmb IAmb 17 23 32.5
comp=Z,21nm,0.8s
UMMG Uummannaq 50.77 335 *i*P **P 17 23 31.6 +0.8**
UMMG IAmb IAmb 17 23 33.2
comp=Z,9.3nm,0.8s

SFJD Kangerlussuaq 51.03 330 P **P** **17 23 33.1 +0.4**
SFJD IAmb IAmb 17 23 53.6
comp=Z,40nm,1.5s
SFJD Kangerlussuaq 51.03 330 P **P** **17 23 33.1 +0.4**
SFJD pmax pmax
comp=Z,41nm,1.5s
SFJD Kangerlussuaq 51.03 330 *i* P **P** **17 23 32.7 -0.1**
SFJD IAmb IAmb 17 23 34.7
comp=Z,39nm,1.1s
SONM Songino Array 51.27 56 P **P** **17 23 34.7 -0.4**
SONM Songino Array 51.27 56 P **P** **17 23 36.7 +1.6**
comp=Z,1.3nm,0.7s,baz=292,slow=7.9,SNR=13
SONM PcP **PcP** **17 24 50.6 +0.6**
comp=Z,1.8nm,0.9s,baz=270,slow=2.9,SNR=4.7
SONM LR LR 17 48 29.8
comp=Z,326nm,21.6s,baz=289,slow=40
comp=Z,1.3nm,0.7s
UPNV Upernavik 51.55 338 *i* P **P** **17 23 37.0 +0.4**
UPNV IAmb IAmb 17 23 38.9
comp=Z,16nm,0.9s
ULN Ulaanbaatar 51.68 56 P **P** **17 23 37.8 -0.3**
ULN IAmb IAmb 17 23 50.2
comp=Z,14nm,1.4s
ULN Ulaanbaatar 51.68 56 P **P** **17 23 37.8 -0.3**
ULN pmax pmax
comp=Z,14nm,1.5s
TULEG Thule 53.62 343 P **P** **17 23 51.4 -0.4**
TIXI Tiksi 53.85 23 P **P** **17 23 54.0 +0.4**
TIXI Tiksi 53.85 23 P **P** **17 23 54.0 +0.4**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 54.36 70 *eP* **P** **17 24 00.0 +1.9**
LZH sP sP 17 24 07.9 +4.0
LZH pmax pmax
comp=Z,7.0nm,1.4s
EUNU Eureka 55.05 349 P **P** **17 24 03.1 +0.8**
EUNU IAmb IAmb 17 24 05.0
comp=Z,20nm,0.9s
LSZ Lusaka 55.74 186 P **P** **17 24 06.8 -1.2**
LSZ Lusaka 55.74 186 LR LR 17 48 24.8
comp=Z,173nm,19.2s,baz=348,slow=36
LSZ Lusaka 55.74 186 P **P** **17 24 06.8 -1.2**
LSZ pmax pmax
comp=Z,6.0nm,1.2s
BTO Baotou 56.60 63 *eP* **P** **17 24 13.3 -0.7**
BTO pP **pP** **17 24 18.0 -0.2**
BTO sP **sP** **17 24 20.2 +0.4**
BTO pmax pmax
comp=Z,6.0nm,0.7s
BTO pmax pmax
comp=Z,400nm,6.0s
HHC Hu-ho-hao-te 57.52 62 *eP* **P** **17 24 20.4 -0.2**
HHC pP pP 17 24 24.4 -0.4
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,71nm,3.6s
PZH PanZhiHua 57.64 81 P **P** **17 24 22.6 +1.0**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,120nm,5.5s
YAK Yakutsk 58.01 34 P **P** **17 24 23.6 0.0**
YAK IAmb IAmb 17 24 24.6
comp=Z,7.2nm,0.9s
YAK Yakutsk 58.01 34 LR LR 17 52 36.8
comp=Z,160nm,19.9s,baz=290,slow=39
YAK Yakutsk 58.01 34 *ceP* **P** **17 24 24.3 +0.8**
YAK pmax pmax
comp=Z,6.0nm,0.7s
XAN Xi'an 59.00 70 ⇑P **P** **17 24 32.2 +1.3**
XLT XiLinHaoTe 59.05 57 *eP* P 17 24 36.1 +4.9
XLT pP sP 17 24 40.3 +3.2
XLT pmax pmax
comp=Z,3.0nm,1.4s
XLT pmax pmax
comp=Z,92nm,4.3s
CHTO Chiang Mai 59.86 90 P **P** **17 24 35.4 -1.6**
CHTO Chiang Mai 59.86 90 P **P** **17 24 35.4 -1.6**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
RES Resolute Bay 59.99 346 P **P** **17 24 37.0 0.0**
RES IAmb IAmb 17 24 39.3
comp=Z,4.9nm,0.9s
RES Resolute Bay 59.99 346 LR LR 17 51 02.3
comp=Z,109nm,19.7s,baz=19,slow=36
RES Resolute Bay 59.99 346 P **P** **17 24 37.1 0.0**
RES pmax pmax
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 60.07 91 P **P** **17 24 38.0 -0.5**
CM31 IAmb IAmb 17 24 42.4
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 60.07 91 P **P** **17 24 37.8 -0.7**
CMAR Chiang Mai Arr 60.07 91 P **P** **17 24 38.6 +0.2**
comp=Z,3.8nm,0.9s,baz=298,slow=8.0,SNR=19
CMAR LR LR 17 54 30.4
comp=Z,60nm,19.7s,baz=295,slow=40
comp=Z,3.8nm,0.9s
ABPO Ambohimpanom 60.74 165 P **P** **17 24 43.0 0.0**
ABPO IAmb IAmb 17 26 20.9
comp=Z,17nm,1.3s
ABPO Ambohimpanom 60.74 165 P **P** **17 24 43.0 0.0**
ABPO pmax pmax
comp=Z,17nm,1.3s
ZEA Zeya 60.80 43 *eP* **P** **17 24 46.2 +3.2**
PHRA Phrae 61.03 90 P **P** **17 24 44.5 -0.5**
TSUM Tsumeb 61.18 197 P **P** **17 24 46.0 +0.1**
TSUM IAmb IAmb 17 24 51.7
comp=Z,7.5nm,1.2s
TSUM Tsumeb 61.18 197 LR LR 17 55 04.6
comp=Z,123nm,20.0s,baz=12,slow=40
LYN LuoYang 61.25 68 *eP* P 17 24 55.8 +9.5
LYN pmax pmax
comp=Z,27nm,0.5s
ENH Enshi 61.37 73 IAmb IAmb 17 24 51.4
comp=Z,12nm,1.2s
HEH HeiHe 62.66 46 *eP* **P** **17 24 57.5 +2.0**
HEH pmax pmax
comp=Z,30nm,1.1s
SCHQ Schefferville 63.06 320 P **P** **17 24 58.1 0.0**
SCHQ Schefferville 63.06 320 P **P** **17 24 58.2 +0.1**
comp=Z,4.3nm,0.8s,baz=65,slow=8.5,SNR=4.3
comp=Z,4.3nm,0.8s
WIN Windhoek 64.54 196 P **P** **17 25 09.2 +0.8**
WIN Windhoek 64.54 196 P **P** **17 25 09.2 +0.8**
WIN pmax pmax
comp=Z,25nm,1.6s
BNX BinXian 65.06 50 ⇓P **P** **17 25 11.8 +0.4**
BNX pmax pmax
comp=Z,6.0nm,1.6s
KLR Kul'dur 65.58 45 LR LR 17 58 10.2
comp=Z,172nm,19.4s,baz=296,slow=40
KLR Kul'dur 65.58 45 *eP* **P** **17 25 15.1 +0.4**
KLR pmax pmax
comp=Z,17nm,1.4s
LBTB Lobatse 65.61 187 P **P** **17 25 15.7 +0.5**
LBTB IAmb IAmb 17 25 18.0
comp=Z,12nm,1.2s
LBTB Lobatse 65.61 187 LR LR 17 54 31.7
comp=Z,108nm,18.0s,baz=4.0,slow=37
LBTB Lobatse 65.61 187 P **P** **17 25 15.7 +0.5**
LBTB pmax pmax
comp=Z,12nm,1.2s
SEY Seymchan 66.09 26 *ceP* **P** **17 25 19.4 +1.6**
SEY pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 66.17 17 P **P** **17 25 19.0 +0.8**
BILL Bilibino 66.17 17 *ceP* **P** **17 25 19.8 +1.6**
BILL pmax pmax
comp=Z,14nm,1.3s
A36M Sachs Harbour 66.70 353 P **P** **17 25 22.4 +0.9**
MDJ Mudanjiang 66.97 50 P **P** **17 25 22.1 -1.6**
MDJ pmax pmax
comp=Z,7.0nm,1.4s
HAL Halifax 66.98 310 P **P** **17 25 23.9 +0.1**
HAL Halifax 66.98 310 P **P** **17 25 23.9 +0.1**
HAL pmax pmax
comp=Z,121nm,1.8s
LMN Caledonia Moun 66.99 311 P **P** **17 25 23.2 -0.7**
NJ2 Nanjing 67.10 67 *eP* **P** **17 25 24.2 -0.5**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
MA2 Magadan 67.84 29 P **P** **17 25 28.9 0.0**
MA2 Magadan 67.84 29 LR LR 17 59 18.0
comp=Z,86nm,20.1s,baz=312,slow=40

MA2 Magadan 67.84 29 *ceP* **P** **17 25 31.1 +2.1**
MA2 pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 68.61 50 P **P** **17 25 34.6 +0.6**
comp=Z,2.9nm,0.8s,baz=299,slow=6.6,SNR=6.3
USRK LR LR 18 00 14.3
comp=Z,101nm,21.4s,baz=294,slow=40
comp=Z,2.9nm,0.8s
D62A Allapoint, All 68.65 314 P **P** **17 25 33.5 -0.7**
D62A IAmb IAmb 17 25 36.7
comp=Z,18nm,1.2s
C36M Paulatuk 69.10 351 P **P** **17 25 36.3 -0.3**
C36M IAmb IAmb 17 25 38.5
comp=Z,8.4nm,0.9s
BOSA Boshof 69.21 187 P **P** **17 25 37.9 0.0**
BOSA IAmb IAmb 17 25 42.0
comp=Z,8.8nm,0.9s
BOSA Boshof 69.21 187 P **P** **17 25 38.6 +0.7**
comp=Z,5.5nm,0.7s,baz=12,slow=6.7,SNR=11
BOSA LR LR 17 57 22.7
comp=Z,99nm,18.9s,baz=15,slow=37
comp=Z,5.5nm,0.7s
B22K Teshekpuk Lake 69.30 2 IAmb IAmb 17 25 42.9
comp=Z,17nm,1.2s
C23K Itkillik River 69.88 1 IAmb IAmb 17 25 46.4
comp=Z,14nm,1.1s
B21K Ikpikpuk River 69.98 3 IAmb IAmb 17 25 45.7
comp=Z,9.2nm,0.8s
PSI Prapat 70.00 104 LR LR 17 58 26.5
comp=Z,63nm,20.4s,baz=294,slow=38
KSAR Wonju Array Be 70.07 58 P **P** **17 25 42.2 -1.0**
KSAR Wonju Array Be 70.07 58 P **P** **17 25 42.2 -1.0**
KSRS Korea Array 70.09 57 P **P** **17 25 43.6 +0.3**
comp=Z,2.3nm,0.8s,baz=308,slow=4.9,SNR=9.2
comp=Z,2.3nm,0.8s
C27K Jago River 70.09 359 P **P** **17 25 42.7 -0.1**
C27K IAmb IAmb 17 25 45.8
comp=Z,4.4nm,0.8s
D25K Kavik River 70.42 360 IAmb IAmb 17 25 52.5
comp=Z,5.8nm,0.9s
C18K Utukok River 70.58 5 IAmb IAmb 17 25 50.9
comp=Z,9.8nm,0.9s
D24K Happy Valley 70.58 1 P **P** **17 25 46.5 +0.7**
D24K IAmb IAmb 17 25 49.3
comp=Z,6.7nm,0.7s
D23K Nanushuk River 70.75 1 IAmb IAmb 17 25 50.2
comp=Z,8.6nm,1.0s
D19K Kuna River 70.94 4 IAmb IAmb 17 25 53.3
comp=Z,14nm,1.1s
INK Inuvik 70.97 355 P **P** **17 25 49.4 +1.2**
E28M Babbage River 71.00 357 IAmb IAmb 17 25 58.9
comp=Z,13nm,1.5s
E24K Your Creek 71.67 1 P **P** **17 25 53.6 +1.1**
E24K IAmb IAmb 17 26 25.1
comp=Z,7.4nm,1.3s
FCC Fort Churchill 71.73 334 IAmb IAmb 17 25 57.0
comp=Z,9.2nm,1.1s
E18K Tukpahtearik C 71.83 5 IAmb IAmb 17 25 55.8
comp=Z,6.9nm,0.9s
F31M Tsiigehtchic 71.84 355 P **P** **17 25 53.7 +0.3**
F28M Old Crow 72.00 357 IAmb IAmb 17 25 57.6
comp=Z,14nm,1.6s
E19K Redstone River 72.02 4 IAmb IAmb 17 25 59.5
comp=Z,10nm,0.9s
F26K Sheenjek River 72.04 359 IAmb IAmb 17 25 58.5
comp=Z,35nm,1.9s
F24K Squaw Lake 72.23 0 IAmb IAmb 17 26 01.1
comp=Z,6.6nm,0.9s
G31M Satah River 72.39 355 P **P** **17 25 57.0 +0.3**
F21K Alatna River 72.42 3 IAmb IAmb 17 26 02.4
comp=Z,9.1nm,0.9s
G30M tAoh Zraii Nji 72.46 356 IAmb IAmb 17 25 59.8
comp=Z,38nm,2.0s
F20K Avaraart Lake 72.50 4 IAmb IAmb 17 26 01.4
comp=Z,9.6nm,1.1s
COLD Coldfoot 72.50 1 IAmb IAmb 17 26 00.8
comp=Z,6.6nm,0.9s
G23K Bananza Creek 73.02 1 IAmb IAmb 17 26 23.6
comp=Z,13nm,1.5s
G24K Hadweenzic Riv 73.06 0 P **P** **17 26 00.7 0.0**
G21K Allakaket 73.12 3 IAmb IAmb 17 26 06.2
comp=Z,14nm,0.9s
G19K Purcell Mounta 73.33 4 IAmb IAmb 17 26 07.3
comp=Z,9.7nm,0.8s
SUR Sutherland 73.46 191 LR LR 18 01 48.5
comp=Z,119nm,19.4s,baz=354,slow=39
G18K Tagagawik 73.48 5 IAmb IAmb 17 26 07.4
comp=Z,12nm,1.1s
J59A Piesco 73.91 314 P **P** **17 26 06.1 -0.1**
J59A IAmb IAmb 17 26 08.9
comp=Z,25nm,1.2s
YKA Yellowknife Ar 74.03 345 P **P** **17 26 07.6 +1.1**
comp=Z,3.7nm,0.9s,baz=24,slow=5.8,SNR=37
YKA LR LR 17 59 32.8
comp=Z,85nm,19.1s,baz=344,slow=36
comp=Z,3.7nm,0.9s
I28M Miner Creek 74.17 357 IAmb IAmb 17 27 35.2
comp=Z,18nm,1.6s
I29M Ogilvie Camp, 74.19 356 P **P** **17 26 07.8 +0.3**
I30M Mount Dempster 74.22 355 IAmb IAmb 17 26 17.1
comp=Z,6.0nm,0.9s
ASAJ Asahikawa 74.60 45 LR LR 18 03 32.7
comp=Z,130nm,19.6s,baz=324,slow=39
JNU Nakatsue 74.64 60 LR LR 18 03 28.2
comp=Z,146nm,18.6s,baz=350,slow=39
POKR Poker Plat Res 74.65 0 IAmb IAmb 17 26 15.5
comp=Z,9.3nm,1.1s
J30M Hart River 74.86 355 IAmb IAmb 17 26 15.5
comp=Z,12nm,1.2s
IL31 75.00 360 P **P** **17 26 12.9 +0.9**
IL31 IAmb IAmb 17 26 25.8
comp=Z,28nm,2.0s
ILAR Eielson Array 75.00 360 P **P** **17 26 13.5 +1.4**
comp=Z,1.0nm,0.7s,baz=348,slow=5.7,SNR=15
comp=Z,1.0nm,0.7s
PETK Petropavlovsk- 75.19 31 P **P** **17 26 12.8 -0.6**
comp=Z,6.6nm,1.0s,baz=318,slow=5.8,SNR=4.0
comp=Z,6.6nm,1.0s
WRH Wood River Hil 75.29 0 IAmb IAmb 17 26 32.5
comp=Z,31nm,1.9s
HDA Harding Lake 75.36 360 IAmb IAmb 17 26 16.6
comp=Z,38nm,1.9s
SADO Sadowa 75.52 317 LR LR 18 01 14.1
comp=Z,83nm,18.5s,baz=319,slow=37
DAWY Dawson 75.53 357 P **P** **17 26 16.8 +1.5**
J19K Poorman 75.55 4 IAmb IAmb 17 26 19.0
comp=Z,32nm,1.8s
SCRK Sand Creek 75.77 359 IAmb IAmb 17 26 20.1
comp=Z,8.3nm,1.2s
RIDG Independent Ri 76.02 359 IAmb IAmb 17 26 20.5
comp=Z,10nm,1.0s
CAST Castle Rocks 76.27 2 P **P** **17 26 19.9 +0.4**
JOW Kunigami 76.79 66 LR LR 18 06 35.2
comp=Z,84nm,18.9s,baz=348,slow=41
MJAR Matsushiro Arr 77.09 53 P **P** **17 26 24.6 +0.1**
comp=Z,3.3nm,0.9s,baz=316,slow=6.8,SNR=4.8
comp=Z,3.3nm,0.9s
M29M Somme Creek 77.10 356 IAmb IAmb 17 26 27.2
comp=Z,5.2nm,0.8s
M26K Nabesna, AK 77.33 358 IAmb IAmb 17 26 30.6
comp=Z,6.5nm,1.1s
FFC Flin Flon 77.57 335 P **P** **17 26 26.5 -0.4**
FFC IAmb IAmb 17 26 28.9
comp=Z,6.5nm,1.0s
FFC Flin Flon 77.57 335 P **P** **17 26 26.5 -0.4**
FFC pmax pmax
comp=Z,7.0nm,1.0s
SCM Sheep Creek Mo 77.94 0 IAmb IAmb 17 26 32.0
comp=Z,14nm,0.9s
RCBR Riachuelo 78.04 252 LR LR 18 02 36.8
comp=Z,67nm,18.2s,baz=65,slow=37
ULM Lac du Bonnet 79.07 329 P **P** **17 26 35.2 0.0**
ULM IAmb IAmb 17 26 36.7
comp=Z,9.8nm,0.8s
ULM Lac du Bonnet 79.07 329 P **P** **17 26 34.7 -0.6**
comp=Z,7.5nm,0.7s,baz=38,slow=5.0,SNR=16
comp=Z,7.5nm,0.7s
ULM Lac du Bonnet 79.07 329 P **P** **17 26 35.2 0.0**
ULM pmax pmax
comp=Z,10.0nm,0.9s
R33M Jennings River 79.51 352 IAmb IAmb 17 26 43.5
comp=Z,24nm,1.8s
DLBC Dease Lake 80.34 351 LR LR 18 05 47.0
comp=Z,56nm,19.8s,baz=335,slow=38
SHEM Shemya Is, Ala 81.15 23 LR LR 18 06 24.8
comp=Z,63nm,20.8s,baz=235,slow=38
KDAK Kodiak Island 81.90 3 LR LR 18 08 36.6
comp=Z,65nm,18.1s,baz=208,slow=40

LEM Lembang 82.85 105 LR LR 18 09 21.2
comp=Z,50nm,18.1s,baz=236,slow=40
MDP Montagnes des 83.42 271 LR LR 17 59 43.9
comp=Z,49nm,21.6s,baz=120,slow=32
T50A Nancy 84.06 315 IAmb IAmb 17 27 03.1
comp=Z,7.8nm,0.8s
TKL Tuckaleechee C 84.47 313 P **P** **17 27 04.1 +0.1**
TKL Tuckaleechee C 84.47 313 LR LR 18 04 47.7
comp=Z,64nm,21.1s,baz=30,slow=36
TKL Tuckaleechee C 84.47 313 P **P** **17 27 04.1 +0.1**
TKL pmax pmax
comp=Z,14nm,0.9s
ECSD EROS Data Cent 84.60 326 IAmb IAmb 17 27 06.2
comp=Z,7.9nm,0.7s
T47A Sharon Grove 85.30 316 P **P** **17 27 07.0 -1.2**
CLTN Cedars of Leba 85.55 315 IAmb IAmb 17 27 10.6
comp=Z,14nm,1.0s
JCJ Chichijima 85.95 58 LR LR 18 08 49.8
comp=Z,52nm,20.9s,baz=326,slow=38
V48A Smith Brothers 86.08 315 P **P** **17 27 10.7 -1.4**
V48A IAmb IAmb 17 27 12.8
comp=Z,14nm,0.9s
BBB Bella Bella 86.17 348 LR LR 18 07 31.5
comp=Z,51nm,18.3s,baz=262,slow=37
X48A Hartselle 87.17 314 IAmb IAmb 17 27 18.1
comp=Z,7.6nm,0.7s
RSSD Black Hills 87.26 331 P **P** **17 27 16.8 -1.2**
RSSD IAmb IAmb 17 27 20.2
comp=Z,7.8nm,0.8s
RSSD Black Hills 87.26 331 P **P** **17 27 16.8 -1.2**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
Y49A Blount Mountai 87.26 313 IAmb IAmb 17 28 05.2
comp=Z,12nm,1.1s
NEW Newport 87.67 341 LR LR 18 07 48.8
comp=Z,80nm,18.8s,baz=3.5,slow=36
S39A Bolivar 87.92 320 IAmb IAmb 17 27 22.0
comp=Z,8.5nm,0.8s
PDAR Pinedale Array 90.41 333 LR LR 18 08 51.7
comp=Z,61nm,19.5s,baz=26,slow=36
KAPI Kappang 90.74 96 LR LR 18 15 14.2
comp=Z,21nm,18.9s,baz=306,slow=40
RDMU Red Mountain 92.36 332 IAmb IAmb 17 27 43.6
comp=Z,10nm,1.1s
BDFB Brasilia 93.40 252 LR LR 18 11 46.5
comp=Z,80nm,19.1s,baz=128,slow=37
SRU San Rafael Swe 93.99 332 IAmb IAmb 17 27 50.6
comp=Z,3.5nm,0.8s
PV23 Carpenter Ridg 94.03 331 P **P** **17 27 49.1 -0.7**
ELK Elko 94.07 336 IAmb IAmb 17 30 47.6
comp=Z,17nm,1.8s
SDV Santo Domingo 94.49 286 LR LR 18 04 45.5
comp=Z,47nm,21.5s,baz=76,slow=32
YBH Yreka Blue Hor 95.17 342 LR LR 18 11 33.2
comp=Z,65nm,19.0s,baz=8.0,slow=36
NVAR Mina Array Bea 97.12 338 LR LR 18 14 53.0
comp=Z,67nm,20.1s,baz=66,slow=37
GUMO Guam 97.14 65 LR LR 18 16 16.3
comp=Z,35nm,21.5s,baz=52,slow=38
OZNA Ozona 97.16 322 P **P** **17 28 02.9 -1.1**
TXAR Lajitas Array 99.68 323 P **Pdif** **17 28 14.7 -0.6**
comp=Z,0.5nm,0.8s,baz=7.8,slow=3.4,SNR=5.2
comp=Z,0.5nm,0.8s
ROSC El Rosal 99.90 285 LR LR 18 10 02.8
comp=Z,63nm,21.1s,baz=216,slow=33

RSNC ***12*** *17:15:00.2±0.5,2˚S±4˚×7˚8W±˚,h155km±5km,M3.6,mB4.8, mb4.3,mBc5.6,ML3.2,MLv3.9,Mw(mB)3.6*
IDC ***12*** *17:15:02.3±2.1,1˚66S×77˚97W,h155km±21km,mb3.6/12, mbtmp4.1/16,MS2.6/1,Error ellipse: s-maj=18.8km s-min=13.4km az=70.0*
IGQ ***12*** *17:15:04.2±0.3,2˚S±2˚×7˚8W±˚,h156km±2km,MLv3.6/37*
ISC 12 17:15:02.3±0.6,1.79S±0.04×78.02W±0.05,h167km±5km, n99,σ1.958/113,mb3.8/12,12C-26D,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.29**	**359**	⇓P	**Pn**	**17 15 25.5**	**+0.5**
PUYO				S	**Sn**	**17 15 41.3**	**-1.1**
SANGA	**Volcan Sangay**	**0.44**	**233**	⇑P	**Pn**	**17 15 26.8**	**+0.9**
SANGA				S	**Sn**	**17 15 43.9**	**-0.1**
BPAT	**Tungurahua Vol**	**0.50**	**304**	⇓P	**Pn**	**17 15 26.9**	**+0.7**
BPAT				S	**Sn**	**17 15 44.2**	**-0.2**
BULB	**Ulba Tungurahu**	**0.52**	**312**	⇓P	**Pn**	**17 15 26.7**	**+0.6**
BULB				S	**Sn**	**17 15 44.1**	**-0.3**
BMAS	**Trigal station**	**0.54**	**301**	S	**Sn**	**17 15 43.9**	**-0.6**
BMAS				P	**Pn**	**17 15 25.7**	**-0.5**
POND	**Pondoa**	**0.56**	**310**	P	**Pn**	**17 15 27.3**	**+0.9**
BBIL	**Ulba Tungurahu**	**0.57**	**305**	P	**Pn**	**17 15 27.1**	**+0.8**
JUI6	**Juive**	**0.57**	**309**	P	**Pn**	**17 15 27.2**	**+0.8**
IGUA	**Igualata**	**0.68**	**295**	P	**Pn**	**17 15 27.8**	**+0.6**
TAMH	**Tambohuasha Ch**	**0.80**	**288**	⇑P	**Pn**	**17 15 28.9**	**+1.1**
ARDO	**Archidona, Ten**	**0.81**	**16**	⇓P	**Pn**	**17 15 27.5**	**0.0**
ARDO				S	**Sn**	**17 15 45.7**	**-1.2**
PIAT	**Ana Tenorio**	**0.82**	**343**	⇓P	**Pn**	**17 15 28.3**	**+0.5**
JSCH	**Cashca Tororas**	**0.96**	**274**	⇑P	**Pn**	**17 15 29.9**	**+1.1**
BRRN	**Barrancas-Volc**	**1.09**	**335**	⇓P	**Pn**	**17 15 30.8**	**+0.8**
BRRN				S	**Sn**	**17 15 51.5**	**+0.2**
BMOR	**Cotopaxi Volca**	**1.14**	**337**	⇓P	**Pn**	**17 15 31.1**	**+0.6**
TAMB	**Tambo**	**1.14**	**342**	⇓P	**Pn**	**17 15 31.2**	**+0.8**
SLOR	**San Lorenzo -**	**1.15**	**336**	⇓P	**Pn**	**17 15 31.2**	**+0.7**
BTAM	**Cotopaxi Volca**	**1.17**	**341**	⇓P	**Pn**	**17 15 31.5**	**+0.8**
BREF	**Cotopaxi Volca**	**1.19**	**339**	⇓P	**Pn**	**17 15 32.0**	**+1.0**
BVC2	**Cotopaxi Volca**	**1.19**	**341**	⇓P	**Pn**	**17 15 31.7**	**+0.8**
BNAS	**Cotopaxi Volca**	**1.20**	**337**	⇓P	**Pn**	**17 15 32.9**	**+1.9**
VC1	**Cotopaxi 1**	**1.20**	**341**	P	**Pn**	**17 15 31.9**	**+0.9**
CAMI	**Rancho Maria**	**1.20**	**336**	⇓P	**Pn**	**17 15 32.5**	**+1.5**
ANTM	**Antisana-La Mi**	**1.26**	**351**	P	**Pn**	**17 15 32.1**	**+0.6**
AZOG	**Ecuador-Azogue**	**1.27**	**221**	P	**Pn**	**17 15 33.3**	**+2.0**
PITA	**Cotopaxi Volc**	**1.29**	**341**	P	**Pn**	**17 15 32.3**	**+0.6**
ANTS	**Antisana-Sarah**	**1.29**	**353**	⇓P	**Pn**	**17 15 32.4**	**+0.6**
ANTG	**Antisana-Guama**	**1.29**	**350**	⇓P	**Pn**	**17 15 32.5**	**+0.6**
ANTI	**Antisana**	**1.33**	**354**	P	**Pn**	**17 15 32.8**	**+0.6**
BOSC	**San Juan Bosco**	**1.44**	**199**	⇑P	**Pn**	**17 15 34.6**	**+1.8**
ACUE	**Ecuador-Cuenca**	**1.46**	**220**	⇑P	**Pn**	**17 15 35.3**	**+2.2**
ABAB	**Ecuador-Univer**	**1.49**	**269**	P	**Pn**	**17 15 33.1**	**0.0**
MILO	**Milagro-Astudi**	**1.61**	**252**	⇑P	**Pn**	**17 15 33.9**	**-0.4**
AQUE	**Quevedo**	**1.64**	**296**	P	**Pn**	**17 15 35.0**	**+0.4**
GGPT	**Toaza - Volcan**	**1.66**	**339**	⇓P	**Pn**	**17 15 35.8**	**+0.5**
JUA2	**San Juan 2**	**1.67**	**339**	P	**Pn**	**17 15 35.9**	**+0.5**
PUEM	**Granja Avicola**	**1.67**	**348**	P	**Pn**	**17 15 36.4**	**+1.1**
TERV	**Terraza Guagua**	**1.70**	**340**	P	**Pn**	**17 15 36.0**	**+0.1**
PINO	**Pino**	**1.72**	**340**	P	**Pn**	**17 15 36.6**	**+0.5**
REVN	**San Rafael**	**1.74**	**13**	⇓P	**Pn**	**17 15 36.2**	**+0.2**
YANA	**Yana**	**1.75**	**342**	P	**Pn**	**17 15 36.6**	**+0.4**
CAYR	**Refugio Cayamb**	**1.79**	**0**	P	**Pn**	**17 15 37.6**	**+0.7**
ANGU	**Angureal**	**1.82**	**0**	⇓P	**Pn**	**17 15 37.8**	**+0.7**
PULU	**Pululahua**	**1.86**	**345**	P	**Pn**	**17 15 37.6**	**+0.2**
GYE3	**Ecuador-Guayaq**	**1.91**	**259**	P	**Pn**	**17 15 37.0**	**-0.5**
AGUAY	**Guayaquil**	**1.95**	**262**	P	**Pn**	**17 15 37.1**	**-0.8**
CASC	**Dorado de Casc**	**2.03**	**20**	⇓P	**Pn**	**17 15 39.2**	**+0.2**
IMBA	**Imbabura, San**	**2.06**	**355**	⇓P	**Pn**	**17 15 41.0**	**+1.4**
OTAV	**Otavalo**	**2.06**	**348**	⇓P	**Pn**	**17 15 39.8**	**+0.2**
CUSW	**Cuicocha Oeste**	**2.08**	**351**	P	**Pn**	**17 15 41.1**	**+1.2**
CUIC	**Cuicocha-Domo**	**2.10**	**351**	⇓P	**Pn**	**17 15 41.0**	**+0.9**
CUSE	**Cuicocha Este**	**2.11**	**350**	P	**Pn**	**17 15 40.6**	**+0.4**
YAHU	**Yahuarcocha**	**2.14**	**359**	⇓P	**Pn**	**17 15 41.5**	**+0.9**
PAC1	**Pacto, Paraso**	**2.18**	**339**	P	**Pn**	**17 15 42.2**	**+1.5**
PAC1				S	**Sn**	**17 16 13.3**	**+2.9**
PAC1	**Pacto, Paraso**	**2.18**	**339**	P	**Pn**	**17 15 41.1**	**+0.4**
PAC1	**Pacto, Paraso**	**2.18**	**339**	P		17 15 42.2	
PAC1				S		17 16 13.3	
URCU	**Urcuqui**	**2.22**	**354**	⇓P	**Pn**	**17 15 42.4**	**+0.9**
PECV	**Mancha de Ca P**	**2.26**	**296**	P	**Pn**	**17 15 44.9**	**+3.3**
ISPG	**Isla Puna-Puer**	**2.45**	**241**	⇑P	**Pn**	**17 15 44.2**	**+0.5**
ALJ1	**Ecuador-Loja-U**	**2.48**	**208**	P	**Pn**	**17 15 45.1**	**+0.7**
LNGL	**El Angel-Carch**	**2.51**	**0**	P	**Pn**	**17 15 46.3**	**+1.3**
CHMA	**Chilma**	**2.63**	**359**	⇓P	**Pn**	**17 15 47.0**	**+0.8**
PPLP	**Puerto Lpez**	**2.76**	**275**	P	**Pn**	**17 15 46.5**	**-1.0**
PPLP				S	**Sn**	**17 16 18.2**	**-4.4**
PPLP	**Puerto Lpez**	**2.76**	**275**	⇑P	**Pn**	**17 15 46.5**	**-1.0**
PPLP	**Puerto Lpez**	**2.76**	**275**	P		17 15 46.5	
PPLP				S		17 16 18.2	
CAB1	**Cabo Pasado-Ma**	**2.78**	**300**	P	**Pn**	**17 15 49.3**	**+1.6**
GONZ	**Gonzanam**	**2.80**	**209**	P	**Pn**	**17 15 49.4**	**+1.1**
LAMO	**ALAMOR**	**2.98**	**222**	P	**Pn**	**17 15 49.9**	**-0.4**
SALI	**Salinas**	**3.00**	**262**	⇑P	**Pn**	**17 15 49.9**	**-0.5**
ISPT	**Isla de la Pla**	**3.10**	**280**	⇑P	**Pn**	**17 15 50.7**	**-0.9**
ZUMB	**Zumba**	**3.26**	**200**	⇑P	**Pn**	**17 15 55.2**	**+1.4**
CRUC	**La Cruz**	**3.50**	**18**	P		17 15 58.2	
CRUC	**La Cruz**	**3.50**	**18**	P	**Pn**	**17 15 58.2**	**+1.2**

PTLC	Puerto Leguiza	3.76	59	P	Pn	17 15 58.0	-2.0
PTLC	Puerto Leguiza	3.76	59	P		17 15 58.0	
BBAC	Balboa, Cauca	3.86	12	P	Pn	17 16 01.9	+0.5
FLOC	Florencia	4.10	35	P	Pn	17 16 03.9	-0.5
FLOC				S	Sn	17 16 51.6	-1.2
FLOC	Florencia	4.10	35	⇑P	Pn	17 16 04.1	-0.2
FLOC	Florencia	4.10	35	P		17 16 03.9	
FLOC				S		17 16 51.6	
POPC	Popayan, Colom	4.50	17	P	Pn	17 16 09.6	-0.2
POPC				S	Sn	17 17 00.5	-2.0
POPC	Popayan, Colom	4.50	17	P		17 16 09.6	
POPC				S		17 17 00.5	
GARC	Garzon, Huila	4.69	33	P	Pn	17 16 12.6	+0.4
GARC	Garzon, Huila	4.69	33	P		17 16 12.6	
GR1C	Gorgona, Isla	4.76	358	P	Pn	17 16 13.2	+0.3
GR1C				S	Sn	17 17 01.1	-7.0
GR1C	Gorgona, Isla	4.76	358	P		17 16 13.2	
GR1C				S		17 17 01.1	
JAMC	Jamundi, Valle	5.14	15	P		17 16 16.9	
	0.1nm1µm22nm,0.4s						
JAMC	Jamundi, Valle	5.15	15	P	Pn	17 16 16.9	-1.3
	0.1nm1µm22nm,0.4s						
ATAH	Atahualpa	5.33	184	P	Pn	17 16 23.4	+2.7
	49nm,0.7s,baz=5.2,slow=8.5,SNR=23						
ATAH				S	Sn	17 17 23.6	+1.4
	150nm,0.6s,baz=0.0,slow=7.1,SNR=16						
ATAH				LR	LR	17 18 30.8	
	comp=Z,56nm,18.2s,baz=54,slow=38						
URMC	La Uribe, Meta	6.18	36	P	Pn	17 16 32.5	+0.8
	2µm251nm,0.8s						
URMC	La Uribe, Meta	6.18	36	P		17 16 32.5	
	2µm251nm,0.8s						
ORTC	Ortega, Tolima	6.30	26	P	Pn	17 16 34.2	+1.0
	756nm84nm,0.9s						
ORTC	Ortega, Tolima	6.30	26	P		17 16 34.2	
	756nm84nm,0.9s						
NNA	Nana	10.20	173	P	P	17 17 30.4	-3.6
	6.4nm,0.3s,baz=356,slow=15,SNR=2.8						
NNA				S	Sn	17 19 10.3	-7.9
	14nm,0.4s,baz=264,slow=18,SNR=6.2						
SDV	Santo Domingo	12.91	35	P	Pn	17 17 59.6	-0.4
	3.5nm,0.4s,baz=206,slow=3.5,SNR=6.2						
LPAZ	La Paz	17.39	147	P	Pn	17 18 56.5	+0.7
	1.4nm,0.7s,baz=324,slow=11,SNR=4.4						
PCRV	Puerto La Cruz	17.85	48	P	Pn	17 19 00.1	-0.5
	7.6nm,0.6s,baz=170,slow=17,SNR=6.4						
SIV	San Ignacio	21.87	131	P	P	17 19 44.0	+1.9
	1.2nm,0.5s,baz=304,slow=11,SNR=7.2						
	1.2nm,0.5s						
BDFB	Brasilia	32.63	117	P	P	17 21 19.9	+1.2
	3.2nm,0.5s,baz=291,slow=14,SNR=4.1						
	3.2nm,0.5s						
PLCA	Paso Flores	39.36	171	P	P	17 22 18.0	+2.5
	1.6nm,0.7s,baz=335,slow=7.5,SNR=5.6						
	1.6nm,0.7s						
TXAR	Lajitas Array	39.49	324	P	P	17 22 16.1	-0.7
	0.4nm,0.5s,baz=123,slow=6.7,SNR=4.2						
TXAR				PcP	PcP	17 24 23.8	+2.4
	0.2nm,0.7s,baz=144,slow=4.1,SNR=1.9						
	0.4nm,0.5s						
PDAR	Pinedale Array	52.67	331	P	P	17 24 00.2	+0.3
	0.3nm,0.7s,baz=100,slow=6.9,SNR=2.5						
	0.3nm,0.7s						
NVAR	Mina Array Bea	54.57	321	P	P	17 24 15.2	+1.5
	0.5nm,0.5s,baz=84,slow=7.4,SNR=3.7						
	0.5nm,0.5s						
SCHQ	Schefferville	57.18	8	P	P	17 24 32.2	+0.6
	2.0nm,0.6s,baz=196,slow=3.6,SNR=4.0						
	2.0nm,0.6s						
DBIC	Dimbokro	73.50	83	P	P	17 26 18.1	+0.7
	2.6nm,0.4s,baz=269,slow=3.6,SNR=12						
	2.6nm,0.4s						
TORD	Torodi Ar. Bea	80.39	76	P	P	17 26 55.7	-0.2
	1.0nm,0.4s,baz=284,slow=6.0,SNR=15						
	1.0nm,0.4s						
ILAR	Eielson Array	82.73	336	P	P	17 27 07.6	+0.4
	0.4nm,0.6s,baz=127,slow=3.3,SNR=5.4						
	0.4nm,0.6s						
EKA	Eskdalemuir Ar	82.89	34	P	P	17 27 08.9	+0.8
	1.0nm,0.5s,baz=258,slow=2.8,SNR=5.0						
	1.0nm,0.5s						
QSPA	South Pole Qui	88.28	180	P	P	17 27 37.1	+2.4
	3.3nm,1.0s,baz=146,slow=2.0,SNR=7.8						
	3.3nm,1.0s						
ASAR	Alice Springs	139.95	229	PKhKP	PKPpre	17 34 05.2	
	0.3nm,0.6s,baz=122,slow=2.8,SNR=1.7						
ASAR				PKP	PKiKP	17 34 13.7	-0.5
	0.3nm,0.6s,baz=124,slow=3.1,SNR=5.0						
WRA	Warramunga Arr	141.61	234	PKhKP	PKPpre	17 34 08.5	
	1.0nm,0.7s,baz=120,slow=2.6,SNR=4.4						
WRA				PKP	PKiKP	17 34 16.3	-1.3
	1.0nm,0.7s,baz=119,slow=2.7,SNR=5.2						

ASRS 12 17:15:53.5±0.3, 54°.4N±0°.9×9°.6E±°, h9km, MLh3.6/21, Error ellipse: s-maj=3.4km s-min=1.9km az=85.7, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINR	Mina	1.03	300	Pg	Pn	17 16 20.0	+5.9
MINR				Sg	Sn	17 16 36.8	+8.2
TDJR	Todzha	2.02	174	Pg	Pg	17 16 32.2	+0.1
TDJR				Sg	Sg	17 16 59.4	+1.1
GZL	Zheleznogorsk	2.25	327	Pg	Pg	17 16 35.6	-1.0
GZL				Sg	Sg	17 17 07.8	+2.0
GZLN	Zheleznogorsk	2.28	331	Pg	Pb	17 16 35.3	+0.5
GZLN				Sg	Sg	17 17 07.4	+0.8
ARDR	Aradan	2.29	218	Pg	Pg	17 16 38.5	+1.1
ARDR				Sg	Sg	17 17 12.3	+5.2
KZLR	Kyzyl	2.81	197	Pg	Pg	17 16 46.4	-0.9
KZLR				Sg	Sg	17 17 24.2	+0.4
CERR	Cheremushki	3.01	241	Pg	Pg	17 16 50.1	-1.1
CERR				Sg	Sg	17 17 32.7	+2.6
DJOS	Djoyskaya Sosn	3.05	240	Pg	Pg	17 16 51.0	-0.9
DJOS				Sg	Sg	17 17 35.1	+3.7
DJO	Djoy, Khakassi	3.15	241	Pn	Pn	17 16 43.5	+0.3
DJO				Pg	Pg	17 16 54.1	+0.3
DJO				Sg	Sg	17 17 38.4	+3.8
VEH	Verkhnyaya Baz	3.42	252	Pn	Pb	17 16 51.7	-2.5
VEH				Pg	Pg	17 17 00.3	+1.4
VEH				Sg	Sg	17 17 48.9	+5.7
KNGR	Kungurtug, Tuv	3.96	163	Pn	Pb	17 17 02.3	-1.1
KNGR				Pg	Pg	17 17 13.0	+3.8
KNGR				Sg	Sb	17 17 55.3	+3.9
LUZB	Luzhba, Kemero	4.11	262	Pn	Pb	17 17 01.9	-4.0
LUZB				Pg	Pg	17 17 12.1	0.0
LUZB				Sg	Sg	17 18 07.3	+2.1
BRCR	Berchikul'	4.45	289	Pn	Pn	17 17 03.6	+2.5
BRCR				Pg	Pg	17 17 19.2	+0.6
BRCR				Sg	Sg	17 18 23.1	+6.8
TEL	Teeli	4.78	227	Pn	Pb	17 17 13.4	-4.1
TEL				Pg	Pg	17 17 25.2	+0.2
TEL				Sg	Sg	17 18 30.9	+4.0
KIYZ	Kiyzas, Kuzbas	4.79	263	Sg	Sg	17 18 31.7	+4.5
YALR	Yailyu, Altay	5.57	245	Pg	Pg	17 17 38.1	-1.9
YALR				Sg	Sg	17 18 55.2	+3.1
ARTR	Artybash	5.73	246	Pg	Pg	17 17 42.2	-0.9
ARTR				Sg	Sg	17 19 01.2	+3.9
ELT	Eltsovka	5.75	262	Sg	Sg	17 18 59.7	+1.9
ULGR	Ulagan, Altay	6.08	235	Pg	Pg	17 17 46.6	-3.1
ULGR				Sg	Sg	17 19 11.5	+3.1
ELDR	Elanda	6.67	245	Pg	Pg	17 18 02.0	+0.9
ELDR				Sg	Sg	17 19 32.7	+5.4
DGZ	Jazzator, Alta	6.96	231	Pg	Pg	17 18 06.2	-0.5
DGZ				Sg	Sg	17 19 39.4	+2.7

ISK **12** *17:23:23.8, 40°.57N×33°.01E, h5km, ML4.0/55*
IDC **12** *17:23:24.3±0.7, 40°.55N×32°.98E, h0km, mb3.7/14, mbtmp3.6/19, ML3.0/5, Error ellipse: s-maj=14.3km s-min=7.5km az=69.0*
AFAD **12** *17:23:24.3, 40°.56N×33°.02E, h19km±3km, MW3.9*
MOS **12** *17:23:24.7±0.9, 40°.55N×32°.97E, h15km, mb4.2/4, Error ellipse: s-maj=7.3km s-min=5.0km az=99.0*
NEIC **12** *17:23:25.5±2.0, 40°.50N±0°.03×32°.97E±0°.05, h10km±1km, mb4.2/9, Error ellipse: s-maj=7.4km s-min=3.2km az=119.0*
CFUSG **12** *17:23:27.6, 40°.68N×33°.14E, h15km, mb3.1/5, Central Turkey Magtype MSH 3.3 from 3 stations*
ISC 12 17:23:24.8±1.1, **40°.56N**±0°.02×**33°.02E**±0°.02, **h6**km±7km, **n202**, σ1**38**/229, **mb3.7**/17, **25C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	Eldivan	0.32	102	P	Pg	17 23 30.8	-0.3
CMDR	Camlidere-ANKA	0.42	261	P	Pg	17 23 32.2	-0.7
DERS	Karabk-Eskip	0.46	310	P	Pg	17 23 34.1	+0.5
CANT	Cankiri	0.46	84	Pg	Pg	17 23 34.4	+0.7
CANT				Sg	Sg	17 23 41.7	+1.9
GOKD	Ankara-Kalecik	0.60	144	P	Pb	17 23 37.0	-0.8
YENC	ankr-Yen	0.64	79	P	Pb	17 23 36.7	-1.8
LOD	Lodumlu	0.69	196	Pg	Pb	17 23 38.3	-1.1
LOD				Sg	Sb	17 23 49.5	+0.2
ANTO	Ankara	0.71	194	P	Pb	17 23 38.6	-1.0
ANTO				Sg	Sb	17 23 45.0	-4.6
ANTO	Ankara	0.71	194	⇑P	Pb	17 23 39.4	-0.2
ANTO	Ankara	0.71	194	P	Pb	17 23 38.6	-1.0
ANTO				S	Sb	17 23 45.0	-4.6
ILGA	Ilgaz	0.73	47	P	Pb	17 23 38.1	-1.9
ILGA				Sg	Sb	17 23 49.5	-0.8
ILGA	Ilgaz	0.73	47	P	Pb	17 23 37.5	-2.5
ILGA				S	Sb	17 23 48.8	-1.5
ILGA				*i* AML	AML	17 23 52.0	
	comp=N,3µm,0.7s						
ILGA				*i* AML	AML	17 23 53.0	
	comp=E,5µm,0.6s						
KBUK	KARABUK-Merkez	0.74	337	P	Pb	17 23 39.2	-0.9
BCAM	Yenicaga	0.77	290	P	Pb	17 23 38.6	-2.0
PELI	Kastamonı-Ara	0.78	17	P	Pb	17 23 39.5	-1.3
DELI	KIRIKKALE	0.89	129	P	Pb	17 23 41.5	-1.2
DELI				S	Sb	17 23 53.6	-1.3
DELI				*i* AML	AML	17 23 59.0	
	comp=E,3µm,0.4s						
TOS	Tosya	0.90	58	Pg	Pb	17 23 41.3	-1.6
BR131	Keskin Array S	0.96	150	Pg	Pb	17 23 43.7	-0.2
BR131	Keskin Array S	0.96	150		Pb	17 23 43.2	-0.7
BR131	Keskin Array S	0.96	150	P	Pb	17 23 43.3	-0.7
BRTR	Keskin Array B	0.96	150		Pb	17 23 43.2	-0.7
BRTR	Keskin Array B	0.96	150	Pg	Pb	17 23 43.6	-0.2
	308nm,0.3s,baz=335,slow=14,SNR=519						
BRTR				Lg	Lg	17 23 57.3	
	300nm,0.3s,baz=326,slow=23,SNR=31						
BRTR				LR	LR	17 24 14.3	
	comp=Z,3µm,19.1s,baz=312,slow=52						
KMON	Kastamonu	1.00	35	Pg	Pb	17 23 43.7	-0.9
KMON				Sg	Sg	17 23 58.7	+1.7
SUNG	orum-Sungurl	1.01	111	P	Pb	17 23 44.9	+0.2
SUNG				S	Sb	17 23 57.6	-0.7
BBAL	Bala	1.02	175	P	Pb	17 23 44.0	-0.9
BBAL				S	Sn	17 24 01.0	+0.6
BBAL				*i* AML	AML	17 24 03.0	
	comp=N,2µm,0.8s						
KESK	Krkkale-Ke	1.02	155	P	Pb	17 23 44.6	-0.3
KESK				S	Sb	17 23 57.5	-1.1
KESK				*i* AML	AML	17 23 59.0	
	comp=N,4µm,0.4s						
KESK				*i* AML	AML	17 24 02.0	
	comp=E,2µm,0.6s						
YUVA	Yuva-Kibriscik	1.03	261	Pg	Pb	17 23 44.5	-0.6
AFSR	Afar-Bala (An	1.11	178	Pn	Pn	17 23 46.6	-0.4
KAGI	orum-Kargı	1.25	62	P	Pn	17 23 47.9	-0.9
KAGI				S	Sb	17 24 01.8	-3.5
CORM	Corum	1.29	107	Pn	Pn	17 23 49.4	-0.1
AKPI	Kirsehir/Akpin	1.29	144	P	Pn	17 23 49.3	-0.2
KAMT	Kaman	1.30	155	Pn	Pn	17 23 50.1	+0.4
KURC	Kurucasile-Bar	1.30	351	Pn	Pn	17 23 49.7	+0.1
KURC				Sn	Sg	17 24 08.7	+2.0
CIDE	Kastamonu/Cide	1.32	358	⇑P	Pb	17 23 50.7	+0.7
KKUL	Konya-Kulu	1.39	183	P	Pn	17 23 51.0	+0.2
KKUL				S	Sb	17 24 11.0	+1.8
KKUL				*i* AML	AML	17 24 13.0	
	comp=N,1µm,0.7s						
KKUL				*i* AML	AML	17 24 13.0	
	comp=E,1µm,0.3s						
MDUB	Mudurnu	1.39	267	Pn	Pn	17 23 50.9	+0.1
MDUB	Mudurnu	1.39	267	Pn	Pn	17 23 51.2	+0.3
CDAG	Cicekdag	1.40	131	P	Pn	17 23 51.6	+0.7
CDAG				S	Sn	17 24 09.1	-0.7
CDAG				*i* AML	AML	17 24 11.0	
	comp=N,2µm,0.3s						
CDAG				*i* AML	AML	17 24 11.0	
	comp=E,2µm,0.7s						
AYAZ	Ayas K¶y, M	1.41	84	P	Pn	17 23 49.9	-1.2
KDZE	Karadeniz Ereo	1.41	303	Pn	Pn	17 23 51.3	+0.2
KDZE	Karadeniz Ereo	1.41	303	⇑P	Pn	17 23 51.7	+0.6
KULU	Kulu	1.51	180	Pn	Pn	17 23 53.5	+1.0
KULU				Sn	Sb	17 24 15.4	+2.6
COAL	Corum-Alaca	1.54	101	P	Pn	17 23 51.3	-1.5
YOZG	Bozok Univ. Me	1.57	119	P	Pn	17 23 54.1	+0.8
YOZG				S	Sn	17 24 14.1	+0.1
YOZG				*i* AML	AML	17 24 18.0	
	comp=N,898nm,0.4s						
YOZG				*i* AML	AML	17 24 19.0	
	comp=E,767nm,0.6s						
KIRS	Kirsehir-Merke	1.58	154	P	Pn	17 23 55.3	+1.8
KIRS				S	Sb	17 24 16.1	+1.3
KIRS				*i* AML	AML	17 24 22.0	
	comp=E,851nm,0.3s						
KIRS	Kirsehir-Merke	1.58	154	⇑P	Pn	17 23 55.2	+1.8
BZK	Bozkurt	1.59	28	Pn	Pn	17 23 53.9	+0.5
BZK				Sn	Sg	17 24 16.6	+0.8
BZK	Bozkurt	1.59	28		Pn	17 23 54.3	+0.8
BZK				Sn	Sg	17 24 15.8	+0.1
BZK	Bozkurt	1.59	28	⇓P	Pb	17 23 54.9	+0.4
SVRH	Sivrihisar-ESK	1.60	226	Pn	Pn	17 23 54.4	+0.7
SERE	Sereflikochisa	1.66	165	Pn	Pn	17 23 55.4	+0.8
MCUR	KIREHR	1.82	140	P	Pn	17 23 57.8	+1.1
MCUR				S	Sn	17 24 21.2	+1.0
MCUR				*i* AML	AML	17 24 26.0	
	comp=E,793nm,0.3s						
MCUR				*i* AML	AML	17 24 28.0	
	comp=N,471nm,0.3s						
KIZT	Kizilcal	1.89	208	Pn	Pn	17 23 58.7	+1.0
GULT	Gulveren	1.91	267	Pn	Pn	17 23 58.8	+0.8
CIFT	Cifteler, Eski	1.92	232	Pn	Pn	17 23 58.7	+0.6
CHBY	Cihanbeyli	1.98	183	Pn	Pn	17 23 59.5	+0.6
AKSY	AKSARAY - Alti	1.99	163	P	Pn	17 23 59.5	+0.4
YOZ	Yozgat	1.99	117	Pn	Pn	17 23 59.9	+0.7
DIKM	Dikmen	2.02	56	Pn	Pn	17 24 00.2	+0.9
DIKM	Dikmen	2.02	56	⇑P	Pb	17 24 02.4	+0.6
SIRC	Yozgat	2.04	126	P	Pn	17 24 00.6	+0.8
SAUV	Serdivan-Sakar	2.05	276	Pn	Pn	17 24 00.8	+0.9
BORA	Eskisehir	2.08	252		Pn	17 24 00.7	+0.5
GPA	Golpazari	2.08	263	Pn	Pn	17 24 01.1	+0.8
SINP	Sinop	2.12	47	Pn	Pn	17 24 01.7	+1.0
YARM	Yarimca-Ladik(	2.17	79	Pn	Pn	17 24 02.5	+1.0
SNOP	Sinop	2.20	48	Pn	Pn	17 24 03.1	+1.2
KVT	Kavak	2.36	76	Pn	Pn	17 24 05.2	+1.1
KVT	Kavak	2.36	76	P	Pn	17 24 05.6	+1.5
GULA	Gulagac	2.40	156	Pn	Pn	17 24 06.4	+1.6
LADK	Ladik-KONYA	2.41	192	Pn	Pn	17 24 06.3	+1.4
CAVI	Cavuskoy	2.45	263	Pn	Pn	17 24 06.4	+1.1
ADVT	Abdulvahap	2.50	268	Pn	Pn	17 24 07.2	+1.2
OSMT	Osmaniye	2.52	272	Pn	Pn	17 24 07.4	+1.0
HRT	Hereke	2.56	277	Pn	Pn	17 24 07.9	+1.0
HRT	Hereke	2.56	277	P	Pn	17 24 08.2	+1.3
SILT	Sile	2.63	284	Pn	Pn	17 24 08.9	+1.2
TOKA	Tokat	2.65	94		Pn	17 24 09.6	+1.4
KONT	Konya--Tatoy	2.66	191	Pn	Pn	17 24 10.1	+1.9
TOKT	Tokat	2.70	94	Pn	Pn	17 24 10.0	+1.1
NIG	Nigde	2.74	153	Pn	Pn	17 24 11.4	+1.9
SHUT	Suhut-Afyon	2.76	224	Pn	Pn	17 24 11.3	+1.5
BNN	Bunyan	2.77	127	Pn	Pn	17 24 11.3	+1.5
BNN	Bunyan	2.77	127		Pn	17 24 11.3	+1.5
YLV	Yalova	2.77	271	Pn	Pn	17 24 10.6	+0.7
YLV	Yalova	2.77	271	P	Pn	17 24 10.9	+1.0
YESY	Yesilyurt	2.83	168	Pn	Pn	17 24 12.3	+1.7
TVSB	Tavsanli	2.95	249	Pn	Pn	17 24 13.6	+1.4
KAVV	Kandilli-Istan	3.04	281	Pn	Pn	17 24 14.9	+1.4
ISK	Istanbul-Kandi	3.04	281	Pn	Pn	17 24 14.9	+1.4
ISK	Istanbul-Kandi	3.04	281	P	Pn	17 24 14.9	+1.4
KLYT	Kilyos	3.09	284	Pn	Pn	17 24 15.7	+1.6
SVSK	Karacayir	3.12	101	Pn	Pn	17 24 15.8	+1.4
GEDZ	Gediz	3.16	243	Pn	Pn	17 24 16.9	+1.7
CMRD	Camardi-Nigde	3.27	151	Pn	Pn	17 24 18.5	+1.7
SEYD	Seydisehir-KON	3.28	197	Pn	Pn	17 24 18.7	+1.9
RSDY	Resadiye-TOKAT	3.29	91	Pn	Pn	17 24 18.6	+1.7
ISP	Isparta	3.35	216	Pn	Pn	17 24 17.6	-0.1
ISP	Isparta	3.35	216	P	Pn	17 24 17.7	-0.1
KRMN	Karaman	3.38	177	Pn	Pn	17 24 20.3	+2.0
SARI	SarD1z-Kayseri	3.40	128	Pn	Pn	17 24 20.3	+1.8
KARA	Karaisali	3.66	154	Pn	Pn	17 24 23.9	+2.0
BAND	Balkesir-Ban	3.76	269	⇓P	Pn	17 24 23.9	+0.6

KOZT	Kozan	3.77	144	Pn	Pn	17 24 25.5	+2.0
SEV	Sevastopol'	4.01	7	*e*P	Pn	17 24 28.1	+1.3
SEV				Pm		17 24 37.7	
	comp=Z,5.0nm,0.3s						
SEV				*e*S	Sn	17 25 13.5	-0.6
SEV				Sm		17 25 14.7	
	comp=N,6.0nm,0.5s						
SEV				Sm		17 25 14.7	
	comp=E,9.0nm,0.5s						
YAL	Yalta	4.02	12	*e*P	Pn	17 24 28.1	+1.3
YAL				*e*S	Sn	17 25 13.5	-0.7
YAL	Yalta	4.02	12	*e*P	Pn	17 24 28.1	+1.3
YAL				Pm		17 24 33.9	
	comp=Z,10.0nm,0.5s						
YAL				*e*S	Sn	17 25 13.5	-0.7
YAL				Sm		17 25 15.9	
	comp=E,37nm,0.5s						
YAL				Sm		17 25 16.0	
	comp=N,4.0nm,0.2s						
MANT	Manisa	4.02	241		Pn	17 24 27.0	-0.1
ALU	Alushta	4.25	13	*e*P	Pn	17 24 29.5	-0.5
ALU	Alushta	4.25	13	*e*P	Pn	17 24 29.5	-0.5
ALU				Pm		17 24 35.6	
	comp=Z,16nm,0.5s						
SIM	Simferopol'	4.46	10	*e*P	Pn	17 24 33.9	+0.9
SIM				*e*S	Sn	17 25 26.7	+1.5
SIM				pmax	pmax		
	comp=Z,40nm,1.3s						
SIM				smax	smax		
	comp=N,112nm,1.0s						
SIM				smax	smax		
	comp=E,107nm,1.3s						
ELL	Elmali	4.51	214		Pn	17 24 33.6	-0.2
ELL	Elmali	4.51	214	P	Pn	17 24 33.6	-0.2
SUDU	Sudak	4.57	18	*e*P	Pn	17 24 34.9	+0.5
SUDU				*e*S	Sn	17 25 27.6	-0.2
SUDU	Sudak	4.57	18	*e*P	Pn	17 24 34.9	+0.5
SUDU				Pm		17 24 36.8	
	comp=Z,25nm,0.5s						
SUDU				*e*S	Sn	17 25 27.6	-0.2
SUDU				Sm		17 25 36.6	
	comp=N,82nm,0.5s						
SUDU				Sm		17 25 36.7	
	comp=E,11nm,0.5s						
GAZ	Gaziantep	4.71	135		Pn	17 24 36.2	-0.2
DNZ2	Donuzlav2	4.82	2	*e*P	Pn	17 24 39.6	+1.8
DNZ2				Pm		17 24 45.4	
	comp=Z,73nm,0.5s						
AKAS	Kas	5.08	213	Pn	Pn	17 24 40.8	-0.8
KTUT	Trabzon	5.14	83	⇑P	Pb	17 24 53.0	-2.1
TIRR	Tirgusor	5.17	320	Pn	Pn	17 24 42.2	-0.5
TIRR	Tirgusor	5.17	320	⇓P	Pn	17 24 44.9	+2.2
TIRR	Tirgusor	5.17	320	⇓P	Pn	17 24 44.9	+2.2
EZN	Ezine	5.18	264	P	Pn	17 24 42.7	-0.1
ALN	Alexandroupoli	5.31	276		Pn	17 24 43.4	-1.2
ALN	Alexandroupoli	5.31	276	P	Pn	17 24 43.4	-1.2
TLBR	Topalu	5.42	319	⇑P	Pn	17 24 50.4	+4.3
TPGR	Topolog	5.47	323	⇑P	Pn	17 24 49.2	+2.4
TLCR		5.56	328	⇑P	Pn	17 24 48.4	+0.4
TLCR		5.56	328	⇑P	Pn	17 24 48.4	+0.4
RDO	Rodhopi	5.70	278		Pn	17 24 50.4	+0.4
KOPT	Kop Dagi	5.75	93		Pn	17 24 50.8	-0.1
ARG	Arkhangelos	5.79	223	Pn	Pn	17 24 50.1	-1.1
ARG	Arkhangelos	5.79	223	P	Pn	17 24 50.2	-1.1
CFR	Carcaliu	5.84	324	⇑P	Pn	17 24 53.3	+1.3
CFR	Carcaliu	5.84	324	⇑P	Pn	17 24 53.3	+1.3
KARP	Karpathos	6.81	225	Pn	Pn	17 25 04.7	-0.5
MARD	Mardin	6.86	116	Pn	Pn	17 25 04.6	-1.5
VRI	Vrincioaia	7.02	321	⇑P	Pn	17 25 08.3	+0.3
VRI	Vrincioaia	7.02	321	⇑P	Pn	17 25 08.3	+0.3
PLOR	Plostina	7.04	321	⇓P	Pn	17 25 11.3	+2.8
PLOR	Plostina	7.04	321	⇓P	Pn	17 25 11.3	+2.8
MLR	Muntele Rosu	7.15	316		Pn	17 25 08.7	-1.4
MLR	Muntele Rosu	7.15	316	⇑P	Pn	17 25 09.8	-0.2
MLR	Muntele Rosu	7.15	316	⇑P	Pn	17 25 09.8	-0.2
COVR	Voineasa-Covas	7.26	319	⇑P	Pn	17 25 14.2	+2.8
VOIR		7.61	313	⇑P	Pn	17 25 17.8	+1.6
VOIR		7.61	313	⇑P	Pn	17 25 17.8	+1.6
DOPR	Dopca	7.76	317	⇑P	Pn	17 25 22.6	+4.3
MMAI	Mount Meron Ar	7.77	165	Pn	Pn	17 25 20.4	+1.9
	comp=Z,1.0nm,0.3s,baz=6.3,slow=14,SNR=4.3						
	comp=Z,0.9nm,0.4s						
KVAR	Kislovodsk Arr	7.94	62	Pn	Pn	17 25 24.8	+3.9
	baz=252,slow=20						
	comp=Z,2.7nm,0.8s						
KBZ	Khabaz	8.00	63	Pn	Pn	17 25 23.9	+2.5
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=1.1	

TORD	**Torodi Ar. Bea**	**38.70**	**234**	P	**P**	**17 30 49.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=29,slow=9.1,SNR=4.6						
	comp=Z,0.5nm,0.5s						
WMQ	**Urumqi**	**40.03**	**67**	*e*P	**P**	**17 30 57.6**	**-3.0**
WMQ				pP	pP	17 31 06.0	+3.2
WMQ				pmax	pmax		
	comp=Z,230nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,210nm,3.7s						
WMQ				LR	LR		
	comp=Z,420nm,18.9s						
SONM	**Songino Array**	**51.28**	**56**	P	**P**	**17 32 30.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=295,slow=9.1,SNR=3.9						
	comp=Z,0.3nm,0.5s						
HHC	**Hu-ho-hao-te**	**57.54**	**62**	*e*P	**P**	**17 33 16.1**	**+0.9**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,97nm,4.5s						
CMAR	**Chiang Mai Arr**	**60.08**	**91**	P	**P**	**17 33 32.7**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=296,slow=7.3,SNR=4.7						
	comp=Z,0.4nm,0.7s						
BOSA	**Boshof**	**69.20**	**187**	P	**P**	**17 34 32.3**	**0.0**
BOSA	**Boshof**	**69.20**	**187**	P	**P**	**17 34 31.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=351,slow=3.8,SNR=5.5						
	comp=Z,1.3nm,0.6s						
BOSA	**Boshof**	**69.20**	**187**	P	**P**	**17 34 32.3**	**0.0**
BOSA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KSRS	**Korea Array**	**70.10**	**57**	P	**P**	**17 34 38.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=322,slow=6.1,SNR=2.4						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**74.04**	**345**	P	**P**	**17 35 01.7**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=30,slow=6.1,SNR=5.4						
	comp=Z,0.3nm,0.8s						
ILAR	**Eielson Array**	**75.01**	**360**	P	**P**	**17 35 07.4**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=11,slow=6.2,SNR=1.6						
	comp=Z,0.2nm,0.7s						

NEIC 12 17:27:22.9±2.2, 36°.30N±0°.01×120°.85W±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=230.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPB	**Monarch Peak**	**0.09**	**156**		Pg	17 27 25.9	+0.4
LRC	**Lone Oak Road**	**0.17**	**252**		Pg	17 27 27.1	+0.5
LRV	**Little Rabbit**	**0.19**	**312**		Pg	17 27 28.1	+1.1
PPTM	**Peach Tree Val**	**0.22**	**152**		Pg	17 27 28.0	+0.6
PJUM	**Juniper Ridge**	**0.22**	**109**		Pg	17 27 28.5	+1.0
PSAM	**San Ardo**	**0.28**	**187**		Pg	17 27 28.8	+0.3
PSMM	**Smith Mountain**	**0.31**	**138**		Pb	17 27 29.9	-0.7
BBGB	**Big Mountain B**	**0.32**	**331**		Pb	17 27 30.7	-0.1
BBGB	**Big Mountain B**	**0.32**	**331**		Sb	17 27 36.5	+0.4
BBGB	**Big Mountain B**	**0.32**	**331**	IAML		17 27 36.6	
	comp=N,9μm,0.3s						
BBGB				IAML		17 27 36.9	
	comp=E,11μm,0.2s						
BPIM	**Pinnacles**	**0.32**	**306**		Pg	17 27 29.7	+0.3
PCCM	**Crazy Canyon**	**0.33**	**231**		Pg	17 27 30.1	+0.5
BSGM	**Shirttail Gulc**	**0.35**	**289**		Pg	17 27 30.1	+0.2
PHPM	**Hope Ranch**	**0.37**	**149**		Pg	17 27 30.6	+0.3
PDRM	**Domengine Ranc**	**0.39**	**84**		Pb	17 27 32.0	+0.1
HULI	**Fort Hunter Li**	**0.42**	**229**		Pg	17 27 31.5	+0.3
HULI	**Fort Hunter Li**	**0.42**	**229**	IAML		17 27 43.0	
	comp=N,777nm,0.6s						
HULI				IAML		17 27 43.0	
	comp=E,1μm,0.5s						
PKD	**Bear Valley Ra**	**0.43**	**145**		Pg	17 27 31.6	+0.3
PKD					Sg	17 27 37.6	+0.5
PVCM	**Vineyard Canyo**	**0.45**	**146**		Pg	17 27 32.2	+0.4
PSTM	**Stockdale Moun**	**0.46**	**143**		Pg	17 27 32.1	+0.2
PPO	**Portuguese Can**	**0.47**	**157**		Pb	17 27 32.8	-0.5
BSMM	**Soledad Missio**	**0.48**	**280**		Pg	17 27 32.7	+0.4
BJOM	**Mount Johnson**	**0.50**	**311**		Pg	17 27 32.8	+0.1
PHSB	**Hesperia Broad**	**0.50**	**200**		Pg	17 27 33.0	+0.2
BJCM	**Johnson Can.**	**0.51**	**300**		Pg	17 27 32.9	+0.1
PANM	**San Antonio Re**	**0.52**	**185**		Pg	17 27 33.5	+0.4
PWMM	**Westland Maint**	**0.53**	**75**		Pb	17 27 35.1	+0.8
SCZ	**Santa Cruz**	**0.54**	**304**		Pg	17 27 33.5	0.0
SCZ	**Santa Cruz**	**0.54**	**304**	IAML		17 27 43.2	
	comp=E,892nm,0.4s						
SCZ				IAML		17 27 43.2	
	comp=N,745nm,0.4s						
PHFM	**Heflinger Ranc**	**0.55**	**139**		Pg	17 27 34.1	+0.5
CTM	**Castle Mountai**	**0.55**	**131**		Pb	17 27 34.8	0.0
PWKM	**Work Ranch**	**0.56**	**151**		Pg	17 27 34.2	+0.5
PAPM	**Alder Peak**	**0.57**	**227**		Pg	17 27 34.3	+0.3
HAST	**Hastings Reser**	**0.58**	**279**		Pg	17 27 34.1	0.0
GHC	**Gold Hill**	**0.61**	**139**		Pg	17 27 35.1	+0.3
BSLM	**Silva Ranch**	**0.62**	**320**		Pb	17 27 36.6	+0.7
PKEM	**Kettleman Hill**	**0.64**	**111**		Pb	17 27 36.6	+0.3
BSRM	**Salinas Radio**	**0.65**	**304**		Pg	17 27 35.6	0.0
RAMR	**Ramage Ranch**	**0.66**	**182**		Pg	17 27 36.0	+0.2
RAMR					Sg	17 27 45.1	+0.7
PKLM	**Kerr Lake**	**0.67**	**142**		Pg	17 27 36.1	+0.3
SAO	**San Andreas Ge**	**0.67**	**314**		Pg	17 27 35.6	-0.3
BPCNC	**Pine Canyon**	**0.69**	**294**		Pg	17 27 36.5	+0.3
FRP	**Fremont Peak**	**0.69**	**311**		Pg	17 27 36.0	-0.3
TCHL	**Shandon**	**0.71**	**149**		Pb	17 27 37.1	-0.3
PMRM	**Maxey Ranch**	**0.71**	**136**		Pg	17 27 37.1	+0.4
BPRM	**Ponciano Ridge**	**0.72**	**279**		Pg	17 27 37.0	+0.1
TCAS	**Cass Winery, P**	**0.73**	**161**		Pg	17 27 37.0	+0.1
BPOM	**Post Ranch**	**0.75**	**265**		Pg	17 27 37.3	-0.1
PACP	**Pacheco Peak**	**0.79**	**334**		Pb	17 27 39.2	+0.4
HFEM	**San Felipe**	**0.81**	**327**		Pb	17 27 39.7	+0.4
HTUM	**Tustin Road**	**0.83**	**310**		Pg	17 27 38.6	-0.3
SLD	**Luis Dam**	**0.83**	**339**		Pb	17 27 39.5	0.0
HPCM	**Pacheco Lake**	**0.83**	**336**		Pb	17 27 39.5	0.0
ANZ	**Anzar Road**	**0.84**	**315**		Pg	17 27 39.1	+0.1
TSCN	**Private Proper**	**0.85**	**152**		Pb	17 27 39.7	-0.2
HERM	**Elkhorn Road**	**0.86**	**306**		Pg	17 27 39.4	0.0
CDC	**Canada Road**	**0.89**	**325**		Pb	17 27 40.8	+0.4
SCKWR	**San Luis Creek**	**0.90**	**349**		Pn	17 27 41.3	-0.4
HCOM	**Corn Cob Canyo**	**0.91**	**311**		Pg	17 27 40.2	-0.2
HCBM	**Chamberlain**	**0.91**	**314**		Pg	17 27 40.4	-0.1
PTAM	**Tassajara Cree**	**0.91**	**173**		Pg	17 27 40.5	0.0
GHS	**Gilroy Hot Spr**	**0.93**	**329**		Pb	17 27 41.2	0.0
TSCS	**Shell Creek So**	**0.95**	**155**		Pg	17 27 41.0	-0.2
TRAY	**Twisselman Ran**	**0.95**	**142**		Pg	17 27 41.2	0.0
PBPM	**Bitterwater Pu**	**0.95**	**139**		Pb	17 27 41.5	-0.1
HLPM	**Lions Peak**	**0.97**	**320**		Pg	17 27 41.5	-0.1
EFD	**Emergency Oper**	**0.98**	**174**		Pg	17 27 41.5	-0.3
LSDC	**Los Osos Digit**	**1.00**	**180**		Pn	17 27 42.8	-0.2
JELB	**Ellicott, Sant**	**1.01**	**309**		Pg	17 27 42.1	-0.3
VPDC	**Valencia Peak**	**1.06**	**181**		Pn	17 27 44.1	+0.3
DPD	**Davis Peak**	**1.06**	**177**		Pn	17 27 44.2	+0.3
LEGD	**La Grand CA**	**1.07**	**31**		Pg	17 27 42.6	-1.0
DCD	**Diablo Creek**	**1.08**	**180**		Pg	17 27 42.9	-0.9
JLAB	**Laurel Hill**	**1.11**	**320**		Pb	17 27 43.9	-0.4
CMPM	**Mikes Peak**	**1.12**	**340**		Pb	17 27 44.4	-0.1
KARE	**Kearney REC, C**	**1.12**	**74**		Pb	17 27 43.6	-0.8
FRI	**Friant**	**1.15**	**53**		Pb	17 27 44.0	-0.9
CCOB	**Coe Ranch Numb**	**1.17**	**326**		Pb	17 27 44.8	-0.4
VOG	**Valley Oaks Go**	**1.18**	**89**		Pb	17 27 44.9	-0.6
ARN	**Arnold Ranch**	**1.18**	**333**		Pb	17 27 44.7	-0.8
SMMC	**Simmler**	**1.20**	**145**		Pb	17 27 45.5	-0.3
MHC	**Mount Hamilton**	**1.22**	**329**		Pn	17 27 45.2	-1.0
MTOS	**Mt Oso, Westle**	**1.26**	**342**		Pn	17 27 46.2	-0.5
MTOS	**Mt Oso, Westle**	**1.26**	**342**	IAML		17 28 10.9	
	comp=E,233nm,0.5s						
MTOS				IAML		17 28 11.5	
	comp=N,263nm,0.5s						
CMMM	**Mount Mocho**	**1.27**	**336**		Pn	17 27 46.1	-0.7
CARC	**Carrizo Plain**	**1.28**	**140**		Pn	17 27 46.5	-0.4
JJOM	**Saint Joseph's**	**1.28**	**315**		Pn	17 27 45.9	-1.1
CMLM	**Mount Lewis**	**1.34**	**332**		Pn	17 27 46.9	-0.9
CALM	**Calaveras Res.**	**1.38**	**327**		Pn	17 27 48.1	-0.2
CRGC	**Crocker Grade**	**1.40**	**139**		Pb	17 27 49.0	-0.2
CSTL	**Coral Hollow**	**1.44**	**339**		Pn	17 27 49.1	+0.1
JSJM	**St Joseph**	**1.44**	**316**		Pn	17 27 49.3	+0.3
JPSM		**1.50**	**307**		Pn	17 27 48.7	-1.2
JFP	**Foothills Park**	**1.51**	**315**		Pn	17 27 49.4	-0.6
JSFB	**Stanford Teles**	**1.53**	**316**		Pn	17 27 50.5	+0.1
CVLM	**Vallecito**	**1.54**	**329**		Pn	17 27 50.2	-0.3
JRSC	**Jasper Ridge**	**1.57**	**315**		Pn	17 27 49.9	-0.9
KCC	**Kaiser Creek**	**1.60**	**50**		Pn	17 27 51.6	+0.3
SPG2	**Springville 2**	**1.69**	**93**		Pn	17 27 52.2	-0.3
JCHM	**Cahill Ridge**	**1.73**	**315**		Pn	17 27 52.2	-0.8
CMB	**Columbia Colle**	**1.77**	**12**		Pn	17 27 53.1	-0.5
BCW	**Bitter Crk WRg**	**1.79**	**139**		Pn	17 27 54.0	0.0
BCW				IAML		17 28 23.0	
	comp=N,136nm,0.4s						
BCW				IAML		17 28 36.3	
	comp=E,160nm,0.7s						
BKS	**Berkeley--Byer**	**1.93**	**325**		Pn	17 27 55.7	-0.1
MRDM	**Red Cones**	**1.93**	**47**		Pn	17 27 56.9	+0.8
MMPM	**Mammoth Pass**	**1.96**	**48**		Pb	17 27 58.0	-0.9
MINS	**Minaret Summit**	**1.97**	**46**		Pn	17 27 57.5	+0.9
MDYM	**Dry Creek**	**2.00**	**47**		Pb	17 27 59.0	-0.6
MDCM	**Deadman Creek**	**2.02**	**45**		Pb	17 27 58.9	-1.0
ISA	**Isabella, Lake**	**2.03**	**108**		Pn	17 27 56.4	-0.8
ISA				IAML		17 28 24.3	
	comp=E,75nm,0.2s						
ISA				IAML		17 28 26.3	
	comp=N,98nm,0.7s						
MLCM	**Laurel Creek C**	**2.03**	**49**		Pb	17 27 58.9	-1.1
MEMM	**East Mammoth H**	**2.05**	**48**		Pb	17 27 59.6	-0.8
TEJ	**El Tejon**	**2.05**	**121**		Pn	17 27 57.0	-0.5
MCBM	**Casa Benchmark**	**2.06**	**49**		Pb	17 27 59.7	-0.9
MCSM	**Casa Diablo Ho**	**2.06**	**48**		Pb	17 27 59.7	-0.9
MCVM	**Convict Lake**	**2.07**	**51**		Pb	17 27 59.5	-1.2
LMCR	**Lookout Mounta**	**2.08**	**46**		Pb	17 28 00.7	-0.3
MLAC	**Mammoth, Mammo**	**2.09**	**50**		Pn	17 27 58.5	+0.3
MDRNC	**Doe Ridge**	**2.09**	**50**		Pb	17 28 00.1	-1.0
MTUM	**Tungsten Hills**	**2.11**	**59**		Pb	17 28 00.1	-1.4
MLHM	**Little Hot Cre**	**2.13**	**49**		Pb	17 28 01.1	-0.7
TIN	**Tinemaha, Big**	**2.23**	**70**		Pb	17 28 02.2	-1.3
CWC	**Cottonwood Cre**	**2.24**	**86**		Pn	17 28 01.4	+1.2
MFBM	**Five Bridges**	**2.24**	**59**		Pb	17 28 02.5	-1.2
MCDM	**Chidago Canyon**	**2.29**	**56**		Pb	17 28 03.3	-1.2
MRCM	**Red Rock Canyo**	**2.32**	**53**		Pb	17 28 03.8	-1.2
QRDG	**Quail Ridge Na**	**2.41**	**335**		Pn	17 28 02.2	-0.3
CVS	**Carmenet Viney**	**2.41**	**328**		Pn	17 28 00.7	-1.8
CVS	**Carmenet Viney**	**2.41**	**328**	IAML		17 28 56.3	
	comp=N,54nm,2.0s						
CVS				IAML		17 28 59.7	
	comp=E,44nm,2.8s						
MCCM	**Marconi Confer**	**2.46**	**319**	Pn	Pn	17 28 01.8	-1.2
MCCM				IAML		17 29 22.7	
	comp=N,69nm,1.7s						
CGO	**Cerro Gordo**	**2.47**	**83**		Pn	17 28 05.5	+2.0
WAKR	**Walker**	**2.47**	**27**		Pn	17 28 03.2	-0.3
WAKR				IAML		17 28 43.5	
	comp=N,83nm,0.7s						
DSP	**Deep Springs**	**2.54**	**64**		Pn	17 28 05.8	+1.6
DSP				IAML		17 28 49.2	
	comp=E,45nm,0.9s						
DSP				IAML		17 28 51.6	
	comp=N,36nm,0.7s						
CCAC	**Calif City Air**	**2.57**	**116**		Pn	17 28 05.1	+0.4
CCAC				IAML		17 28 42.0	
	comp=E,48nm,0.7s						
CCAC				IAML		17 28 56.4	
	comp=N,60nm,0.8s						
AFDM	**Forest Hills D**	**2.65**	**358**		Pn	17 28 05.6	-0.1
AFDM				IAML		17 28 56.3	
	comp=E,42nm,0.7s						
LHV	**Little Huntoon**	**2.70**	**43**		Pn	17 28 06.4	0.0
LHV				IAML		17 28 51.1	
	comp=E,48nm,0.6s						
LHV				IAML		17 28 52.5	
	comp=N,62nm,0.6s						
NVAR	**Mina Array Bea**	**2.94**	**43**		Pn	17 28 10.2	+0.3
PNTR	**Pine Nut**	**2.96**	**19**		Pn	17 28 10.1	0.0
PNTR				IAML		17 29 03.3	
	comp=N,48nm,0.8s						
YERR	**Yerington**	**2.97**	**25**		Pn	17 28 10.9	+0.6
RYN	**Ryan**	**2.97**	**38**		Pn	17 28 11.1	+0.8
RYN				IAML		17 28 57.0	
	comp=N,34nm,0.3s						
RYN				IAML		17 29 03.2	
	comp=E,39nm,0.4s						
NV11	**Mina Array Sit**	**3.02**	**44**		Pn	17 28 11.3	+0.4
GMN	**Gold Mountain**	**3.05**	**70**		Pn	17 28 11.6	+0.2
GMN				IAML		17 29 04.4	
	comp=N,24nm,0.5s						
ORV	**Oroville**	**3.29**	**351**		Pn	17 28 15.2	+0.7
ORV				IAML		17 28 42.0	
	comp=E,21nm,5.0s						
GWY	**Greenwater Val**	**3.38**	**91**		Pn	17 28 15.9	0.0
GSC	**Goldstone, Bar**	**3.43**	**106**		Pn	17 28 17.1	+0.5
GSC				IAML		17 29 09.8	
	comp=E,18nm,2.1s						
WCT	**Wildcat Mounta**	**3.43**	**81**		Pn	17 28 16.3	-0.3
PAHR	**Pah Rah Range**	**3.59**	**18**		Pn	17 28 18.4	-0.4
PAHR				IAML		17 29 21.2	
	comp=N,22nm,4.8s						
TPNV	**Topopah Spring**	**3.75**	**79**		Pn	17 28 21.9	+0.8
TPNV				IAML		17 29 12.3	
	comp=N,18nm,4.8s						
TPNV				IAML		17 30 10.2	
	comp=N,15nm,4.7s						
R11B	**Troy Canyon, C**	**4.67**	**62**		Pn	17 28 33.8	+0.2
R11B				IAML		17 29 53.1	
	comp=N,7.3nm,4.8s						
R11B				IAML		17 30 50.1	
	comp=E,7.6nm,4.8s						
SPR3	**Spring Creek 3**	**5.83**	**61**		Pn	17 28 49.2	-0.6

*NEIC **12** 17:30:41.0±1.8, 43°.96N±0°.02×105°.34W±0°.09, h0km±1km, ML3.2/34, Error ellipse: s-maj=10.5km s-min=3.2km az=279.0*
*IDC **12** 17:30:41.0±2.0, 43°.97N×105°.41W, h0km, mb3.5/1, mbtmp3.4/3, ML1.9/1, Error ellipse: s-maj=61.6km s-min=9.3km az=148.0*

ISC 12 17:30:41.7±1.0, 43°.98N±0°.06×105°.27W±0°.05, h0km, n25, σ1°02/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**81**	Pg	**Pb**	**17 31 00.3**	**-0.1**
K22A	**Casper**	**1.61**	**215**	Pg	**Pn**	**17 31 11.5**	**-0.1**
K22A				IAML		17 31 40.7	
	comp=E,308nm,0.5s						
LAO	**LASA Array**	**2.79**	**346**	Pn	**Pn**	**17 31 29.1**	**+1.5**
LAO				IAML		17 32 11.2	
	comp=E,170nm,0.8s						
LAO				IAML		17 32 12.5	
	comp=E,102nm,0.7s						
RLMT	**Red Lodge**	**3.08**	**293**		**Pn**	**17 31 31.0**	**-0.7**
RLMT				IAML		17 32 23.9	
	comp=E,46nm,0.5s						
RLMT				IAML		17 32 28.5	
	comp=E,42nm,0.6s						
N23A	**Red Feather La**	**3.12**	**189**	Pn	**Pn**	**17 31 31.7**	**-0.7**
N23A				IAML		17 32 24.8	
	comp=E,41nm,0.6s						
N23A				IAML		17 32 27.2	
	comp=N,53nm,0.5s						
PD31	**Pinedale Array**	**3.35**	**250**	Pn	**Pn**	**17 31 36.0**	**+0.4**
PDAR	**Pinedale Array**	**3.35**	**250**	Pn	**Pn**	**17 31 36.2**	**+0.7**
PDAR	**Pinedale Array**	**3.35**	**250**	Pn	**Pn**	**17 31 37.4**	**+1.8**
	comp=N,3.0nm,0.3s,baz=65,slow=11,SNR=50						
PDAR				Pg	**Pb**	**17 31 42.1**	**0.0**
	comp=N,4.4nm,0.3s,baz=60,slow=17,SNR=38						
PDAR				Lg	Lg	17 32 23.9	
	comp=N,2.8nm,0.3s,baz=68,slow=33,SNR=4.5						
OGNE	**Ogallala**	**3.87**	**141**	Pn	**Pn**	**17 31 43.8**	**+1.3**
OGNE				IAML		17 32 52.6	
	comp=N,58nm,1.8s						
LOHW	**Long Hollow**	**3.88**	**266**		**Pn**	**17 31 41.9**	**-0.9**
FLWY	**Flagg Ranch**	**3.91**	**273**	Pn	**Pn**	**17 31 43.7**	**+0.4**
FLWY				IAML		17 32 52.0	
	comp=N,52nm,2.2s						
FLWY				IAML		17 32 56.4	
	comp=N,38nm,3.0s						
MOOW	**Moose Ponds**	**3.96**	**269**		**Pn**	**17 31 44.1**	**+0.2**
TPAW	**Teton Pass**	**4.14**	**265**		**Pn**	**17 31 45.0**	**-1.5**
TPAW				IAML		17 33 20.4	
	comp=N,27nm,1.6s						
ISCO	**Idaho Springs**	**4.18**	**184**		**Pn**	**17 31 45.6**	**-1.5**
ISCO				IAML		17 34 02.0	
	comp=N,17nm,2.3s						
K30B	**Basset**	**4.33**	**106**		**Pn**	**17 31 50.5**	**+1.6**
AHID	**Auburn Hatcher**	**4.42**	**256**		**Pn**	**17 31 51.0**	**+0.9**
AHID				IAML		17 33 13.9	
	comp=N,21nm,0.8s						
AHID				IAML		17 33 18.2	
	comp=N,17nm,2.2s						
O20A	**White River Ci**	**4.43**	**211**	Pn	**Pn**	**17 31 51.0**	**+0.7**
O20A				IAML		17 33 04.3	
	comp=E,27nm,2.8s						
O20A				IAML		17 33 05.4	
	comp=N,30nm,0.9s						
DGMT	**Dagmar**	**4.55**	**9**		**Pn**	**17 31 52.3**	**+0.4**
EGMT	**Eagleton**	**5.11**	**324**	Pn	**Pn**	**17 32 00.5**	**+0.9**
HWUT	**Hardware Ranch**	**5.20**	**245**		**Pn**	**17 32 01.4**	**+0.5**
HWUT				IAML		17 33 44.2	
	comp=N,16nm,3.0s						
HWUT				IAML		17 34 15.0	
	comp=N,16nm,5.0s						
LYMT	**Lyon Mountain**	**5.77**	**304**		**Pn**	**17 32 08.9**	**+0.2**
ECSD	**EROS Data Cent**	**6.27**	**89**		**Pn**	**17 32 16.0**	**+0.7**
I10CA	**LAC DU BONNET**	**8.86**	**42**	I	I	18 26 50.0	
	comp=N,0.1nm,1.2s,baz=225,slow=326,SNR=1.1						
ULM	**Lac du Bonnet**	**8.96**	**42**	Pn	**Pn**	**17 32 50.6**	**-1.7**
	comp=N,0.2nm,0.3s,baz=227,slow=12,SNR=3.6						
ULM				Lg	Lg	17 35 18.1	
	comp=N,0.3nm,0.3s,baz=334,slow=20,SNR=1.9						
	comp=N,1.0nm,0.5s						
MKAR	**Makanchi Array**	**89.36**	**355**	P	**P**	**17 43 39.8**	**-0.1**
	comp=N,0.2nm,0.6s,baz=353,slow=4.9,SNR=2.5						
	comp=N,0.2nm,0.6s						

*ISK **12** 17:31:14.2, 40°.56N×33°.02E, h5km, ML3.4/42*
*AFAD **12** 17:31:15.2, 40°.58N×33°.01E, h12km±2km, MW3.5*

ISC 12 17:31:15.5±1.1, 40°.56N±0°.02×33°.05E±0°.02, h6km±9km, n77, σ0°78/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.30**	**103**	P	**Pg**	**17 31 21.5**	**+0.2**
CANT	**Cankiri**	**0.44**	**84**	Pg	**Pb**	**17 31 24.6**	**-1.0**
CANT				Sg	**Sb**	**17 31 31.9**	**-0.6**
CMDR	**Camlidere-ANKA**	**0.44**	**262**	P	**Pg**	**17 31 23.6**	**-0.5**
DERS	**Karabk-Eskip**	**0.48**	**308**	P	**Pg**	**17 31 25.2**	**+0.5**
DERS				S	**Sg**	**17 31 30.9**	**-0.1**
DERS				*i* AML	AML	17 31 32.0	
	comp=E,1μm,0.4s						
GOKD	**Ankara-Kalecik**	**0.58**	**146**	P	**Pb**	**17 31 27.7**	**-0.5**
GOKD				S	**Sb**	**17 31 36.6**	**-0.1**
GOKD				*i* AML	AML	17 31 38.0	
	comp=N,1μm,0.2s						
YENC	**ankr-Yen**	**0.62**	**78**	P	**Pb**	**17 31 28.1**	**-0.6**
YENC				S	**Sb**	**17 31 36.8**	**-0.9**
YENC				*i* AML	AML	17 31 38.0	
	comp=E,915nm,0.4s						
YENC				*i* AML	AML	17 31 41.0	
	comp=N,1μm,0.2s						
LOD	**Lodumlu**	**0.70**	**198**	Pg	**Pg**	**17 31 28.3**	**-0.7**
ILGA	**Ilgaz**	**0.71**	**46**	P	**Pb**	**17 31 29.6**	**-0.8**
ILGA				S	**Sg**	**17 31 38.6**	**+0.3**
ILGA				*i* AML	AML	17 31 42.0	
	comp=N,2μm,1.0s						
ILGA				*i* AML	AML	17 31 43.0	
	comp=E,2μm,0.5s						
KBUK	**KARABUK-Merkez**	**0.75**	**335**	P	**Pg**	**17 31 29.5**	**-0.4**
KBUK				S	**Sg**	**17 31 39.2**	**-0.4**
KBUK				*i* AML	AML	17 31 41.0	
	comp=E,500nm,0.5s						
PELI	**Kastamonı-Ara**	**0.77**	**15**	P	**Pg**	**17 31 30.2**	**0.0**
PELI				S	**Sg**	**17 31 40.5**	**+0.3**
PELI				*i* AML	AML	17 31 42.0	
	comp=N,492nm,0.2s						
PELI				*i* AML	AML	17 31 49.0	
	comp=E,470nm,0.4s						
BCAM	**Yenicaga**	**0.79**	**289**	P	**Pg**	**17 31 29.9**	**-0.7**
DELI	**KIRIKKALE**	**0.87**	**130**	P	**Pb**	**17 31 32.5**	**-0.5**
DELI				S	**Sb**	**17 31 44.3**	**-0.7**
DELI				*i* AML	AML	17 31 49.0	
	comp=E,643nm,0.2s						
TOS	**Tosya**	**0.88**	**57**	Pg	**Pg**	**17 31 31.9**	**-0.5**
BR131	**Keskin Array S**	**0.95**	**151**	Pg	**Pg**	**17 31 33.8**	**+0.2**
KMON	**Kastamonu**	**0.99**	**34**	Pg	**Pb**	**17 31 34.7**	**-0.3**
SUNG	**orum-Sungurl**	**0.99**	**112**	P	**Pg**	**17 31 34.4**	**0.0**
DEVR	**Zonguldak/Devr**	**1.00**	**306**	P	**Pg**	**17 31 34.2**	**-0.5**
KESK	**Krkkale-Ke**	**1.01**	**156**	P	**Pb**	**17 31 35.5**	**+0.1**
KESK				S	**Sb**	**17 31 48.5**	**-0.5**
KESK				*i* AML	AML	17 31 50.0	
	comp=N,914nm,0.4s						
KESK				*i* AML	AML	17 31 50.0	
	comp=E,372nm,0.3s						
BBAL	**Bala**	**1.02**	**177**	P	**Pg**	**17 31 34.9**	**0.0**
YUVA	**Yuva-Kibriscik**	**1.05**	**261**	Pg	**Pg**	**17 31 34.9**	**-0.7**
BOLU	**Bolu-Merkez-Mu**	**1.07**	**282**	P	**Pb**	**17 31 36.2**	**-0.1**
AFSR	**Afar-Bala (An**	**1.11**	**179**	Pn	**Pg**	**17 31 36.7**	**-0.1**
AFSR				Sn	**Sn**	**17 31 53.3**	**0.0**
KAGI	**orum-Kargı**	**1.23**	**61**	P	**Pg**	**17 31 37.9

ADVT	Abdulvahap	2.53	268	Pn	Pn	17 31 57.6	+0.6
HRT	Hereke	2.58	277	Pn	Pn	17 31 58.3	+0.4
SILT	Sile	2.65	284	Pn	Pn	17 31 59.4	+0.7
KONT	Konya--Tatoy	2.66	192	Pn	Pn	17 32 00.1	+1.1
TOKT	Tokat	2.68	94	Pn	Pn	17 32 00.7	+1.5
BNN	Bunyan	2.75	127	Pn	Pn	17 32 01.6	+1.4
SHUT	Suhut-Afyon	2.78	225	Pn	Pn	17 32 01.6	+0.9
YESY	Yesilyurt	2.82	169	Pn	Pn	17 32 02.6	+1.4
SVSK	Karacayir	3.09	101	Pn	Pn	17 32 06.3	+1.5
CMRD	Camardi-Nigde	3.26	152	Pn	Pn	17 32 08.6	+1.3
RSDY	Resadiye-TOKAT	3.27	91	Pn	Pn	17 32 09.0	+1.7
SARI	SarD1z-Kayseri	3.38	128	Pn	Pn	17 32 10.5	+1.6
YAL	Yalta	4.01	11	eS	Sn	17 33 04.6	-0.1
YAL				Sm		17 33 12.8	
	comp=N,1.0nm,0.2s						
YAL				Sm		17 33 12.8	
	comp=E,16nm,0.4s						
SUDU	Sudak	4.56	18	eS	Sn	17 33 15.9	-2.4
SUDU				Sm		17 33 16.5	
	comp=N,35nm,0.8s						
DNZ2	Donuzlav2	4.81	1	eP	Pn	17 32 30.1	+1.7
DNZ2				Pm		17 32 30.4	
	comp=Z,17nm,0.3s						

IDC 12 17:31:38.6±999.0, 53°.24N×3°.93E, h0km, Error ellipse: s-maj=447.3km s-min=152.3km az=111.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	7.57	122	I	I	18 16 21.8	
	0.1nm,1.5s,baz=309,slow=314,SNR=4.1						
I43RU	DUBNA INFRASONI	9.30	66	I	I	19 30 10.0	
	baz=273,slow=315,SNR=2.1						
I31KZ	AKTYUBINSK INF	32.89	73	I	I	20 51 56.0	
	0.1nm,1.3s,baz=299,slow=334,SNR=12						

*IDC **12** 17:37:18.2±0.9, 22°.01S×169°.60E, h0km, mb4.3/10, mbtmp4.3/11, ML4.0/1, MS2.8/2, Error ellipse: s-maj=28.7km s-min=20.9km az=144.0*
*NEIC **12** 17:37:20.5±2.3, 22°.1S±0°.1×169°.46E±0°.09, h10km±1km, mb4.9/34, Error ellipse: s-maj=23.6km s-min=13.0km az=163.0*
*NOU **12** 17:37:33.8, 21°.99S×168°.37E, h0km, MLv3.4/6, Loyalty Islands*

ISC 12 17:37:22.1±0.6, 22°.0S±0°.1×169°.54E±0°.08, h25km, n72, σ1s13/72, mb4.8/23, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.50	290	P	Pn	17 37 45.6	-1.7
PINNC	Pines Island,	2.03	252		Pn	17 37 53.6	-1.0
PINNC				Sn	Sn	17 38 17.0	-2.3
PINNC	Pines Island,	2.03	252	P	Pn	17 37 53.7	-1.0
PINNC	Pines Island,	2.03	252	P	Pn	17 37 53.9	-0.8
YATNC	Mamie plateau,	2.46	268	P	Pn	17 37 58.5	-2.1
YATNC	Mamie plateau,	2.46	268	P	Pn	17 37 59.0	-1.6
OUENC	Ouen Island, N	2.54	260	P	Pn	17 38 01.0	-0.6
OUENC	Ouen Island, N	2.54	260	P	Pn	17 38 01.1	-0.6
DZM	Mont Dzumac	2.87	268		Pn	17 38 05.7	-0.7
DZM	Mont Dzumac	2.87	268	Pn	Pn	17 38 05.8	-0.6
	21nm,0.3s,baz=85,slow=18,SNR=120						
DZM				Sn	Sn	17 38 39.7	-0.5
	22nm,0.3s,baz=108,slow=20,SNR=5.5						
DZM				LR	LR	17 39 05.9	
	comp=Z,169nm,19.4s,baz=326,slow=37						
	81nm,0.5s						
DZM	Mont Dzumac	2.87	268	P	Pn	17 38 05.9	-0.5
DZM	Mont Dzumac	2.87	268	P	Pn	17 38 05.8	-0.6
ONTNC	Ouen Toro	2.88	263		Pn	17 38 05.0	-1.4
ONTNC	Ouen Toro	2.88	263	P	Pn	17 38 06.0	-0.3
ONTNC	Ouen Toro	2.88	263	P	Pn	17 38 05.8	-0.5
KOUNC	Koumac, New Ca	5.11	285	P	Pn	17 38 37.1	+0.1
MSVF	Nonsavu	9.06	64		Pn	17 39 39.3	+7.8
MSVF	Nonsavu	9.06	64	Pn	Pn	17 39 38.2	+6.8
	0.5nm,0.3s,baz=219,slow=15,SNR=6.3						
MSVF				LR	LR	17 41 52.1	
	comp=Z,56nm,19.1s,baz=266,slow=30						
EIDS	Eidsvold	17.23	255	P	P	17 41 25.9	+3.4
ARMA	Armidale	18.11	239	P	P	17 41 35.7	+3.4
COEN	Coen	26.29	283	P	P	17 42 56.2	+0.3
COEN				IAmb	IAmb	17 43 14.8	
	comp=Z,67nm,1.9s						
STKA	Stephens Creek	26.72	242	P	P	17 43 00.2	+0.6
STKA				IAmb	IAmb	17 43 29.7	
	comp=Z,42nm,1.8s						
STKA	Stephens Creek	26.72	242	P	P	17 42 59.8	+0.3
	comp=Z,4.6nm,1.0s,baz=79,slow=12,SNR=4.5						
	comp=Z,4.6nm,1.0s						
BBOO	Buckleboo	31.49	243	P	P	17 43 41.6	-0.4
AS31	Alice Springs	32.83	260	P	P	17 43 53.3	-0.6
ASAR	Alice Springs	32.84	260	P	P	17 43 53.6	-0.3
ASAR	Alice Springs	32.84	260	P	P	17 43 54.2	+0.2
	comp=Z,7.2nm,0.8s,baz=83,slow=8.9,SNR=60						
	comp=Z,7.2nm,0.8s						
WB0	Warramunga Arr	32.87	267	P	P	17 43 54.0	-0.3
WB2	Warramunga Arr	32.87	267	P	P	17 43 53.9	-0.4
WRA	Warramunga Arr	32.89	267	P	P	17 43 53.5	-0.9
	comp=Z,4.8nm,0.9s,baz=96,slow=7.9,SNR=17						
	comp=Z,4.8nm,0.9s						
MTN	Manton Dam	37.67	277	P	P	17 44 35.8	+0.2
MTN				IAmb	IAmb	17 45 37.1	
	comp=Z,31nm,1.2s						
KNRA	Kununurra	39.02	272	P	P	17 44 46.0	-0.9
KNRA				IAmb	IAmb	17 45 23.8	
	comp=Z,54nm,1.4s						
FAKI	Fak Fak	40.87	292	P	P	17 45 02.4	0.0
FAKI				IAmb	IAmb	17 45 59.1	
	comp=Z,48nm,1.3s						
FITZ	Fitzroy Crossi	41.32	267	P	P	17 45 05.7	-0.3
PSA00	Pilbara Seismi	45.98	261	P	P	17 45 43.0	-0.5
PSA00	Pilbara Seismi	45.98	261	P	P	17 45 43.0	-0.5
MBWA	Marble Bar	46.16	261	P	P	17 45 44.5	-0.4
MBWA				IAmb	IAmb	17 45 58.6	
	comp=Z,17nm,1.0s						
NWAO	Narrogin (SRO)	47.26	245	P	P	17 45 53.5	+0.1
QSPA	South Pole Qui	68.07	180	P	P	17 48 18.8	-0.6
QSPA				IAmb	IAmb	17 48 24.4	
	comp=Z,10nm,1.1s						
QSPA	South Pole Qui	68.07	180	P	P	17 48 19.5	+0.1
	comp=Z,5.8nm,1.0s,baz=352,slow=7.2,SNR=10						
	comp=Z,5.8nm,1.0s						
KSRS	Korea Array	70.94	326	P	P	17 48 38.2	+1.0
	comp=Z,1.1nm,0.9s,baz=142,slow=6.2,SNR=3.0						
	comp=Z,1.1nm,0.9s						
PEA0B	Petropavlovsk-	75.50	353	P	P	17 49 04.7	+0.8
PETK	Petropavlovsk-	75.50	353	P	P	17 49 03.9	+0.1
	comp=Z,9.4nm,0.9s,baz=125,slow=5.8,SNR=8.4						
	comp=Z,9.4nm,0.9s						
ENH	Enshi	77.64	310	P	P	17 49 15.7	-1.0
ENH				IAmb	IAmb	17 49 18.3	
	comp=Z,15nm,1.2s						
CMAR	Chiang Mai Arr	79.90	295	P	P	17 49 30.8	+1.5
	comp=Z,1.1nm,0.9s,baz=139,slow=4.2,SNR=8.6						
	comp=Z,1.1nm,0.9s						
N15K	Kwethluk River	85.54	15	P	P	17 49 59.0	+1.4
Q19K	Cape Douglas,	86.16	18	P	P	17 50 00.1	-0.7
O02D	Mt. Diablo Mer	88.23	45	P	P	17 50 12.3	+1.0
SONM	Songino Array	89.59	323	P	P	17 50 18.3	+0.8
	comp=Z,0.9nm,0.9s,baz=121,slow=6.4,SNR=4.8						
	comp=Z,0.9nm,0.9s						
NVAR	Mina Array Bea	90.41	48	P	P	17 50 22.2	+0.5
	comp=Z,2.2nm,0.9s,baz=227,slow=8.2,SNR=6.4						
	comp=Z,2.2nm,0.9s						
E19K	Redstone River	92.54	12		P	17 50 30.8	+0.2
E19K				IAmb	IAmb	17 50 34.1	
	comp=Z,7.9nm,1.0s						
ILAR	Eielson Array	92.77	17	P	P	17 50 30.3	-1.5
	comp=Z,0.8nm,0.6s,baz=235,slow=5.0,SNR=19						
	comp=Z,0.8nm,0.6s						
COLD	Coldfoot	93.86	15	P	P	17 50 36.7	-0.1
COLD				IAmb	IAmb	17 50 40.0	
	comp=Z,3.4nm,1.0s						
EGAK	Eagle	94.43	19	P	P	17 50 37.9	-1.4
B21K	Ikpikpuk River	94.90	12	P	P	17 50 41.8	+0.4
B21K				IAmb	IAmb	17 50 44.4	
	comp=Z,4.7nm,0.9s						
D23K	Nanushuk River	95.15	13	P	P	17 50 42.6	0.0
D23K				IAmb	IAmb	17 50 45.5	
	comp=Z,4.1nm,0.9s						
C23K	Itkillik River	95.87	13	P	P	17 50 45.9	0.0
C23K				IAmb	IAmb	17 50 49.5	
	comp=Z,3.4nm,0.9s						
I30M	Mount Dempster	96.22	20	P	P	17 50 46.5	-1.3
I30M				IAmb	IAmb	17 50 49.3	
	comp=Z,3.8nm,1.0s						
G30M	tAoh Zraii Nji	97.42	19	P	P	17 50 52.4	-0.6
E28M	Babbage River	97.58	17	P	P	17 50 52.8	-0.8
E28M				IAmb	IAmb	17 50 54.3	
	comp=Z,3.1nm,0.8s						
YNE	Yellowstone No	98.82	45	P	P	17 50 56.5	-3.6
EKA	Eskdalemuir Ar	146.27	352	PKPbc	PKPdf	17 56 59.4	+0.4
	comp=Z,1.7nm,0.5s,baz=355,slow=2.3,SNR=7.0						
RONA	Rosalia, Austr	146.55	327	i PKiKP	PKiKP	17 57 06.6	+2.4
	comp=Z,4.6nm,0.7s						
CONA	Conrad Observa	146.62	327	ePKiKP	PKiKP	17 57 05.6	+1.2
	comp=Z,2.2nm,0.9s						
GEC2	GERESS Array S	147.03	330		PKPbc	17 57 03.2	+0.5
GERES	GERESS Array B	147.03	330	PKPbc	PKPbc	17 57 02.6	-0.1
GERES	GERESS Array B	147.03	330	PKPbc	PKPbc	17 57 03.0	+0.3
	comp=Z,2.1nm,0.8s,baz=34,slow=5.6,SNR=7.5						
LESA	Schwarzleotal	148.53	329	ePKP	PKiKP	17 57 07.9	-0.4
	comp=Z,2.4nm,0.6s						
MOTA	Moosalm	149.32	331	ePKP	PKiKP	17 57 09.8	-0.2
	comp=Z,5.2nm,1.0s						
SQTA	Sankt Quirin	149.36	330	ePKP	PKPbc	17 57 09.4	+0.4
	comp=Z,3.4nm,0.8s						
FETA	Feichten	149.73	331	ePKP	PKiKP	17 57 10.6	-0.3
	comp=Z,3.1nm,0.8s						
TORD	Torodi Ar. Bea	165.46	235	PKP	PKPdf	17 57 24.9	-0.4
	comp=Z,0.8nm,1.0s,baz=107,slow=2.3,SNR=3.2						

NEIC 12 17:38:47.6±1.5, 0°.02S±0°.08×29°.72E±0°.06, h10km±1km, mb3.9/3, Error ellipse: s-maj=14.7km s-min=10.0km az=20.0, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	1.17	120	Pn	Pn	17 39 10.8	+0.6
MBAR				Sn	Sg	17 39 25.4	+0.2
LODK	Lodwar	6.59	59	Pn	Pn	17 40 24.2	-0.5
LODK				Sn	Sn	17 41 38.8	-1.2
KMBO	Kilima Mbogo	7.61	98		Pn	17 40 38.8	0.0
KIBK	Kibwezi	8.63	106	Pn	Pn	17 40 52.5	-0.3
LSZ	Lusaka	15.23	186	Pn	Pn	17 42 22.1	-1.0
LSZ				IAmb	IAmb	17 42 28.4	
	comp=Z,4.0nm,0.7s						
BOSA	Boshof	28.75	188	P	P	17 44 45.1	-0.5
BOSA				IAmb	IAmb	17 44 49.2	
	comp=Z,4.0nm,1.1s						
TORD	Torodi Ar. Bea	30.71	296	P	P	17 45 00.9	-2.1
TORD				IAmb	IAmb	17 45 08.6	
	comp=Z,1.2nm,0.8s						
MKAR	Makanchi Array	65.33	37	P	P	17 49 31.8	+1.7

TAP 12 17:52:43.0, 24°.89N×122°.70E, h19km±1km, ML2.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.52	146	i P	Pg	17 52 53.8	+0.4
YOJ				S	Sb	17 53 01.2	+0.8
EOS2	EOS2	0.63	222	P	Pg	17 52 56.1	+0.6
EOS2				eS	Sn	17 53 05.9	-0.4
TWB1	Santiao Chiao	0.65	280	eP	Pg	17 52 56.1	+0.2
EOS3	EOS3	0.69	210	P	Pg	17 52 57.0	+0.4
EOS3				S	Sn	17 53 07.0	-0.8
SXI1	Grass Mountain	0.77	285	eP	Pb	17 52 57.5	-0.3
TIPB	Shuangxi	0.79	276	eP	Pb	17 52 57.9	-0.3
TWC	Suao	0.82	250	eP	Pn	17 52 59.5	-0.1
ESAO	Su ao	0.83	248	eP	Pn	17 52 59.6	-0.2
EOS4	EOS4	0.84	204	eP	Pn	17 52 59.5	0.0
EOS4				eS	Sg	17 53 10.5	+0.1
EWUT	Wuta	0.94	242	eP	Pb	17 53 01.0	+0.2
EWUT				eS	Sg	17 53 13.6	-0.2
TWE	Neicheng	0.95	260	eP	Pb	17 53 00.9	0.0
ENA	Nanau	0.98	242	eP	Pb	17 53 01.2	-0.3
FUSB	Fushanzhiwuyua	1.01	263	P	Pn	17 53 02.2	-0.1
ENTT	Nioudou	1.06	257	eP	Pg	17 53 03.7	+0.2
TWY	Chenhua	1.06	291	eP	Pb	17 53 01.2	-1.6
LATG	Datong	1.12	252	eP	Pb	17 53 04.0	+0.1
YHNB	Yeheng	1.22	260	eP	Pg	17 53 06.2	-0.4
NACB	Ninganchiao	1.23	235	eP	Pb	17 53 05.5	-0.1
NSK	Sanguang	1.23	260	eP	Pb	17 53 06.2	+0.5
NNSB	Datong	1.28	249	eP	Pn	17 53 06.1	+0.1
ETLH	Xiulin Townshi	1.30	239	eP	Pb	17 53 06.9	+0.1
LXIB	Xiulin Townshi	1.45	234	eP	Pb	17 53 09.6	0.0

TAP 12 17:53:13.6, 24°.77N×122°.66E, h18km±1km, ML2.7, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.44	133	i P	Pg	17 53 22.3	-0.4
YOJ				S	Sb	17 53 30.1	+0.9
EOS2	EOS2	0.52	228	P	Pb	17 53 24.7	+0.6
EOS2				S	Sb	17 53 32.5	+1.3
EOS3	EOS3	0.57	213	P	Pg	17 53 25.4	+0.5
EOS3				eS	Sn	17 53 34.5	-1.1
TWB1	Santiao Chiao	0.65	292	eP	Pb	17 53 24.2	-2.1
EOS4	EOS4	0.72	206	P	Pn	17 53 28.1	-0.4
EOS4				eS	Sn	17 53 38.8	0.0
TWC	Suao	0.75	258	eP	Pb	17 53 28.2	+0.1
TWC				eS	Sb	17 53 37.4	-0.7
ESAO	Su ao	0.76	256	eP	Pg	17 53 28.6	+0.1
SXI1	Grass Mountain	0.78	295	eP	Pn	17 53 29.4	-0.4
SXI1				eS	Sn	17 53 40.3	-0.7
TIPB	Shuangxi	0.78	285	eP	Pb	17 53 27.3	-1.3
EWUT	Wuta	0.86	248	eP	Pn	17 53 31.2	+0.4
EWUT				eS	Sg	17 53 42.2	+0.3
NDS	Dongshan	0.87	261	eP	Pn	17 53 30.8	0.0
ENA	Nanau	0.90	248	eP	Pn	17 53 31.8	+0.5
ENA				eS	Sb	17 53 42.1	-0.2
TWE	Neicheng	0.90	267	eP	Pb	17 53 30.5	-0.1
TWE				eS	Sb	17 53 42.4	0.0
EAHA	Aohua	0.94	243	eP	Pg	17 53 32.0	0.0
EAHA				eS	Sg	17 53 44.1	-0.3
FUSB	Fushanzhiwuyua	0.97	270	P	Pn	17 53 32.2	-0.2
FUSB				S	Sg	17 53 45.1	-0.3
TWA	Mucha	1.00	282	eP	Pb	17 53 32.5	+0.1
ENTT	Nioudou	1.00	263	eP	Pg	17 53 33.4	+0.3
ENTT				eS	Sg	17 53 46.1	-0.1
PCYT	Pengchaiyu	1.01	328	eP	Pb	17 53 30.1	-2.4
NWLT	Wulai	1.05	271	eP	Pb	17 53 33.2	0.0
LATG	Datong	1.05	257	P	Pb	17 53 33.1	-0.3
LATG				eS	Sb	17 53 46.9	0.0
YM08	YM08	1.05	294	eP	Pg	17 53 33.9	-0.2
YM01	YM01	1.06	291	eP	Pg	17 53 33.9	-0.2
ETL	Fush Village	1.12	237	eP	Pg	17 53 35.5	+0.2
NACB	Ninganchiao	1.14	239	P	Pn	17 53 34.5	-0.1
NACB				S	Sn	17 53 49.4	-0.3
YHNB	Yeheng	1.17	265	P	Pb	17 53 35.5	+0.2
YHNB				S	Sn	17 53 50.9	+0.2
NSK	Sanguang	1.19	266	eP	Pb	17 53 35.8	+0.2
TWD	Chiawan	1.19	235	eP	Pg	17 53 36.8	+0.2
ETLH	Xiulin Townshi	1.21	243	P	Pb	17 53 36.1	+0.2
ETLH				S	Sn	17 53 51.9	+0.3
NNSB	Datong	1.21	254	eP	Pb	17 53 36.5	+0.5
NNSB				S	Sn	17 53 51.8	+0.2
NNSH	Datong	1.21	254	eP	Pg	17 53 36.7	-0.3
NNSH				eS	Sn	17 53 51.6	-0.1
NNS	Nan Shan	1.21	255	eP	Pg	17 53 36.7	-0.5
NNS				S	Sn	17 53 52.0	+0.2
ETM	Tongmen	1.33	233	eP	Pn	17 53 37.4	+0.2
KSHI	Guanxi Townshi	1.35	271	eP	Pg	17 53 39.0	-0.6
LXIB	Xiulin Townshi	1.36	237	eP	Pb	17 53 38.6	+0.1
LXIB				eS	Sg	17 53 56.7	-0.9
FUSS	Fushou	1.39	248	P	Pb	17 53 39.0	-0.1
FUSS				S	Sb	17 53 56.8	+0.2
NFF	Wufeng Townshi	1.41	265	eP	Pg	17 53 40.3	-0.4
WHF	Hehuan Shan	1.41	244	eP	Pb	17 53 39.2	-0.4
ESL	Shilin	1.47	230	eP	Pg	17 53 41.1	-0.7
LIOB	Emei	1.50	266	eP	Pb	17 53 40.6	-0.2
WARBT	Fenglin Townsh	1.56	228	eP	Pb	17 53 41.3	-0.6
OWD	Renai	1.57	239	eP	Pb	17 53 42.0	-0.3
OWD				eS	Sb	17 54 02.0	+0.1
WUSB	Renai	1.60	241	eP	Pb	17 53 42.4	-0.3
WUSB				eS	Sb	17 54 03.0	+0.3
WHP	Taichung City	1.63	253	eP	Pb	17 53 43.6	+0.4
HGSD	Ruisui	1.70	222	eP	Pn	17 53 42.1	-0.2
VWDT	VWDT	1.71	234	eP	Pb	17 53 44.0	-0.5
WCS	Beigang Elemen	1.74	246	eP	Pb	17 53 45.1	0.0
SMLT	Sun Moon Lake	1.83	242	eP	Pb	17 53 46.1	-0.5
SSLB	Suanglung	1.84	238	eP	Pb	17 53 46.2	-0.4
YULB	Yu-li	1.85	222	eP	Pb	17 53 45.4	+1.0
TYC	Yuchr	1.85	243	eP	Pb	17 53 45.9	-1.1
EYUL	Yuli	1.87	221	eP	Pb	17 53 46.5	-0.8
TWF1	Yuli	1.88	222	eP	Pn	17 53 45.1	+0.3
WHYT	Xinyi Township	1.96	237	eP	Pn	17 53 46.4	+0.4
ALS	Alishan	2.10	234	eP	Pb	17 53 50.6	-0.8
CHN5	Tsauling	2.15	238	eP	Pb	17 53 50.9	-1.2
STYH	Taoyuan	2.34	228	eP	Pn	17 53 52.9	+1.7
CHN4	Tsaushan	2.36	234	eP	Pb	17 53 54.6	-0.9
TPUB	Ta-pu	2.36	232	eP	Pn	17 53 51.9	+0.4
MASBT	Mashibuluo	2.84	221	eP	Pn	17 53 59.6	+1.6

*JMA **12** 17:58:25.7±0.2, 35°.6N±0°.6×14°.1E±°, h37km±1km, MV3.2/36, NEAR CHOSHI CITY*
*IDC **12** 17:58:27.2±2.1, 35°.52N×141°.02E, h48km±18km, mb3.5/10, mbtmp3.7/14, ML3.2/4, MS3.0/1, Error ellipse: s-maj=27.8km s-min=12.1km az=86.0*

ISC 12 17:58:25.5±1.0, 35°.53N±0°.06×141°.1E±0°.1, h33km, n29, σ0s73/23, mb3.7/10, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	Sammumatsuo	0.54	282	i P	Pn	17 58 36.5	-0.4
JIHU	Itakohorinouch	0.64	313	P	Pn	17 58 38.2	0.0
JCN	Nagara	0.74	261	eP	Pb	17 58 39.9	-0.1
KTR	Katsuura	0.75	239	eP	Pb	17 58 39.4	-0.7
BSO4	Boso 4	0.82	229	P	Pb	17 58 40.8	-0.6
BSO3	Boso 3	0.87	214	P	Pn	17 58 41.2	0.0
BSO1	Boso 1	0.88	186	P	Pn	17 58 41.4	+0.3
JYT	Yasato	1.01	314	P	Pn	17 58 42.7	-0.6
MJAR	Matsushiro Arr	2.55	294	P	Pn	17 59 06.0	+1.5
	1.4nm,0.3s,baz=95,slow=13,SNR=84						
	6.8nm,0.4s						
JHJ	Hachijo jima 2	2.64	205	P	Pn	17 59 05.7	-0.1
	23nm,0.3s,baz=49,slow=20,SNR=8.6						
JHJ				S	Sn	17 59 38.0	+1.3
	115nm,0.4s,baz=79,slow=23,SNR=6.7						
	103nm,0.4s						
ASAJ	Asahikawa	8.65	7	P	Pn	18 00 28.4	+0.1
	0.5nm,0.3s,baz=188,slow=15,SNR=6.3						
	3.9nm,0.6s						
KSRS	Korea Array	10.78	284	P	Pn	18 00 58.6	+1.1
	0.1nm,0.3s,baz=99,slow=15,SNR=1.6						
	0.6nm,0.7s						
H11N2	WAKE ISLAND Hy	27.64	118	T	T	18 33 17.2	
	baz=309,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	27.64	118	T	T	18 33 20.9	
	baz=309,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	27.65	118	T	T	18 33 18.4	
	baz=309,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	28.29	120	T	T	18 33 59.3	
	baz=312,slow=76,SNR=69						
H11S3	WAKE ISLAND Hy	28.29	120	T	T	18 33 58.4	
	baz=312,slow=76,SNR=48						
H11S2	WAKE ISLAND Hy	28.31	120	T	T	18 34 00.9	
	baz=312,slow=76,SNR=34						
SONM	Songino Array	28.44	306	P	P	18 04 16.5	-0.7
	0.5nm,0.6s,baz=96,slow=8.9,SNR=4.4						
	0.5nm,0.6s						
CMAR	Chiang Mai Arr	40.89	257	LR	LR	18 24 26.4	
	comp=Z,20nm,18.8s,baz=70,slow=38						
ZALV	Zalesovo Beam	42.75	314	P	P	18 06 18.9	-0.6
	0.8nm,0.5s,baz=93,slow=8.1,SNR=5.4						
	0.8nm,0.5s						
MKAR	Makanchi Array	44.71	303	P	P	18 06 34.7	-0.7
	0.4nm,0.5s,baz=84,slow=9.1,SNR=10						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	46.73	309	P	P	18 06 50.8	-0.4
	1.0nm,0.6s,baz=83,slow=7.9,SNR=9.0						
	1.0nm,0.6s						
ILAR	Eielson Array	50.90	32	P	P	18 07 24.1	+1.1
	0.5nm,0.9s,baz=273,slow=6.9,SNR=4.4						
	0.5nm,0.9s						
BVAR	Borovoye Array	51.40	313	P	P	18 07 26.9	-0.1
	0.3nm,0.4s,baz=87,slow=7.4,SNR=4.7						
	0.3nm,0.4s						
WRA	Warramunga Arr	55.54	188	P	P	18 07 56.7	-0.9
	1.1nm,0.8s,baz=5.1,slow=8.2,SNR=7.1						
	1.1nm,0.8s						
ASAR	Alice Springs	59.27	188	P	P	18 08 24.1	+0.3
	0.4nm,0.7s,baz=18,slow=12,SNR=5.2						
	0.4nm,0.7s						
FINES	FINESS Array B	70.02	332	P	P	18 09 33.9	+0.3
	4.1nm,1.0s,baz=50,slow=7.2,SNR=2.4						
	4.1nm,1.0s						
AKASG	Malin Array Be	75.33	322	P	P	18 10 04.5	-0.7
	0.3nm,0.3s,baz=46,slow=5.9,SNR=4.0						
	0.3nm,0.3s						

*NEIC **12** 18:07:18.9±1.4, 59°.31N±0°.03×152°.56W±0°.05, h76km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=148.0*
*IDC **12** 18:07:18.1±1.7, 59°.45N×152°.71W, h56km±23km, mb3.7/9, mbtmp3.9/13, ML3.8/4, MS3.4/1, Error ellipse: s-maj=27.6km s-min=9.7km az=110.0*
*AEIC **12** 18:07:20.5±1.6, 59°.35N±0°.03×152°.59W±0°.04, h67km±3km, ML3.5, ML3.7/158(NEIC), Error ellipse: s-maj=4.0km s-min=3.0km az=176.0*

**ISC 12 18:07:19.0±

O19K			Sn	Sn	18 07 56.3	-0.9
O19K	**Port Alsworth**	**1.26 315**	P	Pn	18 07 40.6	-0.3
	baz=134					
O19K			S	Sn	18 07 57.1	-0.2
	baz=134					
O19K			S	Sn	18 07 57.1	-0.2
	baz=134					
RDJH	**Redoubt Jeurge**	**1.28 354**		Pn	18 07 41.5	+0.2
KAHG	**Katmai Hook Gl**	**1.34 232**		Pn	18 07 42.2	+0.2
KAHG				Sn	18 07 59.5	+0.3
P18K	**Big Mountain,**	**1.38 274**		Pn	18 07 41.7	-0.9
P18K			Sn	Sn	18 07 58.8	-1.4
P18K	**Big Mountain,**	**1.38 274**	P	Pn	18 07 41.9	-0.7
	baz=91					
P18K			S	Sn	18 07 59.1	-1.2
	baz=91					
KAHC	**Katmai Hardscr**	**1.45 243**		Pn	18 07 43.3	-0.3
KAHC	**Katmai Hardscr**	**1.45 243**	P	Pn	18 07 43.3	-0.3
	baz=60					
O18K	**Koktuh Hills**	**1.46 292**	Pn	Pn	18 07 43.1	-0.5
O18K			Sn	Sn	18 08 00.6	-1.5
O18K			IAML		18 08 02.0	
	comp=N,491nm,0.8s					
O18K	**Koktuh Hills**	**1.46 292**	P	Pn	18 07 43.1	-0.5
	baz=110					
KDAK	**Kodiak Island**	**1.55 181**	Pn	Pn	18 07 44.4	-0.2
KDAK			Sn	Sn	18 08 03.3	-0.7
KDAK			IAML		18 08 13.0	
	comp=N,722nm,0.7s					
KDAK			IAML		18 08 13.2	
	comp=N,710nm,0.4s					
KDAK	**Kodiak Island**	**1.55 181**	P	Pn	18 07 44.5	-0.1
	comp=N,150nm,0.5s,baz=267,slow=3.9,SNR=1303					
KDAK			S	Sn	18 08 05.2	+1.2
	comp=N,122nm,0.3s,baz=238,slow=7.2,SNR=8.0					
CAPN	**Captain Cook N**	**1.60 25**		Pn	18 07 47.0	+1.6
CAPN	**Captain Cook N**	**1.60 25**	P	Pn	18 07 47.2	+1.8
	baz=207					
SLKM	**Skilak Lake**	**1.66 43**	Pn	Pn	18 07 45.8	-0.4
SLKM			IAML		18 08 12.0	
	comp=N,530nm,0.2s					
SLKM			IAML		18 08 13.1	
	comp=E,652nm,0.3s					
KVTA	**Katmai Vly 10**	**1.72 238**		Pn	18 07 47.1	+0.1
SEW	**Seward**	**1.75 62**	Pn	Pn	18 07 46.6	-0.7
SEW	**Seward**	**1.75 62**	P	Pn	18 07 46.6	-0.7
	baz=246					
KCE	**Katmai Mt Cerb**	**1.76 233**		Pn	18 07 48.0	+0.5
N19K	**Bonanza Creek**	**1.79 328**		Pn	18 07 47.9	-0.1
N19K	**Bonanza Creek**	**1.79 328**	P	Pn	18 07 47.8	-0.1
	baz=146					
Q22K	**Cooper Landing**	**1.83 49**	Pn	Pn	18 07 48.6	+0.2
ACHA	**Angle Creek He**	**1.83 234**	Pn	Pn	18 07 48.8	+0.2
SPU	**Mount Spurr**	**1.88 7**		Pn	18 07 49.5	+0.3
SPU			IAML		18 08 14.1	
	comp=E,578nm,0.7s					
CKL	**Chakachamna La**	**1.88 3**		Pn	18 07 49.9	+0.6
KELA	**Mount Kelaz**	**1.89 243**		Pn	18 07 49.2	-0.1
ANCK	**Angle Creek**	**1.91 235**		Pn	18 07 49.9	+0.3
SPCN	**Chakachatna No**	**1.92 5**		Pn	18 07 50.4	+0.8
SPBG	**Spurr Blockage**	**1.94 2**		Pn	18 07 50.7	+0.7
SPBG				Sn	18 08 14.6	+1.0
SPCG	**Spurr Capps Gl**	**1.99 7**		Pn	18 07 51.5	+0.8
P17K	**Kvichak River**	**2.01 268**		Pn	18 07 50.9	+0.1
P17K	**Kvichak River**	**2.01 268**	P	Pn	18 07 50.9	+0.1
	baz=84					
KJL	**Kejulik**	**2.04 233**		Pn	18 07 52.0	+0.7
SPNN	**North Nagishla**	**2.05 358**		Pn	18 07 52.3	+0.7
OHAK	**Old Harbor**	**2.15 191**	Pn	Pn	18 07 52.1	-0.5
OHAK	**Old Harbor**	**2.15 191**	P	Pn	18 07 52.3	-0.4
	baz=9.5					
FIS	**Fire Island**	**2.16 31**		Pn	18 07 53.8	+1.0
FIS			IAML		18 08 47.4	
	comp=E,623nm,0.7s					
FIS			IAML		18 08 59.1	
	comp=N,493nm,0.9s					
N18K	**Kilae Creek**	**2.17 310**		Pn	18 07 52.6	-0.3
N18K	**Kilae Creek**	**2.17 310**	P	Pn	18 07 52.7	-0.3
	baz=128					
STLK	**Strandline Lak**	**2.21 9**		Pn	18 07 54.1	+0.6
Q16K	**King Salmon**	**2.23 255**		Pn	18 07 54.1	+0.3
Q16K				Sn	18 08 20.4	+0.1
Q16K	**King Salmon**	**2.23 255**	P	Pn	18 07 54.1	+0.3
	baz=70					
Q16K			S	Sn	18 08 20.5	+0.1
	baz=70					
RC01	**Rabbit Creek A**	**2.25 37**	Pn	Pn	18 07 54.5	+0.4
RC01			IAML		18 08 23.1	
	comp=N,313nm,0.5s					
RC01			IAML		18 08 24.6	
	comp=E,315nm,0.3s					
RC01	**Rabbit Creek A**	**2.25 37**	P	Pn	18 07 54.5	+0.4
	baz=220					
SUA	**Susitna One**	**2.32 22**	Pn	Pn	18 07 55.9	+0.8
SUA			IAML		18 08 26.2	
	comp=E,343nm,0.7s					
SUA	**Susitna One**	**2.32 22**	P	Pn	18 07 55.7	+0.6
	baz=204					
O17K	**Koliganek Bris**	**2.37 283**		Pn	18 07 55.5	-0.1
O17K	**Koliganek Bris**	**2.37 283**	P	Pn	18 07 55.5	-0.1
	baz=99					
M20K	**Styx River**	**2.58 354**		Pn	18 07 59.5	+0.8
M20K	**Styx River**	**2.58 354**	IAML		18 08 31.5	
	comp=N,158nm,0.8s					
M20K	**Styx River**	**2.58 354**	P	Pn	18 07 59.5	+0.8
	baz=174					
PWL	**Port Wells**	**2.61 52**	Pn	Pn	18 07 58.6	-0.3
PWL			IAML		18 08 29.7	
	comp=N,345nm,0.4s					
PWL			IAML		18 08 32.5	
	comp=E,304nm,0.3s					
PWL	**Port Wells**	**2.61 52**	P	Pn	18 07 58.5	-0.4
	baz=236					
PLK1	**Peulik 1**	**2.62 236**		Pn	18 07 59.9	+0.8
N17K	**Nushagak Hills**	**2.64 299**		Pn	18 07 59.1	-0.2
N17K	**Nushagak Hills**	**2.64 299**	P	Pn	18 07 59.1	-0.2
	baz=115					
P23K	**Montague Islan**	**2.69 73**		Pn	18 08 00.1	+0.1
P23K	**Montague Islan**	**2.69 73**	P	Pn	18 08 00.1	+0.1
	baz=258					
SKT	**Skwentna**	**2.71 10**		Pn	18 08 00.6	+0.3
SKT			IAML		18 08 44.0	
	comp=E,146nm,0.7s					
SKT	**Skwentna**	**2.71 10**	P	Pn	18 08 00.7	+0.5
	baz=192					
M22K	**Willow**	**2.71 25**		Pn	18 08 00.9	+0.6
M22K	**Willow**	**2.71 25**	P	Pn	18 08 00.9	+0.6
	baz=208					
M18K	**Stony River**	**2.72 324**		Pn	18 08 00.4	0.0
M18K				Sn	18 08 31.0	-1.1
M18K	**Stony River**	**2.72 324**	P	Pn	18 08 00.4	0.0
	baz=142					
M18K			S	Sn	18 08 31.0	-1.1
	baz=142					
PLBL	**Peulik Blue Cr**	**2.78 236**		Pn	18 08 02.1	+0.9
P16K	**Nushagak River**	**2.83 266**		Pn	18 08 02.6	+0.8
P16K	**Nushagak River**	**2.83 266**	P	Pn	18 08 02.6	+0.8
	baz=81					
PMR	**Palmer**	**2.83 35**		Pn	18 08 01.8	-0.1
PMR			IAML		18 08 34.9	
	comp=E,122nm,0.5s					
PMR	**Palmer**	**2.83 35**	P	Pn	18 08 01.7	-0.1
	baz=219					
O16K	**Kokwok River B**	**2.85 278**		Pn	18 08 02.1	0.0
O16K	**Kokwok River B**	**2.85 278**	P	Pn	18 08 02.5	+0.3
	baz=93					
SII	**Sitkinak Islan**	**2.91 198**		Pn	18 08 02.5	-0.5
SII			IAML		18 08 38.1	
	comp=N,242nm,0.8s					
SII			IAML		18 09 01.9	
	comp=E,262nm,0.8s					
SII	**Sitkinak Islan**	**2.91 198**	P	Pn	18 08 02.7	-0.3
	baz=16					
KNK	**Knik Glacier**	**2.91 42**		Pn	18 08 03.0	0.0
KNK			IAML		18 08 37.5	
	comp=E,224nm,0.5s					
KNK			IAML		18 08 41.5	
	comp=N,196nm,0.5s					
KNK	**Knik Glacier**	**2.91 42**	P	Pn	18 08 02.7	-0.3
	baz=226					
GHO	**Glory Hole Cre**	**3.03 34**		Pn	18 08 04.6	-0.1
GHO			IAML		18 08 48.1	
	comp=N,192nm,0.7s					
GHO			IAML		18 08 50.4	
	comp=E,242nm,1.0s					
GLI	**Glacier Island**	**3.14 58**		Pn	18 08 04.7	-1.4
GLI			IAML		18 08 41.1	
	comp=E,254nm,0.6s					
GLI			IAML		18 08 43.3	
	comp=N,169nm,0.2s					
GLI	**Glacier Island**	**3.14 58**	P	Pn	18 08 04.6	-1.4
	baz=243					
Q23K	**Middleton Isla**	**3.17 85**	Pn	Pn	18 08 06.0	-0.4
Q23K			IAML		18 08 41.6	
	comp=E,255nm,0.8s					
Q23K			IAML		18 08 42.6	
	comp=N,240nm,0.8s					
R16K	**Pilot Point**	**3.18 239**	Pn	Pn	18 08 06.7	+0.1
R16K			IAML		18 08 40.5	
	comp=N,172nm,1.1s					
R16K			IAML		18 09 20.7	
	comp=E,162nm,1.0s					
R16K	**Pilot Point**	**3.18 239**	P	Pn	18 08 08.0	+1.3
	baz=54					
M17K	**Holitna River**	**3.21 313**		Pn	18 08 07.5	+0.4
M17K	**Holitna River**	**3.21 313**	P	Pn	18 08 07.4	+0.4
	baz=128					
HIN	**Hinchinbrook I**	**3.23 68**		Pn	18 08 06.7	-0.6
SML	**Sawmill**	**3.24 38**	Pn	Pn	18 08 07.2	-0.3
SML			IAML		18 08 57.5	
	comp=N,136nm,0.9s					
SML			IAML		18 08 57.6	
	comp=E,144nm,0.9s					
SML	**Sawmill**	**3.24 38**	P	Pn	18 08 07.0	-0.5
	baz=222					
CUT	**Chulitna**	**3.28 19**		Pn	18 08 08.2	+0.1
CUT	**Chulitna**	**3.28 19**	P	Pn	18 08 08.4	+0.4
	baz=201					
FID	**Port Fidalgo**	**3.36 62**		Pn	18 08 07.5	-1.6
FID			IAML		18 08 46.2	
	comp=N,170nm,0.3s					
FID			IAML		18 08 46.3	
	comp=E,212nm,0.3s					
M23K	**Glacier View**	**3.43 42**		Pn	18 08 10.1	0.0
M23K	**Glacier View**	**3.43 42**	P	Pn	18 08 10.1	0.0
	baz=226					
L18K	**Granite Mounta**	**3.55 327**		Pn	18 08 11.6	-0.1
L18K	**Granite Mounta**	**3.55 327**	IAML		18 08 52.8	
	comp=N,157nm,0.5s					
L18K			IAML		18 08 52.8	
	comp=E,88nm,0.4s					
L18K	**Granite Mounta**	**3.55 327**	P	Pn	18 08 11.6	-0.1
	baz=143					
PPLA	**Purkeypile**	**3.59 2**		Pn	18 08 13.7	+1.4
PPLA	**Purkeypile**	**3.59 2**	P	Pn	18 08 13.4	+1.1
	baz=183					
SCM	**Sheep Creek Mo**	**3.59 43**		Pn	18 08 12.3	0.0
SCM			IAML		18 08 55.5	
	comp=N,182nm,0.3s					
SCM	**Sheep Creek Mo**	**3.59 43**	P	Pn	18 08 12.4	0.0
	baz=228					
EYAK	**Cordova Ski Ar**	**3.63 67**		Pn	18 08 11.7	-1.0
EYAK	**Cordova Ski Ar**	**3.63 67**	P	Pn	18 08 11.7	-1.0
	baz=254					
M16K	**Timber Creek**	**3.64 301**		Pn	18 08 13.3	+0.5
M16K	**Timber Creek**	**3.64 301**	P	Pn	18 08 13.3	+0.5
	baz=115					
O15K	**Ungalikthiuk R**	**3.75 271**		Pn	18 08 15.4	+1.1
O15K	**Ungalikthiuk R**	**3.75 271**	P	Pn	18 08 15.4	+1.1
	baz=84					
DIV	**Divide**	**3.83 59**		Pn	18 08 14.8	-0.7
ANNW	**Aniakchak Nort**	**3.83 234**		Pn	18 08 17.5	+1.9
CHIR	**Chirikof Islan**	**3.89 207**	Pn	Pn	18 08 15.2	-1.0
CHIR			IAML		18 09 47.9	
	comp=E,76nm,1.1s					
CHIR	**Chirikof Islan**	**3.89 207**	P	Pn	18 08 15.4	-0.8
	baz=24					
N15K	**Kwethluk River**	**3.92 286**		Pn	18 08 18.1	+1.4
N15K	**Kwethluk River**	**3.92 286**	IAML		18 09 04.8	
	comp=E,89nm,0.8s					
N15K			IAML		18 09 29.9	
	comp=N,66nm,0.7s					
N15K	**Kwethluk River**	**3.92 286**	P	Pn	18 08 18.1	+1.4
	baz=99					
KLU	**Klutina**	**3.93 54**		Pn	18 08 16.5	-0.5
KLU			IAML		18 09 02.5	
	comp=N,136nm,0.4s					
KLU			IAML		18 09 02.9	
	comp=E,130nm,0.4s					
KLU	**Klutina**	**3.93 54**	P	Pn	18 08 16.5	-0.5
	baz=240					
TTA	**Tatalina**	**3.99 336**		Pn	18 08 17.8	0.0
TTA	**Tatalina**	**3.99 336**	P	Pn	18 08 18.0	+0.3
	baz=154					
L17K	**Donlin**	**4.00 317**		Pn	18 08 17.9	+0.2
L17K	**Donlin**	**4.00 317**	P	Pn	18 08 17.9	+0.2
	baz=132					
RAGM	**Ragged Mountai**	**4.10 72**		Pn	18 08 18.5	-0.7
CAST	**Castle Rocks**	**4.12 3**		Pn	18 08 19.7	+0.3
CAST	**Castle Rocks**	**4.12 3**	P	Pn	18 08 19.9	+0.5
	baz=184					
GOAT	**Goat Mountain**	**4.12 69**		Pn	18 08 18.7	-0.8
KAIM	**Kayak Island**	**4.16 78**	Pn	Pn	18 08 20.6	+0.6
KAIM			IAML		18 09 10.0	
	comp=N,118nm,0.5s					
KAIM			IAML		18 09 11.2	
	comp=E,109nm,0.4s					
KAIM	**Kayak Island**	**4.16 78**	P	Pn	18 08 20.6	+0.6
	baz=266					
L16K	**Owhat River**	**4.18 308**		Pn	18 08 20.7	+0.4
L16K	**Owhat River**	**4.18 308**	P	Pn	18 08 20.5	+0.2
	baz=122					
M24K	**Tolsona, Glenn**	**4.19 45**		Pn	18 08 20.5	+0.1
M24K			IAML		18 09 40.9	
	comp=N,101nm,0.9s					
M24K	**Tolsona, Glenn**	**4.19 45**	P	Pn	18 08 20.5	+0.1
	baz=232					
TRF	**Thorofare Moun**	**4.28 14**		Pn	18 08 21.6	-0.2
TRF			IAML		18 09 21.9	
	comp=E,71nm,0.7s					
TRF	**Thorofare Moun**	**4.28 14**	P	Pn	18 08 21.7	-0.1
	baz=196					
BMRM	**Bremner River**	**4.29 64**		Pn	18 08 20.9	-0.9
BMRM	**Bremner River**	**4.29 64**	P	Pn	18 08 21.0	-0.9
	baz=251					
HMT	**Hamilton**	**4.29 73**		Pn	18 08 21.1	-0.8
KTH	**Kantishna Hill**	**4.31 10**		Pn	18 08 22.8	+0.6
KTH			IAML		18 09 18.4	
	comp=N,97nm,0.8s					
KTH			IAML		18 09 19.0	
	comp=E,66nm,1.1s					
M15K	**Kasigluk River**	**4.32 292**		Pn	18 08 22.4	+0.2
M15K	**Kasigluk River**	**4.32 292**	P	Pn	18 08 22.4	+0.2
	baz=105					
CHGN	**Chignik**	**4.37 229**	Pn	Pn	18 08 23.2	+0.4
CHGN			IAML		18 09 12.7	
	comp=E,37nm,0.6s					
CHGN	**Chignik**	**4.37 229**	P	Pn	18 08 23.2	+0.4
	baz=43					
K17K	**Iditarod**	**4.41 323**	Pn	Pn	18 08 23.6	+0.2
K17K			IAML		18 09 28.3	
	comp=E,57nm,0.9s					
K17K			IAML		18 09 32.1	
	comp=N,38nm,0.8s					
K17K	**Iditarod**	**4.41 323**	P	Pn	18 08 23.9	+0.6
	baz=138					
NICHA	**Nichawak Mount**	**4.42 74**		Pn	18 08 23.2	-0.4
RND	**Reindeer**	**4.46 22**		Pn	18 08 24.4	+0.3
RND			IAML		18 09 15.3	
	comp=E,99nm,0.3s					
RND			IAML		18 09 16.7	
	comp=N,60nm,0.6s					
O14K	**Tigyukauivet M**	**4.48 273**		Pn	18 08 25.4	+1.1
O14K	**Tigyukauivet M**	**4.48 273**	IAML		18 09 16.9	
	comp=E,41nm,0.9s					
O14K	**Tigyukauivet M**	**4.48 273**	P	Pn	18 08 25.4	+1.1
	baz=85					
SUCK	**Suckling Hills**	**4.50 77**	Pn	Pn	18 08 24.5	-0.1
SUCK			IAML		18 09 19.4	
	comp=N,39nm,0.4s					
N25K	**Chitina, Valde**	**4.54 56**		Pn	18 08 24.8	-0.5
N25K			IAML		18 09 16.2	
	comp=N,55nm,0.5s					
N25K			IAML		18 09 18.0	
	comp=E,55nm,0.6s					
N25K	**Chitina, Valde**	**4.54 56**	P	Pn	18 08 24.9	-0.4
	baz=244					
BERG	**Berg Lake**	**4.58 73**		Pn	18 08 24.8	-0.9
N14K	**Kuskokwak Cree**	**4.69 281**		Pn	18 08 28.1	+1.0
N14K	**Kuskokwak Cree**	**4.69 281**	P	Pn	18 08 28.2	+1.0
	baz=93					
HARP	**HAARP**	**4.74 46**		Pn	18 08 28.5	+0.5
HARP	**HAARP**	**4.74 46**	P	Pn	18 08 28.5	+0.5
	baz=233					
MCK	**McKinley**	**4.75 20**		Pn	18 08 28.8	+0.8
MCK	**McKinley**	**4.75 20**	P	Pn	18 08 28.3	+0.3
	baz=203					
GLB	**Gilahina Butte**	**4.82 60**		Pn	18 08 28.4	-0.7
GLB			IAML		18 09 22.4	
	comp=E,44nm,0.4s					
GLB			IAML		18 09 24.5	
	comp=N,74nm,0.5s					
WACK	**Wrangell Chich**	**4.84 53**		Pn	18 08 29.2	-0.2
BPAW	**Bear Paw Mtn.**	**4.85 8**	Pn	Pn	18 08 29.5	+0.1
BPAW			IAML		18 09 27.6	
	comp=N,32nm,0.8s					
BPAW			IAML		18 09 31.3	
	comp=E,38nm,0.8s					
VRDI	**Verde Repeater**	**4.91 63**		Pn	18 08 29.5	-0.8
VRDI			IAML		18 09 25.8	
	comp=N,59nm,0.7s					
VRDI			IAML		18 09 27.9	
	comp=E,30nm,0.6s					
J19K	**Poorman**	**4.91 344**		Pn	18 08 31.2	+1.0
J19K	**Poorman**	**4.91 344**	IAML		18 09 26.2	
	comp=N,26nm,1.0s					
J19K	**Poorman**	**4.91 344**	P	Pn	18 08 31.2	+1.0
	baz=162					
J20K	**Nowinta River**	**4.93 352**	Pn	Pn	18 08 30.4	0.0
J20K			IAML		18 09 28.2	
	comp=E,68nm,0.8s					
J20K			IAML		18 09 31.0	
	comp=N,43nm,0.8s					
J20K	**Nowinta River**	**4.93 352**	P	Pn	18 08 31.1	+0.7
	baz=171					
M14K	**Bethel**	**4.94 291**	Pn	Pn	18 08 31.2	+0.7
SNH	**Sunshine Point**	**4.98 76**	Pn	Pn	18 08 31.4	+0.2
SNH			IAML		18 09 26.9	
	comp=N,71nm,0.5s					
SNH			IAML		18 09 29.1	
	comp=E,71nm,0.5s					
PAX	**Paxson**	**5.01 40**		Pn	18 08 31.4	-0.2
PAX	**Paxson**	**5.01 40**	P	Pn	18 08 31.4	-0.2
	baz=227					
BWN	**Browne**	**5.08 15**	Pn	Pn	18 08 33.2	+0.7
J17K	**VABM Dome**	**5.16 325**		Pn	18 08 33.8	+0.2
J17K	**VABM Dome**	**5.16 325**	IAML		18 10 22.1	
	comp=N,25nm,1.2s					
J17K	**VABM Dome**	**5.16 325**	P	Pn	18 08 33.8	+0.2
	baz=140					
BARK	**Barkley Ridge**	**5.17 74**		Pn	18 08 33.5	-0.4
K15K	**Wolf Creek Mou**	**5.32 308**		Pn	18 08 36.5	+0.8
K15K	**Wolf Creek Mou**	**5.32 308**	P	Pn	18 08 36.5	+0.8
	baz=120					
KIAG	**Kiagna River**	**5.33 68**		Pn	18 08 35.1	-1.0
MESA	**MESA**	**5.42 76**	Pn	Pn	18 08 37.4	+0.1
MESA	**MESA**	**5.42 76**	P	Pn	18 08 37.5	+0.2
	baz=266					
L14K	**Kuka Creek**	**5.43 296**		Pn	18 08 38.2	+0.9
L14K	**Kuka Creek**	**5.43 296**	IAML		18 10 13.8	
	comp=N,31nm,1.1s					
L14K			IAML		18 10 32.5	
	comp=E,19nm,1.0s					
L14K	**Kuka Creek**	**5.43 296**	P	Pn	18 08 38.2	+0.9
	baz=107					
NEA2	**Nenana**	**5.53 16**		Pn	18 08 38.4	-0.4
NEA2	**Nenana**	**5.53 16**	P	Pn	18 08 38.0	-0.7
	baz=199					
J16K	**Anvik River**	**5.56 319**		Pn	18 08 39.2	+0.2
J16K	**Anvik River**	**5.56 319**	P	Pn	18 08 39.2	+0.2
	baz=132					
WRH	**Wood River Hil**	**5.58 20**		Pn	18 08 38.8	-0.5
M26K	**Nabesna, AK**	**5.59 52**		Pn	18 08 39.2	-0.3
M26K	**Nabesna, AK**	**5.59 52**	P	Pn	18 08 39.2	-0.3
	baz=241					
MENT	**Mentasta**	**5.60 46**		Pn	18 08 40.0	+0.3
RKAV	**Rock Avalanche**	**5.73 75**		Pn	18 08 41.9	+0.4
HDA	**Harding Lake**	**5.74 25**		Pn	18 08 41.2	-0.4
HDA	**Harding Lake**	**5.74 25**	P	Pn	18 08 41.3	-0.2
	baz=210					
RIDG	**Independent Ri**	**5.75 36**		Pn	18 08 41.8	+0.1
RIDG	**Independent Ri**	**5.75 36**	P	Pn	18 08 41.8	+0.1
	baz=224					
CCB	**Clear Creek Bu**	**5.79 21**		Pn	18 08 41.5	-0.6
L26K	**Log Cabin Wild**	**5.79 46**		Pn	18 08 42.8	+0.6
CNBA	**Chernabura Isl**	**5.93 223**	Pn	Pn	18 08 42.9	-1.3
DOT	**Dot Lake**	**5.94 39**		Pn	18 08 43.9	-0.3
COLA	**College**	**5.99 20**		Pn	18 08 44.4	-0.4
SAMH	**Samovar Hills**	**6.00 77**		Pn	18 08 46.0	+0.9
I23K	**Minto, Yukon-K**	**6.03 13**		Pn	18 08 45.2	-0.2
I23K	**Minto, Yukon-K**	**6.03 13**	P	Pn	18 08 46.0	+0.5
	baz=196					
IL31		**6.08 23**		Pn	18 08 45.5	-0.5
ILAR	**Eielson Array**	**6.08 23**		Pn	18 08 45.3	-0.8
ILAR	**Eielson Array**	**6.08 23**	P	Pn	18 08 45.6	-0.5
	comp=E,2.7nm,0.3s,baz=210,slow=14,SNR=134					
ILAR			S	Sn	18 09 50.5	-3.6
	comp=E,7.3nm,0.4s,baz=204,slow=24,SNR=13					
	comp=E,5.4nm,0.4s					
SCRK	**Sand Creek**	**6.19 37**		Pn	18 08 47.0	-0.7
SCRK	**Sand Creek**	**6.19 37**	P	Pn	18 08 47.0	-0.7
	baz=225					
PCA	**Pinnacle**	**6.26 78**		Pn	18 08 48.8	+0.1
YUK2	**White River**	**6.27 62**		Pn	18 08 48.9	0.0
POKR	**Poker Plat Res**	**6.28 20**		Pn	18 08 48.4	-0.5
POKR	**Poker Plat Res**	**6.28 20**	P	Pn	18 08 48.6	-0.4
	baz=205					
J25K	**Salcha River,**	**6.29 29**	Pn	Pn	18 08 48.4	-0.7
J25K	**Salcha River,**	**6.29 29**	P	Pn	18 08 48.8	-0.3
	baz=216					
O28M	**Mount Upton**	**6.35 72**		Pn	18 08 50.2	0.0
O28M	**Mount Upton**	**6.35 72**	P	Pn	18 08 50.2	0.0
	baz=262					
L27K	**Beaver Creek,**	**6.39 50**		Pn	18 08 50.1	-0.2
L27K	**Beaver Creek,**	**6.39 50**	P	Pn	18 08 50.1	-0.2
	baz=239					
BCAR	**Beaver Creek A**	**6.41 50**		Pn	18 08 50.2	-0.4
YUK3	**Moose Creek**	**6.44 62**		Pn	18 08 51.2	0.0
YUK3	**Moose Creek**	**6.44 62**	P	Pn	18 08 51.2	0.0
	baz=253					
YUK8	**Steele Glacier**	**6.64 67**		Pn	18 08 55.1	+1.0
YUK8	**Steele Glacier**	**6.64 67**	P	Pn	18 08 55.1	+1.0
	baz=259					
J26L	**Joseph Creek**	**6.70 35**		Pn	18 08 54.3	-0.4
J26L	**Joseph Creek**	**6.70 35**	P	Pn	18 08 54.3	-0.4
	baz=224					
M11K	**Mekoryuk**	**6.97 285**	Pn	Pn	18 08 58.3	0.0
PRP	**Porcupine Dome**	**7.01 25**		Pn	18 08 58.9	-0.1
PRP	**Porcupine Dome**	**7.01 25**	P	Pn	18 08 59.2	+0.2
	baz=211					
O29M	**Mount Kennedy**	**7.11 76**		Pn	18 09 00.2	-0.1
O29M	**Mount Kennedy**	**7.11 76**	P	Pn	18 09 01.3	+1.0
	baz=268					
YUK4	**Talbot Arm**	**7.18 68**	P	Pn	18 09 02.3	+0.9
	baz=259					
YUK6	**Outpost Mounta**	**7.26 71**		Pn	18 09 02.6	+0.2
YUK6	**Outpost Mounta**	**7.26 71**	P	Pn	18 09 02.6	+0.2
	baz=264					
YUK7	**Dusty Glacier**	**7.33 74**		Pn	18 09 04.1	+0.7
I26K	**Coal Creek Min**	**7.42 32**		Pn	18 09 03.7	-0.7
I26K	**Coal Creek Min**	**7.42 32**	P	Pn	18 09 03.7	-0.7

SKAG Skagway 8.78 82 Pn **Pn** 18 09 22.1 -0.9
DLBC Dease Lake 11.66 85 P **Pn** 18 10 04.2 +1.8
comp=E,1.0nm,0.3s,baz=237,slow=12,SNR=16
comp=E,2.6nm,0.4s
INK Inuvik 12.25 35 P **Pn** 18 10 09.4 -0.7
comp=E,0.2nm,0.3s,baz=229,slow=13,SNR=5.1
comp=E,1.5nm,0.8s
A36M Sachs Harbour 16.72 30 Pn **Pn** 18 11 08.3 +0.1
YKA Yellowknife Ar 18.52 64 P **Pn** 18 11 30.4 +0.2
comp=E,0.2nm,0.3s,baz=278,slow=11,SNR=9.0
comp=E,0.4nm,0.4s
PETK Petropavlovsk- 27.80 279 P **P** 18 13 00.4 -0.4
comp=E,5.3nm,1.0s,baz=69,slow=13,SNR=7.6
comp=E,5.3nm,1.0s
FRB Frobisher Bay 37.55 47 LR LR 18 31 31.3
comp=E,58nm,19.8s,baz=60,slow=39
SONM Songino Array 55.38 307 P **P** 18 16 46.4 +1.1
comp=E,0.7nm,1.0s,baz=39,slow=9.3,SNR=3.4
comp=E,0.7nm,1.0s
ZALV Zalesovo Beam 58.06 324 P **P** 18 17 03.7 -0.3
comp=E,0.9nm,0.4s,baz=27,slow=7.1,SNR=5.2
comp=E,0.9nm,0.4s
FINES FINESS Array B 59.56 1 P **P** 18 17 14.9 +0.6
comp=E,1.6nm,0.9s,baz=356,slow=5.6,SNR=1.2
comp=E,1.6nm,0.9s
HFS Hagfors 60.39 8 P **P** 18 17 19.3 -0.7
comp=E,1.6nm,0.7s,baz=46,slow=6.4,SNR=9.4
comp=E,1.6nm,0.7s
BVAR Borovoye Array 62.78 332 P **P** 18 17 36.0 -0.2
comp=E,2.0nm,0.6s,baz=30,slow=7.0,SNR=12
comp=E,2.0nm,0.6s
KURBB Kurchatov Arra 62.83 326 P **P** 18 17 36.1 -0.4
comp=E,0.7nm,0.5s,baz=27,slow=6.3,SNR=6.6
comp=E,0.7nm,0.5s
EKA Eskdalemuir Ar 63.09 19 P **P** 18 17 38.5 +0.3
comp=E,3.3nm,1.0s,baz=352,slow=5.1,SNR=3.5
comp=E,3.3nm,1.0s
MKAR Makanchi Array 65.11 322 P **P** 18 17 50.9 -0.7
comp=E,0.2nm,0.6s,baz=33,slow=6.8,SNR=6.6
comp=E,0.2nm,0.6s

---

*NOU **12** 18:16:41.3,21.°94S×170.°87E,h0km,mb1.7/7,Southeast of Loyalty Islands*
*IDC **12** 18:17:01.3±4.6,20.°32S×168.°82E,h0km,mb3.6/3, mbtmp3.6/3,MS3.3.3/1,Error ellipse: s-maj=219.8km s-min=37.0km az=151.0*
ISC 12 18:17:02.5±2.6,21.°9S±0.°2×169.°5E±0.°2,h35km,n11, σ0.°57/10,mb3.8/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	1.43	287	P	**Pn**	18 17 25.0	-0.8
PINNC	**Pines Island,**	2.02	250	P	**Pn**	18 17 33.1	-0.9
YATNC	**Mamie plateau,**	2.42	266	P	**Pn**	18 17 39.5	0.0
OUENC	**Ouen Island, N**	2.50	258	P	**Pn**	18 17 40.5	-0.2
DZM	**Mont Dzumac**	2.83	266	P	**Pn**	18 17 45.3	0.0
ONTNC	**Ouen Toro**	2.84	262	P	**Pn**	18 17 45.3	-0.1
KOUNC	**Koumac, New Ca**	5.04	285	P	**Pn**	18 18 15.7	+0.1
ASAR	**Alice Springs**	32.80	260	P	**P**	18 23 33.6	+0.8
	1.2nm,0.8s,baz=76,slow=9.1,SNR=11						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	32.85	267	P	**P**	18 23 33.2	0.0
	0.3nm,0.6s,baz=98,slow=7.9,SNR=6.1						
WRA				LR	LR	18 36 10.2	
	comp=Z,46nm,18.9s,baz=352,slow=36						
	0.3nm,0.6s						
ILAR	**Eielson Array**	92.71	17	P		18 30 09.1	-1.3
	0.3nm,0.7s,baz=235,slow=5.9,SNR=4.4						
	0.3nm,0.7s						
EKA	**Eskdalemuir Ar**	146.18	352	PKP	**PKPdf**	18 36 37.5	-0.2
	0.5nm,0.4s,baz=24,slow=2.5,SNR=3.6						

---

*NEIC **12** 18:21:46.0±1.5,3.°5S±0.°2×146.°8E±0.°4,h10km±2km, mb4.1/7,Error ellipse: s-maj=78.8km s-min=12.6km az=115.0*
*IDC **12** 18:21:50.8±2.2,3.°55S×145.°72E,h0km,mb3.6/2, mbtmp3.8/4,ML3.5/1,Error ellipse: s-maj=54.5km s-min=20.9km az=108.0*
ISC 12 18:21:48.8±0.9,3.°3S±0.°1×146.°4E±0.°2,h20km,n12, σ2.°44/11,mb3.8/3,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	1.62	39		Pn	18 22 13.3	-3.0
MANU				Sn	**Sn**	18 22 34.7	-1.9
PMG	**Port Moresby**	6.10	173	Pn	**Pn**	18 23 20.0	+2.0
	11nm,0.8s,baz=351,slow=19,SNR=2.1						
MTN	**Manton Dam**	17.79	237	P	**P**	18 25 56.6	+0.5
MTN				IAmb	IAmb	18 26 02.6	
	comp=Z,56nm,1.3s						
WB0	**Warramunga Arr**	20.09	215	P	**Pn**	18 26 21.7	-1.6
WB0				IAmb	IAmb	18 26 24.8	
	comp=Z,8.5nm,1.1s						
WB2	**Warramunga Arr**	20.26	214	P	Pn	18 26 23.4	-1.8
WRA	**Warramunga Arr**	20.27	214	P	Pn	18 26 23.9	-1.4
	comp=Z,0.1nm,0.3s,baz=39,slow=11,SNR=14						
WRA				S	**S**	18 30 05.2	-4.7
	comp=Z,0.3nm,0.8s,baz=66,slow=36,SNR=4.8						
	comp=Z,3.2nm,0.8s						
KNRA	**Kununurra**	21.23	234	P	**P**	18 26 33.2	-0.5
ASAR	**Alice Springs**	23.54	210	P	**P**	18 26 58.9	+0.8
	comp=Z,2.6nm,0.9s,baz=40,slow=8.6,SNR=15						
	comp=Z,2.6nm,0.9s						
FITZ	**Fitzroy Crossi**	25.05	233	P	**P**	18 27 11.5	-0.5
FITZ				IAmb	IAmb	18 27 26.5	
	comp=Z,4.7nm,1.5s						
MKAR	**Makanchi Array**	75.03	320	P	**P**	18 33 32.5	+3.3
	comp=Z,0.4nm,0.8s,baz=101,slow=7.5,SNR=3.2						
	comp=Z,0.4nm,0.8s						
N15K	**Kwethluk River**	75.71	25	P	**P**	18 33 31.3	-1.5
M16K	**Timber Creek**	76.65	24	P	**P**	18 33 37.1	-0.9

---

*IDC **12** 18:22:59.9±0.7,23.°73N×121.°80E,h0km,mb3.8/11, mbtmp3.8/12,ML3.7/1,MS3.2/2,Error ellipse: s-maj=22.1km s-min=15.6km az=64.0*
*JMA **12** 18:23:01.1±0.2,23.°7N±0.°4×12°2E±°,h0km,MV3.7/13, TAIWAN REGION*
*NEIC **12** 18:23:01.9±1.4,23.°71N±0.°02×121.°63E±0.°03,h8km, mb4.6/31,Error ellipse: s-maj=4.7km s-min=2.1km az=107.0*
*BJI **12** 18:23:02.0,23.°72N×121.°69E,h13km,mB4.4/7,mb4.0/23, ML4.1/7,Ms4.1/13,Ms7 3.9/11*
*TAP **12** 18:23:02.0,23.°75N×121.°58E,h5km,ML4.4,C*
*ASIES **12** 18:23:02.0,23.°75N×121.°58E,h5km,ML4.4,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-3.56; $M_{\theta\theta}$0.67; $M_{\phi\phi}$2.89; $M_{r\theta}$1.31; $M_{\theta\phi}$2.13; $M_{\phi r}$3.20; Fault plane solution: $M_0$5.21804×10^{21} NP1:ϕ_s39.58000°, δ24.71000°,λ-76.31000°. NP2:ϕ_s204.57000°, δ66.03000°, λ-96.21000°. Principal axes: T Plg20.8040°, Azm299.2670°; N Plg5.6780°, Azm207.1020°; P Plg68.3650°, Azm102.5860°;*
ISC 12 18:23:01.9±0.9,23.°73N±0.°01×121.°67E±0.°02,h7km±5km, n251,σ1.°04/386,mb4.3/25,61C-7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	0.12	302	⇓*iP*	**Pg**	18 23 03.9	-0.5
SHUL				*i* S	**Sg**	18 23 05.3	-0.8
TEGC	**Jichi Village**	0.12	262	*eP*	**Pg**	18 23 03.8	-0.7
TEGC				*i* S	**Sg**	18 23 05.3	-0.9
TEYL	**Yanliau Villag**	0.16	335	⇑*iP*	**Pg**	18 23 06.2	+1.1
TEYL				S	**Sg**	18 23 09.8	+2.5
EGFH	**Guangfu**	0.23	256	⇓P	**Pg**	18 23 05.8	-0.6
EGFH				S	**Sg**	18 23 08.8	-0.7
ESL	**Shilin**	0.23	292	⇑*iP*	**Pg**	18 23 05.5	-1.0
ESL				S	**Sg**	18 23 07.9	-1.7
HWA	**Hwalien**	0.26	347	⇑*iP*	**Pg**	18 23 08.0	+1.0
HWA				S	**Sg**	18 23 11.5	+1.1
WARBT	**Fenglin Townsh**	0.26	268	⇑*iP*	**Pg**	18 23 06.1	-1.0
WARBT				*i* S	**Sg**	18 23 09.0	-1.5
ETM	**Tongmen**	0.29	326	⇑*iP*	**Pg**	18 23 07.2	-0.3
ETM				S	**Sg**	18 23 11.3	-0.1
HGSD	**Ruisui**	0.32	224	⇑*iP*	**Pg**	18 23 09.2	+0.9
HGSD				S	**Sg**	18 23 14.2	+1.7
TWD	**Chiawan**	0.36	349	⇑*iP*	**Pg**	18 23 09.3	+0.4
TWD				S	**Sb**	18 23 15.8	-0.7
LXIB	**Xiulin Townshi**	0.38	321	⇑*iP*	**Pg**	18 23 08.8	-0.5
EHYH	**Wanrong**	0.38	232	P	**Pg**	18 23 09.1	-0.1
EHYH				*eS*	**Sg**	18 23 15.4	+1.2
EHY	**Hungye**	0.39	236	⇑*iP*	**Pg**	18 23 09.1	-0.4
EHY				*eS*	**Sg**	18 23 14.9	+0.4
ETL	**Fush Village**	0.43	354	*eP*	**Pg**	18 23 10.7	+0.4
ETL				*eS*	**Sb**	18 23 18.6	-0.1
NACB	**Ninganchiao**	0.45	351	Pg	**Pg**	18 23 09.7	-0.9
NACB					**Sg**	18 23 17.1	+0.6
NACB	**Ninganchiao**	0.45	351	P	**Pg**	18 23 10.8	+0.2
NACB	**Ninganchiao**	0.45	351	⇑*iP*	**Pg**	18 23 10.8	+0.2
NACB				S	**Sg**	18 23 17.0	+0.4
ECBN	**Changbin**	0.46	206	⇓*iP*	**Pb**	18 23 12.0	-0.2
ECBN				*i* S	**Sb**	18 23 20.3	+1.0
YULB	**Yu-li**	0.48	226	Pg	**Pg**	18 23 11.0	-0.1
YULB	**Yu-li**	0.48	226	P	**Pg**	18 23 11.6	+0.5
YULB	**Yu-li**	0.48	226	⇑P	**Pg**	18 23 11.1	0.0
YULB				*eS*	**Sg**	18 23 19.0	+1.7
VWDT	**VWDT**	0.48	273	⇑*iP*	**Pg**	18 23 10.7	-0.5
VWDT				*eS*	**Sg**	18 23 17.7	+0.1
EYUL	**Yuli**	0.50	221	⇑P	**Pg**	18 23 12.3	+0.8
EYUL				*eS*	**Sb**	18 23 20.6	+0.1
TWF1	**Yuli**	0.51	223	⇑P	**Pg**	18 23 11.9	+0.2
TWF1				S	**Sg**	18 23 18.5	+0.2
OWD	**Renai**	0.51	297	⇑*iP*	**Pg**	18 23 10.9	-0.8
OWD				*eS*	**Sg**	18 23 16.5	-1.9
ETLH	**Xiulin Townshi**	0.51	340	⇑P	**Pg**	18 23 11.5	-0.3
ETLH				*eS*	**Sg**	18 23 19.2	+0.8
WHF	**Hehuan Shan**	0.56	318	⇑*iP*	**Pg**	18 23 12.2	-0.5
WHF				*eS*	**Sg**	18 23 19.5	-0.6
WUSB	**Renai**	0.57	298	⇑*iP*	**Pg**	18 23 12.4	-0.5
WUSB				*eS*	**Sg**	18 23 18.7	-1.7
EHP	**Heping Village**	0.58	6	*eP*	**Pb**	18 23 14.4	-0.1
CHKH	**Chenggong**	0.59	205	*eP*	**Pg**	18 23 14.0	+0.8
CHKH				*eS*	**Sb**	18 23 24.0	+0.9
EAHA	**Aohua**	0.60	6	⇑P	**Pb**	18 23 14.4	-0.4
EAHA				*eS*	**Sb**	18 23 24.5	+0.9
FULB	**Fuli**	0.63	213	⇓*eP*	**Pg**	18 23 14.9	+0.9
FULB				*eS*	**Sb**	18 23 26.4	+2.1
FUSS	**Fushou**	0.65	323	⇑*iP*	**Pg**	18 23 14.3	-0.2
FUSS				*eS*	**Sg**	18 23 22.4	-0.5
SSLB	**Suanglung**	0.66	275	Pg	**Pg**	18 23 13.2	-1.4
SSLB	**Suanglung**	0.66	275	P	**Pg**	18 23 13.7	-0.9
SSLB	**Suanglung**	0.66	275	⇑*iP*	**Pg**	18 23 13.8	-0.9
SSLB				*eS*	**Sg**	18 23 21.6	-1.5
CHKT	**Chengkung**	0.68	204	⇓*iP*	**Pg**	18 23 15.7	+0.7
CHKT				S	**Sb**	18 23 26.9	+1.1
TWT	**Tachien**	0.69	319	⇑*iP*	**Pg**	18 23 15.2	0.0
TWT				S	**Sg**	18 23 23.3	-1.0
ENA	**Nanau**	0.70	5	⇑*iP*	**Pb**	18 23 16.0	-0.5
ENA				*eS*	**Sb**	18 23 26.9	+0.4
TDCB	**Techi**	0.70	318	⇑*iP*	**Pg**	18 23 15.3	-0.2
TDCB				S	**Sg**	18 23 23.4	-1.2
EOS4	**EOS4**	0.71	56	*eP*	**Pn**	18 23 17.7	-0.4
EOS4				*i* S	**Sn**	18 23 29.6	+0.4
EHD	**Haiduan**	0.71	217	*eP*	**Pg**	18 23 16.1	+0.4
EHD				*eS*	**Sg**	18 23 26.1	+1.2
SMLT	**Sun Moon Lake**	0.72	283	⇑*iP*	**Pg**	18 23 14.1	-1.7
SMLT				*i* S	**Sg**	18 23 23.5	-1.7
EWUT	**Wuta**	0.72	8	⇑*iP*	**Pb**	18 23 16.6	-0.3
EWUT				*eS*	**Sb**	18 23 27.6	+0.6
NNSB	**Datong**	0.75	339	⇑*iP*	**Pg**	18 23 16.1	-0.1
NNSB				*eS*	**Sg**	18 23 25.9	-0.1
WHYT	**Xinyi Township**	0.75	268	⇑P	**Pg**	18 23 15.6	-0.7
WHYT				*eS*	**Sg**	18 23 25.2	-0.9
ECS	**Chishang**	0.75	213	*eP*	**Pg**	18 23 17.3	+0.9
ECS				S	**Sb**	18 23 29.0	+1.2
NNS	**Nan Shan**	0.76	339	⇑*iP*	**Pg**	18 23 16.4	-0.1
NNS				*eS*	**Sg**	18 23 26.8	+0.3
TYC	**Yuchr**	0.77	284	⇑*iP*	**Pg**	18 23 15.8	-0.9
TYC				*i* S	**Sg**	18 23 25.4	-1.1
WCS	**Beigang Elemen**	0.77	296	⇑*iP*	**Pg**	18 23 16.3	-0.4
WCS				*eS*	**Sg**	18 23 25.6	-1.0
ELDTW	**Lidau**	0.80	228	⇑P	**Pg**	18 23 16.4	-0.9
ELDTW				*eS*	**Sg**	18 23 26.5	-1.3
EOS3	**EOS3**	0.81	47	*eP*	**Pn**	18 23 19.7	0.0
EOS3				*eS*	**Sn**	18 23 33.3	+1.3
LATG	**Datong**	0.82	351	⇑*iP*	**Pg**	18 23 17.6	0.0
LATG				*eS*	**Sb**	18 23 29.6	-0.2
ALS	**Alishan**	0.82	255	⇑*iP*	**Pg**	18 23 17.5	-0.2
ALS				S	**Sg**	18 23 28.0	-0.5
EDH	**Donghe**	0.82	204	⇓P	**Pg**	18 23 17.9	+0.2
EDH				*eS*	**Sb**	18 23 30.7	+0.9
WHP	**Taichung City**	0.86	310	⇑*iP*	**Pg**	18 23 18.2	-0.3
WHP				*eS*	**Sg**	18 23 28.3	-1.3
ESAO	**Su ao**	0.86	11	⇑*eP*	**Pb**	18 23 19.1	-0.1
ESAO				*eS*	**Sb**	18 23 32.1	+1.1
WJS	**Zhushan**	0.87	276	⇑P	**Pg**	18 23 19.3	+0.7
WJS				*eS*	**Sg**	18 23 30.6	+0.7
TWC	**Suao**	0.89	11	⇑*iP*	**Pb**	18 23 19.8	0.0
TWC				*eS*	**Sb**	18 23 32.8	+0.8
NDS	**Dongshan**	0.90	3	*eP*	**Pb**	18 23 19.8	-0.2
NDS				*eS*	**Sb**	18 23 32.7	+0.5
ENTT	**Nioudou**	0.92	354	⇑*iP*	**Pg**	18 23 19.7	+0.2
ENTT				S	**Sb**	18 23 32.7	+0.1
WNT	**Mingjian**	0.92	280	*eP*	**Pg**	18 23 19.8	+0.3
WNT				*eS*	**Sg**	18 23 31.8	+0.4
CHN5	**Tsauling**	0.92	262	⇑*iP*	**Pg**	18 23 19.6	+0.1
CHN5				*eS*	**Sg**	18 23 30.6	-0.9
LONT	**Longtian**	0.95	211	*eP*	**Pg**	18 23 19.6	-0.7
LONT				*eS*	**Sb**	18 23 34.7	+1.0
YHNB	**Yeheng**	0.98	344	Pg	**Pg**	18 23 20.4	-0.3
YHNB				Sg	**Sb**	18 23 34.1	-0.3
YHNB	**Yeheng**	0.98	344	P	**Pg**	18 23 21.0	+0.3
YHNB	**Yeheng**	0.98	344	⇑*iP*	**Pg**	18 23 20.7	0.0
YHNB				*eS*	**Sg**	18 23 32.5	-0.9
NSK	**Sanguang**	0.99	343	⇑*iP*	**Pg**	18 23 20.8	-0.4
NSK				*i* S	**Sb**	18 23 34.5	-0.2
STYH	**Taoyuan**	0.99	236	*eP*	**Pg**	18 23 20.4	-0.5
STYH				*eS*	**Sb**	18 23 35.3	+0.6
TWE	**Neicheng**	0.99	360	⇑P	**Pg**	18 23 20.9	0.0
TWE				*eS*	**Sb**	18 23 35.0	+0.2
TCU	**Taichung**	1.00	295	*eP*	**Pg**	18 23 21.7	+0.6
TCU				*eS*	**Sg**	18 23 34.9	+0.7
WGK	**Gukeng**	1.02	268	⇑*iP*	**Pg**	18 23 21.7	+0.3
WGK				*eS*	**Sb**	18 23 36.0	+0.6
WCKO	**Fanlu**	1.02	254	⇑*iP*	**Pg**	18 23 21.6	+0.2
WCKO				S	**Sg**	18 23 34.8	+0.2
TWQ1	**Liyutan**	1.03	307	*eP*	**Pg**	18 23 21.9	+0.3
TWQ1				*eS*	**Sg**	18 23 35.2	+0.2
FUSB	**Fushanzhiwuyua**	1.03	356	⇑P	**Pg**	18 23 21.6	-0.1
FUSB				S	**Sb**	18 23 35.6	-0.4
NFF	**Wufeng Townshi**	1.03	331	⇑P	**Pg**	18 23 21.6	-0.1
NFF				*eS*	**Sg**	18 23 34.5	-0.7
WDL	**Douliou City**	1.04	270	*eP*	**Pg**	18 23 21.9	+0.1
WDL				*eS*	**Sb**	18 23 37.1	+1.1
ILA	**Ilan**	1.04	4	*eP*	**Pn**	18 23 22.9	0.0
ILA				*eS*	**Sn**	18 23 37.2	-0.6
WDLH	**Douliu**	1.04	268	*eP*	**Pg**	18 23 22.3	+0.5
WDLH				S	**Sb**	18 23 37.2	+1.1
TPUB	**Ta-pu**	1.04	246	Pg	**Pg**	18 23 21.5	-0.5
TPUB				Sg	**Sg**	18 23 35.8	+0.2
TPUB	**Ta-pu**	1.04	246	P	**Pg**	18 23 22.1	+0.1
TPUB	**Ta-pu**	1.04	246	⇑*iP*	**Pg**	18 23 21.8	-0.1
TPUB				S	**Sg**	18 23 36.3	+0.8
TWGBT	**Beinan**	1.05	211	P	**Pg**	18 23 20.9	-1.2
TWGBT	**Beinan**	1.05	211	*eP*	**Pg**	18 23 20.5	-1.6
TWGBT				*eS*	**Sg**	18 23 36.0	+0.2
CHN4	**Tsaushan**	1.06	250	⇑*iP*	**Pg**	18 23 22.2	0.0
CHN4				*eS*	**Sb**	18 23 37.3	+0.7
TWG	**Pinlang**	1.06	212		**Pg**	18 23 20.3	-1.9
TWG				Sg	**Sg**	18 23 34.9	-1.0
TWG	**Pinlang**	1.06	212	*eP*	**Pg**	18 23 20.2	-1.9
TWG				*eS*	**Sg**	18 23 35.8	-0.1
NWLT	**Wulai**	1.06	352	P	**Pg**	18 23 22.3	+0.1
NWLT				S	**Sn**	18 23 37.7	-0.6
LDUT	**Ludao**	1.06	190	*eP*	**Pg**	18 23 20.6	-1.7
LDUT				*eS*	**Sg**	18 23 35.6	-0.5
WCHH	**Zhanghua**	1.08	289	⇑P	**Pg**	18 23 22.9	+0.4
WCHH				*eS*	**Sg**	18 23 37.1	+0.6
TTN	**Taitung**	1.08	207	*eP*	**Pg**	18 23 22.0	-0.7
TTN				*eS*	**Sn**	18 23 39.5	+0.7
WTP	**Ta-pu**	1.08	244	⇑*iP*	**Pg**	18 23 22.5	-0.2
WTP				*eS*	**Sg**	18 23 37.1	+0.5
WCH1	**Changhua City**	1.08	289	⇑*eP*	**Pg**	18 23 23.1	+0.4
WCH1				*eS*	**Sg**	18 23 37.4	+0.6
LIOB	**Emei**	1.09	327	⇑*iP*	**Pg**	18 23 23.1	+0.2
LIOB				*eS*	**Sg**	18 23 37.5	+0.4
CHN2	**Minshiung**	1.11	260	*eP*	**Pg**	18 23 23.8	+0.5
CHN2				*eS*	**Sb**	18 23 39.2	+1.0
WDJ	**Dajia District**	1.13	304	*eP*	**Pg**	18 23 23.8	+0.3
WDJ				*eS*	**Sb**	18 23 38.9	+0.3
NTC	**Toucheng**	1.13	7	*eP*	**Pn**	18 23 24.6	+0.3
KSHI	**Guanxi Townshi**	1.14	337	⇑*iP*	**Pb**	18 23 24.4	+0.4
KSHI				*eS*	**Sb**	18 23 39.5	+0.5
NMLH	**Miaoli**	1.14	315	*i P*	**Pb**	18 23 24.4	+0.5
NMLH				*eS*	**Sb**	18 23 39.5	+0.4
CHY	**Chiayi**	1.17	259	*eP*	**Pg**	18 23 24.0	-0.2
CHY				*eS*	**Sb**	18 23 40.4	+0.6
WTK	**Tuku**	1.18	268	*eP*	**Pg**	18 23 24.2	-0.2
WTK				*eS*	**Sg**	18 23 40.2	+0.5
TWK	**Hsinying**	1.18	247	⇑*iP*	**Pg**	18 23 24.1	-0.4
TWK				*eS*	**Sg**	18 23 40.5	+0.7
CHN1	**Nanshi**	1.18	243	⇑*iP*	**Pg**	18 23 24.2	-0.3
CHN1				S	**Sg**	18 23 40.5	+0.7
SGST	**Jiashian**	1.19	238	⇑P	**Pg**	18 23 23.2	-1.4
SGST				*eS*	**Sn**	18 23 42.2	+0.8
SNST	**Tainan City**	1.19	245	*eP*	**Pg**	18 23 24.5	-0.2
SNST				S	**Sb**	18 23 41.7	+1.2
WRL	**Guolierlin Hig**	1.20	279	⇑P	**Pg**	18 23 24.4	-0.4
WRL				*i* S	**Sg**	18 23 41.1	+0.7
SBCB	**Hsinchu**	1.23	330	*eP*	**Pn**	18 23 26.2	+0.6
SBCB				*eS*	**Sn**	18 23 43.2	+0.7
HSN	**Hsinchu**	1.25	329	*eP*	**Pn**	18 23 26.7	+0.9
HSN				*eS*	**Sn**	18 23 43.3	+0.4
TIPB	**Shuangxi**	1.25	7	⇑P	**Pn**	18 23 26.3	+0.5
TIPB				*eS*	**Sb**	18 23 42.3	+0.1
TATO	**Taipei**	1.25	352		**Pg**	18 23 25.5	-0.5
TATO					**Sn**	18 23 43.9	+0.8
TATO	**Taipei**	1.25	352	P	**Pg**	18 23 25.9	-0.1
WTCT	**Ta-ch'eng**	1.28	276	*eP*	**Pn**	18 23 25.7	-0.5
WTCT				*eS*	**Sb**	18 23 44.0	+1.0
ECL	**Taimali**	1.30	211	P	**Pn**	18 23 23.8	-2.8
TWB1	**Santiao Chiao**	1.31	13	*eP*	**Pg**	18 23 27.6	+0.6
TWB1				*eS*	**Sn**	18 23 46.8	+2.4
NHY	**Taipei**	1.31	356	*eP*	**Pn**	18 23 26.8	+0.1
NCUH	**Zhongli**	1.31	340	*eP*	**Pg**	18 23 27.3	+0.2
NCUH				*eS*	**Sn**	18 23 45.8	+1.2
TAP	**Taipei**	1.32	354	*eP*	**Pn**	18 23 26.2	-0.5
TAP				*eS*	**Sn**	18 23 44.7	+0.1
ICHU	**Yijhu**	1.33	254	*eP*	**Pn**	18 23 27.0	+0.1
ICHU				*eS*	**Sn**	18 23 46.2	+1.3
WSL	**Shuilin Townsh**	1.34	262	*eP*	**Pn**	18 23 27.0	-0.1
WSL				*eS*	**Sb**	18 23 45.3	+0.5
NWF	**Wu-fen Shan**	1.34	4	*eP*	**Pg**	18 23 27.8	+0.1
NWF				*eS*	**Sn**	18 23 46.0	+0.6
WFSB	**Wu-fen Shan**	1.34	4	*eP*	**Pg**	18 23 27.8	+0.1
WFSB				*eS*	**Sn**	18 23 47.3	+2.0
CHN3	**Shinhua**	1.36	242	⇑P	**Pb**	18 23 28.2	+0.4
CHN3				*eS*	**Sn**	18 23 48.1	+2.3
SCST	**Cishan**	1.37	233	*eP*	**Pb**	18 23 28.2	+0.3
SCST				*eS*	**Sn**	18 23 49.5	+3.7
JYNG	**Yonagunijimaku**	1.37	58	*eP*	**Pn**	18 23 27.4	-0.1
SXI1	**Grass Mountain**	1.38	8	*eP*	**Pn**	18 23 27.7	0.0
SXI1				*eS*	**Sn**	18 23 48.6	+2.4
TSMG	**Majia**	1.39	223	*eP*	**Pn**	18 23 27.9	+0.1
TSMG				*eS*	**Sg**	18 23 47.8	+1.3
TWS1	**Kuangyinshan**	1.39	351	*eP*	**Pn**	18 23 27.2	-0.5
TWS1				*eS*	**Sn**	18 23 48.2	+1.8
CHN8	**Yiju**	1.39	255	*eP*	**Pn**	18 23 27.5	-0.3
CHN8				*i* S	**Sg**	18 23 48.2	+1.5
SSHA	**Shanhua**	1.40	245	*eP*	**Pn**	18 23 28.5	+0.6
SSHA				*eS*	**Sg**	18 23 48.3	+1.4
SHHT	**Tainan City**	1.40	240	*eP*	**Pb**	18 23 28.9	+0.4
SHHT				S	**Sg**	18 23 51.0	+4.0
YM01	**YM01**	1.42	356	*eP*	**Pb**	18 23 27.6	-0.6
YM01				*eS*	**Sg**	18 23 48.6	+1.1
YOJ	**Yonaguni jima**	1.43	59	Pn	**Pb**	18 23 28.6	-0.4
YOJ				Sn	**Sg**	18 23 48.6	+0.7
YOJ	**Yonaguni jima**	1.43	59	P	**Pg**	18 23 28.4	+1.2
YOJ	**Yonaguni jima**	1.43

NJ2			LR	LR		
	comp=E,420nm,4.4s					
NJ2			LR	LR		
	comp=Z,580nm,8.2s					
QIZ	**Qiongzhong**	**11.97 249**	P	**Pn**	**18 25 52.8**	**-0.3**
QIZ			S	**Sn**	**18 28 07.5**	**+0.6**
QIZ			LR	LR		
	comp=N,250nm,16.0s					
QIZ			LR	LR		
	comp=E,190nm,10.7s					
QIZ			LR	LR		
	comp=Z,190nm,12.7s					
LYN	**LuoYang**	**13.44 325**	P	**Pn**	**18 26 14.2**	**+1.0**
LYN			pmax	pmax		
	comp=Z,9.0nm,0.5s					
LYN			LR	LR		
	comp=N,760nm,7.2s					
LYN			LR	LR		
	comp=E,440nm,6.9s					
LYN			LR	LR		
	comp=Z,730nm,8.2s					
GYA	**Guiyang**	**13.87 284**	P	**Pn**	**18 26 20.6**	**+1.5**
GYA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KSAR	**Wonju Array Be**	**14.68 20**		**Pn**	**18 26 30.7**	**+0.7**
KSRS	**Korea Array**	**14.70 20**	Pn	**P**	**18 26 34.2**	**-2.4**
	0.4nm,0.3s,baz=200,slow=11,SNR=15					
KS19	**Wonju Array Si**	**14.72 20**	Pn	**Pn**	**18 26 31.6**	**+1.0**
HNS	**HongShan**	**14.88 338**	⇑P	**P**	**18 26 42.8**	**+4.2**
HNS			pmax	pmax		
	comp=Z,6.0nm,1.3s					
PZH	**PanZhiHua**	**18.26 283**	P	**P**	**18 27 17.5**	**+1.2**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,110nm,6.0s					
HHC	**Hu-ho-hao-te**	**19.07 336**	*e*P	**Pn**	**18 27 26.9**	**+1.1**
HHC			pmax	pmax		
	comp=Z,5.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,100nm,5.4s					
LZH	**Lanzhou**	**19.72 313**	*e*P	**Pn**	**18 27 37.1**	**+3.3**
LZH			pP	sP	18 27 40.2	+5.3
LZH			pmax	pmax		
	comp=Z,7.0nm,1.5s					
CMAR	**Chiang Mai Arr**	**21.83 260**	P	**P**	**18 27 56.3**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=65,slow=8.7,SNR=10					
CMAR			LR	LR	18 37 30.2	
	comp=Z,21nm,19.0s,baz=175,slow=40					
	comp=Z,1.0nm,0.9s					
GTA	**Gaotai**	**24.22 315**	*e*P	**P**	**18 28 22.9**	**+3.4**
GTA			pmax	pmax		
	comp=Z,2.0nm,1.4s					
ULN	**Ulaanbaatar**	**26.75 338**	P	**P**	**18 28 41.4**	**-1.1**
SONM	**Songino Array**	**26.96 337**	P	**P**	**18 28 43.2**	**-1.1**
SONM	**Songino Array**	**26.96 337**	P	**P**	**18 28 43.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=151,slow=8.4,SNR=8.1					
	comp=Z,0.9nm,0.7s					
MK31	**Makanchi Array**	**38.97 316**	P	**P**	**18 30 27.3**	**-1.6**
MKAR	**Makanchi Array**	**38.97 316**	P	**P**	**18 30 28.1**	**-0.7**
MKAR	**Makanchi Array**	**38.97 316**	P	**P**	**18 30 28.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=104,slow=8.1,SNR=14					
	comp=Z,1.2nm,0.7s					
MAKZ	**Makanchi**	**39.18 316**	P	**P**	**18 30 29.8**	**-0.8**
KNRA	**Kununurra**	**39.77 169**	P	**P**	**18 30 33.0**	**-2.6**
KNRA			IAmb	IAmb	18 31 12.5	
	comp=Z,36nm,1.5s					
ZAA0	**Zalesovo Array**	**40.87 327**	P	**P**	**18 30 44.1**	**-0.3**
ZALV	**Zalesovo Beam**	**40.87 327**	P	**P**	**18 30 43.0**	**-1.4**
ZALV	**Zalesovo Beam**	**40.87 327**	P	**P**	**18 30 44.3**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=113,slow=8.1,SNR=11					
	comp=Z,2.0nm,0.7s					
H11N1	**WAKE ISLAND Hy**	**42.07 86**	T	T	19 15 49.0	
	baz=282,slow=74					
H11N2	**WAKE ISLAND Hy**	**42.07 86**	T	T	19 15 48.9	
	baz=282,slow=74					
H11N3	**WAKE ISLAND Hy**	**42.09 86**	T	T	19 15 49.0	
	baz=282,slow=74					
H11S3	**WAKE ISLAND Hy**	**42.19 88**	T	T	19 15 57.4	
	baz=284,slow=75					
H11S1	**WAKE ISLAND Hy**	**42.20 88**	T	T	19 15 58.0	
	baz=284,slow=75					
H11S2	**WAKE ISLAND Hy**	**42.20 88**	T	T	19 15 58.7	
	baz=284,slow=75					
KURK	**Kurchatov**	**42.73 320**	P	**P**	**18 30 58.9**	**-0.8**
KURBB	**Kurchatov Arra**	**42.74 320**	P	**P**	**18 30 59.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=108,slow=9.5,SNR=6.3					
	comp=Z,0.3nm,0.5s					
COEN	**Coen**	**42.95 149**	P	**P**	**18 31 00.4**	**-1.4**
COEN			IAmb	IAmb	18 31 22.2	
	comp=Z,16nm,1.4s					
WB0	**Warramunga Arr**	**44.97 163**	P	**P**	**18 31 16.1**	**-2.0**
WB0			IAmb	IAmb	18 31 18.9	
	comp=Z,6.0nm,1.2s					
WRA	**Warramunga Arr**	**45.13 163**	P	**P**	**18 31 17.4**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=344,slow=8.7,SNR=10					
	comp=Z,1.0nm,0.5s					
WB2	**Warramunga Arr**	**45.13 163**	P	**P**	**18 31 17.8**	**-1.5**
WB2			IAmb	IAmb	18 31 46.8	
	comp=Z,9.9nm,1.4s					
KK31	**Karatay Array**	**46.10 308**	P	**P**	**18 31 25.3**	**-1.5**
KK31			IAmb	IAmb	18 31 50.7	
	comp=Z,2.8nm,1.2s					
KKAR	**Karatay Array**	**46.10 308**	P	**P**	**18 31 25.4**	**-1.4**
BVAR	**Borovoye Array**	**48.31 321**	P	**P**	**18 31 42.1**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=114,slow=7.9,SNR=7.9					
	comp=Z,0.7nm,0.6s					
ASAR	**Alice Springs**	**48.59 165**	P	**P**	**18 31 45.1**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=344,slow=8.7,SNR=8.3					
	comp=Z,0.5nm,0.5s					
ABKAR	**Akbulak array**	**54.08 315**	P	**P**	**18 32 26.6**	**-0.7**
ABKAR	**Akbulak array**	**54.08 315**	P	**P**	**18 32 26.5**	**-0.7**
STKA	**Stephens Creek**	**58.48 160**	P	**P**	**18 32 57.8**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=331,slow=8.2,SNR=4.8					
	comp=Z,2.3nm,0.7s					
L16K	**Owhat River**	**64.14 31**	P	**P**	**18 33 38.0**	**+1.2**
CNBA	**Chernabura Isl**	**64.54 39**	P	**P**	**18 33 40.4**	**+0.9**
G19K	**Purcell Mounta**	**65.02 26**	P	**P**	**18 33 42.6**	**+0.1**
G19K			IAmb	IAmb	18 33 51.9	
	comp=Z,5.1nm,1.1s					
CAST	**Castle Rocks**	**67.40 29**	P	**P**	**18 33 56.5**	**-1.4**
CAST			IAmb	IAmb	18 34 02.6	
	comp=Z,5.1nm,0.9s					
PPLA	**Purkeypile**	**67.42 30**	P	**P**	**18 33 57.8**	**-0.4**
SPU	**Mount Spurr**	**67.74 31**	P	**P**	**18 34 00.1**	**0.0**
SPU			IAmb	IAmb	18 34 24.8	
	comp=Z,4.5nm,1.1s					
STLK	**Strandline Lak**	**67.79 31**	P	**P**	**18 34 00.7**	**+0.3**
STLK			IAmb	IAmb	18 34 28.4	
	comp=Z,5.4nm,1.4s					
SYI	**Shuyak Island**	**67.98 34**	P	**P**	**18 34 02.0**	**+0.5**
SUA	**Susitna One**	**68.31 31**	P	**P**	**18 34 04.0**	**+0.2**
RND	**Reindeer**	**68.83 29**	P	**P**	**18 34 05.5**	**-1.5**
WRH	**Wood River Hil**	**68.97 28**	P	**P**	**18 34 07.2**	**-0.4**
SML	**Sawmill**	**69.38 30**	P	**P**	**18 34 10.0**	**-0.3**
KNK	**Knik Glacier**	**69.40 31**	P	**P**	**18 34 10.7**	**+0.2**
ILAR	**Eielson Array**	**69.42 27**	P	**P**	**18 34 09.0**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=293,slow=7.1,SNR=11					
	comp=Z,0.5nm,0.7s					
BMAR	**Burnt Mountain**	**69.76 24**	P	**P**	**18 34 12.9**	**+0.4**
SCM	**Sheep Creek Mo**	**69.84 30**	P	**P**	**18 34 13.0**	**-0.2**
RIDG	**Independent Ri**	**70.52 28**	P	**P**	**18 34 17.1**	**-0.2**
RIDG			IAmb	IAmb	18 34 18.1	
	comp=Z,5.5nm,1.1s					
N25K	**Chitina, Valde**	**71.16 30**	P	**P**	**18 34 21.3**	**0.0**
N25K			IAmb	IAmb	18 34 48.4	
	comp=Z,11nm,1.5s					
F28M	**Old Crow**	**71.46 24**	P	**P**	**18 34 22.8**	**-0.1**
F28M			IAmb	IAmb	18 34 24.6	
	comp=Z,7.5nm,1.1s					
BCAR	**Beaver Creek A**	**72.02 28**	P	**P**	**18 34 27.2**	**+0.8**
G31M	**Satah River**	**73.74 23**	P	**P**	**18 34 35.5**	**-0.9**
G31M			IAmb	IAmb	18 34 46.7	
	comp=Z,6.0nm,1.1s					
JMIC	**Jan Mayen**	**79.38 345**	LR	LR	19 14 36.0	
	comp=Z,30nm,18.2s,baz=80,slow=39					
YKA	**Yellowknife Ar**	**83.22 23**	P	**P**	**18 35 27.1**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=314,slow=4.5,SNR=9.8					
	comp=Z,0.8nm,0.8s					

*IDC **12** 18:23:10.1±2.4, 7°.01S×155°.77E, h0km, mb3.5/6, mbtmp3.6/7, ML2.0/1, Error ellipse: s-maj=67.1km s-min=28.0km az=125.0*

ISC 12 18:23:17.4±1.8, 7°.1S±0°.3×155°.7E±0°.2, h50km, n10, σ0°55/8, mb3.3/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.73**	**254**	Pn	**Pn**	**18 25 20.9**	**-0.1**
	1.0nm,0.3s,baz=96,slow=9.2,SNR=1.7						
PMG				Sn	**Sn**	**18 26 58.1**	**+0.1**
	0.6nm,0.3s,baz=93,slow=19,SNR=1.8						
	6.4nm,0.6s						
WRA	**Warramunga Arr**	**24.32**	**236**	P	**P**	**18 28 31.0**	**+0.4**
	0.6nm,0.5s,baz=60,slow=9.7,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**229**	P	**P**	**18 28 51.4**	**-0.1**
	0.2nm,0.4s,baz=74,slow=6.7,SNR=1.8						
	0.2nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**27.63**	**23**	T	T	18 57 22.0	
	baz=203,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.63**	**23**	T	T	18 57 12.5	
	baz=203,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.64**	**23**	T	T	18 57 22.2	
	baz=203,slow=75						
CMAR	**Chiang Mai Arr**	**61.40**	**295**	P	**P**	**18 33 29.1**	**+0.1**
	1.4nm,0.7s,baz=126,slow=5.4,SNR=18						
	1.4nm,0.7s						
SONM	**Songino Array**	**69.75**	**327**	P	**P**	**18 34 23.0**	**+0.6**
	0.2nm,0.6s,baz=142,slow=6.4,SNR=2.2						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**83.19**	**21**	P	**P**	**18 35 38.1**	**+0.1**
	0.2nm,0.5s,baz=252,slow=4.7,SNR=1.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**18 35 41.0**	**-0.9**
	0.2nm,0.7s,baz=105,slow=5.6,SNR=3.1						
	0.2nm,0.7s						

IDC 12 18:31:13.2±2.7, 50°.38S×112°.76E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=68.7km s-min=58.1km az=149.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.51**	**4**	T	T	18 50 34.7	
	baz=183,slow=74						
H01W1	**Cape Leeuwin H**	**15.51**	**4**	T	T	18 50 40.9	
	baz=183,slow=74						
H01W3	**Cape Leeuwin H**	**15.52**	**4**	T	T	18 50 41.6	
	baz=183,slow=74						
ASAR	**Alice Springs**	**31.34**	**39**	P	P	18 37 35.4	+0.1
	0.9nm,0.9s,baz=208,slow=8.1,SNR=5.6						
	0.9nm,0.9s						
WRA	**Warramunga Arr**	**34.86**	**37**	P	P	18 38 05.9	-0.1
	0.9nm,0.7s,baz=203,slow=10,SNR=5.9						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.61**	**346**	P	P	18 42 24.1	0.0
	0.3nm,0.4s,baz=168,slow=6.4,SNR=4.9						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**150.26**	**88**	PKPbc	PKPbc	18 51 05.4	-0.4
	0.2nm,0.5s,baz=193,slow=2.6,SNR=3.8						

*IDC **12** 18:31:22.6±3.0, 2°.96S×100°.10E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=124.6km s-min=20.7km az=56.0*

*DJA **12** 18:31:25.4±0.6, 3°.5±3°.1×10°.0E±°, h23km±4km, M3.9/14, mb3.9/4, MLv3.9/14*

ISC 12 18:31:26.3±1.2, 3°.0S±0°.1×100°.1E±0°.1, h27km, n28, σ0°71/21, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.19**	**344**	P	**Pb**	**18 31 32.0**	**-0.1**
SISI	**Saibi**	**1.88**	**329**	P	**Pn**	**18 31 56.5**	**-0.3**
SISI				S	**Sn**	**18 32 20.0**	**+0.4**
PPI	**Padang Panjang**	**2.50**	**8**	P	**Pn**	**18 32 05.5**	**+0.3**
KSI	**Kapahiang**	**2.62**	**106**	P	**Pn**	**18 32 07.1**	**+0.1**
MNAI	**Manna**	**3.21**	**116**	P	**Pn**	**18 32 15.2**	**+0.2**
PBSI	**Pulau Batu**	**3.38**	**328**	P	**Pn**	**18 32 17.0**	**-0.4**
MNSI	**Mandailing Nat**	**3.75**	**353**	P	**Pn**	**18 32 21.5**	**-1.0**
MDSI	**Maura Dua**	**4.38**	**111**	P	**Pn**	**18 32 31.8**	**+0.7**
MDSI				S	**Sn**	**18 33 20.8**	**-0.5**
LWLI	**Liwa**	**4.48**	**117**	P	**Pn**	**18 32 32.6**	**-0.1**
GSI	**Gunungsitoli**	**4.90**	**329**	P	**Pn**	**18 32 37.3**	**-1.0**
CGJI	**Cibinong**	**6.69**	**123**	P	**Pn**	**18 33 01.3**	**-1.5**
	0.1n16nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.30**	**357**	P	**P**	**18 36 10.8**	**-0.3**
	0.4nm,0.4s,baz=171,slow=10,SNR=5.1						
	0.4nm,0.4s						
H08S2	**Diego Garcia H**	**27.84**	**259**	T	T	19 06 14.5	
	baz=82,slow=76						
H08S3	**Diego Garcia H**	**27.84**	**259**	T	T	19 06 15.0	
	baz=82,slow=76						
H08S1	**Diego Garcia H**	**27.86**	**259**	T	T	19 06 15.9	
	baz=82,slow=76						
WRA	**Warramunga Arr**	**37.47**	**119**	P	**P**	**18 38 37.9**	**-0.1**
	0.3nm,0.6s,baz=279,slow=8.0,SNR=1.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**38.65**	**125**	P	**P**	**18 38 47.8**	**-0.1**
	0.3nm,0.5s,baz=300,slow=7.7,SNR=7.5						
	0.3nm,0.5s						
SONM	**Songino Array**	**50.88**	**5**	P	**P**	**18 40 25.6**	**+0.5**
	0.9nm,0.7s,baz=189,slow=9.9,SNR=5.7						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**51.95**	**345**	P	**P**	**18 40 33.7**	**+0.7**
	0.9nm,0.6s,baz=148,slow=8.0,SNR=14						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**56.47**	**344**	P	**P**	**18 41 05.6**	**-0.2**
	0.4nm,0.3s,baz=166,slow=7.3,SNR=4.6						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**58.11**	**349**	P	**P**	**18 41 18.6**	**+1.4**
	0.3nm,0.3s,baz=146,slow=10,SNR=2.4						
	0.3nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.08**	**217**	T	T	19 46 39.0	
	baz=59,slow=75						
H04N1	**CROZET ISLANDS**	**60.09**	**217**	T	T	19 46 34.8	
	baz=59,slow=75						
H04N3	**CROZET ISLANDS**	**60.09**	**217**	T	T	19 46 38.5	
	baz=59,slow=75						
H04S1	**CROZET ISLANDS**	**60.36**	**216**	T	T	19 46 57.3	
	baz=57,slow=76						
H04S3	**CROZET ISLANDS**	**60.37**	**216**	T	T	19 46 59.3	
	baz=57,slow=76						
H04S2	**CROZET ISLANDS**	**60.38**	**216**	T	T	19 46 57.8	
	baz=57,slow=76						
TXAR	**Lajitas Array**	**145.41**	**38**	PKPbc	**PKPdf**	**18 51 02.0**	**-0.7**
	0.3nm,0.5s,baz=312,slow=1.8,SNR=5.5						

*KRSC **12** 18:33:55.1±0.7, 52°.82N×159°.73E, h58km±7km, Ml4.0*

*MOS **12** 18:33:55.8±0.6, 52°.79N×159°.77E, h48km, mb3.7/1, Error ellipse: s-maj=10.8km s-min=7.0km az=91.3*

*IDC **12** 18:34:00.4±1.5, 53°.06N×159°.26E, h90km±11km, mb3.2/7, mbtmp3.5/7, Error ellipse: s-maj=38.7km s-min=21.0km az=173.0*

ISC 12 18:33:57.1±0.9, 52°.81N±0°.04×159°.71E±0°.04, h46km±7km, n58, σ0°79/84, mb3.5/7, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.34**	**34**	PN	**Pn**	**18 34 06.3**	**0.0**
SPN				S	**Sn**	**18 34 13.3**	**+0.5**
SPN	**Mys Shipunski**	**0.34**	**34**	*e*P	**Pn**	**18 34 06.4**	**0.0**
SPN				*e*S	**Sn**	**18 34 13.3**	**+0.5**
NLC	**Nalytchevo**	**0.42**	**329**	PN	**Pn**	**18 34 07.3**	**+0.1**
NLC				S	**Sn**	**18 34 14.8**	**+0.5**
NLC	**Nalytchevo**	**0.42**	**329**	*e*P	**Pn**	**18 34 07.3**	**+0.1**
NLC				*e*S	**Sn**	**18 34 14.9**	**+0.5**
DALK	**Dalny**	**0.62**	**291**	PN	**Pn**	**18 34 09.4**	**-0.2**
DALK				S	**Sn**	**18 34 18.6**	**0.0**
DALK	**Dalny**	**0.62**	**291**	*e*P	**Pn**	**18 34 09.4**	**-0.2**
DALK				*e*S	**Sn**	**18 34 18.6**	**0.0**
UGLR	**Uglovaya**	**0.67**	**307**	PN	**Pn**	**18 34 10.6**	**+0.2**
UGLR				S	**Sn**	**18 34 21.3**	**+1.4**
UGLR	**Uglovaya**	**0.67**	**307**	*e*P	**Pn**	**18 34 10.6**	**+0.2**
UGLR				*e*S	**Sn**	**18 34 21.3**	**+1.4**
PET	**Petropavlovsk**	**0.67**	**289**	⇑*i*PN	**Pn**	**18 34 10.2**	**-0.2**
PET				*e*S	**Sn**	**18 34 20.0**	**+0.1**
PET				pmax	pmax		
	comp=Z,462nm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.4s						
PET	**Petropavlovsk**	**0.67**	**289**	*e*P	**Pn**	**18 34 10.2**	**-0.2**
PET				*e*S	**Sn**	**18 34 19.9**	**+0.1**
INSR	**Institute**	**0.71**	**291**	PN	**Pn**	**18 34 10.7**	**-0.2**
INSR				S	**Sn**	**18 34 21.2**	**+0.4**
INSR	**Institute**	**0.71**	**291**	*e*P	**Pn**	**18 34 10.7**	**-0.2**
INSR				*e*S	**Sn**	**18 34 21.2**	**+0.4**
AVH	**Avacha**	**0.74**	**308**	PN	**Pn**	**18 34 11.7**	**+0.4**
AVH	**Avacha**	**0.74**	**308**	*e*P	**Pn**	**18 34 11.7**	**+0.4**
AVH				*e*S	**Sn**	**18 34 22.6**	**+0.9**
KOK	**Koryaka**	**0.81**	**307**	PN	**Pn**	**18 34 12.4**	**+0.2**
KOK	**Koryaka**	**0.81**	**307**	*e*P	**Pn**	**18 34 12.5**	**+0.2**
RUS	**Russkaya**	**0.82**	**243**	PN	**Pn**	**18 34 12.0**	**-0.3**
RUS				S	**Sn**	**18 34 23.6**	**+0.2**
RUS	**Russkaya**	**0.82**	**243**	*e*P	**Pn**	**18 34 12.1**	**-0.3**
RUS				*e*S	**Sn**	**18 34 23.5**	**+0.1**
KRX	**Arik**	**0.84**	**311**	PN	**Pn**	**18 34 12.7**	**-0.1**
KRX				S	**Sn**	**18 34 24.4**	**+0.3**
KRX	**Arik**	**0.84**	**311**	*e*P	**Pn**	**18 34 12.7**	**-0.1**
KRX				*e*S	**Sn**	**18 34 24.4**	**+0.3**
KRMR	**Karymshinskiy**	**0.96**	**272**	PN	**Pn**	**18 34 13.7**	**-0.5**
KRMR				S	**Sn**	**18 34 26.7**	**+0.1**
KRMR	**Karymshinskiy**	**0.96**	**272**	*e*P	**Pn**	**18 34 13.7**	**-0.5**
KRMR				*e*S	**Sn**	**18 34 26.8**	**+0.1**
GRL	**Gorelyy**	**1.03**	**256**	PN	**Pn**	**18 34 15.6**	**+0.3**
GRL				S	**Sn**	**18 34 29.3**	**+0.7**
GRL	**Gorelyy**	**1.03**	**256**	*e*P	**Pn**	**18 34 15.6**	**+0.3**
GRL				*e*S	**Sn**	**18 34 29.4**	**+0.7**
KII	**Karymskiy**	**1.23**	**353**	PN	**Pn**	**18 34 18.0**	**0.0**
KII				S	**Sn**	**18 34 33.8**	**+0.2**
KII	**Karymskiy**	**1.23**	**353**	*e*P	**Pn**	**18 34 18.0**	**0.0**
KII				*e*S	**Sn**	**18 34 33.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**1.25**	**284**	PN	**Pn**	**18 34 18.3**	**+0.1**
PEA0B				S	**Sn**	**18 34 34.6**	**+0.7**
PETK	**Petropavlovsk-**	**1.25**	**284**	P	**Pn**	**18 34 18.0**	**-0.2**
	comp=E,459nm,0.5s,baz=88,slow=18,SNR=1007						
PETK				S	**Sn**	**18 34 34.6**	**+0.7**
	comp=E,57nm,0.4s,baz=218,slow=30,SNR=8.3						
GNL	**Ganaly**	**1.38**	**310**	PN	**Pn**	**18 34 20.3**	**+0.2**
GNL	**Ganaly**	**1.38**	**310**	*e*P	**Pn**	**18 34 20.3**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.42**	**226**	PN	**Pn**	**18 34 20.5**	**+0.1**
KDTR				S	**Sn**	**18 34 38.3**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.42**	**226**	*e*P	**Pn**	**18 34 20.6**	**+0.1**
KDTR				*e*S	**Sn**	**18 34 38.4**	**+0.4**
APC	**Apacha**	**1.55**	**275**	PN	**Pn**	**18 34 22.9**	**+0.7**
APC	**Apacha**	**1.55**	**275**	*e*P	**Pn**	**18 34 23.0**	**+0.7**
APC				*e*S	**Sn**	**18 34 42.7**	**+1.6**
PAU	**Pauzhetka**	**2.24**	**234**	PN	**Pn**	**18 34 33.1**	**+1.5**
PAU	**Pauzhetka**	**2.24**	**234**	*e*P	**Pn**	**18 34 33.2**	**+1.5**
PAU				*e*S	**Sn**	**18 34 59.9**	**+1.9**
TUMD	**Tumrok D**	**2.43**	**9**	*e*P	**Pn**	**18 34 34.6**	**+0.2**
TUMD				*e*S	**Sn**	**18 35 02.2**	**-0.6**
KMNR	**Kamenistaya**	**2.96**	**6**	PN	**Pn**	**18 34 43.1**	**+1.4**
KMNR	**Kamenistaya**	**2.96**	**6**	*e*P	**Pn**	**18 34 43.2**	**+1.4**
SKR	**Severo-Kuril's**	**3.09**	**228**	PN	**Pn**	**18 34 44.5**	**+1.2**
SKR	**Severo-Kuril's**	**3.09**	**228**	*e*P	**Pn**	**18 34 44.5**	**+1.2**
SKR				*e*S	**Sn**	**18 35 18.6**	**-0.3**
ESO	**Esso**	**3.17**	**350**	PN	**Pn**	**18 34 44.7**	**+0.2**
SRDR	**Sredinnyy**	**3.51**	**0**	PN	**Pn**	**18 34 50.4**	**+1.2**
SRDR	**Sredinnyy**	**3.51**	**0**	*e*P	**Pn**	**18 34 50.5**	**+1.2**
KBTR	**Krutoberegovo**	**3.85**	**27**	PN	**Pn**	**18 34 54.7**	**+0.9**
KBTR	**Krutoberegovo**	**3.85**	**27**	*e*P	**Pn**	**18 34 54.7**	**+0.9**
KBG	**Krutoberegovo**	**3.87**	**26**	PN	**Pn**	**18 34 56.6**	**+2.7**
KBG	**Krutoberegovo**	**3.87**	**26**	*e*P	**Pn**	**18 34 56.6**	**+2.7**
BKI	**Bering**	**4.40**	**55**	*e*P	**Pn**	**18 35 01.4**	**+0.1**
ILAR	**Eielson Array**	**29.18**	**45**	P	**P**	**18 39 52.7**	**-1.0**
	comp=E,0.4nm,0.8s,baz=272,slow=8.9,SNR=5.3						
	comp=E,0.4nm,0.8s						
KURK	**Kurchatov**	**47.68**	**302**	P	P	18 42 25.2	-3.4
KURBB	**Kurchatov Arra**	**47.78**	**302**	P	P	18 42 25.2	-4.2
	comp=E,0.2nm,0.3s,baz=64,slow=7.5,SNR=2.1						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.07**	**296**	P	P	18 42 27.4	-4.3
	comp=E,0.2nm,0.4s,baz=53,slow=7.0,SNR=9.8						
	comp=E,0.2nm,0.4s						
BVAR	**Borovoye Array**	**50.38**	**308**	P	P	18 42 45.0	-4.3
	comp=E,0.3nm,0.4s,baz=59,slow=9.0,SNR=2.1						
	comp=E,0.3nm,0.4s						
BVAR	**Borovoye Array**	**50.38**	**308**	P	P	18 42 45.0	-4.3
PDAR	**Pinedale Array**	**57.86**	**60**	P	**P**	**18 43 44.3**	**+0.1**
	comp=E,0.3nm,0.7s,baz=312,slow=8.7,SNR=2.5						
	comp=E,0.3nm,0.7s						
TXAR	**Lajitas Array**	**70.96**	**67**	P	**P**	**18 45 09.4**	**-0.4**
	comp=E,0.3nm,0.8s,baz=318,slow=6.7,SNR=3.0						
	comp=E,0.3nm,0.8s						
ASAR	**Alice Springs**	**79.41**	**204**	P	**P**	**18 45 57.3**	**-0.9**
	comp=E,0.7nm,1.1s,baz=17,slow=5.0,SNR=1.7						
	comp=E,0.7nm,1.1s						

*IDC **12** 18:47:16.5±1.3, 36°.65N×25°.63E, h0km, mb3.5/5, mbtmp3.4/6, ML3.6/1, MS2.6/1, Error ellipse: s-maj=45.4km s-min=22.6km az=160.0*

*ISK **12** 18:47:17.9, 36°.68N×25°.56E, h14km, ML3.1/37*

*AFAD **12** 18:47:17.4, 36°.65N×25°.59E, h5km±4km, ML2.9*

*THE **12** 18:47:18.2, 36°.69N×25°.72E, h5km, ML3.2/4, Error ellipse: s-maj=1.2km s-min=0.4km az=282.0*

*ATH **12** 18:47:18.6, 36°.71N×25°.68E, h11km, ML3.3/25, Manual Solution by A.Andreou First location: 2019/02/12 18:47:48, This location: 2021/03/22 14:11:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude unc

comp=N,142nm,0.4s
KARY Karystos 1.66 325 P **Pn 18 47 47.3 +0.1**
KARY Karystos 1.66 325 P **Pn 18 47 47.5 +0.3**
KARY S **Sn 18 48 08.9 +0.4**
KARP Karpathos 1.66 132 Pn **Pn 18 47 46.7 -0.5**
KARP Karpathos 1.66 132 P **Pn 18 47 46.3 -0.9**
KARP Karpathos 1.66 132 P **Pn 18 47 47.5 +0.2**
DGB zmir 1.69 35 P **Pb 18 47 49.7 +0.4**
DGB S **Sn 18 48 10.4 +1.2**
DGB *i* AML AML 18 48 16.0
comp=E,94nm,0.3s
CHAN Chania 1.73 229 P **Pn 18 47 49.4 +1.2**
IMMV Iera Moni Meta 1.81 229 Pn **Pn 18 47 48.9 -0.3**
IMMV Iera Moni Meta 1.81 229 P **Pn 18 47 49.6 +0.4**
IMMV Iera Moni Meta 1.81 229 P **Pn 18 47 50.4 +1.2**
MLSB Milas 1.82 69 Pn **Pn 18 47 50.3 +1.0**
VLY Voula,Athens 1.89 309 P **Pn 18 47 50.6 +0.3**
VLY Voula,Athens 1.89 309 P **Pn 18 47 51.0 +0.7**
VLY S **Sn 18 48 14.7 +0.6**
DION Dionisos Attik 1.96 316 P **Pn 18 47 51.6 +0.3**
DION Dionisos Attik 1.96 316 P **Pn 18 47 51.9 +0.6**
DION S **Sn 18 48 16.9 +1.2**
ATHU Athens Univers 1.97 312 P **Pn 18 47 52.0 +0.6**
ATHU S **Sn 18 48 17.2 +1.2**
PTL Penteli 1.97 315 P **Pn 18 47 51.9 +0.4**
PTL S **Sn 18 48 17.5 +1.3**
ATH Athens Observa 2.01 311 P **Pn 18 47 52.7 +0.7**
ATH S **Sn 18 48 17.9 +0.8**
BLCB Balcova 2.04 33 Pn **Pn 18 47 53.2 +0.8**
AYDN Tasoluk 2.04 60 P **Pg 18 47 56.3 -1.0**
ARG Arkhangelos 2.05 102 Pn **Pn 18 47 53.8 +1.3**
ARG Arkhangelos 2.05 102 P **Pn 18 47 52.6 +0.1**
KRND KRANIDI 2.12 290 P **Pn 18 47 54.1 +0.7**
KRND KRANIDI 2.12 290 P **Pn 18 47 54.4 +0.9**
YER Yerkesik 2.17 77 Pn **Pn 18 47 55.4 +1.2**
VLI Veliai 2.18 272 P **Pn 18 47 55.0 +0.8**
VLI S **Sn 18 48 22.1 +1.0**
AYDB Zeytinkoy-Aydi 2.20 54 Pn **Pn 18 47 55.7 +1.0**
GVD Gavdhos 2.23 215 Pn **Pn 18 47 54.9 0.0**
GVD Gavdhos 2.23 215 P **Pn 18 47 56.1 +1.2**
KYMI Kymi, Euboea I 2.31 328 P **Pn 18 47 56.4 +0.3**
KYMI Kymi, Euboea I 2.31 328 P **Pn 18 47 56.6 +0.5**
SKY Skiros Island 2.37 339 P **Pn 18 47 56.8 -0.1**
VILL Villia 2.38 309 P **Pn 18 47 57.5 +0.4**
DALY Dalyan (Mula) 2.42 86 Pn **Pn 18 47 59.3 +1.7**
ESEN Aydn-Nazilli 2.43 62 P **Pb 18 48 00.5 -1.4**
VIL2 Platees 2.44 310 P **Pn 18 47 57.8 -0.1**
VIL2 S **Sn 18 48 27.0 -0.6**
NAZL Nazilli-Aydin 2.47 58 Pn **Pn 18 47 59.9 +1.5**
ODEM Odemis-Izmir 2.51 50 Pn **Pn 18 48 00.4 +1.5**
LTK Loutraki 2.52 303 P **Pn 18 47 59.8 +0.8**
SIGR SIGRI 2.54 4 Pn **Pn 18 48 00.1 +0.9**
SIGR SIGRI 2.54 4 P **Pn 18 47 59.3 +0.1**
DKL Dikili 2.59 22 Pn **Pn 18 48 00.9 +0.9**
PRK Paraskevi 2.62 11 P **Pn 18 48 00.1 -0.1**
KIRA zmir-Kiraz 2.67 54 P **Pg 18 48 08.2 -1.1**
SABU Mula-Dalaman 2.67 86 P **Pn 18 48 04.0 +2.9**
FETY Fethiye 2.77 90 Pn **Pn 18 48 04.3 +1.9**
FETY Fethiye 2.77 90 P **Pn 18 48 05.4 +3.0**
DNZT Denizli-Tavas- 2.77 76 P **Pb 18 48 08.2 +0.4**
LKR Lokris 2.88 314 P **Pn 18 48 04.2 +0.3**
SOMA Soma-Manisa 2.90 31 Pn **Pn 18 48 05.3 +1.2**
GUR Goura 2.92 297 P **Pn 18 48 05.2 +0.6**
CAME Cameli-Denizli 2.95 84 Pn **Pn 18 48 06.8 +1.8**
GORD Gordes-Manisa 3.00 41 Pn **Pn 18 48 07.2 +1.5**
KULA Kula-Manisa 3.02 52 Pn **Pn 18 48 07.5 +1.6**
ITM Ithomi 3.02 281 Pn **Pn 18 48 06.1 +0.2**
ITM Ithomi 3.02 281 P **Pn 18 48 06.7 +0.8**
APMY Acipayam-Deniz 3.03 74 Pn **Pn 18 48 08.0 +1.9**
KLV Kalavryta, Ach 3.10 297 P **Pn 18 48 08.1 +1.0**
AXAR Agios Charalam 3.16 312 P **Pn 18 48 08.5 +0.7**
AKAS Kas 3.22 97 Pn **Pn 18 48 10.6 +1.8**
LIA Limnos Island 3.24 354 P **Pn 18 48 09.1 +0.2**
KALE Kalithea 3.27 303 P **Pn 18 48 09.8 +0.4**
ELL Elmali 3.43 87 Pn **Pn 18 48 13.8 +2.2**
EFP Efpalio 3.45 302 P **Pn 18 48 12.4 +0.7**
COMU Canakkale 3.48 11 Pn **Pn 18 48 12.3 +0.1**
ANX Ano Chora 3.52 304 P **Pn 18 48 13.4 +0.6**
PAIG Paliouri 3.60 335 Pn **Pn 18 48 14.6 +0.8**
MAKR Makrakomi, Fth 3.63 311 P **Pn 18 48 14.9 +0.6**
GELI Tayfur-Gelibol 3.78 10 Pn **Pn 18 48 17.4 +1.2**
KORT Korkueli 3.79 84 Pn **Pn 18 48 19.4 +2.8**
LPK Lapseki 3.80 13 Pn **Pn 18 48 18.0 +1.5**
SUSR Susurluk-Balik 3.80 30 Pn **Pn 18 48 18.2 +1.6**
OUR Ouranopolis 3.88 341 Pn **Pn 18 48 18.5 +0.8**
ERIK Erikli-Kesan 4.05 9 Pn **Pn 18 48 20.2 +0.2**
EDC Edincik 4.06 25 Pn **Pn 18 48 21.9 +1.7**
TVSB Tavsanli 4.09 46 Pn **Pn 18 48 22.9 +2.2**
KCTX Karacabey (Bur 4.17 30 Pn **Pn 18 48 23.4 +1.7**
RKY Sarkoy-Tekirda 4.18 16 Pn **Pn 18 48 23.5 +1.6**
ALN Alexandroupoli 4.23 4 Pn **Pn 18 48 24.2 +1.7**
MMAI Mount Meron Ar 8.81 112 Pn **Pn 18 49 24.4 -1.1**
0.6nm,0.3s,baz=300,slow=11,SNR=4.3
MMAI Sn **Sn 18 50 59.6 -5.1**
0.5nm,0.3s,baz=323,slow=29,SNR=2.3
0.4nm,0.3s
EIL Elat 10.46 129 LR LR 18 55 25.6
comp=Z,28nm,18.0s,baz=278,slow=47
ESDC Sonseca Array 23.42 286 P **P 18 52 26.8 -0.4**
0.5nm,0.7s,baz=91,slow=9.7,SNR=2.3
0.5nm,0.7s
TORD Torodi Ar. Bea 31.77 229 P **P 18 53 42.7 +0.2**
0.2nm,0.5s,baz=31,slow=9.2,SNR=2.3
0.2nm,0.5s
KURBB Kurchatov Arra 39.88 52 P **P 18 54 52.1 +0.5**
0.6nm,0.6s,baz=280,slow=8.6,SNR=6.7
0.6nm,0.6s
MKAR Makanchi Array 42.63 58 P **P 18 55 14.7 +0.3**
0.5nm,0.6s,baz=270,slow=8.3,SNR=8.3
0.5nm,0.6s
ZALV Zalesovo Beam 43.68 47 P **P 18 55 22.7 0.0**
0.5nm,0.5s,baz=279,slow=11,SNR=2.3
0.5nm,0.5s

---

*NEIC **12** 18:59:48.7±1.6, 50.°68S±0.°10×113.°1E±0.°3, h10km±1km, mb4.7/11, Error ellipse: s-maj=33.7km s-min=13.3km az=287.0*
*IDC **12** 18:59:48.6±1.2, 50.°24S×112.°80E, h0km, mb4.1/5, mbtmp4.1/5, MS3.7/26, Error ellipse: s-maj=54.3km s-min=23.4km az=102.0*
ISC 12 18:59:47.8±0.6, 50.°75S±0.°1×113.°1E±0.°2, h10km, n58, σ0=73/32, mb4.6/11, MS3.7/25, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**15.72**	**184**	Pn	**Pn**	**19 03 27.8**	**-1.2**
CASY				IAmb	IAmb	19 04 10.5	
	comp=Z,64nm,1.4s						
H01W2	**Cape Leeuwin H**	**15.77**	**3**	T	T	19 19 11.4	
	baz=183,slow=74						
H01W1	**Cape Leeuwin H**	**15.78**	**3**	T	T	19 19 10.7	
	baz=183,slow=74						
H01W3	**Cape Leeuwin H**	**15.79**	**3**	T	T	19 19 09.8	
	baz=183,slow=74						
NWAO	**Narrogin (SRO)**	**17.98**	**11**	LR	LR	19 08 59.7	
	comp=Z,452nm,21.9s,baz=174,slow=31						
FORT	**Forrest**	**22.80**	**35**	P	**P**	**19 04 50.5**	**0.0**
FORT				IAmb	IAmb	19 05 11.5	
	comp=Z,46nm,1.1s						
MAW	**Mawson**	**29.71**	**216**	LR	LR	19 14 48.4	
	comp=Z,208nm,19.9s,baz=78,slow=30						
ASAR	**Alice Springs**	**31.43**	**39**	P	**P**	**19 06 08.6**	**-0.6**
ASAR	**Alice Springs**	**31.43**	**39**	P	**P**	**19 06 09.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=210,slow=8.1,SNR=16						
ASAR				LR	LR	19 17 11.5	
	comp=Z,139nm,20.8s,baz=220,slow=33						
	comp=Z,0.8nm,0.5s						
AS31	**Alice Springs**	**31.43**	**39**	P	**P**	**19 06 08.7**	**-0.5**
VNDA	**Vanda**	**32.43**	**162**	P	**P**	**19 06 16.8**	**-0.6**
VNDA	**Vanda**	**32.43**	**162**	LR	LR	19 18 19.5	
	comp=Z,166nm,21.6s,baz=305,slow=34						
FITZ	**Fitzroy Crossi**	**34.00**	**22**	P	**P**	**19 06 32.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**34.00**	**22**	P	**P**	**19 06 31.9**	**+0.3**
	comp=Z,9.0nm,1.1s,baz=182,slow=5.3,SNR=4.3						
FITZ				LR	LR	19 19 33.1	
	comp=Z,238nm,18.2s,baz=188,slow=35						
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**34.96**	**37**	P	**P**	**19 06 40.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=203,slow=10,SNR=15						
WRA				LR	LR	19 19 02.9	
	comp=Z,103nm,21.7s,baz=257,slow=33						
	comp=Z,1.0nm,0.4s						
WB2	**Warramunga Arr**	**34.97**	**37**	P	**P**	**19 06 39.8**	**-0.3**
WB2				IAmb	IAmb	19 07 10.9	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**34.98**	**37**	P	**P**	**19 06 40.2**	**+0.1**
WRAB				IAmb	IAmb	19 07 08.7	
	comp=Z,7.3nm,1.1s						
KNRA	**Kununurra**	**37.12**	**26**	P	**P**	**19 06 58.5**	**0.0**
SYO	**Syowa Base**	**38.31**	**214**	*e*sP	sP	19 07 13.8	+2.9
QSPA	**South Pole Qui**	**39.47**	**180**	P	P	19 07 23.6	+5.6
	comp=Z,2.5nm,0.6s,baz=318,slow=1.8,SNR=5.5						
QSPA				LR	LR	19 23 07.7	
	comp=Z,146nm,18.8s,baz=356,slow=35						
	comp=Z,2.5nm,0.6s						
LEM	**Lembang**	**43.93**	**352**	LR	LR	19 22 42.0	
	comp=Z,154nm,21.0s,baz=176,slow=32						
KAPI	**Kappang**	**45.83**	**9**	LR	LR	19 27 28.9	
	comp=Z,100nm,18.1s,baz=184,slow=36						
PMG	**Port Moresby**	**49.81**	**46**	LR	LR	19 28 35.7	
	comp=Z,52nm,19.3s,baz=230,slow=35						
SNAA	**Sanae**	**49.93**	**202**	P	**P**	**19 08 42.2**	**+1.0**
SNAA				IAmb	IAmb	19 08 47.1	
	comp=Z,9.5nm,1.2s						
SNAA	**Sanae**	**49.93**	**202**	LR	LR	19 29 00.7	
	comp=Z,147nm,18.1s,baz=180,slow=35						
BELA	**Belgrano 2**	**50.20**	**188**	P	**P**	**19 08 43.8**	**+0.7**
BELA				IAmb	IAmb	19 08 52.5	
	comp=Z,16nm,1.5s						
JAY	**Jayapura**	**53.35**	**35**	LR	LR	19 30 33.0	
	comp=Z,137nm,21.2s,baz=286,slow=35						
PSI	**Prapat**	**54.62**	**343**	LR	LR	19 29 06.6	
	comp=Z,78nm,19.0s,baz=158,slow=32						
PALK	**Pallekele**	**64.13**	**324**	LR	LR	19 31 41.9	
	comp=Z,51nm,20.7s,baz=140,slow=30						
BOSA	**Boshof**	**67.12**	**252**	P	**P**	**19 10 41.4**	**-0.3**
BOSA				IAmb	IAmb	19 11 14.8	
	comp=Z,9.5nm,1.4s						
BOSA	**Boshof**	**67.12**	**252**	LR	LR	19 33 48.2	
	comp=Z,37nm,19.9s,baz=194,slow=30						
LBTB	**Lobatse**	**69.53**	**255**	LR	LR	19 34 41.9	
	comp=Z,44nm,19.8s,baz=165,slow=30						
GUMO	**Guam**	**69.76**	**33**	LR	LR	19 41 06.9	
	comp=Z,42nm,18.6s,baz=72,slow=36						
CMAR	**Chiang Mai Arr**	**69.93**	**346**	P	**P**	**19 10 57.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**69.93**	**346**	P	**P**	**19 10 58.6**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=192,slow=5.5,SNR=8.3						
CMAR				LR	LR	19 37 07.8	
	comp=Z,28nm,21.5s,baz=190,slow=32						
	comp=Z,0.7nm,0.6s						
LSZ	**Lusaka**	**75.13**	**264**	LR	LR	19 40 27.2	
	comp=Z,47nm,18.4s,baz=42,slow=32						
TSUM	**Tsumeb**	**78.78**	**254**	LR	LR	19 41 10.1	
	comp=Z,46nm,18.7s,baz=150,slow=32						
JNU	**Nakatsue**	**84.89**	**15**	LR	LR	19 54 26.8	
	comp=Z,14nm,18.1s,baz=110,slow=39						
KSRS	**Korea Array**	**88.71**	**12**	LR	LR	19 53 45.2	
	comp=Z,8.5nm,19.5s,baz=115,slow=37						
PLCA	**Paso Flores**	**88.93**	**177**	LR	LR	19 52 11.6	
	comp=Z,48nm,18.6s,baz=181,slow=35						
MJAR	**Matsushiro Arr**	**89.61**	**20**	LR	LR	19 50 01.2	
	comp=Z,15nm,20.7s,baz=160,slow=34						
SONM	**Songino Array**	**98.28**	**355**	LR	LR	19 55 53.0	
	comp=Z,20nm,22.0s,baz=86,slow=34						
AAK	**Ala-Archa**	**98.82**	**332**	LR	LR	19 52 20.5	
	comp=Z,43nm,21.6s,baz=191,slow=32						
LCMT	**Little Creek M**	**144.50**	**94**	PKPdf	**PKPdf**	**19 19 23.8**	**-0.3**
KNB	**Kanab**	**144.78**	**95**	PKPdf	**PKPdf**	**19 19 24.7**	**+0.1**
SPR3	**Spring Creek 3**	**144.99**	**91**		**PKPab**	**19 19 24.4**	**0.0**
PSUT	**Pine Spring**	**145.03**	**92**		**PKPbc**	**19 19 23.5**	**-0.9**
TX31	**Lajitas Ar. Si**	**145.21**	**114**		**PKPdf**	**19 19 26.6**	**+1.1**
TXAR	**Lajitas Array**	**145.21**	**114**		**PKPdf**	**19 19 26.7**	**+1.2**
TXAR	**Lajitas Array**	**145.21**	**114**	PKPbc	**PKiKP**	**19 19 28.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=230,slow=4.7,SNR=7.5						
ELK	**Elko**	**145.39**	**88**		**PKPbc**	**19 19 25.4**	**-0.2**
VHRN	**Van Horn**	**145.50**	**111**		**PKPdf**	**19 19 25.2**	**-0.7**
MTPU	**Mount Pierson**	**145.80**	**94**		**PKPdf**	**19 19 26.0**	**-0.6**
ALPN	**Alpine**	**146.00**	**113**	PKPbc	**PKPab**	**19 19 29.1**	**+0.9**
DUG	**Dugway, Tooele**	**146.63**	**90**	PKPdf	**PKPdf**	**19 19 27.3**	**-0.4**
DUG					pPKPab	19 19 32.5	-0.2
PLID	**Pearl Lake**	**147.11**	**80**		**PKiKP**	**19 19 33.0**	**0.0**
PDAR	**Pinedale Array**	**150.07**	**89**	PKPbc	**PKiKP**	**19 19 40.9**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=169,slow=1.5,SNR=5.1						
YKA	**Yellowknife Ar**	**151.89**	**47**	PKPbc	**PKiKP**	**19 19 42.9**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=279,slow=2.4,SNR=7.1						

---

*IDC **12** 19:02:25.6±1.5, 34.°80N×27.°17E, h0km, mb3.5/5, mbtmp3.4/6, ML3.7/1, MS3.1/2, Error ellipse: s-maj=47.7km s-min=26.0km az=153.0*
*THE **12** 19:02:30.8, 35.°42N×26.°06E, h20km±31km, ML2.2/3, Error ellipse: s-maj=31.6km s-min=0.9km az=0.0*
*ATH **12** 19:02:32.1, 34.°98N×26.°43E, h21km±6km, ML2.8/5, Manual Solution by S.Liakopoulos First location: 2019/02/12 19:04:27, This location: 2019/02/12 20:15:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 19 km; Longitude uncertainty: 8 km*
ISC 12 19:02:30.9±0.9, 35.°47N±0.°06×26.°12E±0.°03, h10km, n22, σ0=16/20, mb3.4/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.36**	**167**	P	**Pg**	**19 02 37.6**	**-0.5**
ZKR				S	**Sb**	**19 02 43.5**	**-1.7**
ZKR	**Zakros**	**0.36**	**167**	P	**Pg**	**19 02 37.6**	**-0.5**
ZKR				S	**Sb**	**19 02 43.5**	**-1.7**
	532nm,0.7s						
ZKR	**Zakros**	**0.36**	**167**	P	**Pg**	**19 02 37.7**	**-0.5**
KARP	**Karpathos**	**0.85**	**85**	P	**Pg**	**19 02 47.4**	**+0.1**
KARP				S	**Sg**	**19 02 59.7**	**+1.2**
KARP	**Karpathos**	**0.85**	**85**	P	**Pg**	**19 02 47.4**	**+0.1**
KARP				S	**Sg**	**19 02 59.7**	**+1.2**
	298nm,0.6s						
KARP	**Karpathos**	**0.85**	**85**	P	**Pg**	**19 02 48.1**	**+0.8**
KARP				S	**Sg**	**19 02 58.1**	**-0.4**
IDI	**Anoyia**	**1.02**	**260**	P	**Pg**	**19 02 47.9**	**-2.6**
IDI	**Anoyia**	**1.02**	**260**	P	**Pg**	**19 02 47.9**	**-2.6**
IDI	**Anoyia**	**1.02**	**260**	P	**Pn**	**19 02 53.7**	**+2.4**
IDI				S	**Sn**	**19 03 12.0**	**+6.3**
CMBO	**Columbo, Santo**	**1.15**	**330**	P	Pg	19 03 01.8	+8.8
GVD	**Gavdhos**	**1.78**	**250**	P	**Pg**	**19 03 04.3**	**-0.7**
ARG	**Arkhangelos**	**1.79**	**65**	P	**Pn**	**19 02 59.9**	**-2.0**
ARG	**Arkhangelos**	**1.79**	**65**	P	**Pn**	**19 02 59.9**	**-2.0**
ARG	**Arkhangelos**	**1.79**	**65**	P	**Pn**	**19 03 01.9**	**0.0**
MMAI	**Mount Meron Ar**	**8.07**	**105**	Pn	Pn	19 04 10.4	-18
	1.3nm,0.3s,baz=303,slow=11,SNR=8.3						
MMAI				Sn	Sn	19 05 32.6	-27
	3.1nm,0.3s,baz=288,slow=24,SNR=7.6						
	0.8nm,0.3s						
KIRV	**Kirov**	**27.77**	**26**	LR	LR	19 20 17.7	
	comp=Z,22nm,18.1s,baz=65,slow=38						
TORD	**Torodi Ar. Bea**	**31.29**	**231**	P	**P**	**19 08 49.8**	**-1.4**
	0.3nm,0.6s,baz=36,slow=7.3,SNR=2.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**40.32**	**51**	P	P	19 10 02.8	-5.5
	0.5nm,0.6s,baz=278,slow=8.8,SNR=7.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**42.95**	**57**	P	P	19 10 23.4	-6.5
	0.4nm,0.8s,baz=254,slow=8.5,SNR=7.3						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**44.22**	**46**	P	P	19 10 34.7	-5.4
	0.6nm,0.6s,baz=258,slow=7.2,SNR=2.6						
	0.6nm,0.6s						
OPO	**Ambohidratompo**	**57.34**	**156**	LR	LR	19 38 40.0	
	comp=Z,28nm,19.3s,baz=360,slow=39						
SONM	**Songino Array**	**58.68**	**51**	P	P	19 12 22.8	-5.8
	0.2nm,0.5s,baz=293,slow=7.7,SNR=3.3						
	0.2nm,0.5s						

---

*NERS **12** 19:06:15.0, 65.°43N×166.°51W, h5km*
*AEIC **12** 19:06:18.4±1.2, 65.°56N±0.°05×166.°7W±0.°2, h10km±7km, ML3.6, ML3.7/56(NEIC), Mwr3.5/10(SLM), Error ellipse: s-maj=9.4km s-min=7.4km az=101.0*
*IDC **12** 19:06:18.2±2.8, 65.°37N×167.°90W, h0km, mb3.6/7, mbtmp3.5/9, ML3.1/2, Error ellipse: s-maj=84.7km s-min=17.5km az=7.0*
*NEIC **12** 19:06:19.3±1.5, 65.°55N±0.°05×166.°8W±0.°2, h18km±7km, Error ellipse: s-maj=9.8km s-min=7.2km az=106.0*
*NEIC **12** 19:06:19, 65.°56N×166.°77W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.03; $M_{\theta\theta}$1.05; $M_{\phi\phi}$-0.02; $M_{r\theta}$-1.68; $M_{\theta\phi}$-1.44; $M_{\phi r}$-0.42; Fault plane solution: $M_0$2.48000×10^{14} NP1:ϕ_s90.00000°, δ74.00000°, λ-127.00000°. NP2:ϕ_s340.00000°, δ40.00000°, λ-25.00000°. Principal axes: T 2.4806, Plg20.0000°, Azm207.0000°; N -0.0004, Plg36.0000°, Azm101.0000°; P -2.4802, Plg47.0000°, Azm321.0000°;*
ISC 12 19:06:18.0±1.2, 65.°56N±0.°05×166.°79W±0.°04, h7km±9km, n149, σ0=97/155, mb3.8/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
F14K	**Arctic Creek**	**0.21**	**113**	P	**Pg**	**19 06 22.4**	**+0.2**
	baz=298						
F14K				S	**Sg**	**19 06 25.2**	**+0.2**
	baz=298						
ANM	**Nome**	**1.16**	**148**	Pn	**Pn**	**19 06 39.3**	**-1.4**
ANM				Sn	**Sb**	**19 06 55.4**	**-0.2**
ANM				IAML		19 06 57.3	
	comp=E,2μm,0.6s						
ANM	**Nome**	**1.16**	**148**	P	**Pn**	**19 06 39.5**	**-1.1**
	baz=331						
ANM				S	**Sb**	**19 06 55.1**	**-0.5**
	baz=331						
G15K	**Niukluk**	**1.29**	**115**	P	**Pn**	**19 06 41.6**	**-0.8**
	baz=298						
G15K				S	**Sb**	**19 06 59.0**	**-0.2**
	baz=298						
H16K	**Elim**	**2.13**	**114**	P	**Pn**	**19 06 53.1**	**-0.9**
	baz=298						
H16K				S	**Sn**	**19 07 20.1**	**-0.6**
	baz=298						
D17K	**Noatak River**	**2.61**	**33**	P	**Pn**	**19 06 59.4**	**-1.2**
	baz=216						
GAMB	**Gambell**	**2.77**	**232**	Pn	**Pn**	**19 07 03.1**	**+0.4**
GAMB	**Gambell**	**2.77**	**232**	P	**Pn**	**19 07 02.8**	**+0.1**
	baz=48						
C16K	**Lisburne Hills**	**2.79**	**11**	Pn	**Pn**	**19 07 02.3**	**-0.6**
C16K	**Lisburne Hills**	**2.79**	**11**	P	**Pn**	**19 07 02.4**	**-0.6**
	baz=192						
RDOG	**Red Dog Mine**	**2.94**	**30**	Pn	**Pn**	**19 07 06.2**	**+1.1**
RDOG	**Red Dog Mine**	**2.94**	**30**	P	**Pn**	**19 07 04.3**	**-0.8**
	baz=213						
PVDR	**Provideniya**	**2.96**	**250**	*e*P	**Pn**	**19 07 04.4**	**-0.9**
PVDR				*e*Pg	**Pb**	**19 07 11.2**	**+0.3**
PVDR				*e*Sg	**Sb**	**19 07 49.7**	**+2.5**
PVDR				Sgmax		19 07 59.6	
	comp=E,570nm,0.5s						
H17K	**Granite Mounta**	**2.96**	**99**		**Pn**	**19 07 05.4**	**+0.1**
H17K				IAML		19 07 51.6	
	comp=N,313nm,0.5s						
H17K				IAML		19 08 00.6	
	comp=E,219nm,0.8s						
H17K	**Granite Mounta**	**2.96**	**99**	P	**Pn**	**19 07 04.7**	**-0.7**
	baz=285						
F18K	**Selawik**	**3.09**	**67**	P	**Pn**	**19 07 06.6**	**-0.5**
	baz=253						
I17K	**Unalakleet**	**3.10**	**120**	Pn	**Pn**	**19 07 07.9**	**+0.6**
I17K				IAML		19 08 01.3	
	comp=N,251nm,0.8s						
I17K				IAML		19 08 02.0	
	comp=E,207nm,0.5s						
I17K	**Unalakleet**	**3.10**	**120**	P	**Pn**	**19 07 07.3**	**0.0**
	baz=306						
E18K	**Tukpahlearik C**	**3.11**	**50**		**Pn**	**19 07 07.0**	**-0.4**
E18K				IAML		19 08 03.8	
	comp=N,174nm,0.8s						
E18K	**Tukpahlearik C**	**3.11**	**50**	P	**Pn**	**19 07 06.8**	**-0.5**
	baz=236						
J14K	**Nanvaranak Lak**	**3.15**	**152**	Pn	**Pn**	**19 07 08.1**	**+0.1**
J14K				IAML		19 08 02.8	
	comp=E,202nm,0.6s						
J14K				IAML		19 08 03.8	
	comp=N,192nm,0.4s						
J14K	**Nanvaranak Lak**	**3.15**	**152**	P	**Pn**	**19 07 07.9**	**-0.1**
	baz=335						
C17K	**DeLong Mountai**	**3.26**	**24**	P	**Pn**	**19 07 09.2**	**-0.2**
	baz=207						
G18K	**Tagagawik**	**3.38**	**81**		**Pn**	**19 07 10.4**	**-0.7**
G18K				IAML		19 08 05.7	
	comp=N,143nm,0.8s						
G18K	**Tagagawik**	**3.38**	**81**	P	**Pn**	**19 07 10.3**	**-0.7**
	baz=268						
J16K	**Anvik River**	**3.52**	**128**	Pn	**Pn**	**19 07 12.8**	**-0.2**
J16K	**Anvik River**	**3.52**	**128**	P	**Pn**	**19 07 13.0**	**-0.1**
	baz=314						
H18K	**Honhosa River**	**3.55**	**93**		**Pn**	**19 07 13.3**	**-0.3**
H18K	**Honhosa River**	**3.55**	**93**	P	**Pn**	**19 07 13.0**	**-0.5**
	baz=280						
K13K	**Kusilvak Mount**	**3.76**	**164**		**Pn**	**19 07 16.3**	**0.0**
K13K				IAML		19 08 34.3	
	comp=E,177nm,0.8s						
K13K				IAML		19 08 38.9	
	comp=N,190nm,0.9s						
K13K	**Kusilvak Mount**	**3.76**	**164**	P	**Pn**	**19 07 15.9**	**-0.4**
	baz=347						
C18K	**Utukok River**	**3.80**	**33**		**Pn**	**19 07 17.4**	**+0.5**
C18K	**Utukok River**	**3.80**	**33**	P	**Pn**	**19 07 17.9**	**+1.0**
	baz=218						
J17K	**VABM Dome**	**3.98**	**119**		**Pn**	**19 07 19.7**	**+0.4**
J17K				IAML		19 08 29.6	
	comp=N,92nm,0.8s						
J17K				IAML		19 08 31.2	
	comp=E,105nm,0.8s						
J17K	**VABM Dome**	**3.98**	**119**	P	**Pn**	**19 07 19.7**	**+0.4**
	baz=307						
K15K	**Wolf Creek Mou**	**4.01**	**142**		**Pn**	**19 07 20.3**	**+0.5**
K15K				IAML		19 08 28.5	
	comp=E,154nm,0.7s						
K15K	**Wolf Creek Mou**	**4.01**	**142**	P	**Pn**	**19 07 19.8**	**0.0**
	baz=327						
G19K	**Purcell Mounta**	**4.03**	**77**		**Pn**	**19 07 19.5**	**-0.5**
G19K				IAML		19 08 32.3	
	comp=E,152nm,1.3s						
G19K	**Purcell Mounta**	**4.03**	**77**	P	**Pn**	**19 07 19.4**	**-0.7**
	baz=266						
E19K	**Redstone River**	**4.28**	**59**		**Pn**	**19 07 23.2**	**-0.2**
E19K				IAML		19 08 35.5	
	comp=E,81nm,0.8s						
E19K				IAML		19 08 44.2	
	comp=N,102nm,0.7s						
**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=338						
TTA	**Tatalina**	**5.39**	**114**	Pn	**Pn**	**19 07 39.5**	**+0.7**
TTA				IAML		19 09 19.9	
	comp=N,36nm,0.9s						
TTA	**Tatalina**	**5.39**	**114**	P	**Pn**	**19 07 39.3**	**+0.6**
	baz=304						
M13K	**Dall Lake**	**5.39**	**162**	Pn	**Pn**	**19 07 39.7**	**+1.0**
M13K	**Dall Lake**	**5.39**	**162**	P	**Pn**	**19 07 39.7**	**+1.0**
	baz=345						
G21K	**Allakaket**	**5.50**	**74**	Pn	**Pn**	**19 07 40.0**	**-0.2**
J20K	**Nowinta River**	**5.56**	**99**		**Pn**	**19 07 41.0**	**-0.1**
L18K	**Granite Mounta**	**5.57**	**122**		**Pn**	**19 07 41.2**	**0.0**
L18K	**Granite Mounta**	**5.57**	**122**	P	**Pn**	**19 07 42.2**	**+1.0**
	baz=312						
F21K	**Alatna River**	**5.60**	**67**	Pn	**Pn**	**19 07 41.2**	**-0.4**
M15K	**Kasigluk River**	**5.61**	**148**	P	**Pn**	**19 07 42.5**	**+0.8**
	baz=333						
M16K	**Timber Creek**	**5.76**	**139**	Pn	**Pn**	**19 07 44.0**	**+0.3**
M16K	**Timber Creek**	**5.76**	**139**	P	**Pn**	**19 07 44.7**	**+1.0**
	baz=326						
E21K	**Killik River**	**5.79**	**54**	Pn	**Pn**	**19 07 42.6**	**-1.7**
H21K	**Melozitna Rive**	**5.80**	**83**		**Pn**	**19 07 43.3**	**-1.0**
C21K	**Knifeblade Rid**	**5.87**	**47**	P	**Pn**	**19 07 45.6**	**+0.3**
	baz=238						
M17K	**Holitna River**	**5.91**	**131**		**Pn**	**19 07 45.1**	**-0.7**
M17K	**Holitna River**	**5.91**	**131**	P	**Pn**	**19 07 46.3**	**+0.5**
	baz=319						
K20K	**Telida**	**5.93**	**106**	Pn	**Pn**	**19 07 45.5**	**-0.6**
N14K	**Kuskokwak Cree**	**6.12**	**155**	P	**Pn**	**19 07 49.4**	**+0.8**
	baz=340						
B21K	**Ikpikpuk River**	**6.18**	**43**		**Pn**	**19 07 49.3**	**-0.3**
B21K	**Ikpikpuk River**	**6.18**	**43**	P	**Pn**	**19 07 49.1**	**-0.4**
	baz=234						
I21K	**Tanana**	**6.20**	**87**	Pn	**Pn**	**19 07 50.0**	**+0.2**
N15K	**Kwethluk River**	**6.21**	**147**	Pn	**Pn**	**19 07 50.8**	**+0.8**
N15K	**Kwethluk River**	**6.21**	**147**	P	**Pn**	**19 07 50.8**	**+0.8**
	baz=334						
M18K	**Stony River**	**6.37**	**125**	P	**Pn**	**19 07 53.0**	**+0.8**
	baz=315						
D22K	**Ayikyak River**	**6.41**	**52**		**Pn**	**19 07 52.7**	**+0.1**
N17K	**Nushagak Hills**	**6.67**	**135**	Pn	**Pn**	**19 07 56.7**	**+0.5**
N17K	**Nushagak Hills**	**6.67**	**135**	P	**Pn**	**19 07 57.3**	**+1.1**
	baz=324						
ANDR	**Anadyr'**	**6.68**	**270**	*e*Sg	**Sg**	**19 09 50.0**	**-2.1**
ANDR				Sgmax		19 09 57.6	
	comp=N,40nm,0.9s						
CAST	**Castle Rocks**	**6.70**	**102**	Pn	**Pn**	**19 07 56.7**	**0.0**
O14K	**Tigyukauivet M**	**6.82**	**155**	Pn	**Pn**	**19 07 59.0**	**+0.6**
COLD	**Coldfoot**	**6.87**	**68**		**Pn**	**19 07 60.0**	**+1.0**
BPAW	**Bear Paw Mtn.**	**6.89**	**95**	Pn	**Pn**	**19 08 00.2**	**+0.8**
G23K	**Bananza Creek**	**6.90**	**73**		**Pn**	**19 07 59.1**	**-0.3**
PPLA	**Purkeypile**	**6.90**	**106**	Pn	**Pn**	**19 07 59.4**	**-0.2**
N18K	**Kilae Creek**	**6.95**	**130**		**Pn**	**19 08 01.2**	**+1.2**
N18K	**Kilae Creek**	**6.95**	**130**	P	**Pn**	**19 08 01.5**	**+1.4**
	baz=320						
M20K	**Styx River**	**7.09**	**115**		**Pn**	**19 08 03.1**	**+1.0**
D23K	**Nanushuk River**	**7.11**	**54**		**Pn**	**19 08 03.0**	**+0.7**
O15K	**Ungalikthiuk R**	**7.17**	**150**	P	**Pn**	**19 08 04.3**	**+1.2**
	baz=336						
O16K	**Kokwok River B**	**7.20**	**142**	Pn	**Pn**	**19 08 03.8**	**+0.3**
E23K	**Chandalar**	**7.22**	**62**		**Pn**	**19 08 04.3**	**+0.4**
I23K	**Minto, Yukon-K**	**7.30**	**85**	Pn	**Pn**	**19 08 05.9**	**+1.1**
O17K	**Koliganek Bris**	**7.31**	**138**	P	**Pn**	**19 08 06.3**	**+1.3**
	baz=327						
N19K	**Bonanza Creek**	**7.31**	**125**		**Pn**	**19 08 05.7**	**+0.5**
TOLK	**Toolik Lake Re**	**7.38**	**58**	Pn	**Pn**	**19 08 07.2**	**+1.1**
TRF	**Thorofare Moun**	**7.42**	**99**	Pn	**Pn**	**19 08 07.2**	**+0.5**
C23K	**Itkillik River**	**7.49**	**48**	Pn	**Pn**	**19 08 07.2**	**-0.2**
E24K	**Your Creek**	**7.64**	**62**		**Pn**	**19 08 10.1**	**+0.5**
SK7	**Skwentna**	**7.64**	**111**	Pn	**Pn**	**19 08 10.4**	**+0.8**
F24K	**Squaw Lake**	**7.79**	**67**		**Pn**	**19 08 11.7**	**+0.1**
D24K	**Happy Valley**	**7.80**	**54**		**Pn**	**19 08 10.3**	**-1.4**
H24K	**Noodor Dome**	**7.80**	**79**	Pn	**Pn**	**19 08 11.7**	**-0.2**
O18K	**Koktuh Hills**	**7.80**	**132**	Pn	**Pn**	**19 08 13.1**	**+1.3**
STLK	**Strandline Lak**	**7.81**	**114**		**Pn**	**19 08 11.6**	**-0.5**
O19K	**Port Alsworth**	**7.82**	**128**	Pn	**Pn**	**19 08 13.3**	**+1.3**
MCK	**McKinley**	**7.87**	**95**	Pn	**Pn**	**19 08 12.4**	**-0.4**
SPU	**Mount Spurr**	**7.93**	**117**	Pn	**Pn**	**19 08 13.4**	**-0.2**
WRH	**Wood River Hil**	**7.99**	**89**	Pn	**Pn**	**19 08 14.5**	**+0.2**
RND	**Reindeer**	**8.03**	**97**	Pn	**Pn**	**19 08 15.3**	**+0.3**
C24K	**Franklin Bluff**	**8.04**	**51**		**Pn**	**19 08 14.3**	**-0.7**
CCB	**Clear Creek Bu**	**8.06**	**88**	Pn	**Pn**	**19 08 14.5**	**-0.8**
POKR	**Poker Plat Res**	**8.10**	**84**	Pn	**Pn**	**19 08 15.6**	**-0.3**
P18K	**Big Mountain,**	**8.17**	**134**	Pn	**Pn**	**19 08 16.6**	**-0.3**
SUA	**Susitna One**	**8.25**	**112**	Pn	**Pn**	**19 08 18.3**	**+0.3**
ILSW	**Iliamna Southw**	**8.38**	**125**	Pn	**Pn**	**19 08 19.7**	**-0.1**
IL31		**8.41**	**86**		**Pn**	**19 08 20.5**	**+0.5**
ILAR	**Eielson Array**	**8.41**	**86**	Pn	**Pn**	**19 08 19.6**	**-0.5**
ILAR	**Eielson Array**	**8.41**	**86**	Pn	**Pn**	**19 08 22.9**	**+2.9**
	comp=N,0.1nm,0.3s,baz=278,slow=13,SNR=4.0						
ILAR				Sn	**Sn**	**19 09 53.0**	**-2.0**
	comp=N,0.2nm,0.3s,baz=283,slow=23,SNR=5.6						
ILAR				Lg	Lg	19 10 44.4	
	comp=N,0.1nm,0.3s,baz=284,slow=25,SNR=5.6						
	comp=N,0.5nm,0.3s						
F25K	**Christian Rive**	**8.65**	**67**		**Pn**	**19 08 23.2**	**-0.2**
D25K	**Kavik River**	**8.68**	**55**		**Pn**	**19 08 23.2**	**-0.7**
SML	**Sawmill**	**9.00**	**106**	Pn	**Pn**	**19 08 28.5**	**+0.2**
BMAR	**Burnt Mountain**	**9.05**	**68**	Pn	**Pn**	**19 08 28.6**	**-0.4**
ACHA	**Angle Creek He**	**9.13**	**138**	Pn	**Pn**	**19 08 29.9**	**-0.1**
KNK	**Knik Glacier**	**9.17**	**108**	Pn	**Pn**	**19 08 29.8**	**-0.8**
F26K	**Sheenjek River**	**9.23**	**66**	Pn	**Pn**	**19 08 30.5**	**-0.8**
BRLK	**Bradley Lake**	**9.32**	**121**	Pn	**Pn**	**19 08 32.6**	**0.0**
CNPM	**China Poot**	**9.37**	**123**	Pn	**Pn**	**19 08 32.9**	**-0.4**
PWL	**Port Wells**	**9.55**	**111**	Pn	**Pn**	**19 08 37.6**	**+1.9**
C27K	**Jago River**	**9.67**	**55**		**Pn**	**19 08 37.5**	**+0.1**
BILL	**Bilibino**	**10.87**	**295**	*e*Sg		19 11 59.8	
BILL				Sgmax		19 12 12.1	
	comp=N,10.0nm,1.1s						
BILL				Sgmax		19 12 12.1	
	comp=N,10.0nm,1.1s						
INK	**Inuvik**	**13.22**	**63**	Pn	Pn	19 09 30.8	+4.9
	comp=N,0.1nm,0.3s,baz=236,slow=11,SNR=3.1						
	comp=N,0.6nm,0.5s						
A36M	**Sachs Harbour**	**16.04**	**48**		**Pn**	**19 09 59.5**	**-4.1**
YKA	**Yellowknife Ar**	**22.51**	**73**	P	**P**	**19 11 22.8**	**+5.1**
	comp=N,0.3nm,0.7s,baz=298,slow=12,SNR=6.6						
	comp=N,0.3nm,0.7s						
SONM	**Songino Array**	**46.57**	**292**	P	**P**	**19 14 44.0**	**-2.1**
	comp=N,0.2nm,0.3s,baz=46,slow=6.2,SNR=2.2						
	comp=N,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**49.02**	**312**	P	**P**	**19 15 04.5**	**-0.3**
	comp=N,0.9nm,0.6s,baz=28,slow=6.5,SNR=3.9						
	comp=N,0.9nm,0.6s						
FINES	**FINESS Array B**	**52.95**	**352**	P	**P**	**19 15 36.9**	**+2.7**
	comp=N,0.9nm,0.5s,baz=14,slow=8.6,SNR=6.9						
	comp=N,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**53.82**	**314**	P	**P**	**19 15 40.6**	**-0.2**
	comp=N,0.8nm,0.8s,baz=30,slow=6.8,SNR=6.0						
	comp=N,0.8nm,0.8s						
BVAR	**Borovoye Array**	**53.95**	**321**	P	**P**	**19 15 41.5**	**-0.2**
	comp=N,1.0nm,0.7s,baz=32,slow=8.5,SNR=5.4						
	comp=N,1.0nm,0.7s						
MKAR	**Makanchi Array**	**56.04**	**309**	P	**P**	**19 15 56.8**	**-0.2**
	comp=N,0.3nm,0.7s,baz=36,slow=5.4,SNR=4.6						
	comp=N,0.3nm,0.7s						

*ISK **12** 19:18:32.6, 35°.15N×24°.16E, h5km, ML3.1/13*
*THE **12** 19:18:33.1, 35°.15N×24°.13E, h20km±31km, ML3.4/3, Error ellipse: s-maj=31.6km s-min=0.3km az=0.0*
*ATH **12** 19:18:33.4, 35°.14N×24°.16E, h18km±3km, ML3.3/8, Manual Solution by D.Makaris First location: 2019/02/12 19:19:47, This location: 2019/02/12 21:40:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*IDC **12** 19:18:39.4±3.3, 34°.98N×24°.09E, h63km±36km, mb3.2/5, mbtmp3.5/9, ML3.5/4, Error ellipse: s-maj=31.8km s-min=20.0km az=163.0*
ISC 12 19:18:33.6±1.1, 35°.13N±0°.04×24°.12E±0°.03, h10km±8km, n50, σ1°60/66, mb3.3/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.29**	**186**	Pg	**Pb**	**19 18 39.9**	**-1.0**
GVD				Sg	**Sb**	19 18 45.5	-0.3
GVD	**Gavdhos**	**0.29**	**186**	P	**Pb**	**19 18 39.9**	**-1.0**
GVD				S	**Sb**	**19 18 45.3**	**-0.5**
	22μm,0.3s						
GVD	**Gavdhos**	**0.29**	**186**	P	**Pb**	**19 18 40.3**	**-0.6**
GVD				S	**Sb**	**19 18 45.6**	**-0.3**
IMMV	**Iera Moni Meta**	**0.35**	**341**	Pg	**Pg**	**19 18 40.3**	**-0.2**
IMMV				Sg	**Sg**	**19 18 46.3**	**+1.1**
IMMV	**Iera Moni Meta**	**0.35**	**341**	P	**Pg**	**19 18 40.3**	**-0.2**
IMMV				S	**Sg**	**19 18 45.6**	**+0.4**
	9μm,0.3s						
IMMV	**Iera Moni Meta**	**0.35**	**341**	P	**Pg**	**19 18 40.5**	**0.0**
IMMV				S	**Sg**	**19 18 46.3**	**+1.1**
CHNB	**Souda**	**0.36**	**352**	P	**Pg**	**19 18 40.8**	**+0.1**
CHNB				S	**Sg**	**19 18 46.3**	**+0.8**
PRNS	**Prines Rethymn**	**0.39**	**53**	P	**Pg**	**19 18 39.8**	**-1.4**
PRNS	**Prines Rethymn**	**0.39**	**53**	P	**Pg**	**19 18 39.9**	**-1.4**
PRNS				S	**Sg**	**19 18 45.2**	**-1.2**
CHAN	**Chania**	**0.39**	**350**	P	**Pg**	**19 18 41.3**	**0.0**
CHAN				S	**Sg**	**19 18 47.5**	**+1.0**
TMBK	**Timbaki Herakl**	**0.53**	**96**	P	**Pg**	**19 18 43.9**	**0.0**
TMBK				S	**Sb**	**19 18 51.5**	**-1.2**
IDI	**Anoyia**	**0.65**	**76**	Pg	**Pg**	**19 18 45.2**	**-0.9**
IDI				Sg	**Sg**	**19 18 54.8**	**+0.2**
IDI	**Anoyia**	**0.65**	**76**	P	**Pg**	**19 18 45.2**	**-0.9**
IDI				S	**Sg**	**19 18 54.6**	**0.0**
	1μm,0.4s						
IDI	**Anoyia**	**0.65**	**76**	P	**Pg**	**19 18 45.5**	**-0.6**
IDI				S	**Sg**	**19 18 54.6**	**0.0**
IACM	**Heraklion**	**0.80**	**77**	P	**Pg**	**19 18 48.2**	**-0.6**
IACM				S	**Sg**	**19 18 59.0**	**-0.2**
MHLO	**Agia Marina, M**	**1.57**	**8**	P	**Pn**	**19 19 00.0**	**-1.6**
MHLO				S	**Sn**	**19 19 20.8**	**-1.2**
SAP3	**Santorini-Thir**	**1.64**	**37**	P	**Pn**	**19 19 01.1**	**-1.4**
CMBO	**Columbo, Santo**	**1.69**	**38**	P	**Pn**	**19 19 01.0**	**-2.2**
CMBO				S	**Sn**	**19 19 23.5**	**-1.5**
ZKR	**Zakros**	**1.72**	**90**	Pn	**Pb**	**19 19 04.7**	**-0.5**
VLI	**Veliai**	**1.85**	**329**	P	**Pn**	**19 19 02.8**	**-2.6**
VLI	**Veliai**	**1.85**	**329**	P	**Pn**	**19 19 05.0**	**-0.5**
APE	**Apeiranthos**	**2.25**	**30**	Pn	**Pn**	**19 19 11.0**	**+0.1**
APE	**Apeiranthos**	**2.25**	**30**	P	**Pn**	**19 19 08.2**	**-2.7**
APE	**Apeiranthos**	**2.25**	**30**	P	**Pn**	**19 19 09.5**	**-1.4**
KRND	**KRANIDI**	**2.38**	**341**	P	**Pn**	**19 19 12.5**	**-0.2**
KARP	**Karpathos**	**2.52**	**80**	Pn	**Pn**	**19 19 15.9**	**+1.3**
ITM	**Ithomi**	**2.71**	**320**	Pn	**Pn**	**19 19 18.9**	**+1.7**
DION	**Dionisos Attik**	**2.94**	**357**	P	**Pn**	**19 19 17.9**	**-2.6**
GUR	**Goura**	**3.15**	**333**	P	**Pn**	**19 19 24.1**	**+0.8**
BODT	**Bodrum**	**3.22**	**52**	Pn	**Pn**	**19 19 26.5**	**+2.2**
ARG	**Arkhangelos**	**3.43**	**70**	Pn	**Pn**	**19 19 29.1**	**+1.9**
MLSB	**Milas**	**3.66**	**53**	Pn	**Pn**	**19 19 32.5**	**+2.2**
YER	**Yerkesik**	**3.92**	**58**	Pn	**Pn**	**19 19 35.9**	**+2.0**
DALY	**Dalyan (Mula)**	**4.04**	**64**	Pn	**Pn**	**19 19 37.7**	**+2.2**
FOCM	**Foa**	**4.14**	**38**	Pn	**Pn**	**19 19 39.6**	**+2.7**
FETY	**Fethiye**	**4.30**	**68**	Pn	**Pn**	**19 19 41.4**	**+2.3**
ODEM	**Odemis-Izmir**	**4.46**	**44**	Pn	**Pn**	**19 19 43.9**	**+2.5**
CAME	**Cameli-Denizli**	**4.57**	**65**	Pn	**Pn**	**19 19 45.4**	**+2.5**
AKAS	**Kas**	**4.59**	**75**	Pn	**Pn**	**19 19 45.5**	**+2.2**
APMY	**Acipayam-Deniz**	**4.79**	**59**	Pn	**Pn**	**19 19 48.4**	**+2.5**
ELL	**Elmali**	**4.96**	**69**	Pn	**Pn**	**19 19 50.9**	**+2.6**
BRTR	**Keskin Array B**	**8.85**	**56**	P	**Pn**	**19 20 46.4**	**+4.7**
	0.2nm,0.3s,baz=253,slow=13,SNR=2.0						
	1.1nm,0.6s						
MMAI	**Mount Meron Ar**	**9.59**	**100**	P	**Pn**	**19 20 53.5**	**+1.7**
	0.4nm,0.3s,baz=271,slow=11,SNR=1.6						
	0.6nm,0.4s						
GERES	**GERESS Array B**	**15.72**	**334**	P	**P**	**19 22 19.4**	**+0.2**
	0.2nm,0.3s,baz=145,slow=14,SNR=3.4						
	1.0nm,0.6s						
KBZ	**Khabaz**	**16.83**	**54**	P	**P**	**19 22 33.6**	**+2.3**
	baz=231,slow=7.6,SNR=5.2						
	1.5nm,0.8s						
ESDC	**Sonseca Array**	**22.73**	**290**	P	**P**	**19 23 37.1**	**+1.4**
	0.7nm,0.8s,baz=91,slow=9.3,SNR=5.2						
	0.7nm,0.8s						
HFS	**Hagfors**	**25.92**	**348**	P	**P**	**19 24 05.1**	**-0.6**
	2.2nm,0.8s,baz=150,slow=16,SNR=1.6						
	2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.83**	**228**	P	**P**	**19 24 39.6**	**-1.5**
	0.2nm,0.4s,baz=35,slow=8.9,SNR=4.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**41.80**	**51**	P	**P**	**19 26 23.7**	**+0.5**
	0.3nm,0.5s,baz=276,slow=8.6,SNR=4.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**44.50**	**56**	P	**P**	**19 26 45.6**	**+0.4**
	0.2nm,0.3s,baz=272,slow=7.5,SNR=5.5						
	0.2nm,0.3s						

*KRNET **12** 19:23:33.5±0.1, 39°.40N×73°.11E, h23km, mb3.3*
*SOME **12** 19:23:33.6, 39°.57N×72°.90E, h5km*
*NNC **12** 19:23:35.1±2.0, 39°.65N×72°.72E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.9km s-min=8.6km az=179.0*
*IDC **12** 19:23:39.5±2.8, 39°.11N×72°.20E, h0km, mb3.7/2, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=52.2km s-min=26.6km az=141.0*
ISC 12 19:23:34.6±0.8, 39°.60N±0°.04×72°.96E±0°.03, h10km, n63, σ2°21/94, 29C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.58**	**45**	⇑*i*P	**Pb**	**19 23 46.5**	**-0.6**
SFK				⇑*i*S	**Sb**	**19 23 55.8**	**+0.3**
DRK	**Karamyk**	**0.91**	**263**	⇓*i*P	**Pn**	**19 23 52.6**	**-1.1**
DRK				⇓*i*S	**Sn**	**19 24 06.4**	**-0.5**
OHH	**Osh**	**0.93**	**352**	⇓*i*P	**Pn**	**19 23 54.8**	**+1.0**
OHH				⇓*i*S	**Sn**	**19 24 10.2**	**+2.9**
SALK	**Salom-Alik**	**1.44**	**27**	⇓*i*P	**Pg**	**19 24 02.3**	**+0.1**
SALK				⇓*i*S	**Sg**	**19 24 23.3**	**+2.4**
BTK	**Batken**	**1.71**	**286**	⇓*i*P	**Pg**	**19 24 07.2**	**-0.2**
BTK				⇓*i*S	**Sg**	**19 24 31.8**	**+2.2**
ARSB	**Arslanbob**	**1.72**	**1**	⇑*i*P	**Pg**	**19 24 07.6**	**0.0**
ARSB				⇑*i*S	**Sg**	**19 24 32.6**	**+2.7**
GAR	**Garm**	**2.14**	**254**	⇓*i*P	**Pb**	**19 24 11.6**	**-1.9**
GAR				⇓*i*S	**Sb**	**19 24 39.5**	**-0.6**
ARK	**Arkit**	**2.32**	**341**	⇑*i*P	**Pb**	**19 24 16.4**	**-0.2**
ARK				⇑*i*S	**Sg**	**19 24 47.6**	**-1.5**
TRKS	**Terek-Say**	**2.37**	**325**	⇑*e*P	**Pb**	**19 24 16.4**	**-1.1**
TRKS				⇑*e*S	**Sb**	**19 24 47.5**	**+0.6**
ARLS	**Aral**	**2.48**	**24**	⇑*i*P	**Pb**	**19 24 17.2**	**-2.2**
ARLS				⇑*i*S	**Sb**	**19 24 49.3**	**-0.8**
AML	**Almayashu**	**2.59**	**12**	P	**Pg**	**19 24 23.2**	**-0.9**
	SNR=31						
AML	**Almayashu**	**2.59**	**12**	⇓*i*P	**Pb**	**19 24 19.5**	**-1.8**
AML				⇓*i*S	**Sb**	**19 24 53.0**	**-0.3**
UCH	**Uchtor**	**2.87**	**24**	⇑*i*P	**Pb**	**19 24 23.0**	**-3.2**
UCH				⇑*i*S	**Sb**	**19 24 59.2**	**-2.4**
MNAS	**Manas**	**2.90**	**353**	⇓*i*P	**Pb**	**19 24 24.3**	**-2.2**
MNAS				⇓*i*S	**Sb**	**19 25 01.4**	**-0.7**
CHGR	**Chuyangaron**	**3.10**	**253**	⇑*i*P	**Pn**	**19 24 25.0**	**+1.3**
CHGR				⇑*i*S	**Sn**	**19 25 02.5**	**+1.6**
EKS2	**Erkin-Say**	**3.12**	**11**	P	**Pb**	**19 24 30.9**	**+0.7**
	SNR=16						
EKS2	**Erkin-Say**	**3.12**	**11**	*i* P	**Pb**	**19 24 26.8**	**-3.4**
EKS2				*i* S	**Sb**	**19 25 05.6**	**-2.7**
MRKS	**Merke**	**3.15**	**4**	Pg	**Pg**	**19 24 33.6**	**-1.3**
	9.9nm,0.4s						
MRKS				Lg	Lg	19 25 16.7	
	43nm,0.6s						
MRKS	**Merke**	**3.15**	**4**	*e*P	**Pg**	**19 24 33.6**	**-1.3**
	9.9nm,0.4s						
MRKS				*e*S	**Sg**	**19 25 16.7**	**+1.1**
	43nm,0.6s						
AAK	**Ala-Archa**	**3.25**	**20**	P	**Pb**	**19 24 32.1**	**-0.2**
	SNR=26						
AAK	**Ala-Archa**	**3.25**	**20**	⇑*i*P	**Pn**	**19 24 28.1**	**+2.4**
AAK				⇑*i*S	**Sb**	**19 25 08.0**	**-4.0**
KBK	**Karagaybulak**	**3.40**	**26**	P	**Pb**	**19 24 34.1**	**-0.9**
	SNR=12						
KBK	**Karagaybulak**	**3.40**	**26**	⇓*i*P	**Pn**	**19 24 30.2**	**+2.3**
KBK				⇓*i*S	**Sn**	**19 25 11.3**	**+3.0**
FRU1	**Bishkek**	**3.44**	**21**	⇑*i*P	**Pn**	**19 24 31.1**	**+2.8**
FRU1				⇑*i*S	**Sb**	**19 25 13.0**	**-4.6**
ULHL	**Ulahol**	**3.63**	**42**	P	**Pb**	**19 24 36.8**	**-2.1**
	SNR=8.3						
ULHL	**Ulahol**	**3.63**	**42**	⇓*i*P	**Pn**	**19 24 32.4**	**+1.4**
ULHL				⇓*i*S	**Sn**	**19 25 15.5**	**+1.5**
CHMS	**Chumysh**	**3.65**	**21**	P	**Pb**	**19 24 37.6**	**-1.6**
	SNR=12						
CHMS	**Chumysh**	**3.65**	**21**	*i* P	**Pn**	**19 24 33.7**	**+2.5**
CHMS				*i* S	**Sn**	**19 25 17.9**	**+3.6**
BOOM	**Boomskoye usch**	**3.66**	**37**	⇑*e*P	**Pn**	**19 24 33.2**	**+1.8**
BOOM				⇑*e*S	**Sn**	**19 25 17.2**	**+2.5**
KK31	**Karatay Array**	**3.95**	**333**	⇓Pg	**Pb**	**19 24 42.0**	**-2.4**
	0.8nm,0.2s,baz=165,slow=14						
KK31				⇓Lg	Lg	19 25 31.3	
	12nm,0.4s,baz=156,slow=23						
KKAR	**Karatay Array**	**3.95**	**333**	⇑*i*P	Pb	19 24 39.1	-5.2
KKAR				⇑*i*S	**Sb**	**19 25 27.0**	**-5.2**
KDJ	**Kajisay**	**4.08**	**50**	⇑*i*P	**Pn**	**19 24 38.2**	**+1.1**
KDJ				⇑*i*S	**Sn**	**19 25 25.5**	**+0.5**
KST	**Kastek**	**4.11**	**32**	Pg	**Pg**	**19 24 51.5**	**-1.9**
	7.6nm,0.3s						
KST				Lg	Lg	19 25 47.7	
	20nm,0.8s						
KST	**Kastek**	**4.11**	**32**	*e*P	**Pg**	**19 24 51.5**	**-1.9**
	7.6nm,0.3s						
KST				*e*S	**Sg**	**19 25 47.7**	**+1.0**
	17nm,0.3s						
BRLS	**Borolday**	**4.15**	**327**	Pg	**Pb**	**19 24 48.2**	**+0.5**
	3.3nm,0.4s						
BRLS				Lg	Lg	19 25 42.3	
	8.6nm,0.4s						
BRLS	**Borolday**	**4.15**	**327**	*e*P	**Pb**	**19 24 48.2**	**+0.5**
	1.2nm,0.1s						
BRLS				*e*S	**Sg**	**19 25 42.3**	**-5.6**
	8.6nm,0.2s						
DGS	**Degeres**	**4.21**	**29**	Pg	**Pg**	**19 24 53.5**	**-1.6**
	12nm,0.5s						
DGS				Lg	Lg	19 25 50.9	
	27nm,0.7s						
MTBS	**Maitube**	**4.38**	**35**	Pg	**Pg**	**19 24 55.9**	**-2.6**
	9.0nm,0.2s						
MTBS				Lg	Lg	19 25 55.6	
	15nm,0.6s						
MTBS	**Maitube**	**4.38**	**35**	*e*P	**Pg**	**19 24 56.0**	**-2.6**
	5.1nm,0.2s						
MTBS				*e*S	**Sg**	**19 25 55.6**	**+0.2**
	13nm,0.3s						
TNSS	**Tian-Shan**	**4.56**	**40**	Pg	**Pg**	**19 24 59.3**	**-2.6**
	12nm,0.3s						
TNSS				Lg	Lg	19 26 01.4	
	6.9nm,0.6s						
TNSS	**Tian-Shan**	**4.56**	**40**	*e*P	**Pg**	**19 24 59.3**	**-2.6**
	12nm,0.3s						
TNSS				*e*S	**Sg**	**19 26 01.4**	**+0.4**
	6.9nm,0.6s						
KRBS	**Karabastau**	**4.57**	**26**	Pg	**Pg**	**19 25 00.2**	**-1.9**
	5.4nm,0.3s						
KRBS				Lg	Lg	19 26 02.6	
	13nm,0.8s						
KNDC	**Almaty**	**4.70**	**39**	⇑Pg	**Pg**	**19 25 02.8**	**-1.8**
	16nm,0.6s						
KNDC				⇑Lg	Lg	19 26 04.9	
	46nm,0.6s						
MDOK	**Medeo**	**4.70**	**40**	Pn	Pb	19 24 51.3	-5.8
	2.9nm,0.6s						
MDOK				Pg	**Pg**	**19 25 01.9**	**-2.7**
	13nm,0.7s						
MDOK				Pg	Pn	19 25 02.4	+17
	10nm,0.8s						
MDOK				Lg	Lg	19 26 05.9	
	17nm,1.2s						
MDOK				Lg	Lg	19 26 06.4	
	21nm,0.8s						
MDOK	**Medeo**	**4.70**	**40**	*e*P	**Pg**	**19 25 02.4**	**-2.3**
	10nm,0.8s						
MDOK				*e*S	**Sg**	**19 26 05.9**	**+0.3**
	17nm,1.2s						
KOTS	**Kotyrbulak**	**4.79**	**39**	Pg	**Pg**	**19 25 03.8**	**-2.5**
	18nm,0.9s						
KOTS				Lg	Lg	19 26 08.5	
	38nm,0.8s						
KOTS	**Kotyrbulak**	**4.79**	**39**	*e*P	**Pg**	**19 25 03.8**	**-2.5**
	6.3nm,0.2s						
KOTS				*e*S	**Sg**	**19 26 08.5**	**+0.3**
	13nm,0.3s						

Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**33**	P	Pg	19 55 23.7	-0.2
TPB11				S	Sg	19 55 28.9	+0.3
PECS	**Pecos**	**0.43**	**128**	P	Pg	19 55 25.5	+0.2
PECS				S	Sg	19 55 31.2	+0.2
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg	19 55 26.8	+0.2
TPB12				S	Sg	19 55 33.7	+0.6
TPB07	**Mentone**	**0.51**	**96**	S	Sg	19 55 33.8	+0.3
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	19 55 28.4	+0.5
TPB01	**Permian Basin**	**0.81**	**149**	S	Sg	19 55 42.3	-0.6
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	19 55 33.4	-0.2
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	19 55 35.6	+0.3
MNTX				S	Sb	19 55 48.3	-0.6
HTMS	**Hat Mesa**	**0.99**	**33**	P	Pg	19 55 36.0	0.0
HTMS				S	Sg	19 55 48.9	+0.1
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	19 55 37.0	-0.1
VHRN				S	Sb	19 55 51.4	-0.3
TPB05	**Hovey Rd**	**1.08**	**131**	S	Sg	19 55 51.2	-0.3
ALPN	**Alpine**	**1.37**	**157**	P	Pn	19 55 41.6	-1.2
ALPN				S	Sb	19 55 59.2	-1.7
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	19 55 43.4	-0.3
ODSA	**Odessa**	**1.54**	**71**	P	Pn	19 55 44.1	-1.0
ODSA				S	Sn	19 56 04.6	-0.8
TMB04	**Seminole**	**1.80**	**56**	S	Sb	19 56 13.3	-0.1
TMB02	**Rankin**	**1.95**	**102**	Pg	Pb	19 55 52.0	-1.1
TMB02				S	Sb	19 56 16.8	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	19 55 59.5	-0.3

*KEA **12** 20:16:08.8, 39˚.01N×125˚.77E, h13km, ML2.5/5*
*KMA **12** 20:16:13.2±3.4, 38˚.90N×125˚.87E, h21km±38km, Error ellipse: s-maj=27.1km s-min=4.3km az=171.0*
ISC 12 20:16:10.5±0.9, 39˚.00N±0˚.05×125˚.75E±0˚.06, h12km±7km, n10, σ0§42/17, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYAG	**Pyongyang**	**0.05**	**4**	Pg	**Pg**	**20 16 12.8**	**+0.1**
PYAG				Sg	**Sg**	**20 16 14.5**	**+0.1**
PYAG				AML	AML		
	comp=N,7μm,0.1s						
PYAG				AML	AML		
	comp=E,5μm,0.1s						
PYAG				AML	AML		
	comp=Z,1μm,0.1s						
PYS	**Pyongsong**	**0.26**	**18**	Pg	**Pg**	**20 16 15.6**	**-0.3**
PYS				Sg	**Sg**	**20 16 19.2**	**-0.3**
PYS				AML	AML		
	comp=N,2μm,0.2s						
PYS				AML	AML		
	comp=E,3μm,0.2s						
PYS				AML	AML		
	comp=Z,1μm,0.4s						
KSBAR	**Backryungdo**	**1.31**	**219**	P	**Pg**	**20 16 36.2**	**+0.6**
	SNR=64						
KSBAR				P	**Pg**	**20 16 36.2**	**+0.6**
	SNR=64						
WOSN	**Wonsan**	**1.31**	**82**	Pg	**Pn**	**20 16 34.5**	**-0.1**
WOSN				Sg	**Sb**	**20 16 52.4**	**+0.6**
WOSN				AML	AML		
	comp=N,143nm,0.4s						
WOSN				AML	AML		
	comp=E,124nm,0.6s						
WOSN				AML	AML		
	comp=Z,49nm,0.8s						
KSMUS	**Musan**	**1.36**	**144**	P	**Pn**	**20 16 35.2**	**-0.2**
	SNR=25						
KSMUS				P	**Pn**	**20 16 35.2**	**-0.2**
	SNR=25						
YPDB	**Yeonpyeongdo**	**1.39**	**181**	P	**Pn**	**20 16 35.9**	**+0.2**
	SNR=7.0						
DACB	**Daecheong-do R**	**1.43**	**215**	P	**Pg**	**20 16 37.6**	**-0.3**
	SNR=69						
DACB				P	**Pg**	**20 16 37.6**	**-0.3**
	SNR=69						
DACB				S	**Sg**	**20 16 55.9**	**-0.6**
DACB				S	**Sg**	**20 16 55.9**	**-0.6**
SUJ	**Sinuiju**	**1.47**	**319**	Pg	**Pb**	**20 16 37.8**	**+0.1**
SUJ				AML	AML		
	comp=N,157nm,0.5s						
SUJ				AML	AML		
	comp=E,167nm,0.2s						
SUJ				AML	AML		
	comp=Z,162nm,0.3s						
HHU	**Hamhung**	**1.66**	**56**	Pg	**Pb**	**20 16 41.0**	**0.0**
HHU				AML	AML		
	comp=N,115nm,0.2s						
HHU				AML	AML		
	comp=E,139nm,0.4s						
HHU				AML	AML		
	comp=Z,48nm,0.4s						
GODA	**Kyodong**	**2.11**	**132**	P	Pn	20 16 34.3	-11
	SNR=48						

*SJA **12** 20:17:19.8±0.7, 24˚.16S×67˚.03W, h212km±6km, ML4.0, MW3.8*
*GUC **12** 20:17:22.2±0.4, 24˚.15S×67˚.27W, h218km±8km, ML4.0*
*IDC **12** 20:17:22.3±6.8, 23˚.99S×66˚.85W, h189km±52km, mb3.3/3, mbtmp4.0/5, Error ellipse: s-maj=66.1km s-min=27.2km az=29.0*
ISC 12 20:17:21.5±0.8, 24˚.14S±0˚.04×67˚.06W±0˚.04, h200km, n33, σ1§45/49, mb3.3/3, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.66**	**97**	*eP*	**Pn**	**20 17 49.3**	**-0.6**
SALTA				*eP*	**Pn**	**20 17 49.3**	**-0.6**
SLA	**San Lorenzo**	**1.53**	**112**	*eP*	**Pn**	**20 17 55.4**	**-0.3**
SLA				*eS*	**Sn**	**20 18 21.7**	**-0.5**
SLA	**San Lorenzo**	**1.53**	**112**	*eP*	**Pn**	**20 17 55.3**	**-0.3**
AF01	**San Pedro de A**	**1.57**	**319**	*eP*	Pn	20 18 07.0	+11
AF01				*eS*	**Sn**	**20 18 28.1**	**+5.0**
AF01	**San Pedro de A**	**1.57**	**319**	*eP*	**Pn**	**20 17 56.9**	**+0.7**
AF01				IAML		20 18 26.8	
	comp=N,340nm,0.2s						
AZAP	**Zapla**	**1.82**	**93**	*eP*	**Pn**	**20 17 57.8**	**-0.7**
FSA	**Cafayete**	**2.19**	**154**	*eP*	**Pn**	**20 18 01.6**	**-0.6**
YJA	**Yavi**	**2.42**	**36**	*eP*	**Pn**	**20 18 05.3**	**+0.2**
YJA				*eS*	**Sn**	**20 18 38.9**	**+0.1**
YJA	**Yavi**	**2.42**	**36**	*eP*	**Pn**	**20 18 05.3**	**+0.2**
GO02	**Mina Guanaco**	**2.52**	**246**	*eP*	**Pn**	**20 18 06.1**	**+0.2**
GO02				*eS*	**Sn**	**20 18 40.1**	**-0.4**
GO02	**Mina Guanaco**	**2.52**	**246**	*eP*	**Pn**	**20 18 06.1**	**+0.2**
GO02				*i S*	**Sn**	**20 18 39.5**	**-1.0**
PB09	**IPOC Station P**	**3.08**	**319**	*eP*	**Pn**	**20 18 13.2**	**+0.9**
PB09				*eS*	**Sn**	**20 18 51.6**	**-0.5**
PB09				IAML		20 18 52.2	
	comp=Z,365nm,0.3s						
PB09	**IPOC Station P**	**3.08**	**319**	*eP*	**Pn**	**20 18 12.8**	**+0.5**
PB09				*eS*	**Sn**	**20 18 51.2**	**-0.8**
PB09				IAML		20 18 52.3	
	comp=E,342nm,0.4s						
PB14	**IPOC Station P**	**3.09**	**260**	*eP*	**Pn**	**20 18 12.3**	**-0.2**
PB14				*eS*	**Sn**	**20 18 50.6**	**-1.7**
PB14				IAML		20 18 51.8	
	comp=Z,254nm,0.1s						
PB14	**IPOC Station P**	**3.09**	**260**	*eP*	**Pn**	**20 18 12.3**	**-0.2**
PB14				IAML		20 18 51.9	
	comp=E,520nm,0.1s						
AC02	**Maricunga**	**3.27**	**214**	*eP*	**Pn**	**20 18 15.2**	**+0.3**
AC02				*eS*	Sn	20 18 44.3	-12
AC02	**Maricunga**	**3.27**	**214**	*eP*	**Pn**	**20 18 15.2**	**+0.3**
AC02				*eS*	**Sn**	**20 18 55.5**	**-1.1**
AC02				IAML		20 19 02.7	
	comp=N,126nm,0.3s						
AC01	**Pan de Azucar**	**3.78**	**237**	*eP*	**Pn**	**20 18 19.5**	**-1.1**
AC01				*eS*	**Sn**	**20 19 04.3**	**-2.7**
AC01				IAML		20 19 09.3	
	comp=Z,177nm,0.5s						
AC01	**Pan de Azucar**	**3.78**	**237**	*eP*	**Pn**	**20 18 19.4**	**-1.1**
PB01	**IPOC Station P**	**3.81**	**323**	*eP*	Pn	20 18 11.3	-10
PB01				*eS*	**Sn**	**20 19 05.5**	**-2.4**
PB01				IAML		20 19 07.8	
	comp=Z,170nm,0.3s						
PB01	**IPOC Station P**	**3.81**	**323**	*eP*	**Pn**	**20 18 20.5**	**-0.7**
CYA	**Choya**	**4.43**	**166**	*eP*	**Pn**	**20 18 28.6**	**-0.1**
CYA				*eS*	**Sn**	**20 19 18.1**	**-3.5**
PB08	**IPOC Station P**	**4.43**	**334**	*eP*	**Pn**	**20 18 28.7**	**-0.4**
PB08				*eS*	**Sn**	**20 19 20.8**	**-1.4**
PB08				IAML		20 19 25.3	
	comp=Z,70nm,0.4s						
TA01	**Diego Aracena**	**4.58**	**320**	*eP*	**Pn**	**20 18 30.3**	**-0.4**
TA01				*eS*	**Sn**	**20 19 22.8**	**-2.3**
TA01				IAML		20 19 25.6	
	comp=Z,85nm,1.0s						
TA01	**Diego Aracena**	**4.58**	**320**	*eP*	**Pn**	**20 18 30.3**	**-0.4**
VCA	**Vinchina**	**4.69**	**192**	*eP*	**Pn**	**20 18 33.7**	**+1.6**
VCA				*eS*	**Sn**	**20 19 29.7**	**+1.9**
ACLC	**CERRO LA CRUZ**	**5.26**	**179**	*eP*	**Pn**	**20 18 38.6**	**-0.8**
ACLC				*eS*	**Sn**	**20 19 39.2**	**-1.8**
LPAZ	**La Paz**	**7.88**	**352**	P	**Pn**	**20 19 13.7**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=163,slow=5.6,SNR=23						
LPAZ				S	**Sn**	**20 20 39.8**	**-3.3**
	comp=Z,2.5nm,0.7s,baz=341,slow=9.0,SNR=4.3						
BDFB	**Brasilia**	**19.79**	**68**	P	**P**	**20 21 36.2**	**-0.7**
	comp=Z,7.7nm,0.6s,baz=235,slow=12,SNR=10						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**20 28 51.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=255,slow=5.4,SNR=6.7						
	comp=Z,0.2nm,0.3s						
PDAR	**Pinedale Array**	**77.24**	**329**	P	**P**	**20 28 55.4**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=120,slow=6.4,SNR=2.6						
	comp=Z,0.3nm,0.6s						
BOSA	**Boshof**	**80.72**	**117**	P	**P**	**20 29 14.1**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=248,slow=5.0,SNR=5.7						
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**146.67**	**40**	PKPbc	**PKiKP**	**20 36 41.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=294,slow=4.6,SNR=2.7						

*IDC **12** 20:21:19.8±0.6, 13˚.34N×91˚.64E, h0km, mb4.0/18, mbtmp4.0/20, ML3.9/2, MS3.4/11, Error ellipse: s-maj=19.8km s-min=14.0km az=65.0*
*NEIC **12** 20:21:21.6±1.3, 13˚.45N±0˚.02×91˚.75E±0˚.07, h10km±1km, mb4.4/32, Error ellipse: s-maj=11.9km s-min=3.7km az=280.0*
*NDI **12** 20:21:22.3±4.2, 13˚.41N×91˚.65E, h9km±17km, ML4.3, MW4.3, mb4.4(NEIC)*
ISC 12 20:21:21.0±0.4, 13˚.46N±0˚.04×91˚.73E±0˚.05, h10km, n105, σ1§97/105, mb4.3/35, MS3.4/8, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.20**	**103**	*eP*	**Pg**	**20 21 45.4**	**+1.3**
DGPR				IAML		20 21 50.0	
	comp=N,3μm,0.2s						
DGPR				IAML		20 21 51.2	
	comp=E,6μm,0.3s						
DGPR				*eS*	**Sn**	**20 22 03.1**	**+2.9**
PBA	**Port Blair**	**2.04**	**151**		**Pn**	**20 21 55.5**	**0.0**
PBA				Sn	**Sn**	**20 22 21.1**	**0.0**
PBA	**Port Blair**	**2.04**	**151**	*eP*	**Pn**	**20 21 56.8**	**+1.3**
PBA				*eS*	**Sn**	**20 22 22.2**	**+1.1**
CMBY	**CAMPBELL BAY**	**6.76**	**161**	*eP*	**Pn**	**20 22 59.5**	**-0.9**
CMBY				IAML		20 23 05.5	
	comp=E,430nm,0.2s						
CMBY				IAML		20 23 06.2	
	comp=N,248nm,0.3s						
CMBY				*eS*	**Sn**	**20 24 10.2**	**-7.3**
CM31	**Chiang Mai Arr**	**8.53**	**53**	Pn	**Pn**	**20 23 25.2**	**+0.4**
CM31				Sn	**Sn**	**20 24 55.1**	**-6.0**
CMAR	**Chiang Mai Arr**	**8.53**	**53**	Pn	**Pn**	**20 23 23.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**8.53**	**53**	Pn	**Pn**	**20 23 27.1**	**+2.4**
	comp=N,0.5nm,0.3s,baz=243,slow=15,SNR=12						
CMAR				Sn	**Sn**	**20 24 56.1**	**-5.0**
	comp=N,1.3nm,0.3s,baz=138,slow=19,SNR=5.8						
CMAR				LR	LR	20 27 32.6	
	comp=N,67nm,20.5s,baz=235,slow=43						
	comp=N,1.3nm,0.4s						
CHTO	**Chiang Mai**	**8.74**	**52**	Pn	**Pn**	**20 23 27.5**	**0.0**
CHTO				Sn	**Sn**	**20 25 00.8**	**-5.4**
SRIT	**Nakonsritamara**	**9.11**	**121**	Pn	**Pn**	**20 23 33.4**	**+0.7**
VIS	**Vishakhapatnam**	**9.14**	**299**	*eP*	**Pn**	**20 23 35.8**	**+2.8**
VIS				IAML		20 23 49.9	
	comp=N,232nm,0.2s						
VIS				IAML		20 23 49.9	
	comp=E,404nm,0.3s						
VIS				*eS*	Sn	20 25 06.8	-9.2
PHRA	**Phrae**	**9.58**	**57**	Pn	**Pn**	**20 23 38.9**	**-0.3**
AZL	**Aizawl**	**10.27**	**5**	*eP*	**Pn**	**20 23 50.9**	**+2.3**
AZL				*eS*	**Sn**	**20 25 38.4**	**-5.5**
AZL				IAML		20 25 52.9	
	comp=E,37nm,0.6s						
AZL				IAML		20 25 55.0	
	comp=N,32nm,0.4s						
MDRS	**Chennai**	**11.19**	**269**	*eP*	**Pn**	**20 24 02.1**	**+0.9**
MDRS				IAML		20 24 14.4	
	comp=E,212nm,0.6s						
MDRS				*eS*	Sn	20 25 57.2	-9.2
JHSG	**JHARSUGUGA**	**11.21**	**319**	*eP*	**Pn**	**20 24 00.8**	**-0.6**
JHSG				IAML		20 24 02.3	
	comp=E,328nm,0.2s						
JHSG				*eS*	Sn	20 25 57.5	-9.4
IMP	**Imphal**	**11.51**	**10**	*eP*	**Pn**	**20 24 05.2**	**-0.3**
IMP				*eS*	**Sn**	**20 26 10.4**	**-3.8**
IMP				IAML		20 26 27.9	
	comp=E,5.9nm,0.4s						
IMP				IAML		20 26 28.7	
	comp=N,6.1nm,1.0s						
KULM	**Kulim**	**11.96**	**132**	Pn	**Pn**	**20 24 12.3**	**+0.5**
SHL	**Shillong**	**12.05**	**1**	*eP*	**Pn**	**20 24 12.2**	**-0.8**
SHL				IAML		20 24 25.8	
	comp=N,52nm,0.2s						
SHL				IAML		20 24 26.9	
	comp=E,47nm,0.3s						
SHL				*eS*	Sn	20 26 17.5	-10
SHBG	**Sahibganj**	**12.31**	**342**	*eP*	**Pn**	**20 24 14.9**	**-1.5**
SHBG				IAML		20 24 41.0	
	comp=E,80nm,0.3s						
SHBG				IAML		20 24 46.5	
	comp=N,115nm,0.3s						
SHBG				*eS*	Sn	20 26 25.5	-8.3
KOHI	**KOHIMA**	**12.40**	**10**	*eP*	**Pn**	**20 24 19.1**	**+1.2**
KOHI				*eS*	**Sn**	**20 26 29.7**	**-6.5**
KOHI				IAML		20 26 44.3	
	comp=N,16nm,0.6s						
KOHI				IAML		20 26 46.7	
	comp=E,28nm,0.5s						
PALK	**Pallekele**	**12.47**	**242**	Pn	**Pn**	**20 24 17.0**	**-1.7**
PALK	**Pallekele**	**12.47**	**242**	Pn	**Pn**	**20 24 16.2**	**-2.5**
	comp=E,0.5nm,0.3s,baz=66,slow=15,SNR=2.5						
PALK				Sn	Sn	20 26 24.3	-14
	comp=E,4.3nm,0.3s,baz=120,slow=19,SNR=9.8						
PALK				LR	LR	20 28 43.2	
	comp=E,107nm,19.1s,baz=58,slow=36						
	comp=E,11nm,0.9s						
BLSP	**Bilaspur**	**12.56**	**315**	*eP*	**Pn**	**20 24 21.1**	**+1.1**
BLSP				*eS*	Sn	20 26 25.5	-15
PSI	**Prapat**	**12.75**	**146**	LR	LR	20 28 36.4	
	comp=E,116nm,18.8s,baz=300,slow=34						
SALM	**Salem**	**13.33**	**264**	*eP*	**Pn**	**20 24 29.5**	**-1.0**
SALM				IAML		20 25 02.3	
	comp=N,102nm,0.3s						
SALM				IAML		20 25 03.0	
	comp=E,164nm,0.6s						
SALM				*eS*	Sn	20 26 48.8	-10
UBPT	**Khong Chiam**	**13.43**	**81**	Pn	**Pn**	**20 24 31.6**	**-0.3**
SLVN	**Son La**	**14.00**	**54**		**Pn**	**20 24 38.1**	**-1.6**
TAWA	**Tawang**	**14.06**	**0**	*eP*	**Pn**	**20 24 43.0**	**+2.2**
TAWA				*eS*	Sn	20 27 06.3	-11
TAWA				IAML		20 27 25.4	
	comp=N,29nm,0.8s						
TAWA				IAML		20 27 26.7	
	comp=E,39nm,0.8s						
GTK	**Tadong**	**14.10**	**348**	*eS*	Sn	20 27 05.3	-12
GTK				IAML		20 27 22.9	
	comp=E,20nm,0.5s						
GTK				IAML		20 27 29.2	
	comp=N,24nm,0.9s						
ZIRO	**ZIRO**	**14.14**	**8**	*eP*	**Pn**	**20 24 43.8**	**+2.2**
ZIRO				*eS*	Sn	20 27 08.5	-10
ZIRO				IAML		20 27 22.9	
	comp=N,92nm,0.7s						
ZIRO				IAML		20 27 27.9	
	comp=E,93nm,0.6s						
PZH	**PanZhiHua**	**16.02**	**34**	P	**P**	**20 25 10.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
LSA	**Lhasa**	**16.17**	**358**	P	**Pn**	**20 25 10.8**	**+1.8**
LSA	**Lhasa**	**16.17**	**358**	Pn	**P**	**20 25 13.0**	**+0.8**
LSA				Sn	Sn	20 27 53.7	-15
LSA				smax	smax		
	comp=N,5.0nm,0.7s						
MYKOM	**Kota Tinggi**	**16.68**	**133**	P	**P**	**20 25 16.9**	**-0.5**
MYKOM				IAmb	IAmb	20 25 29.4	
	comp=Z,37nm,1.1s						
QIZ	**Qiongzhong**	**18.24**	**70**	P	**P**	**20 25 35.7**	**+1.0**
QIZ				S	**Sn**	**20 28 56.6**	**-1.8**
QIZ				LR	LR		
	comp=N,190nm,4.8s						
QIZ				LR	LR		
	comp=E,200nm,12.4s						
QIZ				LR	LR		
	comp=Z,270nm,15.7s						
GULI	**GuiLin**	**21.12**	**53**	P	**P**	**20 26 09.5**	**+3.4**
GULI				pmax	pmax		
	comp=Z,20nm,0.9s						
ENH	**Enshi**	**23.43**	**42**	P	**P**	**20 26 29.3**	**-1.2**
ENH				IAmb	IAmb	20 26 45.1	
	comp=Z,10nm,0.8s						
GTA	**Gaotai**	**26.82**	**14**	*eP*	**P**	**20 27 04.3**	**+2.6**
GTA				pP	pwP	20 27 13.1	+5.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MYLDM	**Lahad Datu**	**27.64**	**105**	P	**P**	**20 27 06.9**	**-2.3**
LYN	**LuoYang**	**28.17**	**38**	P	**P**	**20 27 15.8**	**+2.1**
LYN				pmax	pmax		
	comp=Z,21nm,0.6s						
H08S3	**Diego Garcia H**	**28.36**	**223**	T	T	20 56 56.7	
	baz=44,slow=76						
H08S2	**Diego Garcia H**	**28.37**	**223**	T	T	20 56 50.2	
	baz=44,slow=76						
H08S1	**Diego Garcia H**	**28.38**	**223**	T	T	20 57 02.0	
	baz=44,slow=76						
KSH	**Kashi**	**29.44**	**335**	P	**P**	**20 27 26.6**	**+1.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.7s						
NJ2	**Nanjing**	**30.97**	**49**	*eP*	**P**	**20 27 40.4**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BTO	**Baotou**	**31.43**	**27**	*eP*	**P**	**20 27 46.9**	**+4.2**
BTO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BTO				pmax	pmax		
	comp=Z,250nm,4.5s						
GAR	**Garm**	**31.71**	**327**	P	**P**	**20 27 44.3**	**-0.9**
GAR				IAmb	IAmb	20 27 59.5	
	comp=Z,8.6nm,1.2s						
CHGR	**Chuyangaron**	**32.09**	**326**	P	**P**	**20 27 48.2**	**-0.3**
CHGR				IAmb	IAmb	20 28 31.2	
	comp=Z,6.3nm,1.0s						
SIMJ	**Simiganj**	**32.17**	**325**	P	**P**	**20 27 48.9**	**-0.3**
SIMJ				IAmb	IAmb	20 28 15.7	
	comp=Z,4.9nm,1.3s						
ARSB	**Arslanbob**	**32.22**	**333**	P	**P**	**20 27 49.4**	**-0.3**
BTK	**Batken**	**32.25**	**329**	P	**P**	**20 27 48.6**	**-1.3**
BTK				IAmb	IAmb	20 28 06.5	
	comp=Z,4.6nm,1.1s						
HHC	**Hu-ho-hao-te**	**32.33**	**29**	*eP*	**P**	**20 27 54.5**	**+3.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,3.8s						
AAK	**Ala-Archa**	**32.68**	**336**	LR	LR	20 42 19.5	
	comp=Z,57nm,21.7s,baz=143,slow=38						
MKAR	**Makanchi Array**	**34.17**	**348**	P	**P**	**20 28 08.2**	**+1.8**
	comp=Z,3.8nm,0.7s,baz=168,slow=9.4,SNR=23						
MKAR				PcP	**PcP**	**20 30 43.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=146,slow=2.8,SNR=2.4						
MKAR				LR	LR	20 44 17.1	
	comp=Z,66nm,21.8s,baz=220,slow=40						
	comp=Z,3.8nm,0.7s						
KK31	**Karatay Array**	**34.75**	**332**	P	**P**	**20 28 11.0**	**-0.5**
KKAR	**Karatay Array**	**34.75**	**332**	P	**P**	**20 28 11.0**	**-0.5**
SONM	**Songino Array**	**36.39**	**17**	P	**P**	**20 28 26.2**	**+0.6**
SONM				IAmb	IAmb	20 28 37.4	
	comp=Z,4.9nm,1.2s						
SONM	**Songino Array**	**36.39**	**17**	P	**P**	**20 28 28.0**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=202,slow=8.0,SNR=5.9						
	comp=Z,0.7nm,0.8s						
ULN	**Ulaanbaatar**	**36.60**	**17**	P	**P**	**20 28 28.4**	**+0.9**
ULN				IAmb	IAmb	20 28 38.6	
	comp=Z,4.2nm,1.1s						
JOW	**Kunigami**	**36.65**	**63**	P	**P**	**20 28 27.5**	**-0.6**
KURBB	**Kurchatov Arra**	**38.59**	**347**	P	**P**	**20 28 45.7**	**+1.6**
	comp=Z,2.6nm,0.8s,baz=165,slow=8.0,SNR=27						
KURBB				PcP	**PcP**	**20 30 57.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=149,slow=2.5,SNR=5.2						
	comp=Z,2.6nm,0.8s						
KURK	**Kurchatov**	**38.66**	**347**	P	**P**	**20 28 44.0**	**-0.6**
ZAA0	**Zalesovo Array**	**40.76**	**354**	P	**P**	**20 29 02.2**	**0.0**
ZALV	**Zalesovo Beam**	**40.76**	**354**	P	**P**	**20 29 02.3**	**+0.1**
ZALV	**Zalesovo Beam**	**40.76**	**354**	P	**P**	**20 29 03.1**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=169,slow=8.6,SNR=7.0						
ZALV				LR	LR	20 48 28.9	
	comp=Z,40nm,18.6s,baz=220,slow=40						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**42.97**	**341**	P	**P**	**20 29 21.3**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=143,slow=7.2,SNR=6.2						
BVAR				PcP	**PcP**	**20 31 11.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=165,slow=4.6,SNR=3.0						
	comp=Z,0.7nm,0.5s						
BRVK	**Borovoye**	**43.03**	**341**	P	**P**	**20 29 21.5**	**+0.7**
FAKI	**Fak Fak**	**43.37**	**109**	P	**P**	**20 29 23.8**	**-0.3**
ABKAR	**Akbulak array**	**44.23**	**330**	P	**P**	**20 29 30.6**	**+0.1**
ABKAR	**Akbulak array**	**44.23**	**330**	P	**P**	**20 29 30.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**45.85**	**132**	P	**P**	**20 29 43.5**	**-0.2**
FITZ				IAmb	IAmb	20 30 13.0	
	comp=Z,5.4nm,1.5s						
FITZ	**Fitzroy Crossi**	**45.85**	**132**	P	**P**	**20 29 43.5**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=333,slow=5.6,SNR=14						
	comp=Z,4.7nm,0.5s						
KLR	**Kul'dur**	**48.47**	**34**	LR	LR	20 51 26.6	
	comp=Z,30nm,19.8s,baz=174,slow=37						
ARTI	**Arti**	**49.90**	**336**	LR	LR	20 52 54.3	
	comp=Z,52nm,20.6s,baz=130,slow=38						
NWAO	**Narrogin (SRO)**	**52.16**	**153**	P	**P**	**20 30 31.7**	**-0.3**
WB0	**Warramunga Arr**	**53.41**	**127**	P	**P**	**20 30 41.0**	**-0.4**
WB0				IAmb	IAmb	20 30 42.9	
	comp=Z,8.0nm,1.0s						
WRA	**Warramunga Arr**	**53.47**	**128**	P	**P**	**20 30 41.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=301,slow=9.9,SNR=12						
	comp=Z,2.0nm,0.7s						
WRAB	**Tennant Creek**	**53.47**	**128**		**P**	**20 30 41.2**	**-0.7**
WB2	**Warramunga Arr**	**53.48**	**128**	P	**P**	**20 30 41.8**	**-

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.5s						
D23K	**Nanushuk River**	**86.96**	**19**	P	**P**	**20 34 07.2**	**+1.1**
D23K				IAmb	IAmb	20 34 25.1	
	comp=Z,5.5nm,1.5s						
TORD	**Torodi Ar. Bea**	**87.04**	**283**	P	**P**	**20 34 07.8**	**+0.1**
TORD				IAmb	IAmb	20 34 08.6	
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**87.04**	**283**	P	**P**	**20 34 07.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=74,slow=4.9,SNR=10						
	comp=Z,1.2nm,0.6s						
TOLK	**Toolik Lake Re**	**87.47**	**19**	P	**P**	**20 34 09.3**	**+0.6**
TOLK				IAmb	IAmb	20 34 09.5	
	comp=Z,5.9nm,1.5s						
ILAR	**Eielson Array**	**90.47**	**21**	P	**P**	**20 34 22.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=288,slow=3.7,SNR=4.0						
	comp=Z,0.3nm,0.7s						
URZ	**Urewera**	**94.64**	**128**	LR	LR	21 24 34.2	
	comp=Z,39nm,18.1s,baz=355,slow=40						
SFJD	**Kangerlussuaq**	**95.17**	**346**	LR	LR	21 25 29.5	
	comp=Z,25nm,18.6s,baz=144,slow=40						
PLCA	**Paso Flores**	**148.71**	**206**	PKPbc	**PKPbc**	**20 41 08.2**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=78,slow=3.1,SNR=4.7						

IDC 12 20:24:10.2±2.9, 4°.82S×134°.14E, h0km, mb3.2/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=103.9km s-min=32.2km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.04**	**179**	Pn	Pn	20 27 43.0	-1.1
	0.1nm,0.3s,baz=359,slow=11,SNR=4.6						
WRA				Sn	Sn	20 30 24.9	-6.7
	0.1nm,0.3s,baz=93,slow=20,SNR=1.2						
	0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.60**	**212**	Pn	Pn	20 27 50.2	-1.4
	0.2nm,0.3s,baz=36,slow=10,SNR=1.5						
FITZ				Sn	Sn	20 30 36.5	-8.7
	baz=172,slow=14						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**18.74**	**181**	P	Pn	20 28 31.9	+0.7
	0.1nm,0.3s,baz=8.4,slow=12,SNR=6.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**68.75**	**325**	P	P	20 35 16.0	0.0
	0.2nm,0.9s,baz=104,slow=7.1,SNR=1.7						
	0.2nm,0.9s						

IDC 12 20:26:54.4±0.8, 18°.38S×66°.46E, h0km, mb3.8/11, mbtmp3.8/11, MS3.8/38, Error ellipse: s-maj=31.7km s-min=22.0km az=53.0
NEIC 12 20:26:56.0±1.4, 19°.2S±0°.1×65°.9E±0°.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=21.1km s-min=14.5km az=227.0
GCMT 12 20:26:58.0±0.4, 18°.93S±0°.06×65°.47E±0°.04, h17km±1km, MW4.8/68, Moment Tensor Solution. s7,c7; s68,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.85±.20; $M_{\theta\theta}$0.30±.10; $M_{\phi\phi}$1.55±.14; $M_{r\theta}$0.37±.40; $M_{\theta\phi}$-0.33±.08; $M_{r\phi}$-0.16±.35; Best double couple: $M_0$1.78000×10^{16} NP1:ϕ_s174.00000°, δ42.00000°, λ-77.00000°. NP2: ϕ_s337.00000°, δ50.00000°, λ-101.00000°. Principal axes: T 1.6470, Plg4.0000°, Azm75.0000°; N 0.2670, Plg8.0000°, Azm345.0000°; P -1.9140, Plg81.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 20:26:56.5±0.8, 19°.0S±0°.1×65°.7E±0°.1, h10km, n84, σ1§18/40, mb4.4/26, MS3.8/38, 1D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.07**	**31**	T	T	20 43 30.5	
	baz=210,slow=76						
H08S2	**Diego Garcia H**	**13.08**	**31**	T	T	20 43 40.6	
	baz=210,slow=76						
H08S3	**Diego Garcia H**	**13.09**	**31**	T	T	20 43 34.4	
	baz=210,slow=76						
ABPO	**Ambohimpanom**	**17.43**	**267**	P	**Pn**	**20 31 00.6**	**+0.4**
H04N2	**CROZET ISLANDS**	**29.43**	**200**	T	T	21 04 06.8	
	baz=28,slow=75						
H04N1	**CROZET ISLANDS**	**29.43**	**200**	T	T	21 04 07.9	
	baz=28,slow=75						
H04N3	**CROZET ISLANDS**	**29.44**	**200**	T	T	21 03 57.8	
	baz=28,slow=75						
PALK	**Pallekele**	**30.01**	**31**	LR	LR	20 42 54.8	
	comp=Z,120nm,18.5s,baz=210,slow=33						
POGA	**Pongola**	**32.23**	**249**	P	**P**	**20 33 24.3**	**-0.9**
KMBO	**Kilima Mbogo**	**33.02**	**299**	P	**P**	**20 33 31.7**	**-0.8**
LSZ	**Lusaka**	**35.95**	**270**	P	**P**	**20 33 57.2**	**-0.6**
LSZ	**Lusaka**	**35.95**	**270**	LR	LR	20 46 27.1	
	comp=Z,134nm,20.3s,baz=113,slow=32						
LBTB	**Lobatse**	**37.53**	**253**	LR	LR	20 47 18.0	
	comp=Z,322nm,19.6s,baz=78,slow=32						
BOSA	**Boshof**	**38.04**	**248**	LR	LR	20 46 27.3	
	comp=Z,130nm,20.8s,baz=58,slow=30						
PSI	**Prapat**	**39.23**	**60**	LR	LR	20 47 19.2	
	comp=Z,272nm,20.5s,baz=158,slow=32						
SUR	**Sutherland**	**42.27**	**243**	LR	LR	20 48 56.7	
	comp=Z,208nm,19.4s,baz=84,slow=31						
LEM	**Lembang**	**42.53**	**79**	LR	LR	20 48 47.8	
	comp=Z,169nm,21.4s,baz=248,slow=32						
TSUM	**Tsumeb**	**45.31**	**261**	LR	LR	20 53 17.7	
	comp=Z,163nm,18.0s,baz=146,slow=34						
RAYN	**Ar Rayn**	**46.60**	**334**	P	**P**	**20 35 25.7**	**+0.6**
RAYN				IAmb	IAmb	20 35 27.4	
	comp=Z,3.8nm,1.0s						
NWAO	**Narrogin (SRO)**	**47.97**	**117**	LR	LR	20 51 23.6	
	comp=Z,97nm,20.2s,baz=234,slow=31						
BRDH	**Bariadhala**	**48.57**	**33**	LR	LR	20 56 21.1	
	comp=Z,70nm,18.5s,baz=161,slow=37						
CM31	**Chiang Mai Arr**	**49.52**	**43**	P	**P**	**20 35 45.7**	**-2.0**
CM31				IAmb	IAmb	20 35 51.9	
	comp=Z,7.8nm,1.3s						
CMAR	**Chiang Mai Arr**	**49.52**	**43**	P	**P**	**20 35 45.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**49.52**	**43**	LR	LR	20 53 22.9	
	comp=Z,100nm,21.6s,baz=225,slow=33						
CHTO	**Chiang Mai**	**49.78**	**43**	P	**P**	**20 35 49.1**	**-0.6**
CHTO				IAmb	IAmb	20 35 53.6	
	comp=Z,6.8nm,1.4s						
SHL	**Shillong**	**51.10**	**31**	P	**P**	**20 35 57.4**	**-2.3**
SYO	**Syowa Base**	**52.56**	**192**	‖ *es*P	sP	20 36 14.6	+1.5
KBL	**Kabul**	**53.32**	**3**	P	**P**	**20 36 16.7**	**+0.6**
KBL				IAmb	IAmb	20 36 42.7	
	comp=Z,6.8nm,1.4s						
LSA	**Lhasa**	**54.28**	**27**	P	**P**	**20 36 23.1**	**-0.4**
LSA				IAmb	IAmb	20 36 27.9	
	comp=Z,9.4nm,1.4s						
KAPI	**Kappang**	**54.48**	**82**	LR	LR	20 55 20.0	
	comp=Z,60nm,21.9s,baz=262,slow=32						
SLVN	**Son La**	**54.83**	**45**	P	**P**	**20 36 26.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**56.62**	**100**	LR	LR	20 59 27.2	
	comp=Z,82nm,18.8s,baz=244,slow=35						
EIL	**Elat**	**56.71**	**328**	LR	LR	20 57 41.2	
	comp=Z,49nm,20.8s,baz=67,slow=33						
PZH	**PanZhiHua**	**57.19**	**39**	P	**P**	**20 36 46.7**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.8s						
ARSB	**Arslanbob**	**60.38**	**6**	P	**P**	**20 37 06.7**	**+0.7**
GURO	**Guroymak-BITLI**	**61.37**	**339**	P	**P**	**20 37 14.0**	**+1.1**
GURO				IAmb	IAmb	20 37 16.4	
	comp=Z,3.4nm,0.9s						
AAK	**Ala-Archa**	**61.85**	**7**	P	**P**	**20 37 16.4**	**+0.3**
AAK				IAmb	IAmb	20 37 18.9	
	comp=Z,5.5nm,1.2s						
AAK	**Ala-Archa**	**61.85**	**7**	LR	LR	21 01 57.1	
	comp=Z,49nm,20.5s,baz=188,slow=34						
KKAR	**Karatay Array**	**61.94**	**4**	P	**P**	**20 37 17.2**	**+0.8**
GNI	**Garni**	**61.97**	**342**	P	**P**	**20 37 18.2**	**+1.3**
ASAR	**Alice Springs**	**63.22**	**107**	P	P	20 37 20.8	-4.8
	comp=Z,0.5nm,0.7s,baz=272,slow=5.4,SNR=9.3						
ASAR				LR	LR	21 00 58.7	
	comp=Z,248nm,21.4s,baz=272,slow=33						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**64.32**	**103**	P	P	20 37 28.2	-4.6
	comp=Z,0.7nm,0.7s,baz=257,slow=5.6,SNR=5.2						
WRA				LR	LR	21 03 22.3	
	comp=Z,159nm,19.0s,baz=352,slow=34						
	comp=Z,0.7nm,0.7s						
DAV	**Davao City (W)**	**64.45**	**72**	LR	LR	21 03 06.1	
	comp=Z,76nm,20.9s,baz=328,slow=34						
ENH	**Enshi**	**64.63**	**42**	P	**P**	**20 37 33.6**	**-1.0**
KBZ	**Khabaz**	**65.80**	**342**	LR	LR	21 04 12.1	
	comp=Z,38nm,21.0s,baz=242,slow=34						
GTA	**Gaotai**	**66.28**	**28**	*e*P	**P**	**20 37 47.0**	**+1.8**
GTA				sP	pwP	20 37 57.0	+6.2
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MK31	**Makanchi Array**	**67.17**	**12**	P	**P**	**20 37 51.2**	**+0.6**
MK31				IAmb	IAmb	20 37 52.8	
	comp=Z,6.1nm,1.3s						
MKAR	**Makanchi Array**	**67.17**	**12**	P	**P**	**20 37 50.8**	**+0.3**
MKAR	**Makanchi Array**	**67.17**	**12**	P	P	20 37 44.0	-6.6
	comp=Z,0.4nm,0.8s,baz=207,slow=7.8,SNR=4.2						
MKAR				LR	LR	21 05 41.3	
	comp=Z,48nm,18.4s,baz=149,slow=35						
	comp=Z,0.4nm,0.8s						
ABKAR	**Akbulak array**	**68.12**	**356**	P	**P**	**20 37 56.8**	**+0.3**
ABKAR	**Akbulak array**	**68.12**	**356**	P	**P**	**20 37 56.4**	**-0.1**
ABKAR				IAmb	IAmb	20 38 33.1	
	comp=Z,5.0nm,1.5s						
KURBB	**Kurchatov Arra**	**70.22**	**9**	P	P	20 38 04.5	-5.0
	comp=Z,0.4nm,0.8s,baz=210,slow=7.1,SNR=5.8						
KURBB				LR	LR	21 05 51.6	
	comp=Z,78nm,21.4s,baz=174,slow=34						
	comp=Z,0.4nm,0.8s						
KURK	**Kurchatov**	**70.33**	**9**	P	**P**	**20 38 10.6**	**+0.5**
KURK				IAmb	IAmb	20 38 12.5	
	comp=Z,6.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**70.64**	**292**	P	**P**	**20 38 13.0**	**+0.2**
TORD				IAmb	IAmb	20 38 15.0	
	comp=Z,4.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**70.64**	**292**	P	**P**	**20 38 13.5**	**+0.7**
	comp=Z,1.1nm,1.1s,baz=104,slow=3.1,SNR=4.9						
TORD				LR	LR	21 08 55.5	
	comp=Z,67nm,18.5s,baz=138,slow=36						
	comp=Z,1.1nm,1.1s						
QSPA	**South Pole Qui**	**71.12**	**180**	P	**P**	**20 38 13.9**	**-1.2**
QSPA	**South Pole Qui**	**71.12**	**180**	P	**P**	**20 38 18.6**	**+3.5**
	comp=Z,5.3nm,0.9s,baz=324,slow=6.5,SNR=3.6						
QSPA				LR	LR	21 05 30.3	
	comp=Z,77nm,19.1s,baz=309,slow=32						
	comp=Z,5.3nm,0.9s						
BVAR	**Borovoye Array**	**71.82**	**3**	P	P	20 38 14.4	-4.7
	comp=Z,1.1nm,0.7s,baz=162,slow=7.4,SNR=8.1						
	comp=Z,1.1nm,0.7s						
BRVK	**Borovoye**	**71.85**	**3**	P	**P**	**20 38 19.2**	**-0.1**
VNDA	**Vanda**	**72.94**	**167**	LR	LR	21 07 04.4	
	comp=Z,82nm,18.4s,baz=265,slow=33						
DBIC	**Dimbokro**	**73.97**	**283**	LR	LR	21 08 10.6	
	comp=Z,84nm,21.8s,baz=112,slow=33						
ZAA0	**Zalesovo Array**	**74.48**	**12**	P	**P**	**20 38 35.1**	**+0.3**
ZAA0				IAmb	IAmb	20 38 36.8	
	comp=Z,7.5nm,1.0s						
ZALV	**Zalesovo Beam**	**74.48**	**12**	P	**P**	**20 38 34.6**	**-0.2**
ZALV	**Zalesovo Beam**	**74.48**	**12**	P	P	20 38 30.2	-4.6
	comp=Z,1.1nm,0.5s,baz=199,slow=6.5,SNR=8.4						
ZALV				LR	LR	21 10 14.2	
	comp=Z,45nm,18.1s,baz=183,slow=35						
	comp=Z,1.1nm,0.5s						
ARTI	**Arti**	**75.33**	**356**	P	**P**	**20 38 39.2**	**-0.4**
ARTI				IAmb	IAmb	20 38 42.0	
	comp=Z,5.8nm,0.8s						
SONM	**Songino Array**	**75.87**	**27**	P	P	20 38 38.6	-4.6
	comp=Z,0.4nm,0.7s,baz=215,slow=5.9,SNR=3.8						
SONM				LR	LR	21 11 07.4	
	comp=Z,62nm,20.4s,baz=181,slow=35						
	comp=Z,0.4nm,0.7s						
ULN	**Ulaanbaatar**	**76.17**	**27**	P	**P**	**20 38 43.7**	**-1.3**
ULN				IAmb	IAmb	20 38 47.7	
	comp=Z,4.8nm,1.2s						
AKASG	**Malin Array Be**	**76.43**	**337**	P	**P**	**20 38 45.1**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=137,slow=4.5,SNR=8.1						
	comp=Z,0.2nm,0.3s						
PMG	**Port Moresby**	**79.02**	**96**	LR	LR	21 15 49.6	
	comp=Z,51nm,18.0s,baz=262,slow=38						
VRAC	**Vranov**	**80.72**	**330**	LR	LR	21 14 25.3	
	comp=Z,21nm,19.3s,baz=18,slow=35						
JNU	**Nakatsue**	**80.97**	**50**	LR	LR	21 15 05.6	
	comp=Z,42nm,19.0s,baz=198,slow=36						
KSRS	**Korea Array**	**81.10**	**45**	LR	LR	21 16 30.6	
	comp=Z,23nm,18.1s,baz=235,slow=37						
KRVT	**Keravat (AS076**	**85.19**	**93**	LR	LR	21 19 34.2	
	comp=Z,29nm,18.0s,baz=191,slow=37						
ESDC	**Sonseca Array**	**87.21**	**314**	P	**P**	**20 39 43.9**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=112,slow=6.6,SNR=4.7						
	comp=Z,0.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**87.21**	**41**	LR	LR	21 20 30.9	
	comp=Z,27nm,18.2s,baz=136,slow=37						
MJAR	**Matsushiro Arr**	**87.89**	**50**	LR	LR	21 20 19.5	
	comp=Z,18nm,18.3s,baz=202,slow=37						
KLR	**Kul'dur**	**89.58**	**37**	LR	LR	21 21 05.2	
	comp=Z,33nm,19.5s,baz=216,slow=37						
DZM	**Mont Dzumac**	**92.49**	**114**	LR	LR	21 19 47.5	
	comp=Z,66nm,19.4s,baz=116,slow=34						
ASAJ	**Asahikawa**	**94.03**	**45**	LR	LR	21 21 09.2	
	comp=Z,29nm,20.1s,baz=161,slow=35						
YAK	**Yakutsk**	**95.15**	**25**	LR	LR	21 22 42.2	
	comp=Z,49nm,20.2s,baz=288,slow=36						
ILAR	**Eielson Array**	**129.34**	**17**	PKP	**PKPdf**	**20 46 04.1**	**-0.7**
	comp=Z,1.1nm,1.2s,baz=310,slow=3.4,SNR=4.7						
YKA	**Yellowknife Ar**	**136.53**	**0**	PKP	**PKPdf**	**20 46 17.9**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=354,slow=2.5,SNR=5.0						
ULM	**Lac du Bonnet**	**145.50**	**339**	PKPdf	**PKPdf**	**20 46 34.1**	**-0.8**
ULM	**Lac du Bonnet**	**145.50**	**339**	PKPbc	**PKPdf**	**20 46 34.3**	**-0.6**
	comp=Z,4.7nm,1.0s,baz=22,slow=4.5,SNR=5.6						

IDC 12 20:31:06.0±9.3, 19°.36S×64°.86E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=304.8km s-min=38.3km az=54.0

ISC 12 20:31:07.6±10.0, 19°S±1°×6°5E±°, h10km, n12, σ0§28/6, mb3.9/6, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.81**	**33**	T	T	20 47 40.6	
	baz=210,slow=76						
H08S2	**Diego Garcia H**	**13.82**	**33**	T	T	20 47 44.3	
	baz=210						
H08S3	**Diego Garcia H**	**13.83**	**33**	T	T	20 47 41.7	
	baz=210,slow=76						
H04N2	**CROZET ISLANDS**	**28.80**	**199**	T	T	21 08 08.7	
	baz=28,slow=75						
H04N1	**CROZET ISLANDS**	**28.80**	**199**	T	T	21 08 12.6	
	baz=28,slow=75						
H04N3	**CROZET ISLANDS**	**28.82**	**199**	T	T	21 08 02.6	
	baz=28,slow=75						
WRA	**Warramunga Arr**	**64.96**	**103**	P	**P**	**20 41 48.2**	**0.0**
	0.6nm,0.8s,baz=263,slow=6.0,SNR=5.4						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**67.72**	**13**	P	**P**	**20 42 05.0**	**-0.2**
	0.7nm,0.9s,baz=201,slow=6.1,SNR=5.9						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**70.73**	**9**	P	**P**	**20 42 24.0**	**+0.3**
	0.6nm,0.8s,baz=201,slow=7.1,SNR=5.2						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**72.26**	**4**	P	**P**	**20 42 32.8**	**-0.1**
	1.0nm,0.7s,baz=173,slow=7.2,SNR=8.0						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**75.02**	**12**	P	**P**	**20 42 48.8**	**-0.3**
	1.4nm,0.7s,baz=211,slow=5.4,SNR=7.3						
	1.4nm,0.7s						
SONM	**Songino Array**	**76.56**	**27**	P	**P**	**20 42 58.2**	**0.0**
	0.7nm,0.7s,baz=222,slow=4.7,SNR=6.6						
	0.7nm,0.7s						

IDC 12 20:35:41.2±6.0, 23°.17S×179°.84W, h416km±63km, mb3.4/4, mbtmp4.2/6, Error ellipse: s-maj=58.3km s-min=29.2km az=180.0

ISC 12 20:35:40.5±1.1, 23°.3S±0°.1×179°.9W±0°.2, h400km, n11, σ1§15/10, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.68**	**273**	P	**P**	**20 38 27.6**	**-0.3**
	5.4nm,0.8s,baz=90,slow=15,SNR=1.7						
URZ	**Urewera**	**15.15**	**189**	P	**P**	**20 38 54.9**	**+0.4**
	4.9nm,0.6s,baz=56,slow=17,SNR=2.5						
URZ				S	**S**	**20 41 34.3**	**-0.8**
	5.0nm,0.8s,baz=81,slow=12,SNR=1.4						
STKA	**Stephens Creek**	**35.05**	**247**	P	**P**	**20 41 58.2**	**+0.5**
	1.6nm,0.6s,baz=115,slow=10,SNR=3.8						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**20 42 56.8**	**0.0**
	2.5nm,0.7s,baz=102,slow=7.3,SNR=25						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**42.55**	**265**	P	**P**	**20 42 59.0**	**-0.3**
	3.5nm,0.5s,baz=90,slow=5.9,SNR=148						
TXAR	**Lajitas Array**	**90.02**	**58**	P	**P**	**20 47 56.3**	**0.0**
	0.5nm,0.6s,baz=241,slow=4.9,SNR=4.4						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**131.30**	**348**	PKP	**PKPdf**	**20 54 02.9**	**-2.2**
	2.1nm,0.8s,baz=60,slow=1.3,SNR=3.7						
HFS	**Hagfors**	**141.96**	**349**	PKhKP	PKPpre	20 54 18.6	
	1.2nm,0.3s,baz=58,slow=3.8,SNR=14						
AKASG	**Malin Array Be**	**144.50**	**328**	PKP	PKPbc	20 54 26.9	-2.5
	0.9nm,0.5s,baz=45,slow=4.1,SNR=6.8						
MMAI	**Mount Meron Ar**	**147.53**	**295**	PKPbc	**PKPdf**	**20 54 37.2**	**+1.6**
	0.2nm,0.3s,baz=93,slow=5.8,SNR=5.0						
EKA	**Eskdalemuir Ar**	**147.90**	**4**	PKPbc	**PKPdf**	**20 54 36.0**	**+0.7**
	0.3nm,0.4s,baz=324,slow=2.2,SNR=4.4						

IDC 12 20:40:47.7±0.8, 36°.22N×141°.66E, h0km, mb3.7/14, mbtmp3.8/20, ML3.4/6, MS3.0/5, Error ellipse: s-maj=18.5km s-min=16.8km az=129.0
NIED 12 20:40:51.5±0.2, 36°.24N×141°.57E, h51km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.39; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$-2.41; $M_{r\theta}$1.81; $M_{\theta\phi}$-2.42; $M_{r\phi}$4.26; Fault plane solution: $M_0$6.01000×10^{14} NP1: ϕ_s232.00000°, δ21.00000°, λ115.00000°. NP2: ϕ_s25.00000°, δ71.00000°, λ80.00000°.
JMA 12 20:40:51.5±0.2, 36°.2N±0°.5×14°.2E±°, h51km±4km, MV3.7/39, FAR E OFF IBARAKI PREF
NEIC 12 20:40:54.8±1.3, 36°.21N±0°.05×141°.5E±0°.1, h46km±8km, mb4.2/34, Error ellipse: s-maj=13.0km s-min=7.3km az=97.0

ISC 12 20:40:52.8±0.6, 36°.22N±0°.04×141°.61E±0°.07, h36km±2km, n106, σ1§18/108, mb4.1/34, MS3.3/3, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.84**	**279**	‖ *iP*	**Pn**	**20 41 06.8**	**-1.2**
JIHU	**Itakohorinouch**	**0.92**	**254**	P	**Pn**	**20 41 08.6**	**-0.6**
JHO	**Hitachi**	**0.93**	**295**	‖ P	**Pn**	**20 41 07.6**	**-1.7**
ONAJ	**Iwakimizuishiy**	**1.10**	**324**	P	**Pn**	**20 41 10.1**	**-1.6**
JFK	**Kawauchi**	**1.29**	**333**	*i* P	**Pn**	**20 41 12.9**	**-1.4**
BSO1	**Boso 1**	**1.64**	**199**	P	**Pn**	**20 41 18.4**	**-0.2**
BSO1				*e*S	**Sn**	**20 41 41.1**	**+2.8**
BSO3	**Boso 3**	**1.68**	**213**	P	**Pn**	**20 41 19.6**	**+0.3**
BSO3				*e*S	**Sn**	**20 41 40.7**	**+1.3**
JOTO	**OTAMA OYAMA**	**1.69**	**323**	*i* P	**Pn**	**20 41 19.7**	**-0.1**
JOTO				*e*S	**Sn**	**20 41 40.2**	**+0.1**
JAG	**Ashikaga**	**1.76**	**277**	*i* P	**Pn**	**20 41 19.6**	**-1.1**
JMM	**Marumori**	**1.77**	**338**		**Pn**	**20 41 19.8**	**-1.1**
JMM				Sn	**Sn**	**20 41 43.4**	**+1.2**
JMM	**Marumori**	**1.77**	**338**	P	**Pn**	**20 41 20.0**	**-0.8**
JMM	**Marumori**	**1.77**	**338**	*i* P	**Pn**	**20 41 20.1**	**-0.8**
JMM				*e*S	**Sn**	**20 41 43.2**	**+1.0**
JFY	**Yanaizu**	**1.94**	**308**	P	**Pn**	**20 41 23.4**	**+0.1**
JKT	**Katashina**	**1.98**	**287**	*i* P	**Pn**	**20 41 23.6**	**-0.3**
MJAR	**Matsushiro Arr**	**2.77**	**278**	**Pn**	**Pn**	**20 41 34.8**	**+0.2**
	5.4nm,0.3s,baz=113,slow=8.5,SNR=262						
MJAR				Sn	**Sn**	**20 42 06.5**	**-0.3**
	1.5nm,0.3s,baz=81,slow=16,SNR=6.5						
MJAR				LR	LR	20 42 48.3	
	comp=Z,175nm,20.3s,baz=132,slow=43						
	24nm,0.4s						
MAJO	**Matsushiro**	**2.77**	**278**		**Pn**	**20 41 35.3**	**+0.7**
MAJO	**Matsushiro**	**2.77**	**278**	P	**Pn**	**20 41 35.4**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.77**	**278**		**Pn**	**20 41 36.0**	**+1.4**
JSG	**Sagara**	**3.19**	**242**	Pn	**Pn**	**20 41 42.8**	**+2.4**
JSD	**Sado**	**3.24**	**305**		**Pn**	**20 41 41.6**	**+0.6**
JSD	**Sado**	**3.24**	**305**	P	**Pn**	**20 41 41.8**	**+0.8**
JHJ2	**Mitsune**	**3.43**	**206**	Pn	**Pn**	**20 41 44.0**	**+0.3**
JHJ2	**Mitsune**	**3.43**	**206**	P	**Pn**	**20 41 44.7**	**+1.0**
JHJ	**Hachijo jima 2**	**3.44**	**207**	Pn	**Pn**	**20 41 43.7**	**-0.1**
	24nm,0.3s,baz=338,slow=21,SNR=12						
JHJ				Sn	**Sn**	**20 42 21.8**	**-1.5**
	69nm,0.3s,baz=65,slow=22,SNR=7.0						
	73nm,0.3s						
JGF	**Kuroka**	**3.51**	**261**		**Pn**	**20 41 47.0**	**+2.2**
JGF	**Kuroka**	**3.51**	**261**	P	**Pn**	**20 41 47.3**	**+2.5**
INU	**Inuyama**	**3.84**	**258**		**Pn**	**20 41 50.0**	**+0.8**
INU	**Inuyama**	**3.84**	**258**	P	**Pn**	**20 41 51.0**	**+1.7**
JTM	**Tenmabayashi**	**4.58**	**355**	Pn	**Pn**	**20 41 60.0**	**+0.4**
JTM	**Tenmabayashi**	**4.58**	**355**	P	**Pn**	**20 42 00.4**	**+0.9**
ERM	**Erimo**	**5.91**	**11**	Pn	**Pn**	**20 42 16.1**	**-1.7**
ERM	**Erimo**	**5.91**	**11**	P	**Pn**	**20 42 18.0**	**+0.2**
JEM	**Erimo**	**5.91**	**11**	P	**Pn**	**20 42 18.6**	**+0.8**
JMN	**Monobe**	**6.82**	**251**	Pn	**Pn**	**20 42 29.9**	**-0.4**
JMN	**Monobe**	**6.82**	**251**	P	**Pn**	**20 42 32.2**	**+1.9**
ASAJ	**Asahikawa**	**7.93**	**5**	Pn	**Pn**	**20 42 43.8**	**-1.6**

comp=Z,1.5nm,0.8s
MAKZ Makanchi 44.90 303 P **P** **20 49 02.9 -0.9**
C18K Utukok River 44.94 26 P **P** **20 49 04.3 +0.5**
KURK Kurchatov 46.56 309 P **P** **20 49 16.2 -0.6**
KURK IAmb IAmb 20 49 18.1
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 46.63 309 P **P** **20 49 17.2 -0.2**
comp=Z,2.0nm,0.4s,baz=86,slow=8.0,SNR=5.7
comp=Z,2.0nm,0.4s
D22K Ayikyak River 48.02 26 P **P** **20 49 29.0 +1.0**
D22K IAmb IAmb 20 49 53.5
comp=Z,3.7nm,1.4s
C23K Itkillik River 48.87 25 P **P** **20 49 35.7 +1.4**
C23K IAmb IAmb 20 50 19.6
comp=Z,6.0nm,1.4s
E24K Your Creek 49.49 28 P **P** **20 49 40.5 +1.2**
C24K Franklin Bluff 49.52 25 P **P** **20 49 40.1 +0.7**
ILAR Eielson Array 50.10 32 P **P** **20 49 45.0 +1.1**
comp=Z,0.6nm,0.7s,baz=259,slow=6.4,SNR=7.9
comp=Z,0.6nm,0.7s
D25K Kavik River 50.31 26 P **P** **20 49 47.0 +1.5**
D25K IAmb IAmb 20 50 12.6
comp=Z,6.8nm,1.5s
F25K Christian Rive 50.56 28 P **P** **20 49 49.5 +2.1**
F25K IAmb IAmb 20 50 07.4
comp=Z,3.1nm,1.4s
BMAR Burnt Mountain 50.97 29 P **P** **20 49 52.1 +1.6**
F26K Sheenjek River 51.13 28 P **P** **20 49 53.0 +1.4**
BVAR Borovoye Array 51.24 313 P **P** **20 49 52.5 -0.1**
comp=Z,0.6nm,0.5s,baz=58,slow=6.5,SNR=5.8
comp=Z,0.6nm,0.5s
BRVK Borovoye 51.30 313 P **P** **20 49 53.0 -0.1**
BRVK IAmb IAmb 20 50 05.2
comp=Z,2.6nm,1.1s
ARSB Arslanbob 52.49 298 P **P** **20 50 03.1 +0.7**
F28M Old Crow 52.77 28 P **P** **20 50 05.5 +1.7**
F28M IAmb IAmb 20 50 14.4
comp=Z,3.1nm,1.4s
E28M Babbage River 52.80 27 P **P** **20 50 05.7 +1.7**
I28M Miner Creek 52.98 31 P **P** **20 50 06.8 +1.3**
I28M IAmb IAmb 20 50 48.7
comp=Z,3.1nm,1.3s
KK31 Karatay Array 53.68 301 P **P** **20 50 10.9 0.0**
KK31 IAmb IAmb 20 50 12.2
comp=Z,2.0nm,0.9s
KKAR Karatay Array 53.68 301 P **P** **20 50 11.0 +0.1**
KKAR Karatay Array 53.68 301 P **P** **20 50 10.8 -0.1**
KKAR IAmb IAmb 20 50 12.2
comp=Z,1.3nm,0.9s
M29M Somme Creek 54.09 34 P **P** **20 50 15.0 +1.3**
M29M IAmb IAmb 20 50 36.0
comp=Z,2.8nm,1.2s
L29M L29M 54.12 34 P **P** **20 50 15.4 +1.5**
I30M Mount Dempster 54.49 31 P **P** **20 50 18.4 +1.8**
I30M IAmb IAmb 20 50 35.7
comp=Z,4.6nm,1.4s
M30M Minto, Yukon 54.82 34 P **P** **20 50 20.1 +1.2**
M30M IAmb IAmb 20 51 01.7
comp=Z,3.5nm,1.3s
G31M Satah River 55.02 29 P **P** **20 50 21.9 +1.7**
G31M IAmb IAmb 20 50 34.6
comp=Z,5.7nm,1.4s
FITZ Fitzroy Crossi 56.09 198 P **P** **20 50 28.9 +0.4**
FITZ IAmb IAmb 20 51 03.4
comp=Z,2.2nm,1.1s
WB0 Warramunga Arr 56.10 188 P **P** **20 50 29.0 +0.5**
CHGR Chuyangaron 56.16 296 P **P** **20 50 28.0 -1.0**
WB2 Warramunga Arr 56.27 188 P **P** **20 50 28.7 -1.1**
WRA Warramunga Arr 56.28 188 P **P** **20 50 29.2 -0.5**
comp=Z,0.6nm,0.8s,baz=0.7,slow=7.7,SNR=7.0
comp=Z,0.6nm,0.8s
ARTI Arti 57.19 319 P **P** **20 50 35.9 0.0**
ABKAR Akbulak array 58.59 311 P **P** **20 50 45.7 -0.1**
ABKAR IAmb IAmb 20 50 46.5
comp=Z,2.4nm,0.7s
ABKAR Akbulak array 58.59 311 P **P** **20 50 45.9 0.0**
ASAR Alice Springs 60.00 188 P **P** **20 50 56.5 +0.7**
comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=1.5
comp=Z,0.1nm,0.3s
RES Resolute Bay 63.35 14 LR LR 21 20 58.1
comp=Z,20nm,18.1s,baz=10.0,slow=38
YKA Yellowknife Ar 64.43 30 P **P** **20 51 26.2 +1.1**
comp=Z,0.2nm,0.8s,baz=309,slow=8.5,SNR=1.9
comp=Z,0.2nm,0.8s
KMRM Mail Ridge 70.86 54 P **P** **20 52 05.2 -0.8**
NOA NORSAR Array B 75.00 337 P **P** **20 52 30.1 0.0**
comp=Z,0.6nm,0.8s,baz=34,slow=5.7,SNR=1.3
comp=Z,0.6nm,0.8s
AKASG Malin Array Be 75.04 323 P **P** **20 52 30.6 0.0**
comp=Z,0.6nm,0.4s,baz=48,slow=6.3,SNR=7.3
comp=Z,0.6nm,0.4s
NVAR Mina Array Bea 75.35 53 P **P** **20 52 32.9 +0.1**
comp=Z,0.6nm,0.6s,baz=338,slow=9.5,SNR=2.2
comp=Z,0.6nm,0.6s
YNE Yellowstone No 76.48 44 P **P** **20 52 38.0 -1.2**
PDAR Pinedale Array 78.12 45 P **P** **20 52 49.1 +0.6**
comp=Z,0.2nm,0.5s,baz=310,slow=3.7,SNR=2.4
comp=Z,0.2nm,0.5s

*IDC **12** 20:43:31.5±9.2, 19°.47S×64°.88E, h0km, mb3.7/7, mbtmp3.7/7, MS3.4/1, Error ellipse: s-maj=310.4km s-min=31.1km az=55.0*
ISC 12 20:43:32.8±9.8, 20°.S±1°×6°.5E±°, h10km, n11, σ0s45/7, mb3.8/7, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**28.64**	**199**	T	T	21 20 39.2	
baz=28,slow=75,SNR=66							
H04N1	**CROZET ISLANDS**	**28.64**	**199**	T	T	21 20 39.0	
baz=28,slow=75,SNR=57							
H04N3	**CROZET ISLANDS**	**28.66**	**199**	T	T	21 20 39.8	
baz=28,slow=75,SNR=58							
LEM	**Lembang**	**43.42**	**79**	LR	LR	21 06 46.0	
comp=Z,50nm,21.0s,baz=348,slow=32							
ASAR	**Alice Springs**	**63.82**	**107**	P	**P**	**20 54 05.4**	**-0.4**
0.5nm,0.8s,baz=270,slow=5.1,SNR=4.4							
0.5nm,0.8s							
WRA	**Warramunga Arr**	**64.98**	**103**	P	**P**	**20 54 13.8**	**+0.5**
0.8nm,0.8s,baz=264,slow=5.4,SNR=3.7							
0.8nm,0.8s							
MKAR	**Makanchi Array**	**67.88**	**13**	P	**P**	**20 54 30.8**	**-0.5**
0.3nm,0.9s,baz=191,slow=6.9,SNR=2.6							
0.3nm,0.9s							
KURBB	**Kurchatov Arra**	**70.89**	**9**	P	**P**	**20 54 50.1**	**+0.3**
0.2nm,0.4s,baz=209,slow=6.6,SNR=2.7							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**72.42**	**4**	P	**P**	**20 54 59.0**	**+0.1**
0.8nm,0.7s,baz=157,slow=8.6,SNR=6.3							
0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**75.18**	**12**	P	**P**	**20 55 14.9**	**-0.3**
0.9nm,0.6s,baz=208,slow=5.2,SNR=5.3							
0.9nm,0.6s							
SONM	**Songino Array**	**76.72**	**27**	P	**P**	**20 55 24.3**	**+0.1**
0.4nm,0.7s,baz=204,slow=6.9,SNR=5.3							
0.4nm,0.7s							

TAP 12 20:45:51.9, 23°.76N×120°.92E, h12km, ML1.3, 1C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.04**	**51**	⇓P	Pg	20 45 54.5	+0.3
SSLB				*i* S	Sg	20 45 56.0	+0.1
WHYT	**Xinyi Township**	**0.09**	**223**	⇑*i*P	Pg	20 45 55.0	+0.4
WHYT				S	Sg	20 45 57.3	+0.7
SMLT	**Sun Moon Lake**	**0.12**	**352**	⇓*i*P	Pg	20 45 55.6	+0.4
SMLT				*e*S	Sg	20 45 57.8	+0.3
TYC	**Yuchr**	**0.15**	**339**	⇓P	Pb	20 45 56.4	-0.4
TYC				S	Sg	20 45 58.9	+0.9
WJS	**Zhushan**	**0.18**	**289**	P	Pb	20 45 57.4	+0.1
WJS				S	Sg	20 46 01.6	+2.8
VWDT	**VWDT**	**0.20**	**92**	*e*P	Pb	20 45 57.3	-0.3
VWDT				S	Sg	20 46 01.0	+1.6
WNT	**Mingjian**	**0.24**	**299**	*e*P	Pb	20 45 58.7	+0.4
WNT				S	Sg	20 46 02.9	+2.4
ALS	**Alishan**	**0.27**	**203**	*i*P	Pb	20 45 58.4	-0.6
ALS				S	Sb	20 46 03.3	-0.3
DPDB	**Guoxing**	**0.27**	**2**	*i*P	Pb	20 45 58.4	-0.5
DPDB				S	Sb	20 46 02.8	-0.7
YUS	**Yu-Shan**	**0.27**	**173**	*e*P	Pg	20 45 58.2	+0.4
YUS				*e*S	Sg	20 46 02.4	+0.7
CHN5	**Tsauling**	**0.27**	**233**	*i*P	Pb	20 45 58.7	-0.2
CHN5				*i*S	Sb	20 46 03.4	-0.1
WUSB	**Renai**	**0.29**	**38**	*i*P	Pg	20 45 58.4	+0.4
WUSB				*e*S	Sg	20 46 02.5	+0.5
WCS	**Beigang Elemen**	**0.29**	**359**	*i*P	Pb	20 45 58.6	-0.6
WCS				*i*S	Sb	20 46 03.2	-0.8
OWD	**Renai**	**0.30**	**51**	*e*P	Pb	20 45 58.9	-0.6
OWD				S	Sg	20 46 02.9	+0.5
WGK	**Gukeng**	**0.34**	**257**	*e*P	Pg	20 45 57.8	-0.9
WDLH	**Douliu**	**0.36**	**258**	*e*P	Pb	20 46 00.9	+0.7
WARBT	**Fenglin Townsh**	**0.43**	**96**	*i*P	Pb	20 46 01.1	-0.4
WARBT				*i*S	Sb	20 46 07.1	-0.9
WCKO	**Fanlu**	**0.43**	**222**	P	Pb	20 46 01.6	+0.1
WCKO				*i*S	Sb	20 46 08.8	+0.9
EHY	**Hungye**	**0.45**	**124**	P	Pb	20 46 01.5	-0.3
EHY				*i*S	Sb	20 46 08.3	-0.2
EGFH	**Guangfu**	**0.48**	**101**	P	Pb	20 46 01.9	-0.3
EGFH				*e*S	Sb	20 46 08.7	-0.5
CHN4	**Tsaushan**	**0.51**	**216**	*i*P	Pb	20 46 03.0	+0.2
CHN4				*e*S	Sn	20 46 12.7	-0.9
YULB	**Yu-li**	**0.51**	**136**	*e*P	Pb	20 46 02.4	-0.4
YULB				*i*S	Sg	20 46 09.3	+0.7
WHP	**Taichung City**	**0.52**	**3**	P	Pb	20 46 03.4	+0.4
WHP				*e*S	Sb	20 46 11.5	+1.0
LXIB	**Xiulin Townshi**	**0.52**	**60**	*e*P	Pb	20 46 02.8	-0.4
LXIB				*e*S	Sg	20 46 09.6	+0.5
TPUB	**Ta-pu**	**0.53**	**210**	*e*P	Pb	20 46 03.4	+0.2
TPUB				*i*S	Sb	20 46 11.5	+0.7
TWF1	**Yuli**	**0.54**	**139**	P	Pb	20 46 03.0	-0.3
TWF1				*i*S	Sb	20 46 10.6	-0.3
HGSD	**Ruisui**	**0.54**	**120**	*e*P	Pb	20 46 02.9	-0.3
HGSD				*e*S	Sb	20 46 11.4	+0.4
EYUL	**Yuli**	**0.55**	**138**	*e*P	Pb	20 46 03.2	-0.3
EYUL				*i*S	Sb	20 46 11.2	-0.3
FUSS	**Fushou**	**0.57**	**32**	*i*P	Pg	20 46 03.4	+0.3
FUSS				*e*S	Sg	20 46 11.2	+0.5
ELDTW	**Lidau**	**0.58**	**171**	P	Pb	20 46 03.9	-0.1
ELDTW				*e*S	Sg	20 46 10.7	-0.1
WTP	**Ta-pu**	**0.58**	**209**	P	Pb	20 46 04.3	+0.2
WTP				*e*S	Sb	20 46 12.7	+0.3
STYH	**Taoyuan**	**0.60**	**193**	P	Pg	20 46 04.0	+0.4
STYH				*e*S	Sg	20 46 12.2	+0.6
STYT	**Tauyuan**	**0.61**	**194**	*e*P	Pg	20 46 03.3	-0.6
STYT				*e*S	Sg	20 46 12.0	0.0
TWK	**Hsinying**	**0.63**	**219**	*e*P	Pb	20 46 05.7	+0.8
WDJ	**Dajia District**	**0.64**	**337**	*e*S	Sb	20 46 14.6	+0.6
FULB	**Fuli**	**0.66**	**148**	*e*P	Pb	20 46 06.1	+0.7
FULB				*e*S	Sb	20 46 15.8	+1.3
CHN1	**Nanshi**	**0.68**	**212**	P	Pb	20 46 06.3	+0.6
CHN1				*e*S	Sn	20 46 16.6	-1.3
ETLH	**Xiulin Townshi**	**0.68**	**49**	P	Pb	20 46 05.6	-0.3
ETLH				S	Sb	20 46 15.2	0.0
NACB	**Ninganchiao**	**0.74**	**56**	*e*P	Pb	20 46 07.1	+0.3
NACB				*e*S	Sb	20 46 16.9	0.0
NNSB	**Datong**	**0.79**	**32**	*e*P	Pb	20 46 07.9	+0.2
LATG	**Datong**	**0.95**	**36**	*e*P	Pg	20 46 06.6	-3.7
NSK	**Sanguang**	**1.00**	**24**	*e*P	Pg	20 46 09.1	-2.1
NSK				*e*S	Sg	20 46 23.4	-0.8
YHNB	**Yeheng**	**1.00**	**25**	*e*P	Pg	20 46 08.7	-2.5
YHNB				*e*S	Sg	20 46 23.8	-0.4
ENA	**Nanau**	**1.00**	**48**	*e*P	Pb	20 46 10.9	-0.4
ENA				*e*S	Sn	20 46 26.0	+0.1

*HVO **12** 20:50:20.1±0.9, 19°.69N±0°.03×156°.51W±0°.05, h33km±7km, Error ellipse: s-maj=7.6km s-min=3.7km az=67.0*
NEIC 12 20:50:17.9±0.8, 19°.71N±0°.03×156°.50W±0°.05, h35km±2km, ML3.0/34, ML2.4/6(HVO), Error ellipse: s-maj=8.3km s-min=4.2km az=62.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.45**	**97**		Pn	20 50 28.7	+0.8
KKH					Sn	20 50 35.5	+0.7
CPH	**Captain Cook**	**0.59**	**112**		Pn	20 50 30.3	+0.5
HUH	**Hualalai**	**0.62**	**93**		Pn	20 50 30.4	0.0
MHA	**Mahukona**	**0.73**	**50**		Pn	20 50 31.7	0.0
MHA					Sn	20 50 41.5	-0.1
HPAH	**Hawaii Prepara**	**0.82**	**67**	Pn	Pn	20 50 33.5	+0.6
HPAH					Sn	20 50 42.2	-1.6
ALEP	**Alea Permanent**	**0.82**	**102**		Pn	20 50 33.8	+0.5
ALEP					Sn	20 50 44.2	-0.2
KHU	**Kahuku**	**0.95**	**119**		Sn	20 50 46.4	-1.1
KHU	**Kahuku**	**0.95**	**119**		Pn	20 50 35.0	0.0
KHU				IAML		20 50 51.3	
comp=E,387nm,4.4s							
KHU	**Kahuku**	**0.95**	**119**	IAML		20 50 43.3	
comp=N,432nm,3.5s							
HLK	**Haleakala**	**1.06**	**13**		Sn	20 50 50.0	-0.3
HLK	**Haleakala**	**1.06**	**13**		Pn	20 50 37.5	+1.0
HLK				IAML		20 50 47.0	
comp=E,382nm,4.2s							
HLK	**Haleakala**	**1.06**	**13**	IAML		20 51 15.5	
comp=N,323nm,4.8s							
MLH	**Mauna Loa**	**1.07**	**102**		Sn	20 50 49.3	-1.1
MLH	**Mauna Loa**	**1.07**	**102**		Pn	20 50 36.8	+0.2
MLH				IAML		20 51 11.5	
comp=E,300nm,4.3s							
MLH	**Mauna Loa**	**1.07**	**102**	IAML		20 50 45.4	
comp=N,316nm,3.8s							
HTC	**Hot Caves**	**1.14**	**114**		Pn	20 50 37.5	+0.1
WRMHI	**West Rim**	**1.17**	**105**		Pn	20 50 38.0	+0.2
WRMHI					Sn	20 50 51.3	-1.3
UWE	**Uwekahuna**	**1.17**	**104**		Pn	20 50 38.0	+0.1
UWE					Sn	20 50 51.5	-1.2
UWE	**Uwekahuna**	**1.17**	**104**	IAML		20 51 10.4	
comp=N,312nm,4.4s							
RSD	**Rainshed**	**1.18**	**102**		Sn	20 50 51.7	-1.1
RSD	**Rainshed**	**1.18**	**102**		Pn	20 50 37.9	0.0
RSD	**Rainshed**	**1.18**	**102**	IAML		20 50 52.6	
comp=E,354nm,4.4s							
RSD				IAML		20 51 12.1	
comp=N,414nm,4.4s							
SDHHI	**Sand Hill**	**1.18**	**106**		Pn	20 50 38.0	0.0
OBL	**Observatory Le**	**1.18**	**104**		Pn	20 50 37.5	-0.5
OBL					Sn	20 50 51.7	-1.3
UWB	**Uwekahuna Bluf**	**1.19**	**104**		Pn	20 50 38.1	0.0
UWB					Sn	20 50 51.9	-1.1
HLP	**Hilina Pali**	**1.20**	**110**		Sn	20 50 52.0	-1.3
HLP	**Hilina Pali**	**1.20**	**110**		Pn	20 50 38.2	+0.1
HLP	**Hilina Pali**	**1.20**	**110**	IAML		20 50 59.1	
comp=E,565nm,3.7s							
HLP				IAML		20 51 09.9	
comp=N,536nm,4.0s							
RIM	**Rim**	**1.20**	**105**		Pn	20 50 38.0	-0.2
RIM					Sn	20 50 52.1	-1.2
HATHI	**Halema'uma'u T**	**1.20**	**104**		Pn	20 50 38.1	-0.1
HATHI					Sn	20 50 51.8	-1.6
HATHI	**Halema'uma'u T**	**1.20**	**104**	IAML		20 50 59.0	
comp=N,197nm,4.2s							
KKO	**Keanakako'i**	**1.20**	**105**		Pn	20 50 38.4	+0.1
KKO					Sn	20 50 52.4	-1.1
PUH	**Pauahi**	**1.25**	**105**	Pn	Pn	20 50 38.9	-0.1
PUH				IAML		20 51 06.8	
comp=E,222nm,3.7s							
KNHH	**Kane Nui o Ham**	**1.30**	**105**	Pn	Pn	20 50 39.3	-0.2
STCH	**Steam Cracks**	**1.33**	**104**		Sn	20 50 55.0	-1.7
STCH	**Steam Cracks**	**1.33**	**104**		Pn	20 50 39.9	-0.2
STCH				IAML		20 50 49.0	
comp=N,256nm,4.3s							
STCH	**Steam Cracks**	**1.33**	**104**	IAML		20 51 12.7	
comp=E,246nm,4.4s							
JOKA	**Jonika Flow**	**1.44**	**101**	Pn	Pn	20 50 41.3	-0.2
JOKA				IAML		20 51 32.6	
comp=E,159nm,3.6s							

DJA 12 21:04:08.2±2.4, 3°.S±5°×13°.7E±°, h16km±22km, M4.0/8, mB5.3/1, mb4.8/1, MLv3.6/8, Mw(mB)4.7/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.27**	**307**	P	Pn	21 04 30.7	-0.6
SRPI				S	Sn	21 04 48.1	+0.1
SMPI	**Sarmi**	**1.59**	**66**	P	Pn	21 04 35.5	-0.3
SMPI				S	Sn	21 04 56.4	+0.3
BAKI	**Biak**	**1.84**	**322**	P	Pn	21 04 39.7	+0.6
RKPI	**Ransiki, Papua**	**3.27**	**290**	P	Pn	21 04 59.0	+0.2
JAY	**Jayapura**	**3.45**	**88**	P	Pn	21 05 00.9	-0.5
FAKI	**Fak Fak**	**5.00**	**267**	P	Pn	21 05 20.8	-1.9

*NEIC **12** 21:05:54.7±1.6, 45°.19N±0°.06×106°.94W±0°.08, h0km±1km, ML3.0/24, Error ellipse: s-maj=12.0km s-min=8.3km az=213.0*
*IDC **12** 21:05:57.2±1.1, 44°.85N×106°.74W, h0km, mb3.4/1, mbtmp3.5/3, ML3.3/2, MS2.7/3, Error ellipse: s-maj=53.3km s-min=8.7km az=136.0*
ISC 12 21:05:56.3±0.9, 45°.16N±0°.05×107°.02W±0°.06, h0km, n25, σ1s24/22, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.59**	**269**		**Pg**	**21 06 27.7**	**+0.9**
RLMT				IAML		21 07 09.6	
129nm,0.8s							
LAO	**LASA Array**	**1.62**	**20**		**Pb**	**21 06 26.7**	**-0.5**
GCMT	**Greycliff**	**1.97**	**290**	Pn	**Pn**	**21 06 31.3**	**+0.3**
YNE	**Yellowstone No**	**2.12**	**267**	Pn	**Pb**	**21 06 35.3**	**-0.4**
YNE				IAML		21 07 10.2	
comp=E,94nm,0.4s							
YNE				IAML		21 07 40.0	
comp=N,96nm,0.9s							
YMP	**Mirror Lake Pl**	**2.27**	**260**	Pn	**Pn**	**21 06 34.4**	**-0.9**
YMP				IAML		21 07 23.9	
comp=N,126nm,1.7s							
YMP				IAML		21 07 25.2	
comp=E,152nm,1.4s							
RSSD	**Black Hills**	**2.37**	**115**		**Pn**	**21 06 35.8**	**-0.8**
LOHW	**Long Hollow**	**3.00**	**240**		**Pn**	**21 06 45.9**	**+0.6**
LOHW				IAML		21 07 48.4	
comp=E,30nm,2.7s							
PD31	**Pinedale Array**	**3.02**	**218**		**Pn**	**21 06 47.1**	**+1.6**
PDAR	**Pinedale Array**	**3.02**	**218**		**Pn**	**21 06 45.5**	**0.0**
PDAR	**Pinedale Array**	**3.02**	**218**	Pn	**Pb**	**21 06 48.8**	**-2.2**
comp=E,3.0nm,0.3s,baz=56,slow=17,SNR=50							
PDAR				Lg	Lg	21 07 27.4	
comp=E,6.6nm,0.3s,baz=52,slow=32,SNR=11							
PDAR				LR	LR	21 08 14.6	
comp=E,131nm,19.2s,baz=38,slow=47							
comp=E,3.9nm,0.4s							
FXWY	**Fox Creek**	**3.25**	**243**		**Pn**	**21 06 49.6**	**+0.9**
BOZ	**Bozeman (W)**	**3.28**	**279**	Pn	**Pn**	**21 06 46.0**	**-3.0**
BOZ				IAML		21 07 47.1	
comp=E,38nm,2.7s							
BOZ				IAML		21 08 01.2	
comp=E,23nm,2.2s							
EGMT	**Eagleton**	**3.43**	**328**	Pn	**Pn**	**21 06 50.9**	**-0.1**
AHID	**Auburn Hatcher**	**3.80**	**232**		**Pn**	**21 06 54.9**	**-1.3**
AHID				IAML		21 08 02.3	
comp=E,20nm,1.9s							
AHID				IAML		21 08 10.4	
comp=E,28nm,1.6s							
LRM	**Limekiln Ridge**	**3.88**	**282**	Pn	**Pn**	**21 06 58.6**	**+1.2**
LYMT	**Lyon Mountain**	**4.09**	**298**		**Pn**	**21 06 59.9**	**-0.4**
MSO	**Missoula**	**5.10**	**292**		**Pn**	**21 07 15.2**	**+1.2**
SRU	**San Rafael Swe**	**6.58**	**205**	Pn	**Pn**	**21 07 35.5**	**+1.0**
PV07	**Paradox Valley**	**6.83**	**191**		**Pn**	**21 07 39.0**	**+1.2**
ECSD	**EROS Data Cent**	**7.58**	**97**	Pn	**Pn**	**21 07 47.3**	**-0.7**
I10CA	**LAC DU BONNET**	**8.96**	**52**	I	I	22 00 15.0	
comp=E,0.2nm,1.9s,baz=236,slow=318,SNR=5.2							
ULM	**Lac du Bonnet**	**9.07**	**52**	Pn	**Pn**	**21 08 08.0**	**-0.4**
comp=E,0.9nm,0.3s,baz=246,slow=12,SNR=12							
ULM				Lg	Lg	21 10 35.0	
comp=E,0.2nm,0.3s,baz=1.0,slow=7.1,SNR=3.9							
comp=E,1.8nm,0.3s							
ANMO	**Albuquerque**	**10.21**	**177**	LR	LR	21 11 47.7	
comp=E,27nm,18.8s,baz=118,slow=35							
TKL	**Tuckaleechee C**	**20.03**	**110**	LR	LR	21 18 38.5	
comp=E,42nm,19.0s,baz=260,slow=39							
MKAR	**Makanchi Array**	**88.06**	**354**	P	**P**	**21 18 49.5**	**+1.2**
comp=E,0.2nm,0.7s,baz=15,slow=6.0,SNR=1.9							
comp=E,0.2nm,0.7s							

WEL 12 21:14:21.2±0.9, 35°.S±8°×17°.9E±1°, 0, h183km±17km, M3.9/14, ML4.0/7, MLv3.9/14, Error ellipse: s-maj=13.2km s-min=10.8km az=105.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.38**	**194**	P	Pn	21 15 02.7	+0.1
MXZ				S	Sn	21 15 34.6	-0.4
WMGZ	**Waiomatatini S**	**2.61**	**191**	P	Pn	21 15 05.7	+0.4
WMGZ				S	Sn	21 15 40.0	+0.3
HAZ	**Te Kaha**	**2.69**	**202**	P	Pn	21 15 06.2	-0.1
HAZ				S	Sn	21 15 42.2	+0.7
PKGZ	**Pakihiroa**	**2.72**	**196**	P	Pn	21 15 07.0	+0.4
PKGZ				S	Sn	21 15 42.8	+0.7
PUZ	**Puketiti**	**2.88**	**193**	P	Pn	21 15 08.4	-0.1
PUZ				S	Sn	21 15 45.5	-0.1
RUGZ	**Raukumara Rang**	**2.92**	**202**	P	Pn	21 15 09.0	-0.1
RUGZ				S	Sn	21 15 46.1	-0.4
TWGZ	**Tauwhareparae**	**3.04**	**196**	P	Pn	21 15 10.7	+0.3
TWGZ				S	Sn	21 15 50.6	+1.6
CNGZ	**Carnagh Statio**	**3.29**	**192**	P	Pn	21 15 13.7	+0.2
MWZ	**Matawai**	**3.31**	**201**	P	Pn	21 15 14.1	+0.4
MWZ				S	Sn	21 15 55.2	+0.4
TKGZ	**Te Karaka**	**3.32**	**197**	P	Pn	21 15 13.7	-0.1
TKGZ				S	Sn	21 15 55.0	0.0
URZ	**Urewera**	**3.38**	**207**	P	Pn	21 15 14.3	-0.2
URZ				S	Sn	21 15 55.3	-1.0
RAGZ	**Rawiri**	**3.49**	**202**	P	Pn	21 15 16.4	+0.4
MUGZ	**Murupara**	**3.70**	**209**	P	Pn	21 15 18.4	-0.1
MUGZ				S	Sn	21 16 03.8	+0.3
RTZ	**Ruatahuna**	**3.74**	**206**	P	Pn	21 15 18.6	-0.5
RTZ				S	Sn	21 16 04.4	-0.1
SNGZ	**Shannon Statio**	**3.77**	**201**	P	Pn	21 15 19.5	0.0
SNGZ				S	Sn	21 16 05.6	+0.3
PRGZ	**Paritu Road**	**3.78**	**194**	P	Pn	21 15 19.2	-0.4
PRGZ				S	Sn	21 16 05.6	+0.3
WCZ	**Waipu Caves**	**3.89**	**259**	P	Pn	21 15 21.6	+0.5
KNZ	**Kokohu**	**3.92**	**196**	P	Pn	21 15 20.3	-0.9
RAHZ	**Arahi**	**3.98**	**203**	P	Pn	21 15 22.0	-0.1
RAHZ				S	Sn	21 16 11.2	+1.4
MHGZ	**Mahia Peninsul**	**3.99**	**193**	P	Pn	21 15 22.1	-0.2
MTHZ	**Maungataniwha**	**4.00**	**206**	P	Pn	21 15 22.4	0.0
MTHZ				S	Sn	21 16 11.0	+0.6
NMHZ	**Naumai**	**4.23**	**204**	P	Pn	21 15 25.4	0.0
NMHZ				S	Sn	21 16 16.0	+0.3
ARHZ	**Aropaoanui**	**4.32**	**202**	P	Pn	21 15 26.5	+0.1
ARHZ				S	Sn	21 16 17.7	+0.1
BKZ	**Black Stump Fm**	**4.40**	**207**	P	Pn	21 15 27.1	-0.4
BKZ				S	Sn	21 16 19.9

ANCK					Sn	21 29 35.6	-0.4
ACHA	**Angle Creek He**	**0.90**	**2**		**Pn**	**21 29 23.6**	**-0.3**
ACHA				Sn	**Sn**	**21 29 35.8**	**-0.4**
KCE	**Katmai Mt Cerb**	**0.94**	**6**		**Pn**	**21 29 24.2**	**-0.1**
SII	**Sitkinak Islan**	**1.00**	**139**		**Pn**	**21 29 25.0**	**0.0**
SII	**Sitkinak Islan**	**1.00**	**139**	P	**Pn**	**21 29 25.1**	**0.0**
baz=321							
KVTA	**Katmai Vly 10**	**1.07**	**2**		**Pn**	**21 29 25.8**	**-0.2**
OHAK	**Old Harbor**	**1.14**	**94**		**Pn**	**21 29 26.6**	**-0.2**
OHAK				Sn	**Sn**	**21 29 41.8**	**+0.3**
OHAK				IAML		21 29 50.6	
comp=N,575nm,0.4s							
OHAK	**Old Harbor**	**1.14**	**94**	P	**Pn**	**21 29 26.6**	**-0.2**
baz=276							
KELA	**Mount Kelaz**	**1.15**	**350**		**Pn**	**21 29 26.6**	**-0.5**
R16K	**Pilot Point**	**1.22**	**283**	Pn	**Pn**	**21 29 27.6**	**-0.2**
R16K	**Pilot Point**	**1.22**	**283**	P	**Pn**	**21 29 27.9**	**0.0**
baz=100							
KAHG	**Katmai Hook Gl**	**1.26**	**20**		**Pn**	**21 29 28.5**	**-0.1**
KAHG					**Sn**	**21 29 45.8**	**+1.1**
KAHC	**Katmai Hardscr**	**1.35**	**8**		**Pn**	**21 29 29.6**	**-0.3**
CHIR	**Chirikof Islan**	**1.50**	**185**		**Pn**	**21 29 31.2**	**-0.5**
CHIR				IAML		21 29 59.8	
comp=N,482nm,0.8s							
CHIR				IAML		21 30 06.8	
comp=E,373nm,0.5s							
CHIR	**Chirikof Islan**	**1.50**	**185**	P	**Pn**	**21 29 31.6**	**-0.1**
baz=5.2							
ANNE	**Aniakchak Nort**	**1.52**	**256**		**Pn**	**21 29 32.2**	**+0.2**
Q16K	**King Salmon**	**1.53**	**334**		**Pn**	**21 29 31.6**	**-0.5**
Q16K					**Sn**	**21 29 49.8**	**-1.1**
Q16K	**King Salmon**	**1.53**	**334**	P	**Pn**	**21 29 31.6**	**-0.5**
baz=152							
KDAK	**Kodiak Island**	**1.57**	**71**		**Pn**	**21 29 32.4**	**-0.3**
KDAK				IAML		21 29 58.3	
comp=E,783nm,0.4s							
KDAK				IAML		21 30 00.1	
comp=E,466nm,0.5s							
AZAC	**Aniakchak**	**1.61**	**256**		**Pn**	**21 29 33.6**	**+0.3**
ANPB	**Aniakchak Plen**	**1.67**	**253**		**Pn**	**21 29 34.3**	**+0.3**
Q19K	**Cape Douglas,**	**1.86**	**29**		**Pn**	**21 29 36.6**	**+0.1**
Q19K	**Cape Douglas,**	**1.86**	**29**	P	**Pn**	**21 29 36.5**	**-0.1**
baz=210							
CHGN	**Chignik**	**1.96**	**240**		**Pn**	**21 29 37.9**	**+0.1**
CHGN				IAML		21 30 06.6	
comp=N,561nm,0.3s							
CHGN				IAML		21 30 07.0	
comp=E,574nm,0.2s							
CHGN	**Chignik**	**1.96**	**240**	P	**Pn**	**21 29 38.2**	**+0.4**
baz=57							
P17K	**Kvichak River**	**1.97**	**344**		**Pn**	**21 29 37.6**	**-0.3**
P17K	**Kvichak River**	**1.97**	**344**	P	**Pn**	**21 29 37.6**	**-0.3**
baz=163							
Q20K	**Shuyak Island**	**2.05**	**49**	P	**Pn**	**21 29 40.1**	**+1.0**
baz=232							
SYI	**Shuyak Island**	**2.05**	**49**		**Pn**	**21 29 39.7**	**+0.6**
P18K	**Big Mountain,**	**2.08**	**2**		**Sn**	**21 30 03.3**	**-1.2**
P18K	**Big Mountain,**	**2.08**	**2**		**Pn**	**21 29 39.1**	**-0.5**
P18K				IAML		21 30 04.2	
comp=N,176nm,0.6s							
P18K	**Big Mountain,**	**2.08**	**2**	P	**Pn**	**21 29 39.1**	**-0.5**
baz=182							
P16K	**Nushagak River**	**2.21**	**322**		**Sn**	**21 30 07.3**	**-0.2**
P16K	**Nushagak River**	**2.21**	**322**	P	**Pn**	**21 29 41.1**	**-0.1**
baz=140							
AUCH	**Augustine Cone**	**2.29**	**26**		**Pn**	**21 29 43.1**	**+0.6**
AU22	**Augustine Moun**	**2.32**	**26**		**Pn**	**21 29 43.6**	**+0.8**
VNSG	**Veniaminof 6**	**2.37**	**241**		**Pn**	**21 29 44.3**	**+0.8**
VNFG	**Fog Glacier, M**	**2.52**	**248**		**Pn**	**21 29 46.3**	**+0.7**
O18K	**Koktuh Hills**	**2.55**	**2**		**Pn**	**21 29 45.7**	**-0.2**
O18K	**Koktuh Hills**	**2.55**	**2**	P	**Pn**	**21 29 45.7**	**-0.2**
baz=182							
VNKR	**Veniaminof 5**	**2.55**	**241**		**Pn**	**21 29 47.0**	**+1.0**
P19K	**Oil Pt**	**2.60**	**25**		**Pn**	**21 29 47.1**	**+0.5**
P19K				IAML		21 30 29.7	
comp=E,238nm,0.4s							
P19K				IAML		21 30 30.5	
comp=N,223nm,0.6s							
P19K	**Oil Pt**	**2.60**	**25**	P	**Pn**	**21 29 47.4**	**+0.7**
baz=207							
O17K	**Koliganek Bris**	**2.63**	**341**	P	**Pn**	**21 29 46.3**	**-0.6**
baz=159							
O16K	**Kokwok River B**	**2.70**	**329**		**Pn**	**21 29 47.3**	**-0.6**
O16K				IAML		21 30 19.0	
comp=N,108nm,0.7s							
O16K	**Kokwok River B**	**2.70**	**329**	P	**Pn**	**21 29 47.4**	**-0.6**
baz=147							
ILSW	**Iliamna Southw**	**2.92**	**23**		**Pn**	**21 29 51.4**	**+0.3**
ILSW				IAML		21 30 31.6	
comp=E,88nm,0.7s							
O19K	**Port Alsworth**	**2.94**	**10**	Pn	**Pn**	**21 29 51.2**	**0.0**
O19K				IAML		21 30 42.9	
comp=N,183nm,0.5s							
O19K	**Port Alsworth**	**2.94**	**10**	P	**Pn**	**21 29 51.3**	**+0.1**
baz=191							
O15K	**Ungalikthiuk R**	**3.00**	**310**		**Pn**	**21 29 52.1**	**0.0**
CNPM	**China Poot**	**3.11**	**43**	Pn	**Pn**	**21 29 55.0**	**+1.5**
CNPM				IAML		21 30 37.9	
comp=N,232nm,0.8s							
O20K	**Slope Mountain**	**3.12**	**26**		**Pn**	**21 29 54.7**	**+0.9**
O20K	**Slope Mountain**	**3.12**	**26**	P	**Pn**	**21 29 55.1**	**+1.3**
baz=209							
N17K	**Nushagak Hills**	**3.36**	**344**		**Pn**	**21 29 56.4**	**-0.5**
N17K				IAML		21 30 47.5	
comp=E,49nm,0.5s							
N17K				IAML		21 30 49.6	
comp=N,52nm,0.6s							
N18K	**Kilae Creek**	**3.39**	**356**	Pn	**Pn**	**21 29 57.2**	**-0.1**
N18K	**Kilae Creek**	**3.39**	**356**	P	**Pn**	**21 29 57.3**	**-0.1**
baz=175							
RED	**Redoubt Volcan**	**3.39**	**22**		**Pn**	**21 29 58.4**	**+0.9**
BRLK	**Bradley Lake**	**3.40**	**42**	Pn	**Pn**	**21 29 57.2**	**-0.3**
BRLK				IAML		21 30 47.4	
comp=N,173nm,0.4s							
BRLK				IAML		21 30 48.3	
comp=E,173nm,0.4s							
BRSE	**Bradley Lake S**	**3.44**	**43**		**Pn**	**21 29 57.7**	**-0.3**
BRSE	**Bradley Lake S**	**3.44**	**43**	P	**Pn**	**21 29 58.5**	**+0.4**
baz=227							
CNBA	**Chernabura Isl**	**3.44**	**225**	Pn	**Pn**	**21 29 57.1**	**-0.9**
CNBA				IAML		21 30 53.6	
comp=N,153nm,0.3s							
RDWB	**Redoubt West**	**3.44**	**21**		**Pn**	**21 29 58.8**	**+0.5**
N19K	**Bonanza Creek**	**3.54**	**7**		**Pn**	**21 29 59.9**	**+0.4**
N19K	**Bonanza Creek**	**3.54**	**7**	P	**Pn**	**21 29 60.0**	**+0.4**
baz=188							
RDT	**Redoubt**	**3.61**	**24**		**Pn**	**21 30 01.1**	**+0.6**
O14K	**Tigyukauivet M**	**3.67**	**304**		**Pn**	**21 30 01.3**	**+0.1**
O14K	**Tigyukauivet M**	**3.67**	**304**	IAML		21 31 05.8	
comp=E,37nm,1.3s							
O14K				IAML		21 31 06.0	
comp=N,44nm,1.0s							
N15K	**Kwethluk River**	**3.77**	**321**		**Pn**	**21 30 03.1**	**+0.5**
N15K				IAML		21 30 47.4	
comp=N,64nm,0.4s							
N15K				IAML		21 31 04.9	
comp=E,72nm,0.6s							
PS1A	**Pavlof South-1**	**4.02**	**244**		**Pn**	**21 30 06.9**	**+0.9**
S12K	**Black Hills**	**4.04**	**249**		**Pn**	**21 30 07.1**	**+0.8**
PVV	**Pavlof Volcano**	**4.07**	**244**		**Pn**	**21 30 07.5**	**+0.9**
PS4A	**Pavlof South-4**	**4.11**	**244**		**Pn**	**21 30 08.3**	**+1.0**
M16K	**Timber Creek**	**4.15**	**335**		**Pn**	**21 30 08.1**	**+0.4**
M16K				IAML		21 30 54.4	
comp=E,75nm,0.4s							
M16K				IAML		21 30 55.9	
comp=N,40nm,0.6s							
M16K	**Timber Creek**	**4.15**	**335**	P	**Pn**	**21 30 08.0**	**+0.2**
baz=152							
SEW	**Seward**	**4.17**	**45**		**Pn**	**21 30 06.7**	**-1.2**
SLKM	**Skilak Lake**	**4.17**	**38**	Pn	**Pn**	**21 30 08.0**	**-0.1**
M18K	**Stony River**	**4.20**	**357**	P	**Pn**	**21 30 08.4**	**+0.1**
baz=177							
N14K	**Kuskokwak Cree**	**4.21**	**311**		**Pn**	**21 30 09.0**	**+0.4**
N14K	**Kuskokwak Cree**	**4.21**	**311**	P	**Pn**	**21 30 09.0**	**+0.4**
baz=126							
M17K	**Holitna River**	**4.23**	**346**	Pn	**Pn**	**21 30 08.9**	**0.0**
M17K				IAML		21 30 57.1	
comp=E,71nm,0.8s							
M17K				IAML		21 31 30.4	
comp=N,76nm,0.8s							
SPU	**Mount Spurr**	**4.24**	**22**		**Pn**	**21 30 10.0**	**+1.0**
O22K	**Cooper Landing**	**4.32**	**40**		**Pn**	**21 30 11.3**	**+1.3**
M15K	**Kasigluk River**	**4.36**	**323**		**Pn**	**21 30 10.9**	**+0.2**
STLK	**Strandline Lak**	**4.57**	**22**		**Pn**	**21 30 14.1**	**+0.5**
FIS	**Fire Island**	**4.66**	**32**		**Pn**	**21 30 15.7**	**+0.9**
M20K	**Styx River**	**4.72**	**13**		**Pn**	**21 30 17.0**	**+1.3**
RC01	**Rabbit Creek A**	**4.77**	**35**		**Pn**	**21 30 16.0**	**-0.2**
RC01				IAML		21 31 20.7	
comp=N,39nm,0.4s							
RC01				IAML		21 31 24.4	
comp=E,43nm,0.5s							
SUA	**Susitna One**	**4.79**	**28**	Pn	**Pn**	**21 30 17.6**	**+1.0**
SUA				IAML		21 31 31.7	
comp=E,41nm,1.2s							
SUA				IAML		21 31 37.6	
comp=N,34nm,1.1s							
M14K	**Bethel**	**4.84**	**318**	Pn	**Pn**	**21 30 17.4**	**+0.3**
M14K				IAML		21 31 12.1	
comp=E,35nm,1.5s							
M14K				IAML		21 32 13.0	
comp=N,29nm,1.4s							
L16K	**Owhat River**	**4.88**	**336**		**Pn**	**21 30 17.3**	**-0.4**
L16K	**Owhat River**	**4.88**	**336**	IAML		21 31 42.2	
comp=E,19nm,1.2s							
L19K	**White Mountain**	**4.89**	**3**	Pn	**Pn**	**21 30 18.4**	**+0.4**
L19K				IAML		21 31 13.1	
comp=N,25nm,0.7s							
P23K	**Montague Islan**	**4.96**	**54**		**Pn**	**21 30 17.9**	**-0.9**
L18K	**Granite Mounta**	**4.97**	**353**		**Pn**	**21 30 18.9**	**0.0**
L18K	**Granite Mounta**	**4.97**	**353**	IAML		21 31 14.2	
comp=E,21nm,0.7s							
L18K				IAML		21 31 15.0	
comp=N,24nm,0.7s							
L17K	**Donlin**	**5.06**	**344**		**Pn**	**21 30 19.6**	**-0.6**
SKT	**Skwentna**	**5.07**	**21**	Pn	**Pn**	**21 30 21.3**	**+1.0**
SKT				IAML		21 32 09.9	
comp=E,14nm,1.2s							
PWL	**Port Wells**	**5.08**	**43**	Pn	**Pn**	**21 30 19.5**	**-1.0**
PWL				IAML		21 31 18.6	
comp=E,45nm,0.3s							
PWL				IAML		21 31 40.4	
comp=N,55nm,0.6s							
M13K	**Dall Lake**	**5.18**	**310**		**Pn**	**21 30 22.5**	**+0.8**
M13K	**Dall Lake**	**5.18**	**310**	IAML		21 32 26.2	
comp=E,26nm,1.4s							
M13K				IAML		21 33 34.2	
comp=N,19nm,1.1s							
PMR	**Palmer**	**5.34**	**34**		**Pn**	**21 30 24.1**	**+0.1**
PMR				IAML		21 31 34.3	
comp=N,16nm,1.0s							
PMR				IAML		21 31 42.2	
comp=E,14nm,0.7s							
ISLZ	**Isanotski Laza**	**5.35**	**244**		**Pn**	**21 30 24.7**	**+0.5**
KNK	**Knik Glacier**	**5.42**	**38**		**Pn**	**21 30 24.3**	**-0.9**
L14K	**Kuka Creek**	**5.50**	**320**		**Pn**	**21 30 26.5**	**+0.3**
HIN	**Hinchinbrook I**	**5.54**	**52**	Pn	**Pn**	**21 30 26.1**	**-0.8**
GLI	**Glacier Island**	**5.56**	**47**	Pn	**Pn**	**21 30 25.2**	**-1.9**
K17K	**Ildatorod**	**5.61**	**346**	Pn	**Pn**	**21 30 27.7**	**0.0**
TTA	**Tatalina**	**5.64**	**357**	Pn	**Pn**	**21 30 28.0**	**-0.2**
FID	**Port Fidalgo**	**5.74**	**49**		**Pn**	**21 30 27.8**	**-1.7**
SMIL	**Sawmill**	**5.75**	**36**		**Pn**	**21 30 29.6**	**-0.2**
PPLA	**Purkeypile**	**5.82**	**15**	Pn	**Pn**	**21 30 32.6**	**+1.9**
K20K	**Telida**	**6.10**	**6**		**Pn**	**21 30 34.8**	**+0.4**
SCM	**Sheep Creek Mo**	**6.10**	**39**		**Pn**	**21 30 33.8**	**-0.7**
J18K	**Innoko River**	**6.21**	**354**		**Pn**	**21 30 36.1**	**+0.2**
KAIM	**Kayak Island**	**6.29**	**61**	Pn	**Pn**	**21 30 36.8**	**-0.3**
CAST	**Castle Rocks**	**6.34**	**14**	Pn	**Pn**	**21 30 38.7**	**+1.0**
RAGM	**Ragged Mountai**	**6.35**	**57**	Pn	**Pn**	**21 30 36.8**	**-1.0**
J17K	**VABM Dome**	**6.37**	**345**		**Pn**	**21 30 37.7**	**-0.4**
KLU	**Klutina**	**6.39**	**45**		**Pn**	**21 30 38.0**	**-0.4**
GOAT	**Goat Mountain**	**6.41**	**55**		**Pn**	**21 30 38.2**	**-0.5**
HMT	**Hamilton**	**6.51**	**58**	Pn	**Pn**	**21 30 39.1**	**-1.1**
K13K	**Kusilvak Mount**	**6.60**	**318**	Pn	**Pn**	**21 30 42.1**	**+0.9**
NICHA	**Nichawak Mount**	**6.61**	**59**		**Pn**	**21 30 40.5**	**-1.0**
BMRM	**Bremner River**	**6.64**	**52**		**Pn**	**21 30 40.9**	**-0.9**
SUCK	**Suckling Hills**	**6.64**	**61**	Pn	**Pn**	**21 30 41.3**	**-0.6**
TRF	**Thorofare Moun**	**6.65**	**20**	Pn	**Pn**	**21 30 42.5**	**+0.5**
J14K	**Navarananak Lak**	**6.82**	**326**		**Pn**	**21 30 44.2**	**0.0**
RND	**Reindeer**	**6.91**	**25**		**Pn**	**21 30 44.9**	**-0.6**
N25K	**Chitina, Valde**	**6.97**	**47**		**Pn**	**21 30 46.0**	**-0.4**
SNH	**Sunshine Point**	**7.12**	**61**		**Pn**	**21 30 48.1**	**-0.4**
UNV	**Unalaska Valle**	**7.20**	**246**	Pn	**Pn**	**21 30 49.3**	**-0.2**
KIAG	**Kiagna River**	**7.61**	**56**		**Pn**	**21 30 54.2**	**-1.0**
BALM	**Baldy**	**7.66**	**55**		**Pn**	**21 30 55.0**	**-0.8**
RKAV	**Rock Avalanche**	**7.87**	**62**		**Pn**	**21 30 58.5**	**-0.3**
H18K	**Honhosa River**	**8.00**	**351**		**Pn**	**21 31 00.8**	**+0.4**
M26K	**Nabesna, AK**	**8.04**	**46**		**Pn**	**21 31 01.4**	**+0.4**
SAMH	**Samovar Hills**	**8.10**	**64**		**Pn**	**21 31 01.6**	**-0.3**
PCA	**Pinnacle**	**8.35**	**64**		**Pn**	**21 31 04.5**	**-0.7**
SCRK	**Sand Creek**	**8.70**	**35**		**Pn**	**21 31 09.1**	**-1.0**
J30M	**Hart River**	**11.73**	**44**	Pn	**Pn**	**21 31 53.3**	**+1.9**
F28M	**Old Crow**	**12.52**	**28**	Pn	**Pn**	**21 32 01.8**	**-0.3**
G31M	**Satah River**	**13.71**	**37**	Pn	**Pn**	**21 32 18.1**	**0.0**

IDC ***12*** *21:31:41.6±3.8, 19°.23S×65°.03E, h0km, mb3.7/8, mbtmp3.7/8, MS3.4/6, Error ellipse: s-maj=115.8km s-min=29.3km az=56.0*

ISC 12 21:31:43.6±3.9, 19°.2S±0°.5×65°.1E±0°.7, h10km, n19, σ0°94/8, mb3.9/8, MS3.3/6, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.55**	**33**	T	T	21 48 29.4	
baz=210,slow=76,SNR=12							
H08S2	**Diego Garcia H**	**13.56**	**33**	T	T	21 48 26.3	
baz=210,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**13.57**	**33**	T	T	21 48 30.5	
baz=210,slow=76,SNR=18							
H04N2	**CROZET ISLANDS**	**29.03**	**199**	T	T	22 08 46.8	
baz=28,slow=75,SNR=116							
H04N1	**CROZET ISLANDS**	**29.03**	**199**	T	T	22 08 46.2	
baz=28,slow=75,SNR=83							
H04N3	**CROZET ISLANDS**	**29.04**	**199**	T	T	22 08 47.0	
baz=28,slow=75,SNR=97							
LSZ	**Lusaka**	**35.42**	**270**	LR	LR	21 50 27.4	
comp=Z,50nm,19.2s,baz=132,slow=32							
LBTB	**Lobatse**	**36.95**	**254**	LR	LR	21 52 15.9	
comp=Z,63nm,18.1s,baz=98,slow=34							
BOSA	**Boshof**	**37.45**	**248**	LR	LR	21 52 16.8	
comp=Z,38nm,18.4s,baz=195,slow=33							
PSI	**Prapat**	**39.81**	**60**	LR	LR	21 52 38.3	
comp=Z,50nm,18.3s,baz=219,slow=32							
CMAR	**Chiang Mai Arr**	**50.06**	**44**	P	**P**	**21 40 39.2**	**+0.4**
0.2nm,0.3s,baz=219,slow=6.3,SNR=4.5							
CMAR				LR	LR	21 59 40.2	
comp=Z,16nm,19.0s,baz=200,slow=34							
0.2nm,0.3s							
ASAR	**Alice Springs**	**63.66**	**107**	P	**P**	**21 42 15.9**	**+0.4**
0.4nm,0.6s,baz=259,slow=7.1,SNR=6.8							
0.4nm,0.6s							
WRA	**Warramunga Arr**	**64.79**	**104**	P	**P**	**21 42 22.6**	**-0.4**
1.2nm,1.1s,baz=257,slow=5.9,SNR=4.7							
1.2nm,1.1s							
MKAR	**Makanchi Array**	**67.51**	**13**	P	**P**	**21 42 38.3**	**-1.4**
0.5nm,0.9s,baz=195,slow=4.5,SNR=4.9							
0.5nm,0.9s							
KURBB	**Kurchatov Arra**	**70.53**	**9**	P	**P**	**21 42 59.3**	**+0.9**
0.3nm,0.2s,baz=204,slow=6.8,SNR=4.5							
0.3nm,0.2s							
BVAR	**Borovoye Array**	**72.08**	**3**	P	**P**	**21 43 08.4**	**+0.6**
0.8nm,0.4s,baz=174,slow=7.4,SNR=4.6							
0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**74.82**	**12**	P	**P**	**21 43 23.0**	**-0.8**
0.8nm,0.6s,baz=191,slow=5.9,SNR=3.8							
0.8nm,0.6s							
SONM	**Songino Array**	**76.32**	**27**	P	**P**	**21 43 32.6**	**-0.2**
0.8nm,1.0s,baz=221,slow=4.8,SNR=5.0							
0.8nm,1.0s							
KIRV	**Kirov**	**78.59**	**352**	LR	LR	22 16 49.2	
comp=Z,36nm,21.2s,baz=291,slow=34							

IPEC ***12*** *21:32:20.9±0.1, 50°.13N×19°.12E, h1km, ML2.6/4, Error ellipse: s-maj=1.8km s-min=0.8km az=1.0*
VIE ***12*** *21:32:20.9±0.8, 50°.17N×19°.10E, h0km, mb2.8/5, ml2.7/3, ms3.8/3, Error ellipse: s-maj=21.9km s-min=2.0km az=164.0, Suspected Mining induced.*
PRU ***12*** *21:32:21.5, 50°.18N×19°.08E, h0km*
DNK ***12*** *21:32:26.2±2.6, 50°.43N×18°.82E, h15km, ML1.8*

ISC 12 21:32:20.2±0.7, 50°.16N±0°.03×19°.11E±0°.02, h0km, n43, σ1°25/69, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.45**	**82**	*e*Pg	**Pg**	**21 32 29.6**	**+0.8**
OJC				*e*Sg	**Sg**	**21 32 36.0**	**+1.5**
OKC	**Ostrava-Krasne**	**0.70**	**243**	*e*PG	**Pg**	**21 32 34.5**	**+0.9**
OKC				*e*SG	**Sg**	**21 32 44.3**	**+1.6**
comp=Z,57nm,0.5s							
STEB	**Steborice**	**0.89**	**256**	*e*PG	**Pg**	**21 32 38.2**	**+0.9**
STEB				*e*SG	**Sb**	**21 32 50.4**	**-0.6**
LANS	**Liptovska Anna**	**1.03**	**167**	*e*PG	**Pg**	**21 32 40.3**	**+0.2**
LANS				*e*SG	**Sg**	**21 32 53.7**	**+0.2**
NIE	**Niedzica**	**1.07**	**133**	*e*Pg	**Pg**	**21 32 40.8**	**+0.1**
NIE				*e*Sg	**Sb**	**21 32 56.4**	**+0.2**
MORC	**Moravsky Berou**	**1.08**	**250**	*e*Pg	**Pg**	**21 32 41.5**	**+0.6**
baz=70							
MORC				*e*Sg	**Sg**	**21 32 54.8**	**-0.2**
87nm,0.5s,baz=70							
MORC	**Moravsky Berou**	**1.08**	**250**	*e*PG	**Pg**	**21 32 41.6**	**+0.6**
MORC				*e*SG	**Sg**	**21 32 54.8**	**-0.2**
KRLC	**Kraliky**	**1.50**	**268**	*e*PG	**Pn**	**21 32 47.9**	**-0.6**
KRLC				*e*SG	**Sg**	**21 33 08.6**	**+0.2**
comp=Z,35nm,0.3s							
STHS	**Stebnicka Huta**	**1.57**	**117**	*e*PG	**Pb**	**21 32 50.1**	**-0.1**
STHS				*e*SG	**Sg**	**21 33 11.8**	**+1.2**
JAVC	**Velka Javorina**	**1.60**	**216**	*e*Pn	**Pn**	**21 32 50.2**	**+0.3**
baz=36							
JAVC	**Velka Javorina**	**1.60**	**216**	*e*PN	**Pn**	**21 32 50.2**	**+0.3**
VYHS	**Vyhne**	**1.68**	**186**	*e*PG	**Pn**	**21 32 50.8**	**0.0**
VYHS				*e*SG	**Sn**	**21 33 13.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.80**	**277**	*e*PG	**Pn**	**21 32 53.2**	**+0.6**
DPC				*e*SG	**Sb**	**21 33 17.2**	**0.0**
comp=Z,35nm,0.4s							
VRAC	**Vranov**	**1.84**	**243**	*e*Pn	**Pn**	**21 32 53.3**	**+0.2**
baz=62							
VRAC				*e*Sg	**Sb**	**21 33 18.5**	**+0.1**
47nm,0.7s,baz=62							
VRAC	**Vranov**	**1.84**	**243**	*e*PN	**Pn**	**21 32 53.3**	**+0.2**
VRAC				*e*SG	**Sb**	**21 33 18.5**	**+0.1**
OSTC	**Ostas**	**1.90**	**283**	*e*SG	**Sb**	**21 33 20.1**	**+0.1**
comp=Z,22nm,0.6s							
KECS	**Kecovo**	**1.90**	**151**	*e*PG	**Pb**	**21 32 55.2**	**-0.6**
KECS				*e*SG	**Sb**	**21 33 20.1**	**0.0**
KSP	**Ksiaz**	**1.93**	**292**	*e*Pn	**Pn**	**21 32 55.5**	**+1.3**
KSP				*e*Pb	**Pg**	**21 32 57.2**	**+0.1**
KSP				*e*Pg	**Pb**	**21 32 59.1**	**+2.9**
KSP				*e*Sg	**Sg**	**21 33 23.9**	**+1.8**
CHVC	**Chvalec**	**2.00**	**284**	*e*PG	**Pn**	**21 32 56.2**	**+0.8**
UPC	**Upice**	**2.02**	**281**	*e*PG	**Pb**	**21 32 58.2**	**+0.4**
KRUC	**Moravsky**	**2.08**	**239**	*e*Pn	**Pn**	**21 32 56.9**	**+0.6**
baz=58							
KRUC				*e*Sg	**Sb**	**21 33 25.7**	**+0.6**
38nm,0.6s,baz=58							
KRUC	**Moravsky**	**2.08**	**239**	*e*PN	**Pn**	**21 32 57.0**	**+0.6**
KRUC				*e*SG	**Sb**	**21 33 25.8**	**+0.6**
MODS	**Modra-Piesok**	**2.15**	**215**	*e*PG	**Pb**	**21 32 59.3**	**-0.8**
MODS				*e*SG	**Sb**	**21 33 28.0**	**+0.7**
KOLS	**Kolonicke sedl**	**2.40**	**120**	*e*PG	**Pb**	**21 33 04.8**	**+0.5**
KOLS				*e*SN	**Sn**	**21 33 31.2**	**+0.4**
PRU	**Pruhonice**	**2.95**	**268**	*e*SG	**Sb**	**21 33 52.8**	**+2.6**
comp=Z,11nm,0.6s							
CONA	**Conrad Observa**	**3.09**	**225**	*i* Pn	**Pn**	**21 33 10.8**	**+0.5**
0.4nm,0.2s							
CONA				*e*Sn	**Sn**	**21 33 47.5**	**-0.5**
1.2nm,0.2s							
ZVC	**Zvikov**	**3.27**	**259**	*e*PG	**Pb**	**21 33 19.2**	**+0.1**
BRG	**Berggiesshubel**	**3.38**	**284**	Pg	**Pg**	**21 33 26.4**	**+1.5**
BRG				Sg	**Sg**	**21 34 09.9**	**+1.3**
BRG				Amp		21 34 13.9	
comp=Z,9.9nm,0.4s							
CKRC	**Cesky Krumlov**	**3.40**	**249**	*e*SG	**Sg**	**21 34 07.9**	**-1.7**
comp=Z,15nm,0.7s							
KHC	**Kasperske Hory**	**3.74**	**256**	*e*PN	**Pn**	**21 33 19.4**	**+0.2**
KHC				*e*SG	**Sg**	**21 34 20.4**	**+0.1**
comp=Z,9.4nm,0.5s							
CLL	**Collm**	**4.05**	**289**	*e*Sg	**Sg**	**21 34 28.0**	**-2.2**
comp=Z,10.0nm,0.5s							
NKC	**Novy Kostel**	**4.28**	**274**	*e*SG	**Sg**	**21 34 38.2**	**+0.5**
BIOA	**Bad Ischl, Aus**	**4.37**	**238**	Sg	**Sg**	**21 34 39.7**	**-0.9**
comp=Z,6.3nm,0.6s							
LESA	**Schwarzleotal**	**5.05**	**240**	*e*Sg	**Sg**	**21 35 03.7**	**+1.1**
comp=Z,3.5nm,0.4s							
BSD	**Bornholm Skovb**	**5.58**	**334**	*i* P	**Pn**	**21 33 44.6**	**+0.2**
BSD				*i* S	**Sn**	**21 34 46.8**	**-2.4**
BSD				IAML		21 34 52.7	
comp=Z,0.5nm,0.3s							
WATA	**Walderalm**	**5.73**	**243**	Sg	**Sg

ROSC El Rosal 28.28 254 LR LR 21 51 20.6
comp=Z,173nm,18.8s,baz=101,slow=40
JANB Januaria 28.96 174 *eP* **P 21 38 40.0 -0.6**
BDFB Brasilia 29.41 182 P P 21 38 41.2 -3.5
BDFB IAmb IAmb 21 39 44.6
comp=Z,33nm,1.6s
BDFB Brasilia 29.41 182 P **P 21 38 45.4 +0.7**
comp=Z,8.1nm,0.7s,baz=4.8,slow=10,SNR=12
BDFB LR LR 21 49 54.0
comp=Z,112nm,21.2s,baz=345,slow=35
comp=Z,8.1nm,0.7s
BBTS Babate 29.65 85 LR LR 21 48 16.3
comp=Z,198nm,18.7s,baz=137,slow=32
ARAG Araguaiana, MT 29.83 189 *eP* **P 21 38 49.6 +1.3**
GUA01 Guaratinga, BA 31.19 166 *eP* **P 21 39 00.7 +0.4**
PTLB Pontes e Lacer 31.53 203 *eP* **P 21 39 06.0 +2.7**
IPMB Ipameri, GO 31.75 182 *eP* **P 21 39 05.3 +0.1**
SJMB Sao Joao De Ma 32.97 170 *eP* **P 21 39 16.1 +0.2**
CZSB Cruzeiro do Su 33.29 231 **P 21 39 17.3 -1.5**
CZSB Cruzeiro do Su 33.29 231 *eP* **P 21 39 22.7 +3.8**
OTAV Otavalo 33.86 249 *eP* **P 21 39 27.0 +2.6**
LPAZ La Paz 36.52 215 P **P 21 39 46.8 -0.6**
LPAZ La Paz 36.52 215 P **P 21 39 48.1 +0.8**
comp=Z,2.5nm,0.7s,baz=0.4,slow=9.4,SNR=7.4
LPAZ LR LR 21 55 15.6
comp=Z,72nm,18.4s,baz=48,slow=37
comp=Z,2.5nm,0.7s
LPAZ La Paz 36.52 215 *eP* **P 21 39 48.2 +0.8**
LDASE Londrina, Braz 37.32 186 *eP* **P 21 39 54.6 +1.2**
ATAH Atahualpa 37.44 238 LR LR 21 54 41.2
comp=Z,180nm,21.5s,baz=67,slow=35
H10N3 ASCENSION HYDR38.95 122 T T 22 22 09.9
baz=304,slow=75,SNR=5.3
H10N2 ASCENSION HYDR38.96 122 T T 22 22 10.4
baz=304,slow=75,SNR=8.8
H10N1 ASCENSION HYDR38.98 122 T T 22 22 11.5
baz=304,slow=75,SNR=12
TKL Tuckaleechee C 39.34 310 LR LR 21 53 44.0
comp=Z,288nm,21.0s,baz=114,slow=32
SADO Sadowa 41.01 325 LR LR 21 53 21.1
comp=Z,149nm,20.8s,baz=194,slow=30
CPUP Villa Florida 41.25 194 P **P 21 40 26.3 +0.1**
comp=Z,1.6nm,0.5s,baz=1.5,slow=7.6,SNR=3.7
comp=Z,1.6nm,0.5s
CPUP Villa Florida 41.25 194 *eP* **P 21 40 26.3 +0.1**
DBIC Dimbokro 42.16 95 P **P 21 40 33.3 -0.6**
DBIC IAmb IAmb 21 40 35.0
comp=Z,29nm,1.4s
DBIC Dimbokro 42.16 95 P **P 21 40 33.6 -0.4**
comp=Z,8.5nm,1.0s,baz=296,slow=8.4,SNR=5.1
DBIC LR LR 21 56 36.2
comp=Z,126nm,18.2s,baz=276,slow=34
comp=Z,8.5nm,1.0s
EVO Evora 42.32 47 *eP* **P 21 40 36.4 +1.5**
WVT Waverly 42.56 309 P **P 21 40 37.6 +0.6**
MDT Midelt 42.97 57 LR LR 21 54 47.3
comp=Z,68nm,21.3s,baz=278,slow=31
PMRV Marv??o 43.13 46 *eP* **P 21 40 41.8 +0.3**
PMRV *i* Amb 21 40 44.2
comp=Z,20nm,1.9s
PCBR Castelo Branco 43.25 46 *eP* **P 21 40 44.0 +1.6**
MTE Manteigas 43.44 45 *eP* **P 21 40 45.6 +1.5**
SCHQ Schefferville 43.59 344 P **P 21 40 45.0 -0.1**
comp=Z,1.7nm,0.8s,baz=148,slow=4.1,SNR=3.6
SCHQ LR LR 21 56 56.1
comp=Z,176nm,19.4s,baz=148,slow=33
comp=Z,1.7nm,0.8s
PCAB Cabril 43.71 43 *eP* **P 21 40 47.6 +1.5**
ESDC Sonseca Array 45.67 48 P **P 21 41 02.4 +0.5**
comp=Z,1.2nm,0.9s,baz=244,slow=9.3,SNR=6.9
ESDC LR LR 21 58 15.7
comp=Z,60nm,18.2s,baz=242,slow=34
comp=Z,1.2nm,0.9s
CMIG Matias Romero 46.03 280 LR LR 22 00 51.4
comp=Z,38nm,20.7s,baz=3.5,slow=37
TORD Torodi Ar. Bea 47.41 85 P **P 21 41 14.1 -1.7**
TORD IAmb IAmb 21 42 19.9
comp=Z,10nm,0.8s
TORD Torodi Ar. Bea 47.41 85 P **P 21 41 15.1 -0.7**
comp=Z,6.4nm,1.1s,baz=294,slow=7.7,SNR=25
comp=Z,6.4nm,1.1s
BRDY Brady 50.43 299 P **P 21 41 38.0 -0.8**
BRDY IAmb IAmb 21 41 40.9
comp=Z,10nm,1.0s
TAM Tamanrasset 50.52 72 P **P 21 41 38.3 -1.5**
TAM IAmb IAmb 21 41 42.8
comp=Z,17nm,1.6s
JCT Junction City 51.01 298 P **P 21 41 42.3 -1.0**
FRB Frobisher Bay 51.94 348 LR LR 22 01 38.7
comp=Z,100nm,19.6s,baz=138,slow=34
SAND Sanderson 52.96 297 P **P 21 41 57.7 -0.1**
SFJD Kangerlussuaq 53.05 358 LR LR 22 01 19.3
comp=Z,72nm,18.3s,baz=172,slow=32
ULM Lac du Bonnet 53.51 323 P **P 21 42 01.0 -0.4**
ULM IAmb IAmb 21 42 01.8
comp=Z,15nm,1.3s
ULM Lac du Bonnet 53.51 323 P **P 21 42 00.5 -0.9**
comp=Z,2.6nm,0.5s,baz=114,slow=9.3,SNR=8.1
ULM LR LR 22 02 21.5
comp=Z,152nm,19.6s,baz=112,slow=33
comp=Z,2.6nm,0.5s
BORG Borgarnes 53.75 13 LR LR 22 00 09.2
comp=Z,34nm,18.7s,baz=198,slow=31
MSTX Muleshoe 53.94 302 P **P 21 42 05.6 +0.5**
MSTX IAmb IAmb 21 42 06.8
comp=Z,14nm,1.0s
TXAR Lajitas Array 54.25 296 LR LR 22 07 29.7
comp=Z,47nm,18.1s,baz=66,slow=39
KEST Kesra 54.86 56 LR LR 22 04 31.9
comp=Z,71nm,18.7s,baz=343,slow=35
ICESG Greenland Ices 55.31 3 *i* P **P 21 42 13.0 -1.6**
ICESG IAmb IAmb 21 42 16.6
comp=Z,29nm,1.1s
FCC Fort Churchill 56.65 333 P **P 21 42 23.9 0.0**
FCC IAmb IAmb 21 42 25.2
comp=Z,9.2nm,1.1s
ANMO Albuquerque 57.08 303 LR LR 22 05 30.4
comp=Z,239nm,20.0s,baz=256,slow=34
DAVOX Davos/Dischmat 57.50 43 LR LR 22 05 17.5
comp=Z,37nm,18.8s,baz=254,slow=34
PLCA Paso Flores 58.58 201 P **P 21 42 38.5 +0.6**
comp=Z,1.6nm,0.8s,baz=17,slow=9.3,SNR=5.0
PLCA LR LR 22 09 35.7
comp=Z,34nm,18.3s,baz=190,slow=38
comp=Z,1.6nm,0.8s
SCO Scoresbysund 58.61 10 *i* P **P 21 42 38.3 +0.7**
SUMG Summit 58.83 3 P **P 21 42 41.0 +1.4**
SUMG Summit 58.83 3 *i* P **P 21 42 40.0 +0.4**
SUMG IAmb IAmb 21 42 41.8
comp=Z,7.5nm,0.7s
PV13 Radium Mtn., P 59.31 306 P **P 21 42 41.6 -1.8**
PV13 IAmb IAmb 21 42 46.2
comp=Z,7.5nm,1.1s
PDAR Pinedale Array 60.46 311 P **P 21 42 51.5 +0.4**
comp=Z,0.4nm,0.5s,baz=81,slow=9.2,SNR=3.9
PDAR LR LR 22 06 32.6
comp=Z,115nm,21.3s,baz=96,slow=34
comp=Z,0.4nm,0.5s
TUC Tucson 60.51 299 P **P 21 42 52.0 +0.6**
TUC IAmb IAmb 21 42 54.0
comp=Z,5.2nm,0.9s
KULLO Kullorsuaq 60.88 357 *i* P **P 21 42 53.9 +0.7**
KULLO IAmb IAmb 21 42 54.9
comp=Z,41nm,1.5s
X16A Lo Mia Camp, P 61.14 302 P **P 21 42 55.6 -0.3**
MTPU Mount Pierson 61.94 306 P **P 21 43 01.7 +0.2**
MTPU IAmb IAmb 21 43 04.6
comp=Z,6.4nm,1.0s
DBG Daneborg 62.22 8 *i* P **P 21 43 02.5 +0.3**
DBG IAmb IAmb 21 43 05.8
comp=Z,13nm,1.1s
NOA NORSAR Array B 62.79 28 LR LR 22 03 41.2
comp=Z,34nm,21.9s,baz=260,slow=30
NEEM North Greenlan 63.53 359 *i* P **P 21 43 11.7 +0.4**
NEEM IAmb IAmb 21 43 13.2
comp=Z,4.5nm,0.8s
HFS Hagfors 63.62 29 LR LR 22 06 20.7
comp=Z,30nm,19.5s,baz=264,slow=32
ELK Elko 64.48 309 P **P 21 43 18.7 +0.6**
ELK IAmb IAmb 21 43 20.4
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 64.55 7 *i* P **P 21 43 18.1 +0.5**
DAG IAmb IAmb 21 43 20.6
comp=Z,3.9nm,0.7s
PFO Pinyon Flats O 65.29 301 LR LR 22 12 25.5
comp=Z,116nm,18.6s,baz=85,slow=37
RES Resolute Bay 66.15 348 LR LR 22 08 53.0
comp=Z,107nm,21.8s,baz=188,slow=33
NEW Newport 66.41 317 LR LR 22 12 00.3
comp=Z,159nm,18.5s,baz=92,slow=36
NVAR Mina Array Bea 66.77 306 LR LR 22 10 17.6
comp=Z,102nm,21.9s,baz=68,slow=34
ISA Isabella, Lake 66.92 303 P **P 21 43 34.3 +0.5**
YKA Yellowknife Ar 67.36 332 P **P 21 43 35.5 -0.4**
comp=Z,2.1nm,1.0s,baz=113,slow=6.9,SNR=16
YKA LR LR 22 11 34.9
comp=Z,106nm,18.2s,baz=301,slow=35
comp=Z,2.1nm,1.0s
MLR Muntele Rosu 68.34 46 LR LR 22 12 33.2
comp=Z,25nm,19.3s,baz=278,slow=35
FINES FINESS Array B 69.83 29 LR LR 22 09 50.0
comp=Z,34nm,19.4s,baz=240,slow=32
YBH Yreka Blue Hor 70.13 310 LR LR 22 12 38.0
comp=Z,108nm,20.9s,baz=97,slow=34
AKASG Malin Array Be 70.70 41 LR LR 22 12 08.9
comp=Z,18nm,18.1s,baz=252,slow=34
USHA Ushuaia 70.86 193 LR LR 22 16 51.6
comp=Z,130nm,18.4s,baz=0.0,slow=37
ARCES ARCESS Array B 70.96 21 P **P 21 43 59.0 +0.8**
comp=Z,3.9nm,0.9s,baz=278,slow=3.3,SNR=7.8
ARCES LR LR 22 06 45.5
comp=Z,45nm,19.8s,baz=331,slow=29
comp=Z,3.9nm,0.9s
TSUM Tsumeb 71.73 116 LR LR 22 08 21.6
comp=Z,167nm,19.8s,baz=332,slow=30
ANTO Ankara 73.52 52 P **P 21 44 14.2 0.0**
BBB Bella Bella 73.59 321 LR LR 22 15 04.0
comp=Z,109nm,19.6s,baz=136,slow=35
BRTR Keskin Array B 74.18 52 P **P 21 44 19.0 +0.9**
BRTR Keskin Array B 74.18 52 P **P 21 44 18.8 +0.6**
comp=Z,1.2nm,0.6s,baz=256,slow=5.0,SNR=4.1
comp=Z,1.2nm,0.6s
DLBC Dease Lake 74.52 327 LR LR 22 15 40.8
comp=Z,100nm,19.0s,baz=84,slow=35
INK Inuvik 75.81 337 P **P 21 44 26.7 0.0**
INK IAmb IAmb 21 44 28.6
comp=Z,7.4nm,1.1s
INK Inuvik 75.81 337 LR LR 22 15 13.8
comp=Z,142nm,20.3s,baz=267,slow=34
F31M Tsiigehtchic 75.93 337 P **P 21 44 27.3 -0.1**
MMAI Mount Meron Ar 76.36 59 P **P 21 44 32.1 +1.5**
comp=Z,6.9nm,0.8s,baz=318,slow=4.5,SNR=11
MMAI LR LR 22 21 29.0
comp=Z,21nm,18.0s,baz=258,slow=38
comp=Z,6.9nm,0.8s
EIL Elat 76.44 62 LR LR 22 16 43.1
comp=Z,70nm,22.0s,baz=249,slow=35
I30M Mount Dempster 77.14 334 P **P 21 44 34.6 +0.2**
O30N Mendenhall 77.44 330 P **P 21 44 37.0 +0.8**
O30N IAmb IAmb 21 44 39.2
comp=Z,15nm,1.4s
ASF Jabal al Asfar 77.72 60 P **P 21 44 40.1 +1.7**
comp=Z,6.0nm,1.0s,baz=288,slow=4.5,SNR=6.8
comp=Z,6.0nm,1.0s
F28M Old Crow 78.26 337 P **P 21 44 41.0 +0.4**
F28M IAmb IAmb 21 45 46.0
comp=Z,22nm,2.0s
MBAR Mbarara 78.38 94 P **P 21 44 41.7 -0.7**
MBAR IAmb IAmb 21 44 45.6
comp=Z,10nm,1.3s
DAWY Dawson 78.56 333 P **P 21 44 42.7 +0.4**
DAWY IAmb IAmb 21 44 44.6
comp=Z,10nm,1.3s
SUR Sutherland 79.58 127 LR LR 22 12 47.9
comp=Z,93nm,18.7s,baz=320,slow=30
BCAR Beaver Creek A 79.78 333 P **P 21 44 50.0 +0.9**
LSZ Lusaka 79.94 109 P **P 21 44 50.6 -0.2**
LSZ IAmb IAmb 21 44 53.7
comp=Z,14nm,1.2s
LSZ Lusaka 79.94 109 LR LR 22 13 37.5
comp=Z,58nm,19.5s,baz=284,slow=31
BMAR Burnt Mountain 80.07 337 P **P 21 44 51.9 +1.3**
KIV Kislovodsk 80.33 47 P **P 21 44 53.7 +1.2**
KIV IAmb IAmb 21 44 55.1
comp=Z,9.0nm,1.1s
KBZ Khabaz 80.52 47 P **P 21 44 54.6 +1.3**
comp=Z,2.7nm,0.9s,baz=353,slow=0.3,SNR=8.4
comp=Z,2.7nm,0.9s
LBTB Lobatse 80.75 119 LR LR 22 12 45.2
comp=Z,132nm,21.8s,baz=274,slow=30
GURO Guroymak-BITLI 80.81 53 P **P 21 44 55.9 +0.7**
C24K Franklin Bluff 80.99 340 P **P 21 44 56.3 +1.0**
C24K IAmb IAmb 21 44 58.0
comp=Z,14nm,1.4s
SIRT Sirnak 81.31 54 P **P 21 44 58.3 +0.4**
BMRM Bremner River 81.52 331 P **P 21 44 59.0 +0.6**
ILAR Eielson Array 81.61 335 P **P 21 44 59.0 +0.3**
ILAR Eielson Array 81.61 335 P **P 21 44 59.7 +1.0**
comp=Z,4.5nm,0.8s,baz=72,slow=4.5,SNR=32
ILAR LR LR 22 20 27.7
comp=Z,40nm,19.7s,baz=66,slow=35
comp=Z,4.5nm,0.8s
BOSA Boshof 81.71 122 P **P 21 44 59.0 -1.1**
BOSA Boshof 81.71 122 P **P 21 45 00.2 +0.1**
comp=Z,2.9nm,0.8s,baz=273,slow=4.8,SNR=4.3
BOSA LR LR 22 12 50.6
comp=Z,95nm,19.3s,baz=256,slow=30
comp=Z,2.9nm,0.8s
LODK Lodwar 81.91 88 P **P 21 45 01.2 -0.1**
LODK IAmb IAmb 21 45 05.4
comp=Z,8.8nm,1.2s
BELG Belogornoye 81.95 38 LR LR 22 18 51.1
comp=Z,22nm,19.6s,baz=307,slow=34
KIBK Kibwezi 85.88 93 P **P 21 45 22.3 +0.6**
KIBK IAmb IAmb 21 45 26.2
comp=Z,7.8nm,1.3s
KDAK Kodiak Island 86.35 329 LR LR 22 21 44.8
comp=Z,102nm,20.7s,baz=275,slow=34
ARTI Arti 86.87 32 LR LR 22 20 58.2
comp=Z,19nm,19.5s,baz=284,slow=33
ATD Arta Tunnel 87.25 79 LR LR 22 24 37.4
comp=Z,5.9nm,18.4s,baz=342,slow=36
ABKAR Akbulak array 90.33 39 P **P 21 45 43.1 +0.9**
ABKAR IAmb IAmb 21 45 44.6
comp=Z,12nm,1.4s
ABKAR Akbulak array 90.33 39 P **P 21 45 42.6 +0.4**
WSAR Wadi Sarin 98.55 64 LR LR 22 35 41.3
comp=Z,60nm,18.3s,baz=329,slow=38
CMAR Chiang Mai Arr 133.57 47 PKP **PKPdf 21 51 57.0 -1.5**
comp=Z,0.7nm,0.5s,baz=328,slow=1.9,SNR=4.2
ASAR Alice Springs 170.29 186 PKPab **PKPab 21 54 03.2 -2.4**
comp=Z,0.4nm,0.7s,baz=168,slow=3.9,SNR=5.4

*IDC **12** 21:50:39.5±1.7,4.°19S×142.°78E,h0km,mb3.4/5,*
mbtmp3.5/7,ML3.5/2,Error ellipse: s-maj=45.7km
s-min=23.5km az=100.0
ISC 12 21:50:43.3±2.3,4.°1S±0.°2×142.°8E±0.°3,h35km,n7,σ0.°98/5,
mb3.5/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.62**	**307**	Pn	Pn	21 51 25.1	+1.8
3.5nm,0.3s,baz=115,slow=14,SNR=19							
JAY				Sn	**Sn**	**21 51 53.8**	**-0.1**
6.2nm,0.3s,baz=248,slow=19,SNR=7.5							
11nm,0.4s							
WRA	**Warramunga Arr**	**17.75**	**207**	P	**P**	**21 54 47.2**	**-1.2**
0.3nm,0.3s,baz=28,slow=12,SNR=12							
2.7nm,0.8s							
ASAR	**Alice Springs**	**21.24**	**203**	P	**P**	**21 55 27.1**	**+0.6**
0.7nm,0.6s,baz=35,slow=11,SNR=11							
0.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.78**	**229**	P	**P**	**21 55 32.5**	**+0.1**
2.8nm,1.0s,baz=48,slow=12,SNR=1.7							
2.8nm,1.0s							
SONM	**Songino Array**	**60.78**	**333**	P	**P**	**22 00 51.9**	**0.0**
0.2nm,0.5s,baz=142,slow=4.9,SNR=2.2							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**73.40**	**321**	P	P	22 02 14.2	+2.2
0.1nm,0.3s,baz=108,slow=4.7,SNR=1.8							
0.1nm,0.3s							
ILAR	**Eielson Array**	**85.44**	**24**	P	P	22 03 20.1	+2.9
0.2nm,0.4s,baz=256,slow=3.6,SNR=4.2							
0.2nm,0.4s							

WEL 12 22:06:05.1±1.2,34.°S±25.°×18.°0E±2.°6,h419km±35km,
M3.9/5,mB4.0/2,ML4.0/7,MLv3.9/5,Mw(mB)3.0/2,Error
ellipse: s-maj=39.7km s-min=25.9km az=131.0,
confirmed,South of Kermadec Islands

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

WMGZ	**Waiomatatini S**	**4.45**	**196**	P	P	22 07 22.9	+0.6
WMGZ				S	S	22 08 26.5	+1.1
HAZ	**Te Kaha**	**4.56**	**202**	P	P	22 07 22.7	-0.6
HAZ				S	S	22 08 27.3	-0.1
PUZ	**Puketiti**	**4.73**	**196**	P	P	22 07 25.7	+0.6
PUZ				S	S	22 08 31.6	+1.2
RUGZ	**Raukumara Rang**	**4.79**	**202**	P	P	22 07 24.5	-1.3
RUGZ				S	S	22 08 29.0	-2.6
TWGZ	**Tauwhareparae**	**4.90**	**198**	P	P	22 07 26.8	+0.1
TWGZ				S	S	22 08 35.1	+1.6
CNGZ	**Carnagh Statio**	**5.14**	**195**	P	P	22 07 30.5	+1.5
MWZ	**Matawai**	**5.17**	**201**	P	P	22 07 29.1	-0.4
MWZ				S	S	22 08 39.8	+1.2
URZ	**Urewera**	**5.25**	**205**	P	P	22 07 29.0	-1.1
RIGZ	**Rimuhau**	**5.45**	**198**	P	P	22 07 33.9	+1.5
MUGZ	**Murupara**	**5.56**	**207**	P	P	22 07 33.0	-0.5
RTZ	**Ruatahuna**	**5.61**	**204**	P	P	22 07 32.6	-1.4
RTZ				S	S	22 08 46.1	-0.7
KNZ	**Kokohu**	**5.78**	**198**	P	P	22 07 35.5	-0.1
MTHZ	**Maungataniwha**	**5.87**	**204**	P	P	22 07 36.8	+0.1
MTHZ				S	S	22 08 52.5	+0.7
NMHZ	**Naumai**	**6.10**	**204**	P	P	22 07 39.9	+0.8
KWHZ	**Kaweka Forest**	**6.53**	**205**	P	P	22 07 43.5	-0.7
OTVZ	**Oturere**	**6.59**	**210**	P	P	22 07 44.1	-0.9
KAHZ	**Kahuranaki**	**6.71**	**201**	P	P	22 07 46.3	+0.1
PNHZ	**Pukenui**	**7.04**	**204**	P	P	22 07 48.9	-0.8

*IDC **12** 22:09:11.9±2.8,41.°46N×143.°25E,h43km±26km,mb3.3/8,*
mbtmp3.6/10,ML3.5/2,MS2.4/1,Error ellipse:
s-maj=27.0km s-min=22.0km az=120.0
*NIED **12** 22:09:12.5,41.°60N×143.°01E,h45km,MW3.6,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm;
M_{rr}-1.99; $M_{\theta\theta}$2.28; $M_{\phi\phi}$-0.29; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.92; $M_{\phi r}$1.06;
Fault plane solution: $M_0$2.58000×10^{14} NP1:
ϕ_s262.00000°,δ51.00000°,λ-128.00000°. NP2:
ϕ_s133.00000°,δ52.00000°,λ-53.00000°.
*JMA **12** 22:09:12.5±0.2,41.°6N±0.°8×143.°0E±0.°9,h45km±2km,*
MV3.5/39,E OFF AOMORI PREF
ISC 12 22:09:12.3±1.2,41.°56N±0.°05×143.°09E±0.°06,h43km±11km,
n33,σ0.°92/35,mb3.4/8,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.46**	**7**	P	**Pn**	**22 09 22.6**	**-0.1**
JEM				S	**Sn**	**22 09 29.5**	**-0.4**
JTHR	**Tokachihiroo**	**0.75**	**12**	*i* P	**Pn**	**22 09 26.5**	**+0.1**
JTHR				*e*S	**Sn**	**22 09 36.9**	**+0.2**
JNBK	**Urakawa-nobuka**	**0.77**	**341**	P	**Pn**	**22 09 26.1**	**-0.5**
JNBK				S	**Sn**	**22 09 37.1**	**+0.1**
JSHD	**Hidakashinhida**	**0.97**	**332**	P	**Pn**	**22 09 29.4**	**0.0**
JSHD				*e*S	**Sn**	**22 09 43.0**	**+1.0**
JCH	**Churui**	**1.08**	**11**	P	**Pn**	**22 09 30.8**	**-0.1**
JCH				S	**Sn**	**22 09 44.9**	**+0.3**
JBT2	**Biratori 2**	**1.33**	**337**	*i* P	**Pn**	**22 09 34.2**	**-0.2**
JIAM	**Iburiatsuma**	**1.37**	**321**	P	**Pn**	**22 09 35.9**	**+1.0**
JARK	**Aomorirokkasho**	**1.41**	**248**	P	**Pn**	**22 09 35.6**	**+0.2**
JOB	**Onbets**	**1.46**	**22**	P	**Pn**	**22 09 36.4**	**+0.3**
JOT	**Ohata**	**1.54**	**264**	*i* P	**Pn**	**22 09 37.2**	**0.0**
JKB	**Kayabe**	**1.57**	**283**	*i* P	**Pn**	**22 09 37.1**	**-0.5**
JKB				S	**Sn**	**22 09 55.7**	**-1.1**
JANG	**Nango**	**1.68**	**226**	*i* P	**Pn**	**22 09 39.2**	**+0.1**
JTM	**Tenmabayashi**	**1.71**	**244**	P	**Pn**	**22 09 40.2**	**+0.8**
JTM				*e*S	**Sn**	**22 10 00.9**	**+0.8**
JEW	**Eniwo**	**1.77**	**317**	P	**Pn**	**22 09 40.3**	**0.0**
JNB	**Noboribetsu**	**1.78**	**302**	P	**Pn**	**22 09 39.7**	**-0.8**
JNB				S	**Sn**	**22 10 00.3**	**-1.5**
JAR	**Ashorobuto**	**1.81**	**16**	*i* P	**Pn**	**22 09 40.5**	**-0.5**
ASAJ	**Asahikawa**	**2.58**	**352**	P	**Pn**	**22 09 52.5**	**+0.9**
15nm,0.3s,baz=205,slow=12,SNR=54							
ASAJ				S	**Sn**	**22 10 20.0**	**-1.7**
22nm,0.4s,baz=179,slow=15,SNR=3.8							
26nm,0.3s							
MJAR	**Matsushiro Arr**	**6.28**	**219**	P	**Pn**	**22 10 41.8**	**-0.6**
0.1nm,0.3s,baz=30,slow=13,SNR=12							
5.3nm,0.7s							
KLR	**Kul'dur**	**11.05**	**318**	LR	LR	22 16 09.9	
comp=Z,21nm,20.3s,baz=126,slow=37							
SONM	**Songino Array**	**26.64**	**296**	P	**P**	**22 14 49.3**	**+2.4**
0.2nm,0.3s,baz=98,slow=9.2,SNR=4.2							
0.2nm,0.3s							
H11N2	**WAKE ISLAND Hy 29.70**	**130**		T	T	22 46 33.8	
baz=323,slow=75,SNR=49							
H11N1	**WAKE ISLAND Hy 29.71**	**130**		T	T	22 46 44.9	
baz=323,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy 29.72**	**130**		T	T	22 46 47.5	
baz=323,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy 30.57**	**132**		T	T	22 47 37.0	
baz=325,slow=76,SNR=44							
H11S3	**WAKE ISLAND Hy 30.57**	**132**		T	T	22 47 53.8	
baz=325,slow=76,SNR=39							
H11S2	**WAKE ISLAND Hy 30.58**	**132**		T	T	22 47 57.7	
baz=325,slow=76,SNR=28							
MKAR	**Makanchi Array**	**42.96**	**298**	P	**P**	**22 17 06.3**	**-0.7**
0.1nm,0.5s,baz=84,slow=8.9,SNR=1.9							
0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**44.37**	**305**	P	**P**	**22 17 18.7**	**+0.5**
0.3nm,0.3s,baz=77,slow=9.3,SNR=4.3							
0.3nm,0.3s							
ILAR	**Eielson Array**	**45.01**	**35**	P	**P**	**22 17 23.1**	**0.0**
0.8nm,0.7s,baz=263,slow=5.6,SNR=11							
0.8nm,0.7s							
BVAR	**Borovoye Array**	**48.59**	**310**	P	**P**	**22 17 53.4**	**+2.2**
0.4nm,0.4s,baz=80,slow=8.8,SNR=5.9							
0.4nm,0.4s							
FINES	**FINESS Array B**	**65.43**	**332**	P	**P**	**22 19 48.9**	**-1.3**
3.6nm,1.0s,baz=28,slow=3.3,SNR=4.2							
3.6nm,1.0s							
ASAR	**Alice Springs**	**65.45**	**189**	P	**P**	**22 19 49.8**	**-0.9**
0.1nm,0.3s,baz=353,slow=7.9,SNR=1.6							
0.1nm,0.3s							
PDAR	**Pinedale Array**	**73.61**	**47**	P	**P**	**22 20 40.9**	**-0.4**
0.2nm,0.5s,baz=298,slow=5.7,SNR=1.8							
0.2nm,0.5s							

WEL 12 22:24:38.9±1.1,46.°S±7.°×16.°6E±.°,h12km,M3.3/5,
ML3.7/11,MLv3.3/5,Error ellipse: s-maj=9.1km
s-min=8.5km az=36.4,confirmed,Off west coast of
South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.42**	**60**	P	Pb	22 24 49.0	+0.8
PYZ				S	Sb	22 24 55.2	+0.7
RRKS	**Rarakau**	**0.94**	**76**	P	Pb	22 24 57.4	+0.3
RRKS				S	Sn	22 25 10.3	-0.9
DCZ	**Deep Cove**	**1.15**	**38**	P	Pb	22 24 58.2	-2.4
DCZ				S	Sb	22 25 11.5	-3.9
WHZ	**Wether Hill Ro**	**1.33**	**69**	P	Pn	22 25 03.2	-0.1
WHZ				S	Sb	22 25 19.7	-1.2
APZ	**The Paps**	**1.34**	**110**	P	Pn	22 25 03.5	+0.1
APZ				S	Sb	22 25 20.8	-0.2
MLZ	**Mavora Lakes**	**1.70**	**54**	P	Pn	22 25 08.8	+0.4
MLZ				S	Sb	22 25 31.3	-0.2
SYZ	**Scrubby Hill**	**2.06**	**95**	P	Pn	22 25 14.3	+0.9
MSZ	**Milford Sound**	**2.11**	**37**	P	Pn	22 25 13.7	-0.2
TUZ	**Tuapeka**	**2.45**	**81**	P	Pn	22 25 17.7	-0.9
TUZ				S	Sn	22 25 48.6	+0.1
EAZ	**Earnscleugh**	**2.48**	**64**	P	Pn	22 25 19.7	+0.6
JCZ	**Jackson Bay**	**2.96**	**40**	S	Pn	22 25 26.7	+1.0
HHSZ	**Highcliff Hill**	**3.12**	**82**	P	Pn	22 25 27.1	-0.8
ODZ	**Otahua Downs**	**3.41**	**69**	P	Pn	22 25 31.2	-0.7
LBZ	**Lake Benmore**	**3.47**	**56**	P	Pn	22 25 31.9	-0.7
FOZ	**Fox Glacier**	**3.85**	**44**	P	Pn	22 25 38.9	+1.0
ARCZ	**Arundel**	**4.30**	**57**	P	Pn	22 25 43.4	-0.7
LTZ	**Lake Taylor**	**5.66**	**53**	P	Pn	22 26 03.2	+0.4
DSZ	**Denniston Nort**	**6.16**	**43**	P	Pn	22 26 10.6	+0.9

TXNET 12 22:32:18.1,31.°6N±0.°8×104.°2W±0.°9,h6km±2km,ML1.9/6,
Error ellipse: s-maj=1.6km s-min=0.9km az=49.8,final,
Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**31**	P	Pg	22 32 25.4	+0.6
PECS	**Pecos**	**0.42**	**130**	P	Pb	22 32 27.2	-0.8
PECS				S	Sg	22 32 33.2	+1.4
TPB12	**Southwest of T**	**0.49**	**150**	P	Pg	22 32 28.3	+0.6
TPB12				S	Sg	22 32 35.1	+0.9
TPB07	**Mentone**	**0.49**	**97**	S	Sb	22 32 35.6	-1.2

TPB10 Southeast of T 0.55 131 P Pb 22 32 29.7 -0.5
TPB10 S Sb 22 32 37.4 -0.9
GDL2 Guadalupe Moun 0.56 350 P Pg 22 32 29.7 +0.6
PCOS Crockett Middl 0.67 110 S Sb 22 32 41.6 -0.2
TPB01 Permian Basin 0.80 150 P Pg 22 32 33.6 +0.1
TPB01 S Sg 22 32 44.1 +0.1
CLN7 Carlsbad 7 0.85 26 P Pg 22 32 34.6 +0.1
TPB06 Permian Basin 0.87 90 S Sg 22 32 46.7 +0.5
MNTX Cornudas Mount 0.97 274 P Pg 22 32 37.0 +0.2
MNTX S Sg 22 32 49.8 +0.4
HTMS Hat Mesa 0.97 32 S Sb 22 32 50.7 0.0
HTMS Hat Mesa 0.97 32 P Pg 22 32 37.0 +0.1
HTMS S Sb 22 32 50.7 0.0
VHRN Van Horn 1.06 217 P Pg 22 32 38.6 +0.1
TPB05 Hovey Rd 1.07 132 P Pb 22 32 38.8 -0.2
TPB05 S Sb 22 32 53.3 0.0
MNHN Monahans 1.30 103 P Pn 22 32 42.3 -0.6
MNHN S Sg 22 32 59.7 -0.3
ALPN Alpine 1.37 158 P Pn 22 32 43.2 -0.7
ALPN S Sb 22 33 01.3 -0.7
CPRX Cap Rock 1.42 13 P Pb 22 32 45.2 +0.1
ODSA Odessa 1.52 71 S Sb 22 33 06.4 +0.1
TMB04 Seminole 1.78 56 P Pb 22 32 51.3 +0.1
TMB04 S Sg 22 33 15.2 -0.2
TMB02 Rankin 1.94 103 P Pb 22 32 53.5 -0.4
TMB02 S Sb 22 33 18.7 +0.4
TX31 Lajitas Ar. Si 2.35 168 P Pb 22 33 00.2 -0.8

---

*IDC **12** 22:39:47.8±1.2, 12°.93S×45°.35E, h0km, mb3.8/5, mbtmp4.0/8, ML4.3/3, MS2.8/2, Error ellipse: s-maj=36.7km s-min=22.0km az=153.0*
*NEIC **12** 22:39:48.4±2.2, 12°.86S±0°.07×45°.3E±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=20.9km s-min=4.0km az=238.0*
ISC 12 22:39:48.1±0.7, 12°.95S±0°.07×45°.31E±0°.10, h10km, n24, σ1§53/24, mb4.1/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.87**	**162**	Pn	**Pn**	**22 41 16.6**	**+1.1**
	1.6nm,0.3s,baz=335,slow=12,SNR=126						
OPO				Sn	**Sn**	**22 42 18.9**	**-4.1**
	4.4nm,0.3s,baz=251,slow=22,SNR=24						
OPO				LR	LR	22 42 53.5	
	comp=Z,62nm,20.8s,baz=185,slow=32						
	45nm,0.5s						
ABPO	**Ambohimpanom**	**6.31**	**163**	Pn	**Pn**	**22 41 22.2**	**+0.7**
VOI	**Vohitsoka**	**9.02**	**171**	Pn	**Pn**	**22 41 59.2**	**+0.6**
KIBK	**Kibwezi**	**12.76**	**325**	Pn	**Pn**	**22 42 47.0**	**-2.8**
RER	**Riviere de l'E**	**12.89**	**131**	Pn	**Pn**	**22 42 50.9**	**-0.7**
KMBO	**Kilima Mbogo**	**14.20**	**325**	Pn	**Pn**	**22 43 07.1**	**-2.6**
LSZ	**Lusaka**	**16.76**	**260**		**Pn**	**22 43 42.9**	**-0.5**
LSZ	**Lusaka**	**16.76**	**260**	Pn	**Pn**	**22 43 43.9**	**+0.6**
	0.4nm,0.3s,baz=91,slow=10,SNR=15						
LSZ				Sn	Sn	22 46 40.5	-9.3
	0.1nm,0.3s,baz=150,slow=18,SNR=1.5						
	5.9nm,0.9s						
MATP	**Matopo**	**17.72**	**243**	P	**P**	**22 43 57.5**	**+1.3**
	0.3nm,0.3s,baz=60,slow=13,SNR=7.3						
	4.1nm,0.9s						
LBTB	**Lobatse**	**22.13**	**234**	P	**P**	**22 44 44.7**	**+0.5**
LBTB	**Lobatse**	**22.13**	**234**	P	**P**	**22 44 46.0**	**+1.8**
	3.5nm,0.8s,baz=60,slow=9.9,SNR=5.1						
	3.5nm,0.8s						
BOSA	**Boshof**	**24.32**	**227**	P	**P**	**22 45 06.0**	**-0.3**
BOSA				IAmb	IAmb	22 45 19.5	
	comp=Z,10nm,1.4s						
BOSA	**Boshof**	**24.32**	**227**	P	**P**	**22 45 07.8**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=58,slow=7.2,SNR=5.7						
	comp=Z,2.0nm,0.7s						
GRHM	**Grahamstown, E**	**26.60**	**217**	P	**P**	**22 45 26.5**	**-0.3**
SOE	**Somerset East**	**26.70**	**219**	P	**P**	**22 45 28.7**	**+0.9**
SIMJ	**Simiganj**	**55.92**	**22**	P	**P**	**22 49 27.2**	**+0.6**
SIMJ				IAmb	IAmb	22 49 33.6	
	comp=Z,5.4nm,1.2s						
CHGR	**Chuyangaron**	**55.98**	**22**	P	**P**	**22 49 28.0**	**+1.1**
CHGR				IAmb	IAmb	22 49 33.8	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**61.41**	**61**	LR	LR	23 13 28.2	
	comp=Z,8.9nm,18.3s,baz=175,slow=33						
ABKAR	**Akbulak array**	**63.27**	**11**	P	**P**	**22 50 16.8**	**-0.1**
ABKAR	**Akbulak array**	**63.27**	**11**	P	**P**	**22 50 16.9**	**0.0**
ABKAR				IAmb	IAmb	22 50 25.4	
	comp=Z,6.3nm,1.4s						
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**22 50 48.8**	**+0.7**
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**22 50 49.4**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=212,slow=5.1,SNR=3.7						
	comp=Z,0.2nm,0.7s						
ASAR	**Alice Springs**	**83.64**	**113**	P	**P**	**22 52 18.6**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.0,SNR=8.2						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**84.78**	**109**	P	**P**	**22 52 24.4**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=264,slow=3.5,SNR=6.5						
	comp=Z,1.0nm,0.8s						

---

*IDC **12** 22:47:53.3±0.8, 55°.67S×27°.52W, h0km, mb4.0/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=28.1km s-min=22.7km az=52.0*
*NEIC **12** 22:47:57.6±1.2, 55°.75±0°.1×27°.8W±0°.2, h35km±1km, mb4.4/11, Error ellipse: s-maj=22.6km s-min=18.8km az=33.0*
ISC 12 22:47:56.8±0.6, 55°.6S±0°.1×27°.8W±0°.1, h26km, n35, σ1§08/32, mb4.2/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.19**	**281**	Pn	**Pn**	**22 49 12.4**	**-0.3**
VNA1	**Neumayer--Stat**	**17.34**	**158**	P	**Pn**	**22 51 57.7**	**+1.1**
VNA1	**Neumayer--Stat**	**17.34**	**158**	⇑P	**Pn**	**22 51 57.7**	**+1.1**
	comp=Z,0.1nm,0.2s						
VNA3	**Neumayer Olymp**	**17.53**	**160**	P	**Pn**	**22 52 00.3**	**+1.3**
VNA3	**Neumayer Olymp**	**17.53**	**160**	⇑P	**Pn**	**22 52 00.3**	**+1.3**
	comp=Z,0.2nm,0.3s						
VNA2	**Neumayer--Watz**	**17.74**	**158**	P	**Pn**	**22 52 03.1**	**+1.5**
	baz=313,slow=13						
VNA2	**Neumayer--Watz**	**17.74**	**158**	⇑P	**Pn**	**22 52 03.1**	**+1.5**
	comp=Z,0.1nm,0.2s,baz=313,slow=13						
SNAA	**Sanae**	**19.29**	**156**	P	**P**	**22 52 19.4**	**+0.1**
SNAA	**Sanae**	**19.29**	**156**	P	**P**	**22 52 17.0**	**-2.3**
SNAA	**Sanae**	**19.29**	**156**	⇑P	**P**	**22 52 19.4**	**+0.1**
	comp=Z,3.7nm,0.4s						
SNAA	**Sanae**	**19.29**	**156**	P	**P**	**22 52 17.6**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=311,slow=7.8,SNR=7.1						
	comp=Z,3.7nm,0.9s						
TROLL	**Troll, Antarti**	**20.80**	**154**	P	**P**	**22 52 36.1**	**+0.3**
TROLL	**Troll, Antarti**	**20.80**	**154**	⇑P	**P**	**22 52 36.1**	**+0.3**
	comp=Z,3.9nm,0.1s						
BELA	**Belgrano 2**	**22.51**	**184**	P	**P**	**22 52 53.5**	**-0.4**
BELA				IAmb	IAmb	22 52 59.2	
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**22 54 42.6**	**-1.1**
QSPA				IAmb	IAmb	22 55 03.1	
	comp=Z,8.3nm,1.4s						
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**22 54 44.1**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=171,slow=3.0,SNR=7.8						
	comp=Z,1.4nm,0.7s						
CPUP	**Villa Florida**	**36.26**	**312**	P	**P**	**22 54 57.9**	**+0.2**
CPUP				IAmb	IAmb	22 55 19.1	
	comp=Z,7.9nm,1.2s						
CPUP	**Villa Florida**	**36.26**	**312**	P	**P**	**22 54 59.6**	**+2.0**
	comp=Z,0.7nm,0.4s,baz=142,slow=12,SNR=3.4						
	comp=Z,0.7nm,0.4s						
CO01	**Juntas del Tor**	**39.33**	**293**	P	**P**	**22 55 23.0**	**-1.0**
CO01				IAmb	IAmb	22 55 34.7	
	comp=Z,9.5nm,1.2s						
GO02	**Mina Guanaco**	**42.99**	**298**	P	**P**	**22 55 53.1**	**-1.0**
BOSA	**Boshof**	**46.19**	**77**	P	**P**	**22 56 18.4**	**-1.0**
BOSA				IAmb	IAmb	22 56 30.3	
	comp=Z,10nm,1.4s						
BOSA	**Boshof**	**46.19**	**77**	P	**P**	**22 56 18.9**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=235,slow=8.4,SNR=3.6						
	comp=Z,1.0nm,0.6s						
PB08	**IPOC Station P**	**47.00**	**302**	P	**P**	**22 56 25.9**	**-0.2**
PB08				IAmb	IAmb	22 56 39.7	
	comp=Z,3.6nm,1.0s						
H10N1	**ASCENSION HYDR**	**48.78**	**18**	T	T	23 49 15.2	
	baz=189,slow=75,SNR=4.3						
H10N3	**ASCENSION HYDR**	**48.78**	**18**	T	T	23 49 14.1	
	baz=189,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**48.80**	**18**	T	T	23 49 14.5	
	baz=189,slow=75,SNR=16						
LBTB	**Lobatse**	**49.20**	**74**	P	**P**	**22 56 41.8**	**-0.9**
LBTB	**Lobatse**	**49.20**	**74**	P	**P**	**22 56 42.8**	**0.0**
	comp=Z,2.1nm,0.8s,baz=217,slow=10,SNR=2.6						
	comp=Z,2.1nm,0.8s						
LPAZ	**La Paz**	**49.84**	**306**	P	**P**	**22 56 48.1**	**-0.2**
LPAZ				IAmb	IAmb	22 56 58.5	
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**49.84**	**306**	P	**P**	**22 56 50.4**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=153,slow=7.0,SNR=5.0						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.83**	**30**	P	**P**	**22 59 23.0**	**0.0**
TORD	**Torodi Ar. Bea**	**72.83**	**30**	P	**P**	**22 59 23.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=204,slow=5.4,SNR=9.8						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	**135.61**	**318**	PKP	**PKPdf**	**23 07 13.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=131,slow=2.3,SNR=3.7						
ILAR	**Eielson Array**	**149.56**	**312**	PKPbc	**PKPbc**	**23 07 42.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=101,slow=1.4,SNR=11						
SONM	**Songino Array**	**151.03**	**86**	PKPbc	**PKPbc**	**23 07 45.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=237,slow=3.3,SNR=3.9						

---

*DSN **12** 22:55:08.9±1.0, 27°.16N×55°.84E, h15km, ML2.6/7, Error ellipse: s-maj=23.4km s-min=6.5km az=67.0*
*OMAN **12** 22:55:10.3±0.8, 27°.13N×56°.10E, h18km±9km, ml3.0/9, Error ellipse: s-maj=10.7km s-min=8.1km az=70.0*
*TEH **12** 22:55:22.2, 27°.66N×56°.32E, h10km±67km*
ISC 12 22:55:08.0±1.4, 27°.21N±0°.04×56°.1E±0°.1, h10km±12km, n25, σ0§67/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.49**	**60**	Pg	Pn	22 55 28.2	+7.1
SHME	**Shamm**	**1.15**	**176**	P	**Pg**	**22 55 30.4**	**+0.2**
	SNR=12						
SHME				S	**Sg**	**22 55 45.3**	**+0.1**
SHME	**Shamm**	**1.15**	**176**	P	**Pb**	**22 55 29.5**	**-0.5**
SHME				S	**Sn**	**22 55 46.0**	**0.0**
KHNJ	**Kahnooj**	**1.64**	**63**	Pg	Pg	22 55 44.7	+5.3
MASF	**Masafi**	**1.83**	**177**	P	**Pb**	**22 55 40.6**	**-1.0**
MASF				S	**Sn**	**22 56 03.3**	**+0.5**
MSFE	**Esma-Masafi**	**1.84**	**177**	P	**Pn**	**22 55 39.4**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.24**	**189**	P	**Pn**	**22 55 45.7**	**+0.6**
NAZ				S	**Sn**	**22 56 13.9**	**+1.1**
UOSS	**Minazif**	**2.25**	**177**	P	**Pn**	**22 55 45.7**	**+0.3**
UOSS				S	**Sn**	**22 56 13.6**	**+0.4**
UOSS	**Minazif**	**2.25**	**177**	P	**Pn**	**22 55 45.5**	**+0.1**
HATD	**Hatta, Dubai**	**2.37**	**178**	P	**Pn**	**22 55 48.3**	**+1.3**
HATD				S	**Sn**	**22 56 16.5**	**+0.4**
HATD	**Hatta, Dubai**	**2.37**	**178**	P	**Pn**	**22 55 47.4**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.48**	**190**	P	**Pn**	**22 55 49.1**	**+0.6**
FAQ				S	**Sn**	**22 56 19.2**	**+0.2**
NGRK	**Negar Kerman**	**2.50**	**14**	Pn	**Pg**	**22 55 57.9**	**+1.9**
ASHO	**Ashiyiah**	**2.51**	**180**	P	**Pn**	**22 55 49.5**	**+0.6**
	SNR=25						
ASHO				S	**Sn**	**22 56 18.8**	**-0.9**
ASHO	**Ashiyiah**	**2.51**	**180**	P	**Pn**	**22 55 49.6**	**+0.6**
ASUD	**Al Ashush, Dub**	**2.65**	**194**	P	**Pn**	**22 55 51.3**	**+0.5**
ASUD				S	**Sn**	**22 56 22.7**	**-0.3**
KRBR	**Kerman**	**2.83**	**12**	Pn	**Pg**	**22 56 02.2**	**-0.2**
KBAM	**BAM**	**2.86**	**47**	Pn	**Pg**	**22 56 03.2**	**+0.4**
CHMN	**Cheshme madani**	**2.95**	**26**	Pn	**Pg**	**22 56 04.5**	**-0.1**
SOHO	**SOHO**	**3.09**	**172**	P	**Pn**	**22 55 57.2**	**+0.3**
ALNE	**Al Ain**	**3.15**	**185**	P	**Pn**	**22 55 58.0**	**+0.3**
ALNE	**Al Ain**	**3.15**	**185**	P	**Pn**	**22 55 57.4**	**-0.3**
KHGB	**Koh Gabri**	**3.18**	**7**	Pn	**Pg**	**22 56 07.9**	**-1.1**
HOQ	**Hoqain**	**3.78**	**162**	P	**Pn**	**22 56 06.0**	**-0.4**
ARQ	**Araqi**	**3.88**	**174**	P	**Pn**	**22 56 08.0**	**+0.3**
	SNR=26						
ARQ				S	**Sn**	**22 56 53.4**	**0.0**

---

*IDC **12** 23:06:55.2±1.2, 53°.86S×138°.97E, h0km, mb4.1/4, mbtmp4.2/4, MS3.5/8, Error ellipse: s-maj=98.2km s-min=22.5km az=86.0*
ISC 12 23:06:55.8±1.1, 53°.9S±0°.2×139°.0E±0°.6, h10km, n21, σ0§21/7, mb4.2/4, MS3.5/8, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**22.08**	**6**	P	**P**	**23 11 50.8**	**-0.1**
	7.9nm,0.8s,baz=163,slow=11,SNR=8.5						
	7.9nm,0.8s						
H01W1	**Cape Leeuwin H**	**25.79**	**307**	T	T	23 40 16.8	
	baz=143,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**25.80**	**307**	T	T	23 40 17.2	
	baz=143,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**25.81**	**307**	T	T	23 40 17.9	
	baz=143,slow=75,SNR=12						
URZ	**Urewera**	**30.25**	**75**	LR	LR	23 22 56.0	
	comp=Z,100nm,20.3s,baz=312,slow=32						
ASAR	**Alice Springs**	**30.43**	**351**	P	**P**	**23 13 08.6**	**+0.3**
	2.0nm,0.6s,baz=165,slow=10,SNR=24						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**34.08**	**352**	P	**P**	**23 13 40.0**	**-0.3**
	3.2nm,0.8s,baz=174,slow=7.6,SNR=21						
	3.2nm,0.8s						
QSPA	**South Pole Qui**	**36.22**	**180**	P	**P**	**23 13 58.5**	**0.0**
	1.6nm,0.8s,baz=16,slow=1.1,SNR=6.2						
	1.6nm,0.8s						
DZM	**Mont Dzumac**	**37.95**	**44**	LR	LR	23 28 46.5	
	comp=Z,43nm,18.6s,baz=219,slow=34						
MSVF	**Nonsavu**	**46.97**	**55**	LR	LR	23 30 27.1	
	comp=Z,79nm,20.4s,baz=346,slow=30						
KAPI	**Kappang**	**51.20**	**335**	LR	LR	23 39 05.7	
	comp=Z,33nm,18.0s,baz=161,slow=38						
LEM	**Lembang**	**53.36**	**320**	LR	LR	23 38 18.4	
	comp=Z,44nm,18.6s,baz=166,slow=35						
H08S2	**Diego Garcia H**	**70.12**	**285**	T	T	00 35 52.2	
	baz=144,slow=76,SNR=4.8						
H08S1	**Diego Garcia H**	**70.13**	**285**	T	T	00 35 52.0	
	baz=144,slow=76,SNR=4.0						
H08S3	**Diego Garcia H**	**70.14**	**285**	T	T	00 35 54.8	
	baz=144,slow=76,SNR=5.6						
CMAR	**Chiang Mai Arr**	**79.86**	**322**	LR	LR	23 52 38.9	
	comp=Z,12nm,21.0s,baz=235,slow=34						
BOSA	**Boshof**	**79.97**	**235**	LR	LR	23 49 10.8	
	comp=Z,37nm,19.2s,baz=182,slow=32						
LSZ	**Lusaka**	**89.56**	**244**	LR	LR	23 56 23.9	
	comp=Z,38nm,18.1s,baz=174,slow=33						
YKA	**Yellowknife Ar**	**142.30**	**47**	PKP	**PKPdf**	**23 26 27.1**	**+0.1**
	0.3nm,0.7s,baz=242,slow=3.4,SNR=5.1						
ULM	**Lac Bonnet**	**146.76**	**73**	PKPbc	**PKPab**	**23 26 38.3**	**+0.1**
	2.2nm,0.8s,baz=270,slow=2.0,SNR=4.3						
ARCES	**ARCESS Array B**	**146.89**	**324**	PKPbc	**PKiKP**	**23 26 39.3**	**0.0**
	4.4nm,0.9s,baz=54,slow=2.0,SNR=3.7						

---

*NEIC **12** 23:16:24.6±1.4, 18°.7S±0°.1×177°.6W±0°.1, h610km±8km, mb4.2/32, Error ellipse: s-maj=25.4km s-min=5.8km az=138.0*
*IDC **12** 23:16:27.5±2.0, 18°.64S×177°.81W, h631km±23km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=31.1km s-min=16.9km az=144.0*
ISC 12 23:16:24.6±0.7, 18°.8S±0°.1×177°.6W±0°.1, h600km, n46, σ1§22/47, mb4.1/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.28**	**283**	P	**P**	**23 17 55.9**	**+3.8**
MSVF	**Nonsavu**	**4.28**	**283**	P	**P**	**23 17 55.2**	**+3.0**
	12nm,0.6s,baz=134,slow=10,SNR=8.8						
AFI	**Afiamalu**	**7.38**	**50**	P	**P**	**23 18 16.7**	**-1.6**
PINNC	**Pines Island,**	**14.52**	**252**	P	**P**	**23 19 28.0**	**-0.3**
DZM	**Mont Dzumac**	**15.33**	**255**	P	**P**	**23 19 36.1**	**+0.2**
DZM				IAmb	IAmb	23 19 42.1	
	comp=Z,16nm,1.1s						
RTZ	**Ruatahuna**	**20.33**	**192**	P	**P**	**23 20 20.8**	**-0.4**
RTZ				IAmb	IAmb	23 20 46.3	
	comp=Z,9.9nm,1.1s						
QRZ	**Quartz Range**	**23.56**	**199**	P	**P**	**23 20 50.8**	**+0.9**
QRZ				IAmb	IAmb	23 20 55.0	
	comp=Z,5.9nm,1.0s						
ARMA	**Armidale**	**30.20**	**242**	P	**P**	**23 21 48.8**	**+0.6**
ARMA				IAmb	IAmb	23 21 52.7	
	comp=Z,3.9nm,0.8s						
COEN	**Coen**	**37.90**	**271**	P	**P**	**23 22 52.6**	**+0.1**
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**23 23 00.7**	**+0.3**
STKA				IAmb	IAmb	23 23 02.4	
	comp=Z,8.7nm,0.9s						
STKA	**Stephens Creek**	**38.91**	**242**	P	**P**	**23 23 00.6**	**+0.2**
	comp=Z,4.6nm,0.5s,baz=85,slow=11,SNR=7.0						
	comp=Z,4.6nm,0.5s						
BBOO	**Buckleboo**	**43.68**	**242**	P	**P**	**23 23 36.9**	**-1.1**
WR0	**Warramunga Arr**	**45.06**	**260**	P	**P**	**23 23 47.5**	**-1.2**
WR0				IAmb	IAmb	23 23 49.3	
	comp=Z,4.1nm,0.7s						
WB0	**Warramunga Arr**	**45.22**	**261**	P	**P**	**23 23 49.2**	**-0.8**
WB2	**Warramunga Arr**	**45.24**	**260**	P	**P**	**23 23 49.0**	**-1.1**
WRAB	**Tennant Creek**	**45.24**	**260**	P	**P**	**23 23 49.0**	**-1.1**
WRAB				IAmb	IAmb	23 23 49.9	
	comp=Z,8.8nm,0.9s						
WRA	**Warramunga Arr**	**45.25**	**260**	P	**P**	**23 23 48.5**	**-1.7**
WRA	**Warramunga Arr**	**45.25**	**260**	P	**P**	**23 23 49.5**	**-0.6**
	comp=Z,7.2nm,0.4s,baz=95,slow=8.1,SNR=257						
WRA				PcP	**PcP**	**23 25 16.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=93,slow=2.5,SNR=2.2						
	comp=Z,7.2nm,0.4s						
AS31	**Alice Springs**	**45.32**	**255**	P	**P**	**23 23 49.4**	**-1.2**
ASAR	**Alice Springs**	**45.32**	**255**	P	**P**	**23 23 49.6**	**-1.1**
ASAR	**Alice Springs**	**45.32**	**255**	P	**P**	**23 23 50.4**	**-0.3**
	comp=Z,14nm,0.8s,baz=87,slow=8.2,SNR=133						
ASAR				PcP	**PcP**	**23 25 16.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=95,slow=3.7,SNR=3.0						
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**50.35**	**245**	P	**P**	**23 24 27.0**	**-0.9**
KNRA	**Kununurra**	**51.19**	**265**	P	**P**	**23 24 32.8**	**-1.4**
KNRA				IAmb	IAmb	23 24 34.2	
	comp=Z,9.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P	**P**	**23 24 51.1**	**-0.7**
MBWA	**Marble Bar**	**58.63**	**256**	P	**P**	**23 25 24.7**	**-1.1**
MBWA				IAmb	IAmb	23 25 49.3	
	comp=Z,10nm,1.1s						
MORW	**Morawa**	**60.86**	**247**	P	**P**	**23 25 39.4**	**-1.1**
UGM	**Wanagama**	**70.40**	**268**	P	**P**	**23 26 39.3**	**-0.7**
QSPA	**South Pole Qui**	**71.29**	**180**	P	**P**	**23 26 45.3**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=0.0,slow=5.5,SNR=8.7						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.51**	**43**	P	**P**	**23 27 31.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=259,slow=6.4,SNR=2.6						
	comp=Z,0.5nm,0.5s						
O16K	**Kokwok River B**	**79.69**	**10**	P	**P**	**23 27 29.0**	**-1.6**
O16K				IAmb	IAmb	23 27 55.5	
	comp=Z,6.9nm,1.1s						
O18K	**Koktuh Hills**	**80.44**	**11**	P	**P**	**23 27 33.3**	**-1.3**
O18K				IAmb	IAmb	23 27 38.2	
	comp=Z,11nm,1.1s						
M16K	**Timber Creek**	**80.92**	**9**	P	**P**	**23 27 37.4**	**+0.4**
M16K				IAmb	IAmb	23 27 54.5	
	comp=Z,4.5nm,1.0s						
L16K	**Owhat River**	**81.50**	**9**	P	**P**	**23 27 40.1**	**+0.2**
SLKM	**Skilak Lake**	**82.05**	**13**	P	**P**	**23 27 41.6**	**-1.1**
L18K	**Granite Mounta**	**82.41**	**10**	P	**P**	**23 27 44.7**	**+0.2**
STLK	**Strandline Lak**	**82.61**	**12**	P	**P**	**23 27 43.8**	**-1.8**
SUA	**Susitna One**	**82.80**	**13**	P	**P**	**23 27 45.4**	**-1.2**
SUA				IAmb	IAmb	23 27 46.6	
	comp=Z,4.6nm,0.7s						
GHO	**Glory Hole Cre**	**83.46**	**13**	P	**P**	**23 27 48.8**	**-1.0**
GHO				IAmb	IAmb	23 27 50.1	
	comp=Z,6.5nm,0.7s						
BMRM	**Bremner River**	**83.77**	**15**	P	**P**	**23 27 50.6**	**-0.7**
SCM	**Sheep Creek Mo**	**83.87**	**14**	P	**P**	**23 27 50.9**	**-1.0**
SCM				IAmb	IAmb	23 27 51.9	
	comp=Z,5.2nm,0.7s						
N25K	**Chitina, Valde**	**84.32**	**15**	P	**P**	**23 27 53.8**	**-0.4**
N25K				IAmb	IAmb	23 27 54.4	
	comp=Z,3.6nm,0.8s						
GLB	**Gilahina Butte**	**84.38**	**16**	P	**P**	**23 27 54.0**	**-0.3**
TXAR	**Lajitas Array**	**85.80**	**57**	P	**P**	**23 28 04.1**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=218,slow=7.0,SNR=8.7						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**86.55**	**13**	P	**P**	**23 28 03.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=228,slow=5.1,SNR=13						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**23 28 10.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=269,slow=3.0,SNR=4.1						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**143.26**	**5**	PKP	PKPab	23 34 48.5	-1.0
	comp=Z,0.5nm,0.4s,baz=319,slow=2.7,SNR=4.9						

IDC 12 23:32:24.4±1.6, 2°.70S×139°.00E, h0km, mb3.3/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=30.7km s-min=14.9km az=168.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.71**	**84**	Pg	Pn	23 32 56.1	+0.5
	11nm,0.3s,baz=232,slow=11,SNR=36						
JAY				Lg	Lg	23 33 18.3	
	5.3nm,0.3s,baz=99,slow=23,SNR=4.9						
WRA	**Warramunga Arr**	**17.73**	**195**	P	Pn	23 36 32.5	-0.3
	0.2nm,0.3s,baz=18,slow=13,SNR=9.9						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**21.41**	**193**	P	P	23 37 14.3	+0.2
	1.4nm,0.8s,baz=18,slow=9.9,SNR=11						
	1.4nm

confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.18**	**198**	P	Pn	00 59 20.9	+0.8
WMGZ				S	S	01 00 15.4	0.0
HAZ	**Te Kaha**	**4.31**	**204**	P	Pn	00 59 21.0	-0.5
HAZ				S	S	01 00 19.7	+1.7
PKGZ	**Pakihiroa**	**4.32**	**201**	P	Pn	00 59 21.3	-0.3
PKGZ				S	S	01 00 17.4	-0.8
PUZ	**Puketiti**	**4.46**	**198**	P	Pn	00 59 23.4	+0.2
PUZ				S	S	01 00 23.3	+2.3
RUGZ	**Raukumara Rang**	**4.53**	**204**	P	Pn	00 59 23.2	-0.9
RUGZ				S	S	01 00 20.9	-1.8
TWGZ	**Tauwhareparae**	**4.63**	**200**	P	Pn	00 59 26.3	+1.2
TWGZ				S	S	01 00 27.0	+2.4
CNGZ	**Carnagh Statio**	**4.86**	**197**	P	Pn	00 59 27.5	-0.1
TKGZ	**Te Karaka**	**4.91**	**200**	P	Pn	00 59 28.6	+0.4
TKGZ				S	S	01 00 29.2	-1.0
MWZ	**Matawai**	**4.92**	**203**	P	Pn	00 59 27.3	-1.0
MWZ				S	S	01 00 32.1	+1.7
URZ	**Urewera**	**5.00**	**207**	S	S	01 00 33.8	+1.8
RIGZ	**Rimuhau**	**5.19**	**200**	P	Pn	00 59 31.9	+0.5
RIGZ				S	S	01 00 35.5	-0.5
MUGZ	**Murupara**	**5.32**	**209**	P	Pn	00 59 32.2	-0.7
MUGZ				S	S	01 00 38.2	-0.6
PRGZ	**Paritu Road**	**5.36**	**198**	P	Pn	00 59 34.6	+1.2
RTZ	**Ruatahuna**	**5.36**	**206**	P	Pn	00 59 31.8	-1.6
RTZ				S	S	01 00 38.8	-0.9
KNZ	**Kokohu**	**5.51**	**199**	P	Pn	00 59 34.7	-0.3
MHGZ	**Mahia Peninsul**	**5.57**	**197**	P	Pn	00 59 36.7	+1.0
RAHZ	**Arahi**	**5.59**	**204**	P	Pn	00 59 36.2	+0.2
RAHZ				S	S	01 00 45.4	+0.9
MTHZ	**Maungataniwha**	**5.62**	**206**	P	Pn	00 59 35.7	-0.8
MTHZ				S	S	01 00 45.0	-0.1
TLZ	**Tolley Road**	**5.76**	**218**	P	Pn	00 59 38.8	+0.7
ARHZ	**Aropaoanui**	**5.93**	**203**	P	Pn	00 59 40.2	+0.2
MCHZ	**McNeill Hill**	**6.20**	**205**	P	Pn	00 59 42.9	-0.3
MCHZ				S	S	01 00 58.3	+0.8
HIZ	**Hauiti**	**6.26**	**220**	P	Pn	00 59 45.5	+1.6
KWHZ	**Kaweka Forest**	**6.28**	**206**	P	Pn	00 59 43.6	-0.6
KWHZ				S	S	01 01 00.1	+0.8
NTVZ	**North Tongarir**	**6.31**	**212**	P	Pn	00 59 44.0	-0.5
TMVZ	**Te Maari**	**6.31**	**212**	P	Pn	00 59 44.0	-0.6
ETVZ	**East Tongariro**	**6.32**	**212**	P	Pn	00 59 44.0	-0.8
OTVZ	**Oturere**	**6.36**	**212**	P	Pn	00 59 44.5	-0.8
SNVZ	**South Ngauruho**	**6.39**	**212**	P	Pn	00 59 45.0	-0.6

*IDC **13** 01:05:55.4±1.4, 10°.62S×118°.65E, h0km, mb3.8/4, mbtmp3.8/7, ML3.5/3, MS3.4/1, Error ellipse: s-maj=57.3km s-min=22.5km az=62.0*
*DJA **13** 01:06:02.1±1.1, 10°.5±5°.×11°.9E±°., h20km±8km, M4.1/9, mB5.0/1, mb4.3/4, MLv4.0/9, Mw(mB)4.3/1*
ISC 13 01:06:00.9±0.8, 10°.60S±0°.07×119°.14E±0°.06, h41km, n15, σ2°89/22, mb3.9/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.99**	**15**	P	**Pn**	**01 06 17.4**	**-0.9**
WBSI				S	**Sn**	**01 06 28.5**	**-2.6**
BASI	**Baing, Sumba**	**1.47**	**75**	P	**Pn**	**01 06 26.9**	**+2.0**
BASI				S	**Sn**	**01 06 46.2**	**+3.3**
WSI	**Waingapu**	**1.47**	**51**	P	**Pn**	**01 06 26.4**	**+1.5**
PLAI	**Plampang**	**2.21**	**323**	P	**Pn**	**01 06 35.6**	**+0.4**
PLAI				S	**Sn**	**01 07 00.5**	**-0.9**
SOEI	**Soe**	**5.12**	**81**	P	**Pn**	**01 07 17.7**	**+2.5**
JAGI	**Jajag, Banyuwa** 0.2nm23nm,0.5s	**5.35**	**293**	P	**Pn**	**01 07 19.5**	**+1.1**
KAPI	**Kappang** 1.3nm,0.3s,baz=187,slow=16,SNR=1.3	**5.58**	**6**	Pn	**Pn**	**01 07 21.7**	**+0.2**
KAPI	5.3nm,0.3s,baz=168,slow=22,SNR=13 5.0nm,0.3s			Sn	**Sn**	**01 08 27.6**	**+3.1**
PCJI	**Pacitan** 35nm,1.8s	**8.21**	**286**	P	**Pn**	**01 07 58.7**	**+1.1**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=316,slow=11,SNR=9.9	**9.76**	**141**	Pn	**Pn**	**01 08 19.5**	**+0.7**
FITZ	0.6nm,0.3s,baz=164,slow=21,SNR=5.7 2.7nm,0.7s			Sn	**Sn**	**01 10 03.5**	**-3.6**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=300,slow=13,SNR=6.8	**17.34**	**124**	P	**Pn**	**01 09 59.5**	**-0.6**
WRA	0.4nm,0.8s,baz=339,slow=14,SNR=4.8			S	**Sn**	**01 13 03.0**	**-9.3**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=316,slow=12,SNR=20	**19.16**	**135**	P	**Pn**	**01 10 25.5**	**+3.3**
ASAR	0.2nm,0.5s,baz=304,slow=21,SNR=1.5			S	**Sn**	**01 13 55.0**	**-1.1**
ASAR	comp=Z,130nm,21.4s,baz=69,slow=34 2.7nm,1.0s			LR	LR	01 16 57.4	
SONM	**Songino Array** 1.1nm,0.5s,baz=168,slow=8.7,SNR=11 1.1nm,0.5s	**59.27**	**350**	P	**P**	**01 15 58.4**	**0.0**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=149,slow=7.5,SNR=9.7 0.8nm,0.6s	**65.94**	**333**	P	**P**	**01 16 42.6**	**-0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=145,slow=5.5,SNR=3.1 0.3nm,0.7s	**70.46**	**334**	P	**P**	**01 17 10.5**	**-0.5**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=125,slow=6.4,SNR=4.6 0.5nm,0.4s	**70.58**	**339**	P	**P**	**01 17 10.4**	**-1.3**

*IDC **13** 01:06:10.8±0.9, 12°.90S×45°.34E, h0km, mb3.7/7, mbtmp3.7/9, ML4.6/3, MS3.2/3, Error ellipse: s-maj=27.1km s-min=22.3km az=127.0*
*NEIC **13** 01:06:11.4±0.8, 12°.78S±0°.07×45°.4E±0°.1, h10km±1km, mb4.1/4, Error ellipse: s-maj=22.6km s-min=10.2km az=252.0*
ISC 13 01:06:11.3±0.7, 12°.90S±0°.07×45°.33E±0°.07, h10km, n22, σ1°81/24, mb3.9/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo** 6.5nm,0.3s,baz=336,slow=13,SNR=500	**5.91**	**163**	Pn	**Pn**	**01 07 40.7**	**+1.5**
OPO	22nm,0.3s,baz=74,slow=20,SNR=25			Sn	**Sn**	**01 08 42.9**	**-4.2**
ABPO	**Ambohimpanom**	**6.35**	**164**	Pn	**Pn**	**01 07 46.8**	**+1.6**
VOI	**Vohitsoka**	**9.06**	**171**	Pn	**Pn**	**01 08 23.5**	**+1.1**
FOMA	**Nahampoana Res**	**12.11**	**173**	Pn	**Pn**	**01 09 05.2**	**+1.2**
KIBK	**Kibwezi**	**12.73**	**325**	Pn	**Pn**	**01 09 11.4**	**-1.3**
RER	**Riviere de l'E**	**12.90**	**131**	Pn	**Pn**	**01 09 15.0**	**0.0**
MSEY	**Mahe Island**	**12.94**	**52**	Pn	**Pn**	**01 09 13.0**	**-2.4**
KMBO	**Kilima Mbogo**	**14.18**	**325**	Pn	**Pn**	**01 09 30.9**	**-1.7**
LSZ	**Lusaka**	**16.79**	**260**	P	**Pn**	**01 10 08.0**	**+1.1**
LSZ	**Lusaka** 0.4nm,0.3s,baz=86,slow=9.0,SNR=9.1	**16.79**	**260**	Pn	**Pn**	**01 10 08.2**	**+1.2**
LSZ	0.4nm,0.3s,baz=323,slow=8.1,SNR=5.6			Sn	**Sn**	**01 13 10.0**	**-3.7**
LSZ	comp=Z,68nm,21.3s,baz=98,slow=36 3.5nm,0.8s			LR	LR	01 16 13.6	
MATP	**Matopo** 0.4nm,0.3s,baz=67,slow=12,SNR=7.8	**17.76**	**243**	P	**Pn**	**01 10 19.9**	**+0.9**
MATP	1.9nm,0.9s,baz=340,slow=0.8,SNR=4.0 2.0nm,0.7s			S	**Sn**	**01 13 35.2**	**-2.0**
LBTB	**Lobatse**	**22.18**	**234**	P	**P**	**01 11 08.5**	**+0.6**
LBTB	comp=Z,7.4nm,1.1s			IAmb	IAmb	01 11 13.9	
BOSA	**Boshof**	**24.36**	**227**	P	**P**	**01 11 30.7**	**+0.8**
BOSA	comp=Z,4.8nm,0.9s			IAmb	IAmb	01 11 35.1	
BOSA	**Boshof** comp=Z,3.8nm,0.8s,baz=46,slow=11,SNR=7.9	**24.36**	**227**	P	**P**	**01 11 30.9**	**+1.0**
BOSA	comp=Z,47nm,19.0s,baz=75,slow=37 comp=Z,3.8nm,0.8s			LR	LR	01 21 05.4	
BRTR	**Keskin Array B** comp=Z,41nm,21.4s,baz=136,slow=35	**53.48**	**349**	LR	LR	01 37 25.0	
ABKAR	**Akbulak array**	**63.22**	**11**	P	**P**	**01 16 40.5**	**+0.8**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.7s,baz=205,slow=6.4,SNR=1.5 comp=Z,0.2nm,0.7s	**68.03**	**26**	P	**P**	**01 17 11.5**	**+0.5**
BVAR	**Borovoye Array** comp=Z,0.2nm,0.4s,baz=197,slow=4.4,SNR=2.0 comp=Z,0.2nm,0.4s	**69.10**	**16**	P	**P**	**01 17 18.3**	**+0.8**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=133,slow=5.6,SNR=4.4 comp=Z,0.3nm,0.6s	**69.53**	**321**	P	**P**	**01 17 21.6**	**+1.1**
KURBB	**Kurchatov Arra**	**69.60**	**22**	P	**P**	**01 17 22.8**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=6.7,SNR=2.2 comp=Z,0.1nm,0.3s						
ASAR	**Alice Springs** comp=Z,0.9nm,0.6s,baz=270,slow=5.0,SNR=8.0 comp=Z,0.9nm,0.6s	**83.64**	**113**	P	**P**	**01 18 42.0**	**+1.2**
WRA	**Warramunga Arr** comp=Z,1.7nm,1.0s,baz=263,slow=3.7,SNR=5.0 comp=Z,1.7nm,1.0s	**84.77**	**109**	P	**P**	**01 18 47.2**	**+0.6**

*NEIC **13** 01:10:46.0±1.1, 58°.26N±0°.02×153°.10W±0°.06, h53km±9km, Error ellipse: s-maj=5.1km s-min=2.9km az=73.0*
AEIC 13 01:10:46.8±1.1, 58°.26N±0°.03×153°.10W±0°.06, h54km±6km, ML2.8, ML3.0/118(NEIC), Error ellipse: s-maj=4.6km s-min=3.8km az=104.0, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYI	**Shuyak Island**	**0.51**	**46**		Pn	01 10 57.3	-1.0
SYI				Sn	Sn	01 11 05.4	-1.2
SYI				IAML		01 11 06.6	
KDAK	**Kodiak Island** comp=N,942nm,0.5s	**0.55**	**150**	Pn	Pn	01 10 57.9	-0.9
KDAK				Sn	Sn	01 11 07.2	-0.3
KDAK	comp=N,520nm,0.2s			IAML		01 11 10.1	
KDAK	comp=N,524nm,0.3s			IAML		01 11 11.8	
Q19K	**Cape Douglas,** comp=E,672nm,0.6s	**0.73**	**337**	Pn	Pn	01 10 59.8	-1.3
Q19K				Sn	Sn	01 11 11.1	-0.4
Q19K				IAML		01 11 13.4	
Q19K	comp=E,825nm,0.7s			IAML		01 11 14.8	
KAHG	**Katmai Hook Gl**	**0.80**	**287**		Pn	01 11 00.9	-1.1
KAHG					Sn	01 11 12.2	-0.9
R18K	**Karluk**	**1.01**	**227**		Pn	01 11 03.5	-1.0
R18K					Sn	01 11 16.9	-0.9
OHAK	**Old Harbor**	**1.05**	**186**	Pn	Pn	01 11 04.4	-0.7
OHAK				Sn	Sn	01 11 18.0	-0.8
OHAK	comp=N,182nm,0.4s			IAML		01 11 23.1	
OHAK	comp=E,165nm,0.7s			IAML		01 11 25.3	
KCE	**Katmai Mt Cerb**	**1.10**	**270**		Pn	01 11 05.7	-0.3
AUCH	**Augustine Cone**	**1.12**	**351**		Pn	01 11 05.7	-0.5
AUCH					Sn	01 11 21.0	+0.3
AUL	**Augustine Lava**	**1.14**	**351**		Pn	01 11 06.0	-0.4
KVTA	**Katmai Vly 10**	**1.17**	**277**		Pn	01 11 06.1	-0.7
ACHA	**Angle Creek He**	**1.18**	**268**	Pn	Pn	01 11 06.4	-0.6
ACHA				Sn	Sn	01 11 21.4	-0.8
ANCK	**Angle Creek**	**1.27**	**268**		Pn	01 11 07.9	-0.4
P19K	**Oil Pt**	**1.40**	**357**		Pn	01 11 09.2	-0.7
P19K					Sn	01 11 25.9	-1.3
P18K	**Big Mountain,**	**1.59**	**316**	Pn	Pn	01 11 10.8	-1.7
HOM	**Homer**	**1.59**	**28**	Pn	Pn	01 11 11.0	-1.5
CNPM	**China Poot**	**1.59**	**37**	Pn	Pn	01 11 11.8	-0.8
CNPM				IAML		01 11 36.1	
CNPM	comp=E,118nm,0.4s			IAML		01 11 36.8	
ILS	**Iliamna Low So** comp=N,141nm,0.4s	**1.70**	**0**		Pn	01 11 13.2	-0.9
ILSW	**Iliamna Southw**	**1.73**	**359**	Pn	Pn	01 11 13.2	-1.3
ILSW				IAML		01 11 38.9	
ILW	**Iliamna West** comp=E,82nm,0.7s	**1.80**	**359**		Pn	01 11 14.7	-0.9
SII	**Sitkinak Islan**	**1.81**	**200**	Pn	Pn	01 11 14.5	-1.0
SII	comp=N,134nm,0.7s			IAML		01 11 49.2	
SII	comp=E,134nm,0.7s			IAML		01 11 53.1	
O20K	**Slope Mountain**	**1.84**	**7**		Pn	01 11 15.8	-0.2
Q16K	**King Salmon**	**1.92**	**284**		Pn	01 11 16.3	-0.6
BRSE	**Bradley Lake S**	**1.92**	**38**		Pn	01 11 15.6	-1.4
PLK1	**Peulik 1**	**1.93**	**258**		Pn	01 11 16.7	-0.3
O18K	**Koktuh Hills**	**1.93**	**327**	Pn	Pn	01 11 15.9	-1.3
O18K				IAML		01 11 40.2	
O18K	comp=N,109nm,0.8s			IAML		01 11 40.5	
P17K	**Kvichak River** comp=E,58nm,0.6s	**1.98**	**300**		Pn	01 11 16.9	-0.8
O19K	**Port Alsworth**	**2.04**	**343**	Pn	Pn	01 11 17.3	-1.3
PLBL	**Peulik Blue Cr**	**2.06**	**256**		Pn	01 11 18.9	-0.1
RED	**Redoubt Volcan**	**2.17**	**4**		Pn	01 11 19.0	-1.4
RDWB	**Redoubt West**	**2.24**	**3**		Pn	01 11 20.8	-0.6
NCT	**North Crescent**	**2.31**	**2**		Pn	01 11 21.7	-0.7
RDJH	**Redoubt Jeurge**	**2.34**	**4**		Pn	01 11 22.2	-0.7
RDT	**Redoubt**	**2.34**	**8**		Pn	01 11 22.1	-0.8
O17K	**Koliganek Bris**	**2.56**	**308**		Pn	01 11 24.6	-1.1
SEW	**Seward**	**2.63**	**44**	Pn	Pn	01 11 24.6	-2.1
N19K	**Bonanza Creek**	**2.66**	**345**	Pn	Pn	01 11 26.0	-1.1
N19K				IAML		01 12 13.2	
N19K	comp=E,50nm,0.8s			IAML		01 12 14.7	
P16K	**Nushagak River** comp=N,31nm,1.1s	**2.67**	**289**		Pn	01 11 26.6	-0.7
SLKM	**Skilak Lake**	**2.69**	**32**	Pn	Pn	01 11 25.9	-1.7
SLKM				IAML		01 12 05.6	
SLKM	comp=N,49nm,0.1s			IAML		01 12 07.4	
CAPN	**Captain Cook N** comp=E,79nm,0.2s	**2.70**	**21**	Pn	Pn	01 11 28.1	+0.5
CHIR	**Chirikof Islan**	**2.81**	**211**	Pn	Pn	01 11 27.4	-1.8
CHIR	comp=N,40nm,1.2s			IAML		01 13 02.6	
CHIR	comp=E,44nm,1.1s			IAML		01 13 14.4	
N18K	**Kilae Creek**	**2.81**	**331**	Pn	Pn	01 11 27.8	-1.4
O16K	**Kokwok River B**	**2.92**	**299**	Pn	Pn	01 11 29.7	-0.9
CKL	**Chakachamna La**	**2.97**	**7**		Pn	01 11 30.7	-0.8
SPU	**Mount Spurr**	**2.98**	**10**	Pn	Pn	01 11 30.2	-1.3
SPCN	**Chakachatna No**	**3.01**	**8**		Pn	01 11 31.4	-0.5
SPBG	**Spurr Blockage**	**3.03**	**7**		Pn	01 11 31.6	-0.7
SPCG	**Spurr Capps Gl**	**3.09**	**10**		Pn	01 11 32.4	-0.6
N17K	**Nushagak Hills**	**3.09**	**319**	Pn	Pn	01 11 31.7	-1.2
FIS	**Fire Island**	**3.24**	**26**	Pn	Pn	01 11 34.7	-0.2
FIS	comp=N,56nm,1.2s			IAML		01 12 37.3	
FIS	comp=E,46nm,0.9s			IAML		01 12 58.2	
RC01	**Rabbit Creek A**	**3.31**	**30**	Pn	Pn	01 11 34.8	-1.2
RC01				IAML		01 12 13.6	
RC01	comp=N,29nm,0.3s			IAML		01 12 13.7	
STLK	**Strandline Lak**	**3.31**	**11**	Pn	Pn	01 11 35.2	-0.9
P23K	**Montague Islan**	**3.41**	**57**		Pn	01 11 36.3	-1.0
SUA	**Susitna One**	**3.42**	**19**	Pn	Pn	01 11 36.6	-1.0
SUA				IAML		01 12 25.3	
M18K	**Stony River** comp=E,44nm,1.0s	**3.52**	**338**		Pn	01 11 37.7	-1.1
PWL	**Port Wells**	**3.56**	**41**	Pn	Pn	01 11 37.6	-1.8
PWL				IAML		01 12 16.3	
PWL	comp=E,42nm,0.5s			IAML		01 12 16.6	
O15K	**Ungalikthiuk R** comp=N,44nm,0.4s	**3.63**	**287**		Pn	01 11 39.8	-0.5
M20K	**Styx River**	**3.63**	**360**	Pn	Pn	01 11 40.0	-0.4
M22K	**Willow**	**3.81**	**22**	Pn	Pn	01 11 41.8	-1.0
SKT	**Skwentna**	**3.81**	**11**	Pn	Pn	01 11 41.6	-1.2
SKT				IAML		01 12 30.1	
SKT	comp=N,14nm,1.2s			IAML		01 12 44.9	
M17K	**Holitna River** comp=E,12nm,0.9s	**3.83**	**327**	Pn	Pn	01 11 42.5	-0.7
M17K				IAML		01 12 54.7	
M17K	comp=N,24nm,1.2s			IAML		01 13 02.9	
PMR	**Palmer** comp=E,24nm,1.0s	**3.89**	**29**	Pn	Pn	01 11 42.0	-1.9
PMR				IAML		01 12 25.1	
PMR	comp=N,14nm,0.4s			IAML		01 12 26.2	
KNK	**Knik Glacier** comp=E,12nm,0.2s	**3.93**	**35**	Pn	Pn	01 11 42.4	-2.2
KNK				IAML		01 12 30.2	
KNK	comp=N,21nm,0.6s			IAML		01 12 47.0	
HIN	**Hinchinbrook I** comp=E,22nm,0.8s	**4.00**	**55**	Pn	Pn	01 11 44.1	-1.3
HIN				IAML		01 12 42.8	
HIN	comp=N,24nm,1.2s			IAML		01 13 00.1	
HIN	comp=E,26nm,1.2s			IAML		01 12 33.4	
GLI	**Glacier Island** comp=N,12nm,1.0s	**4.02**	**47**	Pn	Pn	01 11 43.3	-2.5
GLI	comp=E,18nm,0.9s			IAML		01 12 33.5	
L19K	**White Mountain**	**4.03**	**348**		Pn	01 11 45.0	-0.8
M16K	**Timber Creek**	**4.06**	**315**	Pn	Pn	01 11 45.5	-0.8
M16K	comp=E,12nm,0.6s			IAML		01 12 32.2	
M16K	comp=N,10nm,1.1s			IAML		01 12 32.5	
N15K	**Kwethluk River**	**4.07**	**301**	Pn	Pn	01 11 46.3	-0.2
N15K	comp=E,14nm,0.8s			IAML		01 12 33.5	
N15K	comp=N,23nm,0.8s			IAML		01 12 34.5	
GHO	**Glory Hole Cre**	**4.09**	**29**	Pn	Pn	01 11 45.3	-1.6
GHO	comp=N,26nm,0.6s			IAML		01 12 30.8	
GHO	comp=E,23nm,0.8s			IAML		01 12 31.2	
FID	**Port Fidalgo**	**4.19**	**51**	Pn	Pn	01 11 45.5	-2.6
FID	comp=E,18nm,0.9s			IAML		01 12 31.1	
FID	comp=N,16nm,0.9s			IAML		01 12 32.8	
L20K	**Farewell, AK**	**4.25**	**355**		Pn	01 11 47.8	-1.1
SML	**Sawmill**	**4.28**	**32**	Pn	Pn	01 11 47.5	-1.8
SML	comp=N,12nm,0.9s			IAML		01 12 42.3	
SML	comp=E,8.8nm,0.8s			IAML		01 12 42.4	
L18K	**Granite Mounta**	**4.36**	**337**		Pn	01 11 49.4	-0.9
O14K	**Tigyukauivet M**	**4.37**	**287**	Pn	Pn	01 11 50.1	-0.4
O14K	comp=E,10nm,1.1s			IAML		01 12 32.5	
O14K	comp=N,11nm,1.1s			IAML		01 13 49.6	
EYAK	**Cordova Ski Ar**	**4.40**	**55**	Pn	Pn	01 11 49.4	-1.5
M23K	**Glacier View**	**4.45**	**35**		Pn	01 11 50.2	-1.4
M15K	**Kasigluk River**	**4.58**	**305**		Pn	01 11 52.6	-0.7
SCM	**Sheep Creek Mo**	**4.60**	**36**	Pn	Pn	01 11 52.3	-1.5
SCM	comp=N,16nm,0.6s			IAML		01 12 43.5	
L17K	**Donlin**	**4.67**	**328**		Pn	01 11 53.9	-0.7
PPLA	**Purkeypile**	**4.67**	**5**	Pn	Pn	01 11 54.8	0.0
DIV	**Divide**	**4.69**	**49**	Pn	Pn	01 11 53.1	-1.9
L16K	**Owhat River**	**4.71**	**320**	Pn	Pn	01 11 54.2	-1.0
L16K	comp=E,6.2nm,1.2s			IAML		01 13 23.7	
KAIM	**Kayak Island**	**4.78**	**66**	Pn	Pn	01 11 55.0	-1.0
RAGM	**Ragged Mountai**	**4.81**	**60**	Pn	Pn	01 11 55.2	-1.4
RAGM	comp=E,18nm,0.9s			IAML		01 13 16.6	
KLU	**Klutina**	**4.85**	**45**	Pn	Pn	01 11 55.8	-1.4
KLU	comp=E,6.3nm,0.2s			IAML		01 12 50.6	
KLU	comp=N,10nm,1.0s			IAML		01 12 51.5	
GOAT	**Goat Mountain**	**4.86**	**58**		Pn	01 11 56.1	-1.3
TTA	**Tatalina**	**4.90**	**344**	Pn	Pn	01 11 56.7	-1.1
HMT	**Hamilton**	**4.98**	**62**	Pn	Pn	01 11 57.4	-1.6
HMT	comp=N,17nm,1.1s			IAML		01 12 57.4	
BMRM	**Bremner River**	**5.09**	**54**	Pn	Pn	01 11 58.7	-1.8
SUCK	**Suckling Hills**	**5.13**	**65**	Pn	Pn	01 12 00.1	-0.8
K20K	**Telida**	**5.13**	**355**		Pn	01 12 00.1	-0.9
K17K	**Iditarod**	**5.16**	**332**	Pn	Pn	01 12 00.2	-1.1
K17K	comp=N,7.4nm,1.1s			IAML		01 13 41.1	
M24K	**Tolsona, Glenn**	**5.17**	**39**	Pn	Pn	01 12 00.6	-1.0
M24K	comp=N,10.0nm,1.1s			IAML		01 13 04.0	
CAST	**Castle Rocks**	**5.20**	**5**	Pn	Pn	01 12 01.0	-0.9
BERG	**Berg Lake**	**5.26**	**62**		Pn	01 12 01.2	-1.5
N25K	**Chitina, Valde**	**5.43**	**48**	Pn	Pn	01 12 03.2	-1.9
L15K	**Ungalak Mounta**	**5.43**	**313**		Pn	01 12 04.2	-0.8
S12K	**Black Hills**	**5.53**	**246**	Pn	Pn	01 12 08.2	+1.7
RND	**Reindeer**	**5.56**	**20**	Pn	Pn	01 12 05.5	-1.4
SNH	**Sunshine Point**	**5.61**	**66**	Pn	Pn	01 12 06.4	-1.1
GLB	**Gilahina Butte**	**5.66**	**52**	Pn	Pn	01 12 06.5	-1.7
M13K	**Dall Lake**	**5.67**	**297**	Pn	Pn	01 12 08.6	+0.3
L14K	**Kuka Creek**	**5.74**	**307**		Pn	01 12 08.1	-1.1
WACK	**Wrangell Chich**	**5.75**	**46**		Pn	01 12 08.2	-1.5
WASW	**Wrangell South**	**5.78**	**47**		Pn	01 12 08.8	-1.3
K15K	**Wolf Creek Mou**	**5.83**	**317**	Pn	Pn	01 12 10.2	-0.3
MCK	**McKinley**	**5.85**	**18**	Pn	Pn	01 12 09.9	-0.9
WAZA	**Wrangell Mount**	**5.88**	**46**		Pn	01 12 10.3	-1.1
J19K	**Poorman**	**5.88**	**349**	Pn	Pn	01 12 10.2	-1.0
J17K	**VABM Dome**	**5.92**	**333**	Pn	Pn	01 12 11.3	-0.4
J20K	**Nowinta River**	**5.96**	**356**	Pn	Pn	01 12 11.7	-0.5
PAX	**Paxson**	**6.03**	**35**	Pn	Pn	01 12 11.7	-1.6
MESA	**MESA**	**6.04**	**67**	Pn	Pn	01 12 12.7	-0.9
KIAG	**Kiagna River**	**6.07**	**59**		Pn	01 12 12.4	-1.5
BALM	**Baldy**	**6.12**	**58**		Pn	01 12 13.2	-1.4
J16K	**Anvik River**	**6.23**	**327**	Pn	Pn	01 12 15.0	-1.0
J14K	**Nanvaranak Lak**	**6.84**	**315**	Pn	Pn	01 12 24.6	+0.2
PCA	**Pinnacle**	**6.85**	**69**	Pn	Pn	01 12 22.8	-1.8
CCB	**Clear Creek Bu**	**6.89**	**19**	Pn	Pn	01 12 22.8	-2.2
IL31		**7.17**	**22**	Pn	Pn	01 12 26.8	-1.9
ILAR	**Eielson Array**	**7.17**	**22**	Pn	Pn	01 12 27.3	-1.5
SCRK	**Sand Creek**	**7.23**	**34**	Pn	Pn	01 12 28.1	-1.6
J25K	**Salcha River,**	**7.36**	**27**	Pn	Pn	01 12 30.2	-1.4
H17K	**Granite Mounta**	**7.44**	**337**	Pn	Pn	01 12 31.9	-0.6
O29M	**Mount Kennedy**	**7.71**	**68**	Pn	Pn	01 12 35.6	-0.7
M29M	**Somme Creek**	**8.37**	**54**	Pn	Pn	01 12 43.8	-1.6
F21K	**Alatna River**	**9.00**	**359**	Pn	Pn	01 12 55.0	+1.2
WHY	**Whitehorse**	**9.57**	**68**	Pn	Pn	01 13 02.0	+0.2

*NEIC **13** 01:24:44.6±1.4, 51°.6N±0°.2×178°.2E±0°.1, h136km±14km, mb4.0/62, ML3.3(AEIC), Error ellipse: s-maj=33.2km s-min=10.1km az=182.0*
*IDC **13** 01:24:44.8±2.1, 52°.02N×178°.36E, h112km±16km, mb3.4/10, mbtmp3.9/13, MS2.3/1, Error ellipse: s-maj=29.1km s-min=13.0km az=175.0*
*AEIC **13** 01:24:47.9±3.1, 51°.3N±0°.2×178°.6E±0°.2, h142km±8km, Error ellipse: s-maj=32.0km s-min=14.9km az=153.0*
ISC 13 01:24:45.7±1.1, 51°.7N±0°.2×178°.22E±0°.05, h150km, n106, σ1°44/105, mb3.9/25, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.83**	**86**		**Pn**	**01 25 17.6**	**-1.1**
GASW					**S

M16K IAmb IAmb 01 28 46.1
comp=Z,21nm,1.4s
L16K Owhat River 15.76 42 P **P 01 28 20.2 +0.3**
L16K IAmb IAmb 01 28 36.4
comp=Z,15nm,1.4s
N17K Nushagak Hills 16.24 47 P **P 01 28 25.9 +0.6**
N17K IAmb IAmb 01 28 28.0
comp=Z,7.6nm,0.8s
M17K Holitna River 16.48 44 P **Pn 01 28 28.6 +0.7**
K17K Iditarod 16.74 40 P **Pn 01 28 31.7 +0.7**
K17K IAmb IAmb 01 28 35.2
comp=Z,7.3nm,1.1s
O18K Koktuh Hills 16.95 51 P **Pn 01 28 33.4 -0.2**
L18K Granite Mounta 17.16 42 P **Pn 01 28 35.9 -0.2**
L18K IAmb IAmb 01 28 42.1
comp=Z,13nm,1.4s
N19K Bonanza Creek 17.59 48 P **Pn 01 28 41.2 -0.1**
N19K IAmb IAmb 01 28 46.0
comp=Z,12nm,0.8s
J18K Innoko River 17.74 39 P **Pn 01 28 42.1 -0.9**
TTA Tatalina 17.76 41 P **Pn 01 28 43.1 -0.3**
KDAK Kodiak Island 17.84 59 P **P 01 28 41.6 -1.2**
KDAK Kodiak Island 17.84 59 P **P 01 28 40.7 -2.1**
comp=Z,5.9nm,0.5s,baz=253,slow=17,SNR=17
L19K White Mountain 17.92 44 P **Pn 01 28 43.9 -1.3**
L19K IAmb IAmb 01 29 08.7
comp=Z,19nm,1.5s
J19K Poorman 18.43 38 P **Pn 01 28 49.6 -1.5**
STLK Strandline Lak 19.02 47 P **Pn 01 28 56.9 -1.3**
J20K Nowinta River 19.08 38 P **P 01 28 56.3 0.0**
J20K IAmb IAmb 01 28 59.6
comp=Z,6.3nm,1.1s
SKT Skwentna 19.31 46 P **Pn 01 29 00.1 -1.3**
SKT IAmb IAmb 01 29 06.0
comp=Z,7.8nm,0.8s
PPLA Purkeypile 19.34 43 P **Pn 01 29 00.7 -1.2**
SUA Susitna One 19.51 48 P **Pn 01 29 02.0 -1.9**
SUA IAmb IAmb 01 29 05.9
comp=Z,8.8nm,0.9s
SLKM Skilak Lake 19.52 51 P **P 01 29 01.2 0.0**
CAST Castle Rocks 19.58 42 P **P 01 29 02.3 +0.5**
CAST IAmb IAmb 01 29 03.9
comp=Z,4.6nm,0.8s
H21K Melozitna River 20.30 35 P **P 01 29 09.6 +0.2**
H21K IAmb IAmb 01 29 13.6
comp=Z,3.6nm,0.8s
PWL Port Wells 20.50 50 P **P 01 29 10.7 -1.0**
KNK Knik Glacier 20.57 49 P **P 01 29 12.0 -0.3**
KNK IAmb IAmb 01 29 18.1
comp=Z,13nm,1.2s
SML Sawmill 20.72 48 P **P 01 29 13.3 -0.7**
SML IAmb IAmb 01 29 16.8
comp=Z,10nm,1.0s
F21K Alatna River 20.90 31 P **P 01 29 15.8 0.0**
F21K IAmb IAmb 01 29 16.8
comp=Z,4.3nm,0.9s
RND Reindeer 20.94 43 P **P 01 29 15.8 -0.4**
RND IAmb IAmb 01 29 25.1
comp=Z,8.5nm,1.4s
GLI Glacier Island 21.10 51 P **P 01 29 16.2 -1.8**
SCM Sheep Creek Mo 21.19 48 P **P 01 29 18.2 -0.8**
FID Port Fidalgo 21.38 51 P **P 01 29 18.7 -2.3**
KLU Klutina 21.77 49 P **P 01 29 25.8 +0.5**
KLU IAmb IAmb 01 29 31.8
comp=Z,7.6nm,1.2s
M24K Tolsona, Glenn 21.78 48 P **P 01 29 26.4 +1.1**
G23K Bananza Creek 21.80 34 P **P 01 29 25.4 -0.1**
IL31 22.20 40 P **P 01 29 28.0 -1.4**
ILAR Eielson Array 22.20 40 P **P 01 29 28.4 -1.0**
comp=Z,0.4nm,0.5s,baz=246,slow=8.1,SNR=9.9
comp=Z,0.4nm,0.5s
H24K Noodor Dome 22.20 37 P **P 01 29 30.3 +0.8**
H24K IAmb IAmb 01 30 00.2
comp=Z,5.8nm,1.3s
PAX Paxson 22.29 46 P **P 01 29 30.9 +0.4**
HMT Hamilton 22.41 53 P **P 01 29 31.4 -0.2**
N25K Chitina, Valde 22.42 49 P **P 01 29 32.1 +0.4**
N25K IAmb IAmb 01 29 48.2
comp=Z,12nm,1.5s
E23K Chandalar 22.60 31 P **P 01 29 32.5 -0.8**
SUCK Suckling Hills 22.63 53 P **P 01 29 34.1 +0.6**
BERG Berg Lake 22.69 53 P **P 01 29 35.0 +0.9**
D23K Nanushuk River 22.75 29 P **P 01 29 34.0 -0.6**
D23K IAmb IAmb 01 30 06.0
comp=Z,5.7nm,1.2s
TOLK Toolik Lake Re 22.91 30 P **P 01 29 36.5 +0.3**
F24K Squaw Lake 22.91 33 P **P 01 29 35.4 -0.8**
C23K Itkillik River 23.27 27 P **P 01 29 38.2 -1.1**
C23K IAmb IAmb 01 30 10.6
comp=Z,8.5nm,1.4s
F25K Christian Rive 23.73 34 P **P 01 29 44.0 +0.3**
F25K IAmb IAmb 01 29 58.7
comp=Z,6.7nm,1.5s
L27K Beaver Creek, 23.93 46 P **P 01 29 45.6 +0.1**
L27K IAmb IAmb 01 29 48.8
comp=Z,5.5nm,0.8s
D25K Kavik River 24.25 30 P **P 01 29 48.8 +0.4**
D25K IAmb IAmb 01 29 49.8
comp=Z,3.1nm,0.7s
F26K Sheenjek River 24.29 35 P **P 01 29 49.4 +0.6**
PCA Pinnacle 24.39 54 P **P 01 29 50.3 +0.6**
DAWY Dawson 25.18 44 P **P 01 29 57.7 +0.9**
DAWY IAmb IAmb 01 30 00.3
comp=Z,3.6nm,0.8s
I28M Miner Creek 25.21 41 P **P 01 29 56.4 -0.8**
C27K Jago River 25.23 30 P **P 01 29 58.0 +0.9**
HYT Haines Junctio 25.77 52 P **P 01 30 05.8 +3.5**
HYT IAmb IAmb 01 30 07.0
comp=Z,3.9nm,0.6s
F28M Old Crow 25.80 36 P **P 01 30 03.0 +0.6**
D27M Malcolm River 25.96 32 P **P 01 30 04.6 +0.8**
D27M IAmb IAmb 01 30 08.3
comp=Z,3.0nm,0.9s
H29M Whitestone 26.01 39 P **P 01 30 04.1 -0.1**
E28M Babbage River 26.23 34 P **P 01 30 06.7 +0.5**
E29M Blow River 26.74 35 P **P 01 30 12.1 +1.3**
E29M IAmb IAmb 01 30 32.2
comp=Z,6.8nm,1.4s
G31M Satah River 27.76 39 P **P 01 30 20.0 +0.2**
G31M IAmb IAmb 01 30 57.6
comp=Z,4.9nm,1.1s
INK Inuvik 28.29 36 P **P 01 30 24.6 +0.1**
INK IAmb IAmb 01 30 29.1
comp=Z,2.8nm,1.2s
A36M Sachs Harbour 31.74 30 P **P 01 30 56.3 +1.5**
A36M IAmb IAmb 01 30 57.1
comp=Z,2.9nm,0.8s
H11N2 WAKE ISLAND Hy 33.10 200 T T 02 06 37.2
baz=11
H11N3 WAKE ISLAND Hy 33.11 200 T T 02 06 55.2
baz=11
H11N1 WAKE ISLAND Hy 33.12 200 T T 02 06 56.0
baz=11
H11S1 WAKE ISLAND Hy 34.33 200 T T 02 08 23.3
baz=10
H11S3 WAKE ISLAND Hy 34.34 200 T T 02 08 30.0
baz=10
H11S2 WAKE ISLAND Hy 34.34 200 T T 02 08 20.5
baz=10
YKA Yellowknife Ar 36.37 46 P **P 01 31 34.8 -0.1**
YKA Yellowknife Ar 36.37 46 P **P 01 31 35.9 +1.0**
comp=Z,0.8nm,0.7s,baz=283,slow=8.8,SNR=9.2
comp=Z,0.8nm,0.7s
SONM Songino Array 44.84 295 P **P 01 32 47.7 +3.1**
comp=Z,0.3nm,0.4s,baz=56,slow=8.8,SNR=3.0
comp=Z,0.3nm,0.4s
PDAR Pinedale Array 47.98 71 P **P 01 33 10.4 +1.1**
comp=Z,0.4nm,0.6s,baz=295,slow=4.6,SNR=5.0
comp=Z,0.4nm,0.6s
SPITS Spitsbergen Ar 49.93 355 P **P 01 33 23.6 +0.2**
comp=Z,9.4nm,1.0s,baz=37,slow=7.7,SNR=1.8
comp=Z,9.4nm,1.0s
KURBB Kurchatov Arra 57.55 312 P **P 01 34 20.8 +1.7**
comp=Z,0.9nm,0.5s,baz=42,slow=6.7,SNR=12
comp=Z,0.9nm,0.5s
MKAR Makanchi Array 58.37 307 P **P 01 34 26.5 +1.6**
comp=Z,0.3nm,0.3s,baz=51,slow=6.4,SNR=7.4
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 59.44 318 P **P 01 34 34.1 +2.0**
comp=Z,1.4nm,0.5s,baz=58,slow=6.5,SNR=10
comp=Z,1.4nm,0.5s
TXAR Lajitas Array 60.44 79 P **P 01 34 41.4 +2.0**
comp=Z,0.2nm,0.4s,baz=306,slow=4.7,SNR=10
comp=Z,0.2nm,0.4s
WRA Warramunga Arr 80.97 221 P P 01 36 48.4 +5.1
comp=Z,0.9nm,0.7s,baz=30,slow=5.8,SNR=6.1
comp=Z,0.9nm,0.7s
TORD Torodi Ar. Bea 115.38 356 PKP **PKPdf 01 43 12.1 +2.4**
comp=Z,0.2nm,0.4s,baz=325,slow=1.8,SNR=2.1
BOSA Boshof 149.36 308 PKPbc **PKPab 01 44 20.2 -1.6**
comp=Z,1.5nm,0.5s,baz=38,slow=1.8,SNR=8.5

---

*IDC **13** 01:45:49.0±0.8, 12°.97S×45°.39E, h0km, mb3.8/8, mbtmp3.9/10, ML4.8/3, Error ellipse: s-maj=24.2km s-min=20.2km az=147.0*
*NEIC **13** 01:45:49.7±1.9, 12°.89S±0°.10×45°.4E±0°.1, h10km±2km, mb4.2/4, Error ellipse: s-maj=22.6km s-min=16.3km az=77.0*
ISC 13 01:45:49.7±0.6, 12°.97S±0°.07×45°.35E±0°.10, h10km, n24, σ1°68/25, mb4.0/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.84**	**163**	Pn	**Pn**	**01 47 17.5**	**+1.0**
	11nm,0.3s,baz=334,slow=12,SNR=728						
OPO				Sn	**Sn**	**01 48 20.0**	**-3.7**
	5.5nm,0.3s,baz=300,slow=23,SNR=9.1						
ABPO	**Ambohimpanom**	**6.27**	**164**	Pn	**Pn**	**01 47 23.2**	**+0.7**
VOI	**Vohitsoka**	**8.99**	**171**	Pn	**Pn**	**01 47 59.5**	**-0.2**
FOMA	**Nahampoana Res**	**12.04**	**173**	Pn	**Pn**	**01 48 41.4**	**0.0**
KIBK	**Kibwezi**	**12.80**	**325**	Pn	**Pn**	**01 48 47.7**	**-4.3**
RER	**Riviere de l'E**	**12.84**	**131**	Pn	**Pn**	**01 48 51.6**	**-0.9**
KMBO	**Kilima Mbogo**	**14.25**	**325**	Pn	**Pn**	**01 49 09.2**	**-2.7**
LSZ	**Lusaka**	**16.80**	**260**	Pn	**Pn**	**01 49 45.1**	**-0.3**
LSZ				IAmb	IAmb	01 49 51.0	
	comp=Z,19nm,0.9s						
LSZ	**Lusaka**	**16.80**	**260**	Pn	**Pn**	**01 49 45.4**	**0.0**
	comp=Z,0.8nm,0.3s,baz=83,slow=8.6,SNR=24						
	comp=Z,16nm,0.9s						
MATP	**Matopo**	**17.75**	**243**	P	**P**	**01 49 58.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=69,slow=11,SNR=11						
	comp=Z,4.4nm,0.8s						
LBTB	**Lobatse**	**22.15**	**234**	P	**P**	**01 50 45.2**	**-0.8**
LBTB				IAmb	IAmb	01 50 53.5	
	comp=Z,9.6nm,1.1s						
LBTB	**Lobatse**	**22.15**	**234**	P	**P**	**01 50 47.5**	**+1.4**
	comp=Z,4.2nm,0.8s,baz=69,slow=8.6,SNR=6.2						
	comp=Z,4.2nm,0.8s						
BOSA	**Boshof**	**24.34**	**227**	P	**P**	**01 51 09.1**	**+1.1**
BOSA	**Boshof**	**24.34**	**227**	P	**P**	**01 51 09.1**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=52,slow=9.5,SNR=14						
	comp=Z,2.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**50.46**	**299**	P	**P**	**01 54 50.0**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=133,slow=6.1,SNR=3.9						
	comp=Z,0.6nm,0.9s						
KKAR	**Karatay Array**	**60.37**	**21**	P	**P**	**01 55 59.9**	**+0.8**
ABKAR	**Akbulak array**	**63.28**	**11**	P	**P**	**01 56 18.0**	**-0.5**
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**01 56 49.1**	**-0.5**
MKAR	**Makanchi Array**	**68.08**	**26**	P	**P**	**01 56 49.8**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=217,slow=7.3,SNR=3.7						
	comp=Z,0.1nm,0.5s						
ESDC	**Sonseca Array**	**69.60**	**321**	P	**P**	**01 56 59.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=130,slow=5.9,SNR=7.3						
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**74.64**	**23**	P	**P**	**01 57 31.8**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=206,slow=9.5,SNR=2.4						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**83.59**	**113**	P	**P**	**01 58 19.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=262,slow=4.7,SNR=7.6						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**84.73**	**109**	P	**P**	**01 58 25.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=266,slow=3.5,SNR=5.9						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**146.98**	**304**	PKPbc	**PKPdf**	**02 05 32.5**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=112,slow=2.0,SNR=4.4						

IDC 13 02:05:44.2±2.7, 5°.50S×131°.51E, h0km, mb3.7/1, mbtmp3.7/4, ML3.5/3, MS2.8/1, Error ellipse: s-maj=121.3km s-min=29.0km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.77**	**204**	Pn	Pn	02 08 59.5	-1.4
	0.1nm,0.3s,baz=30,slow=14,SNR=1.8						
FITZ				Sn	Sn	02 11 25.9	-8.8
	0.2nm,0.3s,baz=264,slow=12,SNR=1.6						
FITZ				LR	LR	02 15 45.1	
	comp=Z,45nm,21.4s,baz=110,slow=44						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**14.62**	**169**	Pn	Pn	02 09 11.8	-0.7
	0.2nm,0.3s,baz=355,slow=13,SNR=9.8						
WRA				Sn	Sn	02 11 47.0	-8.4
	0.1nm,0.3s,baz=349,slow=24,SNR=1.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**18.21**	**173**	P	P	02 09 59.7	+0.7
	0.3nm,0.3s,baz=355,slow=12,SNR=20						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**67.82**	**326**	P	P	02 16 44.2	0.0
	0.5nm,0.6s,baz=112,slow=7.6,SNR=5.7						
	0.5nm,0.6s						

---

*IDC **13** 02:05:40.7±10.0, 31°.82N×75°.43E, h0km, mb3.6/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=219.8km s-min=34.8km az=72.0*
*NDI **13** 02:05:50.9±2.7, 32°.33N×76°.44E, h10km, ML3.6, MW3.7*
ISC 13 02:05:49.2±1.5, 32°.39N±0°.03×76°.57E±0°.06, h3km±12km, n13, σ2°11/21, mb3.3/3, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.27**	**240**	*e*P	**Pg**	**02 05 53.0**	**-1.5**
DHRM				*e*S	**Sg**	**02 05 55.2**	**-2.8**
DHRM				IAML		02 05 56.4	
	comp=E,20μm,0.2s						
DHRM				IAML		02 05 56.9	
	comp=N,14μm,0.2s						
TSSA	**Tissa**	**0.57**	**322**	*e*P	**Pg**	**02 06 00.5**	**+0.2**
TSSA				*e*S	**Sg**	**02 06 08.2**	**+0.4**
TLWR	**Talawar**	**0.68**	**231**	*e*P	**Pg**	**02 06 02.5**	**+0.3**
TLWR				*e*S	**Sg**	**02 06 10.2**	**-0.7**
BHK	**Bhakra**	**0.98**	**188**	*e*P	**Pg**	**02 06 08.6**	**+0.7**
BHK				*e*S	**Sb**	**02 06 24.0**	**+1.9**
BHK				IAML		02 06 29.1	
	comp=E,582nm,0.2s						
BHK				IAML		02 06 30.2	
	comp=N,915nm,0.1s						
SMLA	**Simla**	**1.35**	**158**	*e*P	**Pb**	**02 06 15.7**	**+0.5**
SMLA				*e*S	**Sn**	**02 06 34.3**	**+0.9**
SMLA				IAML		02 06 37.5	
	comp=N,2μm,0.4s						
SMLA				IAML		02 06 38.0	
	comp=E,3μm,0.3s						
JMU	**Jammu**	**1.45**	**284**	*e*P	**Pn**	**02 06 17.2**	**+0.8**
JMU				*e*S	**Sn**	**02 06 38.5**	**+2.6**
JMU				IAML		02 06 42.3	
	comp=E,1μm,0.3s						
JMU				IAML		02 06 42.4	
	comp=N,424nm,0.8s						
DDI	**Dehra Dun**	**2.42**	**148**	*e*x	x	02 06 38.7	
DDI				*e*S	**Sn**	**02 07 01.8**	**+1.9**
DDI				IAML		02 07 09.4	
	comp=E,397nm,0.5s						
DDI				IAML		02 07 12.2	
	comp=N,375nm,0.4s						
KUDL	**Kundal**	**4.23**	**181**	*e*P	**Pn**	**02 06 55.4**	**+0.9**
KUDL				*e*S	**Sn**	**02 07 42.8**	**-1.7**
LGTI	**Lohaghat**	**4.30**	**132**	*e*S	**Sn**	**02 07 45.7**	**-0.6**
MKAR	**Makanchi Array**	**15.04**	**15**	Pn	**Pn**	**02 09 23.6**	**+1.0**
	comp=N,0.3nm,0.3s,baz=203,slow=13,SNR=11						
MKAR				Sn	**Sn**	**02 12 04.0**	**-5.8**
	comp=N,0.1nm,0.3s,baz=192,slow=26,SNR=1.9						
	comp=N,0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**22.34**	**13**	P	**P**	**02 10 48.1**	**0.0**
	comp=N,0.6nm,0.5s,baz=202,slow=11,SNR=2.5						
	comp=N,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.44**	**119**	P	**P**	**02 11 06.6**	**-2.8**
	comp=N,1.2nm,0.3s,baz=309,slow=9.2,SNR=4.8						
	comp=N,1.2nm,0.3s						
SONM	**Songino Array**	**27.32**	**47**	P	**P**	**02 11 37.1**	**+1.8**
	comp=N,0.2nm,0.3s,baz=246,slow=11,SNR=1.9						
	comp=N,0.2nm,0.3s						

TXNET 13 03:02:06.5, 31°.4N±0°.7×103°.5W±0°.6, h5km, ML2.3/10, Error ellipse: s-maj=1.0km s-min=0.9km az=158.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.03**	**316**	P	Pg	03 02 07.9	+0.3
PCOS				S	Sg	03 02 08.8	+0.3
TPB10	**Southeast of T**	**0.25**	**245**	P	Pg	03 02 12.3	+0.8
TPB10				S	Sg	03 02 16.5	+1.8
TPB03	**Saragosa**	**0.31**	**184**	P	Pg	03 02 13.2	+0.7
TPB03				S	Sb	03 02 18.3	-1.6
PECS	**Pecos**	**0.32**	**266**	P	Pg	03 02 13.4	+0.6
PECS				S	Sg	03 02 18.5	+1.4
PECS	**Pecos**	**0.32**	**266**	P	Pg	03 02 13.6	+0.7
PECS				S	Sg	03 02 18.6	+1.5
TPB06	**Permian Basin**	**0.34**	**42**	P	Pb	03 02 15.1	-0.1
TPB12	**Southwest of T**	**0.44**	**246**	P	Pg	03 02 15.3	+0.3
TPB12				S	Sg	03 02 21.8	+1.1
TPB05	**Hovey Rd**	**0.49**	**163**	P	Pg	03 02 16.5	+0.5
TPB05				S	Sg	03 02 23.7	+1.4
TPB01	**Permian Basin**	**0.51**	**209**	P	Pg	03 02 16.3	-0.1
TPB01				S	Sg	03 02 24.0	+0.9
MNHN	**Monahans**	**0.62**	**94**	S	Sb	03 02 28.5	-0.6
MNHN	**Monahans**	**0.62**	**94**	S	Sg	03 02 20.1	-6.6
MNHN				S	Sb	03 02 28.5	-0.6
TPB08	**Permian Basin**	**0.70**	**135**	P	Pb	03 02 21.1	-0.2
TPB08				S	Sb	03 02 30.9	-0.5
TPB11	**China Draw**	**0.71**	**320**	S	Sb	03 02 31.4	-0.3
CLNB	**Carlsbad**	**0.93**	**339**	S	Sb	03 02 38.3	+0.3
NM01	**Eunice**	**0.96**	**5**	P	Pg	03 02 25.2	+0.1
NM01				S	Sn	03 02 40.2	-0.8
ALPN	**Alpine**	**1.02**	**187**	P	Pg	03 02 24.9	-1.2
ALPN				S	Sg	03 02 38.6	-0.8
ALPN	**Alpine**	**1.02**	**187**	P	Pg	03 02 25.1	-1.0
ALPN				S	Sb	03 02 40.4	-0.1
ODSA	**Odessa**	**1.08**	**48**	P	Pb	03 02 27.7	-0.1
ODSA				S	Sb	03 02 42.8	+0.6
HTMS	**Hat Mesa**	**1.08**	**354**	P	Pg	03 02 27.3	-0.1
TMB02	**Rankin**	**1.26**	**98**	P	Pn	03 02 30.8	0.0
TMB02				S	Sn	03 02 48.0	-0.2
VHRN	**Van Horn**	**1.42**	**245**	P	Pn	03 02 32.7	-0.4
VHRN	**Van Horn**	**1.42**	**245**	P	Pn	03 02 32.8	-0.3
VHRN				S	Sb	03 02 52.0	0.0
TMB04	**Seminole**	**1.50**	**34**	P	Pg	03 02 35.2	-0.1
TMB04				S	Sg	03 02 56.4	+1.8
MNTX	**Cornudas Mount**	**1.64**	**281**	P	Pb	03 02 37.4	+0.1
MNTX				S	Sg	03 02 59.5	+0.2
MNTX	**Cornudas Mount**	**1.64**	**281**	P	Pb	03 02 37.5	+0.2
MNTX				S	Sg	03 03 00.3	+0.9
SAND	**Sanderson**	**1.85**	**140**	P	Pb	03 02 40.3	-0.6
SAND				S	Sg	03 03 05.7	-0.4
SAND	**Sanderson**	**1.85**	**140**	P	Pb	03 02 40.4	-0.5
SAND				S	Sg	03 03 05.7	-0.4
TX31	**Lajitas Ar. Si**	**2.06**	**184**	P	Pn	03 02 43.0	+1.1
TX31				S	Sb	03 03 11.0	+0.7
TX31	**Lajitas Ar. Si**	**2.06**	**184**	P	Pn	03 02 43.0	+1.2
OZNA	**Ozona**	**2.08**	**102**	P	Pb	03 02 44.5	-0.2
OZNA				S	Sb	03 03 12.0	+1.1
SGCY	**Sterling City**	**2.08**	**75**	P	Pb	03 02 45.1	+0.2
SGCY				S	Sg	03 03 12.5	-0.9

---

*ISN **13** 03:17:01.7±2.4, 34°.91N×46°.29E, h25km, ML3.2*
*TEH **13** 03:17:13.4, 34°.91N×45°.62E, h10km±81km*
ISC 13 03:17:14.8±1.6, 34°.86N±0°.09×45°.68E±0°.06, h10km, n7, σ0°35/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.36**	**193**	Pg	**Pg**	**03 17 21.6**	**-0.3**
IDHR	**Dehrash**	**0.60**	**105**	Pg	**Pg**	**03 17 26.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.77**	**166**	Pg	**Pg**	**03 17 29.6**	**0.0**
IGHG	**Ghaleghazi**	**0.90**	**126**	Pg	**Pg**	**03 17 32.1**	**0.0**
IKRK	**Kirkuk**	**1.23**	**296**	*e*Pg	Pb	03 17 30.0	-8.1
	baz=107						
IKRK				*e*Sg	**Sn**	**03 17 55.0**	**+0.4**
IKRK				AML	AML	03 17 58.9	
	comp=E,333nm,0.2s						
KCHF	**Cheshme Sefid,**	**1.26**	**117**	Pg	**Pg**	**03 17 39.2**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.60**	**90**	Pg	**Pg**	**03 17 45.0**	**-0.5**

---

*NEIC **13** 03:19:03.1±1.1, 61°.50N±0°.03×149°.93W±0°.05, h45km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=172.0*
AEIC 13 03:19:02.6±1.2, 61°.51N±0°.03×149°.94W±0°.05, h49km±3km, ML2.2, ML2.5/80(NEIC), Error ellipse: s-maj=3.9km s-min=3.4km az=172.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**341**		Pn	03 19 11.1	-0.3
M22K					Sn	03 19 17.9	+0.3
M22K	**Willow**	**0.26**	**341**	IAML		03 19 18.3	
	comp=E,583nm,0.5s						
M22K				IAML		03 19 18.6	
	comp=N,837nm,0.7s						
FIS	**Fire Island**	**0.39**	**201**		Pn	03 19 13.0	+0.4
FIS	**Fire Island**	**0.39**	**201**	IAML		03 19 23.2	
	comp=E,317nm,0.3s						
SUA	**Susitna One**	**0.39**	**264**		Pn	03 19 12.7	0.0
SUA					Sn	03 19 20.4	+0.4
SUA	**Susitna One**	**0.39**	**264**	IAML		03 19 20.8	
	comp=E,627nm,0.5s						
SUA				IAML		03 19 21.0	
	comp=N,779nm,0.5s						
PMR	**Palmer**	**0.40**	**77**		Pn	03 19 12.3	-0.4
PMR				IAML		03 19 20.3	
	comp=E,428nm,0.4s						
PMR				IAML		03 19 20.4	
	comp=N,315nm,0.2s						
PMR	**Palmer**	**0.40**	**77**		Sn	03 19 19.7	-0.1
RC01	**Rabbit Creek A**	**0.43**	**167**		Pn	03 19 12.6	-0.5
RC01					Sn	03 19 20.4	-0.1
RC01	**Rabbit Creek A**	**0.43**	**167**	IAML		03 19 21.4	
	comp=N,584nm,0.2s						
RC01				IAML		03 19 21.8	
	comp=E,392nm,0.1s						
GHO	**Glory Hole Cre**	**0.55**	**61**		Pn	03 19 14.5	0.0
GHO				IAML		03 19 24.5	
	comp=N,208nm,0.4s						
GHO				IAML		03 19 25.0	
	comp=E,199nm,0.3s						
GHO	**Glory Hole Cre**	**0.55**	**61**		Sn	03 19 23.9	+0.7
KNK	**Knik Glacier**	**0.72**	**97**		Pn	03 19 16.7	+0.1
KNK	**Knik Glacier**	**0.72**	**97**		Sn	03 19 27.7	+1.0
SML	**Sawmill**	**0.82**	**68**		Pn	03 19 18.1	+0.1
SML				IAML		03 19 32.0	
	comp=E,89nm,0.6s						
SML	**Sawmill**	**0.82**	**68**		Sn	03 19 30.2	+0.9
SKT	**Skwentna**	**0.90**	**303**		Pn	03 19 18.9	-0.1
SKT					Sn	03 19 31.5	+0.5
SKT	**Skwentna**	**0.90**	**303**	IAML		03 19 32.0	
	comp=N,158nm,0.2s						
SKT				IAML		03 19 33.4	
	comp=E,120nm,0.3s						
STLK	**Strandline Lak**	**0.91**	**270**		Pn	03 19 19.5	+0.3
STLK					Sn	03 19 32.0	+0.7
STLK	**Strandline Lak**	**0.91**	**270**	IAML		03 19 32.7	
	comp=N,167nm,0.3s						
STLK				IAML		03 19 33.2	
	comp=E,118nm,0.2s						
CUT	**Chulitna**	**0.92**	**350**		Pn	03 19 19.0	-0.2
CUT	**Chulitna**	**0.92**	**350**		Sn	03 19 32.5	+1.2
CAPN	**Captain Cook N**	**0.95**	**219**		Pn	03 19 20.9	+1.4
PWL	**Port Wells**	**1.01**	**129**		Pn	03 19 20.7	+0.2
PWL					Sn	03 19 35.0	+1.4
SLKM	**Skilak Lake**	**1.01**	**188**		Pn	03 19 20.2	-0.4
SLKM	**Skilak Lake**	**1.01**	**188**	IAML		03 19 37.4	
	comp=N,164nm,0.3s						
SPCG	**Spurr Capps Gl**	**1.02**	**259**		Pn	03 19 21.1	+0.3
O22K	**Cooper Landing**	**1.03**	**174**		Pn	03 19 20.6	-0.1
SPU	**Mount Spurr**	**1.07**	**253**	Pn	Pn	03 19 21.5	+0.2
M23K	**Glacier View**	**1.09**	**74**		Pn	03 19 22.3	+0.7
SPBG	**Spurr Blockage**	**1.20**	**259**		Sn	03 19 39.9	+1.6
CKL	**Ch

RDT	Redoubt	1.52 233		Pn	03 19 27.7	+0.2
M20K	Styx River	1.57 285		Pn	03 19 28.9	+0.8
M20K	Styx River	1.57 285	IAML		03 19 51.7	
	comp=E,60nm,1.0s					
RDWB	Redoubt West	1.75 235		Pn	03 19 31.1	+0.5
PPLA	Purkeypile	1.75 324		Pn	03 19 31.5	+0.8
RED	Redoubt Volcan	1.76 233		Pn	03 19 31.1	+0.4
BRLK	Bradley Lake	1.81 195		Pn	03 19 31.4	0.0
BRLK	Bradley Lake	1.81 195	IAML		03 19 57.7	
	comp=E,54nm,0.5s					
BRLK			IAML		03 20 00.7	
	comp=N,32nm,0.5s					
BRSE	Bradley Lake S	1.81 193		Pn	03 19 31.1	-0.3
FID	Port Fidalgo	1.84 113		Pn	03 19 31.1	-0.7
FID	Port Fidalgo	1.84 113	IAML		03 20 00.0	
	comp=N,38nm,0.3s					
FID			IAML		03 20 03.0	
	comp=E,39nm,0.4s					
M24K	Tolsona, Glenn	1.89 70		Pn	03 19 33.6	+1.1
M24K	Tolsona, Glenn	1.89 70	IAML		03 20 01.0	
	comp=N,45nm,1.1s					
M24K			IAML		03 20 01.5	
	comp=E,45nm,0.7s					
KLU	Klutina	1.93 89		Pn	03 19 33.1	+0.1
KLU			IAML		03 20 04.9	
	comp=N,34nm,0.4s					
KLU			IAML		03 20 09.6	
	comp=E,23nm,0.4s					
P23K	Montague Islan	1.96 139		Pn	03 19 32.5	-0.8
TRF	Thorofare Moun	1.96 355		Pn	03 19 34.1	+0.5
TRF			IAML		03 20 02.5	
	comp=E,39nm,0.6s					
TRF			IAML		03 20 03.0	
	comp=N,55nm,0.5s					
RND	Reindeer	1.97 14		Pn	03 19 34.5	+0.9
HIN	Hinchinbrook I	2.01 122		Pn	03 19 34.0	-0.2
HIN	Hinchinbrook I	2.01 122	IAML		03 20 10.3	
	comp=E,53nm,1.2s					
HIN			IAML		03 20 11.9	
	comp=N,34nm,0.7s					
DIV	Divide	2.04 99		Pn	03 19 34.6	0.0
CNPM	China Poot	2.09 198		Pn	03 19 35.2	0.0
CNPM	China Poot	2.09 198	IAML		03 20 05.5	
	comp=E,26nm,0.9s					
CNPM			IAML		03 20 06.7	
	comp=N,23nm,0.5s					
L20K	Farewell, AK	2.10 299		Pn	03 19 36.1	+0.7
KTH	Kantishna Hill	2.10 348		Pn	03 19 36.3	+0.9
KTH			IAML		03 20 04.8	
	comp=E,34nm,0.4s					
KTH			IAML		03 20 05.1	
	comp=N,38nm,0.5s					
KTH	Kantishna Hill	2.10 348		Sn	03 20 03.1	+2.6
CAST	Castle Rocks	2.16 333		Pn	03 19 37.1	+0.9
EYAK	Cordova Ski Ar	2.25 113		Pn	03 19 37.4	0.0
MCK	McKinley	2.28 11		Pn	03 19 39.0	+1.1
N19K	Bonanza Creek	2.31 255		Pn	03 19 39.0	+0.7
N25K	Chitina, Valde	2.56 85		Pn	03 19 42.3	+0.7
N25K	Chitina, Valde	2.56 85	IAML		03 20 23.1	
	comp=N,18nm,0.3s					
N25K			IAML		03 20 23.8	
	comp=E,15nm,0.8s					
K20K	Telida	2.67 316		Pn	03 19 43.8	+0.7
K20K	Telida	2.67 316	IAML		03 20 23.1	
	comp=E,11nm,0.5s					
GOAT	Goat Mountain	2.70 108		Pn	03 19 43.3	-0.2
M18K	Stony River	2.82 272		Pn	03 19 45.9	+0.7
N18K	Kilae Creek	3.01 257		Pn	03 19 48.1	+0.4
TTA	Tatalina	3.18 299		Pn	03 19 50.6	+0.4
L18K	Granite Mounta	3.28 286		Pn	03 19 52.1	+0.6
J20K	Nowinta River	3.30 326		Pn	03 19 52.4	+0.7
J20K	Nowinta River	3.30 326	IAML		03 20 48.1	
	comp=E,13nm,0.7s					
IL31		3.56 22		Pn	03 19 55.3	+0.1
J19K	Poorman	3.62 316		Pn	03 19 56.9	+0.8
J19K	Poorman	3.62 316	IAML		03 20 57.9	
	comp=E,11nm,0.8s					
I23K	Minto, Yukon-K	3.67 4		Pn	03 19 57.5	+0.8
I23K	Minto, Yukon-K	3.67 4	IAML		03 21 06.3	
	comp=N,5.3nm,0.8s					
J25K	Salcha River,	3.75 32	Pn	Pn	03 19 59.5	+1.6
J25K			IAML		03 20 52.4	
	comp=E,5.6nm,0.6s					

*NOU **13** 03:52:48.6, 37°21S×179°03E, h16km, MLv4.2/10, Off E. Coast of N. Island, N.Z.*
*WEL **13** 03:52:49.2±0.8, 37°S±4°×17°9E±°, h12km, M3.4/19, ML3.7/21, MLv3.4/19, Error ellipse: s-maj=7.3km s-min=4.7km az=89.3, confirmed*
ISC 13 03:52:47.9±2.7, 37°23S±0°08×179°1E±0°1, h15km±10km, n65, σ1s57/96, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.68	241	P	Pb	03 53 02.1	+0.6
MXZ	Matakaoa Point	0.68	241	P	Pb	03 53 01.9	+0.4
MXZ				S	Sg	03 53 10.0	-0.2
WMGZ	Waiomatatini S	0.78	221	P	Pn	03 53 05.8	+1.5
WMGZ				S	Sn	03 53 18.4	+2.7
PUZ	Puketiti	1.05	217	P	Pn	03 53 09.8	+1.7
PUZ				S	Sn	03 53 24.7	+2.2
HAZ	Te Kaha	1.14	242	P	Pn	03 53 11.3	+2.0
HAZ				S	Sn	03 53 26.4	+1.7
TWGZ	Tauwhareparae	1.27	222	P	Pb	03 53 12.8	+1.2
TWGZ				S	Sn	03 53 30.8	+2.8
RUGZ	Raukumara Rang	1.32	236	P	Pg	03 53 13.0	-0.3
RUGZ				S	Sn	03 53 31.0	+1.8
CNGZ	Carnagh Statio	1.42	208	P	Pg	03 53 15.2	0.0
TKGZ	Te Karaka	1.54	218	P	Pb	03 53 16.3	+0.2
MWZ	Matawai	1.64	227	P	Pb	03 53 17.3	-0.4
MWZ				S	Sn	03 53 37.4	+0.4
RIGZ	Rimuhau	1.79	214	P	Pn	03 53 19.4	+1.1
RIGZ				S	Sn	03 53 42.2	+1.4
URZ	Urewera	1.85	236	P	Pb	03 53 20.4	-1.0
URZ	Urewera	1.85	236	P	Pn	03 53 20.2	+1.1
URZ				S	Sn	03 53 43.2	+1.0
PRGZ	Paritu Road	1.93	208	P	Pn	03 53 21.2	+1.1
PRGZ				S	Sn	03 53 44.5	+0.4
KNZ	Kokohu	2.09	211	P	Pn	03 53 22.8	+0.4
KNZ				S	Sn	03 53 47.9	-0.2
MHGZ	Mahia Peninsul	2.12	205	P	Pn	03 53 23.7	+0.9
RTZ	Ruatahuna	2.15	229	P	Pn	03 53 24.3	+1.1
RTZ				S	Sn	03 53 52.1	+2.5
MUGZ	Murupara	2.20	235	P	Pn	03 53 24.7	+0.8
MKRZ	Makatiti	2.25	245	P	Pb	03 53 27.1	-1.1
MYRZ	Mayor Island	2.25	268	P	Pn	03 53 24.5	-0.1
MYRZ				S	Sn	03 53 52.1	0.0
TARZ	Mount Tarawera	2.26	243	P	Pn	03 53 26.3	+1.6
RAHZ	Arahi	2.29	222	P	Pn	03 53 26.1	+1.0
RAHZ				S	Sn	03 53 54.0	+0.9
RRRZ	Republican Roa	2.30	241	P	Pn	03 53 26.1	+0.9
WHHZ	Waihua	2.34	217	P	Pn	03 53 26.9	+1.2
WHHZ				S	Sn	03 53 55.4	+1.2
KARZ	Kaharoa	2.37	250	P	Pn	03 53 27.6	+1.3
MTHZ	Maungataniwha	2.38	227	P	Pn	03 53 27.8	+1.4
MTHZ				S	Sn	03 53 55.8	+0.4
NMHZ	Naumai	2.57	223	P	Pn	03 53 30.6	+1.5
NMHZ				S	Sn	03 54 00.8	+0.7
ARHZ	Aropaoanui	2.60	218	P	Pn	03 53 30.0	+0.7
ARHZ				S	Sn	03 54 01.0	+0.4
MRHZ	Matea Rd	2.63	232	P	Pn	03 53 31.0	+1.2
MRHZ				S	Sn	03 54 01.2	-0.3
KUZ	Kuaotunu	2.72	279	P	Pn	03 53 29.4	-1.5
KUZ	Kuaotunu	2.72	279	P	Pn	03 53 29.6	-1.4
KUZ				S	Sn	03 53 58.0	-5.6
BKZ	Black Stump Fm	2.79	226	P	Pn	03 53 33.0	+0.9
TOZ	Tahuroa Road	2.87	259	P	Pn	03 53 32.8	-0.3
MCHZ	McNeill Hill	2.88	219	P	Pn	03 53 34.0	+0.7
KWHZ	Kaweka Forest	3.01	223	P	Pn	03 53 35.3	+0.2
GRZ	Great Barrier	3.06	288	P	Pn	03 53 36.5	+0.9
KAHZ	Kahuranaki	3.08	213	P	Pn	03 53 35.8	-0.2
WIAZ	Waiheke Island	3.17	277	P	Pn	03 53 36.5	-0.7
KRHZ	Kereru	3.20	220	P	Pn	03 53 37.8	+0.1
TMVZ	Te Maari	3.24	234	P	Pn	03 53 38.9	+0.6
NTVZ	North Tongarir	3.25	234	P	Pn	03 53 39.5	+1.1
PXZ	Pawanui	3.28	211	P	Pn	03 53 37.7	-1.0
OTVZ	Oturere	3.30	233	P	Pn	03 53 39.0	-0.1
NNVZ	North Ngauruho	3.31	234	P	Pn	03 53 40.8	+1.6
NGZ	Ngauruhoe	3.34	234	P	Pn	03 53 40.3	+0.6
NGZ				S	Sn	03 54 17.9	-1.4
MOVZ	Moawhango	3.39	229	P	Pn	03 53 40.6	+0.3
MOVZ				S	Sn	03 54 18.0	-2.2
TWVZ	Taurewa	3.39	236	P	Pn	03 53 41.9	+1.5
WNVZ	Wahianoa	3.43	231	P	Pn	03 53 41.9	+0.9
WNVZ				S	Sn	03 54 20.3	-1.2
PNHZ	Pukenui	3.49	219	P	Pn	03 53 40.9	-0.7
PNHZ				S	Sn	03 54 20.5	-2.2
WPHZ	Waipukurau	3.49	215	P	Pn	03 53 41.3	-0.3
WPHZ				S	Sn	03 54 20.5	-2.2
AWAZ	Awhitu Peninsu	3.53	271	P	Pn	03 53 42.1	-0.1
AWAZ				S	Sn	03 54 21.2	-2.4
MTVZ	Mangateitei	3.55	232	P	Pn	03 53 43.1	+0.6
MTVZ				S	Sn	03 54 23.0	-1.2
HIZ	Hauiti	3.56	248	P	Pn	03 53 44.8	+2.2
HIZ	Hauiti	3.56	248	P	Pn	03 53 44.5	+1.9
PRHZ	Porangahau	3.57	211	P	Pn	03 53 41.6	-1.1
PRHZ				S	Sn	03 54 22.1	-2.6
WTAZ	Waiatarua	3.60	273	P	Pn	03 53 43.3	+0.2
DVHZ	Dannevirke	3.81	216	P	Pn	03 53 45.3	-0.6
DVHZ				S	Sn	03 54 27.9	-2.6
WCZ	Waipu Caves	4.01	287	P	Pn	03 53 48.6	-0.1
WCZ				S	Sn	03 54 33.2	-2.2
BFZ	Birch Farm	4.08	212	P	Pn	03 53 48.1	-1.6
KHEZ	Kahui Hut	4.47	241	P	Pn	03 53 57.3	+2.1
OUZ	Omahuta	4.85	293	P	Pn	03 54 00.6	+0.3
QRZ	Quartz Range	6.22	233	P	Pn	03 54 18.8	-0.3
KHZ	Kahutara	6.70	218	P	Pn	03 54 25.5	-0.1
CTZ	Chatham Island	7.28	154	P	Pn	03 54 35.3	+1.6
CTZ	Chatham Island	7.28	154	P	Pn	03 54 35.3	+1.6
CTZ				S	Sn	03 55 49.6	-6.5

*DMN **13** 03:58:44.5±0.0, 30°95N×88°03E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **13** 03:58:45.5±1.9, 30°24N×87°89E, h0km, mb3.4/4, mbtmp3.4/6, ML3.0/1, MS2.9/4, Error ellipse: s-maj=37.5km s-min=34.7km az=19.0*
ISC 13 03:58:51.4±0.9, 30°49N±0°08×87°86E±0°09, h41km, n16, σ1s98/16, mb3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	3.10	215	Pn	Pn	03 59 37.1	-1.1
	baz=212,slow=0.0						
GUN				Sn	Sn	04 00 17.9	+3.8
	256nm,0.8s,baz=212,slow=0.0						
TAPN	Taplejung	3.13	182	Pn	Pn	03 59 38.1	-0.4
	baz=184,slow=0.0						
PKIN	Phulchoki	3.62	217	Pg	Pn	03 59 44.8	-0.4
	baz=215,slow=0.0						
PKIN				Sn	Sn	04 00 28.1	+1.3
	163nm,0.8s,baz=215,slow=0.0						
ODAN	Odare	3.64	187	Pg	Pn	03 59 44.4	-1.1
	baz=188,slow=0.0						
ODAN	Odare	3.64	187	Pg	Pn	03 59 44.6	-0.9
	baz=188,slow=0.0						
DMN	Daman	3.75	221	Pg	Pn	03 59 45.8	-1.2
	baz=218,slow=0.0						
DANN	Dangsing	4.17	240	Pg	Pn	03 59 50.2	-2.6
	baz=236,slow=0.0						
PYUN	Piuthan	4.88	242	Pn	Pn	03 59 59.8	-2.7
	baz=238,slow=0.0						
CMAR	Chiang Mai Arr	15.64	137	Pn	Pn	04 02 25.9	-3.2
	0.6nm,0.3s,baz=328,slow=13,SNR=6.3						
CMAR				LR	LR	04 08 27.8	
	comp=Z,25nm,18.5s,baz=325,slow=38						
AAK	Ala-Archa	16.17	322	LR	LR	04 08 57.3	
	comp=Z,29nm,18.6s,baz=110,slow=37						
MKAR	Makanchi Array	16.85	347	P	P	04 02 46.8	+1.0
	0.1nm,0.3s,baz=167,slow=11,SNR=5.8						
MKAR				LR	LR	04 10 32.1	
	comp=Z,56nm,18.9s,baz=172,slow=41						
	0.4nm,0.8s						
SONM	Songino Array	22.41	34	P	P	04 03 47.5	+1.0
	0.1nm,0.3s,baz=226,slow=12,SNR=5.3						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	23.55	355	P	P	04 03 59.9	+2.1
	0.4nm,0.3s,baz=188,slow=8.7,SNR=2.6						
	0.4nm,0.3s						
KSRS	Korea Array	33.75	67	P	P	04 05 28.9	-0.1
	0.9nm,0.7s,baz=252,slow=10.0,SNR=2.1						
	0.9nm,0.7s						
JNU	Natsustue	36.47	74	LR	LR	04 22 53.2	
	comp=Z,19nm,21.3s,baz=45,slow=40						
TORD	Torodi Ar. Bea	80.20	279	P	P	04 10 58.4	+0.3
	0.5nm,0.8s,baz=55,slow=4.6,SNR=2.6						
	0.5nm,0.8s						

IDC 13 04:07:25.7±1.9, 13°14S×166°63E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, MS3.5/2, Error ellipse: s-maj=53.1km s-min=32.5km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.88	181	Pn	Pn	04 09 35.5	+0.1
	1.3nm,0.3s,baz=328,slow=8.2,SNR=14						
DZM				Sn	Sn	04 11 12.9	-3.5
	baz=311,slow=20						
	3.0nm,0.3s						
WRA	Warramunga Arr	31.65	253	P	P	04 13 51.1	+0.2
	0.8nm,0.6s,baz=85,slow=9.2,SNR=6.4						
	0.8nm,0.6s						
ASAR	Alice Springs	32.70	247	P	P	04 13 59.9	-0.2
	0.7nm,0.7s,baz=73,slow=9.4,SNR=11						
ASAR				LR	LR	04 25 56.3	
	comp=Z,82nm,19.5s,baz=130,slow=34						
	0.7nm,0.7s						
VNDA	Vanda	64.43	181	LR	LR	04 43 13.6	
	comp=Z,39nm,18.2s,baz=283,slow=33						
ILAR	Eielson Array	85.22	18	P	P	04 20 03.7	0.0
	0.2nm,0.4s,baz=236,slow=4.4,SNR=5.4						
	0.2nm,0.4s						

*NEIC **13** 04:07:19.8±1.9, 31°33S±0°08×178°4W±0°2, h35km±2km, mb5.0/10, Error ellipse: s-maj=29.7km s-min=9.3km az=107.0*
*WEL **13** 04:07:27.0±0.6, 32°S±4°×17°8W±1°2, h100km, M5.4/91, mB5.8/4, ML5.5/21, MLv5.7/25, Mw(mB)5.3/91, Error ellipse: s-maj=16.2km s-min=3.2km az=104.4, confirmed*
*NEIC **13** 04:07:26.1±1.3, 31°40S±0°09×179°0W±0°1, h86km±7km, mb4.9/40, Error ellipse: s-maj=18.9km s-min=11.3km az=112.0*
*IDC **13** 04:07:32.8±1.0, 31°02S×178°79W, h150km±9km, mb4.4/14, mbtmp4.7/15, MS3.5/3, Error ellipse: s-maj=12.3km s-min=11.7km az=62.0*
ISC 13 04:07:26.7±0.3, 31°43S±0°04×178°43W±0°07, h100km, n358, σ2s03/278, mb5.0/68, 5C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.20	12	P	Pn	04 08 05.3	+3.3
GLKZ				S	Sn	04 08 32.3	+3.5
RAO	Raoul Island	2.21	12	Pn	Pn	04 07 51.9	-10
RAO				Sn	Sn	04 08 16.1	-13
RAO	Raoul Island	2.21	12	Pn	Pn	04 08 03.6	+1.5
RAO				Sn	Sn	04 08 31.5	+2.4
RAO	Raoul Island	2.21	12	P	Pn	04 08 05.7	+3.6
	805nm,0.3s,baz=294,slow=23,SNR=3.5						
RAO				LR	LR	04 08 12.8	
	comp=Z,292nm,21.1s,baz=150,slow=21						
RAO				S	Sn	04 08 33.3	+4.1
	3μm,0.2s,baz=215,slow=22,SNR=12						
RAO	Raoul Island	2.21	12	P	Pn	04 08 05.8	+3.6
RIZ	Raoul Island	2.22	11	P	Pn	04 08 05.3	+3.1
RIZ				S	Sn	04 08 32.3	+3.0
MXZ	Matakaoa Point	6.69	203	Pn	Pn	04 09 03.2	+0.9
MXZ	Matakaoa Point	6.69	203	Pn	Pn	04 09 03.1	+0.8
MXZ	Matakaoa Point	6.69	203	P	Pn	04 09 03.6	+1.3
MXZ				S	Sn	04 10 16.4	-0.6
WMGZ	Waiomatatini S	6.88	201	P	Pn	04 09 07.5	+2.5
WMGZ				S	Sn	04 10 20.7	-1.1
GRZ	Great Barrier	7.00	225	P	Pn	04 09 13.0	+6.4
PKGZ	Pakihiroa	7.04	203	P	Pn	04 09 08.6	+1.5
HAZ	Te Kaha	7.04	205	P	Pn	04 09 08.9	+1.7
HAZ				S	Sn	04 10 29.1	+3.5
WSRZ	White Island S	7.07	210	mB			
WIZ	White Island	7.08	210	P	Pn	04 09 09.2	+1.6
PUZ	Puketiti	7.17	201	P	Pn	04 09 09.9	+1.0
KUZ	Kuaotunu	7.19	221	P	Pn	04 09 14.3	+5.2
RUGZ	Raukumara Rang	7.27	205	P	Pn	04 09 11.4	+1.1
RUGZ				S	Sn	04 10 33.8	+2.5
MYRZ	Mayor Island	7.31	216	mB			
TWGZ	Tauwhareparae	7.35	203	P	Pn	04 09 12.8	+1.4
WHRZ	Whale Island	7.45	209	mB			
WCZ	Waipu Caves	7.51	231	P	Pn	04 09 20.0	+6.4
CNGZ	Carnagh Statio	7.56	200	P	Pn	04 09 15.6	+1.4
OPRZ	Ohinepanea	7.62	211	P	Pn	04 09 18.4	+3.5
TKGZ	Te Karaka	7.63	203	P	Pn	04 09 15.6	+0.5
MWZ	Matawai	7.65	205	P	Pn	04 09 16.0	+0.6
TGRZ	Tauranga	7.66	213	mB			
OUZ	Omahuta	7.67	238	P	Pn	04 09 21.9	+6.2
MBAZ	Motutapu North	7.68	224	mB			
MARZ	Manawahe	7.68	210	P	Pn	04 09 21.1	+5.2
URZ	Urewera	7.74	207	P	Pn	04 09 17.1	+0.6
	18nm,0.3s,baz=350,slow=3.5,SNR=65						
URZ				S	Sn	04 10 43.3	+0.8
	169nm,0.3s,baz=124,slow=22,SNR=15						
URZ	Urewera	7.74	207	P	Pn	04 09 17.2	+0.6
LIRZ	Lichensteins R	7.83	212	P	Pn	04 09 11.0	-6.8
MKRZ	Makatiti	7.90	211	mB			
KARZ	Kaharoa	7.90	212	P	Pn	04 09 23.3	+4.5
RIGZ	Rimuhau	7.90	202	P	Pn	04 09 20.1	+1.3
KMRZ	Kaimai	7.90	214	mB			
OMRZ	Omania	7.92	211	P	Pn	04 09 23.3	+4.2
TARZ	Mount Tarawera	7.96	210	P	Pn	04 09 23.0	+3.3
TOZ	Tahuroa Road	8.03	217		Pn	04 09 14.1	-6.5
TOZ	Tahuroa Road	8.03	217	Pn	Pn	04 09 14.2	-6.4
TOZ	Tahuroa Road	8.03	217	P	Pn	04 09 24.9	+4.3
HLRZ	Highlands Stat	8.04	211	mB			
RRRZ	Republican Roa	8.05	210	P	Pn	04 09 22.9	+2.1
UTU	Utuhina	8.05	212	mB			
MUGZ	Murupara	8.06	208	P	Pn	04 09 21.3	+0.3
PRGZ	Paritu Road	8.06	201	P	Pn	04 09 21.7	+0.7
RTZ	Ruatahuna	8.10	206	Pn	Pn	04 09 20.3	-1.3
RTZ	Ruatahuna	8.10	206	Pn	Pn	04 09 20.8	-0.8
RTZ	Ruatahuna	8.10	206	P	Pn	04 09 21.2	-0.3
SNGZ	Shannon Statio	8.11	204	P	Pn	04 09 22.3	+0.6
HSRZ	Hossack Road	8.14	211	mB			
KNZ	Kokohu	8.22	202	P	Pn	04 09 22.4	-0.7
KNZ				S	Sn	04 10 52.6	-1.6
GRRZ	Galatos Road	8.23	212	mB			
MHGZ	Mahia Peninsul	8.27	200	P	Pn	04 09 23.7	-0.1
ALRZ	Allen Road	8.31	210	P	Pn	04 09 26.3	+1.9
RAHZ	Arahi	8.32	205	mB			
WPRZ	Whakapapatarin	8.35	211	P	Pn	04 09 29.1	+4.1
MTHZ	Maungataniwha	8.36	206	P	Pn	04 09 25.9	+0.8
WHHZ	Waihua	8.41	204	P	Pn	04 09 27.0	+1.3
TLZ	Tolley Road	8.48	214	P	Pn	04 09 29.0	+2.3
MRHZ	Matea Rd	8.51	208	P	Pn	04 09 26.7	-0.4
WHTZ	Whakaora	8.56	211	mB			
NMHZ	Naumai	8.58	206	P	Pn	04 09 27.8	-0.4
ARHZ	Aropaoanui	8.66	204	P	Pn	04 09 28.6	-0.6
WATZ	Wairara	8.70	212	P	Pn	04 09 32.5	+2.8
BKZ	Black Stump Fm	8.76	207	Pn	Pn	04 09 27.7	-2.9
BKZ	Black Stump Fm	8.76	207	Pn	Pn	04 09 27.5	-3.1
BKZ	Black Stump Fm	8.76	207	P	Pn	04 09 30.0	-0.6
RITZ	Rihia Road	8.86	210	P	Pn	04 09 32.7	+0.7
MCHZ	McNeill Hill	8.93	205	P	Pn	04 09 31.9	-1.0
KATZ	Kakaramea	8.93	211	P	Pn	04 09 34.1	+1.1
HIZ	Hauiti	8.96	216		Pn	04 09 31.9	-1.3
HIZ	Hauiti	8.96	216	Pn	Pn	04 09 28.5	-4.7
HIZ	Hauiti	8.96	216	P	Pn	04 09 36.2	+3.0
CKHZ	Cape Kidnapper	8.99	203	P	Pn	04 09 34.3	+0.7
KWHZ	Kaweka Forest	9.01	206	P	Pn	04 09 32.7	-1.3
NTVZ	North Tongarir	9.04	211	P	Pn	04 09 34.5	0.0
TMVZ	Te Maari	9.04	210	P	Pn	04 09 34.1	-0.3
KRVZ	Karewarewa	9.05	211	P	Pn	04 09 33.7	-0.9
ETVZ	East Tongariro	9.06	210	P	Pn	04 09 35.1	+0.4
WTVZ	West Tongariro	9.09	211	P	Pn	04 09 36.4	+1.3
NNVZ	North Ngauruho	9.10	211	P	Pn	04 09 36.4	+1.1
OTVZ	Oturere	9.10	210	P	Pn	04 09 34.6	-0.7
TWVZ	Taurewa	9.12	212	P	Pn	04 09 39.7	+4.2
SNVZ	South Ngauruho	9.13	210	P	Pn	04 09 35.1	-0.6
NGZ	Ngauruhoe	9.14	211	P	Pn	04 09 35.1	-0.7
KAHZ	Kahuranaki	9.18	203	P	Pn	04 09 34.8	-1.4
COVZ	Chateau Observ	9.18	211	P	Pn	04 09 39.6	+3.2
TUVZ	Tukino	9.19	210	P	Pn	04 09 32.2	-4.3
FWVZ	Far West T-bar	9.22	211	P	Pn	04 09 40.4	+3.4
KRHZ	Kereru	9.22	206	P	Pn	04 09 34.8	-2.1
WNVZ	Wahianoa	9.27	210	P	Pn	04 09 38.4	+0.9
MOVZ	Moawhango	9.27	209	P	Pn	04 09 37.0	-0.5
PKVZ	Pokaka	9.34	211	P	Pn	04 09 39.6	+1.1
MTVZ	Mangateitei	9.37	210	P	Pn	04 09 41.5	+2.7
PXZ	Pawanui	9.40	203	P	Pn	04 09 36.8	-2.4
VRZ	Vera Road	9.48	214	P	Pn	04 09 44.5	+4.2
PNHZ	Pukenui	9.53	206	P	Pn	04 09 38.9	-2.1
WPHZ	Waipukurau	9.57	204	P	Pn	04 09 42.2	+0.6
MHEZ	Mangahewa	9.66	216	mB			
PRHZ	Porangahau	9.68	203	P	Pn	04 09 40.1	-2.9
TSZ	Takapari Road	9.74	206	P	Pn	04 09 43.7	-0.1
DVHZ	Dannevirke	9.88	205	P	Pn	04 09 43.5	-2.2
WAZ	Wanganui	9.88	211	P	Pn	04 09 47.7	+1.9
ANWZ	Angora Road	9.91	203	P	Pn	04 09 45.5	-0.7
LREZ	Lake Rotokare	9.92	214	mB			
PKE	Pukeiti	9.92	217	P	Pn	04 09 51.9	+5.6
NEZ	North Egmont	9.92	216	P	Pn	04 09 48.2	+1.8
KHEZ	Kahui Hut	9.98	216	P	Pn	04 09 50.1	+3.0
POWZ	Post Office Ro	10.10	206	P	Pn	04 09 48.9	+0.1
PRWZ	Pori Road	10.17	205	P	Pn	04 09 49.5	-0.2
BFZ	Birch Farm	10.19	204		Pn	04 09 45.1	-4.8
BFZ	Birch Farm	10.19	204	Pn	Pn	04 09 46.5	-3.4
BFZ

MHCZ Mount Hutt 14.44 210 mB
NIUE Niue 14.50 34 P **Pn** **04 10 46.6 -0.5**
RPZ Rata Peaks 14.81 211 Pn **Pn** **04 10 47.2 -3.8**
RPZ Rata Peaks 14.81 211 P **Pn** **04 10 47.7 -3.3**
18nm,0.3s,baz=279,slow=0.6,SNR=10
RPZ S Sn 04 13 22.0 -12
19nm,0.4s,baz=307,slow=21,SNR=12
GCSZ Gaunt Creek Bo 14.84 214 mB
ODZ Otahua Downs 16.05 209 Pn **Pn** **04 11 02.1 -4.4**
DZM Mont Dzumac 16.40 301 *e*P Pn 04 10 54.2 -17
102nm,1.4s
DZM *e*LR LR 04 14 21.2
192nm,31.0s
ARMA Armidale 25.67 264 P **P** **04 12 49.0 +1.5**
MGCD Mangrove Creek 25.76 258 P **P** **04 12 49.1 +0.9**
comp=Z,45nm,1.4s
TBI Tubuai 26.89 80 *e*LR LR 04 19 34.0
comp=Z,952nm,38.5s
CNB Canberra Magne 27.11 253 P **P** **04 13 00.2 -0.2**
comp=Z,29nm,1.2s
MILA Mila 27.30 249 P **P** **04 13 02.9 +0.9**
comp=Z,22nm,1.6s
EIDS Eidsvold 27.44 275 P **P** **04 13 02.2 -1.0**
EIDS IAmb IAmb 04 13 04.9
comp=Z,16nm,0.8s
EIDS Eidsvold 27.44 275 P **P** **04 13 03.1 -0.2**
comp=Z,22nm,0.8s
TAU Tasmania Unive 29.41 237 P **P** **04 13 20.0 -0.6**
PPT2 Papeete2 29.54 69 *e*LR LR 04 20 41.7
comp=Z,178nm,35.2s
PPT Papeete 29.55 69 LR LR 04 26 02.8
comp=Z,65nm,18.5s,baz=234,slow=37
TOO Toolangi 30.23 248 P **P** **04 13 28.3 +0.3**
TOO Toolangi 30.23 248 P **P** **04 13 27.7 -0.3**
comp=Z,9.9nm,1.0s
CMSA Cobar Meteorol 30.51 260 P **P** **04 13 31.4 +0.8**
comp=Z,61nm,0.9s
QLP Quilpie 32.90 269 P **P** **04 13 51.6 +0.1**
comp=Z,139nm,0.6s
ARPS Mount Arapiles 33.16 250 P **P** **04 13 52.8 -0.8**
comp=Z,32nm,0.8s
STKA Stephens Creek 33.90 259 P **P** **04 14 00.4 +0.2**
STKA IAmb IAmb 04 14 02.0
comp=Z,18nm,0.9s
STKA Stephens Creek 33.90 259 P **P** **04 14 01.0 +0.9**
comp=Z,22nm,0.8s
STKA Stephens Creek 33.90 259 P **P** **04 14 00.8 +0.7**
comp=Z,52nm,0.5s,baz=102,slow=11,SNR=114
comp=Z,52nm,0.5s
HTT Hallett 35.87 255 P **P** **04 14 16.7 -0.4**
comp=Z,75nm,0.7s
MTSU Mount Surprise 36.14 283 P **P** **04 14 19.6 +0.1**
comp=Z,30nm,0.8s
BBOO Buckleboo 38.34 256 P **P** **04 14 37.4 -0.6**
BBOO Buckleboo 38.34 256 P **P** **04 14 37.2 -0.8**
comp=Z,71nm,0.7s
QIS Mount Isa 39.03 276 P **P** **04 14 43.0 -1.0**
comp=Z,14nm,0.9s
COEN Coen 39.21 287 P **P** **04 14 44.7 -0.7**
comp=Z,32nm,1.1s
TAOE Nuku Hiva Isla 42.06 66 P P 04 15 11.6 +2.7
AS17 Alice Springs 42.62 268 P **P** **04 15 12.6 -0.8**
comp=Z,117nm,0.7s
AS31 Alice Springs 42.70 268 P **P** **04 15 12.8 -1.2**
AS31 Alice Springs 42.70 268 P **P** **04 15 12.9 -1.2**
comp=Z,33nm,0.7s
ASAR Alice Springs 42.70 268 P **P** **04 15 12.8 -1.1**
comp=Z,51nm,0.4s,baz=105,slow=7.4,SNR=570
ASAR PcP **PcP** **04 17 03.6 -0.5**
comp=Z,2.8nm,0.8s,baz=116,slow=6.9,SNR=1.7
ASAR ScP **ScP** **04 20 39.5 -6.3**
comp=Z,2.4nm,0.8s,baz=104,slow=4.1,SNR=7.5
ASAR S S 04 21 22.4 -7.8
comp=Z,1.9nm,1.0s,baz=107,slow=15,SNR=6.4
comp=Z,51nm,0.4s
DRV Dumont d'Urvil 43.05 203 P **P** **04 15 18.0 +1.8**
WB2 Warramunga Arr 43.77 273 P **P** **04 15 21.1 -1.5**
WRAB Tennant Creek 43.77 273 P **P** **04 15 21.3 -1.4**
WRA Warramunga Arr 43.78 273 P **P** **04 15 21.2 -1.5**
comp=Z,71nm,0.3s,baz=111,slow=8.0,SNR=876
WRA PcP **PcP** **04 17 06.1 -1.6**
comp=Z,1.7nm,0.7s,baz=144,slow=3.1,SNR=1.3
WRA ScP **ScP** **04 20 44.0 -6.3**
comp=Z,0.6nm,0.5s,baz=112,slow=3.2,SNR=3.0
WRA S S 04 21 37.5 -8.5
comp=Z,2.6nm,1.0s,baz=111,slow=14,SNR=4.9
WB9 Warramunga Arr 43.80 274 P **P** **04 15 21.3 -1.6**
WB0 Warramunga Arr 43.81 274 P **P** **04 15 21.4 -1.5**
FORT Forrest 45.44 256 P **P** **04 15 34.2 -1.5**
FORT Forrest 45.44 256 P **P** **04 15 33.7 -2.0**
comp=Z,78nm,0.7s
WRKA Warakurna 46.99 264 P **P** **04 15 45.8 -2.2**
comp=Z,21nm,0.7s
VNDA Vanda 47.04 186 P **P** **04 15 51.6 +4.0**
comp=Z,3.4nm,0.6s,baz=7.4,slow=5.4,SNR=10.0
comp=Z,3.4nm,0.6s
VNDA Vanda 47.04 186 P P 04 15 52.2 +4.6
KDU Kakadu 48.74 281 P P 04 15 59.1 -2.5
comp=Z,19nm,0.7s
KMBL Kambalda 50.37 253 P P 04 16 10.8 -3.0
KNRA Kununurra 50.42 275 P **P** **04 16 12.6 -1.7**
KNRA Kununurra 50.42 275 P **P** **04 16 12.5 -1.9**
comp=Z,31nm,1.7s
CCD Concordia, Ant 51.87 196 P **P** **04 16 26.7 +1.9**
FITZ Fitzroy Crossi 52.00 271 P **P** **04 16 24.5 -1.6**
FITZ Fitzroy Crossi 52.00 271 P **P** **04 16 24.4 -1.6**
comp=Z,6.7nm,0.7s
WAKE Wake Island 52.41 342 P **P** **04 16 30.1 +1.2**
KLBR Kellerberrin 53.67 252 P P 04 16 35.3 -3.0
comp=Z,34nm,0.7s
CASY Casey 54.06 208 P **P** **04 16 41.2 +0.7**
MEEK Meekatharra 54.60 258 P P 04 16 41.9 -3.2
comp=Z,23nm,1.0s
MBWA Marble Bar 55.75 265 P P 04 16 50.8 -2.6
comp=Z,13nm,1.5s
MBWA Marble Bar 55.75 265 P P 04 16 50.9 -2.6
QSPA South Pole Qui 58.69 180 P **P** **04 17 17.0 +3.4**
QSPA South Pole Qui 58.69 180 P **P** **04 17 17.3 +3.8**
comp=Z,64nm,0.8s,baz=344,slow=0.6,SNR=220
comp=Z,64nm,0.8s
QSPA South Pole Qui 58.69 180 P P 04 17 17.7 +4.2
SPSI Sidrap Palu 63.98 282 P **P** **04 17 54.4 +4.5**
GMJI Gumukmas 67.08 274 P **P** **04 18 08.3 -1.5**
comp=Z,34nm,0.9s
BELA Belgrano 2 68.82 172 P **P** **04 18 21.9 +2.2**
BELA IAmb IAmb 04 18 23.2
comp=Z,25nm,0.8s
PCJI Pacitan 69.06 273 P **P** **04 18 20.0 -2.2**
JCJ Chichijima 69.27 323 LR LR 04 43 46.7
comp=Z,32nm,19.9s,baz=114,slow=32
ELIB Princess Elisa 75.79 187 *d*P **P** **04 19 03.5 +2.0**
comp=Z,37nm,0.8s
TROLL Troll, Antarti 76.85 180 P **P** **04 19 09.8 +2.5**
TROLL Troll, Antarti 76.85 180 ⇑P **P** **04 19 09.8 +2.5**
comp=Z,815nm,0.4s
JOW Kunigami 77.08 313 LR LR 04 50 25.9
comp=Z,26nm,19.2s,baz=304,slow=34
SNAA Sanae 77.14 179 P **P** **04 19 11.1 +2.1**
SNAA Sanae 77.14 179 P **P** **04 19 10.8 +1.9**
SNAA IAmb IAmb 04 19 15.7
comp=Z,26nm,1.1s
SNAA Sanae 77.14 179 ⇑P **P** **04 19 11.1 +2.1**
comp=Z,170nm,0.3s
SNAA Sanae 77.14 179 P **P** **04 19 11.1 +2.1**
comp=Z,9.2nm,0.4s,baz=202,slow=4.2,SNR=67
comp=Z,9.2nm,0.4s
VNA3 Neumayer Olymp 77.31 176 P **P** **04 19 11.9 +2.1**
VNA3 Neumayer Olymp 77.31 176 ⇑P **P** **04 19 11.9 +2.1**
comp=Z,122nm,0.7s
VNA2 Neumayer--Watz 77.74 177 P **P** **04 19 14.7 +2.5**
baz=177,slow=5.9
VNA2 Neumayer--Watz 77.74 177 ⇑P **P** **04 19 14.7 +2.5**
comp=Z,55nm,0.6s,baz=177,slow=5.9
VNA1 Neumayer--Stat 77.97 177 P **P** **04 19 15.6 +2.1**
VNA1 Neumayer--Stat 77.97 177 ⇑P **P** **04 19 15.6 +2.1**
comp=Z,34nm,0.6s
COYC Coyhaique 78.44 137 P P 04 19 20.2 +3.7
COYC IAmb IAmb 04 19 21.3
comp=Z,14nm,0.6s
LL02 Futaleuf 79.89 135 P P 04 19 27.8 +3.2
H03S2 Juan Fernandez 80.21 124 T T 05 48 32.2
baz=236,slow=74,SNR=19
H03S1 Juan Fernandez 80.22 124 T T 05 48 33.4
baz=236,slow=74,SNR=15
H03S3 Juan Fernandez 80.22 124 T T 05 48 32.3
baz=236,slow=74,SNR=14
H03N3 Juan Fernandez 80.40 123 T T 05 48 49.1
baz=240,slow=72,SNR=45
H03N2 Juan Fernandez 80.41 123 T T 05 48 51.0
baz=240,slow=72,SNR=36
H03N1 Juan Fernandez 80.42 123 T T 05 48 48.0
baz=240,slow=72,SNR=99
PLCA Paso Flores 82.08 133 P P 04 19 39.5 +3.2
PLCA IAmb IAmb 04 19 40.8
comp=Z,17nm,1.2s
PLCA Paso Flores 82.08 133 P **P** 04 19 39.5 +3.2
comp=Z,6.5nm,0.7s,baz=238,slow=5.9,SNR=36
comp=Z,6.5nm,0.7s
KSRS Korea Array 84.89 320 P **P** **04 19 48.8 -1.5**
comp=Z,1.6nm,0.8s,baz=157,slow=6.8,SNR=4.5
comp=Z,1.6nm,0.8s
ESJX Sierra Juarez 86.45 49 P **P** **04 20 01.0 +2.6**
ELS Elsinore Mount 86.59 47 P **P** **04 20 01.2 +2.3**
NJ2 Nanjing 86.63 311 *e*P **P** **04 20 01.4 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
PETK Petropavlovsk- 86.72 346 P **P** **04 19 57.1 -1.9**
comp=Z,3.1nm,0.8s,baz=174,slow=6.1,SNR=5.8
comp=Z,3.1nm,0.8s
YUH Yuha Desert 86.89 49 P **P** **04 20 02.8 +2.5**
ISA Isabella, Lake 87.29 45 P **P** **04 20 04.4 +2.1**
ISA IAmb IAmb 04 20 05.2
comp=Z,10nm,0.9s
PIX Pinacate 87.79 51 P **P** **04 20 06.6 +1.9**
PIX IAmb IAmb 04 20 07.7
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 87.81 327 P **P** **04 20 02.6 -1.9**
comp=Z,2.5nm,0.7s,baz=149,slow=8.9,SNR=4.8
comp=Z,2.5nm,0.7s
GLA Glamis 87.85 49 P **P** **04 20 07.4 +2.4**
GLA IAmb IAmb 04 20 08.7
comp=Z,17nm,0.8s
GSC Goldstone, Bar 88.06 46 P **P** **04 20 08.0 +2.0**
GSC IAmb IAmb 04 20 08.9
comp=Z,13nm,1.1s
BLYC Blythe 88.49 48 P **P** **04 20 10.6 +2.6**
BLYC IAmb IAmb 04 20 11.4
comp=Z,12nm,1.1s
NVAR Mina Array Bea 89.24 43 P **P** **04 20 12.7 +1.1**
comp=Z,6.0nm,0.9s,baz=221,slow=8.3,SNR=14
comp=Z,6.0nm,0.9s
NV11 Mina Array Sit 89.33 43 P **P** **04 20 11.7 -0.2**
NV11 IAmb IAmb 04 20 12.0
comp=Z,6.5nm,1.1s
TPNV Topopah Spring 89.48 45 P **P** **04 20 14.6 +1.9**
TPNV IAmb IAmb 04 20 15.4
comp=Z,8.4nm,1.2s
V12A Nelson 89.55 47 P **P** **04 20 15.5 +2.5**
Y14A Wickenburg 89.59 49 P **P** **04 20 15.5 +2.3**
Y14A IAmb IAmb 04 20 16.4
comp=Z,6.4nm,0.8s
TUC Tucson 90.04 52 P **P** **04 20 18.0 +2.6**
TUC IAmb IAmb 04 20 19.2
comp=Z,8.2nm,0.8s
319A Douglas 90.49 53 P **P** **04 20 19.8 +2.2**
319A IAmb IAmb 04 20 21.1
comp=Z,8.4nm,0.9s
PRN Pahroc Range 90.51 45 P **P** **04 20 19.0 +1.5**
PRN IAmb IAmb 04 20 20.8
comp=Z,6.7nm,1.0s
CN2 Changchun 90.74 323 *e*P **P** **04 20 15.6 -2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
X16A Lo Mia Camp, P 90.90 50 P **P** **04 20 20.6 +1.2**
X16A IAmb IAmb 04 20 22.9
comp=Z,5.6nm,1.0s
DUN6 Lazy B Ranch 91.33 52 P **P** **04 20 23.1 +1.7**
LCMT Little Creek M 91.37 47 P **P** **04 20 23.2 +1.8**
U15A North Rim 91.60 48 P **P** **04 20 25.0 +2.3**
U15A IAmb IAmb 04 20 25.9
comp=Z,7.1nm,0.7s
WUAZ Wupatki 91.62 49 P **P** **04 20 24.7 +2.0**
WUAZ IAmb IAmb 04 20 25.8
comp=Z,3.8nm,0.8s
KNB Kanab 91.63 47 P **P** **04 20 24.8 +2.0**
KNB IAmb IAmb 04 20 25.8
comp=Z,6.0nm,0.9s
ELK Elko 92.55 43 P **P** **04 20 27.8 +0.9**
TXAR Lajitas Array 93.25 58 P **P** **04 20 31.4 +1.0**
comp=Z,1.1nm,0.9s,baz=244,slow=5.2,SNR=7.1
comp=Z,1.1nm,0.9s
CMAR Chiang Mai Arr 93.39 289 P **P** **04 20 30.2 -0.9**
comp=Z,1.0nm,0.5s,baz=145,slow=3.0,SNR=5.2
comp=Z,1.0nm,0.5s
TMUT Trail Mountain 94.04 46 P **P** **04 20 35.9 +1.9**
TMUT IAmb IAmb 04 20 38.0
comp=Z,3.3nm,0.7s
HVU Hansel Valley 94.64 43 P **P** **04 20 37.9 +1.4**
HVU IAmb IAmb 04 20 54.1
comp=Z,12nm,2.0s
HLID Hailey 94.82 41 P **P** **04 20 38.4 +1.1**
HLID IAmb IAmb 04 22 12.2
comp=Z,14nm,1.8s
PZH PanZhiHua 95.45 298 P **P** **04 20 40.5 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,150nm,5.5s
CD2 Chengdu 96.32 302 *e*P **P** **04 20 46.0 +1.7**
HHC Hu-ho-hao-te 96.68 314 *e*P **P** **04 20 47.1 +1.4**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,73nm,4.5s
PDAR Pinedale Array 97.13 44 P **P** **04 20 47.6 -0.3**
comp=Z,0.5nm,0.8s,baz=260,slow=6.9,SNR=5.1
comp=Z,0.5nm,0.8s
BTO Baotou 97.49 313 *e*P Pdif 04 20 51.1 +1.6
BTO pP **PcP** **04 20 55.9 +6.4**
BTO sP P 04 20 58.3 +8.9
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,110nm,5.0s
ISCO Idaho Springs 97.83 48 P **P** **04 20 48.9 -2.4**
ILAR Eielson Array 99.01 13 P **Pdif** **04 20 54.6 -0.9**
comp=Z,0.5nm,0.8s,baz=206,slow=4.8,SNR=3.2
ILAR PKKPbc **PKKPbc** **04 37 21.6 -2.0**
comp=Z,0.2nm,0.7s,baz=16,slow=4.2,SNR=6.2
comp=Z,0.5nm,0.8s
LZH Lanzhou 99.04 307 *e*P **Pdif** **04 20 58.3 +1.8**
LZH pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 103.66 318 PKKPbc PKKPbc 04 37 09.3 -0.2
comp=Z,0.4nm,0.6s,baz=279,slow=5.0,SNR=4.3
WMQ Urumqi 113.57 308 *e*PKP **PKiKP** **04 25 55.5 +2.4**
BOSA Boshof 116.17 203 PKP **PKPdf** **04 25 58.5 -0.3**
comp=Z,1.5nm,0.7s,baz=150,slow=2.6,SNR=5.7
MK31 Makanchi Array 118.15 310 PKPdf **PKPdf** **04 26 00.6 -1.2**
MKAR Makanchi Array 118.15 310 PKP **PKPdf** **04 25 59.4 -2.4**
comp=Z,0.7nm,0.6s,baz=88,slow=0.7,SNR=12
MKAR PKKPbc **PKKPab** **04 36 23.2 +0.8**
comp=Z,0.4nm,0.5s,baz=289,slow=4.0,SNR=6.0
ZALV Zalesovo Beam 118.55 318 PKP **PKPdf** **04 26 00.6 -1.6**
comp=Z,0.4nm,0.5s,baz=132,slow=2.1,SNR=2.3
KURK Kurchatov 121.49 313 PKPdf **PKPdf** **04 26 06.8 -1.2**
KURBB Kurchatov Arra 121.52 313 PKP **PKPdf** **04 26 05.8 -2.3**
comp=Z,1.8nm,0.5s,baz=107,slow=1.8,SNR=22
KURBB PKKPbc **PKKPbc** **04 36 09.5 +0.3**
comp=Z,0.5nm,0.8s,baz=289,slow=4.7,SNR=5.0
GAR Garm 124.52 298 **PKPdf** **04 26 13.6 -0.8**
BVAR Borovoye Array 126.88 315 PKP **PKPdf** **04 26 16.4 -1.9**
comp=Z,1.5nm,0.4s,baz=114,slow=1.8,SNR=11
SCHQ Schefferville 127.25 43 PKP **PKPdf** **04 26 17.6 -1.4**
comp=Z,4.6nm,0.9s,baz=297,slow=4.5,SNR=3.9
SPITS Spitsbergen Ar 132.70 356 PKP **PKPdf** **04 26 27.5 -1.2**
comp=Z,3.6nm,0.8s,baz=346,slow=1.8,SNR=1.4
ARCES ARCESS Array B 139.51 347 PKiKP PKPpre 04 26 33.4
comp=Z,2.8nm,0.8s,baz=15,slow=5.0,SNR=5.6
ARCES PKP **PKPdf** **04 26 39.3 -2.2**
comp=Z,6.5nm,1.1s,baz=338,slow=0.3,SNR=6.5
KBZ Khabaz 145.37 303 PKP **PKPdf** **04 26 51.2 -1.4**
comp=Z,6.6nm,0.7s,baz=138,slow=1.0,SNR=16
KARS Kars 145.47 297 **PKPdf** **04 26 53.0 -0.2**
KIV Kislovodsk 145.49 303 **PKPdf** **04 26 51.9 -1.2**
GEVA Gevas 145.50 293 PKPdf **PKPdf** **04 26 53.1 -0.2**
SIRT Sirnak 145.96 292 PKPdf **PKPdf** **04 26 54.4 +0.4**
FIA1 FINESS Array S 145.97 339 PKPdf **PKPdf** **04 26 52.4 -0.7**
FINES FINESS Array B 145.98 339 **PKPdf** **04 26 51.9 -1.2**
FINES FINESS Array B 145.98 339 PKPbc **PKPdf** **04 26 51.8 -1.3**
comp=Z,21nm,0.8s,baz=66,slow=4.6,SNR=30
GURO Guroymak-BITLI 146.31 293 PKPdf **PKPdf** **04 26 55.8 +1.1**
MARD Mardin 147.28 291 **PKPdf** **04 26 56.9 +0.6**
KOPT Kop Dagi 147.46 296 PKPdf **PKPdf** **04 26 56.6 -0.2**
NC303 NORSAR Array S 149.51 351 PKPdf **PKPdf** **04 27 00.7 +1.7**
NB2 NORSAR Subarra 149.71 351 PKP **PKPbc** **04 27 02.7 -1.5**
comp=Z,3.4nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 149.71 351 PKPbc **PKPbc** **04 27 02.5 -1.7**
comp=Z,5.5nm,0.7s,baz=14,slow=4.1,SNR=18
HFS Hagfors 150.17 348 PKPbc **PKPbc** **04 27 03.4 -1.8**
comp=Z,9.2nm,0.8s,baz=48,slow=2.4,SNR=12
PABE Paberze 151.21 333 PKPdf **PKPdf** **04 27 02.9 +1.1**
MMAI Mount Meron Ar 151.40 282 PKPbc **PKPbc** **04 27 08.1 -1.0**
comp=Z,4.6nm,0.4s,baz=82,slow=6.0,SNR=12
AKASG Malin Array Be 151.88 321 PKPbc **PKPbc** **04 27 08.0 -1.5**
comp=Z,5.7nm,0.8s,baz=56,slow=2.7,SNR=25
AKBB Malin Array Si 151.88 321 PKPdf **PKPdf** **04 27 04.0 +1.0**
AKBB Malin Array Si 151.88 321 PKP **PKPdf** **04 27 04.0 +1.0**
KIEV Kiev 151.89 321 PKPdf **PKPdf** **04 27 04.0 +1.0**
ILGA Ilgaz 152.48 299 PKPdf **PKPdf** **04 27 05.5 +1.0**
BRTR Keskin Array B 152.75 297 PKPdf **PKPdf** **04 27 05.4 +0.5**
BRTR Keskin Array B 152.75 297 PKPbc **PKPbc** **04 27 09.8 -2.2**
comp=Z,1.4nm,0.5s,baz=95,slow=3.3,SNR=3.7
BRTR PKPab **PKPab** **04 27 20.6 -2.7**
comp=Z,5.9nm,0.8s,baz=103,slow=3.1,SNR=12
RNPP5 Staryi Chortor 153.29 325 PKP **PKPdf** **04 27 05.8 +0.8**
DBIC Dimbokro 154.65 165 PKP **PKPdf** **04 27 08.4 +0.2**
comp=Z,2.4nm,0.6s,baz=210,slow=1.2,SNR=4.9
DBIC PKPab **pPKPdf** **04 27 32.6 -1.9**
comp=Z,5.8nm,0.6s,baz=186,slow=5.1,SNR=6.1
BUR08 Bucovina Ar. S 155.76 319 PKPdf **PKPdf** **04 27 09.3 +0.5**
LANS Liptovska Anna 157.74 328 *e*PKP **PKPab** **04 27 42.8 -1.3**
CLL Collm 158.41 340 *e*PKPdf **PKPdf** **04 27 11.0 -0.8**
CLL *i*PKPab **sPKPdf** **04 27 46.1 -2.5**
VYHS Vyhne 158.50 327 *e*PKP **PKPab** **04 27 45.6 -1.8**
MODS Modra-Piesok 159.29 329 *e*PKP **PKPab** **04 27 50.7 -0.2**
MOA Molln 160.95 333 *e*pPKP pPKPdf 04 27 48.0 +6.3
comp=Z,6.7nm,1.6s
SOKA Soboth 161.57 330 *e*pPKP pPKPdf 04 27 48.6 +6.2
comp=Z,4.3nm,1.2s
TORD Torodi Ar. Bea 161.81 180 PKPdf **PKPdf** **04 27 16.8 +0.1**
TORD Torodi Ar. Bea 161.81 180 PKP **PKPdf** **04 27 15.7 -1.1**
comp=Z,3.1nm,0.9s,baz=187,slow=8.8,SNR=14
TORD PKPab **PKPab** **04 28 03.2 +0.7**
comp=Z,15nm,0.6s,baz=176,slow=1.6,SNR=4.2
KBA Koelnbreinsper 161.94 333 *e*pPKP pPKPdf 04 27 49.4 +6.5
comp=Z,6.9nm,1.1s
WATA Walderalm 162.36 337 *e*pPKP PKPab 04 27 56.5 -7.8
comp=Z,2.0nm,0.5s
RETA Reutte 162.48 339 *e*PKP **PKPab** **04 28 03.2 -1.6**
comp=Z,3.9nm,1.1s
MOTA Moosalm 162.50 338 *e*PKP **PKPab** **04 28 03.3 -1.7**
comp=Z,10nm,1.5s
ESDC Sonseca Array 170.62 27 **PKPdf** **04 27 23.6 +0.6**
ESDC Sonseca Array 170.62 27 PKP **PKPdf** **04 27 23.0 0.0**
comp=Z,1.6nm,0.8s,baz=356,slow=2.8,SNR=13
ESDC PKPab **PKPab** **04 28 40.0 -0.9**
comp=Z,0.6nm,0.8s,baz=341,slow=4.3,SNR=2.5

TXNET 13 04:28:29.1, 31°.6N±0°.6×104°.2W±0°.8, h6km±2km, ML1.5/5, Error ellipse: s-maj=1.2km s-min=1.0km az=75.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	P	Pg	04 28 35.8	-0.1
TPB11				S	Sg	04 28 40.5	-0.1
PECS	**Pecos**	**0.42**	**129**	P	Pg	04 28 37.5	+0.3
PECS				S	Sg	04 28 42.8	+0.2
TPB12	**Southwest of T**	**0.49**	**150**	P	Pg	04 28 38.7	+0.2
TPB12				S	Sg	04 28 45.3	+0.5
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	04 28 40.4	+0.2
CLNB	**Carlsbad**	**0.70**	**26**	S	Sg	04 28 52.3	+0.5
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	04 28 43.7	-0.7
TPB01				S	Sg	04 28 54.4	-0.3
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	04 28 48.0	+0.3
MNTX				S	Sb	04 29 01.0	-0.5
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	04 28 49.4	0.0
VHRN				S	Sb	04 29 03.7	-0.3
MNHN	**Monahans**	**1.30**	**103**	P	Pn	04 28 53.0	-0.9
MNHN				S	Sg	04 29 10.6	-0.3
ALPN	**Alpine**	**1.36**	**157**	P	Pn	04 28 53.8	-1.0
ALPN				P	Sn	04 29 11.1	-2.1
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	04 28 55.8	+0.1
ODSA	**Odessa**	**1.52**	**71**	P	Pn	04 28 56.5	-0.4
ODSA				S	Sn	04 29 16.9	-0.3
TMB04	**Seminole**	**1.79**	**56**	P	Pn	04 29 01.4	+0.7
TMB04				S	Sb	04 29 25.4	+0.4
TMB02	**Rankin**	**1.94**	**102**	P	Pb	04 29 03.8	-1.0
TMB02				S	Sb	04 29 28.4	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	04 29 10.6	-1.3
TX31				Pg	Pg	04 29 11.3	-2.8
SAND	**Sanderson**	**2.48**	**132**	Sg	Sb	04 29 46.3	+1.4
MSTX	**Muleshoe**	**2.64**	**28**	Sg	Sb	04 29 50.3	+0.8

---

*NEIC **13** 04:31:43.8±1.3, 35°.11N±0°.01×97°.886W±0°.004, h5km±1km, mb_Lg2.1/5, ML2.6/21, ML2.1/38, Error ellipse: s-maj=2.7km s-min=2.0km az=340.0*
*NEIC **13** 04:31:44.9±1.8, 35°.13N±0°.01×97°.866W±0°.005, h9km±8km, Error ellipse: s-maj=2.1km s-min=0.6km az=178.0*

ISC 13 04:31:43.9±1.0, 35°.11N±0°.02×97°.88W±0°.03, h9km±13km, n34, s0°77/43, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.42**	**69**	Pg	**Pg**	**04 31 52.6**	**+0.5**
FNO				Sg	**Sg**	**04 31 57.4**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.47**	**51**	Pg	**Pg**	**04 31 53.2**	**+0.2**
OKCSW				Sg	**Sg**	**04 32 00.1**	**+0.8**
OKCSW				IAML		04 32 00.4	
	comp=E,180nm,0.5s						
OKCSW				IAML		04 32 00.4	
	comp=N,151nm,0.2s						
X34A	**Smith Ranch, M**	**0.51**	**175**	Pg	**Pg**	**04 31 53.7**	**-0.1**
X34A					**Sg**	**04 32 00.0**	**-0.4**
X34A				IAML		04 32 04.1	
	comp=N,100nm,0.4s						
X34A				IAML		04 32 08.4	
	comp=E,84nm,0.5s						
BCOK	**Bluff Creek, N**	**0.59**	**22**		**Pg**	**04 31 55.5**	**+0.2**
BCOK					**Sg**	**04 32 03.6**	**+0.5**
ADOK	**Arcadia Dam**	**0.69**	**37**	Pg	**Pg**	**04 31 57.0**	**-0.1**
OK029	**Liberty Lake**	**0.77**	**27**	Pg	**Pg**	**04 31 58.0**	**-0.7**
OK029				Sg	**Sg**	**04 32 09.0**	**+0.2**
OK029				IAML		04 32 16.8	
	comp=E,55nm,0.3s						
OK029				IAML		04 32 17.1	
	comp=E,57nm,0.2s						
WMOK	**Wichita Mounta**	**0.82**	**244**	Pg	**Pg**	**04 31 59.8**	**0.0**
WMOK				Sg	**Sg**	**04 32 11.0**	**+0.4**
W35A	**Tecumseh**	**0.83**	**87**	Pg	**Pg**	**04 31 59.5**	**-0.4**
W35A				Sg	**Sg**	**04 32 11.2**	**+0.6**
W35A				IAML		04 32 18.4	
	comp=E,48nm,0.4s						
W35A				IAML		04 32 24.6	
	comp=N,44nm,0.2s						
CSTR	**Hydro, Custer**	**0.85**	**309**	Pg	**Pg**	**04 31 59.8**	**-0.4**
OK031	**S. Brethren Rd**	**1.20**	**45**	Pg	**Pg**	**04 32 06.3**	**-0.6**
OK031				Sg	**Sg**	**04 32 22.3**	**-0.2**
OK031				IAML		04 32 23.6	
	comp=N,58nm,0.5s						
OK052	**Battle Ridge R**	**1.25**	**45**	Pg	**Pg**	**04 32 07.0**	**-0.8**
CROK	**Carrier**	**1.40**	**357**		**Pn**	**04 32 09.4**	**0.0**
WTFS	**Witchita Falls**	**1.42**	**200**		**Pn**	**04 32 10.2**	**+0.3**
WTFS	**Witchita Falls**	**1.42**	**200**	P	**Pg**	**04 32 11.2**	**+0.1**
WTFS				S	**Sg**	**04 32 30.2**	**+0.5**
QUOK	**Quay**	**1.43**	**42**		**Pn**	**04 32 10.1**	**+0.1**
OK038	**West end E0370**	**1.54**	**333**		**Pn**	**04 32 11.7**	**+0.2**
ELIS	**Ellis County**	**1.57**	**308**		**Pn**	**04 32 11.8**	**-0.2**
OK051	**E0350 and S346**	**1.63**	**31**		**Pn**	**04 32 13.2**	**+0.4**
BLOK	**Blackwell**	**1.73**	**18**	Pn	**Pn**	**04 32 14.9**	**+0.8**
NOKA	**Waynoka**	**1.75**	**331**	Pn	**Pn**	**04 32 14.8**	**+0.5**
KAN14	**Manchester OK**	**1.85**	**358**	Pn	**Pn**	**04 32 16.1**	**+0.4**
KAN17	**Caldwell West**	**1.93**	**3**	Pn	**Pn**	**04 32 16.6**	**-0.3**
SMWD	**Samnorwood**	**1.94**	**271**	Pn	**Pn**	**04 32 18.1**	**+1.2**
SMWD	**Samnorwood**	**1.94**	**271**	P	**Pb**	**04 32 19.4**	**+0.1**
SMWD				P	**Sg**	**04 32 46.1**	**+0.1**
KAN09	**Caldwell North**	**2.04**	**6**	Pn	**Pb**	**04 32 20.2**	**-0.8**
KAN09				IAmb_Lg		04 32 47.8	
	comp=Z,16nm,1.2s						
KAN01	**Argonia South**	**2.04**	**3**	Pn	**Pn**	**04 32 20.1**	**+1.7**
FW06	**Azle**	**2.15**	**173**	Pn	**Pn**	**04 32 21.3**	**+1.5**
FW06				IAmb_Lg		04 32 53.8	

comp=Z,8.4nm,0.8s
FW06 Azle 2.15 173 P **Pb 04 32 22.9 0.0**
FW06 P **Sg** 04 32 52.1 -0.8
PLPT Palo Pinto 2.32 189 Pn **Pn 04 32 23.3 +1.1**
PLPT IAmb_Lg 04 32 57.3
comp=Z,5.5nm,0.8s
PLPT Palo Pinto 2.32 189 P **Pb 04 32 24.8 -1.0**
PLPT P **Sg 04 32 55.6 -2.7**
DRZT Darrouzett 2.37 305 P Sg 04 32 43.6 -16
AMTX Amarillo 3.13 267 P Pg 04 32 52.3 +8.5
R32A Long Quarter, 3.37 349 Pn **Pn 04 32 37.3 +0.6**
EF63 Gonzales 5.53 176 P Pn 04 33 13.2 +6.9

---

*IDC **13** 04:32:56.0±0.7, 12°.13N×143°.37E, h0km, mb4.1/12, mbtmp4.1/13, ML4.4/1, MS2.7/1, Error ellipse: s-maj=24.6km s-min=17.1km az=104.0*
*NEIC **13** 04:32:58.6±1.7, 12°.1N±0°.1×143°.5E±0°.1, h10km±1km, mb4.6/26, Error ellipse: s-maj=24.5km s-min=14.8km az=305.0*
ISC 13 04:32:59.8±0.5,**12°.05N**±0°.08×**143°.4E**±0°.1,**h25**km,**n46**, σ1§**14**/40,**mb4.5**/25,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.12**	**44**	Pn	**Pn**	**04 33 33.1**	**-0.5**
	143nm,0.3s,baz=188,slow=6.7,SNR=10						
GUMO				Sn	**Sn**	**04 33 57.9**	**-1.2**
	207nm,0.3s,baz=342,slow=23,SNR=15						
	343nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**23.38**	**71**	T	T	05 02 23.3	
	baz=257						
H11S1	**WAKE ISLAND Hy**	**23.39**	**71**	T	T	05 02 18.9	
	baz=257						
H11S2	**WAKE ISLAND Hy**	**23.39**	**71**	T	T	05 02 20.9	
	baz=257						
H11N1	**WAKE ISLAND Hy**	**23.85**	**68**	T	T	05 02 57.1	
	baz=255,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**23.86**	**68**	T	T	05 03 00.4	
	baz=255,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**23.87**	**68**	T	T	05 02 59.8	
	baz=255,slow=75,SNR=16						
HNR	**Honiara**	**26.96**	**142**	P	**P**	**04 38 38.0**	**-1.6**
SBUM	**Sibu**	**32.30**	**255**	P	**P**	**04 39 26.0**	**-1.1**
SBUM				IAmb	IAmb	04 39 37.7	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**33.01**	**196**	P	**P**	**04 39 33.4**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=19,slow=9.6,SNR=6.7						
	comp=Z,1.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**34.70**	**211**	P	**P**	**04 39 45.6**	**-2.2**
ASAR	**Alice Springs**	**36.69**	**195**	P	**P**	**04 40 05.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=19,slow=12,SNR=7.3						
	comp=Z,0.6nm,0.6s						
EIDS	**Eidsvold**	**37.95**	**169**	P	**P**	**04 40 15.3**	**-0.2**
DZM	**Mont Dzumac**	**40.77**	**146**	P	**P**	**04 40 40.3**	**+1.0**
DZM				IAmb	IAmb	04 41 24.1	
	comp=Z,22nm,1.2s						
DZM	**Mont Dzumac**	**40.77**	**146**	P	**P**	**04 40 39.8**	**+0.5**
	comp=Z,8.0nm,0.9s,baz=340,slow=15,SNR=3.2						
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.25**	**284**	LR	LR	04 59 29.6	
	comp=Z,8.6nm,18.7s,baz=140,slow=37						
BBOO	**Buckleboo**	**45.15**	**189**	P	**P**	**04 41 14.9**	**+0.4**
SONM	**Songino Array**	**47.17**	**326**	P	**P**	**04 41 31.4**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=124,slow=8.9,SNR=2.3						
	comp=Z,0.3nm,0.7s						
MORW	**Morawa**	**48.66**	**212**	P	**P**	**04 41 42.6**	**+0.6**
TOO	**Toolangi**	**49.40**	**178**	P	**P**	**04 41 49.7**	**+2.1**
TOO				IAmb	IAmb	04 41 53.6	
	comp=Z,9.8nm,1.4s						
TAU	**Tasmania Unive**	**54.81**	**176**	P	**P**	**04 42 25.2**	**-2.4**
PALK	**Pallekele**	**61.86**	**272**	P	**P**	**04 43 17.2**	**-0.4**
KURBB	**Kurchatov Arra**	**64.86**	**320**	P	**P**	**04 43 36.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=104,slow=6.1,SNR=10						
	comp=Z,0.9nm,0.6s						
B22K	**Teshekpuk Lake**	**69.85**	**19**	P	**P**	**04 44 08.3**	**+0.3**
B22K				IAmb	IAmb	04 44 09.4	
	comp=Z,4.6nm,0.7s						
BVAR	**Borovoye Array**	**70.23**	**322**	P	**P**	**04 44 10.9**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=94,slow=6.9,SNR=8.5						
	comp=Z,1.0nm,0.3s						
E23K	**Chandalar**	**70.38**	**22**	P	**P**	**04 44 12.9**	**+1.5**
E23K				IAmb	IAmb	04 44 13.6	
	comp=Z,5.8nm,0.8s						
TOLK	**Toolik Lake Re**	**70.57**	**21**	P	**P**	**04 44 13.6**	**+1.1**
TOLK				IAmb	IAmb	04 44 14.3	
	comp=Z,3.3nm,0.7s						
IL31		**70.57**	**25**	P	**P**	**04 44 11.5**	**-1.0**
IL31				IAmb	IAmb	04 44 25.9	
	comp=Z,8.0nm,1.5s						
ILAR	**Eielson Array**	**70.57**	**25**	P	**P**	**04 44 11.3**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=251,slow=6.1,SNR=32						
	comp=Z,1.6nm,0.6s						
C23K	**Itkillik River**	**70.58**	**20**	P	**P**	**04 44 13.6**	**+1.1**
C23K				IAmb	IAmb	04 44 30.7	
	comp=Z,5.8nm,1.3s						
E24K	**Your Creek**	**70.79**	**22**	P	**P**	**04 44 14.9**	**+1.0**
C24K	**Franklin Bluff**	**71.18**	**20**	P	**P**	**04 44 17.0**	**+0.8**
D25K	**Kavik River**	**71.86**	**21**	P	**P**	**04 44 21.4**	**+1.0**
D25K				IAmb	IAmb	04 44 23.9	
	comp=Z,3.8nm,0.8s						
J26L	**Joseph Creek**	**71.92**	**26**	P	**P**	**04 44 21.1**	**+0.3**
F26K	**Sheenjek River**	**72.29**	**22**	P	**P**	**04 44 24.1**	**+1.2**
F26K				IAmb	IAmb	04 44 25.1	
	comp=Z,4.4nm,0.8s						
C27K	**Jago River**	**72.85**	**21**	P	**P**	**04 44 27.4**	**+1.2**
C27K				IAmb	IAmb	04 44 28.1	
	comp=Z,3.5nm,0.6s						
F28M	**Old Crow**	**73.89**	**23**	P	**P**	**04 44 33.4**	**+1.1**
L29M	**L29M**	**74.13**	**28**	P	**P**	**04 44 35.3**	**+1.4**
L29M				IAmb	IAmb	04 44 36.5	
	comp=Z,7.1nm,0.9s						
E28M	**Babbage River**	**74.15**	**22**	P	**P**	**04 44 35.3**	**+1.5**
K29M	**Barlow Dome**	**74.46**	**27**	P	**P**	**04 44 37.2**	**+1.3**
K29M				IAmb	IAmb	04 44 38.2	
	comp=Z,5.1nm,0.9s						
G31M	**Satah River**	**76.00**	**24**	P	**P**	**04 44 45.1**	**+0.7**
G31M				IAmb	IAmb	04 44 46.1	
	comp=Z,8.8nm,1.1s						
YKA	**Yellowknife Ar**	**84.89**	**27**	P	**P**	**04 45 32.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=288,slow=5.6,SNR=14						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**88.08**	**342**	P	**P**	**04 45 47.6**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=80,slow=7.1,SNR=11						
	comp=Z,4.1nm,1.0s						
NVAR	**Mina Array Bea**	**89.02**	**51**	P	**P**	**04 45 54.8**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=260,slow=6.2,SNR=7.0						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**91.92**	**335**	P	**P**	**04 46 05.0**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=53,slow=5.4,SNR=6.3						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**94.08**	**45**	P	**P**	**04 46 16.5**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=315,slow=8.9,SNR=1.7						
	comp=Z,0.1nm,0.4s						

---

*DJA **13** 04:34:09.3±0.9, 8°.S±7°.×12°.3E±°, h548km±12km, M4.3/12, mB4.9/6, mb4.6/8, MLv4.3/12, Mw(mB)4.2/6*
*NEIC **13** 04:34:09.2±1.1, 7°.4S±0°.1×123°.1E±0°.1, h549km±10km, mb4.2/18, Error ellipse: s-maj=21.2km s-min=15.3km az=78.0*
*IDC **13** 04:34:09.7±1.2, 7°.50S×123°.13E, h571km±17km, mb3.4/10, mbtmp4.3/14, Error ellipse: s-maj=28.0km s-min=8.7km az=64.0*
ISC 13 04:34:09.3±0.5,**7°.48S**±0°.06×**123°.14E**±0°.08,**h563**km,**n87**, σ0§**94**/92,**mb4.0**/19,**1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.46**	**218**	P	**P**	**04 35 16.6**	**-1.5**
MMRI	**Maumere**	**1.46**	**218**	P	**P**	**04 35 17.0**	**-1.2**
MMRI	**Maumere**	**1.46**	**218**	P	**P**	**04 35 16.4**	**-1.8**
SOEI	**Soe**	**2.52**	**154**	P	**P**	**04 35 22.2**	**-0.7**
SOEI				S	**S**	**04 36 22.2**	**-0.5**
SOEI	**Soe**	**2.52**	**154**	P	**P**	**04 35 22.4**	**-0.5**
SOEI	**Soe**	**2.52**	**154**	P	**P**	**04 35 22.7**	**-0.2**
SOEI				S	**S**	**04 36 20.8**	**-1.9**
KDI	**Kendari**	**3.53**	**352**	P	**P**	**04 35 29.7**	**+0.8**
WSI	**Waingapu**	**3.56**	**232**	P	**P**	**04 35 27.2**	**-1.8**
WSI				S	**S**	**04 36 37.2**	**+3.3**
BKSI	**Bulukumba**	**3.69**	**305**	P	**P**	**04 35 30.4**	**+0.5**
BASI	**Baing, Sumba**	**3.72**	**223**	P	**P**	**04 35 29.5**	**-0.6**
KAPI	**Kappang**	**4.16**	**306**	P	**P**	**04 35 34.4**	**+1.0**
	7.2nm,0.4s,baz=171,slow=4.2,SNR=5.2						
WBSI	**Waikabubak, Su**	**4.29**	**240**	P	**P**	**04 35 32.7**	**-1.6**
SPSI	**Sidrap Palu**	**4.84**	**316**	P	**P**	**04 35 38.6**	**-0.1**
PLAI	**Plampang**	**5.48**	**255**	P	**P**	**04 35 42.4**	**-1.6**
PLAI	**Plampang**	**5.48**	**255**	P	**P**	**04 35 42.3**	**-1.7**
	0.4nm58nm,0.6s						
NLAI	**Namlea**	**5.76**	**43**	P	**P**	**04 35 47.2**	**+0.7**
	5μm339nm,0.6s						
SANI	**Sanana**	**6.09**	**28**	P	**P**	**04 35 49.5**	**+0.1**
SANI	**Sanana**	**6.09**	**28**	P	**P**	**04 35 49.6**	**+0.1**
	0.3nm1μm116nm,0.7s						
AAI	**Ambon**	**6.28**	**53**	P	**P**	**04 35 51.5**	**+0.3**
	2μm157nm,0.9s						
LUWI	**Luwuk**	**6.40**	**357**	P	**P**	**04 35 50.9**	**-1.4**
MRSI	**Marisa**	**7.99**	**351**	P	**P**	**04 36 07.6**	**+0.2**
	1μm167nm,0.9s						
KMSI	**Cibinong**	**8.04**	**6**	P	**P**	**04 36 09.1**	**+1.2**
TOLI2	**Tolitoli**	**8.85**	**344**	P	**P**	**04 36 15.6**	**-0.3**
TOLI2	**Tolitoli**	**8.85**	**344**	P	**P**	**04 36 15.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**8.96**	**263**	P	**P**	**04 36 15.0**	**-2.0**
MTN	**Manton Dam**	**9.50**	**125**	P	**P**	**04 36 22.7**	**+0.3**
KNRA	**Kununurra**	**9.84**	**146**	P	**P**	**04 36 25.9**	**+0.1**
FAKI	**Fak Fak**	**10.13**	**64**	P	**P**	**04 36 27.5**	**-1.4**
FAKI	**Fak Fak**	**10.13**	**64**	P	**P**	**04 36 29.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.84**	**167**	P	**P**	**04 36 35.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.84**	**167**	P	**P**	**04 36 35.7**	**-0.3**
	4.6nm,0.3s,baz=0.0,slow=10,SNR=48						
FITZ				S	**S**	**04 38 33.6**	**-2.9**
	4.0nm,0.7s,baz=346,slow=17,SNR=4.1						
FITZ	**Fitzroy Crossi**	**10.84**	**167**	P	**P**	**04 36 35.8**	**-0.1**
MBWA	**Marble Bar**	**14.00**	**193**	P	**P**	**04 37 08.2**	**-0.2**
MBWA	**Marble Bar**	**14.00**	**193**	P	**P**	**04 37 08.2**	**-0.2**
KPJI	**Karang Pucung**	**14.09**	**270**	P	P	04 37 22.9	+13
PSA00	**Pilbara Seismi**	**14.37**	**192**	P	**P**	**04 37 11.9**	**-0.3**
PSA00	**Pilbara Seismi**	**14.37**	**192**	P	**P**	**04 37 10.8**	**-1.4**
PSA00	**Pilbara Seismi**	**14.37**	**192**	P	**P**	**04 37 11.8**	**-0.4**
BBJI	**Bungbulang**	**15.36**	**269**	P	**P**	**04 37 21.2**	**-1.1**
WB0	**Warramunga Arr**	**16.38**	**139**	P	**P**	**04 37 31.7**	**-0.2**
WB0				IAmb	IAmb	04 37 32.6	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**16.48**	**140**	P	**P**	**04 37 32.4**	**-0.4**
WRA	**Warramunga Arr**	**16.48**	**140**	P	**P**	**04 37 32.0**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=307,slow=14,SNR=7.4						
WRA				S	**S**	**04 40 17.6**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=320,slow=17,SNR=5.8						
WRAB	**Tennant Creek**	**16.48**	**140**	P	**P**	**04 37 33.1**	**+0.3**
WRAB				IAmb	IAmb	04 37 34.2	
	comp=Z,3.3nm,0.6s						
WB2	**Warramunga Arr**	**16.48**	**140**	P	**P**	**04 37 32.8**	**-0.1**
WB2				IAmb	IAmb	04 37 34.9	
	comp=Z,4.2nm,0.6s						
WR0	**Warramunga Arr**	**16.62**	**139**	P	**P**	**04 37 33.9**	**-0.2**
WR0				IAmb	IAmb	04 37 35.6	
	comp=Z,6.7nm,0.7s						
GIRL	**Giralia**	**17.35**	**209**	P	**P**	**04 37 41.7**	**+1.1**
GIRL	**Giralia**	**17.35**	**209**	P	**P**	**04 37 40.5**	**-0.1**
WRKA	**Warakurna**	**18.15**	**165**	P	**P**	**04 37 48.7**	**+0.7**
AS31	**Alice Springs**	**19.13**	**148**	P	**P**	**04 37 57.3**	**+0.4**
ASAR	**Alice Springs**	**19.13**	**148**	P	**P**	**04 37 58.2**	**+1.2**
ASAR	**Alice Springs**	**19.13**	**148**	P	**P**	**04 37 57.4**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=314,slow=7.8,SNR=34						
ASAR				S	**S**	**04 41 00.3**	**-1.3**
	comp=Z,1.9nm,1.0s,baz=323,slow=16,SNR=7.4						
AS01	**Alice Springs**	**19.15**	**148**	P	**P**	**04 37 57.9**	**+0.8**
MEEK	**Meekatharra**	**19.54**	**192**	P	**P**	**04 38 00.7**	**+0.1**
COEN	**Coen**	**20.70**	**110**	P	**P**	**04 38 11.5**	**+0.3**
COEN				IAmb	IAmb	04 38 20.3	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**20.70**	**110**	P	**P**	**04 38 12.0**	**+0.7**
MORW	**Morawa**	**22.50**	**196**	P	**P**	**04 38 27.7**	**+0.5**
MORW				IAmb	IAmb	04 38 50.6	
	comp=Z,14nm,1.2s						
MORW	**Morawa**	**22.50**	**196**	P	**P**	**04 38 27.4**	**+0.2**
OOD	**Oodnadatta**	**23.44**	**151**	P	**P**	**04 38 35.7**	**+0.1**
FORT	**Forrest**	**23.64**	**169**	P	**P**	**04 38 37.7**	**+0.4**
BLDU	**Ballidu**	**23.80**	**194**	P	**P**	**04 38 38.6**	**-0.1**
KMBL	**Kambalda**	**23.80**	**183**	P	**P**	**04 38 38.9**	**+0.2**
KLBR	**Kellerberrin**	**24.52**	**191**	P	**P**	**04 38 45.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**25.91**	**191**	P	**P**	**04 38 57.6**	**+0.3**
STKA	**Stephens Creek**	**29.75**	**147**	P	**P**	**04 39 31.6**	**+0.8**
	comp=Z,4.6nm,0.5s,baz=321,slow=10,SNR=12						
	comp=Z,4.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**35.13**	**317**	P	**P**	**04 40 16.3**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=143,slow=7.3,SNR=5.9						
	comp=Z,0.8nm,0.3s						
XAN	**Xi'an**	**43.43**	**343**	⇑P	**P**	**04 41 22.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**44.92**	**5**	P	**P**	**04 41 34.7**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=178,slow=9.1,SNR=5.8						
	comp=Z,1.5nm,0.6s						
MJAR	**Matsushiro Arr**	**46.01**	**17**	P	**P**	**04 41 42.1**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=191,slow=8.4,SNR=6.5						
	comp=Z,3.0nm,0.7s						
XLT	**XiLinHaoTe**	**51.53**	**353**	*e*P	**P**	**04 42 23.8**	**+0.2**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.05**	**8**	P	**P**	**04 42 27.0**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=194,slow=7.0,SNR=12						
	comp=Z,5.5nm,0.5s						
SONM	**Songino Array**	**57.03**	**347**	P	**P**	**04 43 02.2**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=164,slow=8.4,SNR=22						
	comp=Z,2.8nm,0.6s						
HEH	**HeiHe**	**57.61**	**3**	*e*P	**P**	**04 43 06.0**	**+0.1**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSH	**Kashi**	**63.92**	**321**	P	**P**	**04 43 48.4**	**+0.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**65.08**	**330**	P	**P**	**04 43 55.3**	**+0.5**
MK31				IAmb	IAmb	04 43 56.4	
	comp=Z,4.5nm,0.9s						
MKAR	**Makanchi Array**	**65.08**	**330**	P	**P**	**04 43 55.3**	**+0.5**
MKAR	**Makanchi Array**	**65.08**	**330**	P	**P**	**04 43 55.0**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=136,slow=7.7,SNR=51						
	comp=Z,6.1nm,0.7s						
MAKZ	**Makanchi**	**65.24**	**330**	P	**P**	**04 43 55.8**	**0.0**
AAK	**Ala-Archa**	**66.66**	**323**	P	**P**	**04 44 05.7**	**+0.8**
AAK				IAmb	IAmb	04 44 06.4	
	comp=Z,3.7nm,0.7s						
ARSB	**Arslanbob**	**66.83**	**321**	P	**P**	**04 44 06.6**	**+0.7**
ZAA0	**Zalesovo Array**	**69.17**	**337**	P	**P**	**04 44 18.7**	**-1.0**
ZAA0				IAmb	IAmb	04 44 19.9	
	comp=Z,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**69.17**	**337**	P	**P**	**04 44 19.0**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=124,slow=4.8,SNR=8.4						
	comp=Z,2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**69.51**	**331**	P	**P**	**04 44 21.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=144,slow=5.2,SNR=20						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**69.53**	**332**	P	**P**	**04 44 22.2**	**+0.3**
KURK				IAmb	IAmb	04 44 22.4	
	comp=Z,3.3nm,0.7s						
SBA	**Scott Base**	**73.84**	**171**	P	**P**	**04 44 48.7**	**+2.2**
BVAR	**Borovoye Array**	**74.96**	**330**	P	**P**	**04 44 52.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=133,slow=6.1,SNR=4.7						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**122.00**	**44**	PKP	**PKPdf**	**04 52 00.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=295,slow=1.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**122.22**	**281**	PKP	**PKPdf**	**04 52 01.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=55,slow=2.3,SNR=5.1						

---

*SOME **13** 05:06:24.0, 42°.70N×79°.22E, h10km*
*KRNET **13** 05:06:24.2±0.1, 42°.71N×79°.27E, h18km, mb3.4*
*NNC **13** 05:06:24.2±0.5, 42°.73N×79°.25E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=3.6km s-min=1.6km az=149.0*
ISC 13 05:06:25.0±1.0,**42°.71N**±0°.04×**79°.19E**±0°.03,**h10**km,**n52**, σ1§**47**/96,**26C-12D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.46**	**345**	P	**Pg**	**05 06 33.5**	**-0.5**
	109nm,0.1s						
UZB				S	**Sg**	**05 06 40.4**	**+0.5**
	151nm,0.1s						
UZB	**Uzynbulak**	**0.46**	**345**	*e*P	**Pg**	**05 06 33.5**	**-0.5**
UZB				*e*S	**Sg**	**05 06 40.5**	**+0.5**
UZB	**Uzynbulak**	**0.46**	**345**	*e*P	**Pg**	**05 06 33.5**	**-0.5**
	85nm,0.1s						
UZB				*e*S	**Sg**	**05 06 40.4**	**+0.5**
	151nm,0.1s						
SHLS	**Shalkode**	**0.49**	**24**	P	**Pn**	**05 06 36.3**	**-1.9**
	163nm,0.1s						
SHLS				S	**Sb**	**05 06 45.4**	**+2.2**
	303nm,0.2s						
SHLS	**Shalkode**	**0.49**	**24**	*e*P	**Pn**	**05 06 36.3**	**-1.9**
SHLS				*e*S	**Sb**	**05 06 45.4**	**+2.2**
SHLS	**Shalkode**	**0.49**	**24**	*e*P	**Pn**	**05 06 36.3**	**-1.9**
	163nm,0.1s						
SHLS				*e*S	**Sb**	**05 06 45.4**	**+2.2**
	303nm,0.2s						
PDGK	**Podgornoye**	**0.66**	**20**	⇓P	**Pg**	**05 06 36.1**	**-1.7**
	47nm,0.5s						
PDGK				⇓S	**Sg**	**05 06 45.0**	**-1.5**
	124nm,0.6s						
SATY	**Saty**	**0.67**	**302**	P	**Pg**	**05 06 37.8**	**-0.2**
	21nm,0.1s						
SATY				S	**Sb**	**05 06 47.5**	**-0.8**
	222nm,0.1s						
SATY	**Saty**	**0.67**	**302**	*e*P	**Pg**	**05 06 37.8**	**-0.2**
SATY				*e*S	**Sb**	**05 06 47.6**	**-0.8**
ZHN	**Zhinishke**	**0.72**	**310**	P	**Pg**	**05 06 38.6**	**-0.3**
	30nm,0.1s						
ZHN				S	**Sb**	**05 06 49.3**	**-0.4**
	486nm,0.3s						
ZHN	**Zhinishke**	**0.72**	**310**	*e*P	**Pg**	**05 06 38.6**	**-0.3**
ZHN				*e*S	**Sb**	**05 06 49.3**	**-0.4**
ZHN	**Zhinishke**	**0.72**	**310**	*e*P	**Pg**	**05 06 38.6**	**-0.3**
	30nm,0.1s						
ZHN				*e*S	**Sb**	**05 06 49.3**	**-0.4**
	472nm,0.1s						
KPKS	**Kokpek**	**0.84**	**334**	P	**Pg**	**05 06 40.6**	**-0.7**
	94nm,0.2s						
KPKS				S	**Sb**	**05 06 52.6**	**-0.6**
	158nm,0.3s						
KPKS	**Kokpek**	**0.84**	**334**	*e*P	**Pg**	**05 06 40.6**	**-0.7**
KPKS				*e*S	**Sb**	**05 06 52.6**	**-0.6**
KPKS	**Kokpek**	**0.84**	**334**	*e*P	**Pg**	**05 06 40.6**	**-0.7**
	94nm,0.1s						
KPKS				*e*S	**Sb**	**05 06 52.6**	**-0.6**
	133nm,0.1s						
KURS	**Kuram**	**1.08**	**317**	P	**Pg**	**05 06 45.0**	**-0.7**
	9.9nm,0.1s						
KURS				S	**Sn**	**05 07 00.2**	**-1.1**
	30nm,0.3s						
KURS	**Kuram**	**1.08**	**317**	*e*P	**Pg**	**05 06 45.0**	**-0.7**
KURS				*e*S	**Sn**	**05 07 00.2**	**-1.1**
ANVS	**Anan'yevo**	**1.12**	**274**	⇑*e*P	**Pn**	**05 06 46.3**	**-0.6**
ANVS				⇑*e*S	**Sn**	**05 07 02.0**	**-0.5**
TARG	**Taragay, Kyrgy**	**1.42**	**227**	⇑*i*P	**Pb**	**05 06 51.0**	**-0.8**
TARG				⇑*i*S	**Sg**	**05 07 10.9**	**+0.3**
BLB	**Baldybastay**	**1.48**	**340**	P	**Pb**	**05 06 52.2**	**-0.5**
	482nm,0.2s						
BLB				S	**Sg**	**05 07 12.6**	**-0.1**
	1μm,0.3s						
KDJ	**Kajisay**	**1.59**	**249**	⇓*i*P	**Pb**	**05 06 54.1**	**-0.5**
KDJ				⇓*i*S	**Sg**	**05 07 16.0**	**-0.2**
MDOK	**Medeo**	**1.63**	**287**	Pg	**Pg**	**05 06 55.3**	**-1.0**
	5.6nm,0.2s						
MDOK				⇓Pn	**Pg**	**05 06 55.4**	**-1.0**
	3.3nm,0.4s						
MDOK				⇑Sn	**Sg**	**05 07 17.3**	**-0.2**
	11nm,0.2s						
MDOK				Lg	Lg	05 07 17.8	
	53nm,0.4s						
MDOK	**Medeo**	**1.63**	**287**	*e*P	**Pg**	**05 06 55.3**	**-1.0**
MDOK				*e*S	**Sg**	**05 07 17.8**	**+0.2**
MDOK	**Medeo**	**1.63**	**287**	*e*P	**Pg**	**05 06 55.3**	**-1.0**
	5.8nm,0.2s						
MDOK				*e*S	**Sg**	**05 07 17.8**	**+0.2**
	53nm,0.5s						
KNOS	**Konyrlen**	**1.65**	**360**	P	**Pb**	**05 06 54.6**	**-1.0**
	73nm,0.1s						
KNOS				S	**Sg**	**05 07 16.6**	**-1.5**
	105nm,0.2s						
TNSS	**Tian-Shan**	**1.68**	**282**	P	**Pb**	**05 06 55.9**	**-0.3**
	14nm,0.3s						
TNSS				S	**Sg**	**05 07 19.1**	**+0.1**
	26nm,0.3s						
TNSS	**Tian-Shan**	**1.68**	**282**	*e*P	**Pb**	**05 06 55.9**	**-0.3**
TNSS				*e*S	**Sg**	**05 07 19.1**	**+0.1**
TNSS	**Tian-Shan**	**1.68**	**282**	*e*P	**Pb**	**05 06 55.9**	**-0.3**
	9.6nm,0.1s						
TNSS				*e*S	**Sg**	**05 07 19.1**	**+0.1**
	31nm,0.2s						
ARXS	**Arharly**	**1.80**	**327**	P	**Pb**	**05 06 58.0**	**-0.1**
	42nm,0.1s						
ARXS				S	**Sg**	**05 07 22.7**	**-0.2**
	219nm,0.2s						
MTBS	**Maitube**	**2.07**	**283**	Pg	**Pg**	**05 07 03.2**	**-1.5**
	14nm,0.3s						
MTBS				Lg	Lg	05 07 31.2	
	96nm,0.2s						
MTBS	**Maitube**	**2.07**	**283**	*e*P	**Pg**	**05 07 03.2**	**-1.5**

PRE 13 05:31:07.1±0.9, 27°50S×23°00E, h0km, ML1.5, Suspected explosion
IDC 13 05:31:08.7±7.4, 27°47S×23°01E, h0km, mbtmp2.0/1, ML1.6/1, Error ellipse: s-maj=51.6km s-min=44.3km az=29.0
ISC 13 05:31:06.6±2.2, 27°6S±0°1×23°08E±0°05, h0km, n6, σ0§31/7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPI	**Upington**	**1.77**	**245**	*e*P	**Pb**	**05 31 40.0**	**0.0**
UPI				*e*S	**Sg**	**05 32 03.1**	**-0.3**
UPI				IAML		05 32 09.4	
	comp=Z,5.9nm,0.7s						
I47ZA	**BOSHOF INFRASO**	**2.15**	**118**	I	I	05 48 40.0	
	comp=Z,0.3nm,0.9s,baz=300,slow=312,SNR=3.0						
BOSA	**Boshof**	**2.16**	**117**	Pn	**Pg**	**05 31 48.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=312,slow=15,SNR=2.2						
BOSA				Lg	Lg	05 32 21.1	
	comp=Z,0.6nm,0.3s,baz=218,slow=19,SNR=9.9						
BOSA				Rg	Rg	05 32 34.5	
	comp=Z,28nm,0.9s,baz=32,slow=1.5,SNR=16						
	comp=Z,1.8nm,0.8s						
BOSA	**Boshof**	**2.16**	**117**	*e*P	**Pb**	**05 31 46.3**	**-0.4**
BOSA				*e*S	**Sg**	**05 32 16.0**	**-0.1**
BOSA				IAML		05 32 31.5	
	comp=Z,2.8nm,0.3s						
ALKP	**Alkanpan, Nort**	**2.41**	**197**	*e*P	**Pb**	**05 31 50.9**	**-0.1**
ALKP				*e*S	**Sb**	**05 32 21.4**	**0.0**
ALKP				IAML		05 32 34.6	
	comp=Z,4.2nm,0.4s						
I35NA	**TSUMEB INFRASO**	**9.80**	**328**	I	I	06 29 50.0	
	baz=152,slow=316,SNR=4.1						

DJA 13 05:54:55.7±0.5, 5°S±4°×13°0E±°, h219km±9km, M4.7/12, mB5.6/1, mb4.7/5, MLv4.6/12, Mw(mB)5.2/1
IDC 13 05:54:58.4±4.1, 5°33S×129°51E, h250km±40km, mb3.3/3, mbtmp4.0/6, Error ellipse: s-maj=51.2km s-min=11.7km az=70.0
ISC 13 05:54:53.2±0.6, 5°30S±0°06×129°70E±0°05, h200km, n30, σ1§65/34, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**2.09**	**338**	P	**Pn**	**05 55 33.9**	**+1.3**
MSAI				S	**Sn**	**05 56 01.9**	**-1.5**
AAI	**Ambon**	**2.19**	**317**	P	**Pn**	**05 55 36.4**	**+2.6**
AAI				S	**Sn**	**05 56 07.4**	**+2.0**
SAUI	**Saumlaki**	**3.10**	**149**	P	Pn	05 55 50.9	+6.8
NLAI	**Namlea**	**3.30**	**308**	P	**Pn**	**05 55 48.4**	**+1.9**
NLAI				S	**Sn**	**05 56 30.4**	**+2.2**
FAKI	**Fak Fak**	**3.47**	**47**	P	**Pn**	**05 55 48.7**	**+0.2**
FAKI	**Fak Fak**	**3.47**	**47**	S	**Sn**	**05 56 30.5**	**-1.3**
FAKI	**Fak Fak**	**3.47**	**47**	P	**Pn**	**05 55 49.0**	**+0.5**
KMPI	**Kaimana, Papua**	**4.31**	**68**	P	**Pn**	**05 56 00.2**	**+1.3**
SWI	**Sorong**	**4.67**	**20**	P	**Pn**	**05 56 02.7**	**-0.8**
SANI	**Sanana**	**4.91**	**311**	P	**Pn**	**05 56 07.5**	**+1.0**
SANI	**Sanana**	**4.91**	**311**	S	**Sn**	**05 57 02.6**	**-1.7**
SANI	**Sanana**	**4.91**	**311**	P	**Pn**	**05 56 07.6**	**+1.0**
RKPI	**Ransiki, Papua**	**5.84**	**50**	P	**Pn**	**05 56 19.1**	**+0.7**
DRS	**Darwin Rock St**	**7.19**	**171**	P	Pn	05 56 41.3	+5.4
BAKI	**Biak**	**7.58**	**58**	P	**Pn**	**05 56 42.0**	**+0.9**
	0.3nm73nm,0.6s						
KDU	**Kakadu**	**7.83**	**160**	P	**Pn**	**05 56 47.2**	**+2.9**
PLAI	**Plampang**	**12.34**	**253**	P	**P**	**05 57 44.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**13.33**	**197**	P	**P**	**05 57 56.3**	**-1.3**
	6.4nm,0.6s,baz=18,slow=12,SNR=16						
FITZ				S	**S**	**06 00 19.0**	**-4.5**
	4.7nm,0.8s,baz=212,slow=17,SNR=4.1						
FITZ	**Fitzroy Crossi**	**13.33**	**197**	P	**P**	**05 57 58.4**	**+0.8**
WRA	**Warramunga Arr**	**15.24**	**163**	P	**P**	**05 58 20.4**	**+1.6**
	1.0nm,0.5s,baz=344,slow=12,SNR=23						
WRA				S	**S**	**06 01 05.1**	**-2.6**
	1.5nm,0.7s,baz=340,slow=22,SNR=5.3						
COEN	**Coen**	**15.82**	**124**	P	**Pn**	**05 58 27.4**	**+2.0**
QIS	**Mount Isa**	**17.96**	**148**	P	**Pn**	**05 58 51.8**	**+0.9**
MBWA	**Marble Bar**	**18.50**	**211**	P	**Pn**	**05 58 56.8**	**-0.3**
ASAR	**Alice Springs**	**18.71**	**168**	P	**Pn**	**05 59 00.2**	**+0.7**
	2.5nm,0.5s,baz=347,slow=10,SNR=22						
ASAR				S	**S**	**06 02 19.1**	**-0.1**
	2.7nm,0.9s,baz=345,slow=19,SNR=13						
AS01	**Alice Springs**	**18.71**	**168**	P	**Pn**	**05 58 59.9**	**+0.2**
PSA00	**Pilbara Seismi**	**18.79**	**210**	P	**Pn**	**05 59 00.3**	**-0.2**
BBJI	**Bungbulang**	**22.02**	**263**	P	**P**	**05 59 31.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**38.43**	**309**	P	**P**	**06 01 55.3**	**-0.5**
	1.1nm,0.3s,baz=123,slow=8.5,SNR=6.0						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**66.65**	**327**	P	**P**	**06 05 21.9**	**-0.4**
	0.4nm,0.3s,baz=126,slow=6.5,SNR=12						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**91.94**	**25**	P	**P**	**06 07 38.1**	**-0.6**
	0.4nm,1.1s,baz=256,slow=4.6,SNR=2.0						
	0.4nm,1.1s						

NOU 13 05:55:14.1, 15°61S×167°35E, h29km, mb4.4/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.25**	**159**	P	Pn	05 55 50.0	+0.6
DVP	**Devils Point**	**2.25**	**159**	S	Sn	05 56 16.8	+0.6
YATNC	**Mamie plateau,**	**6.43**	**184**	P	Pn	05 56 46.3	-0.6
YATNC	**Mamie plateau,**	**6.43**	**184**	S	Sn	05 58 00.0	+0.7
DZM	**Mont Dzumac**	**6.48**	**187**	P	Pn	05 56 46.5	-1.2
DZM	**Mont Dzumac**	**6.48**	**187**	S	Sn	05 58 01.3	+0.5
ONTNC	**Ouen Toro**	**6.72**	**187**	P	Pn	05 56 52.0	+1.2
OUENC	**Ouen Island, N**	**6.79**	**184**	P	Pn	05 56 51.7	-0.1
OUENC	**Ouen Island, N**	**6.79**	**184**	S	Sn	05 58 09.4	+1.2

NEIC 13 05:56:00.9±1.1, 57°5S±0°1×25°1W±0°2, h35km±1km, mb4.9/28, Error ellipse: s-maj=20.7km s-min=14.3km az=217.0
IDC 13 05:56:02.2±4.2, 57°49S×25°16W, h46km±39km, mb4.4/11, mbtmp4.7/13, ML4.8/2, MS3.7/21, Error ellipse: s-maj=19.8km s-min=14.8km az=60.0
ISC 13 05:55:58.1±0.3, 57°48S±0°07×25°05W±0°07, h15km, n138, σ1§22/128, mb4.8/18, MS3.8/21, 2C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.19**	**292**		**Pn**	**05 57 45.3**	**+2.8**
VNA1	**Neumayer--Stat**	**15.03**	**158**	P	**Pn**	**05 59 29.4**	**-0.1**
VNA1	**Neumayer--Stat**	**15.03**	**158**	⇓P	**Pn**	**05 59 29.4**	**-0.1**
	comp=Z,46nm,0.5s						
VNA3	**Neumayer Olymp**	**15.25**	**161**	P	**Pn**	**05 59 31.7**	**-0.8**
VNA3	**Neumayer Olymp**	**15.25**	**161**	⇓P	**Pn**	**05 59 31.7**	**-0.8**
	comp=Z,22nm,0.3s						
VNA2	**Neumayer--Watz**	**15.42**	**158**	P	**Pn**	**05 59 34.2**	**-0.5**
	baz=325,slow=15						
VNA2	**Neumayer--Watz**	**15.42**	**158**	⇓P	**Pn**	**05 59 34.2**	**-0.5**
	comp=Z,26nm,0.5s,baz=325,slow=15						
SNAA	**Sanae**	**16.95**	**156**	P	**Pn**	**05 59 54.9**	**+0.6**
SNAA	**Sanae**	**16.95**	**156**	Pn	**Pn**	**05 59 55.0**	**+0.6**
SNAA	**Sanae**	**16.95**	**156**	⇓P	**Pn**	**05 59 54.9**	**+0.6**
	comp=Z,382nm,0.4s						
SNAA	**Sanae**	**16.95**	**156**	P	**P**	**05 59 55.3**	**-1.0**
	comp=Z,3.3nm,0.3s,baz=6.9,slow=15,SNR=74						
SNAA				S	Sn	06 02 50.7	-12
	comp=Z,4.4nm,0.9s,baz=149,slow=24,SNR=2.0						
SNAA				LR	LR	06 05 27.7	
	comp=Z,149nm,18.2s,baz=316,slow=33						
	comp=Z,12nm,0.4s						
TROLL	**Troll, Antarti**	**18.44**	**153**	P	**Pn**	**06 00 13.3**	**+0.5**
TROLL	**Troll, Antarti**	**18.44**	**153**	⇓P	**Pn**	**06 00 13.3**	**+0.5**
	comp=Z,348nm,0.5s						
EFI	**East Falkland**	**19.86**	**273**	P	**Pn**	**06 00 29.0**	**-0.8**
EFI				IAmb	IAmb	06 00 36.9	
	comp=Z,61nm,1.0s						
PMSA	**Palmer Station**	**19.91**	**232**	P	**P**	**06 00 28.7**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=113,slow=8.7,SNR=1.9						
PMSA				LR	LR	06 07 01.8	
	comp=Z,313nm,21.6s,baz=62,slow=33						
	comp=Z,148nm,1.4s						
BELA	**Belgrano 2**	**20.75**	**186**	P	**P**	**06 00 37.8**	**0.0**
USHA	**Ushuaia**	**24.00**	**258**	LR	LR	06 08 41.5	
	comp=Z,375nm,18.1s,baz=124,slow=32						
MG02	**Cerro Sombrero**	**25.33**	**262**	P	**P**	**06 01 23.9**	**0.0**
TRQA	**Tornquist**	**30.97**	**293**	P	**P**	**06 02 13.5**	**-0.9**
TRQA				IAmb	IAmb	06 03 14.1	
	comp=Z,34nm,1.7s						
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**06 02 30.9**	**+0.7**
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**06 02 31.0**	**+0.8**
	comp=Z,6.0nm,0.6s,baz=348,slow=0.7,SNR=27						
	comp=Z,6.0nm,0.6s						
QSPA	**South Pole Qui**	**32.77**	**180**	P	**P**	**06 02 30.5**	**+0.4**
QSPA				pP	**pwP**	**06 02 40.8**	**+2.2**
QSPA				sP	sP	06 02 45.2	+10
PLCA	**Paso Flores**	**33.41**	**280**	P	**P**	**06 02 33.3**	**-2.6**
PLCA				IAmb	IAmb	06 02 34.9	
	comp=Z,39nm,2.0s						
PLCA	**Paso Flores**	**33.41**	**280**	P	**P**	**06 02 34.2**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=161,slow=4.2,SNR=4.7						
PLCA				LR	LR	06 16 40.6	
	comp=Z,147nm,18.4s,baz=128,slow=37						
	comp=Z,1.6nm,0.9s						
PLCA	**Paso Flores**	**33.41**	**280**	P	**P**	**06 02 34.1**	**-1.8**
PLCA				pP	**pwP**	**06 02 44.5**	**+0.3**
ITAB	**Concordia**	**35.78**	**316**	P	**P**	**06 02 56.6**	**+0.3**
VAO	**Valinhos**	**37.93**	**326**	P	**P**	**06 03 15.5**	**+0.7**
MAW	**Mawson**	**38.30**	**142**	LR	LR	06 17 18.1	
	comp=Z,148nm,20.6s,baz=269,slow=33						
CPUP	**Villa Florida**	**38.64**	**310**	P	**P**	**06 03 20.2**	**-0.5**
CPUP				IAmb	IAmb	06 03 31.7	
	comp=Z,21nm,1.3s						
CPUP	**Villa Florida**	**38.64**	**310**	P	**P**	**06 03 20.4**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=159,slow=7.1,SNR=12						
CPUP				LR	LR	06 17 38.1	
	comp=Z,57nm,21.0s,baz=156,slow=34						
	comp=Z,4.5nm,0.6s						
CPUP	**Villa Florida**	**38.64**	**310**	P	**P**	**06 03 20.0**	**-0.6**
CPUP				sP	**pwP**	**06 03 34.6**	**+5.6**
MT09	**Talagante**	**38.87**	**287**	P	**P**	**06 03 21.2**	**-1.5**
MT09				IAmb	IAmb	06 03 34.4	
	comp=Z,30nm,1.4s						
SUR	**Sutherland**	**39.93**	**71**	LR	LR	06 16 05.9	
	comp=Z,240nm,18.6s,baz=190,slow=30						
RPRD	**Ribas do Rio P**	**42.51**	**318**	*e*P	**P**	**06 03 52.5**	**-0.2**
AQDB	**Aquidauana**	**43.25**	**316**	P	**P**	**06 03 57.7**	**-0.9**
AQDB	**Aquidauana**	**43.25**	**316**	*e*P	**P**	**06 03 57.8**	**-0.9**
BDQN	**Bodoquena, MS**	**43.68**	**314**	*e*P	**P**	**06 04 01.0**	**-1.1**
JANB	**Januaria**	**44.77**	**333**	*e*P	**P**	**06 04 10.3**	**-0.7**
VNDA	**Vanda**	**45.19**	**182**	P	**P**	**06 04 14.5**	**+0.9**
VNDA	**Vanda**	**45.19**	**182**	P	**P**	**06 04 14.0**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=184,slow=8.5,SNR=16						
	comp=Z,4.1nm,0.5s						
VNDA	**Vanda**	**45.19**	**182**	P	**P**	**06 04 14.6**	**+1.0**
VNDA				pP	**pwP**	**06 04 25.4**	**+3.2**
BDFB	**Brasilia**	**45.20**	**328**	P	**P**	**06 04 13.7**	**-0.7**
BDFB				IAmb	IAmb	06 05 43.3	
	comp=Z,26nm,1.7s						
BDFB	**Brasilia**	**45.20**	**328**	P	**P**	**06 04 15.2**	**+0.8**
	comp=Z,4.4nm,0.5s,baz=96,slow=5.0,SNR=11						
BDFB				LR	LR	06 22 23.5	
	comp=Z,94nm,19.9s,baz=160,slow=35						
	comp=Z,4.4nm,0.5s						
BOSA	**Boshof**	**45.23**	**72**	P	**P**	**06 04 14.5**	**-0.1**
BOSA				IAmb	IAmb	06 04 15.4	
	comp=Z,24nm,1.4s						
BOSA	**Boshof**	**45.23**	**72**	P	**P**	**06 04 14.7**	**+0.1**
	comp=Z,6.9nm,0.8s,baz=215,slow=7.8,SNR=11						
BOSA				LR	LR	06 19 01.7	
	comp=Z,158nm,20.1s,baz=216,slow=30						
	comp=Z,6.9nm,0.8s						
BOSA	**Boshof**	**45.23**	**72**	P	**P**	**06 04 14.5**	**-0.1**
BOSA				pP	**pwP**	**06 04 24.8**	**+1.8**
CCD	**Concordia, Ant**	**46.05**	**169**	P	**P**	**06 04 20.8**	**-0.1**
ARAG	**Araguaiana, MT**	**46.30**	**323**	*e*P	**P**	**06 04 23.6**	**+0.7**
SALV	**Santo Antonio**	**47.44**	**318**	*e*P	**P**	**06 04 32.2**	**+0.2**
SDBA	**SAO DESIDERIO**	**47.47**	**333**	*e*P	**P**	**06 04 32.7**	**+0.5**
LBTB	**Lobatse**	**48.34**	**70**	P	**P**	**06 04 38.4**	**-0.6**
LBTB				IAmb	IAmb	06 04 39.8	
	comp=Z,10nm,0.9s						
LBTB	**Lobatse**	**48.34**	**70**	LR	LR	06 21 12.7	
	comp=Z,139nm,19.5s,baz=199,slow=31						
LBTB	**Lobatse**	**48.34**	**70**	P	**P**	**06 04 39.0**	**0.0**
PTLB	**Pontes e Lacer**	**49.14**	**314**	P	**P**	**06 04 45.1**	**+0.1**
PTLB				IAmb	IAmb	06 04 56.2	
	comp=Z,14nm,0.8s						
PTLB	**Pontes e Lacer**	**49.14**	**314**	*e*P	**P**	**06 04 44.9**	**-0.2**
TSUM	**Tsumeb**	**49.40**	**57**	LR	LR	06 20 48.9	
	comp=Z,62nm,20.9s,baz=213,slow=30						
SIV	**San Ignacio**	**49.41**	**312**	LR	LR	06 23 23.2	
	comp=Z,54nm,21.9s,baz=110,slow=33						
POGA	**Pongola**	**49.61**	**78**	P	**P**	**06 04 48.5**	**-0.1**
POGA				IAmb	IAmb	06 04 49.3	
	comp=Z,16nm,0.8s						
SNDB	**Serra Nova Dou**	**49.64**	**325**	*e*P	**P**	**06 04 49.7**	**+0.8**
H10N1	**ASCENSION HYDR**	**50.19**	**14**	T	T	06 59 09.3	
	baz=188						
H10N3	**ASCENSION HYDR**	**50.19**	**14**	T	T	06 59 16.6	
	baz=188,slow=74,SNR=17						
H10N2	**ASCENSION HYDR**	**50.21**	**14**	T	T	06 59 17.5	
	baz=188,slow=74,SNR=10						
SMTB	**Santa Maria do**	**51.55**	**331**	*e*P	**P**	**06 05 03.6**	**+0.4**
PDRB	**Porto dos Gac**	**51.78**	**319**	*e*P	**P**	**06 05 04.6**	**-0.4**
VILB	**Vilhena**	**51.83**	**314**	*e*P	**P**	**06 05 05.2**	**-0.3**
LPAZ	**La Paz**	**52.16**	**304**	P	**P**	**06 05 08.2**	**-0.4**
LPAZ				IAmb	IAmb	06 05 13.9	
	comp=Z,9.0nm,0.6s						
LPAZ	**La Paz**	**52.16**	**304**	P	**P**	**06 05 08.3**	**-0.2**
	comp=Z,5.3nm,0.5s,baz=164,slow=4.9,SNR=15						
LPAZ				LR	LR	06 27 26.6	
	comp=Z,33nm,20.3s,baz=210,slow=36						
	comp=Z,5.3nm,0.5s						
LPAZ	**La Paz**	**52.16**	**304**	*e*P	**P**	**06 05 07.9**	**-0.7**
LPAZ	**La Paz**	**52.16**	**304**	P	**P**	**06 05 07.9**	**-0.7**
LSZ	**Lusaka**	**57.83**	**66**	P	**P**	**06 05 48.8**	**-0.3**
LSZ				IAmb	IAmb	06 05 49.9	
	comp=Z,14nm,0.8s						
LSZ	**Lusaka**	**57.83**	**66**	LR	LR	06 27 30.0	
	comp=Z,117nm,18.7s,baz=239,slow=33						
MACA	**Manacapuru-AM**	**61.02**	**318**	P	**P**	**06 06 10.5**	**-0.4**
MACA	**Manacapuru-AM**	**61.02**	**318**	*e*P	**P**	**06 06 09.9**	**-1.0**
TEFE	**Tefe**	**62.18**	**314**	*e*P	**P**	**06 06 18.1**	**-0.6**
RPN	**Rapa Nui**	**64.56**	**259**	LR	LR	06 27 11.4	
	comp=Z,89nm,22.0s,baz=67,slow=29						
DBIC	**Dimbokro**	**66.02**	**22**	P	**P**	**06 06 43.9**	**+0.1**
DBIC				IAmb	IAmb	06 06 45.2	
	comp=Z,6.9nm,0.8s						
DBIC	**Dimbokro**	**66.02**	**22**	P	**P**	**06 06 43.8**	**+0.1**
	comp=Z,4.3nm,0.6s,baz=175,slow=6.1,SNR=7.7						
DBIC				LR	LR	06 29 01.5	
	comp=Z,49nm,19.3s,baz=172,slow=30						
	comp=Z,4.3nm,0.6s						
DBIC	**Dimbokro**	**66.02**	**22**	P	**P**	**06 06 43.7**	**-0.1**
BOAV	**Boa Vista**	**66.14**	**321**	P	**P**	**06 06 43.9**	**-0.6**
BOAV				IAmb	IAmb	06 06 56.3	
	comp=Z,13nm,1.1s						
BOAV	**Boa Vista**	**66.14**	**321**	*e*P	**P**	**06 06 44.0**	**-0.6**
MDP	**Montagnes des**	**66.26**	**330**	LR	LR	06 35 32.5	
	comp=Z,41nm,18.2s,baz=128,slow=36						
OTAV	**Otavalo**	**71.42**	**302**	P	**P**	**06 07 18.3**	**+0.1**
OTAV	**Otavalo**	**71.42**	**302**	*e*P	**P**	**06 07 17.0**	**-1.1**
OTAV	**Otavalo**	**71.42**	**302**	P	**P**	**06 07 18.4**	**+0.3**
ROSC	**El Rosal**	**73.70**	**308**	P	**P**	**06 07 31.6**	**0.0**
	comp=Z,2.4nm,0.4s						
ROSC				LR	LR	06 42 01.5	
	comp=Z,34nm,19.7s,slow=38						
	comp=Z,2.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**73.76**	**27**	P	**P**	**06 07 31.7**	**+0.4**
	comp=Z,16nm,0.7s,baz=203,slow=5.1,SNR=100						
	comp=Z,16nm,0.7s						
PCRV	**Puerto La Cruz**	**74.81**	**319**	LR	LR	06 44 32.5	
	comp=Z,43nm,18.0s,slow=39						
BAUV	**El Baul**	**74.91**	**316**	P	**P**	**06 07 38.3**	**+0.2**
SDV	**Santo Domingo**	**75.85**	**313**	P	**P**	**06 07 43.5**	**-0.3**
SDV	**Santo Domingo**	**75.85**	**313**	LR	LR	06 42 18.8	
	comp=Z,53nm,20.7s,baz=86,slow=37						
SDV	**Santo Domingo**	**75.85**	**313**	*e*P	**P**	**06 07 43.6**	**-0.2**
MDT	**Midelt**	**91.58**	**17**	LR	LR	06 45 16.4	
	comp=Z,63nm,18.8s,baz=198,slow=32						
PPT2	**Papeete2**	**92.25**	**232**	*e*LR	LR	06 38 38.7	
	comp=Z,137nm,26.0s						
PPT2				*e*LR	LR	06 38 45.1	
	comp=Z,123nm,25.0s						
ASAR	**Alice Springs**	**97.26**	**161**	P	**P**	**06 09 29.1**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=180,slow=4.1,SNR=16						
ASAR				PP	**PP**	**06 13 22.4**	**-3.4**
	comp=Z,0.4nm,0.9s,baz=197,slow=8.7,SNR=4.3						
	comp=Z,1.7nm,0.7s						
DZM	**Mont Dzumac**	**100.17**	**191**	*e*LR	LR	06 42 16.8	
	comp=Z,58nm,27.2s						
WRA	**Warramunga Arr**	**100.97**	**160**	P	**Pdif**	**06 09 46.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=198,slow=4.5,SNR=2.4						
MODS	**Modra-Piesok**	**111.16**	**29**	*e*PDIFF	**Pdif**	**06 10 34.9**	**+3.7**
KOLS	**Kolonicke sedl**	**113.03**	**32**	*e*PDIFF	**Pdif**	**06 10 41.7**	**+2.2**
HFS	**Hagfors**	**121.18**	**21**	PKP	**PKPdf**	**06 14 46.7**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=180,slow=0.5,SNR=1.6						
NOA	**NORSAR Array B**	**121.55**	**20**	PKP	**PKPdf**	**06 14 49.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=198,slow=1.9,SNR=3.5						
PDAR	**Pinedale Array**	**122.09**	**300**	PKP	**PKPdf**	**06 14 50.1**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=126,slow=6.4,SNR=4.1						
FXWY	**Fox Creek**	**123.45**	**300**		**PKPdf**	**06 14 53.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**123.47**	**109**	PKPdf	**PKPdf**	**06 14 53.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**123.47**	**109**	PKP	**PKPdf**	**06 14 54.2**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=233,slow=3.8,SNR=18						
YNE	**Yellowstone No**	**124.02**	**302**		**PKPdf**	**06 14 54.1**	**-0.9**
GAR	**Garm**	**124.53**	**70**	PKPdf	**PKPdf**	**06 14 55.2**	**-0.8**
FINES	**FINESS Array B**	**125.11**	**27**	PKP	**PKPdf**	**06 14 55.6**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=205,slow=2.4,SNR=29						
KKAR	**Karatay Array**	**127.68**	**67**	PKPdf	**PKPdf**	**06 15 01.0**	**-0.8**
KSH	**Kashi**	**127.82**	**74**	P	**PKPdf**	**06 15 02.3**	**0.0**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AAK	**Ala-Archa**	**129.35**	**70**		**PKPdf**	**06 15 05.1**	**-0.1**
PZH	**PanZhiHua**	**131.56**	**106**	PKP	**PKiKP**	**06 15 10.9**	**+0.1**
ARCES	**ARCESS Array B**	**131.84**	**21**	PKP	**PKPdf**	**06 15 08.3**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=218,slow=1.7,SNR=21						
BVAR	**Borovoye Array**	**134.55**	**58**	PKP	**PKPdf**	**06 15 14.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=228,slow=1.8,SNR=7.7						
MK31	**Makanchi Array**	**136.22**	**71**	PKPdf	**PKPdf**	**06 15 16.6**	**-1.2**
MKAR	**Makanchi Array**	**136.22**	**71**	PKP	**PKPdf**	**06 15 17.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=216,slow=1.7,SNR=10						
KURBB	**Kurchatov Arra**	**136.85**	**65**	PKP	**PKPdf**	**06 15 18.3**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=235,slow=2.3,SNR=7.1						
WMQ	**Urumqi**	**137.04**	**78**	*e*PKP	**PKiKP**	**06 15 20.4**	**-0.9**
WMQ				LR	LR		
	comp=Z,200nm,18.1s						
YKA	**Yellowknife Ar**	**138.02**	**316**	PKP	**PKPdf**	**06 15 20.0**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=140,slow=2.3,SNR=20						
YKA				PP	**PP**	**06 18 10.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=128,slow=6.8,SNR=4.8						
GTA	**Gaotai**	**140.47**	**93**	*e*PKP	**PKPdf**	**06 15 25.0**	**-1.0**
XAN	**Xi'an**	**141.29**	**107**	⇑PKP	**PKiKP**	**06 15 29.6**	**-0.7**
ZALV	**Zalesovo Beam**	**141.93**	**64**	PKhKP	PKPpre	06 15 21.7	
	comp=Z,1.0nm,0.5s,baz=264,slow=2.8,SNR=6.3						
NJ2	**Nanjing**	**144.59**	**120**	*e*P	**PKPdf**	**06 15 34.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BTO	**Baotou**	**146.80**	**101**	*e*PKPbc	**PKPbc**	**06 15 38.8**	**0.0**
BTO				PP	**PP**	**06 19 08.6**	**+5.2**
BTO				pmax	pmax		
	comp=Z,48nm,1.0s						
BTO				pmax	pmax		
	comp=Z,180nm,4.4s						
HNS	**HongShan**	**146.86**	**110**	⇑PKPbc	**PKPbc**	**06 15 38.8**	**-0.1**
TIA	**Tai'an**	**147.14**	**114**	P	**PKPbc**	**06 15 39.5**	**-0.3**
TIA				pmax	pmax		
	comp=Z,23nm,1.0s						
TIA				LR	LR		
	comp=N,250nm,18.1s						
TIA				LR	LR		
	comp=Z,280nm,23.0s						
INK	**Inuvik**	**147.66**	**319**		**PKPbc**	**06 15 39.4**	**-0.8**
K29M	**Barlow Dome**	**147.77**	**310**		**PKPbc**	**06 15 40.0**	**-0.8**
HHC	**Hu-ho-hao-te**	**147.79**	**102**	*e*P	**PKPdf**	**06 15 39.8**	**+1.2**
DAWY	**Dawson**	**148.62**	**310**		**PKPbc**	**06 15 41.8**	**-1.2**
I28M	**Miner Creek**	**149.27**	**312**		**PKPbc**	**06 15 42.5**	**-2.1**
BCAR	**Beaver Creek A**	**149.31**	**307**	PKPbc	**PKPbc**	**06 15 42.9**	**-1.8**
BJI	**Beijing**	**149.60**	**108**	PKPbc	**PKPbc**	**06 15 44.9**	**-1.1**
SONM	**Songino Array**	**149.63**	**87**	PKPbc	**PKPbc**	**06 15 45.6**	**-0.4**
	comp=Z,13nm,0.9s,baz=221,slow=2.4,SN

CAPN	Captain Cook N	1.19	64		Pn	06 01 02.7 +1.6
CAPN	Captain Cook N	1.19	64	P	Pn	06 01 02.7 +1.6
	baz=246					
CNPM	China Poot	1.29	124	Pn	Pn	06 01 02.8 +0.7
CNPM				IAML		06 01 25.6
	comp=E,1μm,0.6s					
CNPM	China Poot	1.29	124		Sn	06 01 23.8 -0.6
P18K	Big Mountain,	1.30	229	Pn	Pn	06 01 02.4 +0.1
P18K	Big Mountain,	1.30	229	P	Pn	06 01 02.3 +0.1
	baz=47					
BRLK	Bradley Lake	1.32	111		Pn	06 01 02.8 +0.4
N18K	Kilae Creek	1.34	289		Pn	06 01 02.5 -0.1
N18K	Kilae Creek	1.34	289		Sn	06 01 23.7 -1.5
N18K	Kilae Creek	1.34	289	IAML		06 01 24.2
	comp=E,72nm,0.5s					
N18K				IAML		06 01 24.4
	comp=N,141nm,1.2s					
N18K	Kilae Creek	1.34	289	P	Pn	06 01 02.6 +0.1
	baz=107					
N18K				S	Sn	06 01 23.7 -1.5
	baz=107					
N18K				S	Sn	06 01 23.7 -1.5
	baz=107					
Q19K	Cape Douglas,	1.35	187		Pn	06 01 03.0 +0.3
Q19K				IAML		06 01 28.3
	comp=E,398nm,1.1s					
Q19K				IAML		06 01 30.4
	comp=N,466nm,0.9s					
Q19K	Cape Douglas,	1.35	187	P	Pn	06 01 03.1 +0.4
	baz=7.0					
BRSE	Bradley Lake S	1.40	111		Pn	06 01 03.8 +0.7
BRSE					Sn	06 01 25.1 -1.1
BRSE	Bradley Lake S	1.40	111	P	Pn	06 01 03.8 +0.7
	baz=294					
BRSE				S	Sn	06 01 25.1 -1.1
	baz=294					
STLK	Strandline Lak	1.44	30		Pn	06 01 03.9 +0.3
SLKM	Skilak Lake	1.56	80	Pn	Pn	06 01 04.5 -0.2
SLKM				IAML		06 01 29.3
	comp=E,860nm,0.4s					
SLKM	Skilak Lake	1.56	80		Sn	06 01 27.5 -1.6
M20K	Styx River	1.63	3		Pn	06 01 06.3 +0.9
M20K	Styx River	1.63	3	P	Pn	06 01 06.3 +0.9
	baz=183					
Q20K	Shuyak Island	1.73	164	P	Pn	06 01 06.8 +0.4
	baz=345					
SYI	Shuyak Island	1.73	164	Pn	Pn	06 01 06.9 +0.5
SYI				IAML		06 01 32.2
	comp=N,266nm,0.7s					
SYI				IAML		06 01 32.7
	comp=E,282nm,0.5s					
M18K	Stony River	1.74	316		Pn	06 01 06.5 0.0
M18K	Stony River	1.74	316	P	Pn	06 01 06.5 0.0
	baz=134					
SUA	Susitna One	1.74	45		Pn	06 01 06.9 +0.2
SUA				IAML		06 01 34.5
	comp=N,543nm,0.4s					
SUA				IAML		06 01 34.7
	comp=E,732nm,0.5s					
SUA	Susitna One	1.74	45	P	Pn	06 01 06.9 +0.2
	baz=228					
FIS	Fire Island	1.77	59		Pn	06 01 07.6 +0.9
FIS				IAML		06 01 37.3
	comp=E,706nm,0.5s					
FIS				IAML		06 01 42.3
	comp=N,492nm,0.4s					
O22K	Cooper Landing	1.80	81		Pn	06 01 07.3 +0.2
O22K	Cooper Landing	1.80	81	P	Pn	06 01 07.2 0.0
	baz=265					
KAHG	Katmai Hook Gl	1.88	200		Pn	06 01 08.7 +0.6
P17K	Kvichak River	1.91	237		Pn	06 01 09.2 +0.9
P17K	Kvichak River	1.91	237	P	Pn	06 01 09.2 +0.9
	baz=54					
SKT	Skwentna	1.93	26		Pn	06 01 09.1 +0.5
SKT				IAML		06 01 37.6
	comp=E,166nm,0.7s					
SKT				IAML		06 01 37.0
	comp=N,127nm,0.3s					
SKT	Skwentna	1.93	26	P	Pn	06 01 09.0 +0.4
	baz=208					
N17K	Nushagak Hills	1.94	280		Pn	06 01 09.3 +0.6
N17K	Nushagak Hills	1.94	280	P	Pn	06 01 09.2 +0.6
	baz=96					
SEW	Seward	1.94	93	Pn	Pn	06 01 08.9 +0.2
SEW	Seward	1.94	93	P	Pn	06 01 08.8 +0.2
	baz=277					
RC01	Rabbit Creek A	1.95	63	Pn	Pn	06 01 08.3 -0.5
RC01				IAML		06 01 36.5
	comp=E,728nm,0.2s					
RC01				IAML		06 01 36.5
	comp=N,739nm,0.2s					
RC01	Rabbit Creek A	1.95	63	P	Pn	06 01 08.8 +0.1
	baz=247					
O17K	Koliganek Bris	1.96	257		Pn	06 01 09.6 +0.8
O17K	Koliganek Bris	1.96	257	P	Pn	06 01 09.6 +0.8
	baz=74					
KVTA	Katmai Vly 10	2.14	209		Pn	06 01 11.6 +0.6
M22K	Willow	2.16	45		Pn	06 01 11.2 +0.1
M22K	Willow	2.16	45	P	Pn	06 01 11.2 +0.1
	baz=228					
KCE	Katmai Mt Cerb	2.24	206		Pn	06 01 13.2 +1.0
L20K	Farewell, AK	2.24	353		Pn	06 01 12.7 +0.7
L20K	Farewell, AK	2.24	353	P	Pn	06 01 12.7 +0.7
	baz=173					
ACHA	Angle Creek He	2.30	207	Pn	Pn	06 01 13.4 +0.5
M17K	Holitna River	2.32	301	Pn	Pn	06 01 13.3 +0.4
M17K				IAML		06 01 45.4
	comp=E,48nm,1.2s					
M17K	Holitna River	2.32	301	P	Pn	06 01 13.3 +0.4
	baz=118					
Q16K	King Salmon	2.33	228	P	Pn	06 01 14.1 +1.0
	baz=45					
PMR	Palmer	2.44	55	Pn	Pn	06 01 13.5 -0.8
PMR				IAML		06 01 46.5
	comp=N,235nm,0.2s					
PMR				IAML		06 01 46.8
	comp=E,192nm,0.3s					
PMR	Palmer	2.44	55	P	Pn	06 01 13.5 -0.8
	baz=239					
PMR	Palmer	2.44	55	P	Pn	06 01 13.3 -1.0
O16K	Kokwok River B	2.49	256		Pn	06 01 15.9 +0.9
O16K	Kokwok River B	2.49	256	P	Pn	06 01 15.8 +0.8
	baz=72					
KJL	Kejulik	2.50	209		Pn	06 01 16.1 +1.0
KDAK	Kodiak Island	2.52	171	Pn	Pn	06 01 14.5 -0.7
KDAK				IAML		06 01 47.9
	comp=E,124nm,0.3s					
KDAK				IAML		06 01 47.9
	comp=E,97nm,0.4s					
PWL	Port Wells	2.54	74	P	Pn	06 01 14.8 -0.7
	baz=259					
L18K	Granite Mounta	2.55	322	Pn	Pn	06 01 16.1 +0.5
L18K	Granite Mounta	2.55	322	P	Pn	06 01 15.9 +0.3
	baz=139					
CUT	Chulitna	2.60	33		Pn	06 01 17.1 +0.9
CUT	Chulitna	2.60	33	P	Pn	06 01 17.1 +0.9
	baz=216					
GHO	Glory Hole Cre	2.62	53		Pn	06 01 15.8 -0.8
GHO				IAML		06 01 50.0
	comp=N,340nm,0.4s					
KNK	Knik Glacier	2.65	62		Pn	06 01 16.2 -0.6
KNK	Knik Glacier	2.65	62	P	Pn	06 01 16.2 -0.6
	baz=246					
P16K	Nushagak River	2.67	244		Pn	06 01 18.5 +1.4
P16K	Nushagak River	2.67	244	P	Pn	06 01 18.5 +1.4
	baz=60					
PPLA	Purkeypile	2.70	11	Pn	Pn	06 01 19.0 +1.5
PPLA	Purkeypile	2.70	11	P	Pn	06 01 18.9 +1.4
	baz=192					
R18K	Karluk	2.77	193		Pn	06 01 18.4 +0.1
R18K	Karluk	2.77	193	IAML		06 01 54.1
	comp=N,289nm,0.4s					
R18K				IAML		06 01 54.3
	comp=E,256nm,0.4s					
R18K	Karluk	2.77	193	P	Pn	06 01 18.4 +0.1
	baz=12					
M16K	Timber Creek	2.88	288		Pn	06 01 20.7 +1.1
M16K	Timber Creek	2.88	288	P	Pn	06 01 20.7 +1.1
	baz=103					
SML	Sawmill	2.88	55		Pn	06 01 19.1 -0.6
SML				IAML		06 01 55.8
	comp=N,184nm,0.5s					
SML				IAML		06 01 56.0
	comp=E,240nm,0.7s					
SML	Sawmill	2.88	55	P	Pn	06 01 19.0 -0.7
	baz=240					
TTA	Tatalina	2.97	336	Pn	Pn	06 01 20.0 -0.8
TTA	Tatalina	2.97	336	P	Pn	06 01 20.7 -0.1
	baz=153					
TTA	Tatalina	2.97	336	P	Pn	06 01 20.6 -0.2
P23K	Montague Islan	2.98	93		Pn	06 01 21.6 +0.8
P23K	Montague Islan	2.98	93	P	Pn	06 01 21.7 +0.8
	baz=278					
PLK1	Peulik 1	3.00	216		Pn	06 01 22.3 +1.2
OHAK	Old Harbor	3.05	180	Pn	Pn	06 01 20.8 -1.0
OHAK				IAML		06 01 59.9
	comp=N,82nm,0.4s					
OHAK				IAML		06 02 01.5
	comp=E,48nm,0.3s					
OHAK	Old Harbor	3.05	180	P	Pn	06 01 20.7 -1.0
	baz=360					
OHAK	Old Harbor	3.05	180	P	Pn	06 01 20.4 -1.4
OHAK	Old Harbor	3.05	180	S	Sn	06 01 56.4 -3.2
L17K	Donlin	3.05	310		Pn	06 01 22.1 +0.3
L17K	Donlin	3.05	310	P	Pn	06 01 22.1 +0.3
	baz=126					
K20K	Telida	3.13	354		Pn	06 01 23.5 +0.8
K20K	Telida	3.13	354	P	Pn	06 01 23.5 +0.8
	baz=173					
M23K	Glacier View	3.13	58	P	Pn	06 01 22.3 -0.4
	baz=243					
GLI	Glacier Island	3.14	76	Pn	Pn	06 01 23.4 +0.6
GLI				IAML		06 02 02.4
	comp=E,306nm,0.7s					
GLI				IAML		06 02 03.4
	comp=N,286nm,0.4s					
GLI	Glacier Island	3.14	76	P	Pn	06 01 22.2 -0.6
	baz=262					
CAST	Castle Rocks	3.22	10	Pn	Pn	06 01 24.6 +0.7
CAST	Castle Rocks	3.22	10	P	Pn	06 01 24.6 +0.7
	baz=191					
SCM	Sheep Creek Mo	3.31	59	IAML		06 02 08.4
	comp=N,241nm,0.5s					
SCM	Sheep Creek Mo	3.31	59	P	Pn	06 01 24.7 -0.4
	baz=244					
L16K	Owhat River	3.33	299	Pn	Pn	06 01 26.0 +0.8
L16K	Owhat River	3.33	299	P	Pn	06 01 25.9 +0.7
	baz=113					
N15K	Kwethluk River	3.38	271		Pn	06 01 26.8 +0.9
N15K	Kwethluk River	3.38	271	P	Pn	06 01 26.9 +1.1
	baz=85					
HIN	Hinchinbrook I	3.40	85	IAML		06 02 09.9
	comp=E,218nm,0.4s					
FID	Port Fidalgo	3.42	79		Pn	06 01 26.6 +0.2
K17K	Iditarod	3.43	318		Pn	06 01 26.6 +0.2
K17K				IAML		06 02 08.5
	comp=E,27nm,1.3s					
K17K	Iditarod	3.43	318	P	Pn	06 01 26.9 +0.4
	baz=134					
O15K	Ungalikthiuk R	3.47	255		Pn	06 01 28.3 +1.3
O15K	Ungalikthiuk R	3.47	255	P	Pn	06 01 28.3 +1.3
	baz=69					
KTH	Kantishna Hill	3.49	18	IAML		06 02 10.2
	comp=N,62nm,0.7s					
KTH				IAML		06 02 13.7
	comp=E,33nm,0.4s					
TRF	Thorofare Moun	3.51	23		Pn	06 01 28.2 +0.6
TRF	Thorofare Moun	3.51	23	IAML		06 02 10.4
	comp=E,57nm,0.4s					
TRF				IAML		06 02 10.5
	comp=N,107nm,0.6s					
TRF	Thorofare Moun	3.51	23	P	Pn	06 01 28.2 +0.6
	baz=206					
J18K	Innoko River	3.59	335		Pn	06 01 28.9 +0.4
J18K	Innoko River	3.59	335	P	Pn	06 01 28.9 +0.4
	baz=152					
CHUM	Lake Minchumin	3.66	7		Pn	06 01 30.2 +0.8
CHUM	Lake Minchumin	3.66	7	P	Pn	06 01 30.2 +0.8
	baz=188					
M15K	Kasigluk River	3.67	280		Pn	06 01 30.6 +1.1
M15K	Kasigluk River	3.67	280	P	Pn	06 01 30.6 +1.1
	baz=93					
SII	Sitkinak Islan	3.74	187	IAML		06 02 14.8
	comp=E,118nm,0.4s					
SII				IAML		06 02 22.9
	comp=N,86nm,1.1s					
SII	Sitkinak Islan	3.74	187	P	Pn	06 01 30.6 +0.1
	baz=6.6					
SII	Sitkinak Islan	3.74	187	P	Pn	06 01 29.1 -1.4
SII	Sitkinak Islan	3.74	187	S	Sn	06 02 12.5 -2.8
EYAK	Cordova Ski Ar	3.77	82	Pn	Pn	06 01 31.5 +0.8
EYAK	Cordova Ski Ar	3.77	82	P	Pn	06 01 31.6 +0.8
	baz=269					
EYAK	Cordova Ski Ar	3.77	82	P	Pn	06 01 31.6 +0.8
RND	Reindeer	3.80	32	Pn	Pn	06 01 31.4 +0.1
RND				IAML		06 02 15.9
	comp=E,60nm,0.2s					
RND				IAML		06 02 17.0
	comp=N,60nm,0.3s					
KLU	Klutina	3.82	68		Pn	06 01 31.2 -0.4
KLU	Klutina	3.82	68	P	Pn	06 01 31.5 0.0
	baz=254					
J19K	Poorman	3.90	345	Pn	Pn	06 01 33.0 +0.6
J19K	Poorman	3.90	345	P	Pn	06 01 32.9 +0.5
	baz=163					
M24K	Tolsona, Glenn	3.92	59	IAML		06 02 22.6
	comp=N,143nm,0.5s					
M24K	Tolsona, Glenn	3.92	59	P	Pn	06 01 33.4 +0.6
	baz=245					
J20K	Nowinta River	3.95	355		Pn	06 01 33.9 +0.8
J20K	Nowinta River	3.95	355	P	Pn	06 01 33.8 +0.8
	baz=174					
BPAW	Bear Paw Mtn.	4.00	15	IAML		06 02 19.5
	comp=N,30nm,1.0s					
BPAW				IAML		06 02 20.8
	comp=E,34nm,0.7s					
BPAW	Bear Paw Mtn.	4.00	15	P	Pn	06 01 33.7 -0.1
	baz=197					
MCK	McKinley	4.05	29	P	Pn	06 01 34.7 +0.4
	baz=213					
O14K	Tigyukauivet M	4.14	259		Pn	06 01 36.4 +0.9
O14K	Tigyukauivet M	4.14	259	IAML		06 02 58.3
	comp=N,13nm,1.1s					
O14K	Tigyukauivet M	4.14	259	P	Pn	06 01 36.4 +0.9
	baz=72					
J17K	VABM Dome	4.16	322		Pn	06 01 35.7 -0.1
J17K	VABM Dome	4.16	322	P	Pn	06 01 35.7 -0.1
	baz=136					
ANNE	Aniakchak Nort	4.17	218		Pn	06 01 36.7 +0.6
GOAT	Goat Mountain	4.27	82		Pn	06 01 37.5 +0.2
RAGM	Ragged Mountai	4.30	85	Pn	Pn	06 01 38.3 +0.6
BWN	Browne	4.32	23		Pn	06 01 38.6 +0.8
BWN	Browne	4.32	23	IAML		06 02 28.9
	comp=E,43nm,0.8s					
BWN				IAML		06 02 54.8
	comp=N,48nm,0.8s					
BMRM	Bremner River	4.35	77		Pn	06 01 38.4 0.0
BMRM	Bremner River	4.35	77	P	Pn	06 01 38.4 0.0
	baz=265					
K15K	Wolf Creek Mou	4.45	301		Pn	06 01 40.5 +1.0
K15K	Wolf Creek Mou	4.45	301	P	Pn	06 01 40.5 +1.0
	baz=113					
N25K	Chitina, Valde	4.46	69	P	Pn	06 01 40.0 +0.2
	baz=256					
KAIM	Kayak Island	4.47	90		Pn	06 01 40.9 +1.0
KAIM	Kayak Island	4.47	90	IAML		06 02 35.8
	comp=E,65nm,0.8s					
KAIM				IAML		06 02 36.8
	comp=N,117nm,0.9s					
KAIM	Kayak Island	4.47	90	P	Pn	06 01 40.9 +1.0
	baz=278					
HARP	HAARP	4.48	58	P	Pn	06 01 40.8 +0.9
	baz=245					
J16K	Anvik River	4.60	314		Pn	06 01 41.5 +0.1
J16K	Anvik River	4.60	314	P	Pn	06 01 41.5 +0.1
	baz=128					
CHIR	Chirikof Islan	4.62	196		Pn	06 01 41.2 -0.5
CHIR	Chirikof Islan	4.62	196	IAML		06 02 33.0
	comp=E,46nm,0.5s					
CHIR				IAML		06 02 34.7
	comp=N,60nm,1.4s					
CHIR	Chirikof Islan	4.62	196	P	Pn	06 01 41.3 -0.5
	baz=14					
CHIR	Chirikof Islan	4.62	196	P	Pn	06 01 40.9 -0.9
PAX	Paxson	4.63	51		Pn	06 01 42.4 +0.5
PAX	Paxson	4.63	51	P	Pn	06 01 42.4 +0.5
	baz=238					
WACK	Wrangell Chich	4.69	64		Pn	06 01 43.2 +0.3
L14K	Kuka Creek	4.71	287	IAML		06 02 39.8
	comp=E,12nm,1.4s					
L14K				IAML		06 03 25.9
	comp=N,10nm,1.2s					
WASW	Wrangell South	4.75	65		Pn	06 01 44.0 +0.5
NEA2	Nenana	4.77	23	IAML		06 02 37.8
	comp=E,17nm,0.5s					
NEA2				IAML		06 02 39.5
	comp=N,20nm,0.6s					
NEA2	Nenana	4.77	23	P	Pn	06 01 43.8 +0.1
	baz=206					
BERG	Berg Lake	4.79	84	Pn	Pn	06 01 44.8 +0.9
CHGN	Chignik	4.79	216		Pn	06 01 44.2 +0.2
CHGN	Chignik	4.79	216	IAML		06 02 38.9
	comp=N,78nm,0.4s					
CHGN	Chignik	4.79	216	P	Pn	06 01 44.3 +0.2
	baz=32					
GLB	Gilahina Butte	4.80	72	IAML		06 02 41.0
	comp=N,93nm,0.8s					
WRH	Wood River Hil	4.88	28	IAML		06 02 40.6
	comp=N,27nm,0.7s					
WRH				IAML		06 02 43.3
	comp=E,24nm,0.9s					
VRDI	Verde Repeater	4.94	74		Pn	06 01 46.9 +0.8
VRDI	Verde Repeater	4.94	74	IAML		06 02 43.7
	comp=N,60nm,0.6s					
VRDI				IAML		06 02 46.7
	comp=E,32nm,0.4s					
I21K	Tanana	4.97	7		Pn	06 01 46.9 +0.6
I21K	Tanana	4.97	7	IAML		06 02 41.1
	comp=E,16nm,1.0s					
I21K				IAML		06 02 44.0
	comp=N,8.2nm,1.3s					
I21K	Tanana	4.97	7	P	Pn	06 01 46.9 +0.6
	baz=188					
BGLC	Bering Glacier	5.01	87		Pn	06 01 48.1 +1.3
BGLC	Bering Glacier	5.01	87	P	Pn	06 01 48.1 +1.3
	baz=276					
K24K	Donnelly Dome	5.02	42		Pn	06 01 48.7 +1.7
K24K	Donnelly Dome	5.02	42	P	Pn	06 01 48.7 +1.7
	baz=228					
CCB	Clear Creek Bu	5.09	28	IAML		06 02 45.4
	comp=N,18nm,0.6s					
CCB				IAML		06 02 45.9
	comp=E,36nm,0.7s					
HDA	Harding Lake	5.11	33	P	Pn	06 01 48.3 +0.2
	baz=218					
I23K	Minto, Yukon-K	5.23	19	IAML		06 02 49.4
	comp=E,11nm,1.3s					
I23K				IAML		06 02 49.7
	comp=N,23nm,0.8s					
I23K	Minto, Yukon-K	5.23	19	P	Pn	06 01 50.2 +0.6
	baz=202					
COLA	College	5.27	26		Pn	06 01 50.3 +0.1
COLA	College	5.27	26	P	Pn	06 01 50.3 +0.1
H20K	Anotleneega Mo	5.30	353		Pn	06 01 51.4 +0.8
H20K	Anotleneega Mo	5.30	353	P	Pn	06 01 51.4 +0.8
	baz=172					
RIDG	Independent Ri	5.30	45	Pn	Pn	06 01 51.6 +1.0
RIDG				IAML		06 02 58.2
	comp=N,47nm,0.9s					
RIDG	Independent Ri	5.30	45	P	Pn	06 01 51.7 +1.0
	baz=233					
MENT	Mentasta	5.31	56	IAML		06 03 12.6
	comp=E,53nm,0.5s					
MENT				IAML		06 03 16.0
	comp=N,62nm,0.8s					
MENT	Mentasta	5.31	56	P	Pn	06 01 51.7 +0.9
ILAR	Eielson Array	5.42	31	Pn	Pn	06 01 52.0 -0.1
KIAG	Kiagna River	5.45	78		Pn	06 01 53.2 +0.5
BALM	Baldy	5.46	77		Pn	06 01 53.6 +0.8
DOT	Dot Lake	5.53	48		Pn	06 01 54.2 +0.5
POKR	Poker Plat Res	5.57	27	P	Pn	06 01 54.4 +0.2
	baz=212					
MESA	MESA	5.67	86		Pn	06 01 57.0 +1.3
MESA	MESA	5.67	86	P	Pn	06 01 57.0 +1.3
	baz=276					
J25K	Salcha River,	5.71	37		Pn	06 01 56.5 +0.4
J25K	Salcha River,	5.71	37	P	Pn	06 01 56.5 +0.4
	baz=224					
H22K	Ishtalitna Cre	5.72	8		Pn	06 01 56.7 +0.6
H22K	Ishtalitna Cre	5.72	8	P	Pn	06 01 56.7 +0.6
	baz=190					
SCRK	Sand Creek	5.75	46		Pn	06 01 57.0 +0.4
SCRK	Sand Creek	5.75	46	P	Pn	06 01 57.0 +0.4
	baz=234					
RKAV	Rock Avalanche	5.96	84		Pn	06 02 00.6 +1.2
H24K	Noodor Dome	6.12	22		Pn	06 02 01.7 +0.3
H24K	Noodor Dome	6.12	22	P	Pn	06 02 01.7 +0.3
	baz=206					
YUK2	White River	6.26	70		Pn	06 02 04.2 +0.9
PRP	Porcupine Dome	6.36	31	P	Pn	06 02 04.9 +0.2
	baz=218					
YUK3	Moose Creek	6.43	71		Pn	06 02 06.8 +1.1
YUK3	Moose Creek	6.43	71	P	Pn	06 02 06.8 +1.1
	baz=262					
G23K	Bananza Creek	6.64	11		Pn	06 02 08.6 +0.4
G23K	Bananza Creek	6.64	11	P	Pn	06 02 08.6 +0.4
	baz=194					
CRAG	Craig	11.76	105	P	Pn	06 03 18.2 +2.8

*IDC **13** 06:18:33.0±1.0, 0.73N×97.33E, h0km, mb4.2/13, mbtmp4.2/15, ML3.7/2, MS3.3/3, Error ellipse: s-maj=30.5km s-min=15.9km az=58.0*
*DJA **13** 06:18:37.1±0.7, 1.1N±4.4×9.7E±.1, h21km±4km, M4.3/12, mB4.8/2, mb4.5/3, MLv4.2/12, Mw(mB)4.1/2*
*NEIC **13** 06:18:38.6±1.9, 0.86N±0.09×97.5E±0.1, h28km±7km, mb4.3/21, Error ellipse: s-maj=20.3km s-min=9.6km az=64.0*

ISC 13 06:18:37.6±0.6, 0.85N±0.05×97.39E±0.06, h27km, n70, σ0.9 92/54, mb4.3/26, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.49	22		Pb	06 18 49.1	+1.4
GSI	Gunungsitoli	0.49	22	P	Pb	06 18 49.0	+1.2
PBSI	Pulau Batu	1.26	135	P	Pn	06 18 59.3	-0.1
PBSI				S	Sn	06 19 15.1	-0.4
SNSI	Sinabang, Aceh	1.88	326	P	Pn	06 19 08.0	0.0
MNSI	Mandailing Nat	2.19	91	P	Pn	06 19 11.8	-0.4
RPSI	Rantau Prapat	2.39	40		Pn	06 19 15.8	+0.9
RPSI	Rantau Prapat	2.39	40		Pn	06 19 15.9	+0.9
PSI	Prapat	2.48	38	Pn	Pn	06 19 15.9	-0.3
	3.9nm,0.3s,baz=205,slow=10,SNR=11						
PSI				Sn	Sb	06 19 52.1	+0.6
	7.0nm,0.3s,baz=211,slow=15,SNR=6.1						
	18nm,0.5s						
KCSI	Kotacane, Aceh	2.69	8	P	Pb	06 19 30.2	+5.2
SISI	Saibi	2.75	142	P	Pn	06 19 22.0	+2.1
TSI	Tuntungan	2.89	24	P	Pn	06 19 23.2	+1.4
PPI	Padang Panjang	3.27	113	P	Pn	06 19 27.6	+0.5
MLSI	Meulaboh, Aceh	3.54	344	P	Pb	06 19 48.7	+9.2
BKNI	Bangkinang	3.69	98	Pn	Pn	06 19 31.4	-1.4
BSI	Banda Aceh	5.07	336	P	Pn	06 19 51.4	-0.5
	0.3nm1μm23nm,0.7s						
IPM	Ipoh	5.12	45	Pn	Pn	06 19 53.2	+0.6
KULM	Kulim	5.49	36	Pn	Pn	06 19 57.3	-0.2
MYKOM	Kota Tinggi	6.53	82	Pn	Pn	06 20 12.8	+0.9
CMAR	Chiang Mai Arr	17.57	5	P	Pn	06 22 39.5	-1.2
	0.3nm,0.3s,baz=195,slow=11,SNR=15						
CMAR				LR	LR	06 30 14.4	
	comp=Z,80nm,20.5s,baz=195,slow=40						
	3.6nm,0.8s						
PALK	Pallekele	17.82	291	LR	LR	06 28 46.4	
	comp=Z,80nm,18.8s,baz=105,slow=34						
CHTO	Chiang Mai	17.92	5	P	Pn	06 22 42.6	-2.4
SLVN	Son La	21.33	17	P	P	06 23 21.1	-1.6
SLVN				IAmb	IAmb	06 23 26.3	
	comp=Z,7.5nm,0.9s						
KAPI	Kappang	23.08	105	LR	LR	06 32 33.7	
	comp=Z,77nm,20.0s,baz=274,slow=36						
SHL	Shillong	25.15	348	P	P	06 24 01.3	+0.5
SHL				IAmb	IAmb	06 24 02.8	
	comp=Z,9.1nm,0.8s						
H08S2	Diego Garcia H	26.22	251	T	T	06 51 37.7	
	baz=72,slow=76,SNR=663						
H08S3	Diego Garcia H	26.23	251	T	T	06 51 40.1	
	baz=72,slow=76,SNR=817						
H08S1	Diego Carcia H	26.24	251	T	T	06 51 44.9	
	baz=72,slow=76,SNR=469						
FITZ	Fitzroy Crossi	33.57

	comp=Z,3.0nm,1.0s					
H01W3	**Cape Leeuwin H**	**38.85**	**158**	T	T	07 07 22.1
	baz=334,slow=76,SNR=6.0					
H01W2	**Cape Leeuwin H**	**38.86**	**158**	T	T	07 07 19.6
	baz=334,slow=76,SNR=6.0					
H01W1	**Cape Leeuwin H**	**38.86**	**158**	T	T	07 07 20.1
	baz=334,slow=76,SNR=6.7					
WB0	**Warramunga Arr**	**41.66**	**121**	P	**P**	**06 26 23.1 -1.0**
WB0				IAmb	IAmb	06 26 38.5
	comp=Z,9.3nm,1.3s					
WRA	**Warramunga Arr**	**41.69**	**122**	P	P	06 26 20.8 -3.6
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**06 26 23.5 -0.9**
	comp=Z,1.2nm,0.6s,baz=303,slow=8.9,SNR=9.4					
	comp=Z,1.2nm,0.6s					
WRAB	**Tennant Creek**	**41.69**	**122**	P	**P**	**06 26 23.3 -1.0**
WRAB				IAmb	IAmb	06 26 32.3
	comp=Z,5.8nm,0.9s					
WB2	**Warramunga Arr**	**41.70**	**122**	P	**P**	**06 26 23.0 -1.4**
WB2				IAmb	IAmb	06 26 31.5
	comp=Z,6.0nm,1.1s					
WR0	**Warramunga Arr**	**41.87**	**122**	P	**P**	**06 26 24.7 -1.1**
WR0				IAmb	IAmb	06 26 33.8
	comp=Z,6.0nm,0.9s					
FORT	**Forrest**	**42.88**	**140**	P	**P**	**06 26 35.9 +2.0**
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**06 26 34.9 -0.4**
	comp=Z,1.6nm,0.7s,baz=299,slow=7.8,SNR=17					
	comp=Z,1.6nm,0.7s					
JNU	**Nakatsue**	**44.95**	**41**	P	**P**	**06 26 50.2 -0.3**
KSRS	**Korea Array**	**46.03**	**34**	P	**P**	**06 26 58.5 -0.4**
	comp=Z,3.1nm,0.7s,baz=219,slow=9.2,SNR=7.4					
	comp=Z,3.1nm,0.7s					
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**06 27 10.3 +0.2**
	comp=Z,1.6nm,0.7s,baz=189,slow=9.0,SNR=9.1					
	comp=Z,1.6nm,0.7s					
MK31	**Makanchi Array**	**47.63**	**346**	P	**P**	**06 27 11.6 +0.3**
MK31				IAmb	IAmb	06 27 12.9
	comp=Z,2.6nm,0.8s					
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**06 27 12.2 +0.8**
	comp=Z,2.7nm,0.6s,baz=158,slow=8.1,SNR=36					
	comp=Z,2.7nm,0.6s					
MAKZ	**Makanchi**	**47.72**	**346**	P	**P**	**06 27 12.9 +0.8**
MAKZ				IAmb	IAmb	06 27 13.5
	comp=Z,2.7nm,0.8s					
KK31	**Karatay Array**	**48.46**	**334**	P	**P**	**06 27 17.0 -0.8**
KK31				IAmb	IAmb	06 27 24.1
	comp=Z,2.7nm,1.2s					
KKAR	**Karatay Array**	**48.46**	**334**	P	**P**	**06 27 17.4 -0.4**
BBOO	**Buckleboo**	**49.49**	**136**	P	**P**	**06 27 26.3 +0.4**
JCJ	**Chichijima**	**50.27**	**55**	P	**P**	**06 27 32.1 +0.2**
MJAR	**Matsushiro Arr**	**51.82**	**42**	P	**P**	**06 27 44.0 +0.5**
	comp=Z,1.0nm,0.3s,baz=265,slow=5.8,SNR=1.5					
	comp=Z,1.0nm,0.3s					
KURBB	**Kurchatov Arra**	**52.12**	**345**	P	**P**	**06 27 46.1 +0.7**
	comp=Z,1.4nm,0.2s,baz=167,slow=7.0,SNR=12					
	comp=Z,1.4nm,0.2s					
KURK	**Kurchatov**	**52.18**	**345**		**P**	**06 27 46.0 +0.2**
KURK				IAmb	IAmb	06 27 58.3
	comp=Z,4.7nm,1.2s					
USRK	**Ussuriysk Ar.**	**52.98**	**31**	P	**P**	**06 27 52.4 +0.6**
	comp=Z,7.8nm,1.0s,baz=211,slow=5.8,SNR=6.5					
	comp=Z,7.8nm,1.0s					
STKA	**Stephens Creek**	**52.98**	**132**	P	**P**	**06 27 51.6 -0.5**
	comp=Z,3.0nm,0.8s,baz=285,slow=8.0,SNR=4.0					
	comp=Z,3.0nm,0.8s					
ZAA0	**Zalesovo Array**	**53.94**	**351**	P	**P**	**06 27 59.0 +0.3**
ZAA0				IAmb	IAmb	06 27 60.0
	comp=Z,4.8nm,0.9s					
ZALV	**Zalesovo Beam**	**53.94**	**351**	P	**P**	**06 27 59.2 +0.5**
	comp=Z,3.6nm,0.5s,baz=182,slow=6.6,SNR=16					
	comp=Z,3.6nm,0.5s					
BVAR	**Borovoye Array**	**56.65**	**341**	P	**P**	**06 28 17.8 -0.5**
	comp=Z,1.3nm,0.8s,baz=156,slow=11,SNR=5.8					
	comp=Z,1.3nm,0.8s					
ABKAR	**Akbulak array**	**57.91**	**332**	P	**P**	**06 28 27.9 +0.6**
H04N2	**CROZET ISLANDS**	**61.59**	**214**	T	T	07 35 49.0
	baz=54,slow=75,SNR=1435					
H04N1	**CROZET ISLANDS**	**61.60**	**214**	T	T	07 35 48.6
	baz=54,slow=75,SNR=1540					
H04N3	**CROZET ISLANDS**	**61.61**	**214**	T	T	07 35 47.2
	baz=54,slow=75,SNR=1437					
H04S1	**CROZET ISLANDS**	**61.92**	**214**	T	T	07 36 01.6
	baz=53,slow=75,SNR=46					
H04S3	**CROZET ISLANDS**	**61.94**	**214**	T	T	07 35 56.5
	baz=53,slow=75,SNR=46					
H04S2	**CROZET ISLANDS**	**61.94**	**214**	T	T	07 35 59.6
	baz=53,slow=75,SNR=40					
KBZ	**Khabaz**	**64.46**	**319**	P	**P**	**06 29 12.1 +0.3**
	comp=Z,1.7nm,0.8s,baz=217,slow=22,SNR=4.4					
	comp=Z,1.7nm,0.8s					
ARCES	**ARCESS Array B**	**82.93**	**340**	P	**P**	**06 30 59.6 0.0**
	comp=Z,5.8nm,1.0s,baz=106,slow=7.6,SNR=3.6					
	comp=Z,5.8nm,1.0s					
TXAR	**Lajitas Array**	**143.87**	**32**	PKP	PKPab	06 38 09.9 +1.6
	comp=Z,0.4nm,0.9s,baz=328,slow=1.7,SNR=3.0					
CPUP	**Villa Florida**	**144.87**	**222**	PKP	**PKPab**	**06 38 11.2 -0.8**
	comp=Z,1.7nm,0.7s,baz=145,slow=3.3,SNR=5.5					

*IDC **13** 06:26:05.2±1.5, 0.°84N×97.°46E, h0km, mb3.8/7, mbtmp3.8/8, ML3.4/2, Error ellipse: s-maj=37.4km s-min=21.6km az=64.0*

*DJA **13** 06:26:07.6±0.7, 1.°1N±3.°×9.°7E±.°, h21km±5km, M3.9/8, mb4.0/1, MLv3.8/8*

ISC 13 06:26:08.6±1.0, 0.°83N±0.°08×97.°41E±0.°08, h27km, n26, σ1§13/16, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.50**	**19**	P	**Pn**	**06 26 20.4**	**+0.3**
GSI				S	**Sn**	**06 26 30.2**	**+2.4**
PBSI	**Pulau Batu**	**1.23**	**135**	P	**Pb**	**06 26 30.5**	**-0.8**
SNSI	**Sinabang, Aceh**	**1.91**	**325**	P	**Pn**	**06 26 39.4**	**0.0**
MNSI	**Mandailing Nat**	**2.17**	**91**	P	**Pn**	**06 26 43.9**	**+0.9**
PSI	**Prapat**	**2.48**	**38**	Pn	**Pn**	**06 26 45.4**	**-2.0**
	1.5nm,0.3s,baz=206,slow=11,SNR=3.6						
PSI				Sn	**Sn**	**06 27 16.6**	**-0.2**
	1.9nm,0.3s,baz=7.9,slow=22,SNR=6.5						
BSI	**Banda Aceh**	**5.10**	**336**	P	**Pn**	**06 27 22.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.59**	**5**	P	**P**	**06 30 12.2**	**-0.6**
	0.2nm,0.3s,baz=197,slow=10,SNR=8.1						
	1.2nm,0.6s						
H08S2	**Diego Garcia H**	**26.23**	**251**	T	T	06 58 53.0	
	baz=71,slow=76,SNR=179						
H08S3	**Diego Garcia H**	**26.24**	**251**	T	T	06 58 53.3	
	baz=71,slow=76,SNR=274						
H08S1	**Diego Carcia H**	**26.25**	**251**	T	T	06 58 54.4	
	baz=71,slow=76,SNR=226						
H01W3	**Cape Leeuwin H**	**38.82**	**158**	T	T	07 14 46.1	
	baz=333,slow=76,SNR=4.6						
H01W2	**Cape Leeuwin H**	**38.84**	**158**	T	T	07 14 49.9	
	baz=333,slow=76,SNR=5.1						
H01W1	**Cape Leeuwin H**	**38.84**	**158**	T	T	07 14 48.0	
	baz=333,slow=76,SNR=6.1						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**06 33 56.7**	**+1.5**
	0.8nm,0.8s,baz=297,slow=8.0,SNR=3.4						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**43.01**	**127**	P	**P**	**06 34 05.5**	**-0.7**
	0.3nm,0.6s,baz=295,slow=7.1,SNR=4.0						
	0.3nm,0.6s						
KSRS	**Korea Array**	**46.04**	**34**	P	**P**	**06 34 29.1**	**-0.9**
	1.1nm,0.7s,baz=210,slow=8.6,SNR=2.4						
	1.1nm,0.7s						
SONM	**Songino Array**	**47.47**	**8**	P	**P**	**06 34 41.4**	**+0.1**
	0.5nm,0.6s,baz=190,slow=7.3,SNR=3.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**06 34 43.5**	**+0.9**
	1.4nm,0.7s,baz=157,slow=7.9,SNR=16						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**52.14**	**345**	P	**P**	**06 35 17.1**	**+0.5**
	1.5nm,0.2s,baz=168,slow=6.5,SNR=4.4						
	1.5nm,0.2s						
ZALV	**Zalesovo Beam**	**53.96**	**351**	P	**P**	**06 35 30.5**	**+0.6**
	1.0nm,0.4s,baz=165,slow=8.4,SNR=6.3						
	1.0nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.58**	**214**	T	T	07 43 12.2	
	baz=54,slow=75,SNR=330						
H04N1	**CROZET ISLANDS**	**61.59**	**214**	T	T	07 43 12.2	
	baz=54,slow=75,SNR=260						
H04N3	**CROZET ISLANDS**	**61.60**	**214**	T	T	07 43 11.4	
	baz=54,slow=75,SNR=278						
H04S1	**CROZET ISLANDS**	**61.92**	**214**	T	T	07 43 34.5	
	baz=53,slow=75,SNR=11						
H04S3	**CROZET ISLANDS**	**61.93**	**214**	T	T	07 43 34.3	
	baz=53,slow=75,SNR=11						
H04S2	**CROZET ISLANDS**	**61.94**	**214**	T	T	07 43 35.5	
	baz=53,slow=75,SNR=7.2						

*BJI **13** 06:34:25.7, 54.°94N×160.°69E, h90km, mB5.0/15, mb4.6/49*

*KRSC **13** 06:34:27.1±0.5, 54.°61N×161.°12E, h88km±12km, Mc5.1, Ml5.6, Felt [V] at kordon Kronoki; [IV-V] at kordon Aerodrom; [III-IV] at kordon Uzon, HMS Semyachik; [II-III] at Petropavlovsk; [II] at cape Shipunskiy.*

*MOS **13** 06:34:28.7±1.1, 54.°71N×160.°72E, h108km, mb4.8/26, Error ellipse: s-maj=7.0km s-min=3.4km az=78.3*

MOS Felt (II) at Petropavlovsk-Kamchatskiy.

*NEIC **13** 06:34:29.5, 54.°66N×160.°66E, h100km*

*IDC **13** 06:34:29.4±0.3, 54.°86N×160.°58E, h93km±2km, mb4.4/36, mbtmp4.8/40, MS3.7/39, Error ellipse: s-maj=9.4km s-min=5.7km az=140.0*

*NEIC **13** 06:34:29.5, 54.°36N×161.°00E, h100km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 1016Nm; Mrr1.23; Mθθ1.42; Mφφ-2.66; Mrθ-1.29; Mθφ-0.93; Mφr-1.90; Fault plane solution: M0 3.25000×1016 NP1: φs332.16000°, δ35.47000°, λ25.60000°. NP2: φs220.84000°, δ75.48000°, λ122.73000°. Principal axes: T 2.7213, Plg49.0000°, Azm166.0000°; N 1.0668, Plg32.0000°, Azm32.0000°; P -3.7881, Plg23.0000°, Azm286.0000°;*

*NEIC **13** 06:34:29.6±2.3, 54.°66N±0.°04×160.°6E±0.°1, h102km±5km, mb5.1/399, Mww4.9/16 Error ellipse: s-maj=10.3km s-min=5.2km az=98.0*

*GCMT **13** 06:34:30.6±0.2, 54.°67N±0.°02×160.°94E±0.°02, h92km±3km, MW5.0/124, Moment Tensor Solution. s57,c68; s124,c178; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.18±.13; Mθθ-0.07±.15; Mφφ-1.12±.14; Mrθ-1.94±.07; Mθφ1.22±.14; Mφr-2.48±.06; Best double couple: M0 3.37300×1016 NP1:φs308.00000°, δ25.00000°, λ19.00000°. NP2:φs201.00000°, δ82.00000°, λ114.00000°. Principal axes: T 4.0420, Plg47.0000°, Azm136.0000°; N -1.3450, Plg24.0000°, Azm17.0000°; P -2.7040, Plg33.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **13** 06:34:32.6, 54.°57N×160.°44E, h97km, mb4.7*

ISC 13 06:34:28.6±0.2, 54.°67N±0.°03×160.°85E±0.°03, h93km±1km, h93km:pP-P, n844, σ1§45/787, mb5.0/286, 4C-9D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.59**	**335**	*e*P	**Pn**	**06 34 44.4**	**0.0**
TUMD				*e*S	**Sn**	**06 34 56.4**	**+0.2**
KII	**Karymskiy**	**1.03**	**233**	PN	**Pn**	**06 34 50.0**	**+1.1**
KII	**Karymskiy**	**1.03**	**233**	*e*P	**Pn**	**06 34 50.0**	**+1.1**
KMNR	**Kamenistaya**	**1.14**	**343**	PN	**Pn**	**06 34 51.6**	**+1.4**
KMNR	**Kamenistaya**	**1.14**	**343**	*e*P	**Pn**	**06 34 51.6**	**+1.4**
BZWR	**Bezymyannyi-We**	**1.31**	**351**	PN	**Pn**	**06 34 53.8**	**+1.5**
BZWR	**Bezymyannyi-We**	**1.31**	**351**	*e*P	**Pn**	**06 34 53.9**	**+1.5**
KIRR	**Kirishev**	**1.32**	**348**	PN	**Pn**	**06 34 53.8**	**+1.5**
KIRR				S	**Sn**	**06 35 12.9**	**+2.6**
KIRR	**Kirishev**	**1.32**	**348**	*e*P	**Pn**	**06 34 53.8**	**+1.5**
KIRR				*e*S	**Sn**	**06 35 12.9**	**+2.6**
KPT	**Kopyto**	**1.35**	**345**	PN	**Pn**	**06 34 53.9**	**+1.3**
KPT	**Kopyto**	**1.35**	**345**	*e*P	**Pn**	**06 34 54.0**	**+1.3**
LGNR	**Loginova**	**1.42**	**356**	PN	**Pn**	**06 34 55.5**	**+1.8**
LGNR	**Loginova**	**1.42**	**356**	*e*P	**Pn**	**06 34 55.5**	**+1.8**
KOZ	**Kozyrevsk**	**1.50**	**339**	PN	**Pn**	**06 34 56.0**	**+1.6**
KOZ				S	**Sn**	**06 35 16.4**	**+2.4**
KOZ	**Kozyrevsk**	**1.50**	**339**	*e*P	**Pn**	**06 34 56.0**	**+1.6**
KOZ				*e*S	**Sn**	**06 35 16.4**	**+2.4**
KRSR	**Krestovskiy**	**1.56**	**354**	PN	**Pn**	**06 34 56.3**	**+1.1**
KRSR				S	**Sn**	**06 35 16.4**	**+0.9**
KRSR	**Krestovskiy**	**1.56**	**354**	*e*P	**Pn**	**06 34 56.4**	**+1.1**
KRSR				*e*S	**Sn**	**06 35 16.5**	**+0.9**
SPN	**Mys Shipunski**	**1.65**	**197**	PN	**Pn**	**06 34 56.1**	**-0.2**
SPN				S	**Sn**	**06 35 16.8**	**-0.5**
SPN	**Mys Shipunski**	**1.65**	**197**	*e*P	**Pn**	**06 34 56.1**	**-0.2**
SPN				*e*S	**Sn**	**06 35 16.9**	**-0.5**
KLY	**Klyuchi**	**1.65**	**356**	PN	**Pn**	**06 34 57.5**	**+1.2**
KLY				S	**Sn**	**06 35 19.3**	**+2.0**
KLY	**Klyuchi**	**1.65**	**356**	*e*P	**Pn**	**06 34 57.6**	**+1.2**
KLY				*e*S	**Sn**	**06 35 19.4**	**+2.0**
NLC	**Nalytchevo**	**1.74**	**211**	PN	**Pn**	**06 34 58.2**	**+0.7**
NLC				S	**Sn**	**06 35 20.2**	**+0.8**
NLC	**Nalytchevo**	**1.74**	**211**	*e*P	**Pn**	**06 34 58.2**	**+0.7**
NLC				*e*S	**Sn**	**06 35 20.3**	**+0.8**
ESO	**Esso**	**1.76**	**317**	PN	**Pn**	**06 34 59.3**	**+1.6**
ESO				S	**Sn**	**06 35 22.0**	**+2.1**
ESO	**Esso**	**1.76**	**317**	*e*P	**Pn**	**06 34 59.3**	**+1.6**
ESO				*e*S	**Sn**	**06 35 22.0**	**+2.1**
SRDR	**Sredinnyy**	**1.77**	**339**	PN	**Pn**	**06 34 59.1**	**+1.2**
SRDR	**Sredinnyy**	**1.77**	**339**	*e*P	**Pn**	**06 34 59.2**	**+1.2**
KRX	**Arik**	**1.84**	**226**	PN	**Pn**	**06 35 00.2**	**+1.2**
KRX	**Arik**	**1.84**	**226**	*e*P	**Pn**	**06 35 00.2**	**+1.2**
AVH	**Avacha**	**1.88**	**222**	PN	**Pn**	**06 35 00.9**	**+1.6**
AVH	**Avacha**	**1.88**	**222**	*e*P	**Pn**	**06 35 01.0**	**+1.6**
UGLR	**Uglovaya**	**1.89**	**220**	PN	**Pn**	**06 35 00.9**	**+1.4**
UGLR	**Uglovaya**	**1.89**	**220**	*e*P	**Pn**	**06 35 00.9**	**+1.4**
KOK	**Koryaka**	**1.90**	**224**	PN	**Pn**	**06 35 00.9**	**+1.3**
KOK	**Koryaka**	**1.90**	**224**	*e*P	**Pn**	**06 35 01.0**	**+1.3**
KBTR	**Krutoberegovo**	**1.91**	**35**	PN	**Pn**	**06 34 59.6**	**0.0**
KBTR	**Krutoberegovo**	**1.91**	**35**	*e*P	**Pn**	**06 34 59.7**	**0.0**
KBG	**Krutoberegovo**	**1.91**	**33**	PN	**Pn**	**06 34 59.6**	**0.0**
KBG				S	**Sn**	**06 35 22.5**	**-0.8**
KBG	**Krutoberegovo**	**1.91**	**33**	*e*P	**Pn**	**06 34 59.7**	**0.0**
KBG				*e*S	**Sn**	**06 35 22.6**	**-0.8**
SMKR	**Semkarok**	**1.95**	**10**	PN	**Pn**	**06 35 01.6**	**+1.4**
SMKR	**Semkarok**	**1.95**	**10**	*e*P	**Pn**	**06 35 01.6**	**+1.4**
GNL	**Ganaly**	**1.96**	**241**	PN	**Pn**	**06 35 02.5**	**+2.1**
GNL	**Ganaly**	**1.96**	**241**	*e*P	**Pn**	**06 35 02.6**	**+2.1**
SRKR	**Sorokina**	**2.00**	**5**	PN	**Pn**	**06 35 02.5**	**+1.7**
SRKR	**Sorokina**	**2.00**	**5**	*e*P	**Pn**	**06 35 02.6**	**+1.7**
DALK	**Dalny**	**2.06**	**218**	PN	**Pn**	**06 35 02.7**	**+1.2**
DALK				S	**Sn**	**06 35 28.0**	**+1.3**
DALK	**Dalny**	**2.06**	**218**	*e*P	**Pn**	**06 35 02.7**	**+1.2**
DALK				*e*S	**Sn**	**06 35 28.1**	**+1.3**
INSR	**Institute**	**2.08**	**220**	PN	**Pn**	**06 35 03.3**	**+1.4**
INSR				S	**Sn**	**06 35 29.6**	**+2.3**
INSR	**Institute**	**2.08**	**220**	*e*P	**Pn**	**06 35 03.4**	**+1.4**
INSR				*e*S	**Sn**	**06 35 29.6**	**+2.3**
PET	**Petropavlovsk**	**2.10**	**219**		**Pn**	**06 35 03.0**	**+0.9**
PET	**Petropavlovsk**	**2.10**	**219**	P	**Pn**	**06 35 03.5**	**+1.4**
PET	**Petropavlovsk**	**2.10**	**219**	S	**Sn**	**06 35 30.4**	**+2.7**
PET	**Petropavlovsk**	**2.10**	**219**	*e*PN	**Pn**	**06 35 03.3**	**+1.2**
PET				*e*S	**Sn**	**06 35 29.5**	**+1.8**
PET				pmax	pmax		
	comp=Z,3μm,0.8s						
PET				smax	smax		
	comp=E,12μm,0.7s						
PET				smax	smax		
	comp=N,11μm,0.5s						
PET				MLR	MLR		
	comp=Z,3μm,10.0s						
PET				MLR	MLR		
	comp=Z,800nm,11.0s						
PET	**Petropavlovsk**	**2.10**	**219**	Pn	**Pn**	**06 35 03.3**	**+1.2**
PET	**Petropavlovsk**	**2.10**	**219**	*e*P	**Pn**	**06 35 03.3**	**+1.2**
PET				*e*S	**Sn**	**06 35 29.7**	**+2.0**
PEA0B	**Petropavlovsk-**	**2.43**	**231**		**Pn**	**06 35 08.2**	**+1.7**
PEA0B	**Petropavlovsk-**	**2.43**	**231**	PN	**Pn**	**06 35 08.2**	**+1.7**
PEA0B				S	**Sn**	**06 35 38.3**	**+2.7**
PETK	**Petropavlovsk-**	**2.43**	**231**		**Pn**	**06 35 07.4**	**+0.9**
PETK	**Petropavlovsk-**	**2.43**	**231**	P	**Pn**	**06 35 07.3**	**+0.8**
	comp=Z,1μm,0.7s,baz=59,slow=15,SNR=550						
PETK				S	**Sn**	**06 35 37.8**	**+2.2**
	comp=Z,589nm,0.6s,baz=76,slow=20,SNR=8.6						
PETK				LR	LR	06 36 20.0	
	comp=Z,1μm,20.2s,baz=79,slow=45						
PETK	**Petropavlovsk-**	**2.43**	**231**	PN	**Pn**	**06 35 07.4**	**+0.9**
KRMR	**Karymshinskiy**	**2.45**	**222**	PN	**Pn**	**06 35 08.1**	**+1.4**
KRMR				S	**Sn**	**06 35 37.6**	**+1.7**
KRMR	**Karymshinskiy**	**2.45**	**222**	*e*P	**Pn**	**06 35 08.1**	**+1.4**
KRMR				*e*S	**Sn**	**06 35 37.7**	**+1.7**
RUS	**Russkaya**	**2.64**	**213**	PN	**Pn**	**06 35 09.7**	**+0.5**
RUS				S	**Sn**	**06 35 40.1**	**-0.4**
RUS	**Russkaya**	**2.64**	**213**	*e*P	**Pn**	**06 35 09.8**	**+0.5**
RUS				*e*S	**Sn**	**06 35 40.1**	**-0.4**
GRL	**Gorelyy**	**2.69**	**219**	PN	**Pn**	**06 35 11.7**	**+1.7**
GRL	**Gorelyy**	**2.69**	**219**	*e*P	**Pn**	**06 35 11.7**	**+1.7**
APC	**Apacha**	**2.80**	**233**	PN	**Pn**	**06 35 13.7**	**+2.3**
APC	**Apacha**	**2.80**	**233**	*e*P	**Pn**	**06 35 13.7**	**+2.3**
BKI	**Bering**	**3.01**	**78**	PN	**Pn**	**06 35 12.9**	**-1.2**
BKI				S	**Sn**	**06 35 45.3**	**-3.9**
BKI	**Bering**	**3.01**	**78**	*e*P	**Pn**	**06 35 12.9**	**-1.2**
BKI				*e*S	**Sn**	**06 35 45.4**	**-3.9**
KDTR	**Khodutka, Kamc**	**3.31**	**211**	PN	**Pn**	**06 35 18.6**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.31**	**211**	*e*P	**Pn**	**06 35 18.7**	**+0.4**
PALN	**Palana**	**4.46**	**354**	PN	**Pn**	**06 35 34.7**	**+1.0**
PALN	**Palana**	**4.46**	**354**	*e*P	**Pn**	**06 35 34.7**	**+1.0**
OSSR	**Ossora**	**4.75**	**14**	PN	**Pn**	**06 35 38.2**	**+0.6**
OSSR	**Ossora**	**4.75**	**14**	*e*P	**Pn**	**06 35 38.3**	**+0.6**
SKR	**Severo-Kuril's**	**4.92**	**218**	*i*PN	**Pn**	**06 35 40.9**	**+0.9**
SKR				*i* S	**Sn**	**06 36 35.5**	**-0.1**
SKR				pmax	pmax		
	comp=Z,808nm,0.6s						
SKR				pmax	pmax		
	comp=Z,600nm,6.0s						
SKR				smax	smax		
	comp=N,316nm,0.5s						
SKR				smax	smax		
	comp=E,921nm,0.6s						
SKR				MLR	MLR		
	comp=Z,1μm,16.0s						
SKR				MLR	MLR		
	comp=N,5μm,13.0s						
SKR				MLR	MLR		
	comp=E,7μm,15.0s						
SKR	**Severo-Kuril's**	**4.92**	**218**	*e*P	**Pn**	**06 35 41.6**	**+1.6**
MA2	**Magadan**	**7.36**	**316**	Pn	**Pn**	**06 36 15.7**	**+2.5**
MA2	**Magadan**	**7.36**	**316**	P	**Pn**	**06 36 16.1**	**+2.9**
	comp=E,523nm,0.8s,baz=124,slow=9.7,SNR=567						
MA2	**Magadan**	**7.36**	**316**	P	**Pn**	**06 36 16.3**	**+3.1**
MA2	**Magadan**	**7.36**	**316**	*d*P	**Pn**	**06 36 15.7**	**+2.5**
MA2				pmax	pmax		
	comp=Z,566nm,0.9s						
SHEM	**Shemya Is, Ala**	**8.10**	**98**	P	**Pn**	**06 36 22.7**	**-0.6**
	comp=Z,251nm,0.4s,baz=94,slow=1.9,SNR=74						
SHEM				S	**Sn**	**06 37 47.6**	**-5.5**
	comp=Z,304nm,0.6s,baz=149,slow=23,SNR=16						
SHEM				LR	LR	06 39 28.1	
	comp=Z,514nm,21.8s,baz=296,slow=36						
SEY	**Seymchan**	**9.37**	**336**	P	**Pn**	**06 36 43.4**	**+2.9**
	comp=Z,1.8nm,0.5s,baz=125,slow=13,SNR=9.6						
SEY				LR	LR	06 41 01.8	
	comp=Z,676nm,18.9s,baz=152,slow=43						
SEY	**Seymchan**	**9.37**	**336**	*e*PN	**Pn**	**06 36 42.4**	**+1.9**
SEY				pmax	pmax		
	comp=Z,17nm,1.0s						
OKH	**Okha**	**10.58**	**271**	*de*PN	**Pn**	**06 36 54.8**	**-2.1**
OKH				pmax	pmax		
	comp=Z,200nm,10.3s						
OKH				MLR	MLR		
	comp=Z,200nm,9.0s						
TYV	**Tymovskoe**	**11.65**	**258**	*e*PN	**Pn**	**06 37 16.0**	**+4.5**
TYV				*e*S	**Sn**	**06 39 23.6**	**+4.1**
TYV				pmax	pmax		
	comp=Z,1μm,2.3s						
TYV				pmax	pmax		
	comp=Z,121nm,1.5s						
TYV				smax	smax		
	comp=N,7.0nm,1.8s						
TYV				smax	smax		
	comp=N,100nm,4.0s						
NKL	**Nikolayevsk**	**11.98**	**271**	*e*PN	**Pn**	**06 37 17.9**	**+2.0**
NKL				pmax	pmax		
	comp=E,148nm,1.2s						
NKL				pmax	pmax		
	comp=N,448nm,1.5s						
NKL				pmax	pmax		
	comp=Z,571nm,1.5s						
UGL	**Uglegorsk**	**12.87**	**252**	*e*PN	**P**	**06 37 31.9**	**-2.9**
UGL				pmax	pmax		
	comp=Z,800nm,4.3s						
UGL				pmax	pmax		
	comp=Z,200nm,1.0s						
BILL	**Bilibino**	**13.66**	**9**	Pn	**Pn**	**06 37 40.7**	**+2.7**
BILL	**Bilibino**	**13.66**	**9**	*e*P	**Pn**	**06 37 39.3**	**+1.4**
BILL				pmax	pmax		
	comp=Z,11nm,1.1s						
YSS	**Yuzhno-Sakhali**	**13.77**	**243**	Pn	**Pn**	**06 37 40.1**	**+0.6**
YSS	**Yuzhno-Sakhali**	**13.77**	**243**	P	**Pn**	**06 37 41.8**	**+2.2**
YSS	**Yuzhno-Sakhali**	**13.77**	**243**	*e*P	**Pn**	**06 37 41.8**	**+2.2**
YSS				*e*S	**Sn**	**06 40 13.0**	**+2.1**
YSS				pmax	pmax		
	comp=Z,130nm,1.1s						
YSS				pmax	pmax		
	comp=Z,200nm,3.0s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YUK	**Yuzh-Kuril'sk**	**14.41**	**229**	*d*P	**Pn**	**06 37 46.3**	**-1.5**
ATKA	**Atka Island**	**15.05**	**89**	Pn	**P**	**06 37 57.9**	**-1.1**
ATKA	**Atka Island**	**15.05**	**89**	P	**P**	**06 37 58.3**	**-0.8**
GRNR	**Gornyy**	**15.28**	**265**	*i*P	**P**

ZEA	Zeya	19.57	281	*e*P	P	06 38 48.4	-0.3
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
M13K	Dall Lake	19.87	59	P	Pn	06 38 53.4	-1.0
M13K	Dall Lake	19.87	59	P	Pn	06 38 53.4	-1.0
	baz=269,SNR=7.1						
J14K	Nanvaranak Lak	19.94	52	P	Pn	06 38 54.5	-0.6
J14K	Nanvaranak Lak	19.94	52	P	Pn	06 38 54.5	-0.6
	baz=263,SNR=9.0						
F15K	North Star Dit	20.10	43	P	Pn	06 38 56.2	-0.8
	baz=253						
G15K	Niukluk	20.16	45	P	Pn	06 38 56.6	-1.1
	baz=256						
L14K	Kuka Creek	20.23	56	P	P	06 38 57.0	+1.3
	baz=267						
FALS	False Pass	20.49	75	P	Pn	06 39 00.8	-0.8
FALS	False Pass	20.49	75	P	P	06 38 59.3	+0.7
	baz=284						
M14K	Bethel	20.56	58	P	P	06 39 00.5	+1.2
	baz=270,SNR=11						
N14K	Kuskokwak Cree	20.71	60	P	P	06 39 02.1	+1.2
	baz=272,SNR=8.2						
HEH	HeiHe	20.72	272	*e*P	P	06 38 59.1	-2.1
HEH				pP	pP	06 39 17.3	-2.1
HEH				S	S	06 42 45.1	-2.0
HEH				pmax	pmax		
	comp=Z,24nm,0.6s						
C16K	Lisburne Hills	20.75	36	P	P	06 39 01.9	+0.7
	baz=246						
L15K	Ungalak Mounta	20.81	55	P	P	06 39 03.7	+1.6
	baz=268						
H16K	Elim	20.83	47	P	P	06 39 03.4	+1.2
	baz=259,SNR=23						
K15K	Wolf Creek Mou	20.83	53	P	P	06 39 03.6	+1.3
	baz=266,SNR=7.8						
G16K	Koyuk River	20.94	45	P	P	06 39 04.4	+1.0
	baz=257						
O14K	Tigyukauivet M	20.95	62	P	P	06 39 04.8	+1.2
	baz=274						
S12K	Black Hills	21.05	72	P	P	06 39 05.4	+0.8
	baz=283,SNR=5.8						
M15K	Kasigluk River	21.18	58	P	P	06 39 06.9	+0.8
	baz=271,SNR=28						
D17K	Noatak River	21.32	38	P	P	06 39 08.2	+0.8
	baz=250						
USA0B	Ussuriysk Arra	21.34	253	P	P	06 39 06.6	-1.3
USA0B	Ussuriysk Arra	21.34	253	*i* P	P	06 39 08.0	+0.2
USRK	Ussuriysk Ar.	21.34	253	P	P	06 39 08.0	+0.1
	comp=Z,15nm,0.6s,baz=60,slow=9.1,SNR=14						
USRK				LR	LR	06 47 27.6	
	comp=Z,211nm,20.9s,baz=54,slow=37						
	comp=Z,15nm,0.6s						
USRK	Ussuriysk Ar.	21.34	253	P	P	06 39 08.0	+0.1
J16K	Anvik River	21.34	51	P	P	06 39 08.4	+0.6
	baz=264						
I17K	Unalakleet	21.37	49	P	P	06 39 08.9	+0.9
	baz=263						
N15K	Kwethluk River	21.50	59	P	P	06 39 10.2	+0.8
	baz=273						
RDOG	Red Dog Mine	21.50	37	P	P	06 39 10.6	+1.2
RDOG	Red Dog Mine	21.50	37	P	P	06 39 09.9	+0.5
	baz=250						
C17K	DeLong Mountai	21.56	36	P	P	06 39 10.5	+0.5
	baz=248						
E17K	Hotham Inlet	21.59	40	P	P	06 39 11.2	+0.9
	baz=253						
F17K	Baldwin Pennin	21.63	42	P	P	06 39 11.9	+1.1
	baz=256						
JMM	Marumori	21.66	227	P	P	06 39 12.7	+1.4
O15K	Ungalikthiuk R	21.70	62	P	P	06 39 12.1	+0.6
	baz=275,SNR=9.2						
L16K	Owhat River	21.77	55	P	P	06 39 13.4	+1.1
	baz=269,SNR=16						
TIXI	Tiksi	21.85	333	*i* Pg	P	06 39 12.8	-0.3
	comp=Z,8.1nm,0.9s						
TIXI	Tiksi	21.85	333	P	P	06 39 12.7	-0.3
TIXI	Tiksi	21.85	333	P	P	06 39 12.7	-0.3
H17K	Granite Mounta	21.86	46	P	P	06 39 13.8	+0.6
	baz=261,SNR=13						
M16K	Timber Creek	22.02	57	P	P	06 39 15.6	+0.6
	baz=272,SNR=11						
J17K	VABM Dome	22.04	51	P	P	06 39 15.8	+0.6
	baz=266						
VLA	Vladivostok	22.10	250	*i* P	P	06 39 16.1	+0.2
VLA				pmax	pmax		
	comp=Z,24nm,0.5s						
E18K	Tukpahlearik C	22.14	40	P	P	06 39 16.6	+0.5
	baz=254						
F18K	Selawik	22.29	42	P	P	06 39 18.0	+0.2
	baz=257,SNR=15						
S14K	Fog Glacier	22.29	70	P	P	06 39 18.7	+0.7
	baz=283						
C18K	Utukok River	22.31	36	P	P	06 39 18.0	0.0
	baz=250,SNR=20						
L17K	Donlin	22.34	54	P	P	06 39 18.9	+0.6
	baz=269,SNR=12						
K17K	Iditarod	22.35	52	P	P	06 39 18.9	+0.5
	baz=268,SNR=11						
B18K	Kokolik River	22.36	34	P	P	06 39 18.9	+0.4
	baz=248						
MDJ	Mudanjiang	22.42	256	P	P	06 39 18.7	-0.6
MDJ	Mudanjiang	22.42	256	P	P	06 39 18.6	-0.7
MDJ				PcP	PcP	06 43 09.6	-0.7
MDJ				SS	Sn	06 44 00.5	+22
MDJ				PcS	PcS	06 46 47.9	-1.1
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MDJ	Mudanjiang	22.42	256	P	P	06 39 20.9	+1.6
O16K	Kokwok River B	22.54	61	P	P	06 39 21.3	+0.8
	baz=276,SNR=7.3						
H18K	Honhosa River	22.55	46	P	P	06 39 21.3	+0.8
	baz=262						
G18K	Tagagawik	22.55	44	P	P	06 39 21.1	+0.6
	baz=260,SNR=16						
CHNA	Chernabura Isl	22.63	73	P	P	06 39 21.6	+0.3
	baz=286,SNR=6.5						
CHNA	Chernabura Isl	22.63	73	P	P	06 39 22.9	+1.5
JSD	Sado	22.64	232	P	P	06 39 21.7	+0.1
JSD	Sado	22.64	232	P	P	06 39 22.6	+1.0
P16K	Nushagak River	22.66	62	P	P	06 39 21.9	+0.3
	baz=277						
M17K	Holitna River	22.75	56	P	P	06 39 22.9	+0.3
	baz=272,SNR=13						
MSHR	Mys Shultsa	22.86	250	*i* P	P	06 39 23.5	-0.3
MSHR				pmax	pmax		
	comp=Z,33nm,1.1s						
CHGN	Chignik	22.91	69	P	P	06 39 24.6	+0.5
	baz=283						
N17K	Nushagak Hills	22.92	58	P	P	06 39 24.5	+0.3
	baz=274,SNR=6.1						
BNX	BinXian	23.00	261	‖P	P	06 39 22.3	-2.9
BNX				pP	pP	06 39 41.6	-2.5
BNX				pmax	pmax		
	comp=Z,8.0nm,1.2s						
O17K	Koliganek Bris	23.03	60	P	P	06 39 26.1	+0.8
	baz=276,SNR=11						
F19K	Shaleruckik Mo	23.07	42	P	P	06 39 26.4	+0.7
	baz=259						
L18K	Granite Mounta	23.09	54	P	P	06 39 27.0	+1.1
	baz=271						
R16K	Pilot Point	23.10	66	P	P	06 39 26.8	+0.8
	baz=281						
J18K	Innoko River	23.10	51	P	P	06 39 26.7	+0.6
	baz=268						
GCSA	Galena City Sc	23.12	47	P	P	06 39 26.8	+0.7
	baz=264,SNR=9.1						
G19K	Purcell Mounta	23.22	44	P	P	06 39 27.9	+0.8
	baz=261,SNR=25						
D19K	Kuna River	23.34	38	P	P	06 39 28.7	+0.5
	baz=254						
H19K	Roundabout Mou	23.39	45	P	P	06 39 29.7	+1.0
	baz=263,SNR=57						
Q16K	King Salmon	23.39	63	P	P	06 39 29.6	+0.9
	baz=279,SNR=8.1						
TTA	Tatalina	23.41	52	P	P	06 39 29.9	+1.0
	baz=270,SNR=35						
TTA	Tatalina	23.41	52	P	P	06 39 30.8	+1.9
E19K	Redstone River	23.41	40	P	P	06 39 29.7	+0.8
	baz=258,SNR=24						
P17K	Kvichak River	23.43	61	P	P	06 39 29.7	+0.7
	baz=278,SNR=7.4						
M18K	Stony River	23.52	56	P	P	06 39 30.7	+0.8
	baz=273,SNR=21						
N18K	Kilae Creek	23.54	58	P	P	06 39 31.1	+1.0
	baz=275						
J19K	Poorman	23.61	49	P	P	06 39 31.2	+0.5
	baz=267						
MAJO	Matsushiro	23.89	230	P	P	06 39 34.4	+1.0
MAJO	Matsushiro	23.89	230	P	P	06 39 34.6	+1.2
MAJO	Matsushiro	23.89	230	*i* P	P	06 39 33.6	+0.2
MAJO				pmax	pmax		
	comp=Z,50nm,0.4s						
MJAR	Matsushiro Arr	23.89	230	P	P	06 39 34.5	+1.1
	comp=Z,44nm,0.6s,baz=22,slow=9.0,SNR=41						
MJAR				LR	LR	06 48 46.5	
	comp=Z,163nm,21.9s,baz=50,slow=36						
	comp=Z,44nm,0.6s						
D20K	Etivluk River	23.93	37	P	P	06 39 34.1	+0.7
	baz=256						
O18K	Koktuh Hills	23.97	60	P	P	06 39 34.5	+0.6
	baz=277,SNR=12						
E20K	Nigu River	23.97	39	P	P	06 39 34.4	+0.5
	baz=257						
P18K	Big Mountain,	24.02	61	P	P	06 39 35.3	+1.0
	baz=278,SNR=6.1						
H20K	Anotleneega Mo	24.04	46	P	P	06 39 35.2	+0.7
	baz=265						
I20K	Naaghedeneel	24.15	47	P	P	06 39 37.0	+1.5
	baz=267						
N19K	Bonanza Creek	24.22	57	P	P	06 39 37.2	+1.0
	baz=276,SNR=6.1						
J20K	Nowinta River	24.27	49	P	P	06 39 37.7	+1.1
	baz=268,SNR=53						
K20K	Telida	24.29	51	P	P	06 39 37.8	+1.0
	baz=270						
O19K	Port Alsworth	24.37	59	P	P	06 39 38.6	+1.1
	baz=277,SNR=6.6						
L20K	Farewell, AK	24.39	53	P	P	06 39 38.8	+1.0
	baz=272,SNR=5.8						
CHIR	Chirikof Islan	24.55	69	P	P	06 39 39.9	+0.8
	baz=286						
C21K	Knifeblade Rid	24.68	37	P	P	06 39 41.4	+1.2
	baz=257,SNR=18						
G21K	Alakaket	24.70	43	P	P	06 39 41.6	+1.2
	baz=264						
A21K	Barrow	24.70	31	P	P	06 39 41.0	+0.6
	baz=250						
R18K	Karluk	24.75	65	P	P	06 39 41.6	+0.7
	baz=283						
M20K	Styx River	24.78	54	P	P	06 39 42.1	+0.8
	baz=274						
F21K	Alatna River	24.80	42	P	P	06 39 42.3	+0.9
	baz=262,SNR=12						
E21K	Killik River	24.81	39	P	P	06 39 42.1	+0.6
	baz=259,SNR=6.1						
B21K	Ikpikpuk River	24.85	36	P	P	06 39 43.0	+1.3
	baz=256						
Q19K	Cape Douglas,	24.90	62	P	P	06 39 42.8	+0.5
	baz=280						
H21K	Melozitna Rive	24.91	45	P	P	06 39 43.2	+0.8
	baz=266,SNR=16						
P19K	Oil Pt	24.98	60	P	P	06 39 44.2	+1.0
	baz=279						
JGF	Kuroka	25.05	230	P	P	06 39 46.4	+2.4
CHUM	Lake Minchumin	25.07	50	P	P	06 39 45.2	+1.3
	baz=271,SNR=17						
A22K	Sinclair Lake	25.11	33	P	P	06 39 45.2	+1.1
	baz=253,SNR=19						
SII	Sitkinak Islan	25.13	67	P	P	06 39 44.7	+0.2
SII	Sitkinak Islan	25.13	67	P	P	06 39 45.2	+0.7
	baz=285						
SII	Sitkinak Islan	25.13	67	P	P	06 39 46.7	+2.2
PPLA	Purkeypile	25.16	52	P	P	06 39 46.2	+1.4
	baz=273,SNR=11						
CAST	Castle Rocks	25.18	51	P	P	06 39 46.1	+1.2
	baz=272,SNR=16						
O20K	Slope Mountain	25.22	59	P	P	06 39 45.9	+0.5
	baz=278						
I21K	Tanana	25.23	47	P	P	06 39 46.2	+0.9
	baz=268						
CN2	Changchun	25.27	259	*e*P	P	06 39 45.3	-0.6
CN2				*e*S	S	06 43 58.6	-6.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CN2				pmax	pmax		
	comp=Z,100nm,7.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,11.0s						
CN2				LR	LR		
	comp=Z,100nm,10.0s						
SPCR	Spurr Chakacha	25.28	56	P	P	06 39 46.7	+0.8
	baz=276,SNR=6.2						
D22K	Ayikyak River	25.36	38	P	P	06 39 47.5	+1.0
	baz=260,SNR=5.2						
INU	Inuyama	25.42	230	P	P	06 39 47.5	+0.3
INU	Inuyama	25.42	230	P	P	06 39 49.6	+2.4
B22K	Teshekpuk Lake	25.42	34	IAmb	IAmb	06 40 09.2	
	comp=Z,47nm,0.9s						
B22K	Teshekpuk Lake	25.42	34	P	P	06 39 47.5	+0.6
	baz=256						
OHAK	Old Harbor	25.44	65	P	P	06 39 47.9	+0.7
	baz=284						
OHAK	Old Harbor	25.44	65	P	P	06 39 50.2	+3.0
H22K	Ishtalitna Cre	25.51	45	P	P	06 39 49.0	+1.1
	baz=267,SNR=17						
SKT	Skwentna	25.52	54	P	P	06 39 48.8	+0.7
	baz=275						
G22K	Bettles	25.53	43	P	P	06 39 48.7	+0.7
	baz=265						
Q20K	Shuyak Island	25.60	62	P	P	06 39 49.3	+0.6
	baz=282						
BPAW	Bear Paw Mtn.	25.65	49	P	P	06 39 49.9	+0.7
	baz=271						
KDAK	Kodiak Island	25.68	64	LR	LR	06 50 00.4	
	comp=Z,96nm,20.6s,baz=108,slow=36						
KDAK	Kodiak Island	25.68	64	P	P	06 39 49.3	-0.1
	baz=283						
KDAK	Kodiak Island	25.68	64	*i* P	P	06 39 49.1	-0.3
KDAK				pmax	pmax		
	comp=Z,27nm,0.9s						
HOM	Homer	25.78	59	P	P	06 39 50.4	+0.2
	baz=280						
CAPN	Captain Cook N	25.85	57	P	P	06 39 51.9	+1.0
	baz=278						
SUA	Susitna One	25.95	55	P	P	06 39 52.5	+0.5
	baz=277						
TRF	Thorofare Moun	25.99	51	P	P	06 39 52.7	+0.3
	baz=273,SNR=10						
COLD	Coldfoot	26.07	42	P	P	06 39 53.6	+0.8
	baz=266,SNR=8.7						
CUT	Chulitna	26.08	53	IAmb	IAmb	06 39 54.4	
	comp=Z,60nm,0.9s						
CUT	Chulitna	26.08	53	P	P	06 39 52.8	-0.1
	baz=276,SNR=8.7						
D23K	Nanushuk River	26.09	38	P	P	06 39 54.3	+1.3
	baz=262,SNR=6.4						
G23K	Bananza Creek	26.10	43	P	P	06 39 53.5	+0.3
	baz=267,SNR=6.2						
BRSE	Bradley Lake S	26.21	59	P	P	06 39 54.4	+0.2
	baz=280						
M22K	Willow	26.21	54	IAmb	IAmb	06 40 27.8	
	comp=Z,37nm,0.9s						
M22K	Willow	26.21	54	P	P	06 39 54.7	+0.6
	baz=277						
C23K	Itkillik River	26.25	36	IAmb	IAmb	06 40 17.9	
	comp=Z,66nm,1.2s						
C23K	Itkillik River	26.25	36	P	P	06 39 55.3	+0.8
	baz=260,SNR=11						
BWN	Browne	26.32	49	IAmb	IAmb	06 40 31.0	
	comp=Z,75nm,1.1s						
I23K	Minto, Yukon-K	26.34	47	P	P	06 39 56.2	+0.9
	baz=271,SNR=15						
E23K	Chandalar	26.36	40	P	P	06 39 56.6	+1.0
	baz=265						
TOLK	Toolik Lake Re	26.44	39	P	P	06 39 56.8	+0.6
	baz=263,SNR=7.5						
NEA2	Nenana	26.47	48	P	P	06 39 57.3	+0.7
	baz=272,SNR=11						
RC01	Rabbit Creek A	26.49	56	P	P	06 39 56.4	-0.3
	baz=279						
MCK	McKinley	26.58	50	P	P	06 39 58.1	+0.7
	baz=274,SNR=10						
O22K	Cooper Landing	26.59	57	P	P	06 39 57.8	+0.2
	baz=280						
RND	Reindeer	26.64	51	P	P	06 39 58.0	-0.1
PMR	Palmer	26.70	55	P	P	06 39 59.5	+1.0
	baz=278,SNR=6.1						
PMR	Palmer	26.70	55	P	P	06 40 01.1	+2.5
D24K	Happy Valley	26.77	38	P	P	06 40 00.1	+1.0
	baz=263						
SEW	Seward	26.79	58	IAmb	IAmb	06 40 00.4	
	comp=Z,41nm,1.0s						
SEW	Seward	26.79	58	P	P	06 39 59.6	+0.2
	baz=281						
E24K	Your Creek	26.79	40	P	P	06 39 59.8	+0.4
	baz=266,SNR=21						
C24K	Franklin Bluff	26.89	36	P	P	06 40 00.6	+0.4
C24K	Franklin Bluff	26.89	36	P	P	06 40 01.4	+1.2
	baz=262						
WRH	Wood River Hil	26.90	48	IAmb	IAmb	06 40 02.4	
	comp=Z,45nm,0.9s						
H24K	Noodor Dome	26.95	45	P	P	06 40 01.8	+0.9
	baz=271						
F24K	Squaw Lake	26.98	41	P	P	06 40 01.6	+0.5
	baz=267						
COLA	College	26.99	47	P	P	06 40 02.4	+1.4
COLA	College	26.99	47	P	P	06 40 01.6	+0.5
	baz=273						
COLA	College	26.99	47	P	P	06 40 02.2	+1.1
COLA	College	26.99	47	P	P	06 40 02.4	+1.4
COLA				pmax	pmax		
	comp=Z,19nm,0.8s						
KNK	Knik Glacier	27.05	55	IAmb	IAmb	06 40 03.4	
	comp=Z,59nm,0.8s						
KNK	Knik Glacier	27.05	55	P	P	06 40 02.0	+0.3
	baz=279,SNR=18						
SML	Sawmill	27.05	54	IAmb	IAmb	06 40 04.0	
	comp=Z,57nm,1.0s						
SML	Sawmill	27.05	54	P	P	06 40 02.3	+0.5
	baz=278,SNR=14						
G24K	Hadweenzic Riv	27.11	43	P	P	06 40 03.2	+1.0
	baz=269						
POKR	Poker Plat Res	27.15	47	P	P	06 40 03.5	+0.8
	baz=272,SNR=13						
PWL	Port Wells	27.20	56	IAmb	IAmb	06 40 04.1	
	comp=Z,80nm,1.0s						
PWL	Port Wells	27.20	56	P	P	06 40 03.3	+0.2
	baz=280,SNR=6.2						
M23K	Glacier View	27.34	54	P	P	06 40 04.9	+0.6
	baz=279,SNR=7.4						
HDA	Harding Lake	27.40	48	P	P	06 40 05.2	+0.4
	baz=274,SNR=12						
ILAR	Eielson Array	27.40	47	P	P	06 40 05.1	+0.3
	comp=Z,15nm,0.8s,baz=267,slow=7.6,SNR=173						
ILAR				pP	pP	06 40 25.5	-0.3
	comp=Z,9.4nm,0.9s,baz=267,slow=8.0,SNR=7.5						
ILAR				ScP	ScP	06 46 51.8	-1.0
	comp=Z,0.9nm,1.0s,baz=289,slow=3.4,SNR=4.7						
ILAR				LR	LR	06 51 21.2	
	comp=Z,108nm,20.0s,baz=243,slow=37						
	comp=Z,15nm,0.8s						
SCM	Sheep Creek Mo	27.52	54	IAmb	IAmb	06 40 07.8	
	comp=Z,59nm,0.8s						
SCM	Sheep Creek Mo	27.52	54	P	P	06 40 06.9	+0.9
	baz=279,SNR=13						
D25K	Kavik River	27.66	38	IAmb	IAmb	06 40 08.4	
	comp=Z,19nm,0.6s						
D25K	Kavik River	27.66	38	P	P	06 40 07.8	+0.7
	baz=265,SNR=23						
H25L	Birch Creek	27.78	44	P	P	06 40 09.2	+1.0
	baz=272						
GLI	Glacier Island	27.79	56	P	P	06 40 08.7	+0.3
	baz=281						
P23K	Montague Islan	27.82	58	P	P	06 40 08.4	-0.2
	baz=282						
F25K	Christian Rive	27.84	41	P	P	06 40 09.8	+1.0
	baz=269,SNR=10.0						
PRP	Porcupine Dome	27.93	46	IAmb	IAmb	06 40 11.8	
	comp=Z,32nm,0.8s						
PRP	Porcupine Dome	27.93	46	P	P	06 40 10.8	+1.1
	baz=273,SNR=5.2						
K24K	Donnelly Dome	27.97	49	P	P	06 40 10.2	+0.3
	baz=276,SNR=8.2						
M24K	Tolsona, Glenn	28.01	53	IAmb	IAmb	06 40 59.2	
	comp=Z,49nm,1.0s						
M24K	Tolsona, Glenn	28.01	53	P	P	06 40 11.7	+1.3
	baz=279,SNR=6.0						
J25K	Salcha River,	28.07	48	P	P	06 40 10.4	-0.4
	baz=275,SNR=13						
JMN	Monobe	28.20	233	P	P	06 40 15.0	+2.8
PAX	Paxson	28.21	51	P	P	06 40 12.4	+0.3
	baz=278						
KLU	Klutina	28.24	54	P	P	06 40 12.6	+0.2
	baz=280,SNR=8.0						
KSRS	Korea Array	28.24	246	P	P	06 40 14.1	+1.5
	comp=Z,13nm,0.8s,baz=42,slow=8.5,SNR=32						
KSRS				PcP	PcP	06 43 24.6	+1.0
	comp=Z,2.0nm,0.8s,baz=63,slow=1.8,SNR=5.0						
KSRS				LR	LR	06 51 26.4	
	comp=Z,62nm,21.1s,baz=45,slow=36						
	comp=Z,13nm,0.8s						
BMAR	Burnt Mountain	28.25	42	P	P	06 40 13.6	+1.1
KSAR	Wonju Array Be	28.27	246	P	P	06 40 12.4	-0.4
KSAR	Wonju Array Be	28.27	246	P	P	06 40 12.4	-0.4
RIDG	Independent Ri	28.39	49	P	P	06 40 13.4	-0.3
RIDG	Independent Ri	28.39	49	P	P	06 40 13.2	-0.5
	baz=277,SNR=11						
F26K	Sheenjek River	28.42	41	P	P	06 40 14.9	+1.1
	baz=270,SNR=10						
HARP	HAARP	28.44	52	P	P	06 40 15.0	+0.9
	baz=279						
EYAK	Cordova Ski Ar	28.50	56	P	P	06 40 15.4	+0.7
	baz=282						
G26K	Porcupine Rive	28.57	43	P	P	06 40 15.9	+0.7
	baz=272						
C27K	Jago River	28.62	37	P	P	06 40 16.0	+0.3
	baz=267						
SCRK	Sand Creek	28.73	49	IAmb	IAmb	06 40 17.7	
	comp=Z,31nm,0.9s						
SCRK	Sand Creek	28.73	49	P	P	06 40 16.7	-0.2
	baz=278,SNR=29						
N25K	Chitina, Valde	28.84	54	P	P	06 40 18.2	+0.4
	baz=281,SNR=9.5						
J26L	Joseph Creek	28.85	48	P	P	06 40 17.5	-0.3
	baz=277						
I26K	Coal Creek Min	28.94	46	P	P	06 40 18.3	-0.1
	baz=276						
BMRM	Bremner River	28.96	55	IAmb	IAmb	06 40 20.8	
	comp=Z,46nm,0.8s						
BMRM	Bremner River	28.96	55	P	P	06 40 19.7	+0.9
	baz=282,SNR=10						
MENT	Mentasta	29.00	51	P	P	06 40 19.9	+0.8
MENT	Mentasta	29.00	51	P	P	06 40 20.1	+1.0
RAGM	Ragged Mountai	29.06	56	P	P	06 40 20.2	+0.6
RAGM				IAmb	IAmb	06 40 50.4	
	comp=Z,52nm,1.2s						
L26K	Log Cabin Wild	29.16	51	P	P	06 40 21.3	+0.8
	baz=280						
KAIM	Kayak Island	29.29	57	P	P	06 40 22.5	+0.8
	baz=284						
G27K	Doyon Strip	29.42	43	P	P	06 40 23.6	+0.9
	baz=274,SNR=9.0						
M26K	Nabesna, AK	29.43	52	IAmb	IAmb	06 40 25.8	
	comp=Z,32nm,1.0s						
M26K	Nabesna, AK	29.43	52	P	P	06 40 24.6	+1.7
	baz=281,SNR=20						
H27K	Steamboat Moun	29.52	44	P	P	06 40 25.1	+1.5
	baz=276,SNR=16						
I27K	Kandik River	29.55	45	P	P	06 40 24.2	+0.3
	baz=276						
D27M	Malcolm River	29.58	38	P	P	06 40 24.7	+0.5
	baz=271,SNR=7.1						
BGLC	Bering Glacier	29.80	57	P	P	06 40 27.1	+1.0
	baz=285						
L27K	Beaver Creek,	29.83	50	IAmb	IAmb	06 40 29.0	
	comp=Z,48nm,1.0s						
L27K	Beaver Creek,	29.83	50	P	P	06 40 27.8	+1.3
	baz=281						
EGAK	Eagle	29.84	47	P	P	06 40 25.6	-0.9
EGAK				IAmb	IAmb	06 40 27.4	
	comp=Z,31nm,0.8s						
EGAK	Eagle	29.84	47	P	P	06 40 26.5	0.0
	baz=278,SNR=28						
BCAR	Beaver Creek A	29.85	50	P	P	06 40 27.5	+0.9
M27K	Edge Creek, AK	29.95	52	IAmb	IAmb	06 40 30.5	
	comp=Z,41nm,0.8s						
M27K	Edge Creek, AK	29.95	52	P	P	06 40 29.3	+1.7
	baz=282,SNR=32						
F28M	Old Crow	30.05	41	P	P	06 40 29.3	+0.9
	baz=

	baz=283,SNR=18						
MESA	MESA	30.43	56	IAmb	IAmb	06 40 34.6	
	comp=Z,50nm,0.8s						
MESA	MESA	30.43	56	P	P	06 40 33.3	+1.3
	baz=286						
XLT	XiLinHaoTe	30.62	268	eP	P	06 40 23.8	-10
XLT				pP	pP	06 40 45.1	-10
XLT				sP	sP	06 40 55.6	-10
XLT				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DAWY	Dawson	30.72	48	P	P	06 40 35.1	+0.8
DAWY	Dawson	30.72	48	P	P	06 40 35.0	+0.7
	baz=281,SNR=13						
YUK3	Moose Creek	30.73	53	P	P	06 40 35.8	+1.2
	baz=284,SNR=10						
E29M	Blow River	30.73	39	P	P	06 40 35.5	+1.2
	baz=275						
H29M	Whitestone	30.79	44	P	P	06 40 36.2	+1.3
	baz=278						
G29M	Pine Creek	30.84	42	P	P	06 40 36.8	+1.5
	baz=277						
I29M	Ogilvie Camp,	30.95	45	IAmb	IAmb	06 40 38.2	
	comp=Z,25nm,0.9s						
I29M	Ogilvie Camp,	30.95	45	P	P	06 40 37.0	+0.8
	baz=280,SNR=9.7						
O28M	Mount Upton	31.11	54	P	P	06 40 39.5	+1.5
	baz=286,SNR=17						
J29N	Klondike Camp	31.15	47	P	P	06 40 38.7	+0.6
	baz=281						
YUK8	Steele Glacier	31.17	53	P	P	06 40 39.7	+1.1
	baz=285						
PINM	Pinnacle	31.27	56	P	P	06 40 40.5	+1.3
	baz=287,SNR=14						
EPYK	Eagle Plains	31.43	43	P	P	06 40 41.3	+0.9
	baz=279,SNR=7.0						
L29M	L29M	31.47	50	IAmb	IAmb	06 40 43.8	
	comp=Z,49nm,0.8s						
L29M	L29M	31.47	50	P	P	06 40 42.8	+1.9
	baz=283,SNR=36						
M29M	Somme Creek	31.48	51	IAmb	IAmb	06 40 43.8	
	comp=Z,23nm,0.7s						
M29M	Somme Creek	31.48	51	P	P	06 40 42.8	+1.8
	baz=284,SNR=22						
G30M	tAoh Zraii Nji	31.53	42	P	P	06 40 42.2	+0.8
	baz=279,SNR=5.0						
K29M	Barlow Dome	31.57	48	P	P	06 40 42.8	+1.0
	baz=283,SNR=6.8						
F30M	Barrier River	31.61	41	P	P	06 40 43.8	+1.8
	baz=278,SNR=8.2						
YUK4	Talbot Arm	31.68	53	P	P	06 40 44.3	+1.4
	baz=286,SNR=7.6						
I30M	Mount Dempster	31.77	45	IAmb	IAmb	06 40 45.5	
	comp=Z,27nm,0.8s						
I30M	Mount Dempster	31.77	45	P	P	06 40 44.6	+1.0
	baz=281,SNR=45						
YUK6	Outpost Mounta	31.92	54	P	P	06 40 46.3	+1.3
	baz=287,SNR=8.8						
J30M	Hart River	31.92	47	P	P	06 40 45.4	+0.5
	baz=282						
O29M	Mount Kennedy	32.01	55	P	P	06 40 47.0	+1.3
	baz=288						
M30M	Minto, Yukon	32.19	50	P	P	06 40 48.4	+1.2
	baz=285,SNR=7.0						
G31M	Satah River	32.30	42	IAmb	IAmb	06 41 41.5	
	comp=Z,52nm,1.9s						
G31M	Satah River	32.30	42	P	P	06 40 48.3	+0.3
	baz=280						
MAYO	Mayo, Yukon	32.33	48	IAmb	IAmb	06 41 44.5	
	comp=Z,18nm,0.8s						
MAYO	Mayo, Yukon	32.33	48	P	P	06 40 49.8	+1.4
	baz=284						
INK	Inuvik	32.35	39	P	P	06 40 49.1	+0.6
INK	Inuvik	32.35	39	LR	LR	06 55 14.8	
	comp=Z,57nm,18.2s,baz=248,slow=39						
INK	Inuvik	32.35	39	P	P	06 40 49.6	+1.1
	baz=279,SNR=6.6						
INK	Inuvik	32.35	39	P	P	06 40 49.1	+0.6
INK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HYT	Haines Junctio	32.36	54	IAmb	IAmb	06 40 51.6	
	comp=Z,32nm,0.8s						
HYT	Haines Junctio	32.36	54	P	P	06 40 50.4	+1.6
	baz=287,SNR=16						
F31M	Tsiigehtchic	32.41	41	P	P	06 40 49.9	+0.9
	baz=280,SNR=7.1						
H31M	Peel River	32.49	44	P	P	06 40 50.9	+1.2
	baz=282,SNR=5.6						
P30M	Million Dollar	32.83	55	P	P	06 40 54.4	+1.6
	baz=289						
N31M	Braeburn, Yuko	32.96	52	P	P	06 40 55.8	+1.9
	baz=288						
O30N	Mendenhall	33.03	53	IAmb	IAmb	06 40 57.3	
	comp=Z,22nm,0.9s						
O30N	Mendenhall	33.03	53	P	P	06 40 56.3	+1.7
	baz=288,SNR=11						
PLBC	Pleasant Camp	33.34	56	P	P	06 40 59.1	+1.9
	baz=290						
M31M	Drury Creek, Y	33.37	50	IAmb	IAmb	06 41 00.6	
	comp=Z,26nm,0.8s						
M31M	Drury Creek, Y	33.37	50	P	P	06 40 59.7	+2.2
	baz=287,SNR=24						
ULN	Ulaanbaatar	33.61	281	i P	P	06 41 00.0	+0.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WHY	Whitehorse	33.63	53	IAmb	IAmb	06 41 03.1	
	comp=Z,29nm,0.8s						
WHY	Whitehorse	33.63	53	P	P	06 41 01.9	+2.1
	baz=289,SNR=18						
SKAG	Skagway	33.83	55	IAmb	IAmb	06 41 04.9	
	comp=Z,42nm,0.9s						
SKAG	Skagway	33.83	55	P	P	06 41 03.3	+1.9
	baz=291,SNR=9.5						
SKAG	Skagway	33.83	55	P	P	06 41 04.0	+2.6
FARO	Faro, Yukon	33.83	50	P	P	06 41 03.3	+1.8
	baz=288,SNR=10						
S31K	Pelican	33.94	58	P	P	06 41 04.2	+1.8
	baz=292						
SONM	Songino Array	34.00	281	P	P	06 41 01.7	-1.5
	comp=Z,1.0nm,0.5s,baz=66,slow=8.1,SNR=8.1						
SONM				pP	pP	06 41 24.2	-0.4
	comp=Z,2.9nm,0.7s,baz=60,slow=8.4,SNR=9.3						
SONM				PcP	PcP	06 43 39.6	+0.7
	comp=Z,4.7nm,0.6s,baz=53,slow=1.5,SNR=15						
SONM				ScP	ScP	06 47 16.5	+1.5
	comp=Z,3.0nm,0.6s,baz=73,slow=2.2,SNR=12						
	comp=Z,1.0nm,0.5s						
N32M	Quiet Lake	34.30	52	P	P	06 41 07.3	+1.8
	baz=290						
BESE	Bessie Mountai	34.38	57	IAmb	IAmb	06 41 09.5	
	comp=Z,35nm,1.0s						
A36M	Sachs Harbour	34.55	32	IAmb	IAmb	06 41 32.0	
	comp=Z,30nm,0.8s						
A36M	Sachs Harbour	34.55	32	P	P	06 41 09.1	+1.7
	baz=280,SNR=7.9						
P32M	Atlin	34.55	55	P	P	06 41 08.6	+0.9
	baz=292						
R32K	Eaglecrest	34.66	57	P	P	06 41 10.6	+2.0
	baz=293						
JIS	Juneau Island	34.73	57	P	P	06 41 12.0	+2.9
SIT	Sitka	34.74	59	P	P	06 41 10.2	+0.9
	baz=294						
P33M	Teslin, Yukon	34.75	53	P	P	06 41 11.4	+1.9
	baz=291,SNR=5.1						
S32K	Killisnoo	34.95	58	P	P	06 41 11.7	+0.7
	baz=294						
HHC	Hu-ho-hao-te	35.13	268	eP	P	06 41 14.0	+1.0
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,4.6s						
HHC				LR	LR		
	comp=Z,170nm,14.7s						
HHC				LR	LR		
	comp=Z,140nm,16.1s						
HHC				LR	LR		
	comp=Z,190nm,18.6s						
H11N2	WAKE ISLAND Hy	35.18	170	T	T	07 18 37.8	
	baz=355,slow=76,SNR=707						
H11N3	WAKE ISLAND Hy	35.20	170	T	T	07 18 39.1	
	baz=355,slow=76,SNR=740						
H11N1	WAKE ISLAND Hy	35.20	170	T	T	07 18 39.5	
	baz=355,slow=76,SNR=805						
Q32M	Nakina River	35.48	55	IAmb	IAmb	06 41 19.7	
	comp=Z,38nm,1.4s						
Q32M	Nakina River	35.48	55	P	P	06 41 18.0	+2.1
	baz=293						
C36M	Paulatuk	35.50	36	P	P	06 41 15.8	+0.1
C36M				IAmb	IAmb	06 41 41.0	
	comp=Z,24nm,0.9s						
C36M	Paulatuk	35.50	36	P	P	06 41 16.6	+1.0
	baz=285,SNR=9.2						
HNS	HongShan	35.62	260	⇑P	P	06 41 15.8	-1.3
HNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
R33M	Jennings River	35.92	54	IAmb	IAmb	06 41 23.3	
	comp=Z,18nm,1.0s						
R33M	Jennings River	35.92	54	P	P	06 41 22.0	+2.4
	baz=293,SNR=7.1						
T33K	Petersburg	36.03	59	P	P	06 41 22.9	+2.6
	baz=296						
BTO	Baotou	36.19	269	eP	P	06 41 20.6	-1.4
BTO				pP	pP	06 41 43.3	-0.4
BTO				sP	sP	06 41 54.6	+0.1
BTO				PP	PP	06 42 45.4	-0.4
BTO				sS	sS	06 47 29.6	-2.6
BTO				SS	SnSn	06 49 18.5	-12
BTO				pmax	pmax		
	comp=Z,19nm,0.9s						
BTO				pmax	pmax		
	comp=Z,140nm,4.5s						
BTO				LR	LR		
	comp=Z,470nm,11.9s						
BTO				LR	LR		
	comp=Z,560nm,14.3s						
BTO				LR	LR		
	comp=Z,540nm,22.8s						
U33K	Whale Pass	36.25	60	P	P	06 41 23.8	+1.7
	baz=296						
H11S1	WAKE ISLAND Hy	36.37	171	T	T	07 20 09.8	
	baz=353,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy	36.39	171	T	T	07 19 58.1	
	baz=353,slow=76,SNR=30						
H11S2	WAKE ISLAND Hy	36.39	171	T	T	07 20 01.6	
	baz=353,slow=76,SNR=14						
S34M	Telegraph Cree	36.45	56	IAmb	IAmb	06 41 47.3	
	comp=Z,22nm,1.1s						
S34M	Telegraph Cree	36.45	56	P	P	06 41 26.4	+2.5
	baz=295						
WRAK	Wrangell Islan	36.50	59	P	P	06 41 27.3	+3.0
	baz=296						
CRAG	Craig	36.53	61	P	P	06 41 26.6	+2.0
	baz=297						
JOW	Kunigami	36.59	234	P	P	06 41 26.1	+0.6
	comp=Z,49nm,0.6s,baz=24,slow=6.6,SNR=9.9						
	comp=Z,49nm,0.6s						
WTLY	Watson Lake, Y	36.65	52	IAmb	IAmb	06 41 28.7	
	comp=Z,27nm,1.3s						
WTLY	Watson Lake, Y	36.65	52	P	P	06 41 27.1	+1.5
	baz=294,SNR=8.8						
DLBC	Dease Lake	36.76	55	IAmb	IAmb	06 41 50.8	
	comp=Z,20nm,1.0s						
DLBC	Dease Lake	36.76	55	P	P	06 41 29.4	+2.8
	comp=Z,15nm,1.1s,baz=286,slow=3.6,SNR=18						
DLBC				pP	pP	06 41 49.5	+1.3
	comp=Z,15nm,0.9s,baz=287,slow=9.7,SNR=8.2						
	comp=Z,15nm,1.1s						
DLBC	Dease Lake	36.76	55	P	P	06 41 28.8	+2.2
	baz=295,SNR=7.2						
NJ2	Nanjing	37.20	250	eP	P	06 41 30.8	+0.3
NJ2				pP	pP	06 41 51.5	-0.8
NJ2				pmax	pmax		
	comp=Z,22nm,0.7s						
NJ2				LR	LR		
	comp=Z,440nm,19.8s						
NJ2				LR	LR		
	comp=Z,310nm,13.7s						
NJ2				LR	LR		
	comp=Z,490nm,20.6s						
T35M	Bob Quinn	37.29	57	IAmb	IAmb	06 41 35.8	
	comp=Z,36nm,1.1s						
T35M	Bob Quinn	37.29	57	P	P	06 41 34.0	+2.9
	baz=297,SNR=9.4						
V35K	Ketchikan	37.36	60	P	P	06 41 31.5	-0.2
	baz=298						
WRGLY	Wrigley	37.75	46	P	P	06 41 36.8	+2.0
	baz=293						
U35K	Hyder	37.89	59	P	P	06 41 38.5	+2.4
	baz=298						
KOTAN	Kotaneelee Air	38.79	51	P	P	06 41 45.7	+2.0
	baz=296						
TOAD	Toad River Com	38.83	53	P	P	06 41 46.3	+2.3
	baz=297,SNR=19						
GRNB	Grenville Isla	38.93	62	IAmb	IAmb	06 41 48.5	
	comp=Z,45nm,1.4s						
EUNU	Eureka	40.31	14	IAmb	IAmb	06 41 57.9	
	comp=Z,26nm,0.7s						
BBB	Bella Bella	40.75	63	LR	LR	06 56 40.0	
	comp=Z,96nm,21.7s,baz=250,slow=33						
RES	Resolute Bay	41.69	23	P	P	06 42 07.7	+0.3
RES	Resolute Bay	41.69	23	LR	LR	07 02 38.7	
	comp=Z,32nm,18.1s,baz=355,slow=41						
RES	Resolute Bay	41.69	23	P	P	06 42 07.7	+0.3
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA	Yellowknife Ar	41.71	44	P	P	06 42 08.2	+0.6
	comp=Z,8.0nm,0.6s,baz=299,slow=8.2,SNR=117						
YKA				pP	pP	06 42 29.5	0.0
	comp=Z,5.5nm,0.7s,baz=298,slow=8.4,SNR=8.2						
YKA				PcP	PcP	06 44 03.3	+1.0
	comp=Z,1.3nm,0.7s,baz=302,slow=3.6,SNR=5.0						
YKA				ScP	ScP	06 47 45.1	+1.4
	comp=Z,0.8nm,0.7s,baz=297,slow=4.1,SNR=7.7						
YKA				LR	LR	07 00 37.6	
	comp=Z,47nm,18.1s,baz=310,slow=38						
	comp=Z,8.0nm,0.6s						
ZALV	Zalesovo Beam	42.31	302	P	P	06 42 10.1	-2.5
	comp=Z,1.3nm,0.5s,baz=58,slow=8.4,SNR=5.4						
ZALV				pP	pP	06 42 34.8	0.0
	comp=Z,3.8nm,0.8s,baz=74,slow=6.3,SNR=4.3						
ZALV				PcP	PcP	06 44 04.7	+0.2
	comp=Z,6.1nm,0.7s,baz=58,slow=3.7,SNR=13						
ZALV				ScP	ScP	06 47 45.0	-1.2
	comp=Z,1.7nm,0.8s,baz=62,slow=3.9,SNR=3.9						
	comp=Z,1.3nm,0.5s						
LZH	Lanzhou	42.81	268	eP	P	06 42 15.8	-1.3
LZH				pP	pP	06 42 39.9	+0.6
LZH				sP	sP	06 42 49.4	-0.5
LZH				PcP	PcP	06 44 07.8	+1.2
LZH				ScS	ScS	06 52 09.3	+0.9
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				LR	LR		
	comp=Z,580nm,15.8s						
LZH				LR	LR		
	comp=Z,370nm,18.6s						
LZH				LR	LR		
	comp=Z,520nm,18.2s						
GTA	Gaotai	42.89	275	P	P	06 42 16.3	-1.4
GTA				pP	pP	06 42 42.8	+3.0
GTA				PcP	PcP	06 44 07.5	+0.7
GTA				ScP	ScP	06 47 51.8	+2.7
GTA				ScS	ScS	06 52 08.8	+0.1
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ENH	Enshi	43.77	258	P	P	06 42 22.6	-2.1
ENH				IAmb	IAmb	06 42 54.7	
	comp=Z,60nm,2.0s						
ENH	Enshi	43.77	258	P	P	06 42 26.4	+1.7
CLRS	Cowichan Lake	44.76	65	IAmb	IAmb	06 42 35.3	
	comp=Z,43nm,1.0s						
LLLB	Lillooet	44.85	62	IAmb	IAmb	06 42 36.4	
	comp=Z,47nm,1.0s						
KIP	Kipapa	45.32	120	P	P	06 42 39.4	+2.4
SPITS	Spitsbergen Ar	45.65	350	P	P	06 42 38.6	-0.5
	comp=Z,6.2nm,0.6s,baz=30,slow=7.7,SNR=16						
SPITS				LR	LR	07 00 28.7	
	comp=Z,37nm,21.3s,baz=347,slow=34						
	comp=Z,6.2nm,0.6s						
NLWA	Neilton Lookou	45.77	66	IAmb	IAmb	06 43 04.7	
	comp=Z,50nm,1.0s						
CD2	Chengdu	46.58	263	eP	P	06 42 45.3	-1.6
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
NEEM	North Greenlan	46.66	9	i P	P	06 42 45.7	-1.6
NEEM				IAmb	IAmb	06 42 47.9	
	comp=Z,19nm,1.0s						
WMQ	Urumqi	46.88	288	eP	P	06 42 49.3	+0.1
WMQ				pP	pP	06 43 13.3	+1.7
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				LR	LR		
	comp=Z,250nm,24.7s						
WMQ	Urumqi	46.88	288	P	P	06 42 48.6	-0.6
WMQ				pP	pP	06 43 11.7	+0.1
WMQ				sP	sP	06 43 23.1	+0.9
WMQ				PcP	PcP	06 44 20.7	+0.3
KURK	Kurchatov	47.29	301	P	P	06 42 49.4	-2.8
KURK	Kurchatov	47.29	301	i P	P	06 42 50.2	-1.9
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	Kurchatov	47.29	301	P	P	06 42 49.9	-2.3
KURK				pP	pP	06 43 13.7	-1.0
KURK				PcP	PcP	06 44 21.1	-0.5
KURBB	Kurchatov Arra	47.39	301	P	P	06 42 50.8	-2.1
	comp=Z,9.4nm,0.6s,baz=53,slow=6.9,SNR=5.2						
KURBB				pP	pP	06 43 15.4	-0.1
	comp=Z,32nm,1.0s,baz=56,slow=7.8,SNR=14						
KURBB				PcP	PcP	06 44 21.7	-0.3
	comp=Z,10nm,0.8s,baz=52,slow=3.6,SNR=13						
KURBB				ScP	ScP	06 48 06.8	-0.4
	comp=Z,0.8nm,0.3s,baz=62,slow=3.9,SNR=2.1						
KURBB				LR	LR	07 04 15.7	
	comp=Z,211nm,18.5s,baz=182,slow=38						
	comp=Z,9.4nm,0.6s						
B08A	Colville Reser	47.55	63	IAmb	IAmb	06 42 56.8	
	comp=Z,42nm,1.1s						
COR	Corvallis	47.86	69	P	P	06 42 58.3	+1.6
COR				pP	pP	06 43 20.0	+0.9
MK31	Makanchi Array	47.88	295	P	P	06 42 53.8	-3.0
MK31	Makanchi Array	47.88	295	i P	P	06 42 54.3	-2.6
MKAR	Makanchi Array	47.88	295	P	P	06 42 54.1	-2.7
	comp=Z,2.4nm,0.6s,baz=58,slow=7.7,SNR=31						
MKAR				pP	pP	06 43 18.6	-0.8
	comp=Z,6.4nm,0.7s,baz=66,slow=9.4,SNR=12						
MKAR				ScP	ScP	06 48 08.6	-0.9
	comp=Z,0.4nm,0.8s,baz=39,slow=5.9,SNR=2.3						
MKAR				LR	LR	07 04 00.1	
	comp=Z,153nm,20.0s,baz=86,slow=37						
	comp=Z,2.4nm,0.6s						
GOMU	GeErMu	47.97	276	P	P	06 42 55.0	-3.1
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GOMU				LR	LR		
	comp=Z,170nm,13.2s						
GOMU				LR	LR		
	comp=Z,200nm,12.8s						
GOMU				LR	LR		
	comp=Z,280nm,13.1s						
MAKZ	Makanchi	48.04	295	P	P	06 42 54.6	-3.5
MAKZ				IAmb	IAmb	06 43 21.6	
	comp=Z,28nm,1.1s						
MAKZ	Makanchi	48.04	295	P	P	06 42 54.6	-3.5
MAKZ				pmax	pmax		
	comp=Z,28nm,1.2s						
MAKZ	Makanchi	48.04	295	P	P	06 42 55.3	-2.8
MAKZ				pP	pP	06 43 19.7	-0.9
E07A	Sunnyside	48.43	65	IAmb	IAmb	06 43 03.7	
	comp=Z,25nm,1.0s						
PUH	Pauahi	48.45	119	P	P	06 43 03.4	+1.8
C09A	Chrisman Ranch	48.45	63	IAmb	IAmb	06 43 03.5	
	comp=Z,58nm,1.4s						
KULLO	Kullorsuaq	48.55	13	i P	P	06 43 00.4	-1.1
KULLO				IAmb	IAmb	06 43 02.3	
	comp=Z,29nm,0.9s						
D08A	Wollman Farm,	48.59	64	IAmb	IAmb	06 43 04.6	
	comp=Z,26nm,1.3s						
HAWA	Hanford	48.71	65	IAmb	IAmb	06 43 26.8	
	comp=Z,23nm,1.1s						
NEW	Newport	48.75	62	IAmb	IAmb	06 43 05.8	
	comp=Z,26nm,1.1s						
NEW	Newport	48.75	62	LR	LR	07 01 55.7	
	comp=Z,74nm,20.9s,baz=266,slow=34						
NEW	Newport	48.75	62	P	P	06 43 05.1	+1.6
NEW				pmax	pmax		
	comp=Z,24nm,1.3s						
DAG	Danmarks Havn	48.83	360	P	P	06 43 03.3	-0.3
DAG				pmax	pmax		
	comp=Z,7.0nm,2.0s						
DAG	Danmarks Havn	48.83	360	i P	P	06 43 01.9	-1.7
DAG				IAmb	IAmb	06 43 03.6	
	comp=Z,5.2nm,0.9s						
I04A	Tendick Farm,	48.87	69	IAmb	IAmb	06 43 27.8	
	comp=Z,25nm,0.9s						
I05D	Terrebonne, OR	49.09	68	IAmb	IAmb	06 43 33.0	
	comp=Z,17nm,0.8s						
PINE	Pine Mountain	49.66	68	IAmb	IAmb	06 43 35.0	
	comp=Z,28nm,0.9s						
G08A	Pilot Rock	49.73	66	IAmb	IAmb	06 44 48.4	
	comp=Z,8.9nm,0.6s						
BVAR	Borovoye Array	49.77	308	P	P	06 43 09.2	-2.0
	comp=Z,5.3nm,0.6s,baz=60,slow=7.7,SNR=18						
BVAR				pP	pP	06 43 34.0	+0.1
	comp=Z,32nm,0.9s,baz=60,slow=8.8,SNR=18						
BVAR				PcP	PcP	06 44 30.4	-0.3
	comp=Z,8.4nm,0.7s,baz=62,slow=3.3,SNR=5.8						
BVAR				ScP	ScP	06 48 16.8	-0.6
	comp=Z,0.4nm,0.4s,baz=51,slow=4.2,SNR=4.0						
BVAR				LR	LR	07 06 31.8	
	comp=Z,156nm,18.8s,baz=43,slow=39						
	comp=Z,5.3nm,0.6s						
BRVK	Borovoye	49.79	308	P	P	06 43 09.5	-1.8
BRVK	Borovoye	49.79	308	i P	P	06 43 09.4	-1.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRVK	Borovoye	49.79	308	P	P	06 43 09.3	-2.0
BRVK				pP	pP	06 43 33.6	-0.4
BRVK				sP	sP	06 43 44.4	-0.2
BRVK				PcP	PcP	06 44 30.4	-0.3
YBH	Yreka Blue Hor	50.08	72	IAmb	IAmb	06 43 38.4	
	comp=Z,23nm,0.8s						
F10A	Beach Ranch, E	50.19	64	P	P	06 43 15.8	+1.2
F10A				IAmb	IAmb	06 43 16.9	
	comp=Z,15nm,0.8s						
I07A	Izee	50.24	67	IAmb	IAmb	06 43 38.2	
	comp=Z,15nm,1.2s						
UPNV	Upernavik	50.29	13	i P	P	06 43 14.0	-0.8
UPNV				IAmb	IAmb	06 43 15.8	
	comp=Z,15nm,0.9s						
BMO	Blue Mountains	50.90	65	IAmb	IAmb	06 43 43.7	
	comp=Z,17nm,0.9s						
PZH	PanZhiHua	51.05	261	P	P	06 43 27.0	+5.7
PZH				PcP	PcP	06 44 36.3	+0.4
PZH				ScP	ScP	06 48 26.6	+3.1
PZH				S	S	06 50 28.1	-3.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,5.7s						
PZH				LR	LR		
	comp=N,250nm,17.2s						
PZH				LR	LR		
	comp=E,360nm,15.9s						
PZH				LR	LR		
	comp=Z,450nm,18.6s						
J08A	Circle Bar Ran	51.28	67	IAmb	IAmb	06 43 46.9	
	comp=Z,19nm,1.1s						
PLID	Pearl Lake	51.42	64	IAmb	IAmb	06 43 26.4	
	comp=Z,20nm,0.7s						
FFC	Flin Flon	51.62	47	P	P	06 43 26.0	+1.0
FFC				IAmb	IAmb	06 43 27.2	
	comp=Z,14nm,1.1s						
FFC	Flin Flon	51.62	47	P	P	06 43 26.0	+1.0
FFC				pmax	pmax		
	comp=Z,14nm,1.1s						
FFC	Flin Flon	51.62	47	P	P	06 43 25.7	+0.7
FFC				PcP	PcP	06 44 38.4	+1.0
WVOR	Wild Horse Val	51.83	68	IAmb	IAmb	06 43 51.0	
	comp=Z,22nm,1.0s						
WVOR	Wild Horse Val	51.83	68	P	P	06 43 28.9	+2.0
WVOR				pmax	pmax		
	comp=Z,28nm,1.1s						
ARCES	ARCESS Array B	51.93	342	P	P	06 43 25.4	-1.6
	comp=Z,3.6nm,0.8s,baz=39,slow=7.8,SNR=7.1						
ARCES				PcP	PcP	06 44 38.4	0.0
	comp=Z,1.3nm,0.5s,baz=32,slow=5.7,SNR=5.9						
ARCES				LR	LR	07 10 24.5	
	comp=Z,33nm,18.0s,baz=44,slow=42						
	comp=Z,3.6nm,0.8s						
FCC	Fort Churchill	51.98	40	P	P	06 43 28.3	+0.7
FCC				IAmb	IAmb	06 43 56.8	
	comp=

SUMG IAmb IAmb 06 43 32.4
comp=Z,70nm,1.4s
QIZ Qiongzhong 52.44 248 P **P** **06 43 31.8 +0.3**
QIZ S **S** **06 50 52.8 +2.3**
QIZ SS **SS** **06 54 27.3 -2.1**
QIZ LR LR
comp=Z,370nm,14.8s
QIZ LR LR
comp=Z,510nm,17.3s
QIZ LR LR
comp=Z,770nm,21.3s
EGMT Eagleton 52.60 58 IAmb IAmb 06 43 34.5
comp=Z,21nm,0.9s
ARTI Arti 52.64 317 P **P** **06 43 31.3 -1.2**
ARTI Arti 52.64 317 *d* P **P** **06 43 32.2 -0.3**
ARTI *PP **pP** **06 43 55.5 -0.1**
ARTI S **S** **06 50 53.6 +1.1**
ARTI SS **SS** **06 54 33.0 +1.9**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
ARTI Arti 52.64 317 P **P** **06 43 32.2 -0.3**
ARTI pP **pP** **06 43 55.3 -0.2**
ARTI sP **sP** **06 44 06.4 +0.2**
ARTI PcP **PcP** **06 44 40.7 -0.6**
MFID Camas Ranch 52.65 66 IAmb IAmb 06 43 57.0
comp=Z,18nm,1.0s
AFDM Forest Hills D 52.96 73 IAmb IAmb 06 43 38.3
comp=Z,29nm,1.2s
DLMT Dillon 53.00 62 IAmb IAmb 06 43 38.2
comp=Z,37nm,1.3s
WUS Wushi 53.28 291 IAmb IAmb 06 44 02.3
comp=Z,23nm,1.0s
WUS Wushi 53.28 291 P **P** **06 43 37.9 +0.3**
WUS pP **pP** **06 44 00.6 0.0**
PAHR Pah Rah Range 53.31 71 IAmb IAmb 06 44 02.2
comp=Z,34nm,1.0s
SLVN Son La 53.85 255 P **P** **06 43 44.7 +2.7**
CMB Columbia Colle 53.93 73 IAmb IAmb 06 43 45.7
comp=Z,46nm,1.4s
YHL Hebgen Lake 54.07 61 IAmb IAmb 06 44 07.3
comp=Z,21nm,0.9s
ILULI Ilulissat 54.24 13 *i* P **P** **06 43 42.9 -1.1**
ILULI IAmb IAmb 06 43 45.0
comp=Z,13nm,0.9s
YMR Madison River 54.31 61 IAmb IAmb 06 44 09.5
comp=Z,26nm,0.9s
KIRV Kirov 54.39 323 LR LR 07 08 05.3
comp=Z,159nm,21.3s,baz=37,slow=37
KIRV Kirov 54.39 323 *i* P **P** **06 43 45.4 +0.2**
JMIC Jan Mayen 54.41 356 LR LR 07 05 49.5
comp=Z,23nm,19.9s,baz=64,slow=35
YNR Norris Junctio 54.42 61 IAmb IAmb 06 44 10.9
comp=Z,25nm,1.1s
AAK Ala-Archa 54.78 296 P **P** **06 43 46.1 -2.5**
AAK IAmb IAmb 06 44 13.3
comp=Z,21nm,0.9s
AAK Ala-Archa 54.78 296 *i* P **P** **06 43 48.1 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 54.78 296 P **P** **06 43 46.7 -1.9**
AAK pP **pP** **06 44 11.4 -0.2**
AAK sP **sP** **06 44 22.3 +0.3**
AAK PcP **PcP** **06 44 49.2 -0.7**
LSA Lhasa 54.78 273 P **P** **06 43 47.9 -1.2**
LSA pmax pmax
comp=Z,5.0nm,0.7s
NVAR Mina Array Bea 54.80 72 P **P** **06 43 50.9 +2.1**
NVAR Mina Array Bea 54.80 72 P **P** **06 43 51.3 +2.5**
comp=Z,27nm,0.7s,baz=297,slow=7.4,SNR=104
NVAR pP **pP** **06 44 12.4 +0.6**
comp=Z,39nm,0.8s,baz=296,slow=7.3,SNR=20
comp=Z,27nm,0.7s
ELK Elko 54.83 68 IAmb IAmb 06 43 52.4
comp=Z,22nm,0.9s
ELK Elko 54.83 68 P **P** **06 43 51.4 +2.4**
FXWY Fox Creek 55.00 62 IAmb IAmb 06 44 14.8
comp=Z,21nm,0.8s
MOOW Moose Ponds 55.07 62 IAmb IAmb 06 44 14.8
comp=Z,14nm,0.9s
LOHW Long Hollow 55.24 62 IAmb IAmb 06 44 16.2
comp=Z,22nm,0.9s
SNOW Snow King Moun 55.27 62 IAmb IAmb 06 44 16.7
comp=Z,24nm,1.1s
HVU Hansel Valley 55.41 65 IAmb IAmb 06 44 17.3
comp=Z,22nm,1.0s
AHID Auburn Hatcher 55.58 63 IAmb IAmb 06 44 18.9
comp=Z,19nm,0.9s
ICESG Greenland Ices 55.64 9 *i* P **P** **06 43 53.3 -1.2**
ICESG IAmb IAmb 06 43 55.5
comp=Z,14nm,0.7s
KLMR Klimovskoe 55.81 330 *e*P **P** **06 43 53.4 -2.0**
KLMR pmax pmax
comp=Z,40nm,1.7s
BGU Big Grassy Mou 55.88 66 IAmb IAmb 06 43 59.1
comp=Z,10.0nm,0.7s
SPUT South Promonto 55.91 65 IAmb IAmb 06 44 20.9
comp=Z,24nm,0.9s
GMN Gold Mountain 56.19 72 IAmb IAmb 06 44 23.2
comp=Z,22nm,0.8s
KSH Kashi 56.22 292 P **P** **06 44 02.4 +3.5**
KSH pP pP 06 44 25.8 +3.8
KSH ScS ScS 06 53 40.5 +1.6
KSH pmax pmax
comp=Z,2.0nm,0.6s
R11B Troy Canyon, C 56.35 70 IAmb IAmb 06 44 24.5
comp=Z,35nm,1.3s
R11B Troy Canyon, C 56.35 70 P **P** **06 44 01.9 +2.0**
baz=316,SNR=16
SFJD Kangerlussuaq 56.38 14 LR LR 07 10 13.4
comp=Z,32nm,18.5s,baz=153,slow=38
SFJD Kangerlussuaq 56.38 14 *i* P **P** **06 43 58.7 -0.6**
SFJD Kangerlussuaq 56.38 14 P **P** **06 43 58.9 -0.5**
SFJD pP **pP** **06 44 22.8 +0.2**
SFJD sP **sP** **06 44 33.9 +0.8**
SFJD PcP **PcP** **06 44 54.6 -0.7**
PD31 Pinedale Array 56.38 62 IAmb IAmb 06 44 24.0
comp=Z,25nm,0.8s
PDAR Pinedale Array 56.38 62 P **P** **06 44 01.9 +1.8**
comp=Z,16nm,0.7s,baz=326,slow=2.7,SNR=150
PDAR pP **pP** **06 44 23.2 +0.1**
comp=Z,19nm,0.8s,baz=332,slow=2.8,SNR=17
comp=Z,16nm,0.7s
KK31 Karatay Array 56.51 299 IAmb IAmb 06 44 25.1
comp=Z,16nm,0.9s
KKAR Karatay Array 56.51 299 P **P** **06 43 58.4 -2.4**
KKAR Karatay Array 56.51 299 P **P** **06 43 58.4 -2.4**
DUG Dugway, Tooele 56.52 66 P **P** **06 44 03.5 +2.5**
DUG pmax pmax
comp=Z,69nm,1.0s
TCUT Toone Canyon 56.60 65 IAmb IAmb 06 44 26.0
comp=Z,26nm,0.8s
ISA Isabella, Lake 56.70 74 IAmb IAmb 06 44 26.1
comp=Z,30nm,0.9s
WCT Wildcat Mounta 56.90 72 IAmb IAmb 06 44 27.9
comp=Z,18nm,0.8s
JLU Jordanelle 56.95 65 IAmb IAmb 06 44 28.4
comp=Z,23nm,1.0s
AKTO Aktyubinsk 57.09 312 LR LR 07 10 14.0
comp=Z,98nm,20.0s,baz=60,slow=38
ABKAR Akbulak array 57.12 310 P **P** **06 44 03.2 -1.6**
PSUT Pine Spring 57.16 68 IAmb IAmb 06 44 29.9
comp=Z,20nm,1.1s
ULM Lac du Bonnet 57.42 48 P **P** **06 44 08.2 +1.2**
comp=Z,7.9nm,0.4s,baz=321,slow=7.0,SNR=32
ULM pP **pP** **06 44 30.7 +0.6**
comp=Z,9.3nm,0.8s,baz=313,slow=6.7,SNR=5.5
ULM LR LR 07 08 43.3
comp=Z,98nm,20.2s,baz=316,slow=36
comp=Z,7.9nm,0.4s
ULM Lac du Bonnet 57.42 48 *i* P **P** **06 44 08.6 +1.6**
DY2G Dye2 57.45 13 *i* P **P** **06 44 05.9 -1.4**
DY2G IAmb IAmb 06 44 08.6
comp=Z,19nm,0.9s
TCRU Three Creeks R 57.86 67 IAmb IAmb 06 44 15.3
comp=Z,35nm,1.5s
K22A Casper 58.01 60 IAmb IAmb 06 44 35.9
comp=Z,33nm,1.1s
RSSD Black Hills 58.17 58 P **P** **06 44 14.2 +1.5**
RSSD Black Hills 58.17 58 P **P** **06 44 14.2 +1.5**
RSSD pmax pmax
comp=Z,43nm,0.8s
RSSD Black Hills 58.17 58 P **P** **06 44 14.1 +1.4**
RSSD pP **pP** **06 44 36.0 +0.2**
RSSD sP **sP** **06 44 48.1 +1.9**
P18A Preston Nutter 58.29 65 IAmb IAmb 06 44 17.9
comp=Z,16nm,0.7s

Q16A Castle Valley 58.32 66 IAmb IAmb 06 44 17.0
comp=Z,18nm,0.8s
BTK Batken 58.56 296 IAmb IAmb 06 44 40.0
comp=Z,15nm,0.8s
LCMT Little Creek M 58.60 69 IAmb IAmb 06 44 40.2
comp=Z,25nm,1.0s
V12A Nelson 58.66 71 IAmb IAmb 06 44 40.4
comp=Z,20nm,0.9s
CHTO Chiang Mai 58.66 258 P **P** **06 44 15.1 -1.0**
CHTO Chiang Mai 58.66 258 P **P** **06 44 15.1 -1.0**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 58.85 337 P **P** **06 44 15.4 -1.3**
comp=Z,2.3nm,0.4s,baz=27,slow=7.3,SNR=19
comp=Z,2.3nm,0.4s
AGMN Agassiz Nation 58.89 49 IAmb IAmb 06 44 19.2
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 58.95 258 P **P** **06 44 17.5 -0.6**
CMAR Chiang Mai Arr 58.95 258 P **P** **06 44 17.9 -0.2**
comp=Z,2.8nm,0.6s,baz=22,slow=6.5,SNR=17
CMAR pP **pP** **06 44 41.0 -0.4**
comp=Z,2.9nm,0.7s,baz=21,slow=7.0,SNR=3.8
CMAR PcP **PcP** **06 45 07.2 +0.9**
comp=Z,6.5nm,0.8s,baz=8.9,slow=3.2,SNR=12
comp=Z,2.8nm,0.6s
PFO Pinyon Flats O 59.33 74 P **P** **06 44 21.6 +0.9**
PFO IAmb IAmb 06 44 22.8
comp=Z,13nm,0.7s
PFO Pinyon Flats O 59.33 74 *i* P **P** **06 44 22.0 +1.3**
PFO pmax pmax
comp=Z,18nm,0.9s
PFO Pinyon Flats O 59.33 74 P **P** **06 44 21.9 +1.3**
PFO pP **pP** **06 44 43.5 -0.5**
N23A Red Feather La 59.59 61 P **P** **06 44 24.9 +2.3**
baz=318,SNR=15
W13A Hualapai Mount 59.66 71 IAmb IAmb 06 44 47.1
comp=Z,15nm,0.9s
BELG Belogornoye 59.81 319 LR LR 07 12 38.5
comp=Z,170nm,18.8s,baz=46,slow=38
BELG Belogornoye 59.81 319 *i* P **P** **06 44 22.8 -0.7**
BELG pmax pmax
comp=Z,3.0nm,1.0s
PV07 Paradox Valley 60.01 65 IAmb IAmb 06 44 49.4
comp=Z,21nm,0.9s
YUH Yuha Desert 60.34 75 P **P** **06 44 28.5 +1.0**
YUH IAmb IAmb 06 44 30.3
comp=Z,28nm,1.1s
DZET Dzherino 60.52 296 P **P** **06 44 26.7 -2.1**
DZET pmax pmax
comp=Z,10.0nm,1.2s
SIMJ Simiganj 60.54 296 P **P** **06 44 27.0 -2.0**
SIMJ IAmb IAmb 06 44 53.3
comp=Z,12nm,0.8s
SIMJ Simiganj 60.54 296 P **P** **06 44 26.8 -2.1**
SIMJ pP **pP** **06 44 51.4 -0.9**
ISCO Idaho Springs 60.57 62 IAmb IAmb 06 44 54.1
comp=Z,20nm,0.9s
ISCO Idaho Springs 60.57 62 P **P** **06 44 31.8 +2.5**
ISCO pmax pmax
comp=Z,29nm,1.2s
MVCO Mesa Verde 61.00 66 P **P** **06 44 33.6 +1.4**
MVCO IAmb IAmb 06 44 56.2
comp=Z,19nm,0.9s
Y14A Wickenburg 61.00 72 IAmb IAmb 06 44 56.3
comp=Z,22nm,1.0s
EYMN Ely 61.05 47 P **P** **06 44 32.3 +0.2**
EYMN IAmb IAmb 06 45 00.9
comp=Z,14nm,0.8s
VTX Valle De La Tr 61.36 75 IAmb IAmb 06 44 37.5
comp=Z,29nm,1.1s
OBN Obninsk 61.43 327 *i* P **P** **06 44 32.0 -2.4**
OBN *i* *PP **pP** **06 44 56.5 -1.5**
OBN *i* 06 45 12.3
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,108nm,16.0s
Q24A Divide 61.44 62 IAmb IAmb 06 45 00.0
comp=Z,13nm,0.9s
Q24A Divide 61.44 62 P **P** **06 44 36.9 +1.7**
baz=319
113A Mohawk Valley, 61.46 73 IAmb IAmb 06 44 59.0
comp=Z,16nm,0.9s
S22A 4UR Ranch, Cre 61.48 64 IAmb IAmb 06 44 38.9
comp=Z,26nm,1.1s
S22A 4UR Ranch, Cre 61.48 64 P **P** **06 44 37.9 +2.4**
baz=319
X16A Lo Mia Camp, P 61.50 70 IAmb IAmb 06 45 00.3
comp=Z,16nm,0.9s
ECSD EROS Data Cent 62.01 53 IAmb IAmb 06 44 40.5
comp=Z,49nm,1.5s
E38A The Farm, Brul 62.06 48 IAmb IAmb 06 45 02.6
comp=Z,25nm,1.0s
NB2 NORSAR Subarra 62.15 344 P **P** **06 44 38.4 -0.9**
comp=Z,5.8nm,0.6s,baz=21,slow=6.9
NB2 NORSAR Subarra 62.15 344 P **P** **06 44 38.7 -0.6**
NOA NORSAR Array B 62.15 344 P **P** **06 44 38.3 -1.0**
comp=Z,2.7nm,0.6s,baz=20,slow=6.7,SNR=10
NOA pP **pP** **06 45 02.6 -0.3**
comp=Z,2.1nm,0.7s,baz=20,slow=6.7,SNR=2.8
comp=Z,2.7nm,0.6s
PIX Pinacate 62.54 74 IAmb IAmb 06 44 45.3
comp=Z,32nm,1.4s
HFS Hagfors 62.58 342 P **P** **06 44 41.5 -0.7**
comp=Z,2.7nm,0.5s,baz=45,slow=7.1,SNR=12
HFS LR LR 07 17 07.2
comp=Z,32nm,21.0s,baz=354,slow=41
comp=Z,2.7nm,0.5s
SPMN Marine on St. 62.59 50 IAmb IAmb 06 44 44.3
comp=Z,21nm,1.1s
KSCO Kaye Shedlock' 62.69 61 IAmb IAmb 06 44 47.0
comp=Z,20nm,0.9s
T25A Trinidad 63.20 63 IAmb IAmb 06 45 11.6
comp=Z,18nm,1.1s
T25A Trinidad 63.20 63 P **P** **06 44 48.6 +1.8**
baz=320,SNR=7.1
TUC Tucson 63.45 71 P **P** **06 44 50.4 +2.0**
TUC pmax pmax
comp=Z,5.0nm,1.7s
TUC Tucson 63.45 71 P **P** **06 44 50.0 +1.6**
TUC pP **pP** **06 45 11.7 -0.3**
KBL Kabul 63.62 293 P **P** **06 44 47.0 -2.7**
KBL Kabul 63.62 293 P **P** **06 44 47.0 -2.7**
KBL pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 63.79 66 P **P** **06 44 52.4 +1.6**
ANMO IAmb IAmb 06 44 53.3
comp=Z,12nm,0.7s
ANMO Albuquerque 63.79 66 *i* P **P** **06 44 52.4 +1.6**
ANMO pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 63.79 66 P **P** **06 44 52.5 +1.7**
ANMO pP **pP** **06 45 14.1 -0.1**
ANMO sP **PcP** **06 45 26.9 +0.9**
SCHQ Schefferville 64.05 28 P **P** **06 44 50.8 -1.1**
comp=Z,2.6nm,0.7s,baz=348,slow=7.1,SNR=7.6
SCHQ pP **pP** **06 45 14.3 -1.3**
comp=Z,5.8nm,0.9s,baz=342,slow=7.2,SNR=4.9
comp=Z,2.6nm,0.7s
Y22D IRIS PASSCAL I 64.20 67 P **P** **06 44 56.0 +2.6**
baz=320
CBKS Cedar Bluff 64.29 59 IAmb IAmb 06 45 17.4
comp=Z,22nm,0.9s
MNK Minsk 64.51 332 *i* P **P** **06 44 54.8 -0.1**
MNK *i* *PP **pP** **06 45 19.7 +1.1**
MNK *i* 06 45 28.4
MNK *i* 06 47 17.3
MNK *i* PPP PPP 06 48 49.4
MNK *i* S **S** **06 53 25.5 -0.8**
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=E,13nm,0.9s
MNK MLR MLR
comp=E,488nm,18.0s
MNK MLR MLR
comp=N,594nm,19.0s
MNK MLR MLR
comp=Z,78nm,16.0s
RTBA Rita Blanca 64.59 63 IAmb IAmb 06 44 58.0
comp=Z,33nm,0.8s
121A Cookes Peak, D 64.92 69 IAmb IAmb 06 45 01.8
comp=Z,21nm,1.1s
121A Cookes Peak, D 64.92 69 P **P** **06 45 00.4 +2.3**
baz=320,SNR=9.8

SBUM Sibu 65.28 236 P **P** **06 45 00.3 -0.1**
SBUM IAmb IAmb 06 45 04.2
comp=Z,22nm,1.1s
SBUM Sibu 65.28 236 P **P** **06 45 02.4 +2.0**
KSU1 Kansas State U 65.60 57 IAmb IAmb 06 45 03.1
comp=Z,15nm,0.9s
N38A Joes South For 65.87 53 IAmb IAmb 06 45 05.4
comp=Z,22nm,0.7s
NOKA Waynoka 66.38 60 IAmb IAmb 06 45 08.7
comp=Z,32nm,0.9s
KAN01 Argonia South 66.56 59 IAmb IAmb 06 45 09.4
comp=Z,25nm,0.8s
KSM Kuching 67.05 237 P **P** **06 45 13.9 +2.2**
AKASG Malin Array Be 67.49 329 P **P** **06 45 12.8 -1.2**
comp=Z,2.3nm,0.6s,baz=30,slow=6.1,SNR=10
AKASG pP **pP** **06 45 36.6 -1.4**
comp=Z,1.8nm,0.5s,baz=31,slow=6.3,SNR=4.0
AKASG LR LR 07 18 59.3
comp=Z,98nm,18.2s,baz=52,slow=40
comp=Z,2.3nm,0.6s
AKBB Malin Array Si 67.49 329 *i* P **P** **06 45 12.2 -1.8**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AK16 Malin Array Si 67.55 329 P **P** **06 45 13.7 -0.7**
DKNS Dickens 67.68 63 IAmb IAmb 06 45 17.7
comp=Z,25nm,0.9s
OK029 Liberty Lake 67.78 59 IAmb IAmb 06 45 17.7
comp=Z,35nm,1.3s
VHRN Van Horn 67.78 68 IAmb IAmb 06 45 19.3
comp=Z,22nm,0.8s
WMOK Wichita Mounta 67.94 61 IAmb IAmb 06 45 19.3
comp=Z,30nm,0.9s
WMOK Wichita Mounta 67.94 61 P **P** **06 45 18.4 +1.2**
WMOK AP **pP** **06 45 40.3 -0.6**
OK052 Battle Ridge R 67.94 59 IAmb IAmb 06 45 18.7
comp=Z,21nm,1.1s
OK031 S. Brethren Rd 67.96 59 IAmb IAmb 06 45 18.8
comp=Z,22nm,1.1s
ODSA Odessa 68.04 65 IAmb IAmb 06 45 20.1
comp=Z,19nm,0.9s
DEOK Depew 68.22 59 IAmb IAmb 06 45 20.5
comp=Z,36nm,1.3s
FNO Franklin 68.23 60 IAmb IAmb 06 45 21.1
comp=Z,35nm,1.2s
SN05 Snyder 5 68.32 64 IAmb IAmb 06 45 21.4
comp=Z,14nm,0.6s
APMT Aspermont 68.36 63 IAmb IAmb 06 45 21.6
comp=Z,22nm,0.8s
X34A Smith Ranch, M 68.53 60 IAmb IAmb 06 45 23.4
comp=Z,30nm,1.2s
MNHN Monahans 68.53 66 IAmb IAmb 06 45 23.3
comp=Z,28nm,0.7s
W35A Tecumseh 68.57 59 IAmb IAmb 06 45 23.1
comp=Z,60nm,1.4s
KIV Kislovodsk 68.59 317 *e*P **P** **06 45 21.4 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,59nm,17.0s
KBZ Khabaz 68.69 317 P **P** **06 45 21.3 -0.3**
comp=Z,5.0nm,0.8s,baz=49,slow=3.4,SNR=13
KBZ pP **PcP** **06 45 45.9 0.0**
comp=Z,14nm,0.9s,baz=76,slow=2.5,SNR=8.4
KBZ LR LR 07 17 37.3
comp=Z,99nm,21.0s,baz=33,slow=38
comp=Z,5.0nm,0.8s
KBZ Khabaz 68.69 317 *i* P **P** **06 45 21.9 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
SHA1 Shidzhatmaz 68.78 317 *i* P **P** **06 45 22.8 +0.3**
ALPN Alpine 68.82 67 IAmb IAmb 06 45 25.3
comp=Z,19nm,0.9s
SGCY Sterling City 68.95 64 IAmb IAmb 06 45 25.7
comp=Z,26nm,0.8s
CCM Cathedral Cave 68.98 54 P **P** **06 45 23.2 -0.4**
CCM IAmb IAmb 06 45 47.4
comp=Z,37nm,1.2s
CCM Cathedral Cave 68.98 54 P **P** **06 45 23.2 -0.4**
CCM pmax pmax
comp=Z,37nm,1.2s
CCM Cathedral Cave 68.98 54 P **P** **06 45 23.9 +0.3**
CCM pP **PcP** **06 45 45.7 -1.5**
CCM sP **sP** **06 45 58.5 +0.9**
HHAR Hobbs 69.12 57 IAmb IAmb 06 45 25.2
comp=Z,22nm,0.7s
FVM French Village 69.42 53 IAmb IAmb 06 45 49.7
comp=Z,24nm,0.8s
EKA Eskdalemuir Ar 69.58 350 P **P** **06 45 25.5 -1.4**
comp=Z,3.4nm,0.6s,baz=19,slow=5.0,SNR=8.5
EKA pP **PcP** **06 45 49.5 +0.1**
comp=Z,0.9nm,0.5s,baz=20,slow=4.0,SNR=2.3
comp=Z,3.4nm,0.6s
TX31 Lajitas Ar. Si 69.62 68 IAmb IAmb 06 45 30.5
comp=Z,30nm,0.7s
TXAR Lajitas Array 69.62 68 P **P** **06 45 29.3 +1.5**
TXAR Lajitas Array 69.62 68 P **P** **06 45 29.4 +1.7**
comp=Z,21nm,0.6s,baz=296,slow=5.0,SNR=364
TXAR pP **pP** **06 45 51.1 -0.5**
comp=Z,6.2nm,0.6s,baz=298,slow=4.6,SNR=5.6
comp=Z,21nm,0.6s
TXAR Lajitas Array 69.62 68 P **P** **06 45 29.3 +1.5**
FW03 Perrin-Whitt E 69.64 62 IAmb IAmb 06 45 29.4
comp=Z,17nm,0.8s
T42A Van Buren 69.88 54 IAmb IAmb 06 45 30.3
comp=Z,48nm,1.7s
SAND Sanderson 69.96 66 IAmb IAmb 06 45 32.3
comp=Z,23nm,1.0s
COEN Coen 69.99 198 P **P** **06 45 29.8 0.0**
COEN IAmb IAmb 06 45 54.4
comp=Z,27nm,0.9s
COEN Coen 69.99 198 P **P** **06 45 30.1 +0.3**
comp=Z,30nm,1.1s
LPIG La Paz 70.05 76 LR LR 07 14 26.4
comp=Z,26nm,18.2s,baz=336,slow=34
SIUC Southern Illin 70.20 52 IAmb IAmb 06 45 54.5
comp=Z,18nm,0.7s
FCAR Ozark Folk Cen 70.31 56 IAmb IAmb 06 45 32.9
comp=Z,21nm,0.9s
PBMO Poplar Bluff 70.39 54 IAmb IAmb 06 45 57.2
comp=Z,30nm,1.1s
MIAR Mount Ida 70.69 57 P **P** **06 45 35.0 +0.9**
MIAR AP **pP** **06 45 57.6 -0.4**
WHAR Wooly Hollow 70.72 56 IAmb IAmb 06 45 58.4
comp=Z,66nm,1.7s
JCT Junction City 70.77 64 IAmb IAmb 06 45 36.8
comp=Z,34nm,0.8s
ACSO Alum Creek Sta 70.88 47 IAmb IAmb 06 45 36.4
comp=Z,20nm,0.8s
STHS Stebnicka Huta 70.88 333 *e*P **P** **06 45 35.0 0.0**
STHS *e* 06 48 13.1
STHS Stebnicka Huta 70.88 333 *e*P **P** **06 45 35.0 0.0**
STHS *e*PP **PP** **06 48 13.0 +0.5**
TREL Terrell 70.89 60 IAmb IAmb 06 45 37.0
comp=Z,18nm,0.9s
GNI Garni 70.92 313 LR LR 07 22 47.2
comp=Z,65nm,18.1s,baz=50,slow=41
CLL Collm 71.04 339 *i* P **P** **06 45 36.2 +0.3**
CLL *e*PP **pP** **06 45 59.0 -1.0**
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 71.04 339 *i* P **P** **06 45 36.2 +0.3**
comp=Z,12nm,1.1s
CLL *e*(pP) **pP** **06 45 59.0 -1.0**
KOLS Kolonicke sedl 71.05 333 *e*P **P** **06 45 36.1 0.0**
KOLS Kolonicke sedl 71.05 333 *e*P **P** **06 45 36.1 0.0**
WCI Wyandotte Cave 71.10 50 P **P** **06 45 36.2 -0.3**
WCI Wyandotte Cave 71.10 50 P **P** **06 45 36.2 -0.3**
WCI pmax pmax
comp=Z,18nm,1.0s
DRIO Del Rio 71.18 66 IAmb IAmb 06 45 39.1
comp=Z,21nm,0.9s
DPC Dobruska-Polom 71.22 337 *e*P **P** **06 45 37.3 +0.2**
DPC Dobruska-Polom 71.22 337 *e*P **P** **06 45 37.3 +0.2**
DPC Dobruska-Polom 71.22 337 P **P** **06 45 37.5 +0.4**
BUR08 Bucovina Ar. S 71.41 330 P **P** **06 45 37.5 -0.9**
HYB Hyderabad 71.55 274 *e*P **P** **06 45 38.5 -1.0**
LANS Liptovska Anna 71.58 334 *e*P **P** **06 45 40.7 +1.4**
LANS Liptovska Anna 71.58 334 *e*P **P** **06 45 40.7 +1.4**
WLAR White Oak Lake 71.61 58 IAmb IAmb 06 46 03.5
comp=Z,23nm,1.0s
435B Jarrell 71.68 63 P **P** **06 45 41.0 +0.9**
baz=323
PSI Prapat 71.78 248 P **P** **06 45 40.5 -0.5**
PSI pmax pmax
comp=Z,10.0nm,1.0s
MTN Manton Dam 71.80 211 IAmb IAmb 06 45 45.3

comp=Z,31nm,1.1s
RPSI Rantau Prapat 71.87 248 P **P 06 45 40.5 -0.9**
WVT Waverly 72.13 52 P **P 06 45 43.5 +0.8**
WVT IAmb IAmb 06 46 07.2
comp=Z,80nm,1.6s
WVT Waverly 72.13 52 P **P 06 45 43.5 +0.8**
WVT pmax pmax
comp=Z,80nm,1.7s
NATX Nacogdoches 72.39 60 IAmb IAmb 06 45 46.6
comp=Z,27nm,0.9s
ZVC Zvikov 72.55 338 *e*P **P 06 45 45.3 +0.3**
833A Chaparral WMA, 72.70 66 P **P 06 45 47.5 +1.3**
baz=323
KOPT Kop Dagi 72.78 316 P **P 06 45 46.9 0.0**
KOPT IAmb IAmb 06 46 16.3
comp=Z,25nm,1.1s
HNVL Huntsville, TX 72.79 61 IAmb IAmb 06 45 49.5
comp=Z,47nm,0.9s
MODS Modra-Piesok 72.84 336 *e*P **P 06 45 45.3 -1.5**
MODS Modra-Piesok 72.84 336 *e*P **P 06 45 45.2 -1.5**
GRF Grafenberg Arr 72.93 340 *e*P **P 06 45 49.4 +2.1**
comp=Z,8.4nm,1.2s,baz=19,slow=5.2
GRF *e*pP **pP 06 46 14.1 +2.6**
PLAL Pickwick Lake 72.96 53 IAmb IAmb 06 46 11.8
comp=Z,32nm,1.1s
KHC Kasperske Hory 72.97 338 *e*P **P 06 45 45.4 -2.2**
KHC Kasperske Hory 72.97 338 *i* P **P 06 45 48.4 +0.8**
KHC pmax pmax
comp=Z,11nm,1.2s
MEM Membach 73.00 344 *d*P **P 06 45 47.7 +0.1**
comp=Z,12nm,0.9s
MLR Muntele Rosu 73.13 329 LR LR 07 22 09.4
comp=Z,105nm,18.2s,baz=53,slow=39
GERES GERESS Array B 73.22 338 P **P 06 45 48.2 -0.9**
comp=Z,1.6nm,0.5s,baz=38,slow=6.8,SNR=6.1
comp=Z,1.6nm,0.5s
CONA Conrad Observa 73.59 336 *e*P **P 06 45 51.9 +0.6**
comp=Z,4.5nm,0.9s
MSVF Nonsavu 73.59 163 P **P 06 45 53.9 +2.4**
comp=Z,3.7nm,0.2s,baz=236,slow=24,SNR=4.1
comp=Z,3.7nm,0.2s
RONA Rosalia, Austr 73.70 336 *e*P **P 06 45 51.8 -0.1**
comp=Z,2.7nm,0.7s
DOU Dourbes 73.72 344 *d*P **P 06 45 51.8 -0.1**
MOA Molln 74.03 337 *e*P **P 06 45 52.5 -1.3**
comp=Z,5.5nm,1.0s
HBVL Hebbronville 74.09 66 IAmb IAmb 06 45 58.2
comp=Z,55nm,1.4s
BIOA Bad Ischl, Aus 74.32 338 *e*P **P 06 45 54.9 -0.6**
comp=Z,2.0nm,0.7s
S57A Dark Hollow, R 74.65 45 IAmb IAmb 06 45 59.2
comp=Z,18nm,0.8s
LESA Schwarzleotal 74.78 338 *i* P **P 06 45 58.8 +0.6**
comp=Z,3.0nm,0.8s
SOKA Soboth 74.96 336 *e*P **P 06 46 00.9 +1.7**
comp=Z,2.6nm,0.6s
KBA Koelnbreinsper 74.97 338 *i* P **P 06 46 00.2 +0.8**
comp=Z,5.9nm,0.6s
KBA Koelnbreinsper 74.97 338 P **P 06 46 00.0 +0.6**
LRAL Lakeview Retre 75.07 54 IAmb IAmb 06 46 00.8
comp=Z,12nm,0.6s
WATA Walderalm 75.10 339 *e*P **P 06 46 00.6 +0.5**
comp=Z,2.4nm,0.5s
RETA Reutte 75.13 340 *e*P **P 06 46 00.2 0.0**
comp=Z,5.5nm,1.2s
MOTA Moosalm 75.19 339 *e*P **P 06 46 00.9 +0.2**
comp=Z,5.0nm,0.9s
OBKA Obir 75.23 337 *e*P **P 06 46 01.0 +0.2**
comp=Z,7.5nm,1.1s
SQTA Sankt Quirin 75.29 339 *i* P **P 06 46 01.8 +0.6**
comp=Z,6.1nm,0.8s
MYKA Terra Mystica 75.33 337 *e*P **P 06 46 01.4 +0.1**
comp=Z,2.3nm,0.4s
ABTA Abfaltersbach 75.46 338 *i* P **P 06 46 01.8 -0.3**
comp=Z,9.4nm,1.0s
DAVA Damuels 75.49 340 *e*P **P 06 46 02.3 -0.1**
comp=Z,6.5nm,1.1s
FETA Feichten 75.58 339 *i* P **P 06 46 03.5 +0.7**
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 75.68 321 P **P 06 46 02.7 -0.9**
comp=Z,0.9nm,0.5s,baz=126,slow=0.6,SNR=3.1
BRTR pP **pP 06 46 27.5 -0.4**
comp=Z,2.3nm,0.8s,baz=29,slow=4.6,SNR=3.4
BRTR LR LR 07 21 56.7
comp=Z,45nm,21.0s,baz=28,slow=38
comp=Z,0.9nm,0.5s
TUE Stuetta 76.38 340 P **P 06 46 07.5 0.0**
DZM Mont Dzumac 76.58 175 *e*LR LR 07 09 46.2
comp=Z,149nm,34.4s
DZM Mont Dzumac 76.58 175 P **P 06 46 11.0 +2.5**
comp=Z,14nm,0.9s,baz=212,slow=21,SNR=3.6
comp=Z,14nm,0.9s
WB0 Warramunga Arr 77.52 205 P **P 06 46 11.3 -2.5**
WB2 Warramunga Arr 77.70 205 P **P 06 46 14.1 -0.7**
WRA Warramunga Arr 77.70 205 P **P 06 46 15.9 +1.1**
comp=Z,5.4nm,0.5s,baz=18,slow=6.0,SNR=23
WRA pP **pP 06 46 38.9 0.0**
comp=Z,8.5nm,0.7s,baz=20,slow=5.9,SNR=9.0
comp=Z,5.4nm,0.5s
NRCA Norcia 79.04 336 IAmb IAmb 06 46 23.6
comp=Z,22nm,0.9s
TAOE Nuku Hiva Isla 80.15 121 *e*LR LR 07 11 12.8
comp=Z,202nm,30.0s
EIDS Eidsvold 80.15 189 P **P 06 46 28.9 +0.8**
EIDS IAmb IAmb 06 46 30.6
comp=Z,12nm,0.6s
EIDS Eidsvold 80.15 189 P **P 06 46 29.5 +1.5**
MMAI Mount Meron Ar 80.89 316 LR LR 07 25 15.5
comp=Z,32nm,20.6s,baz=8.5,slow=38
ASF Jabal al Asfar 81.01 315 LR LR 07 26 33.8
comp=Z,71nm,21.3s,baz=63,slow=39
AS01 Alice Springs 81.37 205 P **P 06 46 36.5 +1.9**
ASAR Alice Springs 81.38 205 P **P 06 46 36.2 +1.6**
comp=Z,6.3nm,0.7s,baz=17,slow=4.9,SNR=28
ASAR pP **pP 06 46 58.8 -0.3**
comp=Z,7.4nm,0.8s,baz=14,slow=5.3,SNR=7.0
comp=Z,6.3nm,0.7s
QLP Quilpie 82.17 195 P **P 06 46 40.9 +2.2**
PPT2 Papeete2 83.41 133 *e*LR LR 07 12 51.1
comp=Z,367nm,30.5s
PPT2 *e*LR LR 07 13 01.6
comp=Z,205nm,28.8s
VAE Valguarnera 83.79 334 LR LR 07 29 52.2
comp=Z,41nm,19.4s,baz=52,slow=40
POLO Lamas de Olo 83.84 351 *e*P **P 06 46 49.1 +1.6**
INKA Innaminka 83.88 198 P **P 06 46 49.4 +1.9**
PVRL Vila Real 83.93 351 *e*P **P 06 46 49.0 +1.0**
PVRL *i* Amb 06 46 50.4
comp=Z,29nm,1.5s
MVO Moncorvo 83.97 351 *e*P **P 06 46 48.8 +0.6**
MVO *i* Amb 06 46 50.5
comp=Z,17nm,1.5s
EIL Elat 84.00 315 LR LR 07 29 32.8
comp=Z,50nm,19.5s,baz=66,slow=39
PVIS Viseu 84.50 351 *e*P **P 06 46 51.6 +0.8**
RAYN Ar Rayn 84.56 304 P **P 06 46 50.5 -0.9**
MTE Manteigas 84.78 351 IAmb IAmb 06 46 54.0
comp=Z,26nm,0.9s
MTE Manteigas 84.78 351 *e*P **P 06 46 53.1 +0.8**
MTE *i* Amb 06 46 54.1
comp=Z,36nm,1.0s
MTE *e*pP **pP 06 47 17.3 +0.3**
COI Coimbra 85.05 352 IAmb IAmb 06 46 55.9
comp=Z,33nm,0.8s
COI Coimbra 85.05 352 *e*P **P 06 46 54.5 +1.0**
COI *i* Amb 06 46 55.6
comp=Z,47nm,0.9s
ESBB Sonseca Array 85.13 348 IAmb IAmb 06 46 55.7
comp=Z,21nm,0.9s
ESDC Sonseca Array 85.13 348 P **P 06 46 54.5 +0.5**
ESDC Sonseca Array 85.13 348 P **P 06 46 54.7 +0.7**
comp=Z,15nm,0.8s,baz=1.5,slow=5.1,SNR=85
ESDC pP **pP 06 47 18.5 -0.4**
comp=Z,7.9nm,0.8s,baz=0.9,slow=4.7,SNR=7.4
comp=Z,15nm,0.8s
PCAS Casmilo, Conde 85.21 352 *e*P **P 06 46 55.1 +0.8**
PCAS *i* Amb 06 46 56.5
comp=Z,36nm,1.4s
PCAS *e*pP **pP 06 47 18.8 -0.3**
PAB San Pablo 85.30 349 P **P 06 46 54.8 -0.1**
PAB San Pablo 85.30 349 P **P 06 46 54.8 -0.1**
PAB pmax pmax
comp=Z,11nm,0.9s
PCBR Castelo Branco 85.33 351 *e*P **P 06 46 55.9 +0.9**
PCBR *i* Amb 06 46 56.6
comp=Z,31nm,1.2s
PCBR *e*pP **pP 06 47 19.6 -0.1**

PMRV Marv??o 85.73 351 *e*P **P 06 46 58.6 +1.7**
PMTG Montargil 86.16 351 *e*P **P 06 46 59.3 +0.3**
KEST Kesra 86.68 337 P **P 06 47 02.0 +0.3**
comp=Z,7.9nm,0.8s,baz=310,slow=4.5,SNR=5.1
KEST LR LR 07 30 55.3
comp=Z,36nm,18.8s,baz=306,slow=39
comp=Z,7.9nm,0.8s
PBAR Barrancos 86.94 350 *e*P **P 06 47 03.5 +0.6**
PBEJ Beja 87.16 351 *e*P **P 06 47 04.7 +0.7**
MESJ Messejana 87.38 351 *e*P **P 06 47 05.5 +0.5**
MESJ *i* Amb 06 47 08.7
comp=Z,41nm,1.7s
PCVE Castro Verde 87.57 351 *e*P **P 06 47 06.6 +0.7**
STKA Stephens Creek 87.78 196 P **P 06 47 06.9 +0.2**
comp=Z,4.8nm,0.9s,baz=337,slow=8.6,SNR=5.7
comp=Z,4.8nm,0.9s
TBI Tubuai 88.59 135 *e*LR LR 07 15 18.6
comp=Z,558nm,26.8s
BOSA Boshof 138.82 291 PKP **PKPdf 06 53 44.7 +1.1**
comp=Z,1.7nm,0.6s,baz=52,slow=5.2,SNR=4.0
PLCA Paso Flores 143.56 89 PKPbc 06 53 49.9 +0.5
PLCA Paso Flores 143.56 89 PKP PKPbc 06 53 50.1 +0.7
comp=Z,3.0nm,0.6s,baz=284,slow=3.4,SNR=20
QSPA South Pole Qui 144.42 180 PKPdf PKPbc 06 53 51.1 0.0
QSPA South Pole Qui 144.42 180 PKP **PKPab 06 53 51.0 +0.2**
comp=Z,22nm,0.6s,baz=314,slow=0.8,SNR=100
AY01 Puyuhuapi 144.63 96 **PKPdf 06 53 53.0 -0.2**
TROLL Troll, Antarti 160.29 200 P **PKPab 06 54 57.1 +0.3**
TROLL Troll, Antarti 160.29 200 ⇑P **PKPab 06 54 57.1 +0.3**
comp=Z,429nm,0.6s
SNAA Sanae 161.54 196 P **PKPab 06 55 01.2 -0.9**
SNAA Sanae 161.54 196 ⇑P **PKPab 06 55 01.2 -0.9**
comp=Z,48nm,0.6s
SNAA Sanae 161.54 196 PKPab **PKPab 06 55 02.1 0.0**
comp=Z,2.0nm,0.7s,baz=14,slow=21,SNR=2.3

NEIC ***13*** *06:50:01.1±2.4, 9.80N±0.08°, 126.51E±0.09, h10km±1km, mb5.0/159, Error ellipse: s-maj=15.0km s-min=12.6km az=77.0*
DJA ***13*** *06:50:05.8±0.5, 10°N±4°, 12°E±°, h60km±4km, M5.2/70, mb5.1/70, mB5.5/25, MLv5.7/5, Mw(mB)5.0/25*
IDC ***13*** *06:50:05.4±1.6, 9.58N, 126.25E, h47km±14km, mb4.4/32, mbtmp4.6/34, ML4.0/2, MS4.0/43, Error ellipse: s-maj=18.2km s-min=9.1km az=74.0*
BJI ***13*** *06:50:05.1, 9.64N, 126.10E, h50km, mB5.0/16, mb4.7/61, Ms4.4/35, Ms7 4.3/39*
ISC 13 06:50:05.7±0.3, 9.67N±0.04, 126.42E±0.06, h50km, n314, σ1°40/232, mb4.9/141, MS4.1/51, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71**	**198**	Pn	Pn		Pn	06 50 49.6	+2.8
DAV	**Davao City (W)**	**2.71**	**198**	P	Pn		Pn	06 50 50.5	+3.7
995nm,0.5s,baz=74,slow=3.0,SNR=16									
DAV				S	Sn		Sn	06 51 26.6	+8.1
2μm,0.5s,baz=116,slow=22,SNR=9.0									
DAV				LR	LR		LR	06 51 41.8	
comp=Z,3μm,18.1s,baz=14,slow=37									
DAV	**Davao City (W)**	**2.71**	**198**	P	Pn		Pn	06 50 53.0	+6.1
SGSI	**Sangihe**	**6.01**	**189**	P	Pn		Pn	06 51 35.3	+3.2
TGY	**Tagaytay City**	**6.95**	**310**	P	**Pn**		**Pn**	**06 51 48.4**	**+3.4**
667nm,0.9s,baz=282,slow=3.5,SNR=8.0									
TGY				LR	LR		LR	06 54 46.0	
comp=Z,3μm,19.2s,baz=168,slow=41									
I39PW	**PALAU INFRASON**	**8.31**	**104**	I	I		I	07 44 20.0	
baz=283,slow=301,SNR=0.7									
TNTI	**Ternate**	**8.89**	**174**	Pn	**Pn**		**Pn**	**06 52 13.5**	**+1.9**
TNTI	**Ternate**	**8.89**	**174**	P	**Pn**		**Pn**	**06 52 14.9**	**+3.3**
MYLDM	**Lahad Datu**	**9.03**	**241**	Pn	**Pn**		**Pn**	**06 52 15.3**	**+1.7**
KMSI	**Cibinong**	**9.36**	**195**	P	**Pn**		**Pn**	**06 52 19.5**	**+1.5**
288nm,0.9s									
MRSI	**Marisa**	**10.16**	**206**	P	Pn		Pn	06 52 31.5	+2.5
71nm,0.9s									
TOLI2	**Tolitoli**	**10.19**	**214**	Pn	**Pn**		**Pn**	**06 52 30.2**	**+0.8**
LBMI	**Labuha**	**10.29**	**174**	P	**Pn**		**Pn**	**06 52 33.0**	**+2.1**
169nm,0.7s									
KKM	**Kota Kinabalu**	**10.73**	**251**	Pn	**Pn**		**Pn**	**06 52 38.4**	**+1.4**
LUWI	**Luwuk**	**11.24**	**199**	Pn	**Pn**		**Pn**	**06 52 44.9**	**+1.1**
LUWI	**Luwuk**	**11.24**	**199**	P	Pn		Pn	06 52 48.5	+4.7
8μm188nm,0.8s									
SWI	**Sorong**	**11.52**	**155**	P	**Pn**		**Pn**	**06 52 49.8**	**+2.2**
53nm,0.5s									
APSI	**Ampana**	**11.54**	**205**	P	Pn		Pn	06 52 51.4	+3.6
126nm,1.2s									
SANI	**Sanana**	**11.65**	**182**	P	**Pn**		**Pn**	**06 52 46.8**	**-2.6**
NLAI	**Namlea**	**12.84**	**177**	P	**Pn**		**Pn**	**06 53 05.1**	**-0.5**
53nm,0.5s									
MSAI	**Masohi**	**13.17**	**169**	P	**Pn**		**Pn**	**06 53 11.0**	**+0.9**
3μm90nm,0.8s									
RKPI	**Ransiki, Papua**	**13.53**	**145**	P	**Pn**		**Pn**	**06 53 15.7**	**+0.7**
119nm,1.2s									
FAKI	**Fak Fak**	**13.79**	**155**	Pn	**Pn**		**Pn**	**06 53 18.3**	**-0.3**
FAKI	**Fak Fak**	**13.79**	**155**	P	**Pn**		**Pn**	**06 53 19.3**	**+0.7**
1μm61nm,0.6s									
KDI	**Kendari**	**14.06**	**196**	P	**P**		**P**	**06 53 24.5**	**-4.2**
24nm,0.8s									
TTSI	**Tana Toraja**	**14.24**	**208**	P	**P**		**P**	**06 53 28.5**	**-2.2**
60nm,0.8s									
BAKI	**Biak**	**14.47**	**138**	P	**Pn**		**Pn**	**06 53 28.3**	**+0.6**
73nm,1.0s									
TPUB	**Ta-pu**	**14.64**	**338**		**P**		**P**	**06 53 33.8**	**-1.4**
SSLB	**Suanglung**	**14.98**	**340**		**P**		**P**	**06 53 37.3**	**-1.7**
SPSI	**Sidrap Palu**	**15.08**	**206**	P	**P**		**P**	**06 53 40.4**	**+0.4**
8μm49nm,0.9s									
SBUM	**Sibu**	**15.83**	**244**		**P**		**P**	**06 53 49.1**	**+0.7**
KAPI	**Kappang**	**16.03**	**205**		**P**		**P**	**06 53 50.7**	**+0.1**
KAPI	**Kappang**	**16.03**	**205**	P	**Pn**		**Pn**	**06 53 47.1**	**-0.8**
0.4nm,0.3s,baz=53,slow=12,SNR=7.9									
KAPI				LR	LR		LR	07 01 23.2	
comp=Z,365nm,19.3s,baz=14,slow=43									
6.2nm,0.5s									
BKSI	**Bulukumba**	**16.16**	**203**	P	**P**		**P**	**06 53 50.2**	**-1.9**
41nm,0.9s									
SMPI	**Sarmi**	**16.85**	**133**	P	**Pn**		**Pn**	**06 53 57.8**	**-0.4**
98nm,1.4s									
QZH	**Quanzhou**	**16.92**	**335**	*e*P	**Pn**		**Pn**	**06 53 56.3**	**-2.7**
QZH				pmax	pmax				
comp=Z,36nm,1.0s									
QZH				LR	LR				
comp=N,900nm,15.5s									
QZH				LR	LR				
comp=E,680nm,17.2s									
QZH				LR	LR				
comp=Z,1μm,16.1s									
JOW	**Kunigami**	**17.16**	**6**	P	**Pn**		**Pn**	**06 53 60.0**	**-2.1**
34nm,0.9s,baz=156,slow=7.3,SNR=2.4									
STKI	**Sintang**	**17.67**	**238**	P	**P**		**P**	**06 54 11.3**	**+2.5**
12μm81nm,0.9s									
DLV	**Lat**	**17.76**	**279**	P	**P**		**P**	**06 54 11.1**	**+1.1**
KSM	**Kuching**	**17.98**	**244**	P	**P**		**P**	**06 54 13.6**	**+1.4**
GUMO	**Guam**	**18.48**	**76**	LR	LR		LR	07 01 57.2	
comp=Z,381nm,18.1s,baz=242,slow=38									
JAY	**Jayapura**	**18.68**	**130**	P	**P**		**P**	**06 54 20.6**	**+0.6**
0.9nm,0.3s,baz=271,slow=6.5,SNR=3.6									
JAY				LR	LR		LR	07 01 09.8	
comp=Z,630nm,18.6s,baz=337,slow=35									
19nm,0.8s									
SOEI	**Soe**	**19.42**	**186**		**Pn**		**Pn**	**06 54 30.0**	**+0.4**
SOEI				IAmb	IAmb		IAmb	06 54 43.2	
comp=Z,80nm,0.6s									
SOEI	**Soe**	**19.42**	**186**	P	**Pn**		**Pn**	**06 54 29.7**	**+0.1**
comp=Z,2μmcomp=Z,216nm,1.1s									
PLAI	**Plampang**	**20.29**	**205**	P	Pn		Pn	06 54 41.1	+1.3
PLAI	**Plampang**	**20.29**	**205**	P	Pn		Pn	06 54 40.4	+0.6
comp=Z,771nmcomp=Z,58nm,0.8s									
WBSI	**Waikabubak, Su**	**20.42**	**200**	P	Pn		Pn	06 54 40.0	-1.4
comp=Z,56nm,0.7s									
KMMI	**Kalianget**	**20.73**	**217**	P	Pn		Pn	06 54 46.1	+1.0
comp=Z,86nm,1.1s									
UBPT	**Khong Chiam**	**21.20**	**287**	P	**P**		**P**	**06 54 48.0**	**+0.8**
GULI	**GuiLin**	**21.78**	**318**	P	**P**		**P**	**06 54 52.6**	**-0.8**
GULI				S	**S**		**S**	**06 58 48.8**	**-2.9**
GULI				pmax	pmax				
comp=Z,10.0nm,1.0s									
GULI				pmax	pmax				
comp=Z,80nm,5.4s									
GULI				LR	LR				
comp=Z,430nm,21.9s									
GULI				LR	LR				
comp=Z,580nm,21.9s									
GULI				LR	LR				
comp=Z,630nm,20.1s									
GMJI	**Gumukmas**	**22.02**	**216**	P	**P**		**P**	**06 54 59.3**	**+3.3**
DRS	**Darwin Rock St**	**22.40**	**168**	P	**P**		**P**	**06 55 00.0**	**-0.1**

TPI Tanjungpandan 22.41 237 P **P 06 55 00.9 +0.6**
comp=Z,739nmcomp=Z,28nm,0.7s
NGJI Ngawi 22.55 222 P **P 06 55 05.5 +3.7**
comp=Z,69nm,0.7s
JCJ Chichijima 22.85 39 LR LR 07 02 01.6
comp=Z,334nm,21.7s,baz=252,slow=31
MTN Manton Dam 22.85 168 P **P 06 55 04.9 +0.1**
MTN IAmb IAmb 06 55 20.2
comp=Z,43nm,0.6s
MTN Manton Dam 22.85 168 P **P 06 55 05.6 +0.7**
comp=Z,51nm,0.5s
SMRI Semarang 23.01 224 P **P 06 55 07.1 +0.6**
SMRI Semarang 23.01 224 P **P 06 55 09.1 +2.5**
comp=Z,174nm,1.3s
KDU Kakadu 23.01 165 P **P 06 55 04.9 -1.7**
comp=Z,49nm,0.8s
KDU Kakadu 23.01 165 P **P 06 55 04.8 -1.7**
NJ2 Nanjing 23.35 344 *e*P **P 06 55 10.1 +0.4**
NJ2 pP **pP 06 55 23.3 +2.4**
NJ2 sP **sP 06 55 29.5 +2.9**
NJ2 pmax pmax
comp=Z,28nm,0.9s
NJ2 LR LR
comp=Z,390nm,18.5s
NJ2 LR LR
comp=Z,490nm,15.3s
NJ2 LR LR
comp=Z,490nm,16.3s
WHN Wuhan 23.62 333 P **P 06 55 13.0 +0.7**
WHN pmax pmax
comp=Z,84nm,1.2s
WHN LR LR
comp=Z,1μm,14.5s
WHN LR LR
comp=Z,2μm,16.6s
WHN LR LR
comp=Z,1μm,14.7s
JNU Nakatsue 23.70 9 P **P 06 55 13.5 +0.4**
comp=Z,13nm,0.9s,baz=104,slow=5.8,SNR=6.0
JNU LR LR 07 05 47.6
comp=Z,158nm,19.1s,baz=166,slow=40
comp=Z,13nm,0.9s
MYKOM Kota Tinggi 23.77 252 P **P 06 55 15.6 +1.8**
KPJI Karang Pucung 24.27 227 P **P 06 55 18.9 +0.5**
comp=Z,61nm,0.9s
SLVN Son La 24.56 301 P **P 06 55 20.8 -0.3**
JMN Monobe 24.91 15 P **P 06 55 24.6 +0.5**
JMN IAmb IAmb 06 55 29.5
comp=Z,38nm,1.1s
KNRA Kununurra 25.29 175 P **P 06 55 27.5 -0.1**
comp=Z,93nm,0.7s
SBJI Serang 25.59 233 P **P 06 55 32.6 +2.2**
IPM Ipoh 25.72 260 P **P 06 55 31.9 +0.3**
ENH Enshi 25.88 325 P **P 06 55 31.8 -1.2**
KULM Kulim 25.91 262 P **P 06 55 34.6 +1.2**
MDSI Maura Dua 26.25 239 P **P 06 55 37.1 +0.7**
comp=Z,46nm,0.9s
SRIT Nakonsritamara 26.50 270 P **P 06 55 39.4 +0.7**
SRIT IAmb IAmb 06 55 54.6
comp=Z,32nm,1.0s
LWLI Liwa 26.64 238 P **P 06 55 41.4 +1.4**
PHRA Phrae 26.85 292 P **P 06 55 39.5 -2.3**
FITZ Fitzroy Crossi 27.60 182 P **P 06 55 48.5 0.0**
comp=Z,14nm,1.0s
FITZ Fitzroy Crossi 27.60 182 P **P 06 55 48.5 0.0**
comp=Z,36nm,0.6s,baz=0.4,slow=10,SNR=54
comp=Z,36nm,0.6s
FITZ Fitzroy Crossi 27.60 182 P **P 06 55 48.0 -0.5**
KSRS Korea Array 27.70 3 P **P 06 55 50.5 +1.3**
comp=Z,3.7nm,0.8s,baz=179,slow=11,SNR=9.7
KSRS LR LR 07 08 41.6
comp=Z,145nm,18.1s,baz=180,slow=40
comp=Z,3.7nm,0.8s
PPI Padang Panjang 27.79 250 P **P 06 55 51.8 +1.5**
comp=Z,57nm,0.8s
LYN LuoYang 27.87 335 *e*P **P 06 55 50.3 -0.5**
LYN pmax pmax
comp=Z,35nm,0.7s
LYN LR LR
comp=Z,380nm,14.8s
LYN LR LR
comp=Z,210nm,15.1s
LYN LR LR
comp=Z,520nm,13.7s
CMAR Chiang Mai Arr 28.02 291 P **P 06 55 51.6 -0.7**
CMAR Chiang Mai Arr 28.02 291 P **P 06 55 52.4 +0.1**
comp=Z,7.6nm,0.9s,baz=96,slow=7.5,SNR=24
CMAR PcP **PcP 06 59 06.8 +0.4**
comp=Z,2.1nm,0.3s,baz=121,slow=4.6,SNR=5.2
CMAR ScP **ScP 07 02 42.2 -1.1**
comp=Z,0.8nm,0.3s,baz=68,slow=3.3,SNR=2.2
comp=Z,7.6nm,0.9s
PMG Port Moresby 28.02 132 P **P 06 55 52.2 -0.1**
comp=Z,17nm,0.7s,baz=282,slow=10,SNR=3.0
PMG LR LR 07 07 43.1
comp=Z,88nm,19.1s,baz=294,slow=38
comp=Z,17nm,0.7s
CHTO Chiang Mai 28.11 292 P **P 06 55 51.0 -2.1**
MNSI Mandailing Nat 28.12 253 P **P 06 55 54.8 +1.6**
PSI Prapat 28.16 258 LR LR 07 08 57.8
comp=Z,368nm,21.0s,baz=80,slow=40
RPSI Rantau Prapat 28.18 258 IAmb IAmb 06 55 58.6
comp=Z,36nm,1.0s
PZH PanZhiHua 28.73 309 P **P 06 56 02.0 +3.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,150nm,5.3s
COEN Coen 28.76 144 P **P 06 55 58.0 -0.9**
COEN IAmb IAmb 06 56 08.1
comp=Z,18nm,1.0s
COEN Coen 28.76 144 P **P 06 55 57.0 -1.9**
comp=Z,21nm,0.9s
COEN Coen 28.76 144 P **P 06 55 58.6 -0.3**
MJAR Matsushiro Arr 28.81 20 LR LR 07 07 46.5
comp=Z,334nm,18.0s,baz=194,slow=37
KRVT Keravat (AS076 29.05 117 LR LR 07 06 18.0
comp=Z,128nm,18.6s,baz=8.1,slow=33
XAN Xi'an 29.09 329 ⇑P **P 06 56 00.6 -1.1**
XAN pmax pmax
comp=Z,31nm,0.9s
XAN LR LR
comp=Z,560nm,16.7s
XAN LR LR
comp=Z,450nm,15.8s
XAN LR LR
comp=Z,800nm,20.6s
SISI Saibi 29.33 250 P **P 06 56 05.0 +1.0**
HNS HongShan 29.57 341 ⇑P **P 06 56 06.3 +0.5**
HNS S **S 07 00 59.0 +1.7**
HNS pmax pmax
comp=Z,29nm,0.8s
HNS LR LR
comp=Z,490nm,15.7s
HNS LR LR
comp=Z,460nm,17.7s
CD2 Chengdu 29.86 318 *e*P **P 06 56 09.3 +0.8**
CD2 S **S 07 00 58.8 -3.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,640nm,16.7s
CD2 LR LR
comp=Z,520nm,18.1s
GSI Gunungsitoli 29.87 256 P **P 06 56 08.4 -0.3**
GSI Gunungsitoli 29.87 256 P **P 06 56 09.3 +0.5**
comp=Z,82nm,1.0s
WB0 Warramunga Arr 30.29 165 P **P 06 56 11.9 -0.5**
WB0 IAmb IAmb 06 56 58.3
comp=Z,12nm,0.8s
WB5 Warramunga Arr 30.39 165 P **P 06 56 10.5 -2.7**
WRA Warramunga Arr 30.44 165 P **P 06 56 13.2 -0.5**
comp=Z,3.4nm,0.7s,baz=346,slow=9.2,SNR=12
WRA PcP **PcP 06 59 11.5 -0.9**
comp=Z,1.6nm,0.6s,baz=339,slow=2.9,SNR=2.5
WRA ScP **ScP 07 02 50.1 -0.8**
comp=Z,0.9nm,0.8s,baz=352,slow=4.0,SNR=3.2
WRA LR LR 07 10 44.6
comp=Z,142nm,18.5s,baz=256,slow=41
comp=Z,3.4nm,0.7s
MBWA Marble Bar 31.33 192 P **P 06 56 20.0 -1.5**
MBWA IAmb IAmb 06 56 25.1
comp=Z,17nm,0.7s
MBWA Marble Bar 31.33 192 P **P 06 56 21.3 -0.2**
comp=Z,23nm,0.7s
MBWA Marble Bar 31.33 192 P **P 06 56 21.9 +0.4**
BJT Baijiatuau 31.57 345 P **P 06 56 22.9 -0.6**

BJT IAmb IAmb 06 56 26.3
comp=Z,11nm,0.7s
BJI Beijing 31.59 345 P **P** **06 56 25.3 +1.7**
BJI pmax pmax
comp=Z,8.0nm,0.6s
PSAD1 Pilbara Seismi 31.60 192 P **P** **06 56 23.8 -0.1**
comp=Z,37nm,0.7s
PSA00 Pilbara Seismi 31.71 192 P **P** **06 56 24.6 -0.3**
PSA00 Pilbara Seismi 31.71 192 P **P** **06 56 25.0 +0.1**
SNY Shenyang 32.13 356 ⇓P **P** **06 56 31.5 +3.2**
SNY pmax pmax
comp=Z,23nm,0.9s
QIS Mount Isa 32.72 157 P **P** **06 56 32.7 -1.0**
LZH Lanzhou 33.35 326 *e*P **P** **06 56 38.5 -0.9**
LZH sP sP 06 57 00.3 +3.1
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=Z,580nm,17.2s
LZH LR LR
comp=Z,410nm,15.5s
LZH LR LR
comp=Z,520nm,16.5s
HHC Hu-ho-hao-te 33.73 339 *e*P **P** **06 56 43.3 +0.8**
HHC pP pP 06 56 56.6 +1.9
HHC sP sP 06 57 05.4 +5.0
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.4s
HHC LR LR
comp=Z,310nm,16.2s
HHC LR LR
comp=Z,240nm,15.2s
HHC LR LR
comp=Z,430nm,16.9s
AS05 Alice Springs 33.92 168 P **P** **06 56 42.1 -2.2**
comp=Z,6.6nm,0.6s
ASAR Alice Springs 33.93 168 P **P** **06 56 43.0 -1.3**
comp=Z,2.4nm,0.4s,baz=354,slow=7.0,SNR=42
ASAR PcP **PcP** **06 59 22.9 +1.0**
comp=Z,1.9nm,0.7s,baz=341,slow=2.4,SNR=4.7
ASAR ScP **ScP** **07 03 01.9 -0.9**
comp=Z,1.0nm,1.0s,baz=339,slow=3.1,SNR=2.4
ASAR LR LR 07 13 18.5
comp=Z,146nm,18.1s,baz=350,slow=41
comp=Z,2.4nm,0.4s
AS01 Alice Springs 33.94 168 P **P** **06 56 44.1 -0.3**
CN2 Changchun 34.01 359 *e*P **P** **06 56 47.3 +2.5**
CN2 *e*S **S** **07 02 06.4 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,12.0s
GIRL Giralia 34.26 200 P **P** **06 56 49.1 +2.0**
WRKA Warakurna 34.54 177 P **P** **06 56 49.6 0.0**
USA0B Ussuriysk Arra 34.74 7 P **P** **06 56 49.3 -1.7**
USA0B IAmb IAmb 06 56 57.1
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 34.74 7 P **P** **06 56 49.3 -1.8**
USRK Ussuriysk Ar. 34.74 7 P **P** **06 56 52.8 +1.7**
comp=Z,12nm,0.8s,baz=196,slow=9.0,SNR=18
comp=Z,12nm,0.8s
MDJ Mudanjiang 34.93 4 IAmb IAmb 06 56 56.9
comp=Z,20nm,1.1s
MDJ Mudanjiang 34.93 4 P **P** **06 56 54.0 +1.3**
MDJ pmax pmax
comp=Z,19nm,1.9s
XLT XiLinHaoTe 35.27 347 *e*P **P** **06 56 56.3 +0.6**
XLT pP pP 06 57 07.9 +0.4
XLT sP sP 06 57 12.8 -0.1
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,160nm,4.1s
BNX BinXian 35.95 1 ⇓P **P** **06 57 03.0 +1.6**
BNX pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 36.37 300 IAmb IAmb 06 57 12.6
comp=Z,20nm,0.6s
MEEK Meekatharra 36.88 192 P **P** **06 57 09.5 -0.1**
ASAJ Asahikawa 37.08 19 P **P** **06 57 12.0 +0.9**
comp=Z,5.8nm,0.3s,baz=265,slow=32,SNR=5.9
ASAJ LR LR 07 12 37.0
comp=Z,244nm,19.1s,baz=162,slow=36
comp=Z,5.8nm,0.3s
GTA Gaotai 37.96 326 *e*P **P** **06 57 19.3 +0.5**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=Z,170nm,15.6s
GTA LR LR
comp=Z,250nm,17.8s
GTA LR LR
comp=Z,380nm,17.8s
OOD Oodnadatta 38.31 167 P **P** **06 57 20.9 -0.7**
GOMU GeErMu 38.98 318 P **P** **06 57 26.3 -1.4**
GOMU S **S** **07 03 19.1 -4.3**
GOMU pmax pmax
comp=Z,2.0nm,0.5s
GOMU LR LR
comp=Z,340nm,17.6s
GOMU LR LR
comp=Z,450nm,17.5s
GOMU LR LR
comp=Z,710nm,17.6s
KLR Kul'dur 39.69 5 LR LR 07 15 25.7
comp=Z,146nm,18.9s,baz=208,slow=38
INKA Innaminka 39.69 160 P **P** **06 57 32.5 -0.7**
MORW Morawa 39.79 194 P **P** **06 57 34.4 +0.3**
MORW IAmb IAmb 06 57 39.6
comp=Z,70nm,1.4s
H11S3 WAKE ISLAND Hy 39.95 73 T T 07 40 43.4
baz=262,slow=74,SNR=42
H11S1 WAKE ISLAND Hy 39.96 73 T T 07 40 44.6
baz=262,slow=74,SNR=20
H11S2 WAKE ISLAND Hy 39.97 73 T T 07 40 42.2
baz=262,slow=74,SNR=23
FORT Forrest 40.25 178 P **P** **06 57 37.4 -0.3**
FORT Forrest 40.25 178 P **P** **06 57 37.5 -0.3**
H11N1 WAKE ISLAND Hy 40.30 71 T T 07 41 05.3
baz=265,slow=74,SNR=57
H11N2 WAKE ISLAND Hy 40.31 71 T T 07 41 09.8
baz=265,slow=74,SNR=51
H11N3 WAKE ISLAND Hy 40.32 71 T T 07 41 12.1
baz=265,slow=74,SNR=65
HEH HeiHe 40.47 1 *e*P **P** **06 57 41.6 +2.2**
HEH pmax pmax
comp=Z,10.0nm,1.2s
LCRK Leigh Creek 41.47 165 P **P** **06 57 47.5 -0.3**
SONM Songino Array 41.63 340 P **P** **06 57 50.5 +1.4**
comp=Z,3.1nm,0.4s,baz=155,slow=9.1,SNR=7.5
SONM PcP **PcP** **06 59 45.5 +0.1**
comp=Z,1.3nm,0.6s,baz=177,slow=5.0,SNR=1.9
SONM ScP **ScP** **07 03 32.4 +0.8**
comp=Z,0.2nm,0.6s,baz=151,slow=3.3,SNR=1.4
SONM LR LR 07 17 45.9
comp=Z,259nm,18.6s,baz=165,slow=40
comp=Z,3.1nm,0.4s
BBOO Buckleboo 43.23 168 P **P** **06 58 01.8 -0.4**
BBOO Buckleboo 43.23 168 P **P** **06 58 01.4 -0.7**
comp=Z,45nm,0.6s
NWAO Narrogin (SRO) 43.25 191 P **P** **06 58 02.9 +0.6**
NWAO Narrogin (SRO) 43.25 191 P **P** **06 58 02.7 +0.4**
STKA Stephens Creek 43.79 161 P **P** **06 58 06.0 -0.6**
STKA IAmb IAmb 06 58 13.1
comp=Z,14nm,0.8s
STKA Stephens Creek 43.79 161 P **P** **06 58 06.4 -0.2**
comp=Z,4.9nm,0.4s,baz=341,slow=8.3,SNR=19
comp=Z,4.9nm,0.4s
PALK Pallekele 45.26 271 LR LR 07 19 14.0
comp=Z,178nm,18.2s,baz=76,slow=39
HYB Hyderabad 47.07 285 *e*P **P** **06 58 32.9 -0.1**
WMQ Urumqi 47.79 322 *e*P **P** **06 58 39.9 +1.7**
WMQ LR LR
comp=Z,210nm,18.5s
ARPS Mount Arapiles 48.41 163 P **P** **06 58 40.9 -2.1**
comp=Z,43nm,0.8s
PETK Petropavlovsk- 50.12 24 P **P** **06 58 57.3 +1.4**
comp=Z,3.6nm,0.8s,baz=237,slow=14,SNR=2.3
comp=Z,3.6nm,0.8s

DZM Mont Dzumac 50.35 129 *e*LR LR 07 13 26.7
comp=Z,254nm,26.2s
MK31 Makanchi Array 52.59 323 P **P** **06 59 13.7 -0.8**
MKAR Makanchi Array 52.59 323 P **P** **06 59 13.4 -1.1**
MKAR Makanchi Array 52.59 323 P **P** **06 59 14.2 -0.3**
comp=Z,6.2nm,0.6s,baz=122,slow=8.0,SNR=82
MKAR ScP **ScP** **07 04 19.1 +1.6**
comp=Z,1.2nm,1.1s,baz=129,slow=5.2,SNR=1.4
MKAR LR LR 07 23 23.3
comp=Z,184nm,20.1s,baz=127,slow=38
comp=Z,6.2nm,0.6s
MAKZ Makanchi 52.79 323 P **P** **06 59 14.9 -1.0**
MA2 Magadan 53.07 15 P **P** **06 59 19.0 +1.3**
comp=Z,4.1nm,0.6s,baz=187,slow=9.8,SNR=6.6
MA2 LR LR 07 22 21.2
comp=Z,51nm,18.9s,baz=210,slow=36
comp=Z,4.1nm,0.6s
MA2 Magadan 53.07 15 P **P** **06 59 18.3 +0.6**
comp=Z,8.2nm,0.9s
KSH Kashi 53.74 312 P **P** **06 59 24.9 +1.7**
KSH pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 54.20 305 P **P** **06 59 26.4 -0.1**
ZALV Zalesovo Beam 55.22 331 P **P** **06 59 32.1 -1.3**
ZALV Zalesovo Beam 55.22 331 P **P** **06 59 32.3 -1.2**
comp=Z,2.4nm,0.5s,baz=114,slow=6.6,SNR=14
ZALV LR LR 07 25 29.2
comp=Z,197nm,18.1s,baz=113,slow=38
comp=Z,2.4nm,0.5s
AAK Ala-Archa 55.86 315 P **P** **06 59 37.3 -1.2**
AAK Ala-Archa 55.86 315 LR LR 07 26 08.4
comp=Z,173nm,18.2s,baz=86,slow=39
SEY Seymchan 56.36 14 P **P** **06 59 43.2 +1.7**
comp=Z,0.9nm,0.3s,baz=194,slow=4.7,SNR=6.8
comp=Z,0.9nm,0.3s
KURK Kurchatov 56.65 326 P **P** **06 59 43.3 -0.4**
KURK IAmb IAmb 06 59 54.9
comp=Z,13nm,1.0s
KURBB Kurchatov Arra 56.65 326 P **P** **06 59 43.4 -0.4**
comp=Z,4.4nm,0.6s,baz=127,slow=6.6,SNR=33
comp=Z,4.4nm,0.6s
KBL Kabul 57.80 305 P **P** **06 59 51.4 -1.0**
KBL IAmb IAmb 06 59 58.6
comp=Z,15nm,0.7s
MSVF Nonsavu 57.80 118 LR LR 07 24 42.7
comp=Z,84nm,18.1s,baz=331,slow=36
CHGR Chuyangaron 58.58 309 IAmb IAmb 06 59 58.5
comp=Z,15nm,0.7s
SIMJ Simiganj 58.70 309 P **P** **06 59 57.0 -1.6**
KK31 Karatay Array 58.78 315 IAmb IAmb 07 00 01.9
comp=Z,6.1nm,0.6s
KKAR Karatay Array 58.78 315 P **P** **06 59 57.9 -1.0**
KKAR Karatay Array 58.78 315 IAmb IAmb 07 00 01.8
comp=Z,3.8nm,0.6s
TIXI Tiksi 61.95 1 P **P** **07 00 19.3 -0.7**
BVAR Borovoye Array 62.24 326 P **P** **07 00 21.9 -0.4**
comp=Z,2.7nm,0.6s,baz=126,slow=7.5,SNR=16
BVAR LR LR 07 26 53.6
comp=Z,148nm,19.2s,baz=113,slow=36
comp=Z,2.7nm,0.6s
BRVK Borovoye 62.31 326 P **P** **07 00 21.6 -1.2**
BRVK IAmb IAmb 07 00 30.3
comp=Z,10nm,0.9s
HRA Herat 63.32 304 IAmb IAmb 07 00 30.1
comp=Z,7.2nm,0.7s
BILL Bilibino 63.94 16 P **P** **07 00 34.2 +0.9**
QRZ Quartz Range 65.79 143 P **P** **07 00 48.5 +2.8**
MSZ Milford Sound 65.80 149 P **P** **07 00 47.8 +2.2**
JCZ Jackson Bay 65.83 148 P **P** **07 00 50.1 +4.0**
DSZ Denniston Nort 65.95 144 P **P** **07 00 48.0 +1.2**
FOZ Fox Glacier 66.01 147 P **P** **07 00 49.8 +2.8**
NNZ Nelson 66.54 143 P **P** **07 00 50.4 -0.1**
THZ Tophouse 66.60 144 P **P** **07 00 52.1 +1.2**
THZ Tophouse 66.60 144 P **P** **07 00 51.4 +0.4**
LBZ Lake Benmore 66.78 147 P **P** **07 00 53.0 +1.0**
RPZ Rata Peaks 66.80 146 P **P** **07 00 52.9 +0.7**
RPZ Rata Peaks 66.80 146 P **P** **07 00 52.3 +0.1**
LTZ Lake Taylor 66.88 145 P **P** **07 00 54.4 +1.6**
OXZ Oxford 67.09 146 P **P** **07 00 53.8 -0.2**
URZ Urewera 67.12 139 P **P** **07 00 54.0 -0.3**
comp=Z,5.0nm,0.6s,baz=348,slow=23,SNR=6.1
URZ LR LR 07 32 18.6
comp=Z,154nm,18.5s,baz=46,slow=38
comp=Z,5.0nm,0.6s
BKZ Black Stump Fm 67.23 140 P **P** **07 00 56.3 +1.2**
BKZ Black Stump Fm 67.23 140 P **P** **07 00 56.3 +1.2**
KHZ Kahutara 67.37 144 P **P** **07 00 55.6 -0.2**
ABKAR Akbulak array 67.43 319 P **P** **07 00 55.3 -0.9**
ABKAR IAmb IAmb 07 00 59.1
comp=Z,4.6nm,0.7s
ABKAR Akbulak array 67.43 319 P **P** **07 00 55.2 -0.9**
BFZ Birch Farm 67.95 141 P **P** **07 00 57.3 -2.1**
AKTO Aktyubinsk 68.88 320 LR LR 07 33 28.0
comp=Z,187nm,19.2s,baz=99,slow=38
ARTI Arti 69.89 327 P **P** **07 01 09.9 -1.4**
ARTI IAmb IAmb 07 01 13.9
comp=Z,23nm,1.4s
ARTI Arti 69.89 327 LR LR 07 32 04.0
comp=Z,62nm,18.6s,baz=116,slow=36
L14K Kuka Creek 72.44 29 IAmb IAmb 07 01 34.8
comp=Z,21nm,0.9s
F15K North Star Dit 72.63 24 IAmb IAmb 07 01 40.1
comp=Z,24nm,1.6s
C16K Lisburne Hills 73.08 21 IAmb IAmb 07 01 41.8
comp=Z,10nm,0.9s
L16K Owhat River 74.02 28 IAmb IAmb 07 01 57.7
comp=Z,30nm,1.6s
O16K Kokwok River B 74.37 31 IAmb IAmb 07 02 00.3
comp=Z,33nm,1.4s
H17K Granite Mounta 74.39 25 IAmb IAmb 07 01 57.5
comp=Z,27nm,1.7s
J17K VABM Dome 74.48 27 IAmb IAmb 07 01 50.7
comp=Z,31nm,1.4s
E18K Tukpahlearik C 74.61 23 IAmb IAmb 07 02 03.8
comp=Z,9.8nm,0.9s
C18K Utukok River 74.66 21 IAmb IAmb 07 01 51.5
comp=Z,42nm,1.8s
K17K Iditarod 74.72 28 IAmb IAmb 07 01 48.3
comp=Z,22nm,1.2s
G19K Purcell Mounta 75.75 24 IAmb IAmb 07 01 57.4
comp=Z,17nm,1.4s
E19K Redstone River 75.89 23 IAmb IAmb 07 01 58.5
comp=Z,23nm,1.2s
H19K Roundabout Mou 75.92 25 IAmb IAmb 07 01 58.8
comp=Z,18nm,1.1s
KDAK Kodiak Island 77.08 33 LR LR 07 31 26.4
comp=Z,102nm,21.8s,baz=88,slow=32
B21K Ikpikpuk River 77.15 21 IAmb IAmb 07 02 05.5
comp=Z,12nm,0.8s
G21K Allakaket 77.23 24 IAmb IAmb 07 02 05.4
comp=Z,13nm,1.1s
E21K Killik River 77.24 22 IAmb IAmb 07 02 05.8
comp=Z,9.4nm,0.9s
H21K Melozitna Rive 77.44 25 IAmb IAmb 07 02 15.4
comp=Z,16nm,1.4s
B22K Teshekpuk Lake 77.64 20 IAmb IAmb 07 02 08.3
comp=Z,9.2nm,0.7s
I21K Tanana 77.75 25 IAmb IAmb 07 02 08.5
comp=Z,14nm,1.1s
D22K Ayikyak River 77.76 21 IAmb IAmb 07 02 31.9
comp=Z,20nm,1.4s
BPAW Bear Paw Mtn. 78.13 26 P **P** **07 02 00.1 +0.8**
BPAW IAmb IAmb 07 02 12.7
comp=Z,11nm,0.9s
D23K Nanushuk River 78.48 21 IAmb IAmb 07 02 13.4
comp=Z,14nm,1.1s
RAR Rarotonga 78.66 114 LR LR 07 31 06.2
comp=Z,122nm,21.4s,baz=264,slow=31
KBZ Khabaz 78.72 313 P **P** **07 02 02.2 -0.7**
comp=Z,3.8nm,1.0s,baz=144,slow=3.4,SNR=6.3
comp=Z,3.8nm,1.0s
E23K Chandalar 78.84 22 IAmb IAmb 07 02 15.3
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 78.87 22 P **P** **07 02 03.8 +0.4**
TOLK IAmb IAmb 07 02 15.1
comp=Z,12nm,1.1s
RND Reindeer 79.06 27 IAmb IAmb 07 02 21.3
comp=Z,21nm,1.4s
D24K Happy Valley 79.16 21 IAmb IAmb 07 02 14.8
comp=Z,8.1nm,0.7s
C24K Franklin Bluff 79.22 21 IAmb IAmb 07 02 11.7
comp=Z,38nm,1.6s
G24K Hadweenzic Riv 79.64 24 IAmb IAmb 07 02 19.5
comp=Z,17nm,1.1s
GURO Guroymak-BITLI 79.68 308 IAmb IAmb 07 02 15.6
comp=Z,11nm,0.8s
HDA Harding Lake 79.89 26 IAmb IAmb 07 02 15.0

comp=Z,25nm,1.7s
IL31 79.91 26 P **P** **07 02 07.9 -1.1**
ILAR Eielson Array 79.91 26 P **P** **07 02 09.3 +0.3**
comp=Z,1.7nm,0.7s,baz=274,slow=5.0,SNR=10
comp=Z,1.7nm,0.7s
PAX Paxson 80.60 28 IAmb IAmb 07 02 52.3
comp=Z,25nm,1.7s
BMAR Burnt Mountain 80.76 23 P **P** **07 02 14.0 +0.4**
RIDG Independent Ri 80.84 27 P **P** **07 02 14.5 +0.4**
RIDG IAmb IAmb 07 02 21.2
comp=Z,20nm,1.3s
MENT Mentasta 81.40 28 P **P** **07 02 18.0 +0.9**
MENT IAmb IAmb 07 02 36.4
comp=Z,9.4nm,1.0s
I26K Coal Creek Min 81.47 25 IAmb IAmb 07 03 04.2
comp=Z,34nm,2.0s
D27M Malcolm River 81.96 21 IAmb IAmb 07 02 34.0
comp=Z,8.3nm,0.9s
OBN Obninsk 82.07 325 LR LR 07 41 56.7
comp=Z,91nm,18.7s,baz=8.0,slow=38
L27K Beaver Creek, 82.25 27 IAmb IAmb 07 02 29.7
comp=Z,39nm,1.9s
BCAR Beaver Creek A 82.27 27 P **P** **07 02 22.9 +1.2**
EGAK Eagle 82.36 26 P **P** **07 02 22.4 +0.4**
F28M Old Crow 82.55 23 IAmb IAmb 07 02 27.0
comp=Z,9.3nm,1.1s
E28M Babbage River 82.55 22 IAmb IAmb 07 02 56.8
comp=Z,22nm,1.6s
I28M Miner Creek 82.79 25 IAmb IAmb 07 02 32.0
comp=Z,10nm,0.8s
ABPO Ambohimpanom 83.06 249 P **P** **07 02 26.0 -0.8**
ABPO IAmb IAmb 07 02 34.3
comp=Z,13nm,1.1s
H29M Whitestone 83.33 24 IAmb IAmb 07 02 43.1
comp=Z,12nm,1.0s
I29M Ogilvie Camp, 83.48 25 IAmb IAmb 07 02 41.1
comp=Z,19nm,1.3s
J29N Klondike Camp 83.66 26 IAmb IAmb 07 02 38.8
comp=Z,17nm,1.2s
M29M Somme Creek 83.87 28 IAmb IAmb 07 02 43.9
comp=Z,8.4nm,0.9s
G30M tAoh Zraii Nji 84.04 23 IAmb IAmb 07 02 41.1
comp=Z,15nm,1.3s
K29M Barlow Dome 84.06 26 IAmb IAmb 07 02 53.0
comp=Z,20nm,1.4s
I30M Mount Dempster 84.31 25 IAmb IAmb 07 02 43.2
comp=Z,11nm,1.1s
J30M Hart River 84.44 25 IAmb IAmb 07 02 46.4
comp=Z,22nm,1.5s
HYT Haines Junctio 84.59 29 IAmb IAmb 07 02 45.2
comp=Z,11nm,1.0s
SPITS Spitsbergen Ar 84.63 349 P **P** **07 02 33.3 -0.2**
comp=Z,4.0nm,0.5s,baz=84,slow=7.7,SNR=23
SPITS LR LR 07 47 06.7
comp=Z,112nm,18.6s,baz=43,slow=40
comp=Z,4.0nm,0.5s
INK Inuvik 84.78 22 P **P** **07 02 35.0 +0.7**
INK IAmb IAmb 07 02 46.2
comp=Z,26nm,1.6s
ARCES ARCESS Array B 84.81 340 P **P** **07 02 34.7 +0.2**
comp=Z,8.7nm,0.7s,baz=85,slow=6.0,SNR=28
ARCES LR LR 07 45 06.7
comp=Z,102nm,18.4s,baz=134,slow=39
comp=Z,8.7nm,0.7s
G31M Satah River 84.81 23 IAmb IAmb 07 02 45.4
comp=Z,12nm,1.1s
MMAI Mount Meron Ar 85.66 303 P **P** **07 02 38.5 -1.1**
comp=Z,1.9nm,0.5s,baz=79,slow=10,SNR=3.6
comp=Z,1.9nm,0.5s
WHY Whitehorse 85.88 29 IAmb IAmb 07 02 52.3
comp=Z,16nm,1.2s
BRTR Keskin Array B 86.03 309 P **P** **07 02 40.4 -1.0**
comp=Z,1.9nm,0.8s,baz=96,slow=7.7,SNR=4.2
BRTR LR LR 07 46 17.7
comp=Z,44nm,18.3s,baz=104,slow=39
comp=Z,1.9nm,0.8s
FARO Faro, Yukon 86.25 28 IAmb IAmb 07 02 53.1
comp=Z,15nm,1.0s
A36M Sachs Harbour 86.44 17 P **P** **07 02 43.2 +0.7**
FIA1 FINESS Array S 86.49 332 P **P** **07 02 42.9 -0.1**
FINES FINESS Array B 86.49 332 P **P** **07 02 42.7 -0.3**
comp=Z,10.0nm,0.5s,baz=76,slow=5.3,SNR=43
FINES LR LR 07 44 08.8
comp=Z,81nm,18.4s,baz=62,slow=38
comp=Z,10.0nm,0.5s
N32M Quiet Lake 86.63 29 IAmb IAmb 07 02 57.7
comp=Z,17nm,1.1s
AK03 Malin Array Si 87.12 321 P **P** **07 02 45.4 -0.9**
AKASG Malin Array Be 87.12 321 P **P** **07 02 45.4 -0.9**
comp=Z,0.9nm,0.4s,baz=64,slow=4.9,SNR=9.0
AKASG LR LR 07 46 17.3
comp=Z,105nm,18.2s,baz=56,slow=39
comp=Z,0.9nm,0.4s
AK10 Malin Array Si 87.13 321 P **P** **07 02 45.6 -0.7**
AK05 Malin Array Si 87.15 321 P **P** **07 02 45.6 -0.8**
AK04 Malin Array Si 87.15 321 P **P** **07 02 45.3 -1.1**
PPT Papeete 87.23 108 LR LR 07 34 23.1
comp=Z,103nm,20.5s,baz=268,slow=30
PPT2 Papeete2 87.24 108 *e*LR LR 07 30 30.4
comp=Z,164nm,21.8s
PPT2 *e*LR LR 07 30 31.8
comp=Z,160nm,24.2s
C36M Paulatuk 87.75 20 P **P** **07 02 49.5 +0.6**
C36M IAmb IAmb 07 02 59.0
comp=Z,10nm,1.0s
LUBAR Lubar, Ukraine 88.21 320 P **P** **07 02 50.2 -1.3**
TBI Tubuai 88.44 114 *e*LR LR 07 31 05.0
comp=Z,918nm,24.0s
NDNU Novodnistrovsk 88.75 319 P **P** **07 02 53.2 -0.9**
KIBK Kibwezi 88.79 267 P **P** **07 02 55.5 +0.4**
KIBK IAmb IAmb 07 02 56.3
comp=Z,5.0nm,0.7s
VNDA Vanda 89.32 173 P **P** **07 02 56.1 0.0**
comp=Z,4.4nm,0.9s,baz=316,slow=4.9,SNR=6.2
VNDA LR LR 07 41 20.7
comp=Z,56nm,21.0s,baz=338,slow=34
comp=Z,4.4nm,0.9s
KMBO Kilima Mbogo 89.37 269 P **P** **07 02 58.0 0.0**
BUR08 Bucovina Ar. S 90.39 318 P **P** **07 03 01.2 -0.8**
BUR08 IAmb IAmb 07 06 23.6
comp=Z,27nm,2.0s
MLR Muntele Rosu 90.43 316 LR LR 07 50 37.0
comp=Z,117nm,18.8s,baz=69,slow=40
RES Resolute Bay 92.06 10 IAmb IAmb 07 03 16.4
comp=Z,4.7nm,0.9s
HFS Hagfors 92.65 332 P **P** **07 03 11.5 -0.5**
comp=Z,4.0nm,0.4s,baz=100,slow=5.1,SNR=20
HFS LR LR 07 46 35.8
comp=Z,74nm,20.3s,baz=31,slow=37
comp=Z,4.0nm,0.4s
NB2 NORSAR Subarra 93.36 334 P **P** **07 03 14.3 -1.0**
comp=Z,8.9nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.36 334 P **P** **07 03 14.3 -1.0**
baz=66,slow=4.6
NOA NORSAR Array B 93.36 334 P **P** **07 03 14.5 -0.8**
comp=Z,1.4nm,0.6s,baz=71,slow=6.1,SNR=9.3
NOA LR LR 07 47 34.0
comp=Z,65nm,18.1s,baz=330,slow=37
comp=Z,1.4nm,0.6s
YKA Yellowknife Ar 94.24 24 P **P** **07 03 20.0 +0.8**
comp=Z,1.7nm,0.8s,baz=297,slow=4.8,SNR=20
comp=Z,1.7nm,0.8s
TAOE Nuku Hiva Isla 94.81 98 *e*LR LR 07 33 57.6
comp=Z,297nm,27.8s
GERES GERESS Array B 97.26 322 P Pdif 07 03 33.3 -0.2
comp=Z,1.3nm,0.8s,baz=61,slow=6.0,SNR=3.2
comp=Z,1.3nm,0.8s
SYO Syowa Base 97.82 201 ⇓*iP* Pdif 07 03 37.4 +2.1
YBH Yreka Blue Hor 98.75 45 LR LR 07 40 17.6
comp=Z,66nm,20.9s,baz=278,slow=30
QSPA South Pole Qui 99.54 180 P **Pdif** **07 03 40.3 -2.9**
comp=Z,0.7nm,0.4s,baz=142,slow=3.5,SNR=2.4
QSPA LR LR 07 48 15.5
comp=Z,35nm,21.2s,baz=334,slow=35
NEW Newport 99.75 37 LR LR 08 00 26.0
comp=Z,31nm,18.0s,baz=258,slow=42
TXAR Lajitas Array 118.10 49 PKP **PKiKP** **07 08 48.9 +0.9**
comp=Z,0.2nm,0.5s,baz=291,slow=1.5,SNR=4.8
TORD Torodi Ar. Bea 120.63 292 PKP **PKPdf** **07 08 52.2 -0.8**
comp=Z,1.7nm,0.7s,baz=73,slow=2.1,SNR=10.0
DBIC Dimbokro 128.82 287 PKP **PKPdf** **07 09 07.7 -1.1**
comp=Z,1.9nm,0.7s,baz=119,slow=4.1,SNR=5.2
PLCA Paso Flores 145.60 157 PKPbc **PKPab** **07 09 40.1 +0.7**
comp=Z,6.1nm,0.8s,baz=257,slow=3.7,SNR=22

IDC ***13*** *06:52:05.8±1.5,28°.21N×112°.29W,h0km,mb3.3/2,*

mbtmp3.3/8, ML3.5/5, MS3.7/4, Error ellipse: s-maj=19.7km s-min=10.8km az=36.0
*MEX **13** 06:52:07.6±0.4, 28°.10N×112°.35W, h10km, MD4.1*
ISC 13 06:52:05.2±1.2, 28°.08N±0°.03×112°.27W±0°.03, h10km±9km, n44, σ2±03/55, MS3.8/4, 5C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.62**	**302**	⇑*iP*	**Pg**	**06 52 17.5**	**+0.4**
SFQB				*eS*	**Sg**	06 52 25.2	0.0
SRIG	**Santa Rosalia**	**0.75**	**178**	*eP*	**Pn**	**06 52 22.1**	**+0.2**
SRIG				*eS*	**Sn**	06 52 33.0	-0.4
SRIG	**Santa Rosalia**	**0.75**	**178**	⇓*iP*	**Pn**	**06 52 22.1**	**+0.2**
SRIG				*eS*	**Sn**	06 52 33.2	-0.2
SRIG	comp=N,6μm,0.6s			IAML		06 52 34.6	
SRIG	comp=E,3μm,0.6s			IAML		06 52 35.0	
BKIRB	**Bahia Kino**	**0.81**	**17**	*iP*	**Pg**	**06 52 20.9**	**0.0**
BKIRB				*eS*	**Sg**	06 52 30.7	-0.8
BAHB	**Baha de los**	**1.43**	**308**	*eP*	**Pn**	**06 52 32.1**	**+0.9**
BAHB				*eS*	**Sn**	06 52 49.6	-0.4
BAHB	**Baha de los**	**1.43**	**308**	⇓*eP*	**Pn**	**06 52 29.3**	**-1.9**
HSIG		**1.49**	**51**	*eP*	**Pb**	**06 52 32.8**	**-0.2**
HSIG				*eS*	**Sn**	06 52 52.2	+0.5
HSIG		**1.49**	**51**	⇑*eP*	**Pn**	**06 52 31.3**	**-0.8**
HSIG				*eS*	**Sn**	06 52 49.6	-2.1
HSIG	comp=N,2μm,0.3s			IAML		06 52 52.6	
HSIG	comp=E,2μm,0.5s			IAML		06 52 52.9	
CDOB	**Cd. Obregon**	**2.01**	**109**	*eP*	**Pn**	**06 52 38.4**	**-0.7**
CDOB				*eS*	**Sn**	06 53 03.5	-0.8
NE77	**Loreto B.C.S**	**2.21**	**158**	*eP*	**Pb**	**06 52 43.6**	**-1.6**
NOVRB	**El Novillo Son**	**2.47**	**69**	⇑*eP*	**Pn**	**06 52 45.1**	**-0.4**
SLUB	**San Luis Gonza**	**2.56**	**314**	⇑*eP*	**Pg**	**06 52 53.8**	**-0.4**
UAGRB	**Rancho Ultima**	**2.66**	**160**	*eP*	**Pn**	**06 52 49.8**	**+1.6**
NE80	**Navojoa**	**2.94**	**112**	⇓*eP*	**Pn**	**06 52 52.9**	**+1.0**
NZIG	**Nacozari, Sono**	**3.30**	**45**	*eP*	**Pn**	**06 52 58.8**	**+1.7**
NZIG				*eS*	**Sn**	06 53 38.2	+1.8
NZIG	**Nacozari, Sono**	**3.30**	**45**	*eP*	**Pn**	**06 52 57.4**	**+0.3**
EVAR0	**San Evaristo**	**3.45**	**156**	*eP*	**Pn**	**06 53 00.7**	**+1.7**
PPXB	**Puerto Peasco**	**3.46**	**340**	*eP*	**Pg**	**06 53 12.8**	**+1.4**
PIX	**Pinacate**	**3.62**	**344**	*eP*	**Pn**	**06 53 00.9**	**-0.5**
SQX	**San Quintin**	**4.01**	**309**	*eP*	**Pn**	**06 53 08.0**	**+1.2**
319A	**Douglas**	**4.19**	**38**	P	**Pn**	**06 53 09.6**	**+0.3**
319A	**Douglas**	**4.19**	**38**	S	**Sn**	**06 53 55.2**	**-3.2**
LPIG	**La Paz**	**4.33**	**156**	Pn	**Pn**	**06 53 13.5**	**+2.4**
LPIG	comp=E,2.8nm,0.3s,baz=326,slow=11,SNR=1.6			Sn	**Sb**	**06 54 10.9**	**-3.0**
LPIG	comp=E,2.8nm,0.3s,baz=320,slow=20,SNR=6.3			Lg	Lg	06 54 27.6	
CGIG	comp=E,4.6nm,0.3s,baz=128,slow=23,SNR=1.8 comp=E,8.7nm,0.4s	**4.39**	**58**	*eP*	**Pn**	**06 53 13.2**	**+1.1**
CGIG				*eS*	**Sb**	**06 54 10.6**	**-5.1**
TUC	**Tucson**	**4.41**	**17**	*eP*	**Pn**	**06 53 12.8**	**+0.5**
TUC				*eS*	**Sn**	**06 54 07.2**	**+3.4**
SLBS	**Sierra La Lagu**	**4.85**	**154**	⇑*eP*	**Pn**	**06 53 22.5**	**+4.2**
121A	**Cookes Peak, D**	**5.89**	**40**	P	**Pn**	**06 53 35.8**	**+3.0**
121A	**Cookes Peak, D**	**5.89**	**40**	S	**Sn**	**06 54 35.9**	**-4.7**
VHRN	**Van Horn**	**6.90**	**65**	P	**Pn**	**06 53 49.5**	**+2.9**
MNTX	**Cornudas Mount**	**6.98**	**57**	P	**Pn**	**06 53 49.3**	**+1.7**
MNTX				S	**Sn**	**06 55 09.4**	**+2.2**
TX31	**Lajitas Ar. Si**	**7.66**	**79**	P	**Pn**	**06 53 59.6**	**+2.7**
TXAR	**Lajitas Array**	**7.66**	**79**	Pn	**Pn**	**06 53 59.3**	**+2.3**
TXAR	comp=E,0.4nm,0.3s,baz=256,slow=12,SNR=34			Sn	**Sn**	**06 55 25.7**	**+1.8**
TXAR	comp=E,0.1nm,0.3s,baz=266,slow=23,SNR=1.4			Lg	Lg	06 56 07.3	
TXAR	comp=E,1.4nm,0.3s,baz=262,slow=25,SNR=6.6 comp=E,1.2nm,0.3s						
ALPN	**Alpine**	**7.88**	**71**	P	**Pn**	**06 54 03.6**	**+3.5**
ALPN				S	**Sn**	**06 55 28.6**	**-0.8**
ANMO	**Albuquerque**	**8.46**	**34**	Pn	**Pn**	**06 54 08.6**	**+0.7**
ANMO	comp=E,0.2nm,0.5s,baz=120,slow=19,SNR=2.0			Lg	Lg	06 56 30.8	
SAND	**Sanderson**	**9.08**	**76**	P	Pn	06 54 22.6	+6.3
NVAR	**Mina Array Bea**	**11.49**	**336**	Pn	**Pn**	**06 54 52.3**	**+2.7**
NVAR	comp=E,0.2nm,0.3s,baz=151,slow=14,SNR=1.6 comp=E,0.1nm,0.3s,baz=147,slow=25,SNR=2.0 comp=E,0.2nm,0.3s			Sn	**Sn**	**06 56 56.3**	**-1.8**
ELK	**Elko**	**12.87**	**350**	Pn	**Pn**	**06 55 10.8**	**+2.3**
ELK	comp=E,0.1nm,0.3s,baz=174,slow=12,SNR=4.3 comp=E,0.1nm,0.3s,baz=192,slow=7.7,SNR=5.4 comp=E,0.4nm,0.6s			Sn	Sn	06 57 13.7	-18
PDAR	**Pinedale Array**	**14.82**	**8**	Pn	**P**	**06 55 38.9**	**-2.1**
NEW	baz=174,slow=16,SNR=7.5 comp=E,0.5nm,1.0s **Newport**	**20.50**	**351**	P	**P**	**06 56 43.4**	**0.0**
JTS	comp=E,1.3nm,1.0s,baz=75,slow=19,SNR=1.9 comp=E,1.3nm,1.0s **Las Juntas de**	**31.16**	**119**	LR	LR	07 12 43.4	
ILAR	comp=E,84nm,20.6s,baz=303,slow=40 **Eielson Array**	**42.72**	**339**	P	**P**	**07 00 02.9**	**+0.7**
FRB	comp=E,0.5nm,1.0s,baz=132,slow=8.3,SNR=4.5 comp=E,0.5nm,1.0s **Frobisher Bay**	**45.30**	**26**	LR	LR	07 19 57.4	
RES	comp=E,124nm,18.5s,baz=272,slow=37 **Resolute Bay**	**47.51**	**6**	LR	LR	07 22 58.6	
SFJD	comp=E,148nm,21.0s,baz=199,slow=39 **Kangerlussuaq**	**53.46**	**26**	LR	LR	07 22 45.0	
	comp=E,61nm,19.6s,baz=230,slow=34						

*IDC **13** 06:53:06.0±2.6, 51°.49N×179°.25E, h0km, mb3.3/5, mbtmp3.5/7, ML4.3/1, MS3.6/2, Error ellipse: s-maj=64.3km s-min=26.2km az=1.0*
*AEIC **13** 06:53:17.3±2.0, 52°.75N±0°.08×178°.62E±0°.09, h28km±6km, Error ellipse: s-maj=12.1km s-min=6.0km az=207.0*
*NEIC **13** 06:53:18.6±0.9, 52°.4N±0°.1×178°.5E±0°.1, h91km±11km, mb4.0/16, ML3.1(AEIC), Error ellipse: s-maj=18.5km s-min=8.2km az=192.0*
ISC 13 06:53:18.8±0.8, 52°.4N±0°.1×178°.57E±0°.05, h103km±10km, n43, σ1±25/48, mb3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.69**	**109**		**Pn**	**06 53 46.9**	**-0.6**
GASW					**Sn**	06 54 09.2	-0.3
GANO	**Gareloi North**	**1.71**	**107**		**Pn**	**06 53 47.3**	**-0.4**
GANO					**Sn**	06 54 10.6	+0.8
GANE	**Gareloi Northe**	**1.73**	**107**		**Pn**	**06 53 47.5**	**-0.4**
GANE					**Sn**	06 54 11.1	+0.9
GALAA	**Gareloi Lava P**	**1.75**	**109**		**Pn**	**06 53 47.8**	**-0.4**
GAEA	**Gareloi East**	**1.76**	**108**		**Pn**	**06 53 47.9**	**-0.4**
TANO	**Tanaga North**	**2.09**	**101**		**Pn**	**06 53 52.6**	**0.0**
TASE	**Tanaga Southea**	**2.16**	**103**		**Pn**	**06 53 53.5**	**-0.1**
TAFP	**Tanaga Falls P**	**2.18**	**101**		**Pn**	**06 53 53.5**	**-0.2**
TAFP					**Sn**	**06 54 20.7**	**+0.3**
KIKV	**Kanaga Island**	**2.67**	**99**		**Pn**	**06 53 60.0**	**-0.2**
KIWB	**Kanaga Island**	**2.69**	**99**		**Pn**	**06 54 00.0**	**-0.4**
KIRH	**Kanaga Island**	**2.71**	**98**		**Pn**	**06 54 00.5**	**-0.3**
SHEM	**Shemya Is, Ala**	**2.75**	**279**	Pn	**Pn**	**06 53 60.0**	**-1.2**
SHEM	30nm,0.3s,baz=57,slow=4.6,SNR=14			Sn	**Sn**	**06 54 33.4**	**-0.4**
	10nm,0.3s,baz=270,slow=23,SNR=6.1 57nm,0.3s						
ADK	**Adak**	**2.97**	**97**		**Pn**	**06 54 03.7**	**-0.3**
ADK					**Sn**	**06 54 39.0**	**+0.1**
GSCK	**Great Sitkin C**	**3.26**	**94**		**Pn**	**06 54 07.4**	**-0.6**
GSTR	**Great Sitkin T**	**3.32**	**92**	Pn	**Pn**	**06 54 08.4**	**-0.4**
ATKA	**Atka Island**	**4.45**	**89**		**Pn**	**06 54 22.9**	**-1.0**
UNV	**Unalaska Valle**	**9.11**	**75**		**Pn**	**06 55 27.5**	**+0.4**
PETK	**Petropavlovsk-**	**12.67**	**282**	Pn	**Pn**	**06 56 16.3**	**+1.3**
L14K	1.6nm,0.7s,baz=100,slow=15,SNR=1.1 **Kuka Creek**	**13.60**	**41**	Pn	**Pn**	**06 56 25.8**	**-1.1**
CHGN	**Chignik**	**13.97**	**65**	Pn	**Pn**	**06 56 32.9**	**+1.0**
OHAK	**Old Harbor**	**16.88**	**62**	Pn	**P**	**06 57 06.7**	**-2.0**
OHAK				IAmb	IAmb	06 57 44.0	
KDAK	comp=Z,28nm,1.4s **Kodiak Island**	**17.31**	**60**	P	**P**	**06 57 11.3**	**-2.1**
GHO	**Glory Hole Cre**	**19.82**	**49**	P	**P**	**06 57 38.1**	**-2.8**
GHO				IAmb	IAmb	06 58 21.7	
G23K	comp=Z,18nm,1.4s **Bananza Creek**	**21.11**	**35**	P	**P**	**06 57 56.9**	**+2.1**
G23K				IAmb	IAmb	06 58 32.7	
ILAR	comp=Z,5.0nm,1.5s **Eielson Array**	**21.54**	**41**	P	**P**	**06 58 00.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=246,slow=8.4,SNR=7.6 comp=Z,0.2nm,0.6s						
D23K	**Nanushuk River**	**22.05**	**29**	P	**P**	**06 58 06.7**	**+2.1**
D23K				IAmb	IAmb	06 58 11.5	
GLB	comp=Z,5.5nm,1.4s **Gilahina Butte**	**22.16**	**51**	P	**P**	**06 58 07.3**	**+1.4**
GLB				IAmb	IAmb	06 58 22.2	
D24K	comp=Z,16nm,1.5s **Happy Valley**	**22.71**	**30**	P	**P**	**06 58 13.5**	**+2.1**
D24K				IAmb	IAmb	06 58 44.0	
F25K	comp=Z,4.8nm,1.3s **Christian Rive**	**23.04**	**35**	P	**P**	**06 58 15.5**	**+0.8**
BCAR	**Beaver Creek A**	**23.33**	**47**	P	**P**	**06 58 18.7**	**+1.3**
I28M	**Miner Creek**	**24.56**	**42**		**P**	**06 58 29.3**	**+0.7**
ERM	**Erimo**	**25.95**	**261**	P	**P**	**06 58 42.6**	**+1.4**
INK	**Inuvik**	**27.61**	**37**	P	**P**	**06 58 58.5**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=272,slow=9.9,SNR=5.4 comp=Z,0.4nm,0.4s						
JTM	**Tenmabayashi**	**27.94**	**261**	P	**P**	**06 58 58.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**31.57**	**274**	P	**P**	**06 59 30.0**	**-1.2**
BBB	**Bella Bella**	**32.01**	**69**	LR	LR	07 11 43.5	
	comp=Z,74nm,19.7s,baz=192,slow=35						
MAJO	**Matsushiro**	**32.37**	**257**	P	**P**	**06 59 37.8**	**-0.5**
YKA	**Yellowknife Ar**	**35.75**	**47**	P	**P**	**07 00 08.7**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=281,slow=8.9,SNR=4.8						
YKA				LR	LR	07 17 31.0	
	comp=Z,117nm,18.3s,baz=360,slow=41 comp=Z,0.2nm,0.5s						
HUH	**Hualalai**	**38.22**	**139**	P	**P**	**07 00 29.1**	**+0.3**
I02E	**Swisshome, OR**	**38.31**	**79**	P	**P**	**07 00 29.1**	**+0.1**
PDAR	**Pinedale Array**	**47.56**	**72**	P	**P**	**07 01 42.1**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=291,slow=5.5,SNR=2.3 comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**60.10**	**80**	P	**P**	**07 03 13.2**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=320,slow=7.5,SNR=2.9 comp=Z,0.4nm,0.6s						
BOOM	**Boomskoye usch**	**64.38**	**307**	P	**P**	**07 03 44.9**	**+1.2**

IDC 13 07:08:34.1±2.0, 4°.48N×124°.85E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=133.7km s-min=25.7km az=68.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.45**	**178**	P	P	07 13 36.8	+2.0
	0.9nm,0.3s,baz=18,slow=9.5,SNR=7.3 0.9nm,0.3s						
WRA	**Warramunga Arr**	**26.00**	**159**	P	P	07 14 07.8	-1.1
	0.4nm,0.5s,baz=332,slow=10,SNR=2.4 0.4nm,0.5s						
ASAR	**Alice Springs**	**29.34**	**163**	P	P	07 14 38.2	-0.6
	0.2nm,0.3s,baz=342,slow=7.6,SNR=6.9 0.2nm,0.3s						
MKAR	**Makanchi Array**	**55.88**	**326**	P	P	07 18 13.7	0.0
	0.2nm,0.4s,baz=126,slow=7.2,SNR=4.8 0.2nm,0.4s						

*NEIC **13** 07:09:11.5±1.5, 51°.6N±0°.2×179°.54E±0°.08, h70km±10km, mb4.3/89, ML4.1(AEIC), Error ellipse: s-maj=25.1km s-min=6.8km az=180.0*
*IDC **13** 07:09:11.5±0.9, 51°.70N×179°.61E, h74km±5km, mb4.1/24, mbtmp4.4/28, MS3.3/3, Error ellipse: s-maj=22.5km s-min=7.9km az=6.0*
*AEIC **13** 07:09:12.2±1.9, 51°.9N±0°.2×179°.67E±0°.08, h67km±7km, Error ellipse: s-maj=23.6km s-min=6.8km az=186.0*
ISC 13 07:09:11.9±0.6, 51°.70N±0°.09×179°.57E±0°.04, h78km±4km, h78km: pP-P, n148, σ1±48/129, mb4.3/56, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**0.99**	**85**		**Pn**	**07 09 30.2**	**-0.4**
GANO	**Gareloi North**	**1.02**	**82**		**Pn**	**07 09 30.4**	**-0.6**
GALAA	**Gareloi Lava P**	**1.04**	**86**		**Pn**	**07 09 30.7**	**-0.5**
GAEA	**Gareloi East**	**1.05**	**85**		**Pn**	**07 09 31.0**	**-0.5**
TASE	**Tanaga Southea**	**1.50**	**84**		**Pn**	**07 09 36.7**	**-0.4**
TAFP	**Tanaga Falls P**	**1.54**	**81**		**Pn**	**07 09 37.3**	**-0.2**
TAFP					**Sn**	**07 09 56.3**	**-0.7**
KICM	**Kanaga Island**	**2.02**	**82**		**Pn**	**07 09 44.4**	**+0.4**
KIWB	**Kanaga Island**	**2.05**	**84**		**Pn**	**07 09 44.0**	**-0.3**
KIWB	**Kanaga Island**	**2.05**	**84**		**Sn**	**07 10 10.1**	**+1.1**
KIRH	**Kanaga Island**	**2.08**	**83**		**Pn**	**07 09 44.4**	**-0.4**
KIRH					**Sn**	**07 10 10.5**	**+0.6**
ADK	**Adak**	**2.34**	**84**		**Pn**	**07 09 47.7**	**-0.4**
ADK	**Adak**	**2.34**	**84**		**Sn**	**07 10 15.2**	**-0.8**
GSCK	**Great Sitkin C**	**2.67**	**82**		**Pn**	**07 09 52.3**	**-0.4**
GSSP	**Great Sitkin S**	**2.67**	**80**		**Pn**	**07 09 52.1**	**-0.5**
GSMY	**Great Sitkin M**	**2.74**	**81**		**Pn**	**07 09 53.4**	**-0.2**
GSTR	**Great Sitkin T**	**2.74**	**80**	Pn	**Pn**	**07 09 53.1**	**-0.5**
SHEM	**Shemya Is, Ala**	**3.52**	**289**	P	**Pn**	**07 10 03.7**	**-0.4**
	70nm,0.3s,baz=89,slow=2.6,SNR=36						
SHEM				S	**Sn**	**07 10 44.3**	**-0.2**
	177nm,0.3s,baz=127,slow=20,SNR=12						
SHEM				LR	LR	07 11 00.3	
	comp=Z,98nm,18.7s,baz=113,slow=31						
ATKA	**Atka Island**	**3.89**	**80**	Pn	**Pn**	**07 10 09.1**	**-0.2**
ATKA	**Atka Island**	**3.89**	**80**		**Sn**	**07 10 52.5**	**-1.2**
OKWE	**Okmok W'ng Wal**	**7.64**	**72**		**Pn**	**07 11 02.3**	**+1.9**
OKFG	**Magazine Ridge**	**7.83**	**72**		**Pn**	**07 11 04.4**	**+1.5**
P08K	**Saint George I**	**8.06**	**48**		**Pn**	**07 11 06.8**	**+0.8**
P08K					**Sn**	**07 12 34.3**	**-1.1**
SPIA	**Saint Paul Isl**	**8.08**	**43**		**Pn**	**07 11 07.3**	**+0.9**
SPIA					**Sn**	**07 12 37.1**	**+1.1**
MSW	**Makushin Switc**	**8.57**	**70**		**Pn**	**07 11 14.2**	**+1.2**
MTBL	**Makushin Table**	**8.64**	**69**		**Pn**	**07 11 15.7**	**+1.7**
UNV	**Unalaska Valle**	**8.72**	**70**	Pn	**Pn**	**07 11 16.2**	**+1.2**
LVA	**Lava Point**	**9.04**	**69**		**Pn**	**07 11 21.8**	**+2.3**
ZRO	**Akutan Zero**	**9.06**	**69**		**Pn**	**07 11 22.3**	**+2.5**
AKGG	**Akutan Green G**	**9.07**	**68**		**Pn**	**07 11 21.9**	**+2.0**
AKBBA	**Akutan Broad B**	**9.09**	**69**		**Pn**	**07 11 21.5**	**+1.3**
WECS	**Westdahl Cape**	**9.83**	**67**		**Pn**	**07 11 32.6**	**+2.3**
WEBT	**Westdahl Beart**	**9.86**	**67**		**Pn**	**07 11 33.2**	**+2.6**
SSLS	**Shishaldin Sou**	**10.31**	**67**		**Pn**	**07 11 39.1**	**+2.3**
ISLZ	**Isanotski Laza**	**10.48**	**67**		**Pn**	**07 11 40.3**	**+1.2**
FALS	**False Pass**	**10.67**	**66**		**Pn**	**07 11 42.4**	**+0.8**
CNBA	**Chernabura Isl**	**12.86**	**68**	Pn	**Pn**	**07 12 09.5**	**-1.8**
PETK	**Petropavlovsk-**	**13.42**	**285**	P	**Pn**	**07 12 17.3**	**-1.5**
	1.5nm,0.5s,baz=88,slow=11,SNR=1.6						
PETK				S	**Sn**	**07 14 40.0**	**-6.1**
	2.0nm,0.5s,baz=90,slow=20,SNR=5.7						
CHGN	**Chignik**	**13.72**	**62**		**Pn**	**07 12 21.8**	**-1.0**
M16K	**Timber Creek**	**15.06**	**43**	Pn	**P**	**07 12 41.6**	**-2.0**
M16K				IAmb	IAmb	07 12 47.1	
	comp=Z,12nm,0.8s						
ACHA	**Angle Creek He**	**15.77**	**56**	Pn	**P**	**07 12 50.2**	**-1.3**
M17K	**Holitna River**	**15.88**	**43**	P	**P**	**07 12 56.0**	**+3.3**
M17K				IAmb	IAmb	07 12 58.8	
	comp=Z,17nm,0.7s						
F15K	**North Star Dit**	**16.19**	**24**	P	**P**	**07 12 57.6**	**+1.5**
O18K	**Koktuh Hills**	**16.29**	**50**	P	**P**	**07 12 59.0**	**+1.7**
O18K				IAmb	IAmb	07 13 00.9	
	comp=Z,27nm,0.9s						
Q19K	**Cape Douglas,**	**16.79**	**54**	P	**P**	**07 13 03.9**	**+1.1**
N19K	**Bonanza Creek**	**16.95**	**47**	IAmb	IAmb	07 13 26.2	
	comp=Z,17nm,0.9s						
H17K	**Granite Mounta**	**16.98**	**31**	P	**P**	**07 13 06.7**	**+1.9**
KDAK	**Kodiak Island**	**17.11**	**58**	P	**Pn**	**07 13 04.7**	**-1.1**
KDAK	**Kodiak Island**	**17.11**	**58**	P	**Pn**	**07 13 03.4**	**-2.3**
	comp=Z,8.8nm,0.3s,baz=129,slow=6.4,SNR=75						
KDAK				S	**Sn**	**07 16 09.0**	**-6.3**
	comp=Z,6.1nm,0.9s,baz=258,slow=7.7,SNR=1.8						
BILL	**Bilibino**	**17.63**	**343**	P	**P**	**07 13 14.5**	**+2.7**
BILL				IAmb	IAmb	07 13 17.6	
	comp=Z,11nm,0.7s						
CNPM	**China Poot**	**18.14**	**53**	P	**Pn**	**07 13 19.4**	**+1.2**
CNPM				IAmb	IAmb	07 14 00.4	
	comp=Z,38nm,1.2s						
C16K	**Lisburne Hills**	**18.16**	**18**	IAmb	IAmb	07 13 27.2	
	comp=Z,17nm,0.8s						
SPU	**Mount Spurr**	**18.19**	**48**		**Pn**	**07 13 19.5**	**+0.6**
SEY	**Seymchan**	**18.33**	**318**	P	**P**	**07 13 19.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=118,slow=11,SNR=7.6						
E18K	**Tukpahlearik C**	**18.54**	**24**	P	**Pn**	**07 13 25.4**	**+2.3**
G19K	**Purcell Mounta**	**18.66**	**30**	IAmb	IAmb	07 13 31.5	
	comp=Z,19nm,0.8s						
SEW	**Seward**	**19.14**	**52**	P	**Pn**	**07 13 30.8**	**+0.6**
SEW				IAmb	IAmb	07 13 36.5	
	comp=Z,22nm,0.7s						
C18K	**Utukok River**	**19.35**	**21**	IAmb	IAmb	07 13 38.7	
	comp=Z,13nm,0.8s						
H21K	**Melozitna Rive**	**19.80**	**35**	IAmb	IAmb	07 13 42.3	
	comp=Z,17nm,0.7s						
D19K	**Kuna River**	**19.97**	**24**	IAmb	IAmb	07 13 41.2	
	comp=Z,16nm,0.8s						
G21K	**Allakaket**	**20.04**	**32**	IAmb	IAmb	07 13 41.6	
	comp=Z,13nm,0.8s						
F21K	**Alatna River**	**20.45**	**30**	IAmb	IAmb	07 13 48.8	
	comp=Z,7.3nm,0.7s						
NEA2	**Nenana**	**20.71**	**39**	IAmb	IAmb	07 13 50.6	
	comp=Z,13nm,0.8s						
I23K	**Minto, Yukon-K**	**20.83**	**38**	IAmb	IAmb	07 13 53.6	
	comp=Z,5.6nm,0.6s						
E21K	**Killik River**	**21.06**	**27**	IAmb	IAmb	07 13 53.6	
	comp=Z,8.7nm,0.6s						
COLD	**Coldfoot**	**21.52**	**32**	P	**P**	**07 13 55.8**	**+1.7**
COLD				IAmb	IAmb	07 13 58.8	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**21.64**	**40**	P	**P**	**07 13 55.0**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=173,slow=15,SNR=5.5						
ILAR				PcP	**PcP**	**07 17 52.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=279,slow=3.1,SNR=8.1						
ILAR				ScP	**ScP**	**07 21 21.8**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=283,slow=3.4,SNR=16 comp=Z,0.8nm,0.5s						
B21K	**Ikpikpuk River**	**21.66**	**24**	IAmb	IAmb	07 13 59.0	
	comp=Z,9.6nm,0.8s						
H24K	**Noodor Dome**	**21.68**	**37**	IAmb	IAmb	07 13 59.8	
	comp=Z,8.8nm,0.8s						
D22K	**Ayikyak River**	**21.70**	**27**	IAmb	IAmb	07 14 00.5	
	comp=Z,14nm,0.8s						
TOLK	**Toolik Lake Re**	**22.48**	**29**	P	**P**	**07 14 06.0**	**+1.6**
TOLK				IAmb	IAmb	07 14 06.9	
	comp=Z,9.5nm,0.7s						
C23K	**Itkillik River**	**22.87**	**26**	IAmb	IAmb	07 14 10.7	
	comp=Z,19nm,1.2s						
J26L	**Joseph Creek**	**22.91**	**42**	IAmb	IAmb	07 14 11.1	
	comp=Z,6.4nm,0.7s						
FYU	**Fort Yukon**	**22.96**	**36**	IAmb	IAmb	07 14 12.1	
	comp=Z,12nm,0.7s						
F25K	**Christian Rive**	**23.24**	**34**	IAmb	IAmb	07 14 15.1	
	comp=Z,7.8nm,1.0s						
C24K	**Franklin Bluff**	**23.34**	**28**	IAmb	IAmb	07 14 15.2	
	comp=Z,13nm,0.9s						
F26K	**Sheenjek River**	**23.80**	**34**	IAmb	IAmb	07 14 19.4	
	comp=Z,6.8nm,0.7s						
D25K	**Kavik River**	**23.82**	**30**	IAmb	IAmb	07 14 20.3	
	comp=Z,9.4nm,0.7s						
EGAK	**Eagle**	**23.98**	**42**	P	**P**	**07 14 20.1**	**+1.3**
EGAK				IAmb	IAmb	07 14 22.1	
	comp=Z,9.8nm,0.8s						
I28M	**Miner Creek**	**24.65**	**41**	P	**P**	**07 14 24.5**	**-0.5**
M29M	**Somme Creek**	**24.75**	**48**	IAmb	IAmb	07 14 29.6	
	comp=Z,5.4nm,0.7s						
C27K	**Jago River**	**24.79**	**30**	IAmb	IAmb	07 14 29.6	
	comp=Z,9.1nm,0.8s						
L29M	**L29M**	**24.99**	**46**	P	**P**	**07 14 27.3**	**-0.7**
L29M				IAmb	IAmb	07 14 32.4	
	comp=Z,14nm,1.4s						
F28M	**Old Crow**	**25.30**	**36**	P	**P**	**07 14 30.7**	**0.0**
F28M				IAmb	IAmb	07 14 34.7	
	comp=Z,6.4nm,0.8s						
D27M	**Malcolm River**	**25.50**	**32**	IAmb	IAmb	07 14 35.1	
	comp=Z,10.0nm,0.7s						
G29M	**Pine Creek**	**25.78**	**38**	IAmb	IAmb	07 14 40.4	
	comp=Z,5.3nm,0.5s						
E29M	**Blow River**	**26.25**	**34**	IAmb	IAmb	07 14 45.3	
	comp=Z,3.6nm,0.5s						
F31M	**Tsiigehtchic**	**27.52**	**37**	IAmb	IAmb	07 15 00.4	
	comp=Z,11nm,1.4s						
INK	**Inuvik**	**27.79**	**36**	IAmb	IAmb	07 14 59.7	
	comp=Z,8.0nm,1.4s						
INK	**Inuvik**	**27.79**	**36**	P	**P**	**07 14 53.5**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=253,slow=7.2,SNR=19						
INK				ScP	**ScP**	**07 21 39.5**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=319,slow=1.3,SNR=3.3 comp=Z,1.8nm,0.5s						
C36M	**Paulatuk**	**31.34**	**35**	IAmb	IAmb	07 15 26.1	
	comp=Z,6.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.24**	**276**	P	**P**	**07 15 32.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=52,slow=9.8,SNR=6.0 comp=Z,0.9nm,0.4s						
HEH	**HeiHe**	**32.30**	**288**	*eP*	**P**	**07 15 32.8**	**-0.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
H11N2	**WAKE IS

MK31	Makanchi Array	59.03	307			P		07 19 03.4 0.0
MKAR	Makanchi Array	59.03	307			P		07 19 03.5 +0.1
MKAR	Makanchi Array	59.03	307	P		P		07 19 03.4 0.0
	comp=Z,5.8nm,0.3s,baz=48,slow=6.8,SNR=120							
	comp=Z,5.8nm,0.3s							
MAKZ	Makanchi	59.18	308			P		07 19 04.6 +0.2
TXAR	Lajitas Array	59.61	80	P		P		07 19 07.5 -0.2
	comp=Z,0.6nm,0.6s,baz=303,slow=5.2,SNR=13							
TXAR				pP		pP		07 19 25.3 -1.7
	comp=Z,1.5nm,0.8s,baz=293,slow=5.2,SNR=7.8							
	comp=Z,0.6nm,0.6s							
BVAR	Borovoye Array	59.98	319	P		P		07 19 10.1 +0.3
	comp=Z,4.6nm,0.5s,baz=51,slow=6.5,SNR=14							
BVAR				pP		pP		07 19 29.7 +0.3
	comp=Z,2.3nm,0.5s,baz=46,slow=7.7,SNR=3.5							
	comp=Z,4.6nm,0.5s							
SCHQ	Schefferville	60.38	38	P		P		07 19 12.3 -0.2
	comp=Z,1.2nm,0.4s,baz=329,slow=5.9,SNR=6.2							
	comp=Z,1.2nm,0.4s							
ARTI	Arti	61.88	327	P		P		07 19 23.7 +1.1
	comp=Z,2.3nm,0.3s,baz=39,slow=4.9,SNR=3.6							
	comp=Z,2.3nm,0.3s							
FINES	FINESS Array B	65.24	346	P		P		07 19 43.7 -0.9
	comp=Z,3.4nm,0.8s,baz=29,slow=4.4,SNR=4.6							
	comp=Z,3.4nm,0.8s							
AAK	Ala-Archa	65.87	309	P		P		07 19 50.0 +0.9
	comp=Z,16nm,0.7s,baz=110,slow=3.6,SNR=47							
	comp=Z,16nm,0.7s							
AKTO	Aktyubinsk	66.83	324	P		P		07 19 56.0 +1.0
	comp=Z,2.1nm,0.5s,baz=65,slow=7.7,SNR=10							
	comp=Z,2.1nm,0.5s							
ABKAR	Akbulak array	67.06	322	P		P		07 19 56.7 +0.3
NB2	NORSAR Subarra	67.23	354	P		P		07 19 57.5 +0.1
	comp=Z,2.4nm,0.6s,baz=7.9,slow=6.5							
NOA	NORSAR Array B	67.23	354	P		P		07 19 56.8 -0.6
	comp=Z,4.8nm,0.7s,baz=2.5,slow=5.7,SNR=12							
	comp=Z,4.8nm,0.7s							
KKAR	Karatay Array	67.41	311			P		07 19 59.8 +1.0
KSH	Kashi	67.49	306	P		P		07 20 04.1 +4.6
KSH				pmax	pmax			
	comp=Z,20nm,0.7s							
HFS	Hagfors	67.94	352	P		P		07 20 01.2 -0.6
	comp=Z,4.3nm,0.4s,baz=13,slow=3.2,SNR=26							
	comp=Z,4.3nm,0.4s							
CMAR	Chiang Mai Arr	69.97	275	P		P		07 20 14.9 -0.1
	comp=Z,1.1nm,0.5s,baz=29,slow=6.9,SNR=9.0							
	comp=Z,1.1nm,0.5s							
EKA	Eskdalemuir Ar	73.31	2	P		P		07 20 35.0 +0.5
	comp=Z,3.8nm,0.8s,baz=356,slow=5.7,SNR=6.2							
	comp=Z,3.8nm,0.8s							
AKASG	Malin Array Be	74.92	341	P		P		07 20 43.4 -0.6
	comp=Z,1.5nm,0.3s,baz=22,slow=6.6,SNR=6.8							
	comp=Z,1.5nm,0.3s							
JTS	Las Juntas de	85.39	79	LR		LR		08 01 16.6
	comp=Z,29nm,20.7s,baz=302,slow=37							
MDT	Midelt	95.77	4	LR		LR		08 05 55.4
	comp=Z,25nm,20.9s,baz=60,slow=36							
H03N2	Juan Fernandez	122.21	104	T		T		09 42 30.3
	baz=314,slow=77,SNR=5.7							
H03N1	Juan Fernandez	122.23	104	T		T		09 42 29.7
	baz=314,slow=77,SNR=7.1							
H03N3	Juan Fernandez	122.23	104	T		T		09 42 21.3
	baz=314,slow=77,SNR=7.7							
BOSA	Boshof	150.00	310	PKPbc		PKPbc		07 28 53.8 +0.5
	comp=Z,8.6nm,0.6s,baz=27,slow=2.8,SNR=26							

NEIC ***13*** *07:16:52.0±1.0, 7.74S±0.07×128.39E±0.08, h92km±20km, mb4.2/6, Error ellipse: s-maj=13.2km s-min=7.5km az=129.0*

IDC ***13*** *07:17:07.1±8.3, 8.76S×128.26E, h166km±67km, mb3.4/1, mbtmp3.8/4, MS3.4/1, Error ellipse: s-maj=65.6km s-min=49.0km az=2.0*

ISC 13 07:16:51.6±1.0, 7.78S±0.07×128.29E±0.06, h100km, n31, σ3§13/36, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.43	243	Pn	Pn	07 17 58.4	+1.7
SOEI				Sn	Sn	07 18 50.0	+2.6
DRS	Darwin Rock St	5.29	151	P	Pn	07 18 12.8	+4.5
DRS	Darwin Rock St	5.29	151	S	Sn	07 19 11.6	+3.5
MTN	Manton Dam	5.76	151	Pn	Pn	07 18 14.8	+0.1
MTN				Sn	Sn	07 19 20.2	+0.7
FAKI	Fak Fak	6.23	39	Pn	Pn	07 18 19.1	-2.1
FAKI				Sn	Sn	07 19 28.2	-2.9
KDU	Kakadu	6.38	140	P	Pn	07 18 27.0	+3.8
KDU	Kakadu	6.38	140	S	Sn	07 19 35.5	+0.8
KNRA	Kununurra	7.86	177	Pn	Pn	07 18 45.4	+2.1
KNRA				Sn	Sn	07 20 08.4	-2.3
FITZ	Fitzroy Crossi	10.58	194	Pn	Pn	07 19 20.8	+0.6
FITZ	Fitzroy Crossi	10.58	194	P	Pn	07 19 20.7	+0.5
	1.8nm,0.3s,baz=11,slow=13,SNR=27						
FITZ				S	Sn	07 21 11.4	-5.3
	4.0nm,0.3s,baz=105,slow=17,SNR=8.2						
FITZ	Fitzroy Crossi	10.58	194	P	Pn	07 19 23.1	+2.9
	17nm,1.5s						
WB0	Warramunga Arr	13.31	154	Pn	Pn	07 19 56.7	0.0
WRA	Warramunga Arr	13.44	155	Pn	Pn	07 19 58.0	-0.4
WRA	Warramunga Arr	13.44	155	P	Pn	07 19 58.7	+0.3
	0.5nm,0.4s,baz=332,slow=11,SNR=9.0						
WRA				S	Sn	07 22 18.8	-7.5
	3.2nm,0.5s,baz=330,slow=24,SNR=12						
WR8	Warramunga Arr	13.52	154	Pn	Pn	07 19 59.4	0.0
COEN	Coen	15.85	114		Pn	07 20 29.1	-0.1
COEN				IAmb	IAmb	07 20 50.3	
	comp=Z,7.2nm,1.1s						
PSA00	Pilbara Seismi	15.95	210	Pn	Pn	07 20 29.8	-0.6
PSA00				IAmb	IAmb	07 20 38.2	
	comp=Z,28nm,1.4s						
AS31	Alice Springs	16.69	162	P	P	07 20 40.4	+0.2
ASAR	Alice Springs	16.69	162		P	07 20 40.8	+0.5
ASAR	Alice Springs	16.69	162	P	P	07 20 41.1	+0.9
	comp=Z,2.6nm,0.6s,baz=337,slow=10,SNR=23						
ASAR				S	Sn	07 23 37.8	-7.2
	comp=Z,1.2nm,0.6s,baz=342,slow=24,SNR=9.2						
AS01	Alice Springs	16.70	162	P	P	07 20 43.7	+3.3
	comp=Z,4.5nm,0.8s						
QIS	Mount Isa	16.77	140	P	P	07 20 44.8	+3.7
MEEK	Meekatharra	20.89	205	P	Pn	07 21 30.1	+0.7
OOD	Oodnadatta	21.11	162	P	P	07 21 33.5	+5.3
FORT	Forrest	22.88	181	P	P	07 21 47.7	+0.9
FORT				IAmb	IAmb	07 21 51.1	
	comp=Z,30nm,1.1s						
INKA	Innaminka	23.09	151	P	P	07 21 53.8	+4.9
LCRK	Leigh Creek	24.40	159	P	P	07 22 04.2	+3.5
BBOO	Buckleboo	25.93	165	P	P	07 22 15.4	+0.8
STKA	Stephens Creek	26.99	154	P	P	07 22 24.7	+0.6
STKA				IAmb	IAmb	07 22 26.9	
	comp=Z,8.3nm,1.3s						
STKA	Stephens Creek	26.99	154	P	P	07 22 26.8	+2.6
	comp=Z,0.7nm,0.4s,baz=328,slow=11,SNR=3.6						
	comp=Z,0.7nm,0.4s						
JCJ	Chichijima	37.19	21	LR	LR	07 39 22.2	
	comp=Z,50nm,19.3s,baz=177,slow=35						

UCR ***13*** *07:23:25.1±1.1, 8.85N×84.18W, h0km±3km, MW5.1, Fault plane solution: NP1:φs127.12000°, δ75.92000°, λ69.35000°.*

IDC ***13*** *07:23:26.9±1.1, 9.44N×83.76W, h0km, mb3.8/9, mbtmp3.8/11, ML3.1/2, MS3.8/16, Error ellipse: s-maj=32.4km s-min=16.4km az=34.0*

UPA ***13*** *07:23:28.2±2.4, 8.90N×84.14W, h9km±14km, MW4.9*

CATAC ***13*** *07:23:30.7±0.5, 9.N±10.×8.4W±., h24km±8km, M5.0/7, MLv5.0/7, rejected*

NEIC ***13*** *07:23:32.3±1.8, 9.09N±0.08×84.02W±0.05, h35km±11km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=5.5km az=207.0*

RSNC ***13*** *07:23:32.7±0.3, 9.N±2.×8.4W±., h34km, M4.5, mB5.6, mb4.5, mBc6.9, Mjma4.6, ML5.0, ML3.9, MLh4.5, MLv4.7, Ms(BB)4.1, Mw(mB)5.1*

ISC 13 07:23:28.2±1.1, 8.97N±0.03×84.09W±0.03, h15km±7km, n228, σ1§60/239, mb4.0/12, MS3.9/13, 15C-37D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	Ojochal	0.45	73	P	Pg	07 23 36.8	-0.5
LLNJ	Naranjito	0.51	358	∥eP	Pb	07 23 38.3	-0.5
LLNJ				eS	Sn	07 23 47.1	-2.3
EDPE	Pejibaye, P	0.54	69	∥eP	Pg	07 23 38.2	-0.7
PISJ	San Jernim	0.66	357	∥eP	Pb	07 23 41.2	-0.4
PICV	PH. Pirrs	0.67	351	∥eP	Pb	07 23 40.9	-0.7
PICV				eS	Sn	07 23 52.8	-0.6
BUS1	Rivas	0.67	30	eP	Pb	07 23 41.1	-0.8
RAZU	San Marcos de	0.69	5	∥eP	Pb	07 23 41.5	-0.6
RAZU				eS	Sn	07 23 54.5	+0.3
FIMO	Fila Mora	0.72	88	∥eP	Pg	07 23 41.5	-0.9
FIMO				eS	Sn	07 23 54.2	-0.7
ABE2	San Pablo	0.74	2	eP	Pb	07 23 42.5	-0.4
BURE	Buenos Aires	0.77	74	∥eP	Pg	07 23 42.3	-0.9
LCR2	La Lucha 2	0.78	6	∥eP	Pb	07 23 42.9	-0.7
ACOS	Acosta	0.83	355	∥eP	Pb	07 23 43.8	-0.7
JIME	Puerto Jimenez	0.86	119	∥eP	Pg	07 23 43.9	-1.1
DRK0	Durika	0.88	70	∥eP	Pg	07 23 44.5	-0.9
REPA	Paraso	0.88	14	∥eP	Pb	07 23 44.7	-0.7
EDP2	Potrero Grande	0.90	87	eP	Pg	07 23 44.5	+1.1
TAGO	Cartago	0.91	10	∥eP	Pb	07 23 45.4	-0.4
TAGO				eS	Sn	07 23 59.8	+0.2
AMPA	Desamparados	0.93	1	∥eP	Pg	07 23 45.2	-1.0
PIRO	Carate, Puerto	0.93	127	∥eP	Pb	07 23 44.3	-1.7
TRIO	Tres Rios	0.94	6	∥eP	Pg	07 23 45.5	-1.0
LUJA	Lujan	0.95	1	∥eP	Pn	07 23 46.9	-0.3
CENT	San Jose	0.96	0	eP	Pg	07 23 46.0	-0.9
EDAD	Golfito	0.96	109	eP	Pb	07 23 44.5	-2.1
SANTA	Santa Ana	0.97	354	∥eP	Pg	07 23 46.0	-0.9
SJS3	Mercedes San J	0.97	2	∥eP	Pb	07 23 46.3	-0.5
SJS	Escuela Geolog	0.97	2	∥eP	Pg	07 23 46.1	-0.9
MEXI	Barrio Mexico	0.97	360	eP	Pb	07 23 46.2	-0.6
LUPE	Guadalupe	0.98	2	∥eP	Pb	07 23 46.4	-0.6
CORON	Coronado	1.00	5	eP	Pb	07 23 47.0	-0.5
BELE	Belen	1.01	354	∥eP	Pn	07 23 47.8	-0.2
DOMI	Santo Domingo	1.01	360	∥eP	Pg	07 23 47.0	-0.8
TURIB	Turrialba	1.02	23	∥eP	Pb	07 23 46.9	-0.7
RAFA	San Farael, Vo	1.02	15	∥eP	Pb	07 23 47.4	-0.4
HDC	Heredia	1.03	358		Pn	07 23 47.8	-0.5
HDC	Heredia	1.03	358	eP	Pg	07 23 47.3	-0.9
HDC				eS	Sb	07 24 00.4	-0.9
VICA	Volcano Irazu	1.04	13	∥eP	Pb	07 23 47.7	-0.5
VERB	Verbena	1.05	22	∥eP	Pg	07 23 47.7	-0.8
CVIMO	Finca Echandi	1.06	8	∥eP	Pg	07 23 48.0	-0.8
VTCV	VTCV, Calle Va	1.07	19	∥eP	Pn	07 23 48.3	-0.6
VTLA	Turrialba Volc	1.08	17	∥eP	Pg	07 23 48.3	-0.8
CVTQ	Turrialba Volc	1.08	17	∥eP	Pn	07 23 48.5	-0.6
CVTV	Tajo	1.08	18	∥eP	Pn	07 23 48.6	-0.5
RVSTA	Santa Teresita	1.09	23	∥eP	Pg	07 23 48.5	-0.8
VTR0	Volcan Turrial	1.09	17	eP	Pn	07 23 48.7	-0.7
CVTR	Volcan Turrial	1.10	17	∥eP	Pg	07 23 48.8	-0.7
GREC	Grecia	1.12	349	∥eP	Pg	07 23 49.1	-0.9
VBV1	V. Barva	1.14	359	∥eP	Pg	07 23 49.4	-1.0
NARAN	Naranjo de Ala	1.16	346	∥eP	Pb	07 23 49.5	-0.6
NELY	Ciudad Neily	1.17	105	eP	Pn	07 23 48.8	-1.3
ARZA	Esparza	1.17	331	∥eP	Pb	07 23 49.5	-0.7
CBL1	Cabuya	1.17	302	∥eP	Pb	07 23 47.7	-2.5
RAMO	San Ramon	1.18	341	eP	Pb	07 23 49.7	-0.6
SRA1	San Ramn	1.18	341	∥eP	Pb	07 23 49.0	-1.4
CVTG	V. Turrialba,	1.21	15	∥eP	Pg	07 23 50.9	-0.7
ALCO	Alturas Coton,	1.24	91	eP	Pn	07 23 49.6	-1.5
RVLA	Villa Bonita	1.24	23	eP	Pg	07 23 51.2	-0.9
ZARE	Zarcero	1.25	346	∥eP	Pn	07 23 51.0	-0.4
MLIR3	Monte Lirio, C	1.26	98	eP	Pn	07 23 50.9	-0.5
MLIR3				eS	Sg	07 24 10.4	+1.5
CDITO	Canoas	1.26	108	P	Pn	07 23 50.0	-1.3
IRES	Siquirres	1.26	27	eP	Pg	07 23 51.7	-0.8
LPPC	Paso Canoas	1.30	109	eP	Pn	07 23 50.8	-1.1
TAAN	Batan	1.33	33	eP	Pg	07 23 52.9	-1.0
BRIBI	Bribri	1.38	62	∥eP	Pg	07 23 54.5	-0.4
BRU2	Volcan	1.39	97		Pn	07 23 52.5	-0.7
BRU2	Volcan	1.39	97	∥eP	Pn	07 23 52.3	-0.9
BRU2	Volcan	1.39	97	eP	Pn	07 23 52.3	-0.9
BRU2				eS	Sg	07 24 12.3	-0.8
PTPM	Petroterminale	1.41	122	eP	Pn	07 23 52.4	-1.0
PTPM				eS	Sn	07 24 11.6	-0.1
CARI	Cariari	1.43	14	∥eP	Pg	07 23 55.3	-0.5
BC3P	Paso Ancho	1.47	96	eP	Pn	07 23 53.8	-0.5
BC3P				eS	Sg	07 24 15.1	-0.5
SARA	Sarapiqu	1.48	2	eP	Pb	07 23 54.5	-0.9
LIMO3	Limones	1.48	125	eP	Pn	07 23 53.9	-0.4
ITAL	Pital	1.49	353	eP	Pn	07 23 54.4	0.0
SOCE	Pocosol	1.50	340		Pn	07 23 54.6	-0.2
SOCE	Pocosol	1.50	340	∥eP	Pn	07 23 54.2	-0.5
SOCE	Pocosol	1.50	340	P	Pn	07 23 54.5	-0.2
MTEVE	Monteverde	1.53	332	eP	Pn	07 23 54.3	-0.9
JUNT	Juntas	1.57	327	eP	Pn	07 23 54.5	-1.1
JTS	Las Juntas de	1.57	327		Pn	07 23 54.2	-1.4
JTS	Las Juntas de	1.57	327	Pn	Pn	07 23 54.1	-1.4
	108nm,0.3s,baz=103,slow=8.2,SNR=257						
JTS				Sn	Sb	07 24 16.0	-0.7
	213nm,0.3s,baz=315,slow=19,SNR=4.1						
JTS	Las Juntas de	1.57	327	P	Pn	07 23 53.9	-1.7
JTS				S	Sb	07 24 16.3	-0.4
JTS	Las Juntas de	1.57	327	∥eP	Pn	07 23 54.1	-1.5
JTS	Las Juntas de	1.57	327	eP	Pn	07 23 55.4	-0.2
JTS				eS	Sb	07 24 16.6	-0.1
JTS	Las Juntas de	1.57	327	P		07 23 53.9	
JTS				S		07 24 16.3	
TUNA	La Fortuna	1.59	340	eP	Pn	07 23 55.8	-0.1
PTAR3	Potrerillos Ar	1.59	100	eP	Pn	07 23 55.5	-0.5
FORC	Fortuna	1.60	339	eP	Pn	07 23 55.9	-0.1
VACR	Volcan Arenal	1.61	339	∥eP	Pn	07 23 55.9	-0.2
ARE1	Arenal 1	1.61	337	∥eP	Pn	07 23 56.2	0.0
VARE2	V. Arenal	1.61	337	eP	Pn	07 23 56.2	-0.2
CEDE	Laguna Cedeo	1.63	338	∥eP	Pn	07 23 56.4	-0.1
CNI2	El Empalme, Bo	1.66	74	i P	Pn	07 23 56.8	0.0
CNI2				i S	Sb	07 24 19.8	+0.6
INDI	Punta indio, G	1.66	303	P	Pb	07 23 58.3	-0.2
DVD	David	1.70	108	eP	Pn	07 23 57.3	0.0
DVD				eS	Sn	07 24 19.8	+0.9
PEDE3	Pedregal, Chir	1.74	109	eP	Pn	07 23 57.9	-0.1
LOMA3	Las Lomas, Chi	1.76	107	eP	Pn	07 23 58.2	+0.1
CNAS	Canas	1.76	326	eP	Pn	07 23 57.5	-0.7
PSOM3	Paja de Sombre	1.77	99	eP	Pn	07 23 57.6	-0.7
PSOM3				eS	Sn	07 24 20.8	+0.2
COVE	Coope Vega, Sa	1.77	350	P	Pn	07 23 58.6	+0.3
NICO	Nicoya	1.78	311	eP	Pn	07 23 58.4	0.0
PLVR	Palo Verde	1.86	318	eP	Pn	07 23 58.4	-1.3
CHGR2	Aguacate	1.92	91	eP	Pn	07 24 00.4	0.0
CHGR2				eS	Sn	07 24 25.3	+1.0
TENO	El Achiote	1.94	333	eP	Pn	07 24 00.1	-0.6
CUI	Cuipilapa	1.99	328	∥eP	Pn	07 24 01.0	-0.4
ALIBA	Liberia Airpor	2.17	318	eP	Pn	07 24 04.2	+0.5
MESA3	La Mesa, Verag	2.98	106	eP	Pn	07 24 15.5	+0.5
JAPN	Al SSO del Vol	2.99	329	P	Pb	07 24 22.0	+0.8
JAPN	Al SSO del Vol	2.99	329	P	Pb	07 24 19.6	-1.6
CONN	Concepcion	3.00	330	P	Pb	07 24 21.8	+0.5
CONN	Concepcion	3.00	330	P	Pb	07 24 21.4	+0.1
BLUN	Bluefields	3.04	6	P	Pn	07 24 16.1	+0.4
BLUN				S	Sb	07 24 59.1	+0.2
BLUN	Bluefields	3.04	6	P		07 24 16.1	
BLUN				S		07 24 59.1	
GMAL	Guarumal, Vera	3.06	113	P	Pn	07 24 16.1	0.0
GMAL				S	Sn	07 24 53.5	+0.9
GMAL	Guarumal, Vera	3.06	113	eP	Pn	07 24 15.8	-0.3
GMAL	Guarumal, Vera	3.06	113	P		07 24 16.1	
GMAL				S		07 24 53.5	
ACON	Acoyapa	3.17	340		Pn	07 24 18.5	+0.9
ACON	Acoyapa	3.17	340	P	Pn	07 24 19.1	+1.5
ACON				S	Sb	07 25 01.5	-1.3
ACON	Acoyapa	3.17	340	eP	Pn	07 24 17.2	-0.4
ACON	Acoyapa	3.17	340	P		07 24 19.1	
ACON				S		07 25 01.5	
STIA3	Santiago, Vera	3.20	105	eP	Pn	07 24 19.6	+1.6
ESPN	Las Esperanzas	3.22	356		Pn	07 24 18.9	+0.7
ESPN	Las Esperanzas	3.22	356	P	Pn	07 24 19.2	+1.0
ESPN				S	Sb	07 25 02.0	-2.1
ESPN	Las Esperanzas	3.22	356	P		07 24 19.2	
ESPN				S		07 25 02.0	
CALO3	Calobre, Verag	3.27	101	eP	Pn	07 24 20.3	+1.4
CRIS3	El Cristo, Coc	3.50	101	eP	Pn	07 24 23.3	+1.2
CRIS3				eS	Sn	07 25 06.4	+3.0
CACAO	El Cacao, Vera	3.58	117	P	Pn	07 24 26.7	+3.6
CACAO	El Cacao, Vera	3.58	117	eP	Pn	07 24 25.9	+2.8
CACAO				eS	Sn	07 25 05.4	+0.2
CACAO	El Cacao, Vera	3.58	117	P		07 24 26.7	
CRUN	El Crucero	3.71	324	P	Pn	07 24 26.0	+1.0
PNME	Penonome	3.75	97	eP	Pn	07 24 27.3	+1.8
CHIT3	Chitre	3.76	105	eP	Pn	07 24 28.1	+2.4
MGAN	Managua	3.81	326	Pn	Pn	07 24 27.7	+1.3
MGAN	Managua	3.81	326	P	Pn	07 24 28.8	+2.4
MGAN	Managua	3.81	326	P		07 24 28.8	
AZU	Azuero	3.95	107	P	Pn	07 24 30.4	+2.1
AZU				S	Sb	07 25 20.7	-4.4
AZU	Azuero	3.95	107	eP	Pn	07 24 29.0	+0.8
AZU	Azuero	3.95	107	eP	Pn	07 24 30.1	+1.9
AZU	Azuero	3.95	107	P		07 24 30.4	
AZU				S		07 25 20.7	
COPN	Copaltepe	4.04	323	P	Pn	07 24 31.1	+1.6
PCRI3	Pocri, Los San	4.13	108	eP	Pn	07 24 33.9	+3.0
ZANG	Zanguenga, Cho	4.17	90	eP	Pn	07 24 32.3	+1.0
MLIR	Monte Lirio	4.19	86	eP	Pn	07 24 32.7	+1.1
BCIP	Isla Barro Col	4.20	87	Pn	Pn	07 24 32.8	+1.0
BCIP	Isla Barro Col	4.20	87	P	Pn	07 24 32.5	+0.8
BCIP	Isla Barro Col	4.20	87	eP	Pn	07 24 31.8	0.0
BCIP	Isla Barro Col	4.20	87	eP	Pn	07 24 32.6	+0.8
BCIP	Isla Barro Col	4.20	87	P		07 24 32.5	
SAIC	Isla e San And	4.25	33	P		07 24 33.6	
SAIC				S		07 25 26.1	
SAIC	Isla e San And	4.25	33	P	Pn	07 24 33.6	+1.2
SAIC				S	Sn	07 25 26.1	+4.4
MACN	El Madrono	4.31	324	P	Pn	07 24 36.9	+3.6
MACN	El Madrono	4.31	324	P	Pn	07 24 36.4	+3.1
FRIJ	El Hiral	4.31	86	eP	Pn	07 24 34.4	+1.1
CNGN	Cerro Negro	4.35	324		Pn	07 24 35.4	+1.5
CNGN	Cerro Negro	4.35	324	P	Pn	07 24 35.6	+1.7
CNGN	Cerro Negro	4.35	324	P		07 24 35.6	
ROCN	Rota Cerro Neg	4.39	324	P	Pn	07 24 34.3	-0.2
ILCN	San Idelfonso	4.41	325	P	Pn	07 24 36.6	+1.9
UPA	Univ. de Panam	4.50	89	∥iP	Pn	07 24 36.9	+1.0
RCPN	Sur Rio San Ju	4.94	337	P	Pn	07 24 29.9	-12
RCPN	Sur Rio San Ju	4.94	337	P	Pn	07 24 46.2	+4.1
RCVN	Varillal2	5.03	336	P	Pn	07 24 47.6	+4.2
RCVN	Varillal2	5.03	336	P	Pn	07 24 47.1	+3.7
PRVC	Isla de Provid	5.13	31	Pn	Pn	07 24 46.0	+1.5
PRVC	Isla de Provid	5.13	31	P	Pn	07 24 46.9	+2.3
	0.7nm0.5nm188nm,1.4s						
PRVC	Isla de Provid	5.13	31	P		07 24 46.9	
	0.7nm0.5nm188nm,1.4s						
TGUH	Tegucigalpa,Un	5.95	329		Pn	07 24 56.5	+0.6
TGUH	Tegucigalpa,Un	5.95	329	P	Pn	07 24 58.1	+2.2
	1.2nm1μm138nm,0.9s						
TGUH	Tegucigalpa,Un	5.95	329	P		07 24 58.1	
	1.2nm1μm138nm,0.9s						
UPD2	Meteti	6.01	93	eP	Pn	07 24 56.1	-0.6
SCLA	Alcaldia de Sa	6.55	316	P	Pn	07 25 07.3	+3.2
COEG	Centro de Oper	6.60	315	P	Pn	07 25 08.3	+3.6
PAVA	Las Pavas	6.70	315	P	Pn	07 25 09.5	+3.2
PMON	Piamonte	6.97	313	P	Pn	07 25 13.1	+3.2
SOLC	Bahia Solano	7.16	112	P	Pn	07 25 15.8	+3.4
SOLC				S	Sn	07 26 36.4	+2.9
SOLC	Bahia Solano	7.16	112	P		07 25 15.8	
SOLC				S		07 26 36.4	
MTO3	Montecristo	7.47	317		Pn	07 25 18.3	+1.3
APAC	Apartado, Choc	7.50	98	P	Pn	07 25 21.3	+4.2
	0.3nm30nm,0.8s						
APAC	Apartado, Choc	7.50	98	P		07 25 21.3	
	0.3nm30nm,0.8s						
ESQI	Esquipulas	7.58	318		Pn	07 25 20.3	+2.0
DBBC	Dabeiba	8.04	103	P	Pn	07 25 28.1	+3.5
DBBC	Dabeiba	8.04	103	P		07 25 28.1	
UREC	San Jos de Ur	8.55	97	P	Pn	07 25 33.1	+1.6
	17nm,0.9s						
UREC	San Jos de Ur	8.55	97	P		07 25 33.1	
	17nm,0.9s						
CBOC	Ciudad Bolivar	8.58	110	P	Pn	07 25 35.7	+3.6
	11nm,0.7s						
CBOC				S	Sn	07 27 08.4	-0.4
	11nm,0.7s						
CBOC	Ciudad Bolivar	8.58	110	P		07 25 35.7	
	11nm,0.7s						
CBOC				S		07 27 08.

comp=Z,0.8nm,0.7s,baz=98,slow=11,SNR=4.1
comp=Z,0.8nm,0.7s
BDFB Brasilia 43.29 124 LR LR 07 50 55.9
comp=Z,77nm,18.1s,baz=323,slow=38
CPUP Villa Florida 43.66 144 LR LR 07 52 28.7
comp=Z,77nm,18.7s,baz=32,slow=40
SCHQ Schefferville 47.77 13 P **P** **07 32 02.1 -2.6**
comp=Z,5.8nm,1.0s,baz=153,slow=9.0,SNR=4.5
SCHQ LR LR 07 53 28.4
comp=Z,138nm,18.0s,baz=46,slow=38
comp=Z,5.8nm,1.0s
PLCA Paso Flores 51.00 167 P **P** **07 32 34.1 +4.5**
comp=Z,2.9nm,0.9s,baz=348,slow=10,SNR=4.5
comp=Z,2.9nm,0.9s
FRB Frobisher Bay 55.81 8 LR LR 07 57 34.6
comp=Z,209nm,18.3s,baz=186,slow=37
BBB Bella Bella 55.99 329 LR LR 08 02 60.0
comp=Z,64nm,19.1s,baz=194,slow=43
YKA Yellowknife Ar 57.84 344 P **P** **07 33 16.6 -2.4**
comp=Z,0.5nm,0.7s,baz=147,slow=7.0,SNR=7.8
comp=Z,0.5nm,0.7s
SFJD Kangerlussuaq 62.21 14 LR LR 08 01 43.2
comp=Z,115nm,18.1s,baz=242,slow=37
A36M Sachs Harbour 67.76 347 P **P** **07 34 23.6 -1.2**
A36M IAmb IAmb 07 34 28.1
comp=Z,4.4nm,0.9s
BCAR Beaver Creek A 67.78 335 P **P** **07 34 25.6 +0.3**
SML Sawmill 70.12 333 P **P** **07 34 39.7 -0.2**
ILAR Eielson Array 70.53 336 P **P** **07 34 41.9 -0.3**
ILAR Eielson Array 70.53 336 P **P** **07 34 41.5 -0.7**
comp=Z,0.3nm,0.8s,baz=117,slow=3.8,SNR=6.5
ILAR LR LR 08 09 52.9
comp=Z,64nm,18.2s,baz=53,slow=40
comp=Z,0.3nm,0.8s
ESDC Sonseca Array 76.75 51 P **P** **07 35 18.4 -1.0**
comp=Z,0.8nm,0.7s,baz=264,slow=4.9,SNR=4.9
comp=Z,0.8nm,0.7s
SPITS Spitsbergen Ar 83.42 12 LR LR 08 14 10.4
comp=Z,89nm,19.0s,baz=228,slow=37
TORD Torodi Ar. Bea 83.93 78 P **P** **07 35 56.9 -1.5**
comp=Z,0.6nm,0.8s,baz=278,slow=4.7,SNR=4.5
comp=Z,0.6nm,0.8s
GERES GERESS Array B 88.41 41 LR LR 08 12 10.5
comp=Z,53nm,19.7s,baz=307,slow=33
MLR Muntele Rosu 97.35 42 LR LR 08 17 53.2
comp=Z,43nm,18.4s,baz=64,slow=34
MA2 Magadan 98.99 335 LR LR 08 28 00.5
comp=Z,23nm,18.6s,baz=144,slow=39
ASAR Alice Springs 140.87 243 PKP **PKPdf** **07 42 57.7 -0.9**
comp=Z,0.7nm,1.0s,baz=97,slow=4.1,SNR=2.8
CMAR Chiang Mai Arr 152.59 354 PKPbc **PKPbc** **07 43 23.5 -1.7**
comp=Z,0.5nm,0.4s,baz=303,slow=2.6,SNR=4.4

UCR 13 07:27:01.7±1.0, 8°.90N×84°.10W, h16km±3km, MW4.3, 12C-32D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.57**	**0**	‖eP	Pg	07 27 12.3	-0.6
EDPE	**Pejibaye, P**	**0.58**	**64**	‖eP	Pg	07 27 12.1	-1.2
PICV	**PH. Pirrs**	**0.72**	**353**	⇑eP	Pg	07 27 15.2	-0.7
PISJ	**San Jernim**	**0.72**	**358**	‖eP	Pg	07 27 15.2	-0.7
FIMO	**Fila Mora**	**0.74**	**83**	⇑eP	Pg	07 27 15.4	-0.9
RAZU	**San Marcos de**	**0.75**	**6**	eP	Pg	07 27 15.5	-1.0
ABE2	**San Pablo**	**0.80**	**3**	eP	Pg	07 27 16.6	-0.7
BURE	**Buenos Aires**	**0.80**	**70**	⇑eP	Pb	07 27 16.5	-0.8
LCR2	**La Lucha 2**	**0.84**	**7**	‖eP	Pb	07 27 16.9	-1.1
JIME	**Puerto Jimenez**	**0.85**	**115**	eP	Pb	07 27 17.9	-0.2
ACOS	**Acosta**	**0.89**	**356**	‖eP	Pb	07 27 17.8	-1.0
PIRO	**Carate, Puerto**	**0.91**	**123**	‖eP	Pb	07 27 18.4	-0.7
DRK0	**Durika**	**0.92**	**67**	eP	Pb	07 27 18.6	-0.8
EDP2	**Potrero Grande**	**0.92**	**83**	eP	Pb	07 27 18.5	-0.9
REPA	**Paraso**	**0.95**	**14**	eP	Pb	07 27 18.7	-1.2
TAGO	**Cartago**	**0.97**	**10**	‖iP	Pb	07 27 19.3	-1.0
AMPA	**Desamparados**	**0.99**	**2**	‖eP	Pb	07 27 19.2	-1.3
TRIO	**Tres Rios**	**1.00**	**6**	‖eP	Pb	07 27 19.6	-1.2
LUJA	**Lujan**	**1.02**	**2**	‖eP	Pb	07 27 21.0	-0.1
CENT	**San Jose**	**1.02**	**1**	‖eP	Pb	07 27 20.0	-1.1
SANTA	**Santa Ana**	**1.03**	**355**	‖eP	Pb	07 27 20.0	-1.1
SJS3	**Mercedes San J**	**1.03**	**3**	‖eP	Pb	07 27 20.3	-0.9
SJS	**Escuela Geolog**	**1.03**	**3**	‖eP	Pb	07 27 20.2	-1.0
MEXI	**Barrio Mexico**	**1.03**	**1**	eP	Pb	07 27 20.3	-0.9
LUPE	**Guadalupe**	**1.04**	**3**	‖eP	Pb	07 27 20.3	-1.1
CORON	**Coronado**	**1.07**	**5**	‖eP	Pb	07 27 21.1	-0.8
BELE	**Belen**	**1.07**	**356**	‖eP	Pb	07 27 21.8	-0.1
DOMI	**Santo Domingo**	**1.07**	**1**	eP	Pb	07 27 21.3	-0.7
TURIB	**Turrialba**	**1.08**	**22**	‖eP	Pb	07 27 20.7	-1.4
RAFA	**San Farael, Vo**	**1.09**	**15**	‖eP	Pb	07 27 21.4	-0.9
VICA	**Volcano Irazu**	**1.10**	**13**	‖eP	Pb	07 27 21.7	-1.0
VERB	**Verbena**	**1.11**	**21**	‖eP	Pb	07 27 21.6	-1.0
CVIMO	**Finca Echandi**	**1.12**	**8**	‖eP	Pb	07 27 22.0	-0.9
VTCV	**VTCV, Calle Va**	**1.14**	**19**	‖eP	Pb	07 27 22.2	-0.8
VTLA	**Turrialba Volc**	**1.14**	**16**	‖eP	Pb	07 27 22.3	-0.9
CVTQ	**Turrialba Volc**	**1.14**	**17**	‖eP	Pb	07 27 22.5	-0.8
CVTV	**Tajo**	**1.15**	**18**	‖iP	Pb	07 27 22.7	-0.7
RVSTA	**Santa Teresita**	**1.16**	**23**	⇑iP	Pb	07 27 22.6	-0.7
VTR0	**Volcan Turrial**	**1.16**	**17**	‖iP	Pb	07 27 22.8	-0.7
CVTR	**Volcan Turrial**	**1.16**	**17**	‖iP	Pb	07 27 22.8	-0.8
NELY	**Ciudad Neily**	**1.17**	**102**	‖iP	Pn	07 27 22.9	-0.5
GREC	**Grecia**	**1.18**	**350**	‖eP	Pn	07 27 23.3	-0.4
CBL1	**Cabuya**	**1.19**	**305**	eP	Pn	07 27 21.8	-1.8
VBV1	**V. Barva**	**1.20**	**0**	‖eP	Pn	07 27 23.4	-0.7
ARZA	**Esparza**	**1.22**	**333**	⇑eP	Pn	07 27 23.7	-0.4
NARAN	**Naranjo de Ala**	**1.22**	**347**	⇑iP	Pn	07 27 23.6	-0.6
RAMO	**San Ramon**	**1.23**	**343**	eP	Pb	07 27 24.7	+0.1
SRA1	**San Ramn**	**1.23**	**342**	eP	Pn	07 27 23.4	-0.9
ALCO	**Alturas Coton,**	**1.25**	**88**	⇑eP	Pn	07 27 23.6	-1.2
CVTG	**V. Turrialba,**	**1.28**	**15**	‖eP	Pn	07 27 24.9	0.0
RVLA	**Villa Bonita**	**1.30**	**23**	⇑iP	Pn	07 27 25.2	-0.1
LPPC	**Paso Canoas**	**1.30**	**106**	eP	Pn	07 27 24.2	-1.1
ZARE	**Zarcero**	**1.30**	**347**	eP	Pn	07 27 23.8	-1.7
IRES	**Siquirres**	**1.32**	**26**	⇑iP	Pn	07 27 25.8	+0.2
TAAN	**Batan**	**1.39**	**32**	‖eP	Pn	07 27 26.7	+0.3
BRU2	**Volcan**	**1.40**	**94**	eP	Pn	07 27 25.5	-1.2
BRIBI	**Bribri**	**1.43**	**60**	eP	Pb	07 27 28.2	+0.2
CARI	**Cariari**	**1.50**	**14**	eP	Pb	07 27 29.2	+0.1
SARA	**Sarapiqu**	**1.54**	**3**	‖eP	Pn	07 27 28.7	+0.1
ITAL	**Pital**	**1.55**	**354**	⇑iP	Pb	07 27 29.4	-0.6
SOCE	**Pocosol**	**1.56**	**341**	eP	Pn	07 27 28.7	0.0
JUNT	**Juntas**	**1.61**	**328**	eP	Pn	07 27 28.5	-1.0
JTS	**Las Juntas de**	**1.61**	**329**	eP	Pn	07 27 28.5	-1.1
FORC	**Fortuna**	**1.65**	**340**	eP	Pn	07 27 30.5	+0.5
VACR	**Volcan Arenal**	**1.66**	**340**	eP	Pn	07 27 30.3	+0.1
ARE1	**Arenal 1**	**1.66**	**339**	eP	Pn	07 27 30.5	+0.3
CEDE	**Laguna Cedeo**	**1.68**	**339**	eP	Pn	07 27 31.0	+0.5

---

*NEIC **13** 07:38:43.0±0.9, 33°.48N±0°.02×116°.80W±0°.01, h13km±2km, Error ellipse: s-maj=2.3km s-min=1.4km az=169.0*

PAS 13 07:38:43.6±0.9, 33°.49N±0°.01×116°.801W±0°.007, h6km±1km, ML3.0/186, ML2.9/26(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=178.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRY	**Cary Ranch**	**0.09**	**35**		Pg	07 38 47.1	+1.3
PLM	**Palomar**	**0.14**	**201**		Pg	07 38 47.1	+0.5
PLM					Sg	07 38 49.8	+1.1
FRD	**Ford Ranch, An**	**0.17**	**88**		Pg	07 38 47.0	-0.1
FRD					Sg	07 38 49.2	-0.1
FRD	**Ford Ranch, An**	**0.17**	**88**		Pg	07 38 47.0	0.0
FRD					Sg	07 38 49.2	-0.1
SNDA	**J Saunders Pla**	**0.17**	**68**		Pg	07 38 47.1	0.0
SNDA					Sg	07 38 49.5	+0.1
GVDA	**Garner Valley**	**0.21**	**31**		Pg	07 38 47.6	+0.2
GVDA					Sg	07 38 50.5	-0.1
POB	**Polly Butte**	**0.22**	**333**		Pg	07 38 48.0	0.0
POB					Sg	07 38 51.0	0.0
BACC	**Bachelor Mtn.**	**0.23**	**302**		Pg	07 38 48.2	0.0
BACC					Sg	07 38 51.4	0.0
DGR	**Domenigoni Val**	**0.24**	**313**		Pg	07 38 48.3	0.0
DGR					Sg	07 38 51.5	0.0
HMTC	**Hemet**	**0.28**	**322**		Pg	07 38 48.9	-0.2
HMTC					Sg	07 38 52.5	-0.2
PFO	**Pinyon Flats O**	**0.31**	**67**		Pg	07 38 49.5	-0.3
PFO					Sg	07 38 53.6	-0.3
PFO	**Pinyon Flats O**	**0.31**	**67**		Pg	07 38 49.6	-0.2
PFO				IAML		07 38 53.9	
	1μm,0.4s						
PFO				IAML		07 38 53.9	
	3μm,0.5s						
XPFO	**Pinon Flat**	**0.31**	**67**		Pg	07 38 49.5	-0.3
XPFO					Sg	07 38 53.5	-0.4
MATG	**Mataguay Scout**	**0.32**	**156**		Pg	07 38 50.1	+0.3
MATG					Sg	07 38 54.5	+0.5
MURC	**Murrieta**	**0.35**	**289**		Pg	07 38 50.3	0.0
MURC					Sg	07 38 55.4	+0.4
PMD	**Palm Desert**	**0.39**	**66**		Pg	07 38 50.8	-0.4
PMD					Sg	07 38 55.5	-0.7
BORC	**Borrego Spring**	**0.39**	**124**		Pg	07 38 51.2	+0.1
BORC					Sg	07 38 56.2	0.0
JUEM	**Julian Eagle M**	**0.44**	**157**		Pg	07 38 52.2	+0.1
JUEM					Sg	07 38 58.1	+0.1
BBSC	**Beaumont Base**	**0.46**	**341**		Pg	07 38 52.5	0.0
BBSC					Sg	07 38 59.6	+1.1
DEVC	**Devers**	**0.48**	**23**		Pg	07 38 52.9	-0.1
DEVC					Sg	07 38 59.5	+0.2
GORC	**Green Oak Ranc**	**0.49**	**227**		Pg	07 38 52.8	-0.2
GORC					Sg	07 38 59.6	+0.1
PEC	**Perris**	**0.50**	**323**		Pg	07 38 52.9	-0.4
PEC					Sg	07 38 59.6	-0.3
DPP	**Dos Picos Cty**	**0.50**	**194**		Pg	07 38 53.0	-0.3
DPP					Sg	07 38 59.7	-0.1
SLH	**Sleepy Hollow**	**0.55**	**123**		Pg	07 38 54.3	+0.2
SLH					Sg	07 39 02.1	+0.9
ELS	**Elsinore Mount**	**0.55**	**287**	Pg	Pg	07 38 53.9	-0.3
ELS	**Elsinore Mount**	**0.55**	**287**		Sg	07 39 01.2	-0.1
EW2	**E Wide Canyon**	**0.56**	**36**		Pg	07 38 54.1	-0.2
EW2					Sg	07 39 01.5	-0.2
EML	**El Monte Cty P**	**0.60**	**184**		Pg	07 38 54.6	-0.5
EML					Sg	07 39 02.4	-0.5
CFT	**Crafton Hills**	**0.60**	**335**		Pg	07 38 55.2	0.0
CFT					Sg	07 39 03.5	+0.4
CPE	**Camp Elliot**	**0.65**	**203**		Pg	07 38 55.6	-0.5
CPE					Sg	07 39 04.2	-0.4
CPE	**Camp Elliot**	**0.65**	**203**	IAML		07 39 05.5	
	comp=N,470nm,0.2s						
CPE				IAML		07 39 06.8	
	comp=E,591nm,0.2s						
RSBC	**Riverside Bore**	**0.65**	**318**		Pg	07 38 55.5	-0.7
RSBC					Sg	07 39 04.2	-0.5
RSBC	**Riverside Bore**	**0.65**	**318**		Pg	07 38 55.4	-0.7
RSBC					Sg	07 39 03.8	-0.8
SVD	**Seven Oaks Dam**	**0.66**	**338**		Pg	07 38 56.1	-0.3
SVD					Sg	07 39 05.0	0.0
BLAC	**Blackrock camp**	**0.67**	**31**		Pg	07 38 56.2	-0.4
BLAC					Sg	07 39 05.1	-0.2
MONP2	**Monument Peak**	**0.68**	**152**		Pg	07 38 56.5	-0.1
MONP2					Sg	07 39 05.1	-0.3
RVR	**Riverside**	**0.69**	**317**		Pg	07 38 56.2	-0.7
RVR					Sg	07 39 05.1	-0.9
CTCC	**Cactus City**	**0.70**	**76**		Pg	07 38 57.0	-0.1
CTCC					Sg	07 39 06.3	+0.2
MTRP	**Mission Trails**	**0.70**	**198**		Pg	07 38 56.3	-0.7
MTRP					Sg	07 39 05.6	-0.5
SALN	**Salton City**	**0.71**	**107**		Pg	07 38 57.4	+0.1
SALN					Sg	07 39 07.2	+0.6
CFSC	**Central Fire S**	**0.73**	**327**		Pg	07 38 57.5	-0.2
CFSC					Sg	07 39 07.8	+0.5
CLTC	**Calectric**	**0.74**	**325**		Pg	07 38 57.6	-0.3
CLTC					Sb	07 39 08.8	-0.5
CRNC	**Corona**	**0.74**	**302**		Pg	07 38 57.1	-0.8
CRNC					Sg	07 39 07.2	-0.3
SDMC	**San Diego Miss**	**0.76**	**202**		Pg	07 38 57.5	-0.7
SDMC					Sg	07 39 07.8	-0.1
SDRC	**San Diego Road**	**0.76**	**189**		Pg	07 38 57.4	-0.8
SDRC					Sg	07 39 07.3	-0.7
BBRC	**Big Bear Solar**	**0.78**	**353**		Pg	07 38 58.3	-0.3
BBRC					Sg	07 39 08.5	-0.2
CTW	**Cottonwood Mou**	**0.80**	**76**		Pg	07 38 58.6	-0.3
CTW					Sg	07 39 09.4	+0.1
FON	**Fontana**	**0.81**	**319**		Pg	07 38 58.5	-0.6
FON					Sg	07 38 08.9	-0.7
BAR	**Barrett**	**0.81**	**172**		Pg	07 38 58.4	-0.8
BAR					Sg	07 39 09.2	-0.6
MLSC	**Mira Loma**	**0.82**	**309**		Pg	07 38 58.5	-0.8
MLSC					Sg	07 39 09.1	-0.8
BELC	**Belle Mtn. Jos**	**0.84**	**52**		Pg	07 38 59.2	-0.6
BELC					Sg	07 39 10.4	-0.4
DUZA	**Dulzura**	**0.88**	**179**		Pg	07 38 59.5	-1.0
DUZA					Sg	07 39 11.0	-0.9
GTM	**Goat Mountain**	**0.89**	**25**		Pg	07 38 59.8	-0.8
OLP	**Otay Lakes Par**	**0.89**	**187**		Pg	07 38 59.5	-1.1
OLP					Sg	07 39 11.1	-1.0
CHNC	**Chino**	**0.89**	**305**		Pg	07 39 00.1	-0.6
CHNC					Sg	07 39 12.1	-0.2
ERRC	**Elmore Ranch**	**0.90**	**114**		Pb	07 39 01.3	-0.3
ERRC					Sb	07 39 14.3	+0.5
TKX	**Tecate**	**0.93**	**170**	Pg	Pg	07 39 00.4	-1.1
YUH	**Yuha Desert**	**1.12**	**138**		Pg	07 39 03.8	-1.2
YUH				IAML		07 39 19.7	
	comp=N,317nm,0.1s						
YUH				IAML		07 39 20.1	
	comp=E,322nm,0.1s						
GLA	**Glamis**	**1.71**	**104**		Pn	07 39 12.2	-1.8
GLA				IAML		07 39 42.1	
	comp=E,100nm,0.5s						
GSC	**Goldstone, Bar**	**1.81**	**360**		Pn	07 39 15.4	0.0
GSC				IAML		07 39 43.8	
	comp=N,104nm,0.4s						
BLYC	**Blythe**	**1.92**	**82**	Pn	Pn	07 39 16.4	-0.4
BLYC				IAML		07 39 46.2	
	comp=E,73nm,0.7s						
BLYC				IAML		07 39 47.9	
	comp=N,96nm,1.1s						
CCAC	**Calif City Air**	**1.94**	**329**		Pn	07 39 16.7	-0.5
CCAC				IAML		07 39 45.6	
	comp=E,127nm,0.3s						
VTX	**Valle De La Tr**	**2.26**	**157**		Pn	07 39 22.8	+1.2
VTX				IAML		07 39 55.7	
	comp=N,93nm,0.4s						
ISA	**Isabella, Lake**	**2.57**	**328**	Pn	Pn	07 39 25.1	-0.7
W13A	**Hualapai Mount**	**2.90**	**56**		Pn	07 39 30.0	-0.5
SHPR	**Sheep Range**	**3.30**	**24**		Pn	07 39 37.1	+1.2
TPNV	**Topopah Spring**	**3.48**	**7**		Pn	07 39 39.0	+0.5
TPNV				IAML		07 40 34.9	
	comp=N,23nm,0.5s						
TPNV				IAML		07 40 36.6	
	comp=N,20nm,0.5s						
PRN	**Pahroc Range**	**4.16**	**20**	Pn	Pn	07 39 49.0	+1.2
X16A	**Lo Mia Camp, P**	**4.55**	**77**	Pn	Pn	07 39 53.0	-0.2
KNB	**Kanab**	**4.79**	**42**	Pn	Pn	07 39 56.8	+0.2

ISC 13 07:42:18.2±1.2, 49°.24N±0°.07×18°.83E±0°.04, h10km, n5, σ0°49/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.43**	**102**	*e*PG	**Pg**	**07 42 26.1**	**-0.5**
LANS				*e*SG	**Sg**	**07 42 32.8**	**+0.5**
LANS				*e*LG	Lg	07 42 36.2	
VYHS	**Vyhne**	**0.75**	**180**	*e*PG	**Pb**	**07 42 33.8**	**+0.5**
VYHS				*e*SG	**Sg**	**07 42 42.4**	**0.0**
JAVC	**Velka Javorina**	**0.85**	**244**	*e*PG	**Pb**	**07 42 35.4**	**+0.2**
JAVC				*e*SG	**Sn**	**07 42 48.4**	**-0.6**
MORC	**Moravsky Berou**	**1.00**	**303**	*e*PG	**Pb**	**07 42 37.9**	**+0.3**
VRAC	**Vranov**	**1.47**	**273**	*e*PG	**Pg**	**07 42 46.3**	**-0.1**

---

*IDC **13** 07:47:12.7±1.2, 49°.75N×81°.76E, h0km, mbtmp2.2/2, ML2.0/2, Error ellipse: s-maj=17.6km s-min=8.9km az=63.0*

*NNC **13** 07:47:13.3±3.4, 49°.56N×81°.54E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=55.4km s-min=8.3km az=55.0, Suspected Mining explosion.*

ISC 13 07:47:08.8±1.3, 49°.73N±0°.05×81°.79E±0°.06, h0km, n8, σ0°51/10, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.26**	**297**	⇑Pn	**Pb**	**07 47 51.0**	**+0.6**
	7.4nm,0.8s						
KURK				⇑Sn	**Sg**	**07 48 21.0**	**-0.4**
	16nm,0.7s						
KURBB	**Kurchatov Arra**	**2.28**	**294**	Pn	**Pg**	**07 47 51.9**	**-0.4**
	0.2nm,0.3s,baz=112,slow=19,SNR=35						
KURBB				Lg	Lg	07 48 22.0	
	0.3nm,0.3s,baz=109,slow=31,SNR=26						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**2.28**	**294**	⇑Pn	**Pg**	**07 47 52.1**	**-0.3**
	5.6nm,0.7s						
KURBB				‖Sn	**Sb**	**07 48 19.5**	**+0.1**
	26nm,0.6s						
MAKZ	**Makanchi**	**2.92**	**177**	⇑Pg	**Pb**	**07 48 02.0**	**+0.3**
	1.3nm,1.2s						
MAKZ				‖Lg	Lg	07 48 43.1	
	9.6nm,0.9s						
MK31	**Makanchi Array**	**2.96**	**173**	⇑Pg	**Pg**	**07 48 04.8**	**-0.5**
	0.2nm,0.3s,baz=354,slow=14,SNR=12						
MK31				⇑Lg	Lg	07 48 44.5	
	4.0nm,0.6s						
MKAR	**Makanchi Array**	**2.96**	**173**	Pn	**Pb**	**07 48 03.0**	**+0.7**
	0.5nm,0.3s,baz=357,slow=14,SNR=10						
MKAR				Pg	**Pg**	**07 48 05.0**	**-0.3**
	0.5nm,0.3s,baz=352,slow=14,SNR=16						
MKAR				Lg	Lg	07 48 44.5	
	0.6nm,0.3s,baz=355,slow=31,SNR=12						
	0.6nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.63**	**23**	I	I	08 16 10.0	
	baz=202,slow=335,SNR=5.7						
ZALV	**Zalesovo Beam**	**4.63**	**23**	Pg	**Pg**	**07 48 37.0**	**-0.3**
	0.3nm,0.3s,baz=201,slow=12,SNR=1.5						
ZALV				Lg	Lg	07 49 38.1	
	0.2nm,0.3s,baz=204,slow=43,SNR=12						

PGC 13 07:51:10.6±0.3, 50°.54N×130°.37W, h10km, MLSn3.0/16, Mw3.6/16, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.43**	**85**	P	Pn	07 51 34.7	-1.9
HOLB				S	Sn	07 51 51.2	-4.3
BPEB	**Brooks Peninsu**	**1.71**	**102**	Pn	Pn	07 51 38.2	-2.3
JEDB	**Jedway, Haida**	**1.83**	**344**	Pn	Pn	07 51 39.6	-2.5
JEDB				Sn	Sn	07 52 01.4	-3.8
PACB	**Port Alice, BC**	**1.84**	**92**	Pn	Pn	07 51 40.3	-1.9
PHC	**Port Hardy**	**1.88**	**84**	Pn	Pn	07 51 41.1	-1.7
PHC				Sn	Sn	07 52 02.5	-4.0
MAYB	**Maynard**	**2.05**	**93**	Pn	Pn	07 51 43.5	-1.7
BBB	**Bella Bella**	**2.17**	**40**	Pn	Pn	07 51 45.3	-1.4
BBB				Sn	Sn	07 52 09.8	-3.8
BAIB	**Barry Inlet**	**2.21**	**338**	Pn	Pn	07 51 45.4	-2.0
NTKA	**Nootka**	**2.60**	**110**	Pn	Pn	07 51 50.8	-1.9
NCSB	**Newcastle Ridg**	**2.76**	**91**	Pn	Pn	07 51 53.8	-1.2
BUTB	**Butedale**	**2.79**	**24**	Pn	Pn	07 51 55.0	-0.4
BUTB				Sn	Sn	07 52 25.1	-3.9
GDR	**Gold River**	**2.89**	**104**	Pn	Pn	07 51 55.4	-1.3
GRIB	**Gribbell Islan**	**2.90**	**15**	Pn	Pn	07 51 55.5	-1.3
GRIB				Sn	Sn	07 52 28.2	-3.6
BNAB	**Bonilla**	**2.96**	**357**	Pn	Pn	07 51 56.0	-1.6
DI2B	**Dawson Inlet**	**2.96**	**335**	Pn	Pn	07 51 55.8	-1.9
DIB	**Dawson Inlet,**	**2.96**	**335**	Pn	Pn	07 51 55.8	-1.9
CBB	**Campbell River**	**3.25**	**97**	Pn	Pn	07 52 01.1	-0.5
GRNB	**Grenville Isla**	**3.32**	**4**	Pn	Pn	07 52 01.3	-1.3
GRNB				Sn	Sn	07 52 38.0	-4.1
KITB	**Kitimat**	**3.70**	**16**	Pn	Pn	07 52 06.9	-0.8
MGRB	**Mount Grey**	**3.99**	**111**	Pn	Pn	07 52 11.5	-0.4
UBRB	**Upper Baezaeko**	**4.56**	**57**	Pn	Pn	07 52 20.1	+0.3
FSJB	**Fort St James**	**5.40**	**41**	Pn	Pn	07 52 31.4	+0.3
LLLB	**Lillooet**	**5.41**	**86**	Pn	Pn	07 52 30.5	-0.9

---

*GUC **13** 08:12:19.9±0.7, 21°.33S×68°.83W, h120km±4km, ML3.2*
*SJA **13** 08:12:19.3±0.6, 21°.36S×68°.92W, h132km±4km, ML3.5, MW3.5*
*IDC **13** 08:12:20.6±3.1, 21°.40S×68°.40W, h113km±27km, mb3.3/3, mbtmp3.7/6, Error ellipse: s-maj=36.6km s-min=28.4km az=100.0*

ISC 13 08:12:20.1±0.8, 21°.39S±0°.04×68°.93W±0°.05, h130km±6km, n27, σ1°08/41, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.49**	**216**	*e*P	**Pn**	**08 12 39.3**	**0.0**
PB09				*e*S	**Sn**	**08 12 54.5**	**+0.7**
PB09				IAML		08 12 54.8	
	comp=Z,555nm,0.2s						
PB09	**IPOC Station P**	**0.49**	**216**	*e*P	**Pn**	**08 12 39.3**	**0.0**
PB09				*i* S	**Sn**	**08 12 54.0**	**+0.1**
PB09				IAML		08 12 55.2	
	comp=N,634nm,0.2s						
PB01	**IPOC Station P**	**0.63**	**304**	*e*P	**Pn**	**08 12 39.7**	**-0.3**
PB01				*e*S	**Sn**	**08 12 54.9**	**-0.1**
PB01				IAML		08 12 55.5	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**0.63**	**304**	*e*P	**Pn**	**08 12 39.8**	**-0.3**
PB01				*i* S	**Sn**	**08 12 54.3**	**-0.7**
PX03	**IPOC Station P**	**1.18**	**326**	*e*P	**Pn**	**08 12 44.0**	**-0.9**
PX03				*i* S	**Sn**	**08 13 03.0**	**-0.7**
PB08	**IPOC Station P**	**1.26**	**350**	*e*P	**Pn**	**08 12 45.8**	**-0.2**
PB08				*e*S	**Sn**	**08 13 06.8**	**+1.1**
PB08				IAML		08 13 07.3	
	comp=Z,310nm,0.3s						
PB08	**IPOC Station P**	**1.26**	**350**	*e*P	**Pn**	**08 12 45.8**

σ1ϑ33/38, **mb3.8**/10, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**0.93**	**153**	*eP*	**Pn**	**08 46 00.9**	**+0.6**
	SNR=54						
SHME				S	**Sn**	**08 46 16.9**	**+3.3**
IBND	**Bandar-abas**	**0.96**	**54**	Pg	**Pg**	**08 45 59.6**	**0.0**
BANOM	**Banah**	**1.11**	**149**	*eP*	**Pn**	**08 46 04.0**	**+1.2**
	SNR=38						
MSFE	**Esma-Masafi**	**1.58**	**164**	*eP*	**Pg**	**08 46 11.8**	**+0.3**
	SNR=38						
MDH	**Madha**	**1.67**	**160**	*eP*	**Pb**	**08 46 12.7**	**+0.7**
	SNR=11						
NAZ	**Nazwa, Dubai**	**1.89**	**180**	P	**Pb**	**08 46 16.8**	**+1.1**
UOSS	**Minazif**	**1.99**	**166**	Pn	**Pb**	**08 46 17.1**	**-0.3**
UOSS	**Minazif**	**1.99**	**166**	P	**Pb**	**08 46 17.3**	**-0.1**
HATD	**Hatta, Dubai**	**2.09**	**168**	*eP*	**Pb**	**08 46 19.8**	**+0.6**
	SNR=20						
KHNJ	**Kahnooj**	**2.10**	**59**	Pn	**Pn**	**08 46 16.4**	**0.0**
FAQ	**Al Faqa, Dubai**	**2.13**	**182**	P	**Pb**	**08 46 19.9**	**+0.1**
ASHO	**Ashiyiah**	**2.22**	**171**	*eP*	**Pb**	**08 46 21.0**	**-0.4**
	SNR=132						
LMD1	**Lamerd**	**2.28**	**282**	Pn	**Pg**	**08 46 24.6**	**-0.2**
JHRM	**Jahrom**	**2.46**	**312**	Pn	**Pb**	**08 46 26.6**	**+1.0**
NGRK	**Negar Kerman**	**2.91**	**19**	Pn	**Pn**	**08 46 29.7**	**+1.9**
KRBR	**Kerman**	**3.23**	**17**	Pn	**Pn**	**08 46 34.0**	**+1.7**
CHMN	**Cheshme madani**	**3.40**	**29**	Pn	**Pn**	**08 46 35.7**	**+1.2**
KHGB	**Koh Gabri**	**3.55**	**11**	Pn	**Pn**	**08 46 38.9**	**+2.3**
HOQ	**Hoqain**	**3.60**	**155**	Pn	**Pn**	**08 46 38.2**	**+1.1**
KRM1	**Kerman Provinc**	**3.87**	**21**	Pn	**Pn**	**08 46 43.0**	**+2.0**
ZRDN	**Zarand Kerman**	**4.14**	**10**	Pn	**Pn**	**08 46 46.5**	**+1.8**
CHBR	**Chabahar**	**4.51**	**105**	Pn	**Pn**	**08 46 50.5**	**+1.0**
WSAR	**Wadi Sarin**	**4.51**	**143**	Pn	**Pn**	**08 46 51.3**	**+1.7**
	2.0nm,0.3s,baz=325,slow=5.4,SNR=38						
WSAR				Sn	**Sn**	**08 47 42.6**	**+0.4**
	1.6nm,0.3s,baz=355,slow=15,SNR=1.3 12nm,0.5s						
NGCH	**Negor - Chabah**	**5.14**	**106**	Pn	**Pn**	**08 46 58.4**	**+0.2**
ICHK	**Chekchek**	**5.46**	**349**	Pn	**Pn**	**08 47 05.5**	**+2.7**
EIL	**Elat**	**18.46**	**283**	LR	LR	08 59 16.2	
	comp=Z,23nm,20.5s,baz=65,slow=44						
KBZ	**Khabaz**	**19.74**	**332**	P	**P**	**08 50 10.6**	**-0.4**
	0.2nm,0.3s,baz=122,slow=12,SNR=5.2 1.6nm,0.8s						
BRTR	**Keskin Array B**	**22.36**	**310**	P	**P**	**08 50 37.7**	**-1.8**
	0.5nm,0.4s,baz=116,slow=13,SNR=4.5 0.5nm,0.4s						
AKTO	**Aktyubinsk**	**23.59**	**4**	P	**P**	**08 50 51.7**	**-0.3**
	2.4nm,0.8s,baz=130,slow=14,SNR=8.3 2.4nm,0.8s						
BVAR	**Borovoye Array**	**28.33**	**19**	P	**P**	**08 51 33.2**	**-1.8**
	0.8nm,0.6s,baz=189,slow=14,SNR=2.1 0.8nm,0.6s						
MKAR	**Makanchi Array**	**28.91**	**40**	P	**P**	**08 51 39.7**	**-0.6**
	0.2nm,0.4s,baz=225,slow=8.4,SNR=7.9 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**29.43**	**30**	P	**P**	**08 51 45.1**	**+0.3**
	0.4nm,0.8s,baz=40,slow=12,SNR=6.2 0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**34.53**	**31**	P	**P**	**08 52 28.9**	**-0.6**
	1.4nm,0.5s,baz=241,slow=10.0,SNR=5.1 1.4nm,0.5s						
FINES	**FINESS Array B**	**39.86**	**338**	P	**P**	**08 53 13.5**	**-1.1**
	1.0nm,0.5s,baz=150,slow=8.1,SNR=4.5 1.0nm,0.5s						
HFS	**Hagfors**	**43.81**	**331**	P	**P**	**08 53 45.7**	**-1.3**
	2.3nm,0.7s,baz=138,slow=9.1,SNR=6.0 2.3nm,0.7s						
NOA	**NORSAR Array B**	**45.32**	**331**	P	**P**	**08 53 57.7**	**-1.4**
	1.1nm,0.8s,baz=128,slow=7.8,SNR=1.7 1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**52.17**	**266**	P	**P**	**08 54 51.7**	**-0.7**
	0.6nm,0.5s,baz=47,slow=7.5,SNR=7.6 0.6nm,0.5s						

DJA ***13*** *08:47:51.8±2.7, 10°S±10°×9°0E±2°3, h10km, M5.2/11, mb5.0/11, mB5.8/4, MLv5.2/1, Mw(mB)5.4/4*
IDC ***13*** *08:48:00.7±0.9, 9°.99S×91°.09E, h0km, mb4.2/16, mbtmp4.2/17, ML3.9/1, MS3.6/12, Error ellipse: s-maj=28.8km s-min=17.7km az=55.0*
NEIC ***13*** *08:48:01.4±2.8, 10°.02S±0°.08×91°.8E±0°.1, h10km±1km, mb4.7/15, Error ellipse: s-maj=19.1km s-min=12.9km az=274.0*
ISC 13 08:48:01.6±0.7, 10°.0S±0°.1×91°.77E±0°.08, h10km, n72,
σ1ϑ93/51, **mb4.5**/24, **MS3.6**/11, **1C, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**5.41**	**114**		**Pn**	**08 49 21.3**	**-1.2**
PPSI	**Pulau Pagai**	**10.91**	**49**	P	Pn	08 50 45.5	+7.5
SISI	**Saibi**	**11.30**	**41**	P	Pn	08 50 49.4	+6.1
	2μm135nm,1.1s						
PBSI	**Pulau Batu**	**11.84**	**34**	P	Pn	08 50 56.7	+6.0
MNAI	**Manna**	**12.44**	**64**	P	Pn	08 51 06.9	+8.0
	89nm,1.1s						
GSI	**Gunungsitoli**	**12.66**	**27**	Pn	**Pn**	**08 51 00.5**	**-1.4**
GSI	**Gunungsitoli**	**12.66**	**27**	P	**Pn**	**08 51 05.5**	**+3.6**
	35nm,1.3s						
PPI	**Padang Panjang**	**12.81**	**43**	P	Pn	08 51 10.5	+6.5
	163nm,0.8s						
MNSI	**Mandailing Nat**	**13.27**	**36**	P	**Pn**	**08 51 13.9**	**+3.7**
	37nm,0.4s						
MDSI	**Maura Dua**	**13.48**	**67**	P	**P**	**08 51 21.7**	**-0.8**
	33nm,0.9s						
BKNI	**Bangkinang**	**13.82**	**42**	P	**P**	**08 51 24.6**	**-1.6**
RPSI	**Rantau Prapat**	**14.51**	**30**	P	**P**	**08 51 32.9**	**-1.0**
PSI	**Prapat**	**14.61**	**30**	Pn	**P**	**08 51 32.9**	**-2.1**
	0.5nm,0.3s,baz=245,slow=19,SNR=3.5						
PSI				LR	LR	08 56 21.1	
	comp=Z,175nm,19.2s,baz=223,slow=34 2.4nm,0.4s						
LEM	**Lembang**	**15.99**	**80**	Sn	**S**	**08 54 56.6**	**-2.0**
	4.7nm,0.3s,baz=348,slow=20,SNR=1.6						
H08S2	**Diego Garcia H**	**19.20**	**276**	P	**Pn**	**08 52 29.9**	**+3.5**
H08S2				T	T	09 11 27.9	
	baz=98,slow=74,SNR=50						
H08S3	**Diego Garcia H**	**19.21**	**276**	T	T	09 11 28.2	
	baz=98,slow=74,SNR=64						
H08S1	**Diego Carcia H**	**19.21**	**276**	T	T	09 11 30.4	
	baz=98,slow=74,SNR=30						
PALK	**Pallekele**	**20.42**	**327**	P	**P**	**08 52 39.5**	**+0.3**
	25nm,1.1s,baz=114,slow=6.1,SNR=4.2						
PALK				LR	LR	08 59 09.8	
	comp=Z,232nm,19.6s,baz=165,slow=33						
JAGI	**Jajag, Banyuwa**	**22.14**	**88**	P	**P**	**08 53 02.1**	**+4.3**
CMAR	**Chiang Mai Arr**	**29.18**	**14**	P	**P**	**08 54 05.8**	**+2.4**
	3.5nm,0.8s,baz=205,slow=9.1,SNR=17						
CMAR				LR	LR	09 04 59.5	
	comp=Z,23nm,19.2s,baz=180,slow=35 3.5nm,0.8s						
WRA	**Warramunga Arr**	**42.18**	**109**	P	P	08 56 00.4	+5.5
	0.6nm,0.7s,baz=278,slow=10,SNR=6.4						
WRA				LR	LR	09 12 12.5	
	comp=Z,94nm,20.3s,baz=30,slow=34 0.6nm,0.7s						
WRAB	**Tennant Creek**	**42.19**	**109**	P	**P**	**08 55 52.4**	**-2.6**
ASAR	**Alice Springs**	**42.37**	**114**	P	**P**	**08 55 53.5**	**-3.0**
ASAR	**Alice Springs**	**42.37**	**114**	P	P	08 56 02.4	+5.9
	0.7nm,0.5s,baz=283,slow=7.7,SNR=16						
ASAR				PcP	**PcP**	**08 57 52.6**	**+2.7**
	0.4nm,0.6s,baz=297,slow=3.5,SNR=2.8 0.7nm,0.5s						
WSAR	**Wadi Sarin**	**46.32**	**316**	LR	LR	09 11 42.2	
	comp=Z,64nm,21.3s,baz=156,slow=31						
H04N2	**CROZET ISLANDS**	**49.53**	**216**	T	T	09 49 44.6	
	baz=55,slow=75,SNR=50						
H04N1	**CROZET ISLANDS**	**49.54**	**216**	T	T	09 49 44.8	
	baz=55,slow=75,SNR=61						
H04N3	**CROZET ISLANDS**	**49.55**	**216**	T	T	09 49 45.5	
	baz=55,slow=75,SNR=61						
CHGR	**Chuyangaron**	**52.83**	**338**	P	**P**	**08 57 14.9**	**-2.6**
CHGR				IAmb	IAmb	08 57 18.6	
	comp=Z,13nm,1.0s						
SIMJ	**Simiganj**	**52.89**	**338**	P	**P**	**08 57 16.2**	**-1.8**
SIMJ				IAmb	IAmb	08 57 17.1	
	comp=Z,6.7nm,0.9s						
ARSB	**Arslanbob**	**53.95**	**343**	P	**P**	**08 57 24.9**	**-0.9**
ARSB				IAmb	IAmb	08 57 26.7	
	comp=Z,4.9nm,0.8s						
BJT	**Baijiatuau**	**54.69**	**23**	P	**P**	**08 57 28.8**	**-2.2**
BJT				IAmb	IAmb	08 57 35.6	
	comp=Z,7.6nm,0.9s						
KK31	**Karatay Array**	**56.33**	**341**	P	**P**	**08 57 41.2**	**-1.5**
KK31				IAmb	IAmb	08 57 44.6	
	comp=Z,6.0nm,1.2s						
KKAR	**Karatay Array**	**56.33**	**341**	P	**P**	**08 57 41.4**	**-1.4**
KKAR	**Karatay Array**	**56.33**	**341**	P	**P**	**08 57 40.9**	**-1.9**
KKAR				IAmb	IAmb	08 57 44.6	
	comp=Z,3.5nm,1.2s						
MK31	**Makanchi Array**	**57.20**	**352**	P	**P**	**08 57 48.1**	**-0.7**
MKAR	**Makanchi Array**	**57.20**	**352**	P	**P**	**08 57 47.0**	**-1.9**
MKAR	**Makanchi Array**	**57.20**	**352**	P	**P**	**08 57 48.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=150,slow=5.6,SNR=12 comp=Z,1.8nm,0.9s						
MAKZ	**Makanchi**	**57.26**	**352**	P	**P**	**08 57 47.4**	**-1.9**
MAKZ				IAmb	IAmb	08 57 50.0	
	comp=Z,5.6nm,1.1s						
KSAR	**Wonju Array Be**	**58.09**	**34**	P	**P**	**08 57 55.0**	**-0.3**
KSRS	**Korea Array**	**58.12**	**34**	P	**P**	**08 57 58.0**	**+2.5**
	comp=Z,2.7nm,0.9s,baz=232,slow=6.5,SNR=5.2 comp=Z,2.7nm,0.9s						
SONM	**Songino Array**	**59.06**	**11**	P	**P**	**08 58 03.1**	**+1.1**
SONM				IAmb	IAmb	08 58 04.7	
	comp=Z,5.2nm,1.0s						
SONM	**Songino Array**	**59.06**	**11**	P	**P**	**08 58 03.5**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=193,slow=7.7,SNR=25 comp=Z,5.4nm,0.8s						
ULN	**Ulaanbaatar**	**59.22**	**12**	P	**P**	**08 58 02.6**	**-0.5**
ULN				IAmb	IAmb	08 58 05.6	
	comp=Z,9.6nm,1.3s						
KURBB	**Kurchatov Arra**	**61.49**	**350**	P	**P**	**08 58 18.4**	**0.0**
	comp=Z,3.7nm,0.8s,baz=179,slow=6.6,SNR=37 comp=Z,3.7nm,0.8s						
KURK	**Kurchatov**	**61.57**	**351**	P	**P**	**08 58 17.7**	**-1.2**
KURK				IAmb	IAmb	08 58 20.1	
	comp=Z,6.2nm,0.9s						
LSZ	**Lusaka**	**62.08**	**258**	LR	LR	09 20 35.4	
	comp=Z,42nm,19.5s,baz=118,slow=32						
ZAA0	**Zalesovo Array**	**64.00**	**355**	P	**P**	**08 58 35.1**	**0.0**
ZALV	**Zalesovo Beam**	**64.00**	**355**	P	**P**	**08 58 35.0**	**-0.1**
ZALV	**Zalesovo Beam**	**64.00**	**355**	P	**P**	**08 58 35.7**	**+0.6**
	comp=Z,15nm,0.8s,baz=178,slow=5.2,SNR=40 comp=Z,15nm,0.8s						
LBTB	**Lobatse**	**64.29**	**247**	LR	LR	09 20 37.7	
	comp=Z,52nm,21.6s,baz=116,slow=31						
BOSA	**Boshof**	**64.69**	**243**	LR	LR	09 22 05.5	
	comp=Z,26nm,18.7s,baz=194,slow=32						
USRK	**Ussuriysk Ar.**	**65.12**	**31**	P	**P**	**08 58 42.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**65.12**	**31**	P	**P**	**08 58 46.0**	**+3.3**
	comp=Z,9.3nm,0.7s,baz=238,slow=4.9,SNR=19 comp=Z,9.3nm,0.7s						
ABKAR	**Akbulak array**	**65.32**	**338**	P	**P**	**08 58 42.3**	**-1.6**
ABKAR	**Akbulak array**	**65.32**	**338**	IAmb	IAmb	08 58 44.1	
	comp=Z,7.1nm,0.8s						
AKTO	**Aktyubinsk**	**67.01**	**337**	P	**P**	**08 58 53.3**	**-1.4**
	comp=Z,3.4nm,0.8s,baz=169,slow=1.3,SNR=8.9 comp=Z,3.4nm,0.8s						
EIL	**Elat**	**67.43**	**308**	LR	LR	09 25 47.7	
	comp=Z,45nm,18.4s,baz=76,slow=34						
SYO	**Syowa Base**	**67.72**	**198**	∥sP	sP	08 59 05.5	+4.5
MMAI	**Mount Meron Ar**	**68.62**	**311**	LR	LR	09 26 10.8	
	comp=Z,62nm,21.6s,baz=126,slow=34						
SUR	**Sutherland**	**68.65**	**239**	LR	LR	09 24 52.8	
	comp=Z,33nm,18.1s,baz=171,slow=32						
KLR	**Kul'dur**	**68.65**	**27**	P	**P**	**08 59 07.0**	**+2.0**
	comp=Z,3.5nm,0.9s,baz=269,slow=6.6,SNR=6.2 comp=Z,3.5nm,0.9s						
KBZ	**Khabaz**	**69.49**	**324**	P	**P**	**08 59 09.2**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=136,slow=3.7,SNR=8.2 comp=Z,2.7nm,0.8s						
KVAR	**Kislovodsk Arr**	**69.74**	**324**	LR	LR	09 30 54.8	
	comp=Z,63nm,21.8s,baz=102,slow=37						
QSPA	**South Pole Qui**	**79.99**	**180**	P	**P**	**09 00 12.6**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=281,slow=3.3,SNR=2.0 comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**81.07**	**325**	P	**P**	**09 00 14.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=88,slow=3.9,SNR=6.9 comp=Z,0.1nm,0.3s						
TIXI	**Tiksi**	**85.14**	**11**	P	**P**	**09 00 38.4**	**+0.9**
SEY	**Seymchan**	**86.15**	**24**	P	**P**	**09 00 44.0**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=242,slow=6.9,SNR=13 comp=Z,2.1nm,0.6s						
FINES	**FINESS Array B**	**87.53**	**334**	P	**P**	**09 00 48.3**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=171,slow=14,SNR=1.6 comp=Z,1.5nm,0.7s						
YKA	**Yellowknife Ar**	**124.26**	**14**	PKhKP	PKPpre	09 06 56.7	
	comp=Z,0.2nm,0.9s,baz=310,slow=1.9,SNR=2.8						
PDAR	**Pinedale Array**	**142.44**	**26**	PKhKP	PKPpre	09 07 29.3	
	comp=Z,0.1nm,0.4s,baz=4.3,slow=5.1,SNR=2.2						
PDAR				PKP	**PKiKP**	**09 07 37.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=295,slow=5.6,SNR=2.2						
TXAR	**Lajitas Array**	**155.97**	**35**	PKP	**PKPdf**	**09 07 58.1**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=2.9,slow=2.5,SNR=3.7						
TXAR				PKPab	**pPKPab**	**09 08 24.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=258,slow=3.7,SNR=4.3						

NEIC ***13*** *08:48:52.9±1.2, 45°.4N±0°.1×151°.6E±0°.2, h10km±2km, mb4.2/12, Error ellipse: s-maj=26.4km s-min=12.8km az=139.0*
NIED ***13*** *08:48:54.9, 45°.58N×151°.64E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.72; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-0.73; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.50; $M_{\phi r}$0.56; Fault plane solution: $M_0$1.11000×10¹⁵ NP1: ϕ_s235.00000°, δ43.00000°, λ140.00000°. NP2: ϕ_s356.00000°, δ64.00000°, λ55.00000°.*
JMA ***13*** *08:48:54.9±0.8, 46°N±5°×15°2E±°, h30km, MV4.5/13, KURILE ISLANDS REGION*
IDC ***13*** *08:48:55.3±4.7, 45°.77N×151°.30E, h0km, mb3.9/8, mbtmp3.9/10, ML3.1/2, MS3.1/5, Error ellipse: s-maj=114.9km s-min=25.4km az=161.0*
MOS ***13*** *08:48:56.7±1.4, 44°.95N×151°.57E, h61km, mb4.2/1, Error ellipse: s-maj=16.6km s-min=10.4km az=4.7*
SKHL ***13*** *08:48:57.0±0.5, 45°.10N×151°.70E, h60km±9km, mb4.9/3*
ISC 13 08:48:55.4±0.8, 45°.07N±0°.08×151°.78E±0°.07, h35km, n75,
σ1ϑ76/87, **mb4.2**/13, **3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.77**	**275**	*d iPN*	**Pn**	**08 49 38.0**	**+0.7**
KUR				*i S*	**Sn**	**08 50 09.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,81nm,0.2s						
KUR				smax	smax		
	comp=N,718nm,0.4s						
KUR				smax	smax		
	comp=E,454nm,0.4s						
KUR	**Kuril'sk**	**2.77**	**275**	*i P*	**Pn**	**08 49 38.4**	**+1.1**
KUR				AMB	AMB	08 49 39.0	
	comp=E,70nm,0.2s						
KUR				*i S*	**Sn**	**08 50 07.7**	**-1.8**
KUR				A	A	08 50 15.1	
	comp=E,1μm,0.5s						
KUR				A	A	08 50 15.1	
	comp=E,470nm,0.5s						
SHO	**Shikotan**	**3.74**	**253**	*d iPN*	**Pn**	**08 49 51.2**	**+0.6**
SHO				*eS*	**Sn**	**08 50 31.2**	**-2.2**
SHO				pmax	pmax		
	comp=N,17nm,0.1s						
SHO				pmax	pmax		
	comp=E,20nm,0.1s						
SHO				pmax	pmax		
	comp=Z,50nm,0.1s						
SHO				smax	smax		
	comp=N,86nm,0.4s						
SHO				smax	smax		
	comp=E,179nm,0.5s						
SHO	**Shikotan**	**3.74**	**253**	*i P*	**Pn**	**08 49 51.2**	**+0.6**
SHO				AMB	AMB	08 49 53.0	
	comp=E,30nm,0.2s						
SHO				*eS*	**Sn**	**08 50 31.7**	**-1.7**
SHO				A	A	08 50 38.1	
	comp=E,110nm,0.4s						
SHO				A	A	08 50 38.1	
	comp=E,210nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.36**	**258**	*e*PN	**Pn**	**08 50 00.7**	**+1.6**
YUK				*e*S	**Sn**	**08 50 47.4**	**-1.2**
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
YUK				pmax	pmax		
	comp=Z,215nm,0.2s						
YUK				pmax	pmax		
	comp=E,50nm,0.1s						
YUK				smax	smax		
	comp=N,139nm,0.4s						
YUK				smax	smax		
	comp=E,428nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.36**	**258**	*e*P	**Pn**	**08 50 00.4**	**+1.3**
YUK				AMB	AMB	08 50 01.5	
	comp=E,150nm,0.2s						
YUK				*e*S	**Sn**	**08 50 46.3**	**-2.3**
YUK				A	A	08 50 53.5	
	comp=E,470nm,0.6s						
YUK				A	A	08 50 53.5	
	comp=E,430nm,0.6s						
NEM2	**Nemuro 2**	**4.67**	**251**	P	**Pn**	**08 50 03.8**	**+0.5**
NEM2				*e*S	**Sn**	**08 50 54.9**	**-1.3**
NMR	**Nemuro--Hokkai**	**4.67**	**251**	*e*PN	**Pn**	**08 50 03.7**	**+0.3**
NMR				*e*S	**Sn**	**08 50 54.4**	**-1.9**
NMR	**Nemuro--Hokkai**	**4.67**	**251**	*e*P	**Pn**	**08 50 04.0**	**+0.6**
NMR				*e*S	**Sn**	**08 50 54.6**	**-1.8**
RUSJ	**Misakicho**	**4.77**	**261**	∥*e*PN	**Pn**	**08 50 07.4**	**+2.7**
RUSJ				*e*S	**Sn**	**08 51 00.0**	**+1.3**
JRA	**Rausu**	**4.90**	**259**	P	**Pn**	**08 50 08.8**	**+2.3**
JNK	**Nakash**	**5.28**	**256**	P	**Pn**	**08 50 13.5**	**+1.7**
AKK	**Akkeshi**	**5.41**	**250**	*e*P	**Pn**	**08 50 14.1**	**+0.6**
JAK	**Akkeshi**	**5.51**	**250**	P	**Pn**	**08 50 15.6**	**+0.6**
JAK				*e*S	**Sn**	**08 51 15.5**	**-1.6**
JTKR	**Abashiri--Toko**	**5.74**	**262**	P	**Pn**	**08 50 20.2**	**+2.2**
JAR	**Ashorobuto**	**6.03**	**256**	*e*P	**Pn**	**08 50 24.2**	**+2.2**
JAR				*e*S	**Sn**	**08 51 30.8**	**+1.1**
JOB	**Onbets**	**6.13**	**252**	*e*P	**Pn**	**08 50 24.1**	**+0.7**
JOB				*e*S	**Sn**	**08 51 30.5**	**-1.7**
SKR	**Severo-Kuril's**	**6.32**	**26**	*e*P	**Pn**	**08 50 29.3**	**+3.3**
YSS	**Yuzhno-Sakhali**	**6.56**	**290**	*e*PN	Pn	08 50 34.6	+5.3
YSS				*e*S	**Sn**	**08 51 45.6**	**+2.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				smax	smax		
	comp=N,10.0nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS				MLR	MLR		
	comp=N,100nm,14.0s						
YSS	**Yuzhno-Sakhali**	**6.56**	**290**	*e*P	**Pn**	**08 50 30.0**	**+0.7**
YSS				*e*S	**Sn**	**08 51 39.8**	**-3.0**
JCH	**Churui**	**6.57**	**251**	*e*P	**Pn**	**08 50 30.2**	**+0.8**
JKK2	**Kamakawa 2**	**6.58**	**263**	*e*P	**Pn**	**08 50 32.3**	**+2.8**
JKA	**Kamikawa-asahi**	**6.63**	**265**	Pn	**Pn**	**08 50 29.1**	**-1.1**
JKA	**Kamikawa-asahi**	**6.63**	**265**	*e*P	**Pn**	**08 50 29.2**	**-1.1**
ASAJ	**Asahikawa**	**6.63**	**265**	PN	**Pn**	**08 50 29.2**	**-1.1**
ERM	**Erimo**	**6.97**	**247**	Pn	**Pn**	**08 50 36.4**	**+1.4**
ERM				Sn	**Sn**	**08 51 51.5**	**-1.5**
JNBK	**Urakawa-nobuka**	**7.12**	**250**	*e*P	**Pn**	**08 50 37.6**	**+0.6**
PAU	**Pauzhetka**	**7.22**	**26**	*e*P	**Pn**	**08 50 39.9**	**+1.5**
TYV	**Tymovskoe**	**8.43**	**317**	*e*PN	**Pn**	**08 50 57.0**	**+2.1**
TYV				pmax	pmax		
	comp=Z,200nm,3.9s						
TYV				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TYV	**Tymovskoe**	**8.43**	**317**	*e*P	**Pn**	**08 50 55.0**	**+0.1**
TYV				*e*S	**Sn**	**08 52 26.7**	**-1.9**
JANG	**Nango**	**8.89**	**242**	*e*P	**Pn**	**08 51 00.4**	**-0.9**
PEA0B	**Petropavlovsk-**	**8.93**	**24**	Pn	**Pn**	**08 50 57.2**	**-4.5**
PEA0B	**Petropavlovsk-**	**8.93**	**24**	PN	**Pn**	**08 50 57.2**	**-4.5**
PETK	**Petropavlovsk-**	**8.93**	**24**	Pn	**Pn**	**08 50 58.0**	**-3.7**
PETK	**Petropavlovsk-**	**8.93**	**24**	Pn	**Pn**	**08 51 00.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=5.2 comp=Z,7.5nm,1.0s						
JTM	**Tenmabayashi**	**8.95**	**245**	Pn	**Pn**	**08 51 02.9**	**+0.8**
OKH	**Okha**	**10.26**	**329**	*e*P	**Pn**	**08 51 22.2**	**+2.3**
NKL	**Nikolayevsk**	**10.86**	**322**	*e*P	**Pn**	**08 51 30.3**	**+2.1**
JMM	**Marumori**	**10.94**	**233**	Pn	**Pn**	**08 51 29.0**	**-0.3**
USA0B	**Ussuriysk Arra**	**14.12**	**273**	Pn	**Pn**	**08 52 10.9**	**-1.9**
USA0B	**Ussuriysk Arra**	**14.12**	**273**	P	**Pn**	**08 52 10.9**	**-1.9**
USRK	**Ussuriysk Ar.**	**14.12**	**273**	Pn	**Pn**	**08 52 09.7**	**-3.1**
USRK	**Ussuriysk Ar.**	**14.12**	**273**	Pn	**Pn**	**08 52 11.2**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=111,slow=16,SNR=15 comp=Z,0.9nm,0.3s						
KLR	**Kul'dur**	**14.24**	**294**	LR	LR	08 57 42.8	
	comp=Z,117nm,19.5s,baz=68,slow=39						
MA2	**Magadan**	**14.54**	**358**	LR	LR	08 58 38.5	
	comp=Z,47nm,18.1s,baz=190,slow=42						
KSRS	**Korea Array**	**19.44**	**255**	LR	LR	09 00 58.4	
	comp=Z,40nm,18.7s,baz=60,slow=37						
YAK	**Yakutsk**	**21.28**	**331**	LR	LR	09 01 24.4	
	comp=Z,48nm,18.4s,baz=121,slow=36						
SONM	**Songino Array**	**31.05**	**292**	P	**P**	**08 55 11.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=70,slow=9.6,SNR=2.8						
SONM				LR	LR	09 08 25.6	
	comp=Z,68nm,18.4s,baz=358,slow=38 comp=Z,0.4nm,0.5s						
D19K	**Kuna River**	**34.56**	**30**	P	**P**	**08 55 39.1**	**-1.1**
B21K	**Ikpikpuk River**	**36.08**	**29**	P	**P**	**08 55 51.8**	**-1.4**
B21K				IAmb	IAmb	08 56 17.7	
	comp=Z,6.9nm,1.5s						
E23K	**Chandalar**	**37.57**	**32**	P	**P**	**08 56 04.3**	**-1.7**
E23K				IAmb	IAmb	08 56 09.2	
	comp=Z,6.9nm,1.5s						
SML	**Sawmill**	**37.83**	**42**	P

DRS Darwin Rock St 7.34 114 P Pn 08 57 26.7 -0.3
KDU Kakadu 8.86 112 P Pn 08 57 47.1 -0.7

*IDC **13** 08:59:15.1±0.7,6.46S×143.67E,h0km,mb4.5/18, mbtmp4.5/22,ML4.4/3,MS4.2/2,Error ellipse: s-maj=22.4km s-min=13.8km az=93.0*
*NEIC **13** 08:59:18.1±1.9,6.41S±0.05×143.55E±0.05,h10km±1km, mb4.8/53,Error ellipse: s-maj=12.1km s-min=3.1km az=137.0*
ISC 13 08:59:20.7±0.4,**6.53S**±0.05×**143.55E**±0.05,**h35**km,**n141**, σ1**9**74/132,**mb4.7**/54,**3C-2D**,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.63 298**		P	**Pn**	**09 00 00.0**	**-0.8**
PMG	**Port Moresby**	**4.58 129**		Pn	**Pn**	**09 00 26.5**	**-1.0**
	46nm,0.4s,baz=27,slow=3.1,SNR=21						
PMG				Sn	**Sn**	**09 01 14.3**	**-5.1**
	12nm,0.3s,baz=310,slow=17,SNR=4.4						
JAY	**Jayapura**	**4.89 325**		Pn	**Pn**	**09 00 30.5**	**-1.4**
	4.4nm,0.3s,baz=179,slow=7.0,SNR=13						
JAY				Sn	Sn	09 01 15.7	-12
	6.3nm,0.3s,baz=131,slow=20,SNR=4.5						
JAY				Lg	Lg	09 01 42.9	
	7.5nm,0.3s,baz=147,slow=21,SNR=10						
JAY				LR	LR	09 03 01.1	
	comp=Z,737nm,19.8s,baz=94,slow=46						
	12nm,0.4s						
MANU	**Manus Island**	**5.87**	**41**	Pn	**Pn**	**09 00 43.6**	**-1.6**
COEN	**Coen**	**7.39 183**		Pn	**Pn**	**09 01 07.8**	**+1.7**
COEN	**Coen**	**7.39 183**		P	**Pn**	**09 01 08.1**	**+2.0**
FAKI	**Fak Fak**	**11.82 287**		Pn	**Pn**	**09 02 06.0**	**-0.9**
FAKI	**Fak Fak**	**11.82 287**		P	**Pn**	**09 02 05.7**	**-1.2**
KDU	**Kakadu**	**12.51 240**		P	**Pn**	**09 02 15.4**	**-0.9**
TV1H	**Townsville Har**	**13.04 166**		P	**Pn**	**09 02 26.1**	**+2.5**
MTN	**Manton Dam**	**13.74 242**			**Pn**	**09 02 32.0**	**-1.2**
MTN	**Manton Dam**	**13.74 242**		P	**Pn**	**09 02 32.2**	**-1.0**
DRS	**Darwin Rock St**	**13.78 244**		P	**Pn**	**09 02 33.9**	**+0.2**
QIS	**Mount Isa**	**14.46 195**		P	**Pn**	**09 02 43.7**	**+0.8**
WB0	**Warramunga Arr**	**15.88 213**			**Pn**	**09 03 00.7**	**-1.0**
WR0	**Warramunga Arr**	**15.96 212**		Pn	**Pn**	**09 03 02.4**	**-0.3**
WRAB	**Tennant Creek**	**16.04 213**		Pn	**Pn**	**09 03 02.5**	**-1.2**
WB2	**Warramunga Arr**	**16.04 213**			**Pn**	**09 03 03.1**	**-0.7**
WRA	**Warramunga Arr**	**16.05 213**		Pn	**Pn**	**09 03 02.1**	**-1.8**
WRA	**Warramunga Arr**	**16.05 213**		Pn	**Pn**	**09 03 01.9**	**-2.0**
	1.8nm,0.3s,baz=30,slow=13,SNR=25						
WRA				Sn	Sn	09 05 51.6	-9.2
	0.7nm,0.3s,baz=348,slow=14,SNR=2.9						
WRA				Lg	Lg	09 07 38.7	
	0.4nm,0.3s,baz=58,slow=22,SNR=5.4						
	2.3nm,0.3s						
TATA	**Tatamba Isabel**	**16.23**	**98**	P	**P**	**09 03 10.2**	**+1.3**
HNR	**Honiara**	**16.49 101**		Pn	**Pn**	**09 03 08.1**	**-1.5**
KNRA	**Kununurra**	**17.11 237**		Pn	**Pn**	**09 03 16.3**	**-0.9**
KNRA				IAmb	IAmb	09 03 22.4	
	comp=Z,26nm,0.6s						
AS01	**Alice Springs**	**19.37 207**		P	**Pn**	**09 03 46.3**	**+1.4**
AS31	**Alice Springs**	**19.39 208**		Pn	**Pn**	**09 03 46.7**	**+1.5**
ASAR	**Alice Springs**	**19.39 208**		Pn	**Pn**	**09 03 46.8**	**+1.6**
ASAR	**Alice Springs**	**19.39 208**		P	**P**	**09 03 45.3**	**+1.4**
	comp=Z,2.3nm,0.3s,baz=37,slow=9.9,SNR=172						
ASAR				S	**S**	**09 07 15.7**	**-5.8**
	comp=Z,0.9nm,0.5s,baz=21,slow=26,SNR=2.9						
ASAR				Lg	Lg	09 09 25.7	
	comp=Z,0.1nm,0.3s,baz=17,slow=31,SNR=4.3						
	comp=Z,26nm,0.7s						
EIDS	**Eidsvold**	**20.07 160**		P	**P**	**09 03 52.9**	**+1.8**
FITZ	**Fitzroy Crossi**	**20.91 235**			**P**	**09 04 00.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.91 235**		P	**P**	**09 04 00.3**	**0.0**
	comp=Z,10nm,0.6s,baz=49,slow=10,SNR=20						
FITZ				S	**S**	**09 07 43.8**	**-7.8**
	comp=Z,4.3nm,0.6s,baz=92,slow=10,SNR=2.3						
	comp=Z,10nm,0.6s						
INKA	**Innaminka**	**21.26 187**		P	**P**	**09 04 07.1**	**+3.1**
OOD	**Oodnadatta**	**22.42 199**		P	**P**	**09 04 18.4**	**+1.9**
WRKA	**Warakurna**	**23.49 217**		P	**P**	**09 04 28.2**	**+0.7**
KAPI	**Kappang**	**23.72 272**		P	**P**	**09 04 30.0**	**+0.2**
KAPI				IAmb	IAmb	09 04 42.9	
	comp=Z,24nm,0.9s						
KAPI	**Kappang**	**23.72 272**		P	**P**	**09 04 30.4**	**+0.6**
	comp=Z,17nm,0.7s,baz=60,slow=20,SNR=5.8						
	comp=Z,17nm,0.7s						
TOLI2	**Tolitoli**	**23.96 288**		P	**P**	**09 04 32.2**	**+0.2**
TOLI2				IAmb	IAmb	09 04 34.2	
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**25.28 184**		P	**P**	**09 04 44.4**	**+0.6**
STKA	**Stephens Creek**	**25.28 184**		P	**P**	**09 04 44.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=329,slow=9.4,SNR=5.8						
	comp=Z,1.0nm,0.5s						
BBOO	**Buckleboo**	**27.06 194**		P	**P**	**09 04 59.5**	**-0.4**
PSA00	**Pilbara Seismi**	**27.36 234**		P	**P**	**09 05 01.6**	**-1.2**
NACB	**Ninganchiao**	**37.28 326**		P	**P**	**09 06 28.9**	**-0.7**
YHNB	**Yeheng**	**37.80 326**		P	**P**	**09 06 34.4**	**+0.5**
KNMB	**Chin-men Tao**	**39.38 322**		P	**P**	**09 06 47.9**	**-0.7**
OUZ	**Omahuta**	**39.73 140**		P	**P**	**09 06 52.6**	**+2.6**
JMN	**Monobe**	**41.08 348**		P	**P**	**09 07 00.6**	**-0.6**
HIZ	**Hauiti**	**42.60 143**		P	**P**	**09 07 15.4**	**+1.8**
HIZ	**Hauiti**	**42.60 143**		P	**P**	**09 07 16.8**	**+3.3**
MJAR	**Matsushiro Arr**	**43.14 354**		P	**P**	**09 07 16.5**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=181,slow=8.0,SNR=4.5						
	comp=Z,1.9nm,0.7s						
MAJO	**Matsushiro**	**43.14 354**		P	**P**	**09 07 16.9**	**-1.0**
MAJO				IAmb	IAmb	09 07 20.6	
	comp=Z,48nm,1.7s						
MJB9	**Matsu-Tunnel**	**43.14 354**		P	**P**	**09 07 16.8**	**-1.2**
MJB9				IAmb	IAmb	09 07 21.6	
	comp=Z,44nm,1.7s						
MRNZ	**Matariki Terra**	**43.37 148**		P	**P**	**09 07 21.6**	**+1.9**
NGZ	**Ngauruhoe**	**43.48 143**		P	**P**	**09 07 24.2**	**+3.4**
TMVZ	**Te Maari**	**43.50 143**		P	**P**	**09 07 24.4**	**+3.4**
OTVZ	**Oturere**	**43.51 143**		P	**P**	**09 07 24.7**	**+3.6**
SNVZ	**South Ngauruho**	**43.51 143**		P	**P**	**09 07 24.4**	**+3.3**
ETVZ	**East Tongariro**	**43.52 143**		P	**P**	**09 07 24.8**	**+3.7**
URZ	**Urewera**	**43.82 141**		P	**P**	**09 07 24.5**	**+1.1**
RTZ	**Ruatahuna**	**43.96 142**		P	**P**	**09 07 26.1**	**+1.4**
RTZ				IAmb	IAmb	09 07 27.9	
	comp=Z,14nm,0.9s						
RTZ	**Ruatahuna**	**43.96 142**		P	**P**	**09 07 27.0**	**+2.4**
BKZ	**Black Stump Fm**	**44.00 143**		P	**P**	**09 07 26.7**	**+1.8**
BKZ				IAmb	IAmb	09 07 27.4	
	comp=Z,7.8nm,0.6s						
BKZ	**Black Stump Fm**	**44.00 143**		P	**P**	**09 07 26.4**	**+1.5**
MTHZ	**Maungataniwha**	**44.02 142**		P	**P**	**09 07 26.8**	**+1.7**
LTZ	**Lake Taylor**	**44.11 149**		P	**P**	**09 07 27.3**	**+1.6**
KWHZ	**Kaweka Forest**	**44.12 143**		P	**P**	**09 07 28.3**	**+2.4**
MWZ	**Matawai**	**44.13 141**		P	**P**	**09 07 28.5**	**+2.6**
PKGZ	**Pakihiroa**	**44.20 140**		P	**P**	**09 07 29.0**	**+2.5**
KRHZ	**Kereru**	**44.23 143**		P	**P**	**09 07 28.6**	**+1.9**
TSZ	**Takapari Road**	**44.26 144**		P	**P**	**09 07 28.5**	**+1.6**
TKGZ	**Te Karaka**	**44.39 141**		P	**P**	**09 07 29.7**	**+1.7**
PUZ	**Puketiti**	**44.44 140**		P	**P**	**09 07 29.8**	**+1.4**
KHZ	**Kahutara**	**44.50 148**		P	**P**	**09 07 30.0**	**+1.2**
GVZ	**Greta Valley S**	**44.63 149**		P	**P**	**09 07 31.2**	**+1.3**
KNZ	**Kokohu**	**44.64 142**		P	**P**	**09 07 30.9**	**+1.0**
PXZ	**Pawanui**	**44.77 143**		P	**P**	**09 07 32.6**	**+1.6**
BFZ	**Birch Farm**	**44.83 144**		P	**P**	**09 07 31.9**	**+0.5**
BFZ	**Birch Farm**	**44.83 144**		P	**P**	**09 07 32.3**	**+0.9**
NJ2	**Nanjing**	**45.02 330**		*e*P	**P**	**09 07 34.9**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSRS	**Korea Array**	**46.13 343**		P	**P**	**09 07 41.1**	**-0.5**
	comp=Z,8.2nm,0.8s,baz=163,slow=9.2,SNR=18						
	comp=Z,8.2nm,0.8s						
KSAR	**Wonju Array Be**	**46.13 343**		P	**P**	**09 07 41.3**	**-0.4**
JTM	**Tenmabayashi**	**47.14 357**		P	**P**	**09 07 48.3**	**-1.3**
ENH	**Enshi**	**49.05 320**		P	**P**	**09 08 03.2**	**-1.3**
ENH				IAmb	IAmb	09 08 12.8	
	comp=Z,10nm,0.9s						
PHRA	**Phrae**	**49.43 301**		P	**P**	**09 08 07.1**	**-0.5**
LYN	**LuoYang**	**50.31 326**		*e*P	**P**	**09 08 14.8**	**+0.7**
LYN				pmax	pmax		
	comp=Z,20nm,0.6s						
CMAR	**Chiang Mai Arr**	**50.51 300**		P	**P**	**09 08 15.9**	**0.0**
CMAR	**Chiang Mai Arr**	**50.51 300**		P	**P**	**09 08 16.2**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=122,slow=6.0,SNR=15						
	comp=Z,3.6nm,0.7s						
KMI	**Kunming**	**50.65 310**		⇓P	**P**	**09 08 18.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,15nm,0.4s						
CHTO	**Chiang Mai**	**50.66 301**		P	**P**	**09 08 16.4**	**-0.7**
HNS	**HongShan**	**51.33 331**		⇑P	**P**	**09 08 21.9**	**+0.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**51.57 349**		P	**P**	**09 08 23.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**51.57 349**		P	**P**	**09 08 23.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.57 349**		P	**P**	**09 08 23.1**	**-0.2**
	comp=Z,17nm,0.7s,baz=184,slow=7.7,SNR=21						
	comp=Z,17nm,0.7s						
XAN	**Xi'an**	**51.98 323**		⇑P	**P**	**09 08 27.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,13nm,1.3s						
PZH	**PanZhiHua**	**52.16 311**		P	**P**	**09 08 29.0**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
MDJ	**Mudanjiang**	**52.44 347**		IAmb	IAmb	09 08 30.6	
	comp=Z,7.8nm,0.8s						
MDJ	**Mudanjiang**	**52.44 347**		P	**P**	**09 08 29.8**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,11nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.6s						
BJT	**Baijiatuau**	**52.76 334**		IAmb	IAmb	09 08 33.4	
	comp=Z,9.2nm,1.0s						
BJI	**Beijing**	**52.77 334**		P	**P**	**09 08 32.8**	**+0.4**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BJI				LR	LR		
	comp=N,310nm,13.8s						
BJI				LR	LR		
	comp=E,400nm,13.2s						
BJI				LR	LR		
	comp=Z,670nm,14.7s						
BNX	**BinXian**	**54.01 346**		⇓P	**P**	**09 08 41.3**	**0.0**
BNX				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC	**Hu-ho-hao-te**	**55.55 331**		*e*P	**P**	**09 08 55.1**	**+2.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.6s						
XLT	**XiLinHaoTe**	**56.00 336**		*e*P	**P**	**09 08 56.4**	**+0.5**
XLT				pP	pP	09 09 00.6	-6.4
XLT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**56.43 322**		*e*P	**P**	**09 08 57.9**	**-1.4**
LZH				sP	pP	09 09 04.9	-5.3
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
KLR	**Kul'dur**	**56.48 351**		P	**P**	**09 08 58.4**	**-0.7**
	comp=Z,6.3nm,0.8s,baz=212,slow=3.8,SNR=16						
	comp=Z,6.3nm,0.8s						
PETK	**Petropavlovsk-**	**60.62**	**10**	P	**P**	**09 09 27.2**	**-0.6**
	comp=Z,8.9nm,0.8s,baz=181,slow=7.3,SNR=5.7						
PETK				LR	LR	09 31 58.1	
	comp=Z,696nm,22.0s,baz=213,slow=32						
	comp=Z,8.9nm,0.8s						
GTA	**Gaotai**	**61.01 322**		*e*P	**P**	**09 09 33.0**	**+2.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**63.25 333**		P	**P**	**09 09 45.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=158,slow=7.6,SNR=3.8						
	comp=Z,1.3nm,0.6s						
MA2	**Magadan**	**66.15**	**4**	P	**P**	**09 10 03.3**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=191,slow=1.2,SNR=4.8						
	comp=Z,3.0nm,0.6s						
SEY	**Seymchan**	**69.60**	**4**	P	**P**	**09 10 25.1**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=165,slow=6.0,SNR=7.0						
	comp=Z,2.2nm,0.5s						
WMQ	**Urumqi**	**70.99 321**		*e*P	**P**	**09 10 37.3**	**+2.3**
MK31	**Makanchi Array**	**75.75 322**		P	**P**	**09 11 03.0**	**+0.1**
MK31				IAmb	IAmb	09 11 04.7	
	comp=Z,9.4nm,1.2s						
MKAR	**Makanchi Array**	**75.75 322**		P	**P**	**09 11 03.0**	**+0.1**
MKAR	**Makanchi Array**	**75.75 322**		P	**P**	**09 11 03.4**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=98,slow=8.0,SNR=16						
	comp=Z,3.6nm,0.6s						
MAKZ	**Makanchi**	**75.95 321**		P	**P**	**09 11 04.0**	**0.0**
MAKZ				IAmb	IAmb	09 11 05.7	
	comp=Z,15nm,1.2s						
KSH	**Kashi**	**77.20 313**		P	**P**	**09 11 13.8**	**+2.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NIL	**Nilore**	**77.46 306**		P	**P**	**09 11 13.8**	**+0.9**
ZALV	**Zalesovo Beam**	**77.66 329**		P	**P**	**09 11 13.1**	**-0.5**
ZALV	**Zalesovo Beam**	**77.66 329**		P	**P**	**09 11 12.8**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=112,slow=5.5,SNR=9.2						
	comp=Z,3.4nm,0.5s						
BOOM	**Boomskoye usch**	**78.23 316**		P	**P**	**09 11 18.1**	**+0.9**
BOOM				IAmb	IAmb	09 11 19.0	
	comp=Z,5.1nm,0.6s						
AAK	**Ala-Archa**	**79.29 315**		P	**P**	**09 11 23.5**	**+0.5**
KURK	**Kurchatov**	**79.61 324**		P	**P**	**09 11 23.9**	**-0.4**
KURK				IAmb	IAmb	09 11 25.6	
	comp=Z,8.3nm,0.8s						
KURBB	**Kurchatov Arra**	**79.62 324**		P	**P**	**09 11 24.2**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=112,slow=4.3,SNR=12						
	comp=Z,2.2nm,0.6s						
ARSB	**Arslanbob**	**79.94 314**		P	**P**	**09 11 26.7**	**+0.1**
ARSB				IAmb	IAmb	09 11 28.3	
	comp=Z,19nm,1.6s						
J17K	**VABM Dome**	**81.94**	**23**	IAmb	IAmb	09 11 38.2	
	comp=Z,6.4nm,0.8s						
KK31	**Karatay Array**	**82.22 315**		P	**P**	**09 11 38.0**	**-0.5**
KK31				IAmb	IAmb	09 13 02.9	
	comp=Z,6.4nm,0.7s						
H17K	**Granite Mounta**	**82.47**	**21**	IAmb	IAmb	09 11 40.7	
	comp=Z,6.0nm,0.7s						
RDOG	**Red Dog Mine**	**83.27**	**18**	P	**P**	**09 11 43.9**	**+0.5**
RDOG				IAmb	IAmb	09 11 44.7	
	comp=Z,5.1nm,0.8s						
G18K	**Tagagawik**	**83.43**	**20**	IAmb	IAmb	09 11 45.2	
	comp=Z,4.5nm,0.9s						
QSPA	**South Pole Qui**	**83.44 180**		P	**P**	**09 11 44.8**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=5.2,slow=2.0,SNR=6.2						
	comp=Z,3.3nm,0.8s						
G19K	**Purcell Mounta**	**84.11**	**21**	IAmb	IAmb	09 11 49.1	
	comp=Z,6.2nm,1.0s						
E19K	**Redstone River**	**84.74**	**19**	IAmb	IAmb	09 11 52.2	
	comp=Z,8.3nm,0.9s						
BVAR	**Borovoye Array**	**85.19 325**		P	**P**	**09 11 53.2**	**-0.2**
	comp=Z,8.7nm,0.6s,baz=110,slow=7.8,SNR=20						
	comp=Z,8.7nm,0.6s						
RND	**Reindeer**	**86.02**	**25**	P	**P**	**09 11 56.2**	**-1.2**
E21K	**Killik River**	**86.29**	**19**	IAmb	IAmb	09 11 59.7	
	comp=Z,5.1nm,0.7s						
G23K	**Bananza Creek**	**86.89**	**21**	IAmb	IAmb	09 12 02.7	
	comp=Z,3.3nm,0.7s						
D22K	**Ayikyak River**	**86.92**	**19**	IAmb	IAmb	09 12 04.2	
	comp=Z,5.7nm,0.8s						
CCB	**Clear Creek Bu**	**86.92**	**24**		**P**	**09 12 00.2**	**-1.5**
CCB				IAmb	IAmb	09 12 01.7	
	comp=Z,3.2nm,0.7s						
IL31		**87.33**	**24**	P	**P**	**09 12 01.8**	**-1.9**
ILAR	**Eielson Array**	**87.33**	**24**	P	**P**	**09 12 02.1**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=255,slow=5.3,SNR=15						
	comp=Z,2.1nm,0.8s						
SYO	**Syowa Base**	**88.91 200**		⇑*es*P	P	09 12 17.8	+6.7
PLCA	**Paso Flores**	**123.49 149**		PKP	**PKPdf**	**09 18 14.2**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=226,slow=2.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**141.88 283**		PKhKP	PKPpre	09 18 46.1	
	comp=Z,0.9nm,0.7s,baz=46,slow=2.5,SNR=5.8						
DBIC	**Dimbokro**	**148.62 272**		PKPbc	**PKPbc**	**09 19 05.7**	**+0.4**
	comp=Z,7.1nm,0.7s,baz=94,slow=3.3,SNR=10						

*IDC **13** 08:59:30.5±2.1,9.82N×126.17E,h95km±22km,mb3.9/20, mbtmp4.2/21,MS3.5/10,Error ellipse: s-maj=22.9km s-min=16.3km az=81.0*
*NEIC **13** 08:59:30.7±0.8,9.72N±0.04×126.1E±0.2,h91km±8km, mb4.5/45,Error ellipse: s-maj=23.0km s-min=5.4km az=87.0*
ISC 13 08:59:30.9±0.4,**9.75N**±0.05×**126.1E**±0.1,**h100**km,**n83**, σ0**8**1/61,**mb4.4**/42,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.71 191**		Pn	**Pn**	**09 00 11.8**	**-1.1**
DAV	**Davao City (W)**	**2.71 191**		P	**Pn**	**09 00 12.6**	**-0.3**
	227nm,0.4s,baz=92,slow=5.9,SNR=4.7						
DAV				S	**Sn**	**09 00 47.5**	**+2.4**
	211nm,0.4s,baz=82,slow=23,SNR=4.2						
DAV	**Davao City (W)**	**2.71 191**		P	**Pn**	**09 00 14.0**	**+1.1**
TPUB	**Ta-pu**	**14.46 339**		Pn	**Pn**	**09 02 50.9**	**0.0**
KAPI	**Kappang**	**15.97 204**		LR	LR	09 09 58.4	
	comp=Z,253nm,19.4s,baz=42,slow=39						
GUMO	**Guam**	**18.76**	**76**	LR	LR	09 09 06.1	
	comp=Z,139nm,21.0s,baz=342,slow=31						
SOEI	**Soe**	**19.46 185**		P	**P**	**09 03 49.4**	**-0.6**
JCJ	**Chichijima**	**22.98**	**39**	LR	LR	09 11 47.9	
	comp=Z,116nm,20.6s,baz=258,slow=32						
MYKOM	**Kota Tinggi**	**23.50 252**		P	**P**	**09 04 31.9**	**-0.2**
JNU	**Nakatsue**	**23.68**	**10**	LR	LR	09 15 01.6	
	comp=Z,76nm,18.1s,baz=190,slow=40						
KNRA	**Kununurra**	**25.40 174**		P	**P**	**09 04 49.0**	**-0.2**
KNRA				IAmb	IAmb	09 04 58.9	
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**27.63**	**3**	P	**P**	**09 05 08.5**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=185,slow=11,SNR=5.3						
	comp=Z,1.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.67 181**		P	**P**	**09 05 08.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**27.70 291**		P	**P**	**09 05 10.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=95,slow=6.9,SNR=8.9						
CMAR				LR	LR	09 16 30.2	
	comp=Z,51nm,19.7s,baz=110,slow=37						
	comp=Z,0.8nm,0.4s						
PSI	**Prapat**	**27.87 257**		LR	LR	09 18 12.0	
	comp=Z,84nm,18.6s,baz=64,slow=40						
MJAR	**Matsushiro Arr**	**28.84**	**20**	LR	LR	09 17 28.3	
	comp=Z,129nm,18.1s,baz=208,slow=38						
KRVT	**Keravat (AS076**	**29.35 117**		LR	LR	09 18 10.5	
	comp=Z,66nm,18.4s,baz=343,slow=38						
WRAB	**Tennant Creek**	**30.59 165**		P	**P**	**09 05 33.4**	**-2.1**
WRAB				IAmb	IAmb	09 06 16.2	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**30.59 165**		P	**P**	**09 05 35.7**	**+0.1**
WB2	**Warramunga Arr**	**30.60 165**		P	**P**	**09 05 34.8**	**-0.7**
WB2				IAmb	IAmb	09 06 00.1	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**30.66 164**		P	**P**	**09 05 35.9**	**-0.3**
WR0				IAmb	IAmb	09 05 53.5	
	comp=Z,9.0nm,0.8s						
MBWA	**Marble Bar**	**31.35 191**		P	**P**	**09 05 41.4**	**-0.8**
PSA00	**Pilbara Seismi**	**31.73 191**		P	**P**	**09 05 44.7**	**-0.8**
ASAR	**Alice Springs**	**34.07 167**		P	**P**	**09 06 05.1**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=340,slow=8.9,SNR=1.6						
	comp=Z,0.8nm,0.3s						
ASAJ	**Asahikawa**	**37.11**	**20**	P	**P**	**09 06 31.3**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=229,slow=13,SNR=4.5						
	comp=Z,2.3nm,0.5s						
KLR	**Kul'dur**	**39.64**	**6**	P	**P**	**09 06 52.2**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=163,slow=10,SNR=6.6						
	comp=Z,1.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.22**	**73**	T	T	09 50 10.6	
	baz=262,slow=73,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	09 50 04.0	
	baz=262,slow=73,SNR=11						
H11S2	**WAKE ISLAND Hy**	**40.24**	**73**	T	T	09 50 02.0	
	baz=262,slow=73,SNR=9.7						
FORT	**Forrest**	**40.34 177**		P	**P**	**09 06 58.3**	**-0.4**
H11N1	**WAKE ISLAND Hy**	**40.57**	**71**	T	T	09 50 24.6	
	baz=264,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.58**	**71**	T	T	09 50 17.6	
	baz=264,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.59**	**71**	T	T	09 50 25.7	
	baz=264,slow=75,SNR=13						
ULN	**Ulaanbaatar**	**41.26 341**		P	**P**	**09 07 06.1**	**-0.3**
ULN				IAmb	IAmb	09 07 24.3	
	comp=Z,8.8nm,1.2s						
SONM	**Songino Array**	**41.45 340**		P	**P**	**09 07 07.9**	**0.0**
SONM	**Songino Array**	**41.45 340**		P	**P**	**09 07 07.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=159,slow=9.8,SNR=7.5						
	comp=Z,1.7nm,0.5s						
EIDS	**Eidsvold**	**42.54 146**		P	**P**	**09 07 17.4**	**+0.4**
EIDS				IAmb	IAmb	09 07 55.9	
	comp=Z,12nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.27 191**		P	**P**	**09 07 23.0**	**+0.4**
BBOO	**Buckleboo**	**43.37 168**		P	**P**	**09 07 22.7**	**-0.8**
STKA	**Stephens Creek**	**43.96 161**		P	**P**	**09 07 27.2**	**-1.0**
STKA				IAmb	IAmb	09 07 40.8	
	comp=Z,10nm,1.2s						
PALK	**Pallekele**	**44.95 271**		LR	LR	09 25 52.5	
	comp=Z,38nm,21.6s,baz=89,slow=35						
PETK	**Petropavlovsk-**	**50.18**	**24**	P	**P**	**09 08 17.2**	**+1.0**
MK31	**Makanchi Array**	**52.35 323**		P	**P**	**09 08 32.8**	**+0.1**
MKAR	**Makanchi Array**	**52.35 323**		P	**P**	**09 08 32.3**	**-0.4**
	comp=Z,2.0nm,

TXAR	Lajitas Array	118.28	49	PKP	PKiKP	09 18 07.5	0.0
	comp=Z,0.1nm,0.5s,baz=52,slow=1.8,SNR=4.4						
PLCA	Paso Flores	145.79	157	PKPbc	PKPab	09 18 59.5	0.0
	comp=Z,2.6nm,0.8s,baz=289,slow=2.4,SNR=4.9						

IDC ***13*** *09:08:36.2±4.3,23°.13S×175°.67W,h84km±35km,mb3.8/10, mbtmp4.2/12,MS3.4/3,Error ellipse: s-maj=31.0km s-min=22.8km az=112.0*

ISC 13 09:08:30.5±0.9,23°.0S±0°.2×175°.6W±0°.2,h34km,n15, σ0§84/14,mb4.0/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.93	310	P	Pn	09 10 31.2	+7.8
	46nm,1.0s,baz=142,slow=12,SNR=20						
MSVF				LR	LR	09 13 18.0	
	comp=Z,566nm,18.4s,baz=107,slow=35						
RAR	Rarotonga	14.79	86	LR	LR	09 17 51.4	
	comp=Z,79nm,18.6s,baz=256,slow=37						
URZ	Urewera	16.43	201	P	Pn	09 12 18.3	-0.2
	3.8nm,0.6s,baz=51,slow=20,SNR=5.5						
PPT	Papeete	24.99	82	LR	LR	09 23 02.2	
	comp=Z,70nm,18.1s,baz=238,slow=35						
STKA	Stephens Creek	38.79	247	P	P	09 15 53.2	+1.1
	1.1nm,0.6s,baz=119,slow=10,SNR=1.3						
	1.1nm,0.6s						
ASAR	Alice Springs	46.16	259	P	P	09 16 51.2	-0.9
	1.4nm,0.9s,baz=90,slow=8.2,SNR=7.5						
ASAR				PcP	PcP	09 18 28.5	+0.7
	0.4nm,0.6s,baz=97,slow=4.1,SNR=2.1						
	1.4nm,0.9s						
WRA	Warramunga Arr	46.50	264	P	P	09 16 53.4	-1.5
	1.7nm,0.6s,baz=93,slow=8.4,SNR=25						
WRA				PcP	PcP	09 18 30.0	+1.0
	0.5nm,0.9s,baz=100,slow=2.8,SNR=2.2						
	1.7nm,0.6s						
QSPA	South Pole Qui	67.08	180	P	P	09 19 19.7	-0.5
	1.3nm,0.9s,baz=54,slow=3.6,SNR=1.8						
	1.3nm,0.9s						
PETK	Petropavlovsk-	79.27	344	P	P	09 20 31.2	-0.8
	7.3nm,1.0s,baz=143,slow=10,SNR=3.6						
	7.3nm,1.0s						
KSRS	Korea Array	80.23	318	P	P	09 20 37.5	-0.1
	1.5nm,0.8s,baz=142,slow=6.3,SNR=4.2						
	1.5nm,0.8s						
USRK	Ussuriysk Ar.	82.28	325	P	P	09 20 48.4	+0.1
	3.1nm,0.8s,baz=96,slow=3.5,SNR=4.2						
	3.1nm,0.8s						
TXAR	Lajitas Array	86.56	56	P	P	09 21 10.8	+0.2
	0.5nm,0.8s,baz=198,slow=7.5,SNR=4.3						
	0.5nm,0.8s						
ILAR	Eielson Array	90.28	12	P	P	09 21 27.4	+0.1
	0.5nm,1.0s,baz=227,slow=4.8,SNR=3.4						
	0.5nm,1.0s						
CMAR	Chiang Mai Arr	93.03	289	P	P	09 21 42.0	+0.9
	0.9nm,0.3s,baz=130,slow=2.8,SNR=9.7						
	0.9nm,0.3s						
AKASG	Malin Array Be	146.27	331	PKPbc	PKPbc	09 28 07.1	-0.2
	1.3nm,0.5s,baz=43,slow=3.8,SNR=9.3						

IDC ***13*** *09:19:04.0±0.6,27°.61N×53°.08E,h0km,mb4.0/22, mbtmp4.0/26,ML4.1/4,Error ellipse: s-maj=14.7km s-min=14.3km az=16.0*

TEH ***13*** *09:19:05.7,27°.66N×53°.05E,h16km±29km*

NEIC ***13*** *09:19:06.1±1.2,27°.65N±0°.04×53°.0E±0°.1,h10km±1km, mb4.3/15,Error ellipse: s-maj=15.0km s-min=6.6km az=275.0*

OMAN ***13*** *09:19:06.2±1.6,27°.89N×53°.40E,h10km,mb4.7/8, ml4.0/14,Error ellipse: s-maj=16.4km s-min=6.2km az=6.0*

DSN ***13*** *09:19:08.8±1.6,27°.58N×53°.15E,h15km,ML3.6/12,Error ellipse: s-maj=20.5km s-min=6.0km az=173.0*

ISC 13 09:19:07.8±0.4,27°.72N±0°.03×53°.18E±0°.04,h20km,n132, σ1§64/151,mb4.1/25,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.38	182	Pg	Pb	09 19 12.8	-3.0
QIR1	Qir	0.77	351	Pg	Pb	09 19 20.7	-1.8
JHRM	Jahrom	0.86	24	Pg	Pb	09 19 24.5	+0.3
DSBU	Dashti - Bushe	1.81	291	Pg	Pn	09 19 37.3	-0.7
SHI	Shiraz	2.00	343	Pn	Pn	09 19 41.2	+0.5
AHBU	AHRAM	2.02	305	Pn	Pn	09 19 40.4	-0.3
SHMA	Al-Shehemyia	2.71	227	P	Pn	09 19 53.5	+3.2
	SNR=12						
SHMA				S	Sb	09 20 33.3	+4.8
JRN	Qarnain Island	2.78	186	P	Pb	09 19 55.4	-1.4
SAKB	Bahrain	2.93	234	P	Pn	09 19 55.7	+2.5
SAKB				S	Sb	09 20 38.9	+4.3
IBND	Bandar-abas	3.00	94	Pn	Pn	09 19 56.3	+2.2
SHME	Shamm	3.12	121	P	Pn	09 19 57.1	+1.1
SHME	Shamm	3.12	121	P	Pn	09 19 56.7	+0.7
BANOM	Banah	3.31	122	*i* P	Pn	09 19 60.0	+1.4
	SNR=20						
BANOM				S	Sn	09 20 38.7	+1.3
TRNA	Turayna	3.45	211	P	Pn	09 20 01.0	+0.6
	SNR=10						
TRNA				S	Sb	09 20 51.2	+1.3
NAZ	Nazwa, Dubai	3.51	140	P	Pn	09 20 03.2	+1.9
	SNR=8.9						
NAZ				S	Sn	09 20 43.1	+0.8
NAZ	Nazwa, Dubai	3.51	140	*i* P	Pn	09 20 02.5	+1.2
	SNR=6.5						
AJN	Ajban	3.54	152	P	Pn	09 20 03.6	+2.0
AJN	Ajban	3.54	152	*i* P	Pn	09 20 02.9	+1.3
	SNR=22						
MASF	Masafi	3.55	130	P	Pn	09 20 03.3	+1.5
MASF				S	Sn	09 20 45.4	+2.1
KLNJ	Kolanjah	3.56	338	Pn	Pn	09 20 01.7	-0.5
ASUD	Al Ashush, Dub	3.63	147	P	Pn	09 20 05.2	+2.2
ASUD	Al Ashush, Dub	3.63	147	P	Pn	09 20 04.3	+1.3
SMRA	Abu-Samra	3.64	216	P	Pn	09 20 04.6	+1.6
NGRK	Negar Kerman	3.67	58	Pn	Pn	09 20 05.5	+1.7
FAQ	Al Faqa, Dubai	3.67	143	P	Pn	09 20 03.0	-0.5
MDH	Madha	3.69	130	P	Pn	09 20 03.5	-0.2
MDH				S	Sn	09 20 48.5	+1.9
IMEH	Mehriz	3.87	19	Pn	Pn	09 20 09.0	+2.6
KRBR	Kerman	3.87	53	Pn	Pn	09 20 09.2	+2.7
SLWR	Sila	3.87	201	P	Pn	09 20 06.2	+0.1
UOSS	Minazif	3.87	135		Pn	09 20 07.2	+0.9
UOSS	Minazif	3.87	135	Pn	Pn	09 20 06.7	+0.5
UOSS	Minazif	3.87	135	P	Pn	09 20 07.0	+0.7
UOSS				S	Sn	09 20 52.6	+1.5
UOSS	Minazif	3.87	135	*i* P	Pn	09 20 06.5	+0.2
	SNR=8.3						
HATD	Hatta, Dubai	3.92	137	P	Pn	09 20 09.1	+2.2
	SNR=8.4						
HATD				S	Sn	09 20 53.9	+1.7
HATD	Hatta, Dubai	3.92	137	*i* P	Pn	09 20 07.3	+0.4
	SNR=8.4						
KHGB	Koh Gabri	3.92	47	Pn	Pn	09 20 09.0	+1.9
ASHO	Ashiyiah	3.98	139	P	Pn	09 20 08.7	+1.0
	SNR=26						
ASHO	Ashiyiah	3.98	139	*i* P	Pn	09 20 08.2	+0.5
	SNR=26						
MZWR	Madinat Zayed	3.99	171	P	Pn	09 20 08.8	+1.0
IRAM	Ramesheh	4.14	351	Pn	Pn	09 20 11.0	+1.0
ISAD	Sadrabad	4.21	6	Pn	Pn	09 20 12.6	+1.5
ALNE	Al Ain	4.32	147	P	Pn	09 20 14.0	+1.6
ALNE				S	Sn	09 21 03.3	+1.1
ALNE	Al Ain	4.32	147	*i* P	Pn	09 20 13.5	+1.1
	SNR=6.4						
ZRDN	Zarand Kerman	4.37	41	Pn	Pn	09 20 15.3	+2.0
CHMN	Cheshme madani	4.38	60	Pn	Pn	09 20 15.8	+2.2
ICHK	Chekchek	4.64	13	Pn	Pn	09 20 19.1	+2.2
SOHO	SOHO	4.67	139	P	Pn	09 20 18.1	+0.9
SOHO				S	Sn	09 21 12.6	+1.7
SOHO	SOHO	4.67	139	*i* P	Pn	09 20 17.2	-0.1
	SNR=13						
KBAM	BAM	4.86	72	Pn	Pn	09 20 23.2	+3.4
IZEF	Zefreh	5.21	352	Pn	Pn	09 20 25.5	+0.5
UMZA	Um Al Zommool	5.29	160	P	Pn	09 20 26.4	+0.6
UMZA				S	Sn	09 21 26.2	-0.1
ARQ	Araqi	5.30	145	P	Pn	09 20 26.6	+0.6
	SNR=14						
IPIR	Pirpir	5.33	339	Pn	Pn	09 20 27.4	+0.8
ANAR	Anarak	5.48	5	Pn	Pn	09 20 29.7	+1.3
HOQ	Hoqain	5.55	137	Pn	Pn	09 20 30.0	+0.6
HOQ	Hoqain	5.55	137	P	Pn	09 20 30.6	+1.2
HOQ				S	Sn	09 21 31.9	-0.8
IKLH	Kolahrood	5.75	347	Pn	Pn	09 20 33.0	+0.8
TPRV	Parvadeh(Tabas	6.10	29	Pn	Pn	09 20 38.5	+1.6
BIDO	Bidbid	6.12	132	P	Pn	09 20 38.4	+1.3
BIDO				S	Sn	09 21 47.6	+1.1
BSY	Bisya	6.15	143	P	Pn	09 20 38.3	+0.8
	SNR=29						
BSY				S	Sn	09 21 48.1	+0.8
SMDO	Samad	6.40	135	P	Pn	09 20 42.1	+1.1
WSAR	Wadi Sarin	6.64	131	Pn	Pn	09 20 44.4	0.0
	3.4nm,0.3s,baz=307,slow=9.2,SNR=50						
WSAR				Sn	Sn	09 21 56.5	-3.1
	5.0nm,0.3s,baz=155,slow=23,SNR=8.8						
	11nm,0.4s						
ISFB	Sefidab	6.66	353	Pn	Pn	09 20 44.4	-0.2
TKDS	Koohdasht(Taba	6.79	29	Pn	Pn	09 20 48.0	+1.6
CHBR	Chabahar	6.87	106	Pn	Pn	09 20 48.3	+0.9
TNSJ	Nastanj	6.89	25	Pn	Pn	09 20 49.2	+1.4
JMDO	Jabal Madar	6.95	139	P	Pn	09 20 49.0	+0.5
	SNR=7.9						
WBK	Wadi Bani Khal	7.31	133	P	Pn	09 20 53.6	+0.1
WBK				S	Sn	09 22 15.0	-0.8
IVRN	Varamin	7.36	351	Pn	Pn	09 20 54.6	+0.3
HSAM	Samen	7.57	330	Pn	Pn	09 20 56.6	-0.7
IANJ	Anjilo	7.75	4	Pn	Pn	09 21 01.3	+1.5
HAGD	Aghdareh	7.88	335	Pn	Pn	09 21 01.9	+0.4
IDMV	Damavand	7.90	353	Pn	Pn	09 21 02.5	+0.7
IFIR	Firoozkooh	7.91	357	Pn	Pn	09 21 02.9	+1.0
MHTO	MHTO	8.00	146	P	Pn	09 21 02.9	0.0
RAYN	Ar Rayn	8.09	241	P	Pn	09 21 03.2	-1.0
RAYN				S	Sn	09 22 42.2	+7.1
SRVN	Saravan	8.19	90	Pn	Pn	09 21 07.5	+1.8
IALA	Alasht	8.35	358	Pn	Pn	09 21 09.1	+1.2
QABG	Abgarm-Qazvin	8.54	340	Pn	Pn	09 21 10.8	+0.4
SNQR	Sonqor, Kerman	8.55	328	Pn	Pn	09 21 10.1	-0.7
IGLO	Ghaloghah	8.78	3	Pn	Pn	09 21 15.8	+2.0
KLST	Kelardasht - M	8.96	349	Pn	Pn	09 21 17.4	+1.1
DOK	Doka	9.10	174	P	Pn	09 21 17.0	-1.0
WHFO	Wadi Hawf	9.77	177	P	Pn	09 21 25.7	-1.6
DMTO	DMTO	10.09	170	P	Pn	09 21 30.1	-1.5
RBK	Rabkut	10.21	174	P	Pn	09 21 32.1	-1.2
RBK				S	Sn	09 23 35.0	+7.8
HRA	Herat	10.23	47	Pn	Pn	09 21 35.2	+1.5
GEVA	Gevas	13.54	324	Pn	Pn	09 22 17.1	-1.8
GNI	Garni	14.23	333	Pn	Pn	09 22 30.1	+1.8
	1.4nm,0.3s,baz=151,slow=19,SNR=4.0						
	3.3nm,0.4s						
MMAI	Mount Meron Ar	16.22	293	Pn	Pn	09 22 53.2	-1.4
	2.0nm,0.3s,baz=116,slow=16,SNR=2.7						
	0.4nm,0.3s						
SIMJ	Simiganj	17.14	46	P	Pn	09 23 06.9	+0.6
CHGR	Chuyangaron	17.23	47	P	Pn	09 23 08.4	+1.0
CHGR				IAmb	IAmb	09 23 10.5	
	comp=Z,13nm,0.6s						
KBZ	Khabaz	18.00	335	P	Pn	09 23 18.1	+1.4
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=5.4						
	comp=Z,1.4nm,0.6s						
GAR	Garm	18.18	47	P	Pn	09 23 18.0	-1.1
GAR				IAmb	IAmb	09 23 22.9	
	comp=Z,29nm,1.0s						
NIL	Nilore	18.24	66	P	Pn	09 23 21.3	+1.5
NIL				IAmb	IAmb	09 23 23.9	
	comp=Z,26nm,0.9s						
BTK	Batken	19.09	45	P	P	09 23 30.1	+0.9
DRK	Karamyk	19.41	48	P	P	09 23 34.1	+1.1
DRK				IAmb	IAmb	09 23 36.7	
	comp=Z,10nm,0.4s						
BRTR	Keskin Array B	20.14	311	P	P	09 23 39.3	-1.5
	comp=Z,1.5nm,0.6s,baz=130,slow=12,SNR=5.2						
	comp=Z,1.5nm,0.6s						
KK31	Karatay Array	20.80	38	P	P	09 23 48.1	+0.3
KK31				IAmb	IAmb	09 23 51.9	
	comp=Z,8.9nm,0.8s						
KKAR	Karatay Array	20.80	38	P	P	09 23 48.3	+0.5
ARSB	Arslanbob	21.16	45	P	P	09 23 52.5	+0.6
ABKAR	Abkulak array	22.13	12	P	P	09 24 02.8	+0.8
KSH	Kashi	22.27	52	P	P	09 23 58.8	-5.0
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOOM	Boomskoye usch	23.65	46		P	09 24 19.2	+1.2
BOOM				IAmb	IAmb	09 24 21.4	
	comp=Z,4.7nm,0.8s						
BVAR	Borovoye Array	28.33	22	P	P	09 25 00.8	+0.7
	comp=Z,2.0nm,0.8s,baz=222,slow=4.0,SNR=7.5						
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	29.28	328	P	P	09 25 08.8	+0.3
	comp=Z,0.4nm,0.3s,baz=118,slow=7.6,SNR=5.3						
	comp=Z,0.4nm,0.3s						
MAKZ	Makanchi	29.56	42		P	09 25 11.3	+0.2
MAKZ				IAmb	IAmb	09 25 13.6	
	comp=Z,4.0nm,1.1s						
MK31	Makanchi Array	29.74	42		P	09 25 13.5	+0.7
MKAR	Makanchi Array	29.74	42	P	P	09 25 13.5	+0.7
MKAR	Makanchi Array	29.74	42	P	P	09 25 13.7	+0.9
	comp=Z,0.9nm,0.5s,baz=232,slow=8.8,SNR=18						
MKAR				PcP	PcP	09 28 15.1	-1.2
	comp=Z,0.2nm,0.5s,baz=247,slow=3.8,SNR=3.5						
	comp=Z,0.9nm,0.5s						
KURBB	Kurchatov Arra	29.89	33	P	P	09 25 14.7	+0.7
	comp=Z,0.9nm,0.9s,baz=234,slow=8.9,SNR=7.4						
	comp=Z,0.9nm,0.9s						
KURK	Kurchatov	30.00	33	P	P	09 25 16.0	+1.1
ZALV	Zalesovo Beam	34.98	33	P	P	09 25 58.9	+0.4
	comp=Z,1.6nm,0.5s,baz=231,slow=9.4,SNR=3.8						
	comp=Z,1.6nm,0.5s						
FINES	FINESS Array B	38.28	339	P	P	09 26 26.4	-0.1
	comp=Z,1.9nm,0.4s,baz=146,slow=8.9,SNR=24						
	comp=Z,1.9nm,0.4s						
GTA	Gaotai	40.17	61	*e*P	P	09 26 43.9	+1.1
GTA				sP	sP	09 26 59.4	+7.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HFS	Hagfors	42.01	332	P	P	09 26 57.4	-0.1
	comp=Z,1.1nm,0.4s,baz=120,slow=9.0,SNR=9.5						
	comp=Z,1.1nm,0.4s						
CMAR	Chiang Mai Arr	42.89	92	P	P	09 27 06.0	+0.8
	comp=Z,0.5nm,0.3s,baz=284,slow=10,SNR=5.8						
	comp=Z,0.5nm,0.3s						
NOA	NORSAR Array B	43.53	332	P	P	09 27 09.4	-0.5
	comp=Z,0.5nm,0.6s,baz=118,slow=8.0,SNR=3.3						
	comp=Z,0.5nm,0.6s						
ARCES	ARCESS Array B	44.83	347	P	P	09 27 20.2	+0.1
	comp=Z,6.1nm,1.1s,baz=148,slow=7.8,SNR=4.6						
	comp=Z,6.1nm,1.1s						
SONM	Songino Array	45.61	49	P	P	09 27 26.8	0.0
	comp=Z,1.0nm,0.5s,baz=264,slow=9.4,SNR=10						
	comp=Z,1.0nm,0.5s						
ESDC	Sonseca Array	48.28	300	P	P	09 27 46.8	-1.0
	comp=Z,0.5nm,0.6s,baz=61,slow=7.6,SNR=5.2						
	comp=Z,0.5nm,0.6s						
EKA	Eskdalemuir Ar	48.66	321	P	P	09 27 49.9	-0.4
	comp=Z,1.0nm,0.4s,baz=103,slow=7.9,SNR=10						
	comp=Z,1.0nm,0.4s						
TORD	Torodi Ar. Bea	50.03	264	P	P	09 27 60.0	-1.4
	comp=Z,2.2nm,0.9s,baz=52,slow=8.4,SNR=14						
	comp=Z,2.2nm,0.9s						
MATP	Matopo	53.48	209	P	P	09 28 25.5	-1.6
	comp=Z,3.3nm,0.6s,baz=24,slow=8.9,SNR=8.6						
	comp=Z,3.3nm,0.6s						
DBIC	Dimbokro	58.69	260	P	P	09 29 03.2	-1.2
	comp=Z,4.4nm,0.8s,baz=57,slow=5.5,SNR=5.4						
	comp=Z,4.4nm,0.8s						
BOSA	Boshof	62.08	208	P	P	09 29 26.1	-1.2
	comp=Z,3.0nm,1.0s,baz=31,slow=6.9,SNR=3.9						
	comp=Z,3.0nm,1.0s						
A36M	Sachs Harbour	80.56	360	P	P	09 31 18.8	+0.5
ILAR	Eielson Array	86.50	8	P	P	09 31 48.0	-0.9
	comp=Z,0.3nm,0.8s,baz=319,slow=3.7,SNR=5.8						
	comp=Z,0.3nm,0.8s						
YKA	Yellowknife Ar	89.57	354	P	P	09 32 02.3	-1.3
	comp=Z,0.6nm,0.8s,baz=4.9,slow=4.7,SNR=12						
	comp=Z,0.6nm,0.8s						
WRA	Warramunga Arr	91.65	112	P	P	09 32 13.1	-0.9
	comp=Z,0.5nm,0.8s,baz=311,slow=4.2,SNR=1.7						
	comp=Z,0.5nm,0.8s						
ASAR	Alice Springs	93.08	115	P	P	09 32 19.2	-1.3
	comp=Z,0.4nm,0.8s,baz=306,slow=4.5,SNR=6.4						
	comp=Z,0.4nm,0.8s						
QSPA	South Pole Qui	117.56	180	PKP	PKPdf	09 37 50.4	-1.1
	comp=Z,1.1nm,0.9s,baz=336,slow=3.4,SNR=1.7						

BJI ***13*** *09:25:24.7,45°.31N×151°.42E,h6km,mB5.0/36,mb5.0/76, Ms4.7/70,Ms7 4.6/68*

IDC ***13*** *09:25:25.1±0.5,45°.45N×151°.41E,h0km,mb4.5/29, mbtmp4.4/37,ML4.2/6,MS4.3/54,Error ellipse: s-maj=13.9km s-min=10.9km az=143.0*

NIED ***13*** *09:25:27.9,45°.44N×151°.69E,h30km,MW4.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr1.15; Mθθ0.03; Mφφ-1.18; Mrθ-0.67; Mφθ-1.00; Mφr1.42; Fault plane solution: M0 2.19000×10^16^ NP1: φs239.00000°,δ38.00000°,λ148.00000°. NP2: φs355.00000°,δ71.00000°,λ57.00000°.*

JMA ***13*** *09:25:27.9±0.9,45°.N±4°.×15°.2E±°.,h30km,MD5.2/19, MW5.0/19,KURILE ISLANDS REGION*

SKHL ***13*** *09:25:27.8±0.3,45°.10N×151°.80E,h34km±4km,mb5.5/10, mbv5.2/4,ms4.8/7*

MOS ***13*** *09:25:29.4±1.0,45°.26N×151°.42E,h50km,mb5.3/62, MS4.4/14,Error ellipse: s-maj=5.5km s-min=4.2km az=116.3*

NEIC ***13*** *09:25:31.3±1.4,45°.44N±0°.10×151°.3E±0°.1,h33km±5km, mb4.9/174,Error ellipse: s-maj=16.4km s-min=9.4km az=139.0*

GCMT ***13*** *09:25:33.3±0.4,45°.49N±0°.03×151°.62E±0°.03,h27km, MW4.9/83,Moment Tensor Solution. s46,c60; s83,c116; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.59±.14; Mθθ-1.30±.10; Mφφ-1.29±.09; Mrθ0.21±.17; Mφθ-1.65±.07; Mφr1.66±.15; Best double couple: M0 3.24800×10^16^ NP1:φs244.00000°,δ35.00000°,λ122.00000°. NP2: φs26.00000°,δ61.00000°,λ69.00000°. Principal axes: T 3.2380, Plg67.0000°, Azm256.0000°; N 0.0200, Plg18.0000°, Azm37.0000°; P -3.2590, Plg13.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***13*** *09:25:47.4,48°.10N×149°.40E,h33km,mb5.1*

ISC 13 09:25:29.6±0.5,45°.29N±0°.04×151°.45E±0°.03,h29km±2km, h29km:pP-P,n873,σ1§35/838,mb5.0/234,MS4.5/72, 64C-46D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.53	270	*e*PN	Pn	09 26 09.4	+0.7
KUR				*i* S	Sn	09 26 40.4	+1.8
KUR				pmax	pmax		
	comp=E,262nm,0.3s						
KUR				pmax	pmax		
	comp=Z,980nm,0.3s						
KUR				pmax	pmax		
	comp=N,334nm,0.2s						
KUR				smax	smax		
	comp=N,9μm,0.5s						
KUR				smax	smax		
	comp=E,7μm,0.5s						
KUR	Kuril'sk	2.53	270	*e*P	Pn	09 26 09.9	+1.2
KUR				AMB	AMB	09 26 11.2	
	comp=E,980nm,0.3s						
KUR				*i* S	Sb	09 26 41.4	-3.6
KUR				A	A	09 26 47.1	
	comp=E,9μm,0.5s						
KUR				A	A	09 26 47.1	
	comp=E,7μm,0.5s						
KUR				AMS	AMS	09 27 26.0	
	comp=E,16μm,12.0s						
KUR				AMS	AMS	09 27 26.0	
	comp=E,20μm,12.0s						
SHO	Shikotan	3.60	248	*c* iPN	Pn	09 26 23.3	0.0
SHO				*e*S	Sn	09 27 05.3	+0.5
SHO				pmax	pmax		
	comp=N,120nm,0.4s						
SHO				pmax	pmax		
	comp=E,155nm,0.4s						
SHO				pmax	pmax		
	comp=Z,345nm,0.4s						
SHO				smax	smax		
	comp=E,2μm,0.6s						
SHO				smax	smax		
	comp=N,396nm,0.2s						
SHO				MLR	MLR		
	comp=N,5μm,15.0s						
SHO				MLR	MLR		
	comp=Z,4μm,15.0s						
SHO	Shikotan	3.60	248	*i* P	Pn	09 26 23.5	+0.2
SHO				AMB	AMB	09 26 26.0	
	comp=Z,350nm,0.4s						
SHO				*e*S	Sn	09 27 05.3	+0.5
SHO				A	A	09 27 07.8	
	comp=Z,400nm,0.6s						
SHO				A	A	09 27 07.8	
	comp=Z,2μm,0.6s						
SHO				AMS	AMS	09 27 54.0	
	comp=Z,5μm,15.0s						
SHO				AMS	AMS	09 27 54.0	
	comp=Z,4μm,15.0s						
YUK	Yuzh-Kuril'sk	4.18	254	*c* iPN	Pn	09 26 32.5	+1.1
YUK				*e*S	Sn	09 27 22.3	+3.1
YUK				pmax	pmax		
	comp=N,137nm,0.2s						
YUK				pmax	pmax		
	comp=E,193nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,4μm,0.5s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK				MLR	MLR		
	comp=Z,3μm,12.0s						
YUK				MLR	MLR		
	comp=E,3μm,10.0s						
YUK	Yuzh-Kuril'sk	4.18	254	*i* P	Pn	09 26 32.9	+1.5
YUK				AMB	AMB	09 26 34.5	
	comp=E,1μm,0.2s						
YUK				*e*S	Sn	09 27 21.4	+2.2
YUK				A	A	09 27 35.0	
	comp=E,4μm,0.5s						
YUK				A	A	09 27 35.0	
	comp=E,3μm,0.5s						
YUK				AMS	AMS	09 28 12.0	
	comp=E,3μm,12.0s						
YUK				AMS	AMS	09 28 12.0	
	comp=E,3μm,12.0s						
NEM2	Nemuro 2	4.53	247	P	Pn	09 26 36.2	+0.1
NEM2				*e*S	Sn	09 27 28.8	+1.1
NMR	Nemuro--Hokkai	4.54	247	*e*PN	Pn	09 26 36.2	0.0
NMR	Nemuro--Hokkai	4.54	247	*e*P	Pn	09 26 36.2	0.0
NMR				*e*S	Sn	09 27 27.6	-0.3
RUSJ	Misakicho	4.58	257	*e*PN	Pn	09 26 39.4	+2.6
RUSJ				S	Sn	09 27 32.1	+3.0
JRA	Rausu	4.72	256	P	Pn	09 26 41.2	+2.5
JRA				*e*S	Sn	09 27 35.7	+3.3
JRA	Rausu	4.72	256	A	A	09 26 41.2	

SKR AMS AMS 09 29 30.7
comp=Z,2μm,10.0s
YSS Yuzhno-Sakhali 6.27 288 Pn **Pn 09 26 59.6 -0.5**
YSS Yuzhno-Sakhali 6.27 288α *i*PN **Pn 09 27 02.9 +2.9**
YSS *e*S **Sn 09 28 14.7 +4.1**
YSS pmax pmax
comp=E,400nm,4.5s
YSS pmax pmax
comp=Z,200nm,4.5s
YSS pmax pmax
comp=N,100nm,5.0s
YSS pmax pmax
comp=Z,90nm,1.1s
YSS smax smax
comp=N,60nm,0.7s
YSS smax smax
comp=E,50nm,0.8s
YSS MLR MLR
comp=N,2μm,16.0s
YSS Yuzhno-Sakhali 6.27 288 *e*P **Pn 09 27 02.8 +2.8**
YSS AMB AMB 09 27 09.3
comp=N,200nm,4.5s
YSS AMB AMB 09 27 10.3
comp=N,90nm,0.6s
YSS *e*S **Sn 09 28 14.7 +4.1**
YSS A A 09 28 19.9
comp=N,60nm,0.7s
YSS A A 09 28 19.9
comp=N,50nm,0.7s
YSS AMS AMS 09 29 19.0
comp=N,2μm,17.0s
YSS AMS AMS 09 29 19.0
comp=N,4μm,17.0s
JKK2 Kamakawa 2 6.38 260 P **Pn 09 27 04.4 +2.8**
JKA Kamikawa-asahi 6.42 263 Pn **Pn 09 27 01.6 -0.5**
JKA Kamikawa-asahi 6.42 263 *e*P **Pn 09 27 01.6 -0.5**
ASAJ Asahikawa 6.42 263 Pn **Pn 09 27 00.6 -1.5**
comp=N,29nm,0.3s,baz=73,slow=13,SNR=190
ASAJ Sn **Sn 09 28 16.6 +2.3**
baz=105,slow=9.4
ASAJ LR LR 09 29 47.8
comp=N,4μm,18.8s,baz=80,slow=41
comp=N,52nm,0.9s
ASAJ Asahikawa 6.42 263 PN **Pn 09 27 01.6 -0.5**
JCH Churui 6.42 248 P **Pn 09 27 02.6 +0.4**
JCH *e*S **Sn 09 28 14.3 -0.2**
JWK2 Keihoku 6.74 274 *e*P Pn 09 27 11.7 +5.2
JAB Ashibetsu 6.85 258 *e*P **Pn 09 27 12.1 +4.0**
JAB Ashibetsu 6.85 258 A A 09 27 12.1
comp=N,2.0nm,3.6s,comp=E,3.0nm,4.1s
ERM Erimo 6.85 244 Pn **Pn 09 27 09.8 +1.8**
ERM Erimo 6.85 244 *d i*PN **Pn 09 27 10.2 +2.2**
JEM Erimo 6.85 244 A A 09 27 08.3
comp=N,11nm,1.5s,comp=E,8.0nm,1.2s
JNBK Urakawa-nobuka 6.98 247 *e*P **Pn 09 27 10.0 +0.2**
JNBK *e*S **Sn 09 28 30.2 +2.1**
JNBK Urakawa-nobuka 6.98 247 A A 09 27 10.0
comp=N,8.0nm,1.1s,comp=E,12nm,1.1s
JSHD Hidakashinhida 7.11 249 A A 09 27 11.7
comp=N,7.0nm,1.7s,comp=E,11nm,1.6s
PAU Pauzhetka 7.13 28 *e*P **Pn 09 27 12.5 +0.7**
PAU AMB AMB 09 27 15.6
comp=E,80nm,0.4s
PAU *e*S **Sn 09 28 28.6 -3.2**
PAU A A 09 28 30.3
comp=E,100nm,0.4s
PAU A A 09 28 30.3
comp=E,170nm,0.4s
JRBN Rebuntou 7.32 275 *e*P Pn 09 27 19.0 +4.5
UGL Uglegorsk 7.43 304 *e*PN Pn 09 27 19.5 +3.6
UGL *e*S **Sn 09 28 45.0 +5.8**
UGL pmax pmax
comp=Z,130nm,0.8s
UGL MLR MLR
comp=E,5μm,14.0s
UGL MLR MLR
comp=Z,6μm,12.0s
UGL Uglegorsk 7.43 304 *e*P Pn 09 27 19.5 +3.6
UGL AMB AMB 09 27 21.4
comp=Z,130nm,0.8s
UGL *e*S **Sn 09 28 42.0 +2.8**
UGL AMS AMS 09 30 12.0
comp=Z,4μm,17.0s
UGL AMS AMS 09 30 12.0
comp=Z,4μm,17.0s
JISS Ishikarishitsu 7.48 258 A A 09 27 16.4
comp=N,6.0nm,3.2s,comp=E,8.0nm,3.8s
TYV Tymovskoe 8.11 317 *e*PN Pn 09 27 28.2 +3.0
TYV pmax pmax
comp=Z,40nm,0.8s
TYV pmax pmax
comp=Z,500nm,3.0s
TYV MLR MLR
comp=Z,4μm,16.0s
TYV Tymovskoe 8.11 317 *e*P Pn 09 27 28.2 +3.0
TYV AMB AMB 09 27 30.5
comp=Z,500nm,3.0s
TYV *e*S **Sn 09 28 58.3 +2.5**
JANG Nango 8.80 240 *e*P **Pn 09 27 33.0 -1.7**
JANG *e*S **Sn 09 29 04.9 -8.0**
PEA0B Petropavlovsk- 8.82 25 **Pn 09 27 36.2 +1.2**
PEA0B Petropavlovsk- 8.82 25⇓ *e*PN **Pn 09 27 36.2 +1.2**
PETK Petropavlovsk- 8.82 25 **Pn 09 27 35.3 +0.2**
PETK Petropavlovsk- 8.82 25 Pn **Pn 09 27 32.1 -3.0**
comp=Z,2.4nm,0.7s,baz=176,slow=11,SNR=21
PETK Sn **Sn 09 29 12.1 -1.3**
baz=213,slow=15
PETK Petropavlovsk- 8.82 25 PN **Pn 09 27 35.3 +0.2**
JTM Tenmabayashi 8.84 243 **Pn 09 27 34.9 -0.4**
JTH Tanohata 8.86 236 *e*P **Pn 09 27 34.0 -1.6**
JTH *e*S Sn 09 29 06.3 -8.2
PET Petropavlovsk 9.06 29 Pn **Pn 09 27 38.2 0.0**
PET Petropavlovsk 9.06 29 *e*PN **Pn 09 27 37.9 -0.3**
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 9.06 29 *e*P **Pn 09 27 37.4 -0.8**
OKH Okha 9.95 329 *de*PN **Pn 09 27 49.9 -0.5**
OKH pmax pmax
comp=Z,200nm,7.5s
OKH MLR MLR
comp=Z,2μm,14.0s
OKH MLR MLR
comp=N,2μm,13.0s
OKH MLR MLR
comp=E,2μm,14.0s
OKH Okha 9.95 329 *e*P **Pn 09 27 51.3 +0.9**
OKH AMB AMB 09 27 54.3
comp=E,170nm,0.5s
OKH AMB AMB 09 27 58.0
comp=E,200nm,8.0s
TEY Ternei 10.49 274⇑ *e*PN **Pn 09 28 00.7 +2.8**
TEY pmax pmax
comp=E,10.0nm,1.3s
TEY pmax pmax
comp=Z,10.0nm,1.5s
TEY Ternei 10.49 274 *e*P **Pn 09 28 00.7 +2.8**
TEY AMB AMB 09 28 02.4
comp=Z,100nm,0.8s
NKL Nikolayevsk 10.55 322 *e*PN **Pn 09 28 00.3 +1.7**
NKL *e*S Sn 09 30 06.0 +10
NKL pmax pmax
comp=E,229nm,1.2s
NKL pmax pmax
comp=N,38nm,1.0s
NKL pmax pmax
comp=Z,285nm,1.3s
NKL smax smax
comp=E,149nm,3.6s
NKL smax smax
comp=N,109nm,1.5s
NKL MLR MLR
comp=N,4μm,19.0s
NKL MLR MLR
comp=E,13μm,19.0s
NKL MLR MLR
comp=Z,13μm,19.0s
NKL Nikolayevsk 10.55 322 *e*P **Pn 09 28 01.0 +2.4**
NKL AMB AMB 09 28 02.3
comp=Z,280nm,2.0s
NKL AMB AMB 09 28 04.6
comp=Z,80nm,0.5s
NKL *e*S **Sn 09 29 56.3 +0.7**
NKL AMS AMS 09 32 55.5
comp=Z,4μm,19.0s
NKL AMS AMS 09 32 55.5
comp=Z,13μm,19.0s

JMM Marumori 10.89 231 **Pn 09 28 01.5 -1.9**
GRNR Gornyy 11.45 304⇑ *i*PN Pn 09 28 14.5 +3.5
GRNR pmax pmax
comp=E,4.0nm,1.1s
GRNR pmax pmax
comp=Z,3.0nm,0.7s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,1μm,14.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
GRNR Gornyy 11.45 304 *e*P Pn 09 28 14.5 +3.5
JSD Sado 12.23 238 Pn **Pn 09 28 19.4 -2.3**
KBG Krutoberegovo 13.06 29 *e*P **Pn 09 28 32.5 -0.4**
MJAR Matsushiro Arr 13.28 233 Pn **Pn 09 28 34.3 -1.8**
comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=9.6
MJAR Sn **Sn 09 30 58.3 -4.4**
baz=26,slow=26,SNR=2.1
MJAR LR LR 09 35 34.9
comp=Z,435nm,18.1s,baz=62,slow=46
comp=Z,2.1nm,0.5s
MJB9 Matsu-Tunnel 13.28 233 Pn **Pn 09 28 36.2 +0.1**
MAJO Matsushiro 13.28 233 Pn **Pn 09 28 34.7 -1.4**
MAJO Matsushiro 13.28 233 *de*PN **Pn 09 28 34.9 -1.2**
MAJO pmax pmax
comp=Z,30nm,1.9s
USA0B Ussuriysk Arra 13.88 272 Pn **Pn 09 28 44.3 +0.2**
USA0B Ussuriysk Arra 13.88 272 *c i*P **Pn 09 28 44.4 +0.2**
USRK Ussuriysk Ar. 13.88 272 **Pn 09 28 44.2 0.0**
USRK Ussuriysk Ar. 13.88 272 Pn **Pn 09 28 43.1 -1.1**
comp=Z,1.4nm,0.3s,baz=85,slow=11,SNR=18
USRK LR LR 09 34 08.1
comp=Z,1μm,19.0s,baz=81,slow=38
comp=Z,4.6nm,0.4s
USRK Ussuriysk Ar. 13.88 272 P **Pn 09 28 44.2 0.0**
KLR Kul'dur 13.94 293 Pn **Pn 09 28 43.6 -1.4**
comp=Z,0.3nm,0.3s,baz=104,slow=13,SNR=16
KLR LR LR 09 34 24.8
comp=Z,2μm,19.2s,baz=103,slow=39
comp=Z,8.7nm,1.1s
KLR Kul'dur 13.94 293 *e*P **Pn 09 28 46.3 +1.3**
KLR pmax pmax
comp=Z,43nm,1.4s
KLR Kul'dur 13.94 293 *e*P **Pn 09 28 45.9 +0.9**
VLA Vladivostok 14.20 268⇑ *i*P **Pn 09 28 48.5 -0.1**
VLA pmax pmax
comp=Z,25nm,0.7s
MA2 Magadan 14.31 359 Pn **Pn 09 28 50.0 0.0**
MA2 Magadan 14.31 359 Pn **Pn 09 28 50.2 +0.2**
comp=Z,25nm,0.6s,baz=184,slow=9.2,SNR=54
MA2 Magadan 14.31 359 *d i*P **Pn 09 28 50.5 +0.5**
MA2 pmax pmax
comp=Z,21nm,1.1s
MA2 Magadan 14.31 359 Pn **Pn 09 28 50.6 +0.5**
comp=Z,45nm,0.9s
MA2 Magadan 14.31 359 *e*P **Pn 09 28 50.5 +0.5**
JGF Kuroka 14.43 233 **Pn 09 28 50.0 -1.8**
INU Inuyama 14.81 233 Pn **Pn 09 28 56.2 -0.7**
MSHR Mys Shultsa 14.87 267‖ *e*P **Pn 09 28 56.5 -1.2**
MSHR pmax pmax
comp=Z,28nm,1.1s
PSTR Posyet 15.10 267 *c i*P **Pn 09 28 59.8 -0.9**
PSTR Posyet 15.10 267 *e*P **Pn 09 28 59.2 -1.5**
JHJ Hachijo jima 2 15.13 221 LR LR 09 38 11.2
comp=Z,357nm,18.1s,baz=118,slow=50
MDJ Mudanjiang 15.49 275 Pn **Pn 09 29 05.3 -0.6**
MDJ IAmb IAmb 09 29 10.8
comp=Z,79nm,1.0s
MDJ Mudanjiang 15.49 275 P **Pn 09 29 05.5 -0.3**
MDJ pP P 09 29 10.0 0.0
MDJ S **Sn 09 31 49.4 -7.0**
MDJ SS **S 09 32 19.8 +8.2**
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,360nm,5.0s
MDJ LR LR
comp=Z,1μm,14.9s
MDJ LR LR
comp=Z,2μm,17.0s
MDJ LR LR
comp=Z,2μm,17.5s
SHEM Shemya Is, Ala 16.57 55 LR LR 09 33 49.6
comp=Z,349nm,21.5s,baz=120,slow=31
BNX BinXian 16.85 280 ⇓P **P 09 29 23.4 -1.7**
BNX pP **pP 09 29 27.0 -4.5**
BNX S **Sn 09 32 31.3 +1.9**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,370nm,6.5s
BNX LR LR
comp=Z,950nm,16.6s
BNX LR LR
comp=Z,2μm,15.7s
BNX LR LR
comp=Z,2μm,15.3s
HEH HeiHe 16.87 296 *e*P **P 09 29 23.9 -1.4**
HEH pP **pP 09 29 26.9 -5.1**
HEH S **S 09 32 32.9 -6.8**
HEH pmax pmax
comp=Z,37nm,1.1s
HEH LR LR
comp=Z,1μm,15.0s
HEH LR LR
comp=Z,920nm,16.4s
HEH LR LR
comp=Z,3μm,16.4s
SEY Seymchan 17.68 1 P **P 09 29 32.3 -1.8**
comp=Z,0.4nm,0.3s,baz=164,slow=10,SNR=8.2
comp=Z,1.3nm,0.5s
SEY Seymchan 17.68 1 *e*P P 09 29 40.9 +6.8
SEY pmax pmax
comp=Z,11nm,1.4s
SEY Seymchan 17.68 1 *e*P **P 09 29 32.8 -1.3**
JMN Monobe 17.77 236 **Pn 09 29 34.2 -0.5**
ZEA Zeya 17.77 307 *e*P **P 09 29 35.1 -0.1**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=E,30nm,1.3s
ZEA pmax pmax
comp=Z,40nm,1.3s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA Zeya 17.77 307 *e*P **P 09 29 35.5 +0.3**
CN2 Changchun 18.57 275 *e*P **P 09 29 43.0 -1.1**
CN2 *e*S **Sn 09 33 09.0 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.5s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,15.6s
KSRS Korea Array 19.27 254 P **Pn 09 29 52.0 -0.9**
comp=Z,1.0nm,0.3s,baz=62,slow=10,SNR=24
KSRS LR LR 09 37 30.5
comp=Z,916nm,18.2s,baz=55,slow=38
comp=Z,5.5nm,0.6s
KS19 Wonju Array Si 19.29 254 P **Pn 09 29 52.8 -0.3**
KSAR Wonju Array Be 19.30 254 P **P 09 29 51.9 -0.2**
KSAR Wonju Array Be 19.30 254 P **P 09 29 51.9 -0.2**
JNU Nakatsue 19.98 240 P Pn 09 30 00.9 -0.5
JNU IAmb IAmb 09 30 08.6
comp=Z,66nm,1.2s
JNU Nakatsue 19.98 240 P Pn 09 30 01.0 -0.5
comp=Z,28nm,1.0s,baz=27,slow=11,SNR=7.6
JNU LR LR 09 39 18.0
comp=Z,862nm,18.6s,baz=29,slow=42
comp=Z,28nm,1.0s
TJN Taejon 20.23 252 P **P 09 30 02.3 +0.1**
TJN Taejon 20.23 252⇓ *e*P **P 09 30 02.7 +0.5**
SNY Shenyang 20.45 270 ⇑P Pn 09 30 05.1 -1.7
SNY S **S 09 33 49.3 -2.7**
SNY pmax pmax
comp=Z,66nm,1.1s
SNY pmax pmax
comp=Z,190nm,3.9s
SNY LR LR
comp=Z,710nm,14.2s
SNY LR LR

comp=Z,970nm,14.0s
SNY LR LR
comp=Z,2μm,15.0s
YAK Yakutsk 20.98 331 P Pn 09 30 09.7 -3.0
YAK IAmb IAmb 09 30 17.6
comp=Z,72nm,0.8s
YAK Yakutsk 20.98 331 P **P 09 30 09.2 -0.9**
comp=Z,46nm,0.6s,baz=94,slow=2.7,SNR=7.7
YAK S **S 09 33 55.9 -6.1**
comp=Z,9.5nm,0.4s,baz=135,slow=20,SNR=1.4
comp=Z,46nm,0.6s
YAK Yakutsk 20.98 331 *e*P Pn 09 30 10.0 -2.8
YAK *e* 09 30 30.7
YAK *e*S Sn 09 34 04.1 -4.6
YAK *e**SS pS 09 34 11.2 -3.1
YAK *e*SS **SnSn 09 34 27.0 +3.5**
YAK *e*SSS SSS 09 34 52.4
YAK pmax pmax
comp=Z,27nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,120nm,1.5s
YAK pmax pmax
comp=N,119nm,1.7s
YAK pmax pmax
comp=E,49nm,1.3s
YAK smax smax
comp=E,62nm,1.7s
YAK smax smax
comp=N,167nm,2.0s
YAK MLR MLR
comp=Z,700nm,14.0s
YAK MLR MLR
comp=N,449nm,14.0s
YAK MLR MLR
comp=E,153nm,13.0s
HIA Hailar 21.79 292 P **P 09 30 16.5 -2.5**
HIA Hailar 21.79 292 P **P 09 30 16.5 -2.5**
HIA pmax pmax
comp=Z,13nm,1.1s
DL2 Dalian 22.95 264 P **P 09 30 30.3 -1.1**
DL2 S **S 09 34 38.8 -0.8**
DL2 pmax pmax
comp=Z,53nm,1.4s
DL2 pmax pmax
comp=Z,240nm,4.9s
DL2 LR LR
comp=Z,460nm,13.5s
DL2 LR LR
comp=Z,420nm,14.6s
DL2 LR LR
comp=Z,590nm,17.9s
BILL Bilibino 24.08 14 P **P 09 30 41.0 -1.0**
BILL Bilibino 24.08 14 *de*P **P 09 30 42.1 0.0**
BILL pmax pmax
comp=Z,6.0nm,0.7s
XLT XiLinHaoTe 25.11 280 *e*P **P 09 30 52.0 +0.2**
XLT sP pwP 09 31 01.0 -3.9
XLT PP **PnPn 09 31 28.3 +2.4**
XLT S **S 09 35 16.3 +1.7**
XLT sS sS 09 35 27.6 +0.5
XLT pmax pmax
comp=Z,51nm,1.0s
XLT pmax pmax
comp=Z,170nm,4.7s
XLT LR LR
comp=Z,1μm,16.2s
XLT LR LR
comp=Z,1μm,17.0s
BJI Beijing 26.32 271 P **P 09 31 03.8 +1.1**
BJI pP **pP 09 31 09.3 -0.5**
BJI S **S 09 35 32.5 -1.2**
BJI pmax pmax
comp=Z,23nm,1.0s
BJT Baijiatuau 26.34 271 P **P 09 31 03.4 +0.5**
BJT IAmb IAmb 09 31 05.9
comp=Z,48nm,1.1s
BJT Baijiatuau 26.34 271 P **P 09 31 03.4 +0.5**
BJT pmax pmax
comp=Z,48nm,1.1s
TIA Tai'an 27.37 263 P **P 09 31 13.0 +0.8**
TIA pmax pmax
comp=Z,21nm,1.6s
TIA LR LR
comp=Z,450nm,17.5s
TIA LR LR
comp=Z,350nm,22.2s
TIA LR LR
comp=Z,620nm,19.4s
SSE Sheshan 27.50 249 P **P 09 31 13.5 +0.1**
SSE S **S 09 35 55.8 +3.4**
SSE pmax pmax
comp=Z,13nm,1.1s
SSE pmax pmax
comp=Z,160nm,3.9s
SSE LR LR
comp=Z,140nm,18.4s
SSE LR LR
comp=Z,400nm,18.2s
NJ2 Nanjing 28.47 254 *e*P **P 09 31 23.5 +1.5**
NJ2 pP **pP 09 31 26.9 -2.2**
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,1μm,18.6s
NJ2 LR LR
comp=Z,990nm,17.0s
HNS HongShan 28.50 267 ⇓P **P 09 31 22.8 +0.6**
HNS pP **pP 09 31 31.5 +2.3**
HNS S **S 09 36 04.9 -3.1**
HNS pmax pmax
comp=Z,16nm,1.2s
HNS LR LR
comp=Z,380nm,14.0s
HNS LR LR
comp=Z,700nm,14.7s
HNS LR LR
comp=Z,730nm,16.3s
H11N2 WAKE ISLAND Hy 28.52 148 T T 10 02 10.5
baz=337,slow=76,SNR=511
H11N1 WAKE ISLAND Hy 28.54 148 T T 10 02 10.5
baz=337,slow=76,SNR=420
H11N3 WAKE ISLAND Hy 28.54 148 T T 10 02 10.5
baz=337,slow=76,SNR=443
TIXI Tiksi 28.56 345 P **P 09 31 20.3 -2.1**
TIXI Tiksi 28.56 345 P **P 09 31 20.3 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 29.26 276⇑ *i*P **P 09 31 30.3 +1.2**
HHC pP pP 09 31 36.8 +0.7
HHC sP sP 09 31 40.8 +1.7
HHC S **S 09 36 15.4 -4.8**
HHC sS pS 09 36 27.4 -1.5
HHC SS **SnSn 09 37 48.0 +1.4**
HHC pmax pmax
comp=Z,36nm,1.0s
HHC pmax pmax
comp=Z,150nm,3.9s
HHC LR LR
comp=Z,370nm,13.2s
HHC LR LR
comp=Z,1μm,14.9s
HHC LR LR
comp=Z,2μm,14.7s
H11S1 WAKE ISLAND Hy 29.57 150 T T 10 03 39.6
baz=340,slow=74
H11S3 WAKE ISLAND Hy 29.58 150 T T 10 03 46.1
baz=340,slow=74
H11S2 WAKE ISLAND Hy 29.59 150 T T 10 03 34.0
baz=340
ULN Ulaanbaatar 30.31 291 P **P 09 31 38.0 -0.4**
ULN IAmb IAmb 09 31 43.4
comp=Z,23nm,1.4s
ULN Ulaanbaatar 30.31 291 *de*P **P 09 31 39.2 +0.8**
ULN pmax pmax
comp=Z,18nm,1.5s
ULN Ulaanbaatar 30.31 291 *e*P **P 09 31 39.2 +0.8**
ULN Ulaanbaatar 30.31 291 P **P 09 31 40.5 +2.1**
BTO Baotou 30.44 276 *e*P **P 09 31 41.3 +1.7**
BTO pP **pP 09 31 45.8 -0.8**
BTO sP **pwP 09 31 48.3 -4.4**
BTO PP **PnPn 09 32 40.9 +2.4**
BTO S **S 09 36 43.8 +5.1**

BTO				sS	**pS**	**09 36 49.4 +2.1**	
BTO				SS	**ScP**	**09 38 18.8 +0.1**	
BTO				pmax	pmax		
	comp=Z,33nm,1.3s						
BTO				pmax	pmax		
	comp=Z,240nm,5.8s						
BTO				LR	LR		
	comp=Z,2µm,17.0s						
BTO				LR	LR		
	comp=Z,2µm,14.4s						
BTO				LR	LR		
	comp=Z,4µm,15.1s						
M13K	**Dall Lake**	**30.48**	**44**	P	**P**	**09 31 40.7 +1.1**	
	baz=261						
SONM	**Songino Array**	**30.75**	**291**	P	**P**	**09 31 40.8 -1.5**	
SONM	**Songino Array**	**30.75**	**291**	P	**P**	**09 31 40.1 -2.2**	
	comp=Z,2.1nm,0.5s,baz=81,slow=8.5,SNR=23						
SONM				PcP	**PcP**	**09 34 40.3 +1.1**	
	comp=Z,0.8nm,0.6s,baz=110,slow=3.2,SNR=2.6						
SONM				LR	LR	09 45 08.7	
	comp=Z,1µm,18.2s,baz=74,slow=39						
	comp=Z,2.1nm,0.5s						
SONM	**Songino Array**	**30.75**	**291**	P	**P**	**09 31 40.8 -1.5**	
SONM				pmax	pmax		
	comp=Z,11nm,1.3s						
J14K	**Nanvaranak Lak**	**30.84**	**39**	P	**P**	**09 31 43.4 +0.8**	
	baz=257						
L14K	**Kuka Creek**	**30.96**	**42**	P	**P**	**09 31 44.8 +1.1**	
	baz=260						
M14K	**Bethel**	**31.21**	**44**	P	**P**	**09 31 46.6 +0.6**	
	baz=262						
LYN	**LuoYang**	**31.48**	**264**	P	**P**	**09 31 49.9 +1.2**	
LYN				sP	pP	09 31 57.1 +1.3	
LYN				S	**S**	**09 36 56.8 +1.9**	
LYN				sS	sS	09 37 10.9 +3.7	
LYN				pmax	pmax		
	comp=Z,42nm,1.3s						
LYN				LR	LR		
	comp=Z,520nm,16.8s						
LYN				LR	LR		
	comp=Z,420nm,17.2s						
LYN				LR	LR		
	comp=Z,840nm,18.2s						
M15K	**Kasigluk River**	**31.82**	**44**	P	**P**	**09 31 51.5 +0.1**	
	baz=263						
H16K	**Elim**	**31.86**	**36**	P	**P**	**09 31 52.0 +0.3**	
	baz=255						
C16K	**Lisburne Hills**	**31.90**	**29**	P	**P**	**09 31 52.4 +0.4**	
	baz=246						
N15K	**Kwethluk River**	**32.06**	**45**	P	**P**	**09 31 54.1 +0.7**	
	baz=265						
GUMO	**Guam**	**32.09**	**192**	LR	LR	09 47 37.5	
	comp=Z,252nm,18.3s,baz=342,slow=41						
O15K	**Ungalikthiuk R**	**32.11**	**47**	P	**P**	**09 31 54.5 +0.6**	
	baz=266						
J16K	**Anvik River**	**32.27**	**39**	P	**P**	**09 31 55.0 -0.3**	
	baz=259						
ZAK	**Zakamensk**	**32.27**	**297**	*e*P	**P**	**09 31 54.0 -1.6**	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
I17K	**Unalakleet**	**32.35**	**38**	P	**P**	**09 31 56.0 +0.1**	
	baz=258						
WHN	**Wuhan**	**32.45**	**256**	P	**P**	**09 31 58.0 +0.8**	
WHN				pmax	pmax		
	comp=Z,36nm,0.8s						
D17K	**Noatak River**	**32.47**	**30**	P	**P**	**09 31 57.4 +0.4**	
	baz=250						
L16K	**Owhat River**	**32.53**	**42**	P	**P**	**09 31 58.0 +0.4**	
	baz=263						
RDOG	**Red Dog Mine**	**32.66**	**30**	P	**P**	**09 31 59.1 +0.5**	
	baz=249						
M16K	**Timber Creek**	**32.70**	**43**	P	**P**	**09 31 59.1 +0.1**	
	baz=264						
C17K	**DeLong Mountai**	**32.72**	**29**	P	**P**	**09 31 58.9 -0.2**	
	baz=248						
E17K	**Hotham Inlet**	**32.72**	**32**	P	**P**	**09 31 59.2 0.0**	
	baz=252						
F17K	**Baldwin Pennin**	**32.75**	**33**	P	**P**	**09 31 59.8 +0.4**	
	baz=254						
J17K	**VABM Dome**	**32.96**	**39**	P	**P**	**09 32 01.5 +0.1**	
	baz=260						
O16K	**Kokwok River B**	**33.02**	**46**	P	**P**	**09 32 01.4 -0.5**	
	baz=267						
L17K	**Donlin**	**33.14**	**41**	P	**P**	**09 32 03.0 +0.1**	
	baz=263						
K17K	**Iditarod**	**33.21**	**40**	P	**P**	**09 32 03.3 -0.2**	
	baz=262						
E18K	**Tukpahlearik C**	**33.28**	**32**	P	**P**	**09 32 04.9 +0.8**	
	baz=253						
F18K	**Selawik**	**33.41**	**33**	P	**P**	**09 32 05.0 -0.2**	
	baz=255						
C18K	**Utukok River**	**33.46**	**29**	IAmb	IAmb	09 32 10.3	
	comp=Z,18nm,1.7s						
C18K	**Utukok River**	**33.46**	**29**	P	**P**	**09 32 06.1 +0.3**	
	baz=250						
M17K	**Holitna River**	**33.47**	**43**	P	**P**	**09 32 06.8 +1.0**	
	baz=265						
B18K	**Kokolik River**	**33.51**	**28**	P	**P**	**09 32 06.7 +0.7**	
	baz=249						
N17K	**Nushagak Hills**	**33.53**	**44**	P	**P**	**09 32 06.7 +0.4**	
	baz=267						
O17K	**Koliganek Bris**	**33.53**	**46**	P	**P**	**09 32 07.2 +0.9**	
	baz=268						
H18K	**Honhosa River**	**33.59**	**36**	P	**P**	**09 32 07.3 +0.4**	
	baz=259						
G18K	**Tagagawik**	**33.63**	**35**	IAmb	IAmb	09 32 22.3	
	comp=Z,21nm,1.7s						
G18K	**Tagagawik**	**33.63**	**35**	P	**P**	**09 32 07.5 +0.3**	
	baz=257						
L18K	**Granite Mounta**	**33.90**	**41**	P	**P**	**09 32 10.2 +0.7**	
	baz=265						
J18K	**Innoko River**	**34.02**	**39**	P	**P**	**09 32 11.0 +0.4**	
	baz=263						
N18K	**Kilae Creek**	**34.17**	**44**	P	**P**	**09 32 12.5 +0.5**	
	baz=268						
F19K	**Shaleruckik Mo**	**34.19**	**33**	P	**P**	**09 32 12.4 +0.4**	
	baz=257						
M18K	**Stony River**	**34.25**	**43**	P	**P**	**09 32 12.9 +0.3**	
	baz=266						
XAN	**Xi'an**	**34.25**	**266**	⇑P	**P**	**09 32 13.4 +0.5**	
XAN				pP	pP	09 32 17.6 -2.4	
XAN				sP	pwP	09 32 20.0 -5.9	
XAN				pmax	pmax		
	comp=Z,30nm,1.2s						
XAN				LR	LR		
	comp=Z,850nm,16.5s						
XAN				LR	LR		
	comp=Z,510nm,14.5s						
XAN				LR	LR		
	comp=Z,850nm,14.4s						
TTA	**Tatalina**	**34.28**	**40**	P	**P**	**09 32 13.2 +0.3**	
	baz=264						
G19K	**Purcell Mounta**	**34.31**	**34**	P	**P**	**09 32 13.0 -0.1**	
	baz=258						
CHIR	**Chirikof Islan**	**34.42**	**53**	P	**P**	**09 32 14.0 -0.1**	
	baz=275						
P18K	**Big Mountain,**	**34.48**	**46**	P	**P**	**09 32 14.7 0.0**	
	baz=270						
D19K	**Kuna River**	**34.49**	**30**	IAmb	IAmb	09 32 17.9	
	comp=Z,15nm,1.4s						
D19K	**Kuna River**	**34.49**	**30**	P	**P**	**09 32 14.3 -0.4**	
	baz=254						
O18K	**Koktuh Hills**	**34.49**	**46**	P	**P**	**09 32 14.4 -0.3**	
	baz=270						
E19K	**Redstone River**	**34.54**	**32**	P	**P**	**09 32 15.1 0.0**	
	baz=256						
J19K	**Poorman**	**34.57**	**38**	IAmb	IAmb	09 32 16.7	
	comp=Z,22nm,1.6s						
J19K	**Poorman**	**34.57**	**38**	P	**P**	**09 32 16.0 +0.6**	
	baz=263						
N19K	**Bonanza Creek**	**34.87**	**44**	P	**P**	**09 32 18.1 +0.1**	
	baz=269						
R18K	**Karluk**	**34.94**	**50**	P	**P**	**09 32 18.1 -0.4**	
	baz=273						
O19K	**Port Alsworth**	**34.94**	**45**	P	**P**	**09 32 18.2 -0.3**	
	baz=270						
D20K	**Etivluk River**	**35.08**	**30**	P	**P**	**09 32 19.5 -0.1**	
	baz=255						
H20K	**Anotleneega Mo**	**35.09**	**36**	P	**P**	**09 32 19.7 -0.1**	
	baz=262						
E20K	**Nigu River**	**35.12**	**31**	P	**P**	**09 32 20.1 0.0**	
	baz=256						
K20K	**Telida**	**35.20**	**40**	P	**P**	**09 32 21.3 +0.6**	
	baz=266						
L20K	**Farewell, AK**	**35.22**	**41**	P	**P**	**09 32 21.2 +0.2**	
	baz=267						
J20K	**Nowinta River**	**35.24**	**38**	P	**P**	**09 32 21.3 +0.3**	
	baz=264						
M20K	**Styx River**	**35.55**	**42**	P	**P**	**09 32 23.9 0.0**	
	baz=268						
G21K	**Allakaket**	**35.80**	**34**	P	**P**	**09 32 26.3 +0.4**	
	baz=262						
A21K	**Barrow**	**35.82**	**26**	P	**P**	**09 32 26.5 +0.6**	
	baz=252						
C21K	**Knifeblade Rid**	**35.83**	**30**	P	**P**	**09 32 26.6 +0.5**	
	baz=257						
F21K	**Alatna River**	**35.92**	**33**	P	**P**	**09 32 27.1 +0.2**	
	baz=261						
KDAK	**Kodiak Island**	**35.92**	**49**	P	**P**	**09 32 26.8 -0.2**	
KDAK	**Kodiak Island**	**35.92**	**49**	P	**P**	**09 32 27.3 +0.3**	
	baz=275						
KDAK	**Kodiak Island**	**35.92**	**49**	P	**P**	**09 32 26.8 -0.2**	
KDAK				pmax	pmax		
	comp=Z,130nm,1.8s						
KDAK	**Kodiak Island**	**35.92**	**49**	P	**P**	**09 32 27.0 0.0**	
KDAK				pP	**sP**	**09 32 36.2 -0.9**	
E21K	**Killik River**	**35.96**	**31**	P	**P**	**09 32 27.7 +0.4**	
	baz=258						
ENH	**Enshi**	**35.97**	**260**	P	**P**	**09 32 26.4 -1.4**	
ENH				IAmb	IAmb	09 32 29.0	
	comp=Z,28nm,1.3s						
Q20K	**Shuyak Island**	**35.97**	**48**	P	**P**	**09 32 27.4 +0.1**	
	baz=274						
H21K	**Melozitna Rive**	**35.97**	**36**	P	**P**	**09 32 28.0 +0.6**	
	baz=264						
SPCR	**Spurr Chakacha**	**35.98**	**43**	P	**P**	**09 32 28.2 +0.6**	
	baz=270						
B21K	**Ikpikpuk River**	**36.00**	**29**	IAmb	IAmb	09 32 36.7	
	comp=Z,53nm,1.6s						
B21K	**Ikpikpuk River**	**36.00**	**29**	P	**P**	**09 32 28.1 +0.6**	
	baz=256						
CHUM	**Lake Minchumin**	**36.02**	**39**	P	**P**	**09 32 27.6 -0.1**	
	baz=266						
PPLA	**Purkeypile**	**36.02**	**40**	P	**P**	**09 32 29.9 +1.9**	
PPLA	**Purkeypile**	**36.02**	**40**	P	**P**	**09 32 28.2 +0.2**	
	baz=268,SNR=5.9						
SPU	**Mount Spurr**	**36.05**	**43**	IAmb	IAmb	09 32 31.5	
	comp=Z,23nm,1.6s						
CAST	**Castle Rocks**	**36.09**	**40**	P	**P**	**09 32 29.5 +1.0**	
CAST				IAmb	IAmb	09 32 40.4	
	comp=Z,31nm,1.9s						
CAST	**Castle Rocks**	**36.09**	**40**	P	**P**	**09 32 29.4 +1.0**	
	baz=267						
I21K	**Tanana**	**36.26**	**37**	P	**P**	**09 32 30.8 +1.0**	
	baz=265						
HOM	**Homer**	**36.30**	**46**	P	**P**	**09 32 30.4 +0.2**	
	baz=273						
SKT	**Skwentna**	**36.31**	**42**	P	**P**	**09 32 30.4 +0.1**	
	baz=270						
CAPN	**Captain Cook N**	**36.50**	**44**	P	**P**	**09 32 31.5 -0.4**	
	baz=272						
D22K	**Ayikyak River**	**36.51**	**30**	P	**P**	**09 32 31.4 -0.5**	
	baz=259						
B22K	**Teshekpuk Lake**	**36.57**	**28**	IAmb	IAmb	09 32 33.9	
	comp=Z,7.5nm,0.7s						
B22K	**Teshekpuk Lake**	**36.57**	**28**	P	**P**	**09 32 32.2 -0.1**	
	baz=256						
H22K	**Ishtalitna Cre**	**36.58**	**35**	P	**P**	**09 32 31.7 -0.9**	
	baz=264						
BPAW	**Bear Paw Mtn.**	**36.61**	**38**	IAmb	IAmb	09 32 35.0	
	comp=Z,36nm,1.9s						
BPAW	**Bear Paw Mtn.**	**36.61**	**38**	P	**P**	**09 32 32.5 -0.4**	
	baz=267						
KTH	**Kantishna Hill**	**36.62**	**39**	IAmb	IAmb	09 32 40.3	
	comp=Z,20nm,1.1s						
G22K	**Bettles**	**36.64**	**34**	P	**P**	**09 32 33.1 +0.1**	
	baz=263						
SUA	**Susitna One**	**36.68**	**43**	P	**P**	**09 32 32.9 -0.7**	
	baz=271						
BRSE	**Bradley Lake S**	**36.75**	**46**	P	**P**	**09 32 33.7 -0.4**	
	baz=273						
LZH	**Lanzhou**	**36.79**	**273**	⇑P	**P**	**09 32 36.3 +1.5**	
LZH				pP	pP	09 32 44.3 +2.3	
LZH				pmax	pmax		
	comp=Z,110nm,1.2s						
LZH				LR	LR		
	comp=Z,510nm,13.4s						
LZH				LR	LR		
	comp=Z,630nm,15.1s						
LZH				LR	LR		
	comp=Z,640nm,19.0s						
CUT	**Chulitna**	**36.90**	**41**	P	**P**	**09 32 35.3 0.0**	
	baz=270						
TRF	**Thorofare Moun**	**36.90**	**40**	P	**P**	**09 32 35.8 +0.3**	
	baz=269						
M22K	**Willow**	**36.98**	**42**	P	**P**	**09 32 36.5 +0.6**	
	baz=271						
RC01	**Rabbit Creek A**	**37.18**	**43**	P	**P**	**09 32 38.3 +0.6**	
	baz=272						
COLD	**Coldfoot**	**37.19**	**33**	P	**P**	**09 32 38.2 +0.5**	
	baz=264						
G23K	**Bananza Creek**	**37.20**	**34**	P	**P**	**09 32 37.6 -0.2**	
	baz=265						
D23K	**Nanushuk River**	**37.24**	**30**	IAmb	IAmb	09 32 48.6	
	comp=Z,19nm,1.5s						
D23K	**Nanushuk River**	**37.24**	**30**	P	**P**	**09 32 38.7 +0.6**	
	baz=261						
I23K	**Minto, Yukon-K**	**37.36**	**37**	IAmb	IAmb	09 32 41.5	
	comp=Z,36nm,1.8s						
I23K	**Minto, Yukon-K**	**37.36**	**37**	P	**P**	**09 32 40.1 +0.9**	
	baz=267						
SEW	**Seward**	**37.38**	**45**	P	**P**	**09 32 39.7 +0.4**	
	baz=274						
C23K	**Itkillik River**	**37.41**	**29**	IAmb	IAmb	09 33 03.6	
	comp=Z,47nm,1.8s						
C23K	**Itkillik River**	**37.41**	**29**	P	**P**	**09 32 40.1 +0.6**	
	baz=260						
PMR	**Palmer**	**37.45**	**43**	P	**P**	**09 32 40.9 +0.9**	
	baz=272						
NEA2	**Nenana**	**37.47**	**38**	P	**P**	**09 32 40.6 +0.5**	
	baz=268						
E23K	**Chandalar**	**37.50**	**32**	IAmb	IAmb	09 33 01.5	
	comp=Z,15nm,1.4s						
E23K	**Chandalar**	**37.50**	**32**	P	**P**	**09 32 40.7 +0.2**	
	baz=263						
MCK	**McKinley**	**37.51**	**39**	P	**P**	**09 32 41.0 +0.5**	
MCK				IAmb	IAmb	09 32 48.1	
	comp=Z,12nm,1.2s						
MCK	**McKinley**	**37.51**	**39**	P	**P**	**09 32 40.8 +0.3**	
	baz=270						
MCK	**McKinley**	**37.51**	**39**	P	**P**	**09 32 41.0 +0.5**	
MCK				pmax	pmax		
	comp=Z,12nm,1.2s						
RND	**Reindeer**	**37.55**	**40**	P	**P**	**09 32 41.4 +0.5**	
RND				IAmb	IAmb	09 32 42.7	
	comp=Z,54nm,1.9s						
RND	**Reindeer**	**37.55**	**40**	P	**P**	**09 32 41.4 +0.5**	
RND				pmax	pmax		
	comp=Z,54nm,1.9s						
TOLK	**Toolik Lake Re**	**37.59**	**31**	P	**P**	**09 32 42.3 +1.2**	
TOLK				IAmb	IAmb	09 32 43.1	
	comp=Z,28nm,1.8s						
TOLK	**Toolik Lake Re**	**37.59**	**31**	P	**P**	**09 32 41.6 +0.4**	
	baz=263						
KNK	**Knik Glacier**	**37.78**	**43**	P	**P**	**09 32 43.7 +0.8**	
KNK	**Knik Glacier**	**37.78**	**43**	P	**P**	**09 32 42.7 -0.1**	
	baz=273						
SML	**Sawmill**	**37.83**	**42**	P	**P**	**09 32 44.3 +1.1**	
SML				IAmb	IAmb	09 32 45.5	
	comp=Z,28nm,0.7s						
SML	**Sawmill**	**37.83**	**42**	P	**P**	**09 32 43.4 +0.2**	
	baz=273,SNR=9.5						
SML	**Sawmill**	**37.83**	**42**	P	**P**	**09 32 43.9 +0.7**	
SML				pmax	pmax		
	comp=Z,28nm,0.7s						
PWL	**Port Wells**	**37.88**	**44**	P	**P**	**09 32 43.4 -0.2**	
	baz=274						
WRH	**Wood River Hil**	**37.89**	**38**	IAmb	IAmb	09 32 54.1	
	comp=Z,33nm,1.9s						
D24K	**Happy Valley**	**37.93**	**30**	IAmb	IAmb	09 32 45.8	
	comp=Z,7.9nm,0.6s						
D24K	**Happy Valley**	**37.93**	**30**	P	**P**	**09 32 44.0 +0.1**	
	baz=263						
E24K	**Your Creek**	**37.93**	**32**	P	**P**	**09 32 44.3 +0.3**	
	baz=264						
COLA	**College**	**38.00**	**37**	P	**P**	**09 32 45.8 +1.3**	
COLA				IAmb	IAmb	09 32 47.1	
	comp=Z,9.6nm,0.8s						
COLA	**College**	**38.00**	**37**	P	**P**	**09 32 44.9 +0.4**	
	baz=269						
COLA	**College**	**38.00**	**37**	⇓*e*P	**P**	**09 32 44.5 0.0**	
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	**College**	**38.00**	**37**	P	**P**	**09 32 45.4 +0.9**	
COLA				pP	**pwP**	**09 32 55.5 -2.1**	
COLA				sP	**sP**	**09 33 00.2 +5.6**	
H24K	**Noodor Dome**	**38.01**	**36**	IAmb	IAmb	09 32 47.2	
	comp=Z,28nm,1.8s						
H24K	**Noodor Dome**	**38.01**	**36**	P	**P**	**09 32 45.6 +0.9**	
	baz=268						
C24K	**Franklin Bluff**	**38.05**	**29**	IAmb	IAmb	09 32 53.7	
	comp=Z,38nm,1.6s						
C24K	**Franklin Bluff**	**38.05**	**29**	P	**P**	**09 32 45.6 +0.7**	
	baz=262						
GTA	**Gaotai**	**38.07**	**280**	P	**P**	**09 32 46.6 +1.0**	
GTA				sS	sS	09 38 49.6 +0.3	
GTA				pmax	pmax		
	comp=Z,31nm,1.2s						
GTA				LR	LR		
	comp=Z,510nm,16.0s						
GTA				LR	LR		
	comp=Z,320nm,16.7s						
GTA				LR	LR		
	comp=Z,760nm,15.6s						
F24K	**Squaw Lake**	**38.10**	**33**	P	**P**	**09 32 45.9 +0.4**	
	baz=266						
M23K	**Glacier View**	**38.11**	**42**	P	**P**	**09 32 45.9 +0.3**	
	baz=273						
POKR	**Poker Plat Res**	**38.18**	**37**	IAmb	IAmb	09 32 48.2	
	comp=Z,9.5nm,0.7s						
POKR	**Poker Plat Res**	**38.18**	**37**	P	**P**	**09 32 47.0 +0.9**	
	baz=269,SNR=6.0						
G24K	**Hadweenzic Riv**	**38.21**	**34**	P	**P**	**09 32 47.0 +0.7**	
	baz=267						
SCM	**Sheep Creek Mo**	**38.30**	**42**	P	**P**	**09 32 47.5 +0.3**	
	baz=274						
HDA	**Harding Lake**	**38.38**	**38**	IAmb	IAmb	09 32 48.8	
	comp=Z,7.7nm,0.7s						
HDA	**Harding Lake**	**38.38**	**38**	P	**P**	**09 32 48.4 +0.6**	
	baz=271,SNR=7.4						
IL31		**38.41**	**37**	IAmb	IAmb	09 32 50.1	
	comp=Z,21nm,1.6s						
ILAR	**Eielson Array**	**38.41**	**37**	P	**P**	**09 32 49.1 +1.1**	
ILAR	**Eielson Array**	**38.41**	**37**	P	**P**	**09 32 46.7 -1.3**	
	comp=Z,1.8nm,0.5s,baz=263,slow=7.3,SNR=57						
ILAR				LR	LR	09 50 11.0	
	comp=Z,236nm,20.5s,baz=268,slow=39						
	comp=Z,1.8nm,0.5s						
ILAR	**Eielson Array**	**38.41**	**37**	P	**P**	**09 32 49.1 +1.1**	
GLI	**Glacier Island**	**38.48**	**44**	P	**P**	**09 32 49.4 +0.7**	
	baz=275						
FID	**Port Fidalgo**	**38.79**	**44**	P	**P**	**09 32 51.8 +0.5**	
D25K	**Kavik River**	**38.81**	**30**	P	**P**	**09 32 52.5 +1.0**	
D25K	**Kavik River**	**38.81**	**30**	P	**P**	**09 32 52.0 +0.6**	
	baz=265						
M24K	**Tolsona, Glenn**	**38.83**	**42**	P	**P**	**09 32 52.7 +1.1**	
	baz=274						
H25L	**Birch Creek**	**38.86**	**35**	P	**P**	**09 32 52.6 +0.8**	
	baz=269						
K24K	**Donnelly Dome**	**38.91**	**39**	P	**P**	**09 32 51.8 -0.5**	
	baz=272						
F25K	**Christian Rive**	**38.97**	**33**	P	**P**	**09 32 53.7 +0.9**	
	baz=268						
PRP	**Porcupine Dome**	**38.98**	**36**	P	**P**	**09 32 54.0 +1.1**	
	baz=270						
KLU	**Klutina**	**38.99**	**43**	P	**P**	**09 32 53.8 +0.7**	
	baz=275						
Q23K	**Middleton Isla**	**39.00**	**46**	P	**P**	**09 32 53.5 +0.5**	
	baz=277						
J25K	**Salcha River,**	**39.06**	**38**	P	**P**	**09 32 52.9 -0.7**	
	baz=272						
PAX	**Paxson**	**39.09**	**40**	P	**P**	**09 32 54.9 +1.0**	
	baz=274						
DIV	**Divide**	**39.10**	**43**	IAmb	IAmb	09 32 56.6	
	comp=Z,27nm,1.3s						
EYAK	**Cordova Ski Ar**	**39.17**	**44**	P	**P**	**09 32 54.7 +0.3**	
	baz=276						
HARP	**HAARP**	**39.28**	**41**	P	**P**	**09 32 55.7 +0.3**	
	baz=275						
RIDG	**Independent Ri**	**39.33**	**39**	P	**P**	**09 32 55.4 -0.4**	
	baz=273						
BMAR	**Burnt Mountain**	**39.37**	**33**	P	**P**	**09 32 57.5 +1.3**	
F26K	**Sheenjek River**	**39.54**	**33**	P	**P**	**09 32 57.7 +0.1**	
	baz=269						
CD2	**Chengdu**	**39.61**	**266**	P	**P**	**09 32 59.6 +1.1**	
CD2				S	**S**	**09 39 00.3 +0.6**	
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
CD2				pmax	pmax		
	comp=Z,120nm,6.0s						
CD2				LR	LR		
	comp=Z,420nm,14.1s						
CD2				LR	LR		
	comp=Z,480nm,12.7s						
N25K	**Chitina, Valde**	**39.61**	**42**	P	**P**	**09 32 58.8 +0.6**	
	baz=276						
G26K	**Porcupine Rive**	**39.68**	**34**	P	**P**	**09 32 59.2 +0.7**	
	baz=270						
BMRM	**Bremner River**	**39.68**	**43**	P	**P**	**09 33 00.2 +1.5**	
BMRM				IAmb	IAmb	09 33 01.1	
	comp=Z,92nm,2.0s						
BMRM	**Bremner River**	**39.68**	**43**	P	**P**	**09 32 59.0 +0.3**	
	baz=277						
SCRK	**Sand Creek**	**39.70**	**39**	P	**P**	**09 32 59.2 +0.3**	
	baz=274						
C27K	**Jago River**	**39.77**	**30**	P	**P**	**09 32 59.6 +0.3**	
	baz=267						
J26L	**Joseph Creek**	**39.85**	**38**	P	**P**	**09 33 00.8 +0.6**	
	baz=274						
MENT	**Mentasta**	**39.89**	**40**	IAmb	IAmb	09 33 06.9	
	comp=Z,24nm,1.7s						
L26K	**Log Cabin Wild**	**40.05**	**40**	P	**P**	**09 33 02.7 +0.8**	
	baz=275,SNR=5.4						
M26K	**Nabesna, AK**	**40.28**	**41**	IAmb	IAmb	09 33 06.4	
	comp=Z,83nm,1.9s						
M26K	**Nabesna, AK**	**40.28**	**41**	P	**P**	**09 33 05.0 +1.2**	
	baz=276,SNR=12						
G27K	**Doyon Strip**	**40.52**	**34**	P	**P**	**09 33 07.0 +1.3**	
	baz=272						
H27K	**Steamboat Moun**	**40.60**	**35**	P	**P**	**09 33 07.7 +1.3**	
	baz=273,SNR=6.3						
D27M	**Malcolm River**	**40.73**	**30**	P	**P**	**09 33 08.0 +0.6**	
	baz=270						
L27K	**Beaver Creek,**	**40.74**	**40**	IAmb	IAmb	09 33 10.5	
	comp=Z,14nm,0.7s						
L27K	**Beaver Creek,**	**40.74**	**40**	P	**P**	**09 33 07.8 +0.3**	
	baz=277						
BCAR	**Beaver Creek A**	**40.76**	**40**	P	**P**	**09 33 08.4 +0.7**	
M27K	**Edge Creek, AK**	**40.80**	**41**	IAmb	IAmb	09 33 10.8	
	comp=Z,54nm,1.9s						
M27K	**Edge Creek, AK**	**40.80**	**41**	P	**P**	**09 33 09.3 +1.1**	
	baz=277						
EGAK	**Eagle**	**40.86**	**37**	P	**P**	**09 33 08.4 0.0**	
EGAK	**Eagle**	**40.86**	**37**	P	**P**	**09 33 08.9 +0.6**	
	baz=275,SNR=6.0						
MESA	**MESA**	**41.09**	**44**	P	**P**	**09 33 10.9 +0.3**	
	baz=280						
F28M	**Old Crow**	**41.18**	**33**	P	**P**	**09 33 11.7 +0.7**	
	baz=273,SNR=5.9						
E28M	**Babbage River**	**41.26**	**31**	P	**P**	**09 33 12.1 +0.4**	
	baz=272						
BVCY	**Beaver Creek**	**41.26**	**41**	P	**P**	**09 33 12.7 +0.9**	
	baz=278,SNR=6.6						
I28M	**Miner Creek**	**41.31**	**36**	IAmb	IAmb	09 34 38.5	
	comp=Z,24nm,1.8s						
I28M	**Miner Creek**	**41.31**	**36**	P	**P**	**09 33 13.2 +0.9**	
	baz=276						
YUK3	**Moose Creek**	**41.55**	**42**	P	**P**	**09 33 15.5 +1.1**	
	baz=279						
DAWY	**Dawson**	**41.70**	**38**	P	**P**	**09 33 16.7 +1.3**	
	baz=278						
O28M	**Mount Upton**	**41.85**	**43**	P	**P**	**09 33 17.1 +0.2**	
	baz=281						
E29M	**Blow River**	**41.88**	**32**	IAmb	IAmb	09 33 19.4	
	comp=Z,31nm,1.6s						
E29M	**Blow River**	**41.88**	**32**	P	**P**	**09 33 17.5 +0.8**	
	baz=274						
H29M	**Whitestone**	**41.88**	**35**	IAmb	IAmb	09 33 49.8	
	comp=Z,25nm,1.6s						
H29M	**Whitestone**	**41.88**	**35**

baz=278
M29M Somme Creek 42.36 40 P **P 09 33 21.3 +0.4**
baz=280
L29M L29M 42.40 39 P **P 09 33 21.9 +0.8**
baz=280,SNR=11
YUK4 Talbot Arm 42.48 42 P **P 09 33 23.2 +1.2**
baz=281
EPYK Eagle Plains 42.52 35 IAmb IAmb 09 34 14.3
comp=Z,18nm,1.2s
EPYK Eagle Plains 42.52 35 P **P 09 33 22.9 +0.8**
baz=277,SNR=5.3
ZALV Zalesovo Beam 42.54 307 P **P 09 33 19.9 -2.3**
comp=Z,1.5nm,0.3s,baz=74,slow=7.2,SNR=6.8
ZALV PcP **PcP 09 35 15.2 +0.8**
comp=Z,1.6nm,0.3s,baz=80,slow=14,SNR=8.2
ZALV LR LR 09 52 04.6
comp=Z,699nm,20.6s,baz=60,slow=38
comp=Z,1.5nm,0.3s
K29M Barlow Dome 42.55 38 P **P 09 33 22.9 +0.5**
baz=279
G30M tAoh Zraii Nji 42.65 34 IAmb IAmb 09 33 25.2
comp=Z,56nm,1.9s
G30M tAoh Zraii Nji 42.65 34 P **P 09 33 24.1 +1.0**
baz=277
YUK6 Outpost Mounta 42.69 43 P **P 09 33 23.9 +0.2**
baz=282
O29M Mount Kennedy 42.72 44 P **P 09 33 24.5 +0.6**
baz=282
F30M Barrier River 42.74 33 P **P 09 33 25.1 +1.3**
baz=277,SNR=5.7
I30M Mount Dempster 42.82 36 P **P 09 33 25.2 +0.6**
baz=279,SNR=14
J30M Hart River 42.94 37 IAmb IAmb 09 33 27.7
comp=Z,22nm,1.6s
J30M Hart River 42.94 37 P **P 09 33 26.4 +0.8**
baz=280
GOMU GeErMu 43.07 278 P **P 09 33 27.8 +0.5**
GOMU pP pP 09 33 31.1 -3.4
GOMU sP pwP 09 33 35.5 -5.0
GOMU S **S 09 39 50.0 -1.6**
GOMU pmax pmax
comp=Z,59nm,1.0s
GOMU LR LR
comp=Z,1μm,14.7s
GOMU LR LR
comp=Z,2μm,15.0s
GOMU LR LR
comp=Z,3μm,14.5s
M30M Minto, Yukon 43.10 40 IAmb IAmb 09 33 31.1
comp=Z,24nm,1.6s
M30M Minto, Yukon 43.10 40 P **P 09 33 28.4 +1.6**
baz=281
HYT Haines Junctio 43.13 43 P **P 09 33 28.9 +1.7**
HYT IAmb IAmb 09 33 36.1
comp=Z,28nm,1.2s
HYT Haines Junctio 43.13 43 P **P 09 33 29.0 +1.9**
baz=283,SNR=8.6
MAYO Mayo, Yukon 43.31 38 P **P 09 33 30.2 +1.8**
baz=281
G31M Satah River 43.41 34 P **P 09 33 30.0 +0.8**
G31M IAmb IAmb 09 33 35.6
comp=Z,18nm,1.4s
G31M Satah River 43.41 34 P **P 09 33 30.2 +1.0**
baz=279
INK Inuvik 43.50 31 P **P 09 33 30.4 +0.7**
INK IAmb IAmb 09 33 31.8
comp=Z,29nm,1.8s
INK Inuvik 43.50 31 P **P 09 33 30.7 +0.9**
baz=278,SNR=7.9
INK Inuvik 43.50 31 P **P 09 33 30.5 +0.7**
INK pmax pmax
comp=Z,29nm,1.8s
F31M Tsiigehtchic 43.54 33 IAmb IAmb 09 33 37.2
comp=Z,20nm,1.4s
F31M Tsiigehtchic 43.54 33 P **P 09 33 30.8 +0.7**
baz=279,SNR=7.2
P30M Million Dollar 43.55 44 P **P 09 33 32.1 +1.6**
baz=284
H31M Peel River 43.57 35 P **P 09 33 31.4 +0.9**
baz=280
PZH PanZhiHua 43.66 262 P **P 09 33 32.4 +0.6**
PZH S **S 09 40 04.0 +4.1**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,150nm,4.3s
PZH LR LR
comp=Z,290nm,15.7s
PZH LR LR
comp=Z,250nm,14.7s
PZH LR LR
comp=Z,220nm,17.2s
N31M Braeburn, Yuko 43.80 41 IAmb IAmb 09 33 40.9
comp=Z,33nm,1.4s
N31M Braeburn, Yuko 43.80 41 P **P 09 33 33.9 +1.5**
baz=283
O30N Mendenhall 43.81 43 P **P 09 33 33.8 +1.3**
baz=284
KMI Kunming 43.84 260 ⇑P **P 09 33 34.4 +1.0**
KMI pP pP 09 33 42.5 +1.8
KMI S S 09 40 13.1 +10
KMI pmax pmax
comp=Z,19nm,1.1s
KMI LR LR
comp=Z,440nm,16.3s
KMI LR LR
comp=Z,220nm,15.7s
KMI LR LR
comp=Z,370nm,19.9s
PLBC Pleasant Camp 44.00 44 P **P 09 33 35.7 +1.7**
baz=285
M31M Drury Creek, Y 44.27 40 P **P 09 33 38.0 +1.8**
baz=284,SNR=6.5
WMQ Urumqi 44.38 292 *e*P **P 09 33 39.0 +1.6**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,830nm,15.9s
WMQ LR LR
comp=Z,680nm,14.5s
WMQ LR LR
comp=Z,440nm,18.7s
WHY Whitehorse 44.42 42 P **P 09 33 39.7 +2.2**
WHY IAmb IAmb 09 33 40.0
comp=Z,13nm,1.2s
WHY Whitehorse 44.42 42 P **P 09 33 38.1 +0.6**
baz=285
S31K Pelican 44.47 46 P **P 09 33 38.8 +1.1**
baz=286
SKAG Skagway 44.51 44 P **P 09 33 38.9 +0.8**
baz=286
R31K City Hall, Gus 44.59 46 P **P 09 33 38.6 -0.1**
baz=286
FARO Faro, Yukon 44.74 40 P **P 09 33 41.7 +1.7**
FARO Faro, Yukon 44.74 40 P **P 09 33 40.3 +0.3**
baz=284,SNR=5.8
N32M Quiet Lake 45.14 41 P **P 09 33 44.1 +1.0**
baz=286
R32K Eaglecrest 45.25 46 P **P 09 33 44.6 +0.6**
baz=287
P32M Atlin 45.27 44 P **P 09 33 45.0 +0.8**
baz=287
P33M Teslin, Yukon 45.52 43 P **P 09 33 48.5 +2.2**
P33M IAmb IAmb 09 33 55.0
comp=Z,16nm,1.1s
P33M Teslin, Yukon 45.52 43 P **P 09 33 46.6 +0.4**
baz=287
A36M Sachs Harbour 45.67 26 P **P 09 33 48.4 +1.3**
A36M IAmb IAmb 09 33 58.1
comp=Z,11nm,0.7s
A36M Sachs Harbour 45.67 26 P **P 09 33 48.2 +1.1**
baz=282,SNR=13
MK31 Makanchi Array 46.59 298 P **P 09 33 55.4 +0.6**
MK31 IAmb IAmb 09 33 56.8
comp=Z,4.3nm,0.6s
MK31 Makanchi Array 46.59 298*c i*P **P 09 33 54.1 -0.7**
MKAR Makanchi Array 46.59 298 P **P 09 33 54.8 0.0**
MKAR Makanchi Array 46.59 298 P **P 09 33 53.1 -1.7**
comp=Z,3.0nm,0.5s,baz=77,slow=8.5,SNR=72
MKAR PcP **PcP 09 35 29.2 +0.8**
comp=Z,2.5nm,0.5s,baz=92,slow=1.3,SNR=9.3
MKAR LR LR 09 54 31.3
comp=Z,2μm,18.5s,baz=68,slow=38
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 46.59 298 P **P 09 33 54.8 0.0**
C36M Paulatuk 46.66 29 P **P 09 33 56.0 +1.1**
C36M IAmb IAmb 09 33 57.7
comp=Z,41nm,1.8s
C36M Paulatuk 46.66 29 P **P 09 33 55.9 +1.1**
baz=285,SNR=9.9
R33M Jennings River 46.66 43 IAmb IAmb 09 34 03.9
comp=Z,18nm,1.2s
R33M Jennings River 46.66 43 P **P 09 33 56.0 +0.8**
baz=289,SNR=6.4
U33K Whale Pass 46.66 48 P **P 09 33 55.2 +0.1**
baz=290
MAKZ Makanchi 46.78 298 P **P 09 33 55.6 -0.6**
MAKZ IAmb IAmb 09 33 58.3
comp=Z,5.7nm,0.6s
MAKZ Makanchi 46.78 298 P **P 09 33 55.6 -0.6**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 46.78 298 P **P 09 33 57.5 +1.2**
TNCH TengChong 46.84 263 *e*P **P 09 33 58.8 +1.6**
TNCH pP pP 09 34 01.4 -3.1
WRAK Wrangell Islan 46.96 48 P **P 09 33 57.6 +0.2**
baz=290
S34M Telegraph Cree 47.07 45 P **P 09 33 59.0 +0.7**
baz=290
KURK Kurchatov 47.22 304 P **P 09 33 58.8 -0.7**
KURK IAmb IAmb 09 34 01.3
comp=Z,5.6nm,0.6s
KURK Kurchatov 47.22 304⇓*e*P **P 09 33 57.7 -1.8**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 47.22 304 P **P 09 33 58.6 -0.9**
KURBB Kurchatov Arra 47.30 304 P **P 09 33 57.5 -2.7**
comp=Z,4.2nm,0.5s,baz=70,slow=8.4,SNR=24
KURBB PcP **PcP 09 35 31.2 +0.4**
comp=Z,1.8nm,0.7s,baz=63,slow=3.5,SNR=5.1
KURBB LR LR 09 54 37.6
comp=Z,277nm,19.4s,baz=174,slow=37
comp=Z,4.2nm,0.5s
DLBC Dease Lake 47.44 44 P **P 09 34 02.4 +1.2**
baz=290
WTLY Watson Lake, Y 47.47 42 P **P 09 34 02.6 +1.2**
baz=290
V35K Ketchikan 47.74 49 P **P 09 34 04.7 +1.2**
baz=292
T35M Bob Quinn 47.84 46 P **P 09 34 05.5 +1.1**
baz=291
WRGLY Wrigley 48.78 37 P **P 09 34 13.1 +1.7**
baz=291
LSA Lhasa 49.20 273 P **P 09 34 17.6 +1.9**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 49.20 273 P **P 09 34 17.7 +2.0**
LSA pP **sP 09 34 28.7 +2.8**
TOAD Toad River Com 49.62 43 P **P 09 34 19.5 +1.5**
baz=293
PHRA Phrae 49.99 255 P **P 09 34 23.0 +1.7**
EUNU Eureka 50.78 11 P **P 09 34 26.2 -0.3**
BVAR Borovoye Array 50.89 310 P **P 09 34 25.6 -2.0**
comp=Z,1.4nm,0.5s,baz=45,slow=8.1,SNR=10.0
BVAR PcP **PcP 09 35 44.4 +0.6**
comp=Z,2.8nm,0.5s,baz=65,slow=3.0,SNR=5.8
BVAR LR LR 09 57 34.1
comp=Z,681nm,20.0s,baz=60,slow=38
comp=Z,1.4nm,0.5s
CMAR Chiang Mai Arr 50.90 256 P **P 09 34 27.9 -0.2**
CMAR Chiang Mai Arr 50.90 256 P **P 09 34 27.6 -0.5**
comp=Z,2.8nm,0.8s,baz=30,slow=8.3,SNR=5.1
comp=Z,2.8nm,0.8s
CMAR Chiang Mai Arr 50.90 256 P **P 09 34 27.9 -0.2**
BBB Bella Bella 50.92 51 LR LR 09 53 46.3
comp=Z,64nm,21.7s,baz=254,slow=34
BRVK Borovoye 50.94 310 P **P 09 34 27.4 -0.6**
BRVK IAmb IAmb 09 35 45.7
comp=Z,19nm,1.6s
BRVK Borovoye 50.94 310⇑*e*P **P 09 34 26.7 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK Borovoye 50.94 310 P **P 09 34 27.5 -0.5**
WUS Wushi 51.15 293 P **P 09 34 29.8 -0.1**
WUS Wushi 51.15 293 P **P 09 34 31.1 +1.2**
WUS pP **pwP 09 34 41.9 -0.1**
SHL Shillong 51.17 268 P **P 09 34 30.5 +0.1**
SHL Shillong 51.17 268 P **P 09 34 30.5 +0.1**
SHL pmax pmax
comp=Z,52nm,0.9s
ALE Alert 51.30 5 P **P 09 34 29.8 -0.6**
ALE pP **sP 09 34 40.9 +0.2**
TARG Taragay, Kyrgy 51.80 294 IAmb IAmb 09 34 37.5
comp=Z,18nm,1.2s
TARG Taragay, Kyrgy 51.80 294 P **P 09 34 36.8 +1.7**
TARG pmax pmax
comp=Z,11nm,0.5s
KDJ Kajisay 51.99 295 P **P 09 34 37.4 +1.1**
KDJ pmax pmax
comp=Z,27nm,0.6s
ULHL Ulahol 52.54 295 P **P 09 34 41.7 +1.4**
SNR=6.2
RES Resolute Bay 52.58 18 IAmb IAmb 09 34 43.8
comp=Z,5.1nm,0.6s
RES Resolute Bay 52.58 18 LR LR 10 00 52.4
comp=Z,188nm,19.2s,baz=354,slow=41
RES Resolute Bay 52.58 18 P **P 09 34 40.3 +0.4**
RES pmax pmax
comp=Z,10.0nm,0.9s
TKM2 Tokmak 2 52.60 296 P **P 09 34 41.8 +1.0**
SNR=6.8
BOOM Boomskoye usch 52.60 296 IAmb IAmb 09 34 43.7
comp=Z,15nm,0.6s
BOOM Boomskoye usch 52.60 296 P **P 09 34 42.0 +1.2**
BOOM pmax pmax
comp=Z,31nm,1.0s
YKA Yellowknife Ar 52.78 36 P **P 09 34 39.4 -2.2**
comp=Z,1.0nm,0.6s,baz=298,slow=7.7,SNR=18
YKA LR LR 09 58 41.1
comp=Z,114nm,21.5s,baz=320,slow=38
comp=Z,1.0nm,0.6s
KBK Karagaybulak 53.15 296 P **P 09 34 45.6 +0.8**
SNR=9.7
AAK Ala-Archa 53.44 296 P **P 09 34 46.9 -0.1**
AAK IAmb IAmb 09 34 48.6
comp=Z,9.8nm,0.9s
AAK Ala-Archa 53.44 296 LR LR 09 58 51.8
comp=Z,678nm,18.6s,baz=52,slow=38
AAK Ala-Archa 53.44 296 P **P 09 34 47.6 +0.6**
SNR=7.6
AAK Ala-Archa 53.44 296*ce*P **P 09 34 47.4 +0.4**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 53.44 296 *e*P **P 09 34 47.4 +0.4**
AAK Ala-Archa 53.44 296 P **P 09 34 47.4 +0.4**
KBS Kingsbay 53.76 351 P **P 09 34 48.4 -0.1**
SPA0 Spitsbergen Ar 53.84 350 *e*P **P 09 34 48.5 -0.6**
SPITS Spitsbergen Ar 53.84 350 P **P 09 34 47.7 -1.5**
comp=Z,3.8nm,0.4s,baz=64,slow=7.5,SNR=23
comp=Z,3.8nm,0.4s
ARLS Aral 53.96 296 P **P 09 34 52.0 +1.3**
ARLS pmax pmax
comp=Z,20nm,1.1s
KSH Kashi 54.14 292 P P 09 34 56.9 +4.8
KSH pP sP 09 35 03.5 +1.4
KSH pmax pmax
comp=Z,17nm,0.6s
KSH LR LR
comp=Z,850nm,18.5s
KSH LR LR
comp=Z,430nm,18.2s
KSH LR LR
comp=Z,880nm,18.6s
AML Almayashu 54.21 296 P **P 09 34 54.0 +1.1**
SNR=8.8
ARSB Arslanbob 55.09 296 IAmb IAmb 09 35 01.3
comp=Z,9.1nm,1.1s
ARTI Arti 55.41 318 P **P 09 34 59.2 -1.6**
ARTI IAmb IAmb 09 35 03.9
comp=Z,40nm,1.6s
ARTI Arti 55.41 318 LR LR 10 00 28.8
comp=Z,343nm,20.7s,baz=54,slow=38
ARTI Arti 55.41 318*c i*P **P 09 34 58.8 -2.0**
ARTI 09 36 00.4
ARTI 09 37 01.0
ARTI S **S 09 42 43.9 +0.6**
ARTI SS **SS 09 46 26.4 -1.0**
ARTI MLR MLR
comp=Z,567nm,16.0s
ARTI Arti 55.41 318 P **P 09 34 59.8 -1.0**
ARK Arkit 55.48 297 P **P 09 35 03.1 +1.3**
ARK pmax pmax
comp=Z,25nm,1.3s
OHH Osh 55.65 295 P **P 09 35 04.1 +1.2**
OHH pmax pmax
comp=Z,27nm,1.1s
KK31 Karatay Array 55.69 299 P **P 09 35 02.8 -0.3**
KK31 IAmb IAmb 09 35 04.2
comp=Z,30nm,1.4s
KK31 Karatay Array 55.69 299 P **P 09 35 02.8 -0.3**
KK31 pmax pmax
comp=Z,30nm,1.4s
KKAR Karatay Array 55.69 299 P **P 09 35 02.7 -0.4**
KKAR Karatay Array 55.69 299 P **P 09 35 02.7 -0.4**
TRKS Terek-Say 56.15 297 P **P 09 35 07.3 +0.7**
TRKS pmax pmax
comp=Z,9.0nm,0.6s
NEEM North Greenlan 56.73 6 *i*P **P 09 35 08.2 -2.1**
NEEM IAmb IAmb 09 35 10.1
comp=Z,56nm,1.5s
DRK Karamyk 56.86 295 P **P 09 35 13.0 +1.2**
BTK Batken 57.16 296 P **P 09 35 14.5 +0.8**
KAPI Kappang 57.54 218*de*P **P 09 35 16.2 -0.2**
KAPI pmax pmax
comp=Z,50nm,1.1s
DAG Danmarks Havn 58.05 357 P **P 09 35 18.6 -0.7**
DAG pmax pmax
comp=Z,20nm,1.7s
DAG Danmarks Havn 58.05 357 *i*P **P 09 35 17.3 -2.0**
DAG IAmb IAmb 09 35 19.3
comp=Z,55nm,1.7s
KIRV Kirov 58.24 323 LR LR 10 02 50.2
comp=Z,682nm,19.1s,baz=49,slow=39
KIRV Kirov 58.24 323⇑*e*P **P 09 35 21.2 +0.4**
ABKAR Akbulak array 58.47 310 P **P 09 35 21.7 -0.9**
AKTO Aktyubinsk 58.83 312 LR LR 10 03 15.1
comp=Z,1μm,18.1s,baz=46,slow=39
ARCES ARCESS Array B 58.84 341 P **P 09 35 24.1 -0.9**
comp=Z,4.9nm,1.0s,baz=60,slow=7.2,SNR=6.2
ARCES PcP **PcP 09 36 14.8 +0.7**
comp=Z,1.7nm,0.5s,baz=60,slow=7.2,SNR=5.4
ARCES LR LR 10 04 32.4
comp=Z,152nm,18.4s,baz=28,slow=40
comp=Z,4.9nm,1.0s
KULLO Kullorsuaq 58.88 9 *i*P **P 09 35 24.2 -0.9**
KULLO IAmb IAmb 09 35 25.2
comp=Z,18nm,0.6s
CHGR Chuyangaron 59.02 295 P **P 09 35 27.1 +0.4**
CHGR pmax pmax
comp=Z,142nm,1.2s
SIMJ Simiganj 59.11 295 P **P 09 35 27.6 +0.1**
SIMJ Simiganj 59.11 295 P **P 09 35 27.6 +0.1**
SIMJ sP **pwP 09 35 42.8 +3.2**
DZET Dzherino 59.14 295 P **P 09 35 28.0 +0.4**
DZET pmax pmax
comp=Z,43nm,0.8s
NIL Nilore 59.26 288 P **P 09 35 28.6 +0.2**
NIL Nilore 59.26 288 P **P 09 35 28.6 +0.2**
NIL pmax pmax
comp=Z,124nm,1.3s
YBH Yreka Blue Hor 59.46 60 LR LR 09 56 01.2
comp=Z,121nm,21.7s,baz=295,slow=31
KTK1 Kautokeino 59.77 341 *e*P **P 09 35 30.9 -0.5**
KDU Kakadu 60.21 201 P **P 09 35 37.3 +2.4**
comp=Z,49nm,0.7s
KDU Kakadu 60.21 201 P **P 09 35 37.3 +2.4**
TRO Tromso 60.23 343 *e*P **P 09 35 33.5 -1.0**
UPNV Upernavik 60.66 9 *i*P **P 09 35 36.2 -1.2**
UPNV IAmb IAmb 09 35 37.5
comp=Z,10nm,0.7s
PLID Pearl Lake 61.46 54 P **P 09 35 44.2 +0.6**
PLID IAmb IAmb 09 36 23.9
comp=Z,9.6nm,1.2s
ORV Oroville 61.48 61 P **P 09 35 44.5 +1.0**
ORV IAmb IAmb 09 37 21.5
comp=Z,20nm,1.6s
ORV Oroville 61.48 61 P **P 09 35 44.5 +1.0**
ORV pmax pmax
comp=Z,20nm,1.7s
KBL Kabul 61.52 291 P **P 09 35 43.6 -0.5**
KBL Kabul 61.52 291 P **P 09 35 43.6 -0.5**
KBL pmax pmax
comp=Z,77nm,1.3s
NUUG Nuugaatsiaq 62.16 9 *i*P **P 09 35 47.0 -0.4**
NUUG IAmb IAmb 09 35 48.7
comp=Z,4.8nm,0.8s
SUMG Summit 62.23 3 P **P 09 35 49.1 +0.8**
SUMG Summit 62.23 3 P **P 09 35 49.2 +0.8**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG Summit 62.23 3 *i*P **P 09 35 48.0 -0.4**
SUMG IAmb IAmb 09 35 50.2
comp=Z,18nm,0.7s
LOF Lofoten 62.58 344 *e*P **P 09 35 49.9 -0.4**
FFC Flin Flon 62.60 39 P **P 09 35 51.8 +1.1**
FFC IAmb IAmb 09 35 57.6
comp=Z,6.2nm,1.0s
FFC Flin Flon 62.60 39 P **P 09 35 51.8 +1.1**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 62.60 39 P **P 09 35 51.2 +0.5**
FFC sP **pwP 09 36 06.9 +2.9**
BELG Belogornoye 62.85 318 LR LR 10 05 33.7
comp=Z,326nm,18.8s,baz=86,slow=38
BELG Belogornoye 62.85 318*de*P **P 09 35 52.2 -0.1**
BELG pmax pmax
comp=Z,2.0nm,1.3s
FAUS Fauske 62.85 342 *e*P **P 09 35 51.9 -0.3**
FCC Fort Churchill 63.11 32 P **P 09 35 54.1 +0.1**
FCC IAmb IAmb 09 36 00.1
comp=Z,12nm,1.2s
FCC Fort Churchill 63.11 32 P **P 09 35 54.1 +0.1**
FCC pmax pmax
comp=Z,12nm,1.3s
JMIC Jan Mayen 63.13 353 LR LR 10 03 03.9
comp=Z,91nm,18.7s,baz=76,slow=36
NVAR Mina Array Bea 64.14 61 P **P 09 36 01.6 +0.1**
comp=Z,0.8nm,0.7s,baz=296,slow=7.4,SNR=5.8
comp=Z,0.8nm,0.7s
LEIR Leirfjorden 64.39 343 *e*P **P 09 36 02.2 -0.1**
FIA1 FINESS Array S 64.86 334 P **P 09 36 04.8 -0.6**
FINES FINESS Array B 64.86 334 P **P 09 36 04.5 -0.9**
FINES FINESS Array B 64.86 334 P **P 09 36 04.2 -1.2**
comp=Z,8.6nm,0.6s,baz=30,slow=8.8,SNR=38
FINES LR LR 10 06 57.9
comp=Z,254nm,18.6s,baz=359,slow=38
comp=Z,8.6nm,0.6s
FINES FINESS Array B 64.86 334 P **P 09 36 04.6 -0.9**
TPAW Teton Pass 65.30 53 P **P 09 36 10.0 +1.0**
TPAW IAmb IAmb 09 36 17.1
comp=Z,36nm,1.9s
ICESG Greenland Ices 65.64 4 *i*P **P 09 36 10.0 -0.8**
ICESG IAmb IAmb 09 36 12.2
comp=Z,12nm,0.6s
OBN Obninsk 65.85 325 LR LR 10 07 23.1
comp=Z,287nm,18.5s,baz=16,slow=38
R11B Troy Canyon, C 65.86 59 P **P 09 36 13.2 +0.6**
baz=310
DUG Dugway, Tooele 66.34 56 P **P 09 36 18.2 +2.6**
PDAR Pinedale Array 66.55 52 P **P 09 36 15.7 -1.3**
comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.5
PDAR LR LR 10 05 54.9
comp=Z,41nm,19.4s,baz=321,slow=37
comp=Z,0.4nm,0.6s
WRAB Tennant Creek 66.76 198⇓*e*P **P 09 36 17.4 -0.7**
WRAB pmax pmax
comp=Z,8.0nm,1.2s
WB2 Warramunga Arr 66.77 198 P **P 09 36 19.7 +1.5**
WRA Warramunga Arr 66.77 198 P **P 09 36 19.6 +1.4**
WRA Warramunga Arr 66.77 198 P **P 09 36 18.4 +0.2**
comp=Z,1.8nm,0.6s,baz=14,slow=6.7,SNR=21
WRA LR LR 10 02 29.8
comp=Z,82nm,21.9s,baz=17,slow=33
comp=Z,1.8nm,0.6s
SFJD Kangerlussuaq 66.78 9 LR LR 10 09 27.5
comp=Z,229nm,18.1s,baz=344,slow=40
SFJD Kangerlussuaq 66.78 9 *i*P **P 09 36 19.2 +1.5**
SFJD IAmb IAmb 09 36 20.0
comp=Z,17nm,1.1s
FRB Frobisher Bay 66.80 18 LR LR 10 08 12.8
comp=Z,158nm,20.4s,baz=307,slow=38
FRB Frobisher Bay 66.80 18 P **P 09 36 17.2 -0.7**
FRB pmax pmax
comp=Z,19nm,1.3s
MSVF Nonsavu 67.23 152 LR LR 10 03 40.7
comp=Z,410nm,18.8s,baz=4.9,slow=34
DY2G Dye2 67.74 8 *i*P **P 09 36 21.7 -2.4**
DY2G IAmb IAmb 09 36 26.2

comp=Z,16nm,0.8s
PFO Pinyon Flats O 68.36 64 LR LR 10 01 26.7
comp=Z,63nm,20.1s,baz=252,slow=32
ULM Lac du Bonnet 68.38 40 P **P 09 36 28.6 +0.5**
ULM IAmb IAmb 09 37 22.4
comp=Z,9.8nm,1.4s
ULM Lac du Bonnet 68.38 40 P **P 09 36 27.5 -0.6**
comp=Z,1.7nm,0.6s,baz=312,slow=8.6,SNR=5.9
ULM LR LR 10 09 04.8
comp=Z,99nm,18.9s,baz=340,slow=38
comp=Z,1.7nm,0.6s
ULM Lac du Bonnet 68.38 40 P **P 09 36 28.6 +0.5**
ULM pmax pmax
comp=Z,10.0nm,1.5s
DZM Mont Dzumac 68.42 165 *e*LR LR 09 57 15.5
comp=Z,267nm,23.8s
MOL Molde 68.67 343 *e*P **P 09 36 31.0 +1.3**
DOMB Dombas 68.82 342 *e*P **P 09 36 30.8 0.0**
NC405 NORSAR Array S 69.04 340 P **P 09 36 32.3 +0.2**
NC204 NORSAR Array S 69.12 341 P **P 09 36 32.8 +0.2**
NB201 NORSAR Array S 69.20 341 P **P 09 36 33.1 +0.1**
ISOG Isortoq, Green 69.20 5 *i* P **P 09 36 32.6 -0.3**
NB2 NORSAR Subarra 69.22 341 P **P 09 36 32.4 -0.8**
comp=Z,5.4nm,0.5s,baz=28,slow=6.2
NB2 NORSAR Subarra 69.22 341 P **P 09 36 32.4 -0.8**
baz=28,slow=6.2
NB2 NORSAR Subarra 69.22 341 P **P 09 36 32.4 -0.8**
NOA NORSAR Array B 69.22 341 P **P 09 36 32.6 -0.6**
comp=Z,7.4nm,0.5s,baz=30,slow=6.6,SNR=41
NOA LR LR 10 11 59.3
comp=Z,129nm,18.5s,baz=20,slow=40
comp=Z,7.4nm,0.5s
HFS Hagfors 69.41 339 P **P 09 36 32.8 -1.5**
comp=Z,20nm,0.6s,baz=48,slow=4.8,SNR=90
HFS LR LR 10 09 25.0
comp=Z,221nm,21.6s,baz=25,slow=38
comp=Z,20nm,0.6s
NC602 NORSAR Array S 69.41 340 *e*P **P 09 36 35.1 +0.7**
NORES NORESS Array B 69.41 340 P **P 09 36 37.4 +3.0**
GOF Gofitskoye 70.02 314 *ce*P **P 09 36 38.9 +0.5**
HYA Hoyanger 70.22 343 *e*P **P 09 36 39.7 +0.4**
PABE Paberze 70.23 331 P **P 09 36 39.6 +0.2**
ASAR Alice Springs 70.47 197 P **P 09 36 42.5 +1.3**
comp=Z,1.6nm,0.8s,baz=8.1,slow=5.9,SNR=15
ASAR LR LR 10 06 34.1
comp=Z,65nm,20.9s,baz=1.0,slow=35
comp=Z,1.6nm,0.8s
SEKA Sheki 70.50 309 P **P 09 36 42.2 +0.7**
ERBR Yeremizino-Bor 70.83 316 *e*P **P 09 36 43.8 +0.5**
ERBR pmax pmax
comp=Z,70nm,1.2s
MNGR Mingechevir, A 70.86 309 P **P 09 36 45.1 +1.5**
KVAR Kislovodsk Arr 70.97 314 LR LR 10 12 05.3
comp=Z,366nm,18.5s,baz=248,slow=40
KIV Kislovodsk 70.98 314 ⇑P **P 09 36 45.0 +0.6**
KIV Kislovodsk 70.98 314 *e*P **P 09 36 44.3 -0.1**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,453nm,18.0s
KIV Kislovodsk 70.98 314 P **P 09 36 45.5 +1.2**
comp=Z,672nmcomp=Z,50nm,1.1s
KIV Kislovodsk 70.98 314 *e*P **P 09 36 44.3 -0.1**
KIV Kislovodsk 70.98 314 P **P 09 36 45.6 +1.2**
KBZ Khabaz 71.03 313 P **P 09 36 44.3 -0.2**
comp=Z,33nm,0.9s,baz=74,slow=2.9,SNR=54
KBZ LR LR 10 12 32.4
comp=Z,775nm,18.5s,baz=44,slow=40
KBZ Khabaz 71.03 313 *c i* P **P 09 36 45.3 +0.8**
KBZ pmax pmax
comp=Z,41nm,1.1s
KBZ Khabaz 71.03 313 *e*P **P 09 36 45.3 +0.8**
SHA1 Shidzhatmaz 71.14 314 *ce*P **P 09 36 46.0 +0.4**
LKRN Lenkeran, Azer 71.34 306 P **P 09 36 47.6 +1.1**
GANJ Ganja 71.37 309 P **P 09 36 47.9 +1.2**
S22A 4UR Ranch, Cre 71.45 55 P **P 09 36 48.3 +0.7**
baz=313
LABN Labinsk 71.48 315 *e*P **P 09 36 48.7 +1.5**
LABN pmax pmax
comp=Z,32nm,0.5s
AK03 Malin Array Si 72.08 326 P **P 09 36 50.0 -0.8**
AK23 Malin Array Si 72.09 326 P **P 09 36 50.4 -0.4**
AKASG Malin Array Be 72.10 326 P **P 09 36 50.6 -0.3**
AKASG IAmb IAmb 09 36 51.6
comp=Z,16nm,1.4s
AKASG Malin Array Be 72.10 326 P **P 09 36 50.3 -0.6**
comp=Z,7.5nm,0.4s,baz=39,slow=6.3,SNR=98
AKASG LR LR 10 11 18.7
comp=Z,358nm,18.1s,baz=52,slow=38
comp=Z,7.5nm,0.4s
AKASG Malin Array Be 72.10 326 P **P 09 36 50.6 -0.3**
AKASG pmax pmax
comp=Z,16nm,1.4s
AKBB Malin Array Si 72.10 326 P **P 09 36 50.8 -0.1**
AKBB Malin Array Si 72.10 326 *d i* P **P 09 36 50.8 -0.1**
AKBB Malin Array Si 72.10 326 P **P 09 36 50.5 -0.4**
AK04 Malin Array Si 72.11 326 P **P 09 36 50.5 -0.4**
KIEV Kiev 72.11 326 P **P 09 36 50.9 0.0**
KIEV Kiev 72.11 326 ⇓P **P 09 36 50.9 0.0**
KIEV Kiev 72.11 326 ⇓P **P 09 36 50.9 0.0**
KIEV Kiev 72.11 326 P **P 09 36 50.5 -0.5**
comp=Z,130nm,2.6s
KIEV Kiev 72.11 326 P **P 09 36 50.5 -0.5**
AK21 Malin Array Si 72.12 326 P **P 09 36 50.6 -0.4**
AK05 Malin Array Si 72.17 326 P **P 09 36 51.3 0.0**
AK05 IAmb IAmb 09 36 52.3
comp=Z,23nm,1.1s
GNI Garni 72.58 310 P **P 09 36 56.1 +2.0**
GNI Garni 72.58 310 LR LR 10 13 19.8
comp=Z,265nm,18.6s,baz=52,slow=40
GNI Garni 72.58 310 *c i* P **P 09 36 55.7 +1.6**
GNI pmax pmax
comp=Z,40nm,1.2s
GNI Garni 72.58 310 P **P 09 36 56.4 +2.3**
comp=Z,40nm,1.4s
VSLR Vesyoloye 72.67 315⇑*e*P **P 09 36 53.8 -0.6**
VSLR pmax pmax
comp=Z,65nm,1.2s
SOC Sochi 72.74 315 *e*P **P 09 36 50.9 -3.9**
SOC *e* 09 39 34.5
SOC *e*PPP PPP 09 41 17.5
SOC *e*S **S 09 46 15.0 -3.3**
SOC *e*SS **SS 09 50 59.6 +2.3**
SOC pmax pmax
comp=Z,15nm,0.6s
SOC MLR MLR
comp=Z,412nm,18.0s
RNPP9 Sopachiv 72.83 328 P **P 09 36 54.9 -0.3**
RNPP8 Varash 72.91 328 P **P 09 36 55.7 0.0**
ANN Anapa 72.97 317 *e*P **P 09 36 55.9 -0.2**
ANN pmax pmax
comp=Z,83nm,1.4s
ANN Anapa 72.97 317 *e*P **P 09 36 55.9 -0.2**
KARS Kars 73.14 311 P **P 09 37 00.5 +3.1**
KARS pmax pmax
comp=Z,43nm,1.1s
T25A Trinidad 73.26 54 P **P 09 36 58.7 +0.4**
baz=315
LUBAR Lubar, Ukraine 73.30 326 P **P 09 36 57.7 -0.3**
BCA Borcka 73.32 312 ⇑P **P 09 36 59.8 +1.5**
BSD Bornholm Skovb 73.42 336 *i* P **P 09 36 58.0 -0.6**
BSD IAmb IAmb 09 37 05.1
comp=Z,48nm,1.0s
ANMO Albuquerque 73.59 57 LR LR 10 05 54.3
comp=Z,68nm,21.4s,baz=134,slow=33
ANMO Albuquerque 73.59 57⇑*e*P **P 09 36 59.1 -1.2**
ANMO pmax pmax
comp=Z,11nm,4.0s
GKP Gorka Klasztor 74.29 333 *e*P **P 09 37 03.8 +0.1**
BEL Belsk 74.33 331 *e*P **P 09 37 04.9 +0.9**
HORU Horodok 74.39 326 P **P 09 37 04.3 -0.1**
HORU Horodok 74.39 326 P **P 09 37 04.3 -0.1**
SIM Simferopol' 74.42 319 *e*P **P 09 37 04.2 -0.5**
SIM *e* 09 37 18.0
SIM pmax pmax
comp=Z,32nm,1.0s
SIM MLR MLR
comp=Z,400nm,16.0s
121A Cookes Peak, D 74.47 59 P **P 09 37 05.9 +0.5**
baz=314
SORM Soroca 74.47 324 ⇓P **P 09 37 04.8 -0.1**
SORM Soroca 74.47 324 ⇓P **P 09 37 04.8 -0.1**
SORM Soroca 74.47 324 P **P 09 37 04.2 -0.7**
comp=Z,40nm,1.1s
NDNU Novodnistrovsk 74.51 325 P **P 09 37 05.0 -0.1**

KMPD K-Podol'skiy 74.89 326 P **P 09 37 07.0 -0.3**
SCHQ Schefferville 75.09 22 P **P 09 37 09.0 +0.6**
SCHQ IAmb IAmb 09 39 41.9
comp=Z,39nm,1.9s
SCHQ Schefferville 75.09 22 P **P 09 37 08.2 -0.2**
comp=Z,3.0nm,0.8s,baz=343,slow=6.0,SNR=11
SCHQ LR LR 10 13 59.0
comp=Z,128nm,19.4s,baz=356,slow=39
comp=Z,3.0nm,0.8s
MILM Milestii Mici 75.24 323 ⇓P **P 09 37 09.5 +0.1**
MILM Milestii Mici 75.24 323 ⇓P **P 09 37 09.5 +0.1**
MORS Morshin 75.43 327 P **P 09 37 10.9 +0.5**
MORS Morshin 75.43 327 P **P 09 37 10.9 +0.5**
KWP Kalwaria Pacla 75.47 328 *e*P **P 09 37 11.3 +0.7**
KWP Kalwaria Pacla 75.47 328 P **P 09 37 11.5 +0.8**
KWP pmax pmax
comp=Z,79nm,1.3s
KSV Kosov 75.64 326 P **P 09 37 11.9 +0.2**
KSV Kosov 75.64 326 P **P 09 37 11.9 +0.2**
BSEG Bad Segeberg 75.74 337 *e*P **P 09 37 12.3 +0.3**
comp=Z,20nm,1.2s,baz=27,slow=5.7
WSAR Wadi Sarin 75.76 289 LR LR 10 14 44.0
comp=Z,179nm,20.3s,baz=67,slow=39
OJC Ojcow 76.02 330 *e*P **P 09 37 14.1 +0.3**
OJC Ojcow 76.02 330 P **P 09 37 14.4 +0.6**
OJC Ojcow 76.02 330 P **P 09 37 14.4 +0.6**
OJC pmax pmax
comp=Z,144nm,0.6s
OJC Ojcow 76.02 330 P **P 09 37 14.0 +0.2**
comp=Z,41nm,1.2s
RUE Ruedersdorf 76.04 335 *e*P **P 09 37 14.1 +0.3**
comp=Z,67nm,1.4s,baz=27,slow=5.7
BUR08 Bucovina Ar. S 76.14 326 P **P 09 37 15.3 +0.6**
BURAR Bucovina Array 76.15 326 ⇑P **P 09 37 15.7 +1.0**
BURAR Bucovina Array 76.15 326 ⇑P **P 09 37 15.7 +1.0**
GIRR Girov 76.17 325 ⇓P **P 09 37 15.5 +0.8**
STHS Stebnicka Huta 76.18 329 *e*P **P 09 37 15.1 +0.4**
STHS pmax pmax
comp=Z,19nm,0.7s
STHS Stebnicka Huta 76.18 329 *e*P **P 09 37 15.1 +0.4**
UOSS Minazif 76.20 291 P **P 09 37 14.7 -0.6**
UOSS IAmb IAmb 09 38 02.9
comp=Z,25nm,1.3s
KOLS Kolonicke sedl 76.20 328 *e*P **P 09 37 15.8 +0.9**
KOLS pmax pmax
comp=Z,24nm,0.8s
KOLS Kolonicke sedl 76.20 328 *e*P **P 09 37 15.8 +0.9**
I42A Draeger Farm, 76.29 40 P **P 09 37 15.2 -0.2**
I42A IAmb IAmb 09 38 03.5
comp=Z,30nm,1.1s
GORT1 Trebel 76.31 336 *e*P **P 09 37 15.6 +0.4**
comp=Z,62nm,1.2s,baz=27,slow=5.7
DIKM Dikmen 76.38 316 ⇑P **P 09 37 17.2 +1.2**
DIKM Dikmen 76.38 316 P **P 09 37 17.5 +1.5**
comp=Z,36nm,1.9s
TESR Tescani 76.46 324 ⇓P **P 09 37 17.1 +0.7**
TESR Tescani 76.46 324 P **P 09 37 16.4 0.0**
comp=Z,53nm,0.9s
HOLU Holmets 76.50 328 P **P 09 37 17.1 +0.6**
NIE Niedzica 76.52 330 *e*P **P 09 37 17.5 +0.8**
NIE Niedzica 76.52 330 P **P 09 37 17.6 +0.9**
NIE pmax pmax
comp=Z,15nm,1.2s
NIE Niedzica 76.52 330 P **P 09 37 17.5 +0.8**
comp=Z,15nm,1.2s
TLCR 76.61 322 ⇑P **P 09 37 18.1 +0.9**
TLCR 76.61 322 ⇑P **P 09 37 18.1 +0.9**
BERU Beregovo 76.64 328 P **P 09 37 18.4 +1.1**
KSP Ksiaz 76.67 333 *e*P **P 09 37 17.6 +0.1**
KSP Ksiaz 76.67 333 P **P 09 37 17.8 +0.3**
KSP pmax pmax
comp=Z,29nm,1.1s
KSP Ksiaz 76.67 333 P **P 09 37 17.6 +0.1**
comp=Z,29nm,1.1s
ONER Baraj Valea Uz 76.71 324 ⇓P **P 09 37 18.9 +1.1**
CFR Carcaliu 76.91 323 ⇓P **P 09 37 19.6 +0.7**
CFR Carcaliu 76.91 323 ⇓P **P 09 37 19.6 +0.7**
FLTG Flechtingen 76.91 336 *e*P **P 09 37 18.4 -0.3**
comp=Z,15nm,1.0s,baz=27,slow=5.7
OKC Ostrava-Krasne 76.92 331 P **P 09 37 19.8 +0.9**
OKC pmax pmax
comp=Z,21nm,1.5s
ARCR ARCALIA 76.93 326 ⇑P **P 09 37 19.7 +0.7**
OSTC Ostas 76.95 333 *e*P **P 09 37 19.5 +0.4**
OSTC Ostas 76.95 333 *e*P **P 09 37 19.5 +0.4**
VRI Vrincioaia 76.95 324 ⇓P **P 09 37 19.8 +0.7**
VRI Vrincioaia 76.95 324 ⇓P **P 09 37 19.8 +0.7**
STEB Steborice 76.96 331 *e*P **P 09 37 19.7 +0.6**
PLOR Plostina 77.00 324 ⇑P **P 09 37 20.1 +0.7**
PLOR Plostina 77.00 324 ⇑P **P 09 37 20.1 +0.7**
LANS Liptovska Anna 77.04 330 *e*P **P 09 37 20.7 +1.1**
LANS pmax pmax
comp=Z,15nm,0.9s
LANS Liptovska Anna 77.04 330 *e*P **P 09 37 20.7 +1.1**
TPGR Topolog 77.04 322 ⇑P **P 09 37 20.9 +1.2**
RETH Rethem/Aller, 77.07 337 *e*P **P 09 37 20.0 +0.4**
comp=Z,58nm,1.0s,baz=27,slow=5.7
NRDL Niedersach Rie 77.08 337 *e*P **P 09 37 20.0 +0.4**
comp=Z,25nm,1.4s,baz=27,slow=5.7
DPC Dobruska-Polom 77.09 332 *e*P **P 09 37 20.7 +0.8**
DPC Dobruska-Polom 77.09 332 *e*P **P 09 37 20.7 +0.8**
OZUR 77.15 325 ⇑P **P 09 37 21.4 +1.0**
KRLC Kraliky 77.17 332 P **P 09 37 21.3 +0.9**
KRLC pmax pmax
comp=Z,29nm,1.9s
MORC Moravsky Berou 77.17 331 *e*P **P 09 37 20.7 +0.3**
MORC Moravsky Berou 77.17 331 ⇓P **P 09 37 21.1 +0.7**
MORC Moravsky Berou 77.17 331 ⇓P **P 09 37 21.1 +0.7**
COVR Voineasa-Covas 77.18 324 ⇓P **P 09 37 21.8 +1.3**
CLL Collm 77.30 335⇑⇑P **P 09 37 20.4 -0.6**
CLL pmax pmax
comp=Z,66nm,1.5s
CLL MLR MLR
comp=Z,400nm,18.2s
CLL Collm 77.30 335 P **P 09 37 20.8 -0.2**
comp=Z,34nm,1.2s
CLL Collm 77.30 335⇑ *i*P **P 09 37 20.4 -0.6**
comp=Z,66nm,1.5s
CLL AMS AMS 10 14 00.0
comp=Z,400nm,18.2s
CLL Collm 77.30 335 *e*P **P 09 37 20.5 -0.4**
comp=Z,16nm,0.8s,baz=27,slow=5.7
BRG Berggiesshubel 77.39 334 *i* P **P 09 37 21.8 +0.3**
BRG Amp 09 37 23.3
comp=Z,29nm,1.4s
BRG Berggiesshubel 77.39 334 P **P 09 37 20.5 -1.0**
BRG Berggiesshubel 77.39 334 *e*P **P 09 37 21.6 +0.1**
comp=Z,29nm,1.4s,baz=27,slow=5.7
EKA Eskdalemuir Ar 77.47 345 P **P 09 37 22.1 +0.3**
comp=Z,4.3nm,0.4s,baz=18,slow=4.7,SNR=34
comp=Z,4.3nm,0.4s
PVCC Panska Ves 77.50 333 P **P 09 37 22.5 +0.4**
PVCC pmax pmax
comp=Z,16nm,0.9s
MLR Muntele Rosu 77.58 324 ⇑P **P 09 37 23.9 +1.1**
MLR Muntele Rosu 77.58 324 ⇑P **P 09 37 23.9 +1.1**
CLZ Clausthal 77.59 336 *e*P **P 09 37 23.1 +0.4**
comp=Z,60nm,1.4s,baz=27,slow=5.7
ISR Istrita 77.63 324 ⇑P **P 09 37 23.8 +0.8**
ISR Istrita 77.63 324 ⇑P **P 09 37 23.8 +0.8**
ISR Istrita 77.63 324 P **P 09 37 24.1 +1.1**
comp=Z,27nm,0.8s
MARR Marisel-Cluj 77.75 326 ⇑P **P 09 37 24.7 +1.0**
NEUB Neuenburg 77.75 335 *e*P **P 09 37 23.9 +0.4**
comp=Z,52nm,1.3s,baz=27,slow=5.7
VYHS Vyhne 77.82 330 *e*P **P 09 37 24.3 +0.3**
VYHS pmax pmax
comp=Z,32nm,1.5s
VYHS Vyhne 77.82 330 *e*P **P 09 37 24.3 +0.3**
IBBN Ibbenburen 77.89 338 *e*P **P 09 37 24.4 +0.2**
comp=Z,11nm,0.7s,baz=27,slow=5.7
VRAC Vranov 77.89 332 *e*P **P 09 37 24.8 +0.4**
VRAC Vranov 77.89 332 ⇑P **P 09 37 25.5 +1.1**
VRAC Vranov 77.89 332 P **P 09 37 25.5 +1.1**
ICOR Ion Corvin 77.90 322 ⇑P **P 09 37 26.0 +1.5**
JAVC Velka Javorina 77.92 331 *e*P **P 09 37 25.9 +1.4**
PSZ Piszkesteto 77.93 329 IAmb IAmb 09 37 26.5
comp=Z,31nm,1.3s
PSZ Piszkesteto 77.93 329 ⇑P **P 09 37 24.6 -0.1**
PSZ Piszkesteto 77.93 329 ⇑P **P 09 37 24.6 -0.1**
GTTG Gottingen 77.97 337 *e*P **P 09 37 25.3 +0.6**
comp=Z,22nm,1.1s,baz=27,slow=5.7
PRU Pruhonice 77.98 333 *e*P **P 09 37 25.4 +0.6**
PRU AMS AMS 10 15 20.0

comp=Z,500nm,19.8s
PRU Pruhonice 77.98 333 *e*P **P 09 37 25.4 +0.6**
PRU MLR MLR
comp=Z,500nm,19.8s
VOIR 77.99 325 ⇑P **P 09 37 25.7 +0.7**
VOIR 77.99 325 ⇑P **P 09 37 25.7 +0.7**
VOIR 77.99 325 P **P 09 37 26.1 +1.0**
comp=Z,28nm,1.7s
KRUC Moravsky 78.17 332 *e*P **P 09 37 26.2 +0.3**
KRUC Moravsky 78.17 332 P **P 09 37 26.6 +0.7**
KRUC pmax pmax
comp=Z,25nm,1.6s
ARR Arges 78.22 325 ⇑P **P 09 37 27.0 +0.7**
TANN Tannenbergstha 78.25 335 *e*P **P 09 37 26.3 0.0**
comp=Z,29nm,1.8s,baz=27,slow=5.7
PLN Plauen 78.28 335 *e*P **P 09 37 26.5 0.0**
comp=Z,9.8nm,1.4s,baz=27,slow=5.7
MOX Moxa 78.30 335 P **P 09 37 26.5 -0.1**
MOX pmax pmax
comp=Z,16nm,1.2s
MOX Moxa 78.30 335 *e*P **P 09 37 26.7 +0.1**
comp=Z,11nm,0.9s,baz=27,slow=5.7
MODS Modra-Piesok 78.47 331 *e*P **P 09 37 28.5 +0.9**
MODS pmax pmax
comp=Z,63nm,1.3s
MODS Modra-Piesok 78.47 331 *e*P **P 09 37 28.5 +0.9**
LOT Lotru 78.50 325 ⇓P **P 09 37 28.3 +0.4**
ZVC Zvikov 78.57 333 *e*P **P 09 37 28.5 +0.4**
UBBA Unterbreizbach 78.61 336 *e*P **P 09 37 28.2 +0.1**
comp=Z,42nm,1.7s,baz=27,slow=5.7
BR131 Keskin Array S 78.64 316⇑ *e*P **P 09 37 29.0 +0.2**
BRTR Keskin Array B 78.64 316 P **P 09 37 29.0 +0.1**
BRTR Keskin Array B 78.64 316 P **P 09 37 28.8 -0.1**
comp=Z,9.0nm,1.1s,baz=64,slow=2.9,SNR=16
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 78.64 316 P **P 09 37 29.0 +0.1**
SIRR Siria 78.65 327 ⇓P **P 09 37 28.9 +0.3**
BR104 Keskin Array S 78.66 316 P **P 09 37 29.7 +0.8**
comp=Z,97nmcomp=Z,12nm,1.1s
KASTN Kahler Asten 78.71 337 *e*P **P 09 37 29.0 +0.1**
comp=Z,31nm,1.4s,baz=27,slow=5.7
MANZ Manzenberg 78.73 335 *e*P **P 09 37 29.0 0.0**
comp=Z,3.0nm,1.1s,baz=27,slow=5.7
LPIG La Paz 78.74 67 LR LR 10 03 47.2
comp=Z,80nm,20.1s,baz=303,slow=29
BUG Bochum--Univer 78.80 338 *e*P **P 09 37 30.1 +0.8**
comp=Z,15nm,0.7s,baz=27,slow=5.7
SURR Surduc 78.90 327 ⇓P **P 09 37 30.7 +0.7**
ROTZ Rotzenmuhle 78.90 334 *e*P **P 09 37 30.1 +0.2**
comp=Z,6.5nm,1.3s,baz=27,slow=5.7
ANTO Ankara 78.94 317 P **P 09 37 29.2 -1.2**
ANTO pmax pmax
comp=Z,22nm,1.2s
KIRS Kirsehir-Merke 78.96 315 ⇓P **P 09 37 31.3 +0.8**
KHC Kasperske Hory 79.03 333 *e*P **P 09 37 31.3 +0.6**
KHC AMS AMS 10 16 10.0
comp=Z,500nm,19.7s
KHC Kasperske Hory 79.03 333 *ce*P **P 09 37 31.1 +0.4**
KHC pmax pmax
comp=Z,94nm,1.7s
KHC Kasperske Hory 79.03 333 P **P 09 37 31.2 +0.6**
comp=Z,24nm,1.4s
CKRC Cesky Krumlov 79.07 333 *e*P **P 09 37 31.2 +0.3**
CKRC Cesky Krumlov 79.07 333 *e*P **P 09 37 31.2 +0.3**
BZS Buzias 79.21 327 ⇑P **P 09 37 32.5 +0.8**
BZS Buzias 79.21 327 ⇑P **P 09 37 32.5 +0.8**
TX31 Lajitas Ar. Si 79.22 59 IAmb IAmb 09 37 39.2
comp=Z,21nm,1.9s
TXAR Lajitas Array 79.22 59 P **P 09 37 32.0 -0.1**
comp=Z,1.0nm,0.8s,baz=302,slow=4.2,SNR=16
comp=Z,1.0nm,0.8s
GEC2 GERESS Array S 79.24 333 IAmb IAmb 09 37 33.2
comp=Z,6.8nm,0.8s
GEC2 GERESS Array S 79.24 333 *e*P **P 09 37 31.8 -0.1**
comp=Z,20nm,1.4s,baz=27,slow=5.7
GERES GERESS Array B 79.24 333 P **P 09 37 31.4 -0.5**
comp=Z,2.3nm,0.5s,baz=44,slow=6.2,SNR=9.8
GERES LR LR 10 16 40.7
comp=Z,365nm,18.2s,baz=14,slow=39
comp=Z,2.3nm,0.5s
GRF Grafenberg Arr 79.26 335 P **P 09 37 32.6 +0.7**
GRF pmax pmax
comp=Z,27nm,1.3s
GRF Grafenberg Arr 79.26 335 *e*P **P 09 37 32.5 +0.7**
comp=Z,22nm,0.8s,baz=27,slow=5.7
GRFO Grafenberg 79.26 335 P **P 09 37 32.1 +0.2**
GRFO Grafenberg 79.26 335 P **P 09 37 32.1 +0.2**
GRFO pmax pmax
comp=Z,46nm,1.3s
CONA Conrad Observa 79.33 331 *e*P **P 09 37 33.3 +0.9**
comp=Z,3.6nm,0.5s,SNR=8.0
RONA Rosalia, Austr 79.38 331 *i* P **P 09 37 33.4 +0.7**
comp=Z,28nm,1.4s
HERR Herculane 79.51 326 ⇑P **P 09 37 33.1 -0.1**
TNS Taunus Mts 79.58 337 P **P 09 37 34.1 +0.4**
TNS pmax pmax
comp=Z,13nm,1.3s
TNS Taunus Mts 79.58 337 *e*P **P 09 37 34.2 +0.4**
comp=Z,8.5nm,0.7s,baz=27,slow=5.7
BEBN Eben Emael 79.80 339 *d*P **P 09 37 35.3 +0.5**
MORH Mrgy, Hungar 79.82 329 ⇑P **P 09 37 34.7 -0.2**
MDVR Moldovita 79.87 326 ⇑P **P 09 37 35.8 +0.5**
BTNL Ternell 79.88 338 *d*P **P 09 37 35.4 +0.1**
MEM Membach 79.89 338 *d*P **P 09 37 35.0 -0.2**
MEM Membach 79.89 338 P **P 09 37 35.5 +0.3**
MEM pmax pmax
comp=Z,32nm,1.3s
MOA Molln 79.93 332 *i* P **P 09 37 36.5 +0.9**
comp=Z,7.3nm,1.1s
MOA Molln 79.93 332 *e*P **P 09 37 35.8 +0.2**
comp=Z,10nm,1.3s,baz=27,slow=5.7
BSTI Sart Tilman 80.03 339 *d*P **P 09 37 36.9 +0.9**
ARSA Arzberg 80.03 331 *i* P **P 09 37 37.7 +1.5**
comp=Z,15nm,1.6s
ARSA Arzberg 80.03 331 *e*P **P 09 37 36.9 +0.7**
comp=Z,7.0nm,1.0s,baz=27,slow=5.7
BHOU Houvegnez 80.12 338 *d*P **P 09 37 37.1 +0.6**
BIOA Bad Ischl, Aus 80.28 333 *i* P **P 09 37 38.3 +0.8**
comp=Z,10nm,1.1s,SNR=7.0
BGES Gesves 80.33 339 *d*P **P 09 37 38.0 +0.4**
BMRD Maredsous 80.49 339 *d*P **P 09 37 38.8 +0.3**
RCHB Rochefort 80.50 339 *d*P **P 09 37 38.7 +0.1**
comp=Z,9.8nm,1.3s
STU Stuttgart 80.68 336 *e*P **P 09 37 40.4 +0.8**
comp=Z,36nm,0.7s,baz=27,slow=5.7
SOKA Soboth 80.70 331 *i* P **P 09 37 40.0 +0.2**
comp=Z,18nm,1.5s,SNR=8.2
PERS Pernice 80.71 331 *e*P **P 09 37 38.6 -1.2**
WLF Walferdange 80.71 338 *e*P **P 09 37 41.6 +1.9**
comp=Z,34nm,1.4s,baz=27,slow=5.7
DOU Dourbes 80.72 339 *d*P **P 09 37 38.8 -0.9**
GROS Grobnik 80.73 331 *e*P **P 09 37 39.8 -0.1**
LESA Schwarzleotal 80.82 333 *i* P **P 09 37 41.5 +1.0**
comp=Z,6.4nm,0.5s,SNR=7.3
BOVS Bovan 80.83 326 ⇑P **P 09 37 40.3 -0.1**
KBA Koelnbreinsper 80.91 332 *i* P **P 09 37 42.1 +1.1**
comp=Z,8.5nm,0.6s,SNR=9.8
KBA Koelnbreinsper 80.91 332 P **P 09 37 42.1 +1.1**
KBA pmax pmax
comp=Z,33nm,1.9s
KBA Koelnbreinsper 80.91 332 *e*P **P 09 37 41.9 +0.8**
comp=Z,273nm,2.7s,baz=27,slow=5.7
DOBS Dobrina 81.01 331 *e*P **P 09 37 41.1 -0.3**
OBKA Obir 81.01 331 *i* P **P 09 37 42.2 +0.7**
comp=Z,6.9nm,0.9s
OBKA Obir 81.01 331 *e*P **P 09 37 44.0 +2.5**
comp=Z,6.3nm,1.1s,baz=27,slow=5.7
MYKA Terra Mystica 81.21 332 *i* P **P 09 37 42.6 +0.1**
comp=Z,2.3nm,0.5s
WATA Walderalm 81.25 334 *i* P **P 09 37 43.5 +0.7**
comp=Z,12nm,0.5s,SNR=8.1
RDO Rodhopi 81.28 322 IAmb IAmb 09 37 44.1
comp=Z,22nm,1.0s
WTTA Wattenberg 81.29 334 *i* P **P 09 37 43.7 +0.7**
comp=Z,13nm,0.9s,SNR=9.5
WTTA Wattenberg 81.29 334 P **P 09 37 43.8 +0.7**
WTTA pmax pmax
comp=Z,36nm,1.3s
WTTA Wattenberg 81.29 334 *e*P **P 09 37 43.6 +0.5**
comp=Z,22nm,0.6s,baz=27,slow=5.7
BFO Black Forest 81.33 336 P **P 09 37 42.5 -0.6**
BFO IAmb IAmb 09 37 46.9
comp=Z,29nm,1.5s
BFO Black Forest 81.33 336 P **P 09 37 42.5 -0.6**
BFO pmax pmax
comp=Z,29nm,1.5s

BFO	**Black Forest**	81.33 336	*e*P		P		09 37 43.6 +0.5
	comp=Z,18nm,1.3s,baz=27,slow=5.7						
RETA	**Reutte**	81.36 334	*i* P		P		09 37 44.3 +0.9
	comp=Z,23nm,1.4s,SNR=6.0						
MOTA	**Moosalm**	81.39 334	*i* P		P		09 37 44.3 +0.7
	comp=Z,42nm,1.4s						
UBR	**Ueberruh**	81.39 335	*e*P		P		09 37 43.8 +0.3
	comp=Z,17nm,1.4s,baz=27,slow=5.7						
TAOE	**Nuku Hiva Isla**	81.46 112	*e*LR		LR		10 03 09.0
	comp=Z,338nm,25.8s						
SQTA	**Sankt Quirin**	81.47 334	*i* P		P		09 37 44.7 +0.8
	comp=Z,28nm,1.2s,SNR=6.1						
ABTA	**Abfaltersbach**	81.47 333	*i* P		P		09 37 44.3 +0.4
	comp=Z,13nm,1.8s						
ECH	**Echery**	81.76 337	IAmb		IAmb		09 37 47.4
	comp=Z,33nm,1.6s						
ECH	**Echery**	81.76 337	P		P		09 37 46.5 +1.1
FETA	**Feichten**	81.79 334	*i* P		P		09 37 47.0 +1.3
	comp=Z,12nm,1.3s						
DAVA	**Damuels**	81.81 335	*i* P		P		09 37 46.4 +0.6
	comp=Z,8.3nm,0.8s						
DAVA	**Damuels**	81.81 335	*e*P		P		09 37 46.3 +0.5
	comp=Z,10nm,0.8s,baz=27,slow=5.7						
DAVOX	**Davos/Dischmat**	82.27 334	LR		LR		10 17 56.8
	comp=Z,247nm,18.6s,baz=70,slow=38						
PPT2	**Papeete2**	82.28 124	*e*LR		LR		10 03 31.9
	comp=Z,454nm,23.8s						
PPT2			*e*LR		LR		10 03 32.3
	comp=Z,364nm,25.0s						
FUORN	**Ofenpass-Fuorn**	82.29 334	IAmb		IAmb		09 37 50.5
	comp=Z,16nm,1.3s						
TUE	**Stuetta**	82.70 335	IAmb		IAmb		09 37 53.1
	comp=Z,26nm,1.4s						
TUE	**Stuetta**	82.70 335	P		P		09 37 51.7 +1.1
ASF	**Jabal al Asfar**	82.73 309	LR		LR		10 20 10.9
	comp=Z,210nm,18.2s,baz=143,slow=40						
PDG	**Podgorica**	82.81 326	⇑P		P		09 37 51.4 +0.5
MMAI	**Mount Meron Ar**	82.89 310	P		P		09 37 52.4 +0.8
	comp=Z,3.2nm,0.5s,baz=41,slow=6.6,SNR=4.8						
MMAI			LR		LR		10 19 17.2
	comp=Z,378nm,19.9s,baz=6.0,slow=39						
	comp=Z,3.2nm,0.5s						
LOR	**Lormes**	83.52 338	P		P		09 37 54.9 +0.4
LOR			pmax		pmax		
	comp=Z,22nm,1.9s						
RAYN	**Ar Rayn**	84.08 297	⇑P		P		09 37 58.8 +1.0
SSB	**Saint Sauveur**	85.17 337	IAmb		IAmb		09 38 05.1
	comp=Z,26nm,1.5s						
SSB	**Saint Sauveur**	85.17 337	P		P		09 38 06.0 +3.0
SSB			pmax		pmax		
	comp=Z,13nm,1.8s						
TKL	**Tuckaleechee C**	85.22 42	LR		LR		10 15 25.9
	comp=Z,150nm,21.8s,baz=336,slow=35						
EIL	**Elat**	85.71 309	LR		LR		10 22 11.8
	comp=Z,186nm,18.3s,baz=68,slow=40						
TBI	**Tubuai**	86.90 128	*e*LR		LR		10 05 34.6
	comp=Z,922nm,22.5s						
KEST	**Kesra**	92.37 330	P		P		09 38 37.7 +0.3
	comp=Z,7.5nm,0.9s,baz=14,slow=8.3,SNR=3.8						
KEST			LR		LR		10 24 34.0
	comp=Z,142nm,18.4s,baz=355,slow=38						
	comp=Z,7.5nm,0.9s						
ESDC	**Sonseca Array**	92.58 341	P		P		09 38 36.6 -1.7
	comp=Z,1.6nm,1.1s,baz=350,slow=5.2,SNR=5.3						
ESDC			LR		LR		10 26 07.1
	comp=Z,156nm,18.1s,baz=16,slow=39						
	comp=Z,1.6nm,1.1s						
TORD	**Torodi Ar. Bea**	115.72 327	PKP		PKPdf		09 44 09.1 -0.3
	comp=Z,0.3nm,0.5s,baz=33,slow=1.8,SNR=2.4						
H03N2	**Juan Fernandez**	139.89 91	T		T		12 21 55.9
	baz=307,slow=77,SNR=16						
H03N3	**Juan Fernandez**	139.91 91	T		T		12 21 44.4
	baz=307,slow=77,SNR=14						
H03N1	**Juan Fernandez**	139.91 91	T		T		12 21 57.2
	baz=307,slow=77,SNR=30						
ELIB	**Princess Elisa**	143.98 205	*d*PKPdf		PKPdf		09 44 59.8 -1.2
BDFB	**Brasilia**	146.20 35	PKPbc		PKPbc		09 45 06.0 -1.5
	comp=Z,2.2nm,0.5s,baz=72,slow=3.2,SNR=3.5						
BDFB	**Brasilia**	146.20 35	PKP2		PKPbc		09 45 06.0 -1.5
PLCA	**Paso Flores**	149.21 97	PKPbc		PKPbc		09 45 14.2 -0.7
	comp=Z,1.3nm,0.6s,baz=304,slow=3.6,SNR=8.8						
TROLL	**Troll, Antarti**	149.45 198	P		PKiKP		09 45 15.0 -0.7
TROLL	**Troll, Antarti**	149.45 198	⇑P		PKiKP		09 45 15.0 -0.7
	comp=Z,268nm,0.6s						
CPUP	**Villa Florida**	150.19 60	PKPbc		PKiKP		09 45 18.1 -0.3
	comp=Z,2.0nm,0.9s,baz=16,slow=2.9,SNR=3.3						
SNAA	**Sanae**	150.83 196	PKPbc		PKPbc		09 45 17.7 -0.2
	comp=Z,2.4nm,0.6s,baz=187,slow=8.0,SNR=5.9						
VNA2	**Neumayer--Watz**	152.30 195	P		PKPab		09 45 35.9 +4.6
	baz=150,slow=3.2						
VNA2	**Neumayer--Watz**	152.30 195	⇑P		PKPab		09 45 35.9 +4.6
	comp=Z,11nm,0.8s,baz=150,slow=3.2						

IDC ***13*** *09:32:49.5±0.5,2°.39S×127°.44E,h0km,mb4.4/17, mbtmp4.5/19,ML3.7/3,MS3.8/15,Error ellipse: s-maj=21.4km s-min=12.0km az=72.0*

BJI ***13*** *09:32:51.6,2°.55S×127°.65E,h32km,mB5.3/10,mb4.7/51, Ms4.6/4,Ms7 4.4/4*

GCMT ***13*** *09:32:53.8±0.3,2°.29S±0°.02×127°.22E±0°.02,h19km±1km, MW4.8/79,Moment Tensor Solution. s8,c9; s79,c112; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.35±.11; Mθθ2.13±.10; Mφφ-1.78±.09; Mrθ-0.11±.17; Mrφ0.22±.07; Mθφ-0.01±.18; Best double couple: M0 1.97000×10^16^ NP1:φs312.00000°,δ88.00000°,λ2.00000°. NP2: φs222.00000°,δ88.00000°,λ178.00000°. Principal axes: T 2.1480, Plg3.0000°, Azm177.0000°; N -0.3560, Plg87.0000°, Azm359.0000°; P -1.7920, Plg0.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***13*** *09:32:54.6±0.8,2°S±2°×12°7E±°,h24km±7km,M4.9/43, mB5.4/19,mb5.1/43,MLv5.0/25,Mw(mB)4.8/19*

NEIC ***13*** *09:32:55.8±1.0,2°.42S±0°.07×127°.32E±0°.07,h41km±7km, mb4.9/42,Error ellipse: s-maj=10.8km s-min=9.4km az=224.0*

ISC 13 09:32:55.6±0.3,**2°.42S**±0°.04×**127°.22E**±0°.04,**h35**km,**n202**, σ1**9**/**66**/205,**mb4.8**/56,**MS3.8**/13,**2C-2D**,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	0.82	188	P			**Pn**	09 33 09.2	-1.5
SANI	**Sanana**	1.28	287	P			**Pn**	09 33 13.5	-3.5
AAI	**Ambon**	1.60	142	P			**Pn**	09 33 21.4	+0.1
LBMI	**Labuha**	1.79	9	P			**Pn**	09 33 23.7	-0.3
MSAI	**Masohi**	1.94	118	P			**Pn**	09 33 27.0	+0.9
TNTI	**Ternate**	3.17	3	Pn			**Pn**	09 33 42.9	-0.1
TNTI	**Ternate**	3.17	3	P			**Pn**	09 33 42.6	-0.4
SWI	**Sorong**	4.33	69	P			**Pn**	09 33 58.2	-0.7
KMSI	**Cibinong**	4.39	313	P			**Pn**	09 33 57.6	-2.2
LUWI	**Luwuk**	4.65	287	Pn			**Pn**	09 34 02.5	-0.9
LUWI	**Luwuk**	4.65	287	P			**Pn**	09 34 03.0	-0.3
LUWI	**Luwuk**	4.65	287	P			**Pn**	09 34 01.9	-1.4
KDI	**Kendari**	4.84	251	P			**Pn**	09 34 06.3	+0.4
FAKI	**Fak Fak**	5.05	96	Pn			**Pn**	09 34 06.6	-2.3
FAKI	**Fak Fak**	5.05	96	P			**Pn**	09 34 07.1	-1.8
	1.3nm4μm96nm,0.6s								
APSI	**Ampana**	5.76	285	P			**Pn**	09 34 18.1	-0.6
MRSI	**Marisa**	6.01	299	P			**Pn**	09 34 20.8	-1.2
RKPI	**Ransiki, Papua**	7.01	83	P			**Pn**	09 34 33.7	-2.2
	159nm,0.6s								
TOLI2	**Tolitoli**	7.33	299	Pn			**Pn**	09 34 39.6	-0.6
TOLI2	**Tolitoli**	7.33	299	P			**Pn**	09 34 39.0	-1.1
TOLI2	**Tolitoli**	7.33	299	S			**Sn**	09 36 00.1	-2.0
TTSI	**Tana Toraja**	7.42	265	P			**Pn**	09 34 42.2	+0.8
	0.3nm2μm36nm,0.7s								
PCI	**Palu**	7.53	281	P			**Pn**	09 34 43.2	+0.3
SPSI	**Sidrap Palu**	7.59	258	P			**Pn**	09 34 46.1	+2.3
	0.6nm2μm180nm,0.8s								
BKSI	**Bulukumba**	7.64	248	P			**Pn**	09 34 46.6	+2.1
	0.5nm1μm144nm,0.8s								
BSSI	**Bau Bau, Buton**	7.66	241	P			**Pn**	09 34 46.2	+1.5
	0.4nm2μm120nm,1.1s								
SOEI	**Soe**	7.86	202	P			**Pn**	09 34 50.2	+2.6
	1μm108nm,0.9s								
KAPI	**Kappang**	7.88	251	Pn			**Pn**	09 34 51.0	+3.2
KAPI	**Kappang**	7.88	251	Pn			**Pn**	09 34 49.9	+2.1
	9.2nm,0.3s,baz=99,slow=8.1,SNR=56								
KAPI				LR			LR	09 37 55.0	
	comp=Z,711nm,20.3s,baz=76,slow=38								
	146nm,0.8s								
BAKI	**Biak**	8.97	82	P			**Pn**	09 35 02.6	-0.1
SRPI	**Serui, Papua**	9.03	87	P			**Pn**	09 34 59.0	-4.6
DRS	**Darwin Rock St**	10.60	160	P			**Pn**	09 35 26.8	+1.8
MTN	**Manton Dam**	11.06	160				**Pn**	09 35 31.8	+0.4
MTN	**Manton Dam**	11.06	160	P			**Pn**	09 35 32.0	+0.6
	comp=Z,47nm,0.7s								
MTN	**Manton Dam**	11.06	160	P			**Pn**	09 35 33.1	+1.7
MTN	**Manton Dam**	11.06	160	S			**Sn**	09 37 36.5	+2.6
PLAI	**Plampang**	11.35	235	S			**Sn**	09 37 39.6	-1.3
PLAI	**Plampang**	11.35	235	P			**Pn**	09 35 38.0	+2.7
	comp=Z,67nm,1.1s								
KDU	**Kakadu**	11.46	153	S			**Sn**	09 37 47.0	+3.4
MYLDM	**Lahad Datu**	11.52	311				**Pn**	09 35 39.0	+1.3
GENI	**Genyem**	12.94	91	P			**Pn**	09 35 57.0	-0.1
	comp=Z,67nm,0.5s								
SRBI	**Singaraja**	13.21	244	P			**Pn**	09 36 02.2	+1.4
KNRA	**Kununurra**	13.26	173				**Pn**	09 36 01.2	-0.3
KNRA	**Kununurra**	13.26	173	P			**Pn**	09 36 01.6	+0.1
	comp=Z,140nm,0.8s								
JAY	**Jayapura**	13.48	91	P			**Pn**	09 36 04.3	-0.2
KMMI	**Kalianget**	13.98	250	P			**Pn**	09 36 14.2	+2.9
	comp=Z,70nm,1.2s								
ABJI	**Asem Bagus**	13.99	247	P			**Pn**	09 36 13.2	+1.8
	comp=Z,98nm,1.2s								
JAGI	**Jajag, Banyuwa**	14.32	245	Pn			**Pn**	09 36 18.5	+2.5
JAGI	**Jajag, Banyuwa**	14.32	245	P			**Pn**	09 36 18.4	+2.4
	comp=Z,1μmcomp=Z,81nm,1.5s								
GMJI	**Gumukmas**	14.89	246	P			**Pn**	09 36 26.5	+2.8
	comp=Z,1μmcomp=Z,99nm,1.2s								
FITZ	**Fitzroy Crossi**	15.66	186	Pn			**Pn**	09 36 32.9	-0.8
FITZ	**Fitzroy Crossi**	15.66	186	Pn			**Pn**	09 36 31.6	-2.1
	comp=Z,0.3nm,0.3s,baz=24,slow=12,SNR=12								
FITZ				Sn			**Sn**	09 39 29.0	+2.7
	comp=Z,0.3nm,0.3s,baz=66,slow=20,SNR=1.1								
FITZ				LR			LR	09 43 23.1	
	comp=Z,510nm,19.8s,baz=13,slow=40								
	comp=Z,17nm,1.0s								
STKI	**Sintang**	15.93	279	P			**Pn**	09 36 37.7	+0.5
PWJI	**Pagerwojo**	16.32	249	P			**Pn**	09 36 41.9	-0.3
	comp=Z,50nm,1.0s								
NGJI	**Ngawi**	16.45	252	P			**P**	09 36 45.9	-0.3
	comp=Z,82nm,1.3s								
PCJI	**Pacitan**	16.96	250	P			**P**	09 36 53.0	+1.0
	comp=Z,2μmcomp=Z,161nm,1.7s								
KSM	**Kuching**	17.34	283	P			**P**	09 36 56.5	+0.3
TGY	**Tagaytay City**	17.55	339	LR			LR	09 44 43.8	
	comp=Z,111nm,18.6s,baz=274,slow=41								
WB0	**Warramunga Arr**	18.62	158	P			**P**	09 37 08.2	-2.0
WB0				IAmb			IAmb	09 37 13.7	
	comp=Z,92nm,0.8s								
WRAB	**Tennant Creek**	18.75	159	P			**P**	09 37 10.1	-1.6
WRAB				IAmb			IAmb	09 37 12.5	
	comp=Z,89nm,0.8s								
WRA	**Warramunga Arr**	18.76	159	P			**P**	09 37 09.1	-2.7
	comp=Z,0.1nm,0.3s,baz=12,slow=5.9,SNR=5.4								
WRA				S			**Sn**	09 40 35.0	-6.4
	comp=Z,4.1nm,0.5s,baz=344,slow=21,SNR=5.1								
WRA				eLR			LR	09 45 18.9	
	comp=Z,355nm,18.7s,baz=338,slow=40								
WB2	**Warramunga Arr**	18.76	159	P			**P**	09 37 10.2	-1.6
WB2				IAmb			IAmb	09 37 15.4	
	comp=Z,114nm,1.0s								
KPJI	**Karang Pucung**	18.86	254	P			**Pn**	09 37 14.6	+1.0
COEN	**Coen**	19.50	127	Pn			**P**	09 37 19.2	-0.7
COEN	**Coen**	19.50	127	P			**P**	09 37 19.1	-0.8
	comp=Z,119nm,0.7s								
COEN	**Coen**	19.50	127	P			**P**	09 37 19.1	-0.8
TPI	**Tanjungpandan**	19.55	269	P			**Pn**	09 37 21.8	-0.1
MBWA	**Marble Bar**	20.00	201	P			**P**	09 37 23.7	-1.6
MBWA				IAmb			IAmb	09 37 29.3	
	comp=Z,42nm,1.0s								
MBWA	**Marble Bar**	20.00	201	P			**P**	09 37 24.4	-1.0
	comp=Z,44nm,1.0s								
LEM	**Lembang**	20.02	257	P			Pn	09 37 27.8	+0.2
	comp=Z,58nm,0.9s,baz=86,slow=11,SNR=7.4								
LEM				LR			LR	09 46 30.9	
	comp=Z,283nm,18.6s,baz=190,slow=41								
	comp=Z,58nm,0.9s								
BBJI	**Bungbulang**	20.12	255	P			**P**	09 37 25.8	-1.0
PSAC1	**Pilbara Seismi**	20.32	200	P			**P**	09 37 28.1	-0.7
	comp=Z,31nm,0.9s								
PSA00	**Pilbara Seismi**	20.35	200	P			**P**	09 37 28.2	-0.9
PSA00	**Pilbara Seismi**	20.35	200	P			**P**	09 37 28.0	-1.0
	comp=Z,31nm,1.0s								
PSA00	**Pilbara Seismi**	20.35	200	P			**P**	09 37 28.5	-0.6
PMG	**Port Moresby**	21.01	110	P			**P**	09 37 33.5	-2.7
	comp=Z,14nm,0.8s,baz=254,slow=7.4,SNR=11								
PMG				LR			LR	09 46 48.2	
	comp=Z,210nm,20.6s,baz=322,slow=40								
	comp=Z,14nm,0.8s								
QIS	**Mount Isa**	21.71	147	P			**P**	09 37 42.6	-1.2
	comp=Z,163nm,0.7s								
QIS	**Mount Isa**	21.71	147	P			**P**	09 37 42.2	-1.6
AS31	**Alice Springs**	22.09	164	P			**P**	09 37 46.4	-1.5
AS31				IAmb			IAmb	09 37 57.6	
	comp=Z,19nm,0.6s								
AS31	**Alice Springs**	22.09	164	P			**P**	09 37 46.8	-1.1
	comp=Z,28nm,0.7s								
ASAR	**Alice Springs**	22.09	164	P			**P**	09 37 46.8	-1.2
	comp=Z,25nm,0.7s,baz=350,slow=12,SNR=100								
ASAR				S			**S**	09 41 45.4	-4.3
	comp=Z,11nm,0.9s,baz=347,slow=21,SNR=10.0								
ASAR				LR			LR	09 47 10.8	
	comp=Z,270nm,18.6s,baz=356,slow=39								
	comp=Z,25nm,0.7s								
AS01	**Alice Springs**	22.11	163	P			**P**	09 37 47.3	-0.8
WRKA	**Warakurna**	22.51	177	P			**P**	09 37 51.8	-0.6
	comp=Z,116nm,0.7s								
WRKA	**Warakurna**	22.51	177	P			**P**	09 37 52.3	-0.1
XMIS	**Christmas Isla**	22.86	249	P			**P**	09 37 55.2	-0.9
XMIS				IAmb			IAmb	09 38 00.0	
	comp=Z,31nm,0.8s								
MTSU	**Mount Surprise**	22.92	134	P			**P**	09 37 55.7	-1.1
	comp=Z,16nm,0.8s								
MTSU	**Mount Surprise**	22.92	134	P			**P**	09 37 57.6	+0.9
MDSI	**Maura Dua**	23.09	264	P			**P**	09 37 59.9	+1.4
	comp=Z,1μmcomp=Z,82nm,1.3s								
GIRL	**Giralia**	23.73	211	P			**P**	09 38 03.6	-1.0
MEEK	**Meekatharra**	25.46	198	P			**P**	09 38 19.0	-1.4
	comp=Z,35nm,0.8s								
MEEK	**Meekatharra**	25.46	198	P			**P**	09 38 19.7	-0.8
YULB	**Yu-li**	26.29	348	IAmb			IAmb	09 38 29.2	
	comp=Z,43nm,1.1s								
YULB	**Yu-li**	26.29	348	P			**P**	09 38 28.3	+0.3
TPUB	**Ta-pu**	26.36	346	P			**P**	09 38 27.7	-0.9
TPUB	**Ta-pu**	26.36	346	P			**P**	09 38 28.1	-0.5
OOD	**Oodnadatta**	26.50	163	P			**P**	09 38 28.7	-1.2
SSLB	**Suanglung**	26.75	347	P			**P**	09 38 31.9	-0.2
SSLB	**Suanglung**	26.75	347	P			**P**	09 38 33.0	+0.8
PPI	**Padang Panjang**	26.88	274	P			**P**	09 38 35.4	+2.0
	comp=Z,2μmcomp=Z,32nm,1.2s								
NACB	**Ninganchiao**	26.99	349	P			**P**	09 38 35.4	+1.1
QIZ	**Qiongzhong**	27.32	322	P			**P**	09 38 37.8	+0.5
QIZ				S			**S**	09 43 21.9	+7.1
QIZ				pmax			pmax		
	comp=Z,210nm,4.1s								
QIZ				LR			LR		
	comp=Z,340nm,19.9s								
QIZ				LR			LR		
	comp=Z,390nm,17.9s								
QIZ				LR			LR		
	comp=Z,420nm,19.2s								
YHNB	**Yeheng**	27.52	348	P			**P**	09 38 38.5	-0.6
YHNB	**Yeheng**	27.52	348	P			**P**	09 38 39.0	-0.1
FORT	**Forrest**	28.22	178	P			**P**	09 38 43.9	-1.3
FORT	**Forrest**	28.22	178	P			**P**	09 38 44.1	-1.1
	comp=Z,66nm,0.7s								
FORT	**Forrest**	28.22	178	P			**P**	09 38 45.0	-0.2
RPSI	**Rantau Prapat**	28.73	280	P			**P**	09 38 50.2	+0.1
QLP	**Quilpie**	29.05	147	P			**P**	09 38 52.6	-0.1
	comp=Z,26nm,0.9s								
KMBL	**Kambalda**	29.23	189	P			**P**	09 38 52.5	-1.8
	comp=Z,41nm,0.7s								
KMBL	**Kambalda**	29.23	189	P			**P**	09 38 52.6	-1.7
KLBR	**Kellerberrin**	30.36	196	P			**P**	09 39 03.0	-1.3
NAYO	**Nakonayok**	30.57	304	P			**P**	09 39 05.0	-1.3
BBOO	**Buckleboo**	31.35	166	P			**P**	09 39 11.7	-1.3
NWAO	**Narrogin (SRO)**	31.76	196	LR			LR	09 52 58.8	
	comp=Z,137nm,18.8s,baz=218,slow=38								
NWAO	**Narrogin (SRO)**	31.76	196	P			**P**	09 39 15.1	-1.5
NWAO	**Narrogin (SRO)**	31.76	196	P			**P**	09 39 15.1	-1.5
STKA	**Stephens Creek**	32.28	157	P			**P**	09 39 19.4	-1.8
STKA				IAmb			IAmb	09 39 23.3	
	comp=Z,19nm,1.1s								
STKA	**Stephens Creek**	32.28	157	P			**P**	09 39 19.0	-2.2
	comp=Z,8.0nm,0.8s,baz=339,slow=8.6,SNR=12								
STKA				LR			LR	09 53 26.9	
	comp=Z,297nm,18.9s,baz=333,slow=38								
	comp=Z,8.0nm,0.8s								
STKA	**Stephens Creek**	32.28 157	P			**P**		09 39 20.8	-0.4
JCJ	**Chichijima**	32.70 25	LR			LR		09 51 43.4	
	comp=Z,93nm,19.0s,baz=248,slow=35								
HTT	**Hallett**	32.74 162	P			**P**		09 39 25.3	+0.1
PHRA	**Phrae**	33.73 309	P			**P**		09 39 34.8	+0.9
CMSA	**Cobar Meteorol**	33.80 151	P			**P**		09 39 34.6	+0.1
CMAR	**Chiang Mai Arr**	34.71 308	P			**P**		09 39 43.3	+0.8
	comp=Z,0.5nm,0.3s,baz=142,slow=7.2,SNR=6.6								
CMAR			PcP			**PcP**		09 42 17.0	+1.0
	comp=Z,1.1nm,0.4s,baz=185,slow=2.7,SNR=4.5								
	comp=Z,0.5nm,0.3s								
CHTO	**Chiang Mai**	34.91 308	P			**P**		09 39 44.9	+0.7
CHTO			IAmb			IAmb		09 39 53.8	
	comp=Z,15nm,1.1s								
WHN	**Wuhan**	35.00 340	P			**P**		09 39 45.9	+1.1
WHN			pmax			pmax			
	comp=Z,96nm,1.1s								
NJ2	**Nanjing**	35.19 348	*e*P			**P**		09 39 48.3	+1.9
NJ2			pmax			pmax			
	comp=Z,7.0nm,0.5s								
NJ2			LR			LR			
	comp=Z,360nm,15.2s								
NJ2			LR			LR			
	comp=Z,500nm,13.3s								
NJ2			LR			LR			
	comp=Z,310nm,14.2s								
HURO	**Huro Makira**	35.35 105	P			**P**		09 39 50.1	+2.0
JNU	**Nakatsue**	35.52 5	LR			LR		09 53 29.4	
	comp=Z,166nm,19.2s,baz=162,slow=35								
ARMA	**Armidale**	36.20 143	P			**P**		09 39 55.6	+0.4
ENH	**Enshi**	36.65 334	P			**P**		09 39 59.0	0.0
ENH			IAmb			IAmb		09 40 03.8	
	comp=Z,16nm,0.8s								
ENH	**Enshi**	36.65 334	P			**P**		09 39 59.0	0.0
ARPS	**Mount Arapiles**	36.75 160	P			**P**		09 40 00.0	+0.3
JHJ	**Hachijo jima 2**	37.29 18	LR			LR		09 55 20.5	
	comp=Z,173nm,19.4s,baz=282,slow=36								
YNG	**Young**	37.37 150	P			**P**		09 40 05.0	-0.1
PZH	**PanZhiHua**	37.84 321	P			**P**		09 40 10.9	+1.6
PZH			pmax			pmax			
	comp=Z,10.0nm,1.0s								
MGCD	**Mangrove Creek**	37.94 146	P			**P**		09 40 10.2	+0.3
BRAT	**Ballarat**	38.19 158	P			**P**		09 40 11.9	0.0
CAN	**Canberra**	38.48 151	P			**P**		09 40 14.4	-0.1
CAN			pP			**sP**		09 40 25.3	-1.8
CAN			sP			**pwP**		09 40 30.3	+1.4
CNB	**Canberra Magne**	38.66 150	P			**P**		09 40 16.1	+0.1
LYN	**LuoYang**	39.30 341	P			**P**		09 40 20.8	-0.4
LYN			pmax			pmax			
	comp=Z,13nm,1.0s								
KSRS	**Korea Array**	39.67 1	P			**P**		09 40 23.5	-0.8
	comp=Z,3.4nm,0.9s,baz=182,slow=9.9,SNR=6.9								
KSRS			LR			LR		09 55 06.6	
	comp=Z,73nm,21.9s,baz=165,slow=34								
	comp=Z,3.4nm,0.9s								
MJAR	**Matsushiro Arr**	40.09 14	P			**P**		09 40 25.6	-2.2
	comp=Z,6.3nm,0.8s,baz=189,slow=9.1,SNR=11								
	comp=Z,6.3nm,0.8s								
XAN	**Xi'an**	40.15 336	⇑P			**P**		09 40 27.8	-0.6
XAN			pmax			pmax			
	comp=Z,20nm,0.9s								
HNS	**HongShan**	41.28 345	⇑P			**P**		09 40 37.6	0.0
HNS			pmax			pmax			
	comp=Z,8.0nm,0.9s								
JMM	**Marumori**	42.01 16	P			**P**		09 40 42.2	-1.3
JMM			IAmb			IAmb		09 40 43.6	
	comp=Z,37nm,1.0s								
LZH	**Lanzhou**	44.08 332	*e*P			**P**		09 41 01.6	+1.0
LZH			pP			pP		09 41 10.3	+0.7
LZH			sP			pwP		09 41 15.0	-0.2
LZH			pmax

comp=Z,4.7nm,0.8s
AKTO Aktyubinsk 78.77 322 P **P 09 44 54.1 -0.6**
comp=Z,2.5nm,0.8s,baz=99,slow=6.0,SNR=5.7
comp=Z,2.5nm,0.8s
L16K Owhat River 84.27 27 P **P 09 45 22.8 -0.7**
L16K IAmb IAmb 09 45 48.4
comp=Z,10nm,1.2s
H17K Granite Mounta 84.98 24 P **P 09 45 26.1 -1.0**
L18K Granite Mounta 85.67 27 P **P 09 45 29.6 -0.9**
N19K Bonanza Creek 86.40 29 P **P 09 45 33.3 -1.0**
G19K Purcell Mounta 86.44 23 P **P 09 45 33.2 -1.1**
G19K IAmb IAmb 09 45 59.5
comp=Z,8.0nm,1.4s
SYO Syowa Base 86.91 201 ‖ *i*PcP **PcP 09 45 40.3 +1.6**
QSPA South Pole Qui 87.53 180 P **P 09 45 39.9 +0.1**
QSPA IAmb IAmb 09 45 44.3
comp=Z,9.4nm,0.8s
QSPA South Pole Qui 87.53 180 P **P 09 45 39.7 0.0**
comp=Z,6.6nm,0.7s,baz=318,slow=1.4,SNR=10
QSPA LR LR 10 24 41.9
comp=Z,70nm,19.1s,baz=2.0,slow=36
comp=Z,6.6nm,0.7s
ILAR Eielson Array 90.41 25 P **P 09 45 51.1 -2.0**
comp=Z,0.3nm,0.8s,baz=222,slow=6.9,SNR=4.4
ILAR PP **PP 09 49 23.1 -4.6**
comp=Z,0.6nm,1.0s,baz=248,slow=8.9,SNR=4.5
ILAR PKKPbc **PKKPbc 10 03 24.5 +0.3**
comp=Z,0.3nm,0.7s,baz=58,slow=1.5,SNR=5.2
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 104.84 25 PKiKP **PKiKP 09 51 14.0 +0.5**
comp=Z,0.2nm,0.8s,baz=291,slow=1.6,SNR=4.2
PDAR Pinedale Array 115.56 43 PKP **PKPdf 09 51 35.2 +0.6**
comp=Z,0.2nm,0.5s,baz=264,slow=2.1,SNR=3.7
TXAR Lajitas Array 124.81 56 PKP **PKiKP 09 51 53.0 +0.1**
comp=Z,0.7nm,0.7s,baz=189,slow=1.2,SNR=6.9
TORD Torodi Ar. Bea 125.09 284 PKP **PKiKP 09 51 54.0 +0.3**
comp=Z,2.5nm,0.9s,baz=38,slow=3.3,SNR=5.1
SCHQ Schefferville 126.51 10 PKP **PKiKP 09 51 58.5 +3.0**
comp=Z,1.2nm,0.6s,baz=45,slow=2.9,SNR=3.9
PLCA Paso Flores 134.09 161 PKP **PKiKP 09 52 13.6 +2.3**
comp=Z,1.1nm,0.6s,baz=247,slow=7.7,SNR=6.0
CPUP Villa Florida 151.09 172 PKPbc **PKPbc 09 52 43.3 -2.5**
comp=Z,4.7nm,0.7s,baz=262,slow=1.5,SNR=7.6

JMA 13 09:45:46.1±0.4, 24°N±1°×123°7E±0°9, h24km±1km, MV1.2/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.08**	**53**	*i* P	Pb	09 45 50.2	-0.2
HATJ				*e*S	Sb	09 45 53.1	-0.2
IRIF	**Iriomote-Funau**	**0.33**	**360**	P	Pb	09 45 53.3	-0.1
IRIF				*e*S	Sb	09 45 58.3	-0.2
JKRS	**Kuro-shima**	**0.34**	**48**	P	Pb	09 45 53.8	+0.2
JKRS				*e*S	Sb	09 45 59.2	+0.4
JIJ	**Ishigaki jima**	**0.52**	**46**	P	Pb	09 45 56.1	-0.4
JIJ				*e*S	Sb	09 46 03.1	-0.6
JISG	**Ishigakijimahi**	**0.78**	**42**	*e*P	Pb	09 46 00.6	-0.4
JISG				*e*S	Sb	09 46 11.1	-0.2
JYNG	**Yonagunijimaku**	**0.84**	**302**	S	Sn	09 46 14.6	+0.5

TAP 13 09:45:58.2, 24°13N×121°57E, h1km, ML0.9, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.05**	**30**	⇑*i*P	Pg	09 45 58.9	-0.2
NACB				*i* S	Sg	09 45 59.6	-0.2
ETL	**Fush Village**	**0.05**	**63**	P	Pg	09 45 58.4	-0.9
ETL				*i* S	Sg	09 45 58.9	-1.1
TWD	**Chiawan**	**0.06**	**156**	P	Pg	09 45 59.5	+0.2
TWD				*i* S	Sg	09 46 00.8	+0.7
ETLH	**Xiulin Townshi**	**0.11**	**312**	*i* P	Pg	09 46 01.2	+0.9
ETLH				*e*S	Sg	09 46 03.7	+2.0
ETM	**Tongmen**	**0.18**	**203**	*e*P	Pg	09 46 02.3	+0.6
ETM				*e*S	Sg	09 46 05.5	+1.4
LXIB	**Xiulin Townshi**	**0.18**	**232**	*e*P	Pg	09 46 02.7	+1.0
LXIB				*e*S	Sg	09 46 07.5	+3.3
WHF	**Hehuan Shan**	**0.28**	**272**	*e*P	Pg	09 46 04.8	+1.2
WHF				*e*S	Sb	09 46 09.9	-1.7
NNSB	**Datong**	**0.34**	**330**	*e*P	Pg	09 46 05.6	+0.9
NNSB				*e*S	Sg	09 46 10.6	+1.5
EWUT	**Wuta**	**0.36**	**31**	*e*P	Pg	09 46 04.8	-0.4
EWUT				*e*S	Sg	09 46 10.4	+0.4
LATG	**Datong**	**0.40**	**354**	*e*P	Pg	09 46 06.6	+0.6
OWD	**Renai**	**0.40**	**244**	*e*P	Pb	09 46 07.2	-1.0
OWD				S	Sb	09 46 13.8	-1.0
WARBT	**Fenglin Townsh**	**0.45**	**202**	*e*P	Pg	09 46 07.1	+0.4
ENTT	**Nioudou**	**0.50**	**360**	*e*P	Pg	09 46 08.4	+0.6

---

*IDC **13** 09:54:46.7±1.9, 3°71N×127°02E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=108.0km s-min=25.5km az=69.0*
*DJA **13** 09:54:52.7±0.6, 4°N±11°×12°7E±°, h24km±13km, M3.6/7, mB4.9/1, mb3.5/1, MLv3.7/7, Mw(mB)4.2/1*
ISC 13 09:54:53.1±1.6, 3°7N±0°1×127°0E±0°1, h48km, n6, σ0§51/7, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.46**	**269**	P	**Pn**	**09 55 16.5**	**-0.5**
SGSI				S	**Sn**	**09 55 35.5**	**+0.5**
SANI	**Sanana**	**5.81**	**190**	P	**Pn**	**09 56 16.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**09 59 40.0**	**-0.3**
2.6nm,0.8s,baz=9.4,slow=9.4,SNR=5.7
2.6nm,0.8s
WRA Warramunga Arr 24.59 163 P **P 10 00 08.4 -0.5**
1.8nm,0.6s,baz=343,slow=10,SNR=15
1.8nm,0.6s
ASAR Alice Springs 28.04 166 P **P 10 00 39.9 -0.1**
0.1nm,0.3s,baz=348,slow=8.7,SNR=8.0
0.1nm,0.3s
MKAR Makanchi Array 57.72 325 P **P 10 04 39.4 +0.4**
0.2nm,0.5s,baz=118,slow=7.3,SNR=4.8
0.2nm,0.5s

---

*JMA **13** 10:02:51.2±0.8, 46°N±4°×15°2E±°, h30km, MD5.3/18, MW5.1/18, KURILE ISLANDS REGION*
*NIED **13** 10:02:51.2, 45°61N×151°56E, h30km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-2.11; $M_{r\theta}$-0.68; $M_{\theta\phi}$-1.39; $M_{\phi r}$2.14; Fault plane solution: $M_0$3.21000×10^{16} NP1: ϕ_s238.00000°, δ38.00000°, λ154.00000°. NP2: ϕ_s349.00000°, δ75.00000°, λ55.00000°.*
*SKHL **13** 10:02:51.3±0.9, 45°10N×151°80E, h50km±5km, mb5.7/8, mbv5.4/3, ms5.1/8, msh5.0/3*
*NEIC **13** 10:02:52.4, 45°39N×151°42E, h30km*
*NEIC **13** 10:02:52.7±1.4, 45°42N±0°09×151°4E±0°1, h22km±4km, mb5.1/321, Mww5.0/17, Error ellipse: s-maj=15.7km s-min=7.3km az=139.0*
*MOS **13** 10:02:52.6±1.1, 45°40N×151°42E, h55km, mb5.5/86, MS4.6/16, Error ellipse: s-maj=5.3km s-min=3.8km az=108.2*
*NEIC **13** 10:02:52.4, 44°99N×152°00E, h30km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10^{16}Nm; M_{rr}3.97; $M_{\theta\theta}$-1.86; $M_{\phi\phi}$-2.11; $M_{r\theta}$1.50; $M_{\theta\phi}$-1.83; $M_{\phi r}$2.05; Fault plane solution: $M_0$4.65000×10^{16} NP1: ϕ_s226.44000°, δ28.66000°, λ96.16000°. NP2: ϕ_s39.43000°, δ61.52000°, λ86.64000°. Principal axes: T 4.7337, Plg73.0000°, Azm301.0000°; N -0.1703, Plg3.0000°, Azm41.0000°; P -4.5634, Plg16.0000°, Azm132.0000°;*
*BJI **13** 10:02:53.1, 45°36N×151°18E, h32km, mB5.3/41, mb5.2/88, Ms4.8/80, Ms7 4.7/77*
*IDC **13** 10:02:55.4±0.3, 45°52N×151°34E, h43km±3km, mb4.5/31, mbtmp4.8/37, ML4.2/5, MS4.4/70, Error ellipse: s-maj=10.5km s-min=9.2km az=133.0*
*GCMT **13** 10:02:55.7±0.2, 45°38N±0°02×151°58E±0°02, h24km, MW5.1/102, Moment Tensor Solution. s69,c92; s102,c165; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.23±.16; $M_{\theta\theta}$-1.41±.11; $M_{\phi\phi}$-2.82±.10; $M_{r\theta}$0.94±.16; $M_{\theta\phi}$-2.34±.07; $M_{\phi r}$1.94±.14; Best double couple: $M_0$4.89600×10^{16} NP1: ϕ_s222.00000°, δ32.00000°, λ99.00000°. NP2: ϕ_s32.00000°, δ58.00000°, λ84.00000°. Principal axes: T 4.7480, Plg76.0000°, Azm285.0000°; N 0.2950, Plg5.0000°, Azm35.0000°; P -5.0440, Plg13.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **13** 10:03:03.2, 46°41N×149°42E, h42km±1km, mb5.4, Ms4.8*
ISC 13 10:02:53.0±0.3, 45°27N±0°04×151°52E±0°03, h32km±2km, h32km:pP-P, n1099, σ1§37/1032, mb5.2/349, MS4.6/93, 60C-51D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.58**	**270**	*e*PN	**Pn**	**10 03 32.6**	**+0.1**
KUR				*i* S	**Sn**	**10 04 04.9**	**+2.2**
KUR				pmax	pmax		
comp=Z,1μm,0.3s
KUR				smax	smax		
comp=E,5μm,0.5s
KUR				smax	smax		
comp=N,2μm,0.6s
KUR				MLR	MLR		
comp=Z,22μm,12.0s
KUR	**Kuril'sk**	**2.58**	**270**	*i* P	**Pn**	**10 03 33.1**	**+0.6**
KUR				AMB	AMB	10 03 34.7	
comp=Z,1μm,0.3s
KUR				*i* S	**Sn**	**10 04 05.0**	**+2.2**
KUR				A	A	10 04 09.8	
comp=Z,2μm,0.6s
KUR				A	A	10 04 09.8	
comp=Z,5μm,0.6s
KUR				AMS	AMS	10 04 50.0	
comp=Z,35μm,13.0s
KUR				AMS	AMS	10 04 50.0	
comp=Z,23μm,13.0s
SHO	**Shikotan**	**3.63**	**249**	*c i*PN	**Pn**	**10 03 46.8**	**-0.1**
SHO				*i* S	**Sn**	**10 04 28.6**	**-0.1**
SHO				pmax	pmax		
comp=Z,374nm,0.4s
SHO				pmax	pmax		
comp=N,140nm,0.2s
SHO				pmax	pmax		
comp=E,246nm,0.2s
SHO				pmax	pmax		
comp=Z,494nm,1.4s
SHO				smax	smax		
comp=E,203nm,0.2s
SHO				smax	smax		
comp=N,1μm,0.3s
SHO				smax	smax		
comp=E,2μm,1.7s
SHO				smax	smax		
comp=N,2μm,1.9s
SHO	**Shikotan**	**3.63**	**249**	*i* P	**Pn**	**10 03 46.8**	**-0.1**
SHO				AMB	AMB	10 03 50.0	
comp=N,370nm,0.4s
SHO				AMB	AMB	10 03 56.3	
comp=N,490nm,1.4s
SHO				*i* S	**Sn**	**10 04 28.6**	**-0.1**
SHO				A	A	10 04 32.6	
comp=N,1μm,0.3s
SHO				A	A	10 04 32.6	
comp=N,200nm,0.3s
SHO				AMS	AMS	10 05 12.0	
comp=N,9μm,12.0s
SHO				AMS	AMS	10 05 12.0	
comp=N,9μm,12.0s
SHO				AMS	AMS	10 05 12.0	
comp=N,8μm,12.0s
YUK	**Yuzh-Kuril'sk**	**4.22**	**255**	*c i*PN	**Pn**	**10 03 56.0**	**+1.0**
YUK				*i* S	**Sn**	**10 04 45.0**	**+1.8**
YUK				pmax	pmax		
comp=N,492nm,0.2s
YUK				pmax	pmax		
comp=Z,1μm,0.2s
YUK				pmax	pmax		
comp=E,954nm,0.4s
YUK				pmax	pmax		
comp=Z,1μm,1.2s
YUK				smax	smax		
comp=E,3μm,0.7s
YUK				smax	smax		
comp=N,1.0nm,0.6s
YUK	**Yuzh-Kuril'sk**	**4.22**	**255**	*i* P	**Pn**	**10 03 56.2**	**+1.2**
YUK				AMB	AMB	10 04 02.5	
comp=N,1μm,0.2s
YUK				AMB	AMB	10 04 04.4	
comp=N,1μm,1.2s
YUK				*i* S	**Sn**	**10 04 45.0**	**+1.8**
YUK				A	A	10 04 51.0	
comp=N,1μm,0.7s
YUK				A	A	10 04 51.0	
comp=N,3μm,0.7s
NEM2	**Nemuro 2**	**4.56**	**247**	P	**Pn**	**10 03 59.4**	**-0.3**
NEM2				*e*S	**Sn**	**10 04 50.9**	**-0.7**
NMR	**Nemuro--Hokkai**	**4.57**	**247**	⇑*i*PN	**Pn**	**10 03 59.4**	**-0.4**
NMR	**Nemuro--Hokkai**	**4.57**	**247**	*i* P	**Pn**	**10 03 59.4**	**-0.4**
NMR				*i* S	**Sn**	**10 04 50.8**	**-1.0**
RUSJ	**Misakicho**	**4.62**	**258**	⇑*i*PN	**Pn**	**10 04 03.0**	**+2.5**
RUSJ				*e*S	**Sn**	**10 04 54.5**	**+1.4**
JRA	**Rausu**	**4.76**	**256**	P	**Pn**	**10 04 04.2**	**+1.7**
JRA				*e*S	**Sn**	**10 04 59.2**	**+2.7**
JRA	**Rausu**	**4.76**	**256**	A	A	10 04 04.2	
comp=N,10.0nm,3.1s,comp=E,10.0nm,3.4s
JNSB	**Nemuroshibetsu**	**4.89**	**255**	A	A	10 04 03.6	
comp=N,20nm,3.7s,comp=E,15nm,2.7s
JKHN	**Kushirohamanak**	**5.07**	**247**	A	A	10 04 06.6	
comp=N,7.0nm,2.7s,comp=E,7.0nm,4.9s
JNK	**Nakash**	**5.15**	**253**	P	**Pn**	**10 04 09.0**	**+1.1**
JNK				*e*S	**Sn**	**10 05 06.7**	**+0.5**
AKK	**Akkeshi**	**5.31**	**247**	*e*P	**Pn**	**10 04 09.7**	**-0.2**
JAK	**Akkeshi**	**5.41**	**248**	P	**Pn**	**10 04 11.2**	**-0.2**
JAK				*e*S	**Sn**	**10 05 11.8**	**-0.7**
JAK	**Akkeshi**	**5.41**	**248**	A	A	10 04 11.2	
comp=N,6.0nm,4.1s,comp=E,6.0nm,3.3s
JTKR	**Abashiri--Toko**	**5.58**	**259**	P	**Pn**	**10 04 15.8**	**+2.0**
JAR	**Ashorobuto**	**5.90**	**253**	P	**Pn**	**10 04 19.7**	**+1.5**
JAR				*e*S	**Sn**	**10 05 26.4**	**+1.8**
JOB	**Onbets**	**6.02**	**250**	*e*P	**Pn**	**10 04 20.5**	**+0.7**
JOB				*e*S	**Sn**	**10 05 26.8**	**-0.7**
JOB	**Onbets**	**6.02**	**250**	A	A	10 04 20.5	
comp=N,7.0nm,1.5s,comp=E,10.0nm,1.4s
SKR	**Severo-Kuril's**	**6.23**	**28**	*e*PN	**Pn**	**10 04 22.5**	**-0.1**
SKR				pmax	pmax		
comp=Z,1μm,0.7s
SKR				MLR	MLR		
comp=Z,3μm,14.0s
SKR	**Severo-Kuril's**	**6.23**	**28**	*e*P	**Pn**	**10 04 22.5**	**-0.1**
SKR				AMB	AMB	10 04 27.3	
comp=Z,1μm,0.7s
SKR				*e*S	**Sn**	**10 05 30.1**	**-2.6**
SKR				A	A	10 05 56.2	
comp=Z,1μm,0.9s
SKR				A	A	10 05 56.2	
comp=Z,970nm,0.9s
SKR				AMS	AMS	10 07 36.9	
comp=Z,8μm,14.0s
SKR				AMS	AMS	10 07 36.9	
comp=Z,9μm,14.0s
YSS	**Yuzhno-Sakhali**	**6.32**	**289**	Pn	**Pn**	**10 04 25.2**	**+1.3**
YSS	**Yuzhno-Sakhali**	**6.32**	**289**	*c i*PN	**Pn**	**10 04 26.3**	**+2.4**
YSS				*e*S	**Sn**	**10 05 36.5**	**+1.6**
YSS				pmax	pmax		
comp=Z,500nm,6.9s
YSS				pmax	pmax		
comp=N,200nm,4.3s
YSS				pmax	pmax		
comp=E,400nm,5.1s
YSS				pmax	pmax		
comp=Z,150nm,0.9s
YSS				smax	smax		
comp=N,50nm,0.7s
YSS				smax	smax		
comp=E,90nm,0.7s
YSS				MLR	MLR		
comp=N,2μm,16.0s
YSS	**Yuzhno-Sakhali**	**6.32**	**289**	*e*P	**Pn**	**10 04 26.4**	**+2.5**
YSS				AMB	AMB	10 04 34.0	
comp=N,500nm,4.0s
YSS				AMB	AMB	10 04 34.1	
comp=N,200nm,0.8s
YSS				*e*S	**Sn**	**10 05 38.3**	**+3.4**
YSS				AMS	AMS	10 06 41.0	
comp=N,2μm,17.0s
YSS				AMS	AMS	10 06 41.0	
comp=N,6μm,17.0s
JKK2	**Kamakawa 2**	**6.42**	**261**	P	**Pn**	**10 04 27.7**	**+2.4**
JKK2				*e*S	**Sn**	**10 05 35.4**	**-2.0**
JCH	**Churui**	**6.46**	**249**	P	**Pn**	**10 04 25.9**	**+0.1**
JCH				*e*S	**Sn**	**10 05 37.2**	**-1.2**
JKA	**Kamikawa-asahi**	**6.46**	**263**	Pn	**Pn**	**10 04 27.5**	**+1.7**
JKA	**Kamikawa-asahi**	**6.46**	**263**	*e*P	**Pn**	**10 04 28.5**	**+2.7**
ASAJ	**Asahikawa**	**6.46**	**263**	P	**Pn**	**10 04 28.4**	**+2.6**
comp=N,13nm,0.3s,baz=80,slow=15,SNR=90
ASAJ				S	**Sn**	**10 05 42.6**	**+4.1**
comp=N,45nm,0.7s,baz=90,slow=20,SNR=0.6
ASAJ				LR	LR	10 07 10.5	
comp=N,6μm,18.6s,baz=81,slow=40
comp=N,152nm,0.8s
JWK2	**Keihoku**	**6.79**	**274**	*e*P	Pn	10 04 34.9	+4.6
ERM	**Erimo**	**6.88**	**245**	Pn	**Pn**	**10 04 33.0**	**+1.4**
ERM	**Erimo**	**6.88**	**245**	*de*PN	**Pn**	**10 04 33.4**	**+1.8**
JEM	**Erimo**	**6.88**	**245**	A	A	10 04 31.6	
comp=N,13nm,1.4s,comp=E,13nm,1.6s
JAB	**Ashibetsu**	**6.89**	**258**	P	**Pn**	**10 04 35.2**	**+3.5**
JNBK	**Urakawa-nobuka**	**7.01**	**248**	P	**Pn**	**10 04 33.4**	**0.0**
JNBK	**Urakawa-nobuka**	**7.01**	**248**	A	A	10 04 33.4	
comp=N,10.0nm,1.9s,comp=E,13nm,1.4s
PAU	**Pauzhetka**	**7.13**	**28**	*e*P	**Pn**	**10 04 35.6**	**+0.6**
PAU				AMB	AMB	10 04 44.9	
comp=E,210nm,0.4s
PAU				*e*S	**Sn**	**10 05 51.9**	**-2.9**
PAU				A	A	10 06 07.5	
comp=E,700nm,0.7s
PAU				A	A	10 06 07.5	
comp=E,440nm,0.7s
JSHD	**Hidakashinhida**	**7.14**	**250**	A	A	10 04 34.7	
comp=N,11nm,1.8s,comp=E,10.0nm,1.6s
UGL	**Uglegorsk**	**7.48**	**304**	*e*PN	**Pn**	**10 04 42.8**	**+3.0**
UGL				pmax	pmax		
comp=Z,300nm,0.9s
UGL				MLR	MLR		
comp=E,1μm,11.0s
UGL				MLR	MLR		
comp=N,2μm,13.0s
UGL				MLR	MLR		
comp=Z,2μm,13.0s
UGL	**Uglegorsk**	**7.48**	**304**	*e*P	**Pn**	**10 04 43.6**	**+3.8**
UGL				AMB	AMB	10 04 44.6	
comp=Z,270nm,0.9s
UGL				*e*S	**Sn**	**10 06 07.0**	**+3.5**
UGL				AMS	AMS	10 09 25.0	
comp=Z,5μm,15.0s
UGL				AMS	AMS	10 09 25.0	
comp=Z,6μm,15.0s
TYV	**Tymovskoe**	**8.15**	**317**	*e*PN	**Pn**	**10 04 51.4**	**+2.4**
TYV				pmax	pmax		
comp=Z,85nm,0.9s
TYV				pmax	pmax		
comp=Z,700nm,3.0s
TYV				MLR	MLR		
comp=Z,6μm,15.0s
TYV				MLR	MLR		
comp=E,6μm,15.0s
TYV	**Tymovskoe**	**8.15**	**317**	*e*P	**Pn**	**10 04 51.4**	**+2.4**
TYV				AMB	AMB	10 04 53.5	
comp=E,700nm,3.0s
TYV				*e*S	**Sn**	**10 06 23.6**	**+3.6**
TYV				A	A	10 06 23.9	
comp=E,400nm,4.0s
TYV				A	A	10 06 23.9	
comp=E,500nm,4.0s
TYV				AMS	AMS	10 08 07.8	
comp=E,4μm,14.0s
TYV				AMS	AMS	10 08 07.8	
comp=E,6μm,14.0s
PEA0B	**Petropavlovsk-**	**8.82**	**25**	Pn	**Pn**	**10 04 58.1**	**0.0**
PEA0B	**Petropavlovsk-**	**8.82**	**25**	⇑*e*PN	**Pn**	**10 04 58.2**	**0.0**
PETK	**Petropavlovsk-**	**8.82**	**25**	Pn	**Pn**	**10 04 58.8**	**+0.6**
PETK	**Petropavlovsk-**	**8.82**	**25**	P	**Pn**	**10 04 58.4**	**+0.2**
comp=E,2.0nm,0.3s,baz=191,slow=9.4,SNR=30
comp=E,11nm,0.7s
PETK	**Petropavlovsk-**	**8.82**	**25**	PN	**Pn**	**10 04 58.8**	**+0.6**
JANG	**Nango**	**8.83**	**240**	P	**Pn**	**10 04 56.2**	**-2.1**
JANG				*e*S	**Sn**	**10 06 30.8**	**-5.8**
JTM	**Tenmabayashi**	**8.87**	**243**	Pn	**Pn**	**10 04 58.0**	**-0.8**
JTH	**Tanohata**	**8.89**	**237**	*e*P	**Pn**	**10 04 57.4**	**-1.8**
JTH				*e*S	**Sn**	**10 06 30.9**	**-7.2**
PET	**Petropavlovsk**	**9.06**	**28**	Pn	**Pn**	**10 05 01.9**	**+0.6**
PET	**Petropavlovsk**	**9.06**	**28**	*e*PN	**Pn**	**10 05 01.9**	**+0.6**
PET				pmax	pmax		
comp=Z,79nm,1.0s
PET				MLR	MLR		
comp=Z,1μm,7.0s
PET	**Petropavlovsk**	**9.06**	**28**	*e*P	**Pn**	**10 05 01.7**	**+0.4**
OKH	**Okha**	**9.99**	**329**	*c i*PN	**Pn**	**10 05 13.2**	**-1.0**
OKH				pmax	pmax		
comp=Z,300nm,12.9s
OKH				MLR	MLR		
comp=Z,3μm,14.0s
OKH				MLR	MLR		
comp=E,5μm,15.0s
OKH				MLR	MLR		
comp=N,2μm,15.0s
OKH	**Okha**	**9.99**	**329**	*e*P	**Pn**	**10 05 14.8**	**+0.6**
OKH				AMB	AMB	10 05 18.4	
comp=N,300nm,6.0s
OKH				*e*S	**Sn**	**10 07 05.4**	**+0.4**
OKH				A	A	10 07 10.8	
comp=N,500nm,8.0s
OKH				A	A	10 07 10.8	
comp=N,500nm,8.0s
OKH				AMS	AMS	10 10 10.5	
comp=N,2μm,15.0s
OKH				AMS	AMS	10 10 10.5	
comp=N,5μm,15.0s
TEY	**Ternei**	**10.54**	**274**	⇑*e*PN	**Pn**	**10 05 24.6**	**+2.9**
TEY				pmax	pmax		
comp=E,20nm,1.2s
TEY				pmax	pmax		
comp=Z,10.0nm,1.3s
TEY	**Ternei**	**10.54**	**274**	*e*P	**Pn**	**10 05 24.6**	**+2.9**
NKL	**Nikolayevsk**	**10.60**	**322**	*e*PN	**Pn**	**10 05 24.0**	**+1.6**
NKL				pmax	pmax		
comp=N,67nm,1.0s
NKL				pmax	pmax		
comp=E,554nm,1.2s
NKL				pmax	pmax		
comp=Z,605nm,1.2s
NKL				MLR	MLR		
comp=E,10μm,14.0s
NKL				MLR	MLR		
comp=N,2μm,11.0s
NKL				MLR	MLR		
comp=Z,14μm,18.0s
NKL	**Nikolayevsk**	**10.60**	**322**	*e*P	**Pn**	**10 05 24.6**	**+2.2**
NKL				AMB	AMB	10 05 27.2	
comp=Z,240nm,1.0s
NKL				*e*S	**Sn**	**10 07 20.4**	**+0.6**
NKL				A	A	10 07 22.7	
comp=Z,220nm,3.0s
NKL				A	A	10 07 22.7	
comp=Z,160nm,3.0s
NKL				AMS	AMS	10 09 47.2	
comp=Z,2μm,13.0s
NKL				AMS	AMS	10 09 47.2	
comp=Z,10μm,13.0s
JMM	**Marumori**	**10.91**	**231**	Pn	**Pn**	**10 05 25.2**	**-1.7**
GRNR	**Gornyy**	**11.50**	**304**	⇑*i*PN	**Pn**	**10 05 37.7**	**+2.8**
GRNR				pmax	pmax		
comp=E,9.0nm,1.1s
GRNR				pmax	pmax		
comp=Z,10.0nm,1.0s
GRNR				MLR	MLR		
comp=E,2μm,14.0s
GRNR				MLR	MLR		
comp=Z,3μm,16.0s
GRNR	**Gornyy**	**11.50**	**304**	*e*P	**Pn**	**10 05 37.7**	**+2.8**
JSD	**Sado**	**12.26**	**239**	Pn	**Pn**	**10 05 44.0**	**-1.3**
MAJO	**Matsushiro**	**13.30**	**234**	Pn	**Pn**	**10 05 59.6**	**+0.1**
MAJO	**Matsushiro**	**13.30**	**234**	*de*PN	**Pn**	**10 05 58.3**	**-1.3**
MAJO				pmax	pmax		
comp=Z,4.0nm,0.5s
MJAR	**Matsushiro Arr**	**13.30**	**234**	P	**Pn**	**10 05 58.0**	**-1.5**
comp=Z,5.0nm,0.6s,baz=27,slow=12,SNR=13
MJAR				LR	LR	10 11 36.8	
comp=Z,816nm,21.0s,baz=60,slow=39
MJB9	**Matsu-Tunnel**	**13.30**	**234**		**Pn**	**10 05 59.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**13.93**	**273**	Pn	**Pn**	**10 06 07.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**13.93**	**273**	P	**Pn**	**10 06 08.2**	**+0.2**
comp=Z,1.7nm,0.3s,baz=84,slow=12,SNR=25
USRK				LR	LR	10 11 30.6	
comp=Z,2μm,18.9s,baz=80,slow=37
comp=Z,16nm,0.5s

USA0B	**Ussuriysk Arra**	**13.93 273**		**Pn**	**10 06 07.4 -0.6**
USA0B	**Ussuriysk Arra**	**13.93 273**	*ce*P	**Pn**	**10 06 07.6 -0.4**
KLR	**Kul'dur**	**13.99 294**	P	**Pn**	**10 06 10.5 +1.7**
	comp=Z,56nm,1.1s,baz=107,slow=14,SNR=18				
KLR			LR	LR	10 11 47.4
	comp=Z,3μm,19.1s,baz=103,slow=39				
KLR	**Kul'dur**	**13.99 294**	*e*P	**Pn**	**10 06 08.9 0.0**
KLR			pmax	pmax	
	comp=Z,98nm,1.4s				
KLR	**Kul'dur**	**13.99 294**	*e*P	**Pn**	**10 06 08.9 0.0**
VLA	**Vladivostok**	**14.25 268**	*de*P	**Pn**	**10 06 12.0 -0.4**
VLA			pmax	pmax	
	comp=Z,32nm,1.0s				
MA2	**Magadan**	**14.34 358**	P	**Pn**	**10 06 13.2 -0.3**
	comp=Z,41nm,0.8s,baz=184,slow=9.1,SNR=72				
MA2			LR	LR	10 12 00.2
	comp=Z,2μm,18.2s,baz=181,slow=39				
MA2	**Magadan**	**14.34 358**	*d i*P	**Pn**	**10 06 13.3 -0.2**
MA2			pmax	pmax	
	comp=Z,51nm,0.9s				
MA2	**Magadan**	**14.34 358**	Pn	**Pn**	**10 06 13.6 +0.1**
	comp=Z,1μmcomp=Z,82nm,0.9s				
MA2	**Magadan**	**14.34 358**	*e*P	**Pn**	**10 06 13.3 -0.2**
JGF	**Kuroka**	**14.46 233**		**Pn**	**10 06 15.6 +0.3**
INU	**Inuyama**	**14.83 233**		**Pn**	**10 06 19.1 -1.2**
MSHR	**Mys Shultsa**	**14.91 267**	⇑*e*P	**Pn**	**10 06 20.1 -1.3**
MSHR			pmax	pmax	
	comp=Z,40nm,0.9s				
PSTR	**Posyet**	**15.14 267**	*d i*P	**Pn**	**10 06 22.7 -1.7**
PSTR	**Posyet**	**15.14 267**	*e*P	**Pn**	**10 06 22.7 -1.7**
JHJ	**Hachijo jima 2**	**15.14 221**	LR	LR	10 15 34.6
	comp=Z,591nm,18.0s,baz=98,slow=50				
MDJ	**Mudanjiang**	**15.54 275**		**Pn**	**10 06 28.2 -1.4**
MDJ			IAmb	IAmb	10 06 34.1
	comp=Z,112nm,0.9s				
MDJ	**Mudanjiang**	**15.54 275**	P	**Pn**	**10 06 28.8 -0.8**
MDJ			pP	P	10 06 33.3 -0.3
MDJ			PP	**PnPn**	**10 06 36.3 -1.6**
MDJ			S	**Sn**	**10 09 19.3 -1.3**
MDJ			sS	S	10 09 32.3 -3.1
MDJ			PcP	**PcP**	**10 11 31.6 +1.1**
MDJ			pmax	pmax	
	comp=Z,24nm,1.2s				
MDJ			LR	LR	
	comp=Z,2μm,15.0s				
MDJ			LR	LR	
	comp=Z,2μm,16.9s				
MDJ			LR	LR	
	comp=Z,4μm,17.1s				
SHEM	**Shemya Is, Ala**	**16.55 55**	LR	LR	10 12 34.5
	comp=Z,729nm,21.3s,baz=304,slow=35				
BNX	**BinXian**	**16.90 280**	⇓P	**Pn**	**10 06 46.5 -0.4**
BNX			pP	**sP**	**10 06 58.6 -0.8**
BNX			S	**Sn**	**10 09 50.4 -3.2**
BNX			pmax	pmax	
	comp=Z,21nm,1.2s				
BNX			LR	LR	
	comp=Z,1μm,15.8s				
BNX			LR	LR	
	comp=Z,2μm,15.7s				
BNX			LR	LR	
	comp=Z,3μm,16.1s				
HEH	**HeiHe**	**16.93 296**	*e*P	**Pn**	**10 06 46.5 -0.7**
HEH			pP	**P**	**10 06 50.1 +1.2**
HEH			S	**Sn**	**10 09 54.0 -0.2**
HEH			pmax	pmax	
	comp=Z,66nm,1.0s				
HEH			LR	LR	
	comp=Z,2μm,15.3s				
HEH			LR	LR	
	comp=Z,1μm,16.5s				
HEH			LR	LR	
	comp=Z,5μm,16.1s				
SEY	**Seymchan**	**17.71 1**	P	**Pn**	**10 06 54.1 -2.6**
	comp=Z,0.3nm,0.3s,baz=169,slow=9.8,SNR=20				
SEY			LR	LR	10 14 08.4
	comp=Z,2μm,18.3s,baz=178,slow=38				
	comp=Z,6.7nm,0.9s				
SEY	**Seymchan**	**17.71 1**	*e*P	**Pn**	**10 06 55.1 -1.7**
SEY			pmax	pmax	
	comp=Z,31nm,1.5s				
ZEA	**Zeya**	**17.82 307**	*e*P	**Pn**	**10 06 57.7 -0.6**
ZEA			pmax	pmax	
	comp=E,200nm,5.3s				
ZEA			pmax	pmax	
	comp=N,200nm,5.4s				
ZEA			pmax	pmax	
	comp=Z,300nm,5.4s				
ZEA			pmax	pmax	
	comp=N,40nm,1.4s				
ZEA			pmax	pmax	
	comp=E,40nm,1.2s				
ZEA			pmax	pmax	
	comp=Z,70nm,1.2s				
ZEA			MLR	MLR	
	comp=E,1μm,12.0s				
ZEA			MLR	MLR	
	comp=N,600nm,13.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,15.0s				
ZEA	**Zeya**	**17.82 307**	*e*P	**P**	**10 06 59.0 +0.2**
CN2	**Changchun**	**18.62 275**	*e*P	**P**	**10 07 06.3 -1.4**
CN2			*e*S	**Sn**	**10 10 26.8 -8.5**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CN2			pmax	pmax	
	comp=Z,400nm,6.5s				
CN2			LR	LR	
	comp=Z,2μm,17.0s				
CN2			LR	LR	
	comp=Z,3μm,17.0s				
CN2			LR	LR	
	comp=Z,3μm,17.0s				
KSRS	**Korea Array**	**19.31 254**	P	**P**	**10 07 15.0 -0.2**
	comp=Z,0.8nm,0.3s,baz=65,slow=11,SNR=20				
KSRS			pPcP		10 11 51.9
	comp=Z,2.7nm,0.9s,baz=148,slow=2.1,SNR=4.4				
KSRS			LR	LR	10 14 53.7
	comp=Z,1μm,18.4s,baz=55,slow=37				
	comp=Z,20nm,1.1s				
KS19	**Wonju Array Si**	**19.32 255**	P	**P**	**10 07 15.2 -0.2**
KSAR	**Wonju Array Be**	**19.34 254**	P	**P**	**10 07 15.2 -0.4**
KSAR	**Wonju Array Be**	**19.34 254**	P	**P**	**10 07 15.2 -0.4**
JCJ	**Chichijima**	**19.61 206**	LR	LR	10 15 46.9
	comp=Z,153nm,19.5s,baz=302,slow=39				
JNU	**Nakatsue**	**20.01 240**	P	**P**	**10 07 23.3 +0.3**
JNU			IAmb	IAmb	10 07 29.2
	comp=Z,98nm,1.2s				
JNU	**Nakatsue**	**20.01 240**	P	**Pn**	**10 07 25.3 +0.4**
	comp=Z,42nm,1.1s,baz=57,slow=9.8,SNR=10				
JNU			LR	LR	10 15 49.1
	comp=Z,1μm,20.6s,baz=28,slow=39				
	comp=Z,42nm,1.1s				
TJN	**Taejon**	**20.26 252**	P	**P**	**10 07 26.0 +0.3**
TJN	**Taejon**	**20.26 252**	P	**P**	**10 07 26.0 +0.3**
TJN			pmax	pmax	
	comp=Z,362nm,1.1s				
SNY	**Shenyang**	**20.50 270**	⇑P	**P**	**10 07 28.1 -0.1**
SNY			S	**S**	**10 11 10.8 -4.9**
SNY			pmax	pmax	
	comp=Z,100nm,1.1s				
SNY			pmax	pmax	
	comp=Z,620nm,3.5s				
SNY			LR	LR	
	comp=Z,1μm,15.2s				
SNY			LR	LR	
	comp=Z,1μm,13.8s				
SNY			LR	LR	
	comp=Z,2μm,15.3s				
YAK	**Yakutsk**	**21.02 331**	P	**P**	**10 07 31.1 -2.5**
YAK	**Yakutsk**	**21.02 331**	P	**P**	**10 07 31.0 -2.6**
	comp=Z,92nm,0.8s,baz=144,slow=1.7,SNR=20				
YAK			S	**S**	**10 11 21.3 -4.4**
	comp=Z,7.0nm,0.4s,baz=283,slow=16,SNR=4.8				
YAK			LR	LR	10 15 39.1
	comp=Z,895nm,18.9s,baz=130,slow=37				
	comp=Z,92nm,0.8s				
YAK	**Yakutsk**	**21.02 331**	*e*P	**P**	**10 07 32.6 -1.0**
YAK			*e*		10 07 53.9
YAK			*e*S	**S**	**10 11 25.4 -0.3**
YAK			*e*		10 11 38.4
YAK			*e*SS	**SnSn**	**10 11 50.9 +3.3**
YAK			*e*		10 18 54.6
YAK			pmax	pmax	
	comp=E,15nm,0.9s				
YAK			pmax	pmax	
	comp=Z,75nm,0.9s				
YAK			pmax	pmax	
	comp=N,14nm,0.9s				
YAK			pmax	pmax	
	comp=Z,110nm,1.1s				
YAK			pmax	pmax	
	comp=E,137nm,1.6s				
YAK			pmax	pmax	
	comp=N,176nm,1.8s				
YAK			smax	smax	
	comp=N,38nm,1.4s				
YAK			smax	smax	
	comp=E,143nm,2.0s				
YAK			MLR	MLR	
	comp=Z,1μm,14.0s				
YAK			MLR	MLR	
	comp=N,667nm,13.0s				
YAK			MLR	MLR	
	comp=E,260nm,13.0s				
HIA	**Hailar**	**21.84 292**	P	**P**	**10 07 39.7 -2.9**
HIA	**Hailar**	**21.84 292**	*de*P	**P**	**10 07 39.6 -2.9**
HIA			pmax	pmax	
	comp=Z,17nm,1.1s				
ADK	**Adak**	**21.93 61**	P	**P**	**10 07 41.9 -1.6**
ADK			IAmb	IAmb	10 07 57.8
	comp=Z,71nm,1.1s				
ADK	**Adak**	**21.93 61**	P	**P**	**10 07 41.9 -1.6**
ADK			pmax	pmax	
	comp=Z,71nm,1.2s				
DL2	**Dalian**	**22.99 265**	P	**P**	**10 07 51.8 -3.1**
DL2			S	**S**	**10 12 01.3 -1.8**
DL2			pmax	pmax	
	comp=Z,89nm,1.1s				
DL2			pmax	pmax	
	comp=Z,530nm,5.4s				
DL2			LR	LR	
	comp=Z,700nm,14.2s				
DL2			LR	LR	
	comp=Z,520nm,15.2s				
DL2			LR	LR	
	comp=Z,630nm,16.8s				
ATKA	**Atka Island**	**23.49 60**	P	**P**	**10 07 58.3 -1.3**
ATKA			IAmb	IAmb	10 08 12.1
	comp=Z,113nm,1.4s				
BILL	**Bilibino**	**24.09 14**	P	**P**	**10 08 03.7 -1.5**
BILL	**Bilibino**	**24.09 14**	⇓*i*P	**P**	**10 08 03.4 -1.8**
BILL			pmax	pmax	
	comp=Z,19nm,1.4s				
BILL	**Bilibino**	**24.09 14**	*e*P	**P**	**10 08 03.4 -1.8**
XLT	**XiLinHaoTe**	**25.16 280**	⇑*i*P	**P**	**10 08 14.4 -0.9**
XLT			pP	sP	10 08 25.1 -1.2
XLT			PP	**PnPn**	**10 08 53.0 +3.3**
XLT			S	**S**	**10 12 42.8 +4.6**
XLT			pmax	pmax	
	comp=Z,86nm,0.9s				
XLT			pmax	pmax	
	comp=Z,340nm,4.8s				
XLT			LR	LR	
	comp=Z,2μm,16.6s				
XLT			LR	LR	
	comp=Z,2μm,17.4s				
BOD	**Bodaibo**	**26.12 312**	*e*P	**P**	**10 08 19.9 -3.8**
BOD			pmax	pmax	
	comp=Z,11nm,1.0s				
BJI	**Beijing**	**26.37 271**	P	**P**	**10 08 26.3 +0.1**
BJI			S	**S**	**10 12 59.1 +1.9**
BJI			pmax	pmax	
	comp=Z,36nm,1.0s				
BJI			pmax	pmax	
	comp=Z,140nm,4.8s				
BJI			LR	LR	
	comp=Z,410nm,17.8s				
BJI			LR	LR	
	comp=Z,790nm,15.0s				
BJI			LR	LR	
	comp=Z,1μm,15.3s				
SPIA	**Saint Paul Isl**	**26.37 49**	P	**P**	**10 08 25.6 -0.4**
	baz=260				
BJT	**Baijiatuau**	**26.39 271**	P	**P**	**10 08 26.4 +0.1**
BJT			IAmb	IAmb	10 08 29.2
	comp=Z,73nm,1.0s				
BJT	**Baijiatuau**	**26.39 271**	P	**P**	**10 08 26.4 +0.1**
BJT			pmax	pmax	
	comp=Z,73nm,1.0s				
P08K	**Saint George I**	**26.66 51**	P	**P**	**10 08 27.8 -0.7**
	baz=262				
TIA	**Tai'an**	**27.41 263**	P	**P**	**10 08 36.1 +0.5**
TIA			pmax	pmax	
	comp=Z,23nm,1.4s				
TIA			LR	LR	
	comp=Z,520nm,16.5s				
TIA			LR	LR	
	comp=Z,760nm,16.1s				
TIA			LR	LR	
	comp=Z,850nm,17.6s				
SSE	**Sheshan**	**27.53 250**	P	**P**	**10 08 38.3 +1.6**
SSE			S	**S**	**10 13 17.8 +2.1**
SSE			pmax	pmax	
	comp=Z,17nm,1.3s				
SSE			pmax	pmax	
	comp=Z,250nm,3.7s				
SSE			LR	LR	
	comp=Z,240nm,19.6s				
SSE			LR	LR	
	comp=Z,530nm,20.3s				
GAMB	**Gambell**	**27.67 35**	P	**P**	**10 08 37.5 -0.1**
	baz=246				
H11N2	**WAKE ISLAND Hy**	**28.48 148**	T	T	10 39 34.3
	baz=338,slow=75,SNR=634				
H11N1	**WAKE ISLAND Hy**	**28.49 148**	T	T	10 39 31.7
	baz=338,slow=75,SNR=418				
H11N3	**WAKE ISLAND Hy**	**28.49 148**	T	T	10 39 35.7
	baz=338,slow=75,SNR=489				
NJ2	**Nanjing**	**28.51 254**	*e*P	**P**	**10 08 46.4 +1.0**
NJ2			pP	**pP**	**10 08 51.0 -2.0**
NJ2			sP	**sP**	**10 08 57.6 +1.5**
NJ2			S	**S**	**10 13 34.9 +3.9**
NJ2			pmax	pmax	
	comp=Z,12nm,0.6s				
NJ2			LR	LR	
	comp=Z,1μm,19.2s				
NJ2			LR	LR	
	comp=Z,1μm,18.4s				
NJ2			LR	LR	
	comp=Z,2μm,15.2s				
HNS	**HongShan**	**28.54 267**	⇑P	**P**	**10 08 46.4 +0.8**
HNS			pP	**sP**	**10 08 55.1 -1.7**
HNS			S	**S**	**10 13 31.5 +0.1**
HNS			sS	**sS**	**10 13 47.9 +3.0**
HNS			pmax	pmax	
	comp=Z,27nm,1.3s				
HNS			LR	LR	
	comp=Z,560nm,13.3s				
HNS			LR	LR	
	comp=Z,1μm,15.7s				
HNS			LR	LR	
	comp=Z,1μm,16.5s				
HHC	**Hu-ho-hao-te**	**29.31 276**	⇑*i*P	**P**	**10 08 53.5 +0.9**
HHC			pP	pP	10 09 00.9 +0.4
HHC			sP	sP	10 09 04.3 +0.6
HHC			PP	**PnPn**	**10 09 44.6 -1.9**
HHC			S	**S**	**10 13 41.8 -2.0**
HHC			sS	sS	10 13 55.6 -1.5
HHC			pmax	pmax	
	comp=Z,62nm,1.1s				
HHC			pmax	pmax	
	comp=Z,230nm,4.0s				
HHC			LR	LR	
	comp=Z,580nm,16.8s				
HHC			LR	LR	
	comp=Z,2μm,15.3s				
HHC			LR	LR	
	comp=Z,3μm,15.1s				
H11S1	**WAKE ISLAND Hy**	**29.53 150**	T	T	10 40 49.6
	baz=338,slow=76,SNR=410				
H11S3	**WAKE ISLAND Hy**	**29.54 150**	T	T	10 40 58.6
	baz=338,slow=76,SNR=267				
H11S2	**WAKE ISLAND Hy**	**29.55 150**	T	T	10 40 50.5
	baz=338,slow=76,SNR=414				
FALS	**False Pass**	**29.99 55**	P	**P**	**10 08 58.6 +0.3**
	baz=271				
TIY	**Taiyuan**	**30.00 269**	P	**P**	**10 09 00.3 +1.6**
TIY			S	**S**	**10 13 57.8 +3.2**
TIY			pmax	pmax	
	comp=Z,40nm,0.8s				
TIY			LR	LR	
	comp=Z,320nm,17.5s				
TIY			LR	LR	
	comp=Z,660nm,16.2s				
TIY			LR	LR	
	comp=Z,790nm,15.7s				
K13K	**Kusilvak Mount**	**30.14 41**	P	**P**	**10 09 00.3 +0.7**
	baz=257				
ULN	**Ulaanbaatar**	**30.36 291**	P	**P**	**10 09 00.6 -1.3**
ULN	**Ulaanbaatar**	**30.36 291**	*de*P	**P**	**10 09 01.1 -0.8**
ULN			pmax	pmax	
	comp=Z,18nm,1.1s				
M13K	**Dall Lake**	**30.46 44**	P	**P**	**10 09 03.3 +0.9**
	baz=261				
BTO	**Baotou**	**30.49 276**	*e*P	**P**	**10 09 04.3 +1.3**
BTO			pP	**pwP**	**10 09 16.4 -0.2**
BTO			sP	sP	10 09 21.8 +7.6
BTO			PP	**PnPn**	**10 10 04.8 +2.5**
BTO			S	**S**	**10 14 00.8 -1.4**
BTO			SS	**ScP**	**10 15 42.6 +1.1**
BTO			pmax	pmax	
	comp=Z,57nm,1.2s				
BTO			pmax	pmax	
	comp=Z,590nm,8.7s				
BTO			LR	LR	
	comp=Z,3μm,15.8s				
BTO			LR	LR	
	comp=Z,4μm,15.5s				
BTO			LR	LR	
	comp=Z,6μm,15.7s				
ANM	**Nome**	**30.54 36**	P	**P**	**10 09 03.5 +0.4**
ANM	**Nome**	**30.54 36**	P	**P**	**10 09 04.1 +1.0**
	baz=252,SNR=6.1				
ANM	**Nome**	**30.54 36**	P	**P**	**10 09 03.5 +0.4**
ANM			pmax	pmax	
	comp=Z,22nm,1.3s				
S12K	**Black Hills**	**30.77 53**	P	**P**	**10 09 06.3 +1.1**
	baz=270				
SONM	**Songino Array**	**30.80 291**	P	**P**	**10 09 04.2 -1.6**
SONM	**Songino Array**	**30.80 291**	P	**P**	**10 09 04.9 -0.8**
	comp=Z,7.5nm,0.9s,baz=75,slow=6.7,SNR=32				
SONM			PcP	**PcP**	**10 12 03.0 +0.7**
	comp=Z,2.8nm,1.0s,baz=124,slow=2.0,SNR=4.1				
SONM			LR	LR	10 22 31.3
	comp=Z,2μm,18.6s,baz=66,slow=38				
	comp=Z,7.5nm,0.9s				
J14K	**Nanvaranak Lak**	**30.83 39**	P	**P**	**10 09 06.5 +0.9**
	baz=257				
L14K	**Kuka Creek**	**30.94 42**	P	**P**	**10 09 07.7 +1.1**
	baz=260,SNR=5.7				
M14K	**Bethel**	**31.20 43**	P	**P**	**10 09 09.9 +1.1**
M14K	**Bethel**	**31.20 43**	P	**P**	**10 09 10.4 +1.6**
	baz=262				
F15K	**North Star Dit**	**31.20 34**	P	**P**	**10 09 09.7 +0.8**
	baz=251				
G15K	**Niukluk**	**31.22 35**	P	**P**	**10 09 09.7 +0.6**
	baz=253				
N14K	**Kuskokwak Cree**	**31.22 45**	P	**P**	**10 09 10.3 +1.3**
	baz=264				
O14K	**Tigyukauivet M**	**31.36 46**	IAmb	IAmb	10 09 13.1
	comp=Z,67nm,1.4s				
O14K	**Tigyukauivet M**	**31.36 46**	P	**P**	**10 09 11.4 +1.0**
	baz=265				
LYN	**LuoYang**	**31.53 264**	P	**P**	**10 09 13.3 +1.2**
LYN			pP	pwP	10 09 24.6 -0.9
LYN			PP	**PP**	**10 10 20.4 -3.1**
LYN			S	**S**	**10 14 19.5 +1.1**
LYN			sS	sS	10 14 33.6 +2.6
LYN			SS	**SnSn**	**10 16 00.4 -4.3**
LYN			pmax	pmax	
	comp=Z,69nm,1.2s				
LYN			pmax	pmax	
	comp=Z,230nm,3.8s				
LYN			LR	LR	
	comp=Z,1μm,15.1s				
LYN			LR	LR	
	comp=Z,760nm,16.1s				
LYN			LR	LR	
	comp=Z,1μm,16.5s				
L15K	**Ungalak Mounta**	**31.57 42**	P	**P**	**10 09 12.7 +0.6**
	baz=261				
K15K	**Wolf Creek Mou**	**31.65 41**	P	**P**	**10 09 13.9 +1.0**
	baz=260				
M15K	**Kasigluk River**	**31.81 44**	P	**P**	**10 09 15.1 +0.8**
	baz=263,SNR=5.7				
H16K	**Elim**	**31.86 36**	P	**P**	**10 09 14.3 -0.4**
	baz=255,SNR=7.4				
C16K	**Lisburne Hills**	**31.90 29**	P	**P**	**10 09 14.9 0.0**
	baz=246,SNR=11				
N15K	**Kwethluk River**	**32.04 45**	IAmb	IAmb	10 09 18.7
	comp=Z,26nm,1.1s				
N15K	**Kwethluk River**	**32.04 45**	P	**P**	**10 09 16.5 +0.1**
	baz=265				
GUMO	**Guam**	**32.08 192**	LR	LR	10 24 52.1
	comp=Z,398nm,18.4s,baz=14,slow=41				
O15K	**Ungalikthiuk R**	**32.09 47**	P	**P**	**10 09 17.7 +0.9**
	baz=267				
J16K	**Anvik River**	**32.26 39**	P	**P**	**10 09 18.5 +0.3**
	baz=259				
ZAK	**Zakamensk**	**32.32 297**	*e*P	**P**	**10 09 17.2 -1.9**
ZAK			*e*		10 12 05.9
ZAK			pmax	pmax	
	comp=Z,9.0nm,1.1s				
I17K	**Unalakleet**	**32.34 38**	P	**P**	**10 09 19.4 +0.6**
	baz=258				
D17K	**Noatak River**	**32.47 30**	P	**P**	**10 09 20.0 0.0**
	baz=250				
WHN	**Wuhan**	**32.49 256**	P	**P**	**10 09 21.3 +0.8**
WHN			pmax	pmax	
	comp=Z,52nm,0.7s				
L16K	**Owhat River**	**32.52 42**	P	**P**	**10 09 21.5 +1.0**
L16K	**Owhat River**	**32.52 42**	P	**P**	**10 09 20.9 +0.4**
	baz=263				
RDOG	**Red Dog Mine**	**32.66 30**	P	**P**	**10 09 21.6 0.0**
RDOG	**Red Dog Mine**	**32.66 30**	P	**P**	**10 09 21.6 0.0**
	baz=250				
M16K	**Timber Creek**	**32.68 43**	P	**P**	**10 09 22.5 +0.5**
	baz=264,SNR=8.5				
C17K	**DeLong Mountai**	**32.72 29**	P	**P**	**10 09 21.4 -0.7**
	baz=249,SNR=8.2				
E17K	**Hotham Inlet**	**32.72 32**	P	**P**	**10 09 22.8 +0.6**
	baz=252				
F17K	**Baldwin Pennin**	**32.75 33**	P	**P**	**10 09 23.1 +0.7**
	baz=254				
CHGN	**Chignik**	**32.81 52**	P	**P**	**10 09 24.0 +1.0**
	baz=272				
H17K	**Granite Mounta**	**32.90 36**	P	**P**	**10 09 24.1 +0.3**
	baz=258				
J17K	**VABM Dome**	**32.95 39**	P	**P**	**10 09 24.9 +0.6**
	baz=261				
O16K	**Kokwok River B**	**33.00 46**	IAmb	IAmb	10 09 40.6
	comp=Z,22nm,1.3s				
O16K	**Kokwok River B**	**33.00 46**	P	**P**	**10 09 25.5 +0.7**
	baz=268				
P16K	**Nushagak River**	**33.03 47**	P	**P**	**10 09 26.2 +1.2**
	baz=268				
L17K	**Donlin**	**33.12 41**	P	**P**	**10 09 25.1 -0.7**
	baz=263				
K17K	**Iditarod**	**33.20 40**	P	**P**	**10 09 26.3 -0.1**
	baz=262				
R16K	**Pilot Point**	**33.24 50**	P	**P**	**10 09 27.4 +0.6**
	baz=271				
E18K	**Tukpahlearik C**	**33.28 31**	P	**P**	**10 09 27.5 +0.5**
	baz=253				
F18K	**Selawik**	**33.41 33**	P	**P**	**10 09 28.7 +0.5**
	baz=255,SNR=8.7				
TWG	**Pinlang**	**33.41 238**	P	**P**	**10 09 28.6 -0.1**
M17K	**Holitna River**	**33.45 43**	P	**P**	**10 09 29.6 +0.9**
	baz=265				
C18K	**Utukok River**	**33.46 29**	P	**P**	**10 09 28.5 -0.2**
	baz=251				
B18K	**Kokolik River**	**33.51 28**	P	**P**	**10 09 29.1 0.0**
	baz=249				
N17K	**Nushagak Hills**	**33.51 44**	P	**P**	**10 09 29.6 +0.4**
	baz=267				
O17K	**Koliganek Bris**	**33.52 46**	P	**P**	**10 09 30.0 +0.8**
	baz=268,SNR=6.2				
H18K	**Honhosa River**	**33.59 36**	P	**P**	**10 09 30.7 +0.9**
	baz=259				
G18K	**Tagagawik**	**33.63 35**	IAmb	IAmb	10 09 32.0
	comp=Z,20nm,1.1s				
G18K	**Tagagawik**	**33.63 35**	P	**P**	**10 09 31.1 +0.9**
	baz=257				
Q16K	**King Salmon**	**33.72 48**	P	**P**	**10 09 31.6 +0.6**
	baz=270				
P17K	**Kvichak River**	**33.84 47**	P	**P**	**10 09 33.3 +1.3**
	baz=270				
L18K	**Granite Mounta**	**33.88 41**	P	**P**	**10 09 33.4 +1.0**

baz=265
J18K Innoko River 34.01 39 P P 10 09 34.1 +0.6
baz=263
GCSA Galena City Sc 34.13 37 P P 10 09 35.3 +0.8
baz=261
N18K Kilae Creek 34.16 44 IAmb IAmb 10 09 37.7
comp=Z,36nm,1.1s
N18K Kilae Creek 34.16 44 P P 10 09 36.3 +1.5
baz=268,SNR=9.6
F19K Shaleruckik Mo 34.19 33 P P 10 09 35.2 +0.3
baz=257
M18K Stony River 34.23 43 P P 10 09 35.8 +0.3
baz=267
TTA Tatalina 34.27 40 P P 10 09 35.9 +0.1
TTA Tatalina 34.27 40 P **P 10 09 35.9 +0.1**
baz=264,SNR=9.3
TTA Tatalina 34.27 40 P P 10 09 35.9 +0.1
TTA pmax pmax
comp=Z,16nm,1.1s
XAN Xi'an 34.29 266 ⇑P **P 10 09 36.8 +0.5**
XAN pP sP 10 09 48.6 +1.0
XAN sP pwP 10 09 54.8 +5.0
XAN pmax pmax
comp=Z,60nm,1.2s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,760nm,13.1s
XAN LR LR
comp=Z,1μm,14.4s
G19K Purcell Mounta 34.30 34 P P 10 09 35.8 -0.2
baz=259
ACHA Angle Creek He 34.42 49 P P 10 09 38.6 +1.4
P18K Big Mountain, 34.46 46 P P 10 09 37.9 +0.4
P18K IAmb IAmb 10 09 40.3
comp=Z,32nm,1.0s
P18K Big Mountain, 34.46 46 P P 10 09 37.3 -0.2
baz=270,SNR=6.0
O18K Koktuh Hills 34.47 46 P P 10 09 37.9 +0.4
baz=270
D19K Kuna River 34.49 30 P P 10 09 37.4 -0.2
baz=254
E19K Redstone River 34.54 32 P P 10 09 38.2 +0.2
baz=257
N19K Bonanza Creek 34.85 44 P P 10 09 41.8 +0.9
baz=269,SNR=5.8
R18K Karluk 34.92 50 P P 10 09 41.9 +0.5
baz=274
O19K Port Alsworth 34.92 45 P P 10 09 42.2 +0.8
baz=270
CNSH ChangSha 34.92 254 P **P 10 09 41.8 +0.1**
CNSH S **S 10 15 13.3 +2.2**
CNSH pmax pmax
comp=Z,35nm,1.1s
CNSH LR LR
comp=Z,560nm,16.6s
CNSH LR LR
comp=Z,2μm,16.1s
CNSH LR LR
comp=Z,1μm,17.5s
F20K Avaraart Lake 35.02 33 P P 10 09 42.4 +0.2
baz=259
D20K Etivluk River 35.08 30 P P 10 09 42.8 +0.1
baz=256
H20K Anotleneega Mo 35.08 36 P P 10 09 43.2 +0.4
baz=262
E20K Nigu River 35.12 31 P P 10 09 43.5 +0.4
baz=256,SNR=14
SII Sitkinak Islan 35.14 51 P P 10 09 44.1 +0.8
baz=275
K20K Telida 35.19 40 P P 10 09 44.3 +0.6
baz=266
L20K Farewell, AK 35.21 41 P P 10 09 44.7 +0.8
baz=267,SNR=5.2
J20K Nowinta River 35.23 38 IAmb IAmb 10 09 46.8
comp=Z,32nm,1.4s
J20K Nowinta River 35.23 38 P P 10 09 44.9 +0.9
baz=264,SNR=14
Q19K Cape Douglas, 35.28 47 P P 10 09 44.9 +0.3
Q19K Cape Douglas, 35.28 47 P P 10 09 45.4 +0.8
baz=272
P19K Oil Pt 35.48 46 P P 10 09 46.9 +0.6
baz=272
M20K Styx River 35.53 42 P P 10 09 48.7 +1.9
M20K Styx River 35.53 42 P P 10 09 46.9 +0.1
baz=269,SNR=7.1
OHAK Old Harbor 35.57 50 P P 10 09 47.6 +0.6
baz=275
O20K Slope Mountain 35.77 45 P P 10 09 49.4 +0.6
baz=272
G21K Allakaket 35.79 34 P P 10 09 49.0 +0.2
baz=262
A21K Barrow 35.83 26 P P 10 09 49.4 +0.4
baz=252,SNR=10.0
C21K Knifeblade Rid 35.83 30 P P 10 09 49.1 0.0
baz=257,SNR=18
KDAK Kodiak Island 35.91 49 P P 10 09 50.5 +0.6
KDAK Kodiak Island 35.91 49 P P 10 09 49.7 -0.1
comp=Z,22nm,0.8s,baz=329,slow=19,SNR=15
comp=Z,22nm,0.8s
KDAK Kodiak Island 35.91 49 P P 10 09 50.5 +0.6
baz=275
KDAK Kodiak Island 35.91 49 P P 10 09 50.5 +0.6
KDAK pmax pmax
comp=Z,49nm,0.8s
F21K Alatna River 35.91 33 P P 10 09 50.2 +0.3
baz=261,SNR=9.8
Q20K Shuyak Island 35.95 48 P P 10 09 51.3 +1.1
baz=274
E21K Killik River 35.96 31 P P 10 09 50.3 +0.1
baz=259
H21K Melozitna Rive 35.96 36 IAmb IAmb 10 09 52.4
comp=Z,22nm,1.1s
H21K Melozitna Rive 35.96 36 P P 10 09 51.1 +0.9
baz=264,SNR=19
SPCR Spurr Chakacha 35.97 43 P P 10 09 51.8 +1.3
baz=270
B21K Ikpikpuk River 36.00 29 P P 10 09 51.1 +0.6
B21K IAmb IAmb 10 09 52.5
comp=Z,38nm,0.9s
B21K Ikpikpuk River 36.00 29 P P 10 09 51.2 +0.6
baz=256
CHUM Lake Minchumin 36.01 39 P P 10 09 52.0 +1.3
baz=266,SNR=9.7
ENH Enshi 36.01 260 P P 10 09 50.6 -0.5
ENH IAmb IAmb 10 09 52.3
comp=Z,32nm,1.1s
PPLA Purkeypile 36.01 40 P P 10 09 52.0 +1.2
baz=268,SNR=9.4
CAST Castle Rocks 36.08 40 P P 10 09 52.5 +1.2
baz=267,SNR=5.4
STLK Strandline Lak 36.15 43 P P 10 09 53.2 +1.2
STLK IAmb IAmb 10 09 54.5
comp=Z,21nm,0.9s
I21K Tanana 36.25 37 P P 10 09 53.7 +0.9
baz=265
SKT Skwentna 36.29 42 P P 10 09 54.2 +1.0
SKT Skwentna 36.29 42 P P 10 09 54.4 +1.2
baz=270,SNR=5.9
CAPN Captain Cook N 36.49 44 P P 10 09 55.7 +1.0
baz=272
D22K Ayikyak River 36.51 30 P P 10 09 55.5 +0.6
baz=259
B22K Teshekpuk Lake 36.57 28 P P 10 09 55.3 0.0
baz=257
H22K Ishtalitna Cre 36.57 35 P P 10 09 56.8 +1.3
baz=265,SNR=14
BPAW Bear Paw Mtn. 36.60 38 P P 10 09 56.4 +0.5
baz=267
KTH Kantishna Hill 36.61 39 P P 10 09 57.4 +1.5
G22K Bettles 36.64 34 P P 10 09 56.5 +0.5
baz=263
BRLK Bradley Lake 36.66 46 P P 10 09 56.4 +0.1
BRLK IAmb IAmb 10 09 58.9
comp=Z,23nm,1.0s
SUA Susitna One 36.67 43 P P 10 09 56.9 +0.4
baz=271
BRSE Bradley Lake S 36.73 46 P P 10 09 57.4 +0.5
baz=274
LZH Lanzhou 36.84 273 ⇑P **P 10 09 59.5 +1.2**
LZH pP pP 10 10 05.9 -0.4
LZH sP sP 10 10 10.1 +0.6
LZH S **S 10 15 47.8 +7.2**
LZH pmax pmax
comp=Z,160nm,1.0s
LZH pmax pmax
comp=Z,320nm,4.6s
LZH LR LR
comp=Z,570nm,15.8s
LZH LR LR
comp=Z,850nm,15.8s
LZH LR LR
comp=Z,1μm,16.1s
CUT Chulitna 36.89 41 P **P 10 09 58.7 +0.6**
baz=270
TRF Thorofare Moun 36.89 40 P P 10 09 59.4 +1.0
TRF Thorofare Moun 36.89 40 P P 10 09 58.7 +0.3
baz=269,SNR=6.3
M22K Willow 36.96 42 P P 10 09 59.2 +0.4
baz=271
RC01 Rabbit Creek A 37.17 43 P P 10 10 01.1 +0.6
baz=273,SNR=6.2
COLD Coldfoot 37.18 33 P P 10 10 01.4 +0.7
COLD Coldfoot 37.18 33 P P 10 10 01.3 +0.7
baz=264,SNR=9.2
G23K Bananza Creek 37.20 34 P P 10 10 01.0 +0.2
baz=265,SNR=8.6
O22K Cooper Landing 37.20 44 P P 10 10 01.6 +0.8
O22K IAmb IAmb 10 10 07.9
comp=Z,35nm,0.8s
O22K Cooper Landing 37.20 44 P P 10 10 01.1 +0.3
baz=273
D23K Nanushuk River 37.24 30 P P 10 10 01.5 +0.4
baz=261,SNR=12
I23K Minto, Yukon-K 37.36 37 P P 10 10 03.5 +1.4
I23K IAmb IAmb 10 10 04.6
comp=Z,35nm,1.4s
I23K Minto, Yukon-K 37.36 37 P P 10 10 03.2 +1.1
baz=268,SNR=10
SEW Seward 37.36 45 P P 10 10 02.6 +0.4
baz=274
C23K Itkillik River 37.41 29 P P 10 10 02.9 +0.4
baz=260,SNR=21
PMR Palmer 37.44 43 P P 10 10 03.2 +0.4
baz=272,SNR=8.0
NEA2 Nenana 37.46 38 P P 10 10 03.4 +0.4
baz=269
E23K Chandalar 37.50 32 P P 10 10 03.4 0.0
baz=264
MCK McKinley 37.50 39 P P 10 10 04.3 +0.9
MCK IAmb IAmb 10 10 05.2
comp=Z,28nm,1.0s
MCK McKinley 37.50 39 P P 10 10 04.1 +0.6
baz=270,SNR=12
MCK McKinley 37.50 39 P P 10 10 04.3 +0.9
MCK pmax pmax
comp=Z,28nm,1.0s
GHO Glory Hole Cre 37.53 42 IAmb IAmb 10 10 05.4
comp=Z,29nm,1.2s
RND Reindeer 37.53 40 IAmb IAmb 10 10 05.2
comp=Z,32nm,1.0s
TOLK Toolik Lake Re 37.59 31 P P 10 10 04.3 +0.2
baz=263,SNR=12
KNK Knik Glacier 37.77 43 P P 10 10 06.5 +0.8
KNK IAmb IAmb 10 10 07.5
comp=Z,49nm,1.0s
KNK Knik Glacier 37.77 43 P P 10 10 06.1 +0.4
baz=273,SNR=11
SML Sawmill 37.81 42 P P 10 10 07.1 +1.0
SML Sawmill 37.81 42 P P 10 10 06.7 +0.6
baz=273,SNR=21
SML Sawmill 37.81 42 P P 10 10 07.1 +1.0
PWL Port Wells 37.86 44 P P 10 10 06.6 +0.1
baz=274
E24K Your Creek 37.92 32 P P 10 10 07.6 +0.7
baz=265
D24K Happy Valley 37.92 30 P P 10 10 07.5 +0.6
baz=263,SNR=14
COLA College 37.99 37 P **P 10 10 08.3 +0.9**
COLA IAmb IAmb 10 10 09.6
comp=Z,43nm,1.1s
COLA College 37.99 37 P **P 10 10 08.1 +0.6**
baz=269
COLA College 37.99 37 *c i* P **P 10 10 07.7 +0.3**
COLA pmax pmax
comp=Z,43nm,1.0s
H24K Noodor Dome 38.00 36 P P 10 10 08.8 +1.1
baz=268
C24K Franklin Bluff 38.04 29 P P 10 10 08.0 +0.2
baz=262
F24K Squaw Lake 38.10 33 P P 10 10 08.9 +0.5
baz=266
M23K Glacier View 38.10 42 P P 10 10 09.0 +0.5
baz=273,SNR=8.3
GTA Gaotai 38.12 280 P **P 10 10 09.8 +0.8**
GTA pP pP 10 10 14.5 -2.6
GTA PcP **PcP 10 12 25.3 +1.8**
GTA sS sS 10 16 12.6 -0.6
GTA pmax pmax
comp=Z,52nm,1.4s
GTA pmax pmax
comp=Z,330nm,5.2s
GTA LR LR
comp=Z,790nm,15.6s
GTA LR LR
comp=Z,410nm,16.4s
GTA LR LR
comp=Z,1μm,14.9s
POKR Poker Plat Res 38.17 37 IAmb IAmb 10 10 11.5
comp=Z,42nm,0.9s
POKR Poker Plat Res 38.17 37 P P 10 10 10.1 +1.0
baz=269,SNR=23
G24K Hadweenzic Riv 38.21 34 P P 10 10 10.7 +1.3
baz=267
SCM Sheep Creek Mo 38.29 42 IAmb IAmb 10 10 12.0
comp=Z,38nm,1.0s
SCM Sheep Creek Mo 38.29 42 P P 10 10 10.9 +0.7
baz=274,SNR=7.0
HDA Harding Lake 38.37 38 P P 10 10 11.2 +0.4
baz=271,SNR=13
P23K Montague Islan 38.39 45 P P 10 10 10.9 0.0
baz=276
IL31 38.40 37 IAmb IAmb 10 10 12.6
comp=Z,42nm,1.5s
ILAR Eielson Array 38.40 37 P P 10 10 11.7 +0.7
ILAR Eielson Array 38.40 37 P P 10 10 10.9 0.0
comp=Z,21nm,1.2s,baz=255,slow=6.8,SNR=50
ILAR pPcP 10 12 36.2
comp=Z,1.3nm,0.6s,baz=280,slow=3.9,SNR=7.6
ILAR LR LR 10 27 44.1
comp=Z,454nm,20.0s,baz=258,slow=39
comp=Z,21nm,1.2s
ILAR Eielson Array 38.40 37 P P 10 10 11.0 0.0
GLI Glacier Island 38.47 44 P P 10 10 12.3 +0.7
baz=275
GULI GuiLin 38.54 253 P **P 10 10 13.1 +0.5**
GULI S **S 10 16 10.6 +4.3**
GULI pmax pmax
comp=Z,20nm,1.3s
GULI LR LR
comp=Z,360nm,20.1s
GULI LR LR
comp=Z,780nm,17.4s
GULI LR LR
comp=Z,920nm,16.6s
D25K Kavik River 38.81 30 P P 10 10 15.0 +0.6
baz=265,SNR=29
M24K Tolsona, Glenn 38.81 42 IAmb IAmb 10 10 16.6
comp=Z,32nm,0.8s
M24K Tolsona, Glenn 38.81 42 P P 10 10 15.7 +1.2
baz=274,SNR=8.7
H25L Birch Creek 38.86 35 P P 10 10 15.5 +0.8
baz=269,SNR=6.0
K24K Donnelly Dome 38.90 39 P P 10 10 15.5 +0.2
baz=272,SNR=12
F25K Christian Rive 38.96 33 P P 10 10 16.5 +0.8
baz=268,SNR=10
PRP Porcupine Dome 38.97 36 P P 10 10 17.0 +1.1
baz=271
KLU Klutina 38.98 43 IAmb IAmb 10 10 18.2
comp=Z,34nm,1.0s
KLU Klutina 38.98 43 P P 10 10 16.7 +0.7
baz=275,SNR=10
Q23K Middleton Isla 38.99 46 P P 10 10 16.3 +0.4
baz=278
J25K Salcha River, 39.05 38 P P 10 10 17.0 +0.5
baz=272,SNR=5.9
PAX Paxson 39.08 40 P P 10 10 17.4 +0.6
PAX Paxson 39.08 40 P P 10 10 17.3 +0.6
baz=274,SNR=10
PAX Paxson 39.08 40 P P 10 10 17.4 +0.6
PAX pmax pmax
comp=Z,17nm,1.2s
DIV Divide 39.09 43 P P 10 10 17.3 +0.5
DIV IAmb IAmb 10 10 18.9
comp=Z,23nm,0.8s
FYU Fort Yukon 39.10 34 IAmb IAmb 10 10 19.6
comp=Z,58nm,1.2s
EYAK Cordova Ski Ar 39.16 44 P P 10 10 18.3 +1.0
baz=277
HARP HAARP 39.27 41 P P 10 10 19.4 +1.1
baz=275,SNR=8.0
RIDG Independent Ri 39.32 39 P P 10 10 19.3 +0.6
RIDG IAmb IAmb 10 10 20.6
comp=Z,28nm,1.0s
RIDG Independent Ri 39.32 39 P P 10 10 18.9 +0.2
baz=273,SNR=12
BMAR Burnt Mountain 39.37 33 P P 10 10 20.2 +1.1
C26K Camden Bay 39.37 29 P P 10 10 20.1 +1.1
baz=266
F26K Sheenjek River 39.54 33 P P 10 10 22.2 +1.7
baz=269,SNR=12
N25K Chitina, Valde 39.60 42 IAmb IAmb 10 10 23.6
comp=Z,42nm,1.4s
N25K Chitina, Valde 39.60 42 P P 10 10 22.1 +0.9
baz=276,SNR=7.5
CD2 Chengdu 39.65 266 P P 10 10 22.5 +0.6
CD2 S **S 10 16 25.1 +2.0**
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,230nm,5.0s
CD2 LR LR
comp=Z,630nm,13.0s
CD2 LR LR
comp=Z,530nm,13.7s
CD2 LR LR
comp=Z,740nm,15.3s
BMRM Bremner River 39.67 43 IAmb IAmb 10 10 24.0
comp=Z,42nm,1.0s
BMRM Bremner River 39.67 43 P P 10 10 22.5 +0.9
baz=277,SNR=8.3
G26K Porcupine Rive 39.67 34 P P 10 10 22.9 +1.3
baz=270
SCRK Sand Creek 39.69 39 P P 10 10 22.0 +0.2
SCRK Sand Creek 39.69 39 P P 10 10 22.1 +0.2
baz=274,SNR=10
C27K Jago River 39.77 30 P P 10 10 22.9 +0.5
baz=267
J26L Joseph Creek 39.84 38 P P 10 10 24.1 +1.0
baz=274
KAIM Kayak Island 39.89 45 P P 10 10 24.1 +0.6
baz=278
I26K Coal Creek Min 39.97 36 P P 10 10 24.9 +0.9
baz=273
L26K Log Cabin Wild 40.04 40 P P 10 10 25.7 +0.9
baz=276,SNR=19
VRDI Verde Repeater 40.19 43 IAmb IAmb 10 10 28.7
comp=Z,30nm,1.0s
M26K Nabesna, AK 40.27 41 IAmb IAmb 10 10 29.7
comp=Z,60nm,1.0s
M26K Nabesna, AK 40.27 41 P P 10 10 28.4 +1.8
baz=277,SNR=34
GYA Guiyang 40.31 258 P P 10 10 27.8 +0.3
GYA pmax pmax
comp=Z,22nm,1.1s
G27K Doyon Strip 40.52 34 P P 10 10 29.8 +1.2
baz=272
H27K Steamboat Moun 40.59 35 P P 10 10 30.4 +1.1
baz=273,SNR=22
I27K Kandik River 40.59 36 P P 10 10 30.4 +1.1
baz=274
D27M Malcolm River 40.73 30 P P 10 10 31.1 +0.8
baz=270
L27K Beaver Creek, 40.73 40 IAmb IAmb 10 10 32.9
comp=Z,26nm,0.8s
L27K Beaver Creek, 40.73 40 P P 10 10 32.3 +1.9
baz=277
M27K Edge Creek, AK 40.79 41 P P 10 10 32.9 +1.8
baz=278,SNR=22
EGAK Eagle 40.85 37 P P 10 10 31.8 +0.5
EGAK IAmb IAmb 10 10 32.9
comp=Z,48nm,1.3s
EGAK Eagle 40.85 37 P P 10 10 31.9 +0.5
baz=275,SNR=21
MESA MESA 41.08 44 P P 10 10 35.0 +1.5
baz=280,SNR=5.4
F28M Old Crow 41.17 33 P P 10 10 35.8 +1.8
F28M Old Crow 41.17 33 P P 10 10 35.6 +1.6
baz=273,SNR=21
BVCY Beaver Creek 41.25 41 P P 10 10 36.3 +1.6
baz=278,SNR=20
E28M Babbage River 41.26 31 P P 10 10 35.5 +0.8
E28M Babbage River 41.26 31 P P 10 10 36.0 +1.4
baz=272,SNR=12
I28M Miner Creek 41.30 36 P P 10 10 36.5 +1.3
baz=276,SNR=16
YUK3 Moose Creek 41.53 42 P P 10 10 38.4 +1.2
baz=279,SNR=14
DAWY Dawson 41.69 38 P P 10 10 39.1 +0.8
DAWY Dawson 41.69 38 P P 10 10 38.4 +0.1
baz=278
O28M Mount Upton 41.83 43 P P 10 10 41.1 +1.3
baz=281,SNR=9.8
E29M Blow River 41.87 32 P P 10 10 41.2 +1.5
baz=274
H29M Whitestone 41.87 35 P P 10 10 41.3 +1.6
baz=276
PCA Pinnacle 41.92 44 IAmb IAmb 10 10 42.3
comp=Z,29nm,0.8s
PINM Pinnacle 41.93 44 P P 10 10 40.4 +0.1
baz=281
G29M Pine Creek 41.94 34 P P 10 10 41.6 +1.3
baz=276
YUK8 Steele Glacier 41.94 42 P P 10 10 41.8 +1.1
baz=280
I29M Ogilvie Camp, 41.99 36 P P 10 10 41.8 +1.0
baz=277,SNR=17
J29N Klondike Camp 42.15 37 P P 10 10 42.4 +0.3
baz=278
M29M Somme Creek 42.35 40 P P 10 10 45.2 +1.5
baz=280,SNR=10
DGZ Jazzator, Alta 42.37 300 ‖ *e* P P 10 10 38.3 -5.8
DGZ pmax pmax
comp=Z,8.0nm,0.9s
L29M L29M 42.39 39 IAmb IAmb 10 10 47.3
comp=Z,23nm,0.8s
L29M L29M 42.39 39 P P 10 10 45.9 +1.8
baz=280,SNR=21
YUK4 Talbot Arm 42.46 42 P P 10 10 46.2 +1.4
baz=281,SNR=7.8
EPYK Eagle Plains 42.52 35 IAmb IAmb 10 10 47.6
comp=Z,49nm,1.1s
EPYK Eagle Plains 42.52 35 P P 10 10 46.1 +1.1
baz=277,SNR=23
K29M Barlow Dome 42.54 38 P P 10 10 46.7 +1.4
baz=279,SNR=21
ZALV Zalesovo Beam 42.59 307 P P 10 10 43.8 -1.9
comp=Z,1.4nm,0.4s,baz=62,slow=5.9,SNR=7.4
ZALV PcP **PcP 10 12 38.3 +0.9**
comp=Z,10.0nm,0.9s,baz=90,slow=3.0,SNR=15
ZALV pPcP 10 12 51.7
comp=Z,8.2nm,0.7s,baz=74,slow=2.7,SNR=9.1
ZALV LR LR 10 29 27.1
comp=Z,1μm,20.6s,baz=67,slow=38
comp=Z,1.4nm,0.4s
G30M tAoh Zraii Nji 42.64 34 P P 10 10 47.0 +1.0
baz=277,SNR=17
YUK6 Outpost Mounta 42.68 43 P P 10 10 47.8 +1.2
baz=282
O29M Mount Kennedy 42.71 44 P P 10 10 48.3 +1.6
baz=282
F30M Barrier River 42.73 33 P P 10 10 48.1 +1.4
baz=277,SNR=23
I30M Mount Dempster 42.81 36 IAmb IAmb 10 10 49.9
comp=Z,51nm,1.1s
I30M Mount Dempster 42.81 36 P P 10 10 48.5 +1.0
baz=279
J30M Hart River 42.94 37 P P 10 10 49.6 +1.1
baz=280,SNR=16
M30M Minto, Yukon 43.09 40 P P 10 10 52.2 +2.5
M30M Minto, Yukon 43.09 40 P P 10 10 50.8 +1.2
baz=281,SNR=14
HYT Haines Junctio 43.11 43 IAmb IAmb 10 10 53.6
comp=Z,96nm,1.4s
HYT Haines Junctio 43.11 43 P P 10 10 51.5 +1.5
baz=283,SNR=23
GOMU GeErMu 43.12 278 P P 10 10 51.1 +0.4
GOMU S **S 10 17 17.8 +2.7**
GOMU pmax pmax
comp=Z,120nm,0.9s
GOMU LR LR

comp=Z,2µm,16.0s
GOMU LR LR
comp=Z,3µm,15.9s
GOMU LR LR
comp=Z,5µm,15.9s
QIZ Qiongzhong 43.24 247 P **P 10 10 53.5 +2.1**
QIZ PP **PP 10 12 33.6 +1.5**
QIZ S **S 10 17 20.0 +3.6**
QIZ SS **SS 10 20 25.5 -4.6**
QIZ LR LR
comp=Z,440nm,18.5s
QIZ LR LR
comp=Z,560nm,18.5s
QIZ LR LR
comp=Z,700nm,17.0s
MAYO Mayo, Yukon 43.30 38 IAmb IAmb 10 11 18.9
comp=Z,49nm,1.0s
MAYO Mayo, Yukon 43.30 38 P **P 10 10 52.9 +1.6**
baz=281,SNR=7.1
G31M Satah River 43.41 34 P **P 10 10 53.3 +1.2**
baz=279,SNR=15
INK Inuvik 43.49 31 IAmb IAmb 10 10 55.1
comp=Z,34nm,1.1s
INK Inuvik 43.49 31 LR LR 10 32 37.4
comp=Z,274nm,18.7s,baz=275,slow=41
INK Inuvik 43.49 31 P **P 10 10 54.0 +1.3**
baz=278,SNR=28
INK Inuvik 43.49 31 P **P 10 10 54.1 +1.3**
INK pmax pmax
comp=Z,34nm,1.1s
P30M Million Dollar 43.53 44 P **P 10 10 55.7 +2.4**
baz=284
F31M Tsiigehtchic 43.54 33 IAmb IAmb 10 10 55.4
comp=Z,44nm,1.1s
F31M Tsiigehtchic 43.54 33 P **P 10 10 54.3 +1.2**
baz=279,SNR=21
H31M Peel River 43.56 35 P **P 10 10 54.8 +1.4**
baz=280,SNR=19
PZH PanZhiHua 43.70 262 P **P 10 10 56.5 +1.3**
PZH S **S 10 17 28.3 +5.0**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,140nm,5.3s
PZH LR LR
comp=Z,410nm,14.3s
PZH LR LR
comp=Z,280nm,15.4s
PZH LR LR
comp=Z,300nm,15.7s
N31M Braeburn, Yuko 43.78 41 IAmb IAmb 10 10 59.0
comp=Z,64nm,1.1s
N31M Braeburn, Yuko 43.78 41 P **P 10 10 57.2 +1.9**
baz=283,SNR=19
O30N Mendenhall 43.80 43 IAmb IAmb 10 10 58.9
comp=Z,52nm,1.2s
O30N Mendenhall 43.80 43 P **P 10 10 57.3 +1.9**
baz=284,SNR=15
KMI Kunming 43.88 260 ⇑P **P 10 10 57.4 +0.7**
KMI sP pwP 10 11 09.4 -2.2
KMI S **S 10 17 23.3 -2.8**
KMI pmax pmax
comp=Z,26nm,1.4s
KMI pmax pmax
comp=Z,200nm,4.3s
KMI LR LR
comp=Z,560nm,17.3s
KMI LR LR
comp=Z,320nm,13.9s
KMI LR LR
comp=Z,570nm,16.9s
PLBC Pleasant Camp 43.99 44 P **P 10 10 59.1 +2.2**
baz=285,SNR=7.9
M31M Drury Creek, Y 44.26 40 IAmb IAmb 10 11 02.2
comp=Z,50nm,1.3s
M31M Drury Creek, Y 44.26 40 P **P 10 11 00.9 +1.9**
baz=284,SNR=18
WHY Whitehorse 44.40 42 IAmb IAmb 10 11 03.8
comp=Z,36nm,1.1s
WHY Whitehorse 44.40 42 P **P 10 11 02.2 +1.8**
baz=285,SNR=13
WMQ Urumqi 44.44 292 *e*P **P 10 11 02.8 +2.0**
WMQ pmax pmax
comp=Z,35nm,0.9s
WMQ LR LR
comp=Z,1µm,15.1s
WMQ LR LR
comp=Z,940nm,16.1s
WMQ LR LR
comp=Z,710nm,16.7s
S31K Pelican 44.45 46 P **P 10 11 02.6 +2.0**
baz=286
SKAG Skagway 44.50 44 P **P 10 11 02.7 +1.8**
baz=286
FARO Faro, Yukon 44.73 40 IAmb IAmb 10 11 05.6
comp=Z,23nm,1.0s
FARO Faro, Yukon 44.73 40 P **P 10 11 04.2 +1.4**
baz=284,SNR=17
BESE Bessie Mountai 44.98 45 IAmb IAmb 10 11 11.2
comp=Z,53nm,1.4s
N32M Quiet Lake 45.13 41 P **P 10 11 07.3 +1.3**
baz=286
SIT Sitka 45.19 47 P **P 10 11 07.4 +1.0**
baz=288
R32K Eaglecrest 45.23 46 P **P 10 11 08.0 +1.1**
baz=287
P32M Atlin 45.25 44 P **P 10 11 08.8 +1.8**
baz=287
P33M Teslin, Yukon 45.51 43 P **P 10 11 10.9 +1.8**
baz=287,SNR=30
SLVN Son La 45.58 255 IAmb IAmb 10 11 26.6
comp=Z,18nm,1.1s
A36M Sachs Harbour 45.67 26 P **P 10 11 10.8 +0.7**
baz=282,SNR=51
Q32M Nakina River 46.15 44 P **P 10 11 15.6 +1.3**
baz=288
MK31 Makanchi Array 46.64 298 P **P 10 11 17.0 -1.2**
MK31 IAmb IAmb 10 11 20.0
comp=Z,18nm,1.2s
MK31 Makanchi Array 46.64 298 *de*P **P 10 11 17.0 -1.2**
MKAR Makanchi Array 46.64 298 P **P 10 11 17.0 -1.1**
MKAR Makanchi Array 46.64 298 P **P 10 11 17.2 -1.0**
comp=Z,4.4nm,0.5s,baz=75,slow=7.0,SNR=74
MKAR PcP **PcP 10 12 52.4 +0.8**
comp=Z,4.9nm,0.8s,baz=56,slow=3.1,SNR=4.6
MKAR pPcP 10 13 06.6
comp=Z,5.7nm,0.7s,baz=151,slow=0.2,SNR=6.3
MKAR LR LR 10 31 54.0
comp=Z,2µm,18.3s,baz=65,slow=38
comp=Z,4.4nm,0.5s
R33M Jennings River 46.65 43 P **P 10 11 21.0 +2.9**
baz=289,SNR=25
C36M Paulatuk 46.65 29 P **P 10 11 18.2 +0.4**
C36M Paulatuk 46.65 29 P **P 10 11 18.5 +0.6**
baz=285,SNR=19
MAKZ Makanchi 46.83 298 P **P 10 11 18.6 -1.1**
MAKZ Makanchi 46.83 298 P **P 10 11 18.6 -1.1**
MAKZ pmax pmax
comp=Z,15nm,1.3s
TNCH TengChong 46.89 263 *e*P **P 10 11 22.0 +1.5**
TNCH pmax pmax
comp=Z,54nm,0.4s
TNCH pmax pmax
comp=Z,200nm,4.3s
S34M Telegraph Cree 47.05 45 IAmb IAmb 10 11 25.2
comp=Z,21nm,1.1s
S34M Telegraph Cree 47.05 45 P **P 10 11 23.4 +2.2**
baz=290
KURK Kurchatov 47.27 304 P **P 10 11 21.1 -1.9**
KURK IAmb IAmb 10 11 23.3
comp=Z,24nm,1.2s
KURK Kurchatov 47.27 304 *de*P **P 10 11 20.8 -2.1**
KURK pmax pmax
comp=Z,19nm,1.3s
KURBB Kurchatov Arra 47.36 304 P **P 10 11 21.5 -2.1**
comp=Z,7.1nm,0.6s,baz=70,slow=8.4,SNR=30
KURBB PcP **PcP 10 12 54.4 +0.4**
comp=Z,4.9nm,0.7s,baz=67,slow=3.4,SNR=9.2
KURBB pPcP 10 13 08.9
comp=Z,1.7nm,0.2s,baz=69,slow=3.3,SNR=5.7
KURBB LR LR 10 32 09.9
comp=Z,372nm,18.4s,baz=150,slow=37
comp=Z,7.1nm,0.6s
DLBC Dease Lake 47.43 44 IAmb IAmb 10 11 28.2
comp=Z,30nm,1.2s
DLBC Dease Lake 47.43 44 LR LR 10 34 18.5
comp=Z,308nm,18.6s,baz=286,slow=40
DLBC Dease Lake 47.43 44 P **P 10 11 26.7 +2.5**
baz=290,SNR=8.8
WTLY Watson Lake, Y 47.45 42 IAmb IAmb 10 11 27.4
comp=Z,25nm,1.1s
WTLY Watson Lake, Y 47.45 42 P **P 10 11 26.3 +2.0**
baz=290,SNR=14
V35K Ketchikan 47.72 49 P **P 10 11 29.8 +3.5**
baz=292
T35M Bob Quinn 47.83 46 P **P 10 11 30.6 +3.4**
baz=291,SNR=8.2
JAY Jayapura 48.54 194 LR LR 10 35 12.3
comp=Z,120nm,18.3s,baz=4.0,slow=40
WRGLY Wrigley 48.77 37 P **P 10 11 35.9 +1.5**
baz=291,SNR=17
LSA Lhasa 49.25 273 P **P 10 11 41.0 +2.0**
LSA pmax pmax
comp=Z,43nm,1.0s
LSA Lhasa 49.25 273 P **P 10 11 40.7 +1.6**
TOAD Toad River Com 49.61 43 P **P 10 11 42.0 +1.1**
baz=293,SNR=9.7
KOTAN Kotaneelee Air 49.66 41 P **P 10 11 42.7 +1.5**
baz=293
CHTO Chiang Mai 50.69 256 P **P 10 11 49.1 -0.4**
CHTO IAmb IAmb 10 12 03.9
comp=Z,21nm,1.0s
CHTO Chiang Mai 50.69 256 P **P 10 11 49.2 -0.4**
CHTO pmax pmax
comp=Z,21nm,1.0s
BBB Bella Bella 50.90 51 LR LR 10 31 09.9
comp=Z,96nm,21.5s,baz=258,slow=33
CM31 Chiang Mai Arr 50.94 256 P **P 10 11 51.0 -0.4**
CMAR Chiang Mai Arr 50.94 256 P **P 10 11 51.7 +0.3**
CMAR Chiang Mai Arr 50.94 256 P **P 10 11 52.1 +0.7**
comp=Z,6.6nm,1.0s,baz=36,slow=7.2,SNR=20
CMAR pPcP 10 13 23.4
comp=Z,2.7nm,0.6s,baz=10.0,slow=2.5,SNR=6.1
CMAR LR LR 10 35 49.4
comp=Z,480nm,18.3s,baz=60,slow=39
comp=Z,6.6nm,1.0s
BVAR Borovoye Array 50.95 310 P **P 10 11 49.6 -1.5**
comp=Z,3.8nm,0.7s,baz=64,slow=6.8,SNR=12
BVAR PcP **PcP 10 13 07.6 +0.6**
comp=Z,10.0nm,0.8s,baz=85,slow=3.3,SNR=9.8
BVAR pPcP 10 13 22.1
comp=Z,8.6nm,0.6s,baz=64,slow=3.7,SNR=7.7
BVAR LR LR 10 34 56.4
comp=Z,1µm,19.7s,baz=57,slow=38
comp=Z,3.8nm,0.7s
BRVK Borovoye 50.99 310 P **P 10 11 50.1 -1.2**
BRVK Borovoye 50.99 310 *de*P **P 10 11 49.4 -2.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
ANVS Anan'yevo 51.41 295 P **P 10 11 56.4 +1.5**
ANVS pmax pmax
comp=Z,15nm,1.1s
TARG Taragay, Kyrgy 51.85 294 IAmb IAmb 10 12 00.7
comp=Z,23nm,1.0s
TARG Taragay, Kyrgy 51.85 294 P **P 10 11 59.7 +1.2**
TARG pmax pmax
comp=Z,24nm,1.3s
KDJ Kajisay 52.05 295 IAmb IAmb 10 12 01.6
comp=Z,38nm,1.0s
KDJ Kajisay 52.05 295 P **P 10 12 00.6 +0.9**
KDJ pmax pmax
comp=Z,40nm,1.3s
ULHL Ulahol 52.59 295 P **P 10 12 04.0 +0.3**
SNR=41
RES Resolute Bay 52.59 18 IAmb IAmb 10 12 05.7
comp=Z,20nm,1.1s
RES Resolute Bay 52.59 18 LR LR 10 37 45.5
comp=Z,382nm,19.1s,baz=329,slow=40
RES Resolute Bay 52.59 18 P **P 10 12 03.0 0.0**
RES pmax pmax
comp=Z,20nm,1.0s
TKM2 Tokmak 2 52.66 296 P **P 10 12 05.0 +0.8**
SNR=13
BOOM Boomskoye usch 52.66 296 IAmb IAmb 10 12 06.3
comp=Z,38nm,1.1s
BOOM Boomskoye usch 52.66 296 P **P 10 12 04.9 +0.7**
BOOM pmax pmax
comp=Z,34nm,1.1s
YKA Yellowknife Ar 52.77 36 P **P 10 12 05.3 +0.8**
comp=Z,13nm,1.0s,baz=299,slow=7.5,SNR=81
YKA pPcP 10 13 28.2
comp=Z,2.0nm,0.7s,baz=299,slow=3.9,SNR=7.6
YKA LR LR 10 37 42.3
comp=Z,139nm,18.7s,baz=281,slow=40
comp=Z,13nm,1.0s
CHMS Chumysh 53.15 297 P **P 10 12 08.5 +0.9**
SNR=5.4
KBK Karagaybulak 53.20 296 P **P 10 12 08.9 +0.7**
SNR=13
BRDH Bariadhala 53.22 266 LR LR 10 36 12.3
comp=Z,105nm,18.3s,baz=12,slow=38
NOR Nord 53.22 358 P **P 10 12 07.3 -0.3**
NOR pmax pmax
comp=Z,9.0nm,2.6s
NOR Nord 53.22 358 *e*P **P 10 12 03.8 -3.7**
NOR IAmb IAmb 10 12 07.7
comp=Z,26nm,1.3s
AAK Ala-Archa 53.50 297 P **P 10 12 10.1 -0.3**
AAK IAmb IAmb 10 12 11.9
comp=Z,23nm,0.9s
AAK Ala-Archa 53.50 297 LR LR 10 36 14.5
comp=Z,1µm,18.2s,baz=52,slow=38
AAK Ala-Archa 53.50 297 P **P 10 12 10.8 +0.5**
SNR=19
AAK Ala-Archa 53.50 297⇓ *e*P **P 10 12 10.2 -0.2**
AAK pmax pmax
comp=Z,23nm,0.8s
AAK Ala-Archa 53.50 297 *i* P **P 10 12 10.4 0.0**
SNR=29
AAK Ala-Archa 53.50 297 *e*P **P 10 12 10.2 -0.2**
KBS Kingsbay 53.79 351 P **P 10 12 11.3 -0.5**
KBS Kingsbay 53.79 351 *e*P **P 10 12 10.8 -0.9**
KBS Kingsbay 53.79 351⇑ *e*P **P 10 12 11.9 +0.1**
KBS pmax pmax
comp=Z,18nm,1.2s
KBS Kingsbay 53.79 351 *i* P **P 10 12 10.6 -1.1**
SPA0 Spitsbergen Ar 53.87 350 *e*P **P 10 12 10.8 -1.6**
SPITS Spitsbergen Ar 53.87 350 P **P 10 12 10.3 -2.1**
comp=Z,4.0nm,0.4s,baz=70,slow=8.1,SNR=22
SPITS LR LR 10 37 24.9
comp=Z,421nm,18.2s,baz=354,slow=39
comp=Z,4.0nm,0.4s
ARLS Aral 54.01 296 P **P 10 12 13.9 -0.2**
ARLS pmax pmax
comp=Z,30nm,0.8s
SVE Sverdlovsk 54.16 317 *e*P **P 10 12 13.3 -1.5**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,963nm,18.0s
KSH Kashi 54.19 293 P P 10 12 20.0 +4.6
KSH pP sP 10 12 26.8 0.0
KSH pmax pmax
comp=Z,35nm,1.1s
KSH LR LR
comp=Z,1µm,18.9s
KSH LR LR
comp=Z,630nm,18.6s
KSH LR LR
comp=Z,1µm,18.2s
AML Almayashu 54.27 296 P **P 10 12 16.9 +0.6**
SNR=22
ARSB Arslanbob 55.15 296 IAmb IAmb 10 12 24.5
comp=Z,15nm,1.0s
ARTI Arti 55.46 318 P **P 10 12 21.8 -2.4**
ARTI IAmb IAmb 10 12 24.3
comp=Z,22nm,1.0s
ARTI Arti 55.46 318 LR LR 10 38 00.6
comp=Z,543nm,19.0s,baz=55,slow=38
ARTI Arti 55.46 318 *d i*P **P 10 12 21.8 -2.4**
ARTI 10 13 21.6
ARTI S **S 10 20 06.2 -0.5**
ARTI SS **SS 10 23 47.9 -3.0**
ARTI pmax pmax
comp=Z,18nm,0.9s
ARTI MLR MLR
comp=Z,911nm,17.0s
ARK Arkit 55.54 297 P **P 10 12 26.4 +1.3**
ARK pmax pmax
comp=Z,44nm,1.3s
OHH Osh 55.70 295 P **P 10 12 27.0 +0.7**
OHH pmax pmax
comp=Z,46nm,1.0s
KK31 Karatay Array 55.74 299 P **P 10 12 25.9 -0.5**
KK31 IAmb IAmb 10 12 27.6
comp=Z,24nm,0.8s
KK31 Karatay Array 55.74 299 P **P 10 12 26.0 -0.5**
KK31 pmax pmax
comp=Z,24nm,0.9s
KKAR Karatay Array 55.74 299 P **P 10 12 25.9 -0.6**
KKAR IAmb IAmb 10 12 27.5
comp=Z,16nm,0.9s
KKAR Karatay Array 55.74 299 P **P 10 12 25.9 -0.5**
KKAR Karatay Array 55.74 299 P **P 10 12 26.0 -0.5**
TULEG Thule 55.79 11 P **P 10 12 25.6 -0.6**
TULEG IAmb IAmb 10 12 26.7
comp=Z,36nm,1.2s
NEEM North Greenlan 56.75 6 *e*P **P 10 12 31.4 -2.0**
NEEM IAmb IAmb 10 12 33.5
comp=Z,79nm,1.0s
DAG Danmarks Havn 58.08 357 P **P 10 12 41.8 -0.6**
DAG pmax pmax
comp=Z,43nm,1.4s
DAG Danmarks Havn 58.08 357 *i* P **P 10 12 41.0 -1.4**
DAG IAmb IAmb 10 12 42.6
comp=Z,37nm,1.0s
H04A Detroit Lake 58.08 57 P **P 10 12 44.5 +1.5**
H04A IAmb IAmb 10 12 59.4
comp=Z,26nm,0.9s
KIRV Kirov 58.29 323 LR LR 10 40 12.3
comp=Z,1µm,18.0s,baz=44,slow=38
E07A Sunnyside 58.39 54 P **P 10 12 46.0 +0.9**
E07A IAmb IAmb 10 13 02.7
comp=Z,13nm,0.9s
ABKAR Akbulak array 58.52 310 P **P 10 12 44.5 -1.4**
C09A Chrisman Ranch 58.59 52 IAmb IAmb 10 13 02.1
comp=Z,11nm,0.8s
ARCES ARCESS Array B 58.88 341 P **P 10 12 47.7 -0.5**
comp=Z,15nm,0.9s,baz=30,slow=6.8,SNR=10
ARCES PcP **PcP 10 13 37.5 +0.3**
comp=Z,8.2nm,0.9s,baz=52,slow=3.2,SNR=4.6
ARCES LR LR 10 41 55.3
comp=Z,191nm,19.4s,baz=24,slow=40
comp=Z,15nm,0.9s
AKTO Aktyubinsk 58.88 312 LR LR 10 40 37.6
comp=Z,2µm,18.4s,baz=66,slow=39
KULLO Kullorsuaq 58.90 9 *i* P **P 10 12 46.6 -1.6**
KULLO IAmb IAmb 10 12 49.0
comp=Z,33nm,1.1s
NEW Newport 58.96 51 IAmb IAmb 10 13 04.9
comp=Z,18nm,1.1s
NEW Newport 58.96 51 P **P 10 12 50.4 +1.3**
CHGR Chuyangaron 59.07 295 P **P 10 12 50.4 +0.3**
CHGR pmax pmax
comp=Z,260nm,1.0s
SIMJ Simiganj 59.16 295 P **P 10 12 50.9 +0.1**
DZET Dzherino 59.20 296 P **P 10 12 51.3 +0.3**
DZET pmax pmax
comp=Z,53nm,1.2s
NIL Nilore 59.32 288 P **P 10 12 52.9 +1.1**
NIL Nilore 59.32 288 P **P 10 12 52.9 +1.1**
NIL pmax pmax
comp=Z,173nm,1.0s
PINE Pine Mountain 59.32 57 IAmb IAmb 10 13 08.7
comp=Z,23nm,0.8s
E09A Wood Farm, Sta 59.39 53 P **P 10 12 52.6 +0.6**
E09A IAmb IAmb 10 13 08.0
comp=Z,19nm,0.9s
KULM Kulim 59.43 244 P **P 10 12 52.6 -0.1**
KULM IAmb IAmb 10 12 55.7
comp=Z,31nm,1.1s
YBH Yreka Blue Hor 59.43 60 LR LR 10 33 25.1
comp=Z,160nm,21.9s,baz=304,slow=31
J05D Fort Rock, OR 59.44 58 P **P 10 12 52.9 +0.3**
J05D IAmb IAmb 10 13 08.9
comp=Z,15nm,0.8s
KTK1 Kautokeino 59.81 341 *e*P **P 10 12 53.4 -1.1**
JETT Jettan, Norway 60.02 342 *e*P **P 10 12 55.4 -0.6**
F10A Beach Ranch, E 60.22 53 IAmb IAmb 10 13 17.4
comp=Z,13nm,1.1s
TRO Tromso 60.27 343 *e*P **P 10 12 57.2 -0.5**
DBG Daneborg 60.59 357 *i* P **P 10 12 57.9 -1.9**
DBG IAmb IAmb 10 12 59.2
comp=Z,38nm,1.3s
UPNV Upernavik 60.68 9 *i* P **P 10 12 58.0 -2.5**
UPNV IAmb IAmb 10 13 01.7
comp=Z,17nm,0.7s
MTN Manton Dam 60.71 203 P **P 10 13 03.5 +2.2**
comp=Z,55nm,1.2s
KLMR Klimovskoe 60.80 329 *e*P **P 10 12 58.6 -2.8**
KLMR *e* 10 13 42.5
J08A Circle Bar Ran 61.03 56 IAmb IAmb 10 13 21.9
comp=Z,19nm,1.2s
PLID Pearl Lake 61.44 54 IAmb IAmb 10 13 22.2
comp=Z,20nm,0.9s
ORV Oroville 61.45 62 IAmb IAmb 10 13 21.3
comp=Z,17nm,1.1s
WVOR Wild Horse Val 61.48 57 P **P 10 13 08.0 +1.4**
WVOR IAmb IAmb 10 13 22.8
comp=Z,16nm,1.1s
WVOR Wild Horse Val 61.48 57 P **P 10 13 08.0 +1.4**
WVOR pmax pmax
comp=Z,17nm,1.1s
MSO Missoula 61.55 51 IAmb IAmb 10 13 22.8
comp=Z,12nm,0.8s
KBL Kabul 61.58 291 P **P 10 13 06.7 -0.7**
KBL Kabul 61.58 291 P **P 10 13 06.7 -0.7**
KBL pmax pmax
comp=Z,94nm,1.1s
SUMG Summit 62.25 3 P **P 10 13 11.8 +0.3**
SUMG Summit 62.25 3 P **P 10 13 11.8 +0.3**
SUMG pmax pmax
comp=Z,109nm,1.2s
SUMG Summit 62.25 3 *i* P **P 10 13 11.0 -0.6**
SUMG IAmb IAmb 10 13 12.9
comp=Z,104nm,1.2s
LYMT Lyon Mountain 62.37 50 P **P 10 13 14.0 +1.4**
PSI Prapat 62.43 244 LR LR 10 43 45.7
comp=Z,111nm,18.2s,baz=40,slow=39
STEI Steigen 62.44 343 *e*P **P 10 13 11.3 -1.1**
FFC Flin Flon 62.59 39 P **P 10 13 14.2 +0.6**
FFC IAmb IAmb 10 13 29.3
comp=Z,14nm,1.0s
FFC Flin Flon 62.59 39 P **P 10 13 14.2 +0.6**
FFC pmax pmax
comp=Z,14nm,1.0s
LOF Lofoten 62.62 344 *e*P **P 10 13 12.4 -1.1**
PAHR Pah Rah Range 62.67 60 IAmb IAmb 10 13 30.7
comp=Z,26nm,1.1s
FAUS Fauske 62.89 343 *e*P **P 10 13 15.0 -0.4**
BELG Belogornoye 62.90 318 LR LR 10 42 56.3
comp=Z,452nm,19.8s,baz=51,slow=38
BELG Belogornoye 62.90 318⇑ *e*P **P 10 13 14.5 -1.1**
BELG pmax pmax
comp=Z,6.0nm,1.0s
EGMT Eagleton 63.07 48 IAmb IAmb 10 13 32.4
comp=Z,18nm,1.0s
FCC Fort Churchill 63.11 32 P **P 10 13 17.1 +0.2**
FCC IAmb IAmb 10 13 18.4
comp=Z,29nm,1.4s
FCC Fort Churchill 63.11 32 P **P 10 13 17.2 +0.2**
FCC pmax pmax
comp=Z,29nm,1.4s
JMIC Jan Mayen 63.16 353 LR LR 10 40 37.7
comp=Z,196nm,18.2s,baz=51,slow=36
YERR Yerington 63.20 61 IAmb IAmb 10 13 34.5
comp=Z,32nm,1.1s
KNRA Kununurra 64.08 204 P **P 10 13 25.5 +1.7**
MOR8 Moi Rana 64.09 342 *e*P **P 10 13 21.4 -2.0**
NVAR Mina Array Bea 64.12 61 P **P 10 13 25.4 +1.1**
NVAR Mina Array Bea 64.12 61 P **P 10 13 26.1 +1.8**
comp=Z,2.1nm,0.7s,baz=292,slow=6.5,SNR=9.6
NVAR pP **pwP 10 13 38.3 -1.1**
comp=Z,7.7nm,0.8s,baz=294,slow=6.9,SNR=13
NVAR LR LR 10 38 38.4
comp=Z,164nm,20.3s,baz=224,slow=33
comp=Z,2.1nm,0.7s
NV11 Mina Array Sit 64.20 61 IAmb IAmb 10 13 38.3
comp=Z,28nm,1.4s
YHL Hebgen Lake 64.29 52 IAmb IAmb 10 13 42.8
comp=Z,15nm,1.3s
LEIR Leirfjorden 64.43 343 *e*P **P 10 13 26.0 +0.4**
SCO Scoresbysund 64.46 358 *i* P **P 10 13 25.1 -0.6**
ILULI Ilulissat 64.61 9 IAmb IAmb 10 13 27.3
comp=Z,21nm,0.9s
VAF Ylistaro 64.64 337 *e*P **P 10 13 27.2 +0.3**
KEF Keuruu 64.70 335 *e*P **P 10 13 27.6 +0.3**
FIA1 FINESS Array S 64.90 334 P **P 10 13 28.0 -0.7**
FINES FINESS Array B 64.90 334 P **P 10 13 28.0 -0.7**

FINES **FINESS Array B** 64.90 334 P P 10 13 27.3 -1.4
comp=Z,28nm,0.8s,baz=39,slow=7.3,SNR=32
FINES LR LR 10 44 20.1
comp=Z,406nm,18.6s,baz=34,slow=38
comp=Z,28nm,0.8s
FINES **FINESS Array B** 64.90 334 P P 10 13 28.0 -0.7
H17A **Grant Village** 64.91 52 IAmb IAmb 10 13 50.6
comp=Z,14nm,1.2s
DSP **Deep Springs** 64.98 62 IAmb IAmb 10 13 46.3
comp=Z,29nm,1.2s
TPAW **Teton Pass** 65.28 53 IAmb IAmb 10 13 50.0
comp=Z,12nm,0.9s
SISI **Saibi** 65.53 241 P P 10 13 34.0 +0.6
comp=Z,30nm,1.1s
ICESG **Greenland Ices** 65.66 4 *e*P P 10 13 33.4 -0.5
ICESG IAmb IAmb 10 13 36.1
comp=Z,54nm,0.9s
LAO **LASA Array** 65.77 48 IAmb IAmb 10 13 50.9
comp=Z,17nm,1.0s
SPUT **South Promonto** 65.81 55 IAmb IAmb 10 13 51.6
comp=Z,13nm,1.2s
R11B **Troy Canyon, C** 65.83 59 IAmb IAmb 10 13 50.8
comp=Z,14nm,1.1s
R11B **Troy Canyon, C** 65.83 59 P P 10 13 36.4 +1.1
baz=310
OBN **Obninsk** 65.90 325 LR LR 10 44 53.9
comp=Z,413nm,18.8s,baz=11,slow=38
OBN **Obninsk** 65.90 325 *de*P P 10 13 34.5 -0.7
OBN *i* 10 14 04.6
OBN pmax pmax
comp=Z,24nm,1.0s
OBN MLR MLR
comp=Z,504nm,16.0s
OBN **Obninsk** 65.90 325 *e*P P 10 13 34.5 -0.7
HYB **Hyderabad** 65.91 271 *e*P P 10 13 36.4 +0.4
WCT **Wildcat Mounta** 66.18 61 IAmb IAmb 10 13 53.6
comp=Z,14nm,1.2s
DUG **Dugway, Tooele** 66.31 56 IAmb IAmb 10 13 54.6
comp=Z,27nm,1.2s
DUG **Dugway, Tooele** 66.31 56 P P 10 13 35.8 -2.6
DUG pmax pmax
comp=Z,21nm,1.2s
TPNV **Topopah Spring** 66.31 61 IAmb IAmb 10 13 54.6
comp=Z,25nm,1.2s
VRH **Novokhopyorsk** 66.43 320 *e*P P 10 13 36.5 -2.2
VRH pmax pmax
comp=Z,20nm,0.9s
RAF **Rauma** 66.51 336 *e*P P 10 13 39.4 +0.3
PDAR **Pinedale Array** 66.52 52 P P 10 13 40.2 +0.4
PDAR **Pinedale Array** 66.52 52 P P 10 13 40.4 +0.6
comp=Z,1.1nm,0.8s,baz=299,slow=1.5,SNR=9.4
PDAR PKP2bc 10 42 20.0
comp=Z,0.5nm,0.8s,baz=196,slow=2.6,SNR=4.2
PDAR LR LR 10 43 57.1
comp=Z,62nm,19.1s,baz=324,slow=37
comp=Z,1.1nm,0.8s
GWY **Greenwater Val** 66.54 62 P P 10 13 40.9 +1.0
WB0 **Warramunga Arr** 66.58 198 P P 10 13 40.2 +0.3
WB0 IAmb IAmb 10 13 56.0
comp=Z,23nm,0.9s
LPSR **Galich'ya Gora** 66.69 322 *e*P P 10 13 38.5 -1.9
LPSR pmax pmax
comp=Z,20nm,0.9s
WRAB **Tennant Creek** 66.75 198⇓*e*P P 10 13 34.1 -6.9
WRAB pmax pmax
comp=Z,12nm,1.4s
PRN **Pahroc Range** 66.76 60 P P 10 13 42.5 +1.2
WB2 **Warramunga Arr** 66.76 198 P P 10 13 42.4 +1.3
WB2 IAmb IAmb 10 13 57.2
comp=Z,18nm,0.9s
WRA **Warramunga Arr** 66.76 198 P P 10 13 42.0 +0.9
comp=Z,4.3nm,0.7s,baz=14,slow=6.6,SNR=28
WRA pP pwP 10 13 55.7 -0.3
comp=Z,12nm,0.8s,baz=15,slow=6.7,SNR=18
comp=Z,4.3nm,0.7s
SFJD **Kangerlussuaq** 66.80 9 LR LR 10 46 59.6
comp=Z,433nm,18.0s,baz=342,slow=40
FRB **Frobisher Bay** 66.81 18 LR LR 10 45 24.8
comp=Z,248nm,21.1s,baz=310,slow=38
FRB **Frobisher Bay** 66.81 18 P P 10 13 40.6 -0.3
FRB pmax pmax
comp=Z,34nm,1.3s
VSU **Vasula** 67.01 332 *de*P P 10 13 40.9 -1.4
VSU pmax pmax
comp=Z,47nm,1.1s
VSU **Vasula** 67.01 332 *e*P P 10 13 42.6 +0.3
MSVF **Nonsavu** 67.18 152⇑*e*P P 10 13 42.4 -1.5
MSVF pmax pmax
comp=Z,8.0nm,1.5s
VORR **Voronezh** 67.23 321 *e*P P 10 13 42.8 -1.0
VORR pmax pmax
comp=Z,20nm,1.0s
VSR **Storozhevoye** 67.57 321 *e*P P 10 13 44.7 -1.3
VSR pmax pmax
comp=Z,20nm,1.0s
VORD **Divnogorie** 67.69 321 *e*P P 10 13 45.7 -1.0
VORD pmax pmax
comp=Z,30nm,0.9s
V12A **Nelson** 67.96 61 IAmb IAmb 10 14 05.1
comp=Z,26nm,1.4s
LCMT **Little Creek M** 68.11 59 IAmb IAmb 10 14 06.2
comp=Z,20nm,1.0s
PFO **Pinyon Flats O** 68.33 64 LR LR 10 39 00.5
comp=Z,118nm,20.2s,baz=258,slow=32
PFO **Pinyon Flats O** 68.33 64⇑*e*P P 10 13 49.0 -2.2
PFO pmax pmax
comp=Z,4.0nm,1.3s
SRU **San Rafael Swe** 68.36 56 IAmb IAmb 10 14 07.1
comp=Z,19nm,1.0s
KNB **Kanab** 68.36 59 IAmb IAmb 10 14 08.0
comp=Z,29nm,1.1s
ULM **Lac du Bonnet** 68.37 40 P P 10 13 50.9 -0.2
comp=Z,3.5nm,0.8s,baz=288,slow=5.5,SNR=7.9
ULM LR LR 10 46 37.3
comp=Z,185nm,18.5s,baz=338,slow=38
comp=Z,3.5nm,0.8s
DZM **Mont Dzumac** 68.38 165 *e*LR LR 10 34 38.2
comp=Z,389nm,23.3s
RSSD **Black Hills** 68.63 48 P P 10 13 53.8 +0.7
RSSD IAmb IAmb 10 14 13.7
comp=Z,19nm,1.4s
RSSD **Black Hills** 68.63 48 P P 10 13 53.8 +0.7
RSSD pmax pmax
comp=Z,19nm,1.4s
DOMB **Dombas** 68.86 342 *e*P P 10 13 53.6 -0.3
U15A **North Rim** 69.07 59 IAmb IAmb 10 14 12.4
comp=Z,18nm,1.1s
NB2 **NORSAR Subarra** 69.26 341 P P 10 13 56.0 -0.5
comp=Z,74nm,1.1s,baz=30,slow=6.5
NB2 **NORSAR Subarra** 69.26 341 P P 10 13 56.0 -0.5
baz=30,slow=6.5
NOA **NORSAR Array B** 69.26 341 P P 10 13 55.8 -0.6
comp=Z,32nm,0.9s,baz=29,slow=6.3,SNR=51
NOA LR LR 10 49 22.8
comp=Z,190nm,18.4s,baz=10.0,slow=40
comp=Z,32nm,0.9s
HFS **Hagfors** 69.45 339 P P 10 13 56.9 -0.7
comp=Z,43nm,0.8s,baz=57,slow=5.5,SNR=63
HFS LR LR 10 46 57.8
comp=Z,349nm,21.1s,baz=20,slow=38
comp=Z,43nm,0.8s
NC602 **NORSAR Array S** 69.45 340 *e*P P 10 13 56.8 -0.8
NORES **NORESS Array B** 69.45 340 P P 10 13 56.7 -0.9
IIGN **Ignalina** 69.62 330 *e*P P 10 13 59.8 +1.0
MNK **Minsk** 69.69 329 *i*P P 10 13 59.8 +0.6
MNK *i* 10 14 28.0
MNK *i*S S 10 23 09.2 +3.8
MNK pmax pmax
comp=E,59nm,0.9s
MNK pmax pmax
comp=Z,72nm,0.8s
MNK pmax pmax
comp=N,32nm,0.9s
MNK MLR MLR
comp=N,218nm,14.0s
MNK MLR MLR
comp=E,266nm,15.0s
MNK MLR MLR
comp=Z,449nm,15.0s
ESJX **Sierra Juarez** 69.70 65 IAmb IAmb 10 14 15.8
comp=Z,24nm,1.4s
AGMN **Agassiz Nation** 69.78 41 IAmb IAmb 10 14 15.5
comp=Z,18nm,1.2s
N23A **Red Feather La** 69.78 52 P P 10 14 01.4 +1.1
baz=313
PV11 **David Mesa, Pa** 69.86 56 IAmb IAmb 10 14 16.6
comp=Z,36nm,1.3s

VSVD **Vaisvydziai** 69.91 332 *e*P P 10 14 01.0 +0.5
PV13 **Radium Mtn., P** 69.99 56 IAmb IAmb 10 14 16.7
comp=Z,17nm,1.1s
GOF **Gofitskoye** 70.07 314 *ce*P P 10 14 02.3 +0.6
BORG **Borgarnes** 70.18 357 LR LR 10 45 22.9
comp=Z,125nm,19.1s,baz=0.6,slow=36
PABE **Paberze** 70.28 331 *e*P P 10 14 03.4 +0.7
Y14A **Wickenburg** 70.28 62 IAmb IAmb 10 14 19.2
comp=Z,16nm,1.2s
AS31 **Alice Springs** 70.46 197 P P 10 14 05.5 +1.4
ASAR **Alice Springs** 70.46 197 P P 10 14 06.2 +2.0
comp=Z,3.7nm,0.8s,baz=11,slow=5.4,SNR=42
ASAR pP pwP 10 14 19.8 +0.7
comp=Z,7.9nm,0.8s,baz=8.4,slow=5.1,SNR=16
comp=Z,3.7nm,0.8s
ISCO **Idaho Springs** 70.71 53 P P 10 14 06.9 +0.8
ISCO IAmb IAmb 10 14 22.2
comp=Z,17nm,1.4s
ISCO **Idaho Springs** 70.71 53 P P 10 14 06.9 +0.8
ISCO pmax pmax
comp=Z,17nm,1.4s
MVCO **Mesa Verde** 70.81 56 IAmb IAmb 10 14 21.8
comp=Z,10nm,0.9s
ERBR **Yeremizino-Bor** 70.88 316 *e*P P 10 14 07.4 +0.8
ERBR pmax pmax
comp=Z,107nm,0.8s
X16A **Lo Mia Camp, P** 70.92 60 IAmb IAmb 10 14 23.7
comp=Z,24nm,1.3s
KVAR **Kislovodsk Arr** 71.02 314 LR LR 10 49 58.3
comp=Z,487nm,20.1s,baz=238,slow=40
KIV **Kislovodsk** 71.03 314 P P 10 14 08.5 +0.9
KIV **Kislovodsk** 71.03 314 ⇑P P 10 14 09.1 +1.5
KIV **Kislovodsk** 71.03 314 *e*P P 10 14 07.4 -0.2
KIV pmax pmax
comp=Z,115nm,1.1s
KIV MLR MLR
comp=Z,682nm,18.0s
KIV **Kislovodsk** 71.03 314 *i*P P 10 14 08.6 +0.9
SNR=8.4
KIV **Kislovodsk** 71.03 314 P P 10 14 09.4 +1.8
comp=Z,1μmcomp=Z,105nm,1.0s
KBZ **Khabaz** 71.08 313 P P 10 14 08.4 +0.7
comp=Z,103nm,0.9s,baz=56,slow=3.0,SNR=149
KBZ LR LR 10 49 26.1
comp=Z,1μm,19.1s,baz=44,slow=39
F33A **5 Mile Ranch,** 71.34 43 IAmb IAmb 10 14 23.9
comp=Z,12nm,0.9s
PALK **Pallekele** 71.38 261 LR LR 10 48 22.2
comp=Z,210nm,19.1s,baz=41,slow=38
S22A **4UR Ranch, Cre** 71.42 55 P P 10 14 11.6 +1.2
baz=314
LABN **Labinsk** 71.53 315 *e*P P 10 14 11.8 +1.3
LABN pmax pmax
comp=Z,119nm,0.8s
QLP **Quilpie** 71.81 187 P P 10 14 14.9 +2.7
comp=Z,25nm,1.1s
K30B **Basset** 71.95 47 IAmb IAmb 10 14 31.3
comp=Z,45nm,1.4s
TRLG **Trialeti** 72.00 311 P P 10 14 14.2 +0.6
EYMN **Ely** 72.02 39 P P 10 14 13.5 +0.1
EYMN IAmb IAmb 10 14 28.3
comp=Z,27nm,1.4s
AK03 **Malin Array Si** 72.13 326 P P 10 14 13.2 -0.8
AK23 **Malin Array Si** 72.14 326 P P 10 14 13.5 -0.6
AKASG **Malin Array Be** 72.15 326 P P 10 14 13.5 -0.6
AKASG IAmb IAmb 10 14 14.8
comp=Z,29nm,1.2s
AKASG **Malin Array Be** 72.15 326 P P 10 14 13.5 -0.6
comp=Z,11nm,0.4s,baz=36,slow=6.1,SNR=94
AKASG LR LR 10 48 31.9
comp=Z,629nm,18.5s,baz=46,slow=38
comp=Z,11nm,0.4s
AKBB **Malin Array Si** 72.15 326 P P 10 14 13.3 -0.8
AKBB **Malin Array Si** 72.15 326 *ce*P P 10 14 13.6 -0.5
AKBB **Malin Array Si** 72.15 326 P P 10 14 13.3 -0.8
AK04 **Malin Array Si** 72.16 326 P P 10 14 13.5 -0.7
KIEV **Kiev** 72.16 326 P P 10 14 13.3 -0.9
KIEV **Kiev** 72.16 326 ⇑P P 10 14 13.7 -0.5
KIEV **Kiev** 72.16 326 P P 10 14 13.7 -0.5
KIEV **Kiev** 72.16 326 *i*P P 10 14 13.1 -1.1
SNR=25
KIEV **Kiev** 72.16 326 P P 10 14 13.3 -0.9
comp=Z,244nm,1.0s
AK01 **Malin Array Si** 72.16 326 P P 10 14 13.5 -0.7
MI28 **Mi28,Pidlybu** 72.58 327 P P 10 14 16.5 -0.2
GNI **Garni** 72.63 310 P P 10 14 19.6 +2.2
GNI **Garni** 72.63 310 LR LR 10 50 52.5
comp=Z,422nm,18.7s,baz=46,slow=40
GNI **Garni** 72.63 310 P P 10 14 19.6 +2.2
GNI pmax pmax
comp=Z,78nm,1.1s
ECSD **EROS Data Cent** 72.72 45 IAmb IAmb 10 14 34.2
comp=Z,13nm,1.0s
TUC **Tucson** 72.75 61 P P 10 14 19.0 +0.9
TUC **Tucson** 72.75 61 P P 10 14 19.0 +0.9
TUC pmax pmax
comp=Z,13nm,1.4s
SOC **Sochi** 72.79 315 *e*P P 10 14 15.4 -2.7
SOC *e* 10 16 55.1
SOC *e*PPP PPP 10 18 42.7
SOC *e*S S 10 23 40.2 -1.4
SOC *e*SS SS 10 28 19.3 -1.5
SOC pmax pmax
comp=Z,41nm,0.7s
RNPP9 **Sopachiv** 72.88 328 P P 10 14 18.3 -0.2
E38A **The Farm, Brul** 73.00 40 P P 10 14 18.9 -0.3
E38A IAmb IAmb 10 14 33.3
comp=Z,23nm,1.0s
ANN **Anapa** 73.02 317 *e*P P 10 14 15.0 -4.4
ANN pmax pmax
comp=Z,108nm,1.1s
WRKA **Warakurna** 73.10 202 P P 10 14 17.4 -2.6
T25A **Trinidad** 73.23 54 P P 10 14 22.9 +1.8
baz=315
LUBAR **Lubar, Ukraine** 73.34 326 P P 10 14 20.0 -1.3
BCA **Borcka** 73.37 312 ⇓P P 10 14 22.8 +1.2
ANMO **Albuquerque** 73.57 57 LR LR 10 43 18.0
comp=Z,106nm,21.5s,baz=136,slow=33
I37A **Lemond, Waseca** 74.08 43 P P 10 14 25.9 +0.2
319A **Douglas** 74.32 61 IAmb IAmb 10 14 43.5
comp=Z,19nm,0.9s
GKP **Gorka Klasztor** 74.34 333 *e*P P 10 14 27.0 0.0
BEL **Belsk** 74.37 331 *e*P P 10 14 27.3 +0.1
BEL **Belsk** 74.37 331 P P 10 14 27.9 +0.7
BEL pmax pmax
comp=Z,307nm,1.0s
HORU **Horodok** 74.43 326 P P 10 14 27.3 -0.3
121A **Cookes Peak, D** 74.44 59 IAmb IAmb 10 14 44.6
comp=Z,27nm,1.4s
121A **Cookes Peak, D** 74.44 59 P P 10 14 29.3 +1.0
baz=314
SIM **Simferopol'** 74.47 319 *e*P P 10 14 27.8 -0.1
SIM *e* 10 14 42.0
SIM pmax pmax
comp=Z,88nm,0.9s
SIM MLR MLR
comp=Z,500nm,15.9s
SORM **Soroca** 74.52 324 ⇓P P 10 14 28.0 -0.1
SORM **Soroca** 74.52 324 P P 10 14 28.0 -0.1
SORM **Soroca** 74.52 324 P P 10 14 27.8 -0.3
comp=Z,97nm,1.0s
NDNU **Novodnistrovsk** 74.55 325 P P 10 14 27.9 -0.4
GEVA **Gevas** 74.86 309 IAmb IAmb 10 14 33.0
comp=Z,44nm,1.2s
KMPD **K-Podol'skiy** 74.94 326 P P 10 14 29.8 -0.8
SCHQ **Schefferville** 75.10 22 IAmb IAmb 10 14 33.0
comp=Z,24nm,1.2s
SCHQ **Schefferville** 75.10 22 P P 10 14 31.3 -0.1
comp=Z,13nm,1.0s,baz=338,slow=6.7,SNR=8.6
SCHQ LR LR 10 50 20.8
comp=Z,248nm,20.3s,baz=358,slow=38
comp=Z,13nm,1.0s
PURM **Purcari** 75.14 323 ⇑P P 10 14 33.1 +1.3
PURM **Purcari** 75.14 323 P P 10 14 31.7 0.0
comp=Z,5μmcomp=Z,146nm,1.1s
MILM **Milestii Mici** 75.29 323 ⇓P P 10 14 32.6 -0.1
MILM **Milestii Mici** 75.29 323 P P 10 14 32.5 -0.1
CHRU **Chernivtsi** 75.37 326 P P 10 14 32.9 -0.1
comp=Z,102nm,0.9s
MORS **Morshin** 75.48 327 P P 10 14 34.5 +0.8
KWP **Kalwaria Pacla** 75.51 328 *e*P P 10 14 34.3 +0.4
KWP **Kalwaria Pacla** 75.51 328 P P 10 14 32.9 -1.0
KWP pmax pmax
comp=Z,247nm,1.0s
BANOM **Banah** 75.52 292 *i*P P 10 14 34.9 +0.5

SNR=6.3
SHME **Shamm** 75.54 292 P P 10 14 34.4 0.0
STNU **Starunia** 75.59 327 P P 10 14 34.6 +0.3
SHIU **Shidnytsya** 75.60 328 P P 10 14 34.7 +0.3
KSV **Kosov** 75.69 326 P P 10 14 34.9 0.0
BSEG **Bad Segeberg** 75.78 338 P P 10 14 35.7 +0.4
BSEG pmax pmax
comp=Z,49nm,1.1s
BSEG **Bad Segeberg** 75.78 338 *e*P P 10 14 35.6 +0.4
comp=Z,36nm,1.0s,baz=28,slow=5.6
WSAR **Wadi Sarin** 75.81 289 LR LR 10 51 57.1
comp=Z,234nm,20.4s,baz=64,slow=39
MSFE **Esma-Masafi** 76.00 292 P P 10 14 37.9 +0.8
OJC **Ojcow** 76.07 330 *e*P P 10 14 37.4 +0.4
OJC **Ojcow** 76.07 330 P P 10 14 37.5 +0.5
OJC pmax pmax
comp=Z,89nm,1.1s
OJC **Ojcow** 76.07 330 P P 10 14 37.4 +0.4
comp=Z,89nm,1.1s
RUE **Ruedersdorf** 76.08 335 *e*P P 10 14 37.2 +0.2
comp=Z,102nm,1.1s,baz=28,slow=5.6
BURAR **Bucovina Array** 76.20 326 ⇑P P 10 14 37.6 -0.4
BURAR **Bucovina Array** 76.20 326 P P 10 14 37.5 -0.4
STHS **Stebnicka Huta** 76.23 329 *e*P P 10 14 38.5 +0.5
STHS pmax pmax
comp=Z,53nm,1.0s
STHS **Stebnicka Huta** 76.23 329 *e*P P 10 14 38.5 +0.5
KOLS **Kolonicke sedl** 76.25 328 *e*P P 10 14 38.6 +0.5
KOLS pmax pmax
comp=Z,73nm,1.0s
KOLS **Kolonicke sedl** 76.25 328 *e*P P 10 14 38.6 +0.5
UOSS **Minazif** 76.25 291 P P 10 14 38.4 -0.1
UOSS IAmb IAmb 10 14 39.9
comp=Z,23nm,0.8s
UOSS **Minazif** 76.25 291 *i*P P 10 14 38.8 +0.3
SNR=6.0
RAKU **Rahkiv** 76.28 327 P P 10 14 38.4 +0.1
GORT1 **Trebel** 76.35 337 *e*P P 10 14 39.2 +0.8
comp=Z,66nm,1.2s,baz=28,slow=5.6
HATD **Hatta, Dubai** 76.38 291 *i*P P 10 14 40.3 +1.0
SNR=5.8
DIKM **Dikmen** 76.43 316 ⇑P P 10 14 40.4 +1.2
DIKM **Dikmen** 76.43 316 P P 10 14 40.6 +1.4
comp=Z,54nm,1.0s
MUKU **Mukachevo** 76.49 328 P P 10 14 39.7 +0.3
TESR **Tescani** 76.51 324 ⇑P P 10 14 39.9 +0.2
TESR **Tescani** 76.51 324 P P 10 14 39.8 +0.2
comp=Z,105nm,1.5s
ASHO **Ashiyiah** 76.53 291 P P 10 14 41.3 +1.2
HOLU **Holmets** 76.55 328 P P 10 14 40.2 +0.5
NIE **Niedzica** 76.56 330 *e*P P 10 14 40.8 +0.9
NIE **Niedzica** 76.56 330 P P 10 14 40.9 +1.0
NIE pmax pmax
comp=Z,36nm,1.0s
NIE **Niedzica** 76.56 330 P P 10 14 40.6 +0.7
comp=Z,36nm,1.0s
KORU **Korolevo** 76.57 327 P P 10 14 40.6 +0.7
TLCR 76.66 322 ⇑P P 10 14 40.6 +0.2
TLCR 76.66 322 P P 10 14 40.6 +0.2
TRSU **Trosnyk** 76.69 327 P P 10 14 41.6 +1.1
BERU **Beregovo** 76.69 328 P P 10 14 41.1 +0.6
KSP **Ksiaz** 76.72 333 *e*P P 10 14 40.8 +0.2
KSP **Ksiaz** 76.72 333 P P 10 14 40.0 -0.7
KSP pmax pmax
comp=Z,62nm,1.1s
KSP **Ksiaz** 76.72 333 P P 10 14 40.9 +0.2
comp=Z,62nm,1.1s
ONER **Baraj Valea Uz** 76.76 324 ⇑P P 10 14 41.1 +0.1
PANC **Panciu** 76.82 324 ⇓P P 10 14 42.4 +1.1
BMR **Baia Mare** 76.83 327 ⇑P P 10 14 41.9 +0.5
BMR **Baia Mare** 76.83 327 P P 10 14 41.8 +0.5
ODBI **Odobesti** 76.94 324 ⇓P P 10 14 43.4 +1.3
ODBI **Odobesti** 76.94 324 P P 10 14 43.6 +1.6
comp=Z,1μmcomp=Z,69nm,1.0s
CFR **Carcaliu** 76.95 323 ⇑P P 10 14 42.4 +0.3
CFR **Carcaliu** 76.95 323 P P 10 14 42.3 +0.3
FLTG **Flechtingen** 76.95 336 *e*P P 10 14 41.7 -0.3
comp=Z,50nm,1.0s,baz=28,slow=5.6
OKC **Ostrava-Krasne** 76.96 331 *e*P P 10 14 42.5 +0.4
OKC **Ostrava-Krasne** 76.96 331 *e*P P 10 14 42.5 +0.4
ARCR **ARCALIA** 76.97 326 ⇓P P 10 14 43.4 +1.2
VRI **Vrincioaia** 77.00 324 ⇓P P 10 14 43.4 +0.9
VRI **Vrincioaia** 77.00 324 P P 10 14 43.3 +0.9
VRI **Vrincioaia** 77.00 324 P P 10 14 43.7 +1.3
comp=Z,46nm,1.6s
STEB **Steborice** 77.01 331 *e*P P 10 14 42.8 +0.5
PLOR **Plostina** 77.04 324 ⇓P P 10 14 43.3 +0.6
PLOR **Plostina** 77.04 324 P P 10 14 43.3 +0.6
PLOR3 **Plostina Array** 77.04 324 P P 10 14 43.2 +0.5
comp=Z,25nm,1.0s
SPBR **Spulber** 77.08 324 ⇑P P 10 14 44.0 +1.1
LANS **Liptovska Anna** 77.08 330 *e*P P 10 14 44.4 +1.5
LANS pmax pmax
comp=Z,51nm,1.0s
LANS **Liptovska Anna** 77.08 330 *e*P P 10 14 44.4 +1.5
TPGR **Topolog** 77.09 322 ⇑P P 10 14 43.5 +0.6
NRDL **Niedersach Rie** 77.12 337 *e*P P 10 14 43.1 +0.3
comp=Z,35nm,1.0s,baz=28,slow=5.6
DPC **Dobruska-Polom** 77.13 332 P P 10 14 43.7 +0.6
comp=Z,49nm,1.2s
OZUR 77.20 325 ⇓P P 10 14 44.3 +0.8
KRLC **Kraliky** 77.22 332 P P 10 14 41.2 -2.4
KRLC pmax pmax
comp=Z,69nm,1.3s
MORC **Moravsky Berou** 77.22 331 *e*P P 10 14 44.0 +0.4
MORC **Moravsky Berou** 77.22 331 ⇑P P 10 14 44.1 +0.4
MORC **Moravsky Berou** 77.22 331 P P 10 14 43.9 +0.4
MORC pmax pmax
comp=Z,93nm,1.1s
COVR **Voineasa-Covas** 77.23 324 ⇓P P 10 14 44.9 +1.2
KECS **Kecovo** 77.28 329 *e*P P 10 14 44.7 +0.8
KECS pmax pmax
comp=Z,49nm,1.1s
KECS **Kecovo** 77.28 329 *e*P P 10 14 44.7 +0.8
STKA **Stephens Creek** 77.31 189 P P 10 14 46.1 +2.1
comp=Z,2.2nm,0.8s,baz=27,slow=9.0,SNR=2.1
STKA pP pwP 10 14 59.8 +0.8
comp=Z,3.7nm,0.7s,baz=348,slow=6.9,SNR=4.5
comp=Z,2.2nm,0.8s
CLL **Collm** 77.34 335 *i*P P 10 14 44.0 -0.2
CLL *e**PP pwP 10 14 59.0 +0.7
CLL pmax pmax
comp=Z,96nm,1.0s
CLL MLR MLR
comp=Z,700nm,18.5s
CLL **Collm** 77.34 335 P P 10 14 44.1 -0.2
comp=Z,83nm,1.1s
CLL **Collm** 77.34 335 *i*P P 10 14 44.0 -0.2
comp=Z,96nm,1.0s
CLL *e*pP pP 10 14 51.0 -1.9
CLL *e*x x 10 15 00.0
CLL AMS AMS 10 51 00.0
comp=N,400nm,19.2s
CLL AMS AMS 10 51 00.0
comp=E,400nm,19.4s
CLL AMS AMS 10 51 00.0
comp=Z,700nm,18.5s
CLL **Collm** 77.34 335 *e*P P 10 14 44.0 -0.2
comp=Z,74nm,0.9s,baz=28,slow=5.6
CLL *es*P pwP 10 15 00.7 +2.4
TIRR **Tirgusor** 77.41 322 ⇓P P 10 14 45.4 +0.8
TIRR **Tirgusor** 77.41 322 P P 10 14 45.4 +0.8
TIRR **Tirgusor** 77.41 322 P P 10 14 45.1 +0.4
comp=Z,44nm,1.1s
BRG **Berggiesshubel** 77.44 334 *i*P P 10 14 44.7 0.0
BRG Amp 10 14 45.9
comp=Z,37nm,1.1s
BRG **Berggiesshubel** 77.44 334 P P 10 14 51.6 +6.9
BRG Amp 10 14 52.0
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 77.44 334 P P 10 14 44.7 0.0
BRG pmax pmax
comp=Z,31nm,1.2s
BRG **Berggiesshubel** 77.44 334 *e*P P 10 14 44.7 0.0
comp=Z,37nm,1.1s,baz=28,slow=5.6
DOPR **Dopca** 77.47 325 ⇑P P 10 14 46.2 +1.1
MESR **Meseseni** 77.47 327 ⇓P P 10 14 46.4 +1.4
TLBR **Topalu** 77.50 322 ⇑P P 10 14 46.2 +1.0
EKA **Eskdalemuir Ar** 77.50 346 P P 10 14 44.8 -0.2
comp=Z,3.3nm,0.4s,baz=20,slow=4.7,SNR=33
comp=Z,3.3nm,0.4s
PVCC **Panska Ves** 77.54 334 AMS AMS 10 52 20.0
comp=Z,700nm,19.4s
PVCC **Panska Ves** 77.54 334 P P 10 14 45.6 +0.3

PVCC pmax pmax
comp=Z,51nm,1.2s
CJR Cluj-Napoca 77.57 326 ⇑P P 10 14 45.9 +0.3
CJR Cluj-Napoca 77.57 326 P P 10 14 45.9 +0.3
MLR Muntele Rosu 77.62 324 LR LR 10 52 09.7
comp=Z,385nm,18.3s,baz=34,slow=38
MLR Muntele Rosu 77.62 324 ⇑P P 10 14 47.1 +1.0
MLR Muntele Rosu 77.62 324 P P 10 14 47.0 +1.0
MLR Muntele Rosu 77.62 324 P P 10 14 46.5 +0.4
comp=Z,59nm,1.2s
CLZ Clausthal 77.63 337 *eP* **P 10 14 46.5 +0.7**
comp=Z,87nm,1.1s,baz=28,slow=5.6
RICC Richard 77.67 334 *eP* **P 10 14 47.0 +0.9**
ISR Istrita 77.68 324 ⇓P **P 10 14 47.4 +1.2**
ISR Istrita 77.68 324 P P 10 14 47.4 +1.2
ISR Istrita 77.68 324 P P 10 14 46.8 +0.5
comp=Z,138nm,1.0s
MARR Marisel-Cluj 77.79 326 ⇑P P 10 14 47.2 +0.2
NEUB Neuenburg 77.79 335 *eP* **P 10 14 46.8 +0.1**
comp=Z,70nm,1.1s,baz=28,slow=5.6
HSKC Hora Svate Kat 77.83 334 *eP* **P 10 14 47.1 +0.1**
VYHS Vyhne 77.86 330 *eP* **P 10 14 47.5 +0.3**
VYHS pmax pmax
comp=Z,62nm,1.2s
VYHS Vyhne 77.86 330 *eP* **P 10 14 47.5 +0.3**
IBBN Ibbenburen 77.93 338 *eP* **P 10 14 47.6 +0.2**
comp=Z,45nm,0.9s,baz=28,slow=5.6
VRAC Vranov 77.94 332 LR LR 10 53 23.2
comp=Z,359nm,19.6s,baz=24,slow=39
VRAC Vranov 77.94 332 *eP* **P 10 14 48.0 +0.5**
VRAC Vranov 77.94 332 ⇓P **P 10 14 48.2 +0.6**
VRAC Vranov 77.94 332 P P 10 14 48.1 +0.5
ICOR Ion Corvin 77.94 322 ⇑P **P 10 14 48.7 +1.0**
JAVC Velka Javorina 77.96 331 *eP* **P 10 14 49.1 +1.3**
PSZ Piszkesteto 77.97 329 ⇓P **P 10 14 48.9 +1.0**
PSZ Piszkesteto 77.97 329 P P 10 14 48.9 +1.0
PSZ Piszkesteto 77.97 329 *eP* **P 10 14 48.0 +0.2**
PRA Prague 77.98 333 AMS AMS 10 52 40.0
comp=Z,1μm,18.3s
GTTG Gottingen 78.01 337 *eP* **P 10 14 48.4 +0.5**
comp=Z,62nm,1.1s,baz=28,slow=5.6
PRU Pruhonice 78.02 333 *eP* **P 10 14 48.4 +0.4**
PRU AMS AMS 10 52 40.0
comp=Z,800nm,20.2s
PRU Pruhonice 78.02 333 *eP* **P 10 14 48.4 +0.4**
PRU MLR MLR
comp=Z,800nm,20.2s
VOIR 78.04 325 ⇑P **P 10 14 49.0 +0.6**
VOIR 78.04 325 P P 10 14 48.9 +0.6
VOIR 78.04 325 P P 10 14 49.2 +0.9
comp=Z,80nm,1.0s
WMOK Wichita Mounta 78.14 52 P P 10 14 49.8 +0.8
WMOK pmax pmax
comp=Z,11nm,1.5s
TNR Turnu Rosu 78.18 325 ⇓P **P 10 14 49.8 +0.8**
TNR Turnu Rosu 78.18 325 P P 10 14 49.8 +0.8
KRUC Moravsky 78.22 332 *eP* **P 10 14 49.5 +0.4**
KRUC Moravsky 78.22 332 P P 10 14 49.8 +0.7
KRUC pmax pmax
comp=Z,78nm,1.1s
TANN Tannenbergstha 78.29 335 *eP* **P 10 14 49.7 +0.2**
comp=Z,26nm,1.2s,baz=28,slow=5.6
TREC Trest 78.32 332 P P 10 14 47.4 -2.3
TREC pmax pmax
comp=Z,37nm,1.2s
PLN Plauen 78.32 335 *eP* **P 10 14 50.0 +0.3**
comp=Z,16nm,1.2s,baz=28,slow=5.6
SMOL Smolenice 78.34 331 *eP* **P 10 14 51.2 +1.4**
SMOL pmax pmax
comp=Z,34nm,1.1s
MOX Moxa 78.34 335 P P 10 14 50.1 +0.3
MOX pmax pmax
comp=Z,34nm,1.2s
MOX Moxa 78.34 335 *eP* **P 10 14 50.0 +0.3**
comp=Z,39nm,1.1s,baz=28,slow=5.6
MOX *eL* L 10 52 53.5
comp=Z,399nm,19.4s
NKC Novy Kostel 78.46 335 *eP* **P 10 14 50.9 +0.5**
NKC Novy Kostel 78.46 335 *eP* **P 10 14 50.9 +0.5**
MODS Modra-Piesok 78.51 331 *eP* **P 10 14 52.2 +1.4**
MODS pmax pmax
comp=Z,137nm,1.1s
MODS Modra-Piesok 78.51 331 *eP* **P 10 14 52.1 +1.3**
ZVC Zvikov 78.61 333 *eP* **P 10 14 51.5 +0.2**
BUD Budapest 78.65 329 P P 10 14 51.6 +0.1
BUD pmax pmax
comp=Z,58nm,1.1s
UBBA Unterbreizbach 78.65 336 *eP* **P 10 14 51.8 +0.5**
comp=Z,49nm,1.5s,baz=28,slow=5.6
BR131 Keskin Array S 78.69 316 P P 10 14 51.8 -0.3
BR131 Keskin Array S 78.69 316 P P 10 14 51.8 -0.3
BR131 pmax pmax
comp=Z,43nm,1.2s
BRTR Keskin Array B 78.69 316 P P 10 14 51.5 -0.6
BRTR Keskin Array B 78.69 316 P P 10 14 52.4 +0.2
comp=Z,20nm,1.0s,baz=64,slow=2.9,SNR=33
comp=Z,20nm,1.0s
SIRR Siria 78.69 327 ⇑P **P 10 14 53.0 +1.1**
BR106 Keskin Array S 78.70 316 P P 10 14 53.0 +0.9
comp=Z,190nmcomp=Z,22nm,1.0s
BR104 Keskin Array S 78.71 316 P P 10 14 52.8 +0.6
comp=Z,207nmcomp=Z,23nm,1.1s
BR105 Keskin Array S 78.71 316 P P 10 14 52.8 +0.6
comp=Z,234nmcomp=Z,26nm,1.1s
LPIG La Paz 78.71 67 LR LR 10 41 34.0
comp=Z,111nm,20.1s,baz=307,slow=30
KASTN Kahler Asten 78.75 337 *eP* **P 10 14 52.5 +0.4**
comp=Z,48nm,1.1s,baz=28,slow=5.6
KASTN *esP* **pwP 10 15 09.9 +3.7**
MANZ Manzenberg 78.78 335 *eP* **P 10 14 52.4 +0.2**
comp=Z,7.2nm,1.0s,baz=28,slow=5.6
GAZ Gaziantep 78.83 312 IAmb IAmb 10 14 54.8
comp=Z,28nm,1.1s
BUG Bochum--Univer 78.84 338 P P 10 14 52.3 -0.2
BUG pmax pmax
comp=Z,61nm,1.3s
BUG Bochum--Univer 78.84 338 *eP* **P 10 14 52.7 +0.2**
comp=Z,60nm,1.1s,baz=28,slow=5.6
ROTZ Rotzenmuhle 78.94 334 *eP* **P 10 14 53.7 +0.6**
comp=Z,12nm,1.1s,baz=28,slow=5.6
SURR Surduc 78.94 327 ⇑P **P 10 14 53.2 +0.1**
ANTO Ankara 79.00 317 ⇓P **P 10 14 55.0 +1.3**
ANTO Ankara 79.00 317 P P 10 14 54.9 +1.3
ANTO Ankara 79.00 317 P P 10 14 54.4 +0.7
comp=Z,25nm,1.2s
KIRS Kirsehir-Merke 79.01 315 ⇓P **P 10 14 55.0 +1.2**
KHC Kasperske Hory 79.08 333 *eP* **P 10 14 54.2 +0.3**
KHC *ep*P **PcP 10 14 59.0 -3.3**
KHC pmax pmax 10 53 40.0
comp=Z,1μm,18.3s
KHC Kasperske Hory 79.08 333 *eP* **P 10 14 54.2 +0.3**
KHC *e* 10 14 59.0
KHC MLR MLR
comp=Z,1μm,18.3s
KHC Kasperske Hory 79.08 333 P P 10 14 54.4 +0.5
comp=Z,64nm,1.4s
TXAR Lajitas Array 79.20 59 P P 10 14 55.7 +0.8
comp=Z,2.9nm,0.9s,baz=300,slow=3.8,SNR=20
TXAR pP **sP 10 15 07.5 +1.1**
comp=Z,4.9nm,0.7s,baz=298,slow=4.0,SNR=16
comp=Z,2.9nm,0.9s
BZS Buzias 79.25 327 ⇑P **P 10 14 54.7 -0.2**
BZS Buzias 79.25 327 P P 10 14 54.7 -0.2
GEC2 GERESS Array S 79.29 333 IAmb IAmb 10 14 56.3
comp=Z,31nm,1.1s
GEC2 GERESS Array S 79.29 333 P P 10 14 55.3 +0.2
GEC2 pmax pmax
comp=Z,28nm,1.4s
GEC2 GERESS Array S 79.29 333 *eP* **P 10 14 55.2 +0.1**
comp=Z,33nm,1.1s,baz=28,slow=5.6
GERES GERESS Array B 79.29 333 P P 10 14 55.0 -0.2
GERES GERESS Array B 79.29 333 P P 10 14 55.1 +0.1
comp=Z,14nm,0.9s,baz=46,slow=3.9,SNR=33
GERES LR LR 10 54 03.1
comp=Z,575nm,18.1s,baz=26,slow=39
comp=Z,14nm,0.9s
GRF Grafenberg Arr 79.30 335 P P 10 14 55.8 +0.7
GRF pmax pmax
comp=Z,72nm,1.3s
GRF Grafenberg Arr 79.30 335 *eP* **P 10 14 55.8 +0.7**
comp=Z,74nm,1.0s,baz=28,slow=5.6
GRF *eL* L 10 53 03.0
comp=Z,479nm,19.5s
GRFO Grafenberg 79.31 335 P P 10 14 54.8 -0.3
GRFO Grafenberg 79.31 335 P P 10 14 54.8 -0.3
GRFO pmax pmax
comp=Z,69nm,1.0s
SOP Sopron 79.35 331 P P 10 14 56.9 +1.6
SOP pmax pmax
comp=Z,63nm,1.2s
CONA Conrad Observa 79.38 331 *i* P **P 10 14 56.3 +0.7**
comp=Z,26nm,0.8s,SNR=17
RONA Rosalia, Austr 79.43 331 *i* P **P 10 14 57.0 +1.1**
comp=Z,32nm,0.9s,SNR=12
GRB1 Grafenberg Arr 79.44 335 P P 10 14 56.9 +1.1
GRB1 pmax pmax
comp=Z,65nm,1.2s
MPLH Magyarpolny 79.45 330 P P 10 14 56.5 +0.6
comp=Z,137nm,1.2s
HERR Herculane 79.55 326 ⇑P **P 10 14 56.5 -0.1**
TNS Taunus Mts 79.63 337 P P 10 14 57.0 +0.1
TNS pmax pmax
comp=Z,41nm,1.2s
TNS Taunus Mts 79.63 337 *eP* **P 10 14 57.2 +0.3**
comp=Z,43nm,1.0s,baz=28,slow=5.6
TNS *esP* **pwP 10 15 14.2 +3.2**
CCM Cathedral Cave 79.66 46 P P 10 14 57.3 +0.1
CCM IAmb IAmb 10 15 12.0
comp=Z,28nm,1.4s
CCM Cathedral Cave 79.66 46 P P 10 14 57.3 +0.1
CCM pmax pmax
comp=Z,28nm,1.4s
SADO Sadowa 79.74 34 LR LR 10 52 31.6
comp=Z,154nm,19.5s,baz=64,slow=37
BEBN Eben Emael 79.84 339 *dP* **P 10 14 58.2 +0.2**
comp=Z,55nm,1.0s
MORH Mrgy, Hungar 79.87 329 ⇑P **P 10 14 57.9 -0.3**
MORH Mrgy, Hungar 79.87 329 P P 10 14 57.7 -0.5
comp=Z,19nm,1.2s
MDVR Moldovita 79.91 326 ⇑P **P 10 14 58.5 0.0**
BTNL Ternell 79.92 338 *dP* **P 10 14 58.6 +0.2**
comp=Z,27nm,1.1s
MEM Membach 79.93 339 *dP* **P 10 14 59.0 +0.5**
comp=Z,38nm,1.1s
MEM Membach 79.93 339 P P 10 14 58.8 +0.4
MEM pmax pmax
comp=Z,73nm,1.1s
MOA Molln 79.98 332 *i* P **P 10 14 59.6 +0.8**
comp=Z,18nm,1.3s,SNR=6.1
MOA Molln 79.98 332 *eP* **P 10 14 58.4 -0.4**
comp=Z,21nm,1.1s,baz=28,slow=5.6
BSTI Sart Tilman 80.06 339 *dP* **P 10 14 59.7 +0.6**
ARSA Arzberg 80.08 331 *i* P **P 10 15 00.3 +1.0**
comp=Z,9.1nm,0.7s,SNR=8.8
ARSA Arzberg 80.08 331 P P 10 14 59.2 -0.1
ARSA IAmb IAmb 10 15 01.2
comp=Z,28nm,1.2s
ARSA Arzberg 80.08 331 *eP* **P 10 14 59.5 +0.2**
comp=Z,35nm,1.3s,baz=28,slow=5.6
BHOU Houvegnez 80.16 338 *dP* **P 10 15 00.2 +0.5**
comp=Z,20nm,1.2s
UCC Uccle 80.17 340 *dP* **P 10 14 59.3 -0.4**
BIOA Bad Ischl, Aus 80.32 333 *i* P **P 10 15 01.5 +0.8**
comp=Z,39nm,1.1s,SNR=16
BGES Gesves 80.37 339 *dP* **P 10 15 00.8 0.0**
comp=Z,22nm,1.1s
BMRD Maredsous 80.53 339 *dP* **P 10 15 02.1 +0.5**
comp=Z,35nm,1.1s
RCHB Rochefort 80.54 339 *dP* **P 10 15 01.4 -0.4**
comp=Z,23nm,1.2s
FUR Furstenfeldbru 80.64 334 P P 10 15 03.5 +1.1
FUR pmax pmax
comp=Z,49nm,0.8s
FUR Furstenfeldbru 80.64 334 *eP* **P 10 15 03.1 +0.8**
comp=Z,72nm,1.1s,baz=28,slow=5.6
STU Stuttgart 80.72 336 P P 10 15 04.1 +1.3
STU pmax pmax
comp=Z,20nm,0.5s
STU Stuttgart 80.72 336 *eP* **P 10 15 03.2 +0.4**
comp=Z,53nm,0.8s,baz=28,slow=5.6
SOKA Soboth 80.74 331 *i* P **P 10 15 03.3 +0.3**
comp=Z,52nm,1.3s,SNR=16
PERS Pernice 80.75 331 *i* P **P 10 15 03.2 +0.1**
WLF Walferdange 80.75 338 IAmb IAmb 10 15 05.9
comp=Z,43nm,1.2s
WLF Walferdange 80.75 338 *dP* **P 10 15 04.0 +1.2**
WLF Walferdange 80.75 338 *eP* **P 10 15 04.2 +1.3**
comp=Z,39nm,1.2s,baz=28,slow=5.6
DOU Dourbes 80.76 339 *dP* **P 10 15 03.0 +0.1**
comp=Z,14nm,1.5s
GROS Grobnik 80.77 331 *i* P **P 10 15 02.9 -0.2**
LESA Schwarzleotal 80.86 333 *i* P **P 10 15 04.3 +0.7**
comp=Z,68nm,2.1s,SNR=12
BOVS Bovan 80.87 326 ⇑P **P 10 15 03.3 -0.3**
SIUC Southern Illin 80.93 44 IAmb IAmb 10 15 19.1
comp=Z,19nm,0.8s
KBA Koelnbreinsper 80.95 333 *i* P **P 10 15 05.3 +1.1**
comp=Z,73nm,1.4s,SNR=18
KBA Koelnbreinsper 80.95 333 P P 10 15 04.7 +0.5
KBA pmax pmax
comp=Z,46nm,1.3s
KBA Koelnbreinsper 80.95 333 *eP* **P 10 15 04.6 +0.3**
comp=Z,77nm,1.4s,baz=28,slow=5.6
DRIO Del Rio 80.96 57 IAmb IAmb 10 15 19.7
comp=Z,23nm,1.1s
OBKA Obir 81.05 332 *i* P **P 10 15 04.2 -0.5**
comp=Z,9.6nm,1.1s
OBKA Obir 81.05 332 *eP* **P 10 15 04.7 0.0**
comp=Z,77nm,1.9s,baz=28,slow=5.6
PBMO Poplar Bluff 81.06 46 IAmb IAmb 10 15 06.9
comp=Z,28nm,1.2s
GCIS Gornji Cirnik 81.24 331 *eP* **P 10 15 05.4 -0.1**
WHAR Wooly Hollow 81.24 48 IAmb IAmb 10 15 20.5
comp=Z,13nm,0.9s
MYKA Terra Mystica 81.25 332 *i* P **P 10 15 05.6 -0.1**
comp=Z,14nm,1.0s
WATA Walderalm 81.29 334 *i* P **P 10 15 06.6 +0.7**
comp=Z,44nm,1.1s,SNR=13
WTTA Wattenberg 81.33 334 *i* P **P 10 15 06.9 +0.7**
comp=Z,8.0nm,0.4s,SNR=13
WTTA Wattenberg 81.33 334 P P 10 15 07.0 +0.7
WTTA pmax pmax
comp=Z,55nm,1.7s
WTTA Wattenberg 81.33 334 *eP* **P 10 15 06.8 +0.5**
comp=Z,59nm,1.2s,baz=28,slow=5.6
WTTA *esP* **pwP 10 15 23.7 +3.3**
BFO Black Forest 81.37 336 P P 10 15 06.0 -0.3
BFO IAmb IAmb 10 15 07.7
comp=Z,34nm,1.1s
BFO Black Forest 81.37 336 P P 10 15 06.0 -0.3
BFO pmax pmax
comp=Z,34nm,1.1s
BFO Black Forest 81.37 336 *eP* **P 10 15 06.5 +0.3**
comp=Z,40nm,1.2s,baz=28,slow=5.6
RETA Reutte 81.41 334 *i* P **P 10 15 07.2 +0.7**
comp=Z,20nm,1.0s,SNR=9.0
TAOE Nuku Hiva Isla 81.41 112 *eLR* LR 10 40 32.1
comp=Z,461nm,23.6s
MOTA Moosalm 81.43 334 *i* P **P 10 15 07.4 +0.6**
comp=Z,74nm,1.4s
UBR Ueberruh 81.43 335 *eP* **P 10 15 06.4 -0.2**
comp=Z,26nm,1.2s,baz=28,slow=5.6
SQTA Sankt Quirin 81.51 334 *i* P **P 10 15 07.9 +0.8**
comp=Z,26nm,1.0s,SNR=12
ABTA Abfaltersbach 81.51 333 *i* P **P 10 15 07.5 +0.4**
comp=Z,22nm,1.4s
ECH Echery 81.80 337 IAmb IAmb 10 15 09.9
comp=Z,42nm,1.3s
ECH Echery 81.80 337 P P 10 15 09.0 +0.5
ECH pmax pmax
comp=Z,150nm,1.6s
FETA Feichten 81.83 334 *i* P **P 10 15 09.6 +0.7**
comp=Z,17nm,1.1s,SNR=8.3
SLE Schleitheim 81.83 336 P P 10 15 09.2 +0.5
SLE pmax pmax
comp=Z,21nm,1.1s
DAVA Damuels 81.86 335 *i* P **P 10 15 09.5 +0.5**
comp=Z,21nm,1.1s,SNR=8.8
DAVA Damuels 81.86 335 *eP* **P 10 15 09.0 0.0**
comp=Z,65nm,1.4s,baz=28,slow=5.6
MANT Manisa 82.10 318 IAmb IAmb 10 15 14.2
comp=Z,23nm,1.0s
PPT2 Papeete2 82.23 124 *eLR* LR 10 40 56.2
comp=Z,517nm,22.8s
PPT2 *eLR* LR 10 41 02.2
comp=Z,591nm,22.5s
DAVOX Davos/Dischmat 82.31 335 LR LR 10 55 09.3
comp=Z,336nm,19.9s,baz=59,slow=38
FUORN Ofenpass-Fuorn 82.33 334 IAmb IAmb 10 15 13.7
comp=Z,34nm,1.2s
CTI Castel Tesino 82.41 333 IAmb IAmb 10 15 12.9
comp=Z,16nm,0.9s
KLBR Kellerberrin 82.42 209 P P 10 15 08.1 -3.6
TUE Stuetta 82.75 335 P P 10 15 14.6 +0.9
comp=Z,130nm,1.2s
ASF Jabal al Asfar 82.78 309 LR LR 10 57 42.1
comp=Z,255nm,18.2s,baz=151,slow=40
PDG Podgorica 82.86 326 ⇓P **P 10 15 14.1 0.0**
MMAI Mount Meron Ar 82.95 311 P P 10 15 16.0 +1.1
comp=Z,20nm,0.9s,baz=40,slow=8.1,SNR=11
MMAI LR LR 10 56 49.4
comp=Z,611nm,19.9s,baz=15,slow=39
comp=Z,20nm,0.9s
SSFO Shawnee State 83.01 40 IAmb IAmb 10 15 30.2
comp=Z,21nm,0.9s
TEOL Teolo 83.02 333 IAmb IAmb 10 15 19.3
comp=Z,25nm,0.9s
FNA Florina 83.39 324 IAmb IAmb 10 15 44.0
comp=Z,20nm,1.1s
LOR Lormes 83.56 338 P P 10 15 18.1 +0.4
LOR pmax pmax
comp=Z,45nm,1.9s
U49A Red Boiling Sp 83.56 43 IAmb IAmb 10 15 32.9
comp=Z,13nm,0.8s
CLTN Cedars of Leba 83.63 44 IAmb IAmb 10 15 32.9
comp=Z,12nm,0.9s
HBVL Hebbronville 83.86 58 IAmb IAmb 10 15 35.6
comp=Z,22nm,1.1s
RAYN Ar Rayn 84.14 298 P P 10 15 21.9 +0.8
RAYN pmax pmax
comp=Z,4.0nm,1.3s
BNI Bardonecchia 84.82 336 P P 10 15 23.9 -0.4
BNI pmax pmax
comp=Z,25nm,1.3s
ORIF Oris-en-Rattie 85.17 336 P P 10 15 27.2 +1.2
ORIF pmax pmax
comp=Z,32nm,1.2s
TKL Tuckaleechee C 85.21 42 LR LR 10 52 49.0
comp=Z,245nm,21.6s,baz=338,slow=35
ISO Isola 85.51 335 P P 10 15 28.7 +1.1
ISO pmax pmax
comp=Z,17nm,1.3s
M65A Busby, Falmout 85.69 30 P P 10 15 28.5 +0.1
baz=332
EIL Elat 85.77 309 LR LR 11 00 13.2
comp=Z,307nm,18.0s,baz=68,slow=40
BG3 Lake Jocassee 86.15 42 IAmb IAmb 10 15 46.3
comp=Z,14nm,0.8s
TBI Tubuai 86.85 128 *eLR* LR 10 42 59.1
comp=Z,1μm,25.2s
PBRG Braganca 91.16 344 *eP* **P 10 15 54.4 -0.2**
PGAV Gavieira, Arco 91.29 345 *eP* **P 10 15 54.5 -0.8**
POLO Lamas de Olo 91.77 345 *eP* **P 10 15 57.1 -0.4**
POLO *i* Amb 10 15 57.8
comp=Z,13nm,1.2s
MVO Moncorvo 91.83 344 *eP* **P 10 15 57.5 -0.3**
PVRL Vila Real 91.85 344 *eP* **P 10 15 57.4 -0.4**
KEST Kesra 92.42 330 P P 10 16 00.0 -0.6
comp=Z,18nm,1.0s,baz=328,slow=3.4,SNR=7.2
KEST LR LR 11 01 56.6
comp=Z,215nm,19.8s,baz=7.2,slow=38
comp=Z,18nm,1.0s
PVIS Viseu 92.43 344 *eP* **P 10 16 00.1 -0.4**
ESDC Sonseca Array 92.61 341 P P 10 16 00.5 -0.9
ESDC Sonseca Array 92.61 341 P P 10 16 00.2 -1.2
comp=Z,4.3nm,1.0s,baz=6.5,slow=4.0,SNR=16
ESDC LR LR 11 03 29.6
comp=Z,214nm,18.5s,baz=18,slow=39
comp=Z,4.3nm,1.0s
MTE Manteigas 92.67 344 *eP* **P 10 16 01.3 -0.3**
COI Coimbra 93.02 345 *eP* **P 10 16 03.9 +0.8**
PCAS Casmilo, Conde 93.19 345 *eP* **P 10 16 03.0 -0.9**
PCAS *i* Amb 10 16 04.0
comp=Z,29nm,1.4s
PMRV Marv??o 93.58 344 *eP* **P 10 16 04.0 -1.8**
CMIG Matias Romero 93.64 61 LR LR 10 52 45.3
comp=Z,85nm,21.0s,baz=355,slow=32
PBAR Barrancos 94.72 343 *eP* **P 10 16 12.2 +1.3**
PCVE Castro Verde 95.44 344 *eP* **P 10 16 14.5 +0.2**
PTEO Sao Teotonio 95.66 344 *eP* **P 10 16 14.8 -0.5**
MORF Marmelete 95.88 344 *eP* **P 10 16 16.4 0.0**
MDT Midelt 99.32 340 LR LR 11 08 35.9
comp=Z,99nm,18.2s,baz=33,slow=40
PMPST Porto Santo, M 101.24 350 *eP* **Pdif 10 16 41.1 +0.7**
TORD Torodi Ar. Bea 115.76 327 PKP PKiKP 10 21 31.9 -0.6
comp=Z,0.5nm,0.6s,baz=360,slow=3.0,SNR=2.8
TORD pPKP PKPdf 10 21 45.5 +13
comp=Z,1.0nm,0.7s,baz=354,slow=3.3,SNR=4.3
TORD PKKP **PKKPdf 10 32 23.7 -2.8**
comp=Z,0.2nm,0.4s,baz=229,slow=1.9,SNR=4.3
DBIC Dimbokro 124.12 331 PKP PKiKP 10 21 48.6 -0.3
comp=Z,4.1nm,1.0s,baz=108,slow=3.2,SNR=2.5
DBIC pPKP **sPKPdf 10 22 02.2 +1.9**
comp=Z,5.2nm,0.7s,baz=72,slow=3.0,SNR=4.8
QSPA South Pole Qui 135.00 180 PKhKP PKPpre 10 22 00.1
comp=Z,0.8nm,0.8s,baz=332,slow=1.2,SNR=1.5
QSPA PKP **PKiKP 10 22 09.2 +0.1**
comp=Z,1.6nm,0.7s,baz=304,slow=1.5,SNR=6.7
QSPA pPKP sPKPdf 10 22 22.7 +3.8
comp=Z,5.0nm,0.7s,baz=291,slow=1.9,SNR=7.7
LPAZ La Paz 136.01 62 PKP PKPdf 10 22 12.2 +0.5
comp=Z,0.7nm,0.5s,baz=219,slow=1.4,SNR=3.9
VILB Vilhena 138.01 50 *eP* **PKiKP 10 22 16.6 -0.2**
SYO Syowa Base 139.07 211⇑*eP*diff **Pdif 10 19 29.1 +1.6**
SYO Syowa Base 139.07 211⇓*ep*Pdiff pPdif 10 19 38.0 +2.1
NBPB Pedra_Branca-C 139.26 17 *eP* **PKiKP 10 22 19.5 +0.1**
H03N2 Juan Fernandez 139.85 91 T T 12 59 06.3
baz=307,slow=77,SNR=22
H03N1 Juan Fernandez 139.86 91 T T 12 59 07.6
baz=307,slow=77,SNR=23
H03N3 Juan Fernandez 139.86 91 T T 12 59 13.2
baz=307,slow=77,SNR=21
SMTB Santa Maria do 140.15 30 *eP* **PKiKP 10 22 20.8 -0.4**
NBLV Livramento - P 141.53 14 *eP* **PKiKP 10 22 23.1 -1.0**
ELIB Princess Elisa 143.98 205 *d*PKPdf **PKPdf 10 22 23.0 -0.9**
ELIB *dp*PKP **sPKPdf 10 22 36.6 +0.8**
SDBA SAO DESIDERIO 144.38 28 *eP* **PKPdf 10 22 27.0 +0.8**
PANT Pantanal (Braz 144.91 51 *eP* **PKPdf 10 22 28.2 +1.3**
NBLA Lagarto - SE 144.92 16 *eP* **PKPdf 10 22 26.8 -0.3**
BDQN Bodoquena, MS 146.01 53 *eP* **PKPab 10 22 30.8 +0.6**
BDFB Brasilia 146.19 35 PKPbc **PKPab 10 22 30.6 -0.5**
comp=Z,6.2nm,0.8s,baz=266,slow=4.1,SNR=5.4
BDFB pPKPbc sPKPab 10 22 44.2 +1.4
comp=Z,11nm,0.6s,baz=323,slow=2.2,SNR=7.3
BO02 Sierra Bellavi 146.31 87 PKPab 10 22 31.1 0.0
MURT Porto Murtinho 146.47 55 *eP* **PKPab 10 22 31.6 -0.3**
AQDB Aquidauana 146.62 51 *eP* **PKPab 10 22 32.0 -0.5**
JANB Januaria 147.05 29 *eP* **PKPbc 10 22 33.1 +0.3**
BELA Belgrano 2 147.19 178 PKPdf **PKPbc 10 22 31.7 +0.3**
RPRD Ribas do Rio P 147.70 48 *eP* **PKPbc 10 22 34.1 -0.3**
NVL N'lazarevskaya 147.83 204 *e*PKP2 PKPab 10 22 48.5 +13
NVL pmax pmax
comp=Z,21nm,0.9s
IPMB Ipameri, GO 148.20 38 *eP* **PKPbc 10 22 34.3 -1.6**
CMC01 Camacan, BA 148.76 21 *eP* **PKPbc 10 22 36.2 -1.1**
PLCA Paso Flores 149.16 97 PKiKP 10 22 38.9 0.0
PLCA Paso Flores 149.16 97 PKPbc **PKiKP 10 22 38.3 -0.7**
comp=Z,3.9nm,0.8s,baz=271,slow=2.8,SNR=16
PLCA pPKPbc **sPKPab 10 22 52.4 -1.6**
comp=Z,13nm,0.7s,baz=256,slow=3.6,SNR=15
PLCA Paso Flores 149.16 97 *eP* **PKPdf 10 22 34.9 +1.4**
TROLL Troll, Antarti 149.44 198 P PKPbc 10 22 38.6 +1.0
TROLL x PKPab 10 22 52.8 +10
TROLL Troll, Antarti 149.44 198 ⇑P **PKPbc 10 22 38.6 +1.0**
comp=Z,537nm,0.7s
TROLL ⇑x PKPab 10 22 52.8 +10
comp=Z,2μm,1.2s
PMNB Patos De Minas 149.44 35 *eP* **PKPdf 10 22 36.0 +1.3**
GUA01 Guaratinga, BA 149.86 22 *eP* **PKPbc 10 22 37.9 -2.2**
CPUP Villa Florida 150.16 60 PKiKP 10 22 41.2 -0.1
CPUP Villa Florida 150.16 60 PKPbc **PKiKP 10 22 40.8 -0.6**
comp=Z,3.4nm,0.7s,baz=45,slow=1.8,SNR=5.0
CPUP pPKPbc **pPKPab 10 22 54.2 -0.9**
comp=Z,8.9nm,0.7s,baz=330,slow=2.2,SNR=7.3
CPUP Villa Florida 150.16 60 *eP* **PKPbc 10 22 37.9 -2.7**
SNAA Sanae 150.82 196 P PKPbc 10 22 41.8 +1.0
SNAA x **PKPab 10 22 54.8 +6.6**
SNAA Sanae 150.82 196 ⇑P **PKPbc 10 22 41.8 +1.0**
comp=Z,173nm,0.5s
SNAA ⇑x **PKPab 10 22 54.8 +6.6**
comp=Z,313nm,0.8s
SNAA Sanae 150.82 196 PKPbc **PKiKP 10 22 41.3 -0.1**
comp=Z,4.7nm,0.7s,baz=219,slow=3.2,SNR=3.5
SNAA pPKPbc **pPKPab 10 22 54.5 -2.2**
comp=Z,19nm,0.9s,baz=216,slow=5.1,SNR=8.5
LDASE Londrina, Braz 151.44 48 *eP* **PKPdf 10 22 40.3 +2.8**
BSFB Barra de Sao F 151.70 25 *eP* **PKPdf 10 22 39.9 +1.9**

VNA2	**Neumayer--Watz**	**152.29 195**	P		**PKPbc**	**10 22 43.9 -0.2**
	baz=190,slow=0.8					
VNA2			x		**PKPab**	**10 22 54.9 +0.7**
	baz=161,slow=13					
VNA2	**Neumayer--Watz**	**152.29 195**	⇑P		**PKPbc**	**10 22 43.9 -0.2**
	comp=Z,12nm,0.6s,baz=190,slow=0.8					
VNA2			⇑x		**PKPab**	**10 22 54.9 +0.7**
	comp=Z,12nm,0.6s,baz=161,slow=13					

IDC 13 10:18:42.0±4.5, 20°.84S×11°.53W, h0km, mb4.1/4, mbtmp4.1/4, MS3.6/8, Error ellipse: s-maj=155.3km s-min=34.7km az=152.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**27.39**	**92**	LR	LR	10 34 18.9	
	comp=Z,133nm,18.0s,baz=323,slow=34						
RCBR	**Riachuelo**	**27.95**	**299**	LR	LR	10 33 21.9	
	comp=Z,34nm,19.5s,baz=80,slow=32						
BOSA	**Boshof**	**34.20**	**110**	LR	LR	10 37 56.2	
	comp=Z,80nm,20.0s,baz=26,slow=34						
LBTB	**Lobatse**	**34.38**	**104**	LR	LR	10 37 34.5	
	comp=Z,95nm,20.3s,baz=330,slow=33						
BDFB	**Brasilia**	**34.98**	**272**	P	P	10 25 36.5	+0.1
	3.3nm,0.7s,baz=111,slow=8.6,SNR=2.6						
BDFB				LR	LR	10 38 33.9	
	comp=Z,79nm,18.2s,baz=5.8,slow=34						
	3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**36.19**	**22**	P	P	10 25 46.6	+0.1
	3.7nm,0.8s,baz=201,slow=7.8,SNR=21						
	3.7nm,0.8s						
LSZ	**Lusaka**	**38.09**	**88**	LR	LR	10 40 26.6	
	comp=Z,89nm,20.3s,baz=328,slow=34						
LPAZ	**La Paz**	**53.62**	**265**	LR	LR	10 50 48.1	
	comp=Z,66nm,20.1s,baz=50,slow=36						
ATAH	**Atahualpa**	**65.90**	**271**	LR	LR	10 56 30.0	
	comp=Z,112nm,20.1s,baz=41,slow=34						
BRTR	**Keskin Array B**	**73.53**	**35**	P	P	10 30 17.9	+1.0
	1.2nm,0.8s,baz=216,slow=7.1,SNR=3.6						
	1.2nm,0.8s						
AKASG	**Malin Array Be**	**79.77**	**25**	P	P	10 30 50.7	-1.1
	0.8nm,0.7s,baz=229,slow=5.7,SNR=4.8						
	0.8nm,0.7s						

*IDC **13** 10:20:46.0±4.8, 23°.44S×176°.61W, h152km±40km, mb3.5/6, mbtmp4.0/7, MS3.5/1, Error ellipse: s-maj=35.5km s-min=23.8km az=133.0*

ISC 13 10:20:39.9±0.9, 23°.65±0°.2×176°.3W±0°.2, h100km, n9, σ1°.74/10, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.92**	**317**	P	**Pn**	**10 22 34.0**	**+1.7**
	9.4nm,0.8s,baz=135,slow=14,SNR=12						
MSVF				LR	LR	10 25 34.2	
	comp=Z,324nm,18.3s,baz=107,slow=38						
ASAR	**Alice Springs**	**45.45**	**259**	P	**P**	**10 28 47.1**	**-2.1**
	2.2nm,1.0s,baz=93,slow=7.9,SNR=16						
ASAR				PcP	**PcP**	**10 30 26.4**	**-0.3**
	0.6nm,0.8s,baz=112,slow=3.7,SNR=4.4						
	2.2nm,1.0s						
WRA	**Warramunga Arr**	**45.84**	**265**	P	**P**	**10 28 50.4**	**-1.9**
	3.3nm,0.7s,baz=103,slow=8.1,SNR=16						
	3.3nm,0.7s						
QSPA	**South Pole Qui**	**66.46**	**180**	P	**P**	**10 31 20.6**	**+2.1**
	1.7nm,0.7s,baz=9.8,slow=6.9,SNR=3.9						
	1.7nm,0.7s						
PETK	**Petropavlovsk-**	**79.69**	**344**	P	**P**	**10 32 36.5**	**+0.3**
	1.8nm,0.7s,baz=155,slow=5.9,SNR=1.6						
	1.8nm,0.7s						
TXAR	**Lajitas Array**	**87.40**	**57**	P	**P**	**10 33 16.4**	**+0.1**
	0.3nm,0.8s,baz=234,slow=4.8,SNR=3.9						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**91.00**	**12**	P	**P**	**10 33 30.2**	**-2.1**
	0.3nm,0.8s,baz=224,slow=5.6,SNR=5.6						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**92.66**	**289**	P	**P**	**10 33 42.0**	**+0.9**
	1.0nm,0.4s,baz=133,slow=3.7,SNR=12						
AKASG	**Malin Array Be**	**146.51**	**330**	PKPbc	**PKPdf**	**10 40 07.7**	**-0.1**
	1.3nm,0.5s,baz=43,slow=3.8,SNR=9.7						

*IDC **13** 10:26:06.3±1.2, 18°.27S×178°.21W, h593km±11km, mb3.1/11, mbtmp4.0/12, Error ellipse: s-maj=21.4km s-min=15.4km az=123.0*

ISC 13 10:26:06.3±0.8, 18°.2S±0°.1×178°.3W±0°.2, h600km, n16, σ1°.40/18, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.54**	**276**	P	**P**	**10 27 28.1**	**-0.8**
	52nm,0.6s,baz=131,slow=4.3,SNR=102						
MSVF				S	**S**	**10 28 37.1**	**+1.0**
	19nm,1.1s,baz=140,slow=20,SNR=6.6						
URZ	**Urewera**	**20.42**	**191**	P	**P**	**10 30 01.5**	**-2.2**
	2.7nm,0.4s,baz=25,slow=2.4,SNR=7.6						
	2.7nm,0.4s						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**10 33 28.1**	**+0.2**
	0.4nm,0.3s,baz=96,slow=7.9,SNR=16						
WRA				PcP	**PcP**	**10 34 57.8**	**+0.8**
	0.3nm,0.3s,baz=91,slow=3.3,SNR=7.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**10 33 29.8**	**+0.8**
	2.4nm,0.6s,baz=87,slow=8.9,SNR=46						
ASAR				PcP	**PcP**	**10 34 58.4**	**+1.0**
	0.5nm,0.4s,baz=95,slow=3.7,SNR=10						
	2.4nm,0.6s						
MJAR	**Matsushiro Arr**	**68.20**	**323**	P	**P**	**10 36 08.7**	**+0.5**
	1.7nm,0.5s,baz=156,slow=5.4,SNR=4.1						
	1.7nm,0.5s						
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**10 36 31.2**	**+1.5**
	1.6nm,0.9s,baz=198,slow=7.7,SNR=2.2						
	1.6nm,0.9s						
PETK	**Petropavlovsk-**	**73.97**	**345**	P	**P**	**10 36 42.0**	**+0.6**
	1.7nm,0.6s,baz=176,slow=6.5,SNR=6.5						
	1.7nm,0.6s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**10 37 13.3**	**+1.1**
	0.8nm,0.8s,baz=236,slow=5.4,SNR=2.9						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**86.01**	**58**	P	P	10 37 47.0	+2.2
	0.5nm,0.7s,baz=213,slow=6.2,SNR=7.8						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**10 37 43.8**	**-0.4**
	0.7nm,0.4s,baz=220,slow=5.0,SNR=34						
	0.7nm,0.4s						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**10 37 52.1**	**+0.8**
	0.7nm,0.7s,baz=243,slow=3.3,SNR=6.8						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**94.51**	**25**	P	**P**	**10 38 23.2**	**+0.2**
	0.3nm,0.8s,baz=237,slow=5.0,SNR=3.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**109.42**	**314**	PKiKP	**PKiKP**	**10 43 29.2**	**-0.2**
	0.1nm,0.5s,baz=156,slow=1.4,SNR=1.7						
ARCES	**ARCESS Array B**	**126.60**	**350**	PKP	**PKiKP**	**10 44 02.0**	**-0.2**
	2.0nm,0.9s,baz=116,slow=2.1,SNR=1.1						
MMAI	**Mount Meron Ar**	**146.41**	**303**	PKPbc	**PKPab**	**10 44 43.1**	**-1.2**
	1.4nm,0.4s,baz=108,slow=4.7,SNR=2.6						
GERES	**GERESS Array B**	**147.90**	**345**	PKPbc	**PKPab**	**10 44 46.1**	**-3.8**
	1.1nm,0.5s,baz=19,slow=5.7,SNR=4.1						

HEL 13 10:28:30.1±0.7, 67°.73N×33°.49E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.47**	**68**	PG	Pg	10 28 40.1	+1.0
LVZ				SG	Sg	10 28 42.8	-2.4
VRF	**Varrio**	**1.48**	**273**	MSG		10 29 14.4	
	comp=Z,1.5nm,0.2s						
VRF				SN	Sn	10 29 20.0	+2.0
OLKF	**Oulanka, Finla**	**2.14**	**231**	PG	Pb	10 29 09.1	-0.5
OLKF				MSG		10 29 33.6	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sg	10 29 38.0	-0.7
KU6	**Riekki**	**2.22**	**221**	PG	Pn	10 29 09.5	+1.3
KU6				MSG		10 29 35.9	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sb	10 29 39.4	+0.3
MSF	**Maaselka**	**2.54**	**226**	PG	Pb	10 29 15.5	-0.9
KU2	**Taivalkoski**	**2.91**	**228**	PG	Pb	10 29 24.1	+1.3
KU2				SB	Sn	10 29 56.1	+2.8
KEV	**Kevo**	**3.12**	**314**	PB	Pn	10 29 22.7	+2.3
KEV				SB	Sn	10 30 01.1	+2.7
KEV				MSG		10 30 01.8	
	comp=Z,1.3nm,0.2s						
RMF	**Romuvaara**	**3.81**	**204**	SB	Sb	10 30 22.7	-2.1

*SKHL **13** 10:29:01.4±0.7, 43°.40N×134°.30E, h428km±10km, mb4.4/6, msha4.0/2*

*IDC **13** 10:29:02.2±0.7, 43°.44N×134°.16E, h428km±7km, mb3.0/10, mbtmp3.9/17, Error ellipse: s-maj=12.1km s-min=10.9km az=86.0*

*JMA **13** 10:29:04.0±0.4, 43°.N±2°.×13°.5E±°, h490km, MV3.8/37, NEAR VLADIVOSTOK*

ISC 13 10:29:02.6±0.6, 43°.38N±0°.06×134°.39E±0°.07, h450km, n43, σ2°.35/52, mb3.4/10, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**1.66**	**282**	*eP*	**P**	**10 29 58.8**	**-2.5**
USRK	**Ussuriysk Ar.**	**1.93**	**296**	P	**P**	**10 29 59.5**	**-3.0**
	5.0nm,0.5s,baz=113,slow=5.5,SNR=28						
USRK				S	**S**	**10 30 46.0**	**-5.3**
	1.9nm,0.8s,baz=116,slow=13,SNR=1.6						
TEY	**Ternei**	**2.30**	**43**	*eP*	**P**	**10 30 03.2**	**-1.4**
TEY				AMB	AMB	10 30 03.7	
	30nm,0.6s						
TEY				*e*S	**S**	**10 30 51.5**	**-3.7**
TEY				A	A	10 30 52.3	
	30nm,0.7s						
JIW	**Iwasaki**	**5.02**	**122**	*eP*	**P**	**10 30 26.9**	**-0.3**
JKB	**Kayabe**	**5.12**	**105**	P	**P**	**10 30 27.7**	**-0.3**
JOT	**Ohata**	**5.32**	**110**	P	**P**	**10 30 29.2**	**-0.8**
JHR	**Hokuryu**	**5.34**	**84**	*eP*	**P**	**10 30 30.4**	**+0.3**
JWK2	**Keihoku**	**5.72**	**68**	*eP*	**P**	**10 30 35.0**	**+1.1**
ASAJ	**Asahikawa**	**5.99**	**80**	P	**P**	**10 30 36.6**	**0.0**
	30nm,0.5s,baz=269,slow=6.7,SNR=51						
ASAJ				S	**S**	**10 31 52.1**	**-1.5**
	4.1nm,0.7s,baz=117,slow=18,SNR=1.1						
ASAJ	**Asahikawa**	**5.99**	**80**	*eP*	**P**	**10 30 36.6**	**0.0**
ASAJ				AMB	AMB	10 30 37.6	
	30nm,0.5s						
ASAJ				*e*S	**S**	**10 31 52.1**	**-1.5**
ASAJ				A	A	10 31 53.1	
KLR	**Kul'dur**	**6.13**	**344**	P	**P**	**10 30 35.7**	**-2.3**
	20nm,0.3s,baz=173,slow=8.8,SNR=113						
KLR				S	**S**	**10 31 50.8**	**-5.4**
	2.3nm,0.9s,baz=331,slow=19,SNR=1.0						
KLR	**Kul'dur**	**6.13**	**344**	*eP*	**P**	**10 30 35.9**	**-2.1**
KLR				AMB	AMB	10 30 36.8	
	20nm,0.3s						
KLR				*e*S	**S**	**10 31 52.2**	**-4.0**
JRG	**Rokugo**	**6.15**	**128**	P	**P**	**10 30 37.8**	**-0.6**
JRG				*e*S	**S**	**10 31 55.0**	**-1.7**
JCH	**Churui**	**6.62**	**94**	P	**P**	**10 30 41.4**	**-1.8**
JMK	**Ichinoseki**	**6.79**	**128**	P	**P**	**10 30 43.3**	**-1.7**
JTKR	**Abashiri--Toko**	**6.93**	**82**	P	**P**	**10 30 46.3**	**-0.1**
JMM	**Marumori**	**7.35**	**136**	*eP*	**P**	**10 30 49.8**	**-1.1**
MJAR	**Matsushiro Arr**	**7.43**	**156**	P	**P**	**10 30 52.0**	**+0.1**
	2.9nm,0.6s,baz=332,slow=8.9,SNR=9.1						
AKK	**Akkeshi**	**7.65**	**89**	*eP*	**P**	**10 30 53.7**	**-0.4**
AKK				AMB	AMB	10 30 55.3	
	20nm,0.2s						
KSRS	**Korea Array**	**7.70**	**222**	P	**P**	**10 30 54.6**	**-0.1**
	5.9nm,0.6s,baz=40,slow=11,SNR=27						
JFK	**Kawauchi**	**7.78**	**138**	*e*S	**S**	**10 32 21.7**	**-6.6**
JWT	**Wachi**	**8.12**	**174**	*eP*	**P**	**10 31 00.5**	**+1.1**
JRY	**Ryogami san**	**8.13**	**153**	*eP*	**P**	**10 30 59.3**	**-0.2**
JHO	**Hitachi**	**8.25**	**143**	*e*S	**S**	**10 32 31.3**	**-6.4**
NMR	**Nemuro--Hokkai**	**8.26**	**86**	*eP*	**P**	**10 31 00.6**	**0.0**
NEM2	**Nemuro 2**	**8.27**	**86**	P	**P**	**10 30 59.3**	**-1.5**
NEM2				*e*S	**S**	**10 32 35.4**	**-2.5**
JHS	**Saijyo**	**8.43**	**187**	P	**P**	**10 31 03.6**	**+1.0**
BSO4	**Boso 4**	**9.56**	**149**	*e*S	**S**	**10 33 00.3**	**-3.3**
BSO1	**Boso 1**	**10.10**	**147**	*eP*	**P**	**10 31 20.0**	**-0.2**
JNU	**Nakatsue**	**10.60**	**196**	P	**P**	**10 31 26.2**	**-0.2**
	10nm,0.8s,baz=1.8,slow=5.9,SNR=13						
JSJ	**Shimokoshiki**	**12.25**	**199**	*eP*	**P**	**10 31 45.2**	**+1.0**
MA2	**Magadan**	**19.07**	**26**	P	**P**	**10 32 55.4**	**+0.4**
	7.5nm,0.7s,baz=213,slow=7.6,SNR=17						
SONM	**Songino Array**	**20.04**	**293**	P	**P**	**10 33 03.7**	**-0.5**
	2.0nm,0.5s,baz=93,slow=9.3,SNR=19						
ZALV	**Zalesovo Beam**	**33.75**	**306**	P	**P**	**10 35 03.9**	**-0.8**
	1.4nm,0.4s,baz=94,slow=9.2,SNR=9.5						
ZALV				PcP	**PcP**	**10 37 33.3**	**+1.8**
	0.5nm,0.5s,baz=104,slow=4.8,SNR=2.1						
	1.4nm,0.4s						
MKAR	**Makanchi Array**	**36.39**	**294**	P	**P**	**10 35 26.5**	**-0.6**
	1.4nm,0.6s,baz=85,slow=9.2,SNR=18						
	1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**37.98**	**301**	P	**P**	**10 35 39.3**	**-0.8**
	1.8nm,0.4s,baz=80,slow=8.8,SNR=16						
	1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.81**	**241**	P	**P**	**10 35 48.1**	**+0.8**
	0.7nm,0.3s,baz=34,slow=7.5,SNR=4.3						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**47.20**	**35**	P	**P**	**10 36 55.1**	**+2.4**
	0.2nm,0.4s,baz=291,slow=9.3,SNR=6.8						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**60.66**	**328**	P	**P**	**10 38 28.9**	**+0.6**
	0.5nm,0.3s,baz=38,slow=6.5,SNR=1.1						
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**61.00**	**30**	P	**P**	**10 38 32.9**	**+2.3**
	0.2nm,0.6s,baz=300,slow=5.9,SNR=2.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**63.00**	**180**	P	**P**	**10 38 45.7**	**+1.5**
	0.3nm,0.4s,baz=350,slow=7.4,SNR=9.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**66.71**	**180**	P	**P**	**10 39 09.7**	**+2.0**
	0.5nm,0.4s,baz=355,slow=7.0,SNR=12						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**76.87**	**43**	P	**P**	**10 40 10.3**	**+3.0**
	0.2nm,0.6s,baz=356,slow=7.8,SNR=1.9						
	0.2nm,0.6s						

*IDC **13** 10:33:06.5±1.4, 18°.24S×178°.19W, h590km±13km, mb3.0/8, mbtmp3.9/10, Error ellipse: s-maj=28.1km s-min=18.7km az=141.0*

ISC 13 10:33:07.3±0.8, 18°.2S±0°.2×178°.3W±0°.1, h600km, n10, σ1°.27/12, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.52**	**277**	P	**P**	**10 34 28.0**	**-1.7**
	36nm,0.7s,baz=124,slow=8.5,SNR=39						
MSVF				S	**S**	**10 35 36.9**	**+0.1**
	12nm,1.1s,baz=140,slow=19,SNR=2.8						
DZM	**Mont Dzumac**	**14.85**	**252**	P	**P**	**10 36 15.8**	**+1.5**
	4.7nm,0.9s,baz=139,slow=12,SNR=1.3						
URZ	**Urewera**	**20.39**	**190**	P	**P**	**10 37 02.2**	**-2.2**
	1.1nm,0.3s,baz=20,slow=6.8,SNR=1.1						
	1.1nm,0.3s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**10 39 41.4**	**+0.8**
	2.2nm,0.5s,baz=111,slow=12,SNR=5.6						
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**44.70**	**260**	P	**P**	**10 40 28.6**	**-0.1**
	0.6nm,0.4s,baz=97,slow=7.3,SNR=14						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**44.83**	**255**	P	**P**	**10 40 30.1**	**+0.4**
	4.6nm,0.6s,baz=87,slow=8.8,SNR=69						
ASAR				PcP	**PcP**	**10 41 58.8**	**+0.4**
	0.6nm,1.0s,baz=84,slow=3.4,SNR=2.7						
	4.6nm,0.6s						
QSPA	**South Pole Qui**	**71.86**	**180**	P	**P**	**10 43 31.2**	**+0.7**
	0.6nm,0.5s,baz=63,slow=2.3,SNR=1.4						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**10 44 13.8**	**+0.4**
	0.5nm,0.5s,baz=254,slow=4.7,SNR=2.0						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**10 44 47.1**	**+1.1**
	0.2nm,0.7s,baz=241,slow=4.9,SNR=2.8						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**86.14**	**13**	P	**P**	**10 44 44.2**	**-1.2**
	0.2nm,0.5s,baz=211,slow=4.4,SNR=7.2						
	0.2nm,0.5s						

*NOU **13** 10:38:37.6, 13°.16S×166°.85E, h33km, mb5.0/30, Vanuatu Islands*

*IDC **13** 10:38:37.1±0.6, 13°.49S×166°.38E, h0km, mb4.5/17, mbtmp4.5/19, ML2.4/1, MS4.1/11, Error ellipse: s-maj=21.7km s-min=14.8km az=99.0*

*NEIC **13** 10:38:39.0±0.9, 13°.48S±0°.09×166°.4E±0°.1, h10km±1km, mb4.9/77, Error ellipse: s-maj=21.2km s-min=12.9km az=67.0*

ISC 13 10:38:42.0±0.7, 13°.51S±0°.05×166°.40E±0°.08, h31km±4km, n176, σ0°.98/150, mb4.8/67, MS4.1/7, 5C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**2.87**	**350**	P	Pn	10 39 17.7	-8.0
PVC	**Port Vila**	**4.59**	**157**	P	**Pn**	**10 39 47.6**	**-1.7**
HURO	**Huro Makira**	**5.34**	**304**	P	**Pn**	**10 39 58.4**	**-1.2**
KOUNC	**Koumac, New Ca**	**7.29**	**196**	P	**Pn**	**10 40 27.1**	**+0.7**
HNR	**Honiara**	**7.51**	**302**	Pn	**Pn**	**10 40 28.2**	**-1.3**
TATA	**Tatamba Isabel**	**8.24**	**308**	P	**Pn**	**10 40 37.3**	**-2.1**
DZM	**Mont Dzumac**	**8.51**	**180**	Pn	**Pn**	**10 40 42.8**	**-0.5**
DZM	**Mont Dzumac**	**8.51**	**180**	*e*Pn	**Pn**	**10 40 41.2**	**-2.1**
	75nm,0.9s						
DZM				*e*LR	LR	10 42 31.8	
	824nm,25.4s						
DZM	**Mont Dzumac**	**8.51**	**180**	Pn	**Pn**	**10 40 43.5**	**+0.2**
	10nm,0.4s,baz=31,slow=18,SNR=18						
DZM				Sn	**Sn**	**10 42 19.4**	**+1.0**
	baz=248,slow=23						
DZM				LR	LR	10 43 52.4	
	comp=Z,815nm,18.6s,baz=14,slow=37						
DZM	**Mont Dzumac**	**8.51**	**180**	P	**Pn**	**10 40 44.1**	**+0.8**
ONTNC	**Ouen Toro**	**8.75**	**180**	Pn	**Pn**	**10 40 46.0**	**-0.5**
PINNC	**Pines Island,**	**9.11**	**174**	Pn	**Pn**	**10 40 50.6**	**-0.7**
MSVF	**Nonsavu**	**11.98**	**112**	Pn	Pn	10 41 38.6	+7.8
	0.2nm,0.3s,baz=276,slow=12,SNR=9.4						
MSVF				LR	LR	10 45 15.1	
	comp=Z,2μm,19.5s,baz=303,slow=33						
MSVF	**Nonsavu**	**11.98**	**112**	P	Pn	10 41 22.5	-8.3
KRVT	**Keravat (AS076**	**16.88**	**302**	LR	LR	10 49 43.0	
	comp=Z,391nm,18.3s,baz=215,slow=40						
EIDS	**Eidsvold**	**18.63**	**228**	P	**P**	**10 42 57.0**	**-0.1**
EIDS	**Eidsvold**	**18.63**	**228**	P	**Pn**	**10 42 59.4**	**+1.8**
PMG	**Port Moresby**	**19.29**	**280**	P	**P**	**10 43 04.7**	**+0.2**
	0.4nm,0.3s,baz=67,slow=13,SNR=4.0						
PMG				LR	LR	10 49 42.6	
	comp=Z,289nm,18.6s,baz=102,slow=34						
	20nm,1.0s						
TV1H	**Townsville Har**	**19.65**	**250**	P	**P**	**10 43 09.3**	**+0.9**
ARMA	**Armidale**	**21.66**	**217**	P	**P**	**10 43 29.1**	**-1.0**
ARMA	**Armidale**	**21.66**	**217**	P	**P**	**10 43 31.5**	**+1.4**
COEN	**Coen**	**22.56**	**266**	P	**P**	**10 43 38.8**	**-1.2**
COEN				IAmb	IAmb	10 43 42.0	
	comp=Z,46nm,1.1s						
COEN	**Coen**	**22.56**	**266**	P	**P**	**10 43 39.3**	**-0.6**
AUPHS	**Peel High Scho**	**22.59**	**217**	P	**P**	**10 43 41.5**	**+1.5**
AULRC	**Lightning Ridg**	**23.29**	**224**	P	**P**	**10 43 46.9**	**-0.3**
QLP	**Quilpie**	**24.50**	**235**	P	**P**	**10 43 59.0**	**+0.3**
AUDCS	**Dubbo College**	**24.73**	**218**	P	**P**	**10 44 01.5**	**+0.7**
CMSA	**Cobar Meteorol**	**26.14**	**223**	P	**P**	**10 44 14.0**	**+0.5**
BKZ	**Black Stump Fm**	**27.07**	**163**	P	**P**	**10 44 22.0**	**+0.2**
JAY	**Jayapura**	**27.65**	**291**	LR	LR	10 55 22.1	
	comp=Z,169nm,20.6s,baz=112,slow=36						
INKA	**Innaminka**	**27.79**	**235**	P	**P**	**10 44 29.0**	**+0.6**
STKA	**Stephens Creek**	**29.17**	**227**	P	**P**	**10 44 40.4**	**-0.2**
STKA				IAmb	IAmb	10 44 42.3	
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**29.17**	**227**	P	**P**	**10 44 40.9**	**+0.2**
	comp=Z,17nm,0.7s,baz=48,slow=8.7,SNR=38						
STKA				LR	LR	10 56 11.4	
	comp=Z,411nm,18.5s,baz=39,slow=36						
	comp=Z,17nm,0.7s						
STKA	**Stephens Creek**	**29.17**	**227**	P	**P**	**10 44 41.4**	**+0.8**
TOO	**Toolangi**	**30.35**	**214**	P	**P**	**10 44 49.3**	**-1.8**
LCRK	**Leigh Creek**	**30.97**	**232**	P	**P**	**10 44 56.7**	**+0.1**
WB0	**Warramunga Arr**	**31.25**	**254**	P	**P**	**10 44 57.8**	**-1.5**
WB0				IAmb	IAmb	10 44 58.6	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**31.31**	**254**	P	**P**	**10 44 58.3**	**-1.5**
WB2				IAmb	IAmb	10 44 58.6	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**31.31**	**254**	P	**P**	**10 44 58.1**	**-1.7**
WRAB				IAmb	IAmb	10 44 58.5	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**31.33**	**254**	P	**P**	**10 44 57.7**	**-2.2**
	comp=Z,9.4nm,0.8s,baz=84,slow=8.8,SNR=39						
WRA				PcP	**PcP**	**10 47 54.2**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=78,slow=2.9,SNR=11						
WRA				LR	LR	10 57 12.4	
	comp=Z,623nm,18.6s,baz=94,slow=36						
	comp=Z,9.4nm,0.8s						
HTT	**Hallett**	**31.90**	**227**	P	**P**	**10 45 05.4**	**+0.6**
AS31	**Alice Springs**	**32.34**	**247**	P	**P**	**10 45 07.5**	**-1.3**
ASAR	**Alice Springs**	**32.34**	**247**	P	**P**	**10 45 06.8**	**-2.0**
	comp=Z,3.9nm,0.7s,baz=70,slow=9.4,SNR=37						
ASAR				PcP	**PcP**	**10 47 56.6**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=80,slow=3.4,SNR=6.5						
ASAR				ScP	**ScP**	**10 51 40.2**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=71,slow=3.8,SNR=4.3						
ASAR				LR	LR	10 57 41.4	
	comp=Z,579nm,18.6s,baz=80,slow=35						
	comp=Z,3.9nm,0.7s						
BBOO	**Buckleboo**	**33.68**	**230**	P	**P**	**10 45 20.6**	**+0.3**
BBOO	**Buckleboo**	**33.68**	**230**	P	**P**	**10 45 20.3**	**-0.1**
MTN	**Manton Dam**	**34.33**	**267**	P	**P**	**10 45 26.2**	**0.0**
MTN	

ENH Enshi 69.94 310 P P 10 49 49.8 -0.9
LYN LuoYang 70.02 315 P P 10 49 51.5 +0.5
LYN pmax pmax
comp=Z,19nm,0.7s
HNS HongShan 70.14 318 ⇓P **P 10 49 52.0 +0.4**
HNS pmax pmax
comp=Z,8.0nm,1.1s
SLVN Son La 70.44 299 P P 10 49 53.0 -0.9
BJT Baijiatuau 70.78 321 P P 10 49 54.9 -0.6
BJT IAmb IAmb 10 50 06.0
comp=Z,4.4nm,0.6s
HEH HeiHe 72.10 335 *e*P **P 10 50 05.0 +1.8**
HEH pmax pmax
comp=Z,5.0nm,0.9s
XAN Xi'an 72.25 313 ⇓P **P 10 50 04.6 0.0**
XAN pP sP 10 50 15.3 -0.9
XAN pmax pmax
comp=Z,15nm,1.3s
KMI Kunming 72.95 302 ⇓P **P 10 50 10.4 +1.3**
KMI pP sP 10 50 21.1 +1.2
KMI S **SKiKP 10 59 41.4 +1.0**
KMI pmax pmax
comp=Z,28nm,0.9s
XLT XiLinHaoTe 73.23 324 *e*P **P 10 50 11.3 +1.1**
XLT pP pP 10 50 20.6 +1.9
XLT PcP **PcP 10 50 29.6 +3.0**
XLT PP **PP 10 52 55.4 +1.6**
XLT pmax pmax
comp=Z,7.0nm,0.7s
XLT pmax pmax
comp=Z,140nm,5.5s
CM31 Chiang Mai Arr 73.69 294 P P 10 50 12.7 -0.6
CMAR Chiang Mai Arr 73.69 294 P P 10 50 13.0 -0.3
CMAR Chiang Mai Arr 73.69 294 P P 10 50 14.2 +0.9
comp=Z,10.0nm,0.8s,baz=123,slow=4.5,SNR=53
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 73.81 294 P P 10 50 12.5 -1.6
CHTO IAmb IAmb 10 50 15.7
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 74.11 320 *e*P **P 10 50 17.4 +1.9**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,210nm,5.1s
PZH PanZhiHua 74.33 303 P P 10 50 16.8 -0.3
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,170nm,5.7s
QSPA South Pole Qui 76.51 180 P P 10 50 29.4 +0.4
QSPA South Pole Qui 76.51 180 P P 10 50 29.5 +0.5
comp=Z,13nm,0.9s,baz=350,slow=1.1,SNR=20
comp=Z,13nm,0.9s
LZH Lanzhou 76.88 312 *e*P **P 10 50 32.8 +1.2**
LZH pP PcP 10 50 42.8 +0.2
LZH sP pwP 10 50 47.8 +0.7
LZH pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 80.63 343 P P 10 50 51.6 +0.3
ULN Ulaanbaatar 80.66 324 P P 10 50 52.4 +0.3
ULN IAmb IAmb 10 51 05.7
comp=Z,11nm,1.0s
SONM Songino Array 81.02 324 P P 10 50 54.0 +0.1
SONM Songino Array 81.02 324 P P 10 50 54.1 +0.1
comp=Z,2.0nm,0.9s,baz=156,slow=7.8,SNR=9.9
comp=Z,2.0nm,0.9s
GTA Gaotai 81.22 314 P P 10 50 56.5 +1.3
GTA pP pP 10 51 06.0 +2.2
GTA pmax pmax
comp=Z,6.0nm,1.1s
BILL Bilibino 81.33 360 P P 10 50 55.6 +0.6
BILL IAmb IAmb 10 50 56.1
comp=Z,7.9nm,0.8s
PMR Palmer 82.64 20 IAmb IAmb 10 51 17.8
comp=Z,7.3nm,1.0s
CAST Castle Rocks 83.09 17 P P 10 51 03.8 -0.5
CAST IAmb IAmb 10 51 05.9
comp=Z,7.2nm,0.8s
RND Reindeer 84.05 19 P P 10 51 09.1 -0.3
RND IAmb IAmb 10 51 27.4
comp=Z,6.1nm,1.0s
E18K Tukpahlearik C 84.21 12 IAmb IAmb 10 51 12.3
comp=Z,4.0nm,0.7s
E19K Redstone River 84.96 13 IAmb IAmb 10 51 21.9
comp=Z,6.6nm,0.8s
WRH Wood River Hil 85.06 18 IAmb IAmb 10 51 29.6
comp=Z,10nm,1.2s
CCB Clear Creek Bu 85.27 18 IAmb IAmb 10 51 15.7
comp=Z,5.1nm,0.7s
IL31 85.64 18 IAmb IAmb 10 51 17.8
comp=Z,5.2nm,0.8s
ILAR Eielson Array 85.64 18 P P 10 51 17.1 -0.1
ILAR Eielson Array 85.64 18 P P 10 51 16.2 -1.0
comp=Z,4.0nm,0.7s,baz=244,slow=5.1,SNR=69
comp=Z,4.0nm,0.7s
POKR Poker Plat Res 85.72 18 IAmb IAmb 10 51 40.8
comp=Z,6.8nm,0.9s
J25K Salcha River, 86.00 19 IAmb IAmb 10 51 20.7
comp=Z,5.7nm,0.8s
G23K Bananza Creek 86.15 16 IAmb IAmb 10 51 45.4
comp=Z,8.0nm,1.1s
COLD Coldfoot 86.49 16 IAmb IAmb 10 51 51.8
comp=Z,6.0nm,1.1s
E21K Killik River 86.49 14 IAmb IAmb 10 51 30.4
comp=Z,7.1nm,1.1s
G24K Hadweenzic Riv 86.84 17 IAmb IAmb 10 51 48.1
comp=Z,9.7nm,1.1s
NVAR Mina Array Bea 87.12 50 P P 10 51 25.0 -0.4
comp=Z,0.2nm,0.5s,baz=275,slow=8.1,SNR=1.7
comp=Z,0.2nm,0.5s
D22K Ayikyak River 87.13 14 IAmb IAmb 10 51 33.6
comp=Z,5.8nm,0.9s
B21K Ikpikpuk River 87.28 13 IAmb IAmb 10 51 27.4
comp=Z,6.8nm,0.8s
EGAK Eagle 87.46 20 IAmb IAmb 10 51 38.9
comp=Z,7.1nm,0.9s
D23K Nanushuk River 87.67 14 IAmb IAmb 10 51 52.6
comp=Z,11nm,1.1s
BELA Belgrano 2 88.00 176 P P 10 51 28.6 -0.1
B22K Teshekpuk Lake 88.11 13 IAmb IAmb 10 51 43.9
comp=Z,8.0nm,1.1s
D24K Happy Valley 88.26 15 IAmb IAmb 10 51 56.5
comp=Z,5.0nm,0.9s
C23K Itkillik River 88.34 14 IAmb IAmb 10 51 54.9
comp=Z,6.9nm,1.1s
TIXI Tiksi 88.62 349 P P 10 51 31.3 -0.2
TIXI IAmb IAmb 10 51 33.9
comp=Z,6.0nm,0.8s
C24K Franklin Bluff 88.70 14 IAmb IAmb 10 51 41.5
comp=Z,6.6nm,0.9s
SYO Syowa Base 89.62 197 ⇑*i*pP P 10 51 41.0 +4.6
ELK Elko 90.11 48 LR LR 11 21 27.1
comp=Z,313nm,21.9s,baz=238,slow=28
WMQ Urumqi 91.28 315 *e*P **P 10 51 43.6 -1.0**
WMQ sP pwP 10 52 01.6 +3.3
WMQ pmax pmax
comp=Z,15nm,0.7s
TROLL Troll, Antarti 94.00 185 P P 10 51 56.9 0.0
TROLL Troll, Antarti 94.00 185 ⇑P **P 10 51 56.9 0.0**
comp=Z,296nm,0.7s
TROLL ⇓PP **pP 10 52 05.5 +0.4**
comp=Z,664nm,0.9s
SNAA Sanae 94.71 183 P P 10 51 58.2 -1.8
SNAA Sanae 94.71 183 ⇑P **P 10 51 58.2 -1.8**
comp=Z,131nm,1.0s
SNAA ⇑PP **pP 10 52 09.1 +0.9**
comp=Z,131nm,1.0s
SNAA Sanae 94.71 183 P P 10 51 59.2 -0.8
comp=Z,4.5nm,1.1s,baz=180,slow=7.1,SNR=2.3
comp=Z,4.5nm,1.1s
MK31 Makanchi Array 95.74 317 P 10 52 04.5 -0.5
MK31 IAmb IAmb 10 52 17.6
comp=Z,3.8nm,0.9s
MKAR Makanchi Array 95.74 317 P 10 52 04.8 -0.3
MKAR Makanchi Array 95.74 317 P P 10 52 05.1 0.0
comp=Z,2.0nm,0.8s,baz=101,slow=5.9,SNR=22
MKAR PKiKP **PKiKP 10 56 44.0 -0.6**
comp=Z,0.2nm,0.6s,baz=74,slow=1.7,SNR=2.2
MKAR PKKP **PKKPbc 11 08 54.4 -2.2**
comp=Z,0.3nm,0.6s,baz=285,slow=4.8,SNR=3.6
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 95.92 324 P P 10 52 04.8 -0.9
ZALV Zalesovo Beam 95.92 324 P P 10 52 04.9 -0.7
comp=Z,1.6nm,0.7s,baz=133,slow=4.3,SNR=8.0
comp=Z,1.6nm,0.7s
MAKZ Makanchi 95.96 317 P 10 52 05.5 -0.6

A36M Sachs Harbour 96.26 17 IAmb IAmb 10 52 07.9
comp=Z,3.1nm,0.9s
YKA Yellowknife Ar 96.86 27 P P 10 52 08.4 -1.3
comp=Z,0.5nm,0.9s,baz=256,slow=5.0,SNR=6.1
comp=Z,0.5nm,0.9s
LPAZ La Paz 118.51 117 PKP **PKPdf 10 57 28.1 -0.3**
comp=Z,1.2nm,0.6s,baz=291,slow=5.4,SNR=2.5
ARCES ARCESS Array B 118.87 345 PKP **PKPdf 10 57 26.5 -0.3**
comp=Z,2.5nm,0.6s,baz=70,slow=1.6,SNR=17
FINES FINESS Array B 124.28 338 PKP **PKPdf 10 57 37.0 -0.4**
comp=Z,3.2nm,0.9s,baz=310,slow=4.9,SNR=2.4
NOA NORSAR Array B 129.23 345 PKP **PKPdf 10 57 47.5 +0.6**
comp=Z,1.0nm,0.8s,baz=36,slow=2.8,SNR=3.2
AKASG Malin Array Be 129.26 326 PKP **PKPdf 10 57 46.5 -0.7**
comp=Z,1.0nm,0.7s,baz=68,slow=1.3,SNR=4.9
GERES GERESS Array B 138.18 333 PKP **PKPdf 10 58 05.0 +0.8**
comp=Z,0.8nm,0.7s,baz=112,slow=5.9,SNR=3.7
KEST Kesra 149.74 321 PKPbc **PKPbc 10 58 29.9 +0.5**
comp=Z,13nm,1.0s,baz=122,slow=1.2,SNR=5.8
PBRG Braganca 151.19 349 *e*PKP **PKPbc 10 58 33.0 +0.4**
PGAV Gavieira, Arco 151.27 352 *e*PKP **PKPbc 10 58 33.1 +0.3**
POLO Lamas de Olo 151.78 351 *e*PKP **PKiKP 10 58 34.8 +0.4**
POLO *e*tx tx 10 58 44.3
MVO Moncorvo 151.86 349 *e*PKP **PKiKP 10 58 35.2 +0.7**
MVO *e*tx tx 10 58 44.5
PVRL Vila Real 151.87 351 *e*PKP **PKiKP 10 58 35.1 +0.6**
PVIS Viseu 152.44 351 *e*tx tx 10 58 46.6
ESDC Sonseca Array 152.59 344 PKPbc **PKPbc 10 58 36.0 +0.2**
comp=Z,2.0nm,0.9s,baz=9.3,slow=2.6,SNR=9.8
ESDC PKPab **pPKPbc 10 58 45.5 +1.0**
comp=Z,4.6nm,0.9s,baz=15,slow=2.8,SNR=14
MTE Manteigas 152.69 350 *e*PKP **PKiKP 10 58 36.8 +0.5**
MTE *e*tx tx 10 58 47.9
COI Coimbra 153.02 351 *e*tx tx 10 58 47.9
PCAS Casmilo, Conde 153.18 351 *e*tx tx 10 58 49.8
PCBR Castelo Branco 153.22 349 *e*PKP **PKiKP 10 58 37.7 +0.4**
PMRV Marv??o 153.61 349 *e*PKP **PKiKP 10 58 38.6 +0.5**
PMRV *e*tx tx 10 58 52.0
EVO Evora 154.59 350 *e*tx tx 10 58 56.4
PBAR Barrancos 154.75 348 *e*tx tx 10 58 56.0
PBEJ Beja 155.06 349 *e*PKP **PKPab 10 58 58.7 +2.0**
MESJ Messejana 155.30 350 *e*tx tx 10 58 59.4
MORF Marmelete 155.90 350 *e*tx tx 10 59 02.4
TORD Torodi Ar. Bea 165.11 270 PKP **PKPdf 10 58 44.0 -0.2**
comp=Z,1.3nm,1.1s,baz=115,slow=2.1,SNR=4.9
TORD PKPab **PKPab 10 59 41.2 0.0**
comp=Z,1.3nm,1.0s,baz=61,slow=3.1,SNR=4.5

BJI ***13*** *10:53:48.3,23°.71S×175°.19W,h11km,mB5.7/33, mb5.6/67,Ms5.2/35,Ms7 4.9/38*
NOU ***13*** *10:53:48.8,24°.04S×175°.24W,h16km,mb5.4/66,South of Tonga Islands*
MOS ***13*** *10:53:48.6±0.9,24°.04S×175°.83W,h10km,mb5.4/33, Error ellipse: s-maj=11.1km s-min=8.3km az=113.1*
IDC ***13*** *10:53:48.2±0.4,24°.02S×175°.82W,h0km,mb4.9/20, mbtmp4.9/22,ML5.0/2,MS4.7/39,Error ellipse: s-maj=16.2km s-min=15.0km az=122.0*
NEIC ***13*** *10:53:49.5,24°.04S×175°.37W,h20km*
NEIC ***13*** *10:53:49.5±2.0,24°.03S±0°.07×175°.36W±0°.04,h10km±1km, mb5.3/225,Mww5.1/18,Error ellipse: s-maj=12.4km s-min=6.5km az=178.0*
NEIC ***13*** *10:53:49.5,23°.84S×175°.00W,h20km,Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr6.14; Mθθ-0.60; Mφφ-5.54; Mrθ-1.57; Mθφ-1.90; Mφr-0.86; Fault plane solution: M0 6.42000×10^16^ NP1: φs8.48000°,δ39.87000°,λ73.72000°. NP2:φs209.31000°, δ52.02000°,λ103.18000°. Principal axes: T 6.5071, Plg78.0000°, Azm170.0000°; N -0.1764, Plg10.0000°, Azm21.0000°; P -6.3307, Plg6.0000°, Azm290.0000°;*
BGR ***13*** *10:53:52.1,24°.49S×173°.53W,h33km*
GCMT ***13*** *10:53:53.5±0.2,24°.10S±0°.02×175°.28W±0°.01,h19km, MW5.2/124,Moment Tensor Solution. s88,c126; s124,c198; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr0.67±.02; Mθθ-0.07±.01; Mφφ-0.59±.01; Mrθ0.20±.03; Mθφ-0.15±.01; Mφr0.39±.02; Best double couple: M0 0.78500×10^17^ NP1:φs189.00000°,δ28.00000°, λ79.00000°. NP2:φs22.00000°,δ62.00000°,λ96.00000°. Principal axes: T 0.8050, Plg72.0000°, Azm306.0000°; N -0.0400, Plg5.0000°, Azm199.0000°; P -0.7650, Plg17.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 10:53:49.1±0.2,24°.14S±0°.04×175°.44W±0°.04,h10km, n873,σ1§48/773,mb5.3/192,MS4.8/51,49C-37D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.55**	**203**	P	Pn	10 55 08.3	-3.4
RIZ				S	**Sn**	**10 56 13.0**	**-2.5**
RAO	**Raoul Island**	**5.55**	**203**	Pn	**Pn**	**10 55 12.7**	**+1.0**
RAO	204nm,0.3s,baz=53,slow=20,SNR=1.6			Sn	**Sn**	**10 56 12.6**	**-3.0**
	baz=91,slow=23 539nm,0.3s						
RAO	**Raoul Island**	**5.55**	**203**	P	Pn	10 55 08.5	-3.2
GLKZ	**Green Lake**	**5.56**	**203**	P	Pn	10 55 08.3	-3.5
GLKZ				S	**Sn**	**10 56 13.9**	**-1.9**
GLKZ	**Green Lake**	**5.56**	**203**	P	**Pn**	**10 55 12.2**	**+0.3**
LKBA	**Tubou, Lakemba**	**6.67**	**331**	P	**Pn**	**10 55 29.4**	**+2.3**
NIUE	**Niue**	**7.19**	**47**	Pn	**Pn**	**10 55 30.3**	**-4.0**
NIUE	**Niue**	**7.19**	**47**	P	**Pn**	**10 55 29.9**	**-4.5**
NIUE				S	**Sn**	**10 56 53.2**	**-3.0**
NIUE	**Niue**	**7.19**	**47**	P	**Pn**	**10 55 33.4**	**-1.0**
NIUE	**Niue**	**7.19**	**47**	P	**Pn**	**10 55 29.6**	**-4.7**
MSVF	**Nonsavu**	**8.81**	**315**	Pn	**Pn**	**10 55 57.2**	**+0.6**
MSVF	**Nonsavu**	**8.81**	**315**	Pn	**Pn**	**10 55 58.0**	**+1.3**
	3.0nm,0.3s,baz=148,slow=12,SNR=107						
MSVF				LR	LR	10 59 00.3	
	comp=Z,8μm,18.4s,baz=114,slow=37						
MSVF	**Nonsavu**	**8.81**	**315**	P	**Pn**	**10 55 59.4**	**+2.8**
MSVF	**Nonsavu**	**8.81**	**315**	P	**Pn**	**10 55 57.2**	**+0.6**
DGTI	**Dogotuki**	**9.02**	**329**	P	**Pn**	**10 56 02.6**	**+3.2**
AFI	**Afiamalu**	**10.75**	**19**	Pn	**Pn**	**10 56 20.1**	**-3.2**
AFI	**Afiamalu**	**10.75**	**19**	P	**Pn**	**10 56 20.1**	**-3.2**
AFI	**Afiamalu**	**10.75**	**19**	P	Pn	10 56 14.9	-8.3
OUZ	**Omahuta**	**14.57**	**218**	P	**P**	**10 57 21.8**	**-0.1**
WMGZ	**Waiomatatini S**	**14.61**	**200**	P	Pn	10 57 09.5	-6.4
WMGZ	**Waiomatatini S**	**14.61**	**200**	P	**P**	**10 57 25.1**	**+2.8**
WMGZ				S	Sn	10 59 45.3	-12
PKGZ	**Pakihiroa**	**14.76**	**201**	P	Pn	10 57 12.6	-5.3
RAR	**Rarotonga**	**14.76**	**82**	Pn	**Pn**	**10 57 14.6**	**-3.3**
RAR	**Rarotonga**	**14.76**	**82**	Pn	**Pn**	**10 57 14.0**	**-4.0**
	8.0nm,0.3s,baz=256,slow=8.2,SNR=15						
RAR				Sn	Sn	10 59 42.4	-19
	2.1nm,0.3s,baz=113,slow=18,SNR=1.8						
RAR				LR	LR	11 03 49.4	
	comp=Z,3μm,18.9s,baz=258,slow=40						
RAR	**Rarotonga**	**14.76**	**82**	P	**Pn**	**10 57 14.6**	**-3.3**
RAR	**Rarotonga**	**14.76**	**82**	P	**Pn**	**10 57 14.6**	**-3.3**
RAR	**Rarotonga**	**14.76**	**82**	P	Pn	10 57 09.9	-8.0
RUGZ	**Raukumara Rang**	**14.98**	**201**	P	Pn	10 57 15.2	-5.7
TWGZ	**Tauwhareparae**	**15.07**	**200**	P	Pn	10 57 16.5	-5.7
CNGZ	**Carnagh Static**	**15.28**	**199**	P	Pn	10 57 19.4	-5.5
TKGZ	**Te Karaka**	**15.35**	**200**	P	**P**	**10 57 31.2**	**+0.6**
TKGZ				S	Sn	11 00 01.9	-14
URZ	**Urewera**	**15.44**	**203**	Pn	**Pn**	**10 57 27.2**	**+0.3**
	1.1nm,0.3s,baz=14,slow=17,SNR=8.7						
URZ				Sn	Sn	11 00 03.5	-14
	1.3nm,0.3s,baz=310,slow=19,SNR=6.9						
URZ				LR	LR	11 02 15.7	
	comp=Z,1μm,19.7s,baz=94,slow=33 8.4nm,0.7s						
URZ	**Urewera**	**15.44**	**203**	P	**Pn**	**10 57 22.9**	**-4.0**
URZ	**Urewera**	**15.44**	**203**	P	**Pn**	**10 57 27.0**	**+0.1**
RIGZ	**Rimuhau**	**15.62**	**200**	P	**Pn**	**10 57 26.0**	**-3.4**
RIGZ				S	Sn	11 00 08.4	-14
NFK	**Norfolk Island**	**15.64**	**248**	P	**Pn**	**10 57 24.9**	**-4.7**
PINNC	**Pines Island,**	**15.79**	**272**	Pn	**Pn**	**10 57 30.8**	**-0.7**
PINNC	**Pines Island,**	**15.79**	**272**	P	**P**	**10 57 35.2**	**-0.2**
RTZ	**Ruatahuna**	**15.80**	**202**	P	**P**	**10 57 37.1**	**+1.5**
RAHZ	**Arahi**	**16.04**	**202**	P	**P**	**10 57 38.5**	**+0.3**
RAHZ				S	Sn	11 00 17.9	-15
NMHZ	**Naumai**	**16.29**	**202**	P	**Pn**	**10 57 35.4**	**-2.7**
NMHZ	**Naumai**	**16.29**	**202**	P	**Pn**	**10 57 39.8**	**+1.7**
NMHZ				S	Sn	11 00 24.3	-15
OUENC	**Ouen Island, N**	**16.37**	**272**	P	**P**	**10 57 42.3**	**+0.4**
YATNC	**Mamie plateau,**	**16.39**	**274**	P	**P**	**10 57 44.0**	**+1.9**
BKZ	**Black Stump Fm**	**16.46**	**203**		**Pn**	**10 57 42.6**	**+2.4**
BKZ	**Black Stump Fm**	**16.46**	**203**	P	**Pn**	**10 57 36.2**	**-4.0**
BKZ	**Black Stump Fm**	**16.46**	**203**	P	**Pn**	**10 57 35.4**	**-4.8**
HIZ	**Hauiti**	**16.53**	**208**	P	**Pn**	**10 57 40.8**	**-0.3**
HIZ	**Hauiti**	**16.53**	**208**	P	**P**	**10 57 44.4**	**+0.8**
DVP	**Devils Point**	**16.56**	**290**	P	**P**	**10 57 44.6**	**+0.5**
MCHZ	**McNeill Hill**	**16.64**	**202**	P	**Pn**	**10 57 43.6**	**+1.2**
MCHZ	**McNeill Hill**	**16.64**	**202**	P	**Pn**	**10 57 38.5**	**-3.9**
MCHZ				S	Sn	11 00 33.3	-14
KWHZ	**Kaweka Forest**	**16.72**	**202**	P	**Pn**	**10 57 43.8**	**+0.4**
ETVZ	**East Tongariro**	**16.72**	**205**	P	**Pn**	**10 57 40.8**	**-2.8**
ONTNC	**Ouen Toro**	**16.74**	**273**		**P**	**10 57 48.6**	**+2.6**
ONTNC				IAmb	IAmb	10 57 50.3	
	comp=Z,262nm,1.4s						
ONTNC	**Ouen Toro**	**16.74**	**273**	P	**P**	**10 57 48.5**	**+2.4**
OTVZ	**Oturere**	**16.76**	**205**	P	Pn	10 57 38.4	-5.7
OTVZ	**Oturere**	**16.76**	**205**	P	**Pn**	**10 57 44.2**	**+0.1**
OTVZ				S	Sn	11 00 42.2	-8.2
DZM	**Mont Dzumac**	**16.79**	**273**	Pn	**Pn**	**10 57 44.6**	**0.0**
DZM				IAmb	IAmb	10 57 50.9	
	comp=Z,198nm,1.2s						
DZM	**Mont Dzumac**	**16.79**	**273**	*e*P	**Pn**	**10 57 45.0**	**+0.5**
	comp=Z,449nm,1.4s						
DZM				*e*S	**Sn**	**11 00 42.9**	**-8.3**
	comp=Z,2μm,30.7s						
DZM				*e*LR	LR	11 01 29.1	
	comp=Z,3μm,23.6s						
DZM	**Mont Dzumac**	**16.79**	**273**	Pn	**P**	**10 57 47.6**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=97,slow=15,SNR=19						
DZM				LR	LR	11 02 55.6	
	comp=Z,2μm,20.4s,baz=122,slow=33						
DZM	**Mont Dzumac**	**16.79**	**273**	P	**P**	**10 57 46.9**	**+0.2**
PXZ	**Pawanui**	**17.12**	**200**	P	**Pn**	**10 57 47.1**	**-1.3**
PNHZ	**Pukenui**	**17.23**	**202**	P	**Pn**	**10 57 50.0**	**+0.1**
PNHZ	**Pukenui**	**17.23**	**202**	P	Pn	10 57 44.2	-5.7
PNHZ				S	Sn	11 00 39.6	-22
DVHZ	**Dannevirke**	**17.59**	**202**	P	**Pn**	**10 57 53.6**	**-0.7**
DVHZ	**Dannevirke**	**17.59**	**202**	P	**Pn**	**10 57 51.1**	**-3.2**
DVHZ				S	Sn	11 00 51.3	-19
BFZ	**Birch Farm**	**17.91**	**201**	P	**Pn**	**10 57 58.6**	**+0.4**
BFZ	**Birch Farm**	**17.91**	**201**	P	**Pn**	**10 57 54.2**	**-4.0**
MRZ	**Mangatainoka R**	**18.11**	**202**		**Pn**	**10 58 01.5**	**+0.8**
KOUNC	**Koumac, New Ca**	**19.09**	**277**	P	**Pn**	**10 58 14.4**	**+1.7**
CTZ	**Chatham Island**	**19.57**	**183**	Pn	**Pn**	**10 58 23.7**	**+5.3**
CTZ	**Chatham Island**	**19.57**	**183**	P	**P**	**10 58 13.7**	**-3.3**
CTZ	**Chatham Island**	**19.57**	**183**	P	**P**	**10 58 12.6**	**-4.5**
CTZ	**Chatham Island**	**19.57**	**183**	P	**P**	**10 58 18.7**	**+1.7**
CTZ				S	S	11 01 40.0	-18
KHZ	**Kahutara**	**20.39**	**204**	P	**P**	**10 58 24.1**	**-1.9**
LTZ	**Lake Taylor**	**21.18**	**206**	P	P	10 58 43.8	+9.2
INZ	**Inchbonnie**	**21.47**	**207**	P	**P**	**10 58 39.7**	**+2.0**
OXZ	**Oxford**	**21.73**	**205**	P	**P**	**10 58 43.9**	**+3.4**
FOZ	**Fox Glacier**	**22.82**	**208**	P	**P**	**10 58 53.9**	**+1.7**
TBI	**Tubuai**	**23.79**	**93**	*e*S	**S**	**11 03 11.9**	**-5.9**
	comp=Z,4μm,29.0s						
TBI				*e*LR	LR	11 04 39.0	
	comp=Z,7μm,22.2s						
TBI				*e*LR	LR	11 04 42.6	
	comp=Z,3μm,22.5s						
PPT2	**Papeete2**	**25.01**	**80**	*e*S	**S**	**11 03 33.8**	**-3.9**
	comp=Z,2μm,23.8s						
PPT2				*e*LR	LR	11 05 15.2	
	comp=Z,2μm,21.8s						
PPT2				*e*LR	LR	11 05 16.2	
	comp=Z,2μm,22.5s						
PPT	**Papeete**	**25.02**	**80**	LR	LR	11 08 34.5	
	comp=Z,2μm,18.4s,baz=256,slow=35						
WHZ	**Wether Hill Ro**	**25.51**	**208**	P	**P**	**10 59 17.7**	**0.0**
WHZ	**Wether Hill Ro**	**25.51**	**208**	P	P	10 59 11.5	-6.1
WHZ	**Wether Hill Ro**	**25.51**	**208**	P	**P**	**10 59 16.6**	**-1.0**
TW1H	**Toowoomba 1 Ha**	**29.47**	**256**	P	**P**	**10 59 54.0**	**+0.5**
ARMA	**Armidale**	**29.85**	**251**		**P**	**10 59 57.5**	**+0.6**
ARMA				IAmb	IAmb	11 00 22.0	
	comp=Z,64nm,1.4s						
EIDS	**Eidsvold**	**30.38**	**261**	P	**P**	**11 00 02.2**	**+0.8**
EIDS	**Eidsvold**	**30.38**	**261**	P	**P**	**10 59 59.9**	**-1.5**
	comp=Z,26nm,1.0s						
EIDS	**Eidsvold**	**30.38**	**261**	P	**P**	**11 00 00.0**	**-1.5**
XMAS	**Kiritimati**	**31.36**	**36**	P	**P**	**11 00 09.7**	**-0.4**
AULRC	**Lightning Ridg**	**32.98**	**253**	P	**P**	**11 00 23.7**	**-0.6**
CMSA	**Cobar Meteorol**	**35.01**	**249**	P	**P**	**11 00 40.3**	**-1.6**
	comp=Z,24nm,1.5s						
CMSA	**Cobar Meteorol**	**35.01**	**249**	P	**P**	**11 00 40.7**	**-1.2**
TV1H	**Townsville Har**	**35.35**	**270**	P	**P**	**11 00 43.2**	**-1.7**
TOO	**Toolangi**	**35.85**	**239**	P	**P**	**11 00 49.9**	**+0.8**
TOO	**Toolangi**	**35.85**	**239**	P	**P**	**11 00 49.9**	**+0.8**
TOO				pmax	pmax		
	comp=Z,18nm,1.5s						
QLP	**Quilpie**	**36.41**	**257**	P	**P**	**11 00 52.9**	**-1.1**
	comp=Z,46nm,1.3s						
QLP	**Quilpie**	**36.41**	**257**	P	**P**	**11 00 52.5**	**-1.5**
TAOE	**Nuku Hiva Isla**	**36.96**	**72**	*e*S	**S**	**11 06 41.6**	**-2.8**
	comp=Z,268nm,25.1s						
TAOE				*e*LR	LR	11 10 51.4	
	comp=Z,923nm,22.5s						
KRVT	**Keravat (AS076**	**37.02**	**297**	LR	LR	11 14 23.2	
	comp=Z,616nm,19.4s,baz=198,slow=34						
MTSU	**Mount Surprise**	**37.91**	**271**	P	**P**	**11 01 05.6**	**-1.2**
	comp=Z,58nm,0.9s						
MTSU	**Mount Surprise**	**37.91**	**271**	P	**P**	**11 01 05.0**	**-1.8**
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 01 10.9**	**-0.8**
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 01 10.7**	**-1.0**
	comp=Z,3.3nm,1.9s						
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 01 09.8**	**-1.9**
	comp=Z,9.9nm,1.0s,baz=92,slow=9.6,SNR=4.8						
STKA				LR	LR	11 16 16.1	
	comp=Z,3μm,18.4s,baz=77,slow=35						
	comp=Z,9.9nm,1.0s						
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 01 10.2**	**-1.5**
STKA	**Stephens Creek**	**38.51**	**249**	*d*P	**P**	**11 01 10.3**	**-1.5**
PMG	**Port Moresby**	**38.54**	**286**	P	**P**	**11 01 09.7**	**-2.4**
	comp=Z,179nm,0.8s,baz=99,slow=5.6,SNR=47						
PMG				LR	LR	11 13 58.5	
	comp=Z,727nm,19.6s,baz=132,slow=32						
INKA	**Innaminka**	**39.41**	**255**	P	**P**	**11 01 18.8**	**-0.5**
COEN	**Coen**	**40.27**	**277**	P	**P**	**11 01 25.3**	**-1.3**
COEN	**Coen**	**40.27**	**277**	P	**P**	**11 01 25.4**	**-1.2**
	comp=Z,29nm,1.1s						
COEN	**Coen**	**40.27**	**277**	P	**P**	**11 01 24.7**	**-1.9**
HTT	**Hallett**	**40.78**	**246**	P	**P**	**11 01 29.7**	**-1.0**
	comp=Z,30nm,1.0s						
HTT	**Hallett**	**40.78**	**246**	P	**P**	**11 01 29.3**	**-1.4**
LCRK	**Leigh Creek**	**41.43**	**251**	P	**P**	**11 01 34.6**	**-1.4**
QIS	**Mount Isa**	**41.60**	**266**	P	**P**	**11 01 35.2**	**-2.4**
	comp=Z,21nm,1.1s						
QIS	**Mount Isa**	**41.60**	**266**	P	**P**	**11 01 35.3**	**-2.2**
MANU	**Manus Island**	**42.12**	**296**	P	**P**	**11 01 40.5**	**-1.3**
BBOO	**Buckleboo**	**43.19**	**247**	P	**P**	**11 01 49.4**	**-1.0**
OOD	**Oodnadatta**	**43.86**	**254**	P	**P**	**11 01 54.8**	**-1.0**
AS01	**Alice Springs**	**46.06**	**260**	P	**P**	**11 02 11.6**	**-1.8**
AS31	**Alice Springs**	**46.10**	**260**	P	**P**	**11 02 13.3**	**-0.5**
AS31	**Alice Springs**	**46.10**	**260**	P	**P**	**11 02 12.1**	**-1

comp=Z,625nm,19.5s,baz=116,slow=35
comp=Z,21nm,0.8s
FORT Forest 50.13 249 P **P** **11 02 43.2 -1.5**
FORT IAmb IAmb 11 02 43.5
comp=Z,36nm,0.8s
FORT Forest 50.13 249 P **P** **11 02 42.6 -2.2**
comp=Z,55nm,0.9s
FORT Forest 50.13 249 P **P** **11 02 42.6 -2.2**
WRKA Warakurna 50.84 257 P **P** **11 02 48.0 -2.3**
comp=Z,37nm,1.2s
WRKA Warakurna 50.84 257 P **P** **11 02 47.8 -2.5**
MTN Manton Dam 51.63 273 P **P** **11 02 55.2 -1.1**
MTN IAmb IAmb 11 03 01.7
comp=Z,21nm,0.6s
MTN Manton Dam 51.63 273 P **P** **11 02 53.7 -2.5**
comp=Z,25nm,0.9s
KNRA Kununurra 52.85 268 P **P** **11 03 04.0 -1.3**
KNRA IAmb IAmb 11 03 04.3
comp=Z,25nm,0.8s
KNRA Kununurra 52.85 268 P **P** **11 03 02.4 -2.8**
GUMO Guam 53.94 310 LR LR 11 23 37.6
comp=Z,205nm,20.8s,baz=130,slow=33
VNDA Vanda 54.53 186 P **P** **11 03 18.7 +2.0**
VNDA IAmb IAmb 11 04 45.9
comp=Z,87nm,1.9s
VNDA Vanda 54.53 186 P **P** **11 03 17.8 +1.1**
comp=Z,3.2nm,0.9s,baz=333,slow=6.8,SNR=2.4
VNDA LR LR 11 22 32.2
comp=Z,202nm,21.2s,baz=12,slow=32
comp=Z,3.2nm,0.9s
VNDA Vanda 54.53 186 P **P** **11 03 18.7 +2.0**
VNDA pmax pmax
comp=Z,87nm,1.9s
FAKI Fak Fak 54.66 284 P **P** **11 03 18.8 +0.2**
FAKI IAmb IAmb 11 03 27.7
comp=Z,38nm,1.0s
FITZ Fitzroy Crossi 54.96 264 P **P** **11 03 18.4 -2.3**
comp=Z,8.9nm,1.0s
FITZ Fitzroy Crossi 54.96 264 P **P** **11 03 19.2 -1.5**
comp=Z,32nm,0.9s,baz=122,slow=3.1,SNR=24
FITZ LR LR 11 26 48.1
comp=Z,2μm,18.0s,baz=114,slow=36
comp=Z,32nm,0.9s
FITZ Fitzroy Crossi 54.96 264 P **P** **11 03 19.2 -1.5**
KMBL Kambalda 55.29 248 P **P** **11 03 21.7 -1.3**
comp=Z,28nm,2.5s
SWI Sorong 56.49 286 P **P** **11 03 28.9 -2.9**
comp=Z,124nm,1.2s
KLBR Kellerberrin 58.73 247 P **P** **11 03 45.1 -2.3**
comp=Z,70nm,0.9s
KLBR Kellerberrin 58.73 247 P **P** **11 03 45.8 -1.5**
NWAO Narrogin (SRO) 58.92 245 P **P** **11 03 48.0 -0.7**
NWAO IAmb IAmb 11 04 10.5
comp=Z,46nm,1.4s
NWAO Narrogin (SRO) 58.92 245 LR LR 11 27 40.3
comp=Z,358nm,18.4s,baz=54,slow=35
NWAO Narrogin (SRO) 58.92 245 P **P** **11 03 48.0 -0.7**
NWAO pmax pmax
comp=Z,46nm,1.5s
SOEI Soe 59.02 273 P **P** **11 03 49.9 +0.2**
SOEI Soe 59.02 273 P **P** **11 03 49.6 -0.1**
SOEI Soe 59.02 273 P **P** **11 03 46.9 -2.8**
comp=Z,98nm,1.2s
RPN Rapa Nui 59.06 108 LR LR 11 25 03.1
comp=Z,225nm,18.4s,baz=234,slow=32
SANI Sanana 60.62 282 P **P** **11 03 57.8 -2.8**
comp=Z,36nm,0.7s
MORW Morawa 60.69 249 P **P** **11 04 00.3 -0.6**
MORW IAmb IAmb 11 04 46.9
comp=Z,22nm,1.2s
CASY Casey 61.72 206 P **P** **11 04 09.2 +1.9**
KDI Kendari 62.83 278 P **P** **11 04 12.8 -2.7**
comp=Z,1μmcomp=Z,21nm,1.1s
GIRL Giralia 63.90 256 P **P** **11 04 22.7 +0.1**
KAPI Kappang 64.99 276 P **P** **11 04 29.4 -0.3**
KAPI Kappang 64.99 276 P **P** **11 04 28.8 -1.0**
comp=Z,7.5nm,0.8s,baz=163,slow=7.0,SNR=4.2
KAPI LR LR 11 34 23.4
comp=Z,316nm,18.0s,baz=108,slow=38
comp=Z,7.5nm,0.8s
KAPI Kappang 64.99 276 P **P** **11 04 29.4 -0.3**
KAPI pmax pmax
comp=Z,92nm,1.9s
PLAI Plampang 65.29 271 P **P** **11 04 30.1 -1.6**
PLAI Plampang 65.29 271 P **P** **11 04 29.1 -2.6**
comp=Z,49nm,0.9s
DAV Davao City (W) 65.32 291 LR LR 11 32 49.2
comp=Z,136nm,18.2s,baz=124,slow=36
JCJ Chichijima 65.33 319 LR LR 11 29 05.7
comp=Z,595nm,20.3s,baz=144,slow=33
QSPA South Pole Qui 65.94 180 P **P** **11 04 37.7 +2.4**
QSPA IAmb IAmb 11 04 42.4
comp=Z,28nm,0.9s
QSPA South Pole Qui 65.94 180 P **P** **11 04 37.6 +2.4**
comp=Z,26nm,1.0s,baz=28,slow=3.3,SNR=22
QSPA LR LR 11 29 58.5
comp=Z,646nm,19.8s,baz=40,slow=33
comp=Z,26nm,1.0s
TOLI2 Tolitoli 66.68 282 P **P** **11 04 38.0 -2.6**
TOLI2 Tolitoli 66.68 282 P **P** **11 04 38.6 -2.1**
TGY Tagaytay City 72.82 295 LR LR 11 36 01.4
comp=Z,252nm,18.8s,baz=125,slow=35
KPJI Karang Pucung 73.95 269 P **P** **11 05 22.6 -2.5**
comp=Z,35nm,0.8s
JMM Marumori 74.12 325 P **P** **11 05 25.8 +0.2**
JMM IAmb IAmb 11 05 27.1
comp=Z,28nm,0.9s
JGF Kuroka 74.33 322 P **P** **11 05 25.8 -1.1**
JGF IAmb IAmb 11 06 13.6
comp=Z,57nm,1.6s
INU Inuyama 74.34 321 P **P** **11 05 26.4 -0.5**
MJAR Matsushiro Arr 74.53 323 P **P** **11 05 26.5 -1.6**
comp=Z,11nm,0.8s,baz=154,slow=5.5,SNR=19
comp=Z,11nm,0.8s
MAJO Matsushiro 74.53 323 P **P** **11 05 27.2 -0.8**
MAJO Matsushiro 74.53 323 P **P** **11 05 27.2 -0.8**
MAJO Matsushiro 74.53 323 *d* P **P** **11 05 27.0 -1.0**
MAJO pmax pmax
comp=Z,14nm,0.9s
BBJI Bungbulang 75.07 268 P **P** **11 05 30.8 -1.0**
JMN Monobe 75.07 318 P **P** **11 05 31.5 +0.3**
JMN IAmb IAmb 11 05 32.8
comp=Z,26nm,0.8s
LEM Lembang 75.34 269 LR LR 11 38 59.7
comp=Z,720nm,19.9s,baz=162,slow=36
BELA Belgrano 2 75.65 172 P **P** **11 05 35.1 +1.2**
BELA IAmb IAmb 11 05 40.9
comp=Z,41nm,1.7s
ADK Adak 75.70 359 P **P** **11 05 34.5 +0.1**
ADK Adak 75.70 359 P **P** **11 05 34.5 +0.1**
ADK pmax pmax
comp=Z,52nm,1.0s
ATKA Atka Island 76.02 1 P **P** **11 05 36.3 +0.1**
ATKA Atka Island 76.02 1 P **P** **11 05 36.3 +0.1**
JTM Tenmabayashi 76.20 327 P **P** **11 05 37.7 +0.2**
KSM Kuching 76.26 278 P **P** **11 05 38.4 -0.1**
KSM IAmb IAmb 11 05 39.5
comp=Z,29nm,0.8s
KSM Kuching 76.26 278 P **P** **11 05 38.8 +0.3**
JNU Nakatsue 76.53 316 P **P** **11 05 39.4 -0.3**
JNU IAmb IAmb 11 05 39.7
comp=Z,29nm,1.0s
JNU Nakatsue 76.53 316 P **P** **11 05 38.9 -0.7**
PMSA Palmer Station 77.02 156 LR LR 11 35 56.7
comp=Z,406nm,19.2s,baz=312,slow=33
CGJI Cibinong 77.18 268 P **P** **11 05 41.2 -2.5**
comp=Z,40nm,0.8s
NACB Ninganchiao 77.66 304 P **P** **11 05 45.0 -1.1**
TPUB Ta-pu 77.92 302 P **P** **11 05 45.7 -1.9**
UNV Unalaska Valle 78.05 5 P **P** **11 05 48.7 +1.2**
baz=188
MAW Mawson 78.94 199 LR LR 11 40 28.1
comp=Z,418nm,19.1s,baz=116,slow=36
LPIG La Paz 79.29 58 LR LR 11 35 01.5
comp=Z,734nm,18.7s,baz=228,slow=31
FALS False Pass 79.35 7 P **P** **11 05 55.7 +1.0**
baz=191
MDSI Maura Dua 79.41 270 P **P** **11 05 53.5 -2.5**
comp=Z,1μmcomp=Z,35nm,0.9s
CHNA Chernabura Isl 79.82 9 P **P** **11 05 58.5 +1.3**
baz=195
PET Petropavlovsk 80.08 344 ⇓ *e* P **P** **11 05 58.6 -0.1**
PET pmax pmax
comp=Z,25nm,1.1s
YSS Yuzhno-Sakhali 80.20 332 P **P** **11 05 59.3 -0.2**
YSS Yuzhno-Sakhali 80.20 332 P **P** **11 06 00.4 +0.9**
YSS Yuzhno-Sakhali 80.20 332 *e* P **P** **11 06 00.4 +0.9**
YSS pmax pmax
comp=Z,300nm,5.3s
YSS pmax pmax
comp=Z,40nm,1.1s
PFO Pinyon Flats O 80.29 47 LR LR 11 36 33.0
comp=Z,636nm,19.0s,baz=236,slow=32
PFO Pinyon Flats O 80.29 47 ⇑ *e* P **P** **11 06 01.1 +0.6**
PFO pmax pmax
comp=Z,10.0nm,1.0s
S12K Black Hills 80.34 8 P **P** **11 06 01.3 +1.2**
baz=192
PEA0B Petropavlovsk- 80.39 344 ⇓ *e* P **P** **11 05 59.2 -1.2**
PETK Petropavlovsk- 80.39 344 P **P** **11 06 00.2 -0.2**
comp=Z,29nm,0.8s,baz=135,slow=7.3,SNR=21
comp=Z,29nm,0.8s
P08K Saint George I 80.58 3 P **P** **11 06 01.9 +0.6**
baz=185
CMB Columbia Colle 80.58 41 IAmb IAmb 11 06 18.1
comp=Z,41nm,1.6s
SPIA Saint Paul Isl 81.12 3 P **P** **11 06 05.4 +1.2**
baz=185
KSRS Korea Array 81.17 318 P **P** **11 06 05.0 +0.1**
comp=Z,8.5nm,0.9s,baz=141,slow=6.1,SNR=17
comp=Z,8.5nm,0.9s
KSAR Wonju Array Be 81.18 318 P **P** **11 06 05.0 0.0**
KSAR Wonju Array Be 81.18 318 P **P** **11 06 05.0 0.0**
S14K Fog Glacier 81.24 9 P **P** **11 06 06.1 +1.1**
baz=195
CHIR Chirikof Islan 81.42 11 P **P** **11 06 06.9 +1.1**
baz=198
CHGN Chignik 81.42 10 P **P** **11 06 06.9 +1.1**
baz=196
YBH Yreka Blue Hor 81.70 37 LR LR 11 37 39.2
comp=Z,644nm,18.4s,baz=216,slow=32
YERR Yerington 81.88 41 IAmb IAmb 11 06 44.1
comp=Z,53nm,1.8s
INCN Inchon 81.98 317 P **P** **11 06 08.2 -1.1**
INCN Inchon 81.98 317 P **P** **11 06 08.2 -1.1**
INCN pmax pmax
comp=Z,95nm,1.5s
H03S2 Juan Fernandez 82.00 123 T T 12 37 39.0
baz=246
H03S1 Juan Fernandez 82.02 123 T T 12 37 29.1
baz=246,slow=74
H03S3 Juan Fernandez 82.02 123 T T 12 37 46.9
baz=246,slow=74
NVAR Mina Array Bea 82.09 42 P **P** **11 06 11.8 +1.7**
comp=Z,9.5nm,0.9s,baz=224,slow=8.9,SNR=26
NVAR LR LR 11 37 54.7
comp=Z,549nm,18.4s,baz=256,slow=32
comp=Z,9.5nm,0.9s
UGL Uglegorsk 82.15 333 *e* P **P** **11 06 10.8 +1.0**
H03N2 Juan Fernandez 82.16 123 T T 12 37 32.0
baz=240
H03N3 Juan Fernandez 82.16 123 T T 12 37 45.3
baz=240
H03N1 Juan Fernandez 82.17 123 T T 12 37 46.5
baz=240
NV11 Mina Array Sit 82.19 42 P **P** **11 06 09.7 -0.8**
NV11 IAmb IAmb 11 06 23.9
comp=Z,32nm,1.4s
PAHR Pah Rah Range 82.26 40 IAmb IAmb 11 06 27.1
comp=Z,43nm,1.7s
SII Sitkinak Islan 82.38 12 P **P** **11 06 11.5 +0.7**
baz=199
TPNV Topopah Spring 82.45 44 IAmb IAmb 11 06 20.5
comp=Z,23nm,1.3s
VLA Vladivostok 82.61 324 ⇑ *e* P **P** **11 06 11.8 -0.6**
VLA pmax pmax
comp=Z,13nm,1.1s
MSHR Mys Shultsa 82.64 323 ⇑ *e* P **P** **11 06 10.2 -2.3**
MSHR pmax pmax
comp=Z,44nm,0.9s
R16K Pilot Point 82.77 10 P **P** **11 06 14.2 +1.3**
baz=196
Y14A Wickenburg 82.80 48 IAmb IAmb 11 06 30.1
comp=Z,15nm,1.0s
SHPR Sheep Range 82.88 45 P **P** **11 06 16.7 +2.5**
PSTR Posyet 82.88 323 ⇑ *e* P **P** **11 06 13.5 -0.3**
OHAK Old Harbor 83.17 12 P **P** **11 06 15.1 +0.1**
baz=200
R18K Karluk 83.28 11 P **P** **11 06 16.4 +1.0**
baz=199
ELIB Princess Elisa 83.29 186 *d* P **P** **11 06 16.8 +0.9**
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 83.29 325 P **P** **11 06 16.2 +0.3**
USA0B Ussuriysk Arra 83.29 325 *c i* P **P** **11 06 15.9 0.0**
USRK Ussuriysk Ar. 83.29 325 P **P** **11 06 16.5 +0.6**
USRK Ussuriysk Ar. 83.29 325 P **P** **11 06 16.8 +0.8**
comp=Z,53nm,0.9s,baz=124,slow=3.7,SNR=54
comp=Z,53nm,0.9s
TYV Tymovskoe 83.32 335 *e* P **P** **11 06 16.4 +0.5**
TYV pmax pmax
comp=Z,300nm,2.3s
TYV pmax pmax
comp=Z,45nm,1.2s
TUC Tucson 83.41 50 P **P** **11 06 16.2 -0.8**
TUC IAmb IAmb 11 06 33.8
comp=Z,21nm,1.1s
TUC Tucson 83.41 50 P **P** **11 06 16.2 -0.8**
TUC pmax pmax
comp=Z,21nm,1.2s
PRN Pahroc Range 83.49 44 IAmb IAmb 11 06 34.1
comp=Z,46nm,1.4s
J05D Fort Rock, OR 83.55 37 IAmb IAmb 11 06 25.8
comp=Z,15nm,1.0s
SYO Syowa Base 83.69 192 ⇓ *i* pP pP 11 06 20.2 +1.1
R11B Troy Canyon, C 83.72 43 P **P** **11 06 18.2 -0.3**
baz=232
KDAK Kodiak Island 83.83 12 P **P** **11 06 18.9 +0.6**
baz=201
KDAK Kodiak Island 83.83 12 ⇑ *e* P **P** **11 06 18.1 -0.2**
KDAK pmax pmax
comp=Z,32nm,1.3s
O14K Tigyukauivet M 83.91 7 P **P** **11 06 19.7 +1.0**
baz=193
Q16K King Salmon 83.97 10 P **P** **11 06 18.7 -0.3**
baz=197
NJ2 Nanjing 84.01 309 *e* P **P** **11 06 20.5 +0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
O15K Ungalikthiuk R 84.01 8 P **P** **11 06 19.6 +0.4**
baz=194
TROLL Troll, Antarti 84.09 179 P **P** **11 06 21.9 +2.0**
TROLL Troll, Antarti 84.09 179 ⇓ P **P** **11 06 21.9 +2.0**
comp=Z,2μm,0.8s
P16K Nushagak River 84.12 9 P **P** **11 06 20.4 +0.6**
baz=196
X16A Lo Mia Camp, P 84.14 48 IAmb IAmb 11 06 37.6
comp=Z,25nm,1.1s
SNAA Sanae 84.31 178 P **P** **11 06 22.6 +1.6**
SNAA Sanae 84.31 178 P **P** **11 06 20.2 -0.7**
SNAA IAmb IAmb 11 06 26.9
comp=Z,31nm,1.0s
SNAA Sanae 84.31 178 ⇓ P **P** **11 06 22.6 +1.6**
comp=Z,459nm,0.9s
SNAA Sanae 84.31 178 P **P** **11 06 22.1 +1.2**
comp=Z,20nm,0.9s,baz=178,slow=3.7,SNR=16
SNAA LR LR 11 40 36.5
comp=Z,315nm,19.8s,baz=188,slow=33
comp=Z,20nm,0.9s
VNA3 Neumayer Olymp 84.35 175 P **P** **11 06 22.6 +1.4**
VNA3 Neumayer Olymp 84.35 175 ⇓ P **P** **11 06 22.6 +1.4**
comp=Z,34nm,0.8s
LCMT Little Creek M 84.42 45 IAmb IAmb 11 06 38.7
comp=Z,23nm,1.2s
WVOR Wild Horse Val 84.44 38 IAmb IAmb 11 06 31.1
comp=Z,35nm,1.6s
QIZ Qiongzhong 84.49 294 P **P** **11 06 21.4 -1.2**
QIZ S **S** **11 16 51.8 +2.2**
QIZ pmax pmax
comp=Z,190nm,7.5s
QIZ LR LR
comp=Z,150nm,16.5s
QIZ LR LR
comp=Z,180nm,17.2s
QIZ LR LR
comp=Z,220nm,17.9s
P17K Kvichak River 84.50 10 P **P** **11 06 21.7 0.0**
baz=197
N14K Kuskokwak Cree 84.52 7 P **P** **11 06 22.6 +0.9**
baz=192
M11K Mekoryuk 84.56 5 P **P** **11 06 23.1 +1.1**
baz=188
Q20K Shuyak Island 84.64 12 P **P** **11 06 23.4 +1.0**
baz=201
O16K Kokwok River B 84.64 9 IAmb IAmb 11 06 22.9
comp=Z,13nm,0.9s
O16K Kokwok River B 84.64 9 P **P** **11 06 23.0 +0.6**
baz=196
KNB Kanab 84.70 46 IAmb IAmb 11 06 27.1
comp=Z,18nm,1.0s
Q19K Cape Douglas, 84.71 11 P **P** **11 06 23.3 +0.5**
baz=200
WUAZ Wupatki 84.80 47 IAmb IAmb 11 06 40.8
comp=Z,19nm,1.1s
VNA2 Neumayer--Watz 84.82 176 P **P** **11 06 25.2 +1.7**
baz=176,slow=4.2
VNA2 Neumayer--Watz 84.82 176 ⇓ P **P** **11 06 25.2 +1.7**
comp=Z,24nm,0.7s,baz=176,slow=4.2
M13K Dall Lake 84.83 6 P **P** **11 06 24.3 +1.0**
baz=191
MDJ Mudanjiang 84.84 324 P **P** **11 06 24.0 +0.2**
MDJ Mudanjiang 84.84 324 P **P** **11 06 24.8 +0.9**
MDJ pmax pmax
comp=Z,81nm,1.0s
MDJ pmax pmax
comp=Z,650nm,5.8s
MDJ Mudanjiang 84.84 324 P **P** **11 06 24.7 +0.9**
P18K Big Mountain, 84.88 10 IAmb IAmb 11 06 25.7
comp=Z,23nm,1.1s
P18K Big Mountain, 84.88 10 P **P** **11 06 24.2 +0.5**
baz=198
N15K Kwethluk River 84.94 8 P **P** **11 06 24.4 +0.5**
baz=194
O17K Koliganek Bris 84.96 9 P **P** **11 06 24.6 +0.6**
baz=197
VNA1 Neumayer--Stat 85.03 176 P **P** **11 06 23.5 -1.0**
VNA1 Neumayer--Stat 85.03 176 ⇑ P **P** **11 06 23.5 -1.0**
comp=Z,39nm,1.0s
PLCA Paso Flores 85.07 133 P **P** **11 06 28.3 +2.9**
comp=Z,4.1nm,1.1s,baz=172,slow=7.1,SNR=3.7
PLCA LR LR 11 38 00.8
comp=Z,199nm,19.5s,baz=237,slow=31
comp=Z,4.1nm,1.1s
J08A Circle Bar Ran 85.13 38 IAmb IAmb 11 06 41.0
comp=Z,18nm,1.2s
NVL N'lazarevskaya 85.21 182 *e* P **P** **11 06 23.6 -1.8**
NVL *e* S **S** **11 16 55.8 +0.6**
NVL pmax pmax
comp=Z,8.0nm,1.0s
M14K Bethel 85.30 7 P **P** **11 06 26.0 +0.3**
baz=192,SNR=8.7
SISI Saibi 85.32 271 P **P** **11 06 24.4 -2.6**
comp=Z,32nm,1.0s
O18K Koktuh Hills 85.33 10 P **P** **11 06 26.2 +0.3**
baz=198
M15K Kasigluk River 85.38 7 P **P** **11 06 26.8 +0.7**
baz=193
ELK Elko 85.39 41 P **P** **11 06 28.4 +1.4**
P19K Oil Pt 85.47 11 P **P** **11 06 26.2 -0.4**
baz=200
121A Cookes Peak, D 85.66 52 IAmb IAmb 11 06 45.3
comp=Z,21nm,1.3s
121A Cookes Peak, D 85.66 52 P **P** **11 06 27.7 -0.8**
baz=238
N17K Nushagak Hills 85.67 9 P **P** **11 06 28.2 +0.7**
baz=197
MNSI Mandailing Nat 85.73 273 P **P** **11 06 26.4 -2.6**
comp=Z,3μmcomp=Z,55nm,0.7s
HOM Homer 85.76 12 P **P** **11 06 28.8 +0.8**
baz=202
O19K Port Alsworth 85.79 10 P **P** **11 06 28.9 +0.8**
baz=199
L14K Kuka Creek 85.81 6 P **P** **11 06 29.5 +1.3**
baz=192
GRNR Gornyy 85.82 332 ⇓ *i* P **P** **11 06 28.8 +0.2**
GRNR pmax pmax
comp=Z,20nm,1.1s
M16K Timber Creek 85.91 8 P **P** **11 06 30.3 +1.6**
baz=195
IPM Ipoh 85.92 277 P **P** **11 06 30.1 +0.1**
O20K Slope Mountain 85.98 11 P **P** **11 06 30.2 +1.0**
baz=201
DL2 Dalian 85.99 316 P **P** **11 06 29.9 +0.3**
DL2 S **S** **11 17 05.8 +2.2**
DL2 pmax pmax
comp=Z,53nm,0.9s
DL2 pmax pmax
comp=Z,360nm,6.7s
DL2 LR LR
comp=Z,410nm,20.3s
DL2 LR LR
comp=Z,340nm,18.1s
DL2 LR LR
comp=Z,600nm,20.0s
N18K Kilae Creek 86.01 10 P **P** **11 06 29.9 +0.6**
baz=198
BRSE Bradley Lake S 86.01 12 P **P** **11 06 29.9 +0.6**
baz=202
K13K Kusilvak Mount 86.21 5 P **P** **11 06 31.0 +0.9**
baz=190
L15K Ungalak Mounta 86.26 7 P **P** **11 06 31.1 +0.6**
baz=193,SNR=8.0
N19K Bonanza Creek 86.35 10 P **P** **11 06 30.8 -0.3**
baz=199
CNSH ChangSha 86.38 303 P **P** **11 06 32.0 +0.1**
CNSH pmax pmax
comp=Z,19nm,1.2s
M17K Holitna River 86.48 9 P **P** **11 06 32.2 +0.7**
baz=196
WHN Wuhan 86.49 306 P **P** **11 06 33.4 +1.1**
WHN pmax pmax
comp=Z,160nm,1.3s
SNY Shenyang 86.50 319 ⇑ P **P** **11 06 32.1 0.0**
SNY pmax pmax
comp=Z,21nm,1.0s
L16K Owhat River 86.51 8 P **P** **11 06 32.3 +0.6**
baz=194,SNR=8.1
UBPT Khong Chiam 86.54 288 IAmb IAmb 11 06 34.9
comp=Z,30nm,1.0s
UBPT Khong Chiam 86.54 288 P **P** **11 06 34.1 +1.2**
KULM Kulim 86.60 277 P **P** **11 06 32.4 -0.9**
KULM IAmb IAmb 11 06 35.8
comp=Z,23nm,0.9s
KULM Kulim 86.60 277 P **P** **11 06 33.5 +0.2**
SEW Seward 86.60 13 P **P** **11 06 32.1 -0.1**
baz=204
CN2 Changchun 86.61 322 *e* P **P** **11 06 32.5 -0.1**
CN2 *e* S **SKSac** **11 17 01.4 +2.1**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,300nm,12.0s
Q23K Middleton Isla 86.65 14 P **P** **11 06 32.3 -0.1**
baz=206
BNX BinXian 86.75 324 ⇑ P **P** **11 06 33.3 +0.1**
BNX S **S** **11 17 16.8 +6.0**
BNX pmax pmax
comp=Z,80nm,0.9s
BNX pmax pmax
comp=Z,410nm,5.9s
BNX LR LR
comp=Z,270nm,15.1s
BNX LR LR
comp=Z,230nm,19.6s
BNX LR LR
comp=Z,440nm,17.2s
M18K Stony River 86.79 9 P **P** **11 06 33.6 +0.5**
baz=198
VHRN Van Horn 86.80 54 IAmb IAmb 11 06 50.5
comp=Z,22nm,1.0s
SLKM Skilak Lake 86.82 12 IAmb IAmb 11 06 41.0
comp=Z,22nm,1.0s
K15K Wolf Creek Mou 86.85 6 P **P** **11 06 34.5 +1.1**
baz=193
KLR Kul'dur 86.86 328 *ce* P **P** **11 06 34.5 +0.8**
KLR pmax pmax
comp=Z,70nm,2.5s
CAPN Captain Cook N 86.89 12 P **P** **11 06 34.1 +0.6**
baz=202
P23K Montague Islan 86.93 14 P **P** **11 06 33.9 +0.1**
baz=205
GULI GuiLin 86.99 299 P **P** **11 06 35.9 +1.0**
GULI SKS **SKSac** **11 17 01.5 -1.0**
GULI S **SKKSac** **11 17 13.1 +2.0**
GULI pmax pmax

comp=Z,50nm,1.0s
GULI pmax pmax
comp=Z,230nm,6.8s
GULI LR LR
comp=Z,180nm,18.1s
GULI LR LR
comp=Z,210nm,19.5s
GULI LR LR
comp=Z,260nm,20.5s
TMUT Trail Mountain 87.04 44 IAmb IAmb 11 06 38.5
comp=Z,14nm,0.8s
TX31 Lajitas Ar. Si 87.06 56 IAmb IAmb 11 06 51.9
comp=Z,30nm,1.2s
TXAR Lajitas Array 87.06 56 P **P 11 06 37.6 +2.2**
TXAR Lajitas Array 87.06 56 P **P 11 06 37.4 +2.1**
comp=Z,7.6nm,1.1s,baz=219,slow=4.7,SNR=21
TXAR LR LR 11 40 05.8
comp=Z,378nm,18.5s,baz=232,slow=32
comp=Z,7.6nm,1.1s
L17K Donlin 87.07 8 P **P 11 06 35.6 +1.2**
baz=196
Y22D IRIS PASSCAL I 87.09 51 P **P 11 06 34.1 -1.3**
baz=238
SPCR Spurr Chakacha 87.10 11 P **P 11 06 34.4 -0.3**
baz=201
J14K Nanvaranak Lak 87.11 5 P **P 11 06 35.4 +0.9**
baz=191
CRAG Craig 87.12 23 P **P 11 06 33.9 -0.9**
baz=218
PSI Prapat 87.15 274 LR LR 11 48 09.1
comp=Z,242nm,18.5s,baz=159,slow=38
PSI Prapat 87.15 274 P **P 11 06 35.3 -0.8**
D08A Wollman Farm, 87.27 35 IAmb IAmb 11 07 00.9
comp=Z,36nm,1.8s
L18K Granite Mounta 87.36 9 P **P 11 06 36.9 +1.1**
baz=197
SRU San Rafael Swe 87.38 45 IAmb IAmb 11 06 39.4
comp=Z,12nm,1.0s
RC01 Rabbit Creek A 87.45 12 IAmb IAmb 11 06 38.2
comp=Z,34nm,1.2s
RC01 Rabbit Creek A 87.45 12 P **P 11 06 36.9 +0.6**
baz=203
TIA Tai'an 87.46 312 P **P 11 06 37.3 +0.3**
TIA pmax pmax
comp=Z,80nm,1.0s
TIA LR LR
comp=Z,200nm,18.2s
TIA LR LR
comp=Z,330nm,15.5s
TIA LR LR
comp=Z,510nm,17.5s
HVU Hansel Valley 87.49 42 IAmb IAmb 11 06 52.2
comp=Z,22nm,1.9s
PWL Port Wells 87.52 13 P **P 11 06 36.8 +0.2**
baz=204
KAIM Kayak Island 87.54 15 P **P 11 06 36.5 -0.3**
baz=208
V35K Ketchikan 87.55 23 P **P 11 06 37.2 +0.4**
baz=219
M20K Styx River 87.58 10 P **P 11 06 37.7 +0.7**
baz=200
PLID Pearl Lake 87.60 38 IAmb IAmb 11 06 53.1
comp=Z,28nm,1.9s
ALPN Alpine 87.60 55 IAmb IAmb 11 06 54.1
comp=Z,17nm,1.0s
SUA Susitna One 87.61 12 P **P 11 06 36.9 -0.3**
baz=202
U33K Whale Pass 87.63 22 P **P 11 06 37.4 +0.2**
baz=218
K17K Iditarod 87.63 8 P **P 11 06 38.0 +0.9**
baz=196
SIT Sitka 87.65 21 P **P 11 06 37.7 +0.4**
baz=216
GAMB Gambell 87.67 2 IAmb IAmb 11 06 39.6
comp=Z,23nm,1.0s
GAMB Gambell 87.67 2 P **P 11 06 38.3 +1.1**
baz=183,SNR=5.6
GSI Gunungsitoli 87.77 272 P **P 11 06 38.5 -0.5**
GSI Gunungsitoli 87.77 272 P **P 11 06 40.0 +1.0**
EYAK Cordova Ski Ar 87.79 14 P **P 11 06 38.6 +0.8**
baz=207
GLI Glacier Island 87.79 13 P **P 11 06 38.6 +0.6**
baz=206
ANMO Albuquerque 87.87 50 P **P 11 06 41.1 +1.9**
ANMO IAmb IAmb 11 06 55.6
comp=Z,16nm,1.1s
ANMO Albuquerque 87.87 50 LR LR 11 40 25.5
comp=Z,824nm,19.5s,baz=55,slow=32
ANMO Albuquerque 87.87 50*ce*P **P 11 06 40.5 +1.3**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
J16K Anvik River 87.92 7 P **P 11 06 39.3 +0.8**
baz=194
MA2 Magadan 87.92 344 P **P 11 06 37.6 -1.0**
MA2 Magadan 87.92 344 P **P 11 06 38.5 -0.1**
MA2 Magadan 87.92 344*c i*P **P 11 06 38.3 -0.3**
MA2 pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 87.92 344 P **P 11 06 38.2 -0.3**
comp=Z,39nm,1.0s
SKT Skwentna 87.94 11 P **P 11 06 39.6 +0.9**
baz=202
M22K Willow 87.99 12 P **P 11 06 39.1 +0.3**
baz=203
KNK Knik Glacier 88.00 13 IAmb IAmb 11 07 23.0
comp=Z,17nm,1.0s
KNK Knik Glacier 88.00 13 P **P 11 06 39.0 0.0**
baz=204
L20K Farewell, AK 88.03 10 P **P 11 06 39.6 +0.6**
baz=200
BSUT Blindstream Ca 88.03 44 IAmb IAmb 11 06 43.7
comp=Z,16nm,1.2s
PMR Palmer 88.03 12 IAmb IAmb 11 06 40.8
comp=Z,26nm,1.2s
PMR Palmer 88.03 12 P **P 11 06 39.5 +0.5**
baz=204,SNR=5.2
PMR Palmer 88.03 12 P **P 11 06 39.7 +0.7**
S31K Pelican 88.10 20 P **P 11 06 40.2 +0.8**
baz=215
WRAK Wrangell Islan 88.14 22 P **P 11 06 40.4 +0.8**
baz=219
TTA Tatalina 88.14 9 P **P 11 06 39.5 -0.2**
TTA IAmb IAmb 11 06 41.9
comp=Z,26nm,1.1s
TTA Tatalina 88.14 9 P **P 11 06 40.3 +0.6**
baz=198,SNR=16
TTA Tatalina 88.14 9 P **P 11 06 40.5 +0.9**
TTA Tatalina 88.14 9 P **P 11 06 39.5 -0.2**
TTA pmax pmax
comp=Z,26nm,1.1s
J17K VABM Dome 88.20 7 P **P 11 06 40.6 +0.8**
baz=195
S32K Killisnoo 88.22 21 P **P 11 06 40.1 +0.1**
baz=217
DIV Divide 88.30 14 IAmb IAmb 11 06 42.4
comp=Z,26nm,1.2s
MESA MESA 88.37 16 P **P 11 06 41.2 +0.3**
baz=210
SML Sawmill 88.38 13 P **P 11 06 41.5 +0.7**
baz=204
BMRM Bremner River 88.42 14 P **P 11 06 41.6 +0.6**
baz=208
M23K Glacier View 88.49 13 P **P 11 06 41.3 0.0**
baz=205
I17K Unalakleet 88.50 6 P **P 11 06 42.1 +0.9**
baz=193
SAND Sanderson 88.54 56 IAmb IAmb 11 06 58.1
comp=Z,24nm,1.6s
J18K Innoko River 88.56 8 IAmb IAmb 11 06 43.7
comp=Z,28nm,1.0s
J18K Innoko River 88.56 8 P **P 11 06 42.2 +0.7**
baz=197
CUT Chulitna 88.56 11 P **P 11 06 41.5 0.0**
baz=203
U35K Hyder 88.58 24 P **P 11 06 42.1 +0.4**
baz=220
CMIG Matias Romero 88.60 71 LR LR 11 39 44.6
comp=Z,416nm,18.0s,baz=183,slow=31
KLU Klutina 88.60 14 IAmb IAmb 11 06 55.1
comp=Z,23nm,1.3s
KLU Klutina 88.60 14 P **P 11 06 41.9 +0.1**
baz=207
SCM Sheep Creek Mo 88.61 13 P **P 11 06 42.8 +1.0**
baz=205,SNR=5.0
R31K City Hall, Gus 88.62 20 P **P 11 06 42.7 +0.9**
baz=216
PPLA Purkeypile 88.69 10 P **P 11 06 43.2 +0.8**
baz=201
PINM Pinnacle 88.73 17 P **P 11 06 43.2 +0.7**
baz=212
ANM Nome 88.76 4 P **P 11 06 43.2 +0.8**
baz=189
K20K Telida 88.83 9 P **P 11 06 43.7 +0.9**
baz=199
R32K Eaglecrest 88.89 20 P **P 11 06 43.5 +0.3**
baz=217
SRIT Nakonsritamara 88.91 280 P **P 11 06 46.2 +1.9**
VRDI Verde Repeater 88.92 15 IAmb IAmb 11 06 45.8
comp=Z,36nm,1.4s
NEW Newport 88.97 35 LR LR 11 43 10.6
comp=Z,929nm,18.4s,baz=224,slow=33
N25K Chitina, Valde 88.99 14 IAmb IAmb 11 06 53.2
comp=Z,15nm,0.9s
N25K Chitina, Valde 88.99 14 P **P 11 06 44.3 +0.6**
baz=208
GLB Gilahina Butte 89.02 15 IAmb IAmb 11 06 45.4
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 89.08 48 P **P 11 06 43.9 -1.0**
baz=238
AHID Auburn Hatcher 89.08 42 IAmb IAmb 11 06 52.9
comp=Z,31nm,1.8s
H16K Elim 89.08 6 P **P 11 06 44.4 +0.4**
baz=192,SNR=17
M24K Tolsona, Glenn 89.09 13 P **P 11 06 45.0 +0.9**
baz=206
CAST Castle Rocks 89.20 10 IAmb IAmb 11 06 45.1
comp=Z,17nm,1.0s
CAST Castle Rocks 89.20 10 P **P 11 06 44.0 -0.6**
baz=201,SNR=10
J19K Poorman 89.21 9 P **P 11 06 45.4 +0.8**
baz=198
PLBC Pleasant Camp 89.28 19 P **P 11 06 45.9 +0.9**
baz=215
G15K Niukluk 89.29 5 P **P 11 06 45.6 +0.8**
baz=190
T35M Bob Quinn 89.31 23 P **P 11 06 45.9 +0.7**
baz=220
O28M Mount Upton 89.33 16 P **P 11 06 45.3 -0.3**
baz=212
O29M Mount Kennedy 89.36 17 P **P 11 06 46.3 +0.8**
baz=213
O20A White River Ci 89.41 45 IAmb IAmb 11 07 58.2
comp=Z,22nm,1.7s
DRIO Del Rio 89.44 57 IAmb IAmb 11 07 02.4
comp=Z,22nm,1.1s
KTH Kantishna Hill 89.51 11 IAmb IAmb 11 06 55.9
comp=Z,18nm,1.0s
TRF Thorofare Moun 89.53 11 P **P 11 06 46.5 +0.2**
baz=203,SNR=11
HARP HAARP 89.57 14 P **P 11 06 46.7 +0.3**
baz=207
J20K Nowinta River 89.59 9 IAmb IAmb 11 06 48.3
comp=Z,17nm,0.9s
J20K Nowinta River 89.59 9 P **P 11 06 47.0 +0.7**
baz=199
CHUM Lake Minchumin 89.59 10 P **P 11 06 46.5 +0.1**
baz=201
SKAG Skagway 89.59 19 IAmb IAmb 11 06 59.8
comp=Z,36nm,1.4s
SKAG Skagway 89.59 19 P **P 11 06 47.0 +0.6**
baz=216
SKAG Skagway 89.59 19 P **P 11 06 48.5 +2.1**
H17K Granite Mounta 89.60 7 IAmb IAmb 11 06 48.1
comp=Z,15nm,0.9s
H17K Granite Mounta 89.60 7 P **P 11 06 47.2 +0.8**
baz=194
F14K Arctic Creek 89.60 4 P **P 11 06 47.4 +1.0**
baz=188
HEH HeiHe 89.64 327 *e*P **P 11 06 47.3 +0.4**
HEH pmax pmax
comp=Z,37nm,1.9s
P30M Million Dollar 89.66 18 P **P 11 06 47.9 +1.1**
baz=215
DLMT Dillon 89.69 39 IAmb IAmb 11 07 03.4
comp=Z,30nm,1.7s
S34M Telegraph Cree 89.72 22 IAmb IAmb 11 07 09.4
comp=Z,15nm,1.1s
S34M Telegraph Cree 89.72 22 P **P 11 06 48.4 +1.3**
baz=220
HNS HongShan 89.73 312 ⇑P **P 11 06 48.3 +0.7**
HNS pmax pmax
comp=Z,34nm,1.8s
NONG Nongkai 89.75 290 P **P 11 06 49.1 +1.0**
RND Reindeer 89.75 12 P **P 11 06 47.7 +0.5**
NAYO Nakonayok 89.75 286 P **P 11 06 49.4 +1.2**
GCSA Galena City Sc 89.77 8 P **P 11 06 48.3 +1.2**
baz=197,SNR=7.1
G16K Koyuk River 89.82 5 P **P 11 06 48.0 +0.7**
baz=192
LYN LuoYang 89.87 308 P **P 11 06 49.4 +1.0**
LYN sP pwP 11 06 58.8 +1.3
LYN S **S 11 17 34.8 -6.1**
LYN sS ScS 11 17 55.1 +10
LYN SS **SS 11 23 41.4 +2.4**
LYN pmax pmax
comp=Z,88nm,1.0s
LYN pmax pmax
comp=Z,590nm,5.9s
LYN LR LR
comp=Z,390nm,16.5s
LYN LR LR
comp=Z,260nm,17.2s
LYN LR LR
comp=Z,480nm,17.2s
YUK8 Steele Glacier 89.87 16 P **P 11 06 48.2 +0.1**
baz=212
833A Chaparral WMA, 89.88 59 P **P 11 06 47.7 -0.8**
baz=242
F15K North Star Dit 89.95 4 P **P 11 06 48.5 +0.5**
baz=190
YUK6 Outpost Mounta 89.95 17 P **P 11 06 49.0 +0.6**
baz=213
H18K Honhosa River 89.98 7 P **P 11 06 48.6 +0.5**
baz=196
BPAW Bear Paw Mtn. 90.01 10 P **P 11 06 48.9 +0.5**
baz=202
PAX Paxson 90.01 13 P **P 11 06 48.9 +0.4**
baz=207,SNR=8.2
PDAR Pinedale Array 90.02 42 P **P 11 06 49.5 +0.3**
comp=Z,1.8nm,0.8s,baz=207,slow=4.4,SNR=13
PDAR LR LR 11 44 41.4
comp=Z,226nm,18.9s,baz=254,slow=34
comp=Z,1.8nm,0.8s
MCK McKinley 90.03 11 IAmb IAmb 11 06 50.1
comp=Z,19nm,1.0s
MCK McKinley 90.03 11 P **P 11 06 48.9 +0.5**
baz=204,SNR=8.3
M26K Nabesna, AK 90.05 14 P **P 11 06 49.4 +0.7**
baz=209
FLWY Flagg Ranch 90.06 41 IAmb IAmb 11 07 08.9
comp=Z,31nm,1.6s
HYT Haines Junctio 90.09 18 P **P 11 06 49.7 +0.8**
baz=214
YUK3 Moose Creek 90.11 16 P **P 11 06 50.1 +1.0**
baz=212,SNR=12
BJT Baijiatuau 90.12 314 P **P 11 06 49.4 0.0**
BJT IAmb IAmb 11 06 50.5
comp=Z,21nm,1.1s
BJT Baijiatuau 90.12 314 P **P 11 06 49.4 0.0**
BJT pmax pmax
comp=Z,21nm,1.1s
BJI Beijing 90.13 314 P **P 11 06 49.5 +0.1**
BJI pmax pmax
comp=Z,10.0nm,1.6s
BJI LR LR
comp=Z,240nm,19.6s
BJI LR LR
comp=Z,170nm,21.0s
BJI LR LR
comp=Z,430nm,20.2s
I20K Naaghedeneel 90.13 9 P **P 11 06 49.5 +0.7**
baz=199
Q32M Nakina River 90.15 21 P **P 11 06 49.3 -0.1**
baz=219
P32M Atlin 90.19 20 IAmb IAmb 11 06 52.1
comp=Z,18nm,1.2s
P32M Atlin 90.19 20 P **P 11 06 50.6 +1.3**
baz=217
YHL Hebgen Lake 90.21 40 IAmb IAmb 11 07 06.6
comp=Z,37nm,1.6s
YUK4 Talbot Arm 90.22 17 P **P 11 06 51.0 +1.4**
baz=213
YMR Madison River 90.24 40 IAmb IAmb 11 07 07.5
comp=Z,29nm,1.6s
M27K Edge Creek, AK 90.27 15 P **P 11 06 50.9 +1.1**
baz=210
MENT Mentasta 90.36 14 IAmb IAmb 11 06 52.4
comp=Z,14nm,0.9s
MENT Mentasta 90.36 14 P **P 11 06 51.4 +1.4**
BOZ Bozeman (W) 90.38 39 IAmb IAmb 11 07 06.5
comp=Z,21nm,1.4s
T25A Trinidad 90.42 49 P **P 11 06 51.1 -0.1**
baz=240
O30N Mendenhall 90.44 18 IAmb IAmb 11 06 53.3
comp=Z,13nm,1.1s
O30N Mendenhall 90.44 18 P **P 11 06 51.9 +1.4**
baz=215,SNR=5.1
SEY Seymchan 90.45 346⇑*e*P **P 11 06 50.8 +0.4**
SEY pmax pmax
comp=Z,47nm,1.7s
GYA Guiyang 90.48 299 P **P 11 06 52.8 +1.2**
GYA pmax pmax
comp=Z,33nm,1.2s
DLBC Dease Lake 90.50 22 P **P 11 06 52.5 +1.7**
baz=220,SNR=5.3
SLVN Son La 90.50 293 IAmb IAmb 11 06 54.2
comp=Z,38nm,1.4s
SLVN Son La 90.50 293 P **P 11 06 53.3 +1.6**
L26K Log Cabin Wild 90.52 14 P **P 11 06 51.6 +0.9**
baz=209,SNR=7.9
BVCY Beaver Creek 90.56 15 P **P 11 06 50.7 -0.3**
baz=211,SNR=10
G18K Tagagawik 90.67 7 IAmb IAmb 11 06 53.0
comp=Z,13nm,0.9s
G18K Tagagawik 90.67 7 P **P 11 06 51.2 -0.1**
baz=195
K24K Donnelly Dome 90.70 13 P **P 11 06 52.1 +0.5**
baz=207,SNR=12
WHY Whitehorse 90.70 19 P **P 11 06 52.6 +0.9**
baz=216
H20K Anotleneega Mo 90.74 8 P **P 11 06 52.0 +0.3**
baz=199
NEA2 Nenana 90.79 11 P **P 11 06 52.5 +0.5**
baz=204
RIDG Independent Ri 90.83 13 IAmb IAmb 11 06 54.3
comp=Z,20nm,1.1s
RIDG Independent Ri 90.83 13 P **P 11 06 52.9 +0.7**
baz=208,SNR=6.3
WRH Wood River Hil 90.86 11 IAmb IAmb 11 06 53.9
comp=Z,27nm,1.0s
I21K Tanana 90.86 10 P **P 11 06 53.1 +0.9**
baz=201
L27K Beaver Creek, 90.89 15 P **P 11 06 53.3 +0.8**
baz=210
BCAR Beaver Creek A 90.91 15 P **P 11 06 52.4 -0.2**
R33M Jennings River 90.91 21 P **P 11 06 53.3 +0.5**
baz=220
F17K Baldwin Pennin 90.94 6 P **P 11 06 53.5 +1.0**
baz=193
P33M Teslin, Yukon 90.96 20 P **P 11 06 53.1 +0.1**
baz=218
YNE Yellowstone No 90.99 40 IAmb IAmb 11 07 09.9
comp=Z,20nm,1.3s
HDA Harding Lake 91.01 12 IAmb IAmb 11 06 54.6
comp=Z,13nm,0.9s
HDA Harding Lake 91.01 12 P **P 11 06 53.8 +0.8**
baz=206,SNR=12
CCB Clear Creek Bu 91.07 12 IAmb IAmb 11 06 54.6
comp=Z,15nm,1.0s
G19K Purcell Mounta 91.08 7 P **P 11 06 54.1 +0.9**
baz=197
N31M Braeburn, Yuko 91.11 18 IAmb IAmb 11 07 05.3
comp=Z,18nm,1.1s
N31M Braeburn, Yuko 91.11 18 P **P 11 06 54.7 +1.1**
baz=216
H21K Melozitna Rive 91.18 9 P **P 11 06 54.6 +0.8**
baz=200
M29M Somme Creek 91.19 16 P **P 11 06 54.6 +0.6**
baz=213
SCRK Sand Creek 91.22 13 IAmb IAmb 11 06 57.7
comp=Z,12nm,1.1s
SCRK Sand Creek 91.22 13 P **P 11 06 55.0 +0.9**
baz=208,SNR=9.9
RTBA Rita Blanca 91.23 50 IAmb IAmb 11 07 10.8
comp=Z,33nm,1.7s
F18K Selawik 91.25 6 P **P 11 06 54.1 +0.1**
baz=194,SNR=8.7
I23K Minto, Yukon-K 91.25 11 IAmb IAmb 11 07 04.4
comp=Z,15nm,1.4s
I23K Minto, Yukon-K 91.25 11 P **P 11 06 53.9 -0.1**
baz=204
COLA College 91.27 11 P **P 11 06 54.1 -0.1**
COLA IAmb IAmb 11 06 55.5
comp=Z,19nm,0.9s
COLA College 91.27 11 P **P 11 06 54.6 +0.5**
baz=205
COLA College 91.27 11 P **P 11 06 54.8 +0.7**
COLA College 91.27 11*c i*P **P 11 06 54.0 -0.1**
COLA pmax pmax
comp=Z,18nm,0.9s
IL31 91.35 12 IAmb IAmb 11 06 56.0
comp=Z,13nm,1.1s
ILAR Eielson Array 91.35 12 P **P 11 06 55.0 +0.4**
comp=Z,5.0nm,1.0s,baz=222,slow=5.6,SNR=33
ILAR PP **PP 11 10 35.5 +3.1**
comp=Z,1.4nm,1.2s,baz=216,slow=6.7,SNR=4.3
comp=Z,5.0nm,1.0s
ILAR Eielson Array 91.35 12 P **P 11 06 55.0 +0.4**
TIY Taiyuan 91.45 311 P **P 11 06 56.8 +1.0**
TIY pmax pmax
comp=Z,51nm,1.0s
J25K Salcha River, 91.50 12 P **P 11 06 56.1 +0.7**
baz=207
E17K Hotham Inlet 91.52 5 P **P 11 06 56.1 +0.8**
baz=192
BSI Banda Aceh 91.54 275 P **P 11 06 53.9 -2.8**
POKR Poker Plat Res 91.56 11 IAmb IAmb 11 07 05.8
comp=Z,16nm,1.2s
POKR Poker Plat Res 91.56 11 P **P 11 06 56.4 +0.8**
baz=205,SNR=7.5
H22K Ishtalitna Cre 91.62 10 P **P 11 06 55.9 +0.2**
baz=202
N32M Quiet Lake 91.62 19 P **P 11 06 56.2 +0.3**
baz=218
APMT Aspermont 91.64 54 IAmb IAmb 11 07 12.1
comp=Z,15nm,1.2s
F19K Shaleruckik Mo 91.67 7 P **P 11 06 56.7 +0.7**
baz=196
SRDT SRDT 91.70 285 P **P 11 06 59.4 +2.1**
M30M Minto, Yukon 91.73 17 P **P 11 06 57.4 +1.0**
baz=215
J26L Joseph Creek 91.77 13 P **P 11 06 57.6 +1.0**
baz=209
L29M L29M 91.83 16 P **P 11 06 57.6 +0.8**
baz=214
G21K Allakaket 91.89 9 P **P 11 06 57.4 +0.4**
baz=200
ZEA Zeya 91.95 330 *e*P **P 11 06 58.5 +0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
E18K Tukpahlearik C 91.96 6 P **P 11 06 57.7 +0.4**
baz=194
D17K Noatak River 92.03 5 P **P 11 06 58.2 +0.6**
baz=191
M31M Drury Creek, Y 92.08 18 P **P 11 06 58.5 +0.5**
baz=217
F20K Avaraart Lake 92.11 8 P **P 11 06 58.5 +0.5**
baz=198
H24K Noodor Dome 92.14 11 P **P 11 06 59.0 +0.8**
baz=205
WTLY Watson Lake, Y 92.18 21 IAmb IAmb 11 07 01.1
comp=Z,16nm,1.3s
WTLY Watson Lake, Y 92.18 21 P **P 11 06 59.1 +0.6**
baz=222
XAN Xi'an 92.20 306 ⇓P **P 11 07 00.3 +1.0**
XAN pP sP 11 07 04.5 +3.3
XAN SKS **SKSac 11 17 33.3 +0.5**
XAN S **ScS 11 18 06.9 +2.2**
XAN pmax pmax
comp=Z,91nm,1.0s
XAN LR LR
comp=Z,260nm,15.8s
XAN LR LR
comp=Z,430nm,19.2s
XAN LR LR
comp=Z,500nm,19.9s
XLT XiLinHaoTe 92.22 318⇑*i*P **P 11 06 58.1 -1.1**
XLT sP sP 11 07 04.5 +3.4
XLT PP **PP 11 10 38.3 -1.6**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,120nm,4.5s

PRP	**Porcupine Dome**	92.28	12	IAmb	IAmb	11 07 00.8
	comp=Z,9.9nm,0.9s					
PRP	**Porcupine Dome**	92.28	12	P	P	**11 06 59.6 +0.6**
	baz=207					
DAWY	**Dawson**	92.32	15	IAmb	IAmb	11 07 28.8
	comp=Z,19nm,1.3s					
DAWY	**Dawson**	92.32	15	P	P	**11 07 00.3 +1.1**
	baz=212,SNR=11					
E19K	**Redstone River**	92.33	7	P	P	**11 06 59.8 +0.8**
	baz=196					
RDOG	**Red Dog Mine**	92.39	5	P	P	**11 06 60.0 +0.7**
	baz=191					
FARO	**Faro, Yukon**	92.40	18	P	P	**11 07 00.4 +0.9**
	baz=218					
C16K	**Lisburne Hills**	92.44	4	IAmb	IAmb	11 07 01.3
	comp=Z,20nm,1.1s					
C16K	**Lisburne Hills**	92.44	4	P	P	**11 06 59.7 +0.2**
	baz=189					
TOAD	**Toad River Com**	92.50	24	P	P	**11 07 00.5 +0.4**
	baz=225					
EGAK	**Eagle**	92.53	14	IAmb	IAmb	11 07 05.4
	comp=Z,16nm,1.1s					
EGAK	**Eagle**	92.53	14	P	P	**11 07 01.1 +1.1**
	baz=211,SNR=7.9					
G22K	**Bettles**	92.56	9	P	P	**11 07 01.1 +1.0**
	baz=202					
I26K	**Coal Creek Min**	92.56	13	P	P	**11 07 00.4 +0.2**
	baz=209					
F21K	**Alatna River**	92.56	8	P	P	**11 07 00.9 +0.7**
	baz=200					
G23K	**Bananza Creek**	92.59	10	P	P	**11 07 01.5 +1.2**
	baz=203					
K29M	**Barlow Dome**	92.59	16	P	P	**11 07 01.3 +0.9**
	baz=214					
PLPT	**Palo Pinto**	92.75	55	P	P	**11 07 03.7 +1.9**
C17K	**DeLong Mountai**	92.78	5	P	P	**11 07 02.2 +1.1**
	baz=191					
MAYO	**Mayo, Yukon**	92.80	17	P	P	**11 07 02.2 +0.9**
	baz=216					
H25L	**Birch Creek**	92.90	12	P	P	**11 07 02.7 +1.1**
	baz=207					
BILL	**Bilibino**	92.90	353	P	P	**11 07 02.1 +0.5**
BILL				IAmb	IAmb	11 07 03.3
	comp=Z,15nm,1.0s					
BILL	**Bilibino**	92.90	353	*de*P	P	**11 07 02.4 +0.8**
BILL				pmax	pmax	
	comp=Z,13nm,0.8s					
J29N	**Klondike Camp**	92.93	15	P	P	**11 07 03.1 +1.1**
	baz=214					
G24K	**Hadweenzic Riv**	92.99	11	P	P	**11 07 03.2 +1.1**
	baz=205					
HIA	**Hailar**	93.02	324	*ce*P	P	**11 07 02.2 -0.5**
HIA				pmax	pmax	
	comp=Z,7.0nm,1.0s					
COLD	**Coldfoot**	93.04	10	P	P	**11 07 03.5 +1.2**
	baz=203					
KMI	**Kunming**	93.09	296	⇑P	P	**11 07 05.1 +1.3**
KMI				pmax	pmax	
	comp=Z,49nm,0.9s					
KMI				LR	LR	
	comp=Z,170nm,19.4s					
KMI				LR	LR	
	comp=Z,230nm,21.1s					
KMI				LR	LR	
	comp=Z,320nm,20.7s					
C18K	**Utukok River**	93.11	5	P	P	**11 07 03.4 +0.8**
	baz=193					
I27K	**Kandik River**	93.14	13	P	P	**11 07 04.1 +1.2**
	baz=210					
E20K	**Nigu River**	93.22	7	P	P	**11 07 04.0 +0.8**
	baz=198					
D19K	**Kuna River**	93.24	6	P	P	**11 07 04.8 +1.5**
	baz=196					
I28M	**Miner Creek**	93.37	14	P	P	**11 07 05.0 +1.0**
	baz=212					
J30M	**Hart River**	93.49	16	P	P	**11 07 05.3 +0.7**
	baz=215					
ATAH	**Atahualpa**	93.50	99	LR	LR	11 41 45.3
	comp=Z,499nm,18.5s,baz=247,slow=31					
CMAR	**Chiang Mai Arr**	93.54	289	P	P	**11 07 05.7 0.0**
CMAR	**Chiang Mai Arr**	93.54	289	P	P	**11 07 07.0 +1.2**
	comp=Z,34nm,0.9s,baz=137,slow=3.2,SNR=180					
CMAR	**Chiang Mai Arr**	93.54	289	P	P	**11 07 05.7 0.0**
HHC	**Hu-ho-hao-te**	93.57	313	⇑*i*P	P	**11 07 06.4 +0.9**
HHC				sP	pwP	11 07 13.8 -0.9
HHC				pmax	pmax	
	comp=Z,27nm,0.7s					
HHC				pmax	pmax	
	comp=Z,170nm,4.8s					
HHC				LR	LR	
	comp=Z,140nm,16.8s					
HHC				LR	LR	
	comp=Z,220nm,19.1s					
HHC				LR	LR	
	comp=Z,360nm,19.1s					
D20K	**Etivluk River**	93.61	7	P	P	**11 07 05.9 +0.9**
	baz=197					
E21K	**Killik River**	93.65	8	P	P	**11 07 05.6 +0.5**
	baz=200					
F24K	**Squaw Lake**	93.67	10	P	P	**11 07 06.0 +0.7**
	baz=205					
I29M	**Ogilvie Camp,**	93.67	15	P	P	**11 07 06.1 +0.8**
	baz=214					
CHTO	**Chiang Mai**	93.68	289	P	P	**11 07 06.1 -0.3**
CHTO	**Chiang Mai**	93.68	289	P	P	**11 07 06.1 -0.3**
CHTO				pmax	pmax	
	comp=Z,60nm,0.9s					
H27K	**Steamboat Moun**	93.70	13	P	P	**11 07 06.7 +1.3**
	baz=211					
B18K	**Kokolik River**	93.76	5	P	P	**11 07 06.4 +0.8**
	baz=192					
KOTAN	**Kotaneelee Air**	93.83	23	P	P	**11 07 07.1 +1.0**
	baz=226					
G26K	**Porcupine Rive**	93.88	12	P	P	**11 07 07.6 +1.5**
	baz=209					
E23K	**Chandalar**	93.89	9	P	P	**11 07 07.6 +1.3**
	baz=203					
I30M	**Mount Dempster**	94.01	15	P	P	**11 07 06.8 -0.2**
I30M	**Mount Dempster**	94.01	15	P	P	**11 07 07.9 +0.9**
	baz=215					
E24K	**Your Creek**	94.08	10	P	P	**11 07 08.1 +0.9**
	baz=204					
F25K	**Christian Rive**	94.11	11	P	P	**11 07 08.5 +1.2**
	baz=207					
RSSD	**Black Hills**	94.15	43	P	P	**11 07 09.5 +1.2**
RSSD	**Black Hills**	94.15	43	P	P	**11 07 09.5 +1.2**
RSSD				pmax	pmax	
	comp=Z,9.0nm,1.0s					
BMAR	**Burnt Mountain**	94.16	11	P	P	**11 07 06.6 -0.9**
G27K	**Doyon Strip**	94.17	13	P	P	**11 07 08.6 +1.0**
	baz=211					
D22K	**Ayikyak River**	94.23	8	P	P	**11 07 09.0 +1.2**
	baz=201					
C21K	**Knifeblade Rid**	94.24	7	P	P	**11 07 09.1 +1.3**
	baz=199					
H29M	**Whitestone**	94.37	14	P	P	**11 07 09.5 +1.0**
	baz=213					
TOLK	**Toolik Lake Re**	94.44	9	P	P	**11 07 10.1 +1.3**
	baz=204					
F26K	**Sheenjek River**	94.47	11	P	P	**11 07 10.2 +1.3**
	baz=208					
PZH	**PanZhiHua**	94.48	297	P	P	**11 07 10.5 +0.4**
PZH				pmax	pmax	
	comp=Z,30nm,1.0s					
PZH				pmax	pmax	
	comp=Z,190nm,6.7s					
BTO	**Baotou**	94.49	313	*e*P	P	**11 07 11.8 +2.1**
BTO				pP	**pwP**	**11 07 16.5 -2.4**
BTO				sP	**sP**	**11 07 18.8 +7.1**
BTO				PP	**PP**	**11 11 02.8 +5.0**
BTO				sS	sS	11 18 34.3 +10
BTO				pmax	pmax	
	comp=Z,47nm,1.3s					
BTO				pmax	pmax	
	comp=Z,490nm,6.3s					
BTO				LR	LR	
	comp=Z,410nm,14.7s					
BTO				LR	LR	
	comp=Z,490nm,18.5s					
BTO				LR	LR	
	comp=Z,510nm,20.3s					
D23K	**Nanushuk River**	94.58	9	P	P	**11 07 10.6 +1.2**
	baz=202					
JTS	**Las Juntas de**	94.58	81	LR	LR	11 40 19.4
	comp=Z,157nm,20.9s,baz=256,slow=29					
B21K	**Ikpikpuk River**	94.70	7	P	P	**11 07 11.7 +1.9**
	baz=199					

CD2	**Chengdu**	94.72	302	*e*P	P	**11 07 11.0 0.0**
W35A	**Tecumseh**	94.86	54	P	P	**11 07 13.8 +2.3**
EPYK	**Eagle Plains**	94.87	15	IAmb	IAmb	11 07 17.1
	comp=Z,16nm,1.4s					
EPYK	**Eagle Plains**	94.87	15	P	P	**11 07 11.8 +1.0**
	baz=215					
H31M	**Peel River**	94.98	16	P	P	**11 07 12.3 +1.0**
	baz=217					
R32A	**Long Quarter,**	94.99	50	IAmb	IAmb	11 07 14.3
	comp=Z,17nm,1.1s					
D24K	**Happy Valley**	95.02	9	P	P	**11 07 12.7 +1.4**
	baz=204					
G29M	**Pine Creek**	95.03	14	P	P	**11 07 12.5 +1.0**
	baz=214					
F28M	**Old Crow**	95.23	13	P	P	**11 07 13.3 +0.9**
	baz=212					
C23K	**Itkillik River**	95.39	8	P	P	**11 07 14.2 +1.1**
	baz=203					
G30M	**tAoh Zraii Nji**	95.49	14	P	P	**11 07 14.2 +0.6**
	baz=215					
B22K	**Teshekpuk Lake**	95.52	7	P	P	**11 07 14.3 +0.8**
	baz=200					
D25K	**Kavik River**	95.54	10	P	P	**11 07 14.7 +0.9**
	baz=206					
C24K	**Franklin Bluff**	95.55	9	P	P	**11 07 14.5 +0.7**
	baz=204					
G31M	**Satah River**	95.90	15	IAmb	IAmb	11 07 17.9
	comp=Z,8.6nm,1.0s					
G31M	**Satah River**	95.90	15	P	P	**11 07 16.1 +0.7**
	baz=217					
F30M	**Barrier River**	96.10	14	P	P	**11 07 17.3 +0.9**
	baz=216					
E28M	**Babbage River**	96.13	12	P	P	**11 07 17.6 +1.1**
	baz=212					
WRGLY	**Wrigley**	96.19	21	P	P	**11 07 17.8 +1.0**
	baz=226					
C27K	**Jago River**	96.25	11	P	P	**11 07 18.2 +1.2**
	baz=209					
E29M	**Blow River**	96.28	13	P	P	**11 07 18.7 +1.6**
	baz=214					
YAK	**Yakutsk**	96.37	337	*ce*P	P	**11 07 17.0 -0.6**
YAK				pmax	pmax	
	comp=Z,11nm,0.9s					
F31M	**Tsiigehtchic**	96.44	15	IAmb	IAmb	11 07 28.6
	comp=Z,12nm,0.9s					
F31M	**Tsiigehtchic**	96.44	15	P	P	**11 07 18.6 +0.8**
	baz=218					
TNCH	**TengChong**	96.54	294	*e*P	P	**11 07 20.0 +0.4**
TNCH				pmax	pmax	
	comp=Z,140nm,4.0s					
LZH	**Lanzhou**	96.84	306	*e*P	P	**11 07 21.8 +1.1**
LZH				pP	pwP	11 07 27.6 -2.2
LZH				pmax	pmax	
	comp=Z,27nm,0.9s					
LZH				LR	LR	
	comp=Z,510nm,15.8s					
LZH				LR	LR	
	comp=Z,570nm,16.5s					
LZH				LR	LR	
	comp=Z,770nm,19.6s					
INK	**Inuvik**	97.17	14	P	Pdif	11 07 21.7 +0.4
	baz=218					
LPAZ	**La Paz**	98.50	112	LR	LR	11 44 49.7
	comp=Z,303nm,18.7s,baz=238,slow=31					
YKA	**Yellowknife Ar**	98.83	24	P	P	**11 07 27.7 -1.0**
	comp=Z,0.5nm,0.9s,baz=240,slow=5.0,SNR=5.7					
YKA				PKKPbc	**PKKPbc**	**11 23 57.3 -1.2**
	comp=Z,0.3nm,0.7s,baz=43,slow=2.4,SNR=6.1					
	comp=Z,0.5nm,0.9s					
ULN	**Ulaanbaatar**	99.65	318	⇑*e*P	**Pdif**	**11 07 31.9 -1.1**
ULN				pmax	pmax	
	comp=Z,3.0nm,0.9s					
SONM	**Songino Array**	100.04	318	P	**Pdif**	**11 07 34.6 -0.1**
	comp=Z,0.7nm,0.9s,baz=134,slow=6.4,SNR=4.3					
	comp=Z,0.7nm,0.9s					
C36M	**Paulatuk**	100.25	16	P	**Pdif**	**11 07 35.7 +0.8**
	baz=226					
GTA	**Gaotai**	101.09	308	P	**Pdif**	**11 07 40.6 +1.0**
GTA				pP	pwP	11 07 46.1 -2.7
GTA				pmax	pmax	
	comp=Z,4.0nm,1.4s					
GTA				LR	LR	
	comp=Z,160nm,16.7s					
GTA				LR	LR	
	comp=Z,150nm,18.9s					
GTA				LR	LR	
	comp=Z,210nm,18.2s					
A36M	**Sachs Harbour**	101.81	14	P	**Pdif**	**11 07 42.8 +1.0**
	baz=226					
L44A	**Lake County Fo**	104.06	50	P	**Pdif**	**11 07 52.5 0.0**
	baz=250					
WMQ	**Urumqi**	111.08	310	*e*PKP	**PKiKP**	**11 12 22.4 -0.5**
WMQ				LR	LR	
	comp=Z,1μm,16.3s					
WMQ				LR	LR	
	comp=Z,880nm,16.3s					
WMQ				LR	LR	
	comp=Z,470nm,16.3s					
ZALV	**Zalesovo Beam**	114.80	320	PKP	PKPdf	11 12 28.5 -1.1
	comp=Z,1.1nm,0.7s,baz=134,slow=4.3,SNR=5.5					
L61B	**Northampton**	115.02	53	P	PKPdf	11 12 30.3 -0.1
	baz=260					
MK31	**Makanchi Array**	115.40	312	PKiKP	**PKPdf**	**11 12 30.2 -0.8**
MK31	**Makanchi Array**	115.40	312	*d*PKiKP	**PKPdf**	**11 12 30.3 -0.8**
MKAR	**Makanchi Array**	115.40	312	PKiKP	**PKPdf**	**11 12 30.4 -0.6**
MKAR	**Makanchi Array**	115.40	312	Pdiff	**Pdif**	**11 08 43.0 +0.1**
	comp=Z,0.4nm,0.7s,baz=126,slow=5.2,SNR=5.7					
MKAR				PKP	**PKPdf**	**11 12 30.3 -0.7**
	comp=Z,1.9nm,0.9s,baz=64,slow=4.4,SNR=9.3					
MKAR				PKKPab	**PKKPab**	**11 23 13.0 +4.0**
	comp=Z,0.4nm,0.8s,baz=314,slow=3.8,SNR=3.7					
MKAR	**Makanchi Array**	115.40	312	*i* PKIKP	**PKPdf**	**11 12 30.4 -0.6**
MAKZ	**Makanchi**	115.61	312		**PKPdf**	**11 12 30.7 -0.7**
MAKZ	**Makanchi**	115.61	312	PKIKP	**PKPdf**	**11 12 30.7 -0.7**
KURK	**Kurchatov**	118.26	316	PKPdf	**PKPdf**	**11 12 35.6 -0.7**
KURK	**Kurchatov**	118.26	316	*d*PKIKP	**PKPdf**	**11 12 36.0 -0.3**
KURK				pmax	pmax	
	comp=Z,9.0nm,2.5s					
KURBB	**Kurchatov Arra**	118.31	316	PKP	**PKPdf**	**11 12 35.6 -0.9**
	comp=Z,2.1nm,0.7s,baz=101,slow=2.1,SNR=12					
AAK	**Ala-Archa**	120.38	307	PKPdf	**PKPdf**	**11 12 40.6 -0.4**
AAK	**Ala-Archa**	120.38	307	⇓*i*PKIKP	**PKPdf**	**11 12 40.9 0.0**
AAK				pmax	pmax	
	comp=Z,11nm,2.5s					
KKAR	**Karatay Array**	123.34	307	PKPdf	**PKPdf**	**11 12 46.1 -0.3**
KKAR	**Karatay Array**	123.34	307	PKIKP	**PKPdf**	**11 12 46.1 -0.3**
BVAR	**Borovoye Array**	123.37	319	PKP	**PKPdf**	**11 12 45.1 -1.0**
	comp=Z,4.1nm,0.8s,baz=90,slow=3.0,SNR=8.6					
BRVK	**Borovoye**	123.43	319	⇑*i*PKIKP	**PKPdf**	**11 12 45.7 -0.5**
BRVK				pmax	pmax	
	comp=Z,9.0nm,2.5s					
KBL	**Kabul**	123.67	296	PKPdf	**PKiKP**	**11 12 48.2 +0.4**
KBL	**Kabul**	123.67	296	PKIKP	**PKiKP**	**11 12 48.2 +0.4**
BOSA	**Boshof**	123.89	202	PKP	**PKPdf**	**11 12 48.4 +0.2**
	comp=Z,3.8nm,1.0s,baz=25,slow=20,SNR=4.3					
SIMJ	**Simiganj**	124.16	301	PKPdf	**PKPdf**	**11 12 48.8 +0.5**
SUMG	**Summit**	126.09	15	PKPdf	**PKiKP**	**11 12 52.1 +0.4**
SUMG	**Summit**	126.09	15	PKIKP	**PKiKP**	**11 12 52.1 +0.4**
ARTI	**Arti**	129.63	324	PKPdf	**PKiKP**	**11 12 59.0 +0.2**
ARTI	**Arti**	129.63	324	*i* PKIKP	**PKPdf**	**11 12 58.1 +0.1**
ARTI						11 15 05.7
ARTI						11 20 08.8
KLMR	**Klimovskoe**	136.15	336	*e*PKIKP	**PKPdf**	**11 13 08.7 -1.4**
FINES	**FINESS Array B**	139.91	344	PKhKP	PKPpre	11 13 09.5
	comp=Z,2.7nm,0.8s,baz=66,slow=1.7,SNR=2.4					
NB2	**NORSAR Subarra**	142.84	355	PKP	**PKPdf**	**11 13 20.2 -2.2**
	comp=Z,3.3nm,1.4s,baz=10,slow=3.2					
NOA	**NORSAR Array B**	142.84	355	PKP	**PKPdf**	**11 13 20.3 -2.1**
	comp=Z,1.2nm,0.8s,baz=16,slow=4.5,SNR=3.8					
KBZ	**Khabaz**	143.09	312	PKhKP	PKPpre	11 13 20.1
	comp=Z,4.3nm,0.9s,baz=126,slow=3.2,SNR=8.4					
KIV	**Kislovodsk**	143.16	312	*e*PKIKP	**PKiKP**	**11 13 26.2 -0.6**
KIV				pmax	pmax	
	comp=Z,7.0nm,1.0s					
HFS	**Hagfors**	143.47	352	PKhKP	PKPpre	11 13 18.8
	comp=Z,4.8nm,0.9s,baz=70,slow=3.0,SNR=5.3					
HFS				PKP	**PKPdf**	**11 13 22.7 -0.7**
	comp=Z,5.2nm,0.9s,baz=66,slow=4.9,SNR=6.0					
LODK	**Lodwar**	143.84	240	PKPdf	PKPbc	11 13 24.5 +1.3
KARS	**Kars**	143.88	306	PKPdf	**PKPdf**	**11 13 24.4 -0.6**
KARS	**Kars**	143.88	306	PKIKP	**PKPdf**	**11 13 24.4 -0.6**
GEVA	**Gevas**	144.44	303	PKPdf	PKPbc	11 13 25.2 +0.6
MBAR	**Mbarara**	144.64	230	*c i* PKIKP	PKPbc	11 13 26.8 +0.9
BCA	**Borcka**	144.71	308	⇓P	PKPbc	11 13 25.5 +0.4
MNK	**Minsk**	145.05	336	*i* PKIKP	PKPbc	11 13 26.0 +0.3
MNK				*i*		11 13 31.8

MNK				*i*		11 16 46.5
MNK				*i* PPP	PPP	11 20 01.9
MNK				*i* SS	SS	11 35 36.6 +2.8
MNK				*i* SSS	SSS	11 41 03.0
MNK				pmax	pmax	
	comp=Z,80nm,0.9s					
MNK				pmax	pmax	
	comp=N,21nm,1.0s					
MNK				pmax	pmax	
	comp=E,28nm,0.8s					
MNK				pmax	pmax	
	comp=Z,37nm,1.0s					
MNK				MLR	MLR	
	comp=N,118nm,12.0s					
MNK				MLR	MLR	
	comp=Z,154nm,17.0s					
MNK				MLR	MLR	
	comp=E,159nm,17.0s					
SIRT	**Sirnak**	145.09	301		**PKPbc**	**11 13 27.0 +0.5**
GURO	**Guroymak-BITLI**	145.18	303		**PKPab**	**11 13 27.5 +0.5**
SNART	**Snartemo**	145.78	358	*i* P	**PKPdf**	**11 13 27.5 0.0**
HOMB	**Homborsund**	145.78	356	*i* P	**PKPdf**	**11 13 27.1 -0.4**
BORU	**Boraas**	146.02	352	*i* P	**PKPdf**	**11 13 27.5 -0.4**
ONAU	**Onsala**	146.35	353	*i* P	**PKPdf**	**11 13 28.7 +0.2**
FABU	**Falkenberg**	146.64	352	*i* P	**PKPdf**	**11 13 29.3 +0.3**
DEL	**Delary**	147.00	351	*i* P	**PKPdf**	**11 13 30.7 +1.1**
SUW	**Suwalki**	147.06	340	*e*PKP	**PKPbc**	**11 13 32.3 +0.5**
AK03	**Malin Array Si**	147.32	331	PKP	**PKPbc**	**11 13 32.2 -0.5**
AKASG	**Malin Array Be**	147.33	331		**PKPbc**	**11 13 32.3 -0.4**
AKASG	**Malin Array Be**	147.33	331	PKPbc	**PKPdf**	**11 13 31.8 +1.5**
	comp=E,14nm,0.7s,baz=43,slow=4.1,SNR=42					
AKBB	**Malin Array Si**	147.33	331		**PKPbc**	**11 13 32.6 -0.1**
AKBB	**Malin Array Si**	147.33	331	*c i* PKP2	**PKPbc**	**11 13 32.2 -0.5**
AKBB	**Malin Array Si**	147.33	331	PKP	**PKPbc**	**11 13 32.4 -0.3**
KIEV	**Kiev**	147.34	331		**PKPbc**	**11 13 32.6 -0.2**
KIEV	**Kiev**	147.34	331	⇓P	**PKPbc**	**11 13 32.7 0.0**
KIEV	**Kiev**	147.34	331	⇓PKP2	**PKPbc**	**11 13 32.7 0.0**
KIEV	**Kiev**	147.34	331	PKP	**PKPbc**	**11 13 32.2 -0.6**
AK17	**Malin Array Si**	147.42	331	PKP	**PKPbc**	**11 13 32.9 -0.1**
BJUU	**Bjuv**	147.50	351	*i* P	**PKPbc**	**11 13 32.8 -0.2**
MUD	**Monsted U'grnd**	147.55	355	*i* P	**PKPdf**	**11 13 32.0 +1.5**
MI28	**Mi28,Pidlybu**	147.85	332	PKP	**PKPbc**	**11 13 33.5 -0.6**
LUNU	**Lund**	147.87	351	*i* P	**PKPbc**	**11 13 33.4 -0.7**
RNPP9	**Sopachiv**	148.21	334	PKP	**PKPbc**	**11 13 34.1 -1.0**
EKA	**Eskdalemuir Ar**	148.33	8	PKPbc	**PKPbc**	**11 13 35.2 0.0**
	comp=E,9.0nm,0.9s,baz=322,slow=2.3,SNR=14					
LUBAR	**Lubar, Ukraine**	148.55	331	PKP	**PKPbc**	**11 13 35.4 -0.6**
GAZ	**Gaziantep**	149.21	303	PKPdf	**PKPdf**	**11 13 32.3 -1.7**
GKP	**Gorka Klasztor**	149.37	345	*e*PKP	**PKiKP**	**11 13 41.0 +1.9**
SORM	**Soroca**	149.53	328	⇑P	**PKPbc**	**11 13 38.4 -0.2**
SORM	**Soroca**	149.53	328	⇑PKP2	**PKPbc**	**11 13 38.4 -0.2**
BEL	**Belsk**	149.68	340	*e*PKP	**PKiKP**	**11 13 40.2 +0.4**
BSEG	**Bad Segeberg**	149.94	353	*e*PKPbc	**PKiKP**	**11 13 40.9 +0.6**
	baz=10,slow=2.2					
KMPD	**K-Podol'skiy**	150.12	330	PKP	**PKPbc**	**11 13 38.8 -1.2**
ILGA	**Ilgaz**	150.39	312		**PKiKP**	**11 13 42.7 +0.8**
KWP	**Kalwaria Pacla**	150.86	335	*e*PKP	**PKPbc**	**11 13 42.0 +0.3**
BR131	**Keskin Array S**	151.00	309		**PKPbc**	**11 13 42.8 +0.2**
BR131	**Keskin Array S**	151.00	309	PKIKP	**PKPbc**	**11 13 42.8 +0.2**
BRTR	**Keskin Array B**	151.00	309		**PKPbc**	**11 13 42.1 -0.4**
BRTR	**Keskin Array B**	151.00	309	PKPbc	**PKPbc**	**11 13 42.8 +0.2**
	comp=E,9.5nm,0.9s,baz=129,slow=1.8,SNR=19					
BRTR	**Keskin Array B**	151.00	309	PKIKP	**PKPbc**	**11 13 42.2 -0.4**
KIRS	**Kirsehir-Merke**	151.03	308	⇑P	**PKPbc**	**11 13 42.6 0.0**
RETH	**Rethem/Aller,**	151.22	354	*e*PKPbc	**PKPbc**	**11 13 42.5 +0.2**
	baz=10,slow=2.2					
BUR08	**Bucovina Ar. S**	151.37	330		**PKiKP**	**11 13 45.4 +1.8**
BUR08				PKPab	**PKPab**	**11 13 51.7 +0.5**
NRDL	**Niedersach Rie**	151.38	353	*e*PKPbc	**PKiKP**	**11 13 43.4 +0.2**
	baz=10,slow=2.2					
BURAR	**Bucovina Array**	151.38	330	⇑P	**PKiKP**	**11 13 44.4 +0.8**
BURAR	**Bucovina Array**	151.38	330	⇑PKIKP	**PKiKP**	**11 13 44.4 +0.8**
OJC	**Ojcow**	151.39	339	*e*PKP	**PKPbc**	**11 13 43.4 +0.4**
FLTG	**Flechtingen**	151.40	351	*e*PKPbc	**PKPbc**	**11 13 43.3 +0.4**
	baz=10,slow=2.2					
ANTO	**Ankara**	151.54	310	⇓P	**PKiKP**	**11 13 44.6 +0.4**
ANTO	**Ankara**	151.54	310	⇓PKIKP	**PKiKP**	**11 13 44.6 +0.4**
STHS	**Stebnicka Huta**	151.58	337	*e*PKP	**PKiKP**	**11 13 47.6 +3.7**
STHS				*e*		11 13 53.2
MMAI	**Mount Meron Ar**	151.59	295	PKPbc	**PKiKP**	**11 13 44.9 +0.4**
	comp=E,30nm,0.8s,baz=63,slow=3.8,SNR=20					
KOLS	**Kolonicke sedl**	151.60	335	*e*PKIKP	**PKiKP**	**11 13 45.3 +1.3**
KOLS				*e*		11 13 51.8
KOLS	**Kolonicke sedl**	151.60	335	*e*PKP	**PKiKP**	**11 13 45.2 +1.3**
KOLS				*e*		11 13 51.8
CFR	**Carcaliu**	151.61	323	⇓P	**PKPbc**	**11 13 43.6 0.0**
CFR	**Carcaliu**	151.61	323	⇓PKIKP	**PKPbc**	**11 13 43.6 0.0**
TPGR	**Topolog**	151.66	323	⇑P	**PKiKP**	**11 13 44.8 +0.6**
IBBN	**Ibbenburen**	151.77	356	*e*PKPbc	**PKPbc**	**11 13 44.0 +0.3**
	baz=10,slow=2.2					
KSP	**Ksiaz**	151.84	344	*e*PKP	**PKiKP**	**11 13 45.0 +0.6**
VRI	**Vrincioaia**	151.90	326	⇑P	**PKiKP**	**11 13 47.5 +2.9**
NIE	**Niedzica**	151.91	338	*e*PKP	**PKiKP**	**11 13 45.8 +1.2**
PLOR	**Plostina**	151.95	326	⇓P	**PKPab**	**11 13 50.2 -3.5**
CLZ	**Clausthal**	151.99	352	*e*PKPbc	**PKiKP**	**11 13 44.9 +0.2**
	baz=10,slow=2.2					
CLL	**Collm**	152.11	349	*i* PKIKP	**PKPbc**	**11 13 44.7 +0.2**
CLL				pmax	pmax	
	comp=Z,22nm,0.9s					
CLL	**Collm**	152.11	349	*i* PKPbc	**PKPbc**	**11 13 44.7 +0.2**
	comp=Z,22nm,0.9s					
CLL				*i* x	x	11 13 48.9
CLL				*e*PKPab	**PKPab**	**11 13 54.0 0.0**
CLL	**Collm**	152.11	349	*e*PKPbc	**PKiKP**	**11 13 45.0 +0.2**
	baz=10,slow=2.2					
OSTC	**Ostas**	152.12	344	⇑*e*PKP	**PKiKP**	**11 13 45.4 +0.4**
OSTC	**Ostas**	152.12	344	⇑*e*PKIKP	**PKiKP**	**11 13 45.4 +0.4**
UPC	**Upice**	152.22	344	⇑*e*PKP	**PKiKP**	**11 13 46.1 +1.0**
UPC	**Upice**	152.22	344	⇑*e*PKIKP	**PKiKP**	**11 13 46.1 +1.0**
STEB	**Steborice**	152.26	341	⇑*e*PKP	**PKiKP**

MODS	**Modra-Piesok**	**153.81 341**	*e*PKP2	**PKPab**	**11 14 02.3**	**+1.0**
MODS	**Modra-Piesok**	**153.81 341**	*e*PKP	**PKPab**	**11 14 02.3**	**+1.0**
GRF	**Grafenberg Arr**	**153.97 350**	PKP2	**PKPab**	**11 14 03.1**	**+1.2**
GRF	**Grafenberg Arr**	**153.97 350**	*e*PKPab	**PKPab**	**11 14 02.9**	**+0.9**
	baz=7.9,slow=4.0					
GRFO	**Grafenberg**	**153.97 350**	PKPab	**PKPab**	**11 14 03.2**	**+1.3**
GRFO	**Grafenberg**	**153.97 350**	PKP2	**PKPab**	**11 14 03.2**	**+1.3**
KHC	**Kasperske Hory**	**154.07 346**⇑	*e*PKP	**PKiKP**	**11 13 50.0**	**+1.0**
KHC			*e*PKPAB	**PKPab**	**11 14 00.5**	**-1.9**
KHC	**Kasperske Hory**	**154.07 346**⇑	*e*PKIKP	**PKPdf**	**11 13 39.7**	**-1.2**
DOU	**Dourbes**	**154.09 360**	*d*PKP	**PKPab**	**11 14 03.1**	**+0.7**
GZR	**Gura Zlata**	**154.16 330**	⇑P	**PKPbc**	**11 13 48.7**	**-0.7**
SURR	**Surduc**	**154.18 331**	⇓P	**PKiKP**	**11 13 52.0**	**+2.7**
GERES	**GERESS Array B**	**154.31 346**	PKP	**PKPdf**	**11 13 40.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=34,slow=5.6,SNR=2.2					
GERES			PKPbc	**PKPbc**	**11 13 49.4**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=47,slow=7.8,SNR=4.0					
WLF	**Walferdange**	**154.50 358**	*e*PKPab	**PKPab**	**11 14 04.6**	**+0.5**
	baz=7.9,slow=4.0					
BZS	**Buzias**	**154.51 331**	⇑P	**PKPdf**	**11 13 42.4**	**+0.8**
BZS	**Buzias**	**154.51 331**	⇑PKIKP	**PKPdf**	**11 13 42.4**	**+0.8**
CONA	**Conrad Observa**	**154.62 342**	*i* PKP	**PKPab**	**11 14 05.6**	**+0.7**
	comp=Z,12nm,0.8s,SNR=5.3					
RONA	**Rosalia, Austr**	**154.70 341**	*e*PKP	**PKPab**	**11 14 06.0**	**+0.8**
	comp=Z,23nm,0.9s,SNR=4.9					
MDVR	**Moldovita**	**155.12 330**	⇓P	PKPdf	11 13 51.2	+8.7
MORH	**Mrgy, Hungar**	**155.22 336**	⇑P	**PKPdf**	**11 13 43.2**	**+0.7**
ARSA	**Arzberg**	**155.33 342**	*i* PKP	**PKPab**	**11 14 08.7**	**+0.9**
	comp=Z,7.0nm,1.0s					
BIOA	**Bad Ischl, Aus**	**155.41 345**	*i* PKP	**PKPab**	**11 14 09.1**	**+0.9**
	comp=Z,26nm,1.1s					
RJOB	**Jochberg**	**155.56 346**	*e*PKPab	**PKPab**	**11 14 10.1**	**+1.3**
	baz=7.9,slow=4.0					
BFO	**Black Forest**	**155.68 354**		**PKPab**	**11 14 09.9**	**+0.6**
BFO	**Black Forest**	**155.68 354**	PKP2	**PKPab**	**11 14 09.9**	**+0.6**
BFO	**Black Forest**	**155.68 354**	*e*PKPab	**PKPab**	**11 14 08.3**	**-0.9**
	baz=7.9,slow=4.0					
LESA	**Schwarzleotal**	**155.88 346**	*e*PKP	**PKPab**	**11 14 10.9**	**+0.7**
	comp=Z,22nm,2.2s					
SOKA	**Soboth**	**155.99 342**	*i* PKP	**PKPab**	**11 14 11.3**	**+0.5**
	comp=Z,16nm,1.0s					
KBA	**Koelnbreinsper**	**156.06 345**	*e*PKP	**PKPab**	**11 14 11.7**	**+0.6**
	comp=Z,10.0nm,0.8s,SNR=4.8					
UBR	**Ueberruh**	**156.10 351**	*e*PKPab	**PKPab**	**11 14 10.7**	**-0.5**
	baz=7.9,slow=4.0					
RETA	**Reutte**	**156.18 350**	*e*PKP	**PKPab**	**11 14 11.9**	**+0.4**
	comp=Z,5.6nm,0.8s					
WATA	**Walderalm**	**156.19 348**	*i* PKP	**PKPab**	**11 14 11.8**	**+0.2**
	comp=Z,6.4nm,0.7s					
WTTA	**Wattenberg**	**156.24 348**	*i* PKP	**PKPab**	**11 14 12.6**	**+0.7**
	comp=Z,21nm,1.5s					
MOTA	**Moosalm**	**156.26 349**	*e*PKP	**PKPab**	**11 14 11.2**	**-0.8**
	comp=Z,11nm,0.9s					
OBKA	**Obir**	**156.28 343**	*e*PKP	**PKPab**	**11 14 12.0**	**0.0**
	comp=Z,9.3nm,0.8s					
SQTA	**Sankt Quirin**	**156.37 349**	*e*PKP	**PKPab**	**11 14 12.2**	**-0.2**
	comp=Z,12nm,1.8s					
MYKA	**Terra Mystica**	**156.41 344**	*e*PKP	**PKPab**	**11 14 12.3**	**-0.2**
	comp=Z,14nm,1.0s					
DAVA	**Damuels**	**156.52 351**	*i* PKP	**PKPab**	**11 14 13.0**	**0.0**
	comp=Z,9.4nm,1.0s					
ABTA	**Abfaltersbach**	**156.56 346**	*e*PKP	**PKPab**	**11 14 12.3**	**-0.8**
	comp=Z,6.3nm,0.9s					
FETA	**Feichten**	**156.64 349**	*e*PKP	**PKPab**	**11 14 14.4**	**+0.7**
	comp=Z,11nm,1.1s					
DBIC	**Dimbokro**	**160.42 151**	PKP	**PKPdf**	**11 13 50.5**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=288,slow=3.2,SNR=3.4					
PAB	**San Pablo**	**162.90 24**	⇓PKIKP	**PKPdf**	**11 13 53.5**	**+1.6**
ESDC	**Sonseca Array**	**162.93 23**	PKP	**PKPdf**	**11 13 53.2**	**+1.4**
	comp=Z,2.3nm,1.0s,baz=343,slow=3.0,SNR=9.6					
KEST	**Kesra**	**167.73 341**	PKPab	**PKPab**	**11 15 02.9**	**+0.6**
	comp=Z,9.2nm,0.9s,baz=22,slow=5.4,SNR=4.3					
TORD	**Torodi Ar. Bea**	**168.73 166**	PKP	**PKPdf**	**11 13 57.1**	**0.0**
	comp=Z,3.7nm,1.1s,baz=204,slow=2.8,SNR=12					
TORD			PKPab	**pPKPab**	**11 15 08.6**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=194,slow=2.2,SNR=6.8					
TORD			PP	**PP**	**11 18 58.3**	**+3.5**
	comp=Z,1.3nm,1.0s,baz=126,slow=7.3,SNR=3.8					

*SCB **13** 10:54:28.3±0.5, 22°.66S×67°.64W, h154km±13km, ML2.3/2, Error ellipse: s-maj=8.4km s-min=4.4km az=0.0*
*GUC **13** 10:54:28.0±0.6, 22°.65S×67°.82W, h196km±15km, ML2.5*

ISC 13 10:54:28.2±1.4, 22°.64S±0°.06×67°.62W±0°.07, h167km, n9, σ0$55/14, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.72**	**299**	*e*P	**Pn**	**10 55 02.3**	**+0.8**
PB09				*e*S	**Sn**	**10 55 27.9**	**+0.6**
PB09				IAML		10 55 28.5	
	comp=N,21nm,0.2s						
PB09	**IPOC Station P**	**1.72**	**299**	Pg	**Pn**	**10 55 01.5**	**-0.1**
MOCB	**Mochara**	**2.30**	**53**	Pg	**Pn**	**10 55 08.4**	**+0.1**
MOCB				Sg	**Sn**	**10 55 39.1**	**-0.2**
MOCB				IAML		10 55 45.5	
	comp=N,9.5nm,0.5s						
PB01	**IPOC Station P**	**2.35**	**312**	*e*P	**Pn**	**10 55 08.6**	**0.0**
PB01				*e*S	**Sn**	**10 55 38.9**	**-0.9**
PB01				IAML		10 55 40.7	
	comp=E,36nm,0.2s						
PB01	**IPOC Station P**	**2.35**	**312**	Pg	**Pn**	**10 55 08.8**	**+0.2**
PB01				Sg	**Sn**	**10 55 38.9**	**-0.9**
PB01				IAML		10 55 40.8	
	comp=E,17nm,0.3s						
PB08	**IPOC Station P**	**2.87**	**330**	*e*P	**Pn**	**10 55 15.5**	**+0.4**
PB08				IAML		10 55 53.6	
	comp=E,8.5nm,0.3s						
PB08	**IPOC Station P**	**2.87**	**330**	Pg	**Pn**	**10 55 15.5**	**+0.4**
GO02	**Mina Guanaco**	**3.09**	**215**	*e*P	**Pn**	**10 55 18.0**	**+0.3**
GO02				*e*S	**Sn**	**10 55 55.7**	**-0.4**
PB14	**IPOC Station P**	**3.23**	**232**	*e*P	**Pn**	**10 55 19.4**	**+0.1**
PB14				IAML		10 55 59.0	
	comp=E,6.2nm,0.2s						

*IDC **13** 10:59:26.6±3.3, 5°.23S×133°.81E, h0km, mb3.4/1, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=129.7km s-min=32.0km az=82.0*

ISC 13 10:59:29.5±1.7, 5°.5S±0°.1×133°.5E±0°.2, h10km, n5, σ2$70/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**177**	Pn	**Pn**	**11 02 53.6**	**-0.2**
	0.3nm,0.3s,baz=357,slow=13,SNR=4.6						
WRA				Sn	Sn	11 05 25.0	-8.9
	baz=359,slow=23,SNR=2.0						
	1.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.73**	**211**	Pn	**Pn**	**11 03 00.8**	**+2.6**
	0.4nm,0.3s,baz=26,slow=12,SNR=14						
FITZ				Sn	**Sn**	**11 05 38.4**	**-3.2**
	0.8nm,0.3s,baz=174,slow=18,SNR=6.8						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**18.10**	**179**	P	**P**	**11 03 43.2**	**+1.5**
	0.5nm,0.3s,baz=6.5,slow=11,SNR=7.9						
	0.9nm,0.5s						
GSI	**Gunungsitoli**	**36.53**	**280**	P	**P**	**11 06 36.3**	**+0.6**
MKAR	**Makanchi Array**	**68.93**	**325**	P	**P**	**11 10 33.5**	**-1.4**
	0.2nm,0.6s,baz=112,slow=6.4,SNR=2.5						
	0.2nm,0.6s						

STR 13 11:02:06.2±1.6, 44°.N±8°.×°.±°, h0km, MLv1.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=33.8, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUF	**chteau de Sau**	**0.53**	**83**	Sg	Sg	11 02 22.3	-1.1
SAUF	**chteau de Sau**	**0.53**	**83**	Pg	Pg	11 02 16.7	+0.2
SAUF				Sg	Sg	11 02 22.3	-1.1
RUSF	**Rustrel**	**0.81**	**85**	Sg	Sg	11 02 33.1	+1.0
RUSF	**Rustrel**	**0.81**	**85**	Pg	Pg	11 02 21.7	+0.1
RUSF				Sg	Sg	11 02 33.1	+1.0
BSTF	**la Bastide-des**	**0.92**	**89**	Pg	Pn	11 02 26.0	-0.5
BSTF				Sg	Sg	11 02 36.8	+1.0

STR 13 11:02:08.3±0.5, 45°.N±4°.×°.±°, h0km, MLv1.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=8.6, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.03**	**195**	Pg	Pg	11 02 07.9	-0.9
SSB				Sg	Sg	11 02 09.5	+0.4
COLF	**Collangettes**	**0.64**	**290**	Pg	Pg	11 02 20.5	-0.1
OGSM	**Saint Maurice**	**0.86**	**69**	Pg	Pg	11 02 24.4	-0.4
OGSM				Sg	Sg	11 02 36.7	+0.7
LBL	**Lubilhac**	**0.93**	**266**	Pg	Pg	11 02 26.1	+0.1
LBL				Sg	Sg	11 02 38.7	+0.7
PLDF	**La Plantade**	**0.93**	**316**	Pg	Pg	11 02 24.9	-1.2
PLDF				Sg	Sg	11 02 38.0	-0.2

*DJA **13** 11:08:06.1±0.3, 0°S±3°×12°3E±°, h67km±8km, M4.2/14, mb4.0/3, MLv4.2/14*
*IDC **13** 11:08:09.7±5.9, 0°.44S×122°.80E, h118km±57km, mb3.2/4, mbtmp3.6/5, Error ellipse: s-maj=54.4km s-min=19.3km az=60.0*

ISC 13 11:08:05.7±0.9, 0°.30S±0°.05×123°.07E±0°.05, h78km, n18, σ0$69/21, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.79**	**202**	P	**Pn**	**11 08 21.8**	**-0.4**
LUWI				S	**Sn**	**11 08 35.9**	**+1.5**
KMSI	**Cibinong**	**1.26**	**46**	P	**Pn**	**11 08 28.0**	**+0.1**
MRSI	**Marisa**	**1.37**	**305**	P	**Pn**	**11 08 28.8**	**-0.4**
MRSI				S	**Sn**	**11 08 46.0**	**-0.9**
APSI	**Ampana**	**1.54**	**247**	P	**Pn**	**11 08 31.3**	**-0.1**
MPSI	**Mapaga**	**3.23**	**281**	P	**Pn**	**11 08 54.3**	**+0.2**
PCI	**Palu**	**3.29**	**259**	P	**Pn**	**11 08 55.2**	**+0.3**
SANI	**Sanana**	**3.40**	**121**	P	**Pn**	**11 08 55.3**	**-1.1**
KDI	**Kendari**	**3.66**	**187**	P	**Pn**	**11 08 59.8**	**-0.1**
TTSI	**Tana Toraja**	**4.24**	**230**	P	**Pn**	**11 09 08.1**	**+0.3**
TNTI	**Ternate**	**4.43**	**76**	P	**Pn**	**11 09 11.3**	**+0.8**
SPSI	**Sidrap Palu**	**4.91**	**222**	P	**Pn**	**11 09 17.2**	**+0.2**
NLAI	**Namlea**	**4.97**	**126**	P	**Pn**	**11 09 17.9**	**0.0**
KAPI	**Kappang**	**5.73**	**215**	P	**Pn**	**11 09 27.8**	**-0.5**
	8.2nm,0.3s,baz=29,slow=7.0,SNR=8.6						
KAPI				S	**Sn**	**11 10 31.8**	**-0.9**
	5.7nm,0.3s,baz=237,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**22.42**	**151**	P	**P**	**11 12 57.8**	**-0.4**
	1.2nm,0.8s,baz=336,slow=9.7,SNR=10						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**25.50**	**156**	P	**P**	**11 13 27.6**	**+0.7**
	0.7nm,0.6s,baz=332,slow=9.0,SNR=12						
ASAR				PcP	**PcP**	**11 16 56.8**	**-0.1**
	0.3nm,0.4s,baz=333,slow=2.3,SNR=7.6						
	0.7nm,0.6s						
XLT	**XiLinHaoTe**	**44.45**	**353**	*e*P	P	11 16 14.1	+5.0
XLT				pP	pwP	11 16 28.4	-2.0
XLT				sP	sP	11 16 36.8	+0.8
XLT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,130nm,4.9s						
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**11 16 53.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=168,slow=8.7,SNR=2.5						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**58.91**	**328**	P	**P**	**11 17 55.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=129,slow=8.5,SNR=6.5						
	comp=Z,0.2nm,0.3s						

*PRE **13** 11:12:07.4±1.1, 26°.37S×29°.33E, h0km, ML2.8, Suspected explosion*
*BUL **13** 11:12:16.6±1.3, 26°.15S×29°.40E, h10km, MD2.9*

ISC 13 11:12:07.1±0.8, 26°.33S±0°.03×29°.31E±0°.03, h0km, n20, σ1$46/37, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.72**	**63**	*e*P	**Pg**	**11 12 21.3**	**+0.4**
CRLN				*e*S	**Sg**	**11 12 31.2**	**+0.8**
CRLN				IAML		11 12 41.2	
	comp=Z,273nm,0.7s						
NWCL	**Newcastle**	**1.49**	**160**	*e*P	**Pb**	**11 12 36.1**	**+0.3**
NWCL				*e*S	**Sg**	**11 12 54.6**	**-0.6**
NWCL				IAML		11 12 57.1	
	comp=Z,204nm,0.8s						
PRYS	**Parys**	**1.84**	**251**	*e*P	**Pn**	**11 12 40.9**	**+0.7**
PRYS				*e*S	**Sn**	**11 13 05.0**	**+0.7**
PRYS				IAML		11 13 06.9	
	comp=Z,58nm,0.3s						
PILG	**Pilgrimsrest,**	**1.88**	**43**	*e*P	**Pn**	**11 12 41.5**	**+0.8**
PILG				*e*S	**Sb**	**11 13 06.5**	**-0.1**
PILG				IAML		11 13 14.6	
	comp=Z,66nm,0.4s						
POGA	**Pongola**	**2.37**	**116**	PKPdf	**Pn**	**11 12 48.2**	**+1.0**
POGA	**Pongola**	**2.37**	**116**	*e*P	**Pn**	**11 12 48.1**	**+0.8**
POGA				*e*S	**Sn**	**11 13 17.3**	**+0.2**
POGA				IAML		11 13 30.2	
	comp=Z,153nm,0.5s						
SNKL	**Senekal, Frees**	**2.37**	**215**	*e*P	**Pn**	**11 12 47.7**	**+0.2**
SNKL				*e*S	**Sn**	**11 13 17.4**	**0.0**
SNKL				IAML		11 13 27.9	
	comp=Z,70nm,0.8s						
LEPH	**Lephalale, Lim**	**2.82**	**331**	*e*P	**Pn**	**11 12 55.5**	**+1.9**
LEPH				*e*S	**Sn**	**11 13 30.5**	**+2.3**
LEPH				IAML		11 13 39.7	
	comp=Z,45nm,0.5s						
PMBG	**Pietermaritzbu**	**3.34**	**162**	*e*P	**Pn**	**11 13 01.6**	**+0.9**
PMBG				*e*S	**Sn**	**11 13 41.1**	**-0.1**
PMBG				IAML		11 13 55.9	
	comp=Z,33nm,0.4s						
MOPA	**Mopani**	**3.38**	**35**	*e*P	**Pn**	**11 13 02.4**	**+1.2**
MOPA				*e*S	**Sn**	**11 13 42.2**	**+0.1**
MOPA				IAML		11 13 57.5	
	comp=Z,195nm,0.7s						
MOPA	**Mopani**	**3.38**	**35**	*i* P	**Pn**	**11 13 03.1**	**+1.9**
MOPA				*i* S	**Sn**	**11 13 40.7**	**-1.4**
LBTB	**Lobatse**	**3.60**	**291**	*e*P	**Pn**	**11 13 06.3**	**+2.0**
LBTB				*e*S	**Sn**	**11 13 49.1**	**+1.5**
LBTB				IAML		11 14 16.9	
	comp=Z,21nm,0.6s						
LBTB	**Lobatse**	**3.60**	**291**	*i* P	**Pb**	**11 13 12.4**	**+0.7**
LBTB				*i* S	**Sb**	**11 13 52.5**	**-3.5**
SWZ	**Schweizer**	**3.66**	**256**	*e*P	**Pn**	**11 13 06.2**	**+1.1**
SWZ				*e*S	**Sn**	**11 13 49.0**	**0.0**
SWZ				IAML		11 14 02.9	
	comp=Z,19nm,0.6s						
MUSN	**Musina, Limpop**	**4.05**	**7**	*e*P	**Pn**	**11 13 12.4**	**+1.9**
MUSN				*e*S	**Sn**	**11 13 59.1**	**+0.4**
MUSN				IAML		11 14 19.1	
	comp=Z,46nm,0.6s						
MUSN	**Musina, Limpop**	**4.05**	**7**	*i* P	**Pb**	**11 13 16.4**	**-3.1**
MUSN				*i* S	**Sn**	**11 13 59.5**	**+0.8**
BOSA	**Boshof**	**4.26**	**237**	*e*P	**Pn**	**11 13 14.7**	**+1.3**
BOSA				*e*S	**Sn**	**11 14 03.2**	**-0.7**
BOSA				IAML		11 14 21.0	
	comp=Z,18nm,0.9s						
BOSA	**Boshof**	**4.26**	**237**	*i* P	**Pb**	**11 13 23.7**	**+0.7**
BOSA				*i* S	**Sb**	**11 14 12.4**	**-2.7**
MATP	**Matopo**	**5.92**	**353**	*i* P	Pn	11 13 41.7	+5.4
MATP				*i* S	**Sn**	**11 14 43.2**	**-1.7**
BLWY	**Bulawayo**	**6.20**	**354**	*i* P	Pn	11 13 45.4	+5.3
BLWY				*i* S	**Sn**	**11 14 49.6**	**-2.1**

*FUNV **13** 11:20:54.0, 8°.70N×70°.83W, h5km, MW2.9*
*RSNC **13** 11:20:56.0±0.0, 9°N±3°×7°1W±°, h10km±2km, M2.3, ML3.0, ML2.2, MLv3.0*

ISC 13 11:20:54.2±0.8, 8°.68N±0°.04×70°.67W±0°.03, h10km, n11, σ1$67/22, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.20**	**10**	P	**Pg**	**11 20 58.4**	**-0.2**
SDV				S	**Sg**	**11 21 01.8**	**+0.2**
SOCV	**Socops**	**0.44**	**205**	*e*P	**Pg**	**11 21 01.7**	**-1.1**
SOCV				*e*S	**Sg**	**11 21 07.6**	**-0.9**
TEPV	**Terepaima**	**1.93**	**49**	*e*P	**Pb**	**11 21 29.5**	**-0.1**
TEPV				*e*S	**Sb**	**11 21 54.4**	**+0.6**
PAMC	**Pamplona, Colo**	**2.42**	**237**	P	**Pb**	**11 21 38.6**	**+0.6**
PAMC				S	**Sg**	**11 22 10.2**	**-1.7**
BAUV	**El Baul**	**2.61**	**84**	*e*P	**Pb**	**11 21 38.6**	**-2.5**
BAUV				*e*S	**Sb**	**11 22 11.0**	**-2.2**
OCAC	**Ocana**	**2.66**	**261**	P	**Pg**	**11 21 43.7**	**-1.5**
OCAC				S	**Sb**	**11 22 15.4**	**+0.6**
CRJC	**Cerrejon, Guaj**	**3.19**	**317**	P	**Pn**	**11 21 44.9**	**+0.4**
CRJC				S	**Sn**	**11 22 22.6**	**0.0**
URIC	**Uribia, Colomb**	**3.27**	**337**	P	**Pb**	**11 21 49.5**	**-2.8**
URIC				S	**Sn**	**11 22 24.1**	**-0.4**
BENV	**Beln**	**3.29**	**67**	*e*P	**Pn**	**11 21 47.9**	**+2.1**
BENV				*e*S	**Sn**	**11 22 26.6**	**+1.6**
CACV	**CAICARA DEL OR**	**4.24**	**105**	*e*P	**Pb**	**11 22 08.0**	**-0.8**
CACV				*e*S	**Sb**	**11 23 01.3**	**+1.2**
SJCC	**San Jacinto, C**	**4.61**	**286**	P	**Pn**	**11 22 06.8**	**+2.7**
SJCC				S	**Sn**	**11 23 00.8**	**+3.0**

*NEIC **13** 11:38:11.7±0.5, 37°.01N±0°.01×113°.60W±0°.02, h10km±5km, Error ellipse: s-maj=2.2km s-min=1.3km az=115.0*

UUSS 13 11:38:11.8±0.5, 37°.02N±0°.02×113°.60W±0°.02, h11km±3km, ML2.1/3, ML2.1/20(NEIC), Error ellipse: s-maj=2.9km s-min=1.8km az=45.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSU	**St. George Fir**	**0.03**	**344**		Pg	11 38 15.3	+1.3
WDO	**Saint George**	**0.09**	**5**		Pg	11 38 14.6	0.0
REUT	**Indian Fie**	**0.10**	**37**		Pg	11 38 14.7	+0.1
SCUT	**Santa Clara**	**0.12**	**340**		Pg	11 38 14.9	+0.1
WCO	**Washington Cit**	**0.14**	**30**		Pg	11 38 15.3	+0.1
LCMT	**Little Creek M**	**0.28**	**91**		Pg	11 38 17.8	+0.2
LCMT				IAML		11 38 22.9	
	comp=N,394nm,0.1s						
LCMT	**Little Creek M**	**0.28**	**91**		Sg	11 38 21.8	+0.2
HHS	**Hurricane**	**0.29**	**57**		Pg	11 38 18.1	+0.4
ICU	**Indian Springs**	**0.29**	**297**		Pg	11 38 18.1	+0.2
ZNPU	**Zion National**	**0.51**	**48**		Pg	11 38 21.8	+0.1
KNB	**Kanab**	**0.62**	**90**		Pg	11 38 23.7	-0.2
KNB				Sg	Sg	11 38 32.1	0.0
KNB				IAML		11 38 32.3	
	comp=E,77nm,0.5s						
KNB				IAML		11 38 32.9	
	comp=N,87nm,0.6s						
ARUT	**Antelope Range**	**0.78**	**9**		Pg	11 38 27.1	+0.1
PKCU	**Pink Cliffs**	**1.11**	**67**		Pn	11 38 33.4	-0.1
U15A	**North Rim**	**1.20**	**119**		Pb	11 38 34.6	-0.1
U15A				IAML		11 38 51.7	
	comp=E,40nm,0.3s						
U15A				IAML		11 38 52.4	
	comp=N,34nm,0.3s						
PRN	**Pahroc Range**	**1.23**	**289**		Pg	11 38 35.4	0.0
PRN				IAML		11 38 59.8	
	comp=E,45nm,0.7s						
SHPR	**Sheep Range**	**1.36**	**248**		Pn	11 38 36.9	+0.1
PSUT	**Pine Spring**	**1.53**	**352**	Pn	Pn	11 38 39.5	+0.3
V12A	**Nelson**	**1.64**	**219**	Pn	Pn	11 38 40.1	-0.5
R11B	**Troy Canyon, C**	**2.06**	**311**	Pn	Pb	11 38 49.9	+0.5
R11B				IAML		11 39 17.8	
	comp=E,16nm,0.4s						
TPNV	**Topopah Spring**	**2.13**	**269**	Pn	Pn	11 38 47.6	+0.2
TPNV				IAML		11 39 21.7	
	comp=E,16nm,1.5s						

*BJI **13** 11:43:58.7, 45°.30N×151°.20E, h21km, mB5.1/36, mb5.2/85, Ms4.7/79, Ms7 4.6/78*
*JMA **13** 11:43:58.3±0.7, 46°N±4°×15°2E±°, h30km, MD5.2/18, MW5.1/18, KURILE ISLANDS REGION*
*NIED **13** 11:43:58.3, 45°.54N×151°.62E, h30km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr1.06; Mθθ0.11; Mφφ-1.18; Mrθ-0.69; Mrφ-1.01; Mθφ1.57; Fault plane solution: M0 2.27000×10^16 NP1: φs239.00000°, δ36.00000°, λ151.00000°. NP2: φs353.00000°, δ74.00000°, λ57.00000°.*
*SKHL **13** 11:43:59.0±0.2, 45°.10N×151°.80E, h45km±8km, mb5.5/8, mbv5.3/4, ms5.0/7, msh5.0/4*
*MOS **13** 11:44:00.8±1.1, 45°.37N×151°.38E, h60km, mb5.5/105, MS4.5/18, Error ellipse: s-maj=5.3km s-min=3.5km az=113.6*
*NEIC **13** 11:44:01.8, 44°.69N×151°.93E, h22km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16 Nm; Mrr2.43; Mθθ-2.02; Mφφ-0.40; Mrθ0.85; Mθφ-0.79; Mφr1.59; Fault plane solution: M0 2.97000×10^16 NP1: φs263.49000°, δ32.01000°, λ121.92000°. NP2: φs47.20000°, δ63.26000°, λ71.71000°. Principal axes: T 3.1816, Plg67.0000°, Azm283.0000°; N -0.4228, Plg16.0000°, Azm56.0000°; P -2.7588, Plg16.0000°, Azm151.0000°;*
*NEIC **13** 11:44:01.8±1.3, 45°.39N±0°.08×151°.3E±0°.1, h35km±1km, mb5.1/243, Mww4.9/10 Error ellipse: s-maj=16.3km s-min=11.1km az=135.0*
*NEIC **13** 11:44:01.8, 45°.39N×151°.36E, h22km*
*GCMT **13** 11:44:02.8±0.3, 45°.39N±0°.02×151°.67E±0°.03, h28km±1km, MW5.0/88, Moment Tensor Solution. s40,c52; s88,c138; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.62±.16; Mθθ-1.12±.10; Mφφ-1.49±.10; Mrθ1.13±.17; Mθφ-1.45±.06; Mφr1.94±.15; Best double couple: M0 3.50800×10^16 NP1: φs229.00000°, δ26.00000°, λ104.00000°. NP2: φs34.00000°, δ65.00000°, λ83.00000°. Principal axes: T 3.4570, Plg69.0000°, Azm291.0000°; N 0.1120, Plg6.0000°, Azm37.0000°; P -3.5590, Plg20.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **13** 11:44:03.0±0.4, 45°.43N×151°.36E, h44km±3km, mb4.6/35, mbtmp4.9/42, MS4.3/66 Error ellipse: s-maj=11.4km s-min=9.7km az=129.0*
*BGR **13** 11:44:10.4, 46°.75N×150°.07E, h33km, mb5.3, Ms4.7*

ISC 13 11:44:01.1±0.3, 45°.28N±0°.04×151°.47E±0°.03, h34km±1km, h36km; pP-P, n1157, σ1$23/1124, mb5.2/350, MS4.5/92, 68C-47D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.55**	**270**	*e*PN	**Pn**	**11 44 40.4**	**+0.4**
KUR				*i* S	**Sn**	**11

YUK AMB AMB 11 45 09.6
comp=E,940nm,0.3s
YUK eS Sn **11 45 51.6 +1.2**
YUK A A 11 46 03.0
comp=E,2μm,0.7s
YUK A A 11 46 03.0
comp=E,5μm,0.7s
NEM2 Nemuro 2 4.54 247 P **Pn 11 45 06.8 -0.5**
NEM2 eS Sn **11 45 58.1 -0.7**
NMR Nemuro--Hokkai 4.54 247⇑iPN **Pn 11 45 06.8 -0.7**
NMR Nemuro--Hokkai 4.54 247 iP **Pn 11 45 07.0 -0.5**
NMR eS Sn **11 45 57.1 -2.0**
RUSJ Misakicho 4.59 257 ePN **Pn 11 45 09.7 +1.6**
RUSJ eS Sn **11 46 03.7 +3.5**
JRA Rausu 4.73 256 P **Pn 11 45 11.6 +1.6**
JRA eS Sn **11 46 06.2 +2.6**
JRA Rausu 4.73 256 A A 11 45 11.6
comp=N,7.0nm,1.6s,comp=E,7.0nm,4.3s
JNSB Nemuroshibetsu 4.86 254 A A 11 45 10.8
comp=N,13nm,2.0s,comp=E,10.0nm,2.3s
JNK Nakash 5.12 253 P **Pn 11 45 16.3 +0.9**
JNK eS Sn **11 46 14.0 +0.6**
AKK Akkeshi 5.28 247 eP **Pn 11 45 17.2 -0.4**
JAK Akkeshi 5.38 247 P **Pn 11 45 18.5 -0.5**
JAK eS Sn **11 46 19.4 -0.4**
JTKR Abashiri--Toko 5.55 259 P **Pn 11 45 23.2 +1.8**
JAR Ashorobuto 5.87 253 P **Pn 11 45 27.0 +1.3**
JAR eS Sn **11 46 33.0 +1.1**
JOB Onbets 5.99 249 P **Pn 11 45 27.6 +0.3**
JOB eS Sn **11 46 33.4 -1.4**
JOB Onbets 5.99 249 A A 11 45 27.6
comp=N,5.0nm,1.8s,comp=E,6.0nm,3.1s
SKR Severo-Kuril's 6.24 28 ePN **Pn 11 45 30.7 0.0**
SKR eS Sn **11 46 45.3 +4.6**
SKR pmax pmax
comp=Z,269nm,0.7s
SKR smax smax
comp=N,971nm,0.7s
SKR smax smax
comp=E,734nm,0.8s
SKR MLR MLR
comp=Z,3μm,10.0s
SKR Severo-Kuril's 6.24 28 eP **Pn 11 45 30.7 0.0**
SKR AMB AMB 11 45 32.4
comp=Z,270nm,0.7s
SKR eS Sn **11 46 38.3 -2.4**
SKR A A 11 47 04.1
comp=Z,970nm,0.8s
SKR A A 11 47 04.1
comp=Z,730nm,0.8s
SKR AMS AMS 11 47 44.1
comp=Z,9μm,10.0s
SKR AMS AMS 11 47 44.1
comp=Z,11μm,10.0s
YSS Yuzhno-Sakhali 6.29 289 Pn **Pn 11 45 33.5 +2.1**
YSS Yuzhno-Sakhali 6.29 289 P **Pn 11 45 33.6 +2.2**
YSS Yuzhno-Sakhali 6.29 289α iPN **Pn 11 45 33.7 +2.3**
YSS eS Sn **11 46 45.6 +3.7**
YSS pmax pmax
comp=Z,400nm,6.7s
YSS pmax pmax
comp=E,400nm,5.8s
YSS pmax pmax
comp=Z,160nm,0.7s
YSS pmax pmax
comp=E,90nm,0.8s
YSS smax smax
comp=N,50nm,0.8s
YSS smax smax
comp=E,80nm,0.7s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=E,4μm,16.0s
YSS Yuzhno-Sakhali 6.29 289 eP **Pn 11 45 33.6 +2.2**
YSS AMB AMB 11 45 41.4
comp=E,400nm,6.0s
YSS AMB AMB 11 45 41.6
comp=E,160nm,0.7s
YSS eS Sn **11 46 44.3 +2.4**
YSS AMS AMS 11 47 50.0
comp=E,2μm,17.0s
YSS AMS AMS 11 47 50.0
comp=E,4μm,17.0s
JKK2 Kamakawa 2 6.39 260 P **Pn 11 45 35.1 +2.3**
JKA Kamikawa-asahi 6.43 263 Pn **Pn 11 45 36.1 +2.7**
JKA Kamikawa-asahi 6.43 263 eP **Pn 11 45 36.1 +2.7**
ASAJ Asahikawa 6.43 263 P **Pn 11 45 36.1 +2.7**
comp=E,202nm,0.7s,baz=75,slow=14,SNR=170
ASAJ S **Sn 11 46 49.4 +3.8**
comp=E,87nm,0.7s,baz=101,slow=19,SNR=1.4
ASAJ LR LR 11 48 18.3
comp=E,5μm,18.8s,baz=82,slow=40
JCH Churui 6.43 248 P **Pn 11 45 33.4 -0.1**
JCH eS Sn **11 46 44.7 -0.9**
JWK2 Keihoku 6.75 274 P **Pn 11 45 42.4 +4.6**
JEM Erimo 6.86 244 P **Pn 11 45 41.1 +1.9**
JEM Erimo 6.86 244 A A 11 45 38.7
comp=N,11nm,1.4s,comp=E,6.0nm,1.6s
ERM Erimo 6.86 244 Pn **Pn 11 45 40.8 +1.5**
ERM Erimo 6.86 244 P **Pn 11 45 41.1 +1.9**
ERM Erimo 6.86 244‖iPN **Pn 11 45 41.2 +2.0**
JAB Ashibetsu 6.86 258 P **Pn 11 45 42.0 +2.7**
JNBK Urakawa-nobuka 6.99 248 P **Pn 11 45 40.0 -1.0**
JNBK eS Sn **11 46 56.4 -2.9**
JNBK Urakawa-nobuka 6.99 248 A A 11 45 40.0
comp=N,8.0nm,1.1s,comp=E,10.0nm,1.0s
JSHD Hidakashinhida 7.12 249 A A 11 45 41.9
comp=N,7.0nm,1.8s,comp=E,11nm,1.5s
PAU Pauzhetka 7.13 28 eP **Pn 11 45 41.8 -1.2**
UGL Uglegorsk 7.45 304 ePN **Pn 11 45 51.2 +3.9**
UGL eS Sn **11 47 14.8 +4.3**
UGL pmax pmax
comp=Z,300nm,1.4s
UGL pmax pmax
comp=Z,200nm,1.2s
UGL smax smax
comp=E,600nm,5.5s
UGL smax smax
comp=N,700nm,4.7s
UGL MLR MLR
comp=E,1μm,10.0s
UGL MLR MLR
comp=N,1μm,11.0s
UGL MLR MLR
comp=Z,1μm,14.0s
UGL Uglegorsk 7.45 304 eP **Pn 11 45 50.8 +3.5**
UGL AMB AMB 11 45 51.8
comp=Z,300nm,2.0s
UGL AMB AMB 11 45 51.9
comp=Z,210nm,1.2s
UGL eS Sn **11 47 14.0 +3.5**
UGL A A 11 47 24.2
comp=Z,700nm,5.5s
UGL A A 11 47 24.2
comp=Z,600nm,5.5s
UGL AMS AMS 11 50 44.0
comp=Z,4μm,13.0s
UGL AMS AMS 11 50 44.0
comp=Z,4μm,13.0s
TYV Tymovskoe 8.12 317 ePN **Pn 11 45 59.0 +2.5**
TYV eS Sn **11 47 30.2 +3.1**
TYV pmax pmax
comp=Z,74nm,0.8s
TYV pmax pmax
comp=Z,400nm,2.8s
TYV smax smax
comp=N,20nm,1.1s
TYV smax smax
comp=E,35nm,1.1s
TYV smax smax
comp=N,300nm,3.6s
TYV MLR MLR
comp=N,2μm,15.0s
TYV MLR MLR
comp=Z,4μm,16.0s
TYV Tymovskoe 8.12 317 eP **Pn 11 45 59.0 +2.5**
TYV AMB AMB 11 45 59.9
comp=Z,400nm,2.8s
TYV AMB AMB 11 46 00.6
comp=Z,30nm,0.4s
TYV eS Sn **11 47 30.2 +3.1**
TYV A A 11 47 33.3
comp=Z,300nm,3.6s
TYV A A 11 47 33.3
comp=Z,400nm,3.6s
TYV A A 11 47 37.9
comp=Z,30nm,0.5s
TYV A A 11 47 37.9
comp=Z,40nm,0.5s
TYV AMS AMS 11 49 14.0
comp=Z,3μm,16.0s
TYV AMS AMS 11 49 14.0
comp=Z,2μm,16.0s
JANG Nango 8.81 240 P **Pn 11 46 03.2 -2.8**
JANG eS Sn **11 47 35.5 -8.5**
PEA0B Petropavlovsk- 8.82 25 Pn **Pn 11 46 06.5 +0.3**
PEA0B Petropavlovsk- 8.82 25⇑ePN **Pn 11 46 06.3 +0.1**
PETK Petropavlovsk- 8.82 25 Pn **Pn 11 46 06.5 +0.3**
PETK Petropavlovsk- 8.82 25 P **Pn 11 46 06.2 0.0**
comp=Z,9.6nm,0.6s,baz=167,slow=11,SNR=31
PETK Petropavlovsk- 8.82 25 PN **Pn 11 46 06.5 +0.3**
JTM Tenmabayashi 8.84 243 Pn **Pn 11 46 05.5 -1.0**
JTM Tenmabayashi 8.84 243 P **Pn 11 46 06.3 -0.2**
JTH Tanohata 8.87 236 eP **Pn 11 46 03.9 -3.0**
JTH eS Sn **11 47 37.1 -8.5**
PET Petropavlovsk 9.06 29 P **Pn 11 46 12.9 +3.5**
comp=Z,340nm,1.7s
PET Petropavlovsk 9.06 29 ePN **Pn 11 46 06.0 -3.4**
PET pmax pmax
comp=Z,34nm,0.9s
PET MLR MLR
comp=Z,2μm,7.0s
PET Petropavlovsk 9.06 29 eP **Pn 11 46 09.5 +0.1**
OKH Okha 9.96 329 dePN **Pn 11 46 20.8 -0.9**
OKH pmax pmax
comp=Z,300nm,5.9s
OKH MLR MLR
comp=Z,2μm,13.0s
OKH MLR MLR
comp=E,3μm,15.0s
OKH MLR MLR
comp=N,2μm,15.0s
OKH Okha 9.96 329 eP **Pn 11 46 23.9 +2.2**
OKH AMB AMB 11 46 32.3
comp=N,300nm,6.0s
OKH eS Sn **11 48 13.3 +1.1**
OKH A A 11 48 14.9
comp=N,300nm,7.0s
OKH A A 11 48 14.9
comp=N,400nm,7.0s
OKH AMS AMS 11 51 28.9
comp=N,2μm,15.0s
OKH AMS AMS 11 51 28.9
comp=N,3μm,15.0s
TEY Ternei 10.51 274⇑ePN **Pn 11 46 31.8 +2.6**
TEY 11 48 30.6
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.1s
TEY Ternei 10.51 274 eP **Pn 11 46 31.8 +2.6**
NKL Nikolayevsk 10.56 322 ePN **Pn 11 46 30.6 +0.6**
NKL pmax pmax
comp=N,72nm,1.0s
NKL pmax pmax
comp=E,465nm,1.1s
NKL pmax pmax
comp=Z,481nm,1.1s
NKL MLR MLR
comp=N,2μm,17.0s
NKL MLR MLR
comp=E,8μm,17.0s
NKL MLR MLR
comp=Z,9μm,16.0s
NKL Nikolayevsk 10.56 322 eP **Pn 11 46 30.6 +0.6**
NKL AMB AMB 11 46 30.9
comp=Z,480nm,1.0s
NKL eS Sn **11 48 26.4 -0.5**
NKL A A 11 48 29.8
comp=Z,80nm,2.0s
NKL A A 11 48 29.8
comp=Z,190nm,2.0s
NKL AMS AMS 11 51 03.9
comp=Z,2μm,16.0s
NKL AMS AMS 11 51 03.9
comp=Z,8μm,16.0s
JMM Marumori 10.90 231 Pn **Pn 11 46 31.6 -3.0**
GRNR Gornyy 11.47 304⇑iPN **Pn 11 46 45.2 +2.8**
GRNR pmax pmax
comp=E,7.0nm,0.6s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR MLR MLR
comp=E,2μm,15.0s
GRNR MLR MLR
comp=N,1μm,16.0s
GRNR MLR MLR
comp=Z,2μm,16.0s
GRNR Gornyy 11.47 304 eP **Pn 11 46 45.2 +2.8**
JSD Sado 12.24 238 **Pn 11 46 51.0 -1.9**
JSD Sado 12.24 238 P **Pn 11 46 51.7 -1.3**
MJAR Matsushiro Arr 13.28 234 P **Pn 11 47 06.0 -1.3**
comp=Z,17nm,1.0s,baz=63,slow=11,SNR=18
MJAR LR LR 11 52 54.5
comp=Z,417nm,21.1s,baz=61,slow=40
MJB9 Matsu-Tunnel 13.28 234 **Pn 11 47 06.1 -1.2**
MAJO Matsushiro 13.29 234 Pn **Pn 11 47 05.4 -1.9**
MAJO Matsushiro 13.29 234 P **Pn 11 47 06.6 -0.7**
MAJO Matsushiro 13.29 234 dePN **Pn 11 47 05.9 -1.4**
MAJO pmax pmax
comp=Z,8.0nm,0.5s
USA0B Ussuriysk Arra 13.89 272 **Pn 11 47 14.8 -0.7**
USA0B Ussuriysk Arra 13.89 272 c iP **Pn 11 47 15.1 -0.4**
USRK Ussuriysk Ar. 13.89 272 P **Pn 11 47 15.2 -0.3**
comp=Z,20nm,0.6s,baz=84,slow=11,SNR=24
USRK LR LR 11 52 38.9
comp=Z,2μm,18.9s,baz=81,slow=37
KLR Kul'dur 13.96 293 P **Pn 11 47 17.7 +1.3**
comp=Z,42nm,1.1s,baz=108,slow=14,SNR=16
KLR LR LR 11 52 55.5
comp=Z,2μm,19.1s,baz=103,slow=38
KLR Kul'dur 13.96 293 ceP **Pn 11 47 18.0 +1.7**
KLR pmax pmax
comp=Z,73nm,1.7s
KLR Kul'dur 13.96 293 eP **Pn 11 47 17.5 +1.2**
VLA Vladivostok 14.22 268 c iP **Pn 11 47 19.7 -0.2**
VLA pmax pmax
comp=Z,27nm,1.0s
MA2 Magadan 14.32 359 Pn **Pn 11 47 21.3 +0.1**
MA2 Magadan 14.32 359 P **Pn 11 47 21.2 0.0**
comp=Z,47nm,0.6s,baz=184,slow=9.9,SNR=107
MA2 LR LR 11 52 59.6
comp=Z,988nm,18.1s,baz=182,slow=38
MA2 Magadan 14.32 359 P **Pn 11 47 22.0 +0.7**
MA2 Magadan 14.32 359 d iP **Pn 11 47 21.3 +0.1**
MA2 pmax pmax
comp=Z,42nm,0.6s
MA2 Magadan 14.32 359 Pn **Pn 11 47 21.1 -0.2**
comp=Z,84nm,0.7s
JGF Kuroka 14.44 233 **Pn 11 47 21.4 -1.6**
JGF Kuroka 14.44 233 P **Pn 11 47 22.7 -0.3**
INU Inuyama 14.81 233 Pn **Pn 11 47 26.9 -1.1**
MSHR Mys Shultsa 14.88 267⇑eP **Pn 11 47 27.2 -1.7**
MSHR pmax pmax
comp=Z,57nm,0.9s
PSTR Posyet 15.11 267 c iP **Pn 11 47 30.5 -1.4**
PSTR Posyet 15.11 267 eP **Pn 11 47 30.5 -1.4**
JHJ Hachijo jima 2 15.13 221 LR LR 11 56 23.6
comp=Z,376nm,18.1s,baz=310,slow=49
MDJ Mudanjiang 15.50 275 Pn **Pn 11 47 35.9 -1.2**
MDJ IAmb IAmb 11 47 41.4
comp=Z,123nm,0.9s
MDJ Mudanjiang 15.50 275 P **Pn 11 47 36.6 -0.5**
MDJ pP P 11 47 40.8 -0.3
MDJ sP pP 11 47 43.5 -5.3
MDJ pmax pmax
comp=Z,37nm,1.2s
MDJ LR LR
comp=Z,990nm,14.4s
MDJ LR LR
comp=Z,2μm,16.9s
MDJ LR LR
comp=Z,3μm,17.3s
SHEM Shemya Is, Ala 16.56 55 LR LR 11 53 31.0
comp=Z,444nm,20.8s,baz=116,slow=34
BNX BinXian 16.86 280‖P **Pn 11 47 53.9 -0.5**
BNX pP **P 11 47 57.1 +0.9**
BNX S **Sn 11 50 58.5 -2.2**
BNX pmax pmax
comp=Z,30nm,0.8s
BNX pmax pmax
comp=Z,370nm,6.1s
BNX LR LR
comp=Z,890nm,16.0s
BNX LR LR
comp=Z,2μm,15.3s
BNX LR LR
comp=Z,2μm,15.6s
HEH HeiHe 16.89 296 eP **Pn 11 47 53.8 -0.9**
HEH pP **P 11 47 57.3 +0.8**
HEH S **Sn 11 51 02.1 +0.9**
HEH pmax pmax
comp=Z,77nm,0.8s
HEH LR LR
comp=Z,1μm,16.8s
HEH LR LR
comp=Z,960nm,17.4s
HEH LR LR
comp=Z,4μm,16.0s
SEY Seymchan 17.69 1 P **Pn 11 48 02.6 -2.0**
comp=Z,4.5nm,0.8s,baz=181,slow=11,SNR=18
SEY Seymchan 17.69 1 eP **Pn 11 48 02.7 -1.9**
SEY pmax pmax
comp=Z,15nm,1.0s
SEY Seymchan 17.69 1 eP **Pn 11 48 02.1 -2.5**
JMN Monobe 17.77 236 **Pn 11 48 03.8 -2.1**
ZEA Zeya 17.79 307 eP **Pn 11 48 05.0 -0.8**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=E,30nm,1.4s
ZEA pmax pmax
comp=Z,60nm,1.4s
ZEA MLR MLR
comp=E,900nm,15.0s
ZEA MLR MLR
comp=N,400nm,12.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA Zeya 17.79 307 eP **Pn 11 48 05.4 -0.4**
CN2 Changchun 18.59 275 eP **P 11 48 13.6 -1.6**
CN2 eS **Sn 11 51 36.3 -6.0**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,2μm,17.0s
CN2 LR LR
comp=Z,2μm,16.0s
KSRS Korea Array 19.28 254 P **P 11 48 22.3 -0.6**
comp=Z,14nm,0.8s,baz=61,slow=11,SNR=39
KSRS LR LR 11 56 01.3
comp=Z,980nm,18.4s,baz=60,slow=37
KS19 Wonju Array Si 19.30 255 P **P 11 48 22.0 -1.0**
KSAR Wonju Array Be 19.31 254 P **P 11 48 22.0 -1.3**
KSAR Wonju Array Be 19.31 254 P **P 11 48 22.0 -1.3**
JNU Nakatsue 19.99 240 LR LR 11 57 48.6
comp=Z,893nm,18.5s,baz=30,slow=41
INCN Inchon 20.15 256 P **P 11 48 31.7 -0.6**
INCN IAmb IAmb 11 48 38.8
comp=Z,40nm,0.6s
INCN Inchon 20.15 256 P **P 11 48 31.7 -0.6**
INCN pmax pmax
comp=Z,40nm,0.6s
TJN Taejon 20.24 252 P **P 11 48 33.0 -0.3**
TJN Taejon 20.24 252 d iP **P 11 48 33.3 0.0**
SNY Shenyang 20.46 270⇑P **P 11 48 35.3 -0.4**
SNY S **S 11 52 22.0 -0.9**
SNY pmax pmax
comp=Z,110nm,1.1s
SNY pmax pmax
comp=Z,250nm,3.7s
SNY LR LR
comp=Z,730nm,15.1s
SNY LR LR
comp=Z,830nm,13.7s
SNY LR LR
comp=Z,2μm,15.1s
YAK Yakutsk 20.99 331 P **P 11 48 40.1 -1.1**
YAK Yakutsk 20.99 331 P **P 11 48 40.3 -0.9**
comp=Z,127nm,0.8s,baz=81,slow=0.6,SNR=33
YAK S **S 11 52 26.9 -6.1**
comp=Z,8.5nm,0.3s,baz=11,slow=16,SNR=1.3
YAK LR LR 11 56 38.3
comp=Z,752nm,20.3s,baz=126,slow=36
comp=Z,127nm,0.8s
YAK Yakutsk 20.99 331 eP **P 11 48 40.1 -1.1**
YAK e 11 48 57.6
YAK eS Sn 11 52 36.5 -3.4
YAK eSS **SnSn 11 52 59.2 +4.4**
YAK eSSS SSS 11 53 13.2
YAK pmax pmax
comp=Z,87nm,0.8s
YAK pmax pmax
comp=E,14nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=Z,126nm,0.9s
YAK smax smax
comp=N,156nm,1.8s
YAK smax smax
comp=E,88nm,1.5s
YAK MLR MLR
comp=Z,807nm,15.0s
YAK MLR MLR
comp=N,520nm,14.0s
YAK MLR MLR
comp=E,263nm,14.0s
HIA Hailar 21.80 292 dePN **P 11 48 47.0 -3.1**
HIA pmax pmax
comp=Z,17nm,1.0s
DL2 Dalian 22.96 264 P **P 11 49 02.1 -0.4**
DL2 S **S 11 53 12.6 +2.3**
DL2 pmax pmax
comp=Z,69nm,1.0s
DL2 pmax pmax
comp=Z,280nm,5.9s
DL2 LR LR
comp=Z,630nm,16.5s
DL2 LR LR
comp=Z,440nm,15.7s
DL2 LR LR
comp=Z,660nm,15.1s
BILL Bilibino 24.08 14 P **P 11 49 10.5 -2.6**
BILL Bilibino 24.08 14⇑eP **P 11 49 11.0 -2.1**
BILL pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 24.08 14 eP **P 11 49 11.0 -2.1**
XLT XiLinHaoTe 25.12 280⇑iP **P 11 49 22.3 -0.6**
XLT sP pP 11 49 30.8 -0.3
XLT PP **PnPn 11 49 57.6 +0.4**
XLT S **S 11 53 47.8 +2.4**
XLT sS sS 11 53 59.3 -1.7
XLT pmax pmax
comp=Z,89nm,1.0s
XLT LR LR
comp=Z,1μm,16.2s
XLT LR LR
comp=Z,1μm,17.4s
BJI Beijing 26.34 271 P **P 11 49 34.3 +0.5**
BJI S **S 11 54 08.3 +3.9**
BJI pmax pmax
comp=Z,37nm,1.0s
BJI LR LR
comp=Z,300nm,14.6s
BJI LR LR
comp=Z,380nm,13.9s
BJI LR LR
comp=Z,660nm,15.3s
SPIA Saint Paul Isl 26.39 49 P **P 11 49 34.2 +0.1**
baz=260
P08K Saint George I 26.67 51 P **P 11 49 36.7 0.0**
baz=262
TIA Tai'an 27.38 263 P **P 11 49 43.8 +0.6**
TIA pmax pmax
comp=Z,25nm,1.4s
TIA LR LR
comp=Z,410nm,21.6s
TIA LR LR
comp=Z,470nm,19.1s
TIA LR LR
comp=Z,630nm,19.1s

SSE	Sheshan	27.51	249	P	P	11 49 43.9	-0.5
SSE				S	S	11 54 26.3	+3.3
SSE				pmax	pmax		
	comp=Z,20nm,1.1s						
SSE				pmax	pmax		
	comp=Z,230nm,4.0s						
SSE				LR	LR		
	comp=Z,160nm,18.6s						
SSE				LR	LR		
	comp=Z,440nm,18.6s						
GAMB	Gambell	27.68	35	P	P	11 49 45.5	-0.1
	baz=246						
UNV	Unalaska Valle	28.20	57	P	P	11 49 50.5	+0.1
	baz=270						
NJ2	Nanjing	28.48	254	eP	P	11 49 53.6	+0.6
NJ2				pP	pP	11 49 57.6	-3.5
NJ2				sP	sP	11 50 05.0	+0.4
NJ2				LR	LR		
	comp=Z,1μm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
NJ2				LR	LR		
	comp=Z,1μm,16.1s						
H11N2	WAKE ISLAND Hy	28.51	148	T	T	12 20 34.3	
	baz=338,slow=75,SNR=658						
HNS	HongShan	28.51	267	⇑P	P	11 49 53.8	+0.6
HNS				S	S	11 54 39.3	+0.6
HNS				pmax	pmax		
	comp=Z,30nm,1.0s						
HNS				LR	LR		
	comp=Z,480nm,16.1s						
HNS				LR	LR		
	comp=Z,780nm,15.7s						
HNS				LR	LR		
	comp=Z,760nm,16.1s						
H11N1	WAKE ISLAND Hy	28.52	148	T	T	12 20 40.3	
	baz=338,slow=75,SNR=439						
H11N3	WAKE ISLAND Hy	28.52	148	T	T	12 20 35.5	
	baz=338,slow=75,SNR=392						
M11K	Mekoryuk	29.08	43	P	P	11 49 57.8	-0.3
	baz=256						
HHC	Hu-ho-hao-te	29.28	276	⇑iP	P	11 50 01.0	+0.8
HHC				pP	sP	11 50 10.6	-1.0
HHC				sP	pwP	11 50 14.8	+0.4
HHC				PP	PnPn	11 50 54.3	+0.3
HHC				S	S	11 54 42.3	-8.7
HHC				sS	sS	11 55 04.4	-2.4
HHC				pmax	pmax		
	comp=Z,64nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,5.6s						
HHC				LR	LR		
	comp=Z,390nm,15.1s						
HHC				LR	LR		
	comp=Z,2μm,15.2s						
HHC				LR	LR		
	comp=Z,2μm,14.7s						
H11S1	WAKE ISLAND Hy	29.56	150	T	T	12 21 56.3	
	baz=338,slow=76,SNR=643						
H11S3	WAKE ISLAND Hy	29.57	150	T	T	12 22 01.1	
	baz=338,slow=76,SNR=498						
H11S2	WAKE ISLAND Hy	29.58	150	T	T	12 22 03.3	
	baz=338,slow=76,SNR=596						
TIY	Taiyuan	29.97	269	P	P	11 50 07.5	+1.2
TIY				pmax	pmax		
	comp=Z,41nm,0.5s						
TIY				LR	LR		
	comp=Z,270nm,9.7s						
TIY				LR	LR		
	comp=Z,420nm,16.8s						
TIY				LR	LR		
	comp=Z,580nm,21.8s						
FALS	False Pass	30.01	55	P	P	11 50 06.0	-0.4
	baz=271						
K13K	Kusilvak Mount	30.15	41	P	P	11 50 07.2	-0.3
	baz=257						
ULN	Ulaanbaatar	30.33	291	P	P	11 50 08.7	-0.8
ULN				IAmb	IAmb	11 50 14.0	
	comp=Z,26nm,1.3s						
ULN	Ulaanbaatar	30.33	291	⇑eP	P	11 50 09.1	-0.4
ULN				pmax	pmax		
	comp=Z,17nm,1.1s						
ULN	Ulaanbaatar	30.33	291	eP	P	11 50 09.1	-0.4
ULN	Ulaanbaatar	30.33	291	P	P	11 50 09.8	+0.4
ULN				pP	sP	11 50 20.0	-0.4
ULN				PcP	PcP	11 53 10.1	+1.1
BTO	Baotou	30.45	276	eP	P	11 50 11.8	+1.2
BTO				pP	pP	11 50 16.3	-2.7
BTO				sP	sP	11 50 18.8	-3.2
BTO				PP	PnPn	11 51 11.3	+1.5
BTO				S	S	11 55 16.3	+6.9
BTO				sS	pS	11 55 21.4	+1.6
BTO				SS	ScP	11 56 51.3	+2.2
BTO				pmax	pmax		
	comp=Z,48nm,1.3s						
BTO				pmax	pmax		
	comp=Z,510nm,5.0s						
BTO				LR	LR		
	comp=Z,2μm,15.1s						
BTO				LR	LR		
	comp=Z,3μm,14.5s						
BTO				LR	LR		
	comp=Z,3μm,15.1s						
F14K	Arctic Creek	30.47	34	P	P	11 50 10.6	+0.2
	baz=250						
M13K	Dall Lake	30.48	44	P	P	11 50 10.3	-0.1
	baz=261						
ANM	Nome	30.55	36	P	P	11 50 10.6	-0.5
	baz=252						
SONM	Songino Array	30.77	291	P	P	11 50 11.9	-1.5
SONM	Songino Array	30.77	291	P	P	11 50 12.5	-0.8
	comp=Z,8.3nm,0.9s,baz=73,slow=6.6,SNR=41						
SONM				PcP	PcP	11 53 10.3	+0.2
	comp=Z,2.1nm,0.7s,baz=92,slow=2.9,SNR=3.8						
SONM				LR	LR	12 03 39.4	
	comp=Z,1μm,18.4s,baz=78,slow=38						
	comp=Z,8.3nm,0.9s						
S12K	Black Hills	30.79	53	P	P	11 50 13.0	-0.2
	baz=270						
J14K	Nanvaranak Lak	30.84	39	P	P	11 50 13.3	-0.2
	baz=257						
L14K	Kuka Creek	30.95	42	P	P	11 50 14.7	+0.1
	baz=260						
F15K	North Star Dit	31.21	34	P	P	11 50 17.0	+0.2
	baz=251						
M14K	Bethel	31.21	43	P	P	11 50 17.3	+0.4
	baz=262						
G15K	Niukluk	31.23	35	P	P	11 50 16.9	-0.1
	baz=253						
N14K	Kuskokwak Cree	31.23	45	P	P	11 50 17.2	+0.1
	baz=264						
O14K	Tigyukauivet M	31.38	46	P	P	11 50 18.4	0.0
	baz=265						
LYN	LuoYang	31.50	264	P	P	11 50 20.5	+0.8
LYN				sP	pP	11 50 27.8	-0.4
LYN				S	S	11 55 26.0	+0.4
LYN				pmax	pmax		
	comp=Z,55nm,1.1s						
LYN				pmax	pmax		
	comp=Z,190nm,6.0s						
LYN				LR	LR		
	comp=Z,420nm,18.2s						
LYN				LR	LR		
	comp=Z,570nm,18.2s						
LYN				LR	LR		
	comp=Z,910nm,20.3s						
L15K	Ungalak Mounta	31.58	42	P	P	11 50 19.8	-0.4
	baz=261						
K15K	Wolf Creek Mou	31.66	41	P	P	11 50 20.7	-0.2
	baz=260						
M15K	Kasigluk River	31.82	44	P	P	11 50 21.8	-0.4
	baz=263						
H16K	Elim	31.87	36	P	P	11 50 22.0	-0.6
	baz=256						
C16K	Lisburne Hills	31.90	29	P	P	11 50 22.5	-0.4
	baz=246,SNR=7.7						
G16K	Koyuk River	32.02	35	P	P	11 50 24.8	+0.9
	baz=254						
N15K	Kwethluk River	32.05	45	P	P	11 50 24.4	0.0
	baz=265						
GUMO	Guam	32.09	192	LR	LR	12 05 59.2	
	comp=Z,227nm,18.4s,baz=360,slow=41						
O15K	Ungalikthiuk R	32.11	47	P	P	11 50 24.8	-0.1
	baz=267						
S14K	Fog Glacier	32.19	52	P	P	11 50 25.6	-0.1
	baz=272						
J16K	Anvik River	32.27	39	P	P	11 50 25.7	-0.5
	baz=259						
ZAK	Zakamensk	32.29	297	eP	P	11 50 24.8	-1.9
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
I17K	Unalakleet	32.35	38	P	P	11 50 27.0	+0.1
	baz=258						
WHN	Wuhan	32.46	256	P	P	11 50 28.6	+0.4
WHN				pmax	pmax		
	comp=Z,70nm,0.8s						
L16K	Owhat River	32.53	42	P	P	11 50 29.3	+0.8
L16K	Owhat River	32.53	42	P	P	11 50 28.3	-0.2
	baz=263						
RDOG	Red Dog Mine	32.66	30	P	P	11 50 28.9	-0.7
RDOG	Red Dog Mine	32.66	30	P	P	11 50 29.4	-0.2
	baz=250						
M16K	Timber Creek	32.70	43	P	P	11 50 30.1	+0.2
	baz=264						
C17K	DeLong Mountai	32.72	29	P	P	11 50 30.4	+0.2
	baz=249,SNR=7.5						
E17K	Hotham Inlet	32.73	32	P	P	11 50 29.8	-0.4
	baz=252						
F17K	Baldwin Pennin	32.75	33	P	P	11 50 31.2	+0.8
	baz=254						
H17K	Granite Mounta	32.91	36	P	P	11 50 31.9	+0.1
	baz=258,SNR=5.8						
J17K	VABM Dome	32.96	39	P	P	11 50 32.1	-0.2
	baz=261						
O16K	Kokwok River B	33.02	46	P	P	11 50 33.0	+0.2
	baz=268						
P16K	Nushagak River	33.05	47	P	P	11 50 33.0	-0.1
	baz=268						
L17K	Donlin	33.14	41	P	P	11 50 33.4	-0.3
	baz=263						
K17K	Iditarod	33.21	40	P	P	11 50 33.4	-1.1
	baz=262						
R16K	Pilot Point	33.25	50	P	P	11 50 34.2	-0.6
	baz=271						
E18K	Tupahlearik C	33.28	31	P	P	11 50 33.7	-1.3
	baz=253						
TPUB	Ta-pu	33.30	239	P	P	11 50 35.5	-0.1
TWG	Pinlang	33.39	238	P	P	11 50 36.8	+0.4
F18K	Selawik	33.41	33	P	P	11 50 35.3	-0.8
	baz=255,SNR=7.3						
C18K	Utukok River	33.46	29	P	P	11 50 35.6	-1.0
	baz=251						
M17K	Holitna River	33.47	43	P	P	11 50 36.9	+0.2
	baz=265						
MOY	Mondy	33.50	299	eP	P	11 50 35.8	-1.4
B18K	Kokolik River	33.51	28	P	P	11 50 36.5	-0.5
	baz=249						
N17K	Nushagak Hills	33.52	44	P	P	11 50 37.1	-0.1
	baz=267						
O17K	Koliganek Bris	33.53	46	P	P	11 50 37.1	-0.1
	baz=268,SNR=5.4						
H18K	Honhosa River	33.59	36	P	P	11 50 37.4	-0.4
H18K	Honhosa River	33.59	36	P	P	11 50 38.0	+0.2
	baz=259,SNR=7.6						
G18K	Tagagawik	33.63	35	P	P	11 50 38.0	-0.1
	baz=257,SNR=9.8						
Q16K	King Salmon	33.73	48	P	P	11 50 38.9	-0.1
	baz=270						
P17K	Kvichak River	33.85	47	P	P	11 50 40.0	0.0
	baz=270						
L18K	Granite Mounta	33.90	41	P	P	11 50 40.7	+0.3
	baz=265						
J18K	Innoko River	34.02	39	P	P	11 50 41.6	+0.1
	baz=263						
GCSA	Galena City Sc	34.14	37	P	P	11 50 42.4	-0.1
	baz=261						
N18K	Kilae Creek	34.17	44	P	P	11 50 43.0	+0.2
	baz=268						
F19K	Shaleruckik Mo	34.19	33	P	P	11 50 43.1	+0.1
	baz=257						
M18K	Stony River	34.25	43	P	P	11 50 43.6	+0.2
	baz=267						
XAN	Xi'an	34.26	266	⇑P	P	11 50 44.1	+0.2
XAN				pmax	pmax		
	comp=Z,46nm,1.0s						
XAN				LR	LR		
	comp=Z,720nm,13.7s						
XAN				LR	LR		
	comp=Z,460nm,13.7s						
XAN				LR	LR		
	comp=Z,710nm,14.4s						
TTA	Tatalina	34.28	40	P	P	11 50 44.4	+0.6
TTA	Tatalina	34.28	40	P	P	11 50 43.4	-0.4
	baz=264,SNR=5.6						
TTA	Tatalina	34.28	40	P	P	11 50 44.4	+0.6
TTA				pmax	pmax		
	comp=Z,11nm,1.0s						
G19K	Purcell Mounta	34.31	34	P	P	11 50 44.2	+0.2
G19K	Purcell Mounta	34.31	34	P	P	11 50 43.8	-0.2
	baz=259						
CHIR	Chirikof Islan	34.41	53	P	P	11 50 45.0	+0.1
	baz=275						
P18K	Big Mountain,	34.47	46	IAmb	IAmb	11 51 01.9	
	comp=Z,27nm,0.9s						
P18K	Big Mountain,	34.47	46	P	P	11 50 45.8	+0.3
	baz=270						
O18K	Koktuh Hills	34.49	46	P	P	11 50 46.1	+0.6
	baz=270						
D19K	Kuna River	34.49	30	P	P	11 50 45.4	-0.1
	baz=254						
E19K	Redstone River	34.55	32	P	P	11 50 46.5	+0.5
	baz=257						
J19K	Poorman	34.57	38	P	P	11 50 45.8	-0.5
	baz=263,SNR=11						
N19K	Bonanza Creek	34.87	44	P	P	11 50 48.5	-0.4
	baz=269						
CNSH	ChangSha	34.90	254	P	P	11 50 49.4	0.0
CNSH				S	S	11 56 21.4	+3.0
CNSH				pmax	pmax		
	comp=Z,28nm,1.1s						
CNSH				LR	LR		
	comp=Z,540nm,18.6s						
CNSH				LR	LR		
	comp=Z,1μm,18.3s						
CNSH				LR	LR		
	comp=Z,900nm,19.1s						
R18K	Karluk	34.93	50	P	P	11 50 50.2	+0.8
	baz=274						
O19K	Port Alsworth	34.94	45	P	P	11 50 49.2	-0.2
	baz=270						
F20K	Avaraart Lake	35.03	33	P	P	11 50 50.1	0.0
	baz=259						
D20K	Etivluk River	35.08	30	P	P	11 50 50.8	+0.2
	baz=256						
H20K	Anotleneega Mo	35.09	36	P	P	11 50 51.0	+0.2
	baz=262						
E20K	Nigu River	35.12	31	P	P	11 50 51.4	+0.4
	baz=257						
SII	Sitkinak Islan	35.15	51	P	P	11 50 51.9	+0.5
	baz=275						
K20K	Telida	35.20	40	P	P	11 50 52.1	+0.4
	baz=266						
L20K	Farewell, AK	35.22	41	P	P	11 50 52.0	+0.1
	baz=267						
J20K	Nowinta River	35.24	38	P	P	11 50 52.7	+0.7
	baz=264,SNR=11						
Q19K	Cape Douglas,	35.30	47	P	P	11 50 53.0	+0.4
	baz=272						
P19K	Oil Pt	35.49	46	P	P	11 50 54.6	+0.4
	baz=272						
M20K	Styx River	35.55	42	P	P	11 50 55.9	+1.1
	baz=269						
OHAK	Old Harbor	35.59	50	P	P	11 50 55.4	+0.3
	baz=275						
O20K	Slope Mountain	35.79	45	P	P	11 50 56.9	+0.1
	baz=272						
G21K	Allakaket	35.80	34	P	P	11 50 57.3	+0.5
	baz=262						
A21K	Barrow	35.83	26	P	P	11 50 56.5	-0.4
	baz=252						
C21K	Knifeblade Rid	35.83	30	P	P	11 50 57.0	0.0
	baz=257,SNR=14						
F21K	Alatna River	35.92	33	P	P	11 50 57.9	0.0
	baz=261						
KDAK	Kodiak Island	35.92	49	P	P	11 50 58.0	+0.1
KDAK	Kodiak Island	35.92	49	P	P	11 50 58.0	+0.1
	baz=275						
KDAK	Kodiak Island	35.92	49	ceP	P	11 50 57.3	-0.6
KDAK				pmax	pmax		
	comp=Z,29nm,1.0s						
KDAK	Kodiak Island	35.92	49	P	P	11 50 57.5	-0.3
KDAK				pP	pP	11 51 06.8	+0.5
KDAK				sP	pwP	11 51 11.7	-0.6
E21K	Killik River	35.96	31	P	P	11 50 58.6	+0.4
	baz=259						
Q20K	Shuyak Island	35.96	48	P	P	11 50 59.3	+1.0
	baz=274						
H21K	Melozitna Rive	35.97	36	P	P	11 50 58.3	+0.1
	baz=264,SNR=16						
SPCR	Spurr Chakacha	35.98	43	P	P	11 50 58.8	+0.4
	baz=270						
ENH	Enshi	35.98	260	P	P	11 50 58.4	-0.4
ENH				PcP	PcP	11 53 26.0	+1.1
B21K	Ikpikpuk River	36.00	29	P	P	11 50 58.8	+0.3
	baz=256						
CHUM	Lake Minchumin	36.02	39	P	P	11 50 59.8	+1.2
	baz=266,SNR=6.3						
PPLA	Purkeypile	36.02	40	IAmb	IAmb	11 51 02.3	
	comp=Z,22nm,1.0s						
PPLA	Purkeypile	36.02	40	P	P	11 51 00.0	+1.1
	baz=268						
CAST	Castle Rocks	36.09	40	P	P	11 51 00.0	+0.7
	baz=267,SNR=11						
STLK	Strandline Lak	36.16	43	IAmb	IAmb	11 51 16.1	
	comp=Z,13nm,0.8s						
I21K	Tanana	36.26	37	P	P	11 51 01.4	+0.7
	baz=265						
HOM	Homer	36.30	46	P	P	11 51 01.2	+0.2
	baz=273						
SKT	Skwentna	36.30	42	P	P	11 51 02.0	+0.9
	baz=270						
CAPN	Captain Cook N	36.50	44	P	P	11 51 02.7	-0.1
	baz=272						
D22K	Ayikyak River	36.51	30	P	P	11 51 02.6	-0.3
	baz=259						
B22K	Teshekpuk Lake	36.57	28	P	P	11 51 02.8	-0.5
	baz=257						
H22K	Ishtalitna Cre	36.58	35	P	P	11 51 03.6	+0.1
	baz=265,SNR=7.3						
BPAW	Bear Paw Mtn.	36.61	38	IAmb	IAmb	11 51 05.8	
	comp=Z,19nm,1.2s						
BPAW	Bear Paw Mtn.	36.61	38	P	P	11 51 03.1	-0.7
	baz=268						
KTH	Kantishna Hill	36.62	39	IAmb	IAmb	11 51 06.1	
	comp=Z,36nm,0.9s						
G22K	Bettles	36.64	34	P	P	11 51 04.1	+0.2
	baz=263						
SUA	Susitna One	36.68	43	P	P	11 51 04.1	-0.4
	baz=271						
BRSE	Bradley Lake S	36.75	46	P	P	11 51 05.1	+0.1
	baz=274						
LZH	Lanzhou	36.80	273	⇑P	P	11 51 07.1	+1.2
LZH				pP	pP	11 51 15.6	+1.3
LZH				sP	pwP	11 51 20.6	+0.4
LZH				pmax	pmax		
	comp=Z,160nm,1.2s						
LZH				pmax	pmax		
	comp=Z,330nm,4.0s						
LZH				LR	LR		
	comp=Z,510nm,16.8s						
LZH				LR	LR		
	comp=Z,570nm,16.5s						
LZH				LR	LR		
	comp=Z,770nm,19.6s						
CUT	Chulitna	36.90	41	P	P	11 51 06.5	+0.3
	baz=270						
TRF	Thorofare Moun	36.90	40	P	P	11 51 06.2	-0.2
	baz=269,SNR=6.7						
M22K	Willow	36.98	42	P	P	11 51 07.0	+0.2
	baz=271						
RC01	Rabbit Creek A	37.18	43	P	P	11 51 08.9	+0.3
RC01				IAmb	IAmb	11 51 09.8	
	comp=Z,16nm,0.8s						
RC01	Rabbit Creek A	37.18	43	P	P	11 51 08.3	-0.3
	baz=273						
COLD	Coldfoot	37.19	33	P	P	11 51 08.6	0.0
	baz=264,SNR=8.6						
G23K	Bananza Creek	37.20	34	P	P	11 51 08.6	-0.2
	baz=265,SNR=10						
O22K	Cooper Landing	37.22	44	P	P	11 51 08.9	0.0
	baz=273						
D23K	Nanushuk River	37.24	30	P	P	11 51 09.0	-0.1
	baz=261						
I23K	Minto, Yukon-K	37.36	37	IAmb	IAmb	11 51 13.5	
	comp=Z,28nm,1.5s						
I23K	Minto, Yukon-K	37.36	37	P	P	11 51 10.6	+0.5
	baz=268,SNR=11						
SEW	Seward	37.37	45	P	P	11 51 09.6	-0.6
	baz=274						
C23K	Itkillik River	37.41	29	IAmb	IAmb	11 51 14.9	
	comp=Z,17nm,0.8s						
C23K	Itkillik River	37.41	29	P	P	11 51 10.6	+0.2
	baz=260						
PMR	Palmer	37.45	43	P	P	11 51 10.7	-0.2
PMR	Palmer	37.45	43	P	P	11 51 10.8	0.0
	baz=272						
PMR	Palmer	37.45	43	P	P	11 51 10.7	-0.2
PMR				pmax	pmax		
	comp=Z,15nm,1.0s						
NEA2	Nenana	37.47	38	P	P	11 51 10.5	-0.5
	baz=269,SNR=12						
E23K	Chandalar	37.50	32	P	P	11 51 11.7	+0.3
	baz=264						
MCK	McKinley	37.51	39	IAmb	IAmb	11 51 14.5	
	comp=Z,20nm,1.1s						
MCK	McKinley	37.51	39	P	P	11 51 11.7	+0.3
	baz=270,SNR=8.4						
RND	Reindeer	37.55	40	IAmb	IAmb	11 51 12.9	
	comp=Z,23nm,1.0s						
RND	Reindeer	37.55	40	P	P	11 51 11.8	0.0
TOLK	Toolik Lake Re	37.59	31	P	P	11 51 11.8	-0.2
	baz=263,SNR=10						
KNK	Knik Glacier	37.78	43	IAmb	IAmb	11 51 29.1	
	comp=Z,28nm,0.9s						
KNK	Knik Glacier	37.78	43	P	P	11 51 13.4	-0.3
	baz=273,SNR=5.3						
SML	Sawmill	37.82	42	P	P	11 51 14.6	+0.5
SML	Sawmill	37.82	42	P	P	11 51 13.7	-0.4
	baz=273,SNR=14						
SML	Sawmill	37.82	42	P	P	11 51 14.7	+0.6
SML				pmax	pmax		
	comp=Z,48nm,0.7s						
PWL	Port Wells	37.87	44	P	P	11 51 14.2	-0.3
	baz=274						
E24K	Your Creek	37.93	32	P	P	11 51 15.4	+0.4
	baz=265						
D24K	Happy Valley	37.93	30	P	P	11 51 15.7	+0.8
	baz=263						
COLA	College	38.00	37	P	P	11 51 15.2	-0.2
	baz=269						
COLA	College	38.00	37	c iP	P	11 51 15.8	+0.4
COLA				pmax	pmax		
	comp=Z,27nm,1.0s						
H24K	Noodor Dome	38.01	36	P	P	11 51 16.5	+0.9
	baz=268,SNR=8.6						
CCB	Clear Creek Bu	38.01	38	P	P	11 51 16.0	+0.4
C24K	Franklin Bluff	38.05	29	P	P	11 51 16.2	+0.4
	baz=262						
GTA	Gaotai	38.08	280	⇑P	P	11 51 17.3	+0.6
GTA				pP	sP	11 51 28.0	+0.5
GTA				PcP	PcP	11 53 32.9	+1.6
GTA				PcS	PcS	11 57 20.9	+0.6
GTA				pmax	pmax		
	comp=Z,51nm,1.2s						
GTA				LR	LR		
	comp=Z,250nm,13.1s						
GTA				LR	LR		
	comp=Z,790nm,14.9s						
GTA				LR	LR		
	comp=Z,790nm,14.9s						
F24K	Squaw Lake	38.10	33	P	P	11 51 16.7	+0.2
	baz=266						
M23K	Glacier View	38.11	42	P	P	11 51 16.5	0.0
	baz=273						
POKR	Poker Plat Res	38.18	37	IAmb	IAmb	11 51 19.2	
	comp=Z,28nm,0.8s						
POKR	Poker Plat Res	38.18	37	P	P	11 51 17.9	+0.9
	baz=269,SNR=18						
G24K	Hadweenzic Riv	38.21	34	IAmb	IAmb	11 51 19.6	
	comp=Z,19nm,0.9s						
G24K	Hadweenzic Riv	38.21	34	P	P	11 51 18.5	+1.2
	baz=267,SNR=16						
SCM	Sheep Creek Mo	38.30	42	P	P	11 51 18.6	+0.5
SCM				IAmb	IAmb	11 51 20.9	
	comp=Z,31nm,1.1s						
SCM	Sheep Creek Mo	38.30	42	P	P	11 51 19.1	+0.9
	baz=274,SNR=6.0						
SCM	Sheep Creek Mo	38.30	42	P	P	11 51 18.6	+0.5
SCM				pmax	pmax		
	comp=Z,31nm,1.1s						
HDA	Harding Lake	38.38	38	P	P	11 51 18.2	-0.5

baz=271,SNR=9.8
P23K Montague Islan 38.41 45 P P 11 51 18.7 -0.3
baz=276
ILAR Eielson Array 38.41 37 P P 11 51 18.9 0.0
comp=Z,10nm,1.1s,baz=263,slow=7.1,SNR=64
ILAR pPcP 11 53 44.2
comp=Z,0.7nm,0.5s,baz=268,slow=4.0,SNR=4.7
ILAR LR LR 12 08 41.4
comp=Z,308nm,19.7s,baz=270,slow=39
comp=Z,10nm,1.1s
ILAR Eielson Array 38.41 37 P P 11 51 19.0 0.0
GLI Glacier Island 38.48 44 P P 11 51 19.4 -0.2
baz=275
D25K Kavik River 38.81 30 P P 11 51 22.2 -0.2
baz=265,SNR=21
M24K Tolsona, Glenn 38.82 42 IAmb IAmb 11 51 38.7
comp=Z,27nm,0.8s
M24K Tolsona, Glenn 38.82 42 P P 11 51 22.8 +0.2
baz=274
H25L Birch Creek 38.86 35 P P 11 51 22.8 +0.1
baz=269,SNR=5.0
K24K Donnelly Dome 38.91 39 P P 11 51 22.9 -0.3
baz=273,SNR=11
F25K Christian Rive 38.97 33 P P 11 51 24.2 +0.5
baz=268,SNR=6.4
PRP Porcupine Dome 38.98 36 P P 11 51 24.4 +0.5
baz=271
KLU Klutina 38.99 43 IAmb IAmb 11 51 27.1
comp=Z,23nm,1.0s
KLU Klutina 38.99 43 P P 11 51 24.1 +0.1
baz=275,SNR=8.2
J25K Salcha River, 39.06 38 P P 11 51 24.1 -0.4
baz=272,SNR=6.1
PAX Paxson 39.09 40 P P 11 51 24.9 +0.1
baz=274,SNR=8.0
DIV Divide 39.10 43 IAmb IAmb 11 51 26.6
comp=Z,16nm,0.7s
FYU Fort Yukon 39.10 35 IAmb IAmb 11 51 27.9
comp=Z,26nm,1.0s
EYAK Cordova Ski Ar 39.17 44 P P 11 51 24.5 -0.8
baz=277
HARP HAARP 39.28 41 P P 11 51 26.6 +0.4
baz=275
RIDG Independent Ri 39.33 39 IAmb IAmb 11 51 42.2
comp=Z,30nm,1.2s
RIDG Independent Ri 39.33 39 P P 11 51 27.0 +0.3
baz=273,SNR=9.0
BMAR Burnt Mountain 39.37 33 P P 11 51 27.3 +0.3
F26K Sheenjek River 39.55 33 P P 11 51 29.3 +0.9
baz=269,SNR=9.3
N25K Chitina, Valde 39.61 42 P P 11 51 30.0 +0.9
baz=276
CD2 Chengdu 39.62 266 P P 11 51 29.9 +0.4
CD2 S S 11 57 32.9 +2.6
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 LR LR
comp=Z,400nm,11.1s
CD2 LR LR
comp=Z,590nm,16.3s
BMRM Bremner River 39.68 43 IAmb IAmb 11 51 39.5
comp=Z,26nm,1.1s
BMRM Bremner River 39.68 43 P P 11 51 30.7 +1.1
baz=277
G26K Porcupine Rive 39.68 34 P P 11 51 30.6 +1.1
baz=270
SCRK Sand Creek 39.69 39 P P 11 51 28.8 -1.1
baz=274,SNR=8.2
C27K Jago River 39.77 30 P P 11 51 30.9 +0.6
baz=267
J26L Joseph Creek 39.85 38 P P 11 51 31.4 +0.3
baz=274
KAIM Kayak Island 39.91 45 P P 11 51 33.2 +1.7
baz=278
I26K Coal Creek Min 39.98 36 P P 11 51 32.7 +0.7
baz=273
GLB Gilahina Butte 40.01 43 P P 11 51 33.9 +1.5
L26K Log Cabin Wild 40.05 40 P P 11 51 34.2 +1.5
baz=276,SNR=14
M26K Nabesna, AK 40.28 41 P P 11 51 36.0 +1.3
baz=277,SNR=25
GYA Guiyang 40.28 258 P P 11 51 35.6 +0.5
GYA pmax pmax
comp=Z,30nm,0.9s
GYA LR LR
comp=Z,450nm,15.2s
GYA LR LR
comp=Z,480nm,17.0s
GYA LR LR
comp=Z,790nm,17.1s
G27K Doyon Strip 40.52 34 P P 11 51 37.5 +0.9
baz=273
H27K Steamboat Moun 40.60 35 P P 11 51 37.9 +0.6
baz=273
I27K Kandik River 40.60 36 P P 11 51 37.6 +0.3
baz=274
D27M Malcolm River 40.73 30 P P 11 51 38.5 +0.2
baz=270
L27K Beaver Creek, 40.74 40 P P 11 51 39.7 +1.3
baz=277
BCAR Beaver Creek A 40.76 40 P P 11 51 39.6 +1.0
M27K Edge Creek, AK 40.80 41 P P 11 51 39.9 +0.9
baz=278,SNR=14
EGAK Eagle 40.86 37 P P 11 51 39.3 0.0
EGAK IAmb IAmb 11 51 54.6
comp=Z,37nm,1.3s
EGAK Eagle 40.86 37 P P 11 51 39.6 +0.3
baz=275,SNR=14
MESA MESA 41.09 44 P P 11 51 41.4 -0.1
baz=280
F28M Old Crow 41.18 33 P P 11 51 42.5 +0.5
F28M Old Crow 41.18 33 P P 11 51 42.7 +0.7
baz=273,SNR=14
BVCY Beaver Creek 41.26 41 P P 11 51 43.5 +0.8
baz=278,SNR=14
E28M Babbage River 41.26 31 P P 11 51 43.2 +0.6
baz=272
I28M Miner Creek 41.31 36 P P 11 51 43.4 +0.2
baz=276,SNR=16
YUK3 Moose Creek 41.55 42 P P 11 51 46.3 +1.0
baz=279,SNR=16
DAWY Dawson 41.70 38 P P 11 51 46.7 +0.4
DAWY Dawson 41.70 38 P P 11 51 46.8 +0.6
baz=278
O28M Mount Upton 41.84 43 P P 11 51 48.6 +0.8
baz=281,SNR=8.1
E29M Blow River 41.88 32 P P 11 51 48.6 +1.0
baz=274
H29M Whitestone 41.88 35 P P 11 51 48.3 +0.7
baz=276
PINM Pinnacle 41.94 44 P P 11 51 49.3 +1.0
baz=281
G29M Pine Creek 41.95 34 P P 11 51 49.3 +1.1
baz=276
YUK8 Steele Glacier 41.96 42 P P 11 51 49.2 +0.5
baz=280
I29M Ogilvie Camp, 42.00 36 P P 11 51 49.8 +1.1
baz=277,SNR=9.5
J29N Klondike Camp 42.16 37 P P 11 51 50.7 +0.6
baz=278
M29M Somme Creek 42.36 40 P P 11 51 53.1 +1.3
baz=280,SNR=11
L29M L29M 42.40 39 P P 11 51 53.3 +1.2
baz=280,SNR=16
YUK4 Talbot Arm 42.48 42 P P 11 51 53.5 +0.7
baz=281,SNR=5.7
EPYK Eagle Plains 42.52 35 P P 11 51 53.2 +0.2
EPYK IAmb IAmb 11 51 55.3
comp=Z,28nm,1.0s
EPYK Eagle Plains 42.52 35 P P 11 51 54.1 +1.2
baz=277,SNR=17
K29M Barlow Dome 42.55 38 P P 11 51 54.2 +0.9
baz=280,SNR=14
ZAA0 Zalesovo Array 42.55 307 P P 11 51 51.3 -2.0
ZALV Zalesovo Beam 42.55 307 P P 11 51 51.5 -1.8
ZALV Zalesovo Beam 42.55 307 P P 11 51 50.5 -2.8
comp=Z,1.4nm,0.3s,baz=79,slow=5.9,SNR=7.5
ZALV PcP PcP 11 53 45.7 +0.5
comp=Z,14nm,0.9s,baz=82,slow=3.2,SNR=17
ZALV pPcP 11 53 59.0
comp=Z,6.1nm,0.9s,baz=85,slow=3.1,SNR=6.4
ZALV LR LR 12 10 35.2
comp=Z,809nm,19.5s,baz=62,slow=38
ZALV Zalesovo Beam 42.55 307 P P 11 51 51.5 -1.8
G30M tAoh Zraii Nji 42.65 34 P P 11 51 54.6 +0.7
baz=277,SNR=12
YUK6 Outpost Mounta 42.69 43 P P 11 51 54.0 -0.6
baz=282

O29M Mount Kennedy 42.72 44 P P 11 51 54.6 -0.1
baz=282
F30M Barrier River 42.74 33 P P 11 51 56.1 +1.4
baz=277,SNR=14
I30M Mount Dempster 42.82 36 P P 11 51 56.7 +1.2
baz=279,SNR=39
J30M Hart River 42.94 37 P P 11 51 57.5 +1.0
baz=280
GOMU GeErMu 43.09 278 P P 11 51 58.0 -0.3
GOMU pP pP 11 52 01.6 -5.3
GOMU sP sP 11 52 05.5 -4.3
GOMU S S 11 58 21.0 -1.3
GOMU pmax pmax
comp=Z,130nm,0.9s
GOMU LR LR
comp=Z,1μm,15.7s
GOMU LR LR
comp=Z,2μm,15.7s
GOMU LR LR
comp=Z,3μm,15.0s
M30M Minto, Yukon 43.10 40 P P 11 51 58.9 +1.2
baz=281
HYT Haines Junctio 43.12 43 P P 11 51 58.5 +0.5
HYT IAmb IAmb 11 52 01.9
comp=Z,45nm,1.2s
HYT Haines Junctio 43.12 43 P P 11 51 59.9 +1.9
baz=283,SNR=16
QIZ Qiongzhong 43.22 247 P P 11 51 57.8 -1.3
QIZ S S 11 58 26.9 +3.2
QIZ pmax pmax
comp=Z,19nm,1.0s
QIZ pmax pmax
comp=Z,120nm,7.5s
QIZ LR LR
comp=Z,360nm,19.2s
QIZ LR LR
comp=Z,390nm,22.0s
QIZ LR LR
comp=Z,380nm,19.2s
MAYO Mayo, Yukon 43.31 38 IAmb IAmb 11 52 02.7
comp=Z,57nm,1.3s
MAYO Mayo, Yukon 43.31 38 P P 11 52 00.8 +1.5
baz=281,SNR=6.8
G31M Satah River 43.42 34 P P 11 52 00.5 +0.4
baz=279,SNR=10
INK Inuvik 43.50 31 IAmb IAmb 11 52 02.8
comp=Z,22nm,1.0s
INK Inuvik 43.50 31 LR LR 12 11 27.8
comp=Z,284nm,18.2s,baz=281,slow=38
INK Inuvik 43.50 31 P P 11 52 01.2 +0.5
baz=278,SNR=18
INK Inuvik 43.50 31 P P 11 52 01.9 +1.2
INK pmax pmax
comp=Z,23nm,1.0s
F31M Tsiigehtchic 43.54 33 IAmb IAmb 11 52 03.1
comp=Z,30nm,1.1s
F31M Tsiigehtchic 43.54 33 P P 11 52 01.3 +0.2
baz=279,SNR=16
P30M Million Dollar 43.55 44 P P 11 52 03.1 +1.7
baz=284,SNR=12
H31M Peel River 43.57 35 P P 11 52 01.9 +0.5
baz=280,SNR=15
PZH PanZhiHua 43.67 262 P P 11 52 03.0 +0.2
PZH S S 11 58 32.3 +1.7
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,160nm,6.1s
PZH LR LR
comp=Z,260nm,15.1s
PZH LR LR
comp=Z,250nm,15.5s
PZH LR LR
comp=Z,250nm,13.9s
N31M Braeburn, Yuko 43.79 41 IAmb IAmb 11 52 20.6
comp=Z,38nm,0.9s
N31M Braeburn, Yuko 43.79 41 P P 11 52 04.6 +1.3
baz=283,SNR=14
O30N Mendenhall 43.81 43 IAmb IAmb 11 52 20.5
comp=Z,32nm,1.1s
O30N Mendenhall 43.81 43 P P 11 52 04.6 +1.2
baz=284,SNR=13
KMI Kunming 43.85 260 ⇑P **P 11 52 05.1 +0.7**
KMI pP pP 11 52 07.8 -5.3
KMI pmax pmax
comp=Z,26nm,1.2s
KMI LR LR
comp=Z,390nm,16.9s
KMI LR LR
comp=Z,250nm,16.5s
KMI LR LR
comp=Z,430nm,15.7s
PLBC Pleasant Camp 44.00 44 P P 11 52 06.7 +1.8
baz=285,SNR=7.1
M31M Drury Creek, Y 44.27 40 IAmb IAmb 11 52 23.4
comp=Z,18nm,0.9s
M31M Drury Creek, Y 44.27 40 P P 11 52 08.8 +1.7
baz=284,SNR=11
WMQ Urumqi 44.40 292 *eP* **P 11 52 09.5 +1.1**
WMQ pP sP 11 52 19.3 -0.4
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.9s
WMQ LR LR
comp=Z,1μm,16.1s
WMQ LR LR
comp=Z,870nm,15.5s
WMQ LR LR
comp=Z,460nm,16.1s
WMQ Urumqi 44.40 292 P P 11 52 09.3 +0.9
WHY Whitehorse 44.42 42 IAmb IAmb 11 52 12.1
comp=Z,33nm,1.3s
WHY Whitehorse 44.42 42 P P 11 52 10.1 +1.7
baz=285,SNR=7.9
S31K Pelican 44.47 46 P P 11 52 09.0 +0.4
baz=286
SKAG Skagway 44.51 44 P P 11 52 10.3 +1.4
baz=286
ZSN Zaisan 44.73 298 *eP* **P 11 52 11.0 +0.1**
ZSN Zaisan 44.73 298 *eP* **P 11 52 11.1 +0.1**
FARO Faro, Yukon 44.74 40 P P 11 52 11.1 +0.3
baz=284,SNR=9.7
N32M Quiet Lake 45.14 41 P P 11 52 14.5 +0.4
baz=286
SIT Sitka 45.20 47 P P 11 52 16.2 +1.7
baz=288
R32K Eaglecrest 45.25 46 P P 11 52 15.1 +0.2
baz=287
P32M Atlin 45.27 44 P P 11 52 16.0 +0.9
baz=287
S32K Killisnoo 45.46 47 P P 11 52 18.0 +1.5
baz=288
P33M Teslin, Yukon 45.52 43 P P 11 52 16.7 -0.4
P33M IAmb IAmb 11 52 33.6
comp=Z,37nm,1.1s
P33M Teslin, Yukon 45.52 43 P P 11 52 18.1 +1.0
baz=287,SNR=21
A36M Sachs Harbour 45.67 26 IAmb IAmb 11 52 20.1
comp=Z,37nm,0.8s
A36M Sachs Harbour 45.67 26 P P 11 52 19.0 +1.0
baz=282,SNR=52
Q32M Nakina River 46.16 44 P P 11 52 23.4 +1.1
baz=288
T33K Petersburg 46.51 47 P P 11 52 24.6 -0.1
baz=290
MK31 Makanchi Array 46.61 298 P P 11 52 24.4 -1.4
MK31 Makanchi Array 46.61 298 *ceP* **P 11 52 24.8 -1.0**
MKAR Makanchi Array 46.61 298 P P 11 52 24.4 -1.4
comp=Z,7.2nm,0.7s,baz=72,slow=7.1,SNR=57
MKAR PcP PcP 11 53 60.0 +0.7
comp=Z,6.9nm,0.6s,baz=56,slow=4.3,SNR=8.6
MKAR pPcP 11 54 13.4
comp=Z,4.0nm,0.6s,baz=57,slow=4.0,SNR=4.0
MKAR LR LR 12 13 02.1
comp=Z,2μm,18.4s,baz=70,slow=37
comp=Z,7.2nm,0.7s
C36M Paulatuk 46.66 29 P P 11 52 26.3 +0.5
C36M IAmb IAmb 11 52 27.5
comp=Z,52nm,1.4s
C36M Paulatuk 46.66 29 P P 11 52 26.1 +0.3
baz=285,SNR=16
U33K Whale Pass 46.66 48 P P 11 52 26.3 +0.3
baz=290
R33M Jennings River 46.66 43 P P 11 52 27.9 +1.7
baz=289,SNR=18
MAKZ Makanchi 46.80 298 P P 11 52 26.1 -1.2

MAKZ Makanchi 46.80 298 P P 11 52 28.5 +1.2
MAKZ Makanchi 46.80 298 P P 11 52 26.7 -0.6
MAKZ pP pP 11 52 36.9 +0.6
TNCH TengChong 46.85 263 P P 11 52 28.6 +0.4
TNCH pP pP 11 52 31.6 -5.3
TNCH S S 11 59 18.8 +2.1
TNCH pmax pmax
comp=Z,140nm,0.6s
TNCH pmax pmax
comp=Z,200nm,4.7s
TNCH LR LR
comp=Z,380nm,17.7s
TNCH LR LR
comp=Z,460nm,14.4s
TNCH LR LR
comp=Z,330nm,16.2s
CRAG Craig 46.88 49 P P 11 52 27.9 +0.2
baz=291
WRAK Wrangell Islan 46.96 48 P P 11 52 29.7 +1.4
baz=291
S34M Telegraph Cree 47.07 45 IAmb IAmb 11 52 46.1
comp=Z,26nm,1.1s
S34M Telegraph Cree 47.07 45 P P 11 52 30.5 +1.3
baz=290
KURK Kurchatov 47.23 304 P P 11 52 28.7 -1.8
KURK IAmb IAmb 11 52 30.8
comp=Z,12nm,0.9s
KURK Kurchatov 47.23 304 *ceP* **P 11 52 28.0 -2.5**
KURK pmax pmax
comp=Z,20nm,1.3s
KURK Kurchatov 47.23 304 P P 11 52 28.7 -1.8
KURK pP pP 11 52 39.0 -0.5
KURK sP pwP 11 52 43.6 -0.4
KURK PcP PcP 11 54 01.4 0.0
KURBB Kurchatov Arra 47.32 304 P P 11 52 29.2 -2.0
comp=Z,8.9nm,0.7s,baz=69,slow=8.3,SNR=37
KURBB PcP PcP 11 54 02.0 +0.3
comp=Z,5.9nm,0.8s,baz=68,slow=3.2,SNR=8.2
comp=Z,8.9nm,0.7s
DLBC Dease Lake 47.44 44 P P 11 52 35.0 +2.8
DLBC IAmb IAmb 11 52 49.1
comp=Z,24nm,1.0s
DLBC Dease Lake 47.44 44 LR LR 12 15 08.3
comp=Z,172nm,18.9s,baz=295,slow=39
DLBC Dease Lake 47.44 44 P P 11 52 33.9 +1.8
baz=290,SNR=8.3
WTLY Watson Lake, Y 47.47 42 IAmb IAmb 11 52 48.5
comp=Z,16nm,1.1s
WTLY Watson Lake, Y 47.47 42 P P 11 52 33.6 +1.3
baz=290,SNR=6.8
T35M Bob Quinn 47.84 46 IAmb IAmb 11 52 52.8
comp=Z,26nm,0.9s
T35M Bob Quinn 47.84 46 P P 11 52 36.9 +1.6
baz=292
JAY Jayapura 48.55 194 LR LR 12 15 52.2
comp=Z,68nm,18.6s,baz=4.5,slow=39
WRGLY Wrigley 48.78 37 IAmb IAmb 11 52 45.1
comp=Z,23nm,1.0s
WRGLY Wrigley 48.78 37 P P 11 52 43.2 +0.8
baz=291,SNR=9.9
GRNB Grenville Isla 49.20 50 IAmb IAmb 11 53 02.2
comp=Z,20nm,0.9s
LSA Lhasa 49.21 273 P P 11 52 48.4 +1.7
LSA pmax pmax
comp=Z,45nm,0.8s
LSA Lhasa 49.21 273 P P 11 52 48.0 +1.3
LSA Lhasa 49.21 273 P P 11 52 48.3 +1.7
LSA pP sP 11 52 58.7 +0.2
SWI Sorong 49.32 207 P P 11 52 47.5 +0.5
comp=Z,52nm,1.2s
KRVT Keravat (AS076 49.37 179 LR LR 12 15 17.1
comp=Z,205nm,18.5s,baz=79,slow=38
TOAD Toad River Com 49.62 43 P P 11 52 50.1 +1.2
baz=293,SNR=7.6
KOTAN Kotaneelee Air 49.67 41 P P 11 52 50.5 +1.3
baz=293
TDK Taldyqorghan 49.83 297 *eP* **P 11 52 50.8 +0.1**
TDK pmax pmax
comp=Z,12nm,0.8s
TDK Taldyqorghan 49.83 297 *eP* **P 11 52 50.9 +0.1**
comp=Z,12nm,0.8s
SHLS Shalkode 50.04 295 *eP* **P 11 52 50.5 -1.9**
SHLS pmax pmax
comp=Z,8.0nm,0.8s
SHLS Shalkode 50.04 295 *eP* **P 11 52 50.5 -1.9**
comp=Z,7.6nm,0.8s
UZB Uzynbulak 50.33 295 *eP* **P 11 52 54.6 0.0**
UZB pmax pmax
comp=Z,25nm,1.1s
UZB Uzynbulak 50.33 295 *eP* **P 11 52 54.7 0.0**
comp=Z,25nm,1.1s
KPKS Kokpek 50.39 295 *eP* **P 11 52 55.2 +0.2**
KPKS pmax pmax
comp=Z,19nm,1.1s
KPKS Kokpek 50.39 295 *eP* **P 11 52 55.3 +0.2**
comp=Z,19nm,1.1s
CHTO Chiang Mai 50.66 256 P P 11 52 57.3 0.0
CHTO IAmb IAmb 11 53 01.3
comp=Z,16nm,0.9s
CHTO Chiang Mai 50.66 256 P P 11 52 57.3 0.0
CHTO pmax pmax
comp=Z,15nm,1.0s
SATY Saty 50.76 295 *eP* **P 11 52 57.9 0.0**
SATY pmax pmax
comp=Z,12nm,0.9s
SATY Saty 50.76 295 *eP* **P 11 52 57.9 0.0**
comp=Z,12nm,0.9s
EUNU Eureka 50.79 11 P P 11 52 57.6 +0.2
EUNU IAmb IAmb 11 52 58.3
comp=Z,53nm,1.1s
CMAR Chiang Mai Arr 50.91 256 P P 11 52 59.4 +0.3
CMAR Chiang Mai Arr 50.91 256 P P 11 53 00.2 +1.2
comp=Z,5.7nm,0.8s,baz=34,slow=6.9,SNR=26
CMAR PcP PcP 11 54 16.9 +1.6
comp=Z,3.7nm,0.8s,baz=25,slow=3.3,SNR=8.1
CMAR LR LR 12 16 21.4
comp=Z,330nm,18.4s,baz=45,slow=38
comp=Z,5.7nm,0.8s
BVAR Borovoye Array 50.91 310 P P 11 52 56.8 -1.9
comp=Z,3.8nm,0.6s,baz=67,slow=8.2,SNR=17
BVAR PcP PcP 11 54 15.2 +0.4
comp=Z,14nm,0.8s,baz=64,slow=3.4,SNR=12
BVAR pPcP 11 54 29.5
comp=Z,9.2nm,0.8s,baz=64,slow=3.4,SNR=6.3
BVAR LR LR 12 16 04.6
comp=Z,771nm,19.3s,baz=59,slow=38
comp=Z,3.8nm,0.6s
BBB Bella Bella 50.92 51 LR LR 12 14 58.7
comp=Z,70nm,19.3s,baz=252,slow=36
BRVK Borovoye 50.95 310 P P 11 52 57.2 -1.8
BRVK Borovoye 50.95 310↓ *eP* **P 11 52 57.2 -1.8**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 50.95 310 P P 11 52 57.4 -1.6
BRVK PcP PcP 11 54 15.1 +0.2
BRZS Berezniki 50.99 305 *eP* **P 11 52 56.6 -2.7**
BRZS pmax pmax
comp=Z,31nm,4.0s
WUS Wushi 51.16 293 P P 11 53 01.8 +0.8
SHL Shillong 51.19 268 P P 11 53 01.7 +0.4
SHL pmax pmax
comp=Z,125nm,1.0s
ALE Alert 51.31 5 P P 11 53 00.4 -0.9
ALE PcP PcP 11 54 16.4 +0.6
MDOK Medeo 51.58 296 *eP* **P 11 53 04.1 +0.1**
MDOK Medeo 51.58 296 *eP* **P 11 53 04.1 +0.1**
AAA Alma-Ata 51.64 296 *eP* **P 11 53 04.5 +0.1**
AAA pmax pmax
comp=Z,20nm,0.8s
AAA Alma-Ata 51.64 296 *eP* **P 11 53 04.5 +0.1**
comp=Z,20nm,0.8s
AAA Alma-Ata 51.64 296 *eP* **P 11 53 04.5 +0.1**
TNSS Tian-Shan 51.70 296 *eP* **P 11 53 05.0 -0.2**
TNSS Tian-Shan 51.70 296 *eP* **P 11 53 05.1 -0.2**
TARG Taragay, Kyrgy 51.81 294 IAmb IAmb 11 53 08.2
comp=Z,29nm,1.1s
TARG Taragay, Kyrgy 51.81 294 P P 11 53 07.3 +1.2
TARG pmax pmax
comp=Z,25nm,0.7s
KDJ Kajisay 52.01 295 P P 11 53 07.6 +0.3
SANI Sanana 52.28 213 P P 11 53 09.8 +0.5
comp=Z,28nm,0.9s
BTLS Baital 52.52 299 *eP* **P 11 53 10.3 -0.5**
BTLS Baital 52.52 299 *eP* **P 11 53 10.3 -0.5**
ULHL Ulahol 52.55 295 P P 11 53 12.4 +1.1
SNR=5.5

RES Resolute Bay 52.59 18 P **P 11 53 10.1 -0.8**
RES IAmb IAmb 11 53 13.9
comp=Z,14nm,1.0s
RES Resolute Bay 52.59 18 LR LR 12 19 02.2
comp=Z,202nm,18.3s,baz=324,slow=40
RES Resolute Bay 52.59 18 P **P 11 53 10.1 -0.8**
RES pmax pmax
comp=Z,14nm,1.0s
TKM2 Tokmak 2 52.62 296 P **P 11 53 12.4 +0.6**
SNR=22
BOOM Boomskoye usch 52.62 296 P **P 11 53 11.6 -0.2**
BOOM IAmb IAmb 11 53 14.4
comp=Z,27nm,0.7s
BOOM Boomskoye usch 52.62 296 P **P 11 53 11.6 -0.2**
BOOM pmax pmax
comp=Z,27nm,0.7s
YKA Yellowknife Ar 52.78 36 P **P 11 53 12.8 +0.4**
comp=Z,9.4nm,1.0s,baz=299,slow=7.5,SNR=54
YKA pPcP 11 54 35.8
comp=Z,1.7nm,0.8s,baz=294,slow=3.5,SNR=5.9
YKA LR LR 12 18 26.2
comp=Z,90nm,18.6s,baz=328,slow=39
comp=Z,9.4nm,1.0s
USP Ospenovka 53.13 297 P **P 11 53 15.5 +0.1**
SNR=5.8
KBK Karagaybulak 53.16 296 P **P 11 53 16.4 +0.6**
SNR=19
BRDH Bariadhala 53.19 266 LR LR 12 16 18.7
comp=Z,167nm,18.6s,baz=140,slow=36
NOR Nord 53.21 358 *i* P **P 11 53 13.4 -2.0**
NOR IAmb IAmb 11 53 16.0
comp=Z,16nm,1.2s
AAK Ala-Archa 53.46 297 P **P 11 53 17.2 -0.8**
AAK IAmb IAmb 11 53 19.4
comp=Z,24nm,0.8s
AAK Ala-Archa 53.46 297 LR LR 12 17 13.7
comp=Z,554nm,18.5s,baz=56,slow=37
AAK Ala-Archa 53.46 297 P **P 11 53 18.4 +0.4**
SNR=20
AAK Ala-Archa 53.46 297 *ce*P **P 11 53 18.3 +0.3**
AAK pmax pmax
comp=Z,22nm,0.7s
AAK Ala-Archa 53.46 297 *i* P **P 11 53 18.1 +0.1**
SNR=34
AAK Ala-Archa 53.46 297 *e*P **P 11 53 18.3 +0.3**
AAK Ala-Archa 53.46 297 P **P 11 53 18.1 +0.1**
AAK pP **sP 11 53 28.7 -0.7**
AAK sP **pwP 11 53 32.9 +1.5**
KBS Kingsbay 53.77 351 P **P 11 53 18.9 -0.6**
KBS Kingsbay 53.77 351 *de*P **P 11 53 19.4 -0.1**
KBS pmax pmax
comp=Z,29nm,0.8s
KBS Kingsbay 53.77 351 *i* P **P 11 53 18.5 -1.0**
KBS Kingsbay 53.77 351 P **P 11 53 19.3 -0.2**
KBS pP **pP 11 53 29.9 +1.7**
KBS sP **pwP 11 53 34.2 0.0**
SPA0 Spitsbergen Ar 53.85 350 *e*P **P 11 53 18.7 -1.5**
SPITS Spitsbergen Ar 53.85 350 P **P 11 53 19.2 -0.9**
comp=Z,4.1nm,0.5s,baz=59,slow=8.2,SNR=23
comp=Z,4.1nm,0.5s
SVE Sverdlovsk 54.13 317 *e*P **P 11 53 21.3 -1.1**
SVE pmax pmax
comp=Z,24nm,0.8s
SVE MLR MLR
comp=Z,747nm,17.0s
KSH Kashi 54.16 293 P **P 11 53 27.8 +4.7**
KSH pP sP 11 53 33.8 -0.6
KSH sP pwP 11 53 41.5 +3.6
KSH pmax pmax
comp=Z,36nm,0.6s
KSH LR LR
comp=Z,740nm,20.3s
KSH LR LR
comp=Z,590nm,18.2s
KSH LR LR
comp=Z,1μm,20.3s
AML Almayashu 54.23 296 P **P 11 53 24.8 +0.9**
SNR=25
PMG Port Moresby 54.58 185 LR LR 12 13 14.4
comp=Z,111nm,21.9s,baz=324,slow=32
LLLB Lillooet 55.10 51 IAmb IAmb 11 53 45.3
comp=Z,14nm,0.9s
DZA Taraz 55.31 298 *e*P **P 11 53 31.0 -0.3**
DZA pmax pmax
comp=Z,10.0nm,0.7s
DZA Taraz 55.31 298 *e*P **P 11 53 31.0 -0.3**
comp=Z,10nm,0.7s
ARTI Arti 55.43 318 P **P 11 53 29.1 -2.7**
ARTI IAmb IAmb 11 53 31.0
comp=Z,17nm,0.6s
ARTI Arti 55.43 318 LR LR 12 18 38.3
comp=Z,544nm,20.2s,baz=52,slow=38
ARTI Arti 55.43 318 *c i*P **P 11 53 29.4 -2.4**
ARTI 11 54 27.0
ARTI S **S 12 01 12.7 -1.2**
ARTI SS **SS 12 04 54.7 -3.5**
ARTI pmax pmax
comp=Z,14nm,0.6s
ARTI MLR MLR
comp=Z,653nm,16.0s
ARTI Arti 55.43 318 P **P 11 53 30.3 -1.6**
ARTI PcP **PcP 11 54 31.5 -0.3**
KK31 Karatay Array 55.70 299 P **P 11 53 33.2 -0.9**
KK31 IAmb IAmb 11 53 35.0
comp=Z,27nm,0.8s
KK31 Karatay Array 55.70 299 P **P 11 53 33.2 -0.9**
KK31 pmax pmax
comp=Z,27nm,0.8s
KKAR Karatay Array 55.70 299 P **P 11 53 33.5 -0.5**
KKAR Karatay Array 55.70 299 IAmb IAmb 11 53 35.0
comp=Z,17nm,0.8s
KKAR Karatay Array 55.70 299 P **P 11 53 33.6 -0.5**
BRLS Borolday 56.16 299 *e*P **P 11 53 38.7 +1.4**
BRLS Borolday 56.16 299 *e*P **P 11 53 38.8 +1.4**
IUG Iuzhnay 56.52 298 *e*P **P 11 53 39.6 -0.4**
IUG pmax pmax
comp=Z,22nm,0.8s
IUG Iuzhnay 56.52 298 *e*P **P 11 53 39.7 -0.4**
comp=Z,22nm,0.8s
CHM Chimkent 56.69 299 *e*P **P 11 53 41.1 0.0**
CHM pmax pmax
comp=Z,23nm,0.9s
CHM Chimkent 56.69 299 *e*P **P 11 53 41.1 0.0**
comp=Z,23nm,0.9s
NEEM North Greenlan 56.74 6 *i* P **P 11 53 38.4 -2.9**
NEEM IAmb IAmb 11 53 41.1
comp=Z,63nm,1.0s
DRK Karamyk 56.88 295 P **P 11 53 43.2 +0.4**
BTK Batken 57.18 296 P **P 11 53 45.0 +0.3**
LTY Liberty 57.55 54 IAmb IAmb 11 54 02.0
comp=Z,25nm,1.4s
B08A Colville Reser 57.70 52 IAmb IAmb 11 54 03.5
comp=Z,15nm,0.9s
DAG Danmarks Havn 58.06 357 P **P 11 53 49.5 -0.7**
DAG pmax pmax
comp=Z,32nm,1.4s
DAG Danmarks Havn 58.06 357 *i* P **P 11 53 47.6 -2.6**
DAG IAmb IAmb 11 53 50.2
comp=Z,37nm,1.1s
APA Apatity 58.23 337 ⇓ *i* P **P 11 53 50.1 -1.4**
APA *i* 11 54 38.3
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,1μm,16.0s
KIRV Kirov 58.26 323 LR LR 12 21 21.1
comp=Z,854nm,18.1s,baz=49,slow=38
KIRV Kirov 58.26 323 *de*P **P 11 53 51.6 -0.2**
ABKAR Akbulak array 58.49 310 P **P 11 53 52.0 -1.6**
D08A Wollman Farm, 58.66 53 IAmb IAmb 11 54 10.1
comp=Z,7.9nm,0.8s
AKTO Aktyubinsk 58.85 312 LR LR 12 21 46.1
comp=Z,2μm,18.1s,baz=54,slow=39
ARA0 ARCESS Array S 58.86 341 *e*P **P 11 53 55.2 -0.7**
ARCES ARCESS Array B 58.86 341 P **P 11 53 55.4 -0.5**
comp=Z,13nm,0.9s,baz=27,slow=8.6,SNR=8.7
ARCES LR LR 12 21 19.4
comp=Z,181nm,21.2s,baz=16,slow=38
comp=Z,13nm,0.9s
KULLO Kullorsuaq 58.89 9 *i* P **P 11 53 54.5 -1.5**
KULLO IAmb IAmb 11 53 56.5
comp=Z,21nm,0.6s
NEW Newport 58.98 51 P **P 11 53 57.0 -0.1**
NEW IAmb IAmb 11 54 13.9
comp=Z,24nm,1.4s
NEW Newport 58.98 51 P **P 11 53 57.1 -0.1**
NEW pmax pmax
comp=Z,24nm,1.4s
CHGR Chuyangaron 59.03 295 P **P 11 53 57.6 0.0**
CHGR Chuyangaron 59.03 295 P **P 11 53 57.7 0.0**
CHGR pmax pmax
comp=Z,243nm,1.0s
SIMJ Simiganj 59.13 295 P **P 11 53 58.6 +0.2**
SIMJ Simiganj 59.13 295 P **P 11 53 58.4 0.0**
DZET Dzherino 59.16 296 P **P 11 53 58.5 -0.1**
DZET pmax pmax
comp=Z,67nm,1.0s
NIL Nilore 59.28 288 P **P 11 53 59.0 -0.4**
NIL Nilore 59.28 288 P **P 11 53 59.0 -0.4**
NIL pmax pmax
comp=Z,159nm,0.9s
NIL Nilore 59.28 288 P **P 11 54 00.5 +1.0**
NIL PcP **PcP 11 54 48.1 +0.7**
PINE Pine Mountain 59.34 57 IAmb IAmb 11 54 16.7
comp=Z,23nm,0.7s
KULM Kulim 59.40 244 P **P 11 53 59.7 -0.7**
KULM IAmb IAmb 11 54 03.1
comp=Z,34nm,1.1s
E09A Wood Farm, Sta 59.41 53 IAmb IAmb 11 54 15.6
comp=Z,19nm,0.9s
YBH Yreka Blue Hor 59.46 60 LR LR 12 14 32.6
comp=Z,117nm,21.8s,baz=303,slow=31
KTK1 Kautokeino 59.78 341 *e*P **P 11 54 01.6 -0.7**
JETT Jettan, Norway 59.99 342 *e*P **P 11 54 02.7 -1.0**
KDU Kakadu 60.21 201 P **P 11 54 05.6 -0.1**
comp=Z,27nm,1.2s
TRO Tromso 60.24 343 *e*P **P 11 54 04.5 -0.9**
DBG Daneborg 60.57 357 *i* P **P 11 54 06.0 -1.6**
DBG IAmb IAmb 11 54 07.4
comp=Z,9.0nm,0.8s
UPNV Upernavik 60.67 9 *i* P **P 11 54 06.0 -2.3**
UPNV IAmb IAmb 11 54 08.6
comp=Z,16nm,0.7s
KLMR Klimovskoe 60.77 329 *e*P **P 11 54 07.2 -1.9**
KLMR pmax pmax
comp=Z,17nm,1.6s
PLID Pearl Lake 61.46 54 P **P 11 54 14.7 +0.4**
PLID IAmb IAmb 11 54 29.8
comp=Z,24nm,1.0s
KBL Kabul 61.54 291 P **P 11 54 13.9 -1.2**
KBL Kabul 61.54 291 P **P 11 54 13.9 -1.2**
KBL pmax pmax
comp=Z,68nm,0.8s
MSO Missoula 61.57 51 IAmb IAmb 11 54 30.9
comp=Z,15nm,0.8s
JOF Joensuu 62.14 333 *e*P **P 11 54 18.2 -0.1**
NUUG Nuugaatsiaq 62.16 9 *i* P **P 11 54 16.6 -1.7**
NUUG IAmb IAmb 11 54 18.1
comp=Z,10nm,0.9s
SUMG Summit 62.24 3 P **P 11 54 18.9 -0.5**
SUMG Summit 62.24 3 P **P 11 54 18.9 -0.5**
SUMG pmax pmax
comp=Z,44nm,0.8s
SUMG Summit 62.24 3 *i* P **P 11 54 19.0 -0.4**
SUMG IAmb IAmb 11 54 21.2
comp=Z,67nm,1.1s
PSI Prapat 62.41 243 LR LR 12 23 01.8
comp=Z,48nm,19.5s,baz=339,slow=37
PSI Prapat 62.41 243 P **P 11 54 21.1 +0.2**
PSI pmax pmax
comp=Z,12nm,1.0s
STEI Steigen 62.41 343 *e*P **P 11 54 18.6 -1.5**
RPSI Rantau Prapat 62.49 243 P **P 11 54 21.1 -0.2**
RPSI IAmb IAmb 11 54 23.3
comp=Z,12nm,1.0s
LOF Lofoten 62.59 344 *e*P **P 11 54 20.9 -0.4**
FFC Flin Flon 62.60 39 P **P 11 54 21.7 +0.2**
FFC IAmb IAmb 11 54 36.8
comp=Z,18nm,0.9s
FFC Flin Flon 62.60 39 P **P 11 54 21.7 +0.2**
FFC pmax pmax
comp=Z,18nm,1.0s
FFC Flin Flon 62.60 39 P **P 11 54 21.9 +0.3**
FFC sP **pwP 11 54 36.0 -0.2**
PAHR Pah Rah Range 62.69 60 IAmb IAmb 11 54 38.3
comp=Z,19nm,0.9s
BELG Belogornoye 62.86 318 LR LR 12 24 04.5
comp=Z,436nm,18.9s,baz=95,slow=38
BELG Belogornoye 62.86 318 ⇑ *e*P **P 11 54 22.4 -0.9**
BELG pmax pmax
comp=Z,3.0nm,1.0s
FAUS Fauske 62.87 342 *e*P **P 11 54 22.3 -0.8**
EGMT Eagleton 63.09 48 IAmb IAmb 11 54 40.5
comp=Z,11nm,0.9s
FCC Fort Churchill 63.11 32 IAmb IAmb 11 54 39.4
comp=Z,9.1nm,0.8s
KNRA Kununurra 64.08 204 P **P 11 54 32.9 +1.3**
comp=Z,35nm,1.2s
NVAR Mina Array Bea 64.14 61 P **P 11 54 33.9 +1.6**
comp=Z,0.7nm,0.5s,baz=302,slow=4.5,SNR=4.9
NVAR pP **pwP 11 54 46.6 -0.5**
comp=Z,12nm,0.8s,baz=286,slow=6.6,SNR=21
NVAR LR LR 12 19 45.6
comp=Z,109nm,20.5s,baz=266,slow=33
comp=Z,0.7nm,0.5s
SCO Scoresbysund 64.45 358 P **P 11 54 33.0 -0.5**
SCO IAmb IAmb 11 54 49.4
comp=Z,9.7nm,0.9s
SCO Scoresbysund 64.45 358 P **P 11 54 33.0 -0.5**
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 64.45 358 *i* P **P 11 54 32.0 -1.5**
SCO IAmb IAmb 11 54 34.6
comp=Z,130nm,1.4s
ILULI Ilulissat 64.61 9 IAmb IAmb 11 54 35.3
comp=Z,18nm,0.8s
ILULI Ilulissat 64.61 9 *i* P **P 11 54 33.0 -1.5**
ILULI IAmb IAmb 11 54 34.5
comp=Z,19nm,0.9s
VAF Ylistaro 64.61 337 *e*P **P 11 54 34.7 +0.1**
KEF Keuruu 64.67 335 *e*P **P 11 54 34.7 -0.4**
FIA1 FINESS Array S 64.87 334 P **P 11 54 35.4 -1.0**
FINES FINESS Array B 64.87 334 P **P 11 54 35.4 -1.0**
FINES FINESS Array B 64.87 334 P **P 11 54 35.2 -1.2**
comp=Z,31nm,0.7s,baz=36,slow=7.6,SNR=45
FINES LR LR 12 25 28.3
comp=Z,197nm,19.8s,baz=36,slow=38
comp=Z,31nm,0.7s
FINES FINESS Array B 64.87 334 P **P 11 54 35.4 -1.0**
TPAW Teton Pass 65.30 53 IAmb IAmb 11 54 55.2
comp=Z,21nm,1.0s
SISI Saibi 65.51 240 P **P 11 54 42.2 +1.0**
comp=Z,32nm,0.9s
ICESG Greenland Ices 65.65 4 *i* P **P 11 54 40.8 -0.9**
ICESG IAmb IAmb 11 54 43.3
comp=Z,75nm,1.1s
LAO LASA Array 65.79 48 IAmb IAmb 11 54 58.5
comp=Z,20nm,1.2s
R11B Troy Canyon, C 65.85 59 IAmb IAmb 11 54 58.9
comp=Z,9.3nm,0.9s
R11B Troy Canyon, C 65.85 59 P **P 11 54 45.0 +1.6**
baz=310
OBN Obninsk 65.86 325 *i* P **P 11 54 40.4 -2.5**
OBN *i* 11 54 56.1
OBN *i* 11 55 12.5
OBN pmax pmax
comp=Z,16nm,0.9s
OBN MLR MLR
comp=Z,454nm,16.0s
OBN Obninsk 65.86 325 *e*P **P 11 54 42.6 -0.3**
HRA Herat 66.04 295 IAmb IAmb 11 54 46.5
comp=Z,39nm,1.1s
DUG Dugway, Tooele 66.33 56 IAmb IAmb 11 55 02.2
comp=Z,18nm,1.0s
VRH Novokhopyorsk 66.39 320 *e*P **P 11 54 43.7 -2.7**
VRH pmax pmax
comp=Z,20nm,0.9s
QIS Mount Isa 66.41 192 P **P 11 54 48.5 +1.7**
comp=Z,8.9nm,1.9s
ARBE Arbavere 66.46 333 *e*P **P 11 54 45.5 -1.2**
RAF Rauma 66.49 336 *e*P **P 11 54 46.8 0.0**
PDAR Pinedale Array 66.54 52 P **P 11 54 48.0 +0.2**
comp=Z,1.2nm,0.9s,baz=260,slow=0.9,SNR=7.9
PDAR pP **sP 11 55 00.9 +1.0**
comp=Z,5.3nm,0.8s,baz=285,slow=2.2,SNR=18
PDAR LR LR 12 21 46.0
comp=Z,56nm,21.6s,baz=326,slow=34
WB0 Warramunga Arr 66.58 198 P **P 11 54 48.5 +0.6**
WB0 IAmb IAmb 11 55 04.2
comp=Z,35nm,1.2s
LPSR Galich'ya Gora 66.66 322 *e*P **P 11 54 46.5 -1.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
WRAB Tennant Creek 66.75 198 P **P 11 54 49.6 +0.7**
WRAB IAmb IAmb 11 55 04.7
comp=Z,26nm,1.2s
WRAB Tennant Creek 66.75 198 *de*P **P 11 54 49.6 +0.7**
WRAB pmax pmax
comp=Z,10.0nm,1.0s
WB2 Warramunga Arr 66.76 198 IAmb IAmb 11 55 04.8
comp=Z,29nm,1.2s
WRA Warramunga Arr 66.76 198 P **P 11 54 49.8 +0.7**
comp=Z,4.6nm,0.7s,baz=16,slow=6.6,SNR=19
WRA pP **sP 11 55 03.0 +1.1**
comp=Z,9.5nm,0.9s,baz=13,slow=6.3,SNR=11
WRA LR LR 12 22 49.0
comp=Z,76nm,21.9s,baz=35,slow=35
WRA PKP2ab 12 23 28.1
comp=Z,0.9nm,0.7s,baz=202,slow=3.2,SNR=5.2
comp=Z,4.6nm,0.7s
SFJD Kangerlussuaq 66.79 9 LR LR 12 26 37.7
comp=Z,215nm,18.4s,baz=338,slow=38
SFJD Kangerlussuaq 66.79 9 *i* P **P 11 54 47.6 -1.0**
FRB Frobisher Bay 66.80 18 LR LR 12 26 43.4
comp=Z,165nm,20.0s,baz=320,slow=38
FRB Frobisher Bay 66.80 18 P **P 11 54 48.3 -0.5**
FRB pmax pmax
comp=Z,33nm,1.1s
VSU Vasula 66.98 332 *ce*P **P 11 54 48.1 -1.9**
VSU pmax pmax
comp=Z,83nm,2.5s
VSU Vasula 66.98 332 *e*P **P 11 54 48.7 -1.3**
MSVF Nonsavu 67.21 152 LR LR 12 22 39.7
comp=Z,439nm,18.3s,baz=344,slow=34
FITZ Fitzroy Crossi 67.31 207 P **P 11 54 52.6 +0.1**
FITZ Fitzroy Crossi 67.31 207 P **P 11 54 53.1 +0.6**
comp=Z,7.6nm,0.9s,baz=6.3,slow=9.2,SNR=6.4
comp=Z,7.6nm,0.9s
VSR Storozhevoye 67.54 321 *e*P **P 11 54 51.3 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MTSE Matsula 67.72 333 *e*P **P 11 54 54.4 -0.3**
DY2G Dye2 67.74 8 *i* P **P 11 54 53.8 -1.2**
DY2G IAmb IAmb 11 54 57.4
comp=Z,16nm,0.7s
V12A Nelson 67.98 61 P **P 11 54 57.3 +0.4**
LCMT Little Creek M 68.13 59 IAmb IAmb 11 55 13.8
comp=Z,17nm,0.9s
PFO Pinyon Flats O 68.35 64 LR LR 12 22 54.4
comp=Z,70nm,20.8s,baz=234,slow=34
ULM Lac du Bonnet 68.38 40 P **P 11 54 58.4 -0.6**
comp=Z,2.2nm,0.6s,baz=305,slow=8.1,SNR=6.3
ULM pP **sP 11 55 11.8 +0.7**
comp=Z,5.4nm,0.8s,baz=311,slow=8.5,SNR=7.0
ULM LR LR 12 27 36.7
comp=Z,142nm,18.9s,baz=342,slow=38
comp=Z,2.2nm,0.6s
KNB Kanab 68.39 59 IAmb IAmb 11 55 15.6
comp=Z,20nm,1.0s
DZM Mont Dzumac 68.41 165 *e*LR LR 12 15 51.8
comp=Z,272nm,23.6s
RSSD Black Hills 68.65 48 P **P 11 55 01.3 +0.2**
RSSD IAmb IAmb 11 55 15.9
comp=Z,16nm,1.1s
RSSD Black Hills 68.65 48 P **P 11 55 01.3 +0.2**
RSSD pmax pmax
comp=Z,16nm,1.2s
DOMB Dombas 68.84 342 *e*P **P 11 55 01.5 -0.2**
NC405 NORSAR Array S 69.06 340 P **P 11 55 02.5 -0.5**
U15A North Rim 69.09 59 IAmb IAmb 11 55 19.9
comp=Z,14nm,1.0s
AKN Aaknes 69.15 343 *e*P **P 11 55 03.8 +0.1**
ISOG Isortoq, Green 69.21 5 *i* P **P 11 55 03.0 -0.8**
ISOG IAmb IAmb 11 55 10.3
comp=Z,26nm,0.9s
NB2 NORSAR Subarra 69.24 341 P **P 11 55 03.7 -0.5**
comp=Z,111nm,1.4s,baz=28,slow=6.2
NB2 NORSAR Subarra 69.24 341 P **P 11 55 03.7 -0.5**
baz=28,slow=6.2
NOA NORSAR Array B 69.24 341 P **P 11 55 03.7 -0.5**
comp=Z,25nm,0.7s,baz=28,slow=6.4,SNR=57
NOA LR LR 12 30 30.2
comp=Z,179nm,18.1s,baz=10.0,slow=40
comp=Z,25nm,0.7s
HFS Hagfors 69.42 339 P **P 11 55 04.8 -0.5**
comp=Z,39nm,0.6s,baz=48,slow=4.4,SNR=105
HFS LR LR 12 29 37.1
comp=Z,181nm,19.2s,baz=18,slow=40
comp=Z,39nm,0.6s
NC602 NORSAR Array S 69.43 340 IAmb IAmb 11 55 05.8
comp=Z,34nm,0.9s
NORES NORESS Array B 69.43 340 P **P 11 55 04.7 -0.6**
IIGN Ignalina 69.59 330 *e*P **P 11 55 06.4 0.0**
MNK Minsk 69.67 329 *i* P **P 11 55 07.3 +0.4**
MNK *i* 11 55 29.4
MNK *i* 11 57 41.8
MNK *i* PPP PPP 11 59 23.4
MNK *i* S **S 12 04 18.1 +5.4**
MNK pmax pmax
comp=N,11nm,0.8s
MNK pmax pmax
comp=Z,70nm,0.8s
MNK pmax pmax
comp=E,39nm,0.8s
MNK MLR MLR
comp=Z,446nm,16.0s
MNK MLR MLR
comp=N,243nm,16.0s
MNK MLR MLR
comp=E,414nm,16.0s
AGMN Agassiz Nation 69.79 41 IAmb IAmb 11 55 22.2
comp=Z,9.6nm,0.8s
VSVD Vaisvydziai 69.88 332 *e*P **P 11 55 08.4 +0.3**
GOF Gofitskoye 70.03 314 *ce*P **P 11 55 09.8 +0.5**
BORG Borgarnes 70.16 357 *ce*P **P 11 55 10.5 +0.8**
SKAR Skarslia 70.22 342 *e*P **P 11 55 10.1 -0.2**
HYA Hoyanger 70.24 343 *e*P **P 11 55 10.4 +0.2**
PABE Paberze 70.25 331 *e*P **P 11 55 10.1 -0.3**
EIDS Eidsvold 70.31 180 P **P 11 55 13.5 +2.4**
comp=Z,14nm,1.6s
AS31 Alice Springs 70.46 197 P **P 11 55 13.1 +1.0**
ASAR Alice Springs 70.46 197 P **P 11 55 13.5 +1.4**
comp=Z,4.8nm,0.9s,baz=14,slow=5.9,SNR=30
ASAR LR LR 12 25 04.3
comp=Z,45nm,21.6s,baz=46,slow=35
comp=Z,4.8nm,0.9s
SEKA Sheki 70.52 309 P **P 11 55 13.1 +0.6**
SUE Sulen 70.62 344 *e*P **P 11 55 12.1 -0.5**
ERBR Yeremizino-Bor 70.84 316 *e*P **P 11 55 14.8 +0.6**
ERBR pmax pmax
comp=Z,119nm,0.9s
MNGR Mingechevir, A 70.88 309 P **P 11 55 15.9 +1.4**
X16A Lo Mia Camp, P 70.95 60 IAmb IAmb 11 55 31.2
comp=Z,11nm,1.0s
KVAR Kislovodsk Arr 70.99 314 P **P 11 55 15.7 +0.3**
comp=Z,37nm,0.9s,baz=86,slow=19,SNR=18
comp=Z,37nm,0.9s
KIV Kislovodsk 70.99 314 P **P 11 55 14.4 -0.9**
KIV Kislovodsk 70.99 314 ⇑ P **P 11 55 16.7 +1.4**
KIV Kislovodsk 70.99 314 *e*P **P 11 55 15.0 -0.3**
KIV pmax pmax
comp=Z,119nm,1.1s
KIV MLR MLR
comp=Z,539nm,18.0s
KIV Kislovodsk 70.99 314 *i* P **P 11 55 15.8 +0.4**
SNR=19
KIV Kislovodsk 70.99 314 *e*P **P 11 55 15.0 -0.3**
KIV Kislovodsk 70.99 314 P **P 11 55 16.1 +0.8**
KBZ Khabaz 71.05 313 P **P 11 55 16.4 +1.0**
comp=Z,91nm,0.9s,baz=69,slow=3.6,SNR=146
KBZ LR LR 12 30 54.1
comp=Z,919nm,19.0s,baz=45,slow=40
KBZ Khabaz 71.05 313 *d i*P **P 11 55 15.8 +0.3**
KBZ pmax pmax
comp=Z,112nm,0.9s
KBZ Khabaz 71.05 313 *e*P **P 11 55 15.8 +0.3**
ASK Askoy 71.06 343 *e*P **P 11 55 14.4 -0.9**
GUDG Gudauri 71.11 312 P **P 11 55 17.0 +0.8**
BER Bergen 71.12 343 *e*P **P 11 55 14.4 -1.2**
SHA1 Shidzhatmaz 71.16 314 *c i*P **P 11 55 17.2 +0.7**
LKRN Lenkeran, Azer 71.35 306 P **P 11 55 18.7 +1.3**
PALK Pallekele 71.35 261 LR LR 12 29 39.3
comp=Z,136nm,19.0s,baz=42,slow=38
F33A 5 Mile Ranch, 71.36 43 IAmb IAmb 11 55 31.9
comp=Z,16nm,0.9s
GANJ Ganja 71.39 309 P **P 11 55 18.7 +1.0**
LABN Labinsk 71.49 315 *e*P **P 11 55 18.9 +0.7**

LABN pmax pmax
comp=Z,60nm,0.8s
SUW Suwalki 71.73 331 *e*P **P 11 55 18.6 -0.9**
SUW Suwalki 71.73 331 P **P 11 55 17.9 -1.5**
SUW Suwalki 71.73 331 P **P 11 55 17.9 -1.5**
SUW pmax pmax
comp=Z,79nm,1.0s
SUW Suwalki 71.73 331 *e*P **P 11 55 18.7 -0.7**
EYMN Ely 72.03 39 P **P 11 55 20.9 -0.5**
EYMN lAmb lAmb 11 55 35.8
comp=Z,15nm,1.1s
AK03 Malin Array Si 72.10 326 P **P 11 55 21.1 -0.6**
AK23 Malin Array Si 72.11 326 P **P 11 55 21.2 -0.6**
AKASG Malin Array Be 72.12 326 P **P 11 55 21.5 -0.3**
AKASG Malin Array Be 72.12 326 P **P 11 55 21.1 -0.8**
comp=Z,15nm,0.4s,baz=37,slow=6.2,SNR=123
AKASG LR LR 12 29 40.3
comp=Z,561nm,18.6s,baz=40,slow=38
comp=Z,15nm,0.4s
AKASG Malin Array Be 72.12 326 P **P 11 55 21.5 -0.3**
AKASG pmax pmax
comp=Z,43nm,0.9s
AKBB Malin Array Si 72.12 326 P **P 11 55 21.6 -0.3**
AKBB Malin Array Si 72.12 326 *ce*P **P 11 55 21.0 -0.8**
AKBB Malin Array Si 72.12 326 P **P 11 55 21.2 -0.6**
AK04 Malin Array Si 72.12 326 P **P 11 55 21.2 -0.7**
KIEV Kiev 72.13 326 P **P 11 55 21.4 -0.5**
KIEV Kiev 72.13 326 ⇓P **P 11 55 21.4 -0.5**
KIEV Kiev 72.13 326 P **P 11 55 21.4 -0.5**
KIEV Kiev 72.13 326 *i* P **P 11 55 21.1 -0.8**
SNR=24
KIEV Kiev 72.13 326 P **P 11 55 21.1 -0.8**
comp=Z,236nm,0.8s
KIEV Kiev 72.13 326 P **P 11 55 21.1 -0.8**
AK11 Malin Array Si 72.16 326 P **P 11 55 21.4 -0.7**
AK05 Malin Array Si 72.19 326 P **P 11 55 21.7 -0.5**
AK12 Malin Array Si 72.19 326 P **P 11 55 21.7 -0.6**
AK17 Malin Array Si 72.20 326 P **P 11 55 21.7 -0.6**
PSA00 Pilbara Seismi 72.50 211 P **P 11 55 24.1 -0.3**
comp=Z,22nm,1.2s
MI28 Mi28,Pidlybu 72.55 327 P **P 11 55 24.0 -0.4**
SNART Snartemo 72.58 341 *e*P **P 11 55 24.5 +0.1**
GNI Garni 72.60 310 P **P 11 55 27.2 +2.1**
GNI Garni 72.60 310 P **P 11 55 26.1 +1.0**
comp=Z,34nm,0.8s,baz=175,slow=0.7,SNR=19
GNI LR LR 12 30 07.7
comp=Z,312nm,22.0s,baz=54,slow=38
comp=Z,34nm,0.8s
GNI Garni 72.60 310 P **P 11 55 27.2 +2.1**
GNI pmax pmax
comp=Z,83nm,1.2s
GNI Garni 72.60 310 P **P 11 55 26.1 +1.0**
VSLR Vesyoloye 72.69 315 *c i*P **P 11 55 25.7 +0.3**
VSLR pmax pmax
comp=Z,118nm,1.0s
SOC Sochi 72.76 315 *e*P **P 11 55 23.2 -2.6**
SOC *e* 11 58 04.1
SOC *e*PPP PPP 11 59 45.3
SOC *e*S **S 12 04 46.9 -2.0**
SOC pmax pmax
comp=Z,55nm,0.7s
SOC MLR MLR
comp=Z,412nm,18.0s
RNPP9 Sopachiv 72.85 328 P **P 11 55 25.7 -0.5**
RNPP8 Varash 72.92 328 P **P 11 55 26.1 -0.5**
ANN Anapa 72.98 317 *e*P **P 11 55 25.2 -1.9**
ANN pmax pmax
comp=Z,46nm,0.5s
E38A The Farm, Brul 73.01 40 lAmb lAmb 11 55 41.3
comp=Z,21nm,0.7s
NIUE Niue 73.04 142 P **P 11 55 29.0 +1.4**
WRKA Warakurna 73.10 202 P **P 11 55 28.8 +0.9**
comp=Z,21nm,1.0s
KARS Kars 73.15 311 P **P 11 55 30.2 +1.8**
KARS pmax pmax
comp=Z,98nm,0.9s
T25A Trinidad 73.25 54 P **P 11 55 30.4 +1.3**
baz=315
GOET G??ttrup 73.27 340 *i* P **P 11 55 28.6 +0.1**
GOET lAmb lAmb 11 55 29.6
comp=Z,84nm,0.6s
LUBAR Lubar, Ukraine 73.31 326 P **P 11 55 27.9 -1.1**
BCA Borcka 73.33 312 ⇑P **P 11 55 30.0 +0.7**
ANMO Albuquerque 73.59 57 LR LR 12 24 15.1
comp=Z,86nm,21.6s,baz=138,slow=33
MUD Monsted U'grnd 73.80 339 *i* P **P 11 55 31.1 -0.5**
MUD lAmb lAmb 11 55 32.8
comp=Z,20nm,0.7s
BAL3X Bal3x, Balta 74.12 324 P **P 11 55 33.3 -0.4**
GKP Gorka Klasztor 74.31 333 *e*P **P 11 55 34.1 -0.6**
319A Douglas 74.34 61 lAmb lAmb 11 55 51.0
comp=Z,14nm,0.9s
BEL Belsk 74.34 331 *e*P **P 11 55 34.6 -0.4**
BEL Belsk 74.34 331 P **P 11 55 35.5 +0.6**
BEL pmax pmax
comp=Z,259nm,0.9s
RGN Rugen 74.38 336 *e*P P 11 55 43.3 +8.2
comp=Z,174nm,1.1s,baz=28,slow=5.6
SIM Simferopol' 74.44 319 *e*P **P 11 55 35.7 +0.1**
SIM *e* 11 55 51.0
SIM pmax pmax
comp=Z,91nm,0.8s
SIM MLR MLR
comp=Z,400nm,15.9s
121A Cookes Peak, D 74.46 59 P **P 11 55 37.6 +1.3**
baz=314
SORM Soroca 74.49 324 ⇓P **P 11 55 35.6 -0.3**
SORM Soroca 74.49 324 P **P 11 55 35.5 -0.3**
NDNU Novodnistrovsk 74.52 325 P **P 11 55 35.7 -0.3**
GEVA Gevas 74.82 309 lAmb lAmb 11 55 40.5
comp=Z,30nm,1.1s
KMPD K-Podol'skiy 74.91 326 P **P 11 55 37.6 -0.7**
KOPT Kop Dagi 74.96 312 lAmb lAmb 11 55 42.5
comp=Z,43nm,1.1s
SCHQ Schefferville 75.10 22 lAmb lAmb 11 55 40.5
comp=Z,16nm,1.1s
SCHQ Schefferville 75.10 22 P **P 11 55 39.3 0.0**
comp=Z,6.1nm,0.7s,baz=352,slow=7.5,SNR=9.9
comp=Z,6.1nm,0.7s
PURM Purcari 75.11 323 ⇓P **P 11 55 39.7 +0.2**
MILM Milestii Mici 75.25 323 ⇑P **P 11 55 39.9 -0.5**
MILM Milestii Mici 75.25 323 P **P 11 55 39.8 -0.5**
MORS Morshin 75.45 327 P **P 11 55 41.7 +0.3**
MORS Morshin 75.45 327 P **P 11 55 41.7 +0.3**
KWP Kalwaria Pacla 75.48 328 P **P 11 55 42.0 +0.4**
KWP Kalwaria Pacla 75.48 328 P **P 11 55 42.0 +0.4**
comp=Z,166nm,1.1s
BANOM Banah 75.48 292 P **P 11 55 42.5 +0.5**
SHME Shamm 75.50 292 P **P 11 55 42.0 -0.1**
STNU Starunia 75.56 327 P **P 11 55 42.2 +0.2**
SHIU Shidnytsya 75.57 328 P **P 11 55 42.5 +0.3**
KSV Kosov 75.66 326 P **P 11 55 42.6 0.0**
KSV Kosov 75.66 326 P **P 11 55 42.6 0.0**
BSEG Bad Segeberg 75.76 338 P **P 11 55 43.7 +0.7**
BSEG pmax pmax
comp=Z,36nm,1.2s
BSEG Bad Segeberg 75.76 338 *e*P **P 11 55 43.2 +0.2**
comp=Z,29nm,0.9s,baz=28,slow=5.6
WSAR Wadi Sarin 75.78 289 LR LR 12 33 04.7
comp=Z,183nm,19.4s,baz=62,slow=39
MDH Madha 75.91 292 P **P 11 55 44.6 +0.2**
MSFE Esma-Masafi 75.96 292 P **P 11 55 45.4 +0.6**
PRAR RASCA 75.97 325 ⇑P **P 11 55 44.7 +0.3**
OJC Ojcow 76.04 330 *e*P **P 11 55 45.1 +0.3**
OJC Ojcow 76.04 330 P **P 11 55 45.2 +0.4**
OJC pmax pmax
comp=Z,93nm,0.9s
OJC Ojcow 76.04 330 P **P 11 55 44.9 +0.1**
comp=Z,93nm,0.9s
RUE Ruedersdorf 76.05 335 *e*P **P 11 55 44.7 0.0**
comp=Z,50nm,0.8s,baz=28,slow=5.6
BURAR Bucovina Array 76.17 326 ⇓P **P 11 55 46.1 +0.4**
BURAR Bucovina Array 76.17 326 P **P 11 55 46.0 +0.4**
STHS Stebnicka Huta 76.20 329 *e*P **P 11 55 45.8 +0.1**
STHS pmax pmax
comp=Z,41nm,0.8s
STHS Stebnicka Huta 76.20 329 *e*P **P 11 55 45.8 +0.1**
UOSS Minazif 76.22 291 P **P 11 55 45.7 -0.5**
UOSS lAmb lAmb 11 55 47.3
comp=Z,23nm,0.9s
UOSS Minazif 76.22 291 *i* P **P 11 55 46.2 +0.1**
SNR=6.8
KOLS Kolonicke sedl 76.22 328 *e*P **P 11 55 46.3 +0.5**
KOLS pmax pmax
comp=Z,60nm,0.8s
KOLS Kolonicke sedl 76.22 328 *e*P **P 11 55 46.3 +0.5**
RAKU Rahkiv 76.25 327 P **P 11 55 45.7 -0.3**
GORT1 Trebel 76.32 337 *e*P **P 11 55 46.8 +0.6**
comp=Z,87nm,1.3s,baz=28,slow=5.6
HATD Hatta, Dubai 76.35 291 *i* P **P 11 55 47.4 +0.5**
SNR=6.7
DIKM Dikmen 76.40 316 ⇓P **P 11 55 48.2 +1.3**
VLDR Vladesti 76.42 323 ⇑P **P 11 55 47.3 +0.3**
MUKU Mukachevo 76.46 328 P **P 11 55 47.4 +0.3**
TESR Tescani 76.48 324 ⇓P **P 11 55 47.3 -0.1**
TESR Tescani 76.48 324 P **P 11 55 47.2 -0.1**
comp=Z,120nm,0.8s
ASHO Ashiyiah 76.49 291 P **P 11 55 48.3 +0.5**
HOLU Holmets 76.52 328 P **P 11 55 47.8 +0.4**
NIE Niedzica 76.53 330 *e*P **P 11 55 48.5 +0.9**
NIE Niedzica 76.53 330 P **P 11 55 48.6 +1.0**
NIE pmax pmax
comp=Z,30nm,1.0s
NIE Niedzica 76.53 330 P **P 11 55 47.9 +0.3**
comp=Z,30nm,1.0s
KORU Korolevo 76.54 327 P **P 11 55 47.9 +0.3**
SOHO SOHO 76.56 291 P **P 11 55 48.6 +0.5**
INVG Invergeldie, C 76.59 346 *e*P **P 11 55 47.1 -0.6**
TLCR 76.62 322 ⇑P **P 11 55 48.2 +0.1**
TLCR 76.62 322 P **P 11 55 48.2 +0.1**
TRSU Trosnyk 76.66 327 P **P 11 55 49.1 +0.9**
KSP Ksiaz 76.69 333 *e*P **P 11 55 48.6 +0.2**
KSP Ksiaz 76.69 333 P **P 11 55 48.7 +0.2**
KSP pmax pmax
comp=Z,53nm,1.1s
KSP Ksiaz 76.69 333 P **P 11 55 48.5 +0.1**
comp=Z,53nm,1.1s
ONER Baraj Valea Uz 76.73 324 ⇓P **P 11 55 49.2 +0.5**
BMR Baia Mare 76.80 327 ⇑P **P 11 55 50.0 +0.9**
BMR Baia Mare 76.80 327 P **P 11 55 49.9 +0.9**
CFR Carcaliu 76.92 323 ⇑P **P 11 55 50.0 +0.1**
CFR Carcaliu 76.92 323 P **P 11 55 49.9 +0.1**
FLTG Flechtingen 76.93 336 *e*P **P 11 55 49.2 -0.5**
comp=Z,44nm,1.0s,baz=28,slow=5.6
OKC Ostrava-Krasne 76.93 331 P **P 11 55 50.3 +0.5**
OKC pmax pmax
comp=Z,49nm,1.1s
ARCR ARCALIA 76.94 326 ⇓P **P 11 55 50.6 +0.6**
OSTC Ostas 76.96 333 *e*P **P 11 55 50.4 +0.4**
OSTC Ostas 76.96 333 *e*P **P 11 55 50.4 +0.4**
VRI Vrincioaia 76.97 324 ⇑P **P 11 55 50.6 +0.4**
VRI Vrincioaia 76.97 324 P **P 11 55 50.5 +0.4**
LAWE Loch Awe, Argy 76.97 347 *e*P **P 11 55 49.7 -0.2**
STEB Steborice 76.98 331 *e*P **P 11 55 50.4 +0.3**
CHVC Chvalec 76.99 333 *e*P **P 11 55 50.5 +0.4**
CHVC Chvalec 76.99 333 *e*P **P 11 55 50.5 +0.4**
PLOR Plostina 77.01 324 ⇓P **P 11 55 50.6 +0.2**
PLOR Plostina 77.01 324 P **P 11 55 50.5 +0.2**
TPGR Topolog 77.06 322 ⇑P **P 11 55 51.2 +0.5**
NRDL Niedersach Rie 77.10 337 *e*P **P 11 55 50.7 +0.1**
comp=Z,30nm,1.0s,baz=28,slow=5.6
DPC Dobruska-Polom 77.10 332 *e*P **P 11 55 51.3 +0.5**
DPC Dobruska-Polom 77.10 332 *e*P **P 11 55 51.3 +0.5**
OZUR 77.17 325 ⇓P **P 11 55 52.1 +0.9**
KRLC Kraliky 77.19 332 *e*P **P 11 55 51.8 +0.5**
KRLC Kraliky 77.19 332 *e*P **P 11 55 51.8 +0.5**
MORC Moravsky Berou 77.19 331 *e*P **P 11 55 51.6 +0.3**
MORC Moravsky Berou 77.19 331 ⇑P **P 11 55 51.9 +0.6**
MORC Moravsky Berou 77.19 331 P **P 11 55 51.9 +0.6**
COVR Voineasa-Covas 77.20 324 ⇑P **P 11 55 52.1 +0.7**
CLL Collm 77.31 335 ⇑*i*P **P 11 55 51.7 -0.2**
CLL pmax pmax
comp=Z,76nm,1.1s
CLL MLR MLR
comp=Z,500nm,18.2s
CLL Collm 77.31 335 P **P 11 55 51.5 -0.4**
comp=Z,72nm,1.1s
CLL Collm 77.31 335 ⇑*i*P **P 11 55 51.7 -0.2**
comp=Z,76nm,1.1s
CLL AMS AMS 12 33 00.0
comp=Z,500nm,18.2s
CLL Collm 77.31 335 *e*P **P 11 55 51.5 -0.4**
comp=Z,70nm,1.0s,baz=28,slow=5.6
STKA Stephens Creek 77.32 189 P **P 11 55 53.5 +1.6**
comp=Z,3.1nm,1.9s
STKA Stephens Creek 77.32 189 P **P 11 55 53.9 +2.0**
comp=Z,1.4nm,0.3s,baz=16,slow=6.2,SNR=3.2
STKA pP **sP 11 56 06.3 +1.8**
comp=Z,6.8nm,1.0s,baz=67,slow=4.6,SNR=3.1
STKA LR LR 12 33 49.6
comp=Z,88nm,19.1s,baz=22,slow=39
comp=Z,1.4nm,0.3s
TIRR Tirgusor 77.38 322 lAmb lAmb 11 55 53.7
comp=Z,48nm,1.2s
TIRR Tirgusor 77.38 322 ⇓P **P 11 55 52.9 +0.5**
TIRR Tirgusor 77.38 322 P **P 11 55 52.9 +0.5**
BRG Berggiesshubel 77.41 334 *i* P **P 11 55 52.3 -0.2**
BRG Amp 11 55 54.1
comp=Z,34nm,1.2s
BRG Berggiesshubel 77.41 334 P **P 11 55 52.4 -0.1**
BRG pmax pmax
comp=Z,23nm,1.2s
BRG Berggiesshubel 77.41 334 *e*P **P 11 55 52.2 -0.2**
comp=Z,34nm,1.2s,baz=28,slow=5.6
DOPR Dopca 77.44 325 ⇑P **P 11 55 54.0 +1.2**
MESR Meseseni 77.44 327 ⇓P **P 11 55 53.5 +0.8**
MAUC Maruska 77.44 331 *e*P **P 11 55 53.4 +0.7**
EKA Eskdalemuir Ar 77.48 345 P **P 11 55 52.7 0.0**
comp=Z,4.3nm,0.4s,baz=17,slow=4.7,SNR=37
comp=Z,4.3nm,0.4s
ESK Eskdalemuir 77.51 345 *e*P **P 11 55 53.0 +0.1**
PVCC Panska Ves 77.51 333 *e*P **P 11 55 53.5 +0.5**
PVCC Panska Ves 77.51 333 *e*P **P 11 55 53.5 +0.5**
CJR Cluj-Napoca 77.54 326 P **P 11 55 54.5 +1.1**
MLR Muntele Rosu 77.59 324 P **P 11 55 53.9 +0.2**
comp=Z,34nm,0.8s,baz=296,slow=2.5,SNR=27
MLR LR LR 12 32 32.4
comp=Z,262nm,18.5s,baz=58,slow=38
comp=Z,34nm,0.8s
MLR Muntele Rosu 77.59 324 ⇓P **P 11 55 54.5 +0.7**
MLR Muntele Rosu 77.59 324 P **P 11 55 54.4 +0.7**
CLZ Clausthal 77.61 336 *e*P **P 11 55 54.1 +0.5**
comp=Z,75nm,1.2s,baz=28,slow=5.6
MARR Marisel-Cluj 77.76 326 ⇑P **P 11 55 55.0 +0.4**
NEUB Neuenburg 77.77 335 *e*P **P 11 55 54.3 -0.1**
comp=Z,53nm,0.9s,baz=28,slow=5.6
HSKC Hora Svate Kat 77.80 334 *e*P **P 11 55 55.0 +0.3**
DRGR 77.83 327 ⇓P **P 11 55 55.6 +0.7**
DRGR 77.83 327 P **P 11 55 55.6 +0.7**
VYHS Vyhne 77.83 330 *e*P **P 11 55 55.3 +0.4**
VYHS pmax pmax
comp=Z,49nm,1.2s
VYHS Vyhne 77.83 330 *e*P **P 11 55 55.3 +0.4**
IBBN Ibbenburen 77.90 338 *e*P **P 11 55 55.1 0.0**
comp=Z,42nm,0.8s,baz=28,slow=5.6
VRAC Vranov 77.91 332 P **P 11 55 55.9 +0.6**
comp=Z,39nm,0.9s,baz=30,slow=6.0,SNR=31
VRAC LR LR 12 33 30.9
comp=Z,323nm,18.3s,baz=16,slow=38
comp=Z,39nm,0.9s
VRAC Vranov 77.91 332 *e*P **P 11 55 55.5 +0.2**
VRAC Vranov 77.91 332 ⇑P **P 11 55 56.2 +0.9**
VRAC Vranov 77.91 332 P **P 11 55 56.2 +0.9**
ICOR Ion Corvin 77.91 322 ⇑P **P 11 55 56.2 +0.8**
JAVC Velka Javorina 77.93 331 *e*P **P 11 55 56.9 +1.4**
PSZ Piszkesteto 77.94 329 P **P 11 55 55.6 0.0**
PSZ Piszkesteto 77.94 329 ⇓P **P 11 55 56.2 +0.6**
PSZ Piszkesteto 77.94 329 P **P 11 55 56.2 +0.6**
PSZ Piszkesteto 77.94 329 *e*P **P 11 55 55.9 +0.3**
GOPC GO Pecny, Ondr 77.98 333 *e*P **P 11 55 55.9 +0.2**
GOPC GO Pecny, Ondr 77.98 333 *e*P **P 11 55 55.9 +0.2**
GTTG Gottingen 77.99 337 *e*P **P 11 55 56.0 +0.3**
comp=Z,37nm,1.0s,baz=28,slow=5.6
PRU Pruhonice 77.99 333 *e*P **P 11 55 56.3 +0.6**
PRU AMS AMS 12 34 00.0
comp=Z,700nm,17.9s
PRU Pruhonice 77.99 333 *e*P **P 11 55 56.3 +0.6**
PRU MLR MLR
comp=Z,700nm,17.9s
VOIR 78.01 325 ⇑P **P 11 55 56.4 +0.4**
VOIR 78.01 325 P **P 11 55 56.4 +0.4**
VOIR 78.01 325 P **P 11 55 56.2 +0.2**
comp=Z,78nm,0.9s
TNR Turnu Rosu 78.15 325 ⇑P **P 11 55 58.0 +1.2**
TNR Turnu Rosu 78.15 325 P **P 11 55 57.9 +1.2**
WMOK Wichita Mounta 78.15 52 P **P 11 55 54.0 -2.9**
WMOK pmax pmax
comp=Z,8.0nm,1.4s
KESW Keswick, Cumbr 78.18 345 *e*P **P 11 55 56.9 +0.2**
KESW lAmb lAmb 11 55 59.1
comp=Z,95nm,1.3s
KRUC Moravsky 78.19 332 *e*P **P 11 55 57.2 +0.4**
KRUC Moravsky 78.19 332 P **P 11 55 57.5 +0.7**
KRUC pmax pmax
comp=Z,64nm,1.1s
ARR Arges 78.23 325 ⇑P **P 11 55 58.1 +0.8**
TANN Tannenbergstha 78.26 335 *e*P **P 11 55 57.2 -0.1**
comp=Z,86nm,1.9s,baz=28,slow=5.6
PLN Plauen 78.29 335 *e*P **P 11 55 57.5 +0.1**
comp=Z,8.2nm,1.0s,baz=28,slow=5.6
MOX Moxa 78.31 335 P **P 11 55 57.7 +0.2**
MOX pmax pmax
comp=Z,27nm,1.4s
MOX Moxa 78.31 335 *e*P **P 11 55 57.6 +0.1**
comp=Z,36nm,1.2s,baz=28,slow=5.6
MOX *e*L L 12 26 40.0
comp=Z,280nm,20.0s
NKC Novy Kostel 78.43 335 P **P 11 55 58.4 +0.2**
NKC pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 78.48 331 *e*P **P 11 55 59.9 +1.4**
MODS pmax pmax
comp=Z,116nm,1.1s
MODS Modra-Piesok 78.48 331 *e*P **P 11 55 59.9 +1.4**
HPK Haverah Park 78.50 344 *e*P **P 11 55 58.8 +0.3**
BUD Budapest 78.62 329 P **P 11 56 00.0 +0.8**
BUD pmax pmax
comp=Z,47nm,1.2s
UBBA Unterbreizbach 78.63 336 *e*P **P 11 55 59.4 +0.3**
comp=Z,21nm,1.2s,baz=28,slow=5.6
FORT Forrest 78.64 200 P **P 11 56 01.0 +1.7**
comp=Z,33nm,2.0s
BR131 Keskin Array S 78.66 316 lAmb lAmb 11 56 01.4
comp=Z,30nm,1.1s
BR131 Keskin Array S 78.66 316 *c i*P **P 11 55 59.9 +0.1**
BRTR Keskin Array B 78.66 316 P **P 11 55 59.5 -0.3**
BRTR Keskin Array B 78.66 316 P **P 11 56 00.3 +0.5**
comp=Z,16nm,1.0s,baz=58,slow=3.1,SNR=27
comp=Z,16nm,1.0s
BR106 Keskin Array S 78.66 316 P **P 11 56 00.3 +0.5**
comp=Z,156nmcomp=Z,19nm,1.1s
SIRR Siria 78.67 327 ⇑P **P 11 55 59.9 +0.4**
BR104 Keskin Array S 78.67 316 P **P 11 56 00.1 +0.2**
comp=Z,155nmcomp=Z,20nm,1.0s
BR105 Keskin Array S 78.68 316 P **P 11 56 00.1 +0.2**
comp=Z,185nmcomp=Z,23nm,1.1s
KASTN Kahler Asten 78.72 337 *e*P **P 11 56 00.0 +0.2**
comp=Z,42nm,1.1s,baz=28,slow=5.6
LPIG La Paz 78.73 67 LR LR 12 22 17.3
comp=Z,72nm,20.7s,baz=316,slow=29
MANZ Manzenberg 78.75 335 *e*P **P 11 55 60.0 0.0**
comp=Z,6.2nm,1.1s,baz=28,slow=5.6
GAZ Gaziantep 78.79 312 lAmb lAmb 11 56 03.0
comp=Z,45nm,1.3s
BUG Bochum--Univer 78.81 338 P **P 11 56 00.3 +0.1**
BUG pmax pmax
comp=Z,48nm,1.3s
BUG Bochum--Univer 78.81 338 *e*P **P 11 56 00.2 +0.1**
comp=Z,64nm,1.3s,baz=28,slow=5.6
ROTZ Rotzenmuhle 78.91 334 *e*P **P 11 56 01.2 +0.4**
comp=Z,6.5nm,0.9s,baz=28,slow=5.6
SURR Surduc 78.91 327 ⇓P **P 11 56 01.3 +0.4**
GZR Gura Zlata 78.96 326 ⇑P **P 11 56 01.3 0.0**
GZR Gura Zlata 78.96 326 P **P 11 56 01.2 0.0**
ANTO Ankara 78.96 317 P **P 11 56 00.1 -1.3**
ANTO lAmb lAmb 11 56 03.3
comp=Z,40nm,0.9s
ANTO Ankara 78.96 317 ⇑P **P 11 56 02.8 +1.4**
ANTO Ankara 78.96 317 P **P 11 56 02.8 +1.4**
KIRS Kirsehir-Merke 78.98 315 ⇑P **P 11 56 02.0 +0.6**
KHC Kasperske Hory 79.05 333 *e*P **P 11 56 02.2 +0.6**
KHC AMS AMS 12 37 30.0
comp=Z,600nm,17.6s
KHC Kasperske Hory 79.05 333 *ce*P **P 11 56 01.9 +0.3**
KHC pmax pmax
comp=Z,150nm,1.3s
LBWR Ladybower, Pea 79.05 344 *e*P **P 11 56 01.3 -0.2**
LBWR lAmb lAmb 11 56 02.6
comp=Z,118nm,1.3s
CKRC Cesky Krumlov 79.08 333 *e*P **P 11 56 02.0 +0.2**
CKRC Cesky Krumlov 79.08 333 *e*P **P 11 56 02.0 +0.2**
TXAR Lajitas Array 79.22 59 P **P 11 56 02.8 -0.2**
TXAR Lajitas Array 79.22 59 P **P 11 56 03.5 +0.5**
comp=Z,1.9nm,0.9s,baz=303,slow=3.9,SNR=13
comp=Z,1.9nm,0.9s
TXAR Lajitas Array 79.22 59 P **P 11 56 02.8 -0.2**
BZS Buzias 79.22 327 ⇓P **P 11 56 03.0 +0.4**
BZS Buzias 79.22 327 P **P 11 56 03.0 +0.4**
GEC2 GERESS Array S 79.26 333 lAmb lAmb 11 56 03.9
comp=Z,26nm,1.1s
GEC2 GERESS Array S 79.26 333 P **P 11 56 02.9 0.0**
GEC2 pmax pmax
comp=Z,23nm,1.2s
GEC2 GERESS Array S 79.26 333 *e*P **P 11 56 02.8 0.0**
comp=Z,24nm,1.1s,baz=28,slow=5.6
GERES GERESS Array B 79.26 333 P **P 11 56 02.2 -0.7**
GERES GERESS Array B 79.26 333 P **P 11 56 02.9 0.0**
comp=Z,12nm,0.9s,baz=45,slow=4.0,SNR=26
GERES LR LR 12 38 20.5
comp=Z,226nm,18.2s,baz=18,slow=41
comp=Z,12nm,0.9s
GRF Grafenberg Arr 79.28 335 P **P 11 56 03.5 +0.7**
GRF pmax pmax
comp=Z,69nm,1.1s
GRF Grafenberg Arr 79.28 335 *e*P **P 11 56 03.4 +0.5**
comp=Z,78nm,1.1s,baz=28,slow=5.6
GRF *e*L L 12 33 40.6
comp=Z,404nm,18.4s
GRFO Grafenberg 79.28 335 P **P 11 56 02.6 -0.2**
GRFO Grafenberg 79.28 335 P **P 11 56 02.6 -0.2**
GRFO pmax pmax
comp=Z,82nm,1.2s
SOP Sopron 79.32 331 P **P 11 56 04.2 +1.1**
SOP pmax pmax
comp=Z,47nm,1.2s
CONA Conrad Observa 79.35 331 *e*P **P 11 56 04.1 +0.8**
comp=Z,34nm,1.2s,SNR=15
MZR Muzera 79.35 292 *i* P **P 11 56 04.2 +0.6**
SNR=8.9
RONA Rosalia, Austr 79.40 331 *i* P **P 11 56 04.4 +0.8**
comp=Z,34nm,1.1s,SNR=11
MPLH Magyarpolny 79.42 330 P **P 11 56 04.0 +0.4**
comp=Z,111nm,1.2s
HERR Herculane 79.52 326 ⇓P **P 11 56 04.4 +0.1**
TNS Taunus Mts 79.60 337 P **P 11 56 05.1 +0.5**
TNS pmax pmax
comp=Z,35nm,1.0s
TNS Taunus Mts 79.60 337 *e*P **P 11 56 04.8 +0.1**
comp=Z,51nm,1.2s,baz=28,slow=5.6
RAR Rarotonga 79.66 135 LR LR 12 28 53.8
comp=Z,145nm,18.6s,baz=306,slow=34
ELMS Elmsett, Ipswi 79.72 342 *e*P **P 11 56 05.5 +0.4**
ELMS lAmb lAmb 11 56 06.3
comp=Z,49nm,0.7s
BEBN Eben Emael 79.82 339 *d*P **P 11 56 05.9 +0.3**
MORH Mrgy, Hungar 79.84 329 ⇑P **P 11 56 05.5 -0.4**
MORH Mrgy, Hungar 79.84 329 P **P 11 56 05.4 -0.5**
comp=Z,17nm,1.9s
MDVR Moldovita 79.88 326 ⇑P **P 11 56 06.1 -0.1**
BTNL Ternell 79.89 338 *d*P **P 11 56 06.3 +0.1**
comp=Z,22nm,1.1s
BTNL *d*PP **PP 11 59 09.9 +2.9**
MEM Membach 79.90 338 *d*P **P 11 56 06.4 +0.2**
comp=Z,35nm,1.0s
MEM Membach 79.90 338 P **P 11 56 06.3 +0.2**
MEM pmax pmax
comp=Z,66nm,1.0s
MOA Molln 79.95 332 *i* P **P 11 56 06.9 +0.4**
comp=Z,16nm,1.1s
MOA Molln 79.95 332 *e*P **P 11 56 06.6 0.0**
comp=Z,13nm,1.0s,baz=28,slow=5.6
BSTI Sart Tilman 80.04 339 *d*P **P 11 56 07.4 +0.5**
ARSA Arzberg 80.05 331 *i* P **P 11 56 07.2 +0.1**
comp=Z,16nm,1.2s
ARSA Arzberg 80.05 331 *e*P **P 11 56 07.6 +0.5**
comp=Z,42nm,1.6s,baz=28,slow=5.6
HLM1 Long Mynd 80.11 344 *e*P **P 11 56 07.5 +0.2**
HLM1 lAmb lAmb 11 56 10.2
comp=Z,16nm,0.8s
BHOU Houvegnez 80.14 338 *d*P **P 11 56 08.1 +0.6**
comp=Z,16nm,1.1s
UCC Uccle 80.15 340 *d*P **P 11 56 07.2 -0.2**
BIOA Bad Ischl, Aus 80.29 333 *i* P **P 11 56 09.0 +0.6**
comp=Z,20nm,0.9s,SNR=11

BGES Gesves 80.34 339 *dP* **P 11 56 08.0 -0.5**
comp=Z,15nm,1.1s
BMRD Maredsous 80.50 339 *dP* **P 11 56 09.8 +0.4**
comp=Z,27nm,1.1s
RCHB Rochefort 80.52 339 *dP* **P 11 56 09.5 0.0**
comp=Z,19nm,1.2s
RCHB *dPP* **PP 11 59 10.3 -1.9**
RJOB Jochberg 80.52 333 *eP* **P 11 56 10.3 +0.6**
comp=Z,15nm,1.0s,baz=28,slow=5.6
FUR Furstenfeldbru 80.62 334 *eP* **P 11 56 10.5 +0.3**
comp=Z,72nm,1.2s,baz=28,slow=5.6
MCH1 Michaelchurch 80.63 344 *eP* **P 11 56 10.2 +0.2**
GIVF Givet 80.67 339 *eP* **P 11 56 10.2 -0.1**
GIVF pmax pmax
comp=Z,63nm,1.6s
STU Stuttgart 80.69 336 *eP* **P 11 56 10.7 +0.2**
comp=Z,139nm,1.4s,baz=28,slow=5.6
SOKA Soboth 80.71 331 *i* P **P 11 56 10.8 +0.1**
comp=Z,21nm,1.0s,SNR=11
PERS Pernice 80.72 331 *eP* **P 11 56 10.8 +0.1**
WLF Walferdange 80.73 338 *dP* **P 11 56 13.2 +2.5**
WLF Walferdange 80.73 338 P **P 11 56 15.3 +4.7**
WLF pmax pmax
comp=Z,22nm,1.2s
WLF Walferdange 80.73 338 *eP* **P 11 56 11.9 +1.2**
comp=Z,22nm,1.1s,baz=28,slow=5.6
DOU Dourbes 80.73 339 *dP* **P 11 56 10.8 +0.1**
comp=Z,11nm,1.3s
GROS Grobnik 80.74 331 *i* P **P 11 56 10.7 -0.1**
MONM Monmouth 80.74 344 *eP* **P 11 56 11.0 +0.3**
LESA Schwarzleotal 80.83 333 *i* P **P 11 56 11.9 +0.5**
comp=Z,11nm,0.6s,SNR=11
BOVS Bovan 80.84 326 ⇓P **P 11 56 10.8 -0.5**
BAIF Baives 80.86 339 *eP* **P 11 56 11.2 -0.2**
BAIF pmax pmax
comp=Z,39nm,1.2s
KBA Koelnbreinsper 80.92 332 *i* P **P 11 56 12.7 +0.7**
comp=Z,20nm,0.6s,SNR=18
KBA Koelnbreinsper 80.92 332 P **P 11 56 12.5 +0.5**
KBA pmax pmax
comp=Z,42nm,0.8s
KBA Koelnbreinsper 80.92 332 *eP* **P 11 56 12.2 +0.2**
comp=Z,82nm,1.5s,baz=28,slow=5.6
WOL Wolverton 80.93 343 *eP* **P 11 56 11.8 +0.1**
DRIO Del Rio 80.98 57 IAmb IAmb 11 56 28.9
comp=Z,16nm,1.2s
OBKA Obir 81.02 331 *i* P **P 11 56 12.6 +0.1**
comp=Z,5.9nm,0.6s
OBKA Obir 81.02 331 *eP* **P 11 56 12.5 +0.1**
comp=Z,12nm,1.0s,baz=28,slow=5.6
PBMO Poplar Bluff 81.07 46 IAmb IAmb 11 56 28.2
comp=Z,14nm,0.8s
GOLS Golise 81.09 331 *i* P **P 11 56 12.6 -0.1**
MIAR Mount Ida 81.14 49 IAmb IAmb 11 56 27.9
comp=Z,15nm,1.0s
MYKA Terra Mystica 81.22 332 *i* P **P 11 56 13.2 -0.2**
comp=Z,5.3nm,0.6s
WATA Walderalm 81.26 334 *i* P **P 11 56 14.2 +0.5**
comp=Z,16nm,0.7s,SNR=9.7
RDO Rodhopi 81.30 322 IAmb IAmb 11 56 15.4
comp=Z,41nm,0.9s
WTTA Wattenberg 81.31 334 *i* P **P 11 56 14.6 +0.6**
comp=Z,19nm,0.6s,SNR=12
WTTA Wattenberg 81.31 334 P **P 11 56 14.6 +0.6**
WTTA pmax pmax
comp=Z,48nm,1.3s
WTTA Wattenberg 81.31 334 *eP* **P 11 56 14.5 +0.6**
comp=Z,26nm,0.7s,baz=28,slow=5.6
BFO Black Forest 81.34 336 P **P 11 56 13.2 -0.8**
BFO IAmb IAmb 11 56 17.6
comp=Z,19nm,0.9s
BFO Black Forest 81.34 336 P **P 11 56 13.2 -0.8**
BFO pmax pmax
comp=Z,19nm,0.9s
BFO Black Forest 81.34 336 *eP* **P 11 56 14.1 +0.1**
comp=Z,19nm,0.9s,baz=28,slow=5.6
RETA Reutte 81.38 334 *i* P **P 11 56 14.8 +0.6**
comp=Z,26nm,1.3s,SNR=7.9
MOTA Moosalm 81.40 334 *i* P **P 11 56 15.0 +0.5**
comp=Z,44nm,1.3s
UBR Ueberruh 81.41 335 *eP* **P 11 56 14.5 +0.1**
comp=Z,10nm,1.1s,baz=28,slow=5.6
TAOE Nuku Hiva Isla 81.45 112 *e*LR LR 12 21 39.2
comp=Z,313nm,23.5s
SQTA Sankt Quirin 81.48 334 *i* P **P 11 56 15.4 +0.6**
comp=Z,32nm,1.3s,SNR=11
ABTA Abfaltersbach 81.49 333 *i* P **P 11 56 15.2 +0.4**
comp=Z,16nm,1.4s
VISS Visnje 81.54 331 *i* P **P 11 56 14.5 -0.5**
CDF Champ du Feu 81.57 337 *eP* **P 11 56 14.1 -1.1**
CDF pmax pmax
comp=Z,38nm,1.2s
435B Jarrell 81.75 54 P **P 11 56 17.5 +1.1**
baz=319
ECH Echery 81.78 337 IAmb IAmb 11 56 17.4
comp=Z,53nm,1.5s
ECH Echery 81.78 337 P **P 11 56 16.4 +0.1**
ECH pmax pmax
comp=Z,126nm,1.2s
FETA Feichten 81.81 334 *i* P **P 11 56 17.5 +0.8**
comp=Z,16nm,1.4s,SNR=8.6
SLE Schleitheim 81.81 336 P **P 11 56 16.4 -0.1**
SLE pmax pmax
comp=Z,12nm,1.1s
DAVA Damuels 81.83 335 *i* P **P 11 56 17.2 +0.5**
comp=Z,10nm,0.7s,SNR=8.7
DAVA Damuels 81.83 335 *eP* **P 11 56 16.8 +0.1**
comp=Z,12nm,0.8s,baz=28,slow=5.6
BATG Bathurst New B 82.10 25 IAmb IAmb 11 56 32.7
comp=Z,16nm,0.7s
HAU Haudompre 82.19 337 *eP* **P 11 56 17.2 -1.3**
HAU pmax pmax
comp=Z,12nm,0.9s
HINF Hinteralfeld 82.23 337 *eP* **P 11 56 17.2 -1.5**
HINF pmax pmax
comp=Z,21nm,1.4s
PPT Papeete 82.25 124 LR LR 12 30 03.3
comp=Z,207nm,18.2s,baz=291,slow=34
PPT2 Papeete2 82.27 124 *e*LR LR 12 22 05.2
PPT2 *e*LR LR 12 22 09.9
comp=Z,437nm,22.8s
DAVOX Davos/Dischmat 82.28 334 P **P 11 56 19.7 +0.6**
comp=Z,16nm,0.8s,baz=16,slow=4.0,SNR=16
comp=Z,16nm,0.8s
FUORN Ofenpass-Fuorn 82.31 334 IAmb IAmb 11 56 21.2
comp=Z,34nm,1.4s
CTI Castel Tesino 82.38 333 IAmb IAmb 11 56 20.5
comp=Z,19nm,1.2s
833A Chaparral WMA, 82.52 57 P **P 11 56 21.3 +0.9**
baz=318
TUE Stuetta 82.72 335 IAmb IAmb 11 56 26.8
comp=Z,49nm,1.4s
TUE Stuetta 82.72 335 P **P 11 56 21.7 +0.2**
comp=Z,105nm,1.1s
ASF Jabal al Asfar 82.74 309 P **P 11 56 20.1 -1.7**
comp=Z,5.9nm,0.8s,baz=64,slow=4.6,SNR=6.3
ASF LR LR 12 35 43.9
comp=Z,242nm,19.4s,baz=150,slow=38
comp=Z,5.9nm,0.8s
MMAI Mount Meron Ar 82.91 310 P **P 11 56 23.3 +0.8**
comp=Z,16nm,0.7s,baz=32,slow=6.9,SNR=14
MMAI LR LR 12 38 29.1
comp=Z,366nm,19.2s,baz=30,slow=40
comp=Z,16nm,0.7s
TEOL Teolo 82.99 333 IAmb IAmb 11 56 25.3
comp=Z,22nm,0.9s
CLF Chambon-Foret 83.23 340 IAmb IAmb 11 56 26.6
comp=Z,32nm,0.9s
FNA Florina 83.36 324 IAmb IAmb 11 56 27.9
comp=Z,13nm,0.9s
LOR Lormes 83.53 338 P **P 11 56 25.7 +0.3**
LOR pmax pmax
comp=Z,28nm,1.3s
CABF La Chapelle 83.54 337 *eP* **P 11 56 25.7 +0.1**
CABF pmax pmax
comp=Z,11nm,0.8s
GRR Gorron 83.62 342 *eP* **P 11 56 25.7 -0.1**
GRR pmax pmax
comp=Z,34nm,0.8s
T50A Nancy 83.62 42 IAmb IAmb 11 56 40.7
comp=Z,22nm,0.8s
SSF Saint Saulge 83.82 339 *eP* **P 11 56 25.9 -1.0**
SSF pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 84.10 297 P **P 11 56 28.6 -0.2**
RAYN IAmb IAmb 11 56 30.6
comp=Z,21nm,0.9s
RAYN Ar Rayn 84.10 297 P **P 11 56 29.6 +0.8**
RAYN Ar Rayn 84.10 297 *i* P **P 11 56 29.5 +0.8**
SNR=14
AVF Avril sur Loir 84.11 339 *eP* **P 11 56 27.6 -0.7**
AVF pmax pmax
comp=Z,47nm,1.1s
SMF Signal de Mont 84.11 338 *eP* **P 11 56 28.0 -0.4**
SMF pmax pmax
comp=Z,75nm,1.1s
ROSF Rostrenen 84.17 343 *eP* **P 11 56 28.7 +0.1**
ROSF pmax pmax
comp=Z,53nm,1.0s
L61B Northampton 84.18 31 P **P 11 56 28.9 +0.1**
baz=331
LPL La Plagne 84.36 336 *eP* **P 11 56 31.1 +1.2**
LPL pmax pmax
comp=Z,34nm,0.9s
LPG La Plagne 84.37 336 *eP* **P 11 56 31.2 +1.1**
LPG pmax pmax
comp=Z,42nm,1.0s
BGF Bois d'Agland 84.45 339 *eP* **P 11 56 29.3 -0.8**
BGF pmax pmax
comp=Z,19nm,0.9s
QUIF Quistinic 84.55 343 *eP* **P 11 56 30.3 -0.2**
QUIF pmax pmax
comp=Z,66nm,1.6s
FDMO Fiordimonte 84.57 331 IAmb IAmb 11 56 33.1
comp=Z,30nm,1.0s
BNI Bardonecchia 84.80 336 IAmb IAmb 11 56 34.9
comp=Z,14nm,1.0s
BNI Bardonecchia 84.80 336 P **P 11 56 33.3 +1.3**
BNI pmax pmax
comp=Z,19nm,1.4s
TCF Toulx Ste Croi 84.86 339 *eP* **P 11 56 32.5 +0.3**
TCF pmax pmax
comp=Z,13nm,0.8s
MBDF Montbardon 85.07 336 *eP* **P 11 56 33.5 +0.1**
MBDF pmax pmax
comp=Z,12nm,0.6s
MFF Saint Martin d 85.14 341 *eP* **P 11 56 33.8 +0.3**
MFF pmax pmax
comp=Z,18nm,0.8s
ORIF Oris-en-Rattie 85.15 336 *eP* **P 11 56 34.8 +1.0**
ORIF pmax pmax
comp=Z,28nm,0.8s
INTR Introdacqua 85.19 330 IAmb IAmb 11 56 35.2
comp=Z,23nm,0.8s
SSB Saint Sauveur 85.19 337 P **P 11 56 34.9 +1.0**
SSB pmax pmax
comp=Z,28nm,1.2s
TKL Tuckaleechee C 85.22 42 LR LR 12 33 45.7
comp=Z,156nm,21.9s,baz=344,slow=35
VIVF Saint-Julien-l 85.54 337 *eP* **P 11 56 35.3 -0.3**
VIVF pmax pmax
comp=Z,23nm,1.1s
EIL Elat 85.73 309 P **P 11 56 37.4 +0.6**
comp=Z,8.6nm,0.6s,baz=9.2,slow=5.6,SNR=8.5
EIL LR LR 12 41 21.1
comp=Z,334nm,18.3s,baz=76,slow=40
comp=Z,8.6nm,0.6s
RJF Les Rejaudoux 85.96 339 *eP* **P 11 56 37.2 -0.5**
RJF pmax pmax
comp=Z,14nm,0.9s
CAF Calviac 86.17 339 *eP* **P 11 56 39.6 +0.8**
CAF pmax pmax
comp=Z,23nm,0.8s
URZ Urewera 86.31 160 LR LR 12 30 24.7
comp=Z,230nm,19.6s,baz=100,slow=32
PGF Pioggiola 86.36 333 *eP* **P 11 56 38.6 -1.2**
PGF pmax pmax
comp=Z,38nm,1.2s
LFF La Frestale 86.49 340 *eP* **P 11 56 40.9 +0.6**
LFF pmax pmax
comp=Z,21nm,0.8s
TBI Tubuai 86.88 128 *e*LR LR 12 24 15.9
comp=Z,1μm,24.0s
MTLF Montolieu 87.61 338 *eP* **P 11 56 46.7 +0.9**
MTLF pmax pmax
comp=Z,11nm,0.8s
EPF Esparros 88.38 339 *eP* **P 11 56 50.7 +1.2**
EPF pmax pmax
comp=Z,16nm,1.3s
CEST Esterri de Car 88.56 338 IAmb IAmb 11 56 55.2
comp=Z,14nm,1.0s
ETSF Etsaut 88.73 340 *eP* **P 11 56 49.8 -1.4**
ETSF pmax pmax
comp=Z,8.0nm,0.8s
PBRG Braganca 91.13 344 *eP* **P 11 57 02.2 -0.2**
POLO Lamas de Olo 91.75 345 *eP* **P 11 57 04.5 -0.8**
POLO *i* Amb 11 57 05.5
comp=Z,12nm,1.4s
MVO Moncorvo 91.81 344 *eP* **P 11 57 05.0 -0.6**
PVRL Vila Real 91.83 344 *eP* **P 11 57 05.1 -0.5**
PVRL *i* Amb 11 57 06.2
comp=Z,33nm,1.6s
KEST Kesra 92.39 330 P **P 11 57 06.8 -1.5**
comp=Z,14nm,1.0s,baz=315,slow=4.7,SNR=4.6
KEST LR LR 12 42 46.0
comp=Z,400nm,18.4s,baz=342,slow=38
comp=Z,14nm,1.0s
PVIS Viseu 92.41 344 *eP* **P 11 57 07.0 -1.3**
ESDC Sonseca Array 92.59 341 P **P 11 57 08.4 -0.7**
ESDC Sonseca Array 92.59 341 P **P 11 57 07.5 -1.6**
comp=Z,4.1nm,1.1s,baz=4.4,slow=4.1,SNR=12
comp=Z,4.1nm,1.1s
MTE Manteigas 92.65 344 *eP* **P 11 57 08.5 -0.9**
PCBR Castelo Branco 93.17 344 *eP* **P 11 57 10.8 -1.0**
PCBR *i* Amb 11 57 11.4
comp=Z,18nm,1.4s
CMIG Matias Romero 93.67 61 LR LR 12 34 26.3
comp=Z,63nm,20.7s,baz=354,slow=32
TORD Torodi Ar. Bea 115.73 327 PKP **PKiKP 12 02 39.2 -1.1**
comp=Z,0.4nm,0.5s,baz=10,slow=3.1,SNR=4.0
TORD PKKP **PKKPdf 12 13 32.6 -1.8**
comp=Z,0.8nm,1.1s,baz=237,slow=2.2,SNR=5.6
DBIC Dimbokro 124.09 331 PKP **PKPdf 12 02 55.6 -0.8**
comp=Z,4.8nm,1.0s,baz=44,slow=3.6,SNR=4.6
DBIC *p*PKP **sPKPdf 12 03 09.6 +0.4**
comp=Z,4.8nm,0.8s,baz=108,slow=3.2,SNR=4.7
QSPA South Pole Qui 135.02 180 PKhKP PKPpre 12 03 03.5
comp=Z,1.2nm,0.9s,baz=27,slow=2.3,SNR=3.0
QSPA PKP **PKiKP 12 03 16.7 -0.3**
comp=Z,1.6nm,0.9s,baz=35,slow=2.3,SNR=6.4
LPAZ La Paz 136.04 62 PKP **PKPdf 12 03 18.6 -1.0**
comp=Z,1.3nm,0.8s,baz=315,slow=1.4,SNR=2.9
ELIB Princess Elisa 143.98 205 *d*PKPdf PKPbc 12 03 30.6 +0.8
ELIB *dp*PKPdf sPKPdf 12 03 44.5 +0.1
SDBA SAO DESIDERIO 144.38 28 *eP* **PKPab 12 03 32.4 +0.1**
NBLA Lagarto - SE 144.92 16 *eP* **PKPab 12 03 34.2 +0.1**
BDFB Brasilia 146.20 35 PKPbc **PKPbc 12 03 38.1 -0.1**
comp=Z,6.4nm,0.7s,baz=352,slow=4.1,SNR=5.1
BDFB *p*PKPbc sPKPab 12 03 52.0 +0.7
comp=Z,11nm,0.7s,baz=306,slow=2.5,SNR=6.3
AQDB Aquidauana 146.63 51 *eP* **PKPbc 12 03 39.5 +0.3**
JANB Januaria 147.05 29 *eP* **PKPbc 12 03 40.4 -0.3**
BELA Belgrano 2 147.21 178 **PKPbc 12 03 39.1 -0.2**
NVL N'lazarevskaya 147.83 204 *e*PKP2 PKPab 12 03 55.4 +12
NVL pmax pmax
comp=Z,33nm,1.0s
IPMB Ipameri, GO 148.21 37 *eP* **PKPbc 12 03 42.8 -1.0**
ITRB Iturama 148.74 42 *eP* **PKPdf 12 03 43.3 +2.1**
CMC01 Camacan, BA 148.76 21 *eP* **PKPdf 12 03 43.1 +1.8**
PLCA Paso Flores 149.19 97 **PKiKP 12 03 47.2 +0.3**
PLCA Paso Flores 149.19 97 PKPbc **PKPbc 12 03 46.4 +0.7**
comp=Z,4.5nm,1.0s,baz=276,slow=2.6,SNR=8.1
PLCA Paso Flores 149.19 97 *eP* **PKPbc 12 03 44.2 -1.5**
TROLL Troll, Antarti 149.44 198 PKPdf **PKPbc 12 03 46.1 +0.6**
TROLL Troll, Antarti 149.44 198 ⇑PKPdf **PKPbc 12 03 46.1 +0.6**
comp=Z,950nm,0.6s
PMNB Patos De Minas 149.45 35 *eP* **PKPdf 12 03 43.0 +0.5**
GUA01 Guaratinga, BA 149.86 22 *eP* **PKPdf 12 03 44.6 +1.6**
CPUP Villa Florida 150.19 60 PKPbc **PKPbc 12 03 48.8 +0.4**
comp=Z,2.9nm,0.5s,baz=309,slow=2.9,SNR=5.8
CPUP *p*PKPbc **sPKPbc 12 04 01.7 +0.6**
comp=Z,12nm,0.8s,baz=1.8,slow=3.0,SNR=7.2
SNAA Sanae 150.82 196 P **PKPbc 12 03 48.8 +0.1**
SNAA Sanae 150.82 196 ⇑P **PKPbc 12 03 48.8 +0.1**
comp=Z,130nm,0.7s
SNAA Sanae 150.82 196 PKPbc **PKPbc 12 03 48.6 -0.1**
comp=Z,4.0nm,0.6s,baz=184,slow=4.7,SNR=12
LDASE Londrina, Braz 151.46 48 *eP* **PKPdf 12 03 46.6 +1.1**
SJMB Sao Joao De Ma 151.48 26 *eP* **PKPdf 12 03 47.2 +1.7**
VNA2 Neumayer--Watz 152.29 195 P **PKPbc 12 03 50.8 -1.2**
baz=162,slow=13
VNA2 Neumayer--Watz 152.29 195 ⇑P **PKPbc 12 03 50.8 -1.2**
comp=Z,6.7nm,0.7s,baz=162,slow=13

IDC 13 12:09:22.0±1.6, 0°.83N×126°.88E, h0km, mb3.7/4, mbtmp3.8/5, ML3.6/1, MS3.4/1, Error ellipse: s-maj=113.6km s-min=20.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.85**	**184**	P	P	12 13 43.1	-0.6
	0.1nm,0.3s,baz=336,slow=9.2,SNR=1.7						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**21.90**	**161**	P	P	12 14 17.3	+0.4
	1.6nm,0.3s,baz=340,slow=11,SNR=45						
	1.6nm,0.3s						
ASAR	**Alice Springs**	**25.29**	**165**	P	P	12 14 50.2	-0.1
	0.9nm,0.5s,baz=343,slow=10,SNR=12						
	0.9nm,0.5s						
NWAO	**Narrogin (SRO)**	**34.79**	**194**	LR	LR	12 31 34.8	
	comp=Z,54nm,19.1s,baz=222,slow=38						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	12 19 30.6	-0.1
	0.4nm,0.5s,baz=119,slow=8.4,SNR=4.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.25**	**328**	P	P	12 19 59.0	0.0
	0.6nm,0.5s,baz=126,slow=6.1,SNR=5.3						
	0.6nm,0.5s						

---

*JMA **13** 12:29:12.6±0.8, 46°.N±6°.×15°.1E±°, h30km, MV3.9/13, KURILE ISLANDS REGION*

SKHL 13 12:29:14.2±0.4, 44°.80N×151°.60E, h37km±7km**, mb4.4/3, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.68**	**281**	*eP*	Pn	12 29 54.9	+0.1
KUR				AMB	AMB	12 29 55.4	
	40nm,0.4s						
KUR				*e*S	Sn	12 30 25.1	-0.9
KUR				A	A	12 30 28.9	
	120nm,0.3s						
KUR				A	A	12 30 28.9	
	150nm,0.3s						
SHO	**Shikotan**	**3.55**	**256**	*eP*	Pn	12 30 07.4	+0.8
SHO				AMB	AMB	12 30 11.9	
	20nm,0.3s						
SHO				*e*S	Sn	12 30 47.5	+0.2
SHO				A	A	12 30 54.8	
	30nm,0.2s						
SHO				A	A	12 30 54.8	
	50nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.18**	**261**	*eP*	Pn	12 30 17.1	+1.7
YUK				AMB	AMB	12 30 19.6	
	50nm,0.3s						
YUK				*e*S	Sn	12 31 03.6	+0.7
YUK				A	A	12 31 07.3	
	80nm,0.3s						
YUK				A	A	12 31 07.3	
	50nm,0.3s						
NEM2	**Nemuro 2**	**4.46**	**253**	P	Pn	12 30 20.3	+1.1
NEM2				S	Sn	12 31 11.3	+1.6
NMR	**Nemuro--Hokkai**	**4.47**	**253**	*e*P	Pn	12 30 20.2	+0.9
NMR				*e*S	Sn	12 31 10.5	+0.6
JRA	**Rausu**	**4.72**	**262**	*e*P	Pn	12 30 25.3	+2.5
JRA				*e*S	Sn	12 31 19.4	+3.2
JNK	**Nakash**	**5.09**	**259**	*e*P	Pn	12 30 30.0	+2.1
JNK				*e*S	Sn	12 31 27.1	+1.7
JAK	**Akkeshi**	**5.30**	**253**	P	Pn	12 30 32.0	+1.3
JAK				*e*S	Sn	12 31 31.6	+1.0
JTKR	**Abashiri--Toko**	**5.58**	**264**	*e*P	Pn	12 30 36.7	+2.2
JAR	**Ashorobuto**	**5.84**	**258**	P	Pn	12 30 40.9	+2.7
JAR				S	Sn	12 31 46.4	+2.6
JOB	**Onbets**	**5.93**	**254**	*e*S	Sn	12 31 47.0	+1.1
JCH	**Churui**	**6.36**	**253**	*e*P	Pn	12 30 47.8	+2.5
JCH				*e*S	Sn	12 31 57.8	+1.2
JKK2	**Kamakawa 2**	**6.42**	**265**	*e*P	Pn	12 30 48.3	+2.3
JNBK	**Urakawa-nobuka**	**6.91**	**252**	*e*P	Pn	12 30 54.9	+2.2
JNBK				*e*S	Sn	12 32 09.6	-0.4
JANG	**Nango**	**8.65**	**243**	*e*S	Sn	12 32 50.1	-2.9

---

*BJI **13** 12:33:13.3, 9°.31N×126°.46E, h32km, mB5.1/15, mb4.6/54, Ms4.4/22, Ms7 4.2/27*

*NEIC **13** 12:33:14.6±1.3, 9°.80N±0°.05×126°.55E±0°.10, h10km±1km, mb4.9/167, Error ellipse: s-maj=15.9km s-min=9.2km az=94.0*

*IDC **13** 12:33:15.2±2.6, 9°.64N×126°.31E, h17km±16km, mb4.4/31, mbtmp4.5/32, ML4.4/1, MS3.8/38, Error ellipse: s-maj=18.4km s-min=9.9km az=82.0*

*DJA **13** 12:33:22.0±0.7, 10°N±4°.×12°7E±°, h78km±6km, M5.0/29, mb4.9/29, mB5.3/7, MLv5.3/4, Mw(mB)4.7/7*

ISC 13 12:33:18.9±0.3, 9.71N±0°.04×126°.53E±0°.06, h43km**, n467,** σ1°.05/381**, mb4.8**/137**, MS3.9**/41**, 3C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.79**	**200**	Pn	**Pn**	**12 34 01.6**	**+0.6**
DAV	**Davao City (W)**	**2.79**	**200**	Pg	**Pn**	**12 34 02.7**	**+1.6**
	116nm,0.3s,baz=68,slow=15,SNR=7.4						
DAV				Lg	Lg	12 34 39.9	
	156nm,0.3s,baz=323,slow=20,SNR=5.9						
DAV				LR	LR	12 35 07.4	
	comp=Z,3μm,21.1s,baz=20,slow=42						
TGY	**Tagaytay City**	**7.00**	**309**	Pn	**Pn**	**12 34 59.3**	**+0.3**
	17nm,0.3s,baz=144,slow=8.4,SNR=7.4						
TGY				LR	LR	12 38 02.3	
	comp=Z,2μm,18.4s,baz=133,slow=42						
I39PW	**PALAU INFRASON**	**8.22**	**105**	I	I	13 30 00.0	
	baz=284,slow=307,SNR=0.8						
TNTI	**Ternate**	**8.92**	**175**	Pn	**Pn**	**12 35 24.5**	**-0.8**
TNTI	**Ternate**	**8.92**	**175**	P	**Pn**	**12 35 29.1**	**+3.8**
	67nm,1.1s						
MYLDM	**Lahad Datu**	**9.14**	**241**	Pn	**Pn**	**12 35 26.6**	**-1.8**
MYLDM	**Lahad Datu**	**9.14**	**241**	P	Pn	12 35 34.4	+6.0
KKM	**Kota Kinabalu**	**10.85**	**251**	Pn	**Pn**	**12 35 50.0**	**-1.7**
APSI	**Ampana**	**11.62**	**205**	P	Pn	12 36 31.8	+30
SANI	**Sanana**	**11.70**	**183**	P	**Pn**	**12 36 04.4**	**+1.1**
FAKI	**Fak Fak**	**13.78**	**155**	Pn	**Pn**	**12 36 30.7**	**-1.2**
FAKI	**Fak Fak**	**13.78**	**155**	P	**Pn**	**12 36 33.2**	**+1.4**
YULB	**Yu-li**	**14.49**	**340**	P	**P**	**12 36 48.2**	**+0.9**
TPUB	**Ta-pu**	**14.64**	**338**	P	**P**	**12 36 49.1**	**+0.2**
SSLB	**Suanglung**	**14.98**	**340**	Pn	**Pn**	**12 36 45.2**	**-2.7**
SSLB	**Suanglung**	**14.98**	**340**	P	**P**	**12 36 54.0**	**+1.4**
SPSI	**Sidrap Palu**	**15.16**	**207**	P	**P**	**12 36 55.0**	**+0.3**
YHNB	**Yeheng**	**15.66**	**342**	P	**P**	**12 37 03.2**	**+2.9**
SBUM	**Sibu**	**15.95**	**244**	Pn	**Pn**	**12 37 00.5**	**+0.1**
SBUM	**Sibu**	**15.95**	**244**	P	**P**	**12 37 07.8**	**+4.4**
	21nm,1.1s						
KAPI	**Kappang**	**16.11**	**205**		**Pn**	**12 37 02.8**	**+0.2**
KAPI	**Kappang**	**16.11**	**205**	LR	LR	12 43 40.4	
	comp=Z,405nm,20.2s,baz=8.5,slow=39						
JOW	**Kunigami**	**17.11**	**5**	P	**Pn**	**12 37 12.6**	**-2.4**
JOW				IAmb	IAmb	12 37 23.2	
	comp=Z,60nm,0.9s						
JOW	**Kunigami**	**17.11**	**5**	P	**P**	**12 37 15.6**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=191,slow=8.7,SNR=5.2						
JOW				LR	LR	12 44 01.1	
	comp=Z,281nm,19.3s,baz=148,slow=38						
	comp=Z,14nm,0.8s						
GUMO	**Guam**	**18.37**	**76**	LR	LR	12 43 15.7	
	comp=Z,282nm,19.7s,baz=226,slow=32						
QIZ	**Qiongzhong**	**18.61**	**302**	P	**P**	**12 37 32.8**	**-0.1**
QIZ				S	**Sn**	**12 41 01.4**	**+0.5**
QIZ				pmax	pmax		
	comp=Z,11nm,1.0s						
QIZ				LR	LR		
	comp=Z,310nm,14.4s						
QIZ				LR	LR		
	comp=Z,320nm,13.7s						
QIZ				LR	LR		
	comp=Z,490nm,17.2s						
JAY	**Jayapura**	**18.63**	**130**	LR	LR	12 44 12.9	
	comp=Z,487nm,18.8s,baz=321,slow=35						
SOEI	**Soe**	**19.47**	**187**	P	**P**	**12 37 42.7**	**+0.2**
SOEI				IAmb	IAmb	12 38 10.6	
	comp=Z,60nm,0.9s						
SOEI	**Soe**	**19.47**	**187**	P	Pn	12 37 59.5	+16
PLAI	**Plampang**	**20.38**	**206**	P	Pn	12 37 54.8	+0.3
TPI	**Tanjungpandan**	**22.52**	**238**	P	**P**	**12 38 17.6**	**+2.4**
	comp=Z,34nm,1.1s						
JCJ	**Chichijima**	**22.75**	**38**	LR	LR	12 45 14.0	
	comp=Z,209nm,21.3s,baz=260,slow=31						
MTN	**Manton Dam**	**22.87**	**168**	P	**P**	**12 38 18.0**	**-0.9**

MTN IAmb IAmb 12 38 20.4
comp=Z,24nm,0.9s
NJ2 Nanjing 23.34 343 ⇓P **P** **12 38 24.5 +1.1**
NJ2 pmax pmax
comp=Z,34nm,1.0s
WHN Wuhan 23.63 333 P **P** **12 38 27.8 +1.5**
WHN pmax pmax
comp=Z,44nm,0.7s
JNU Nakatsue 23.64 9 P **P** **12 38 26.9 +0.5**
JNU Nakatsue 23.64 9 P **P** **12 38 26.9 +0.5**
comp=Z,16nm,0.9s,baz=144,slow=4.5,SNR=8.0
JNU LR LR 12 47 46.7
comp=Z,164nm,20.1s,baz=168,slow=37
comp=Z,16nm,0.9s
MYKOM Kota Tinggi 23.88 252 P **P** **12 38 30.0 +1.3**
SLVN Son La 24.63 301 P **P** **12 38 36.2 +0.5**
KNRA Kununurra 25.32 175 P **P** **12 38 41.2 -0.6**
KNRA IAmb IAmb 12 38 50.5
comp=Z,25nm,0.8s
IPM Ipoh 25.83 260 P **P** **12 38 46.6 +0.1**
ENH Enshi 25.91 325 P **P** **12 38 45.7 -1.4**
KULM Kulim 26.02 262 P **P** **12 38 47.5 -0.8**
MDSI Maura Dua 26.36 239 P **P** **12 38 53.7 +2.4**
comp=Z,857nmcomp=Z,16nm,1.0s
SRIT Nakonsritamara 26.61 270 P **P** **12 38 53.4 -0.2**
SRIT IAmb IAmb 12 39 12.8
comp=Z,19nm,0.8s
PHRA Phrae 26.93 292 P **P** **12 38 55.8 -0.6**
BKNI Bangkinang 27.02 251 P **P** **12 38 57.3 0.0**
KMI Kunming 27.31 307 ⇑P **P** **12 39 01.6 +1.5**
KMI pmax pmax
comp=Z,9.0nm,0.5s
FITZ Fitzroy Crossi 27.65 182 P **P** **12 39 02.4 -0.3**
FITZ Fitzroy Crossi 27.65 182 P **P** **12 39 02.1 -0.7**
comp=Z,33nm,0.8s,baz=7.8,slow=9.3,SNR=38
comp=Z,33nm,0.8s
KSRS Korea Array 27.65 2 P **P** **12 39 04.0 +1.3**
comp=Z,7.3nm,1.0s,baz=179,slow=11,SNR=12
KSRS LR LR 12 52 30.4
comp=Z,196nm,18.1s,baz=165,slow=42
comp=Z,7.3nm,1.0s
LYN LuoYang 27.88 335 P **P** **12 39 05.3 +0.6**
LYN pP pP 12 39 09.9 -4.7
LYN pmax pmax
comp=Z,12nm,0.8s
LYN LR LR
comp=Z,350nm,17.2s
LYN LR LR
comp=Z,230nm,16.8s
LYN LR LR
comp=Z,430nm,16.1s
PPI Padang Panjang 27.90 250 P **P** **12 39 05.8 +0.6**
comp=Z,32nm,1.0s
CM31 Chiang Mai Arr 28.10 291 P **P** **12 39 06.5 -0.4**
CMAR Chiang Mai Arr 28.10 291 P **P** **12 39 05.8 -1.1**
CMAR Chiang Mai Arr 28.10 291 P **P** **12 39 06.6 -0.3**
comp=Z,1.3nm,0.4s,baz=108,slow=7.4,SNR=11
CMAR PcP **PcP** **12 42 21.9 +1.2**
comp=Z,0.5nm,0.3s,baz=89,slow=3.7,SNR=1.4
CMAR LR LR 12 51 46.8
comp=Z,274nm,18.3s,baz=110,slow=40
comp=Z,1.3nm,0.4s
CHTO Chiang Mai 28.19 292 P **P** **12 39 07.3 -0.4**
MNSI Mandailing Nat 28.23 253 P **P** **12 39 08.7 +0.6**
PSI Prapat 28.27 258 LR LR 12 52 14.0
comp=Z,235nm,20.0s,baz=94,slow=41
RPSI Rantau Prapat 28.30 258 P **P** **12 39 08.1 -0.6**
RPSI IAmb IAmb 12 39 13.0
comp=Z,28nm,1.2s
MJAR Matsushiro Arr 28.73 20 P **P** **12 39 11.4 -1.0**
comp=Z,2.6nm,0.8s,baz=192,slow=8.3,SNR=5.3
MJAR LR LR 12 50 59.9
comp=Z,319nm,18.0s,baz=193,slow=37
comp=Z,2.6nm,0.8s
PZH PanZhiHua 28.79 309 P **P** **12 39 13.8 +0.7**
PZH S **S** **12 44 03.3 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.5s
PZH LR LR
comp=Z,180nm,16.5s
PZH LR LR
comp=Z,270nm,16.1s
PZH LR LR
comp=Z,250nm,17.2s
XAN Xi'an 29.11 329 ⇓P **P** **12 39 14.8 -1.0**
XAN pmax pmax
comp=Z,17nm,1.0s
XAN LR LR
comp=Z,390nm,15.8s
XAN LR LR
comp=Z,190nm,11.7s
XAN LR LR
comp=Z,630nm,16.5s
HNS HongShan 29.56 341 ⇑P **P** **12 39 20.0 +0.4**
HNS pmax pmax
comp=Z,27nm,1.0s
HNS LR LR
comp=Z,320nm,16.7s
HNS LR LR
comp=Z,210nm,14.5s
HNS LR LR
comp=Z,420nm,14.9s
CD2 Chengdu 29.89 318 *e*P **P** **12 39 22.3 -0.5**
CD2 S **S** **12 44 24.4 +7.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,370nm,13.7s
CD2 LR LR
comp=Z,460nm,16.5s
GSI Gunungsitoli 29.98 256 P **P** **12 39 22.9 -0.8**
GSI Gunungsitoli 29.98 256 P **P** **12 39 23.6 -0.1**
comp=Z,34nm,1.1s
WB0 Warramunga Arr 30.30 165 P **P** **12 39 24.7 -1.7**
WRA Warramunga Arr 30.45 165 P **P** **12 39 26.0 -1.7**
comp=Z,0.9nm,0.4s,baz=348,slow=8.7,SNR=12
WRA LR LR 12 53 57.7
comp=Z,54nm,18.4s,baz=324,slow=41
comp=Z,0.9nm,0.4s
WB2 Warramunga Arr 30.46 165 P **P** **12 39 26.8 -1.0**
MBWA Marble Bar 31.40 192 P **P** **12 39 35.9 -0.1**
MBWA IAmb IAmb 12 39 46.5
comp=Z,11nm,0.8s
BJT Baijiatuau 31.56 345 P **P** **12 39 36.0 -1.3**
BJT IAmb IAmb 12 39 39.1
comp=Z,24nm,1.3s
BJI Beijing 31.58 345 P **P** **12 39 38.0 +0.6**
BJI pmax pmax
comp=Z,7.0nm,1.2s
PSA00 Pilbara Seismi 31.77 192 P **P** **12 39 38.5 -0.8**
PSA00 Pilbara Seismi 31.77 192 P **P** **12 39 39.1 -0.2**
PSA00 IAmb IAmb 12 39 39.4
comp=Z,37nm,1.2s
SNY Shenyang 32.09 356 ⇓P **P** **12 39 43.8 +1.9**
SNY pmax pmax
comp=Z,21nm,1.1s
LZH Lanzhou 33.38 325 *e*P **P** **12 39 55.8 +2.3**
LZH sP pP 12 40 04.6 +0.4
LZH pmax pmax
comp=Z,10.0nm,1.1s
LZH LR LR
comp=Z,340nm,16.5s
LZH LR LR
comp=Z,280nm,17.5s
LZH LR LR
comp=Z,390nm,16.2s
HHC Hu-ho-hao-te 33.73 339 ⇓*i*P **P** **12 39 57.8 +1.4**
HHC pP pP 12 40 02.5 -3.9
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,140nm,3.9s
HHC LR LR
comp=Z,230nm,13.3s
HHC LR LR
comp=Z,170nm,10.4s
HHC LR LR
comp=Z,310nm,16.7s
AS31 Alice Springs 33.95 168 P **P** **12 39 58.3 -0.1**
ASAR Alice Springs 33.95 168 P **P** **12 39 56.5 -1.8**
ASAR Alice Springs 33.95 168 P **P** **12 39 57.1 -1.3**
comp=Z,1.6nm,0.4s,baz=349,slow=7.3,SNR=25
ASAR PcP **PcP** **12 42 36.3 +0.2**
comp=Z,0.8nm,0.6s,baz=348,slow=3.5,SNR=2.2
ASAR LR LR 12 56 20.5
comp=Z,65nm,18.5s,baz=10,slow=41
comp=Z,1.6nm,0.4s
CN2 Changchun 33.97 359 *e*P P 12 40 04.1 +5.8
CN2 pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 34.68 7 P **P** **12 40 05.1 +0.6**
comp=Z,11nm,1.0s,baz=192,slow=8.8,SNR=8.5
USRK LR LR 12 53 39.2
comp=Z,103nm,21.8s,baz=176,slow=35
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 34.69 7 P **P** **12 40 03.9 -0.6**
USA0B IAmb IAmb 12 40 09.1
comp=Z,13nm,1.0s
MDJ Mudanjiang 34.88 4 P **P** **12 40 04.4 -1.7**
MDJ IAmb IAmb 12 40 09.1
comp=Z,25nm,1.1s
MDJ Mudanjiang 34.88 4 P **P** **12 40 08.1 +2.0**
MDJ pmax pmax
comp=Z,25nm,1.5s
MDJ pmax pmax
comp=Z,180nm,6.7s
XLT XiLinHaoTe 35.25 347 ⇑*i*P **P** **12 40 10.0 +0.5**
XLT pmax pmax
comp=Z,21nm,0.8s
XLT pmax pmax
comp=Z,190nm,5.1s
BNX BinXian 35.91 1 ⇓P **P** **12 40 15.6 +0.6**
BNX pmax pmax
comp=Z,9.0nm,1.0s
SHL Shillong 36.44 300 P **P** **12 40 18.9 -1.2**
SHL IAmb IAmb 12 40 24.6
comp=Z,14nm,0.8s
ASAJ Asahikawa 37.00 19 P **P** **12 40 24.4 0.0**
comp=Z,8.1nm,0.7s,baz=231,slow=16,SNR=8.5
ASAJ LR LR 12 55 59.4
comp=Z,231nm,18.7s,baz=208,slow=37
comp=Z,8.1nm,0.7s
GTA Gaotai 37.98 326 *e*P **P** **12 40 33.1 +0.2**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,120nm,15.3s
GTA LR LR
comp=Z,180nm,16.4s
GTA LR LR
comp=Z,230nm,14.2s
YSS Yuzhno-Sakhali 39.60 17 P **P** **12 40 45.5 -0.6**
KLR Kul'dur 39.63 5 P **P** **12 40 47.5 +1.1**
comp=Z,4.5nm,0.7s,baz=184,slow=4.4,SNR=16
KLR LR LR 12 58 38.4
comp=Z,110nm,18.5s,baz=202,slow=38
comp=Z,4.5nm,0.7s
H11S3 WAKE ISLAND Hy 39.84 73 T T 13 23 56.5
baz=262,slow=74,SNR=57
H11S1 WAKE ISLAND Hy 39.85 73 T T 13 24 02.3
baz=262,slow=74,SNR=33
H11S2 WAKE ISLAND Hy 39.85 73 T T 13 23 55.9
baz=262,slow=74,SNR=29
MORW Morawa 39.86 194 P **P** **12 40 48.5 0.0**
MORW IAmb IAmb 12 40 53.1
comp=Z,28nm,1.1s
H11N1 WAKE ISLAND Hy 40.19 71 T T 13 24 23.9
baz=265,slow=74,SNR=78
H11N2 WAKE ISLAND Hy 40.20 71 T T 13 24 24.5
baz=265,slow=74,SNR=47
H11N3 WAKE ISLAND Hy 40.21 71 T T 13 24 25.4
baz=265,slow=74,SNR=75
FORT Forrest 40.28 178 P **P** **12 40 52.1 +0.1**
HEH HeiHe 40.42 1 *e*P **P** **12 40 54.0 +1.1**
HEH pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 41.43 340 P **P** **12 41 01.2 -0.3**
SONM Songino Array 41.63 340 P **P** **12 41 02.6 -0.5**
SONM Songino Array 41.63 340 P **P** **12 41 03.4 +0.3**
comp=Z,1.2nm,0.4s,baz=159,slow=9.8,SNR=7.9
SONM LR LR 13 00 13.0
comp=Z,123nm,18.4s,baz=118,slow=39
comp=Z,1.2nm,0.4s
BBOO Buckleboo 43.25 168 P **P** **12 41 16.2 -0.1**
BBOO IAmb IAmb 12 41 29.3
comp=Z,32nm,1.2s
NWAO Narrogin (SRO) 43.32 191 P **P** **12 41 17.0 +0.2**
NWAO Narrogin (SRO) 43.32 191 LR LR 13 03 09.0
comp=Z,57nm,18.6s,baz=40,slow=42
STKA Stephens Creek 43.80 161 P **P** **12 41 20.3 -0.3**
STKA Stephens Creek 43.80 161 P **P** **12 41 20.2 -0.5**
comp=Z,3.8nm,0.5s,baz=346,slow=8.0,SNR=9.9
comp=Z,3.8nm,0.5s
PALK Pallekele 45.36 271 LR LR 13 02 30.1
comp=Z,97nm,19.1s,baz=92,slow=39
ARMA Armidale 46.63 150 P **P** **12 41 42.0 -1.3**
WMQ Urumqi 47.82 322 *e*P **P** **12 41 54.5 +2.1**
WMQ LR LR
comp=Z,90nm,18.1s
PEA0B Petropavlovsk- 50.04 24 P **P** **12 42 07.4 -1.7**
PETK Petropavlovsk- 50.04 24 P **P** **12 42 08.9 -0.2**
PETK Petropavlovsk- 50.04 24 P **P** **12 42 10.3 +1.2**
comp=Z,5.0nm,0.9s,baz=228,slow=8.2,SNR=2.6
PETK LR LR 13 03 24.8
comp=Z,105nm,19.0s,baz=219,slow=36
comp=Z,5.0nm,0.9s
DZM Mont Dzumac 50.30 129 *e*LR LR 12 56 37.7
comp=Z,130nm,23.9s
YAK Yakutsk 52.27 2 P **P** **12 42 26.0 +0.3**
YAK Yakutsk 52.27 2 LR LR 13 06 55.1
comp=Z,100nm,18.3s,baz=204,slow=39
MK31 Makanchi Array 52.62 323 P **P** **12 42 27.8 -0.8**
MKAR Makanchi Array 52.62 323 P **P** **12 42 27.6 -1.1**
MKAR Makanchi Array 52.62 323 P **P** **12 42 27.8 -0.9**
comp=Z,3.2nm,0.7s,baz=123,slow=8.2,SNR=41
MKAR ScP **ScP** **12 47 33.5 +1.2**
comp=Z,0.4nm,0.8s,baz=116,slow=5.0,SNR=3.6
MKAR LR LR 13 06 39.7
comp=Z,161nm,18.7s,baz=126,slow=38
comp=Z,3.2nm,0.7s
MAKZ Makanchi 52.82 323 P **P** **12 42 28.7 -1.4**
MA2 Magadan 53.00 15 LR LR 13 05 05.4
comp=Z,52nm,19.3s,baz=184,slow=36
MA2 Magadan 53.00 15 P **P** **12 42 32.7 +1.5**
comp=Z,9.9nm,1.4s
NIL Nilore 54.26 305 P **P** **12 42 39.5 -1.4**
NIL IAmb IAmb 12 42 46.0
comp=Z,17nm,1.1s
ZAA0 Zalesovo Array 55.23 331 P **P** **12 42 45.6 -2.0**
ZALV Zalesovo Beam 55.23 331 P **P** **12 42 45.8 -1.8**
ZALV Zalesovo Beam 55.23 331 P **P** **12 42 46.4 -1.1**
comp=Z,3.0nm,0.8s,baz=113,slow=7.0,SNR=14
ZALV LR LR 13 08 44.6
comp=Z,128nm,18.0s,baz=144,slow=39
comp=Z,3.0nm,0.8s
AAK Ala-Archa 55.90 315 LR LR 13 08 36.5
comp=Z,169nm,20.6s,baz=94,slow=38
KURK Kurchatov 56.67 326 P **P** **12 42 56.9 -0.9**
KURK IAmb IAmb 12 42 58.2
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 56.67 325 P **P** **12 42 57.0 -0.9**
comp=Z,2.6nm,0.6s,baz=127,slow=6.7,SNR=33
comp=Z,2.6nm,0.6s
DRK Karamyk 56.86 311 P **P** **12 42 59.3 -0.5**
DRK IAmb IAmb 12 43 05.5
comp=Z,11nm,1.2s
MSVF Nonsavu 57.73 118 P **P** **12 43 07.2 +1.2**
comp=Z,5.9nm,0.8s,baz=309,slow=14,SNR=4.0
MSVF LR LR 13 05 47.3
comp=Z,65nm,21.3s,baz=324,slow=34
comp=Z,5.9nm,0.8s
GAR Garm 57.84 310 IAmb IAmb 12 43 11.7
comp=Z,14nm,0.9s
KBL Kabul 57.86 305 P **P** **12 43 04.9 -2.0**
KBL IAmb IAmb 12 43 06.6
comp=Z,7.0nm,0.7s
CHGR Chuyangaron 58.64 309 IAmb IAmb 12 43 18.3
comp=Z,12nm,0.7s
SIMJ Simiganj 58.75 309 P **P** **12 43 12.0 -0.9**
KK31 Karatay Array 58.82 315 P **P** **12 43 12.3 -0.8**
KKAR Karatay Array 58.82 315 P **P** **12 43 12.2 -0.9**
KKAR Karatay Array 58.82 315 P **P** **12 43 12.3 -0.9**
TIXI Tiksi 61.90 1 P **P** **12 43 33.2 -0.4**
BVAR Borovoye Array 62.27 325 P **P** **12 43 35.5 -1.0**
comp=Z,3.0nm,0.7s,baz=110,slow=8.5,SNR=6.9
comp=Z,3.0nm,0.7s
BILL Bilibino 63.87 16 P **P** **12 43 47.2 +0.4**
BILL IAmb IAmb 12 43 57.8
comp=Z,10nm,1.1s
BKZ Black Stump Fm 67.20 140 P **P** **12 44 10.5 +1.7**
RTZ Ruatahuna 67.20 139 P **P** **12 44 10.2 +1.4**
ABKAR Akbulak array 67.46 319 P **P** **12 44 09.4 -1.0**
P08K Saint George I 67.71 32 P **P** **12 44 12.5 +0.8**
baz=253
UNV Unalaska Valle 68.68 36 P **P** **12 44 18.7 +0.8**
baz=257
AKTO Aktyubinsk 68.91 320 P **P** **12 44 18.6 -0.8**
comp=Z,2.6nm,0.6s,baz=86,slow=7.1,SNR=8.1
AKTO LR LR 13 16 47.6
comp=Z,138nm,20.1s,baz=334,slow=38
comp=Z,2.6nm,0.6s
GAMB Gambell 69.06 25 P **P** **12 44 20.7 +0.6**
baz=248
ARTI Arti 69.92 327 P **P** **12 44 24.2 -1.2**
comp=Z,2.2nm,0.5s,baz=118,slow=5.6,SNR=4.0
comp=Z,2.2nm,0.5s
M11K Mekoryuk 70.45 29 P **P** **12 44 29.2 +0.5**
baz=255
FALS False Pass 70.66 35 P **P** **12 44 30.2 +0.2**
baz=259
K13K Kusilvak Mount 71.57 28 P **P** **12 44 36.0 +0.6**
baz=256
F14K Arctic Creek 71.81 24 P **P** **12 44 37.5 +0.7**
baz=253
M13K Dall Lake 71.83 29 P **P** **12 44 36.5 -0.5**
baz=257
ANM Nome 71.94 25 P **P** **12 44 38.0 +0.3**
baz=254
J14K Nanvaranak Lak 72.27 27 P **P** **12 44 39.5 -0.1**
baz=256
L14K Kuka Creek 72.35 29 P **P** **12 44 40.4 +0.3**
baz=258,SNR=6.5
N14K Kuskokwak Cree 72.54 30 P **P** **12 44 41.5 +0.3**
baz=259
F15K North Star Dit 72.55 24 IAmb IAmb 12 44 52.2
comp=Z,8.4nm,1.1s
F15K North Star Dit 72.55 24 P **P** **12 44 41.9 +0.7**
baz=254
M14K Bethel 72.57 29 P **P** **12 44 42.1 +0.7**
baz=258
G15K Niukluk 72.61 25 P **P** **12 44 42.1 +0.6**
baz=255
O14K Tigyukauivet M 72.63 31 P **P** **12 44 41.9 +0.1**
baz=260
CHNA Chernabura Isl 72.84 36 P **P** **12 44 43.1 -0.1**
baz=262
L15K Ungalak Mounta 72.98 28 P **P** **12 44 44.3 +0.5**
baz=259
C16K Lisburne Hills 73.00 21 P **P** **12 44 44.2 +0.3**
baz=253,SNR=6.9
S14K Fog Glacier 73.06 34 P **P** **12 44 44.8 +0.3**
baz=262
K15K Wolf Creek Mou 73.08 28 P **P** **12 44 44.6 +0.1**
baz=258
M15K Kasigluk River 73.17 29 P **P** **12 44 45.0 0.0**
baz=260
H16K Elim 73.27 25 P **P** **12 44 45.8 +0.3**
baz=257
O15K Ungalikthiuk R 73.34 31 P **P** **12 44 45.7 -0.4**
baz=261
N15K Kwethluk River 73.37 30 P **P** **12 44 45.9 -0.4**
baz=260
G16K Koyuk River 73.39 24 P **P** **12 44 47.0 +0.8**
baz=257
CHGN Chignik 73.69 34 P **P** **12 44 47.6 -0.5**
baz=263
J16K Anvik River 73.69 27 P **P** **12 44 48.1 +0.1**
baz=259
RDOG Red Dog Mine 73.82 22 P **P** **12 44 49.5 +0.8**
baz=256
C17K DeLong Mountai 73.83 21 P **P** **12 44 49.2 +0.5**
baz=255,SNR=5.4
L16K Owhat River 73.93 28 IAmb IAmb 12 44 52.3
comp=Z,7.6nm,0.8s
L16K Owhat River 73.93 28 P **P** **12 44 49.6 +0.1**
baz=260
E17K Hotham Inlet 73.99 23 P **P** **12 44 49.9 +0.2**
baz=257
M16K Timber Creek 74.06 29 IAmb IAmb 12 44 53.2
comp=Z,11nm,0.9s
M16K Timber Creek 74.06 29 P **P** **12 44 50.8 +0.6**
baz=261
F17K Baldwin Pennin 74.07 23 P **P** **12 44 51.2 +1.1**
baz=258
O16K Kokwok River B 74.28 31 IAmb IAmb 12 44 54.8
comp=Z,13nm,0.9s
O16K Kokwok River B 74.28 31 P **P** **12 44 51.9 +0.3**
baz=262
R16K Pilot Point 74.30 33 P **P** **12 44 52.3 +0.7**
baz=263
H17K Granite Mounta 74.31 25 P **P** **12 44 51.8 +0.2**
baz=259
J17K VABM Dome 74.39 27 IAmb IAmb 12 45 01.7
comp=Z,9.0nm,0.9s
J17K VABM Dome 74.39 27 P **P** **12 44 52.5 +0.4**
baz=260
E18K Tukpahlearik C 74.53 23 IAmb IAmb 12 44 56.4
comp=Z,9.3nm,0.8s
E18K Tukpahlearik C 74.53 23 P **P** **12 44 53.2 +0.3**
baz=258
B18K Kokolik River 74.54 20 P **P** **12 44 53.4 +0.6**
baz=256
L17K Donlin 74.55 28 P **P** **12 44 53.6 +0.6**
baz=261
C18K Utukok River 74.58 21 IAmb IAmb 12 44 55.7
comp=Z,8.8nm,0.8s
C18K Utukok River 74.58 21 P **P** **12 44 54.6 +1.4**
baz=257
K17K Iditarod 74.63 28 IAmb IAmb 12 44 58.0
comp=Z,11nm,1.0s
K17K Iditarod 74.63 28 P **P** **12 44 53.9 +0.4**
baz=261
F18K Selawik 74.73 23 P **P** **12 44 54.4 +0.5**
baz=259
O17K Koliganek Bris 74.81 31 P **P** **12 44 56.0 +1.5**
baz=263
M17K Holitna River 74.85 29 P **P** **12 44 55.2 +0.4**
baz=262
N17K Nushagak Hills 74.86 30 IAmb IAmb 12 44 58.8
comp=Z,14nm,1.1s
N17K Nushagak Hills 74.86 30 P **P** **12 44 55.2 +0.3**
baz=263
Q16K King Salmon 74.91 32 P **P** **12 44 56.4 +1.2**
baz=264
H18K Honhosa River 74.99 25 P **P** **12 44 56.9 +1.4**
baz=261
G18K Tagagawik 75.00 24 P **P** **12 44 56.6 +1.0**
baz=260
KIRV Kirov 75.05 328 P **P** **12 44 55.2 -0.8**
comp=Z,11nm,0.8s,baz=58,slow=19,SNR=4.7
comp=Z,11nm,0.8s
P17K Kvichak River 75.08 31 P **P** **12 44 56.9 +0.8**
baz=264
L18K Granite Mounta 75.31 28 IAmb IAmb 12 45 01.7
comp=Z,14nm,1.3s
L18K Granite Mounta 75.31 28 P **P** **12 44 58.4 +1.0**
baz=263
J18K Innoko River 75.45 27 P **P** **12 44 58.5 +0.2**
baz=262
F19K Shaleruckik Mo 75.51 23 P **P** **12 44 59.1 +0.7**
baz=261
N18K Kilae Creek 75.51 30 P **P** **12 44 59.2 +0.5**
baz=264
GCSA Galena City Sc 75.55 26 P **P** **12 44 59.2 +0.4**
baz=262
BELG Belogornoye 75.60 322 P **P** **12 44 58.2 -1.0**
comp=Z,12nm,0.9s,baz=90,slow=20,SNR=5.4
comp=Z,12nm,0.9s
M18K Stony River 75.63 29 P **P** **12 44 59.6 +0.3**
baz=264
D19K Kuna River 75.66 22 IAmb IAmb 12 45 02.6
comp=Z,19nm,1.1s
D19K Kuna River 75.66 22 P **P** **12 45 00.5 +1.1**
baz=260
G19K Purcell Mounta 75.67 24 P **P** **12 45 00.2 +0.7**
baz=262
TTA Tatalina 75.70 27 P **P** **12 45 00.5 +0.7**
baz=263
P18K Big Mountain, 75.71 31 P **P** **12 45 00.2 +0.4**
baz=265
O18K Koktuh Hills 75.77 31 P **P** **12 45 00.8 +0.7**
baz=265
E19K Redstone River 75.81 23 IAmb IAmb 12 45 05.6
comp=Z,15nm,1.0s
E19K Redstone River 75.81 23 P **P** **12 45 01.6 +1.3**
baz=261
J19K Poorman 76.00 26 P **P** **12 45 02.5 +1.2**
baz=263
N19K Bonanza Creek 76.21 30 IAmb IAmb 12 45 06.4
comp=Z,9.7nm,0.8s

N19K	Bonanza Creek	76.21	30	P	P	12 45 03.7 +1.0
baz=265						
O19K	Port Alsworth	76.24	30	P	P	12 45 03.3 +0.6
baz=266						
D20K	Etivluk River	76.24	21	P	P	12 45 03.8 +1.1
baz=261						
E20K	Nigu River	76.33	22	P	P	12 45 04.0 +0.8
baz=262						
F20K	Avaraart Lake	76.34	23	IAmb	IAmb	12 45 06.0
comp=Z,6.7nm,0.9s						
F20K	Avaraart Lake	76.34	23	P	P	12 45 04.3 +1.1
baz=262						
H20K	Anotleneega Mo	76.49	25	P	P	12 45 04.9 +0.8
baz=264						
Q19K	Cape Douglas,	76.49	32	P	P	12 45 04.9 +0.6
baz=266						
OHAK	Old Harbor	76.58	33	P	P	12 45 06.0 +1.3
baz=267						
K20K	Telida	76.62	27	P	P	12 45 05.6 +0.7
baz=265						
L20K	Farewell, AK	76.64	28	P	P	12 45 05.2 +0.2
baz=265						
A21K	Barrow	76.65	19	P	P	12 45 04.8 0.0
baz=261						
J20K	Nowinta River	76.66	26	P	P	12 45 05.4 +0.3
baz=265						
P19K	Oil Pt	76.75	31	P	P	12 45 05.6 -0.1
baz=267						
M20K	Styx River	76.94	29	P	P	12 45 07.1 +0.3
baz=266						
C21K	Knifeblade Rid	76.96	21	P	P	12 45 07.1 +0.4
baz=263						
KDAK	Kodiak Island	76.99	33	LR	LR	13 15 10.4
comp=Z,92nm,21.9s,baz=94,slow=33						
KDAK	Kodiak Island	76.99	33	P	P	12 45 07.3 +0.3
baz=268						
B21K	Ikpikpuk River	77.07	21	P	P	12 45 08.0 +0.7
baz=263						
O20K	Slope Mountain	77.08	31	P	P	12 45 08.5 +0.9
baz=267						
Q20K	Shuyak Island	77.12	32	P	P	12 45 08.1 +0.3
baz=268						
G21K	Allakaket	77.15	24	IAmb	IAmb	12 45 11.2
comp=Z,15nm,1.1s						
G21K	Allakaket	77.15	24	P	P	12 45 09.0 +1.2
baz=265						
E21K	Killik River	77.17	22	IAmb	IAmb	12 45 10.9
comp=Z,12nm,0.9s						
E21K	Killik River	77.17	22	P	P	12 45 08.9 +0.9
baz=264						
F21K	Alatna River	77.23	23	P	P	12 45 09.4 +1.2
baz=265						
H21K	Melozitna Rive	77.36	25	IAmb	IAmb	12 45 12.4
comp=Z,8.7nm,1.1s						
H21K	Melozitna Rive	77.36	25	P	P	12 45 09.4 +0.3
baz=266						
CHUM	Lake Minchumin	77.44	27	P	P	12 45 10.1 +0.6
baz=266						
CAST	Castle Rocks	77.52	27	IAmb	IAmb	12 45 12.9
comp=Z,6.6nm,0.9s						
CAST	Castle Rocks	77.52	27	P	P	12 45 10.5 +0.5
baz=267,SNR=7.4						
B22K	Teshekpuk Lake	77.56	20	IAmb	IAmb	12 45 12.7
comp=Z,13nm,0.8s						
B22K	Teshekpuk Lake	77.56	20	P	P	12 45 10.6 +0.6
baz=264						
I21K	Tanana	77.67	25	IAmb	IAmb	12 45 15.6
comp=Z,11nm,1.0s						
I21K	Tanana	77.67	25	P	P	12 45 11.1 +0.4
baz=266						
D22K	Ayikyak River	77.68	21	P	P	12 45 11.5 +0.7
baz=265						
SKT	Skwentna	77.70	29	P	P	12 45 11.7 +0.7
baz=268						
CAPN	Captain Cook N	77.84	30	P	P	12 45 12.4 +0.7
baz=268						
H22K	Ishtalitna Cre	77.97	25	P	P	12 45 13.0 +0.6
baz=267,SNR=6.0						
G22K	Bettles	77.97	24	P	P	12 45 13.4 +1.0
baz=266						
RAYN	Ar Rayn	78.01	292	P	P	12 45 12.2 -1.4
RAYN				IAmb	IAmb	12 45 13.5
comp=Z,6.4nm,0.8s						
BPAW	Bear Paw Mtn.	78.04	26	IAmb	IAmb	12 45 15.8
comp=Z,14nm,1.0s						
BPAW	Bear Paw Mtn.	78.04	26	P	P	12 45 13.6 +0.8
baz=268						
SUA	Susitna One	78.06	29	P	P	12 45 12.9 -0.2
baz=268						
CUT	Chulitna	78.31	28	P	P	12 45 14.8 +0.5
baz=269						
TRF	Thorofare Moun	78.33	27	P	P	12 45 14.9 +0.2
baz=268						
M22K	Willow	78.36	29	P	P	12 45 15.3 +0.7
baz=269						
D23K	Nanushuk River	78.41	21	IAmb	IAmb	12 45 18.5
comp=Z,13nm,1.1s						
D23K	Nanushuk River	78.41	21	P	P	12 45 15.3 +0.5
baz=267						
C23K	Itkillik River	78.48	21	IAmb	IAmb	12 45 18.2
comp=Z,14nm,0.8s						
C23K	Itkillik River	78.48	21	P	P	12 45 16.3 +1.1
baz=267						
COLD	Coldfoot	78.50	23	IAmb	IAmb	12 45 20.2
comp=Z,9.8nm,1.0s						
COLD	Coldfoot	78.50	23	P	P	12 45 16.5 +1.2
baz=268,SNR=13						
O22K	Cooper Landing	78.53	30	P	P	12 45 16.4 +0.8
baz=269						
RC01	Rabbit Creek A	78.53	30	P	P	12 45 16.3 +0.7
baz=269						
G23K	Bananza Creek	78.55	24	IAmb	IAmb	12 45 29.6
comp=Z,9.5nm,1.1s						
G23K	Bananza Creek	78.55	24	P	P	12 45 16.3 +0.6
baz=268						
SEW	Seward	78.67	31	P	P	12 45 16.7 +0.4
baz=270						
E23K	Chandalar	78.76	22	P	P	12 45 17.3 +0.5
baz=268						
KBZ	Khabaz	78.77	313	P	P	12 45 15.5 -1.7
comp=Z,2.3nm,0.9s,baz=160,slow=2.8,SNR=4.7						
KBZ				LR	LR	13 26 09.3
comp=Z,64nm,18.1s,baz=50,slow=40						
comp=Z,2.3nm,0.9s						
I23K	Minto, Yukon-K	78.78	25	IAmb	IAmb	12 45 28.4
comp=Z,10nm,1.2s						
I23K	Minto, Yukon-K	78.78	25	P	P	12 45 17.7 +0.8
baz=269,SNR=5.7						
TOLK	Toolik Lake Re	78.79	22	IAmb	IAmb	12 45 20.4
comp=Z,9.3nm,0.9s						
TOLK	Toolik Lake Re	78.79	22	P	P	12 45 18.3 +1.4
baz=268,SNR=7.8						
PMR	Palmer	78.83	29	IAmb	IAmb	12 45 19.2
comp=Z,14nm,1.0s						
PMR	Palmer	78.83	29	P	P	12 45 18.3 +1.1
baz=270						
NEA2	Nenana	78.89	26	IAmb	IAmb	12 45 20.3
comp=Z,7.7nm,0.8s						
NEA2	Nenana	78.89	26	P	P	12 45 18.2 +0.7
baz=269,SNR=7.0						
MCK	McKinley	78.94	27	IAmb	IAmb	12 45 20.0
comp=Z,16nm,1.0s						
MCK	McKinley	78.94	27	P	P	12 45 19.1 +1.2
baz=270,SNR=8.2						
RND	Reindeer	78.97	27	IAmb	IAmb	12 45 20.1
comp=Z,20nm,1.4s						
D24K	Happy Valley	79.08	21	IAmb	IAmb	12 45 21.8
comp=Z,9.5nm,0.8s						
D24K	Happy Valley	79.08	21	P	P	12 45 19.3 +0.9
baz=268						
C24K	Franklin Bluff	79.14	21	IAmb	IAmb	12 45 21.3
comp=Z,6.7nm,0.8s						
C24K	Franklin Bluff	79.14	21	P	P	12 45 19.8 +1.0
baz=268						
KNK	Knik Glacier	79.16	29	P	P	12 45 19.6 +0.6
baz=270						
E24K	Your Creek	79.18	22	IAmb	IAmb	12 45 22.5
comp=Z,9.0nm,0.9s						
E24K	Your Creek	79.18	22	P	P	12 45 19.1 0.0
baz=269						
SML	Sawmill	79.21	29	P	P	12 45 19.4 0.0
baz=270						
PWL	Port Wells	79.22	30	P	P	12 45 20.1 +0.7
baz=271						
WRH	Wood River Hil	79.31	26	IAmb	IAmb	12 45 31.7
comp=Z,16nm,1.5s						
H24K	Noodor Dome	79.40	25	IAmb	IAmb	12 45 24.4
comp=Z,9.2nm,0.9s						
H24K	Noodor Dome	79.40	25	P	P	12 45 20.8 +0.5
baz=270						
F24K	Squaw Lake	79.40	23	IAmb	IAmb	12 45 23.9
comp=Z,7.6nm,0.8s						
F24K	Squaw Lake	79.40	23	P	P	12 45 21.1 +0.8
baz=270						
COLA	College	79.42	26	P	P	12 45 22.5 +2.2
COLA	College	79.42	26	P	P	12 45 21.2 +0.9
baz=270						
CCB	Clear Creek Bu	79.44	26	P	P	12 45 20.4 -0.1
M23K	Glacier View	79.50	29	P	P	12 45 21.4 +0.5
baz=271						
G24K	Hadweenzic Riv	79.56	24	IAmb	IAmb	12 45 24.6
comp=Z,8.9nm,0.9s						
G24K	Hadweenzic Riv	79.56	24	P	P	12 45 22.5 +1.3
baz=270						
POKR	Poker Plat Res	79.59	25	P	P	12 45 22.2 +0.9
baz=271						
SCM	Sheep Creek Mo	79.69	29	P	P	12 45 22.6 +0.6
baz=271						
GURO	Guroymak-BITLI	79.74	308	P	P	12 45 22.5 -0.3
GURO				IAmb	IAmb	12 45 24.3
comp=Z,7.8nm,0.8s						
HDA	Harding Lake	79.81	26	P	P	12 45 23.6 +1.1
baz=271						
IL31		79.83	26	P	P	12 45 22.4 -0.2
ILAR	Eielson Array	79.83	26	P	P	12 45 22.8 +0.2
comp=Z,1.8nm,0.8s,baz=239,slow=5.3,SNR=28						
ILAR				LR	LR	13 18 26.2
comp=Z,39nm,21.9s,baz=256,slow=34						
comp=Z,1.8nm,0.8s						
D25K	Kavik River	79.96	21	IAmb	IAmb	12 45 25.9
comp=Z,8.8nm,0.9s						
D25K	Kavik River	79.96	21	P	P	12 45 24.3 +1.0
baz=271,SNR=11						
H25L	Birch Creek	80.23	24	P	P	12 45 25.9 +1.2
baz=272						
Q23K	Middleton Isla	80.25	31	P	P	12 45 26.2 +1.3
baz=273						
F25K	Christian Rive	80.26	23	P	P	12 45 25.7 +0.7
baz=272,SNR=8.6						
K24K	Donnelly Dome	80.34	27	P	P	12 45 26.0 +0.6
baz=272						
KLU	Klutina	80.37	29	P	P	12 45 26.0 +0.3
baz=273						
C26K	Camden Bay	80.45	20	P	P	12 45 26.2 +0.3
baz=272						
DIV	Divide	80.46	29	IAmb	IAmb	12 45 29.2
comp=Z,14nm,1.0s						
J25K	Salcha River,	80.48	26	P	P	12 45 26.7 +0.4
baz=272						
EYAK	Cordova Ski Ar	80.50	30	P	P	12 45 26.8 +0.5
baz=273						
PAX	Paxson	80.52	28	P	P	12 45 27.0 +0.5
baz=273						
BMAR	Burnt Mountain	80.68	23	P	P	12 45 28.1 +0.9
HARP	HAARP	80.69	28	P	P	12 45 27.9 +0.6
baz=273						
RIDG	Independent Ri	80.76	27	IAmb	IAmb	12 45 30.6
comp=Z,14nm,1.2s						
RIDG	Independent Ri	80.76	27	P	P	12 45 27.6 -0.1
baz=273,SNR=7.4						
F26K	Sheenjek River	80.83	23	P	P	12 45 28.9 +0.9
baz=273						
C27K	Jago River	80.88	21	IAmb	IAmb	12 45 31.8
comp=Z,15nm,1.1s						
C27K	Jago River	80.88	21	P	P	12 45 29.1 +0.9
baz=273						
N25K	Chitina, Valde	81.00	29	P	P	12 45 29.3 +0.2
baz=274						
G26K	Porcupine Rive	81.02	23	P	P	12 45 29.5 +0.6
baz=274						
BMRM	Bremner River	81.04	30	P	P	12 45 30.2 +0.9
baz=274						
SCRK	Sand Creek	81.12	27	P	P	12 45 30.6 +0.9
baz=274						
KAIM	Kayak Island	81.20	31	P	P	12 45 31.0 +1.0
baz=274						
J26L	Joseph Creek	81.27	26	P	P	12 45 30.3 -0.2
J26L	Joseph Creek	81.27	26	P	P	12 45 30.6 +0.2
baz=274						
I26K	Coal Creek Min	81.39	25	P	P	12 45 30.9 -0.1
I26K	Coal Creek Min	81.39	25	P	P	12 45 31.9 +1.0
baz=274						
L26K	Log Cabin Wild	81.48	27	P	P	12 45 32.6 +1.1
baz=275						
M26K	Nabesna, AK	81.69	28	IAmb	IAmb	12 45 35.3
comp=Z,11nm,1.2s						
M26K	Nabesna, AK	81.69	28	P	P	12 45 33.4 +0.7
baz=275						
G27K	Doyon Strip	81.86	24	P	P	12 45 34.2 +0.7
baz=276						
D27M	Malcolm River	81.88	21	IAmb	IAmb	12 45 37.1
comp=Z,8.2nm,0.8s						
D27M	Malcolm River	81.88	21	P	P	12 45 34.3 +0.7
baz=276						
H27K	Steamboat Moun	81.97	24	P	P	12 45 34.7 +0.6
baz=276						
I27K	Kandik River	82.00	25	P	P	12 45 35.8 +1.6
baz=276,SNR=19						
L27K	Beaver Creek,	82.17	27	IAmb	IAmb	12 45 38.7
comp=Z,9.0nm,1.1s						
L27K	Beaver Creek,	82.17	27	P	P	12 45 35.6 +0.4
baz=276						
BCAR	Beaver Creek A	82.18	27	P	P	12 45 37.4 +2.2
M27K	Edge Creek, AK	82.21	28	IAmb	IAmb	12 45 40.8
comp=Z,7.6nm,1.1s						
M27K	Edge Creek, AK	82.21	28	P	P	12 45 36.3 +0.7
baz=276						
EGAK	Eagle	82.28	26	IAmb	IAmb	12 45 39.8
comp=Z,7.7nm,1.0s						
EGAK	Eagle	82.28	26	P	P	12 45 36.6 +1.0
baz=276						
MESA	MESA	82.41	30	P	P	12 45 37.0 +0.3
baz=276						
F28M	Old Crow	82.47	23	IAmb	IAmb	12 45 41.3
comp=Z,11nm,1.0s						
F28M	Old Crow	82.47	23	P	P	12 45 37.6 +1.0
baz=277,SNR=14						
E28M	Babbage River	82.47	22	IAmb	IAmb	12 45 39.9
comp=Z,7.9nm,0.9s						
E28M	Babbage River	82.47	22	P	P	12 45 37.5 +0.9
baz=277						
D28M	Stokes Point	82.66	21	P	P	12 45 38.6 +1.1
baz=278						
BVCY	Beaver Creek	82.68	28	P	P	12 45 38.8 +1.0
baz=277						
I28M	Miner Creek	82.71	25	P	P	12 45 38.7 +0.7
baz=277,SNR=17						
YUK3	Moose Creek	82.94	29	P	P	12 45 40.1 +0.6
baz=277						
DAWY	Dawson	83.13	26	IAmb	IAmb	12 45 43.5
comp=Z,13nm,1.3s						
DAWY	Dawson	83.13	26	P	P	12 45 40.7 +0.5
baz=278,SNR=5.8						
O28M	Mount Upton	83.20	30	P	P	12 45 41.2 +0.3
baz=278						
H29M	Whitestone	83.24	24	IAmb	IAmb	12 45 43.4
comp=Z,8.1nm,0.9s						
H29M	Whitestone	83.24	24	P	P	12 45 42.0 +1.4
baz=279						
PINM	Pinnacle	83.26	30	P	P	12 45 41.4 +0.4
baz=278						
G29M	Pine Creek	83.28	23	P	P	12 45 41.6 +0.8
baz=279						
YUK8	Steele Glacier	83.34	29	P	P	12 45 41.7 +0.1
baz=278						
I29M	Ogilvie Camp,	83.40	25	P	P	12 45 43.0 +1.5
baz=279						
J29N	Klondike Camp	83.58	26	P	P	12 45 43.9 +1.4
baz=279						
M29M	Somme Creek	83.78	28	IAmb	IAmb	12 45 47.1
comp=Z,13nm,1.1s						
M29M	Somme Creek	83.78	28	P	P	12 45 44.2 +0.6
baz=279,SNR=5.9						
L29M	L29M	83.83	27	P	P	12 45 44.2 +0.5
baz=279						
YUK4	Talbot Arm	83.86	29	P	P	12 45 44.8 +0.7
baz=279						
EPYK	Eagle Plains	83.88	24	P	P	12 45 44.7 +0.8
baz=280,SNR=6.5						
G30M	tAoh Zraii Nji	83.96	23	IAmb	IAmb	12 45 46.8
comp=Z,12nm,1.2s						
G30M	tAoh Zraii Nji	83.96	23	P	P	12 45 45.0 +0.7
baz=280						
K29M	Barlow Dome	83.98	26	IAmb	IAmb	12 45 48.2
comp=Z,12nm,1.1s						
K29M	Barlow Dome	83.98	26	P	P	12 45 45.7 +1.1
baz=280,SNR=7.1						
F30M	Barrier River	84.01	22	P	P	12 45 45.2 +0.6
baz=281						
O29M	Mount Kennedy	84.06	30	P	P	12 45 45.8 +0.7
baz=279						
YUK6	Outpost Mounta	84.06	29	P	P	12 45 46.0 +0.8
baz=279						
VOI	Vohitsoka	84.20	247	P	P	12 45 45.3 -1.2
I30M	Mount Dempster	84.22	25	P	P	12 45 47.1 +1.3
baz=280						
J30M	Hart River	84.36	25	P	P	12 45 47.5 +1.0
baz=281						
HYT	Haines Junctio	84.50	29	P	P	12 45 48.5 +1.1
baz=280,SNR=7.0						
M30M	Minto, Yukon	84.52	28	P	P	12 45 47.8 +0.5
baz=280						
SPB2	Spitsbergen Ar	84.61	349	P	P	12 45 48.0 +0.6
SPITS	Spitsbergen Ar	84.61	349	P	P	12 45 47.7 +0.3
comp=Z,10.0nm,0.8s,baz=78,slow=7.8,SNR=8.9						
SPITS				LR	LR	13 30 32.2
comp=Z,72nm,18.5s,baz=32,slow=41						
comp=Z,10.0nm,0.8s						
INK	Inuvik	84.70	22	IAmb	IAmb	12 45 50.7
comp=Z,10nm,1.1s						
INK	Inuvik	84.70	22	P	P	12 45 49.1 +1.1
baz=283,SNR=9.8						
G31M	Satah River	84.73	23	P	P	12 45 49.2 +1.1
baz=282,SNR=11						
MAYO	Mayo, Yukon	84.73	26	P	P	12 45 49.4 +1.1
baz=281,SNR=9.2						
ARCES	ARCESS Array B	84.80	340	P	P	12 45 48.9 +0.3
ARCES	ARCESS Array B	84.80	340	P	P	12 45 48.6 +0.1
comp=Z,12nm,0.9s,baz=9.1,slow=2.1,SNR=19						
comp=Z,12nm,0.9s						
F31M	Tsiigehtchic	84.82	22	IAmb	IAmb	12 45 51.0
comp=Z,9.8nm,0.9s						
F31M	Tsiigehtchic	84.82	22	P	P	12 45 49.5 +0.9
baz=283,SNR=7.1						
H31M	Peel River	84.94	24	P	P	12 45 50.1 +0.8
baz=282,SNR=12						
O30N	Mendenhall	85.19	29	P	P	12 45 51.2 +0.5
baz=281						
N31M	Braeburn, Yuko	85.20	29	P	P	12 45 52.0 +1.3
baz=281						
PLBC	Pleasant Camp	85.31	31	P	P	12 45 52.1 +0.8
baz=281						
S31K	Pelican	85.67	32	P	P	12 45 53.6 +0.6
baz=281						
M31M	Drury Creek, Y	85.69	28	IAmb	IAmb	12 45 56.3
comp=Z,7.9nm,1.0s						
M31M	Drury Creek, Y	85.69	28	P	P	12 45 54.1 +0.9
baz=283,SNR=5.1						
WHY	Whitehorse	85.79	29	IAmb	IAmb	12 45 57.4
comp=Z,14nm,1.0s						
WHY	Whitehorse	85.79	29	P	P	12 45 54.5 +0.7
baz=282						
SKAG	Skagway	85.83	30	P	P	12 45 54.4 +0.6
baz=282						
R31K	City Hall, Gus	85.83	32	P	P	12 45 54.5 +0.7
baz=282						
FARO	Faro, Yukon	86.16	28	P	P	12 45 56.0 +0.6
baz=284,SNR=10						
SIT	Sitka	86.33	33	P	P	12 45 57.2 +0.9
baz=282						
A36M	Sachs Harbour	86.37	17	P	P	12 45 57.3 +1.1
baz=290,SNR=19						
FIA1	FINESS Array S	86.50	332	P	P	12 45 56.4 -0.7
FINES	FINESS Array B	86.50	332	P	P	12 45 56.6 -0.4
FINES	FINESS Array B	86.50	332	P	P	12 45 56.5 -0.5
comp=Z,7.9nm,0.9s,baz=84,slow=5.9,SNR=12						
comp=Z,7.9nm,0.9s						
N32M	Quiet Lake	86.54	29	P	P	12 45 58.6 +1.2
baz=284						
P32M	Atlin	86.60	30	P	P	12 45 58.0 +0.3
baz=283						
EIL	Elat	86.62	299	LR	LR	13 32 42.3
comp=Z,28nm,18.9s,baz=72,slow=41						
S32K	Killisnoo	86.64	32	P	P	12 45 57.8 0.0
baz=283						
P33M	Teslin, Yukon	86.89	29	P	P	12 45 59.8 +0.7
baz=284						
NOR	Nord	87.15	355	*i* P	P	12 45 59.2 -0.8
NOR				IAmb	IAmb	12 46 02.0
comp=Z,9.3nm,1.2s						
PPT2	Papeete2	87.15	108	*e*LR	LR	13 13 36.1
comp=Z,124nm,24.8s						
PPT2				*e*LR	LR	13 13 37.3
comp=Z,120nm,22.2s						
AKASG	Malin Array Be	87.16	321	P	P	12 45 58.9 -1.6
comp=Z,0.3nm,0.3s,baz=69,slow=3.1,SNR=6.5						
AKASG				LR	LR	13 28 02.1
comp=Z,33nm,18.3s,baz=61,slow=38						
comp=Z,0.3nm,0.3s						
C36M	Paulatuk	87.68	20	P	P	12 46 02.5 -0.1
C36M				IAmb	IAmb	12 46 05.0
comp=Z,7.3nm,0.7s						
C36M	Paulatuk	87.68	20	P	P	12 46 02.9 +0.3
baz=292,SNR=8.7						
LUBAR	Lubar, Ukraine	88.24	320	P	P	12 46 04.8 -0.9
S34M	Telegraph Cree	88.32	31	P	P	12 46 06.1 +0.2
baz=286						
TBI	Tubuai	88.37	114	*e*LR	LR	13 14 08.2
comp=Z,630nm,25.2s						
V35K	Ketchikan	88.75	34	P	P	12 46 08.6 +0.6
baz=285						
WTLY	Watson Lake, Y	88.86	29	P	P	12 46 08.7 +0.3
baz=288						
KIBK	Kibwezi	88.89	267	P	P	12 46 08.5 -1.2
T35M	Bob Quinn	89.04	32	P	P	12 46 09.9 +0.5
baz=286						
KMBO	Kilima Mbogo	89.47	269	P	P	12 46 11.2 -1.4
KMBO				IAmb	IAmb	12 46 13.1
comp=Z,7.8nm,1.4s						
WRGLY	Wrigley	90.19	25	P	P	12 46 14.7 +0.1
baz=292						
MLR	Muntele Rosu	90.47	316	LR	LR	13 31 06.9
comp=Z,87nm,19.2s,baz=67,slow=38						
TOAD	Toad River Com	90.99	30	P	P	12 46 19.0 +0.5
baz=291						
KOTAN	Kotaneelee Air	91.09	28	P	P	12 46 19.5 +0.7
baz=292						
DAG	Danmarks Havn	91.33	352	*i* P	P	12 46 17.8 -1.8
DAG				IAmb	IAmb	12 46 20.8
comp=Z,7.9nm,1.1s						
BBB	Bella Bella	91.64	36	LR	LR	13 22 35.4
comp=Z,45nm,20.3s,baz=6.0,slow=32						
RES	Resolute Bay	92.00	10	IAmb	IAmb	12 46 25.2
comp=Z,5.3nm,0.9s						
HFS	Hagfors	92.66	332	P	P	12 46 25.0 -1.1
comp=Z,2.4nm,0.6s,baz=90,slow=4.4,SNR=7.2						
comp=Z,2.4nm,0.6s						
NEEM	North Greenlan	92.98	359	*i* P	P	12 46 27.9 +0.3
NEEM				IAmb	IAmb	12 46 29.9
comp=Z,8.0nm,1.0s						
NB2	NORSAR Subarra	93.37	334	PKP	P	12 46 28.3 -1.1
comp=Z,1.3nm,0.8s,baz=16,slow=3.2						
NOA	NORSAR Array B	93.37	334	P	P	12 46 28.5 -0.9
comp=Z,1.2nm,0.8s,baz=66,slow=4.5,SNR=3.7						
NOA				LR	LR	13 31 45.4
comp=Z,76nm,18.1s,baz=70,slow=38						
comp=Z,1.2nm,0.8s						
YKA	Yellowknife Ar	94.16	24	P	P	12 46 34.1 +1.2
comp=Z,4.1nm,1.0s,baz=298,slow=4.7,SNR=41						
comp=Z,4.1nm,1.0s						
TAOE	Nuku Hiva Isla	94.71	98	*e*LR	LR	13 16 56.2
comp=Z,135nm,24.1s						
YBH	Yreka Blue Hor	98.65	45	LR	LR	13 22 23.8
comp=Z,63nm,21.1s,baz=326,slow=30						
TXAR	Lajitas Array	118.00	49	PKP	PKiKP	12 52 03.0 +1.1
comp=Z,0.5nm,0.9s,baz=17,slow=1.1,SNR=4.8						
TORD	Torodi Ar. Bea	120.71	292	PKP	PKPdf	12 52 06.7 -0.6
comp=Z,0.2nm,0.3s,baz=30,slow=3.1,SNR=2.7						
PLCA	Paso Flores	145.60	157	PKPbc	PKPab	12 52 53.9 +0.4
comp=Z,4.6nm,0.9s,baz=222,slow=3.0,SNR=11						

IDC 13 12:45:40.1±2.1,5.80S×151.62E,h0^{km},mb3.3/3,
mbtmp3.4/4,ML1.5/1,Error ellipse: s-maj=135.6km
s-min=28.0km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
PMG	Port Moresby	5.69	231	Pn	Pn	12 47 07.6		+1.6
1.0nm,0.3s,baz=45,slow=13,SNR=1.9								
8.9nm,0.8s								
WRA	Warramunga Arr	21.91	229	P	P	12 50 35.4		+0.2
0.6nm,0.8s,baz=55,slow=11,SNR=2.5								
0.6nm,0.8s								

ASAR	Alice Springs	24.63	222	P		P	12 51 01.8	-0.7
	0.6nm,0.9s,baz=49,slow=9.0,SNR=5.7							
	0.6nm,0.9s							
ILAR	Eielson Array	83.52	22	P		P	12 58 09.8	+0.2
	0.4nm,0.8s,baz=256,slow=5.7,SNR=5.2							
	0.4nm,0.8s							
TORD	Torodi Ar. Bea	149.48	286	PKPbc		PKPbc	13 05 31.7	-0.7
	0.6nm,0.8s,baz=81,slow=3.1,SNR=3.0							

UCR 13 13:02:36.1±0.6, 8°.86N×84°.10W, h0km±2km, MW3.5, 7C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.61	0⇑	eP	Pb	13 02 49.1	-0.7
LLNJ				eS	Sb	13 02 58.6	-0.4
FIMO	Fila Mora	0.75	80⇑	eP	Pg	13 02 51.3	+0.8
FIMO				eS	Sb	13 03 02.9	-0.1
PISJ	San Jernim	0.77	358	eP	Pg	13 02 51.6	+0.7
PICV	PH. Pirrs	0.77	353	eP	Pg	13 02 51.6	+0.7
PIRO	Carate, Puerto	0.88	121	eP	Pg	13 02 53.6	+0.6
LCR2	La Lucha 2	0.89	6	eP	Pg	13 02 53.5	+0.4
DRK0	Durika	0.94	64	eP	Pg	13 02 54.7	+0.6
EDAD	Golfito	0.95	102	eP	Pg	13 02 54.3	0.0
VICA	Volcano Irazu	1.15	13⇓	eP	Pg	13 02 58.0	-0.3
VERB	Verbena	1.16	20⇓	eP	Pg	13 02 58.6	+0.4
CVIMO	Finca Echandi	1.17	8⇑	eP	Pg	13 02 58.6	0.0
VTCV	VTCV, Calle Va	1.18	18⇑	eP	Pg	13 02 58.8	+0.1
VTLA	Turrialba Volc	1.19	16	eP	Pg	13 02 58.9	0.0
CVTQ	Turrialba Volc	1.19	16⇓	iP	Pg	13 02 59.2	+0.3
CVTV	Tajo	1.19	17⇓	eP	Pg	13 02 59.1	+0.1
VTR0	Volcan Turrial	1.20	16	eP	Pg	13 02 59.3	+0.1
CVTR	Volcan Turrial	1.21	16⇑	iP	Pg	13 02 59.4	+0.1
VBV1	V. Barva	1.25	0	eP	Pg	13 02 59.8	-0.3
ALCO	Alturas Coton,	1.26	86	eP	Pg	13 02 59.5	-0.7
CVTG	V. Turrialba,	1.32	14⇑	iP	Pg	13 03 01.3	-0.2
SOCE	Pocosol	1.60	342	eP	Pn	13 03 06.0	+0.2
JTS	Las Juntas de	1.66	330	eP	Pn	13 03 06.2	-0.3

UCR 13 13:05:42.6±0.8, 8°.93N×84°.07W, h0km±4km, MW3.5, 2C-6D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.54	357	eP	Pb	13 05 54.4	-0.6
EDPE	Pejibaye, P	0.54	66	eP	Pg	13 05 53.6	+0.5
BUS1	Rivas	0.70	28	eP	Pg	13 05 56.2	+0.3
PISJ	San Jernim	0.70	356	eP	Pb	13 05 56.9	-0.8
PICV	PH. Pirrs	0.70	350	eP	Pb	13 05 57.0	-0.8
RAZU	San Marcos de	0.72	4	eP	Pb	13 05 57.6	-0.6
ABE2	San Pablo	0.77	1	eP	Pb	13 05 58.5	-0.5
LCR2	La Lucha 2	0.81	5⇑	eP	Pg	13 05 58.7	+0.6
ACOS	Acosta	0.86	354	eP	Pg	13 05 59.7	+0.6
DRK0	Durika	0.88	68⇓	eP	Pb	13 06 00.4	-0.5
PIRO	Carate, Puerto	0.90	126	eP	Pg	13 06 00.3	+0.4
REPA	Paraso	0.91	13	eP	Pb	13 06 00.8	-0.6
VICA	Volcano Irazu	1.07	12⇓	iP	Pg	13 06 03.3	+0.2
CVIMO	Finca Echandi	1.09	7	eP	Pg	13 06 03.9	+0.3
VTCV	VTCV, Calle Va	1.10	18⇓	eP	Pg	13 06 03.8	+0.1
VTLA	Turrialba Volc	1.10	15⇓	eP	Pg	13 06 04.0	+0.2
CVTQ	Turrialba Volc	1.11	16⇓	eP	Pg	13 06 04.1	+0.2
CVTV	Tajo	1.11	17⇓	eP	Pg	13 06 04.2	+0.2
VTR0	Volcan Turrial	1.12	16	eP	Pg	13 06 04.5	+0.4
CVTR	Volcan Turrial	1.12	16	eP	Pg	13 06 04.4	+0.2
VBV1	V. Barva	1.17	359⇑	eP	Pg	13 06 05.4	+0.2
ALCO	Alturas Coton,	1.23	89	eP	Pg	13 06 05.1	-1.0
CVTG	V. Turrialba,	1.24	14	eP	Pg	13 06 06.6	+0.2
ARE1	Arenal 1	1.65	337	eP	Pn	13 06 13.3	+0.5
VARE2	V. Arenal	1.65	337	eP	Pb	13 06 13.6	-0.4

*AEIC **13** 13:07:40.6±0.5, 53°.10N±0°.10×164°.5W±0°.1, h15km±9km, Error ellipse: s-maj=15.3km s-min=6.5km az=153.0*

NEIC 13 13:07:38.8±0.4, 53°.1N±0°.2×164°.6W±0°.1, h15km±19km, ML2.8(AEIC), Error ellipse: s-maj=24.8km s-min=3.1km az=159.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	1.23	327		Pn	13 08 01.1	-0.4
AKSA					Sb	13 08 17.1	-0.3
AHB	Akutan Harbor	1.26	324		Pn	13 08 01.7	0.0
AHB					Sn	13 08 18.3	-0.1
AKBBA	Akutan Broad B	1.28	321		Pn	13 08 02.1	-0.1
AKBBA					Sb	13 08 19.0	0.0
ZRO	Akutan Zero	1.30	320		Pn	13 08 02.3	0.0
AKMO	Akutan Morgan	1.31	320		Pn	13 08 02.4	-0.1
AKMO					Sn	13 08 19.7	0.0
AKRB	Akutan Reef Bi	1.36	320		Pn	13 08 03.0	-0.2
WESE	West Dahl East	1.37	360		Pn	13 08 03.4	0.0
LVA	Lava Point	1.37	321	Pn	Pn	13 08 02.7	-0.7
UNV	Unalaska Valle	1.37	303		Pn	13 08 03.3	0.0
UNV	Unalaska Valle	1.37	303		Sn	13 08 20.4	-0.8
AKGG	Akutan Green G	1.39	323		Sn	13 08 21.7	+0.1
WECS	Westdahl Cape	1.43	355		Pn	13 08 03.9	-0.3
MREP	Makushin Rep't	1.48	299		Pn	13 08 05.1	+0.2
WEBT	Westdahl Beart	1.49	356		Sn	13 08 24.0	-0.3
MTBL	Makushin Table	1.53	305		Pn	13 08 06.0	+0.4
MTBL					Sn	13 08 25.3	+0.1
MGOD	Makushin Gods	1.54	298		Pn	13 08 05.8	+0.1
MSW	Makushin Switc	1.55	302		Pn	13 08 06.0	+0.2
MAPS	Pakushin South	1.58	297		Pn	13 08 06.5	+0.3
SSLS	Shishaldin Sou	1.65	12		Pn	13 08 06.7	-0.4
ISNN	Isanotski Nort	1.79	15		Pn	13 08 09.4	+0.2
FALS	False Pass	1.88	21		Pn	13 08 10.2	-0.2
OKCE	Okmok Cone E	2.18	280		Pn	13 08 14.9	+0.4
S12K	Black Hills	2.99	28	Pn	Pn	13 08 26.6	+1.0

*IDC **13** 13:21:00.9±0.5, 55°.31S×27°.11W, h0km, mb4.5/10, mbtmp4.5/11, ML4.5/1, MS3.9/12, Error ellipse: s-maj=20.3km s-min=17.1km az=74.0*

*NEIC **13** 13:21:03.0±0.6, 55°.39S±0°.07×27°.2W±0°.2, h10km±1km, mb4.9/46, Error ellipse: s-maj=19.1km s-min=7.7km az=55.0*

ISC 13 13:21:04.6±0.4, 55°.41S±0°.07×27°.14W±0°.08, h25km, n275, σ0°85/259, mb4.8/25, MS3.9/12, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.52	278		Pn	13 22 24.3	-0.7
VNA3	Neumayer Olymp	17.59	161	P	P	13 25 09.8	+1.3
VNA3	Neumayer Olymp	17.59	161	⇑P	P	13 25 09.8	+1.3
	comp=Z,9.0nm,0.6s						
VNA2	Neumayer--Watz	17.77	159	P	P	13 25 10.8	+0.3
	baz=341,slow=15						
VNA2	Neumayer--Watz	17.77	159	⇑P	P	13 25 10.8	+0.3
	comp=Z,8.8nm,0.6s,baz=341,slow=15						
EFI	East Falkland	18.67	269	P	Pn	13 25 20.8	-0.1
EFI				IAmb	IAmb	13 25 34.3	
	comp=Z,177nm,1.5s						
SNAA	Sanae	19.32	157	P	Pn	13 25 28.7	+0.1
SNAA	Sanae	19.32	157	P	Pn	13 25 28.2	-0.4
SNAA	Sanae	19.32	157	⇑P	Pn	13 25 28.7	+0.1
	comp=Z,204nm,0.5s						
SNAA	Sanae	19.32	157	P	P	13 25 27.4	-0.1
	comp=Z,1.3nm,0.3s,baz=302,slow=12,SNR=32						
SNAA				S	S	13 28 59.3	-5.0
	comp=Z,4.1nm,1.2s,baz=230,slow=20,SNR=2.1						
SNAA				PcP	PcP	13 29 49.5	+0.7
	comp=Z,2.3nm,0.7s,baz=252,slow=2.8,SNR=1.9						
	comp=Z,8.5nm,0.5s						
PMSA	Palmer Station	20.34	228	P	Pn	13 25 40.6	-0.1
PMSA				IAmb	IAmb	13 26 02.0	
	comp=Z,117nm,1.2s						
PMSA	Palmer Station	20.34	228	P	Pn	13 25 40.8	+0.1
	comp=Z,30nm,1.0s,baz=77,slow=5.0,SNR=4.4						
PMSA				LR	LR	13 32 05.3	
	comp=Z,279nm,18.6s,baz=125,slow=32						
	comp=Z,30nm,1.0s						
TROLL	Troll, Antarti	20.81	154	P	Pn	13 25 47.9	+1.6
TROLL	Troll, Antarti	20.81	154	⇑P	Pn	13 25 47.9	+1.6
	comp=Z,562nm,0.8s						
BELA	Belgrano 2	22.71	184	P	P	13 26 03.4	-0.6
BELA				IAmb	IAmb	13 26 06.1	
	comp=Z,22nm,0.8s						
MG02	Cerro Sombrero	24.55	259	P	P	13 26 21.2	-0.7
MG03	Isla Dawson	24.83	255	P	P	13 26 24.5	0.0
TRQA	Tornquist	29.10	292	P	P	13 27 04.0	+0.9
PLTB	Pedras Altas	30.10	311	P	P	13 27 11.7	-0.2
PLTB				IAmb	IAmb	13 27 23.6	
	comp=Z,23nm,1.4s						
PLCA	Paso Flores	31.92	279	P	P	13 27 28.4	+0.4
PLCA	Paso Flores	31.92	279	P	P	13 27 27.4	-0.6
	comp=Z,2.8nm,0.8s,baz=124,slow=8.0,SNR=6.3						
PLCA				PcP	PcP	13 30 18.7	+0.9
	comp=Z,1.7nm,0.7s,baz=76,slow=4.2,SNR=4.7						
	comp=Z,2.8nm,0.8s						
QSPA	South Pole Qui	34.84	180	P	P	13 27 53.8	+0.6
QSPA				IAmb	IAmb	13 27 56.0	
	comp=Z,44nm,1.5s						
QSPA	South Pole Qui	34.84	180	P	P	13 27 53.5	+0.2
	comp=Z,11nm,0.5s,baz=199,slow=2.8,SNR=94						
	comp=Z,11nm,0.5s						
BI02	San Fabin de	35.17	284	P	P	13 27 55.5	-0.7
CPUP	Villa Florida	36.41	311	P	P	13 28 06.7	-0.3
CPUP	Villa Florida	36.41	311	P	P	13 28 06.2	-0.7
	comp=Z,3.2nm,0.6s,baz=146,slow=7.8,SNR=8.5						
CPUP				PcP	PcP	13 30 31.1	+0.4
	comp=Z,1.9nm,0.5s,baz=104,slow=1.8,SNR=3.9						
	comp=Z,3.2nm,0.6s						
BO01	Tunca	36.73	286	P	P	13 28 09.7	+0.1
BO01				IAmb	IAmb	13 28 12.7	
	comp=Z,20nm,1.4s						
BO04	La Punta	36.78	287	P	P	13 28 09.9	-0.1
BO04				IAmb	IAmb	13 28 14.8	
	comp=Z,22nm,1.1s						
MT08	Bocatoma Ro	36.87	289	P	P	13 28 11.0	-0.1
MT08				IAmb	IAmb	13 28 13.5	
	comp=Z,12nm,0.8s						
MT09	Talagante	37.14	287	P	P	13 28 13.2	-0.1
MT01	Popeta	37.22	287	P	P	13 28 13.4	-0.3
MT01				IAmb	IAmb	13 28 14.3	
	comp=Z,18nm,0.7s						
PEL	Peldehue	37.46	288	P	P	13 28 15.6	-0.2
VA05	Santo Domingo	37.58	287	P	P	13 28 16.8	0.0
MT02	Curacav	37.62	288	P	P	13 28 17.0	-0.1
MT02				IAmb	IAmb	13 28 18.1	
	comp=Z,26nm,0.7s						
ZON	Zonda	37.62	292	P	P	13 28 17.1	-0.1
ZON				IAmb	IAmb	13 28 18.1	
	comp=Z,12nm,0.7s						
VA03	San Esteban	37.68	289	P	P	13 28 17.8	0.0
VA06	Catapilco	38.23	288	P	P	13 28 22.2	-0.1
CO03	El Pedregal	39.24	290	P	P	13 28 31.1	+0.2
GO04	Tololo Observa	39.82	291	P	P	13 28 35.9	0.0
CO06	Fray Jorge	39.87	290	P	P	13 28 36.3	+0.2
SUR	Sutherland	40.45	76	LR	LR	13 42 16.2	
	comp=Z,215nm,18.8s,baz=230,slow=32						
MAW	Mawson	40.65	144	LR	LR	13 45 13.6	
	comp=Z,125nm,18.1s,baz=181,slow=36						
AQDB	Aquidauana	40.95	317	P	P	13 28 44.3	-0.7
AQDB				IAmb	IAmb	13 28 45.6	
	comp=Z,30nm,1.4s						
AC04	Llanos de Chal	41.52	293	P	P	13 28 50.5	+0.8
AC04				IAmb	IAmb	13 29 16.6	
	comp=Z,21nm,0.9s						
AC02	Maricunga	41.62	296	P	P	13 28 51.8	+0.7
AC02				IAmb	IAmb	13 29 12.6	
	comp=Z,25nm,1.4s						
BDFB	Brasilia	42.83	330	LR	LR	13 45 17.6	
	comp=Z,124nm,19.6s,baz=156,slow=34						
GO02	Mina Guanaco	43.23	297	P	P	13 29 03.9	0.0
GO02				IAmb	IAmb	13 29 06.3	
	comp=Z,14nm,0.7s						
BOSA	Boshof	45.79	76	P	P	13 29 24.5	+0.4
BOSA				IAmb	IAmb	13 29 36.4	
	comp=Z,12nm,1.4s						
BOSA	Boshof	45.79	76	P	P	13 29 24.0	-0.1
	comp=Z,2.0nm,0.9s,baz=260,slow=4.0,SNR=3.7						
BOSA				LR	LR	13 45 22.5	
	comp=Z,334nm,18.7s,baz=206,slow=32						
	comp=Z,2.0nm,0.9s						
PB01	IPOC Station P	46.61	300	P	P	13 29 31.0	+0.4
PTLB	Pontes e Lacer	46.86	316	P	P	13 29 32.3	-0.1
PTLB				IAmb	IAmb	13 29 32.6	
	comp=Z,7.3nm,0.8s						
VNDA	Vanda	47.21	183	P	P	13 29 35.5	+1.0
VNDA	Vanda	47.21	183	P	P	13 29 35.6	+1.1
	comp=Z,6.5nm,0.6s,baz=194,slow=6.6,SNR=18						
	comp=Z,6.5nm,0.6s						
H10S2	ASCENSION HYDR	47.38	17	T	T	14 21 11.8	
	baz=30,slow=74,SNR=7.1						
H10S3	ASCENSION HYDR	47.38	17	T	T	14 21 11.8	
	baz=190,slow=74,SNR=2.7						
H10N1	ASCENSION HYDR	48.50	17	T	T	14 22 34.8	
	baz=189						
H10N3	ASCENSION HYDR	48.50	17	T	T	14 22 34.5	
	baz=189,slow=74						
H10N2	ASCENSION HYDR	48.52	17	T	T	14 22 36.2	
	baz=189,slow=74						
LBTB	Lebtse	48.80	74	P	P	13 29 48.0	+0.4
PB16	IPOC Station P	48.92	302	P	P	13 29 49.2	+0.1
TSUM	Tsumeb	49.35	61	LR	LR	13 47 17.8	
	comp=Z,141nm,18.5s,baz=157,slow=32						
LPAZ	La Paz	50.03	305	P	P	13 29 57.9	+0.2
LPAZ				IAmb	IAmb	13 30 01.0	
	comp=Z,11nm,0.7s						
LPAZ	La Paz	50.03	305	P	P	13 29 57.0	-0.6
	comp=Z,10nm,0.6s,baz=145,slow=3.5,SNR=26						
	comp=Z,10nm,0.6s						
ETMB	Extrema	54.87	311	P	P	13 30 32.1	-0.7
ETMB				IAmb	IAmb	13 30 33.5	
	comp=Z,9.8nm,0.8s						
LSZ	Lusaka	58.12	69	LR	LR	13 53 51.8	
	comp=Z,214nm,18.1s,baz=194,slow=34						
BOAV	Boa Vista	63.79	322	P	P	13 31 33.3	-1.2
BOAV				IAmb	IAmb	13 31 34.4	
	comp=Z,5.2nm,0.7s						
RPN	Rapa Nui	63.79	260	LR	LR	13 57 43.1	
	comp=Z,61nm,18.5s,baz=102,slow=34						
DBIC	Dimbokro	64.58	25	P	P	13 31 38.0	-1.6
	comp=Z,2.7nm,0.9s,baz=198,slow=3.2,SNR=3.3						
DBIC				LR	LR	13 55 00.9	
	comp=Z,121nm,18.0s,baz=102,slow=32						
	comp=Z,2.7nm,0.9s						
RER	Riviere de l'E	68.86	97	P	P	13 32 07.8	+0.8
OTAV	Otavalo	69.33	303	P	P	13 32 10.9	+0.6
OTAV				IAmb	IAmb	13 32 13.8	
	comp=Z,11nm,1.4s						
TORD	Torodi Ar. Bea	72.49	30	P	P	13 32 29.3	+0.4
TORD	Torodi Ar. Bea	72.49	30	P	P	13 32 28.8	-0.1
	comp=Z,2.8nm,0.6s,baz=200,slow=5.3,SNR=14						
	comp=Z,2.8nm,0.6s						
SDV	Santo Domingo	73.58	315	P	P	13 32 35.4	-0.2
SDV				IAmb	IAmb	13 32 38.3	
	comp=Z,6.8nm,0.8s						
JTS	Las Juntas de	81.19	303	LR	LR	14 09 26.5	
	comp=Z,28nm,21.4s,baz=74,slow=36						
MTO3	Montecristo	86.87	301	P	P	13 33 47.5	+0.3
PPT2	Papeete2	92.58	234	eLR	LR	14 03 53.4	
	comp=Z,34nm,20.8s						
ASAR	Alice Springs	99.59	162	P	Pdif	13 34 45.5	-0.3
	comp=Z,0.4nm,0.6s,baz=188,slow=4.8,SNR=14						
ASAR				PP	PP	13 38 51.0	+2.3
	comp=Z,0.4nm,0.8s,baz=198,slow=6.1,SNR=4.4						
ASAR				LR	LR	14 16 28.1	
	comp=Z,27nm,18.5s,baz=32,slow=33						
	comp=Z,0.4nm,0.6s						
EIL	Eat	99.92	51	LR	LR	14 16 39.2	
	comp=Z,80nm,19.1s,baz=250,slow=33						
WRA	Warramunga Arr	103.31	162	Pdiff	Pdif	13 35 02.6	+0.3
	comp=Z,0.3nm,0.8s,baz=187,slow=4.2,SNR=1.5						
PDAR	Pinedale Array	120.02	303	PKP	PKPdf	13 39 51.1	-1.3
	comp=Z,0.3nm,0.5s,baz=142,slow=5.0,SNR=4.5						
FINES	FINESS Array B	123.81	28	PKP	PKiKP	13 39 58.8	-0.2
	comp=Z,3.8nm,0.9s,baz=197,slow=3.6,SNR=3.0						
CMAR	Chiang Mai Arr	125.26	110	PKP	PKiKP	13 40 03.6	+0.4
	comp=Z,1.7nm,0.6s,baz=227,slow=3.9,SNR=12						
ARCES	ARCESS Array B	130.34	22	PKP	PKPdf	13 40 10.6	-0.4
	comp=Z,1.5nm,0.7s,baz=194,slow=1.9,SNR=5.9						
BVAR	Borovoye Array	134.41	57	PKP	PKiKP	13 40 20.1	-0.4
	comp=Z,0.9nm,0.5s,baz=207,slow=3.0,SNR=4.8						
YKA	Yellowknife Ar	135.71	318	PKhKP	PKPpre	13 40 18.2	
	comp=Z,1.2nm,0.7s,baz=134,slow=2.2,SNR=14						
YKA				PP	PP	13 42 59.3	-1.2
	comp=Z,0.3nm,0.8s,baz=134,slow=5.8,SNR=4.8						
MKAR	Makanchi Array	136.65	71	PKhKP	PKPpre	13 40 14.8	
	comp=Z,0.3nm,0.8s,baz=169,slow=1.5,SNR=2.1						
MKAR				PKP	PKiKP	13 40 24.3	-1.0
	comp=Z,0.3nm,0.7s,baz=236,slow=2.1,SNR=3.6						
ZALV	Zalesovo Beam	142.06	63	PKP	PKPdf	13 40 31.9	-1.2
	comp=Z,0.7nm,0.5s,baz=261,slow=3.8,SNR=3.9						
O29M	Mount Kennedy	144.70	307	P	PKPdf	13 40 37.8	+0.1
	baz=113						
MAYO	Mayo, Yukon	144.76	313	P	PKPdf	13 40 37.6	0.0
	baz=111,SNR=9.0						
M30M	Minto, Yukon	144.78	311	P	PKPdf	13 40 37.5	-0.2
	baz=112						
YUK6	Outpost Mounta	144.86	308	P	PKPdf	13 40 37.8	-0.4
	baz=113						
H31M	Peel River	144.88	317	P	PKPdf	13 40 37.4	-0.4
	baz=109						
YUK4	Talbot Arm	145.14	308	P	PKPdf	13 40 38.9	+0.3
	baz=112,SNR=8.9						
F31M	Tsiigehtchic	145.16	320	P	PKPdf	13 40 38.4	+0.3
	baz=107,SNR=24						
G31M	Satah River	145.20	319	P	PKPdf	13 40 38.5	+0.3
	baz=107,SNR=32						
J30M	Hart River	145.28	314	P	PKPdf	13 40 39.0	+0.4
	baz=109						
INK	Inuvik	145.33	321	P	PKPab	13 40 39.0	+0.5
	baz=106,SNR=29						
PINM	Pinnacle	145.39	306	P	PKPab	13 40 39.6	+0.5
	baz=113						
M29M	Somme Creek	145.45	310	P	PKPab	13 40 39.6	+0.2
	baz=111						
I30M	Mount Dempster	145.50	315	P	PKPab	13 40 39.9	+0.4
	baz=108						
K29M	Barlow Dome	145.53	313	P	PKPab	13 40 40.4	+0.8
	baz=109						
L29M	L29M	145.54	311	P	PKPab	13 40 40.3	+0.7
	baz=110						
YUK8	Steele Glacier	145.62	308	P	PKPab	13 40 40.5	+0.4
	baz=111,SNR=7.6						
O28M	Mount Upton	145.62	307	P	PKPab	13 40 41.1	+0.9
	baz=112						
G30M	tAoh Zraii Nji	145.96	318	P	PKPab	13 40 41.1	+0.1
	baz=106						
F30M	Barrier River	145.96	320	P	PKPab	13 40 41.0	+0.1
	baz=105,SNR=11						
EPYK	Eagle Plains	145.98	317	P	PKPab	13 40 40.8	-0.3
	baz=106,SNR=17						
J29N	Klondike Camp	146.01	314	P	PKPab	13 40 41.4	+0.1
	baz=108						
YUK3	Moose Creek	146.10	308	P	PKPab	13 40 41.7	-0.2
	baz=110						
MESA	MESA	146.21	305	P	PKPab	13 40 41.8	-0.6
	baz=112						
I29M	Ogilvie Camp,	146.32	315	P	PKPab	13 40 41.7	-0.7
	baz=107,SNR=8.2						
DAWY	Dawson	146.38	313	P	PKPab	13 40 42.1	-0.6
	baz=108,SNR=16						
BVCY	Beaver Creek	146.49	309	P	PKPab	13 40 42.8	-0.4
	baz=109						
H29M	Whitestone	146.58	317	P	PKPab	13 40 42.7	-0.7
	baz=105						
G29M	Pine Creek	146.62	318	P	PKPab	13 40 43.0	-0.5
	baz=104,SNR=20						
BGLC	Bering Glacier	146.81	305	P	PKPab	13 40 43.7	-0.7
	baz=111						
E29M	Blow River	146.92	321	P	PKPab	13 40 43.3	-1.3
	baz=102						
M27K	Edge Creek, AK	146.93	309	P	PKPab	13 40 44.0	-1.1
	baz=108						
I28M	Miner Creek	147.00	315	P	PKPab	13 40 44.2	-1.0
	baz=105						
L27K	Beaver Creek,	147.12	310	P	PKPab	13 40 44.3	-1.4
	baz=108						
KAIM	Kayak Island	147.28	304	P	PKPab	13 40 44.8	-1.5
	baz=110						
EGAK	Eagle	147.32	314	P	PKPab	13 40 45.0	-1.4
	baz=105						
D28M	Stokes Point	147.40	322	P	PKPab	13 40 44.9	-1.6
	baz=100						
M26K	Nabesna, AK	147.43	309	P	PKPab	13 40 45.6	-1.3
	baz=108						
F28M	Old Crow	147.48	319	P	PKPbc	13 40 45.0	+0.2
	baz=102,SNR=22						
I27K	Kandik River	147.71	315	P	PKiKP	13 40 45.9	-1.5
	baz=104,SNR=15						
BMRM	Bremner River	147.72	306	P	PKiKP	13 40 46.0	-1.5
	baz=109						
L26K	Log Cabin Wild	147.77	310	P	PKiKP	13 40 46.1	-1.5
	baz=106,SNR=14						
H27K	Steamboat Moun	147.82	316	P	PKiKP	13 40 46.6	-1.1
	baz=103,SNR=18						
N25K	Chitina, Valde	147.91	307	P	PKPbc	13 40 46.4	+0.2
	baz=108						
G27K	Doyon Strip	148.00	317	P	PKiKP	13 40 47.0	-1.0
	baz=102						
Q23K	Middleton Isla	148.03	303	P	PKPbc	13 40 46.5	+0.2
	baz=110						
EYAK	Cordova Ski Ar	148.11	305	P	PKiKP	13 40 46.8	-1.5
	baz=109						
D27M	Malcolm River	148.17	322	P	PKiKP	13 40 47.1	-1.2
	baz=98						
J26L	Joseph Creek	148.25	313	P	PKiKP	13 40 47.3	-1.4
	baz=104						
I26K	Coal Creek Min	148.27	314	P	PKiKP	13 40 47.5	-1.0
	baz=103						
SCRK	Sand Creek	148.30	311	P	PKiKP	13 40 47.5	-1.3
	baz=104,SNR=15						
HARP	HAARP	148.40	308	P	PKiKP	13 40 47.6	-1.3
	baz=106						
KLU	Klutina	148.48	306	P	PKiKP	13 40 48.3	-0.9
	baz=107,SNR=13						
RIDG	Independent Ri	148.61	311	P	PKiKP	13 40 48.6	-0.7
	baz=104,SNR=21						
PAX	Paxson	148.69	309	P	PKiKP	13 40 48.5	-1.1
	baz=105,SNR=8.3						
P23K	Montague Islan	148.72	303	P	PKiK

KDAK	Kodiak Island	150.55 297	P	PKiKP	13 40 53.4	-0.1
	baz=109					
NEA2	Nenana	150.60 312	P	PKiKP	13 40 53.7	+0.3
	baz=100					
SONM	Songino Array	150.65 85	PKP	PKPdf	13 40 47.9	-0.2
	comp=Z,0.3nm,0.4s,baz=213,slow=3.3,SNR=2.2					
SONM			PKPbc	PKiKP	13 40 54.1	-0.1
	comp=Z,3.6nm,0.8s,baz=218,slow=2.5,SNR=14					
HOM	Homer	150.66 301	P	PKiKP	13 40 53.5	-0.1
	baz=106					
Q20K	Shuyak Island	150.72 299	P	PKiKP	13 40 53.5	-0.2
	baz=108					
CAPN	Captain Cook N	150.72 304	P	PKiKP	13 40 53.2	-0.5
	baz=105					
OHAK	Old Harbor	150.72 296	P	PKiKP	13 40 53.2	-0.6
	baz=110					
E24K	Your Creek	150.78 319	P	PKiKP	13 40 53.6	-0.1
	baz=94					
I23K	Minto, Yukon-K	150.81 313	P	PKiKP	13 40 53.2	-0.5
	baz=98					
TRF	Thorofare Moun	150.93 309	P	PKiKP	13 40 53.9	-0.3
	baz=101					
C24K	Franklin Bluff	150.93 322	P	PKiKP	13 40 53.6	-0.2
	baz=91					
D24K	Happy Valley	150.96 321	P	PKiKP	13 40 53.8	-0.2
	baz=92					
SKT	Skwentna	151.19 306	P	PKiKP	13 40 54.6	-0.1
	baz=102,SNR=9.3					
E23K	Chandalar	151.20 319	P	PKiKP	13 40 54.0	-0.6
	baz=93					
TOLK	Toolik Lake Re	151.21 320	P	PKiKP	13 40 54.0	-0.5
	baz=92					
O20K	Slope Mountain	151.25 302	P	PKiKP	13 40 54.7	-0.3
	baz=105					
G23K	Bananza Creek	151.26 316	P	PKiKP	13 40 55.4	+0.6
	baz=95					
SPCR	Spurr Chakacha	151.33 304	P	PKiKP	13 40 55.3	+0.3
	baz=104					
BPAW	Bear Paw Mtn.	151.34 310	P	PKiKP	13 40 55.0	+0.1
	baz=99					
COLD	Coldfoot	151.38 317	P	PKiKP	13 40 55.7	+0.8
	baz=94,SNR=5.9					
P19K	Oil Pt	151.43 301	P	PKiKP	13 40 55.4	+0.1
	baz=106					
Q19K	Cape Douglas,	151.44 299	P	PKiKP	13 40 55.2	-0.1
	baz=107					
CHIR	Chirikof Islan	151.45 292	P	PKiKP	13 40 55.6	+0.3
	baz=111					
C23K	Itkillik River	151.59 323	P	PKiKP	13 40 55.5	+0.3
	baz=89					
D23K	Nanushuk River	151.62 321	P	PKiKP	13 40 56.0	+0.7
	baz=90					
PPLA	Purkeypile	151.67 308	P	PKiKP	13 40 56.3	+0.5
	baz=100					
CAST	Castle Rocks	151.71 309	P	PKiKP	13 40 55.7	0.0
	baz=100,SNR=5.3					
H22K	Ishtalitna Cre	151.74 314	P	PKiKP	13 40 55.9	+0.2
	baz=96					
G22K	Bettles	151.87 316	P	PKiKP	13 40 56.7	+0.8
	baz=94					
CHUM	Lake Minchumin	151.89 310	P	PKiKP	13 40 55.9	-0.1
	baz=98,SNR=8.6					
M20K	Styx River	151.91 306	P	PKiKP	13 40 56.1	-0.2
	baz=102					
I21K	Tanana	151.91 313	P	PKiKP	13 40 55.9	-0.1
	baz=96					
O19K	Port Alsworth	152.10 302	P	PKiKP	13 40 56.6	+0.1
	baz=104					
H21K	Melozitna Rive	152.30 314	P	PKiKP	13 40 56.6	-0.3
	baz=95					
N19K	Bonanza Creek	152.32 303	P	PKiKP	13 40 56.8	-0.3
	baz=103					
D22K	Ayiloyak River	152.35 321	P	PKiKP	13 40 57.2	+0.3
	baz=89					
P18K	Big Mountain,	152.35 300	P	PKiKP	13 40 57.2	0.0
	baz=105					
L20K	Farewell, AK	152.37 307	P	PKiKP	13 40 57.1	0.0
	baz=100					
O18K	Koktuh Hills	152.45 301	P	PKiKP	13 40 57.4	0.0
	baz=104					
B22K	Teshekpuk Lake	152.52 324	P	PKiKP	13 40 57.7	+0.6
	baz=85					
K20K	Telida	152.59 308	P	PKiKP	13 40 58.0	+0.5
	baz=98					
G21K	Allakaket	152.64 315	P	PKiKP	13 40 58.5	+1.0
	baz=92					
F21K	Alatna River	152.65 317	P	PKiKP	13 40 57.8	+0.2
	baz=91					
J20K	Nowinta River	152.73 310	P	PKiKP	13 40 58.2	+0.5
	baz=96					
Q16K	King Salmon	152.88 298	P	PKiKP	13 40 58.0	-0.2
	baz=105					
P17K	Kvichak River	152.90 299	P	PKiKP	13 40 58.0	-0.2
	baz=104					
N18K	Kilae Creek	152.97 302	P	PKiKP	13 40 58.3	-0.1
	baz=102					
B21K	Ikpikpuk River	152.99 322	P	PKiKP	13 40 58.4	+0.2
	baz=85					
R16K	Pilot Point	153.04 295	P	PKiKP	13 40 58.5	0.0
	baz=107					
C21K	Knifeblade Rid	153.09 321	P	PKiKP	13 40 59.2	+0.8
	baz=86					
M18K	Stony River	153.09 304	P	PKiKP	13 40 58.7	+0.2
	baz=100					
H20K	Anotleneega Mo	153.15 313	P	PKiKP	13 40 59.3	+0.7
	baz=93					
CHNA	Chernabura Isl	153.22 289	P	PKiKP	13 40 59.2	+0.2
	baz=111					
J19K	Poorman	153.35 310	P	PKiKP	13 40 59.1	+0.1
	baz=96					
O17K	Koliganek Bris	153.36 300	P	PKiKP	13 40 58.8	-0.4
	baz=103					
TTA	Tatalina	153.41 307	P	PKiKP	13 41 00.1	+0.8
	baz=98					
F20K	Avaraart Lake	153.53 317	P	PKiKP	13 40 59.9	+0.6
	baz=89					
N17K	Nushagak Hills	153.56 302	P	PKiKP	13 41 00.4	+0.8
	baz=101					
L18K	Granite Mounta	153.62 306	P	PKiKP	13 41 00.4	+0.7
	baz=98					
P16K	Nushagak River	153.64 298	P	PKiKP	13 41 00.3	+0.6
	baz=104					
E20K	Nigu River	153.66 319	P	PKiKP	13 41 00.4	+0.7
	baz=86					
D20K	Etivluk River	153.78 320	P	PKiKP	13 41 00.9	+1.0
	baz=85					
J18K	Innoko River	153.78 308	P	PKiKP	13 41 00.1	+0.1
	baz=96					
O16K	Kokwok River B	153.82 299	P	PKiKP	13 41 01.1	+1.0
	baz=103					
M17K	Holitna River	153.84 304	P	PKiKP	13 41 01.1	+0.9
	baz=100					
GCSA	Galena City Sc	153.95 311	P	PKiKP	13 41 01.5	+1.2
	baz=93					
G19K	Purcell Mounta	154.08 314	P	PKiKP	13 41 01.7	+1.2
	baz=90					
E19K	Redstone River	154.10 318	P	PKiKP	13 41 00.9	+0.3
	baz=87					
F19K	Shaleruckik Mo	154.34 316	P	PKiKP	13 41 02.0	+1.0
	baz=88					
D19K	Kuna River	154.35 320	P	PKiKP	13 41 01.6	+0.5
	baz=84					
L17K	Donlin	154.35 305	P	PKiKP	13 41 02.2	+1.1
	baz=97					
K17K	Iditarod	154.42 307	P	PKiKP	13 41 02.3	+1.0
	baz=96					
M16K	Timber Creek	154.51 303	P	PKiKP	13 41 02.3	+0.8
	baz=99					
O15K	Ungalikthiuk R	154.59 298	P	PKiKP	13 41 01.4	-0.3
	baz=102					
H18K	Honhosa River	154.60 312	P	PKiKP	13 41 03.0	+1.4
	baz=91					
G18K	Tagagawik	154.72 314	P	PKiKP	13 41 03.3	+1.5
	baz=89					
J17K	VABM Dome	154.84 308	P	PKiKP	13 41 02.9	+0.8
	baz=94					
S12K	Black Hills	154.84 289	P	PKiKP	13 41 02.7	+0.3
	baz=108					
F18K	Selawik	155.10 316	P	PKPdf	13 41 04.2	+11
	baz=87					
H17K	Granite Mounta	155.25 312	P	PKPdf	13 41 04.2	+10
	baz=90					
M15K	Kasigluk River	155.29 301	P	PKPdf	13 41 04.7	+11
	baz=99					
FALS	False Pass	155.30 287	P	PKPdf	13 41 04.1	+10
	baz=110					
E18K	Tukpahlearik C	155.40 318	P	PKPdf	13 41 05.2	+11
	baz=84					
C18K	Utukok River	155.45 321	P	PKPab	13 41 21.4	+1.2
	baz=81					
J16K	Anvik River	155.51 308	P	PKPab	13 41 22.0	+1.6
	baz=93					
B18K	Kokolik River	155.54 322	P	PKPab	13 41 22.9	+2.5
	baz=78					
N14K	Kuskokwak Cree	155.66 299	P	PKPab	13 41 22.8	+1.6
	baz=100					
F17K	Baldwin Pennin	155.75 315	P	PKPab	13 41 23.1	+1.8
	baz=85					
K15K	Wolf Creek Mou	155.88 305	P	PKPab	13 41 23.8	+1.7
	baz=94					
E17K	Hotham Inlet	155.91 317	P	PKPab	13 41 23.6	+1.5
	baz=83					
M14K	Bethel	155.92 301	P	PKPab	13 41 24.2	+1.9
	baz=98					
RDOG	Red Dog Mine	156.18 320	P	PKPab	13 41 24.4	+1.2
	baz=80					
C17K	DeLong Mountai	156.20 321	P	PKPab	13 41 25.1	+1.8
	baz=79					
H16K	Elim	156.25 311	P	PKPab	13 41 24.7	+1.1
	baz=88					
G16K	Koyuk River	156.27 313	P	PKPab	13 41 25.0	+1.3
	baz=87					
UNV	Unalaska Valle	156.66 283	P	PKPab	13 41 27.0	+1.4
	baz=110					
J14K	Nanwaranak Lak	156.84 306	P	PKPab	13 41 27.7	+1.6
	baz=92					
G15K	Niukluk	157.01 312	P	PKPab	13 41 28.4	+1.6
	baz=86					
C16K	Lisburne Hills	157.03 321	P	PKPab	13 41 27.9	+1.1
	baz=77					
F15K	North Star Dit	157.20 314	P	PKPab	13 41 28.8	+1.1
	baz=84					
K13K	Kusilvak Mount	157.32 304	P	PKPab	13 41 29.6	+1.3
	baz=93					
ANM	Nome	157.61 311	P	PKPab	13 41 31.9	+2.4
	baz=86					
M11K	Mekoryuk	157.96 300	P	PKPab	13 41 32.6	+1.5
	baz=95					

MOS ***13*** *13:28:40.9±1.2, 43°.04N×143°.22E, h137km, mb4.2/1, Error ellipse: s-maj=15.1km s-min=10.6km az=76.3*
IDC ***13*** *13:28:41.9±1.6, 43°.07N×143°.21E, h148km±8km, mb3.2/13, mbtmp3.7/14, Error ellipse: s-maj=25.0km s-min=16.6km az=168.0*
JMA ***13*** *13:28:42.1±0.2, 43°.0N±0°.6×143°.1E±0°.7, h137km±1km, MV3.2/40, TOKACHI REGION*
SKHL ***13*** *13:28:42.2±0.2, 43°.00N×143°.30E, h149km±2km, mb4.7/3, msha5.4/3*

ISC 13 13:28:41.0±0.7, **42°.94N**±0°.04×**143°.19E**±0°.03, **h146**km±5km, **n54**, σ1°**26**/73, **mb3.5**/12, **1C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.34**	**158**	*i* P	**Pn**	**13 29 01.3**	**+0.1**
JCH				S	**Sn**	**13 29 15.5**	**-1.0**
JOB	**Onbets**	**0.48**	**94**	*i* P	**Pn**	**13 29 02.5**	**+0.8**
JOB				S	**Sn**	**13 29 17.9**	**+0.5**
JFR	**Furan**	**0.49**	**298**	*i* P	**Pn**	**13 29 01.8**	**-0.1**
JFR				S	**Sn**	**13 29 16.8**	**-0.9**
JAR	**Ashorobuto**	**0.56**	**49**	*i* P	**Pn**	**13 29 02.1**	**0.0**
JAR				S	**Sn**	**13 29 17.3**	**-1.0**
JBT2	**Biratori 2**	**0.63**	**256**	*i* P	**Pn**	**13 29 02.7**	**+0.2**
JBT2				S	**Sn**	**13 29 18.3**	**-0.6**
JNBK	**Urakawa-nobuka**	**0.73**	**206**	*i* P	**Pn**	**13 29 04.2**	**+0.9**
JAB	**Ashibetsu**	**0.91**	**309**	P	**Pn**	**13 29 04.9**	**+0.3**
JAB				S	**Sn**	**13 29 22.3**	**-0.2**
JKK2	**Kamakawa 2**	**0.99**	**341**	*i* P	**Pn**	**13 29 05.3**	**+0.1**
JKK2				*e*S	**Sn**	**13 29 23.5**	**-0.4**
JAK	**Akkeshi**	**1.11**	**86**	P	**Pn**	**13 29 06.6**	**+0.3**
JAK				S	**Sn**	**13 29 25.1**	**-0.4**
JTKR	**Abashiri--Toko**	**1.16**	**27**	*i* P	**Pn**	**13 29 07.1**	**+0.3**
JTKR				S	**Sn**	**13 29 25.7**	**-0.8**
AKK	**Akkeshi**	**1.22**	**86**	*e*P	**Pn**	**13 29 07.7**	**+0.4**
AKK				*e*S	**Sn**	**13 29 27.0**	**-0.4**
JKA	**Kamikawa-asahi**	**1.26**	**340**	*e*P	**Pn**	**13 29 07.8**	**+0.1**
ASAJ	**Asahikawa**	**1.26**	**340**	P	**Pn**	**13 29 07.8**	**+0.1**
	77nm,0.3s,baz=188,slow=11,SNR=421						
ASAJ				S	**Sn**	**13 29 27.7**	**-0.5**
	28nm,0.7s,baz=135,slow=18,SNR=4.0						
JEW	**Eniwo**	**1.28**	**266**	*i* P	**Pn**	**13 29 08.2**	**+0.2**
JEW				S	**Sn**	**13 29 27.7**	**-0.9**
JHR	**Hokuryu**	**1.34**	**308**	P	**Pn**	**13 29 08.8**	**+0.3**
JHR				*e*S	**Sn**	**13 29 29.1**	**-0.5**
JRA	**Rausu**	**1.73**	**54**	P	**Pn**	**13 29 13.5**	**+0.8**
JSS	**Shosan**	**1.76**	**327**	P	**Pn**	**13 29 13.7**	**+0.7**
RUSJ	**Misakicho**	**1.90**	**51**	⇓*i*PN	**Pn**	**13 29 15.7**	**+1.1**
RUSJ				*e*S	**Sn**	**13 29 46.6**	**+6.1**
NMR	**Nemuro--Hokkai**	**1.91**	**76**	⇓*i*PN	**Pn**	**13 29 14.7**	**0.0**
NMR				*e*S	**Sn**	**13 29 38.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.91**	**76**	*i* P	**Pn**	**13 29 14.7**	**0.0**
NMR				*e*S	**Sn**	**13 29 39.1**	**-1.5**
NEM2	**Nemuro 2**	**1.92**	**76**	*i* P	**Pn**	**13 29 14.7**	**-0.2**
NEM2				S	**Sn**	**13 29 38.9**	**-1.9**
JSE	**Soyaes**	**2.07**	**348**	*i* P	**Pn**	**13 29 16.8**	**+0.2**
JOT	**Ohata**	**2.22**	**226**	P	**Pn**	**13 29 18.3**	**-0.2**
JOT				S	**Sn**	**13 29 46.0**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**2.23**	**60**	*e*PN	**Pn**	**13 29 19.5**	**+0.9**
YUK				*e*S	**Sn**	**13 29 48.7**	**+1.1**
YUK				pmax	pmax		
	comp=N,11nm,0.2s						
YUK				pmax	pmax		
	comp=Z,136nm,0.2s						
YUK				pmax	pmax		
	comp=E,12nm,0.1s						
YUK				smax	smax		
	comp=N,166nm,0.2s						
YUK				smax	smax		
	comp=E,289nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.23**	**60**	*e*P	**Pn**	**13 29 19.5**	**+0.9**
YUK				AMB	AMB	13 29 20.0	
	comp=E,140nm,0.2s						
YUK				*e*S	**Sn**	**13 29 47.0**	**-0.6**
YUK				A	A	13 29 51.2	
	comp=E,170nm,0.2s						
YUK				A	A	13 29 51.2	
	comp=E,290nm,0.2s						
SHO	**Shikotan**	**2.81**	**69**	*d i*PN	**Pn**	**13 29 25.6**	**-0.2**
SHO				*e*S	**Sn**	**13 29 57.6**	**-2.8**
SHO				pmax	pmax		
	comp=N,4.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,8.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,63nm,0.2s						
SHO				smax	smax		
	comp=N,146nm,0.2s						
SHO				smax	smax		
	comp=E,207nm,0.2s						
SHO	**Shikotan**	**2.81**	**69**	*i* P	**Pn**	**13 29 25.6**	**-0.2**
SHO				AMB	AMB	13 29 25.8	
	comp=E,60nm,0.2s						
SHO				*e*S	**Sn**	**13 29 57.6**	**-2.8**
SHO				A	A	13 29 59.3	
	comp=E,150nm,0.2s						
SHO				A	A	13 29 59.3	
	comp=E,210nm,0.2s						
YSS	**Yuzhno-Sakhali**	**4.03**	**356**	⇑*e*PN	**Pn**	**13 29 42.0**	**+0.6**
YSS				*e*S	**Sn**	**13 30 26.7**	**-1.8**
YSS				smax	smax		
	comp=E,10.0nm,0.8s						
YSS	**Yuzhno-Sakhali**	**4.03**	**356**	*e*P	**Pn**	**13 29 42.0**	**+0.6**
YSS				*e*S	**Sn**	**13 30 26.7**	**-1.8**
KUR	**Kuril'sk**	**4.08**	**54**	*e*PN	**Pn**	**13 29 42.6**	**+0.5**
KUR	**Kuril'sk**	**4.08**	**54**	*e*P	**Pn**	**13 29 42.5**	**+0.5**
KUR				AMB	AMB	13 29 48.4	
	comp=E,20nm,0.7s						
KUR				*e*S	**Sn**	**13 30 27.2**	**-2.4**
KUR				A	A	13 30 33.7	
	comp=E,40nm,0.3s						
KUR				A	A	13 30 33.7	
	comp=E,40nm,0.3s						
MA2	**Magadan**	**17.30**	**13**	P	**P**	**13 32 30.6**	**-2.0**
	comp=E,1.6nm,0.6s,baz=203,slow=16,SNR=3.5						
SEY	**Seymchan**	**20.74**	**12**	P	**P**	**13 33 08.2**	**-1.6**
	comp=E,1.1nm,0.4s,baz=161,slow=9.5,SNR=12						
	comp=E,1.1nm,0.4s						
SONM	**Songino Array**	**26.13**	**294**	P	**P**	**13 34 02.4**	**+0.9**
	comp=E,0.4nm,0.3s,baz=86,slow=8.8,SNR=3.4						
	comp=E,0.4nm,0.3s						
H11N2	**WAKE ISLAND Hy 30.55**	**132**		T	T	14 06 21.3	
	baz=327,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy 30.56**	**132**		T	T	14 06 28.3	
	baz=327,slow=76,SNR=3.9						
H11N3	**WAKE ISLAND Hy 30.57**	**132**		T	T	14 06 23.1	
	baz=327,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy 31.44**	**133**		T	T	14 07 36.0	
	baz=328,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy 31.45**	**134**		T	T	14 07 30.0	
	baz=328,slow=76,SNR=4.4						
H11S2	**WAKE ISLAND Hy 31.46**	**133**		T	T	14 07 34.1	
	baz=328,slow=76,SNR=5.2						
ZALV	**Zalesovo Beam**	**39.19**	**307**	P	**P**	**13 35 55.2**	**+0.9**
	comp=E,0.9nm,0.5s,baz=96,slow=10.0,SNR=5.0						
	comp=E,0.9nm,0.5s						
MKAR	**Makanchi Array**	**42.39**	**297**	P	**P**	**13 36 21.1**	**+0.4**
	comp=E,0.2nm,0.6s,baz=74,slow=8.9,SNR=4.3						
	comp=E,0.2nm,0.6s						
KURK	**Kurchatov**	**43.58**	**304**	P	**P**	**13 36 31.3**	**+1.1**
KURK	**Kurchatov**	**43.58**	**304**	*e*P	**P**	**13 36 31.3**	**+1.1**
KURBB	**Kurchatov Arra**	**43.66**	**304**	P	**P**	**13 36 31.3**	**+0.4**
	comp=E,0.5nm,0.4s,baz=70,slow=8.7,SNR=4.6						
	comp=E,0.5nm,0.4s						
ILAR	**Eielson Array**	**43.84**	**36**	P	**P**	**13 36 33.0**	**+0.8**
	comp=E,0.5nm,0.7s,baz=256,slow=5.6,SNR=11						
	comp=E,0.5nm,0.7s						
BVAR	**Borovoye Array**	**47.77**	**309**	P	**P**	**13 37 03.8**	**+0.7**
	comp=E,0.7nm,0.4s,baz=80,slow=9.2,SNR=6.6						
	comp=E,0.7nm,0.4s						
YKA	**Yellowknife Ar**	**58.06**	**32**	P	**P**	**13 38 17.0**	**-1.3**
	comp=E,0.1nm,0.4s,baz=306,slow=6.4,SNR=4.9						
	comp=E,0.1nm,0.4s						
WRA	**Warramunga Arr**	**63.09**	**189**	P	**P**	**13 38 53.8**	**+1.0**
	comp=E,0.1nm,0.4s,baz=4.5,slow=6.7,SNR=1.2						
	comp=E,0.1nm,0.4s						
FINES	**FINESS Array B**	**64.25**	**332**	P	**P**	**13 38 59.7**	**-0.3**
	comp=E,0.7nm,0.5s,baz=52,slow=9.9,SNR=6.7						
	comp=E,0.7nm,0.5s						
KBZ	**Khabaz**	**68.14**	**310**	P	**P**	**13 39 23.8**	**-1.3**
	comp=E,2.6nm,0.7s,baz=11,slow=10,SNR=5.2						
	comp=E,2.6nm,0.7s						
NVAR	**Mina Array Bea**	**70.44**	**56**	P	**P**	**13 39 39.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=307,slow=4.3,SNR=1.9						
	comp=E,0.2nm,0.3s						
TXAR	**Lajitas Array**	**85.48**	**54**	P	**P**	**13 41 04.0**	**+1.4**
	comp=E,0.3nm,0.6s,baz=314,slow=4.3,SNR=2.9						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**85.48**	**54**	P	**P**	**13 41 04.0**	**+1.4**

GII ***13*** *13:32:42.1±0.0, 33°.317N±0°.002×35°.416E±0°.001, h5km, Mws2.3/8, confirmed*
GRAL ***13*** *13:32:42.5±0.3, 33°.27N×35°.38E, h0km±3km, MD2.9*

ISC 13 13:32:42.2±0.9, **33°.30N**±0°.02×**35°.43E**±0°.03, **h18**km±4km, **n47**, σ0°**63**/64, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAM	**Misgav Am**	**0.11**	**119**	P	**Pb**	**13 32 45.3**	**-0.2**
MSAM				S	**Sb**	**13 32 48.3**	**+0.6**
MTLA	**Metula**	**0.12**	**100**	P	**Pb**	**13 32 45.7**	**-0.1**
MTLA				S	**Sb**	**13 32 48.4**	**+0.3**
KIRY	**Kiryat Shemona**	**0.15**	**129**	P	**Pg**	**13 32 45.7**	**-0.7**
GOSH	**HaGoshrim**	**0.18**	**117**	P	**Pg**	**13 32 46.3**	**-0.5**
YFTH	**Yftach**	**0.20**	**150**	P	**Pg**	**13 32 47.0**	**-0.1**
YFTH				S	**Sb**	**13 32 50.7**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.21**	**115**	P	**Pg**	**13 32 47.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.21**	**115**	S	**Sb**	**13 32 51.7**	**+0.7**
ZRT	**Zar'it**	**0.23**	**211**	P	**Pg**	**13 32 47.3**	**-0.3**
ZRT				S	**Sb**	**13 32 52.0**	**+0.3**
LVBS	**Lehavot Habash**	**0.24**	**131**	P	**Pg**	**13 32 47.8**	**0.0**
LVBS				S	**Sb**	**13 32 52.4**	**+0.5**
NATI	**Neve Ativ**	**0.26**	**98**	P	**Pg**	**13 32 47.9**	**-0.1**
NATI	**Neve Ativ**	**0.26**	**98**	S	**Sb**	**13 32 52.8**	**+0.5**
SHBL	**Chebaa**	**0.27**	**79**	*e*P	**Pg**	**13 32 48.0**	**-0.2**
SHBL				*e*S	**Sg**	**13 32 52.3**	**-0.1**
MMC7	**Mount Meron ar**	**0.28**	**187**	P	**Pg**	**13 32 48.3**	**-0.1**
MMA0B	**Mount Meron ar**	**0.28**	**185**	P	**Pg**	**13 32 48.5**	**-0.1**
MMA0B	**Mount Meron ar**	**0.28**	**185**	S	**Sb**	**13 32 54.0**	**+0.7**
HNTI	**Hanita**	**0.31**	**225**	P	**Pb**	**13 32 49.0**	**-0.2**
HNTI	**Hanita**	**0.31**	**225**	S	**Sb**	**13 32 54.5**	**+0.6**
QRWL	**Qaraoun**	**0.32**	**40**	*e*P	**Pg**	**13 32 49.1**	**-0.1**
QRWL				*e*S	**Sg**	**13 32 54.2**	**+0.3**
ZEFT	**Zefat**	**0.33**	**171**	P	**Pb**	**13 32 49.8**	**0.0**
ZEFT				S	**Sb**	**13 32 55.5**	**+0.7**
RSPN	**Rosh Pina**	**0.34**	**164**	P	**Pb**	**13 32 50.0**	**+0.2**
RSPN				S	**Sb**	**13 32 56.0**	**+1.0**
KDZV	**Kedmat Zvi**	**0.35**	**141**	P	**Pb**	**13 32 50.0**	**+0.1**
KDZV				S	**Sb**	**13 32 56.5**	**+1.4**
AMID	**Amiad**	**0.38**	**166**	P	**Pb**	**13 32 50.5**	**0.0**
AMID				S	**Sb**	**13 32 57.4**	**+1.3**
RCY	**Rachaya**	**0.39**	**60**	*e*P	**Pb**	**13 32 50.6**	**-0.1**
HDNS	**Had-Ness**	**0.41**	**155**	P	**Pb**	**13 32 51.3**	**+0.4**
DQRL	**Deir Qamar**	**0.42**	**16**	*e*P	**Pg**	**13 32 50.8**	**-0.1**
DQRL				*e*S	**Sg**	**13 32 57.0**	**+0.3**
KNHM	**Kefar Nahum**	**0.43**	**163**	P	**Pg**	**13 32 50.3**	**-0.8**
KNHM				S	**Sn**	**13 32 59.3**	**-1.8**
KSHT	**Keshet**	**0.45**	**135**	P	**Pb**	**13 32 52.2**	**+0.6**
KSHT	**Keshet**	**0.45**	**135**	S	**Sb**	**13 32 59.4**	**+1.3**
MGDL	**Migdal**	**0.46**	**172**	P	**Pb**	**13 32 52.1**	**+0.3**
MGDL				S	**Sb**	**13 32 59.5**	**+1.1**
BLGI	**Bet Lehem HaGe**	**0.60**	**200**	P	**Pb**	**13 32 54.4**	**+0.2**
GOLA	**Golan Heights**	**0.61**	**163**	P	**Pn**	**13 32 55.2**	**-0.8**
GOLA				S	**Sn**	**13 33 04.8**	**-0.7**
BHL	**Bhannes**	**0.63**	**17**	*e*P	**Pg**	**13 32 54.7**	**0.0**
MNHA	**Menahamia**	**0.64**	**171**	P	**Pb**	**13 32 55.3**	**+0.4**
BTOR	**Bet Oren**	**0.67**	**212**	P	**Pn**	**13 32 56.1**	**-0.8**
BTOR				S	**Sn**	**13 33 05.9**	**-1.1**
HYGV	**Hayogev**	**0.71**	**196**	P	**Pg**	**13 32 56.4**	**+0.2**
HYGV				S	**Sn**	**13 33 07.4**	**-0.6**
OFRI	**`Ofer**	**0.78**	**209**	P	**Pg**	**13 32 57.4**	**0.0**
OFRI	**`Ofer**	**0.78**	**209**	S	**Sn**	**13 33 09.5**	**0.0**
MMLI	**Mount Malkishu**	**0.86**	**181**	P	**Pg**	**13 32 58.9**	**-0.1**
MMLI	**Mount Malkishu**	**0.86**	**181**	S	**Sn**	**13 33 11.0**	**-0.6**
HMDT	**Nahal Hemdat**	**1.05**	**176**	P	**Pg**	**13 33 02.6**	**+0.1**
HMDT	**Nahal Hemdat**	**1.05**	**176**	S	**Sn**	**13 33 17.8**	**+1.6**
HWQ	**Hawqa**	**1.06**	**24**	*e*P	**Pn**	**13 33 02.4**	**0.0**
SLTI	**Sal'it**	**1.11**	**197**	P	**Pg**	**13 33 03.5**	**-0.2**
SLTI	**Sal'it**	**1.11**	**197**	S	**Sg**	**13 33 19.2**	**+1.0**
FKH	**Fakeheh**	**1.25**	**41**	*e*P	**Pb**	**13 33 05.5**	**+0.2**
**BEIL

GNI	Garni	1.79	4	Pn	Pg	13 38 44.5	+1.7
KOTA	Agri, Merkez-K	1.79	324	P	Pg	13 38 43.7	+0.8
KOTA				S	Sg	13 39 09.0	+2.8
SIRT	Sirnak	1.90	244	Pn	Pb	13 38 43.2	-0.3
IHRS	Heris	1.93	91	Pn	Pg	13 38 44.3	-1.3
GURO	Guroymak-BITLI	2.01	276	Pn	Pb	13 38 44.2	-1.2

IDC 13 14:22:02.7±9.2, 16°41'S×175°17'W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=407.3km s-min=37.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.96	258	P	P	14 30 43.0	-0.7
	0.7nm,0.7s,baz=94,slow=7.9,SNR=4.8 0.7nm,0.7s						
ASAR	Alice Springs	48.18	253	P	P	14 30 45.6	+0.3
	1.1nm,0.4s,baz=89,slow=7.5,SNR=61 1.1nm,0.4s						
ILAR	Eielson Array	83.77	12	P	P	14 34 33.4	0.0
	0.2nm,0.6s,baz=208,slow=5.8,SNR=5.4 0.2nm,0.6s						

IDC 13 14:37:44.7±2.2, 5°97S×128°19E, h0km, mb3.2/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=138.0km s-min=32.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.12	157	Pn	Pn	14 41 18.3	-1.6
	0.1nm,0.3s,baz=337,slow=13,SNR=2.0						
WRA				Sn	Sn	14 43 56.1	-12
	baz=330,slow=22 0.4nm,0.8s						
ASAR	Alice Springs	18.44	163	P	P	14 42 02.1	+0.1
	baz=334,slow=10,SNR=7.0 0.4nm,0.7s						
MKAR	Makanchi Array	66.39	327	P	P	14 48 35.8	+0.1
	0.1nm,0.5s,baz=121,slow=8.1,SNR=2.3 0.1nm,0.5s						

IDC 13 14:39:47.3±0.7, 39°94S×44°54E, h0km, mb4.0/7, mbtmp4.0/8, ML3.7/1, MS3.3/5, Error ellipse: s-maj=31.4km s-min=19.8km az=36.0
NEIC 13 14:39:48.6±1.9, 39°97S±0°04×44°4E±0°1, h10km±1km, mb4.2/15, Error ellipse: s-maj=16.5km s-min=6.4km az=98.0
ISC 13 14:39:48.4±0.5, 39°94S±0°10×44°3E±0°1, h10km, n45, σ0s99/34, mb4.1/10, MS3.4/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	8.28	141	T	T	14 50 08.9	
	baz=317,slow=76,SNR=30						
H04N2	CROZET ISLANDS	8.29	141	T	T	14 50 07.7	
	baz=317,slow=76,SNR=33						
H04N3	CROZET ISLANDS	8.29	141	T	T	14 50 13.3	
	baz=317,slow=76,SNR=58						
CRZF	Crozet Islands	8.51	142	Pn	Pn	14 41 50.9	-0.8
GRHM	Grahamstown, E	15.85	289	Pn	Pn	14 43 29.2	-2.4
GRHM				IAmb	IAmb	14 43 35.8	
	comp=Z,48nm,1.5s						
POGA	Pongola	16.34	316	Pn	Pn	14 43 35.8	-2.1
POGA				IAmb	IAmb	14 44 15.3	
	comp=Z,26nm,1.5s						
SOE	Somerset East	16.73	290	Pn	Pn	14 43 41.2	-1.7
SOE				IAmb	IAmb	14 43 53.5	
	comp=Z,24nm,1.2s						
VOI	Vohitsoka	18.10	7	P	Pn	14 43 59.5	-0.6
BOSA	Boshof	19.34	300	P	P	14 44 13.6	-0.4
BOSA	Boshof	19.34	300	P	Pn	14 44 17.5	+2.4
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=3.7						
BOSA				LR	LR	14 50 32.7	
	comp=Z,77nm,18.7s,baz=201,slow=33 comp=Z,1.3nm,0.6s						
SUR	Sutherland	20.38	284	LR	LR	14 50 45.0	
	comp=Z,45nm,19.9s,baz=110,slow=32						
ABPO	Ambohimpanom	21.00	8	P	P	14 44 31.2	-1.0
ABPO				IAmb	IAmb	14 44 41.3	
	comp=Z,11nm,1.4s						
OPO	Ambohidratompo	21.44	7	P	P	14 44 37.5	+0.5
	comp=Z,3.0nm,0.7s,baz=224,slow=8.1,SNR=5.0 comp=Z,3.0nm,0.7s						
LBTB	Lobatse	21.63	308	P	P	14 44 38.5	-0.4
LBTB				IAmb	IAmb	14 44 56.7	
	comp=Z,5.9nm,0.9s						
LBTB	Lobatse	21.63	308	P	P	14 44 40.0	+1.1
	comp=Z,6.1nm,1.0s,baz=135,slow=11,SNR=5.9 comp=Z,6.1nm,1.0s						
TSUM	Tsumeb	30.90	304	LR	LR	14 57 44.0	
	comp=Z,52nm,18.9s,baz=168,slow=35						
H08S1	Diego Carcia H	40.85	46	T	T	15 30 35.3	
	baz=213,slow=76,SNR=31						
H08S2	Diego Garcia H	40.87	46	T	T	15 30 36.0	
	baz=213,slow=76,SNR=22						
H08S3	Diego Garcia H	40.88	46	T	T	15 30 36.8	
	baz=213,slow=76,SNR=29						
MBAR	Mbarara	41.06	339	P	P	14 47 32.2	-0.2
MBAR				IAmb	IAmb	14 47 54.2	
	comp=Z,6.9nm,1.4s						
QSPA	South Pole Qui	50.26	180	P	P	14 48 45.1	+0.5
QSPA				IAmb	IAmb	14 49 11.2	
	comp=Z,5.9nm,1.2s						
QSPA	South Pole Qui	50.26	180	P	P	14 48 45.1	+0.5
	comp=Z,2.3nm,1.0s,baz=289,slow=1.2,SNR=2.7 comp=Z,2.3nm,1.0s						
H01W2	Cape Leeuwin H	54.40	108	T	T	15 47 37.7	
	baz=243,slow=75,SNR=11						
H01W3	Cape Leeuwin H	54.41	108	T	T	15 47 38.3	
	baz=243,slow=75,SNR=9.7						
H01W1	Cape Leeuwin H	54.42	108	T	T	15 47 39.0	
	baz=243,slow=75,SNR=8.6						
DBIC	Dimbokro	64.81	304	LR	LR	15 16 32.9	
	comp=Z,44nm,19.1s,baz=172,slow=34						
TORD	Torodi Ar. Bea	66.00	314	P	P	14 50 36.2	+1.0
TORD				IAmb	IAmb	14 50 37.7	
	comp=Z,1.8nm,1.0s						
TORD	Torodi Ar. Bea	66.00	314	P	P	14 50 36.6	+1.3
	comp=Z,1.0nm,0.7s,baz=128,slow=6.2,SNR=7.9 comp=Z,1.0nm,0.7s						
SRIT	Nakonsritamara	70.25	60	P	P	14 51 02.9	+1.0
ASAR	Alice Springs	74.92	108	P	P	14 51 29.1	-0.7
ASAR	Alice Springs	74.92	108	P	P	14 51 29.4	-0.4
	comp=Z,1.3nm,0.9s,baz=233,slow=6.0,SNR=16						
ASAR				LR	LR	15 19 17.1	
	comp=Z,27nm,18.4s,baz=131,slow=32 comp=Z,1.3nm,0.9s						
AS31	Alice Springs	74.92	108	P	P	14 51 28.9	-0.9
CMAR	Chiang Mai Arr	77.22	53	P	P	14 51 42.6	-0.1
	comp=Z,1.7nm,0.8s,baz=214,slow=6.8,SNR=13 comp=Z,1.7nm,0.8s						
WRA	Warramunga Arr	77.50	106	P	P	14 51 44.5	-0.1
	comp=Z,1.6nm,1.0s,baz=226,slow=5.1,SNR=5.5 comp=Z,1.6nm,1.0s						
PLCA	Paso Flores	80.21	224	P	P	14 51 58.7	-0.5
PLCA				IAmb	IAmb	14 52 37.8	
	comp=Z,8.4nm,1.5s						
CHGR	Chuyangaron	81.46	19	P	P	14 52 05.5	-0.1
LSA	Lhasa	81.81	40	P	P	14 52 07.9	-0.2
T42A	Van Buren	145.24	280	PKPbc	PKPbc	14 59 26.1	+0.2
L42A	Oliver, Polo	145.51	289		PKPab	14 59 27.4	+0.6
CCM	Cathedral Cave	145.67	281		PKPbc	14 59 27.5	+0.4
C16K	Lisburne Hills	147.38	20		PKPbc	14 59 31.0	-0.2
ULM	Lac du Bonnet	150.39	304	PKPbc	PKPbc	14 59 39.6	+0.1
	comp=Z,2.2nm,0.7s,baz=76,slow=5.4,SNR=4.8						
TXAR	Lajitas Array	151.74	258	PKPbc	PKiKP	14 59 44.8	+0.9
	comp=Z,1.1nm,0.9s,baz=114,slow=5.6,SNR=6.3						
YKA	Yellowknife Ar	154.08	338	PKPbc	PKPbc	14 59 47.4	0.0
	comp=Z,0.2nm,0.4s,baz=63,slow=2.4,SNR=5.1						
YKA				PKPab	PKPab	15 00 01.4	+0.4
	comp=Z,0.6nm,0.7s,baz=39,slow=4.1,SNR=9.5						
ILAR	Eielson Array	154.29	11	PKPbc	PKPbc	14 59 47.7	-0.1
	comp=Z,0.3nm,0.8s,baz=345,slow=2.8,SNR=2.9						

RSNC 13 14:42:55.7±0.0, 4°N±1°×7°4W±°, h0km±2km, M2.6, ML2.6
FUNV 13 14:42:56.7, 4°02N×73°87W, h28km, MW4.5
ISC 13 14:42:54.2±0.9, 4°10N±0°02×73°77W±0°03, h11km±7km, n23, σ2s09/42, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILC	Villavicencio,	0.08	79	P	Pg	14 42 57.2	+0.4
CHIC	Chingaza	0.53	4	P	Pg	14 43 04.9	+0.2
CHIC				S	Sg	14 43 12.1	+0.3
ROSC	El Rosal	0.92	324	P	Pn	14 43 14.8	+1.4
ROSC				S	Sn	14 43 28.4	+1.5
URMC	La Uribe, Meta	1.04	216	P	Pg	14 43 13.8	-0.4
URMC				S	Sg	14 43 27.9	+0.2
PRAC	Prado	1.17	251	P	Pn	14 43 17.3	+0.7
PRAC				S	Sn	14 43 34.4	+1.7
ORTC	Ortega, Tolima	1.48	263	P	Pg	14 43 22.7	0.0
ORTC				S	Sg	14 43 43.1	+1.2
NORC	Norcasia	1.82	323	P	Pg	14 43 29.1	-0.1
NORC				S	Sg	14 43 53.3	+0.5
RUSC	La Rusia	1.91	21	P	Pb	14 43 29.3	-0.1
RUSC				S	Sg	14 43 55.5	-0.3
GUVC	San Jose del G	1.92	143	P	Pn	14 43 27.1	+0.2
GUVC				S	Sn	14 43 52.1	+1.0
MACC	Macarena, Meta	1.94	182	P	Pn	14 43 27.4	+0.2
MACC				S	Sn	14 43 52.5	+0.9
GUY2C	Guyana, Caldas	1.94	305	P	Pg	14 43 31.0	-0.5
GUY2C				S	Sg	14 43 57.2	+0.4
BETC	Betania	2.18	230	P	Pb	14 43 33.6	-0.1
BETC				S	Sg	14 44 03.4	-0.9
PTBC	PUERTO BERRIO,	2.52	344	P	Pb	14 43 38.5	-1.0
BARC	Barichara	2.55	13	P	Pb	14 43 40.2	+0.1
GARC	Garzon, Huila	2.56	222	P	Pb	14 43 39.8	-0.5
GARC				P	Pg	14 43 40.1	-3.2
GARC				P	Pn	14 43 40.6	+4.7
GARC				S	Sb	14 44 14.0	+2.1
YOTC	Yotoco, Valle	2.57	268	P	Pb	14 43 38.4	-2.0
YOTC				P	Pn	14 43 38.7	+2.8
YOTC				P	Pg	14 43 39.3	-4.2
YOTC				S	Sg	14 44 15.4	-1.4
PLMC	San Jos del P	2.63	288	P	Pb	14 43 41.3	-0.1
PAMC	Pamplona, Colo	3.40	18	P	Pb	14 43 51.4	-3.3
BBAC	Balboa, Cauca	4.03	239	P	Pb	14 44 01.4	-4.1
SOCV	Socops	5.07	35	eP	Pn	14 44 10.8	+0.5
SOCV				eS	Sn	14 45 05.6	-3.3
BAUV	El Baul	7.46	49	eP	Pn	14 44 42.7	-0.3
BAUV				eS	Sn	14 46 02.2	-5.5
CACV	CAICARA DEL OR	7.98	64	eP	Pn	14 44 56.2	+6.0
CACV				eS	Sn	14 46 24.4	+3.8
BENV	Beln	8.46	46	eP	Pn	14 44 57.0	+0.1

AEIC 13 14:43:21.2±1.1, 51°21N±0°09×178°13W±0°06, h25km±9km, Error ellipse: s-maj=13.6km s-min=5.1km az=184.0
NEIC 13 14:43:20.8±1.0, 51°20N±0°05×178°19W±0°02, h30km±11km, ML2.8(AEIC), Error ellipse: s-maj=6.7km s-min=1.9km az=186.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	Tanaga Southea	0.64	8		Pn	14 43 33.9	0.0
GALAA	Gareloi Lava P	0.67	327		Pn	14 43 34.5	+0.2
TAFP	Tanaga Falls P	0.71	10		Pb	14 43 34.7	-0.1
TAFP					Sn	14 43 45.1	+0.4
GASW	Gareloi Southw	0.71	324		Pn	14 43 34.9	+0.1
GANO	Gareloi North	0.73	328		Pb	14 43 35.0	-0.1
KIWB	Kanaga Island	0.92	44		Pn	14 43 37.2	-0.4
KIKV	Kanaga Island	0.93	43		Pn	14 43 37.4	-0.4
KIKV					Sb	14 43 50.4	0.0
KICM	Kanaga Island	0.95	40		Pn	14 43 37.8	-0.2
KICM					Sb	14 43 51.0	+0.1
KIRH	Kanaga Island	0.97	44		Pn	14 43 38.3	-0.1
KINC	Kanaga Island	0.98	42		Pn	14 43 38.3	-0.2
ADK	Adak	1.16	53		Pn	14 43 40.5	-0.4
ADK					Sn	14 43 54.9	-0.8
GSCK	Great Sitkin C	1.50	56		Sb	14 44 06.6	-0.1
GSTR	Great Sitkin T	1.60	55		Pn	14 43 47.8	+0.8
ATKA	Atka Island	2.68	66		Pn	14 44 02.3	+0.5
ATKA					Sn	14 44 35.6	+2.5
UNV	Unalaska Valle	7.60	65	Pn	Pn	14 45 11.1	+1.8
WACK	Wrangell Chich	21.27	46		S	14 51 48.2	-11

IDC 13 15:17:23.3±1.6, 59°69N×17°79E, h0km, mbtmp3.0/3, ML1.4/2, Error ellipse: s-maj=24.5km s-min=6.4km az=178.0
HEL 13 15:17:25.0±0.7, 59°72N×18°01E, h0km, ML2.2, Explosion
ISC 13 15:17:24.4±1.8, 59°9N±0°2×17°88E±0°04, h0km, n11, σ1s34/18, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	Hagfors	2.11	277	Pn	Pn	15 18 00.2	-0.6
	0.6nm,0.3s,baz=104,slow=18,SNR=15						
HFS				Lg	Lg	15 18 27.6	
	4.9nm,0.3s,baz=101,slow=30,SNR=54 1.7nm,0.3s						
RAF	Rauma	2.21	59	eP	Pn	15 18 03.2	+1.0
RAF				eSB	Sb	15 18 33.5	+0.5
RAF				eSG	Sg	15 18 34.8	-0.4
KPF	Kankaanpaa	2.79	45	eP	Pb	15 18 13.5	-1.6
KPF				eS	Sn	15 18 46.2	+1.5
KPF				MSN		15 18 47.8	
	comp=Z,1.2nm,0.2s						
MEF	Metsahovi	3.28	82	eP	Pn	15 18 16.9	0.0
NOA	NORSAR Array B	3.48	291	Pg	Pb	15 18 26.6	-0.1
	baz=108,slow=18,SNR=6.4						
NOA				Sn	Sn	15 19 01.5	-0.1
	baz=91,slow=19,SNR=1.0						
NOA				Lg	Lg	15 19 14.4	
	comp=Z,0.1nm,0.3s,baz=115,slow=20,SNR=7.9						
KEF	Keuruu	4.07	54	eP	Pn	15 18 29.3	+1.6
KEF				eS	Sn	15 19 16.9	+0.9
KEF				MSN		15 19 19.1	
	comp=Z,2.5nm,0.3s						
FIA0	FINESS Array S	4.30	66	eP	Pn	15 18 32.5	+1.5
FIA0				eS	Sn	15 19 22.8	+1.0
FIA0				MSN		15 19 24.4	
	comp=Z,0.9nm,0.2s						
FINES	FINESS Array B	4.30	66	Pn	Pn	15 18 32.1	+1.1
	comp=Z,0.1nm,0.3s,baz=250,slow=13,SNR=1.5						
FINES				Pg	Pb	15 18 38.2	-2.6
	comp=Z,0.1nm,0.3s,baz=249,slow=13,SNR=5.7						
FINES				Sn	Sn	15 19 23.3	+1.5
	comp=Z,0.6nm,0.3s,baz=250,slow=21,SNR=8.3						
FINES				Lg	Lg	15 19 38.9	
	comp=Z,1.3nm,0.3s,baz=245,slow=25,SNR=16 comp=Z,2.0nm,0.9s						
KAF	Kangasniemi	4.64	58	eS	Sn	15 19 31.1	+1.0
KAF				MSN		15 19 34.2	
	comp=Z,1.1nm,0.2s						
ARCES	ARCESS Array B	10.16	15	Pn	Pn	15 19 49.8	-1.5
	comp=Z,2.0nm,1.0s,baz=199,slow=13,SNR=1.4						
I43RU	DUBNA INFRASONI	10.65	99	I	I	16 23 31.0	
	comp=Z,0.1nm,1.6s,baz=295,slow=305,SNR=5.1						

IDC 13 15:20:19.2±2.3, 20°15S×178°25W, h554km±25km, mb2.9/7, mbtmp3.8/8, Error ellipse: s-maj=39.5km s-min=21.4km az=145.0
ISC 13 15:20:18.4±0.9, 20°4S±0°2×178°2W±0°2, h550km, n10, σ1s33/10, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.42	305	P	P	15 21 43.3	-0.3
	2.7nm,0.3s,baz=88,slow=23,SNR=11						
URZ	Urewera	18.31	192	P	P	15 23 56.1	-2.8
	2.6nm,0.6s,baz=208,slow=13,SNR=2.2						
STKA	Stephens Creek	37.71	244	P	P	15 26 48.3	+0.7
	1.0nm,0.6s,baz=89,slow=7.9,SNR=2.9 1.0nm,0.6s						
ASAR	Alice Springs	44.39	257	P	P	15 27 41.1	+0.4
	0.8nm,0.5s,baz=89,slow=8.2,SNR=15						
ASAR				PcP	PcP	15 29 12.6	0.0
	0.5nm,1.0s,baz=96,slow=3.6,SNR=1.5 0.8nm,0.5s						
WRA	Warramunga Arr	44.46	262	P	P	15 27 41.2	-0.1
	0.3nm,0.4s,baz=97,slow=8.1,SNR=4.8 0.3nm,0.4s						
VNDA	Vanda	58.05	185	P	P	15 29 20.1	+1.5
	6.4nm,1.3s,baz=0.0,slow=5.1,SNR=2.0 6.4nm,1.3s						
TXAR	Lajitas Array	87.11	57	P	P	15 32 07.2	+0.6
	0.4nm,0.7s,baz=251,slow=5.0,SNR=2.9 0.4nm,0.7s						
ILAR	Eielson Array	88.20	13	P	P	15 32 09.6	-1.0
	0.3nm,0.6s,baz=199,slow=5.1,SNR=1.9 0.3nm,0.6s						
PDAR	Pinedale Array	88.97	43	P	P	15 32 15.2	+0.2
	0.2nm,0.5s,baz=267,slow=5.9,SNR=2.3 0.2nm,0.5s						

AKASG	Malin Array Be	142.80	331	PKhKP	PKPpre	15 38 44.7	
	0.1nm,0.3s,baz=43,slow=4.2,SNR=7.7						

HLW 13 15:23:07.9, 27°45N×34°43E, h17km±7km, Md2.7, Ml2.4
SGS 13 15:23:09.1, 27°57N×34°62E, h8km, Ml2.2
ISC 13 15:23:05.9±0.9, 27°47N±0°04×34°55E±0°03, h12km, n19, σ0s64/22, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1	Tor 1	0.76	315	P	Pn	15 23 21.7	-0.7
TR1				S	Sb	15 23 31.3	0.0
RSHS		0.86	15	S	Sb	15 23 33.5	-0.7
RSHS		0.86	15	P	Pb	15 23 23.1	+0.4
KRABS	KRABS	0.89	44	P	Pb	15 23 23.7	+0.5
KRABS	KRABS	0.89	44	S	Sg	15 23 34.3	-0.3
MWLHS	Almuwaylih	0.90	72	P	Pb	15 23 24.0	+0.6
MWLHS	Almuwaylih	0.90	72	S	Sg	15 23 34.8	-0.2
HHRG	Al Ghardaqah	0.91	254	P	Pg	15 23 23.8	+0.3
HHRG				S	Sg	15 23 34.5	-0.8
AYUS	`Aynunah	0.96	41	P	Pb	15 23 24.9	+0.5
BDAS	Al Bad`	1.07	27	P	Pg	15 23 26.7	0.0
TAYS	Tayyib Ism	1.12	15	P	Pb	15 23 26.9	-0.3
HKAT	Jabal Katrina	1.16	335	P	Pn	15 23 28.7	+0.4
HKAT				S	Sn	15 23 43.2	-1.0
WTBKS	WTBKS	1.35	63	P	Pb	15 23 31.5	+0.2
HAQS	Haql	1.61	12	P	Pn	15 23 34.6	+0.4
JMOS	Jabal al Moall	1.77	16	P	Pn	15 23 37.1	+0.8
WJHS		1.80	114	P	Pn	15 23 36.9	+0.2
NADB	Abo Dabab	2.12	181	P	Pn	15 23 40.5	-0.6
ASUT		2.66	269	P	Pn	15 23 49.7	+1.1
TAMRE	El Minia	3.23	275	P	Pn	15 23 57.6	+1.1

IDC 13 15:23:10.6±2.9, 2°33N×126°73E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=277.7km s-min=26.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.36	162	P	P	15 28 21.2	+0.3
	0.4nm,0.4s,baz=336,slow=9.3,SNR=5.8 0.4nm,0.4s						
ASAR	Alice Springs	26.77	165	P	P	15 28 50.8	-1.6
	0.3nm,0.9s,baz=354,slow=8.7,SNR=1.4 0.3nm,0.9s						
MKAR	Makanchi Array	58.70	326	P	P	15 33 10.8	+0.7
	0.2nm,0.4s,baz=125,slow=8.8,SNR=5.1 0.2nm,0.4s						

DJA 13 15:28:25.1±0.5, 6°N±5°×12°4E±°, h506km±5km, M4.3/12, mb4.2/12, mB4.7/6, MLv4.6/12, Mw(mB)3.9/6
IDC 13 15:28:25.9±2.3, 5°69N×124°05E, h574km±29km, mb3.2/13, mbtmp4.2/13, Error ellipse: s-maj=44.7km s-min=8.3km az=68.0
ISC 13 15:28:23.9±0.5, 5°63N±0°07×123°8E±0°1, h550km, n31, σ1s42/40, mb3.8/14, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	Lahad Datu	5.32	265	P	P	15 29 57.7	+1.2
TNTI	Ternate	5.98	144	P	P	15 30 03.2	+0.8
TNTI	Ternate	5.98	144	P	P	15 30 01.8	-0.6
TNTI				S	S	15 31 21.5	-1.4
MPSI	Mapaga	6.56	217	P	P	15 30 07.6	-0.1
LUWI	Luwuk	6.71	189	P	P	15 30 08.7	-0.5
	0.2nm35nm,0.7s						
LUWI				S	S	15 31 33.5	-1.8
	0.2nm35nm,0.7s						
KKM	Kota Kinabalu	7.58	273	P	P	15 30 17.1	-0.6
SANI	Sanana	7.93	164	P	P	15 30 18.6	-2.4
SANI	Sanana	7.93	164	P	P	15 30 18.5	-2.4
	0.3nm1μm32nm,0.8s						
SANI				S	S	15 31 52.1	-4.8
	0.3nm1μm32nm,0.8s						
NLAI	Namlea	9.40	160	P	P	15 30 37.4	+1.6
	62nm,0.8s						
NLAI				S	S	15 32 27.1	+3.1
	62nm,0.8s						
SWI	Sorong	9.84	131	P	P	15 30 40.8	+0.6
	25nm,1.0s						
MSAI	Masohi	10.27	150	P	P	15 30 46.5	+1.8
	56nm,0.8s						
SPSI	Sidrap Palu	10.36	203	P	P	15 30 47.3	+1.8
FAKI	Fak Fak	11.96	135	P	P	15 31 02.9	+0.8
JAGI	Jajag, Banyuwa	17.01	215	P	P	15 31 54.5	+1.7
	25nm,0.7s						
MTN	Manton Dam	19.74	158	P	P	15 32 18.0	+0.3
KDU	Kakadu	20.13	155	P	P	15 32 21.6	+0.4
WRA	Warramunga Arr	27.44	158	P	P	15 33 26.0	-0.2
	2.5nm,0.5s,baz=341,slow=8.9,SNR=34						
WRA				PcP	PcP	15 36 26.8	0.0
	0.4nm,0.7s,baz=333,slow=2.8,SNR=1.8						
WRA				S	S	15 37 27.8	-0.7
	0.6nm,0.8s,baz=329,slow=15,SNR=2.2 2.5nm,0.5s						
PZH	PanZhiHua	29.58	317	P	P	15 33 49.3	+4.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,6.1s						
ASAR	Alice Springs	30.74	162	P	P	15 33 56.0	+1.1
	comp=Z,1.5nm,0.5s,baz=343,slow=7.5,SNR=46						
ASAR				PcP	PcP	15 36 35.2	-0.1
	comp=Z,0.4nm,0.5s,baz=350,slow=3.0,SNR=8.3						
ASAR				S	S	15 38 18.1	-1.4
	comp=Z,0.9nm,0.8s,baz=346,slow=16,SNR=7.0 comp=Z,1.5nm,0.5s						
STKA	Stephens Creek	40.97	157	P	P	15 35 19.7	+0.5
	comp=Z,0.7nm,0.3s,baz=340,slow=12,SNR=1.9 comp=Z,0.7nm,0.3s						
SONM	Songino Array	44.62	343	P	P	15 35 48.0	+0.4
	comp=Z,0.9nm,0.8s,baz=166,slow=8.9,SNR=5.8						
SONM				PcP	PcP	15 37 18.0	-0.5
	comp=Z,0.7nm,0.8s,baz=132,slow=2.1,SNR=4.0 comp=Z,0.9nm,0.8s						
MKAR	Makanchi Array	54.36	326	P	P	15 36 60.0	+0.8
	comp=Z,1.0nm,0.3s,baz=120,slow=7.4,SNR=39						
MKAR				PcP	PcP	15 37 54.7	+0.2
	comp=Z,1.3nm,0.7s,baz=127,slow=3.9,SNR=11 comp=Z,1.0nm,0.3s						
YAK	Yakutsk	56.45	3	P	P	15 37 12.6	-0.7
	comp=Z,7.6nm,0.5s,baz=313,slow=1.9,SNR=4.8 comp=Z,7.6nm,0.5s						
ZALV	Zalesovo Beam	57.60	334	P	P	15 37 20.9	-0.6
	comp=Z,0.5nm,0.3s,baz=98,slow=6.4,SNR=4.0 comp=Z,0.5nm,0.3s						
KURBB	Kurchatov Arra	58.59	328	P	P	15 37 28.6	+0.4
	comp=Z,2.8nm,0.8s,baz=126,slow=6.4,SNR=21 comp=Z,2.8nm,0.8s						
BVAR	Borovoye Array	64.16	327	P	P	15 38 05.2	+0.6
	comp=Z,1.2nm,0.7s,baz=147,slow=8.3,SNR=4.9 comp=Z,1.2nm,0.7s						
ILAR	Eielson Array	84.64	25	P	P	15 39 58.9	-0.6
	comp=Z,0.4nm,1.0s,baz=251,slow=4.8

KUR	**Kuril'sk**	**1.88 247**	*e*P	**Pn**	**15 32 26.9**	**+0.4**
KUR			AMB	AMB	15 32 29.2	
	120nm,0.4s					
KUR			*i* S	**Sn**	**15 32 56.0**	**+0.6**
KUR			A	A	15 33 00.5	
	390nm,0.5s					
KUR			A	A	15 33 00.5	
	330nm,0.5s					
SHO	**Shikotan**	**3.27 231**	*e*PN	**Pn**	**15 32 42.3**	**+0.4**
SHO			pmax	pmax		
	comp=N,25nm,0.3s					
SHO			pmax	pmax		
	comp=Z,49nm,0.3s					
SHO			pmax	pmax		
	comp=E,23nm,0.2s					
SHO	**Shikotan**	**3.27 231**	*e*P	**Pn**	**15 32 41.3**	**-0.6**
SHO			AMB	AMB	15 32 42.9	
	comp=E,50nm,0.3s					
SHO			*e*S	**Sn**	**15 33 21.6**	**-1.6**
SHO			A	A	15 33 24.5	
	comp=E,240nm,0.3s					
SHO			A	A	15 33 24.5	
	comp=E,150nm,0.3s					
YUK	**Yuzh-Kuril'sk**	**3.72 240**	*d i*PN	**Pn**	**15 32 49.2**	**+1.7**
YUK			*e*S	**Sn**	**15 33 34.1**	**+1.0**
YUK			pmax	pmax		
	comp=Z,139nm,0.5s					
YUK			pmax	pmax		
	comp=E,49nm,0.2s					
YUK			pmax	pmax		
	comp=N,55nm,0.1s					
YUK			smax	smax		
	comp=E,320nm,0.4s					
YUK			smax	smax		
	comp=N,232nm,0.1s					
YUK	**Yuzh-Kuril'sk**	**3.72 240**	*i* P	**Pn**	**15 32 48.7**	**+1.2**
YUK			AMB	AMB	15 32 51.0	
	comp=N,140nm,0.5s					
YUK			*e*S	**Sn**	**15 33 33.0**	**-0.1**
YUK			A	A	15 33 40.3	
	comp=N,230nm,0.4s					
YUK			A	A	15 33 40.3	
	comp=N,320nm,0.4s					
RUSJ	**Misakicho**	**4.06 244**	*e*PN	**Pn**	**15 32 53.5**	**+1.8**
RUSJ			S	**Sn**	**15 33 42.7**	**+1.9**
NMR	**Nemuro--Hokkai**	**4.20 233**	*e*PN	**Pn**	**15 32 53.4**	**0.0**
NMR	**Nemuro--Hokkai**	**4.20 233**	*e*P	**Pn**	**15 32 53.0**	**-0.4**
NMR			*e*S	**Sn**	**15 33 42.0**	**-1.8**
AKK	**Akkeshi**	**4.92 235**	*e*P	**Pn**	**15 33 03.2**	**+0.7**
YSS	**Yuzhno-Sakhali**	**5.32 283**	*e*PN	**Pn**	**15 33 07.0**	**-0.5**
YSS			pmax	pmax		
	comp=Z,10.0nm,0.6s					
YSS	**Yuzhno-Sakhali**	**5.32 283**	*e*P	**Pn**	**15 33 07.0**	**-0.5**
JKA	**Kamikawa-asahi**	**5.79 254**	*e*P	**Pn**	**15 33 16.3**	**+2.7**
ASAJ	**Asahikawa**	**5.79 254**	P	**Pn**	**15 33 16.2**	**+2.6**
	comp=Z,15nm,0.6s,baz=62,slow=14,SNR=37					
TYV	**Tymovskoe**	**7.05 316**	*e*P	**Pn**	**15 33 31.6**	**+1.7**
PETK	**Petropavlovsk-**	**8.58 31**	P	Pn	15 33 44.0	-5.9
	comp=Z,3.3nm,0.9s,baz=187,slow=7.5,SNR=5.7					
PETK	**Petropavlovsk-**	**8.58 31**	PN	Pn	15 33 44.0	-5.8
NKL	**Nikolayevsk**	**9.51 322**	*e*P	**Pn**	**15 34 04.2**	**+2.3**
KBG	**Krutoberegovo**	**12.86 33**	*e*P	**Pn**	**15 34 47.9**	**+3.2**
BKI	**Bering**	**13.53 41**	*e*P	**Pn**	**15 34 56.0**	**+3.0**
SEY	**Seymchan**	**17.02 3**	P	**P**	**15 35 28.6**	**-5.3**
	comp=Z,1.5nm,0.6s,baz=234,slow=17,SNR=9.0					
JOW	**Kunigami**	**25.34 230**	P	**P**	**15 37 07.5**	**+4.5**
	comp=Z,9.6nm,0.4s,baz=66,slow=13,SNR=5.2					
H11N2	**WAKE ISLAND Hy 29.54 147**		T	T	16 09 01.0	
	baz=335,slow=76,SNR=16					
H11N1	**WAKE ISLAND Hy 29.55 147**		T	T	16 09 02.9	
	baz=335,slow=76,SNR=17					
H11N3	**WAKE ISLAND Hy 29.55 147**		T	T	16 09 01.2	
	baz=335,slow=76,SNR=14					
H11S1	**WAKE ISLAND Hy 30.58 148**		T	T	16 10 17.0	
	baz=336,slow=76,SNR=25					
H11S3	**WAKE ISLAND Hy 30.59 148**		T	T	16 10 17.2	
	baz=336,slow=76,SNR=15					
H11S2	**WAKE ISLAND Hy 30.60 148**		T	T	16 10 18.4	
	baz=336,slow=76,SNR=21					
ILAR	**Eielson Array**	**38.34 38**	P	**P**	**15 38 49.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=263,slow=7.5,SNR=8.3					
	comp=Z,0.3nm,0.6s					
ZALV	**Zalesovo Beam**	**41.49 306**	LR	LR	15 59 28.3	
	comp=Z,9.3nm,19.0s,baz=206,slow=40					
MKAR	**Makanchi Array**	**45.57 297**	P	**P**	**15 39 47.9**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=68,slow=5.1,SNR=4.9					
	comp=Z,0.4nm,0.6s					
YKA	**Yellowknife Ar**	**52.67 36**	P	**P**	**15 40 41.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=297,slow=7.2,SNR=2.5					
	comp=Z,0.2nm,0.6s					
ARCES	**ARCESS Array B**	**57.92 340**	P	**P**	**15 41 17.7**	**-2.1**
	comp=Z,4.2nm,1.0s,baz=53,slow=7.4,SNR=2.1					
	comp=Z,4.2nm,1.0s					
FINES	**FINESS Array B**	**63.88 334**	P	**P**	**15 41 58.4**	**-1.6**
	comp=Z,1.9nm,1.0s,baz=54,slow=9.7,SNR=3.5					
	comp=Z,1.9nm,1.0s					
PDAR	**Pinedale Array**	**66.74 52**	P	**P**	**15 42 20.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=291,slow=5.4,SNR=6.8					
	comp=Z,0.5nm,0.6s					
NOA	**NORSAR Array B**	**68.30 340**	P	**P**	**15 42 26.6**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=51,slow=4.3,SNR=1.2					
	comp=Z,0.3nm,0.5s					
ASAR	**Alice Springs**	**70.91 196**	P	P	15 42 50.5	+6.0
	comp=Z,0.2nm,0.6s,baz=12,slow=6.5,SNR=1.6					
	comp=Z,0.2nm,0.6s					
AKASG	**Malin Array Be**	**71.08 325**	P	**P**	**15 42 42.7**	**-2.5**
	comp=Z,0.7nm,0.5s,baz=36,slow=6.3,SNR=4.8					
	comp=Z,0.7nm,0.5s					
TXAR	**Lajitas Array**	**79.54 59**	P	**P**	**15 43 35.5**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=299,slow=3.7,SNR=5.2					
	comp=Z,0.4nm,0.5s					

IDC 13 15:54:18.0±1.7, 13°.69N×120°.68E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=177.9km s-min=25.9km az=66.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**36.07**	**344**	P	P	16 01 21.2	-0.2
	0.4nm,0.6s,baz=163,slow=8.2,SNR=3.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**39.31**	**161**	P	P	16 01 48.9	-0.1
	0.3nm,0.8s,baz=335,slow=9.2,SNR=5.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**46.03**	**324**	P	P	16 02 43.4	-0.1
	0.2nm,0.3s,baz=130,slow=9.5,SNR=5.2						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**50.19**	**326**	P	P	16 03 15.4	-0.1
	0.8nm,0.7s,baz=126,slow=7.8,SNR=7.9						
	0.8nm,0.7s						

*JMA **13** 16:13:20.7±0.1, 34°.8N±0°.2×139°.3E±0°.2, h0km±1km, MV3.4/41, NEAR IZU-OSHIMA ISLAND*
JMA Felt III J1 at NEAR IZU-OSHIMA ISLAND .
ISC 13 16:13:21.3±1.0, 34°.75N±0°.03×139°.32E±0°.04, h7km±10km, n20, σ0°.64/26, 5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.10**	**109**	⇓*i* P	**Pg**	**16 13 23.2**	**-0.3**
JIM2				⇓*e*S	**Sg**	**16 13 25.2**	**+0.1**
JTHY	**Toshimahigashi**	**0.23**	**186**	*i* P	**Pg**	**16 13 26.1**	**+0.4**
JTHY				*e*S	**Sg**	**16 13 29.6**	**+0.9**
KTJ3	**Kamata3**	**0.27**	**312**	⇓*i* P	**Pg**	**16 13 26.1**	**-0.5**
AJI	**Ajiro2**	**0.35**	**328**	*i* P	**Pg**	**16 13 27.6**	**-0.4**
AJI				*e*S	**Sg**	**16 13 33.0**	**+0.3**
JIZS	**Izushimoda**	**0.36**	**265**	*i* P	**Pg**	**16 13 27.9**	**-0.4**
JIZS				S	**Sg**	**16 13 33.3**	**+0.2**
JOD2	**Odawara 2**	**0.55**	**340**	⇓*i* P	**Pg**	**16 13 31.2**	**-0.6**
JOD2				⇓S	**Sg**	**16 13 39.1**	**+0.2**
JKO	**Kozu shima**	**0.58**	**195**	P	**Pg**	**16 13 32.4**	**0.0**
JFNN	**Fujinakano**	**0.68**	**311**	P	**Pg**	**16 13 33.8**	**-0.6**
JMYK	**Miyake Tsubota**	**0.71**	**164**	P	**Pg**	**16 13 34.5**	**-0.5**
JSG	**Sagara**	**0.94**	**266**	P	**Pb**	**16 13 39.6**	**-0.2**
SHZ3	**Shizuoka 3**	**0.96**	**289**	P	**Pg**	**16 13 39.0**	**-0.7**
SHZ3				S	**Sb**	**16 13 53.0**	**-0.4**
JHJ2	**Mitsune**	**1.69**	**166**	P	**Pn**	**16 13 50.2**	**-1.0**
JGF	**Kuroka**	**1.82**	**298**	P	**Pn**	**16 13 53.5**	**+0.5**
INU	**Inuyama**	**1.98**	**288**	P	**Pn**	**16 13 55.9**	**+0.7**
MAJO	**Matsushiro**	**2.00**	**333**	P	**Pn**	**16 13 56.1**	**+0.5**
JMM	**Marumori**	**3.33**	**21**	P	**Pn**	**16 14 13.4**	**-0.4**
JSD	**Sado**	**3.39**	**346**	P	**Pn**	**16 14 16.3**	**+1.7**
JMN	**Monobe**	**4.62**	**259**	P	**Pn**	**16 14 31.8**	**+0.2**
JTM	**Tenmabayashi**	**6.18**	**12**	P	**Pn**	**16 14 53.7**	**+0.7**
JNU	**Nakatsue**	**7.20**	**259**	P	**Pn**	**16 15 07.3**	**+0.3**

*IDC **13** 16:14:20.4±6.3, 1°.63N×127°.42E, h75km±58km, mb4.0/10, mbtmp4.3/12, ML4.6/2, MS2.5/1, Error ellipse: s-maj=49.2km s-min=13.6km az=61.0*
*DJA **13** 16:14:24.7±0.2, 2°.N±2°.×12°.7E±°.7, h102km±3km, M4.5/18, mb4.7/18, mB5.0/9, MLv4.6/18, Mw(mB)4.3/9*
*NEIC **13** 16:14:24.9±0.9, 1°.55N±0°.09×127°.29E±0°.09, h113km±6km, mb4.4/47, Error ellipse: s-maj=14.6km s-min=10.4km az=48.0*
ISC 13 16:14:23.4±0.4, 1°.60N±0°.05×127°.28E±0°.05, h100km, n105, σ1§47/111, mb4.4/36, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.83**	**174**		**Pn**	**16 14 44.2**	**+2.1**
TNTI	**Ternate**	**0.83**	**174**	P	**Pn**	**16 14 44.5**	**+2.5**
TNTI	**Ternate**	**0.83**	**174**	P	**Pn**	**16 14 44.6**	**+2.5**
TNTI				S	**Sn**	**16 14 59.7**	**+3.7**
LBMI	**Labuha**	**2.23**	**174**	P	**Pn**	**16 15 01.1**	**+2.1**
LBMI				S	**Sn**	**16 15 30.0**	**+3.7**
KMSI	**Cibinong**	**3.45**	**253**	P	**Pn**	**16 15 16.7**	**+1.5**
KMSI				S	**Sn**	**16 15 56.3**	**+1.0**
SANI	**Sanana**	**3.85**	**200**	P	**Pn**	**16 15 20.7**	**+0.1**
SANI	**Sanana**	**3.85**	**200**	S	**Sn**	**16 16 03.0**	**-1.8**
SANI	**Sanana**	**3.85**	**200**	P	**Pn**	**16 15 21.0**	**+0.4**
LUWI	**Luwuk**	**5.22**	**240**	Pn	**Pn**	**16 15 40.0**	**+0.9**
LUWI	**Luwuk**	**5.22**	**240**	P	**Pn**	**16 15 41.0**	**+1.9**
LUWI	**Luwuk**	**5.22**	**240**	P	**Pn**	**16 15 40.9**	**+1.9**
	2μm118nm,0.5s						
LUWI				S	**Sn**	**16 16 39.7**	**+1.7**
	2μm118nm,0.5s						
AAI	**Ambon**	**5.33**	**170**	P	**Pn**	**16 15 42.8**	**+2.2**
	0.3nm1μm63nm,0.8s						
MRSI	**Marisa**	**5.46**	**258**	P	**Pn**	**16 15 43.4**	**+1.1**
MRSI				S	**Sn**	**16 16 43.6**	**-0.2**
APSI	**Ampana**	**6.16**	**246**	P	**Pn**	**16 15 52.9**	**+1.0**
	0.9nm2μm155nm,1.0s						
TOLI2	**Tolitoli**	**6.52**	**266**	Pn	**Pn**	**16 15 57.3**	**+0.6**
FAKI	**Fak Fak**	**6.69**	**132**	Pn	**Pn**	**16 16 02.4**	**+3.3**
FAKI	**Fak Fak**	**6.69**	**132**	P	**Pn**	**16 16 02.7**	**+3.5**
KDI	**Kendari**	**7.22**	**220**	P	**Pn**	**16 16 06.8**	**+0.4**
	0.2nm1μm28nm,0.6s						
MPSI	**Mapaga**	**7.49**	**260**	P	**Pn**	**16 16 12.4**	**+2.4**
PCI	**Palu**	**7.85**	**252**	P	**Pn**	**16 16 15.9**	**+1.0**
	0.3nm78nm,0.9s						
TTSI	**Tana Toraja**	**8.77**	**238**	P	**Pn**	**16 16 27.9**	**+0.5**
SPSI	**Sidrap Palu**	**9.32**	**234**	P	**Pn**	**16 16 37.0**	**+2.1**
MYLDM	**Lahad Datu**	**9.46**	**292**	Pn	**Pn**	**16 16 39.3**	**+2.5**
MYLDM	**Lahad Datu**	**9.46**	**292**	P	**Pn**	**16 16 41.5**	**+4.7**
BKSI	**Bulukumba**	**9.92**	**226**	P	**Pn**	**16 16 45.4**	**+2.3**
	775nm32nm,0.5s						
KAPI	**Kappang**	**9.99**	**229**	Pn	**Pn**	**16 16 43.9**	**0.0**
KAPI	**Kappang**	**9.99**	**229**	P	**Pn**	**16 16 41.2**	**-2.7**
	5.1nm,0.3s,baz=50,slow=17,SNR=11						
KAPI				LR	LR	16 21 54.7	
	comp=Z,24nm,18.9s,baz=120,slow=45						
	8.9nm,0.4s						
KAPI	**Kappang**	**9.99**	**229**	P	**Pn**	**16 16 46.0**	**+2.0**
KAPI	**Kappang**	**9.99**	**229**	S	**Sn**	**16 18 33.0**	**-1.2**
DRS	**Darwin Rock St**	**14.39**	**166**	P	**Pn**	**16 17 43.9**	**+1.4**
MTN	**Manton Dam**	**14.85**	**165**	Pn	**Pn**	**16 17 46.6**	**-1.7**
SBUM	**Sibu**	**15.07**	**273**	Pn	**Pn**	**16 17 50.5**	**-0.7**
SBUM				IAmb	IAmb	16 17 56.4	
	comp=Z,8.7nm,0.9s						
KDU	**Kakadu**	**15.10**	**160**	P	**Pn**	**16 17 53.6**	**+2.1**
	comp=Z,20nm,0.7s						
KMMI	**Kalianget**	**15.82**	**237**	P	**P**	**16 18 02.7**	**+0.3**
	comp=Z,76nm,0.9s						
STKI	**Sintang**	**15.88**	**265**	P	**Pn**	**16 18 02.0**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.47**	**232**	Pn	**P**	**16 18 11.9**	**+2.3**
JAGI				IAmb	IAmb	16 18 26.5	
	comp=Z,17nm,1.1s						
KSM	**Kuching**	**16.97**	**270**	P	**Pn**	**16 18 15.6**	**+0.9**
KSM				IAmb	IAmb	16 18 23.4	
	comp=Z,20nm,1.1s						
KNRA	**Kununurra**	**17.23**	**175**	P	**Pn**	**16 18 17.4**	**-0.4**
KNRA				IAmb	IAmb	16 18 45.0	
	comp=Z,23nm,0.9s						
UGM	**Wanagama**	**19.20**	**240**	P	**P**	**16 18 41.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**19.64**	**185**	P	**P**	**16 18 43.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.64**	**185**	P	**P**	**16 18 44.1**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=18,slow=9.0,SNR=33						
	comp=Z,8.6nm,0.6s						
KPJI	**Karang Pucung**	**20.34**	**244**	P	**P**	**16 18 52.3**	**+0.3**
	comp=Z,45nm,0.8s						
LEM	**Lembang**	**21.34**	**247**	P	**P**	**16 19 04.1**	**+1.3**
	comp=Z,20nm,0.7s,baz=44,slow=9.3,SNR=5.7						
	comp=Z,20nm,0.7s						
COEN	**Coen**	**22.07**	**135**	P	**P**	**16 19 09.7**	**-0.7**
WB0	**Warramunga Arr**	**22.35**	**162**	P	**P**	**16 19 12.6**	**-0.8**
WRAB	**Tennant Creek**	**22.49**	**162**	P	**P**	**16 19 14.0**	**-0.8**
WRA	**Warramunga Arr**	**22.50**	**162**	P	**P**	**16 19 12.5**	**-2.4**
WRA	**Warramunga Arr**	**22.50**	**162**	P	**P**	**16 19 13.9**	**-0.9**
	comp=Z,37nm,0.5s,baz=342,slow=11,SNR=182						
WB2	**Warramunga Arr**	**22.50**	**162**	P	**P**	**16 19 13.6**	**-1.3**
WB2				IAmb	IAmb	16 19 14.7	
	comp=Z,39nm,1.1s						
TPUB	**Ta-pu**	**22.52**	**344**	P	**P**	**16 19 12.7**	**-2.3**
TPUB				IAmb	IAmb	16 19 15.7	
	comp=Z,30nm,1.0s						
WR0	**Warramunga Arr**	**22.58**	**162**	P	**P**	**16 19 14.9**	**-0.7**
SSLB	**Suanglung**	**22.89**	**345**	P	**P**	**16 19 18.4**	**-0.4**
SSLB				IAmb	IAmb	16 19 24.0	
	comp=Z,18nm,1.1s						
MYKOM	**Kota Tinggi**	**23.42**	**271**	P	**P**	**16 19 23.8**	**-0.1**
MYKOM				IAmb	IAmb	16 19 26.2	
	comp=Z,20nm,1.1s						
MBWA	**Marble Bar**	**23.79**	**198**	P	**P**	**16 19 26.0**	**-1.1**
MBWA				IAmb	IAmb	16 19 37.6	
	comp=Z,17nm,1.1s						
MDSI	**Maura Dua**	**23.86**	**255**	P	**P**	**16 19 28.7**	**+0.9**
PSA00	**Pilbara Seismi**	**24.15**	**197**	P	**P**	**16 19 29.4**	**-0.9**
PSA00				IAmb	IAmb	16 19 31.2	
	comp=Z,11nm,0.8s						
XMIS	**Christmas Isla**	**24.64**	**240**	P	**P**	**16 19 34.4**	**-0.5**
XMIS				IAmb	IAmb	16 19 35.6	
	comp=Z,25nm,0.8s						
MNAI	**Manna**	**25.02**	**256**	P	**P**	**16 19 39.9**	**+1.5**
UBPT	**Khong Chiam**	**25.45**	**303**	P	**P**	**16 19 42.5**	**+0.3**
UBPT				IAmb	IAmb	16 19 50.7	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**25.93**	**166**	P	**P**	**16 19 45.6**	**-0.9**
AS31				IAmb	IAmb	16 19 52.7	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**25.93**	**166**	P	**P**	**16 19 45.6**	**-0.8**
	comp=Z,6.8nm,0.5s,baz=346,slow=7.5,SNR=304						
ASAR				PcP	**PcP**	**16 23 11.0**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=332,slow=2.2,SNR=2.2						
	comp=Z,6.8nm,0.5s						
GSI	**Gunungsitoli**	**29.70**	**270**	P	**P**	**16 20 18.7**	**-1.5**
GSI				IAmb	IAmb	16 20 26.8	
	comp=Z,10nm,1.1s						
FORT	**Forrest**	**32.21**	**179**	P	**P**	**16 20 41.1**	**-0.9**
MORW	**Morawa**	**32.34**	**199**	P	**P**	**16 20 42.3**	**-0.9**
MORW				IAmb	IAmb	16 20 44.2	
	comp=Z,10.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.45**	**303**	P	**P**	**16 20 44.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=109,slow=9.4,SNR=2.0						
	comp=Z,0.3nm,0.4s						
KMI	**Kunming**	**33.28**	**317**	⇓P	**P**	**16 20 52.4**	**+0.6**
KMI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
JGF	**Kuroka**	**35.10**	**14**	P	**P**	**16 21 06.8**	**-0.4**
BBOO	**Buckleboo**	**35.22**	**167**	P	**P**	**16 21 06.9**	**-1.2**
EIDS	**Eidsvold**	**35.35**	**141**	P	**P**	**16 21 08.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**35.63**	**195**	P	**P**	**16 21 11.0**	**-0.7**
NWAO				IAmb	IAmb	16 21 36.4	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**35.95**	**159**	P	**P**	**16 21 13.8**	**-0.7**
STKA	**Stephens Creek**	**35.95**	**159**	P	**P**	**16 21 14.2**	**-0.3**
	comp=Z,10nm,0.5s,baz=330,slow=9.1,SNR=13						
	comp=Z,10nm,0.5s						
XAN	**Xi'an**	**36.56**	**334**	⇑P	**P**	**16 21 20.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARMA	**Armidale**	**39.40**	**146**	P	**P**	**16 21 44.3**	**+0.6**
ARMA				IAmb	IAmb	16 21 53.2	
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**41.58**	**342**	*e*P	**P**	**16 22 04.0**	**+2.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.5s						
TOO	**Toolangi**	**42.47**	**158**	P	**P**	**16 22 09.5**	**+0.8**
GTA	**Gaotai**	**45.20**	**330**	*e*P	**P**	**16 22 32.1**	**+1.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**49.48**	**342**	P	**P**	**16 23 03.7**	**0.0**
SONM	**Songino Array**	**49.48**	**342**	P	**P**	**16 23 03.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=158,slow=8.4,SNR=3.8						
	comp=Z,0.5nm,0.6s						
MSVF	**Nonsavu**	**53.55**	**113**	P	**P**	**16 23 33.8**	**-0.6**
MSVF				IAmb	IAmb	16 23 42.3	
	comp=Z,3.4nm,0.8s						
QRZ	**Quartz Range**	**58.93**	**141**	P	**P**	**16 24 12.4**	**+0.1**
MRNZ	**Matariki Terra**	**59.40**	**141**	P	**P**	**16 24 14.5**	**-1.0**
MK31	**Makanchi Array**	**59.61**	**326**	P	**P**	**16 24 16.9**	**0.0**
MK31				IAmb	IAmb	16 24 19.4	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**16 24 16.8**	**-0.1**
MKAR	**Makanchi Array**	**59.61**	**326**	P	**P**	**16 24 17.2**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=118,slow=7.5,SNR=48						
	comp=Z,3.3nm,0.5s						
THZ	**Tophouse**	**59.69**	**142**	P	**P**	**16 24 16.4**	**-1.2**
MAKZ	**Makanchi**	**59.80**	**326**	P	**P**	**16 24 18.3**	**+0.1**
MAKZ				IAmb	IAmb	16 24 20.3	
	comp=Z,2.7nm,0.6s						
BKZ	**Black Stump Fm**	**60.65**	**138**	P	**P**	**16 24 23.1**	**-1.0**
BKZ				IAmb	IAmb	16 24 24.1	
	comp=Z,4.1nm,0.7s						
ZALV	**Zalesovo Beam**	**62.73**	**333**	P	**P**	**16 24 39.5**	**+1.7**
ZALV	**Zalesovo Beam**	**62.73**	**333**	P	**P**	**16 24 39.2**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=134,slow=6.6,SNR=5.5						
	comp=Z,0.7nm,0.4s						
ARSB	**Arslanbob**	**62.77**	**317**	P	**P**	**16 24 37.4**	**-1.1**
GAR	**Garm**	**63.77**	**313**	P	**P**	**16 24 44.7**	**-0.4**
GAR				IAmb	IAmb	16 24 46.0	
	comp=Z,7.9nm,1.2s						
KURBB	**Kurchatov Arra**	**63.82**	**328**	P	**P**	**16 24 44.7**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=127,slow=6.3,SNR=22						
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**63.82**	**328**	P	**P**	**16 24 44.7**	**-0.3**
KURK				IAmb	IAmb	16 24 48.0	
	comp=Z,6.8nm,0.8s						
KKAR	**Karatay Array**	**65.16**	**318**	P	**P**	**16 24 54.2**	**+0.2**
BVAR	**Borovoye Array**	**69.40**	**327**	P	**P**	**16 25 20.1**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=131,slow=6.8,SNR=5.4						
	comp=Z,1.9nm,0.9s						
ABKAR	**Akbulak array**	**74.14**	**321**	P	**P**	**16 25 47.7**	**-1.2**
C18K	**Utukok River**	**81.85**	**21**	P	**P**	**16 26 31.3**	**0.0**
J18K	**Innoko River**	**82.34**	**26**	P	**P**	**16 26 33.8**	**-0.1**
J19K	**Poorman**	**82.92**	**26**	P	**P**	**16 26 36.6**	**-0.2**
E19K	**Redstone River**	**82.98**	**22**	P	**P**	**16 26 37.7**	**+0.5**
E19K				IAmb	IAmb	16 26 39.0	
	comp=Z,3.8nm,0.9s						
B21K	**Ikpikpuk River**	**84.37**	**20**	P	**P**	**16 26 43.2**	**-1.0**
B21K				IAmb	IAmb	16 27 09.5	
	comp=Z,2.1nm,1.1s						
QSPA	**South Pole Qui**	**91.52**	**180**	P	**P**	**16 27 18.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=30,slow=4.1,SNR=1.2						
	comp=Z,0.5nm,0.5s						
MT02	**Curacav**	**144.07**	**153**	PKPdf	**PKPab**	**16 33 45.5**	**-0.2**
CO03	**El Pedregal**	**146.30**	**151**	PKPdf	**PKPdf**	**16 33 51.0**	**-1.1**

IDC 13 16:35:23.9±8.1, 6°.64S×149°.16E, h130km±45km, mb3.1/2, mbtmp3.3/4, Error ellipse: s-maj=86.7km s-min=68.2km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.39**	**216**	P	Pn	16 36 16.7	+1.1
	6.9nm,0.9s,baz=37,slow=15,SNR=1.0						
PMG				S	Sn	16 36 55.5	-0.2
	6.5nm,0.8s,baz=311,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**19.54**	**226**	P	P	16 39 41.2	-0.4
	0.4nm,0.6s,baz=51,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**22.40**	**219**	P	P	16 40 12.2	+0.4
	0.2nm,0.6s,baz=54,slow=8.5,SNR=9.9						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**26.09**	**195**	P	P	16 40 45.4	-0.1
	3.0nm,0.9s,baz=357,slow=6.5,SNR=3.4						
	3.0nm,0.9s						

*JMA **13** 16:38:04.2±0.2, 36°.0N±0°.8×13°.8E±°.7, h260km±1km, MV3.5/36, WESTERN NAGANO PREF*
*IDC **13** 16:38:04.1±0.6, 36°.09N×137°.50E, h256km±6km, mb3.0/12, mbtmp3.7/13, Error ellipse: s-maj=22.7km s-min=12.8km az=73.0*
**ISC 13 16:38:04.1±0.7, 36°.15N±0°.09×137°.53E±0°.09, h257km±6km, n

s-min=1.5km az=334.0
*IDC **13** 16:39:51.9±2.2,35°.72N×97°.47W,h0km,mbtmp3.3/3, ML4.0/2,Error ellipse: s-maj=32.6km s-min=11.0km az=106.0*
ISC 13 16:39:50.2±0.8,35°.58N±0°.02×97°.11W±0°.03,h15km±7km, n140,σ1°20/130,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.22**	**289**	**Pg**	**Pg**	**16 39 55.0**	**-0.2**
ADOK				Sg	**Sg**	**16 39 58.6**	**0.0**
OK009	**Oakdale Elemen**	**0.25**	**271**		**Pg**	**16 39 55.5**	**-0.2**
OK004	**Okla Sci Mus**	**0.30**	**260**		**Pg**	**16 39 56.5**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.32**	**237**		**Pg**	**16 39 56.4**	**-0.4**
OKCSW				Sg	**Sg**	**16 40 00.5**	**-0.8**
OKCSW				IAML		16 40 01.5	
	comp=N,6μm,0.2s						
OK029	**Liberty Lake**	**0.35**	**308**		**Pg**	**16 39 57.7**	**+0.2**
OK029				Sg	**Sg**	**16 40 02.8**	**+0.4**
OK029				IAML		16 40 03.3	
	comp=N,4μm,0.5s						
FNO	**Franklin**	**0.40**	**216**		**Pg**	**16 39 57.9**	**-0.4**
FNO				Sg	**Sg**	**16 40 03.1**	**-0.6**
OK031	**S. Brethren Rd**	**0.43**	**31**		**Pg**	**16 39 59.1**	**+0.2**
OK031				Sg	**Sg**	**16 40 05.2**	**+0.3**
W35A	**Tecumseh**	**0.47**	**155**		**Pg**	**16 39 59.0**	**-0.5**
W35A				Sg	**Sg**	**16 40 05.3**	**-0.5**
W35A				IAML		16 40 05.8	
	comp=N,2μm,0.4s						
W35A				IAML		16 40 12.6	
	comp=E,3μm,0.5s						
OK052	**Battle Ridge R**	**0.48**	**31**		**Pg**	**16 40 00.0**	**+0.1**
OK052				IAmb_Lg		16 40 06.4	
	comp=Z,447nm,0.8s						
OK052				Sg	**Sg**	**16 40 06.5**	**+0.1**
OK052				IAML		16 40 07.7	
	comp=Z,2μm,0.3s						
OK052				IAML		16 40 09.2	
	comp=Z,2μm,0.4s						
DEOK	**Depew**	**0.57**	**62**		**Pg**	**16 40 01.3**	**0.0**
DEOK				Sg	**Sg**	**16 40 08.4**	**-0.5**
DEOK				IAML		16 40 09.8	
	comp=E,1μm,0.4s						
QUOK	**Quay**	**0.68**	**29**		**Pg**	**16 40 03.4**	**-0.1**
QUOK				Sg	**Sg**	**16 40 12.7**	**+0.3**
QUOK				IAML		16 40 16.1	
	comp=E,2μm,0.3s						
QUOK				IAML		16 40 19.6	
	comp=N,2μm,0.3s						
OK051	**E0350 and S346**	**0.95**	**14**	Pg	**Pg**	**16 40 08.1**	**-0.6**
X34A	**Smith Ranch, M**	**1.14**	**211**		**Pg**	**16 40 11.7**	**-0.5**
X34A				IAML		16 40 30.1	
	comp=E,577nm,0.4s						
X34A				IAML		16 40 36.1	
	comp=N,640nm,0.4s						
CROK	**Carrier**	**1.16**	**323**		**Pg**	**16 40 12.1**	**-0.6**
BLOK	**Blackwell**	**1.18**	**356**	Pg	**Pg**	**16 40 12.2**	**-0.8**
CSTR	**Hydro, Custer**	**1.29**	**273**		**Pn**	**16 40 13.9**	**+0.3**
CSTR				IAML		16 40 36.1	
	comp=N,445nm,0.4s						
KAN13	**South Haven SW**	**1.46**	**348**		**Pn**	**16 40 17.0**	**+1.0**
KAN14	**Manchester OK**	**1.54**	**334**		**Pn**	**16 40 18.3**	**+1.2**
KAN17	**Caldwell West**	**1.56**	**340**		**Pn**	**16 40 17.9**	**+0.6**
OK038	**West end E0370**	**1.60**	**305**		**Pn**	**16 40 18.8**	**+0.9**
OK038				IAmb_Lg		16 40 40.0	
	comp=Z,144nm,1.0s						
WMOK	**Wichita Mounta**	**1.60**	**239**		**Pn**	**16 40 18.5**	**+0.5**
WMOK	**Wichita Mounta**	**1.60**	**239**	P	**Pn**	**16 40 18.8**	**+0.8**
KAN09	**Caldwell North**	**1.61**	**345**		**Pn**	**16 40 19.2**	**+1.2**
KAN05	**Bluff City Nor**	**1.65**	**338**		**Pn**	**16 40 19.1**	**+0.6**
KAN01	**Argonia South**	**1.66**	**342**		**Pn**	**16 40 19.6**	**+0.9**
KAN01				IAmb_Lg		16 40 44.6	
	comp=Z,237nm,0.7s						
KAN08	**Anthony NE Sta**	**1.79**	**337**	IAmb_Lg		16 40 49.9	
	comp=Z,325nm,1.1s						
NOKA	**Waynoka**	**1.81**	**306**	Pn	**Pn**	**16 40 22.2**	**+1.4**
KAN12	**Harper NE Stat**	**1.86**	**338**	Pn	**Pn**	**16 40 21.9**	**+0.5**
ELIS	**Ellis County**	**1.94**	**285**	Pn	**Pn**	**16 40 24.0**	**+1.4**
WTFS	**Witchita Falls**	**2.12**	**212**	Pn	**Pn**	**16 40 26.6**	**+1.5**
WTFS	**Witchita Falls**	**2.12**	**212**	P	**Pn**	**16 40 27.5**	**+2.4**
Z35A	**Perchaven, San**	**2.25**	**183**		**Pn**	**16 40 27.9**	**+1.1**
Z35A				IAmb_Lg		16 41 00.1	
	comp=Z,140nm,0.8s						
Z35A	**Perchaven, San**	**2.25**	**183**	P	**Pn**	**16 40 28.9**	**+2.2**
U38A	**Gravette**	**2.37**	**68**		**Pn**	**16 40 30.3**	**+1.8**
U38A				IAmb_Lg		16 41 05.9	
	comp=Z,133nm,0.7s						
SMWD	**Samnorwood**	**2.60**	**260**	IAmb_Lg		16 41 17.7	
	comp=Z,116nm,0.8s						
SMWD	**Samnorwood**	**2.60**	**260**	P	**Pn**	**16 40 35.1**	**+3.3**
FW06	**Azle**	**2.62**	**188**	Pn	**Pn**	**16 40 33.3**	**+1.3**
FW03	**Perrin-Whitt E**	**2.65**	**198**	Pn	**Pn**	**16 40 33.0**	**+0.6**
HHAR	**Hobbs**	**2.67**	**74**	Pn	**Pn**	**16 40 33.2**	**+0.5**
Z38A	**Mt. Pleasant**	**2.91**	**142**	P	**Pn**	**16 40 37.7**	**+1.9**
FW07	**Weatherford**	**2.92**	**191**	Pn	**Pn**	**16 40 36.8**	**+0.7**
FW07				IAmb_Lg		16 41 27.4	
	comp=Z,97nm,0.7s						
FW07	**Weatherford**	**2.92**	**191**	P	**Pn**	**16 40 40.2**	**+4.1**
PLPT	**Palo Pinto**	**2.93**	**200**	Pn	**Pn**	**16 40 36.4**	**+0.2**
PLPT	**Palo Pinto**	**2.93**	**200**	P	**Pn**	**16 40 38.1**	**+1.8**
TREL	**Terrell**	**2.96**	**163**	Pn	**Pn**	**16 40 36.8**	**+0.1**
TREL				IAmb_Lg		16 41 29.2	
	comp=Z,151nm,1.0s						
TREL	**Terrell**	**2.96**	**163**	P	**Pn**	**16 40 40.7**	**+4.0**
MIAR	**Mount Ida**	**3.08**	**109**	Pn	**Pn**	**16 40 39.1**	**+0.8**
MIAR				IAmb_Lg		16 41 31.8	
	comp=Z,81nm,0.8s						
MIAR	**Mount Ida**	**3.08**	**109**	P	**Pn**	**16 40 40.4**	**+2.2**
FW13	**Cleburne**	**3.23**	**185**	Pn	**Pn**	**16 40 41.2**	**+0.9**
FW13	**Cleburne**	**3.23**	**185**	P	Pn	16 40 45.8	+5.5
APMT	**Aspermont**	**3.35**	**229**	Pn	**Pn**	**16 40 43.1**	**+1.1**
APMT	**Aspermont**	**3.35**	**229**	P	Pn	16 40 47.7	+5.7
KSU1	**Kansas State U**	**3.54**	**6**	Pn	**Pn**	**16 40 45.9**	**+1.3**
KSU1				IAmb_Lg		16 41 53.1	
	comp=Z,90nm,0.8s						
WHTX	**Lake Whitney,**	**3.59**	**185**	Pn	**Pn**	**16 40 45.9**	**+0.6**
WHTX	**Lake Whitney,**	**3.59**	**185**	P	**Pn**	**16 40 47.0**	**+1.7**
ABTX	**Abilene, Hawle**	**3.62**	**216**	Pn	**Pn**	**16 40 46.8**	**+1.1**
ABTX	**Abilene, Hawle**	**3.62**	**216**	P	**Pn**	**16 40 47.4**	**+1.7**
DKNS	**Dickens**	**3.67**	**240**	Pn	**Pn**	**16 40 47.8**	**+1.3**
X40A	**Basin Creek Fa**	**3.68**	**106**	Pn	**Pn**	**16 40 47.4**	**+0.9**
X40A				IAmb_Lg		16 41 51.1	
	comp=Z,112nm,0.7s						
S39A	**Bolivar**	**3.71**	**54**	Pn	**Pn**	**16 40 48.3**	**+1.4**
S39A				IAmb_Lg		16 41 51.5	
	comp=Z,136nm,1.1s						
237A	**Washetta, Mont**	**3.73**	**163**	IAmb_Lg		16 41 55.1	
	comp=Z,86nm,0.7s						
WLAR	**White Oak Lake**	**3.80**	**119**	Pn	**Pn**	**16 40 49.2**	**+1.0**
WLAR				IAmb_Lg		16 41 59.2	
	comp=Z,66nm,0.9s						
WLAR	**White Oak Lake**	**3.80**	**119**	P	**Pb**	**16 40 57.1**	**+0.2**
AMTX	**Amarillo**	**3.80**	**261**	Pn	**Pn**	**16 40 48.8**	**+0.5**
CBKS	**Cedar Bluff**	**3.85**	**328**	Pn	**Pn**	**16 40 50.0**	**+1.1**
CBKS				IAmb_Lg		16 42 02.6	
	comp=Z,85nm,0.8s						
CBKS	**Cedar Bluff**	**3.85**	**328**	P	**Pn**	**16 40 50.8**	**+1.9**
WHAR	**Wooly Hollow**	**3.95**	**93**	Pn	**Pn**	**16 40 51.4**	**+1.1**
WHAR				IAmb_Lg		16 42 02.4	
	comp=Z,116nm,0.8s						
UALR	**University of**	**3.99**	**100**	Pn	**Pn**	**16 40 50.6**	**-0.1**
UALR				IAmb_Lg		16 41 58.3	
	comp=Z,147nm,0.9s						
SN07	**Snyder 07**	**3.99**	**233**	Pn	**Pn**	**16 40 52.0**	**+1.2**
SN07				IAmb_Lg		16 42 01.8	
	comp=Z,124nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.07**	**84**	Pn	**Pn**	**16 40 52.3**	**+0.5**
FCAR				IAmb_Lg		16 42 03.7	
	comp=Z,78nm,0.8s						
SN05	**Snyder 5**	**4.12**	**230**	Pn	**Pn**	**16 40 53.2**	**+0.5**
SN05				IAmb_Lg		16 42 05.4	
	comp=Z,114nm,0.9s						
MGMO	**Mountain Grove**	**4.21**	**67**	Pn	**Pn**	**16 40 55.0**	**+1.1**
POST	**Post**	**4.41**	**237**	Pn	**Pn**	**16 40 57.6**	**+1.0**
POST				IAmb_Lg		16 42 19.1	
	comp=Z,108nm,1.1s						
POST	**Post**	**4.41**	**237**	P	**Pn**	**16 40 58.5**	**+1.8**
POST				P	**Pn**	**16 40 58.5**	**+1.8**
BRDY	**Brady**	**4.56**	**201**	Pn	**Pn**	**16 40 58.7**	**0.0**
BRDY				IAmb_Lg		16 42 14.9	
	comp=Z,93nm,0.8s						
RTBA	**Rita Blanca**	**4.64**	**282**	Pn	**Pn**	**16 41 01.0**	**+1.2**
RTBA				IAmb_Lg		16 42 29.2	
	comp=Z,68nm,1.0s						
RTBA	**Rita Blanca**	**4.64**	**282**	P	**Pn**	**16 41 01.8**	**+2.0**
RTBA				P	Pb	16 41 02.3	-9.0
CCAR	**Cane Creek**	**4.70**	**109**	Pn	**Pn**	**16 41 00.7**	**+0.2**
CCAR				IAmb_Lg		16 42 30.0	
	comp=Z,106nm,1.0s						
R40A	**Maddies Statio**	**4.73**	**54**	Pn	**Pn**	**16 41 01.9**	**+1.0**
R40A				IAmb_Lg		16 42 25.0	
	comp=Z,69nm,0.7s						
435B	**Jarrell**	**4.80**	**185**	IAmb_Lg		16 42 25.7	
	comp=Z,118nm,0.9s						
LCAR	**Lake Charles**	**4.87**	**82**	Pn	**Pn**	**16 41 03.7**	**+0.9**
LCAR				IAmb_Lg		16 42 32.8	
	comp=Z,78nm,0.8s						
MSTX	**Muleshoe**	**4.93**	**253**	Pn	**Pn**	**16 41 05.1**	**+1.4**
MSTX				IAmb_Lg		16 42 31.3	
	comp=Z,57nm,0.7s						
MSTX	**Muleshoe**	**4.93**	**253**	P	**Pn**	**16 41 05.4**	**+1.7**
P38A	**Dawn**	**4.94**	**34**	Pn	**Pn**	**16 41 05.3**	**+1.5**
SGCY	**Sterling City**	**4.95**	**224**	Pn	**Pn**	**16 41 04.7**	**+0.6**
SGCY				IAmb_Lg		16 42 39.5	
	comp=Z,75nm,0.8s						
SGCY	**Sterling City**	**4.95**	**224**	P	**Pn**	**16 41 04.9**	**+0.8**
T42A	**Van Buren**	**5.07**	**72**	Pn	**Pn**	**16 41 07.2**	**+1.5**
T42A				IAmb_Lg		16 42 41.4	
	comp=Z,109nm,1.0s						
CCM	**Cathedral Cave**	**5.32**	**61**	Pn	**Pn**	**16 41 09.9**	**+0.9**
CCM				IAmb_Lg		16 42 48.4	
	comp=Z,63nm,0.7s						
N35A	**Tabor**	**5.40**	**12**	Pn	**Pn**	**16 41 10.2**	**+0.1**
JCT	**Junction City**	**5.56**	**205**	Pn	**Pn**	**16 41 12.2**	**-0.2**
KSCO	**Kaye Shedlock'**	**5.57**	**310**	Pn	**Pn**	**16 41 11.9**	**-0.8**
KSCO				IAmb_Lg		16 42 58.6	
	comp=Z,71nm,0.8s						
P40A	**Paris**	**5.63**	**44**	Pn	**Pn**	**16 41 12.9**	**-0.4**
P40A				IAmb_Lg		16 42 54.2	
	comp=Z,43nm,0.7s						
ODSA	**Odessa**	**5.69**	**234**	Pn	**Pn**	**16 41 14.6**	**+0.4**
OZNA	**Ozona**	**5.73**	**217**	Pn	**Pn**	**16 41 15.0**	**+0.2**
OZNA				IAmb_Lg		16 42 58.4	
	comp=Z,63nm,0.8s						
OZNA	**Ozona**	**5.73**	**217**	P	**Pn**	**16 41 17.1**	**+2.3**
MLDN	**Muldoon**	**5.78**	**180**	IAmb_Lg		16 43 09.2	
	comp=Z,47nm,0.8s						
FVM	**French Village**	**5.88**	**64**	IAmb_Lg		16 42 57.2	
	comp=Z,66nm,0.8s						
N38A	**Joes South For**	**6.04**	**29**	Pn	**Pn**	**16 41 18.0**	**-0.9**
N38A				IAmb_Lg		16 43 10.5	
	comp=Z,98nm,0.9s						
T25A	**Trinidad**	**6.09**	**287**	Pn	**Pn**	**16 41 21.4**	**+1.5**
T25A				IAmb_Lg		16 43 18.6	
	comp=Z,64nm,0.8s						
T25A	**Trinidad**	**6.09**	**287**	P	**Pn**	**16 41 21.5**	**+1.6**
CPRX	**Cap Rock**	**6.14**	**247**	Pn	**Pn**	**16 41 19.1**	**-1.4**
CGM3	**Cape Girardeau**	**6.25**	**72**	IAmb_Lg		16 43 10.4	
	comp=Z,76nm,0.9s						
SLM	**Saint Louis**	**6.29**	**59**	IAmb_Lg		16 43 13.9	
	comp=Z,91nm,0.8s						
HNDO	**Hondo**	**6.30**	**197**	Pn	**Pn**	**16 41 21.4**	**-1.2**
HNDO	**Hondo**	**6.30**	**197**	P	**Pn**	**16 41 23.5**	**+0.9**
MNHN	**Monahans**	**6.33**	**230**	Pn	**Pn**	**16 41 22.4**	**-0.7**
MNHN	**Monahans**	**6.33**	**230**	P	**Pn**	**16 41 23.3**	**+0.2**
Y45A	**Yeager Farm, C**	**6.46**	**103**	IAmb_Lg		16 43 30.3	
	comp=Z,49nm,0.8s						
OGNE	**Ogallala**	**6.61**	**326**	Pn	Pn	16 41 25.1	-1.8
DRIO	**Del Rio**	**6.81**	**207**	Pn	**Pn**	**16 41 29.9**	**+0.3**
SCIA	**State Center**	**7.01**	**25**	Pn	**Pn**	**16 41 33.3**	**+1.0**
SCIA				IAmb_Lg		16 43 41.2	
	comp=Z,56nm,0.8s						
SAND	**Sanderson**	**7.02**	**218**	Pn	**Pn**	**16 41 31.6**	**-0.9**
SAND				IAmb_Lg		16 43 47.2	
	comp=Z,38nm,0.8s						
SAND	**Sanderson**	**7.02**	**218**	P	**Pn**	**16 41 32.3**	**-0.1**
PECS	**Pecos**	**7.03**	**235**	Pn	**Pn**	**16 41 32.9**	**+0.3**
PECS	**Pecos**	**7.03**	**235**	P	**Pn**	**16 41 33.4**	**+0.8**
SDCO	**Great Sand Dun**	**7.08**	**290**	Pn	**Pn**	**16 41 35.0**	**+1.5**
N41A	**Harden Midland**	**7.11**	**42**	IAmb_Lg		16 43 31.5	
	comp=Z,31nm,0.8s						
Q24A	**Divide**	**7.24**	**300**	IAmb_Lg		16 43 57.2	
	comp=Z,29nm,0.9s						
PLAL	**Pickwick Lake**	**7.42**	**92**	IAmb_Lg		16 43 51.7	
	comp=Z,30nm,0.8s						
833A	**Chaparral WMA,**	**7.49**	**196**	IAmb_Lg		16 44 01.2	
	comp=Z,37nm,1.1s						
WVT	**Waverly**	**7.56**	**83**	IAmb_Lg		16 43 55.5	
	comp=Z,27nm,0.8s						
BRIGG	**Briggsdale**	**7.56**	**313**	IAmb_Lg		16 44 02.4	
	comp=Z,38nm,0.9s						
MNTX	**Cornudas Mount**	**7.91**	**243**	P	**Pn**	**16 41 46.1**	**+1.6**
HDIL	**Hopedale**	**7.92**	**49**	Pn	**Pn**	**16 41 43.1**	**-1.6**
L40A	**Anamosa**	**7.94**	**34**	Pn	**Pn**	**16 41 45.7**	**+0.7**
VHRN	**Van Horn**	**8.14**	**236**	Pn	**Pn**	**16 41 47.7**	**-0.3**
VHRN	**Van Horn**	**8.14**	**236**	P	**Pn**	**16 41 49.2**	**+1.2**
ECSD	**EROS Data Cent**	**8.15**	**3**	Pn	**Pn**	**16 41 46.9**	**-1.1**
ECSD				IAmb_Lg		16 44 22.3	
	comp=Z,36nm,1.1s						
Y22D	**IRIS PASSCAL I**	**8.20**	**262**	P	Pb	16 42 05.3	-6.7
TXAR	**Lajitas Array**	**8.33**	**223**	Pn	**Pn**	**16 41 51.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=42,slow=13,SNR=11						
TXAR				Pg	**Pb**	**16 42 13.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=62,slow=15,SNR=8.9						
TXAR				Sn	**Sn**	**16 43 22.8**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=62,slow=17,SNR=3.9						
TXAR				Lg	Lg	16 44 06.4	
	comp=Z,1.3nm,0.3s,baz=28,slow=19,SNR=3.8						
	comp=Z,0.6nm,0.4s						
TX31	**Lajitas Ar. Si**	**8.33**	**223**	Pn	**Pn**	**16 41 51.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**8.33**	**223**	P	**Pn**	**16 41 51.9**	**+1.3**
L42A	**Oliver, Polo**	**8.65**	**40**	Pn	**Pn**	**16 41 55.5**	**+0.7**
L42A				IAmb_Lg		16 44 33.5	
	comp=Z,47nm,1.0s						
I37A	**Leonard, Waseca**	**8.90**	**18**	IAmb_Lg		16 44 45.2	
	comp=Z,28nm,0.7s						
SUSD	**Miller**	**8.97**	**352**	IAmb_Lg		16 44 40.5	
	comp=Z,55nm,0.8s						
JFWS	**Jewell Farm**	**9.05**	**34**	Pn	**Pn**	**16 42 01.1**	**+0.9**
JFWS				IAmb_Lg		16 44 51.2	
	comp=Z,42nm,0.8s						
I40A	**Norwalk**	**9.69**	**29**	Pn	**Pn**	**16 42 07.8**	**-1.2**
I40A				IAmb_Lg		16 44 57.6	
	comp=Z,21nm,0.8s						
RSSD	**Black Hills**	**10.05**	**330**	Pn	**Pn**	**16 42 13.7**	**-0.5**
PDAR	**Pinedale Array**	**12.03**	**310**	Pn	**Pn**	**16 42 41.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=5.4						
PDAR				Lg	Lg	16 45 57.4	
	comp=Z,0.2nm,0.3s,baz=122,slow=16,SNR=1.7						
	comp=Z,0.2nm,0.3s						
ULM	**Lac du Bonnet**	**14.69**	**3**	Pn	Pn	16 43 14.3	-3.1
	comp=Z,0.7nm,0.4s,baz=202,slow=13,SNR=1.8						
ULM				Sn	Sn	16 45 47.2	-13
	comp=Z,0.2nm,0.3s,baz=186,slow=21,SNR=2.2						
ULM				Lg	Lg	16 47 24.5	
	comp=Z,0.2nm,0.3s,baz=293,slow=23,SNR=3.1						

IDC 13 16:48:46.8±1.1,5°.83N×127°.06E,h0km,mb3.8/8, mbtmp3.8/8,Error ellipse: s-maj=126.2km s-min=17.8km az=67.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.60**	**165**	P	P	16 54 27.3	+0.3
	1.5nm,0.7s,baz=346,slow=9.9,SNR=6.2						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**30.07**	**167**	P	P	16 54 57.8	-0.2
	0.3nm,0.7s,baz=350,slow=8.1,SNR=7.4						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**39.98**	**161**	P	P	16 56 23.2	-0.1
	1.4nm,0.5s,baz=319,slow=6.6,SNR=4.2						
	1.4nm,0.5s						
MKAR	**Makanchi Array**	**56.04**	**324**	P	P	16 58 27.5	-0.1
	0.2nm,0.5s,baz=117,slow=7.4,SNR=6.6						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**58.88**	**332**	P	P	16 58 47.7	+0.3
	0.3nm,0.4s,baz=120,slow=8.8,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**60.17**	**327**	P	P	16 58 55.6	-0.7
	0.9nm,0.2s,baz=131,slow=8.3,SNR=1.0						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**65.76**	**326**	P	P	16 59 33.3	-0.3
	0.5nm,0.8s,baz=129,slow=5.8,SNR=1.6						
	0.5nm,0.8s						
ARCES	**ARCESS Array B**	**88.60**	**340**	P	P	17 01 42.7	+1.3
	2.3nm,1.0s,baz=63,slow=5.2,SNR=0.9						
	2.3nm,1.0s						
TXAR	**Lajitas Array**	**120.04**	**51**	PKP	PKPdf	17 07 39.4	-1.0
	0.3nm,0.6s,baz=298,slow=3.7,SNR=3.0						

*IDC **13** 16:53:14.9±0.9,21°.39N×144°.27E,h0km,mb3.7/10, mbtmp3.8/11,Error ellipse: s-maj=33.9km s-min=18.8km az=90.0*
ISC 13 16:53:28.6±0.9,21°.3N±0°.1×144°.3E±0°.2,h114km,n19, σ1°34/12,mb3.8/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.12**	**342**	Pn	Pn	16 56 59.8	-8.8
	5.1nm,1.1s,baz=165,slow=12,SNR=4.1						
H11N1	**WAKE ISLAND Hy 21.20**	**90**		T	T	17 19 59.5	
	baz=278,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy 21.21**	**90**		T	T	17 20 00.4	
	baz=278,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy 21.22**	**94**		T	T	17 20 02.9	
	baz=281,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy 21.22**	**90**		T	T	17 19 59.9	
	baz=278,slow=75,SNR=9.9						
H11S1	**WAKE ISLAND Hy 21.23**	**94**		T	T	17 20 02.3	
	baz=281,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy 21.23**	**94**		T	T	17 20 03.0	
	baz=281,slow=75,SNR=15						
KSRS	**Korea Array**	**21.49**	**322**	P	**P**	**16 58 11.2**	**+3.0**
	0.8nm,0.5s,baz=151,slow=8.5,SNR=4.5						
SONM	**Songino Array**	**40.34**	**320**	P	**P**	**17 00 54.1**	**-1.0**
	0.3nm,0.8s,baz=122,slow=7.6,SNR=4.4						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**42.10**	**194**	P	**P**	**17 01 09.7**	**+0.1**
	2.5nm,0.6s,baz=15,slow=8.8,SNR=11						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**45.80**	**193**	P	**P**	**17 01 39.5**	**+0.4**
	1.4nm,0.6s,baz=15,slow=9.2,SNR=39						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**55.76**	**313**	P	**P**	**17 02 54.0**	**+0.4**
	0.3nm,1.0s,baz=91,slow=9.6,SNR=1.6						
	0.3nm,1.0s						
KURBB	**Kurchatov Arra**	**58.55**	**317**	P	**P**	**17 03 11.6**	**-1.6**
	0.6nm,0.3s,baz=94,slow=7.3,SNR=4.7						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**61.94**	**27**	P	**P**	**17 03 35.6**	**-0.4**
	0.2nm,0.7s,baz=263,slow=6.6,SNR=13						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**63.68**	**320**	P	**P**	**17 03 47.3**	**-0.5**
	0.7nm,0.6s,baz=86,slow=7.4,SNR=4.3						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**17 05 05.9**	**+1.0**
	0.2nm,0.6s,baz=288,slow=5.7,SNR=5.7						
	0.2nm,0.6s						
KBZ	**Khabaz**	**83.42**	**314**	P	**P**	**17 05 43.6**	**+0.2**
	1.6nm,1.0s,baz=80,slow=4.2,SNR=2.7						
	1.6nm,1.0s						
FINES	**FINESS Array B**	**84.02**	**335**	P	**P**	**17 05 44.6**	**-1.5**
	1.9nm,0.9s,baz=81,slow=8.6,SNR=1.8						
	1.9nm,0.9s						
PLCA	**Paso Flores**	**144.68**	**131**	PKP	**PKPdf**	**17 12 52.7**	**+0.5**
	1.9nm,0.9s,baz=260,slow=2.6,SNR=3.7						

*TEH **13** 16:55:43.8,28°.67N×57°.23E,h10km±120km*
*OMAN **13** 16:55:51.4±0.1,28°.16N×57°.55E,h10km,ml2.8/4,Error ellipse: s-maj=2.2km s-min=1.8km az=313.0*
ISC 13 16:55:43.1±0.9,28°.63N±0°.04×57°.43E±0°.07,h10km,n17, σ2°38/30,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**1.03**	**60**	Pg	**Pn**	**16 56 06.6**	**+2.8**
NGRK	**Negar Kerman**	**1.19**	**329**	Pg	**Pb**	**16 56 04.8**	**-1.1**
CHMN	**Cheshme madani**	**1.23**	**4**	Pg	**Pb**	**16 56 06.9**	**+0.1**
IBND	**Bandar-abas**	**1.41**	**214**	Pg	**Pg**	**16 56 09.9**	**-0.4**
IBND				Sg	**Sg**	**16 56 29.5**	**+1.0**
KRBR	**Kerman**	**1.47**	**337**	Pg	**Pg**	**16 56 10.3**	**-1.2**
JASK	**Jask - Hormozg**	**2.77**	**172**	P	**Pn**	**16 56 29.8**	**+2.1**
JASK				S	**Sn**	**16 57 01.5**	**+0.3**
SHME	**Shamm**	**2.81**	**204**	P	**Pn**	**16 56 28.9**	**+0.8**
	SNR=7.0						
SHME				S	**Sn**	**16 57 01.1**	**-1.0**
MDH	**Madha**	**3.46**	**197**	P	**Pn**	**16 56 41.0**	**+3.9**
MDH				S	**Sn**	**16 57 15.6**	**-2.6**
UOSS	**Minazif**	**3.83**	**197**	P	**Pn**	**16 56 44.9**	**+2.8**
UOSS				S	**Sn**	**16

34nm,0.7s
FLOC Florencia 13.11 359 P 17 06 24.6
802nm65nm,1.2s
FLOC Florencia 13.11 359 Pn **Pn 17 06 22.6 -3.0**
CRUC La Cruz 13.17 354 P 17 06 28.6
TEFE Tefe 13.46 54 *eP* **Pn 17 06 27.9 -2.4**
BBAC Balboa, Cauca 13.65 353 P 17 06 34.2
648nm49nm,1.1s
GARC Garzon, Huila 13.71 0 P 17 06 33.1
1μm87nm,0.8s
MACC Macarena, Meta 13.77 7 P 17 06 31.5
41nm,0.9s
POPC Popayan, Colom 14.11 355 P 17 06 39.9
461nm24nm,1.0s
BETC Betania 14.20 0 P 17 06 41.0
SIV San Ignacio 14.69 109 Pn **Pn 17 06 46.6 -0.6**
0.1nm,0.3s,baz=304,slow=14,SNR=10
SIV Lg Lg 17 10 53.2
0.1nm,0.3s,baz=255,slow=17,SNR=3.6
SIV LR LR 17 13 28.3
comp=Z,207nm,19.5s,baz=294,slow=41
2.0nm,0.5s
GR1C Gorgona, Isla 14.76 350 P 17 06 50.7
JAMC Jamundi, Valle 14.77 355 P 17 06 48.4
24nm,1.7s
URMC La Uribe, Meta 14.80 4 P 17 06 47.2
634nm48nm,1.1s
VILB Vilhena 15.03 97 Pn **Pn 17 06 49.2 -2.6**
VILB Vilhena 15.03 97 *eP* **Pn 17 06 52.7 +0.9**
PRAC Prado 15.24 2 P 17 06 54.6
734nm48nm,1.0s
ORTC Ortega, Tolima 15.42 1 P 17 06 56.1
876nm100nm,1.2s
YOTC Yotoco, Valle 15.51 357 P 17 06 59.3
12nm,0.8s
VILC Villavicencio, 15.72 7 P 17 07 00.2
674nm66nm,0.7s
CHIC Chingaza 16.23 6 P 17 07 06.9
40nm,0.8s
PTLB Pontes e Lacer 16.38 105 **Pn 17 07 07.1 -2.2**
PTLB Pontes e Lacer 16.38 105 *eP* **Pn 17 07 09.5 +0.2**
PTLB *eS* **Sn 17 10 09.4 -1.8**
ROSC El Rosal 16.39 4 P **Pn 17 07 07.7 -2.1**
ROSC El Rosal 16.39 4 Pn **Pn 17 07 11.4 +1.7**
2.7nm,0.3s,baz=126,slow=11,SNR=4.9
ROSC Lg Lg 17 11 38.8
ROSC LR LR 17 14 17.4
comp=Z,333nm,18.7s,slow=41
PLMC San Jos del P 16.43 357 P 17 07 09.1
34nm,1.1s
GUY2C Guyana, Caldas 16.73 1 P 17 07 15.7
23nm,1.0s
MACA Manacapuru-AM 16.93 61 P **Pn 17 07 13.4 -2.9**
MACA IAmb IAmb 17 07 18.6
comp=Z,81nm,0.6s
MACA Manacapuru-AM 16.93 61 *eP* **Pn 17 07 13.9 -2.4**
NORC Norcasia 17.07 2 P 17 07 17.8
comp=Z,12nm,0.9s
CBOC Ciudad Bolivar 17.37 358 P 17 07 27.1
comp=Z,28nm,1.6s
RUSC La Rusia 17.56 8 P **Pn 17 07 23.6 -1.1**
RUSC IAmb IAmb 17 07 29.8
comp=Z,274nm,1.6s
RUSC La Rusia 17.56 8 P 17 07 25.1
comp=Z,1μmcomp=Z,74nm,1.1s
PTBC PUERTO BERRIO, 18.06 3 P 17 07 30.4
comp=Z,34nm,1.0s
BARC Barichara 18.23 7 P 17 07 34.6
PAYG Puerto Ayora 18.25 306 P **P 17 07 35.3 +2.4**
TAMC Tame, Arauca 18.31 12 P 17 07 33.5
comp=Z,1μmcomp=Z,87nm,0.8s
PDRB Porto dos Gac 18.41 92 *eP* **P 17 07 35.2 +0.5**
ZARC Zaragoza, Cauc 18.99 2 P 17 07 41.6
comp=Z,35nm,1.5s
PAMC Pamplona, Colo 19.03 9 P 17 07 43.1
UREC San Jos de Ur 19.24 360 P 17 07 43.7
comp=Z,15nm,0.9s
PANT Pantanal (Braz 19.64 114 *eP* **Pn 17 07 51.5 +2.0**
CO03 El Pedregal 19.65 168 P **P 17 07 41.6 -6.7**
SALV Santo Antonio 19.72 105 *eP* **Pn 17 07 51.7 +1.2**
MURT Porto Murtinho 19.84 123 *eP* **Pn 17 07 54.5 +2.7**
BOAV Boa Vista 20.40 48 P **P 17 07 53.0 -3.4**
BOAV IAmb IAmb 17 07 57.6
comp=Z,48nm,1.1s
BOAV Boa Vista 20.40 48 *eP* **P 17 07 56.3 -0.1**
NPGB Novo Progresso 20.40 79 *eP* **P 17 07 57.1 +0.6**
ITTB Itaituba 20.86 71 *eP* **P 17 08 02.1 +0.6**
SDV Santo Domingo 20.93 14 P **P 17 08 01.0 -1.4**
SDV IAmb IAmb 17 08 04.6
comp=Z,52nm,1.1s
SDV Santo Domingo 20.93 14 P **P 17 08 02.7 +0.3**
comp=Z,41nm,0.9s,baz=207,slow=11,SNR=23
SDV Lg Lg 17 14 15.0
comp=Z,0.1nm,0.3s,baz=50,slow=21,SNR=2.2
SDV Santo Domingo 20.93 14 *eP* **P 17 08 02.9 +0.4**
SDV Santo Domingo 20.93 14 P 17 08 02.5
comp=Z,538nmcomp=Z,49nm,1.0s
SJCC San Jacinto, C 21.37 1 P 17 08 07.3
BRU2 Volcan 21.49 340 P **P 17 08 09.4 +1.0**
VA03 San Esteban 21.54 169 P **P 17 08 04.3 -4.4**
BAUV El Baul 21.73 20 P **P 17 08 07.9 -2.9**
CPUP Villa Florida 22.55 133 P **P 17 08 22.8 +3.3**
comp=Z,0.9nm,0.4s,baz=332,slow=8.0,SNR=3.4
CPUP LR LR 17 19 11.5
comp=Z,146nm,19.8s,baz=314,slow=42
comp=Z,0.9nm,0.4s
ARAG Araguaiana, MT 23.39 103 *eP* **P 17 08 31.3 +2.9**
JTS Las Juntas de 23.69 336 LR LR 17 17 38.1
comp=Z,137nm,18.4s,baz=166,slow=37
SNDB Serra Nova Dou 23.72 93 *eP* **P 17 08 33.3 +1.7**
PCRV Puerto La Cruz 24.20 27 LR LR 17 18 53.1
comp=Z,404nm,18.9s,slow=39
ITRB Iturama 25.50 112 *eP* **P 17 08 52.4 +4.5**
PTGB Pitanga 25.76 124 *eP* **P 17 08 54.9 +4.5**
LDASE Londrina, Braz 26.01 120 *eP* **P 17 08 56.6 +4.1**
BDFB Brasilia 27.02 102 P **P 17 09 03.1 +1.3**
comp=Z,1.0nm,0.3s,baz=253,slow=17,SNR=1.5
BDFB LR LR 17 20 24.7
comp=Z,175nm,20.5s,baz=315,slow=38
comp=Z,1.0nm,0.3s
IPMB Ipameri, GO 27.13 107 *eP* **P 17 09 06.9 +4.1**
SMTB Santa Maria do 27.62 87 *eP* **P 17 09 08.9 +1.8**
MDP Montagnes des 28.17 55 LR LR 17 19 48.6
comp=Z,93nm,20.4s,baz=285,slow=35
PLCA Paso Flores 29.34 172 P **P 17 09 23.0 +0.8**
comp=Z,1.4nm,0.9s,baz=25,slow=6.4,SNR=3.1
PLCA LR LR 17 19 04.6
comp=Z,91nm,21.1s,baz=356,slow=32
comp=Z,1.4nm,0.9s
CMIG Matias Romero 34.35 326 LR LR 17 23 04.5
comp=Z,57nm,18.4s,baz=175,slow=35
NBPB Pedra_Branca-C 36.02 83 *eP* **P 17 10 22.6 +1.7**
NBAN Anadia - AL 38.60 91 *eP* **P 17 10 45.1 +2.3**
RCBR Riachuelo 39.55 85 LR LR 17 27 24.4
comp=Z,52nm,19.0s,baz=264,slow=37
HNDO Hondo 46.88 331 P **P 17 11 50.8 +1.0**
TKL Tuckaleechee C 47.66 351 LR LR 17 33 57.9
comp=Z,41nm,18.4s,baz=159,slow=39
TXAR Lajitas Array 48.94 327 P **P 17 12 04.5 -1.3**
comp=Z,3.0nm,1.0s,baz=135,slow=7.1,SNR=6.6
TXAR LR LR 17 31 07.5
comp=Z,27nm,20.8s,baz=124,slow=34
comp=Z,3.0nm,1.0s
MIAR Mount Ida 49.00 340 P **P 17 12 04.9 -1.2**
MIAR IAmb IAmb 17 12 07.5
comp=Z,9.4nm,0.9s
LPIG La Paz 49.15 316 LR LR 17 27 58.5
comp=Z,37nm,19.1s,baz=218,slow=30
APMT Aspermont 50.47 333 P **P 17 12 17.1 -0.3**
APMT IAmb IAmb 17 12 23.1
comp=Z,13nm,0.9s
HHAR Hobbs 50.71 341 IAmb IAmb 17 12 23.5
comp=Z,10nm,1.0s
MGMO Mountain Grove 51.00 343 IAmb IAmb 17 12 22.6
comp=Z,20nm,1.1s
ANMO Albuquerque 54.81 329 LR LR 17 35 11.8
comp=Z,33nm,20.9s,baz=303,slow=35
GWY Greenwater Val 61.36 323 IAmb IAmb 17 13 38.3
comp=Z,6.9nm,0.9s
PDAR Pinedale Array 62.45 332 P **P 17 13 41.4 -1.4**
comp=Z,0.2nm,0.4s,baz=114,slow=2.5,SNR=1.2
PDAR LR LR 17 43 19.1
comp=Z,24nm,18.3s,baz=150,slow=39
comp=Z,0.2nm,0.4s
ELK Elko 63.73 327 LR LR 17 40 04.2
comp=Z,84nm,18.4s,baz=98,slow=35

NVAR Mina Array Bea 63.83 324 P **P 17 13 51.9 -0.3**
comp=Z,0.2nm,0.3s,baz=140,slow=5.3,SNR=1.1
comp=Z,0.2nm,0.3s
ULM Lac du Bonnet 64.13 346 P **P 17 13 53.0 -0.5**
ULM IAmb IAmb 17 13 53.9
comp=Z,17nm,1.1s
ULM Lac du Bonnet 64.13 346 P **P 17 13 52.5 -1.1**
comp=Z,7.9nm,0.9s,baz=151,slow=6.5,SNR=11
comp=Z,7.9nm,0.9s
YHL Hebgen Lake 64.81 333 P **P 17 13 59.5 +1.0**
YHL IAmb IAmb 17 14 01.6
comp=Z,7.2nm,1.1s
MFID Camas Ranch 65.95 329 P **P 17 14 05.2 -0.6**
MFID IAmb IAmb 17 14 29.5
comp=Z,19nm,1.8s
NEW Newport 70.08 332 LR LR 17 45 57.1
comp=Z,38nm,19.8s,baz=160,slow=37
PPT Papeete 71.53 255 P **P 17 14 40.3 -0.7**
FCC Fort Churchill 71.74 350 IAmb IAmb 17 14 42.2
comp=Z,16nm,1.4s
DBIC Dimbokro 72.59 79 P **P 17 14 46.5 -0.8**
comp=Z,3.4nm,0.8s,baz=249,slow=5.5,SNR=4.8
DBIC LR LR 17 46 46.4
comp=Z,55nm,18.8s,baz=270,slow=36
comp=Z,3.4nm,0.8s
SNAA Sanae 73.62 162 P **P 17 14 54.1 +1.6**
comp=Z,3.7nm,0.9s,baz=321,slow=14,SNR=3.8
comp=Z,3.7nm,0.9s
FRB Frobisher Bay 75.32 3 LR LR 17 50 52.7
comp=Z,38nm,18.3s,baz=102,slow=38
BBB Bella Bella 77.94 330 LR LR 17 51 19.3
comp=Z,36nm,18.7s,baz=6.5,slow=37
QSPA South Pole Qui 78.52 180 P **P 17 15 22.9 +2.3**
comp=Z,1.4nm,0.9s,baz=310,slow=21,SNR=2.7
comp=Z,1.4nm,0.9s
YKA Yellowknife Ar 79.86 343 P **P 17 15 26.7 -0.9**
comp=Z,1.0nm,1.0s,baz=138,slow=5.7,SNR=11
comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea 80.44 74 P **P 17 15 30.6 -1.2**
TORD Torodi Ar. Bea 80.44 74 P **P 17 15 31.0 -0.8**
comp=Z,2.4nm,0.8s,baz=270,slow=4.5,SNR=9.6
comp=Z,2.4nm,0.8s
ESDC Sonseca Array 83.56 47 P **P 17 15 48.6 +0.8**
ESDC IAmb IAmb 17 16 50.8
comp=Z,24nm,1.8s
ESDC Sonseca Array 83.56 47 P **P 17 15 45.6 -2.2**
comp=Z,0.9nm,0.8s,baz=242,slow=2.8,SNR=5.9
ESDC LR LR 17 50 11.4
comp=Z,29nm,19.7s,baz=276,slow=34
comp=Z,0.9nm,0.8s
RES Resolute Bay 86.97 355 LR LR 17 56 58.1
comp=Z,28nm,20.3s,baz=18,slow=37
SYO Syowa Base 87.90 161⇑ *ep*P **P 17 16 10.6 +1.9**
SUR Sutherland 89.13 123 LR LR 17 54 26.6
comp=Z,33nm,19.3s,baz=222,slow=34
LBTB Lobatse 95.01 117 LR LR 17 54 12.4
comp=Z,27nm,21.1s,baz=204,slow=32
NOA NORSAR Array B 98.48 29 LR LR 17 58 37.8
comp=Z,14nm,19.4s,baz=345,slow=34
LSZ Lusaka 99.89 108 LR LR 18 02 06.0
comp=Z,32nm,18.9s,baz=236,slow=35
ASAR Alice Springs 134.64 219 PKP **PKPdf 17 22 38.2 -0.6**
comp=Z,0.7nm,0.8s,baz=148,slow=1.7,SNR=7.7
ZALV Zalesovo Beam 134.97 16 PKP **PKPdf 17 22 37.5 -1.0**
comp=Z,1.5nm,0.8s,baz=316,slow=4.1,SNR=5.4
KURBB Kurchatov Arra 135.67 24 PKP **PKPdf 17 22 38.5 -1.4**
comp=Z,0.3nm,0.3s,baz=307,slow=2.7,SNR=4.2
WRA Warramunga Arr 137.02 223 PKP **PKiKP 17 22 45.1 -0.1**
comp=Z,1.0nm,1.0s,baz=122,slow=1.6,SNR=5.4
MKAR Makanchi Array 140.23 24 PKhKP PKPpre 17 22 43.0
comp=Z,0.3nm,0.8s,baz=324,slow=1.9,SNR=2.3
SONM Songino Array 143.86 358 PKP PKPbc 17 22 53.4 +0.7
comp=Z,0.4nm,0.6s,baz=322,slow=3.7,SNR=3.6
KSRS Korea Array 146.77 325 PKPbc **PKPbc 17 23 02.0 +0.2**
comp=Z,1.5nm,0.8s,baz=32,slow=5.9,SNR=4.4
KSAR Wonju Array Be 146.80 325 PKPdf **PKPdf 17 22 58.8 -1.4**

TXNET 13 17:24:39.9,31.6N±0.5×104.3W±0.6, h6km±2km, ML2.6/9, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.7km az=65.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**34**	P	Pg	17 24 46.8	-0.1
TPB11				S	Sg	17 24 51.8	+0.2
PECS	**Pecos**	**0.43**	**128**	P	Pg	17 24 48.5	+0.3
PECS				S	Sg	17 24 54.2	+0.3
PECS	**Pecos**	**0.43**	**128**	P	Pg	17 24 48.6	+0.3
TPB12	**Southwest of T**	**0.50**	**148**	P	Pg	17 24 49.8	+0.3
TPB12				S	Sg	17 24 56.5	+0.5
TPB07	**Mentone**	**0.52**	**96**	P	Pg	17 24 50.0	+0.2
TPB07				S	Sg	17 24 56.7	+0.2
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	17 24 50.9	+0.2
TPB10				S	Sg	17 24 58.6	+0.5
GDL2	**Guadalupe Moun**	**0.57**	**352**	P	Pg	17 24 51.1	+0.2
PCOS	**Crockett Middl**	**0.69**	**109**	S	Sg	17 25 02.7	+0.8
CLNB	**Carlsbad**	**0.71**	**28**	P	Pg	17 24 53.1	-0.4
CLNB				S	Sg	17 25 03.3	+0.6
TPB01	**Permian Basin**	**0.81**	**149**	P	Pg	17 24 54.9	-0.5
TPB01				S	Sg	17 25 05.1	-0.8
TPB03	**Saragosa**	**0.85**	**130**	S	Sg	17 25 07.5	+0.3
CLN7	**Carlsbad 7**	**0.87**	**27**	P	Pg	17 24 56.0	-0.5
TPB06	**Permian Basin**	**0.90**	**89**	P	Pg	17 24 56.9	-0.2
TPB06				S	Sg	17 25 07.8	-0.9
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pg	17 24 58.4	+0.3
MNTX				S	Sb	17 25 11.2	-0.4
MNTX	**Cornudas Mount**	**0.95**	**274**	P	Pb	17 24 58.6	-0.2
HTMS	**Hat Mesa**	**0.99**	**33**	P	Pb	17 24 59.4	-0.1
HTMS				S	Sb	17 25 12.8	-0.1
NM01	**Eunice**	**1.03**	**46**	P	Pg	17 24 58.8	-0.8
NM01				S	Sg	17 25 13.2	+0.3
VHRN	**Van Horn**	**1.05**	**216**	⇑P	Pg	17 24 59.9	-0.1
VHRN				S	Sb	17 25 14.1	-0.4
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	17 24 60.0	0.0
TPB05	**Hovey Rd**	**1.08**	**131**	P	Pg	17 25 00.2	-0.4
TPB05				S	Sg	17 25 14.1	-0.5
MNHN	**Monahans**	**1.32**	**103**	⇓P	Pn	17 25 03.6	-1.2
MNHN				S	Sb	17 25 20.6	-1.6
ALPN	**Alpine**	**1.37**	**157**	P	Pn	17 25 04.7	-0.9
ALPN				S	Sb	17 25 22.1	-1.6
ALPN	**Alpine**	**1.37**	**157**	P	Pn	17 25 04.7	-0.9
TPB08	**Permian Basin**	**1.38**	**122**	S	Sb	17 25 23.7	-0.4
CPRX	**Cap Rock**	**1.43**	**14**	P	Pn	17 25 06.2	-0.3
ODSA	**Odessa**	**1.54**	**71**	P	Pn	17 25 07.6	-0.3
ODSA				S	Sn	17 25 27.9	-0.3
TMB04	**Seminole**	**1.80**	**56**	P	Pn	17 25 12.2	+0.6
TMB04				S	Sb	17 25 36.3	+0.1
EPT	**El Paso**	**1.91**	**275**	S	Sg	17 25 42.3	+1.0
TMB02	**Rankin**	**1.96**	**102**	P	Pb	17 25 14.8	-1.1
TMB02				S	Sb	17 25 39.9	-0.6
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	17 25 22.5	-0.2

IDC 13 18:07:08.2±2.2, 6.54S×129.81E, h0km, mb3.7/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=89.6km s-min=27.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**199**	Pn	Pn	18 10 03.9	+0.7
	0.3nm,0.3s,baz=22,slow=10,SNR=17						
FITZ				Sn	Sn	18 12 04.9	-15
	0.2nm,0.3s,baz=323,slow=20,SNR=1.1						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**14.03**	**162**	Pn	Pn	18 10 27.8	-0.7
	0.3nm,0.3s,baz=343,slow=13,SNR=10.0						
WRA				Sn	Sn	18 12 50.1	-15
	0.4nm,0.3s,baz=336,slow=24,SNR=7.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.48**	**167**	P	Pn	18 11 13.4	-0.2
	0.2nm,0.3s,baz=348,slow=11,SNR=23						
ASAR				S	Sn	18 14 16.0	-13
	0.1nm,0.3s,baz=64,slow=14,SNR=5.2						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	18 18 07.7	0.0
	0.4nm,0.5s,baz=113,slow=6.6,SNR=7.1						
	0.4nm,0.5s						

WEL 13 18:15:13.1±1.2, 33°S±10°×17°8W±2°7, h33km, M4.0/6, mB4.4/3, ML4.4/8, MLv4.1/6, Mw(mB)3.6/3, Error ellipse: s-maj=36.7km s-min=4.1km az=109.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.58**	**4**	P	Pn	18 16 06.6	+0.2
GLKZ				S	Sn	18 16 47.8	+0.2
MXZ	**Matakaoa Point**	**5.51**	**210**	S	Sn	18 17 36.0	+1.0
WMGZ	**Waiomatatini S**	**5.68**	**208**	P	Pn	18 16 34.3	-0.9
WMGZ				S	Sn	18 17 40.0	+0.8
PKGZ	**Pakihiroa**	**5.86**	**210**	P	Pn	18 16 38.8	+1.2
PKGZ				S	Sn	18 17 44.1	+0.4
HAZ	**Te Kaha**	**5.90**	**213**	P	Pn	18 16 40.0	+1.9
HAZ				S	Sn	18 17 47.6	+3.0
PUZ	**Puketiti**	**5.96**	**208**	P	Pn	18 16 36.9	-2.2
PUZ				S	Sn	18 17 46.3	+0.1
RUGZ	**Raukumara Rang**	**6.12**	**212**	P	Pn	18 16 42.5	+1.2
RUGZ				S	Sn	18 17 51.1	+0.9
TWGZ	**Tauwhareparae**	**6.16**	**209**	S	Sn	18 17 52.6	+1.3
CNGZ	**Carnagh Statio**	**6.34**	**207**	P	Pn	18 16 44.3	+0.1
MWZ	**Matawai**	**6.49**	**211**	P	Pn	18 16 46.7	+0.4
MWZ				S	Sn	18 17 59.6	+0.4
URZ	**Urewera**	**6.62**	**214**	P	Pn	18 16 47.6	-0.4
URZ				S	Sn	18 18 03.2	+0.9
RAGZ	**Rawiri**	**6.67**	**211**	S	Sn	18 18 02.9	-0.8
RIGZ	**Rimuhau**	**6.70**	**208**	S	Sn	18 18 04.3	-0.2
MTHZ	**Maungataniwha**	**7.22**	**213**	P	Pn	18 16 57.8	+1.4
MTHZ				S	Sn	18 18 17.4	+0.2

---

*IDC **13** 18:20:51.9±3.2, 32.30N×140.10E, h0km, mb3.5/4, mbtmp3.4/5, ML2.4/1, MS3.9/2, Error ellipse: s-maj=120.7km s-min=21.7km az=72.0*
*JMA **13** 18:20:54.6±0.6, 33°N±2°×14°1E±°, h49km, MV3.0/15, E OFF HACHIJOJIMA ISLAND*
ISC 13 18:20:53.2±1.4, 32.64N±0.09×141.2E±0.2, h35km, n16, σ0.59/14, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.28**	**292**	P	**Pn**	**18 21 14.8**	**+0.2**
JHCJ	**Hachijojimakas**	**1.28**	**290**	*eP*	**Pn**	**18 21 14.8**	**+0.2**
JMYK	**Miyake Tsubota**	**2.00**	**316**	*eP*	**Pn**	**18 21 24.9**	**+0.3**
BSO1	**Boso 1**	**2.02**	**354**	*eS*	**Sn**	**18 21 48.1**	**0.0**
BSO3	**Boso 3**	**2.24**	**345**	*eP*	**Pn**	**18 21 27.8**	**+0.2**
JIM2	**Oshima 3**	**2.56**	**325**	*eP*	**Pn**	**18 21 32.3**	**0.0**
JIZS	**Izushimoda**	**2.85**	**317**	P	**Pn**	**18 21 37.0**	**+0.7**
JOD2	**Odawara 2**	**3.17**	**326**	*eP*	**Pn**	**18 21 40.5**	**-0.1**
MJAR	**Matsushiro Arr**	**4.62**	**328**	Pn	**Pn**	**18 22 01.8**	**+1.2**
	0.2nm,0.3s,baz=158,slow=11,SNR=12						
MJAR				Sn	**Sn**	**18 22 53.6**	**+0.5**
	0.1nm,0.3s,baz=352,slow=31,SNR=1.2						
	3.4nm,0.6s						
KSRS	**Korea Array**	**11.91**	**297**	LR	LR	18 27 56.0	
	comp=Z,18nm,18.1s,baz=10.0,slow=38						
SONM	**Songino Array**	**30.32**	**310**	P	**P**	**18 27 00.7**	**-0.7**
	0.4nm,0.7s,baz=113,slow=7.4,SNR=4.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**46.44**	**306**	P	**P**	**18 29 15.8**	**-0.8**
	0.5nm,0.6s,baz=89,slow=8.4,SNR=5.5						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**52.70**	**188**	P	**P**	**18 30 04.7**	**+0.3**
	0.4nm,0.5s,baz=6.3,slow=7.4,SNR=5.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**56.42**	**188**	P	**P**	**18 30 32.0**	**+0.6**
	0.3nm,0.7s,baz=3.2,slow=7.2,SNR=1.9						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**64.17**	**180**	LR	LR	19 01 20.9	
	comp=Z,119nm,18.6s,baz=7.2,slow=38						
AKASG	**Malin Array Be**	**77.69**	**323**	LR	LR	19 09 14.3	
	comp=Z,40nm,18.9s,baz=274,slow=38						

---

*NOU **13** 18:29:57.8, 41.88S×174.49E, h8km, MLv3.6/7, Cook Strait, New Zealand*
*WEL **13** 18:29:58.8±0.5, 42°S±3°×17°4E±°, h8km±4km, M3.1/40, ML3.2/11, MLv3.1/40, Error ellipse: s-maj=4.1km s-min=3.1km az=126.6, confirmed*
ISC 13 18:29:58.1±0.9, 41.78S±0.03×174.34E±0.03, h11km±7km, n79, σ0.96/87, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**287**	P	**Pg**	**18 30 00.8**	**0.0**
CMWZ				S	**Sg**	**18 30 03.0**	**+0.4**
SEDS	**Seddon Fire St**	**0.22**	**298**	P	**Pg**	**18 30 02.1**	**-0.7**
KEKS	**Kekerengu Vall**	**0.32**	**236**	P	**Pb**	**18 30 05.8**	**-0.1**
KEKS				S	**Sb**	**18 30 12.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.35**	**280**	P	**Pg**	**18 30 04.8**	**-0.3**
BSWZ				S	**Sg**	**18 30 09.9**	**+0.1**
TUWZ	**Tuamarina**	**0.46**	**320**	P	**Pg**	**18 30 06.7**	**-0.3**
TUWZ				S	**Sg**	**18 30 12.6**	**-0.5**
BWRS	**Waikakaho Road**	**0.47**	**316**	P	**Pg**	**18 30 06.4**	**-0.8**
BWRS				S	**Sg**	**18 30 12.6**	**-0.9**
SNZO	**South Karori**	**0.54**	**31**	P	**Pg**	**18 30 08.8**	**+0.1**
BHW	**Baring Head**	**0.55**	**47**	P	**Pb**	**18 30 09.5**	**-0.2**
TCW	**Tory Channel**	**0.57**	**355**	P	**Pg**	**18 30 08.3**	**-0.9**
WEL	**Wellington**	**0.59**	**33**	P	**Pg**	**18 30 10.0**	**+0.4**
WEL				S	**Sb**	**18 30 18.5**	**-0.4**
HAVS	**Havelock**	**0.65**	**320**	P	**Pg**	**18 30 09.5**	**-1.3**
PLWZ	**Palliser**	**0.72**	**73**	P	**Pn**	**18 30 14.0**	**-0.4**
PLWZ				S	**Sn**	**18 30 26.4**	**+1.0**
MSWZ	**Moikau Station**	**0.77**	**62**	P	**Pb**	**18 30 14.3**	**+0.6**
MSWZ				S	**Sn**	**18 30 27.6**	**+0.9**
KIKS	**Kaikoura**	**0.81**	**217**	P	**Pn**	**18 30 15.6**	**+0.1**
MOLW	**Molesworth Sta**	**0.86**	**249**	P	**Pg**	**18 30 15.3**	**+0.6**
CAW	**Cannon Point**	**0.87**	**40**	P	**Pg**	**18 30 14.9**	**+0.1**
KHZ	**Kahutara**	**0.87**	**223**	P	**Pb**	**18 30 16.3**	**+1.0**
KHZ	**Kahutara**	**0.87**	**223**	P	**Pb**	**18 30 16.4**	**+1.1**
PAWZ	**Paruwai Farm**	**0.91**	**65**	P	**Pn**	**18 30 16.6**	**-0.3**
NNZ	**Nelson**	**0.91**	**308**	P	**Pg**	**18 30 14.3**	**-1.4**
KIW	**Kapiti Island**	**1.01**	**25**	P	**Pg**	**18 30 16.9**	**-0.7**
DUWZ	**D'Urville Isla**	**1.02**	**342**	P	**Pg**	**18 30 16.2**	**-1.6**
THZ	**Tophouse**	**1.07**	**270**	P	**Pg**	**18 30 17.9**	**-0.8**
MTW	**Mount Morrison**	**1.07**	**55**	P	**Pb**	**18 30 18.8**	**+0.1**
TRWZ	**Traveller**	**1.08**	**70**	P	**Pb**	**18 30 18.8**	**-0.1**
OGWZ	**Otaki Gorge**	**1.15**	**33**	P	**Pg**	**18 30 19.3**	**-0.9**
MRNZ	**Matariki Terra**	**1.24**	**287**	P	**Pn**	**18 30 21.0**	**-0.6**
HOWZ	**Holdsworth Sta**	**1.25**	**46**	P	**Pb**	**18 30 21.3**	**-0.5**
MATW	**Matariki Wadsw**	**1.27**	**285**	P	**Pn**	**18 30 21.7**	**-0.2**
TKNZ	**Takaka Hill**	**1.27**	**305**	P	**Pn**	**18 30 20.8**	**-1.2**
TMWZ	**Te Maipa**	**1.35**	**61**	P	**Pn**	**18 30 22.4**	**-0.6**
MRZ	**Mangatainoka R**	**1.46**	**40**	P	**Pn**	**18 30 24.2**	**-0.3**
GVZ	**Greta Valley S**	**1.53**	**219**	P	**Pn**	**18 30 25.3**	**-0.2**
TIWZ	**Tintock**	**1.54**	**50**	P	**Pn**	**18 30 25.6**	**+0.1**
QRZ	**Quartz Range**	**1.66**	**304**	P	**Pn**	**18 30 27.4**	**+0.1**
QRZ	**Quartz Range**	**1.66**	**304**	P	**Pn**	**18 30 27.3**	**+0.1**
PRWZ	**Pori Road**	**1.74**	**46**	P	**Pb**	**18 30 30.2**	**+0.2**
POWZ	**Post Office Ro**	**1.76**	**38**	P	**Pn**	**18 30 29.0**	**+0.4**
BFZ	**Birch Farm**	**1.81**	**53**	P	**Pn**	**18 30 28.4**	**-0.9**
BFZ	**Birch Farm**	**1.81**	**53**	P	**Pn**	**18 30 28.2**	**-1.0**
LTZ	**Lake Taylor**	**1.83**	**236**	P	**Pn**	**18 30 29.5**	**-0.1**
DSZ	**Denniston Nort**	**1.90**	**270**	P	**Pn**	**18 30 31.4**	**+0.9**
DVHZ	**Dannevirke**	**2.02**	**44**	P	**Pn**	**18 30 31.8**	**-0.5**
TSZ	**Takapari Road**	**2.11**	**36**	P	**Pn**	**18 30 34.4**	**+0.9**
OKCZ	**Okains Bay**	**2.16**	**205**	P	**Pn**	**18 30 33.2**	**-0.9**
MQZ	**McQueen's Vall**	**2.29**	**212**	P	**Pn**	**18 30 34.3**	**-1.6**
OXZ	**Oxford**	**2.30**	**227**	P	**Pn**	**18 30 34.7**	**-1.3**
KHEZ	**Kahui Hut**	**2.49**	**354**	P	**Pb**	**18 30 42.8**	**-0.2**
KHEZ	**Kahui Hut**	**2.49**	**354**	P	**Pb**	**18 30 42.3**	**-0.7**
MTVZ	**Mangateitei**	**2.54**	**

ARCZ	Arundel	3.18	226	P	Pn	18 30 47.1	-1.0
HIZ	Hauiti	3.29	7	P	Pn	18 30 50.2	+0.6
GCSZ	Gaunt Creek Bo	3.34	241	P	Pn	18 30 51.4	+1.1
TMZ	Timaru	3.57	222	P	Pn	18 30 52.5	-1.0
ODZ	Otahua Downs	4.23	218	P	Pn	18 31 02.1	-0.4
ODZ	Otahua Downs	4.23	218	P	Pn	18 31 00.9	-1.6

NEIC ***13*** *18:30:06.0±1.4, 1°.5N±0°.1×128°.23E±0°.05, h81km±9km, mb4.1/10, Error ellipse: s-maj=19.3km s-min=7.2km az=174.0*
DJA ***13*** *18:30:07.9±0.5, 1°.N±2°×128°.8E± °, h35km±9km, M4.0/13, mb4.1/3, MLv3.9/13*
IDC ***13*** *18:30:09.8±7.7, 1°.35N×128°.20E, h120km±72km, mb3.5/8, mbtmp3.9/8, Error ellipse: s-maj=163.1km s-min=17.9km az=68.0*

ISC 13 18:30:04.4±0.7, 1°.46N±0°.07×128°.31E±0°.06, h69km, n33, σ1§36/39, mb4.0/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.16	234	Pn	Pn	18 30 26.4	+1.5
TNTI	Ternate	1.16	234	P	Pn	18 30 26.4	+1.5
TNTI				S	Sn	18 30 39.7	-0.6
SWI	Sorong	3.75	128	P	Pn	18 31 01.8	+2.0
SWI				S	Sn	18 31 44.4	+1.7
SANI	Sanana	4.19	214	P	Pn	18 31 05.8	0.0
SANI				S	Sn	18 31 52.4	-1.1
KMSI	Cibinong	4.42	259	P	Pn	18 31 11.3	+2.4
KMSI				S	Sn	18 32 01.0	+1.9
NLAI	Namlea	4.82	195	P	Pn	18 31 16.2	+1.7
AAI	Ambon	5.11	181	P	Pn	18 31 20.0	+1.5
FAKI	Fak Fak	5.87	138	Pn	Pn	18 31 31.1	+2.2
FAKI	Fak Fak	5.87	138	P	Pn	18 31 31.1	+2.2
	0.1nm19nm,0.8s						
MRSI	Marisa	6.44	261	P	Pn	18 31 39.9	+3.2
	0.1nm19nm,1.1s						
KDI	Kendari	7.83	227	P	Pn	18 31 57.4	+1.8
WB0	Warramunga Arr	21.92	164	P	P	18 34 53.1	+0.9
WB0				IAmb	IAmb	18 35 34.5	
	comp=Z,5.3nm,1.1s						
WRA	Warramunga Arr	22.08	165	P	P	18 34 53.0	-0.8
WRA	Warramunga Arr	22.08	165	P	P	18 34 55.0	+1.1
	comp=Z,1.6nm,0.5s,baz=342,slow=10,SNR=6.6						
	comp=Z,1.6nm,0.5s						
WB2	Warramunga Arr	22.08	165	P	P	18 34 54.0	+0.1
WB2				IAmb	IAmb	18 35 34.2	
	comp=Z,8.7nm,1.3s						
ASAR	Alice Springs	25.56	168	P	P	18 35 26.7	-0.4
ASAR	Alice Springs	25.56	168	P	P	18 35 26.9	-0.2
	comp=Z,0.3nm,0.5s,baz=349,slow=8.0,SNR=7.5						
ASAR				PcP	PcP	18 38 56.4	-0.6
	comp=Z,0.2nm,0.6s,baz=332,slow=2.2,SNR=1.3						
	comp=Z,0.3nm,0.5s						
GSI	Gunungsitoli	30.72	270	P	P	18 36 12.6	-0.7
STKA	Stephens Creek	35.47	160	P	P	18 36 53.7	-0.6
STKA				IAmb	IAmb	18 37 16.8	
	comp=Z,5.8nm,1.1s						
STKA	Stephens Creek	35.47	160	P	P	18 36 53.5	-0.8
	comp=Z,1.0nm,0.6s,baz=332,slow=13,SNR=2.8						
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	49.94	341	P	P	18 38 52.4	+1.0
	comp=Z,0.3nm,0.5s,baz=159,slow=9.4,SNR=4.4						
	comp=Z,0.3nm,0.5s						
MK31	Makanchi Array	60.31	325	P	P	18 40 04.5	-1.5
MK31				IAmb	IAmb	18 40 06.7	
	comp=Z,1.5nm,0.6s						
MKAR	Makanchi Array	60.31	325	P	P	18 40 04.9	-1.1
MKAR	Makanchi Array	60.31	325	P	P	18 40 06.3	+0.3
	comp=Z,2.0nm,0.6s,baz=115,slow=8.1,SNR=27						
MKAR				PcP	PcP	18 40 49.9	-0.8
	comp=Z,0.6nm,0.7s,baz=106,slow=5.7,SNR=4.4						
	comp=Z,2.0nm,0.6s						
MAKZ	Makanchi	60.49	325	P	P	18 40 07.1	-0.2
MAKZ				IAmb	IAmb	18 40 08.3	
	comp=Z,1.9nm,0.8s						
ZALV	Zalesovo Beam	63.31	333	P	P	18 40 25.0	-1.0
	comp=Z,0.4nm,0.4s,baz=137,slow=7.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	64.49	327	P	P	18 40 33.8	0.0
	comp=Z,2.8nm,0.6s,baz=126,slow=6.1,SNR=43						
	comp=Z,2.8nm,0.6s						
KURK	Kurchatov	64.49	328		P	18 40 33.0	-0.7
KK31	Karatay Array	65.96	317	P	P	18 40 43.1	-0.4
KK31				IAmb	IAmb	18 40 44.0	
	comp=Z,1.6nm,0.8s						
KKAR	Karatay Array	65.96	317	P	P	18 40 43.1	-0.4
BVAR	Borovoye Array	70.07	327	P	P	18 41 09.2	+0.1
	comp=Z,1.2nm,0.6s,baz=125,slow=9.3,SNR=5.4						
	comp=Z,1.2nm,0.6s						
ABKAR	Akbulak array	74.89	321	P	P	18 41 36.9	-1.0
TORD	Torodi Ar. Bea	125.11	287	PKP	PKPdf	18 48 56.3	-1.7
	comp=Z,0.1nm,0.3s,baz=64,slow=3.4,SNR=1.9						

IDC ***13*** *18:37:20.9±1.4, 21°.16N×144°.10E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=42.7km s-min=32.3km az=102.0*

ISC 13 18:37:25.5±1.2, 21°.1N±0°.2×144°.2E±0°.3, h30km, n12, σ1§42/6, mb3.5/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy 21.33	90		T	T	19 04 07.4	
	baz=278,slow=75,SNR=5.8						
H11N2	WAKE ISLAND Hy 21.33	90		T	T	19 04 05.8	
	baz=278,slow=75,SNR=3.6						
H11S3	WAKE ISLAND Hy 21.33	93		T	T	19 04 07.1	
	baz=281,slow=75,SNR=6.3						
H11S1	WAKE ISLAND Hy 21.34	93		T	T	19 04 07.8	
	baz=281,slow=75,SNR=7.2						
H11N3	WAKE ISLAND Hy 21.35	90		T	T	19 04 07.7	
	baz=278,slow=75,SNR=4.4						
H11S2	WAKE ISLAND Hy 21.35	93		T	T	19 04 08.4	
	baz=281,slow=75,SNR=5.8						
WRA	Warramunga Arr	41.91	194	P	P	18 45 13.4	-0.1
	1.1nm,0.6s,baz=17,slow=7.7,SNR=1.7						
	1.1nm,0.6s						
MKAR	Makanchi Array	55.78	313	P	P	18 47 00.2	+0.4
	0.1nm,0.4s,baz=91,slow=6.2,SNR=1.7						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	58.59	317	P	P	18 47 17.4	-2.1
	0.2nm,0.5s,baz=92,slow=7.4,SNR=1.9						
	0.2nm,0.5s						
ILAR	Eielson Array	62.15	27	P	P	18 47 42.8	-0.8
	0.4nm,1.0s,baz=272,slow=7.3,SNR=5.3						
	0.4nm,1.0s						
BVAR	Borovoye Array	63.73	320	P	P	18 47 54.1	-0.2
	0.6nm,0.5s,baz=70,slow=6.5,SNR=2.7						
	0.6nm,0.5s						
YKA	Yellowknife Ar	76.55	28	P	P	18 49 13.5	+0.9
	0.1nm,0.4s,baz=292,slow=6.1,SNR=3.7						
	0.1nm,0.4s						

IDC ***13*** *18:38:34.3±0.6, 2°.23S×138°.47E, h0km, mb4.2/12, mbtmp4.3/14, ML4.4/2, MS3.6/18, Error ellipse: s-maj=21.2km s-min=13.9km az=65.0*
DJA ***13*** *18:38:37.1±0.3, 2°.S±4°×13°.9E± °, h17km±3km, M4.8/15, mb4.8/15, mB5.2/5, MLv4.8/9, Mw(mB)4.5/5*
NEIC ***13*** *18:38:40.3±1.5, 2°.39S±0°.09×138°.24E±0°.08, h27km±3km, mb4.7/53, Error ellipse: s-maj=13.5km s-min=10.7km az=200.0*

ISC 13 18:38:35.9±1.5, 2°.34S±0°.05×138°.42E±0°.04, h3km±9km, n143, σ1§66/124, mb4.7/42, MS3.6/16, 3C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.45	40	P	Pg	18 38 43.6	-1.0
SMPI				S	Sg	18 38 47.1	-3.4
GENI	Genyem	1.76	98	P	Pn	18 39 07.8	+0.5
GENI	Genyem	1.76	98	P	Pn	18 39 07.4	+0.1
GENI				S	Sn	18 39 30.0	-0.3
SRPI	Serui, Papua	2.23	282	P	Pn	18 39 13.0	-0.7
SRPI				S	Sn	18 39 40.7	-1.1
JAY	Jayapura	2.29	94	Pn	Pn	18 39 13.6	-1.0
	41nm,0.3s,baz=238,slow=11,SNR=167						
JAY				Sn	Sn	18 39 41.5	-1.8
	54nm,0.3s,baz=142,slow=20,SNR=12						
	98nm,0.3s						
JAY	Jayapura	2.29	94	P	Pn	18 39 13.4	-1.2
JAY				S	Sn	18 39 40.9	-2.4
BAKI	Biak	2.58	296	P	Pn	18 39 18.4	-0.2
BAKI				S	Sn	18 39 49.2	-1.3
TABU	Tabubil	4.03	136	P	Pn	18 39 43.3	+4.6
RKPI	Ransiki, Papua	4.32	281	P	Pn	18 39 43.0	+0.5
KMPI	Kaimana, Papua	4.89	254	P	Pn	18 39 52.8	+2.4
FAKI	Fak Fak	6.19	265		Pn	18 40 06.5	-1.8
FAKI	Fak Fak	6.19	265	P	Pn	18 40 08.8	+0.5
FAKI	Fak Fak	6.19	265	P	Pn	18 40 09.5	+1.2
	0.3nm1μm104nm,1.0s						
MANU	Manus Island	8.94	88	Pn	Pn	18 40 48.8	+2.7
MSAI	Masohi	9.53	264	P	Pn	18 40 55.8	+1.6
AAI	Ambon	10.30	262	P	Pn	18 41 05.9	+1.2
	862nm58nm,0.6s						
PMG	Port Moresby	11.17	129	Pn	Pn	18 41 19.2	+2.6
	1.5nm,0.3s,baz=285,slow=8.3,SNR=11						
PMG				LR	LR	18 46 39.0	
	comp=Z,379nm,21.5s,baz=319,slow=43						
NLAI	Namlea	11.34	265	P	Pn	18 41 20.2	+1.2
	63nm,0.7s						
KDU	Kakadu	11.85	210	P	Pn	18 41 26.0	+0.1
SANI	Sanana	12.43	271	P	Pn	18 41 34.6	+0.8
SANI	Sanana	12.43	271	P	Pn	18 41 32.6	-1.2
	32nm,0.8s						
COEN	Coen	12.46	158	Pn	Pn	18 41 35.7	+1.3
COEN	Coen	12.46	158	P	Pn	18 41 35.4	+1.1
DRS	Darwin Rock St	12.49	216	P	Pn	18 41 37.0	+2.3
MTN	Manton Dam	12.69	214		Pn	18 41 36.8	-0.6
MTN	Manton Dam	12.69	214	P	Pn	18 41 38.3	+0.9
KRVT	Keravat (AS076	13.72	99	LR	LR	18 47 05.9	
	comp=Z,286nm,20.6s,baz=10,slow=37						
KDI	Kendari	15.86	264	P	Pn	18 42 20.7	+0.4
	20nm,1.1s						
SOEI	Soe	15.88	242		Pn	18 42 19.0	-1.6
SOEI				IAmb	IAmb	18 42 45.0	
	comp=Z,61nm,0.9s						
SOEI	Soe	15.88	242	P	Pn	18 42 21.6	+0.9
SOEI	Soe	15.88	242	P	P	18 42 24.1	-0.4
	comp=Z,73nm,1.1s						
KNRA	Kununurra	16.32	215	P	Pn	18 42 25.7	-0.5
MTSU	Mount Surprise	16.73	160	P	P	18 42 35.2	+1.4
WB0	Warramunga Arr	17.76	193	Pn	Pn	18 42 43.0	-1.4
WRAB	Tennant Creek	17.93	193	P	Pn	18 42 46.1	-0.4
WB2	Warramunga Arr	17.94	193	P	Pn	18 42 45.9	-0.7
WRA	Warramunga Arr	17.94	193	P	Pn	18 42 45.9	-0.7
	comp=Z,1.9nm,0.3s,baz=18,slow=12,SNR=33						
WRA				S	Sn	18 45 58.3	-9.0
	comp=Z,12nm,1.0s,baz=14,slow=24,SNR=5.5						
	comp=Z,5.4nm,0.4s						
TOLI2	Tolitoli	17.97	281	P	Pn	18 42 45.9	-1.0
QIS	Mount Isa	18.14	176	P	P	18 42 50.1	+0.7
PCI	Palu	18.63	274	P	Pn	18 42 55.7	+0.6
SPSI	Sidrap Palu	18.69	265	P	Pn	18 42 57.9	+2.1
KAPI	Kappang	18.82	261	LR	LR	18 51 27.2	
	comp=Z,93nm,18.3s,baz=87,slow=41						
FITZ	Fitzroy Crossi	20.06	218	P	P	18 43 10.5	+0.1
	comp=Z,1.2nm,0.4s,baz=41,slow=9.1,SNR=21						
FITZ				S	S	18 46 45.1	-12
	comp=Z,24nm,0.7s,baz=206,slow=18,SNR=15						
	comp=Z,1.2nm,0.4s						
PLAI	Plampang	21.52	252	P	P	18 43 27.5	+1.1
AS01	Alice Springs	21.64	191	P	P	18 43 27.5	0.0
AS31	Alice Springs	21.65	191	P	P	18 43 27.5	-0.2
ASAR	Alice Springs	21.65	191	P	P	18 43 27.8	+0.2
	comp=Z,14nm,0.8s,baz=21,slow=11,SNR=163						
ASAR				S	S	18 47 24.9	-3.2
	comp=Z,14nm,0.8s,baz=12,slow=22,SNR=19						
	comp=Z,14nm,0.8s						
TATA	Tatamba Isabel	22.11	107	P	P	18 43 34.2	+1.5
WRKA	Warakurna	24.59	203	P	P	18 43 56.9	-0.5
QLP	Quilpie	24.74	167	P	P	18 44 01.2	+2.5
INKA	Innaminka	25.36	175	P	P	18 44 06.2	+1.9
OOD	Oodnadatta	25.45	186	P	P	18 44 05.1	0.0
EIDS	Eidsvold	25.94	153	P	P	18 44 11.6	+1.9
EIDS	Eidsvold	25.94	153	P	P	18 44 11.8	+2.1
MBWA	Marble Bar	26.10	223	P	P	18 44 09.5	-1.7
MBWA				IAmb	IAmb	18 44 50.1	
	comp=Z,19nm,1.1s						
PSA00	Pilbara Seismi	26.31	222		P	18 44 12.1	-1.0
PSA00				IAmb	IAmb	18 44 55.5	
	comp=Z,21nm,1.1s						
LCRK	Leigh Creek	27.96	180	P	P	18 44 28.4	+0.7
JCJ	Chichijima	29.49	7	LR	LR	18 55 24.8	
	comp=Z,66nm,18.2s,baz=108,slow=34						
STKA	Stephens Creek	29.53	175	P	P	18 44 41.9	+0.1
STKA	Stephens Creek	29.53	175	P	P	18 44 42.1	+0.3
	comp=Z,6.1nm,0.8s,baz=347,slow=7.8,SNR=10						
	comp=Z,6.1nm,0.8s						
STKA	Stephens Creek	29.53	175	P	P	18 44 42.6	+0.9
CMSA	Cobar Meteorol	29.84	167	P	P	18 44 46.7	+2.2
FORT	Forrest	29.94	198	P	P	18 44 45.0	-0.4
FORT				IAmb	IAmb	18 45 24.7	
	comp=Z,18nm,0.8s						
FORT	Forrest	29.94	198	P	P	18 44 47.0	+1.7
BBOO	Buckleboo	30.39	184	P	P	18 44 48.5	-0.8
ARMA	Armidale	30.60	157	P	P	18 44 52.6	+1.3
JOW	Kunigami	30.61	342	LR	LR	18 54 40.1	
	comp=Z,135nm,21.2s,baz=132,slow=32						
HTT	Hallett	30.93	179	P	P	18 44 54.1	-0.1
LEM	Lembang	31.02	261	LR	LR	18 59 52.5	
	comp=Z,74nm,19.3s,baz=95,slow=41						
YNG	Young	33.13	165	P	P	18 45 15.4	+1.9
MORW	Morawa	34.06	217	P	P	18 45 20.1	-1.6
MORW	Morawa	34.06	217	P	P	18 45 21.8	+0.1
CNB	Canberra Magne	34.35	164	P	P	18 45 26.6	+2.5
ARPS	Mount Arapiles	34.41	175	P	P	18 45 26.6	+2.1
H11S3	WAKE ISLAND Hy	34.68	52	T	T	19 21 26.0	
	baz=236						
H11S2	WAKE ISLAND Hy	34.69	52	T	T	19 21 27.2	
	baz=236						
H11S1	WAKE ISLAND Hy	34.70	52	T	T	19 21 23.6	
	baz=236						
QIZ	Qiongzhong	35.22	308	P	P	18 45 32.0	+0.2
QIZ				S	S	18 51 05.5	-0.7
QIZ				LR	LR		
	comp=Z,210nm,19.4s						
JNU	Nakatsue	35.98	349	LR	LR	18 57 27.5	
	comp=Z,97nm,19.8s,baz=165,slow=32						
NWAO	Narrogin (SRO)	36.34	211	LR	LR	19 01 44.8	
	comp=Z,344nm,18.0s,baz=76,slow=38						
INU	Inuyama	37.52	358	P	P	18 45 53.3	+2.2
INU				IAmb	IAmb	18 46 09.9	
	comp=Z,12nm,1.0s						
KSRS	Korea Array	40.77	347	LR	LR	19 00 38.3	
	comp=Z,53nm,21.4s,baz=170,slow=33						
GSI	Gunungsitoli	41.00	275	P	P	18 46 18.7	-2.0
GSI				IAmb	IAmb	18 46 28.9	
	comp=Z,15nm,0.9s						
GSI	Gunungsitoli	41.00	275	P	P	18 46 20.9	+0.3
MSVF	Nonsavu	41.78	114	LR	LR	19 01 56.7	
	comp=Z,125nm,21.4s,baz=282,slow=34						
PHRA	Phrae	42.91	300	P	P	18 46 35.3	-0.9
CM31	Chiang Mai Arr	44.01	300	P	P	18 46 44.1	-1.0
CMAR	Chiang Mai Arr	44.01	300	P	P	18 46 42.8	-2.3
CMAR	Chiang Mai Arr	44.01	300	P	P	18 46 43.7	-1.4
	comp=Z,1.2nm,0.8s,baz=115,slow=5.9,SNR=9.7						
CMAR				PcP	PcP	18 48 30.4	-0.5
	comp=Z,0.7nm,0.8s,baz=138,slow=2.6,SNR=4.5						
	comp=Z,1.2nm,0.8s						
KMI	Kunming	44.06	311	⇓P	P	18 46 46.3	+0.6
KMI				sP	sP	18 46 51.3	+3.9
KMI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PZH	PanZhiHua	45.57	311	P	P	18 46 58.0	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
XAN	Xi'an	45.61	325	⇑P	P	18 46 58.4	+0.7
USRK	Usuriysk Ar.	46.69	354	LR	LR	19 04 38.5	
	comp=Z,59nm,18.1s,baz=168,slow=34						
BNX	BinXian	48.86	350	⇑P	P	18 47 22.8	+0.1
BNX				pmax	pmax		
	comp=Z,8.0nm,1.7s						
LZH	Lanzhou	50.02	323	eP	P	18 47 33.0	+1.0
LZH				pP	sP	18 47 36.6	+2.9
LZH				pmax	pmax		
	comp=Z,21nm,1.5s						
RPZ	Rata Peaks	50.35	149	P	P	18 47 34.6	+0.4
RPZ	Rata Peaks	50.35	149	P	P	18 47 32.7	-1.5
	comp=Z,22nm,0.7s,baz=337,slow=8.0,SNR=11						
	comp=Z,22nm,0.7s						
TCW	Tory Channel	50.38	145	P	P	18 47 34.7	+0.2
RTZ	Ruatahuna	50.41	141	P	P	18 47 34.0	-0.9
RTZ				IAmb	IAmb	18 48 01.1	
	comp=Z,17nm,1.4s						
KLR	Kul'dur	51.69	354	LR	LR	19 09 12.2	
	comp=Z,51nm,18.4s,baz=178,slow=36						
HEH	HeiHe	53.24	351	eP	P	18 47 59.4	+3.8
HEH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA	Gaotai	54.60	324	eP	P	18 48 07.1	+1.1
GTA				pP	sP	18 48 11.0	+3.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SONM	Songino Array	57.26	335	P	P	18 48 23.1	-1.8
	comp=Z,0.5nm,0.8s,baz=156,slow=7.0,SNR=4.0						
SONM				LR	LR	19 13 19.8	
	comp=Z,104nm,19.8s,baz=9.0,slow=36						
YAK	Yakutsk	64.54	355	LR	LR	19 15 58.7	
	comp=Z,45nm,20.0s,baz=123,slow=35						
MK31	Makanchi Array	69.32	322	IAmb	IAmb	18 49 50.0	
	comp=Z,4.7nm,1.1s						
MKAR	Makanchi Array	69.32	322	P	P	18 49 43.8	-1.0
MKAR	Makanchi Array	69.32	322	P	P	18 49 43.3	-1.5
	comp=Z,2.4nm,0.8s,baz=105,slow=7.4,SNR=19						
	comp=Z,2.4nm,0.8s						
MAKZ	Makanchi	69.52	322		P	18 49 46.0	0.0
MAKZ				IAmb	IAmb	18 49 51.0	
	comp=Z,7.3nm,1.1s						
KSH	Kashi	70.62	313	P	P	18 49 54.9	+1.8
KSH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZALV	Zalesovo Beam	71.47	330	P	P	18 49 55.6	-2.1
	comp=Z,0.7nm,0.5s,baz=104,slow=6.1,SNR=6.4						
ZALV				LR	LR	19 20 40.4	
	comp=Z,24nm,20.4s,baz=84,slow=35						
	comp=Z,0.7nm,0.5s						
AAK	Ala-Archa	72.74	316	LR	LR	19 23 05.9	
	comp=Z,53nm,21.8s,baz=84,slow=37						
KURK	Kurchatov	73.25	325	P	P	18 50 08.9	+0.5
KURBB	Kurchatov Arra	73.26	325	P	P	18 50 06.9	-1.6
	comp=Z,1.8nm,1.0s,baz=114,slow=5.6,SNR=11						
	comp=Z,1.8nm,1.0s						
GAR	Garm	74.64	311	P	P	18 50 16.9	-0.1
CHGR	Chuyangaron	75.42	311	P	P	18 50 21.0	-0.5
SIMJ	Simiganj	75.53	311	P	P	18 50 21.8	-0.4
BVAR	Borovoye Array	78.85	325	P	P	18 50 39.2	-1.1
	comp=Z,4.9nm,0.7s,baz=109,slow=6.7,SNR=15						
	comp=Z,4.9nm,0.7s						
BRVK	Borovoye	78.92	325	P	P	18 50 40.6	0.0
BRVK				IAmb	IAmb	18 50 47.1	
	comp=Z,4.4nm,0.6s						
O19K	Port Alsworth	80.92	28		P	18 50 53.6	+2.3
G18K	Tagagawik	81.38	22	IAmb	IAmb	18 50 56.2	
	comp=Z,5.7nm,1.0s						
E18K	Tukpahlearik C	81.39	20	IAmb	IAmb	18 50 56.0	
	comp=Z,5.6nm,1.1s						
D19K	Kuna River	82.71	19	P	P	18 51 01.6	+0.9
D19K				IAmb	IAmb	18 51 07.7	
	comp=Z,6.1nm,1.1s						
CAST	Castle Rocks	83.04	25	P	P	18 51 04.2	+1.6
CAST				IAmb	IAmb	18 51 09.4	
	comp=Z,11nm,1.3s						
I21K	Tanana	83.67	23	IAmb	IAmb	18 51 14.0	
	comp=Z,5.4nm,1.1s						
B21K	Ikpikpuk River	84.32	19	IAmb	IAmb	18 51 14.6	
	comp=Z,4.4nm,0.9s						
D22K	Ayikyak River	84.69	20	IAmb	IAmb	18 51 18.6	
	comp=Z,6.1nm,0.9s						
G23K	Bananza Creek	84.92	22	IAmb	IAmb	18 51 21.0	
	comp=Z,3.5nm,0.8s						
COLD	Coldfoot	85.02	22	IAmb	IAmb	18 51 21.4	
	comp=Z,6.3nm,1.0s						
D23K	Nanushuk River	85.40	20	P	P	18 51 15.3	+1.0
D23K				IAmb	IAmb	18 51 37.0	
	comp=Z,9.5nm,1.2s						
ILAR	Eielson Array	85.62	24	P	P	18 51 13.1	-2.5
	comp=Z,0.9nm,0.8s,baz=259,slow=5.0,SNR=9.7						
	comp=Z,0.9nm,0.8s						
TOLK	Toolik Lake Re	85.68	20	IAmb	IAmb	18 51 29.4	
	comp=Z,6.1nm,1.1s						
E24K	Your Creek	85.90	21	IAmb	IAmb	18 51 25.9	
	comp=Z,2.8nm,0.7s						
F25K	Christian Rive	86.81	22	P	P	18 51 21.0	-0.4
F25K				IAmb	IAmb	18 51 33.0	
	comp=Z,4.3nm,1.1s						
J26L	Joseph Creek	86.95	25	P	P	18 51 21.9	-0.4
J26L				IAmb	IAmb	18 51 33.9	
	comp=Z,4.3nm,0.8s						
D25K	Kavik River	86.98	20	IAmb	IAmb	18 51 32.8	
	comp=Z,5.2nm,0.8s						
QSPA	South Pole Qui	87.60	180	P	P	18 51 25.0	-0.5
	comp=Z,4.1nm,0.9s,baz=358,slow=0.7,SNR=11						
	comp=Z,4.1nm,0.9s						
SYO	Syowa Base	91.00	201⇑	eP	P	18 51 42.0	+0.9
DLBC	Dease Lake	92.79	32	LR	LR	19 37 27.0	
	comp=Z,30nm,18.2s,baz=76,slow=38						
YBH	Yreka Blue Hor	98.17	48	LR	LR	19 26 59.6	
	comp=Z,44nm,21.2s,baz=291,slow=30						
YKA	Yellowknife Ar	99.87	27	P	Pdif	18 52 20.8	-0.9
	comp=Z,0.1nm,0.3s,baz=289,slow=5.2,SNR=1.1						
	comp=Z,0.1nm,0.3s						
TORD	Torodi Ar. Bea	135.88	286	PKP	PKPdf	18 57 58.5	-0.8
	comp=Z,0.6nm,0.7s,baz=79,slow=0.2,SNR=4.1						
CPUP	Villa Florida	147.69	153	PKPbc	PKPdf	18 58 21.1	+1.0
	comp=Z,0.8nm,0.3s,baz=108,slow=2.6,SNR=2.8						
LPAZ	La Paz	147.89	126	PKPbc	PKPbc	18 58 23.9	-0.5
	comp=Z,2.3nm,0.8s,baz=320,slow=1.9,SNR=7.0						

IDC ***13*** *18:40:54.9±0.8, 21°.45N×144°.04E, h0km, mb4.0/10, mbtmp4.1/11, ML4.0/1, MS3.5/4, Error ellipse: s-maj=33.8km s-min=20.1km az=79.0*
NEIC ***13*** *18:41:04.0±0.6, 21°.4N±0°.1×144°.4E±0°.2, h80km±7km, mb4.6/8, Error ellipse: s-maj

BVAR Borovoye Array 63.50 320 P P 18 51 25.6 -0.8
comp=Z,2.1nm,0.7s,baz=100,slow=6.3,SNR=1.5
comp=Z,2.1nm,0.7s
KK31 Karatay Array 63.98 309 P **P 18 51 29.2 -0.5**
KK31 IAmb IAmb 18 51 30.6
comp=Z,2.9nm,0.5s
KKAR Karatay Array 63.98 309 P **P 18 51 29.0 -0.7**
KKAR IAmb IAmb 18 51 30.6
comp=Z,2.1nm,0.4s
KKAR Karatay Array 63.98 309 P **P 18 51 29.1 -0.6**
ABKAR Akbulak array 70.42 316 P **P 18 52 09.9 -0.5**
YKA Yellowknife Ar 76.21 28 P **P 18 52 43.2 -1.0**
YKA Yellowknife Ar 76.21 28 P **P 18 52 45.0 +0.7**
comp=Z,0.4nm,0.7s,baz=290,slow=5.9,SNR=6.7
comp=Z,0.4nm,0.7s
YKAB2 New Yellowknif 76.24 28 P **P 18 52 43.0 -1.4**
SPB1 Spitsbergen Ar 76.24 350 P **P 18 52 44.9 +0.7**
NVAR Mina Array Bea 82.52 52 P **P 18 53 22.4 +2.9**
comp=Z,0.3nm,0.4s,baz=297,slow=7.1,SNR=4.0
NVAR LR LR 19 23 31.8
comp=Z,41nm,20.7s,baz=300,slow=31
comp=Z,0.3nm,0.4s
KBZ Khabaz 83.25 314 P **P 18 53 23.1 +0.3**
comp=Z,2.5nm,0.9s,baz=217,slow=4.2,SNR=5.7
comp=Z,2.5nm,0.9s
FINES FINESS Array B 83.83 335 P **P 18 53 25.1 -0.4**
comp=Z,1.5nm,0.8s,baz=50,slow=6.5,SNR=1.7
comp=Z,1.5nm,0.8s
PLCA Paso Flores 144.85 131 PKPbc PKPbc 19 00 32.2 -0.3
comp=Z,2.1nm,0.8s,baz=221,slow=6.0,SNR=7.7

DJA 13 19:07:50.3±0.8, 2°N±3°×12°4E±°, h37km±18km, M3.7/8, mb3.9/1, MLv3.6/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.29**	**185**	P	Pn	19 08 12.2	+0.4
KMSI				S	Sn	19 08 27.9	+0.1
MRSI	**Marisa**	**2.56**	**237**	P	Pn	19 08 30.2	+1.0
MRSI				S	Sn	19 08 59.1	0.0
LUWI	**Luwuk**	**3.18**	**205**	P	Pn	19 08 37.2	-0.6
LUWI				S	Sn	19 09 15.4	+1.0
SANI	**Sanana**	**4.33**	**154**	P	Pn	19 08 53.9	+0.3
PCI	**Palu**	**5.07**	**237**	P	Pn	19 09 04.2	+0.4

*IDC **13** 19:26:42.2±8.8, 11°.76S×166°.70E, h273km±98km, mb3.2/8, mbtmp3.9/9, Error ellipse: s-maj=67.0km s-min=25.0km az=156.0*
*NEIC **13** 19:26:40.1±1.0, 11°.64S±0°.09×166°.7E±0°.2, h250km, n, σ0°99/10, mb3.6/8, Santa Cruz Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.37**	**181**	P	**Pn**	**19 29 04.7**	**+1.2**
13nm,1.2s,baz=0.0,slow=20,SNR=1.9							
DZM				S	**S**	**19 30 58.9**	**-1.1**
9.7nm,1.1s,baz=154,slow=22,SNR=1.8							
STKA	**Stephens Creek**	**30.68**	**225**	P	**P**	**19 32 32.2**	**+0.4**
0.6nm,0.4s,baz=37,slow=10,SNR=4.0							
0.6nm,0.4s							
WRA	**Warramunga Arr**	**32.18**	**251**	P	**P**	**19 32 44.1**	**-0.9**
1.4nm,0.9s,baz=84,slow=9.2,SNR=6.0							
1.4nm,0.9s							
ASAR	**Alice Springs**	**33.39**	**245**	P	**P**	**19 32 54.5**	**-1.0**
1.0nm,0.7s,baz=69,slow=10,SNR=14							
1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**73.22**	**293**	P	**P**	**19 37 45.2**	**+0.7**
0.3nm,0.3s,baz=113,slow=6.8,SNR=4.1							
0.3nm,0.3s							
SONM	**Songino Array**	**79.71**	**323**	P	**P**	**19 38 20.5**	**+0.1**
0.1nm,0.4s,baz=114,slow=3.5,SNR=2.3							
0.1nm,0.4s							
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**19 38 41.1**	**+0.2**
1.3nm,0.9s,baz=238,slow=4.7,SNR=12							
1.3nm,0.9s							
MKAR	**Makanchi Array**	**94.61**	**317**	P	**P**	**19 39 33.1**	**+0.5**
0.5nm,0.6s,baz=94,slow=6.3,SNR=9.1							
0.5nm,0.6s							
YKA	**Yellowknife Ar**	**95.07**	**27**	P	**P**	**19 39 33.1**	**-1.2**
0.1nm,0.3s,baz=263,slow=4.8,SNR=2.7							
0.1nm,0.3s							

IDC 13 19:39:29.1±6.7, 19°.34S×177°.67W, h577km±38km, mb2.7/3, mbtmp3.7/4, Error ellipse: s-maj=146.0km s-min=78.3km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.36**	**291**	P	P	19 40 55.7	0.0
4.6nm,0.4s,baz=143,slow=20,SNR=6.2							
STKA	**Stephens Creek**	**38.58**	**243**	P	P	19 46 03.2	-0.4
0.7nm,0.5s,baz=80,slow=11,SNR=1.8							
0.7nm,0.5s							
WRA	**Warramunga Arr**	**45.08**	**261**	P	P	19 46 54.7	-0.2
0.4nm,0.3s,baz=97,slow=8.0,SNR=9.9							
WRA				PcP	PcP	19 48 22.8	-0.4
0.4nm,0.8s,baz=86,slow=3.0,SNR=1.8							
0.4nm,0.3s							
ASAR	**Alice Springs**	**45.09**	**256**	P	P	19 46 55.1	+0.1
0.5nm,0.5s,baz=88,slow=8.1,SNR=12							
0.5nm,0.5s							

IDC 13 19:43:01.8±12.0, 12°.03S×65°.06E, h0km, mb3.4/5, mbtmp3.4/5, MS3.1/2, Error ellipse: s-maj=417.0km s-min=33.0km az=63.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**8.51**	**60**	T	T	19 52 14.1	
baz=237,slow=76,SNR=39							
H08S2	**Diego Garcia H**	**8.52**	**60**	T	T	19 52 12.8	
baz=237,slow=76,SNR=40							
H08S3	**Diego Garcia H**	**8.53**	**60**	T	T	19 52 15.2	
baz=237,slow=76,SNR=49							
H04N2	**CROZET ISLANDS**	**35.83**	**196**	T	T	20 29 18.1	
baz=24							
H04N1	**CROZET ISLANDS**	**35.83**	**196**	T	T	20 29 18.6	
baz=24							
H04N3	**CROZET ISLANDS**	**35.85**	**196**	T	T	20 29 14.5	
baz=24							
BOSA	**Boshof**	**40.58**	**240**	LR	LR	20 04 24.9	
comp=Z,43nm,18.4s,baz=180,slow=32							
CMAR	**Chiang Mai Arr**	**45.11**	**48**	LR	LR	20 08 12.0	
comp=Z,10nm,18.1s,baz=155,slow=34							
H01W3	**Cape Leeuwin H**	**49.85**	**126**	T	T	20 44 38.6	
baz=287,slow=75,SNR=8.8							
H01W2	**Cape Leeuwin H**	**49.85**	**126**	T	T	20 44 32.0	
baz=287,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**49.87**	**126**	T	T	20 44 34.8	
baz=287,slow=75,SNR=8.4							
MKAR	**Makanchi Array**	**60.56**	**14**	P	P	19 53 13.7	-0.4
0.2nm,0.6s,baz=216,slow=7.1,SNR=3.5							
0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**63.49**	**10**	P	P	19 53 34.0	+0.4
0.2nm,0.7s,baz=211,slow=6.8,SNR=3.1							
0.2nm,0.7s							
ASAR	**Alice Springs**	**66.02**	**111**	P	P	19 53 50.8	-0.1
0.4nm,0.7s,baz=279,slow=5.8,SNR=5.7							
0.4nm,0.7s							
WRA	**Warramunga Arr**	**66.68**	**107**	P	P	19 53 55.2	+0.1
0.6nm,0.7s,baz=271,slow=5.5,SNR=4.8							
0.6nm,0.7s							
SONM	**Songino Array**	**70.01**	**28**	P	P	19 54 15.5	0.0
0.4nm,0.9s,baz=212,slow=5.1,SNR=2.9							
0.4nm,0.9s							

RSNC 13 19:49:00.3±0.0, 7°N±1°×7°4W±°, h109km±2km, M2.8, mb3.8, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.35**	**85**	P	Pn	19 49 16.5	+0.1
BARC				S	Sn	19 49 28.7	+0.2
BRJC	**Barrancabermej**	**0.46**	**333**	P	Pn	19 49 16.5	-0.3
BRJC				S	Sn	19 49 29.0	-0.2
RUSC	**La Rusia**	**0.80**	**146**	P	Pn	19 49 19.4	-0.6
RUSC				S	Sn	19 49 34.3	-0.5
PTBC	**PUERTO BERRIO,**	**0.92**	**269**	P	Pn	19 49 19.2	-1.4
PTBC				S	Sn	19 49 34.0	-2.0
PAMC	**Pamplona, Colo**	**1.13**	**47**	P	Pn	19 49 22.9	-0.4
PAMC				S	Sn	19 49 40.9	+0.2
ZARC	**Zaragoza, Cauc**	**1.61**	**305**	P	Pn	19 49 28.5	+0.1
ZARC				S	Sn	19 49 50.7	+0.9
NORC	**Norcasia**	**1.66**	**233**	P	Pn	19 49 27.9	-1.2
NORC				S	Sn	19 49 50.0	-0.9
OCAC	**Ocana**	**1.68**	**7**	P	Pn	19 49 28.9	-0.5
OCAC				S	Sn	19 49 51.6	0.0
TAMC	**Tame, Arauca**	**1.73**	**94**	P	Pn	19 49 29.2	-0.7
TAMC				S	Sn	19 49 50.5	-2.0
ROSC	**El Rosal**	**1.88**	**205**	P	Pn	19 49 32.6	+0.4
ROSC				S	Sn	19 49 57.1	+0.7
CHIC	**Chingaza**	**1.93**	**186**	P	Pn	19 49 33.5	+0.7
CHIC				S	Sn	19 49 56.3	-1.2
GUY2C	**Guyana, Caldas**	**2.26**	**234**	P	Pn	19 49 37.2	+0.2
GUY2C				S	Sn	19 50 04.5	-0.5
UREC	**San Jos de Ur**	**2.31**	**301**	P	Pn	19 49 35.6	-1.7
UREC				S	Sn	19 50 03.8	-1.9
VILC	**Villavicencio,**	**2.44**	**184**	P	Pn	19 49 38.7	-0.4
VILC				S	Sn	19 50 09.2	+0.5
CBOC	**Ciudad Bolivar**	**2.56**	**254**	P	Pn	19 49 40.6	-0.1
CBOC				S	Sn	19 50 10.5	-1.2
DBBC	**Dabeiba**	**2.70**	**280**	P	Pn	19 49 42.1	-0.3
PRAC	**Prado**	**3.13**	**206**	P	Pn	19 49 47.3	-0.8
PRAC				S	Sn	19 50 24.5	-0.5
ORTC	**Ortega, Tolima**	**3.14**	**213**	P	Pn	19 49 47.8	-0.4
ORTC				S	Sn	19 50 25.6	+0.5
PLMC	**San Jos del P**	**3.19**	**239**	P	Pn	19 49 48.6	-0.4
PLMC				S	Sn	19 50 26.4	-0.1
APAC	**Apartado, Choc**	**3.31**	**294**	P	Pn	19 49 49.2	-1.2
APAC				S	Sn	19 50 29.0	0.0
URMC	**La Uribe, Meta**	**3.40**	**194**	P	Pn	19 49 51.4	-0.3
URMC				S	Sn	19 50 31.1	-0.3
SDV	**Santo Domingo**	**3.69**	**51**	P	Pn	19 49 54.4	-1.2
SDV				S	Sn	19 50 34.8	-3.6
SJCC	**San Jacinto, C**	**3.69**	**334**	P	Pn	19 49 53.6	-2.0
SJCC				S	Sn	19 50 35.4	-3.1
YOTC	**Yotoco, Valle**	**3.80**	**228**	P	Pn	19 49 55.8	-1.2
CRJC	**Cerrejon, Guaj**	**4.48**	**8**	P	Pn	19 50 04.8	-1.4
CRJC				S	Sn	19 50 55.5	-1.8
URIC	**Uribia, Colomb**	**5.33**	**16**	P	Pn	19 50 15.7	-1.9

*IDC **13** 19:58:37.8±0.4, 9°.01S×112°.54E, h0km, mb4.6/20, mbtmp4.5/21, ML4.2/1, MS3.3/9, Error ellipse: s-maj=21.1km s-min=11.0km az=54.0*
*DJA **13** 19:58:45.4±0.2, 9°S±2°×11°3E±°, h54km±4km, M4.9/40, mb4.9/40, mB5.5/15, MLv5.0/26, Mw(mB)4.9/15*
*NEIC **13** 19:58:47.6±1.7, 9°.0S±0°.1×112°.59E±0°.05, h76km±7km, mb4.7/50, Error ellipse: s-maj=14.6km s-min=7.4km az=183.0*
ISC 13 19:58:40.3±1.2, 9°.15S±0°.05×112°.35E±0°.03, h16km±7km, n189, σ1°73/168, mb4.7/55, MS3.4/6, 1C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.39**	**51**	P	**Pg**	**19 59 07.4**	**+0.3**
GMJI				S	**Sn**	**19 59 22.1**	**-0.9**
PCJI	**Pacitan**	**1.49**	**309**	P	Pg	19 59 13.7	+4.6
JAGI	**Jajag, Banyuwa**	**1.91**	**70**	Pn	**Pb**	**19 59 14.2**	**-0.5**
JAGI				Sn	**Sn**	**19 59 34.4**	**-1.4**
JAGI	**Jajag, Banyuwa**	**1.91**	**70**	P	**Pb**	**19 59 14.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.91**	**70**	P	**Pb**	**19 59 14.1**	**-0.5**
NGJI	**Ngawi**	**1.97**	**334**	P	**Pg**	**19 59 22.7**	**+4.5**
UGM	**Wanagama**	**2.18**	**304**		**Pg**	**19 59 23.4**	**+1.2**
UGM				Sn	**Sg**	**19 59 51.2**	**+0.6**
UGM	**Wanagama**	**2.18**	**304**	P	**Pg**	**19 59 24.3**	**+2.1**
UGM	**Wanagama**	**2.18**	**304**	S	**Sg**	**19 59 52.7**	**+2.1**
UGM	**Wanagama**	**2.18**	**304**	P	**Pg**	**19 59 23.8**	**+1.6**
GRJI	**Gresik**	**2.22**	**3**	P	**Pg**	**19 59 23.2**	**+0.2**
ABJI	**Asem Bagus**	**2.30**	**54**	P	**Pb**	**19 59 21.8**	**+0.4**
TBJI	**Tambak Boyo**	**2.37**	**348**	P	**Pg**	**19 59 25.9**	**+0.2**
YOGI	**Yogyakarta**	**2.42**	**303**	P	**Pg**	**19 59 26.6**	**-0.2**
KMMI	**Kalianget**	**2.63**	**38**	P	**Pb**	**19 59 26.3**	**-0.7**
SMRI	**Semarang**	**2.81**	**318**	Pn	**Pg**	**19 59 32.9**	**-1.4**
SMRI	**Semarang**	**2.81**	**318**	P	**Pg**	**19 59 33.1**	**-1.2**
SMRI	**Semarang**	**2.81**	**318**	P	**Pg**	**19 59 32.9**	**-1.4**
DNP	**Denpasar**	**2.87**	**81**	P	**Pn**	**19 59 27.8**	**+2.5**
SRBI	**Singaraja**	**3.02**	**70**	P	**Pn**	**19 59 30.1**	**+2.6**
KPJI	**Karang Pucung**	**3.83**	**298**	P	**Pb**	**19 59 46.6**	**-1.0**
CMJI	**Cimerak**	**4.09**	**289**	P	**Pb**	**19 59 48.8**	**-3.1**
BBJI	**Bungbulang**	**4.94**	**289**	P	Pb	20 00 01.1	-5.4
LEM	**Lembang**	**5.22**	**296**	Pn	**Pb**	**20 00 06.6**	**-4.7**
4.4nm,0.3s,baz=85,slow=11,SNR=12							
LEM				Sn	**Sn**	**20 01 03.4**	**+5.5**
13nm,0.3s,baz=137,slow=21,SNR=3.8							
LEM	**Lembang**	**5.22**	**296**	P	Pb	20 00 05.9	-5.5
0.7nm1μm92nm,1.1s							
PLAI	**Plampang**	**5.37**	**87**	P	**Pn**	**20 00 02.1**	**+2.3**
PLAI	**Plampang**	**5.37**	**87**	P	**Pn**	**20 00 01.5**	**+1.7**
1.2nm4μm379nm,0.7s							
CNJI	**Cibinong**	**5.48**	**289**	P	Pn	20 00 08.2	+6.9
0.6nm2μm42nm,0.5s							
SKJI	**Sukabumi**	**6.12**	**290**	P	Pb	20 00 19.6	-6.9
4μm149nm,0.5s							
XMI	**Christmas Isla**	**6.69**	**258**	P	Pn	20 00 23.2	+5.2
XMIS	**Christmas Isla**	**6.73**	**258**	Pn	**Pn**	**20 00 22.1**	**+3.6**
XMIS	**Christmas Isla**	**6.73**	**258**	P	Pn	20 00 23.4	+4.9
WBSI	**Waikabubak, Su**	**6.97**	**95**	P	**Pn**	**20 00 21.6**	**-0.2**
0.6nm2μm153nm,0.7s							
CGJI	**Cibinong**	**7.06**	**290**	P	Pn	20 00 31.0	+8.0
WSI	**Waingapu**	**7.86**	**94**	P	**Pn**	**20 00 34.2**	**+0.2**
1.0nm3μm198nm,0.6s							
BASI	**Baing, Sumba**	**8.18**	**98**	P	**Pn**	**20 00 38.9**	**+0.4**
0.6nm2μm123nm,0.6s							
KAPI	**Kappang**	**8.41**	**61**	Pn	**Pn**	**20 00 41.9**	**+0.2**
KAPI	**Kappang**	**8.41**	**61**	Pn	**Pn**	**20 00 43.9**	**+2.3**
4.1nm,0.3s,baz=207,slow=7.5,SNR=6.3							
KAPI				Sn	**Sn**	**20 02 12.7**	**-3.7**
2.1nm,0.3s,baz=18,slow=22,SNR=1.4							
KAPI				LR	LR	20 04 11.0	
comp=Z,118nm,21.4s,baz=231,slow=41							
KAPI	**Kappang**	**8.41**	**61**	P	**Pn**	**20 00 45.0**	**+3.4**
BKSI	**Bulukumba**	**8.60**	**64**	P	**Pn**	**20 00 46.9**	**+2.8**
42nm,0.6s							
BSSI	**Bau Bau, Buton**	**8.60**	**70**	P	**Pn**	**20 00 46.2**	**+2.0**
133nm,0.9s							
SPSI	**Sidrap Palu**	**8.99**	**56**	P	**Pn**	**20 00 52.2**	**+2.7**
54nm,1.0s							
LWLI	**Liwa**	**9.19**	**296**	P	Pn	20 00 59.7	+7.3
STKI	**Sintang**	**9.19**	**355**	P	Pn	20 00 59.0	+6.7
51nm,0.7s							
MDSI	**Maura Dua**	**9.34**	**299**	P	Pn	20 01 01.1	+6.8
24nm,0.8s							
TTSI	**Tana Toraja**	**9.59**	**51**	P	**Pn**	**20 01 01.0**	**+3.3**
40nm,1.0s							
MMRI	**Maumere**	**9.79**	**88**	Pn	**Pn**	**20 00 57.5**	**-2.9**
MMRI	**Maumere**	**9.79**	**88**	P	**Pn**	**20 01 02.0**	**+1.5**
MMRI	**Maumere**	**9.79**	**88**	P	**Pn**	**20 01 00.8**	**+0.3**
84nm,0.5s							
MNAI	**Manna**	**10.47**	**296**	Pn	Pn	20 01 15.9	+6.1
MNAI	**Manna**	**10.47**	**296**	P	Pn	20 01 16.5	+6.7
MNAI	**Manna**	**10.47**	**296**	P	Pn	20 01 16.3	+6.5
KSI	**Kapahiang**	**11.12**	**299**	P	Pn	20 01 25.6	+6.8
KDI	**Kendari**	**11.43**	**64**	P	**Pn**	**20 01 25.0**	**+2.0**
24nm,1.2s							
SBUM	**Sibu**	**11.52**	**359**	Pn	**Pn**	**20 01 26.4**	**+2.2**
SOEI	**Soe**	**11.78**	**94**	Pn	**Pn**	**20 01 27.0**	**-0.8**
SOEI	**Soe**	**11.78**	**94**	P	**Pn**	**20 01 28.2**	**+0.4**
SOEI	**Soe**	**11.78**	**94**	P	**Pn**	**20 01 27.3**	**-0.5**
88nm,1.0s							
TOLI2	**Tolitoli**	**13.21**	**40**	Pn	**Pn**	**20 01 45.3**	**-2.0**
MRSI	**Marisa**	**13.52**	**45**	P	**Pn**	**20 01 55.1**	**+3.6**
33nm,1.0s							
GIRL	**Giralia**	**13.54**	**173**	Pn	**Pn**	**20 01 50.6**	**-1.2**
MBWA	**Marble Bar**	**13.90**	**150**	Pn	Pn	20 01 52.0	-4.8
PSA00	**Pilbara Seismi**	**14.31**	**151**	Pn	**Pn**	**20 02 01.8**	**-0.6**
PSA00	**Pilbara Seismi**	**14.31**	**151**	Pn	**Pn**	**20 02 01.4**	**-1.0**
SANI	**Sanana**	**15.29**	**63**	P	**Pn**	**20 02 17.9**	**+2.3**
SANI	**Sanana**	**15.29**	**63**	P	**Pn**	**20 02 17.4**	**+1.8**
61nm,1.2s							
FITZ	**Fitzroy Crossi**	**15.68**	**126**	Pn	**Pn**	**20 02 19.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**15.68**	**126**	Pn	**Pn**	**20 02 17.6**	**-3.0**
0.7nm,0.3s,baz=300,slow=7.2,SNR=22							
FITZ				Sn	Sn	20 04 56.8	-17
1.2nm,0.3s,baz=185,slow=21,SNR=5.9							
FITZ				LR	LR	20 08 04.6	
comp=Z,60nm,19.3s,baz=282,slow=36							
4.9nm,0.6s							
AAI	**Ambon**	**16.65**	**72**	P	**Pn**	**20 02 33.8**	**+0.6**
41nm,1.0s							
KNRA	**Kununurra**	**17.29**	**114**	P	**Pn**	**20 02 41.6**	**+0.4**
KNRA				IAmb	IAmb	20 02 48.1	
comp=Z,22nm,0.6s							
PSI	**Prapat**	**17.88**	**311**	LR	LR	20 10 42.8	
comp=Z,114nm,20.6s,baz=138,slow=41							
TNTI	**Ternate**	**17.91**	**57**		**Pn**	**20 02 46.3**	**-2.7**
TNTI				IAmb	IAmb	20 02 52.5	
comp=Z,51nm,1.2s							
TNTI	**Ternate**	**17.91**	**57**	P	**P**	**20 02 50.4**	**+0.9**
comp=Z,42nm,1.2s							
GSI	**Gunungsitoli**	**18.01**	**304**	P	**Pn**	**20 02 47.9**	**-2.2**
GSI				IAmb	IAmb	20 02 50.4	
comp=Z,27nm,0.4s							
MEEK	**Meekatharra**	**18.38**	**162**	P	**P**	**20 02 54.7**	**+0.1**
comp=Z,25nm,0.9s							
MTN	**Manton Dam**	**18.80**	**103**	P	**P**	**20 02 58.5**	**-0.7**
MTN				IAmb	IAmb	20 03 03.6	
comp=Z,27nm,0.5s							
MTN	**Manton Dam**	**18.80**	**103**	P	**P**	**20 02 59.4**	**+0.2**
KDU	**Kakadu**	**20.07**	**102**	P	**P**	**20 03 12.4**	**-0.8**
comp=Z,18nm,0.7s							
MORW	**Morawa**	**20.12**	**171**	P	Pn	20 03 16.6	+1.2
FAKI	**Fak Fak**	**20.73**	**74**	P	**P**	**20 03 19.2**	**-1.1**
WRKA	**Warakurna**	**21.92**	**138**	P	**P**	**20 03 33.0**	**-0.1**
comp=Z,11nm,0.9s							
WRKA	**Warakurna**	**21.92**	**138**	P	**P**	**20 03 33.0**	**-0.1**
WB0	**Warramunga Arr**	**23.78**	**119**	P	**P**	**20 03 50.7**	**-1.7**
WRA	**Warramunga Arr**	**23.81**	**119**	P	**P**	**20 03 51.3**	**-1.4**
comp=Z,2.1nm,0.5s,baz=296,slow=11,SNR=26							
WRA				PcP	**PcP**	**20 07 35.4**	**-0.7**
comp=Z,1.0nm,0.4s,baz=319,slow=2.1,SNR=5.5							
WRA				S	**S**	**20 08 10.6**	**+2.6**
comp=Z,0.5nm,0.5s,baz=284,slow=19,SNR=1.0							
comp=Z,2.1nm,0.5s							
WB2	**Warramunga Arr**	**23.82**	**119**	P	**P**	**20 03 51.7**	**-1.0**
AS31	**Alice Springs**	**25.16**	**128**	P	**P**	**20 04 04.4**	**-0.8**
AS31	**Alice Springs**	**25.16**	**128**	P	**P**	**20 04 04.5**	**-0.6**
comp=Z,4.2nm,0.6s							
ASAR	**Alice Springs**	**25.16**	**128**	P	**P**	**20 04 04.3**	**-0.8**
comp=Z,6.0nm,0.6s,baz=303,slow=8.6,SNR=116							
ASAR				PcP	**PcP**	**20 07 38.5**	**-0.6**
comp=Z,2.1nm,0.5s,baz=307,slow=1.7,SNR=14							
ASAR				S	**S**	**20 08 39.6**	**+10**
comp=Z,0.5nm,0.9s,baz=121,slow=17,SNR=1.4							
ASAR				LR	LR	20 15 07.7	
comp=Z,51nm,18.2s,baz=272,slow=39							
comp=Z,6.0nm,0.6s							
AS01	**Alice Springs**	**25.20**	**128**	P	**P**	**20 04 04.5**	**-0.9**
FORT	**Forrest**	**26.04**	**148**	P	**P**	**20 04 13.4**	**+0.5**
FORT				IAmb	IAmb	20 04 15.6	
comp=Z,25nm,0.7s							
NONG	**Nongkai**	**28.52**	**341**	P	**P**	**20 04 36.7**	**+1.4**
PHRA	**Phrae**	**29.96**	**336**	P	**P**	**20 04 49.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.45**	**334**	P	**P**	**20 04 54.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**30.45**	**334**	P	**P**	**20 04 53.6**	**+1.2**
comp=Z,2.0nm,0.6s,baz=170,slow=8.0,SNR=31							
CMAR				PcP	**PcP**	**20 07 52.4**	**+0.5**
comp=Z,0.6nm,0.7s,baz=200,slow=3.1,SNR=4.2							
CMAR				LR	LR	20 18 55.3	
comp=Z,24nm,20.1s,baz=150,slow=40							
comp=Z,2.0nm,0.6s							
CHTO	**Chiang Mai**	**30.77**	**335**	P	**P**	**20 04 55.4**	**+0.2**
STKA	**Stephens Creek**	**35.31**	**134**	P	**P**	**20 05 34.4**	**-0.5**
STKA				IAmb	IAmb	20 05 35.7	
comp=Z,6.5nm,0.7s							
STKA	**Stephens Creek**	**35.31**	**134**	P	**P**	**20 05 34.3**	**-0.6**
comp=Z,4.7nm,0.6s,baz=308,slow=8.3,SNR=14							
STKA				PcP	**PcP**	**20 08 04.7**	**-0.5**
comp=Z,1.9nm,0.5s,baz=13,slow=4.6,SNR=3.6							
comp=Z,4.7nm,0.6s							
PZH	**PanZhiHua**	**36.90**	**344**	P	**P**	**20 05 49.9**	**+1.3**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,120nm,6.2s							
H08S2	**Diego Garcia H**	**39.44**	**269**	T	T	20 48 14.8	
baz=94,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**39.45**	**269**	T	T	20 48 15.4	
baz=94,slow=76,SNR=13							
H08S1	**Diego Garcia H**	**39.46**	**269**	T	T	20 48 16.3	
baz=94,slow=76,SNR=9.3							
SHL	**Shillong**	**39.84**	**330**	P	**P**	**20 06 13.9**	**+0.5**
XAN	**Xi'an**	**43.07**	**356**	⇓P	**P**	**20 06 39.3**	**-0.3**
XAN				pmax	pmax		
comp=Z,9.0nm,0.6s							
LSA	**Lhasa**	**43.68**	**333**	IAmb	IAmb	20 06 48.0	
comp=Z,11nm,0.6s							
LSA	**Lhasa**	**43.68**	**333**	P	**P**	**20 06 46.3**	**+1.2**
LSA				pmax	pmax		
comp=Z,14nm,0.7s							
JNU	**Nakatsue**	**45.59**	**22**	LR	LR	20 26 34.9	
comp=Z,23nm,20.3s,baz=173,slow=37							
LZH	**Lanzhou**	**45.70**	**350**	*e*P	**P**	**20 07 01.8**	**+1.1**
LZH				pP	sP	20 07 14.0	+6.7
LZH				pmax	pmax		
comp=Z,13nm,1.3s							
KSRS	**Korea Array**	**48.60**	**17**	P	**P**	**20 07 22.7**	**-0.4**
comp=Z,2.7nm,0.8s,baz=200,slow=7.5,SNR=6.1							
comp=Z,2.7nm,0.8s							
BJT	**Baijiatuau**	**49.04**	**4**	P	**P**	**20 07 25.9**	**-0.7**
BJT				IAmb	IAmb	20 07 26.

H04N3	CROZET ISLANDS	63.21	223	T	T	21 17 35.6	
	baz=71						
KKAR	Karatay Array	64.45	327	P	P	20 09 15.1	-0.9
KKAR	Karatay Array	64.45	327	IAmb	IAmb	20 09 17.1	
	comp=Z,1.7nm,0.8s						
URZ	Urewera	64.61	128	LR	LR	20 38 38.7	
	comp=Z,48nm,18.2s,baz=25,slow=37						
KURBB	Kurchatov Arra	66.37	337	P	P	20 09 27.2	-1.0
	comp=Z,1.7nm,0.5s,baz=154,slow=6.5,SNR=4.3						
KURB				PcP	PcP	20 09 57.6	-0.3
	comp=Z,3.0nm,0.8s,baz=150,slow=3.4,SNR=12						
	comp=Z,1.7nm,0.5s						
KURK	Kurchatov	66.41	337	P	P	20 09 27.7	-0.8
ZAA0	Zalesovo Array	67.03	343	IAmb	IAmb	20 09 32.0	
	comp=Z,7.5nm,0.8s						
ZALV	Zalesovo Beam	67.03	343	P	P	20 09 31.0	-1.4
ZALV	Zalesovo Beam	67.03	343	P	P	20 09 31.3	-1.1
	comp=Z,9.3nm,0.7s,baz=153,slow=4.5,SNR=46						
	comp=Z,9.3nm,0.7s						
BVAR	Borovoye Array	71.48	335	P	P	20 09 59.2	-0.8
	comp=Z,1.9nm,0.6s,baz=144,slow=9.2,SNR=13						
	comp=Z,1.9nm,0.6s						
YAK	Yakutsk	72.23	8	P	P	20 10 02.7	-1.6
RAYN	Ar Rayn	72.92	298	P	P	20 10 09.4	+0.1
RAYN				IAmb	IAmb	20 10 10.2	
	comp=Z,6.5nm,0.6s						
ABKAR	Akbulak array	74.01	327	P	P	20 10 14.6	-0.5
ABKAR	Akbulak array	74.01	327	IAmb	IAmb	20 10 15.7	
	comp=Z,8.3nm,0.6s						
MA2	Magadan	75.06	19	P	P	20 10 19.6	-1.4
MA2				IAmb	IAmb	20 10 21.0	
	comp=Z,6.0nm,0.8s						
MA2	Magadan	75.06	19	P	P	20 10 20.0	-1.0
	comp=Z,9.3nm,1.7s						
ARTI	Arti	78.94	333	P	P	20 10 42.3	-0.6
GNI	Garni	79.23	314	P	P	20 10 45.0	-0.1
GNI				IAmb	IAmb	20 11 03.9	
	comp=Z,6.6nm,0.9s						
GURO	Guroymak-BITLI	80.63	312	P	P	20 10 53.8	+1.1
GURO				IAmb	IAmb	20 10 54.2	
	comp=Z,4.3nm,0.6s						
QSPA	South Pole Qui	80.85	180	P	P	20 10 53.9	+0.5
	comp=Z,2.5nm,0.9s,baz=125,slow=17,SNR=2.5						
	comp=Z,2.5nm,0.9s						
MARD	Mardin	81.17	310	IAmb	IAmb	20 10 57.1	
	comp=Z,6.9nm,0.5s						
MBAR	Mbarara	81.62	271	P	P	20 10 57.8	-0.7
MBAR				IAmb	IAmb	20 11 01.8	
	comp=Z,7.3nm,0.7s						
KBZ	Khabaz	81.81	317	P	P	20 10 59.5	+1.0
	comp=Z,11nm,0.9s,baz=181,slow=2.2,SNR=21						
	comp=Z,11nm,0.9s						
KIV	Kislovodsk	82.03	317	P	P	20 10 57.3	-2.6
KIV				IAmb	IAmb	20 11 02.8	
	comp=Z,8.1nm,1.0s						
LSZ	Lusaka	82.05	256	P	P	20 11 00.5	-0.2
KOPT	Kop Dagi	82.24	313	IAmb	IAmb	20 11 07.4	
	comp=Z,10nm,1.0s						
BOSA	Boshof	83.15	242	P	P	20 11 07.8	+1.6
	comp=Z,2.7nm,0.8s,baz=98,slow=6.0,SNR=4.3						
BOSA				LR	LR	20 40 55.2	
	comp=Z,34nm,21.4s,baz=200,slow=30						
	comp=Z,2.7nm,0.8s						
MMAI	Mount Meron Ar	84.16	305	P	P	20 11 12.9	+1.8
	comp=Z,9.1nm,0.8s,baz=106,slow=7.9,SNR=12						
	comp=Z,9.1nm,0.8s						
SUR	Sutherland	86.46	238	LR	LR	20 44 26.5	
	comp=Z,33nm,18.9s,baz=188,slow=32						
BR104	Keskin Array S	87.21	311	P	P	20 11 26.7	+0.4
	comp=Z,8.3nm,0.9s						
BRTR	Keskin Array B	87.22	311	P	P	20 11 24.8	-1.5
BRTR	Keskin Array B	87.22	311	P	P	20 11 26.2	-0.2
	comp=Z,5.9nm,0.8s,baz=131,slow=6.7,SNR=15						
	comp=Z,5.9nm,0.8s						
BR105	Keskin Array S	87.23	311	P	P	20 11 27.0	+0.6
	comp=Z,7.9nm,0.9s						
BR106	Keskin Array S	87.23	311	P	P	20 11 27.2	+0.8
	comp=Z,8.9nm,0.8s						
SNAA	Sanae	89.03	197	P	P	20 11 34.9	+0.6
	comp=Z,6.2nm,0.8s,baz=200,slow=6.2,SNR=14						
	comp=Z,6.2nm,0.8s						
OBN	Obninsk	89.42	326	P	P	20 11 36.5	+0.3
	comp=Z,26nm,0.9s						
AK10	Malin Array Si	92.64	321	P	P	20 11 50.5	-0.8
AK08	Malin Array Si	92.64	321	P	P	20 11 50.6	-0.7
AK07	Malin Array Si	92.66	321	P	P	20 11 50.4	-1.0
AK06	Malin Array Si	92.67	321	P	P	20 11 50.5	-0.9
AKASG	Malin Array Be	92.68	321	P	P	20 11 50.2	-1.2
	comp=Z,2.3nm,0.7s,baz=90,slow=4.3,SNR=8.4						
	comp=Z,2.3nm,0.7s						
AKBB	Malin Array Si	92.68	321	P	P	20 11 50.9	-0.5
KIEV	Kiev	92.69	321	P	P	20 11 50.9	-0.6
VRI	Vrincioaia	93.45	316	P	P	20 11 56.0	+0.8
LUBAR	Lubar, Ukraine	93.46	320	P	P	20 11 54.2	-0.9
NDNU	Novodnistrovsk	93.48	319	P	P	20 11 55.0	-0.2
FINES	FINESS Array B	96.18	331	P	P	20 12 06.5	-0.7
	comp=Z,1.5nm,0.6s,baz=100,slow=6.6,SNR=6.6						
	comp=Z,1.5nm,0.6s						
SPITS	Spitsbergen Ar	100.12	348	P	Pdif	20 12 22.9	-1.8
	comp=Z,5.2nm,0.8s,baz=67,slow=11,SNR=2.1						
YKA	Yellowknife Ar	116.92	22	PKP	PKPdf	20 17 23.1	-0.8
	comp=Z,0.6nm,0.7s,baz=309,slow=1.9,SNR=6.6						
NVAR	Mina Array Bea	126.12	49	PKP	PKPdf	20 17 42.3	-0.3
	comp=Z,0.6nm,0.6s,baz=320,slow=3.0,SNR=2.8						
PDAR	Pinedale Array	130.39	40	PKP	PKPdf	20 17 50.0	-0.6
	comp=Z,0.2nm,0.4s,baz=265,slow=2.2,SNR=2.3						
TXAR	Lajitas Array	140.75	54	PKhKP	PKPpre	20 18 03.3	
	comp=Z,0.4nm,0.5s,baz=197,slow=1.9,SNR=4.8						
CPUP	Villa Florida	143.34	196	PKhKP	PKPpre	20 18 11.8	
	comp=Z,0.8nm,0.4s,baz=190,slow=13,SNR=1.4						
BDFB	Brasilia	148.62	218	PKPbc	PKiKP	20 18 29.1	-0.2
	comp=Z,5.2nm,0.6s,baz=198,slow=13,SNR=6.3						
SIV	San Ignacio	154.19	195	PKP	PKPdf	20 18 33.4	+0.9
	comp=Z,0.4nm,0.3s,baz=332,slow=20,SNR=2.1						
SIV				PKPab	PKPab	20 18 55.3	+1.2
	comp=Z,0.7nm,0.2s,baz=144,slow=7.8,SNR=4.5						

IDC 13 19:58:48.3±652.0, 23°.03S×70°.29W, h0km, Error ellipse: s-maj=307.7km s-min=171.8km az=77.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I14CL	ROBINSON CRUSO	2.96	213	I	I	21 17 50.0	
	baz=38,slow=323,SNR=0.4						
I20EC	Galapagos	29.63	316	I	I	23 00 20.0	
	baz=140,slow=316,SNR=2.5						
I13CL	EASTER ISLAND	35.53	255	I	I	23 34 40.0	
	baz=91,slow=313,SNR=0.9						

IDC 13 20:14:04.7±676.0, 23°.10S×70°.23W, h0km, Error ellipse: s-maj=319.9km s-min=174.1km az=79.0

SJA 13 20:13:29.9±0.7, 28°.88S×66°.85W, h12km±2km, ML2.7, MW2.8, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	CERRO LA CRUZ	0.55	189	eP	Pb	20 13 41.6	0.0
ACLC				eS	Sb	20 13 49.5	-0.2
ACLC				IAML		20 13 50.1	
	comp=Z,641nm,0.3s						
CYA	Choya	1.02	65	eP	Pn	20 13 49.9	-0.3
CYA				eS	Sb	20 14 03.6	+0.7
CYA				IAML		20 14 04.0	
	comp=Z,211nm,0.2s						
VCA	Vinchina	1.20	277	eP	Pb	20 13 52.6	0.0
VCA				eS	Sn	20 14 09.4	+0.5
VCA				IAML		20 14 11.1	
	comp=Z,192nm,0.2s						
APLL	PUNTA DE LOS L	1.54	170	eP	Pb	20 13 58.6	+0.2
APLL				eS	Sg	20 14 19.1	-0.3
APLL				IAML		20 14 20.9	
	comp=Z,34nm,0.3s						
AGUA	GUANDACOL	1.56	247	eP	Pb	20 13 59.2	+0.4
AGUA				eS	Sb	20 14 19.2	+0.7
AGUA				IAML		20 14 19.4	
	comp=Z,258nm,0.3s						
AVFE	Valle Fertil	1.85	196	eP	Pb	20 14 03.5	-0.3
AVFE				eS	Sg	20 14 28.8	-0.6
AVFE				IAML		20 14 32.4	
	comp=Z,50nm,0.1s						
ACHE	Chepes	2.28	176	eP	Pn	20 14 09.1	+1.6
ACHE				eS	Sg	20 14 43.2	0.0
ACDV	Cuesta del Vie	2.36	236	eP	Pn	20 14 08.0	-0.6
ACDV				IAML		20 14 44.5	
	comp=Z,139nm,0.2s						
ACCO	Cerro Coronel	2.57	228	eP	Pb	20 14 14.5	-1.6
ACCO				eS	Sb	20 14 47.7	-0.1
AROD	Rodeo	2.62	240	eP	Pb	20 14 15.4	-1.6
AROD				eS	Sg	20 14 53.7	-0.4
DOCA	Reserva Natura	2.83	223	eP	Pn	20 14 16.9	+1.6
DOCA				eS	Sn	20 14 51.3	+1.8
FSA	Cafayete	2.87	16	eP	Pn	20 14 17.5	+1.9
FSA				eS	Sb	20 14 58.5	+2.3
AC02	Maricunga	2.87	315	eP	Pb	20 14 22.6	+1.2
AC02				eS	Sg	20 14 59.4	-2.7
CO01	Juntas del Tor	3.03	248	eP	Pb	20 14 25.1	+1.1
CO01				IAML		20 15 44.2	
	comp=Z,20nm,0.1s						
ZON	Zonda	3.09	210	eP	Pg	20 14 34.8	+5.6
ZON				eS	Sg	20 15 06.0	-3.2
ZON				IAML		20 15 12.3	
	comp=Z,12nm,0.7s						
LCO	Las Campanas	3.38	267	eP	Pn	20 14 26.0	+3.3
LCO				IAML		20 15 43.6	
	comp=Z,30nm,2.4s						
RTLS	Leoncito	3.60	215	eP	Pb	20 14 30.3	-3.4
RTLS				IAML		20 15 28.6	
	comp=Z,24nm,0.5s						
GO04	Tololo Observa	3.67	249	eP	Pn	20 14 30.1	+3.3
GO04				eS	Sg	20 15 24.8	-3.1
CO03	El Pedregal	3.86	239	eP	Pn	20 14 33.0	+3.7
CO03				IAML		20 15 22.4	
	comp=Z,7.7nm,1.4s						
ASAL	Salagasta	4.07	204	eP	Pn	20 14 35.2	+3.0
ASAL				eS	Sg	20 15 41.0	+0.2
ASAL				IAML		20 15 47.6	
	comp=Z,5.3nm,0.6s						
I14CL	ROBINSON CRUSO	1.27	242	I	I	21 32 10.0	
	baz=39,slow=318,SNR=0.7						
I20EC	Galapagos	35.99	317	I	I	23 16 00.0	
	baz=141,slow=317,SNR=1.5						
I13CL	EASTER ISLAND	37.43	262	I	I	23 50 50.0	
	baz=91,slow=313,SNR=0.9						

IDC 13 20:25:27.9±6.3, 3°.66S×148°.75E, h0km, mb3.4/3, mbtmp3.5/3, MS3.2/2, Error ellipse: s-maj=199.9km s-min=36.4km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.43	220	P	P	20 30 16.6	-1.2
	1.1nm,0.8s,baz=49,slow=9.8,SNR=6.8						
	1.1nm,0.8s						
ASAR	Alice Springs	24.52	214	P	P	20 30 50.5	+1.2
	1.0nm,0.8s,baz=31,slow=11,SNR=8.3						
	1.0nm,0.8s						
MSVF	Nonsavu	31.93	118	LR	LR	20 43 50.3	
	comp=Z,87nm,19.3s,baz=22,slow=34						
ASAJ	Asahikawa	47.88	354	LR	LR	20 56 04.9	
	comp=Z,10nm,18.7s,baz=94,slow=38						
MKAR	Makanchi Array	76.83	320	P	P	20 37 21.5	-0.3
	0.4nm,0.9s,baz=108,slow=6.9,SNR=3.8						
	0.4nm,0.9s						

IDC 13 20:33:42.8±1.6, 19°.15N×121°.36E, h0km, mb3.3/5, mbtmp3.4/5, MS3.0/3, Error ellipse: s-maj=66.7km s-min=21.0km az=57.0

ISC 13 20:33:48.4±1.2, 19°.1N±0°.1×121°.2E±0°.2, h39km, n19, σ19 24/11, mb3.3/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	Beinan	3.69	358	P	Pn	20 34 45.1	+2.2
TPUB	Ta-pu	4.20	353	P	Pn	20 34 47.9	-2.1
YULB	Yu-li	4.26	1	P	Pn	20 34 51.0	+0.2
SSLB	Suanglung	4.66	357	P	Pn	20 34 54.9	-1.4
NACB	Ninganchiao	5.05	4	P	Pn	20 35 00.8	-0.8
YHNB	Yeheng	5.53	2	P	Pn	20 35 08.3	0.0
DAV	Davao City (W)	12.70	160	LR	LR	20 42 29.5	
	comp=Z,72nm,20.1s,baz=40,slow=42						
CMAR	Chiang Mai Arr	21.09	272	P	P	20 38 30.0	+0.3
	0.3nm,0.3s,baz=88,slow=9.2,SNR=4.3						
CMAR				LR	LR	20 47 35.1	
	comp=Z,24nm,18.1s,baz=80,slow=39						
	0.3nm,0.3s						
KLR	Kul'dur	31.22	13	LR	LR	20 53 15.3	
	comp=Z,29nm,18.2s,baz=164,slow=38						
WRA	Warramunga Arr	40.89	161	P	P	20 41 26.7	-0.3
	0.3nm,0.4s,baz=346,slow=8.7,SNR=7.4						
	0.3nm,0.4s						
MKAR	Makanchi Array	42.10	320	P	P	20 41 37.1	+0.4
	0.1nm,0.6s,baz=107,slow=9.0,SNR=5.2						
	0.1nm,0.6s						
H11S3	WAKE ISLAND Hy	42.96	83	T	T	21 27 25.4	
	baz=276						
H11S1	WAKE ISLAND Hy	42.97	83	T	T	21 27 32.1	
	baz=276						
H11S2	WAKE ISLAND Hy	42.98	83	T	T	21 27 27.2	
	baz=276						
H11N1	WAKE ISLAND Hy	42.99	81	T	T	21 27 41.9	
	baz=275						
H11N2	WAKE ISLAND Hy	42.99	81	T	T	21 27 24.1	
	baz=275						
H11N3	WAKE ISLAND Hy	43.01	81	T	T	21 27 39.9	
	baz=275						
ASAR	Alice Springs	44.29	163	P	P	20 41 54.5	-0.1
	0.3nm,0.3s,baz=346,slow=8.2,SNR=17						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	46.08	323	P	P	20 42 08.9	+0.4
	0.2nm,0.6s,baz=120,slow=7.8,SNR=4.3						
	0.2nm,0.6s						

IDC 13 20:34:11.0±1.8, 60°.12N×153°.06W, h81km±27km, mb3.5/6, mbtmp3.7/10, Error ellipse: s-maj=33.6km s-min=10.7km az=109.0

NEIC 13 20:34:13.4±0.7, 60°.08N±0°.04×152°.82W±0°.04, h110km±5km, Error ellipse: s-maj=5.5km s-min=2.2km az=157.0

AEIC 13 20:34:14.5±0.8, 60°.06N±0°.04×152°.81W±0°.08, h108km±4km, ML2.9, ML3.0/166(NEIC), Error ellipse: s-maj=5.7km s-min=5.4km az=119.0

ISC 13 20:34:13.4±0.7, 60°.06N±0°.05×152°.73W±0°.05, h113km±5km, n181, σ0 97/167, mb3.8/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	Slope Mountain	0.06	64		Pn	20 34 28.6	-0.3
O20K					Sn	20 34 40.3	-0.3
ILS	Iliamna Low So	0.20	240		Pn	20 34 28.5	-0.7
ILS					Sn	20 34 40.5	-0.6
ILSW	Iliamna Southw	0.22	251		Pn	20 34 28.3	-1.1
ILSW				IAML		20 34 43.0	
	comp=E,696nm,0.5s						
ILSW	Iliamna Southw	0.22	251		Sn	20 34 40.7	-0.5
RED	Redoubt Volcan	0.36	357		Pn	20 34 29.4	-0.5
RED					Sn	20 34 41.3	-0.9
RDWB	Redoubt West	0.44	353		Pn	20 34 29.7	-0.6
P19K	Oil Pt	0.48	212		Pn	20 34 30.1	-0.3
P19K	Oil Pt	0.48	212		Sn	20 34 42.7	-0.5
RDJH	Redoubt Jeurge	0.54	356		Pn	20 34 30.4	-0.5
RDT	Redoubt	0.54	17		Pn	20 34 30.3	-0.6
RDT					Sn	20 34 43.1	-1.0
HOM	Homer	0.68	126	Sn	Sn	20 34 46.0	+0.4
AU22	Augustine Moun	0.76	205		Pn	20 34 32.2	-0.2
AU22					Sn	20 34 46.4	-0.4
AUL	Augustine Lava	0.77	208		Pn	20 34 32.6	0.0
AUL					Sn	20 34 46.8	-0.2
O19K	Port Alsworth	0.81	281		Pn	20 34 32.4	-0.5
CNPM	China Poot	0.92	125		Pn	20 34 34.3	+0.3
BRLK	Bradley Lake	0.97	107		Pn	20 34 34.8	+0.3
BRSE	Bradley Lake S	1.05	107		Pn	20 34 35.6	+0.3
CAPN	Captain Cook N	1.06	47		Pn	20 34 37.0	+1.7
N19K	Bonanza Creek	1.16	312		Pn	20 34 35.8	-0.7
N19K				IAML		20 34 53.6	
	comp=N,433nm,0.6s						
N19K				IAML		20 34 53.6	
	comp=E,438nm,0.8s						
SPU	Mount Spurr	1.18	16	Pn	Pn	20 34 36.5	-0.2
SPU				IAML		20 34 55.4	
	comp=E,189nm,0.5s						
Q19K	Cape Douglas,	1.22	203		Pn	20 34 36.5	-0.6
Q19K				IAML		20 34 58.5	
	comp=N,275nm,0.8s						
Q19K				IAML		20 34 58.8	
	comp=E,281nm,1.0s						
O18K	Koktuh Hills	1.26	262		Pn	20 34 37.2	-0.4
O18K				IAML		20 34 55.3	
	comp=N,234nm,0.6s						
O18K				IAML		20 34 55.4	
	comp=E,162nm,1.0s						
SLKM	Skilak Lake	1.33	69	Pn	Pn	20 34 38.1	-0.3
P18K	Big Mountain,	1.43	243	Pn	Pn	20 34 38.9	-0.7
SYI	Shuyak Island	1.46	173	Pn	Pn	20 34 39.7	-0.1
SYI				IAML		20 35 01.4	
	comp=E,259nm,0.5s						
SYI				IAML		20 35 02.6	
	comp=N,246nm,0.5s						
STLK	Strandline Lak	1.51	16		Pn	20 34 40.5	0.0
O22K	Cooper Landing	1.56	73		Pn	20 34 40.9	0.0
SEW	Seward	1.64	87	Pn	Pn	20 34 41.4	-0.5
N18K	Kilae Creek	1.69	293	Pn	Pn	20 34 42.1	-0.5
SUA	Susitna One	1.71	34		Pn	20 34 43.4	+0.3
SUA				IAML		20 35 07.1	
	comp=N,115nm,0.7s						
SUA				IAML		20 35 07.9	
	comp=E,142nm,0.6s						
RC01	Rabbit Creek A	1.81	54	Pn	Pn	20 34 43.9	-0.1
RC01				IAML		20 35 09.0	
	comp=E,249nm,0.5s						
KAHG	Katmai Hook Gl	1.82	212		Pn	20 34 44.5	+0.1
KAHC	Katmai Hardscr	1.83	221		Pn	20 34 44.3	-0.1
M20K	Styx River	1.84	354		Pn	20 34 44.8	+0.3
M20K	Styx River	1.84	354	IAML		20 35 09.7	
	comp=E,63nm,1.1s						
SKT	Skwentna	2.02	16	Pn	Pn	20 34 46.8	+0.1
SKT				IAML		20 35 15.3	
	comp=E,48nm,0.3s						
M19K	Big River Lodg	2.02	337		Pn	20 34 46.7	0.0
M19K	Big River Lodg	2.02	337	IAML		20 35 12.5	
	comp=E,61nm,0.9s						
M18K	Stony River	2.09	315		Pn	20 34 47.1	-0.5
N17K	Nushagak Hills	2.27	284	Pn	Pn	20 34 49.5	-0.3
KDAK	Kodiak Island	2.28	178	Pn	Pn	20 34 48.5	-1.5
KDAK				IAML		20 35 17.7	
	comp=E,95nm,0.4s						
KDAK				IAML		20 35 17.8	
	comp=E,132nm,0.2s						
KDAK	Kodiak Island	2.28	178	P	Pn	20 34 48.7	-1.3
	comp=E,17nm,0.3s,baz=252,slow=4.5,SNR=56						
KDAK				S	Sn	20 35 16.0	-2.1
	comp=E,31nm,0.3s,baz=123,slow=17,SNR=21						
ACHA	Angle Creek He	2.29	217	Pn	Pn	20 34 50.4	+0.2
PWL	Port Wells	2.32	68		Pn	20 34 49.6	-0.9
PWL	Port Wells	2.32	68	IAML		20 35 20.0	
	comp=E,143nm,0.4s						
PWL				IAML		20 35 20.0	
	comp=N,164nm,0.4s						
PMR	Palmer	2.34	47	Pn	Pn	20 34 49.8	-1.0
PMR				IAML		20 35 19.7	
	comp=E,43nm,0.5s						
ANCK	Angle Creek	2.35	219		Pn	20 34 50.9	0.0
L19K	White Mountain	2.37	335		Pn	20 34 50.9	-0.3
L19K	White Mountain	2.37	335	IAML		20 35 20.5	
	comp=E,58nm,0.7s						
L19K				IAML		20 35 21.9	
	comp=N,55nm,0.8s						
L20K	Farewell, AK	2.49	348		Pn	20 34 53.0	+0.2
KNK	Knik Glacier	2.50	55		Pn	20 34 52.2	-0.7
KNK	Knik Glacier	2.50	55	IAML		20 35 28.7	
	comp=E,88nm,0.4s						
KNK				IAML		20 35 28.9	
	comp=N,90nm,0.5s						
GHO	Glory Hole Cre	2.53	46		Pn	20 34 53.0	-0.3
GHO	Glory Hole Cre	2.53	46	IAML		20 35 29.6	
	comp=N,64nm,0.8s						
GHO				IAML		20 35 36.1	
	comp=E,62nm,0.5s						
CUT	Chulitna	2.64	26		Pn	20 34 55.5	+0.8
CUT				IAML		20 35 31.1	
	comp=N,134nm,0.4s						
M17K	Holitna River	2.68	302		Pn	20 34 54.7	-0.5
M17K	Holitna River	2.68	302	IAML		20 35 30.0	
	comp=N,66nm,0.7s						
M17K				IAML		20 35 43.0	
	comp=E,68nm,0.9s						
O16K	Kokwok River B	2.75	263		Pn	20 34 55.9	-0.2
SML	Sawmill	2.77	49		Pn	20 34 55.9	-0.5
SML	Sawmill	2.77	49	IAML		20 35 38.3	
	comp=N,37nm,0.6s						
SML				IAML		20 35 42.8	
	comp=E,36nm,0.7s						
OHAK	Old Harbor	2.86	186	Pn	Pn	20 34 53.5	-4.1
OHAK				IAML		20 35 30.4	
	comp=E,49nm,0.8s						
OHAK				IAML		20 35 36.7	
	comp=N,59nm,0.6s						
PPLA	Purkeypile	2.86	5		Pn	20 34 58.3	+0.6
P16K	Nushagak River	2.87	251		Pn	20 34 57.7	+0.1
L18K	Granite Mounta	2.90	320		Pn	20 34 57.6	-0.4
L18K	Granite Mounta	2.90	320	IAML		20 35 32.8	
	comp=E,25nm,1.0s						
L18K				IAML		20 35 47.0	
	comp=N,32nm,0.9s						
GLI	Glacier Island	2.91	71		Pn	20 34 58.2	0.0
GLI	Glacier Island	2.91	71	IAML		20 35 31.8	
	comp=N,75nm,0.3s						
GLI				IAML		20 35 33.0	
	comp=E,93nm,0.7s						
HIN	Hinchinbrook I	3.12	81		Pn	20 35 01.4	+0.3
HIN	Hinchinbrook I	3.12	81	IAML		20 35 41.0	
	comp=N,59nm,0.9s						
HIN				IAML		20 35 54.1	
	comp=E,59nm,1.1s						
SCM	Sheep Creek Mo	3.18	54	IAML		20 35 42.9	
	comp=N,27nm,1.1s						
SCM				IAML		20 35 49.1	
	comp=E,42nm,0.8s						
M16K	Timber Creek	3.23	290		Pn	20 35 02.1	-0.2
TTA	Tatalina	3.29	333	Pn	Pn	20 35 02.8	-0.4
Q23K	Middleton Isla	3.29	98		Pn	20 35 03.5	+0.3
K20K	Telida	3.37	350		Pn	20 35 04.5	+0.2
K20K	Telida	3.37	350	IAML		20 35 43.6	
	comp=E,21nm,1.0s						
CAST	Castle Rocks	3.39	5	Pn	Pn	20 35 04.5	0.0
L17K	Donlin	3.41	310		Pn	20 35 04.3	-0.5
DIV	Divide	3.60	70	Pn	Pn	20 35 06.9	-0.5
TRF	Thorofare Moun	3.60	18		Pn	20 35 07.8	+0.3
TRF	Thorofare Moun	3.60	18	IAML		20 35 54.6	
	comp=E,26nm,0.6s						
KTH	Kantishna Hill	3.61	13	Pn	Pn	20 35 07.3	-0.3
KTH				IAML		20 35 49.5	
	comp=E,21nm,0.9s						
KTH				IAML		20 35 55.9	
	comp=N,20nm,1.1s						
KLU	Klutina	3.63	64		Pn	20 35 07.0	-0.9
KLU	Klutina	3.63	64	IAML		20 35 48.1	
	comp=E,56nm,0.2s						
N15K	Kwethluk River	3.69	275

	comp=E,11nm,0.7s							
N25K	Chitina, Valde	4.27	65			Pn	20 35 17.1	+0.6
N25K				IAML			20 36 08.2	
	comp=E,16nm,0.6s							
N25K				IAML			20 36 27.4	
	comp=N,14nm,1.0s							
O14K	Tigyukauivet M	4.41	263	Pn		Pn	20 35 18.7	+0.6
O14K				IAML			20 36 26.0	
	comp=E,8.5nm,0.9s							
O14K				IAML			20 37 23.5	
	comp=N,12nm,1.1s							
SUCK	Suckling Hills	4.49	86	Pn		Pn	20 35 19.9	+0.6
SUCK				IAML			20 36 14.1	
	comp=N,26nm,1.1s							
SUCK				IAML			20 36 21.5	
	comp=E,17nm,1.1s							
J17K	VABM Dome	4.51	321			Pn	20 35 18.9	-0.6
J17K	VABM Dome	4.51	321	IAML			20 36 44.0	
	comp=E,9.4nm,1.0s							
BERG	Berg Lake	4.51	82			Pn	20 35 19.7	+0.1
GLB	Gilahina Butte	4.59	69	Pn		Pn	20 35 20.4	-0.3
GLB				IAML			20 36 13.0	
	comp=N,14nm,0.4s							
GLB				IAML			20 36 23.9	
	comp=E,7.2nm,0.7s							
VRDI	Verde Repeater	4.71	72	Pn		Pn	20 35 23.2	+0.7
VRDI				IAML			20 36 14.6	
	comp=N,12nm,0.8s							
VRDI				IAML			20 36 20.2	
	comp=E,5.9nm,0.5s							
K15K	Wolf Creek Mou	4.81	302			Pn	20 35 23.6	0.0
NEA2	Nenana	4.86	19			Pn	20 35 24.0	-0.2
NEA2	Nenana	4.86	19	IAML			20 36 18.9	
	comp=E,5.7nm,0.8s							
WRH	Wood River Hil	4.93	24	Pn		Pn	20 35 24.9	-0.3
WRH				IAML			20 36 20.4	
	comp=N,5.8nm,0.4s							
WRH				IAML			20 36 20.4	
	comp=E,5.8nm,0.6s							
SNH	Sunshine Point	4.95	84	Pn		Pn	20 35 26.4	+0.9
SNH				IAML			20 36 36.5	
	comp=E,16nm,0.9s							
SNH				IAML			20 38 38.9	
	comp=N,22nm,1.2s							
J16K	Anvik River	4.95	314	Pn		Pn	20 35 25.1	-0.4
L14K	Kuka Creek	5.06	289	Pn		Pn	20 35 27.9	+1.1
L14K				IAML			20 36 40.6	
	comp=N,10nm,1.2s							
L14K				IAML			20 36 41.1	
	comp=E,12nm,1.2s							
HDA	Harding Lake	5.14	29	Pn		Pn	20 35 27.7	-0.2
CCB	Clear Creek Bu	5.14	24	Pn		Pn	20 35 27.5	-0.6
CCB				IAML			20 36 27.5	
	comp=E,9.7nm,0.5s							
CCB				IAML			20 36 27.6	
	comp=N,4.7nm,0.4s							
I21K	Tanana	5.16	4			Pn	20 35 27.9	-0.3
I21K	Tanana	5.16	4	IAML			20 36 42.3	
	comp=E,4.9nm,1.1s							
RIDG	Independent Ri	5.25	42	Pn		Pn	20 35 30.6	+1.1
RIDG				IAML			20 36 37.2	
	comp=E,11nm,0.6s							
RIDG				IAML			20 36 47.5	
	comp=N,9.8nm,0.6s							
M26K	Nabesna, AK	5.26	59	Pn		Pn	20 35 30.6	+0.9
M26K				IAML			20 36 29.4	
	comp=N,8.1nm,0.9s							
M26K				IAML			20 36 29.6	
	comp=E,6.1nm,0.6s							
I17K	Unalakleet	5.37	319	Pn		Pn	20 35 29.9	-1.2
I17K				IAML			20 36 32.9	
	comp=N,4.7nm,1.0s							
I17K				IAML			20 36 33.4	
	comp=E,4.8nm,1.2s							
MESA	MESA	5.39	84	Pn		Pn	20 35 32.0	+0.4
ILAR	Eielson Array	5.45	27	Pn		Pn	20 35 30.4	-1.8
ILAR	Eielson Array	5.45	27	P		Pn	20 35 31.8	-0.4
	comp=E,1.2nm,0.3s,baz=216,slow=14,SNR=23							
ILAR				S		Sn	20 36 30.2	-3.4
	comp=E,0.9nm,0.4s,baz=58,slow=20,SNR=6.7							
H21K	Melozitna Rive	5.62	360			Pn	20 35 34.2	-0.3
RKAV	Rock Avalanche	5.69	83			Pn	20 35 34.7	-0.9
SCRK	Sand Creek	5.69	43	Pn		Pn	20 35 34.3	-1.2
M27K	Edge Creek, AK	5.73	62	Pn		Pn	20 35 36.8	+0.7
H19K	Roundabout Mou	5.75	344			Pn	20 35 33.9	-2.3
J14K	Nanvaranak Lak	5.86	302	Pn		Pn	20 35 37.9	+0.2
L27K	Beaver Creek,	6.02	55	Pn		Pn	20 35 38.3	-1.6
BCAR	Beaver Creek A	6.04	55	Pn		Pn	20 35 39.0	-1.1
J26L	Joseph Creek	6.17	40	Pn		Pn	20 35 41.9	-0.2
H24K	Noodor Dome	6.21	19	Pn		Pn	20 35 41.6	-0.8
PCA	Pinnacle	6.24	84	Pn		Pn	20 35 43.8	+0.8
O28M	Mount Upton	6.25	78			Pn	20 35 43.2	-0.1
G19K	Purcell Mounta	6.42	344	Pn		Pn	20 35 45.0	-0.3
G18K	Tagagawik	6.45	338	Pn		Pn	20 35 45.3	-0.4
G21K	Allakaket	6.50	357	Pn		Pn	20 35 46.2	0.0
G23K	Bananza Creek	6.79	9			Pn	20 35 49.9	-0.4
I26K	Coal Creek Min	6.86	36	Pn		Pn	20 35 51.7	+0.5
G16K	Koyuk River	6.94	325	Pn		Pn	20 35 51.5	-0.8
O29M	Mount Kennedy	7.06	82	Pn		Pn	20 35 55.7	+1.6
G24K	Hadweenzic Riv	7.07	17	Pn		Pn	20 35 52.4	-1.7
F20K	Avaraaart Lake	7.15	351			Pn	20 35 55.0	0.0
F19K	Shaleruckik Mo	7.17	344	Pn		Pn	20 35 55.2	-0.1
M29M	Somme Creek	7.28	65	Pn		Pn	20 35 57.5	+0.5
ANM	Nome	7.42	313	Pn		Pn	20 35 58.9	+0.1
F15K	North Star Dit	7.85	321	Pn		Pn	20 36 04.0	-0.6
I28M	Miner Creek	7.97	42	Pn		Pn	20 36 06.3	-0.1
K29M	Barlow Dome	8.10	56	Pn		Pn	20 36 08.9	+0.7
E18K	Tukpahlearik C	8.17	338	Pn		Pn	20 36 08.6	-0.3
F25K	Christian Rive	8.18	19	Pn		Pn	20 36 07.1	-2.0
BMAR	Burnt Mountain	8.23	22	Pn		Pn	20 36 08.2	-1.5
E24K	Your Creek	8.26	11	Pn		Pn	20 36 08.9	-1.3
G27K	Doyon Strip	8.39	31	Pn		Pn	20 36 09.3	-2.6
D22K	Ayikyak River	8.86	0	Pn		Pn	20 36 19.1	+0.8
D23K	Nanushuk River	8.99	5	Pn		Pn	20 36 20.7	+0.7
BESE	Bessie Mountai	9.26	91	Pn		Pn	20 36 28.1	+4.4
SIT	Sitka	9.57	101	Pn		Pn	20 36 28.4	+0.5
P32M	Atlin	9.58	85	Pn		Pn	20 36 29.1	+1.0
D25K	Kavik River	9.69	14	Pn		Pn	20 36 28.1	-1.4
C23K	Itkillik River	9.86	4	Pn		Pn	20 36 30.6	-1.1
Q32M	Nakina River	10.45	87	Pn		Pn	20 36 41.5	+1.5
R33M	Jennings River	11.00	84	Pn		Pn	20 36 48.4	+1.0
U33K	Whale Pass	11.09	102	Pn		Pn	20 36 47.1	-1.3
S34M	Telegraph Cree	11.34	91	Pn		Pn	20 36 53.0	+1.3
DLBC	Dease Lake	11.72	88	P		Pn	20 36 59.0	+2.1
	comp=E,1.3nm,0.4s,baz=278,slow=15,SNR=12							
T35M	Bob Quinn	12.13	95	Pn		Pn	20 37 04.7	+2.5
YKA	Yellowknife Ar	18.30	66	P		P	20 38 19.1	+0.8
	comp=E,0.4nm,0.6s,baz=277,slow=11,SNR=6.4							
YHB	Horse Butte	29.01	103	P		P	20 40 02.2	-0.4
GCMT	Greycliff	29.01	100	P		P	20 40 03.3	+0.8
BSUT	Blindstream Ca	32.40	108	P		P	20 40 30.7	-1.9
SPITS	Spitsbergen Ar	41.85	3	P		P	20 41 52.3	+0.8
	comp=E,8.9nm,1.1s,baz=21,slow=12,SNR=6.5							
	comp=E,8.9nm,1.1s							
SONM	Songino Array	54.87	306	P		P	20 43 31.9	+0.1
	comp=E,0.5nm,0.8s,baz=46,slow=6.2,SNR=3.5							
	comp=E,0.5nm,0.8s							
ZALV	Zalesovo Beam	57.41	324	P		P	20 43 49.8	+0.2
	comp=E,0.8nm,0.5s,baz=32,slow=7.8,SNR=4.1							
	comp=E,0.8nm,0.5s							
BVAR	Borovoye Array	62.08	332	P		P	20 44 21.7	+0.1
	comp=E,1.1nm,0.5s,baz=10,slow=8.8,SNR=4.7							
	comp=E,1.1nm,0.5s							
KURBB	Kurchatov Arra	62.17	326	P		P	20 44 22.0	-0.1
	comp=E,0.3nm,0.5s,baz=32,slow=6.6,SNR=5.2							
	comp=E,0.3nm,0.5s							
MKAR	Makanchi Array	64.47	321	P		P	20 44 36.5	-1.0
	comp=E,0.2nm,0.5s,baz=28,slow=4.5,SNR=5.4							
	comp=E,0.2nm,0.5s							

*UCR **13** 20:36:17.6±1.0, 8°.90N×84°.14W, h0km±49km, MW4.7*
*UPA **13** 20:36:19.8±1.6, 8°.98N×84°.12W, h14km±9km, MD4.6, MW4.8*

ISC 13 20:36:17.5±1.6, **8°.89N**±0°.05×**84°.17W**±0°.04, **h8**km±12km, **n74**, σ0°79/87, **2C-1D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	Naranjito	0.59	6	eP	Pb	20 36 29.7	-0.4
EDPE	Pejibaye, P	0.65	65	eP	Pg	20 36 30.0	-0.1
PICV	PH. Pirrs	0.74	358	eP	Pg	20 36 32.4	+0.7
PISJ	San Jernim	0.74	3	eP	Pb	20 36 32.6	-0.2
RAZU	San Marcos de	0.78	11	eP	Pb	20 36 33.8	+0.3
FIMO	Fila Mora	0.81	83	eP	Pg	20 36 33.2	+0.1
ABE2	San Pablo	0.82	8	eP	Pb	20 36 34.0	-0.3
LCR2	La Lucha 2	0.86	11	eP	Pg	20 36 34.3	+0.1
BURE	Buenos Aires	0.87	71	eP	Pg	20 36 34.3	+0.1
JIME	Puerto Jimenez	0.90	113	eP	Pg	20 36 35.9	+1.0
ACOS	Acosta	0.90	0	eP	Pg	20 36 35.4	+0.4
REPA	Paraso	0.98	17	eP	Pg	20 36 36.4	0.0
DRK0	Durika	0.98	68	eP	Pg	20 36 36.2	-0.3
EDP2	Potrero Grande	0.99	82	eP	Pg	20 36 36.5	0.0
AMPA	Desamparados	1.01	6	eP	Pg	20 36 36.6	-0.3
EDAD	Golfito	1.02	103	eP	Pg	20 36 36.5	-0.5
TRIO	Tres Rios	1.03	10	eP	Pg	20 36 37.0	-0.3
LUJA	Lujan	1.04	5	eP	Pb	20 36 38.5	+0.6
SANTA	Santa Ana	1.04	359	eP	Pg	20 36 37.5	-0.1
PCAYA	Pacayas	1.08	19	eP	Pg	20 36 38.2	-0.1
BELE	Belen	1.08	359	eP	Pg	20 36 38.3	-0.1
TURIB	Turrialba	1.12	25	eP	Pg	20 36 38.3	-0.7
RAFA	San Farael, Vo	1.12	18	eP	Pg	20 36 38.8	-0.3
VICA	Volcano Irazu	1.14	16	eP	Pg	20 36 39.1	-0.3
CBL1	Cabuya	1.15	307	eP	Pg	20 36 38.6	-1.0
VERB	Verbena	1.15	24	eP	Pg	20 36 39.1	-0.5
CVIMO	Finca Echandi	1.15	11	eP	Pg	20 36 39.5	-0.2
VTCV	VTCV, Calle Va	1.17	22	eP	Pg	20 36 39.8	-0.3
VTLA	Turrialba Volc	1.17	19	eP	Pg	20 36 39.8	-0.3
CVTQ	Turrialba Volc	1.18	20	eP	Pg	20 36 39.9	-0.3
CVTV	Tajo	1.18	20	eP	Pg	20 36 40.1	-0.2
VTR0	Volcan Turrial	1.19	20	eP	Pg	20 36 40.3	-0.2
CVTR	Volcan Turrial	1.20	20	eP	Pg	20 36 40.2	-0.4
RVSTA	Santa Teresita	1.20	25	eP	Pg	20 36 40.0	-0.5
VBV1	V. Barva	1.22	3	eP	Pg	20 36 40.9	-0.1
NELY	Ciudad Neily	1.23	101	eP	Pg	20 36 40.9	-0.3
SRA1	San Ramn	1.23	345	eP	Pg	20 36 40.7	-0.5
CVTG	V. Turrialba,	1.31	17	eP	Pb	20 36 42.4	-0.1
ALCO	Alturas Coton,	1.32	87	eP	Pn	20 36 41.6	-0.9
MLIR3	Monte Lirio, C	1.33	94⇑	iP	Pn	20 36 42.7	+0.1
MLIR3				i S	Sb	20 36 59.3	-0.8
RVLA	Villa Bonita	1.34	25	eP	Pn	20 36 42.5	-0.1
LPPC	Paso Canoas	1.36	105	eP	Pn	20 36 42.4	-0.4
IRES	Siquirres	1.37	28	eP	Pn	20 36 43.1	+0.2
PTPM	Petroterminale	1.44	118	eP	Pn	20 36 44.1	+0.1
PTPM				i S	Sn	20 37 03.0	-0.2
BRU2	Volcan	1.46	94	eP	Pn	20 36 44.0	-0.4
BRU2	Volcan	1.46	94	eP	Pn	20 36 43.9	-0.4
BRU2				i S	Sb	20 37 03.5	-0.4
BRIBI	Bribri	1.49	61	eP	Pg	20 36 46.4	+0.2
LIMO3	Limones	1.51	121	eP	Pn	20 36 44.6	-0.3
CARI	Cariari	1.53	16	eP	Pb	20 36 46.0	-0.1
BC3P	Paso Ancho	1.54	93	eP	Pn	20 36 45.0	-0.5
SOCE	Pocosol	1.55	343	eP	Pn	20 36 46.2	+0.6
JTS	Las Juntas de	1.60	331	eP	Pn	20 36 45.6	-0.5
JTS	Las Juntas de	1.60	331	iP	Pn	20 36 45.7	-0.5
JTS				i S	Sn	20 37 06.0	-0.9
ARE1	Arenal 1	1.66	341	eP	Pn	20 36 47.8	+0.8
VARE2	V. Arenal	1.66	341	eP	Pn	20 36 47.8	+0.8
PTAR3	Potrerillos Ar	1.66	97⇑	iP	Pn	20 36 47.1	-0.1
PTAR3				eS	Sn	20 37 07.6	-1.1
LNBQ3	Los Naranjos,	1.71	93	eP	Pn	20 36 47.3	-0.5
DVD	David	1.75	105	eP	Pn	20 36 49.1	+0.8
DVD				i S	Sn	20 37 10.8	-0.1
CNI2	El Empalme, Bo	1.76	72	eP	Pn	20 36 48.2	-0.1
PEDE3	Pedregal, Chir	1.80	106	eP	Pn	20 36 49.5	+0.7
PEDE3				i S	Sn	20 37 11.8	-0.1
LOMA3	Las Lomas, Chi	1.81	104	iP	Pn	20 36 49.8	+0.7
LOMA3				i S	Sn	20 37 12.4	+0.1
PSOM3	Paja de Sombre	1.83	96	eP	Pn	20 36 49.9	+0.5
PSOM3				i S	Sn	20 37 12.5	-0.4
GUAL3	Gualaca, Chiri	1.88	101	iP	Pn	20 36 50.5	+0.5
GUAL3				i S	Sn	20 37 13.9	-0.6
CHGR2	Aguacate	2.00	88⇓	iP	Pn	20 36 51.8	+0.1
CHGR2				i S	Sn	20 37 16.3	-0.7
GMAL	Guarumal, Vera	3.11	111	iP	Pn	20 37 08.5	+1.5
GMAL				eS	Sn	20 37 44.8	+0.4
ACON	Acoyapa	3.22	342	eP	Pn	20 37 11.6	+3.1
STIA3	Santiago, Vera	3.26	104	eP	Pn	20 37 10.2	+1.3
CALO3	Calobre, Verag	3.34	99	eP	Pn	20 37 12.2	+2.1
CHIT3	Chitre	3.82	104	eP	Pn	20 37 19.7	+3.0
AZU	Azuero	4.00	105	eP	Pn	20 37 20.5	+1.3
AZU				i S	Sn	20 38 07.4	+1.0
ACHO3	Achotines, Los	4.22	110	eP	Pb	20 37 30.1	-1.9
ZANG	Zanguenga, Cho	4.25	89	eP	Pg	20 37 40.1	+1.1
BCIP	Isla Barro Col	4.29	86	eP	Pn	20 37 23.6	+0.5
FRIJ	El Hiral	4.40	85	eP	Pn	20 37 25.6	+0.9

*TAP **13** 20:44:33.3, 24°.90N×122°.24E, h121km, ML3.4, C*
*JMA **13** 20:44:33.5±0.2, 25°.N±1°×122°.2E±0°.4, h120km±2km, MV2.4/13, TAIWAN REGION*

ISC 13 20:44:33.8±1.6, **24°.87N**±0°.05×**122°.23E**±0°.03, **h120**km±9km, **n108**, σ0°60/160, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.26	302	eP	Pn	20 44 50.4	-0.1
NTC	Toucheng	0.36	268	eP	Pn	20 44 51.1	+0.2
TIPB	Shuangxi	0.38	286	P	Pn	20 44 51.0	-0.1
SXI1	Grass Mountain	0.39	305	P	Pn	20 44 50.7	-0.4
TWC	Suao	0.43	233	eP	Pn	20 44 51.1	-0.2
TWC				eS	Sn	20 45 04.2	-0.2
EOS2	EOS2	0.45	179	eP	Pn	20 44 51.9	+0.7
NWF	Wu-fen Shan	0.45	296	eP	Pn	20 44 51.5	0.0
WFSB	Wu-fen Shan	0.45	296	eP	Pn	20 44 51.4	0.0
ESAO	Su ao	0.46	230	eP	Pn	20 44 51.3	0.0
NDS	Dongshan	0.52	243	eP	Pn	20 44 52.0	+0.2
TWE	Neicheng	0.53	254	eP	Pn	20 44 51.8	0.0
EOS3	EOS3	0.59	172	eP	Pn	20 44 52.9	+0.8
EWUT	Wuta	0.59	224	eP	Pn	20 44 52.5	+0.3
EWUT				eS	Sn	20 45 06.3	+0.2
FUSB	Fushanzhiwuyua	0.59	259	eP	Pn	20 44 52.2	-0.2
NHY	Taipei	0.62	286	eP	Pn	20 44 52.4	0.0
ENA	Nanau	0.62	225	eP	Pn	20 44 52.7	+0.2
ENTT	Nioudou	0.64	249	P	Pn	20 44 52.9	+0.2
YM01	YM01	0.66	295	eP	Pn	20 44 52.5	-0.2
YM08	YM08	0.66	299	eP	Pn	20 44 52.4	-0.4
TATO	Taipei	0.68	279	P	Pn	20 44 52.6	-0.3
EAHA	Aohua	0.70	220	eP	Pn	20 44 53.2	+0.1
TWY	Chenhua	0.70	305	eP	Pn	20 44 51.9	-1.1
ANP	Anpu	0.71	296	eP	Pn	20 44 52.9	-0.4
LATG	Datong	0.72	243	eP	Pn	20 44 53.9	+0.6
LATG				eS	Sn	20 45 09.3	+1.2
EOS4	EOS4	0.75	174	eP	Pn	20 44 53.7	+0.7
NTST	Danshui	0.76	293	eP	Pn	20 44 53.5	0.0
TWS1	Kuangyinshan	0.77	288	eP	Pn	20 44 52.8	-0.8
TWS1				eS	Sn	20 45 09.2	+0.6
JYNG	Yonagunijimaku	0.78	122	P	Pn	20 44 53.7	+0.1
JYNG				eS	Sn	20 45 07.9	-0.8
YHNB	Yeheng	0.80	256	P	Pn	20 44 53.9	-0.1
YHNB	Yeheng	0.80	256	iP	Pn	20 44 53.9	-0.1
YHNB				i S	Sn	20 45 08.9	-0.4
NSK	Sanguang	0.81	256	iP	Pn	20 44 54.0	0.0
NSK				i S	Sn	20 45 08.8	-0.6
YOJ	Yonaguni jima	0.82	120	eP	Pn	20 44 54.1	+0.1
YOJ				eS	Sn	20 45 09.4	+0.1
YOJ	Yonaguni jima	0.82	120	P	Pn	20 44 54.0	0.0
YOJ				eS	Sn	20 45 09.4	+0.1
NNSB	Datong	0.89	240	iP	Pn	20 44 55.1	+0.4
NNSB				eS	Sn	20 45 10.7	+0.1
NNS	Nan Shan	0.89	241	eP	Pn	20 44 55.2	+0.4
NNS				eS	Sn	20 45 11.0	+0.3
ETL	Fush Village	0.90	218	eP	Pn	20 44 54.6	-0.2
NACB	Ninganchiao	0.90	220	P	Pn	20 44 54.4	-0.4
NACB	Ninganchiao	0.90	220	P	Pn	20 44 54.4	-0.4
NACB				eS	Sn	20 45 10.3	-0.4
ETLH	Xiulin Townshi	0.95	226	P	Pn	20 44 55.2	-0.1
NCUH	Zhongli	0.95	276	eP	Pn	20 44 55.4	+0.1
TWD	Chiawan	0.97	216	eP	Pn	20 44 55.2	-0.2
TWD				eS	Sn	20 45 11.5	-0.4
NFF	Wufeng Townshi	1.04	257	eP	Pn	20 44 56.0	-0.2
NFF				eS	Sn	20 45 12.3	-0.8
HWA	Hwalien	1.05	213	P	Pn	20 44 56.6	+0.4
FUSS	Fushou	1.09	236	P	Pn	20 44 57.4	+0.5
FUSS				eS	Sn	20 45 15.2	+0.8
ETM	Tongmen	1.12	217	eP	Pn	20 44 56.4	-0.6
LIOB	Emei	1.12	259	P	Pn	20 44 57.0	0.0
LXIB	Xiulin Townshi	1.12	221	P	Pn	20 44 56.5	-0.7
LXIB				eS	Sn	20 45 14.6	-0.3
WHF	Hehuan Shan	1.14	231	iP	Pn	20 44 57.9	+0.3
WHF				i S	Sn	20 45 15.7	+0.1
TWT	Tachien	1.14	238	eP	Pn	20 44 58.2	+0.9
TWT				eS	Sn	20 45 16.1	+1.0
NSTT	Nanjuang	1.14	258	P	Pn	20 44 57.0	-0.2
NSTT				eS	Sn	20 45 14.0	-0.9
TDCB	Techi	1.15	238	P	Pn	20 44 58.1	+0.7
TDCB				i S	Sn	20 45 16.2	+0.8
TEYL	Yanliau Villag	1.15	210	eP	Pn	20 44 57.2	-0.1
TEYL				eS	Sn	20 45 15.3	+0.2
SHUL	Shoufeng	1.24	209	eP	Pn	20 44 58.2	0.0
SHUL				eS	Sn	20 45 17.2	+0.5
ESL	Shilin	1.28	215	P	Pn	20 44 57.7	-1.0
WHP	Taichung City	1.31	243	eP	Pn	20 44 59.5	+0.5
WHP				eS	Sn	20 45 17.9	-0.3
OWD	Renai	1.32	227	P	Pn	20 44 59.6	+0.3
OWD				eS	Sn	20 45 18.9	+0.2
WUSB	Renai	1.34	229	P	Pn	20 44 59.8	+0.4
WUSB				eS	Sn	20 45 19.7	+0.8
NMLH	Miaoli	1.35	256	eS	Sn	20 45 18.4	-0.5
WARBT	Fenglin Townsh	1.38	214	P	Pn	20 44 58.8	-1.0
WARBT				S	Sn	20 45 18.0	-1.6
EGFH	Guangfu	1.40	212	eP	Pn	20 44 59.5	-0.5
EGFH				eS	Sn	20 45 18.6	-1.3
TWQ1	Liyutan	1.42	249	eP	Pn	20 45 00.2	-0.1
TWQ1				eS	Sn	20 45 19.7	-0.7
WCS	Beigang Elemen	1.45	236	eP	Pn	20 45 00.8	+0.3
WCS				eS	Sn	20 45 20.9	+0.1
IRIF	Iriomote-Funau	1.47	111	P	Pn	20 45 00.7	-0.1
IRIF				eS	Sn	20 45 21.9	+0.6
VWDT	VWDT	1.49	222	eP	Pn	20 45 01.4	+0.4
VWDT				eS	Sn	20 45 22.3	+0.6
HGSD	Ruisui	1.56	208	iP	Pn	20 45 01.8	0.0
HGSD				eS	Sn	20 45 23.7	+0.6
SMLT	Sun Moon Lake	1.56	231	eP	Pn	20 45 01.4	-0.6
SMLT				eS	Sn	20 45 23.2	-0.2
TYC	Yuchr	1.58	233	P	Pn	20 45 02.7	+0.6
TYC				S	Sn	20 45 24.2	+0.6
SSLB	Suanglung	1.58	227	P	Pn	20 45 03.1	+0.9
SSLB	Suanglung	1.58	227	eP	Pn	20 45 03.1	+0.9
SSLB				eS	Sn	20 45 24.4	+0.6
TCU	Taichung	1.59	243	eP	Pn	20 45 02.5	+0.3
EHY	Hungye	1.59	212	eP	Pn	20 45 01.0	-1.2
YULB	Yu-li	1.70	210	P	Pn	20 45 03.0	-0.5
YULB	Yu-li	1.70	210	eP	Pn	20 45 02.3	-1.3
YULB				eS	Sn	20 45 24.7	-1.6
ECBN	Changbin	1.70	205	eP	Pn	20 45 03.4	-0.2
ECBN				eS	Sn	20 45 26.0	-0.2
WCHH	Zhanghua	1.71	243	eP	Pn	20 45 03.8	+0.1
WHYT	Xinyi Township	1.71	227	eP	Pn	20 45 04.3	+0.6
WHYT				eS	Sn	20 45 27.3	+0.7
WNT	Mingjian	1.72	235	eP	Pn	20 45 04.2	+0.5
WJS	Zhushan	1.72	233	eP	Pn	20 45 04.1	+0.3
EYUL	Yuli	1.73	209	eP	Pn	20 45 04.5	+0.6
TWF1	Yuli	1.73	210	eP	Pn	20 45 03.0	-0.9
JKRS	Kuro-shima	1.74	111	P	Pn	20 45 04.3	+0.3
JKRS				eS	Sn	20 45 27.6	+0.6
JIJ	Ishigaki jima	1.81	106	P	Pn	20 45 04.8	-0.1
JIJ				eS	Sn	20 45 28.2	-0.4
CHKH	Chenggong	1.84	205	eS	Sn	20 45 28.7	-0.5
FULB	Fuli	1.87	207	eP	Pn	20 45 05.5	-0.1
FULB				eS	Sn	20 45 30.1	+0.1
ALS	Alishan	1.88	224	eP	Pn	20 45 06.9	+0.9
ALS				eS	Sn	20 45 31.7	+1.2
CHN5	Tsauling	1.90	228	eP	Pn	20 45 06.9	+0.9
CHN5				eS	Sn	20 45 31.2	+0.5
JISG	Ishigakijimahi	1.92	98	P	Pn	20 45 06.4	+0.3
JISG				eS	Sn	20 45 30.2	-0.6
WGK	Gukeng	1.92	233	eP	Pn	20 45 06.9	+0.7
CHKT	Chengkung	1.93	204	eP	Pn	20 45 05.9	-0.5
CHKT				eS	Sn	20 45 29.5	-1.8
WDLH	Douliu	1.94	233	eP	Pn	20 45 06.4	+0.3
WRL	Guolierlin Hig	1.94	241	eP	Pn	20

AKASG	**Malin Array Be**	**144.03**	**329**	PKP	PKPbc	21 24 25.6	-0.6
	0.6nm,0.3s,baz=45,slow=4.1,SNR=10						
MMAI	**Mount Meron Ar**	**147.64**	**297**	PKPbc	**PKiKP**	**21 24 38.5**	**0.0**
	0.6nm,0.3s,baz=64,slow=6.6,SNR=5.9						

*NEIC **13** 21:20:49.1±1.6,56.°1S±0.°1×27.°9W±0.°2,h106km±17km, mb4.4/7,Error ellipse: s-maj=24.5km s-min=11.3km az=214.0*
*IDC **13** 21:20:56.8±13.0,56.°19S×26.°87W,h167km±119km, mb3.8/3,mbtmp4.3/4,Error ellipse: s-maj=88.3km s-min=27.7km az=111.0*

ISC 13 21:20:48.2±0.9,56.°1S±0.°1×27.°7W±0.°2,h100km,n20, σ1§18/20,mb4.3/5,3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.33**	**286**	Pn	**Pn**	**21 22 05.9**	**+0.7**
VNA2	**Neumayer--Watz**	**17.29**	**157**	P	**P**	**21 24 40.4**	**-2.4**
	baz=329,slow=35						
VNA2	**Neumayer--Watz**	**17.29**	**157**	⇓P	**P**	**21 24 40.4**	**-2.4**
	comp=Z,4.8nm,0.5s,baz=329,slow=35						
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**21 25 00.2**	**+0.2**
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**21 24 59.6**	**-0.3**
SNAA				IAmb	IAmb	21 25 01.4	
	comp=Z,10nm,0.5s						
SNAA	**Sanae**	**18.85**	**156**	⇓P	**P**	**21 25 00.2**	**+0.2**
	comp=Z,241nm,0.4s						
SNAA	**Sanae**	**18.85**	**156**	P	**P**	**21 24 60.0**	**0.0**
	comp=Z,9.3nm,0.5s,baz=294,slow=12,SNR=90						
TROLL	**Troll, Antarti**	**20.36**	**153**	P	**P**	**21 25 16.4**	**0.0**
TROLL	**Troll, Antarti**	**20.36**	**153**	⇓P	**P**	**21 25 16.4**	**0.0**
	comp=Z,434nm,0.3s						
BELA	**Belgrano 2**	**22.04**	**184**	P	**P**	**21 25 33.3**	**-0.8**
BELA				IAmb	IAmb	21 25 36.3	
	comp=Z,9.1nm,0.9s						
TRQA	**Tornquist**	**29.05**	**294**	P	**P**	**21 26 38.4**	**-0.4**
TRQA				IAmb	IAmb	21 27 17.7	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**21 27 24.5**	**+0.9**
QSPA				IAmb	IAmb	21 27 26.2	
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**21 27 24.7**	**+1.1**
	comp=Z,3.9nm,0.4s,baz=192,slow=1.5,SNR=40						
	comp=Z,3.9nm,0.4s						
MT09	**Talagante**	**37.03**	**289**	P	**P**	**21 27 46.2**	**-2.0**
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**21 29 05.4**	**+0.5**
VNDA				IAmb	IAmb	21 29 45.9	
	comp=Z,9.2nm,1.4s						
VNDA	**Vanda**	**46.54**	**183**	P	**P**	**21 29 06.3**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=186,slow=6.9,SNR=5.8						
	comp=Z,2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**21 32 08.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.22**	**30**	P	**P**	**21 32 08.6**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=202,slow=5.7,SNR=10						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**149.90**	**312**	PKPbc	**PKPbc**	**21 40 25.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=107,slow=1.6,SNR=4.2						
SONM	**Songino Array**	**151.03**	**87**	PKPbc	**PKPbc**	**21 40 27.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=221,slow=3.0,SNR=4.7						

*IDC **13** 21:26:51.1±0.9,11.°71N×144.°85E,h0km,mb4.2/15, mbtmp4.2/15,MS2.9/5,Error ellipse: s-maj=26.4km s-min=17.0km az=92.0*
*NEIC **13** 21:26:53.2±0.9,11.°66N±0.°09×144.°7E±0.°1,h10km±1km, mb4.5/16,Error ellipse: s-maj=22.0km s-min=10.0km az=128.0*

ISC 13 21:26:56.3±0.8,11.°69N±0.°09×144.°7E±0.°2,h35km,n48, σ1§08/40,mb4.3/22,MS2.8/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.90**	**6**	Pn	**Pn**	**21 27 25.8**	**-0.4**
	138nm,0.3s,baz=156,slow=14,SNR=20						
GUMO				Sn	**Sn**	**21 27 46.6**	**-2.3**
	308nm,0.3s,baz=16,slow=22,SNR=5.7						
FAKI	**Fak Fak**	**19.06**	**221**	P	**P**	**21 31 12.2**	**-3.5**
FAKI				IAmb	IAmb	21 31 13.3	
	comp=Z,54nm,1.2s						
JOW	**Kunigami**	**21.56**	**317**	P	**P**	**21 31 44.0**	**+1.1**
	comp=Z,8.7nm,0.4s,baz=144,slow=11,SNR=5.0						
	comp=Z,8.7nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**22.29**	**70**	T	T	21 55 11.1	
	baz=254,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**22.30**	**70**	T	T	21 55 15.4	
	baz=254,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**22.30**	**70**	T	T	21 55 10.9	
	baz=254,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**22.81**	**67**	T	T	21 55 58.9	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**22.82**	**67**	T	T	21 56 16.5	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**22.82**	**67**	T	T	21 56 12.2	
	baz=256						
JNU	**Nakatsue**	**24.80**	**332**	P	**P**	**21 32 13.1**	**-2.1**
JNU	**Nakatsue**	**24.80**	**332**	LR	LR	21 42 09.9	
	comp=Z,19nm,18.4s,baz=174,slow=37						
MJAR	**Matsushiro Arr**	**25.43**	**348**	P	**P**	**21 32 19.9**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=166,slow=8.3,SNR=10						
MJAR				LR	LR	21 40 02.2	
	comp=Z,32nm,21.7s,slow=31						
	comp=Z,3.6nm,0.7s						
MAJO	**Matsushiro**	**25.43**	**348**	P	**P**	**21 32 19.0**	**-1.7**
MAJO				IAmb	IAmb	21 32 21.1	
	comp=Z,9.9nm,1.0s						
SSLB	**Suanglung**	**25.55**	**301**	P	**P**	**21 32 21.9**	**-0.1**
SSLB				IAmb	IAmb	21 32 31.4	
	comp=Z,21nm,1.1s						
KSRS	**Korea Array**	**29.74**	**332**	P	**P**	**21 32 58.8**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=142,slow=9.6,SNR=6.9						
	comp=Z,1.6nm,0.6s						
KSAR	**Wonju Array Be**	**29.75**	**332**	P	**P**	**21 32 59.4**	**0.0**
WB0	**Warramunga Arr**	**32.86**	**198**	P	**P**	**21 33 26.4**	**-0.6**
WB0				IAmb	IAmb	21 33 44.4	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**33.04**	**198**	P	**P**	**21 33 28.7**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=22,slow=9.8,SNR=5.6						
	comp=Z,1.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.06**	**213**	LR	LR	21 48 21.0	
	comp=Z,31nm,18.8s,baz=14,slow=37						
AS31	**Alice Springs**	**36.68**	**197**	P	**P**	**21 33 59.7**	**-0.3**
ASAR	**Alice Springs**	**36.68**	**197**	P	**P**	**21 34 00.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=19,slow=10.0,SNR=11						
	comp=Z,0.5nm,0.6s						
KLR	**Kul'dur**	**38.94**	**347**	LR	LR	21 49 37.8	
	comp=Z,30nm,18.9s,baz=130,slow=35						
CMAR	**Chiang Mai Arr**	**44.58**	**284**	P	**P**	**21 35 05.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.58**	**284**	P	**P**	**21 35 07.4**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=86,slow=6.0,SNR=16						
CMAR				LR	LR	21 53 56.1	
	comp=Z,7.4nm,18.3s,baz=185,slow=36						
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**48.18**	**326**	P	**P**	**21 35 34.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=138,slow=6.1,SNR=6.4						
	comp=Z,0.6nm,0.6s						
LSA	**Lhasa**	**52.71**	**298**	P	**P**	**21 36 08.4**	**+0.1**
LSA				IAmb	IAmb	21 36 15.4	
	comp=Z,3.4nm,0.6s						
MK31	**Makanchi Array**	**62.73**	**317**	P	**P**	**21 37 18.4**	**+0.5**
MK31				IAmb	IAmb	21 37 23.8	
	comp=Z,2.6nm,1.0s						
MKAR	**Makanchi Array**	**62.73**	**317**	P	**P**	**21 37 18.5**	**+0.5**
MKAR	**Makanchi Array**	**62.73**	**317**	P	**P**	**21 37 19.2**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=95,slow=8.6,SNR=18						
	comp=Z,3.0nm,0.7s						
MAKZ	**Makanchi**	**62.94**	**317**	P	**P**	**21 37 20.1**	**+0.8**
MAKZ				IAmb	IAmb	21 37 25.8	
	comp=Z,5.5nm,1.0s						
ZALV	**Zalesovo Beam**	**63.06**	**325**	P	**P**	**21 37 20.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=108,slow=7.2,SNR=10						
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**65.92**	**320**	P	**P**	**21 37 39.2**	**+0.6**
KURBB	**Kurchatov Arra**	**65.95**	**320**	P	**P**	**21 37 39.8**	**+0.9**
	comp=Z,4.2nm,0.5s,baz=104,slow=6.4,SNR=28						
	comp=Z,4.2nm,0.5s						
NIL	**Nilore**	**68.20**	**302**	P	**P**	**21 37 53.8**	**+0.2**
ILAR	**Eielson Array**	**70.36**	**25**	P	**P**	**21 38 05.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=240,slow=5.0,SNR=10						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**71.30**	**322**	P	**P**	**21 38 13.1**	**+0.8**
	comp=Z,6.9nm,0.5s,baz=105,slow=7.4,SNR=49						
	comp=Z,6.9nm,0.5s						
BRVK	**Borovoye**	**71.37**	**322**	P	**P**	**21 38 13.4**	**+0.8**
CHGR	**Chuyangaron**	**71.52**	**307**	P	**P**	**21 38 13.9**	**0.0**
J26L	**Joseph Creek**	**71.69**	**26**	P	**P**	**21 38 14.8**	**+0.4**
J26L				IAmb	IAmb	21 38 53.8	
	comp=Z,4.1nm,1.3s						
D25K	**Kavik River**	**71.75**	**20**	P	**P**	**21 38 15.0**	**+0.3**
BMAR	**Burnt Mountain**	**71.92**	**23**	P	**P**	**21 38 16.7**	**+1.0**
ABKAR	**Akbulak array**	**77.82**	**318**	P	**P**	**21 38 50.0**	**-0.1**
ABKAR	**Akbulak array**	**77.82**	**318**	P	**P**	**21 38 49.8**	**-0.3**
ABKAR				IAmb	IAmb	21 38 51.5	
	comp=Z,2.8nm,0.9s						
ARTI	**Arti**	**78.32**	**325**	P	**P**	**21 38 52.0**	**-0.8**
YKA	**Yellowknife Ar**	**84.62**	**27**	P	**P**	**21 39 26.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=283,slow=5.6,SNR=7.9						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**88.25**	**51**	P	**P**	**21 39 45.6**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=306,slow=5.0,SNR=3.8						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**92.80**	**335**	P	**P**	**21 40 04.4**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=42,slow=3.1,SNR=4.7						
	comp=Z,2.1nm,0.7s						
DBIC	**Dimbokro**	**144.63**	**300**	PKP	**PKPab**	**21 46 29.1**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=14,slow=4.3,SNR=5.2						

DJA 13 21:33:54.1±0.5,2.°S±5.°×13.°8E±.°,h18km±4km,M3.9/6, mb4.0/1,MLv3.9/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.22**	**82**	P	Pb	21 34 00.5	+1.1
GENI	**Genyem**	**1.77**	**109**	P	Pn	21 34 24.2	+0.3
GENI				S	Sb	21 34 47.0	-1.0
SRPI	**Serui, Papua**	**2.25**	**274**	P	Pn	21 34 30.3	-0.2
SRPI				S	Sn	21 34 58.0	+0.1
JAY	**Jayapura**	**2.27**	**103**	P	Pn	21 34 30.2	-0.5
JAY				S	Sn	21 34 58.6	+0.3
BAKI	**Biak**	**2.52**	**289**	P	Pn	21 34 35.2	+1.0
BAKI				S	Sn	21 35 05.5	+1.0
FAKI	**Fak Fak**	**6.30**	**262**	P	Pn	21 35 26.3	+0.1

*IDC **13** 21:49:16.9±1.8,25.°93N×124.°10E,h201km±19km, mb3.4/13,mbtmp4.0/17,Error ellipse: s-maj=19.5km s-min=16.7km az=50.0*
*NEIC **13** 21:49:17.9±1.3,25.°8N±0.°1×124.°16E±0.°09,h218km±12km, mb4.2/28,Error ellipse: s-maj=20.7km s-min=10.1km az=160.0*
*NIED **13** 21:49:19.9,25.°97N×124.°01E,h191km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.07; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$1.40; $M_{r\theta}$1.55; $M_{\theta\phi}$-0.20; $M_{\phi r}$-0.48; Fault plane solution: $M_0$2.00000×10^{15} NP1: ϕ_s=198.00000°,δ36.00000°,λ-31.00000°. NP2: ϕ_s=314.00000°,δ72.00000°,λ-122.00000°.*
*JMA **13** 21:49:19.9±0.2,26.°N±2.°×12.°4E±.°,h191km,MD4.1/30, MV4.7/30,NW OFF MIYAKOJIMA ISLAND*

ISC 13 21:49:18.2±0.6,25.°91N±0.°07×124.°09E±0.°04,h218km±7km, n99,σ1§40/122,mb4.0/27,1D,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.33**	**171**	*i* P	**Pn**	**21 49 52.1**	**0.0**
JISG				S	**S**	**21 50 16.6**	**-2.0**
JISG	**Ishigakijimahi**	**1.33**	**171**	A	A	21 49 52.1	
	comp=N,6.0nm,0.5s,comp=E,6.0nm,0.5s						
JTJ	**Tarama**	**1.38**	**156**	P	**Pn**	**21 49 53.1**	**+0.6**
JTJ				S	**S**	**21 50 18.0**	**-1.2**
JIKM	**Ikemajima**	**1.43**	**133**	*i* P	**Pn**	**21 49 54.0**	**+1.0**
JIKM				*e*S	**S**	**21 50 19.6**	**-0.3**
JIRB	**Irabujima**	**1.45**	**137**	*i* P	**Pn**	**21 49 53.8**	**+0.6**
JIRB				*e*S	**S**	**21 50 19.1**	**-1.1**
JIJ	**Ishigaki jima**	**1.54**	**178**	P	**Pn**	**21 49 53.5**	**-0.4**
JIJ				S	**S**	**21 50 18.5**	**-3.1**
JIJ	**Ishigaki jima**	**1.54**	**178**	A	A	21 49 53.5	
	comp=N,4.0nm,1.1s,comp=E,2.0nm,2.3s						
JMJ	**Miyako jima 2**	**1.54**	**135**	P	**Pn**	**21 49 55.7**	**+1.9**
JMJ	**Miyako jima 2**	**1.54**	**135**	S	**S**	**21 50 22.7**	**+1.3**
IRIF	**Iriomote-Funau**	**1.60**	**192**	P	**Pn**	**21 49 53.9**	**-0.5**
IRIF				*e*S	**S**	**21 50 20.5**	**-2.0**
IRIF	**Iriomote-Funau**	**1.60**	**192**	A	A	21 49 53.9	
	comp=N,6.0nm,0.9s,comp=E,6.0nm,0.7s						
JMJ2	**Miyako jima3**	**1.61**	**136**	P	**Pn**	**21 49 55.5**	**+1.0**
JMJ2				*e*S	**S**	**21 50 22.5**	**-0.1**
JOGS	**Gusukube**	**1.65**	**134**	P	**Pn**	**21 49 56.2**	**+1.4**
JOGS				S	**S**	**21 50 23.3**	**+0.1**
JKRS	**Kuro-shima**	**1.66**	**183**	P	**Pn**	**21 49 54.8**	**-0.1**
JKRS				S	**S**	**21 50 21.4**	**-2.0**
YOJ	**Yonaguni jima**	**1.74**	**215**	Pn	**Pn**	**21 49 55.5**	**-0.1**
YOJ				Sn	**S**	**21 50 22.2**	**-2.5**
YOJ	**Yonaguni jima**	**1.74**	**215**	P	**Pn**	**21 49 55.1**	**-0.5**
YOJ	**Yonaguni jima**	**1.74**	**215**	P	**Pn**	**21 49 55.4**	**-0.3**
YOJ				S	**S**	**21 50 22.4**	**-2.2**
JYNG	**Yonagunijimaku**	**1.78**	**216**	P	**Pn**	**21 49 55.7**	**-0.3**
JYNG				S	**S**	**21 50 23.4**	**-2.0**
HATJ	**Hateruma jima**	**1.86**	**188**	P	**Pn**	**21 49 56.7**	**-0.1**
HATJ				S	**S**	**21 50 24.6**	**-2.1**
JKE	**Kume jima 2**	**2.46**	**80**	*i* P	**Pn**	**21 50 03.3**	**+0.6**
JKE				S	**S**	**21 50 36.9**	**-0.4**
TATO	**Taipei**	**2.53**	**249**		**Pn**	**21 50 04.7**	**+1.1**
TATO				Sn	**S**	**21 50 38.9**	**+0.1**
TATO	**Taipei**	**2.53**	**249**	P	**Pn**	**21 50 04.4**	**+0.8**
YHNB	**Yeheng**	**2.75**	**244**		**Pn**	**21 50 06.6**	**+0.5**
YHNB				Sn	**S**	**21 50 42.2**	**-1.1**
YHNB	**Yeheng**	**2.75**	**244**	P	**Pn**	**21 50 06.6**	**+0.5**
NACB	**Ninganchiao**	**2.85**	**233**		**Pn**	**21 50 06.0**	**-1.2**
NACB				Sn	**S**	**21 50 41.3**	**-3.8**
NACB	**Ninganchiao**	**2.85**	**233**	P	**Pn**	**21 50 05.9**	**-1.2**
NACB	**Ninganchiao**	**2.85**	**233**	S	**S**	**21 50 42.6**	**-2.5**
JAGN	**Aguni-jima**	**2.91**	**76**	P	**Pn**	**21 50 08.0**	**+0.3**
JAGN				S	**S**	**21 50 44.7**	**-1.6**
JJT3	**Tamagusuku3**	**3.33**	**85**	P	**Pn**	**21 50 13.6**	**+1.0**
JJT3				S	**S**	**21 50 53.9**	**-1.1**
SSLB	**Suanglung**	**3.55**	**234**		**Pn**	**21 50 14.7**	**-0.5**
SSLB	**Suanglung**	**3.55**	**234**	P	**Pn**	**21 50 15.0**	**-0.2**
YULB	**Yu-li**	**3.57**	**226**		**Pn**	**21 50 13.8**	**-1.7**
YULB	**Yu-li**	**3.57**	**226**	P	**Pn**	**21 50 13.5**	**-2.0**
JNTH	**Nagotoyohara**	**3.58**	**79**	*i* P	**Pn**	**21 50 15.8**	**+0.2**
JNTH				S	**S**	**21 50 57.2**	**-3.2**
JIH	**Iheya**	**3.65**	**71**	*i* P	**Pn**	**21 50 16.5**	**+0.1**
JIH				S	**S**	**21 50 58.0**	**-3.9**
JOW	**Kunigami**	**3.86**	**75**	Pn	**Pn**	**21 50 18.5**	**-0.5**
JOW	**Kunigami**	**3.86**	**75**	P	**Pn**	**21 50 18.0**	**-1.0**
	comp=E,113nm,0.2s,baz=112,slow=27,SNR=337						
JOW				S	**S**	**21 51 02.9**	**-3.7**
	comp=E,333nm,0.3s,baz=142,slow=23,SNR=13						
JOW	**Kunigami**	**3.86**	**75**	*i* P	**Pn**	**21 50 18.8**	**-0.2**
JOW				S	**S**	**21 51 03.1**	**-3.4**
JYRO	**Yoronjima**	**4.06**	**73**	*i* P	**Pn**	**21 50 21.1**	**-0.2**
JYRO				S	**S**	**21 51 07.2**	**-3.7**
TPUB	**Ta-pu**	**4.08**	**231**		**Pn**	**21 50 21.2**	**-0.5**
TPUB	**Ta-pu**	**4.08**	**231**	P	**Pn**	**21 50 21.2**	**-0.5**
TWGBT	**Beinan**	**4.12**	**222**	P	**Pn**	**21 50 20.3**	**-1.9**
TWG	**Pinlang**	**4.12**	**223**		**Pn**	**21 50 20.2**	**-2.0**
JOKE	**Okinoerabujima**	**4.26**	**69**	*i* P	**Pn**	**21 50 23.3**	**-0.6**
JOKE				S	**S**	**21 51 11.3**	**-4.1**
JTK	**Tokunoshima**	**4.73**	**66**	P	**Pn**	**21 50 28.6**	**-1.0**
JTK				S	**S**	**21 51 21.5**	**-4.3**
KNMB	**Chin-men Tao**	**5.36**	**256**	Pn	**Pn**	**21 50 37.1**	**-0.5**
JNU	**Nakatsue**	**9.31**	**38**	Pn	**Pn**	**21 51 27.3**	**-0.9**
JNU	**Nakatsue**	**9.31**	**38**	P	**Pn**	**21 51 28.1**	**-0.1**
	comp=E,11nm,0.6s,baz=184,slow=14,SNR=6.9						
JMN	**Monobe**	**11.53**	**45**	Pn	**Pn**	**21 51 53.8**	**-2.8**
KSAR	**Wonju Array Be**	**11.95**	**15**	Pn	**Pn**	**21 52 02.6**	**+0.8**
KSRS	**Korea Array**	**11.96**	**15**	P	**Pn**	**21 52 02.4**	**+0.3**
	comp=E,12nm,0.8s,baz=198,slow=12,SNR=28						
KS19	**Wonju Array Si**	**12.00**	**15**	Pn	**Pn**	**21 52 03.2**	**+0.7**
ENH	**Enshi**	**13.61**	**292**		**Pn**	**21 52 22.8**	**+0.2**
HNS	**HongShan**	**13.96**	**327**	⇓P	**P**	**21 52 28.9**	**+0.6**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BJT	**Baijiatuau**	**15.55**	**337**	P	**P**	**21 52 46.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**19.34**	**17**	P	**P**	**21 53 28.5**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=197,slow=9.1,SNR=2.2						
PZH	**PanZhiHua**	**20.06**	**277**	P	**P**	**21 53 36.1**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,6.1s						
JTM	**Tenmabayashi**	**20.47**	**39**	P	**P**	**21 53 38.4**	**-0.8**
ERM	**Erimo**	**22.46**	**40**	P	**P**	**21 53 58.2**	**-0.8**
JKA	**Kamikawa-asahi**	**23.57**	**35**	P	**P**	**21 54 09.0**	**+0.1**
GTA	**Gaotai**	**24.39**	**310**	*e*P	**P**	**21 54 16.9**	**+0.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.41**	**257**	P	**P**	**21 54 17.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=67,slow=8.9,SNR=2.5						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**25.95**	**332**	P	**P**	**21 54 30.9**	**+0.3**
SONM	**Songino Array**	**25.95**	**332**	P	**P**	**21 54 30.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=154,slow=9.5,SNR=4.3						
	comp=Z,0.6nm,0.4s						
LSA	**Lhasa**	**29.33**	**285**	P	**P**	**21 54 59.8**	**-1.5**
LSA				IAmb	IAmb	21 55 03.5	
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**39.01**	**313**	P	**P**	**21 56 23.5**	**-0.1**
MKAR	**Makanchi Array**	**39.01**	**313**	P	**P**	**21 56 23.7**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=101,slow=9.4,SNR=32						
	comp=Z,1.5nm,0.3s						
MAKZ	**Makanchi**	**39.22**	**313**	P	**P**	**21 56 25.5**	**+0.2**
MAKZ				IAmb	IAmb	21 56 27.1	
	comp=Z,4.5nm,1.2s						
ZAA0	**Zalesovo Array**	**40.30**	**325**	P	**P**	**21 56 33.4**	**-0.7**
ZAA0				IAmb	IAmb	21 56 34.6	
	comp=Z,3.8nm,0.5s						
ZALV	**Zalesovo Beam**	**40.30**	**325**	P	**P**	**21 56 33.3**	**-0.7**
ZALV	**Zalesovo Beam**	**40.30**	**325**	P	**P**	**21 56 33.6**	**-0.4**
	comp=Z,5.2nm,0.6s,baz=116,slow=8.6,SNR=25						
	comp=Z,5.2nm,0.6s						
KURK	**Kurchatov**	**42.53**	**318**	P	**P**	**21 56 52.1**	**0.0**
KURBB	**Kurchatov Arra**	**42.55**	**318**	P	**P**	**21 56 52.2**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=109,slow=8.2,SNR=12						
	comp=Z,1.7nm,0.5s						
AAK	**Ala-Archa**	**43.61**	**305**	P	**P**	**21 57 01.4**	**+0.2**
NIL	**Nilore**	**44.43**	**292**	P	**P**	**21 57 07.7**	**+0.1**
NIL				IAmb	IAmb	21 57 09.0	
	comp=Z,7.9nm,0.6s						
KKAR	**Karatay Array**	**46.57**	**306**	P	**P**	**21 57 24.8**	**+0.6**
GAR	**Garm**	**46.60**	**300**	P	**P**	**21 57 25.4**	**+0.7**
WRA	**Warramunga Arr**	**46.65**	**167**	P	**P**	**21 57 26.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=351,slow=8.5,SNR=4.7						
	comp=Z,0.6nm,0.6s						
CHGR	**Chuyangaron**	**47.51**	**300**	P	**P**	**21 57 32.2**	**+0.5**
CHGR				IAmb	IAmb	21 57 33.0	
	comp=Z,7.4nm,0.7s						
KBL	**Kabul**	**47.84**	**294**	P	**P**	**21 57 34.8**	**+0.4**
KBL				IAmb	IAmb	21 57 36.4	
	comp=Z,8.5nm,0.7s						
BVAR	**Borovoye Array**	**48.06**	**319**	P	**P**	**21 57 35.9**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=102,slow=9.0,SNR=43						
	comp=Z,2.1nm,0.3s						
BRVK	**Borovoye**	**48.13**	**319**	P	**P**	**21 57 36.4**	**+0.4**
ABKAR	**Akbulak array**	**54.16**	**313**	P	**P**	**21 58 21.3**	**+0.4**
ABKAR	**Akbulak array**	**54.16**	**313**	P	**P**	**21 58 21.5**	**+0.6**
ABKAR				IAmb	IAmb	21 58 22.7	
	comp=Z,4.4nm,0.8s						
ARTI	**Arti**	**55.45**	**322**	P	**P**	**21 58 29.9**	**0.0**
ARTI				IAmb	IAmb	21 58 30.9	
	comp=Z,5.3nm,0.6s						
C18K	**Utukok River**	**60.58**	**24**	P	**P**	**21 59 05.3**	**0.0**
G18K	**Tagagawik**	**61.46**	**27**	P	**P**	**21 59 11.4**	**+0.1**
G18K				IAmb	IAmb	21 59 38.3	
	comp=Z,4.3nm,1.4s						
D19K	**Kuna River**	**61.70**	**24**	P	**P**	**21 59 13.1**	**+0.2**
D19K				IAmb	IAmb	21 59 16.8	
	comp=Z,5.9nm,1.5s						
J19K	**Poorman**	**62.81**	**29**	P	**P**	**21 59 21.1**	**+0.9**
E21K	**Killik River**	**63.23**	**24**	P	**P**	**21 59 23.5**	**+0.5**
E21K				IAmb	IAmb	21 59 34.9	
	comp=Z,7.0nm,1.5s						
J20K	**Nowinta River**	**63.44**	**29**	P	**P**	**21 59 25.5**	**+1.1**
D22K	**Ayikyak River**	**63.67**	**24**	P	**P**	**21 59 26.6**	**+0.7**
D22K				IAmb	IAmb	21 59 38.3	
	comp=Z,7.2nm,1.5s						
CAST	**Castle Rocks**	**64.43**	**30**	P	**P**	**21 59 31.9**	**+1.0**
CAST				IAmb	IAmb	21 59 32.8	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**66.47**	**28**	P	**P**	**21 59 44.5**	**+0.6**
	comp=Z,

LBPM	Beegum Peak	2.82	89		Pn	22 14 00.5	+0.5
L02F	Cave Junction	2.88	51		Pn	22 14 00.2	-0.5
O02D	Mt. Diablo Mer	2.90	92	Pn	Pn	22 14 01.4	+0.3
M02C	Callahan	3.01	68		Pn	22 14 01.9	-0.7
M02C	Callahan	3.01	68	IAML		22 14 51.0	
	comp=E,69nm,4.5s						
HOPS	Hopland Field	3.02	115	Pn	Pn	22 14 01.7	-0.9
HOPS				IAML		22 14 41.0	
	comp=N,154nm,4.7s						
HOPS				IAML		22 15 00.0	
	comp=E,146nm,3.2s						
GROM	Round Mountain	3.02	97		Pn	22 14 03.9	+1.2
GVV	Valley View	3.04	99		Pn	22 14 03.7	+0.6
K02D	Willamette Mer	3.21	42		Pn	22 14 05.0	-0.3
K02D				IAML		22 15 15.8	
	comp=N,132nm,5.0s						
K02D				IAML		22 15 59.7	
	comp=E,89nm,4.8s						
YBH	Yreka Blue Hor	3.23	63	Pn	Pn	22 14 05.5	-0.1
LTCM	Tuscan Springs	3.41	91		Pn	22 14 09.4	+1.5
B040	Montague	3.47	63		Pn	22 14 09.5	+0.6
MCCM	Marconi Confer	3.61	126	Pn	Pn	22 14 10.6	-0.2
L04D	Klamath Falls	3.72	58	Pn	Pn	22 14 13.7	+1.3
L04D				IAML		22 15 07.9	
	comp=N,118nm,4.9s						
L04D				IAML		22 15 21.0	
	comp=E,121nm,4.9s						
DBO	Dodson Butte	3.73	41		Pn	22 14 12.1	-0.3
DBO				IAML		22 15 06.6	
	comp=N,69nm,4.1s						
HATC	Hat Creek Radi	3.92	81	Pn	Pn	22 14 15.4	+0.3
ORV	Oroville	3.98	100		Pn	22 14 16.5	+0.7
ORV				IAML		22 15 59.9	
	comp=N,33nm,5.0s						
K04D	Chiloquin, OR	4.28	56		Pn	22 14 20.1	0.0
K04D				IAML		22 15 55.9	
	comp=E,86nm,4.9s						
J04A	Umpqua Nationa	4.42	48	Pn	Pn	22 14 22.8	+0.8
AFDM	Forest Hills D	4.54	106	Pn	Pn	22 14 24.9	+1.3
AFDM				IAML		22 16 25.6	
	comp=E,26nm,5.0s						
I04A	Tendick Farm,	4.63	41		Pn	22 14 25.1	+0.3
I04A				IAML		22 15 09.1	
	comp=N,47nm,4.9s						
I04A				IAML		22 15 49.7	
	comp=E,43nm,4.3s						
BUCK	Buck Mountain	4.68	33	Pn	Pn	22 14 25.0	-0.5
J05D	Fort Rock, OR	4.96	52	Pn	Pn	22 14 30.1	+0.7
J05D				IAML		22 16 56.8	
	comp=N,51nm,4.9s						
H04D	Lebanon	5.05	33	Pn	Pn	22 14 31.3	+0.7
CMB	Columbia Colle	5.33	114		Pn	22 14 36.1	+1.7
CMB				IAML		22 15 47.9	
	comp=E,21nm,5.0s						
CMB				IAML		22 17 22.4	
	comp=N,22nm,4.9s						
SAO	San Andreas Ge	5.38	130	Pn	Pn	22 14 34.5	-0.5
H04A	Detroit Lake	5.42	35	Pn	Pn	22 14 35.7	+0.1
PINE	Pine Mountain	5.43	49	Pn	Pn	22 14 36.5	+0.6
PMPB	Monarch Peak	6.13	130	Pn	Pn	22 14 45.9	+0.5
I07A	Izee	6.44	52	Pn	Pn	22 14 50.9	+1.1
G06A	Carlson Farm,	6.55	40	Pn	Pn	22 14 51.3	+0.1
NVAR	Mina Array Bea	6.69	104	Pn	Pn	22 14 54.9	+1.7
J08A	Circle Bar Ran	6.76	61		Pn	22 14 54.0	0.0
BMO	Blue Mountains	8.19	54	Pn	Pn	22 15 15.0	+1.4
E08A	Dider Farm, El	8.22	39	Pn	Pn	22 15 15.0	+0.9
PLID	Pearl Lake	9.11	55	Pn	Pn	22 15 26.5	0.0

*ISN **13** 22:20:33.1±0.8, 34.°35N×45.°59E, h12^{km}±32^{km}, ML2.6*
*TEH **13** 22:20:34.5, 34.°34N×45.°58E, h28^{km}±85^{km}*

ISC 13 22:20:36.6±1.1, 34.°34N±0.°05×45.°55E±0.°05, h24^{km}±11^{km}, n9, σ1°13/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	10	Pg	Pb	22 20 41.5	-0.4
GLG1	Gilan-e-Gharb	0.37	127	Pg	Pb	22 20 43.4	-1.4
IDHR	Dehrash	0.78	62	Pg	Pb	22 20 50.7	-1.0
IGHG	Ghaleghazi	0.84	90	Pg	Pb	22 20 52.2	-0.6
IGHG				Sg	Sn	22 21 05.4	+0.5
ILBA	Ilam Banvizeh	0.90	142	Pg	Pb	22 20 53.4	-0.1
KCHF	Cheshme Sefid,	1.23	92	Sg	Sb	22 21 17.1	+2.2
IBDR	Badra	1.26	165	*e*Pg	Pn	22 20 58.0	-0.7
IBDR				*e*Sg	Sn	22 21 15.0	+0.1
BHD	Baghdad	1.44	223	*e*Pn	Pn	22 21 01.0	-0.2
BHD				*e*Sn	Sb	22 21 22.0	+1.3
IKRK	Kirkuk	1.46	317	*e*Pn	Pn	22 21 01.0	-0.4
IKRK				*e*Sn	Sb	22 21 22.0	+0.9
IKRK				AML	AML	22 21 32.2	
	comp=E,106nm,0.5s						
IKRK				AML	AML	22 21 33.0	
	comp=N,96nm,0.0s						

TXNET 13 22:29:10.1, 31.°6N±0.°5×104.°3W±0.°6, h6^{km}±2^{km}, ML2.5/6, 2C, Error ellipse: s-maj=0.9km s-min=0.7km az=66.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	33	⇑P	Pg	22 29 17.0	0.0
TPB11				S	Sg	22 29 21.8	0.0
PECS	Pecos	0.43	128	P	Pg	22 29 18.5	+0.1
PECS				S	Sg	22 29 24.2	+0.2
TPB12	Southwest of T	0.49	149	P	Pg	22 29 19.7	0.0
TPB12				S	Sg	22 29 26.7	+0.5
TPB07	Mentone	0.51	96	S	Sg	22 29 26.9	+0.4
TPB10	Southeast of T	0.56	129	P	Pg	22 29 21.5	+0.6
TPB10				S	Sg	22 29 28.7	+0.6
PCOS	Crockett Middl	0.68	109	S	Sg	22 29 32.8	+0.8
CLNB	Carlsbad	0.70	27	S	Sg	22 29 33.4	+0.6
TPB01	Permian Basin	0.80	149	⇑P	Pg	22 29 24.9	-0.6
TPB01				S	Sg	22 29 35.5	-0.5
TPB03	Saragosa	0.84	131	S	Sg	22 29 37.5	+0.3
CLN7	Carlsbad 7	0.86	26	P	Pg	22 29 25.9	-0.8
MNTX	Cornudas Mount	0.96	274	P	Pb	22 29 28.9	-0.3
MNTX				S	Sb	22 29 41.8	-0.2
HTMS	Hat Mesa	0.99	32	P	Pg	22 29 29.3	+0.2
VHRN	Van Horn	1.05	216	P	Pg	22 29 30.1	-0.2
VHRN				S	Sb	22 29 44.7	-0.2
TPB05	Hovey Rd	1.07	132	S	Sg	22 29 44.3	-0.3
MNHN	Monahans	1.31	103	P	Pn	22 29 34.0	-1.0
MNHN				S	Sb	22 29 51.9	-0.4
ALPN	Alpine	1.37	157	P	Pn	22 29 34.7	-1.1
ALPN				S	Sb	22 29 52.4	-1.6
CPRX	Cap Rock	1.43	13	P	Pn	22 29 36.4	-0.2
ODSA	Odessa	1.53	71	P	Pn	22 29 37.4	-0.7
ODSA				S	Sn	22 29 57.6	-0.7
TMB04	Seminole	1.80	56	P	Pn	22 29 41.8	+0.1
TMB04				S	Sb	22 30 06.0	-0.2
TMB02	Rankin	1.95	102	P	Pn	22 29 44.2	+0.4
TMB02				S	Sb	22 30 09.9	-0.7
TX31	Lajitas Ar. Si	2.35	167	Pg	Pb	22 29 52.6	-0.3

TXNET 13 22:46:24.7, 31.°6N±0.°8×104.°3W±0.°8, h5^{km}±3^{km}, ML1.2/4, Error ellipse: s-maj=1.3km s-min=1.1km az=42.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	32	P	Pg	22 46 31.5	-0.1
TPB11				S	Sg	22 46 36.2	-0.1
PECS	Pecos	0.42	129	P	Pg	22 46 33.2	+0.2
PECS				S	Sg	22 46 38.7	+0.2
TPB12	Southwest of T	0.49	149	S	Sg	22 46 41.1	+0.5
TPB07	Mentone	0.50	96	S	Sg	22 46 41.7	+0.7
MNTX	Cornudas Mount	0.96	274	P	Pg	22 46 43.1	-0.1
MNTX				S	Sb	22 46 56.8	-0.2
VHRN	Van Horn	1.05	217	P	Pg	22 46 44.9	-0.1
VHRN				S	Sb	22 46 59.4	-0.3
TPB05	Hovey Rd	1.07	132	S	Sg	22 46 58.6	-0.5
ALPN	Alpine	1.36	157	P	Pn	22 46 49.2	-1.4
ALPN				S	Sg	22 47 06.9	-1.7
CPRX	Cap Rock	1.43	13	P	Pn	22 46 51.3	-0.2
ODSA	Odessa	1.53	71	S	Sn	22 47 12.3	-0.8
TX31	Lajitas Ar. Si	2.35	167	Pg	Pb	22 47 07.3	-0.3

*NEIC **13** 22:53:54.9±2.0, 50.°51N±0.°03×130.°4W±0.°1, h10^{km}±2^{km}, mb4.1/39, Error ellipse: s-maj=11.6km s-min=4.1km az=98.0*
*PGC **13** 22:53:55.7±0.4, 50.°50N×130.°34W, h10^{km}, MLSn3.7/29, Mw4.6, 201km west of Port Hardy, Bc Vancouver Island, Canada Region*
*IDC **13** 22:53:56.3±0.9, 50.°53N×130.°14W, h0^{km}, mb3.7/6, mbtmp3.6/16, ML3.4/7, MS3.8/57, Error ellipse: s-maj=13.7km s-min=10.0km az=74.0*
*GCMT **13** 22:53:58.9±0.4, 50.°53N±0.°03×130.°39W±0.°03, h22^{km}±1^{km}, MW4.8/86, Moment Tensor Solution. s7,c7; s86,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.55±.13; $M_{\theta\theta}$-1.68±.12; $M_{\phi\phi}$1.13±.10; $M_{r\theta}$0.34±.14; $M_{\theta\phi}$1.26±.07; $M_{\phi r}$-0.25±.17; Best double couple: $M_0$1.92300×10^{16} NP1:ϕ_s246.00000°, δ80.00000°, λ-2.00000°. NP2: ϕ_s336.00000°, δ88.00000°, λ-170.00000°. Principal axes: T 1.6240, Plg6.0000°, Azm110.0000°; N 0.5950, Plg80.0000°, Azm345.0000°; P -2.2230, Plg8.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 22:53:55.2±0.6, 50.°54N±0.°05×130.°26W±0.°05, h10^{km}, n193, σ1°44/147, mb4.0/12, MS3.8/47, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.36	85	Pn	Pn	22 54 19.0	-1.2
HOLB	Holberg	1.36	85	P	Pn	22 54 19.0	-1.2
HOLB				S	Sb	22 54 35.4	-2.8
BPEB	Brooks Peninsu	1.64	103	Pn	Pn	22 54 22.6	-1.5
BPEB				Sn	Sn	22 54 43.1	-2.1
PACB	Port Alice, BC	1.77	92	Pn	Pn	22 54 24.6	-1.3
PACB				Sn	Sn	22 54 45.1	-3.3
PHC	Port Hardy	1.81	84	Pn	Pn	22 54 25.6	-0.7
PHC				Sn	Sn	22 54 46.9	-2.4
HG4B	Hotspring	1.85	342	Pn	Pn	22 54 25.5	-1.5
JEDB	Jedway, Haida	1.85	342	Pn	Pn	22 54 25.4	-1.5
JEDB				Sn	Sn	22 54 48.4	-2.1
MAYB	Maynard	1.98	93	Pn	Pn	22 54 27.8	-1.0
MAYB				Sn	Sn	22 54 52.2	-1.5
BBB	Bella Bella	2.13	38	Pn	Pn	22 54 29.8	-1.0
BBB	Bella Bella	2.13	38	Pn	Pn	22 54 30.1	-0.6
	16nm,0.3s,baz=229,slow=14,SNR=102						
BBB				Lg	Lg	22 55 02.8	
	35nm,0.3s,baz=305,slow=23,SNR=5.7						
BBB				LR	LR	22 55 25.5	
	comp=Z,3μm,20.1s,baz=246,slow=43 38nm,0.2s						
BBB	Bella Bella	2.13	38	Pn	Pn	22 54 30.1	-0.6
BBB				Sn	Sn	22 54 55.8	-1.4
BAIB	Barry Inlet	2.24	336	Pn	Pn	22 54 30.7	-1.7
BAIB				Sn	Sn	22 54 57.7	-2.5
NTKA	Nootka	2.53	111	Pn	Pn	22 54 35.0	-1.3
ETB	Estevan Point	2.67	114	Pn	Pn	22 54 37.5	-0.7
NCSB	Newcastle Ridg	2.69	91	Pn	Pn	22 54 38.1	-0.5
NCRB	Newcastle Ridg	2.69	91	Pn	Pn	22 54 38.1	-0.5
BUTB	Butedale	2.76	23	Pn	Pn	22 54 39.1	-0.5
BUTB				Sn	Sn	22 55 12.3	-0.7
MOBC	Moresby Island	2.82	339	Pn	Pn	22 54 39.1	-1.2
MOBC	Moresby Island	2.82	339	Pn	Pn	22 54 39.3	-1.0
GDR	Gold River	2.82	104	Pn	Pn	22 54 39.6	-0.7
GDR				Sn	Sn	22 55 14.7	+0.4
GRIB	Gribbell Islan	2.89	13	Pn	Pn	22 54 40.4	-0.8
GRIB				Sn	Sn	22 55 15.6	-0.4
BNAB	Bonilla	2.97	356	Pn	Pn	22 54 41.7	-0.6
DI2B	Dawson Inlet	3.00	334	Pn	Pn	22 54 41.7	-1.0
DIB	Dawson Inlet,	3.00	334	Pn	Pn	22 54 41.3	-1.4
DIB	Dawson Inlet,	3.00	334	Pn	Pn	22 54 41.7	-1.0
CBB	Campbell River	3.18	97	Pn	Pn	22 54 45.3	0.0
CBB	Campbell River	3.18	97	Pn	Pn	22 54 45.2	0.0
GRNB	Grenville Isla	3.32	3		Pn	22 54 46.5	-0.6
GRNB	Grenville Isla	3.32	3	Pn	Pn	22 54 46.7	-0.4
OZB	Mount Ozzard	3.47	115	Pn	Pn	22 54 48.8	-0.5
OZB	Mount Ozzard	3.47	115	Pn	Pn	22 54 49.2	-0.1
PCLB	Port Clements	3.47	337	Pn	Pn	22 54 48.5	-0.8
MBLB	Minette Bay Lo	3.64	15	Pn	Pn	22 54 51.6	+0.1
KITB	Kitimat	3.68	15	Pn	Pn	22 54 52.1	0.0
TXB	Texada	3.84	100	Pn	Pn	22 54 54.7	+0.3
MGRB	Mount Grey	3.92	111	Pn	Pn	22 54 55.6	0.0
NLLB	Nanaimo Lost L	4.26	106	Pn	Pn	22 55 00.9	+0.8
PTRF	Port Renfrew	4.30	115	Pn	Pn	22 55 01.8	+1.2
CLRS	Cowichan Lake	4.34	111		Pn	22 55 01.8	+0.7
CLRS	Cowichan Lake	4.34	111	Pn	Pn	22 55 02.7	+1.6
UBRB	Upper Baezaeko	4.51	56	Pn	Pn	22 55 05.2	+1.7
WPB	Watts Point	4.62	98	Pn	Pn	22 55 06.3	+1.3
SYMB	Survey Mountai	4.65	113	Pn	Pn	22 55 06.6	+1.1
GOBB	Galiano Island	4.66	107	Pn	Pn	22 55 07.7	+2.2
WSLR	Whistler	4.72	92	Pn	Pn	22 55 08.4	+1.9
V35K	Ketchikan	4.87	351	Pn	Pn	22 55 08.5	+0.1
SNB	Saturna Island	4.93	108	Pn	Pn	22 55 11.8	+2.5
OSD	Olympics--Snow	5.09	120	Pn	Pn	22 55 13.3	+1.7
CRAG	Craig	5.23	342	Pn	Pn	22 55 13.0	-0.4
LLLB	Lillooet	5.34	86	Pn	Pn	22 55 15.2	+0.3
LLLB	Lillooet	5.34	86	Pn	Pn	22 55 15.9	+1.0
FSJB	Fort St James	5.36	41	Pn	Pn	22 55 16.4	+1.3
U33K	Whale Pass	5.84	344	Pn	Pn	22 55 21.9	+0.1
U33K	Whale Pass	5.84	344	Pn	Pn	22 55 21.9	+0.1
WRAK	Wrangell Islan	6.02	349	Pn	Pn	22 55 22.9	-1.3
D05A	Enumclaw	6.40	118	Pn	Pn	22 55 28.1	-1.4
T35M	Bob Quinn	6.46	0	Pn	Pn	22 55 30.4	+0.2
T35M	Bob Quinn	6.46	0	Pn	Pn	22 55 32.4	+2.1
FMW	Mount Fremont	6.73	119	Pn	Pn	22 55 36.2	+2.0
S34M	Telegraph Cree	7.41	356	Pn	Pn	22 55 44.2	+0.9
HOOD	Mount Hood Mea	7.79	129	Pn	Pn	22 55 46.6	-2.1
DLBC	Dease Lake	7.92	1	Pn	Pn	22 55 51.1	+0.8
DLBC	Dease Lake	7.92	1	Pn	Pn	22 55 52.9	+2.6
	0.7nm,0.3s,baz=192,slow=15,SNR=11						
DLBC				Lg	Lg	22 58 08.7	
	0.2nm,0.3s,baz=251,slow=11,SNR=5.4						
DLBC				LR	LR	22 58 45.1	
	comp=Z,1μm,20.0s,baz=186,slow=36 4.7nm,0.5s						
DLBC	Dease Lake	7.92	1	Pn	Pn	22 55 53.4	+3.1
BDMTA	Bald Mountain	8.11	54	Pn	Pn	22 55 55.8	+2.7
NBC5	NorthernBC 5	8.29	30	Pn	Pn	22 55 58.0	+2.5
Q32M	Nakina River	8.52	353	Pn	Pn	22 55 57.6	-1.0
Q32M	Nakina River	8.52	353	Pn	Pn	22 56 00.8	+2.1
TOAD	Toad River Com	8.82	17	Pn	Pn	22 56 06.1	+3.5
NEW	Newport	8.87	100	Pn	Pn	22 56 05.3	+1.9
	0.2nm,0.3s,baz=279,slow=19,SNR=1.5						
NEW				Lg	Lg	22 58 32.5	
	baz=104,slow=6.1,SNR=3.2 1.0nm,0.3s						
R33M	Jennings River	8.88	358	Pn	Pn	22 56 07.1	+3.5
P32M	Atlin	9.28	349	Pn	Pn	22 56 09.9	+0.9
P33M	Teslin, Yukon	9.80	352	Pn	Pn	22 56 16.6	+0.4
YBH	Yreka Blue Hor	10.24	146	Pn	Pn	22 56 24.5	+2.2
	0.1nm,0.3s,baz=319,slow=9.3,SNR=1.5						
YBH				LR	LR	22 59 51.5	
	comp=Z,801nm,18.2s,baz=331,slow=35 0.8nm,0.3s						
WHY	Whitehorse	10.47	347	Pn	Pn	22 56 23.8	-1.6
O30N	Mendenhall	10.77	345	Pn	Pn	22 56 28.4	-0.8
PLID	Pearl Lake	11.03	114	Pn	Pn	22 56 33.7	+0.6
N31M	Braeburn, Yuko	11.39	346	Pn	Pn	22 56 37.4	-0.5
AFDM	Forest Hills D	13.32	147		Pn	22 57 03.2	-1.1
EGMT	Eagleton	13.62	93	Pn	Pn	22 57 06.7	-1.6
ELK	Elko	14.34	127	Pn	P	22 57 22.9	-2.7
	0.3nm,0.4s,baz=353,slow=18,SNR=3.2						
ELK				LR	LR	23 03 01.9	
	comp=Z,201nm,19.7s,baz=326,slow=38						
YNR	Norris Junctio	14.41	106	Pn	Pn	22 57 18.3	-1.1
YKA	Yellowknife Ar	14.71	30	Pn	Pn	22 57 22.6	-0.5
	0.2nm,0.3s,baz=222,slow=12,SNR=11 0.9nm,0.8s						
SCM	Sheep Creek Mo	14.71	327	Pn	Pn	22 57 24.1	+0.9
NVAR	Mina Array Bea	14.79	140	Pn	P	22 57 28.7	-1.8
	0.2nm,0.4s,baz=326,slow=14,SNR=0.4						
NVAR				LR	LR	23 02 45.8	
	comp=Z,321nm,21.9s,baz=308,slow=36						
KDAK	Kodiak Island	14.90	308	LR	LR	23 01 46.8	
	comp=Z,616nm,20.1s,baz=317,slow=31						
TPAW	Teton Pass	14.91	111	P	P	22 57 32.3	+0.3
I30M	Mount Dempster	15.07	350		Pn	22 57 28.0	0.0
I30M				IAmb	IAmb	22 57 55.3	
	comp=Z,14nm,1.4s						
SCRK	Sand Creek	15.33	337	P	P	22 57 34.3	-1.9
SCRK				IAmb	IAmb	22 57 57.5	
	comp=Z,18nm,1.4s						
DUG	Dugway, Tooele	16.00	124		P	22 57 44.8	+0.9
PD31	Pinedale Array	16.16	111	P	P	22 57 45.6	-0.2
PDAR	Pinedale Array	16.16	111		P	22 57 45.9	+0.1
PDAR	Pinedale Array	16.16	111	Pn	P	22 57 44.8	-1.0
	comp=Z,2.2nm,0.9s,baz=310,slow=12,SNR=10.0						
PDAR				LR	LR	23 03 41.5	
	comp=Z,170nm,18.4s,baz=300,slow=36						
J25K	Salcha River,	16.20	336	P	P	22 57 44.1	-1.7
J25K				IAmb	IAmb	22 57 55.7	
	comp=Z,19nm,1.4s						
HDA	Harding Lake	16.46	334		P	22 57 47.1	-1.5
HDA				IAmb	IAmb	22 58 25.0	
	comp=Z,19nm,1.5s						
G31M	Satah River	16.56	354		Pn	22 57 47.1	0.0
G31M				IAmb	IAmb	22 57 59.6	
	comp=Z,21nm,1.3s						
ILAR	Eielson Array	16.72	335		P	22 57 51.2	-0.4
ILAR	Eielson Array	16.72	335	Pn	P	22 57 54.0	+2.4
	baz=146,slow=9.9,SNR=8.0						
ILAR				LR	LR	23 03 40.8	
	comp=Z,286nm,20.5s,baz=134,slow=35 comp=Z,1.0nm,1.0s						
WRH	Wood River Hil	16.84	333	Pn	Pn	22 57 50.1	-0.6
WCT	Wildcat Mounta	16.88	139	P	P	22 57 52.2	-1.4
G29M	Pine Creek	16.88	349	P	P	22 57 53.5	+0.2
TPNV	Topopah Spring	16.90	138	Pn	Pn	22 57 50.0	-1.8
TPNV				IAmb	IAmb	22 58 11.4	
	comp=Z,25nm,1.4s						
PRP	Porcupine Dome	16.97	338		P	22 57 53.2	-1.3
F31M	Tsiigehtchic	17.04	355		P	22 57 53.3	-1.8
F31M				IAmb	IAmb	22 58 13.6	
	comp=Z,21nm,1.4s						
KTH	Kantishna Hill	17.10	327	P	P	22 57 56.5	+0.6
NEA2	Nenana	17.21	332	P	P	22 57 58.1	+1.1
NEA2				IAmb	IAmb	22 58 25.7	
	comp=Z,19nm,1.4s						
BPAW	Bear Paw Mtn.	17.48	329	P	P	22 57 59.8	-0.1
BPAW				IAmb	IAmb	22 58 11.4	
	comp=Z,17nm,1.3s						
FFC	Flin Flon	17.61	65	P	P	22 58 02.3	+0.9
F28M	Old Crow	17.78	348	Pn	Pn	22 58 01.5	-1.0
F28M				IAmb	IAmb	22 58 21.1	
	comp=Z,19nm,1.5s						
L19K	White Mountain	17.79	320	P	P	22 58 02.9	-0.6
L19K				IAmb	IAmb	22 58 14.2	
	comp=Z,15nm,1.1s						
INK	Inuvik	17.90	356	P	P	22 58 05.2	+0.7
INK	Inuvik	17.90	356	P	P	22 58 05.8	+1.3
	comp=Z,0.1nm,0.3s,baz=162,slow=11,SNR=3.8						
INK				LR	LR	23 05 42.1	
	comp=Z,102nm,20.5s,baz=275,slow=39 comp=Z,1.9nm,1.0s						
K20K	Telida	18.11	324	P	P	22 58 06.9	0.0
K20K				IAmb	IAmb	22 58 18.0	
	comp=Z,16nm,1.3s						
BMAR	Burnt Mountain	18.39	342		P	22 58 10.1	+0.1
J20K	Nowinta River	18.61	326	P	Pn	22 58 12.3	-0.4
J20K				IAmb	IAmb	22 58 30.1	
	comp=Z,21nm,1.3s						
C36M	Paulatuk	19.10	7	P	P	22 58 16.9	-0.8
COLD	Coldfoot	19.48	337	P	Pn	22 58 21.6	-1.6
L16K	Owhat River	19.56	316	P	Pn	22 58 22.5	-1.6
IMAR	Indian Mountai	19.60	331	P	Pn	22 58 22.9	-1.7
PFO	Pinyon Flats O	19.72	144	LR	LR	23 05 49.9	
	comp=Z,109nm,18.5s,baz=320,slow=36						
TOLK	Toolik Lake Re	20.44	340	P	Pn	22 58 32.7	-1.8
J16K	Anvik River	20.65	320	P	P	22 58 32.9	-1.8
J16K				IAmb	IAmb	22 58 44.3	
	comp=Z,11nm,0.9s						
G19K	Purcell Mounta	20.77	329	P	P	22 58 35.6	-0.3
G19K				IAmb	IAmb	22 58 49.8	
	comp=Z,13nm,1.3s						
I17K	Unalakleet	20.94	321	P	P	22 58 37.2	-0.6
I17K				IAmb	IAmb	22 58 57.4	
	comp=Z,11nm,1.1s						
H17K	Granite Mounta	21.12	324	P	P	22 58 39.8	0.0
H17K				IAmb	IAmb	22 58 54.1	
	comp=Z,13nm,1.1s						
G18K	Tagagawik	21.16	327	P	P	22 58 42.0	+1.8
G18K				IAmb	IAmb	22 59 00.7	
	comp=Z,12nm,1.2s						
X16A	Lo Mia Camp, P	21.17	132	P	P	22 58 40.5	-0.1
A36M	Sachs Harbour	21.64	4		P	22 58 43.7	-1.5
ULM	Lac du Bonnet	21.81	77	P	P	22 58 46.4	-0.9
ULM				IAmb	IAmb	22 58 57.2	
	comp=Z,8.8nm,0.9s						
ULM	Lac du Bonnet	21.81	77	P	P	22 58 48.8	+1.6
	comp=Z,2.4nm,0.8s,baz=287,slow=12,SNR=5.2						
ULM				LR	LR	23 07 23.4	
	comp=Z,259nm,19.7s,baz=290,slow=37 comp=Z,2.4nm,0.8s						
FCC	Fort Churchill	22.25	54	P	P	22 58 50.4	-1.4
FCC				IAmb	IAmb	22 59 03.5	
	comp=Z,6.9nm,1.0s						
F17K	Baldwin Pennin	22.35	327	P	P	22 58 52.9	0.0
B22K	Teshekpuk Lake	22.62	340	P	P	22 58 55.5	-0.2
TUC	Tucson	23.22	134	P	P	22 59 01.9	-0.5
TUC				IAmb	IAmb	22 59 17.9	
	comp=Z,10nm,1.4s						
ANMO	Albuquerque	23.27	123	LR	LR	23 07 24.8	
	comp=Z,155nm,21.6s,baz=118,slow=35						
RES	Resolute Bay	28.29	19	LR	LR	23 10 59.4	
	comp=Z,343nm,18.3s,baz=203,slow=36						
TXAR	Laj

comp=Z,44nm,20.8s,slow=36
KSRS Korea Array 68.76 303 LR LR 23 36 20.2
comp=Z,13nm,18.0s,baz=45,slow=37
PPT Papeete 69.91 200 LR LR 23 28 58.7
comp=Z,64nm,21.5s,baz=337,slow=30
PPT2 Papeete2 69.93 200 *e*LR LR 23 26 13.6
comp=Z,123nm,29.2s
PPT2 *e*LR LR 23 26 17.7
comp=Z,66nm,25.8s
SONM Songino Array 70.57 323 LR LR 23 36 31.3
comp=Z,110nm,18.1s,baz=22,slow=36
KIRV Kirov 71.24 0 LR LR 23 39 23.5
comp=Z,40nm,19.9s,baz=355,slow=38
ZALV Zalesovo Beam 71.80 339 P P 23 05 21.7 +4.3
comp=Z,0.5nm,0.6s,baz=36,slow=5.4,SNR=2.5
comp=Z,0.5nm,0.6s
ATAH Atahualpa 72.78 125 LR LR 23 36 55.9
comp=Z,53nm,19.2s,baz=330,slow=36
OBN Obninsk 74.14 8 LR LR 23 40 56.9
comp=Z,47nm,18.1s,baz=358,slow=38
HHC Hu-ho-hao-te 74.15 316 *e*P **P 23 05 33.4 +1.6**
HHC pmax pmax
comp=Z,5.0nm,1.6s
HHC pmax pmax
comp=Z,89nm,4.4s
KURBB Kurchatov Arra 76.27 342 P **P 23 05 45.0 +1.4**
comp=Z,0.3nm,0.3s,baz=21,slow=4.7,SNR=4.1
comp=Z,0.3nm,0.3s
GERES GERESS Array B 76.28 24 LR LR 23 41 00.5
comp=Z,90nm,18.0s,baz=328,slow=37
VRAC Vranov 76.56 22 LR LR 23 41 20.1
comp=Z,72nm,18.9s,baz=341,slow=37
DAVOX Davos/Dischmat 77.13 27 LR LR 23 41 05.7
comp=Z,120nm,18.2s,baz=322,slow=37
BELG Belogornoye 77.43 1 LR LR 23 44 06.8
comp=Z,28nm,19.7s,baz=302,slow=39
AKASG Malin Array Be 77.63 13 P P 23 05 55.0 +3.8
comp=Z,0.6nm,0.5s,baz=346,slow=5.4,SNR=6.0
AKASG LR LR 23 39 23.3
comp=Z,43nm,20.6s,baz=352,slow=35
comp=Z,0.6nm,0.5s
MDP Montagnes des 78.21 96 LR LR 23 40 13.1
comp=Z,34nm,21.8s,baz=308,slow=36
MKAR Makanchi Array 79.05 338 P **P 23 06 02.0 +2.7**
comp=Z,0.7nm,0.7s,baz=40,slow=5.6,SNR=6.8
MKAR LR LR 23 45 01.8
comp=Z,68nm,18.8s,baz=342,slow=39
comp=Z,0.7nm,0.7s
AKTO Aktyubinsk 79.16 355 LR LR 23 45 44.6
comp=Z,23nm,18.1s,baz=26,slow=39
MLR Muntele Rosu 82.15 17 LR LR 23 43 38.3
comp=Z,150nm,18.2s,baz=46,slow=36
LPAZ La Paz 85.88 122 LR LR 23 47 52.2
comp=Z,23nm,19.8s,baz=319,slow=38
VAE Valguarnera 87.00 27 LR LR 23 46 51.1
comp=Z,121nm,20.0s,baz=335,slow=36
GNI Garni 89.58 4 LR LR 23 49 00.5
comp=Z,21nm,21.9s,baz=0.5,slow=37
DZM Mont Dzumac 91.24 236 *e*LR LR 23 36 21.0
comp=Z,97nm,26.9s
BBTS Babate 93.14 63 LR LR 23 47 54.6
comp=Z,43nm,18.4s,baz=202,slow=35
BDFB Brasilia 97.09 106 LR LR 23 55 04.2
comp=Z,27nm,18.2s,baz=199,slow=38
CPUP Villa Florida 99.88 119 LR LR 00 01 43.5
comp=Z,15nm,18.5s,baz=314,slow=41

KRNET ***13*** *22:57:57.7±0.1, 41°.62N×73°.13E, h20km, mb3.3*
SOME ***13*** *22:57:57.8, 41°.63N×73°.12E, h10km*
NNC ***13*** *22:58:00.2±1.1, 41°.65N×73°.21E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=10.5km s-min=3.8km az=176.0*
KNET ***13*** *22:58:00.4±0.5, 41°.75N×73°.18E, h19km±5km, ml2.7, Error ellipse: s-maj=4.4km s-min=2.9km az=121.0*
ISC 13 22:57:57.5±0.9, 41°.66N±0°.02×73°.16E±0°.02, h15km±8km, n79, σ1§81/131, 43C-35D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.36**	**202**	⇑*eP*		**Pg**	**22 58 04.3**	**-0.6**
ARSB				⇑*eS*		**Sg**	**22 58 09.1**	**-0.8**
AML	**Almayashu**	**0.62**	**40**	P		**Pn**	**22 58 11.0**	**-1.2**
AML	145nm,0.2s,SNR=396			⇓S		**Sn**	**22 58 20.2**	**-1.8**
	288nm,0.2s							
AML	**Almayashu**	**0.62**	**40**	⇑*iP*		**Pb**	**22 58 10.5**	**+0.2**
AML				⇑*iS*		**Sn**	**22 58 19.8**	**-2.2**
ARLS	**Aral**	**0.89**	**77**	⇓*iP*		**Pn**	**22 58 15.1**	**-0.6**
ARLS				⇓*iS*		**Sn**	**22 58 27.6**	**-0.9**
ARK	**Arkit**	**0.91**	**279**	⇑*iP*		**Pb**	**22 58 14.4**	**-0.6**
ARK				⇑*iS*		**Sb**	**22 58 26.6**	**-0.3**
SALK	**Salom-Alik**	**0.92**	**147**	⇓*iP*		**Pb**	**22 58 14.6**	**-0.7**
SALK				⇓*iS*		**Sg**	**22 58 26.8**	**-0.7**
MNAS	**Manas**	**0.96**	**330**	⇑*eP*		**Pg**	**22 58 16.2**	**+0.1**
MNAS				⇑*iS*		**Sg**	**22 58 29.6**	**+0.9**
MRKS	**Merke**	**1.09**	**3**	*eP*		**Pg**	**22 58 19.3**	**+0.8**
MRKS	34nm,0.1s			*eS*		**Sg**	**22 58 34.3**	**+1.6**
	482nm,0.3s							
EKS2	**Erkin-Say**	**1.10**	**24**	⇓P		**Pg**	**22 58 19.4**	**+0.7**
EKS2	17nm,0.1s,SNR=42			⇓S		**Sg**	**22 58 34.1**	**+0.9**
	36nm,0.1s							
EKS2	**Erkin-Say**	**1.10**	**24**	⇓*iP*		**Pg**	**22 58 18.8**	**0.0**
EKS2				⇓*iS*		**Sg**	**22 58 34.3**	**+1.1**
UCH	**Uchtor**	**1.16**	**60**	⇓P		**Pg**	**22 58 20.8**	**+0.8**
UCH	27nm,0.1s,SNR=11			⇓S		**Sg**	**22 58 37.0**	**+2.0**
	33nm,0.1s							
UCH	**Uchtor**	**1.16**	**60**	⇑*eP*		**Pg**	**22 58 20.0**	**+0.1**
UCH				⇑*iS*		**Sg**	**22 58 36.0**	**+0.9**
OHH	**Osh**	**1.17**	**194**	⇓*iP*		**Pn**	**22 58 18.5**	**-0.9**
OHH				⇓*iS*		**Sb**	**22 58 33.6**	**-0.8**
AAK	**Ala-Archa**	**1.39**	**45**	⇑P		**Pg**	**22 58 24.8**	**+0.5**
AAK	29nm,0.2s,SNR=89			⇑S		**Sg**	**22 58 43.8**	**+1.3**
	28nm,0.2s							
AAK	**Ala-Archa**	**1.39**	**45**	⇓*iP*		**Pg**	**22 58 23.9**	**-0.4**
AAK				⇓*iS*		**Sg**	**22 58 43.2**	**+0.7**
TRKS	**Terek-Say**	**1.52**	**266**	⇓*eP*		**Pn**	**22 58 24.6**	**+0.3**
TRKS				⇓*eS*		**Sb**	**22 58 44.9**	**+0.3**
FRU1	**Bishkek**	**1.59**	**43**	⇑*iP*		**Pg**	**22 58 27.6**	**-0.4**
FRU1				⇑*iS*		**Sg**	**22 58 49.3**	**+0.7**
KBK	**Karagaybulak**	**1.66**	**53**	⇑P		**Pg**	**22 58 29.9**	**+0.5**
KBK	177nm,0.3s,SNR=86			⇑S		**Sg**	**22 58 52.8**	**+1.8**
	116nm,0.3s							
KBK	**Karagaybulak**	**1.66**	**53**	⇓*iP*		**Pg**	**22 58 28.7**	**-0.7**
KBK				⇓*iS*		**Sg**	**22 58 51.4**	**+0.4**
SFK	**Sufi-Kurgan**	**1.67**	**171**	⇓*iP*		**Pb**	**22 58 27.5**	**-0.5**
SFK				⇓*iS*		**Sb**	**22 58 49.0**	**+0.1**
CHMS	**Chumysh**	**1.79**	**41**	⇑P		**Pg**	**22 58 31.8**	**+0.1**
CHMS	68nm,0.2s,SNR=61			⇓S		**Sg**	**22 58 55.2**	**+0.3**
	75nm,0.3s							
CHMS	**Chumysh**	**1.79**	**41**	⇑Pn		**Pg**	**22 58 32.0**	**+0.2**
CHMS	24nm,0.3s			⇓Sn		**Sg**	**22 58 56.1**	**+1.2**
	32nm,0.6s							
CHMS	**Chumysh**	**1.79**	**41**	⇑*iP*		**Pg**	**22 58 30.8**	**-0.9**
CHMS				⇑*eS*		**Sg**	**22 58 54.9**	**0.0**
DZA	**Taraz**	**1.83**	**313**	*eP*		**Pb**	**22 58 31.8**	**+1.1**
DZA	75nm,0.3s			*eS*		**Sg**	**22 58 56.0**	**-0.5**
	157nm,0.3s							
USP	**Ospenovka**	**1.89**	**31**	⇑P		**Pg**	**22 58 33.4**	**-0.3**
USP	58nm,0.2s,SNR=62			⇑S		**Sg**	**22 58 58.1**	**-0.1**
	136nm,0.2s							
USP	**Ospenovka**	**1.89**	**31**	⇑*iP*		**Pb**	**22 58 32.3**	**+0.6**
USP				⇑*iS*		**Sg**	**22 58 57.4**	**-0.8**
SGDS	**Sogindy**	**2.10**	**31**	Pg		**Pg**	**22 58 36.7**	**-0.9**
SGDS	6.3nm,0.2s			Lg		Lg	22 59 05.5	
	92nm,0.2s							
TKM2	**Tokmak 2**	**2.20**	**54**	⇑P		**Pg**	**22 58 38.3**	**-1.5**
TKM2	35nm,0.1s,SNR=150			⇑Pn		**Pg**	**22 58 38.6**	**-1.2**
	23nm,0.5s							
TKM2	**Tokmak 2**	**2.20**	**54**	⇓Sn		**Sg**	**22 59 09.1**	**+0.8**
TKM2	31nm,0.5s							
TKM2	**Tokmak 2**	**2.20**	**54**	⇓*iP*		**Pb**	**22 58 36.7**	**-0.5**
TKM2				⇓*iS*		**Sb**	**22 59 05.2**	**+0.8**
BOOM	**Boomskoye usch**	**2.23**	**67**	⇓*iP*		**Pb**	**22 58 36.9**	**-0.7**
BOOM				⇓*iS*		**Sb**	**22 59 05.5**	**+0.4**
ULHL	**Ulahol**	**2.37**	**75**	⇓P		**Pb**	**22 58 40.2**	**+0.1**
	11nm,0.2s,SNR=66							
ULHL	**Ulahol**	**2.37**	**75**	⇓*iP*		**Pb**	**22 58 39.0**	**-1.0**
ULHL				⇓*iS*		**Sb**	**22 59 08.9**	**-0.3**
BTK	**Batken**	**2.39**	**229**	⇑*eP*		**Pn**	**22 58 37.8**	**+1.6**
BTK				⇑*eS*		**Sn**	**22 59 07.2**	**+1.9**
DRK	**Karamyk**	**2.41**	**206**	⇑*iP*		**Pn**	**22 58 38.3**	**+1.6**
DRK				⇑*iS*		**Sb**	**22 59 08.1**	**-2.3**
KK31	**Karatay Array**	**2.44**	**307**	⇑Pn		**Pb**	**22 58 41.7**	**+0.7**
KK31	3.9nm,0.2s,baz=125,slow=17,SNR=83			⇑Sn		**Sg**	**22 59 13.7**	**-2.0**
	16nm,0.3s							
KKAR	**Karatay Array**	**2.44**	**307**	⇑*iP*		**Pb**	**22 58 39.5**	**-1.5**
KKAR				⇑*iS*		**Sb**	**22 59 09.6**	**-1.2**
KST	**Kastek**	**2.50**	**55**	Pg		**Pg**	**22 58 44.5**	**-0.9**
KST	43nm,0.4s			Lg		Lg	22 59 17.6	
	50nm,0.4s							
KST	**Kastek**	**2.50**	**55**	*eP*		**Pg**	**22 58 44.5**	**-0.9**
KST	43nm,0.4s			*eS*		**Sg**	**22 59 17.6**	**-0.1**
	50nm,0.4s							
DGS	**Degeres**	**2.50**	**50**	Pg		**Pg**	**22 58 44.6**	**-0.8**
DGS	23nm,0.4s			Lg		Lg	22 59 17.9	
	34nm,0.4s							
CHM	**Chimkent**	**2.73**	**285**	*eP*		**Pb**	**22 58 47.5**	**+1.5**
CHM	40nm,0.2s			*eS*		**Sb**	**22 59 22.8**	**+3.4**
	62nm,0.3s							
KRBS	**Karabastau**	**2.75**	**42**	Pg		**Pg**	**22 58 48.5**	**-1.7**
KRBS	13nm,0.3s			Lg		Lg	22 59 24.6	
	19nm,0.3s							
BRLS	**Borolday**	**2.82**	**300**	*eP*		**Pb**	**22 58 49.0**	**+1.5**
BRLS	6.9nm,0.4s			*eS*		**Sg**	**22 59 25.4**	**-2.6**
	28nm,0.4s							
MTBS	**Maitube**	**2.83**	**58**	Pg		**Pg**	**22 58 50.6**	**-1.2**
MTBS	18nm,0.2s			Lg		Lg	22 59 28.1	
	27nm,0.3s							
MTBS	**Maitube**	**2.83**	**58**	*eP*		**Pg**	**22 58 50.6**	**-1.2**
MTBS	18nm,0.2s			*eS*		**Sg**	**22 59 28.1**	**-0.3**
	27nm,0.3s							
TNSS	**Tian-Shan**	**3.13**	**63**	Pg		**Pg**	**22 58 56.4**	**-1.0**
TNSS	20nm,0.3s			Lg		Lg	22 59 38.2	
	14nm,0.5s							
TNSS	**Tian-Shan**	**3.13**	**63**	*eP*		**Pg**	**22 58 56.4**	**-1.0**
TNSS	20nm,0.3s			*eS*		**Sg**	**22 59 38.2**	**+0.2**
	14nm,0.5s							
AAA	**Alma-Ata**	**3.18**	**60**	Pg		**Pg**	**22 58 58.1**	**-0.3**
AAA	35nm,0.2s			Lg		Lg	22 59 41.1	
	14nm,0.5s							
AAA	**Alma-Ata**	**3.18**	**60**	*eP*		**Pg**	**22 58 58.1**	**-0.3**
AAA	35nm,0.2s			*eS*		**Sg**	**22 59 41.1**	**+1.5**
	14nm,0.5s							
KNDC	**Almaty**	**3.22**	**60**	⇑Pg		**Pg**	**22 58 58.1**	**-1.0**
KNDC	19nm,0.4s			⇓Lg		Lg	22 59 41.5	
	40nm,0.7s							
MDOK	**Medeo**	**3.25**	**61**	Pg		**Pg**	**22 58 58.0**	**-1.7**
MDOK	14nm,0.7s			Pg		**Pg**	**22 58 58.0**	**-1.7**
	15nm,0.5s							
MDOK				Lg		Lg	22 59 40.3	
	20nm,0.6s							
MDOK				Lg		Lg	22 59 40.9	
	20nm,0.9s							
MDOK	**Medeo**	**3.25**	**61**	*eP*		**Pg**	**22 58 58.0**	**-1.7**
MDOK	15nm,0.5s			*eS*		**Sg**	**22 59 40.9**	**-0.9**
	20nm,0.9s							
KTBS	**Karatobe**	**3.31**	**51**	Pg		**Pg**	**22 58 59.0**	**-1.9**
KTBS	10nm,0.4s			Lg		Lg	22 59 42.9	
	49nm,0.4s							
KOTS	**Kotyrbulak**	**3.32**	**60**	Pg		**Pg**	**22 58 60.0**	**-1.1**
KOTS	23nm,0.4s			Lg		Lg	22 59 44.5	
	28nm,0.5s							
KOTS	**Kotyrbulak**	**3.32**	**60**	*eP*		**Pg**	**22 58 60.0**	**-1.1**
KOTS	23nm,0.4s			*eS*		**Sg**	**22 59 44.5**	**+0.4**
	28nm,0.5s							
GAR	**Garm**	**3.43**	**220**	⇓*iP*		**Pn**	**22 58 52.4**	**+1.8**
GAR				⇓*iS*		**Sn**	**22 59 32.6**	**+1.6**
BTLS	**Baital**	**3.44**	**11**	*eP*		**Pg**	**22 59 00.8**	**-2.6**
BTLS	2.0nm,0.3s			*eS*		**Sg**	**22 59 45.6**	**-2.4**
	26nm,0.3s							
ANVS	**Anan'yevo**	**3.53**	**70**	⇑*eP*		**Pn**	**22 58 55.1**	**+3.1**
ANVS				⇑*iS*		**Sn**	**22 59 36.7**	**+3.1**
KURS	**Kuram**	**4.13**	**62**	Pg		**Pg**	**22 59 14.2**	**-2.3**
KURS	4.1nm,0.5s			Lg		Lg	23 00 08.7	
	3.0nm,0.7s							
SATY	**Saty**	**4.13**	**68**	Pg		**Pg**	**22 59 14.1**	**-2.5**
SATY	4.2nm,0.2s			Lg		Lg	23 00 08.3	
	12nm,0.4s							
SATY	**Saty**	**4.13**	**68**	*eP*		**Pg**	**22 59 18.0**	**+1.4**
SATY	9.1nm,0.4s			*eS*		**Sg**	**23 00 15.1**	**+5.0**
	14nm,0.3s							
ZHN	**Zhinishke**	**4.19**	**67**	Pg		**Pg**	**22 59 15.2**	**-2.4**
ZHN	3.9nm,0.4s			Lg		Lg	23 00 11.3	
	15nm,0.2s							
ZHN	**Zhinishke**	**4.19**	**67**	*eP*		**Pg**	**22 59 15.2**	**-2.4**
ZHN	3.9nm,0.4s			*eS*		**Sg**	**23 00 11.3**	**-0.6**
	15nm,0.2s							
CHGR	**Chuyangaron**	**4.29**	**227**	⇑*iP*		**Pn**	**22 59 04.5**	**+2.2**
CHGR				⇑*iS*		**Sn**	**22 59 53.1**	**+1.0**
KPKS	**Kokpek**	**4.46**	**64**	Pg		**Pg**	**22 59 19.5**	**-3.4**
KPKS	8.7nm,0.6s			Lg		Lg	23 00 18.5	
	7.3nm,0.5s							
KPKS	**Kokpek**	**4.46**	**64**	*eP*		Pn	22 58 44.6	-20
KPKS	23nm,0.4s			*eS*		Sn	22 59 17.9	-39
	34nm,0.4s							
KPKS	**Kokpek**	**4.46**	**64**	*eP*		**Pg**	**22 59 19.5**	**-3.4**
KPKS	8.7nm,0.6s			*eS*		**Sg**	**23 00 18.5**	**-2.2**
	7.3nm,0.5s							
UZB	**Uzynbulak**	**4.59**	**69**	Pg		**Pg**	**22 59 22.2**	**-3.2**
UZB	4.7nm,0.2s			Lg		Lg	23 00 22.4	
	5.6nm,0.5s							
UZB	**Uzynbulak**	**4.59**	**69**	*eP*		**Pg**	**22 59 22.2**	**-3.2**
UZB	4.7nm,0.2s			*eS*		**Sg**	**23 00 22.4**	**-2.4**
	5.6nm,0.5s							
BLB	**Baldybastay**	**4.61**	**56**	Pg		**Pg**	**22 59 24.3**	**-1.3**
BLB	21nm,0.5s			Lg		Lg	23 00 25.8	
	12nm,0.5s							
SHLS	**Shalkode**	**4.90**	**70**	*eP*		**Pg**	**22 59 33.8**	**+2.5**
SHLS	2.5nm,0.4s			*eS*		**Sg**	**23 00 42.4**	**+7.7**
	12nm,0.7s							
PDGK	**Podgornoye**	**4.97**	**68**	⇑Pg		**Pg**	**22 59 28.1**	**-4.5**
PDGK	3.0nm,0.6s			⇑Lg		Lg	23 00 39.5	
	7.7nm,0.6s							
TDK	**Taldyqorghan**	**5.08**	**47**	Pg		**Pg**	**22 59 32.5**	**-2.2**
TDK	6.4nm,0.3s			Lg		Lg	23 00 39.8	
	18nm,0.4s							
TDK	**Taldyqorghan**	**5.08**	**47**	*eP*		**Pg**	**22 59 32.5**	**-2.2**
TDK	6.4nm,0.3s			*eS*		**Sg**	**23 00 39.8**	**-0.7**
	18nm,0.4s							
KNOS	**Konyrlen**	**5.17**	**57**	Pg		**Pg**	**22 59 32.6**	**-3.9**
KNOS	4.7nm,0.5s			Lg		Lg	23 00 39.9	
	16nm,0.3s							
DJR	**Jarkent**	**5.55**	**59**	Pg		**Pg**	**22 59 39.9**	**-3.8**
DJR	2.3nm,0.5s			Lg		Lg	23 00 52.5	
	3.7nm,0.8s							
DJR	**Jarkent**	**5.55**	**59**	*eP*		**Pg**	**22 59 41.2**	**-2.4**
	2.3nm,0.5s							
DJR				*eS*		**Sg**	**23 00 55.2**	**-0.3**
	2.9nm,0.4s							
OTUK	**Ortayu**	**6.61**	**355**	⇓Pg		**Pg**	**23 00 00.0**	**-3.9**
OTUK	3.3nm,1.4s			Lg		Lg	23 01 29.5	
	16nm,0.6s							
MK31	**Makanchi Array**	**8.32**	**49**	⇑Pn		Pn	23 00 04.1	+6.5
MK31	0.5nm,0.6s,baz=231,slow=12,SNR=8.6			⇑Lg		Lg	23 02 21.8	
	0.1nm,0.2s							

NEIC ***13*** *23:14:54.2±2.4, 50°.54N±0°.06×130°.31W±0°.06, h10km±1km, mb4.0/7, Error ellipse: s-maj=10.6km s-min=5.8km az=203.0*
IDC ***13*** *23:14:59.4±1.4, 50°.63N×129°.66W, h0km, mb3.5/4, mbtmp3.6/9, ML3.4/5, MS3.4/18, Error ellipse: s-maj=21.3km s-min=13.1km az=74.0*
ISC 13 23:14:55.9±0.9, 50°.54N±0°.07×130°.26W±0°.07, h14km, n55, σ1§95/38, mb3.5/5, MS3.5/10, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**85**			**Pn**	**23 15 19.9**	**-0.6**
HOLB					Sn	**Sn**	**23 15 35.9**	**-2.4**
HG4B	**Hotspring**	**1.86**	**342**		Pn	**Pn**	**23 15 25.0**	**-2.2**
HG4B					Sn	**Sn**	**23 15 48.1**	**-2.4**
BBB	**Bella Bella**	**2.13**	**38**		Pn	**Pn**	**23 15 30.4**	**-0.6**
BBB					Sn	**Sn**	**23 15 54.8**	**-2.4**
BBB	**Bella Bella**	**2.13**	**38**		Pn	**Pn**	**23 15 30.4**	**-0.6**
BBB	14nm,0.3s,baz=223,slow=6.2,SNR=129				Sn	**Sn**	**23 15 55.1**	**-2.0**
	61nm,0.3s,baz=204,slow=19,SNR=7.1							
BBB					LR	LR	23 16 06.5	
	comp=Z,230nm,18.8s,baz=212,slow=37							
MOBC	**Moresby Island**	**2.82**	**339**		Pn	**Pn**	**23 15 37.7**	**-2.8**
DIB	**Dawson Inlet,**	**3.00**	**334**		Pn	**Pn**	**23 15 41.9**	**-1.1**
CBB	**Campbell River**	**3.18**	**97**		Pn	**Pn**	**23 15 44.3**	**-1.1**
GRNB	**Grenville Isla**	**3.32**	**3**		Pn	**Pn**	**23 15 46.5**	**-0.9**
OZB	**Mount Ozzard**	**3.47**	**115**		Pn	**Pn**	**23 15 49.4**	**0.0**
CLRS	**Cowichan Lake**	**4.33**	**111**		Pn	**Pn**	**23 15 59.4**	**-1.8**
C03A	**Quillayute Air**	**4.54**	**123**			**Pn**	**23 16 02.5**	**-1.6**
PGC	**Sidney**	**4.81**	**110**		Pn	**Pn**	**23 16 08.7**	**+0.9**
V35K	**Ketchikan**	**4.87**	**351**		Pn	**Pn**	**23 16 06.9**	**-1.7**
CRAG	**Craig**	**5.24**	**342**		Pn	**Pn**	**23 16 12.9**	**-0.7**
NLWA	**Neilton Lookou**	**5.25**	**124**		Pn	**Pn**	**23 16 15.1**	**+1.2**
DLBC	**Dease Lake**	**7.92**	**1**		Pn	**Pn**	**23 16 50.9**	**+0.3**
DLBC	**Dease Lake**	**7.92**	**1**		Pn	**Pn**	**23 16 53.5**	**+2.9**
DLBC	0.5nm,0.3s,baz=198,slow=13,SNR=8.9				Sn	**Sn**	**23 18 24.1**	**+4.1**
	0.2nm,0.3s,baz=223,slow=24,SNR=1.8							
DLBC					Lg	Lg	23 19 05.3	
	0.1nm,0.3s,baz=276,slow=11,SNR=3.5							
DLBC					LR	LR	23 19 54.0	
	comp=Z,388nm,18.3s,baz=211,slow=38							
	3.4nm,0.6s							
E07A	**Sunnyside**	**7.97**	**116**		Pn	**Pn**	**23 16 50.0**	**-1.2**
NEW	**Newport**	**8.86**	**100**		Lg	Lg	23 19 25.9	
	0.1nm,0.3s,baz=115,slow=18,SNR=1.0							
NEW					LR	LR	23 20 18.4	
	comp=Z,164nm,20.7s,baz=289,slow=38							
YBH	**Yreka Blue Hor**	**10.24**	**146**		LR	LR	23 20 41.0	
	comp=Z,121nm,19.8s,baz=324,slow=34							
ELK	**Elko**	**14.33**	**127**		LR	LR	23 24 34.7	
	comp=Z,97nm,18.8s,baz=322,slow=41							
YKA	**Yellowknife Ar**	**14.72**	**30**		Pn	**Pn**	**23 18 22.1**	**-1.3**
	0.1nm,0.3s,baz=222,slow=12,SNR=8.4							
YKA					LR	LR	23 23 43.6	
	comp=Z,112nm,21.3s,baz=232,slow=36							
	1.0nm,0.8s							
NVAR	**Mina Array Bea**	**14.78**	**140**		LR	LR	23 23 55.4	
	comp=Z,75nm,19.9s,baz=218,slow=36							
PD31	**Pinedale Array**	**16.16**	**111**		P	**Pn**	**23 18 43.5**	**+0.9**
PDAR	**Pinedale Array**	**16.16**	**111**		Pn	**P**	**23 18 46.0**	**+0.1**
	baz=319,slow=8.8,SNR=8.0							
PDAR					LR	LR	23 25 03.0	
	comp=Z,46nm,20.1s,baz=300,slow=38							
	1.9nm,1.0s							
ILAR	**Eielson Array**	**16.73**	**335**		Pn	**P**	**23 18 56.4**	**+4.6**
	baz=145,slow=10.0,SNR=14							
	1.1nm,0.9s							
FFC	**Flin Flon**	**17.61**	**65**		P	**Pn**	**23 19 00.8**	**+0.2**
FFC					IAmb	IAmb	23 19 10.0	
	comp=Z,15nm,1.3s							
FYU	**Fort Yukon**	**17.79**	**340**		P	**Pn**	**23 19 00.7**	**-1.9**
FYU					IAmb	IAmb	23 19 15.4	
	comp=Z,36nm,1.3s							
Q16A	**Castle Valley**	**17.80**	**123**		P	**Pn**	**23 19 02.6**	**-0.6**
Q16A					IAmb	IAmb	23 19 10.5	
	comp=Z,5.6nm,0.6s							
INK	**Inuvik**	**17.90**	**356**		P	**P**	**23 19 07.2**	**+2.6**
	baz=165,slow=9.3,SNR=3.0							
	comp=Z,1.8nm,1.0s							
BMAR	**Burnt Mountain**	**18.39**	**342**		P	**P**	**23 19 09.5**	**-0.7**
PFO	**Pinyon Flats O**	**19.71**	**144**		LR	LR	23 27 31.1	
	comp=Z,59nm,21.8s,baz=204,slow=38							
ULM	**Lac du Bonnet**	**21.81**	**77**		P	**P**	**23 19 47.0**	**-0.3**
ULM					IAmb	IAmb	23 19 59.1	
	comp=Z,4.1nm,0.8s							
ULM	**Lac du Bonnet**	**21.81**	**77**		P	**P**	**23 19 47.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=283,slow=12,SNR=3.9							
	comp=Z,1.6nm,0.7s							
FCC	**Fort Churchill**	**22.25**	**54**		P	**P**	**23 19 51.9**	**0.0**
FCC					IAmb	IAmb	23 20 01.7	
	comp=Z,7.3nm,1.0s							
ANMO	**Albuquerque**	**23.27**	**123**		LR	LR	23 28 24.1	
	comp=Z,46nm,21.6s,baz=113,slow=35							
EYMN	**Ely**	**25.25**	**81**		P	**P**	**23 20 21.4**	**+0.2**
RES	**Resolute Bay**	**28.29**	**19**		LR	LR	23 32 45.0	
	comp=Z,85nm,18.8s,baz=177,slow=38							
GSTR	**Great Sitkin T**	**28.31**	**291**		P	**P**	**23 20 46.5**	**-2.3**
TXAR	**Lajitas Array**	**29.13**	**127**		P	**P**	**23 21 00.2**	**+3.8**
	comp=Z,0.8nm,1.0s,baz=326,slow=10,SNR=4.3							
TXAR					LR	LR	23 33 25.5	
	comp=Z,42nm,20.9s,baz=320,slow=38							
	comp=Z,0.8nm,1.0s							
SADO	**Sadowa**	**34.34**	**79**		LR	LR	23 34 53.3	
	comp=Z,52nm,18.5s,baz=256,slow=35							
FRB	**Frobisher Bay**	**34.51**	**44**		LR	LR	23 35 19.7	
	comp=Z,78nm,18.0s,baz=285,slow=36							
TKL	**Tuckaleechee C**	**36.42**	**96**		LR	LR	23 37 11.9	
	comp=Z,88nm,18.9s,baz=332,slow=37							
SCHQ	**Schefferville**	**37.52**	**58**		LR	LR	23 37 57.3	
	comp=Z,142nm,18.2s,baz=20,slow=37							
SFJD	**Kangerlussuaq**	**41.14**	**36**		LR	LR	23 38 19.5	
	comp=Z,149nm,19.2s,baz=324,slow

OKSP					Sb	23 19 22.4	-0.1
OKTU	Okmok Mt. Tuli	1.09	7		Pn	23 19 11.7	0.0
OKCE	Okmok Cone E	1.13	3		Pn	23 19 12.2	0.0
OKCE					Sn	23 19 26.0	-0.7
OKFG	Magazine Ridge	1.13	11		Pn	23 19 12.1	-0.2
OKNC	Okmok New Cone	1.16	4		Pn	23 19 13.0	+0.4
OKWE	Okmok W'ng Wal	1.17	1		Pn	23 19 13.1	+0.3
OKRE	Okmok R'deer P	1.22	3		Pn	23 19 13.8	+0.3
MAPS	Pakushin South	1.71	28		Pn	23 19 19.9	-0.4
MGOD	Makushin Gods	1.72	29		Pn	23 19 20.0	-0.4
MREP	Makushin Rep't	1.77	31		Pn	23 19 20.9	-0.1
MSW	Makushin Switc	1.85	29		Pn	23 19 22.3	+0.2
UNV	Unalaska Valle	1.88	34		Pn	23 19 22.4	-0.1
UNV	Unalaska Valle baz=209	1.88	34	P	Pn	23 19 23.2	+0.7
AKMO	Akutan Morgan	2.25	36		Pn	23 19 27.2	-0.5
AKRB	Akutan Reef Bi	2.26	35		Pn	23 19 28.7	+0.9
ZRO	Akutan Zero	2.26	37		Pn	23 19 28.0	+0.2
ZRO					Sn	23 19 53.1	-1.6
AKV	Akutan Volcano	2.29	36		Pn	23 19 28.9	+0.6
LVA	Lava Point	2.30	35		Pn	23 19 29.3	+1.0
LVA				Sn	Sn	23 19 56.8	+1.2
LVA	comp=E,862nm,0.6s			IAML		23 20 08.5	
LVA	comp=N,970nm,0.8s			IAML		23 20 08.9	
AHB	Akutan Harbor	2.34	38		Pn	23 19 28.8	-0.1
WESE	West Dahl East	3.10	44		Pn	23 19 39.1	-0.2
SSLS	Shishaldin Sou	3.51	45		Pn	23 19 45.0	0.0
ATKA	Atka Island	3.64	271	Pn	Pn	23 19 44.9	-1.8
ISLZ	Isanotski Laza	3.65	47		Pn	23 19 46.6	-0.2
FALS	False Pass	3.86	47	Pn	Pn	23 19 50.1	+0.4
FALS	False Pass baz=226	3.86	47	P	Pn	23 19 51.2	+1.4
P08K	Saint George I baz=169	4.37	351	P	Pn	23 19 57.3	+0.6
PS4A	Pavlof South-4	4.87	49		Pn	23 20 04.2	+0.6
S12K	Black Hills	5.00	45	Pn	Pn	23 20 05.2	-0.3
S12K				IAML		23 21 04.1	
S12K	comp=N,86nm,2.1s			IAML		23 21 50.1	
S12K	comp=E,91nm,1.9s Black Hills baz=226	5.00	45	P	Pn	23 20 07.2	+1.7
SPIA	Saint Paul Isl	5.02	348	Pn	Pn	23 20 07.3	+1.8
SPIA	Saint Paul Isl baz=166	5.02	348	P	Pn	23 20 06.4	+0.8
ADK	Adak	5.20	269	Pn	Pn	23 20 07.5	-0.7
CNBA	Chernabura Isl	5.76	61	Pn	Pn	23 20 14.4	-1.3
CHNA	Chernabura Isl baz=244	5.76	61	P	Pn	23 20 13.8	-2.0
S14K	Fog Glacier baz=233	6.48	49	P	Pn	23 20 25.4	-0.4
VNFG	Fog Glacier, M	6.48	49		Pn	23 20 26.5	+0.7
CHGN	Chignik	7.02	51	Pn	Pn	23 20 33.7	+0.6
O14K	Tigyukauivet M	8.01	27	Pn	Pn	23 20 48.3	+1.7
M11K	Mekoryuk baz=188	8.18	7	P	Pn	23 20 49.5	+0.5
CHIR	Chirikof Islan	8.23	60	Pn	Pn	23 20 48.3	-1.4
CHIR	Chirikof Islan baz=248	8.23	60	P	Pn	23 20 48.8	-0.9
O15K	Ungalikthiuk R baz=217	8.37	31	P	Pn	23 20 52.4	+0.8
N14K	Kuskokwak Cree baz=207	8.47	23	P	Pn	23 20 53.4	+0.4
M13K	Dall Lake baz=200	8.57	17	P	Pn	23 20 57.6	+3.2
P16K	Nushagak River baz=224	8.89	37	P	Pn	23 21 00.3	+1.6
N15K	Kwethluk River baz=212	9.10	27	P	Pn	23 21 02.3	+0.7
M14K	Bethel	9.15	20	Pn	Pn	23 21 03.6	+1.3
M14K	Bethel baz=204	9.15	20	P	Pn	23 21 02.8	+0.5
O16K	Kokwok River B	9.26	34	Pn	Pn	23 21 05.0	+1.1
O16K	Kokwok River B baz=221	9.26	34	P	Pn	23 21 05.1	+1.2
M15K	Kasigluk River baz=208	9.39	23	P	Pn	23 21 07.7	+2.1
ACHA	Angle Creek He	9.46	46	Pn	Pn	23 21 07.5	+0.9
R18K	Karluk baz=240	9.54	51	P	Pn	23 21 05.5	-2.0
L14K	Kuka Creek baz=200	9.56	16	P	Pn	23 21 08.5	+0.7
P17K	Kvichak River baz=228	9.59	39	P	Pn	23 21 07.1	-1.2
O17K	Koliganek Bris baz=223	9.74	35	P	Pn	23 21 09.2	-1.2
K13K	Kusilvak Mount	9.85	10	Pn	Pn	23 21 14.4	+2.6
K13K	Kusilvak Mount baz=192	9.85	10	P	Pn	23 21 14.4	+2.6
L15K	Ungalak Mounta baz=203	10.10	19	P	Pn	23 21 16.8	+1.6
P18K	Big Mountain,	10.20	41	Pn	Pn	23 21 17.1	+0.5
P18K	Big Mountain, baz=230	10.20	41	P	Pn	23 21 16.7	0.0
N17K	Nushagak Hills baz=220	10.27	32	P	Pn	23 21 18.8	+1.3
O18K	Koktuh Hills	10.50	39		Pn	23 21 21.7	+1.0
O18K	Koktuh Hills baz=228	10.50	39	P	Pn	23 21 22.5	+1.8
KDAK	Kodiak Island	10.53	52	Pn	Pn	23 21 19.2	-2.0
KDAK	Kodiak Island comp=E,1.3nm,0.3s,baz=86,slow=6.6,SNR=7.5	10.53	52	Pn	Pn	23 21 19.9	-1.2
KDAK	Kodiak Island baz=244	10.53	52	P	Pn	23 21 19.6	-1.6
L16K	Owhat River baz=210	10.57	23	P	Pn	23 21 24.9	+3.3
Q19K	Cape Douglas,	10.59	45	Pn	Pn	23 21 22.4	+0.3
Q19K	Cape Douglas, baz=236	10.59	45	P	Pn	23 21 21.7	-0.3
K15K	Wolf Creek Mou baz=202	10.65	17	P	Pn	23 21 24.8	+2.0
J14K	Nanvaranak Lak baz=195	10.77	12	P	Pn	23 21 26.6	+2.2
N18K	Kilae Creek baz=223	10.81	34	P	Pn	23 21 25.8	+0.7
M17K	Holitna River baz=217	10.86	29	P	Pn	23 21 26.5	+0.8
O19K	Port Alsworth baz=229	11.06	39	P	Pn	23 21 28.3	-0.1
P19K	Oil Pt	11.17	43		Pn	23 21 30.5	+0.5
P19K	Oil Pt baz=234	11.17	43	P	Pn	23 21 30.6	+0.7
L17K	Donlin baz=212	11.22	25	P	Pn	23 21 29.4	-1.2
N19K	Bonanza Creek baz=226	11.40	36	P	Pn	23 21 34.4	+1.2
M18K	Stony River baz=221	11.43	31	P	Pn	23 21 34.6	+1.2
GAMB	Gambell	11.64	352	Pn	Pn	23 21 38.1	+1.8
GAMB	Gambell baz=169	11.64	352	P	Pn	23 21 38.4	+2.0
O20K	Slope Mountain baz=234	11.67	42	P	Pn	23 21 36.3	-0.4
K17K	Iditarod baz=211	11.72	23	P	Pn	23 21 39.5	+2.1
L18K	Granite Mounta baz=216	11.73	28	P	Pn	23 21 38.3	+0.8
J16K	Anvik River baz=203	11.73	17	P	Pn	23 21 40.6	+3.0
J17K	VABM Dome baz=207	12.13	20	P	Pn	23 21 45.2	+2.2
M19K	Big River Lodg baz=223	12.20	33	P	Pn	23 21 45.4	+1.5
L19K	White Mountain baz=221	12.25	31	P	Pn	23 21 46.0	+1.3
BRSE	Bradley Lake S baz=239	12.29	46	P	Pn	23 21 45.3	+0.2
ANM	Nome	12.39	6		Pn	23 21 48.2	+1.7
ANM	Nome baz=188	12.39	6	P	Pn	23 21 49.1	+2.6
M20K	Styx River baz=226	12.61	35	P	Pn	23 21 51.0	+1.4
CAPN	Captain Cook N baz=234	12.66	41	P	Pn	23 21 50.4	+0.2
J18K	Innoko River	12.74	24	Pn	Pn	23 21 52.9	+1.5
J18K	Innoko River baz=213	12.74	24	P	Pn	23 21 53.2	+1.8
H16K	Elim baz=196	12.76	12	P	Pn	23 21 53.7	+2.1
L20K	Farewell, AK baz=222	12.78	31	P	Pn	23 21 52.9	+0.9
G15K	Niukluk baz=191	12.91	8	P	Pn	23 21 54.8	+1.1
SEW	Seward	13.03	46	P	Pn	23 21 53.8	-1.5
SUA	Susitna One baz=233	13.22	39	P	Pn	23 21 56.3	-1.8
SKT	Skwentna baz=229	13.24	36	P	Pn	23 21 58.2	-0.1
F14K	Arctic Creek baz=185	13.25	4	P	Pn	23 22 00.0	+1.8
K20K	Telida	13.38	29		Pn	23 21 59.9	-0.1
K20K	Telida baz=220	13.38	29	P	Pn	23 22 00.5	+0.5
H17K	Granite Mounta	13.38	16		Pn	23 22 01.4	+1.3
H17K	Granite Mounta baz=202	13.38	16	P	Pn	23 22 01.4	+1.3
J19K	Poorman baz=214	13.45	25	P	Pn	23 22 00.8	-0.3
G16K	Koyuk River baz=195	13.47	11	P	Pn	23 22 01.4	+0.2
F15K	North Star Dit	13.57	6	Pn	Pn	23 22 03.9	+1.2
F15K	North Star Dit baz=189	13.57	6	P	Pn	23 22 05.4	+2.8
H18K	Honhosa River baz=205	13.85	18	P	Pn	23 22 08.5	+2.0
PWL	Port Wells baz=240	13.88	44	P	Pn	23 22 04.6	-2.3
J20K	Nowinta River baz=217	13.99	26	P	Pn	23 22 09.0	+0.6
KNK	Knik Glacier baz=238	14.11	42	P	Pn	23 22 09.2	-0.8
G18K	Tagagawik	14.47	16		Pn	23 22 16.5	+1.5
G18K	Tagagawik baz=204	14.47	16	P	Pn	23 22 17.1	+2.2
M23K	Glacier View baz=238	14.61	41	P	Pn	23 22 15.2	-1.6
F17K	Baldwin Pennin baz=197	14.61	11	P	Pn	23 22 19.3	+2.5
FID	Port Fidalgo	14.64	46	Pn	Pn	23 22 15.1	-2.1
SCM	Sheep Creek Mo	14.79	42	Pn	Pn	23 22 16.9	-2.5
SCM	Sheep Creek Mo baz=238	14.79	42	P	Pn	23 22 17.8	-1.6
F18K	Selawik baz=200,SNR=6.3	14.97	13	P	Pn	23 22 23.6	+2.0
KLU	Klutina	15.21	44		Pn	23 22 22.2	-2.7
KLU	Klutina baz=242,SNR=9.1	15.21	44	P	Pn	23 22 23.5	-1.5
I21K	Tanana baz=220	15.36	27	P	Pn	23 22 26.0	-0.7
M24K	Tolsona, Glenn baz=239	15.40	42	P	Pn	23 22 26.0	-1.4
F19K	Shaleruckik Mo baz=204	15.48	16	P	Pn	23 22 28.4	+0.1
H21K	Melozitna Rive baz=217,SNR=13	15.51	24	P	Pn	23 22 29.9	+1.1
BMRM	Bremner River baz=246	15.56	47	P	Pn	23 22 28.9	-0.6
E18K	Tukpahlearik C baz=197	15.63	11	P	P	23 22 32.5	-1.7
D17K	Noatak River baz=191	15.65	7	P	P	23 22 32.9	-1.5
NEA2	Nenana baz=227	15.80	31	P	Pn	23 22 33.5	+1.0
N25K	Chitina, Valde	15.83	45	Pn	Pn	23 22 30.4	-2.6
N25K	comp=Z,8.1nm,0.6s			IAmb	IAmb	23 22 32.8	
N25K	Chitina, Valde baz=244	15.83	45	P	Pn	23 22 31.6	-1.4
HARP	HAARP baz=240	15.96	42	P	Pn	23 22 32.6	-1.9
F20K	Avaraart Lake	16.03	18		Pn	23 22 36.9	+1.4
F20K	Avaraart Lake baz=208	16.03	18	P	Pn	23 22 34.9	-0.6
G21K	Allakaket baz=214	16.04	22	P	Pn	23 22 35.5	-0.1
H22K	Ishtalitna Cre baz=219	16.07	26	P	Pn	23 22 35.9	0.0
C16K	Lisburne Hills	16.09	4		P	23 22 38.3	-0.9
C16K	Lisburne Hills baz=186	16.09	4	P	Pn	23 22 36.6	+0.5
I23K	Minto, Yukon-K baz=225	16.09	30	P	Pn	23 22 36.8	+0.5
PAX	Paxson	16.12	40		Pn	23 22 34.5	-2.1
PAX	Paxson baz=238	16.12	40	P	Pn	23 22 35.2	-1.5
E19K	Redstone River baz=204	16.13	15	P	Pn	23 22 36.0	-0.8
HDA	Harding Lake baz=231	16.39	34	P	Pn	23 22 38.9	-1.1
C17K	DeLong Mountai baz=191	16.41	7	P	Pn	23 22 41.4	+1.2
K24K	Donnelly Dome baz=235	16.45	37	P	Pn	23 22 40.3	-0.6
MESA	MESA baz=252	16.53	51	P	Pn	23 22 43.3	+1.3
F21K	Alatna River baz=212	16.64	20	P	Pn	23 22 43.5	+0.4
ILAR	Eielson Array comp=Z,0.2nm,0.3s,baz=239,slow=12,SNR=12	16.64	33	Pn	Pn	23 22 41.9	-1.2
	comp=Z,2.2nm,0.9s						
POKR	Poker Plat Res baz=229	16.68	32	P	Pn	23 22 42.8	-0.8
C18K	Utukok River baz=195	16.75	9	P	P	23 22 47.0	+0.4
RIDG	Independent Ri baz=237	16.76	38	P	Pn	23 22 44.7	-0.1
G22K	Bettles baz=217	16.84	23	P	Pn	23 22 45.8	+0.1
M26K	Nabesna, AK baz=244	16.86	43	P	Pn	23 22 44.9	-1.1
D19K	Kuna River baz=201	16.96	13	P	P	23 22 50.5	+1.6
L26K	Log Cabin Wild baz=241,SNR=6.9	16.99	41	P	Pn	23 22 47.0	-0.6
H24K	Noodor Dome baz=226	17.02	29	P	Pn	23 22 47.0	-1.0
E20K	Nigu River baz=206	17.03	15	P	P	23 22 50.6	+0.8
G23K	Bananza Creek baz=220,SNR=8.4	17.05	25	P	P	23 22 49.6	-0.3
J25K	Salcha River, baz=234	17.06	35	P	Pn	23 22 47.3	-1.2
SCRK	Sand Creek baz=238,SNR=5.3	17.21	38	P	Pn	23 22 49.8	-0.7
M27K	Edge Creek, AK baz=246	17.31	44	P	Pn	23 22 52.5	+0.7
PCA	Pinnacle	17.32	52	Pn	Pn	23 22 50.2	-1.6
PCA	comp=Z,24nm,1.0s			IAmb	IAmb	23 22 57.2	
PINM	Pinnacle baz=255	17.32	52	P	Pn	23 22 51.6	-0.2
D20K	Etivluk River baz=204	17.38	14	P	P	23 22 53.3	-0.2
B18K	Kokolik River baz=193	17.39	8	P	P	23 22 54.7	+1.1
COLD	Coldfoot baz=219	17.40	24	P	Pn	23 22 53.3	+0.7
O28M	Mount Upton baz=253,SNR=6.0	17.53	50	P	Pn	23 22 53.2	-1.4
E21K	Killik River baz=210	17.58	18	P	Pn	23 22 54.8	-0.1
L27K	Beaver Creek, baz=244	17.63	42	P	Pn	23 22 54.3	-1.2
BCAR	Beaver Creek A	17.64	42	Pn	Pn	23 22 53.2	-2.6
J26L	Joseph Creek baz=237,SNR=20	17.65	37	P	Pn	23 22 54.3	-1.5
YUK3	Moose Creek baz=249	17.72	47	P	Pn	23 22 56.6	-0.2
G24K	Hadweenzic Riv baz=225	17.73	28	P	Pn	23 22 56.2	-0.7
BVCY	Beaver Creek baz=247	17.77	45	P	Pn	23 22 56.6	-0.8
YUK8	Steele Glacier baz=252	17.88	49	P	Pn	23 22 57.3	-1.6
H25L	Birch Creek baz=229	17.93	30	P	Pn	23 22 58.0	-1.2
C21K	Knifeblade Rid baz=207	18.07	16	P	P	23 23 02.1	+1.0
O29M	Mount Kennedy	18.18	52	P	P	23 23 03.1	+0.5
O29M	comp=Z,11nm,0.7s			IAmb	IAmb	23 23 07.7	
O29M	Mount Kennedy baz=256	18.18	52	P	Pn	23 23 00.5	-2.0
E23K	Chandalar baz=218	18.19	23	P	Pn	23 23 02.3	-0.1
D22K	Ayikyak River	18.20	18	P	P	23 23 03.0	+0.4
D22K	Ayikyak River baz=211	18.20	18	P	Pn	23 23 02.5	0.0
F24K	Squaw Lake	18.21	25	P	Pn	23 23 02.9	+0.2
F24K	Squaw Lake baz=222	18.21	25	P	Pn	23 23 02.2	-0.5
I26K	Coal Creek Min baz=236	18.23	35	P	Pn	23 23 00.5	-2.4
YUK4	Talbot Arm baz=253,SNR=6.1	18.41	49	P	Pn	23 23 05.8	+0.4
YUK6	Outpost Mounta baz=254	18.44	50	P	Pn	23 23 06.4	+0.7
E24K	Your Creek baz=220	18.47	24	P	Pn	23 23 06.3	+0.4
B21K	Ikpikpuk River baz=207	18.51	15	P	Pn	23 23 06.4	+0.2
TOLK	Toolik Lake Re baz=217	18.65	22	P	P	23 23 07.6	0.0
D23K	Nanushuk River	18.67	20	P	P	23 23 08.2	+0.4
D23K	Nanushuk River baz=215	18.67	20	P	Pn	23 23 08.6	+0.3
EGAK	Eagle baz=240	18.68	38	P	P	23 23 07.8	0.0
HYT	Haines Junctio	18.82	51	P	P	23 23 08.8	-0.8
HYT	comp=Z,19nm,0.8s			IAmb	IAmb	23 23 16.4	
HYT	Haines Junctio baz=256	18.82	51	P	P	23 23 10.0	+0.4
M29M	Somme Creek baz=250	18.83	46	P	P	23 23 09.7	+0.1
F25K	Christian Rive baz=226	18.87	27	P	P	23 23 09.3	-0.7
I27K	Kandik River baz=237	18.93	35	P	P	23 23 09.9	-0.8
P30M	Million Dollar baz=259	18.94	53	P	P	23 23 10.0	-0.8
G26K	Porcupine Rive baz=231	19.00	30	P	P	23 23 11.3	+0.1
DAWY	Dawson	19.04	41		P	23 23 11.6	-0.3
DAWY	comp=Z,8.1nm,0.9s			IAmb	IAmb	23 23 14.2	
DAWY	Dawson baz=244,SNR=7.3	19.04	41	P	P	23 23 11.2	-0.7
S31K	Pelican	19.05	60	P	P	23 23 10.5	-1.4
S31K	comp=Z,16nm,1.1s			IAmb	IAmb	23 23 31.7	
BMAR	Burnt Mountain	19.07	28	P	P	23 23 11.8	-0.3
PLBC	Pleasant Camp baz=261	19.13	55	P	P	23 23 12.8	0.0
L29M	L29M baz=249	19.20	44	P	P	23 23 14.3	+0.7
D24K	Happy Valley baz=218	19.23	21	P	P	23 23 14.5	+0.7
H27K	Steamboat Moun baz=236	19.30	33	P	P	23 23 13.3	-1.4
B22K	Teshekpuk Lake baz=208	19.34	15	P	Pn	23 23 16.1	-0.1
F26K	Sheenjek River baz=228	19.37	28	P	P	23 23 15.9	+0.5
C23K	Itkillik River baz=214	19.41	18	P	P	23 23 16.3	+0.5
I28M	Miner Creek baz=240	19.46	37	P	P	23 23 15.6	-0.9
O30N	Mendenhall	19.48	52	P	P	23 23 17.8	+1.1
O30N	comp=Z,14nm,0.8s			IAmb	IAmb	23 23 34.0	
O30N	Mendenhall baz=258	19.48	52	P	Pn	23 23 18.0	-0.1
G27K	Doyon Strip baz=234	19.59	32	P	P	23 23 16.7	-1.1
M30M	Minto, Yukon baz=252	19.61	46	P	P	23 23 17.4	-0.6
SKAG	Skagway	19.65	56	P	P	23 23 19.3	+0.8
SKAG	Skagway baz=262	19.65	56	P	P	23 23 19.3	+0.8
C24K	Franklin Bluff baz=217	19.70	20	P	P	23 23 18.8	-0.1
K29M	Barlow Dome baz=248	19.71	42	P	P	23 23 19.3	0.0
N31M	Braeburn, Yuko	19.78	50	P	P	23 23 18.9	-1.1
N31M	Braeburn, Yuko baz=256,SNR=8.8	19.78	50	P	Pn	23 23 21.4	-0.2
D25K	Kavik River	19.92	23	P	P	23 23 20.0	-1.4
D25K	comp=Z,11nm,0.9s			IAmb	IAmb	23 23 26.8	
D25K	Kavik River baz=222	19.92	23	P	P	23 23 21.4	0.0
BILL	Bilibino	19.97	332	P	P	23 23 20.1	-1.9
BILL	comp=Z,14nm,1.3s			IAmb	IAmb	23 23 28.1	
R32K	Eaglecrest baz=266,SNR=5.3	19.98	59	P	P	23 23 22.3	+0.3
I29M	Ogilvie Camp, baz=243	20.02	38	P	P	23 23 22.1	-0.5
WHY	Whitehorse	20.05	52		P	23 23 23.7	+0.7
WHY	comp=Z,17nm,0.9s			IAmb	IAmb	23 23 28.1	
WHY	Whitehorse baz=259,SNR=7.7	20.05	52	P	P	23 23 23.3	+0.3
H29M	Whitestone	20.40	35	P	P	23 23 25.0	-1.6
H29M	comp=Z,12nm,0.8s			IAmb	IAmb	23 23 44.5	
H29M	Whitestone baz=241	20.40	35	P	P	23 23 25.6	-1.0
J30M	Hart River baz=248	20.47	41	P	P	23 23 26.0	-1.5
P32M	Atlin	20.49	56		P	23 23 27.9	+0.3
P32M	comp=Z,25nm,1.4s			IAmb	IAmb	23 23 51.9	
P32M	Atlin baz=264	20.49	56	P	P	23 23 26.4	-1.3
PEA0B	Petropavlovsk-	20.52	286	P	P	23 23 28.0	-0.1
PETK	Petropavlovsk-	20.52	286	P	P	23 23 27.0	-1.1
PETK	Petropavlovsk- comp=Z,9.1nm,0.5s,baz=84,slow=13,SNR=26	20.52	286	P	P	23 23 28.1	+0.1
	comp=Z,9.1nm,0.5s						
M31M	Drury Creek, Y	20.59	48	P	P	23 23 30.1	+1.4
M31M	comp=Z,16nm,1.0s			IAmb	IAmb	23 23 48.7	
M31M	Drury Creek, Y baz=256,SNR=5.8	20.59	48	P	P	23 23 30.0	+1.4
F28M	Old Crow	20.62	31	P	P	23 23 27.9	-1.0
F28M	Old Crow baz=235	20.62	31	P	P	23 23 28.1	-0.9
I30M	Mount Dempster baz=246,SNR=5.9	20.70	39	P	P	23 23 28.7	-1.3
C26K	Camden Bay baz=223	20.71	23	P	P	23 23 30.1	+0.2
C27K	Jago River baz=225	20.79	24	P	P	23 23 30.0	-0.9
G29M	Pine Creek baz=240	20.86	34	P	P	23 23 30.9	-0.7
N32M	Quiet Lake baz=260	21.00	51	P	P	23 23 35.2	+2.0
P33M	Teslin, Yukon	21.00	54	P	P	23 23 33.1	-0.2
P33M	comp=Z,14nm,1.1s			IAmb	IAmb	23 23 48.0	
P33M	Teslin, Yukon baz=263	21.00	54	P	P	23 23 34.0	+0.8
EPYK	Eagle Plains	21.06	36	P	P	23 23 32.1	-1.7
EPYK	Eagle Plains baz=243,SNR=12	21.06	36	P	P	23 23 32.0	-1.7
FARO	Faro, Yukon baz=257,SNR=15	21.07	48	P	P	23 23 35.5	+1.5
Q32M	Nakina River	21.18	57	P	P	23 23 34.8	-0.6
Q32M	comp=Z,7.6nm,0.8s			IAmb	IAmb	23 23 43.2	
Q32M	Nakina River baz=267	21.18	57	P	P	23 23 35.2	-0.2
D27M	Malcolm River baz=230	21.27	27	P	P	23 23 35.3	-0.7
E28M	Babbage River	21.29	29	P	P	23 23 35.6	-0.6
E28M	Babbage River baz=234	21.29	29	P	P	23 23 34.7	-1.4
G30M	tAoh Zraii Nji baz=242	21.51	35	P	P	23 23 37.6	-1.0
E29M	Blow River baz=237	21.67	30	P	P	23 23 38.7	-1.5
H31M	Peel River baz=247	21.71	38	P	P	23 23 38.2	-2.5
MOBC	Moresby Island	21.86	73	P	P	23 23 39.0	-3.5
R33M	Jennings River baz=267	21.87	56	P	P	23 23 41.5	-1.2
D28M	Stokes Point baz=234	21.95	28	P	P	23 23 41.1	-2.1
F30M	Barrier River baz=241	21.96	33	P	P	23 23 42.4	-0.9
MMPY	Sheldon Lake,	22.10	48	P	P	23 23 44.7	-0.3
MMPY	comp=Z,11nm,0.8s			IAmb	IAmb	23 23 51.1	
MMPY	Sheldon Lake, baz=258,SNR=8.1	22.10	48	P	P	23 23 45.3	+0.3
G31M	Satah River	22.18	36	P	P	23 23 43.4	-2.2

G31M IAmb IAmb 23 23 50.8
comp=Z,9.7nm,0.8s
G31M Satah River 22.18 36 P P 23 23 44.3 -1.3
baz=245
DLBC Dease Lake 22.34 59 P P 23 23 49.6 +1.9
comp=Z,2.9nm,0.8s,baz=208,slow=12,SNR=1.8
comp=Z,2.9nm,0.8s
F31M Tsiigehtchic 22.58 35 P P 23 23 48.8 -1.2
baz=244
INK Inuvik 23.04 33 P P 23 23 53.0 -1.7
comp=Z,3.9nm,0.4s,baz=233,slow=8.4,SNR=24
comp=Z,3.9nm,0.4s
INK Inuvik 23.04 33 P P 23 23 52.8 -1.9
baz=243,SNR=6.3
TGTN Hyland Airport 23.34 51 P P 23 23 56.8 -1.2
baz=264
A36M Sachs Harbour 27.16 28 P P 23 24 32.6 0.0
baz=246
YKA Yellowknife Ar 29.78 49 P P 23 24 57.3 +1.2
comp=Z,0.8nm,0.8s,baz=270,slow=8.8,SNR=9.1
YKA PcP **PcP 23 27 60.0 +1.1**
comp=Z,0.4nm,0.7s,baz=274,slow=2.6,SNR=5.6
comp=Z,0.8nm,0.8s
NVAR Mina Array Bea 36.99 92 P P 23 26 01.7 +2.4
comp=Z,0.4nm,0.3s,baz=286,slow=8.2,SNR=4.0
comp=Z,0.4nm,0.3s
KLR Kul'dur 37.11 290 LR LR 23 42 59.6
comp=Z,80nm,18.2s,baz=46,slow=39
R11B Troy Canyon, C 38.71 90 P P 23 26 12.1 -1.6
baz=308
PD31 Pinedale Array 39.76 80 P P 23 26 21.6 -0.9
PDAR Pinedale Array 39.76 80 P P 23 26 22.2 -0.4
PDAR Pinedale Array 39.76 80 P P 23 26 23.9 +1.4
comp=Z,1.4nm,0.9s,baz=304,slow=6.1,SNR=9.9
comp=Z,1.4nm,0.9s
FCC Fort Churchill 40.47 51 P P 23 26 28.0 +0.1
KSRS Korea Array 46.08 278 P P 23 27 14.3 +0.9
comp=Z,5.3nm,0.9s,baz=55,slow=8.3,SNR=9.3
comp=Z,5.3nm,0.9s
FRB Frobisher Bay 48.64 36 P P 23 27 33.1 +0.1
comp=Z,2.7nm,0.5s,baz=306,slow=6.6,SNR=11
comp=Z,2.7nm,0.5s
SPITS Spitsbergen Ar 49.75 359 P P 23 27 40.7 -0.7
comp=Z,8.0nm,1.0s,baz=15,slow=3.5,SNR=2.1
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 51.54 301 P P 23 27 54.5 -1.0
ULN IAmb IAmb 23 27 56.7
comp=Z,3.9nm,1.1s
SONM Songino Array 51.91 301 P P 23 27 58.2 +0.1
comp=Z,1.5nm,0.8s,baz=64,slow=6.1,SNR=7.7
comp=Z,1.5nm,0.8s
TXAR Lajitas Array 52.08 90 P P 23 28 01.1 +1.5
comp=Z,1.6nm,0.9s,baz=300,slow=5.0,SNR=13
comp=Z,1.6nm,0.9s
HNS HongShan 54.04 287 ⇓P **P 23 28 15.1 +1.3**
HNS pmax pmax
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 57.92 318 P P 23 28 41.1 -0.3
comp=Z,0.5nm,0.6s,baz=41,slow=4.6,SNR=2.6
comp=Z,0.5nm,0.6s
GTA Gaotai 61.10 298 *e*P **P 23 29 03.3 -0.4**
GTA pmax pmax
comp=Z,5.0nm,0.8s
LZH Lanzhou 61.23 293 *e*P **P 23 29 05.5 +0.8**
LZH pP pP 23 29 11.4 -1.2
LZH pmax pmax
comp=Z,22nm,1.4s
KURBB Kurchatov Arra 62.97 319 P P 23 29 15.2 -0.7
comp=Z,0.8nm,0.5s,baz=44,slow=7.1,SNR=10.0
comp=Z,0.8nm,0.5s
BVAR Borovoye Array 64.14 325 P P 23 29 23.1 -0.5
comp=Z,2.7nm,0.5s,baz=52,slow=6.0,SNR=25
comp=Z,2.7nm,0.5s
BRVK Borovoye 64.15 325 P P 23 29 23.2 -0.5
BRVK IAmb IAmb 23 29 24.7
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 64.33 314 P P 23 29 24.4 -0.6
MKAR Makanchi Array 64.33 314 P P 23 29 24.1 -0.9
comp=Z,1.4nm,0.7s,baz=52,slow=6.3,SNR=17
comp=Z,1.4nm,0.7s
MAKZ Makanchi 64.46 314 P P 23 29 24.8 -1.0
MAKZ IAmb IAmb 23 29 43.9
comp=Z,3.9nm,1.4s
FIA1 FINESS Array S 66.02 353 P P 23 29 35.0 -0.7
FINES FINESS Array B 66.03 353 P P 23 29 34.9 -0.8
FINES FINESS Array B 66.03 353 P P 23 29 34.7 -0.9
comp=Z,5.9nm,0.9s,baz=18,slow=8.0,SNR=10
comp=Z,5.9nm,0.9s
GOMU GeErMu 66.15 299 P P 23 29 37.0 -0.4
GOMU pP pP 23 29 40.9 -4.4
GOMU sP sP 23 29 44.3 -4.0
GOMU pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 67.01 0 P P 23 29 41.5 -0.5
comp=Z,0.9nm,0.7s,baz=2.0,slow=6.5
NOA NORSAR Array B 67.01 0 P P 23 29 41.4 -0.5
comp=Z,1.7nm,0.8s,baz=1.1,slow=6.4,SNR=7.6
comp=Z,1.7nm,0.8s
HFS Hagfors 67.91 359 P P 23 29 46.9 -0.7
comp=Z,2.8nm,0.6s,baz=13,slow=3.2,SNR=17
comp=Z,2.8nm,0.6s
PZH PanZhiHua 69.48 287 P P 23 29 59.0 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.4s
DAV Davao City (W) 69.94 255 LR LR 23 56 59.6
comp=Z,56nm,19.9s,baz=166,slow=33
ABKAR Akbulak array 70.84 329 P P 23 30 06.1 +0.2
ABKAR Akbulak array 70.84 329 P P 23 30 05.8 -0.1
ABKAR IAmb IAmb 23 30 06.8
comp=Z,4.5nm,0.8s
AAK Ala-Archa 71.01 316 P P 23 30 07.7 +0.3
AAK IAmb IAmb 23 30 08.6
comp=Z,2.2nm,0.8s
KKAR Karatay Array 72.28 319 P P 23 30 14.2 -0.6
AKASG Malin Array Be 76.31 349 P P 23 30 37.5 -0.5
comp=Z,2.5nm,0.5s,baz=17,slow=6.0,SNR=14
comp=Z,2.5nm,0.5s
CMAR Chiang Mai Arr 77.29 284 P P 23 30 44.6 +0.6
comp=Z,1.7nm,0.4s,baz=27,slow=6.4,SNR=17
comp=Z,1.7nm,0.4s
GERES GERESS Array B 79.22 359 P P 23 30 54.3 -0.1
comp=Z,0.8nm,0.7s,baz=35,slow=3.6,SNR=4.3
comp=Z,0.8nm,0.7s
CONA Conrad Observa 80.08 357 *e*P **P 23 31 01.0 +1.9**
comp=Z,0.9nm,0.4s
MOA Molln 80.20 358 *e*PcP **PcP 23 31 04.7 -2.2**
comp=Z,0.4nm,0.3s
KBZ Khabaz 80.63 338 P P 23 31 03.0 +1.0
comp=Z,3.6nm,1.0s,baz=57,slow=2.0,SNR=7.6
comp=Z,3.6nm,1.0s
MOTA Moosalm 80.73 0 *e*P **P 23 31 04.2 +1.5**
comp=Z,1.4nm,0.5s
WATA Walderalm 80.74 0 *e*P **P 23 31 04.1 +1.3**
comp=Z,1.4nm,0.5s
WTTA Wattenberg 80.81 0 *e*P **P 23 31 05.0 +1.9**
comp=Z,2.1nm,0.5s
SQTA Sankt Quirin 80.85 0 *e*P **P 23 31 05.0 +1.7**
comp=Z,0.9nm,0.2s
KBA Koelnbreinsper 80.99 359 *e*P **P 23 31 05.5 +1.4**
comp=Z,7.4nm,1.0s
FETA Feichten 81.05 1 *e*P **P 23 31 06.3 +1.8**
comp=Z,3.2nm,0.8s
ABTA Abfaltersbach 81.33 359 *e*PcP **P 23 31 08.0 +2.3**
comp=Z,3.1nm,1.0s
SOKA Soboth 81.36 358 *e*P **P 23 31 07.4 +1.4**
comp=Z,2.3nm,0.7s
OBKA Obir 81.54 358 *e*PcP **P 23 31 08.7 +1.7**
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 86.38 343 P P 23 31 32.1 +0.2
BRTR Keskin Array B 86.38 343 P P 23 31 32.6 +0.7
comp=Z,1.5nm,0.7s,baz=101,slow=3.1,SNR=5.7
comp=Z,1.5nm,0.7s
ESDC Sonseca Array 87.39 12 P P 23 31 36.8 +0.2
comp=Z,1.6nm,0.8s,baz=344,slow=4.4,SNR=12
comp=Z,1.6nm,0.8s
ASAR Alice Springs 90.87 231 P P 23 31 53.2 +0.3
comp=Z,0.8nm,0.8s,baz=33,slow=5.0,SNR=5.3
comp=Z,0.8nm,0.8s

IDC 13 23:24:39.3±3.1, 9°46S×160°97E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=107.3km s-min=37.1km az=135.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.75**	**245**	P	P	23 30 29.7	-0.2
	0.7nm,0.7s,baz=71,slow=9.4,SNR=5.5						
	0.7nm,0.7s						
SONM	**Songino Array**	**74.66**	**325**	P	P	23 36 21.1	+0.4
	1.2nm,0.7s,baz=135,slow=3.9,SNR=8.9						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**83.57**	**20**	P	P	23 37 08.8	-0.2
	0.4nm,0.6s,baz=248,slow=6.1,SNR=8.0						
	0.4nm,0.6s						

---

*NEIC **13** 23:24:56.0±2.2, 52°24N±0°06×168°2W±0°1, h10km±1km, mb3.9/47, ML3.9/8, ML3.5(AEIC), Error ellipse: s-maj=12.0km s-min=8.3km az=127.0*
*IDC **13** 23:24:55.7±1.2, 52°55N×168°45W, h0km, mb4.1/21, mbtmp4.1/22, ML3.1/1, MS3.4/1, Error ellipse: s-maj=31.6km s-min=15.2km az=171.0*
*AEIC **13** 23:24:58.9±3.7, 52°39N±0°06×168°1W±0°1, h6km±5km, Error ellipse: s-maj=10.5km s-min=7.2km az=119.0*
ISC 13 23:24:58.9±0.7, 52°28N±0°09×168°32W±0°06, h29km, n131, σ1§11/127, mb4.1/31, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**1.12**	**9**		**Pn**	**23 25 18.0**	**-0.6**
OKCE	**Okmok Cone E**	**1.15**	**5**		**Pn**	**23 25 18.6**	**-0.5**
OKFG	**Magazine Ridge**	**1.16**	**12**		**Pn**	**23 25 18.5**	**-0.6**
OKFG					**Sn**	**23 25 33.4**	**-0.6**
OKNC	**Okmok New Cone**	**1.19**	**6**		**Pn**	**23 25 19.5**	**-0.1**
OKWE	**Okmok W'ng Wal**	**1.20**	**2**		**Pn**	**23 25 19.4**	**-0.3**
OKRE	**Okmok R'deer P**	**1.25**	**4**		**Pn**	**23 25 20.4**	**0.0**
MAPS	**Pakushin South**	**1.74**	**28**		**Pn**	**23 25 26.5**	**-0.7**
MGOD	**Makushin Gods**	**1.75**	**29**		**Pn**	**23 25 27.0**	**-0.3**
MGOD					**Sn**	**23 25 48.5**	**-0.2**
MSW	**Makushin Switc**	**1.88**	**29**		**Pn**	**23 25 28.8**	**-0.4**
UNV	**Unalaska Valle**	**1.91**	**34**	Pn	**Pn**	**23 25 28.8**	**-0.7**
UNV	**Unalaska Valle**	**1.91**	**34**		**Sn**	**23 25 52.3**	**-0.2**
MTBL	**Makushin Table**	**1.96**	**30**		**Pn**	**23 25 30.1**	**-0.2**
AKMO	**Akutan Morgan**	**2.29**	**37**		**Pn**	**23 25 34.3**	**-0.3**
ZRO	**Akutan Zero**	**2.30**	**37**		**Pn**	**23 25 34.5**	**-0.3**
ZRO					**Sn**	**23 26 02.6**	**+0.5**
LVA	**Lava Point**	**2.33**	**35**		**Pn**	**23 25 35.6**	**+0.3**
LVA				IAML		23 26 20.9	
	comp=N,725nm,0.9s						
LVA				IAML		23 26 30.0	
	comp=E,421nm,0.7s						
AHB	**Akutan Harbor**	**2.38**	**38**		**Pn**	**23 25 35.6**	**-0.3**
WEBT	**Westdahl Beart**	**3.15**	**41**		**Pn**	**23 25 46.3**	**-0.2**
ATKA	**Atka Island**	**3.61**	**271**	Pn	**Pn**	**23 25 52.2**	**-0.6**
SSLN	**Shishaldin Nor**	**3.62**	**44**		**Pn**	**23 25 53.3**	**+0.3**
ISNN	**Isanotski Nort**	**3.72**	**45**		**Pn**	**23 25 54.9**	**+0.5**
FALS	**False Pass**	**3.90**	**47**	Pn	**Pn**	**23 25 56.2**	**-0.5**
P08K	**Saint George I**	**4.39**	**351**	Pn	**Pn**	**23 26 03.6**	**+0.1**
P08K				IAML		23 27 56.9	
	comp=E,130nm,1.2s						
SPIA	**Saint Paul Isl**	**5.03**	**348**	Pn	**Pn**	**23 26 14.2**	**+1.8**
ADK	**Adak**	**5.17**	**269**	Pn	**Pn**	**23 26 14.9**	**+0.6**
ADK				IAML		23 27 42.0	
	comp=E,82nm,1.2s						
KIWB	**Kanaga Island**	**5.47**	**269**	Pn	**Pn**	**23 26 17.2**	**-1.1**
CNBA	**Chernabura Isl**	**5.79**	**61**	Pn	**Pn**	**23 26 21.1**	**-1.6**
O14K	**Tigyukauivet M**	**8.04**	**27**	Pn	**Pn**	**23 26 54.4**	**+0.8**
N15K	**Kwethluk River**	**9.13**	**27**	Pn	**Pn**	**23 27 09.3**	**+0.7**
M14K	**Bethel**	**9.19**	**20**	Pn	**Pn**	**23 27 10.9**	**+1.6**
O16K	**Kokwok River B**	**9.30**	**34**	Pn	**Pn**	**23 27 12.0**	**+1.2**
L14K	**Kuka Creek**	**9.59**	**17**	Pn	**Pn**	**23 27 15.4**	**+0.6**
K13K	**Kusilvak Mount**	**9.88**	**10**	Pn	**Pn**	**23 27 18.7**	**-0.1**
P18K	**Big Mountain,**	**10.23**	**41**	Pn	**Pn**	**23 27 24.6**	**+0.9**
O18K	**Koktuh Hills**	**10.53**	**39**	Pn	**Pn**	**23 27 28.1**	**+0.3**
KDAK	**Kodiak Island**	**10.57**	**52**	Pn	**Pn**	**23 27 27.1**	**-1.1**
KDAK	**Kodiak Island**	**10.57**	**52**	Pn	**Pn**	**23 27 26.0**	**-2.2**
	comp=E,0.5nm,0.3s,baz=22,slow=4.1,SNR=2.1						
PWL	**Port Wells**	**13.92**	**44**	Pn	**Pn**	**23 28 11.6**	**-2.4**
CAST	**Castle Rocks**	**14.06**	**31**	Pn	**Pn**	**23 28 17.2**	**+1.3**
I21K	**Tanana**	**15.39**	**27**	P	**P**	**23 28 37.0**	**-1.0**
I21K				IAmb	IAmb	23 28 38.9	
	comp=Z,7.5nm,0.8s						
H21K	**Melozitna Rive**	**15.54**	**24**	P	**P**	**23 28 38.8**	**-1.0**
H21K				IAmb	IAmb	23 28 41.2	
	comp=Z,8.4nm,0.8s						
IMAR	**Indian Mountai**	**15.58**	**23**		**Pn**	**23 28 37.9**	**+1.7**
F20K	**Avaraart Lake**	**16.06**	**18**	P	**P**	**23 28 43.9**	**-1.6**
I23K	**Minto, Yukon-K**	**16.13**	**30**		**Pn**	**23 28 43.1**	**-0.1**
I23K				IAmb	IAmb	23 28 45.7	
	comp=Z,8.8nm,1.2s						
GLB	**Gilahina Butte**	**16.14**	**46**		**Pn**	**23 28 41.1**	**-2.4**
GLB				IAmb	IAmb	23 28 49.9	
	comp=Z,11nm,1.2s						
E19K	**Redstone River**	**16.16**	**15**		**P**	**23 28 45.6**	**-1.0**
CCB	**Clear Creek Bu**	**16.28**	**33**	Pn	**Pn**	**23 28 43.5**	**-1.7**
ILAR	**Eielson Array**	**16.67**	**33**	Pn	**Pn**	**23 28 47.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=9.5						
	comp=Z,1.1nm,0.8s						
C18K	**Utukok River**	**16.77**	**9**		**Pn**	**23 28 51.9**	**+0.4**
RIDG	**Independent Ri**	**16.80**	**38**	Pn	**Pn**	**23 28 51.5**	**-0.2**
M26K	**Nabesna, AK**	**16.89**	**43**		**Pn**	**23 28 51.3**	**-1.7**
D19K	**Kuna River**	**16.99**	**13**		**P**	**23 28 55.2**	**-0.5**
H24K	**Noodor Dome**	**17.05**	**29**		**Pn**	**23 28 54.2**	**-0.8**
H24K				IAmb	IAmb	23 29 09.7	
	comp=Z,7.8nm,1.1s						
G23K	**Bananza Creek**	**17.08**	**25**	P	**P**	**23 28 56.9**	**+0.1**
SCRK	**Sand Creek**	**17.25**	**38**		**Pn**	**23 28 55.0**	**-2.4**
M27K	**Edge Creek, AK**	**17.35**	**44**		**Pn**	**23 28 56.2**	**-2.5**
M27K				IAmb	IAmb	23 29 01.6	
	comp=Z,8.4nm,0.9s						
PCA	**Pinnacle**	**17.36**	**52**	P	**Pn**	**23 28 59.2**	**+0.5**
BCAR	**Beaver Creek A**	**17.68**	**42**	Pn	**Pn**	**23 29 00.2**	**-2.6**
J26L	**Joseph Creek**	**17.68**	**37**		**Pn**	**23 29 00.9**	**-1.9**
J26L				IAmb	IAmb	23 29 03.6	
	comp=Z,9.1nm,0.7s						
E23K	**Chandalar**	**18.22**	**23**	P	**Pn**	**23 29 08.1**	**-1.3**
E23K				IAmb	IAmb	23 29 19.5	
	comp=Z,11nm,1.4s						
D22K	**Ayikyak River**	**18.23**	**18**		**Pn**	**23 29 08.9**	**-0.6**
D22K				IAmb	IAmb	23 29 11.3	
	comp=Z,12nm,1.5s						
B21K	**Ikpikpuk River**	**18.54**	**15**	P	**P**	**23 29 12.2**	**-0.6**
HYT	**Haines Junctio**	**18.85**	**51**	P	**Pn**	**23 29 17.9**	**+0.7**
HYT				IAmb	IAmb	23 29 35.6	
	comp=Z,11nm,0.9s						
M29M	**Somme Creek**	**18.86**	**46**	P	**Pn**	**23 29 17.0**	**-0.2**
M29M				IAmb	IAmb	23 29 20.5	
	comp=Z,4.5nm,0.6s						
F25K	**Christian Rive**	**18.91**	**27**	P	**P**	**23 29 15.1**	**-1.8**
DAWY	**Dawson**	**19.07**	**41**	P	**P**	**23 29 16.6**	**-2.2**
DAWY				IAmb	IAmb	23 29 21.2	
	comp=Z,6.6nm,1.1s						
BMAR	**Burnt Mountain**	**19.10**	**28**	P	**P**	**23 29 18.7**	**-0.3**
L29M	**L29M**	**19.23**	**44**		**P**	**23 29 20.7**	**+0.2**
L29M				IAmb	IAmb	23 29 34.0	
	comp=Z,10.0nm,1.1s						
C23K	**Itkillik River**	**19.44**	**18**	P	**P**	**23 29 22.3**	**-0.3**
C23K				IAmb	IAmb	23 29 23.2	
	comp=Z,5.6nm,0.6s						
I28M	**Miner Creek**	**19.49**	**37**	P	**P**	**23 29 22.0**	**-1.4**
O30N	**Mendenhall**	**19.52**	**52**	P	**P**	**23 29 24.0**	**+0.3**
O30N				IAmb	IAmb	23 29 40.5	
	comp=Z,7.6nm,0.8s						
N31M	**Braeburn, Yuko**	**19.82**	**50**	P	**Pn**	**23 29 28.1**	**-0.5**
BILL	**Bilibino**	**19.98**	**332**	P	**P**	**23 29 28.4**	**-0.2**
BILL				IAmb	IAmb	23 29 34.9	
	comp=Z,3.9nm,0.8s						
WHY	**Whitehorse**	**20.08**	**52**	P	**P**	**23 29 30.6**	**+0.7**
H29M	**Whitestone**	**20.43**	**35**	P	**P**	**23 29 31.9**	**-1.5**
H29M				IAmb	IAmb	23 29 59.0	
	comp=Z,6.6nm,0.9s						
J30M	**Hart River**	**20.50**	**41**	P	**P**	**23 29 33.6**	**-0.8**
J30M				IAmb	IAmb	23 29 46.6	
	comp=Z,5.9nm,1.3s						
PEA0B	**Petropavlovsk-**	**20.51**	**286**	P	**P**	**23 29 34.2**	**-0.2**
PETK	**Petropavlovsk-**	**20.51**	**286**	P	**P**	**23 29 33.9**	**-0.5**
PETK	**Petropavlovsk-**	**20.51**	**286**	P	**P**	**23 29 34.0**	**-0.4**
	comp=Z,9.6nm,0.5s,baz=84,slow=13,SNR=17						
	comp=Z,9.6nm,0.5s						
M31M	**Drury Creek, Y**	**20.62**	**48**	P	**P**	**23 29 36.4**	**+0.8**
M31M				IAmb	IAmb	23 29 40.8	
	comp=Z,8.3nm,0.9s						
F28M	**Old Crow**	**20.65**	**31**	P	**P**	**23 29 34.5**	**-1.4**
F28M				IAmb	IAmb	23 29 57.5	
	comp=Z,3.6nm,0.9s						
I30M	**Mount Dempster**	**20.73**	**39**	P	**P**	**23 29 35.6**	**-1.3**
I30M				IAmb	IAmb	23 29 48.0	
	comp=Z,7.4nm,1.3s						
N32M	**Quiet Lake**	**21.03**	**51**	P	**P**	**23 29 41.0**	**+0.9**
EPYK	**Eagle Plains**	**21.09**	**36**	P	**P**	**23 29 38.6**	**-2.0**
FARO	**Faro, Yukon**	**21.11**	**48**	P	**P**	**23 29 41.1**	**+0.3**
FARO				IAmb	IAmb	23 29 46.8	
	comp=Z,7.4nm,0.7s						
MMPY	**Sheldon Lake,**	**22.13**	**48**	P	**P**	**23 29 51.7**	**-0.1**
MMPY				IAmb	IAmb	23 29 54.2	
	comp=Z,8.5nm,1.0s						
INK	**Inuvik**	**23.07**	**33**	P	**P**	**23 29 59.6**	**-2.0**
INK				IAmb	IAmb	23 30 15.1	
	comp=Z,6.6nm,1.1s						
INK	**Inuvik**	**23.07**	**33**	P	**P**	**23 29 59.5**	**-2.1**
	comp=Z,2.9nm,0.6s,baz=237,slow=8.7,SNR=14						
	comp=Z,2.9nm,0.6s						
MA2	**Magadan**	**23.73**	**304**	LR	LR	23 39 51.9	
	comp=Z,91nm,18.6s,baz=110,slow=38						
A36M	**Sachs Harbour**	**27.19**	**28**	P	**P**	**23 30 39.4**	**-0.1**
A36M				IAmb	IAmb	23 31 06.3	
	comp=Z,3.8nm,1.0s						
YKA	**Yellowknife Ar**	**29.82**	**49**	P	**P**	**23 31 03.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=274,slow=8.9,SNR=5.1						
	comp=Z,0.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**37.79**	**220**	T	T	00 10 52.0	
	baz=25						
H11N3	**WAKE ISLAND Hy**	**37.80**	**220**	T	T	00 10 58.4	
	baz=25						
H11N1	**WAKE ISLAND Hy**	**37.81**	**220**	T	T	00 10 59.0	
	baz=25						
H11S1	**WAKE ISLAND Hy**	**38.98**	**220**	T	T	00 12 17.3	
	baz=26,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.99**	**220**	T	T	00 12 49.7	
	baz=26,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.99**	**220**	T	T	00 12 15.3	
	baz=26						
PDAR	**Pinedale Array**	**39.79**	**80**	P	**P**	**23 32 30.6**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=289,slow=4.5,SNR=4.1						
	comp=Z,0.5nm,0.9s						
KSRS	**Korea Array**	**46.05**	**278**	P	**P**	**23 33 20.2**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=50,slow=8.1,SNR=9.2						
	comp=Z,3.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**49.77**	**359**	P	**P**	**23 33 47.4**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=359,slow=5.8,SNR=1.1						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**51.90**	**301**	P	**P**	**23 34 04.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=67,slow=7.1,SNR=7.1						
	comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**52.10**	**90**	P	**P**	**23 34 07.8**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=303,slow=5.3,SNR=6.4						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**57.92**	**318**	P	**P**	**23 34 47.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=38,slow=7.3,SNR=2.7						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**58.08**	**354**	P	**P**	**23 34 47.5**	**-1.3**
	comp=Z,6.4nm,1.0s,baz=4.1,slow=7.3,SNR=2.4						
	comp=Z,6.4nm,1.0s						
KURBB	**Kurchatov Arra**	**62.97**	**319**	P	**P**	**23 35 22.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=46,slow=7.3,SNR=7.7						
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**64.15**	**325**	P	**P**	**23 35 29.7**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=53,slow=6.0,SNR=27						
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**64.33**	**314**	P	**P**	**23 35 31.0**	**-0.5**
MKAR	**Makanchi Array**	**64.33**	**314**	P	**P**	**23 35 30.4**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=51,slow=6.4,SNR=14						
	comp=Z,1.1nm,0.7s						
MAKZ	**Makanchi**	**64.46**	**314**	P	**P**	**23 35 31.5**	**-0.8**
ARTI	**Arti**	**65.08**	**333**	P	**P**	**23 35 35.6**	**-0.5**
FINES	**FINESS Array B**	**66.05**	**352**	P	**P**	**23 35 40.9**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=19,slow=6.5,SNR=7.5						
	comp=Z,4.1nm,0.9s						
NB2	**NORSAR Subarra**	**67.03**	**0**	P	**P**	**23 35 48.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=0.1,slow=6.2						
NOA	**NORSAR Array B**	**67.03**	**0**	P	**P**	**23 35 48.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=0.6,slow=6.3,SNR=4.1						
	comp=Z,1.3nm,0.8s						
HFS	**Hagfors**	**67.93**	**359**	P	**P**	**23 35 53.7**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=357,slow=3.4,SNR=15						
	comp=Z,1.9nm,0.4s						
ABKAR	**Akbulak array**	**70.85**	**329**	P	**P**	**23 36 12.4**	**-0.1**
ABKAR	**Akbulak array**	**70.85**	**329**	P	**P**	**23 36 12.6**	**0.0**
AAK	**Ala-Archa**	**71.01**	**316**	P	**P**	**23 36 14.0**	**+0.1**
AKASG	**Malin Array Be**	**76.33**	**349**	P	**P**	**23 36 43.9**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=16,slow=5.7,SNR=11						
	comp=Z,1.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**77.27**	**284**	P	**P**	**23 36 50.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=23,slow=6.2,SNR=14						
	comp=Z,2.1nm,0.7s						
MOA	**Molln**	**80.22**	**358**	*e*PcP	**PcP**	**23 37 14.9**	**+1.4**
	comp=Z,0.4nm,0.2s						
KBZ	**Khabaz**	**80.64**	**338**	P	**P**	**23 37 09.6**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=92,slow=1.3,SNR=5.5						
	comp=Z,2.3nm,0.8s						
MOTA	**Moosalm**	**80.75**	**0**	*e*P	**P**	**23 37 10.4**	**+1.0**
	comp=Z,0.4nm,0.3s						
ARSA	**Arzberg**	**80.79**	**357**	*i* P	**P**	**23 37 10.7**	**+1.3**
	comp=Z,0.4nm,0.3s						
SQTA	**Sankt Quirin**	**80.88**	**0**	*e*P	**P**	**23 37 11.5**	**+1.6**
	comp=Z,0.9nm,0.5s						
KBA	**Koelnbreinsper**	**81.01**	**359**	*i* PcP	**P**	**23 37 12.6**	**+1.9**
	comp=Z,3.1nm,0.7s						
FETA	**Feichten**	**81.07**	**1**	*e*PcP	**P**	**23 37 12.8**	**+1.7**
	comp=Z,0.9nm,0.4s						
ABTA	**Abfaltersbach**	**81.35**	**359**	*e*P	**P**	**23 37 13.6**	**+1.2**
	comp=Z,0.9nm,0.5s						
SOKA	**Soboth**	**81.38**	**358**	*e*PcP	**P**	**23 37 14.2**	**+1.6**
	comp=Z,0.5nm,0.4s						
OBKA	**Obir**	**81.56**	**358**	*e*PcP	**P**	**23 37 15.1**	**+1.6**
	comp=Z,1.1nm,0.5s						
BRTR	**Keskin Array B**	**86.40**	**343**	P	**P**	**23 37 38.9**	**+0.4**
BRTR	**Keskin Array B**	**86.40**	**343**	P	**P**	**23 37 39.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=347,slow=5.9,SNR=3.4						
	comp=Z,2.0nm,0.8s						
ESDC	**Sonseca Array**	**87.41**	**12**	P	**P**	**23 37 43.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=345,slow=4.4,SNR=7.4						
	comp=Z,0.9nm,0.7s						

---

*DJA **13** 23:41:53.3±0.2, 7°S±2°×10°6E±°, h50km±2km, M5.0/50, mb5.1/50, mB5.

BBJI	Bungbulang	1.97	107	S	Sn	23 42 47.5	-1.1
LWLI	Liwa	2.50	318	P	Pn	23 42 34.9	+2.7
JCJI	Jatiwangi	2.53	81	P	Pn	23 42 32.6	+0.2
CMJI	Cimerak	2.82	109	P	Pn	23 42 35.8	-0.6
MDSI	Maura Dua	2.85	327	P	Pn	23 42 39.8	+3.0
KPJI	Karang Pucung	3.19	98	P	Pn	23 42 43.0	+1.6
XMI	Christmas Isla	3.54	181	P	Pn	23 42 42.7	-3.6
XMI	Christmas Isla	3.54	181	S	Sn	23 43 20.8	-6.2
XMIS	Christmas Isla	3.57	182	P	Pn	23 42 43.0	-3.7
XMIS	Christmas Isla	3.57	182	S	Sn	23 43 21.5	-6.2
MNAI	Manna	3.75	312	Pn	Pn	23 42 51.3	+2.3
MNAI	Manna	3.75	312	P	Pn	23 42 52.1	+3.1
MNAI	Manna	3.75	312	P	Pn	23 42 51.5	+2.5
PMBI	Palembang	4.05	346		Pn	23 42 55.4	+2.2
PMBI	Palembang	4.05	346	P	Pn	23 42 57.8	+4.6
PMBI	Palembang	4.05	346	P	Pn	23 42 56.7	+3.5
KSI	Kapahiang	4.49	315	P	Pn	23 43 00.0	+0.7
TPI	Tanjungpandan	4.52	25	P	Pn	23 43 00.8	+1.2
YOGI	Yogyakarta	4.60	102	P	Pn	23 43 02.2	+1.4
SMRI	Semarang	4.66	92		Pn	23 43 02.6	+1.1
SMRI	Semarang	4.66	92	P	Pn	23 43 04.8	+3.3
SMRI	Semarang	4.66	92	P	Pn	23 43 02.7	+1.2
UGM	Wanagama	4.84	102		Pn	23 43 04.8	+0.7
UGM	Wanagama	4.84	102	P	Pn	23 43 04.8	+0.7
UGM	Wanagama	4.84	102	P	Pn	23 43 04.7	+0.7
PCJI	Pacitan	5.54	104	P	Pn	23 43 13.7	+0.2
NGJI	Ngawi	5.69	95	P	Pn	23 43 18.6	+3.0
	1.7nm3µm336nm,1.0s						
TBJI	Tambak Boyo	6.05	90	P	Pn	23 43 22.2	+1.6
	1.1nm206nm,0.9s						
PWJI	Pagerwojo	6.11	101	P	Pn	23 43 22.1	+0.7
	64nm,0.8s						
GRJI	Gresik	6.68	91	P	Pn	23 43 32.0	+2.8
GMJI	Gumukmas	7.75	101	P	Pn	23 43 46.3	+2.4
	0.5nm2µm106nm,0.7s						
KMMI	Kalianget	8.16	92	P	Pn	23 43 50.3	+0.9
	62nm,1.5s						
PPI	Padang Panjang	8.32	320	P	Pn	23 43 51.9	+0.2
	855nm56nm,0.6s						
ABJI	Asem Bagus	8.46	97	P	Pn	23 43 54.7	+1.1
JAGI	Jajag, Banyuwa	8.47	101		Pn	23 43 54.6	+0.8
JAGI	Jajag, Banyuwa	8.47	101	P	Pn	23 43 55.7	+2.0
	256nm,0.8s						
JAGI	Jajag, Banyuwa	8.47	101	P	Pn	23 43 55.8	+2.0
	4µm268nm,0.8s						
BKNI	Bangkinang	8.57	327	Pn	Pn	23 43 55.3	+0.3
BKNI	Bangkinang	8.57	327	P	Pn	23 43 59.6	+4.5
BKNI	Bangkinang	8.57	327	P	Pn	23 43 56.5	+1.4
SISI	Saibi	8.64	309	P	Pn	23 43 55.3	-0.7
	2µm195nm,0.9s						
MYKOM	Kota Tinggi	8.82	348	P	Pn	23 44 03.9	+5.3
	127nm,0.7s						
SRBI	Singaraja	9.46	98	P	Pn	23 44 08.4	+1.2
DNP	Denpasar	9.54	101	P	Pn	23 44 09.2	+0.8
MNSI	Mandailing Nat	9.80	321	P	Pn	23 44 11.8	-0.2
	2µm46nm,0.7s						
PBSI	Pulau Batu	10.08	312	P	Pn	23 44 14.4	-1.3
	136nm,0.9s						
COCO	West Island	10.25	238		Pn	23 44 18.5	+0.4
COCO	West Island	10.25	238	P	Pn	23 44 17.1	-0.9
COCO	West Island	10.25	238	P	Pn	23 44 18.5	+0.4
TWSI	Taliwang, Sumb	11.18	100	P	Pn	23 44 30.5	-0.3
	999nm84nm,0.6s						
SBUM	Sibu	11.30	35		Pn	23 44 31.6	-0.9
SBUM	Sibu	11.30	35	P	Pn	23 44 37.9	+5.5
	18nm,1.0s						
GSI	Gunungsitoli	11.52	315		Pn	23 44 32.2	-3.2
RPSI	Rantau Prapat	11.70	324		Pn	23 44 35.3	-2.7
PSI	Prapat	11.79	324	P	Pn	23 44 35.4	-3.8
	6.0nm,0.7s,baz=156,slow=4.7,SNR=5.4						
PSI				LR	LR	23 49 54.7	
	comp=Z,561nm,21.8s,baz=145,slow=42						
PLAI	Plampang	12.07	100	P	Pn	23 44 41.8	-1.1
PLAI	Plampang	12.07	100	P	Pn	23 44 42.1	-0.8
	917nm117nm,0.8s						
IPM	Ipoh	12.23	337		Pn	23 44 45.7	+0.5
IPM	Ipoh	12.23	337	P	P	23 44 51.7	-3.7
KULM	Kulim	13.12	337		Pn	23 44 55.0	-2.3
KULM	Kulim	13.12	337	P	P	23 45 03.7	-1.5
WBSI	Waikabubak, Su	13.77	102	P	Pn	23 45 02.9	-3.2
	936nm76nm,0.6s						
KAPI	Kappang	14.05	83		Pn	23 45 10.2	+0.5
KAPI	Kappang	14.05	83	P	Pn	23 45 09.6	-0.1
	5.1nm,0.4s,baz=300,slow=7.6,SNR=8.8						
KAPI				LR	LR	23 51 16.5	
	comp=Z,502nm,19.2s,baz=250,slow=40						
KAPI	Kappang	14.05	83	‖eP	Pn	23 45 10.2	+0.5
SPSI	Sidrap Palu	14.25	79	P	Pn	23 45 14.6	+2.2
	5µm25nm,0.8s						
BKSI	Bulukumba	14.38	85	P	Pn	23 45 15.7	+1.7
	36nm,0.7s						
WSI	Waingapu	14.66	102	P	Pn	23 45 17.1	-0.6
BSSI	Bau Bau, Buton	14.66	88	P	Pn	23 45 19.1	+1.4
	139nm,0.7s						
BASI	Baing, Sumba	15.03	104	P	Pn	23 45 22.4	-0.1
MPSI	Mapaga	15.83	64	P	P	23 45 36.3	+0.9
	42nm,1.2s						
MMRI	Maumere	16.43	97	P	Pn	23 45 40.4	+0.2
MMRI	Maumere	16.43	97	P	P	23 45 42.2	+0.2
MMRI	Maumere	16.43	97	P	P	23 45 41.1	-0.9
	4µm120nm,1.0s						
KKM	Kota Kinabalu	16.55	39	P	P	23 45 42.0	-1.5
BBSI	Bau Bau	16.78	86	P	P	23 45 47.7	+1.8
	60nm,0.7s						
TOLI2	Tolitoli	16.97	63	P	P	23 45 47.9	-0.1
TOLI2	Tolitoli	16.97	63	P	P	23 45 49.8	+1.8
KDI	Kendari	17.04	81	P	P	23 45 49.6	+0.8
	24nm,0.7s						
MYLDM	Lahad Datu	17.48	47	P	Pn	23 45 52.8	-0.5
LUWI	Luwuk	17.94	72	P	Pn	23 46 00.6	+1.7
	6µm54nm,0.9s						
SOEI	Soe	18.54	100	P	P	23 46 03.8	-1.6
SOEI				IAmb	IAmb	23 46 16.4	
	comp=Z,99nm,0.6s						
SOEI	Soe	18.54	100	P	P	23 46 04.9	-0.5
SOEI	Soe	18.54	100	P	P	23 46 04.6	-0.8
	comp=Z,2µmcomp=Z,156nm,0.8s						
MBWA	Marble Bar	19.60	138	P	P	23 46 17.4	+0.5
MBWA	Marble Bar	19.60	138	P	P	23 46 17.8	+1.0
	comp=Z,28nm,0.7s						
MBWA	Marble Bar	19.60	138	P	P	23 46 17.7	+0.8
KMSI	Cibinong	19.64	69	P	Pn	23 46 19.7	+0.4
	comp=Z,130nm,0.5s						
PSAC1	Pilbara Seismi	19.92	138	P	P	23 46 21.1	+0.8
	comp=Z,58nm,0.7s						
PSA00	Pilbara Seismi	19.97	138	P	P	23 46 21.8	+1.0
PSA00	Pilbara Seismi	19.97	138	P	P	23 46 21.6	+0.7
	comp=Z,33nm,1.0s						
PSA00	Pilbara Seismi	19.97	138	P	P	23 46 22.0	+1.1
NLAI	Namlea	21.57	81	P	P	23 46 39.4	+1.3
	comp=Z,68nm,0.6s						
FITZ	Fitzroy Crossi	22.36	122	P	P	23 46 46.7	+0.1
TNTI	Ternate	22.87	71	P	P	23 46 51.9	-0.2
KNRA	Kununurra	24.18	113	P	P	23 47 03.6	-0.6
KNRA				IAmb	IAmb	23 47 05.3	
	comp=Z,40nm,0.8s						
KNRA	Kununurra	24.18	113	P	P	23 47 03.2	-1.0
	comp=Z,44nm,0.7s						
DRS	Darwin Rock St	25.39	104	P	P	23 47 17.1	+1.8
MTN	Manton Dam	25.69	105	P	P	23 47 18.0	0.0
MTN				IAmb	IAmb	23 47 52.5	
	comp=Z,56nm,1.1s						
MTN	Manton Dam	25.69	105	P	P	23 47 18.7	+0.7
	comp=Z,50nm,0.5s						
PHRA	Phrae	25.80	348	P	P	23 47 18.4	-0.6
CMAR	Chiang Mai Arr	26.06	345	P	P	23 47 19.5	-1.8
CMAR	Chiang Mai Arr	26.06	345	P	P	23 47 19.1	-2.2
	comp=Z,2.8nm,0.3s,baz=181,slow=7.9,SNR=18						
CMAR				PcP	PcP	23 50 48.5	+0.5
	comp=Z,1.2nm,0.3s,baz=199,slow=3.1,SNR=6.5						
CMAR				ScP	ScP	23 54 22.1	-0.1
	comp=Z,1.6nm,0.4s,baz=198,slow=3.8,SNR=4.4						
CMAR				LR	LR	23 59 09.7	
	comp=Z,139nm,18.9s,baz=165,slow=40						
	comp=Z,2.8nm,0.3s						
CMAR	Chiang Mai Arr	26.06	345	P	P	23 47 19.5	-1.8
QIZ	Qiongzhong	26.06	9	P	P	23 47 20.9	-0.4
QIZ				S	S	23 51 49.6	+1.6
QIZ				sS	sS	23 52 17.8	+3.2
QIZ				LR	LR		
	comp=N,160nm,17.2s						
QIZ				LR	LR		
	comp=E,230nm,13.7s						
QIZ				LR	LR		
	comp=Z,290nm,19.2s						
CHTO	Chiang Mai	26.40	345	P	P	23 47 22.5	-1.9
CHTO	Chiang Mai	26.40	345	P	P	23 47 22.5	-1.9
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FAKI	Fak Fak	26.69	83	P	P	23 47 26.5	-0.5
FAKI				IAmb	IAmb	23 47 46.4	
	comp=Z,27nm,1.0s						
KDU	Kakadu	26.94	104	P	P	23 47 28.4	-0.9
	comp=Z,48nm,0.6s						
KDU	Kakadu	26.94	104	P	P	23 47 28.6	-0.7
NWAO	Narrogin (SRO)	28.02	159	LR	LR	23 57 35.3	
	comp=Z,157nm,21.1s,baz=276,slow=33						
PALK	Pallekele	28.67	299	LR	LR	23 58 05.2	
	comp=Z,178nm,21.0s,baz=110,slow=34						
PALK	Pallekele	28.67	299	‖eP	P	23 47 42.4	-2.4
PALK				pmax	pmax		
	comp=Z,20nm,1.2s						
H01W3	Cape Leeuwin H	28.92	166	T	T	00 18 12.8	
	baz=345,slow=76,SNR=433						
H01W1	Cape Leeuwin H	28.93	166	T	T	00 18 13.8	
	baz=345,slow=76,SNR=291						
H01W2	Cape Leeuwin H	28.93	166	T	T	00 18 13.8	
	baz=345,slow=76,SNR=95						
WB0	Warramunga Arr	30.61	118	P	P	23 48 01.7	-0.1
WRA	Warramunga Arr	30.62	118	P	P	23 48 02.0	0.0
	comp=Z,6.8nm,0.7s,baz=292,slow=10,SNR=56						
	comp=Z,6.8nm,0.7s						
WRAB	Tennant Creek	30.63	118	ceP	P	23 48 02.0	-0.1
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WB2	Warramunga Arr	30.63	118	P	P	23 48 02.0	-0.1
WB2				IAmb	IAmb	23 48 02.8	
	comp=Z,13nm,0.6s						
AS13	Alice Springs	31.75	125	P	P	23 48 12.1	+0.1
	comp=Z,12nm,0.8s						
ASAR	Alice Springs	31.77	125	P	P	23 48 11.6	-0.5
ASAR	Alice Springs	31.77	125	P	P	23 48 12.4	+0.3
	comp=Z,6.8nm,0.9s,baz=299,slow=8.2,SNR=30						
ASAR				PcP	PcP	23 51 02.5	+0.1
	comp=Z,3.6nm,0.8s,baz=317,slow=2.6,SNR=7.9						
ASAR				S	S	23 53 15.1	-2.8
	comp=Z,1.3nm,0.9s,baz=297,slow=16,SNR=5.0						
ASAR				LR	LR	00 03 02.2	
	comp=Z,60nm,18.6s,baz=285,slow=40						
	comp=Z,6.8nm,0.9s						
AS31	Alice Springs	31.77	125	P	P	23 48 11.2	-1.0
AS01	Alice Springs	31.81	125	P	P	23 48 13.1	+0.6
BRDH	Bariadhala	32.46	335	LR	LR	00 03 22.0	
	comp=Z,127nm,21.2s,baz=152,slow=40						
H08S2	Diego Garcia H	32.99	267	T	T	00 22 39.1	
	baz=90,slow=76,SNR=125						
H08S3	Diego Garcia H	33.00	267	T	T	00 22 39.9	
	baz=90,slow=76,SNR=155						
H08S1	Diego Carcia H	33.01	267	T	T	00 22 40.6	
	baz=90,slow=76,SNR=109						
PZH	PanZhiHua	33.42	353	P	P	23 48 29.0	+2.5
PZH				S	S	23 53 48.3	+4.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,140nm,5.0s						
PZH				LR	LR		
	comp=N,250nm,15.3s						
PZH				LR	LR		
	comp=E,200nm,17.0s						
PZH				LR	LR		
	comp=Z,280nm,17.0s						
SHL	Shillong	34.96	338	P	P	23 48 37.4	-2.6
SHL				IAmb	IAmb	23 49 21.1	
	comp=Z,15nm,0.4s						
SHL	Shillong	34.96	338	P	P	23 48 37.4	-2.6
SHL				pmax	pmax		
	comp=Z,15nm,0.4s						
OOD	Oodnadatta	35.17	130	P	P	23 48 41.9	+0.3
QIS	Mount Isa	35.49	116	P	P	23 48 44.8	+0.3
HYB	Hyderabad	36.13	312	eP	P	23 48 50.5	+0.5
HYB				IVmB_BB		23 48 50.7	
	comp=Z,191nm,1.4s						
COEN	Coen	37.43	104	P	P	23 49 00.1	-1.0
COEN				IAmb	IAmb	23 49 04.5	
	comp=Z,24nm,0.7s						
COEN	Coen	37.43	104	P	P	23 49 00.7	-0.4
	comp=Z,36nm,0.7s						
COEN	Coen	37.43	104	P	P	23 49 01.0	-0.1
CD2	Chengdu	37.63	357	eP	P	23 49 03.0	+0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BBOO	Buckleboo	38.18	137	P	P	23 49 06.9	-0.2
LSA	Lhasa	38.99	340	P	P	23 49 13.1	-1.4
LSA	Lhasa	38.99	340	P	P	23 49 12.6	-1.9
LSA	Lhasa	38.99	340	P	P	23 49 13.1	-1.4
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MTSU	Mount Surprise	39.19	110	P	P	23 49 16.7	+0.9
JOW	Kunigami	40.00	32	LR	LR	00 07 19.5	
	comp=Z,26nm,19.2s,baz=208,slow=38						
NJ2	Nanjing	40.69	17	eP	P	23 49 30.9	+3.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	Xi'an	40.81	4	⇓P	P	23 49 29.8	+0.8
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN				LR	LR		
	comp=N,380nm,17.2s						
XAN				LR	LR		
	comp=Z,410nm,19.2s						
PMG	Port Moresby	41.05	96	LR	LR	00 08 40.3	
	comp=Z,84nm,21.6s,baz=244,slow=39						
PMG	Port Moresby	41.05	96	P	P	23 49 31.5	+0.2
PMG				pP	pP	23 49 47.4	+0.2
PMG				sP	sP	23 49 55.2	+0.6
QLP	Quilpie	41.50	123	P	P	23 49 36.6	+1.8
STKA	Stephens Creek	41.64	131	P	P	23 49 36.7	+0.8
STKA	Stephens Creek	41.64	131	P	P	23 49 36.9	+1.0
	comp=Z,13nm,0.6s,baz=306,slow=7.6,SNR=36						
STKA				LR	LR	00 08 51.3	
	comp=Z,68nm,19.8s,baz=285,slow=39						
	comp=Z,13nm,0.6s						
STKA	Stephens Creek	41.64	131	P	P	23 49 37.0	+1.1
LYN	LuoYang	41.70	8	P	P	23 49 35.4	-0.8
LYN				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LZH	Lanzhou	42.78	358	eP	P	23 49 44.5	-0.7
LZH				sP	sP	23 50 12.1	+3.3
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
CMSA	Cobar Meteorol	44.60	129	P	P	23 50 00.9	+1.1
	comp=Z,25nm,1.1s						
CMSA	Cobar Meteorol	44.60	129	P	P	23 50 01.9	+2.1
RMQ	Roma	45.29	121	P	P	23 50 04.5	-0.9
	comp=Z,24nm,1.5s						
KRVT	Keravat (AS076	46.11	89	LR	LR	00 15 20.1	
	comp=Z,22nm,19.2s,baz=47,slow=44						
GTA	Gaotai	46.39	354	P	P	23 50 13.9	0.0
GTA				PcP	PcP	23 51 48.6	+0.7
GTA				ScS	ScS	23 59 59.8	-3.5
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JNU	Nakatsue	46.40	29	LR	LR	00 11 07.6	
	comp=Z,33nm,18.6s,baz=210,slow=38						
EIDS	Eidsvold	46.98	118	P	P	23 50 20.4	+1.8
EIDS				IAmb	IAmb	23 50 57.3	
	comp=Z,70nm,2.0s						
BTO	Baotou	47.42	4	eP	P	23 50 21.8	0.0
BTO				pP	pP	23 50 31.8	-6.5
BTO				sP	sP	23 50 36.0	-10
BTO				PP	PP	23 52 12.8	-1.0
BTO				pmax	pmax		
	comp=Z,19nm,0.9s						
BTO				pmax	pmax		
	comp=Z,330nm,5.6s						
KSRS	Korea Array	48.73	24	P	P	23 50 29.9	-2.0
	comp=Z,2.6nm,0.7s,baz=225,slow=8.8,SNR=7.9						
KSRS				PcP	PcP	23 51 56.2	+0.1
	comp=Z,3.9nm,0.8s,baz=201,slow=3.6,SNR=8.1						
	comp=Z,2.6nm,0.7s						
JCJ	Chichijima	48.84	45	LR	LR	00 09 27.5	
	comp=Z,37nm,21.9s,baz=107,slow=34						
MSEY	Mahe Island	50.05	270	P	P	23 50 42.8	+0.3
MSEY				IAmb	IAmb	23 50 46.2	
	comp=Z,17nm,0.9s						
MSEY	Mahe Island	50.05	270	P	P	23 50 42.8	+0.3
MSEY				pmax	pmax		
	comp=Z,17nm,0.9s						
MSEY	Mahe Island	50.05	270	P	P	23 50 45.1	+2.7
MSEY	Mahe Island	50.05	270	P	P	23 50 45.2	+2.8
MSEY				PcP	PcP	23 52 03.3	+1.7
RER	Riviere de l'E	50.33	248	P	P	23 50 47.9	+3.4
NIL	Nilore	50.74	325	P	P	23 50 46.4	-0.9
NIL				pmax	pmax		
	comp=Z,24nm,1.0s						
NIL	Nilore	50.74	325	P	P	23 50 46.3	-1.0
NIL				sP	sP	23 51 10.9	-0.2
XLT	XiLinHaoTe	51.40	10	eP	P	23 50 50.5	-1.7
XLT				pP	pP	23 51 00.8	-8.0
XLT				sP	sP	23 51 06.3	-10
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	Matsushiro Arr	52.84	33	PcP	PcP	23 52 10.7	-0.8
	comp=Z,3.4nm,0.7s,baz=200,slow=4.7,SNR=5.7						
WMQ	Urumqi	53.05	344	eP	P	23 51 04.8	+0.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WUS	Wushi	53.69	335	P	P	23 51 07.5	-1.6
WUS	Wushi	53.69	335	P	P	23 51 08.7	-0.5
WUS				PcP	PcP	23 52 15.4	+0.7
KSH	Kashi	53.76	332	P	P	23 51 08.4	-1.3
KSH				pP	sP	23 51 32.0	-1.8
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	Kabul	53.85	322	P	P	23 51 09.6	-1.0
KBL				IAmb	IAmb	23 51 10.6	
	comp=Z,17nm,0.8s						
KBL	Kabul	53.85	322	P	P	23 51 09.6	-1.0
KBL				pmax	pmax		
	comp=Z,17nm,0.9s						
SONM	Songino Array	54.48	1	P	P	23 51 13.3	-1.5
SONM				IAmb	IAmb	23 52 18.0	
	comp=Z,9.8nm,0.7s						
SONM	Songino Array	54.48	1	P	P	23 51 13.7	-1.2
	comp=Z,2.8nm,0.8s,baz=175,slow=8.5,SNR=28						
SONM				PcP	PcP	23 52 16.8	-0.8
	comp=Z,9.1nm,0.5s,baz=179,slow=4.4,SNR=37						
SONM				ScP	ScP	23 56 08.1	-2.4
	comp=Z,1.5nm,0.8s,baz=169,slow=3.9,SNR=6.9						
	comp=Z,2.8nm,0.8s						
ULN	Ulaanbaatar	54.52	1	P	P	23 51 13.9	-1.3
ULN	Ulaanbaatar	54.52	1	ceP	P	23 51 14.2	-1.0
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	Ulaanbaatar	54.52	1	P	P	23 51 14.2	-1.0
ULN				pP	pP	23 51 30.7	-1.2
ULN				PcP	PcP	23 52 17.4	-0.4
SHLS	Shalkode	55.23	337	eP	P	23 51 17.8	-2.5
SHLS	Shalkode	55.23	337	eP	P	23 51 17.9	-2.5
UZB	Uzynbulak	55.40	336	eP	P	23 51 20.2	-1.3
UZB	Uzynbulak	55.40	336	eP	P	23 51 20.2	-1.3
SATY	Saty	55.57	336	eP	P	23 51 21.2	-1.5
SATY	Saty	55.57	336	eP	P	23 51 21.2	-1.5
KPKS	Kokpek	55.80	336	eP	P	23 51 22.6	-1.7
KPKS	Kokpek	55.80	336	eP	P	23 51 22.7	-1.7
DRK	Karamyk	55.80	328	P	P	23 51 24.1	-0.6
DRK				IAmb	IAmb	23 51 26.6	
	comp=Z,14nm,0.8s						
DRK	Karamyk	55.80	328	P	P	23 51 24.1	-0.6
DRK				pmax	pmax		
	comp=Z,14nm,0.8s						
BNX	BinXian	55.86	18	⇑P	P	23 51 23.8	-0.8
BNX				pmax	pmax		
	comp=Z,13nm,0.7s						
USA0B	Ussuriysk Arra	56.09	23	P	P	23 51 24.2	-2.1
USA0B	Ussuriysk Arra	56.09	23	P	P	23 51 24.2	-2.1
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.8s						
USRK	Ussuriysk Ar.	56.09	23	P	P	23 51 24.6	-1.7
USRK	Ussuriysk Ar.	56.09	23	P	P	23 51 24.1	-2.2
	comp=Z,3.6nm,0.7s,baz=187,slow=4.6,SNR=5.6						
	comp=Z,3.6nm,0.7s						
USRK	Ussuriysk Ar.	56.09	23	P	P	23 51 24.6	-1.7
BOOM	Boomskoye usch	56.15	334	P	P	23 51 25.1	-1.8
BOOM	Boomskoye usch	56.15	334	P	P	23 51 25.1	-1.8
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MDOK	Medeo	56.22	335	eP	P	23 51 25.6	-1.8
MDOK	Medeo	56.22	335	eP	P	23 51 25.7	-1.8
GAR	Garm	56.24	327	P	P	23 51 25.9	-1.8
GAR				IAmb	IAmb	23 51 27.2	
	comp=Z,25nm,1.1s						
AAA	Alma-Ata	56.31	335	eP	P	23 51 26.3	-1.7
AAA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AAA	Alma-Ata	56.31	335	eP	P	23 51 26.3	-1.7
	comp=Z,5.5nm,0.5s						
ARLS	Aral	56.38	332	P	P	23 51 27.2	-1.4
ARLS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHGR	Chuyangaron	56.63	326	P	P	23 51 28.1	-2.2
CHGR	Chuyangaron	56.63	326	P	P	23 51 28.1	-2.2
SIMJ	Simiganj	56.71	326	P	P	23 51 28.8	-2.3
SIMJ				IAmb	IAmb	23 51 30.4	
	comp=Z,16nm,1.0s						
SIMJ	Simiganj	56.71	326	P	P	23 51 28.9	-2.1
AAK	Ala-Archa	56.91	333	P	P	23 51 31.4	-1.0
AAK				IAmb	IAmb	23 52 28.8	
	comp=Z,6.4nm,0.8s						
AAK	Ala-Archa	56.91	333	LR	LR	00 18 06.5	
	comp=Z,55nm,21.6s,baz=166,slow=38						
AAK	Ala-Archa	56.91	333	‖eP	P	23 51 32.0	-0.4
AAK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
AAK	Ala-Archa	56.91	333	P	P	23 51 32.4	0.0
AAK				pP	pP	23 51 49.6	+0.3
AAK				PcP	PcP	23 52 27.8	+0.6
ZSN	Zaisan	57.17	343	eP	P	23 51 32.5	-1.4
ZSN				pmax	pmax		
	comp=Z,12nm,1.3s						
ZSN	Zaisan	57.17	343	eP	P	23 51 32.6	-1.4
	comp=Z,12nm,1.3s						
TDK	Taldyqorghan	57.20	337	eP	P	23 51 32.6	-1.5
TDK	Taldyqorghan	57.20	337	eP	P	23 51 32.7	-1.5
MK31	Makanchi Array	57.37	341	P	P	23 51 33.1	-2.2
MK31	Makanchi Array	57.37	341	‖eP	P	23 51 33.1

comp=Z,7.0nm,1.5s
KKAR Karatay Array 59.15 331 P **P 23 51 46.0 -1.8**
KKAR Karatay Array 59.15 331 P **P 23 51 46.0 -1.8**
BRLS Borolday 59.42 330 *eP* **P 23 51 47.6 -2.1**
BRLS Borolday 59.42 330 *eP* **P 23 51 47.7 -2.1**
HEH HeiHe 59.93 16 *eP* **P 23 51 51.1 -1.9**
HEH pmax pmax
comp=Z,9.0nm,0.8s
DZM Mont Dzumac 60.31 111 *e*LR LR 00 09 50.3
comp=Z,216nm,32.1s
KLR Kul'dur 60.33 19 LR LR 00 18 54.8
comp=Z,37nm,18.8s,baz=181,slow=37
KLR Kul'dur 60.33 19*ce***P P 23 51 52.7 -3.0**
KLR pmax pmax
comp=Z,3.0nm,0.8s
H04N2 CROZET ISLANDS 60.55 220 T T 00 57 55.8
baz=66,slow=75,SNR=252
H04N1 CROZET ISLANDS 60.56 220 T T 00 57 42.2
baz=66,slow=75,SNR=200
H04N3 CROZET ISLANDS 60.56 220 T T 00 57 54.7
baz=66,slow=75,SNR=298
ASAJ Asahikawa 60.68 30 LR LR 00 19 40.6
comp=Z,28nm,19.0s,baz=360,slow=38
H04S1 CROZET ISLANDS 60.74 219 T T 00 57 55.2
baz=65,slow=74,SNR=51
H04S3 CROZET ISLANDS 60.75 219 T T 00 57 54.6
baz=65,slow=74,SNR=43
H04S2 CROZET ISLANDS 60.76 219 T T 00 57 56.0
baz=65,slow=74,SNR=45
KURBB Kurchatov Arra 61.93 341 P **P 23 52 04.1 -2.5**
comp=Z,4.2nm,0.9s,baz=159,slow=5.9,SNR=28
comp=Z,4.2nm,0.9s
KURK Kurchatov 61.98 341 P **P 23 52 04.7 -2.1**
KURK IAmb IAmb 23 52 07.5
comp=Z,6.1nm,0.8s
KURK Kurchatov 61.98 341*ce***P P 23 52 05.2 -1.7**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 61.98 341 P **P 23 52 06.0 -0.8**
KURK PcP **PcP 23 52 46.8 -0.1**
YSS Yuzhno-Sakhali 62.84 28 *eP* **P 23 52 11.0 -1.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 63.06 14 *eP* **P 23 52 12.9 -1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 63.12 346 P **P 23 52 12.3 -2.2**
ZALV Zalesovo Beam 63.12 346 P **P 23 52 11.9 -2.5**
ZALV Zalesovo Beam 63.12 346 P **P 23 52 12.0 -2.5**
comp=Z,3.0nm,0.4s,baz=160,slow=4.7,SNR=22
ZALV LR LR 00 22 05.3
comp=Z,71nm,18.1s,baz=146,slow=38
comp=Z,3.0nm,0.4s
BRZS Berezniki 63.50 337 *eP* **P 23 52 16.2 -0.9**
BRZS Berezniki 63.50 337 *eP* **P 23 52 16.2 -0.9**
RAYN Ar Rayn 66.11 299 P **P 23 52 34.5 -0.2**
RAYN IAmb IAmb 23 52 36.4
comp=Z,19nm,1.1s
RAYN Ar Rayn 66.11 299 P **P 23 52 34.5 -0.2**
RAYN pmax pmax
comp=Z,19nm,1.2s
RAYN Ar Rayn 66.11 299 *i* P **P 23 52 35.5 +0.9**
SNR=15
RAYN Ar Rayn 66.11 299 P **P 23 52 35.3 +0.6**
RAYN pP **pP 23 52 52.7 +0.8**
RAYN PcP **PcP 23 53 04.6 0.0**
BVAR Borovoye Array 66.78 338 P **P 23 52 36.2 -2.1**
comp=Z,9.3nm,0.7s,baz=146,slow=8.4,SNR=51
comp=Z,9.3nm,0.7s
BRVK Borovoye 66.85 338 P **P 23 52 36.1 -2.5**
BRVK Borovoye 66.85 338*ce***P P 23 52 37.8 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 66.85 338 P **P 23 52 37.7 -0.9**
BRVK sP **sP 23 53 03.0 -0.1**
BRVK PcP **PcP 23 53 07.4 +0.4**
RPZ Rata Peaks 67.49 135 LR LR 00 19 39.5
comp=Z,105nm,21.2s,baz=296,slow=34
RPZ Rata Peaks 67.49 135 P **P 23 52 44.6 +1.6**
KIBK Kibwezi 67.59 270 P **P 23 52 45.7 +1.4**
KIBK IAmb IAmb 23 52 47.3
comp=Z,14nm,0.7s
THZ Tophouse 68.44 132 P **P 23 52 49.2 +0.1**
THZ Tophouse 68.44 132 P **P 23 52 50.5 +1.4**
KMBO Kilima Mbogo 68.52 271 P **P 23 52 50.6 +0.2**
KMBO Kilima Mbogo 68.52 271 P **P 23 52 50.6 +0.2**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 68.52 271 *i* P **P 23 52 52.7 +2.3**
SNR=11
ABKAR Akbulak array 68.68 330 P **P 23 52 49.5 -0.8**
ABKAR Akbulak array 68.68 330 P **P 23 52 49.3 -1.0**
ABKAR IAmb IAmb 23 52 50.5
comp=Z,43nm,0.7s
CCD Concordia, Ant 68.91 175 P **P 23 52 54.0 +2.2**
CCD pP **pP 23 53 11.9 +3.3**
LKRN Lenkeran, Azer 69.56 316 P **P 23 52 56.3 +0.4**
ETVZ East Tongariro 70.16 129 P **P 23 53 00.4 +0.5**
BKZ Black Stump Fm 70.76 129 P **P 23 53 03.6 +0.1**
BKZ IAmb IAmb 23 53 20.5
comp=Z,18nm,1.0s
BKZ Black Stump Fm 70.76 129 P **P 23 53 04.1 +0.6**
BFZ Birch Farm 70.77 131 P **P 23 53 03.8 +0.4**
LODK Lodwar 71.00 276 P **P 23 53 06.7 +1.3**
LODK IAmb IAmb 23 53 09.3
comp=Z,20nm,1.3s
YAK Yakutsk 71.17 12 *eP* **P 23 53 01.3 -3.9**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
MWZ Matawai 71.47 128 P **P 23 53 08.0 +0.3**
MNGR Mingechevir, A 71.66 317 P **P 23 53 09.4 +0.7**
SEKA Sheki 71.78 317 P **P 23 53 09.7 +0.2**
NAX Nakhchivan 72.06 315 P **P 23 53 11.7 +0.4**
GANJ Ganja 72.12 316 P **P 23 53 12.2 +0.7**
POGA Pongola 72.71 244 P **P 23 53 16.7 +1.4**
POGA IAmb IAmb 23 53 19.0
comp=Z,18nm,0.8s
GNI Garni 73.00 315 P **P 23 53 16.5 -0.4**
GNI IAmb IAmb 23 53 18.5
comp=Z,12nm,1.1s
GNI Garni 73.00 315⇑*eP* **P 23 53 17.3 +0.3**
GNI pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 73.00 315 P **P 23 53 17.2 +0.3**
comp=Z,10nm,1.1s
SVE Sverdlovsk 73.40 336 *eP* **P 23 53 18.9 +0.2**
SVE pmax pmax
comp=Z,33nm,0.9s
ARTI Arti 74.03 335 P **P 23 53 21.8 -0.6**
ARTI Arti 74.03 335 LR LR 00 32 31.9
comp=Z,61nm,18.0s,baz=176,slow=41
ARTI Arti 74.03 335*d i*P **P 23 53 21.8 -0.6**
ARTI 23 53 37.8
ARTI S **SKiKP 00 02 46.7 +1.7**
ARTI pmax pmax
comp=Z,27nm,0.6s
PETK Petropavlovsk- 74.10 30 P **P 23 53 20.0 -2.9**
PETK Petropavlovsk- 74.10 30 P **P 23 53 20.0 -2.9**
GURO Guroymak-BITLI 74.29 313 P **P 23 53 24.7 +0.2**
GURO IAmb IAmb 23 53 26.1
comp=Z,14nm,1.0s
KARS Kars 74.35 315 P **P 23 53 24.9 +0.1**
KARS Kars 74.35 315 P **P 23 53 24.9 +0.1**
KARS pmax pmax
comp=Z,62nm,0.8s
MARD Mardin 74.75 312 P **P 23 53 26.8 -0.4**
MARD IAmb IAmb 23 53 28.7
comp=Z,19nm,0.9s
MBAR Mbarara 75.05 271 P **P 23 53 30.2 +0.7**
MBAR IAmb IAmb 23 53 32.9
comp=Z,25nm,0.9s
MBAR Mbarara 75.05 271 P **P 23 53 30.2 +0.7**
MBAR pmax pmax
comp=Z,25nm,0.9s
SYO Syowa Base 75.19 200⇑*eP* **P 23 53 31.4 +2.5**
SYO Syowa Base 75.19 200⇓*i sP* sP 23 53 57.0 +4.3
KBZ Khabaz 75.74 318 P **P 23 53 32.6 +0.1**
comp=Z,16nm,0.9s,baz=108,slow=5.0,SNR=34
comp=Z,16nm,0.9s
SHA1 Shidzhatmaz 75.90 318*deP* **P 23 53 33.6 -0.2**
KOPT Kop Dagi 75.94 314 P **P 23 53 34.5 +0.3**
KOPT IAmb IAmb 23 53 59.6
comp=Z,8.4nm,0.8s
KIV Kislovodsk 75.97 318 P **P 23 53 33.6 -0.3**
KIV IAmb IAmb 23 53 35.8
comp=Z,11nm,0.8s
KIV Kislovodsk 75.97 318⇓P **P 23 53 34.7 +0.7**
KIV Kislovodsk 75.97 318 *eP* **P 23 53 33.7 -0.3**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 75.97 318 *i* P **P 23 53 34.4 +0.4**
SNR=5.9
KIV Kislovodsk 75.97 318 P **P 23 53 34.4 +0.4**
comp=Z,13nm,0.8s
LSZ Lusaka 76.26 256 P **P 23 53 37.2 +1.0**
LSZ IAmb IAmb 23 53 39.3
comp=Z,16nm,0.8s
LSZ Lusaka 76.26 256 LR LR 00 21 30.6
comp=Z,105nm,22.0s,baz=124,slow=31
LSZ Lusaka 76.26 256 P **P 23 53 37.2 +1.0**
LSZ pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 76.31 169 P **P 23 53 36.4 +1.2**
VNDA IAmb IAmb 23 53 38.0
comp=Z,24nm,1.3s
VNDA Vanda 76.31 169 P **P 23 53 36.7 +1.5**
comp=Z,6.6nm,0.8s,baz=321,slow=7.4,SNR=15
VNDA LR LR 00 23 13.7
comp=Z,44nm,18.6s,baz=327,slow=32
comp=Z,6.6nm,0.8s
BROLN Tihalogang 76.78 250 *i* P **P 23 53 40.7 +1.6**
BELG Belogornoye 76.87 328*d i*P **P 23 53 37.9 -0.8**
BELG pmax pmax
comp=Z,6.0nm,1.0s
GHAJ Ghor Haditha 76.91 304 P **P 23 53 40.3 +0.9**
EIL Elat 76.97 302 LR LR 00 25 54.3
comp=Z,43nm,21.9s,baz=68,slow=34
GAZ Gaziantep 77.38 310 P **P 23 53 42.3 +0.3**
GAZ IAmb IAmb 23 53 43.9
comp=Z,17nm,0.8s
GRHM Grahamstown, E 77.39 238 P **P 23 53 41.9 -0.3**
GRHM IAmb IAmb 23 53 46.4
comp=Z,20nm,0.9s
SBA Scott Base 77.39 169 P **P 23 53 43.2 +2.0**
SBA Scott Base 77.39 169 P **P 23 53 43.3 +2.0**
SBA pmax pmax
comp=Z,175nm,2.0s
MMAI Mount Meron Ar 77.53 306 P **P 23 53 44.4 +1.4**
comp=Z,9.3nm,0.5s,baz=93,slow=8.4,SNR=28
MMAI LR LR 00 28 18.1
comp=Z,55nm,20.9s,baz=112,slow=36
comp=Z,9.3nm,0.5s
LPHEP Lephephe 78.05 248 *i* P **P 23 53 48.2 +2.0**
SOE Somerset East 78.07 238 P **P 23 53 48.2 +2.1**
SOE IAmb IAmb 23 53 50.3
comp=Z,23nm,0.8s
LBTB Lobatse 78.22 246 P **P 23 53 48.6 +1.5**
LBTB IAmb IAmb 23 53 50.1
comp=Z,14nm,0.8s
LBTB Lobatse 78.22 246 P **P 23 53 48.6 +1.5**
LBTB pmax pmax
comp=Z,14nm,0.8s
BOSA Boshof 78.41 242 P **P 23 53 49.5 +1.4**
BOSA IAmb IAmb 23 53 50.6
comp=Z,11nm,0.8s
BOSA Boshof 78.41 242 P **P 23 53 49.3 +1.2**
comp=Z,15nm,1.0s,baz=111,slow=3.5,SNR=21
comp=Z,15nm,1.0s
BOSA Boshof 78.41 242 P **P 23 53 49.5 +1.4**
BOSA pmax pmax
comp=Z,11nm,0.8s
KHWEE KHWEE 78.49 249 *i* P **P 23 53 50.3 +1.7**
MAKGR Magori 78.91 245 *i* P **P 23 53 52.6 +1.7**
BNN Bunyan 78.93 312 P **P 23 53 50.7 0.0**
TOKA Tokat 78.94 313 P **P 23 53 50.4 -0.2**
KSANE Kasane 79.00 253 *i* P **P 23 53 53.5 +2.0**
KDWAN Kaudwane 79.15 248 *i* P **P 23 53 54.1 +1.9**
KIRV Kirov 79.23 334*d i*P **P 23 53 51.6 -0.1**
PHDHD Phuduhudu 79.44 251 *i* P **P 23 53 55.8 +2.0**
VRH Novokhopyorsk 79.57 325 *eP* **P 23 53 53.2 -0.5**
VRH pmax pmax
comp=Z,69nm,1.6s
CSS Mathiatis 79.72 307 P **P 23 53 55.2 +0.2**
CSS IAmb IAmb 23 53 57.0
comp=Z,28nm,0.9s
SKOMA Sekoma 79.75 246 *i* P **P 23 53 57.6 +2.1**
TIXI Tiksi 79.85 7 P **P 23 53 52.4 -2.3**
TIXI Tiksi 79.85 7 P **P 23 53 52.4 -2.3**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
PHPEN Phepeng 80.68 245 *i* P **P 23 54 02.4 +2.0**
BR104 Keskin Array S 80.82 312 P **P 23 54 00.5 -0.4**
comp=Z,116nmcomp=Z,16nm,0.9s
BRTR Keskin Array B 80.83 312 P **P 23 54 00.4 -0.6**
BRTR Keskin Array B 80.83 312 P **P 23 54 00.8 -0.1**
comp=Z,10nm,0.8s,baz=134,slow=7.3,SNR=26
comp=Z,10nm,0.8s
BR131 Keskin Array S 80.83 312 P **P 23 54 00.1 -0.8**
BR131 IAmb IAmb 23 54 01.7
comp=Z,14nm,0.8s
BR131 Keskin Array S 80.83 312*deP* **P 23 54 00.6 -0.4**
BR105 Keskin Array S 80.84 312 P **P 23 54 00.9 -0.1**
comp=Z,116nmcomp=Z,17nm,0.8s
BR106 Keskin Array S 80.85 312 P **P 23 54 00.9 -0.1**
comp=Z,114nmcomp=Z,15nm,0.9s
VSR Storozhevoye 81.05 324 *eP* **P 23 53 58.9 -2.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ILGA Ilgaz 81.16 313 P **P 23 54 02.3 -0.5**
VORR Voronezh 81.20 325 *eP* **P 23 54 01.8 -0.6**
VORR pmax pmax
comp=Z,18nm,0.7s
KGCAE Kacgae 81.43 248 *i* P **P 23 54 06.3 +1.7**
LPSR Galich'ya Gora 81.72 325 *eP* **P 23 54 04.2 -1.0**
LPSR pmax pmax
comp=Z,17nm,0.8s
SUR Sutherland 82.09 238 P **P 23 54 10.5 +2.5**
SUR Sutherland 82.09 238 LR LR 00 23 02.6
comp=Z,85nm,20.5s,baz=164,slow=30
LKGWB Lokgwabe 82.25 247 *i* P **P 23 54 08.4 -0.4**
GRTLG Ghanzi 82.46 249 *i* P **P 23 54 11.3 +1.4**
QNGWA Qangwa 82.64 251 *i* P **P 23 54 13.2 +2.3**
QSPA South Pole Qui 83.11 180 P **P 23 54 13.8 +1.4**
QSPA IAmb IAmb 23 54 14.9
comp=Z,23nm,0.9s
QSPA South Pole Qui 83.11 180 P **P 23 54 13.8 +1.4**
comp=Z,18nm,0.8s,baz=306,slow=1.3,SNR=50
comp=Z,18nm,0.8s
KOOLE Kule 83.27 248 *i* P **P 23 54 15.6 +1.5**
MOS Moscow 83.63 328 *eP* **P 23 54 13.6 -1.4**
MOS pmax pmax
comp=Z,24nm,0.8s
OBN Obninsk 83.96 327 P **P 23 54 16.1 -0.5**
OBN Obninsk 83.96 327⇑P **P 23 54 16.9 +0.2**
OBN Obninsk 83.96 327 *eP* **P 23 54 16.2 -0.5**
OBN *i* 23 54 33.0
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 83.96 327 P **P 23 54 16.8 +0.1**
comp=Z,18nm,0.9s
KLMR Klimovskoe 84.72 333 *eP* **P 23 54 16.8 -3.6**
KLMR *e**PP **pP 23 54 34.9 -3.4**
KLMR pmax pmax
comp=Z,39nm,1.2s
KARP Karpathos 84.76 307 P **P 23 54 22.2 +0.9**
KARP Karpathos 84.76 307 P **P 23 54 22.5 +1.2**
comp=Z,108nm,1.0s
TSUM Tsumeb 86.05 251 P **P 23 54 28.9 +0.7**
TSUM IAmb IAmb 23 54 31.5
comp=Z,8.3nm,0.8s
TSUM Tsumeb 86.05 251 LR LR 00 26 04.2
comp=Z,89nm,20.8s,baz=83,slow=31
MILM Milestii Mici 86.15 318⇑P **P 23 54 28.3 +0.4**
MILM Milestii Mici 86.15 318 P **P 23 54 28.3 +0.4**
CFR Carcaliu 86.19 316⇑P **P 23 54 28.9 +0.8**
CFR Carcaliu 86.19 316 P **P 23 54 28.9 +0.8**
HARR Harsova 86.22 316⇓P **P 23 54 29.1 +0.9**
HARR Harsova 86.22 316 P **P 23 54 29.1 +0.9**
VLDR Vladesti 86.39 317⇓P **P 23 54 30.0 +0.9**
SORM Soroca 86.75 319⇑P **P 23 54 30.5 -0.3**
SORM Soroca 86.75 319 P **P 23 54 30.5 -0.3**
SORM Soroca 86.75 319 P **P 23 54 30.5 -0.3**
comp=Z,25nm,1.2s
AK09 Malin Array Si 86.78 322 P **P 23 54 30.4 -0.5**
AK10 Malin Array Si 86.79 322 P **P 23 54 30.5 -0.4**
AKASG Malin Array Be 86.83 322 P **P 23 54 30.3 -0.8**
AKASG Malin Array Be 86.83 322 P **P 23 54 30.5 -0.6**
comp=Z,4.7nm,0.8s,baz=87,slow=4.9,SNR=22
comp=Z,4.7nm,0.8s
AKBB Malin Array Si 86.83 322 P **P 23 54 30.4 -0.8**
AKBB IAmb IAmb 23 54 31.5
comp=Z,9.4nm,0.9s
AKBB Malin Array Si 86.83 322⇓*eP* **P 23 54 30.2 -0.9**
AKBB Malin Array Si 86.83 322 P **P 23 54 30.5 -0.6**
KIEV Kiev 86.84 322 P **P 23 54 30.2 -1.0**
KIEV IAmb IAmb 23 54 31.5
comp=Z,7.9nm,0.8s
KIEV Kiev 86.84 322⇑P **P 23 54 30.7 -0.5**
KIEV Kiev 86.84 322 P **P 23 54 30.7 -0.5**
KIEV Kiev 86.84 322 P **P 23 54 30.6 -0.6**
comp=Z,53nm,0.8s
VRI Vrincioaia 87.31 317⇑P **P 23 54 35.1 +1.4**
VRI Vrincioaia 87.31 317 P **P 23 54 35.0 +1.4**
VRI Vrincioaia 87.31 317 P **P 23 54 34.6 +1.0**
comp=Z,37nm,1.1s
PLOR Plostina 87.36 317⇑P **P 23 54 35.1 +1.2**
PLOR Plostina 87.36 317 P **P 23 54 35.1 +1.2**
MI30 MI30,Zelenitsa 87.48 322 P **P 23 54 33.7 -0.6**
comp=Z,26nm,1.0s
NDNU Novodnistrovsk 87.50 319 P **P 23 54 34.3 -0.1**
TESR Tescani 87.50 317⇓P **P 23 54 35.6 +1.1**
TESR Tescani 87.50 317 P **P 23 54 35.1 +0.6**
comp=Z,35nm,1.3s
LUBAR Lubar, Ukraine 87.56 321 P **P 23 54 34.2 -0.5**
TROLL Troll, Antarti 87.56 198 P **P 23 54 37.4 +2.9**
TROLL Troll, Antarti 87.56 198⇑P **P 23 54 37.4 +2.9**
comp=Z,368nm,0.8s
ONER Baraj Valea Uz 87.64 317⇑P **P 23 54 36.7 +1.6**
COVR Voineasa-Covas 87.66 317⇑P **P 23 54 36.1 +0.7**
MLR Muntele Rosu 87.77 316 P **P 23 54 36.4 +0.4**
MLR Muntele Rosu 87.77 316⇑P **P 23 54 36.7 +0.7**
MLR Muntele Rosu 87.77 316 P **P 23 54 36.6 +0.7**
MLR Muntele Rosu 87.77 316 P **P 23 54 36.8 +0.8**
comp=Z,34nm,1.7s
MI28 Mi28,Pidlybu 87.85 322 P **P 23 54 35.8 -0.2**
KMPD K-Podol'skiy 88.08 319 P **P 23 54 36.6 -0.6**
DOPR Dopca 88.25 317⇑P **P 23 54 38.7 +0.7**
VOIR 88.37 316⇑P **P 23 54 39.0 +0.3**
VOIR 88.37 316 P **P 23 54 39.0 +0.3**
VOIR 88.37 316 P **P 23 54 38.7 -0.1**
comp=Z,6.9nm,0.6s
MNK Minsk 88.57 325 *i* P **P 23 54 39.6 +0.3**
MNK *i* 23 58 07.4
MNK *i* PPP PPP 00 00 03.1
MNK *i* 00 05 02.3
MNK *i* S **SKSac 00 05 08.1 +5.2**
MNK *i* PS **PS 00 06 35.9 +3.6**
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
ARR Arges 88.65 316⇓P **P 23 54 40.6 +0.5**
BURAR Bucovina Array 88.69 318⇑P **P 23 54 41.8 +1.6**
BURAR Bucovina Array 88.69 318 P **P 23 54 41.8 +1.6**
TNR Turnu Rosu 88.95 316⇑P **P 23 54 42.2 +0.7**
TNR Turnu Rosu 88.95 316 P **P 23 54 42.1 +0.7**
RNPP5 Staryi Chortor 89.01 322 P **P 23 54 41.7 +0.2**
ARCR ARCALIA 89.17 317⇑P **P 23 54 43.2 +0.8**
SNAA Sanae 89.27 197 P **P 23 54 45.0 +2.6**
SNAA Sanae 89.27 197 P **P 23 54 44.6 +2.1**
SNAA IAmb IAmb 23 54 45.8
comp=Z,12nm,1.1s
SNAA Sanae 89.27 197⇑P **P 23 54 45.0 +2.6**
comp=Z,62nm,0.4s
SNAA Sanae 89.27 197 P **P 23 54 44.6 +2.1**
comp=Z,5.1nm,0.7s,baz=112,slow=3.2,SNR=23
comp=Z,5.1nm,0.7s
SNAA Sanae 89.27 197*ce***P P 23 54 45.1 +2.6**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
BMR Baia Mare 89.85 318⇑P **P 23 54 46.7 +1.2**
BMR Baia Mare 89.85 318 P **P 23 54 46.7 +1.2**
DEV Deva 89.93 316⇑P **P 23 54 47.1 +1.1**
DEV Deva 89.93 316 P **P 23 54 47.1 +1.1**
GZR Gura Zlata 89.94 316⇓P **P 23 54 47.5 +1.4**
GZR Gura Zlata 89.94 316 P **P 23 54 47.5 +1.4**
HERR Herculane 90.10 315⇑P **P 23 54 47.4 +0.6**
KORU Korolevo 90.17 318 P **P 23 54 48.0 +1.0**
BZS Buzias 90.78 316⇑P **P 23 54 50.6 +0.7**
BZS Buzias 90.78 316 P **P 23 54 50.6 +0.7**
SIRR Siria 90.85 316⇓P **P 23 54 50.8 +0.5**
KOLS Kolonicke sedl 90.87 319 *eP* **P 23 54 51.3 +1.0**
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 90.87 319 *eP* **P 23 54 51.3 +1.0**
VNA2 Neumayer--Watz 90.91 198 P **P 23 54 53.0 +2.9**
baz=115,slow=2.6
VNA2 Neumayer--Watz 90.91 198⇑P **P 23 54 53.0 +2.9**
comp=Z,13nm,0.7s,baz=115,slow=2.6
FINES FINESS Array B 91.08 332 P **P 23 54 50.6 -0.3**
comp=Z,4.7nm,0.7s,baz=104,slow=8.3,SNR=13
comp=Z,4.7nm,0.7s
SUW Suwalki 91.17 324 P **P 23 54 51.5 0.0**
SUW pmax pmax
comp=Z,38nm,1.1s
VNA1 Neumayer--Stat 91.28 198 P **P 23 54 55.6 +3.8**
VNA1 Neumayer--Stat 91.28 198⇑P **P 23 54 55.6 +3.8**
comp=Z,16nm,0.9s
BELA Belgrano 2 92.60 188 P **P 23 54 58.8 +1.0**
BELA IAmb IAmb 23 55 00.2
comp=Z,7.7nm,0.8s
MORH Mrgy, Hungar 92.92 316⇑P **P 23 55 00.3 +0.5**
MORH Mrgy, Hungar 92.92 316 P **P 23 54 59.9 +0.1**
ARCES ARCESS Array B 93.00 340 P **P 23 54 58.8 -0.9**
ARCES ARCESS Array B 93.00 340 P **P 23 54 58.7 -0.9**
comp=Z,7.7nm,0.9s,baz=98,slow=2.3,SNR=8.9
comp=Z,7.7nm,0.9s
ARCES ARCESS Array B 93.00 340 P **P 23 54 58.8 -0.9**
ARCES pmax pmax
comp=Z,80nm,1.6s
MODS Modra-Piesok 94.08 318 *eP* **P 23 55 06.9 +1.8**
MODS Modra-Piesok 94.08 318 *eP* **P 23 55 06.9 +1.8**
GERES GERESS Array B 96.48 318 P **P 23 55 15.4 -0.8**
comp=Z,0.6nm,0.6s,baz=117,slow=4.7,SNR=3.6
comp=Z,0.6nm,0.6s
SPITS Spitsbergen Ar 96.56 348 P **P 23 55 14.9 -1.0**
comp=Z,8.0nm,0.7s,baz=105,slow=7.9,SNR=21
comp=Z,8.0nm,0.7s
HFS Hagfors 96.94 330 P **P 23 55 16.5 -1.4**
comp=Z,2.6nm,0.9s,baz=198,slow=4.4,SNR=4.6
comp=Z,2.6nm,0.9s
G16K Koyuk River 97.00 25 P **P 23 55 17.0 -1.0**
G16K IAmb IAmb 23 57 43.0
comp=Z,20nm,1.9s
ILAR Eielson Array 103.57 25 PKKPbc PKKPbc 00 11 41.5 -1.1
comp=Z,0.4nm,0.7s,baz=93,slow=1.6,SNR=5.2
TORD Torodi Ar. Bea 105.18 282 PKiKP **PKiKP 00 00 10.0 +0.1**
comp=Z,1.0nm,0.7s,baz=58,slow=1.5,SNR=8.1
YKA Yellowknife Ar 117.18 20 PKP **PKPdf 00 00 30.5 -0.7**
comp=Z,0.7nm,0.8s,baz=298,slow=1.7,SNR=6.3
YKA PKKPbc **PKKPab 00 11 00.5 +0.8**
comp=Z,0.1nm,0.3s,baz=129,slow=4.4,SNR=10.0
FCC Fort Churchill 126.04 13 PKPdf **PKPdf 00 00 47.8 -0.5**
FCC Fort Churchill 126.04 13 PKIKP **PKPdf 00 00 47.8 -0.5**
PLID Pearl Lake 127.50 36 PKPdf **PKPdf 00 00 51.6 -0.4**
NVAR Mina Array Bea 129.36 45 PKP **PKiKP 00 00 56.5 +0.1**
comp=Z,0.5nm,0.6s,baz=302,slow=1.1,SNR=2.5
ELK Elko 130.31 41 PKP **PKiKP 00 00 58.0 -0.3**
comp=Z,0.7nm,0.4s,baz=154,slow=2.6,SNR=5.3
ELK Elko 130.31 41 PKiKP **PKiKP 00 00 58.0 -0.3**
SCHQ Schefferville 131.82 354 PKP **PKiKP 00 01 00.2 -0.3**
comp=Z,2.3nm,0.9s,baz=41,slow=5.2,SNR=5.0
SCHQ SKPbc **SKPbc 00 04 18.4 -1.6**
comp=Z,8.1nm,0.7s,baz=39,slow=6.8,SNR=16
PDAR Pinedale Array 132.63 35 PKP **PKPdf 00 01 01.8 0.0**
comp=Z,0.8nm,0.6s,baz=142,slow=0.6,SNR=7.8
PDAR SKPbc **SKPbc 00 04 21.0 -2.5**
comp=Z,4.1nm,1.1s,baz=321,slow=1.9,SNR=13
ULM Lac du Bonnet 133.15 19 PKP **PKPdf 00 01 02.0 -0.1**
comp=Z,2.0nm,0.8s,baz=344,slow=4.7,SNR=7.1
ULM SKPbc **SKPbc 00 04 22.5 -2.2**
comp=Z,2.7nm,0.8s,baz=346,slow=3.4,SNR=5.5
ANMO Albuquerque 139.29 42 PKP **PKiKP 00 01 15.8 -0.8**
comp=Z,1.2nm,0.8s,baz=333,slow=22,SNR=2.1
ANMO SKPbc **SKPbc 00 04 43.2 -1.1**
comp=Z,4.1nm,1.0s,baz=73,slow=6.5,SNR=5.0
CPUP Villa Florida 143.12 206 PKP PKPbc 00 01 19.4 +1.2
comp=Z,2.9nm,0.6s,baz=81,slow=1.4,SNR=9.1
LCO Las Campanas 144.15 185 PKPdf PKPbc 00 01 21.9 +0.4

LCO	**Las Campanas**	**144.15**	**185**	PKIKP	PKPbc	00 01 21.9	+0.5
WMOK	**Wichita Mounta**	**144.24**	**36**	PKPdf	**PKPab**	**00 01 20.8**	**-0.1**
WMOK	**Wichita Mounta**	**144.24**	**36**	PKIKP	**PKPab**	**00 01 20.8**	**-0.1**
K57A	**Scipio Center**	**144.24**	**3**	PKPdf	**PKPab**	**00 01 20.5**	**-0.1**
APMT	**Aspermont**	**144.40**	**39**		**PKPab**	**00 01 21.4**	**-0.1**
TX31	**Lajitas Ar. Si**	**144.41**	**47**	PKPdf	PKPbc	00 01 22.1	0.0
TXAR	**Lajitas Array**	**144.41**	**47**	PKPdf	PKPbc	00 01 22.2	+0.1
TXAR	**Lajitas Array**	**144.41**	**47**	PKP	PKPbc	00 01 22.7	+0.7
	comp=Z,9.4nm,0.7s,baz=277,slow=0.9,SNR=116						
TXAR				SKPbc	**SKPbc**	**00 04 56.7**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=235,slow=2.0,SNR=4.2						
OK052	**Battle Ridge R**	**144.42**	**32**	PKPdf	**PKPab**	**00 01 21.2**	**-0.3**
SGCY	**Sterling City**	**144.67**	**42**	PKPdf	PKPbc	00 01 22.7	0.0
R40A	**Maddies Statio**	**144.73**	**25**	PKPdf	**PKPab**	**00 01 21.7**	**-0.8**
TUL3	**Leonard**	**145.01**	**31**	PKPbc	**PKPab**	**00 01 22.5**	**-1.2**
BDFB	**Brasilia**	**145.70**	**229**	PKPbc	**PKPab**	**00 01 28.0**	**+1.1**
	comp=Z,20nm,0.5s,baz=130,slow=3.0,SNR=34						
BDFB	**Brasilia**	**145.70**	**229**	PKP2	**PKPab**	**00 01 28.0**	**+1.1**
LPAZ	**La Paz**	**156.19**	**195**	PKPab	**PKPab**	**00 02 12.9**	**+2.5**
	comp=Z,0.9nm,0.4s,baz=140,slow=2.6,SNR=5.1						

CNRM ***13*** *23:50:55.4, 33.°19N×6.°48W, h44km, ML1.5*
MDD ***13*** *23:50:56.9±0.7, 33.°31N×6.°42W, h47km±30km, Mb3.9/8, M_mb3.2/8, Error ellipse: s-maj=5.5km s-min=4.6km az=126.0*
INMG ***13*** *23:50:58.5±1.3, 33.°45N×6.°36W, h38km, ML2.1, Error ellipse: s-maj=5.1km s-min=3.6km az=57.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
SFS ***13*** *23:50:59.3, 33.°89N×6.°10W, h0km, ML3.2/6, ML3.4/6, MLv3.6/6*
IGIL ***13*** *23:50:59.2, 33.°45N×6.°35W, h30km, ML1.6*
ISC 13 23:50:54.6±1.2, 33.°31N±0.°03×6.°42W±0.°03, h35km, n47, σ2s26/63, 8C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.23**	**307**	P	**Pn**	**23 51 04.3**	**+2.4**
ZHG	**ZHG**	**0.23**	**307**	S	**Sn**	**23 51 09.7**	**+2.9**
AVE	**Averroes**	**0.83**	**270**	P	**Pn**	**23 51 10.1**	**+0.3**
AVE	**Averroes**	**0.83**	**270**	S	**Sn**	**23 51 21.1**	**+0.3**
IFR	**Ifrane**	**1.10**	**79**	P	**Pn**	**23 51 15.3**	**+1.5**
IFR				S	**Sn**	**23 51 28.5**	**+0.6**
MD31	**MD31**	**1.47**	**107**	P	**Pn**	**23 51 20.0**	**+1.3**
MD31	**MD31**	**1.47**	**107**	S	**Sn**	**23 51 38.3**	**+1.6**
TISM	**Timmit**	**1.58**	**181**	P	**Pn**	**23 51 19.4**	**-0.8**
TISM	**Timmit**	**1.58**	**181**	S	**Sn**	**23 51 37.8**	**-1.6**
MDT	**Midelt**	**1.60**	**107**	P	**Pn**	**23 51 21.7**	**+1.1**
MDT	**Midelt**	**1.60**	**107**	S	**Sn**	**23 51 41.4**	**+1.3**
AKLM	**AKL**	**2.44**	**60**	P	**Pn**	**23 51 33.9**	**+1.8**
AKLM	**AKL**	**2.44**	**60**	S	**Sn**	**23 52 03.8**	**+3.0**
TIO	**Tiouine**	**2.48**	**197**	P	Pn	23 51 31.7	-1.0
TIO	**Tiouine**	**2.48**	**197**	S	**Sn**	**23 51 59.9**	**-1.9**
TZRR	**Tazzarine**	**2.62**	**164**	P	**Pn**	**23 51 33.9**	**-0.6**
TZRR	**Tazzarine**	**2.62**	**164**	S	**Sn**	**23 52 04.2**	**-0.9**
TTIG	**Tnine Tigouga,**	**3.24**	**212**	P	Pn	23 51 42.1	-1.1
TTIG	**Tnine Tigouga,**	**3.24**	**212**	S	**Sn**	**23 52 19.1**	**-1.5**
JBK	**JBK**	**3.37**	**71**	P	**Pn**	**23 51 45.3**	**+0.4**
JBK	**JBK**	**3.37**	**71**	S	**Sn**	**23 52 23.9**	**0.0**
PBDV	**Barranco-do-Ve**	**4.11**	**343**	*eP*	**Pn**	**23 51 56.9**	**+1.9**
PBDV				*eS*	**Sn**	**23 52 40.8**	**-1.1**
PBDV				*i* AML	AML	23 52 45.1	
PBDV				*i* AML	AML	23 52 49.3	
PBDV				*i* AML	AML	23 53 00.4	
PVAQ	**Vaqueiros**	**4.22**	**346**	*eP*	**Pn**	**23 51 58.5**	**+2.0**
PVAQ				*eS*	**Sn**	**23 52 43.6**	**-0.8**
PVAQ				*i* AML	AML	23 52 46.0	
PVAQ	**Vaqueiros**	**4.22**	**346**	P	**Pn**	**23 51 58.0**	**+1.6**
ELGU	**Los Guajares,**	**4.23**	**32**	P	**Pn**	**23 51 55.4**	**-1.2**
ELGU				S	**Sn**	**23 52 40.7**	**-4.1**
ELGU	**Los Guajares,**	**4.23**	**32**	Pn	**Pn**	**23 51 58.1**	**+1.5**
ELGU				⇑*i*Vmb_V		23 52 04.0	
	219nm,SNR=1.3						
ELGU				Sn	**Sn**	**23 52 44.1**	**-0.7**
PFVI	**Vila Bisbo**	**4.29**	**333**	*eP*	**Pn**	**23 51 59.6**	**+2.2**
EGRO	**El Granado**	**4.30**	**349**	P	**Pn**	**23 51 59.9**	**+2.3**
EGRO				S	**Sn**	**23 52 44.7**	**-1.9**
EGRO	**El Granado**	**4.30**	**349**	Pn	**Pn**	**23 51 59.9**	**+2.3**
EGRO				⇑*i*Vmb_V		23 52 03.1	
	183nm,SNR=1.6						
EGRO				Sn	**Sn**	**23 52 44.5**	**-2.0**
EMIN	**Mina Concepcio**	**4.45**	**357**	⇑*i*Vmb_V		23 52 02.2	
	92nm,SNR=1.2						
EMIN				Sn	**Sn**	**23 52 47.9**	**-2.4**
PCVE	**Castro Verde**	**4.51**	**343**	*eP*	**Pn**	**23 52 02.9**	**+2.5**
PCVE				*eS*	**Sn**	**23 52 50.3**	**-1.3**
PCVE				*i* AML	AML	23 52 51.9	
PCVE				*i* AML	AML	23 52 53.0	
PCVE				*i* AML	AML	23 52 56.4	
PTEO	**Sao Teotonio**	**4.62**	**337**	*eP*	**Pn**	**23 52 04.7**	**+2.7**
PTEO				*eS*	**Sn**	**23 52 53.6**	**-0.8**
MESJ	**Messejana**	**4.75**	**343**	*eP*	**Pn**	**23 52 05.7**	**+2.0**
MESJ				*eS*	**Sn**	**23 52 54.3**	**-3.3**
MESJ				IAML		23 52 59.2	
	comp=N,1.1nm,0.1s						
MESJ	**Messejana**	**4.75**	**343**	*eP*	**Pn**	**23 52 06.4**	**+2.7**
MESJ				*eS*	**Sn**	**23 52 56.0**	**-1.5**
MESJ				*i* AML	AML	23 52 59.5	
MESJ				*i* AML	AML	23 53 00.5	
ECAB	**El Cabril**	**4.83**	**9**	⇑*i*Vmb_V		23 52 10.4	
	comp=N,65nm,SNR=1.2						
ECAB				Sn	**Sn**	**23 52 57.4**	**-2.1**
PBAR	**Barrancos**	**4.88**	**354**	*eP*	**Pn**	**23 52 08.1**	**+2.6**
PBAR				*eS*	**Sn**	**23 52 58.5**	**-2.3**
PBAR				*i* AML	AML	23 53 02.6	
PBAR				*i* AML	AML	23 53 05.0	
PBAR	**Barrancos**	**4.88**	**354**	P	**Pn**	**23 52 07.5**	**+2.0**
PBAR				S	**Sn**	**23 52 57.5**	**-3.3**
EADA	**Adamuz**	**5.08**	**17**	⇑*i*Vmb_V		23 52 11.5	
	comp=N,70nm,SNR=1.1						
EADA				Sn	**Sn**	**23 53 02.8**	**-2.8**
E0803	**Jimena (Jaen)**	**5.12**	**27**	Sn	**Sn**	**23 53 04.3**	**-2.3**
EVO	**Evora**	**5.37**	**347**	*eP*	**Pn**	**23 52 15.2**	**+3.0**
EVO				*eS*	**Sn**	**23 53 10.6**	**-2.2**
EBAD	**Badajoz**	**5.46**	**355**	P	**Pn**	**23 52 15.3**	**+1.8**
EBAD				S	**Sn**	**23 53 11.5**	**-3.4**
EBAD	**Badajoz**	**5.46**	**355**	Pn	**Pn**	**23 52 14.6**	**+1.2**
EBAD				⇑*i*Vmb_V		23 52 16.4	
	comp=N,92nm,SNR=1.5						
EBAD				Sn	**Sn**	**23 53 13.0**	**-1.9**
PSIM	**Granatula de C**	**5.91**	**21**	Pn	**Pn**	**23 52 21.4**	**+1.7**
PSIM				Sn	**Sn**	**23 53 21.8**	**-4.4**
PMTG	**Montargil**	**5.93**	**346**	*eP*	**Pn**	**23 52 22.5**	**+2.6**
PMRV	**Marv??o**	**6.16**	**353**	*eP*	**Pn**	**23 52 25.0**	**+1.9**
PMRV				*eS*	**Sn**	**23 53 29.3**	**-2.9**
PAB	**San Pablo**	**6.45**	**14**	⇑*i*Vmb_V		23 52 29.7	
	comp=N,68nm,SNR=1.4						
PAB				Sn	**Sn**	**23 53 35.6**	**-3.8**
ESDC	**Sonseca Array**	**6.65**	**17**	⇑*i*Vmb_V		23 52 32.8	
	comp=N,57nm,SNR=1.0						
ESDC				Sn	**Sn**	**23 53 39.7**	**-4.8**

IDC ***14*** *00:00:04.9±1.2, 19.°62N×109.°64W, h0km, mb4.0/11, mbtmp4.0/15, ML3.5/3, MS3.8/19, Error ellipse: s-maj=41.1km s-min=16.2km az=63.0*
GCMT ***14*** *00:00:06.7±0.5, 19.°94N±0.°03×109.°59W±0.°03, h21km±1km, MW4.8/80, Moment Tensor Solution. s10,c10; s80,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.42±.13; Mθθ=1.70±.09; Mφφ=2.12±.12; Mrθ=0.77±.19; Mφθ=0.46±.09; Mφr=1.03±.21; Best double couple: M0=2.33100×10^16 NP1:φs=39.00000°, δ56.00000°, λ=-4.00000°. NP2: φs=131.00000°, δ87.00000°, λ=-146.00000°. Principal axes: T 2.5980, Plg21.0000°, Azm260.0000°; N -0.5350, Plg56.0000°, Azm136.0000°; P -2.0640, Plg25.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *00:00:07.8±2.0, 19.°79N±0.°06×109.°57W±0.°07, h10km±1km, mb4.4/50 Error ellipse: s-maj=12.2km s-min=8.4km az=306.0*
MEX ***14*** *00:00:09.2±0.3, 18.°94N×109.°20W, h10km, MD4.3*
ISC 14 00:00:06.7±0.5, 19.°72N±0.°06×109.°50W±0.°05, h10km, n118, σ1s35/103, mb4.4/24, MS3.6/15, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**1.69**	**235**	Pn	**Pn**	**00 00 36.4**	**0.0**
H06S1				Sn	**Sn**	**00 00 55.6**	**-2.5**
H06S1				T	T	00 02 39.4	
	SNR=8.0						
H06S		**1.70**	**235**		**Pn**	**00 00 35.3**	**-1.1**
H06S					**Sn**	**00 00 55.2**	**-3.0**
H06S		**1.70**	**235**	*eP*	**Pn**	**00 00 35.3**	**-1.1**
H06S				*eS*	**Sn**	**00 00 55.2**	**-3.0**
SLBS	**Sierra La Lagu**	**3.97**	**354**	Pn	**Pn**	**00 01 04.8**	**-2.9**
CJM	**Chamela**	**4.20**	**92**	*eP*	Pn	00 01 07.9	-3.0
CJM				*eS*	Sn	00 01 52.3	-7.8
LPIG	**La Paz**	**4.42**	**350**		**Pn**	**00 01 13.5**	**-0.4**
LPIG	**La Paz**	**4.42**	**350**	PKhKP	PKPpre	00 01 13.5	
	49nm,0.7s,baz=80,slow=23,SNR=5.2						
LPIG	**La Paz**	**4.42**	**350**	LR	LR	00 02 35.0	
	comp=Z,2μm,18.9s,baz=163,slow=33						
CIHU	**Emiliano Zapat**	**4.52**	**95**	*eP*	Pn	00 01 11.7	-3.5
CIHU				*eS*	Sn	00 01 59.0	-8.8
CEGR	**Campo Tres**	**5.33**	**93**	*eP*	**Pn**	**00 01 24.3**	**-2.2**
CEGR				*eS*	Sn	00 02 16.3	-12
SOMAC	**Volcano de Col**	**5.53**	**91**	*eP*	**Pn**	**00 01 29.7**	**+0.2**
SOMAC				*eS*	**Sn**	**00 02 29.6**	**-3.9**
MNGA	**Volcan de Coli**	**5.55**	**92**	*eP*	**Pn**	**00 01 27.9**	**-1.7**
MNGA				*eS*	Sn	00 02 26.1	-7.5
INCO	**Volcan de Coli**	**5.56**	**91**	*eP*	Pn	00 01 26.3	-3.6
INCO				*eS*	**Sn**	**00 02 29.8**	**-4.3**
ZAIG	**Zacatecas**	**7.14**	**64**	Pn	**Pn**	**00 01 50.0**	**-1.6**
HPIG		**8.00**	**25**		**Pn**	**00 02 02.6**	**-0.6**
JRQG	**Juriquilla Cam**	**8.55**	**82**	Pn	**Pn**	**00 02 11.8**	**+0.9**
HSIG		**9.35**	**352**	Pn	**Pn**	**00 02 21.9**	**+0.3**
TLIG	**Tlapa**	**10.58**	**100**	Pn	**Pn**	**00 02 40.7**	**+2.1**
TXAR	**Lajitas Array**	**10.94**	**28**		**Pn**	**00 02 43.8**	**+0.3**
TXAR	**Lajitas Array**	**10.94**	**28**	Pn	**Pn**	**00 02 45.3**	**+1.8**
	3.7nm,0.9s,baz=204,slow=12,SNR=8.4						
319A	**Douglas**	**11.61**	**1**	Pn	**Pn**	**00 02 52.6**	**0.0**
VHRN	**Van Horn**	**11.75**	**19**	Pn	**Pn**	**00 02 55.3**	**+0.7**
SFX	**San Felipe**	**12.26**	**338**	Pn	**Pn**	**00 03 02.3**	**+1.0**
833A	**Chaparral WMA,**	**12.59**	**45**	Pn	**Pn**	**00 03 06.4**	**+0.5**
TUC	**Tucson**	**12.59**	**355**	Pn	**Pn**	**00 03 06.2**	**+0.2**
DUN6	**Lazy B Ranch**	**12.79**	**2**		**Pn**	**00 03 09.9**	**+1.2**
121A	**Cookes Peak, D**	**12.85**	**7**	Pn	**Pn**	**00 03 09.5**	**-0.1**
VTX	**Valle De La Tr**	**12.93**	**335**		**Pn**	**00 03 10.5**	**-0.1**
KVTX	**Kingsville**	**13.18**	**52**	Pn	**Pn**	**00 03 13.0**	**-0.9**
HNDO	**Hondo**	**13.47**	**42**		**Pn**	**00 03 16.8**	**-1.2**
113A	**Mohawk Valley,**	**13.54**	**344**	Pn	**Pn**	**00 03 20.2**	**+1.3**
YUH	**Yuha Desert**	**14.10**	**337**		**Pn**	**00 03 26.9**	**+0.4**
GLA	**Glamis**	**14.10**	**341**		**Pn**	**00 03 26.3**	**-0.3**
CMIG	**Matias Romero**	**14.12**	**98**	Pn	**Pn**	**00 03 28.3**	**+1.5**
	0.1nm,0.3s,baz=313,slow=8.2,SNR=2.8						
CMIG				LR	LR	00 08 33.7	
	comp=Z,704nm,18.2s,baz=279,slow=36						
	8.7nm,1.1s						
SGCY	**Sterling City**	**14.28**	**30**	Pn	**Pn**	**00 03 29.6**	**+0.5**
TKX	**Tecate**	**14.29**	**335**		**Pn**	**00 03 30.2**	**+1.0**
Y14A	**Wickenburg**	**14.50**	**348**	Pn	**Pn**	**00 03 32.8**	**+0.7**
LENM	**Lemitar**	**14.56**	**8**		**Pn**	**00 03 34.0**	**+0.9**
BNM	**Barren Site**	**14.60**	**9**	Pn	**Pn**	**00 03 34.4**	**+0.8**
X16A	**Lo Mia Camp, P**	**14.74**	**354**	Pn	**Pn**	**00 03 36.4**	**+0.9**
X18A	**Snowflake**	**14.76**	**359**		**Pn**	**00 03 35.2**	**-0.5**
PFO	**Pinyon Flats O**	**15.16**	**337**	Pn	**Pn**	**00 03 42.2**	**+1.1**
	0.1nm,0.3s,baz=200,slow=11,SNR=2.6						
PFO				LR	LR	00 09 01.7	
	comp=Z,518nm,20.1s,baz=172,slow=35						
	1.1nm,0.5s						
ANMO	**Albuquerque**	**15.40**	**9**	Pn	**Pn**	**00 03 44.5**	**+0.2**
ANMO	**Albuquerque**	**15.40**	**9**	Pn	**Pn**	**00 03 45.6**	**+1.3**
	0.1nm,0.3s,baz=180,slow=4.0,SNR=9.0						
ANMO				LR	LR	00 09 18.0	
	comp=Z,345nm,20.1s,baz=0.5,slow=36						
	0.9nm,0.5s						
DKNS	**Dickens**	**15.85**	**27**	Pn	**Pn**	**00 03 50.9**	**+0.9**
DKNS				IAmb	IAmb	00 04 00.2	
	comp=Z,36nm,1.4s						
MVCO	**Mesa Verde**	**17.45**	**3**	Pn	**Pn**	**00 04 08.1**	**-2.4**
MVCO				IAmb	IAmb	00 04 14.4	
	comp=Z,59nm,1.4s						
KNB	**Kanab**	**17.48**	**351**		**Pn**	**00 04 09.9**	**-0.8**
KNB				IAmb	IAmb	00 04 28.6	
	comp=Z,36nm,1.4s						
LCMT	**Little Creek M**	**17.54**	**350**	P	**P**	**00 04 12.6**	**+0.1**
RTBA	**Rita Blanca**	**17.68**	**18**	P	**Pn**	**00 04 14.3**	**+1.0**
T25A	**Trinidad**	**17.91**	**13**	P	**Pn**	**00 04 16.2**	**0.0**
S22A	**4UR Ranch, Cre**	**18.11**	**7**	P	**Pn**	**00 04 19.0**	**+0.3**
SDCO	**Great Sand Dun**	**18.29**	**10**	P	**P**	**00 04 22.2**	**+1.1**
S11A	**Rachel**	**18.67**	**344**	P	**Pn**	**00 04 26.4**	**+1.0**
S11A				IAmb	IAmb	00 05 00.0	
	comp=Z,30nm,1.3s						
SPR3	**Spring Creek 3**	**19.66**	**349**	P	**P**	**00 04 33.0**	**-3.2**
SPR3				IAmb	IAmb	00 04 42.2	
	comp=Z,34nm,1.4s						
MTO3	**Montecristo**	**19.96**	**102**	P	**P**	**00 04 40.3**	**+0.9**
MTO3				IAmb	IAmb	00 04 50.1	
	comp=Z,32nm,1.3s						
Z41A	**Richland Creek**	**20.09**	**44**	P	**P**	**00 04 39.9**	**-0.6**
Z41A				IAmb	IAmb	00 04 54.6	
	comp=Z,33nm,1.2s						
NV11	**Mina Array Sit**	**20.10**	**340**	P	**P**	**00 04 38.3**	**-2.4**
NVAR	**Mina Array Bea**	**20.15**	**340**	P	**P**	**00 04 41.4**	**+0.1**
NVAR	**Mina Array Bea**	**20.15**	**340**	P	**P**	**00 04 41.9**	**+0.6**
	comp=Z,5.4nm,0.9s,baz=163,slow=12,SNR=17						
NVAR				LR	LR	00 11 53.3	
	comp=Z,210nm,18.7s,baz=154,slow=35						
	comp=Z,5.4nm,0.9s						
DUG	**Dugway, Tooele**	**20.60**	**353**	P	**P**	**00 04 46.1**	**-0.1**
JLU	**Jordanelle**	**20.88**	**356**	P	**P**	**00 04 50.7**	**+1.4**
JLU				IAmb	IAmb	00 04 55.9	
	comp=Z,22nm,1.2s						
VBMS	**Vicksburg**	**21.08**	**50**	P	**P**	**00 04 50.5**	**-0.8**
BRIGG	**Briggsdale**	**21.26**	**11**	P	**P**	**00 04 55.1**	**+1.9**
BRIGG				IAmb	IAmb	00 05 01.9	
	comp=Z,16nm,0.9s						
TCUT	**Toone Canyon**	**21.39**	**356**	P	**P**	**00 04 55.2**	**+0.4**
ELK	**Elko**	**21.52**	**348**	P	**P**	**00 04 55.7**	**-0.5**
ELK	**Elko**	**21.52**	**348**	P	**P**	**00 04 56.9**	**+0.7**
	comp=Z,4.4nm,1.1s,baz=179,slow=9.0,SNR=7.7						
ELK				LR	LR	00 13 04.3	
	comp=Z,261nm,18.3s,baz=155,slow=36						
	comp=Z,4.4nm,1.1s						
WHAR	**Wooly Hollow**	**21.71**	**41**		**P**	**00 04 55.2**	**-2.8**
HWUT	**Hardware Ranch**	**21.89**	**356**	P	**P**	**00 04 58.6**	**-1.4**
HWUT				IAmb	IAmb	00 05 09.2	
	comp=Z,29nm,1.4s						
TGUH	**Tegucigalpa,Un**	**21.99**	**101**	P	**P**	**00 05 01.4**	**+0.1**
OGNE	**Ogallala**	**22.09**	**15**	P	**P**	**00 05 00.0**	**-2.1**
OGNE				IAmb	IAmb	00 05 06.8	
	comp=Z,33nm,1.4s						
ORV	**Oroville**	**22.31**	**335**	P	**P**	**00 05 04.5**	**+0.1**
ORV				IAmb	IAmb	00 05 10.5	
	comp=Z,21nm,1.4s						
PD31	**Pinedale Array**	**22.98**	**360**	P	**P**	**00 05 12.2**	**+0.5**
PDAR	**Pinedale Array**	**22.98**	**360**	P	**P**	**00 05 13.5**	**+1.8**
	comp=Z,3.0nm,1.1s,baz=169,slow=8.6,SNR=8.5						
PDAR				LR	LR	00 13 52.9	
	comp=Z,144nm,19.8s,baz=156,slow=36						
	comp=Z,3.0nm,1.1s						
K22A	**Casper**	**23.00**	**6**	P	**P**	**00 05 11.6**	**-0.2**
AHID	**Auburn Hatcher**	**23.01**	**357**	P	**P**	**00 05 10.7**	**-1.4**
AHID				IAmb	IAmb	00 05 37.4	
	comp=Z,17nm,1.4s						
WVOR	**Wild Horse Val**	**23.93**	**343**	P	**P**	**00 05 22.2**	**+1.2**
MOOW	**Moose Ponds**	**23.98**	**358**	P	**P**	**00 05 22.2**	**+0.5**
MFID	**Camas Ranch**	**24.21**	**349**	P	**P**	**00 05 23.3**	**-0.4**
MFID				IAmb	IAmb	00 05 41.1	
	comp=Z,9.9nm,1.2s						
YBH	**Yreka Blue Hor**	**24.65**	**336**	LR	LR	00 14 39.9	
	comp=Z,166nm,19.0s,baz=158,slow=35						
JTS	**Las Juntas de**	**25.46**	**108**	LR	LR	00 14 08.2	
	comp=Z,68nm,21.4s,baz=296,slow=33						
PINE	**Pine Mountain**	**25.84**	**341**	P	**P**	**00 05 39.1**	**+0.6**
PINE				IAmb	IAmb	00 05 48.5	
	comp=Z,14nm,1.3s						
PLID	**Pearl Lake**	**25.86**	**349**	P	**P**	**00 05 39.6**	**+0.8**
PLID				IAmb	IAmb	00 05 41.9	
	comp=Z,11nm,1.4s						
HRY	**Holter Researc**	**26.99**	**356**	P	**P**	**00 05 48.2**	**-0.6**
ULM	**Lac du Bonnet**	**32.33**	**16**	P	**P**	**00 06 35.1**	**-0.9**
ULM	**Lac du Bonnet**	**32.33**	**16**	P	**P**	**00 06 35.1**	**-0.9**
	comp=Z,7.2nm,1.2s,baz=205,slow=9.4,SNR=4.5						
ULM				LR	LR	00 18 55.7	
	comp=Z,157nm,19.3s,baz=190,slow=35						
	comp=Z,7.2nm,1.2s						
SADO	**Sadowa**	**35.46**	**38**	LR	LR	00 21 00.6	

	comp=Z,103nm,19.8s,baz=246,slow=35						
BBB	**Bella Bella**	**35.51**	**340**	LR	LR	00 19 43.3	
	comp=Z,203nm,21.6s,baz=171,slow=33						
OTAV	**Otavalo**	**36.05**	**119**	P	**P**	**00 07 11.0**	**+1.8**
OTAV				IAmb	IAmb	00 07 20.0	
	comp=Z,6.4nm,1.1s						
RUSC	**La Rusia**	**37.97**	**106**	P	**P**	**00 07 25.6**	**+0.1**
RUSC				IAmb	IAmb	00 07 32.5	
	comp=Z,11nm,1.2s						
SDV	**Santo Domingo**	**39.08**	**100**	P	**P**	**00 07 34.9**	**+0.4**
SDV				IAmb	IAmb	00 07 37.2	
	comp=Z,12nm,1.0s						
SDV	**Santo Domingo**	**39.08**	**100**	LR	LR	00 24 28.1	
	comp=Z,57nm,22.0s,baz=260,slow=37						
FCC	**Fort Churchill**	**40.57**	**12**	P	**P**	**00 07 46.0**	**-0.2**
FCC				IAmb	IAmb	00 07 47.7	
	comp=Z,9.1nm,1.1s						
BAUV	**El Baul**	**41.46**	**99**	P	**P**	**00 07 53.9**	**-0.2**
DLBC	**Dease Lake**	**41.47**	**344**	P	**P**	**00 07 53.5**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=220,slow=16,SNR=3.9						
	comp=Z,1.1nm,0.5s						
YKA	**Yellowknife Ar**	**42.88**	**357**	P	**P**	**00 08 05.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=176,slow=8.2,SNR=14						
	comp=Z,0.7nm,0.8s						
RPN	**Rapa Nui**	**46.57**	**180**	LR	LR	00 24 13.7	
	comp=Z,41nm,20.8s,baz=51,slow=31						
INK	**Inuvik**	**50.85**	**349**	P	**P**	**00 09 07.3**	**0.0**
INK				IAmb	IAmb	00 09 37.6	
	comp=Z,6.6nm,1.2s						
ILAR	**Eielson Array**	**51.40**	**341**	P	**P**	**00 09 11.2**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=142,slow=6.8,SNR=10						
	comp=Z,0.7nm,0.9s						
F28M	**Old Crow**	**51.60**	**346**	P	**P**	**00 09 12.8**	**-0.2**
F28M				IAmb	IAmb	00 09 20.7	
	comp=Z,4.9nm,1.1s						
E28M	**Babbage River**	**52.32**	**347**	P	**P**	**00 09 18.9**	**+0.6**
A36M	**Sachs Harbour**	**53.07**	**354**	P	**P**	**00 09 24.8**	**+1.1**
PPT	**Papeete**	**54.06**	**229**	LR	LR	00 27 03.4	
	comp=Z,90nm,18.1s,baz=8.0,slow=30						
PPT2	**Papeete2**	**54.07**	**229**	*e*LR	LR	00 25 05.2	
	comp=Z,180nm,28.2s						
PPT2				*e*LR	LR	00 25 11.8	
	comp=Z,156nm,23.8s						
LPAZ	**La Paz**	**54.16**	**128**	P	**P**	**00 09 34.9**	**+1.7**
LPAZ				IAmb	IAmb	00 09 41.7	
	comp=Z,5.0nm,1.1s						
LPAZ	**La Paz**	**54.16**	**128**	P	**P**	**00 09 33.4**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=315,slow=6.3,SNR=5.9						
LPAZ				LR	LR	00 30 26.8	
	comp=Z,43nm,18.5s,baz=313,slow=34						
	comp=Z,1.5nm,0.8s						
IMAR	**Indian Mountai**	**54.39**	**339**	P	**P**	**00 09 34.4**	**+0.8**
VILB	**Vilhena**	**58.39**	**120**	P	**P**	**00 10 04.8**	**+2.0**
SIV	**San Ignacio**	**59.38**	**123**	LR	LR	00 32 46.7	
	comp=Z,74nm,18.7s,baz=302,slow=33						
H03N2	**Juan Fernandez**	**60.38**	**151**	T	T	01 15 58.0	
	baz=328,slow=78,SNR=26						
H03N1	**Juan Fernandez**	**60.39**	**151**	T	T	01 15 59.4	
	baz=328,slow=78,SNR=41						
H03N3	**Juan Fernandez**	**60.40**	**151**	T	T	01 15 54.6	
	baz=328,slow=78,SNR=41						
RAR	**Rarotonga**	**63.83**	**233**	LR	LR	00 30 33.4	
	comp=Z,155nm,21.8s,baz=90,slow=29						
CPUP	**Villa Florida**	**68.25**	**130**	P	**P**	**00 11 07.5**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=226,slow=4.8,SNR=3.2						
	comp=Z,0.6nm,0.3s						
BDFB	**Brasilia**	**69.91**	**116**	P	**P**	**00 11 19.1**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=36,slow=15,SNR=3.2						
	comp=Z,2.1nm,0.6s						
PLCA	**Paso Flores**	**70.20**	**149**	LR	LR	00 34 38.7	
	comp=Z,115nm,

	55nm,0.4s							
CHMS					Pg	Pg	00 29 49.6	+7.8
	167nm,0.1s							
CHMS					⇓Lg	Lg	00 30 19.3	
	393nm,0.6s							
CHMS					Lg	Lg	00 30 34.1	
	512nm,0.5s							
CHMS	**Chumysh**	**2.91**	**22**		⇓*i*P	**Pb**	**00 29 36.0**	**-2.3**
CHMS					⇓*i*S	**Sb**	**00 30 11.9**	**-2.2**
DZA	**Taraz**	**2.95**	**332**		P	**Pg**	**00 29 42.0**	**-0.4**
	289nm,0.3s							
DZA					Lg	Lg	00 30 21.0	
	321nm,0.4s							
DZA	**Taraz**	**2.95**	**332**		*e*P	**Pg**	**00 29 42.0**	**-0.4**
	165nm,0.3s							
DZA					*e*S	**Sg**	**00 30 21.0**	**+0.3**
	495nm,0.3s							
ULHL	**Ulahol**	**2.98**	**49**		P	**Pb**	**00 29 38.6**	**-0.8**
	SNR=24							
ULHL	**Ulahol**	**2.98**	**49**		⇑*i*P	**Pb**	**00 29 37.3**	**-2.2**
ULHL					⇑*i*S	**Sb**	**00 30 13.9**	**-2.2**
BOOM	**Boomskoye usch**	**2.98**	**42**		⇓*i*P	**Pb**	**00 29 37.3**	**-2.2**
BOOM					⇓*i*S	**Sb**	**00 30 14.2**	**-1.9**
TGS	**TashGRES**	**3.03**	**293**		P	**Pb**	**00 29 39.8**	**-0.4**
TGS					S	**Sg**	**00 30 24.6**	**+1.3**
USP	**Ospenovka**	**3.10**	**17**		P	**Pb**	**00 29 40.4**	**-1.1**
	SNR=15							
USP	**Ospenovka**	**3.10**	**17**		⇓*i*P	**Pn**	**00 29 38.5**	**+3.1**
USP					⇓*i*S	**Sn**	**00 30 16.4**	**+3.7**
TKM2	**Tokmak 2**	**3.15**	**33**		P	**Pb**	**00 29 41.4**	**-1.0**
	SNR=17							
TKM2	**Tokmak 2**	**3.15**	**33**		⇑Pn	**Pb**	**00 29 40.4**	**-2.1**
	25nm,0.3s							
TKM2					⇑Lg	Lg	00 30 26.5	
	105nm,0.5s							
TKM2	**Tokmak 2**	**3.15**	**33**		⇑*i*P	**Pn**	**00 29 39.4**	**+3.2**
TKM2					⇑*i*S	**Sn**	**00 30 18.0**	**+3.9**
NZBK	**Nazarbek**	**3.26**	**288**		P	**Pb**	**00 29 42.2**	**-1.9**
NZBK					S	**Sg**	**00 30 29.7**	**-0.9**
SGDS	**Sogindy**	**3.31**	**18**		Pg	**Pg**	**00 29 48.2**	**-1.1**
	13nm,0.1s							
SGDS					Lg	Lg	00 30 31.6	
	187nm,0.5s							
CHM	**Chimkent**	**3.39**	**307**		*e*P	**Pg**	**00 29 49.6**	**-1.4**
	35nm,0.1s							
CHM					*e*S	**Sg**	**00 30 34.1**	**-0.8**
	181nm,0.3s							
KST	**Kastek**	**3.41**	**36**		Pg	**Pg**	**00 29 50.4**	**-0.9**
	41nm,0.2s							
KST					Lg	Lg	00 30 35.4	
	168nm,0.2s							
KST	**Kastek**	**3.41**	**36**		*e*P	**Pg**	**00 29 50.4**	**-0.9**
	41nm,0.3s							
KST					*e*S	**Sg**	**00 30 35.4**	**0.0**
	168nm,0.4s							
KK31	**Karatay Array**	**3.46**	**325**		Pn	**Pn**	**00 29 43.1**	**+2.9**
	4.4nm,0.4s,baz=137,slow=14,SNR=204							
KK31					Pg	**Pb**	**00 29 49.8**	**+2.2**
	33nm,0.2s,baz=65,slow=32,SNR=55							
KK31					⇑Sn	**Sn**	**00 30 25.5**	**+4.1**
	32nm,0.3s,baz=140,slow=26,SNR=4.3							
KK31					⇑Lg	Lg	00 30 34.7	
	26nm,0.2s,baz=142,slow=28,SNR=4.4							
DGS	**Degeres**	**3.49**	**32**		Pg	**Pg**	**00 29 51.2**	**-1.6**
	55nm,0.7s							
DGS					Lg	Lg	00 30 36.8	
	132nm,0.4s							
MTBS	**Maitube**	**3.69**	**39**		Pg	**Pg**	**00 29 55.1**	**-1.6**
	35nm,0.2s							
MTBS					Lg	Lg	00 30 43.4	
	118nm,0.5s							
MTBS	**Maitube**	**3.69**	**39**		*e*P	**Pg**	**00 29 55.1**	**-1.6**
	35nm,0.2s							
MTBS					*e*S	**Sg**	**00 30 43.4**	**-1.2**
	118nm,0.5s							
BRLS	**Borolday**	**3.72**	**318**		Pg	**Pb**	**00 29 54.2**	**+2.1**
	70nm,0.4s							
BRLS					Lg	Lg	00 30 42.0	
	125nm,0.3s							
BRLS	**Borolday**	**3.72**	**318**		*e*P	**Pb**	**00 29 54.2**	**+2.1**
	70nm,0.4s							
BRLS					*e*S	**Sg**	**00 30 42.0**	**-3.5**
	125nm,0.3s							
KRBS	**Karabastau**	**3.84**	**27**		Pg	**Pg**	**00 29 58.0**	**-1.5**
	37nm,0.2s							
KRBS					Lg	Lg	00 30 48.4	
	110nm,0.7s							
TNSS	**Tian-Shan**	**3.89**	**44**		Pg	**Pg**	**00 29 59.5**	**-1.0**
	46nm,0.3s							
TNSS					Lg	Lg	00 30 51.4	
	128nm,0.5s							
TNSS	**Tian-Shan**	**3.89**	**44**		*e*P	**Pg**	**00 29 59.5**	**-1.0**
	46nm,0.3s							
TNSS					*e*S	**Sg**	**00 30 51.4**	**+0.5**
	128nm,0.5s							
AAA	**Alma-Ata**	**3.99**	**42**		Pg	**Pg**	**00 30 00.9**	**-1.5**
	55nm,0.3s							
AAA					Lg	Lg	00 30 53.6	
	136nm,0.7s							
AAA	**Alma-Ata**	**3.99**	**42**		*e*P	**Pg**	**00 30 00.9**	**-1.5**
	55nm,0.3s							
AAA					*e*S	**Sg**	**00 30 53.6**	**-0.6**
	136nm,0.7s							
KNDC	**Almaty**	**4.03**	**43**		⇓Pg	**Pb**	**00 29 58.3**	**+1.0**
	62nm,0.5s							
KNDC					⇑Lg	Lg	00 30 56.3	
	240nm,0.6s							
MDOK	**Medeo**	**4.03**	**44**		⇑Pn	**Pb**	**00 29 53.6**	**-3.7**
	38nm,0.7s							
MDOK					Pg	**Pg**	**00 30 01.7**	**-1.5**
	41nm,0.5s							
MDOK					⇓Lg	Lg	00 30 55.2	
	143nm,0.8s							
MDOK					Lg	Lg	00 30 55.2	
	117nm,0.9s							
MDOK	**Medeo**	**4.03**	**44**		*e*P	**Pg**	**00 30 01.7**	**-1.5**
	41nm,0.5s							
MDOK					*e*S	**Sg**	**00 30 55.2**	**-0.2**
	117nm,0.9s							
KOTS	**Kotyrbulak**	**4.11**	**44**		Pg	**Pg**	**00 30 03.1**	**-1.7**
	47nm,0.2s							
KOTS					Lg	Lg	00 30 56.9	
	280nm,0.6s							
KOTS	**Kotyrbulak**	**4.11**	**44**		*e*P	**Pg**	**00 30 03.1**	**-1.7**
	47nm,0.2s							
KOTS					*e*S	**Sg**	**00 30 56.9**	**-1.1**
	280nm,0.6s							
ANVS	**Anan'yevo**	**4.14**	**52**		⇑*i*P	**Pn**	**00 29 53.3**	**+3.5**
ANVS					⇑*i*S	**Sn**	**00 30 42.0**	**+3.5**
KTBS	**Karatobe**	**4.26**	**36**		Pg	**Pg**	**00 30 05.8**	**-1.7**
	21nm,0.4s							
KTBS					Lg	Lg	00 31 01.8	
	70nm,0.6s							
PRZ	**Przheval'sk**	**4.45**	**59**		⇓*e*P	**Pn**	**00 29 57.4**	**+3.4**
PRZ					⇓*e*S	**Sn**	**00 30 49.7**	**+3.6**
SATY	**Saty**	**4.74**	**53**		Pg	**Pg**	**00 30 15.0**	**-1.9**
	32nm,0.5s							
SATY					Lg	Lg	00 31 17.9	
	98nm,0.5s							
SATY	**Saty**	**4.74**	**53**		*e*P	Pg	00 30 22.7	+5.9
	0.6nm,0.1s							
SATY					*e*S	Sg	00 31 31.1	+13
	66nm,0.7s							
ZHN	**Zhinishke**	**4.82**	**52**		Pg	**Pg**	**00 30 16.2**	**-2.2**
	11nm,0.4s							
ZHN					Lg	Lg	00 31 19.5	
	72nm,0.3s							
ZHN	**Zhinishke**	**4.82**	**52**		*e*P	**Pg**	**00 30 16.2**	**-2.2**
	11nm,0.4s							
ZHN					*e*S	**Sg**	**00 31 19.5**	**-1.3**
	72nm,0.3s							
KURS	**Kuram**	**4.86**	**48**		Pg	**Pg**	**00 30 16.3**	**-2.8**
	11nm,1.0s							
KURS					Lg	Lg	00 31 20.2	
	38nm,0.9s							
AGL	**Agalyk**	**4.95**	**263**		P	Pn	00 30 05.8	+5.0
AGL					S	**Sb**	**00 31 13.5**	**+0.7**
KPKS	**Kokpek**	**5.14**	**50**		Pg	**Pg**	**00 30 21.7**	**-2.8**
	20nm,0.5s							
KPKS					Lg	Lg	00 31 29.0	
	73nm,0.6s							
KPKS	**Kokpek**	**5.14**	**50**		*e*P	Pn	00 29 51.2	-12
	20nm,0.3s							
KPKS					*e*S	Sn	00 30 36.8	-26
	132nm,0.4s							
KPKS	**Kokpek**	**5.14**	**50**		*e*P	**Pg**	**00 30 21.7**	**-2.8**
	20nm,0.5s							
KPKS					*e*S	**Sg**	**00 31 29.0**	**-2.1**
	73nm,0.6s							
UZB	**Uzynbulak**	**5.17**	**55**		Pg	**Pg**	**00 30 22.7**	**-2.3**
	16nm,0.6s							
UZB					Lg	Lg	00 31 30.8	
	44nm,0.4s							
UZB	**Uzynbulak**	**5.17**	**55**		*e*P	**Pg**	**00 30 22.7**	**-2.3**
	16nm,0.6s							
UZB					*e*S	**Sg**	**00 31 30.8**	**-1.2**
	44nm,0.4s							
ARXS	**Arharly**	**5.18**	**40**		Pg	**Pg**	**00 30 22.7**	**-2.4**
	0.6nm,0.1s							
ARXS					Lg	Lg	00 31 31.1	
	66nm,0.7s							
BLB	**Baldybastay**	**5.43**	**44**		Pg	**Pg**	**00 30 27.8**	**-2.2**
	52nm,0.5s							
BLB					Lg	Lg	00 31 39.2	
	69nm,0.5s							
SHLS	**Shalkode**	**5.46**	**57**		Pg	**Pg**	**00 30 34.0**	**+3.6**
	28nm,0.6s							
SHLS					Lg	Lg	00 31 50.0	
	44nm,0.6s							
SHLS	**Shalkode**	**5.46**	**57**		*e*P	**Pg**	**00 30 34.0**	**+3.6**
	28nm,0.6s							
SHLS					*e*S	Sg	00 31 50.0	+8.9
	44nm,0.6s							
PDGK	**Podgornoye**	**5.56**	**55**		⇓Pn	**Pn**	**00 30 13.3**	**+4.1**
	9.6nm,1.1s							
PDGK					⇓Pg	**Pg**	**00 30 31.6**	**-0.9**
	10nm,0.6s							
PDGK					⇓Lg	Lg	00 31 45.5	
	74nm,1.0s							
PKMR	**Pachkamar**	**5.59**	**254**		P	Pn	00 30 15.0	+5.5
PKMR					S	**Sb**	**00 31 30.9**	**-0.2**
KNOS	**Konyrlen**	**5.98**	**45**		Pg	**Pg**	**00 30 38.8**	**-1.7**
	9.5nm,0.7s							
KNOS					Lg	Lg	00 31 58.3	
	35nm,0.5s							
TDK	**Taldyqorghan**	**6.04**	**37**		Pg	**Pg**	**00 30 40.4**	**-1.2**
	28nm,0.6s							
TDK					Lg	Lg	00 32 01.4	
	78nm,0.7s							
TDK	**Taldyqorghan**	**6.04**	**37**		*e*P	**Pg**	**00 30 40.4**	**-1.2**
	28nm,0.6s							
TDK					*e*S	**Sg**	**00 32 01.4**	**+1.6**
	78nm,0.7s							
DJR	**Jarkent**	**6.30**	**48**		Pg	**Pg**	**00 30 44.5**	**-2.2**
	5.7nm,0.7s							
DJR					Lg	Lg	00 32 07.8	
	27nm,0.6s							
DJR	**Jarkent**	**6.30**	**48**		*e*P	**Pg**	**00 30 44.5**	**-2.2**
	5.7nm,0.7s							
DJR					*e*S	**Sg**	**00 32 07.8**	**-0.5**
	27nm,0.6s							
TMD	**Tamdy-Bulak**	**6.66**	**285**		P	Pn	00 30 30.0	+5.8
TMD					S	**Sb**	**00 31 58.8**	**-3.0**
OTUK	**Ortayu**	**7.96**	**356**		Pg	**Pg**	**00 31 15.6**	**-2.7**
	2.6nm,0.5s							
OTUK					Lg	Lg	00 33 01.5	
	7.6nm,0.5s							
OTUK	**Ortayu**	**7.96**	**356**		⇑Pn	**Pn**	**00 30 46.2**	**+4.2**
	2.8nm,0.6s							
OTUK					⇓Pg	Pg	00 31 12.0	-6.3
	2.7nm,0.4s							
OTUK					⇑Lg	Lg	00 32 57.5	
	51nm,1.0s							
MAKZ	**Makanchi**	**9.07**	**41**		⇑Lg	Lg	00 33 36.5	
	9.2nm,1.1s							
MK31	**Makanchi Array**	**9.22**	**42**		⇓Lg	Lg	00 33 39.8	
	3.4nm,0.9s,baz=223,slow=29,SNR=3.7							
MKAR	**Makanchi Array**	**9.22**	**42**		Pn	**Pn**	**00 31 02.5**	**+3.1**
	0.3nm,0.6s,baz=246,slow=11,SNR=1.2							
MKAR					Lg	Lg	00 33 34.4	
	0.2nm,0.3s,baz=241,slow=29,SNR=1.9							
BRZS	**Berezniki**	**9.68**	**358**		Pg	Pn	00 31 47.7	+42
	2.6nm,0.4s							
BRZS					Lg	Lg	00 33 56.8	
	8.0nm,0.4s							
KURBB	**Kurchatov Arra**	**10.96**	**18**		Pn	**Pn**	**00 31 24.3**	**+1.3**
	0.1nm,0.3s,baz=208,slow=12,SNR=6.6							
KURBB					Sn	**Sn**	**00 33 24.2**	**-1.5**
	baz=224,slow=15,SNR=1.7							
KURBB					Lg	Lg	00 34 28.0	
	0.1nm,0.3s,baz=201,slow=29,SNR=5.1							
	0.5nm,0.6s							
KURK	**Kurchatov**	**11.06**	**18**		⇑Lg	Lg	00 34 35.9	
	21nm,1.0s							
BVA0	**Borovoye Array**	**12.87**	**352**		⇑Pn	**Pn**	**00 31 48.6**	**-0.6**
	3.6nm,0.9s,baz=162,slow=14,SNR=8.4							
BVAR	**Borovoye Array**	**12.87**	**352**		Pn	**Pn**	**00 31 50.1**	**+0.9**
	0.1nm,0.3s,baz=161,slow=13,SNR=13							
BVAR					Lg	Lg	00 35 30.8	
	0.1nm,0.3s,baz=180,slow=25,SNR=2.4							
	2.1nm,0.5s							
AB31	**Akbulak array**	**12.99**	**318**		Pn	**Pn**	**00 31 50.2**	**-0.6**
	0.4nm,0.3s,baz=125,slow=14,SNR=42							
AKTO	**Aktyubinsk**	**14.70**	**319**		Pn	**Pn**	**00 32 13.3**	**-0.9**
	0.2nm,0.3s,baz=141,slow=15,SNR=5.3							
AKTO					Sn	**Sn**	**00 34 51.5**	**-5.7**
	baz=180,slow=21,SNR=1.2							
AKTO					Lg	Lg	00 36 37.3	
	0.1nm,0.3s,baz=132,slow=15,SNR=1.9							
	1.0nm,0.3s							
AKTO	**Aktyubinsk**	**14.70**	**319**		⇑Pn	**Pn**	**00 32 13.7**	**-0.5**
	4.7nm,0.9s							
ZALV	**Zalesovo Beam**	**15.72**	**26**		Pn	**Pn**	**00 32 27.9**	**+0.1**
	0.3nm,0.3s,baz=227,slow=10,SNR=4.3							
ZALV					Lg	Lg	00 37 03.2	
	baz=131,slow=36,SNR=1.6							
	0.5nm,0.4s							
ARTI	**Arti**	**18.80**	**334**		P	**P**	**00 33 05.4**	**-0.4**
	0.2nm,0.3s,baz=100,slow=17,SNR=2.1							
ARTI					Lg	Lg	00 38 43.8	
	0.1nm,0.3s,baz=194,slow=20,SNR=1.9							
	0.9nm,0.4s							
GTA	**Gaotai**	**20.40**	**84**		*e*P	Pn	00 33 26.3	+0.7
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
KBZ	**Khabaz**	**22.73**	**289**		P	**P**	**00 33 47.7**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=138,slow=22,SNR=1.4							
	comp=Z,0.7nm,0.7s							
SONM	**Songino Array**	**24.84**	**61**		P	**P**	**00 34 09.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=266,slow=8.7,SNR=1.3							
	comp=Z,0.2nm,0.5s							
BRTR	**Keskin Array B**	**30.16**	**282**		P	**P**	**00 34 57.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=120,slow=17,SNR=1.9							
	comp=Z,0.4nm,0.8s							
FINES	**FINESS Array B**	**35.41**	**323**		P	**P**	**00 35 43.6**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=117,slow=10,SNR=8.1							
	comp=Z,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**38.36**	**335**		P	**P**	**00 36 09.3**	**+2.1**
	comp=Z,1.3nm,0.5s,baz=95,slow=6.1,SNR=12							
	comp=Z,1.3nm,0.5s							
HFS	**Hagfors**	**41.24**	**319**		P	**P**	**00 36 32.9**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=63,slow=6.8,SNR=1.8							
	comp=Z,2.4nm,0.9s							
NOA	**NORSAR Array B**	**42.48**	**320**		P	**P**	**00 36 41.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=91,slow=8.1,SNR=3.6							
	comp=Z,0.7nm,0.7s							
SPITS	**Spitsbergen Ar**	**44.21**	**346**		P	**P**	**00 36 54.6**	**-0.6**
	comp=Z,6.8nm,1.1s,baz=98,slow=6.4,SNR=1.5							
	comp=Z,6.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**67.58**	**268**		P	**P**	**00 39 42.8**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=43,slow=4.7,SNR=6.2							
	comp=Z,0.3nm,0.5s							
BOSA	**Boshof**	**81.78**	**221**		P	**P**	**00 41 03.9**	**-1.7**
	comp=Z,2.1nm,1.0s,baz=10,slow=11,SNR=4.7							
	comp=Z,2.1nm,1.0s							
WRA	**Warramunga Arr**	**82.58**	**124**		P	**P**	**00 41 09.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=316,slow=5.3,SNR=1.8							
	comp=Z,0.4nm,0.6s							
ASAR	**Alice Springs**	**85.05**	**127**		P	**P**	**00 41 21.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=316,slow=5.4,SNR=1.7							
	comp=Z,0.2nm,0.3s							

SKHL ***14*** *00:33:31.7±0.1, 44.°80N×151.°80E, h33km±3km, mb4.4/3*
JMA ***14*** *00:33:33.3±1.2, 46.°N±8.°×15.°1E±.°, h30km, MV4.1/8, KURILE ISLANDS REGION*
IDC ***14*** *00:33:37.1±18.0, 46.°60N×150.°64E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=424.2km s-min=53.9km az=154.0*
ISC 14 00:33:30.0±1.5, 44.°8N±0.°1×151.°9E±0.°1, h35km, n23, σ2§06/30, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.93**	**281**	*e*P	**Pn**	**00 34 14.7**	**+0.7**
KUR				AMB	AMB	00 34 16.7	
	60nm,0.5s						
KUR				*e*S	**Sn**	**00 34 47.0**	**-0.9**
KUR				A	A	00 34 50.6	
	210nm,0.5s						
KUR				A	A	00 34 50.6	
	100nm,0.5s						
SHO	**Shikotan**	**3.77**	**258**	*e*P	**Pn**	**00 34 27.1**	**+1.5**
SHO				AMB	AMB	00 34 29.4	
	20nm,0.4s						
SHO				*e*S	**Sn**	**00 35 08.6**	**-0.1**
SHO				A	A	00 35 13.2	
	50nm,0.5s						
SHO				A	A	00 35 13.2	
	40nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.41**	**263**	*e*P	**Pn**	**00 34 36.9**	**+2.5**
YUK				AMB	AMB	00 34 37.8	
	110nm,0.6s						
YUK				*e*S	**Sn**	**00 35 23.6**	**-0.9**
YUK				A	A	00 35 26.9	
	80nm,0.4s						
YUK				A	A	00 35 26.9	
	90nm,0.4s						
NEM2	**Nemuro 2**	**4.67**	**255**	*e*P	**Pn**	**00 34 40.3**	**+2.3**
NEM2				*e*S	**Sn**	**00 35 31.3**	**+0.3**
JKHN	**Kushirohamanak**	**5.17**	**254**	P	**Pn**	**00 34 47.2**	**+2.3**
JKHN				*e*S	**Sn**	**00 35 43.0**	**-0.2**
JNK	**Nakash**	**5.32**	**260**	P	**Pn**	**00 34 50.0**	**+3.0**
AKK	**Akkeshi**	**5.41**	**254**	*e*P	**Pn**	**00 34 49.6**	**+1.4**
JAK	**Akkeshi**	**5.52**	**254**	*e*P	**Pn**	**00 34 51.8**	**+2.2**
JTKR	**Abashiri--Toko**	**5.81**	**265**	*e*P	**Pn**	**00 34 56.5**	**+2.9**
JAR	**Ashorobuto**	**6.07**	**259**	P	**Pn**	**00 35 00.6**	**+3.4**
JAR				*e*S	**Sn**	**00 36 06.2**	**+0.9**
JOB	**Onbets**	**6.15**	**255**	*e*P	**Pn**	**00 35 01.4**	**+3.2**
JNBK	**Urakawa-nobuka**	**7.12**	**253**	*e*P	**Pn**	**00 35 14.2**	**+2.7**
JNBK				*e*S	**Sn**	**00 36 28.9**	**-2.3**
JANG	**Nango**	**8.85**	**244**	*e*S	**Sn**	**00 37 09.7**	**-4.0**
JMK	**Ichinoseki**	**9.87**	**238**	*e*S	**Sn**	**00 37 36.2**	**-2.6**
SONM	**Songino Array**	**31.27**	**292**	P	**P**	**00 39 44.4**	**-2.0**
	0.2nm,0.5s,baz=90,slow=8.4,SNR=1.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**47.15**	**299**	P	**P**	**00 41 58.7**	**0.0**
	0.2nm,0.7s,baz=75,slow=6.1,SNR=2.2						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**47.89**	**305**	P	**P**	**00 42 02.6**	**-1.8**
	0.1nm,0.4s,baz=59,slow=8.9,SNR=1.2						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**65.50**	**335**	P	**P**	**00 44 08.8**	**-0.4**
	4.0nm,1.0s,baz=28,slow=8.6,SNR=3.6						
	4.0nm,1.0s						
NB2	**NORSAR Subarra**	**69.85**	**341**	P	**P**	**00 44 37.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**69.85**	**341**	P	**P**	**00 44 36.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=30,slow=6.6,SNR=4.0						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**70.04**	**339**	P	**P**	**00 44 37.2**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=71,slow=9.6,SNR=6.7						
	comp=Z,1.6nm,0.8s						
KBZ	**Khabaz**	**71.65**	**314**	P	**P**	**00 44 49.3**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=97,slow=6.0,SNR=5.1						
	comp=Z,2.1nm,0.8s						
AKASG	**Malin Array Be**	**72.75**	**326**	P	**P**	**00 44 54.2**	**0.0**
	comp=Z,0.4nm,0.4s,baz=39,slow=6.2,SNR=4.1						
	comp=Z,0.4nm,0.4s						

PGC ***14*** *00:34:40.8±5.2, 50.°55N×130.°30W, h10km, MLSn4.5/35, Mw5.3, 198km west of Port Hardy, Bc Vancouver Island, Canada Region*
BJI ***14*** *00:34:40.0, 50.°70N×130.°00W, h5km, mB5.4/15, mb4.6/48, Ms5.3/41, Ms7 5.1/41*
IDC ***14*** *00:34:41.9±0.5, 50.°63N×130.°10W, h0km, mb4.3/20, mbtmp4.3/30, ML3.9/10, MS4.7/92, Error ellipse: s-maj=10.0km s-min=8.0km az=59.0*
NEIC ***14*** *00:34:43.7±1.5, 50.°71N±0.°06×130.°09W±0.°08, h10km±1km, mb4.9/127, Mww5.3/108, Error ellipse: s-maj=12.2km s-min=5.8km az=217.0*
GCMT ***14*** *00:34:43.7±0.1, 50.°53N±0.°01×130.°36W±0.°01, h12km, MW5.3/149, Moment Tensor Solution. s105,c161; s149,c276; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.22±.02; $M_{\theta\theta}$-0.73±.02; $M_{\phi\phi}$0.50±.02; $M_{r\theta}$0.08±.04; $M_{\theta\phi}$1.17±.01; $M_{\phi r}$-0.22±.04; Best double couple: $M_0$1.34300×10^{17} NP1:ϕ_s256.00000°, δ80.00000°, λ2.00000°. NP2:ϕ_s166.00000°, δ88.00000°, λ170.00000°. Principal axes: T 1.2330, Plg8.0000°, Azm121.0000°; N 0.2200, Plg79.0000°, Azm338.0000°; P -1.4530, Plg6.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *00:34:47.6, 50.°64N×130.°19W, h14km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$0.39; $M_{r\theta}$-0.05; $M_{\theta\phi}$1.00; $M_{\phi r}$0.10; Fault plane solution: $M_0$1.10000×10^{17} NP1:ϕ_s78.18000°, δ84.37000°, λ-0.76000°. NP2:ϕ_s168.25000°, δ89.24000°, λ-174.37000°. Principal axes: T 1.0536, Plg3.0000°, Azm303.0000°; N 0.0893, Plg84.0000°, Azm176.0000°; P -1.1429, Plg5.0000°, Azm33.0000°;*
NEIC ***14*** *00:34:47.6, 50.°74N×129.°72W, h14km*
ISC 14 00:34:43.0±0.3, 50.°63N±0.°04×130.°14W±0.°04, h10km, n715, σ1§38/635, mb4.8/96, MS4.8/96, 6C-8D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.28**	**89**		**Pn**	**00 35 04.1**	**-2.8**
HOLB				Sn	**Sb**	**00 35 22.2**	**-1.4**
HOLB	**Holberg**	**1.28**	**89**	P	**Pn**	**00 35 04.1**	**-2.8**
BPEB	**Brooks Peninsu**	**1.59**	**107**	P	**Pn**	**00 35 07.8**	**-3.5**
PACB	**Port Alice, BC**	**1.70**	**96**	P	**Pn**	**00 35 09.7**	**-3.0**
PHC	**Port Hardy**	**1.73**	**87**	P	**Pn**	**00 35 10.6**	**-2.4**
HG4B	**Hotspring**	**1.79**	**

B926 Mesachie Lake 4.30 113 Pn Pn 00 35 47.4 -1.0
CLRS Cowichan Lake 4.30 113 Pn 00 35 47.3 -1.1
CLRS Cowichan Lake 4.30 113 Pn Pn 00 35 47.2 -1.2
UBRB Upper Baezaeko 4.39 57 Pn Pn 00 35 50.1 +0.3
C03A Quillayute Air 4.53 124 Pn Pn 00 35 50.8 -0.8
WPB Watts Point 4.56 100 Pn Pn 00 35 51.2 -0.9
GOBB Galiano Island 4.61 109 Pn Pn 00 35 52.0 -0.7
SYMB Survey Mountai 4.62 114 Pn Pn 00 35 51.8 -1.0
WSLR Whistler 4.65 93 Pn Pn 00 35 51.8 -1.5
PGC Sidney 4.78 112 Pn Pn 00 35 53.1 -1.8
PGC Sidney 4.78 112 Pn Pn 00 35 53.2 -1.8
V35K Ketchikan 4.79 350 Pn Pn 00 35 53.4 -1.7
V35K Ketchikan 4.79 350 Pn Pn 00 35 53.2 -1.8
V35K Ketchikan 4.79 350 P Pn 00 35 54.2 -0.8
baz=167
SNB Saturna Island 4.89 110 Pn Pn 00 35 56.4 -0.1
CRAG Craig 5.17 341 Pn 00 35 58.5 -1.8
CRAG Craig 5.17 341 P Pn 00 35 59.5 -0.8
baz=156
NLWA Neilton Lookou 5.25 126 Pn 00 36 01.2 -0.3
LLLB Lillooet 5.26 87 Pn Pn 00 36 01.1 -0.6
U35K Hyder 5.29 1 Pn Pn 00 36 01.8 -0.3
U35K Hyder 5.29 1 P Pn 00 36 01.7 -0.3
baz=179,SNR=16
WISH Wishkah 5.48 127 Pn Pn 00 36 04.2 -0.4
GNW Green Mountain 5.70 120 Pn Pn 00 36 08.0 +0.4
HOPB Hope 5.76 99 Pn Pn 00 36 08.2 -0.2
U33K Whale Pass 5.77 343 Pn Pn 00 36 07.2 -1.4
U33K Whale Pass 5.77 343 P Pn 00 36 08.7 +0.1
baz=159
WRAK Wrangell Islan 5.94 348 Pn 00 36 10.7 -0.2
WRAK Wrangell Islan 5.94 348 P Pn 00 36 10.4 -0.5
baz=165
T35M Bob Quinn 6.36 359 Pn Pn 00 36 17.1 +0.4
T35M Bob Quinn 6.36 359 P Pn 00 36 16.7 0.0
baz=178,SNR=17
D05A Enumclaw 6.38 120 Pn Pn 00 36 17.9 +0.9
F03A Seaside 6.43 134 Pn Pn 00 36 18.5 +0.7
LTY Liberty 7.09 115 Pn Pn 00 36 26.7 -0.1
G03D McMinnville, O 7.12 137 Pn Pn 00 36 29.0 +1.8
S34M Telegraph Cree 7.32 356 Pn Pn 00 36 30.5 +0.7
S34M Telegraph Cree 7.32 356 P Pn 00 36 30.8 +1.0
baz=174
S32K Killisnoo 7.33 341 P Pn 00 36 30.8 +0.9
baz=156
COR Corvallis 7.61 140 Pn 00 36 34.4 +0.6
MXC Moxie City 7.68 118 Pn 00 36 35.1 +0.2
DLBC Dease Lake 7.82 0 Pn 00 36 37.4 +0.6
DLBC Dease Lake 7.82 0 Pn Pn 00 36 38.0 +1.2
3.3nm,0.3s,baz=195,slow=14,SNR=44
DLBC Sn Sn 00 38 05.9 +0.6
5.3nm,0.3s,baz=267,slow=16,SNR=6.0
DLBC Lg Lg 00 38 49.4
baz=187,slow=17
DLBC LR LR 00 39 30.9
comp=Z,12µm,19.5s,baz=186,slow=37
28nm,0.6s
DLBC Dease Lake 7.82 0 Pn Pn 00 36 37.7 +0.9
DLBC Dease Lake 7.82 0 P Pn 00 36 37.5 +0.7
baz=180,SNR=17
H04D Lebanon 7.90 138 Pn 00 36 39.5 +1.7
E07A Sunnyside 7.94 117 Pn Pn 00 36 39.1 +0.6
BUCK Buck Mountain 8.06 140 Pn 00 36 42.0 +1.9
R32K Eaglecrest 8.07 343 P Pn 00 36 40.3 +0.2
baz=158
S31K Pelican 8.16 337 P Pn 00 36 42.5 +1.2
baz=150
HAWA Hanford 8.22 117 Pn Pn 00 36 42.6 +0.4
C09A Chrisman Ranch 8.27 105 Pn Pn 00 36 42.7 -0.2
BESE Bessie Mountai 8.42 343 Pn Pn 00 36 45.2 +0.2
Q32M Nakina River 8.44 352 P Pn 00 36 44.8 -0.5
baz=170
I04A Tendick Farm, 8.63 140 Pn 00 36 48.6 +0.8
TOAD Toad River Com 8.71 17 P Pn 00 36 49.8 +0.9
baz=200,SNR=38
R33M Jennings River 8.79 357 Pn Pn 00 36 50.9 +0.7
R33M Jennings River 8.79 357 P Pn 00 36 50.9 +0.7
baz=176,SNR=15
NEW Newport 8.81 101 Pn Pn 00 36 50.5 +0.2
1.0nm,0.3s,baz=305,slow=14,SNR=8.1
NEW Lg Lg 00 39 14.5
baz=248,slow=19
NEW LR LR 00 40 40.8
comp=Z,4µm,18.1s,baz=288,slow=41
2.7nm,0.4s
P32M Atlin 9.21 349 P Pn 00 36 56.5 +0.8
baz=165
PINE Pine Mountain 9.27 134 Pn 00 36 57.5 +0.7
SKAG Skagway 9.33 343 P Pn 00 36 57.8 +0.4
baz=158
WTLY Watson Lake, Y 9.53 4 P Pn 00 37 01.0 +0.8
baz=184
J05D Fort Rock, OR 9.54 137 Pn Pn 00 37 01.8 +1.3
L02F Cave Junction 9.64 149 Pn 00 37 02.0 +0.2
P33M Teslin, Yukon 9.72 352 Pn 00 37 03.1 +0.3
P33M Teslin, Yukon 9.72 352 P Pn 00 37 02.7 -0.1
baz=169
KOTAN Kotaneelee Air 10.12 18 P Pn 00 37 07.2 -1.0
baz=202,SNR=25
P30M Million Dollar 10.26 341 P Pn 00 37 10.1 -0.1
baz=154
YBH Yreka Blue Hor 10.28 147 Pn 00 37 11.8 +1.2
YBH Yreka Blue Hor 10.28 147 Pn Pn 00 37 12.8 +2.2
0.2nm,0.3s,baz=329,slow=12,SNR=12
YBH LR LR 00 40 38.1
comp=Z,9µm,19.0s,baz=331,slow=35
14nm,1.1s
BMO Blue Mountains 10.39 119 Pn Pn 00 37 12.1 0.0
WHY Whitehorse 10.40 347 Pn Pn 00 37 12.3 +0.2
WHY Whitehorse 10.40 347 Pn Pn 00 37 12.1 0.0
WHY Whitehorse 10.40 347 P Pn 00 37 12.1 0.0
baz=162,SNR=11
PNL Peninsula 10.48 333 P Pn 00 37 14.1 +0.9
baz=145
N32M Quiet Lake 10.67 352 Pn 00 37 16.6 +0.8
N32M Quiet Lake 10.67 352 P Pn 00 37 16.0 +0.3
baz=169
O30N Mendenhall 10.70 344 Pn 00 37 16.1 +0.1
O30N Mendenhall 10.70 344 P Pn 00 37 16.2 +0.1
baz=158
O29M Mount Kennedy 10.80 337 P Pn 00 37 17.1 -0.5
baz=149
TGTN Hyland Airport 10.97 5 P Pn 00 37 18.6 -1.2
baz=186,SNR=13
PLID Pearl Lake 10.99 115 Pn Pn 00 37 20.7 +0.2
HYT Haines Junctio 11.02 341 Pn 00 37 20.6 0.0
HYT Haines Junctio 11.02 341 P Pn 00 37 20.6 0.0
baz=154
PINM Pinnacle 11.08 333 P Pn 00 37 21.3 -0.1
baz=144
YUK6 Outpost Mounta 11.31 339 P Pn 00 37 24.5 -0.2
baz=151
N31M Braeburn, Yuko 11.32 346 Pn 00 37 25.4 +0.7
N31M Braeburn, Yuko 11.32 346 P Pn 00 37 24.4 -0.2
baz=161
MSO Missoula 11.35 103 Pn Pn 00 37 25.6 +0.4
WVOR Wild Horse Val 11.39 132 Pn 00 37 26.9 +1.1
O28M Mount Upton 11.62 335 P Pn 00 37 28.4 -0.5
baz=146
MESA MESA 11.66 330 P Pn 00 37 28.9 -0.5
baz=139
YUK4 Talbot Arm 11.73 339 P Pn 00 37 30.8 +0.4
baz=152
FARO Faro, Yukon 11.76 353 Pn 00 37 31.3 +0.7
FARO Faro, Yukon 11.76 353 P Pn 00 37 29.8 -0.8
baz=169,SNR=6.2
M31M Drury Creek, Y 11.83 350 Pn 00 37 31.2 -0.4
M31M Drury Creek, Y 11.83 350 P Pn 00 37 31.2 -0.4
baz=166
BPMT Black Pine Rid 11.83 104 Pn 00 37 32.4 +0.5
KCPM Cahto Peak 11.88 155 Pn 00 37 32.0 -0.4
YUK8 Steele Glacier 11.94 337 P Pn 00 37 32.5 -0.9
baz=148
MMPY Sheldon Lake, 12.03 358 Pn 00 37 34.3 -0.1
MMPY Sheldon Lake, 12.03 358 P Pn 00 37 33.5 -0.9
baz=176,SNR=12
BGLC Bering Glacier 12.07 327 P Pn 00 37 35.9 +1.1
baz=135
LYMT Lyon Mountain 12.32 100 Pn 00 37 39.5 +0.9
KAIM Kayak Island 12.34 324 P Pn 00 37 39.8 +1.3
baz=132
M30M Minto, Yukon 12.51 346 P Pn 00 37 40.7 -0.2
baz=159
YUK3 Moose Creek 12.54 337 P Pn 00 37 41.0 -0.5
baz=148

ORV Oroville 12.64 148 Pn 00 37 44.1 +1.4
HOPS Hopland Field 12.66 154 Pn 00 37 43.5 +0.4
M29M Somme Creek 12.68 342 Pn Pn 00 37 44.2 +0.9
M29M Somme Creek 12.68 342 P Pn 00 37 42.2 -1.1
baz=154
Q23K Middleton Isla 12.78 320 P Pn 00 37 43.5 -1.0
baz=126
HLID Hailey 12.82 117 Pn Pn 00 37 46.4 +1.0
DLMT Dillon 12.87 107 Pn 00 37 46.2 +0.2
VRDI Verde Repeater 12.94 330 Pn 00 37 46.6 -0.3
BMRM Bremner River 13.13 328 P Pn 00 37 50.3 +0.9
baz=135
WRGLY Wrigley 13.13 13 P Pn 00 37 48.4 -0.9
baz=199,SNR=20
BVCY Beaver Creek 13.18 338 P Pn 00 37 50.3 +0.2
baz=148
GLB Gilahina Butte 13.22 330 Pn 00 37 51.0 +0.4
L29M L29M 13.23 344 P Pn 00 37 51.3 +0.5
baz=156
EYAK Cordova Ski Ar 13.25 325 P Pn 00 37 51.5 +0.6
baz=131
PAHR Pah Rah Range 13.29 141 Pn 00 37 53.0 +1.3
AFDM Forest Hills D 13.36 147 Pn Pn 00 37 52.8 +0.2
M27K Edge Creek, AK 13.39 336 Pn 00 37 52.7 -0.3
M27K Edge Creek, AK 13.39 336 P Pn 00 37 52.7 -0.3
baz=145
MPK Martis Peak 13.39 144 Pn 00 37 54.1 +0.9
P23K Montague Islan 13.54 320 P Pn 00 37 55.9 +1.0
baz=125
EGMT Eagleton 13.54 93 Pn Pn 00 37 55.2 +0.1
N25K Chitina, Valde 13.59 329 P Pn 00 37 56.1 +0.4
baz=137
M26K Nabesna, AK 13.73 334 Pn 00 37 58.5 +1.0
M26K Nabesna, AK 13.73 334 P Pn 00 37 57.9 +0.4
baz=143
PNTR Pine Nut 13.73 143 Pn 00 37 59.5 +1.7
K29M Barlow Dome 13.82 346 P Pn 00 37 57.6 -1.2
baz=159
KLU Klutina 13.96 327 Pn 00 38 00.7 0.0
KLU Klutina 13.96 327 P Pn 00 38 01.0 +0.3
baz=133
BCAR Beaver Creek A 13.96 338 Pn 00 38 01.6 +0.9
YERR Yerington 13.96 142 Pn 00 38 02.1 +1.1
L27K Beaver Creek, 13.97 338 P Pn 00 38 00.7 -0.1
baz=147
YHB Horse Butte 14.04 107 Pn 00 38 02.3 +0.3
L26K Log Cabin Wild 14.33 335 Pn 00 38 02.9 -2.8
L26K Log Cabin Wild 14.33 335 P Pn 00 38 05.6 -0.1
baz=143
ELK Elko 14.33 128 Pn Pn 00 38 05.7 -0.4
ELK Elko 14.33 128 Pn Pn 00 38 07.7 +1.6
0.1nm,0.3s,baz=320,slow=9.3,SNR=5.1
ELK LR LR 00 43 40.1
comp=Z,4µm,18.4s,baz=325,slow=38
1.4nm,0.9s
DAWY Dawson 14.34 343 Pn Pn 00 38 06.5 +0.7
DAWY Dawson 14.34 343 P P 00 38 16.0 +3.0
DAWY Dawson 14.34 343 P Pn 00 38 05.8 -0.1
baz=155,SNR=11
J30M Hart River 14.36 349 P Pn 00 38 05.4 -0.7
baz=163
MENT Mentasta 14.36 334 Pn 00 38 06.7 +0.6
HARP HAARP 14.36 331 P Pn 00 38 06.2 +0.1
baz=138
CMB Columbia Colle 14.38 147 Pn 00 38 08.1 +1.5
PWL Port Wells 14.43 322 P Pn 00 38 07.4 +0.3
baz=126
SEW Seward 14.45 318 P Pn 00 38 07.9 +0.5
baz=122
M24K Tolsona, Glenn 14.47 329 Pn 00 38 09.4 +1.7
M24K Tolsona, Glenn 14.47 329 P Pn 00 38 08.2 +0.5
baz=134
J29N Klondike Camp 14.50 346 P Pn 00 38 08.4 +0.4
baz=158
RYN Ryan 14.55 141 Pn 00 38 06.1 -3.0
YKA Yellowknife Ar 14.59 30 Pn Pn 00 38 07.4 -1.8
0.7nm,0.3s,baz=220,slow=12,SNR=82
YKA Sn Sn 00 40 43.2 -7.7
0.7nm,0.3s,baz=218,slow=21,SNR=7.4
YKA Lg Lg 00 42 16.4
baz=215,slow=15
YKA LR LR 00 44 04.4
comp=Z,10µm,18.7s,baz=226,slow=38
8.9nm,0.7s
SCM Sheep Creek Mo 14.68 326 Pn 00 38 10.5 0.0
SCM Sheep Creek Mo 14.68 326 P Pn 00 38 11.2 +0.6
baz=131
M23K Glacier View 14.79 326 P Pn 00 38 11.1 -1.0
baz=130
NVAR Mina Array Bea 14.81 141 Pn 00 38 14.3 +1.7
NVAR Mina Array Bea 14.81 141 Pn Pn 00 38 15.1 +2.5
0.1nm,0.3s,baz=314,slow=9.5,SNR=13
3.1nm,0.9s
KNK Knik Glacier 14.82 324 Pn 00 38 13.0 +0.6
KNK Knik Glacier 14.82 324 P Pn 00 38 12.3 -0.1
baz=128,SNR=6.5
BRSE Bradley Lake S 14.83 316 P Pn 00 38 13.4 +0.9
baz=118
PAX Paxson 14.89 332 P Pn 00 38 13.2 -0.2
baz=138,SNR=5.2
HVU Hansel Valley 14.90 120 P Pn 00 38 14.7 +1.0
KDAK Kodiak Island 14.90 307 LR LR 00 42 32.0
comp=Z,9µm,19.8s,baz=6.9,slow=32
KDAK Kodiak Island 14.90 307 P Pn 00 38 14.4 +0.9
baz=106
I30M Mount Dempster 14.99 350 P Pn 00 38 13.4 -1.3
baz=164
SLKM Skilak Lake 14.99 319 Pn 00 38 15.5 +0.8
SML Sawmill 15.02 325 Pn 00 38 15.6 +0.5
SML Sawmill 15.02 325 P Pn 00 38 15.3 +0.2
baz=129
RLMT Red Lodge 15.03 103 Pn 00 38 16.9 +1.4
OHAK Old Harbor 15.10 305 P Pn 00 38 15.9 -0.2
baz=105
Q20K Shuyak Island 15.10 310 P Pn 00 38 15.8 -0.4
baz=112
RC01 Rabbit Creek A 15.12 321 Pn 00 38 15.6 -0.8
RC01 Rabbit Creek A 15.12 321 P Pn 00 38 16.2 -0.2
baz=124
PMR Palmer 15.18 324 Pn 00 38 17.4 +0.3
PMR Palmer 15.18 324 P Pn 00 38 16.8 -0.4
baz=127
HOM Homer 15.19 315 P Pn 00 38 17.5 +0.2
baz=116
SAO San Andreas Ge 15.21 152 Pn Pn 00 38 19.7 +2.0
GHO Glory Hole Cre 15.22 324 Pn 00 38 17.1 -0.7
GHO IAmb IAmb 00 38 19.4
comp=Z,70nm,1.8s
AHID Auburn Hatcher 15.22 114 Pn 00 38 19.6 +1.5
SCRK Sand Creek 15.27 336 Pn 00 38 19.3 +0.8
SCRK Sand Creek 15.27 336 P Pn 00 38 18.8 +0.3
baz=144,SNR=22
RIDG Independent Ri 15.31 335 Pn 00 38 19.7 +0.8
RIDG Independent Ri 15.31 335 P Pn 00 38 18.7 -0.2
baz=142,SNR=12
EGAK Eagle 15.32 342 Pn Pn 00 38 20.4 +1.4
EGAK Eagle 15.32 342 P Pn 00 38 18.7 -0.3
baz=152
I29M Ogilvie Camp, 15.37 347 P Pn 00 38 19.6 0.0
baz=159,SNR=26
H31M Peel River 15.37 353 P Pn 00 38 19.3 -0.4
baz=169
SII Sitkinak Islan 15.41 302 P Pn 00 38 21.2 +0.9
baz=102
CAPN Captain Cook N 15.52 319 P Pn 00 38 22.3 +0.6
baz=121
J26L Joseph Creek 15.60 338 P Pn 00 38 23.4 +0.6
baz=146
K24K Donnelly Dome 15.62 334 P Pn 00 38 24.0 +1.0
baz=140
M22K Willow 15.66 323 Pn 00 38 24.2 +0.8
M22K IAmb IAmb 00 38 27.1
comp=Z,80nm,1.6s
M22K Willow 15.66 323 P Pn 00 38 23.9 +0.5
baz=126
I28M Miner Creek 15.70 345 P Pn 00 38 24.5 +0.4
baz=156
R18K Karluk 15.80 305 P Pn 00 38 25.0 -0.2
baz=105
O20K Slope Mountain 15.82 315 P Pn 00 38 25.7 0.0
baz=116
Q19K Cape Douglas, 15.83 311 P Pn 00 38 25.7 0.0
baz=111
P19K Oil Pt 15.91 313 P Pn 00 38 26.9 +0.1
baz=114
DUG Dugway, Tooele 15.99 124 Pn Pn 00 38 27.7 -0.3

R11B Troy Canyon, C 16.05 134 P Pn 00 38 30.1 +1.3
baz=326
CHIR Chirikof Islan 16.07 299 P Pn 00 38 29.1 +0.3
baz=98
CUT Chulitna 16.11 325 Pn 00 38 29.6 +0.4
CUT IAmb IAmb 00 38 34.0
comp=Z,124nm,1.9s
CUT Chulitna 16.11 325 P Pn 00 38 28.9 -0.3
baz=127
PD31 Pinedale Array 16.13 111 Pn 00 38 30.1 +0.2
PDAR Pinedale Array 16.13 111 Pn 00 38 28.9 -1.0
PDAR Pinedale Array 16.13 111 Pn Pn 00 38 31.8 +1.9
comp=Z,0.2nm,0.3s,baz=311,slow=9.7,SNR=60
PDAR LR LR 00 44 27.2
comp=Z,2µm,20.3s,baz=298,slow=36
comp=Z,11nm,0.9s
EPYK Eagle Plains 16.14 350 Pn 00 38 29.7 +0.1
EPYK Eagle Plains 16.14 350 P Pn 00 38 28.9 -0.8
baz=164,SNR=23
I27K Kandik River 16.14 343 P Pn 00 38 28.8 -1.0
baz=152
J25K Salcha River, 16.14 336 P Pn 00 38 30.0 +0.2
baz=142,SNR=26
SPCR Spurr Chakacha 16.19 319 P Pn 00 38 31.2 +0.8
baz=120
H29M Whitestone 16.19 348 P Pn 00 38 30.7 +0.4
baz=160
I26K Coal Creek Min 16.19 340 P Pn 00 38 31.3 +1.0
baz=148,SNR=25
LAO LASA Array 16.26 95 Pn 00 38 31.6 +0.2
LAO IAmb IAmb 00 38 38.3
comp=Z,66nm,1.1s
SKT Skwentna 16.33 322 P Pn 00 38 32.5 +0.3
baz=124
HDA Harding Lake 16.41 334 P Pn 00 38 33.5 +0.4
baz=139,SNR=9.4
G31M Satah River 16.47 354 P Pn 00 38 34.0 +0.2
baz=170,SNR=24
MCK McKinley 16.52 330 P P 00 38 35.9 -1.2
MCK McKinley 16.52 330 P Pn 00 38 35.5 +1.0
baz=133,SNR=24
O19K Port Alsworth 16.64 314 P Pn 00 38 36.3 +0.3
baz=114
ILAR Eielson Array 16.67 335 P P 00 38 38.0 -0.8
ILAR Eielson Array 16.67 335 Pn P 00 38 38.0 -0.8
comp=Z,0.1nm,0.3s,baz=149,slow=9.4,SNR=19
ILAR PcP PcP 00 43 25.6 +0.3
comp=Z,2.1nm,0.9s,baz=192,slow=1.5,SNR=7.9
ILAR LR LR 00 44 35.7
comp=Z,4µm,18.6s,baz=130,slow=36
comp=Z,7.1nm,1.1s
G30M tAoh Zraii Nji 16.68 352 P Pn 00 38 36.4 -0.2
baz=166
H27K Steamboat Moun 16.69 344 P Pn 00 38 36.7 0.0
baz=154,SNR=27
P18K Big Mountain, 16.76 311 P Pn 00 38 36.8 -0.8
baz=110
TRF Thorofare Moun 16.78 328 P Pn 00 38 36.6 +0.6
baz=130,SNR=12
WRH Wood River Hil 16.79 332 P P 00 38 39.1 -0.9
G29M Pine Creek 16.80 349 P Pn 00 38 37.5 -0.6
baz=162
CCB Clear Creek Bu 16.84 333 Pn 00 38 38.4 0.0
O18K Koktuh Hills 16.91 313 P Pn 00 38 39.6 +0.1
baz=111
PRP Porcupine Dome 16.91 338 P P 00 38 40.9 -0.8
PRP Porcupine Dome 16.91 338 P Pn 00 38 38.9 -0.7
baz=144,SNR=15
M20K Styx River 16.92 321 P Pn 00 38 39.1 -0.6
baz=121
TPNV Topopah Spring 16.92 139 Pn 00 38 41.0 +1.1
TPNV IAmb IAmb 00 38 47.4
comp=Z,288nm,1.9s
DGMT Dagmar 16.95 87 P Pn 00 38 41.0 +1.0
F31M Tsiigehtchic 16.96 355 P Pn 00 38 38.5 -1.4
baz=172,SNR=25
N19K Bonanza Creek 16.98 316 P Pn 00 38 39.8 -0.6
baz=115
BWN Browne 16.99 330 P P 00 38 41.2 -1.1
BWN IAmb IAmb 00 38 45.6
comp=Z,122nm,1.6s
COLA College 17.02 334 P P 00 38 42.0 -0.6
COLA College 17.02 334 P Pn 00 38 40.9 +0.1
baz=138
POKR Poker Plat Res 17.09 335 P Pn 00 38 41.1 -0.6
baz=139
PPLA Purkeypile 17.11 324 Pn Pn 00 38 42.0 -0.1
PPLA IAmb IAmb 00 38 49.0
comp=Z,250nm,1.8s
PPLA Purkeypile 17.11 324 P Pn 00 38 42.4 +0.2
baz=125,SNR=7.6
NEA2 Nenana 17.17 332 P Pn 00 38 42.8 +0.1
baz=135,SNR=13
ISA Isabella, Lake 17.18 146 P 00 38 45.2 +0.5
ISA IAmb IAmb 00 38 49.3
comp=Z,162nm,1.9s
G27K Doyon Strip 17.23 345 P Pn 00 38 43.0 -0.5
baz=154
F30M Barrier River 17.26 353 P Pn 00 38 42.8 -1.0
baz=167
P17K Kvichak River 17.28 310 P Pn 00 38 44.1 0.0
baz=108
CAST Castle Rocks 17.39 326 P Pn 00 38 45.2 -0.2
baz=127,SNR=17
GWY Greenwater Val 17.40 141 Pn 00 38 46.6 +0.6
BPAW Bear Paw Mtn. 17.44 329 P Pn 00 38 46.4 +0.4
baz=130,SNR=11
M19K Big River Lodg 17.44 320 P P 00 38 46.8 -0.6
baz=119
FFC Flin Flon 17.50 66 Pn 00 38 45.4 -1.5
FFC IAmb IAmb 00 38 51.8
comp=Z,59nm,0.8s
L20K Farewell, AK 17.53 322 P P 00 38 47.8 -0.6
baz=121
N18K Kilae Creek 17.55 315 Pn 00 38 47.0 -0.4
N18K Kilae Creek 17.55 315 P P 00 38 48.0 -0.5
baz=113
H25L Birch Creek 17.60 339 P Pn 00 38 48.1 +0.1
baz=145,SNR=26
I23K Minto, Yukon-K 17.66 333 P P 00 38 49.5 -0.1
I23K Minto, Yukon-K 17.66 333 P P 00 38 49.2 -0.4
baz=136,SNR=6.4
CHGN Chignik 17.68 300 Pn Pn 00 38 47.8 -1.4
CHGN IAmb IAmb 00 38 58.9
comp=Z,112nm,1.2s
CHGN Chignik 17.68 300 P P 00 38 50.1 +0.1
baz=96
F28M Old Crow 17.71 348 P Pn 00 38 48.7 -0.6
baz=159,SNR=16
G26K Porcupine Rive 17.75 342 P Pn 00 38 49.5 -0.3
baz=150
CHUM Lake Minchumin 17.75 327 P P 00 38 50.2 -0.5
baz=127
H24K Noodor Dome 17.76 336 P Pn 00 38 49.7 -0.4
baz=140
L19K White Mountain 17.77 320 P P 00 38 50.6 -0.4
baz=119
O17K Koliganek Bris 17.78 311 P Pn 00 38 50.4 +0.2
baz=108
CCAC Calif City Air 17.80 146 P 00 38 51.9 +0.3
CCAC IAmb IAmb 00 39 00.8
comp=Z,106nm,1.6s
INK Inuvik 17.81 356 Pn 00 38 49.8 -0.7
INK Inuvik 17.81 356 P P 00 38 52.3 +1.0
comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=11
INK LR LR 00 46 16.9
comp=Z,1µm,19.6s,baz=178,slow=39
comp=Z,13nm,1.3s
INK Inuvik 17.81 356 P P 00 38 53.5 +2.2
INK Inuvik 17.81 356 P Pn 00 38 49.8 -0.7
baz=172,SNR=12
M18K Stony River 17.86 317 P Pn 00 38 50.9 -0.4
baz=115,SNR=6.3
P16K Nushagak River 18.00 309 P Pn 00 38 53.0 0.0
baz=105
K20K Telida 18.08 324 P P 00 38 54.1 -0.2
baz=123
N17K Nushagak Hills 18.08 314 Pn 00 38 53.3 -0.7
N17K IAmb IAmb 00 38 58.3
comp=Z,240nm,1.9s
N17K Nushagak Hills 18.08 314 P Pn 00 38 53.7 -0.3
baz=110
O16K Kokwok River B 18.20 310 P P 00 38 55.9 +0.2
baz=106
E29M Blow River 18.21 351 P Pn 00 38 55.3 -0.3
baz=164
CHNA Chernabura Isl 18.25 295 P P 00 38 57.5 +1.2

baz=90
S14K **Fog Glacier** 18.32 299 P P 00 38 58.3 +1.2
baz=95
BMAR **Burnt Mountain** 18.32 342 P P 00 38 58.0 +0.9
G24K **Hadweenzic Riv** 18.34 338 P P 00 38 57.3 0.0
baz=142
F26K **Sheenjek River** 18.47 343 P P 00 38 57.7 -1.0
baz=150,SNR=78
I21K **Tanana** 18.48 330 P Pn 00 38 59.4 +0.6
baz=131
M17K **Holitna River** 18.53 316 P Pn 00 38 59.4 0.0
baz=113
L18K **Granite Mounta** 18.55 319 P P 00 38 59.4 -0.1
baz=116
V12A **Nelson** 18.55 138 P Pn 00 39 00.7 +0.7
O20A **White River Ci** 18.55 116 P P 00 38 59.8 -0.1
O20A IAmb IAmb 00 39 07.6
comp=Z,105nm,1.9s
J20K **Nowinta River** 18.57 326 P Pn 00 39 00.9 +0.9
baz=125,SNR=39
E28M **Babbage River** 18.60 349 P Pn 00 39 00.3 0.0
baz=160
TTA **Tatalina** 18.61 321 P P 00 38 59.8 -0.4
TTA **Tatalina** 18.61 321 P Pn 00 39 00.3 -0.2
baz=119
F25K **Christian Rive** 18.67 341 P Pn 00 39 01.3 0.0
baz=147
H22K **Ishtalitna Cre** 18.78 332 P Pn 00 39 02.6 +0.1
baz=134
RSSD **Black Hills** 18.78 100 P 00 39 02.5 0.0
O15K **Ungalikthiuk R** 18.95 308 P Pn 00 39 04.4 -0.1
baz=103
G23K **Bananza Creek** 18.99 335 P Pn 00 39 04.9 -0.2
baz=138
C36M **Paulatuk** 19.00 7 P P 00 39 03.9 -0.5
C36M IAmb IAmb 00 39 12.5
comp=Z,87nm,1.1s
C36M **Paulatuk** 19.00 7 P Pn 00 39 05.0 -0.1
baz=192,SNR=62
J19K **Poorman** 19.01 324 P Pn 00 39 05.8 +0.5
baz=122
H21K **Melozitna Rive** 19.05 331 P Pn 00 39 06.3 +0.6
baz=131,SNR=44
I20K **Naaghedeneel** 19.06 327 P Pn 00 39 06.3 +0.5
baz=126
M16K **Timber Creek** 19.07 314 P Pn 00 39 07.2 +1.2
baz=109
F24K **Squaw Lake** 19.10 339 P Pn 00 39 08.2 +1.8
baz=143
U15A **North Rim** 19.14 131 P Pn 00 39 07.9 +0.6
J18K **Innoko River** 19.15 322 P Pn 00 39 07.6 +0.6
baz=119
L17K **Donlin** 19.20 318 P Pn 00 39 08.3 +0.8
baz=113
D28M **Stokes Point** 19.20 351 P Pn 00 39 08.1 +0.6
baz=163
PV10 **Paradox Valley** 19.33 121 P Pn 00 39 09.8 +0.3
PV10 IAmb IAmb 00 39 14.7
comp=Z,164nm,1.5s
N15K **Kwethluk River** 19.34 311 P Pn 00 39 10.3 +1.1
baz=106
D27M **Malcolm River** 19.38 348 P Pn 00 39 11.2 +1.4
baz=158
N23A **Red Feather La** 19.41 111 P P 00 39 10.3 +0.9
baz=309
COLD **Coldfoot** 19.43 336 P Pn 00 39 12.0 +1.7
baz=138,SNR=36
K17K **Iditarod** 19.44 319 P Pn 00 39 10.5 +0.1
baz=115
L16K **Owhat River** 19.55 316 P Pn 00 39 12.5 +0.8
baz=111,SNR=21
G22K **Bettles** 19.55 335 P Pn 00 39 12.2 +0.5
baz=136
IMAR **Indian Mountai** 19.56 331 P P 00 39 10.6 +0.1
H20K **Anotleneega Mo** 19.61 329 P Pn 00 39 12.6 +0.1
baz=127
E24K **Your Creek** 19.68 339 P Pn 00 39 12.7 -0.7
baz=143
S12K **Black Hills** 19.68 297 P Pn 00 39 13.2 -0.2
baz=91
O14K **Tigyukauivet M** 19.69 308 P P 00 39 12.0 +0.1
O14K **Tigyukauivet M** 19.69 308 P Pn 00 39 13.9 +0.5
baz=102
PFO **Pinyon Flats O** 19.75 144 P P 00 39 13.9 +0.9
PFO IAmb IAmb 00 39 24.0
comp=Z,140nm,1.8s
PFO **Pinyon Flats O** 19.75 144 P Pn 00 39 14.8 +0.3
comp=Z,0.3nm,0.3s,baz=316,slow=7.5,SNR=6.4
PFO LR LR 00 47 24.6
comp=Z,2µm,19.4s,baz=320,slow=39
comp=Z,7.3nm,0.8s
M15K **Kasigluk River** 19.77 312 P Pn 00 39 15.3 +0.9
baz=106
G21K **Allakaket** 19.84 332 P Pn 00 39 15.2 +0.1
baz=131
GCSA **Galena City Sc** 19.88 325 P Pn 00 39 15.2 -0.4
baz=122
E23K **Chandalar** 19.93 338 P P 00 39 15.2 +0.5
baz=141
N14K **Kuskokwak Cree** 20.05 310 P P 00 39 16.1 +0.3
baz=103
J17K **VABM Dome** 20.06 321 P Pn 00 39 17.1 -0.7
baz=116
C27K **Jago River** 20.12 346 P Pn 00 39 17.7 -0.8
baz=154
D25K **Kavik River** 20.30 343 P Pn 00 39 19.8 -0.8
baz=149
ISCO **Idaho Springs** 20.30 113 P P 00 39 18.7 -0.4
ISCO IAmb IAmb 00 39 27.3
comp=Z,85nm,1.9s
F21K **Alatna River** 20.31 334 P Pn 00 39 20.0 -0.7
baz=133
WUAZ **Wupatki** 20.31 131 P P 00 39 19.6 +0.4
WUAZ IAmb IAmb 00 39 27.9
comp=Z,61nm,1.3s
TOLK **Toolik Lake Re** 20.38 340 P P 00 39 19.2 -0.3
TOLK **Toolik Lake Re** 20.38 340 P Pn 00 39 21.0 -0.6
baz=142,SNR=26
BLYC **Blythe** 20.39 140 P P 00 39 19.6 -0.1
BLYC IAmb IAmb 00 39 28.8
comp=Z,185nm,1.9s
M14K **Bethel** 20.39 312 P Pn 00 39 20.9 -0.7
baz=105,SNR=11
L15K **Ungalak Mounta** 20.44 315 P P 00 39 20.7 +0.6
baz=108,SNR=13
FALS **False Pass** 20.46 295 P Pn 00 39 21.6 -1.0
baz=88
MVCO **Mesa Verde** 20.47 123 P P 00 39 21.4 +0.5
MVCO IAmb IAmb 00 39 26.3
comp=Z,98nm,1.4s
C26K **Camden Bay** 20.57 345 P P 00 39 22.3 +0.8
baz=152,SNR=41
H18K **Honhosa River** 20.63 325 P Pn 00 39 23.3 -1.2
baz=121
D24K **Happy Valley** 20.63 341 P Pn 00 39 23.8 -0.7
baz=144
J16K **Anvik River** 20.63 319 P P 00 39 22.9 +0.6
baz=113
K15K **Wolf Creek Mou** 20.66 316 P Pn 00 39 23.9 -1.0
baz=109
G19K **Purcell Mounta** 20.73 329 P Pn 00 39 24.6 -1.1
baz=125
F20K **Avaraart Lake** 20.85 332 P P 00 39 25.5 +1.0
baz=129
D23K **Nanushuk River** 20.88 339 P Pn 00 39 26.1 -1.4
baz=141,SNR=43
L14K **Kuka Creek** 20.89 313 P Pn 00 39 26.3 -1.1
baz=106
I17K **Unalakleet** 20.92 321 P P 00 39 26.2 +0.9
baz=114,SNR=13
M13K **Dall Lake** 20.97 311 P P 00 39 26.8 +1.0
baz=102
S22A **4UR Ranch, Cre** 20.99 119 P P 00 39 27.8 +1.1
baz=316
C24K **Franklin Bluff** 21.07 342 P P 00 39 28.3 +1.4
baz=145
H17K **Granite Mounta** 21.09 324 P P 00 39 28.5 +1.3
baz=118
Q24A **Divide** 21.12 114 P P 00 39 29.0 +1.0
baz=312
G18K **Tagagawik** 21.12 327 P P 00 39 28.8 +1.3
baz=122
D22K **Ayikyak River** 21.29 338 P P 00 39 30.8 +1.5
baz=137
E21K **Killik River** 21.30 336 P P 00 39 30.3 +0.9
baz=134
F19K **Shaleruckik Mo** 21.36 330 P P 00 39 30.9 +0.8
baz=125

ESJX **Sierra Juarez** 21.38 145 P P 00 39 31.5 +0.8
ESJX IAmb IAmb 00 39 35.7
comp=Z,61nm,1.3s
A36M **Sachs Harbour** 21.54 4 P P 00 39 32.8 +0.9
A36M IAmb IAmb 00 39 44.9
comp=Z,70nm,1.1s
A36M **Sachs Harbour** 21.54 4 P P 00 39 32.3 +0.4
baz=188,SNR=47
113A **Mohawk Valley,** 21.55 140 P P 00 39 32.7 +0.4
C23K **Itkillik River** 21.56 341 P P 00 39 33.9 +1.7
baz=142
E19K **Redstone River** 21.57 331 P P 00 39 33.5 +1.3
baz=127
J14K **Nanvaranak Lak** 21.70 317 P P 00 39 34.3 +0.7
baz=108
ULM **Lac du Bonnet** 21.72 78 P P 00 39 33.3 -0.7
ULM IAmb IAmb 00 39 39.4
comp=Z,64nm,0.8s
ULM **Lac du Bonnet** 21.72 78 P P 00 39 33.9 -0.1
comp=Z,28nm,0.8s,baz=287,slow=9.4,SNR=30
ULM S S 00 43 33.9 -0.2
comp=Z,3.0nm,0.8s,baz=308,slow=18,SNR=2.4
ULM Lg Lg 00 46 06.8
comp=Z,0.1nm,0.3s,baz=320,slow=14,SNR=5.6
ULM LR LR 00 48 09.4
comp=Z,3µm,18.4s,baz=283,slow=37
comp=Z,28nm,0.8s
ULM **Lac du Bonnet** 21.72 78 P P 00 39 34.4 +0.4
SDCO **Great Sand Dun** 21.74 117 P P 00 39 35.2 +0.5
SDCO IAmb IAmb 00 39 48.9
comp=Z,112nm,2.0s
E20K **Nigu River** 21.77 334 P P 00 39 35.1 +0.5
baz=131
F18K **Selawik** 21.85 328 P P 00 39 35.9 +0.6
baz=122,SNR=19
H16K **Elim** 21.85 322 P P 00 39 35.8 +0.5
baz=114,SNR=19
K13K **Kusilvak Mount** 21.95 314 P P 00 39 36.8 +0.4
baz=105
C21K **Knifeblade Rid** 22.01 337 P P 00 39 37.9 +0.9
baz=134
FCC **Fort Churchill** 22.13 55 P P 00 39 38.0 -0.3
FCC IAmb IAmb 00 39 48.3
comp=Z,80nm,1.1s
D20K **Etivluk River** 22.19 334 P P 00 39 38.1 -0.9
baz=131
G16K **Koyuk River** 22.22 324 P P 00 39 40.2 +0.9
baz=116
AGMN **Agassiz Nation** 22.29 83 P P 00 39 40.5 +0.3
AGMN IAmb IAmb 00 39 50.9
comp=Z,60nm,0.8s
B21K **Ikpikpuk River** 22.30 338 P P 00 39 41.0 +0.9
baz=136
F17K **Baldwin Pennin** 22.31 327 P P 00 39 41.2 +0.9
baz=119
UNV **Unalaska Valle** 22.34 292 P P 00 39 41.9 +1.3
baz=83
M11K **Mekoryuk** 22.35 310 P P 00 39 41.6 +0.9
baz=99
D19K **Kuna River** 22.47 333 P P 00 39 43.1 +1.0
baz=128
B22K **Teshekpuk Lake** 22.56 340 P P 00 39 44.4 +1.6
baz=139
E18K **Tukpahlearik C** 22.61 329 P P 00 39 44.3 +0.9
baz=122
G15K **Niukluk** 22.70 322 P P 00 39 45.3 +0.9
baz=112,SNR=7.9
PIX **Pinacate** 22.73 141 P P 00 39 45.6 +0.6
PIX IAmb IAmb 00 40 00.6
comp=Z,41nm,1.2s
T25A **Trinidad** 22.79 116 P P 00 39 45.6 -0.2
T25A IAmb IAmb 00 39 50.6
comp=Z,123nm,1.9s
T25A **Trinidad** 22.79 116 P P 00 39 47.0 +1.1
baz=315
E17K **Hotham Inlet** 22.83 328 P P 00 39 46.8 +1.0
baz=120,SNR=12
ANM **Nome** 23.07 321 P P 00 39 48.4 +0.1
baz=110,SNR=8.4
F15K **North Star Dit** 23.21 324 P P 00 39 50.4 +0.6
baz=113,SNR=19
TUC **Tucson** 23.23 135 IAmb IAmb 00 39 59.2
comp=Z,40nm,1.1s
TUC **Tucson** 23.23 135 P P 00 39 51.1 +0.8
ANMO **Albuquerque** 23.26 123 P P 00 39 50.7 0.0
ANMO IAmb IAmb 00 40 02.5
comp=Z,42nm,1.5s
ANMO **Albuquerque** 23.26 123 LR LR 00 48 60.0
comp=Z,1µm,19.1s,baz=118,slow=37
C18K **Utukok River** 23.48 332 P P 00 39 52.8 +0.4
baz=124
D17K **Noatak River** 23.56 329 P P 00 39 53.9 +0.7
baz=120
ECSD **EROS Data Cent** 23.66 94 P P 00 39 54.5 +0.1
ECSD IAmb IAmb 00 39 59.7
comp=Z,92nm,1.4s
Y22D **IRIS PASSCAL I** 23.69 125 P P 00 39 56.0 +1.1
baz=322
RDOG **Red Dog Mine** 23.69 330 P P 00 39 54.7 +0.2
RDOG IAmb IAmb 00 40 17.9
comp=Z,74nm,1.7s
RDOG **Red Dog Mine** 23.69 330 P P 00 39 55.3 +0.9
baz=120
F14K **Arctic Creek** 23.77 322 P P 00 39 56.1 +0.9
baz=111
C17K **DeLong Mountai** 23.99 330 P P 00 39 58.1 +0.7
baz=121
A21K **Barrow** 24.00 339 P P 00 39 57.4 +0.1
baz=135
B18K **Kokolik River** 24.06 333 P P 00 39 58.7 +0.7
baz=124
RTBA **Rita Blanca** 24.23 115 P P 00 40 00.9 +0.9
121A **Cookes Peak, D** 24.47 129 P P 00 40 02.7 +0.4
baz=325,SNR=14
C16K **Lisburne Hills** 24.59 329 P P 00 40 03.8 +1.0
baz=118
EYMN **Ely** 25.16 81 P P 00 40 08.0 -0.1
GAMB **Gambell** 25.52 317 P P 00 40 12.1 +0.9
GAMB IAmb IAmb 00 40 21.4
comp=Z,16nm,0.9s
GAMB **Gambell** 25.52 317 P P 00 40 11.1 -0.1
baz=101
SRIG **Santa Rosalia** 26.98 143 P P 00 40 25.8 +1.1
N38A **Joes South For** 27.33 97 P P 00 40 27.5 -0.3
N38A IAmb IAmb 00 40 36.6
comp=Z,37nm,1.0s
WMOK **Wichita Mounta** 27.72 113 P P 00 40 31.9 +0.4
WMOK IAmb IAmb 00 40 40.0
comp=Z,24nm,0.9s
RES **Resolute Bay** 28.18 19 P P 00 40 35.0 -0.1
RES IAmb IAmb 00 41 06.9
comp=Z,65nm,1.9s
RES **Resolute Bay** 28.18 19 LR LR 00 52 31.7
comp=Z,3µm,20.7s,baz=226,slow=38
DEOK **Depew** 28.33 108 P P 00 40 36.5 -0.3
TX31 **Lajitas Ar. Si** 29.13 127 P P 00 40 44.2 +0.1
TX31 IAmb IAmb 00 40 53.0
comp=Z,30nm,1.3s
TXAR **Lajitas Array** 29.13 127 P P 00 40 44.2 +0.1
TXAR **Lajitas Array** 29.13 127 P P 00 40 44.7 +0.7
comp=Z,3.6nm,1.0s,baz=330,slow=7.2,SNR=21
TXAR PcP PcP 00 43 52.6 +1.0
comp=Z,2.4nm,0.9s,baz=281,slow=1.0,SNR=6.7
TXAR LR LR 00 53 01.4
comp=Z,2µm,20.4s,baz=327,slow=38
comp=Z,3.6nm,1.0s
L44A **Lake County Fo** 29.97 90 P P 00 40 50.7 -0.6
baz=301
HPIG 30.14 133 P P 00 40 52.9 -0.3
CCM **Cathedral Cave** 30.17 99 P P 00 40 52.9 -0.2
CCM IAmb IAmb 00 41 48.7
comp=Z,15nm,1.1s
JCT **Junction City** 30.27 120 P P 00 40 54.2 0.0
JCT IAmb IAmb 00 41 01.3
comp=Z,19nm,0.8s
LPIG **La Paz** 30.62 143 LR LR 00 52 12.0
comp=Z,744nm,18.6s,baz=332,slow=34
FCAR **Ozark Folk Cen** 30.98 104 P P 00 41 00.3 +0.1
FCAR IAmb IAmb 00 41 07.5
comp=Z,23nm,1.0s
435B **Jarrell** 31.29 117 P P 00 41 03.6 +0.6
baz=319
833A **Chaparral WMA,** 32.18 122 P P 00 41 11.2 +0.3
baz=323
HKT **Hockley** 32.91 116 P P 00 41 17.4 +0.2
HKT IAmb IAmb 00 41 26.5
comp=Z,35nm,1.5s

EUNU **Eureka** 32.94 13 P P 00 41 17.9 +0.8
SHEM **Shemya Is, Ala** 33.91 296 LR LR 00 52 16.1
comp=Z,1µm,20.7s,baz=117,slow=31
PLAL **Pickwick Lake** 34.08 101 P P 00 41 27.7 +0.3
PLAL IAmb IAmb 00 41 35.0
comp=Z,22nm,1.1s
SADO **Sadowa** 34.25 80 P P 00 41 28.2 -0.6
SADO **Sadowa** 34.25 80 LR LR 00 55 04.7
comp=Z,1µm,20.8s,baz=308,slow=36
FRB **Frobisher Bay** 34.38 44 LR LR 00 55 51.7
comp=Z,3µm,18.4s,baz=279,slow=37
BILL **Bilibino** 34.82 324 P P 00 41 33.6 +0.1
BILL IAmb IAmb 00 41 44.1
comp=Z,45nm,1.6s
ZAIG **Zacatecas** 35.14 132 P P 00 41 37.8 +0.7
FPAL **Fort Paine** 35.91 99 P P 00 41 43.7 +0.4
TKL **Tuckaleechee C** 36.36 96 LR LR 00 57 10.4
comp=Z,4µm,18.9s,baz=313,slow=37
SCHQ **Schefferville** 37.40 58 P P 00 41 57.4 +1.7
comp=Z,7.1nm,1.0s,baz=336,slow=7.4,SNR=4.2
SCHQ LR LR 00 56 34.4
comp=Z,2µm,20.0s,baz=290,slow=35
comp=Z,7.1nm,1.0s
LDAQ **Lac Daran** 37.62 70 P P 00 41 58.2 +0.4
LDAQ IAmb IAmb 00 42 03.1
comp=Z,42nm,1.5s
FRNY **Flat Rock** 37.67 76 P P 00 41 58.3 +0.2
JRQG **Juriquilla Cam** 37.92 131 P P 00 42 01.4 +0.8
UPNV **Upernavik** 37.97 28 eP P 00 41 59.2 -1.1
UPNV IAmb IAmb 00 42 08.5
comp=Z,11nm,1.0s
NEEM **North Greenlan** 38.85 20 i P P 00 42 09.2 +1.1
NEEM IAmb IAmb 00 42 12.5
comp=Z,25nm,1.2s
NUUG **Nuugaatsiaq** 39.04 30 i P P 00 42 13.2 +3.9
NUUG IAmb IAmb 00 42 17.7
comp=Z,12nm,1.3s
L61B **Northampton** 39.47 79 P P 00 42 12.3 -0.9
baz=303
UMMG **Uummannaq** 39.55 31 eP P 00 42 17.5 +3.9
UMMG IAmb IAmb 00 42 22.4
comp=Z,16nm,0.8s
SFJD **Kangerlussuaq** 41.02 36 LR LR 01 00 01.1
comp=Z,4µm,18.0s,baz=310,slow=37
M65A **Busby, Falmout** 41.22 79 P P 00 42 26.9 -0.8
baz=304
SEY **Seymchan** 41.52 318 LR LR 01 00 17.9
comp=Z,2µm,18.1s,baz=52,slow=37
DY2G **Dye2** 42.83 36 i P P 00 42 45.3 +4.5
DY2G IAmb IAmb 00 42 49.4
comp=Z,230nm,1.8s
PETK **Petropavlovsk-** 42.88 303 P P 00 42 41.9 +0.7
comp=Z,6.6nm,0.8s,baz=78,slow=14,SNR=4.6
PETK LR LR 00 57 18.9
comp=Z,1µm,22.0s,baz=56,slow=32
comp=Z,6.6nm,0.8s
SUMG **Summit** 43.15 26 P P 00 42 43.2 -0.4
SUMG IAmb IAmb 00 42 57.4
comp=Z,44nm,1.5s
SUMG **Summit** 43.15 26 eP P 00 42 42.9 -0.7
SUMG IAmb IAmb 00 42 49.6
comp=Z,24nm,1.2s
NOR **Nord** 43.50 11 i P P 00 42 52.9 +7.1
MA2 **Magadan** 43.53 313 LR LR 00 59 54.0
comp=Z,1µm,21.2s,baz=62,slow=35
CMIG **Matias Romero** 43.73 127 LR LR 01 03 24.3
comp=Z,434nm,19.1s,baz=313,slow=39
ICESG **Greenland Ices** 44.14 31 eP P 00 42 53.1 +1.6
ICESG IAmb IAmb 00 43 01.6
comp=Z,38nm,1.2s
DAG **Danmarks Havn** 45.85 17 i P P 00 43 05.0 +0.5
DAG IAmb IAmb 00 43 11.8
comp=Z,9.8nm,1.2s
TIXI **Tiksi** 46.15 334 P P 00 43 07.8 +0.8
DBG **Daneborg** 46.93 21 i P P 00 43 14.6 +1.5
DBG IAmb IAmb 00 43 20.4
comp=Z,22nm,0.9s
SPITS **Spitsbergen Ar** 49.84 9 LR LR 01 05 40.6
comp=Z,2µm,18.6s,baz=303,slow=37
YAK **Yakutsk** 51.18 323 LR LR 01 05 55.6
comp=Z,1µm,18.4s,baz=54,slow=37
JMIC **Jan Mayen** 51.76 21 LR LR 01 06 18.1
comp=Z,1µm,18.5s,baz=276,slow=37
BORG **Borgarnes** 52.53 31 LR LR 01 06 38.7
comp=Z,2µm,18.9s,baz=327,slow=36
ASAJ **Asahikawa** 56.17 300 LR LR 01 05 22.0
comp=Z,323nm,21.8s,baz=38,slow=33
H11N2 **WAKE ISLAND Hy** 57.90 262 T T 01 47 09.0
baz=42,slow=76,SNR=1869
H11N3 **WAKE ISLAND Hy** 57.90 262 T T 01 47 09.2
baz=42,slow=76,SNR=2116
H11N1 **WAKE ISLAND Hy** 57.91 262 T T 01 47 05.7
baz=42,slow=76,SNR=1517
KLR **Kul'dur** 58.44 310 LR LR 01 09 02.5
comp=Z,899nm,20.2s,baz=37,slow=35
ARCES **ARCESS Array B** 58.82 10 LR LR 01 10 48.2
comp=Z,803nm,20.8s,baz=332,slow=37
H11S1 **WAKE ISLAND Hy** 58.93 261 T T 01 48 26.4
baz=38,slow=76
H11S2 **WAKE ISLAND Hy** 58.94 261 T T 01 48 27.8
baz=38,slow=76,SNR=183
H11S3 **WAKE ISLAND Hy** 58.95 261 T T 01 48 27.7
baz=38,slow=76
SJG **San Juan** 59.75 98 LR LR 01 12 46.6
comp=Z,599nm,18.0s,baz=310,slow=38
HEH **HeiHe** 59.80 314 eP P 00 44 47.9 -0.1
HEH pmax pmax
comp=Z,15nm,1.6s
HEH LR LR
comp=Z,470nm,15.7s
HEH LR LR
comp=Z,870nm,15.6s
HEH LR LR
comp=Z,980nm,16.3s
TAOE **Nuku Hiva Isla** 59.88 191 eS S 00 52 56.5 -4.2
comp=Z,203nm,27.8s
TAOE eLR LR 01 02 26.0
comp=Z,2µm,25.9s
LVZ **Lovozero** 61.24 7 P P 00 44 59.7 +2.1
comp=Z,50nm,1.9s
USA0B **Ussuriysk Arra** 61.77 306 P P 00 45 01.9 +0.3
USRK **Ussuriysk Ar.** 61.77 306 P P 00 45 01.3 -0.2
USRK **Ussuriysk Ar.** 61.77 306 P P 00 45 02.1 +0.6
comp=Z,5.0nm,0.9s,baz=57,slow=7.0,SNR=7.5
USRK LR LR 01 12 04.1
comp=Z,517nm,19.6s,baz=45,slow=36
comp=Z,5.0nm,0.9s
BNX **BinXian** 62.99 310 ⇑P P 00 45 09.8 +0.2
BNX pmax pmax
comp=Z,8.0nm,1.8s
MJAR **Matsushiro Arr** 63.75 296 P P 00 45 16.1 +1.3
comp=Z,1.2nm,0.4s,baz=21,slow=9.8,SNR=6.1
MJAR LR LR 01 08 49.3
comp=Z,327nm,22.0s,baz=53,slow=32
comp=Z,1.2nm,0.4s
HIA **Hailar** 63.95 317 P P 00 45 16.1 +0.1
HIA IAmb IAmb 00 45 26.6
comp=Z,5.7nm,1.0s
SDV **Santo Domingo** 64.05 109 LR LR 01 15 56.9
comp=Z,418nm,19.8s,baz=275,slow=39
NB2 **NORSAR Subarra** 64.44 20 P P 00 45 19.6 +0.6
comp=Z,5.6nm,1.0s,baz=334,slow=6.9
NOA **NORSAR Array B** 64.44 20 P P 00 45 19.5 +0.5
comp=Z,2.4nm,0.9s,baz=333,slow=6.6,SNR=5.9
NOA LR LR 01 13 37.4
comp=Z,888nm,20.2s,baz=335,slow=36
comp=Z,2.4nm,0.9s
ROSC **El Rosal** 65.09 115 LR LR 01 18 12.0
comp=Z,371nm,18.3s,baz=326,slow=40
JHJ **Hachijo jima 2** 65.26 292 LR LR 01 11 04.3
comp=Z,59nm,20.0s,baz=74,slow=33
CN2 **Changchun** 65.35 310 eP P 00 45 21.8 -3.4
CN2 eS S 00 54 03.6 -5.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,700nm,21.0s
HFS **Hagfors** 65.78 19 P P 00 45 28.5 +0.8
comp=Z,4.4nm,0.9s,baz=7.4,slow=3.3,SNR=4.1
HFS LR LR 01 14 48.3
comp=Z,2µm,19.3s,baz=330,slow=37

comp=Z,4.4nm,0.9s
OTAV Otavalo 66.55 121 P **P 00 45 34.6 +0.8**
FINES FINESS Array B 66.66 12 P **P 00 45 33.2 0.0**
FINES FINESS Array B 66.66 12 P **P 00 45 33.8 +0.5**
comp=Z,4.4nm,0.9s,baz=299,slow=3.9,SNR=4.5
FINES LR LR 01 14 49.6
comp=Z,828nm,19.7s,baz=346,slow=36
comp=Z,4.4nm,0.9s
PCRV Puerto La Cruz 66.72 103 LR LR 01 15 26.7
comp=Z,601nm,21.4s,slow=37
JCJ Chichijima 68.14 286 LR LR 01 08 04.7
comp=Z,380nm,21.4s,baz=106,slow=29
KSRS Korea Array 68.77 303 P **P 00 45 47.5 +0.5**
comp=Z,1.2nm,0.8s,baz=46,slow=10,SNR=1.9
KSRS LR LR 01 17 23.4
comp=Z,145nm,18.2s,baz=55,slow=37
comp=Z,1.2nm,0.8s
KSAR Wonju Array Be 68.80 303 P **P 00 45 47.7 +0.5**
XLT XiLinHaoTe 69.69 315 *e*P **P 00 45 53.0 +0.3**
XLT sP pwP 00 46 00.4 +2.5
XLT pmax pmax
comp=Z,5.0nm,1.3s
XLT pmax pmax
comp=Z,270nm,6.8s
XLT LR LR
comp=Z,500nm,18.3s
XLT LR LR
comp=Z,300nm,15.7s
PPT Papeete 70.03 200 LR LR 01 09 02.7
comp=Z,531nm,19.6s,baz=22,slow=29
PPT2 Papeete2 70.05 200 *e*S **S 00 55 01.1 -4.5**
comp=Z,136nm,24.8s
PPT2 *e*SS SS 00 59 25.0 -11
comp=Z,208nm,32.2s
PPT2 *e*LR LR 01 06 59.1
comp=Z,2μm,27.8s
PPT2 *e*LR LR 01 07 07.4
comp=Z,1μm,29.5s
ULN Ulaanbaatar 70.26 323 P **P 00 45 56.7 +0.5**
ULN IAmb IAmb 00 46 06.6
comp=Z,28nm,2.0s
JNU Nakatsue 70.37 298 LR LR 01 13 15.9
comp=Z,355nm,21.8s,baz=42,slow=33
SONM Songino Array 70.54 323 P **P 00 45 57.8 -0.1**
SONM Songino Array 70.54 323 P **P 00 45 58.7 +0.8**
comp=Z,1.0nm,0.9s,baz=47,slow=5.0,SNR=8.1
SONM LR LR 01 17 18.2
comp=Z,1μm,19.9s,baz=24,slow=36
comp=Z,1.0nm,0.9s
KIRV Kirov 71.14 0 LR LR 01 20 29.5
comp=Z,504nm,19.5s,baz=357,slow=39
ZAA0 Zalesovo Array 71.74 339 P **P 00 46 04.0 -0.9**
ZALV Zalesovo Beam 71.74 339 P **P 00 46 04.4 -0.4**
ZALV Zalesovo Beam 71.74 339 P **P 00 46 05.1 +0.2**
comp=Z,3.4nm,0.8s,baz=21,slow=5.5,SNR=14
ZALV LR LR 01 19 40.3
comp=Z,490nm,20.5s,baz=11,slow=38
comp=Z,3.4nm,0.8s
BMRD Maredsous 72.34 28 *d*P **P 00 46 08.8 +0.2**
BGES Gesves 72.37 28 *d*x x 00 46 14.0
BCLA Clavier 72.40 28 *d*P **P 00 46 07.9 -1.0**
MEM Membach 72.44 28 *d*x x 00 46 14.9
RCHB Rochefort 72.61 28 *d*P **P 00 46 12.3 +2.1**
comp=Z,6.1nm,1.1s
ATAH Atahualpa 72.77 125 LR LR 01 18 47.2
comp=Z,398nm,19.9s,baz=337,slow=36
ARTI Arti 73.11 355 P **P 00 46 13.5 +0.5**
ARTI Arti 73.11 355 LR LR 01 19 28.5
comp=Z,438nm,21.2s,baz=4.5,slow=37
CLL Collm 73.72 23 P **P 00 46 16.8 +0.1**
CLL IAmb IAmb 00 46 18.2
comp=Z,21nm,1.8s
OBN Obninsk 74.04 8 P **P 00 46 18.9 +0.4**
OBN Obninsk 74.04 8 LR LR 01 20 43.0
comp=Z,525nm,18.0s,baz=357,slow=37
OBN Obninsk 74.04 8 P **P 00 46 20.4 +2.0**
comp=Z,33nm,1.9s
BRG Berggiesshubel 74.35 23 *e*P **P 00 46 22.3 +1.9**
BRG Amp 00 46 27.9
comp=Z,6.6nm,1.2s
KSP Ksiaz 74.94 21 P **P 00 46 25.9 +2.1**
comp=Z,9.0nm,1.8s
BTO Baotou 75.01 317 *e*P **P 00 46 23.8 -0.7**
BTO pP **sP 00 46 28.6 +0.5**
BTO sP **pwP 00 46 30.8 +1.0**
BTO PP **PP 00 49 12.4 +0.7**
BTO S **S 00 55 58.6 -3.7**
BTO pmax pmax
comp=Z,12nm,1.3s
BTO pmax pmax
comp=Z,220nm,5.5s
BTO LR LR
comp=Z,2μm,18.7s
BTO LR LR
comp=Z,1μm,15.6s
BTO LR LR
comp=Z,3μm,16.3s
BFO Black Forest 75.16 27 P **P 00 46 25.9 +0.8**
BRVK Borovoye 75.26 347 P **P 00 46 26.4 +0.8**
BRVK IAmb IAmb 00 46 35.2
comp=Z,22nm,1.3s
BVAR Borovoye Array 75.27 347 P **P 00 46 26.3 +0.6**
comp=Z,2.2nm,0.8s,baz=20,slow=4.7,SNR=9.2
BVAR LR LR 01 21 24.4
comp=Z,376nm,22.0s,baz=18,slow=37
comp=Z,2.2nm,0.8s
POLO Lamas de Olo 75.45 41 *e*P **P 00 46 29.4 +2.4**
POLO *i* Amb 00 46 41.0
comp=Z,21nm,1.7s
HNS HongShan 75.48 312 ⇑P **P 00 46 28.8 +1.7**
HNS S **S 00 56 07.9 +0.6**
HNS pmax pmax
comp=Z,6.0nm,1.3s
HNS LR LR
comp=Z,450nm,18.2s
HNS LR LR
comp=Z,740nm,19.4s
HNS LR LR
comp=Z,920nm,19.0s
PBRG Braganca 75.53 40 *e*P **P 00 46 30.0 +2.6**
PBRG *i* Amb 00 46 39.7
comp=Z,19nm,2.0s
TBI Tubuai 75.61 198 *e*S **S 00 56 05.3 -3.4**
comp=Z,1μm,37.2s
TBI *e*SS **SS 01 00 53.6 -6.9**
comp=Z,467nm,30.0s
TBI *e*LR LR 01 09 42.5
comp=Z,4μm,27.8s
TBI *e*LR LR 01 09 47.2
comp=Z,1μm,31.0s
KHC Kasperske Hory 75.87 24 *e*P **P 00 46 31.5 +2.2**
KHC Kasperske Hory 75.87 24 P **P 00 46 31.4 +2.2**
MVO Moncorvo 75.94 41 *e*P **P 00 46 34.6 +4.8**
MVO *i* Amb 00 46 37.5
comp=Z,24nm,1.4s
PVIS Viseu 75.95 42 *e*P **P 00 46 32.0 +2.1**
KURK Kurchatov 76.10 342 P **P 00 46 31.0 +0.6**
KURK IAmb IAmb 00 46 41.7
comp=Z,14nm,1.2s
GERES GERESS Array B 76.16 24 P **P 00 46 31.2 +0.3**
GERES GERESS Array B 76.16 24 P **P 00 46 32.1 +1.1**
comp=Z,1.2nm,1.0s,baz=12,slow=6.8,SNR=4.8
GERES LR LR 01 21 46.1
comp=Z,667nm,18.8s,baz=340,slow=37
comp=Z,1.2nm,1.0s
RAR Rarotonga 76.17 208 LR LR 01 11 46.7
comp=Z,565nm,19.7s,baz=32,slow=29
KURBB Kurchatov Arra 76.20 342 P **P 00 46 31.1 +0.1**
comp=Z,2.7nm,0.7s,baz=20,slow=5.4,SNR=12
KURBB LR LR 01 25 26.3
comp=Z,397nm,18.3s,baz=104,slow=40
comp=Z,2.7nm,0.7s
MORC Moravsky Berou 76.22 21 *e*P **P 00 46 32.5 +1.2**
CZSB Cruzeiro do Su 76.31 121 P **P 00 46 33.0 +0.9**
RNPP9 Sopachiv 76.31 15 P **P 00 46 34.3 +2.7**
VRAC Vranov 76.44 22 LR LR 01 21 36.2
comp=Z,889nm,19.1s,baz=336,slow=37
VRAC Vranov 76.44 22 *e*P **P 00 46 33.7 +1.2**
GUMO Guam 76.46 275 LR LR 01 11 57.8
comp=Z,352nm,20.6s,baz=82,slow=29
JOW Kunigami 76.59 296 LR LR 01 14 53.5
comp=Z,108nm,21.9s,baz=128,slow=32
RETA Reutte 76.62 26 pP pP 00 46 40.3 +4.1
comp=Z,5.5nm,1.4s
KRUC Moravsky 76.63 22 *e*P **P 00 46 37.0 +3.5**
PCBR Castelo Branco 76.86 42 *e*P P 00 46 41.0 +6.1
PCBR *i* Amb 00 46 43.4
comp=Z,16nm,1.7s
WATA Walderalm 76.98 26 *e*pP pP 00 46 41.6 +3.2
comp=Z,7.9nm,1.5s
DAVOX Davos/Dischmat 77.01 27 LR LR 01 21 42.1
comp=Z,1μm,19.9s,baz=321,slow=37
MI28 Mi28,Pidlybu 77.06 14 P **P 00 46 37.9 +2.0**
WTTA Wattenberg 77.07 26 *e*pP pP 00 46 38.4 -0.5
comp=Z,7.8nm,1.1s
JAVC Velka Javorina 77.11 21 *e*P P 00 46 41.7 +5.4
NIE Niedzica 77.17 19 P **P 00 46 38.7 +2.1**
BIOA Bad Ischl, Aus 77.21 24 *e*pP pP 00 46 42.3 +2.9
comp=Z,7.6nm,1.5s
LANS Liptovska Anna 77.24 20 *e*P P 00 46 43.1 +6.1
BELG Belogornoye 77.33 1 LR LR 01 25 12.2
comp=Z,322nm,19.7s,baz=354,slow=39
STHS Stebnicka Huta 77.36 19 *e*P P 00 46 44.6 +7.0
AK21 Malin Array Si 77.42 13 P **P 00 46 40.1 +2.2**
AK23 Malin Array Si 77.45 13 P **P 00 46 40.5 +2.5**
AK20 Malin Array Si 77.45 13 P **P 00 46 40.5 +2.4**
AK19 Malin Array Si 77.47 13 P **P 00 46 40.4 +2.2**
MODS Modra-Piesok 77.48 22 *e*P **P 00 46 41.6 +3.3**
AKASG Malin Array Be 77.52 13 P **P 00 46 38.2 -0.2**
AKASG IAmb IAmb 00 46 50.2
comp=Z,9.5nm,1.4s
AKASG Malin Array Be 77.52 13 P **P 00 46 38.0 -0.4**
comp=Z,2.3nm,0.8s,baz=347,slow=5.3,SNR=15
AKASG LR LR 01 21 26.8
comp=Z,1μm,19.3s,baz=349,slow=36
comp=Z,2.3nm,0.8s
AKBB Malin Array Si 77.52 13 P **P 00 46 38.8 +0.3**
AKBB IAmb IAmb 00 46 45.1
comp=Z,17nm,1.2s
AKBB Malin Array Si 77.52 13 P **P 00 46 39.7 +1.2**
KIEV Kiev 77.53 13 P **P 00 46 39.0 +0.5**
KIEV IAmb IAmb 00 46 45.1
comp=Z,14nm,1.1s
AK16 Malin Array Si 77.54 13 P **P 00 46 40.4 +1.9**
CONA Conrad Observa 77.55 23 *e*pP pP 00 46 44.5 +3.0
comp=Z,0.3nm,0.5s
AK12 Malin Array Si 77.57 13 P **P 00 46 39.4 +0.7**
NJ2 Nanjing 77.68 306 *e*P **P 00 46 39.3 -0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NNA Nana 77.68 127 LR LR 01 20 45.1
comp=Z,208nm,19.4s,baz=338,slow=36
KBA Koelnbreinsper 77.70 25 *e*pP pP 00 46 41.7 -0.7
comp=Z,6.8nm,1.5s
EVO Evora 77.72 43 *e*P **P 00 46 37.8 -2.0**
EVO *i* Amb 00 46 47.1
comp=Z,29nm,1.7s
VYHS Vyhne 77.72 21 *e*P **P 00 46 42.3 +2.6**
ABTA Abfaltersbach 77.78 25 *e*pP pP 00 46 45.8 +3.0
comp=Z,4.1nm,1.2s
CEST Esterri de Car 77.93 35 P **P 00 46 42.0 +0.9**
KOLS Kolonicke sedl 78.03 18 *e*P P 00 46 48.8 +7.4
LUBAR Lubar, Ukraine 78.06 14 P **P 00 46 45.4 +3.9**
ARSA Arzberg 78.10 23 *e*pP **P 00 46 43.1 +1.3**
comp=Z,8.3nm,1.6s
MDP Montagnes des 78.15 96 LR LR 01 20 48.3
comp=Z,341nm,21.6s,baz=325,slow=35
SRO Srobarova 78.24 21 *e*P P 00 46 49.5 +7.0
ESDC Sonseca Array 78.45 39 P **P 00 46 44.6 +0.6**
ESDC Sonseca Array 78.45 39 P **P 00 46 44.4 +0.4**
comp=Z,2.1nm,0.9s,baz=318,slow=4.9,SNR=11
ESDC LR LR 01 19 28.0
comp=Z,462nm,19.3s,baz=324,slow=34
comp=Z,2.1nm,0.9s
PSZ Piszkesteto 78.50 20 P **P 00 46 44.2 +0.2**
PSZ IAmb IAmb 00 46 52.0
comp=Z,23nm,1.5s
SOKA Soboth 78.51 24 *e*pP pP 00 46 48.6 +1.8
comp=Z,6.6nm,1.3s
LYN LuoYang 78.85 312 P **P 00 46 47.8 +1.7**
LYN sP pwP 00 46 52.4 +1.0
LYN S **S 00 56 48.6 +4.6**
LYN pmax pmax
comp=Z,14nm,1.1s
LYN LR LR
comp=Z,760nm,18.6s
LYN LR LR
comp=Z,440nm,16.8s
LYN LR LR
comp=Z,1μm,20.0s
MK31 Makanchi Array 78.99 338 P **P 00 46 46.8 0.0**
MK31 IAmb IAmb 00 46 56.0
comp=Z,9.7nm,1.2s
MKAR Makanchi Array 78.99 338 P **P 00 46 47.1 +0.3**
MKAR Makanchi Array 78.99 338 P **P 00 46 47.0 +0.2**
comp=Z,1.8nm,0.7s,baz=28,slow=4.7,SNR=23
MKAR LR LR 01 26 07.1
comp=Z,784nm,19.1s,baz=3.5,slow=39
comp=Z,1.8nm,0.7s
MAKZ Makanchi 79.06 338 P **P 00 46 47.3 +0.2**
MAKZ IAmb IAmb 00 46 53.5
comp=Z,18nm,1.1s
AKTO Aktyubinsk 79.07 355 LR LR 01 26 30.3
comp=Z,364nm,18.0s,baz=26,slow=39
RPN Rapa Nui 79.58 161 LR LR 01 13 26.7
comp=Z,172nm,21.2s,baz=20,slow=29
ABKAR Akbulak array 80.12 353 P **P 00 46 53.3 +0.6**
ABKAR IAmb IAmb 00 47 00.2
comp=Z,40nm,1.6s
ABKAR Akbulak array 80.12 353 P **P 00 46 53.2 +0.4**
GTA Gaotai 80.21 323 *e*P **P 00 46 55.0 +1.4**
GTA sP PcP 00 47 01.9 +1.0
GTA pmax pmax
comp=Z,2.0nm,1.5s
WMQ Urumqi 80.33 333 *e*P **P 00 46 55.5 +1.4**
WMQ pP PcP 00 47 00.4 -0.9
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,600nm,18.5s
WMQ LR LR
comp=Z,480nm,21.3s
XAN Xi'an 80.93 314 ⇑P **P 00 46 58.3 +0.9**
XAN pP pwP 00 47 02.9 +0.1
XAN sP PcP 00 47 05.4 +1.4
XAN pmax pmax
comp=Z,7.0nm,1.3s
XAN LR LR
comp=Z,530nm,16.5s
XAN LR LR
comp=Z,830nm,19.2s
XAN LR LR
comp=Z,940nm,22.0s
MLR Muntele Rosu 82.04 17 LR LR 01 24 15.2
comp=Z,2μm,20.0s,baz=8.5,slow=36
MDT Midelt 84.02 44 LR LR 01 23 32.5
comp=Z,374nm,18.3s,baz=342,slow=35
BOOM Boomskoye usch 84.50 341 P **P 00 47 16.0 0.0**
BOOM IAmb IAmb 00 47 22.8
comp=Z,13nm,1.5s
AAK Ala-Archa 84.65 342 P **P 00 47 16.9 +0.1**
AAK IAmb IAmb 00 47 27.3
comp=Z,6.6nm,1.2s
AAK Ala-Archa 84.65 342 LR LR 01 30 50.7
comp=Z,467nm,18.3s,baz=18,slow=40
GOMU GeErMu 84.90 325 P **P 00 47 18.6 +0.1**
GOMU sP pwP 00 47 25.8 +1.9
GOMU S **SKSac 00 57 37.8 -5.4**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU LR LR
comp=Z,1μm,19.9s
GOMU LR LR
comp=Z,1μm,19.4s
GOMU LR LR
comp=Z,2μm,19.5s
KKAR Karatay Array 84.92 345 P **P 00 47 18.2 +0.2**
WUS Wushi 85.00 338 P **P 00 47 18.9 +0.3**
WUS IAmb IAmb 00 47 28.8
comp=Z,13nm,1.1s
KVAR Kislovodsk Arr 85.59 5 LR LR 01 29 09.0
comp=Z,319nm,18.1s,baz=250,slow=38
KBZ Khabaz 85.82 5 P **P 00 47 23.1 +0.8**
comp=Z,3.5nm,0.8s,baz=344,slow=4.3,SNR=8.7
KBZ LR LR 01 29 14.4
comp=Z,441nm,18.1s,baz=346,slow=38
comp=Z,3.5nm,0.8s
LPAZ La Paz 85.86 122 P **P 00 47 23.1 -0.5**
LPAZ IAmb IAmb 00 47 30.1
comp=Z,14nm,1.1s
LPAZ La Paz 85.86 122 P **P 00 47 23.2 -0.4**
comp=Z,4.6nm,1.1s,baz=2.5,slow=6.7,SNR=11
LPAZ LR LR 01 29 34.4
comp=Z,151nm,19.2s,baz=322,slow=38
comp=Z,4.6nm,1.1s
CD2 Chengdu 85.89 316 *e*P **P 00 47 22.0 -1.1**
VAE Valguarnera 86.88 28 LR LR 01 27 47.5
comp=Z,1μm,18.8s,baz=338,slow=37
KEST Kesra 86.88 32 LR LR 01 27 32.4
comp=Z,844nm,18.0s,baz=359,slow=36
KSH Kashi 87.35 340 P **P 00 47 33.3 +3.2**
KSH pP pwP 00 47 38.4 +2.9
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,540nm,14.4s
KSH LR LR
comp=Z,940nm,18.9s
KSH LR LR
comp=Z,900nm,15.5s
BTK Batken 87.83 344 P **P 00 47 33.1 +0.7**
GYA Guiyang 88.33 311 ⇓P **P 00 47 35.8 +0.7**
GYA S **S 00 58 14.1 -6.2**
GYA pmax pmax
comp=Z,4.0nm,1.0s
GYA pmax pmax
comp=Z,190nm,5.6s
GYA LR LR
comp=Z,270nm,21.4s
GYA LR LR
comp=Z,400nm,25.1s
GYA LR LR
comp=Z,520nm,29.2s
BRTR Keskin Array B 88.90 12 LR LR 01 30 26.4
comp=Z,277nm,18.6s,baz=339,slow=38
GAR Garm 88.95 344 P **P 00 47 38.5 +0.7**
GNI Garni 89.48 4 P **P 00 47 41.5 +1.2**
GNI Garni 89.48 4 LR LR 01 29 45.8
comp=Z,235nm,21.8s,baz=2.5,slow=37
SIMJ Simiganj 89.50 345 P **P 00 47 40.4 0.0**
RAO Raoul Island 90.05 220 LR LR 01 20 54.3
comp=Z,194nm,21.5s,baz=116,slow=31
PTLB Pontes e Lacer 90.24 114 P **P 00 47 44.3 +0.6**
PZH PanZhiHua 90.58 315 P **P 00 47 45.8 +0.2**
PZH SKS **SKSac 00 58 18.8 +1.5**
PZH S **S 00 58 42.4 +1.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,5.7s
PZH LR LR
comp=Z,320nm,17.5s
PZH LR LR
comp=Z,350nm,17.5s
PZH LR LR
comp=Z,470nm,18.1s
DZM Mont Dzumac 91.36 236 *e*LR LR 01 17 01.1
comp=Z,635nm,30.0s
JAY Jayapura 91.39 268 LR LR 01 22 11.8
comp=Z,283nm,20.2s,baz=19,slow=31
IDI Anoyia 91.65 20 LR LR 01 31 39.8
comp=Z,350nm,19.9s,baz=324,slow=37
PMG Port Moresby 92.60 258 LR LR 01 25 11.0
comp=Z,155nm,19.6s,baz=56,slow=33
QIZ Qiongzhong 92.95 305 P **P 00 47 55.9 -0.6**
QIZ S **S 00 59 00.1 -2.5**
QIZ SS **SS 01 05 18.8 +3.4**
QIZ LR LR
comp=Z,270nm,15.7s
QIZ LR LR
comp=Z,270nm,18.6s
QIZ LR LR
comp=Z,350nm,19.2s
BBTS Babate 93.03 63 LR LR 01 28 40.5
comp=Z,484nm,18.0s,baz=201,slow=35
KBL Kabul 93.52 344 P **P 00 47 59.1 0.0**
KBL IAmb IAmb 00 48 05.1
comp=Z,6.4nm,1.1s
DAV Davao City (W) 93.53 285 LR LR 01 22 16.4
comp=Z,315nm,21.6s,baz=30,slow=30
NIL Nilore 93.57 341 P **P 00 47 59.3 +0.1**
NIL IAmb IAmb 00 48 05.8
comp=Z,8.3nm,0.9s
MMAI Mount Meron Ar 95.74 12 LR LR 01 33 41.3
comp=Z,252nm,21.1s,baz=342,slow=37
ASF Jabal al Asfar 96.76 11 LR LR 01 34 23.0
comp=Z,380nm,21.7s,baz=323,slow=37
BDFB Brasilia 97.04 106 LR LR 01 34 51.3
comp=Z,278nm,21.5s,baz=328,slow=37
RCBR Riachuelo 97.16 90 LR LR 01 29 18.7
comp=Z,85nm,19.5s,baz=312,slow=34
BRDH Bariadhala 98.22 322 LR LR 01 36 31.9
comp=Z,506nm,19.9s,baz=350,slow=38
CMAR Chiang Mai Arr 98.82 313 LR LR 01 36 17.9
comp=Z,246nm,19.4s,baz=40,slow=37
EIL Elat 98.97 13 LR LR 01 35 36.7
comp=Z,178nm,21.2s,baz=335,slow=37
CPUP Villa Florida 99.86 120 LR LR 01 37 48.3
comp=Z,110nm,21.5s,baz=348,slow=38
URZ Urewera 99.90 220 LR LR 01 27 38.9
comp=Z,402nm,19.3s,baz=130,slow=32
QSPA South Pole Qui 140.44 180 PKP **PKPdf 00 54 11.7 +0.8**
comp=Z,1.4nm,0.9s,baz=15,slow=2.2,SNR=2.2
VNA2 Neumayer--Watz 147.29 149 ⇑PKPdf **PKPbc 00 54 24.3 -0.8**
baz=280,slow=11
VNA2 Neumayer--Watz 147.29 149 ⇑PKPdf **PKPbc 00 54 24.3 -0.8**
comp=Z,6.9nm,0.9s,baz=280,slow=11
LBTB Lobatse 148.32 45 **PKPbc 00 54 29.3 -0.1**
SNAA Sanae 148.59 151 PKPdf **PKPbc 00 54 28.8 +0.1**
SNAA Sanae 148.59 151 ⇑PKPdf **PKPbc 00 54 28.8 +0.1**
comp=Z,171nm,1.0s
SNAA Sanae 148.59 151 PKPbc **PKPbc 00 54 29.2 +0.6**
comp=Z,13nm,1.1s,baz=217,slow=5.1,SNR=3.8
TROLL Troll, Antarti 150.11 153 PKPdf **PKPbc 00 54 31.5 -1.0**
TROLL Troll, Antarti 150.11 153 ⇑PKPdf **PKPbc 00 54 31.5 -1.0**
comp=Z,407nm,1.2s
BOSA Boshof 151.21 49 PKPbc **PKPbc 00 54 35.4 -1.0**
BOSA Boshof 151.21 49 PKPbc **PKiKP 00 54 37.0 0.0**
comp=Z,8.6nm,0.9s,baz=323,slow=1.4,SNR=7.6
SYO Syowa Base 160.91 169‖*e*PKPdf **PKPdf 00 54 42.2 +0.4**
SYO Syowa Base 160.91 169‖*e*pPKPdf pPKPdf 00 54 47.0 +2.5

NAO ***14*** *00:43:02.3±3.2, 77°.58N×7°.23E, ML2.9*
BER ***14*** *00:43:06.0±2.9, 77°.64N×7°.63E, h10km, mb(Pn)3.5, ML2.9(NAO), Confirmed Earthquake*
KOLA ***14*** *00:43:07.5, 77°.67N×9°.41E, h0km, ML2.4, Greenland sea*
DNK ***14*** *00:43:09.1±1.9, 77°.82N×5°.81E, h0km±55km, ML1.1*
FCIAR ***14*** *00:43:10.0, 77°.82N×9°.08E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.60*

ISC 14 00:43:03.0±1.2, 77°.69N±0°.05×7°.58E±0°.05, h10km, n30, σ2°39/52, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.45**	**72**	Pn	**Pn**	**00 43 30.9**	**+1.7**
BRBA				Sn	**Sn**	**00 43 47.5**	**-0.6**
BRBA	**Barentsburg A**	**1.45**	**72**	*e*P	**Pn**	**00 43 31.2**	**+2.1**
BRBA				IAML		00 43 46.4	
BRBA	comp=Z,74nm,0.3s			*e*S	**Sn**	**00 43 47.2**	**-1.0**
BRBB	**Barentsburg B**	**1.46**	**71**	Pn	**Pn**	**00 43 30.9**	**+1.7**
BRBB				Sn	**Sn**	**00 43 47.8**	**-0.6**
BRBB	**Barentsburg B**	**1.46**	**71**	*e*P	**Pn**	**00 43 30.9**	**+1.7**
BRBB				*e*S	**Sn**	**00 43 47.7**	**-0.6**
BRBB	**Barentsburg B**	**1.46**	**71**	P	**Pn**	**00 43 30.6**	**+1.4**
BRBB				S	**Sn**	**00 43 45.5**	**-2.9**
KBS	**Kingsbay**	**1.53**	**33**	Pn	**Pn**	**00 43 33.0**	**+2.7**
KBS				Sn	**Sn**	**00 43 48.9**	**-1.2**
KBS	**Kingsbay**	**1.53**	**33**	P	**Pn**	**00 43 32.9**	**+2.7**
KBS				S	**Sn**	**00 43 48.4**	**-1.7**
KBS	**Kingsbay**	**1.53**	**33**	*e*P	**Pn**	**00 43 32.3**	**+2.0**
KBS				*e*S	**Sn**	**00 43 48.2**	**-2.0**
KBS	**Kingsbay**	**1.53**	**33**	*e*P	**Pn**	**00 43 31.9**	**+1.6**
HSPB	**Hornsund (broa**	**1.88**	**108**	Pn	**Pn**	**00 43 35.9**	**+0.8**
HSPB				Sn	**Sn**	**00 43 53.8**	**-5.0**
HSPB	**Hornsund (broa**	**1.88**	**108**	*e*P	**Pn**	**00 43 36.1**	**+1.1**
HSPB				*e*S	**Sn**	**00 43 56.9**	**-2.0**
HSPB	comp=Z,19nm,0.3s			IAML		00 44 02.0	
HSPB	**Hornsund (broa**	**1.88**	**108**	P	**Pn**	**00 43 36.2**	**+1.1**
HSPB				S	Sn	00 43 51.9	-6.9
SPA0	**Spitsbergen Ar**	**1.91**	**71**	Pn	**Pn**	**00 43 38.6**	**+3.0**
SPA0	baz=248,slow=14			Sn	**Sn**	**00 44 01.1**	**+1.5**
SPA0	**Spitsbergen Ar**	**1.91**	**71**	Pn	**Pn**	**00 43 38.6**	**+3.0**

baz=248,slow=14
SPA0 Sn **Sn** **00 44 01.1 +1.5**
baz=254,slow=22
SPA0 Spitsbergen Ar 1.91 71⇑ *i*P **Pn** **00 43 38.5 +3.0**
SPA0 *e*S **Sn** **00 43 58.6 -1.0**
SPITS Spitsbergen Ar 1.91 71 P **Pn** **00 43 38.0 +2.4**
HOPEN Hopen 4.07 98 Pn **Pn** **00 44 06.8 +1.6**
HOPEN Sn **Sn** **00 44 50.6 -2.1**
HOPEN Hopen 4.07 98 *e*P **Pn** **00 44 07.4 +2.2**
HOPEN *e*S **Sn** **00 44 50.8 -2.0**
HOPEN IAML 00 44 54.0
comp=Z,16nm,0.6s
HOPEN Hopen 4.07 98 *e*P **Pn** **00 44 06.7 +1.5**
HOPEN *e*S **Sn** **00 44 49.9 -2.9**
NOR Nord 5.81 323 Pn **Pn** **00 44 29.8 +0.7**
NOR Sn **Sn** **00 45 33.1 -2.5**
NOR Nord 5.81 323 Pn **Pn** **00 44 29.8 +0.7**
NOR Sn **Sn** **00 45 33.1 -2.5**
NOR Nord 5.81 323 *i* P **Pn** **00 44 29.7 +0.7**
NOR *i* S **Sn** **00 45 32.4 -3.3**
NOR IAML 00 45 38.1
comp=Z,0.7nm,0.2s
DAG Danmarks Havn 5.86 274 *e*P **Pn** **00 44 32.0 +2.4**
DAG *e*S **Sn** **00 45 32.0 -4.7**
DAG Danmarks Havn 5.86 274 *i* P **Pn** **00 44 31.1 +1.5**
DAG *e*S Sn 00 45 30.4 -6.3
DAG IAML 00 45 35.1
comp=Z,1.1nm,0.5s
DBG Daneborg 7.48 257 *e*P **Pn** **00 44 53.2 +1.4**
DBG *e*S Sn 00 46 10.0 -6.5
DBG Daneborg 7.48 257 *i* P **Pn** **00 44 53.7 +1.8**
DBG *i* S Sn 00 46 10.4 -6.1
DBG IAML 00 46 15.2
comp=Z,0.5nm,0.9s
ZFI2 Zemlya Franca- 7.95 48 *e*P **Pn** **00 45 01.6 +3.4**
ZFI2 *e*S **Sn** **00 46 23.4 -4.5**
comp=Z,12nm,3.4s
OMEGA Omega 7.96 49 *e*P **Pn** **00 45 01.7 +3.3**
OMEGA *e*S **Sn** **00 46 23.6 -4.7**
comp=Z,15nm,2.4s
ARA0 ARCESS Array S 9.56 139 Pn **Pn** **00 45 21.6 +1.2**
baz=326,slow=12
ARA0 Sn Sn 00 47 00.5 -7.2
baz=347,slow=22
ARA0 ARCESS Array S 9.56 139 Pn **Pn** **00 45 21.6 +1.2**
baz=326,slow=12
ARA0 Sn Sn 00 47 00.5 -7.2
baz=347,slow=22

*NEIC **14** 00:48:30.9±0.6,36°.41N±0°.01×96°.87W±0°.02,h5km±1km, mb_Lg3.2/77,ML3.6/59,Error ellipse: s-maj=3.7km s-min=2.5km az=65.0*
*IDC **14** 00:48:30.1±2.2,36°.42N×97°.06W,h0km,mbtmp2.9/3, ML2.9/3,Error ellipse: s-maj=31.8km s-min=11.4km az=107.0*
ISC 14 00:48:30.8±0.9,36°.41N±0°.02×96°.90W±0°.03,h14km±7km, n91,σ1§69/80,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.11**	**27**		**Pg**	**00 48 33.8**	**-0.5**
OK051				Sg	**Sg**	**00 48 35.4**	**-1.1**
QUOK	**Quay**	**0.28**	**146**		**Pg**	**00 48 36.9**	**+0.1**
QUOK				Sg	**Sg**	**00 48 40.7**	**-0.1**
QUOK				IAML		00 48 41.0	
	comp=E,16μm,0.3s						
QUOK				IAML		00 48 41.0	
	comp=N,12μm,0.2s						
OK052	**Battle Ridge R**	**0.42**	**169**		**Pg**	**00 48 39.5**	**+0.3**
OK052				Sg	**Sg**	**00 48 44.8**	**-0.1**
BLOK	**Blackwell**	**0.44**	**325**	Pg	**Pg**	**00 48 39.8**	**+0.2**
BLOK				Sg	**Sg**	**00 48 45.7**	**+0.2**
BLOK				IAML		00 48 46.0	
	comp=N,8μm,0.3s						
BLOK				IAML		00 48 46.1	
	comp=E,9μm,0.2s						
OK031	**S. Brethren Rd**	**0.45**	**174**		**Pg**	**00 48 40.2**	**+0.4**
DEOK	**Depew**	**0.65**	**150**	Pg	**Pg**	**00 48 43.7**	**+0.1**
DEOK				Sg	**Sg**	**00 48 52.3**	**+0.2**
DEOK				IAML		00 48 54.8	
	comp=E,2μm,0.2s						
OK029	**Liberty Lake**	**0.76**	**217**		**Pg**	**00 48 45.7**	**+0.2**
OK029				IAML		00 49 00.3	
	comp=E,2μm,0.6s						
KAN13	**South Haven SW**	**0.76**	**323**	Pg	**Pg**	**00 48 45.8**	**+0.1**
KAN13				Sg	**Sg**	**00 48 56.1**	**+0.3**
ADOK	**Arcadia Dam**	**0.84**	**207**		**Pg**	**00 48 47.4**	**+0.2**
CROK	**Carrier**	**0.88**	**277**	Pg	**Pg**	**00 48 48.1**	**+0.2**
CROK				Sg	**Sg**	**00 49 00.1**	**+0.7**
CROK				IAML		00 49 00.7	
	comp=N,2μm,0.3s						
CROK				IAML		00 49 04.5	
	comp=E,2μm,0.2s						
OK009	**Oakdale Elemen**	**0.92**	**207**		**Pg**	**00 48 48.8**	**+0.1**
KAN09	**Caldwell North**	**0.93**	**322**	Pg	**Pg**	**00 48 48.8**	**-0.1**
KAN09				Sg	**Sg**	**00 49 00.4**	**-0.6**
KAN17	**Caldwell West**	**0.94**	**313**	Pg	**Pg**	**00 48 49.2**	**+0.1**
KAN17				Sg	**Sg**	**00 49 01.5**	**+0.1**
KAN17				IAML		00 49 02.0	
	comp=E,3μm,0.2s						
KAN17				IAML		00 49 02.1	
	comp=N,3μm,0.3s						
KAN01	**Argonia South**	**1.02**	**318**	Pg	**Pg**	**00 48 50.4**	**-0.1**
KAN01				Sg	**Sg**	**00 49 04.0**	**+0.2**
KAN01				IAML		00 49 05.5	
	comp=E,3μm,0.1s						
KAN01				IAML		00 49 05.5	
	comp=N,3μm,0.1s						
KAN14	**Manchester OK**	**1.02**	**303**	Pg	**Pg**	**00 48 50.5**	**0.0**
KAN14				Sg	**Sg**	**00 49 03.7**	**-0.1**
KAN14				IAML		00 49 05.3	
	comp=E,3μm,0.1s						
KAN05	**Bluff City Nor**	**1.05**	**312**	Pg	**Pg**	**00 48 51.0**	**-0.1**
KAN05				Sg	**Sg**	**00 49 05.0**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.09**	**204**	Pg	**Pg**	**00 48 51.3**	**-0.5**
OKCSW				Sg	**Sg**	**00 49 06.6**	**+0.6**
KAN08	**Anthony NE Sta**	**1.19**	**314**	Pg	**Pg**	**00 48 53.5**	**-0.2**
KAN08				Sg	**Sg**	**00 49 09.3**	**+0.1**
KAN08				IAML		00 49 14.8	
	comp=E,2μm,0.3s						
FNO	**Franklin**	**1.22**	**200**	Pg	**Pg**	**00 48 53.5**	**-0.8**
FNO				Sg	**Sg**	**00 49 10.3**	**+0.2**
FNO				IAML		00 49 14.4	
	comp=E,2μm,0.3s						
FNO				IAML		00 49 14.5	
	comp=N,1μm,0.2s						
W35A	**Tecumseh**	**1.25**	**179**	Pg	**Pg**	**00 48 54.0**	**-0.9**
W35A				Sg	**Sg**	**00 49 11.1**	**-0.1**
W35A				IAML		00 49 13.2	
	comp=E,884nm,0.2s						
W35A				IAML		00 49 13.2	
	comp=N,1μm,0.3s						
KAN12	**Harper NE Stat**	**1.25**	**316**	Pg	**Pg**	**00 48 54.7**	**-0.3**
KAN12				Sg	**Sg**	**00 49 11.2**	**-0.1**
OK038	**West end E0370**	**1.49**	**273**		**Pn**	**00 48 58.8**	**+1.7**
CSTR	**Hydro, Custer**	**1.64**	**243**		**Pn**	**00 49 01.2**	**+2.0**
NOKA	**Waynoka**	**1.65**	**279**		**Pn**	**00 49 00.7**	**+1.2**
X34A	**Smith Ranch, M**	**1.95**	**203**	Pn	**Pn**	**00 49 06.0**	**+2.4**
ELIS	**Ellis County**	**2.06**	**261**		**Pn**	**00 49 07.9**	**+2.8**
WMOK	**Wichita Mounta**	**2.26**	**223**		**Pn**	**00 49 09.8**	**+2.0**
HHAR	**Hobbs**	**2.39**	**92**	Pn	**Pn**	**00 49 11.4**	**+1.8**
R32A	**Long Quarter,**	**2.48**	**325**	Pn	**Pn**	**00 49 11.8**	**+1.0**
WTFS	**Witchita Falls**	**2.93**	**206**	Pn	**Pn**	**00 49 18.3**	**+1.4**
WTFS	**Witchita Falls**	**2.93**	**206**	P	**Pn**	**00 49 19.8**	**+2.8**
SMWD	**Samnorwood**	**3.01**	**245**	P	**Pb**	**00 49 23.1**	**-1.2**
Z35A	**Perchaven, San**	**3.08**	**186**	P	**Pn**	**00 49 21.6**	**+2.6**
MIAR	**Mount Ida**	**3.29**	**123**	IAmb_Lg		00 50 23.4	
	comp=Z,58nm,1.0s						
FW06	**Azle**	**3.47**	**189**	Pn	**Pn**	**00 49 26.2**	**+1.9**
FW06				IAmb_Lg		00 50 29.6	
	comp=Z,47nm,0.9s						
FW06	**Azle**	**3.47**	**189**	P	**Pn**	**00 49 28.0**	**+3.7**
Z38A	**Mt. Pleasant**	**3.51**	**153**	P	**Pn**	**00 49 27.2**	**+2.3**
FW07	**Weatherford**	**3.77**	**191**	P	**Pb**	**00 49 37.0**	**0.0**
PLPT	**Palo Pinto**	**3.77**	**198**		**Pn**	**00 49 30.6**	**+2.1**
PLPT	**Palo Pinto**	**3.77**	**198**	P	**Pn**	**00 49 31.0**	**+2.5**
MGMO	**Mountain Grove**	**3.79**	**77**	IAmb_Lg		00 50 29.3	
	comp=Z,36nm,1.1s						
X40A	**Basin Creek Fa**	**3.83**	**119**	Pn	**Pn**	**00 49 31.0**	**+1.7**
X40A				IAmb_Lg		00 50 38.4	
	comp=Z,62nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.90**	**96**	Pn	**Pn**	**00 49 31.0**	**+0.7**
FCAR				IAmb_Lg		00 50 37.3	
	comp=Z,51nm,0.9s						
WHAR	**Wooly Hollow**	**3.91**	**105**	Pn	**Pn**	**00 49 31.1**	**+0.7**
WHAR				IAmb_Lg		00 50 44.9	
	comp=Z,50nm,0.8s						
FW16	**Waxahatchie**	**3.91**	**180**	IAmb_Lg		00 50 40.4	
	comp=Z,48nm,1.1s						
FW14	**Alvarado**	**4.00**	**184**	IAmb_Lg		00 50 41.0	
	comp=Z,34nm,0.8s						
UALR	**University of**	**4.05**	**112**	Pn	**Pn**	**00 49 33.1**	**+0.7**
UALR				IAmb_Lg		00 50 46.2	
	comp=Z,79nm,0.9s						
APMT	**Aspermont**	**4.06**	**222**		**Pn**	**00 49 34.5**	**+2.0**
APMT	**Aspermont**	**4.06**	**222**	P	Pn	00 49 37.1	+4.6
DKNS	**Dickens**	**4.28**	**232**		**Pn**	**00 49 39.0**	**+3.3**
DKNS				IAmb_Lg		00 50 53.1	
	comp=Z,36nm,0.8s						
DKNS	**Dickens**	**4.28**	**232**	P	**Pn**	**00 49 40.0**	**+4.4**
ABTX	**Abilene, Hawle**	**4.40**	**212**	P	Pb	00 49 44.1	-3.8
WHTX	**Lake Whitney,**	**4.43**	**186**	P	**Pn**	**00 49 39.2**	**+1.7**
N35A	**Tabor**	**4.56**	**12**	Pn	**Pn**	**00 49 40.4**	**+1.0**
Z41A	**Richland Creek**	**4.61**	**132**	IAmb_Lg		00 51 06.5	
	comp=Z,36nm,0.8s						
LCAR	**Lake Charles**	**4.66**	**92**	Pn	**Pn**	**00 49 42.1**	**+1.4**
SN07	**Snyder 07**	**4.66**	**226**	IAmb_Lg		00 51 02.4	
	comp=Z,52nm,0.9s						
RTBA	**Rita Blanca**	**4.71**	**272**	Pn	**Pn**	**00 49 43.4**	**+1.9**
RTBA	**Rita Blanca**	**4.71**	**272**	P	**Pn**	**00 49 44.0**	**+2.5**
T42A	**Van Buren**	**4.71**	**81**		**Pn**	**00 49 43.1**	**+1.8**
T42A				IAmb_Lg		00 50 56.6	
	comp=Z,38nm,0.8s						
SN05	**Snyder 5**	**4.81**	**224**	IAmb_Lg		00 51 12.1	
	comp=Z,45nm,1.0s						
CCAR	**Cane Creek**	**4.88**	**119**	Pn	**Pn**	**00 49 45.0**	**+1.3**
CCAR				IAmb_Lg		00 51 12.1	
	comp=Z,48nm,0.8s						
POST	**Post**	**5.04**	**230**	P	**Pn**	**00 49 49.1**	**+3.0**
BGNE	**Belgrade**	**5.09**	**349**	Pn	**Pn**	**00 49 47.3**	**+0.7**
BGNE				IAmb_Lg		00 51 26.8	
	comp=Z,54nm,0.8s						
PBMO	**Poplar Bluff**	**5.22**	**84**	IAmb_Lg		00 51 22.2	
	comp=Z,59nm,0.7s						
SNAG	**San Augustine**	**5.37**	**154**	P	**Pn**	**00 49 51.8**	**+1.3**
MSTX	**Muleshoe**	**5.39**	**245**	P	**Pn**	**00 49 53.1**	**+2.2**
MSTX				P	Pb	00 49 53.2	-12
BRDY	**Brady**	**5.40**	**199**	IAmb_Lg		00 51 27.1	
	comp=Z,41nm,1.0s						
BRDY	**Brady**	**5.40**	**199**	P	**Pn**	**00 49 52.3**	**+1.4**
FVM	**French Village**	**5.40**	**71**	IAmb_Lg		00 51 22.1	
	comp=Z,42nm,0.9s						
SGCY	**Sterling City**	**5.69**	**219**	IAmb_Lg		00 51 42.9	
	comp=Z,60nm,0.9s						
CGM3	**Cape Girardeau**	**5.88**	**79**	IAmb_Lg		00 51 34.2	
	comp=Z,38nm,1.0s						
SCIA	**State Center**	**6.20**	**26**	IAmb_Lg		00 51 49.2	
	comp=Z,57nm,0.8s						
JCT	**Junction City**	**6.39**	**203**	IAmb_Lg		00 52 00.6	
	comp=Z,49nm,1.0s						
OZNA	**Ozona**	**6.50**	**214**	IAmb_Lg		00 52 06.8	
	comp=Z,25nm,1.0s						
K30B	**Basset**	**6.60**	**342**	IAmb_Lg		00 52 03.1	
	comp=Z,33nm,0.7s						
MNHN	**Monahans**	**7.02**	**226**	IAmb_Lg		00 52 23.1	
	comp=Z,19nm,0.8s						
EF62	**Nixon**	**7.05**	**186**	P	Pn	00 50 22.6	+9.0
HNDO	**Hondo**	**7.14**	**197**	IAmb_Lg		00 52 22.7	
	comp=Z,22nm,0.9s						
HNDO	**Hondo**	**7.14**	**197**	P	**Pn**	**00 50 16.6**	**+1.7**
L40A	**Anamosa**	**7.16**	**36**	IAmb_Lg		00 52 16.4	
	comp=Z,43nm,0.9s						
PLAL	**Pickwick Lake**	**7.32**	**99**	IAmb_Lg		00 52 25.0	
	comp=Z,20nm,1.1s						
USIN	**University of**	**7.53**	**75**	IAmb_Lg		00 52 27.9	
	comp=Z,42nm,1.1s						
SAND	**Sanderson**	**7.78**	**216**	IAmb_Lg		00 52 47.3	
	comp=Z,24nm,0.8s						
SAND	**Sanderson**	**7.78**	**216**	P	**Pn**	**00 50 26.2**	**+2.6**
JFWS	**Jewell Farm**	**8.28**	**36**	IAmb_Lg		00 52 52.2	
	comp=Z,29nm,0.7s						
M44A	**Midewin, Midew**	**8.51**	**52**	IAmb_Lg		00 53 05.1	
	comp=Z,31nm,0.9s						
I40A	**Norwalk**	**8.89**	**31**	IAmb_Lg		00 53 12.3	
	comp=Z,19nm,0.8s						
TXAR	**Lajitas Array**	**9.06**	**221**	Pn	**Pn**	**00 50 39.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=52,slow=12,SNR=4.5						
TXAR				Sn	**Sn**	**00 52 16.6**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=15,SNR=3.8						
TXAR				Lg	Lg	00 53 07.9	
	comp=Z,0.4nm,0.3s,baz=40,slow=22,SNR=4.2						
	comp=Z,0.1nm,0.7s						
PDAR	**Pinedale Array**	**11.64**	**307**	Pn	**Pn**	**00 51 17.5**	**+0.8**
	baz=115,slow=11,SNR=1.6						
PDAR				Lg	Lg	00 54 28.8	
	comp=Z,0.1nm,0.3s,baz=117,slow=25,SNR=1.5						
	comp=Z,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**13.86**	**3**	Pn	Pn	00 51 42.5	-4.2
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=1.6						
ULM				Sn	Sn	00 54 09.0	-11
	comp=Z,0.1nm,0.3s,baz=112,slow=19,SNR=1.7						
ULM				Lg	Lg	00 55 38.5	
	comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=5.2						
	comp=Z,1.0nm,0.7s						

*PGC **14** 00:54:39.6±1.3,50°.49N×130°.40W,h10km,MLSn3.7/38, Mw4.4,206km west of Port Hardy, Bc Vancouver Island, Canada Region*
*IDC **14** 00:54:39.9±0.8,50°.57N×130°.29W,h0km,mb3.7/12, mbtmp3.7/23,ML3.6/10,MS3.9/16,Error ellipse: s-maj=16.6km s-min=9.0km az=67.0*
*NEIC **14** 00:54:43.3±2.4,50°.78N±0°.07×130°.0W±0°.1,h10km±1km, mb4.1/42,Error ellipse: s-maj=14.2km s-min=7.6km az=222.0*
ISC 14 00:54:41.2±0.5,50°.62N±0°.04×130°.20W±0°.04,h10km, n265,σ1§61/284,mb4.0/18,MS3.9/8,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.32**	**88**	Pn	**Pn**	**00 55 04.1**	**-1.6**
HOLB				Sg	**Sb**	**00 55 20.3**	**-2.7**
HOLB	**Holberg**	**1.32**	**88**	P	**Pn**	**00 55 03.9**	**-1.7**
HOLB				S	**Sb**	**00 55 20.6**	**-2.4**
BPEB	**Brooks Peninsu**	**1.62**	**106**	Pn	**Pn**	**00 55 07.2**	**-2.7**
BPEB				Sn	**Sn**	**00 55 26.5**	**-4.4**
PACB	**Port Alice, BC**	**1.74**	**95**	Pn	**Pn**	**00 55 09.4**	**-2.0**
PHC	**Port Hardy**	**1.76**	**86**	Pn	**Pn**	**00 55 10.4**	**-1.4**
PHC				Sn	**Sn**	**00 55 32.3**	**-1.9**
HG4B	**Hotspring**	**1.79**	**340**		**Pn**	**00 55 09.7**	**-2.4**
HG4B					**Sn**	**00 55 32.3**	**-2.5**
JEDB	**Jedway, Haida**	**1.79**	**340**	Pn	**Pn**	**00 55 09.2**	**-2.9**
JEDB				Sn	**Sn**	**00 55 31.2**	**-3.6**
MAYB	**Maynard**	**1.95**	**95**	Pn	**Pn**	**00 55 12.6**	**-1.8**
MAYB				Sn	**Sn**	**00 55 36.6**	**-2.4**
BBB	**Bella Bella**	**2.04**	**39**	Pn	**Pn**	**00 55 14.8**	**-0.8**
BBB	**Bella Bella**	**2.04**	**39**	Pn	**Pn**	**00 55 14.6**	**-0.9**
	14nm,0.3s,baz=225,slow=6.1,SNR=253						
BBB				Sn	**Sn**	**00 55 39.0**	**-2.1**
	58nm,0.3s,baz=228,slow=16,SNR=5.8						
BBB				LR	LR	00 56 10.4	
	comp=Z,2μm,21.2s,baz=231,slow=43						
	99nm,0.6s						
BBB	**Bella Bella**	**2.04**	**39**	Pn	**Pn**	**00 55 14.6**	**-0.9**
BAIB	**Barry Inlet**	**2.18**	**334**	Pn	**Pn**	**00 55 14.8**	**-2.8**
BAIB				Sn	**Sn**	**00 55 40.5**	**-4.2**
NTKA	**Nootka**	**2.53**	**113**	Pn	**Pn**	**00 55 19.6**	**-2.6**
NTKA				Sn	**Sn**	**00 55 50.0**	**-3.0**
HG1B	**Mitchell Dam**	**2.61**	**333**	Pn	**Pn**	**00 55 21.3**	**-2.1**
HG1B				Sn	**Sn**	**00 55 51.7**	**-3.3**
NCRB	**Newcastle Ridg**	**2.66**	**93**	Pn	**Pn**	**00 55 22.8**	**-1.3**
NCSB	**Newcastle Ridg**	**2.66**	**93**	Pn	**Pn**	**00 55 22.8**	**-1.3**
NCSB				Sn	**Sn**	**00 55 54.1**	**-2.3**
BUTB	**Butedale**	**2.67**	**23**	Pn	**Pn**	**00 55 23.8**	**-0.5**
BUTB				Sn	**Sn**	**00 55 56.0**	**-0.8**
ETB	**Estevan Point**	**2.67**	**116**	Pn	**Pn**	**00 55 21.7**	**-2.5**
MOBC	**Moresby Island**	**2.75**	**337**		**Pn**	**00 55 23.2**	**-2.2**
MOBC	**Moresby Island**	**2.75**	**337**	Pn	**Pn**	**00 55 22.8**	**-2.6**
MOBC				Sn	**Sn**	**00 55 54.5**	**-4.2**
GRIB	**Gribbell Islan**	**2.80**	**13**	Pn	**Pn**	**00 55 25.1**	**-1.0**
GRIB				Sn	**Sn**	**00 55 57.8**	**-2.0**
GDR	**Gold River**	**2.81**	**106**	Pn	**Pn**	**00 55 24.2**	**-1.9**
GDR				Sn	**Sn**	**00 55 57.4**	**-2.5**
BNAB	**Bonilla**	**2.89**	**355**	Pn	**Pn**	**00 55 25.7**	**-1.5**
BNAB				Sn	**Sn**	**00 56 00.5**	**-1.5**
DIB	**Dawson Inlet,**	**2.94**	**332**	Pn	**Pn**	**00 55 25.5**	**-2.5**
DIB	**Dawson Inlet,**	**2.94**	**332**	Pn	**Pn**	**00 55 25.4**	**-2.6**
DIB				Sn	**Sn**	**00 55 58.6**	**-4.8**
H02S1	**DAWSON INLET T**	**2.94**	**332**	Pn	**Pn**	**00 55 25.2**	**-2.7**
H02S1				Sn	**Sn**	**00 56 00.7**	**-2.6**
CBB	**Campbell River**	**3.15**	**99**	Pn	**Pn**	**00 55 29.9**	**-0.9**
CBB	**Campbell River**	**3.15**	**99**	Pn	**Pn**	**00 55 30.0**	**-0.9**
CBB				Sn	**Sn**	**00 56 06.5**	**-2.0**
GRNB	**Grenville Isla**	**3.23**	**3**	Pn	**Pn**	**00 55 30.8**	**-1.2**
GRNB	**Grenville Isla**	**3.23**	**3**	Pn	**Pn**	**00 55 31.0**	**-1.0**
GRNB				Sn	**Sn**	**00 56 09.1**	**-1.4**
PCLB	**Port Clements**	**3.41**	**336**	Pn	**Pn**	**00 55 32.9**	**-1.6**
B012	**Ucluelet**	**3.46**	**118**	Pn	**Pn**	**00 55 33.8**	**-1.3**
B012				Sn	**Sn**	**00 56 12.2**	**-3.9**
OZB	**Mount Ozzard**	**3.47**	**117**		**Pn**	**00 55 32.9**	**-2.5**
OZB	**Mount Ozzard**	**3.47**	**117**	Pn	**Pn**	**00 55 32.8**	**-2.5**
OZB				Sn	**Sn**	**00 56 12.7**	**-3.8**
MBLB	**Minette Bay Lo**	**3.55**	**15**	Pn	**Pn**	**00 55 36.1**	**-0.2**
KITB	**Kitimat**	**3.59**	**15**	Pn	**Pn**	**00 55 36.6**	**-0.3**
KITB				Sn	**Sn**	**00 56 18.8**	**-0.5**
BFSB	**Bamfield**	**3.74**	**117**	Pn	**Pn**	**00 55 37.6**	**-1.3**
B928	**Bamfield**	**3.74**	**117**	Pn	**Pn**	**00 55 37.9**	**-1.0**
B927	**Port Alberni**	**3.75**	**110**	Pn	**Pn**	**00 55 38.2**	**-0.9**
PABB	**Port Alberni**	**3.75**	**110**	Pn	**Pn**	**00 55 37.9**	**-1.2**
TXB	**Texada**	**3.82**	**102**	Pn	**Pn**	**00 55 38.9**	**-1.1**
MGRB	**Mount Grey**	**3.92**	**112**	Pn	**Pn**	**00 55 39.8**	**-1.7**
NLLB	**Nanaimo Lost L**	**4.25**	**107**	Pn	**Pn**	**00 55 44.7**	**-1.2**
PTRF	**Port Renfrew**	**4.30**	**117**	Pn	**Pn**	**00 55 45.1**	**-1.5**
B926	**Mesachie Lake**	**4.33**	**112**	Pn	**Pn**	**00 55 45.9**	**-1.1**
CLRS	**Cowichan Lake**	**4.33**	**112**		**Pn**	**00 55 46.4**	**-0.6**
CLRS	**Cowichan Lake**	**4.33**	**112**	Pn	**Pn**	**00 55 45.6**	**-1.4**
UBRB	**Upper Baezaeko**	**4.43**	**57**	Pn	**Pn**	**00 55 49.6**	**+1.1**
UBRB				Sn	**Sn**	**00 56 40.5**	**+0.4**
C03A	**Quillayute Air**	**4.56**	**124**	Pn	**Pn**	**00 55 50.3**	**+0.2**
WPB	**Watts Point**	**4.60**	**99**	Pn	**Pn**	**00 55 50.6**	**-0.1**
WPB				Sn	**Sn**	**00 56 43.1**	**-1.1**
GOBB	**Galiano Island**	**4.65**	**109**	Pn	**Pn**	**00 55 50.9**	**-0.5**
GOBB				Sn	**Sn**	**00 56 43.7**	**-1.6**
SYMB	**Survey Mountai**	**4.65**	**114**	Pn	**Pn**	**00 55 50.8**	**-0.7**
WSLR	**Whistler**	**4.69**	**93**	Pn	**Pn**	**00 55 51.9**	**-0.1**
OBC	**Olympics--Boni**	**4.77**	**121**	Pn	**Pn**	**00 55 52.9**	**-0.2**
V35K	**Ketchikan**	**4.79**	**350**		**Pn**	**00 55 52.7**	**-0.7**
V35K	**Ketchikan**	**4.79**	**350**	Pn	**Pn**	**00 55 53.0**	**-0.3**
V35K				Sn	**Sn**	**00 56 46.8**	**-2.1**
B010	**North Saanich**	**4.81**	**112**	Pn	**Pn**	**00 55 52.6**	**-0.9**
PGC	**Sidney**	**4.81**	**112**	Pn	**Pn**	**00 55 54.3**	**+0.8**
PGC	**Sidney**	**4.81**	**112**	Pn	**Pn**	**00 55 53.5**	**-0.1**
B009	**North Saanich**	**4.81**	**112**	Pn	**Pn**	**00 55 52.4**	**-1.2**
B011	**North Saanich**	**4.81**	**112**	Pn	**Pn**	**00 55 52.8**	**-0.8**
SNB	**Saturna Island**	**4.92**	**109**	Pn	**Pn**	**00 55 55.1**	**-0.1**
STW	**Striped Peak**	**4.93**	**118**	Pn	**Pn**	**00 55 54.8**	**-0.5**
VGZ	**Gonzales**	**4.99**	**114**	Pn	**Pn**	**00 55 55.3**	**-0.8**
OSD	**Olympics--Snow**	**5.10**	**121**	Pn	**Pn**	**00 55 57.0**	**-0.8**
CRAG	**Craig**	**5.17**	**341**	Pn	**Pn**	**00 55 57.3**	**-1.2**
FSJB	**Fort St James**	**5.27**	**41**	Pn	**Pn**	**00 56 01.0**	**+1.1**
FSJB				Sn	**Sn**	**00 57 01.0**	**+0.3**
NLWA	**Neilton Lookou**	**5.27**	**125**		**Pn**	**00 56 00.1**	**0.0**
LLLB	**Lillooet**	**5.30**	**87**	Pn	**Pn**	**00 56 00.4**	**0.0**
LLLB	**Lillooet**	**5.30**	**87**	Pn	**Pn**	**00 56 00.5**	**+0.1**
LLLB				Sn	**Sn**	**00 56 59.6**	**-1.8**
U35K	**Hyder**	**5.30**	**1**		**Pn**	**00 56 01.0**	**+0.7**
U35K	**Hyder**	**5.30**	**1**	Pn	**Pn**	**00 55 59.8**	**-0.5**
WISH	**Wishkah**	**5.50**	**127**	Pn	**Pn**	**00 56 02.5**	**-0.6**
HDW	**Hoodsport**	**5.55**	**120**	Pn	**Pn**	**00 56 03.8**	**-0.1**
GNW	**Green Mountain**	**5.73**	**119**		**Pn**	**00 56 04.8**	**-1.4**
GNW	**Green Mountain**	**5.73**	**119**	Pn	**Pn**	**00 56 05.0**	**-1.2**
U33K	**Whale Pass**	**5.77**	**344**	Pn	**Pn**	**00 56 06.2**	**-0.6**
U33K	**Whale Pass**	**5.77**	**344**	Pn	**Pn**	**00 56 05.9**	**-0.9**
U33K				Sn	**Sn**	**00 57 11.8**	**-1.2**
WRAK	**Wrangell Islan**	**5.95**	**348**	Pn	**Pn**	**00 56 07.0**	**-2.2**
WRAK	**Wrangell Islan**	**5.95**	**348**	Pn	**Pn**	**00 56 08.5**	**-0.7**
WRAK				Sn	**Sn**	**00 57 14.7**	**-2.6**
RADR	**Rader Ridge**	**5.98**	**132**	Pn	**Pn**	**00 56 10.9**	**+1.2**
T35M	**Bob Quinn**	**6.37**	**360**	Pn	**Pn**	**00 56 16.6**	**+1.5**
T35M	**Bob Quinn**	**6.37**	**360**	Pn	**Pn**	**00 56 16.2**	**+1.1**
T35M				Sn	**Sn**	**00 57 27.0**	**-0.8**
D05A	**Enumclaw**	**6.41**	**119**		**Pn**	**00 56 17.4**	**+1.8**
D05A	**Enumclaw**	**6.41**	**119**	Pn	**Pn**	**00 56 14.9**	**-0.7**
**F03

comp=Z,649nm,18.3s,baz=276,slow=38
1.6nm,0.8s
YKAW1 **Yellowknife Wh 14.65 30** P **Pn 00 58 07.9 -0.4**
YKAW3 **Yellowknife Wh 14.67 29** P **Pn 00 58 08.0 -0.5**
FLWY **Flagg Ranch 14.72 109** Pn **P 00 58 12.0 -3.8**
NVAR **Mina Array Bea 14.83 141** P **P 00 58 18.0 +1.1**
NVAR **Mina Array Bea 14.83 141** Pn **Pn 00 58 12.5 +1.5**
0.1nm,0.3s,baz=329,slow=12,SNR=1.2
NVAR LR LR 01 03 30.1
comp=Z,270nm,19.1s,baz=291,slow=36
0.2nm,0.4s
KDAK Kodiak Island 14.88 307 LR LR 01 02 18.9
comp=Z,671nm,20.4s,baz=349,slow=31
TPAW Teton Pass 14.91 111 P 00 58 15.0 -2.9
I30M Mount Dempster 14.99 350 Pn **Pn 00 58 13.3 +0.3**
I30M Mount Dempster 14.99 350 P **P 00 58 17.7 -0.8**
LOHW Long Hollow 15.04 110 P 00 58 16.6 -2.8
AHID Auburn Hatcher 15.25 114 P 00 58 19.8 -1.8
AHID IAmb IAmb 00 58 30.3
comp=Z,7.1nm,0.9s
EGAK Eagle 15.31 342 Pn 00 58 16.2 -0.9
EGAK IAmb IAmb 00 58 26.8
comp=Z,7.4nm,0.8s
EGAK Eagle 15.31 342 P **Pn 00 58 16.4 -0.7**
J26L Joseph Creek 15.60 338 Pn 00 58 20.5 -0.5
J26L IAmb IAmb 00 58 30.1
comp=Z,14nm,1.0s
I28M Miner Creek 15.70 345 Pn 00 58 21.8 -0.5
I28M IAmb IAmb 00 58 30.8
comp=Z,13nm,1.2s
I28M Miner Creek 15.70 345 P **Pn 00 58 22.4 +0.1**
HWUT Hardware Ranch 15.72 118 P 00 58 28.2 +1.4
HWUT IAmb IAmb 00 58 34.3
comp=Z,19nm,1.5s
DUG Dugway, Tooele 16.02 124 P 00 58 29.6 -0.4
J25K Salcha River, 16.14 336 P **P 00 58 32.5 +1.3**
J25K Salcha River, 16.14 336 P **Pn 00 58 27.9 0.0**
EPYK Eagle Plains 16.14 351 P **Pn 00 58 28.1 +0.2**
I27K Kandik River 16.14 343 P **Pn 00 58 27.7 -0.3**
PD31 Pinedale Array 16.16 111 P 00 58 31.2 -0.5
PDAR Pinedale Array 16.16 111 P 00 58 30.5 -1.2
PDAR Pinedale Array 16.16 111 Pn **P 00 58 31.1 -0.6**
comp=Z,0.1nm,0.3s,baz=310,slow=12,SNR=15
PDAR LR LR 01 04 38.6
comp=Z,238nm,18.5s,baz=230,slow=37
comp=Z,3.1nm,1.0s
H29M Whitestone 16.19 348 P **P 00 58 31.5 -0.2**
H29M Whitestone 16.19 348 P **Pn 00 58 28.8 +0.3**
I26K Coal Creek Min 16.19 340 P **P 00 58 31.2 -0.4**
I26K IAmb IAmb 00 58 37.7
comp=Z,19nm,1.1s
I26K Coal Creek Min 16.19 340 P **Pn 00 58 28.3 -0.2**
G31M Satah River 16.48 354 P **P 00 58 32.6 -2.2**
ILAR Eielson Array 16.67 335 Pn **P 00 58 36.8 -0.2**
baz=144,slow=10.0,SNR=13
comp=Z,1.0nm,0.9s
H27K Steamboat Moun 16.69 344 P **P 00 58 35.1 -2.1**
WRH Wood River Hil 16.78 333 P 00 58 37.1 -1.0
WRH IAmb IAmb 00 58 44.2
comp=Z,18nm,1.2s
G29M Pine Creek 16.81 349 P **P 00 58 36.9 -1.7**
CCB Clear Creek Bu 16.83 333 P **P 00 58 39.5 +0.8**
M20K Styx River 16.90 321 P **P 00 58 41.1 +1.5**
M20K IAmb IAmb 00 59 01.3
comp=Z,19nm,1.2s
PRP Porcupine Dome 16.91 338 P **P 00 58 40.9 +1.1**
WCT Wildcat Mounta 16.91 140 P **P 00 58 41.8 +1.9**
WCT IAmb IAmb 00 58 51.3
comp=Z,19nm,1.4s
F31M Tsiigehtchic 16.96 355 P **P 00 58 39.8 -0.4**
DGMT Dagmar 16.99 87 P **P 00 58 41.3 +0.7**
DGMT IAmb IAmb 00 58 48.6
comp=Z,21nm,0.8s
NEA2 Nenana 17.16 332 P **P 00 58 44.2 +1.8**
NEA2 IAmb IAmb 00 58 55.2
comp=Z,20nm,1.3s
G27K Doyon Strip 17.24 345 P **P 00 58 43.9 +0.6**
G27K Doyon Strip 17.24 345 P **P 00 58 42.6 -0.7**
F30M Barrier River 17.27 353 P **P 00 58 43.2 -0.4**
FFC Flin Flon 17.54 66 P **P 00 58 47.0 +0.3**
FFC IAmb IAmb 00 58 54.0
comp=Z,8.6nm,0.7s
F28M Old Crow 17.71 348 P 00 58 49.4 +0.9
F28M Old Crow 17.71 348 P **P 00 58 49.6 +1.2**
FYU Fort Yukon 17.71 340 P **P 00 58 49.2 +0.7**
G26K Porcupine Rive 17.75 342 P **P 00 58 48.1 -0.7**
L19K White Mountain 17.75 320 P 00 58 51.6 +2.6
H24K Noodor Dome 17.76 336 P **P 00 58 49.3 +0.3**
H24K IAmb IAmb 00 59 00.3
comp=Z,14nm,1.0s
INK Inuvik 17.82 356 P **P 00 58 49.3 -0.3**
INK Inuvik 17.82 356 P **P 00 58 50.8 +1.2**
comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=4.4
comp=Z,2.5nm,1.1s
E29M Blow River 18.22 351 P **P 00 58 53.5 -0.6**
BMAR Burnt Mountain 18.32 342 P **P 00 58 57.8 +2.5**
G24K Hadweenzic Riv 18.34 338 P **P 00 58 56.9 +1.5**
G24K IAmb IAmb 00 59 17.7
comp=Z,13nm,1.1s
F26K Sheenjek River 18.47 343 P **Pn 00 58 56.2 -0.7**
E28M Babbage River 18.60 349 P **Pn 00 58 57.9 -0.7**
F25K Christian Rive 18.67 341 P **Pn 00 58 58.8 -0.7**
KUKN Kugluktuk,NWT 18.80 18 P **Pn 00 59 01.2 +0.3**
C36M Paulatuk 19.02 7 P **Pn 00 59 03.0 -0.5**
J18K Innoko River 19.13 322 P **Pn 00 59 05.5 +0.5**
J18K IAmb IAmb 00 59 16.1
comp=Z,10nm,1.0s
COLD Coldfoot 19.42 336 P **Pn 00 59 07.2 -1.3**
IMAR Indian Mountai 19.55 331 P **Pn 00 59 10.0 +0.1**
PFO Pinyon Flats O 19.76 144 P **Pn 00 59 12.6 -0.2**
comp=Z,0.1nm,0.3s,baz=289,slow=5.0,SNR=4.9
comp=Z,2.0nm,0.8s
J17K VABM Dome 20.04 321 P Pn 00 59 15.0 -0.8
J17K IAmb IAmb 00 59 31.4
comp=Z,17nm,1.2s
C27K Jago River 20.12 346 P **P 00 59 13.9 -1.0**
D25K Kavik River 20.30 343 P **P 00 59 15.9 -1.0**
C26K Camden Bay 20.57 346 P Pn 00 59 21.0 -1.0
J16K Anvik River 20.62 319 P Pn 00 59 22.1 -0.5
GLA Glamis 20.89 141 P **P 00 59 22.3 -1.2**
X16A Lo Mia Camp, P 21.20 133 P **P 00 59 29.4 +2.4**
X16A IAmb IAmb 00 59 41.2
comp=Z,9.0nm,1.1s
A36M Sachs Harbour 21.56 4 P **P 00 59 28.9 -1.4**
A36M IAmb IAmb 00 59 38.4
comp=Z,15nm,1.1s
A36M Sachs Harbour 21.56 4 P **P 00 59 30.1 -0.2**
ULM Lac du Bonnet 21.76 78 P **P 00 59 32.4 -0.3**
ULM IAmb IAmb 00 59 42.5
comp=Z,11nm,0.8s
ULM Lac du Bonnet 21.76 78 P **P 00 59 31.6 -1.1**
comp=Z,2.5nm,0.9s,baz=290,slow=10,SNR=6.4
comp=Z,2.5nm,0.9s
ULM Lac du Bonnet 21.76 78 P **P 00 59 32.2 -0.4**
X18A Snowflake 21.82 130 P **P 00 59 34.7 +1.0**
FCC Fort Churchill 22.17 54 P **P 00 59 36.1 -0.8**
FCC IAmb IAmb 00 59 47.9
comp=Z,7.0nm,0.8s
FCC Fort Churchill 22.17 54 P **P 00 59 37.0 +0.1**
BLKN Baker Lake 22.57 40 P **P 00 59 42.9 +1.7**
E18K Tukpahlearik C 22.60 329 P **P 00 59 42.7 +1.2**
E18K IAmb IAmb 01 00 02.6
comp=Z,10nm,1.2s
PIX Pinacate 22.75 141 P **P 00 59 44.2 +0.8**
EPLO Experimental L 23.25 78 P **P 00 59 48.2 -0.3**
TUC Tucson 23.25 135 P **P 00 59 49.4 +0.6**
TUC IAmb IAmb 00 59 59.8
comp=Z,8.8nm,1.1s
ANMO Albuquerque 23.28 123 P **P 00 59 50.3 +1.2**
ANMO Albuquerque 23.28 123 P **P 00 59 47.6 -1.5**
comp=Z,1.0nm,0.8s,baz=18,slow=7.6,SNR=4.7
ANMO LR LR 01 08 45.9
comp=Z,253nm,19.5s,baz=225,slow=36
comp=Z,1.0nm,0.8s
ECSD EROS Data Cent 23.70 94 P **P 00 59 53.8 +0.9**
SOLO Sioux Lookout 24.17 77 P **P 00 59 57.0 -0.4**
ATKO Atikokan Iron 24.83 79 P **P 01 00 03.8 +0.3**
PKLO Pickle Lake 24.85 72 P **P 01 00 04.3 +0.7**
EYMN Ely 25.20 81 P **P 01 00 06.9 +0.2**
TBO Thunder Bay 26.26 78 P **P 01 00 18.6 +2.2**
GTOO Geraldton 27.41 75 P **P 01 00 30.0 +3.3**
RES Resolute Bay 28.20 19 LR LR 01 11 17.3
comp=Z,238nm,18.3s,baz=146,slow=35
RES Resolute Bay 28.20 19 P **P 01 00 36.2 +2.8**

TXAR Lajitas Array 29.15 127 P **P 01 00 42.6 +0.2**
TXAR Lajitas Array 29.15 127 P **P 01 00 44.3 +1.8**
comp=Z,1.1nm,1.0s,baz=332,slow=7.4,SNR=6.6
TXAR LR LR 01 13 00.7
comp=Z,121nm,21.8s,baz=14,slow=38
comp=Z,1.1nm,1.0s
LPIG La Paz 30.64 142 LR LR 01 12 27.9
comp=Z,146nm,18.8s,baz=38,slow=35
TKL Tuckaleechee C 36.40 96 LR LR 01 17 00.4
comp=Z,491nm,18.3s,baz=344,slow=37
SCHQ Schefferville 37.44 58 LR LR 01 17 33.8
comp=Z,323nm,18.5s,baz=318,slow=37
SPITS Spitsbergen Ar 49.86 9 LR LR 01 25 48.9
comp=Z,211nm,18.2s,baz=291,slow=37
H11N2 WAKE ISLAND Hy 57.86 262 T T 02 07 06.6
baz=42,slow=75,SNR=155
H11N3 WAKE ISLAND Hy 57.86 262 T T 02 07 06.9
baz=42,slow=75,SNR=284
H11N1 WAKE ISLAND Hy 57.87 262 T T 02 07 07.7
baz=42,slow=75,SNR=112
H11S1 WAKE ISLAND Hy 58.89 261 T T 02 08 30.5
baz=40,slow=75,SNR=17
H11S2 WAKE ISLAND Hy 58.90 261 T T 02 08 29.8
baz=40,slow=75,SNR=15
H11S3 WAKE ISLAND Hy 58.91 261 T T 02 08 29.4
baz=40,slow=75,SNR=16
HEH HeiHe 59.78 313 *e*P **P 01 04 46.0 0.0**
HEH pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 70.53 323 P **P 01 05 55.5 -0.6**
comp=Z,0.5nm,0.9s,baz=35,slow=8.0,SNR=3.6
comp=Z,0.5nm,0.9s
ZALV Zalesovo Beam 71.73 339 P **P 01 06 02.9 -0.2**
comp=Z,0.3nm,0.3s,baz=29,slow=3.4,SNR=3.8
comp=Z,0.3nm,0.3s
BVAR Borovoye Array 75.28 347 P **P 01 06 25.2 +1.3**
comp=Z,0.5nm,0.7s,baz=90,slow=1.5,SNR=5.1
comp=Z,0.5nm,0.7s
RAR Rarotonga 76.14 208 LR LR 01 36 41.5
comp=Z,61nm,18.5s,baz=312,slow=33
KURBB Kurchatov Arra 76.20 342 P **P 01 06 28.7 -0.5**
comp=Z,1.0nm,0.8s,baz=21,slow=5.5,SNR=7.0
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 77.54 13 P **P 01 06 37.4 +0.7**
comp=Z,0.1nm,0.3s,baz=355,slow=5.3,SNR=4.3
comp=Z,0.1nm,0.3s
ESDC Sonseca Array 78.49 39 P **P 01 06 44.2 +1.9**
comp=Z,0.5nm,0.8s,baz=310,slow=6.6,SNR=2.1
comp=Z,0.5nm,0.8s
MKAR Makanchi Array 78.99 338 P **P 01 06 46.2 +1.2**
MKAR Makanchi Array 78.99 338 P **P 01 06 45.5 +0.6**
comp=Z,0.9nm,0.7s,baz=20,slow=4.0,SNR=7.7
comp=Z,0.9nm,0.7s
MAKZ Makanchi 79.05 338 P **P 01 06 46.7 +1.5**
ABKAR Akbulak array 80.12 353 P **P 01 06 51.2 +0.2**
ABKAR Akbulak array 80.12 353 P **P 01 06 51.4 +0.4**
ABKAR IAmb IAmb 01 07 00.7
comp=Z,5.6nm,1.3s
KBZ Khabaz 85.84 5 P **P 01 07 21.9 +1.2**
comp=Z,1.3nm,0.8s,baz=341,slow=7.9,SNR=3.9
comp=Z,1.3nm,0.8s
LPAZ La Paz 85.89 122 P **P 01 07 23.2 +1.2**
comp=Z,0.8nm,0.6s,baz=352,slow=5.8,SNR=4.2
comp=Z,0.8nm,0.6s

---

*IDC **14** 01:04:35.4±1.6, 50°.39N×130°.12W, h0km, mb3.5/3, mbtmp3.2/9, ML3.1/6, Error ellipse: s-maj=23.7km s-min=17.5km az=80.0*

ISC 14 01:04:36.7±1.2, 50°.54N±0°.10×130°.28W±0°.09, h10km, n16, σ1§65/12, mb3.6/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.13**	**39**	Pn	**Pn**	**01 05 11.8**	**-0.5**
	5.3nm,0.3s,baz=230,slow=14,SNR=12						
BBB				Sn	**Sn**	**01 05 37.4**	**-1.4**
	14nm,0.3s,baz=288,slow=7.3,SNR=6.9						
	13nm,0.4s						
H02S1	**DAWSON INLET T**	**2.99**	**334**	Pn	**Pn**	**01 05 23.2**	**-1.0**
H02S1				Sn	**Sn**	**01 05 57.5**	**-2.5**
DLBC	**Dease Lake**	**7.91**	**1**	Pn	**Pn**	**01 06 34.0**	**+2.1**
	0.1nm,0.3s,baz=120,slow=14,SNR=1.3						
	1.2nm,0.8s						
YKA	**Yellowknife Ar**	**14.72**	**30**	Pn	**Pn**	**01 08 03.5**	**-1.2**
	0.1nm,0.3s,baz=211,slow=17,SNR=4.9						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**14.80**	**140**	Pn	**Pn**	**01 08 04.8**	**-1.3**
	0.1nm,0.3s,baz=317,slow=13,SNR=1.4						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**16.18**	**111**	Pn	**Pn**	**01 08 24.6**	**+0.4**
	baz=338,slow=6.9,SNR=3.5						
	0.3nm,1.0s						
ILAR	**Eielson Array**	**16.72**	**335**	Pn	**P**	**01 08 35.1**	**+2.1**
	baz=139,slow=9.5,SNR=4.2						
	0.2nm,0.7s						
ULM	**Lac du Bonnet**	**21.82**	**77**	P	**P**	**01 09 29.9**	**+0.9**
	0.4nm,0.4s,baz=339,slow=11,SNR=1.4						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy 57.80**	**262**		T	T	02 17 02.2	
	baz=42,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy 57.80**	**262**		T	T	02 17 02.7	
	baz=42,slow=75,SNR=57						
H11N1	**WAKE ISLAND Hy 57.81**	**262**		T	T	02 17 04.0	
	baz=42,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy 58.83**	**261**		T	T	02 18 21.5	
	baz=42						
H11S2	**WAKE ISLAND Hy 58.84**	**261**		T	T	02 18 27.4	
	baz=42						
H11S3	**WAKE ISLAND Hy 58.84**	**261**		T	T	02 18 25.8	
	baz=42						
NOA	**NORSAR Array B**	**64.56**	**20**	P	**P**	**01 15 14.8**	**+1.3**
	0.9nm,0.9s,baz=313,slow=7.7,SNR=2.6						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**79.05**	**338**	P	**P**	**01 16 40.8**	**0.0**
	0.6nm,1.0s,baz=35,slow=4.4,SNR=3.6						
	0.6nm,1.0s						

TXNET 14 01:09:07.8, 31°.6N±0°.7×104°.3W±0°.7, h4km±1km, ML1.3/7, 1C, Error ellipse: s-maj=1.3km s-min=0.9km az=42.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	↑↑P	Pg	01 09 14.5	-0.1
TPB11				S	Sg	01 09 19.2	0.0
PECS	**Pecos**	**0.42**	**129**	P	Pg	01 09 16.2	+0.3
PECS				S	Sg	01 09 21.8	+0.4
TPB12	**Southwest of T**	**0.49**	**149**	S	Sg	01 09 23.9	+0.3
TPB07	**Mentone**	**0.50**	**96**	S	Sg	01 09 24.2	+0.3
TPB10	**Southeast of T**	**0.55**	**130**	P	Pg	01 09 18.8	+0.4
TPB10				S	Sg	01 09 26.3	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	01 09 19.0	+0.2
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	01 09 21.8	+0.5
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	01 09 26.5	+0.1
MNTX				S	Sg	01 09 39.5	+0.6
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	01 09 28.2	+0.1
VHRN				S	Sb	01 09 42.4	-0.5
ALPN	**Alpine**	**1.36**	**157**	P	Pn	01 09 31.8	-1.9
ALPN				S	Sg	01 09 50.0	-1.6
ODSA	**Odessa**	**1.52**	**71**	P	Pn	01 09 35.3	-0.7
ODSA				S	Sn	01 09 55.4	-0.9
TMB04	**Seminole**	**1.79**	**56**	P	Pn	01 09 39.8	+0.2
TMB04				S	Sb	01 10 03.7	-0.4
TMB02	**Rankin**	**1.94**	**102**	S	Sb	01 10 07.5	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	01 09 50.2	-0.6

---

*IDC **14** 01:15:39.9±0.7, 35°.23N×141°.24E, h0km, mb4.0/16, mbtmp3.9/21, ML3.6/5, MS3.7/4, Error ellipse: s-maj=17.9km s-min=16.0km az=94.0*
*JMA **14** 01:15:43.0±0.2, 35°.3N±0°.4×14°.1E±°, h31km±2km, MV3.4/30, E OFF BOSO PENINSULA*
*NEIC **14** 01:15:44.6±2.2, 35°.21N±0°.05×141°.49E±0°.10, h35km±2km, mb4.2/24, Error ellipse: s-maj=14.0km s-min=7.4km az=110.0*

ISC 14 01:15:44.4±0.6, 35°.26N±0°.05×141°.29E±0°.06, h35km, n75, σ1§38/70, mb4.1/28, MS3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**203**	P	**Pn**	**01 15 55.3**	**-1.4**
BSO3	**Boso 3**	**0.79**	**235**	P	**Pn**	**01 15 57.5**	**-1.2**
BSO3				X		01 16 07.7	

JSMT Sammumatsuo 0.79 300 *e*P **Pn 01 15 58.4 -0.7**
KTR Katsuura 0.81 263 P **Pn 01 15 57.9 -1.3**
KTR *e*S **Sn 01 16 08.7 -1.4**
BSO4 Boso 4 0.83 252 P **Pn 01 15 58.5 -1.0**
JKUC kamogawauchiur 0.90 264 *i* P **Pn 01 15 59.3 -1.2**
JHO Hitachi 1.48 337 P **Pn 01 16 08.2 -0.2**
JHJ2 Mitsune 2.46 210 Pn **Pn 01 16 22.1 +0.1**
JHJ Hachijo jima 2 2.47 211 Pn **Pn 01 16 22.4 +0.3**
32nm,0.3s,baz=76,slow=23,SNR=1.8
JHJ Sn **Sn 01 16 47.4 -3.7**
62nm,0.3s,baz=62,slow=20,SNR=4.1
74nm,0.3s
JMM Marumori 2.64 351 Pn 01 16 24.6 +0.2
MJAR Matsushiro Arr 2.81 298 Pn **Pn 01 16 27.2 +0.3**
1.1nm,0.3s,baz=95,slow=14,SNR=19
MJAR Sn **Sn 01 16 55.4 -4.2**
0.9nm,0.3s,baz=140,slow=14,SNR=4.4
MJAR LR LR 01 17 52.3
comp=Z,419nm,18.9s,baz=102,slow=47
5.2nm,0.4s
MAJO Matsushiro 2.82 298 Pn **Pn 01 16 29.4 +2.5**
MJB9 Matsu-Tunnel 2.82 298 Pn **Pn 01 16 30.4 +3.4**
JGF Kuroka 3.23 277 Pn 01 16 33.9 +1.2
INU Inuyama 3.50 273 Pn **Pn 01 16 37.8 +1.5**
JSD Sado 3.69 320 Pn **Pn 01 16 39.8 +0.8**
JTM Tenmabayashi 5.53 358 Pn **Pn 01 17 04.0 -0.1**
ERM Erimo 6.91 12 Pn **Pn 01 17 22.0 -1.0**
JCJ Chichijima 8.17 174 Pn **Pn 01 17 38.7 -1.7**
JCJ Chichijima 8.17 174 Pn Pn 01 17 32.4 -8.1
6.6nm,0.3s,baz=290,slow=20,SNR=1.5
JCJ Sn Sn 01 19 01.6 -10
4.2nm,0.3s,baz=272,slow=23,SNR=1.3
ASAJ Asahikawa 8.91 6 Pn **Pn 01 17 49.0 -1.5**
1.6nm,0.3s,baz=215,slow=12,SNR=5.1
ASAJ Sn **Sn 01 19 26.3 -3.3**
0.5nm,0.3s,baz=118,slow=17,SNR=1.5
4.7nm,0.3s
JKA Kamikawa-asahi 8.91 6 Pn **Pn 01 17 50.5 0.0**
USRK Ussuriysk Ar. 11.44 324 Pn **Pn 01 18 24.7 -0.5**
0.8nm,0.3s,baz=138,slow=14,SNR=5.4
1.5nm,0.6s
KLR Kul'dur 15.63 336 Pn **P 01 19 22.9 -2.8**
0.1nm,0.3s,baz=128,slow=9.1,SNR=2.0
0.4nm,0.3s
PETK Petropavlovsk- 21.29 28 P **P 01 20 29.7 +2.0**
13nm,1.0s,baz=223,slow=3.7,SNR=4.0
13nm,1.0s
H11S1 WAKE ISLAND Hy 28.02 120 T T 01 51 05.0
baz=312,slow=74
H11S3 WAKE ISLAND Hy 28.02 120 T T 01 51 04.2
baz=312,slow=74
H11S2 WAKE ISLAND Hy 28.03 120 T T 01 51 04.2
baz=312
SONM Songino Array 28.73 307 P **P 01 21 38.9 +0.4**
0.3nm,0.5s,baz=98,slow=10,SNR=2.6
0.3nm,0.5s
K13K Kusilvak Mount 42.82 34 P **P 01 23 38.4 -0.1**
K13K IAmb IAmb 01 23 51.8
comp=Z,9.0nm,1.3s
ZAA0 Zalesovo Array 43.06 314 P **P 01 23 42.9 +2.4**
ZALV Zalesovo Beam 43.06 314 P **P 01 23 40.9 +0.4**
comp=Z,1.0nm,0.5s,baz=96,slow=7.3,SNR=5.5
comp=Z,1.0nm,0.5s
M14K Bethel 43.87 36 P **P 01 23 45.3 -1.6**
C16K Lisburne Hills 44.34 25 P **P 01 23 51.5 +0.8**
C16K IAmb IAmb 01 23 53.7
comp=Z,4.6nm,1.1s
MK31 Makanchi Array 45.00 304 P **P 01 23 57.2 +0.9**
MKAR Makanchi Array 45.00 304 P **P 01 23 56.9 +0.5**
comp=Z,0.5nm,0.6s,baz=86,slow=8.2,SNR=7.8
MKAR PcP **PcP 01 25 36.1 -0.8**
comp=Z,0.1nm,0.5s,baz=74,slow=5.1,SNR=1.1
comp=Z,0.5nm,0.6s
K17K Iditarod 45.87 34 P **P 01 24 03.6 +0.7**
C18K Utukok River 45.92 25 P **P 01 24 04.4 +1.1**
H18K Honhosa River 46.22 31 P **P 01 24 04.9 -0.8**
H18K IAmb IAmb 01 24 06.9
comp=Z,2.3nm,1.1s
G18K Tagagawik 46.23 30 P **P 01 24 06.1 +0.4**
D19K Kuna River 46.98 26 P **P 01 24 11.7 +0.1**
KURBB Kurchatov Arra 47.03 309 P **P 01 24 12.5 +0.3**
comp=Z,3.7nm,0.2s,baz=82,slow=7.6,SNR=5.7
comp=Z,3.7nm,0.2s
B21K Ikpikpuk River 48.44 25 P **P 01 24 24.1 +1.4**
B21K IAmb IAmb 01 24 27.3
comp=Z,2.4nm,0.8s
CAST Castle Rocks 48.75 33 P **P 01 24 23.9 -1.5**
PSI Prapat 50.81 240 LR LR 01 46 12.5
comp=Z,186nm,19.0s,baz=351,slow=36
IL31 51.05 32 P **P 01 24 43.0 +0.3**
IL31 IAmb IAmb 01 25 02.8
comp=Z,5.6nm,1.4s
ILAR Eielson Array 51.05 32 P **P 01 24 44.4 +1.6**
comp=Z,0.9nm,0.6s,baz=264,slow=5.9,SNR=21
comp=Z,0.9nm,0.6s
IL03 Eielson Array 51.07 32 P **P 01 24 42.5 -0.4**
F25K Christian Rive 51.53 28 P **P 01 24 47.2 +0.8**
F25K IAmb IAmb 01 24 50.3
comp=Z,2.3nm,1.1s
BVAR Borovoye Array 51.71 313 P **P 01 24 48.8 +0.9**
comp=Z,0.5nm,0.5s,baz=95,slow=9.1,SNR=4.1
comp=Z,0.5nm,0.5s
F26K Sheenjek River 52.10 28 P **P 01 24 51.4 +0.8**
C27K Jago River 52.23 25 P **P 01 24 52.3 +0.8**
C27K IAmb IAmb 01 24 54.4
comp=Z,5.6nm,1.4s
SCRK Sand Creek 52.35 33 P **P 01 24 52.6 -0.1**
J26L Joseph Creek 52.49 32 P **P 01 24 53.4 -0.2**
J26L IAmb IAmb 01 24 55.9
comp=Z,1.7nm,0.9s
I28M Miner Creek 53.94 30 P **P 01 25 04.7 +0.4**
I28M IAmb IAmb 01 25 07.2
comp=Z,4.1nm,1.4s
M29M Somme Creek 55.03 34 P **P 01 25 13.2 +1.0**
M29M IAmb IAmb 01 25 26.6
comp=Z,2.8nm,1.1s
WB0 Warramunga Arr 55.11 188 P **P 01 25 13.2 +0.1**
WB2 Warramunga Arr 55.29 188 P **P 01 25 14.3 0.0**
WB2 IAmb IAmb 01 25 31.8
comp=Z,3.6nm,1.1s
WRA Warramunga Arr 55.29 188 P **P 01 25 14.4 0.0**
comp=Z,3.2nm,0.9s,baz=5.6,slow=7.5,SNR=14
comp=Z,3.2nm,0.9s
ASAR Alice Springs 59.02 188 P **P 01 25 41.5 +0.8**
comp=Z,0.4nm,0.4s,baz=20,slow=12,SNR=6.4
comp=Z,0.4nm,0.4s
ABKAR Akbulak array 59.02 311 P **P 01 25 41.0 +0.5**
MSVF Nonsavu 63.19 140 LR LR 01 52 49.0
comp=Z,51nm,18.4s,baz=356,slow=35
YKA Yellowknife Ar 65.39 30 P **P 01 26 23.9 +0.9**
comp=Z,0.5nm,0.9s,baz=296,slow=7.0,SNR=3.6
comp=Z,0.5nm,0.9s
FINES FINESS Array B 70.34 333 P **P 01 26 54.2 +0.1**
comp=Z,3.1nm,1.1s,baz=29,slow=5.9,SNR=1.9
comp=Z,3.1nm,1.1s
I04A Tendick Farm, 70.65 50 P **P 01 26 55.3 -1.1**
SUMG Summit 72.46 360 P **P 01 27 06.6 -0.6**
SUMG IAmb IAmb 01 27 22.3
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 75.64 323 P **P 01 27 26.1 +0.4**
comp=Z,0.5nm,0.4s,baz=49,slow=6.2,SNR=2.6
comp=Z,0.5nm,0.4s
NOA NORSAR Array B 75.79 337 P **P 01 27 26.7 +0.3**
comp=Z,1.0nm,0.9s,baz=65,slow=4.2,SNR=1.3
comp=Z,1.0nm,0.9s
NVAR Mina Array Bea 76.14 53 P **P 01 27 29.7 +0.6**
comp=Z,1.1nm,0.6s,baz=305,slow=5.3,SNR=5.8
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 78.98 45 P **P 01 27 46.7 +1.8**
comp=Z,1.2nm,0.6s,baz=284,slow=2.0,SNR=19
comp=Z,1.2nm,0.6s
GERES GERESS Array B 84.17 328 LR LR 02 12 17.3
comp=Z,33nm,19.5s,baz=102,slow=40
TXAR Lajitas Array 91.28 52 P **P 01 28 48.7 +2.1**
comp=Z,0.4nm,0.6s,baz=300,slow=5.0,SNR=5.6
comp=Z,0.4nm,0.6s
H03N2 Juan Fernandez 146.89 99 T T 04 20 00.0
baz=289,slow=76,SNR=6.2
H03N3 Juan Fernandez 146.91 99 T T 04 20 00.9
baz=289,slow=76,SNR=6.3
H03N1 Juan Fernandez 146.91 99 T T 04 19 35.8
baz=289,slow=76,SNR=7.1

---

*ISN **14** 01:26:58.2±0.6, 34°.79N×45°.73E, h6km±27km, ML3.0*
*TEH **14** 01:27:00.2, 34°.79N×45°.74E, h10km±259km*

ISC 14 01:27:00.6±1.2, 34°.79N×05°.05×45°.74E±0°.04, h10km, n9, σ0°65/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.31	205	Pg	Pg	01 27 06.8	0.0
IDHR	Dehrash	0.54	99	Pg	Pg	01 27 10.9	-0.2
IDHR				Sg	Sb	01 27 19.5	-0.6
GLG1	Gilan-e-Gharb	0.69	168	Pg	Pg	01 27 13.8	-0.1
IGHG	Ghaleghazi	0.82	124	Pg	Pg	01 27 15.9	-0.5
KCHF	Cheshme Sefid,	1.19	115	Pg	Pg	01 27 23.9	+0.5
ILBA	Ilam Banvizeh	1.22	162	Pg	Pg	01 27 23.7	-0.4
IKRK	Kirkuk	1.30	298	ePg	Pg	01 27 25.0	-0.7
IKRK				eSg	Sg	01 27 44.0	+1.4
IKRK				AML	AML	01 27 45.7	
	comp=N,296nm,0.7s						
IKRK				AML	AML	01 27 46.4	
	comp=E,290nm,1.0s						
IBDR	Badra	1.68	175	ePn	Pn	01 27 30.0	0.0
IBDR				eSn	Sb	01 27 53.0	+0.2
BHD	Baghdad	1.89	217	ePn	Pn	01 27 33.0	+0.1
BHD				eSn	Sb	01 27 58.0	-0.8

SOME 14 01:34:43.7, 42°.25N×79°.68E, h10km
NNC 14 01:34:44.6±0.8, 42°.30N×79°.68E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=5.2km s-min=3.4km az=129.0
KRNET 14 01:34:44.1±0.1, 42°.23N×79°.69E, h17km, mb3.1

ISC 14 01:34:45.1±1.5, 42°.26N±0°.06×79°.64E±0°.05, h10km, n46, σ1§26/78, 18C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	Przheval'sk	0.94	284	⇑eP	Pg	01 35 03.0	-0.2
PRZ				⇑eS	Sb	01 35 16.3	0.0
UZB	Uzynbulak	0.99	333	P	Pg	01 35 03.4	-0.8
	12nm,0.2s						
UZB				S	Sb	01 35 17.5	-0.2
	32nm,0.2s						
UZB	Uzynbulak	0.99	333	eP	Pg	01 35 03.4	-0.8
UZB				eS	Sb	01 35 17.5	-0.2
UZB	Uzynbulak	0.99	333	eP	Pg	01 35 03.4	-0.8
	8.7nm,0.1s						
UZB				eS	Sb	01 35 17.5	-0.2
	33nm,0.1s						
PDGK	Podgornoye	1.07	354	⇓P	Pg	01 35 03.8	-1.9
	2.1nm,0.2s						
PDGK				⇑S	Sg	01 35 18.9	-0.7
	51nm,0.6s						
SATY	Saty	1.21	312	P	Pb	01 35 07.1	-1.0
	10.0nm,0.1s						
SATY				S	Sg	01 35 24.3	+0.3
	86nm,0.1s						
SATY	Saty	1.21	312	eP	Pb	01 35 07.1	-1.0
SATY				eS	Sg	01 35 24.3	+0.3
ZHN	Zhinishke	1.27	316	P	Pn	01 35 08.3	-0.6
	19nm,0.1s						
ZHN				S	Sg	01 35 25.9	0.0
	56nm,0.1s						
ZHN	Zhinishke	1.27	316	eP	Pn	01 35 08.3	-0.6
ZHN				eS	Sg	01 35 25.9	0.0
ZHN	Zhinishke	1.27	316	eP	Pn	01 35 08.3	-0.6
	6.9nm,0.2s						
ZHN				eS	Sg	01 35 25.9	0.0
	56nm,0.2s						
KPKS	Kokpek	1.39	330	P	Pn	01 35 10.5	-0.1
	15nm,0.1s						
KPKS				S	Sg	01 35 29.9	+0.1
	56nm,0.3s						
KPKS	Kokpek	1.39	330	eP	Pn	01 35 10.6	-0.1
KPKS				eS	Sg	01 35 30.0	+0.1
KPKS	Kokpek	1.39	330	eP	Pn	01 35 10.6	-0.1
	12nm,0.1s						
KPKS				eS	Sg	01 35 29.9	+0.1
	50nm,0.1s						
TARG	Taragay, Kyrgy	1.47	249	⇑iP	Pn	01 35 11.7	-0.3
TARG				⇑iS	Sn	01 35 31.2	-0.2
ANVS	Anan'yevo	1.55	290	⇑iP	Pb	01 35 13.4	-0.5
ANVS				⇑iS	Sg	01 35 34.9	+0.1
KURS	Kuram	1.63	319	P	Pb	01 35 15.0	-0.3
	7.8nm,0.2s						
KURS				S	Sg	01 35 37.7	+0.1
	25nm,0.4s						
KURS	Kuram	1.63	319	eP	Pb	01 35 15.0	-0.3
KURS				eS	Sg	01 35 37.6	+0.1
BLB	Baldybastay	2.02	336	Pg	Pb	01 35 21.5	-0.5
	79nm,0.2s						
BLB				Lg	Lg	01 35 48.8	
	177nm,0.3s						
DJR	Jarkent	2.07	3	Pg	Pb	01 35 21.9	-0.9
	7.1nm,0.2s						
DJR				Lg	Lg	01 35 49.6	
	77nm,0.3s						
DJR	Jarkent	2.07	3	eP	Pb	01 35 21.9	-0.9
	7.1nm,0.2s						
DJR				eS	Sb	01 35 49.6	+1.0
	77nm,0.3s						
KOTS	Kotyrbulak	2.10	298	Pg	Pb	01 35 23.2	-0.1
	22nm,0.2s						
KOTS				Lg	Lg	01 35 51.7	
	29nm,0.3s						
KOTS	Kotyrbulak	2.10	298	eP	Pb	01 35 23.2	-0.1
	22nm,0.2s						
KOTS				eS	Sg	01 35 51.8	-0.8
	29nm,0.3s						
MDOK	Medeo	2.11	296	⇑Pn	Pb	01 35 22.8	-0.7
	17nm,0.6s						
MDOK				Pg	Pb	01 35 23.2	-0.3
	15nm,0.2s						
MDOK				Lg	Lg	01 35 51.9	
	12nm,0.2s						
MDOK				⇓Sn	Sg	01 35 52.1	-0.8
	8.9nm,0.4s						
MDOK	Medeo	2.11	296	eP	Pb	01 35 23.2	-0.3
	15nm,0.2s						
MDOK				eS	Sg	01 35 51.9	-1.0
	12nm,0.2s						
KNOS	Konyrlen	2.12	351	Pg	Pb	01 35 23.2	-0.5
	9.8nm,0.1s						
KNOS				Lg	Lg	01 35 51.9	
	77nm,0.2s						
TNSS	Tian-Shan	2.13	292	Pg	Pb	01 35 23.5	-0.5
	16nm,0.3s						
TNSS				Lg	Lg	01 35 52.4	
	17nm,0.2s						
TNSS	Tian-Shan	2.13	292	eP	Pb	01 35 23.5	-0.5
	16nm,0.3s						
TNSS				eS	Sg	01 35 52.4	-1.2
	17nm,0.2s						
ARXS	Arharly	2.36	326	Pg	Pb	01 35 27.3	-0.4
	5.9nm,0.2s						
ARXS				Lg	Lg	01 35 58.8	
	63nm,0.5s						
MTBS	Maitube	2.52	291	Pg	Pb	01 35 30.0	-0.4
	7.5nm,0.1s						
MTBS				Lg	Lg	01 36 03.3	
	27nm,0.3s						
MTBS	Maitube	2.52	291	eP	Pb	01 35 30.0	-0.4
	7.5nm,0.1s						
MTBS				eS	Sb	01 36 03.3	+1.7
	27nm,0.3s						
ULHL	Ulahol	2.52	271	⇑iP	Pb	01 35 29.0	-1.5
ULHL				⇑iS	Sb	01 36 01.1	-0.6
KTBS	Karatobe	2.61	305	Pg	Pb	01 35 31.3	-0.6
	20nm,0.2s						
KTBS				Lg	Lg	01 36 05.7	
	31nm,0.4s						
BOOM	Boomskoye usch	2.75	276	⇑eP	Pb	01 35 32.3	-2.1
BOOM				⇑iS	Sb	01 36 06.8	-1.4
KST	Kastek	2.82	287	Pg	Pb	01 35 35.3	-0.3
	7.7nm,0.3s						
KST				Lg	Lg	01 36 12.6	
	40nm,0.5s						
KST	Kastek	2.82	287	eP	Pb	01 35 35.3	-0.3
	7.7nm,0.3s						
KST				eS	Sb	01 36 12.6	+2.4
	40nm,0.5s						
TDK	Taldyqorghan	2.88	342	Pg	Pb	01 35 36.9	+0.3
	20nm,0.2s						
TDK				Lg	Lg	01 36 15.1	
	46nm,0.4s						
TDK	Taldyqorghan	2.88	342	eP	Pb	01 35 36.9	+0.3
	20nm,0.2s						
TDK				eS	Sg	01 36 15.1	-2.5
	46nm,0.4s						
DGS	Degeres	3.01	290	Pg	Pb	01 35 39.0	+0.2
	6.8nm,0.2s						
DGS				Lg	Lg	01 36 18.9	
	24nm,0.5s						
TKM2	Tokmak 2	3.06	284	⇓Pn	Pn	01 35 36.3	+2.7
	2.0nm,0.5s						
TKM2				⇓Lg	Lg	01 36 21.6	
	5.4nm,0.4s						
TKM2	Tokmak 2	3.06	284	⇓iP	Pb	01 35 36.8	-2.9
TKM2				⇓iS	Sb	01 36 14.6	-2.5
KRBS	Karabastau	3.24	298	Pg	Pb	01 35 42.8	+0.1
	2.9nm,0.3s						
KRBS				Lg	Lg	01 36 25.4	
	8.8nm,0.5s						
KBK	Karagaybulak	3.49	278	⇑iP	Pn	01 35 42.7	+3.1
KBK				⇑iS	Sn	01 36 24.7	+3.6
MRKS	Merke	4.76	278	Pg	Pb	01 36 10.9	+2.2
	2.0nm,0.3s						
MRKS				Lg	Lg	01 37 13.7	
	4.8nm,0.4s						
MRKS	Merke	4.76	278	eP	Pb	01 36 10.9	+2.2
	2.0nm,0.3s						
MRKS				eS	Sg	01 37 13.7	-4.3
	4.8nm,0.4s						
MAKZ	Makanchi	4.84	19	⇓Pn	Pn	01 35 59.4	+1.4
	2.7nm,1.2s						
MAKZ				⇑Lg	Lg	01 37 14.2	
	0.8nm,0.5s						
MK31	Makanchi Array	4.91	22	⇑Pn	Pn	01 35 59.4	+0.4
	0.1nm,0.2s,baz=203,slow=13,SNR=20						
MK31				⇑Pg	Pb	01 36 11.9	+0.7
	0.5nm,0.5s,baz=204,slow=14,SNR=9.7						
MK31				⇑Lg	Lg	01 37 16.9	
	1.9nm,0.6s,baz=198,slow=29,SNR=4.0						

DNK 14 01:36:38.6±1.9, 58°.69N×18°.57E, h0km, ML2.1, ML2.5(UPP), Explosion
UPP 14 01:36:38.4±0.2, 58°.69N×18°.53E, h0km, ML2.5, Unknown
HEL 14 01:36:39.1±0.5, 58°.73N×18°.24E, h0km, ML1.7, Explosion
BER 14 01:36:40.1±1.7, 58°.70N×18°.51E, h0km, ML1.9, ML2.5(UPP), Suspected explosion
IDC 14 01:36:41.9±2.0, 58°.98N×18°.42E, h0km, mbtmp2.9/4, ML1.9/4, Error ellipse: s-maj=24.4km s-min=7.3km az=179.0

ISC 14 01:36:36.5±0.7, 58°.67N±0°.02×18°.68E±0°.02, h0km, n80, σ1§43/103, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.49	314	P	Pg	01 36 46.5	+0.7
NYNU				S	Sg	01 36 52.2	+0.1
NYNU	Nynaeshamn	0.49	314	P	Pg	01 36 46.5	+0.7
NYNU				S	Sg	01 36 52.2	+0.1
NYNU	Nynaeshamn	0.49	314	P	Pg	01 36 46.5	+0.7
NYNU				S	Sg	01 36 52.2	+0.1
GOTU	Gotland	0.99	183	P	Pn	01 36 57.3	-0.2
GOTU	Gotland	0.99	183	P	Pn	01 36 57.3	-0.2
GOTU	Gotland	0.99	183	P	Pn	01 36 57.3	-0.2
GOTU	Gotland	0.99	183	eP	Pn	01 36 57.5	0.0
GOTU				eS	Sg	01 37 08.3	+0.3
GOTU				MSG		01 37 11.2	
	comp=Z,4.3nm,0.1s						
NRTU	Norrtaelje	1.01	359	P	Pb	01 36 57.0	+0.1
NRTU				S	Sb	01 37 10.2	-0.5
NRTU	Norrtaelje	1.01	359	P	Pb	01 36 57.0	+0.1
NRTU				S	Sb	01 37 10.2	-0.5
NRTU	Norrtaelje	1.01	359	P	Pb	01 36 57.0	+0.1
NRTU				S	Sb	01 37 10.2	-0.5
NRTU	Norrtaelje	1.01	359	eP	Pb	01 36 57.0	+0.1
NRTU				MSG		01 37 08.4	
	comp=Z,5.9nm,0.1s						
VIKU	Vikbolandet	1.05	262	P	Pg	01 36 56.6	+0.1
VIKU				S	Sg	01 37 09.7	-0.4
VIKU	Vikbolandet	1.05	262	P	Pg	01 36 56.6	+0.1
VIKU				S	Sg	01 37 09.7	-0.4
VIKU	Vikbolandet	1.05	262	P	Pg	01 36 56.6	+0.1
VIKU				S	Sg	01 37 09.7	-0.4
UPP	Uppsala	1.31	336	P	Pn	01 37 01.9	-0.1
UPP				S	Sg	01 37 18.7	+0.1
UPP	Uppsala	1.31	336	P	Pn	01 37 01.9	-0.1
UPP				S	Sg	01 37 18.7	+0.1
UPP	Uppsala	1.31	336	P	Pn	01 37 01.9	-0.1
UPP				S	Sg	01 37 18.7	+0.1
ESKU	Eskilstuna	1.31	297	P	Pg	01 37 01.1	-0.5
ESKU	Eskilstuna	1.31	297	P	Pg	01 37 01.1	-0.5
ESKU	Eskilstuna	1.31	297	P	Pg	01 37 01.1	-0.5
FIBU	Brunna	1.41	332	P	Pb	01 37 03.6	-0.1
FIBU				S	Sg	01 37 21.6	-0.2
FIBU	Brunna	1.41	332	P	Pb	01 37 03.6	-0.1
FIBU				S	Sg	01 37 21.6	-0.2
FIBU	Brunna	1.41	332	P	Pb	01 37 03.6	-0.1
FIBU				S	Sg	01 37 21.6	-0.2
BACU	Backbrunna	1.44	327	P	Pb	01 37 03.8	-0.3
BACU	Backbrunna	1.44	327	P	Pb	01 37 03.8	-0.3
BACU	Backbrunna	1.44	327	P	Pb	01 37 03.8	-0.3
FLYU	Flymyra	1.52	345	P	Pg	01 37 05.7	+0.1
FLYU	Flymyra	1.52	345	P	Pg	01 37 05.7	+0.1
FLYU	Flymyra	1.52	345	P	Pg	01 37 05.7	+0.1
BYXU	Byxelkrok	1.64	214	P	Pg	01 37 08.1	+0.2
BYXU	Byxelkrok	1.64	214	P	Pg	01 37 08.1	+0.2
BYXU	Byxelkrok	1.64	214	P	Pg	01 37 08.1	+0.2
GRAU	Graesoe	1.67	358	P	Pg	01 37 08.5	0.0
GRAU	Graesoe	1.67	358	P	Pg	01 37 08.5	0.0
GRAU	Graesoe	1.67	358	P	Pg	01 37 08.5	0.0
LNKU	Linkoeping	1.73	256	P	Pb	01 37 08.6	-0.4
LNKU	Linkoeping	1.73	256	P	Pb	01 37 08.6	-0.4
LNKU	Linkoeping	1.73	256	P	Pb	01 37 08.6	-0.4
FORU	Forsmark	1.75	352	P	Pg	01 37 09.9	+0.1
FORU	Forsmark	1.75	352	P	Pg	01 37 09.9	+0.1
FORU	Forsmark	1.75	352	P	Pg	01 37 09.9	+0.1
OSTU	Oestervaala	1.76	334	P	Pb	01 37 09.5	0.0
OSTU	Oestervaala	1.76	334	P	Pb	01 37 09.5	0.0
OSTU	Oestervaala	1.76	334	P	Pb	01 37 09.5	0.0
SLIT	Slitere, Latvi	2.18	117	eP	Pg	01 37 18.1	-0.1
SLIT	Slitere, Latvi	2.18	117	eP	Pg	01 37 18.1	-0.1
SLIT				eS	Sg	01 37 49.3	+2.9
MTSE	Matsula	2.68	87	eP	Pg	01 37 27.6	-0.2
MTSE	Matsula	2.68	87	eP	Pg	01 37 28.1	+0.3
BLEU	Blekinge	2.83	214	iP	Pn	01 37 25.1	+2.2
BLEU				iS	Sb	01 38 00.6	-2.4
RAF	Rauma	2.83	32	eP	Pb	01 37 27.0	-0.8
RAF	Rauma	2.83	32	eP	Pb	01 37 25.9	-1.9
RAF				MSG		01 38 06.6	
	comp=Z,3.3nm,0.1s						
HFS	Hagfors	2.94	302	Pn	Pn	01 37 26.0	+1.5
	comp=Z,0.6nm,0.3s,baz=118,slow=16,SNR=16						
HFS				Lg	Lg	01 38 04.0	
	comp=Z,3.8nm,0.3s,baz=114,slow=30,SNR=18						
	comp=Z,1.1nm,0.3s						
MEF	Metsahovi	3.31	60	eP	Pb	01 37 34.8	-1.1
MEF	Metsahovi	3.31	60	eP	Pb	01 37 35.7	-0.2
DEL	Delary	3.40	232	iP	Pn	01 37 32.3	+1.6
DEL				iS	Sb	01 38 18.7	-0.6
NUR	Nurmijarvi	3.55	56	eP	Pb	01 37 37.6	-2.5
KPF	Kankaanpaa	3.60	27	eP	Pb	01 37 37.5	-3.3
TJOU	Tjoern	3.77	263	iP	Pn	01 37 38.1	+2.4
ONAU	Onsala	3.81	253	iP	Pn	01 37 38.7	+2.3
ONAU				iS	Sn	01 38 25.6	+3.8
ARBE	Arbavere	3.85	75	eP	Pb	01 37 43.7	-1.5
STRU	Stroemstad	3.91	279	eP	Pn	01 37 39.8	+2.1
STRU	Stroemstad	3.91	279	iP	Pn	01 37 40.7	+3.0
STRU				iS	Sb	01 38 29.5	-4.6
BJUU	Bjuv	4.02	232	iP	Pn	01 37 42.4	+3.3
BSD	Bornholm Skovb	4.12	212	iP	Pn	01 37 41.3	+0.8
BSD				iS	Sn	01 38 29.9	+0.7
BSD				IAML		01 38 49.3	
	comp=Z,2.3nm,0.3s						
BSD	Bornholm Skovb	4.12	212	eS	Sn	01 38 30.0	+0.7
LUNU	Lund	4.17	225	iP	Pn	01 37 42.0	+0.8
LUNU				iS	Sn	01 38 31.0	+0.4
NC602	NORSAR Array S	4.17	303	eP	Pn	01 37 42.8	+1.5
NC602				IAML		01 38 57.9	
	comp=Z,4.8nm,0.5s						
VSU	Vasula	4.22	89	eP	Pb	01 37 49.1	-2.4
NB201	NORSAR Array S	4.42	306	eP	Pn	01 37 46.0	+1.2
NOA	NORSAR Array B	4.45	305	Pn	Pn	01 37 46.2	+1.0
	baz=123,slow=14,SNR=5.0						
NOA				Lg	Lg	01 38 53.6	
	comp=Z,0.1nm,0.3s,baz=90,slow=16,SNR=7.8						
	comp=Z,0.5nm,0.7s						
NC303	NORSAR Array S	4.48	308	eP	Pn	01 37 46.5	+1.0
NC303				IAML		01 39 08.2	
	comp=Z,4.9nm,0.5s						
NAO01	NORSAR Array S	4.51	302	eP	Pn	01 37 47.3	+1.4
NAO01				IAML		01 39 08.5	
	comp=Z,4.9nm,0.4s						
FINES	FINESS Array B	4.64	50	Pn	Pn	01 37 50.5	+2.9
	comp=Z,0.1nm,0.3s,baz=243,slow=14,SNR=8.9						
FINES				Sn	Sn	01 38 45.5	+3.4
	comp=Z,0.3nm,0.3s,baz=246,slow=20,SNR=2.2						
FINES				Lg	Lg	01 39 03.8	
	comp=Z,1.3nm,0.3s,baz=238,slow=29,SNR=14						
	comp=Z,0.5nm,0.3s						
KEF	Keuruu	4.66	39	eP	Pn	01 37 51.9	+3.9
VAF	Ylistaro	4.80	22	eP	Pn	01 37 53.2	+3.3
IIGN	Ignalina	5.29	126	eP	Pb	01 38 03.1	-6.7
HOMB	Homborsund	5.36	270	iP	Pn	01 37 57.9	+0.4
SKAR	Skarslia	5.63	295	eS	Sn	01 39 02.8	-4.0
SNART	Snartemo	6.02	272	iP	Pn	01 38 07.0	+0.3
ARCES	ARCESS Array B	11.30	12	Pn	Pn	01 39 17.3	-1.6
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=5.1						
	comp=Z,3.8nm,1.1s						

UPP 14 01:36:49.1±0.2, 58°.69N×18°.50E, h0km, ML2.5, Unknown, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	Nynaeshamn	0.41	322	P	Pg	01 36 56.9	-0.1
NYNU				S	Sg	01 37 02.5	+0.3
VIKU	Vikbolandet	0.96	260	P	Pg	01 37 07.2	-0.3
NRTU	Norrtaelje	1.00	4	P	Pg	01 37 07.9	-0.3
NRTU				S	Sg	01 37 21.3	+0.2
GOTU	Gotland	1.00	178	S	Sg	01 37 21.3	+0.1
ESKU	Eskilstuna	1.22	298	P	Pg	01 37 12.1	-0.3
ESKU				S	Sg	01 37 27.8	-0.4
UPP	Uppsala	1.26	340	P	Pg	01 37 12.6	-0.6
UPP				S	Sg	01 37 29.5	0.0
FIBU	Brunna	1.35	335	P	Pg	01 37 14.4	-0.6
BACU	Backbrunna	1.37	329	P	Pg	01 37 14.4	-1.0
FLYU	Flymyra	1.48	348	P	Pn	01 37 16.4	-0.6
BYXU	Byxelkrok	1.61	210	P	Pn	01 37 18.2	-0.5
LNKU	Linkoeping	1.64	255	P	Pn	01 37 19.4	+0.2
GRAU	Graesoe	1.66	1	P	Pn	01 37 19.4	+0.1
OSTU	Oestervaala	1.70	336	P	Pn	01 37 20.2	+0.3
FORU	Forsmark	1.71	355	P	Pn	01 37 20.4	+0.2

IDC 14 01:42:26.2±6.7, 6°.48S×147°.63E, h75km±51km, mb3.8/3, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=56.5km s-min=49.4km az=86.0

ISC 14 01:42:24.1±2.6, 6°.4S±0°.2×147°.7E±0°.4, h63km, n6, σ0§33/7, mb3.9/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.07	190	P	Pn	01 43 10.4	+0.2
	264nm,0.7s,baz=360,slow=8.8,SNR=9.8						
PMG				S	Sn	01 43 45.5	-0.1
	65nm,0.5s,baz=45,slow=19,SNR=1.9						
WRA	Warramunga Arr	18.73	223	P	P	01 46 37.4	-0.4
	0.5nm,0.3s,baz=44,slow=11,SNR=9.9						
	1.0nm,0.4s						
ASAR	Alice Springs	21.73	216	P	P	01 47 10.6	+0.3
	4.1nm,0.7s,baz=56,slow=9.1,SNR=42						
	4.1nm,0.7s						
FITZ	Fitzroy Crossi	24.48	240	P	P	01 47 37.7	+0.2
	4.8nm,0.6s,baz=51,slow=11,SNR=14						
	4.8nm,0.6s						
STKA	Stephens Creek	26.01	192	P	P	01 47 51.1	-0.2
	2.6nm,0.7s,baz=1.5,slow=13,SNR=3.8						
	2.6nm,0.7s						
TORD	Torodi Ar. Bea	145.86	284	PKPbc	PKPdf	02 01 56.7	-0.1
	2.0nm,0.6s,baz=65,slow=3.6,SNR=34						

BJI 14 01:45:42.7, 33°.84N×137°.12E, h359km, mB4.7/14, mb4.6/66
MOS 14 01:45:43.7±0.8, 33°.80N×137°.05E, h359km, mb4.3/23, Error ellipse: s-maj=8.2km s-min=4.8km az=100.3
JMA 14 01:45:44.7±0.2, 34°N±1°×13°7E±°, h371km±2km, MV3.9/35, SE OFF KII PENINSULA
NIED 14 01:45:44.7, 33°.94N×137°.08E, h371km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.60; Mθθ3.48; Mφφ-4.08; Mrθ5.33; Mφθ0.55; Mφr-4.56; Fault plane solution: M0 8.00000×1015 NP1:φs38.00000°, δ29.00000°, λ175.00000°. NP2:φs133.00000°, δ88.00000°, λ61.00000°.
IDC 14 01:45:45.5±0.5, 33°.86N×137°.02E, h359km±4km, mb3.9/40, mbtmp4.7/48 Error ellipse: s-maj=7.3km s-min=6.9km az=107.0
NEIC 14 01:45:45.8±1.8, 33°.84N±0°.07×137°.10E±0°.09, h359km±4km, mb4.5/181, Error ellipse: s-maj=11.8km s-min=9.5km az=127.0

ISC 14 01:45:45.7±0.5, 33°.88N±0°.04×137°.05E±0°.04, h363km±4km, n618, σ1§25/597, mb4.5/159, 22C-19D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.15	189	eP	Pn	01 46 31.2	+0.5
TTO3	TONANKAI O.B.S	0.29	93	eP	Pn	01 46 31.5	+0.6
TTO3				eS	S	01 47 09.0	+1.7
TTO1	TONANKAI O.B.S	0.34	221	eP	Pn	01 46 31.3	+0.4
TTO1				eS	S	01 47 08.7	+1.6
TTO4	TONANKAI O.B.S	0.42	72	eP	Pn	01 46 31.4	+0.5
TTO4				eS	S	01 47 08.1	+0.8
JIE	Ise	0.59	331	P	Pn	01 46 31.7	+0.2
JIE				eS	S	01 47 07.3	-1.1
TTO5	TONANKAI O.B.S	0.66	56	eP	Pn	01 46 32.1	+0.6
TTO5				eS	S	01 47 09.7	+1.2
JTNC	Tanabenakahech	1.20	268	P	Pn	01 46 33.6	-0.1
JTNC				S	S	01 47 11.2	-1.1
JSG	Sagara	1.23	49	P	Pn	01 46 34.2	+0.4
JSG				Sn	S	01 47 12.0	-0.5
JSG	Sagara	1.23	49	P	Pn	01 46 34.3	+0.5
JWY	Kouya	1.26	286	P	Pn	01 46 34.2	+0.2
JWY				eS	S	01 47 11.5	-1.4
INU	Inuyama	1.47	359	P	Pn	01 46 35.1	+0.2
INU	Inuyama	1.47	359	P	Pn	01 46 34.8	-0.1
INU	Inuyama	1.47	359	S	S	01 47 13.9	-0.7
JYTA	Yamagatataniai	1.73	351	P	Pn	01 46 36.5	+0.1
JYTA				eS	S	01 47 15.8	-1.4
JGF	Kuroka	1.74	8	P	Pn	01 46 36.4	-0.2
JGF	Kuroka	1.74	8	P	Pn	01 46 36.2	-0.3
JGF	Kuroka	1.74	8	S	S	01 47 16.6	-0.9
JWT	Wachi	1.95	316	P	Pn	01 46 37.9	+0.1
JWT				eS	S	01 47 18.1	-1.8
JYN	Shimob	2.03	37	⇓P	Pn	01 46 37.9	-0.5
JAI	Aioi	2.17	268	P	Pn	01 46 39.4	0.0
JAI				S	S	01 47 21.7	-0.9
JOD2	Odawara 2	2.17	50	⇓P	Pn	01 46 38.9	-0.6

JSD Sado 4.26 13 P **Pn 01 46 57.2 -0.8**
JSD Sado 4.26 13 P **S 01 47 54.2 -2.4**
JMM Marumori 5.00 36 Pn 01 47 04.4 -1.4
JMM Marumori 5.00 36 P **Pn 01 47 04.1 -1.8**
JNU Nakatsue 5.21 263 Pn **Pn 01 47 08.8 +0.5**
JNU Nakatsue 5.21 263 P **Pn 01 47 08.3 0.0**
101nm,0.6s,baz=96,slow=2.9,SNR=56
JNU S **S 01 48 15.2 0.0**
49nm,1.1s,baz=75,slow=17,SNR=2.1
JNU Nakatsue 5.21 263 P **Pn 01 47 08.7 +0.4**
JNU Nakatsue 5.21 263 S **S 01 48 15.7 +0.5**
JTM Tenmabayashi 7.60 24 Pn **Pn 01 47 33.9 -1.3**
JTM Tenmabayashi 7.60 24 P **Pn 01 47 33.8 -1.4**
JCJ Chichijima 8.08 145 Pn Pn 01 47 35.2 -5.8
JCJ Chichijima 8.08 145 P Pn 01 47 29.2 -12
22nm,0.4s,baz=302,slow=22,SNR=1.9
JCJ S S 01 48 58.7 -17
92nm,0.4s,baz=286,slow=22,SNR=9.9
KSRS Korea Array 8.24 298 P **Pn 01 47 43.8 +1.0**
45nm,0.6s,baz=114,slow=12,SNR=110
KSAR Wonju Array Be 8.26 298 Pn **Pn 01 47 43.0 -0.1**
KSAR Wonju Array Be 8.26 298 P **Pn 01 47 43.0 -0.1**
KS19 Wonju Array Si 8.30 298 Pn **Pn 01 47 43.4 -0.1**
TJN Taejon 8.32 290 Pn **Pn 01 47 44.5 +0.8**
TJN Taejon 8.32 290 P **Pn 01 47 44.4 +0.7**
TJN Taejon 8.32 290 *ce*P **Pn 01 47 43.8 +0.1**
INCN Inchon 9.21 296 Pn 01 47 54.0 -0.2
INCN Inchon 9.21 296 P **P 01 47 55.2 -0.5**
INCN Inchon 9.21 296 P **Pn 01 47 54.0 -0.2**
ERM Erimo 9.44 29 Pn **Pn 01 47 55.0 -1.9**
ERM Erimo 9.44 29 P **Pn 01 47 55.0 -1.9**
ERM Erimo 9.44 29 *ce*P **Pn 01 47 55.3 -1.6**
JEM Erimo 9.44 29 P **Pn 01 47 55.0 -1.9**
MSHR Mys Shultsa 9.84 334⇑ *e*P **Pn 01 48 01.2 -0.4**
PSTR Posyet 10.04 333 *ce*P **Pn 01 48 04.2 +0.3**
VLA Vladivostok 10.07 338⇑ *e*P **Pn 01 48 04.3 0.0**
VLA pmax pmax
comp=Z,34nm,1.0s
JOW Kunigami 10.33 229 P **Pn 01 48 07.8 +0.2**
JOW Kunigami 10.33 229 P **Pn 01 48 08.0 +0.3**
comp=Z,97nm,0.5s,baz=25,slow=5.1,SNR=24
JOW Kunigami 10.33 229 P **Pn 01 48 07.3 -0.4**
USA0B Ussuriysk Arra 11.03 341 *c i*P **Pn 01 48 15.0 -0.6**
USRK Ussuriysk Ar. 11.03 341 Pn 01 48 15.7 0.0
USRK Ussuriysk Ar. 11.03 341 P **P 01 48 16.2 +0.4**
comp=Z,50nm,0.6s,baz=165,slow=11,SNR=78
USRK S **S 01 50 17.6 -1.2**
comp=Z,0.9nm,0.4s,baz=165,slow=28,SNR=1.7
ASAJ Asahikawa 11.09 21 P **P 01 48 16.6 +0.2**
comp=Z,106nm,0.6s,baz=237,slow=10.0,SNR=57
ASAJ S **S 01 50 12.2 -7.8**
comp=Z,33nm,0.6s,baz=299,slow=29,SNR=5.9
JKA Kamikawa-asahi 11.09 21 Pn 01 48 16.1 -0.3
TEY Ternei 11.15 358⇑ *e*P **P 01 48 17.3 +0.2**
TEY pmax pmax
comp=Z,120nm,0.5s
TEY pmax pmax
comp=N,80nm,0.5s
TEY pmax pmax
comp=E,20nm,0.5s
MDJ Mudanjiang 12.18 334 P **P 01 48 28.7 +0.2**
MDJ Mudanjiang 12.18 334 P **P 01 48 28.6 +0.2**
MDJ sP 01 49 46.3
MDJ S **S 01 50 44.5 +1.2**
MDJ ScP **ScP 01 56 35.3 -1.8**
MDJ pmax pmax
comp=E,13nm,0.8s
MDJ Mudanjiang 12.18 334 P **P 01 48 28.8 +0.3**
DL2 Dalian 13.40 296 P **P 01 48 41.9 -0.1**
DL2 pmax pmax
comp=E,37nm,1.0s
CN2 Changchun 13.40 321 *e*P **Pn 01 48 43.5 0.0**
CN2 pmax pmax
comp=E,10.0nm,0.7s
JMJ Miyako jima 2 13.66 232 P **P 01 48 45.3 +0.3**
YSS Yuzhno-Sakhali 13.76 17 P **Pn 01 48 46.9 -0.7**
YSS Yuzhno-Sakhali 13.76 17 P **Pn 01 48 47.2 -0.4**
YSS Yuzhno-Sakhali 13.76 17 *oe*P **Pn 01 48 47.2 -0.4**
YSS *e*S **S 01 51 12.5 -2.6**
YSS pmax pmax
comp=N,120nm,0.5s
YSS pmax pmax
comp=E,50nm,0.5s
YSS pmax pmax
comp=Z,170nm,0.5s
YSS smax smax
comp=N,70nm,0.8s
YSS smax smax
comp=E,50nm,1.0s
BNX BinXian 13.96 331 ⇓P **P 01 48 48.1 0.0**
BNX pmax pmax
comp=E,15nm,0.7s
NJ2 Nanjing 15.39 268 ⇑P **P 01 49 03.9 0.0**
NJ2 pmax pmax
comp=E,38nm,0.9s
YOJ Yonaguni jima 15.43 236 P **P 01 49 02.1 -2.3**
YOJ Yonaguni jima 15.43 236 P **P 01 49 02.1 -2.3**
YOJ pmax pmax
comp=Z,103nm,0.6s
UGL Uglegorsk 15.64 12 *e*P **Pn 01 49 08.6 -0.6**
UGL pmax pmax
comp=Z,170nm,1.0s
KLR Kul'dur 15.84 347 P **P 01 49 07.9 -0.6**
comp=Z,8.5nm,0.4s,baz=174,slow=9.8,SNR=40
KLR S **S 01 51 59.8 +3.1**
comp=Z,0.9nm,0.6s,baz=127,slow=20,SNR=0.9
KLR Kul'dur 15.84 347 *de*P **P 01 49 07.7 -0.8**
KLR pmax pmax
comp=Z,9.0nm,0.9s
YHNB Yeheng 16.45 240 P **P 01 49 15.1 -0.5**
NACB Ninganchiao 16.60 238 P **P 01 49 14.8 -2.3**
NACB Ninganchiao 16.60 238 P **P 01 49 17.0 -0.1**
GRNR Gornyy 16.89 359 ⇓ *i*P **P 01 49 20.6 +0.8**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.7s
SSLB Suanglung 17.30 239 P **P 01 49 22.8 -1.9**
SSLB Suanglung 17.30 239 P **P 01 49 24.2 -0.4**
YULB Yu-li 17.31 237 P **P 01 49 22.2 -2.6**
YULB Yu-li 17.31 237 P **P 01 49 23.9 -0.8**
TYV Tymovskoe 17.46 12 *e*P **P 01 49 27.3 +1.4**
TYV pmax pmax
comp=Z,12nm,1.1s
TYV pmax pmax
comp=Z,500nm,4.4s
BJI Beijing 17.77 296 P **P 01 49 28.4 -0.9**
BJI pmax pmax
comp=Z,12nm,0.5s
BJI pmax pmax
comp=Z,75nm,4.5s
BJT Baijiatuau 17.77 296 P **P 01 49 28.5 -0.9**
BJT IAmb IAmb 01 49 31.5
comp=Z,20nm,0.5s
BJT Baijiatuau 17.77 296 P **P 01 49 29.1 -0.3**
BJT Baijiatuau 17.77 296 P **P 01 49 28.5 -0.9**
BJT pmax pmax
comp=Z,20nm,0.5s
HEH HeiHe 17.83 339 *e*P **P 01 49 28.8 -1.1**
HEH pmax pmax
comp=Z,17nm,0.6s
TWGBT Beinan 17.84 236 P **P 01 49 30.1 -0.2**
TPUB Ta-pu 17.84 238 P **P 01 49 29.0 -1.4**
TPUB Ta-pu 17.84 238 P **P 01 49 29.4 -1.0**
TWG Pinlang 17.84 236 P **P 01 49 28.8 -1.6**
HNS HongShan 18.49 287 ⇑P **P 01 49 35.9 -1.2**
HNS pmax pmax
comp=Z,41nm,0.7s
XLT XiLinHaoTe 19.10 308 *e*P **P 01 49 40.5 -3.1**
XLT pmax pmax
comp=Z,9.0nm,0.6s
WHN Wuhan 19.49 266 ⇑P **P 01 49 47.1 -0.5**
HIA Hailar 20.03 325 P **P 01 49 51.3 -1.5**
HIA Hailar 20.03 325 *c i*P **P 01 49 50.9 -1.9**
HIA pmax pmax
comp=Z,12nm,1.1s
TIY Taiyuan 20.32 288 *e*P **P 01 49 55.9 +0.2**
TIY pmax pmax
comp=Z,29nm,0.6s
LYN LuoYang 20.34 279 P **P 01 49 53.9 -1.9**
LYN pmax pmax
comp=Z,21nm,0.7s
ZEA Zeya 21.04 344 *e*P **P 01 50 02.2 +0.4**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
CNSH ChangSha 21.41 261 P **P 01 50 05.3 -0.3**
CNSH pmax pmax
comp=Z,37nm,1.0s
XAN Xi'an 23.31 278 ⇓P **P 01 50 22.3 -0.5**
XAN pmax pmax
comp=Z,43nm,0.8s
ENH Enshi 23.61 269 P **P 01 50 25.2 -0.4**
ENH Enshi 23.61 269 P **P 01 50 24.9 -0.6**
PETK Petropavlovsk- 24.21 31 P **P 01 50 31.7 +1.1**
comp=Z,12nm,0.8s,baz=234,slow=4.4,SNR=9.9
comp=Z,12nm,0.8s
ULN Ulaanbaatar 26.45 311 P **P 01 50 52.5 +1.7**
ULN Ulaanbaatar 26.45 311⇑ *e*P **P 01 50 51.8 +1.0**
ULN pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 26.85 310 P **P 01 50 54.4 0.0**
SONM Songino Array 26.85 310 P **P 01 50 55.4 +1.0**
comp=Z,7.0nm,0.9s,baz=122,slow=8.5,SNR=39
SONM ScP **ScP 01 57 10.8 -0.1**
comp=Z,1.6nm,0.8s,baz=151,slow=4.0,SNR=9.6
comp=Z,7.0nm,0.9s
GYA Guiyang 27.23 262 ⇓P **P 01 50 57.8 -0.2**
GYA pmax pmax
comp=Z,28nm,0.5s
LZH Lanzhou 27.23 284 *e*P **P 01 50 57.5 -0.4**
LZH pP pP 01 52 01.6 -2.5
LZH pmax pmax
comp=Z,19nm,1.1s
MA2 Magadan 27.26 15 P **P 01 50 57.9 +0.3**
MA2 Magadan 27.26 15 P **P 01 50 58.2 +0.6**
MA2 Magadan 27.26 15 *ce*P **P 01 50 57.9 +0.3**
MA2 pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 28.56 353 *ce*P **P 01 51 08.7 -0.4**
YAK pmax pmax
comp=Z,12nm,0.7s
GTA Gaotai 30.24 291 *e*P **P 01 51 24.3 0.0**
GTA pmax pmax
comp=Z,17nm,0.8s
SEY Seymchan 30.63 14⇑ *e*P **P 01 51 27.8 +0.6**
SEY pmax pmax
comp=Z,6.0nm,0.7s
KMI Kunming 31.00 263 ⇓P **P 01 51 32.3 +1.1**
KMI pmax pmax
comp=Z,22nm,0.7s
PZH PanZhiHua 31.28 266 P **P 01 51 32.5 -1.0**
PZH pmax pmax
comp=Z,20nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.7s
SLVN Son La 31.78 255 P **P 01 51 37.4 -0.4**
SLVN Son La 31.78 255 P **P 01 51 38.2 +0.4**
NONG Nongkai 34.12 251 P **P 01 51 58.4 +0.5**
GOMU GeErMu 34.47 286 P **P 01 52 00.3 -0.8**
GOMU pmax pmax
comp=Z,33nm,1.0s
TOLI2 Tolitoli 35.99 208 P **P 01 52 12.7 -0.9**
TOLI2 IAmb IAmb 01 52 13.4
comp=Z,18nm,0.8s
TOLI2 Tolitoli 35.99 208 P **P 01 52 12.8 -0.9**
PHRA Phrae 36.20 254 P **P 01 52 15.4 -0.1**
FAKI Fak Fak 36.88 188 P **P 01 52 20.3 -0.8**
FAKI IAmb IAmb 01 52 22.3
comp=Z,26nm,0.9s
CHTO Chiang Mai 37.07 256 P **P 01 52 22.3 -0.4**
CHTO Chiang Mai 37.07 256 P **P 01 52 22.3 -0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
SANI Sanana 37.23 198 P **P 01 52 22.5 -1.5**
LUWI Luwuk 37.24 204 P **P 01 52 22.1 -2.0**
CM31 Chiang Mai Arr 37.26 255 P **P 01 52 23.3 -1.0**
CM31 IAmb IAmb 01 52 26.1
comp=Z,14nm,0.6s
CMAR Chiang Mai Arr 37.26 255 P **P 01 52 24.1 -0.1**
comp=Z,8.1nm,0.5s,baz=46,slow=7.3,SNR=39
CMAR ScP **ScP 01 57 46.8 -0.1**
comp=Z,2.1nm,0.3s,baz=87,slow=3.4,SNR=4.0
comp=Z,8.1nm,0.5s
KIWB Kanaga Island 37.34 47 P **P 01 52 24.6 +0.1**
ADK Adak 37.63 47 P **P 01 52 27.1 +0.2**
ADK Adak 37.63 47 P **P 01 52 27.1 +0.2**
ADK pmax pmax
comp=Z,158nm,1.3s
BILL Bilibino 38.07 17 P **P 01 52 31.3 +1.0**
BILL Bilibino 38.07 17 *c i*P **P 01 52 31.4 +1.0**
BILL pmax pmax
comp=Z,83nm,1.0s
WMQ Urumqi 39.19 300 *e*P **P 01 52 41.8 +1.8**
WMQ pmax pmax
comp=Z,12nm,0.7s
KSM Kuching 40.81 223 P **P 01 52 52.7 -0.7**
KSM IAmb IAmb 01 52 55.6
comp=Z,30nm,0.8s
ZALV Zalesovo Beam 41.52 315 P **P 01 52 58.9 +0.3**
ZALV ScP **ScP 01 58 02.1 -0.7**
ZALV Zalesovo Beam 41.52 315 P **P 01 52 58.5 0.0**
comp=Z,0.7nm,0.4s,baz=101,slow=7.8,SNR=4.3
ZALV PcP **PcP 01 54 47.7 -0.5**
comp=Z,1.1nm,0.6s,baz=78,slow=3.4,SNR=4.8
ZALV ScP **ScP 01 58 02.0 -0.9**
comp=Z,2.7nm,0.6s,baz=113,slow=4.0,SNR=11
comp=Z,0.7nm,0.4s
ZALV Zalesovo Beam 41.52 315 P **P 01 52 58.9 +0.3**
KAPI Kappang 42.00 206 P **P 01 53 03.2 +0.3**
KAPI IAmb IAmb 01 53 03.7
comp=Z,27nm,0.7s
KAPI Kappang 42.00 206 P **P 01 53 02.9 0.0**
KAPI Kappang 42.00 206 *ce*P **P 01 53 02.7 -0.2**
KAPI pmax pmax
comp=Z,34nm,1.0s
SPIA Saint Paul Isl 42.27 40 P **P 01 53 03.7 -0.9**
baz=260
P08K Saint George I 42.56 41 P **P 01 53 05.9 -0.9**
baz=261
SRIT Nakonsritamara 42.65 243 P **P 01 53 09.0 +0.9**
MK31 Makanchi Array 42.87 304 P **P 01 53 10.0 +0.5**
MK31 ScP **ScP 01 58 08.2 -0.3**
MK31 Makanchi Array 42.87 304 *de*P **P 01 53 09.8 +0.3**
MKAR Makanchi Array 42.87 304 P **P 01 53 10.1 +0.6**
MKAR ScP **ScP 01 58 08.0 -0.5**
MKAR Makanchi Array 42.87 304 P **P 01 53 09.9 +0.4**
comp=Z,5.3nm,0.7s,baz=90,slow=9.9,SNR=63
MKAR ScP **ScP 01 58 08.0 -0.5**
comp=Z,1.0nm,0.5s,baz=70,slow=6.3,SNR=11
MKAR S **S 01 59 03.6 -2.5**
comp=Z,0.1nm,0.7s,baz=119,slow=8.4,SNR=1.1
comp=Z,5.3nm,0.7s
MKAR Makanchi Array 42.87 304 P **P 01 53 10.1 +0.6**
MAKZ Makanchi 43.08 304 P **P 01 53 11.8 +0.6**
MAKZ Makanchi 43.08 304 P **P 01 53 11.8 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
GAMB Gambell 43.24 30 P **P 01 53 13.4 +1.3**
GAMB Gambell 43.24 30 P **P 01 53 12.8 +0.7**
baz=251
UNV Unalaska Valle 43.99 45 P **P 01 53 18.2 0.0**
baz=266
IPM Ipoh 44.45 237 P **P 01 53 22.0 -0.4**
IPM IAmb IAmb 01 53 22.7
comp=Z,21nm,0.9s
IPM Ipoh 44.45 237 P **P 01 53 22.0 -0.4**
M11K Mekoryuk 44.91 36 P **P 01 53 25.6 +0.3**
baz=260
SOEI Soe 45.06 198 P **P 01 53 25.9 -1.3**
SOEI IAmb IAmb 01 53 38.9
comp=Z,29nm,0.7s
KURK Kurchatov 45.16 310 P **P 01 53 27.6 +0.2**
KURK Kurchatov 45.16 310 *d i*P **P 01 53 27.1 -0.3**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURBB Kurchatov Arra 45.22 310 P **P 01 53 27.9 0.0**
comp=Z,2.2nm,0.4s,baz=90,slow=6.9,SNR=26
KURBB S **S 01 59 37.5 -2.0**
comp=Z,0.3nm,0.7s,baz=92,slow=15,SNR=4.6
comp=Z,2.2nm,0.4s
FALS False Pass 45.84 44 P **P 01 53 33.6 +1.0**
baz=268
K13K Kusilvak Mount 45.92 34 P **P 01 53 35.3 +2.2**
baz=260
F14K Arctic Creek 45.95 29 P **P 01 53 35.5 +2.2**
baz=255
ANM Nome 46.12 30 P **P 01 53 36.2 +1.5**
baz=257,SNR=8.4
ANM Nome 46.12 30 P **P 01 53 36.2 +1.5**
ANM pmax pmax
comp=Z,11nm,0.8s
M13K Dall Lake 46.32 36 P **P 01 53 38.3 +2.2**
baz=263
J14K Nanvaranak Lak 46.56 33 P **P 01 53 39.8 +1.8**
baz=260
S12K Black Hills 46.64 43 P **P 01 53 38.1 -0.7**
S12K Black Hills 46.64 43 P **P 01 53 39.4 +0.6**
baz=268
F15K North Star Dit 46.68 29 P **P 01 53 40.9 +1.9**
baz=256
L14K Kuka Creek 46.76 35 P **P 01 53 41.5 +2.0**
baz=262
G15K Niukluk 46.78 30 P **P 01 53 41.6 +2.0**
baz=258
MTN Manton Dam 46.80 188 P **P 01 53 39.9 -0.6**
MTN IAmb IAmb 01 53 40.4
comp=Z,33nm,0.7s
M14K Bethel 47.04 36 P **P 01 53 43.1 +1.4**
M14K IAmb IAmb 01 53 44.4
comp=Z,34nm,0.9s
M14K Bethel 47.04 36 P **P 01 53 43.4 +1.8**
baz=264
C16K Lisburne Hills 47.08 25 P **P 01 53 43.2 +1.2**
C16K IAmb IAmb 01 53 43.9
comp=Z,24nm,0.8s
C16K Lisburne Hills 47.08 25 P **P 01 53 43.1 +1.2**
baz=254
N14K Kuskokwak Cree 47.09 37 P **P 01 53 43.7 +1.6**
baz=265
PSI Prapat 47.11 237 P **P 01 53 42.9 -0.2**
PSI Prapat 47.11 237 P **P 01 53 42.9 -0.2**
PSI pmax pmax
comp=Z,14nm,0.8s
O14K Tigyukauivet M 47.25 38 P **P 01 53 44.7 +1.3**
baz=266
L15K Ungalak Mounta 47.37 35 P **P 01 53 45.6 +1.4**
baz=263
K15K Wolf Creek Mou 47.42 34 P **P 01 53 46.6 +1.9**
baz=263
H16K Elim 47.46 31 P **P 01 53 46.2 +1.4**
baz=260,SNR=14
G16K Koyuk River 47.55 30 P **P 01 53 46.9 +1.3**
baz=259
M15K Kasigluk River 47.66 36 P **P 01 53 47.8 +1.4**
baz=265
D17K Noatak River 47.76 26 P **P 01 53 48.8 +1.7**
baz=256,SNR=23
RDOG Red Dog Mine 47.91 26 P **P 01 53 49.6 +1.4**
RDOG Red Dog Mine 47.91 26 P **P 01 53 49.5 +1.3**
baz=256
N15K Kwethluk River 47.91 37 P **P 01 53 49.9 +1.5**
baz=266
C17K DeLong Mountai 47.91 25 P **P 01 53 50.0 +1.7**
baz=256
J16K Anvik River 47.97 33 P **P 01 53 50.3 +1.5**
baz=263
O15K Ungalikthiuk R 47.98 38 P **P 01 53 50.3 +1.4**
baz=267
I17K Unalakleet 48.01 32 P **P 01 53 49.9 +0.9**
I17K Unalakleet 48.01 32 P **P 01 53 50.8 +1.8**
baz=262,SNR=7.9
CHNA Chernabura Isl 48.06 44 P **P 01 53 49.5 0.0**
baz=271
E17K Hotham Inlet 48.09 27 P **P 01 53 51.3 +1.7**
baz=258,SNR=14
F17K Baldwin Pennin 48.19 28 P **P 01 53 51.5 +1.1**
F17K IAmb IAmb 01 53 52.9
comp=Z,17nm,0.7s
F17K Baldwin Pennin 48.19 28 P **P 01 53 52.0 +1.7**
baz=259,SNR=13
L16K Owhat River 48.33 35 P **P 01 53 52.7 +1.2**
L16K IAmb IAmb 01 53 54.5
comp=Z,28nm,1.4s
L16K Owhat River 48.33 35 P **P 01 53 52.9 +1.4**
baz=265
KSH Kashi 48.48 295 P **P 01 53 56.9 +3.7**
KSH pP pP 01 55 08.0 +1.0
KSH pmax pmax
comp=Z,7.0nm,0.7s
H17K Granite Mounta 48.49 30 P **P 01 53 54.2 +1.5**
H17K Granite Mounta 48.49 30 P **P 01 53 54.5 +1.7**
baz=262,SNR=7.6
M16K Timber Creek 48.52 36 P **P 01 53 54.5 +1.5**
baz=266
B18K Kokolik River 48.61 24 P **P 01 53 55.5 +2.0**
baz=256
E18K Tukpahlearik C 48.63 27 P **P 01 53 55.5 +1.8**
baz=259
C18K Utukok River 48.66 25 P **P 01 53 55.5 +1.5**
C18K IAmb IAmb 01 53 56.0
comp=Z,26nm,0.7s
C18K Utukok River 48.66 25 P **P 01 53 55.2 +1.2**
baz=257
J17K VABM Dome 48.67 33 P **P 01 53 55.8 +1.7**
J17K IAmb IAmb 01 53 56.8
comp=Z,23nm,0.8s
J17K VABM Dome 48.67 33 P **P 01 53 55.9 +1.9**
baz=264
CHGN Chignik 48.70 42 P **P 01 53 53.2 -1.1**
CHGN IAmb IAmb 01 54 26.5
comp=Z,35nm,0.9s
CHGN Chignik 48.70 42 P **P 01 53 55.5 +1.2**
baz=271
F18K Selawik 48.85 28 P **P 01 53 57.0 +1.7**
baz=261,SNR=16
O16K Kokwok River B 48.89 38 P **P 01 53 57.3 +1.6**
O16K IAmb IAmb 01 53 58.0
comp=Z,30nm,1.1s
O16K Kokwok River B 48.89 38 P **P 01 53 57.1 +1.4**
baz=268
AAK Ala-Archa 48.90 300 ⇓ *e*P **P 01 53 56.0 -0.3**
L17K Donlin 48.92 34 P **P 01 53 57.5 +1.6**
baz=266
P16K Nushagak River 48.93 38 P **P 01 53 57.5 +1.5**
baz=269
K17K Iditarod 48.96 34 IAmb IAmb 01 53 58.9
comp=Z,20nm,0.7s
K17K Iditarod 48.96 34 P **P 01 53 58.1 +1.9**
baz=265
GSI Gunungsitoli 49.12 237 P **P 01 53 58.2 +0.1**
GSI Gunungsitoli 49.12 237 P **P 01 53 58.0 -0.1**
G18K Tagagawik 49.15 29 IAmb IAmb 01 53 59.9
comp=Z,27nm,1.1s
G18K Tagagawik 49.15 29 P **P 01 53 59.0 +1.4**
baz=262,SNR=16
H18K Honhosa River 49.17 30 P **P 01 53 59.2 +1.4**
baz=263
M17K Holitna River 49.28 35 P **P 01 54 00.3 +1.6**
baz=267
N17K Nushagak Hills 49.37 36 P **P 01 54 01.2 +1.8**
baz=268
O17K Koliganek Bris 49.40 37 P **P 01 54 00.8 +1.3**
baz=269
Q16K King Salmon 49.62 39 P **P 01 54 02.3 +1.1**
baz=270
F19K Shaleruckik Mo 49.62 28 P **P 01 54 02.0 +0.9**
baz=262
L18K Granite Mounta 49.67 34 P **P 01 54 03.3 +1.8**
baz=267
P17K Kvichak River 49.73 38 P **P 01 54 03.2 +1.2**
baz=270
J18K Innoko River 49.73 33 P **P 01 54 02.9 +0.9**
baz=266
D19K Kuna River 49.74 26 P **P 01 54 03.4 +1.3**
baz=260
GCSA Galena City Sc 49.76 31 P **P 01 54 03.8 +1.7**
baz=265
G19K Purcell Mounta 49.81 29 P **P 01 54 03.5 +1.0**
G19K Purcell Mounta 49.81 29 P **P 01 54 03.7 +1.1**
baz=264,SNR=8.2
E19K Redstone River 49.92 27 P **P 01 54 04.8 +1.4**
baz=262
N18K Kilae Creek 50.01 36 P **P 01 54 05.4 +1.2**
baz=269
TTA Tatalina 50.02 33 P **P 01 54 05.6 +1.3**
baz=267
M18K Stony River 50.06 35 P **P 01 54 06.1 +1.6**
baz=269
BVAR Borovoye Array 50.11 314 P **P 01 54 05.3 +0.3**
comp=Z,1.5nm,0.5s,baz=102,slow=9.0,SNR=16
BVAR ScP **ScP 01 58 38.2 -0.5**
comp=Z,3.0nm,0.6s,baz=94,slow=4.9,SNR=14
BVAR S **S 02 00 47.1 -0.8**

comp=Z,0.8nm,0.7s,baz=96,slow=12,SNR=5.6
comp=Z,1.5nm,0.5s
BRVK **Borovoye** **50.17 314** P **P** **01 54 05.5 0.0**
BRVK ScP **ScP** **01 58 37.9 -1.1**
BRVK **Borovoye** **50.17 314** *eP* **P** **01 54 06.4 +0.9**
J19K **Poorman** **50.25 32** P **P** **01 54 07.0 +1.1**
J19K IAmb IAmb 01 54 07.9
comp=Z,14nm,0.8s
J19K **Poorman** **50.25 32** P **P** **01 54 07.2 +1.3**
baz=267
D20K **Etivluk River** **50.32 26** P **P** **01 54 07.7 +1.4**
baz=262
P18K **Big Mountain,** **50.35 38** P **P** **01 54 07.8 +1.1**
baz=271
O18K **Koktuh Hills** **50.35 37** P **P** **01 54 08.9 +2.2**
baz=270
E20K **Nigu River** **50.41 26** P **P** **01 54 08.4 +1.3**
baz=263
F20K **Avaraart Lake** **50.45 28** P **P** **01 54 08.8 +1.6**
baz=264
L19K **White Mountain** **50.53 34** P **P** **01 54 09.6 +1.6**
baz=269
H20K **Anotleneega Mo** **50.66 30** P **P** **01 54 10.7 +1.8**
baz=266
N19K **Bonanza Creek** **50.70 36** P **P** **01 54 10.9 +1.6**
baz=270
A21K **Barrow** **50.74 22** P **P** **01 54 10.5 +1.2**
baz=260
M19K **Big River Lodg** **50.75 35** P **P** **01 54 11.2 +1.6**
baz=270
I20K **Naaghedeneel** **50.79 31** P **P** **01 54 11.6 +1.9**
baz=267
O19K **Port Alsworth** **50.79 37** IAmb IAmb 01 54 12.2
comp=Z,19nm,0.7s
O19K **Port Alsworth** **50.79 37** P **P** **01 54 11.3 +1.4**
baz=271
J20K **Nowinta River** **50.91 32** P **P** **01 54 12.6 +1.9**
J20K IAmb IAmb 01 54 13.3
comp=Z,18nm,0.8s
J20K **Nowinta River** **50.91 32** P **P** **01 54 12.4 +1.7**
baz=268
K20K **Telida** **50.92 33** P **P** **01 54 12.7 +1.9**
baz=269
L20K **Farewell, AK** **50.99 34** P **P** **01 54 13.0 +1.6**
baz=270
SII **Sitkinak Islan** **51.03 42** P **P** **01 54 12.7 +1.0**
baz=274
C21K **Knifeblade Rid** **51.03 25** P **P** **01 54 13.4 +1.8**
baz=263,SNR=16
B21K **Ikpikpuk River** **51.15 25** P **P** **01 54 14.1 +1.7**
B21K **Ikpikpuk River** **51.15 25** P **P** **01 54 14.0 +1.7**
baz=263
Q19K **Cape Douglas,** **51.18 39** P **P** **01 54 13.0 +0.2**
baz=273
E21K **Killik River** **51.25 26** P **P** **01 54 14.3 +1.1**
baz=265
G21K **Allakaket** **51.28 29** P **P** **01 54 15.0 +1.5**
baz=267
F21K **Alatna River** **51.34 28** P **P** **01 54 15.0 +1.1**
baz=266,SNR=6.4
M20K **Styx River** **51.34 35** P **P** **01 54 15.7 +1.6**
baz=271
P19K **Oil Pt** **51.36 38** P **P** **01 54 14.9 +0.8**
baz=272
OHAK **Old Harbor** **51.47 41** P **P** **01 54 16.3 +1.4**
baz=274
H21K **Melozitna Rive** **51.53 30** P **P** **01 54 16.8 +1.5**
baz=268
B22K **Teshekpuk Lake** **51.64 24** P **P** **01 54 17.3 +1.3**
baz=264
O20K **Slope Mountain** **51.64 37** P **P** **01 54 17.6 +1.4**
baz=272
CHUM **Lake Minchumin** **51.71 32** P **P** **01 54 18.4 +1.8**
baz=270,SNR=7.1
D22K **Ayikyak River** **51.76 26** P **P** **01 54 18.7 +1.8**
baz=266
PPLA **Purkeypile** **51.77 33** IAmb IAmb 01 54 19.8
comp=Z,20nm,0.6s
PPLA **Purkeypile** **51.77 33** P **P** **01 54 19.0 +1.8**
baz=271,SNR=7.3
KDAK **Kodiak Island** **51.81 40** P **P** **01 54 17.3 0.0**
comp=Z,20nm,0.4s,baz=256,slow=8.3,SNR=58
comp=Z,20nm,0.4s
KDAK **Kodiak Island** **51.81 40** P **P** **01 54 17.9 +0.5**
baz=274
CAST **Castle Rocks** **51.81 33** P **P** **01 54 18.6 +1.2**
baz=270,SNR=9.2
Q20K **Shuyak Island** **51.85 39** P **P** **01 54 18.7 +1.0**
baz=274
I21K **Tanana** **51.86 30** P **P** **01 54 19.1 +1.5**
baz=269
G22K **Bettles** **52.10 28** P **P** **01 54 20.5 +1.2**
baz=268
SKT **Skwentna** **52.10 35** P **P** **01 54 20.6 +1.1**
baz=272
H22K **Ishtalitna Cre** **52.13 30** P **P** **01 54 21.6 +1.9**
baz=269
HOM **Homer** **52.16 38** P **P** **01 54 21.3 +1.3**
baz=274
NIL **Nilore** **52.24 289** P **P** **01 54 21.2 +0.2**
NIL IAmb IAmb 01 54 22.2
comp=Z,18nm,0.9s
NIL **Nilore** **52.24 289** P **P** **01 54 21.2 +0.2**
NIL pmax pmax
comp=Z,18nm,0.9s
BPAW **Bear Paw Mtn.** **52.29 32** P **P** **01 54 22.3 +1.4**
baz=271
CAPN **Captain Cook N** **52.34 36** P **P** **01 54 22.9 +1.8**
baz=273
D23K **Nanushuk River** **52.49 26** IAmb IAmb 01 54 25.0
comp=Z,32nm,1.3s
D23K **Nanushuk River** **52.49 26** P **P** **01 54 24.1 +1.9**
baz=267
BRLK **Bradley Lake** **52.54 37** IAmb IAmb 01 54 25.0
comp=Z,33nm,1.0s
C23K **Itkillik River** **52.56 25** IAmb IAmb 01 54 25.1
comp=Z,24nm,0.9s
C23K **Itkillik River** **52.56 25** P **P** **01 54 24.1 +1.5**
baz=267,SNR=16
BRSE **Bradley Lake S** **52.61 37** P **P** **01 54 24.7 +1.4**
baz=274
COLD **Coldfoot** **52.62 28** P **P** **01 54 24.7 +1.6**
baz=269,SNR=6.2
TRF **Thorofare Moun** **52.62 33** P **P** **01 54 25.0 +1.5**
baz=272
CUT **Chulitna** **52.67 34** P **P** **01 54 23.9 +0.3**
baz=273
G23K **Bananza Creek** **52.68 29** IAmb IAmb 01 54 26.1
comp=Z,16nm,0.8s
G23K **Bananza Creek** **52.68 29** P **P** **01 54 25.1 +1.4**
baz=270
M22K **Willow** **52.78 35** P **P** **01 54 25.7 +1.4**
baz=273
FITZ **Fitzroy Crossi** **52.82 194** P **P** **01 54 25.0 -0.2**
comp=Z,15nm,0.7s,baz=20,slow=6.7,SNR=29
comp=Z,15nm,0.7s
FITZ **Fitzroy Crossi** **52.82 194** P **P** **01 54 25.4 +0.2**
E23K **Chandalar** **52.85 27** P **P** **01 54 26.7 +1.8**
baz=269
TOLK **Toolik Lake Re** **52.88 26** IAmb IAmb 01 54 27.6
comp=Z,25nm,1.2s
TOLK **Toolik Lake Re** **52.88 26** P **P** **01 54 26.6 +1.5**
baz=269,SNR=12
I23K **Minto, Yukon-K** **52.97 31** P **P** **01 54 27.0 +1.3**
baz=271
RC01 **Rabbit Creek A** **53.01 36** IAmb IAmb 01 54 27.4
comp=Z,24nm,1.1s
RC01 **Rabbit Creek A** **53.01 36** P **P** **01 54 26.7 +0.7**
baz=274
O22K **Cooper Landing** **53.06 36** P **P** **01 54 27.1 +0.7**
baz=275
NEA2 **Nenana** **53.11 31** IAmb IAmb 01 54 29.0
comp=Z,28nm,0.9s
NEA2 **Nenana** **53.11 31** P **P** **01 54 28.2 +1.4**
baz=272,SNR=14
D24K **Happy Valley** **53.16 25** P **P** **01 54 28.8 +1.8**
baz=269,SNR=33
MCK **McKinley** **53.21 32** P **P** **01 54 28.2 +0.6**
baz=273,SNR=5.7
C24K **Franklin Bluff** **53.22 25** P **P** **01 54 28.8 +1.4**
baz=269
SEW **Seward** **53.23 37** P **P** **01 54 28.6 +1.0**
baz=275
PMR **Palmer** **53.26 35** P **P** **01 54 28.1 +0.3**
baz=274,SNR=5.9
PMR **Palmer** **53.26 35** P **P** **01 54 28.4 +0.6**
RND **Reindeer** **53.27 33** IAmb IAmb 01 54 29.3
comp=Z,22nm,0.5s

E24K **Your Creek** **53.28 27** P **P** **01 54 29.7 +1.7**
baz=270
GHO **Glory Hole Cre** **53.34 35** IAmb IAmb 01 54 30.3
comp=Z,28nm,0.8s
WB0 **Warramunga Arr** **53.41 183** P **P** **01 54 28.9 -0.6**
F24K **Squaw Lake** **53.51 28** P **P** **01 54 31.2 +1.6**
baz=271
H24K **Noodor Dome** **53.56 30** IAmb IAmb 01 54 32.8
comp=Z,13nm,0.8s
H24K **Noodor Dome** **53.56 30** P **P** **01 54 31.9 +1.8**
baz=272
WRAB **Tennant Creek** **53.57 183** *eP* **P** **01 54 29.0 -1.6**
WRAB pmax pmax
comp=Z,29nm,1.8s
WB2 **Warramunga Arr** **53.58 183** P **P** **01 54 30.4 -0.3**
WRA **Warramunga Arr** **53.58 183** P **P** **01 54 30.2 -0.5**
comp=Z,12nm,0.3s,baz=359,slow=7.6,SNR=166
WRA S **S** **02 01 31.8 -3.6**
comp=Z,0.2nm,0.7s,baz=352,slow=20,SNR=5.6
comp=Z,12nm,0.3s
KNK **Knik Glacier** **53.60 35** P **P** **01 54 31.2 +0.8**
baz=275,SNR=9.2
SML **Sawmill** **53.62 35** IAmb IAmb 01 54 32.7
comp=Z,25nm,0.8s
SML **Sawmill** **53.62 35** P **P** **01 54 31.3 +0.8**
baz=275,SNR=5.8
COLA **College** **53.62 31** P **P** **01 54 31.9 +1.5**
baz=273
COLA **College** **53.62 31** P **P** **01 54 30.6 +0.2**
COLA **College** **53.62 31** *eP* **P** **01 54 29.7 -0.7**
COLA pmax pmax
comp=Z,15nm,0.9s
G24K **Hadweenzic Riv** **53.69 29** P **P** **01 54 32.6 +1.7**
baz=272
PWL **Port Wells** **53.71 36** P **P** **01 54 31.6 +0.5**
baz=276
POKR **Poker Plat Res** **53.79 31** IAmb IAmb 01 54 34.2
comp=Z,24nm,0.8s
POKR **Poker Plat Res** **53.79 31** P **P** **01 54 33.3 +1.7**
baz=273,SNR=12
M23K **Glacier View** **53.91 35** P **P** **01 54 33.3 +0.7**
baz=275,SNR=5.2
SIMJ **Simiganj** **53.93 296** P **P** **01 54 33.1 -0.1**
DZET **Dzherino** **54.03 296** P **P** **01 54 33.9 0.0**
DZET pmax pmax
comp=Z,12nm,0.6s
D25K **Kavik River** **54.03 25** P **P** **01 54 34.7 +1.4**
baz=271
HDA **Harding Lake** **54.04 31** IAmb IAmb 01 54 34.5
comp=Z,24nm,1.2s
HDA **Harding Lake** **54.04 31** P **P** **01 54 33.6 +0.1**
baz=274,SNR=7.8
IL31 **54.04 31** P **P** **01 54 33.8 +0.4**
ILAR **Eielson Array** **54.04 31** P **P** **01 54 33.5 0.0**
comp=Z,4.7nm,0.8s,baz=268,slow=4.9,SNR=63
comp=Z,4.7nm,0.8s
SCM **Sheep Creek Mo** **54.09 35** P **P** **01 54 35.1 +1.1**
baz=276,SNR=7.5
P23K **Montague Islan** **54.26 37** P **P** **01 54 36.1 +1.1**
baz=277
GLI **Glacier Island** **54.31 36** P **P** **01 54 36.0 +0.6**
baz=277
F25K **Christian Rive** **54.37 27** IAmb IAmb 01 54 38.9
comp=Z,21nm,0.8s
F25K **Christian Rive** **54.37 27** P **P** **01 54 38.1 +2.3**
baz=273,SNR=28
H25L **Birch Creek** **54.38 29** P **P** **01 54 37.9 +2.1**
baz=274,SNR=7.1
C26K **Camden Bay** **54.53 25** P **P** **01 54 38.9 +2.1**
baz=272
PRP **Porcupine Dome** **54.56 30** P **P** **01 54 38.5 +1.2**
baz=275,SNR=6.6
FYU **Fort Yukon** **54.59 29** IAmb IAmb 01 54 40.4
comp=Z,26nm,1.1s
K24K **Donnelly Dome** **54.60 32** P **P** **01 54 37.9 +0.4**
baz=276
M24K **Tolsona, Glenn** **54.60 34** IAmb IAmb 01 54 39.6
comp=Z,21nm,0.7s
M24K **Tolsona, Glenn** **54.60 34** P **P** **01 54 38.5 +0.9**
baz=276
J25K **Salcha River,** **54.70 31** P **P** **01 54 39.0 +0.7**
baz=275
BMAR **Burnt Mountain** **54.79 28** P **P** **01 54 40.9 +2.1**
KLU **Klutina** **54.80 35** IAmb IAmb 01 54 41.4
comp=Z,14nm,0.7s
KLU **Klutina** **54.80 35** P **P** **01 54 39.9 +0.9**
baz=277,SNR=5.1
PAX **Paxson** **54.83 33** P **P** **01 54 40.1 +0.9**
baz=276
DIV **Divide** **54.92 35** P **P** **01 54 40.9 +1.0**
F26K **Sheenjek River** **54.93 27** P **P** **01 54 42.2 +2.4**
baz=274
C27K **Jago River** **54.96 25** P **P** **01 54 41.8 +1.9**
baz=273,SNR=19
EYAK **Cordova Ski Ar** **55.01 36** P **P** **01 54 41.6 +1.3**
baz=278
RIDG **Independent Ri** **55.02 32** P **P** **01 54 40.6 +0.1**
baz=276,SNR=6.0
HARP **HAARP** **55.04 34** P **P** **01 54 42.1 +1.5**
baz=277
G26K **Porcupine Rive** **55.14 28** P **P** **01 54 43.3 +2.1**
baz=275
KBL **Kabul** **55.23 291** P **P** **01 54 42.2 -0.5**
KBL **Kabul** **55.23 291** P **P** **01 54 42.2 -0.5**
KBL pmax pmax
comp=Z,6.0nm,1.0s
SCRK **Sand Creek** **55.37 32** IAmb IAmb 01 54 44.6
comp=Z,23nm,1.1s
SCRK **Sand Creek** **55.37 32** P **P** **01 54 43.7 +0.6**
baz=277,SNR=11
N25K **Chitina, Valde** **55.41 35** IAmb IAmb 01 54 46.0
comp=Z,11nm,0.8s
N25K **Chitina, Valde** **55.41 35** P **P** **01 54 44.4 +1.1**
baz=278,SNR=5.3
J26L **Joseph Creek** **55.49 31** P **P** **01 54 44.6 +0.8**
baz=277
BMRM **Bremner River** **55.50 35** P **P** **01 54 45.2 +1.2**
baz=279,SNR=8.5
I26K **Coal Creek Min** **55.56 30** P **P** **01 54 45.5 +1.2**
baz=277
MENT **Mentasta** **55.63 33** IAmb IAmb 01 54 47.2
comp=Z,20nm,0.6s
MENT **Mentasta** **55.63 33** P **P** **01 54 45.5 +0.7**
KAIM **Kayak Island** **55.76 37** P **P** **01 54 47.1 +1.5**
baz=279
L26K **Log Cabin Wild** **55.78 33** IAmb IAmb 01 54 48.2
comp=Z,16nm,0.8s
L26K **Log Cabin Wild** **55.78 33** P **P** **01 54 47.5 +1.6**
baz=278,SNR=9.4
D27M **Malcolm River** **55.96 25** P **P** **01 54 48.7 +1.6**
baz=276
G27K **Doyon Strip** **55.99 28** P **P** **01 54 48.8 +1.6**
baz=277
VRDI **Verde Repeater** **56.01 35** IAmb IAmb 01 54 49.7
comp=Z,17nm,0.8s
M26K **Nabesna, AK** **56.04 34** P **P** **01 54 49.1 +1.4**
baz=279
H27K **Steamboat Moun** **56.11 29** P **P** **01 54 50.0 +1.9**
baz=278
I27K **Kandik River** **56.16 30** P **P** **01 54 50.2 +1.7**
baz=278
L27K **Beaver Creek,** **56.46 33** P **P** **01 54 52.2 +1.6**
baz=280
EGAK **Eagle** **56.48 31** P **P** **01 54 51.6 +1.0**
baz=279
ARTI **Arti** **56.49 319** *d iP* **P** **01 54 51.0 +0.1**
ARTI **01 56 46.7**
ARTI S **S** **02 02 16.0 +3.1**
ARTI SS **SS** **02 06 05.8 -0.3**
ARTI pmax pmax
comp=Z,7.0nm,1.8s
E28M **Babbage River** **56.55 26** P **P** **01 54 52.9 +1.8**
baz=278
M27K **Edge Creek, AK** **56.56 34** P **P** **01 54 52.9 +1.4**
baz=280
F28M **Old Crow** **56.57 27** IAmb IAmb 01 54 54.0
comp=Z,20nm,1.1s
F28M **Old Crow** **56.57 27** P **P** **01 54 53.0 +1.8**
baz=278,SNR=11
D28M **Stokes Point** **56.73 25** P **P** **01 54 53.9 +1.6**
baz=278
I28M **Miner Creek** **56.88 30** IAmb IAmb 01 54 56.1
comp=Z,21nm,0.9s
I28M **Miner Creek** **56.88 30** P **P** **01 54 55.1 +1.5**
baz=280
MESA **MESA** **56.93 36** P **P** **01 54 55.3 +1.2**
baz=281
BVCY **Beaver Creek** **57.02 33** P **P** **01 54 55.8 +1.3**
baz=281

E29M **Blow River** **57.18 26** P **P** **01 54 56.9 +1.4**
baz=279
ABKAR **Akbulak array** **57.26 311** P **P** **01 54 56.5 +0.1**
ABKAR **Akbulak array** **57.26 311** IAmb IAmb 01 54 57.1
comp=Z,2.9nm,0.8s
AS01 **Alice Springs** **57.30 183** P **P** **01 54 56.8 -0.1**
ASAR **Alice Springs** **57.30 183** P **P** **01 54 56.4 -0.6**
comp=Z,3.3nm,0.3s,baz=13,slow=13,SNR=60
ASAR S **S** **02 02 22.6 -1.7**
comp=Z,1.0nm,0.8s,baz=18,slow=21,SNR=7.0
comp=Z,3.3nm,0.3s
YUK3 **Moose Creek** **57.33 34** P **P** **01 54 58.1 +1.2**
baz=281,SNR=5.6
DAWY **Dawson** **57.36 31** P **P** **01 54 58.1 +1.3**
DAWY **Dawson** **57.36 31** P **P** **01 54 58.1 +1.3**
baz=281
H29M **Whitestone** **57.38 29** P **P** **01 54 58.5 +1.6**
baz=280
G29M **Pine Creek** **57.39 28** P **P** **01 54 59.1 +2.1**
baz=280,SNR=16
I29M **Ogilvie Camp,** **57.57 30** P **P** **01 54 59.5 +1.3**
I29M **Ogilvie Camp,** **57.57 30** P **P** **01 54 59.7 +1.5**
baz=281
O28M **Mount Upton** **57.66 35** P **P** **01 55 00.7 +1.4**
baz=282
YUK8 **Steele Glacier** **57.75 35** P **P** **01 55 01.1 +1.3**
baz=282
PINM **Pinnacle** **57.78 36** P **P** **01 55 01.3 +1.5**
baz=283
J29N **Klondike Camp** **57.78 31** IAmb IAmb 01 55 02.8
comp=Z,27nm,1.4s
J29N **Klondike Camp** **57.78 31** P **P** **01 55 01.4 +1.7**
baz=282,SNR=5.5
EPYK **Eagle Plains** **58.00 28** P **P** **01 55 02.8 +1.6**
baz=282,SNR=40
G30M **tAoh Zraii Nji** **58.07 28** P **P** **01 55 02.8 +1.1**
baz=282
M29M **Somme Creek** **58.10 33** IAmb IAmb 01 55 05.0
comp=Z,14nm,0.8s
M29M **Somme Creek** **58.10 33** P **P** **01 55 03.9 +1.8**
baz=283
L29M **L29M** **58.11 32** IAmb IAmb 01 55 05.7
comp=Z,24nm,1.1s
L29M **L29M** **58.11 32** P **P** **01 55 03.9 +1.9**
baz=282
F30M **Barrier River** **58.11 27** P **P** **01 55 03.7 +1.8**
baz=282
K29M **Barlow Dome** **58.21 31** IAmb IAmb 01 55 05.3
comp=Z,16nm,1.1s
K29M **Barlow Dome** **58.21 31** P **P** **01 55 04.4 +1.6**
baz=283
YUK4 **Talbot Arm** **58.27 34** P **P** **01 55 04.9 +1.6**
baz=283
I30M **Mount Dempster** **58.39 30** IAmb IAmb 01 55 06.5
comp=Z,21nm,0.8s
I30M **Mount Dempster** **58.39 30** P **P** **01 55 05.4 +1.4**
baz=283
YUK6 **Outpost Mounta** **58.49 35** P **P** **01 55 06.4 +1.5**
baz=284
O29M **Mount Kennedy** **58.55 36** P **P** **01 55 06.3 +1.1**
baz=284
J30M **Hart River** **58.55 30** P **P** **01 55 06.5 +1.3**
baz=283
INK **Inuvik** **58.79 26** P **P** **01 55 06.8 +0.4**
comp=Z,6.7nm,0.5s,baz=304,slow=6.8,SNR=54
comp=Z,6.7nm,0.5s
INK **Inuvik** **58.79 26** P **P** **01 55 07.2 +0.7**
baz=283,SNR=6.8
M30M **Minto, Yukon** **58.83 33** P **P** **01 55 08.4 +1.5**
baz=284
G31M **Satah River** **58.84 27** IAmb IAmb 01 55 07.9
comp=Z,14nm,0.6s
G31M **Satah River** **58.84 27** P **P** **01 55 07.5 +0.7**
baz=284,SNR=9.7
F31M **Tsiigehtchic** **58.91 27** P **P** **01 55 07.9 +0.6**
baz=284,SNR=5.4
HYT **Haines Junctio** **58.93 35** IAmb IAmb 01 55 10.8
comp=Z,18nm,1.4s
HYT **Haines Junctio** **58.93 35** P **P** **01 55 08.9 +1.2**
baz=284
H31M **Peel River** **59.08 29** IAmb IAmb 01 55 10.7
comp=Z,31nm,0.9s
H31M **Peel River** **59.08 29** P **P** **01 55 09.7 +1.1**
baz=284,SNR=19
WRKA **Warakurna** **59.18 189** P **P** **01 55 09.5 -0.2**
P30M **Million Dollar** **59.37 35** P **P** **01 55 12.2 +1.6**
baz=285
N31M **Braeburn, Yuko** **59.57 34** P **P** **01 55 13.5 +1.6**
baz=285
O30N **Mendenhall** **59.61 35** P **P** **01 55 13.8 +1.5**
baz=286
PLBC **Pleasant Camp** **59.84 36** P **P** **01 55 15.2 +1.4**
baz=286
M31M **Drury Creek, Y** **60.00 33** P **P** **01 55 16.3 +1.4**
baz=286,SNR=7.1
WHY **Whitehorse** **60.22 35** P **P** **01 55 17.8 +1.4**
baz=287
FARO **Faro, Yukon** **60.46 33** IAmb IAmb 01 55 19.8
comp=Z,15nm,1.1s
FARO **Faro, Yukon** **60.46 33** P **P** **01 55 19.4 +1.4**
baz=287,SNR=6.9
A36M **Sachs Harbour** **60.48 21** P **P** **01 55 19.1 +1.3**
A36M **Sachs Harbour** **60.48 21** P **P** **01 55 19.1 +1.3**
baz=289,SNR=36
KIRV **Kirov** **60.62 323** *deP* **P** **01 55 19.2 +0.3**
N32M **Quiet Lake** **60.91 34** P **P** **01 55 22.0 +1.0**
baz=288
P32M **Atlin** **61.09 36** P **P** **01 55 23.7 +1.5**
baz=288
R32K **Eaglecrest** **61.11 37** P **P** **01 55 23.8 +1.5**
baz=288
MMPY **Sheldon Lake,** **61.27 32** P **P** **01 55 24.9 +1.6**
baz=288,SNR=5.4
P33M **Teslin, Yukon** **61.33 35** P **P** **01 55 25.1 +1.3**
baz=288
S32K **Killisnoo** **61.34 38** P **P** **01 55 25.1 +1.4**
baz=289
C36M **Paulatuk** **61.76 23** P **P** **01 55 27.1 +0.8**
baz=291,SNR=35
Q32M **Nakina River** **62.00 36** P **P** **01 55 30.0 +1.6**
baz=290
R33M **Jennings River** **62.48 35** P **P** **01 55 33.0 +1.5**
baz=290
SPA0 **Spitsbergen Ar** **62.91 349** *eP* **P** **01 55 37.5 +3.7**
SPITS **Spitsbergen Ar** **62.91 349** P **P** **01 55 34.0 +0.1**
comp=Z,7.8nm,0.9s,baz=84,slow=7.9,SNR=10.0
comp=Z,7.8nm,0.9s
SPITS **Spitsbergen Ar** **62.91 349** P **P** **01 55 34.0 +0.1**
S34M **Telegraph Cree** **62.93 37** P **P** **01 55 35.8 +1.6**
baz=291
TGTN **Hyland Airport** **62.97 32** P **P** **01 55 36.1 +1.6**
baz=291,SNR=13
WTLY **Watson Lake, Y** **63.25 34** P **P** **01 55 37.7 +1.3**
baz=292
DLBC **Dease Lake** **63.28 36** P **P** **01 55 38.0 +1.4**
comp=Z,4.3nm,0.8s,baz=227,slow=4.5,SNR=5.9
comp=Z,4.3nm,0.8s
DLBC **Dease Lake** **63.28 36** P **P** **01 55 38.5 +1.8**
baz=292
T35M **Bob Quinn** **63.71 38** P **P** **01 55 41.3 +1.9**
baz=292
EUNU **Eureka** **63.80 8** P **P** **01 55 40.2 +0.5**
EUNU IAmb IAmb 01 55 40.8
comp=Z,13nm,0.7s
NOR **Nord** **63.95 356** *i* P **P** **01 55 39.6 -1.0**
NOR IAmb IAmb 01 55 42.0
comp=Z,7.9nm,1.2s
LCRK **Leigh Creek** **63.99 179** P **P** **01 55 42.2 +0.8**
WRGLY **Wrigley** **64.37 30** P **P** **01 55 45.0 +1.6**
baz=294,SNR=6.7
KOTAN **Kotaneelee Air** **65.42 33** P **P** **01 55 51.4 +1.2**
baz=295
TOAD **Toad River Com** **65.42 35** P **P** **01 55 51.7 +1.4**
baz=295
STKA **Stephens Creek** **65.55 176** P **P** **01 55 51.4 +0.1**
comp=Z,2.9nm,0.5s,baz=357,slow=7.4,SNR=6.0
comp=Z,2.9nm,0.5s
ARA0 **ARCESS Array S** **65.67 339** *eP* **P** **01 55 51.7 0.0**
ARCES **ARCESS Array B** **65.67 339** P **P** **01 55 51.9 +0.2**
comp=Z,2.3nm,0.5s,baz=65,slow=8.9,SNR=35
comp=Z,2.3nm,0.5s
RES **Resolute Bay** **66.51 13** IAmb IAmb 01 55 58.2
comp=Z,10.0nm,0.9s
KTK1 **Kautokeino** **66.64 339** *eP* **P** **01 55 57.8 +0.1**
YKA **Yellowknife Ar** **68.29 28** P **P** **01 56 08.3 +0.2**
comp=Z,3.9nm,0.8s,baz=294,slow=6.0,SNR=39
comp=Z,3.9nm,0.8s

DAG	**Danmarks Havn**	**68.57**	**354**	P	**P**		**01 56 10.0**	**+0.4**
DAG				pmax	pmax			
comp=Z,11nm,1.2s								
DAG	**Danmarks Havn**	**68.57**	**354**	*i* P	**P**		**01 56 08.6**	**-1.0**
DAG				IAmb	IAmb		01 56 10.5	
comp=Z,10.0nm,1.0s								
NEEM	**North Greenlan**	**68.82**	**2**	*i* P	**P**		**01 56 11.1**	**-0.5**
NEEM				IAmb	IAmb		01 56 12.8	
comp=Z,26nm,1.1s								
STEI	**Steigen**	**69.64**	**340**	*eP*	**P**		**01 56 15.6**	**-0.6**
FINES	**FINESS Array B**	**69.91**	**331**	P	**P**		**01 56 17.9**	**-0.1**
comp=Z,9.1nm,0.4s,baz=56,slow=5.7,SNR=133								
comp=Z,9.1nm,0.4s								
FAUS	**Fauske**	**69.98**	**340**	*eP*	**P**		**01 56 18.6**	**+0.3**
KBZ	**Khabaz**	**70.22**	**310**	P	**P**		**01 56 20.5**	**+0.4**
comp=Z,3.5nm,0.9s,baz=44,slow=2.0,SNR=8.0								
comp=Z,3.5nm,0.9s								
KBZ	**Khabaz**	**70.22**	**310**	*ceP*	**P**		**01 56 21.1**	**+1.0**
KBZ				pmax	pmax			
comp=Z,4.0nm,0.9s								
KIV	**Kislovodsk**	**70.24**	**310**	*eP*	**P**		**01 56 21.6**	**+1.2**
KIV				pmax	pmax			
comp=Z,4.0nm,1.1s								
MOR8	**Moi Rana**	**71.04**	**339**	*eP*	**P**		**01 56 23.7**	**-1.0**
KULLO	**Kullorsuaq**	**71.40**	**4**	*i* P	**P**		**01 56 26.4**	**-0.2**
KULLO				IAmb	IAmb		01 56 27.6	
comp=Z,10nm,0.6s								
UPNV	**Upernavik**	**73.23**	**4**	*i* P	**P**		**01 56 37.4**	**0.0**
UPNV				IAmb	IAmb		01 56 38.6	
comp=Z,11nm,0.7s								
B08A	**Colville Reser**	**73.57**	**43**	IAmb	IAmb		01 56 41.7	
comp=Z,10nm,1.0s								
SUMG	**Summit**	**73.79**	**359**	P	**P**		**01 56 42.3**	**+1.2**
SUMG				IAmb	IAmb		01 56 42.9	
comp=Z,8.3nm,0.5s								
SUMG	**Summit**	**73.79**	**359**	P	**P**		**01 56 42.3**	**+1.2**
SUMG				pmax	pmax			
comp=Z,8.0nm,0.5s								
SUMG	**Summit**	**73.79**	**359**	*i* P	**P**		**01 56 42.0**	**+0.9**
SUMG				IAmb	IAmb		01 56 43.3	
comp=Z,10nm,0.6s								
C09A	**Chrisman Ranch**	**74.47**	**43**	IAmb	IAmb		01 56 46.9	
comp=Z,9.0nm,0.8s								
D08A	**Wollman Farm,**	**74.51**	**43**	IAmb	IAmb		01 56 47.0	
comp=Z,9.4nm,1.0s								
AKASG	**Malin Array Be**	**74.56**	**321**	P	**P**		**01 56 45.0**	**-0.4**
comp=Z,0.5nm,0.3s,baz=53,slow=5.5,SNR=5.0								
comp=Z,0.5nm,0.3s								
AKASG	**Malin Array Be**	**74.56**	**321**	P	**P**		**01 56 45.0**	**-0.4**
NEW	**Newport**	**74.86**	**42**	IAmb	IAmb		01 56 49.1	
comp=Z,6.9nm,0.9s								
NEW	**Newport**	**74.86**	**42**	P	**P**		**01 56 48.1**	**+0.9**
comp=Z,5.6nm,0.9s,baz=292,slow=6.4,SNR=8.8								
comp=Z,5.6nm,0.9s								
YBH	**Yreka Blue Hor**	**75.09**	**50**	P	**P**		**01 56 50.1**	**+1.3**
comp=Z,5.4nm,0.8s,baz=28,slow=4.8,SNR=9.3								
comp=Z,5.4nm,0.8s								
J05D	**Fort Rock, OR**	**75.18**	**48**	P	**P**		**01 56 50.7**	**+1.4**
E09A	**Wood Farm, Sta**	**75.25**	**44**	IAmb	IAmb		01 56 51.7	
comp=Z,1.3nm,1.0s								
HFS	**Hagfors**	**75.44**	**334**	P	**P**		**01 56 49.9**	**-0.3**
comp=Z,5.3nm,0.4s,baz=50,slow=2.3,SNR=50								
comp=Z,5.3nm,0.4s								
DOMB	**Dombas**	**75.64**	**337**	*eP*	**P**		**01 56 51.3**	**0.0**
NB2	**NORSAR Subarra**	**75.66**	**336**	P	**P**		**01 56 51.3**	**-0.2**
comp=Z,7.4nm,0.7s,baz=44,slow=5.9								
NB2	**NORSAR Subarra**	**75.66**	**336**	P	**P**		**01 56 51.3**	**-0.2**
baz=44,slow=5.9								
NOA	**NORSAR Array B**	**75.66**	**336**	P	**P**		**01 56 51.4**	**-0.2**
comp=Z,7.2nm,0.8s,baz=44,slow=5.6,SNR=18								
comp=Z,7.2nm,0.8s								
NORES	**NORESS Array B**	**75.77**	**336**	P	**P**		**01 56 53.9**	**+1.8**
NC602	**NORSAR Array S**	**75.77**	**336**	*eP*	**P**		**01 56 51.3**	**-0.7**
BMO	**Blue Mountains**	**76.67**	**45**	IAmb	IAmb		01 56 59.5	
comp=Z,7.4nm,0.9s								
SKAR	**Skarslia**	**76.90**	**337**	*eP*	**P**		**01 56 58.9**	**+0.5**
ICESG	**Greenland Ices**	**77.31**	**359**	*i* P	**P**		**01 57 01.2**	**+0.3**
ICESG				IAmb	IAmb		01 57 02.8	
comp=Z,10nm,0.8s								
BRTR	**Keskin Array B**	**78.21**	**310**	P	**P**		**01 57 06.8**	**+0.6**
comp=Z,0.5nm,0.5s,baz=341,slow=8.3,SNR=1.5								
comp=Z,0.5nm,0.5s								
FFC	**Flin Flon**	**78.25**	**31**	P	**P**		**01 57 06.5**	**+0.6**
FFC				IAmb	IAmb		01 57 06.6	
comp=Z,5.2nm,0.7s								
FFC	**Flin Flon**	**78.25**	**31**	P	**P**		**01 57 06.5**	**+0.6**
FFC				pmax	pmax			
comp=Z,5.0nm,0.7s								
PAHR	**Pah Rah Range**	**78.31**	**50**	P	**P**		**01 57 07.5**	**+0.8**
PAHR				IAmb	IAmb		01 57 08.6	
comp=Z,14nm,1.0s								
FCC	**Fort Churchill**	**78.37**	**24**	IAmb	IAmb		01 57 07.6	
comp=Z,7.5nm,0.8s								
MFID	**Camas Ranch**	**78.37**	**45**	IAmb	IAmb		01 57 09.2	
comp=Z,5.0nm,0.6s								
RAYN	**Ar Rayn**	**78.49**	**291**	P	**P**		**01 57 08.2**	**+0.4**
RAYN				IAmb	IAmb		01 57 08.7	
comp=Z,5.5nm,0.9s								
RAYN	**Ar Rayn**	**78.49**	**291**	P	**P**		**01 57 08.2**	**+0.4**
RAYN				pmax	pmax			
comp=Z,6.0nm,0.9s								
HLID	**Hailey**	**79.12**	**45**	IAmb	IAmb		01 57 13.5	
comp=Z,4.2nm,0.7s								
SFJD	**Kangerlussuaq**	**79.27**	**3**	*i* P	**P**		**01 57 10.1**	**-1.0**
SFJD				IAmb	IAmb		01 57 12.2	
comp=Z,8.1nm,0.6s								
NVAR	**Mina Array Bea**	**79.73**	**51**	P	**P**		**01 57 15.4**	**+0.9**
comp=Z,5.4nm,0.7s,baz=294,slow=4.9,SNR=27								
comp=Z,5.4nm,0.7s								
DY2G	**Dye2**	**79.93**	**1**	*i* P	**P**		**01 57 15.5**	**+0.5**
DY2G				IAmb	IAmb		01 57 16.1	
comp=Z,9.5nm,0.3s								
ELK	**Elko**	**80.30**	**47**	IAmb	IAmb		01 57 19.7	
comp=Z,7.4nm,1.2s								
ELK	**Elko**	**80.30**	**47**	P	**P**		**01 57 18.3**	**+0.8**
comp=Z,2.4nm,0.6s,baz=331,slow=7.5,SNR=15								
comp=Z,2.4nm,0.6s								
STEB	**Steborice**	**80.76**	**325**	*eP*	**P**		**01 57 19.9**	**+0.5**
URZ	**Urewera**	**80.84**	**149**	P	**P**		**01 57 21.7**	**+2.0**
comp=Z,8.4nm,1.1s,baz=257,slow=7.1,SNR=2.1								
comp=Z,8.4nm,1.1s								
DPC	**Dobruska-Polom**	**81.16**	**326**	*eP*	**P**		**01 57 22.4**	**+0.9**
R11B	**Troy Canyon, C**	**81.51**	**49**	IAmb	IAmb		01 57 25.4	
comp=Z,4.6nm,0.6s								
R11B	**Troy Canyon, C**	**81.51**	**49**	P	**P**		**01 57 24.9**	**+1.1**
baz=307								
VRAC	**Vranov**	**81.75**	**325**	P	**P**		**01 57 24.7**	**+0.2**
comp=Z,1.9nm,0.8s,baz=8.5,slow=2.7,SNR=2.9								
comp=Z,1.9nm,0.8s								
SPR3	**Spring Creek 3**	**81.90**	**48**	IAmb	IAmb		01 57 31.2	
comp=Z,7.6nm,1.4s								
HWUT	**Hardware Ranch**	**81.98**	**45**	IAmb	IAmb		01 57 28.6	
comp=Z,11nm,0.9s								
CLL	**Collm**	**81.98**	**328**	*i* P	**P**		**01 57 25.4**	**-0.2**
CLL				pmax	pmax			
comp=Z,5.0nm,1.0s								
CLL	**Collm**	**81.98**	**328**	*i* P	**P**		**01 57 25.4**	**-0.2**
comp=Z,5.0nm,1.0s								
NUUK	**Nuuk**	**82.02**	**4**	*i* P	**P**		**01 57 24.8**	**-0.8**
DUG	**Dugway, Tooele**	**82.11**	**47**	IAmb	IAmb		01 57 29.2	
comp=Z,9.2nm,1.1s								
PD31	**Pinedale Array**	**82.40**	**43**	IAmb	IAmb		01 57 29.8	
comp=Z,6.8nm,0.8s								
PDAR	**Pinedale Array**	**82.40**	**43**	P	**P**		**01 57 28.9**	**+0.5**
comp=Z,5.4nm,0.7s,baz=297,slow=2.6,SNR=59								
comp=Z,5.4nm,0.7s								
PRN	**Pahroc Range**	**82.41**	**50**	IAmb	IAmb		01 57 30.6	
comp=Z,11nm,1.1s								
ZVC	**Zvikov**	**82.78**	**326**	*eP*	**P**		**01 57 30.3**	**+0.5**
SHPR	**Sheep Range**	**82.88**	**51**	P	**P**		**01 57 31.9**	**+1.1**
BSUT	**Blindstream Ca**	**83.12**	**45**	IAmb	IAmb		01 57 36.8	
comp=Z,4.7nm,0.8s								
RPZ	**Rata Peaks**	**83.22**	**156**	P	**P**		**01 57 30.9**	**-1.0**
comp=Z,12nm,0.8s,baz=33,slow=19,SNR=3.0								
comp=Z,12nm,0.8s								
KHC	**Kasperske Hory**	**83.28**	**327**	*eP*	**P**		**01 57 32.6**	**+0.2**
KHC	**Kasperske Hory**	**83.28**	**327**	*eP*	**P**		**01 57 32.6**	**+0.2**
GERES	**GERESS Array B**	**83.43**	**326**	P	**P**		**01 57 33.2**	**-0.1**
comp=Z,1.2nm,0.6s,baz=22,slow=4.3,SNR=6.4								
comp=Z,1.2nm,0.6s								
V12A	**Nelson**	**83.55**	**51**	IAmb	IAmb		01 57 35.7	
comp=Z,5.3nm,0.8s								
PFO	**Pinyon Flats O**	**83.76**	**54**	P	**P**		**01 57 35.1**	**-0.1**
comp=Z,12nm,0.8s,baz=316,slow=5.4,SNR=12								
comp=Z,12nm,0.8s								
KNB	**Kanab**	**84.06**	**49**	IAmb	IAmb		01 57 39.2	
comp=Z,12nm,0.8s								

ULM	**Lac du Bonnet**	**84.06**	**31**	P	**P**		**01 57 35.9**	**-0.3**
comp=Z,2.7nm,0.8s,baz=295,slow=6.5,SNR=6.4								
comp=Z,2.7nm,0.8s								
RSSD	**Black Hills**	**84.53**	**39**	P	**P**		**01 57 39.3**	**+0.3**
RSSD	**Black Hills**	**84.53**	**39**	P	**P**		**01 57 39.3**	**+0.3**
RSSD				pmax	pmax			
comp=Z,3.0nm,0.6s								
W13A	**Hualapai Mount**	**84.56**	**51**	IAmb	IAmb		01 57 41.0	
comp=Z,4.4nm,0.8s								
U15A	**North Rim**	**84.76**	**49**	IAmb	IAmb		01 57 42.6	
comp=Z,3.9nm,0.6s								
EKA	**Eskdalemuir Ar**	**84.83**	**338**	P	**P**		**01 57 40.1**	**+0.1**
comp=Z,1.1nm,0.5s,baz=21,slow=4.3,SNR=7.6								
comp=Z,1.1nm,0.5s								
N23A	**Red Feather La**	**85.67**	**43**	P	**P**		**01 57 45.8**	**+1.1**
baz=312								
DAVOX	**Davos/Dischmat**	**86.70**	**327**	P	**P**		**01 57 49.0**	**-0.5**
comp=Z,1.8nm,0.6s,baz=56,slow=3.6,SNR=8.3								
comp=Z,1.8nm,0.6s								
DAVOX	**Davos/Dischmat**	**86.70**	**327**	P	**P**		**01 57 49.0**	**-0.5**
S22A	**4UR Ranch, Cre**	**87.25**	**45**	P	**P**		**01 57 53.6**	**+1.2**
baz=312								
Q24A	**Divide**	**87.42**	**44**	P	**P**		**01 57 54.2**	**+1.0**
baz=313								
T25A	**Trinidad**	**89.08**	**45**	P	**P**		**01 58 01.8**	**+0.9**
baz=313								
SCHQ	**Schefferville**	**89.29**	**14**	P	**P**		**01 58 01.5**	**+0.3**
comp=Z,1.3nm,0.5s,baz=283,slow=6.6,SNR=5.5								
comp=Z,1.3nm,0.5s								
ANMO	**Albuquerque**	**89.34**	**47**	P	**P**		**01 58 02.6**	**+0.5**
comp=Z,1.8nm,0.8s,baz=9.5,slow=1.6,SNR=7.0								
comp=Z,1.8nm,0.8s								
Y22D	**IRIS PASSCAL I**	**89.63**	**48**	P	**P**		**01 58 04.2**	**+0.8**
baz=312								
121A	**Cookes Peak, D**	**90.11**	**50**	P	**P**		**01 58 06.3**	**+0.6**
baz=311								
VHRN	**Van Horn**	**93.04**	**50**	IAmb	IAmb		01 58 21.2	
comp=Z,8.4nm,1.3s								
TXAR	**Lajitas Array**	**94.87**	**50**	P	**P**		**01 58 28.3**	**+0.8**
comp=Z,2.6nm,0.7s,baz=291,slow=3.1,SNR=33								
comp=Z,2.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**116.82**	**310**	PKP	**PKPdf**		**02 03 46.9**	**-1.1**
comp=Z,0.4nm,1.0s,baz=356,slow=2.4,SNR=1.3								
TBTG	**Tabatinga, AM**	**141.24**	**46**	PKPdf	**PKPdf**		**02 04 34.7**	**+0.5**
MACA	**Manacapuru-AM**	**145.25**	**32**	PKPdf	**PKPdf**		**02 04 41.1**	**-0.1**
LPAZ	**La Paz**	**151.36**	**59**		**PKPbc**		**02 04 57.5**	**-0.7**
LPAZ	**La Paz**	**151.36**	**59**	PKPbc	**PKPbc**		**02 04 58.0**	**-0.2**
comp=Z,2.8nm,0.8s,baz=21,slow=3.6,SNR=12								
LPAZ	**La Paz**	**151.36**	**59**	PKIKP	**PKPbc**		**02 04 57.5**	**-0.7**

SJA 14 01:46:51.0, 30.°08S×71.°57W, h10km, ML3.0
GUC 14 01:46:53.8±0.7, 30.°12S×71.°30W, h65km±2km, ML2.8
ISC 14 01:46:54.5±1.5, 30.°10S±0.°04×71.°41W±0.°06, h52km±10km, n26, σ1°25/32, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**40**	*eP*	**Pn**	**01 47 03.7**	**+0.5**
CO05				*eS*	**Sn**	**01 47 10.7**	**+1.3**
CO05				IAML		01 47 11.0	
comp=N,2μm,0.2s							
GO04	**Tololo Observa**	**0.53**	**98**	*i* P	**Pn**	**01 47 05.0**	**-1.5**
GO04	**Tololo Observa**	**0.53**	**98**	*eP*	**Pn**	**01 47 05.6**	**-0.9**
GO04				*eS*	**Sn**	**01 47 14.3**	**-0.8**
CO06	**Fray Jorge**	**0.61**	**199**	*eP*	**Pn**	**01 47 07.5**	**+0.4**
CO06				*eS*	**Sn**	**01 47 17.5**	**+1.2**
CO06				IAML		01 47 18.4	
comp=N,395nm,0.2s							
CO03	**El Pedregal**	**0.97**	**140**	*i* P	**Pn**	**01 47 10.0**	**-1.9**
CO03	**El Pedregal**	**0.97**	**140**	↑*i* P	**Pn**	**01 47 10.7**	**-1.2**
CO03				*eS*	**Sn**	**01 47 23.2**	**-1.5**
CO03				IAML		01 47 23.9	
comp=E,554nm,0.3s							
CO01	**Juntas del Tor**	**1.15**	**84**	*i* P	**Pn**	**01 47 13.0**	**-1.5**
CO01	**Juntas del Tor**	**1.15**	**84**	↑*i* P	**Pn**	**01 47 13.8**	**-0.7**
CO01				*eS*	**Sn**	**01 47 28.3**	**-1.0**
CO01				IAML		01 47 28.7	
comp=E,358nm,0.3s							
LCO	**Las Campanas**	**1.25**	**30**	*i* P	**Pn**	**01 47 14.7**	**-1.1**
LCO	**Las Campanas**	**1.25**	**30**	*eP*	**Pn**	**01 47 15.3**	**-0.6**
LCO				*eS*	**Sn**	**01 47 31.4**	**-0.3**
LCO				IAML		01 47 32.8	
comp=E,929nm,0.3s							
AROD	**Rodeo**	**1.68**	**93**	*i* P	**Pn**	**01 47 22.3**	**+0.6**
AC04	**Llanos de Chal**	**1.91**	**9**	*i* P	**Pn**	**01 47 24.1**	**-0.5**
AC04	**Llanos de Chal**	**1.91**	**9**	*eP*	**Pn**	**01 47 24.5**	**-0.1**
AC04				IAML		01 47 59.5	
comp=E,61nm,0.1s							
ACCO	**Cerro Coronel**	**2.08**	**104**	*i* P	**Pn**	**01 47 29.0**	**+1.7**
DOCA	**Reserva Natura**	**2.18**	**113**	*i* P	**Pn**	**01 47 28.7**	**+0.1**
RTLS	**Leoncito**	**2.48**	**134**	*i* P	**Pn**	**01 47 34.2**	**+1.4**
AGUA	**GUANDACOL**	**2.61**	**77**	*i* P	**Pn**	**01 47 36.6**	**+2.3**
VA03	**San Esteban**	**2.76**	**165**	*i* P	**Pn**	**01 47 36.2**	**-0.1**
VCA	**Vinchina**	**3.11**	**65**	*i* P	**Pn**	**01 47 43.0**	**+1.9**
MT02	**Curacav**	**3.16**	**176**	*i* P	**Pn**	**01 47 40.9**	**-0.9**
ASAL	**Salagasta**	**3.32**	**139**	*i* P	**Pn**	**01 47 46.4**	**+2.4**
AVFE	**Valle Fertil**	**3.46**	**100**	*i* P	**Pn**	**01 47 46.3**	**+0.4**
MT01	**Popeta**	**3.76**	**178**	*i* P	**Pn**	**01 47 48.7**	**-1.2**
AC02	**Maricunga**	**3.82**	**32**	*i* P	**Pn**	**01 47 50.5**	**-0.7**
ACLC	**CERRO LA CRUZ**	**3.93**	**81**	*i* P	**Pn**	**01 47 53.1**	**+0.6**
BO02	**Sierra Bellavi**	**4.71**	**174**	*i* P	**Pn**	**01 48 03.6**	**+0.5**

IDC 14 01:55:44.8±1.6, 18.°93S×164.°77E, h0km, mb4.1/5, mbtmp4.1/6, ML3.8/1, Error ellipse: s-maj=46.0km s-min=24.5km az=55.0
ISC 14 01:55:50.1±1.4, 19.°0S±0.°2×164.°8E±0.°2, h35km, n8, σ0°70/10, mb3.9/5, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.48**	**153**	Pn	**Pn**	**01 56 41.4**	**-0.5**
9.5nm,0.3s,baz=337,slow=15,SNR=85							
DZM				Sn	**Sn**	**01 57 22.4**	**+0.5**
9.1nm,0.3s,baz=354,slow=21,SNR=3.5							
24nm,0.4s							
STKA	**Stephens Creek**	**24.50**	**234**	P	**P**	**02 01 06.3**	**+0.2**
2.2nm,0.6s,baz=46,slow=16,SNR=3.5							
2.2nm,0.6s							
WRA	**Warramunga Arr**	**28.68**	**263**	PcP	**PcP**	**02 04 54.0**	**-0.2**
0.4nm,0.7s,baz=97,slow=5.3,SNR=2.0							
ASAR	**Alice Springs**	**29.09**	**255**	P	**P**	**02 01 47.0**	**-0.6**
2.4nm,0.8s,baz=82,slow=8.3,SNR=18							
ASAR				PcP	**PcP**	**02 04 54.8**	**-0.4**
0.3nm,0.3s,baz=94,slow=1.2,SNR=1.5							
2.4nm,0.8s							
QSPA	**South Pole Qui**	**71.10**	**180**	P	**P**	**02 07 05.1**	**+0.4**
0.8nm,0.2s,baz=355,slow=2.8,SNR=3.8							
0.8nm,0.2s							
CMAR	**Chiang Mai Arr**	**74.54**	**296**	P	**P**	**02 07 27.1**	**+1.3**
0.9nm,0.3s,baz=116,slow=6.2,SNR=5.6							
0.9nm,0.3s							
SONM	**Songino Array**	**84.49**	**325**	P	**P**	**02 08 18.9**	**-0.5**
0.7nm,0.9s,baz=108,slow=4.7,SNR=3.7							
0.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**162.73**	**253**	PKPab	**PKPab**	**02 16 37.7**	**-0.4**
0.6nm,0.7s,baz=98,slow=4.2,SNR=4.8							

DNK 14 01:57:46.7±0.3, 58.°70N×18.°55E, h0km, ML2.3(UPP), Explosion
UPP 14 01:57:46.2±0.2, 58.°70N×18.°56E, h0km, ML2.3, Unknown
HEL 14 01:57:47.3±0.0, 58.°70N×18.°51E, h0km, ML2.3(UPP), Explosion
IDC 14 01:57:48.8±1.9, 58.°88N×18.°51E, h0km, mbtmp2.9/4, ML1.9/4, Error ellipse: s-maj=20.4km s-min=8.0km az=178.0
NAO 14 01:57:49.9±2.5, 59.°14N×18.°57E, ML2.2
ISC 14 01:57:45.4±0.8, 58.°70N±0.°02×18.°59E±0.°02, h0km, n77, σ1°16/91, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.43**	**315**	P	**Pg**	**01 57 54.3**	**+0.6**
NYNU				S	**Sg**	**01 57 59.7**	**+0.4**
NYNU	**Nynaeshamn**	**0.43**	**315**	P	**Pg**	**01 57 54.3**	**+0.6**
NYNU				S	**Sg**	**01 57 59.7**	**+0.4**
NYNU	**Nynaeshamn**	**0.43**	**315**	*i* P	**Pg**	**01 57 54.3**	**+0.6**
NYNU				*i* S	**Sg**	**01 57 59.7**	**+0.4**
NRTU	**Norrtaelje**	**0.98**	**1**	P	**Pg**	**01 58 04.5**	**+0.3**
NRTU				S	**Sg**	**01 58 17.9**	**+0.9**
NRTU	**Norrtaelje**	**0.98**	**1**	P	**Pg**	**01 58 04.5**	**+0.3**
NRTU				S	**Sg**	**01 58 17.9**	**+0.9**

NRTU	**Norrtaelje**	**0.98**	**1**	*eP*	**Pg**		**01 58 04.6**	**+0.3**
VIKU	**Vikbolandet**	**1.01**	**260**	P	**Pg**		**01 58 04.8**	**0.0**
VIKU				S	**Sg**		**01 58 18.3**	**+0.4**
VIKU	**Vikbolandet**	**1.01**	**260**	P	**Pg**		**01 58 04.8**	**0.0**
VIKU				S	**Sg**		**01 58 18.3**	**+0.4**
VIKU	**Vikbolandet**	**1.01**	**260**	*eP*	**Pg**		**01 58 04.8**	**0.0**
VIKU				*eS*	**Sg**		**01 58 18.3**	**+0.4**
GOTU	**Gotland**	**1.01**	**181**	P	**Pg**		**01 58 05.2**	**+0.3**
GOTU	**Gotland**	**1.01**	**181**	P	**Pg**		**01 58 05.2**	**+0.3**
GOTU	**Gotland**	**1.01**	**181**	*eP*	**Pg**		**01 58 05.5**	**+0.6**
ESKU	**Eskilstuna**	**1.26**	**296**	P	**Pg**		**01 58 09.1**	**-0.5**
ESKU				S	**Sg**		**01 58 25.8**	**-0.1**
ESKU	**Eskilstuna**	**1.26**	**296**	P	**Pg**		**01 58 09.1**	**-0.5**
ESKU				S	**Sg**		**01 58 25.8**	**-0.1**
ESKU	**Eskilstuna**	**1.26**	**296**	*eP*	**Pg**		**01 58 09.1**	**-0.5**
ESKU				*eS*	**Sg**		**01 58 25.8**	**-0.1**
UPP	**Uppsala**	**1.27**	**337**	P	**Pg**		**01 58 09.7**	**0.0**
UPP	**Uppsala**	**1.27**	**337**	P	**Pg**		**01 58 09.7**	**0.0**
UPP	**Uppsala**	**1.27**	**337**	*eP*	**Pg**		**01 58 09.7**	**0.0**
FIBU	**Brunna**	**1.36**	**333**	P	**Pg**		**01 58 11.4**	**-0.2**
FIBU	**Brunna**	**1.36**	**333**	P	**Pg**		**01 58 11.4**	**-0.2**
BACU	**Backbrunna**	**1.39**	**327**	P	**Pg**		**01 58 11.7**	**-0.3**
BACU	**Backbrunna**	**1.39**	**327**	P	**Pg**		**01 58 11.7**	**-0.3**
BACU	**Backbrunna**	**1.39**	**327**	*eP*	**Pg**		**01 58 11.7**	**-0.3**
FLYU	**Flymyra**	**1.48**	**346**	P	**Pn**		**01 58 13.3**	**0.0**
FLYU	**Flymyra**	**1.48**	**346**	P	**Pn**		**01 58 13.3**	**0.0**
FLYU	**Flymyra**	**1.48**	**346**	*eP*	**Pn**		**01 58 13.3**	**0.0**
GRAU	**Graesoe**	**1.64**	**359**	P	**Pn**		**01 58 16.2**	**+0.7**
GRAU	**Graesoe**	**1.64**	**359**	P	**Pn**		**01 58 16.2**	**+0.7**
GRAU	**Graesoe**	**1.64**	**359**	*eP*	**Pn**		**01 58 16.2**	**+0.7**
BYXU	**Byxelkrok**	**1.65**	**212**	P	**Pn**		**01 58 16.1**	**+0.6**
BYXU	**Byxelkrok**	**1.65**	**212**	P	**Pn**		**01 58 16.1**	**+0.6**
BYXU	**Byxelkrok**	**1.65**	**212**	*eP*	**Pn**		**01 58 16.1**	**+0.6**
LNKU	**Linkoeping**	**1.69**	**255**	P	**Pn**		**01 58 16.7**	**+0.5**
LNKU	**Linkoeping**	**1.69**	**255**	P	**Pn**		**01 58 16.7**	**+0.5**
LNKU	**Linkoeping**	**1.69**	**255**	*eP*	**Pn**		**01 58 16.7**	**+0.5**
FORU	**Forsmark**	**1.71**	**353**	P	**Pb**		**01 58 17.3**	**-0.3**
FORU	**Forsmark**	**1.71**	**353**	P	**Pb**		**01 58 17.3**	**-0.3**
FORU	**Forsmark**	**1.71**	**353**	*eP*	**Pb**		**01 58 17.3**	**-0.3**
OSTU	**Oestervaala**	**1.71**	**335**	P	**Pb**		**01 58 17.3**	**-0.4**
OSTU	**Oestervaala**	**1.71**	**335**	P	**Pb**		**01 58 17.3**	**-0.4**
OSTU	**Oestervaala**	**1.71**	**335**	*eP*	**Pb**		**01 58 17.3**	**-0.4**
SLIT	**Slitere, Latvi**	**2.23**	**117**	*eP*	**Pb**		**01 58 25.8**	**-0.9**
MTSE	**Matsula**	**2.73**	**87**	*eP*	**Pn**		**01 58 32.2**	**+1.8**
RAF	**Rauma**	**2.83**	**33**	*eP*	**Pn**		**01 58 33.9**	**+2.1**
RAF	**Rauma**	**2.83**	**33**	*eP*	**Pn**		**01 58 34.1**	**+2.3**
BLEU	**Blekinge**	**2.83**	**213**	*i* P	**Pn**		**01 58 32.6**	**+0.8**
BLEU				*eS*	Sn		01 58 38.1	-28
HFS	**Hagfors**	**2.89**	**302**	Pn	**Pn**		**01 58 34.1**	**+1.4**
baz=116,slow=16								
HFS				Sn	**Sn**		**01 59 07.6**	**-0.5**
baz=101,slow=22								
HFS	**Hagfors**	**2.89**	**302**	Pn	**Pn**		**01 58 34.0**	**+1.3**
0.6nm,0.3s,baz=119,slow=14,SNR=12								
HFS				Lg	Lg		01 59 15.7	
4.5nm,0.3s,baz=114,slow=30,SNR=11								
1.3

*ATH **14** 02:02:53.7, 38.07N×24.02E, h12km±1km, ML2.8/14, Manual Solution by A.Papageorgiou First location: 2019/02/14 02:03:03, This location: 2021/03/26 11:29:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 14 02:02:53.9±1.0, 38.09N±0.03×24.01E±0.03, h8km±6km, n25, σ0.64/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DION	**Dionisos Attik**	**0.06**	**262**	P	**Pg**	**02 02 55.7**	**-0.1**
DION				S	**Sg**	**02 02 57.2**	**+0.1**
	24μm,0.1s						
PTL	**Penteli**	**0.12**	**252**	P	**Pg**	**02 02 56.7**	**+0.1**
PTL				S	**Sg**	**02 02 58.6**	**+0.1**
	7μm,0.2s						
ATH	**Athens Observa**	**0.26**	**244**	P	**Pg**	**02 02 59.4**	**+0.4**
ATH				S	**Sg**	**02 03 03.1**	**+0.6**
	6μm,0.3s						
VLY	**Voula,Athens**	**0.29**	**216**	P	**Pg**	**02 02 59.6**	**0.0**
VLY				S	**Sg**	**02 03 03.6**	**+0.1**
	3μm,0.1s						
DRPA	**Athens-Drapets**	**0.33**	**245**	P	**Pg**	**02 02 58.5**	**-1.9**
DRPA				S	**Sg**	**02 03 03.4**	**-1.3**
KARY	**Karystos**	**0.34**	**99**	P	**Pg**	**02 03 00.3**	**-0.4**
KARY				S	**Sg**	**02 03 05.4**	**+0.2**
KYMI	**Kymi, Euboea I**	**0.55**	**8**	P	**Pg**	**02 03 04.3**	**-0.3**
KYMI				S	**Sg**	**02 03 11.9**	**+0.1**
	470nm,0.2s						
KYMI	**Kymi, Euboea I**	**0.55**	**8**	P	**Pg**	**02 03 04.5**	**-0.1**
KYMI				S	**Sg**	**02 03 12.5**	**+0.7**
VILL	**Villia**	**0.55**	**278**	P	**Pg**	**02 03 04.7**	**0.0**
VILL				S	**Sg**	**02 03 12.6**	**+0.6**
	605nm,0.4s						
VIL2	**Platees**	**0.60**	**282**	P	**Pg**	**02 03 04.5**	**-1.0**
VIL2				S	**Sg**	**02 03 12.6**	**-0.7**
MET5	**Makryloggos,Me**	**0.69**	**228**	P	**Pb**	**02 03 08.8**	**+0.5**
MET6	**Megalochori,Me**	**0.71**	**226**	P	**Pb**	**02 03 08.5**	**-0.1**
LTK	**Loutraki**	**0.82**	**266**	P	**Pg**	**02 03 09.9**	**+0.1**
LTK				S	**Sb**	**02 03 21.9**	**+0.1**
LKR	**Lokris**	**0.97**	**306**	P	**Pg**	**02 03 11.6**	**-1.0**
LKR				S	**Sg**	**02 03 25.5**	**+0.3**
KRND	**KRANIDI**	**0.98**	**224**	P	**Pg**	**02 03 12.6**	**-0.1**
KRND				S	**Sb**	**02 03 26.4**	**+0.2**
	385nm,0.3s						
KRND	**KRANIDI**	**0.98**	**224**	P	**Pg**	**02 03 12.6**	**-0.1**
AXAR	**Agios Charalam**	**1.26**	**303**	P	**Pg**	**02 03 18.2**	**+0.1**
AXAR				S	**Sn**	**02 03 36.4**	**+1.4**
	428nm,0.4s						
AXAR	**Agios Charalam**	**1.26**	**303**	P	**Pn**	**02 03 17.6**	**-0.3**
GUR	**Goura**	**1.32**	**264**	P	**Pn**	**02 03 18.1**	**-0.7**
NEO	**Neokhori**	**1.36**	**334**	P	**Pn**	**02 03 18.7**	**-0.6**
NEO				S	**Sn**	**02 03 37.8**	**+0.2**
NEO	**Neokhori**	**1.36**	**334**	P	**Pn**	**02 03 18.5**	**-0.8**
KLV	**Kalavryta, Ach**	**1.47**	**269**	P	**Pn**	**02 03 20.4**	**-0.4**
VLI	**Veliai**	**1.61**	**212**	P	**Pn**	**02 03 21.7**	**-0.9**
DRO	**Drossia**	**1.82**	**266**	P	**Pn**	**02 03 25.7**	**+0.1**
ITM	**Ithomi**	**1.88**	**242**	P	**Pn**	**02 03 27.0**	**+0.5**

*ISK **14** 02:28:28.1, 35.07N×33.92E, h54km±1km, ML2.8/16*
*NIC **14** 02:28:29.6, 35.08N×33.85E, h55km±1km, Ml2.0/6*
*GII **14** 02:28:30.6±0.0, 34.959N±0.005×33.989E±0.001, h10km, Mws2.0, confirmed*
*AFAD **14** 02:28:32.1, 35.33N×33.69E, h29km±1km, ML2.4*

ISC 14 02:28:29.1±1.2, 35.16N±0.03×33.90E±0.03, h57km±6km, n51, σ0.87/70, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAR1C	**Paralimni Civi**	**0.14**	**153**	P	**Pn**	**02 28 38.1**	**+0.2**
PAR1C				S	**Sn**	**02 28 45.1**	**+0.8**
PARAL	**Paralimni**	**0.20**	**144**	P	**Pn**	**02 28 38.6**	**+0.3**
PARAL				S	**Sn**	**02 28 45.2**	**+0.4**
PARAL				AML	AML	02 28 47.1	
	0.2nm,0.7s						
PARAL				AML	AML	02 28 50.7	
	0.3nm,0.8s						
MVOU	**Mavrovouni**	**0.26**	**237**	*iP*	**Pn**	**02 28 38.1**	**-0.5**
MVOU				S	**Sn**	**02 28 44.9**	**-0.6**
MVOU				AML	AML	02 28 47.3	
	0.4nm,0.3s						
MVOU				AML	AML	02 28 48.3	
	0.4nm,0.2s						
LFK	**Lefkose**	**0.32**	**292**	Pg	**Pn**	**02 28 38.9**	**-0.3**
LFK				Sg	**Sn**	**02 28 46.8**	**+0.3**
AKIN	**Akıncılar- Kıb**	**0.38**	**248**	Pg	**Pn**	**02 28 39.1**	**-0.6**
AKIN				Sg	**Sn**	**02 28 46.6**	**-0.7**
ATHAL	**Athalassa**	**0.41**	**268**	P	**Pn**	**02 28 40.0**	**+0.1**
ATHAL				S	**Sn**	**02 28 48.3**	**+0.5**
ATHAL				AML	AML	02 28 56.9	
	0.5nm,0.8s						
ATHAL				AML	AML	02 28 57.1	
	0.6nm,0.7s						
EREN	**Erenkoy**	**0.43**	**31**	Pg	**Pn**	**02 28 40.3**	**+0.1**
EREN				Sg	**Sn**	**02 28 48.4**	**+0.2**
EREN	**Erenkoy**	**0.43**	**31**	P	**Pn**	**02 28 41.2**	**+1.0**
EREN				S	**Sn**	**02 28 47.5**	**-0.7**
CSS	**Mathiatis**	**0.50**	**247**	Pg	**Pn**	**02 28 40.3**	**-0.6**
CSS				Sg	**Sn**	**02 28 48.8**	**-0.7**
CSS	**Mathiatis**	**0.50**	**247**	*iP*	**Pn**	**02 28 40.5**	**-0.5**
CSS				S	**Sn**	**02 28 49.1**	**-0.4**
CSS				AML	AML	02 28 49.5	
	0.3nm,0.3s						
CSS				AML	AML	02 28 50.5	
	0.2nm,0.3s						
CSS	**Mathiatis**	**0.50**	**247**	P	**Pn**	**02 28 40.3**	**-0.6**
CSS				S	**Sn**	**02 28 49.1**	**-0.4**
CSS	**Mathiatis**	**0.50**	**247**	P		02 28 40.4	
ASGA	**Asgata**	**0.65**	**235**	P	**Pn**	**02 28 42.5**	**-0.1**
ASGA				S	**Sn**	**02 28 52.1**	**-0.3**
ASGA				AML	AML	02 28 59.1	
	0.1nm,0.3s						
ASGA				AML	AML	02 29 00.6	
	0.1nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**0.77**	**281**	Pg	**Pn**	**02 28 44.2**	**+0.1**
AKDN				Sg	**Sn**	**02 28 55.5**	**+0.4**
LEF	**Lefka**	**0.83**	**268**	Pg	**Pn**	**02 28 44.8**	**0.0**
LEF				Sg	**Sn**	**02 28 56.8**	**+0.5**
TISA	**Tisan-Mersin**	**1.02**	**350**	Pn	**Pn**	**02 28 48.2**	**+0.9**
AKK1	**Akkuyu-Mersin**	**1.03**	**344**	Pn	**Pn**	**02 28 48.2**	**+0.8**
AKKU	**Akkuyu-Mersin**	**1.04**	**344**	Pn	**Pn**	**02 28 48.1**	**+0.5**
YESI	**Yesilovacik-Me**	**1.06**	**349**	Pn	**Pn**	**02 28 48.3**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.06**	**344**	P	**Pn**	**02 28 47.8**	**-0.2**
GULN				S	**Sn**	**02 28 59.5**	**-2.4**
YORU	**Yoruktepe-Mers**	**1.07**	**338**	Pn	**Pn**	**02 28 49.2**	**+1.1**
IKL	**Isikli**	**1.09**	**351**	Pn	**Pn**	**02 28 49.1**	**+0.8**
TEPK	**Tepekoy-MERSIN**	**1.10**	**345**	Pn	**Pn**	**02 28 49.5**	**+1.0**
AKMS	**Akamas**	**1.29**	**264**	P	**Pn**	**02 28 51.3**	**+0.4**
AKMS				S	**Sn**	**02 29 08.9**	**+1.7**
AKMS				AML	AML	02 29 18.8	
	0.1nm,0.8s						
TEVE	**Tevekalti-Mers**	**1.33**	**344**	Pn	**Pn**	**02 28 52.5**	**+1.0**
KIZK	**Mersin**	**1.34**	**9**	P	**Pn**	**02 28 51.9**	**+0.3**
KIZK				*i* AML	AML	02 29 11.0	
	comp=E,55nm,1.9s						
KIZK				*i* AML	AML	02 29 35.0	
	comp=N,55nm,2.1s						
GAZI	**Gazipasa**	**1.68**	**310**	P	**Pn**	**02 28 55.4**	**-0.8**
GAZI				*i* AML	AML	02 29 26.0	
	comp=N,64nm,1.0s						
GAZI				*i* AML	AML	02 29 43.0	
	comp=E,54nm,2.8s						
DED	**Mersin**	**1.94**	**22**	P	**Pn**	**02 29 00.1**	**+0.3**
DED				S	**Sn**	**02 29 20.7**	**-2.5**
DED				*i* AML	AML	02 29 35.0	
	comp=N,44nm,2.0s						
DED				*i* AML	AML	02 29 45.0	
	comp=E,33nm,1.8s						
HDMB	**Hadim**	**2.13**	**328**	Pn	**Pn**	**02 29 03.9**	**+1.3**
KKBE	**Karaman, Kazim**	**2.20**	**340**	P	**Pn**	**02 29 04.6**	**+1.2**
KKBE				S	**Sn**	**02 29 27.2**	**-2.2**
KKBE				*i* AML	AML	02 29 54.0	
	comp=N,23nm,2.3s						
KERG	**Konya-Eregli**	**2.26**	**5**	P	**Pn**	**02 29 04.9**	**+0.7**
KERG				*i* AML	AML	02 29 29.0	
	comp=N,29nm,1.3s						
KERG				S	**Sn**	**02 29 30.8**	**-0.2**
HNTI	**Hanita**	**2.32**	**153**	P	**Pn**	**02 29 05.5**	**+0.5**
HNTI	**Hanita**	**2.32**	**153**	S	**Sn**	**02 29 31.4**	**-1.0**
NATI	**Neve Ativ**	**2.43**	**141**	P	**Pn**	**02 29 06.9**	**+0.6**
NATI	**Neve Ativ**	**2.43**	**141**	S	**Sn**	**02 29 34.6**	**-0.3**
NATI	**Neve Ativ**	**2.43**	**141**	P		02 29 07.2	
NATI				S		02 29 34.8	
GEM	**Giv'at Ha'Em**	**2.43**	**142**	P	**Pn**	**02 29 06.7**	**+0.3**
GEM	**Giv'at Ha'Em**	**2.43**	**142**	S	**Sn**	**02 29 33.6**	**-1.4**
GEM	**Giv'at Ha'Em**	**2.43**	**142**	P		02 29 07.2	
MMC7	**Mount Meron ar**	**2.46**	**149**	P	**Pn**	**02 29 06.7**	**-0.2**
MMA0B	**Mount Meron ar**	**2.48**	**149**	P	**Pn**	**02 29 06.9**	**-0.2**
MMA0B	**Mount Meron ar**	**2.48**	**149**	S	**Sn**	**02 29 35.1**	**-1.1**
OFRI	**`Ofer**	**2.69**	**160**	P	**Pn**	**02 29 09.9**	**-0.1**
OFRI	**`Ofer**	**2.69**	**160**	S	**Sn**	**02 29 40.6**	**-0.7**
KSHT	**Keshet**	**2.69**	**143**	P	**Pn**	**02 29 10.8**	**+0.8**
KSHT	**Keshet**	**2.69**	**143**	S	**Sn**	**02 29 41.6**	**+0.2**
SHMJ	**Saham**	**2.88**	**147**	P		02 29 15.1	
MMLI	**Mount Malkishu**	**2.99**	**154**	Pn	**Pn**	**02 29 13.2**	**-1.0**
MMLI	**Mount Malkishu**	**2.99**	**154**	P	**Pn**	**02 29 15.3**	**+1.2**
MMLI	**Mount Malkishu**	**2.99**	**154**	S	**Sn**	**02 29 48.7**	**-0.2**
MMLI	**Mount Malkishu**	**2.99**	**154**	P		02 29 15.4	
HMDT	**Nahal Hemdat**	**3.20**	**154**	P	**Pn**	**02 29 18.3**	**+1.3**
SALP	**Salfit**	**3.26**	**160**	P		02 29 19.6	
AMAZ	**Amatzia**	**3.71**	**166**	P		02 29 25.2	
DSI	**Dead Sea**	**3.79**	**160**	P	**Pn**	**02 29 25.7**	**+0.7**
DSI	**Dead Sea**	**3.79**	**160**	S	**Sn**	**02 30 07.9**	**-0.4**
DSI	**Dead Sea**	**3.79**	**160**	P		02 29 26.3	
ASF	**Jabal al Asfar**	**3.89**	**139**	P		02 29 28.4	
KZIT	**Kziot**	**4.26**	**174**	P	**Pn**	**02 29 32.7**	**+1.2**
KZIT	**Kziot**	**4.26**	**174**	S	**Sn**	**02 30 19.1**	**-0.8**
KZIT	**Kziot**	**4.26**	**174**	P		02 29 32.9	
KZIT				S		02 30 19.3	
PRNI	**Paran**	**4.88**	**169**	P		02 29 41.9	

*SKHL **14** 02:30:59.0±0.2, 45.30N×150.50E, h34km±4km, mb4.5/3*
*IDC **14** 02:31:03.3±3.6, 45.72N×150.20E, h103km±32km, mb3.2/6, mbtmp3.6/8, MS3.2/1, Error ellipse: s-maj=61.3km s-min=29.2km az=152.0*

ISC 14 02:30:57.6±0.9, 45.4N±0.2×150.6E±0.1, h48km, n20, σ1.65/17, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.94**	**267**	*eP*	**Pn**	**02 31 28.5**	**+0.4**
KUR				AMB	AMB	02 31 30.9	
	160nm,0.3s						
KUR				*eS*	**Sn**	**02 31 50.6**	**-0.7**
KUR				A	A	02 31 54.9	
	600nm,0.4s						
KUR				A	A	02 31 54.9	
	260nm,0.4s						
SHO	**Shikotan**	**3.09**	**242**	*eP*	**Pn**	**02 31 45.2**	**+1.4**
SHO				AMB	AMB	02 31 45.7	
	30nm,0.3s						
SHO				*eS*	**Sn**	**02 32 19.0**	**-0.4**
SHO				A	A	02 32 25.0	
	120nm,0.3s						
SHO				A	A	02 32 25.0	
	90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.64**	**250**	*eP*	**Pn**	**02 31 52.3**	**+0.9**
YUK				AMB	AMB	02 31 55.2	
	120nm,0.3s						
YUK				*eS*	**Sn**	**02 32 32.4**	**-0.6**
YUK				A	A	02 32 44.7	
	170nm,0.5s						
YUK				A	A	02 32 44.7	
	440nm,0.5s						
NMR	**Nemuro--Hokkai**	**4.03**	**242**	*eP*	**Pn**	**02 31 58.2**	**+1.5**
NMR				*eS*	**Sn**	**02 32 42.5**	**-0.1**
AKK	**Akkeshi**	**4.77**	**243**	*eP*	**Pn**	**02 32 08.1**	**+1.3**
ASAJ	**Asahikawa**	**5.84**	**261**	P	**Pn**	**02 32 24.4**	**+2.8**
	1.7nm,0.3s,baz=50,slow=4.0,SNR=1.5						
PETK	**Petropavlovsk-**	**9.03**	**28**	P	**Pn**	**02 33 08.6**	**+3.3**
	3.6nm,0.6s,baz=196,slow=14,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**28.89**	**147**	T	T	03 08 20.2	
	baz=337,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**28.91**	**147**	T	T	03 08 19.1	
	baz=337,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.91**	**147**	T	T	03 08 21.4	
	baz=337,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.94**	**148**	T	T	03 09 38.3	
	baz=335,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.94**	**148**	T	T	03 09 38.9	
	baz=335,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.95**	**148**	T	T	03 09 38.8	
	baz=335						
ILAR	**Eielson Array**	**38.71**	**37**	P	**P**	**02 38 15.6**	**-0.9**
	0.4nm,0.8s,baz=271,slow=7.4,SNR=4.7						
	0.4nm,0.8s						
KRVT	**Keravat (AS076**	**49.46**	**178**	LR	LR	02 57 31.3	
	comp=Z,28nm,21.5s,baz=310,slow=32						
YKA	**Yellowknife Ar**	**53.07**	**35**	P	**P**	**02 40 08.3**	**-1.2**
	0.4nm,0.7s,baz=297,slow=7.1,SNR=5.8						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**64.63**	**60**	P	**P**	**02 41 30.5**	**+0.1**
	0.4nm,0.5s,baz=298,slow=3.2,SNR=3.5						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**66.97**	**52**	P	**P**	**02 41 45.1**	**-0.3**
	0.4nm,0.8s,baz=260,slow=2.6,SNR=4.5						
	0.4nm,0.8s						
NOA	**NORSAR Array B**	**68.96**	**340**	P	**P**	**02 41 54.4**	**-3.0**
	0.6nm,0.8s,baz=40,slow=6.9,SNR=1.2						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**79.70**	**59**	P	**P**	**02 43 00.3**	**0.0**
	0.4nm,0.8s,baz=314,slow=3.1,SNR=3.7						
	0.4nm,0.8s						

*IDC **14** 02:37:24.2±0.6, 7.02N×123.70E, h0km, mb4.0/20, mbtmp4.0/20, MS3.5/13, Error ellipse: s-maj=16.9km s-min=11.8km az=34.0*
*DJA **14** 02:37:28.3±0.6, 7.7°N±6.6°×12.4°E±.°, h10km, M4.9/12, mb4.9/12, mB5.3/6, MLv5.0/10, Mw(mB)4.7/6*
*NEIC **14** 02:37:31.2±1.5, 6.51N±0.08×123.95E±0.06, h10km±1km, mb4.6/24, Error ellipse: s-maj=14.3km s-min=8.2km az=329.0*

ISC 14 02:37:31.2±0.4, 6.93N±0.05×123.78E±0.05, h46km, n75, σ2.96/54, mb4.3/33, MS3.5/11, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.79**	**85**	P	**Pn**	**02 37 59.8**	**+0.1**
DAV				Sn	**Sn**	**02 38 22.8**	**+1.5**
DAV	**Davao City (W)**	**1.79**	**85**	Pg	**Pn**	**02 37 59.0**	**-0.7**
	126nm,0.3s,baz=360,slow=1.7,SNR=30						
DAV				Lg	Lg	02 38 23.4	
	354nm,0.3s,baz=285,slow=20,SNR=5.5						
DAV				LR	LR	02 39 02.1	
	comp=Z,2μm,21.2s,baz=270,slow=52						
DAV	**Davao City (W)**	**1.79**	**85**	P	**Pn**	**02 37 58.0**	**-1.7**
SGSI	**Sangihe**	**3.66**	**151**	P	**Pn**	**02 38 25.9**	**+0.6**
MYLDM	**Lahad Datu**	**5.53**	**252**	Pn	**Pn**	**02 38 53.6**	**+2.6**
KMSI	**Cibinong**	**6.31**	**178**	P	**Pn**	**02 39 04.1**	**+2.3**
TOLI2	**Tolitoli**	**6.50**	**207**	Pn	**Pn**	**02 39 02.5**	**-1.9**
TOLI2					**Sn**	**02 40 13.6**	**-3.7**
MRSI	**Marisa**	**6.66**	**196**	P	**Pn**	**02 39 05.8**	**-0.8**
	0.6nm69nm,0.6s						
MPSI	**Mapaga**	**7.60**	**211**	P	**Pn**	**02 39 17.3**	**-2.2**
LUWI	**Luwuk**	**7.98**	**187**	Pn	**Pn**	**02 39 20.9**	**-3.8**
LUWI	**Luwuk**	**7.98**	**187**	P	**Pn**	**02 39 25.6**	**+1.0**
	4μm86nm,0.9s						
APSI	**Ampana**	**8.07**	**195**	P	**Pn**	**02 39 27.2**	**+1.3**
	81nm,1.3s						
SANI	**Sanana**	**9.18**	**166**	P	**Pn**	**02 39 40.5**	**-0.7**
	50nm,0.8s						
KDI	**Kendari**	**10.87**	**186**	P	**Pn**	**02 40 03.6**	**-0.7**
KAPI	**Kappang**	**12.52**	**199**	LR	LR	02 45 29.8	
	comp=Z,137nm,20.4s,baz=358,slow=39						
JAY	**Jayapura**	**19.32**	**118**	LR	LR	02 50 09.7	
	comp=Z,100nm,19.3s,baz=323,slow=39						
MTN	**Manton Dam**	**20.95**	**160**	P	**P**	**02 42 08.1**	**-2.3**
MTN				IAmb	IAmb	02 42 40.0	
	comp=Z,34nm,1.1s						
LEM	**Lembang**	**21.13**	**230**	LR	LR	02 51 33.6	
	comp=Z,169nm,18.8s,baz=340,slow=40						
GUMO	**Guam**	**21.77**	**71**	LR	LR	02 49 09.2	
	comp=Z,72nm,21.5s,baz=78,slow=32						
KNRA	**Kununurra**	**22.99**	**168**	P	**P**	**02 42 29.8**	**-2.4**
KNRA				IAmb	IAmb	02 43 03.6	
	comp=Z,49nm,1.4s						
FITZ	**Fitzroy Crossi**	**24.93**	**176**	P	**P**	**02 42 50.6**	**+0.4**
PSI	**Prapat**	**25.09**	**262**	LR	LR	02 53 57.1	
	comp=Z,134nm,19.4s,baz=84,slow=40						
CMAR	**Chiang Mai Arr**	**26.76**	**298**	P	**P**	**02 43 06.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=115,slow=9.1,SNR=1.2						
CMAR				LR	LR	02 54 03.7	
	comp=Z,89nm,18.4s,baz=125,slow=38						
	comp=Z,1.2nm,0.3s						
COEN	**Coen**	**28.30**	**137**	P	**P**	**02 43 21.5**	**+0.8**
COEN				IAmb	IAmb	02 43 44.3	
	comp=Z,13nm,1.4s						
PMG	**Port Moresby**	**28.39**	**125**	LR	LR	02 55 05.5	
	comp=Z,106nm,20.8s,baz=286,slow=37						
WB0	**Warramunga Arr**	**28.51**	**159**	P	**P**	**02 43 21.6**	**-0.8**
WB0				IAmb	IAmb	02 43 22.9	
	comp=Z,8.9nm,0.8s						
PZH	**PanZhiHua**	**28.62**	**315**	P	**P**	**02 43 28.1**	**+4.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,6.5s						
WRA	**Warramunga Arr**	**28.65**	**159**	P	**P**	**02 43 23.2**	**-0.5**
	comp=Z,5.4nm,0.8s,baz=336,slow=9.9,SNR=26						
	comp=Z,5.4nm,0.8s						
WB2	**Warramunga Arr**	**28.66**	**159**	P	**P**	**02 43 23.5**	**-0.3**
WB2				IAmb	IAmb	02 43 24.3	
	comp=Z,8.4nm,0.8s						
LYN	**LuoYang**	**29.41**	**341**	P	**P**	**02 43 32.4**	**+2.1**
LYN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSRS	**Korea Array**	**30.62**	**6**	P	**P**	**02 43 37.6**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=197,slow=12,SNR=2.1						
	comp=Z,0.8nm,0.6s						
AS31	**Alice Springs**	**31.97**	**162**	P	**P**	**02 43 53.0**	**-0.1**
ASAR	**Alice Springs**	**31.97**	**162**	P	**P**	**02 43 53.5**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=332,slow=6.5,SNR=38						
	comp=Z,3.4nm,0.8s						
BRDH	**Bariadhala**	**34.67**	**300**	LR	LR	02 59 40.0	
	comp=Z,88nm,19.4s,baz=206,slow=39						
SHL	**Shillong**	**35.64**	**305**	P	**P**	**02 44 29.1**	**+4.0**
SHL				IAmb	IAmb	02 44 34.6	
	comp=Z,9.1nm,0.9s						
BTO	**Baotou**	**35.72**	**342**	*eP*	P	02 44 31.4	+5.8
BTO				pP	pP	02 44 35.8	-1.4
BTO				sP	pwP	02 44 38.5	-1.7
BTO				PP	**PP**	**02 45 53.1**	**+5.7**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BTO				pmax	pmax		
	comp=Z,420nm,5.2s						
FORT	**Forrest**	**37.71**	**174**	P	**P**	**02 44 43.8**	**+1.3**
USA0B	**Ussuriysk Arra**	**37.82**	**10**	P	P	02 44 50.6	+7.4
USA0B				IAmb	IAmb	02 45 18.8	
	comp=Z,9.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**37.82**	**10**	P	P	02 44 50.8	+7.6
USRK	**Ussuriysk Ar.**	**37.82**	**10**	P	**P**	**02 44 42.6**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=199,slow=8.5,SNR=1.7						
	comp=Z,1.5nm,0.9s						
GTA	**Gaotai**	**38.87**	**330**	*eP*	**P**	**02 44 51.5**	**-0.8**
GTA				sP	pP	02 45 04.4	+0.4
BBOO	**Buckleboo**	**41.21**	**164**	P	**P**	**02 45 11.9**	**+0.3**
STKA	**Stephens Creek**	**42.17**	**157**	P	**P**	**02 45 19.4**	**0.0**
STKA				IAmb	IAmb	02 45 21.5	
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**42.17**	**157**	P	**P**	**02 45 19.8**	**+0.3**
	comp=Z,7.9nm,0.7s,baz=328,slow=8.1,SNR=17						
	comp=Z,7.9nm,0.7s						
KLR	**Kul'dur**	**42.70**	**8**	P	**P**	**02 45 21.2**	**-2.3**
	comp=Z,1.6nm,0.6s,baz=233,slow=5.1,SNR=5.9						
	comp=Z,1.6nm,0.6s						
PALK	**Pallekele**	**42.73**	**273**	LR	LR	03 04 49.9	
	comp=Z,43nm,18.5s,baz=88,slow=39						
SONM	**Songino Array**	**43.38**	**343**	P	**P**	**02 45 27.1**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=161,slow=8.5,SNR=3.8						
	comp=Z,0.5nm,0.7s						
MK31	**Makanchi Array**	**53.27**	**325**	P	P	02 46 53.2	+7.8
MKAR	**Makanchi Array**	**53.27**	**325**	P	**P**	**02 46 44.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=113,slow=10.0,SNR=5.2						
MKAR				LR	LR	03 10 09.7	
	comp=Z,71nm,19.2s,baz=126,slow=37						
	comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**53.46**	**325**	P	P	02 46 55.7	+8.9
PETK	**Petropavlovsk-**	**53.69**	**25**	P	**P**	**02 46 48.2**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=222,slow=7.7,SNR=1.5						
	comp=Z,2.4nm,0.7s						
AAK	**Ala-Archa**	**56.03**	**318**	LR	LR	03 13 22.7	
	comp=Z,69nm,18.8s,baz=117,slow=39						
ZALV	**Zalesovo Beam**	**56.43**	**334**	P	**P**	**02 47 07.0**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=138,slow=7.1,SNR=1.7						
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**57.48**	**328**	P	**P**	**02 47 14.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=132,slow=6.0,SNR=5.9						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**57.49**	**328**	P	P	02 47 23.4	+7.8
KURK				IAmb	IAmb	02 47 27.9	
	comp=Z,6.1nm,1.2s						
GAR	**Garm**	**57.61**	**312**	P	P	02 47 24.4	+7.5
KK31	**Karatay Array**	**58.91**	**317**	P	P	02 47 32.5	+6.7
BVAR	**Borovoye Array**	**63.06**	**327**	P	**P**	**02 47 53.1**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=152,slow=6.7,SNR=7.1						
	comp=Z,1.6nm,0.9s						
BRVK	**Borovoye**	**63.13**	**327**	P	P	02 48 01.4	+7.2
BRVK				IAmb	IAmb	02 48 06.6	
	comp=Z,5.8nm,1.2s						
BKZ	**Black Stump Fm**	**66.91

RSD	**Rainshed**	**0.61**	**174**	Pg	Pg	02 42 14.8	-0.7
RSD	**Rainshed**	**0.61**	**174**	IAML		02 42 23.7	
	comp=E,4μm,0.3s						
RSD				IAML		02 42 23.9	
	comp=N,6μm,0.4s						
SBLHI	**Steaming Bluff**	**0.64**	**174**		Pg	02 42 14.8	-1.3
SBLHI					Sg	02 42 23.3	-1.2
UWB	**Uwekahuna Bluf**	**0.65**	**175**		Pg	02 42 14.8	-1.4
UWB					Sg	02 42 23.6	-0.9
UWE	**Uwekahuna**	**0.65**	**176**		Pg	02 42 14.9	-1.2
UWE					Sg	02 42 24.5	-0.1
HATHI	**Halema'uma'u T**	**0.65**	**173**		Pg	02 42 14.8	-1.4
HATHI	**Halema'uma'u T**	**0.65**	**173**	IAML		02 42 37.7	
	comp=E,2μm,0.7s						
HATHI				IAML		02 42 40.1	
	comp=N,3μm,0.6s						
OBL	**Observatory Le**	**0.65**	**175**		Pg	02 42 14.9	-1.4
OBL					Sg	02 42 17.3	-7.5
BYL	**Byron's Ledge**	**0.66**	**173**		Pg	02 42 15.0	-1.4
BYL					Sg	02 42 17.4	-7.6
BYL	**Byron's Ledge**	**0.66**	**173**	IAML		02 42 37.0	
	comp=E,2μm,0.6s						
WRMHI	**West Rim**	**0.66**	**176**		Pg	02 42 15.0	-1.5
WRMHI					Sg	02 42 24.4	-0.7
KKO	**Keanakako'i**	**0.67**	**174**		Pg	02 42 15.2	-1.4
KKO					Sg	02 42 24.9	-0.6
RIM	**Rim**	**0.68**	**174**		Pg	02 42 15.2	-1.5
RIM					Sg	02 42 17.9	-7.7
SDHHI	**Sand Hill**	**0.68**	**176**		Pg	02 42 15.2	-1.6
SDHHI					Sg	02 42 25.4	-0.3
PAH	**Pahoa**	**0.68**	**147**	Pg	Pg	02 42 15.7	-1.1
PAH	**Pahoa**	**0.68**	**147**		Sg	02 42 25.9	+0.2
PUH	**Pauahi**	**0.70**	**170**		Pg	02 42 15.6	-1.6
PUH					Sg	02 42 24.0	-2.4
PUH	**Pauahi**	**0.70**	**170**	IAML		02 42 25.9	
	comp=E,2μm,0.2s						
PUH				IAML		02 42 37.9	
	comp=N,2μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.71**	**167**		Pg	02 42 15.7	-1.6
JOKA	**Jonika Flow**	**0.71**	**153**		Pg	02 42 15.9	-1.5
JOKA				IAML		02 42 33.7	
	comp=N,2μm,0.5s						
JOKA				IAML		02 42 34.6	
	comp=E,1μm,0.6s						
JOKA	**Jonika Flow**	**0.71**	**153**		Sg	02 42 25.8	-0.8
NPOC	**North of Pu'u**	**0.71**	**162**		Pg	02 42 15.7	-1.7
NPOC					Pn	02 42 19.5	-0.8
STCH	**Steam Cracks**	**0.71**	**163**		Pg	02 42 15.7	-1.7
STCH	**Steam Cracks**	**0.71**	**163**	IAML		02 42 27.0	
	comp=E,2μm,0.1s						
JCUZ	**Jacuzzi**	**0.72**	**162**		Pg	02 42 15.9	-1.7
JCUZ					Sg	02 42 24.5	-2.4
HLP	**Hilina Pali**	**0.77**	**178**		Pg	02 42 17.6	-1.0
HLP				IAML		02 42 30.9	
	comp=N,1μm,0.6s						
HLP	**Hilina Pali**	**0.77**	**178**		Sg	02 42 27.5	-1.1
CPH	**Captain Cook**	**0.79**	**223**		Pg	02 42 17.7	-1.2
CPH					Sg	02 42 28.4	-0.8
HTC	**Hot Caves**	**0.83**	**184**		Pg	02 42 17.5	-2.2
KHU	**Kahuku**	**0.86**	**197**		Pg	02 42 17.9	-2.3
KHU	**Kahuku**	**0.86**	**197**		Sg	02 42 28.7	-2.7
KHU				IAML		02 42 30.1	
	comp=N,1μm,0.2s						
KHU				IAML		02 42 30.8	
	comp=E,895nm,0.1s						

*IDC **14** 02:43:05.2±0.6, 28°.10N×142°.14E, h0km, mb3.9/20, mbtmp3.9/22, ML3.4/1, MS3.4/3, Error ellipse: s-maj=21.8km s-min=16.8km az=71.0*
*NEIC **14** 02:43:11.9±1.1, 28°.06N±0°.04×141°.96E±0°.09, h35km±1km, mb4.6/44, Error ellipse: s-maj=14.2km s-min=5.2km az=114.0*

ISC 14 02:43:11.4±0.5, 28°.07N±0°.06×142°.0E±0°.1, h42km, n83, σ1§05/77, mb4.5/42, MS3.7/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.98**	**171**		**Pn**	**02 43 27.8**	**-0.9**
JCJ				Sn	**Sn**	**02 43 42.3**	**+0.9**
JCJ	**Chichijima**	**0.98**	**171**	Pn	Pn	02 43 21.8	-6.9
	131nm,0.3s,baz=284,slow=23,SNR=27						
JCJ				Sn	Sn	02 43 31.7	-10
	453nm,0.3s,baz=281,slow=22,SNR=14						
MJAR	**Matsushiro Arr**	**9.04**	**340**	Pn	**Pn**	**02 45 18.5**	**-0.9**
	0.9nm,0.3s,baz=147,slow=9.5,SNR=4.5						
JMM	**Marumori**	**9.83**	**354**	Pn	**Pn**	**02 45 29.1**	**-1.0**
ASAJ	**Asahikawa**	**16.02**	**2**	Pn	**Pn**	**02 46 53.0**	**-0.7**
	0.3nm,0.3s,baz=105,slow=20,SNR=2.1						
	4.3nm,0.7s						
YOJ	**Yonaguni jima**	**17.42**	**262**	Pn	**Pn**	**02 47 10.3**	**-1.0**
KLR	**Kul'dur**	**22.56**	**342**	P	**P**	**02 48 07.0**	**-0.9**
	2.5nm,0.8s,baz=150,slow=6.2,SNR=8.0						
	2.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**24.18**	**105**	T	T	03 13 16.7	
	baz=296,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**24.18**	**105**	T	T	03 13 18.4	
	baz=296,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**24.20**	**105**	T	T	03 13 22.0	
	baz=296,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**24.54**	**108**	T	T	03 13 47.3	
	baz=295,slow=74						
H11S1	**WAKE ISLAND Hy**	**24.55**	**107**	T	T	03 13 49.7	
	baz=295						
H11S2	**WAKE ISLAND Hy**	**24.56**	**108**	T	T	03 13 55.6	
	baz=295,slow=74						
MYLDM	**Lahad Datu**	**31.89**	**229**	P	**P**	**02 49 32.2**	**-0.7**
MYLDM				IAmb	IAmb	02 49 37.0	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**33.92**	**315**	P	**P**	**02 49 51.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=103,slow=7.0,SNR=1.4						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.53**	**266**	LR	LR	03 08 05.4	
	comp=Z,16nm,18.0s,baz=155,slow=37						
WB0	**Warramunga Arr**	**48.12**	**190**	P	**P**	**02 51 47.0**	**-0.2**
WB0				IAmb	IAmb	02 51 49.2	
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Arr**	**48.30**	**190**	P	**P**	**02 51 48.9**	**+0.2**
WRA	**Warramunga Arr**	**48.30**	**190**	P	**P**	**02 51 49.1**	**+0.4**
WRA	**Warramunga Arr**	**48.30**	**190**	P	**P**	**02 51 49.2**	**+0.6**
	comp=Z,5.6nm,0.7s,baz=11,slow=8.5,SNR=30						
	comp=Z,5.6nm,0.7s						
K13K	**Kusilvak Mount**	**48.55**	**30**	P	**P**	**02 51 51.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**48.55**	**201**	P	**P**	**02 51 52.2**	**+1.6**
ZALV	**Zalesovo Beam**	**48.66**	**319**	P	**P**	**02 51 51.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=114,slow=7.0,SNR=1.5						
ZALV				PcP	**PcP**	**02 53 16.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=129,slow=4.1,SNR=4.1						
	comp=Z,0.4nm,0.5s						
ANM	**Nome**	**49.16**	**27**	P	**P**	**02 51 56.1**	**+1.2**
ANM				IAmb	IAmb	02 52 34.5	
	comp=Z,6.9nm,1.4s						
MK31	**Makanchi Array**	**49.75**	**309**	P	**P**	**02 52 00.6**	**+1.0**
MKAR	**Makanchi Array**	**49.75**	**309**	P	**P**	**02 51 59.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=82,slow=8.5,SNR=4.6						
MKAR				PcP	**PcP**	**02 53 21.1**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=76,slow=6.7,SNR=10						
	comp=Z,0.3nm,0.6s						
F15K	**North Star Dit**	**49.88**	**26**	P	**P**	**02 52 01.7**	**+1.4**
F15K				IAmb	IAmb	02 52 30.1	
	comp=Z,7.0nm,1.4s						
K15K	**Wolf Creek Mou**	**50.06**	**31**	P	**P**	**02 52 03.0**	**+1.4**
C16K	**Lisburne Hills**	**50.65**	**22**	P	**P**	**02 52 07.0**	**+1.0**
L16K	**Owhat River**	**50.84**	**32**	P	**P**	**02 52 08.3**	**+0.7**
L16K				IAmb	IAmb	02 52 38.7	
	comp=Z,11nm,1.2s						
F17K	**Baldwin Pennin**	**51.44**	**25**	P	**P**	**02 52 13.6**	**+1.7**
F17K				IAmb	IAmb	02 52 14.4	
	comp=Z,3.7nm,0.8s						
J17K	**VABM Dome**	**51.44**	**30**	P	**P**	**02 52 13.6**	**+1.6**
J17K				IAmb	IAmb	02 52 30.4	
	comp=Z,5.2nm,1.1s						
K17K	**Iditarod**	**51.61**	**30**	P	**P**	**02 52 14.6**	**+1.2**
N17K	**Nushagak Hills**	**51.68**	**33**	P	**P**	**02 52 15.4**	**+1.5**
M17K	**Holitna River**	**51.73**	**32**	P	**P**	**02 52 15.4**	**+1.2**
ASAR	**Alice Springs**	**52.02**	**189**	P	**P**	**02 52 16.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=16,slow=11,SNR=5.0						
	comp=Z,0.2nm,0.4s						
H18K	**Honhosa River**	**52.19**	**27**	P	**P**	**02 52 18.1**	**+0.5**
H18K				IAmb	IAmb	02 52 30.7	
	comp=Z,8.0nm,1.4s						
C18K	**Utukok River**	**52.21**	**23**	P	**P**	**02 52 18.7**	**+0.9**
C18K				IAmb	IAmb	02 52 42.6	
	comp=Z,9.1nm,1.5s						
L18K	**Granite Mounta**	**52.24**	**31**	P	**P**	**02 52 19.5**	**+1.4**
L18K				IAmb	IAmb	02 52 45.5	
	comp=Z,7.7nm,1.4s						
KURBB	**Kurchatov Arra**	**52.26**	**314**	P	**P**	**02 52 17.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=90,slow=6.4,SNR=6.9						
	comp=Z,0.4nm,0.3s						
G18K	**Tagagawik**	**52.27**	**27**	P	**P**	**02 52 19.1**	**+0.8**
N18K	**Kilae Creek**	**52.34**	**33**	P	**P**	**02 52 19.5**	**+0.7**
N18K				IAmb	IAmb	02 52 39.4	
	comp=Z,10nm,1.2s						
P18K	**Big Mountain,**	**52.47**	**35**	P	**P**	**02 52 20.7**	**+0.9**
F19K	**Shaleruckik Mo**	**52.88**	**26**	P	**P**	**02 52 23.2**	**+0.6**
J19K	**Poorman**	**53.07**	**29**	P	**P**	**02 52 25.5**	**+1.4**
D19K	**Kuna River**	**53.23**	**23**	P	**P**	**02 52 26.2**	**+0.9**
D19K				IAmb	IAmb	02 53 06.5	
	comp=Z,9.3nm,1.5s						
M19K	**Big River Lodg**	**53.25**	**32**	P	**P**	**02 52 26.9**	**+1.4**
M19K				IAmb	IAmb	02 52 59.5	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	**53.25**	**25**	P	**P**	**02 52 26.9**	**+1.5**
ILSW	**Iliamna Southw**	**53.60**	**34**	P	**P**	**02 52 30.5**	**+2.3**
K20K	**Telida**	**53.63**	**30**	P	**P**	**02 52 29.5**	**+1.2**
K20K				IAmb	IAmb	02 53 07.3	
	comp=Z,15nm,1.5s						
F20K	**Avaraart Lake**	**53.71**	**26**	P	**P**	**02 52 29.8**	**+1.0**
J20K	**Nowinta River**	**53.74**	**29**	P	**P**	**02 52 29.6**	**+0.6**
J20K				IAmb	IAmb	02 52 31.3	
	comp=Z,3.9nm,0.8s						
PPLA	**Purkeypile**	**54.41**	**31**	P	**P**	**02 52 35.0**	**+0.9**
CAST	**Castle Rocks**	**54.52**	**30**	P	**P**	**02 52 35.6**	**+0.8**
CAST				IAmb	IAmb	02 53 14.0	
	comp=Z,7.3nm,1.4s						
H21K	**Melozitna Rive**	**54.57**	**27**	P	**P**	**02 52 36.2**	**+1.1**
H21K				IAmb	IAmb	02 52 38.3	
	comp=Z,4.7nm,1.1s						
I21K	**Tanana**	**54.83**	**28**	P	**P**	**02 52 38.3**	**+1.4**
I21K				IAmb	IAmb	02 52 47.2	
	comp=Z,6.9nm,1.3s						
KTH	**Kantishna Hill**	**55.06**	**30**	P	**P**	**02 52 39.5**	**+0.7**
KTH				IAmb	IAmb	02 53 09.5	
	comp=Z,12nm,1.4s						
D22K	**Ayikyak River**	**55.25**	**24**	P	**P**	**02 52 41.6**	**+1.6**
ILAR	**Eielson Array**	**56.94**	**29**	P	**P**	**02 52 51.5**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=258,slow=6.4,SNR=13						
	comp=Z,1.1nm,0.9s						
BVAR	**Borovoye Array**	**57.23**	**317**	P	**P**	**02 52 54.9**	**+0.5**
	comp=Z,3.9nm,0.6s,baz=86,slow=7.1,SNR=20						
BVAR				LR	LR	03 16 44.2	
	comp=Z,57nm,19.0s,baz=158,slow=35						
	comp=Z,3.9nm,0.6s						
F26K	**Sheenjek River**	**58.23**	**26**	P	**P**	**02 53 03.5**	**+2.3**
F26K				IAmb	IAmb	02 53 04.2	
	comp=Z,4.6nm,1.0s						
J26L	**Joseph Creek**	**58.35**	**29**	P	**P**	**02 53 02.3**	**+0.2**
J26L				IAmb	IAmb	02 53 04.2	
	comp=Z,3.2nm,0.8s						
E28M	**Babbage River**	**59.98**	**25**	P	**P**	**02 53 15.2**	**+2.0**
E28M				IAmb	IAmb	02 53 18.1	
	comp=Z,6.9nm,1.3s						
ARTI	**Arti**	**63.67**	**322**		**P**	**02 53 38.7**	**+0.5**
ABKAR	**Akbulak array**	**64.32**	**314**	P	**P**	**02 53 43.5**	**+0.9**
ABKAR	**Akbulak array**	**64.32**	**314**	P	**P**	**02 53 43.2**	**+0.7**
DLBC	**Dease Lake**	**65.50**	**35**	LR	LR	03 20 22.9	
	comp=Z,47nm,20.4s,baz=228,slow=34						
YKA	**Yellowknife Ar**	**71.36**	**28**	P	**P**	**02 54 26.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=295,slow=6.7,SNR=6.5						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**77.01**	**334**	P	**P**	**02 54 59.9**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=72,slow=4.5,SNR=8.2						
	comp=Z,0.9nm,0.4s						
KBZ	**Khabaz**	**77.24**	**313**	P	**P**	**02 55 02.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=93,slow=10,SNR=4.3						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**80.04**	**52**	P	**P**	**02 55 15.8**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=310,slow=7.3,SNR=2.7						
	comp=Z,0.9nm,0.8s						
AKASG	**Malin Array Be**	**81.75**	**324**	P	**P**	**02 55 24.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=47,slow=6.7,SNR=5.1						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**82.48**	**337**	P	**P**	**02 55 28.8**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=57,slow=9.0,SNR=5.2						
	comp=Z,2.4nm,0.8s						
NB2	**NORSAR Subarra**	**82.66**	**338**	P	**P**	**02 55 30.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=42,slow=5.1						
NOA	**NORSAR Array B**	**82.66**	**338**	P	**P**	**02 55 29.6**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=45,slow=5.8,SNR=4.2						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**83.63**	**45**	P	**P**	**02 55 36.5**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=258,slow=4.7,SNR=2.4						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**85.24**	**313**	P	**P**	**02 55 44.1**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=72,slow=12,SNR=2.4						
	comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**86.72**	**33**	P	**P**	**02 55 49.5**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=252,slow=6.4,SNR=2.1						
	comp=Z,1.5nm,0.9s						
TXAR	**Lajitas Array**	**95.14**	**53**	P	**P**	**02 56 31.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=301,slow=2.3,SNR=11						
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.83**	**312**	PKPdf	**PKiKP**	**03 02 06.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**123.83**	**312**	PKP	**PKPdf**	**03 02 05.6**	**0.0**
	comp=Z,0.4nm,0.5s,baz=18,slow=2.2,SNR=9.6						
LPAZ	**La Paz**	**149.81**	**74**	PKPbc	**PKPbc**	**03 02 56.7**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=28,slow=9.7,SNR=3.8						
PLCA	**Paso Flores**	**150.48**	**124**	PKPbc	**PKPbc**	**03 02 58.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=249,slow=8.6,SNR=4.0						

*NEIC **14** 02:44:19.0±1.5, 17°.21N±0°.04×68°.50W±0°.03, h35km±2km, ML2.8/22, Md3.2/14(RSPR), Error ellipse: s-maj=8.8km s-min=3.1km az=143.0*
*RSPR **14** 02:44:20.7, 17°.23N×68°.48W, h29km±31km, MD3.2/14*
*SDD **14** 02:44:21.7±1.7, 17°.47N×68°.39W, h31km±77km, MD3.6, ML3.0, MW3.5*
*OSPL **14** 02:44:24.3±1.6, 17°.50N×68°.37W, h31km±41km, ML2.8, Hypocentre not reviewed by the ISC*

ISC 14 02:44:16.8±1.8, 17°.36N±0°.08×68°.43W±0°.03, h3km±12km, n50, σ0§83/55, 9C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.89**	**338**	*e*Pg	**Pb**	**02 44 35.8**	**+0.9**
SADR				IAML		02 44 46.9	
	comp=N,2μm,0.4s						
PCDR	**Punta Cana, DR**	**1.15**	**2**		**Pb**	**02 44 39.5**	**+0.2**
PCDR					**Sn**	**02 44 54.9**	**-1.2**
PCDR				IAML		02 45 03.5	
	comp=E,202nm,1.2s						
PCDR	**Punta Cana, DR**	**1.15**	**2**	*e*Pg	**Pb**	**02 44 39.7**	**+0.3**
PCDR				*e*Sg	**Sb**	**02 44 53.6**	**-1.1**
PCDR				IAML		02 44 56.6	
	comp=N,340nm,0.4s						
PCDR	**Punta Cana, DR**	**1.15**	**2⇑**	*e*P	**Pn**	**02 44 40.9**	**+1.0**
PCDR	**Punta Cana, DR**	**1.15**	**2**	*e*S	**Sn**	**02 44 56.3**	**+0.2**
PCDR	**Punta Cana, DR**	**1.15**	**2**	*i*P		02 44 39.7	
PCDR				IAML		02 44 58.9	
	comp=Z,238nm,0.5s						
HIDR	**Higuey Centro**	**1.26**	**348**	*e*P	**Pb**	**02 44 41.4**	**+0.2**
HIDR	**Higuey Centro**	**1.26**	**348**	*e*S	**Sn**	**02 44 59.2**	**+0.5**
IDE	**Isla Desecheo**	**1.37**	**42**		**Pg**	**02 44 43.4**	**+0.3**
IDE					**Sn**	**02 45 02.6**	**+1.0**
IDE	**Isla Desecheo**	**1.37**	**42⇑**	*e*P	**Pg**	**02 44 43.4**	**+0.3**
IDE	**Isla Desecheo**	**1.37**	**42**	*e*S	**Sn**	**02 45 02.6**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.42**	**63**		**Pn**	**02 44 43.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.42**	**63**		**Sg**	**02 45 00.9**	**-1.4**
CRPR	**Cabo Rojo, PR**	**1.42**	**63⇓**	*e*P	**Pn**	**02 44 43.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.42**	**63**	*i*P		02 44 43.9	
CRPR				IAML		02 45 14.1	
	comp=Z,74nm,0.5s						
AGPR	**Aguadilla, PR**	**1.67**	**49**		**Sb**	**02 45 10.0**	**+0.2**
AGPR	**Aguadilla, PR**	**1.67**	**49**		**Pn**	**02 44 47.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.67**	**49**	IAML		02 45 40.4	
	comp=E,143nm,2.8s						
AGPR	**Aguadilla, PR**	**1.67**	**49**	*e*Pg	**Pn**	**02 44 47.7**	**+0.7**
AGPR				*e*Sg	**Sn**	**02 45 07.7**	**-1.4**
AGPR				IAML		02 45 21.2	
	comp=N,167nm,2.2s						
AGPR	**Aguadilla, PR**	**1.67**	**49⇑**	*e*P	**Pn**	**02 44 48.3**	**+1.3**
AGPR	**Aguadilla, PR**	**1.67**	**49**	*e*S	**Sb**	**02 45 10.0**	**+0.2**
AGPR	**Aguadilla, PR**	**1.67**	**49**	*i*P		02 44 47.7	
AGPR				IAML		02 45 11.2	
	comp=Z,124nm,2.0s						
DR12	**Loma Pena Alta**	**1.68**	**328**		**Pn**	**02 44 48.0**	**+0.8**
DR12				IAML		02 45 11.6	
	comp=E,125nm,0.5s						
DR12				IAML		02 45 12.1	
	comp=N,138nm,0.6s						
HATOM	**Hato Mayor del**	**1.68**	**328**	*e*Pg	**Pb**	**02 44 48.4**	**-0.1**
HATOM				*e*Sg	**Sn**	**02 45 08.4**	**-1.0**
HATOM				IAML		02 45 08.7	
	comp=N,126nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.86**	**61**		**Pn**	**02 44 49.4**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.86**	**61⇑**	*e*P	**Pn**	**02 44 50.9**	**+1.3**
OBIP	**Obispado Ponce**	**1.87**	**68**		**Pn**	**02 44 49.6**	**-0.2**
OBIP	**Obispado Ponce**	**1.87**	**68⇓**	*e*P	**Pn**	**02 44 50.1**	**+0.4**
AOPR	**Arecibo Observ**	**1.88**	**58**		**Pn**	**02 44 50.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.88**	**58**	IAML		02 45 23.2	
	comp=N,110nm,0.4s						
AOPR	**Arecibo Observ**	**1.88**	**58**	*e*Pg	**Pn**	**02 44 51.6**	**+1.7**
AOPR				*e*Sg	**Sn**	**02 45 13.2**	**-0.9**
AOPR				IAML		02 45 23.2	
	comp=N,103nm,0.3s						
AOPR	**Arecibo Observ**	**1.88**	**58⇑**	*e*P	**Pn**	**02 44 50.3**	**+0.4**
CELP	**Cerrillos**	**1.91**	**68**		**Pn**	**02 44 51.0**	**+0.8**
CELP	**Cerrillos**	**1.91**	**68**	IAML		02 45 13.8	
	comp=E,53nm,1.0s						
CELP	**Cerrillos**	**1.91**	**68**	*e*Pg	**Pn**	**02 44 51.3**	**+1.0**
CELP				⇑*e*Sg	**Sn**	**02 45 13.9**	**-0.9**
CELP				IAML		02 45 31.5	
	comp=N,40nm,0.8s						
CELP	**Cerrillos**	**1.91**	**68⇑**	*e*P	**Pn**	**02 44 51.0**	**+0.8**
SMDR	**Samana, DR**	**2.05**	**340**	*e*Pg	**Pn**	**02 44 52.6**	**+0.4**
SMDR				IAML		02 45 16.8	
	comp=N,109nm,0.6s						
SMDR				*e*Sg	**Sn**	**02 45 16.9**	**-1.4**
SMDR	**Samana, DR**	**2.05**	**340⇑**	*e*P	**Pb**	**02 44 53.9**	**-0.8**
SMDR	**Samana, DR**	**2.05**	**340**	*e*S	**Sn**	**02 45 18.6**	**+0.3**
BANI	**BANI**	**2.10**	**300**	*e*Pg	**Pg**	**02 44 57.2**	**+0.1**
BANI				*e*Sg	**Sb**	**02 45 22.0**	**-0.3**
BANI				IAML		02 45 35.5	
	comp=N,135nm,0.3s						
ECPR	**Experimental S**	**2.19**	**64⇓**	*e*P	**Pn**	**02 44 55.7**	**+1.5**
ECPR	**Experimental S**	**2.19**	**64**	*e*S	**Sn**	**02 45 21.6**	**-0.2**
IGPR	**InterUniversit**	**2.30**	**74**		**Pn**	**02 44 56.0**	**+0.4**
IGPR				IAML		02 45 23.8	
	comp=N,44nm,0.8s						
IGPR				IAML		02 45 27.7	
	comp=E,45nm,0.3s						
IGPR	**InterUniversit**	**2.30**	**74⇑**	*e*P	**Pn**	**02 44 56.4**	**+0.8**
PDPR	**Patillas Dam,**	**2.39**	**74⇓**	*e*P	**Pn**	**02 44 57.5**	**+0.6**
GCPR	**Guaynabo City**	**2.43**	**67**		**Pn**	**02 44 58.7**	**+1.3**
GCPR					**Sn**	**02 45 27.3**	**-0.4**
GCPR	**Guaynabo City**	**2.43**	**67**	IAML		02 45 28.0	
	comp=N,50nm,1.5s						
GCPR				IAML		02 45 29.4	
	comp=E,48nm,0.6s						
GCPR	**Guaynabo City**	**2.43**	**67⇓**	*e*P	**Pn**	**02 44 58.7**	**+1.3**
GCPR	**Guaynabo City**	**2.43**	**67**	*e*S	**Sn**	**02 45 27.3**	**-0.4**
HUMP	**Col San Antoni**	**2.58**	**72**		**Sn**	**02 45 31.0**	**-0.5**
HUMP	**Col San Antoni**	**2.58**	**72**	Pn	**Pn**	**02 44 59.6**	**+0.1**
HUMP	**Col San Antoni**	**2.58**	**72**	IAML		02 46 06.5	
	comp=N,24nm,2.0s						
HUMP				IAML		02 46 28.4	
	comp=E,27nm,2.8s						
HUMP	**Col San Antoni**	**2.58**	**72**	*e*S	**Sn**	**02 45 31.0**	**-0.5**
LODU1	**El Espartillar**	**3.06**	**289**	*i*P		02 45 09.0	
LODU1				IAML		02 45 34.3	
	comp=Z,47nm,1.6s						
LOBH	**Bahia de las A**	**3.10**	**280**	*i*P		02 45 09.5	
LOBH				*e*S		02 45 42.2	
LOBH				IAML		02 45 50.7	
	comp=Z,70nm,3.4s						
LONE3	**El Aguacate, B**	**3.13**	**294**	*i*P		02 45 11.0	
LONE3				IAML		02 45 27.1	
	comp=Z,23nm,6.4s						
SDDR	**Presa de Saban**	**3.16**	**301**	*i*P		02 45 10.3	

MEX 14 03:19:44.0±0.4, 16°.23N×98°.06W, h7km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**339**	*i*P	Pg	03 19 47.1	-0.4
PNIG				*i*S	Sg	03 19 49.9	-0.1
YOIG	**Yosondua**	**0.80**	**38**	*e*P	Pg	03 19 57.8	-1.6
YOIG				*e*S	Sg	03 20 08.5	-

comp=N,990nm,0.3s
GHO Glory Hole Cre 0.69 53 Sn 03 36 16.5 -0.1
KNK Knik Glacier 0.78 86 Pn 03 36 07.4 -0.9
KNK Sn 03 36 18.9 0.0
KNK IAML 03 36 21.5
comp=N,925nm,0.6s
KNK IAML 03 36 23.1
comp=E,723nm,0.3s
KNK Knik Glacier 0.78 86 P **Pn 03 36 07.5 -0.9**
KNK S **Sn 03 36 18.8 0.0**
baz=267
CAPN Captain Cook N 0.80 222 Pn 03 36 08.8 +0.3
CAPN Captain Cook N 0.80 222 P **Pn 03 36 09.0 +0.5**
baz=41,SNR=5.6
STLK Strandline Lak 0.86 280 Pn 03 36 08.8 -0.7
STLK Strandline Lak 0.86 280 Sn 03 36 20.7 -0.2
SLKM Skilak Lake 0.86 185 Pn 03 36 08.3 -1.2
SLKM IAML 03 36 22.7
comp=E,970nm,0.4s
SLKM IAML 03 36 22.7
comp=N,878nm,0.2s
SLKM Skilak Lake 0.86 185 Sn 03 36 21.3 +0.3
O22K Cooper Landing 0.90 169 Pn 03 36 09.0 -1.0
O22K Cooper Landing 0.90 169 Sn 03 36 22.6 +0.8
O22K Cooper Landing 0.90 169 P **Pn 03 36 09.1 -1.0**
baz=350,SNR=8.9
O22K S **Sn 03 36 22.4 +0.6**
baz=350
SKT Skwentna 0.93 312 Pn **Pn 03 36 09.3 -1.2**
SKT IAML 03 36 23.6
comp=E,482nm,0.3s
SKT Skwentna 0.93 312 P **Pn 03 36 09.3 -1.2**
baz=131,SNR=146
SKT S **Sn 03 36 22.0 -0.5**
baz=131
SML Sawmill 0.94 61 Pn 03 36 09.5 -1.1
SML IAML 03 36 25.8
comp=N,555nm,0.6s
SML Sawmill 0.94 61 Sn 03 36 22.5 -0.4
SML Sawmill 0.94 61 P **Pn 03 36 09.5 -1.1**
baz=243,SNR=17
SML S **Sn 03 36 22.7 -0.3**
baz=243
SPCG Spurr Capps Gl 0.94 266 Pn 03 36 09.9 -0.8
SPCG **Sn 03 36 23.0 0.0**
SPU Mount Spurr 0.97 260 Pn 03 36 09.8 -1.3
SPU IAML 03 36 24.1
comp=N,374nm,0.3s
PWL Port Wells 0.98 120 Pn 03 36 10.7 -0.5
PWL Port Wells 0.98 120 Sn 03 36 24.8 +0.9
PWL Port Wells 0.98 120 P **Pn 03 36 10.7 -0.5**
baz=302,SNR=44
PWL S **Sn 03 36 24.6 +0.8**
baz=302
SPCR Spurr Chakacha 1.04 262 P **Pn 03 36 11.2 -0.9**
baz=80,SNR=20
SPCR S **Sn 03 36 25.2 -0.3**
baz=80
CUT Chulitna 1.05 355 Pn 03 36 10.8 -1.2
CUT Chulitna 1.05 355 P **Pn 03 36 10.9 -1.1**
baz=175,SNR=18
CUT S **Sn 03 36 25.2 -0.1**
baz=175
SPBG Spurr Blockage 1.11 266 Pn 03 36 12.3 -0.7
M23K Glacier View 1.20 68 Pn 03 36 13.5 -0.7
M23K Glacier View 1.20 68 P **Pn 03 36 13.5 -0.7**
baz=250,SNR=24
M23K S **Sn 03 36 29.8 +0.6**
baz=250
SEW Seward 1.30 166 Pn 03 36 14.4 -1.1
SEW Seward 1.30 166 P **Pn 03 36 14.6 -0.8**
baz=347
SEW S **Sn 03 36 31.3 -0.2**
baz=347
RDT Redoubt 1.39 236 Pn 03 36 15.9 -0.9
SCM Sheep Creek Mo 1.39 69 Pn **Pn 03 36 16.3 -0.5**
SCM IAML 03 36 37.0
comp=N,486nm,0.7s
SCM Sheep Creek Mo 1.39 69 P **Pn 03 36 16.4 -0.5**
baz=252,SNR=16
SCM S **Sn 03 36 34.5 +0.4**
baz=252
DFR Drift River 1.49 240 Pn 03 36 17.5 -0.7
GLI Glacier Island 1.52 107 Pn 03 36 17.5 -1.0
GLI Glacier Island 1.52 107 P **Pn 03 36 17.6 -1.0**
baz=290
GLI S **Sn 03 36 37.4 +0.2**
baz=290
RDJH Redoubt Jeurge 1.54 241 Pn 03 36 18.3 -0.6
M20K Styx River 1.55 291 Pn **Pn 03 36 19.1 0.0**
M20K IAML 03 36 41.5
comp=N,299nm,0.8s
M20K IAML 03 36 41.7
comp=E,297nm,0.7s
M20K Styx River 1.55 291 P **Pn 03 36 19.0 0.0**
baz=108
M20K S **Sn 03 36 38.6 +0.7**
baz=108
M20K S **Sn 03 36 38.6 +0.7**
baz=108
NCT North Crescent 1.61 241 Pn 03 36 19.3 -0.6
RDWB Redoubt West 1.61 238 Pn 03 36 19.3 -0.6
RED Redoubt Volcan 1.63 235 Pn 03 36 19.4 -0.6
BRLK Bradley Lake 1.66 194 Pn **Pn 03 36 19.7 -0.7**
BRLK IAML 03 36 43.8
comp=E,218nm,0.5s
BRLK IAML 03 36 46.8
comp=N,160nm,0.4s
BRSE Bradley Lake S 1.66 192 Pn 03 36 19.5 -1.0
BRSE Bradley Lake S 1.66 192 P **Pn 03 36 19.5 -1.0**
baz=11
O20K Slope Mountain 1.80 225 P **Pn 03 36 22.2 -0.2**
baz=43
PPLA Purkeypile 1.83 328 Pn 03 36 22.6 -0.4
PPLA Purkeypile 1.83 328 P **Pn 03 36 22.5 -0.4**
baz=146,SNR=14
PPLA S **Sn 03 36 45.3 +0.4**
baz=146
FID Port Fidalgo 1.85 108 Pn 03 36 21.4 -1.7
FID IAML 03 36 46.5
comp=E,276nm,0.7s
FID IAML 03 36 46.8
comp=N,215nm,0.7s
HOM Homer 1.88 205 Pn **Pn 03 36 23.5 +0.1**
HOM Homer 1.88 205 P **Pn 03 36 23.3 -0.1**
baz=24
HOM S **Sn 03 36 45.8 0.0**
baz=24
P23K Montague Islan 1.90 135 P **Pn 03 36 23.0 -0.7**
baz=318,SNR=5.5
CNPM China Poot 1.93 198 Pn **Pn 03 36 23.3 -0.9**
CNPM IAML 03 36 51.0
comp=E,153nm,0.5s
CNPM IAML 03 36 52.9
comp=N,159nm,0.4s
HIN Hinchinbrook I 2.00 118 Pn 03 36 24.3 -0.8
HIN IAML 03 36 58.7
comp=E,215nm,0.9s
HIN IAML 03 37 05.9
comp=N,171nm,1.0s
KLU Klutina 2.00 85 Pn 03 36 24.6 -0.5
KLU IAML 03 36 57.7
comp=N,143nm,0.4s
KLU Klutina 2.00 85 P **Pn 03 36 24.4 -0.8**
baz=268,SNR=9.0
KLU S **Sn 03 36 49.2 +0.3**
baz=268
M24K Tolsona, Glenn 2.00 66 Pn 03 36 25.5 +0.4
M24K IAML 03 36 59.0
comp=N,169nm,0.9s
M24K IAML 03 37 04.4
comp=E,215nm,0.8s
M24K Tolsona, Glenn 2.00 66 P **Pn 03 36 25.4 +0.3**
baz=250,SNR=18
ILSW Iliamna Southw 2.05 229 Pn 03 36 26.3 +0.3
DIV Divide 2.09 95 Pn 03 36 25.8 -0.7
TRF Thorofare Moun 2.10 357 Pn 03 36 26.7 +0.1
TRF Thorofare Moun 2.10 357 P **Pn 03 36 26.1 -0.5**
baz=177,SNR=11
TRF S **Sn 03 36 51.9 +0.4**
baz=177
L20K Farewell, AK 2.12 303 P **Pn 03 36 26.5 -0.3**
baz=120
L20K S **Sn 03 36 52.2 +0.4**
baz=120
L20K S **Sn 03 36 52.2 +0.4**
baz=120
RND Reindeer 2.13 15 Pn 03 36 27.0 +0.1
M19K Big River Lodg 2.13 287 Pn 03 36 26.5 -0.4
M19K Big River Lodg 2.13 287 P **Pn 03 36 26.5 -0.4**
baz=103
M19K S **Sn 03 36 52.6 +0.5**
baz=103
M19K S **Sn 03 36 52.6 +0.5**
baz=103
N19K Bonanza Creek 2.21 257 Pn **Pn 03 36 27.8 -0.3**
N19K Bonanza Creek 2.21 257 P **Pn 03 36 27.5 -0.6**
baz=74
N19K S **Sn 03 36 54.3 +0.1**
baz=74
N19K S **Sn 03 36 54.3 +0.1**
baz=74
KTH Kantishna Hill 2.23 350 Pn 03 36 28.8 +0.4
KTH IAML 03 36 59.7
comp=N,128nm,0.7s
KTH IAML 03 37 01.5
comp=E,89nm,0.6s
EYAK Cordova Ski Ar 2.26 109 Pn 03 36 30.1 +1.5
EYAK Cordova Ski Ar 2.26 109 P **Pn 03 36 29.6 +0.9**
baz=293
CAST Castle Rocks 2.27 336 Pn 03 36 28.7 -0.1
CAST IAML 03 37 00.3
comp=E,96nm,1.0s
CAST Castle Rocks 2.27 336 P **Pn 03 36 28.5 -0.3**
baz=154,SNR=24
CAST S **Sn 03 36 55.8 +0.4**
baz=154
P19K Oil Pt 2.32 224 P **Pn 03 36 29.7 +0.1**
baz=41
O19K Port Alsworth 2.39 242 Pn **Pn 03 36 30.5 0.0**
L19K White Mountain 2.42 292 Pn 03 36 30.8 0.0
L19K White Mountain 2.42 292 P **Pn 03 36 30.6 -0.3**
baz=108
L19K S **Sn 03 36 59.8 +0.7**
baz=108
L19K S **Sn 03 36 59.8 +0.7**
baz=108
MCK McKinley 2.43 12 Pn 03 36 32.1 +1.0
MCK McKinley 2.43 12 P **Pn 03 36 31.4 +0.3**
baz=193,SNR=12
HARP HAARP 2.55 64 P **Pn 03 36 32.8 +0.1**
baz=248,SNR=8.2
N25K Chitina, Valde 2.64 82 Pn 03 36 35.0 +1.0
N25K IAML 03 37 14.3
comp=N,83nm,0.4s
N25K Chitina, Valde 2.64 82 P **Pn 03 36 33.7 -0.2**
baz=267
BMRM Bremner River 2.68 96 Pn 03 36 34.9 +0.4
BMRM Bremner River 2.68 96 P **Pn 03 36 33.2 -1.3**
baz=281
PAX Paxson 2.69 51 Pn 03 36 35.3 +0.6
PAX Paxson 2.69 51 P **Pn 03 36 34.4 -0.3**
baz=235
CHUM Lake Minchumin 2.73 339 P **Pn 03 36 35.1 0.0**
baz=157,SNR=23
CHUM S **Sn 03 37 07.0 +0.1**
baz=157
K20K Telida 2.73 319 Pn 03 36 34.8 -0.4
K20K Telida 2.73 319 P **Pn 03 36 34.4 -0.7**
baz=135
M18K Stony River 2.77 275 P **Pn 03 36 35.2 -0.4**
baz=90,SNR=11
M18K S **Sn 03 37 08.1 +0.4**
baz=90
BPAW Bear Paw Mtn. 2.78 352 Pn **Pn 03 36 35.8 0.0**
BPAW Bear Paw Mtn. 2.78 352 P **Pn 03 36 35.4 -0.5**
baz=171
N18K Kilae Creek 2.91 259 Pn **Pn 03 36 37.0 -0.7**
N18K Kilae Creek 2.91 259 P **Pn 03 36 37.0 -0.7**
baz=74
O18K Koktuh Hills 2.95 241 P **Pn 03 36 37.6 -0.6**
baz=57
GLB Gilahina Butte 3.01 86 Pn 03 36 39.4 +0.3
GLB IAML 03 37 24.9
comp=N,86nm,0.5s
HMT Hamilton 3.02 107 Pn 03 36 39.7 +0.5
Q19K Cape Douglas, 3.03 218 Pn 03 36 39.3 +0.1
Q19K Cape Douglas, 3.03 218 P **Pn 03 36 38.6 -0.7**
baz=35
K24K Donnelly Dome 3.15 37 P **Pn 03 36 42.9 +2.0**
baz=221
VRDI Verde Repeater 3.20 90 Pn 03 36 41.6 -0.1
VRDI IAML 03 37 29.9
comp=N,38nm,0.4s
TTA Tatalina 3.20 302 Pn **Pn 03 36 40.7 -0.9**
TTA IAML 03 37 42.5
comp=N,36nm,1.1s
TTA Tatalina 3.20 302 P **Pn 03 36 40.9 -0.8**
baz=117,SNR=12
P18K Big Mountain, 3.24 235 P **Pn 03 36 41.5 -0.6**
baz=50
WRH Wood River Hil 3.25 15 Pn 03 36 42.7 +0.4
WRH IAML 03 37 38.8
comp=N,39nm,0.6s
L18K Granite Mounta 3.26 288 Pn 03 36 41.8 -0.5
L18K IAML 03 37 39.5
comp=E,34nm,1.0s
L18K IAML 03 37 44.1
comp=N,37nm,0.9s
L18K Granite Mounta 3.26 288 P **Pn 03 36 41.8 -0.5**
baz=102
MENT Mentasta 3.37 59 Pn 03 36 45.9 +1.9
HDA Harding Lake 3.37 24 Pn 03 36 44.4 +0.5
HDA IAML 03 37 41.0
comp=E,58nm,0.6s
HDA IAML 03 37 41.2
comp=N,59nm,0.5s
HDA Harding Lake 3.37 24 P **Pn 03 36 44.5 +0.5**
baz=206
J20K Nowinta River 3.39 328 Pn **Pn 03 36 43.8 -0.3**
J20K Nowinta River 3.39 328 P **Pn 03 36 43.8 -0.3**
baz=144,SNR=45
RIDG Independent Ri 3.40 43 Pn 03 36 45.3 +0.9
RIDG IAML 03 37 34.4
comp=N,48nm,1.1s
RIDG IAML 03 37 35.7
comp=E,59nm,0.7s
RIDG Independent Ri 3.40 43 P **Pn 03 36 44.3 0.0**
baz=228
CCB Clear Creek Bu 3.45 16 Pn 03 36 45.3 +0.3
CCB IAML 03 37 41.4
comp=E,33nm,0.8s
M26K Nabesna, AK 3.51 70 Pn 03 36 46.0 +0.2
M26K IAML 03 37 45.2
comp=N,33nm,0.8s
M26K Nabesna, AK 3.51 70 P **Pn 03 36 45.6 -0.3**
baz=256
M17K Holitna River 3.54 274 Pn **Pn 03 36 45.8 -0.5**
M17K IAML 03 37 29.0
comp=E,47nm,0.4s
M17K IAML 03 37 54.5
comp=N,44nm,1.3s
M17K Holitna River 3.54 274 P **Pn 03 36 45.8 -0.5**
baz=87
L26K Log Cabin Wild 3.56 59 P **Pn 03 36 46.5 -0.1**
baz=245
N17K Nushagak Hills 3.57 260 Pn **Pn 03 36 46.0 -0.7**
N17K IAML 03 37 27.9
comp=E,41nm,0.7s
N17K IAML 03 37 55.4
comp=N,26nm,1.2s
N17K Nushagak Hills 3.57 260 P **Pn 03 36 46.0 -0.7**
baz=73
COLA College 3.66 15 Pn 03 36 48.3 +0.4
COLA College 3.66 15 P **Pn 03 36 47.8 -0.1**
baz=197
J19K Poorman 3.67 318 Pn 03 36 47.5 -0.7
J19K Poorman 3.67 318 P **Pn 03 36 47.4 -0.7**
baz=133
IL31 3.71 22 Pn 03 36 48.6 0.0
ILAR Eielson Array 3.71 22 Pn 03 36 49.6 +1.0
J18K Innoko River 3.74 307 Pn 03 36 48.6 -0.4
J18K Innoko River 3.74 307 P **Pn 03 36 48.4 -0.6**
baz=121
I23K Minto, Yukon-K 3.81 5 Pn 03 36 49.5 -0.5
I23K IAML 03 37 58.8
comp=N,23nm,0.8s
I23K Minto, Yukon-K 3.81 5 P **Pn 03 36 50.1 +0.2**
baz=185,SNR=6.6
O17K Koliganek Bris 3.82 248 P **Pn 03 36 49.5 -0.5**
baz=62
SCRK Sand Creek 3.84 44 Pn 03 36 50.5 0.0
SCRK IAML 03 37 55.5
comp=E,24nm,0.6s
SCRK Sand Creek 3.84 44 P **Pn 03 36 50.2 -0.3**
baz=230
P17K Kvichak River 3.84 238 P **Pn 03 36 49.6 -0.8**
baz=53
J25K Salcha River, 3.90 31 Pn 03 36 52.0 +0.7
J25K IAML 03 37 43.9
comp=E,37nm,0.6s
J25K IAML 03 37 46.1
comp=N,25nm,0.5s
J25K Salcha River, 3.90 31 P **Pn 03 36 51.6 +0.3**
baz=215
I21K Tanana 3.93 348 Pn 03 36 51.7 +0.1
I21K IAML 03 38 09.7
comp=E,23nm,2.9s
I21K IAML 03 38 37.8
comp=N,22nm,3.8s
I21K Tanana 3.93 348 P **Pn 03 36 51.6 +0.1**
baz=166,SNR=8.0
POKR Poker Plat Res 3.95 16 Pn 03 36 52.5 +0.6
POKR IAML 03 37 58.1
comp=E,20nm,0.8s
POKR Poker Plat Res 3.95 16 P **Pn 03 36 52.0 +0.1**
baz=199
I20K Naaghedeneel 3.98 332 Pn 03 36 51.5 -0.8
I20K Naaghedeneel 3.98 332 P **Pn 03 36 52.2 -0.1**
baz=148
L17K Donlin 3.99 285 P **Pn 03 36 51.8 -0.6**
baz=98
M27K Edge Creek, AK 4.01 72 P **Pn 03 36 53.6 +0.8**
baz=259
K17K Iditarod 4.11 293 Pn 03 36 53.7 -0.3
K17K IAML 03 38 05.3
comp=E,27nm,2.0s
K17K IAML 03 38 07.6
comp=N,29nm,1.6s
K17K Iditarod 4.11 293 P **Pn 03 36 53.5 -0.5**
baz=106,SNR=9.2
L27K Beaver Creek, 4.22 63 Pn 03 36 55.4 -0.2
L27K Beaver Creek, 4.22 63 P **Pn 03 36 55.6 0.0**
baz=250
M16K Timber Creek 4.32 269 P **Pn 03 36 56.4 -0.5**
baz=82
J26L Joseph Creek 4.33 41 Pn 03 36 57.7 +0.5
J26L IAML 03 37 56.5
comp=E,21nm,0.8s
J26L IAML 03 37 58.8
comp=N,22nm,0.5s
J26L Joseph Creek 4.33 41 P **Pn 03 36 57.5 +0.4**
baz=226
O16K Kokwok River B 4.35 249 P **Pn 03 36 56.6 -0.7**
baz=62
H21K Melozitna Rive 4.48 345 Pn 03 36 58.7 -0.4
H21K IAML 03 38 16.0
comp=E,14nm,2.6s
H21K IAML 03 39 11.8
comp=N,13nm,4.5s
H21K Melozitna Rive 4.48 345 P **Pn 03 36 58.9 -0.2**
baz=163,SNR=6.4
L16K Owhat River 4.51 279 Pn **Pn 03 36 58.8 -0.8**
L16K IAML 03 39 30.4
comp=N,19nm,3.8s
L16K IAML 03 39 40.2
comp=E,17nm,5.0s
L16K Owhat River 4.51 279 P **Pn 03 36 58.8 -0.8**
baz=90
H22K Ishtalitna Cre 4.58 353 P **Pn 03 37 00.6 0.0**
baz=172
P16K Nushagak River 4.59 243 P **Pn 03 37 00.6 -0.1**
baz=56
GCSA Galena City Sc 4.59 321 P **Pn 03 37 00.0 -0.6**
baz=134
H24K Noodor Dome 4.60 11 Pn 03 37 01.4 +0.6
H24K IAML 03 38 04.6
comp=N,14nm,4.5s
H24K IAML 03 38 20.6
comp=E,19nm,4.8s
H24K Noodor Dome 4.60 11 P **Pn 03 37 01.1 +0.3**
baz=193
YUK3 Moose Creek 4.61 81 P **Pn 03 37 00.8 -0.4**
baz=269
PRP Porcupine Dome 4.64 24 Pn **Pn 03 37 01.9 +0.4**
PRP IAML 03 37 57.5
comp=E,16nm,4.1s
PRP IAML 03 38 03.8
comp=N,21nm,0.9s
PRP Porcupine Dome 4.64 24 P **Pn 03 37 01.5 0.0**
baz=208
J17K VABM Dome 4.66 300 Pn 03 37 00.7 -0.9
J17K IAML 03 38 42.5
comp=E,21nm,3.9s
J17K IAML 03 39 46.5
comp=N,23nm,4.3s
J17K VABM Dome 4.66 300 P **Pn 03 37 00.5 -1.2**
baz=112
H20K Anotleneega Mo 4.67 335 P **Pn 03 37 01.4 -0.4**
baz=150
O28M Mount Upton 4.84 93 P **Pn 03 37 03.9 -0.4**
baz=281
YUK8 Steele Glacier 4.97 86 P **Pn 03 37 07.4 +1.4**
baz=276
I26K Coal Creek Min 5.03 35 Pn 03 37 07.2 +0.4
I26K Coal Creek Min 5.03 35 P **Pn 03 37 06.9 +0.1**
baz=221
N15K Kwethluk River 5.06 261 P **Pn 03 37 07.0 -0.1**
baz=72
M15K Kasigluk River 5.21 267 P **Pn 03 37 08.0 -1.1**
baz=78
SII Sitkinak Islan 5.27 206 P **Pn 03 37 09.3 -0.7**
baz=22
H25L Birch Creek 5.27 19 P **Pn 03 37 10.4 +0.5**
baz=203
J16K Anvik River 5.27 296 Pn **Pn 03 37 09.2 -0.8**
J16K IAML 03 38 46.3
comp=E,13nm,3.9s
J16K IAML 03 40 03.4
comp=N,16nm,4.3s
J16K Anvik River 5.27 296 P **Pn 03 37 09.1 -1.0**
baz=107
EGAK Eagle 5.30 46 P **Pn 03 37 10.5 +0.1**
baz=234
O15K Ungalikthiuk R 5.33 250 P **Pn 03 37 10.3 -0.4**
baz=62
H18K Honhosa River 5.33 319 Pn **Pn 03 37 10.5 -0.4**
H18K IAML 03 38 57.8
comp=E,11nm,2.9s
H18K IAML 03 38 57.9
comp=N,12nm,4.0s
H18K Honhosa River 5.33 319 P **Pn 03 37 10.3 -0.5**
baz=132
G23K Bananza Creek 5.37 0 Pn **Pn 03 37 11.4 0.0**
G23K IAML 03 38 18.1
comp=N,8.2nm,4.8s
G23K IAML 03 38 53.3
comp=E,9.9nm,4.9s
G23K Bananza Creek 5.37 0 P **Pn 03 37 10.7 -0.6**
baz=180
L15K Ungalak Mounta 5.47 278 P **Pn 03 37 12.2 -0.5**
baz=88
G24K Hadweenzic Riv 5.48 11 P **Pn 03 37 12.9 +0.1**
baz=193
YUK4 Talbot Arm 5.50 85 P **Pn 03 37 13.6 +0.3**
baz=274
K15K Wolf Creek Mou 5.51 285 P **Pn 03 37 12.8 -0.5**
baz=95
I17K Unalakleet 5.51 302 Pn **Pn 03 37 13.3 0.0**
I17K Unalakleet 5.51 302 P **Pn 03 37 12.8 -0.5**
baz=112,SNR=5.3
M29M Somme Creek 5.59 74 P **Pn 03 37 14.2 -0.3**
baz=264
DAWY Dawson 5.61 56 P **Pn 03 37 14.2 -0.5**
baz=246
G22K Bettles 5.62 354 P **Pn 03 37 15.0 +0.3**
baz=173
YUK6 Outpost Mounta 5.69 89 P **Pn 03 37 15.6 -0.3**
baz=279
I27K Kandik River 5.69 38 P **Pn 03 37 15.7 -0.1**
baz=226
G19K Purcell Mounta 5.71 330 Pn **Pn 03 37 15.5 -0.5**
G19K Purcell Mounta 5.71 330 P **Pn 03 37 15.6 -0.5**
baz=144
H17K Granite Mounta 5.72 313 Pn 03 37 15.9 -0.3
H17K Granite Mounta 5.72 313 P **Pn 03 37 15.9 -0.3**
baz=124
O29M Mount Kennedy 5.72 96 P **Pn 03 37 14.2 -2.2**

baz=286
M14K Bethel 5.81 269 P Pn 03 37 16.9 -0.5
baz=79
COLD Coldfoot 5.89 360 P Pn 03 37 18.9 +0.5
baz=179
G18K Tagagawik 5.94 324 Pn 03 37 18.5 -0.7
G18K Tagagawik 5.94 324 P Pn 03 37 19.0 -0.2
baz=136
F21K Alatna River 6.07 347 P Pn 03 37 20.6 -0.3
baz=164
L14K Kuka Creek 6.07 275 Pn Pn 03 37 20.5 -0.4
L14K Kuka Creek 6.07 275 P Pn 03 37 20.6 -0.3
baz=84
HYT Haines Junctio 6.12 90 P Pn 03 37 21.6 -0.1
baz=281
I28M Miner Creek 6.12 44 P Pn 03 37 21.5 -0.2
baz=233
H27K Steamboat Moun 6.17 34 P Pn 03 37 21.8 -0.6
baz=222
F20K Avaraart Lake 6.21 339 Pn 03 37 23.1 +0.2
F20K Avaraart Lake 6.21 339 P Pn 03 37 23.1 +0.2
baz=154
G26K Porcupine Rive 6.24 23 P Pn 03 37 23.4 +0.1
baz=209
F24K Squaw Lake 6.25 8 P Pn 03 37 24.4 +1.0
baz=190
K29M Barlow Dome 6.30 61 P Pn 03 37 23.8 -0.5
baz=252
M30M Minto, Yukon 6.38 73 P Pn 03 37 26.6 +1.4
baz=265
H16K Elim 6.44 306 P Pn 03 37 25.9 -0.1
baz=115
F19K Shaleruckik Mo 6.44 332 P Pn 03 37 25.6 -0.4
baz=145
J14K Nanvaranak Lak 6.49 288 P Pn 03 37 26.1 -0.6
baz=96
F25K Christian Rive 6.54 15 P Pn 03 37 28.5 +1.1
baz=199
G27K Doyon Strip 6.59 30 P Pn 03 37 27.5 -0.6
baz=218
E23K Chandalar 6.72 1 P Pn 03 37 29.6 -0.4
baz=182
F18K Selawik 6.73 325 P Pn 03 37 29.9 0.0
baz=137
E24K Your Creek 6.77 5 P Pn 03 37 31.6 +0.9
baz=186
G16K Koyuk River 6.83 312 P Pn 03 37 28.6 -2.8
baz=120
F26K Sheenjek River 6.85 19 P Pn 03 37 31.4 -0.3
baz=205
E19K Redstone River 6.85 336 Pn 03 37 31.8 +0.1
E19K Redstone River 6.85 336 P Pn 03 37 31.7 +0.1
baz=150
K13K Kusilvak Mount 6.97 281 P Pn 03 37 33.1 -0.2
baz=88
J30M Hart River 7.04 57 P Pn 03 37 31.8 -2.6
baz=249
F17K Baldwin Pennin 7.08 321 Pn Pn 03 37 35.4 +0.7
F17K Baldwin Pennin 7.08 321 P Pn 03 37 35.3 +0.5
baz=131
G15K Niukluk 7.29 306 P Pn 03 37 37.2 -0.4
baz=114
E21K Killik River 7.29 349 P Pn 03 37 38.6 +0.8
baz=165
TOLK Toolik Lake Re 7.31 1 P Pn 03 37 39.7 +1.7
baz=182
E20K Nigu River 7.39 342 P Pn 03 37 40.3 +1.2
baz=156
E18K Tukpahlearik C 7.59 328 Pn 03 37 42.9 +1.2
E18K Tukpahlearik C 7.59 328 P Pn 03 37 42.2 +0.4
baz=138
D23K Nanushuk River 7.64 358 P Pn 03 37 44.0 +1.6
baz=178
F28M Old Crow 7.65 31 P Pn 03 37 42.8 +0.1
baz=220
ANM Nome 7.67 301 P Pn 03 37 43.2 +0.3
baz=108
E17K Hotham Inlet 7.68 323 P Pn 03 37 43.1 +0.1
baz=133
F15K North Star Dit 7.82 310 P Pn 03 37 45.1 +0.1
baz=117
D20K Etivluk River 7.87 342 P Pn 03 37 46.8 +1.1
baz=156
D19K Kuna River 7.92 338 P Pn 03 37 46.6 +0.3
baz=151
C21K Knifeblade Rid 8.07 348 P Pn 03 37 50.3 +2.0
baz=164
F14K Arctic Creek 8.36 307 P Pn 03 37 52.3 0.0
baz=112
D17K Noatak River 8.46 324 P Pn 03 37 54.1 +0.5
baz=132
B21K Ikpikpuk River 8.50 349 P Pn 03 37 55.4 +1.2
baz=165
C23K Itkillik River 8.51 359 P Pn 03 37 56.7 +2.3
baz=178
E28M Babbage River 8.51 27 P Pn 03 37 52.8 -1.7
baz=216
P33M Teslin, Yukon 8.52 90 P Pn 03 37 52.2 -2.4
baz=285
C18K Utukok River 8.68 332 P Pn 03 37 57.5 +0.7
baz=142
C27K Jago River 8.70 15 P Pn 03 37 56.1 -0.9
baz=201
S32K Killisnoo 8.81 109 P Pn 03 37 57.9 -0.5
baz=303
G31M Satah River 8.85 44 P Pn 03 38 00.0 +1.0
baz=238
C17K DeLong Mountai 9.03 328 P Pn 03 38 02.5 +1.0
baz=136
B18K Kokolik River 9.38 334 P Pn 03 38 06.6 +0.3
baz=143
C16K Lisburne Hills 9.48 323 P Pn 03 38 08.0 +0.4
baz=130

DJA ***14*** *03:42:42.1±0.3,2'N±3'×12'9E±', h10km, M4.9/49, mb5.0/49, mB5.4/22, MLv5.0/18, Mw(mB)4.8/22, MwMwp4.5/2, Mwp4.9/2*
BJI ***14*** *03:42:42.4,2.27N×129.09E, h48km, mB5.2/19, mb4.7/65, Ms4.4/14, Ms7 4.3/16*
IDC ***14*** *03:42:45.5±1.7,2.26N×128.75E, h58km±14km, mb4.2/22, mbtmp4.5/24, MS4.0/44, Error ellipse: s-maj=22.6km s-min=9.9km az=76.0*
NEIC ***14*** *03:42:46.2±1.5,2.27N±0.08×128.74E±0.05, h53km±8km, mb4.9/87, Error ellipse: s-maj=12.4km s-min=6.7km az=191.0*
ISC 14 03:42:45.1±0.5,2.24N±0.04×128.78E±0.06, h51km±4km, h51km:pP-P, n243, σ1$25/219, mb4.8/86, MS4.0/48, 3C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.03**	**224**	Pn	**Pn**	**03 43 16.3**	**-0.6**
TNTI	**Ternate**	**2.03**	**224**	P	**Pn**	**03 43 16.6**	**-0.2**
TNTI	**Ternate**	**2.03**	**224**	P	**Pn**	**03 43 15.5**	**-1.3**
LBMI	**Labuha**	**3.13**	**204**	P	**Pn**	**03 43 33.9**	**+2.0**
SGSI	**Sangihe**	**3.55**	**294**	P	**Pn**	**03 43 37.0**	**-0.7**
SWI	**Sorong**	**3.96**	**141**	P	**Pn**	**03 43 42.7**	**-0.6**
KMSI	**Cibinong**	**5.07**	**251**	P	**Pn**	**03 43 57.8**	**-0.8**
SANI	**Sanana**	**5.09**	**213**	P	**Pn**	**03 43 58.9**	**0.0**
SANI	**Sanana**	**5.09**	**213**	P	**Pn**	**03 43 59.5**	**+0.6**
	0.7nm2μm1μm93nm,0.8s						
MSAI	**Masohi**	**5.55**	**178**	P	**Pn**	**03 44 06.1**	**+0.9**
	0.7nm3μm190nm,0.7s						
NLAI	**Namlea**	**5.69**	**197**	P	**Pn**	**03 44 07.5**	**+0.4**
	0.5nm2μm112nm,0.9s						
DAV	**Davao City (W)**	**5.76**	**327**	P	**Pn**	**03 44 08.2**	**+0.1**
	198nm,0.4s,baz=54,slow=19,SNR=1.0						
DAV				S	**Sn**	**03 45 14.6**	**+1.7**
	290nm,0.4s,baz=8.1,slow=19,SNR=1.5						
AAI	**Ambon**	**5.91**	**186**	P	**Pn**	**03 44 11.9**	**+1.7**
	0.5nm115nm,0.7s						
FAKI	**Fak Fak**	**6.19**	**146**	Pn	**Pn**	**03 44 13.1**	**-0.9**
FAKI	**Fak Fak**	**6.19**	**146**	P	**Pn**	**03 44 13.2**	**-0.7**
FAKI	**Fak Fak**	**6.19**	**146**	P	**Pn**	**03 44 12.9**	**-1.0**
	68nm,1.1s						
RKPI	**Ransiki, Papua**	**6.56**	**125**	P	**Pn**	**03 44 19.9**	**+0.9**
LUWI	**Luwuk**	**6.83**	**242**	Pn	**Pn**	**03 44 21.1**	**-1.6**
LUWI	**Luwuk**	**6.83**	**242**	P	**Pn**	**03 44 23.1**	**+0.4**
MRSI	**Marisa**	**7.05**	**256**	P	**Pn**	**03 44 25.6**	**-0.2**
KMPI	**Kaimana, Papua**	**7.66**	**140**	P	**Pn**	**03 44 35.5**	**+1.4**
	0.6nm179nm,1.0s						
APSI	**Ampana**	**7.78**	**246**	P	**Pn**	**03 44 33.6**	**-2.2**
	2μm145nm,0.7s						
I39PW	**PALAU INFRASON**	**7.79**	**47**	I	I	04 30 00.0	
	baz=229,slow=308,SNR=0.7						
TOLI2	**Tolitoli**	**8.07**	**262**	Pn	**Pn**	**03 44 39.7**	**0.0**
TOLI2	**Tolitoli**	**8.07**	**262**	P	**Pn**	**03 44 39.9**	**+0.2**
	64nm,0.8s						
BAKI	**Biak**	**8.08**	**115**	P	**Pn**	**03 44 41.6**	**+1.7**
	128nm,1.1s						
KDI	**Kendari**	**8.70**	**225**	P	**Pn**	**03 44 48.7**	**+0.3**
	2μm125nm,0.8s						
BBSI	**Bau Bau**	**9.87**	**219**	P	**Pn**	**03 45 06.5**	**+2.2**
TTSI	**Tana Toraja**	**10.38**	**240**	P	**Pn**	**03 45 10.3**	**-1.1**
MYLDM	**Lahad Datu**	**10.66**	**286**	Pn	**Pn**	**03 45 15.8**	**+0.5**
SPSI	**Sidrap Palu**	**10.91**	**236**	P	**Pn**	**03 45 18.0**	**-0.6**
	1μm89nm,0.9s						
KAPI	**Kappang**	**11.54**	**231**	Pn	**Pn**	**03 45 27.3**	**0.0**
KAPI	**Kappang**	**11.54**	**231**	P	**Pn**	**03 45 28.1**	**+0.8**
	38nm,0.7s,baz=42,slow=6.6,SNR=17						
BSSI	**Bau Bau, Buton**	**11.74**	**225**	P	**Pn**	**03 45 30.9**	**+0.9**
	92nm,1.1s						
MMRI	**Maumere**	**12.62**	**211**	P	**Pn**	**03 45 42.3**	**+0.3**
SOEI	**Soe**	**12.73**	**201**		**Pn**	**03 45 43.6**	**-0.1**
SOEI	**Soe**	**12.73**	**201**	P	**Pn**	**03 45 45.0**	**+1.3**
	71nm,1.1s						
JAY	**Jayapura**	**12.82**	**112**	LR	LR	03 50 07.7	
	comp=Z,642nm,18.2s,baz=350,slow=34						
KKM	**Kota Kinabalu**	**13.09**	**287**	Pn	**Pn**	**03 45 48.6**	**+0.2**
BATI	**Baumata**	**13.37**	**202**	P	**Pn**	**03 45 55.3**	**+3.0**
TGY	**Tagaytay City**	**14.11**	**327**	LR	LR	03 52 58.5	
	comp=Z,617nm,18.2s,baz=108,slow=44						
WBSI	**Waikabubak, Su**	**15.05**	**218**	P	**Pn**	**03 46 15.5**	**+0.7**
	92nm,0.9s						
MTN	**Manton Dam**	**15.16**	**171**	Pn	**Pn**	**03 46 16.1**	**0.0**
PLAI	**Plampang**	**15.53**	**225**	P	**Pn**	**03 46 21.3**	**+0.5**
	2μm115nm,1.5s						
SBUM	**Sibu**	**16.54**	**271**	P	**P**	**03 46 35.4**	**-0.3**
SRBI	**Singaraja**	**16.98**	**233**	P	**P**	**03 46 41.2**	**+0.8**
	70nm,1.5s						
KMMI	**Kalianget**	**17.42**	**238**	P	**P**	**03 46 48.1**	**+2.7**
	3μm86nm,1.0s						
ABJI	**Asem Bagus**	**17.60**	**235**	P	**P**	**03 46 49.7**	**+2.4**
	69nm,1.3s						
KNRA	**Kununurra**	**17.80**	**180**		**P**	**03 46 49.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**18.05**	**234**	P	**Pn**	**03 46 52.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**18.05**	**234**	P	**Pn**	**03 46 53.8**	**+1.4**
	2μm81nm,1.4s						
KSM	**Kuching**	**18.47**	**268**		**P**	**03 46 56.3**	**-0.7**
GMJI	**Gumukmas**	**18.52**	**236**	P	**Pn**	**03 46 59.3**	**+1.3**
	2μm64nm,1.4s						
GUMO	**Guam**	**19.50**	**54**	LR	LR	03 53 35.0	
	comp=Z,427nm,21.3s,baz=242,slow=33						
NGJI	**Ngawi**	**19.74**	**241**	P	**Pn**	**03 47 12.6**	**-0.1**
	115nm,1.0s						
PCJI	**Pacitan**	**20.38**	**239**	P	Pn	03 47 19.9	-0.4
	155nm,1.4s						
FITZ	**Fitzroy Crossi**	**20.44**	**189**	P	**P**	**03 47 18.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.44**	**189**	P	**P**	**03 47 18.3**	**-0.1**
	6.7nm,0.7s,baz=4.2,slow=10,SNR=11						
FITZ				LR	LR	03 56 27.8	
	comp=Z,415nm,19.2s,baz=22,slow=40						
	6.7nm,0.7s						
SMRI	**Semarang**	**20.49**	**243**	P	**P**	**03 47 19.7**	**+0.6**
SMRI				IAmb	IAmb	03 47 22.8	
	comp=Z,81nm,1.0s						
SMRI	**Semarang**	**20.49**	**243**	P	Pn	03 47 20.7	-0.9
	comp=Z,85nm,0.9s						
UGM	**Wanagama**	**20.81**	**241**	P	Pn	03 47 25.2	-0.2
	comp=Z,131nm,1.5s						
COEN	**Coen**	**21.51**	**139**	P	**P**	**03 47 31.2**	**+1.2**
PMG	**Port Moresby**	**21.66**	**123**	LR	LR	03 57 29.1	
	comp=Z,311nm,18.9s,baz=326,slow=41						
TPI	**Tanjungpandan**	**21.69**	**257**	P	**P**	**03 47 34.3**	**+2.4**
KPJI	**Karang Pucung**	**21.97**	**244**	P	**P**	**03 47 36.3**	**+1.4**
	comp=Z,924nmcomp=Z,59nm,0.7s						
YULB	**Yu-li**	**22.24**	**342**	P	**P**	**03 47 36.2**	**-1.5**
YULB				IAmb	IAmb	03 47 52.3	
	comp=Z,99nm,1.7s						
TPUB	**Ta-pu**	**22.38**	**340**	P	**P**	**03 47 37.1**	**-2.1**
TPUB				IAmb	IAmb	03 48 01.3	
	comp=Z,44nm,0.8s						
WB0	**Warramunga Arr**	**22.55**	**166**	P	**P**	**03 47 41.8**	**+0.7**
WB0				IAmb	IAmb	03 47 59.9	
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	**22.70**	**166**	P	**P**	**03 47 43.7**	**+1.0**
WRAB				IAmb	IAmb	03 47 50.9	
	comp=Z,28nm,0.6s						
WRA	**Warramunga Arr**	**22.71**	**166**	P	**P**	**03 47 43.0**	**+0.2**
	comp=Z,9.4nm,1.2s,baz=345,slow=11,SNR=19						
WRA				ScP	**ScP**	**03 55 06.5**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=331,slow=2.5,SNR=2.5						
WRA				LR	LR	03 58 06.3	
	comp=Z,231nm,21.2s,baz=356,slow=40						
	comp=Z,9.4nm,1.2s						
WB2	**Warramunga Arr**	**22.71**	**166**	P	**P**	**03 47 43.2**	**+0.4**
WB2				IAmb	IAmb	03 47 54.2	
	comp=Z,30nm,0.8s						
BBJI	**Bungbulang**	**23.18**	**245**	P	**P**	**03 47 49.5**	**+1.8**
YHNB	**Yeheng**	**23.42**	**343**	P	**P**	**03 47 49.4**	**-0.5**
YHNB				IAmb	IAmb	03 48 01.3	
	comp=Z,45nm,0.9s						
JMZ	**Minamidaito 2**	**23.57**	**6**	P	**P**	**03 47 51.6**	**+0.4**
CNJI	**Cibinong**	**23.59**	**246**	P	**P**	**03 47 50.0**	**-1.5**
	comp=Z,850nmcomp=Z,32nm,1.3s						
KRVT	**Keravat (AS076**	**24.12**	**106**	LR	LR	03 55 38.9	
	comp=Z,543nm,19.5s,baz=31,slow=32						
JOW	**Kunigami**	**24.46**	**359**	P	**P**	**03 47 59.3**	**-0.1**
JOW	**Kunigami**	**24.46**	**359**	LR	LR	03 56 16.4	
	comp=Z,506nm,21.3s,baz=146,slow=33						
CGJI	**Cibinong**	**24.66**	**249**	P	**P**	**03 48 01.9**	**+0.5**
	comp=Z,3μmcomp=Z,59nm,1.5s						
MBWA	**Marble Bar**	**24.88**	**200**	P	**P**	**03 48 02.9**	**-0.3**
QIZ	**Qiongzhong**	**24.94**	**313**	P	**P**	**03 48 03.4**	**-0.5**
QIZ				pP	**pP**	**03 48 16.5**	**-0.4**
QIZ				S	**S**	**03 52 26.0**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,17nm,1.5s						
QIZ				LR	LR		
	comp=Z,360nm,13.1s						
QIZ				LR	LR		
	comp=Z,300nm,17.2s						
QIZ				LR	LR		
	comp=Z,320nm,13.7s						
QIS	**Mount Isa**	**25.02**	**155**	P	**P**	**03 48 06.4**	**+1.9**
PSA00	**Pilbara Seismi**	**25.23**	**200**	P	**P**	**03 48 06.4**	**0.0**
MDSI	**Maura Dua**	**25.47**	**255**	P	**P**	**03 48 10.2**	**+1.5**
	comp=Z,36nm,1.2s						
AS31	**Alice Springs**	**26.23**	**169**	P	**P**	**03 48 16.6**	**+1.1**
ASAR	**Alice Springs**	**26.23**	**169**	P	**P**	**03 48 15.4**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=350,slow=6.0,SNR=26						
ASAR				PcP	**PcP**	**03 51 41.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=349,slow=2.7,SNR=1.8						
ASAR				ScP	**ScP**	**03 55 16.1**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=330,slow=3.7,SNR=4.3						
ASAR				LR	LR	04 00 22.6	
	comp=Z,371nm,19.0s,baz=358,slow=40						
	comp=Z,2.5nm,0.5s						
XMIS	**Christmas Isla**	**26.26**	**241**	P	**P**	**03 48 15.3**	**-0.5**
JCJ	**Chichijima**	**27.86**	**26**	LR	LR	03 56 49.6	
	comp=Z,346nm,20.8s,baz=286,slow=30						
GIRL	**Giralia**	**28.51**	**209**	P	**P**	**03 48 36.0**	**+0.1**
SISI	**Saibi**	**29.89**	**263**	P	**P**	**03 48 49.9**	**+1.6**
	comp=Z,15nm,1.2s						
JNU	**Nakatsue**	**30.79**	**3**	LR	LR	04 03 18.9	
	comp=Z,234nm,18.0s,baz=178,slow=40						
NJ2	**Nanjing**	**31.09**	**344**	*e*P	**P**	**03 49 01.5**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GSI	**Gunungsitoli**	**31.20**	**269**	P	**P**	**03 48 58.7**	**-1.2**
GSI				IAmb	IAmb	03 49 00.9	
	comp=Z,18nm,0.8s						
WHN	**Wuhan**	**31.30**	**336**	P	**P**	**03 49 04.3**	**+3.9**
PHRA	**Phrae**	**32.31**	**302**	P	**P**	**03 49 09.4**	**-0.2**
JHJ	**Hachijo jima 2**	**32.41**	**17**	LR	LR	04 00 32.9	
	comp=Z,368nm,19.7s,baz=238,slow=33						
FORT	**Forrest**	**32.84**	**181**	P	**P**	**03 49 15.1**	**+1.1**
ENH	**Enshi**	**33.34**	**329**	P	**P**	**03 49 18.5**	**0.0**
ENH				IAmb	IAmb	03 49 29.8	
	comp=Z,27nm,1.2s						
CMAR	**Chiang Mai Arr**	**33.39**	**301**	P	**P**	**03 49 19.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**33.39**	**301**	P	**P**	**03 49 19.4**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=113,slow=6.7,SNR=14						
CMAR				ScP	**ScP**	**03 55 40.8**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=123,slow=3.5,SNR=8.1						
	comp=Z,2.2nm,0.5s						
CHTO	**Chiang Mai**	**33.54**	**301**	P	**P**	**03 49 18.8**	**-1.5**
INU	**Inuyama**	**33.82**	**12**	P	**P**	**03 49 22.3**	**-0.2**
INU	**Inuyama**	**33.82**	**12**	P	**P**	**03 49 22.2**	**-0.2**
KMI	**Kunming**	**33.88**	**314**	⇑P	**P**	**03 49 27.8**	**+4.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMI				LR	LR		
	comp=Z,320nm,18.7s						
KSAR	**Wonju Array Be**	**35.04**	**359**	P	**P**	**03 49 32.3**	**-0.8**
KSRS	**Korea Array**	**35.05**	**359**	P	**P**	**03 49 33.1**	**0.0**
	comp=Z,8.0nm,0.7s,baz=177,slow=11,SNR=25						
KSRS				LR	LR	04 02 38.4	
	comp=Z,217nm,21.6s,baz=175,slow=34						
	comp=Z,8.0nm,0.7s						
KS19	**Wonju Array Si**	**35.10**	**359**	P	**P**	**03 49 33.0**	**-0.6**
KS19				IAmb	IAmb	03 49 47.0	
	comp=Z,18nm,1.1s						
MJAR	**Matsushiro Arr**	**35.23**	**13**	P	**P**	**03 49 33.4**	**-1.3**
	comp=Z,6.6nm,0.6s,baz=189,slow=9.2,SNR=13						
MJAR				LR	LR	04 02 47.2	
	comp=Z,429nm,20.0s,baz=194,slow=34						
	comp=Z,6.6nm,0.6s						
PZH	**PanZhiHua**	**35.43**	**315**	P	**P**	**03 49 38.0**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.9s						
LYN	**LuoYang**	**35.56**	**337**	P	P	03 49 43.6	+6.0
LYN				pmax	pmax		
	comp=Z,28nm,0.7s						
LYN				LR	LR		
	comp=N,300nm,14.1s						
LYN				LR	LR		
	comp=Z,340nm,15.2s						
STKA	**Stephens Creek**	**36.04**	**161**	P	**P**	**03 49 42.2**	**+0.5**
STKA				IAmb	IAmb	03 49 52.2	
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**36.04**	**161**	P	**P**	**03 49 42.3**	**+0.5**
	comp=Z,8.9nm,0.7s,baz=341,slow=7.1,SNR=17						
STKA				LR	LR	04 08 32.6	
	comp=Z,193nm,18.0s,baz=351,slow=43						
	comp=Z,8.9nm,0.7s						
NWAO	**Narrogin (SRO)**	**36.64**	**196**	LR	LR	04 05 45.5	
	comp=Z,188nm,18.3s,baz=298,slow=38						
XAN	**Xi'an**	**36.67**	**332**	⇓P	**P**	**03 49 46.4**	**-0.8**
XAN				pP	pP	03 50 00.8	+0.3
XAN				pmax	pmax		
	comp=Z,14nm,1.3s						
JMM	**Marumori**	**37.13**	**16**	P	**P**	**03 49 50.0**	**-0.9**
HNS	**HongShan**	**37.31**	**341**	⇑P	**P**	**03 49 52.0**	**-0.4**
HNS				S	**S**	**03 55 37.9**	**+1.4**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HNS				LR	LR		
	comp=Z,300nm,14.3s						
HNS				LR	LR		
	comp=Z,440nm,14.9s						
TIY	**Taiyuan**	**38.37**	**339**	*e*P	**P**	**03 50 01.3**	**-0.1**
TIY				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**39.31**	**345**	P	**P**	**03 50 08.8**	**-0.4**
BJT				IAmb	IAmb	03 50 09.5	
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**39.31**	**345**	P	**P**	**03 50 08.6**	**-0.6**
BJT				pP	**pP**	**03 50 21.8**	**-0.6**
BJI	**Beijing**	**39.33**	**345**	P	**P**	**03 50 08.1**	**-1.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,73nm,5.5s						
H11S3	**WAKE ISLAND Hy**	**40.50**	**64**	T	T	04 33 37.4	
	baz=251,slow=75						
H11S2	**WAKE ISLAND Hy**	**40.52**	**64**	T	T	04 33 33.3	
	baz=251,slow=75						
H11S1	**WAKE ISLAND Hy**	**40.52**	**64**	T	T	04 33 35.3	
	baz=251,slow=75						
LZH	**Lanzhou**	**40.83**	**329**	*e*P	**P**	**03 50 22.3**	**+0.2**
LZH				sP	sP	03 50 39.4	-2.1
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				LR	LR		
	comp=Z,350nm,14.8s						
LZH				LR	LR		
	comp=Z,260nm,15.8s						
LZH				LR	LR		
	comp=Z,390nm,20.3s						
H11N1	**WAKE ISLAND Hy**	**41.09**	**62**	T	T	04 34 19.6	
	baz=247,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.10**	**62**	T	T	04 34 20.5	
	baz=247,slow=75						
H11N3	**WAKE ISLAND Hy**	**41.11**	**62**	T	T	04 34 21.1	
	baz=247,slow=75						
HHC	**Hu-ho-hao-te**	**41.47**	**340**	*e*P	**P**	**03 50 26.9**	**-0.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,260nm,6.6s						
BTO	**Baotou**	**41.80**	**338**	*e*P	**P**	**03 50 32.0**	**+2.1**
BTO				pP	**pP**	**03 50 44.3**	**+1.1**
BTO				sP	**sP**	**03 50 49.9**	**+0.7**
BTO				PP	**PnPn**	**03 52 13.4**	**+0.8**
BTO				pmax	pmax		
	comp=Z,12nm,0.7s						
BTO				pmax	pmax		
	comp=Z,460nm,7.6s						
USRK	**Ussuriysk Ar.**	**41.88**	**3**	P	**P**	**03 50 30.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**41.88**	**3**	P	**P**	**03 50 30.6**	**+0.3**
	comp=Z,4.9nm,0.5s,baz=178,slow=7.3,SNR=14						
USRK				LR	LR	04 10 27.4	
	comp=Z,84nm,18.1s,baz=183,slow=40						
	comp=Z,4.9nm,0.5s						
MDJ	**Mudanjiang**	**42.21**	**1**	P	**P**	**03 50 33.0**	**0.0**
MDJ				IAmb	IAmb	03 50 34.4	
	comp=Z,31nm,1.3s						
MDJ	**Mudanjiang**	**42.21**	**1**	P	**P**	**03 50 33.5**	**+0.5**
MDJ				S	**S**	**03 56 53.5**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,22nm,1.2s						
MDJ				LR	LR		
	comp=Z,430nm,5.6s						
MDJ				LR	LR		
	comp=Z,390nm,6.7s						
MDJ				LR	LR		
	comp=Z,330nm,7.6s						
MDJ	**Mudanjiang**	**42.21**	**1**	P	**P**	**03 50 33.7**	**+0.7**
SHL	**Shillong**	**42.40**	**306**	P	**P**	**03 50 35.1**	**0.0**
XLT	**XiLinHaoTe**	**42.99**	**347**	*e*P	**P**	**03 50 39.0**	**-0.5**
XLT				sP	sP	03 50 56.4	-2.5
XLT				pmax	pmax		
	comp=Z,17nm,1.0s						
XLT				pmax	pmax		
	comp=Z,220nm,5.7s						
BNX	**BinXian**	**43.34**	**359**	⇑P	**P**	**03 50 42.0**	**-0.2**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ASAJ	**Asahikawa**	**43.47**	**14**	LR	LR	04 07 49.7	
	comp=Z,332nm,21.7s,baz=234,slow=35						
DZM	**Mont Dzumac**	**44.01**	**125**	*e*P	**P**	**03 50 51.1**	**+3.0**
	comp=Z,59nm,22.9s						
DZM				*e*S	**S**	**03 57 14.0**	**-2.9**
	comp=Z,67nm,25.4s						
DZM				*e*SS	**SS**	**04 00 32.0**	**-3.5**
	comp=Z,99nm,27.4s						
DZM	**Mont Dzumac**	**44.01**	**125**	LR	LR	04 11 02.6	
	comp=Z,95nm,18.3s,baz=242,slow=38						
LSA	**Lhasa**	**44.95**	**311**	P	**P**	**03 50 55.8**	**-0.2**
LSA				IAmb	IAmb	03 51 23.6	
	comp=Z,23nm,1.4s						
LSA	**Lhasa**	**44.95**	**311**	P	**P**	**03 50 57.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GTA	**Gaotai**	**45.43**	**328**	*e*P	**P**	**03 50 59.5**	**+0.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=Z,180nm,17.8s						
GTA				LR	LR		
	comp=Z,160nm,18.5s						
GTA				LR	LR		
	comp=Z,350nm,19.6s						
GOMU	**GeErMu**	**46.12**	**321**	P	**P**	**03 51 06.3**	**+1.3**
GOMU				pmax	pmax		

ULN				pP	**pP**	**03 51 41.0**	**-0.9**
ULN				sP	**sP**	**03 51 47.1**	**-0.6**
SONM	**Songino Array**	**49.37**	**340**	P	**P**	**03 51 29.4**	**-0.2**
SONM				IAmb	IAmb	03 51 37.3	
comp=Z,6.5nm,0.8s							
SONM	**Songino Array**	**49.37**	**340**	P	**P**	**03 51 29.4**	**-0.2**
comp=Z,6.1nm,0.8s,baz=155,slow=8.2,SNR=33							
comp=Z,6.1nm,0.8s							
WMQ	**Urumqi**	**55.11**	**325**	*e*P	P	03 52 18.4	+6.1
WMQ				pmax	pmax		
comp=Z,13nm,1.1s							
WMQ				LR	LR		
comp=Z,180nm,22.3s							
PETK	**Petropavlovsk-**	**56.07**	**21**	P	**P**	**03 52 19.8**	**+1.0**
comp=Z,6.3nm,0.7s,baz=184,slow=3.7,SNR=5.1							
comp=Z,6.3nm,0.7s							
WUS	**Wushi**	**59.03**	**318**	P	**P**	**03 52 40.3**	**+0.2**
RPZ	**Rata Peaks**	**59.38**	**145**	LR	LR	04 18 57.5	
comp=Z,170nm,18.5s,baz=311,slow=37							
YAK	**Yakutsk**	**59.65**	**0**	LR	LR	04 20 53.6	
comp=Z,99nm,18.3s,baz=126,slow=38							
YAK	**Yakutsk**	**59.65**	**0**	P	**P**	**03 52 44.0**	**+0.2**
MA2	**Magadan**	**59.67**	**13**	LR	LR	04 16 33.1	
comp=Z,96nm,21.1s,baz=200,slow=34							
MK31	**Makanchi Array**	**59.94**	**325**	P	**P**	**03 52 46.1**	**-0.1**
MK31				IAmb	IAmb	03 52 52.4	
comp=Z,4.8nm,0.7s							
MKAR	**Makanchi Array**	**59.94**	**325**	P	**P**	**03 52 45.9**	**-0.3**
MKAR	**Makanchi Array**	**59.94**	**325**	P	**P**	**03 52 45.7**	**-0.5**
comp=Z,2.9nm,0.4s,baz=113,slow=8.1,SNR=91							
MKAR				LR	LR	04 20 39.0	
comp=Z,112nm,18.1s,baz=92,slow=38							
comp=Z,2.9nm,0.4s							
URZ	**Urewera**	**60.06**	**137**	LR	LR	04 20 06.3	
comp=Z,146nm,18.0s,baz=47,slow=37							
MAKZ	**Makanchi**	**60.13**	**325**	P	**P**	**03 52 47.0**	**-0.5**
MAKZ				IAmb	IAmb	03 52 53.6	
comp=Z,8.4nm,0.7s							
MAKZ	**Makanchi**	**60.13**	**325**	P	**P**	**03 52 46.9**	**-0.5**
MAKZ				pP	**pP**	**03 53 00.2**	**-1.4**
KSH	**Kashi**	**60.54**	**315**	P	P	03 52 56.3	+5.8
KSH				pmax	pmax		
comp=Z,7.0nm,0.7s							
SHEM	**Shemya Is, Ala**	**62.74**	**29**	LR	LR	04 18 23.7	
comp=Z,86nm,19.2s,baz=280,slow=34							
AAK	**Ala-Archa**	**62.83**	**318**	LR	LR	04 23 30.9	
comp=Z,102nm,20.7s,baz=100,slow=39							
ZAA0	**Zalesovo Array**	**62.84**	**333**	P	**P**	**03 53 04.5**	**-1.1**
ZALV	**Zalesovo Beam**	**62.84**	**333**	P	**P**	**03 53 04.2**	**-1.4**
comp=Z,2.6nm,0.8s,baz=120,slow=5.3,SNR=9.0							
ZALV				LR	LR	04 22 20.8	
comp=Z,125nm,18.8s,baz=122,slow=38							
comp=Z,2.6nm,0.8s							
DRK	**Karamyk**	**63.51**	**314**	P	**P**	**03 53 09.1**	**-1.6**
DRK				IAmb	IAmb	03 53 21.6	
comp=Z,9.6nm,0.7s							
KURBB	**Kurchatov Arra**	**64.09**	**327**	P	**P**	**03 53 13.1**	**-0.8**
comp=Z,3.3nm,0.4s,baz=127,slow=6.0,SNR=66							
comp=Z,3.3nm,0.4s							
KURK	**Kurchatov**	**64.09**	**327**	P	**P**	**03 53 13.1**	**-0.7**
KURK	**Kurchatov**	**64.09**	**327**	P	**P**	**03 53 13.2**	**-0.7**
KURK				pP	**pP**	**03 53 26.9**	**-0.8**
GAR	**Garm**	**64.43**	**313**	P	**P**	**03 53 16.5**	**0.0**
KK31	**Karatay Array**	**65.71**	**317**	P	**P**	**03 53 24.4**	**-0.2**
KKAR	**Karatay Array**	**65.71**	**317**	P	**P**	**03 53 24.1**	**-0.5**
TIXI	**Tiksi**	**69.31**	**0**	P	**P**	**03 53 45.9**	**-0.8**
TIXI				IAmb	IAmb	03 53 47.6	
comp=Z,13nm,1.1s							
BVAR	**Borovoye Array**	**69.68**	**327**	P	**P**	**03 53 48.5**	**-0.8**
comp=Z,5.7nm,0.7s,baz=125,slow=7.4,SNR=18							
BVAR				LR	LR	04 26 50.5	
comp=Z,98nm,18.8s,baz=107,slow=38							
comp=Z,5.7nm,0.7s							
BRVK	**Borovoye**	**69.75**	**327**	P	**P**	**03 53 48.7**	**-1.1**
BRVK				IAmb	IAmb	03 53 55.8	
comp=Z,9.9nm,0.8s							
BRVK	**Borovoye**	**69.75**	**327**	P	**P**	**03 53 48.9**	**-0.9**
BRVK				pP	**pP**	**03 54 02.1**	**-1.8**
ABKAR	**Akbulak array**	**74.59**	**321**	P	**P**	**03 54 17.7**	**-1.2**
ABKAR	**Akbulak array**	**74.59**	**321**	P	**P**	**03 54 18.6**	**-0.3**
ABKAR				IAmb	IAmb	03 54 24.3	
comp=Z,5.4nm,0.7s							
AKTO	**Aktyubinsk**	**76.09**	**322**	LR	LR	04 31 03.9	
comp=Z,192nm,20.5s,baz=134,slow=38							
K13K	**Kusilvak Mount**	**77.17**	**26**	P	**P**	**03 54 33.1**	**-0.1**
K13K				IAmb	IAmb	03 54 35.5	
comp=Z,15nm,1.1s							
ARTI	**Arti**	**77.37**	**328**	P	**P**	**03 54 33.5**	**-0.9**
C16K	**Lisburne Hills**	**79.16**	**20**	P	**P**	**03 54 44.9**	**+0.8**
C16K				IAmb	IAmb	03 54 46.0	
comp=Z,16nm,1.3s							
G16K	**Koyuk River**	**79.28**	**23**	P	**P**	**03 54 46.0**	**+1.1**
J16K	**Anvik River**	**79.37**	**26**	P	**P**	**03 54 47.0**	**+1.6**
I17K	**Unalakleet**	**79.50**	**25**	P	**P**	**03 54 47.2**	**+1.1**
H17K	**Granite Mounta**	**80.13**	**24**	P	**P**	**03 54 50.6**	**+1.1**
H17K				IAmb	IAmb	03 54 51.8	
comp=Z,17nm,1.6s							
E18K	**Tukpahlearik C**	**80.57**	**22**	P	**P**	**03 54 52.7**	**+0.9**
C18K	**Utukok River**	**80.73**	**20**	P	**P**	**03 54 53.5**	**+0.8**
C18K				IAmb	IAmb	03 55 07.0	
comp=Z,26nm,1.8s							
J18K	**Innoko River**	**81.11**	**26**	P	**P**	**03 54 55.9**	**+1.1**
J18K				IAmb	IAmb	03 54 58.2	
comp=Z,20nm,1.6s							
F19K	**Shaleruckik Mo**	**81.48**	**23**	P	**P**	**03 54 56.6**	**0.0**
F19K				IAmb	IAmb	03 56 24.1	
comp=Z,21nm,1.9s							
G19K	**Purcell Mounta**	**81.58**	**23**	P	**P**	**03 54 58.6**	**+1.4**
G19K				IAmb	IAmb	03 54 59.4	
comp=Z,8.7nm,0.8s							
J19K	**Poorman**	**81.70**	**26**	P	**P**	**03 54 59.3**	**+1.4**
J19K				IAmb	IAmb	03 55 27.6	
comp=Z,37nm,1.9s							
VNDA	**Vanda**	**81.70**	**173**	P	**P**	**03 54 56.3**	**-1.3**
comp=Z,2.3nm,0.9s,baz=342,slow=3.7,SNR=2.5							
VNDA				LR	LR	04 30 52.3	
comp=Z,79nm,18.7s,baz=338,slow=35							
comp=Z,2.3nm,0.9s							
D19K	**Kuna River**	**81.77**	**21**	P	**P**	**03 54 59.1**	**+0.9**
D19K				IAmb	IAmb	03 55 10.4	
comp=Z,10nm,0.9s							
E19K	**Redstone River**	**81.83**	**22**	P	**P**	**03 54 60.0**	**+1.5**
E19K				IAmb	IAmb	03 55 02.9	
comp=Z,17nm,0.9s							
KDAK	**Kodiak Island**	**82.06**	**32**	LR	LR	04 27 08.3	
comp=Z,185nm,20.6s,baz=96,slow=32							
F20K	**Avaraart Lake**	**82.31**	**23**	P	**P**	**03 55 02.3**	**+1.3**
F20K				IAmb	IAmb	03 55 03.4	
comp=Z,13nm,1.4s							
J20K	**Nowinta River**	**82.37**	**26**	P	**P**	**03 55 03.3**	**+1.9**
J20K				IAmb	IAmb	03 55 04.1	
comp=Z,30nm,1.6s							
KIRV	**Kirov**	**82.55**	**329**	LR	LR	04 32 53.2	
comp=Z,100nm,21.4s,baz=93,slow=36							
PPT2	**Papeete2**	**82.72**	**108**	*e*LR	LR	04 21 06.7	
comp=Z,102nm,27.0s							
PPT2				*e*LR	LR	04 21 09.4	
comp=Z,170nm,28.8s							
BELG	**Belogornoye**	**82.83**	**322**	LR	LR	04 34 15.7	
comp=Z,68nm,19.1s,baz=36,slow=37							
RAYN	**Ar Rayn**	**82.94**	**293**	P	**P**	**03 55 03.9**	**-1.4**
CAST	**Castle Rocks**	**83.15**	**26**	P	**P**	**03 55 06.5**	**+1.0**
CAST				IAmb	IAmb	03 55 16.9	
comp=Z,6.9nm,0.8s							
H21K	**Melozitna Rive**	**83.20**	**24**	P	**P**	**03 55 06.8**	**+1.1**
H21K				IAmb	IAmb	03 55 10.0	
comp=Z,9.8nm,1.1s							
E21K	**Killik River**	**83.25**	**21**	P	**P**	**03 55 06.8**	**+0.9**
E21K				IAmb	IAmb	03 55 20.1	
comp=Z,6.5nm,0.8s							
B21K	**Ikpikpuk River**	**83.26**	**20**	P	**P**	**03 55 07.1**	**+1.2**
B21K				IAmb	IAmb	03 55 08.2	
comp=Z,11nm,0.8s							
TBI	**Tubuai**	**83.32**	**114**	*e*LR	LR	04 21 22.8	
comp=Z,492nm,31.0s							
I21K	**Tanana**	**83.46**	**25**	P	**P**	**03 55 08.4**	**+1.4**
B22K	**Teshekpuk Lake**	**83.80**	**19**	P	**P**	**03 55 09.9**	**+1.3**
GNI	**Garni**	**84.00**	**310**	LR	LR	04 38 20.9	
comp=Z,27nm,21.2s,baz=70,slow=40							
COLD	**Coldfoot**	**84.47**	**23**	P	**P**	**03 55 13.2**	**+1.1**
COLD				IAmb	IAmb	03 55 14.5	
comp=Z,9.0nm,0.7s							
G23K	**Bananza Creek**	**84.47**	**23**	P	**P**	**03 55 13.9**	**+1.7**
G23K				IAmb	IAmb	03 55 16.7	
comp=Z,11nm,1.0s							
D23K	**Nanushuk River**	**84.52**	**21**	P	**P**	**03 55 13.1**	**+0.7**
D23K				IAmb	IAmb	03 55 25.3	
comp=Z,13nm,1.1s							
I23K	**Minto, Yukon-K**	**84.55**	**25**	P	**P**	**03 55 13.2**	**+0.7**
I23K				IAmb	IAmb	03 55 36.1	
comp=Z,17nm,1.3s							
MCK	**McKinley**	**84.58**	**26**	P	**P**	**03 55 13.2**	**+0.4**
MCK				IAmb	IAmb	03 55 34.1	
comp=Z,16nm,1.2s							
RND	**Reindeer**	**84.59**	**27**	P	**P**	**03 55 13.3**	**+0.4**
RND				IAmb	IAmb	03 55 13.6	
comp=Z,10nm,0.7s							
C23K	**Itkillik River**	**84.67**	**20**	P	**P**	**03 55 14.2**	**+1.1**
C23K				IAmb	IAmb	03 55 16.7	
comp=Z,9.0nm,0.7s							
SML	**Sawmill**	**84.67**	**28**	P	**P**	**03 55 14.4**	**+1.1**
E23K	**Chandalar**	**84.79**	**22**	P	**P**	**03 55 15.4**	**+1.5**
CCB	**Clear Creek Bu**	**85.16**	**25**	P	**P**	**03 55 16.2**	**+0.6**
D24K	**Happy Valley**	**85.21**	**21**	P	**P**	**03 55 17.1**	**+1.3**
D24K				IAmb	IAmb	03 55 18.2	
comp=Z,8.0nm,0.8s							
KBZ	**Khabaz**	**85.48**	**314**	P	**P**	**03 55 16.5**	**-1.2**
comp=Z,1.4nm,0.8s,baz=145,slow=6.7,SNR=4.3							
KBZ				LR	LR	04 38 39.0	
comp=Z,61nm,19.0s,baz=66,slow=39							
comp=Z,1.4nm,0.8s							
ILAR	**Eielson Array**	**85.57**	**25**	P	**P**	**03 55 17.2**	**-0.4**
comp=Z,0.9nm,0.6s,baz=245,slow=5.5,SNR=32							
ILAR				LR	LR	04 29 31.5	
comp=Z,59nm,22.0s,baz=272,slow=33							
comp=Z,0.9nm,0.6s							
GURO	**Guroymak-BITLI**	**86.07**	**308**	P	**P**	**03 55 21.3**	**+0.4**
GURO				IAmb	IAmb	03 55 27.1	
comp=Z,7.7nm,0.9s							
I28M	**Miner Creek**	**88.52**	**25**	P	**P**	**03 55 32.7**	**+0.6**
TAOE	**Nuku Hiva Isla**	**91.40**	**99**	*e*LR	LR	04 25 11.5	
comp=Z,137nm,24.5s							
MMAI	**Mount Meron Ar**	**91.63**	**303**	LR	LR	04 46 02.9	
comp=Z,18nm,18.1s,baz=65,slow=42							
FARO	**Faro, Yukon**	**91.71**	**28**	P	**P**	**03 55 47.9**	**+0.9**
QSPA	**South Pole Qui**	**92.15**	**180**	LR	LR	04 38 28.6	
comp=Z,152nm,18.5s,baz=7.0,slow=36							
SPITS	**Spitsbergen Ar**	**92.33**	**349**	P	**P**	**03 55 48.3**	**-1.2**
comp=Z,9.8nm,1.1s,baz=89,slow=7.8,SNR=6.1							
comp=Z,9.8nm,1.1s							
ARCES	**ARCESS Array B**	**92.54**	**340**	P	**P**	**03 55 48.8**	**-1.8**
comp=Z,2.2nm,0.7s,baz=76,slow=4.9,SNR=8.9							
ARCES				LR	LR	04 42 28.2	
comp=Z,84nm,19.3s,baz=76,slow=39							
comp=Z,2.2nm,0.7s							
C36M	**Paulatuk**	**93.92**	**20**	P	**P**	**03 55 56.5**	**-0.4**
FINES	**FINESS Array B**	**94.10**	**332**	P	**P**	**03 55 56.1**	**-1.8**
comp=Z,1.9nm,0.9s,baz=128,slow=3.1,SNR=4.1							
FINES				LR	LR	04 41 01.5	
comp=Z,74nm,18.2s,baz=67,slow=37							
comp=Z,1.9nm,0.9s							
AKASG	**Malin Array Be**	**94.33**	**321**	P	**P**	**03 55 56.5**	**-2.7**
comp=Z,0.3nm,0.5s,baz=75,slow=3.9,SNR=2.9							
AKASG				LR	LR	04 41 28.5	
comp=Z,73nm,18.2s,baz=62,slow=37							
comp=Z,0.3nm,0.5s							
BBB	**Bella Bella**	**96.26**	**37**	LR	LR	04 35 18.7	
comp=Z,50nm,18.6s,baz=296,slow=33							
RES	**Resolute Bay**	**98.90**	**11**	LR	LR	04 43 40.3	
comp=Z,34nm,19.5s,baz=12,slow=37							
YKA	**Yellowknife Ar**	**99.99**	**25**	P	**Pdif**	**03 56 23.3**	**-1.2**
comp=Z,0.3nm,0.6s,baz=294,slow=4.8,SNR=4.9							
comp=Z,0.3nm,0.6s							
HFS	**Hagfors**	**100.28**	**333**	P	**Pdif**	**03 56 23.9**	**-2.0**
comp=Z,24nm,1.4s,baz=66,slow=3.6,SNR=5.9							
NB2	**NORSAR Subarra**	**101.02**	**334**	P	**Pdif**	**03 56 33.4**	**+4.2**
comp=Z,0.6nm,0.6s,baz=66,slow=4.6							
TORD	**Torodi Ar. Bea**	**125.32**	**288**	PKP	**PKPdf**	**04 01 40.5**	**-0.8**
comp=Z,0.7nm,0.5s,baz=61,slow=1.9,SNR=8.5							

*SDD **14** 03:49:27.8±1.9, 18°.06N×68°.07W, h130km±14km, MD3.6, ML2.9, MW3.1*
*NEIC **14** 03:49:29.8±1.2, 18°.2N±0°.3×67°.99W±0°.07, h103km±5km, ML2.8/30, Md2.9/17(RSPR), Error ellipse: s-maj=38.0km s-min=5.5km az=191.0*
*RSPR **14** 03:49:29.1, 18°.27N×68°.04W, h106km±1km, MD2.9/17*
*OSPL **14** 03:49:31.7±2.3, 18°.11N×68°.04W, h91km±17km, ML2.7, Hypocentre not reviewed by the ISC*

ISC 14 03:49:30.2±1.4, 18°.26N±0°.09×68°.01W±0°.03, h97km±8km, n74, σ0°95/92, 27C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.43**	**305**		**Pn**	**03 49 44.3**	**-0.8**
PCDR					**Sn**	**03 49 56.4**	**+0.1**
PCDR	**Punta Cana, DR**	**0.43**	**305**	IAML		03 49 59.7	
comp=N,202nm,1.1s							
PCDR	**Punta Cana, DR**	**0.43**	**305**	⇑*e*Pg	**Pn**	**03 49 44.3**	**-0.8**
PCDR				IAML		03 50 38.3	
comp=N,206nm,1.6s							
PCDR	**Punta Cana, DR**	**0.43**	**305**	⇑*e*P	**Pn**	**03 49 44.3**	**-0.8**
PCDR	**Punta Cana, DR**	**0.43**	**305**	*e*S	**Sn**	**03 49 56.4**	**+0.1**
PCDR	**Punta Cana, DR**	**0.43**	**305**	⇓*i*P		03 49 44.3	
PCDR				*e*S		03 49 56.4	
PCDR				IAML		03 49 59.8	
comp=Z,104nm,0.8s							
IDE	**Isla Desecheo**	**0.53**	**76**		**Pn**	**03 49 45.8**	**-0.1**
IDE					**Sn**	**03 49 58.2**	**+0.7**
IDE	**Isla Desecheo**	**0.53**	**76**	⇑*e*P	**Pn**	**03 49 45.8**	**-0.1**
IDE	**Isla Desecheo**	**0.53**	**76**	*e*S	**Sn**	**03 49 58.2**	**+0.7**
SADR	**Isla Saona**	**0.73**	**265**	⇑*e*Pg	**Pn**	**03 49 47.4**	**-0.2**
SADR				⇑*e*Pg	**Pn**	**03 49 47.4**	**-0.2**
SADR				⇑*e*Sg	**Sn**	**03 50 01.2**	**+0.6**
SADR				⇑*e*Sg		03 50 01.3	
SADR				IAML		03 50 02.4	
comp=N,262nm,0.7s							
SADR				IAML		03 50 02.4	
comp=N,262nm,0.7s							
HIDR	**Higuey Centro**	**0.75**	**296**	⇓*e*P	**Pn**	**03 49 46.2**	**-1.6**
HIDR	**Higuey Centro**	**0.75**	**296**	*e*S	**Sn**	**03 49 59.4**	**-1.5**
AGPR	**Aguadilla, PR**	**0.88**	**76**		**Pn**	**03 49 49.2**	**+0.1**
AGPR					**Sn**	**03 50 03.9**	**+0.7**
AGPR	**Aguadilla, PR**	**0.88**	**76**	IAML		03 50 05.8	
comp=N,216nm,0.5s							
AGPR				IAML		03 50 07.2	
comp=E,222nm,0.3s							
AGPR	**Aguadilla, PR**	**0.88**	**76**	⇑*e*Pg	**Pn**	**03 49 49.2**	**+0.1**
AGPR				⇑*e*Sg	**Sn**	**03 50 04.7**	**+1.5**
AGPR				IAML		03 50 05.7	
comp=N,214nm,0.5s							
AGPR	**Aguadilla, PR**	**0.88**	**76**	⇑*e*P	**Pn**	**03 49 49.2**	**+0.1**
AGPR	**Aguadilla, PR**	**0.88**	**76**	*e*S	**Sn**	**03 50 03.9**	**+0.7**
AGPR	**Aguadilla, PR**	**0.88**	**76**	*i*P		03 49 49.1	
AGPR				*e*S		03 50 04.5	
AGPR				IAML		03 50 05.5	
comp=Z,122nm,1.1s							
LSP	**Las Mesas**	**0.88**	**96**		**Pn**	**03 49 48.8**	**-0.3**
LSP					**Sn**	**03 50 04.2**	**+0.8**
LSP	**Las Mesas**	**0.88**	**96**	⇑*e*P	**Pn**	**03 49 48.8**	**-0.3**
LSP	**Las Mesas**	**0.88**	**96**	*e*S	**Sn**	**03 50 04.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.89**	**106**		**Pn**	**03 49 48.9**	**-0.3**
CRPR					**Sn**	**03 50 03.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.89**	**106**	⇓*e*Pg	**Pn**	**03 49 48.9**	**-0.3**
CRPR				IAML		03 50 05.8	
comp=N,57nm,0.3s							
CRPR	**Cabo Rojo, PR**	**0.89**	**106**	⇓*e*P	**Pn**	**03 49 48.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.89**	**106**	*e*S	**Sn**	**03 50 03.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.89**	**106**	*i*P		03 49 48.9	
CRPR				*e*S		03 50 03.5	
CRPR				IAML		03 50 10.4	
comp=Z,75nm,0.5s							
GBPR	**Guanica, Bosqu**	**1.11**	**105**		**Pn**	**03 49 51.6**	**0.0**
GBPR					**Sn**	**03 50 08.3**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.11**	**105**	⇓*e*P	**Pn**	**03 49 51.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.11**	**105**	*e*S	**Sn**	**03 50 08.3**	**+0.5**
AOPR	**Arecibo Observ**	**1.20**	**86**		**Pn**	**03 49 52.3**	**-0.3**
AOPR					**Sn**	**03 50 09.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.20**	**86**	*e*P	**Pn**	**03 49 52.3**	**-0.3**
AOPR				*e*S	**Sn**	**03 50 09.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.20**	**86**	⇑*e*Pg	**Pn**	**03 49 52.3**	**-0.3**
AOPR				⇑*e*Sg	**Sn**	**03 50 10.3**	**+0.7**
AOPR				IAML		03 50 13.3	
comp=N,428nm,0.2s							
AOPR	**Arecibo Observ**	**1.20**	**86**	⇑*e*P	**Pn**	**03 49 52.3**	**-0.3**
MIDR	**Miches**	**1.22**	**306**	⇓*e*Pg	**Pn**	**03 49 52.4**	**-0.5**
MIDR				⇑*e*Pg	**Pn**	**03 49 52.4**	**-0.5**
MIDR				⇑*e*Sg	**Sn**	**03 50 11.9**	**+1.9**
MIDR				⇑*e*Sg		03 50 12.0	
MIDR				IAML		03 50 12.7	
comp=N,120nm,0.3s							
MIDR				IAML		03 50 12.8	
comp=N,120nm,0.3s							
UUPR	**Utuado, UPR, P**	**1.23**	**90**		**Pn**	**03 49 53.0**	**0.0**
UUPR					**Sn**	**03 50 10.9**	**+0.8**
UUPR	**Utuado, UPR, P**	**1.23**	**90**	⇑*e*P	**Pn**	**03 49 53.0**	**0.0**
UUPR	**Utuado, UPR, P**	**1.23**	**90**	*e*S	**Sn**	**03 50 10.9**	**+0.8**
OBIP	**Obispado Ponce**	**1.35**	**99**		**Pn**	**03 49 53.1**	**-1.3**
OBIP					**Sn**	**03 50 14.0**	**+1.1**
OBIP	**Obispado Ponce**	**1.35**	**99**	⇑*e*P	**Pn**	**03 49 53.1**	**-1.3**
OBIP	**Obispado Ponce**	**1.35**	**99**	*e*S	**Sn**	**03 50 14.0**	**+1.1**
CELP	**Cerrillos**	**1.37**	**98**		**Pn**	**03 49 54.2**	**-0.5**
CELP					**Sn**	**03 50 13.9**	**+0.6**
CELP	**Cerrillos**	**1.37**	**98**	IAML		03 50 18.0	
comp=N,132nm,0.3s							
CELP				IAML		03 50 18.6	
comp=E,64nm,0.2s							
CELP	**Cerrillos**	**1.37**	**98**	⇑*e*Pg	**Pn**	**03 49 54.2**	**-0.5**
CELP				⇑*e*Sg	**Sn**	**03 50 14.1**	**+0.8**
CELP				IAML		03 50 17.9	
comp=N,137nm,0.3s							
CELP	**Cerrillos**	**1.37**	**98**	⇑*e*P	**Pn**	**03 49 54.2**	**-0.5**
CELP	**Cerrillos**	**1.37**	**98**	*e*S	**Sn**	**03 50 13.9**	**+0.6**
DR12	**Loma Pena Alta**	**1.40**	**292**	Pn	**Pn**	**03 49 54.1**	**-1.0**
DR12				IAML		03 50 13.7	
comp=E,73nm,0.8s							
DR12				IAML		03 50 15.1	
comp=N,50nm,0.3s							
HATOM	**Hato Mayor del**	**1.40**	**292**	⇑*e*Pg	**Pn**	**03 49 54.1**	**-1.0**
HATOM				⇑*e*Sg	**Sn**	**03 50 12.5**	**-1.4**
HATOM				IAML		03 50 13.5	
comp=N,50nm,0.3s							
EMPR	**Esperanza - Ma**	**1.42**	**81**		**Pn**	**03 49 54.8**	**-0.6**
EMPR					**Sn**	**03 50 13.9**	**-0.4**
EMPR	**Esperanza - Ma**	**1.42**	**81**	IAML		03 50 17.9	
comp=E,153nm,0.7s							
EMPR				IAML		03 50 18.2	
comp=N,146nm,0.4s							
EMPR	**Esperanza - Ma**	**1.42**	**81**	⇓*e*P	**Pn**	**03 49 54.8**	**-0.6**
EMPR	**Esperanza - Ma**	**1.42**	**81**	*e*S	**Sn**	**03 50 13.9**	**-0.4**
SMDR	**Samana, DR**	**1.51**	**313**	*e*S	**Sn**	**03 50 16.1**	**-0.1**
ECPR	**Experimental S**	**1.57**	**88**	⇑*e*P	**Pn**	**03 49 56.2**	**-0.9**
ECPR	**Experimental S**	**1.57**	**88**	*e*S	**Sn**	**03 50 17.5**	**-0.1**
SJG	**San Juan**	**1.78**	**95**		**Pn**	**03 49 59.0**	**-0.8**
SJG					**Sn**	**03 50 22.1**	**-0.2**
SJG				IAML		03 50 27.5	
comp=N,74nm,0.2s							
SJG	**San Juan**	**1.78**	**95**	*e*P	**Pn**	**03 49 59.0**	**-0.8**
SJG				*e*S	**Sn**	**03 50 22.3**	**0.0**
SJG	**San Juan**	**1.78**	**95**	⇓*e*P	**Pn**	**03 49 59.1**	**-0.6**
SJG	**San Juan**	**1.78**	**95**	*i*P		03 49 59.1	
SJG				*e*S		03 50 21.6	
SJG				IAML		03 50 24.4	
comp=Z,31nm,0.2s							
GCPR	**Guaynabo City**	**1.83**	**88**		**Pn**	**03 49 59.2**	**-1.2**
GCPR					**Sn**	**03 50 23.6**	**0.0**
GCPR	**Guaynabo City**	**1.83**	**88**	IAML		03 50 24.5	
comp=E,52nm,0.8s							
GCPR				IAML		03 50 29.0	
comp=N,40nm,0.3s							
GCPR	**Guaynabo City**	**1.83**	**88**	⇓*e*P	**Pn**	**03 49 59.2**	**-1.2**
GCPR	**Guaynabo City**	**1.83**	**88**	*e*S	**Sn**	**03 50 23.6**	**0.0**
IGPR	**InterUniversit**	**1.83**	**99**		**Pn**	**03 49 59.3**	**-1.2**
IGPR					**Sn**	**03 50 25.9**	**+2.3**
IGPR	**InterUniversit**	**1.83**	**99**	IAML		03 50 30.6	
comp=E,94nm,0.3s							
IGPR				IAML		03 50 31.3	
comp=N,86nm,0.3s							
IGPR	**InterUniversit**	**1.83**	**99**	⇑*e*P	**Pn**	**03 49 59.3**	**-1.2**
IGPR	**InterUniversit**	**1.83**	**99**	*e*S	**Sn**	**03 50 25.9**	**+2.3**
PDPR	**Patillas Dam,**	**1.91**	**97**	Pn	**Pn**	**03 50 00.1**	**-1.4**
PDPR	**Patillas Dam,**	**1.91**	**97**	⇑*e*P	**Pn**	**03 50 01.5**	**+0.1**
PDPR	**Patillas Dam,**	**1.91**	**97**	*e*S	**Sn**	**03 50 26.6**	**+1.3**
HUMP	**Col San Antoni**	**2.06**	**93**	IAML		03 50 30.1	
comp=E,69nm,0.2s							
HUMP				IAML		03 50 31.2	
comp=N,79nm,0.2s							
HUMP	**Col San Antoni**	**2.06**	**93**		**Pn**	**03 50 02.8**

WB0 Warramunga Arr 33.27 263 P P 04 07 13.5 -0.8
WB0 IAmb IAmb 04 07 14.1
comp=Z,5.5nm,0.8s
WB2 Warramunga Arr 33.29 263 P P 04 07 13.8 -0.7
WB2 IAmb IAmb 04 07 20.2
comp=Z,8.0nm,1.1s
WRAB Tennant Creek 33.29 263 P P 04 07 13.4 -1.1
WRAB IAmb IAmb 04 07 14.0
comp=Z,5.6nm,1.1s
WRA Warramunga Arr 33.30 263 P P 04 07 13.9 -0.7
WRA Warramunga Arr 33.30 263 P P 04 07 13.8 -0.7
comp=Z,1.3nm,0.4s,baz=82,slow=5.8,SNR=50
WRA PcP PcP 04 09 50.5 0.0
comp=Z,0.7nm,0.8s,baz=95,slow=3.2,SNR=2.8
comp=Z,1.3nm,0.4s
AS31 Alice Springs 33.57 256 P P 04 07 16.4 -0.4
AS31 IAmb IAmb 04 07 17.0
comp=Z,3.7nm,0.5s
ASAR Alice Springs 33.57 256 P P 04 07 16.4 -0.4
comp=Z,6.3nm,0.6s,baz=84,slow=9.3,SNR=84
ASAR pP pwP 04 08 09.5 -2.1
comp=Z,2.5nm,0.9s,baz=85,slow=9.2,SNR=2.9
ASAR ScP ScP 04 13 09.8 -2.1
comp=Z,0.2nm,0.3s,baz=97,slow=2.8,SNR=1.6
comp=Z,6.3nm,0.6s
KNRA Kununurra 39.16 269 P P 04 08 02.6 -1.5
KNRA IAmb IAmb 04 08 40.1
comp=Z,48nm,1.5s
FITZ Fitzroy Crossi 41.69 264 P P 04 08 23.9 -0.7
MBWA Marble Bar 46.80 259 P P 04 09 04.6 -0.4
MBWA IAmb IAmb 04 09 08.5
comp=Z,19nm,1.3s
QSPA South Pole Qui 70.84 180 P P 04 11 48.5 -1.0
comp=Z,1.6nm,0.4s,baz=34,slow=1.7,SNR=5.7
comp=Z,1.6nm,0.4s
PMSA Palmer Station 86.78 160 P P 04 13 15.6 0.0
NVAR Mina Array Bea 88.45 48 P P 04 13 26.5 +2.2
comp=Z,1.0nm,0.7s,baz=235,slow=8.1,SNR=4.2
comp=Z,1.0nm,0.7s
SNAA Sanae 89.21 182 P P 04 13 25.8 -1.3
comp=Z,2.8nm,0.6s,baz=225,slow=7.1,SNR=12
comp=Z,2.8nm,0.6s
TXAR Lajitas Array 96.36 61 P P 04 14 03.6 +2.8
comp=Z,0.3nm,0.9s,baz=241,slow=4.4,SNR=2.4
comp=Z,0.3nm,0.9s
ARCES ARCESS Array B 125.15 345 PKP PKPdf 04 19 30.2 +0.2
comp=Z,4.6nm,1.0s,baz=14,slow=3.9,SNR=5.1
NOA NORSAR Array B 135.53 345 PKP PKPdf 04 19 50.4 +0.5
comp=Z,0.8nm,1.0s,baz=23,slow=3.3,SNR=1.4
EKA Eskdalemuir Ar 143.53 353 PKP PKPdf 04 20 03.8 -0.7
comp=Z,1.0nm,0.7s,baz=12,slow=2.4,SNR=1.9
GERES GERESS Array B 144.68 332 PKP PKPdf 04 20 07.2 +0.4
comp=Z,0.5nm,0.5s,baz=22,slow=6.3,SNR=3.5

*VAO **14** 04:02:45.0±0.5, 15°.08S×71°.89W, h118km±5km, mb4.5*
*NEIC **14** 04:02:46.5±1.2, 15°.14S±0°.09×71°.7W±0°.1, h117km±9km, mb4.4/34, Error ellipse: s-maj=19.5km s-min=11.9km az=74.0*
*IDC **14** 04:02:47.2±0.8, 15°.11S×71°.77W, h130km±6km, mb3.9/14, mbtmp4.3/17, Error ellipse: s-maj=16.3km s-min=9.6km az=40.0*
ISC 14 04:02:45.5±0.4, 15°.13S±0°.05×71°.90W±0°.06, h124km, n127, σ1$40/132, mb4.3/22, 4C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**3.38**	**137**	Pn	**Pn**	**04 03 37.5**	**+0.1**
PB18				Sn	**Sn**	04 04 14.0	-3.4
AP01	**Chacalluta**	**3.55**	**155**	Pn	**Pn**	**04 03 38.1**	**-1.1**
PB12	**IPOC Station P**	**3.78**	**157**		**Pn**	**04 03 40.6**	**-1.7**
LPAZ	**La Paz**	**3.81**	**108**		**Pn**	**04 03 45.6**	**+2.4**
LPAZ	**La Paz**	**3.81**	**108**	P	**Pn**	**04 03 45.2**	**+2.0**
	43nm,0.5s,baz=287,slow=8.2,SNR=154						
LPAZ				S	**Sn**	**04 04 28.7**	**+0.9**
	54nm,0.7s,baz=348,slow=25,SNR=6.7						
LPAZ	**La Paz**	**3.81**	**108**	*eP*	**Pn**	**04 03 42.9**	**-0.3**
TA02	**Huaiquique**	**5.38**	**162**	Pn	**Pn**	**04 04 00.9**	**-2.8**
PB08	**IPOC Station P**	**5.63**	**153**		**Pn**	**04 04 05.8**	**-1.5**
TA01	**Diego Aracena**	**5.65**	**163**	Pn	**Pn**	**04 04 04.4**	**-2.9**
NNA	**Nana**	**5.73**	**302**	Pn	**Pn**	**04 04 07.0**	**-1.5**
NNA	**Nana**	**5.73**	**302**	P	**Pn**	**04 04 06.8**	**-1.6**
	52nm,0.3s,baz=126,slow=9.8,SNR=26						
NNA				S	**Sn**	**04 05 07.4**	**-5.6**
	223nm,0.5s,baz=204,slow=20,SNR=13						
PB01	**IPOC Station P**	**6.31**	**159**		**Pn**	**04 04 13.6**	**-2.8**
PB09	**IPOC Station P**	**7.10**	**160**		**Pn**	**04 04 24.7**	**-2.2**
CZSB	**Cruzeiro do Su**	**7.39**	**354**		**Pn**	**04 04 28.9**	**-2.4**
CZSB	**Cruzeiro do Su**	**7.39**	**354**	*eP*	**Pn**	**04 04 28.8**	**-2.2**
AF01	**San Pedro de A**	**8.54**	**156**		**Pn**	**04 04 45.3**	**-1.3**
ATAH	**Atahualpa**	**10.18**	**321**	P	**Pn**	**04 05 07.8**	**-1.1**
	5.7nm,0.7s,baz=144,slow=14,SNR=3.1						
ATAH				S	**Sn**	**04 06 59.0**	**-2.4**
	7.0nm,0.5s,baz=75,slow=20,SNR=4.2						
SIV	**San Ignacio**	**10.47**	**96**	P	**Pn**	**04 05 10.5**	**-2.0**
	5.0nm,0.5s,baz=274,slow=12,SNR=31						
TBTG	**Tabatinga, AM**	**11.05**	**10**	Pn	**Pn**	**04 05 19.0**	**-1.1**
TBTG	**Tabatinga, AM**	**11.05**	**10**	*eP*	**Pn**	**04 05 19.3**	**-0.8**
VILB	**Vilhena**	**11.56**	**81**	Pn	**Pn**	**04 05 24.6**	**-2.3**
VILB	**Vilhena**	**11.56**	**81**	*eP*	**Pn**	**04 05 24.9**	**-2.0**
AC02	**Maricunga**	**11.93**	**168**	Pn	**Pn**	**04 05 29.8**	**-2.4**
PTLB	**Pontes e Lacer**	**12.32**	**93**	Pn	**Pn**	**04 05 34.7**	**-2.2**
PTLB	**Pontes e Lacer**	**12.32**	**93**	*eP*	**Pn**	**04 05 36.5**	**-0.4**
TEFE	**Tefe**	**13.59**	**33**	*eP*	**Pn**	**04 05 51.9**	**-1.4**
CO01	**Juntas del Tor**	**14.87**	**174**	P	**Pn**	**04 06 09.8**	**0.0**
MURT	**Porto Murtinho**	**15.03**	**118**	*eP*	**Pn**	**04 06 10.9**	**-0.8**
PANT	**Pantanal (Braz**	**15.11**	**107**	*eP*	**P**	**04 06 13.2**	**-1.7**
PDRB	**Porto dos Gac**	**15.17**	**79**	*eP*	**Pn**	**04 06 10.9**	**-2.5**
BDQN	**Bodoquena, MS**	**15.37**	**112**	*eP*	**Pn**	**04 06 15.6**	**-0.2**
SALV	**Santo Antonio**	**15.64**	**95**	*eP*	**Pn**	**04 06 19.2**	**0.0**
CO03	**El Pedregal**	**15.68**	**176**	P	**P**	**04 06 21.1**	**-0.1**
CO03				IAmb	IAmb	04 06 22.7	
	comp=Z,26nm,0.8s						
MACA	**Manacapuru-AM**	**16.24**	**44**	Pn	**Pn**	**04 06 24.8**	**-1.8**
MACA	**Manacapuru-AM**	**16.24**	**44**	*eP*	**Pn**	**04 06 24.6**	**-2.0**
AQDB	**Aquidauana**	**16.32**	**111**	P	**Pn**	**04 06 26.6**	**-1.0**
AQDB	**Aquidauana**	**16.32**	**111**	*eP*	**Pn**	**04 06 27.1**	**-0.5**
OTAV	**Otavalo**	**16.58**	**336**	*eP*	**Pn**	**04 06 31.1**	**-0.2**
ZON	**Zonda**	**16.61**	**170**	P	**P**	**04 06 32.2**	**+0.8**
CPUP	**Villa Florida**	**17.59**	**132**	P	**P**	**04 06 41.9**	**-0.3**
CPUP				IAmb	IAmb	04 06 43.9	
	comp=Z,19nm,1.0s						
CPUP	**Villa Florida**	**17.59**	**132**	P	**Pn**	**04 06 42.6**	**-0.4**
	comp=Z,11nm,0.7s,baz=305,slow=11,SNR=21						
CPUP	**Villa Florida**	**17.59**	**132**	*eP*	**Pn**	**04 06 42.4**	**-0.5**
MT02	**Curacav**	**18.06**	**178**	P	**P**	**04 06 47.7**	**+0.3**
NPGB	**Novo Progresso**	**18.10**	**65**	*eP*	**Pn**	**04 06 48.7**	**-0.5**
RPRD	**Ribas do Rio P**	**18.12**	**110**	*eP*	**P**	**04 06 48.0**	**-0.2**
MT08	**Bocatoma Ro**	**18.32**	**175**	P	**Pn**	**04 06 50.8**	**-1.0**
MT08				IAmb	IAmb	04 06 53.3	
	comp=Z,24nm,0.8s						
MT09	**Talagante**	**18.59**	**178**	P	**Pn**	**04 06 53.8**	**-1.1**
MT09				IAmb	IAmb	04 07 01.6	
	comp=Z,23nm,1.1s						
C2SB	**Chapadao do Su**	**18.59**	**104**	*eP*	**Pn**	**04 06 55.5**	**+0.6**
MT13	**San Alfonso**	**18.59**	**176**	P	**P**	**04 06 53.6**	**+0.4**
MT13				IAmb	IAmb	04 07 02.1	
	comp=Z,13nm,0.6s						
LMEL	**Las Melosas**	**18.70**	**176**	P	**Pn**	**04 06 55.3**	**-1.0**
BO04	**La Punta**	**18.82**	**177**	P	**Pn**	**04 06 57.1**	**-0.4**
BO04				IAmb	IAmb	04 07 02.1	
	comp=Z,15nm,0.6s						
ITTB	**Itaituba**	**19.17**	**58**	*eP*	**Pn**	**04 07 00.7**	**-1.1**
ARAG	**Araguaiana, MT**	**19.38**	**94**	*eP*	**P**	**04 07 01.6**	**-0.2**
BO02	**Sierra Bellavi**	**19.61**	**177**	P	**Pn**	**04 07 05.4**	**-1.4**
BO02				IAmb	IAmb	04 07 06.9	
	comp=Z,28nm,0.9s						
SNDB	**Serra Nova Dou**	**20.28**	**84**	*eP*	**P**	**04 07 12.1**	**+0.5**
ML02	**Panimavida**	**20.55**	**179**	P	**P**	**04 07 14.9**	**+0.6**
BOAV	**Boa Vista**	**20.74**	**34**	P	**P**	**04 07 16.7**	**+0.2**
BOAV				IAmb	IAmb	04 07 18.4	
	comp=Z,13nm,0.8s						
BOAV	**Boa Vista**	**20.74**	**34**	*eP*	Pn	04 07 18.1	-2.0
RUSC	**La Rusia**	**20.92**	**357**	P	**P**	**04 07 19.5**	**+0.6**
RUSC				IAmb	IAmb	04 07 26.5	
	comp=Z,22nm,1.3s						
PTGB	**Pitanga**	**20.92**	**120**	*eP*	**P**	**04 07 18.4**	**-0.1**
ITRB	**Iturama**	**21.05**	**106**	*eP*	**P**	**04 07 19.6**	**-0.2**
LDASE	**Londrina, Braz**	**21.25**	**116**	*eP*	**P**	**04 07 21.7**	**-0.3**
BI02	**San Fabin de**	**21.45**	**179**	P	**P**	**04 07 24.8**	**+0.7**
BI02				IAmb	IAmb	04 07 27.1	
	comp=Z,18nm,0.8s						
ITAB	**Concordia**	**21.98**	**126**	P	**P**	**04 07 28.1**	**-1.6**
ITAB	**Concordia**	**21.98**	**126**	*eP*	**P**	**04 07 30.4**	**+0.8**
TBOT	**Tacuaremb**	**22.00**	**141**	*eP*	**P**	**04 07 29.6**	**-0.2**
FRTB	**Fartura**	**22.60**	**115**	*eP*	**P**	**04 07 35.7**	**-0.2**
CPSB	**Cacapava Do Su**	**22.77**	**135**	*eP*	**P**	**04 07 38.4**	**+0.9**
IPMB	**Ipameri, GO**	**22.88**	**100**	*eP*	**P**	**04 07 37.5**	**-1.3**
BB19B	**Bebedouro**	**22.98**	**108**	*eP*	**P**	**04 07 39.4**	**-0.2**
BDFB	**Brasilia**	**23.04**	**94**	P	**P**	**04 07 39.6**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=257,slow=7.5,SNR=6.9						
BDFB				pP	**pP**	**04 08 04.3**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=212,slow=9.6,SNR=2.0						
	comp=Z,2.5nm,0.3s						
PLTB	**Pedras Altas**	**23.52**	**138**	P	**P**	**04 07 43.2**	**-1.3**
PLTB				IAmb	IAmb	04 07 45.3	
	comp=Z,18nm,1.0s						
PLTB	**Pedras Altas**	**23.52**	**138**	*eP*	**P**	**04 07 44.1**	**-0.4**
SDV	**Santo Domingo**	**23.89**	**3**	P	**P**	**04 07 49.5**	**+1.4**
SDV				IAmb	IAmb	04 07 55.4	
	comp=Z,13nm,0.9s						
SDV	**Santo Domingo**	**23.89**	**3**	*eP*	**P**	**04 07 47.0**	**-1.1**
CNLB	**Canela**	**24.00**	**130**	*eP*	**P**	**04 07 49.0**	**0.0**
BAUV	**El Baul**	**24.22**	**9**	P	**P**	**04 07 51.9**	**+1.0**
SMTB	**Santa Maria do**	**24.57**	**78**	*eP*	**P**	**04 07 54.4**	**+0.2**
LR05	**Currie**	**25.01**	**180**		**P**	**04 07 59.1**	**+1.3**
PLCA	**Paso Flores**	**25.54**	**178**		**P**	**04 08 03.3**	**+0.6**
PLCA	**Paso Flores**	**25.54**	**178**	P	**P**	**04 08 03.0**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=352,slow=9.8,SNR=19						
	comp=Z,5.6nm,0.8s						
PLCA	**Paso Flores**	**25.54**	**178**	*eP*	**P**	**04 08 03.4**	**+0.6**
SDBA	**SAO DESIDERIO**	**26.36**	**87**	*eP*	**P**	**04 08 09.6**	**-0.7**
JANB	**Januaria**	**26.63**	**93**	*eP*	**P**	**04 08 11.7**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**26.68**	**64**	*eP*	**P**	**04 08 13.6**	**+0.3**
DIAM	**Diamantina, MG**	**27.21**	**101**	*eP*	**P**	**04 08 18.3**	**+0.2**
COYC	**Coyhaique**	**30.35**	**180**	P	**P**	**04 08 45.9**	**+0.5**
COYC				IAmb	IAmb	04 08 46.4	
	comp=Z,10nm,0.7s						
GUA01	**Guaratinga, BA**	**30.89**	**97**	*eP*	**P**	**04 08 50.7**	**+0.1**
CMC01	**Camacan, BA**	**31.23**	**95**	*eP*	**P**	**04 08 53.4**	**-0.2**
NBLA	**Lagarto - SE**	**33.46**	**87**	*eP*	**P**	**04 09 11.7**	**-1.4**
NBAN	**Andia - AL**	**35.19**	**85**	*eP*	**P**	**04 09 27.8**	**-0.2**
TXAR	**Lajitas Array**	**53.80**	**325**	P	**P**	**04 11 56.7**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=152,slow=8.0,SNR=12						
TXAR				pP	**pP**	**04 12 27.6**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=150,slow=8.0,SNR=3.4						
	comp=Z,0.8nm,0.7s						
QUOK	**Quay**	**56.16**	**336**	P	**P**	**04 12 15.3**	**+3.0**
AMTX	**Amarillo**	**57.22**	**331**	P	**P**	**04 12 21.4**	**+1.4**
SDCO	**Great Sand Dun**	**61.34**	**330**	P	**P**	**04 12 50.5**	**+2.0**
SDCO				IAmb	IAmb	04 12 51.1	
	comp=Z,3.4nm,0.7s						
X16A	**Lo Mia Camp, P**	**61.98**	**323**	P	**P**	**04 12 55.3**	**+2.6**
X16A				IAmb	IAmb	04 12 56.2	
	comp=Z,4.3nm,1.1s						
VNA3	**Neumayer Olymp**	**66.98**	**162**	P	**P**	**04 13 26.1**	**+1.5**
VNA3	**Neumayer Olymp**	**66.98**	**162**	⇑P	**P**	**04 13 26.1**	**+1.5**
	comp=Z,13nm,1.0s						
PDAR	**Pinedale Array**	**67.20**	**331**	P	**P**	**04 13 27.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=119,slow=6.0,SNR=5.7						
PDAR				pP	**pP**	**04 13 59.5**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=101,slow=1.5,SNR=2.9						
	comp=Z,0.5nm,0.6s						
VNA2	**Neumayer--Watz**	**67.57**	**161**	P	**P**	**04 13 29.7**	**+1.4**
	baz=286,slow=5.5						
VNA2	**Neumayer--Watz**	**67.57**	**161**	⇑P	**P**	**04 13 29.7**	**+1.4**
	comp=Z,12nm,0.6s,baz=286,slow=5.5						
ULM	**Lac du Bonnet**	**68.43**	**344**	P	**P**	**04 13 33.4**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=119,slow=6.1,SNR=5.2						
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**68.74**	**322**	P	**P**	**04 13 38.5**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=161,slow=9.4,SNR=4.1						
	comp=Z,0.9nm,0.8s						
SNAA	**Sanae**	**69.19**	**162**	P	**P**	**04 13 39.5**	**+1.0**
SNAA	**Sanae**	**69.19**	**162**	P	**P**	**04 13 39.8**	**+1.3**
SNAA	**Sanae**	**69.19**	**162**	⇑P	**P**	**04 13 39.5**	**+1.0**
	comp=Z,432nm,0.7s						
SNAA	**Sanae**	**69.19**	**162**	P	**P**	**04 13 39.6**	**+1.2**
	comp=Z,15nm,0.6s,baz=289,slow=8.2,SNR=43						
	comp=Z,15nm,0.6s						
DBIC	**Dimbokro**	**69.87**	**77**	P	**P**	**04 13 42.8**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=206,slow=3.0,SNR=5.4						
	comp=Z,1.7nm,0.5s						
MFID	**Camas Ranch**	**70.78**	**328**	P	**P**	**04 13 50.7**	**+2.1**
TROLL	**Troll, Antarti**	**70.91**	**162**	P	**P**	**04 13 50.7**	**+1.7**
TROLL	**Troll, Antarti**	**70.91**	**162**	⇑P	**P**	**04 13 50.7**	**+1.7**
	comp=Z,384nm,0.7s						
QSPA	**South Pole Qui**	**75.03**	**180**	P	**P**	**04 14 14.4**	**+1.1**
	comp=Z,5.6nm,0.4s,baz=194,slow=5.6,SNR=14						
	comp=Z,5.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**78.05**	**73**	P	**P**	**04 14 30.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**78.05**	**73**	P	**P**	**04 14 30.7**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=268,slow=5.0,SNR=35						
	comp=Z,2.9nm,0.6s						
VNDA	**Vanda**	**82.59**	**190**	P	**P**	**04 14 55.5**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=129,slow=6.5,SNR=2.4						
	comp=Z,2.2nm,0.9s						
ESDC	**Sonsaca Array**	**83.39**	**46**	P	**P**	**04 15 00.4**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=258,slow=5.2,SNR=9.0						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**84.27**	**342**	P	**P**	**04 15 03.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=140,slow=5.1,SNR=23						
	comp=Z,1.4nm,0.7s						
BOSA	**Boshof**	**88.98**	**119**	P	**P**	**04 15 27.3**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=256,slow=4.3,SNR=4.5						
	comp=Z,2.1nm,0.7s						
BVAR	**Borovoye Array**	**131.93**	**30**	PKP	**PKiKP**	**04 21 45.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=285,slow=2.8,SNR=2.0						
ASAR	**Alice Springs**	**133.92**	**214**	PKP	**PKiKP**	**04 21 49.4**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=134,slow=2.0,SNR=10.0						
WRA	**Warramunga Arr**	**136.63**	**217**	PKP	**PKiKP**	**04 21 55.0**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=135,slow=1.6,SNR=13						
ZALV	**Zalesovo Beam**	**137.19**	**20**	PKhKP	PKPpre	04 21 51.2	
	comp=Z,2.7nm,0.8s,baz=310,slow=1.8,SNR=10						
ZALV				PKP	**PKiKP**	**04 21 55.6**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=318,slow=1.9,SNR=8.0						
ZALV				pPKP	pPKPdf	04 22 29.7	+0.7
	comp=Z,2.5nm,0.8s,baz=294,slow=3.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**137.31**	**28**	PKP	**PKiKP**	**04 21 56.5**	**+0.3**
	comp=Z,0.7nm,0.2s,baz=305,slow=3.3,SNR=1.9						
MKAR	**Makanchi Array**	**141.80**	**29**	PKhKP	PKPpre	04 21 59.4	
	comp=Z,0.4nm,0.6s,baz=308,slow=2.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**145.75**	**314**	PKPbc	**PKPab**	**04 22 11.2**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=74,slow=1.9,SNR=6.3						
SONM	**Songino Array**	**147.36**	**2**	PKPbc	**PKPab**	**04 22 16.6**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=325,slow=1.6,SNR=17						
KSRS	**Korea Array**	**151.65**	**325**	PKPbc	**PKiKP**	**04 22 27.6**	**+1.6**
	comp=Z,4.4nm,0.7s,baz=26,slow=1.9,SNR=12						

KOLA 14 04:12:49.8, 67°.64N×33°.76E, h0km, ML1.6, Error ellipse: s-maj=4.8km s-min=2.1km az=150.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**241**	P	Pg	04 12 52.3	-0.4
APA0	**Apatity Array**	**0.30**	**263**	P	Pg	04 12 54.7	-0.8
APA0				S	Sg	04 12 58.9	-0.4
LVZ	**Lovozero**	**0.42**	**53**	P	Pg	04 12 57.1	-0.8
LVZ				S	Sg	04 13 02.7	-0.7
KVDA	**Kovda**	**1.02**	**200**	P	Pg	04 13 09.2	-0.1
TERR	**Teriberka**	**1.64**	**17**	S	Sn	04 13 40.6	-1.1
PRVG	**Vayda Guba**	**2.19**	**345**	S	Sb	04 13 57.2	-0.7
VADS	**Vadso**	**2.95**	**329**	S	Sn	04 14 11.0	-3.0

PGC 14 04:43:51.1±0.7, 50°.62N×130°.18W, h10km, MLSn3.1/30, Mw3.7/30, 195km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.30**	**88**	P	Pn	04 44 13.8	-1.7
HOLB				S	Sb	04 44 30.7	-1.9
BPEB	**Brooks Peninsu**	**1.61**	**106**	Pn	Pn	04 44 17.6	-2.1
BPEB				Sn	Sn	04 44 36.8	-3.8
PACB	**Port Alice, BC**	**1.73**	**95**	Pn	Pn	04 44 19.1	-2.1
PACB				Sn	Sn	04 44 39.6	-3.6
PHC	**Port Hardy**	**1.75**	**86**	Pn	Pn	04 44 20.0	-1.6
PHC				Sn	Sn	04 44 41.8	-2.1
JEDB	**Jedway, Haida**	**1.79**	**340**	Pn	Pn	04 44 19.3	-2.8
JEDB				Sn	Sn	04 44 41.3	-3.6
MAYB	**Maynard**	**1.93**	**95**	Pn	Pn	04 44 22.2	-2.0
MAYB				Sn	Sn	04 44 46.4	-2.2
BBB	**Bella Bella**	**2.03**	**39**	Pn	Pn	04 44 24.2	-1.2
BAIB	**Barry Inlet**	**2.19**	**334**	Pn	Pn	04 44 24.5	-3.1
BAIB				Sn	Sn	04 44 51.3	-3.5
NTKA	**Nootka**	**2.52**	**113**	Pn	Pn	04 44 29.4	-2.6
NTKA				Sn	Sn	04 45 00.1	-2.6
NCSB	**Newcastle Ridg**	**2.64**	**93**	Pn	Pn	04 44 32.5	-1.4
NCSB				Sn	Sn	04 45 03.8	-2.2
NCRB	**Newcastle Ridg**	**2.64**	**93**	Pn	Pn	04 44 32.6	-1.3
ETB	**Estevan Point**	**2.66**	**117**	Pn	Pn	04 44 32.0	-2.0
BUTB	**Butedale**	**2.67**	**23**	Pn	Pn	04 44 33.9	-0.4
BUTB				Sn	Sn	04 45 04.9	-1.8
MOBC	**Moresby Island**	**2.76**	**337**	Sn	Sn	04 45 06.0	-2.8
GDR	**Gold River**	**2.79**	**106**	Pn	Pn	04 44 34.2	-1.7
GRIB	**Gribbell Islan**	**2.80**	**13**	Pn	Pn	04 44 35.0	-1.0
GRIB				Sn	Sn	04 45 08.3	-1.4
BNAB	**Bonilla**	**2.89**	**355**	Pn	Pn	04 44 35.5	-1.6
DIB	**Dawson Inlet,**	**2.95**	**332**	Pn	Pn	04 44 35.7	-2.3
DIB				Sn	Sn	04 45 10.2	-3.2
CBB	**Campbell River**	**3.14**	**99**	Pn	Pn	04 44 39.7	-0.9
CBB				Sn	Sn	04 45 15.7	-2.5
GRNB	**Grenville Isla**	**3.23**	**2**	Pn	Pn	04 44 40.9	-1.1
GRNB				Sn	Sn	04 45 18.0	-2.5
OZB	**Mount Ozzard**	**3.46**	**117**	Pn	Pn	04 44 44.0	-1.1
KITB	**Kitimat**	**3.59**	**15**	Pn	Pn	04 44 46.1	-0.7
B927	**Port Alberni**	**3.74**	**110**	Pn	Pn	04 44 47.3	-1.6
PABB	**Port Alberni**	**3.74**	**110**	Pn	Pn	04 44 47.5	-1.4
TXB	**Texada**	**3.81**	**102**	Pn	Pn	04 44 49.2	-0.7
MGRB	**Mount Grey**	**3.91**	**112**	Pn	Pn	04 44 49.8	-1.5
MGRB				Sn	Sn	04 45 35.4	-1.8
NLLB	**Nanaimo Lost L**	**4.24**	**107**	Pn	Pn	04 44 54.4	-1.3
NLLB				Sn	Sn	04 45 43.6	-1.6
B926	**Mesachie Lake**	**4.32**	**112**	Pn	Pn	04 44 56.4	-0.5
UBRB	**Upper Baezaeko**	**4.42**	**57**	Pn	Pn	04 44 58.9	+0.6
UBRB				Sn	Sn	04 45 47.9	-1.9
WPB	**Watts Point**	**4.59**	**99**	Pn	Pn	04 45 00.9	+0.4
WPB				Sn	Sn	04 45 51.8	-2.0
GOBB	**Galiano Island**	**4.63**	**109**	Pn	Pn	04 45 02.4	+1.2
GOBB				Sn	Sn	04 45 52.4	-2.6
SYMB	**Survey Mountai**	**4.64**	**114**	Pn	Pn	04 45 01.4	+0.2
SYMB				Sn	Sn	04 45 53.5	-1.7
WSLR	**Whistler**	**4.67**	**93**	Pn	Pn	04 45 02.1	+0.3
OBC	**Olympics--Boni**	**4.76**	**121**	Pn	Pn	04 45 02.3	-0.6
V35K	**Ketchikan**	**4.79**	**350**	Pn	Pn	04 45 03.7	+0.4
V35K				Sn	Sn	04 45 56.3	-2.6
B011	**North Saanich**	**4.80**	**112**	Sn	Sn	04 45 57.0	-2.0
FSJB	**Fort St James**	**5.26**	**41**	Pn	Pn	04 45 09.9	+0.2
LLLB	**Lillooet**	**5.28**	**87**	Pn	Pn	04 45 10.3	+0.1
HDW	**Hoodsport**	**5.54**	**120**	Pn	Pn	04 45 13.1	-0.7
HOPB	**Hope**	**5.78**	**99**	Sn	Sn	04 46 21.0	-2.3
T35M	**Bob Quinn**	**6.37**	**360**	Pn	Pn	04 45 25.9	+0.8
BDMTA	**Bald Mountain**	**8.02**	**54**	Pn	Pn	04 45 49.9	+2.2
NBC5	**NorthernBC 5**	**8.20**	**30**	Pn	Pn	04 45 51.7	+1.5
NBC5				Sn	Sn	04 47 22.4	-0.3

*SLM **14** 04:46:08.8±0.5, 36°.95N±0°.02×91°.81W±0°.01, h7km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=181.0*
NEIC 14 04:46:08.7±0.4, 36°.95N±0°.02×91°.817W±0°.008, h1km±5km, ML2.2/12, Md2.6/13(SLM), Error ellipse: s-maj=2.5km s-min=0.9km az=188.0, Missouri-Arkansas border region

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

az=153.0
*IDC **14** 04:52:14.2±2.5, 45°.56N×151°.33E, h52km±21km, mb3.6/18, mbtmp3.9/25, ML3.6/6, MS3.3/8, Error ellipse: s-maj=20.5km s-min=14.4km az=140.0*
ISC 14 04:52:10.5±0.5, 45°.18N±0°.07×151°.54E±0°.05, h36km, n179, σ1§44/191, mb4.4/58, MS3.5/4, 2C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.60**	**273**	*e*PN		**Pn**	**Pn**	**04 52 50.9**	**+1.0**
KUR				*e*S		**Sn**	**Sn**	**04 53 20.9**	**+0.7**
KUR				pmax		pmax			
	comp=N,75nm,0.3s								
KUR				pmax		pmax			
	comp=Z,290nm,0.3s								
KUR				pmax		pmax			
	comp=E,88nm,0.2s								
KUR				smax		smax			
	comp=N,1μm,0.5s								
KUR				smax		smax			
	comp=E,743nm,0.4s								
KUR	**Kuril'sk**	**2.60**	**273**	*e*P		**Pn**	**Pn**	**04 52 50.5**	**+0.6**
KUR				AMB		AMB	AMB	04 52 51.3	
	comp=E,290nm,0.3s								
KUR				*e*S		**Sn**	**Sn**	**04 53 20.1**	**-0.1**
KUR				A		A	A	04 53 27.8	
	comp=E,1μm,0.5s								
KUR				A		A	A	04 53 27.8	
	comp=E,740nm,0.5s								
KUR				AMS		AMS	AMS	04 54 56.0	
	comp=E,2μm,12.0s								
KUR				AMS		AMS	AMS	04 54 56.0	
	comp=E,2μm,12.0s								
SHO	**Shikotan**	**3.61**	**250**	*e*PN		**Pn**	**Pn**	**04 53 03.8**	**-0.1**
SHO				pmax		pmax	pmax		
	comp=Z,93nm,0.3s								
SHO				pmax		pmax	pmax		
	comp=E,52nm,0.2s								
SHO				pmax		pmax	pmax		
	comp=N,30nm,0.4s								
SHO	**Shikotan**	**3.61**	**250**	*e*P		**Pn**	**Pn**	**04 53 03.9**	**0.0**
SHO				AMB		AMB	AMB	04 53 14.2	
	comp=N,90nm,0.3s								
SHO				*e*S		**Sn**	**Sn**	**04 53 44.0**	**-1.2**
SHO				A		A	A	04 53 51.2	
	comp=N,40nm,0.2s								
SHO				A		A	A	04 53 51.2	
	comp=N,350nm,0.2s								
SHO				AMS		AMS	AMS	04 54 24.7	
	comp=N,2μm,8.0s								
SHO				AMS		AMS	AMS	04 54 24.7	
	comp=N,2μm,8.0s								
SHO				AMS		AMS	AMS	04 54 24.7	
	comp=N,1μm,8.0s								
YUK	**Yuzh-Kuril'sk**	**4.21**	**256**	*e*PN		**Pn**	**Pn**	**04 53 13.7**	**+1.6**
YUK				*e*S		**Sn**	**Sn**	**04 54 01.2**	**+1.2**
YUK				pmax		pmax	pmax		
	comp=N,63nm,0.2s								
YUK				pmax		pmax	pmax		
	comp=Z,338nm,0.2s								
YUK				smax		smax	smax		
	comp=E,87nm,0.2s								
YUK				smax		smax	smax		
	comp=N,493nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.21**	**256**	*e*P		**Pn**	**Pn**	**04 53 12.6**	**+0.5**
YUK				AMB		AMB	AMB	04 53 16.1	
	comp=N,340nm,0.2s								
YUK				*e*S		**Sn**	**Sn**	**04 53 58.8**	**-1.2**
YUK				A		A	A	04 54 07.9	
	comp=N,490nm,0.3s								
YUK				A		A	A	04 54 07.9	
	comp=N,90nm,0.3s								
NEM2	**Nemuro 2**	**4.54**	**249**	P		**Pn**	**Pn**	**04 53 16.7**	**0.0**
NEM2				*e*S		**Sn**	**Sn**	**04 54 07.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**4.55**	**249**	*e*PN		**Pn**	**Pn**	**04 53 16.5**	**-0.2**
NMR	**Nemuro--Hokkai**	**4.55**	**249**	*e*P		**Pn**	**Pn**	**04 53 16.5**	**-0.2**
NMR				*e*S		**Sn**	**Sn**	**04 54 07.2**	**-1.1**
RUSJ	**Misakicho**	**4.62**	**259**	*e*PN		**Pn**	**Pn**	**04 53 21.3**	**+3.6**
RUSJ				*e*S		**Sn**	**Sn**	**04 54 13.6**	**+3.6**
JRA	**Rausu**	**4.75**	**257**	*e*P		**Pn**	**Pn**	**04 53 21.7**	**+2.2**
JRA				*e*S		**Sn**	**Sn**	**04 54 15.9**	**+2.6**
JNK	**Nakash**	**5.14**	**254**	P		**Pn**	**Pn**	**04 53 26.2**	**+1.3**
JNK				*e*S		**Sn**	**Sn**	**04 54 23.5**	**+0.6**
AKK	**Akkeshi**	**5.28**	**248**	*e*P		**Pn**	**Pn**	**04 53 26.8**	**-0.1**
JAK	**Akkeshi**	**5.39**	**249**	P		**Pn**	**Pn**	**04 53 28.6**	**+0.3**
JAK				*e*S		**Sn**	**Sn**	**04 54 26.6**	**-2.4**
JTKR	**Abashiri--Toko**	**5.58**	**260**	*e*P		**Pn**	**Pn**	**04 53 32.9**	**+1.9**
JAR	**Ashorobuto**	**5.89**	**254**	P		**Pn**	**Pn**	**04 53 36.7**	**+1.6**
JAR				*e*S		**Sn**	**Sn**	**04 54 42.2**	**+0.8**
JOB	**Onbets**	**6.00**	**250**	P		**Pn**	**Pn**	**04 53 37.6**	**+0.9**
JOB				*e*S		**Sn**	**Sn**	**04 54 42.8**	**-1.3**
SKR	**Severo-Kuril's**	**6.31**	**28**	*e*PN		**Pn**	**Pn**	**04 53 42.0**	**+1.1**
SKR				*e*S		**Sn**	**Sn**	**04 54 53.8**	**+2.2**
SKR				pmax		pmax	pmax		
	comp=Z,101nm,0.6s								
SKR				smax		smax	smax		
	comp=N,58nm,0.9s								
SKR				smax		smax	smax		
	comp=E,54nm,0.4s								
SKR				MLR		MLR	MLR		
	comp=Z,2μm,19.0s								
SKR	**Severo-Kuril's**	**6.31**	**28**	*e*P		**Pn**	**Pn**	**04 53 42.4**	**+1.5**
SKR				AMB		AMB	AMB	04 53 43.6	
	comp=Z,100nm,0.6s								
SKR				*e*S		**Sn**	**Sn**	**04 54 51.6**	**0.0**
SKR				A		A	A	04 54 56.6	
	comp=Z,60nm,0.7s								
SKR				A		A	A	04 54 56.6	
	comp=Z,50nm,0.7s								
SKR				AMS		AMS	AMS	04 55 39.0	
	comp=Z,2μm,17.0s								
YSS	**Yuzhno-Sakhali**	**6.37**	**289**	*e*PN		**Pn**	**Pn**	**04 53 42.9**	**+1.3**
YSS				pmax		pmax	pmax		
	comp=Z,20nm,0.4s								
YSS				MLR		MLR	MLR		
	comp=Z,400nm,15.0s								
YSS	**Yuzhno-Sakhali**	**6.37**	**289**	*e*P		**Pn**	**Pn**	**04 53 43.0**	**+1.3**
YSS				*e*S		**Sn**	**Sn**	**04 54 52.2**	**-0.9**
YSS				AMS		AMS	AMS	04 56 09.8	
	comp=Z,700nm,15.0s								
YSS				AMS		AMS	AMS	04 56 09.8	
	comp=Z,400nm,15.0s								
JKK2	**Kamakawa 2**	**6.42**	**261**	*e*P		**Pn**	**Pn**	**04 53 45.1**	**+2.7**
JKK2				*e*S		**Sn**	**Sn**	**04 54 49.6**	**-4.9**
JCH	**Churui**	**6.44**	**249**	*e*P		**Pn**	**Pn**	**04 53 43.4**	**+0.7**
JCH				*e*S		**Sn**	**Sn**	**04 54 54.5**	**-0.4**
JKA	**Kamikawa-asahi**	**6.47**	**264**			**Pn**	**Pn**	**04 53 46.0**	**+2.9**
ASAJ	**Asahikawa**	**6.47**	**264**	P		**Pn**	**Pn**	**04 53 45.6**	**+2.5**
	comp=Z,4.9nm,0.3s,baz=62,slow=20,SNR=18								
ASAJ				S		**Sn**	**Sn**	**04 54 59.0**	**+3.4**
	comp=Z,8.5nm,0.7s,baz=206,slow=32,SNR=1.0								
ASAJ				LR		LR	LR	04 56 29.9	
	comp=Z,220nm,21.3s,baz=120,slow=40								
	comp=Z,14nm,0.4s								
ERM	**Erimo**	**6.86**	**246**			**Pn**	**Pn**	**04 53 50.9**	**+2.4**
ERM	**Erimo**	**6.86**	**246**	‖*e*PN		**Pn**	**Pn**	**04 53 50.8**	**+2.4**
JNBK	**Urakawa-nobuka**	**6.99**	**249**	*e*P		**Pn**	**Pn**	**04 53 50.6**	**+0.3**
JNBK				*e*S		**Sn**	**Sn**	**04 55 06.2**	**-2.3**
PAU	**Pauzhetka**	**7.21**	**27**	*e*P		**Pn**	**Pn**	**04 53 51.3**	**-1.9**
PAU				*e*S		**Sn**	**Sn**	**04 55 08.8**	**-4.9**
TYV	**Tymovskoe**	**8.23**	**317**	*e*P		**Pn**	**Pn**	**04 54 09.2**	**+1.9**
JANG	**Nango**	**8.79**	**240**	*e*S		**Sn**	**Sn**	**04 55 46.1**	**-6.7**
PETK	**Petropavlovsk-**	**8.90**	**25**	P		**Pn**	**Pn**	**04 54 15.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=177,slow=11,SNR=6.5								
	comp=Z,2.0nm,0.6s								
TEY	**Ternei**	**10.56**	**275**	*e*PN		Pn	Pn	04 54 58.4	+19
NKL	**Nikolayevsk**	**10.68**	**322**	*e*P		**Pn**	**Pn**	**04 54 42.8**	**+2.1**
MJAR	**Matsushiro Arr**	**13.26**	**234**	P		**Pn**	**Pn**	**04 55 19.9**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=40,slow=8.1,SNR=1.5								
	comp=Z,1.2nm,0.3s								
USRK	**Ussuriysk Ar.**	**13.95**	**273**	P		**Pn**	**Pn**	**04 55 25.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=68,slow=17,SNR=2.2								
	comp=Z,1.9nm,0.5s								
KLR	**Kul'dur**	**14.04**	**294**	P		**Pn**	**Pn**	**04 55 27.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=112,slow=14,SNR=5.8								
KLR				LR		LR	LR	05 00 45.3	
	comp=Z,127nm,18.5s,baz=36,slow=37								
	comp=Z,0.5nm,0.2s								
KLR	**Kul'dur**	**14.04**	**294**	*e*P		**Pn**	**Pn**	**04 55 28.3**	**+1.6**
KLR				pmax		pmax	pmax		
	comp=Z,4.0nm,1.3s								
KLR	**Kul'dur**	**14.04**	**294**	*e*P		**Pn**	**Pn**	**04 55 25.1**	**-1.6**
MA2	**Magadan**	**14.43**	**358**	P		**Pn**	**Pn**	**04 55 31.1**	**-0.9**
	comp=Z,4.1nm,0.5s,baz=178,slow=14,SNR=4.7								
MA2				LR		LR	LR	05 01 09.2	
	comp=Z,74nm,18.3s,baz=170,slow=38								
PSTR	**Posyet**	**15.15**	**268**	‖*e*P		**Pn**	**Pn**	**04 55 39.8**	**-1.9**
PSTR	**Posyet**	**15.15**	**268**	*e*P		**Pn**	**Pn**	**04 55 39.8**	**-1.9**
HEH	**HeiHe**	**16.98**	**296**	*e*P		**Pn**	**Pn**	**04 56 05.1**	**+0.1**
ZEA	**Zeya**	**17.89**	**307**	‖*e*P		**Pn**	**Pn**	**04 56 15.7**	**-0.6**
ZEA	**Zeya**	**17.89**	**307**	*e*P		**Pn**	**Pn**	**04 56 15.0**	**-1.3**
CN2	**Changchun**	**18.64**	**275**	*e*P		**P**	**P**	**04 56 24.0**	**-1.0**
CN2				*e*S			Sn	04 59 41.3	-12
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
CN2				pmax		pmax	pmax		
	comp=Z,100nm,3.0s								
CN2				LR		LR	LR		
	comp=N,100nm,12.0s								
CN2				LR		LR	LR		
	comp=E,200nm,12.0s								
CN2				LR		LR	LR		
	comp=Z,100nm,11.0s								
KSRS	**Korea Array**	**19.30**	**255**	P		**Pn**	**Pn**	**04 56 33.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=2.2								
KSRS				LR		LR	LR	05 04 01.9	
	comp=Z,47nm,18.1s,baz=45,slow=37								
	comp=Z,0.7nm,0.4s								
YAK	**Yakutsk**	**21.11**	**331**	LR		LR	LR	05 04 49.0	
	comp=Z,33nm,19.5s,baz=110,slow=36								
YAK	**Yakutsk**	**21.11**	**331**	‖*e*P		**P**	**P**	**04 56 50.9**	**-0.7**
YAK				pmax		pmax	pmax		
	comp=Z,9.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.39**	**148**	T		T	T	05 28 22.2	
	baz=338,slow=76,SNR=61								
H11N1	**WAKE ISLAND Hy**	**28.40**	**148**	T		T	T	05 28 21.1	
	baz=338,slow=76,SNR=43								
H11N3	**WAKE ISLAND Hy**	**28.41**	**148**	T		T	T	05 28 22.8	
	baz=338,slow=76,SNR=50								
H11S1	**WAKE ISLAND Hy**	**29.44**	**150**	T		T	T	05 30 08.2	
	baz=339,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.45**	**150**	T		T	T	05 30 02.0	
	baz=339								
H11S2	**WAKE ISLAND Hy**	**29.46**	**150**	T		T	T	05 30 10.3	
	baz=339,slow=76								
SONM	**Songino Array**	**30.85**	**291**	P		**P**	**P**	**04 58 23.6**	**+0.4**
SONM	**Songino Array**	**30.85**	**291**	P		**P**	**P**	**04 58 24.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=82,slow=9.0,SNR=2.5								
	comp=Z,0.4nm,0.3s								
C18K	**Utukok River**	**33.53**	**29**	P		**P**	**P**	**04 58 45.8**	**-0.6**
TTA	**Tatalina**	**34.33**	**40**	P		**P**	**P**	**04 58 50.6**	**-2.7**
TTA				IAmb		IAmb	IAmb	04 59 00.8	
	comp=Z,9.2nm,1.5s								
TTA	**Tatalina**	**34.33**	**40**	P		**P**	**P**	**04 58 50.6**	**-2.7**
TTA				pmax		pmax	pmax		
	comp=Z,9.0nm,1.5s								
E19K	**Redstone River**	**34.61**	**32**	P		**P**	**P**	**04 58 55.5**	**-0.2**
M20K	**Styx River**	**35.59**	**42**	P		**P**	**P**	**04 59 03.9**	**-0.4**
M20K				IAmb		IAmb	IAmb	04 59 34.6	
	comp=Z,13nm,1.5s								
KDAK	**Kodiak Island**	**35.95**	**49**	*de*P		**P**	**P**	**04 59 09.7**	**+2.4**
B21K	**Ikpikpuk River**	**36.07**	**29**	P		**P**	**P**	**04 59 06.7**	**-1.5**
B21K				IAmb		IAmb	IAmb	04 59 14.4	
	comp=Z,3.5nm,1.1s								
E24K	**Your Creek**	**37.99**	**32**	P		**P**	**P**	**04 59 24.5**	**-0.1**
GTA	**Gaotai**	**38.15**	**280**	*e*P		**P**	**P**	**04 59 27.4**	**+1.1**
GTA				sP		pP	pP	04 59 35.3	+0.1
GTA				pmax		pmax	pmax		
	comp=Z,4.0nm,0.9s								
SCM	**Sheep Creek Mo**	**38.34**	**42**	P		**P**	**P**	**04 59 27.3**	**-0.3**
SCM				IAmb		IAmb	IAmb	04 59 42.4	
	comp=Z,36nm,1.5s								
SCM	**Sheep Creek Mo**	**38.34**	**42**	P		**P**	**P**	**04 59 27.3**	**-0.3**
SCM				pmax		pmax	pmax		
	comp=Z,36nm,1.5s								
ILAR	**Eielson Array**	**38.46**	**37**	P		**P**	**P**	**04 59 28.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=265,slow=7.8,SNR=6.3								
	comp=Z,0.3nm,0.5s								
ILAR	**Eielson Array**	**38.46**	**37**	*e*P		**P**	**P**	**04 59 29.0**	**+0.5**
ILAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.9s								
D25K	**Kavik River**	**38.88**	**30**	P		**P**	**P**	**04 59 32.5**	**+0.5**
D25K				IAmb		IAmb	IAmb	04 59 42.6	
	comp=Z,7.3nm,1.4s								
SCRK	**Sand Creek**	**39.75**	**39**	P		**P**	**P**	**04 59 39.3**	**0.0**
L27K	**Beaver Creek,**	**40.79**	**40**	P		**P**	**P**	**04 59 47.4**	**-0.5**
EGAK	**Eagle**	**40.92**	**37**	P		**P**	**P**	**04 59 48.8**	**0.0**
EGAK				IAmb		IAmb	IAmb	05 00 27.9	
	comp=Z,7.4nm,1.4s								
I28M	**Miner Creek**	**41.37**	**36**	P		**P**	**P**	**04 59 51.8**	**-0.9**
M29M	**Somme Creek**	**42.41**	**40**	P		**P**	**P**	**05 00 01.9**	**+0.6**
M29M				IAmb		IAmb	IAmb	05 00 15.2	
	comp=Z,10nm,1.5s								
L29M	**L29M**	**42.45**	**39**	P		**P**	**P**	**05 00 00.9**	**-0.6**
L29M				IAmb		IAmb	IAmb	05 00 04.7	
	comp=Z,11nm,1.5s								
ZALV	**Zalesovo Beam**	**42.66**	**307**	P		**P**	**P**	**05 00 02.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=73,slow=4.7,SNR=4.1								
ZALV				LR		LR	LR	05 18 45.9	
	comp=Z,46nm,18.8s,baz=64,slow=38								
	comp=Z,0.5nm,0.3s								
ZALV	**Zalesovo Beam**	**42.66**	**307**	*e*P		**P**	**P**	**05 00 05.4**	**+2.2**
ZALV				pmax		pmax	pmax		
	comp=Z,1.0nm,0.3s								
I30M	**Mount Dempster**	**42.88**	**36**	P		**P**	**P**	**05 00 04.5**	**-0.6**
G31M	**Satah River**	**43.48**	**33**	P		**P**	**P**	**05 00 10.3**	**+0.7**
PZH	**PanZhiHua**	**43.71**	**262**	P		**P**	**P**	**05 00 13.0**	**+0.8**
PZH				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax	pmax		
	comp=Z,130nm,5.3s								
M31M	**Drury Creek, Y**	**44.32**	**40**	P		**P**	**P**	**05 00 15.8**	**-0.8**
M31M				IAmb		IAmb	IAmb	05 00 53.5	
	comp=Z,10nm,1.5s								
MK31	**Makanchi Array**	**46.70**	**298**	P		**P**	**P**	**05 00 35.3**	**-0.3**
MK31	**Makanchi Array**	**46.70**	**298**	P		**P**	**P**	**05 00 35.3**	**-0.3**
MK31				pmax		pmax	pmax		
	comp=Z,1.0nm,1.0s								
MKAR	**Makanchi Array**	**46.70**	**298**	P		**P**	**P**	**05 00 36.0**	**+0.3**
MKAR	**Makanchi Array**	**46.70**	**298**	P		**P**	**P**	**05 00 35.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=62,slow=6.3,SNR=13								
MKAR				PcP		**PcP**	**PcP**	**05 02 08.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=78,slow=3.5,SNR=2.9								
MKAR				pPcP				05 02 22.7	
	comp=Z,0.5nm,0.7s,baz=61,slow=5.0,SNR=4.6								
MKAR				LR		LR	LR	05 21 20.6	
	comp=Z,82nm,18.5s,baz=74,slow=38								
	comp=Z,0.5nm,0.5s								
MKAR	**Makanchi Array**	**46.70**	**298**	*e*P		**P**	**P**	**05 00 35.9**	**+0.3**
MKAR				pmax		pmax	pmax		
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**46.70**	**298**	*e*P		**P**	**P**	**05 00 35.9**	**+0.3**
C36M	**Paulatuk**	**46.73**	**29**	P		**P**	**P**	**05 00 35.8**	**+0.4**
C36M				IAmb		IAmb	IAmb	05 00 59.8	
	comp=Z,8.0nm,1.4s								
KURK	**Kurchatov**	**47.33**	**304**	P		**P**	**P**	**05 00 39.4**	**-1.0**
KURK	**Kurchatov**	**47.33**	**304**	P		**P**	**P**	**05 00 39.4**	**-1.0**
KURK				pmax		pmax	pmax		
	comp=Z,3.0nm,1.2s								
KURK	**Kurchatov**	**47.33**	**304**	*e*P		**P**	**P**	**05 00 39.4**	**-1.0**
KURBB	**Kurchatov Arra**	**47.42**	**304**	P		**P**	**P**	**05 00 39.3**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=74,slow=8.5,SNR=4.2								
	comp=Z,0.6nm,0.4s								
DIB	**Dawson Inlet,**	**48.11**	**52**	P		**P**	**P**	**05 00 46.1**	**-0.3**
BVAR	**Borovoye Array**	**51.02**	**310**	PcP		**PcP**	**PcP**	**05 02 24.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=34,slow=5.4,SNR=1.7								
WUS	**Wushi**	**51.25**	**293**	P		**P**	**P**	**05 01 11.3**	**+0.6**
WUS				IAmb		IAmb	IAmb	05 01 12.3	
	comp=Z,6.1nm,0.8s								
RES	**Resolute Bay**	**52.67**	**18**	P		**P**	**P**	**05 01 20.1**	**-0.4**
RES	**Resolute Bay**	**52.67**	**18**	P		**P**	**P**	**05 01 20.2**	**-0.4**
RES				pmax		pmax	pmax		
	comp=Z,3.0nm,1.5s								
BOOM	**Boomskoye usch**	**52.71**	**296**	P		**P**	**P**	**05 01 22.6**	**+1.0**
BOOM				IAmb		IAmb	IAmb	05 01 22.6	
	comp=Z,8.6nm,1.4s								
BOOM	**Boomskoye usch**	**52.71**	**296**	P		**P**	**P**	**05 01 22.6**	**+1.0**
BOOM				pmax		pmax	pmax		
	comp=Z,9.0nm,1.4s								
YKA	**Yellowknife Ar**	**52.84**	**36**	P		**P**	**P**	**05 01 23.0**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=264,slow=6.4,SNR=4.1								
	comp=Z,0.4nm,0.9s								
AAK	**Ala-Archa**	**53.55**	**297**	P		**P**	**P**	**05 01 27.6**	**-0.2**
AAK	**Ala-Archa**	**53.55**	**297**	‖*e*P		**P**	**P**	**05 01 28.6**	**+0.9**
AAK				pmax		pmax	pmax		
	comp=Z,11nm,3.4s								
AAK	**Ala-Archa**	**53.55**	**297**	*e*P		**P**	**P**	**05 01 28.6**	**+0.9**
SPITS	**Spitsbergen Ar**	**53.97**	**350**	P		**P**	**P**	**05 01 28.8**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=53,slow=7.4,SNR=17								
	comp=Z,2.2nm,0.7s								
SPITS	**Spitsbergen Ar**	**53.97**	**350**	P		**P**	**P**	**05 01 28.9**	**-1.2**
SPITS				pmax		pmax	pmax		
	comp=Z,42nm,1.5s								
SPA2	**Spitsbergen Ar**	**53.97**	**350**	P		**P**	**P**	**05 01 28.8**	**-1.2**
KK31	**Karatay Array**	**55.80**	**299**	P		**P**	**P**	**05 01 43.7**	**-0.1**
KK31				IAmb		IAmb	IAmb	05 01 44.6	
	comp=Z,2.5nm,0.8s								
KK31	**Karatay Array**	**55.80**	**299**	*i* P		**P**	**P**	**05 01 43.8**	**-0.1**
KKAR	**Karatay Array**	**55.80**	**299**	P		**P**	**P**	**05 01 43.7**	**-0.1**
KKAR	**Karatay Array**	**55.80**	**299**	P		**P**	**P**	**05 01 44.1**	**+0.3**
KKAR	**Karatay Array**	**55.80**	**299**	P		**P**	**P**	**05 01 44.2**	**+0.3**
AB31	**Akbulak array**	**58.59**	**310**	*i* P		**P**	**P**	**05 02 02.7**	**-0.7**
ABKAR	**Akbulak array**	**58.59**	**310**	P		**P**	**P**	**05 02 02.5**	**-0.9**
ABKAR	**Akbulak array**	**58.59**	**310**	P		**P**	**P**	**05 02 02.8**	**-0.6**
ABKAR				IAmb		IAmb	IAmb	05 02 03.9	
	comp=Z,2.4nm,0.4s								
ARCES	**ARCESS Array B**	**58.98**	**341**	P		**P**	**P**	**05 02 04.7**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=46,slow=7.3,SNR=1.3								
	comp=Z,2.8nm,0.9s								
SIMJ	**Simiganj**	**59.22**	**295**	P		**P**	**P**	**05 02 07.5**	**-0.6**
SIMJ				IAmb		IAmb	IAmb	05 02 09.2	
	comp=Z,7.6nm,0.8s								
SUMG	**Summit**	**62.34**	**3**	P		**P**	**P**	**05 02 29.0**	**-0.1**
SUMG				IAmb		IAmb	IAmb	05 02 48.2	
	comp=Z,7.1nm,1.3s								
SUMG	**Summit**	**62.34**	**3**	P		**P**	**P**	**05 02 29.0**	**-0.1**
SUMG				pmax		pmax	pmax		
	comp=Z,7.0nm,1.3s								
YERR	**Yerington**	**63.23**	**61**	P		**P**	**P**	**05 02 34.8**	**-0.5**
KNRA	**Kununurra**	**64.00**	**205**	P		**P**	**P**	**05 02 42.1**	**+1.8**
FIA1	**FINESS Array S**	**64.99**	**334**	P		**P**	**P**	**05 02 45.6**	**-0.6**
FINES	**FINESS Array B**	**64.99**	**334**	P		**P**	**P**	**05 02 44.9**	**-1.4**
FINES	**FINESS Array B**	**64.99**	**334**	P		**P**	**P**	**05 02 45.3**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=44,slow=8.4,SNR=6.9								
	comp=Z,2.5nm,0.7s								
WRA	**Warramunga Arr**	**66.67**	**198**	P		**P**	**P**	**05 02 59.8**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=12,slow=6.6,SNR=2.5								
	comp=Z,0.6nm,0.8s								
NC303	**NORSAR Array S**	**69.16**	**341**	P		**P**	**P**	**05 03 12.3**	**-0.4**
NB201	**NORSAR Array S**	**69.33**	**341**	P		**P**	**P**	**05 03 13.6**	**-0.2**
NB2	**NORSAR Subarra**	**69.36**	**341**	P		**P**	**P**	**05 03 13.5**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=28,slow=6.2								
NB2	**NORSAR Subarra**	**69.36**	**341**	P		**P**	**P**	**05 03 13.5**	**-0.5**
NOA	**NORSAR Array B**	**69.36**	**341**	P		**P**	**P**	**05 03 13.2**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=30,slow=6.6,SNR=10								
	comp=Z,1.3nm,0.5s								
NOA	**NORSAR Array B**	**69.36**	**341**	*e*P		**P**	**P**	**05 03 13.5**	**-0.5**
NOA				pmax		pmax	pmax		
	comp=Z,3.0nm,0.9s								
HFS	**Hagfors**	**69.54**	**339**	P		**P**	**P**	**05 03 14.1**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=53,slow=5.7,SNR=24								
	comp=Z,2.8nm,0.5s								
NORES	**NORESS Array B**	**69.55**	**340**	P		**P**	**P**	**05 03 14.6**	**-0.5**
NAO01	**NORSAR Array S**	**69.60**	**341**	P		**P**	**P**	**05 03 15.2**	**-0.3**
PV11	**David Mesa, Pa**	**69.90**	**56**	P		**P**	**P**	**05 03 16.1**	**-1.8**
PV11				IAmb		IAmb	IAmb	05 03 19.0	
	comp=Z,16nm,1.0s								
PV07	**Paradox Valley**	**69.94**	**55**	P		**P**	**P**	**05 03 18.5**	**+0.3**
PV07				IAmb		IAmb	IAmb	05 03 23.0	
	comp=Z,4.9nm,0.8s								
PV13	**Radium Mtn., P**	**70.03**	**56**	P		**P**	**P**	**05 03 18.2**	**-0.6**
PV13				IAmb	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**24.36**	**247**	LR	LR	05 46 53.6	
	comp=Z,52nm,21.6s,baz=98,slow=32						
MDP	**Montagnes des**	**26.31**	**203**	LR	LR	05 47 44.9	
	comp=Z,56nm,21.1s,baz=128,slow=32						
BBTS	**Babate**	**28.41**	**116**	LR	LR	05 48 34.8	
	comp=Z,118nm,21.8s,baz=183,slow=31						
SCHQ	**Schefferville**	**30.44**	**332**	P	**P**	**05 40 09.1**	**-1.2**
	1.6nm,0.6s,baz=80,slow=7.2,SNR=3.8						
SCHQ				LR	LR	05 51 14.5	
	comp=Z,123nm,19.2s,baz=68,slow=34						
	1.6nm,0.6s						
SADO	**Sadowa**	**32.34**	**308**	LR	LR	05 52 55.0	
	comp=Z,38nm,19.4s,baz=97,slow=35						
MDT	**Midelt**	**32.55**	**75**	LR	LR	05 50 48.3	
	comp=Z,40nm,19.0s,baz=278,slow=31						
ESDC	**Sonseca Array**	**33.08**	**62**	LR	LR	05 49 32.6	
	comp=Z,107nm,21.5s,baz=284,slow=28						
SDV	**Santo Domingo**	**33.44**	**237**	LR	LR	05 54 18.5	
	comp=Z,24nm,19.1s,baz=82,slow=37						
TKL	**Tuckaleechee C**	**34.88**	**291**	LR	LR	05 52 26.8	
	comp=Z,35nm,19.2s,baz=98,slow=32						
RCBR	**Riachuelo**	**36.01**	**168**	LR	LR	05 51 43.9	
	comp=Z,37nm,21.2s,baz=68,slow=30						
SFJD	**Kangerlussuaq**	**37.53**	**355**	LR	LR	05 54 41.7	
	comp=Z,53nm,18.9s,baz=172,slow=33						
FRB	**Frobisher Bay**	**37.75**	**342**	LR	LR	05 54 51.1	
	comp=Z,49nm,18.8s,baz=102,slow=33						
ROSC	**El Rosal**	**38.85**	**236**	LR	LR	05 58 36.4	
	comp=Z,58nm,18.2s,baz=324,slow=38						
DBIC	**Dimbokro**	**42.34**	**115**	LR	LR	05 56 40.9	
	comp=Z,106nm,20.2s,baz=270,slow=32						
DAVOX	**Davos/Dischmat**	**43.75**	**52**	LR	LR	05 57 17.6	
	comp=Z,63nm,21.1s,baz=285,slow=32						
TORD	**Torodi Ar. Bea**	**44.19**	**102**	P	**P**	**05 42 06.0**	**-1.1**
	0.4nm,0.8s,baz=326,slow=9.9,SNR=2.9						
	0.4nm,0.8s						
ULM	**Lac du Bonnet**	**44.49**	**313**	LR	LR	05 59 32.0	
	comp=Z,51nm,19.1s,baz=68,slow=34						
BDFB	**Brasilia**	**45.47**	**187**	LR	LR	05 59 34.3	
	comp=Z,58nm,19.3s,baz=315,slow=34						
H10N2	**ASCENSION HYDR**	**46.20**	**140**	T	T	06 31 19.1	
	baz=326,slow=74,SNR=676						
H10N3	**ASCENSION HYDR**	**46.20**	**140**	T	T	06 31 28.7	
	baz=326,slow=74,SNR=673						
H10N1	**ASCENSION HYDR**	**46.21**	**140**	T	T	06 31 36.5	
	baz=326,slow=74,SNR=845						
GERES	**GERESS Array B**	**46.43**	**49**	LR	LR	05 59 16.1	
	comp=Z,50nm,18.1s,baz=306,slow=33						
H10S3	**ASCENSION HYDR**	**47.02**	**141**	T	T	06 32 26.2	
	baz=326,slow=74,SNR=489						
H10S2	**ASCENSION HYDR**	**47.04**	**141**	T	T	06 32 35.4	
	baz=254,slow=74,SNR=376						
NOA	**NORSAR Array B**	**47.06**	**32**	LR	LR	05 59 18.3	
	comp=Z,29nm,18.1s,baz=260,slow=32						
CMIG	**Matias Romero**	**49.17**	**267**	LR	LR	06 04 20.5	
	comp=Z,19nm,18.4s,baz=152,slow=37						
RES	**Resolute Bay**	**51.82**	**344**	LR	LR	06 04 43.4	
	comp=Z,46nm,18.1s,baz=23,slow=36						
LPAZ	**La Paz**	**51.98**	**212**	LR	LR	06 03 16.7	
	comp=Z,62nm,21.1s,baz=36,slow=34						
TXAR	**Lajitas Array**	**52.48**	**286**	P	**P**	**05 43 11.4**	**+0.2**
	0.1nm,0.5s,baz=97,slow=4.2,SNR=3.4						
	0.1nm,0.5s						
ANMO	**Albuquerque**	**53.32**	**293**	LR	LR	06 05 54.4	
	comp=Z,14nm,18.9s,baz=247,slow=36						
PDAR	**Pinedale Array**	**54.14**	**303**	P	**P**	**05 43 24.2**	**+0.9**
	0.5nm,0.6s,baz=85,slow=6.1,SNR=6.5						
PDAR				LR	LR	06 04 30.7	
	comp=Z,60nm,21.6s,slow=34						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**55.73**	**328**	P	**P**	**05 43 32.9**	**-1.3**
	0.1nm,0.5s,baz=86,slow=7.4,SNR=2.1						
YKA				LR	LR	06 08 01.0	
	comp=Z,81nm,18.4s,baz=248,slow=37						
	0.1nm,0.5s						
AKASG	**Malin Array Be**	**56.40**	**47**	P	**P**	**05 43 39.2**	**0.0**
	0.2nm,0.3s,baz=280,slow=6.4,SNR=4.0						
AKASG				LR	LR	06 05 48.4	
	comp=Z,37nm,18.0s,baz=287,slow=34						
	0.2nm,0.3s						
NEW	**Newport**	**58.43**	**311**	LR	LR	06 07 19.3	
	comp=Z,51nm,18.8s,baz=80,slow=34						
PFO	**Pinyon Flats O**	**61.64**	**294**	LR	LR	06 10 06.2	
	comp=Z,40nm,19.1s,baz=278,slow=35						
INK	**Inuvik**	**62.99**	**335**	LR	LR	06 10 29.9	
	comp=Z,122nm,19.5s,baz=269,slow=35						
YBH	**Yreka Blue Hor**	**63.87**	**305**	LR	LR	06 10 15.5	
	comp=Z,63nm,21.1s,baz=54,slow=34						
KIRV	**Kirov**	**66.13**	**35**	LR	LR	06 11 30.5	
	comp=Z,43nm,18.4s,baz=304,slow=34						
BELG	**Belogornoye**	**67.17**	**42**	LR	LR	06 11 18.1	
	comp=Z,45nm,18.7s,baz=280,slow=33						
ILAR	**Eielson Array**	**69.19**	**334**	P	**P**	**05 45 04.3**	**+0.2**
	0.5nm,0.9s,baz=78,slow=5.0,SNR=4.6						
ILAR				LR	LR	06 14 53.5	
	comp=Z,131nm,19.0s,baz=72,slow=36						
	0.5nm,0.9s						
KDAK	**Kodiak Island**	**74.99**	**329**	LR	LR	06 19 37.2	
	comp=Z,80nm,19.1s,baz=301,slow=37						
BVAR	**Borovoye Array**	**79.14**	**34**	P	**P**	**05 46 04.1**	**+1.6**
	0.3nm,0.4s,baz=304,slow=3.1,SNR=1.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**84.59**	**33**	P	**P**	**05 46 32.8**	**+1.6**
	0.4nm,0.9s,baz=310,slow=5.8,SNR=1.1						
	0.4nm,0.9s						

*IDC **14** 05:42:34.6±1.9, 54°.97N×164°.64E, h0km, mb3.4/4, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=69.7km s-min=25.3km az=163.0*
*KRSC **14** 05:42:35.2±0.6, 54°.84N×164°.65E, h50km±21km, Ml3.6*
ISC 14 05:42:37.9±0.9, 54°.91N±0°.08×164°.68E±0°.06, h27km, n26, σ0§85/28, mb3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.80**	**68**	*eP*	**Pb**	**05 42 52.1**	**-1.0**
BKI				*eS*	**Sb**	**05 43 03.4**	**-0.1**
KBTR	**Krutoberegovo**	**1.68**	**322**	*eP*	**Pn**	**05 43 03.7**	**-1.6**
TUMD	**Tumrok D**	**2.48**	**278**	*eP*	**Pn**	**05 43 15.6**	**-0.8**
TUMD				*eS*	**Sn**	**05 43 45.4**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.61**	**296**	*eP*	**Pn**	**05 43 18.7**	**+0.3**
KMNR	**Kamenistaya**	**2.68**	**290**	*eP*	**Pn**	**05 43 19.4**	**+0.2**
KRSR	**Krestovskiy**	**2.68**	**301**	*eP*	**Pn**	**05 43 19.1**	**-0.1**
KRSR				*eS*	**Sn**	**05 43 50.9**	**+0.1**
KLY	**Klyuchi**	**2.68**	**303**	*eP*	**Pn**	**05 43 18.0**	**-1.2**
KLY				*eS*	**Sn**	**05 43 49.2**	**-1.5**
KIRR	**Kirishev**	**2.68**	**295**	*eP*	**Pn**	**05 43 20.1**	**+0.7**
KPT	**Kopyto**	**2.75**	**294**	*eP*	**Pn**	**05 43 20.6**	**+0.4**
KOZ	**Kozyrevsk**	**2.97**	**295**	*eS*	**Sn**	**05 43 59.4**	**+1.6**
SRDR	**Sredinnyy**	**3.15**	**299**	*eP*	**Pn**	**05 43 25.9**	**+0.3**
ESO	**Esso**	**3.56**	**289**	*eP*	**Pn**	**05 43 30.8**	**-0.4**
UGLR	**Uglovaya**	**3.85**	**246**	*eP*	**Pn**	**05 43 35.0**	**-0.3**
AVH	**Avacha**	**3.87**	**247**	*eP*	**Pn**	**05 43 35.6**	**0.0**
KRX	**Arik**	**3.87**	**249**	*eP*	**Pn**	**05 43 35.0**	**-0.7**
KOK	**Koryaka**	**3.91**	**248**	*eP*	**Pn**	**05 43 35.5**	**-0.7**
GNL	**Ganaly**	**4.13**	**256**	*eP*	**Pn**	**05 43 39.0**	**-0.2**
PETK	**Petropavlovsk-**	**4.50**	**249**	Pn	**Pn**	**05 43 43.6**	**-0.6**
	1.4nm,0.3s,baz=68,slow=16,SNR=13						
PETK				Sn	**Sn**	**05 44 34.0**	**-1.6**
	0.6nm,0.3s,baz=301,slow=12,SNR=3.6						
	2.3nm,0.4s						
GRL	**Gorelyy**	**4.58**	**242**	*eP*	**Pn**	**05 43 45.2**	**-0.2**
ILAR	**Eielson Array**	**25.60**	**48**	P	**P**	**05 48 04.8**	**+0.4**
	0.8nm,0.8s,baz=262,slow=8.6,SNR=9.2						
	0.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	06 27 57.1	
	baz=359						
H11N3	**WAKE ISLAND Hy**	**35.18**	**176**	T	T	06 28 03.5	
	baz=359						
H11N1	**WAKE ISLAND Hy**	**35.18**	**176**	T	T	06 27 58.7	
	baz=359						
YKA	**Yellowknife Ar**	**39.97**	**46**	P	**P**	**05 50 09.5**	**0.0**
	0.3nm,0.7s,baz=294,slow=8.1,SNR=2.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**49.15**	**303**	P	**P**	**05 51 23.5**	**+0.6**
	0.2nm,0.4s,baz=54,slow=8.1,SNR=1.9						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**67.45**	**71**	P	**P**	**05 53 32.5**	**+1.4**
	0.3nm,0.5s,baz=297,slow=4.8,SNR=7.1						
	0.3nm,0.5s						

*IDC **14** 05:45:46.7±12.0, 10°.03N×84°.97W, h0km, mb3.3/4, mbtmp3.3/4, MS2.8/1, Error ellipse: s-maj=299.0km s-min=114.8km az=14.0*
*UCR **14** 05:45:52.0±1.1, 9°.93N×86°.31W, h6km±10km, MW3.7*
*CATAC **14** 05:46:09.6±5.0, 11°.N±16°×8°6W±3°6, h101km±59km, M3.2/6, MLv3.2/6, Error ellipse: s-maj=77.4km s-min=33.4km az=90.9, rejected*
ISC 14 05:45:52.2±1.2, 9°.82N±0°.08×86°.36W±0°.06, h17km, n75, σ0§94/74, mb3.3/4, 14C-7D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.88**	**60**	*eP*	**Pb**	**05 46 07.8**	**-1.2**
NICO	**Nicoya**	**0.95**	**71**	*eP*	**Pb**	**05 46 08.8**	**-1.5**
ALIBA	**Liberia Airpor**	**1.11**	**46**	*iP*	**Pb**	**05 46 12.2**	**-0.8**
PLVR	**Palo Verde**	**1.12**	**62**	*iP*	**Pb**	**05 46 11.6**	**-1.7**
CBL1	**Cabuya**	**1.27**	**100**	*iP*	**Pn**	**05 46 14.1**	**-1.0**
GPS3	**Bodega del ICE**	**1.35**	**46**	*iP*	**Pg**	**05 46 19.8**	**+1.5**
GPS2	**Hotel Rincn d**	**1.35**	**47**	*eP*	**Pn**	**05 46 15.5**	**-1.0**
VRLE	**La Escondida,**	**1.37**	**45**	*eP*	**Pn**	**05 46 15.4**	**-1.3**
CNAS	**Canas**	**1.39**	**64**	*eP*	**Pn**	**05 46 16.4**	**-0.4**
VORI	**VORI**	**1.40**	**45**	*eP*	**Pn**	**05 46 16.3**	**-0.9**
CUI	**Cuipilapa**	**1.44**	**55**	*eP*	**Pn**	**05 46 16.6**	**-0.9**
LCRUZ	**La Cruz**	**1.44**	**30**	*eP*	**Pn**	**05 46 17.0**	**-0.6**
JUNT	**Juntas**	**1.45**	**71**	*eP*	**Pn**	**05 46 16.2**	**-1.5**
JTS	**Las Juntas de**	**1.46**	**71**	*iP*	**Pn**	**05 46 16.2**	**-1.6**
TENO	**El Achiote**	**1.62**	**57**	*eP*	**Pn**	**05 46 18.6**	**-1.4**
ARE1	**Arenal 1**	**1.73**	**68**	*eP*	**Pn**	**05 46 21.4**	**-0.2**
VARE2	**V. Arenal**	**1.73**	**68**	*iP*	**Pn**	**05 46 21.2**	**-0.5**
CEDE	**Laguna Cedeo**	**1.76**	**68**	*eP*	**Pn**	**05 46 21.8**	**-0.2**
VACR	**Volcan Arenal**	**1.78**	**68**	*eP*	**Pn**	**05 46 21.7**	**-0.5**
FORC	**Fortuna**	**1.78**	**69**	*eP*	**Pn**	**05 46 22.0**	**-0.2**
VERA	**Finca Concepci**	**1.79**	**55**	*eP*	**Pn**	**05 46 22.7**	**+0.4**
SOCE	**Pocosol**	**1.80**	**72**	*eP*	**Pn**	**05 46 21.7**	**-0.8**
TUNA	**La Fortuna**	**1.81**	**69**	*eP*	**Pn**	**05 46 22.6**	**0.0**
NARAN	**Naranjo de Ala**	**1.97**	**82**	*iP*	**Pn**	**05 46 25.7**	**+0.8**
ZARE	**Zarcero**	**1.97**	**79**	*eP*	**Pn**	**05 46 26.0**	**+1.0**
GREC	**Grecia**	**2.03**	**83**	*eP*	**Pn**	**05 46 26.6**	**+0.8**
COVE	**Coope Vega, Sa**	**2.12**	**65**	P	**Sb**	**05 46 56.3**	**0.0**
SABN	**Sabanita**	**2.13**	**5**	P	**Pb**	**05 46 30.0**	**-0.5**
PICV	**PH. Pirrs**	**2.14**	**95**	*eP*	**Pn**	**05 46 26.1**	**-1.1**
BELE	**Belen**	**2.14**	**86**	*eP*	**Pn**	**05 46 27.9**	**+0.6**
SANTA	**Santa Ana**	**2.14**	**87**	*eP*	**Pn**	**05 46 27.4**	**+0.1**
ACOS	**Acosta**	**2.16**	**90**	*iP*	**Pn**	**05 46 27.2**	**-0.4**
DOMI	**Santo Domingo**	**2.24**	**86**	*eP*	**Pn**	**05 46 29.1**	**+0.5**
MEXI	**Barrio Mexico**	**2.24**	**87**	*eP*	**Pn**	**05 46 29.1**	**+0.4**
VBV1	**V. Barva**	**2.24**	**82**	*eP*	**Pn**	**05 46 29.1**	**+0.2**
LUJA	**Lujan**	**2.25**	**87**	*eP*	**Pn**	**05 46 30.0**	**+1.1**
AMPA	**Desamparados**	**2.26**	**88**	*iP*	**Pn**	**05 46 28.9**	**-0.1**
LUPE	**Guadalupe**	**2.27**	**87**	*eP*	**Pn**	**05 46 29.0**	**-0.1**
SJS	**Escuela Geolog**	**2.27**	**87**	*eP*	**Pn**	**05 46 29.5**	**+0.4**
ABE2	**San Pablo**	**2.27**	**93**	*eP*	**Pn**	**05 46 28.4**	**-0.8**
SJS3	**Mercedes San J**	**2.27**	**87**	*eP*	**Pn**	**05 46 29.6**	**+0.4**
RAZU	**San Marcos de**	**2.31**	**94**	*eP*	**Pn**	**05 46 29.2**	**-0.4**
TISN	**Laguna Tiscapa**	**2.31**	**2**	P	**Pn**	**05 46 29.2**	**-0.4**
LCR2	**La Lucha 2**	**2.32**	**92**	*eP*	**Pn**	**05 46 29.2**	**-0.7**
CORON	**Coronado**	**2.32**	**86**	*eP*	**Pn**	**05 46 30.5**	**+0.6**
COPN	**Copaltepe**	**2.36**	**354**	P	**Pn**	**05 46 29.6**	**-0.6**
APQ2	**Apoyeque**	**2.36**	**1**	P	**Pn**	**05 46 29.9**	**-0.3**
CVIMO	**Finca Echandi**	**2.39**	**85**	*eP*	**Pn**	**05 46 31.4**	**+0.7**
ACON	**Acoyapa**	**2.43**	**28**	*eP*	**Pn**	**05 46 31.1**	**-0.1**
VICA	**Volcano Irazu**	**2.48**	**86**	*eP*	**Pn**	**05 46 32.3**	**+0.1**
VTLA	**Turrialba Volc**	**2.55**	**86**	*eP*	**Pn**	**05 46 34.0**	**+0.9**
CVTQ	**Turrialba Volc**	**2.56**	**86**	*eP*	**Pn**	**05 46 34.1**	**+0.9**
CVTG	**V. Turrialba,**	**2.56**	**82**	*iP*	**Pn**	**05 46 33.7**	**+0.6**
VTR0	**Volcan Turrial**	**2.56**	**85**	*eP*	**Pn**	**05 46 35.1**	**+1.7**
LEVN	**Ruinas Leon Vi**	**2.58**	**354**	P	**Pn**	**05 46 32.3**	**-0.9**
MOMN	**Momotombo**	**2.58**	**356**	P	**Pn**	**05 46 32.6**	**-0.7**
VTCV	**VTCV, Calle Va**	**2.60**	**86**	*eP*	**Pn**	**05 46 33.3**	**-0.3**
VERB	**Verbena**	**2.62**	**87**	*eP*	**Pn**	**05 46 34.4**	**+0.4**
TURIB	**Turrialba**	**2.63**	**88**	*eP*	**Pn**	**05 46 34.1**	**+0.1**
MACN	**El Madrono**	**2.65**	**353**	P	**Pn**	**05 46 33.6**	**-0.7**
RVSTA	**Santa Teresita**	**2.67**	**86**	*eP*	**Pn**	**05 46 35.3**	**+0.7**
CNGN	**Cerro Negro**	**2.69**	**353**	*iP*	**Pn**	**05 46 33.8**	**-0.9**
RVLA	**Villa Bonita**	**2.74**	**84**	*eP*	**Pn**	**05 46 36.4**	**+0.9**
IRES	**Siquirres**	**2.82**	**84**	*eP*	**Pn**	**05 46 37.8**	**+1.2**
PKGN	**Cerro Pekin**	**2.90**	**348**	P	**Pn**	**05 46 37.0**	**-0.7**
RCPN	**Sur Rio San Ju**	**3.69**	**4**	P	**Pn**	**05 46 49.6**	**+1.0**
CHOHN	**Orocuina**	**3.72**	**348**	P	**Pn**	**05 46 48.6**	**-0.4**
RCVN	**Varillal2**	**3.75**	**2**	P	**Pn**	**05 46 49.5**	**+0.1**
LCND	**La Caada**	**3.78**	**337**	P	**Pn**	**05 46 48.9**	**-0.9**
SCLA	**Alcaldia de Sa**	**4.50**	**329**	P	**Pn**	**05 46 59.5**	**-0.2**
ITCA	**Escuela Especi**	**4.78**	**324**	P	Pn	05 47 08.5	+4.8
TXAR	**Lajitas Array**	**25.29**	**323**	P	**P**	**05 51 22.0**	**+3.9**
	0.3nm,0.5s,baz=148,slow=11,SNR=6.2						
TXAR				LR	LR	06 03 06.0	
	comp=Z,19nm,18.6s,baz=315,slow=40						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**38.59**	**332**	P	**P**	**05 53 14.4**	**-0.2**
	0.4nm,0.9s,baz=152,slow=8.7,SNR=2.5						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**56.42**	**345**	P	**P**	**05 55 31.2**	**-1.3**
	0.4nm,0.9s,baz=141,slow=7.2,SNR=4.2						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**68.85**	**336**	P	**P**	**05 56 55.0**	**-0.6**
	0.3nm,0.7s,baz=132,slow=5.0,SNR=7.6						
	0.3nm,0.7s						

*IDC **14** 06:10:40.8±3.6, 54°.99N×88°.51E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia*
ASRS 14 06:10:37.0±0.6, 54°.99N×88°.51E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.39**	**246**	I	I	06 24 23.9	
	baz=62,slow=347,SNR=14						
ZALV	**Zalesovo Beam**	**2.39**	**246**	Pg	Pb	06 11 20.8	-0.1
	0.5nm,0.3s,baz=64,slow=13,SNR=6.8						
ZALV				Lg	Lg	06 11 52.0	
	1.4nm,0.3s,baz=64,slow=27,SNR=10						
KURBB	**Kurchatov Arra**	**7.46**	**238**	Pn	Pn	06 12 28.5	+1.5
	baz=55,slow=14,SNR=4.0						
KURBB				Lg	Lg	06 14 34.8	
	baz=50,slow=30,SNR=4.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**9.10**	**208**	Pn	Pn	06 12 53.4	+3.9
	baz=25,slow=14,SNR=1.4						
MKAR				Sn	Sn	06 14 33.4	+0.9
	baz=28,slow=25,SNR=7.8						
MKAR				Lg	Lg	06 15 28.1	
	baz=27,slow=30						
	0.1nm,0.5s						

*IDC **14** 06:12:42.6±1.1, 22°.15S×169°.15E, h0km, mb4.0/9, mbtmp4.0/10, ML3.7/1, MS3.4/4, Error ellipse: s-maj=32.8km s-min=22.4km az=162.0*
*NEIC **14** 06:12:43.5±1.2, 22°.2S±0°.2×169°.34E±0°.05, h10km±2km, mb4.3/12, Error ellipse: s-maj=28.6km s-min=3.3km az=345.0*
ISC 14 06:12:47.0±0.7, 22°.1S±0°.2×169°.22E±0°.09, h31km, n29, σ1§51/28, mb4.2/15, MS3.3/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.74**	**251**		**Pn**	**06 13 14.6**	**-0.5**
DZM	**Mont Dzumac**	**2.58**	**269**		**Pn**	**06 13 26.5**	**-0.3**
DZM	**Mont Dzumac**	**2.58**	**269**	Pn	**Pn**	**06 13 26.3**	**-0.4**
	17nm,0.3s,baz=93,slow=17,SNR=362						
DZM				Sn	**Sn**	**06 13 55.8**	**-1.3**
	42nm,0.3s,baz=88,slow=20,SNR=9.4						
DZM				LR	LR	06 14 03.7	
	comp=Z,77nm,19.9s,baz=5.5,slow=32						
	45nm,0.3s						
ONTNC	**Ouen Toro**	**2.58**	**264**		**Pn**	**06 13 26.7**	**0.0**
FUTU	**Fugatoga**	**14.28**	**59**	Pn	**Pn**	**06 16 04.6**	**-2.6**
RPZ	**Rata Peaks**	**21.66**	**176**	LR	LR	06 24 39.5	
	comp=Z,264nm,19.9s,baz=150,slow=33						
TOO	**Toolangi**	**25.65**	**228**	P	**P**	**06 18 13.5**	**-0.6**
COEN	**Coen**	**26.02**	**284**	P	**P**	**06 18 17.6**	**0.0**
COEN				IAmb	IAmb	06 18 28.6	
	comp=Z,7.1nm,1.1s						
STKA	**Stephens Creek**	**26.43**	**242**	P	**P**	**06 18 21.7**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=69,slow=8.6,SNR=3.8						
	comp=Z,1.3nm,0.7s						
BBOO	**Buckleboo**	**31.21**	**243**	P	**P**	**06 19 07.5**	**+3.8**
BBOO				IAmb	IAmb	06 19 16.9	
	comp=Z,4.3nm,1.0s						
WR0	**Warramunga Arr**	**32.41**	**267**	P	**P**	**06 19 12.8**	**-1.6**
WR0				IAmb	IAmb	06 19 16.9	
	comp=Z,4.7nm,1.1s						
ASAR	**Alice Springs**	**32.54**	**260**	P	**P**	**06 19 15.1**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=82,slow=9.3,SNR=19						
ASAR				LR	LR	06 33 04.9	
	comp=Z,48nm,19.5s,baz=109,slow=38						
	comp=Z,2.0nm,0.8s						
WB0	**Warramunga Arr**	**32.58**	**268**	P	**P**	**06 19 14.8**	**-1.0**
WB0				IAmb	IAmb	06 19 27.1	
	comp=Z,3.9nm,1.1s						
WB2	**Warramunga Arr**	**32.58**	**267**	P	**P**	**06 19 14.5**	**-1.4**
WB2				IAmb	IAmb	06 19 18.8	
	comp=Z,4.4nm,1.0s						
WRAB	**Tennant Creek**	**32.59**	**267**	P	**P**	**06 19 13.2**	**-2.7**
WRAB				IAmb	IAmb	06 19 36.5	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**32.59**	**267**	P	**P**	**06 19 14.7**	**-1.3**
WRA	**Warramunga Arr**	**32.59**	**267**	P	**P**	**06 19 14.8**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=99,slow=8.0,SNR=12						
WRA				LR	LR	06 32 45.7	
	comp=Z,56nm,18.3s,baz=84,slow=37						
	comp=Z,1.1nm,0.6s						
JAY	**Jayapura**	**33.84**	**301**	LR	LR	06 33 09.7	
	comp=Z,47nm,18.7s,baz=340,slow=36						
KNRA	**Kununurra**	**38.72**	**272**	P	**P**	**06 20 07.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**41.02**	**267**	P	**P**	**06 20 28.1**	**+0.3**
MORW	**Morawa**	**48.16**	**250**	P	**P**	**06 21 24.1**	**-0.5**
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**06 23 41.7**	**-1.5**
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**06 23 42.2**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=355,slow=3.3,SNR=4.1						
	comp=Z,2.1nm,0.8s						
KSRS	**Korea Array**	**70.82**	**326**	P	**P**	**06 24 00.6**	**0.0**
	comp=Z,2.0nm,0.9s,baz=144,slow=7.2,SNR=5.2						
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**79.65**	**295**	P	**P**	**06 24 52.5**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=108,slow=5.7,SNR=4.5						
	comp=Z,0.9nm,0.3s						
SONM	**Songino Array**	**89.45**	**323**	P	**P**	**06 25 41.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=133,slow=6.1,SNR=4.8						
	comp=Z,1.1nm,0.8s						
NVAR	**Mina Array Bea**	**90.67**	**49**	P	**P**	**06 25 49.7**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=254,slow=4.7,SNR=1.6						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**92.91**	**17**	P	**P**	**06 25 58.5**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=230,slow=5.2,SNR=2.0						
	comp=Z,0.3nm,0.9s						
GERES	**GERESS Array B**	**146.93**	**330**	PKPbc	**PKPbc**	**06 32 25.6**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=60,slow=2.4,SNR=2.8						

*SJA **14** 06:20:17.0, 30°.81S×71°.74W, h10km, ML3.4*
*GUC **14** 06:20:22.0±0.6, 30°.85S×71°.33W, h74km±3km, ML3.3*
ISC 14 06:20:20.7±1.5, 30°.85S±0°.04×71°.51W±0°.06, h72km±10km, n41, σ1§45/51, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.21**	**328**	*eP*	**Pn**	**06 20 33.2**	**+1.6**
CO06				*i S*	**Sn**	**06 20 41.6**	**+2.1**
CO03	**El Pedregal**	**0.71**	**89**	*i P*	**Pn**	**06 20 34.4**	**-1.6**
CO03				*eS*	**Sn**	**06 20 45.2**	**-2.0**
CO03	**El Pedregal**	**0.71**	**89**	*eP*	**Pn**	**06 20 35.2**	**-0.7**
CO03				*i S*	**Sn**	**06 20 45.2**	**-2.0**
CO03				IAML		06 20 45.5	
	comp=N,4μm,0.2s						
GO04	**Tololo Observa**	**0.91**	**42**	*i P*	**Pn**	**06 20 37.8**	**-0.7**
GO04				*eS*	**Sn**

CHMA	Chilma	0.26	306	⇓P		Pg	06 24 47.6	-3.2
YAHU	Yahuarcocha	0.40	213	⇑P		Pg	06 24 50.7	-2.6
BONI	La Bonita	0.41	128	P		Pg	06 24 50.2	-3.3
BONI	La Bonita	0.41	128	⇓P		Pg	06 24 50.2	-3.3
BONI				S		Sg	06 24 55.7	-3.3
AIB2	Ibarra (Univer	0.44	215	P		Pg	06 24 51.8	-2.3
URCU	Urcuqui	0.48	237	⇓P		Pg	06 24 52.3	-2.6
ALIT	Ecuador-Imbabu	0.52	280	P		Pg	06 24 52.3	-3.1
LITE1	Lita	0.52	280	⇓P		Pg	06 24 52.2	-3.2
IMBA	Imbabura, San	0.55	219	⇑P		Pg	06 24 54.8	-1.3
ACOT	Cotacachi (Cas	0.59	226	P		Pg	06 24 55.3	-1.6
COTA	Cotacachi	0.61	233	P		Pg	06 24 55.0	-2.2
CAYA	Cayambe	0.65	192	P		Pg	06 24 54.9	-3.1
CUIC	Cuicocha-Domo	0.65	232	P		Pg	06 24 55.3	-2.6
CUSW	Cuicocha Oeste	0.65	230	P		Pg	06 24 55.9	-2.2
ANGU	Angureal	0.67	193	⇑P		Pg	06 24 55.6	-2.9
ANGU				S		Sg	06 25 05.9	-1.6
CUSE	Cuicocha Este	0.68	234	P		Pg	06 24 55.9	-2.6
CUSE				S		Sg	06 24 59.6	-7.9
CUSE	Cuicocha Este	0.68	234	P		Pg	06 24 55.7	-2.8
CAYR	Refugio Cayamb	0.70	193	P		Pg	06 24 56.1	-3.0
GCUF	Volcan Galeras	0.72	45	P		Pg	06 24 56.0	-3.4
OTAV	Otavalo	0.76	232			Pg	06 24 58.4	-1.7
OTAV					Sg	Sb	06 25 10.5	-1.0
OTAV	Otavalo	0.76	232	P		Pg	06 24 58.1	-2.0
OTAV	Otavalo	0.76	232	⇓P		Pg	06 24 57.3	-2.8
OTAV	Otavalo	0.76	232	*eP*		Pg	06 24 57.1	-3.0
CASC	Dorado de Casc	0.77	138	⇓P		Pg	06 24 57.1	-3.0
CASC				S		Sg	06 25 07.8	-2.4
AV03	Acelerografo,	0.84	141	⇓P		Pg	06 24 58.4	-3.3
AV03				S		Sg	06 25 09.8	-2.9
AV05	Acelerografo,	0.92	170	P		Pg	06 24 59.7	-3.3
PULU	Pululahua	0.94	224	P		Pg	06 25 00.5	-3.1
PUEM	Granja Avicola	0.98	212	⇑P		Pg	06 25 02.4	-2.0
PAC1	Pacto, Paraso	1.03	245	P		Pg	06 25 02.0	-3.3
FENY	Casa Vinicio C	1.05	217	P		Pb	06 25 04.2	-1.8
APR1	Acelerografo,	1.07	225	P		Pg	06 25 03.7	-2.2
YANA	Yana	1.09	221	⇓P		Pg	06 25 03.8	-2.6
APS1	Acelerografo,	1.11	123	P		Pb	06 25 03.7	-3.0
EPNL	EPN Laboratori	1.11	215	P		Pg	06 25 04.7	-2.1
PINO	Pino	1.14	221	P		Pg	06 25 04.6	-2.8
GGPC	Guagua Pichinc	1.15	220	⇓P		Pg	06 25 05.1	-2.4
SNLR	San Lorenzo-Es	1.15	300	P		Pb	06 25 04.9	-2.5
TERV	Terraza Guagua	1.15	221	⇑P		Pg	06 25 04.7	-2.9
JUA2	San Juan 2	1.18	219	⇓P		Pg	06 25 05.0	-3.2
ANTI	Antisana	1.19	195	⇑P		Pg	06 25 05.0	-3.3
GGPT	Toaza - Volcan	1.20	220	⇓P		Pb	06 25 05.2	-3.2
ANTS	Antisana-Sarah	1.24	195	⇑P		Pg	06 25 05.3	-3.9
CRUC	La Cruz	1.24	47	P		Pn	06 25 05.0	-4.1
CRUC				S		Sb	06 25 24.1	-1.2
ANTG	Antisana-Guama	1.27	198	⇑P		Pb	06 25 06.3	-3.4
ANTM	Antisana-La Mi	1.29	197	⇑P		Pn	06 25 06.6	-3.3
PITA	Cotopaxi Volc	1.38	205	P		Pn	06 25 09.2	-2.0
BBAC	Balboa, Cauca	1.44	25	P		Pn	06 25 07.8	-3.9
BBAC				S		Sb	06 25 29.8	-1.1
BBAC	Balboa, Cauca	1.44	25	⇑P		Pn	06 25 07.9	-3.8
VC1	Cotopaxi 1	1.45	202	P		Pn	06 25 10.5	-1.6
BVC2	Cotopaxi Volca	1.47	202	P		Pn	06 25 11.0	-1.4
BTAM	Cotopaxi Volca	1.48	202	⇑P		Pn	06 25 10.9	-1.6
TAMB	Tambo	1.48	200	P		Pn	06 25 11.2	-1.4
BREF	Cotopaxi Volca	1.49	203	⇑P		Pn	06 25 10.9	-1.9
BNAS	Cotopaxi Volca	1.51	205	⇑P		Pg	06 25 12.4	-1.9
CAMI	Rancho Maria	1.52	205	P		Pn	06 25 11.8	-1.2
BMOR	Cotopaxi Volca	1.55	203	P		Pb	06 25 12.5	-2.0
SLOR	San Lorenzo -	1.56	204	⇑P		Pn	06 25 12.2	-1.4
BRRN	Barrancas-Volc	1.60	203	⇑P		Pn	06 25 12.9	-1.3
SRAM	San Ramn-Vol	1.61	206	⇑P		Pb	06 25 13.3	-2.2
ILLI	Illinizas Sur	1.66	213	⇑P		Pn	06 25 13.6	-1.4
ARDO	Archidona, Ten	1.69	178	⇑P		Pn	06 25 13.4	-1.6
PIAT	Ana Tenorio	1.74	194	P		Pn	06 25 14.2	-1.8
POPC	Popayan, Colom	2.17	33	P		Pn	06 25 19.5	-2.2
GR1C	Gorgona, Isla	2.30	352	P		Pn	06 25 19.1	-4.3
GR1C				S		Sn	06 25 49.3	-2.5
FLOC	Florencia	2.37	68	Pn		Pn	06 25 24.4	+0.1
FLOC	Florencia	2.37	68	P		Pn	06 25 23.7	-0.6
JAMC	Jamundi, Valle	2.76	25	P		Pn	06 25 30.3	+0.5
GARC	Garzon, Huila	2.78	58	P		Pn	06 25 31.0	+0.8
GARC				S		Sb	06 26 10.2	+0.7
PTLC	Puerto Leguiza	3.10	100	P		Pn	06 25 35.4	+1.0
BETC	Betania	3.11	51	P		Pb	06 25 41.0	+0.2
MALC	Bahia Malaga	3.33	9	P		Pn	06 25 37.4	0.0
MALC				S		Sb	06 26 23.1	-1.9
COHC	Cochancay	3.45	204			Pb	06 25 42.0	-4.5
YOTC	Yotoco, Valle	3.59	25	P		Pn	06 25 41.7	+0.5
YOTC				S		Sn	06 26 25.9	+2.2
ORTC	Ortega, Tolima	4.11	39	P		Pn	06 25 50.0	+1.7
ORTC				S		Sg	06 26 52.5	-5.0
PRAC	Prado	4.21	45	P		Pn	06 25 50.8	+1.2
MACC	Macarena, Meta	4.25	70	P		Pn	06 25 51.1	+0.9
MACC				S		Sb	06 26 53.6	+1.9
PIZC	Pizarro, Choco	4.26	7	P		Pn	06 25 50.9	+0.6
URMC	La Uribe, Meta	4.29	54	P		Pn	06 25 53.4	+2.6
URMC				S		Sb	06 26 55.9	+3.0
PLMC	San Jos del P	4.46	21	P		Pn	06 25 53.3	+0.2
GUY2C	Guyana, Caldas	5.13	29	P		Pn	06 26 03.8	+1.1
ROSC	El Rosal	5.41	41	Pn		Pn	06 26 08.3	+1.8
ROSC	El Rosal	5.41	41	P		Pn	06 26 10.1	+3.5
	252nm,0.8s,baz=172,slow=4.5,SNR=86							
ROSC				Lg		Lg	06 27 38.3	
	11nm,0.3s,baz=37,slow=20,SNR=3.9							
ROSC				LR		LR	06 28 53.6	
	comp=Z,2µm,20.5s,baz=239,slow=45							
ROSC	El Rosal	5.41	41	P		Pn	06 26 10.0	+3.5
CBOC	Ciudad Bolivar	5.44	20	P		Pn	06 26 07.9	+1.2
SOLC	Bahia Solano	5.50	5	P		Pn	06 26 09.8	+2.4
GUVC	San Jose del G	5.53	71	P		Pn	06 26 10.6	+2.8
CHIC	Chingaza	5.67	46	P		Pn	06 26 14.9	+4.8
NORC	Norcasia	5.67	32	P		Pn	06 26 12.3	+2.5
PTAC	Punta Ardita,	6.40	0	P		Pn	06 26 21.6	+1.9
DBBC	Dabeiba	6.48	15	P		Pn	06 26 23.9	+3.0
PTBC	PUERTO BERRIO,	6.71	30	P		Pn	06 26 24.4	+0.3
RUSC	La Rusia	7.01	43	Pn		Pn	06 26 29.4	+0.7
APAC	Apartado, Choc	7.26	10	P		Pn	06 26 35.6	+4.1
UREC	San Jos de Ur	7.37	18	P		Pn	06 26 37.1	+4.0
ZARC	Zaragoza, Cauc	7.37	24	P		Pn	06 26 33.5	+0.4
AZU	Azuero	7.44	341	P		Pn	06 26 38.0	+4.0
BARC	Barichara	7.48	38	P		Pn	06 26 39.3	+4.5
ATAH	Atahualpa	7.81	184	P		Pn	06 26 41.6	+2.2
	12nm,0.3s,baz=9.3,slow=7.1,SNR=49							
	159nm,0.8s							
CAPC	Capurgana	7.89	4	P		Pn	06 26 44.7	+4.4
TAMC	Tame, Arauca	8.30	47	P		Pn	06 26 49.6	+3.6
PAMC	Pamplona, Colo	8.36	38	P		Pn	06 26 49.5	+2.5
BCIP	Isla Barro Col	8.63	347	Pn		Pn	06 26 52.3	+1.9
OCAC	Ocana	8.74	31	P		Pn	06 26 53.5	+1.5
TBTG	Tabatinga, AM	9.31	122	Pn		Pn	06 26 58.1	-1.6
TBTG	Tabatinga, AM	9.31	122	*eP*		Pn	06 26 57.8	-1.9
BRU2	Volcan	9.37	329			Pn	06 27 02.2	+1.6
CZSB	Cruzeiro do Su	9.83	149	Pn		Pn	06 27 05.8	-1.1
CZSB	Cruzeiro do Su	9.83	149	*eP*		Pn	06 27 05.1	-1.8
SDV	Santo Domingo	10.85	41	Pn		Pn	06 27 21.4	+0.4
SDV	Santo Domingo	10.85	41	P		Pn	06 27 22.7	+1.7
	1.5nm,0.3s,baz=214,slow=11,SNR=36							
SDV				Lg		Lg	06 30 34.9	
	0.6nm,0.3s,baz=29,slow=24,SNR=3.0							
	35nm,0.8s							
SDV	Santo Domingo	10.85	41	*eP*		Pn	06 27 18.6	-2.4
HDC	Heredia	11.14	326			Pn	06 27 28.1	+3.2
HDC	Heredia	11.14	326	*eP*		Pn	06 27 22.4	-2.4
JTS	Las Juntas de	11.85	324	P		Pn	06 27 37.9	+3.3
	0.4nm,0.3s,baz=182,slow=8.4,SNR=1.3							
JTS				LR		LR	06 31 41.5	
	comp=Z,1µm,19.9s,baz=142,slow=35							
	2.5nm,0.4s							
I20EC	Galapagos	12.59	264	I		I	07 42 30.0	
	baz=86,slow=316,SNR=4.4							
NNA	Nana	12.65	175	Pn		Pn	06 27 45.5	0.0
NNA	Nana	12.65	175	P		Pn	06 27 48.7	+3.2
	3.4nm,0.3s,baz=339,slow=12,SNR=16							
NNA				LR		LR	06 33 03.5	
	comp=Z,3µm,21.2s,baz=342,slow=39							
	32nm,0.6s							
BAUV	El Baul	12.74	50	Pn		Pn	06 27 45.1	-1.7
ACON	Acoyapa	13.34	327	Pn		Pn	06 27 57.6	+2.7
TEFE	Tefe	13.86	108	*eP*		Pn	06 28 00.8	-1.2
PCRV	Puerto La Cruz	16.16	54	P		P	06 28 36.9	+0.9
	0.7nm,0.3s,baz=262,slow=5.0,SNR=6.1							
PCRV				LR		LR	06 35 51.4	
	comp=Z,3µm,18.8s,slow=41							
	12nm,0.8s							
TGUH	Tegucigalpa,Un	16.21	325			P	06 28 35.7	-1.0
TGUH					IAmb	IAmb	06 28 43.3	
	comp=Z,96nm,1.1s							
BOAV	Boa Vista	17.41	84	P		Pn	06 28 47.5	-1.0
BOAV	Boa Vista	17.41	84	*eP*		Pn	06 28 46.9	-1.6
MTDJ	Mount Denham	17.41	1	P		P	06 28 51.1	+1.2
MTDJ				IAmb		IAmb	06 28 54.5	
	comp=Z,52nm,0.8s							
MACA	Manacapuru-AM	17.59	103	P		Pn	06 28 49.4	-1.4
MACA	Manacapuru-AM	17.59	103	*eP*		P	06 28 50.2	-1.6
MTO3	Montecristo	17.74	321	P		P	06 28 54.9	+1.2
ESQI	Esquipulas	17.85	321			P	06 28 58.4	+3.7
ESQI				IAmb		IAmb	06 29 10.1	
	comp=Z,95nm,1.2s							
APG	El Apazote	18.90	319	P		Pn	06 29 07.8	+0.8
	baz=141,slow=12							
SDDR	Presa de Saban	19.27	19	P		Pn	06 29 11.4	0.0
SDDR				IAmb		IAmb	06 29 16.1	
	comp=Z,42nm,0.9s							
GTBY	Guantanamo Bay	19.29	8	IAmb		IAmb	06 29 17.5	
	comp=Z,84nm,1.2s							
LPAZ	La Paz	19.42	151	P		Pn	06 29 12.1	-1.7
LPAZ	La Paz	19.42	151	P		Pn	06 29 14.5	+0.8
	comp=Z,0.2nm,0.3s,baz=335,slow=11,SNR=24							
LPAZ				Lg		Lg	06 35 01.0	
	comp=Z,0.1nm,0.3s,baz=58,slow=5.2,SNR=4.0							
	comp=Z,12nm,1.0s							
LPAZ	La Paz	19.42	151	*eP*		Pn	06 29 12.8	-1.0
HUEH	Huehuetenango	19.81	318	P		Pn	06 29 20.3	+2.3
HUEH				IAmb		IAmb	06 29 28.1	
	comp=Z,81nm,1.2s							
NMDO	Nuevo Mundo	19.93	8	P		Pn	06 29 18.6	-0.5
NMDO				IAmb		IAmb	06 29 25.8	
	comp=Z,41nm,1.1s							
PETF	Flores	19.99	324	P		Pn	06 29 19.6	-0.3
PETF				IAmb		IAmb	06 29 25.7	
	comp=Z,63nm,1.4s							
PB12	IPOC Station P	20.57	159	P		Pn	06 29 24.7	-2.2
PB12				IAmb		IAmb	06 29 33.6	
	comp=Z,36nm,0.9s							
IGPR	InterUniversit	20.68	33	P		Pn	06 29 25.7	-2.2
IGPR				IAmb		IAmb	06 29 47.6	
	comp=Z,40nm,1.0s							
PDPR	Patillas Dam,	20.76	33			Pn	06 29 29.5	+0.5
SJG	San Juan	20.77	33	P		Pn	06 29 31.6	+2.6
SJG				IAmb		IAmb	06 29 34.9	
	comp=Z,55nm,0.8s							
SJG	San Juan	20.77	33	P		Pn	06 29 29.5	+0.5
	comp=Z,51nm,0.8s,baz=299,slow=1.2,SNR=14							
SJG				LR		LR	06 38 37.5	
	comp=Z,795nm,18.5s,baz=215,slow=40							
	comp=Z,51nm,0.8s							
CCIG	Comitan	20.93	318	P		Pn	06 29 31.1	+0.1
CCIG				IAmb		IAmb	06 29 39.9	
	comp=Z,33nm,1.0s							
HUMP	Col San Antoni	20.96	34			Pn	06 29 31.3	0.0
HUMP				IAmb		IAmb	06 29 37.1	
	comp=Z,32nm,0.8s							
GCPR	Guaynabo City	20.97	33			Pn	06 29 31.9	+0.5
CBE	Ff, Capester	22.13	46	P		P	06 29 40.5	-0.9
VILB	Vilhena	22.15	128	P		P	06 29 40.5	-1.1
VILB	Vilhena	22.15	128	*eP*		P	06 29 41.2	-0.5
TA02	Huaiquique	22.18	160	P		P	06 29 42.1	+0.3
TA02				IAmb		IAmb	06 29 51.8	
	comp=Z,46nm,1.1s							
PB08	IPOC Station P	22.40	158	P		P	06 29 44.1	-0.5
PB08				IAmb		IAmb	06 29 57.9	
	comp=Z,27nm,0.9s							
ITTB	Itaituba	22.67	103	*eP*		P	06 29 46.5	-0.6
SIV	San Ignacio	23.45	136	LR		LR	06 39 39.6	
	comp=Z,923nm,18.1s,baz=325,slow=38							
NPGB	Novo Progresso	23.73	109	*eP*		P	06 29 56.9	-1.0
MAL2	Monte Alegre,	23.82	97	P		P	06 29 59.0	+0.1
MAL2				IAmb		IAmb	06 30 22.1	
	comp=Z,19nm,1.0s							
PDRB	Porto dos Gac	24.30	121	*eP*		P	06 30 03.3	0.0
PTLB	Pontes e Lacer	24.49	132	P		P	06 30 04.9	-0.1
PTLB				IAmb		IAmb	06 30 09.1	
	comp=Z,23nm,1.1s							
PTLB	Pontes e Lacer	24.49	132	*eP*		P	06 30 05.2	+0.2
MDP	Montagnes des	25.55	80	LR		LR	06 40 43.5	
	comp=Z,748nm,20.8s,baz=287,slow=37							
SALV	Santo Antonio	27.41	128	*eP*		P	06 30 30.9	-0.5
BDQN	Bodoquena, MS	29.48	137	*eP*		P	06 30 49.7	-0.1
TMAB	Tom-Au,PA,Br	29.91	96	*eP*		P	06 30 53.0	-0.7
AQDB	Aquidauana	30.23	135	P		P	06 30 56.4	0.0
AQDB	Aquidauana	30.23	135	*eP*		P	06 30 55.8	-0.6
ZAIG	Zacatecas	32.53	314	P		P	06 31 19.0	+2.0
ZAIG				IAmb		IAmb	06 31 24.6	
	comp=Z,9.9nm,1.0s							
CPUP	Villa Florida	33.38	145	P		P	06 31 23.9	-0.3
	comp=Z,1.4nm,0.8s,baz=329,slow=11,SNR=4.2							
	comp=Z,1.4nm,0.8s							
CPUP	Villa Florida	33.38	145	*eP*		P	06 31 24.6	+0.5
BDFB	Brasilia	33.66	120	LR		LR	06 45 43.6	
	comp=Z,624nm,18.1s,baz=304,slow=37							
V58A	Windy Hill, Pi	34.93	358	P		P	06 31 38.9	+1.5
W50A	Signal Mountai	35.02	349	P		P	06 31 39.9	+1.6
W50A				IAmb		IAmb	06 31 48.9	
	comp=Z,16nm,1.0s							
CPCT	Cooper Cave	35.12	351	IAmb		IAmb	06 31 52.6	
	comp=Z,18nm,1.1s							
CCAR	Cane Creek	35.52	340	P		P	06 31 43.9	+1.4
PTGB	Pitanga	35.54	137	*eP*		P	06 31 42.8	-0.2
U56A	King	35.54	356	P		P	06 31 43.6	+0.9
WLAR	White Oak Lake	35.80	338	P		P	06 31 45.1	+0.2
V48A	Smith Brothers	35.84	347	P		P	06 31 46.2	+0.9
BB19B	Bebedouro	35.92	129	*eP*		P	06 31 46.6	+0.4
T59A	Double "B" Far	36.09	0	P		P	06 31 48.6	+1.3
T59A				IAmb		IAmb	06 31 56.0	
	comp=Z,22nm,1.1s							
T57A	Hurt	36.13	358	P		P	06 31 48.8	+1.1
U49A	Red Boiling Sp	36.38	349	P		P	06 31 50.6	+0.7
BLA	Blacksburg	36.40	357	IAmb		IAmb	06 31 59.7	
	comp=Z,19nm,1.0s							
WVT	Waverly	36.44	346	P		P	06 31 53.1	+2.7
UALR	University of	36.50	340	P		P	06 31 51.1	+0.2
MIAR	Mount Ida	36.73	338	P		P	06 31 53.1	+0.2
S57A	Dark Hollow, R	36.89	359	IAmb		IAmb	06 32 02.7	
	comp=Z,27nm,1.3s							
WHAR	Wooly Hollow	36.94	340	P		P	06 31 55.2	+0.5
WHAR				IAmb		IAmb	06 32 00.8	
	comp=Z,14nm,0.9s							
T47A	Sharon Grove	37.10	348	P		P	06 31 55.9	-0.1
ITAB	Concordia	37.20	140	P		P	06 31 57.5	+0.4
ITAB				IAmb		IAmb	06 32 15.9	
	comp=Z,31nm,1.3s							
ITAB	Concordia	37.20	140	*eP*		P	06 31 57.4	+0.4
LCAR	Lake Charles	37.29	342	P		P	06 31 57.3	-0.3
LCAR				IAmb		IAmb	06 32 04.1	
	comp=Z,21nm,1.1s							
FCAR	Ozark Folk Cen	37.44	341	P		P	06 31 59.1	+0.3
PARMO	Parma	37.44	344	P		P	06 31 58.8	0.0
TXAR	Lajitas Array	37.63	321	P		P	06 32 02.7	+2.0
TXAR	Lajitas Array	37.63	321	P		P	06 32 03.0	+2.2
	comp=Z,3.0nm,1.0s,baz=128,slow=6.5,SNR=10							
TXAR				PcP		PcP	06 34 19.8	+1.4
	comp=Z,1.9nm,1.0s,baz=140,slow=6.6,SNR=3.6							
TXAR				LR		LR	06 49 22.8	
	comp=Z,58nm,20.6s,baz=128,slow=39							
	comp=Z,3.0nm,1.0s							
TX31	Lajitas Ar. Si	37.63	321	P		P	06 32 02.6	+1.8
T42A	Van Buren	38.16	343	P		P	06 32 04.4	-0.6
T42A				IAmb		IAmb	06 32 10.5	
	comp=Z,13nm,0.9s							
USIN	University of	38.16	347	P		P	06 32 05.1	+0.1
USIN				IAmb		IAmb	06 32 10.8	
	comp=Z,26nm,1.0s							
S44A	Carbondale	38.28	345	P		P	06 32 06.7	+0.7
S44A				IAmb		IAmb	06 32 14.5	
	comp=Z,24nm,1.2s							
SIUC	Southern Illin	38.29	345	P		P	06 32 06.8	+0.7
SIUC				IAmb		IAmb	06 32 14.6	
	comp=Z,26nm,1.2s							
MGMO	Mountain Grove	38.64	341	P		P	06 32 09.2	+0.2
MGMO				IAmb		IAmb	06 32 17.6	
	comp=Z,48nm,1.5s							
CPSB	Cacapava Do Su	38.70	145	*eP*		P	06 32 10.1	+0.4
NBPB	Pedra_Branca-C	38.72	100	*eP*		P	06 32 09.1	-0.9
FVM	French Village	38.86	344	P		P	06 32 10.6	-0.3
FVM				IAmb		IAmb	06 32 19.3	
	comp=Z,19nm,0.9s							
FNO	Franklin	38.90	334	P		P	06 32 11.8	+0.5
FNO				IAmb		IAmb	06 32 18.2	
	comp=Z,32nm,1.0s							
LPIG	La Paz	39.10	309	LR		LR	06 44 43.7	
	comp=Z,176nm,21.6s,baz=126,slow=30							
PARB	Paraibuna	39.41	129	*eP*		P	06 32 15.2	-0.6
PLTB	Pedras Altas	39.63	147	*eP*		P	06 32 16.5	-0.9
KAN08	Anthony NE Sta	40.81	335	IAmb		IAmb	06 32 33.6	
	comp=Z,23nm,0.9s							
RPN	Rapa Nui	41.02	225	LR		LR	06 46 02.0	
	comp=Z,154nm,18.9s,baz=45,slow=31							
CMC01	Camacan, BA	41.11	114	*eP*		P	06 32 29.5	-0.4
PLCA	Paso Flores	41.78	172	P		P	06 32 35.0	-0.1
PLCA	Paso Flores	41.78	172	P		P	06 32 37.3	+2.2
	comp=Z,3.6nm,0.9s,baz=344,slow=6.7,SNR=6.9							
PLCA				LR		LR	06 51 03.3	
	comp=Z,121nm,19.7s,baz=4.5,slow=38							
	comp=Z,3.6nm,0.9s							
PLCA	Paso Flores	41.78	172	*eP*		P	06 32 34.7	-0.3
KSU1	Kansas State U	41.89	338	IAmb		IAmb	06 32 45.2	
	comp=Z,16nm,1.1s							
RCBR	Riachuelo	42.38	99	LR		LR	06 50 00.4	
	comp=Z,174nm,19.3s,baz=276,slow=36							
121A	Cookes Peak, D	42.39	321			P	06 32 43.9	+3.5
121A				IAmb		IAmb	06 32 49.5	
	comp=Z,18nm,0.9s							
319A	Douglas	42.60	319	P		P	06 32 45.6	+3.6
319A				IAmb		IAmb	06 32 50.5	
	comp=Z,21nm,1.3s							
NBCA	Caruaru-PE	42.64	103	*eP*		P	06 32 42.1	-0.4
BNM	Barren Site	42.80	324	P		P	06 32 44.7	+0.9
CBKS	Cedar Bluff	42.90	335	P		P	06 32 45.4	+1.1
CBKS				IAmb		IAmb	06 32 47.3	
	comp=Z,26nm,1.0s							
ANMO	Albuquerque	43.27	325			P	06 32 48.5	+1.0
ANMO				IAmb		IAmb	06 32 59.3	
	comp=Z,17nm,1.1s							
ANMO	Albuquerque	43.27	325	LR		LR	06 52 10.0	
	comp=Z,128nm,20.2s,baz=304,slow=38							
JFWS	Jewell Farm	43.47	347	IAmb		IAmb	06 32 56.5	
	comp=Z,27nm,1.2s							
SADO	Sadowa	43.89	359	LR		LR	06 53 08.9	
	comp=Z,262nm,18.5s,baz=226,slow=39							
SDCO	Great Sand Dun	44.80	329	P		P	06 33 00.8	+1.0
SDCO				IAmb		IAmb	06 33 09.7	
	comp=Z,9.9nm,0.9s							
K30B	Basset	46.12	338	P		P	06 33 09.8	-0.2
SPMN	Marine on St.	46.26	345	P		P	06 33 10.1	-0.8
SPMN				IAmb		IAmb	06 33 11.2	
	comp=Z,14nm,1.1s							
WUAZ	Wupatki	46.60	322	P		P	06 33 15.0	+1.0
Y14A	Wickenburg	46.65	319	P		P	06 33 14.9	+0.7
PV13	Radium Mtn., P	46.89	326	IAmb		IAmb	06 33 26.2	
	comp=Z,12nm,0.9s							
ESJX	Sierra Juarez	47.54	315	P		P	06 33 20.7	-0.7
W13A	Hualapai Mount	47.93	319	P		P	06 33 27.9	+3.5
SRU	San Rafael Swe	48.51	326	IAmb		IAmb	06 33 38.0	
	comp=Z,15nm,1.2s							
EYMN	Ely	48.52	348	IAmb		IAmb	06 33 38.1	
	comp=Z,9.0nm,1.2s							
PFO	Pinyon Flats O	48.79	316	LR		LR	06 53 06.9	
	comp=Z,135nm,19.0s,baz=96,slow=35							
RSSD	Black Hills	49.10	335	P		P	06 33 33.8	+0.5
BSUT	Blindstream Ca	49.63	327	IAmb		IAmb	06 33 48.3	
	comp=Z,11nm,1.3s							
PDAR	Pinedale Array	50.60	330	P		P	06 33 45.1	+0.4
	comp=Z,0.9nm,0.9s,baz=144,slow=5.5,SNR=4.

NEEM IAmb IAmb 06 36 45.5
comp=Z,92nm,2.3s
I28M Miner Creek 78.07 338 P **P 06 36 45.7 +1.5**
I28M IAmb IAmb 06 36 50.1
comp=Z,11nm,1.2s
MLOA Mauna Loa Obse 78.19 290 P **P 06 36 45.1 -1.1**
F28M Old Crow 78.99 340 P P 06 36 53.1 +3.9
SCRK Sand Creek 79.08 336 P **P 06 36 51.6 +1.7**
TORD Torodi Ar. Bea 79.66 77 P **P 06 36 53.3 -0.6**
comp=Z,0.7nm,0.9s,baz=312,slow=9.2,SNR=4.8
comp=Z,0.7nm,0.9s
HDA Harding Lake 80.44 336 IAmb IAmb 06 37 02.8
comp=Z,16nm,1.2s
IL31 80.54 336 IAmb IAmb 06 37 03.3
comp=Z,11nm,1.4s
ILAR Eielson Array 80.54 336 P **P 06 36 58.0 +0.4**
comp=Z,2.7nm,0.9s,baz=101,slow=2.8,SNR=12
ILAR PP **PP 06 40 00.7 -0.2**
comp=Z,0.9nm,1.0s,baz=110,slow=7.2,SNR=7.1
ILAR LR LR 07 15 22.8
comp=Z,92nm,21.4s,baz=78,slow=38
comp=Z,2.7nm,0.9s
KDAK Kodiak Island 81.29 328 LR LR 07 15 18.6
comp=Z,47nm,18.1s,baz=309,slow=37
NEA2 Nenana 81.38 336 IAmb IAmb 06 37 07.3
comp=Z,14nm,1.1s
SKT Skwentna 81.75 333 IAmb IAmb 06 37 09.4
comp=Z,16nm,1.2s
CAST Castle Rocks 82.35 334 P **P 06 37 07.1 -0.1**
CAST IAmb IAmb 06 37 12.1
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 82.54 12 *i* P **P 06 37 06.0 -1.9**
DAG IAmb IAmb 06 37 09.4
comp=Z,9.2nm,1.0s
RAR Rarotonga 82.72 249 LR LR 07 04 36.8
comp=Z,129nm,21.3s,baz=114,slow=29
TAM Tamanrasset 83.62 67 P **P 06 37 15.2 +0.4**
TAM IAmb IAmb 06 37 26.1
comp=Z,13nm,1.4s
G19K Purcell Mounta 85.00 336 IAmb IAmb 06 37 27.1
comp=Z,5.4nm,1.1s
NOR Nord 85.24 7 *i* P **P 06 37 22.0 +0.3**
NOR IAmb IAmb 06 37 24.2
comp=Z,6.6nm,1.2s
H18K Honhosa River 85.37 335 IAmb IAmb 06 37 29.8
comp=Z,12nm,1.3s
D19K Kuna River 85.77 339 IAmb IAmb 06 37 31.1
comp=Z,7.6nm,1.1s
SNAA Sanae 85.98 162 P **P 06 37 27.6 +2.0**
SNAA IAmb IAmb 06 37 29.1
comp=Z,7.5nm,0.9s
SNAA Sanae 85.98 162 P **P 06 37 28.1 +2.5**
comp=Z,3.9nm,0.8s,baz=251,slow=10,SNR=8.4
SNAA LR LR 07 16 59.2
comp=Z,58nm,19.0s,baz=5.0,slow=36
comp=Z,3.9nm,0.8s
H17K Granite Mounta 85.99 335 IAmb IAmb 06 37 31.9
comp=Z,14nm,1.4s
C18K Utukok River 86.91 339 IAmb IAmb 06 37 36.2
comp=Z,7.3nm,1.2s
KEST Kesra 87.31 54 LR LR 07 14 20.6
comp=Z,86nm,21.2s,baz=274,slow=34
DAVOX Davos/Dischmat 87.93 43 LR LR 07 12 16.7
comp=Z,131nm,21.7s,baz=266,slow=32
DAVA Damuels 87.94 43 *ep*P pP 06 37 41.1 +0.7
comp=Z,11nm,1.1s
ANM Nome 88.30 334 IAmb IAmb 06 37 43.2
comp=Z,6.2nm,1.1s
FETA Feichten 88.52 43 *ep*P pP 06 37 44.6 +1.5
comp=Z,9.2nm,1.1s
RETA Reutte 88.55 43 *ep*P pP 06 37 44.6 +1.5
comp=Z,3.5nm,1.0s
MOTA Moosalm 88.78 43 *ep*P pP 06 37 45.1 +0.8
comp=Z,4.3nm,0.6s
SQTA Sankt Quirin 88.85 43 *ep*P pP 06 37 46.5 +2.0
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 88.93 29 LR LR 07 14 33.5
comp=Z,75nm,20.8s,baz=265,slow=34
WATA Walderalm 89.10 43 *ep*P pP 06 37 46.7 +0.9
comp=Z,5.7nm,0.6s
WTTA Wattenberg 89.14 43 *ep*P pP 06 37 46.9 +0.9
comp=Z,10nm,1.6s
ABTA Abfaltersbach 89.74 43 *ep*P pP 06 37 50.7 +2.0
LESA Schwarzleotal 89.84 43 *ep*P pP 06 37 51.1 +1.9
HFS Hagfors 90.17 30 LR LR 07 14 40.5
comp=Z,84nm,20.7s,baz=268,slow=33
SPITS Spitsbergen Ar 90.18 12 LR LR 07 17 51.3
comp=Z,56nm,22.0s,baz=242,slow=35
BIOA Bad Ischl, Aus 90.49 42 *ep*P pP 06 37 51.2 -0.9
comp=Z,2.7nm,0.9s
GERES GERESS Array B 90.50 41 LR LR 07 17 16.3
comp=Z,43nm,18.5s,baz=264,slow=35
MYKA Terra Mystica 90.52 44 *ep*P pP 06 37 51.3 -1.0
comp=Z,1.4nm,0.4s
QSPA South Pole Qui 90.75 180 P **P 06 37 50.5 +1.9**
QSPA South Pole Qui 90.75 180 P **P 06 37 50.3 +1.7**
comp=Z,5.4nm,1.0s,baz=152,slow=2.8,SNR=6.2
QSPA LR LR 07 16 07.6
comp=Z,101nm,19.9s,baz=164,slow=34
comp=Z,5.4nm,1.0s
VAE Valguarnera 91.38 53 LR LR 07 16 50.1
comp=Z,281nm,18.1s,baz=295,slow=34
VRAC Vranov 92.38 41 LR LR 07 17 04.0
comp=Z,41nm,18.7s,baz=278,slow=34
ARCES ARCESS Array B 94.00 20 LR LR 07 14 37.7
comp=Z,49nm,19.1s,baz=306,slow=32
FINES FINESS Array B 96.02 28 LR LR 07 17 44.6
comp=Z,88nm,18.9s,baz=268,slow=33
VNDA Vanda 96.99 191 LR LR 07 12 47.0
comp=Z,168nm,20.1s,baz=132,slow=30
SUR Sutherland 97.70 122 LR LR 07 18 06.1
comp=Z,226nm,21.8s,baz=258,slow=33
MLR Muntele Rosu 99.15 44 LR LR 07 19 24.9
comp=Z,79nm,21.7s,baz=258,slow=33
DZM Mont Dzumac 114.01 246 *e*LR LR 07 17 32.7
comp=Z,101nm,27.3s
BVAR Borovoye Array 120.25 22 PKP **PKiKP 06 43 38.0 +1.1**
comp=Z,0.5nm,0.5s,baz=265,slow=5.1,SNR=2.3
ZALV Zalesovo Beam 123.67 12 PKP **PKiKP 06 43 44.3 +0.8**
comp=Z,0.5nm,0.3s,baz=270,slow=3.0,SNR=5.9
KURBB Kurchatov Arra 125.04 18 PKP **PKiKP 06 43 45.6 -0.8**
comp=Z,1.0nm,0.7s,baz=324,slow=2.5,SNR=11
MKAR Makanchi Array 129.59 18 PKP **PKiKP 06 43 54.5 -1.2**
comp=Z,1.1nm,0.8s,baz=335,slow=1.7,SNR=8.5
SONM Songino Array 131.51 356 PKP **PKiKP 06 43 58.3 -1.3**
comp=Z,0.8nm,0.7s,baz=90,slow=3.0,SNR=5.9
KSRS Korea Array 135.17 331 PKP **PKPdf 06 44 05.0 -0.7**
comp=Z,0.9nm,0.7s,baz=303,slow=1.6,SNR=5.5
ASAR Alice Springs 141.67 231 PKhKP PKPpre 06 44 13.8
comp=Z,0.9nm,0.8s,baz=116,slow=3.2,SNR=6.8
WRA Warramunga Arr 143.15 237 PKhKP PKPpre 06 44 18.2
comp=Z,1.3nm,0.8s,baz=113,slow=2.9,SNR=5.7
CMAR Chiang Mai Arr 160.70 9 PKPab **PKPab 06 45 28.6 +0.5**
comp=Z,2.1nm,0.3s,baz=324,slow=5.4,SNR=11

NEIC 14 06:25:08.8±0.5, 36°.41N±0°.02×96°.87W±0°.02, h5km±1km, mb_Lg2.7/32, ML2.9/58, Error ellipse: s-maj=3.7km s-min=2.5km az=50.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.09**	**15**		Pg	06 25 11.4	+0.6
QUOK	**Quay**	**0.27**	**152**		Pg	06 25 14.8	+0.7
QUOK				Sg	Sg	06 25 18.8	+1.1
QUOK				IAML		06 25 18.8	
	comp=N,2μm,0.3s						
QUOK				IAML		06 25 18.8	
	comp=E,2μm,0.3s						
OK052	**Battle Ridge R**	**0.42**	**173**		Pg	06 25 17.4	+0.5
OK052				Sg	Sg	06 25 23.4	+0.9
BLOK	**Blackwell**	**0.45**	**321**		Pg	06 25 17.7	+0.3
OK031	**S. Brethren Rd**	**0.46**	**177**		Pg	06 25 17.4	-0.2
OK031				Sg	Sg	06 25 24.6	+1.0
OK031				IAML		06 25 24.6	
	comp=E,1μm,0.7s						
DEOK	**Depew**	**0.64**	**152**	Pg	Pg	06 25 21.5	+0.4
KAN13	**South Haven SW**	**0.77**	**321**		Pg	06 25 23.6	0.0
KAN13				IAmb_Lg		06 25 34.0	
	comp=Z,62nm,0.8s						
KAN13				IAML		06 25 38.5	
	comp=E,402nm,0.3s						
KAN13				IAML		06 25 39.9	
	comp=N,511nm,0.3s						
OK029	**Liberty Lake**	**0.78**	**218**		Pg	06 25 23.8	+0.1
CROK	**Carrier**	**0.90**	**276**		Pg	06 25 26.0	-0.1
CROK				IAML		06 25 42.5	
	comp=E,491nm,0.2s						
KAN09	**Caldwell North**	**0.94**	**320**		Pg	06 25 26.6	-0.2
KAN09				IAML		06 25 41.5	
	comp=N,510nm,0.3s						
KAN17	**Caldwell West**	**0.96**	**311**		Pg	06 25 26.9	-0.2
KAN17				IAML		06 25 49.0	
	comp=N,303nm,0.3s						
KAN17				IAML		06 25 53.3	
	comp=E,351nm,0.3s						
KAN01	**Argonia South**	**1.03**	**316**		Pg	06 25 28.3	-0.2
KAN01				IAML		06 25 44.3	
	comp=N,235nm,0.1s						
KAN14	**Manchester OK**	**1.03**	**302**		Pg	06 25 28.3	-0.3
KAN14				IAML		06 25 51.0	
	comp=N,279nm,0.1s						
KAN14				IAML		06 25 52.3	
	comp=E,277nm,0.1s						
KAN05	**Bluff City Nor**	**1.06**	**311**		Pg	06 25 28.8	-0.4
KAN05				IAML		06 25 48.3	
	comp=N,278nm,0.2s						
KAN05				IAML		06 25 50.2	
	comp=E,287nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.11**	**205**		Pg	06 25 29.4	-0.6
KAN08	**Anthony NE Sta**	**1.20**	**313**		Pg	06 25 31.4	-0.4
KAN08				IAML		06 25 51.5	
	comp=E,182nm,0.3s						
KAN08				IAML		06 25 52.4	
	comp=N,230nm,0.1s						
FNO	**Franklin**	**1.23**	**201**		Pg	06 25 31.5	-0.9
FNO				IAML		06 25 52.5	
	comp=N,240nm,0.4s						
W35A	**Tecumseh**	**1.26**	**180**		Pg	06 25 31.9	-0.9
W35A				IAML		06 25 51.4	
	comp=N,236nm,0.2s						
KAN12	**Harper NE Stat**	**1.27**	**315**		Pg	06 25 32.2	-0.8
X34A	**Smith Ranch, M**	**1.97**	**204**	IAmb_Lg		06 26 10.7	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**3.27**	**124**		Pn	06 26 01.5	+0.8
MIAR				IAmb_Lg		06 26 56.7	
	comp=Z,13nm,1.1s						
MGMO	**Mountain Grove**	**3.77**	**77**	IAmb_Lg		06 27 12.3	
	comp=Z,13nm,0.8s						
PLPT	**Palo Pinto**	**3.79**	**199**	IAmb_Lg		06 27 13.5	
	comp=Z,13nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.87**	**96**	IAmb_Lg		06 27 13.0	
	comp=Z,20nm,0.8s						
WHAR	**Wooly Hollow**	**3.88**	**105**	IAmb_Lg		06 27 22.3	
	comp=Z,15nm,0.8s						
UALR	**University of**	**4.03**	**113**	IAmb_Lg		06 27 22.1	
	comp=Z,15nm,0.9s						
WLAR	**White Oak Lake**	**4.11**	**130**	Pn	Pn	06 26 12.2	0.0
LCAR	**Lake Charles**	**4.63**	**93**	IAmb_Lg		06 27 34.6	
	comp=Z,18nm,1.2s						
CCM	**Cathedral Cave**	**4.78**	**68**	IAmb_Lg		06 27 37.8	
	comp=Z,18nm,0.8s						
PBMO	**Poplar Bluff**	**5.19**	**84**	IAmb_Lg		06 28 00.9	
	comp=Z,13nm,0.7s						
N38A	**Joes South For**	**5.22**	**32**	IAmb_Lg		06 28 00.4	
	comp=Z,12nm,1.1s						
FVM	**French Village**	**5.38**	**71**	IAmb_Lg		06 27 58.4	
	comp=Z,15nm,1.0s						
CGM3	**Cape Girardeau**	**5.85**	**79**	IAmb_Lg		06 28 19.2	
	comp=Z,11nm,0.9s						
JCT	**Junction City**	**6.41**	**203**	IAmb_Lg		06 28 45.2	
	comp=Z,8.5nm,1.0s						
K30B	**Basset**	**6.60**	**342**	IAmb_Lg		06 28 45.3	
	comp=Z,11nm,0.7s						

---

*ASRS **14** 06:29:36.0±1.5, 55°.74N×86°.03E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 14 06:29:40.3±3.5, 55°.65N×85°.97E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=30.7km s-min=25.4km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**202**	I	I	06 40 40.6	
	0.1nm,1.2s,baz=22,slow=345,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.83**	**202**	Pn	Pn	06 30 11.5	-1.5
	0.9nm,0.3s,baz=20,slow=17,SNR=12						
ZALV				Lg	Lg	06 30 38.6	
	0.8nm,0.3s,baz=21,slow=27,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.74**	**225**	Pn	Pn	06 31 20.1	-0.2
	baz=42,slow=14,SNR=5.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**9.17**	**196**	Pn	Pn	06 31 54.4	+0.7
	baz=14,slow=13,SNR=1.7						
	0.2nm,0.7s						

---

*KRNET **14** 06:31:02.3±0.1, 40°.13N×77°.19E, mb3.4*
*SOME **14** 06:31:02.6, 40°.47N×77°.02E, h0km*
*NNC **14** 06:31:04.4±0.5, 40°.46N×77°.05E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=3.4km s-min=2.7km az=169.0*

ISC 14 06:31:01.7±1.8, 40°.43N±0°.06×76°.94E±0°.03, h1km±12km, n57, σ1§62/84, 20C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.45**	**27**	⇓*e*P	**Pg**	**06 31 30.2**	**+0.6**
TARG				⇓*e*S	**Sg**	**06 31 50.6**	**+2.2**
ULHL	**Ulahol**	**1.89**	**344**	⇓*e*P	**Pg**	**06 31 38.1**	**+0.2**
ULHL				⇓*e*S	**Sg**	**06 32 04.3**	**+2.0**
BOOM	**Boomskoye usch**	**2.19**	**340**	⇓*e*P	**Pb**	**06 31 42.3**	**+0.1**
BOOM				⇓*e*S	**Sb**	**06 32 11.7**	**+1.8**
ANVS	**Anan'yevo**	**2.41**	**13**	⇓*e*P	**Pb**	**06 31 44.2**	**-1.8**
ANVS				⇓*e*S	**Sb**	**06 32 14.8**	**-1.5**
SALK	**Salom-Alik**	**2.41**	**282**	⇓*e*P	**Pb**	**06 31 44.4**	**-1.6**
SALK				⇓*e*S	**Sb**	**06 32 15.1**	**-1.2**
ARLS	**Aral**	**2.44**	**307**	⇑*e*P	**Pb**	**06 31 45.5**	**-0.9**
ARLS				⇑*e*S	**Sb**	**06 32 17.2**	**+0.2**
UCH	**Uchtor**	**2.56**	**315**	⇑*e*P	**Pb**	**06 31 47.8**	**-0.9**
UCH				⇑*e*S	**Sb**	**06 32 21.0**	**+0.2**
TNSS	**Tian-Shan**	**2.60**	**0**	Pg	**Pg**	**06 31 51.6**	**-0.1**
	24nm,0.4s						
TNSS				Lg	Lg	06 32 26.9	
	30nm,0.3s						
TNSS	**Tian-Shan**	**2.60**	**0**	*e*P	**Pg**	**06 31 51.6**	**-0.1**
	24nm,0.4s						
TNSS				*e*S	**Sg**	**06 32 26.9**	**+1.5**
	30nm,0.3s						
SFK	**Sufi-Kurgan**	**2.66**	**262**	⇑*e*P	**Pn**	**06 31 46.6**	**+0.6**
SFK				⇑*e*S	**Sn**	**06 32 19.1**	**+0.1**
KBK	**Karagaybulak**	**2.68**	**327**	⇑*e*P	**Pb**	**06 31 49.3**	**-1.2**
KBK				⇑*e*S	**Sb**	**06 32 23.7**	**-0.2**
TKM2	**Tokmak 2**	**2.68**	**338**	⇓Pn	**Pb**	**06 31 49.8**	**-0.9**
	6.4nm,0.3s						
TKM2				⇑Lg	Lg	06 32 29.8	
	57nm,0.6s						
TKM2	**Tokmak 2**	**2.68**	**338**	⇓*e*P	**Pb**	**06 31 49.2**	**-1.4**
TKM2				⇓*e*S	**Sb**	**06 32 23.5**	**-0.6**
KST	**Kastek**	**2.71**	**345**	Pg	**Pg**	**06 31 54.0**	**+0.3**
	8.9nm,0.4s						
KST				Lg	Lg	06 32 31.2	
	65nm,0.3s						
KST	**Kastek**	**2.71**	**345**	*e*P	**Pg**	**06 31 54.0**	**+0.3**
	8.9nm,0.4s						
KST				*e*S	**Sg**	**06 32 31.2**	**+2.4**
	65nm,0.3s						
MTBS	**Maitube**	**2.72**	**352**	Pg	**Pg**	**06 31 53.5**	**-0.4**
	5.5nm,0.2s						
MTBS				Lg	Lg	06 32 30.2	
	42nm,0.4s						
MTBS	**Maitube**	**2.72**	**352**	*e*P	**Pg**	**06 31 53.5**	**-0.4**
	5.5nm,0.2s						
MTBS				*e*S	**Sg**	**06 32 30.2**	**+1.0**
	42nm,0.4s						
MDOK	**Medeo**	**2.73**	**2**	⇑Pn	**Pb**	**06 31 49.9**	**-1.5**
	8.3nm,0.4s						
MDOK				Pg	**Pg**	**06 31 53.8**	**-0.2**
	12nm,0.3s						
MDOK				⇑Lg	Lg	06 32 30.5	
	63nm,0.6s						
MDOK				Lg	Lg	06 32 30.7	
	69nm,0.5s						
MDOK	**Medeo**	**2.73**	**2**	*e*P	**Pg**	**06 31 53.9**	**-0.2**
	12nm,0.3s						
MDOK				*e*S	**Sg**	**06 32 30.7**	**+1.3**
	69nm,0.5s						
KOTS	**Kotyrbulak**	**2.80**	**3**	Pg	**Pg**	**06 31 55.7**	**+0.2**
	22nm,0.2s						
KOTS				Lg	Lg	06 32 34.1	
	294nm,0.6s						
KOTS	**Kotyrbulak**	**2.80**	**3**	*e*P	**Pg**	**06 31 55.7**	**+0.2**
	22nm,0.2s						
KOTS				*e*S	**Sg**	**06 32 34.0**	**+2.3**
	294nm,0.6s						
SATY	**Saty**	**2.84**	**22**	Pg	**Pg**	**06 31 55.6**	**-0.6**
	24nm,0.5s						
SATY				Lg	Lg	06 32 33.7	
	71nm,0.7s						
SATY	**Saty**	**2.84**	**22**	*e*P	Pg	06 32 13.9	+18
	0.9nm,0.1s						
SATY				*e*S	Sg	06 33 05.3	+32
	38nm,0.4s						
AAK	**Ala-Archa**	**2.87**	**321**	⇑*e*P	**Pb**	**06 31 52.0**	**-1.8**
AAK				⇑*e*S	**Sb**	**06 32 28.1**	**-1.3**
FRU1	**Bishkek**	**2.94**	**325**	⇑*e*P	**Pb**	**06 31 53.1**	**-1.8**
FRU1				⇑*i*S	**Sb**	**06 32 30.3**	**-1.1**
DGS	**Degeres**	**2.94**	**343**	Pg	**Pg**	**06 31 58.0**	**-0.1**
	24nm,0.5s						
DGS				Lg	Lg	06 32 37.9	
	47nm,0.4s						
ZHN	**Zhinishke**	**2.95**	**22**	Pg	**Pg**	**06 31 57.1**	**-1.2**
	12nm,0.3s						
ZHN				Lg	Lg	06 32 36.5	
	120nm,0.2s						
ZHN	**Zhinishke**	**2.95**	**22**	*e*P	**Pg**	**06 31 57.1**	**-1.2**
	12nm,0.3s						
ZHN				*e*S	**Sg**	**06 32 36.5**	**-0.1**
	120nm,0.2s						
AML	**Almayashu**	**2.98**	**306**	⇑*e*P	**Pb**	**06 31 53.4**	**-2.4**
AML				⇑*i*S	**Sb**	**06 32 30.8**	**-1.9**
ARSB	**Arslanbob**	**3.13**	**288**	⇑*e*P	**Pn**	**06 31 54.2**	**+1.9**
ARSB				⇑*e*S	**Sn**	**06 32 32.7**	**+2.4**
UZB	**Uzynbulak**	**3.13**	**29**	Pg	**Pg**	**06 32 00.3**	**-1.4**
	9.7nm,0.3s						
UZB				Lg	Lg	06 32 41.8	
	46nm,0.8s						
UZB	**Uzynbulak**	**3.13**	**29**	*e*P	**Pg**	**06 32 00.3**	**-1.4**
	9.7nm,0.3s						
UZB				*e*S	**Sg**	**06 32 41.8**	**-0.4**
	46nm,0.8s						
KURS	**Kuram**	**3.19**	**16**	Pg	**Pg**	**06 32 01.6**	**-1.2**
	16nm,0.6s						
KURS				Lg	Lg	06 32 44.0	
	35nm,0.7s						
KTBS	**Karatobe**	**3.28**	**357**	Pg	**Pg**	**06 32 03.7**	**-0.9**
	11nm,0.4s						
KTBS				Lg	Lg	06 32 47.6	
	72nm,0.3s						
KPKS	**Kokpek**	**3.30**	**23**	Pg	**Pb**	**06 32 02.8**	**+1.8**
	10nm,0.2s						
KPKS				Lg	Lg	06 32 46.1	
	57nm,0.5s						
KPKS	**Kokpek**	**3.30**	**23**	*e*P	**Pb**	**06 31 58.0**	**-3.1**
	24nm,0.5s						
KPKS				*e*S	**Sb**	**06 32 37.9**	**-3.9**
	47nm,0.4s						
KPKS	**Kokpek**	**3.30**	**23**	*e*P	**Pb**	**06 32 02.9**	**+1.8**
	10nm,0.2s						
KPKS				*e*S	**Sg**	**06 32 46.1**	**-1.6**
	57nm,0.5s						
SHLS	**Shalkode**	**3.31**	**34**	Pg	**Pg**	**06 32 06.6**	**+1.4**
	18nm,0.5s						
SHLS				Lg	Lg	06 32 52.7	
	53nm,0.7s						
SHLS	**Shalkode**	**3.31**	**34**	*e*P	**Pg**	**06 32 06.6**	**+1.4**
	18nm,0.5s						
SHLS				*e*S	**Sg**	**06 32 52.7**	**+4.6**
	53nm,0.7s						
USP	**Ospenovka**	**3.37**	**328**	⇓*e*P	**Pb**	**06 31 58.8**	**-3.4**
USP				⇓*e*S	**Sb**	**06 32 40.0**	**-3.7**
KRBS	**Karabastau**	**3.39**	**344**	Pg	**Pg**	**06 32 06.0**	**-0.8**
	11nm,0.3s						
KRBS				Lg	Lg	06 32 51.7	
	48nm,0.6s						
PDGK	**Podgornoye**	**3.46**	**33**	⇑Pn	**Pn**	**06 31 58.1**	**+1.2**
	1.6nm,0.7s						
PDGK				⇓Pg	**Pb**	**06 32 05.3**	**+1.3**
	14nm,0.7s						
PDGK				⇓Lg	Lg	06 32 51.9	
	53nm,0.7s						
SGDS	**Sogindy**	**3.47**	**331**	Pg	**Pg**	**06 32 07.5**	**-0.8**
	5.4nm,0.4s						
SGDS				Lg	Lg	06 32 53.8	
	33nm,0.4s						
MRKS	**Merke**	**3.62**	**311**	Pg	**Pg**	**06 32 10.5**	**-0.5**
	7.6nm,0.6s						
MRKS				Lg	Lg	06 32 29.2	
	5.6nm,0.3s						
MRKS				Lg	Lg	06 32 59.6	
	14nm,0.5s						
MRKS	**Merke**	**3.62**	**311**	*e*P	**Pg**	**06 32 10.5**	**-0.5**
	7.6nm,0.6s						
MRKS				*e*S	**Sg**	**06 32 59.6**	**+1.7**
	14nm,0.5s						
ARXS	**Arharly**	**3.83**	**10**	Pg	**Pg**	**06 32 13.9**	**-1.3**
	0.9nm,0.1s						
ARXS				Lg	Lg	06 33 05.3	
	38nm,0.4s						
BLB	**Baldybastay**	**3.84**	**17**	Pg	**Pg**	**06 32 13.4**	**-1.8**
	37nm,0.6s						
BLB				Lg	Lg	06 33 04.4	
	49nm,0.6s						
KNOS	**Konyrlen**	**4.26**	**22**	Pg	**Pg**	**06 32 21.6**	**-1.8**
	6.7nm,0.6s						
KNOS				Lg	Lg	06 33 18.4	
	22nm,0.2s						
DJR	**Jarkent**	**4.43**	**28**	Pg	**Pg**	**06 32 24.3**	**-2.4**
	2.3nm,0.4s						
DJR				Lg	Lg	06 33 22.9	
	16nm,0.5s						
DJR	**Jarkent**	**4.43**	**28**	*e*P	**Pg**	**06 32 24.3**	**-2.4**
	2.3nm,0.4s						
DJR				*e*S	**Sg**	**06 33 22.9**	**-1.2**
	16nm,0.5s						
BTLS	**Baital**	**5.07**	**336**	Pg	**Pg**	**06 32 37.6**	**-1.4**
	2.6nm,0.6s						
BTLS				Lg	Lg	06 33 45.7	
	8.2nm,0.4s						
BTLS	**Baital**	**5.07**	**336**	*e*P	**Pg**	**06 32 37.6**	**-1.4**
	2.6nm,0.6s						
BTLS				*e*S	**Sg**	**06 33 45.7**	**+1.1**
	8.2nm,0.4s						
BRLS	**Borolday**	**5.91**	**298**	Pg	**Pg**	**06 32 54.0**	**-1.0**
	3.4nm,0.8s						
BRLS				Lg	Lg	06 34 14.2	
	2.0nm,0.4s						
BRLS	**Borolday**	**5.91**	**298**	*e*P	**Pg**	**06 32 54.0**	**-1.0**
	3.4nm,0.8s						
BRLS				*e*S	**Sg**	**06 34 14.2**	**+2.6**
	2.0nm,0.4s						
MAKZ	**Makanchi**	**7.34**	**28**	⇓Lg	Lg	06 34 52.5	
	5.0nm,1.1s						
MK31	**Makanchi Array**	**7.45**	**30**	⇓Lg	Lg	06 34 56.8	
	4.2nm,1.0s,baz=172,slow=20,SNR=5.6						
KURK	**Kurchatov**	**10.35**	**6**	⇓Lg	Lg	06 36 30.5	
	5.7nm,1.2s						

SOME 14 06:31:25.0, 41°.38N×71°.35E, h0km, 2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**1.83**	**340**	⇓Pn	Pg	06 32 01.0	+0.9
	7.8nm,0.5s,baz=165,slow=15						
KK31				⇓Sn	Sg	06 32 29.0	+5.2
	13nm,0.7s,baz=161,slow=25						
MRKS	**Merke**	**1.95**	**45**	*e*P	Pg	06 32 02.5	+0.1
	3.2nm,0.4s						
MRKS				*e*S	Sg	06 32 29.7	+2.1
	5.0nm,0.3s						
MRKS	**Merke**	**1.95**	**45**	Pg	Pg	06 32 02.3	-0.1
	3.2nm,0.3s						
BRLS	**Borolday**	**1.99**	**326**	*e*P	Pb	06 32 01.4	-0.8
	8.6nm,0.2s						
BRLS				*e*S	Sb	06 32 27.4	-0.2
	8.7nm,0.5s						
BRLS	**Borolday**	**1.99**	**326**	Pg	Pb	06 32 01.4	-0.7
	8.6nm,0.2s						
BRLS	**Borolday**	**1.99**	**326**	Lg	Lg	06 32 27.8	
	12nm,0.4s						

TXNET 14 06:32:08.9, 31°.6N±0°.5×104°.3W±0°.6, h5km±2km, ML1.9/7, Error ellipse: s-maj=1.0km s-min=0.8km az=61.9, final, Western Texas

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

TPB11	**China Draw**	**0.36**	**32**	P	Pg	06 32 15.8	-0.1
TPB11				S	Sg	06 32 20.4	-0.2
PECS	**Pecos**	**0.42**	**128**	P	Pg	06 32 17.3	+0.3
PECS				S	Sg	06 32 22.9	+0.3
TPB12	**Southwest of T**	**0.49**	**148**	S	Sg	06 32 25.2	+0.5
TPB07	**Mentone**	**0.51**	**96**	S	Sg	06 32 25.5	+0.3
TPB10	**Southeast of T**	**0.55**	**129**	P	Pg	06 32 19.8	+0.2
TPB10				S	Sg	06 32 27.4	+0.7
CLNB	**Carlsbad**	**0.71**	**27**	P	Pg	06 32 22.6	+0.1
CLNB				S	Sg	06 32 32.4	+0.7
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	06 32 23.7	-0.5
TPB03	**Saragosa**	**0.84**	**131**	S	Sg	06 32 36.5	+0.6
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	06 32 27.5	+0.2
MNTX				S	Sg	06 32 40.4	+0.5
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	06 32 27.8	-0.1
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	06 32 29.0	0.0
VHRN				S	Sb	06 32 43.4	-0.3
TPB05	**Hovey Rd**	**1.07**	**131**	S	Sg	06 32 43.3	+0.1
MNHN	**Monahans**	**1.31**	**102**	P	Pn	06 32 32.6	-1.3
ALPN	**Alpine**	**1.36**	**157**	P	Pn	06 32 33.5	-1.2
ALPN				S	Sg	06 32 51.2	-1.5
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	06 32 35.6	-0.1
ODSA	**Odessa**	**1.53**	**71**	P	Pn	06 32 36.7	-0.3
ODSA				S	Sn	06 32 57.2	-0.2

*IGQ **14** 06:49:18.7±0.4, 1°N±2°×7°8W±°, h2km±2km, MLv3.8/23*
*RSNC **14** 06:49:18.3±0.0, 1°N±2°×7°8W±°, h11km±3km, M3.6, mB4.8, mb4.5, ML3.4, Mw(mB)4.1*
*IDC **14** 06:49:26.9±3.2, 0°77N×77°87W, h58km±39km, mb3.2/4, mbtmp3.8/8, ML3.1/4, MS3.4/8, Error ellipse: s-maj=46.4km s-min=23.0km az=93.0*

ISC 14 06:49:18.6±1.0, 0°73N±0°02×77°85W±0°02, h2km±8km, n11, σ1°48/115, mb3.5/4, MS3.2/4, 13C-19D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHL2	**Volc¡n Chiles**	**0.10**	**314**	⇑P	**Pg**	**06 49 21.1**	**+0.5**
CHL2				S	**Sg**	**06 49 22.9**	**+0.8**
CHL1	**Volc¡n Chiles**	**0.12**	**301**	⇓P	**Pg**	**06 49 21.4**	**+0.4**
CHL1				S	**Sg**	**06 49 23.3**	**+0.7**
ECEN	**Cerro Negro**	**0.15**	**306**	⇑P	**Pg**	**06 49 22.1**	**+0.3**
LNGL	**El Angel-Carch**	**0.16**	**273**	⇓P	**Pg**	**06 49 22.3**	**+0.5**
CMBC	**Cumbal**	**0.21**	**6**	P	**Pg**	**06 49 23.4**	**+0.7**
CMBC				S	**Sg**	**06 49 26.4**	**+0.9**
CMBC	**Cumbal**	**0.21**	**6**	⇓P	**Pg**	**06 49 23.4**	**+0.7**
CHMA	**Chilma**	**0.25**	**301**	⇑P	**Pg**	**06 49 24.0**	**+0.5**
BONI	**La Bonita**	**0.42**	**131**	P	**Pg**	**06 49 26.6**	**-0.1**
BONI				S	**Sg**	**06 49 31.7**	**-0.6**
BONI	**La Bonita**	**0.42**	**131**	⇑P	**Pg**	**06 49 26.6**	**-0.1**
YAHU	**Yahuarcocha**	**0.42**	**212**	⇓P	**Pg**	**06 49 27.2**	**+0.4**
YAHU				S	**Sb**	**06 49 33.9**	**-2.1**
AIB2	**Ibarra (Univer**	**0.47**	**214**	P	**Pg**	**06 49 28.2**	**+0.6**
URCU	**Urcuqui**	**0.50**	**234**	⇓P	**Pb**	**06 49 28.7**	**-1.7**
ALIT	**Ecuador-Imbabu**	**0.52**	**277**	P	**Pb**	**06 49 28.5**	**-1.9**
ALIT				S	**Sb**	**06 49 36.0**	**-2.5**
LITE1	**Lita**	**0.52**	**277**	⇓P	**Pb**	**06 49 28.6**	**-1.9**
IMBA	**Imbabura, San**	**0.57**	**218**	⇓P	**Pb**	**06 49 31.2**	**-0.3**
ACOT	**Cotacachi (Cas**	**0.61**	**225**	P	**Pb**	**06 49 31.3**	**-0.9**
COTA	**Cotacachi**	**0.63**	**231**	⇓P	**Pb**	**06 49 31.4**	**-1.1**
CUIC	**Cuicocha-Domo**	**0.67**	**230**	⇓P	**Pb**	**06 49 31.7**	**-1.4**
CUSW	**Cuicocha Oeste**	**0.67**	**229**	⇓P	**Pb**	**06 49 32.2**	**-1.1**
CAYA	**Cayambe**	**0.67**	**192**	⇑P	**Pg**	**06 49 31.4**	**-0.1**
CAYA				S	**Sg**	**06 49 40.6**	**+0.4**
CUSE	**Cuicocha Este**	**0.70**	**232**	⇓P	**Pg**	**06 49 32.1**	**+0.1**
ANGU	**Angureal**	**0.70**	**193**	⇑P	**Pg**	**06 49 32.0**	**0.0**
GCUF	**Volcan Galeras**	**0.70**	**46**	P	**Pg**	**06 49 32.0**	**-0.1**
GCUF				S	**Sg**	**06 49 41.8**	**+0.6**
CAYR	**Refugio Cayamb**	**0.73**	**193**	⇓P	**Pg**	**06 49 32.5**	**-0.1**
CAYR				S	**Sg**	**06 49 42.5**	**+0.3**
OTAV	**Otavalo**	**0.78**	**231**	P	**Pg**	**06 49 33.4**	**-0.1**
OTAV				S	**Sb**	**06 49 44.9**	**-1.4**
OTAV	**Otavalo**	**0.78**	**231**	⇓P	**Pg**	**06 49 33.5**	**-0.1**
CASC	**Dorado de Casc**	**0.78**	**139**	⇑P	**Pg**	**06 49 33.5**	**0.0**
CASC				S	**Sg**	**06 49 44.3**	**+0.6**
REVN	**San Rafael**	**0.83**	**165**	⇑P	**Pg**	**06 49 34.2**	**-0.4**
AV03	**Acelerografo,**	**0.86**	**142**	⇑P	**Pg**	**06 49 34.7**	**-0.4**
AV03				S	**Sg**	**06 49 46.3**	**+0.1**
AV05	**Acelerografo,**	**0.94**	**170**	P	**Pg**	**06 49 36.2**	**-0.5**
AV11	**Acelerografo,**	**0.96**	**213**	P	**Pn**	**06 49 38.6**	**-0.7**
PULU	**Pululahua**	**0.96**	**223**	⇓P	**Pg**	**06 49 37.0**	**-0.1**
PAC1	**Pacto, Paraso**	**1.05**	**244**	P	**Pg**	**06 49 38.0**	**-0.7**
PAC1	**Pacto, Paraso**	**1.05**	**244**	⇓P	**Pg**	**06 49 38.1**	**-0.7**
YANA	**Yana**	**1.11**	**221**	P	**Pb**	**06 49 39.9**	**-0.9**
APS1	**Acelerografo,**	**1.12**	**124**	P	**Pb**	**06 49 40.3**	**-0.4**
EPNL	**EPN Laboratori**	**1.14**	**214**	P	**Pn**	**06 49 41.2**	**-0.6**
SNLR	**San Lorenzo-Es**	**1.14**	**299**	⇑P	**Pn**	**06 49 41.1**	**-0.5**
PINO	**Pino**	**1.17**	**221**	P	**Pg**	**06 49 40.7**	**-0.3**
GGPC	**Guagua Pichinc**	**1.18**	**220**	⇓P	**Pg**	**06 49 40.8**	**-0.3**
TERV	**Terraza Guagua**	**1.18**	**220**	⇓P	**Pg**	**06 49 41.0**	**-0.2**
JUA2	**San Juan 2**	**1.21**	**219**	⇓P	**Pb**	**06 49 41.4**	**-1.0**
ANTI	**Antisana**	**1.22**	**195**	P	**Pb**	**06 49 41.5**	**-1.1**
CRUC	**La Cruz**	**1.22**	**47**	P	**Pb**	**06 49 41.7**	**-0.9**
CRUC				S	**Sn**	**06 58.7**	**-1.5**
GGPT	**Toaza - Volcan**	**1.23**	**219**	⇓P	**Pb**	**06 49 41.6**	**-1.0**
ANTS	**Antisana-Sarah**	**1.26**	**195**	⇑P	**Pn**	**06 49 42.3**	**-1.5**
ANTG	**Antisana-Guama**	**1.29**	**198**	⇑P	**Pn**	**06 49 42.9**	**-1.3**
ANTM	**Antisana-La Mi**	**1.31**	**197**	P	**Pn**	**06 49 43.4**	**-1.0**
PITA	**Cotopaxi Volc**	**1.41**	**205**	P	**Pb**	**06 49 45.4**	**-0.5**
BBAC	**Balboa, Cauca**	**1.41**	**25**	P	**Pb**	**06 49 44.7**	**-1.1**
BBAC				S	**Sg**	**06 50 03.8**	**-0.3**
BBAC	**Balboa, Cauca**	**1.41**	**25**	⇑P	**Pb**	**06 49 44.9**	**-0.9**
VC1	**Cotopaxi 1**	**1.47**	**202**	P	**Pb**	**06 49 46.3**	**-0.7**
BVC2	**Cotopaxi Volca**	**1.49**	**202**	P	**Pb**	**06 49 46.8**	**-0.5**
BTAM	**Cotopaxi Volca**	**1.50**	**201**	P	**Pg**	**06 49 47.7**	**+0.3**
TAMB	**Tambo**	**1.51**	**200**	P	**Pg**	**06 49 47.6**	**+0.1**
BREF	**Cotopaxi Volca**	**1.51**	**203**	P	**Pg**	**06 49 47.9**	**+0.2**
BNAS	**Cotopaxi Volca**	**1.53**	**204**	P	**Pg**	**06 49 49.4**	**+1.4**
BMOR	**Cotopaxi Volca**	**1.58**	**203**	P	**Pg**	**06 49 49.0**	**+0.2**
SLOR	**San Lorenzo -**	**1.59**	**204**	P	**Pg**	**06 49 49.1**	**0.0**
BRRN	**Barrancas-Volc**	**1.63**	**203**	P	**Pb**	**06 49 49.1**	**-0.6**
SRAM	**San Ramn-Vol**	**1.64**	**206**	P	**Pg**	**06 49 50.2**	**+0.2**
ILLI	**Illinizas Sur**	**1.69**	**212**	P	**Pg**	**06 49 50.6**	**-0.3**
POPC	**Popayan, Colom**	**2.14**	**33**	P	**Pb**	**06 49 56.7**	**-1.5**
POPC				P	**Pb**	**06 49 56.7**	**-1.5**
POPC				P	**Pb**	**06 49 56.8**	**-1.5**
POPC				S	**Sb**	**06 50 25.0**	**-0.4**
PUYO	**Puyo, Santa Ro**	**2.22**	**185**	P	**Pb**	**06 49 58.0**	**-1.5**
POND	**Pondoa**	**2.22**	**196**	P	**Pb**	**06 49 59.0**	**-0.7**
BULB	**Ulba Tungurahu**	**2.23**	**195**	P	**Pb**	**06 50 00.2**	**+0.4**
JUI6	**Juive**	**2.23**	**196**	P	**Pg**	**06 50 00.6**	**-0.8**
FLF1	**Flavio Alfaro-**	**2.27**	**242**	P	**Pb**	**06 49 59.2**	**-1.1**
GR1C	**Gorgona, Isla**	**2.28**	**352**	P	**Pn**	**06 49 56.1**	**-1.1**
GR1C				S	**Sn**	**06 50 24.4**	**-1.4**
FLOC	**Florencia**	**2.35**	**69**	P	**Pb**	**06 49 59.8**	**-1.9**
FLOC				S	**Sg**	**06 50 33.0**	**-1.2**
JAMC	**Jamundi, Valle**	**2.73**	**25**	P	**Pb**	**06 50 06.8**	**-1.5**
JAMC				S	**Sb**	**06 50 43.2**	**+0.9**
GARC	**Garzon, Huila**	**2.76**	**58**	P	**Pb**	**06 50 07.6**	**-1.2**
GARC				S	**Sg**	**06 50 45.4**	**-2.0**
BETC	**Betania**	**3.09**	**51**	P	**Pb**	**06 50 15.5**	**+1.2**
PTLC	**Puerto Leguiza**	**3.10**	**100**	P	**Pb**	**06 50 11.2**	**-3.3**
PTLC				S	**Sb**	**06 50 49.7**	**-3.1**
PTLC	**Puerto Leguiza**	**3.10**	**100**	P	**Pn**	**06 50 10.9**	**+2.4**
MALC	**Bahia Malaga**	**3.30**	**9**	P	**Pb**	**06 50 13.5**	**-4.3**
MALC	**Bahia Malaga**	**3.30**	**9**	P	**Pb**	**06 50 14.3**	**-3.5**
YOTC	**Yotoco, Valle**	**3.56**	**25**	P	**Pb**	**06 50 18.8**	**-3.6**
ORTC	**Ortega, Tolima**	**4.09**	**39**	P	Pb	06 50 26.5	-4.8
ORTC				S	**Sg**	**06 51 26.2**	**-3.8**
PRAC	**Prado**	**4.19**	**45**	P	**Pb**	**06 50 29.5**	**-3.5**
PIZC	**Pizarro, Choco**	**4.23**	**7**	P	**Pg**	**06 50 41.6**	**+1.9**
MACC	**Macarena, Meta**	**4.24**	**71**	P	**Pn**	**06 50 26.8**	**+2.6**
URMC	**La Uribe, Meta**	**4.27**	**54**	P	Pb	06 50 29.1	-5.4
PLMC	**San Jos del P**	**4.43**	**21**	P	Pn	06 50 30.5	+3.6
GUY2C	**Guyana, Caldas**	**5.10**	**29**	P	Pn	06 50 41.1	+4.6
VILC	**Villavicencio,**	**5.34**	**51**	P	Pn	06 50 44.7	+5.3
ROSC	**El Rosal**	**5.39**	**41**	P	Pn	06 50 46.0	+5.6
	5.0nm,0.3s,baz=197,slow=20,SNR=10						
ROSC				Lg	Lg	06 52 13.7	
	0.7nm,0.3s,baz=225,slow=16,SNR=3.6						
	21nm,0.4s						
ROSC	**El Rosal**	**5.39**	**41**	P	Pn	06 50 45.4	+5.0
CBOC	**Ciudad Bolivar**	**5.42**	**20**	P	Pn	06 50 45.0	+4.5
NORC	**Norcasia**	**5.64**	**32**	P	Pb	06 50 50.0	-7.9
CHIC	**Chingaza**	**5.65**	**47**	P	Pb	06 50 51.1	-7.0
PTBC	**PUERTO BERRIO,**	**6.69**	**30**	P	**Pn**	**06 51 00.3**	**+2.4**
	649nm39nm,0.8s						
RUSC	**La Rusia**	**6.99**	**43**	P	Pn	06 51 08.5	+6.0

APAC	**Apartado, Choc**	**7.23**	**10**	P	**Pn**	**06 51 08.2**	**+2.9**
	14nm,0.8s						
UREC	**San Jos de Ur**	**7.34**	**18**	P	Pn	06 51 11.8	+4.9
ZARC	**Zaragoza, Cauc**	**7.35**	**24**	P	**Pn**	**06 51 09.8**	**+2.9**
	43nm,0.7s						
BARC	**Barichara**	**7.45**	**39**	P	**Pn**	**06 51 11.8**	**+3.2**
ATAH	**Atahualpa**	**7.83**	**184**	P	Pn	06 51 18.7	+4.7
	0.7nm,0.3s,baz=3.7,slow=5.5,SNR=8.9						
ATAH				LR	LR	06 54 27.3	
	comp=Z,240nm,21.8s,baz=17,slow=38						
	25nm,0.9s						
TAMC	**Tame, Arauca**	**8.28**	**47**	P	**Pn**	**06 51 21.6**	**+1.8**
SDV	**Santo Domingo**	**10.83**	**41**	P	**Pn**	**06 51 57.9**	**+3.1**
	0.4nm,0.3s,baz=230,slow=12,SNR=7.4						
SDV				LR	LR	06 56 54.5	
	comp=Z,209nm,20.4s,baz=234,slow=41						
	11nm,0.9s						
JTS	**Las Juntas de**	**11.84**	**324**	LR	LR	06 56 22.6	
	comp=Z,69nm,18.5s,baz=170,slow=35						
PCRV	**Puerto La Cruz**	**16.14**	**54**	LR	LR	07 00 34.9	
	comp=Z,326nm,18.4s,slow=41						
LPAZ	**La Paz**	**19.44**	**151**	P	**Pn**	**06 53 50.2**	**+2.0**
	0.1nm,0.3s,baz=7.7,slow=12,SNR=4.4						
	2.2nm,1.0s						
SJG	**San Juan**	**20.75**	**33**	LR	LR	07 02 14.4	
	comp=Z,110nm,21.3s,baz=224,slow=37						
SIV	**San Ignacio**	**23.46**	**136**	LR	LR	07 05 30.0	
	comp=Z,66nm,19.3s,baz=14,slow=41						
MDP	**Montagnes des**	**25.54**	**80**	LR	LR	07 05 16.9	
	comp=Z,95nm,20.5s,baz=322,slow=37						
TXAR	**Lajitas Array**	**37.62**	**321**	P	**P**	**06 56 36.4**	**+1.3**
	0.6nm,1.0s,baz=133,slow=8.1,SNR=4.9						
	0.6nm,1.0s						
RCBR	**Riachuelo**	**42.38**	**99**	LR	LR	07 15 22.4	
	comp=Z,32nm,20.2s,baz=248,slow=37						
NVAR	**Mina Array Bea**	**52.74**	**320**	P	**P**	**06 58 35.6**	**+0.3**
	0.2nm,0.3s,baz=131,slow=6.8,SNR=4.0						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**67.47**	**342**	P	**P**	**07 00 15.7**	**+0.1**
	0.4nm,0.8s,baz=145,slow=6.1,SNR=5.4						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**80.52**	**336**	P	**P**	**07 01 32.3**	**+0.3**
	0.4nm,0.8s,baz=87,slow=5.8,SNR=2.4						
	0.4nm,0.8s						

*BER **14** 06:53:24.1±2.0, 74°42N×9°27E, h10km, mb(Pn)3.5, Confirmed Earthquake*
*KOLA **14** 06:53:31.2, 74°23N×10°66E, h0km, ML1.7, Norwegian sea*

ISC 14 06:53:21.7±2.5, 74°45N±0°09×9°5E±0°2, h10km, n10, σ2°46/17, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**2.57**	**84**	*e*P	**Pn**	**06 54 04.2**	**+1.0**
BJO1				*e*S	**Sn**	**06 54 34.5**	**-0.1**
BJO1				IAML		06 54 36.2	
	comp=Z,12nm,0.6s						
HSPB	**Hornsund (broa**	**2.98**	**27**	*e*P	**Pn**	**06 54 10.1**	**+1.2**
HSPB				IAML		06 54 53.4	
	comp=Z,1.8nm,0.5s						
BRBA	**Barentsburg A**	**3.81**	**15**	*e*P	**Pn**	**06 54 21.9**	**+1.7**
BRBA				*e*S	**Sn**	**06 55 02.1**	**-2.9**
BRBA				IAML		06 55 06.5	
	comp=Z,5.1nm,0.9s						
BRBB	**Barentsburg B**	**3.84**	**15**	*e*P	**Pn**	**06 54 22.2**	**+1.5**
BRBB				*e*S	**Sn**	**06 55 05.6**	**-0.2**
SPA0	**Spitsbergen Ar**	**4.09**	**20**	*e*P	**Pn**	**06 54 26.4**	**+2.2**
SPA0				*e*S	**Sn**	**06 55 11.7**	**-0.5**
SPA0				IAML		06 55 26.3	
	comp=Z,2.7nm,0.9s						
HOPEN	**Hopen**	**4.42**	**55**	*e*P	**Pn**	**06 54 30.8**	**+2.1**
HOPEN				*e*S	**Sn**	**06 55 18.2**	**-1.9**
HOPEN				IAML		06 55 24.5	
	comp=Z,3.6nm,0.5s						
KBS	**Kingsbay**	**4.54**	**6**	*e*P	**Pn**	**06 54 31.0**	**+0.6**
KBS				*e*S	**Sn**	**06 55 21.1**	**-2.0**
KBS				IAML		06 55 39.8	
	comp=Z,3.1nm,0.7s						
ARCES	**ARCESS Array B**	**6.98**	**127**	P	**Pn**	**06 55 07.8**	**+4.0**
ARCES				S	**Sn**	**06 56 19.3**	**-3.8**
DAG	**Danmarks Havn**	**7.33**	**302**	*e*S	Sn	06 56 17.2	-14
VADS	**Vadso**	**7.43**	**116**	P	**Pn**	**06 55 12.8**	**+2.8**
VADS				S	**Sn**	**06 56 30.5**	**-3.6**

*IDC **14** 07:03:54.8±1.2, 49°75N×81°64E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=18.3km s-min=8.5km az=54.0*
*NNC **14** 07:03:58.7±1.6, 49°46N×81°07E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=38.1km s-min=5.0km az=54.0, Suspected Mining explosion.*

ISC 14 07:03:49.1±1.4, 49°85N±0°05×82°12E±0°08, h0km, n8, σ0°46/8, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.41**	**293**	⇑Pn	**Pb**	**07 04 33.6**	**+0.4**
KURK				⇑Lg	Lg	07 05 02.8	
	24nm,0.6s						
KURBB	**Kurchatov Arra**	**2.43**	**290**	Pg	**Pb**	**07 04 34.1**	**+0.5**
	0.3nm,0.3s,baz=112,slow=19,SNR=33						
KURBB				Lg	Lg	07 05 03.8	
	0.9nm,0.3s,baz=108,slow=30,SNR=28						
KURBB	**Kurchatov Arra**	**2.43**	**290**	⇑Pn	**Pb**	**07 04 33.5**	**-0.2**
KURBB				⇓Lg	Lg	07 05 03.4	
	48nm,0.7s						
MAKZ	**Makanchi**	**3.04**	**182**	⇓Pn	**Pb**	**07 04 44.5**	**+0.3**
	1.0nm,0.4s						
MAKZ				⇓Lg	Lg	07 05 24.9	
	8.2nm,0.7s						
MK31	**Makanchi Array**	**3.06**	**178**	⇑Pn	**Pb**	**07 04 44.6**	**+0.2**
	1.6nm,0.5s,baz=358,slow=12,SNR=36						
MK31				Lg	Lg	07 05 26.1	
	6.4nm,0.6s,baz=7.9,slow=31,SNR=12						
MKAR	**Makanchi Array**	**3.06**	**178**	Pn	**Pb**	**07 04 44.9**	**+0.5**
	0.9nm,0.3s,baz=352,slow=15,SNR=39						
MKAR				Pg	**Pg**	**07 04 47.2**	**-0.5**
	1.0nm,0.3s,baz=351,slow=15,SNR=23						
MKAR				Lg	Lg	07 05 26.1	
	1.3nm,0.3s,baz=342,slow=30,SNR=16						
	2.8nm,0.5s						
ZALV	**Zalesovo Beam**	**4.43**	**21**	Pn	**Pb**	**07 05 08.0**	**+0.2**
	0.2nm,0.3s,baz=204,slow=18,SNR=2.6						
ZALV				Lg	Lg	07 06 21.3	
	1.9nm,0.3s,baz=200,slow=26,SNR=13						
	0.5nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.44**	**21**	I	I	07 33 10.0	
	baz=202,slow=334,SNR=4.1						

TXNET 14 07:04:31.9, 31°7N±0°7×104°4W±0°7, h6km±2km, ML1.4/6, Error ellipse: s-maj=1.1km s-min=1.1km az=62.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.40**	**46**	P	Pg	07 04 39.6	-0.1
TPB11				S	Sg	07 04 45.0	+0.1
PECS	**Pecos**	**0.52**	**124**	P	Pg	07 04 42.1	+0.1
PECS				S	Sg	07 04 48.7	0.0
GDL2	**Guadalupe Moun**	**0.54**	**1**	P	Pg	07 04 42.6	+0.2
TPB12	**Southwest of T**	**0.57**	**142**	S	Sg	07 04 50.6	+0.2
TPB07	**Mentone**	**0.60**	**97**	S	Sg	07 04 52.4	+0.9
TPB10	**Southeast of T**	**0.65**	**125**	P	Pg	07 04 44.7	+0.3
TPB10				S	Sg	07 04 53.4	+0.6
CLNB	**Carlsbad**	**0.73**	**35**	S	Sg	07 04 56.3	+0.7
MNTX	**Cornudas Mount**	**0.86**	**273**	P	Pg	07 04 48.7	+0.2
MNTX				S	Sg	07 05 00.4	+0.7
TPB01	**Permian Basin**	**0.87**	**145**	P	Pg	07 04 48.0	-0.7
TPB01				S	Sg	07 04 59.3	-0.8
VHRN	**Van Horn**	**1.02**	**211**	P	Pg	07 04 51.3	-0.1
VHRN				S	Sg	07 05 05.0	+0.3
HTMS	**Hat Mesa**	**1.02**	**37**	S	Sg	07 05 05.3	+0.3
TPB05	**Hovey Rd**	**1.16**	**129**	S	Sg	07 05 09.0	-0.2
MNHN	**Monahans**	**1.41**	**103**	S	Sn	07 05 17.1	0.0
ALPN	**Alpine**	**1.43**	**154**	P	Pn	07 04 57.7	-0.8
ALPN				S	Sb	07 05 16.5	-1.0
CPRX	**Cap Rock**	**1.43**	**17**	P	Pn	07 04 58.2	-0.4
ODSA	**Odessa**	**1.62**	**73**	P	Pn	07 05 00.7	-0.3
ODSA				S	Sb	07 05 23.0	+0.1
TMB04	**Seminole**	**1.86**	**58**	S	Sg	07 05 31.2	-0.7
TMB02	**Rankin**	**2.05**	**102**	S	Sb	07 05 35.2	-0.1
TX31	**Lajitas Ar. Si**	**2.40**	**165**	P	Pn	07 05 13.1	+1.3
TX31				Pg	Pb	07 05 15.1	-0.4
SAND	**Sanderson**	**2.57**	**131**	P	Pn	07 05 15.8	+1.6

IDC 14 07:11:10.7±1.9, 1°65S×128°48E, h0km, mb3.2/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=173.2km s-min=28.0km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.07**	**163**	P	P	07 15 34.9	0.0
	0.1nm,0.3s,baz=342,slow=11,SNR=5.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**22.51**	**167**	P	P	07 16 12.1	-0.1
	0.3nm,0.8s,baz=351,slow=12,SNR=6.8						
	0.3nm,0.8s						
SONM	**Songino Array**	**52.91**	**341**	P	P	07 20 28.7	-0.1
	0.3nm,0.5s,baz=133,slow=6.1,SNR=1.8						
	0.3nm,0.5s						

*NNC **14** 07:16:14.5±0.5, 49°88N×73°77E, h8km±4km, mb3.6, mpv3.3, Error ellipse: s-maj=5.9km s-min=3.6km az=173.0, Suspected Mining explosion.*
*SOME **14** 07:16:16.5, 49°65N×73°67E, h5km*

ISC 14 07:16:12.2±1.1, 49°86N±0°05×73°84E±0°04, h0km, n24, σ2°09/28, 6C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**0.76**	**280**	P	**Pb**	**07 16 29.3**	**+0.9**
	7.5nm,0.7s						
BRZS				S	**Sb**	**07 16 38.4**	**-0.9**
	36nm,0.8s						
BRZS	**Berezniki**	**0.76**	**280**	*e*P	**Pb**	**07 16 29.3**	**+0.9**
	3.0nm,0.2s						
BRZS				*e*S	**Sb**	**07 16 38.4**	**-0.9**
	19nm,0.4s						
OTUK	**Ortayu**	**1.90**	**212**	P	**Pb**	**07 16 48.3**	**+0.6**
	2.3nm,0.6s						
OTUK				S	**Sn**	**07 17 11.3**	**+0.9**
	4.8nm,0.7s						
OTUK	**Ortayu**	**1.90**	**212**	⇓Pn	**Pb**	**07 16 47.6**	**-0.1**
	3.1nm,0.6s						
OTUK				⇑Sn	**Sb**	**07 17 12.1**	**+0.1**
	16nm,0.6s						
KURBB	**Kurchatov Arra**	**3.11**	**74**	⇓Pn	**Pn**	**07 17 03.3**	**+0.9**
	2.5nm,0.7s						
KURBB				⇑Pg	**Pg**	**07 17 12.5**	**+0.7**
	2.7nm,0.6s						
KURBB				⇓Lg	Lg	07 17 54.1	
	29nm,0.8s						
KURK	**Kurchatov**	**3.18**	**73**	⇑Lg	Lg	07 17 56.5	
	12nm,0.7s						
BVA0	**Borovoye Array**	**3.83**	**327**	⇑Lg	Lg	07 18 14.4	
	5.4nm,0.7s,baz=134,slow=32,SNR=4.0						
BRVK	**Borovoye**	**3.90**	**327**	⇓Lg	Lg	07 18 14.7	
	19nm,0.8s						
BTLS	**Baital**	**4.82**	**178**	Pg	**Pg**	**07 17 41.7**	**-2.9**
	0.7nm,0.2s						
BTLS				Lg	Lg	07 18 43.1	
	3.2nm,0.7s						
BTLS	**Baital**	**4.82**	**178**	*e*P	**Pg**	**07 17 41.7**	**-2.9**
	0.7nm,0.2s						
BTLS				*e*S	**Sg**	**07 18 43.1**	**-4.0**
	3.2nm,0.7s						
MAKZ	**Makanchi**	**6.22**	**116**	⇑Lg	Lg	07 19 31.7	
	5.0nm,1.0s						
KRBS	**Karabastau**	**6.29**	**168**	Pg	**Pg**	**07 18 09.8**	**-2.9**
	0.3nm,0.2s						
KRBS				Lg	Lg	07 19 31.5	
	4.4nm,0.3s						
MK31	**Makanchi Array**	**6.41**	**115**	⇑Lg	Lg	07 19 38.9	
	1.6nm,0.5s,baz=302,slow=27,SNR=6.9						
KTBS	**Karatobe**	**6.45**	**161**	Pg	**Pg**	**07 18 14.5**	**-1.3**
	1.0nm,0.5s						
KTBS				Lg

comp=Z,272nm,0.3s
SHO pmax pmax
comp=E,141nm,0.2s
SHO smax smax
comp=E,2µm,1.1s
SHO smax smax
comp=N,910nm,0.7s
SHO smax smax
comp=N,705nm,0.6s
SHO smax smax
comp=E,981nm,0.5s
SHO Shikotan 3.06 236 *i* P Pn 07 19 36.0 -2.1
SHO AMB AMB 07 19 44.0
comp=E,280nm,0.3s
SHO *e*S **Sn 07 20 11.0 -2.6**
SHO A A 07 20 16.0
comp=E,2µm,0.5s
SHO A A 07 20 16.0
comp=E,1µm,0.5s
YUK Yuzh-Kuril'sk 3.56 245*c i*PN **Pn 07 19 45.6 +0.7**
YUK *e*S **Sn 07 20 28.1 +2.2**
YUK pmax pmax
comp=E,150nm,0.2s
YUK pmax pmax
comp=Z,495nm,0.2s
YUK pmax pmax
comp=N,154nm,0.3s
YUK smax smax
comp=E,4µm,1.1s
YUK smax smax
comp=N,2µm,0.9s
YUK smax smax
comp=E,2µm,0.4s
YUK smax smax
comp=N,904nm,0.3s
YUK Yuzh-Kuril'sk 3.56 245 *i* P **Pn 07 19 45.2 +0.3**
YUK AMB AMB 07 19 48.5
comp=N,500nm,0.2s
YUK *e*S **Sn 07 20 25.1 -0.8**
YUK A A 07 20 30.7
comp=N,2µm,1.1s
YUK A A 07 20 30.7
comp=N,4µm,1.1s
YUK A A 07 20 36.0
comp=N,900nm,0.4s
YUK A A 07 20 36.0
comp=N,2µm,0.4s
RUSJ Misakicho 3.93 249 *e*PN **Pn 07 19 51.9 +2.0**
RUSJ *e*S **Sn 07 20 38.8 +4.0**
NMR Nemuro--Hokkai 4.00 237⇑*i*PN Pn 07 19 48.7 -2.2
NMR *e*S **Sn 07 20 34.5 -2.1**
NMR Nemuro--Hokkai 4.00 237 *i* P Pn 07 19 48.7 -2.2
NMR *e*S **Sn 07 20 34.5 -2.1**
AKK Akkeshi 4.73 238 *e*P **Pn 07 19 59.7 -1.2**
YSS Yuzhno-Sakhali 5.41 287 Pn **Pn 07 20 11.4 +1.3**
YSS Yuzhno-Sakhali 5.41 287 *e*PN **Pn 07 20 11.3 +1.2**
YSS *e*S **Sn 07 21 10.7 -0.2**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS smax smax
comp=N,40nm,0.7s
YSS MLR MLR
comp=Z,500nm,11.0s
YSS MLR MLR
comp=N,400nm,13.0s
YSS Yuzhno-Sakhali 5.41 287 *e*P **Pn 07 20 11.9 +1.8**
YSS *e*S **Sn 07 21 11.9 +1.0**
JKA Kamikawa-asahi 5.70 257 Pn **Pn 07 20 16.1 +2.0**
JKA Kamikawa-asahi 5.70 257 *e*P **Pn 07 20 16.1 +2.0**
ASAJ Asahikawa 5.70 257 P **Pn 07 20 15.9 +1.8**
comp=N,20nm,0.6s,baz=74,slow=20,SNR=12
ASAJ LR LR 07 22 41.1
comp=N,233nm,21.4s,baz=221,slow=40
ASAJ Asahikawa 5.70 257 PN **Pn 07 20 16.1 +2.0**
ERM Erimo 6.33 238 Pn **Pn 07 20 23.0 +0.3**
ERM Erimo 6.33 238*ce*PN **Pn 07 20 22.9 +0.2**
ERM pmax pmax
comp=Z,185nm,0.7s
SKR Severo-Kuril's 6.35 35 *e*PN **Pn 07 20 24.8 +1.9**
SKR *e*S **Sn 07 21 33.8 -0.1**
SKR pmax pmax
comp=Z,327nm,0.7s
SKR smax smax
comp=E,101nm,0.5s
SKR smax smax
comp=N,303nm,0.8s
SKR Severo-Kuril's 6.35 35 *e*P **Pn 07 20 22.4 -0.5**
SKR AMB AMB 07 20 26.5
comp=N,330nm,0.7s
SKR *e*S **Sn 07 21 30.5 -3.4**
SKR A A 07 21 38.5
comp=N,300nm,0.8s
SKR A A 07 21 38.5
comp=N,100nm,0.8s
PAU Pauzhetka 7.24 34 *e*P **Pn 07 20 35.8 +0.8**
PAU AMB AMB 07 20 37.9
comp=N,80nm,0.5s
PAU *e*S **Sn 07 21 54.4 -1.2**
PAU A A 07 22 01.2
comp=N,130nm,0.4s
PAU A A 07 22 01.2
comp=N,150nm,0.4s
TYV Tymovskoe 7.31 318 *e*PN **Pn 07 20 38.0 +2.0**
TYV *e*S **Sn 07 21 58.7 +1.3**
TYV pmax pmax
comp=Z,19nm,1.1s
TYV pmax pmax
comp=Z,400nm,4.8s
TYV smax smax
comp=N,16nm,0.9s
TYV smax smax
comp=E,40nm,0.9s
TYV smax smax
comp=N,500nm,4.1s
TYV smax smax
comp=E,800nm,4.1s
TYV Tymovskoe 7.31 318 *e*P **Pn 07 20 38.0 +2.0**
TYV AMB AMB 07 20 42.1
comp=E,400nm,5.0s
TYV *e*S **Sn 07 21 59.7 +2.3**
TYV A A 07 22 15.8
comp=E,500nm,4.0s
TYV A A 07 22 15.8
comp=E,800nm,4.0s
PEA0B Petropavlovsk- 8.88 30 **Pn 07 20 58.0 +0.7**
PEA0B Petropavlovsk- 8.88 30*ce*PN **Pn 07 20 58.5 +1.1**
PETK Petropavlovsk- 8.88 30 **Pn 07 20 57.7 +0.4**
PETK Petropavlovsk- 8.88 30 P **Pn 07 20 58.7 +1.3**
comp=E,75nm,0.7s,baz=199,slow=13,SNR=52
PETK LR LR 07 24 38.0
comp=E,470nm,20.8s,baz=204,slow=39
PET Petropavlovsk 9.16 33 Pn **Pn 07 21 02.3 +1.1**
NKL Nikolayevsk 9.79 324 *e*P **Pn 07 21 11.2 +1.4**
NKL AMB AMB 07 21 14.4
comp=E,30nm,0.8s
NKL *e*S **Sn 07 22 59.3 +1.5**
MAJO Matsushiro 12.88 229 Pn **Pn 07 21 53.6 +1.6**
MAJO Matsushiro 12.88 229 *i* PN Pn 07 21 48.5 -3.5
MJAR Matsushiro Arr 12.88 229 P Pn 07 21 48.8 -3.2
comp=E,2.5nm,0.5s,baz=22,slow=12,SNR=7.4
MJB9 Matsu-Tunnel 12.88 229 Pn **Pn 07 21 54.7 +2.7**
KLR Kul'dur 13.07 293 P **Pn 07 21 58.2 +3.7**
comp=E,2.3nm,0.8s,baz=105,slow=16,SNR=11
KLR LR LR 07 27 04.0
comp=E,149nm,19.7s,baz=66,slow=38
KLR Kul'dur 13.07 293 *e*PN **Pn 07 21 57.5 +3.0**
KLR pmax pmax
comp=Z,8.0nm,1.2s
KLR Kul'dur 13.07 293 *e*P **Pn 07 21 57.5 +3.0**
USRK Ussuriysk Ar. 13.08 270 P **Pn 07 21 56.2 +1.6**
comp=Z,1.7nm,0.7s,baz=101,slow=13,SNR=2.2
USRK LR LR 07 26 36.0
comp=Z,132nm,20.9s,baz=55,slow=35
MA2 Magadan 13.96 1 Pn **Pn 07 22 06.0 0.0**
MA2 Magadan 13.96 1 P **Pn 07 22 06.2 +0.2**
comp=Z,15nm,0.7s,baz=181,slow=10,SNR=17
MA2 LR LR 07 27 08.0
comp=Z,145nm,20.9s,baz=117,slow=36
MA2 Magadan 13.96 1*ce*P **Pn 07 22 05.2 -0.8**
MA2 pmax pmax
comp=Z,17nm,0.7s
MA2 Magadan 13.96 1 *e*P **Pn 07 22 05.2 -0.8**
MDJ Mudanjiang 14.67 273 P **Pn 07 22 15.6 +0.2**
MDJ sP P 07 22 34.3 +15
MDJ S **Sn 07 24 53.6 -3.2**
MDJ sS S 07 25 08.9 -2.1
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ LR LR
comp=Z,360nm,5.8s
MDJ LR LR
comp=Z,290nm,6.9s
MDJ LR LR
comp=Z,310nm,7.5s
JHJ Hachijo jima 2 14.91 217 LR LR 07 28 43.8
comp=Z,36nm,18.9s,baz=100,slow=39
HEH HeiHe 16.01 295 *e*P **P 07 22 35.3 +0.9**
HEH pmax pmax
comp=Z,9.0nm,1.1s
BNX BinXian 16.01 279⇑P **P 07 22 35.5 +1.0**
BNX pmax pmax
comp=Z,4.0nm,1.5s
ZEA Zeya 16.93 307 *e*P **P 07 22 45.5 +1.0**
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA Zeya 16.93 307 *e*P **Pn 07 22 44.1 +0.4**
SHEM Shemya Is, Ala 17.03 57 LR LR 07 27 45.1
comp=Z,318nm,20.4s,baz=308,slow=31
SEY Seymchan 17.36 3 P **Pn 07 22 48.8 -0.2**
comp=Z,6.7nm,0.8s,baz=181,slow=11,SNR=19
SEY Seymchan 17.36 3*ce*P **Pn 07 22 47.8 -1.1**
SEY pmax pmax
comp=Z,8.0nm,1.0s
CN2 Changchun 17.76 273 *e*P **P 07 22 54.6 +0.8**
CN2 *e*S **Sn 07 26 05.6 -5.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
KSRS Korea Array 18.62 252 P **P 07 23 05.4 +2.2**
comp=Z,1.1nm,0.5s,baz=57,slow=12,SNR=5.0
KSRS LR LR 07 29 28.3
comp=Z,96nm,20.1s,baz=40,slow=34
JNU Nakatsue 19.50 237 LR LR 07 31 33.0
comp=Z,48nm,21.9s,baz=41,slow=39
YAK Yakutsk 20.28 331 Pn **P 07 23 22.7 +1.6**
YAK Yakutsk 20.28 331 P Pn 07 23 23.2 -0.6
comp=Z,118nm,0.8s,baz=334,slow=3.6,SNR=23
YAK LR LR 07 32 13.6
comp=Z,165nm,18.8s,baz=108,slow=40
YAK Yakutsk 20.28 331 *e*P Pn 07 23 24.4 +0.7
YAK *e**PP pwP 07 23 39.8 +0.6
YAK *e*S Sn 07 27 10.2 -1.4
YAK *e* 07 27 32.9
YAK *e**SS sS 07 27 35.0 +5.6
YAK *e* 07 34 45.8
YAK pmax pmax
comp=Z,105nm,0.9s
YAK pmax pmax
comp=N,40nm,1.5s
YAK pmax pmax
comp=E,25nm,1.5s
YAK smax smax
comp=N,142nm,5.0s
YAK smax smax
comp=E,118nm,4.5s
DL2 Dalian 22.20 263 P **P 07 23 48.9 +7.0**
DL2 pmax pmax
comp=Z,25nm,1.0s
BILL Bilibino 23.93 15 P **P 07 23 59.9 +1.4**
BILL Bilibino 23.93 15 *i* P **P 07 23 56.9 -1.6**
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 23.93 15 *e*P **P 07 23 56.9 -1.6**
JOW Kunigami 25.72 231 LR LR 07 34 22.1
comp=Z,52nm,18.4s,baz=270,slow=36
SPIA Saint Paul Isl 26.77 50 P **P 07 24 23.3 -0.9**
baz=262
P08K Saint George I 27.07 52 P **P 07 24 26.9 -0.1**
baz=264
NJ2 Nanjing 27.82 252 *e*P **P 07 24 35.8 +1.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GAMB Gambell 27.85 36 P **P 07 24 34.0 +0.2**
baz=248
HHC Hu-ho-hao-te 28.45 274 *e*P **P 07 24 41.3 +1.8**
HHC pmax pmax
comp=Z,4.0nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.0s
UNV Unalaska Valle 28.69 58 P **P 07 24 40.0 -1.4**
baz=271
H11N2 WAKE ISLAND Hy 29.24 147 T T 07 56 10.8
baz=337,slow=76,SNR=1365
H11N1 WAKE ISLAND Hy 29.26 147 T T 07 56 12.7
baz=337,slow=76,SNR=980
H11N3 WAKE ISLAND Hy 29.26 147 T T 07 56 12.1
baz=337,slow=76,SNR=1121
M11K Mekoryuk 29.38 44 P **P 07 24 46.9 -0.5**
baz=260
ULN Ulaanbaatar 29.45 290 P **P 07 24 48.3 -0.1**
ULN pmax pmax
comp=Z,8.0nm,2.6s
SONM Songino Array 29.89 290 P **P 07 24 53.7 +1.4**
comp=Z,0.6nm,0.8s,baz=104,slow=12,SNR=2.9
SONM PcP **PcP 07 27 53.6 +0.2**
comp=Z,1.0nm,0.6s,baz=62,slow=3.1,SNR=4.6
SONM LR LR 07 37 49.1
comp=Z,106nm,20.5s,baz=18,slow=38
comp=Z,0.6nm,0.8s
H11S1 WAKE ISLAND Hy 30.28 148 T T 07 57 35.8
baz=338,slow=74
H11S3 WAKE ISLAND Hy 30.29 148 T T 07 57 32.6
baz=338,slow=74
H11S2 WAKE ISLAND Hy 30.30 148 T T 07 57 36.9
baz=338
K13K Kusilvak Mount 30.40 41 P **P 07 24 56.2 -0.3**
K13K Kusilvak Mount 30.40 41 P **P 07 24 55.9 -0.6**
baz=259
FALS False Pass 30.46 55 P **P 07 24 56.9 -0.2**
baz=272
F14K Arctic Creek 30.62 34 P **P 07 24 58.1 -0.3**
baz=251
ANM Nome 30.73 36 P **P 07 24 59.7 +0.4**
ANM Nome 30.73 36 P **P 07 24 58.9 -0.4**
baz=254,SNR=5.4
ANM Nome 30.73 36 P **P 07 24 59.7 +0.4**
ANM pmax pmax
comp=Z,8.0nm,1.0s
LYN LuoYang 30.74 262 *e*P P 07 25 06.8 +7.0
LYN pmax pmax
comp=Z,9.0nm,0.9s
M13K Dall Lake 30.78 45 P **P 07 24 59.0 -0.8**
baz=263
J14K Nanvaranak Lak 31.07 40 P **P 07 25 01.8 -0.6**
baz=258
S12K Black Hills 31.22 54 P **P 07 25 02.4 -1.4**
baz=272
L14K Kuka Creek 31.23 43 P **P 07 25 02.9 -0.8**
baz=262
F15K North Star Dit 31.36 34 P **P 07 25 04.8 -0.1**
baz=253
G15K Niukluk 31.39 36 P **P 07 25 05.2 0.0**
baz=254,SNR=5.5
M14K Bethel 31.50 44 P **P 07 25 05.3 -0.8**
M14K Bethel 31.50 44 P **P 07 25 06.3 +0.2**
baz=263
N14K Kuskokwak Cree 31.55 46 P **P 07 25 07.0 +0.4**
baz=265
O14K Tigyukauivet M 31.71 47 P **P 07 25 07.4 -0.6**
baz=266
L15K Ungalak Mounta 31.85 42 P **P 07 25 08.8 -0.4**
baz=262
K15K Wolf Creek Mou 31.91 41 P **P 07 25 10.3 +0.5**
baz=261
C16K Lisburne Hills 31.98 29 P **P 07 25 09.8 -0.4**
C16K Lisburne Hills 31.98 29 P **P 07 25 10.0 -0.2**
baz=248
H16K Elim 32.05 37 P **P 07 25 10.3 -0.7**
baz=257,SNR=5.6
M15K Kasigluk River 32.12 44 P **P 07 25 11.5 -0.1**
baz=265
G16K Koyuk River 32.19 35 P **P 07 25 11.7 -0.4**
baz=256
GUMO Guam 32.29 190 LR LR 07 35 48.5
comp=Z,75nm,20.7s,baz=45,slow=31
N15K Kwethluk River 32.37 45 P **P 07 25 13.3 -0.5**
baz=266
O15K Ungalikthiuk R 32.45 47 P **P 07 25 14.1 -0.4**
baz=268
J16K Anvik River 32.49 39 P **P 07 25 14.5 -0.4**
baz=261
I17K Unalakleet 32.56 38 P **P 07 25 15.6 +0.2**
baz=260
D17K Noatak River 32.57 31 P **P 07 25 14.8 -0.7**
baz=251,SNR=7.9
CHNA Chernabura Isl 32.68 55 P **P 07 25 15.9 -0.6**
baz=275
RDOG Red Dog Mine 32.75 30 P **P 07 25 16.9 -0.2**
baz=251
C17K DeLong Mountai 32.80 30 P **P 07 25 17.1 -0.4**
baz=250
L16K Owhat River 32.80 42 P **P 07 25 17.3 -0.3**
L16K IAmb IAmb 07 25 19.2
comp=Z,44nm,1.9s
L16K Owhat River 32.80 42 P **P 07 25 17.2 -0.3**
baz=264
E17K Hotham Inlet 32.84 32 P **P 07 25 17.8 0.0**
baz=254,SNR=12
F17K Baldwin Pennin 32.89 34 P **P 07 25 18.0 -0.2**
F17K IAmb IAmb 07 25 19.7
comp=Z,15nm,0.8s
F17K Baldwin Pennin 32.89 34 P **P 07 25 18.0 -0.2**
baz=255
M16K Timber Creek 32.99 44 P **P 07 25 18.9 -0.3**
baz=266
H17K Granite Mounta 33.09 37 P **P 07 25 19.9 -0.2**
baz=259
J17K VABM Dome 33.19 39 P **P 07 25 20.2 -0.7**
baz=262
CHGN Chignik 33.24 52 P **P 07 25 21.3 -0.1**
baz=274
O16K Kokwok River B 33.35 46 P **P 07 25 21.5 -0.8**
baz=269
E18K Tukpahlearik C 33.40 32 P **P 07 25 21.3 -1.4**
baz=254
L17K Donlin 33.40 42 P **P 07 25 22.0 -0.7**
baz=265
K17K Iditarod 33.45 41 P **P 07 25 22.8 -0.4**
baz=264,SNR=5.0
C18K Utukok River 33.54 30 P **P 07 25 23.7 -0.3**
baz=252
F18K Selawik 33.55 34 P **P 07 25 23.6 -0.4**
baz=257,SNR=6.6
B18K Kokolik River 33.57 28 P **P 07 25 23.5 -0.6**
baz=250
M17K Holitna River 33.75 43 P **P 07 25 25.4 -0.4**
baz=267
H18K Honhosa River 33.77 36 P **P 07 25 25.7 -0.3**
baz=260
G18K Tagagawik 33.79 35 P **P 07 25 25.7 -0.4**
baz=259
N17K Nushagak Hills 33.83 45 P **P 07 25 25.9 -0.6**
baz=268
O17K Koliganek Bris 33.86 46 P **P 07 25 26.4 -0.4**
baz=269
Q16K King Salmon 34.09 48 P **P 07 25 28.4 -0.4**
baz=271
L18K Granite Mounta 34.16 42 P **P 07 25 28.8 -0.5**
baz=266
P17K Kvichak River 34.19 47 P **P 07 25 29.0 -0.6**
baz=271
J18K Innoko River 34.25 40 P **P 07 25 29.5 -0.7**
baz=264
F19K Shaleruckik Mo 34.33 34 P **P 07 25 30.1 -0.6**
F19K Shaleruckik Mo 34.33 34 P **P 07 25 30.3 -0.4**
baz=258
GCSA Galena City Sc 34.34 37 P **P 07 25 30.1 -0.7**
baz=262
G19K Purcell Mounta 34.47 35 P **P 07 25 31.0 -1.0**
baz=260
N18K Kilae Creek 34.47 45 P **P 07 25 31.3 -0.8**
baz=269
TTA Tatalina 34.52 41 P **P 07 25 32.8 +0.2**
TTA IAmb IAmb 07 25 33.8
comp=Z,11nm,0.9s
TTA Tatalina 34.52 41 P **P 07 25 31.3 -1.2**
baz=266,SNR=6.0
TTA Tatalina 34.52 41 P **P 07 25 32.8 +0.2**
TTA pmax pmax
comp=Z,11nm,0.9s
M18K Stony River 34.53 43 P **P 07 25 31.6 -0.9**
baz=268
D19K Kuna River 34.59 31 P **P 07 25 32.9 -0.1**
D19K IAmb IAmb 07 25 34.1
comp=Z,16nm,0.8s
D19K Kuna River 34.59 31 P **P 07 25 32.3 -0.7**
baz=256
E19K Redstone River 34.67 33 P **P 07 25 33.7 0.0**
baz=258
J19K Poorman 34.79 39 P **P 07 25 34.1 -0.7**
baz=264
ACHA Angle Creek He 34.80 49 P **P 07 25 35.1 +0.1**
P18K Big Mountain, 34.81 47 P **P 07 25 34.7 -0.4**
baz=272
O18K Koktuh Hills 34.81 46 P **P 07 25 35.0 0.0**
baz=271
CHIR Chirikof Islan 34.84 53 P **P 07 25 34.4 -0.8**
baz=276
L19K White Mountain 35.01 42 P **P 07 25 36.0 -0.7**
baz=268
N19K Bonanza Creek 35.16 44 P **P 07 25 37.2 -0.9**
baz=270
D20K Etivluk River 35.17 30 P **P 07 25 37.3 -0.7**
baz=257,SNR=24
M19K Big River Lodg 35.22 42 P **P 07 25 37.4 -1.2**
baz=269
E20K Nigu River 35.22 31 P **P 07 25 37.3 -1.2**
baz=258
H20K Anotleneega Mo 35.27 36 P **P 07 25 37.7 -1.2**
baz=263
I20K Naaghedeneel 35.36 37 P **P 07 25 39.0 -0.7**
baz=264
K20K Telida 35.43 40 P **P 07 25 40.0 -0.3**
baz=267
J20K Nowinta River 35.45 38 P **P 07 25 39.7 -0.7**
baz=266
L20K Farewell, AK 35.48 41 P **P 07 25 39.8 -1.0**
baz=268
SII Sitkinak Islan 35.56 52 P **P 07 25 41.2 -0.2**
baz=276
Q19K Cape Douglas, 35.65 48 P **P 07 25 41.6 -0.6**
baz=274
P19K Oil Pt 35.82 46 P **P 07 25 43.3 -0.4**
baz=273
M20K Styx River 35.82 42 P **P 07 25 43.5 -0.3**
baz=270
A21K Barrow 35.85 26 P **P 07 25 42.8 -0.9**
baz=253
C21K Knifeblade Rid 35.91 30 P **P 07 25 43.7 -0.6**
baz=258
OHAK Old Harbor 35.97 50 P **P 07 25 44.0 -1.0**
baz=276
LZH Lanzhou 35.98 271 *e*P **P 07 25 46.3 +0.8**
LZH pP pP 07 26 01.1 -2.8
LZH pmax pmax
comp=Z,12nm,1.1s
F21K Alatna River 36.06 33 P **P 07 25 44.7 -0.9**
baz=262
E21K Killik River 36.07 31 P **P 07 25 45.4 -0.3**
baz=260
B21K Ikpikpuk River 36.07 29 P **P 07 25 46.0 +0.4**
B21K Ikpikpuk River 36.07 29 P **P 07 25 45.1 -0.6**
baz=258,SNR=41
O20K Slope Mountain 36.10 46 P **P 07 25 44.4 -1.7**
baz=273
H21K Melozitna Rive 36.15 36 P **P 07 25 44.8 -1.6**
baz=265,SNR=12
CHUM Lake Minchumin 36.24 39 P **P 07 25 46.3 -0.8**
baz=268
PPLA Purkeypile 36.27 41 P **P 07 25 48.2 +0.5**
PPLA IAmb IAmb 07 25 50.6
comp=Z,24nm,1.2s
PPLA Purkeypile 36.27 41 P **P 07 25 46.0 -1.6**
baz=269
SPCR Spurr Chakacha 36.27 44 P **P 07 25 47.2 -0.4**
baz=272
KDAK Kodiak Island 36.29 49 P **P 07 25 47.6 -0.1**
baz=276
Q20K Shuyak Island 36.32 48 P **P 07 25 46.9 -1.0**
baz=275
CAST Castle Rocks 36.33 40 P **P 07 25 48.4 +0.4**
CAST IAmb IAmb 07 25 49.9
comp=Z,12nm,0.9s
CAST Castle Rocks 36.33 40 P **P 07 25 47.3 -0.7**

baz=269,SNR=9.1
STLK Strandline Lak 36.44 43 P P 07 25 49.9 +0.9
STLK IAmb IAmb 07 25 50.8
comp=Z,31nm,1.5s
I21K Tanana 36.45 37 P P 07 25 49.7 +0.7
I21K IAmb IAmb 07 25 50.3
comp=Z,10nm,0.8s
I21K Tanana 36.45 37 P P 07 25 47.7 -1.3
baz=266,SNR=7.0
SKT Skwentna 36.58 42 P P 07 25 49.1 -1.0
baz=271
D22K Ayikyak River 36.61 31 P P 07 25 48.8 -1.5
baz=261
HOM Homer 36.62 46 P P 07 25 49.5 -1.0
baz=274
B22K Teshekpuk Lake 36.63 28 P P 07 25 49.8 -0.6
baz=258
H22K Ishtalitna Cre 36.75 36 P P 07 25 50.1 -1.5
baz=266,SNR=7.4
CAPN Captain Cook N 36.80 44 P P 07 25 50.8 -1.1
baz=273
BPAW Bear Paw Mtn. 36.83 39 P P 07 25 51.3 -0.9
baz=269
KTH Kantishna Hill 36.85 40 P P 07 25 53.1 +0.6
BRSE Bradley Lake S 37.07 46 P P 07 25 53.7 -0.7
baz=275
TRF Thorofare Moun 37.13 40 P P 07 25 54.1 -0.9
baz=270
GTA Gaotai 37.23 279 *e*P P 07 25 57.3 +1.2
GTA pP pP 07 26 12.4 -2.2
GTA PcP PcP 07 28 15.8 +1.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
M22K Willow 37.25 43 P P 07 25 54.6 -1.2
baz=273
COLD Coldfoot 37.33 34 P P 07 25 55.7 -0.7
baz=265,SNR=12
D23K Nanushuk River 37.34 31 P P 07 25 55.9 -0.6
baz=262
G23K Bananza Creek 37.36 34 P P 07 25 57.1 +0.4
G23K IAmb IAmb 07 25 58.0
comp=Z,12nm,0.9s
G23K Bananza Creek 37.36 34 P P 07 25 56.3 -0.4
baz=266,SNR=16
RC01 Rabbit Creek A 37.47 44 P P 07 25 58.2 +0.6
RC01 IAmb IAmb 07 25 58.5
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 37.47 44 P P 07 25 56.8 -0.9
baz=274
C23K Itkillik River 37.48 29 P P 07 25 56.7 -1.0
baz=262
I23K Minto, Yukon-K 37.56 37 P P 07 25 58.5 +0.2
I23K Minto, Yukon-K 37.56 37 P P 07 25 57.3 -1.0
baz=269,SNR=7.3
E23K Chandalar 37.62 32 P P 07 25 58.3 -0.7
baz=265
NEA2 Nenana 37.67 38 P P 07 25 59.8 +0.4
NEA2 IAmb IAmb 07 26 00.8
comp=Z,14nm,0.8s
NEA2 Nenana 37.67 38 P P 07 25 58.0 -1.4
baz=270,SNR=8.1
SEW Seward 37.69 45 P P 07 25 58.6 -0.8
baz=275
TOLK Toolik Lake Re 37.70 31 P P 07 25 59.5 0.0
TOLK IAmb IAmb 07 26 01.0
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 37.70 31 P P 07 25 58.8 -0.7
baz=264,SNR=13
PMR Palmer 37.73 43 P P 07 25 58.5 -1.3
baz=274
MCK McKinley 37.74 39 P P 07 25 58.4 -1.5
baz=271,SNR=6.5
D24K Happy Valley 38.02 30 P P 07 26 01.2 -1.0
baz=264
E24K Your Creek 38.05 32 P P 07 26 02.1 -0.4
baz=266
KNK Knik Glacier 38.06 43 P P 07 26 02.1 -0.6
baz=274
SML Sawmill 38.10 42 P P 07 26 02.5 -0.5
baz=274,SNR=6.2
WRH Wood River Hil 38.10 38 P P 07 26 03.2 +0.3
C24K Franklin Bluff 38.13 30 P P 07 26 02.4 -0.6
baz=264
H24K Noodor Dome 38.19 36 P P 07 26 02.8 -0.9
baz=269
COLA College 38.20 37 P P 07 26 03.2 -0.4
baz=270
COLA College 38.20 37 *i*P P 07 26 03.8 +0.1
COLA pmax pmax
comp=Z,36nm,0.9s
COLA College 38.20 37 P P 07 26 04.3 +0.7
F24K Squaw Lake 38.24 33 P P 07 26 03.5 -0.6
baz=267
G24K Hadweenzic Riv 38.37 35 P P 07 26 04.7 -0.5
baz=269
POKR Poker Plat Res 38.37 37 P P 07 26 05.7 +0.5
POKR Poker Plat Res 38.37 37 P P 07 26 04.3 -0.9
baz=271,SNR=14
M23K Glacier View 38.38 42 P P 07 26 04.9 -0.5
baz=275
SCM Sheep Creek Mo 38.57 42 P P 07 26 06.3 -0.7
baz=275
HDA Harding Lake 38.59 38 P P 07 26 06.0 -1.0
baz=272
IL31 38.61 38 P P 07 26 06.7 -0.4
IL31 IAmb IAmb 07 26 08.8
comp=Z,23nm,1.3s
ILAR Eielson Array 38.61 38 P P 07 26 06.8 -0.4
ILAR Eielson Array 38.61 38 P P 07 26 07.0 -0.2
comp=Z,7.8nm,0.9s,baz=254,slow=6.6,SNR=45
ILAR PcP PcP 07 28 16.6 -1.3
comp=Z,0.6nm,1.0s,baz=294,slow=3.6,SNR=4.1
ILAR LR LR 07 44 03.2
comp=Z,62nm,18.1s,baz=228,slow=39
comp=Z,7.8nm,0.9s
P23K Montague Islan 38.72 45 P P 07 26 07.2 -1.0
baz=277
GLI Glacier Island 38.77 44 P P 07 26 08.2 -0.3
baz=276
D25K Kavik River 38.91 30 P P 07 26 09.4 -0.3
baz=266
H25L Birch Creek 39.03 35 P P 07 26 10.3 -0.3
baz=271,SNR=5.1
M24K Tolsona, Glenn 39.09 42 P P 07 26 10.7 -0.5
baz=276
F25K Christian Rive 39.10 33 P P 07 26 12.1 +0.8
F25K IAmb IAmb 07 26 12.9
comp=Z,7.7nm,0.8s
F25K Christian Rive 39.10 33 P P 07 26 11.1 -0.2
baz=269
K24K Donnelly Dome 39.14 39 P P 07 26 11.8 +0.1
baz=274,SNR=5.4
PRP Porcupine Dome 39.16 36 P P 07 26 12.0 0.0
baz=272,SNR=7.2
FYU Fort Yukon 39.26 35 P P 07 26 13.5 +0.9
J25K Salcha River, 39.27 38 P P 07 26 11.5 -1.3
baz=273
KLU Klutina 39.27 43 P P 07 26 12.3 -0.6
baz=276
PAX Paxson 39.34 40 P P 07 26 12.9 -0.5
baz=275
C26K Camden Bay 39.45 29 P P 07 26 14.6 +0.5
baz=267
EYAK Cordova Ski Ar 39.47 44 P P 07 26 13.5 -0.9
baz=278
BMAR Burnt Mountain 39.51 33 P P 07 26 15.6 +0.8
HARP HAARP 39.53 41 P P 07 26 14.0 -1.0
baz=276
RIDG Independent Ri 39.55 39 P P 07 26 14.6 -0.6
baz=275
F26K Sheenjek River 39.68 33 P P 07 26 16.9 +0.8
F26K IAmb IAmb 07 26 18.3
comp=Z,13nm,0.8s
F26K Sheenjek River 39.68 33 P P 07 26 15.7 -0.4
baz=270
G26K Porcupine Rive 39.83 34 P P 07 26 17.4 +0.1
baz=272
C27K Jago River 39.86 30 P P 07 26 16.6 -1.0
baz=268
N25K Chitina, Valde 39.89 43 P P 07 26 16.8 -1.2
baz=277
SCRK Sand Creek 39.91 39 P P 07 26 17.6 -0.6
SCRK IAmb IAmb 07 26 19.5
comp=Z,20nm,1.4s
SCRK Sand Creek 39.91 39 P P 07 26 16.9 -1.3
baz=275
BMRM Bremner River 39.97 44 P P 07 26 19.0 +0.4
baz=278
J26L Joseph Creek 40.05 38 P P 07 26 19.6 +0.3
baz=275
I26K Coal Creek Min 40.17 37 P P 07 26 19.0 -1.1
baz=274
KAIM Kayak Island 40.22 45 P P 07 26 19.2 -1.4
baz=280
HMT Hamilton 40.23 44 P P 07 26 19.3 -1.5
L26K Log Cabin Wild 40.29 40 P P 07 26 22.1 +0.9
L26K IAmb IAmb 07 26 23.9
comp=Z,27nm,1.4s
L26K Log Cabin Wild 40.29 40 P P 07 26 20.6 -0.7
baz=277,SNR=5.8
M26K Nabesna, AK 40.53 41 P P 07 26 22.0 -1.3
baz=278,SNR=11
G27K Doyon Strip 40.67 34 P P 07 26 23.2 -1.1
baz=274
BGLC Bering Glacier 40.75 45 P P 07 26 24.9 0.0
baz=280
H27K Steamboat Moun 40.77 35 P P 07 26 24.9 -0.2
baz=274
I27K Kandik River 40.78 36 P P 07 26 25.2 0.0
baz=275
D27M Malcolm River 40.83 31 P P 07 26 26.2 +0.6
baz=272
L27K Beaver Creek, 40.98 40 P P 07 26 27.2 +0.3
baz=278
M27K Edge Creek, AK 41.05 41 P P 07 26 27.6 0.0
baz=279
EGAK Eagle 41.06 37 P P 07 26 27.1 -0.3
EGAK IAmb IAmb 07 26 28.4
comp=Z,29nm,1.3s
EGAK Eagle 41.06 37 P P 07 26 27.5 0.0
baz=276,SNR=11
F28M Old Crow 41.31 33 P P 07 26 29.6 0.0
baz=274,SNR=16
E28M Babbage River 41.37 31 P P 07 26 29.6 -0.4
baz=274
MESA MESA 41.39 44 P P 07 26 29.3 -1.2
baz=281
I28M Miner Creek 41.49 36 P P 07 26 30.7 -0.4
baz=277
BVCY Beaver Creek 41.51 41 P P 07 26 30.7 -0.6
baz=279,SNR=7.4
D28M Stokes Point 41.62 30 P P 07 26 31.7 -0.3
baz=273
ZALV Zalesovo Beam 41.69 306 PcP PcP 07 28 27.9 -0.1
comp=Z,3.4nm,0.7s,baz=65,slow=2.9,SNR=8.8
ZALV LR LR 07 43 22.3
comp=Z,89nm,18.4s,baz=5.5,slow=35
YUK3 Moose Creek 41.81 42 P P 07 26 32.4 -1.5
baz=280
DAWY Dawson 41.91 38 P P 07 26 33.1 -1.4
baz=279
E29M Blow River 41.99 32 P P 07 26 34.9 -0.1
baz=275
H29M Whitestone 42.04 35 P P 07 26 33.9 -1.6
baz=277
G29M Pine Creek 42.10 34 P P 07 26 35.4 -0.6
baz=277
O28M Mount Upton 42.13 43 P P 07 26 36.0 -0.7
baz=282
I29M Ogilvie Camp, 42.18 36 P P 07 26 36.2 -0.5
baz=278,SNR=11
YUK8 Steele Glacier 42.23 42 P P 07 26 36.5 -0.9
baz=282
PINM Pinnacle 42.24 44 P P 07 26 36.6 -0.6
baz=282
J29N Klondike Camp 42.36 38 P P 07 26 37.9 -0.3
baz=279
M29M Somme Creek 42.61 41 P P 07 26 39.9 -0.3
baz=281
L29M L29M 42.63 40 P P 07 26 39.1 -1.3
baz=281,SNR=7.3
EPYK Eagle Plains 42.68 35 P P 07 26 41.1 +0.3
EPYK Eagle Plains 42.68 35 P P 07 26 39.8 -1.0
baz=278,SNR=14
YUK4 Talbot Arm 42.75 42 P P 07 26 41.0 -0.5
baz=282
K29M Barlow Dome 42.76 38 P P 07 26 40.6 -0.9
baz=281
G30M tAoh Zraii Nji 42.79 34 P P 07 26 40.6 -1.0
baz=278
F30M Barrier River 42.87 33 P P 07 26 41.4 -0.8
baz=278
PZH PanZhiHua 42.93 261 P P 07 26 42.8 -0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,5.5s
YUK6 Outpost Mounta 42.97 43 P P 07 26 42.5 -0.8
baz=283
I30M Mount Dempster 43.01 36 P P 07 26 43.8 +0.3
I30M Mount Dempster 43.01 36 P P 07 26 41.9 -1.5
baz=280,SNR=19
O29M Mount Kennedy 43.01 44 P P 07 26 42.4 -1.2
baz=284
J30M Hart River 43.14 37 P P 07 26 44.1 -0.5
baz=281,SNR=6.2
M30M Minto, Yukon 43.34 40 P P 07 26 47.3 +1.3
M30M IAmb IAmb 07 26 51.3
comp=Z,48nm,2.0s
M30M Minto, Yukon 43.34 40 P P 07 26 45.2 -0.9
baz=282
HYT Haines Junctio 43.40 43 P P 07 26 46.0 -0.7
baz=284,SNR=6.8
WMQ Urumqi 43.52 291 *e*P P 07 26 50.1 +2.3
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,65nm,21.5s
G31M Satah River 43.56 34 P P 07 26 46.5 -1.2
baz=280,SNR=6.8
INK Inuvik 43.61 32 P P 07 26 48.0 -0.1
baz=279,SNR=14
INK Inuvik 43.61 32 P P 07 26 48.8 +0.7
INK pmax pmax
comp=Z,17nm,1.6s
F31M Tsiigehtchic 43.67 33 P P 07 26 48.7 +0.1
baz=280,SNR=14
H31M Peel River 43.73 35 P P 07 26 49.6 +0.5
H31M IAmb IAmb 07 26 51.0
comp=Z,11nm,0.8s
H31M Peel River 43.73 35 P P 07 26 49.5 +0.3
baz=281
P30M Million Dollar 43.84 44 P P 07 26 50.0 -0.2
baz=285
DAV Davao City (W) 43.99 217 LR LR 07 41 50.1
comp=Z,56nm,21.2s,baz=122,slow=31
N31M Braeburn, Yuko 44.05 42 P P 07 26 50.9 -1.0
baz=284
O30N Mendenhall 44.09 43 P P 07 26 51.9 -0.2
baz=285
M31M Drury Creek, Y 44.51 40 P P 07 26 54.8 -0.6
baz=285
WHY Whitehorse 44.69 43 P P 07 26 56.0 -1.0
baz=286
S31K Pelican 44.80 46 P P 07 26 56.3 -1.4
baz=288
SKAG Skagway 44.81 44 P P 07 26 56.5 -1.3
baz=287
R31K City Hall, Gus 44.91 46 P P 07 26 58.0 -0.6
baz=287
FARO Faro, Yukon 44.98 40 P P 07 26 59.9 +0.8
FARO Faro, Yukon 44.98 40 P P 07 26 58.2 -1.0
baz=286
N32M Quiet Lake 45.40 41 P P 07 27 01.2 -1.3
baz=287
SIT Sitka 45.55 47 P P 07 27 02.2 -1.4
baz=289
P32M Atlin 45.56 44 P P 07 27 01.9 -1.9
baz=288
R32K Eaglecrest 45.57 46 P P 07 27 02.2 -1.6
baz=288
A36M Sachs Harbour 45.69 26 P P 07 27 05.0 +0.4
A36M IAmb IAmb 07 27 06.1
comp=Z,12nm,0.8s
A36M Sachs Harbour 45.69 26 P P 07 27 03.3 -1.3
baz=283,SNR=10
MK31 Makanchi Array 45.73 297 P P 07 27 05.4 +0.2
MK31 Makanchi Array 45.73 297 *ce*P P 07 27 03.3 -2.0
MKAR Makanchi Array 45.73 297 P P 07 27 05.4 +0.1
MKAR Makanchi Array 45.73 297 P P 07 27 05.2 -0.1
comp=Z,0.7nm,0.7s,baz=73,slow=7.0,SNR=8.5
MKAR PcP PcP 07 28 41.9 0.0
comp=Z,1.4nm,0.7s,baz=69,slow=5.9,SNR=10
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 45.73 297 P P 07 27 05.4 +0.1
MKAR Makanchi Array 45.73 297 *e*P P 07 27 05.4 +0.1
P33M Teslin, Yukon 45.80 43 P P 07 27 04.1 -1.6
baz=288,SNR=6.2
KURK Kurchatov 46.36 303 P P 07 27 10.0 -0.2
KURK IAmb IAmb 07 28 21.9
comp=Z,19nm,1.6s
KURK Kurchatov 46.36 303 *ce*P P 07 27 09.7 -0.5
KURK pmax pmax
comp=Z,4.0nm,1.7s
KURK Kurchatov 46.36 303 P P 07 27 09.8 -0.3
KURK pP pP 07 27 24.7 -4.5
KURK PcP PcP 07 28 44.4 +0.4
KURBB Kurchatov Arra 46.45 303 P P 07 27 11.1 +0.2
comp=Z,1.4nm,0.7s,baz=70,slow=8.4,SNR=7.7
KURBB PcP PcP 07 28 44.3 0.0
comp=Z,1.6nm,0.7s,baz=69,slow=3.3,SNR=6.0
comp=Z,1.4nm,0.7s
C36M Paulatuk 46.73 29 P P 07 27 11.9 -0.8
baz=286,SNR=15
R33M Jennings River 46.95 43 P P 07 27 13.9 -0.9
baz=290
S34M Telegraph Cree 47.38 45 P P 07 27 17.3 -0.7
baz=291
WTLY Watson Lake, Y 47.73 42 P P 07 27 20.0 -0.8
baz=291
DLBC Dease Lake 47.74 44 P P 07 27 20.5 -0.4
baz=291
T35M Bob Quinn 48.17 46 P P 07 27 26.6 +2.4
T35M Bob Quinn 48.17 46 P P 07 27 24.1 -0.1
baz=292
U35K Hyder 48.70 47 P P 07 27 28.3 +0.2
baz=293
WRGLY Wrigley 48.97 37 P P 07 27 29.5 -0.6
baz=292
PHRA Phrae 49.33 254 P P 07 27 34.3 +0.9
TOAD Toad River Com 49.90 43 P P 07 27 37.2 -0.2
baz=294
BVAR Borovoye Array 50.06 309 P P 07 27 38.6 0.0
comp=Z,1.1nm,0.9s,baz=26,slow=7.0,SNR=2.3
BVAR PcP PcP 07 28 57.1 -0.2
comp=Z,1.1nm,0.3s,baz=68,slow=4.3,SNR=8.0
comp=Z,1.1nm,0.9s
CMAR Chiang Mai Arr 50.22 255 P P 07 27 41.2 +1.0
comp=Z,0.8nm,0.3s,baz=38,slow=7.4,SNR=5.5
CMAR PcP PcP 07 28 59.8 +1.4
comp=Z,0.8nm,0.3s,baz=6.0,slow=8.3,SNR=1.6
comp=Z,0.8nm,0.3s
WUS Wushi 50.28 292 P P 07 27 41.6 +1.0
SHL Shillong 50.40 267 P P 07 27 41.5 -0.2
SHL IAmb IAmb 07 27 42.7
comp=Z,7.7nm,0.7s
SHL Shillong 50.40 267 P P 07 27 41.5 -0.2
SHL pmax pmax
comp=Z,8.0nm,0.7s
BBB Bella Bella 51.32 51 LR LR 07 49 54.3
comp=Z,38nm,19.1s,baz=346,slow=36
RES Resolute Bay 52.49 18 P P 07 27 56.4 0.0
RES IAmb IAmb 07 27 58.9
comp=Z,7.8nm,0.8s
RES Resolute Bay 52.49 18 LR LR 07 51 53.7
comp=Z,58nm,20.1s,baz=4.5,slow=38
RES Resolute Bay 52.49 18 P P 07 27 56.4 0.0
RES pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 52.58 296 *i*P P 07 27 57.1 -0.7
AAK pmax pmax
comp=Z,2.0nm,0.9s
NOR Nord 52.81 358 *i*P P 07 27 57.5 -1.2
YKA Yellowknife Ar 52.95 35 P P 07 28 00.3 +0.3
comp=Z,4.5nm,0.7s,baz=296,slow=7.0,SNR=60
YKA PcP PcP 07 29 07.9 +0.1
comp=Z,0.7nm,0.9s,baz=290,slow=3.2,SNR=5.1
comp=Z,4.5nm,0.7s
SPITS Spitsbergen Ar 53.35 349 P P 07 28 02.7 -0.1
comp=Z,4.4nm,1.0s,baz=93,slow=2.9,SNR=1.4
SPITS PcP PcP 07 29 09.0 -0.1
comp=Z,3.3nm,0.9s,baz=116,slow=3.4,SNR=8.6
comp=Z,4.4nm,1.0s
ARTI Arti 54.62 317 LR LR 07 53 12.7
comp=Z,75nm,18.5s,baz=102,slow=38
ARTI Arti 54.62 317 *d*iP P 07 28 10.2 -2.0
ARTI S S 07 35 43.8 -2.0
ARTI SS SS 07 39 24.1 -4.7
ARTI pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 54.83 298 P P 07 28 14.3 +0.3
KK31 Karatay Array 54.83 298 P P 07 28 14.3 +0.3
KK31 pmax pmax
comp=Z,6.0nm,1.3s
KKAR Karatay Array 54.83 298 P P 07 28 14.4 +0.4
KKAR Karatay Array 54.83 298 P P 07 28 14.4 +0.4
CLRS Cowichan Lake 55.19 53 P P 07 28 17.0 +0.5
LLLB Lillooet 55.49 51 P P 07 28 19.1 +0.5
BTK Batken 56.30 295 P P 07 28 25.0 +0.3
BTK Batken 56.30 295 P P 07 28 25.0 +0.3
BTK pmax pmax
comp=Z,4.0nm,0.9s
NEEM North Greenlan 56.46 5 *i*P P 07 28 22.7 -2.8
NEEM IAmb IAmb 07 28 25.0
comp=Z,8.1nm,0.9s
GAR Garm 57.22 294 P P 07 28 31.9 +0.7
GAR IAmb IAmb 07 28 33.2
comp=Z,11nm,1.0s
D05A Enumclaw 57.28 54 P P 07 28 32.4 +1.0
KIRV Kirov 57.48 322 LR LR 07 55 38.2
comp=Z,46nm,19.0s,baz=31,slow=38
ABKAR Akbulak array 57.63 309 P P 07 28 34.3 +0.4
DAG Danmarks Havn 57.66 357 *i*P P 07 28 31.8 -1.8
I02E Swisshome, OR 57.92 58 P P 07 28 36.8 +0.9
COR Corvallis 57.97 57 P P 07 28 38.0 +1.7
COR pP pP 07 28 55.4 -0.1
AKTO Aktyubinsk 58.01 311 LR LR 07 54 44.5
comp=Z,63nm,18.2s,baz=316,slow=37
B08A Colville Reser 58.11 52 P P 07 28 37.6 +0.3
B08A IAmb IAmb 07 28 38.6
comp=Z,6.8nm,0.9s
ARCES ARCESS Array B 58.25 340 LR LR 07 56 23.0
comp=Z,45nm,19.6s,baz=190,slow=39
SIMJ Simiganj 58.25 294 P P 07 28 39.1 +0.6
SIMJ pP pP 07 28 55.6 -2.5
NIL Nilore 58.40 287 P P 07 28 40.9 +1.4
NIL pmax pmax
comp=Z,16nm,0.9s
NIL Nilore 58.40 287 P P 07 28 40.9 +1.4
NIL pP pP 07 28 56.8 -2.4
HOOD Mount Hood Mea 58.52 56 P P 07 28 41.4 +1.1
KULLO Kullorsuaq 58.65 8 *i*P P 07 28 37.7 -2.9
KULLO IAmb IAmb 07 28 39.7
comp=Z,9.3nm,0.9s
NEW Newport 59.38 51 P P 07 28 46.5 +0.5
NEW pmax pmax
comp=Z,8.0nm,1.0s
UPNV Upernavik 60.44 9 *i*P P 07 28 50.5 -2.3
UPNV IAmb IAmb 07 28 52.0
comp=Z,8.3nm,0.8s
KBL Kabul 60.66 291 P P 07 28 55.1 -0.1
KBL pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 61.29 54 P P 07 29 00.1 +0.9
BMO pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 61.92 3 P P 07 29 03.3 -0.1
SUMG Summit 61.92 3 *i*P P 07 29 02.3 -1.1
SUMG IAmb IAmb 07 29 04.0
comp=Z,9.5nm,0.8s
NUUG Nuugaatsiaq 61.92 8 *i*P P 07 29 03.4 +0.5
WVOR Wild Horse Val 61.98 57 P P 07 29 04.9 +1.0
WVOR pmax pmax
comp=Z,17nm,1.2s
BELG Belogornoye 62.05 317 LR LR 07 57 55.3
comp=Z,56nm,18.9s,baz=319,slow=38
FFC Flin Flon 62.82 38 P P 07 29 09.6 +0.5
FFC pmax pmax
comp=Z,21nm,1.3s
FFC Flin Flon 62.82 38 P P 07 29 09.5 +0.3
FFC pP pP 07 29 26.9 -1.7
FFC sP pwP 07 29 33.3 +4.8
FFC PcP PcP 07 29 47.0 +0.2
FCC Fort Churchill 63.23 32 P P 07 29 11.5 -0.3
FCC IAmb IAmb 07 29 12.5
comp=Z,7.8nm,0.8s
FCC Fort Churchill 63.23 32 P P 07 29 11.5 -0.3
FCC pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 64.19 334 P P 07 29 17.0 -1.1

comp=Z,2.3nm,0.6s,baz=27,slow=7.4,SNR=8.6
FINES LR LR 07 59 49.0
comp=Z,91nm,18.0s,baz=354,slow=38
comp=Z,2.3nm,0.6s
FINES FINESS Array B 64.19 334 P **P 07 29 17.0 -1.1**
NVAR Mina Array Bea 64.66 60 P **P 07 29 22.8 +1.0**
comp=Z,8.1nm,0.7s,baz=290,slow=7.0,SNR=38
comp=Z,8.1nm,0.7s
LEM Lembang 64.68 228 LR LR 07 57 17.0
comp=Z,110nm,21.2s,baz=153,slow=36
OBN Obninsk 65.11 325‖ *e*P **P 07 29 23.9 -0.2**
OBN *e**PP **pP 07 29 46.0 +1.9**
OBN *SP **sP 07 29 51.0 -1.7**
OBN 07 29 56.0
OBN S **S 07 37 54.0 -6.3**
OBN *SS **pS 07 38 29.0 +6.4**
OBN *e*SSS SSS 07 45 16.6
OBN pmax pmax
comp=Z,38nm,2.0s
OBN Obninsk 65.11 325 *e*P **P 07 29 23.9 -0.2**
ICESG Greenland Ices 65.34 4 *i* P **P 07 29 24.7 -1.2**
ICESG IAmb IAmb 07 29 27.2
comp=Z,18nm,1.2s
MOOW Moose Ponds 65.66 52 P **P 07 29 28.8 +0.6**
MOOW IAmb IAmb 07 29 30.5
comp=Z,12nm,1.3s
R11B Troy Canyon, C 66.36 59 P **P 07 29 32.8 +0.1**
R11B IAmb IAmb 07 29 34.3
comp=Z,11nm,1.1s
R11B Troy Canyon, C 66.36 59 P **P 07 29 32.2 -0.5**
baz=310
SPR3 Spring Creek 3 66.68 58 P **P 07 29 36.3 +1.3**
WB7 Warramunga Arr 66.77 196 P **P 07 29 35.2 +0.1**
WB6 Warramunga Arr 66.78 196 P **P 07 29 35.2 0.0**
DUG Dugway, Tooele 66.80 56 P **P 07 29 35.6 +0.2**
DUG IAmb IAmb 07 29 37.4
comp=Z,12nm,0.9s
DUG Dugway, Tooele 66.80 56 P **P 07 29 35.6 +0.2**
DUG pmax pmax
comp=Z,12nm,1.0s
WB5 Warramunga Arr 66.81 196 P **P 07 29 35.4 0.0**
WB2 Warramunga Arr 66.87 196 P **P 07 29 35.9 +0.1**
WB2 IAmb IAmb 07 30 06.3
comp=Z,21nm,1.7s
WRA Warramunga Arr 66.87 196 P **P 07 29 36.0 +0.2**
WRA Warramunga Arr 66.87 196 P **P 07 29 35.5 -0.3**
comp=Z,1.5nm,0.7s,baz=14,slow=6.4,SNR=6.4
comp=Z,1.5nm,0.7s
PDAR Pinedale Array 66.95 52 P **P 07 29 36.9 +0.4**
comp=Z,5.9nm,0.7s,baz=271,slow=1.8,SNR=66
comp=Z,5.9nm,0.7s
GWY Greenwater Val 67.09 61 P **P 07 29 37.9 +0.5**
GWY IAmb IAmb 07 29 39.0
comp=Z,16nm,0.8s
DY2G Dye2 67.49 7 *i* P **P 07 29 37.2 -2.2**
DY2G IAmb IAmb 07 29 39.5
comp=Z,5.4nm,0.8s
MSVF Nonsavu 67.91 151 LR LR 07 52 57.0
comp=Z,92nm,21.9s,baz=0.9,slow=30
TMUT Trail Mountain 68.32 56 P **P 07 29 45.5 +0.2**
ULM Lac du Bonnet 68.61 39 P **P 07 29 45.7 -0.8**
comp=Z,2.9nm,0.8s,baz=309,slow=7.3,SNR=5.6
comp=Z,2.9nm,0.8s
NB2 NORSAR Subarra 68.62 340 P **P 07 29 45.9 -0.5**
comp=Z,0.9nm,0.7s,baz=29,slow=6.5
NOA NORSAR Array B 68.62 340 P **P 07 29 45.9 -0.5**
comp=Z,0.6nm,0.3s,baz=28,slow=6.6,SNR=8.4
NOA LR LR 08 02 54.3
comp=Z,34nm,18.1s,baz=0.0,slow=38
comp=Z,0.6nm,0.3s
LCMT Little Creek M 68.63 59 P **P 07 29 48.0 +1.0**
LCMT IAmb IAmb 07 29 49.0
comp=Z,10nm,0.9s
HFS Hagfors 68.79 338 P **P 07 29 45.5 -2.0**
comp=Z,0.9nm,0.5s,baz=46,slow=6.2,SNR=2.0
HFS LR LR 08 04 22.4
comp=Z,38nm,18.3s,baz=354,slow=40
comp=Z,0.9nm,0.5s
DZM Mont Dzumac 68.97 164 *e*LR LR 07 50 46.4
comp=Z,69nm,21.5s
RSSD Black Hills 69.00 48 P **P 07 29 49.4 +0.1**
RSSD pmax pmax
comp=Z,16nm,1.3s
RSSD Black Hills 69.00 48 P **P 07 29 49.3 +0.1**
RSSD pP **pP 07 30 06.1 -2.8**
KIV Kislovodsk 70.16 313 *e*P **P 07 29 58.0 +1.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 70.21 313 P **P 07 29 57.4 +1.0**
comp=Z,5.2nm,0.8s,baz=54,slow=1.0,SNR=10.0
KBZ LR LR 08 03 31.6
comp=Z,69nm,18.2s,baz=38,slow=38
comp=Z,5.2nm,0.8s
KBZ Khabaz 70.21 313 *ce*P **P 07 29 56.9 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 70.21 313 *e*P **P 07 29 56.9 +0.5**
PV13 Radium Mtn., P 70.46 55 P **P 07 29 58.8 +0.4**
PV13 IAmb IAmb 07 29 59.9
comp=Z,14nm,0.7s
ASAR Alice Springs 70.58 196 P **P 07 30 00.2 +1.4**
ASAR Alice Springs 70.58 196 P **P 07 29 60.0 +1.2**
comp=Z,1.1nm,0.8s,baz=8.6,slow=4.7,SNR=8.2
ASAR LR LR 08 01 15.6
comp=Z,33nm,19.8s,baz=92,slow=36
comp=Z,1.1nm,0.8s
ASAR Alice Springs 70.58 196 P **P 07 30 00.0 +1.2**
AS09 Alice Springs 70.61 196 P **P 07 29 58.3 -0.7**
comp=Z,2.3nm,0.8s
AS19 Alice Springs 70.61 196 P **P 07 29 59.8 +0.9**
comp=Z,2.9nm,0.8s
Y14A Wickenburg 70.83 61 P **P 07 30 00.5 0.0**
Y14A IAmb IAmb 07 30 02.6
comp=Z,12nm,1.0s
AKASG Malin Array Be 71.36 325 P **P 07 30 02.2 -1.1**
comp=Z,0.4nm,0.3s,baz=36,slow=6.6,SNR=5.1
AKASG LR LR 08 02 43.9
comp=Z,46nm,19.9s,baz=32,slow=37
comp=Z,0.4nm,0.3s
S22A 4UR Ranch, Cre 71.89 54 P **P 07 30 06.6 -0.5**
baz=314
SOC Sochi 71.93 314 *e*P **P 07 30 05.3 -1.5**
SOC *e*S **S 07 39 21.5 -0.2**
SOC *e*SS **SS 07 43 58.0 -0.6**
SOC *e*SSS SSS 07 47 17.8
Q24A Divide 71.99 53 P **P 07 30 06.6 -1.0**
baz=315
QLP Quilpie 72.10 186 P **P 07 30 09.0 +1.2**
comp=Z,19nm,2.0s
WRKA Warakurna 73.15 201 P **P 07 30 14.8 +0.7**
comp=Z,7.3nm,2.6s
TUC Tucson 73.30 61 P **P 07 30 15.0 -0.3**
TUC P **PcP 07 30 32.5 +1.2**
TUC pmax pmax
comp=Z,8.0nm,1.2s
T25A Trinidad 73.69 53 P **P 07 30 17.2 -0.4**
baz=315
I37A Lemond, Waseca 74.37 42 P **P 07 30 21.6 +0.4**
121A Cookes Peak, D 74.97 59 P **P 07 30 24.0 -1.0**
baz=315
SCHQ Schefferville 75.06 21 P **P 07 30 24.8 -0.2**
comp=Z,4.9nm,1.0s,baz=297,slow=11,SNR=3.3
SCHQ LR LR 08 07 13.6
comp=Z,20nm,18.6s,baz=12,slow=39
comp=Z,4.9nm,1.0s
BUR08 Bucovina Ar. S 75.40 325 P **P 07 30 27.4 +0.2**
STHS Stebnicka Huta 75.47 328 *e*P **P 07 30 29.6 +2.1**
STHS Stebnicka Huta 75.47 328 *e*P **P 07 30 29.5 +2.1**
N35A Tabor 75.65 46 P **P 07 30 28.2 -0.4**
UPC Upice 76.38 332 P **P 07 30 33.2 +0.6**
MORC Moravsky Berou 76.48 331 P **P 07 30 34.1 +0.8**
MORC pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 76.64 334 *i* P **P 07 30 34.0 0.0**
CLL Collm 76.64 334 *i* P **P 07 30 34.0 0.0**
EKA Eskdalemuir Ar 76.93 345 P **P 07 30 35.0 -0.6**
comp=Z,1.1nm,0.5s,baz=22,slow=5.7,SNR=6.5
comp=Z,1.1nm,0.5s
VRAC Vranov 77.21 331 P **P 07 30 37.9 +0.6**
VRAC pmax pmax
comp=Z,9.0nm,0.9s
VOIR 77.24 324 P **P 07 30 38.3 +0.7**
VOIR pmax pmax
comp=Z,8.0nm,1.0s
KRUC Moravsky 77.49 331 P **P 07 30 39.3 +0.5**
KRUC pmax pmax
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 77.84 315 P **P 07 30 41.5 +0.3**
comp=Z,2.3nm,0.9s,baz=109,slow=3.3,SNR=7.2
comp=Z,2.3nm,0.9s
KHC Kasperske Hory 78.36 333 P **P 07 30 44.0 +0.3**
KHC pmax pmax
comp=Z,5.0nm,1.0s
WMOK Wichita Mounta 78.56 52 P **P 07 30 45.2 +0.1**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
GERES GERESS Array B 78.57 332 P **P 07 30 44.9 0.0**
comp=Z,1.0nm,0.6s,baz=47,slow=2.4,SNR=4.7
GERES LR LR 08 07 57.0
comp=Z,43nm,20.4s,baz=343,slow=38
comp=Z,1.0nm,0.6s
TX31 Lajitas Ar. Si 79.72 59 P **P 07 30 51.5 -0.1**
TXAR Lajitas Array 79.72 59 P **P 07 30 51.5 -0.1**
TXAR Lajitas Array 79.72 59 P **P 07 30 52.0 +0.4**
comp=Z,6.2nm,0.8s,baz=297,slow=4.1,SNR=76
comp=Z,6.2nm,0.8s
TXAR Lajitas Array 79.72 59 P **P 07 30 51.5 -0.1**
BMRD Maredsous 79.87 338 *d*P **P 07 30 51.6 -0.3**
DOU Dourbes 80.11 338 *d*P **P 07 30 53.0 -0.1**
KBA Koelnbreinsper 80.23 332 P **P 07 30 54.6 +0.5**
KBA pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 80.68 335 P **P 07 30 59.0 +2.7**
BFO pmax pmax
comp=Z,8.0nm,1.0s
CDF Champ du Feu 80.91 336 *e*P **P 07 30 57.3 -0.3**
CDF pmax pmax
comp=Z,15nm,1.3s
OLIL Olney 80.97 42 P **P 07 30 58.5 +0.5**
OLIL IAmb IAmb 07 31 00.3
comp=Z,24nm,1.1s
ECH Echery 81.12 336 P **P 07 31 00.7 +2.0**
ECH pmax pmax
comp=Z,9.0nm,1.0s
SLE Schleitheim 81.14 335 P **P 07 31 00.1 +1.3**
SLE pmax pmax
comp=Z,6.0nm,1.6s
MIAR Mount Ida 81.51 49 P **P 07 31 01.2 +0.3**
MIAR pmax pmax
comp=Z,17nm,1.1s
HAU Haudompre 81.54 336 *e*P **P 07 31 02.5 +1.6**
HAU pmax pmax
comp=Z,3.0nm,0.5s
WHAR Wooly Hollow 81.61 47 P **P 07 31 01.1 -0.3**
WHAR IAmb IAmb 07 31 02.2
comp=Z,15nm,0.9s
MMAI Mount Meron Ar 82.06 310 P **P 07 31 04.9 +0.9**
comp=Z,5.1nm,0.6s,baz=52,slow=4.6,SNR=6.0
MMAI LR LR 08 11 21.9
comp=Z,31nm,21.3s,baz=44,slow=38
comp=Z,5.1nm,0.6s
PHP Peshkopia 82.23 325 P **P 07 31 04.3 -0.4**
PHP pmax pmax
comp=Z,18nm,1.7s
TAOE Nuku Hiva Isla 82.33 111 *e*LR LR 07 56 48.2
comp=Z,43nm,24.3s
FLN La Foliniere 82.58 341 *e*P **P 07 31 05.9 -0.4**
FLN pmax pmax
comp=Z,73nm,1.9s
CABF La Chapelle 82.89 336 *e*P **P 07 31 08.8 +0.8**
CABF pmax pmax
comp=Z,9.0nm,1.2s
LOR Lormes 82.90 338 *e*P **P 07 31 07.5 -0.5**
LOR pmax pmax
comp=Z,4.0nm,0.8s
833A Chaparral WMA, 82.99 56 P **P 07 31 07.7 -1.1**
baz=319
GRR Gorron 83.02 341 *e*P **P 07 31 08.4 -0.1**
GRR pmax pmax
comp=Z,19nm,1.0s
PPT2 Papeete2 83.14 124 *e*LR LR 07 57 15.6
comp=Z,50nm,21.5s
WVT Waverly 83.18 44 P **P 07 31 09.7 +0.1**
WVT IAmb IAmb 07 31 10.7
comp=Z,11nm,0.9s
WVT Waverly 83.18 44 P **P 07 31 09.7 +0.1**
WVT pmax pmax
comp=Z,11nm,0.9s
SSF Saint Saulge 83.18 338 *e*P **P 07 31 09.7 +0.3**
SSF pmax pmax
comp=Z,3.0nm,0.7s
RAYN Ar Rayn 83.22 297 P **P 07 31 10.7 +0.6**
RAYN pmax pmax
comp=Z,6.0nm,1.7s
AVF Avril sur Loir 83.47 338 *e*P **P 07 31 11.3 +0.4**
AVF pmax pmax
comp=Z,4.0nm,0.7s
SMF Signal de Mont 83.48 337 *e*P **P 07 31 11.5 +0.5**
SMF pmax pmax
comp=Z,8.0nm,0.9s
SGMF Saint Gilles 83.52 342 *e*P **P 07 31 11.0 -0.1**
SGMF pmax pmax
comp=Z,35nm,1.2s
LPL La Plagne 83.69 335 *e*P **P 07 31 13.4 +1.0**
LPL pmax pmax
comp=Z,7.0nm,0.8s
LPG La Plagne 83.71 335 *e*P **P 07 31 13.6 +1.1**
LPG pmax pmax
comp=Z,6.0nm,0.8s
QUIF Quistinic 83.97 342 *e*P **P 07 31 13.8 +0.4**
QUIF pmax pmax
comp=Z,77nm,1.7s
TCF Toulx Ste Croi 84.24 338 *e*P **P 07 31 15.0 +0.1**
TCF pmax pmax
comp=Z,7.0nm,1.0s
L61B Northampton 84.28 30 P **P 07 31 14.0 -1.1**
baz=331
MBDF Montbardon 84.40 335 *e*P **P 07 31 17.5 +1.6**
MBDF pmax pmax
comp=Z,9.0nm,1.2s
ORIF Oris-en-Rattie 84.49 335 *e*P **P 07 31 17.0 +0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.8s
MFF Saint Martin d 84.53 340 *e*P **P 07 31 16.4 +0.1**
MFF pmax pmax
comp=Z,39nm,1.7s
ISO Isola 84.81 334 P **P 07 31 18.5 +0.6**
ISO pmax pmax
comp=Z,11nm,2.5s
SAOF Saorge 84.83 334 P **P 07 31 17.9 0.0**
EIL Elat 84.88 308 LR LR 08 13 32.3
comp=Z,35nm,18.2s,baz=60,slow=39
SBF Sospel 84.98 334 *e*P **P 07 31 19.0 +0.3**
SBF pmax pmax
comp=Z,10.0nm,0.9s
RJF Les Rejaudoux 85.33 338 *e*P **P 07 31 20.6 +0.3**
RJF pmax pmax
comp=Z,7.0nm,1.0s
CAF Calviac 85.54 338 *e*P **P 07 31 22.1 +0.7**
CAF pmax pmax
comp=Z,9.0nm,0.8s
LMR La Mourre 85.75 334 *e*P **P 07 31 22.3 -0.1**
LMR pmax pmax
comp=Z,10.0nm,0.9s
LFF La Frestale 85.87 339 *e*P **P 07 31 23.5 +0.5**
LFF pmax pmax
comp=Z,11nm,0.8s
ETSF Etsaut 88.11 339 *e*P **P 07 31 33.4 -0.6**
ETSF pmax pmax
comp=Z,24nm,1.7s
MDT Midelt 98.67 339 LR LR 08 23 29.9
comp=Z,34nm,18.4s,baz=36,slow=39
TORD Torodi Ar. Bea 114.99 326 PKP **PKiKP 07 37 23.4 -0.9**
comp=Z,0.3nm,0.4s,baz=94,slow=2.1,SNR=4.1
VNDA Vanda 123.10 177 PKP **PKPdf 07 37 37.9 -0.1**
comp=Z,1.5nm,0.8s,baz=56,slow=3.6,SNR=2.0
DBIC Dimbokro 123.38 330 PKP **PKPdf 07 37 39.8 -0.7**
comp=Z,2.7nm,1.1s,baz=270,slow=1.0,SNR=3.4
QSPA South Pole Qui 135.38 180 PKP **PKPdf 07 38 02.3 +0.7**
comp=Z,1.4nm,0.6s,baz=261,slow=7.7,SNR=2.8
H03N2 Juan Fernandez 140.69 90 T T 10 14 56.6
baz=307,slow=77,SNR=6.4
H03N3 Juan Fernandez 140.70 90 T T 10 14 57.1
baz=307,slow=77,SNR=13
H03N1 Juan Fernandez 140.70 90 T T 10 14 58.8
baz=307,slow=77,SNR=13
ELIB Princess Elisa 143.97 205 *d*PKP PKPbc 07 38 16.4 +1.0
ELIB *dp*PKPdf pPKPdf 07 38 33.5 -5.4
BDFB Brasilia 146.35 33 PKPbc **PKPdf 07 38 24.2 +1.2**
comp=Z,10nm,0.8s,baz=327,slow=2.1,SNR=12
TROLL Troll, Antarti 149.53 199 PKPdf **PKPbc 07 38 32.1 +0.9**
TROLL Troll, Antarti 149.53 199 ⇑PKPdf **PKPbc 07 38 32.1 +0.9**
comp=Z,504nm,0.9s
PLCA Paso Flores 150.03 95 PKPbc **PKPbc 07 38 33.3 0.0**
comp=Z,7.0nm,1.0s,baz=259,slow=3.2,SNR=17
CPUP Villa Florida 150.69 58 PKPbc **PKPbc 07 38 34.9 -0.2**
comp=Z,4.7nm,0.8s,baz=293,slow=2.9,SNR=11
SNAA Sanae 150.94 197 PKPbc **PKPbc 07 38 34.0 -0.5**
comp=Z,3.9nm,0.7s,baz=256,slow=3.5,SNR=8.0

IDC 14 07:22:30.7±1.2, 2°.84N×127°.32E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=80.9km s-min=23.1km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**23.67**	**163**	P	P		07 27 43.8	-0.4
	0.8nm,0.7s,baz=342,slow=9.2,SNR=5.0							
	0.8nm,0.7s							
ASAR	**Alice Springs**	**27.12**	**167**	P	P		07 28 14.9	-0.8
	0.2nm,0.5s,baz=347,slow=7.8,SNR=4.5							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**58.61**	**325**	P	P		07 32 30.2	+0.5
	0.2nm,0.7s,baz=129,slow=8.9,SNR=2.5							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**62.80**	**327**	P	P		07 32 58.4	+0.3
	0.2nm,0.3s,baz=127,slow=6.0,SNR=2.0							
	0.2nm,0.3s							
ILAR	**Eielson Array**	**85.65**	**25**	P	P		07 35 11.3	+0.2
	0.2nm,0.5s,baz=286,slow=3.5,SNR=4.1							
	0.2nm,0.5s							

---

*JMA **14** 07:25:20.9±0.2, 44°.5N±0°.7×14°.6E±°, h23km±1km, MD4.1/36, MV4.3/36, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*NIED **14** 07:25:20.9, 44°.53N×145°.75E, h23km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.01; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-0.64; $M_{r\theta}$-0.22; $M_{\theta\phi}$-0.46; $M_{\phi r}$-0.04; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s29.00000°, δ41.00000°, λ78.00000°. NP2:ϕ_s225.00000°, δ50.00000°, λ100.00000°.*
*SKHL **14** 07:25:21.8±0.3, 44°.50N×145°.80E, h27km±3km, mb5.6/2*
*MOS **14** 07:25:22.2±0.9, 44°.47N×145°.70E, h36km, mb4.4/11, Error ellipse: s-maj=9.3km s-min=7.4km az=95.3*
MOS Felt (II) at Malokuril'skoye, Yuzhno-Kuril'sk.
*NEIC **14** 07:25:25.7±1.9, 44°.50N±0°.07×145°.6E±0°.1, h45km±5km, mb4.3/26, Error ellipse: s-maj=13.4km s-min=9.8km az=91.0*
*IDC **14** 07:25:26.1±2.3, 44°.53N×145°.60E, h50km±21km, mb3.7/14, mbtmp3.9/19, ML3.4/4, Error ellipse: s-maj=18.2km s-min=14.0km az=141.0*
ISC 14 07:25:20.9±1.2, 44°.53N±0°.04×145°.75E±0°.03, h14km±8km, n122, σ1°.27/135, mb4.2/34, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	*d i* PN	**Pg**		**07 25 31.0**	**+0.3**
YUK				*i* S	**Sg**		**07 25 37.6**	**+0.1**
YUK				pmax	pmax			
	comp=N,2μm,0.2s							
YUK				pmax	pmax			
	comp=Z,6μm,0.2s							
YUK				pmax	pmax			
	comp=E,778nm,0.1s							
YUK				smax	smax			
	comp=E,40μm,0.2s							
YUK				smax	smax			
	comp=N,29μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	*e*P	**Pg**		**07 25 31.1**	**+0.3**
YUK				AMB	AMB		07 25 31.7	
	comp=N,3μm,0.3s							
YUK				*i* S	**Sg**		**07 25 37.8**	**+0.3**
YUK				A	A		07 25 38.0	
	comp=N,37μm,0.3s							
YUK				A	A		07 25 38.0	
	comp=N,17μm,0.3s							
RUSJ	**Misakicho**	**0.56**	**221**	⇑ *i* PN	**Pg**		**07 25 31.8**	**-0.1**
RUSJ				*e*S	**Sg**		**07 25 39.1**	**-0.2**
JRA	**Rausu**	**0.75**	**218**	P	**Pg**		**07 25 34.9**	**-0.5**
JRA				S	**Sg**		**07 25 44.8**	**-0.5**
JRA	**Rausu**	**0.75**	**218**	A	A		07 25 34.9	
	comp=N,13nm,0.3s,comp=E,17nm,0.4s							
JNSB	**Nemuroshibetsu**	**0.93**	**216**	P	**Pb**		**07 25 38.1**	**-0.7**
JNSB				S	**Sb**		**07 25 50.3**	**-0.6**
JNSB	**Nemuroshibetsu**	**0.93**	**216**	A	A		07 25 38.1	
	comp=N,11nm,0.3s,comp=E,15nm,0.6s							
SHO	**Shikotan**	**1.02**	**130**	*d i* PN	**Pb**		**07 25 40.1**	**-0.2**
SHO				*e*S	**Sb**		**07 25 53.5**	**0.0**
SHO				pmax	pmax			
	comp=E,2μm,0.4s							
SHO				pmax	pmax			
	comp=Z,3μm,0.4s							
SHO				pmax	pmax			
	comp=N,1μm,0.5s							
SHO				smax	smax			
	comp=N,26μm,0.4s							
SHO				smax	smax			
	comp=E,26μm,0.4s							
SHO	**Shikotan**	**1.02**	**130**	*i* P	**Pb**		**07 25 40.1**	**-0.2**
SHO				AMB	AMB		07 25 40.5	
	comp=E,3μm,0.4s							
SHO				*e*S	**Sb**		**07 25 53.3**	**-0.2**
SHO				A	A		07 25 54.8	
	comp=E,26μm,0.4s							
SHO				A	A		07 25 54.8	
	comp=E,25μm,0.4s							
NMR	**Nemuro--Hokkai**	**1.16**	**181**	*e*PN	**Pn**		**07 25 41.3**	**-1.5**
NMR				*e*S	**Sb**		**07 25 56.4**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.16**	**181**	*e*P	**Pn**		**07 25 41.3**	**-1.5**
NMR				*e*S	**Sb**		**07 25 56.0**	**-1.7**
NEM2	**Nemuro 2**	**1.16**	**180**	P	**Pn**		**07 25 41.4**	**-1.5**
NEM2				S	**Sb**		**07 25 56.5**	**-1.2**
NEM2	**Nemuro 2**	**1.16**	**180**	A	A		07 25 41.4	
	comp=N,9.0nm,0.6s,comp=E,7.0nm,0.7s							
JNK	**Nakash**	**1.20**	**219**	P	**Pn**		**07 25 42.0**	**-1.4**
JTKR	**Abashiri--Toko**	**1.44**	**248**	P	**Pn**		**07 25 45.4**	**-1.2**
JKHN	**Kushirohamanak**	**1.51**	**197**	P	**Pn**		**07 25 46.6**	**-0.9**
JKHN				*e*S	**Sn**		**07 26 05.9**	**-1.1**
AKK	**Akkeshi**	**1.65**	**204**	*e*P	**Pn**		**07 25 48.5**	**-1.0**
KUR	**Kuril'sk**	**1.66**	**64**	*e*PN	**Pn**		**07 25 50.2**	**+0.6**
KUR				*e*S	**Sb**		**07 26 13.1**	**+1.1**
KUR				pmax	pmax			
	comp=Z,263nm,0.5s							
KUR				smax	smax			
	comp=E,426nm,0.7s							
KUR	**Kuril'sk**	**1.66**	**64**	*e*P	**Pn**		**07 25 48.0**	**-1.6**
KUR				*e*S	**Sn**		**07 26 07.5**	**-3.2**
JAK	**Akkeshi**	**1.71**	**207**	*e*P	**Pn**		**07 25 48.9**	**-1.5**
JAK	**Akkeshi**	**1.71**	**207**	A	A		07 25 48.9	
	comp=N,7.0nm,1.0s,comp=E,4.0nm,0.9s							
JMP	**Maruseppu**	**1.80**	**254**	P	**Pn**		**07 25 51.0**	**-0.5**
JMP				S	**Sn**		**07 26 13.4**	**-0.8**
JMP	**Maruseppu**	**1.80**	**254**	A	A		07 25 51.0	
	comp=N,4.0nm,0.4s,comp=E,3.0nm,1.0s							
JAR	**Ashorobuto**	**1.89**	**230**	P	**Pn**		**07 25 52.7**	**-0.1**
JKA	**Kamikawa-asahi**	**2.30**	**261**		**Pn**		**07 25 57.6**	**-0.9**
JKA	**Kamikawa-asahi**	**2.30**	**261**	*e*P	**Pn**		**07 25 58.5**	**0.0**
ASAJ	**Asahikawa**	**2.30**	**261**	P	**Pn**		**07 25 58.5**	**-0.1**
	comp=E,16nm,0.3s,baz=65,slow=21,SNR=38							
ASAJ				S	**Sn**		**07 26 26.9**	**+0.3**
	comp=E,254nm,0.5s,baz=251,slow=24,SNR=6.7							
	comp=E,53nm,0.4s							
ERM	**Erimo**	**3.15**	**218**	Pn	**Pn**		**07 26 10.8**	**+0.7**
ERM	**Erimo**	**3.15**	**218**	*i* PN	**Pn**		**07 26 13.2**	**+3.1**
YSS	**Yuzhno-Sakhali**	**3.21**	**320**	Pn	**Pn**		**07 26 11.6**	**+0.7**
YSS	**Yuzhno-Sakhali**	**3.21**	**320**	*e*PN	**Pn**		**07 26 11.1**	**+0.2**
YSS				pmax	pmax			
	comp=Z,50nm,0.6s							
YSS				MLR	MLR			
	comp=Z,400nm,10.0s							
YSS	**Yuzhno-Sakhali**	**3.21**	**320**	*e*P	**Pn**		**07 26 11.1**	**+0.2**
YSS				*e*S	**Sn**		**07 26 46.6**	**-2.3**
JTM	**Tenmabayashi**	**5.09**	**224**	Pn	**Pn**		**07 26 36.8**	**0.0**
TYV	**Tymovskoe**	**6.67**	**343**	*e*P	**Pn**		**07 26 59.8**	**+1.3**
TYV				*e*S	**Sn**		**07 28 12.3**	**-2.0**
JSD	**Sado**	**8.59**	**224**	Pn	**Pn**		**07 27 26.2**	**+1.3**
NKL	**Nikolayevsk**	**9.25**	**341**	*e*P	**Pn**		**07 27 34.2**	**+0.4**
MAJO	**Matsushiro**	**9.83**	**218**	Pn	**Pn**		**07 27 42.1**	**+0.3**
MAJO	**Matsushiro**	**9.83**	**218**	PN	**Pn**		**07 27 42.1**	**+0.3**
MJAR	**Matsushiro Arr**	**9.83**	**218**	P	**Pn**		**07 27 44.4**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=7.3							
	comp=Z,1.4nm,0.4s							
USA0B	**Ussuriysk Arra**	**9.87**	**273**	Pn	**Pn**		**07 27 44.1**	**+1.7**

USA0B **Ussuriysk Arra** 9.87 273 *i* PN **Pn** **07 27 44.0 +1.7**
USRK **Ussuriysk Ar.** 9.87 273 **Pn** **07 27 43.4 +1.1**
USRK **Ussuriysk Ar.** 9.87 273 P Pn 07 27 48.3 +5.9
comp=Z,6.6nm,0.7s,baz=84,slow=14,SNR=7.9
USRK **Ussuriysk Ar.** 9.87 273 PN **Pn** **07 27 43.4 +1.1**
KLR **Kul'dur** 10.67 301 P **Pn** **07 27 57.0 +3.6**
comp=Z,0.1nm,0.3s,baz=122,slow=19,SNR=1.6
comp=Z,1.3nm,0.8s
KLR **Kul'dur** 10.67 301 *e*PN Pn 07 28 00.1 +6.7
KLR pmax pmax
comp=Z,6.0nm,1.5s
KLR **Kul'dur** 10.67 301 *e*P **Pn** **07 27 56.9 +3.6**
ZEA **Zeya** 15.18 314 *i* P **Pn** **07 28 54.7 0.0**
ZEA **Zeya** 15.18 314 *e*P **Pn** **07 28 52.2 -2.5**
MA2 **Magadan** 15.37 10 P **P** **07 28 60.0 -1.9**
comp=Z,1.7nm,0.4s,baz=160,slow=3.8,SNR=4.7
MA2 **Magadan** 15.37 10 *i* P **Pn** **07 28 54.9 -2.4**
MA2 pmax pmax
comp=Z,28nm,2.8s
JCJ **Chichijima** 17.63 191 P **P** **07 29 27.2 +0.1**
HIA **Hailar** 18.36 294 P **P** **07 29 35.7 +0.7**
HIA **Hailar** 18.36 294 *i* P **Pn** **07 29 34.7 -0.3**
HIA pmax pmax
comp=Z,14nm,1.1s
SEY **Seymchan** 18.83 9 P **Pn** **07 29 43.2 +2.6**
comp=Z,0.2nm,0.3s,baz=201,slow=13,SNR=4.9
comp=Z,1.3nm,0.4s
SEY **Seymchan** 18.83 9 *e*P **Pn** **07 29 43.6 +3.0**
SEY pmax pmax
comp=Z,4.0nm,1.0s
XLT **XiLinHaoTe** 21.23 279 *e*P **P** **07 30 06.6 +0.1**
XLT sP pwP 07 30 13.6 +1.0
XLT pmax pmax
comp=Z,10.0nm,0.8s
BILL **Bilibino** 25.91 18 *i* P **P** **07 30 49.5 -2.7**
BILL pmax pmax
comp=Z,11nm,2.3s
ULN **Ulaanbaatar** 26.80 291 *i* P **P** **07 31 02.0 +1.3**
ULN pmax pmax
comp=Z,7.0nm,1.4s
ULN **Ulaanbaatar** 26.80 291 *e*P **P** **07 31 02.0 +1.3**
SONM **Songino Array** 27.25 291 P **P** **07 31 05.5 +0.8**
SONM **Songino Array** 27.25 291 P **P** **07 31 04.9 +0.2**
comp=Z,1.6nm,0.8s,baz=85,slow=7.5,SNR=5.9
comp=Z,1.6nm,0.8s
TPUB **Ta-pu** 29.51 232 P **P** **07 31 24.9 0.0**
K13K **Kusilvak Mount** 33.38 41 P **P** **07 32 01.9 +3.4**
K13K IAmb IAmb 07 32 39.4
comp=Z,8.8nm,1.4s
M16K **Timber Creek** 36.02 43 P **P** **07 32 22.8 +1.4**
J17K **VABM Dome** 36.10 39 P **P** **07 32 24.3 +2.3**
J17K IAmb IAmb 07 32 38.8
comp=Z,10nm,1.4s
G18K **Tagagawik** 36.56 35 P **P** **07 32 26.0 0.0**
H18K **Honhosa River** 36.59 36 P **P** **07 32 26.7 +0.6**
H18K IAmb IAmb 07 32 45.2
comp=Z,2.6nm,1.1s
L18K **Granite Mounta** 37.14 41 P **P** **07 32 31.8 +0.9**
L18K IAmb IAmb 07 32 37.2
comp=Z,9.1nm,1.5s
TTA **Tatalina** 37.47 40 P **P** **07 32 34.1 +0.4**
TTA IAmb IAmb 07 33 15.2
comp=Z,6.5nm,1.5s
TTA **Tatalina** 37.47 40 P **P** **07 32 34.1 +0.4**
TTA pmax pmax
comp=Z,7.0nm,1.5s
P18K **Big Mountain,** 37.92 46 P **P** **07 32 38.6 +1.0**
COLA **College** 41.04 37 *i* P **P** **07 33 00.5 -2.9**
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR **Eielson Array** 41.46 37 P **P** **07 33 07.5 +0.7**
comp=Z,1.3nm,0.8s,baz=258,slow=6.0,SNR=12
comp=Z,1.3nm,0.8s
MK31 **Makanchi Array** 43.34 296 P **P** **07 33 22.3 -0.2**
MK31 **Makanchi Array** 43.34 296 P **P** **07 33 22.3 -0.2**
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 43.34 296 P **P** **07 33 22.8 +0.3**
MKAR **Makanchi Array** 43.34 296 P **P** **07 33 22.6 +0.1**
comp=Z,0.7nm,0.6s,baz=82,slow=9.0,SNR=8.5
MKAR PcP **PcP** **07 35 11.1 +0.1**
comp=Z,0.3nm,0.7s,baz=93,slow=2.9,SNR=2.1
comp=Z,0.7nm,0.6s
MKAR **Makanchi Array** 43.34 296 *e*P **P** **07 33 23.0 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR **Makanchi Array** 43.34 296 *e*P **P** **07 33 23.0 +0.6**
L27K **Beaver Creek,** 43.90 39 P **P** **07 33 27.9 +1.2**
L27K IAmb IAmb 07 33 29.0
comp=Z,6.7nm,1.4s
BCAR **Beaver Creek A** 43.92 39 P **P** **07 33 28.5 +1.6**
M27K **Edge Creek, AK** 44.01 40 P **P** **07 33 28.9 +1.2**
M27K IAmb IAmb 07 33 39.0
comp=Z,9.7nm,1.4s
KURK **Kurchatov** 44.26 303 P **P** **07 33 29.8 0.0**
KURK 07 35 13.8
KURK **Kurchatov** 44.26 303 *e*P **P** **07 33 29.8 0.0**
KURBB **Kurchatov Arra** 44.35 303 P **P** **07 33 29.8 -0.7**
comp=Z,0.6nm,0.5s,baz=71,slow=8.6,SNR=5.7
KURBB PcP **PP** **07 35 13.8 +0.1**
comp=Z,0.2nm,0.3s,baz=60,slow=4.4,SNR=1.8
comp=Z,0.6nm,0.5s
H29M **Whitestone** 44.80 34 P **P** **07 33 34.7 +0.8**
H29M IAmb IAmb 07 33 57.7
comp=Z,7.3nm,1.4s
HYT **Haines Junctio** 46.40 41 P **P** **07 33 48.9 +2.1**
HYT IAmb IAmb 07 34 22.0
comp=Z,8.9nm,1.2s
BOOM **Boomskoye usch** 49.24 294 P **P** **07 34 08.1 -1.0**
BOOM **Boomskoye usch** 49.24 294 P **P** **07 34 08.1 -1.0**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
AAK **Ala-Archa** 50.12 294 *i* P **P** **07 34 15.0 -0.8**
AAK pmax pmax
comp=Z,13nm,3.2s
AAK **Ala-Archa** 50.12 294 *e*P **P** **07 34 15.0 -0.8**
KK31 **Karatay Array** 52.46 297 P **P** **07 34 33.2 0.0**
KK31 IAmb IAmb 07 34 41.9
comp=Z,3.8nm,0.9s
KK31 **Karatay Array** 52.46 297 P **P** **07 34 33.2 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR **Karatay Array** 52.46 297 P **P** **07 34 33.2 0.0**
KKAR **Karatay Array** 52.46 297 P **P** **07 34 33.5 +0.3**
KKAR IAmb IAmb 07 34 41.8
comp=Z,2.4nm,0.9s
KKAR **Karatay Array** 52.46 297 P **P** **07 34 33.2 0.0**
YKA **Yellowknife Ar** 55.71 34 P **P** **07 34 56.1 -0.4**
comp=Z,0.7nm,1.1s,baz=298,slow=6.8,SNR=4.4
comp=Z,0.7nm,1.1s
ABKAR **Akbulak array** 55.79 308 P **P** **07 34 57.3 0.0**
ABKAR IAmb IAmb 07 34 58.3
comp=Z,1.4nm,0.6s
FINES **FINESS Array B** 63.72 332 P **P** **07 35 50.1 -1.5**
comp=Z,1.4nm,0.7s,baz=50,slow=6.7,SNR=4.2
comp=Z,1.4nm,0.7s
FINES **FINESS Array B** 63.72 332 *i* P **P** **07 35 51.5 -0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
WRA **Warramunga Arr** 65.00 192 P **P** **07 36 00.1 -0.4**
WRA **Warramunga Arr** 65.00 192 P **P** **07 35 60.0 -0.5**
comp=Z,1.8nm,0.8s,baz=10,slow=7.0,SNR=7.1
comp=Z,1.8nm,0.8s
WRA **Warramunga Arr** 65.00 192 P **P** **07 36 00.1 -0.4**
WRA pmax pmax
comp=Z,1.0nm,1.5s
PLID **Pearl Lake** 65.13 51 P **P** **07 36 02.1 +0.7**
BOZ **Bozeman (W)** 67.17 48 P **P** **07 36 15.2 +0.8**
BOZ IAmb IAmb 07 36 24.1
comp=Z,3.1nm,0.7s
BOZ **Bozeman (W)** 67.17 48 P **P** **07 36 15.3 +0.8**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
NVAR **Mina Array Bea** 68.01 57 P **P** **07 36 21.6 +1.6**
comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=3.7
comp=Z,0.5nm,0.6s
KIV **Kislovodsk** 68.49 311 *e*P **P** **07 36 21.1 -1.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KBZ **Khabaz** 68.53 311 P **P** **07 36 23.5 +0.7**
comp=Z,1.9nm,0.8s,baz=73,slow=7.7,SNR=4.5
comp=Z,1.9nm,0.8s
KBZ **Khabaz** 68.53 311 *e*P **P** **07 36 24.2 +1.4**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ **Khabaz** 68.53 311 *e*P **P** **07 36 24.2 +1.4**

HFS **Hagfors** 68.58 336 P **P** **07 36 22.3 -0.6**
comp=Z,1.9nm,0.7s,baz=62,slow=6.7,SNR=2.1
comp=Z,1.9nm,0.7s
ASAR **Alice Springs** 68.72 192 P **P** **07 36 24.2 +0.1**
ASAR **Alice Springs** 68.72 192 P **P** **07 36 24.8 +0.7**
comp=Z,0.8nm,0.7s,baz=7.9,slow=6.4,SNR=8.4
comp=Z,0.8nm,0.7s
ASAR **Alice Springs** 68.72 192 P **P** **07 36 24.2 +0.1**
PD31 **Pinedale Array** 70.17 49 P **P** **07 36 34.0 +0.7**
PD31 IAmb IAmb 07 36 35.1
comp=Z,1.6nm,0.7s
PDAR **Pinedale Array** 70.17 49 P **P** **07 36 34.5 +1.1**
comp=Z,1.0nm,0.5s,baz=269,slow=1.5,SNR=18
comp=Z,1.0nm,0.5s
AKASG **Malin Array Be** 70.35 323 P **P** **07 36 33.8 -0.2**
comp=Z,1.8nm,0.7s,baz=45,slow=5.4,SNR=7.4
comp=Z,1.8nm,0.7s
PV10 **Paradox Valley** 73.46 52 P **P** **07 36 53.3 0.0**
CLL **Collm** 76.16 332 *i* P **P** **07 37 08.8 +0.6**
CLL *e*x x 07 37 16.0
CLL *e*pP **PcP** **07 37 21.0 +0.7**
TXAR **Lajitas Array** 83.04 55 P **P** **07 37 47.0 +0.8**
comp=Z,0.5nm,0.6s,baz=322,slow=3.8,SNR=6.3
comp=Z,0.5nm,0.6s

*OTT **14** 07:43:29.3±0.2, 75°.74N×72°.24W, h18km, ML3.5/6, 243km east from Craig Harbour, Nu Eastern Arctic Background Seismic Zone.*
*DNK **14** 07:43:30.9±3.5, 75°.62N×72°.22W, h34km±54km, ML1.8*
ISC 14 07:43:14.3±0.7, 75°.91N±0°.04×72°.17W±0°.04, h10km, n18, σ2§94/26, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POIN	**Pond Inlet**	3.59	209	PN	**Pg**	07 44 22.1	-0.7
POIN				SN	**Sb**	07 45 00.1	-1.1
POIN				Trac		07 45 03.0	
comp=Z,24nm,0.2s							
KULLO	**Kullorsuaq**	4.04	102	PN	**Pg**	07 44 29.7	-2.0
KULLO				SN	**Sb**	07 45 14.4	0.0
KULLO				Trac		07 45 51.6	
comp=Z,3.7nm,0.1s							
KULLO	**Kullorsuaq**	4.04	102	*i* P	**Pg**	07 44 30.3	-1.4
EUNU	**Eureka**	5.10	331	PN	**Pb**	07 44 45.7	+2.2
EUNU				SN	**Sb**	07 45 43.0	-1.7
EUNU				Trac		07 45 52.8	
comp=Z,6.0nm,0.3s							
NEEM	**North Greenlan**	5.10	62	*i* P	**Pb**	07 44 45.4	+1.7
NEEM				*i* S	**Sb**	07 45 42.2	-2.8
NEEM				IAML		07 45 46.8	
comp=Z,13nm,0.3s							
UPNV	**Upernavik**	5.34	118	*i* P	**Pb**	07 44 46.5	-1.1
UPNV				*i* S	**Sn**	07 45 41.2	+5.8
UPNV				IAML		07 45 44.3	
comp=Z,9.0nm,0.2s							
CLRN	**Clyde River**	5.56	167	PN	**Pb**	07 44 49.3	-2.0
CLRN				SN	**Sn**	07 45 47.2	+6.5
CLRN				Trac		07 45 49.0	
comp=Z,13nm,0.2s							
RES	**Resolute Bay**	5.89	269	PN	**Pb**	07 44 54.8	-2.2
RES				SN	Sn	07 45 57.9	+9.0
RES				Trac		07 46 32.1	
comp=Z,17nm,0.7s							
NUUG	**Nuugaatsiaq**	6.87	120	*i* P	Pb	07 45 07.3	-6.2
NUUG				*e*S	**Sn**	07 46 15.2	+2.3
NUUG				IAML		07 46 23.5	
comp=Z,3.1nm,0.2s							
ILON	**Igloolik, Nuna**	7.16	208	PN	Pb	07 45 10.6	-8.0
ILON				SN	**Sn**	07 46 25.7	+5.6
ILON				Trac		07 46 55.1	
comp=Z,3.8nm,0.2s							
SUMG	**Summit**	9.64	93	*i* P	Pn	07 45 45.0	+12
SUMG				*e*S	**Sn**	07 47 19.9	-1.7
SUMG				IAML		07 47 31.1	
comp=Z,1.9nm,0.2s							
FRB	**Frobisher Bay**	12.28	172	PN	Pn	07 46 19.4	+10
FRB				PN		07 46 19.9	
FRB				SN	**Sn**	07 48 25.9	+0.3
FRB				Trac		07 49 15.5	
comp=Z,343nm,3.2s							
FRB				Trac		07 49 15.6	
comp=Z,23nm,0.7s							
DAG	**Danmarks Havn**	12.31	60	*i* P	Pn	07 46 19.0	+10
DAG				*i* P	Pn	07 46 19.0	+10
DAG				*i* S	**Sn**	07 48 28.6	+2.3
DAG				IAML		07 48 33.2	
comp=Z,1.7nm,0.3s							
DBG	**Daneborg**	13.09	71	*i* P	**P**	07 46 29.6	-0.7
DBG				*e*S	**Sn**	07 48 43.9	-1.4
DBG				IAML		07 48 58.3	
comp=Z,0.4nm,0.3s							
BLKN	**Baker Lake**	14.00	227	PN	**P**	07 46 41.2	+0.8
BLKN				SN	**Sn**	07 49 05.7	-1.7
BLKN				Trac		07 50 02.4	
comp=Z,117nm,2.1s							
KUKN	**Kugluktuk,NWT**	15.19	261	PN	P	07 47 00.3	+6.7
KUKN				SN	**Sn**	07 49 40.7	+4.2
KUKN				Trac		07 50 44.5	
comp=Z,1.0nm,0.2s							
FCC	**Fort Churchill**	18.93	217	PN	Pn	07 47 47.0	+12
FCC				SN	**Sn**	07 51 03.0	-4.0
FCC				Trac		07 51 28.2	
comp=Z,388nm,4.0s							
YKAW3	**Yellowknife Wh**	19.44	250	PN	Pn	07 47 54.3	+13
YKAW3				SN	**Sn**	07 51 17.7	-1.6

*LDG **14** 07:43:31.4±0.3, 51°.20N×0°.24W, h2km, Ml2.7/14, Error ellipse: s-maj=4.3km s-min=2.6km az=164.0*
*BGS **14** 07:43:33.0±0.3, 51°.16N×0°.25W, h2km, ML2.4*
ISC 14 07:43:33.3±1.0, 51°.04N±0°.04×0°.13W±0°.04, h10km, n18, σ1§26/28, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	0.34	121	*e*P	**Pn**	07 43 43.0	-1.2
HMNX				IAML		07 44 00.1	
comp=N,182nm,0.6s							
HMNX				IAML		07 44 02.1	
comp=E,334nm,0.4s							
HMNX	**Herstmonceux**	0.34	121	*e*P	**Pn**	07 43 43.0	-1.2
HMNX				IAML		07 44 00.1	
comp=N,182nm,0.6s							
HMNX				IAML		07 44 02.1	
comp=E,334nm,0.4s							
ELSH	**Elham, Standar**	0.80	82	*e*P	**Pn**	07 43 50.6	+0.1
ELMS	**Elmsett, Ipswi**	1.26	33	*e*P	**Pg**	07 43 56.9	-0.5
STRD	**Stroud**	1.47	301	*e*P	**Pn**	07 43 58.8	-1.1
STRD	**Stroud**	1.47	301	*e*P	**Pn**	07 43 58.8	-1.1
FLN	**La Foliniere**	2.29	186	*e*Pg	**Pg**	07 44 16.8	-0.4
FLN				*e*Sn	**Sn**	07 44 38.8	-0.6
FLN				*e*Sg	**Sg**	07 44 47.5	+0.6
comp=E,6.2nm,0.3s							
LDF	**La Druitiere**	2.45	180	*e*Pg	**Pg**	07 44 19.8	-0.4
LDF				*e*Sn	**Sn**	07 44 42.9	-0.4
LDF				*e*Sg	**Sg**	07 44 52.8	+0.9
comp=E,3.6nm,0.2s							
GRR	**Gorron**	2.70	190	*e*Pn	**Pn**	07 44 16.0	-0.7
GRR	**Gorron**	2.70	190	*e*Pg	**Pg**	07 44 24.2	-0.7
GRR				*e*Sn	**Sn**	07 44 48.1	-1.3
GRR				*e*Sg	**Sg**	07 45 00.3	+0.4
comp=E,4.3nm,0.2s							
SGMF	**Saint Gilles**	3.21	210	*e*Pg	**Pb**	07 44 32.6	+2.4
SGMF				*e*Sg	**Sg**	07 45 15.9	-0.3
comp=E,5.7nm,0.5s							
GIVF	**Givet**	3.29	105	*e*Sg	**Sg**	07 45 19.7	+0.8
comp=E,3.3nm,0.2s							
QUIF	**Quistinic**	3.70	214	*e*Pg	**Pb**	07 44 41.8	+3.1
QUIF				*e*Sg	**Sg**	07 45 30.2	-1.9
comp=E,3.8nm,0.5s							
MFF	**Saint Martin d**	4.44	180	*e*Sg	**Sg**	07 45 56.6	+0.7
comp=E,3.0nm,0.4s							
LOR	**Lormes**	4.59	144	*e*Pg	**Pg**	07 44 59.6	-1.6
LOR				*e*Sn	**Sn**	07 45 34.5	-1.6
LOR				*e*Sg	**Sg**	07 46 01.5	+0.8
comp=E,1.2nm,0.2s							
AVF	**Avril sur Loir**	4.83	150	*e*Sg	**Sg**	07 46 09.8	+1.5
comp=E,2.9nm,0.4s							
BGF	**Bois d'Agland**	4.90	155	*e*Sg	**Sg**	07 46 09.5	-0.9
comp=E,8.8nm,0.3s							
TCF	**Toulx Ste Croi**	5.00	161	*e*Sg	**Sg**	07 46 13.0	-0.8
comp=E,1.5nm,0.2s							

*KRSC **14** 07:43:53.6±0.9, 55°.42N×166°.47E, h33km±6km, Ml3.9*
*IDC **14** 07:43:54.2±1.6, 55°.75N×166°.18E, h0km, mb3.4/4, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=58.7km s-min=21.4km az=166.0*
ISC 14 07:43:56.6±1.1, 55°.48N±0°.08×166°.37E±0°.09, h20km, n32, σ1§10/28, mb3.6/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.36	220	*i* P	**Pb**	07 44 03.2	-1.0
BKI				*e*S	**Sb**	07 44 08.4	-0.9
KBTR	**Krutoberegovo**	2.13	292	*e*P	**Pn**	07 44 29.6	-1.5
SMKR	**Semkarok**	2.97	294	*e*P	**Pn**	07 44 43.4	+0.8
KLY	**Klyuchi**	3.33	287	*e*P	**Pn**	07 44 46.7	-0.7
KRSR	**Krestovskiy**	3.36	285	*e*P	**Pn**	07 44 48.1	+0.2
BZWR	**Bezymyannyi-We**	3.36	281	*e*P	**Pn**	07 44 48.7	+0.7
TUMD	**Tumrok D**	3.42	268	*e*P	**Pn**	07 44 49.5	+0.8
TUMD				*e*S	**Sn**	07 45 29.8	+1.1
KIRR	**Kirishev**	3.44	280	*e*P	**Pn**	07 44 49.8	+0.7
KMNR	**Kamenistaya**	3.49	277	*e*P	**Pn**	07 44 51.4	+1.6
KPT	**Kopyto**	3.51	281	*e*P	**Pn**	07 44 51.1	+1.1
KOZ	**Kozyrevsk**	3.72	282	*e*P	**Pn**	07 44 55.1	+2.3
SRDR	**Sredinnyy**	3.84	285	*e*P	**Pn**	07 44 55.6	+1.1
UGLR	**Uglovaya**	4.97	246	*e*P	**Pn**	07 45 10.6	+0.6
AVH	**Avacha**	4.98	247	*e*P	**Pn**	07 45 11.3	+1.1
KRX	**Arik**	4.98	248	*e*P	**Pn**	07 45 11.2	+0.9
TILK	**Tilichiki**	4.99	359	*e*P	**Pn**	07 45 11.5	+1.3
KOK	**Koryaka**	5.02	247	*e*P	**Pn**	07 45 11.9	+1.1
DALK	**Dalny**	5.09	244	*e*P	**Pn**	07 45 12.1	+0.4
GNL	**Ganaly**	5.22	253	*e*P	**Pn**	07 45 15.0	+1.5
PETK	**Petropavlovsk-**	5.61	249	Pn	**Pn**	07 45 19.2	+0.4
1.4nm,0.3s,baz=67,slow=18,SNR=10							
PETK				Sn	**Sn**	07 46 23.1	+0.6
0.7nm,0.3s,baz=59,slow=24,SNR=2.0							
4.5nm,0.5s							
GRL	**Gorelyy**	5.70	243	*e*P	**Pn**	07 45 21.1	+0.9
ILAR	**Eielson Array**	24.50	49	P	**P**	07 49 14.1	0.0
1.1nm,0.9s,baz=267,slow=9.7,SNR=8.7							
1.1nm,0.9s							
H11N2	**WAKE ISLAND Hy**	35.69	179	T	T	08 28 12.9	
baz=360,slow=76,SNR=34							
H11N3	**WAKE ISLAND Hy**	35.70	179	T	T	08 28 14.0	
baz=360,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	35.71	179	T	T	08 28 14.2	
baz=360,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	36.91	179	T	T	08 29 44.3	
baz=359							
H11S3	**WAKE ISLAND Hy**	36.92	180	T	T	08 29 47.2	
baz=359							
H11S2	**WAKE ISLAND Hy**	36.92	179	T	T	08 29 45.7	
baz=359							
SONM	**Songino Array**	36.92	284	P	P	07 51 09.1	+5.3
0.6nm,0.6s,baz=54,slow=8.0,SNR=3.2							
KURBB	**Kurchatov Arra**	49.65	303	P	**P**	07 52 45.2	-1.2
0.6nm,1.0s,baz=47,slow=7.0,SNR=2.9							
0.6nm,1.0s							
MKAR	**Makanchi Array**	50.38	297	P	**P**	07 52 51.0	-1.0
0.1nm,0.4s,baz=49,slow=9.7,SNR=1.6							
0.1nm,0.4s							
TXAR	**Lajitas Array**	66.36	72	P	**P**	07 54 44.7	+0.9
0.4nm,0.5s,baz=304,slow=5.5,SNR=12							
0.4nm,0.5s							

*IDC **14** 07:47:59.0±1.2, 2°.37N×126°.71E, h0km, mb3.8/8, mbtmp3.9/8, Error ellipse: s-maj=76.6km s-min=15.6km az=67.0*
*DJA **14** 07:48:03.8±1.7, 2°N±3°×12°7E±°, h15km±16km, M4.2/9, mB5.0/2, mb4.5/2, MLv4.1/9, Mw(mB)4.3/2*
ISC 14 07:48:05.5±1.0, 2°.46N±0°.08×126°.9E±0°.1, h53km, n12, σ1§04/13, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	1.80	313	P	**Pn**	07 48 32.6	-1.5
SGSI				S	**Sn**	07 48 55.6	-0.2
KMSI	**Cibinong**	3.42	237	P	**Pn**	07 48 57.2	+0.8
SANI	**Sanana**	4.56	191	P	**Pn**	07 49 11.2	-0.8
MRSI	**Marisa**	5.29	248	P	**Pn**	07 49 21.1	-0.9
FITZ	**Fitzroy Crossi**	20.46	183	P	**P**	07 52 37.1	-1.8
1.8nm,0.7s,baz=358,slow=8.7,SNR=6.8							
1.8nm,0.7s							
WRA	**Warramunga Arr**	23.45	162	P	**P**	07 53 09.4	-0.9
3.1nm,0.7s,baz=337,slow=10,SNR=19							
3.1nm,0.7s							
ASAR	**Alice Springs**	26.86	166	P	**P**	07 53 41.2	-0.2
0.3nm,0.3s,baz=346,slow=12,SNR=10							
0.3nm,0.3s							
CMAR	**Chiang Mai Arr**	31.63	302	P	**P**	07 54 23.9	+0.1
1.1nm,0.3s,baz=109,slow=5.8,SNR=4.1							
1.1nm,0.3s							
STKA	**Stephens Creek**	36.91	159	P	**P**	07 55 09.8	+0.5
2.5nm,0.8s,baz=358,slow=5.1,SNR=5.1							
2.5nm,0.8s							
SONM	**Songino Array**	48.53	342	P	**P**	07 56 44.7	+1.3
0.4nm,0.5s,baz=180,slow=7.2,SNR=3.5							
0.4nm,0.5s							
MKAR	**Makanchi Array**	58.66	326	P	**P**	07 57 58.0	+0.5
0.5nm,0.5s,baz=121,slow=7.6,SNR=16							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	62.87	328	P	**P**	07 58 26.5	+0.5
0.6nm,0.5s,baz=124,slow=6.2,SNR=8.4							
0.6nm,0.5s							

*IDC **14** 07:54:55.2±1.4, 5°.88S×147°.02E, h114km±12km, mb4.2/6, mbtmp4.7/10, MS3.2/3, Error ellipse: s-maj=14.8km s-min=10.5km az=96.0*
*NEIC **14** 07:54:56.5±1.7, 5°.76S±0°.08×147°.00E±0°.04, h128km±8km, mb4.5/29, Error ellipse: s-maj=13.0km s-min=3.7km az=203.0*
ISC 14 07:54:54.2±0.5, 5°.85S±0°.06×146°.97E±0°.06, h100km, n63, σ1§58/65, mb4.5/24, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.54	177	P	**Pn**	07 55 48.4	+1.2
99nm,0.4s,baz=15,slow=5.5,SNR=64							
PMG				S	**Sn**	07 56 29.3	+1.2
157nm,0.5s,baz=229,slow=19,SNR=6.9							
MANU	**Manus Island**	3.81	6	Pn	**Pn**	07 55 52.3	+1.5
RABL	**Rabaul**	5.43	73	Pn	**Pn**	07 56 13.8	+0.9
TABU	**Tabubil**	5.75	276	P	**Pn**	07 56 13.4	-3.8
JAY	**Jayapura**	7.07	298	P	**Pn**	07 56 37.2	+2.0
14nm,0.4s,baz=135,slow=6.2,SNR=16							
JAY				S	**Sn**	07 57 55.5	+1.4
11nm,0.5s,baz=347,slow=18,SNR=1.5							
COEN	**Coen**	8.88	205	Pn	**Pn**	07 57 01.2	+1.5
COEN	**Coen**	8.88	205	P	**Pn**	07 57 01.6	+1.8
MTSU	**Mount Surprise**	12.48	192	P	**Pn**	07 57 50.7	+2.3
TATA	**Tatamba Isabel**	12.98	102	P	**P**	07 58 01.2	-0.5
HNR	**Honiara**	13.34	106	P	**Pn**	07 57 58.3	-1.5
288nm,0.9s,baz=212,slow=11,SNR=2.0							
HNR				LR	LR	08 02 07.9	
comp=Z,107nm,21.6s,baz=154,slow=32							
ALEG	**Aligegeo Malai**	13.92	103	P	**P**	07 58 12.1	+0.1
NGOA	**Tingoa Renbel**	14.12	115	P	**P**	07 58 15.3	+0.9
KDU	**Kakadu**	15.83	244	P	**P**	07 58 31.9	-1.4
QIS	**Mount Isa**	16.27	205	P	**P**	07 58 40.3	+2.1
MTN	**Manton Dam**	17.09	245		**P**	07 58 46.7	-0.6
MTN				IAmb	IAmb	07 59 29.2	
comp=Z,37nm,1.4s							
WRAB	**Tennant Creek**	18.61	220	P	**Pn**	07 59 05.1	-0.3
WRA	**Warramunga Arr**	18.63	220	P	**P**	07 59 03.9	-0.2
WRA	**Warramunga Arr**	18.63	220	P	**Pn**	07 59 05.0	-0.5
comp=Z,29nm,0.6s,baz=40,slow=12,SNR=134							
WRA				S	**S**	08 02 30.3	-1.0
comp=Z,4.7nm,0.9s,baz=43,slow=21,SNR=8.2							
GUMO	**Guam**	19.43	354	LR	LR	08 06 34.3	
comp=Z,38nm,19.6s,baz=68,slow=36							
EIDS	**Eidsvold**	19.80	169	P	**P**	07 59 17.2	+0.3
KNRA	**Kununurra**	20.36	240	P	**P**	07 59 22.9	0.0

FITZ IAmb IAmb 08 00 03.5
comp=Z,14nm,0.6s
FITZ Fitzroy Crossi 24.12 238 P **P** **08 00 01.9 +0.9**
comp=Z,68nm,0.5s,baz=49,slow=7.4,SNR=161
DZM Mont Dzumac 24.79 132 P **P** **08 00 06.3 -0.8**
DZM IAmb IAmb 08 00 15.9
comp=Z,21nm,1.2s
ARMA Armidale 24.83 170 P **P** **08 00 07.5 +0.1**
ARMA IAmb IAmb 08 00 41.3
comp=Z,18nm,1.2s
STKA Stephens Creek 26.38 190 P **P** **08 00 18.7 -2.5**
STKA Stephens Creek 26.38 190 P **P** **08 00 19.6 -1.6**
comp=Z,2.6nm,0.7s,baz=1.2,slow=8.4,SNR=7.8
comp=Z,2.6nm,0.7s
MBWA Marble Bar 30.46 237 P **P** **08 00 57.9 +0.2**
MBWA IAmb IAmb 08 00 58.9
comp=Z,9.3nm,0.6s
FORT Forrest 30.50 213 P **P** **08 00 57.4 -0.6**
PSA00 Pilbara Seismi 30.55 237 P **P** **08 00 58.7 +0.2**
UGM Wanagama 36.23 265 P **P** **08 01 47.1 -0.9**
MORW Morawa 37.25 228 P **P** **08 01 55.9 -0.5**
NWAO Narrogin (SRO) 38.62 222 LR LR 08 18 15.6
comp=Z,81nm,21.8s,baz=348,slow=36
LEM Lembang 39.12 266 P **P** **08 02 12.4 -0.1**
comp=Z,25nm,0.6s,baz=342,slow=9.6,SNR=3.8
comp=Z,25nm,0.6s
RTZ Ruatahuna 42.45 145 P **P** **08 02 40.3 +0.8**
RTZ IAmb IAmb 08 02 41.6
comp=Z,10nm,0.7s
NIUE Niue 43.96 111 P **P** **08 02 52.2 +0.5**
NJ2 Nanjing 46.24 326 *e*P **P** **08 03 11.9 +2.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PZH PanZhiHua 54.34 308 P **P** **08 04 13.1 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,6.3s
HHC Hu-ho-hao-te 56.69 328 *e*P **P** **08 04 29.8 +2.2**
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,6.0s
SONM Songino Array 64.26 331 P **P** **08 05 19.0 0.0**
comp=Z,0.4nm,0.5s,baz=134,slow=4.2,SNR=2.2
VNDA Vanda 72.06 177 P **P** **08 06 07.0 -0.1**
VNDA Vanda 72.06 177 P **P** **08 06 07.5 +0.4**
comp=Z,1.5nm,0.5s,baz=347,slow=5.8,SNR=6.1
comp=Z,1.5nm,0.5s
MK31 Makanchi Array 77.36 320 P **P** **08 06 35.1 -3.1**
MK31 Makanchi Array 77.36 320 *i*P **P** **08 06 34.9 -3.3**
MKAR Makanchi Array 77.36 320 P **P** **08 06 34.7 -3.5**
M16K Timber Creek 78.71 24 P **P** **08 06 44.2 -1.1**
M16K IAmb IAmb 08 07 10.0
comp=Z,22nm,1.5s
L16K Owhat River 78.90 23 P **P** **08 06 45.2 -1.2**
L16K IAmb IAmb 08 07 14.1
comp=Z,10nm,1.4s
QSPA South Pole Qui 84.11 180 P **P** **08 07 13.2 -0.8**
QSPA South Pole Qui 84.11 180 P **P** **08 07 13.4 -0.6**
comp=Z,2.3nm,0.5s,baz=277,slow=0.9,SNR=21
comp=Z,2.3nm,0.5s
IL31 85.36 23 P **P** **08 07 17.1 -2.8**
IL31 IAmb IAmb 08 07 40.3
comp=Z,6.0nm,1.4s
ILAR Eielson Array 85.36 23 P **P** **08 07 17.2 -2.8**
ILAR Eielson Array 85.36 23 P **P** **08 07 17.5 -2.5**
comp=Z,1.5nm,0.6s,baz=253,slow=5.1,SNR=36
comp=Z,1.5nm,0.6s
RIDG Independent Ri 85.77 24 P **P** **08 07 20.1 -2.1**
RIDG IAmb IAmb 08 07 29.6
comp=Z,4.8nm,1.2s
D23K Nanushuk River 85.86 19 P **P** **08 07 21.6 -0.8**
D23K IAmb IAmb 08 07 23.1
comp=Z,4.4nm,1.0s
BMAR Burnt Mountain 87.27 21 P **P** **08 07 28.5 -0.9**
I28M Miner Creek 88.35 24 P **P** **08 07 32.8 -1.9**
K29M Barlow Dome 88.88 25 P **P** **08 07 35.4 -1.8**
K29M IAmb IAmb 08 08 12.6
comp=Z,6.0nm,1.4s
G31M Satah River 90.95 23 P **P** **08 07 44.8 -1.8**
G31M IAmb IAmb 08 07 45.4
comp=Z,4.4nm,1.2s
PLCA Paso Flores 122.26 147 PKP **PKiKP** **08 13 37.8 -0.4**
comp=Z,1.5nm,1.1s,baz=315,slow=5.7,SNR=3.6
TORD Torodi Ar. Bea 145.03 285 PKPbc **PKPdf** **08 14 20.3 -0.7**
comp=Z,0.7nm,0.5s,baz=60,slow=4.0,SNR=8.5

*MOS **14** 08:00:43.5±1.1,28°.10N×55°.80E,h12km,mb4.4/11,Error ellipse: s-maj=10.1km s-min=7.5km az=75.1*
*DSN **14** 08:00:43.7±1.3,28°.44N×56°.05E,h15km,ML3.9/13,Error ellipse: s-maj=19.4km s-min=11.4km az=70.0*
*IDC **14** 08:00:43.5±0.8,28°.10N×55°.84E,h0km,mb4.0/22, mbtmp4.0/24,ML4.0/2,MS3.4/4,Error ellipse: s-maj=18.4km s-min=15.0km az=9.0*
*NEIC **14** 08:00:45.6±1.4,28°.12N±0°.07×55°.79E±0°.09,h10km±1km, mb4.2/15,Error ellipse: s-maj=14.0km s-min=11.2km az=257.0*
*TEH **14** 08:00:46.6,28°.13N×55°.92E,h18km±29km*
*OMAN **14** 08:00:49.8±1.0,27°.98N×56°.01E,h10km,Error ellipse: s-maj=10.7km s-min=6.0km az=157.0*
ISC 14 08:00:46.5±0.4,28°.16N±0°.03×55°.91E±0°.03,h16km,n161, σ1°76/181,mb4.1/38,MS3.4/4,2C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.79**	**163**	Pg	**Pb**	**08 01 02.4**	**+0.4**
IBND	**Bandar-abas**	**0.90**	**141**	Pg	**Pn**	**08 01 04.5**	**-0.1**
KHNJ	**Kahnooj**	**1.60**	**97**	Pg	**Pb**	**08 01 15.4**	**-0.4**
NGRK	**Negar Kerman**	**1.65**	**26**	Pg	**Pb**	**08 01 17.0**	**+0.2**
KRBR	**Kerman**	**1.97**	**22**	Pn	**Pb**	**08 01 22.6**	**+0.5**
JHRM	**Jahrom**	**2.08**	**280**	Pn	**Pb**	**08 01 24.2**	**+0.2**
SHME	**Shamm**	**2.11**	**174**	P	**Pb**	**08 01 23.4**	**-1.0**
SHME	SNR=11			S	**Sb**	**08 01 50.0**	**-0.3**
SHME	**Shamm**	**2.11**	**174**	*e*P	**Pn**	**08 01 22.5**	**+1.3**
SHME	SNR=11			S	**Sb**	**08 01 52.0**	**+1.6**
CHMN	**Cheshme madani**	**2.22**	**40**	Pn	**Pb**	**08 01 26.4**	**-0.1**
BANOM	**Banah**	**2.25**	**171**	P	**Pb**	**08 01 26.0**	**-0.9**
BANOM				S	**Sn**	**08 01 52.8**	**+2.2**
BANOM	**Banah**	**2.25**	**171**	*e*P	**Pn**	**08 01 24.5**	**+1.4**
	SNR=21						
KHGB	**Koh Gabri**	**2.27**	**13**	Pn	**Pb**	**08 01 26.8**	**-0.4**
QIR1	**Qir**	**2.54**	**278**	Pn	**Pb**	**08 01 30.2**	**-1.6**
LMD1	**Lamerd**	**2.56**	**252**	Pn	**Pb**	**08 01 30.4**	**-1.8**
KRM1	**Kerman Provinc**	**2.63**	**27**	Pn	**Pb**	**08 01 31.8**	**-1.5**
MASF	**Masafi**	**2.78**	**175**	P	**Pn**	**08 01 32.7**	**+2.3**
	SNR=16						
MSFE	**Esma-Masafi**	**2.79**	**175**	*i*P	**Pn**	**08 01 32.2**	**+1.5**
	SNR=16						
ZRDN	**Zarand Kerman**	**2.85**	**11**	Pn	**Pb**	**08 01 35.2**	**-2.0**
MDH	**Madha**	**2.87**	**173**	P	**Pn**	**08 01 33.3**	**+1.7**
MDH				P	**Pn**	**08 01 33.3**	**+1.7**
MDH	**Madha**	**2.87**	**173**	P	**Pn**	**08 01 32.4**	**+0.8**
JASK	**Jask - Hormozg**	**2.87**	**142**	Pn	**Pn**	**08 01 33.9**	**+2.2**
JASK	**Jask - Hormozg**	**2.87**	**142**	P	**Pn**	**08 01 32.8**	**+1.1**
	SNR=11						
NAZ	**Nazwa, Dubai**	**3.16**	**184**	P	**Pn**	**08 01 39.0**	**+3.3**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**3.16**	**184**	*i*P	**Pn**	**08 01 37.7**	**+2.0**
	SNR=10						
UOSS	**Minazif**	**3.21**	**175**	Pn	**Pn**	**08 01 37.5**	**+1.2**
UOSS	**Minazif**	**3.21**	**175**	Pn	**Pn**	**08 01 38.1**	**+1.8**
UOSS	**Minazif**	**3.21**	**175**	P	**Pn**	**08 01 38.0**	**+1.8**
UOSS	**Minazif**	**3.21**	**175**	*i*P	**Pn**	**08 01 37.4**	**+1.1**
	SNR=7.5						
HATD	**Hatta, Dubai**	**3.32**	**176**	P	**Pn**	**08 01 40.2**	**+2.3**
HATD				S	**Sn**	**08 02 20.2**	**+3.1**
HATD	**Hatta, Dubai**	**3.32**	**176**	P	**Pn**	**08 01 39.8**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.41**	**185**	P	**Pn**	**08 01 41.2**	**+2.2**
	SNR=22						
FAQ				S	**Sn**	**08 02 21.3**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.41**	**185**	*i*P	**Pn**	**08 01 41.0**	**+1.9**
	SNR=6.1						
IMEH	**Mehriz**	**3.41**	**341**	Pn	**Pn**	**08 01 42.6**	**+3.3**
ASHO	**Ashiyiah**	**3.46**	**178**	P	**Pn**	**08 01 41.9**	**+2.1**
	SNR=60						
ASHO	**Ashiyiah**	**3.46**	**178**	*i*P	**Pn**	**08 01 41.6**	**+1.8**
	SNR=60						
ASUD	**Al Ashush, Dub**	**3.55**	**188**	P	**Pn**	**08 01 44.0**	**+2.9**
	SNR=52						
ASUD	**Al Ashush, Dub**	**3.55**	**188**	*i*P	**Pn**	**08 01 43.4**	**+2.4**
	SNR=52						
AJN	**Ajban**	**3.67**	**193**	P	**Pn**	**08 01 45.1**	**+2.4**
	SNR=23						
AJN				S	**Sn**	**08 02 27.9**	**+2.3**
AJN	**Ajban**	**3.67**	**193**	*i*P	**Pn**	**08 01 44.7**	**+2.0**
	SNR=11						
SOHO	**SOHO**	**4.04**	**172**	P	**Pn**	**08 01 49.4**	**+1.6**
SOHO	**SOHO**	**4.04**	**172**	P	**Pn**	**08 01 47.4**	**-0.4**
ALNE	**Al Ain**	**4.08**	**182**	P	**Pn**	**08 01 51.2**	**+2.8**
ALNE				S	**Sn**	**08 02 39.9**	**+4.0**
AHBU	**AHRAM**	**4.12**	**281**	Pn	**Pn**	**08 01 51.1**	**+2.3**
ISAD	**Sadrabad**	**4.21**	**333**	Pn	**Pn**	**08 01 53.7**	**+3.3**
JRN	**Qarnain Island**	**4.21**	**221**	P	**Pn**	**08 01 53.8**	**+3.7**
JRN				S	**Sn**	**08 02 40.5**	**+1.6**
ZHSF	**Zahedan**	**4.51**	**70**	Pn	**Pn**	**08 01 57.3**	**+3.0**
KLNJ	**Kolanjah**	**4.71**	**308**	Pn	**Pn**	**08 02 00.6**	**+3.4**
HOQ	**Hoqain**	**4.73**	**164**	P	**Pn**	**08 01 56.4**	**-0.8**
HOQ				S	**Sn**	**08 02 50.4**	**-1.3**
IRAM	**Ramesheh**	**4.75**	**321**	Pn	**Pn**	**08 02 00.8**	**+3.0**
ARQ	**Araqi**	**4.83**	**173**	P	**Pn**	**08 02 00.5**	**+1.9**
	SNR=28						
ARQ				S	**Sn**	**08 02 56.1**	**+1.9**
NHDN	**Nehbandan**	**4.84**	**47**	Pn	**Pn**	**08 02 01.9**	**+3.1**
TPRV	**Parvadeh(Tabas**	**4.90**	**8**	Pn	**Pn**	**08 02 03.1**	**+3.5**
SHMA	**Al-Shehemyia**	**4.97**	**244**	P	**Pn**	**08 02 03.0**	**+2.5**
	SNR=23						
IKOO	**Kooshah**	**5.03**	**31**	Pn	**Pn**	**08 02 04.5**	**+3.0**
BIDO	**Bidbid**	**5.03**	**156**	P	**Pn**	**08 02 01.2**	**-0.1**
	SNR=5.4						
BIDO				S	**Sn**	**08 02 58.6**	**-0.6**
ITEG	**Tejag**	**5.32**	**27**	Pn	**Pn**	**08 02 08.6**	**+3.0**
ANAR	**Anarak**	**5.36**	**340**	Pn	**Pn**	**08 02 09.2**	**+3.3**
TRNA	**Turayna**	**5.41**	**232**	P	**Pn**	**08 02 10.0**	**+3.4**
	SNR=5.6						
SMDO	**Samad**	**5.43**	**159**	P	**Pn**	**08 02 09.6**	**+2.6**
	SNR=14						
NGCH	**Negor - Chabah**	**5.44**	**120**	Pn	**Pn**	**08 02 08.5**	**+1.5**
NGCH	**Negor - Chabah**	**5.44**	**120**	P	**Pn**	**08 02 08.9**	**+1.9**
	SNR=19						
NGCH				S	**Sn**	**08 03 09.0**	**-0.3**
	SNR=6.7						
UMZA	**Um Al Zommool**	**5.46**	**187**	P	**Pn**	**08 02 07.9**	**+0.7**
UMZA				S	**Sn**	**08 03 08.1**	**-1.7**
WSAR	**Wadi Sarin**	**5.48**	**153**	Pn	**Pn**	**08 02 07.6**	**+0.1**
	6.9nm,0.3s,baz=318,slow=4.1,SNR=36						
WSAR				Sn	**Sn**	**08 03 10.4**	**+0.2**
	7.7nm,0.3s,baz=195,slow=23,SNR=11						
	16nm,0.3s						
BSY	**Bisya**	**5.51**	**167**	P	**Pn**	**08 02 09.6**	**+1.6**
BSY				S	**Sn**	**08 03 14.2**	**+3.1**
TKDS	**Koohdasht(Taba**	**5.54**	**11**	Pn	**Pn**	**08 02 11.6**	**+3.2**
MZR	**Muzera**	**5.58**	**204**	P	**Pn**	**08 02 09.8**	**+0.9**
MZR				S	**Sn**	**08 03 11.7**	**-1.0**
SMRA	**Abu-Samra**	**5.68**	**234**	P	**Pn**	**08 02 13.1**	**+2.8**
	SNR=6.6						
SMRA				S	**Sn**	**08 03 15.9**	**+0.8**
SRVN	**Saravan**	**5.80**	**96**	Pn	**Pn**	**08 02 14.6**	**+2.6**
TNSJ	**Nastanj**	**5.82**	**6**	Pn	**Pn**	**08 02 15.4**	**+3.1**
ZNGN	**Zangian**	**5.89**	**313**	Pn	**Pn**	**08 02 16.6**	**+3.1**
AFRZ	**Afriz**	**5.89**	**26**	Pn	**Pn**	**08 02 16.6**	**+3.2**
JMDO	**Jabal Madar**	**6.09**	**160**	P	**Pn**	**08 02 18.0**	**+2.0**
	SNR=8.3						
JMDO				S	**Sn**	**08 03 26.8**	**+1.4**
WBK	**Wadi Bani Khal**	**6.18**	**153**	P	**Pn**	**08 02 17.5**	**+0.4**
	SNR=15						
WBK				S	**Sn**	**08 03 24.7**	**-2.8**
IPIR	**Pirpir**	**6.25**	**317**	Pn	**Pn**	**08 02 21.2**	**+2.7**
IKLH	**Kolahrood**	**6.35**	**325**	Pn	**Pn**	**08 02 22.5**	**+2.7**
JLN	**Jalan Bani Buh**	**6.77**	**151**	P	**Pn**	**08 02 25.4**	**+0.1**
	SNR=10						
JLN				S	**Sn**	**08 03 39.5**	**-2.6**
ISFB	**Sefidab**	**6.93**	**334**	Pn	**Pn**	**08 02 30.7**	**+3.2**
MHTO	**MHTO**	**7.38**	**165**	P	**Pn**	**08 02 34.3**	**+0.7**
	SNR=18						
MHTO				S	**Sn**	**08 03 55.0**	**-2.1**
HRA	**Herat**	**8.24**	**40**	Pn	**Pn**	**08 02 48.4**	**+2.7**
DQM	**DQM**	**8.32**	**169**	P	**Pn**	**08 02 46.0**	**-0.6**
	SNR=9.9						
SBZV	**Sabzevar**	**8.34**	**10**	Pn	**Pn**	**08 02 50.5**	**+3.6**
DOK	**Doka**	**9.63**	**190**	P	**Pn**	**08 03 04.1**	**-0.5**
	SNR=21						
WHFO	**Wadi Hawf**	**10.38**	**191**	P	**Pn**	**08 03 14.0**	**-0.8**
	SNR=31						
DMTO	**DMTO**	**10.43**	**185**	P	**Pn**	**08 03 14.4**	**-1.1**
	SNR=28						
RAYN	**Ar Rayn**	**10.44**	**246**		**Pn**	**08 03 13.6**	**-2.1**
RAYN	**Ar Rayn**	**10.44**	**246**	P	**Pn**	**08 03 13.6**	**-2.1**
RBK	**Rabkut**	**10.72**	**189**	P	**Pn**	**08 03 19.1**	**-0.4**
	SNR=6.2						
GURO	**Guroymak-BITLI**	**15.53**	**315**	Pn	**Pn**	**08 04 25.5**	**+0.4**
GURO				IAmb	IAmb	08 04 43.2	
	comp=Z,5.0nm,0.5s						
ASF	**Jabal al Asfar**	**16.92**	**288**	Pn	**Pn**	**08 04 41.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=126,slow=8.7,SNR=1.9						
	comp=Z,2.7nm,0.6s						
MMAI	**Mount Meron Ar**	**18.30**	**290**	P	**Pn**	**08 05 01.4**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=106,slow=14,SNR=1.7						
KBZ	**Khabaz**	**18.73**	**329**	P	**Pn**	**08 05 07.4**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=104,slow=11,SNR=3.6						
KIV	**Kislovodsk**	**19.01**	**330**	*e*P	**P**	**08 05 05.5**	**-2.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KK31	**Karatay Array**	**19.02**	**35**	P	**P**	**08 05 07.7**	**0.0**
KK31	**Karatay Array**	**19.02**	**35**	P	**P**	**08 05 07.7**	**0.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**19.02**	**35**	P	**P**	**08 05 07.3**	**-0.4**
KKAR	**Karatay Array**	**19.02**	**35**	P	**P**	**08 05 07.3**	**-0.4**
AAK	**Ala-Archa**	**20.87**	**41**	P	**P**	**08 05 28.9**	**+0.8**
AAK	**Ala-Archa**	**20.87**	**41**	P	**P**	**08 05 28.3**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=226,slow=8.0,SNR=6.6						
AAK				LR	LR	08 15 16.4	
	comp=Z,68nm,18.3s,baz=254,slow=42						
	comp=Z,2.6nm,0.6s						
AAK	**Ala-Archa**	**20.87**	**41**	*ce*P	Pn	08 05 29.6	-0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**21.30**	**7**	P	**P**	**08 05 32.2**	**-0.1**
BOOM	**Boomskoye usch**	**21.65**	**43**	P	**P**	**08 05 37.0**	**+0.7**
BOOM	**Boomskoye usch**	**21.65**	**43**	P	**P**	**08 05 37.0**	**+0.7**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BR131	**Keskin Array S**	**21.72**	**308**	P	**P**	**08 05 36.6**	**-0.6**
BR131				IAmb	IAmb	08 05 47.9	
	comp=Z,6.6nm,0.8s						
BR131	**Keskin Array S**	**21.72**	**308**	*i*P	**P**	**08 05 36.2**	**-0.9**
BRTR	**Keskin Array B**	**21.72**	**308**	P	**P**	**08 05 37.5**	**+0.3**
BRTR	**Keskin Array B**	**21.72**	**308**	P	**P**	**08 05 38.2**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=131,slow=13,SNR=8.1						
	comp=Z,1.7nm,0.6s						
TARG	**Taragay, Kyrgy**	**22.41**	**47**	P	**P**	**08 05 45.9**	**+1.1**
TARG				IAmb	IAmb	08 05 58.9	
	comp=Z,5.6nm,1.0s						
TARG	**Taragay, Kyrgy**	**22.41**	**47**	P	**P**	**08 05 45.9**	**+1.1**
TARG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**27.06**	**19**	P	**P**	**08 06 27.8**	**-0.3**
BRVK				IAmb	IAmb	08 06 29.1	
	comp=Z,5.0nm,0.5s						
BRVK	**Borovoye**	**27.06**	**19**	*ce*P	**P**	**08 06 29.0**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**27.06**	**19**	P	**P**	**08 06 28.4**	**+0.3**
	comp=Z,7.7nm,0.7s,baz=198,slow=7.5,SNR=22						
	comp=Z,7.7nm,0.7s						
MKAR	**Makanchi Array**	**27.80**	**41**	P	**P**	**08 06 35.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=227,slow=9.6,SNR=11						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**28.23**	**31**	P	**P**	**08 06 38.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=231,slow=8.8,SNR=26						
	comp=Z,2.1nm,0.7s						
KURK	**Kurchatov**	**28.34**	**31**	P	**P**	**08 06 39.8**	**+0.2**
KURK				IAmb	IAmb	08 06 40.8	
	comp=Z,2.5nm,0.7s						
KURK	**Kurchatov**	**28.34**	**31**	*i*P	**P**	**08 06 39.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
WMQ	**Urumqi**	**29.87**	**50**	*e*P	**P**	**08 06 55.1**	**+1.8**
WMQ				sP	sP	08 07 03.8	+3.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
AKASG	**Malin Array Be**	**30.23**	**325**	P	**P**	**08 06 56.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=133,slow=8.4,SNR=9.6						
	comp=Z,1.1nm,0.5s						
AKBB	**Malin Array Si**	**30.23**	**325**	P	**P**	**08 06 55.7**	**-0.6**
AKBB				IAmb	IAmb	08 06 57.3	
	comp=Z,4.7nm,0.9s						
AKBB	**Malin Array Si**	**30.23**	**325**	*i*P	**P**	**08 06 55.3**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAA0	**Zalesovo Array**	**33.33**	**31**	P	**P**	**08 07 23.0**	**-0.5**
ZALV	**Zalesovo Beam**	**33.33**	**31**	P	**P**	**08 07 23.4**	**-0.1**
ZALV	**Zalesovo Beam**	**33.33**	**31**	P	**P**	**08 07 23.6**	**+0.1**
	comp=Z,9.2nm,0.5s,baz=238,slow=9.3,SNR=43						
	comp=Z,9.2nm,0.5s						
GTA	**Gaotai**	**37.85**	**61**	*e*P	**P**	**08 08 02.9**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
GERES	**GERESS Array B**	**38.33**	**314**	P	**P**	**08 08 06.9**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=80,slow=11,SNR=1.9						
GERES				LR	LR	08 28 11.3	
	comp=Z,73nm,19.2s,baz=326,slow=43						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**38.76**	**338**	P	**P**	**08 08 09.7**	**-0.2**
FINES	**FINESS Array B**	**38.76**	**338**	P	**P**	**08 08 08.6**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=8.2,SNR=5.0						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**38.76**	**338**	*i*P	**P**	**08 08 10.3**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**42.80**	**330**	P	**P**	**08 08 43.0**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=132,slow=10,SNR=21						
	comp=Z,1.9nm,0.5s						
HFS	**Hagfors**	**42.80**	**330**	P	**P**	**08 08 43.0**	**-0.3**
SONM	**Songino Array**	**43.50**	**49**	P	**P**	**08 08 50.6**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=265,slow=8.7,SNR=2.3						
SONM				LR	LR	08 28 15.3	
	comp=Z,66nm,21.2s,baz=124,slow=38						
	comp=Z,0.3nm,0.4s						
NORES	**NORESS Array B**	**44.03**	**330**	P	**P**	**08 08 53.7**	**+0.6**
NC405	**NORSAR Array S**	**44.13**	**331**	P	**P**	**08 08 52.8**	**-1.1**
NOA	**NORSAR Array B**	**44.31**	**331**	P	**P**	**08 08 54.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=128,slow=7.4,SNR=1.7						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**44.99**	**345**	P	**P**	**08 09 00.9**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=143,slow=8.4,SNR=6.5						
	comp=Z,4.5nm,1.0s						
HHC	**Hu-ho-hao-te**	**46.87**	**59**	*e*P	**P**	**08 09 15.9**	**-0.2**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.2s						
EKA	**Eskdalemuir Ar**	**49.87**	**320**	P	**P**	**08 09 38.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=95,slow=8.0,SNR=1.7						
	comp=Z,0.2nm,0.3s						
HIA	**Hailar**	**52.43**	**48**	*i*P	**P**	**08 09 59.2**	**+0.9**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**52.48**	**265**	P	**P**	**08 09 57.9**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=52,slow=7.7,SNR=9.8						
	comp=Z,2.1nm,0.8s						
KBS	**Kingsbay**	**54.31**	**350**	*i*P	**P**	**08 10 10.9**	**-0.7**
ZEA	**Zeya**	**56.95**	**42**	*i*P	**P**	**08 10 31.2**	**+0.3**
DAG	**Danmarks Havn**	**59.27**	**345**	*i*P	**P**	**08 10 46.6**	**-0.2**
DAG				IAmb	IAmb	08 10 47.6	
	comp=Z,3.3nm,0.7s						
DBG	**Daneborg**	**59.38**	**342**	*i*P	**P**	**08 10 47.6**	**0.0**
DBG				IAmb	IAmb	08 10 49.4	
	comp=Z,3.3nm,0.8s						
SCO	**Scoresbysund**	**59.70**	**338**	*i*P	**P**	**08 10 53.0**	**+3.2**
SCO				IAmb	IAmb	08 10 55.2	
	comp=Z,67nm,1.5s						
NOR	**Nord**	**59.79**	**351**	*i*P	**P**	**08 10 49.6**	**-0.7**
KSRS	**Korea Array**	**59.92**	**61**	P	**P**	**08 10 50.5**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=283,slow=7.0,SNR=5.0						
	comp=Z,1.5nm,0.5s						
DBIC	**Dimbokro**	**61.15**	**262**	P	**P**	**08 10 58.8**	**-1.8**
	comp=Z,1.3nm,0.8s,baz=45,slow=5.7,SNR=1.8						
	comp=Z,1.3nm,0.8s						
SUMG	**Summit**	**64.70**	**341**	*i*P	**P**	**08 11 24.2**	**+0.3**
SUMG				IAmb	IAmb	08 11 25.6	
	comp=Z,6.1nm,1.2s						
NEEM	**North Greenlan**	**66.32**	**347**	*i*P	**P**	**08 11 34.4**	**+0.3**
NEEM				IAmb	IAmb	08 11 36.5	
	comp=Z,3.9nm,0.7s						
SEY	**Seymchan**	**68.17**	**29**	*i*P	**P**	**08 11 44.5**	**-1.2**
SEY				pmax	pmax		
	comp=Z,7.0nm,1.6s						
KAPI	**Kappang**	**69.70**	**108**	LR	LR	08 44 31.3	
	comp=Z,14nm,18.9s,baz=187,slow=38						
A36M	**Sachs Harbour**	**80.13**	**0**	P	**P**	**08 12 55.6**	**+0.3**
A36M				IAmb	IAmb	08 12 56.9	
	comp=Z,2.9nm,0.7s						
ANM	**Nome**	**82.14**	**17**	P	**P**	**08 13 06.0**	**-0.2**
ANM				IAmb	IAmb	08 13 16.4	
	comp=Z,4.4nm,1.1s						
ANM	**Nome**	**82.14**	**17**	P	**P**	**08 13 06.0**	**-0.2**
ANM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BMAR	**Burnt Mountain**	**83.47**	**8**	P	**P**	**08 13 13.9**	**+0.8**
SCHQ	**Schefferville**	**83.88**	**331**	P	**P**	**08 13 14.2**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=284,slow=12,SNR=1.6						
	comp=Z,1.3nm,0.5s						
COLA	**College**	**85.44**	**10**	*i*P	**P**	**08 13 22.2**	**-0.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
ILAR	**Eielson Array**	**85.69**	**10**	P	**P**	**08 13 22.6**

GRGR			*e*S	Sn	08 34 12.8	-0.2
GRFF	**Grenada Fort F**	**2.50 247**	*e*S	Sn	08 34 16.4	+0.8
GRFF	**Grenada Fort F**	**2.50 247**	*e*S	Sn	08 34 16.4	+0.8
DSLB	**Salisbury**	**3.09 321**	*e*P	Pn	08 33 55.6	+1.6
DSLB			*e*S	Sn	08 34 29.8	0.0
DSLB	**Salisbury**	**3.09 321**	*e*P	Pn	08 33 55.6	+1.6
DSLB			*e*S	Sn	08 34 29.8	0.0
TRN	**Trinidad (W)**	**3.10 220**	*e*P	Pn	08 33 55.5	+1.4
TRN	**Trinidad (W)**	**3.10 220**	*e*P	Pn	08 33 55.5	+1.4
TBG	**Guadaloupe-3**	**3.54 322**	*e*P	Pn	08 34 01.3	+1.2
TBG	**Guadaloupe-3**	**3.54 322**	*e*P	Pn	08 34 01.3	+1.2
ANBD	**Bethesda, Anti**	**4.59 330**	*e*P	Pn	08 34 15.9	+1.5
ANBD			*e*S	Sn	08 35 04.8	-1.8
ANBD	**Bethesda, Anti**	**4.59 330**	*e*P	Pn	08 34 15.9	+1.5

*ASRS **14** 08:34:39.0±1.3, 54°.38N×86°.82E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **14** 08:34:39.1±2.9, 54°.44N×87°.13E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.1km s-min=17.3km az=59.0*

*NNC **14** 08:34:40.3±2.4, 54°.42N×86°.89E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=36.7km s-min=15.7km az=165.0, Suspected Mining explosion.*

ISC 14 08:34:42.4±4.7, 54°.4N±0°.2×86°.7E±0°.2, h0km, n8, σ0°.86/11, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19 250**		I	I	08 42 12.0	
	baz=71,slow=348,SNR=1.6						
ZAA0	**Zalesovo Array**	**1.19 250**		⇑P	**Pg**	**08 35 04.3**	**-1.0**
	0.3nm,0.3s						
ZAA0				⇓S	**Sn**	**08 35 23.2**	**0.0**
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**1.19 250**		Pg	**Pg**	**08 35 04.4**	**-0.9**
	1.8nm,0.3s,baz=65,slow=16,SNR=14						
ZALV				Lg	Lg	08 35 25.2	
	1.4nm,0.3s,baz=72,slow=28,SNR=6.5						
KURK	**Kurchatov**	**6.14 237**		⇑Pn	**Pn**	**08 36 15.3**	**+1.0**
	1.3nm,0.8s						
KURK				⇑Sn	**Sn**	**08 37 24.8**	**-0.5**
	0.9nm,0.8s						
KURK				⇓Lg	Lg	08 37 58.7	
	3.6nm,1.1s						
KURBB	**Kurchatov Arra**	**6.25 236**		Pn	**Pn**	**08 36 16.6**	**+0.8**
	0.1nm,0.3s,baz=55,slow=14,SNR=8.8						
KURBB				Lg	Lg	08 38 04.7	
	baz=54,slow=32,SNR=4.9						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**6.25 236**		⇑Pn	**Pn**	**08 36 16.6**	**+0.8**
	1.4nm,0.6s						
KURBB				⇓Sn	**Sn**	**08 37 29.0**	**+1.2**
	1.5nm,0.5s						
KURBB				⇑Lg	Lg	08 38 02.4	
	7.9nm,1.4s						
MK31	**Makanchi Array**	**8.09 202**		⇑Pn	**Pn**	**08 36 41.3**	**+0.2**
	0.9nm,0.9s,baz=24,slow=12,SNR=10						
MK31				⇑Lg	Lg	08 38 58.2	
	2.8nm,1.1s						
MKAR	**Makanchi Array**	**8.09 202**		Pn	**Pn**	**08 36 41.0**	**-0.2**
	0.2nm,0.3s,baz=27,slow=14,SNR=11						
MKAR				Sn	**Sn**	**08 38 13.7**	**+0.4**
	0.1nm,0.3s,baz=30,slow=29,SNR=4.2						
MKAR				Lg	Lg	08 39 00.7	
	baz=7.7,slow=34,SNR=2.3						
	0.2nm,0.3s						

IDC 14 08:41:05.0±1.4, 35°.13N×26°.26E, h0km, mb3.7/5, mbtmp3.7/5, MS3.0/3, Error ellipse: s-maj=307.3km s-min=23.7km az=141.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**15.44**	**51**	LR	LR	08 52 32.1	
	comp=Z,32nm,20.7s,baz=230,slow=44						
MDT	**Midelt**	**25.65**	**274**	LR	LR	08 58 22.1	
	comp=Z,62nm,18.0s,baz=43,slow=40						
AKTO	**Aktyubinsk**	**27.61**	**47**	P	P	08 46 54.1	+0.1
	0.5nm,0.4s,baz=254,slow=7.4,SNR=4.1						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**31.17**	**231**	P	P	08 47 25.8	0.0
	1.4nm,0.8s,baz=35,slow=9.9,SNR=8.3						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**40.44**	**51**	P	P	08 48 44.8	-0.2
	0.3nm,0.4s,baz=280,slow=9.5,SNR=4.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**43.04**	**57**	P	P	08 49 06.2	-0.2
	0.4nm,0.5s,baz=272,slow=7.8,SNR=4.7						
MKAR				LR	LR	09 07 43.0	
	comp=Z,22nm,18.5s,baz=354,slow=37						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**44.38**	**46**	P	P	08 49 16.9	-0.1
	0.5nm,0.4s,baz=258,slow=7.2,SNR=2.6						
	0.5nm,0.4s						

IDC 14 08:44:32.2±2.5, 2°.14N×128°.29E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=165.2km s-min=28.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**165**	P	P	08 49 35.3	-0.7
	0.6nm,0.6s,baz=345,slow=11,SNR=4.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**26.23**	**168**	P	P	08 50 09.4	+0.4
	0.4nm,0.7s,baz=346,slow=9.2,SNR=5.3						
	0.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.98**	**64**	T	T	09 35 21.3	
	baz=251,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.99**	**64**	T	T	09 35 25.5	
	baz=251,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.99**	**64**	T	T	09 35 26.3	
	baz=251						
H11N1	**WAKE ISLAND Hy**	**41.56**	**62**	T	T	09 36 08.3	
	baz=250,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**41.57**	**62**	T	T	09 36 10.5	
	baz=250,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**41.58**	**62**	T	T	09 36 11.2	
	baz=250,slow=75,SNR=25						
MKAR	**Makanchi Array**	**59.74**	**325**	P	P	08 54 39.0	+0.1
	0.2nm,0.5s,baz=119,slow=8.8,SNR=1.9						
	0.2nm,0.5s						

*NOU **14** 08:45:07.5, 20°.86S×178°.34W, h603km, ML3.8/24, Fiji Islands Region*

*IDC **14** 08:45:08.7±1.2, 20°.96S×178°.62W, h602km±13km, mb3.4/10, mbtmp4.4/13, Error ellipse: s-maj=16.3km s-min=11.4km az=148.0*

*NEIC **14** 08:45:09.1±0.9, 20°.8S±0°.1×178°.7W±0°.1, h598km±9km, mb4.4/22, Error ellipse: s-maj=20.5km s-min=17.0km az=163.0*

ISC 14 08:45:07.0±0.5, 21°.04S±0°.07×178°.59W±0°.07, h579km, n111, σ1°.99/119, mb4.3/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.79 356**		P	**P**	**08 46 25.1**	**+1.8**
TAVE	**Taveuni**	**4.48 344**		P	**P**	**08 46 36.0**	**+1.4**
MSVF	**Nonsavu**	**4.57 315**		P	**P**	**08 46 36.7**	**+1.4**
MSVF	**Nonsavu**	**4.57 315**		P	**P**	**08 46 36.9**	**+1.6**
	28nm,0.5s,baz=159,slow=3.1,SNR=28						
MSVF	**Nonsavu**	**4.57 315**		P	**P**	**08 46 37.1**	**+1.8**
RIZ	**Raoul Island**	**8.20 176**		P	**P**	**08 47 09.4**	**+2.0**
RAO	**Raoul Island**	**8.20 176**		P	**P**	**08 47 09.3**	**+1.9**
	422nm,0.3s,baz=192,slow=21,SNR=2.0						
GLKZ	**Green Lake**	**8.21 176**		S	**S**	**08 48 43.1**	**-3.3**
NIUE	**Niue**	**8.37 78**		P	**P**	**08 47 08.5**	**-0.7**
PINNC	**Pines Island,**	**13.07 261**		P	**P**	**08 47 57.2**	**+0.6**
DZM	**Mont Dzumac**	**13.97 263**		P	**P**	**08 48 07.1**	**+1.1**
DZM	**Mont Dzumac**	**13.97 263**		P	**P**	**08 48 06.7**	**+0.8**
	7.3nm,0.9s,baz=124,slow=9.2,SNR=6.4						
DZM	**Mont Dzumac**	**13.97 263**		P	**P**	**08 48 09.6**	**+3.7**
OUZ	**Omahuta**	**15.71 204**		P	**P**	**08 48 24.3**	**+1.9**
OUZ	**Omahuta**	**15.71 204**		P	**P**	**08 48 26.4**	**+3.9**
GRZ	**Great Barrier**	**16.03 198**		P	**P**	**08 48 28.5**	**+3.1**
WCZ	**Waipu Caves**	**16.09 201**		P	**P**	**08 48 29.9**	**+4.0**
KUZ	**Kuaotunu**	**16.42 196**		P	**P**	**08 48 31.9**	**+2.9**
KUZ	**Kuaotunu**	**16.42 196**		P	**P**	**08 48 31.9**	**+2.9**
WIAZ	**Waiheke Island**	**16.63 198**		P	**P**	**08 48 34.4**	**+3.6**
MBAZ	**Motutapu North**	**16.68 199**		P	**P**	**08 48 34.2**	**+3.0**
ETAZ	**East Tamaki Re**	**16.84 198**		P	**P**	**08 48 36.5**	**+3.8**
WTAZ	**Waiatarua**	**16.92 199**		P	**P**	**08 48 37.4**	**+3.8**
WMGZ	**Waiomatatini S**	**16.93 188**		P	**P**	**08 48 35.6**	**+2.1**
HAZ	**Te Kaha**	**16.96 190**		P	**P**	**08 48 35.3**	**+1.5**
HAZ				S	**S**	**08 51 17.9**	**-4.3**
PKGZ	**Pakihiroa**	**17.02 189**		P	**P**	**08 48 37.0**	**+2.6**
RUGZ	**Raukumara Rang**	**17.18 190**		P	**P**	**08 48 37.5**	**+1.5**
RUGZ				S	**S**	**08 51 21.4**	**-4.7**
PUZ	**Puketiti**	**17.20 188**		P	**P**	**08 48 38.5**	**+2.5**
TGRZ	**Tauranga**	**17.23 194**		P	**P**	**08 48 39.7**	**+3.5**
TWGZ	**Tauwhareparae**	**17.34 189**		P	**P**	**08 48 39.4**	**+2.0**
TWGZ				S	**S**	**08 51 28.3**	**-0.2**
TOZ	**Tahuroa Road**	**17.41 196**		P	**P**	**08 48 40.7**	**+2.8**
TOZ				IAmb	IAmb	08 48 42.2	
	comp=Z,9.4nm,0.7s						
TOZ	**Tahuroa Road**	**17.41 196**		P	**P**	**08 48 41.6**	**+3.7**
KMRZ	**Kaimai**	**17.41 195**		P	**P**	**08 48 41.7**	**+3.7**
MWZ	**Matawai**	**17.56 190**		P	**P**	**08 48 39.5**	**+0.1**
URZ	**Urewera**	**17.56 191**		P	**P**	**08 48 39.5**	**+0.2**
	comp=Z,9.3nm,0.5s,baz=348,slow=1.8,SNR=16						
URZ				S	**S**	**08 51 31.0**	**-1.1**
	comp=Z,4.8nm,0.8s,baz=89,slow=23,SNR=1.9						
URZ	**Urewera**	**17.56 191**		P	**P**	**08 48 39.7**	**+0.4**
URZ	**Urewera**	**17.56 191**		P	**P**	**08 48 40.0**	**+0.7**
URZ				S	**S**	**08 51 28.1**	**-3.9**
TLZ	**Tolley Road**	**17.97 195**		P	**P**	**08 48 47.7**	**+4.6**
HIZ	**Hauiti**	**18.32 197**		P	**P**	**08 48 49.6**	**+3.4**
HIZ	**Hauiti**	**18.32 197**		P	**P**	**08 48 48.7**	**+2.5**
HIZ	**Hauiti**	**18.32 197**		P	**P**	**08 48 48.5**	**+2.3**
BKZ	**Black Stump Fm**	**18.56 192**		P	**P**	**08 48 48.5**	**0.0**
BKZ	**Black Stump Fm**	**18.56 192**		P	**P**	**08 48 48.4**	**0.0**
VRZ	**Vera Road**	**18.91 196**		P	**P**	**08 48 55.7**	**+4.0**
TSZ	**Takapari Road**	**19.53 193**		P	**P**	**08 48 58.5**	**+1.3**
MRZ	**Mangatainoka R**	**20.18 193**		P	**P**	**08 49 02.5**	**-0.7**
QRZ	**Quartz Range**	**21.12 199**		P	**P**	**08 49 13.0**	**+1.4**
QRZ	**Quartz Range**	**21.12 199**		P	**P**	**08 49 13.5**	**+1.9**
QRZ	**Quartz Range**	**21.12 199**		P	**P**	**08 49 13.5**	**+1.9**
NNZ	**Nelson**	**21.24 197**		P	**P**	**08 49 13.2**	**+0.5**
KHZ	**Kahutara**	**22.32 195**		P	**P**	**08 49 22.9**	**+0.6**
KHZ	**Kahutara**	**22.32 195**		P	**P**	**08 49 22.6**	**+0.3**
LTZ	**Lake Taylor**	**23.00 197**		P	**P**	**08 49 28.4**	**0.0**
PPT	**Papeete**	**27.58 88**		P	**P**	**08 50 12.4**	**+3.4**
	comp=Z,18nm,0.6s,baz=192,slow=19,SNR=4.0						
ARMA	**Armidale**	**28.34 245**		P	**P**	**08 50 18.1**	**+2.4**
CMSA	**Cobar Meteorol**	**33.56 244**		P	**P**	**08 51 01.3**	**+1.2**
QLP	**Quilpie**	**34.38 253**		P	**P**	**08 51 08.2**	**+1.2**
TOO	**Toolangi**	**35.14 234**		P	**P**	**08 51 14.1**	**+0.9**
STKA	**Stephens Creek**	**37.06 245**		P	**P**	**08 51 29.7**	**+0.6**
STKA				IAmb	IAmb	08 51 31.5	
	comp=Z,7.1nm,1.0s						
STKA	**Stephens Creek**	**37.06 245**		P	**P**	**08 51 30.4**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=91,slow=9.5,SNR=8.6						
	comp=Z,3.8nm,0.7s						
STKA	**Stephens Creek**	**37.06 245**		P	**P**	**08 51 30.7**	**+1.6**
COEN	**Coen**	**37.07 275**		P	**P**	**08 51 29.5**	**+0.1**
COEN				IAmb	IAmb	08 51 34.2	
	comp=Z,16nm,1.5s						
QIS	**Mount Isa**	**39.01 263**		P	**P**	**08 51 45.3**	**+0.3**
LCRK	**Leigh Creek**	**39.82 247**		P	**P**	**08 51 52.4**	**+1.0**
BBOO	**Buckleboo**	**41.82 244**		P	**P**	**08 52 07.5**	**+0.3**
BBOO				IAmb	IAmb	08 52 08.5	
	comp=Z,9.4nm,0.6s						
BBOO	**Buckleboo**	**41.82 244**		P	**P**	**08 52 07.9**	**+0.7**
OOD	**Oodnadatta**	**41.99 251**		P	**P**	**08 52 10.3**	**+1.7**
WR0	**Warramunga Arr**	**43.80 263**		P	**P**	**08 52 21.7**	**-1.0**
WR0				IAmb	IAmb	08 52 23.8	
	comp=Z,7.0nm,0.4s						
AS01	**Alice Springs**	**43.82 257**		P	**P**	**08 52 23.5**	**+0.5**
AS31	**Alice Springs**	**43.86 257**		P	**P**	**08 52 23.0**	**-0.3**
ASAR	**Alice Springs**	**43.86 257**		P	**P**	**08 52 23.9**	**+0.6**
	comp=Z,13nm,0.5s,baz=96,slow=7.5,SNR=297						
ASAR				PcP	**PcP**	**08 53 56.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=90,slow=3.6,SNR=6.1						
ASAR				ScP	**ScP**	**08 56 50.3**	**-3.4**
	comp=Z,0.3nm,0.6s,baz=100,slow=4.7,SNR=2.3						
ASAR				S	**S**	**08 58 11.7**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=95,slow=15,SNR=7.2						
	comp=Z,13nm,0.5s						
WB0	**Warramunga Arr**	**43.97 263**		P	**P**	**08 52 23.7**	**-0.4**
WRAB	**Tennant Creek**	**43.98 263**		P	**P**	**08 52 23.6**	**-0.5**
WRAB				IAmb	IAmb	08 52 24.7	
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**43.98 263**		P	**P**	**08 52 23.8**	**-0.5**
WRA	**Warramunga Arr**	**43.98 263**		P	**P**	**08 52 24.1**	**-0.2**
	comp=Z,5.9nm,0.3s,baz=97,slow=7.6,SNR=242						
WRA				PcP	**PcP**	**08 53 56.4**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=87,slow=2.5,SNR=2.1						
WRA				S	**S**	**08 58 12.0**	**-3.1**
	comp=Z,0.5nm,0.8s,baz=99,slow=14,SNR=3.1						
	comp=Z,5.9nm,0.3s						
FORT	**Forrest**	**48.58 247**		P	**P**	**08 52 58.9**	**+0.1**
MTN	**Manton Dam**	**48.62 271**		P	**P**	**08 52 58.7**	**-0.6**
WRKA	**Warakurna**	**48.79 255**		P	**P**	**08 53 00.7**	**+0.2**
PSA00	**Pilbara Seismi**	**57.01 257**		P	**P**	**08 53 58.5**	**-0.4**
MBWA	**Marble Bar**	**57.20 258**		P	**P**	**08 53 59.2**	**-1.0**
MBWA				IAmb	IAmb	08 54 13.8	
	comp=Z,20nm,1.4s						
TOLI2	**Tolitoli**	**63.18 282**		P	**P**	**08 54 40.5**	**+0.8**
TOLI2				IAmb	IAmb	08 54 58.1	
	comp=Z,9.2nm,1.0s						
QSPA	**South Pole Qui**	**69.03 180**		P	**P**	**08 55 17.2**	**+1.9**
QSPA	**South Pole Qui**	**69.03 180**		P	**P**	**08 55 16.7**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=288,slow=0.3,SNR=8.0						
	comp=Z,1.4nm,0.6s						
TPUB	**Ta-pu**	**73.81 303**		P	**P**	**08 55 42.0**	**-1.6**
KSRS	**Korea Array**	**76.92 319**		P	**P**	**08 56 00.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=116,slow=5.8,SNR=4.3						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**81.79 44**		P	**P**	**08 56 25.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=260,slow=5.4,SNR=4.1						
	comp=Z,0.7nm,0.5s						
N15K	**Kwethluk River**	**82.31 9**		P	**P**	**08 56 27.6**	**-0.7**
N15K				IAmb	IAmb	08 57 04.7	
	comp=Z,25nm,1.4s						
J05D	**Fort Rock, OR**	**82.86 38**		P	**P**	**08 56 31.8**	**+0.1**
M16K	**Timber Creek**	**83.29 9**		P	**P**	**08 56 32.9**	**-0.2**
M16K				IAmb	IAmb	08 57 11.4	
	comp=Z,11nm,1.2s						
L18K	**Granite Mounta**	**84.79 10**		P	**P**	**08 56 40.0**	**-0.4**
L18K				IAmb	IAmb	08 57 09.8	
	comp=Z,9.9nm,1.5s						
TXAR	**Lajitas Array**	**87.81 58**		P	**P**	**08 56 56.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=216,slow=7.0,SNR=9.3						
	comp=Z,0.8nm,0.8s						
CCB	**Clear Creek Bu**	**88.66 13**		P	**P**	**08 56 56.2**	**-2.5**
CCB				IAmb	IAmb	08 56 57.4	
	comp=Z,5.4nm,0.9s						
ILAR	**Eielson Array**	**88.96 13**		P	**P**	**08 56 58.1**	**-1.9**
	comp=Z,1.2nm,0.9s,baz=226,slow=5.3,SNR=16						
	comp=Z,1.2nm,0.9s						
PDAR	**Pinedale Array**	**89.73 43**		P	**P**	**08 57 03.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=210,slow=3.6,SNR=10						
	comp=Z,0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.78 290**		P	**P**	**08 57 06.1**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=133,slow=3.0,SNR=12						
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**111.16 313**		PKiKP	**PKiKP**	**09 02 33.5**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=48,slow=2.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**114.06 317**		PKiKP	**PKiKP**	**09 02 38.7**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=106,slow=2.0,SNR=6.1						
BVAR	**Borovoye Array**	**119.13 320**		PKP	**PKPdf**	**09 02 48.9**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=48,slow=2.1,SNR=4.6						
ARCES	**ARCESS Array B**	**129.34 349**		PKP	**PKPdf**	**09 03 08.5**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=20,slow=1.5,SNR=6.7						
FINES	**FINESS Array B**	**136.13 343**		PKP	**PKPdf**	**09 03 22.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=72,slow=8.2,SNR=3.6						
HFS	**Hagfors**	**139.98 350**		PKhKP	PKPpre	09 03 21.3	
	comp=Z,1.0nm,0.4s,baz=64,slow=3.7,SNR=8.8						
AKASG	**Malin Array Be**	**143.21 330**		PKP	PKPab	09 03 32.2	-1.5
	comp=Z,4.9nm,0.5s,baz=43,slow=4.1,SNR=51						
EKA	**Eskdalemuir Ar**	**145.58 5**		PKPbc	**PKPdf**	**09 03 38.9**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=339,slow=1.8,SNR=2.1						
BRTR	**Keskin Array B**	**146.78 311**		PKPbc	**PKPbc**	**09 03 44.0**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=129,slow=4.6,SNR=5.0						
BUR08	**Burpovka Ar. S**	**147.24 330**		PKPbc	**PKPbc**	**09 03 45.8**	**-0.2**
MMAI	**Mount Meron Ar**	**147.59 299**		PKPbc	**PKPbc**	**09 03 47.3**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=59,slow=5.6,SNR=3.7						
DPC	**Dobruska-Polom**	**148.46 342**		*e*PKP	**PKPbc**	**09 03 48.6**	**-0.4**
ZVC	**Zvikov**	**149.88 343**		*e*PKP	**PKiKP**	**09 03 52.3**	**-0.7**
KHC	**Kasperske Hory**	**150.33 344**		*e*PKP	**PKPbc**	**09 03 52.7**	**-0.8**
CKRC	**Cesky Krumlov**	**150.42 343**		*e*PKP	**PKPbc**	**09 03 53.3**	**-0.3**
GERES	**GERESS Array B**	**150.56 343**		PKPbc	**PKPbc**	**09 03 52.8**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=329,slow=1.6,SNR=7.3						

*IDC **14** 08:50:06.0±0.9, 0°.55N×29°.32W, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=45.7km s-min=20.6km az=147.0*

ISC 14 08:50:08.8±0.9, 0°.5N±0°.3×29°.3W±0°.2, h19km, n13, σ1°.08/8, mb3.7/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**16.89 120**		T	T	09 11 37.0	
	baz=300,slow=75,SNR=141						
H10N2	**ASCENSION HYDR**	**16.89 119**		T	T	09 11 38.5	
	baz=300,slow=75,SNR=133						
H10N1	**ASCENSION HYDR**	**16.91 120**		T	T	09 11 38.6	
	baz=300,slow=75,SNR=179						
H10S3	**ASCENSION HYDR**	**17.30 123**		T	T	09 12 11.2	
	baz=299,slow=74,SNR=86						
H10S2	**ASCENSION HYDR**	**17.32 123**		T	T	09 12 15.2	
	baz=281,slow=74,SNR=78						
DBIC	**Dimbokro**	**25.13 75**		P	**P**	**08 55 32.8**	**-0.2**
	3.4nm,0.9s,baz=253,slow=11,SNR=3.1						
	3.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.18 66**		P	**P**	**08 56 44.1**	**-0.5**
	0.3nm,0.7s,baz=254,slow=10.0,SNR=1.9						
	0.3nm,0.7s						
CPUP	**Villa Florida**	**37.95 223**		P	**P**	**08 57 25.2**	**-0.3**
	1.9nm,0.3s,baz=50,slow=4.0,SNR=3.3						
	1.9nm,0.3s						
LPAZ	**La Paz**	**41.78 245**		P	**P**	**08 57 59.0**	**+0.8**
	1.1nm,0.6s,baz=119,slow=3.8,SNR=5.1						
	1.1nm,0.6s						
ESDC	**Sonseca Array**	**45.36 28**		P	**P**	**08 58 27.6**	**+1.5**
	0.3nm,0.3s,baz=227,slow=6.0,SNR=2.4						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**70.22 35**		P	**P**	**09 01 19.8**	**-0.7**
	0.6nm,0.3s,baz=247,slow=6.6,SNR=4.6						
	0.6nm,0.3s						
TXAR	**Lajitas Array**	**76.18 300**		P	**P**	**09 01 55.2**	**-1.2**
	0.3nm,0.8s,baz=104,slow=6.2,SNR=2.8						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**151.74 146**		PKPbc	**PKiKP**	**09 10 04.3**	**+0.7**
	1.0nm,0.7s,baz=210,slow=1.5,SNR=11						

ASRS 14 09:00:11.0±0.5, 54°.27N×86°.71E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*IDC **14** 09:09:50.7±1.0, 54°.51N×164°.36E, h0km, mb3.8/7, mbtmp3.8/9, ML3.5/2, MS3.0/2, Error ellipse: s-maj=34.6km s-min=18.7km az=157.0*

*MOS **14** 09:09:51.6±0.8, 54°.48N×164°.34E, h37km, mb3.8/1, Error ellipse: s-maj=9.0km s-min=8.3km az=148.9*

*KRSC **14** 09:09:51.3±1.1, 54°.44N×164°.28E, h41km±25km, Ml4.2*

*NEIC **14** 09:09:52.2±1.1, 54°.4N±0°.2×164°.3E±0°.2, h10km±2km, mb4.1/28, Error ellipse: s-maj=42.8km s-min=14.5km az=163.0*

ISC 14 09:09:53.0±3.4, 54°.50N±0°.05×164°.36E±0°.06, h18km±23km, n98, σ1°.16/108, mb4.0/20, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.17**	**52**	PN	**Pb**	**09 10 13.7**	**-1.0**
BKI				S	**Sb**	**09 10 28.0**	**-1.5**
BKI	**Bering**	**1.17**	**52**	*e*P	**Pb**	**09 10 13.7**	**-1.0**
BKI				*e*S	**Sb**	**09 10 28.0**	**-1.5**
KBTR	**Krutoberegovo**	**1.93 333**		PN	**Pn**	**09 10 23.5**	**-1.3**
KBTR	**Krutoberegovo**	**1.93 333**		*e*P	**Pn**	**09 10 23.6**	**-1.3**
KBG	**Krutoberegovo**	**2.00 332**		*e*S	**Sn**	**09 10 48.5**	**-1.9**
TUMD	**Tumrok D**	**2.40 289**		*e*P	**Pn**	**09 10 31.5**	**+0.1**
TUMD				*e*S	**Sn**	**09 10 59.6**	**-0.7**
BZWR	**Bezymyannyi-We**	**2.66 305**		PN	**Pn**	**09 10 35.7**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.66 305**		*e*P	**Pn**	**09 10 35.8**	**+0.7**
KMNR	**Kamenistaya**	**2.68 300**		PN	**Pn**	**09 10 36.0**	**+0.6**
KMNR	**Kamenistaya**	**2.68 300**		*e*P	**Pn**	**09 10 36.0**	**+0.6**
KIRR	**Kirishev**	**2.73 304**		PN	**Pn**	**09 10 36.7**	**+0.8**
KIRR	**Kirishev**	**2.73 304**		*e*P	**Pn**	**09 10 36.8**	**+0.8**
KLY	**Klyuchi**	**2.79 312**		PN	**Pn**	**09 10 35.5**	**-1.2**
KL

KDAK	**Kodiak Island**	**23.91**	**64**	P	**P**	**09 15 06.5**	**+1.1**
KDAK	**Kodiak Island**	**23.91**	**64**	P	**P**	**09 15 06.5**	**+1.1**
D22K	**Ayikyak River**	**24.25**	**37**	P	**P**	**09 15 09.5**	**+0.9**
D22K				IAmb	IAmb	09 15 31.0	
	comp=Z,4.1nm,1.4s						
E22K	**Anaktuvuk Pass**	**24.39**	**39**	P	**P**	**09 15 10.4**	**+0.5**
E22K				IAmb	IAmb	09 15 11.9	
	comp=Z,3.1nm,0.8s						
BRLK	**Bradley Lake**	**24.47**	**59**	P	**P**	**09 15 11.8**	**+1.1**
G23K	**Bananza Creek**	**24.84**	**43**	P	**P**	**09 15 15.1**	**+1.2**
G23K				IAmb	IAmb	09 15 28.0	
	comp=Z,4.0nm,1.1s						
BWN	**Browne**	**24.89**	**49**	P	**P**	**09 15 15.4**	**+1.0**
I23K	**Minto, Yukon-K**	**24.97**	**46**	P	**P**	**09 15 15.9**	**+0.8**
I23K				IAmb	IAmb	09 15 49.0	
	comp=Z,7.6nm,1.4s						
TOLK	**Toolik Lake Re**	**25.31**	**38**	P	**P**	**09 15 18.7**	**+0.5**
TOLK				IAmb	IAmb	09 15 46.7	
	comp=Z,5.1nm,1.1s						
E24K	**Your Creek**	**25.61**	**40**	P	**P**	**09 15 22.2**	**+1.2**
E24K				IAmb	IAmb	09 15 36.0	
	comp=Z,2.9nm,0.8s						
CCB	**Clear Creek Bu**	**25.62**	**48**	P	**P**	**09 15 22.1**	**+1.2**
CCB				IAmb	IAmb	09 15 24.4	
	comp=Z,3.9nm,0.8s						
F24K	**Squaw Lake**	**25.76**	**41**	P	**P**	**09 15 22.4**	**+0.1**
G24K	**Hadweenzic Riv**	**25.84**	**43**	P	**P**	**09 15 23.7**	**+0.7**
G24K				IAmb	IAmb	09 15 38.9	
	comp=Z,5.4nm,1.2s						
SCM	**Sheep Creek Mo**	**25.96**	**54**	P	**P**	**09 15 24.7**	**+0.5**
SCM	**Sheep Creek Mo**	**25.96**	**54**	P	**P**	**09 15 24.7**	**+0.5**
ILAR	**Eielson Array**	**26.01**	**47**	P	**P**	**09 15 25.6**	**+1.0**
ILAR	**Eielson Array**	**26.01**	**47**	P	**P**	**09 15 24.9**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=268,slow=9.2,SNR=16						
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**26.01**	**47**	P	**P**	**09 15 25.0**	**+0.4**
D25K	**Kavik River**	**26.56**	**37**	P	**P**	**09 15 29.9**	**+0.4**
D25K				IAmb	IAmb	09 16 03.7	
	comp=Z,7.5nm,1.4s						
BMAR	**Burnt Mountain**	**27.02**	**41**	P	**P**	**09 15 33.6**	**-0.1**
BCAR	**Beaver Creek A**	**28.38**	**51**	P	**P**	**09 15 47.2**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**34.76**	**176**	T	T	09 54 30.7	
	baz=359,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**34.77**	**176**	T	T	09 54 34.4	
	baz=359,slow=76,SNR=3.8						
H11N1	**WAKE ISLAND Hy**	**34.78**	**176**	T	T	09 54 35.1	
	baz=359,slow=76,SNR=7.8						
KURK	**Kurchatov**	**49.12**	**303**	P	**P**	**09 18 40.3**	**+1.2**
KURBB	**Kurchatov Arra**	**49.22**	**303**	P	**P**	**09 18 40.3**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=56,slow=7.9,SNR=12						
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**49.80**	**297**	P	**P**	**09 18 44.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=69,slow=6.6,SNR=5.4						
	comp=Z,0.6nm,0.7s						
AB31	**Akbulak array**	**58.77**	**312**	P	**P**	**09 19 49.7**	**+0.1**
ABKAR	**Akbulak array**	**58.77**	**312**	P	**P**	**09 19 49.7**	**+0.1**
ABKAR	**Akbulak array**	**58.77**	**312**	P	**P**	**09 19 49.6**	**0.0**
CMAR	**Chiang Mai Arr**	**60.93**	**261**	P	**P**	**09 20 05.1**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=41,slow=6.0,SNR=4.4						
	comp=Z,2.0nm,0.3s						
TXAR	**Lajitas Array**	**67.77**	**71**	P	**P**	**09 20 49.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=306,slow=5.9,SNR=4.4						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**78.48**	**209**	P	**P**	**09 21 52.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=22,slow=5.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**82.14**	**208**	P	**P**	**09 22 13.8**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=18,slow=5.4,SNR=5.9						
	comp=Z,0.5nm,0.7s						

*JMA **14** 09:11:29.9±0.8, 45°N±8°×15°1E±°, h30km, MV3.7/9, KURILE ISLANDS REGION*

SKHL 14 09:11:30.4±0.3, 45.40N×150.40E, h23km±1km, mb4.2/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.79**	**266**	*e*P	Pn	09 11 59.4	-0.5
KUR				AMB	AMB	09 12 00.8	
	60nm,0.5s						
KUR				*e*S	Sn	09 12 21.3	-0.7
KUR				A	A	09 12 24.1	
	270nm,0.5s						
KUR				A	A	09 12 24.1	
	190nm,0.5s						
SHO	**Shikotan**	**2.97**	**240**	*e*P	Pn	09 12 16.2	+0.1
SHO				*e*S	Sn	09 12 50.3	-0.7
SHO				A	A	09 13 00.2	
	20nm,0.3s						
SHO				A	A	09 13 00.2	
	60nm,0.3s						
YUK	**Yuzh-Kuril's**	**3.51**	**249**	*e*P	Pn	09 12 24.2	+0.7
YUK				AMB	AMB	09 12 25.1	
	60nm,0.3s						
YUK				*e*S	Sn	09 13 03.4	-0.9
YUK				A	A	09 13 11.6	
	80nm,0.6s						
YUK				A	A	09 13 11.6	
	100nm,0.6s						
NEM2	**Nemuro 2**	**3.91**	**240**	P	Pn	09 12 29.2	+0.2
NEM2				S	Sn	09 13 12.5	-1.6
NMR	**Nemuro--Hokkai**	**3.92**	**240**	*e*P	Pn	09 12 29.4	+0.3
NMR				*e*S	Sn	09 13 13.9	-0.4
JRA	**Rausu**	**4.04**	**251**	*e*S	Sn	09 13 22.0	+4.7
JNK	**Nakash**	**4.45**	**248**	P	Pn	09 12 38.3	+1.9
JNK				S	Sn	09 13 29.9	+2.4
AKK	**Akkeshi**	**4.65**	**241**	*e*P	Pn	09 12 39.1	-0.1
JAK	**Akkeshi**	**4.75**	**242**	P	Pn	09 12 40.6	+0.1
JAK				S	Sn	09 13 34.8	-0.1
JTKR	**Abashiri--Toko**	**4.84**	**255**	*e*S	Sn	09 13 42.4	+5.3
JAR	**Ashorobuto**	**5.20**	**248**	P	Pn	09 12 47.7	+1.0
JAR				S	Sn	09 13 46.7	+0.8
JOB	**Onbets**	**5.34**	**244**	*e*S	Sn	09 13 49.3	-0.2
JCH	**Churui**	**5.79**	**244**	P	Pn	09 12 55.2	+0.4
JCH				S	Sn	09 14 00.4	0.0
JNBK	**Urakawa-nobuka**	**6.35**	**243**	*e*P	Pn	09 13 04.3	+1.8
JNBK				*e*S	Sn	09 14 11.6	-2.6

*ASRS **14** 09:34:11.0±1.1, 54°06N×86°53E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 14 09:34:15.0±2.6, 53°91N×86°55E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=22.0km s-min=13.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**273**	I	I	09 39 05.0	
	0.1nm,1.1s,baz=95,slow=342,SNR=23						
ZALV	**Zalesovo Beam**	**1.02**	**273**	Pg	Pg	09 34 32.9	-1.7
	0.9nm,0.3s,baz=93,slow=18,SNR=6.2						
ZALV				Lg	Lg	09 34 49.9	
	2.7nm,0.3s,baz=87,slow=31,SNR=12						
KURBB	**Kurchatov Arra**	**5.92**	**239**	Pn	Pn	09 35 44.5	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=8.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.63**	**203**	Pn	Pn	09 36 08.7	+1.3
	0.1nm,0.3s,baz=26,slow=13,SNR=6.5						
	0.2nm,0.4s						

IDC 14 09:46:19.1±1.2, 40°60S×44°00E, h0km, mb3.8/2, mbtmp3.8/2, MS3.1/4, Error ellipse: s-maj=71.8km s-min=29.0km az=50.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.47**	**302**	LR	LR	09 56 59.1	
	comp=Z,62nm,19.6s,baz=198,slow=33						
SUR	**Sutherland**	**20.33**	**286**	LR	LR	09 56 55.1	
	comp=Z,46nm,21.5s,baz=152,slow=31						
LBTB	**Lobatse**	**21.86**	**310**	LR	LR	09 58 28.3	
	comp=Z,64nm,19.0s,baz=177,slow=33						
LSZ	**Lusaka**	**28.74**	**327**	LR	LR	10 02 41.6	
	comp=Z,44nm,19.5s,baz=148,slow=34						
MAW	**Mawson**	**28.97**	**165**	P	P	09 52 19.4	-0.5
	41nm,1.0s,baz=334,slow=11,SNR=2.3						
H08S1	**Diego Carcia H**	**41.49**	**46**	T	T	10 37 08.7	
	baz=213,slow=76,SNR=5.0						
H08S2	**Diego Garcia H**	**41.50**	**46**	T	T	10 37 10.4	
	baz=213						
H08S3	**Diego Garcia H**	**41.51**	**46**	T	T	10 37 11.7	
	baz=213,slow=76,SNR=6.3						
H01W2	**Cape Leeuwin H**	**54.42**	**108**	T	T	10 54 12.7	
	baz=243,slow=75,SNR=9.9						
H01W3	**Cape Leeuwin H**	**54.43**	**108**	T	T	10 54 13.2	
	baz=243,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**54.44**	**108**	T	T	10 54 13.8	
	baz=243,slow=75,SNR=10						
TORD	**Torodi Ar. Bea**	**66.29**	**314**	P	P	09 57 09.8	+0.5
	0.8nm,0.8s,baz=136,slow=4.8,SNR=6.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**74.94**	**108**	P	P	09 58 02.8	+0.6
	0.7nm,0.8s,baz=233,slow=5.8,SNR=6.6						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**154.59**	**337**	PKPab	PKPab	10 06 34.0	-1.6
	0.2nm,0.7s,baz=33,slow=5.1,SNR=5.7						

*SJA **14** 09:47:30.7±1.0, 22°10S×69°02W, h106km±4km, ML4.0, MW3.9*

*GUC **14** 09:47:31.4±0.7, 22°06S×68°96W, h101km±3km, ML4.0*

*IDC **14** 09:47:33.6±2.9, 22°04S×68°31W, h105km±27km, mb3.7/2, mbtmp3.8/5, Error ellipse: s-maj=46.1km s-min=22.0km az=118.0*

ISC 14 09:47:31.8±0.8, 22°06S±0°04×69°00W±0°05, h106km±6km, n29, σ1§14/43, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.35**	**319**	*i* P	**Pn**	**09 47 47.4**	**-0.1**
PB09				*e*S	**Sn**	**09 47 58.9**	**-0.5**
PB09				IAML		09 47 59.7	
	comp=Z,6μm,0.3s						
PB09	**IPOC Station P**	**0.35**	**319**	⇓*i* P	**Pn**	**09 47 47.6**	**0.0**
PB09				*e*S	**Sn**	**09 47 58.8**	**-0.6**
PB09				IAML		09 48 00.5	
	comp=E,7μm,0.6s						
PB01	**IPOC Station P**	**1.11**	**336**	*i* P	**Pn**	**09 47 53.9**	**-0.1**
PB01				*e*S	**Sn**	**09 48 11.2**	**+0.5**
PB01				IAML		09 48 13.8	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**1.11**	**336**	⇑*i* P	**Pn**	**09 47 53.9**	**-0.1**
PB01				*e*S	**Sn**	**09 48 10.7**	**0.0**
PB01				IAML		09 48 11.7	
	comp=E,5μm,0.2s						
AF01	**San Pedro de A**	**1.17**	**140**	*i* P	**Pn**	**09 47 54.8**	**0.0**
AF01				*e*S	**Sn**	**09 48 12.2**	**0.0**
AF01				IAML		09 48 34.1	
	comp=Z,3μm,0.9s						
AF01	**San Pedro de A**	**1.17**	**140**	⇑*i* P	**Pn**	**09 47 54.8**	**0.0**
AF01				*e*S	**Sn**	**09 48 11.8**	**-0.5**
AF01				IAML		09 48 22.9	
	comp=N,4μm,0.5s						
TA01	**Diego Aracena**	**1.85**	**323**	*i* P	**Pn**	**09 48 03.0**	**+0.2**
TA01				*e*S	**Sn**	**09 48 27.0**	**+0.7**
TA01				IAML		09 48 33.9	
	comp=Z,701nm,0.3s						
TA01	**Diego Aracena**	**1.85**	**323**	⇑*i* P	**Pn**	**09 48 02.8**	**0.0**
TA01				*e*S	**Sn**	**09 48 27.3**	**+1.0**
TA01				IAML		09 48 34.7	
	comp=E,2μm,0.3s						
PB08	**IPOC Station P**	**1.91**	**356**	*i* P	**Pn**	**09 48 04.4**	**+0.5**
PB08				*e*S	**Sn**	**09 48 29.6**	**+1.2**
PB08				IAML		09 48 34.0	
	comp=Z,648nm,0.3s						
PB08	**IPOC Station P**	**1.91**	**356**	⇑*i* P	**Pn**	**09 48 04.5**	**+0.6**
PB08				*e*S	**Sn**	**09 48 29.5**	**+1.1**
PB08				IAML		09 48 34.3	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**2.07**	**329**	*i* P	**Pn**	**09 48 05.3**	**-0.2**
TA02				*e*S	**Sn**	**09 48 32.2**	**+0.9**
TA02				IAML		09 48 39.3	
	comp=Z,764nm,0.1s						
TA02	**Huaiquique**	**2.07**	**329**	*e*P	**Pn**	**09 48 05.3**	**-0.2**
TA02				IAML		09 48 40.3	
	comp=E,2μm,0.1s						
PB14	**IPOC Station P**	**2.86**	**207**	*i* P	**Pn**	**09 48 16.6**	**+0.4**
PB14				*e*S	**Sn**	**09 48 48.3**	**-2.0**
PB14				IAML		09 49 01.7	
	comp=Z,271nm,0.4s						
PB14	**IPOC Station P**	**2.86**	**207**	*e*P	**Pn**	**09 48 17.3**	**+1.1**
GO02	**Mina Guanaco**	**3.14**	**190**	*i* P	**Pn**	**09 48 19.4**	**-0.4**
YJA	**Yavi**	**3.23**	**93**	*i* P	**Pn**	**09 48 22.1**	**+0.9**
YJA				*e*S	**Sn**	**09 49 00.4**	**+1.1**
YJA	**Yavi**	**3.23**	**93**	*e*P	**Pn**	**09 48 22.0**	**+0.9**
PB12	**IPOC Station P**	**3.65**	**340**	*i* P	**Pn**	**09 48 24.4**	**-2.0**
PB12				*e*S	**Sn**	**09 49 08.7**	**0.0**
PB12				IAML		09 49 20.8	
	comp=Z,419nm,0.5s						
AZAP	**Zapla**	**4.21**	**122**	*i* P	**Pn**	**09 48 34.2**	**+0.1**
AC01	**Pan de Azucar**	**4.33**	**199**	*i* P	**Pn**	**09 48 34.8**	**-0.7**
AC01				IAML		09 49 43.5	
	comp=Z,188nm,0.5s						
AC02	**Maricunga**	**4.76**	**181**	*i* P	**Pn**	**09 48 42.0**	**+0.2**
AC02				IAML		09 50 04.5	
	comp=Z,83nm,0.5s						
LPAZ	**La Paz**	**5.80**	**8**	P	**Pn**	**09 48 56.9**	**+0.9**
	comp=Z,5.5nm,0.3s,baz=194,slow=7.5,SNR=48						
SIV	**San Ignacio**	**9.62**	**53**	P	**Pn**	**09 49 42.9**	**-4.5**
	comp=Z,2.5nm,0.6s,baz=240,slow=11,SNR=16						
SIV				S	Sn	09 51 22.0	-12
	comp=Z,0.5nm,0.4s,baz=242,slow=14,SNR=1.0						
PLCA	**Paso Flores**	**18.66**	**184**	P	**Pn**	**09 51 43.6**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=338,slow=15,SNR=4.6						
QSPA	**South Pole Qui**	**68.14**	**180**	P	**P**	**09 58 22.7**	**+2.5**
	comp=Z,0.9nm,0.5s,baz=149,slow=0.5,SNR=7.3						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.62**	**70**	P	**P**	**09 59 15.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=257,slow=5.0,SNR=9.6						
	comp=Z,0.5nm,0.3s						
WRA	**Warramunga Arr**	**132.43**	**210**	PKP	**PKiKP**	**10 06 35.3**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=153,slow=1.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**142.49**	**25**	PKP	**PKiKP**	**10 06 53.4**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=238,slow=2.7,SNR=2.9						
MKAR	**Makanchi Array**	**146.13**	**36**	PKPbc	**PKPbc**	**10 06 59.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=329,slow=2.4,SNR=7.9						

WEL 14 09:52:50.7±1.3, 33°S×8°×17°7W±1°9, h335km±17km, mB3.8/4, mLL4.5/8, MLv4.2/7, Mw(mB)2.7/4, Error ellipse: s-maj=26.6km s-min=5.8km az=109.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.09**	**351**	S	S	09 54 56.6	+1.0
PKGZ	**Pakihiroa**	**5.95**	**219**	P	Pn	09 54 18.1	-2.3
PKGZ				S	S	09 55 32.0	-1.0
PUZ	**Puketiti**	**6.02**	**217**	P	Pn	09 54 20.7	-0.4
PUZ				S	S	09 55 36.1	+1.7
HAZ	**Te Kaha**	**6.03**	**221**	P	Pn	09 54 19.9	-1.3
HAZ				S	S	09 55 35.5	+0.9
TWGZ	**Tauwhareparae**	**6.24**	**218**	P	Pn	09 54 23.9	+0.2
TWGZ				S	S	09 55 40.3	+1.2
RUGZ	**Raukumara Rang**	**6.24**	**221**	P	Pn	09 54 23.7	-0.2
RUGZ				S	S	09 55 38.5	-0.8
CNGZ	**Carnagh Statio**	**6.37**	**215**	P	Pn	09 54 24.2	-0.9
CNGZ				S	S	09 55 41.9	+0.2
MWZ	**Matawai**	**6.59**	**219**	P	Pn	09 54 29.2	+1.3
MWZ				S	S	09 55 46.5	-0.2
RIGZ	**Rimuhau**	**6.75**	**216**	S	S	09 55 52.8	+2.6
URZ	**Urewera**	**6.76**	**222**	P	Pn	09 54 30.6	+0.8
URZ				S	S	09 55 50.3	0.0
MUGZ	**Murupara**	**7.11**	**222**	S	S	09 55 58.1	+0.3
RAHZ	**Arahi**	**7.26**	**218**	P	Pn	09 54 38.2	+2.5
RAHZ				S	S	09 56 02.9	+2.0
MTHZ	**Maungataniwha**	**7.34**	**220**	P	Pn	09 54 38.8	+2.2
MTHZ				S	S	09 56 05.2	+2.4
WCZ	**Waipu Caves**	**7.45**	**247**	P	Pn	09 54 39.4	+1.4
OUZ	**Omahuta**	**7.86**	**254**	P	Pn	09 54 41.6	-1.3

*SJA **14** 09:54:39.6±0.8, 21°25S×68°18W, h153km±6km, ML4.5, MW4.3*

*VAO **14** 09:54:42.4±0.6, 21°07S×68°12W, h118km±5km, mb5.0*

*NEIC **14** 09:54:42.8, 21°18S×68°31W, h110km*

*NEIC **14** 09:54:42.0±1.9, 21°16S±0°05×68°22W±0°07, h119km±6km, mb4.9/58, Mww4.5/12, Error ellipse: s-maj=10.0km s-min=7.1km az=71.0*

*NEIC **14** 09:54:42.8, 21°28S×68°10W, h110km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.39; $M_{\theta\theta}$=0.81; $M_{\phi\phi}$=4.21; $M_{r\theta}$=3.52; $M_{\theta\phi}$=-4.97; $M_{\phi r}$=1.19; Fault plane solution: M_0=7.16000×10^{15} NP1: ϕ_s=186.44000°, δ=47.17000°, λ=-26.07000°. NP2: ϕ_s=294.84000°, δ=71.20000°, λ=-134.10000°. Principal axes: T 8.0102, Plg15.0000°, Azm55.0000°; N -1.6997, Plg41.0000°, Azm312.0000°; P -6.3104, Plg45.0000°, Azm161.0000°;*

*IDC **14** 09:54:43.7±1.9, 21°14S×68°07W, h133km±16km, mb4.3/10, mbtmp4.7/15, MS2.9/2 Error ellipse: s-maj=18.5km s-min=11.8km az=78.0*

*GUC **14** 09:54:43.6±0.8, 21°22S×68°41W, h134km±6km, ML4.2*

ISC 14 09:54:42.5±0.6, 21°17S±0°03×68°19W±0°04, h129km±6km, n175, σ1§45/182, mb5.0/32, 4C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.16**	**238**		**Pn**	**09 55 07.5**	**+0.4**
PB09	**IPOC Station P**	**1.16**	**238**	*e*P	**Pn**	**09 55 07.8**	**+0.7**
PB09				*e*S	**Sn**	**09 55 26.3**	**+0.5**
PB09				IAML		09 55 27.1	
	comp=Z,4μm,0.3s						
PB09	**IPOC Station P**	**1.16**	**238**	⇑*i* P	**Pn**	**09 55 07.9**	**+0.8**
PB09				*e*S	**Sn**	**09 55 25.8**	**0.0**
PB09				IAML		09 55 28.2	
	comp=E,5μm,0.4s						
PB01	**IPOC Station P**	**1.22**	**276**		**Pn**	**09 55 07.4**	**-0.3**
PB01	**IPOC Station P**	**1.22**	**276**	*e*P	**Pn**	**09 55 07.2**	**-0.5**
PB01				*e*S	**Sn**	**09 55 27.1**	**+0.4**
PB01				IAML		09 55 29.1	
	comp=Z,3μm,0.2s						
PB01	**IPOC Station P**	**1.22**	**276**	⇑*i* P	**Pn**	**09 55 07.7**	**+0.1**
PB01				*e*S	**Sn**	**09 55 25.8**	**-0.9**
PB01				IAML		09 55 28.3	
	comp=N,6μm,0.5s						
PB08	**IPOC Station P**	**1.37**	**318**		**Pn**	**09 55 10.4**	**+0.8**
PB08	**IPOC Station P**	**1.37**	**318**	*e*P	**Pn**	**09 55 11.1**	**+1.6**
PB08				*e*S	**Sn**	**09 55 31.9**	**+1.9**
PB08				IAML		09 55 32.8	
	comp=Z,5μm,0.9s						
PB08	**IPOC Station P**	**1.37**	**318**	⇓*i* P	**Pn**	**09 55 11.2**	**+1.6**
PB08				*e*S	**Sn**	**09 55 31.8**	**+1.7**
PB08				IAML		09 55 32.7	
	comp=N,7μm,0.5s						
PX03	**IPOC Station P**	**1.55**	**299**	*e*P	**Pn**	**09 55 11.4**	**+0.1**
PX03				*e*S	**Sn**	**09 55 33.1**	**-0.1**
PX03				IAML		09 55 37.4	
	comp=N,4μm,0.4s						
AF01	**San Pedro de A**	**1.77**	**180**		**Pn**	**09 55 15.7**	**+1.7**
AF01	**San Pedro de A**	**1.77**	**180**	*e*P	**Pn**	**09 55 11.2**	**-2.8**
AF01				*e*S	Sn	09 55 48.4	+10
AF01				IAML		09 55 57.6	
	comp=Z,3μm,1.1s						
AF01	**San Pedro de A**	**1.77**	**180**	⇑*i* P	**Pn**	**09 55 15.9**	**+1.9**
AF01				*e*S	**Sn**	**09 55 40.7**	**+2.7**
AF01				IAML		09 55 55.9	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**1.96**	**288**		**Pn**	**09 55 15.6**	**-0.4**
TA01	**Diego Aracena**	**1.96**	**288**	*e*P	**Pn**	**09 55 15.1**	**-0.9**
TA01				*e*S	**Sn**	**09 55 40.9**	**-0.7**
TA01				IAML		09 55 44.9	
	comp=Z,3μm,0.5s						
TA01	**Diego Aracena**	**1.96**	**288**	⇑*i* P	**Pn**	**09 55 15.8**	**-0.2**
TA01				*e*S	**Sn**	**09 55 40.0**	**-1.5**
TA01				IAML		09 55 41.0	
	comp=N,7μm,0.4s						
TA02	**Huaiquique**	**2.03**	**296**		**Pn**	**09 55 16.2**	**-0.6**
TA02	**Huaiquique**	**2.03**	**296**	*e*P	**Pn**	**09 55 16.8**	**0.0**
TA02				*e*S	**Sn**	**09 55 44.0**	**+0.9**
TA02				IAML		09 55 46.2	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**2.03**	**296**	*e*P	**Pn**	**09 55 17.1**	**+0.2**
TA02				*e*S	**Sn**	**09 55 42.0**	**-1.0**
TA02				IAML		09 55 44.2	
	comp=N,7μm,0.1s						
YJA	**Yavi**	**2.68**	**112**	*e*P	**Pn**	**09 55 23.6**	**-1.8**
YJA				*e*S	**Sn**	**09 55 58.4**	**+0.2**
PB12	**IPOC Station P**	**3.25**	**321**	Pn	**Pn**	**09 55 31.3**	**-1.2**
PB12	**IPOC Station P**	**3.25**	**321**	*e*P	**Pn**	**09 55 31.8**	**-0.7**
PB12				*e*S	Sn	09 56 00.2	-11
PB12				IAML		09 56 14.9	
	comp=Z,716nm,0.8s						
AP01	**Chacalluta**	**3.45**	**324**	*e*S	Sn	09 56 03.9	-12
AP01				IAML		09 56 23.3	
	comp=Z,1μm,0.4s						
SALTA		**3.48**	**151**	*e*P	**Pn**	**09 55 34.0**	**-1.9**
PB18	**Visviri**	**3.77**	**341**		**Pn**	**09 55 42.3**	**+2.6**
PB14	**IPOC Station P**	**4.00**	**210**	Pn	**Pn**	**09 55 40.9**	**-1.6**
PB14	**IPOC Station P**	**4.00**	**210**	*e*P	**Pn**	**09 55 40.6**	**-1.9**
PB14				*e*S	**Sn**	**09 56 25.8**	**-3.3**
PB14				IAML		09 56 28.1	
	comp=Z,423nm,0.3s						
GO02	**Mina Guanaco**	**4.18**	**198**	Pn	**Pn**	**09 55 43.6**	**-1.3**
GO02	**Mina Guanaco**	**4.18**	**198**	*e*P	**Pn**	**09 55 44.0**	**-0.9**
GO02				*e*S	**Sn**	**09 56 31.9**	**-1.3**
AZAP	**Zapla**	**4.18**	**137**	*e*P	**Pn**	**09 55 46.4**	**+1.5**
AZAP				*e*S	**Sn**	**09 56 37.6**	**+4.3**
SLA	**San Lorenzo**	**4.31**	**146**	*e*P	**Pn**	**09 55 43.7**	**-2.9**
LPAZ	**La Paz**	**4.86**	**1**	Pn	**Pn**	**09 55 56.1**	**+1.8**
LPAZ	**La Paz**	**4.86**	**1**	P	**Pn**	**09 55 57.0**	**+2.6**
	comp=Z,38nm,0.3s,baz=171,slow=6.4,SNR=256						
LPAZ				S	**Sn**	**09 56 51.4**	**+1.3**
	comp=Z,27nm,0.5s,baz=313,slow=19,SNR=3.8						
LPAZ	**La Paz**	**4.86**	**1**	*e*P	**Pn**	**09 55 57.0**	**+2.6**
LPAZ	**La Paz**	**4.86**	**1**	*e*P	**Pn**	**09 55 52.4**	**-2.0**
FSA	**Cafayete**	**5.32**	**158**	*e*P	**Pn**	**09 56 01.9**	**+1.9**
AC01	**Pan de Azucar**	**5.42**	**

comp=Z,39nm,0.6s
MACA Manacapuru-AM 19.33 23 P **P 09 58 56.8 -1.1**
MACA Manacapuru-AM 19.33 23 *eP* **P 09 58 56.8 -1.1**
PLCA Paso Flores 19.60 185 P **P 09 59 00.5 -0.2**
PLCA IAmb IAmb 09 59 06.0
comp=Z,35nm,0.8s
PLCA Paso Flores 19.60 185 P **P 09 59 01.1 +0.4**
comp=Z,28nm,0.7s,baz=4.2,slow=13,SNR=62
PLCA Paso Flores 19.60 185 *eP* **P 09 59 01.1 +0.4**
VAO Valinhos 19.75 99 *eP* **P 09 59 02.1 -0.4**
BDFB Brasilia 19.91 77 P **P 09 59 04.2 -0.1**
BDFB Brasilia 19.91 77 P **P 09 59 04.3 -0.1**
comp=Z,14nm,0.4s,baz=251,slow=10,SNR=25
BDFB LR LR 10 06 36.4
comp=Z,26nm,21.0s,baz=347,slow=36
LL04 Puerto Octay 20.00 189 P **P 09 59 04.2 -0.7**
LL04 IAmb IAmb 09 59 05.9
comp=Z,30nm,0.7s
LL03 Petrohue 20.22 189 P **P 09 59 07.3 0.0**
LL03 IAmb IAmb 09 59 08.5
comp=Z,59nm,0.8s
PMNB Patos De Minas 20.62 87 *eP* **P 09 59 11.9 0.0**
ITTB Itaituba 20.62 38 *eP* **P 09 59 10.9 -1.0**
LL05 Los Muermos 20.66 191 P **P 09 59 11.1 -0.9**
LL05 IAmb IAmb 09 59 15.4
comp=Z,96nm,0.9s
GO07 Milladeo Hill, 22.35 191 P **P 09 59 29.3 -0.5**
DIAM Diamantina, MG 23.24 87 *eP* **P 09 59 39.0 +0.3**
SMTB Santa Maria do 23.32 61 *eP* **P 09 59 39.0 -0.3**
MAL2 Monte Alegre, 23.43 37 P **P 09 59 39.1 -1.2**
JANB Januaria 23.48 79 *eP* **P 09 59 39.3 -1.5**
AY01 Puyuhuapi 23.48 188 P **P 09 59 40.1 -0.3**
OTAV Otavalo 23.53 333 *eP* **P 09 59 42.9 +1.2**
FLOC Florencia 23.77 341 P **P 09 59 43.0 -0.3**
FLOC IAmb IAmb 09 59 45.5
comp=Z,32nm,0.9s
SDBA SAO DESIDERIO 23.91 72 *eP* **P 09 59 44.3 -0.4**
BOAV Boa Vista 24.59 19 P **P 09 59 50.9 0.0**
BOAV IAmb IAmb 09 59 52.7
comp=Z,18nm,0.6s
BOAV Boa Vista 24.59 19 *eP* **P 09 59 51.3 +0.5**
SJMB Sao Joao De Ma 25.49 89 *eP* **P 09 59 59.4 +0.4**
RUSC La Rusia 27.32 349 P **P 10 00 15.8 -0.2**
RUSC IAmb IAmb 10 00 18.5
comp=Z,24nm,0.6s
SDV Santo Domingo 29.97 355 P **P 10 00 38.2 -0.9**
SDV Santo Domingo 29.97 355 *eP* **P 10 00 38.5 -0.5**
NBLA Lagarto - SE 30.86 76 *eP* **P 10 00 45.1 -1.7**
MG02 Cerro Sombrero 31.56 181 P **P 10 00 53.1 +0.6**
NBPB Pedra_Branca-C 31.78 65 *eP* **P 10 00 55.5 +0.7**
MG03 Isla Dawson 32.67 182 P **P 10 01 02.5 +0.4**
MG03 IAmb IAmb 10 01 03.9
comp=Z,22nm,0.8s
NBAN Anadia - AL 32.75 74 *eP* **P 10 01 04.3 +0.9**
RCBR Riachuelo 34.79 69 P **P 10 01 20.5 -0.6**
RCBR IAmb IAmb 10 01 22.4
comp=Z,8.2nm,0.7s
RCBR Riachuelo 34.79 69 *eP* **P 10 01 22.1 +1.0**
MPOM Morne Pois Mar 36.12 12 P **P 10 01 31.2 -1.0**
FDF Fort de France 36.34 12 P **P 10 01 33.0 -1.3**
IGPR InterUniversit 38.95 3 P **P 10 01 55.0 -1.0**
OBIP Obispado Ponce 39.00 2 P **P 10 01 55.3 -1.2**
PDPR Patillas Dam, 39.01 3 P **P 10 01 55.1 -1.4**
CELP Cerrillos 39.04 2 P **P 10 01 55.5 -1.3**
SJG San Juan 39.09 3 P **P 10 01 55.6 -1.6**
HUMP Col San Antoni 39.14 4 P **P 10 01 57.7 +0.1**
HUMP IAmb IAmb 10 02 01.4
comp=Z,14nm,0.8s
GCPR Guaynabo City 39.29 3 P **P 10 01 57.6 -1.3**
GCPR IAmb IAmb 10 01 58.7
comp=Z,18nm,0.7s
HOPE Hope Point 40.84 152 P **P 10 02 13.1 +1.7**
HOPE IAmb IAmb 10 02 26.7
comp=Z,23nm,1.1s
TEIG Tepich 45.60 333 P **P 10 02 49.3 -0.6**
TEIG IAmb IAmb 10 03 08.2
comp=Z,16nm,1.1s
V55A Taylorsville 58.04 348 IAmb IAmb 10 04 24.0
comp=Z,18nm,0.9s
SWET Sewanee 58.55 343 IAmb IAmb 10 04 26.5
comp=Z,10nm,0.6s
U54A Nelsons Funny 58.81 347 IAmb IAmb 10 04 29.5
comp=Z,17nm,0.9s
V48A Smith Brothers 59.29 342 IAmb IAmb 10 04 31.8
comp=Z,11nm,0.6s
CLTN Cedars of Leba 59.49 343 IAmb IAmb 10 04 33.1
comp=Z,6.6nm,0.7s
S54A Dingess, Beckl 59.94 348 IAmb IAmb 10 04 36.8
comp=Z,13nm,0.7s
WVT Waverly 59.95 342 P **P 10 04 33.9 -1.2**
WVT IAmb IAmb 10 04 35.7
comp=Z,10.0nm,0.6s
VNA3 Neumayer Olymp 60.17 161 P **P 10 04 37.2 +0.9**
VNA3 Neumayer Olymp 60.17 161 ⇓*P* **P 10 04 37.2 +0.9**
comp=Z,12nm,0.7s
VNA2 Neumayer--Watz 60.73 161 P **P 10 04 41.4 +1.3**
baz=278,slow=12
VNA2 Neumayer--Watz 60.73 161 ⇓*P* **P 10 04 41.4 +1.3**
comp=Z,14nm,0.6s,baz=278,slow=12
TXAR Lajitas Array 60.75 324 P **P 10 04 41.7 +0.8**
comp=Z,0.2nm,0.7s,baz=155,slow=5.6,SNR=2.2
P53A Whipple 61.59 348 IAmb IAmb 10 04 48.0
comp=Z,16nm,0.7s
SNAA Sanae 62.37 161 P **P 10 04 52.3 +1.2**
SNAA Sanae 62.37 161 P **P 10 04 51.9 +0.7**
SNAA IAmb IAmb 10 04 53.1
comp=Z,14nm,0.7s
SNAA Sanae 62.37 161 ⇓*P* **P 10 04 52.3 +1.2**
comp=Z,246nm,0.5s
SNAA Sanae 62.37 161 P **P 10 04 52.1 +1.0**
comp=Z,12nm,0.6s,baz=281,slow=7.4,SNR=32
comp=Z,12nm,0.6s
FVM French Village 62.45 340 IAmb IAmb 10 04 53.2
comp=Z,11nm,0.7s
M57A Sunshine Farm, 62.74 352 P **P 10 04 54.2 +0.4**
CCM Cathedral Cave 62.77 340 P **P 10 04 54.1 0.0**
N49A Columbus Grove 63.54 347 IAmb IAmb 10 05 00.0
comp=Z,12nm,0.7s
TROLL Troll, Antarti 64.08 161 P **P 10 05 04.0 +1.5**
TROLL Troll, Antarti 64.08 161 ⇓*P* **P 10 05 04.0 +1.5**
comp=Z,676nm,0.5s
DBIC Dimbokro 67.99 73 P **P 10 05 28.1 -0.2**
DBIC IAmb IAmb 10 05 29.3
comp=Z,18nm,0.8s
DBIC Dimbokro 67.99 73 P **P 10 05 28.6 +0.3**
comp=Z,15nm,0.7s,baz=233,slow=6.4,SNR=24
comp=Z,15nm,0.7s
QSPA South Pole Qui 69.02 180 P **P 10 05 35.0 +1.0**
QSPA IAmb IAmb 10 05 36.2
comp=Z,14nm,0.6s
QSPA South Pole Qui 69.02 180 P **P 10 05 35.4 +1.4**
comp=Z,12nm,0.5s,baz=153,slow=3.9,SNR=88
comp=Z,12nm,0.5s
ULM Lac du Bonnet 75.21 342 P **P 10 06 11.5 +0.8**
ULM Lac du Bonnet 75.21 342 P **P 10 06 10.9 +0.2**
comp=Z,2.7nm,0.4s,baz=168,slow=5.6,SNR=14
comp=Z,2.7nm,0.4s
SCHQ Schefferville 75.70 1 P **P 10 06 13.5 +0.1**
comp=Z,3.5nm,0.8s,baz=213,slow=7.7,SNR=5.2
comp=Z,3.5nm,0.8s
SYO Syowa Base 76.57 159⇓*eP* **P 10 06 20.2 +2.0**
TORD Torodi Ar. Bea 76.61 70 P **P 10 06 19.6 +0.2**
comp=Z,12nm,0.7s,baz=265,slow=5.3,SNR=75
comp=Z,12nm,0.7s
VNDA Vanda 77.29 190 P **P 10 06 24.5 +2.3**
VNDA Vanda 77.29 190 P **P 10 06 23.9 +1.7**
comp=Z,2.7nm,0.8s,baz=115,slow=5.3,SNR=4.1
comp=Z,2.7nm,0.8s
BOSA Boshof 83.00 118 P **P 10 06 54.2 +0.2**
comp=Z,2.8nm,0.5s,baz=247,slow=3.3,SNR=11
comp=Z,2.8nm,0.5s
LBTB Lobatse 84.54 115 P **P 10 07 02.3 +0.5**
ESDC Sonseca Array 85.13 44 P **P 10 07 04.8 +0.6**
comp=Z,1.8nm,1.0s,baz=245,slow=4.9,SNR=4.8
comp=Z,1.8nm,1.0s
YKA Yellowknife Ar 91.11 340 P **P 10 07 33.1 +1.1**
comp=Z,1.3nm,0.6s,baz=141,slow=4.4,SNR=31
comp=Z,1.3nm,0.6s
ASAR Alice Springs 130.51 207 PKP **PKiKP 10 13 39.0 -0.6**
comp=Z,2.0nm,0.9s,baz=147,slow=2.3,SNR=17
WRA Warramunga Arr 133.57 210 PKP **PKiKP 10 13 44.9 -1.0**
comp=Z,1.9nm,0.7s,baz=158,slow=1.8,SNR=18
KURBB Kurchatov Arra 140.69 33 PKP **PKPdf 10 13 56.2 -0.5**
comp=Z,0.3nm,0.5s,baz=307,slow=2.2,SNR=4.4
ZALV Zalesovo Beam 141.37 25 PKP **PKPdf 10 13 57.3 -0.5**
comp=Z,1.0nm,0.5s,baz=301,slow=3.9,SNR=6.5
MKAR Makanchi Array 144.97 36 PKP **PKPdf 10 14 05.6 +1.2**
comp=Z,3.5nm,0.7s,baz=324,slow=3.1,SNR=41
USRK Ussuriysk Ar. 151.59 329 PKPbc **PKiKP 10 14 22.0 0.0**
comp=Z,2.3nm,0.8s,baz=90,slow=4.3,SNR=4.4
MJAR Matsushiro Arr 152.39 309 PKPbc **PKiKP 10 14 24.4 +0.5**
comp=Z,1.9nm,0.6s,baz=82,slow=1.5,SNR=2.7
CMAR Chiang Mai Arr 167.59 100 PKP **PKPdf 10 14 34.4 +0.2**
comp=Z,0.5nm,0.3s,baz=304,slow=0.1,SNR=4.8

*WEL **14** 09:55:46.4±0.9, 32°S±8°×17°8W±2°2, h33km, M4.3/6, mB4.3/2, ML4.7/12, MLv4.3/6, Mw(mB)3.4/2, Error ellipse: s-maj=30.5km s-min=3.9km az=108.4, confirmed*
*IDC **14** 09:55:47.3±3.4, 32.30S×178.18W, h0km, mb3.9/2, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=76.0km s-min=37.6km az=112.0*
ISC 14 09:55:44.5±2.0, 32.26S±0.10×177.6W±0.3, h21km, n22, σ1§76/38, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.00**	**355**	P	**Pn**	**09 56 28.7**	**-2.1**
GLKZ				S	**Sn**	**09 57 05.1**	**-1.1**
WMGZ	**Waiomatatini S**	**6.42**	**209**	P	**Pn**	**09 57 18.6**	**+0.7**
WMGZ				S	**Sn**	**09 58 31.6**	**+1.1**
PKGZ	**Pakihiroa**	**6.61**	**211**	P	**Pn**	**09 57 20.0**	**-0.4**
PKGZ				S	**Sn**	**09 58 35.3**	**+0.2**
HAZ	**Te Kaha**	**6.65**	**213**	P	**Pn**	**09 57 21.5**	**+0.6**
HAZ				S	**Sn**	**09 58 37.3**	**+1.2**
PUZ	**Puketiti**	**6.70**	**209**	P	**Pn**	**09 57 22.8**	**+1.1**
PUZ				S	**Sn**	**09 58 37.1**	**-0.4**
RUGZ	**Raukumara Rang**	**6.87**	**213**	P	**Pn**	**09 57 25.0**	**+0.9**
RUGZ				S	**Sn**	**09 58 39.6**	**-2.0**
CNGZ	**Carnagh Statio**	**7.08**	**208**	P	**Pn**	**09 57 26.5**	**-0.4**
CNGZ				S	**Sn**	**09 58 47.9**	**+1.3**
TKGZ	**Te Karaka**	**7.18**	**210**	S	**Sn**	**09 58 47.9**	**-1.4**
MWZ	**Matawai**	**7.24**	**212**	P	**Pn**	**09 57 26.8**	**-2.3**
MWZ				S	**Sn**	**09 58 48.9**	**-1.8**
URZ	**Urewera**	**7.37**	**214**	Pn	**Pn**	**09 57 32.1**	**+1.3**
	0.9nm,0.3s,baz=72,slow=6.4,SNR=6.5						
URZ				Sn	**Sn**	**09 58 52.1**	**-1.7**
	1.4nm,0.3s,baz=337,slow=7.3,SNR=9.0						
	4.1nm,0.5s						
URZ	**Urewera**	**7.37**	**214**	P	**Pn**	**09 57 30.1**	**-0.8**
URZ				S	**Sn**	**09 58 52.2**	**-1.6**
RIGZ	**Rimuhau**	**7.45**	**209**	P	**Pn**	**09 57 31.7**	**-0.2**
RIGZ				S	**Sn**	**09 58 54.9**	**-0.8**
PRGZ	**Paritu Road**	**7.58**	**208**	P	**Pn**	**09 57 32.1**	**-1.7**
PRGZ				S	**Sn**	**09 58 58.5**	**-0.6**
SNGZ	**Shannon Statio**	**7.69**	**211**	S	**Sn**	**09 59 00.1**	**-1.6**
MUGZ	**Murupara**	**7.71**	**215**	S	**Sn**	**09 59 00.1**	**-2.0**
KNZ	**Kokohu**	**7.75**	**208**	P	**Pn**	**09 57 33.9**	**-2.2**
KNZ				S	**Sn**	**09 58 58.8**	**-4.4**
RAHZ	**Arahi**	**7.91**	**212**	P	**Pn**	**09 57 39.3**	**+0.9**
RAHZ				S	**Sn**	**09 59 06.7**	**-0.5**
MTHZ	**Maungataniwha**	**7.97**	**213**	P	**Pn**	**09 57 40.2**	**+1.1**
MTHZ				S	**Sn**	**09 59 07.3**	**-1.4**
BKZ	**Black Stump Fm**	**8.38**	**213**	P	**Pn**	**09 57 44.9**	**+0.1**
BKZ				S	**Sn**	**09 59 14.6**	**-4.2**
ASAR	**Alice Springs**	**43.36**	**269**	P	**P**	**10 03 47.9**	**+2.4**
	0.7nm,0.6s,baz=113,slow=8.4,SNR=7.1						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.52**	**274**	P	**P**	**10 03 57.0**	**+2.1**
	1.0nm,0.4s,baz=113,slow=7.9,SNR=9.1						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**147.00**	**339**	PKPbc	**PKiKP**	**10 15 29.7**	**+2.4**
	3.7nm,1.0s,baz=20,slow=4.4,SNR=2.2						

IDC 14 09:59:03.6±1.5, 3.34S×128.21E, h0km, mb3.7/3, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=143.8km s-min=24.3km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.55**	**161**	P	Pn	10 03 08.3	-1.6
	0.2nm,0.3s,baz=339,slow=12,SNR=7.3						
	6.9nm,1.3s						
ASAR	**Alice Springs**	**20.94**	**165**	P	Pn	10 03 49.5	-1.2
	8.7nm,0.8s,baz=344,slow=11,SNR=104						
ASAR				PcP	PcP	10 07 55.6	-0.8
	0.4nm,0.5s,baz=3.6,slow=1.9,SNR=6.5						
	8.7nm,0.8s						
MKAR	**Makanchi Array**	**64.21**	**327**	P	P	10 09 40.3	-0.1
	0.5nm,0.6s,baz=128,slow=8.0,SNR=5.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.48**	**329**	P	P	10 10 07.8	+0.1
	0.3nm,0.7s,baz=132,slow=4.8,SNR=4.6						
	0.3nm,0.7s						

*NEIC **14** 10:07:07.1±1.3, 31.862N±0.007×115.90W±0.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=3.0km az=266.0*
*ECX **14** 10:07:08.3±0.5, 31.91N×115.83W, h3km±1km, MD2.9, ML3.1*
*PAS **14** 10:07:08.2±1.7, 31.90N±0.02×115.86W±0.02, h9km±8km, ML3.1/73, ML3.0/26(NEIC), Error ellipse: s-maj=2.8km s-min=2.0km az=214.0*
ISC 14 10:07:07.8±0.9, 31.90N±0.02×115.84W±0.02, h10km±7km, n62, σ0§80/83, 10C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESJX	**Sierra Juarez**	**0.14**	**321**		**Pg**	**10 07 11.2**	**+0.1**
ESJX					**Sg**	**10 07 13.4**	**0.0**
ESJX	**Sierra Juarez**	**0.14**	**321**	IAML		10 07 13.6	
	comp=N,49μm,0.1s						
ESJX				IAML		10 07 13.6	
	comp=E,80μm,0.1s						
ALAMX	**Rancho Alamar**	**0.16**	**46**⇑	*iP*	**Pg**	**10 07 11.0**	**-0.3**
ALAMX				*eS*	**Sg**	**10 07 13.1**	**-0.6**
ALAMX				IAML		10 07 14.4	
	comp=N,14μm,0.3s						
ALAMX				*e*		10 07 14.4	
SJX	**San Joaquin**	**0.17**	**216**⇓	*eP*	**Pg**	**10 07 11.3**	**-0.1**
SJX				*eS*	**Sg**	**10 07 13.4**	**-0.4**
VTX	**Valle De La Tr**	**0.51**	**174**		**Pg**	**10 07 17.8**	**+0.1**
VTX					**Sg**	**10 07 24.9**	**+0.5**
VTX	**Valle De La Tr**	**0.51**	**174**	IAML		10 07 25.6	
	comp=N,597nm,0.1s						
VTX				IAML		10 07 29.7	
	comp=E,417nm,0.1s						
VTX	**Valle De La Tr**	**0.51**	**174**⇑	*eP*	**Pg**	**10 07 17.8**	**+0.1**
VTX				*eS*	**Sg**	**10 07 24.9**	**+0.5**
RHX	**Rio Hardy**	**0.53**	**63**⇑	*iP*	**Pg**	**10 07 17.9**	**-0.2**
JARAX	**Ej. Heriberto**	**0.68**	**19**	*eP*	**Pg**	**10 07 20.4**	**-0.4**
JARAX				*eS*	**Sg**	**10 07 29.7**	**0.0**
JARAX				IAML		10 07 32.2	
	comp=E,2μm,0.2s						
CPBX	**Cerro Prieto**	**0.69**	**41**		**Pg**	**10 07 21.4**	**+0.2**
CPBX					**Sb**	**10 07 31.5**	**-0.1**
RMX	**La Rumorosa**	**0.73**	**344**		**Pg**	**10 07 20.6**	**-1.4**
RMX					**Sg**	**10 07 29.4**	**-2.1**
RMX	**La Rumorosa**	**0.73**	**344**	*eP*	**Pg**	**10 07 20.3**	**-1.6**
RMX				*eS*	**Sg**	**10 07 29.4**	**-2.1**
YUH	**Yuha Desert**	**0.75**	**355**	Pg	**Pg**	**10 07 21.7**	**-0.6**
YUH				IAML		10 07 31.7	
	comp=E,370nm,0.2s						
YUH	**Yuha Desert**	**0.75**	**355**		**Sg**	**10 07 31.3**	**-0.8**
YUH2	**Yuha Desert**	**0.75**	**355**⇑	*eP*	**Pg**	**10 07 21.7**	**-0.6**
SGL	**Mount Signal**	**0.76**	**8**		**Pg**	**10 07 22.0**	**-0.4**
SGL					**Sg**	**10 07 32.1**	**-0.1**
PBX	**Punta Banda**	**0.77**	**259**⇑	*iP*	**Pg**	**10 07 22.9**	**+0.4**
PBX				*eS*	**Sg**	**10 07 33.4**	**+0.8**
GUVIX	**Guadalupe Vict**	**0.77**	**58**		**Pg**	**10 07 23.4**	**+0.8**
GUVIX					**Sb**	**10 07 35.0**	**+1.3**
IKP	**In-Ko-Pah, Jac**	**0.78**	**343**		**Pg**	**10 07 22.6**	**-0.4**
IKP					**Sg**	**10 07 32.6**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.78**	**343**⇑	*eP*	**Pg**	**10 07 22.5**	**-0.4**
IKP				*eS*	**Sg**	**10 07 32.8**	**-0.4**
UABX	**UABC, Campus M**	**0.81**	**25**		**Pg**	**10 07 23.6**	**+0.2**
UABX					**Sb**	**10 07 35.7**	**+0.7**
CBX	**Cerro Bola**	**0.81**	**301**		**Pg**	**10 07 23.5**	**0.0**
CBX					**Sg**	**10 07 34.3**	**+0.3**
CBX	**Cerro Bola**	**0.81**	**301**⇑	*eP*	**Pg**	**10 07 23.4**	**0.0**
CBX				*eS*	**Sg**	**10 07 34.6**	**+0.6**
CBX				*e*		10 07 35.4	
CBX				IAML		10 07 35.4	
	comp=N,1μm,0.3s						
CBX				*e*		10 07 35.5	
CBX				IAML		10 07 35.5	
	comp=E,835nm,0.2s						
5053	**Calexico**	**0.83**	**21**		**Pg**	**10 07 24.1**	**+0.3**
5053					Pn	10 07 35.9	+10
WESC	**Westside Schoo**	**0.86**	**6**		**Pg**	**10 07 24.3**	**-0.2**
WESC					**Sg**	**10 07 36.5**	**+0.8**
TJIG	**Tijuana**	**0.88**	**307**⇑	*eP*	**Pg**	**10 07 24.2**	**-0.6**
TJIG				*eS*	**Sg**	**10 07 35.7**	**-0.6**
TJIG				⇑*e*		10 07 36.1	
TJIG				IAML		10 07 36.1	
	comp=N,474nm,0.1s						
TJIG				⇓*e*		10 07 37.8	
TJIG				IAML		10 07 37.8	
	comp=E,443nm,0.1s						
5054	**Holtville Bond**	**0.90**	**28**		**Pg**	**10 07 25.1**	**-0.1**
SPIG	**San Pedro Mart**	**0.91**	**159**	*eP*	**Pg**	**10 07 25.2**	**-0.1**
SPIG				*eS*	**Sg**	**10 07 37.1**	**-0.1**
PESCX	**Ej. Pescaderos**	**0.92**	**54**		**Pg**	**10 07 25.2**	**-0.3**
TKX	**Tecate**	**0.93**	**316**		**Pg**	**10 07 25.1**	**-0.6**
TKX	**Tecate**	**0.93**	**316**	IAML		10 07 39.2	
	comp=N,468nm,0.1s						
TKX				IAML		10 07 40.0	
	comp=E,654nm,0.1s						
TKX	**Tecate**	**0.93**	**316**	*eP*	**Pg**	**10 07 24.9**	**-0.8**
COK2	**Cook Ranch 2**	**0.96**	**6**		**Pg**	**10 07 26.1**	**-0.1**
COK2					**Sb**	**10 07 39.6**	**+0.4**
DREC	**Desert Rsrch C**	**0.97**	**20**		**Pg**	**10 07 26.6**	**+0.2**
CRR	**Carrizo Plain**	**0.99**	**354**		**Pg**	**10 07 26.4**	**-0.4**
SNR	**Schaffner Ranc**	**1.02**	**20**		**Pg**	**10 07 27.1**	**-0.4**
IMPE	**Imperial**	**1.03**	**13**		**Pg**	**10 07 27.6**	**0.0**
IMPE					**Sb**	**10 07 42.6**	**+1.3**
SWSC	**Sam W. Stewart**	**1.04**	**2**		**Pg**	**10 07 27.6**	**-0.3**
SWSC					**Sg**	**10 07 41.0**	**-0.5**
BAR	**Barrett**	**1.05**	**318**⇑	*eP*	**Pg**	**10 07 26.9**	**-1.1**
DUZA	**Dulzura**	**1.06**	**312**		**Pg**	**10 07 27.1**	**-1.0**
DUZA					**Sg**	**10 07 40.8**	**-1.2**
MONP2	**Monument Peak**	**1.11**	**334**		**Pg**	**10 07 28.5**	**-0.6**
EMSC	**East Mesa**	**1.11**	**41**		**Pg**	**10 07 29.1**	**0.0**
OLP	**Otay Lakes Par**	**1.16**	**308**		**Pg**	**10 07 29.0**	**-1.1**
TJX	**Tijuana**	**1.19**	**301**		**Pg**	**10 07 30.3**	**-0.5**
TJX				IAML		10 07 56.5	
	comp=N,369nm,0.8s						
TJX	**Tijuana**	**1.19**	**301**	*eP*	**Pg**	**10 07 30.2**	**-0.5**
TJX				*eS*	**Sg**	**10 07 46.4**	**+0.2**
SFX	**San Felipe**	**1.21**	**135**		**Pg**	**10 07 29.2**	**-1.8**
SFX				IAML		10 07 47.5	
	comp=E,207nm,0.6s						
SFX				IAML		10 07 47.7	
	comp=N,304nm,0.4s						
SFX	**San Felipe**	**1.21**	**135**⇓	*eP*	**Pg**	**10 07 29.1**	**-1.8**
SDRC	**San Diego Road**	**1.25**	**312**		**Pg**	**10 07 30.4**	**-1.4**
SQX	**San Quintin**	**1.32**	**181**	*eP*	**Pg**	**10 07 31.4**	**-1.7**
SQX				*eS*	**Sg**	**10 07 49.0**	**-1.1**
SQX				⇓*e*		10 07 50.5	
SQX				IAML		10 07 50.5	
	comp=N,616nm,0.4s						
SQX				*e*		10 07 50.8	
SQX				IAML		10 07 50.8	
	comp=E,489nm,0.2s						
GLA	**Glamis**	**1.44**	**36**	IAML		10 07 52.9	
	comp=E,97nm,0.6s						
GLA				IAML		10 07 53.7	
	comp=N,158nm,0.4s						
CPE	**Camp Elliot**	**1.45**	**313**		**Pn**	**10 07 34.2**	**+0.1**
CPE	**Camp Elliot**	**1.45**	**313**	IAML		10 07 54.6	
	comp=N,332nm,0.2s						
PFO	**Pinyon Flats O**	**1.79**	**343**		**Pn**	**10 07 38.8**	**-0.1**
113A	**Mohawk Valley,**	**1.96**	**63**		**Pn**	**10 07 40.1**	**-1.0**
POB	**Polly Butte**	**2.00**	**333**		**Pn**	**10 07 42.2**	**+0.4**
PIX	**Pinacate**	**2.06**	**99**		**Pn**	**10 07 42.6**	**+0.2**
BLYC	**Blythe**	**2.16**	**31**	Pn	**Pn**	**10 07 44.5**	**+0.7**
ELS	**Elsinore Mount**	**2.20**	**323**		**Pn**	**10 07 46.0**	**+1.5**
ELS				IAML		10 08 15.9	
	comp=N,57nm,0.3s						
ELS				IAML		10 08 16.6	
	comp=E,71nm,0.4s						
Y14A	**Wickenburg**	**3.14**	**49**		**Pn**	**10 07 58.5**	**+1.1**
W13A	**Hualapai Mount**	**3.59**	**27**	Pn	**Pn**	**10 08 04.5**	**+0.8**
X16A	**Lo Mia Camp, P**	**4.47**	**55**	Pn	**Pn**	**10 08 16.2**	**+0.4**
KNB	**Kanab**	**5.68**	**25**	Pn	**Pn**	**10 08 31.9**	**-0.5**

*IPEC **14** 10:10:20.9±0.2, 51.58N×16.25E, h1km, ML2.7/5, Error ellipse: s-maj=2.9km s-min=1.5km az=72.0*
*PRU **14** 10:10:21.9, 51.55N×16.19E, h0km*
*VIE **14** 10:10:24.0±0.9, 51.35N×16.25E, h0km, mb2.8/6, ml2.8/6, Error ellipse: s-maj=6.0km s-min=4.6km az=25.0, Suspected Mining induced.*
ISC 14 10:10:21.6±1.1, 51.55N±0.05×16.12E±0.02, h0km, n36, σ1§07/68, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pg**	**10 10 35.3**	**+0.1**
KSP				*e*Sg	**Sg**	**10 10 44.9**	**+0.4**
CHVC	**Chvalec**	**0.96**	**183**	*e*PG	**Pg**	**10 10 40.2**	**+0.2**
CHVC				*e*SG	**Sg**	**10 10 53.1**	**+0.7**
	comp=Z,86nm,0.5s						
OSTC	**Ostas**	**0.99**	**177**	*e*PG	**Pg**	**10 10 40.8**	**+0.2**
OSTC				*e*SG	**Sg**	**10 10 54.0**	**+0.5**
	comp=Z,79nm,0.7s						
UPC	**Upice**	**1.04**	**184**	*e*PG	**Pg**	**10 10 41.5**	**-0.1**
UPC				*e*SG	**Sg**	**10 10 54.7**	**-0.4**
	comp=Z,130nm,0.6s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**10 10 44.2**	**-0.5**
DPC				*e*SG	**Sg**	**10 10 59.8**	**-0.5**
	comp=Z,48nm,0.6s						
PIVO	**Bartosovice**	**1.39**	**169**	*e*Pg	**Pn**	**10 10 47.2**	**-1.1**
	baz=352						
PIVO				*e*Sg	**Sg**	**10 11 04.8**	**-1.4**
	120nm,0.4s,baz=352						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pn**	**10 10 48.2**	**-0.4**
PVCC				*e*SG	**Sn**	**10 11 08.7**	**+0.8**
	comp=Z,224nm,0.6s						
BRG	**Berggiesshubel**	**1.53**	**245**	Pg	**Pg**	**10 10 51.0**	**+0.1**
BRG				Sg	**Sg**	**10 11 11.6**	**+1.0**
BRG				Amp		10 11 12.5	
	comp=Z,143nm,0.5s						
KRLC	**Kraliky**	**1.53**	**164**	*e*PG	**Pn**	**10 10 49.2**	**-1.1**
KRLC				*e*SG	**Sn**	**10 11 10.1**	**-0.8**
	comp=Z,31nm,0.3s						
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pb**	**10 10 56.0**	**-0.4**
PRU				*e*SG	**Sg**	**10 11 22.4**	**+1.2**
	comp=Z,49nm,0.5s						
STEB	**Steborice**	**1.93**	**146**	*e*PG	**Pb**	**10 10 56.5**	**-1.1**
STEB				*e*SG	**Sb**	**10 11 22.0**	**-0.1**
HSKC	**Hora Svate Kat**	**1.94**	**242**	*e*PG	**Pb**	**10 10 57.2**	**-0.6**
HSKC				*e*SG	**Sg**	**10 11 23.3**	**-0.6**
	comp=Z,69nm,0.5s						
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**10 10 55.1**	**-1.1**
CLL				*i* x	x	10 10 58.8	
CLL		

KHC	**Kasperske Hory**	**2.92 215**	*e*PN	**Pn**	**10 11 08.4**	**-0.9**
KHC			*e*PG	**Pb**	**10 11 14.9**	**+0.4**
KHC			*e*SG	**Sg**	**10 11 54.0**	**-1.2**
comp=Z,29nm,0.5s						
CKRC	**Cesky Krumlov**	**2.97 204**	*e*PN	**Pn**	**10 11 09.3**	**-0.7**
CKRC			*e*PG	**Pb**	**10 11 15.8**	**+0.4**
MODS	**Modra-Piesok**	**3.26 166**	*e*PG	**Pg**	**10 11 23.2**	**-0.9**
MODS			*e*SG	**Sg**	**10 12 08.7**	**+2.3**
VYHS	**Vyhne**	**3.52 149**	*e*PG	**Pg**	**10 11 28.9**	**-0.2**
VYHS			*e*SG	**Sg**	**10 12 16.1**	**+1.4**
CONA	**Conrad Observa**	**3.63 183**	*e*Pn	**Pn**	**10 11 19.4**	**+0.3**
comp=Z,0.5nm,0.2s						
CONA			*e*Sg	**Sg**	**10 12 16.9**	**-1.2**
comp=Z,14nm,0.4s						
MOA	**Molln**	**3.89 199**	*e*Pn	**Pn**	**10 11 22.6**	**-0.1**
comp=Z,1.6nm,0.2s						
MOA			Sg	**Sg**	**10 12 26.0**	**-0.6**
comp=Z,12nm,0.5s						
STHS	**Stebnicka Huta**	**3.91 121**	*e*PG	**Pg**	**10 11 37.3**	**+0.9**
STHS			*e*SG	**Sg**	**10 12 26.4**	**-0.6**
ARSA	**Arzberg**	**4.32 185**	Sg	**Sg**	**10 12 41.5**	**+1.2**
comp=Z,12nm,0.5s						
LESA	**Schwarzleotal**	**4.70 210**	Pg	**Pg**	**10 11 51.4**	**-0.2**
comp=Z,2.9nm,0.4s						
LESA			Sg	**Sg**	**10 12 50.6**	**-1.9**
comp=Z,7.5nm,0.6s						
KOLS	**Kolonicke sedl**	**4.74 121**	*e*PG	**Pg**	**10 11 56.3**	**+4.0**
KBA	**Koelnbreinsper**	**4.83 203**	*e*Pn	**Pn**	**10 11 35.9**	**+0.2**
comp=Z,1.8nm,0.3s						
WTTA	**Wattenberg**	**5.19 216**	Sg	**Sg**	**10 13 11.0**	**+2.7**
comp=Z,6.3nm,0.5s						

*NEIC **14** 10:12:56.6±1.2, 34°.10N±0°.02×97°.45W±0°.02, h5km±1km, mb_Lg2.5/33, ML2.4/10, Error ellipse: s-maj=3.6km s-min=2.9km az=120.0*

ISC 14 10:12:55.3±1.4, 34°.13N±0°.03×97°.40W±0°.03, h2km±12km, n52, σ1.9±37/53, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	**Smith Ranch, M**	**0.59**	**323**		**Pb**	**10 13 09.3**	**+0.9**
X34A				IAML		10 13 23.5	
comp=E,222nm,0.8s							
X34A				IAML		10 13 24.5	
comp=N,186nm,0.6s							
Z35A	**Perchaven, San**	**0.81**	**171**	P	**Pg**	**10 13 10.7**	**-0.1**
Z35A				S	**Sg**	**10 13 21.2**	**-0.1**
WTFS	**Witchita Falls**	**0.96**	**248**		**Pb**	**10 13 14.0**	**-0.7**
WTFS	**Witchita Falls**	**0.96**	**248**	P	**Pb**	**10 13 14.1**	**-0.5**
W35A	**Tecumseh**	**1.11**	**23**		**Pn**	**10 13 18.3**	**+0.4**
W35A				Sg	**Sn**	**10 13 34.2**	**+0.4**
FNO	**Franklin**	**1.12**	**360**		**Pn**	**10 13 18.4**	**+0.3**
FNO				Sg	**Sn**	**10 13 34.4**	**+0.2**
FNO				IAML		10 13 38.6	
comp=E,106nm,0.5s							
FNO				IAML		10 13 41.5	
comp=N,112nm,0.3s							
FW06	**Azle**	**1.16**	**186**	P	**Pb**	**10 13 17.6**	**-0.6**
FW03	**Perrin-Whitt E**	**1.22**	**207**	P	**Pg**	**10 13 19.4**	**+0.6**
FW03				S	**Sn**	**10 13 37.9**	**+1.3**
WMOK	**Wichita Mounta**	**1.29**	**298**		**Pn**	**10 13 19.7**	**-0.7**
WMOK					**Sn**	**10 13 37.1**	**-1.2**
WMOK	**Wichita Mounta**	**1.29**	**298**	Pn	**Pn**	**10 13 19.9**	**-0.6**
WMOK				IAML		10 13 41.6	
comp=N,47nm,0.5s							
WMOK				IAML		10 13 45.8	
comp=N,56nm,0.5s							
WMOK	**Wichita Mounta**	**1.29**	**298**	P	**Pn**	**10 13 19.8**	**-0.7**
WMOK				S	**Sn**	**10 13 38.2**	**-0.1**
FW15	**Texas Christia**	**1.42**	**179**	P	**Pg**	**10 13 23.2**	**+0.6**
FW07	**Weatherford**	**1.46**	**193**	P	**Pg**	**10 13 24.0**	**+0.6**
PLPT	**Palo Pinto**	**1.52**	**210**		**Pb**	**10 13 23.5**	**-0.8**
PLPT	**Palo Pinto**	**1.52**	**210**	P	**Pb**	**10 13 23.5**	**-0.8**
FW14	**Alvarado**	**1.74**	**174**		**Pb**	**10 13 28.2**	**+0.3**
FW14	**Alvarado**	**1.74**	**174**	P	**Pb**	**10 13 28.3**	**+0.3**
FW14				S	**Sg**	**10 13 52.4**	**+1.2**
FW13	**Cleburne**	**1.78**	**181**		**Pb**	**10 13 28.7**	**+0.1**
FW13	**Cleburne**	**1.78**	**181**	P	**Pb**	**10 13 28.8**	**+0.2**
FW13				S	**Sg**	**10 13 52.2**	**-0.2**
TREL	**Terrell**	**1.78**	**142**	IAmb_Lg		10 13 53.1	
comp=Z,37nm,0.8s							
TREL	**Terrell**	**1.78**	**142**	P	**Pn**	**10 13 22.8**	**-4.3**
CSTR	**Hydro, Custer**	**1.84**	**325**		**Pb**	**10 13 29.7**	**-0.2**
DEOK	**Depew**	**1.86**	**23**		**Pb**	**10 13 30.5**	**+0.4**
DEOK				IAmb_Lg		10 13 55.9	
comp=Z,18nm,1.1s							
OK052	**Battle Ridge R**	**1.92**	**15**		**Pb**	**10 13 31.1**	**0.0**
WHTX	**Lake Whitney,**	**2.13**	**181**	P	**Pb**	**10 13 33.8**	**-1.0**
ABTX	**Abilene, Hawle**	**2.41**	**232**	P	**Pb**	**10 13 38.8**	**-0.6**
ABTX				S	**Sb**	**10 14 09.5**	**0.0**
APMT	**Aspermont**	**2.41**	**251**		**Pb**	**10 13 38.4**	**-1.0**
APMT				IAmb_Lg		10 14 17.6	
comp=Z,11nm,0.8s							
APMT	**Aspermont**	**2.41**	**251**	P	**Pb**	**10 13 38.8**	**-0.6**
APMT				S	**Sg**	**10 14 11.0**	**-1.7**
SMWD	**Samnorwood**	**2.54**	**293**	Pn	**Pb**	**10 13 39.5**	**-2.2**
SMWD	**Samnorwood**	**2.54**	**293**	P	**Pb**	**10 13 41.6**	**-0.1**
ELIS	**Ellis County**	**2.54**	**320**	IAmb_Lg		10 14 17.5	
comp=Z,29nm,1.1s							
NOKA	**Waynoka**	**2.79**	**334**	IAmb_Lg		10 14 24.2	
comp=Z,13nm,1.0s							
DKNS	**Dickens**	**2.97**	**262**		**Pb**	**10 13 46.2**	**-2.8**
DKNS	**Dickens**	**2.97**	**262**	P	**Pb**	**10 13 47.6**	**-1.4**
DKNS				S	**Sb**	**10 14 25.4**	**-0.3**
BRDY	**Brady**	**3.14**	**206**	P	**Pn**	**10 13 46.5**	**+0.6**
BRDY				S	**Sn**	**10 14 23.8**	**-0.2**
MIAR	**Mount Ida**	**3.19**	**82**	IAmb_Lg		10 14 42.8	
comp=Z,12nm,0.8s							
NATX	**Nacogdoches**	**3.30**	**135**	P	**Pn**	**10 13 44.6**	**-3.5**
POST	**Post**	**3.58**	**254**	IAmb_Lg		10 14 51.7	
comp=Z,11nm,1.0s							
WLAR	**White Oak Lake**	**3.59**	**96**	IAmb_Lg		10 14 53.2	
comp=Z,21nm,0.7s							
SGCY	**Sterling City**	**3.83**	**236**	IAmb_Lg		10 15 03.5	
comp=Z,18nm,1.0s							
SGCY	**Sterling City**	**3.83**	**236**	P	**Pn**	**10 13 56.6**	**+1.1**
JCT	**Junction City**	**4.17**	**210**	P	**Pn**	**10 14 02.3**	**+2.2**
HNDO	**Hondo**	**4.86**	**200**		**Pn**	**10 14 10.5**	**+0.9**
HNDO	**Hondo**	**4.86**	**200**	P	**Pn**	**10 14 10.3**	**+0.7**
EF03	**Hobson**	**5.19**	**186**	P	**Pn**	**10 14 17.5**	**+3.4**
SAND	**Sanderson**	**5.78**	**225**	P	**Pn**	**10 14 23.0**	**+0.7**
CCM	**Cathedral Cave**	**6.34**	**50**	IAmb_Lg		10 16 24.3	
comp=Z,8.1nm,0.7s							
MNTX	**Cornudas Mount**	**7.14**	**252**	P	**Pn**	**10 14 43.8**	**+3.0**
TX31	**Lajitas Ar. Si**	**7.17**	**230**	P	**Pn**	**10 14 42.5**	**+1.2**
ANMO	**Albuquerque**	**7.52**	**279**	IAmb_Lg		10 17 08.3	
comp=Z,6.2nm,0.8s							
ANMO	**Albuquerque**	**7.52**	**279**	IAmb_Lg		10 17 03.8	
comp=Z,6.5nm,0.8s							
ANMO	**Albuquerque**	**7.52**	**279**	IAmb_Lg		10 17 03.8	
comp=Z,6.5nm,0.8s							

ISC 14 10:21:13.3±1.1, 27°.75N±0°.05×111°.74W±0°.04, h10km, n7, σ0.9±90/13, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.62**	**226**	*e*P	**Pb**	**10 21 26.8**	**+0.5**
SRIG				*e*S	**Sb**	**10 21 35.5**	**+0.4**
SRIG				IAML		10 21 36.3	
comp=N,3μm,0.4s							
SRIG				IAML		10 21 36.5	
comp=E,2μm,0.4s							
SRIG				⇓*e*		10 21 36.5	
BKIRB	**Bahia Kino**	**1.12**	**348**	*e*P	**Pb**	**10 21 34.7**	**-0.2**
BKIRB				*e*S	**Sg**	**10 21 51.0**	**+1.5**
SFQB	**San Francisqui**	**1.19**	**303**	*e*P	**Pn**	**10 21 34.9**	**-1.1**
SFQB				*e*S	**Sb**	**10 21 51.8**	**+0.5**
SFQB				IAML		10 21 56.9	
comp=N,190nm,0.9s							
HSIG		**1.44**	**29**	*e*P	**Pb**	**10 21 41.0**	**+0.8**
HSIG				*e*S	**Sg**	**10 21 59.9**	**+0.2**
HSIG				⇓*e*		10 22 12.3	
HSIG				IAML		10 22 12.3	
comp=E,146nm,1.2s							
CDOB	**Cd. Obregon**	**1.46**	**103**	*e*P	**Pn**	**10 21 39.2**	**-0.5**
BAHB	**Baha de los**	**2.00**	**307**	*e*P	**Pn**	**10 21 46.2**	**-0.9**
BAHB				*e*S	**Sn**	**10 22 12.2**	**0.0**
NOVRB	**El Novillo Son**	**2.19**	**57**	*e*P	**Pn**	**10 21 49.9**	**+0.1**
NOVRB				*e*S	**Sn**	**10 22 15.5**	**-1.5**

STR 14 10:28:11.7±0.6, 46°N±3°×°±°, h0km, MLv1.4/10, Error ellipse: s-maj=0.0km s-min=0.0km az=117.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.42**	**175**	Pg	Pg	10 28 19.7	-0.1
SSB				Sg	Sg	10 28 26.6	+1.3
OG35	**Corcelles**	**0.83**	**65**	Pg	Pg	10 28 27.9	+0.2
OG35				Sg	Sb	10 28 40.0	-0.9
OGSM	**Saint Maurice**	**0.85**	**96**	Pg	Pg	10 28 28.3	+0.3
OGMY	**Moye**	**1.00**	**79**	Pg	Pg	10 28 30.8	0.0
OGMY				Sg	Sg	10 28 44.5	+0.7
OGMY	**Moye**	**1.00**	**79**	Pg	Pg	10 28 30.9	+0.1
OGMY				Sg	Sg	10 28 44.6	+0.8
RSL	**Roselend**	**1.50**	**90**	Pg	Pn	10 28 40.1	+0.1
RSL				Sg	Sg	10 28 59.8	-0.1

STR 14 10:28:14.5±0.6, 46°N±7°×°±°, h0km, MLv1.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=179.9, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLF	**Collangettes**	**0.36**	**96**	Pg	Pg	10 28 21.2	-0.2
COLF	**Collangettes**	**0.36**	**96**	Pg	Pg	10 28 21.2	-0.2
COLF				Sg	Sg	10 28 25.9	-0.1
FRNF	**Fournols**	**0.47**	**249**	Pg	Pg	10 28 23.4	-0.1
FRNF				Sg	Sg	10 28 30.0	+0.4
PLDF	**La Plantade**	**0.51**	**36**	Pg	Pg	10 28 24.3	0.0
PLDF	**La Plantade**	**0.51**	**36**	Pg	Pg	10 28 24.4	+0.1
VERF	**Verneugheol**	**0.53**	**292**	Pg	Pg	10 28 24.4	-0.2
VERF				Sg	Sg	10 28 31.3	-0.3
LEUC	**Leucamp**	**0.91**	**210**	Pn	Pb	10 28 33.3	+0.1

*NEIC **14** 10:41:36.4±0.6, 59°.88N±0°.03×152°.95W±0°.09, h118km±5km, Error ellipse: s-maj=6.9km s-min=4.4km az=107.0*

AEIC 14 10:41:37.3±0.6, 59°.88N±0°.03×152°.95W±0°.07, h114km±4km, ML2.4, ML2.7/107(NEIC), Error ellipse: s-maj=6.6km s-min=1.1km az=133.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.10**	**322**		Pn	10 41 52.5	-0.7
ILS					Sn	10 42 04.7	-0.4
ILSW	**Iliamna Southw**	**0.14**	**317**		Pn	10 41 52.5	-0.8
ILSW				IAML		10 42 05.5	
comp=E,158nm,0.6s							
ILSW				IAML		10 42 05.6	
comp=N,113nm,0.4s							
ILSW	**Iliamna Southw**	**0.14**	**317**		Sn	10 42 04.8	-0.5
O20K	**Slope Mountain**	**0.26**	**39**		Pn	10 41 53.2	-0.4
OPT	**Oil Point**	**0.27**	**212**		Pn	10 41 53.0	-0.5
P19K	**Oil Pt**	**0.27**	**212**		Pn	10 41 53.0	-0.5
P19K					Sn	10 42 05.5	-0.1
RED	**Redoubt Volcan**	**0.55**	**9**		Pn	10 41 54.3	-0.8
RED					Sn	10 42 07.6	-0.8
RDWB	**Redoubt West**	**0.61**	**5**		Pn	10 41 55.0	-0.6
RDWB					Sn	10 42 08.4	-1.0
NCT	**North Crescent**	**0.68**	**1**		Sn	10 42 09.3	-0.9
HOM	**Homer**	**0.70**	**108**	IAML		10 42 11.9	
comp=N,292nm,0.6s							
HOM				IAML		10 42 17.2	
comp=E,267nm,1.3s							
RDT	**Redoubt**	**0.75**	**21**		Sn	10 42 10.1	-1.0
O19K	**Port Alsworth**	**0.76**	**295**		Pn	10 41 55.9	-0.6
O19K	**Port Alsworth**	**0.76**	**295**	IAML		10 42 11.2	
comp=E,68nm,0.6s							
O19K				IAML		10 42 11.4	
comp=N,66nm,0.5s							
CNPM	**China Poot**	**0.94**	**112**		Pn	10 41 57.8	-0.4
CNPM				IAML		10 42 13.7	
comp=E,234nm,0.3s							
CNPM				IAML		10 42 14.6	
comp=N,239nm,0.4s							
CNPM	**China Poot**	**0.94**	**112**		Sn	10 42 13.3	-0.8
Q19K	**Cape Douglas,**	**1.02**	**201**	IAML		10 42 17.4	
comp=N,136nm,1.2s							
Q19K				IAML		10 42 20.5	
comp=E,156nm,1.4s							
BRLK	**Bradley Lake**	**1.05**	**96**		Pn	10 41 58.8	-0.6
BRLK				IAML		10 42 18.2	
comp=N,244nm,0.1s							
BRLK				IAML		10 42 18.2	
comp=E,112nm,0.1s							
O18K	**Koktuh Hills**	**1.14**	**270**	Pn	Pn	10 42 00.1	-0.3
O18K				IAML		10 42 16.9	
comp=E,38nm,1.0s							
N19K	**Bonanza Creek**	**1.21**	**321**		Pn	10 42 00.4	-0.7
N19K				IAML		10 42 18.5	
comp=E,32nm,0.6s							
N19K	**Bonanza Creek**	**1.21**	**321**		Sn	10 42 17.8	-1.3
P18K	**Big Mountain,**	**1.26**	**248**		Pn	10 42 00.4	-1.2
P18K					Sn	10 42 18.3	-1.7
CAPN	**Captain Cook N**	**1.26**	**44**		Pn	10 42 02.9	+1.3
SYI	**Shuyak Island**	**1.31**	**167**		Pn	10 42 01.4	-0.7
SYI	**Shuyak Island**	**1.31**	**167**	IAML		10 42 21.5	
comp=N,177nm,0.5s							
SYI				IAML		10 42 22.0	
comp=E,144nm,0.4s							
SPU	**Mount Spurr**	**1.38**	**18**	IAML		10 42 23.1	
comp=N,40nm,0.3s							
SPU				IAML		10 42 23.4	
comp=E,40nm,0.2s							
SPCG	**Spurr Capps Gl**	**1.49**	**18**		Pn	10 42 03.8	-0.5
SLKM	**Skilak Lake**	**1.50**	**64**		Pn	10 42 03.6	-0.8
SLKM	**Skilak Lake**	**1.50**	**64**	IAML		10 42 26.2	
comp=E,129nm,0.2s							
KAHG	**Katmai Hook Gl**	**1.62**	**211**		Pn	10 42 05.0	-0.8
KAHC	**Katmai Hardscr**	**1.63**	**221**		Pn	10 42 05.2	-0.8
N18K	**Kilae Creek**	**1.67**	**300**		Pn	10 42 05.4	-1.0
STLK	**Strandline Lak**	**1.71**	**18**		Pn	10 42 06.7	-0.3
STLK				IAML		10 42 31.8	
comp=E,24nm,0.4s							
STLK				IAML		10 42 32.0	
comp=N,23nm,0.3s							
SEW	**Seward**	**1.77**	**81**		Pn	10 42 06.7	-0.9
P17K	**Kvichak River**	**1.91**	**250**		Pn	10 42 08.7	-0.5
RC01	**Rabbit Creek A**	**2.00**	**51**		Pn	10 42 09.6	-0.8
M20K	**Styx River**	**2.01**	**358**		Pn	10 42 10.2	-0.4
ACHA	**Angle Creek He**	**2.08**	**217**		Pn	10 42 10.7	-0.8
O17K	**Koliganek Bris**	**2.10**	**269**		Pn	10 42 10.8	-0.8
KDAK	**Kodiak Island**	**2.11**	**175**		Pn	10 42 10.1	-1.8
KDAK	**Kodiak Island**	**2.11**	**175**	IAML		10 42 37.9	
comp=N,79nm,1.2s							
KDAK				IAML		10 42 38.0	
comp=N,78nm,0.3s							
ANCK	**Angle Creek**	**2.14**	**219**		Pn	10 42 11.6	-0.7
M19K	**Big River Lodg**	**2.15**	**341**		Pn	10 42 11.5	-0.8
N17K	**Nushagak Hills**	**2.21**	**289**		Pn	10 42 12.2	-0.9
SKT	**Skwentna**	**2.22**	**18**	IAML		10 42 43.5	
comp=N,19nm,0.5s							
SKT				IAML		10 42 45.4	
comp=E,20nm,1.4s							
Q16K	**King Salmon**	**2.25**	**239**		Pn	10 42 13.2	-0.4
KJL	**Kejulik**	**2.28**	**218**		Pn	10 42 13.7	-0.4
R18K	**Karluk**	**2.45**	**199**		Pn	10 42 14.3	-1.9
R18K	**Karluk**	**2.45**	**199**	IAML		10 42 47.3	
comp=E,49nm,0.9s							
R18K				IAML		10 43 17.4	
comp=N,49nm,1.4s							
PWL	**Port Wells**	**2.49**	**65**		Pn	10 42 15.1	-1.7
PWL	**Port Wells**	**2.49**	**65**	IAML		10 42 45.3	
comp=E,59nm,0.3s							
PWL				IAML		10 42 46.0	
comp=N,56nm,0.1s							
PMR	**Palmer**	**2.54**	**46**		Pn	10 42 15.6	-1.7
PMR	**Palmer**	**2.54**	**46**	IAML		10 42 46.4	
comp=E,26nm,0.2s							
PMR				IAML		10 42 46.9	
comp=N,31nm,1.4s							
L20K	**Farewell, AK**	**2.65**	**351**		Pn	10 42 18.2	-0.5
OHAK	**Old Harbor**	**2.67**	**184**		Pn	10 42 16.8	-2.3
OHAK	**Old Harbor**	**2.67**	**184**	IAML		10 42 56.3	
comp=E,24nm,1.0s							
OHAK				IAML		10 42 57.4	
comp=N,19nm,1.3s							
KNK	**Knik Glacier**	**2.69**	**53**	IAML		10 42 50.1	
comp=E,51nm,1.0s							
KNK				IAML		10 42 50.6	
comp=N,42nm,0.5s							
GHO	**Glory Hole Cre**	**2.74**	**44**	Pn	Pn	10 42 19.1	-0.9
GHO				IAML		10 42 51.2	
comp=N,48nm,0.2s							
GHO				IAML		10 42 55.5	
comp=E,38nm,0.8s							
P23K	**Montague Islan**	**2.79**	**85**		Pn	10 42 19.9	-0.7
SML	**Sawmill**	**2.97**	**47**		Pn	10 42 21.3	-1.7
SML	**Sawmill**	**2.97**	**47**	IAML		10 42 58.3	
comp=E,25nm,1.5s							
SML				IAML		10 43 03.9	
comp=N,28nm,0.8s							
PPLA	**Purkeypile**	**3.05**	**7**	Pn	Pn	10 42 24.1	0.0
HIN	**Hinchinbrook I**	**3.27**	**78**		Pn	10 42 25.3	-1.6
FID	**Port Fidalgo**	**3.34**	**72**		Pn	10 42 25.2	-2.6
SCM	**Sheep Creek Mo**	**3.38**	**52**		Pn	10 42 26.8	-1.6
SCM	**Sheep Creek Mo**	**3.38**	**52**	IAML		10 43 08.7	
comp=N,25nm,0.8s							
TTA	**Tatalina**	**3.40**	**336**		Pn	10 42 27.0	-1.7
K20K	**Telida**	**3.53**	**352**		Pn	10 42 29.5	-0.9
CAST	**Castle Rocks**	**3.58**	**6**		Pn	10 42 29.8	-1.2
TRF	**Thorofare Moun**	**3.80**	**18**		Pn	10 42 32.9	-1.2
TRF	**Thorofare Moun**	**3.80**	**18**	IAML		10 43 26.4	
comp=E,9.1nm,1.5s							
TRF				IAML		10 43 50.5	
comp=N,8.0nm,1.4s							
KTH	**Kantishna Hill**	**3.81**	**14**		Pn	10 42 32.5	-1.6
KTH	**Kantishna Hill**	**3.81**	**14**	IAML		10 43 19.5	
comp=E,4.5nm,1.5s							
KTH				IAML		10 43 57.7	
comp=N,5.2nm,1.3s							
KLU	**Klutina**	**3.81**	**62**		Pn	10 42 32.4	-1.8
M24K	**Tolsona, Glenn**	**3.98**	**53**	Pn	Pn	10 42 35.6	-0.9
M24K				IAML		10 43 49.6	
comp=E,21nm,1.4s							
J18K	**Innoko River**	**4.02**	**335**		Pn	10 42 35.8	-1.1
CHUM	**Lake Minchumin**	**4.03**	**4**		Pn	10 42 36.0	-0.9
RND	**Reindeer**	**4.04**	**27**		Pn	10 42 36.3	-1.0
RND				IAML		10 43 23.0	
comp=N,8.5nm,1.4s							
RND				IAML		10 43 24.8	
comp=E,8.9nm,0.9s							
GOAT	**Goat Mountain**	**4.16**	**77**		Pn	10 42 38.1	-0.8
BMRM	**Bremner River**	**4.28**	**72**		Pn	10 42 39.5	-1.0
MCK	**McKinley**	**4.31**	**25**		Pn	10 42 39.7	-1.1
J19K	**Poorman**	**4.32**	**344**		Pn	10 42 39.8	-1.1
J19K	**Poorman**	**4.32**	**344**	IAML		10 44 10.4	
comp=E,2.5nm,1.2s							
BPAW	**Bear Paw Mtn.**	**4.33**	**11**		Pn	10 42 39.1	-2.0
BPAW	**Bear Paw Mtn.**	**4.33**	**11**	IAML		10 43 24.0	
comp=E,3.1nm,1.4s							
J20K	**Nowinta River**	**4.35**	**353**		Pn	10 42 40.6	-0.6
BERG	**Berg Lake**	**4.65**	**80**	Pn	Pn	10 42 45.4	0.0
GLB	**Gilahina Butte**	**4.76**	**67**		Pn	10 42 46.5	-0.4
GLB	**Gilahina Butte**	**4.76**	**67**	IAML		10 43 40.3	
comp=N,13nm,1.5s							
GLB				IAML		10 43 49.0	
comp=E,4.7nm,1.2s							
VRDI	**Verde Repeater**	**4.88**	**70**		Pn	10 42 48.0	-0.6
VRDI	**Verde Repeater**	**4.88**	**70**	IAML		10 43 42.5	
comp=E,5.4nm,0.5s							
WRH	**Wood River Hil**	**5.14**	**24**		Pn	10 42 49.8	-2.1
WRH	**Wood River Hil**	**5.14**	**24**	IAML		10 44 21.6	
comp=N,2.6nm,1.5s							
HDA	**Harding Lake**	**5.34**	**29**		Pn	10 42 53.0	-1.7
CCB	**Clear Creek Bu**	**5.35**	**24**		Pn	10 42 52.9	-1.8
CCB	**Clear Creek Bu**	**5.35**	**24**	IAML		10 43 55.1	
comp=E,1.9nm,0.5s							
CCB				IAML		10 44 18.8	
comp=N,2.9nm,1.5s							
I23K	**Minto, Yukon-K**	**5.54**	**16**		Pn	10 42 55.9	-1.4
IL31		**5.66**	**27**		Pn	10 42 57.1	-1.8

*IDC **14** 10:46:19.7±1.9, 9°.64N×126°.23E, h145km±21km, mb3.5/13, mbtmp3.9/14, MS3.1/5, Error ellipse: s-maj=29.0km s-min=16.2km az=70.0*

*NEIC **14** 10:46:20.5±0.8, 9°.74N±0°.08×125°.9E±0°.3, h129km±5km, mb4.3/12, Error ellipse: s-maj=39.7km s-min=10.5km az=80.0*

ISC 14 10:46:17.4±0.8, 9°.88N±0°.07×126°.1E±0°.2, h100km, n39, σ1.9±41/24, mb4.1/19, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.85**	**191**	Pn	**Pn**	**10 47 02.8**	**+1.6**
DAV	**Davao City (W)**	**2.85**	**191**	P	**Pn**	**10 47 03.0**	**+1.9**
104nm,0.4s,baz=122,slow=3.1,SNR=5.2							
DAV				S	**Sn**	**10 47 35.7**	**+0.9**
119nm,0.4s,baz=22,slow=19,SNR=7.9							
DAV				LR	LR	10 47 57.8	
comp=Z,263nm,21.9s,baz=4.0,slow=37							
TGY	**Tagaytay City**	**6.58**	**310**	LR	LR	10 51 07.3	
comp=Z,337nm,19.4s,baz=104,slow=42							
YULB	**Yu-li**	**14.20**	**342**	Pn	**Pn**	**10 49 36.3**	**+2.3**
TPUB	**Ta-pu**	**14.34**	**339**	Pn	**Pn**	**10 49 37.8**	**+2.1**
KAPI	**Kappang**	**16.10**	**203**	LR	LR	10 56 31.6	
comp=Z,50nm,19.7s,baz=24,slow=38							
KNRA	**Kununurra**	**25.53**	**174**	P	**P**	**10 51 35.6**	**-1.2**
KNRA				IAmb	IAmb	10 51 47.0	
comp=Z,13nm,1.1s							
KSRS	**Korea Array**	**27.50**	**3**	P	**P**	**10 51 53.7**	**-0.6**
comp=Z,0.9nm,0.8s,baz=173,slow=11,SNR=4.8							
KSRS				LR	LR	11 05 11.1	
comp=Z,19nm,18.0s,baz=115,slow=41							
comp=Z,0.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**27.66**	**291**	P	**P**	**10 51 56.0**	**-0.1**
comp=Z,0.5nm,0.3s,baz=94,slow=9.8,SNR=5.0							
comp=Z,0.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**27.81**	**181**	P	**P**	**10 51 54

ARCES	**ARCESS Array B**	**84.50**	**340**	P	P		10 58 37.5	-1.4
	comp=Z,2.4nm,0.9s,baz=74,slow=5.0,SNR=4.6							
	comp=Z,2.4nm,0.9s							
FINES	**FINESS Array B**	**86.16**	**332**	P	**P**		**10 58 46.2**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=76,slow=2.4,SNR=5.4							
	comp=Z,1.4nm,0.5s							
A36M	**Sachs Harbour**	**86.32**	**17**	P	**P**		**10 58 48.4**	**+0.6**
A36M				IAmb	IAmb		10 58 53.2	
	comp=Z,4.9nm,1.0s							
YKA	**Yellowknife Ar**	**94.17**	**24**	P	P		10 59 23.9	-0.9
	comp=Z,0.7nm,0.8s,baz=299,slow=4.6,SNR=12							
	comp=Z,0.7nm,0.8s							

*SOME **14** 10:47:05.3, 43.72N×69.65E*
*NNC **14** 10:47:07.2±1.0, 43.61N×69.66E, h14km±9km, mb3.8, mpv3.3, Error ellipse: s-maj=6.3km s-min=4.0km az=134.0, Suspected Mining explosion.*
*KRNET **14** 10:47:08.4±0.1, 43.71N×69.33E, mb2.4*
ISC 14 10:47:09.8±1.2, 43.73N±0.04×70.03E±0.06, h0km, n19, σ1§55/29, 9C-15D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.71**	**192**	P	**Pg**	**10 47 23.1**	**-0.2**
	3.1nm,0.2s						
BRLS				S	**Sb**	**10 47 35.7**	**+0.4**
	40nm,0.3s						
KK31	**Karatay Array**	**0.71**	**150**	⇑P	**Pg**	**10 47 22.2**	**-1.2**
	2.9nm,0.3s,baz=321,slow=18,SNR=180						
KK31				⇓S	**Sb**	**10 47 34.7**	**-0.7**
	43nm,0.5s,baz=325,slow=17,SNR=60						
MNAS	**Manas**	**2.19**	**124**	⇓eP	**Pg**	**10 47 52.4**	**+0.6**
MNAS				⇑eS	**Sg**	**10 48 24.8**	**+4.6**
TRKS	**Terek-Say**	**2.34**	**159**	⇓eP	**Pb**	**10 47 52.4**	**-0.5**
TRKS				⇓eS	**Sg**	**10 48 24.8**	**-0.2**
ARK	**Arkit**	**2.40**	**143**	⇓eP	**Pb**	**10 47 54.1**	**+0.3**
ARK				⇓eS	**Sg**	**10 48 26.9**	**+0.2**
MRKS	**Merke**	**2.53**	**112**	Pg	**Pg**	**10 47 58.0**	**-0.3**
	3.6nm,0.5s						
MRKS				Lg	Lg	10 48 36.0	
	25nm,0.6s						
BTLS	**Baital**	**3.17**	**64**	Pg	**Pg**	**10 48 10.8**	**+0.4**
	14nm,0.4s						
BTLS				Lg	Lg	10 48 58.2	
	9.0nm,0.5s						
ARSB	**Arslanbob**	**3.24**	**137**	⇑eP	**Pb**	**10 48 06.3**	**-2.0**
ARSB				⇑eS	**Sb**	**10 48 48.4**	**0.0**
SGDS	**Sogindy**	**3.35**	**93**	Pg	**Pg**	**10 48 12.9**	**-1.1**
	1.1nm,0.0s						
SGDS				Lg	Lg	10 49 01.0	
	7.7nm,0.5s						
CHMS	**Chumysh**	**3.52**	**100**	⇓Pg	**Pg**	**10 48 15.1**	**-2.0**
	3.9nm,0.6s						
CHMS				⇓Lg	Lg	10 49 05.8	
	14nm,0.7s						
ARLS	**Aral**	**3.67**	**119**	⇓eP	**Pb**	**10 48 13.0**	**-2.5**
ARLS				⇓eS	**Sb**	**10 49 01.0**	**+0.4**
BTK	**Batken**	**3.71**	**171**	⇓eP	**Pn**	**10 48 08.8**	**+0.4**
BTK				⇓eS	**Sn**	**10 48 53.0**	**+0.1**
TKM2	**Tokmak 2**	**4.14**	**99**	⇓Pg	**Pg**	**10 48 27.2**	**-1.9**
	2.4nm,0.6s						
TKM2				⇑Lg	Lg	10 49 27.0	
	14nm,0.8s						
DGS	**Degeres**	**4.21**	**95**	Pg	**Pg**	**10 48 29.5**	**-0.8**
	3.4nm,0.5s						
DGS				Lg	Lg	10 49 29.9	
	18nm,0.6s						
KST	**Kastek**	**4.38**	**97**	Pg	**Pg**	**10 48 31.8**	**-1.8**
	1.7nm,0.3s						
KST				Lg	Lg	10 49 33.8	
	14nm,1.1s						
OTUK	**Ortayu**	**4.80**	**19**	⇓Pn	**Pn**	**10 48 23.7**	**+0.5**
	3.7nm,0.4s						
OTUK				⇑Sn	**Sn**	**10 49 18.9**	**-0.6**
	3.0nm,0.7s						
TNSS	**Tian-Shan**	**5.09**	**95**	Pg	**Pg**	**10 48 45.1**	**-2.2**
	0.6nm,0.1s						
TNSS				Lg	Lg	10 49 56.2	
	6.4nm,0.6s						
MAKZ	**Makanchi**	**8.97**	**66**	⇓Pn	**Pn**	**10 49 21.1**	**+0.6**
	1.7nm,0.6s						
MK31	**Makanchi Array**	**9.17**	**66**	⇑Pn	**Pn**	**10 49 23.5**	**+0.2**
	1.7nm,0.4s,baz=246,slow=14,SNR=48						
MK31				⇑Sn	**Sn**	**10 51 10.2**	**+3.0**
	1.0nm,0.7s,baz=249,slow=26,SNR=4.0						
MK31				⇓Lg	Lg	10 52 05.8	
	2.2nm,0.9s,baz=202,slow=24,SNR=5.0						

*ISK **14** 10:54:15.6, 36.18N×31.77E, h72km±1km, ML2.6/10*
*AFAD **14** 10:54:19.1, 36.40N×31.65E, h7km±7km, ML2.1*
ISC 14 10:54:17.2±1.6, 36.21N±0.06×31.83E±0.04, h71km±11km, n14, σ0§79/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.38**	**26**	Pg	**Pn**	**10 54 28.7**	**-0.5**
ALAN				Sg	**Sn**	**10 54 37.9**	**0.0**
GAZI	**Gazipasa**	**0.40**	**87**	Pg	**Pn**	**10 54 29.0**	**-0.3**
GAZI				Sg	**Sn**	**10 54 38.1**	**0.0**
GAZI	**Gazipasa**	**0.40**	**87**	P	**Pn**	**10 54 29.3**	**0.0**
GAZI				S	**Sn**	**10 54 38.8**	**+0.7**
GAZI				*i* AML	AML	10 54 39.0	
	comp=N,117nm,0.4s						
GAZI				*i* AML	AML	10 54 39.0	
	comp=E,146nm,0.3s						
KEPZ	**Antalya-Kepez**	**0.71**	**345**	P	**Pn**	**10 54 31.9**	**-0.5**
BERE	**Bereket-Mersin**	**1.14**	**83**	Pn	**Pn**	**10 54 37.3**	**-0.4**
BERE				Sn	**Sn**	**10 54 53.3**	**+0.4**
SEYD	**Seydisehir-KON**	**1.19**	**0**	Pn	**Pn**	**10 54 38.3**	**0.0**
SEYD				Sn	**Sn**	**10 54 54.1**	**0.0**
AKUM	**Antalya-Kumluc**	**1.20**	**276**	P	**Pn**	**10 54 38.1**	**-0.2**
AKUM				S	**Sn**	**10 54 56.5**	**+2.3**
AKUM				*i* AML	AML	10 55 01.0	
	comp=E,38nm,2.1s						
AKUM				*i* AML	AML	10 55 10.0	
	comp=N,52nm,2.4s						
SEDI	**Konya, Seydise**	**1.24**	**357**	P	**Pn**	**10 54 38.5**	**-0.5**
SEDI				S	**Sn**	**10 54 54.8**	**-0.3**
SEDI				*i* AML	AML	10 55 13.0	
	comp=E,20nm,2.0s						
TEVE	**Tevekalti-Mers**	**1.32**	**80**	Pn	**Pn**	**10 54 39.5**	**-0.5**
TEVE				Sn	**Sn**	**10 54 58.0**	**+0.9**
LEF	**Lefka**	**1.39**	**141**	Pn	**Pn**	**10 54 39.6**	**-1.2**
KORT	**Korkueli**	**1.42**	**304**	Pn	**Pn**	**10 54 40.0**	**-1.4**
IKL	**Isikli**	**1.50**	**88**	Pn	**Pn**	**10 54 42.8**	**+0.5**
IKL				Sn	**Sn**	**10 55 00.9**	**-0.3**
LFK	**Lefkose**	**1.67**	**123**	Pn	**Pn**	**10 54 44.5**	**-0.1**
KONT	**Konya--Tatoy**	**1.78**	**14**	Pn	**Pn**	**10 54 46.3**	**+0.3**

*CATAC **14** 10:55:06.5±0.6, 13.N±2.×9.0W±., h1km, M3.8/19, MLv3.8/19, Error ellipse: s-maj=8.7km s-min=4.5km az=75.4, confirmed*
*SNET **14** 10:55:06.1±1.4, 12.86N×90.45W, h19km, ML3.8*
*GCG **14** 10:55:07.4±1.5, 12.88N×90.36W, h14km±20km, MD4.4, Hypocentre not reviewed by the ISC*
*IDC **14** 10:55:14.4±2.5, 13.31N×89.71W, h66km±18km, mb3.3/4, mbtmp3.6/6, MS3.1/1, Error ellipse: s-maj=35.6km s-min=17.2km az=46.0*
ISC 14 10:55:07.4±2.3, 12.85N±0.07×90.33W±0.07, h25km±14km, n98, σ1§09/106, mb3.8/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.17**	**57**	P	**Pb**	**10 55 28.5**	**-0.4**
LALI	**Alcalda de L**	**1.17**	**57**	P	**Pn**	**10 55 28.2**	**0.0**
LALI	**Alcalda de L**	**1.17**	**57**	*e*P		10 55 28.0	
JAYA	**Jayaque - finc**	**1.17**	**47**	*e*P	**Pn**	**10 55 28.2**	**-0.2**
JAYA				*e*S	**Sb**	**10 55 40.8**	**+1.1**
JAYA	**Jayaque - finc**	**1.17**	**47**	P	**Pn**	**10 55 28.4**	**0.0**
JAYA	**Jayaque - finc**	**1.17**	**47**	S	**Sb**	**10 55 43.2**	**-0.7**
JAYA	**Jayaque - finc**	**1.17**	**47**	P	**Pn**	**10 55 28.4**	**0.0**
JAYA	**Jayaque - finc**	**1.17**	**47**	*e*P		10 55 28.2	
NUBE	**Las Nubes**	**1.17**	**27**	*e*P	**Pn**	**10 55 28.2**	**-0.2**
NUBE				*e*S	**Sb**	**10 55 44.1**	**+0.2**
NUBE	**Las Nubes**	**1.17**	**27**	P	**Pn**	**10 55 28.2**	**-0.2**
NUBE	**Las Nubes**	**1.17**	**27**	S	**Sb**	**10 55 44.0**	**+0.1**
NUBE	**Las Nubes**	**1.17**	**27**	P	**Pn**	**10 55 28.3**	**-0.1**
NUBE	**Las Nubes**	**1.17**	**27**	*e*P		10 55 28.1	
CEVE	**Cerro Verde**	**1.19**	**35**	*e*P	**Pb**	**10 55 29.1**	**-0.3**
CEVE				*e*S	**Sb**	**10 55 45.7**	**+1.2**
CEVE	**Cerro Verde**	**1.19**	**35**	P	**Pb**	**10 55 29.0**	**-0.5**
CEVE	**Cerro Verde**	**1.19**	**35**	S	**Sb**	**10 55 46.5**	**+2.0**
CEVE	**Cerro Verde**	**1.19**	**35**	P	**Pb**	**10 55 28.9**	**-0.5**
SBLS	**San Blas**	**1.20**	**35**	*e*P	**Pb**	**10 55 29.0**	**-0.6**
RTR	**El Retiro**	**1.23**	**33**	*e*P	**Pb**	**10 55 29.8**	**-0.4**
LOAL	**Lomas de Alarc**	**1.26**	**25**	*e*P	**Pb**	**10 55 30.0**	**-0.5**
LOAL				*e*S	**Sb**	**10 55 47.0**	**+0.7**
LOAL	**Lomas de Alarc**	**1.26**	**25**	P	**Pb**	**10 55 30.1**	**-0.5**
LOAL	**Lomas de Alarc**	**1.26**	**25**	S	**Sb**	**10 55 47.1**	**+0.8**
LOAL	**Lomas de Alarc**	**1.26**	**25**	P	**Pn**	**10 55 27.8**	**-1.7**
SLOZ	**Alcaldia de Sa**	**1.28**	**24**	P	**Pb**	**10 55 30.2**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.28**	**24**	S	**Sb**	**10 55 47.8**	**+0.8**
SLOZ	**Alcaldia de Sa**	**1.28**	**24**	P	**Pb**	**10 55 30.1**	**-0.8**
PMON	**Piamonte**	**1.31**	**49**	*e*P	**Pn**	**10 55 30.4**	**+0.2**
PMON	**Piamonte**	**1.31**	**49**	S	**Sb**	**10 55 47.6**	**-0.2**
PMON	**Piamonte**	**1.31**	**49**	P	**Pb**	**10 55 30.6**	**-0.7**
PMON	**Piamonte**	**1.31**	**49**	S	**Sb**	**10 55 49.0**	**+1.3**
PMON	**Piamonte**	**1.31**	**49**	P	**Pb**	**10 55 30.9**	**-0.5**
ITCA	**Escuela Especi**	**1.31**	**51**	P	**Pn**	**10 55 30.5**	**+0.3**
ITCA	**Escuela Especi**	**1.31**	**51**	P	**Pb**	**10 55 30.8**	**-0.6**
CEDA	**San Andres**	**1.31**	**44**	*e*P	**Pn**	**10 55 29.8**	**-0.4**
BOQS	**Boqueron**	**1.35**	**49**	*e*P	**Pn**	**10 55 31.2**	**+0.3**
UNIC	**Universidad Ca**	**1.35**	**34**	P	**Pb**	**10 55 31.3**	**-0.9**
UNIC	**Universidad Ca**	**1.35**	**34**	S	**Sb**	**10 55 50.0**	**+0.9**
UNIC	**Universidad Ca**	**1.35**	**34**	P	**Pb**	**10 55 31.3**	**-0.9**
UNIC	**Universidad Ca**	**1.35**	**34**	P	**Pb**	**10 55 31.2**	**-0.9**
UEES	**Universidad Ev**	**1.36**	**51**	P	**Pn**	**10 55 30.9**	**-0.2**
UEES	**Universidad Ev**	**1.36**	**51**	P	**Pb**	**10 55 31.7**	**-0.6**
PIC2	**El Picacho**	**1.37**	**50**	*e*P	**Pb**	**10 55 32.4**	**-0.1**
LOMA	**Loma Larga**	**1.38**	**55**	*e*P	**Pn**	**10 55 31.0**	**-0.2**
LFRS	**El Faro**	**1.45**	**58**	*e*P	**Pb**	**10 55 32.9**	**-1.0**
ESSG	**Sabana Grande**	**1.60**	**342**	*e*P		10 55 35.2	
PAVA	**Las Pavas**	**1.60**	**58**	*e*P	**Pn**	**10 55 34.9**	**+0.7**
PAVA	**Las Pavas**	**1.60**	**58**	P	**Pn**	**10 55 35.0**	**+0.7**
PAVA	**Las Pavas**	**1.60**	**58**	P	**Pn**	**10 55 35.0**	**+0.7**
COEG	**Centro de Oper**	**1.60**	**62**	*e*P	**Pn**	**10 55 34.2**	**-0.1**
COEG	**Centro de Oper**	**1.60**	**62**	P	**Pn**	**10 55 34.2**	**-0.1**
COEG	**Centro de Oper**	**1.60**	**62**	P	**Pn**	**10 55 34.1**	**-0.1**
COEG	**Centro de Oper**	**1.60**	**62**	P	**Pn**	**10 55 34.3**	**0.0**
TECO	**Alcaldia de Te**	**1.65**	**66**	P	**Pn**	**10 55 34.7**	**-0.2**
TECO	**Alcaldia de Te**	**1.65**	**66**	P	**Pn**	**10 55 34.7**	**-0.2**
UESV	**Universidad de**	**1.69**	**62**	P	**Pn**	**10 55 36.4**	**+0.9**
UESV	**Universidad de**	**1.69**	**62**	P	**Pn**	**10 55 36.2**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.77**	**61**	*e*P	**Pn**	**10 55 36.8**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.77**	**61**	P	**Pn**	**10 55 36.9**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.77**	**61**	P	**Pn**	**10 55 36.9**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.77**	**61**	P	**Pn**	**10 55 37.3**	**+0.7**
ALJI	**Alcalda de J**	**1.78**	**74**	P	**Pn**	**10 55 36.5**	**-0.1**
ALJI	**Alcalda de J**	**1.78**	**74**	P	**Pn**	**10 55 35.1**	**-1.5**
MTO3	**Montecristo**	**1.80**	**31**	*e*P	**Pn**	**10 55 37.8**	**+0.6**
MTO3				*e*S	**Sb**	**10 56 02.9**	**+0.7**
MTO3	**Montecristo**	**1.80**	**31**	P	**Pn**	**10 55 37.9**	**+0.8**
MTO3	**Montecristo**	**1.80**	**31**	S	**Sb**	**10 56 03.3**	**+1.2**
MTO3	**Montecristo**	**1.80**	**31**	P	**Pn**	**10 55 38.0**	**+0.8**
MTO3	**Montecristo**	**1.80**	**31**	P	**Pn**	**10 55 38.0**	**+0.8**
MTO3	**Montecristo**	**1.80**	**31**	*e*P		10 55 37.9	
LLGN	**La Laguna**	**1.87**	**46**	*e*P	**Pn**	**10 55 39.0**	**+0.9**
LLGN				*e*S	**Sb**	**10 56 04.3**	**+0.2**
LLGN	**La Laguna**	**1.87**	**46**	P	**Pb**	**10 55 39.6**	**-1.5**
LLGN	**La Laguna**	**1.87**	**46**	P	**Pb**	**10 55 39.6**	**-1.5**
PQSS	**Presa 15 de Se**	**1.89**	**66**	*e*P	**Pn**	**10 55 38.1**	**0.0**
PQSS	**Presa 15 de Se**	**1.89**	**66**	P	**Pn**	**10 55 38.6**	**+0.5**
PQSS	**Presa 15 de Se**	**1.89**	**66**	S	**Sn**	**10 56 01.9**	**+0.8**
PQSS	**Presa 15 de Se**	**1.89**	**66**	P	**Pn**	**10 55 38.6**	**+0.5**
ESQI	**Esquipulas**	**1.95**	**29**	*e*P	**Pn**	**10 55 40.2**	**+1.1**
ESQI				*e*S	**Sb**	**10 56 06.0**	**-0.3**
ESQI	**Esquipulas**	**1.95**	**29**	P	**Pb**	**10 55 40.5**	**-1.8**
ESQI	**Esquipulas**	**1.95**	**29**	S	**Sb**	**10 56 07.6**	**+1.3**
ESQI	**Esquipulas**	**1.95**	**29**	P	**Pb**	**10 55 40.5**	**-1.8**
PACA	**Pacayal**	**2.05**	**72**	*e*P	**Pn**	**10 55 41.6**	**+1.2**
PACA	**Pacayal**	**2.05**	**72**	P	**Pn**	**10 55 41.9**	**+1.4**
PACA	**Pacayal**	**2.05**	**72**	P	**Pn**	**10 55 41.8**	**+1.4**
APG	**El Apazote**	**2.14**	**357**	P	**Pb**	**10 55 43.7**	**-2.0**
	9.1nm,0.5s,baz=155,slow=12,SNR=80						
APG				S	**Sn**	**10 56 06.8**	**-1.0**
	6.3nm,0.5s,baz=239,slow=24,SNR=4.7						
APG	**El Apazote**	**2.14**	**357**	*e*P		10 55 43.6	
LCND	**La Caada**	**2.42**	**79**	*e*P	**Pn**	**10 55 45.5**	**+0.1**
CNCH	**Conchagua**	**2.47**	**80**	P	**Pn**	**10 55 42.4**	**-3.9**
CHOHN	**Orocuina**	**3.15**	**78**	P	**Pn**	**10 55 56.5**	**+0.9**
CHOHN	**Orocuina**	**3.15**	**78**	P	**Pn**	**10 55 56.5**	**+0.9**
CHOHN	**Orocuina**	**3.15**	**78**	P	**Pn**	**10 55 56.4**	**+0.8**
PKGN	**Cerro Pekin**	**3.28**	**93**	P	**Pn**	**10 55 57.2**	**-0.1**
PKGN				S	**Sn**	**10 56 34.5**	**-1.0**
PKGN	**Cerro Pekin**	**3.28**	**93**	P	**Pn**	**10 55 55.8**	**-1.4**
PKGN	**Cerro Pekin**	**3.28**	**93**	P	**Pn**	**10 55 56.7**	**-0.5**
MACN	**El Madrono**	**3.59**	**96**	P	**Pn**	**10 56 01.3**	**-0.3**
MACN				S	**Sn**	**10 56 43.0**	**-0.3**
MACN	**El Madrono**	**3.59**	**96**	P	**Pn**	**10 56 01.3**	**-0.3**
COPN	**Copaltepe**	**3.71**	**100**	P	**Pn**	**10 56 03.0**	**-0.2**
NISHN	**Nisperales Com**	**3.75**	**39**	P	**Pn**	**10 56 07.0**	**+3.2**
APQ2	**Apoyeque**	**3.96**	**99**	P	**Pn**	**10 56 09.8**	**+3.1**
RCVN	**Varillal2**	**4.09**	**79**	P	**Pn**	**10 56 08.5**	**-0.1**
JTS	**Las Juntas de**	**5.85**	**115**	P	**Pn**	**10 56 34.5**	**+1.8**
	3.3nm,0.3s,baz=305,slow=18,SNR=9.3						
CMIG	**Matias Romero**	**6.09**	**314**	P	Pn	10 56 43.5	+7.5
	1.8nm,0.5s,baz=128,slow=11,SNR=5.4						
CMIG				S	Sn	10 57 54.8	+10
	2.4nm,0.4s,baz=268,slow=23,SNR=1.8						
TXAR	**Lajitas Array**	**20.55**	**325**	P	Pn	10 59 47.9	+1.2
	0.4nm,0.7s,baz=146,slow=13,SNR=6.5						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**35.58**	**321**	P	**P**	**11 02 06.6**	**+3.3**
	0.7nm,0.6s,baz=125,slow=7.4,SNR=4.5						
NVAR				LR	LR	11 19 17.5	
	comp=Z,26nm,18.9s,baz=258,slow=41						
	0.7nm,0.6s						
SCHQ	**Schefferville**	**45.75**	**19**	P	**P**	**11 03 24.1**	**-2.6**
	1.6nm,0.5s,baz=227,slow=5.9,SNR=8.0						
	1.6nm,0.5s						
YKA	**Yellowknife Ar**	**52.52**	**346**	P	**P**	**11 04 17.6**	**-0.7**
	0.2nm,0.3s,baz=147,slow=7.9,SNR=8.0						
	0.2nm,0.3s						

*IDC **14** 10:57:13.6±1.6, 8.89S×150.20E, h0km, mb3.9/4, mbtmp3.8/6, ML3.4/1, MS2.9/2, Error ellipse: s-maj=49.9km s-min=27.0km az=133.0*
ISC 14 10:57:17.9±1.4, 9.1S±0.2×150.4E±0.1, h35km, n9, σ1§58/8, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**264**	Pn	**Pn**	**10 58 04.5**	**-1.8**
	7.6nm,0.4s,baz=60,slow=5.7,SNR=9.9						
PMG				Sn	**Sn**	**10 58 46.1**	**+2.4**
	7.1nm,0.3s,baz=69,slow=14,SNR=4.6						
KRVT	**Keravat (AS076**	**4.99**	**19**	LR	LR	11 00 19.8	
	comp=Z,67nm,20.8s,baz=347,slow=38						
HNR	**Honiara**	**9.41**	**93**	LR	LR	11 03 05.0	
	comp=Z,118nm,18.7s,baz=45,slow=36						
WRA	**Warramunga Arr**	**18.94**	**233**	P	**P**	**11 01 35.2**	**-0.8**
	0.1nm,0.3s,baz=56,slow=11,SNR=9.9						
	2.7nm,1.1s						
ASAR	**Alice Springs**	**21.46**	**225**	P	**P**	**11 02 03.4**	**-0.1**
	2.4nm,0.9s,baz=53,slow=9.5,SNR=21						
	2.4nm,0.9s						
STKA	**Stephens Creek**	**24.13**	**199**	P	**P**	**11 02 31.7**	**+1.1**
	2.0nm,0.6s,baz=10,slow=13,SNR=4.8						
	2.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.68**	**247**	P	**P**	**11 02 43.9**	**-1.0**
	3.6nm,0.8s,baz=101,slow=7.7,SNR=6.9						
	3.6nm,0.8s						
ILAR	**Eielson Array**	**86.98**	**22**	P	**P**	**11 09 59.9**	**+0.8**
	0.9nm,1.0s,baz=259,slow=5.3,SNR=4.2						
	0.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**149.06**	**280**	PKPbc	**PKiKP**	**11 17 04.5**	**-0.2**
	0.9nm,0.6s,baz=69,slow=3.4,SNR=5.2						

*NEIC **14** 11:09:32.4±0.9, 18.5S±0.1×169.2E±0.1, h221km±11km, mb4.4/15, Error ellipse: s-maj=22.8km s-min=13.5km az=132.0*
*IDC **14** 11:09:32.2±1.9, 18.39S×169.09E, h230km±22km, mb3.5/6, mbtmp4.2/9, Error ellipse: s-maj=36.8km s-min=15.7km az=153.0*
*NOU **14** 11:09:35.2, 18.97S×169.51E, h217km, mb2.0/11, Vanuatu Islands*
ISC 14 11:09:30.1±0.7, 18.31S±0.09×169.10E±0.09, h200km, n39, σ1§39/37, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.05**	**303**	P	Pn	11 10 12.8	+13
DVP	**Devils Point**	**1.05**	**303**	S	Sn	11 10 43.0	+20
MARNC	**Mare, Loyalty**	**3.32**	**198**	P	**Pn**	**11 10 24.1**	**+0.6**
MARNC	**Mare, Loyalty**	**3.32**	**198**	S	**Sn**	**11 11 02.7**	**-2.8**
YATNC	**Mamie plateau,**	**4.27**	**209**	P	**Pn**	**11 10 35.7**	**+0.4**
DZM	**Mont Dzumac**	**4.50**	**213**	P	**Pn**	**11 10 40.3**	**+1.9**
	30nm,0.5s,baz=45,slow=18,SNR=46						
DZM				S	**Sn**	**11 11 34.4**	**+2.4**
	11nm,0.4s,baz=100,slow=24,SNR=1.2						
DZM	**Mont Dzumac**	**4.50**	**213**	P	**Pn**	**11 10 40.2**	**+1.9**
PINNC	**Pines Island,**	**4.56**	**200**	Pn	**Pn**	**11 10 40.3**	**+1.4**
PINNC	**Pines Island,**	**4.56**	**200**	P	**Pn**	**11 10 40.0**	**+1.1**
OUENC	**Ouen Island, N**	**4.61**	**207**	P	**Pn**	**11 10 40.9**	**+1.4**
ONTNC	**Ouen Toro**	**4.69**	**212**		**Pn**	**11 10 42.2**	**+1.6**
ONTNC	**Ouen Toro**	**4.69**	**212**	P	**Pn**	**11 10 42.4**	**+1.8**
KOUNC	**Koumac, New Ca**	**5.07**	**243**	P	Pn	11 10 52.0	+6.6
MSVF	**Nonsavu**	**8.53**	**88**	Pn	**Pn**	**11 11 31.9**	**+1.5**
MSVF	**Nonsavu**	**8.53**	**88**	P	**Pn**	**11 11 33.1**	**+2.7**
	9.6nm,0.8s,baz=259,slow=16,SNR=6.7						
HNR	**Honiara**	**12.52**	**314**	**Pn**	**Pn**	**11 12 23.5**	**+1.8**
HNR	**Honiara**	**12.52**	**314**	P	**Pn**	**11 12 23.6**	**+1.9**
	172nm,0.7s,baz=135,slow=7.1,SNR=1.9						
EIDS	**Eidsvold**	**18.14**	**244**	P	**P**	**11 13 26.9**	**-0.6**
EIDS				IAmb	IAmb	11 13 49.2	
	comp=Z,14nm,1.2s						
ARMA	**Armidale**	**19.94**	**230**	P	**P**	**11 13 47.2**	**+0.2**
STKA	**Stephens Creek**	**28.24**	**236**	P	**P**	**11 15 04.0**	**-0.7**
STKA				IAmb	IAmb	11 15 37.9	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**28.24**	**236**	P	**P**	**11 15 03.5**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=64,slow=8.4,SNR=9.0						
	comp=Z,3.0nm,0.6s						
WR0	**Warramunga Arr**	**32.66**	**261**	P	**P**	**11 15 43.2**	**-0.4**
WR0				IAmb	IAmb	11 15 52.8	
	comp=Z,9.5nm,1.5s						
WB0	**Warramunga Arr**	**32.81**	**262**	P	**P**	**11 15 44.5**	**-0.5**
WB0				IAmb	IAmb	11 15 45.2	
	comp=Z,6.5nm,0.8s						
WB2	**Warramunga Arr**	**32.84**	**261**	P	**P**	**11 15 44.9**	**-0.4**
WB2				IAmb	IAmb	11 15 45.5	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**32.85**	**261**	P	**P**	**11 15 44.2**	**-1.2**
WRA	**Warramunga Arr**	**32.85**	**261**	P	**P**	**11 15 44.5**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=83,slow=6.7,SNR=61						
	comp=Z,2.6nm,0.6s						
BBOO	**Buckleboo**	**32.97**	**238**	P	**P**	**11 15 44.6**	**-1.6**
AS31	**Alice Springs**	**33.24**	**255**	P	**P**	**11 15 48.2**	**-0.4**
ASAR	**Alice Springs**	**33.24**	**255**	P	**P**	**11 15 48.1**	**-0.6**
	comp=Z,21nm,0.5s,baz=82,slow=8.9,SNR=492						
MTN	**Manton Dam**	**36.93**	**273**	P	**P**	**11 16 21.1**	**+0.9**
MTN				IAmb	IAmb	11 16 21.7	
	comp=Z,11nm,0.6s						
KNRA	**Kununurra**	**38.62**	**268**	P	**P**	**11 16 34.6**	**+0.3**
KNRA				IAmb	IAmb	11 16 49.0	
	comp=Z,21nm,1.4s						
FORT	**Forrest**	**39.14**	**244**	P	**P**	**11 16 37.8**	**-0.7**
FORT				IAmb	IAmb	11 17 07.6	
	comp=Z,19nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.22**	**263**	P	**P**	**11 16 56.2**	**+0.5**
PSA00	**Pilbara Seismi**	**46.27**	**257**	P	**P**	**11 17 35.7**	**-0.3**
MBWA	**Marble Bar**	**46.42**	**258**	P	**P**	**11 17 36.8**	**-0.3**
MBWA				IAmb	IAmb	11 17 37.5	
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**86.40**	**323**	P	**P**	**11 21 48.2**	**-1.8**

SANI	**Sanana**	**3.93 197**	P	**Pn**	**11 34 34.9**	**+0.8**
TOLI2	**Tolitoli**	**6.36 264**	Pn	**Pn**	**11 35 08.5**	**+1.0**
KDI	**Kendari**	**7.22 218**	P	**Pn**	**11 35 20.2**	**+0.9**
MTN	**Manton Dam**	**15.02 165**	Pn	**Pn**	**11 37 05.1**	**-0.4**
KNRA	**Kununurra**	**17.38 175**		**Pn**	**11 37 34.9**	**-0.4**
KNRA			IAmb	IAmb	11 37 50.5	
	comp=Z,28nm,1.5s					
FITZ	**Fitzroy Crossi**	**19.76 184**	P	**P**	**11 38 00.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.76 184**	P	**P**	**11 37 58.6**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=18,SNR=1.6					
	comp=Z,2.3nm,0.9s					
WB0	**Warramunga Arr**	**22.53 162**	P	**P**	**11 38 31.7**	**-0.4**
WB0			IAmb	IAmb	11 38 35.9	
	comp=Z,7.5nm,1.1s					
WRAB	**Tennant Creek**	**22.67 162**	P	**P**	**11 38 33.2**	**-0.5**
WRAB			IAmb	IAmb	11 38 33.5	
	comp=Z,4.0nm,0.6s					
WRA	**Warramunga Arr**	**22.68 162**	P	**P**	**11 38 32.5**	**-1.2**
WRA	**Warramunga Arr**	**22.68 162**	P	**P**	**11 38 32.6**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=340,slow=11,SNR=29					
	comp=Z,3.0nm,0.5s					
WB2	**Warramunga Arr**	**22.68 162**	P	**P**	**11 38 33.2**	**-0.5**
WB2			IAmb	IAmb	11 38 37.6	
	comp=Z,8.2nm,1.1s					
WR0	**Warramunga Arr**	**22.76 162**	P	**P**	**11 38 34.1**	**-0.4**
AS31	**Alice Springs**	**26.10 166**	P	**P**	**11 39 04.3**	**-1.3**
AS31			IAmb	IAmb	11 39 08.7	
	comp=Z,1.3nm,0.3s					
ASAR	**Alice Springs**	**26.10 166**	P	**P**	**11 39 07.5**	**+2.0**
ASAR	**Alice Springs**	**26.10 166**	P	**P**	**11 39 04.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=21					
	comp=Z,0.5nm,0.3s					
BBOO	**Buckleboo**	**35.38 167**	P	**P**	**11 40 26.7**	**-0.6**
KSRS	**Korea Array**	**35.55 1**	P	**P**	**11 40 29.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=183,slow=8.6,SNR=1.8					
	comp=Z,0.6nm,0.7s					
STKA	**Stephens Creek**	**36.14 159**	P	**P**	**11 40 33.9**	**+0.1**
STKA	**Stephens Creek**	**36.14 159**	P	**P**	**11 40 33.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=346,slow=11,SNR=3.8					
	comp=Z,1.5nm,0.6s					
SONM	**Songino Array**	**49.30 342**	P	**P**	**11 42 20.7**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=167,slow=6.4,SNR=2.2					
	comp=Z,0.8nm,0.8s					
MK31	**Makanchi Array**	**59.41 326**	P	**P**	**11 43 34.0**	**+0.3**
MK31			IAmb	IAmb	11 43 35.1	
	comp=Z,1.3nm,0.8s					
MKAR	**Makanchi Array**	**59.41 326**	P	**P**	**11 43 33.9**	**+0.1**
MKAR	**Makanchi Array**	**59.41 326**	P	**P**	**11 43 33.6**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=121,slow=7.6,SNR=23					
	comp=Z,1.6nm,0.6s					
MAKZ	**Makanchi**	**59.59 326**	P	**P**	**11 43 35.9**	**+0.8**
MAKZ			IAmb	IAmb	11 43 36.3	
	comp=Z,2.2nm,0.8s					
KURBB	**Kurchatov Arra**	**63.62 328**	P	**P**	**11 44 02.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=129,slow=6.1,SNR=24					
	comp=Z,2.5nm,0.6s					
KURK	**Kurchatov**	**63.62 328**	P	**P**	**11 44 01.3**	**-0.7**
BVAR	**Borovoye Array**	**69.19 327**	P	**P**	**11 44 37.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=72,slow=4.7,SNR=2.0					
	comp=Z,0.4nm,0.4s					

*DJA **14** 11:42:54.7±0.3, 6°S±3°×12°8E±°, h364km±7km, M4.6/17, mB5.0/4, mb4.5/12, MLv4.7/17, Mw(mB)4.4/4*
*NEIC **14** 11:42:55.1±1.4, 5°72S±0°07×127°95E±0°09, h367km±9km, mb4.2/15, Error ellipse: s-maj=13.7km s-min=10.0km az=106.0*
*IDC **14** 11:42:56.6±2.4, 5°85S×127°76E, h398km±27km, mb3.4/8, mbtmp4.3/12, Error ellipse: s-maj=33.0km s-min=9.4km az=66.0*

ISC 14 11:42:54.5±0.5, **5°72S**±0°05×**127°95E**±0°06, **h367**km, **n62**, σ1§**44**/67, **mb4.0**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.03**	**7**	P	**Pn**	**11 43 48.1**	**+0.4**
MSAI	**Masohi**	**2.55**	**23**	P	**Pn**	**11 43 51.1**	**-0.4**
NLAI	**Namlea**	**2.60**	**341**	P	**Pn**	**11 43 52.1**	**+0.2**
SAUI	**Saumlaki**	**4.01**	**124**	Pn	**Pn**	**11 44 04.5**	**-0.2**
SAUI	**Saumlaki**	**4.01**	**124**	P	**Pn**	**11 44 06.0**	**+1.3**
SANI	**Sanana**	**4.14**	**332**	P	**Pn**	**11 44 05.2**	**-0.8**
SANI	**Sanana**	**4.14**	**332**	P	**Pn**	**11 44 04.4**	**-1.6**
FAKI	**Fak Fak**	**5.11**	**57**		**Pn**	**11 44 16.7**	**+0.5**
FAKI					**S**	**11 45 17.5**	**-4.8**
FAKI	**Fak Fak**	**5.11**	**57**	P	**Pn**	**11 44 16.7**	**+0.5**
FAKI	**Fak Fak**	**5.11**	**57**	P	**Pn**	**11 44 16.4**	**+0.2**
	1.6nm3μm112nm,0.6s						
SOEI	**Soe**	**5.42**	**222**		**Pn**	**11 44 19.9**	**+0.1**
SOEI	**Soe**	**5.42**	**222**	P	**Pn**	**11 44 20.1**	**+0.4**
SOEI	**Soe**	**5.42**	**222**	P	**Pn**	**11 44 19.8**	**+0.1**
SWI	**Sorong**	**5.84**	**35**	P	**Pn**	**11 44 24.5**	**+0.3**
	0.6nm72nm,0.8s						
KMPI	**Kaimana, Papua**	**6.09**	**71**	P	**Pn**	**11 44 27.3**	**+0.3**
MMRI	**Maumere**	**6.37**	**243**	Pn	**Pn**	**11 44 30.1**	**0.0**
DRS	**Darwin Rock St**	**7.28**	**157**	P	**P**	**11 44 42.3**	**+0.6**
RKPI	**Ransiki, Papua**	**7.49**	**56**	P	**P**	**11 44 46.0**	**+1.9**
	7μm94nm,0.7s						
MTN	**Manton Dam**	**7.75**	**156**		**Pn**	**11 44 46.5**	**+0.5**
MTN	**Manton Dam**	**7.75**	**156**	P	**Pn**	**11 44 46.5**	**+0.5**
BKSI	**Bulukumba**	**7.80**	**273**	P	**Pn**	**11 44 47.2**	**+0.5**
KAPI	**Kappang**	**8.19**	**274**	P	**Pn**	**11 44 51.2**	**-0.1**
	5.4nm,0.4s,baz=152,slow=8.8,SNR=4.1						
KDU	**Kakadu**	**8.24**	**148**	P	**Pn**	**11 44 52.7**	**+0.9**
SPSI	**Sidrap Palu**	**8.34**	**282**	P	**Pn**	**11 44 52.9**	**0.0**
	20nm,0.6s						
TTSI	**Tana Toraja**	**8.53**	**288**	P	P	11 45 03.9	+6.9
BASI	**Baing, Sumba**	**8.56**	**238**	P	**Pn**	**11 44 53.5**	**-2.1**
	95nm,0.7s						
WBSI	**Waikabubak, Su**	**9.34**	**245**	P	**Pn**	**11 45 02.8**	**-2.0**
	40nm,0.7s						
TOLI2	**Tolitoli**	**9.86**	**313**	P	**Pn**	**11 45 11.0**	**+0.1**
KNRA	**Kununurra**	**9.93**	**175**	P	**Pn**	**11 45 11.8**	**+0.1**
KNRA					**S**	**11 47 09.1**	**+4.9**
PLAI	**Plampang**	**10.55**	**252**	P	**Pn**	**11 45 18.3**	**-0.8**
PLAI	**Plampang**	**10.55**	**252**	P	**Pn**	**11 45 16.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**12.51**	**190**	P	**P**	**11 45 40.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.51**	**190**	P	**P**	**11 45 40.5**	**-0.6**
	13nm,0.5s,baz=19,slow=11,SNR=51						
FITZ			S		**S**	**11 47 56.2**	**-3.0**
	1.9nm,0.5s,baz=265,slow=18,SNR=1.3						
FITZ	**Fitzroy Crossi**	**12.51**	**190**	P	**P**	**11 45 40.1**	**-1.0**
	52nm,0.6s						
GENI	**Genyem**	**12.57**	**76**	P	**P**	**11 45 39.2**	**-2.6**
KMMI	**Kalianget**	**13.96**	**264**	P	**Pn**	**11 46 02.1**	**+3.0**
WB0	**Warramunga Arr**	**15.31**	**156**	P	**P**	**11 46 11.9**	**+0.1**
WB0					**S**	**11 48 54.5**	**-0.8**
WRAB	**Tennant Creek**	**15.44**	**157**	P	**P**	**11 46 13.3**	**+0.1**
WRAB					**S**	**11 49 00.2**	**+2.3**
WRA	**Warramunga Arr**	**15.45**	**157**	P	**P**	**11 46 12.2**	**-1.1**
WRA	**Warramunga Arr**	**15.45**	**157**	P	**P**	**11 46 13.0**	**-0.3**
	7.8nm,0.3s,baz=333,slow=11,SNR=140						
WRA			S		**S**	**11 48 56.5**	**-1.6**
	2.4nm,0.7s,baz=334,slow=19,SNR=6.8						
WB2	**Warramunga Arr**	**15.45**	**157**	P	**P**	**11 46 13.5**	**+0.2**
WR0	**Warramunga Arr**	**15.54**	**156**	P	**P**	**11 46 14.5**	**+0.2**
WR0				IAmb	IAmb	11 46 15.0	
	comp=Z,11nm,0.5s						
COEN	**Coen**	**17.08**	**120**	P	**P**	**11 46 31.9**	**+1.0**
COEN				IAmb	IAmb	11 46 49.5	
	comp=Z,16nm,1.4s						
MBWA	**Marble Bar**	**17.30**	**207**	P	**P**	**11 46 32.2**	**-0.9**
MBWA				IAmb	IAmb	11 46 32.9	
	comp=Z,11nm,0.6s						
PSA00	**Pilbara Seismi**	**17.61**	**206**	P	**P**	**11 46 34.9**	**-1.6**
PSA00				IAmb	IAmb	11 46 44.2	
	comp=Z,7.3nm,0.9s						
SBUM	**Sibu**	**17.68**	**297**	P	**P**	**11 46 37.8**	**+0.5**
AS31	**Alice Springs**	**18.74**	**163**	P	**P**	**11 46 48.3**	**-0.3**
AS31				IAmb	IAmb	11 46 49.1	
	comp=Z,7.5nm,0.5s						
ASAR	**Alice Springs**	**18.75**	**163**	P	**P**	**11 46 48.4**	**-0.2**
	comp=Z,20nm,0.4s,baz=343,slow=12,SNR=248						
ASAR			S		**S**	**11 49 59.9**	**-2.4**
	comp=Z,2.7nm,0.8s,baz=337,slow=17,SNR=14						
FORT	**Forrest**	**24.93**	**180**	P	**P**	**11 47 45.2**	**-0.7**
FORT				IAmb	IAmb	11 47 46.3	
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**28.00**	**165**	P	**P**	**11 48 12.8**	**-0.3**
BBOO				IAmb	IAmb	11 48 14.6	
	comp=Z,13nm,1.3s						
STKA	**Stephens Creek**	**28.99**	**156**	P	**P**	**11 48 22.4**	**+0.6**
STKA	**Stephens Creek**	**28.99**	**156**	P	**P**	**11 48 22.0**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=329,slow=8.3,SNR=9.1						
	comp=Z,2.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.35**	**311**	P	**P**	**11 49 33.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=139,slow=7.6,SNR=11						
	comp=Z,1.1nm,0.6s						
PZH	**PanZhiHua**	**40.88**	**323**	P	P	11 50 09.3	+6.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,150nm,4.5s						
KSRS	**Korea Array**	**42.95**	**360**	P	**P**	**11 50 18.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=176,slow=9.3,SNR=1.6						
	comp=Z,0.3nm,0.4s						
MAJO	**Matsushiro**	**43.12**	**12**	P	**P**	**11 50 21.8**	**+1.6**
MAJO				IAmb	IAmb	11 50 29.9	
	comp=Z,13nm,1.2s						
MJB9	**Matsu-Tunnel**	**43.12**	**12**	P	**P**	**11 50 22.4**	**+2.1**
MJB9				IAmb	IAmb	11 50 30.8	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**63.77**	**19**	P	**P**	**11 52 49.1**	**+0.7**
	comp=Z,8.4nm,1.1s,baz=242,slow=3.1,SNR=1.7						
	comp=Z,8.4nm,1.1s						
MKAR	**Makanchi Array**	**66.05**	**327**	P	**P**	**11 53 02.5**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=121,slow=8.5,SNR=14						
	comp=Z,1.5nm,0.4s						
ZALV	**Zalesovo Beam**	**69.55**	**334**	P	**P**	**11 53 23.2**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=139,slow=7.0,SNR=5.6						
	comp=Z,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**70.36**	**329**	P	**P**	**11 53 28.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=136,slow=5.1,SNR=10						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**75.90**	**328**	P	**P**	**11 54 00.4**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=139,slow=9.5,SNR=4.3						
	comp=Z,0.5nm,0.3s						

RHSSO 14 11:51:37.6±0.5, **44°87N**×**16°93E**, **h5**km±3km, **ML1.1**/2, **2C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A051A	**Mrakovica**	**0.15**	**353**	↑*i*Pg	Pg	11 51 40.0	-0.6
A051A				*e*Sg	Sg	11 51 43.2	+0.6
BLY	**Banja Luka**	**0.21**	**123**	*e*Pg	Pg	11 51 41.3	-0.5
BLY				*e*Sg	Sg	11 51 45.7	+1.1
A050A	**Klekovaca**	**0.48**	**217**	↑*i*Pg	Pg	11 51 46.2	-0.6
A050A				*e*Sg	Sg	11 51 53.4	+0.3
BOJS	**Bojanci**	**1.35**	**299**	*e*Pg	Pn	11 52 01.3	-1.8
BOJS				*e*Sg	Sg	11 52 20.6	-0.3
CRES	**Cresnjevec Ost**	**1.42**	**313**	*e*Pg	Pn	11 52 03.2	-0.9
CRES				*e*Sg	Sg	11 52 23.0	-0.1

KRSZO 14 11:52:40.0±1.4, **48°35N**×**18°52E**, **h0**km, **Error ellipse: s-maj=6.7km s-min=4.7km az=150.0, Explosion. locality : Hostie Slovakia, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VYHS	**Vyhne**	**0.26**	**56**	Pg	Pg	11 52 46.0	+1.0
VYHS				Lg	Lg	11 52 49.7	
VYHS	**Vyhne**	**0.26**	**56**	*e*PG	Pg	11 52 46.0	+1.0
VYHS				*e*SG	Sg	11 52 49.7	+1.4
JAVC	**Velka Javorina**	**0.76**	**313**	*e*PG	Pg	11 52 54.5	-0.1
JAVC				*e*SG	Sg	11 53 05.2	+0.8
JAVC	**Velka Javorina**	**0.76**	**313**	Pg	Pg	11 52 54.8	+0.3
JAVC				Lg	Lg	11 53 06.4	
MODS	**Modra-Piesok**	**0.83**	**272**	Pg	Pb	11 52 57.3	0.0
MODS				Lg	Lg	11 53 09.3	
MODS	**Modra-Piesok**	**0.83**	**272**	*e*PG	Pb	11 52 57.5	+0.2
MODS				*e*SG	Sb	11 53 09.2	+0.2
PSZ	**Piszkesteto**	**1.02**	**115**	Lg	Lg	11 53 15.4	

*NEIC **14** 11:57:07.6±2.0, 9°84N±0°07×126°5E±0°1, h10km±1km, mb4.7/72, Error ellipse: s-maj=17.1km s-min=12.4km az=92.0*
*IDC **14** 11:57:08.2±2.2, 9°74N×126°26E, h21km±13km, mb4.2/23, mbtmp4.3/25, ML4.1/2, MS3.4/23, Error ellipse: s-maj=21.0km s-min=8.3km az=80.0*
*DJA **14** 11:57:13.5±0.9, 10°N±6°×12°7E±°, h82km±8km, M5.0/12, mb4.8/12, mB5.8/1, MLv5.1/3, Mw(mB)5.3/1*

ISC 14 11:57:11.5±0.3, **9°73N**±0°04×**126°40E**±0°07, **h43**km, **n162**, σ1§**51**/129, **mb4.6**/74, **MS3.4**/18, **1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.76**	**197**	Pn	**Pn**	**11 57 53.9**	**+0.6**
DAV	**Davao City (W)**	**2.76**	**197**	Pn	**Pn**	**11 57 50.3**	**-3.0**
	36nm,0.3s,baz=8.1,slow=7.1,SNR=1.6						
DAV				Sn	**Sn**	**11 58 24.2**	**-1.2**
	85nm,0.3s,baz=98,slow=23,SNR=5.7						
DAV				Lg	Lg	11 58 35.8	
	96nm,0.3s,baz=295,slow=22,SNR=6.7						
DAV				LR	LR	11 59 01.4	
	comp=Z,754nm,20.2s,baz=22,slow=41						
	120nm,0.3s						
I39PW	**PALAU INFRASON**	**8.35**	**104**	I	I	12 52 40.0	
	baz=284,slow=305,SNR=0.9						
MYLDM	**Lahad Datu**	**9.04**	**241**	Pn	**Pn**	**11 59 20.3**	**+0.9**
LUWI	**Luwuk**	**11.29**	**199**	Pn	**Pn**	**11 59 50.5**	**+0.2**
FAKI	**Fak Fak**	**13.85**	**155**	P	P	12 00 39.4	+6.7
	65nm,1.5s						
TTSI	**Tana Toraja**	**14.28**	**208**	P	**P**	**12 00 35.9**	**-1.5**
	17nm,0.8s						
TPUB	**Ta-pu**	**14.58**	**338**	Pn	**Pn**	**12 00 33.7**	**-1.5**
SBUM	**Sibu**	**15.83**	**244**		**P**	**12 00 55.1**	**+0.4**
KAPI	**Kappang**	**16.07**	**205**	Pn	**Pn**	**12 00 52.6**	**-2.0**
	0.5nm,0.3s,baz=80,slow=8.0,SNR=3.9						
KAPI				LR	LR	12 07 34.2	
	comp=Z,169nm,20.4s,baz=3.0,slow=39						
	4.9nm,0.9s						
JOW	**Kunigami**	**17.11**	**6**	LR	LR	12 07 41.2	
	comp=Z,90nm,18.1s,baz=142,slow=37						
GUMO	**Guam**	**18.49**	**76**	LR	LR	12 07 05.8	
	comp=Z,114nm,21.1s,baz=202,slow=32						
QIZ	**Qiongzhong**	**18.50**	**302**	P	**Pn**	**12 01 26.4**	**+1.8**
QIZ				S	**S**	**12 04 54.8**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,18nm,1.8s						
QIZ				LR	LR		
	comp=N,140nm,8.9s						
QIZ				LR	LR		
	comp=E,120nm,12.4s						
QIZ				LR	LR		
	comp=Z,200nm,17.9s						
JAY	**Jayapura**	**18.73**	**130**	LR	LR	12 08 08.2	
	comp=Z,143nm,19.4s,baz=344,slow=35						
SOEI	**Soe**	**19.47**	**186**		**P**	**12 01 35.7**	**+0.7**
SOEI				IAmb	IAmb	12 02 04.8	
	comp=Z,33nm,0.8s						
PLAI	**Plampang**	**20.33**	**205**	P	Pn	12 01 49.6	+3.1
UBPT	**Khong Chiam**	**21.16**	**287**	P	**P**	**12 01 54.2**	**+1.1**
MTN	**Manton Dam**	**22.91**	**168**	P	**P**	**12 02 12.6**	**+0.7**
MTN				IAmb	IAmb	12 02 23.9	
	comp=Z,16nm,0.8s						
KDU	**Kakadu**	**23.07**	**165**	P	**P**	**12 02 13.7**	**+0.2**
NJ2	**Nanjing**	**23.29**	**344**	*e*P	**P**	**12 02 15.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
WHN	**Wuhan**	**23.56**	**333**	P	**P**	**12 02 22.3**	**+4.2**
JNU	**Nakatsue**	**23.65**	**9**	P	**P**	**12 02 18.2**	**-0.8**
JNU				IAmb	IAmb	12 02 36.8	
	comp=Z,35nm,1.4s						
JNU	**Nakatsue**	**23.65**	**9**	LR	LR	12 12 49.7	
	comp=Z,42nm,18.1s,baz=167,slow=40						
JMN	**Monobe**	**24.86**	**15**	P	**P**	**12 02 30.0**	**-0.1**
KNRA	**Kununurra**	**25.35**	**175**	P	**P**	**12 02 36.3**	**+1.7**
IPM	**Ipoh**	**25.70**	**260**	P	**P**	**12 02 39.8**	**+1.9**
IPM				IAmb	IAmb	12 02 42.7	
	comp=Z,19nm,0.7s						
JHJ	**Hachijo jima 2**	**26.35**	**26**	LR	LR	12 13 30.6	
	comp=Z,64nm,18.2s,baz=292,slow=37						
PHRA	**Phrae**	**26.80**	**292**	P	**P**	**12 02 48.0**	**+0.1**
KSRS	**Korea Array**	**27.64**	**3**	P	**P**	**12 02 53.8**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=182,slow=10,SNR=7.2						
KSRS				LR	LR	12 16 29.3	
	comp=Z,78nm,18.1s,baz=180,slow=42						
	comp=Z,1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**27.66**	**182**	P	**P**	**12 02 56.6**	**+1.2**
LYN	**LuoYang**	**27.81**	**335**	P	**P**	**12 02 56.3**	**-0.3**
LYN				pP	pP	12 03 06.3	-1.1
LYN				pmax	pmax		
	comp=Z,12nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.97**	**291**	P	**P**	**12 02 57.6**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=100,slow=7.3,SNR=17						
CMAR				PcP	**PcP**	**12 06 12.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=96,slow=3.8,SNR=1.2						
	comp=Z,2.8nm,0.8s						
PSI	**Prapat**	**28.14**	**258**	LR	LR	12 15 56.2	
	comp=Z,73nm,19.7s,baz=96,slow=40						
PZH	**PanZhiHua**	**28.68**	**309**	P	**P**	**12 03 07.6**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,6.1s						
MJAR	**Matsushiro Arr**	**28.77**	**20**	LR	LR	12 14 41.1	
	comp=Z,89nm,18.3s,baz=197,slow=37						
COEN	**Coen**	**28.82**	**144**	P	**P**	**12 03 05.7**	**-0.2**
COEN	**Coen**	**28.82**	**144**	P	**P**	12 03 15.3	+9.4
XAN	**Xi'an**	**29.03**	**329**	⇓P	**P**	**12 03 06.1**	**-1.5**
XAN				pP	pP	12 03 17.3	-0.9
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
HNS	**HongShan**	**29.50**	**341**	⇑P	**P**	**12 03 11.3**	**-0.4**
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
WB0	**Warramunga Arr**	**30.35**	**165**	P	**P**	**12 03 19.4**	**0.0**
WRAB	**Tennant Creek**	**30.50**	**165**	P	**P**	**12 03 20.3**	**-0.3**
WRA	**Warramunga Arr**	**30.50**	**165**	P	**P**	**12 03 19.3**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=343,slow=8.7,SNR=18						
WRA				PcP	**PcP**	**12 06 19.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=346,slow=3.1,SNR=2.3						
WRA				S	**S**	**12 08 22.0**	**+2.7**
	comp=Z,0.4nm,1.1s,baz=352,slow=16,SNR=14						
	comp=Z,0.7nm,0.4s						
WB2	**Warramunga Arr**	**30.50**	**165**	P	**P**	**12 03 19.7**	**-1.0**
MBWA	**Marble Bar**	**31.38**	**192**	P	**P**	**12 03 28.9**	**+0.5**
BJT	**Baijiatuau**	**31.51**	**345**	P	**P**	**12 03 28.1**	**-1.3**
BJT				IAmb	IAmb	12 03 30.2	
	comp=Z,17nm,1.4s						
BJI	**Beijing**	**31.53**	**345**	P	**P**	**12 03 29.5**	**0.0**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,46nm,4.6s						
PSA00	**Pilbara Seismi**	**31.76**	**192**	P	**P**	**12 03 32.4**	**+0.7**
PSA00	**Pilbara Seismi**	**31.76**	**192**	P	**P**	**12 03 32.6**	**+0.8**
MTSU	**Mount Surprise**	**32.85**	**147**	P	P	12 03 49.5	+8.1
HHC	**Hu-ho-hao-te**	**33.67**	**339**	*e*P	**P**	**12 03 48.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
CN2	**Changchun**	**33.96**	**359**	*e*P	**P**	**12 03 51.0**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AS31	**Alice Springs**	**33.99**	**168**	P	**P**	**12 03 52.9**	**+1.7**
ASAR	**Alice Springs**	**33.99**	**168**	P	**P**	**12 03 49.9**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=349,slow=7.0,SNR=21						
ASAR				PcP	**PcP**	**12 06 28.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=342,slow=2.4,SNR=4.4						
ASAR				S	**S**	**12 09 17.1**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=344,slow=9.4,SNR=2.0						
ASAR				LR	LR	12 20 09.0	
	comp=Z,36nm,18.5s,baz=72,slow=41						
	comp=Z,0.8nm,0.4s						
AS01	**Alice Springs**	**34.00**	**168**	P	**P**	**12 03 51.9**	**+0.6**
BTO	**Baotou**	**34.01**	**337**	*e*P	**P**	**12 03 54.8**	**+3.4**
BTO				pP	**sP**	**12 04 06.8**	**-0.3**
BTO				sP	**pwP**	**12 04 12.0**	**+6.3**
BTO				pmax	pmax		
	comp=Z,12nm,0.7s						
BTO				pmax	pmax		
	comp=Z,170nm,8.4s						
WRKA	**Warakurna**	**34.60**	**177**	P	**P**	**12 03 56.6**	**0.0**
USRK	**Ussuriysk Ar.**	**34.69**	**7**	P	**P**	**12 03 56.3**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=192,slow=12,SNR=4.9						
USRK				LR	LR	12 17 08.0	
	comp=Z,51nm,21.7s,baz=180,slow=35						
	comp=Z,2.5nm,0.7s						
MDJ	**Mudanjiang**	**34.87**	**4**	P	**P**	**12 03 58.5**	**-0.1**
MDJ				IAmb	IAmb	12 04 00.3	
	comp=Z,22nm,1.4s						
MDJ	**Mudanjiang**	**34.87**	**4**	P	**P**	**12 03 58.3**	**-0.3**
MDJ				pP	pP	12 04 05.8	-3.5
MDJ				S	**S**	**12 09 31.6**	**+4.8**
MDJ				sS	sS	12 09 46.8	+1.6
MDJ				PcS	**PcS**	**12 10 12.9**	**-4.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.4s						
MDJ				LR	LR		
	comp=N,260nm,5.8s						
MDJ				LR	LR		
	comp=E,310nm,6.0s						
MDJ				LR	LR		
	comp=Z,370nm,6.3s						
XLT	**XiLinHaoTe**	**35.21**	**347**	*e*P	**P**	**12 03 59.8**	**-1.9**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,200nm,5.5s						
BNX	**BinXian**	**35.90**	**1**	⇓P	**P**	**

WMQ				PP	PP	12 07 36.9	+0.7
WMQ				pmax	pmax		
comp=Z,14nm,0.9s							
PEA0B	Petropavlovsk-	50.08	24	P	P	12 06 03.3	+1.3
PETK	Petropavlovsk-	50.08	24	P	P	12 06 03.0	+1.0
PETK	Petropavlovsk-	50.08	24	P	P	12 06 02.7	+0.7
comp=Z,3.3nm,0.7s,baz=248,slow=0.8,SNR=6.2							
comp=Z,3.3nm,0.7s							
DZM	Mont Dzumac	50.41	129	P	P	12 06 06.1	+1.1
comp=Z,9.0nm,0.9s,baz=291,slow=17,SNR=2.1							
comp=Z,9.0nm,0.9s							
YAK	Yakutsk	52.26	2	LR	LR	12 31 12.7	
comp=Z,61nm,18.1s,baz=63,slow=39							
MKAR	Makanchi Array	52.53	323	P	P	12 06 19.6	-0.9
MKAR	Makanchi Array	52.53	323	P	P	12 06 19.5	-1.1
comp=Z,3.9nm,0.6s,baz=121,slow=8.1,SNR=59							
MKAR				ScP	ScP	12 11 25.1	+0.6
comp=Z,0.4nm,0.8s,baz=116,slow=5.5,SNR=3.8							
MKAR				LR	LR	12 31 35.4	
comp=Z,54nm,18.5s,baz=84,slow=39							
comp=Z,3.9nm,0.6s							
MAKZ	Makanchi	52.73	323	P	P	12 06 21.0	-1.0
ZALV	Zalesovo Beam	55.16	331	P	P	12 06 38.1	-1.5
ZALV	Zalesovo Beam	55.16	331	P	P	12 06 37.8	-1.8
comp=Z,1.3nm,0.3s,baz=117,slow=6.8,SNR=6.7							
ZALV				LR	LR	12 29 50.6	
comp=Z,22nm,20.1s,slow=36							
comp=Z,1.3nm,0.3s							
AAK	Ala-Archa	55.80	315	LR	LR	12 32 03.5	
comp=Z,63nm,19.6s,baz=81,slow=38							
KURK	Kurchatov	56.58	326	P	P	12 06 48.6	-1.2
KURK				IAmb	IAmb	12 06 49.5	
comp=Z,4.1nm,0.7s							
KURBB	Kurchatov Arra	56.59	326	P	P	12 06 48.6	-1.3
comp=Z,2.8nm,0.6s,baz=128,slow=6.7,SNR=30							
comp=Z,2.8nm,0.6s							
GAR	Garm	57.73	310	P	P	12 06 56.9	-1.5
GAR				IAmb	IAmb	12 07 01.6	
comp=Z,5.1nm,0.6s							
KK31	Karatay Array	58.72	315	P	P	12 07 03.6	-1.4
KKAR	Karatay Array	58.72	315	P	P	12 07 03.5	-1.5
TIXI	Tiksi	61.89	1	P	P	12 07 26.1	0.0
TIXI				IAmb	IAmb	12 07 32.7	
comp=Z,5.8nm,0.7s							
BVAR	Borovoye Array	62.18	326	P	P	12 07 26.8	-1.6
comp=Z,1.6nm,0.7s,baz=111,slow=8.1,SNR=9.1							
comp=Z,1.6nm,0.7s							
BRVK	Borovoye	62.25	326	P	P	12 07 27.8	-1.1
BRVK				IAmb	IAmb	12 07 37.3	
comp=Z,8.1nm,1.3s							
WSAR	Wadi Sarin	65.86	291	LR	LR	12 39 54.2	
comp=Z,24nm,19.1s,baz=58,slow=39							
E18K	Tukpahlearik C	74.57	23	IAmb	IAmb	12 08 47.9	
comp=Z,3.8nm,0.8s							
C18K	Utukok River	74.62	21	IAmb	IAmb	12 08 47.5	
comp=Z,3.9nm,0.8s							
D19K	Kuna River	75.69	22	IAmb	IAmb	12 08 53.8	
comp=Z,4.9nm,0.7s							
E19K	Redstone River	75.85	23	IAmb	IAmb	12 08 55.3	
comp=Z,12nm,1.3s							
E21K	Killik River	77.20	22	IAmb	IAmb	12 09 03.1	
comp=Z,5.3nm,1.0s							
B22K	Teshekpuk Lake	77.59	20	IAmb	IAmb	12 09 04.3	
comp=Z,7.5nm,0.7s							
I21K	Tanana	77.71	25	IAmb	IAmb	12 09 05.8	
comp=Z,4.7nm,0.8s							
RAYN	Ar Rayn	77.89	292	P	P	12 09 04.4	-1.0
RAYN				IAmb	IAmb	12 09 18.1	
comp=Z,4.7nm,1.0s							
COLD	Coldfoot	78.54	23	IAmb	IAmb	12 09 10.0	
comp=Z,3.7nm,0.8s							
KBZ	Khabaz	78.67	313	P	P	12 09 07.3	-1.9
comp=Z,1.7nm,0.9s,baz=56,slow=3.6,SNR=3.7							
comp=Z,1.7nm,0.9s							
E23K	Chandalar	78.79	22	IAmb	IAmb	12 09 13.7	
comp=Z,7.1nm,0.9s							
I23K	Minto, Yukon-K	78.82	25	IAmb	IAmb	12 09 11.2	
comp=Z,4.4nm,0.9s							
MCK	McKinley	78.98	27	P	P	12 09 09.2	-1.4
D24K	Happy Valley	79.12	21	IAmb	IAmb	12 09 13.0	
comp=Z,5.9nm,0.7s							
C24K	Franklin Bluff	79.17	21	IAmb	IAmb	12 09 12.9	
comp=Z,4.9nm,0.8s							
E24K	Your Creek	79.22	22	IAmb	IAmb	12 09 20.9	
comp=Z,11nm,1.5s							
F24K	Squaw Lake	79.44	23	IAmb	IAmb	12 09 15.1	
comp=Z,5.6nm,0.9s							
ILAR	Eielson Array	79.87	26	P	P	12 09 14.7	-0.8
comp=Z,1.1nm,0.8s,baz=257,slow=4.3,SNR=28							
comp=Z,1.1nm,0.8s							
D27M	Malcolm River	81.92	21	IAmb	IAmb	12 09 28.7	
comp=Z,5.6nm,0.9s							
F28M	Old Crow	82.50	23	IAmb	IAmb	12 09 31.9	
comp=Z,4.5nm,0.8s							
I28M	Miner Creek	82.75	25	P	P	12 09 31.6	+0.8
L29M	L29M	83.87	27	IAmb	IAmb	12 09 39.7	
comp=Z,8.2nm,1.0s							
I30M	Mount Dempster	84.26	25	IAmb	IAmb	12 09 40.5	
comp=Z,4.3nm,0.8s							
J30M	Hart River	84.40	25	IAmb	IAmb	12 10 10.6	
comp=Z,12nm,1.5s							
HYT	Haines Junctio	84.55	29	P	P	12 09 40.5	+0.3
SPITS	Spitsbergen Ar	84.57	349	P	P	12 09 39.3	-0.5
comp=Z,5.4nm,0.8s,baz=90,slow=7.5,SNR=9.0							
comp=Z,5.4nm,0.8s							
INK	Inuvik	84.74	22	IAmb	IAmb	12 09 42.3	
comp=Z,6.0nm,1.1s							
ARCES	ARCESS Array B	84.74	340	P	P	12 09 40.1	-0.6
comp=Z,3.6nm,0.7s,baz=81,slow=6.1,SNR=12							
comp=Z,3.6nm,0.7s							
G31M	Satah River	84.77	23	IAmb	IAmb	12 09 42.4	
comp=Z,6.5nm,0.9s							
BRTR	Keskin Array B	85.97	309	P	P	12 09 46.4	-1.3
comp=Z,1.3nm,0.9s,baz=103,slow=6.4,SNR=3.9							
comp=Z,1.3nm,0.9s							
A36M	Sachs Harbour	86.39	17	P	P	12 09 48.5	-0.4
EIL	Elat	86.50	299	LR	LR	12 56 22.7	
comp=Z,15nm,18.7s,baz=251,slow=41							
AKASG	Malin Array Be	87.06	321	P	P	12 09 50.6	-2.0
comp=Z,0.3nm,0.4s,baz=72,slow=3.8,SNR=4.2							
comp=Z,0.3nm,0.4s							
NOR	Nord	87.13	355	*i* P	P	12 09 51.8	-0.6
NOR				IAmb	IAmb	12 09 53.6	
comp=Z,3.4nm,0.9s							
C36M	Paulatuk	87.71	20	P	P	12 09 55.0	-0.3
VNDA	Vanda	89.38	173	LR	LR	12 50 30.8	
comp=Z,54nm,19.1s,baz=326,slow=36							
DAG	Danmarks Havn	91.30	352	*i* P	P	12 10 11.0	-1.1
DAG				IAmb	IAmb	12 10 12.0	
comp=Z,4.7nm,0.7s							
HFS	Hagfors	92.59	332	P	P	12 10 16.9	-1.4
comp=Z,2.0nm,0.6s,baz=90,slow=5.8,SNR=10							
comp=Z,2.0nm,0.6s							
NEEM	North Greenlan	92.96	359	*i* P	P	12 10 19.8	-0.4
NOA	NORSAR Array B	93.30	334	P	P	12 10 20.1	-1.5
comp=Z,0.8nm,0.7s,baz=66,slow=4.5,SNR=2.0							
comp=Z,0.8nm,0.7s							
YKA	Yellowknife Ar	94.20	24	P	P	12 10 25.8	+0.1
comp=Z,1.9nm,0.7s,baz=298,slow=4.6,SNR=35							
comp=Z,1.9nm,0.7s							
GERES	GERESS Array B	97.20	322	P	P	12 10 39.1	-0.7
comp=Z,0.4nm,0.3s,baz=56,slow=14,SNR=2.2							
comp=Z,0.4nm,0.3s							
TXAR	Lajitas Array	118.08	49	PKP	PKiKP	12 15 54.8	+0.2
comp=Z,0.1nm,0.5s,baz=332,slow=2.9,SNR=4.7							
TORD	Torodi Ar. Bea	120.58	292	PKP	PKiKP	12 16 01.3	+1.6
comp=Z,0.6nm,0.6s,baz=20,slow=2.3,SNR=3.9							
PLCA	Paso Flores	145.66	157	PKPbc	PKPab	12 16 46.2	-0.1
comp=Z,2.2nm,0.7s,baz=289,slow=2.6,SNR=8.2							

IDC 14 12:08:10.9±4.5, 17°.59S×178°.81W, h573km±23km, mb2.6/3, mbtmp3.4/4, Error ellipse: s-maj=165.0km s-min=31.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.00	267	P	P	12 09 28.0	+0.1
2.1nm,0.5s,baz=108,slow=20,SNR=1.5							
WRA	Warramunga Arr	44.32	259	P	P	12 15 30.8	-0.4
0.2nm,0.6s,baz=94,slow=7.7,SNR=4.6							
0.2nm,0.6s							
ASAR	Alice Springs	44.51	254	P	P	12 15 32.5	-0.1
1.1nm,0.4s,baz=90,slow=8.2,SNR=23							
ASAR				PcP	PcP	12 17 03.6	+0.1
0.6nm,1.1s,baz=96,slow=4.3,SNR=2.1							
1.1nm,0.4s							
ILAR	Eielson Array	85.67	13	P	P	12 19 49.0	-0.2
0.1nm,0.5s,baz=208,slow=5.2,SNR=5.4							
0.1nm,0.5s							

IDC 14 12:19:56.6±1.8, 6°.63S×123°.91E, h0km, mb3.8/1, mbtmp4.0/4, ML4.0/3, Error ellipse: s-maj=119.3km s-min=26.7km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.53	172	Pn	Pn	12 22 42.4	-0.2
1.0nm,0.3s,baz=357,slow=14,SNR=7.8							
2.5nm,0.3s							
WRA	Warramunga Arr	16.67	144	Pn	Pn	12 23 50.7	-1.1
0.6nm,0.3s,baz=319,slow=13,SNR=25							
4.9nm,0.8s							
ASAR	Alice Springs	19.48	151	P	Pn	12 24 26.1	-0.3
0.4nm,0.3s,baz=319,slow=11,SNR=9.4							
0.7nm,0.3s							
MKAR	Makanchi Array	64.72	330	P	P	12 30 36.7	-0.1
0.4nm,0.4s,baz=125,slow=8.4,SNR=4.1							
0.4nm,0.4s							

NNC 14 12:27:38.2±2.5, 49°.95N×76°.18E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=65.0km s-min=16.9km az=150.0, Suspected Mining explosion.
IDC 14 12:27:40.0±1.6, 50°.12N×76°.22E, h0km, mbtmp2.5/3, ML1.9/3, Error ellipse: s-maj=20.5km s-min=13.0km az=11.0

ISC 14 12:27:32.7±1.6, 50°.5N±0°.2×75°.58E±0°.08, h0km, n9, σ0°27/7, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	1.88	86	Pg	Pb	12 28 08.3	+0.4
0.3nm,0.3s,baz=255,slow=15,SNR=28							
KURBB				Lg	Lg	12 28 30.4	
0.4nm,0.3s,baz=264,slow=29,SNR=14							
KURBB				Pg	Rg	12 28 38.1	
1.4nm,0.7s,baz=255,slow=40,SNR=3.5							
KURBB	Kurchatov Arra	1.88	86	⇓P	Pg	12 28 08.7	-0.1
4.1nm,0.8s							
KURBB				⇑S	Sn	12 28 30.4	-0.1
23nm,1.1s							
KURK	Kurchatov	1.94	83	⇓P	Pg	12 28 09.8	-0.2
1.4nm,0.8s							
KURK				⇑S	Sn	12 28 31.8	-0.3
24nm,1.3s							
OTUK	Ortayu	3.12	224	⇓Lg	Lg	12 29 12.4	
2.3nm,0.8s							
BVAR	Borovoye Array	4.08	310	Pn	Pg	12 28 50.8	-0.1
baz=125,slow=13,SNR=1.7							
0.2nm,0.3s							
MK31	Makanchi Array	5.81	128	⇑Lg	Lg	12 30 22.2	
0.4nm,0.5s,baz=314,slow=25,SNR=3.8							
MKAR	Makanchi Array	5.81	128	Pn	Pn	12 29 00.0	-0.1
baz=306,slow=13,SNR=1.9							
MKAR				Lg	Lg	12 30 23.9	
0.2nm,0.3s,baz=314,slow=25,SNR=7.1							
0.1nm,0.2s							
I46RU	ZALESOVO INFRA	6.62	55	I	I	13 07 30.0	
baz=234,slow=334,SNR=11							
ZALV	Zalesovo Beam	6.62	55	Pn	Pn	12 29 19.6	+8.4
0.4nm,0.3s,baz=251,slow=13,SNR=3.0							
0.5nm,0.3s							

PGC 14 12:29:20.9±0.7, 50°.51N×130°.37W, h10km, MLSn2.9/14, Mw3.5/14, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.43	84	P	Pn	12 29 44.9	-2.0
HOLB				S	Sn	12 30 01.9	-3.9
BPEB	Brooks Peninsu	1.70	101	Sn	Sn	12 30 07.9	-4.7
PACB	Port Alice, BC	1.84	91	Pn	Pn	12 29 50.4	-2.2
PACB				Sn	Sn	12 30 12.1	-3.7
JEDB	Jedway, Haida	1.85	344	Pn	Pn	12 29 50.3	-2.4
JEDB				Sn	Sn	12 30 12.2	-4.0
PHC	Port Hardy	1.88	83	Pn	Pn	12 29 51.5	-1.6
PHC				Sn	Sn	12 30 13.0	-3.9
MAYB	Maynard	2.05	92	Pn	Pn	12 29 53.5	-2.0
MAYB				Sn	Sn	12 30 17.2	-4.0
BBB	Bella Bella	2.19	39	Pn	Pn	12 29 55.7	-1.6
BBB				Sn	Sn	12 30 20.6	-3.9
BAIB	Barry Inlet	2.24	338	Pn	Pn	12 29 57.1	-0.9
BAIB				Sn	Sn	12 30 22.4	-3.4
HG1B	Mitchell Dam	2.66	336	Pn	Pn	12 30 03.6	-0.1
HG1B				Sn	Sn	12 30 32.5	-3.5
NCSB	Newcastle Ridg	2.76	91	Pn	Pn	12 30 03.8	-1.5
NCSB				Sn	Sn	12 30 35.2	-3.5
NCRB	Newcastle Ridg	2.76	91	Pn	Pn	12 30 04.0	-1.3
BUTB	Butedale	2.81	24	Pn	Pn	12 30 05.3	-0.7
BUTB				Sn	Sn	12 30 36.8	-3.2
GDR	Gold River	2.89	103	Pn	Pn	12 30 05.3	-1.5
GRIB	Gribbell Islan	2.93	15	Pn	Pn	12 30 06.3	-1.2
CBB	Campbell River	3.25	97	Pn	Pn	12 30 10.9	-1.0
CBB				Sn	Sn	12 30 47.2	-3.4
GRNB	Grenville Isla	3.35	4	Pn	Pn	12 30 12.7	-0.6
KITB	Kitimat	3.73	16	Pn	Pn	12 30 17.6	-0.8
TXB	Texada	3.91	100	Pn	Pn	12 30 20.6	-0.3
MGRB	Mount Grey	3.98	110	Pn	Pn	12 30 21.4	-0.7
UBRB	Upper Baezaeko	4.58	56	Pn	Pn	12 30 30.9	+0.7

IDC 14 12:34:40.6±2.0, 50°.57N×129°.99W, h0km, mb3.3/2, mbtmp3.3/6, ML2.8/2, MS3.2/3, Error ellipse: s-maj=27.7km s-min=16.6km az=77.0

ISC 14 12:34:43.1±1.6, 50°.7N±0°.1×129°.8W±0°.1, h10km, n9, σ0°99/8, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	Bella Bella	1.83	35	Pn	Pn	12 35 14.3	-0.3
8.6nm,0.3s,baz=237,slow=6.6,SNR=148							
BBB				Sn	Sn	12 35 39.1	+1.2
29nm,0.3s,baz=314,slow=19,SNR=14							
BBB				LR	LR	12 36 09.0	
comp=Z,253nm,20.5s,baz=262,slow=44							
DLBC	Dease Lake	7.77	359	Pn	Pn	12 36 36.3	+0.1
2.3nm,1.0s,baz=204,slow=8.7,SNR=3.9							
NEW	Newport	8.61	101	LR	LR	12 40 10.4	
comp=Z,120nm,19.1s,baz=274,slow=38							
YKA	Yellowknife Ar	14.44	29	Pn	Pn	12 38 06.2	-1.2
0.1nm,0.3s,baz=221,slow=12,SNR=7.8							
YKA				LR	LR	12 43 00.3	
comp=Z,111nm,19.3s,baz=295,slow=34							
0.4nm,0.7s							
PDAR	Pinedale Array	15.95	112	Pn	Pn	12 38 28.8	+1.1
0.9nm,0.9s,baz=298,slow=10.0,SNR=5.9							
ILAR	Eielson Array	16.72	334	Pn	Pn	12 38 37.1	0.0
baz=140,slow=11,SNR=5.4							
0.4nm,0.9s							
ULM	Lac du Bonnet	21.50	78	P	P	12 39 32.5	+0.8
0.7nm,0.4s,baz=270,slow=11,SNR=3.9							
0.7nm,0.4s							
RES	Resolute Bay	28.05	19	LR	LR	12 51 11.6	
comp=Z,57nm,19.9s,baz=32,slow=35							
TXAR	Lajitas Array	28.99	127	P	P	12 40 42.4	-0.6
0.3nm,0.8s,baz=332,slow=6.5,SNR=4.1							
0.3nm,0.8s							

KRSC 14 12:35:31.4±0.8, 54°.74N×164°.67E, h49km±20km, Ml4.3
IDC 14 12:35:31.1±0.6, 54°.90N×164°.61E, h0km, mb4.2/29, mbtmp4.2/32, ML4.3/3, MS3.3/5, Error ellipse: s-maj=18.6km s-min=10.2km az=161.0
NEIC 14 12:35:32.9±1.4, 54°.8N±0°.2×164°.6E±0°.1, h10km±1km, mb4.5/86, Error ellipse: s-maj=29.6km s-min=4.8km az=155.0
MOS 14 12:35:34.0±0.8, 54°.80N×164°.65E, h38km, mb4.6/22, Error ellipse: s-maj=6.3km s-min=5.5km az=75.6

ISC 14 12:35:32.9±1.8, 54°.80N±0°.05×164°.66E±0°.05, h13km±12km, n407, σ0°93/389, mb4.4/80, MS3.2/4, 5C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.85	61	PN	Pb	12 35 49.1	-0.5
BKI				S	Sg	12 35 59.9	-0.7
BKI	Bering	0.85	61	*e*P	Pb	12 35 49.1	-0.5
BKI				*e*S	Sg	12 35 59.9	-0.7
KBTR	Krutoberegovo	1.76	324	PN	Pn	12 36 01.5	-1.5
KBTR				S	Sn	12 36 22.5	-2.7
KBTR	Krutoberegovo	1.76	324	*e*P	Pn	12 36 01.6	-1.5
KBTR				*e*S	Sn	12 36 22.6	-2.7
KBG	Krutoberegovo	1.83	323	PN	Pn	12 36 03.3	-0.8
KBG	Krutoberegovo	1.83	323	*e*P	Pn	12 36 03.3	-0.8
TUMD	Tumrok D	2.49	281	*e*P	Pn	12 36 12.6	-0.5
SMKR	Semkarok	2.54	316	PN	Pn	12 36 14.3	+0.4
SMKR	Semkarok	2.54	316	*e*P	Pn	12 36 14.3	+0.4
BZWR	Bezymyannyi-We	2.65	298	PN	Pn	12 36 16.2	+0.8
BZWR	Bezymyannyi-We	2.65	298	*e*P	Pn	12 36 16.2	+0.8
KMNR	Kamenistaya	2.71	292	PN	Pn	12 36 16.7	+0.5
KMNR	Kamenistaya	2.71	292	*e*P	Pn	12 36 16.7	+0.5
KIRR	Kirishev	2.72	297	PN	Pn	12 36 17.0	+0.6
KIRR				S	Sn	12 36 49.3	0.0
KIRR	Kirishev	2.72	297	*e*P	Pn	12 36 17.0	+0.6
KIRR				*e*S	Sn	12 36 49.3	0.0
KRSR	Krestovskiy	2.73	303	PN	Pn	12 36 16.5	0.0
KRSR				S	Sn	12 36 49.7	+0.3
KRSR	Krestovskiy	2.73	303	*e*P	Pn	12 36 16.6	0.0
KRSR				*e*S	Sn	12 36 49.7	+0.3
KLY	Klyuchi	2.73	305	PN	Pn	12 36 15.2	-1.2
KLY				S	Sn	12 36 46.7	-2.6
KLY	Klyuchi	2.73	305	*e*P	Pn	12 36 15.3	-1.2
KLY				*e*S	Sn	12 36 46.8	-2.6
KPT	Kopyto	2.79	297	PN	Pn	12 36 18.4	+1.1
KPT	Kopyto	2.79	297	*e*P	Pn	12 36 18.4	+1.1
KOZ	Kozyrevsk	3.00	297	PN	Pn	12 36 21.1	+0.9
KOZ	Kozyrevsk	3.00	297	*e*P	Pn	12 36 21.2	+0.9
KII	Karymskiy	3.14	258	PN	Pn	12 36 22.2	+0.1
KII	Karymskiy	3.14	258	*e*P	Pn	12 36 22.3	+0.1
SRDR	Sredinnyy	3.19	300	PN	Pn	12 36 23.5	+0.7
SRDR	Sredinnyy	3.19	300	*e*P	Pn	12 36 23.5	+0.7
SPN	Mys Shipunski	3.23	240	PN	Pn	12 36 22.0	-1.3
SPN	Mys Shipunski	3.23	240	*e*P	Pn	12 36 22.0	-1.3
NLC	Nalytchevo	3.54	245	PN	Pn	12 36 27.8	+0.3
NLC				S	Sn	12 37 06.9	-2.3
NLC	Nalytchevo	3.54	245	*e*P	Pn	12 36 27.8	+0.3
NLC				*e*S	Sn	12 37 07.0	-2.3
ESO	Esso	3.58	291	PN	Pn	12 36 27.9	-0.2
ESO	Esso	3.58	291	*e*P	Pn	12 36 28.0	-0.2
UGLR	Uglovaya	3.80	248	PN	Pn	12 36 30.9	-0.3
UGLR	Uglovaya	3.80	248	*e*P	Pn	12 36 30.9	-0.3
AVH	Avacha	3.82	249	PN	Pn	12 36 31.6	+0.2
AVH				S	Sn	12 37 14.5	-1.7
AVH	Avacha	3.82	249	*e*P	Pn	12 36 31.6	+0.2
AVH				*e*S	Sn	12 37 14.6	-1.7
KRX	Arik	3.83	250	PN	Pn	12 36 31.4	-0.2
KRX	Arik	3.83	250	*e*P	Pn	12 36 31.5	-0.2
KOK	Koryaka	3.86	249	PN	Pn	12 36 32.1	+0.1
KOK	Koryaka	3.86	249	*e*P	Pn	12 36 32.2	+0.1
DALK	Dalny	3.92	245	PN	Pn	12 36 31.7	-1.0
DALK	Dalny	3.92	245	*e*P	Pn	12 36 31.8	-1.0
PET	Petropavlovsk	3.98	246		Pn	12 36 33.4	-0.1
PET	Petropavlovsk	3.98	246	*e*PN	Pn	12 36 33.4	-0.1
PET				pmax	pmax		
comp=Z,148nm,1.0s							
PET	Petropavlovsk	3.98	246	*e*P	Pn	12 36 33.4	-0.1
PET				*e*S	Sn	12 37 17.6	-2.3
INSR	Institute	3.98	247	PN	Pn	12 36 33.0	-0.6
INSR	Institute	3.98	247	*e*P	Pn	12 36 33.1	-0.6
GNL	Ganaly	4.09	257	PN	Pn	12 36 36.1	+0.8
GNL	Ganaly	4.09	257	*e*P	Pn	12 36 36.1	+0.8
KRMR	Karymshinskiy	4.35	246	PN	Pn	12 36 39.0	+0.4
KRMR	Karymshinskiy	4.35	246	*e*P	Pn	12 36 39.0	+0.4
KRMR				*e*S	Sn	12 37 27.0	-2.0
PEA0B	Petropavlovsk-	4.45	250	Pn	Pn	12 36 40.9	+0.8
PEA0B	Petropavlovsk-	4.45	250	*i* PN	Pn	12 36 40.3	+0.2
PETK	Petropavlovsk-	4.45	250	Pn	Pn	12 36 39.9	-0.2
comp=Z,9.2nm,0.3s,baz=68,slow=17,SNR=188							
PETK				Sn	Sn	12 37 32.2	+0.5
comp=Z,4.8nm,0.3s,baz=52,slow=25,SNR=5.7							
PETK				LR	LR	12 38 38.6	
comp=Z,344nm,20.1s,baz=74,slow=42							
comp=Z,19nm,0.3s							
GRL	Gorelyy	4.52	243	PN	Pn	12 36 41.4	+0.3
GRL	Gorelyy	4.52	243	*e*P	Pn	12 36 41.5	+0.3
OSSR	Ossora	4.54	350	PN	Pn	12 36 41.6	+0.3
OSSR	Ossora	4.54	350	*e*P	Pn	12 36 41.6	+0.3
APC	Apacha	4.82	250	PN	Pn	12 36 46.1	+1.0
APC	Apacha	4.82	250	*e*P	Pn	12 36 46.2	+1.0
APC				*e*S	Sn	12 37 39.2	-1.6
TILK	Tilichiki	5.71	7	PN	Pn	12 36 58.1	+0.8
TILK	Tilichiki	5.71	7	*e*P	Pn	12 36 58.2	+0.8
PAU	Pauzhetka	5.79	238	PN	Pn	12 36 59.2	+0.8
PAU	Pauzhetka	5.79	238	*e*P	Pn	12 36 59.3	+0.8
SEY	Seymchan	10.32	327	*i* PN	Pn	12 38 01.5	+1.0
TYV	Tymovskoe	13.86	263	*e*P	Pn	12 38 51.1	+2.3
TYV				pmax	pmax		
comp=Z,10.0nm,1.2s							
TYV				pmax	pmax		
comp=Z,100nm,4.7s							
SPIA	Saint Paul Isl	14.21	70	P	P	12 38 59.4	-1.7
baz=271							
P08K	Saint George I	14.62	72	P	P	12 39 04.6	-1.0
baz=274							
GAMB	Gambell	14.96	44	P	P	12 39 07.4	-1.9
GAMB	Gambell	14.96	44	P	P	12 39 09.2	-0.1
baz=244							
YSS	Yuzhno-Sakhali	15.85	249	*e*P	Pn	12 39 16.2	+0.6
YSS				pmax	pmax		
comp=Z,10.0nm,0.9s							
M11K	Mekoryuk	16.50	58	P	P	12 39 27.8	+1.4
baz=263							
UNV	Unalaska Valle	16.80	81	P	P	12 39 32.9	+3.1
baz=285	

E17K	Hotham Inlet	20.07	39	P	Pn	12 40 06.6	-0.8
	baz=249						
RDOG	Red Dog Mine	20.08	36	P	Pn	12 40 06.9	-0.6
RDOG	Red Dog Mine	20.08	36	P	Pn	12 40 07.3	-0.2
	baz=245						
M16K	Timber Creek	20.09	57	P	P	12 40 06.1	+0.2
	baz=268						
S14K	Fog Glacier	20.16	71	P	P	12 40 07.6	+0.8
	baz=281						
C17K	DeLong Mountai	20.17	35	P	P	12 40 07.6	+0.8
	baz=243						
H17K	Granite Mounta	20.18	46	P	Pn	12 40 08.3	-0.4
H17K	Granite Mounta	20.18	46	P	P	12 40 07.2	+0.4
	baz=257						
J17K	VABM Dome	20.25	50		Pn	12 40 09.2	-0.3
J17K				IAmb	IAmb	12 40 13.9	
	comp=Z,17nm,1.1s						
J17K	VABM Dome	20.25	50	P	P	12 40 07.4	-0.2
	baz=262						
CHNA	Chernabura Isl	20.46	75	P	P	12 40 10.9	+0.9
	baz=285						
L17K	Donlin	20.47	54	P	P	12 40 09.8	-0.1
	baz=266						
K17K	Iditarod	20.51	52	P	Pn	12 40 12.0	-0.7
K17K				IAmb	IAmb	12 40 35.2	
	comp=Z,26nm,1.3s						
K17K	Iditarod	20.51	52	P	P	12 40 10.4	-0.1
	baz=264						
O16K	Kokwok River B	20.54	61	P	P	12 40 10.3	-0.4
	baz=273						
P16K	Nushagak River	20.63	63	P	P	12 40 12.2	+0.4
	baz=274						
E18K	Tukpahlearik C	20.64	39	P	Pn	12 40 13.0	-1.1
E18K	Tukpahlearik C	20.64	39	P	P	12 40 12.0	+0.3
	baz=249						
F18K	Selawik	20.72	41	P	P	12 40 13.1	+0.5
	baz=253						
CHGN	Chignik	20.78	71	P	P	12 40 14.4	+1.0
	baz=281						
M17K	Holitna River	20.84	56	P	P	12 40 15.3	+1.3
M17K				IAmb	IAmb	12 40 18.8	
	comp=Z,12nm,0.8s						
M17K	Holitna River	20.84	56	P	P	12 40 14.1	+0.1
	baz=269						
H18K	Honhosa River	20.86	46	P	P	12 40 15.4	+1.1
H18K	Honhosa River	20.86	46	P	P	12 40 14.6	+0.3
	baz=258						
KLR	Kul'dur	20.88	268	P	P	12 40 13.2	-1.4
	comp=Z,1.4nm,0.7s,baz=62,slow=9.9,SNR=4.8						
	comp=Z,1.4nm,0.7s						
KLR	Kul'dur	20.88	268	eP	P	12 40 15.9	+1.4
KLR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
C18K	Utukok River	20.90	35	P	P	12 40 15.2	+0.5
C18K	Utukok River	20.90	35	P	P	12 40 15.6	+0.8
	baz=246						
G18K	Tagagawik	20.92	43	P	Pn	12 40 16.1	-1.2
G18K	Tagagawik	20.92	43	P	P	12 40 15.7	+0.8
	baz=256						
N17K	Nushagak Hills	20.96	59	P	P	12 40 15.8	+0.4
	baz=271						
B18K	Kokolik River	21.02	33	P	P	12 40 16.9	+1.1
	baz=243						
O17K	Koliganek Bris	21.04	61	P	P	12 40 17.2	+1.0
	baz=273						
L18K	Granite Mounta	21.23	54	P	P	12 40 19.2	+1.1
	baz=267						
J18K	Innoko River	21.31	50	P	P	12 40 20.1	+1.1
J18K	Innoko River	21.31	50	P	P	12 40 19.7	+0.7
	baz=264						
GCSA	Galena City Sc	21.41	47	P	P	12 40 21.4	+1.3
	baz=260						
F19K	Shaleruckik Mo	21.50	41	P	P	12 40 22.0	+0.9
F19K	Shaleruckik Mo	21.50	41	P	P	12 40 22.4	+1.2
	baz=254						
TTA	Tatalina	21.58	52	P	P	12 40 22.5	+0.4
	baz=266						
N18K	Kilae Creek	21.60	58	P	P	12 40 21.7	-0.5
N18K				IAmb	IAmb	12 40 26.2	
	comp=Z,13nm,0.9s						
N18K	Kilae Creek	21.60	58	P	P	12 40 22.6	+0.4
	baz=272						
G19K	Purcell Mounta	21.60	43	P	P	12 40 24.0	+1.8
G19K	Purcell Mounta	21.60	43	P	P	12 40 22.7	+0.5
	baz=257						
M18K	Stony River	21.62	56	P	P	12 40 22.6	+0.2
	baz=270						
ZEA	Zeya	21.71	283	i P	P	12 40 25.2	+1.8
J19K	Poorman	21.85	49	P	P	12 40 25.0	+0.2
	baz=264						
E19K	Redstone River	21.88	40	IAmb	IAmb	12 40 28.9	
	comp=Z,16nm,0.9s						
E19K	Redstone River	21.88	40	P	P	12 40 26.0	+0.9
	baz=253						
D19K	Kuna River	21.89	37	P	P	12 40 24.7	-0.7
D19K	Kuna River	21.89	37	P	P	12 40 26.3	+0.9
	baz=250,SNR=6.6						
P18K	Big Mountain,	22.01	62	P	P	12 40 27.3	+0.6
	baz=276						
N19K	Bonanza Creek	22.28	58	P	P	12 40 29.3	-0.4
	baz=273						
M19K	Big River Lodg	22.30	55	P	P	12 40 30.0	+0.2
	baz=270						
F20K	Avaraart Lake	22.34	41	P	P	12 40 30.7	+0.6
	baz=256						
H20K	Anotleneega Mo	22.36	45	P	P	12 40 30.9	+0.5
	baz=261						
D20K	Etivluk River	22.48	37	P	P	12 40 32.4	+0.7
	baz=251,SNR=7.7						
K20K	Telida	22.49	51	P	P	12 40 31.9	+0.1
	baz=267						
E20K	Nigu River	22.49	38	P	P	12 40 32.2	+0.4
	baz=253						
J20K	Nowinta River	22.51	49	P	P	12 40 31.6	-0.3
J20K				IAmb	IAmb	12 40 34.5	
	comp=Z,13nm,0.8s						
J20K	Nowinta River	22.51	49	P	P	12 40 31.5	-0.4
	baz=265,SNR=7.7						
Q19K	Cape Douglas,	22.88	63	P	P	12 40 35.6	-0.3
	baz=278						
P19K	Oil Pt	23.00	61	P	P	12 40 37.1	-0.1
	baz=276						
F21K	Alatna River	23.23	41	P	P	12 40 39.6	+0.1
F21K				IAmb	IAmb	12 40 41.3	
	comp=Z,11nm,1.1s						
F21K	Alatna River	23.23	41	P	P	12 40 39.3	-0.2
	baz=258						
H21K	Melozitna Rive	23.24	45	IAmb	IAmb	12 40 41.8	
	comp=Z,13nm,1.0s						
H21K	Melozitna Rive	23.24	45	P	P	12 40 38.9	-0.7
	baz=263						
C21K	Knifeblade Rid	23.25	36	P	P	12 40 39.5	-0.1
	baz=252						
O20K	Slope Mountain	23.26	59	P	P	12 40 39.4	-0.4
	baz=276						
CHUM	Lake Minchumin	23.30	50	P	P	12 40 39.5	-0.6
	baz=267						
E21K	Killik River	23.34	38	P	P	12 40 40.5	0.0
	baz=255						
CAST	Castle Rocks	23.38	51	P	P	12 40 41.8	+0.8
CAST	Castle Rocks	23.38	51	P	P	12 40 40.6	-0.4
	baz=268						
B21K	Ikpikpuk River	23.45	35	IAmb	IAmb	12 40 43.1	
	comp=Z,23nm,1.0s						
B21K	Ikpikpuk River	23.45	35	P	P	12 40 42.4	+0.9
	baz=252						
I21K	Tanana	23.53	47	P	P	12 40 42.5	+0.1
I21K	Tanana	23.53	47	P	P	12 40 41.7	-0.7
	baz=265						
Q20K	Shuyak Island	23.57	63	P	P	12 40 42.9	+0.1
	baz=279						
KDAK	Kodiak Island	23.62	65	P	P	12 40 42.7	-0.6
KDAK	Kodiak Island	23.62	65	P	P	12 40 42.5	-0.8
	comp=Z,10nm,0.9s,baz=323,slow=1.1,SNR=8.0						
	comp=Z,10nm,0.9s						
KDAK	Kodiak Island	23.62	65	P	P	12 40 42.7	-0.6
KDAK				pmax	pmax		
	comp=Z,56nm,1.5s						
SKT	Skwentna	23.65	55	P	P	12 40 43.7	0.0
	baz=272						
H22K	Ishtalitna Cre	23.86	45	P	P	12 40 45.2	-0.3
	baz=264						
BPAW	Bear Paw Mtn.	23.89	49	P	P	12 40 46.6	+0.7
BPAW				IAmb	IAmb	12 40 47.8	
	comp=Z,12nm,1.0s						
BPAW	Bear Paw Mtn.	23.89	49	P	P	12 40 46.0	0.0
	baz=268						
D22K	Ayikyak River	23.90	37	P	P	12 40 46.1	+0.1
	baz=256						
KTH	Kantishna Hill	23.91	51	P	P	12 40 47.1	+0.9
KTH				IAmb	IAmb	12 40 48.2	
	comp=Z,25nm,1.4s						
G22K	Bettles	23.94	42	P	P	12 40 46.6	+0.3
	baz=261						
E22K	Anaktuvuk Pass	24.04	39	IAmb	IAmb	12 40 49.0	
	comp=Z,25nm,1.1s						
E22K	Anaktuvuk Pass	24.04	39	P	P	12 40 47.4	0.0
	baz=258						
B22K	Teshekpuk Lake	24.07	34	P	P	12 40 47.1	-0.4
	baz=251						
TRF	Thorofare Moun	24.19	51	P	P	12 40 49.1	+0.2
TRF	Thorofare Moun	24.19	51	P	P	12 40 48.2	-0.8
	baz=270,SNR=7.5						
M22K	Willow	24.33	55	P	P	12 40 49.4	-0.5
	baz=274						
COLD	Coldfoot	24.49	42	P	P	12 40 51.4	-0.1
COLD	Coldfoot	24.49	42	P	P	12 40 51.2	-0.2
	baz=262,SNR=17						
G23K	Bananza Creek	24.49	43	P	P	12 40 50.4	-1.1
	baz=263						
BWN	Browne	24.56	49	P	P	12 40 53.4	+1.3
RC01	Rabbit Creek A	24.57	57	P	P	12 40 51.6	-0.6
	baz=276						
D23K	Nanushuk River	24.63	38	P	P	12 40 53.1	+0.4
	baz=258						
I23K	Minto, Yukon-K	24.63	47	P	P	12 40 52.9	+0.2
I23K	Minto, Yukon-K	24.63	47	P	P	12 40 53.0	+0.2
	baz=267,SNR=14						
NEA2	Nenana	24.74	48	P	P	12 40 53.4	-0.3
NEA2	Nenana	24.74	48	P	P	12 40 53.6	-0.1
	baz=269,SNR=13						
MCK	McKinley	24.79	50	P	P	12 40 54.7	+0.5
MCK				IAmb	IAmb	12 41 27.7	
	comp=Z,19nm,1.4s						
MCK	McKinley	24.79	50	P	P	12 40 53.4	-0.8
	baz=271						
MCK	McKinley	24.79	50	P	P	12 40 54.7	+0.5
MCK				pmax	pmax		
	comp=Z,19nm,1.4s						
RND	Reindeer	24.84	51		P	12 40 54.1	-0.6
RND				IAmb	IAmb	12 40 55.6	
	comp=Z,20nm,1.0s						
RND	Reindeer	24.84	51	P	P	12 40 54.1	-0.6
RND				pmax	pmax		
	comp=Z,20nm,1.0s						
E23K	Chandalar	24.84	40	IAmb	IAmb	12 40 56.4	
	comp=Z,17nm,1.1s						
E23K	Chandalar	24.84	40	P	P	12 40 54.3	-0.4
	baz=261,SNR=17						
C23K	Itkillik River	24.85	35	IAmb	IAmb	12 40 59.0	
	comp=Z,23nm,1.4s						
C23K	Itkillik River	24.85	35	P	P	12 40 54.4	-0.2
	baz=256						
TOLK	Toolik Lake Re	24.96	38	P	P	12 40 55.6	-0.1
TOLK				IAmb	IAmb	12 40 57.9	
	comp=Z,11nm,0.9s						
TOLK	Toolik Lake Re	24.96	38	P	P	12 40 55.2	-0.5
	baz=259						
KNK	Knik Glacier	25.15	56	P	P	12 40 56.8	-0.7
	baz=276						
WRH	Wood River Hil	25.16	48	P	P	12 40 57.5	0.0
WRH				IAmb	IAmb	12 40 59.5	
	comp=Z,15nm,0.9s						
SML	Sawmill	25.17	55	P	P	12 40 57.5	-0.2
SML	Sawmill	25.17	55	P	P	12 40 56.3	-1.4
	baz=275						
SML	Sawmill	25.17	55	P	P	12 40 57.5	-0.2
SML				pmax	pmax		
	comp=Z,18nm,0.9s						
BNX	BinXian	25.21	264	⇓P	P	12 40 55.9	-2.2
BNX				pmax	pmax		
	comp=Z,3.0nm,0.6s						
E24K	Your Creek	25.26	40	P	P	12 40 58.4	0.0
	baz=262						
COLA	College	25.27	48	P	P	12 40 58.5	+0.1
COLA	College	25.27	48	P	P	12 40 57.3	-1.1
	baz=269						
COLA	College	25.27	48	i P	P	12 40 57.0	-1.4
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
PWL	Port Wells	25.28	57	P	P	12 40 57.9	-0.7
	baz=277						
CCB	Clear Creek Bu	25.28	48	P	P	12 40 58.5	-0.1
H24K	Noodor Dome	25.29	45	IAmb	IAmb	12 41 13.9	
	comp=Z,7.0nm,0.9s						
H24K	Noodor Dome	25.29	45	P	P	12 40 58.5	-0.2
	baz=267						
D24K	Happy Valley	25.32	37	P	P	12 40 58.9	+0.1
	baz=259						
F24K	Squaw Lake	25.42	41	IAmb	IAmb	12 41 00.1	
	comp=Z,4.8nm,0.7s						
F24K	Squaw Lake	25.42	41	P	P	12 40 59.4	-0.5
	baz=264						
POKR	Poker Plat Res	25.45	47	IAmb	IAmb	12 41 00.9	
	comp=Z,6.9nm,0.7s						
POKR	Poker Plat Res	25.45	47	P	P	12 40 59.5	-0.6
	baz=269						
M23K	Glacier View	25.46	55	P	P	12 40 59.7	-0.6
	baz=276						
C24K	Franklin Bluff	25.47	36	IAmb	IAmb	12 41 04.3	
	comp=Z,17nm,1.3s						
C24K	Franklin Bluff	25.47	36	P	P	12 41 00.3	0.0
	baz=258						
G24K	Hadweenzic Riv	25.50	43	P	P	12 41 00.9	+0.3
G24K	Hadweenzic Riv	25.50	43	P	P	12 41 00.2	-0.4
	baz=266,SNR=10						
SCM	Sheep Creek Mo	25.64	55	P	P	12 41 01.4	-0.6
	baz=276						
HDA	Harding Lake	25.66	49	P	P	12 41 01.5	-0.5
	baz=271,SNR=5.6						
IL31		25.68	48	P	P	12 41 01.6	-0.5
IL31				IAmb	IAmb	12 41 02.7	
	comp=Z,10nm,0.8s						
ILAR	Eielson Array	25.68	48	P	P	12 41 01.8	-0.4
ILAR	Eielson Array	25.68	48	P	P	12 41 01.5	-0.7
	comp=Z,8.5nm,0.8s,baz=261,slow=8.7,SNR=80						
ILAR				PcP	PcP	12 44 30.7	-1.4
	comp=Z,0.5nm,1.0s,baz=297,slow=4.0,SNR=2.5						
ILAR				LR	LR	12 49 49.5	
	comp=Z,44nm,20.5s,baz=238,slow=34						
	comp=Z,8.5nm,0.8s						
ILAR	Eielson Array	25.68	48	P	P	12 41 01.8	-0.4
MJAR	Matsushiro Arr	25.73	236	P	P	12 41 04.1	+1.1
	comp=Z,3.4nm,0.9s,baz=24,slow=8.7,SNR=5.7						
	comp=Z,3.4nm,0.9s						
MAJO	Matsushiro	25.74	236	i P	P	12 41 03.3	+0.3
H25L	Birch Creek	26.14	44	P	P	12 41 06.1	-0.2
	baz=268						
M24K	Tolsona, Glenn	26.16	54	P	P	12 41 06.1	-0.5
	baz=276						
K24K	Donnelly Dome	26.19	50	P	P	12 41 06.7	-0.2
	baz=273						
D25K	Kavik River	26.21	37	P	P	12 41 06.9	-0.1
	baz=261						
PRP	Porcupine Dome	26.25	46	P	P	12 41 07.7	+0.2
PRP	Porcupine Dome	26.25	46	P	P	12 41 07.2	-0.3
	baz=270,SNR=13						
F25K	Christian Rive	26.28	41	IAmb	IAmb	12 41 11.8	
	comp=Z,5.7nm,0.8s						
F25K	Christian Rive	26.28	41	P	P	12 41 06.8	-0.9
	baz=266						
J25K	Salcha River,	26.33	48	P	P	12 41 06.8	-1.4
	baz=272						
FYU	Fort Yukon	26.39	44	P	P	12 41 09.1	+0.6
HARP	HAARP	26.60	53	P	P	12 41 10.1	-0.5
	baz=277						
RIDG	Independent Ri	26.61	50	IAmb	IAmb	12 41 12.0	
	comp=Z,7.2nm,0.9s						
RIDG	Independent Ri	26.61	50	P	P	12 41 09.2	-1.5
	baz=274						
BMAR	Burnt Mountain	26.68	42	P	P	12 41 11.8	+0.5
C26K	Camden Bay	26.80	36	P	P	12 41 11.8	-0.5
	baz=262,SNR=8.7						
F26K	Sheenjek River	26.86	41	P	P	12 41 12.6	-0.3
	baz=267						
N25K	Chitina, Valde	26.96	55	P	P	12 41 13.7	-0.2
	baz=279						
G26K	Porcupine Rive	26.97	43	P	P	12 41 14.2	+0.4
	baz=269						
SCRK	Sand Creek	26.97	49	IAmb	IAmb	12 41 13.4	
	comp=Z,6.7nm,0.9s						
SCRK	Sand Creek	26.97	49	P	P	12 41 13.9	-0.1
	baz=274,SNR=5.0						
C27K	Jago River	27.18	37	P	P	12 41 15.9	+0.2
	baz=264						
L26K	Log Cabin Wild	27.35	51	P	P	12 41 16.9	-0.4
	baz=277						
CN2	Changchun	27.48	263	eP	P	12 41 17.5	-1.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
M26K	Nabesna, AK	27.59	53	P	P	12 41 18.7	-0.9
	baz=278						
G27K	Doyon Strip	27.81	43	P	P	12 41 21.3	-0.1
	baz=271						
I27K	Kandik River	27.88	46	P	P	12 41 21.5	-0.6
	baz=273						
H27K	Steamboat Moun	27.88	44	P	P	12 41 21.7	-0.4
	baz=272,SNR=5.9						
L27K	Beaver Creek,	28.03	51	IAmb	IAmb	12 41 24.6	
	comp=Z,10nm,0.9s						
L27K	Beaver Creek,	28.03	51	P	P	12 41 22.3	-1.1
	baz=278						
D27M	Malcolm River	28.11	38	P	P	12 41 24.3	+0.1
	baz=267						
M27K	Edge Creek, AK	28.11	53	P	P	12 41 24.0	-0.3
	baz=279						
EGAK	Eagle	28.13	47	P	P	12 41 23.0	-1.2
EGAK				IAmb	IAmb	12 41 24.2	
	comp=Z,13nm,0.9s						
EGAK	Eagle	28.13	47	P	P	12 41 23.3	-0.9
	baz=275,SNR=6.7						
F28M	Old Crow	28.49	41	IAmb	IAmb	12 41 28.6	
	comp=Z,5.5nm,0.8s						
F28M	Old Crow	28.49	41	P	P	12 41 28.1	+0.6
	baz=271,SNR=5.5						
BVCY	Beaver Creek	28.57	52	P	P	12 41 28.6	+0.3
	baz=280						
I28M	Miner Creek	28.58	46	P	P	12 41 28.6	+0.2
	baz=275						
E28M	Babbage River	28.61	39	P	P	12 41 28.1	-0.4
	baz=270						
DAWY	Dawson	28.97	49	IAmb	IAmb	12 41 32.5	
	comp=Z,6.9nm,1.2s						
DAWY	Dawson	28.97	49	P	P	12 41 31.8	0.0
	baz=278						
H29M	Whitestone	29.16	44	P	P	12 41 33.8	+0.4
	baz=275						
O28M	Mount Upton	29.22	56	P	P	12 41 32.4	-1.9
	baz=283						
E29M	Blow River	29.22	40	P	P	12 41 34.0	+0.1
	baz=271						
G29M	Pine Creek	29.24	43	IAmb	IAmb	12 41 35.7	
	comp=Z,12nm,0.9s						
G29M	Pine Creek	29.24	43	P	P	12 41 34.5	+0.4
	baz=274						
I29M	Ogilvie Camp,	29.27	46	P	P	12 41 33.8	-0.6
	baz=276						
M29M	Somme Creek	29.66	52	P	P	12 41 38.5	+0.4
	baz=282						
L29M	L29M	29.69	51	IAmb	IAmb	12 41 39.7	
	comp=Z,11nm,0.8s						
L29M	L29M	29.69	51	P	P	12 41 38.6	+0.5
	baz=281						
EPYK	Eagle Plains	29.81	44	P	P	12 41 40.0	+0.8
	baz=276						
YUK4	Talbot Arm	29.82	54	P	P	12 41 39.8	+0.3
	baz=283						
K29M	Barlow Dome	29.82	49	P	P	12 41 39.8	+0.4
	baz=280						
G30M	tAoh Zraii Nji	29.94	43	P	P	12 41 40.6	+0.2
	baz=275						
YUK6	Outpost Mounta	30.05	55	P	P	12 41 41.6	+0.1
	baz=284						
F30M	Barrier River	30.06	41	P	P	12 41 41.3	0.0
	baz=275						
I30M	Mount Dempster	30.09	46	IAmb	IAmb	12 41 43.0	
	comp=Z,8.3nm,1.0s						
I30M	Mount Dempster	30.09	46	P	P	12 41 41.2	-0.6
	baz=278						
KSRS	Korea Array	30.35	250	P	P	12 41 45.1	+1.0
	comp=Z,2.7nm,0.8s,baz=43,slow=9.3,SNR=10						
KSRS				LR	LR	12 54 56.5	
	comp=Z,43nm,18.4s,baz=45,slow=38						
	comp=Z,2.7nm,0.8s						
KSRS	Korea Array	30.35	250	eP	P	12 41 46.3	+2.2
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
M30M	Minto, Yukon	30.39	51	P	P	12 41 44.3	-0.1
	baz=282						
HYT	Haines Junctio	30.48	55	P	P	12 41 44.9	-0.4
	baz=285						
G31M	Satah River	30.71	42	P	P	12 41 47.2	+0.1
	baz=277						
H31M	Peel River	30.84	45	P	P	12 41 48.3	0.0
	baz=279						
INK	Inuvik	30.84	40	P	P	12 41 48.4	+0.2
INK				IAmb	IAmb	12 41 48.9	
	comp=Z,4.6nm,0.8s						
INK	Inuvik	30.84	40	P	P	12 41 48.2	0.0
	comp=Z,4.3nm,0.5s,baz=290,slow=6.7,SNR=30						
	comp=Z,4.3nm,0.5s						
INK	Inuvik	30.84	40	P	P	12 41 48.4	+0.2
	baz=276,SNR=5.1						
INK	Inuvik	30.84	40	P	P	12 41 48.4	+0.2
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
F31M	Tsiigehtchic	30.86	41	P	P	12 41 48.4	+0.1
	baz=277						
O30N	Mendenhall	31.16	55	P	P	12 41 50.2	-1.0
	baz=286						
M31M	Drury Creek, Y	31.57	52	IAmb	IAmb	12 41 56.4	
	comp=Z,6.1nm,0.7s						
M31M	Drury Creek, Y	31.57	52	P	P	12 41 55.1	+0.3
	baz=285						
WHY	Whitehorse	31.77	54	P	P	12 41 55.3	-1.3
	baz=287						
S31K	Pelican	31.97	60	P	P	12 41 58.1	-0.1
	baz=290						
FARO	Faro, Yukon	32.03	51	P	P	12 41 58.1	-0.7
	baz=286						
S32K	Killisnoo	32.98	60	P	P	12 42 07.3	+0.2
	baz=292						
A36M	Sachs Harbour	33.26	32	P	P	12 42 08.7	-0.7
A36M				IAmb	IAmb	12 42 15.1	
	comp=Z,4.5nm,0.9s						
A36M	Sachs Harbour	33.26	32	P	P	12 42 10.2	+0.8
	baz=277						
Q32M	Nakina River	33.57	57	P	P	12 42 12.0	-0.4
	baz=291						
R33M	Jennings River	34.04	56	P	P	12 42 15.7	-0.7
	baz=291						
C36M	Paulatuk	34.08	37	P	P	12 42 16.4	-0.1
C36M				IAmb	IAmb	12 42 17.1	
	comp=Z,7.5nm,0.8s						
C36M	Paulatuk	34.08	37	P	P	12 42 16.6	+0.1
	baz=282,SNR=9.8						
S34M	Telegraph Cree	34.52	58	P	P	12 42 20.1	-0.3
	baz=293						
WTLY	Watson Lake, Y	34.80	54	P	P	12 42 22.8	-0.1
	baz=292						
DLBC	Dease Lake	34.85	57	P	P	12 42 23.7	+0.2
	comp=Z,4.7nm,0.9s,baz=272,slow=5.1,SNR=7.7						
	comp=Z,4.7nm,0.9s						
DLBC	Dease Lake	34.85	57	P	P	12 42 23.3	-0.1
	baz=293						
H11N2	WAKE ISLAND Hy	35.05	176	T	T	13 20 59.8	
	baz=359,slow=76,SNR=44						
H11N3	WAKE ISLAND Hy	35.07	176	T	T	13 20 56.9	
	baz=359,slow=76,SNR=31						
H11N1	WAKE ISLAND Hy	35.07	176	T	T	13 21 01.1	
	baz=359,slow=76,SNR=38						
SONM	Songino Array	36.13	284	P	P	12 42 34.3	-0.3
	comp=Z,0.5nm,0.6s,baz=52,slow=9.3,SNR=2.8						
SONM				LR	LR	12 59 42.6	
	comp=Z,49nm,18.0s,baz=220,slow=40						
	comp=Z,0.5nm,0.6s						
H11S1	WAKE ISLAND Hy	36.26	177	T	T	13 22 20.0	
	baz=353,slow=74						
H11S3	WAKE ISLAND Hy	36.27	177	T	T	13 22 22.2	
	baz=353						
H11S2	WAKE ISLAND Hy	36.28	177	T	T	13 22 25.5	
	baz=353,slow=74						
TOAD	Toad River Com	36.97	54	P	P	12 42 41.8	+0.3
	baz=295						
KOTAN	Kotaneelee Air	36.98	52	P	P	12 42 41.4	-0.1
	baz=294						
EUNU	Eureka	39.62	15	IAmb	IAmb	12 43 04.8	
	comp=Z,7.3nm,0.8s						
YKA	Yellowknife Ar	40.06	45	P	P	12 43 07.2	-0.1

YKA pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 44.11 303 P P 12 43 39.8 -0.7
comp=Z,0.6nm,0.9s,baz=358,slow=4.3,SNR=1.5
comp=Z,0.6nm,0.9s
GTA Gaotai 45.07 278 *eP* **P 12 43 52.3 +3.8**
GTA sP pwP 12 44 06.4 +9.2
GTA pmax pmax
comp=Z,3.0nm,1.2s
B08A Colville Reser 45.50 65 P P 12 43 51.6 -0.1
B08A IAmb IAmb 12 44 19.2
comp=Z,6.0nm,1.4s
SPITS Spitsbergen Ar 45.87 351 P P 12 43 53.3 -1.0
comp=Z,14nm,1.0s,baz=45,slow=2.4,SNR=4.3
comp=Z,14nm,1.0s
KURK Kurchatov 49.10 303 P P 12 44 19.2 -0.4
KURK IAmb IAmb 12 44 20.5
comp=Z,3.7nm,0.8s
KURK Kurchatov 49.10 303 *ceP* **P 12 44 18.2 -1.4**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 49.20 303 P P 12 44 20.2 -0.2
comp=Z,2.2nm,0.6s,baz=57,slow=8.0,SNR=24
KURBB PcP **PcP 12 45 42.4 -1.0**
comp=Z,0.7nm,1.0s,baz=52,slow=3.3,SNR=2.5
comp=Z,2.2nm,0.6s
MK31 Makanchi Array 49.82 297 *ceP* **P 12 44 24.2 -1.0**
MKAR Makanchi Array 49.82 297 P **P 12 44 24.3 -0.9**
MKAR Makanchi Array 49.82 297 P **P 12 44 24.9 -0.3**
comp=Z,1.2nm,0.7s,baz=57,slow=7.2,SNR=10
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 49.82 297 *eP* **P 12 44 25.3 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MAKZ Makanchi 49.97 297 P **P 12 44 26.1 -0.3**
MAKZ Makanchi 49.97 297 P **P 12 44 26.1 -0.3**
MAKZ pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 51.41 310 P **P 12 44 36.9 -0.3**
comp=Z,1.3nm,0.6s,baz=70,slow=8.5,SNR=6.9
comp=Z,1.3nm,0.6s
BRVK Borovoye 51.44 310 *ceP* **P 12 44 36.5 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 52.47 343 P **P 12 44 43.6 -1.1**
comp=Z,3.1nm,0.9s,baz=25,slow=15,SNR=4.7
comp=Z,3.1nm,0.9s
ARCES ARCESS Array B 52.47 343 *eP* **P 12 44 45.2 +0.4**
ARCES pmax pmax
comp=Z,9.0nm,1.2s
NVAR Mina Array Bea 52.65 74 P **P 12 44 47.5 +0.7**
comp=Z,2.0nm,0.9s,baz=288,slow=8.6,SNR=6.4
comp=Z,2.0nm,0.9s
R11B Troy Canyon, C 54.21 73 P **P 12 44 58.2 -0.1**
baz=316
PDAR Pinedale Array 54.34 65 P **P 12 44 59.3 +0.1**
comp=Z,1.3nm,0.9s,baz=325,slow=2.3,SNR=8.4
comp=Z,1.3nm,0.9s
SPR3 Spring Creek 3 54.44 71 P **P 12 45 00.6 +0.5**
SPR3 IAmb IAmb 12 45 02.7
comp=Z,5.6nm,0.9s
MPU Maple Canyon 55.18 68 P **P 12 45 05.7 +0.4**
MPU IAmb IAmb 12 45 07.3
comp=Z,3.6nm,0.8s
TMUT Trail Mountain 55.93 69 IAmb IAmb 12 45 12.7
comp=Z,4.4nm,0.8s
SRU San Rafael Swe 56.43 68 IAmb IAmb 12 45 16.1
comp=Z,6.7nm,0.9s
AAK Ala-Archa 56.70 298 *ceP* **P 12 45 15.6 -0.5**
AAK pmax pmax
comp=Z,3.0nm,1.3s
N23A Red Feather La 57.56 64 P **P 12 45 21.3 -1.1**
baz=317
KSH Kashi 58.20 295 P **P 12 45 30.9 +4.3**
KSH pmax pmax
comp=Z,2.0nm,0.8s
S22A 4UR Ranch, Cre 59.41 67 P **P 12 45 34.8 -0.5**
baz=318
FINES FINESS Array B 59.58 338 P **P 12 45 35.4 -0.3**
comp=Z,3.5nm,0.8s,baz=31,slow=7.8,SNR=7.1
comp=Z,3.5nm,0.8s
FINES FINESS Array B 59.58 338 *eP* **P 12 45 35.7 0.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 61.15 261 P **P 12 45 47.8 +0.8**
comp=Z,1.4nm,0.7s,baz=21,slow=7.6,SNR=11
CMAR LR LR 13 14 53.4
comp=Z,22nm,18.7s,baz=65,slow=39
comp=Z,1.4nm,0.7s
CMAR Chiang Mai Arr 61.15 261 *i* P **P 12 45 48.7 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 61.69 69 *i* P **P 12 45 48.8 -2.0**
ANMO pmax pmax
comp=Z,7.0nm,2.6s
NB2 NORSAR Subarra 62.60 346 P **P 12 45 56.1 -0.2**
comp=Z,1.6nm,0.6s,baz=17,slow=6.9
NOA NORSAR Array B 62.60 346 P **P 12 45 55.8 -0.6**
comp=Z,3.3nm,0.8s,baz=17,slow=6.7,SNR=8.3
comp=Z,3.3nm,0.8s
NOA NORSAR Array B 62.60 346 *eP* **P 12 45 55.7 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
SCHQ Schefferville 62.84 31 P **P 12 45 57.1 -0.8**
comp=Z,3.5nm,0.9s,baz=333,slow=7.6,SNR=4.7
comp=Z,3.5nm,0.9s
HFS Hagfors 63.10 344 P **P 12 45 58.6 -0.9**
comp=Z,3.1nm,0.5s,baz=19,slow=5.0,SNR=12
comp=Z,3.1nm,0.5s
TXAR Lajitas Array 67.50 71 P **P 12 46 29.3 +0.6**
TXAR Lajitas Array 67.50 71 P **P 12 46 29.0 +0.3**
comp=Z,4.2nm,0.6s,baz=299,slow=5.0,SNR=84
comp=Z,4.2nm,0.6s
FVM French Village 67.54 56 P **P 12 46 28.5 -0.2**
FVM French Village 67.54 56 P **P 12 46 28.5 -0.2**
FVM pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 68.47 331 P **P 12 46 33.5 -0.9**
comp=Z,0.3nm,0.3s,baz=29,slow=6.6,SNR=4.9
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 68.47 331 *eP* **P 12 46 34.5 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
JCT Junction City 68.70 67 P **P 12 46 35.1 -1.0**
JCT Junction City 68.70 67 P **P 12 46 35.1 -1.0**
JCT pmax pmax
comp=Z,7.0nm,0.9s
EKA Eskdalemuir Ar 69.77 353 P **P 12 46 42.1 -0.2**
comp=Z,3.4nm,0.8s,baz=20,slow=5.3,SNR=5.2
comp=Z,3.4nm,0.8s
KIV Kislovodsk 69.97 319 *eP* **P 12 46 42.0 -1.8**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.08 319 P **P 12 46 44.6 +0.3**
comp=Z,1.6nm,0.8s,baz=24,slow=2.8,SNR=5.0
comp=Z,1.6nm,0.8s
KBZ Khabaz 70.08 319 *eP* **P 12 46 42.8 -1.6**
KBZ pmax pmax
comp=Z,11nm,2.5s
CLL Collm 71.65 342 *eP* **P 12 46 54.0 +0.2**
CLL Collm 71.65 342 *eP* **P 12 46 54.0 +0.2**
MODS Modra-Piesok 73.59 338 *eP* **P 12 47 07.3 +1.9**
MODS Modra-Piesok 73.59 338 *eP* **P 12 47 07.3 +1.9**
KHC Kasperske Hory 73.63 341 *i* P **P 12 47 04.9 -0.8**
GERES GERESS Array B 73.88 341 P **P 12 47 07.4 +0.2**
comp=Z,1.8nm,0.8s,baz=32,slow=5.2,SNR=5.9
comp=Z,1.8nm,0.8s
ASAR Alice Springs 82.49 208 P **P 12 47 55.2 +0.3**
comp=Z,1.8nm,0.8s,baz=12,slow=4.3,SNR=8.5
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 85.39 351 P **P 12 48 10.0 +0.1**
comp=Z,3.3nm,0.9s,baz=354,slow=5.0,SNR=16
comp=Z,3.3nm,0.9s
QSPA South Pole Qui 144.55 180 PKP **PKPab 12 55 05.2 -1.0**
comp=Z,2.3nm,0.7s,baz=313,slow=0.7,SNR=14

IDC 14 12:41:24.1±2.1, 7°.22S×129°.20E, h0km, mb3.5/2, mbtmp3.8/5, ML4.1/3, Error ellipse: s-maj=71.1km s-min=25.8km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Cross**	**11.36**	**197**	Pn	Pn	12 44 09.8	+2.1
	1.0nm,0.3s,baz=14,slow=12,SNR=39						
FITZ				Sn	Sn	12 46 13.2	-2.3
	1.9nm,0.3s,baz=30,slow=18,SNR=5.8						
	2.0nm,0.3s						
WRA Warramunga Arr 13.60 159 Pn Pn 12 44 36.4 -2.0
0.9nm,0.3s,baz=336,slow=14,SNR=34
WRA Sn Sn 12 47 02.1 -8.3
0.9nm,0.3s,baz=327,slow=23,SNR=11
4.4nm,0.6s
ASAR Alice Springs 16.97 165 Pn Pn 12 45 23.0 -0.1
0.6nm,0.3s,baz=341,slow=9.8,SNR=39
ASAR Sn Sn 12 48 24.4 -8.1
0.1nm,0.3s,baz=349,slow=26,SNR=4.2
1.2nm,0.5s
CMAR Chiang Mai Arr 39.27 311 P P 12 48 55.2 +0.4
0.4nm,0.3s,baz=155,slow=8.0,SNR=5.3
0.4nm,0.3s
MKAR Makanchi Array 67.97 327 P P 12 52 24.4 -0.6
0.1nm,0.5s,baz=115,slow=7.4,SNR=2.7
0.1nm,0.5s

IDC 14 12:47:34.2±836.0, 52°.44N×5°.89E, h0km, Error ellipse: s-maj=411.4km s-min=122.5km az=124.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**6.14**	**123**	I	I	13 20 05.4	
	0.1nm,0.6s,baz=310,slow=316,SNR=1.2						
I48TN	**KESRA INFRASON**	**16.81**	**170**	I	I	14 31 47.1	
	baz=350,slow=323,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**32.00**	**72**	I	I	16 05 30.0	
	baz=294,slow=320,SNR=0.6						

IDC 14 12:51:08.4±3.0, 6°.70N×124°.80E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=354.6km s-min=22.0km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.09**	**161**	P	P	12 57 02.0	-0.1
	0.5nm,0.9s,baz=341,slow=7.9,SNR=4.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**31.46**	**164**	P	P	12 57 31.9	0.0
	0.3nm,0.3s,baz=338,slow=7.2,SNR=14						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.03**	**325**	P	P	13 00 35.1	+0.6
	0.4nm,0.4s,baz=119,slow=7.5,SNR=11						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**58.22**	**327**	P	P	13 01 03.4	-1.0
	0.7nm,0.2s,baz=130,slow=6.6,SNR=1.4						
	0.7nm,0.2s						

---

*IDC **14** 12:55:58.2±1.8, 23°.88S×114°.63W, h0km, mb3.5/3, mbtmp3.5/3, MS3.7/4, Error ellipse: s-maj=113.9km s-min=50.8km az=110.0*

ISC 14 12:55:58.1±1.9, 24°.25±0°.4×114°.8W±0°.7, h10km, n21, σ0°43/8, mb3.6/3, MS3.6/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**32.58**	**115**	T	T	13 37 54.6	
	baz=282,slow=75,SNR=5.8						
H03N3	**Juan Fernandez**	**32.59**	**115**	T	T	13 37 55.0	
	baz=282,slow=75,SNR=9.2						
H03N1	**Juan Fernandez**	**32.60**	**115**	T	T	13 37 55.5	
	baz=282,slow=75,SNR=6.3						
PLCA	**Paso Flores**	**40.33**	**125**	LR	LR	13 16 28.8	
	comp=Z,88nm,20.9s,baz=258,slow=30						
JTS	**Las Juntas de**	**44.95**	**44**	LR	LR	13 17 53.8	
	comp=Z,53nm,20.9s,baz=136,slow=30						
CMIG	**Matias Romero**	**45.37**	**27**	LR	LR	13 19 06.2	
	comp=Z,65nm,20.8s,baz=174,slow=31						
TXAR	**Lajitas Array**	**54.26**	**12**	P	**P**	**13 05 23.9**	**-0.6**
	0.4nm,1.0s,baz=200,slow=8.3,SNR=2.5						
	0.4nm,1.0s						
NVAR	**Mina Array Bea**	**62.37**	**357**	P	**P**	**13 06 21.3**	**+0.1**
	0.8nm,0.7s,baz=189,slow=8.6,SNR=3.5						
	0.8nm,0.7s						
VNDA	**Vanda**	**65.14**	**194**	LR	LR	13 29 37.5	
	comp=Z,118nm,19.7s,baz=313,slow=31						
YKA	**Yellowknife Ar**	**86.37**	**0**	P	**P**	**13 08 40.6**	**+0.7**
	0.3nm,0.7s,baz=185,slow=5.1,SNR=5.3						
	0.3nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**87.49**	**291**	T	T	14 44 35.8	
	baz=117,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hy**	**87.50**	**291**	T	T	14 44 34.7	
	baz=117,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**87.51**	**291**	T	T	14 44 34.9	
	baz=117,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**87.86**	**293**	T	T	14 44 58.0	
	baz=112,slow=78,SNR=14						
H11N1	**WAKE ISLAND Hy**	**87.88**	**293**	T	T	14 45 01.6	
	baz=112,slow=78,SNR=10						
H11N2	**WAKE ISLAND Hy**	**87.88**	**293**	T	T	14 45 04.1	
	baz=112,slow=78,SNR=27						
CMAR	**Chiang Mai Arr**	**148.15**	**266**	PKPbc	**PKPab**	**13 15 47.6**	**-0.3**
	0.6nm,0.8s,baz=128,slow=0.8,SNR=6.4						
BRTR	**Keskin Array B**	**149.22**	**52**	PKPbc	**PKiKP**	**13 15 48.6**	**+0.1**
	1.7nm,1.2s,baz=5.5,slow=30,SNR=3.3						
BVAR	**Borovoye Array**	**150.93**	**354**	PKPbc	**PKPbc**	**13 15 51.0**	**+0.2**
	0.4nm,0.5s,baz=335,slow=6.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**151.66**	**342**	PKPbc	**PKiKP**	**13 15 52.8**	**-0.1**
	0.6nm,0.8s,baz=6.9,slow=2.1,SNR=5.2						
MKAR	**Makanchi Array**	**153.62**	**333**	PKPbc	**PKPbc**	**13 15 56.9**	**-0.2**
	0.2nm,0.6s,baz=27,slow=1.4,SNR=3.8						

IDC 14 12:57:11.0±6.0, 21°.65S×167°.36E, h0km, mb3.7/3, mbtmp3.7/3, MS3.1/1, Error ellipse: s-maj=250.0km s-min=42.8km az=152.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**22.77**	**317**	LR	LR	13 08 43.6	
	comp=Z,45nm,19.8s,baz=176,slow=30						
WRA	**Warramunga Arr**	**30.88**	**267**	P	P	13 03 31.0	+1.6
	0.3nm,0.4s,baz=95,slow=9.3,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**30.90**	**260**	P	P	13 03 27.6	-2.0
	0.2nm,0.3s,baz=87,slow=9.2,SNR=5.2						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**93.05**	**18**	P	P	13 10 26.0	-0.1
	1.1nm,1.2s,baz=204,slow=4.0,SNR=2.1						
	1.1nm,1.2s						

---

*NEIC **14** 13:01:45.9±2.7, 51°.9N±0°.1×174°.1W±0°.1, h67km±7km, mb4.1/72, ML3.8(AEIC), Error ellipse: s-maj=18.1km s-min=8.4km az=159.0*

*IDC **14** 13:01:45.5±2.1, 52°.03N×174°.10W, h54km±17km, mb3.8/23, mbtmp4.1/25, ML4.4/2, MS3.4/4, Error ellipse: s-maj=15.3km s-min=10.3km az=161.0*

*AEIC **14** 13:01:47.0±2.8, 51°.9N±0°.1×174°.05W±0°.09, h51km±8km, Error ellipse: s-maj=17.3km s-min=7.3km az=165.0*

ISC 14 13:01:46.2±1.0, 51°.88N±0°.10×174°.02W±0°.04, h65km±7km, n146, σ1°57/137, mb4.2/39, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.34**	**341**		**Pn**	**13 01 57.0**	**-0.1**
ATKA	**Atka Island**	**0.34**	**341**		**Sn**	**13 02 05.5**	**+0.4**
GSMY	**Great Sitkin M**	**1.27**	**278**		**Pn**	**13 02 08.6**	**+0.5**
GSCK	**Great Sitkin C**	**1.33**	**276**		**Pn**	**13 02 09.2**	**+0.3**
ADAG	**Mount Adagdak**	**1.60**	**275**		**Pn**	**13 02 13.4**	**+1.0**
ADK	**Adak**	**1.65**	**271**		**Pn**	**13 02 13.5**	**+0.5**
ADK	**Adak**	**1.65**	**271**		**Sn**	**13 02 34.3**	**+1.0**
KIRH	**Kanaga Island**	**1.91**	**272**		**Pn**	**13 02 17.8**	**+1.3**
KIWB	**Kanaga Island**	**1.94**	**270**		**Pn**	**13 02 17.8**	**+0.8**
KIWB	**Kanaga Island**	**1.94**	**270**		**Sn**	**13 02 41.9**	**+1.6**
KICM	**Kanaga Island**	**1.97**	**272**		**Pn**	**13 02 18.4**	**+1.1**
TAFP	**Tanaga Falls P**	**2.46**	**272**		**Sn**	**13 02 54.5**	**+1.6**
OKWE	**Okmok W'ng Wal**	**3.86**	**63**		**Pn**	**13 02 44.8**	**+1.7**
OKTU	**Okmok Mt. Tuli**	**3.94**	**65**		**Pn**	**13 02 45.0**	**+0.8**
MAPS	**Pakushin South**	**4.70**	**63**		**Pn**	**13 02 56.0**	**+1.5**
MAPS					**Sn**	**13 03 49.3**	**+1.5**
MGOD	**Makushin Gods**	**4.74**	**63**		**Pn**	**13 02 56.3**	**+1.2**
UNV	**Unalaska Valle**	**4.96**	**64**	**Pn**	**Pn**	**13 02 59.6**	**+1.6**
UNV	**Unalaska Valle**	**4.96**	**64**		**Sn**	**13 03 56.0**	**+2.1**
P08K	**Saint George I**	**5.41**	**27**	**Pn**	**Pn**	**13 03 06.4**	**+2.3**
SPIA	**Saint Paul Isl**	**5.74**	**21**		**Pn**	**13 03 11.5**	**+2.8**
S12K	**Black Hills**	**8.04**	**57**	**Pn**	**Pn**	**13 03 42.3**	**+2.0**
M11K	**Mekoryuk**	**9.57**	**24**		**Pn**	**13 04 03.9**	**+3.0**
O14K	**Tigyukauivet M**	**10.31**	**39**	**Pn**	**Pn**	**13 04 14.3**	**+3.1**
M14K	**Bethel**	**11.11**	**32**		**Pn**	**13 04 25.1**	**+3.1**
N15K	**Kwethluk River**	**11.36**	**38**	**Pn**	**Pn**	**13 04 28.8**	**+3.3**
O16K	**Kokwok River B**	**11.81**	**43**	**Pn**	**Pn**	**13 04 35.4**	**+3.8**
J14K	**Nanvaranak Lak**	**12.25**	**23**		**Pn**	**13 04 41.2**	**+3.6**
M16K	**Timber Creek**	**12.35**	**36**	**Pn**	**Pn**	**13 04 41.5**	**+2.6**
L16K	**Owhat River**	**12.63**	**33**	**Pn**	**Pn**	**13 04 46.6**	**+3.8**
M17K	**Holitna River**	**13.15**	**37**	**Pn**	**Pn**	**13 04 52.1**	**+2.3**
J16K	**Anvik River**	**13.47**	**27**	P	**P**	**13 04 58.2**	**-3.0**
ANM	**Nome**	**13.49**	**16**	P	**P**	**13 04 58.2**	**-3.2**
Q19K	**Cape Douglas,**	**13.52**	**51**	P	**P**	**13 05 01.3**	**-0.5**
KDAK	**Kodiak Island**	**13.66**	**56**	**Pn**	**Pn**	**13 04 53.8**	**-2.9**
KDAK	**Kodiak Island**	**13.66**	**56**	P	**Pn**	**13 04 57.3**	**+0.6**
	0.8nm,0.3s,baz=189,slow=0.7,SNR=10						
KDAK				LR	LR	13 10 42.6	
	comp=Z,116nm,19.4s,baz=94,slow=40						
	2.9nm,0.4s						
K17K	**Iditarod**	**13.74**	**32**		**P**	**13 05 02.7**	**-1.5**
L18K	**Granite Mounta**	**13.95**	**35**	**Pn**	**Pn**	**13 05 00.9**	**+0.4**
J17K	**VABM Dome**	**13.99**	**29**	**Pn**	**Pn**	**13 04 59.3**	**-1.8**
ILSW	**Iliamna Southw**	**14.18**	**47**	**Pn**	**Pn**	**13 05 00.9**	**-2.8**
F15K	**North Star Dit**	**14.66**	**15**	P	**P**	**13 05 13.6**	**-0.8**
J18K	**Innoko River**	**14.78**	**32**		**Pn**	**13 05 09.7**	**-1.7**
H17K	**Granite Mounta**	**14.97**	**24**	P	**P**	**13 05 18.2**	**+0.3**
H17K				IAmb	IAmb	13 05 22.2	
	comp=Z,15nm,1.2s						
BRLK	**Bradley Lake**	**15.14**	**50**	**Pn**	**Pn**	**13 05 14.4**	**-1.6**
STLK	**Strandline Lak**	**15.45**	**43**	P	**P**	**13 05 23.4**	**+0.2**
J19K	**Poorman**	**15.50**	**31**		**Pn**	**13 05 18.6**	**-1.9**
H18K	**Honhosa River**	**15.54**	**25**	P	**P**	**13 05 26.2**	**+2.0**
H18K				IAmb	IAmb	13 05 41.5	
	comp=Z,16nm,1.1s						
RC01	**Rabbit Creek A**	**16.18**	**46**	**Pn**	**Pn**	**13 05 26.5**	**-2.6**
CAST	**Castle Rocks**	**16.36**	**37**	P	**P**	**13 05 33.8**	**+0.5**
CAST				IAmb	IAmb	13 05 40.4	
	comp=Z,16nm,1.4s						
PWL	**Port Wells**	**16.72**	**47**	**Pn**	**Pn**	**13 05 33.9**	**-2.0**
KTH	**Kantishna Hill**	**16.87**	**37**	P	**P**	**13 05 38.9**	**-0.1**
KTH				IAmb	IAmb	13 05 46.7	
	comp=Z,12nm,1.1s						
KNK	**Knik Glacier**	**16.87**	**46**	**Pn**	**Pn**	**13 05 34.8**	**-3.0**
TRF	**Thorofare Moun**	**17.05**	**38**	**Pn**	**Pn**	**13 05 39.3**	**-0.9**
TRF				IAmb	IAmb	13 05 45.7	
	comp=Z,26nm,1.5s						
SML	**Sawmill**	**17.09**	**44**	**Pn**	**Pn**	**13 05 39.6**	**-0.9**
SML				IAmb	IAmb	13 05 52.0	
	comp=Z,23nm,1.4s						
BPAW	**Bear Paw Mtn.**	**17.15**	**36**	P	**P**	**13 05 43.6**	**+1.5**
PETK	**Petropavlovsk-**	**17.23**	**285**	P	**P**	**13 05 43.8**	**+0.9**
	comp=Z,5.0nm,0.9s,baz=74,slow=11,SNR=5.3						
I21K	**Tanana**	**17.46**	**32**	P	**P**	**13 05 46.9**	**+1.6**
I21K				IAmb	IAmb	13 05 56.5	
	comp=Z,16nm,1.4s						
SCM	**Sheep Creek Mo**	**17.53**	**45**	**Pn**	**Pn**	**13 05 43.1**	**-2.9**
MCK	**McKinley**	**17.72**	**38**	P	**Pn**	**13 05 46.5**	**-1.7**
KLU	**Klutina**	**18.04**	**47**	P	**P**	**13 05 50.9**	**-1.0**
KLU				IAmb	IAmb	13 06 18.2	
	comp=Z,14nm,1.3s						
I23K	**Minto, Yukon-K**	**18.33**	**34**		**Pn**	**13 05 56.6**	**+1.1**
I23K				IAmb	IAmb	13 05 59.9	
	comp=Z,8.6nm,0.8s						
D19K	**Kuna River**	**18.34**	**19**	IAmb	IAmb	13 06 05.2	
	comp=Z,6.3nm,0.6s						
WRH	**Wood River Hil**	**18.42**	**37**	P	**P**	**13 05 54.9**	**-1.0**
HDA	**Harding Lake**	**18.82**	**38**	Pn	**Pn**	**13 06 01.4**	**0.0**
HDA				IAmb	IAmb	13 06 01.9	
	comp=Z,12nm,0.9s						
IL31		**19.02**	**37**	P	**P**	**13 06 01.1**	**-1.3**
ILAR	**Eielson Array**	**19.02**	**37**		**P**	**13 06 00.6**	**-1.9**
ILAR	**Eielson Array**	**19.02**	**37**	P	**P**	**13 06 01.1**	**-1.3**
	comp=Z,3.0nm,0.3s,baz=239,slow=10,SNR=93						
ILAR				S	**S**	**13 09 32.5**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=230,slow=16,SNR=1.7						
	comp=Z,4.1nm,0.4s						
E21K	**Killik River**	**19.20**	**23**	IAmb	IAmb	13 06 13.2	
	comp=Z,6.9nm,0.8s						
H24K	**Noodor Dome**	**19.23**	**33**	IAmb	IAmb	13 06 10.9	
	comp=Z,9.4nm,1.1s						
COLD	**Coldfoot**	**19.34**	**28**	IAmb	IAmb	13 06 23.5	
	comp=Z,11nm,1.3s						
RIDG	**Independent Ri**	**19.34**	**41**	P	**P**	**13 06 05.2**	**-0.8**
RIDG				IAmb	IAmb	13 06 07.7	
	comp=Z,9.0nm,0.5s						
L26K	**Log Cabin Wild**	**19.69**	**44**	P	**P**	**13 06 10.3**	**+0.5**
L26K				IAmb	IAmb	13 06 16.5	
	comp=Z,5.8nm,0.8s						
D22K	**Ayikyak River**	**19.84**	**23**	IAmb	IAmb	13 06 17.3	
	comp=Z,9.5nm,0.7s						
PRP	**Porcupine Dome**	**19.89**	**36**	P	**P**	**13 06 12.2**	**+0.1**
F24K	**Squaw Lake**	**20.22**	**29**	IAmb	IAmb	13 06 24.0	
	comp=Z,5.2nm,0.8s						
L27K	**Beaver Creek,**	**20.36**	**44**	P	**P**	**13 06 17.1**	**-0.1**
BCAR	**Beaver Creek A**	**20.38**	**44**	P	**P**	**13 06 17.0**	**-0.3**
E24K	**Your Creek**	**20.39**	**28**	IAmb	IAmb	13 06 19.8	
	comp=Z,7.0nm,0.6s						
D23K	**Nanushuk River**	**20.40**	**24**	IAmb	IAmb	13 06 22.9	
	comp=Z,11nm,0.7s						
I26K	**Coal Creek Min**	**20.67**	**38**	P	**P**	**13 06 19.3**	**-1.0**
I26K				IAmb	IAmb	13 06 37.2	
	comp=Z,10nm,0.6s						
SEY	**Seymchan**	**20.94**	**315**	P	**P**	**13 06 21.4**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=120,slow=14,SNR=5.4						
SEY				PcP	**PcP**	**13 10 29.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=170,slow=23,SNR=2.1						
SEY				ScP	**ScP**	**13 13 60.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=43,slow=14,SNR=4.3						
	comp=Z,0.5nm,0.3s						
MA2	**Magadan**	**21.06**	**305**	LR	LR	13 15 24.7	
	comp=Z,33nm,18.3s,baz=110,slow=39						
EGAK	**Eagle**	**21.23**	**40**	P	**P**	**13 06 25.5**	**-0.9**
O29M	**Mount Kennedy**	**21.25**	**53**	P	**P**	**13 06 25.7**	**-1.1**
O29M				IAmb	IAmb	13 07 00.3	
	comp=Z,20nm,1.4s						
DAWY	**Dawson**	**21.71**	**42**		**P**	**13 06 28.8**	**-2.7**
DAWY				IAmb	IAmb	13 06 33.7	
	comp=Z,15nm,1.5s						
D25K	**Kavik River**	**21.78**	**26**	IAmb	IAmb	13 06 35.5	
	comp=Z,5.7nm,1.0s						
I28M	**Miner Creek**	**21.96**	**39**	P	**P**	**13 06 33.3**	**-1.0**
I28M				IAmb	IAmb	13 06 37.0	
	comp=Z,5.8nm,0.6s						
L29M	**L29M**	**21.99**	**45**	P	**P**	**13 06 34.6**	**0.0**
L29M				IAmb	IAmb	13 06 37.4	
	comp=Z,6.6nm,0.7s						
K29M	**Barlow Dome**	**22.44**	**44**	P	**P**	**13 06 38.6**	**-0.9**
K29M				IAmb	IAmb	13 06 41.7	
	comp=Z,4.8nm,0.8s						
I29M	**Ogilvie Camp,**	**22.57**	**40**	IAmb	IAmb	13 06 42.2	
	comp=Z,5.1nm,0.7s						
H29M	**Whitestone**	**22.84**	**37**	P	**P**	**13 06 42.6**	**-1.0**
H29M				IAmb	IAmb	13 07 15.3	
	comp=Z,4.6nm,0.8s						
H29M				PcP	**PcP**	**13 10 33.0**	**+1.0**
J30M	**Hart River**	**23.13**	**42**	P	**P**	**13 06 45.6**	**-1.1**
J30M				IAmb	IAmb	13 06 49.9	
	comp=Z,4.9nm,0.8s						
I30M	**Mount Dempster**	**23.29**	**41**	P	**P**	**13 06 46.6**	**-1.6**
I30M				IAmb	IAmb	13 06 48.3	
	comp=Z,9.2nm,0.7s						
E29M	**Blow River**	**23.88**	**33**	IAmb	IAmb	13 07

comp=Z,1.6nm,0.6s
LYMT Lyon Mountain 39.38 72 P **P 13 09 07.6 -1.9**
MCMT McKenzie Canyo 40.18 75 P **P 13 09 16.7 +0.6**
NVAR Mina Array Bea 40.54 87 P **P 13 09 20.3 +1.2**
comp=Z,2.3nm,0.7s,baz=290,slow=7.3,SNR=10
comp=Z,2.3nm,0.7s
R11B Troy Canyon, C 42.27 85 IAmb IAmb 13 09 35.2
comp=Z,2.8nm,0.8s
KSRS Korea Array 42.60 274 P **P 13 09 37.3 +1.6**
comp=Z,3.8nm,0.8s,baz=56,slow=7.8,SNR=16
comp=Z,3.8nm,0.8s
DUG Dugway, Tooele 42.85 81 P **P 13 09 37.4 -0.5**
DUG IAmb IAmb 13 09 41.2
comp=Z,6.6nm,1.3s
PD31 Pinedale Array 43.30 76 P **P 13 09 41.1 -0.5**
PD31 IAmb IAmb 13 09 47.5
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 43.30 76 P **P 13 09 42.2 +0.5**
comp=Z,1.0nm,0.6s,baz=334,slow=3.3,SNR=12
comp=Z,1.0nm,0.6s
LCMT Little Creek M 44.55 85 IAmb IAmb 13 09 53.9
comp=Z,4.1nm,0.8s
U15A North Rim 45.51 85 P **P 13 09 58.8 -0.6**
SONM Songino Array 49.05 299 P **P 13 10 24.3 -2.3**
comp=Z,0.4nm,0.4s,baz=42,slow=6.0,SNR=4.6
SONM PcP **PcP 13 11 50.1 +0.8**
comp=Z,1.0nm,0.6s,baz=43,slow=3.5,SNR=6.3
SONM ScP **ScP 13 15 37.6 -0.9**
comp=Z,0.6nm,0.7s,baz=36,slow=2.0,SNR=4.6
comp=Z,0.4nm,0.4s
SPITS Spitsbergen Ar 50.05 357 P **P 13 10 33.2 -0.4**
comp=Z,5.2nm,0.8s,baz=44,slow=4.9,SNR=6.5
SPITS PcP **PcP 13 11 52.6 +0.2**
comp=Z,7.3nm,1.0s,baz=311,slow=3.2,SNR=1.7
comp=Z,5.2nm,0.8s
HHC Hu-ho-hao-te 50.39 288 *e*P **P 13 10 36.5 -0.3**
121A Cookes Peak, D 50.87 85 P **P 13 10 40.6 0.0**
TXAR Lajitas Array 55.63 85 P **P 13 11 14.2 -1.3**
TXAR Lajitas Array 55.63 85 P **P 13 11 16.0 +0.5**
comp=Z,4.8nm,0.8s,baz=298,slow=5.1,SNR=51
TXAR PcP **PcP 13 12 14.8 +0.4**
comp=Z,0.6nm,0.8s,baz=228,slow=1.7,SNR=1.9
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 55.81 315 P **P 13 11 16.5 +0.3**
comp=Z,0.2nm,0.4s,baz=58,slow=19,SNR=1.6
ZALV PcP **PcP 13 12 13.7 -0.8**
comp=Z,0.5nm,0.5s,baz=28,slow=7.6,SNR=2.4
comp=Z,0.2nm,0.4s
SSLB Suanglung 56.33 266 P **P 13 11 22.0 +1.6**
TPUB Ta-pu 56.89 266 P **P 13 11 25.6 +1.2**
TWGBT Beinan 56.97 265 P **P 13 11 26.9 +2.0**
ARCES ARCESS Array B 58.05 352 P **P 13 11 31.2 -0.8**
comp=Z,1.4nm,0.5s,baz=25,slow=7.3,SNR=12
comp=Z,1.4nm,0.5s
KURBB Kurchatov Arra 60.89 316 P **P 13 11 50.7 -1.0**
comp=Z,1.0nm,0.5s,baz=42,slow=6.9,SNR=8.0
KURBB PcP **PcP 13 12 34.7 0.0**
comp=Z,0.3nm,0.3s,baz=34,slow=4.2,SNR=4.2
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 62.01 311 P **P 13 11 58.2 -1.1**
comp=Z,0.5nm,0.2s,baz=43,slow=6.7,SNR=8.4
MKAR PcP **PcP 13 12 39.1 -0.2**
comp=Z,0.2nm,0.4s,baz=32,slow=5.4,SNR=1.7
comp=Z,0.5nm,0.2s
BVAR Borovoye Array 62.38 322 P **P 13 12 01.6 0.0**
comp=Z,1.9nm,0.4s,baz=51,slow=6.0,SNR=14
BVAR PcP **PcP 13 12 39.7 -0.9**
comp=Z,0.8nm,0.5s,baz=55,slow=5.8,SNR=2.4
comp=Z,1.9nm,0.4s
FINES FINESS Array B 65.89 350 P **P 13 12 23.6 -0.9**
comp=Z,1.3nm,0.3s,baz=5.8,slow=5.7,SNR=10
comp=Z,1.3nm,0.3s
PZH PanZhiHua 66.17 283 P **P 13 12 27.9 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.9s
HFS Hagfors 68.17 356 P **P 13 12 38.6 -0.4**
comp=Z,1.3nm,0.3s,baz=29,slow=3.3,SNR=14
comp=Z,1.3nm,0.3s
KSH Kashi 70.53 310 P **P 13 12 58.0 +3.9**
KSH pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 73.90 279 P **P 13 13 15.0 +0.7**
comp=Z,1.4nm,0.6s,baz=24,slow=7.3,SNR=14
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 75.91 345 P **P 13 13 24.3 -1.1**
comp=Z,3.5nm,0.4s,baz=19,slow=6.1,SNR=20
comp=Z,3.5nm,0.4s
CLL Collm 77.02 355 *i*P **P 13 13 31.4 -0.2**
comp=Z,4.0nm,0.6s
GERES GERESS Array B 79.44 355 P **P 13 13 45.1 -0.1**
comp=Z,0.8nm,0.5s,baz=32,slow=7.8,SNR=4.2
comp=Z,0.8nm,0.5s
GNI Garni 82.33 331 LR LR 13 56 41.7
comp=Z,38nm,18.3s,baz=356,slow=40
WRA Warramunga Arr 84.50 228 P **P 13 14 11.3 -0.6**
comp=Z,0.8nm,0.6s,baz=33,slow=5.8,SNR=6.2
comp=Z,0.8nm,0.6s
ASAR Alice Springs 87.93 226 P **P 13 14 28.9 +0.2**
comp=Z,1.4nm,0.7s,baz=34,slow=4.9,SNR=21
comp=Z,1.4nm,0.7s
STKA Stephens Creek 92.04 217 P **P 13 14 47.6 0.0**
comp=Z,2.4nm,1.0s,baz=354,slow=9.2,SNR=3.8
comp=Z,2.4nm,1.0s
H03N2 Juan Fernandez 118.44 109 T T 15 29 60.0
baz=317,slow=77,SNR=14
H03N1 Juan Fernandez 118.46 109 T T 15 30 10.3
baz=317,slow=77,SNR=19
H03N3 Juan Fernandez 118.46 109 T T 15 30 03.0
baz=317,slow=77,SNR=17
BOSA Boshof 152.66 321 PKPbc **PKPbc 13 21 35.4 +0.1**
comp=Z,3.5nm,0.4s,baz=29,slow=2.1,SNR=16
SNAA Sanae 159.75 172 PKPab **PKPab 13 22 14.8 -0.6**
comp=Z,5.0nm,1.1s,baz=202,slow=13,SNR=6.1

*JMA **14** 13:13:04.7±0.2, 43.°0N±0.°7×146.°2E±0.°9, h46km±1km, MV2.6/28, OFF NEMURO PENINSULA*
*SKHL **14** 13:13:06.3±0.8, 43.°10N×146.°20E, h42km±8km, mb3.4/2*
ISC 14 13:13:04.4±2.0, 43.°01N±0.°10×146.°25E±0.°07, h42km, n13, σ0.58/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.51**	**314**	P	**Pn**	**13 13 15.6**	**+0.2**
NEM2				S	**Sn**	**13 13 23.3**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.52**	**314**	*e*P	**Pn**	**13 13 15.6**	**+0.1**
NMR				*e*S	**Sn**	**13 13 22.0**	**-1.4**
JKHN	**Kushirohamanak**	**0.80**	**276**	P	**Pn**	**13 13 19.3**	**0.0**
JKHN				*e*S	**Sn**	**13 13 30.1**	**+0.1**
SHO	**Shikotan**	**0.96**	**26**	*e*P	**Pn**	**13 13 22.0**	**+0.6**
SHO				AMB	AMB	13 13 23.2	
	20nm,0.4s						
SHO				*e*S	**Sn**	**13 13 34.3**	**+0.4**
SHO				A	A	13 13 36.0	
	30nm,0.3s						
SHO				A	A	13 13 36.0	
	40nm,0.3s						
AKK	**Akkeshi**	**1.03**	**271**	*e*P	**Pn**	**13 13 22.4**	**0.0**
AKK				*e*S	**Sn**	**13 13 35.1**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.06**	**345**	*e*P	**Pn**	**13 13 23.3**	**+0.5**
YUK				AMB	AMB	13 13 25.5	
	30nm,0.2s						
YUK				*e*S	**Sn**	**13 13 35.6**	**-0.8**
YUK				A	A	13 13 37.0	
	90nm,0.3s						
YUK				A	A	13 13 37.0	
	100nm,0.3s						
JAK	**Akkeshi**	**1.14**	**270**	P	**Pn**	**13 13 23.8**	**0.0**
JAK				*e*S	**Sn**	**13 13 38.0**	**-0.2**
JNSB	**Nemuroshibetsu**	**1.19**	**311**	P	**Pn**	**13 13 24.7**	**+0.2**
JRA	**Rausu**	**1.24**	**319**	P	**Pn**	**13 13 25.9**	**+0.7**
JRA				S	**Sn**	**13 13 41.4**	**+0.7**
JNK	**Nakash**	**1.26**	**298**	P	**Pn**	**13 13 25.6**	**+0.1**
JNK				S	**Sn**	**13 13 40.5**	**-0.6**
JOB	**Onbets**	**1.77**	**267**	*e*P	**Pn**	**13 13 33.0**	**+0.5**
JAR	**Ashorobuto**	**1.84**	**280**	P	**Pn**	**13 13 34.3**	**+0.8**
KUR	**Kuril'sk**	**2.51**	**27**	*e*P	**Pn**	**13 13 42.0**	**-0.7**

IDC 14 13:35:12.6±3.6, 9.°52N×125.°80E, h0km, mb3.2/3, mbtmp3.2/3, MS3.0/1, Error ellipse: s-maj=306.3km s-min=29.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**28.39**	**131**	LR	LR	13 54 15.2	
	comp=Z,31nm,18.2s,baz=63,slow=40						
WRA	**Warramunga Arr**	**30.46**	**164**	P	P	13 41 27.8	+0.5
	0.1nm,0.3s,baz=348,slow=12,SNR=5.1						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**33.92**	**167**	P	P	13 41 57.0	-0.6
	0.1nm,0.5s,baz=347,slow=7.3,SNR=4.2						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**52.34**	**323**	P	P	13 44 26.2	-0.1
	0.2nm,0.6s,baz=128,slow=7.9,SNR=3.7						
	0.2nm,0.6s						

*IDC **14** 13:42:43.4±0.7, 3.°11S×80.°19W, h0km, mb4.1/11, mbtmp4.0/14, ML4.0/2, MS3.6/20, Error ellipse: s-maj=39.4km s-min=15.5km az=56.0*
*IGQ **14** 13:42:46.4±0.5, 3.°S±2.°×8.°1W±.°, h5km±1km, MLv4.5/31*
*NEIC **14** 13:42:50.7±2.0, 3.°19S±0.°08×80.°49W±0.°06, h47km±8km, mb4.7/53, Error ellipse: s-maj=14.0km s-min=2.6km az=144.0*
ISC 14 13:42:45.9±1.3, 3.°24S±0.°03×80.°77W±0.°05, h16km±8km, n133, σ1.8°78/114, mb4.7/36, MS3.6/15, 18C-4D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPG	**Isla Puna-Puer**	**0.65**	**66**	⇑P	**Pb**	**13 43 01.3**	**+2.3**
ISPG				S	**Sn**	**13 43 12.0**	**+1.4**
PU01	**PU01**	**0.69**	**51**	⇑P	**Pb**	**13 43 00.5**	**+0.9**
PU01				S	**Sg**	**13 43 09.1**	**+0.6**
ARNL	**Arenillas**	**0.76**	**114**	⇓P	**Pg**	**13 43 00.8**	**0.0**
ARNL				S	**Sg**	**13 43 09.7**	**-1.2**
PU02	**PU02**	**0.82**	**60**	⇑P	**Pb**	**13 43 03.0**	**+1.2**
PU02				S	**Sg**	**13 43 13.3**	**+0.6**
PU03	**PU03**	**1.01**	**71**	P	**Pg**	**13 43 04.1**	**-1.5**
PU03				S	**Sg**	**13 43 16.5**	**-2.3**
SALI	**Salinas**	**1.07**	**348**	S	**Sg**	**13 43 19.7**	**-1.0**
SALI				P	**Pb**	**13 43 07.6**	**+1.5**
LAMO	**ALAMOR**	**1.07**	**136**	⇑P	**Pg**	**13 43 06.8**	**+0.1**
LAMO				S	**Sg**	**13 43 20.1**	**-0.6**
AGUAY	**Guayaquil**	**1.43**	**35**	P	**Pn**	**13 43 10.9**	**-0.3**
MILO	**Milagro-Astudi**	**1.54**	**52**	⇑P	**Pn**	**13 43 13.6**	**+0.8**
PPLP	**Puerto Lpez**	**1.68**	**360**	⇑P	**Pn**	**13 43 15.4**	**+0.6**
PPLP				S	**Sn**	**13 43 35.8**	**-0.3**
GONZ	**Gonzanam**	**1.69**	**126**	S	**Sn**	**13 43 36.7**	**-0.1**
GONZ				⇑P	**Pn**	**13 43 16.5**	**+1.2**
ALJ1	**Ecuador-Loja-U**	**1.73**	**116**	P	**Pb**	**13 43 18.3**	**+0.8**
ACUE	**Ecuador-Cuenca**	**1.83**	**80**	P	**Pn**	**13 43 19.3**	**+2.2**
ISPT	**Isla de la Pla**	**1.99**	**351**	S	**Sn**	**13 43 41.8**	**-1.7**
ISPT				P	**Pn**	**13 43 20.1**	**+1.2**
BOSC	**San Juan Bosco**	**2.27**	**88**	P	**Pn**	**13 43 24.5**	**+1.5**
ZUMB	**Zumba**	**2.29**	**135**	⇑P	**Pn**	**13 43 25.0**	**+1.8**
JSCH	**Cashca Tororas**	**2.34**	**50**	P	**Pn**	**13 43 23.1**	**-1.0**
TAMH	**Tambohuasha Ch**	**2.60**	**50**	⇓P	**Pn**	**13 43 28.0**	**+0.1**
PORT	**Chimborazo Vol**	**2.66**	**49**	⇓P	**Pn**	**13 43 29.3**	**+0.5**
SANGA	**Volcan Sangay**	**2.67**	**64**	P	**Pn**	**13 43 29.8**	**+1.1**
IGUA	**Igualata**	**2.74**	**51**	P	**Pn**	**13 43 30.3**	**+0.4**
CAB1	**Cabo Pasado-Ma**	**2.85**	**7**	P	**Pn**	**13 43 33.0**	**+2.2**
BBIL	**Ulba Tungurahu**	**2.89**	**52**	⇑P	**Pn**	**13 43 33.6**	**+2.0**
BPAT	**Tungurahua Vol**	**2.90**	**54**	P	**Pn**	**13 43 32.8**	**+0.9**
BULB	**Ulba Tungurahu**	**2.96**	**53**	⇑P	**Pn**	**13 43 34.0**	**+1.4**
FLF1	**Flavio Alfaro-**	**3.01**	**18**	P	**Pn**	**13 43 34.2**	**+1.2**
ILLI	**Illinizas Sur**	**3.23**	**39**	P	**Pn**	**13 43 38.7**	**+2.2**
PUYO	**Puyo, Santa Ro**	**3.24**	**58**	P	**Pn**	**13 43 41.0**	**+4.7**
BRRN	**Barrancas-Volc**	**3.34**	**43**	⇑P	**Pn**	**13 43 40.4**	**+2.4**
PIAT	**Ana Tenorio**	**3.35**	**48**	P	**Pn**	**13 43 40.2**	**+2.1**
SLOR	**San Lorenzo -**	**3.37**	**42**	⇑P	**Pn**	**13 43 40.7**	**+2.4**
BMOR	**Cotopaxi Volca**	**3.39**	**43**	P	**Pn**	**13 43 41.1**	**+2.3**
CAMI	**Rancho Maria**	**3.40**	**42**	P	**Pn**	**13 43 41.5**	**+2.7**
BNAS	**Cotopaxi Volca**	**3.42**	**42**	⇑P	**Pn**	**13 43 42.6**	**+3.5**
BREF	**Cotopaxi Volca**	**3.45**	**42**	P	**Pn**	**13 43 42.2**	**+2.6**
BTAM	**Cotopaxi Volca**	**3.48**	**43**	P	**Pn**	**13 43 42.3**	**+2.3**
BVC2	**Cotopaxi Volca**	**3.48**	**43**	⇓P	**Pn**	**13 43 42.2**	**+2.2**
TAMB	**Tambo**	**3.48**	**44**	P	**Pn**	**13 43 42.3**	**+2.3**
PITA	**Cotopaxi Volc**	**3.54**	**41**	P	**Pn**	**13 43 43.5**	**+2.8**
GGPT	**Toaza - Volcan**	**3.68**	**36**	P	**Pn**	**13 43 44.1**	**+1.5**
ANTM	**Antisana-La Mi**	**3.69**	**43**	P	**Pn**	**13 43 45.9**	**+3.0**
JUA2	**San Juan 2**	**3.70**	**36**	P	**Pn**	**13 43 44.8**	**+1.9**
ARDO	**Archidona, Ten**	**3.71**	**53**	P	**Pn**	**13 43 45.0**	**+2.3**
TERV	**Terraza Guagua**	**3.73**	**35**	P	**Pn**	**13 43 45.3**	**+1.9**
GGPC	**Guagua Pichinc**	**3.73**	**36**	⇑P	**Pn**	**13 43 45.4**	**+2.0**
PINO	**Pino**	**3.74**	**35**	P	**Pn**	**13 43 45.3**	**+1.6**
ANTS	**Antisana-Sarah**	**3.76**	**44**	P	**Pn**	**13 43 45.8**	**+2.0**
PULU	**Pululahua**	**3.95**	**35**	P	**Pn**	**13 43 48.1**	**+1.8**
PAC1	**Pacto, Paraso**	**4.00**	**30**	P	**Pn**	**13 43 46.7**	**-0.1**
OTAV	**Otavalo**	**4.16**	**34**	Pn	**Pn**	**13 43 50.2**	**+1.0**
CUIC	**Cuicocha-Domo**	**4.26**	**34**	⇑P	**Pn**	**13 43 52.8**	**+2.2**
ANGU	**Angureal**	**4.27**	**40**	⇑P	**Pn**	**13 43 53.2**	**+2.2**
COTA	**Cotacachi**	**4.30**	**34**	P	**Pn**	**13 43 53.8**	**+2.6**
IMBA	**Imbabura, San**	**4.33**	**36**	P	**Pn**	**13 43 55.4**	**+3.7**
URCU	**Urcuqui**	**4.43**	**35**	⇑P	**Pn**	**13 43 55.1**	**+2.1**
YAHU	**Yahuarcocha**	**4.48**	**37**	P	**Pn**	**13 43 55.2**	**+1.6**
ATAH	**Atahualpa**	**4.53**	**149**	Pn	**Pn**	**13 43 53.3**	**-1.1**
	8.8nm,0.3s,baz=39,slow=6.0,SNR=34						
ATAH				Sn	**Sn**	**13 44 45.5**	**-1.5**
	14nm,0.3s,baz=342,slow=14,SNR=3.8						
ATAH				Lg	Lg	13 44 57.1	
	31nm,0.3s,baz=3.4,slow=17,SNR=4.3						
ATAH				LR	LR	13 45 42.0	
	comp=Z,843nm,18.3s,baz=328,slow=41						
	42nm,0.9s						
CHMA	**Chilma**	**4.89**	**34**	⇑P	**Pn**	**13 44 01.9**	**+2.8**
CHL2	**Volc¡n Chiles**	**4.92**	**35**	P	**Pn**	**13 44 04.0**	**+4.2**
FLOC	**Florencia**	**7.00**	**47**		**Pn**	**13 44 26.2**	**-1.7**
CZSB	**Cruzeiro do Su**	**9.18**	**119**	Pn	**Pn**	**13 44 57.5**	**-0.4**
NNA	**Nana**	**9.52**	**156**	Pn	**Pn**	**13 45 04.7**	**+2.1**
	3.9nm,0.3s,baz=315,slow=14,SNR=3.9						
NNA				Sn	**Sn**	**13 46 47.0**	**-2.4**
	1.8nm,0.3s,baz=286,slow=19,SNR=1.6						
NNA				Lg	Lg	13 47 34.4	
	1.3nm,0.3s,baz=288,slow=20,SNR=3.8						
ROSC	**El Rosal**	**10.29**	**39**	LR	LR	13 49 55.4	
	comp=Z,728nm,18.2s,baz=269,slow=44						
JTS	**Las Juntas de**	**14.07**	**343**	LR	LR	13 50 35.5	
	comp=Z,298nm,21.9s,baz=154,slow=33						
SDV	**Santo Domingo**	**15.72**	**40**	Pn	**Pn**	**13 46 25.6**	**-1.5**
SDV	**Santo Domingo**	**15.72**	**40**	Pn	Pn	13 46 21.2	-5.9
	0.9nm,0.2s,baz=191,slow=23,SNR=1.7						
SDV				LR	LR	13 53 14.7	
	comp=Z,329nm,20.1s,baz=252,slow=41						
BAUV	**El Baul**	**17.53**	**46**		**Pn**	**13 46 48.5**	**-1.4**
LPAZ	**La Paz**	**17.96**	**137**		**Pn**	**13 46 57.8**	**+2.0**
LPAZ	**La Paz**	**17.96**	**137**	P	**Pn**	**13 46 53.1**	**-2.7**
	0.2nm,0.3s,baz=332,slow=11,SNR=8.1						
LPAZ				LR	LR	13 53 11.4	
	comp=Z,57nm,21.7s,baz=302,slow=36						
	1.8nm,0.8s						
MTO3	**Montecristo**	**19.48**	**334**	P	**P**	**13 47 11.5**	**-1.2**
PCRV	**Puerto La Cruz**	**20.87**	**50**	LR	LR	13 57 27.8	
	comp=Z,241nm,19.2s,slow=43						
SIV	**San Ignacio**	**23.15**	**124**	LR	LR	13 57 25.1	
	comp=Z,116nm,18.3s,baz=309,slow=39						
TEIG	**Tepich**	**24.46**	**343**	P	**P**	**13 48 02.3**	**-2.0**
TEIG				IAmb	IAmb	13 48 13.9	
	comp=Z,32nm,1.3s						
CMIG	**Matias Romero**	**24.54**	**326**	LR	LR	13 55 51.5	
	comp=Z,119nm,21.9s,baz=170,slow=32						
CRPR	**Cabo Rojo, PR**	**25.04**	**32**	P	**P**	**13 48 07.3**	**-2.3**
SJG	**San Juan**	**25.64**	**34**	LR	LR	13 58 31.2	
	comp=Z,76nm,19.6s,baz=240,slow=38						
MDP	**Montagnes des**	**29.29**	**74**	LR	LR	14 01 05.0	
	comp=Z,193nm,19.3s,baz=252,slow=38						
CPUP	**Villa Florida**	**32.13**	**138**	LR	LR	14 05 22.2	
	comp=Z,126nm,20.0s,baz=318,slow=43						
BDFB	**Brasilia**	**34.51**	**113**	P	P	13 49 28.7	-5.3
	comp=Z,2.8nm,0.6s,baz=198,slow=3.2,SNR=3.7						
BDFB				LR	LR	14 03 57.2	
	comp=Z,65nm,19.8s,baz=321,slow=37						
	comp=Z,2.8nm,0.6s						
PLCA	**Paso Flores**	**38.45**	**167**	LR	LR	14 03 24.4	
	comp=Z,108nm,20.3s,baz=350,slow=32						
TKL	**Tuckaleechee C**	**38.80**	**356**	LR	LR	14 05 54.8	
	comp=Z,115nm,18.7s,baz=167,slow=36						
TXAR	**Lajitas Array**	**39.13**	**327**	P	**P**	**13 50 14.5**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=145,slow=9.1,SNR=4.9						
TXAR				PcP	**PcP**	**13 52 24.4**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=174,slow=6.6,SNR=4.3						
	comp=Z,0.6nm,0.8s						
LPIG	**La Paz**	**39.56**	**315**	LR	LR	14 02 40.7	
	comp=Z,55nm,19.2s,baz=156,slow=30						
LCAR	**Lake Charles**	**40.29**	**347**	P	**P**	**13 50 23.0**	**+0.5**
VHRN	**Van Horn**	**40.97**	**327**	P	**P**	**13 50 30.8**	**+2.4**
VHRN				IAmb	IAmb	13 50 32.2	
	comp=Z,18nm,1.5s						
SMWD	**Samnorwood**	**42.30**	**336**	P	**P**	**13 50 41.0**	**+1.9**
SMWD				IAmb	IAmb	13 50 43.1	
	comp=Z,17nm,1.2s						
319A	**Douglas**	**43.84**	**324**	P	**P**	**13 50 52.2**	**+0.5**
319A				IAmb	IAmb	13 50 56.1	
	comp=Z,19nm,1.5s						
RCBR	**Riachuelo**	**44.79**	**95**	LR	LR	14 11 08.9	
	comp=Z,40nm,19.1s,baz=258,slow=39						
X16A	**Lo Mia Camp, P**	**47.29**	**325**	P	**P**	**13 51 21.2**	**+2.1**
SADO	**Sadowa**	**47.81**	**2**	LR	LR	14 11 22.6	
	comp=Z,95nm,19.5s,baz=248,slow=36						
WUAZ	**Wupatki**	**48.04**	**326**	P	**P**	**13 51 25.8**	**+0.9**
WUAZ				IAmb	IAmb	13 51 29.2	
	comp=Z,7.7nm,1.1s						
PV11	**David Mesa, Pa**	**48.83**	**330**	P	**P**	**13 51 31.7**	**+0.8**
PV11				IAmb	IAmb	13 51 35.3	
	comp=Z,11nm,1.2s						
SPR3	**Spring Creek 3**	**52.19**	**327**	P	**P**	**13 51 57.2**	**+0.8**
SPR3				IAmb	IAmb	13 52 00.1	
	comp=Z,14nm,1.4s						
PDAR	**Pinedale Array**	**52.67**	**334**	P	**P**	**13 52 01.2**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=125,slow=8.6,SNR=21						
PDAR				PcP	**PcP**	**13 53 09.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=142,slow=3.8,SNR=1.4						
PDAR				LR	LR	14 14 07.8	
	comp=Z,31nm,21.0s,slow=36						
	comp=Z,2.5nm,0.8s						
AGMN	**Agassiz Nation**	**52.99**	**347**	P	**P**	**13 52 02.2**	**+0.3**
ELK	**Elko**	**53.92**	**328**	P	**P**	**13 52 11.0**	**+1.8**
	comp=Z,2.4nm,1.0s,baz=103,slow=6.7,SNR=6.7						
	comp=Z,2.4nm,1.0s						
NVAR	**Mina Array Bea**	**54.05**	**324**	P	**P**	**13 52 12.7**	**+2.5**
	comp=Z,2.8nm,0.8s,baz=141,slow=6.9,SNR=10.0						
	comp=Z,2.8nm,0.8s						
YNE	**Yellowstone No**	**54.66**	**335**	IAmb	IAmb	13 52 28.8	
	comp=Z,5.7nm,1.1s						
ULM	**Lac du Bonnet**	**54.84**	**348**	IAmb	IAmb	13 52 16.1	
	comp=Z,6.0nm,0.7s						
ULM	**Lac du Bonnet**	**54.84**	**348**	P	**P**	**13 52 15.4**	**+0.1**
	comp=Z,4.3nm,0.5s,baz=155,slow=8.7,SNR=12						
	comp=Z,4.3nm,0.5s						
HLID	**Hailey**	**55.55**	**331**	IAmb	IAmb	13 52 24.3	
	comp=Z,6.0nm,0.9s						
WVOR	**Wild Horse Val**	**56.92**	**327**	IAmb	IAmb	13 52 33.6	
	comp=Z,9.2nm,1.1s						
MSO	**Missoula**	**57.79**	**334**	IAmb	IAmb	13 52 40.0	
	comp=Z,8.2nm,1.2s						
F10A	**Beach Ranch, E**	**58.68**	**331**	IAmb	IAmb	13 52 46.1	
	comp=Z,7.8nm,1.1s						
YBH	**Yreka Blue Hor**	**58.76**	**324**	P	**P**	**13 52 44.0**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=142,slow=6.2,SNR=5.4						
YBH				LR	LR	14 16 39.2	
	comp=Z,60nm,19.3s,baz=128,slow=34						
	comp=Z,4.6nm,1.0s						
E09A	**Wood Farm, Sta**	**59.51**	**331**	IAmb	IAmb	13 52 51.5	
	comp=Z,7.2nm,1.0s						
NEW	**Newport**	**60.30**	**333**	LR	LR	14 20 12.8	
	comp=Z,70nm,18.3s,baz=170,slow=37						
YKA	**Yellowknife Ar**	**70.41**	**344**	P	**P**	**13 53 59.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=146,slow=5.8,SNR=12						
	comp=Z,0.6nm,0.6s						
INK	**Inuvik**	**80.06**	**343**	P	**P**	**13 54 55.3**	**+0.7**
INK				IAmb	IAmb	13 54 56.4	
	comp=Z,11nm,1.3s						
SUMG	**Summit**	**80.27**	**12**	P	**P**	**13 54 56.0**	**-0.1**
SUMG				IAmb	IAmb	13 54 58.3	
	comp=Z,7.5nm,1.1s						
A36M	**Sachs Harbour**	**80.31**	**347**	P	**P**	**13 54 54.9**	**-0.9**
A36M				IAmb	IAmb	13 54 56.9	
	comp=Z,12nm,1.0s						
EGAK	**Eagle**	**80.75**	**338**	P	**P**	**13 54 58.9**	**+0.6**
EGAK				IAmb	IAmb	13 55 00.9	
	comp=Z,8.8nm,1.1s						
E29M	**Blow River**	**81.45**	**342**	IAmb	IAmb	13 55 04.2	
	comp=Z,8.2nm,1.3s						
J26L	**Joseph Creek**	**81.55**	**337**	IAmb	IAmb	13 55 10.7	
	comp=Z,8.4nm,1.3s						
E28M	**Babbage River**	**82.08**	**342**	IAmb	IAmb	13 55 06.5	
	comp=Z,12nm,1.4s						
D27M	**Malcolm River**	**82.85**	**342**	IAmb	IAmb	13 55 25.9	
	comp=Z,8.8nm,1.1s						
ILAR	**Eielson Array**	**82.96**	**337**	P	**P**	**13 55 10.3**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=126,slow=3.3,SNR=13						
	comp=Z,2.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**83.40**	**76**	P	**P**	**13 55 10.9**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=289,slow=5.7,SNR=2.8						
	comp=Z,0.5nm,0.9s						
H24K	**Noodor Dome**	**83.76**	**338**	IAmb	IAmb	13 55 16.0	
	comp=Z,6.1nm,1.1s						
C27K	**Jago River**	**83.89**	**342**	IAmb	IAmb	13 55 16.9	
	comp=Z,12nm,1.2s						
I23K	**Minto, Yukon-K**	**84.08**	**337**	IAmb	IAmb	13 55 17.4	
	comp=Z,7.9nm,1.1s						
G23K	**Bananza Creek**	**84.89**	**338**	IAmb	IAmb	13 55 22.7	
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**86.83**	**180**	P	P	13 55 27.1	-2.6
QSPA	**South Pole Qui**	**86.83**

ISC 14 14:22:09.1±2.0, 42°.67N±0°.03×142°.19E±0°.03, h16km±13km, n37, σ1°25/46, mb3.7/16, 7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JBT2	**Biratori 2**	**0.17**	**49**	⇓P	**Pb**	**14 22 13.2**	**-0.7**
JBT2				⇓eS	**Sb**	**14 22 16.7**	**-0.3**
JIAM	**Iburiatsuma**	**0.21**	**257**	⇓eP	**Pb**	**14 22 14.1**	**-0.3**
JSHD	**Hidakashinhida**	**0.33**	**142**	eP	**Pb**	**14 22 17.2**	**+0.6**
JSHD				eS	**Sn**	**14 22 24.7**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.57**	**133**	eP	**Pb**	**14 22 20.8**	**+0.1**
JEW	**Eniwo**	**0.57**	**288**	⇓P	**Pb**	**14 22 20.7**	**-0.1**
JEW				⇓eS	**Sn**	**14 22 29.7**	**-1.9**
JFR	**Furan**	**0.57**	**31**	P	**Pb**	**14 22 20.6**	**-2.1**
JISS	**Ishikarishitsu**	**0.83**	**317**	eP	**Pn**	**14 22 25.1**	**-1.1**
JISS				eS	**Sn**	**14 22 37.8**	**-0.3**
JAB	**Ashibetsu**	**0.83**	**2**	eP	**Pn**	**14 22 25.9**	**-0.3**
JCH	**Churui**	**0.86**	**93**	eP	**Pn**	**14 22 25.6**	**-1.0**
JNB	**Noboribetsu**	**0.88**	**257**	⇓P	**Pb**	**14 22 24.9**	**-1.0**
JNB				⇓eS	**Sb**	**14 22 37.3**	**-0.1**
JEM	**Erimo**	**0.97**	**132**	eP	**Pn**	**14 22 28.7**	**+0.7**
ASAJ	**Asahikawa**	**1.48**	**11**	Pn	**Pb**	**14 22 35.0**	**-1.1**
	61nm,0.3s,baz=231,slow=10,SNR=432						
ASAJ				Sn	**Sg**	**14 22 57.7**	**+1.0**
	41nm,0.3s,baz=229,slow=20,SNR=13						
AKK	**Akkeshi**	**1.98**	**79**	eP	**Pn**	**14 22 42.0**	**+0.1**
AKK				eS	**Sn**	**14 23 03.8**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.69**	**74**	eP	**Pn**	**14 22 51.6**	**0.0**
YUK	**Yuzh-Kuril'sk**	**3.00**	**62**	eP	**Pn**	**14 22 57.5**	**+1.5**
YUK				AMB	AMB	14 22 58.9	
	50nm,0.6s						
YUK				eS	**Sn**	**14 23 30.3**	**-1.3**
YUK				A	A	14 23 33.7	
	110nm,0.7s						
YUK				A	A	14 23 33.7	
	110nm,0.7s						
SHO	**Shikotan**	**3.59**	**69**	eP	**Pn**	**14 23 04.8**	**+0.7**
SHO				AMB	AMB	14 23 05.9	
	20nm,0.2s						
SHO				eS	**Sn**	**14 23 43.4**	**-2.8**
SHO				A	A	14 23 51.5	
	60nm,0.6s						
SHO				A	A	14 23 51.5	
	60nm,0.6s						
YSS	**Yuzhno-Sakhali**	**4.30**	**5**	eP	**Pn**	**14 23 16.4**	**+2.6**
YSS				eS	**Sn**	**14 24 06.8**	**+3.2**
MJAR	**Matsushiro Arr**	**6.85**	**208**	Pn	**Pn**	**14 23 47.8**	**-1.1**
	baz=24,slow=12,SNR=1.7						
	0.5nm,0.6s						
KSRS	**Korea Array**	**12.11**	**249**	LR	LR	14 28 54.1	
	comp=Z,23nm,18.7s,baz=50,slow=34						
PETK	**Petropavlovsk-**	**14.71**	**39**	Pn	**Pn**	**14 25 35.0**	**-1.3**
	0.1nm,0.3s,baz=212,slow=8.7,SNR=1.8						
	5.0nm,0.9s						
MA2	**Magadan**	**17.74**	**14**	P	**P**	**14 26 16.3**	**+0.4**
	0.9nm,0.3s,baz=180,slow=18,SNR=2.0						
SEY	**Seymchan**	**21.16**	**13**	P	**P**	**14 26 52.3**	**-1.0**
	1.8nm,0.8s,baz=216,slow=12,SNR=7.0						
	1.8nm,0.8s						
SONM	**Songino Array**	**25.57**	**294**	P	**P**	**14 27 37.2**	**-0.1**
	0.5nm,0.7s,baz=90,slow=8.6,SNR=2.2						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**38.76**	**307**	P	**P**	**14 29 32.9**	**+0.4**
	0.2nm,0.3s,baz=88,slow=8.6,SNR=3.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**41.86**	**297**	P	**P**	**14 29 57.7**	**-0.5**
	0.5nm,0.6s,baz=77,slow=9.3,SNR=4.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.20**	**303**	P	**P**	**14 30 08.4**	**-0.6**
	1.7nm,0.8s,baz=75,slow=8.8,SNR=8.5						
	1.7nm,0.8s						
ILAR	**Eielson Array**	**44.48**	**35**	P	**P**	**14 30 19.5**	**+0.3**
	1.3nm,0.9s,baz=278,slow=7.8,SNR=9.9						
	1.3nm,0.9s						
BVAR	**Borovoye Array**	**47.37**	**309**	P	**P**	**14 30 41.8**	**-0.3**
	0.3nm,0.3s,baz=68,slow=8.3,SNR=4.4						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**58.67**	**32**	P	**P**	**14 32 05.3**	**+0.1**
	0.5nm,0.9s,baz=303,slow=6.7,SNR=5.5						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**62.72**	**188**	P	**P**	**14 32 32.6**	**-0.6**
	0.4nm,0.7s,baz=6.2,slow=6.9,SNR=5.4						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**64.14**	**331**	P	**P**	**14 32 41.8**	**-0.4**
	1.7nm,0.8s,baz=86,slow=5.9,SNR=3.4						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**66.45**	**188**	P	**P**	**14 32 57.5**	**0.0**
	0.2nm,0.7s,baz=1.5,slow=7.1,SNR=5.7						
	0.2nm,0.7s						
HFS	**Hagfors**	**69.22**	**335**	P	**P**	**14 33 16.1**	**+1.5**
	2.3nm,0.8s,baz=40,slow=9.6,SNR=2.0						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**69.23**	**337**	P	**P**	**14 33 16.3**	**+1.5**
	1.4nm,0.9s,baz=36,slow=6.2,SNR=2.9						
	1.4nm,0.9s						
FRB	**Frobisher Bay**	**71.16**	**14**	P	**P**	**14 33 28.5**	**+2.0**
	1.5nm,0.6s,baz=4.9,slow=8.8,SNR=4.1						
	1.5nm,0.6s						
PDAR	**Pinedale Array**	**73.33**	**47**	P	**P**	**14 33 40.0**	**-0.1**
	0.3nm,0.4s,baz=263,slow=1.9,SNR=5.9						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.23**	**53**	P	**P**	**14 34 50.7**	**+0.6**
	0.3nm,0.4s,baz=300,slow=4.8,SNR=6.3						
	0.3nm,0.4s						

*IDC **14** 14:33:14.3±0.4, 12°.10S×74°.15W, h0km, mb5.3/24, mbtmp5.3/27, ML4.9/3, MS5.1/56, Error ellipse: s-maj=13.7km s-min=9.6km az=57.0*

*MOS **14** 14:33:15.0±1.0, 12°.14S×74°.34W, h10km, mb5.9/91, MS5.2/10, Error ellipse: s-maj=8.0km s-min=5.5km az=84.5*

*RSNC **14** 14:33:16.5±1.1, 12°S±10°×7°4W±°, h10km, M5.4, mb5.6, mB5.8, ML5.6, Mw(mB)5.4, MwMwp5.3, Mwp5.5, Hypocentre not reviewed by the ISC*

*NEIC **14** 14:33:16.8±1.8, 12°.17S±0°.06×74°.3W±0°.1, h10km±1km, mb5.8/644, Ms_20 5.2/219, Mwb5.5/29, Mww5.5/28, Error ellipse: s-maj=17.4km s-min=10.7km az=263.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.81; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-1.33; $M_{r\theta}$-0.46; $M_{\theta\phi}$1.46; $M_{\phi r}$0.40; Fault plane solution: $M_0$2.27000×10^17^ NP1: ϕ_s318.05000°, δ53.10000°, λ83.39000°. NP2: ϕ_s148.97000°, δ37.41000°, λ98.72000°. Principal axes: T 1.9016, Plg80.0000°, Azm199.0000°; N 0.6052, Plg5.0000°, Azm322.0000°; P -2.5068, Plg8.0000°, Azm53.0000°;*

*NEIC **14** 14:33:17, 11°.79S×73°.69W, h30km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17^Nm; M_{rr}2.60; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.07; $M_{\theta\phi}$0.73; $M_{\phi r}$-0.43; Fault plane solution: $M_0$2.49000×10^17^ NP1: ϕ_s334.56000°, δ40.12000°, λ86.80000°. NP2: ϕ_s158.75000°, δ49.95000°, λ92.70000°. Principal axes: T 2.6411, Plg85.0000°, Azm90.0000°; N -0.3040, Plg2.0000°, Azm337.0000°; P -2.3371, Plg5.0000°, Azm247.0000°;*

*NEIC **14** 14:33:17, 12°.19S×74°.31W, h30km*

*NEIC **14** 14:33:17.1, 12°.18S×74°.31W, h10km*

*GCMT **14** 14:33:19.8±0.1, 12°.07S±0°.01×74°.14W±0°.01, h31km, MW5.6/146, Moment Tensor Solution. s145, c235; s146, c257; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; M_{rr}2.85±.04; $M_{\theta\theta}$-0.92±.03; $M_{\phi\phi}$-1.93±.03; $M_{r\theta}$-0.54±.05; $M_{\theta\phi}$1.51±.02; $M_{\phi r}$0.03±.05; Best double couple: $M_0$2.98600×10^17^ NP1:ϕ_s153.00000°, δ42.00000°, λ103.00000°. NP2:ϕ_s316.00000°, δ49.00000°, λ79.00000°. Principal axes: T 2.9340, Plg81.0000°, Azm165.0000°; N 0.1010, Plg9.0000°, Azm323.0000°; P -3.0380, Plg3.0000°, Azm54.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **14** 14:33:19.5, 12°.10S×74°.20W, h30km, mB5.7/37, Ms5.6/51, Ms7 5.5/53*

*VAO **14** 14:33:21.1±0.6, 12°.08S×74°.11W, h35km±4km, mb5.5*

ISC 14 14:33:17.2±0.2, 12°.15S±0°.04×74°.29W±0°.04, h16km, h16km:pP-P, n1184, σ1°26/853, mb5.8/442, MS5.2/188, 22C-13D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.50**	**274**	Pn	**Pn**	**14 34 00.1**	**+2.8**
	665nm,0.3s,baz=102,slow=10,SNR=312						
NNA				LR	LR	14 34 31.4	
	comp=Z,13μm,18.9s,baz=116,slow=29						
NNA				Lg	Lg	14 34 35.8	
	1μm,0.3s,baz=123,slow=20,SNR=12						
	4μm,0.7s						
NNA	**Nana**	**2.50**	**274**	*ce*P	**Pn**	**14 34 00.8**	**+3.5**
NNA				pmax	pmax		
	comp=Z,8μm,0.8s						
CZSB	**Cruzeiro do Su**	**4.66**	**20**	Pn	**Pn**	**14 34 27.3**	**+0.3**
CZSB					**Sb**	**14 35 39.2**	**+4.5**
CZSB	**Cruzeiro do Su**	**4.66**	**20**	eP	**Pn**	**14 34 28.2**	**+1.2**
ATAH	**Atahualpa**	**6.42**	**321**	Pn	**Pn**	**14 34 51.1**	**-0.5**
	comp=Z,19nm,0.3s,baz=140,slow=11,SNR=164						
ATAH				Sn	**Sn**	**14 36 09.7**	**+4.9**
	comp=Z,74nm,0.3s,baz=75,slow=16,SNR=4.5						
ATAH				Lg	Lg	14 36 38.8	
	comp=Z,59nm,0.3s,baz=60,slow=20,SNR=5.7						
	comp=Z,107nm,1.1s						
PB18	**Visviri**	**7.13**	**140**	Pn	**Pn**	**14 35 05.7**	**+4.3**
LPAZ	**La Paz**	**7.25**	**125**	Pn	**Pn**	**14 35 06.9**	**+3.8**
LPAZ	**La Paz**	**7.25**	**125**	Pn	**Pn**	**14 35 05.9**	**+2.8**
	comp=Z,12nm,0.3s,baz=300,slow=9.3,SNR=121						
LPAZ				Lg	Lg	14 36 54.1	
	comp=Z,6.3nm,0.3s,baz=30,slow=20,SNR=1.5						
LPAZ				LR	LR	14 38 08.4	
	comp=Z,29μm,18.5s,baz=318,slow=41						
LPAZ	**La Paz**	**7.25**	**125**	P	**Pn**	**14 35 06.9**	**+3.8**
LPAZ	**La Paz**	**7.25**	**125**	eP	**Pn**	**14 35 04.1**	**+1.0**
PB12	**IPOC Station P**	**7.47**	**150**	Pn	**Pn**	**14 35 05.5**	**-0.2**
ETMB	**Extrema**	**8.26**	**74**	Pn	**Pn**	**14 35 17.3**	**+0.9**
ETMB	**Extrema**	**8.26**	**74**	eP	**Pn**	**14 35 17.4**	**+0.9**
ETMB				eS	**Sn**	**14 36 47.2**	**-2.3**
TA02	**Huaiquique**	**9.00**	**154**		**Pn**	**14 35 27.1**	**+0.5**
TBTG	**Tabatinga, AM**	**9.02**	**29**	Pn	**Pn**	**14 35 27.7**	**+0.8**
TBTG	**Tabatinga, AM**	**9.02**	**29**	eP	**Pn**	**14 35 27.7**	**+0.8**
TBTG				eS	**Sn**	**14 37 06.9**	**-1.4**
TA01	**Diego Aracena**	**9.25**	**155**	Pn	**Pn**	**14 35 30.1**	**+0.2**
PB08	**IPOC Station P**	**9.35**	**149**		**Pn**	**14 35 31.9**	**+0.2**
PB01	**IPOC Station P**	**9.96**	**153**		**Pn**	**14 35 39.2**	**-0.7**
PB09	**IPOC Station P**	**10.73**	**154**	Pn	**Pn**	**14 35 52.2**	**+1.7**
PTLC	**Puerto Leguiza**	**12.25**	**358**	P		14 36 06.4	
	comp=Z,6μmcomp=Z,471nm,1.0s						
PPLP	**Puerto Lpez**	**12.35**	**328**	P		14 36 14.3	
	comp=Z,1μmcomp=Z,1μmcomp=Z,110nm,0.8s						
TEFE	**Tefe**	**12.85**	**49**	eP	**Pn**	**14 36 18.4**	**-0.9**
TEFE				eS	**Sn**	**14 38 40.0**	**-2.1**
BONI	**La Bonita**	**12.93**	**345**	P		14 36 20.4	
	comp=Z,6μmcomp=Z,3μmcomp=Z,233nm,0.6s						
PB14	**IPOC Station P**	**12.94**	**164**	Pn	**Pn**	**14 36 20.2**	**-0.7**
OTAV	**Otavalo**	**12.98**	**341**	Pn	Pn	14 36 18.7	-2.9
OTAV	**Otavalo**	**12.98**	**341**	P	**Pn**	**14 36 24.2**	**+2.6**
OTAV				pmax	pmax		
	comp=Z,175nm,1.4s						
OTAV	**Otavalo**	**12.98**	**341**	eP	**Pn**	**14 36 24.1**	**+2.5**
OTAV				eS	**Sn**	**14 38 47.5**	**+1.4**
OTAV	**Otavalo**	**12.98**	**341**	P		14 36 25.3	
	comp=Z,5μmcomp=Z,2μmcomp=Z,170nm,1.4s						
CUSE	**Culcocha Este**	**13.03**	**341**	P		14 36 25.9	
	comp=Z,5μmcomp=Z,324nm,0.7s						
PAC1	**Pacto, Paraso**	**13.12**	**340**	P		14 36 25.1	
	comp=Z,5μmcomp=Z,404nm,0.8s						
TULM	**Tulcn-Chalpat**	**13.25**	**345**	P		14 36 29.7	
	comp=Z,10μmcomp=Z,577nm,1.0s						
SIV	**San Ignacio**	**13.38**	**108**	Pn	Pn	14 36 23.8	-2.7
	comp=Z,0.5nm,0.3s,baz=299,slow=11,SNR=33						
SIV				Sn	**Sn**	**14 38 58.5**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=292,slow=18,SNR=1.9						
SIV				Lg	Lg	14 40 13.8	
	comp=Z,2.5nm,0.3s,baz=285,slow=18,SNR=5.7						
SIV				LR	LR	14 42 22.2	
	comp=Z,23μm,18.0s,baz=291,slow=41						
	comp=Z,6.4nm,0.3s						
CMBC	**Cumbal**	**13.47**	**345**	P		14 36 31.3	
GO02	**Mina Guanaco**	**13.68**	**162**	Pn	**Pn**	**14 36 28.8**	**-2.2**
FLOC	**Florencia**	**13.71**	**354**	Pn	**Pn**	**14 36 29.5**	**-1.7**
FLOC	**Florencia**	**13.71**	**354**	P		14 36 30.8	
	comp=Z,6μmcomp=Z,5μmcomp=Z,297nm,0.9s						
VILB	**Vilhena**	**13.78**	**95**	Pn	**Pn**	**14 36 29.6**	**-2.5**
VILB	**Vilhena**	**13.78**	**95**	eP	**Pn**	**14 36 31.1**	**-0.9**
VILB				eS	**Sn**	**14 39 02.6**	**-2.2**
CRUC	**La Cruz**	**13.88**	**349**	P		14 36 36.8	
	comp=Z,2μm,2.1s						
MACC	**Macarena, Meta**	**14.21**	**2**	P		14 36 38.9	
	comp=Z,6μmcomp=Z,4μmcomp=Z,429nm,1.2s						
GARC	**Garzon, Huila**	**14.30**	**355**	P		14 36 39.7	
	comp=Z,5μmcomp=Z,323nm,0.7s						
AC01	**Pan de Azucar**	**14.35**	**167**		**Pn**	**14 36 39.3**	**-0.5**
BBAC	**Balboa, Cauca**	**14.38**	**348**	P		14 36 42.4	
	comp=Z,4μmcomp=Z,4μmcomp=Z,277nm,0.9s						
POPC	**Popayan, Colom**	**14.79**	**351**	P		14 36 48.9	
	comp=Z,6μmcomp=Z,4μmcomp=Z,133nm,1.1s						
PTLB	**Pontes e Lacer**	**15.07**	**104**		**Pn**	**14 36 47.9**	**-1.8**
PTLB	**Pontes e Lacer**	**15.07**	**104**	eP	**Pn**	**14 36 47.8**	**-1.9**
PTLB				eS	**Sn**	**14 39 34.9**	**-1.6**
JAMC	**Jamundi, Valle**	**15.45**	**351**	P		14 36 57.6	
	comp=Z,5μmcomp=Z,3μmcomp=Z,142nm,1.1s						
GR1C	**Gorgona, Isla**	**15.54**	**345**	P		14 36 58.6	
	comp=Z,6.6nmcomp=Z,0.3nm,0.8s						
PRAC	**Prado**	**15.77**	**358**	P		14 37 04.0	
ORTC	**Ortega, Tolima**	**15.98**	**357**	P		14 37 02.5	
	comp=Z,4μmcomp=Z,5μmcomp=Z,566nm,1.2s						
MACA	**Manacapuru-AM**	**16.16**	**58**	Pn	**Pn**	**14 37 00.9**	**-2.9**
MACA				IAmb	IAmb	14 37 12.0	
	comp=Z,406nm,0.6s						
MACA	**Manacapuru-AM**	**16.16**	**58**	eP	**Pn**	**14 37 00.2**	**-3.6**
VILC	**Villavicencio,**	**16.17**	**2**	P		14 37 04.8	
	comp=Z,5μmcomp=Z,542nm,0.6s						
ROSC	**El Rosal**	**16.88**	**360**	Pn	**Pn**	**14 37 16.6**	**+3.3**
	comp=Z,4.5nm,0.3s,baz=177,slow=21,SNR=5.9						
ROSC				Lg	Lg	14 42 05.4	
	comp=Z,5.0nm,0.3s,baz=221,slow=19,SNR=3.4						
PLMC	**San Jos del P**	**17.06**	**353**	P		14 37 19.0	
	comp=Z,4μmcomp=Z,157nm,1.0s						
LCO	**Las Campanas**	**17.10**	**169**	P	**Pn**	**14 37 16.8**	**+0.8**
LCO	**Las Campanas**	**17.10**	**169**	P	**Pn**	**14 37 16.8**	**+0.8**
LCO				pmax	pmax		
	comp=Z,398nm,1.6s						
PDRB	**Porto dos Gac**	**17.19**	**90**	eP	**Pn**	**14 37 16.3**	**-0.6**
GUY2C	**Guyana, Caldas**	**17.30**	**356**	P		14 37 22.4	
	comp=Z,6μmcomp=Z,3μmcomp=Z,267nm,1.0s						
RUSC	**La Rusia**	**17.97**	**4**	P	**Pn**	**14 37 27.1**	**+0.2**
CBOC	**Ciudad Bolivar**	**17.98**	**354**	P		14 37 29.8	
	comp=Z,4μmcomp=Z,274nm,1.3s						
CLDB	**Colider**	**18.16**	**88**	eP	**Pn**	**14 37 28.5**	**-0.5**
PANT	**Pantanal (Braz**	**18.32**	**114**	eP	**Pn**	**14 37 31.9**	**+1.0**
SALV	**Santo Antonio**	**18.42**	**104**	eP	**P**	**14 37 31.7**	**-0.3**
MURT	**Porto Murtinho**	**18.53**	**123**	eP	**P**	**14 37 33.3**	**+0.1**
TAMC	**Tame, Arauca**	**18.63**	**8**	P		14 37 37.5	
	comp=Z,6μmcomp=Z,307nm,0.8s						
BARC	**Barichara**	**18.66**	**3**	P		14 37 38.4	
BDQN	**Bodoquena, MS**	**18.73**	**118**	eP	**P**	**14 37 36.1**	**+0.7**
DBBC	**Dabeiba**	**19.14**	**354**	P		14 37 42.3	
PAPY	**Pozo Azul**	**19.31**	**130**	eP	**P**	**14 37 42.5**	**+0.8**
NPGB	**Novo Progresso**	**19.34**	**77**	eP	**P**	**14 37 42.7**	**+0.6**
PAMC	**Pamplona, Colo**	**19.43**	**5**	P		14 37 44.9	
	comp=Z,5μmcomp=Z,234nm,0.9s						
PTAC	**Punta Ardita,**	**19.49**	**349**	P		14 37 46.2	
	comp=Z,4μmcomp=Z,244nm,1.1s						
ZARC	**Zaragoza, Cauc**	**19.52**	**358**	P		14 37 46.5	
	comp=Z,4μmcomp=Z,147nm,0.8s						
AQDB	**Aquidauana**	**19.65**	**117**	P	**P**	**14 37 44.1**	**-1.4**
AQDB	**Aquidauana**	**19.65**	**117**	eP	**P**	**14 37 46.1**	**+0.6**
I20EC	**Galapagos**	**19.66**	**305**	I	I	16 27 50.0	
	baz=130,slow=320,SNR=0.7						
UREC	**San Jos de Ur**	**19.81**	**356**	P		14 37 48.5	
	comp=Z,3μmcomp=Z,111nm,1.2s						
BOAV	**Boa Vista**	**19.90**	**44**	P	**P**	**14 37 49.1**	**+0.9**
BOAV	**Boa Vista**	**19.90**	**44**	eP	**P**	**14 37 48.8**	**+0.6**
ITTB	**Itaituba**	**19.91**	**69**	eP	**P**	**14 37 48.6**	**+0.3**
APAC	**Apartado, Choc**	**20.05**	**353**	P		14 37 54.1	
	comp=Z,8μmcomp=Z,5μmcomp=Z,212nm,1.3s						
OCAC	**Ocana**	**20.28**	**3**	P		14 37 53.0	
	comp=Z,4μmcomp=Z,518nm,0.4s						
CACAO	**El Cacao, Vera**	**20.44**	**341**	P		14 37 58.9	
	comp=Z,48nmcomp=Z,1.1nm,0.9s						
VA06	**Catapilco**	**20.50**	**173**	P	**P**	**14 37 52.0**	**-2.6**
AZU	**Azuero**	**20.69**	**343**	P		14 37 59.6	
	comp=Z,4μmcomp=Z,237nm,1.6s						
VA03	**San Esteban**	**20.80**	**171**	P	**P**	**14 37 57.3**	**-0.7**
VA03				IAmb	IAmb	14 38 05.1	
	comp=Z,506nm,1.5s						
CAPC	**Capurgana**	**20.88**	**351**	P		14 38 02.9	
	comp=Z,6μmcomp=Z,393nm,1.6s						
GMAL	**Guarumal, Vera**	**20.96**	**340**	P		14 38 02.8	
	comp=Z,30μmcomp=Z,87nm,1.4s						
PEL	**Peldehue**	**21.15**	**172**	P	**P**	**14 38 02.1**	**+0.4**
PEL				IAmb	IAmb	14 38 07.5	
	comp=Z,792nm,1.6s						
PEL	**Peldehue**	**21.15**	**172**	P	**P**	**14 38 02.1**	**+0.4**
PEL				pmax	pmax		
	comp=Z,792nm,1.6s						
PEL				MLR	MLR		
	comp=Z,4μm,21.0s						
MT02	**Curacav**	**21.21**	**173**	P	**P**	**14 38 02.9**	**+0.7**
SDV	**Santo Domingo**	**21.21**	**10**	P	**P**	**14 38 02.9**	**+0.3**
SDV	**Santo Domingo**	**21.21**	**10**	P	**P**	**14 38 02.3**	**-0.4**
	comp=Z,84nm,0.8s,baz=203,slow=7.5,SNR=79						
SDV				S	**S**	**14 41 60.0**	**+1.7**
	comp=Z,43nm,0.9s,baz=258,slow=20,SNR=3.1						
SDV				Lg	Lg	14 44 21.8	
	comp=Z,3.6nm,0.3s,baz=240,slow=20,SNR=1.9						
SDV				LR	LR	14 47 00.9	
	comp=Z,10μm,20.7s,baz=196,slow=39						
	comp=Z,84nm,0.8s						
SDV	**Santo Domingo**	**21.21**	**10**	eP	**P**	**14 38 03.0**	**+0.3**
SDV	**Santo Domingo**	**21.21**	**10**	P		14 38 03.1	
	comp=Z,2μmcomp=Z,253nm,0.9s						
CPUP	**Villa Florida**	**21.30**	**134**	P	**P**	**14 38 03.6**	**+0.3**
	comp=Z,112nm,1.0s,baz=312,slow=10,SNR=84						
CPUP				S	**S**	**14 42 02.7**	**+3.2**
	comp=Z,3.5nm,0.8s,baz=240,slow=15,SNR=1.2						
CPUP				LR	LR	14 48 01.9	
	comp=Z,6μm,18.9s,baz=316,slow=42						
	comp=Z,112nm,1.0s						
MT05	**Renca**	**21.39**	**172**	P	**P**	**14 38 05.9**	**+1.6**
MT05				IAmb	IAmb	14 38 11.0	
	comp=Z,620nm,1.4s						
RPRD	**Ribas do Rio P**	**21.41**	**115**	eP	**P**	**14 38 05.3**	**+0.7**
MT16	**CCHEN**	**21.45**	**171**	IAmb	IAmb	14 38 23.4	
	comp=Z,510nm,1.4s						
VA05	**Santo Domingo**	**21.55**	**174**	P	**P**	**14 38 06.0**	**+0.2**
C2SB	**Chapadao do Su**	**21.68**	**110**	eP	**P**	**14 38 08.3**	**+0.8**
MT09	**Talagante**	**21.73**	**173**	P	**P**	**14 38 08.2**	**+0.1**
MT09				IAmb	IAmb	14 38 13.1	
	comp=Z,750nm,1.8s						
MT13	**San Alfonso**	**21.80**	**171**	P	**P**	**14 38 10.8**	**+2.1**
MT13				IAmb	IAmb	14 38 15.1	
	comp=Z,926nm,1.6s						
BAUV	**El Baul**	**21.86**	**17**	P	**P**	**14 38 09.4**	**0.0**
ARGC	**Ariguani, Magd**	**21.87**	**0**	P		14 38 10.8	
	comp=Z,6μmcomp=Z,9μmcomp=Z,532nm,1.0s						
BCIP	**Isla Barro Col**	**21.89**	**345**	P		14 38 12.2	
	comp=Z,5μmcomp=Z,326nm,1.4s						
BCIP	**Isla Barro Col**	**21.89**	**345**	P	**P**	**14 38 10.5**	**+0.9**
BCIP				IAmb	IAmb	14 38 30.3	
	comp=Z,803nm,1.7s						
BCIP	**Isla Barro Col**	**21.89**	**345**	P	**P**	**14 38 10.5**	**+0.9**
BCIP				pmax	pmax		
	comp=Z,803nm,1.7s						
SJCC	**San Jacinto, C**	**21.92**	**358**	P		14 38 11.7	
	comp=Z,6μmcomp=Z,622nm,1.1s						
BO04	**La Punta**	**21.99**	**172**	IAmb	IAmb	14 38 16.2	
	comp=Z,586nm,1.5s						
ARAG	**Araguaiana, MT**	**22.09**	**102**	eP	**P**	**14 38 12.6**	**+0.7**
MAL2	**Monte Alegre,**	**22.33**	**65**	P	**P**	**14 38 14.9**	**+0.4**
BO01	**Tunca**	**22.33**	**173**	IAmb	IAmb	14 38 19.4	
	comp=Z,415nm,1.4s						
SNDB	**Serra Nova Dou**	**22.49**	**92**	eP	**P**	**14 38 16.4**	**+0.2**
BO02	**Sierra Bellavi**	**22.76**	**173**	P	**P**	**14 38 18.1**	**-0.9**
BO02				IAmb	IAmb	14 38 24.0	
	comp=Z,461nm,1.9s						
SMRC	**Santa Marta, M**	**23.16**	**0**	P	**P**	**14 38 20.5**	**-2.7**
ML02	**Panimavida**	**23.65**	**174**	P	**P**	**14 38 28.3**	**+0.5**
ML02				IAmb	IAmb	14 38 31.7	
	comp=Z,319nm,1.4s						
HDC	**Heredia**	**24.08**	**336**	eP	**P**	**14 38 33.5**	**+1.3**
PCRV	**Puerto La Cruz**	**24.17**	**24**	LR	LR	14 48 28.6	
	comp=Z,6μm,21.0s,slow=38						
ITRB	**Iturama**	**24.18**	**111**	eP	**P**	**14 38 32.4**	**-0.7**
PTGB	**Pitanga**	**24.46**	**124**	eP	**P**	**14 38 35.9**	**+0.2**
BI02	**San Fabin de**	**24.55**	**174**	IAmb	IAmb	14 38 40.1	
	comp=Z,304nm,1.6s						
JTS	**Las

UUPR IAmb IAmb 14 39 47.0
comp=Z,94nm,0.8s
DR12 Loma Pena Alta 31.12 9 P **P 14 39 34.6 -0.7**
SJG San Juan 31.13 15 IAms_20 IAms_20 14 54 09.8
comp=Z,4µm,18.0s
SJG San Juan 31.13 15 LR LR 14 53 23.0
comp=Z,3µm,18.2s,baz=184,slow=39
ABD La Joyeuse, An 31.13 24 IAms_20 IAms_20 14 52 41.1
comp=Z,4µm,20.0s
HUMP Col San Antoni 31.23 16 P **P 14 39 35.2 -0.9**
APG El Apazote 31.38 329 LR LR 14 51 32.7
comp=Z,115nm,20.9s,baz=251,slow=35
SEUS St. Eustatius 31.50 21 IAms_20 IAms_20 14 52 33.9
comp=Z,4µm,20.0s
SABA Saba 31.53 20 IAms_20 IAms_20 14 53 13.6
comp=Z,5µm,20.0s
AY01 Puyuhuapi 32.19 178 P P 14 39 41.6 -2.7
CCIG Comitan 33.31 328 IAms_20 IAms_20 14 51 49.3
comp=Z,4µm,22.0s
GUA01 Guaratinga, BA 33.66 102 *e*P **P 14 39 57.1 -0.5**
CMC01 Camacan, BA 33.90 99 *e*P **P 14 39 60.0 +0.3**
NBPB Pedra_Branca-C 34.89 82 *e*P **P 14 40 08.9 +0.6**
TEIG Tepich 35.00 337 P 14 40 11.3
TEIG Tepich 35.00 337 P **P 14 40 09.2 +0.2**
CMIG Matias Romero 35.48 325 LR LR 14 54 09.7
comp=Z,1µm,21.4s,baz=150,slow=35
NBLA Lagarto - SE 35.76 92 *e*P **P 14 40 14.6 -1.2**
RPN Rapa Nui 36.06 240 LR LR 14 51 25.1
comp=Z,2µm,19.6s,baz=77,slow=30
NBLV Livramento - P 37.11 86 *e*P **P 14 40 28.8 +1.4**
NBAN Anadia - AL 37.39 90 *e*P **P 14 40 29.6 -0.1**
NBCA Caruaru-PE 37.85 88 *e*P **P 14 40 34.5 +0.8**
RCBR Riachuelo 38.40 84 IAms_20 IAms_20 14 58 55.5
comp=Z,3µm,18.0s
RCBR Riachuelo 38.40 84 LR LR 14 57 05.5
comp=Z,4µm,19.2s,baz=262,slow=37
RCBR Riachuelo 38.40 84 *e*P **P 14 40 39.8 +1.5**
UNM Universidad Na 39.75 322 IAms_20 IAms_20 14 55 12.8
comp=Z,3µm,20.0s
DWPF Disney Wildern 40.62 350 IAms_20 IAms_20 14 58 12.1
comp=Z,3µm,21.0s
EFI East Falkland 41.55 165 P **P 14 41 03.4 -0.5**
EFI East Falkland 41.55 165 *ce*P **P 14 41 03.1 -0.8**
EFI pmax pmax
comp=Z,25nm,1.0s
HBVL Hebbronville 45.61 329 IAmb IAmb 14 41 39.9
comp=Z,176nm,1.3s
GOGA Godfrey 46.15 349 IAms_20 IAms_20 15 00 57.2
comp=Z,3µm,21.0s
LRAL Lakeview Retre 46.54 345 P P 14 41 40.7 -3.5
X58A Rowland 46.70 354 IAmb IAmb 14 41 53.5
comp=Z,158nm,1.3s
HKT Hockley 46.73 334 P **P 14 41 46.0 +0.4**
HKT Hockley 46.73 334 *cP* **P 14 41 46.5 +1.0**
HKT pmax pmax
comp=Z,217nm,1.6s
BIRD Birdtown, Kers 46.91 353 IAmb IAmb 14 41 55.0
comp=Z,132nm,1.4s
833A Chaparral WMA, 47.01 329 IAmb IAmb 14 41 50.3
comp=Z,163nm,1.3s
833A Chaparral WMA, 47.01 329 P **P 14 41 47.5 -0.4**
baz=146
W59A Clinton 47.23 355 IAmb IAmb 14 41 58.3
comp=Z,137nm,1.2s
KMSC Kings Mountain 47.51 352 IAmb IAmb 14 41 53.2
comp=Z,64nm,1.0s
BG3 Lake Jocassee 47.60 350 IAmb IAmb 14 42 00.4
comp=Z,101nm,1.4s
V58A Windy Hill, Pi 47.90 355 IAmb IAmb 14 42 03.2
comp=Z,136nm,1.3s
V55A Taylorsville 48.19 352 IAmb IAmb 14 41 58.8
comp=Z,147nm,1.5s
435B Jarrell 48.21 333 IAmb IAmb 14 41 59.4
comp=Z,93nm,1.2s
435B Jarrell 48.21 333 P **P 14 41 57.4 +0.3**
baz=149
V53A Saluda 48.24 351 IAms_20 IAms_20 15 04 32.9
comp=Z,3µm,19.0s
CPCT Cooper Cave 48.32 349 IAmb IAmb 14 42 05.5
comp=Z,107nm,1.4s
SWET Sewanee 48.38 347 IAmb IAmb 14 42 05.4
comp=Z,99nm,1.4s
TKL Tuckaleechee C 48.39 350 LR LR 15 02 50.3
comp=Z,3µm,21.7s,baz=152,slow=37
DRIO Del Rio 48.52 329 IAmb IAmb 14 42 01.4
comp=Z,191nm,1.3s
U56A King 48.58 353 IAmb IAmb 14 42 08.5
comp=Z,162nm,1.1s
PLAL Pickwick Lake 48.67 345 P **P 14 41 59.5 -1.1**
V48A Smith Brothers 49.09 346 P **P 14 42 02.9 -1.0**
TZTN Tazewell 49.22 350 IAmb IAmb 14 42 12.3
comp=Z,124nm,1.4s
FW14 Alvarado 49.42 334 IAmb IAmb 14 42 08.5
comp=Z,142nm,0.9s
BLA Blacksburg 49.44 354 IAmb IAmb 14 42 15.0
comp=Z,81nm,0.9s
FW13 Cleburne 49.48 334 IAmb IAmb 14 42 08.9
comp=Z,146nm,1.1s
U49A Red Boiling Sp 49.60 348 IAms_20 IAms_20 15 02 50.9
comp=Z,2µm,21.0s
WVT Waverly 49.70 346 P **P 14 42 06.5 -1.9**
WVT Waverly 49.70 346 P **P 14 42 06.9 -1.6**
WVT pmax pmax
comp=Z,17nm,1.8s
SAND Sanderson 49.72 328 IAmb IAmb 14 42 11.1
comp=Z,130nm,1.3s
S57A Dark Hollow, R 49.84 355 IAmb IAmb 14 42 18.5
comp=Z,154nm,1.2s
SLBS Sierra La Lagu 49.85 316 P **P 14 42 11.2 +1.2**
SLBS IAmb IAmb 14 42 13.1
comp=Z,166nm,1.5s
MIAR Mount Ida 49.92 339 P **P 14 42 10.4 +0.1**
R58B Mineral 49.97 356 IAmb IAmb 14 42 19.2
comp=Z,110nm,1.1s
OZNA Ozona 49.99 330 IAmb IAmb 14 42 12.7
comp=Z,211nm,1.3s
TXAR Lajitas Array 50.05 326 P **P 14 42 11.7 +0.2**
comp=Z,27nm,1.1s,baz=147,slow=7.5,SNR=119
TXAR PcP **PcP 14 43 32.5 +1.3**
comp=Z,3.5nm,0.9s,baz=143,slow=5.3,SNR=3.9
TXAR LR LR 15 02 36.0
comp=Z,858nm,19.2s,baz=108,slow=35
comp=Z,27nm,1.1s
S54A Dingess, Beckl 50.12 353 IAmb IAmb 14 42 13.1
comp=Z,110nm,1.0s
S54A IAms_20 IAms_20 15 05 02.4
comp=Z,2µm,19.0s
WHAR Wooly Hollow 50.17 341 P **P 14 42 10.7 -1.4**
WHAR IAmb IAmb 14 42 25.0
comp=Z,110nm,1.3s
LPIG La Paz 50.37 316 LR LR 15 00 30.5
comp=Z,835nm,20.2s,baz=123,slow=32
R55A Marlinton 50.47 354 IAms_20 IAms_20 15 04 39.9
comp=Z,2µm,21.0s
LCAR Lake Charles 50.54 342 IAmb IAmb 14 42 21.9
comp=Z,187nm,1.8s
SGCY Sterling City 50.80 330 IAmb IAmb 14 42 18.7
comp=Z,169nm,1.3s
ALPN Alpine 50.85 327 IAmb IAmb 14 42 19.5
comp=Z,170nm,1.3s
Q54A Coxs Mills 51.24 353 IAms_20 IAms_20 15 05 15.2
comp=Z,2µm,21.0s
CGM3 Cape Girardeau 51.27 344 IAmb IAmb 14 42 27.2
comp=Z,155nm,1.5s
WCI Wyandotte Cave 51.36 348 P **P 14 42 19.3 -1.7**
WCI IAmb IAmb 14 42 28.0
comp=Z,136nm,1.2s
WCI Wyandotte Cave 51.36 348 IAms_20 IAms_20 15 04 08.5
comp=Z,2µm,22.0s
WCI Wyandotte Cave 51.36 348 P **P 14 42 19.3 -1.7**
WCI pmax pmax
comp=Z,136nm,1.3s
WCI MLR MLR
comp=Z,2µm,22.0s
SIUC Southern Illin 51.55 345 IAmb IAmb 14 42 22.7
comp=Z,64nm,0.7s
P61A Hammonton 51.56 360 IAms_20 IAms_20 15 05 20.9
comp=Z,2µm,20.0s
HHAR Hobbs 51.62 340 IAmb IAmb 14 42 24.1
comp=Z,191nm,1.3s
W35A Tecumseh 51.69 336 IAmb IAmb 14 42 24.5
comp=Z,196nm,1.2s
P53A Whipple 51.80 353 IAmb IAmb 14 42 32.0
comp=Z,128nm,1.2s
MCWV Mont Chateau 51.80 355 IAms_20 IAms_20 15 03 42.2
comp=Z,2µm,21.0s
MGMO Mountain Grove 51.88 342 IAmb IAmb 14 42 25.7
comp=Z,107nm,1.0s
VHRN Van Horn 51.90 326 IAmb IAmb 14 42 27.3
comp=Z,211nm,1.3s
MVL Millersville 51.92 358 IAmb IAmb 14 42 27.7
comp=Z,211nm,1.2s
FNO Franklin 51.99 336 IAmb IAmb 14 42 27.0
comp=Z,186nm,1.0s
WMOK Wichita Mounta 52.11 334 P **P 14 42 26.5 -0.2**
WMOK pmax pmax
comp=Z,46nm,1.6s
P49A Miami Univ. Ec 52.33 350 IAmb IAmb 14 42 28.3
comp=Z,187nm,1.4s
O54A Avella 52.37 354 IAms_20 IAms_20 15 05 38.3
comp=Z,2µm,22.0s
OK031 S. Brethren Rd 52.38 337 IAmb IAmb 14 42 30.6
comp=Z,174nm,1.1s
OK052 Battle Ridge R 52.40 337 IAmb IAmb 14 42 30.8
comp=Z,180nm,1.0s
CCM Cathedral Cave 52.41 343 P **P 14 42 26.9 -2.0**
CCM IAmb IAmb 14 42 35.9
comp=Z,237nm,1.9s
CCM Cathedral Cave 52.41 343 P **P 14 42 26.9 -2.0**
CCM pmax pmax
comp=Z,237nm,1.9s
O52A Adamsville 52.47 353 IAms_20 IAms_20 15 06 23.9
comp=Z,2µm,20.0s
OK029 Liberty Lake 52.48 336 IAmb IAmb 14 42 30.4
comp=Z,178nm,1.0s
LUPA Lehigh Univers 52.49 359 IAmb IAmb 14 42 31.8
comp=Z,159nm,1.5s
QUOK Quay 52.52 337 IAmb IAmb 14 42 31.0
comp=Z,197nm,1.2s
SSPA Standing Stone 52.63 357 P **P 14 42 29.8 -0.6**
SSPA IAmb IAmb 14 42 39.1
comp=Z,176nm,1.4s
SLM Saint Louis 52.68 344 IAmb IAmb 14 42 31.4
comp=Z,201nm,1.5s
ACSO Alum Creek Sta 52.74 352 IAmb IAmb 14 42 31.9
comp=Z,103nm,1.1s
N58A Sunbury 52.77 358 IAmb IAmb 14 42 40.4
comp=Z,121nm,1.0s
PAL Palisades 52.89 0 IAmb IAmb 14 42 34.1
comp=Z,126nm,1.3s
N53A Lisbon 53.04 354 IAms_20 IAms_20 15 06 10.0
comp=Z,2µm,21.0s
WSPT Westport, CT 53.06 1 IAms_20 IAms_20 15 03 29.7
comp=Z,2µm,21.0s
CROK Carrier 53.30 336 IAmb IAmb 14 42 36.7
comp=Z,221nm,1.4s
M63A Gales Ferry 53.33 2 P **P 14 42 36.0 +0.4**
M63A IAmb IAmb 14 42 37.5
comp=Z,161nm,1.2s
M63A IAms_20 IAms_20 15 06 54.7
comp=Z,2µm,20.0s
N51A Ashland 53.33 352 IAms_20 IAms_20 15 09 08.7
comp=Z,2µm,18.0s
EPT El Paso 53.48 326 IAmb IAmb 14 42 39.3
comp=Z,118nm,1.3s
EPT IAms_20 IAms_20 15 04 24.6
comp=Z,2µm,19.0s
AMTX Amarillo 53.51 332 IAmb IAmb 14 42 38.4
comp=Z,136nm,1.4s
N49A Columbus Grove 53.59 351 IAmb IAmb 14 42 38.0
comp=Z,198nm,1.3s
N49A IAms_20 IAms_20 15 05 21.6
comp=Z,2µm,21.0s
SFIN Lafayette 53.60 348 IAmb IAmb 14 42 37.4
comp=Z,151nm,1.3s
SFIN IAms_20 IAms_20 15 07 19.7
comp=Z,2µm,20.0s
KAN17 Caldwell West 53.69 337 IAmb IAmb 14 42 39.8
comp=Z,190nm,1.2s
ALLY Alegheny Colle 53.80 355 IAmb IAmb 14 42 46.8
comp=Z,134nm,1.0s
M52A Chesterland 53.82 353 IAms_20 IAms_20 15 06 45.7
comp=Z,2µm,21.0s
M50A Fremont 53.90 352 IAmb IAmb 14 42 40.2
comp=Z,108nm,0.9s
L64A Middleborough 53.91 3 IAms_20 IAms_20 15 05 10.2
comp=Z,2µm,21.0s
HSIG 54.12 320 P **P 14 42 41.5 -0.2**
HSIG IAmb IAmb 14 42 43.9
comp=Z,187nm,2.0s
ERPA Erie 54.26 355 IAmb IAmb 14 42 50.1
comp=Z,139nm,1.1s
WES Weston 54.34 3 IAmb IAmb 14 42 44.8
comp=Z,88nm,1.1s
L61B Northampton 54.35 1 IAmb IAmb 14 42 44.8
comp=Z,122nm,1.4s
L61B IAms_20 IAms_20 15 06 08.8
comp=Z,2µm,20.0s
L61B Northampton 54.35 1 P **P 14 42 43.4 +0.3**
baz=182
WVNY West Valley, N 54.43 356 IAmb IAmb 14 42 45.5
comp=Z,150nm,1.1s
HRV Adam Dziewonsk 54.45 2 IAms_20 IAms_20 15 04 28.3
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 54.45 2 P **P 14 42 42.0 -1.7**
HRV pmax pmax
comp=Z,118nm,1.4s
K62A Royalston 54.58 2 IAms_20 IAms_20 15 04 33.8
comp=Z,3µm,22.0s
TRY Troy 54.62 1 IAmb IAmb 14 42 47.3
comp=Z,110nm,1.1s
TRY IAms_20 IAms_20 15 06 43.8
comp=Z,2µm,21.0s
L48A N Adams 54.63 351 IAmb IAmb 14 42 51.8
comp=Z,102nm,1.1s
L48A IAms_20 IAms_20 15 06 15.1
comp=Z,2µm,20.0s
K57A Scipio Center 54.65 358 IAms_20 IAms_20 15 08 11.7
comp=Z,2µm,19.0s
M44A Miwin, Midew 54.77 347 IAmb IAmb 14 42 52.2
comp=Z,154nm,1.6s
M44A IAms_20 IAms_20 15 08 07.6
comp=Z,2µm,21.0s
121A Cookes Peak, D 54.77 325 IAmb IAmb 14 42 49.1
comp=Z,160nm,1.1s
121A Cookes Peak, D 54.77 325 P **P 14 42 47.3 +0.7**
baz=139
319A Douglas 54.77 323 IAmb IAmb 14 42 48.9
comp=Z,140nm,1.1s
N41A Harden Midland 54.79 345 IAmb IAmb 14 42 46.3
comp=Z,170nm,1.1s
AAM Ann Arbor 54.87 352 IAms_20 IAms_20 15 06 25.3
comp=Z,3µm,22.0s
L46A Eue Claire 55.02 349 IAmb IAmb 14 42 47.4
comp=Z,112nm,1.0s
KSU1 Kansas State U 55.08 339 IAmb IAmb 14 42 49.3
comp=Z,253nm,1.7s
HQIL Hanson Quarry C 55.12 348 IAms_20 IAms_20 15 10 21.0
comp=Z,3µm,20.0s
K50A Casco 55.19 353 IAms_20 IAms_20 15 07 28.9
comp=Z,2µm,20.0s
J55A Hilton 55.24 357 IAms_20 IAms_20 15 08 36.3
comp=Z,2µm,20.0s
J61A Chester 55.25 2 IAmb IAmb 14 42 52.2
comp=Z,137nm,1.3s
J61A IAms_20 IAms_20 15 04 54.6
comp=Z,2µm,22.0s
ACCN Adirondack Com 55.27 1 IAmb IAmb 14 42 52.0
comp=Z,144nm,1.4s
J57A Williamstown 55.31 358 IAmb IAmb 14 42 58.5
comp=Z,142nm,1.1s
J57A IAms_20 IAms_20 15 08 46.2
comp=Z,2µm,20.0s
J59A Piesco 55.35 360 IAms_20 IAms_20 15 07 52.1
comp=Z,2µm,20.0s
L44A Lake County Fo 55.49 348 IAms_20 IAms_20 15 08 16.9
comp=Z,2µm,20.0s
L44A Lake County Fo 55.49 348 P **P 14 42 49.5 -1.9**
baz=164
N38A Joes South For 55.52 343 IAmb IAmb 14 42 51.9
comp=Z,88nm,1.0s
HNH Hanover 55.62 2 IAmb IAmb 14 42 54.7
comp=Z,105nm,1.4s
HNH IAms_20 IAms_20 15 05 06.3
comp=Z,3µm,22.0s
L42A Oliver, Polo 55.72 346 IAmb IAmb 14 42 52.8
comp=Z,169nm,1.3s
I62A Tamworth 55.82 3 IAms_20 IAms_20 15 07 11.7
comp=Z,2µm,20.0s
NCB Newcomb 55.85 0 IAmb IAmb 14 42 56.2
comp=Z,210nm,1.6s
ANMO Albuquerque 55.90 328 *c iP* **P 14 42 55.0 +0.4**
ANMO pmax pmax
comp=Z,58nm,1.5s
J47A Sunmer 55.96 351 IAms_20 IAms_20 15 06 32.2
comp=Z,3µm,21.0s
I63A Otisfield 56.03 3 IAms_20 IAms_20 15 07 34.3
comp=Z,2µm,20.0s
K43A Burlington 56.09 348 IAms_20 IAms_20 15 09 06.6
comp=Z,3µm,20.0s
L40A Anamosa 56.15 345 IAmb IAmb 14 42 56.1
comp=Z,183nm,1.2s
L40A IAms_20 IAms_20 15 09 49.3
comp=Z,2µm,20.0s
LBNH Lisbon 56.16 2 IAms_20 IAms_20 15 06 40.7
comp=Z,2µm,21.0s
VT1 Waterbury 56.23 1 IAms_20 IAms_20 15 07 48.2
comp=Z,2µm,21.0s
TUC Tucson 56.33 323 P **P 14 42 58.0 +0.3**
TUC Tucson 56.33 323 IAms_20 IAms_20 15 05 05.9
comp=Z,2µm,19.0s
TUC Tucson 56.33 323 P **P 14 42 58.0 +0.3**
TUC pmax pmax
comp=Z,76nm,1.3s
I49A Point Hope 56.36 353 IAmb IAmb 14 42 57.5
comp=Z,136nm,1.2s
I49A IAms_20 IAms_20 15 08 14.9
comp=Z,2µm,21.0s
LONY Lake Ozonia 56.50 360 IAmb IAmb 14 43 01.5
comp=Z,195nm,1.6s
LONY IAms_20 IAms_20 15 08 16.7
comp=Z,2µm,20.0s
H62A Milan 56.53 3 IAms_20 IAms_20 15 08 10.4
comp=Z,2µm,20.0s
SCIA State Center 56.55 343 IAmb IAmb 14 42 59.2
comp=Z,86nm,1.1s
WVL Waterville 56.60 4 IAms_20 IAms_20 15 05 52.4
comp=Z,2µm,22.0s
T25A Trinidad 56.62 331 IAmb IAmb 14 43 01.9
comp=Z,148nm,1.1s
T25A Trinidad 56.62 331 P **P 14 43 00.4 +0.6**
baz=144
JFWS Jewell Farm 56.72 346 IAmb IAmb 14 43 00.3
comp=Z,136nm,1.2s
JFWS Jewell Farm 56.72 346 IAms_20 IAms_20 15 04 12.2
comp=Z,1µm,21.0s
SADO Sadowa 56.82 356 IAmb IAmb 14 43 01.6
comp=Z,116nm,1.2s
SADO Sadowa 56.82 356 LR LR 15 08 33.0
comp=Z,693nm,21.9s,baz=190,slow=37
WBO Williamsburg 56.89 359 IAmb IAmb 14 43 03.2
comp=Z,164nm,1.3s
I45A Fountain 56.97 350 IAms_20 IAms_20 15 07 29.9
comp=Z,2µm,21.0s
G62A West of Eustis 57.20 3 IAmb IAmb 14 43 06.1
comp=Z,164nm,1.1s
G62A IAms_20 IAms_20 15 08 38.2
comp=Z,2µm,20.0s
MNTQ Montreal, Queb 57.38 1 IAmb IAmb 14 43 06.8
comp=Z,165nm,1.1s
GGN Saint George 57.40 6 IAmb IAmb 14 43 19.0
comp=Z,258nm,1.9s
G65A Princeton 57.41 6 IAmb IAmb 14 43 07.1
comp=Z,93nm,1.0s
G65A IAms_20 IAms_20 15 05 59.7
comp=Z,2µm,22.0s
X18A Snowflake 57.46 325 IAmb IAmb 14 43 08.2
comp=Z,139nm,1.3s
SDCO Great Sand Dun 57.62 331 IAmb IAmb 14 43 08.9
comp=Z,161nm,1.1s
I40A Norwalk 57.73 346 IAmb IAmb 14 43 07.5
comp=Z,163nm,1.1s
I40A IAms_20 IAms_20 15 10 46.0
comp=Z,2µm,18.0s
SFX San Felipe 57.97 319 P **P 14 43 10.1 +1.0**
SFX IAmb IAmb 14 43 11.4
comp=Z,170nm,1.5s
F64A Sherman 57.99 5 IAmb IAmb 14 43 11.2
comp=Z,122nm,1.2s
F64A IAms_20 IAms_20 15 06 32.2
comp=Z,2µm,22.0s
TRQ Mont Tremblant 58.10 360 IAmb IAmb 14 43 11.6
comp=Z,201nm,1.6s
X16A Lo Mia Camp, P 58.22 324 IAmb IAmb 14 43 13.6
comp=Z,94nm,1.2s
S22A 4UR Ranch, Cre 58.27 330 IAmb IAmb 14 43 13.6
comp=Z,157nm,1.5s
S22A 4UR Ranch, Cre 58.27 330 P **P 14 43 12.0 +0.5**
baz=142
LMN Caledonia Moun 58.36 8 IAmb IAmb 14 43 12.8
comp=Z,134nm,1.3s
Q24A Divide 58.44 332 IAmb IAmb 14 43 14.5
comp=Z,119nm,1.2s
Q24A Divide 58.44 332 P **P 14 43 12.9 +0.2**
baz=144,SNR=37
113A Mohawk Valley, 58.45 321 IAmb IAmb 14 43 14.8
comp=Z,146nm,1.6s
I37A Lemond, Waseca 58.55 344 IAmb IAmb 14 43 13.1
comp=Z,95nm,1.4s
I37A IAms_20 IAms_20 15 11 36.7
comp=Z,2µm,21.0s
E62A Clayton Lake 58.66 4 IAmb IAmb 14 43 16.2
comp=Z,121nm,1.2s
E62A IAms_20 IAms_20 15 07 17.8
comp=Z,2µm,22.0s
Y14A Wickenburg 58.80 323 IAmb IAmb 14 43 17.4
comp=Z,98nm,1.2s
VTX Valle De La Tr 58.81 319 IAmb IAmb 14 43 17.5
comp=Z,102nm,1.5s
G40A Rib Lake 58.94 347 IAmb IAmb 14 43 22.9
comp=Z,161nm,2.0s
G40A IAms_20 IAms_20 15 10 23.0
comp=Z,2µm,22.0s
F42A Maple Grove Fa 58.98 349 IAmb IAmb 14 43 16.4
comp=Z,142nm,1.2s
D62A Allapoint, All 59.15 4 IAms_20 IAms_20 15 07 29.8
comp=Z,2µm,21.0s
ECSD EROS Data Cent 59.23 341 IAmb IAmb 14 43 18.4
comp=Z,121nm,1.2s
GLA Glamis 59.30 321 IAmb IAmb 14 43 20.9
comp=Z,103nm,1.5s
ISCO Idaho Springs 59.33 332 IAmb IAmb 14 43 20.7
comp=Z,94nm,1.3s
ISCO Idaho Springs 59.33 332 P **P 14 43 19.2 +0.4**
ISCO pmax pmax
comp=Z,62nm,1.4s
LMQ La Malbaie 59.54 3 P **P 14 43 20.4 +0.6**
LMQ IAmb IAmb 14 43 21.7
comp=Z,122nm,1.5s
BLYC Blythe 59.58 321 IAmb IAmb 14 43 22.9
comp=Z,132nm,1.2s
PV07 Paradox Valley 59.71 329 IAmb IAmb 14 43 23.5
comp=Z,138nm,1.4s
YUH Yuha Desert 59.72 320 P **P 14 43 22.4 +1.1**
LDAQ Lac Daran 59.91 2 P **P 14 43 22.1 -0.3**
LDAQ IAmb IAmb 14 43 24.4
comp=Z,106nm,1.0s
W13A Hualapai Mount 60.12 323 IAmb IAmb 14 43 27.1
comp=Z,94nm,1.3s
U15A North Rim 60.15 325 IAmb IAmb 14 43 27.2
comp=Z,124nm,1.3s
N23A Red Feather La 60.36 333 P **P 14 43 26.2 +0.4**
baz=144
E38A The Farm, Brul 60.51 346 IAmb IAmb 14 43 26.8
comp=Z,92nm,1.2s
E38A IAms_20 IAms_20 15 12 24.6
comp=Z,2µm,20.0s
PFO Pinyon Flats O 60.69 320 P **P 14 43 27.9 -0.2**
PFO IAmb IAmb 14 43 30.7
comp=Z,129nm,1.4s
PFO Pinyon Flats O 60.69 320 LR LR 15 06 23.3
comp=Z,909nm,20.7s,baz=126,slow=33
PFO Pinyon Flats O 60.69 320 *i P* **P 14 43 28.4 +0.3**
PFO pmax pmax
comp=Z,152nm,1.5s
LCMT Little Creek M 61.10 325 IAmb IAmb 14 43 33.4
comp=Z,113nm,1.5s
V12A Nelson 61.13 323 IAmb IAmb 14 43 33.4
comp=Z,121nm,1.4s
SRU San Rafael Swe 61.17 328 IAmb IAmb 14 43 33.2
comp=Z,148nm,1.3s
MTPU Mount Pierson 61.26 326 IAmb IAmb 14 43 41.6
comp=Z,151nm,1.8s
Q16A Castle Valley 61.36 328 IAmb IAmb 14 43 42.9
comp=Z,164nm,1.5s
P18A Preston Nutter 61.42 329 IAmb IAmb 14 43 35.3
comp=Z,114nm,1.4s
TMUT Trail Mountain 61.66 328 IAmb IAmb 14 43 36.8
comp=Z,101nm,1.6s
ICQ Pointe Anglais 61.72 5 P **P 14 43 34.1 -0.4**
EYMN Ely 61.76 347 IAmb IAmb 14 43 35.3
comp=Z,123nm,1.4s
EYMN Ely 61.76 347 IAms_20 IAms_20 15 12 30.7

comp=Z,2µm,21.0s
TCRU Three Creeks R 61.81 327 IAmb IAmb 14 43 38.2
comp=Z,110nm,1.2s
SHPR Sheep Range 61.84 323 IAmb IAmb 14 43 38.5
comp=Z,72nm,1.4s
GSC Goldstone, Bar 62.02 321 IAmb IAmb 14 43 39.5
comp=Z,102nm,1.5s
K22A Casper 62.03 334 IAmb IAmb 14 43 38.6
comp=Z,91nm,1.2s
RSSD Black Hills 62.20 336 P **P** **14 43 38.4 +0.1**
RSSD IAmb IAmb 14 43 40.1
comp=Z,140nm,1.4s
RSSD Black Hills 62.20 336 P **P** **14 43 38.4 +0.1**
RSSD pmax pmax
comp=Z,140nm,1.4s
BSUT Blindstream Ca 62.36 329 IAmb IAmb 14 43 41.8
comp=Z,134nm,1.3s
MPU Maple Canyon 62.41 328 IAmb IAmb 14 43 41.8
comp=Z,100nm,1.3s
PSUT Pine Spring 62.52 326 IAmb IAmb 14 43 43.0
comp=Z,89nm,1.2s
TPNV Topopah Spring 62.79 323 IAmb IAmb 14 43 52.2
comp=Z,96nm,1.4s
TPNV IAMs_20 IAMs_20 15 08 23.8
comp=Z,1µm,20.0s
WCT Wildcat Mounta 62.90 323 IAmb IAmb 14 43 45.7
comp=Z,84nm,1.2s
DRLN Deer Lake 62.91 12 P **P** **14 43 42.5 0.0**
BBTS Babate 63.10 67 LR LR 15 10 19.7
comp=Z,2µm,19.1s,baz=130,slow=35
DUG Dugway, Tooele 63.16 328 P **P** **14 43 45.6 +1.0**
DUG pmax pmax
comp=Z,135nm,1.4s
AGMN Agassiz Nation 63.16 344 IAMs_20 IAMs_20 15 13 22.7
comp=Z,1µm,21.0s
ISA Isabella, Lake 63.28 321 IAmb IAmb 14 43 47.9
comp=Z,70nm,1.3s
R11B Troy Canyon, C 63.36 325 IAmb IAmb 14 43 48.9
comp=Z,123nm,1.4s
R11B Troy Canyon, C 63.36 325 P **P** **14 43 47.2 +1.2**
baz=134,SNR=54
PD31 Pinedale Array 63.49 332 IAmb IAmb 14 43 48.1
comp=Z,86nm,1.4s
PDAR Pinedale Array 63.49 332 P **P** **14 43 46.1 -0.8**
PDAR Pinedale Array 63.49 332 P **P** **14 43 45.5 -1.3**
comp=Z,10nm,0.9s,baz=140,slow=7.2,SNR=77
PDAR LR LR 15 13 16.7
comp=Z,489nm,19.5s,slow=38
comp=Z,10nm,0.9s
HWUT Hardware Ranch 63.57 330 IAmb IAmb 14 43 48.9
comp=Z,121nm,1.2s
HWUT IAMs_20 IAMs_20 15 10 40.5
comp=Z,2µm,21.0s
BGU Big Grassy Mou 63.80 328 IAmb IAmb 14 43 50.8
comp=Z,104nm,1.4s
DSP Deep Springs 64.09 322 IAmb IAmb 14 43 53.4
comp=Z,142nm,1.5s
AHID Auburn Hatcher 64.21 331 IAmb IAmb 14 43 53.0
comp=Z,64nm,1.1s
HVU Hansel Valley 64.30 329 IAmb IAmb 14 43 53.7
comp=Z,67nm,1.2s
SNOW Snow King Moun 64.58 331 IAmb IAmb 14 44 04.6
comp=Z,95nm,1.6s
TPAW Teton Pass 64.69 331 IAMs_20 IAMs_20 15 12 37.4
comp=Z,989nm,18.0s
TAOE Nuku Hiva Isla 64.71 266 *e*PKP1 P 14 43 52.8 -2.5
comp=Z,202nm,28.3s
TAOE Nuku Hiva Isla 64.71 266 *e*PP **PP** **14 46 17.1 -0.7**
comp=Z,80nm,26.4s
TAOE *e*S **S** **14 52 30.0 -5.6**
comp=Z,551nm,35.9s
TAOE *e*LQ LQ 15 00 24.0
comp=Z,2µm,26.2s
TAOE *e*LR LR 15 03 14.9
comp=Z,2µm,28.2s
ELK Elko 64.84 327 IAmb IAmb 14 43 57.9
comp=Z,89nm,1.4s
NV11 Mina Array Sit 64.90 323 IAmb IAmb 14 43 54.0
comp=Z,98nm,1.4s
ULM Lac du Bonnet 64.95 345 P **P** **14 43 54.9 -1.1**
ULM Lac du Bonnet 64.95 345 P **P** **14 43 55.1 -0.9**
comp=Z,99nm,0.9s,baz=157,slow=6.3,SNR=122
ULM LR LR 15 15 38.4
comp=Z,2µm,18.4s,baz=148,slow=39
comp=Z,99nm,0.9s
ULM Lac du Bonnet 64.95 345 *i* P **P** **14 43 54.7 -1.3**
NVAR Mina Array Bea 64.99 323 P **P** **14 43 57.0 +0.2**
NVAR Mina Array Bea 64.99 323 P **P** **14 43 57.2 +0.4**
comp=Z,24nm,1.1s,baz=140,slow=5.8,SNR=54
NVAR LR LR 15 09 32.2
comp=Z,774nm,21.8s,baz=134,slow=34
comp=Z,24nm,1.1s
H17A Grant Village 65.22 332 IAmb IAmb 14 44 10.5
comp=Z,149nm,1.7s
YMP Mirror Lake Pl 65.29 333 IAmb IAmb 14 44 18.6
comp=Z,84nm,1.2s
YFT Old Faithful 65.38 332 IAmb IAmb 14 44 02.5
comp=Z,106nm,1.4s
YMR Madison River 65.60 332 IAmb IAmb 14 44 03.3
comp=Z,134nm,1.3s
WAKR Walker 65.71 322 IAmb IAmb 14 44 04.4
comp=Z,128nm,1.4s
YHB Horse Butte 65.77 332 IAmb IAmb 14 44 04.2
comp=Z,75nm,1.0s
PNTR Pine Nut 66.18 323 IAmb IAmb 14 44 07.3
comp=Z,139nm,1.4s
HLID Hailey 66.43 329 IAmb IAmb 14 44 15.3
comp=Z,150nm,1.7s
BOZ Bozeman (W) 66.62 332 IAmb IAmb 14 44 08.9
comp=Z,114nm,1.4s
DLMT Dillon 66.88 332 IAmb IAmb 14 44 10.8
comp=Z,113nm,1.4s
DLMT IAMs_20 IAMs_20 15 13 20.2
comp=Z,1µm,20.0s
AFDM Forest Hills D 66.91 322 IAmb IAmb 14 44 18.2
comp=Z,124nm,1.6s
SCHQ Schefferville 67.02 5 IAmb IAmb 14 44 10.7
comp=Z,120nm,1.3s
SCHQ Schefferville 67.02 5 P **P** **14 44 08.7 -0.6**
comp=Z,45nm,1.0s,baz=178,slow=5.1,SNR=27
SCHQ LR LR 15 14 60.0
comp=Z,736nm,19.0s,baz=204,slow=37
comp=Z,45nm,1.0s
EGMT Eagleton 67.69 335 IAmb IAmb 14 44 15.3
comp=Z,102nm,1.2s
EGMT IAMs_20 IAMs_20 15 14 28.6
comp=Z,1µm,19.0s
WVOR Wild Horse Val 67.85 326 IAmb IAmb 14 44 24.0
comp=Z,94nm,1.4s
WVOR Wild Horse Val 67.85 326 P **P** **14 44 16.0 +1.1**
WVOR pmax pmax
comp=Z,39nm,1.6s
PLID Pearl Lake 68.32 330 IAmb IAmb 14 44 19.5
comp=Z,72nm,1.4s
BELA Belgrano 2 68.68 172 P **P** **14 44 19.4 -0.1**
BELA IAmb IAmb 14 44 22.0
comp=Z,78nm,1.5s
BMO Blue Mountains 68.81 329 IAmb IAmb 14 44 29.6
comp=Z,116nm,1.9s
I07A Izee 69.43 327 IAmb IAmb 14 44 27.3
comp=Z,142nm,1.3s
YBH Yreka Blue Hor 69.69 323 IAmb IAmb 14 45 04.2
comp=Z,124nm,1.8s
YBH Yreka Blue Hor 69.69 323 LR LR 15 15 10.2
comp=Z,525nm,20.3s,baz=137,slow=36
J05D Fort Rock, OR 69.84 325 IAmb IAmb 14 44 29.7
comp=Z,120nm,1.3s
PINE Pine Mountain 70.01 326 IAmb IAmb 14 44 31.1
comp=Z,121nm,1.3s
KRMB Red Mountain 70.27 323 IAmb IAmb 14 44 33.2
comp=Z,107nm,1.2s
L02F Cave Junction 70.44 323 IAmb IAmb 14 44 33.1
comp=Z,142nm,1.4s
PMOZ Porto Moniz, M 70.46 49 *e*LR LR 15 10 26.1
PMOZ *i* AMs_20 15 12 54.8
comp=Z,778nm,20.0s
VNA3 Neumayer Olymp 70.52 162 P **P** **14 44 32.3 +1.4**
VNA3 Neumayer Olymp 70.52 162 ⇑P **P** **14 44 32.3 +1.4**
comp=Z,10nm,0.6s
FFC Flin Flon 70.62 343 P **P** **14 44 31.0 -0.6**
FFC Flin Flon 70.62 343 P **P** **14 44 31.0 -0.6**
FFC pmax pmax
comp=Z,77nm,1.5s
VNA1 Neumayer--Stat 70.75 161 P **P** **14 44 33.5 +1.2**
VNA1 Neumayer--Stat 70.75 161 ⇑P **P** **14 44 33.5 +1.2**
comp=Z,29nm,0.9s
G06A Carlson Farm, 70.80 327 IAmb IAmb 14 44 37.5
comp=Z,86nm,1.4s

I04A Tendick Farm, 70.83 325 IAmb IAmb 14 44 34.8
comp=Z,95nm,1.4s
F07A Phinny Hill Vi 70.87 328 IAmb IAmb 14 44 36.3
comp=Z,110nm,1.4s
DBO Dodson Butte 70.87 324 IAmb IAmb 14 44 44.1
comp=Z,182nm,1.8s
HAWA Hanford 71.00 329 IAmb IAmb 14 44 36.6
comp=Z,72nm,1.2s
VNA2 Neumayer--Watz 71.11 161 P **P** **14 44 35.2 +0.7**
baz=282,slow=6.3
VNA2 Neumayer--Watz 71.11 161 ⇑P **P** **14 44 35.2 +0.7**
comp=Z,25nm,0.6s,baz=282,slow=6.3
NEW Newport 71.12 331 IAmb IAmb 14 44 36.8
comp=Z,82nm,1.4s
NEW Newport 71.12 331 IAMs_20 IAMs_20 15 14 29.4
comp=Z,1µm,18.0s
NEW Newport 71.12 331 LR LR 15 17 20.3
comp=Z,467nm,18.3s,baz=125,slow=37
D08A Wollman Farm, 71.15 329 IAmb IAmb 14 44 44.7
comp=Z,115nm,1.7s
H04A Detroit Lake 71.27 326 IAmb IAmb 14 44 37.6
comp=Z,85nm,1.3s
C09A Chrisman Ranch 71.35 330 IAmb IAmb 14 44 46.0
comp=Z,134nm,1.5s
BUCK Buck Mountain 71.40 325 IAmb IAmb 14 44 38.7
comp=Z,148nm,1.3s
H04D Lebanon 71.47 326 IAmb IAmb 14 44 59.7
comp=Z,117nm,1.5s
DBIC Dimbokro 71.51 79 IAmb IAmb 14 44 38.6
comp=Z,88nm,1.0s
DBIC Dimbokro 71.51 79 P **P** **14 44 36.5 -1.4**
comp=Z,70nm,1.1s,baz=239,slow=5.5,SNR=48
DBIC LR LR 15 14 32.7
comp=Z,4µm,19.6s,baz=239,slow=35
comp=Z,70nm,1.1s
MXC Moxie City 71.51 328 IAmb IAmb 14 44 40.4
comp=Z,105nm,1.6s
TBI Tubuai 71.80 249 *e*P **P** **14 44 38.2 -1.3**
comp=Z,594nm,27.5s
TBI *e*S **S** **14 53 57.4 -2.3**
comp=Z,2µm,26.0s
TBI Tubuai 71.80 249 *e*LR LR 15 06 30.5
comp=Z,10µm,28.5s
TBI *e*LR LR 15 06 33.5
comp=Z,2µm,30.0s
COR Corvallis 71.82 325 P **P** **14 44 40.6 +1.5**
COR pmax pmax
comp=Z,125nm,1.4s
I02E Swisshome, OR 71.83 325 IAmb IAmb 14 44 42.6
comp=Z,168nm,1.3s
LTY Liberty 72.16 329 IAmb IAmb 14 44 43.7
comp=Z,110nm,1.6s
PPT2 Papeete2 72.56 255 *e*PKP1 **P** **14 44 42.6 -1.7**
comp=Z,235nm,28.0s
PPT2 Papeete2 72.56 255 *e*PP **PP** **14 47 21.6 -4.1**
PPT2 comp=Z,81nm,22.0s *e*S **S** **14 54 05.9 -2.9**
comp=Z,382nm,25.5s
PPT2 Papeete2 72.56 255 *e*LR LR 15 06 46.9
comp=Z,2µm,29.5s
PPT2 *e*LR LR 15 06 52.8
comp=Z,1µm,31.5s
F04D Rainier, OR 72.61 327 IAmb IAmb 14 44 46.7
comp=Z,158nm,1.3s
SNAA Sanae 72.73 162 P **P** **14 44 44.8 +0.5**
SNAA Sanae 72.73 162 P **P** **14 44 44.4 +0.2**
SNAA Sanae 72.73 162 ⇑P **P** **14 44 44.8 +0.5**
comp=Z,865nm,0.6s
SNAA Sanae 72.73 162 P **P** **14 44 44.8 +0.5**
comp=Z,34nm,0.5s,baz=272,slow=8.0,SNR=106
SNAA LR LR 15 13 10.2
comp=Z,868nm,21.8s,baz=294,slow=33
comp=Z,34nm,0.5s
SNAA Sanae 72.73 162 *ce*P **P** **14 44 44.5 +0.2**
SNAA pmax pmax
comp=Z,116nm,1.7s
D05A Enumclaw 72.79 328 IAmb IAmb 14 44 47.0
comp=Z,100nm,1.1s
GNW Green Mountain 73.47 328 IAmb IAmb 14 44 50.9
comp=Z,110nm,1.4s
WISH Wishkah 73.67 327 IAmb IAmb 14 44 53.4
comp=Z,180nm,1.4s
NLWA Neilton Lookou 73.90 327 IAmb IAmb 14 44 54.4
comp=Z,142nm,1.3s
TROLL Troll, Antarti 74.45 162 P **P** **14 44 55.2 +0.7**
TROLL Troll, Antarti 74.45 162 ⇑P **P** **14 44 55.2 +0.7**
comp=Z,579nm,0.5s
PGC Sidney 74.48 329 IAmb IAmb 14 45 04.5
comp=Z,176nm,1.6s
LLLB Lillooet 74.99 331 IAmb IAmb 14 44 59.9
comp=Z,132nm,1.5s
ACRG Accra 75.73 81 IAmb IAmb 14 45 03.3
comp=Z,54nm,0.6s
FRB Frobisher Bay 75.80 3 P **P** **14 45 00.7 -1.3**
comp=Z,54nm,1.1s,baz=189,slow=5.8,SNR=46
FRB LR LR 15 18 05.4
comp=Z,1µm,21.9s,baz=177,slow=36
comp=Z,54nm,1.1s
IVI Ivigtut 75.99 13 *i* P **P** **14 45 02.5 -0.6**
IVI IAmb IAmb 14 45 04.4
comp=Z,181nm,1.2s
NRS Narsarsuaq 76.57 14 P **P** **14 45 07.0 +0.6**
NRS pmax pmax
comp=Z,98nm,2.5s
NRS Narsarsuaq 76.57 14 *i* P **P** **14 45 05.5 -0.9**
NRS IAmb IAmb 14 45 07.4
comp=Z,74nm,1.0s
NVL N'lazarevskaya 77.33 160 *e*P **P** **14 45 11.3 +0.5**
NVL *e*S **S** **14 55 07.8 +7.8**
NVL pmax pmax
comp=Z,22nm,1.0s
NVL MLR MLR
comp=Z,1µm,21.0s
QSPA South Pole Qui 77.98 180 P **P** **14 45 15.2 +0.5**
QSPA South Pole Qui 77.98 180 P **P** **14 45 14.9 +0.2**
comp=Z,41nm,0.9s,baz=152,slow=2.1,SNR=166
comp=Z,41nm,0.9s
NUUK Nuuk 78.03 10 *i* P **P** **14 45 14.9 +0.3**
NUUK IAmb IAmb 14 45 16.3
comp=Z,140nm,1.2s
MORF Marmelete 78.73 48 IAmb IAmb 14 45 22.0
comp=Z,155nm,1.2s
MORF Marmelete 78.73 48 *e*P **P** **14 45 20.0 +0.8**
MORF IAmb IAmb 14 45 21.7
comp=Z,151nm,1.2s
MORF Marmelete 78.73 48 *e*P **P** **14 45 21.1 +2.0**
MORF *i* Amb 14 45 22.7
comp=Z,182nm,1.8s
MORF Marmelete 78.73 48 *e*P **P** **14 45 20.0 +0.8**
LIS Lisbon 78.97 46 *e*P **P** **14 45 21.3 +0.9**
LIS IAmb IAmb 14 45 22.6
comp=Z,92nm,0.9s
LIS Lisbon 78.97 46 *e*P **P** **14 45 21.3 +0.9**
MESJ Messejana 79.27 47 *e*P **P** **14 45 22.9 +0.9**
MESJ IAmb IAmb 14 45 25.1
comp=Z,75nm,1.4s
MESJ *e*S **S** **14 55 24.2 +2.4**
MESJ Messejana 79.27 47 *e*P **P** **14 45 23.9 +1.9**
MESJ *i* Amb 14 45 25.5
comp=Z,68nm,1.7s
MESJ Messejana 79.27 47 *e*P **P** **14 45 22.9 +0.9**
MESJ *e*S **S** **14 55 24.2 +2.4**
PCVE Castro Verde 79.31 48 *e*P **P** **14 45 23.6 +1.3**
PCVE *i* Amb 14 45 25.2
comp=Z,126nm,1.3s
TORD Torodi Ar. Bea 79.43 74 P **P** **14 45 22.2 -1.2**
TORD Torodi Ar. Bea 79.43 74 P **P** **14 45 22.6 -0.8**
comp=Z,71nm,1.0s,baz=280,slow=5.0,SNR=135
comp=Z,71nm,1.0s
PVAQ Vaqueiros 79.45 48 *e*LR LR 15 10 09.6
PVAQ *i* AMs_20 15 16 34.4
comp=Z,988nm,20.0s
PBEJ Beja 79.60 47 *e*P **P** **14 45 25.8 +2.0**
PBEJ *i* Amb 14 45 28.1
comp=Z,68nm,1.6s
PMTG Montargil 79.77 46 *e*P **P** **14 45 25.7 +0.9**
PMTG *i* Amb 14 45 27.9
comp=Z,123nm,1.6s
PCAS Casmilo, Conde 80.00 45 *e*P **P** **14 45 27.6 +1.7**
PCAS *i* Amb 14 45 31.2
comp=Z,85nm,1.6s
MDT Midelt 80.03 53 P **P** **14 45 25.0 -1.4**
comp=Z,17nm,1.0s,baz=269,slow=5.5,SNR=9.2
MDT LR LR 15 17 56.8
comp=Z,974nm,20.5s,baz=268,slow=34
comp=Z,17nm,1.0s
COI Coimbra 80.12 45 IAmb IAmb 14 45 29.3

comp=Z,172nm,1.2s
PESTR Estremoz 80.14 47 *e*P **P** **14 45 28.0 +1.2**
PESTR *i* Amb 14 45 30.1
comp=Z,112nm,1.5s
PBAR Barrancos 80.25 48 *e*P **P** **14 45 29.0 +1.6**
PBAR *i* Amb 14 45 30.6
comp=Z,65nm,1.6s
PMRV Marv??o 80.51 46 *e*P **P** **14 45 29.7 +1.0**
PMRV *i* Amb 14 45 31.3
comp=Z,42nm,1.5s
PMRV *e*S **S** **14 55 37.9 +2.9**
PMRV *e*LR LR 15 12 32.0
PMRV *i* AMs_20 15 16 52.5
comp=Z,2µm,22.0s
PCBR Castelo Branco 80.62 46 *e*P **P** **14 45 30.1 +0.8**
PCBR *i* Amb 14 45 31.4
comp=Z,82nm,1.3s
PVIS Viseu 80.69 45 *e*P **P** **14 45 30.1 +0.4**
YKA Yellowknife Ar 80.74 342 P **P** **14 45 29.1 -0.3**
comp=Z,72nm,1.1s,baz=142,slow=5.5,SNR=350
YKA PKKPbc **PKKPbc** **15 04 10.3 -1.7**
comp=Z,0.1nm,0.6s,baz=311,slow=2.6,SNR=4.4
YKA LR LR 15 25 05.3
comp=Z,2µm,18.4s,baz=126,slow=39
comp=Z,72nm,1.1s
MTE Manteigas 80.80 45 *e*P **P** **14 45 31.3 +0.9**
MTE *i* Amb 14 45 32.4
comp=Z,105nm,1.3s
MTE *e*S **S** **14 55 42.4 +4.3**
MTE *e*LR LR 15 12 51.5
MTE *i* AMs_20 15 16 51.4
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 80.81 9 P **P** **14 45 28.7 -1.0**
SFJD IAmb IAmb 14 45 30.6
comp=Z,117nm,1.3s
SFJD Kangerlussuaq 80.81 9 LR LR 15 22 42.8
comp=Z,424nm,20.2s,baz=207,slow=37
SFJD Kangerlussuaq 80.81 9 P **P** **14 45 28.7 -1.0**
SFJD pmax pmax
comp=Z,117nm,1.3s
SFJD Kangerlussuaq 80.81 9 *i* P **P** **14 45 27.7 -2.0**
SFJD IAmb IAmb 14 45 30.3
comp=Z,129nm,1.4s
ELIB Princess Elisa 80.89 162 *d*P **P** **14 45 30.9 +0.5**
comp=Z,10nm,0.8s
PGAV Gavieira, Arco 80.96 44 *e*P **P** **14 45 32.1 +0.8**
PGAV *i* Amb 14 45 34.1
comp=Z,86nm,1.7s
PGAV *e*LR LR 15 13 16.0
PGAV *i* AMs_20 15 16 31.5
comp=Z,1µm,20.0s
PCAB Cabril 81.02 44 *e*P **P** **14 45 32.6 +1.1**
PCAB *i* Amb 14 45 33.5
comp=Z,96nm,1.3s
POLO Lamas de Olo 81.04 44 *e*P **P** **14 45 32.2 +0.6**
POLO *i* Amb 14 45 33.8
comp=Z,47nm,1.3s
PVRL Vila Real 81.05 44 *e*P **P** **14 45 33.1 +1.5**
PVRL *i* Amb 14 45 33.7
comp=Z,87nm,1.3s
DY2G Dye2 81.09 11 *i* P **P** **14 45 30.1 -1.4**
DY2G IAmb IAmb 14 45 32.6
comp=Z,297nm,1.0s
MVO Moncorvo 81.47 45 *e*P **P** **14 45 34.8 +0.8**
MVO *i* Amb 14 45 36.2
comp=Z,106nm,1.3s
MVO *e*LR LR 15 12 18.4
MVO *i* AMs_20 15 17 21.6
comp=Z,1µm,20.0s
RAR Rarotonga 81.54 250 LR LR 15 12 30.4
comp=Z,580nm,22.0s,baz=94,slow=29
ISOG Isortoq, Green 81.84 14 *i* P **P** **14 45 34.0 -1.1**
ISOG IAmb IAmb 14 45 36.0
comp=Z,121nm,1.0s
TOAD Toad River Com 81.86 336 P **P** **14 45 35.2 -0.3**
baz=130
PBRG Braganca 81.93 44 *e*P **P** **14 45 37.5 +1.1**
PBRG *i* Amb 14 45 40.4
comp=Z,138nm,1.7s
ANGG Ammassalik, Gr 82.22 14 IAmb IAmb 14 45 38.1
comp=Z,114nm,1.3s
ANGG Ammassalik, Gr 82.22 14 *i* P **P** **14 45 36.2 -0.9**
ANGG IAmb IAmb 14 45 37.8
comp=Z,148nm,1.4s
KOTAN Kotaneelee Air 82.24 337 P **P** **14 45 38.1 +0.6**
baz=131
V35K Ketchikan 82.53 331 P **P** **14 45 39.7 +0.8**
baz=124
PAB San Pablo 82.72 47 P **P** **14 45 41.1 +0.6**
PAB IAmb IAmb 14 45 43.7
comp=Z,121nm,1.3s
PAB San Pablo 82.72 47 P **P** **14 45 41.1 +0.6**
PAB pmax pmax
comp=Z,121nm,1.3s
ILULI Ilulissat 82.79 8 *i* P **P** **14 45 38.1 -1.9**
ILULI IAmb IAmb 14 45 40.9
comp=Z,245nm,1.3s
T35M Bob Quinn 82.84 333 IAmb IAmb 14 45 43.1
comp=Z,94nm,1.4s
T35M Bob Quinn 82.84 333 P **P** **14 45 41.8 +1.1**
baz=125,SNR=9.8
ESDC Sonseca Array 83.05 47 P **P** **14 45 42.1 -0.1**
ESDC Sonseca Array 83.05 47 P **P** **14 45 42.4 +0.2**
comp=Z,47nm,1.1s,baz=250,slow=5.7,SNR=94
ESDC LR LR 15 21 28.9
comp=Z,2µm,18.1s,baz=236,slow=35
comp=Z,47nm,1.1s
ESBB Sonseca Array 83.05 47 IAmb IAmb 14 45 44.7
comp=Z,141nm,1.4s
CRAG Craig 83.33 331 P **P** **14 45 43.8 +0.7**
baz=123
WRAK Wrangell Islan 83.48 332 P **P** **14 45 44.6 +0.7**
baz=124
DLBC Dease Lake 83.59 334 IAmb IAmb 14 45 46.9
comp=Z,126nm,1.4s
DLBC Dease Lake 83.59 334 LR LR 15 26 53.2
comp=Z,682nm,18.1s,baz=112,slow=38
DLBC Dease Lake 83.59 334 P **P** **14 45 45.1 +0.5**
baz=126,SNR=11
U33K Whale Pass 83.67 331 P **P** **14 45 45.4 +0.5**
baz=123
S34M Telegraph Cree 83.77 333 IAmb IAmb 14 45 47.7
comp=Z,66nm,1.4s
S34M Telegraph Cree 83.77 333 P **P** **14 45 46.1 +0.7**
baz=125,SNR=7.5
T33K Petersburg 83.97 332 P **P** **14 45 47.3 +0.8**
baz=123
UMMG Uummannaq 84.02 7 *i* P **P** **14 45 44.9 -1.5**
UMMG IAmb IAmb 14 45 47.3
comp=Z,142nm,1.2s
WTLY Watson Lake, Y 84.07 336 IAmb IAmb 14 45 49.0
comp=Z,79nm,1.3s
WTLY Watson Lake, Y 84.07 336 P **P** **14 45 47.8 +0.9**
baz=127
WRGLY Wrigley 84.09 340 IAmb IAmb 14 45 48.6
comp=Z,102nm,1.4s
WRGLY Wrigley 84.09 340 P **P** **14 45 47.0 +0.2**
baz=132
R33M Jennings River 84.54 335 IAmb IAmb 14 45 51.8
comp=Z,115nm,1.4s
R33M Jennings River 84.54 335 P **P** **14 45 49.7 +0.2**
baz=125,SNR=13
ICESG Greenland Ices 84.63 12 *i* P **P** **14 45 48.8 -1.2**
ICESG IAmb IAmb 14 45 51.0
comp=Z,206nm,1.1s
NUUG Nuugaatsiaq 84.70 7 *i* P **P** **14 45 48.6 -1.2**
NUUG IAmb IAmb 14 45 51.1
comp=Z,57nm,1.2s
Q32M Nakina River 84.85 334 IAmb IAmb 14 45 53.7
comp=Z,83nm,1.4s
Q32M Nakina River 84.85 334 P **P** **14 45 52.1 +0.9**
baz=124
S32K Killisnoo 85.07 332 P **P** **14 45 53.1 +1.1**
baz=122
VNDA Vanda 85.09 190 P **P** **14 45 52.6 +0.7**
VNDA Vanda 85.09 190 P **P** **14 45 52.2 +0.4**
comp=Z,11nm,1.1s,baz=146,slow=5.1,SNR=7.0
VNDA LR LR 15 19 09.9
comp=Z,1µm,18.0s,baz=124,slow=32
comp=Z,11nm,1.1s
VNDA Vanda 85.09 190 P **P** **14 45 52.6 +0.7**
VNDA pmax pmax
comp=Z,25nm,1.3s
SIT Sitka 85.21 331 P **P** **14 45 53.0 +0.3**
baz=121
IGLA Glengowla, Co 85.38 33 P **P** **14 45 54.0 +0.4**
TAM Tamanrasset 85.47 66 P **P** **14 45 55.8 +0.8**

TAM pmax pmax
comp=Z,36nm,2.0s
R32K Eaglecrest 85.47 333 IAmb IAmb 14 45 55.9
comp=Z,113nm,1.6s
R32K Eaglecrest 85.47 333 P **P 14 45 55.0 +1.0**
baz=122
STCH Steam Cracks 85.53 291 P **P 14 45 55.1 -0.2**
UPNV Upernavik 85.58 5 *i* P **P 14 45 52.0 -2.2**
UPNV IAmb IAmb 14 45 55.2
comp=Z,67nm,1.4s
P33M Teslin, Yukon 85.78 335 IAmb IAmb 14 45 57.6
comp=Z,93nm,1.4s
P33M Teslin, Yukon 85.78 335 P **P 14 45 56.1 +0.5**
baz=123,SNR=15
P32M Atlin 85.82 334 IAmb IAmb 14 45 58.0
comp=Z,122nm,1.6s
P32M Atlin 85.82 334 P **P 14 45 55.8 0.0**
baz=122,SNR=7.3
S31K Pelican 86.09 332 P **P 14 45 57.7 +0.6**
baz=120
R31K City Hall, Gus 86.09 332 P **P 14 45 57.2 +0.2**
baz=121
IWEX Carrickbyrne, 86.33 35 P **P 14 45 58.4 +0.1**
BORG Borgarnes 86.35 20 LR LR 15 20 45.5
comp=Z,467nm,21.6s,baz=235,slow=33
BORG Borgarnes 86.35 20 P **P 14 46 00.1 +2.0**
BORG pmax pmax
comp=Z,169nm,2.6s
N32M Quiet Lake 86.40 335 IAmb IAmb 14 46 00.6
comp=Z,122nm,1.5s
N32M Quiet Lake 86.40 335 P **P 14 45 59.0 +0.5**
baz=123
SKAG Skagway 86.45 333 P **P 14 45 59.6 +0.8**
baz=121
ETSF Etsaut 86.59 45 *e*P **P 14 46 00.3 +0.3**
ETSF pmax pmax
comp=Z,21nm,1.4s
WIN Windhoek 86.68 112 P **P 14 46 01.8 +0.7**
WIN pmax pmax
comp=Z,23nm,1.6s
ROSF Rostrenen 86.76 39 P **P 14 46 00.6 0.0**
ROSF pmax pmax
comp=Z,83nm,1.8s
WHY Whitehorse 86.88 335 IAmb IAmb 14 46 10.0
comp=Z,100nm,1.7s
WHY Whitehorse 86.88 335 P **P 14 46 01.3 +0.2**
baz=122,SNR=6.5
PLBC Pleasant Camp 86.90 333 P **P 14 46 02.3 +1.3**
baz=120
DSB Dublin 86.92 34 P **P 14 46 01.7 +0.5**
SYO Syowa Base 86.99 161⇑ *e*PcP **P 14 46 02.0 +0.6**
SYO Syowa Base 86.99 161⇑ *e*pP **P 14 46 04.5 +3.1**
FARO Faro, Yukon 87.10 336 IAmb IAmb 14 46 04.1
comp=Z,76nm,1.4s
FARO Faro, Yukon 87.10 336 P **P 14 46 02.4 +0.5**
baz=123
IDGL Inch Island, C 87.10 32 P **P 14 46 02.1 +0.1**
SGMF Saint Gilles 87.18 39 *e*P **P 14 46 03.1 +0.5**
SGMF pmax pmax
comp=Z,84nm,1.3s
KULLO Kullorsuaq 87.22 5 *e*P P 14 45 57.1 -5.2
KULLO IAmb IAmb 14 46 03.5
comp=Z,193nm,1.4s
EPF Esparros 87.26 45 *e*P **P 14 46 03.4 +0.2**
EPF pmax pmax
comp=Z,48nm,1.4s
O30N Mendenhall 87.45 334 P **P 14 46 04.8 +1.0**
baz=120,SNR=13
M31M Drury Creek, Y 87.49 336 IAmb IAmb 14 46 06.1
comp=Z,81nm,1.5s
M31M Drury Creek, Y 87.49 336 P **P 14 46 04.5 +0.6**
baz=122
P30M Million Dollar 87.50 334 P **P 14 46 04.5 +0.5**
baz=120
RES Resolute Bay 87.62 355 IAmb IAmb 14 46 06.0
comp=Z,87nm,1.4s
RES Resolute Bay 87.62 355 LR LR 15 27 01.9
comp=Z,952nm,20.8s,baz=174,slow=37
RES Resolute Bay 87.62 355 P **P 14 46 04.5 +0.4**
RES pmax pmax
comp=Z,47nm,1.6s
N31M Braeburn, Yuko 87.68 335 P **P 14 46 05.0 +0.2**
baz=121,SNR=15
SUMG Summit 87.74 10 P **P 14 46 05.7 +0.4**
SUMG Summit 87.74 10 P **P 14 46 05.7 +0.4**
SUMG pmax pmax
comp=Z,152nm,0.9s
SUMG Summit 87.74 10 *i* P **P 14 46 05.0 -0.3**
SUMG IAmb IAmb 14 46 07.2
comp=Z,147nm,0.9s
TSUM Tsumeb 87.81 109 P **P 14 46 06.3 -0.2**
TSUM IAmb IAmb 14 46 08.2
comp=Z,112nm,1.5s
TSUM Tsumeb 87.81 109 LR LR 15 22 38.1
comp=Z,1μm,19.8s,baz=271,slow=34
SUR Sutherland 87.83 122 LR LR 15 21 19.1
comp=Z,1μm,21.6s,baz=259,slow=33
HYT Haines Junctio 88.08 334 P **P 14 46 07.6 +0.7**
baz=119,SNR=11
MFF Saint Martin d 88.12 42 P **P 14 46 06.8 -0.4**
MFF pmax pmax
comp=Z,11nm,1.4s
LFF La Frestale 88.16 43 *e*P **P 14 46 08.0 +0.6**
LFF pmax pmax
comp=Z,72nm,1.2s
GRR Gorron 88.28 40 *e*P **P 14 46 08.3 +0.4**
GRR pmax pmax
comp=Z,61nm,0.9s
O29M Mount Kennedy 88.29 333 P **P 14 46 08.4 +0.5**
baz=118
PNL Peninsula 88.36 333 P **P 14 46 08.3 +0.2**
baz=118
C36M Paulatuk 88.37 344 IAmb IAmb 14 46 07.2
C36M IAMs_20 IAMs_20 15 27 51.3
comp=Z,1μm,20.0s
C36M Paulatuk 88.37 344 P **P 14 46 06.7 -1.1**
baz=132,SNR=7.6
YUK6 Outpost Mounta 88.50 334 P **P 14 46 09.4 +0.4**
baz=118,SNR=18
TULEG Thule 88.58 1 *i* P **P 14 46 09.0 +0.3**
TULEG IAmb IAmb 14 46 10.6
comp=Z,188nm,1.3s
FLN La Foliniere 88.65 39 *e*P **P 14 46 09.3 -0.3**
FLN pmax pmax
comp=Z,79nm,1.0s
M30M Minto, Yukon 88.65 336 IAmb IAmb 14 46 11.1
comp=Z,99nm,1.6s
M30M Minto, Yukon 88.65 336 P **P 14 46 09.6 +0.2**
baz=120,SNR=18
MTLF Montolieu 88.66 45 P **P 14 46 09.6 -0.2**
MTLF pmax pmax
comp=Z,37nm,1.5s
RJF Les Rejaudoux 88.80 43 *e*P **P 14 46 09.9 -0.5**
RJF pmax pmax
comp=Z,75nm,1.3s
MAYO Mayo, Yukon 88.81 337 P **P 14 46 09.8 -0.3**
baz=121
LDF La Druitiere 88.81 40 *e*P **P 14 46 10.0 -0.4**
LDF pmax pmax
comp=Z,80nm,1.0s
YUK4 Talbot Arm 88.81 334 P **P 14 46 11.4 +1.0**
baz=118,SNR=18
PINM Pinnacle 88.94 333 P **P 14 46 11.2 +0.4**
baz=117
PCA Pinnacle 88.94 333 IAmb IAmb 14 46 20.3
comp=Z,98nm,1.2s
CAF Calviac 89.04 44 *e*P **P 14 46 11.2 -0.4**
CAF pmax pmax
comp=Z,66nm,1.3s
O28M Mount Upton 89.22 333 P **P 14 46 12.7 +0.3**
baz=117
M29M Somme Creek 89.26 335 P **P 14 46 13.2 +0.8**
baz=118,SNR=28
YUK8 Steele Glacier 89.26 334 P **P 14 46 13.4 +0.9**
baz=117,SNR=7.4
H31M Peel River 89.39 339 IAmb IAmb 14 46 14.5
comp=Z,141nm,1.6s
H31M Peel River 89.39 339 P **P 14 46 12.8 0.0**
baz=122
L29M L29M 89.44 336 IAmb IAmb 14 46 15.8
comp=Z,92nm,1.0s
L29M L29M 89.44 336 P **P 14 46 13.7 +0.6**
baz=119
J30M Hart River 89.47 338 IAmb IAmb 14 46 15.3
comp=Z,104nm,1.6s
J30M IAMs_20 IAMs_20 15 30 57.5
comp=Z,1μm,20.0s
J30M Hart River 89.47 338 P **P 14 46 13.9 +0.5**
baz=120
EKA Eskdalemuir Ar 89.48 33 P **P 14 46 11.9 -1.5**
comp=Z,14nm,1.1s,baz=245,slow=5.0,SNR=11
comp=Z,14nm,1.1s
K29M Barlow Dome 89.56 337 IAmb IAmb 14 46 15.4
comp=Z,114nm,1.6s
K29M Barlow Dome 89.56 337 P **P 14 46 14.2 +0.4**
baz=119
TCF Toulx Ste Croi 89.56 42 *e*P **P 14 46 13.3 -0.7**
TCF pmax pmax
comp=Z,36nm,1.2s
MESA MESA 89.74 332 P **P 14 46 14.1 -0.6**
baz=115
SCO Scoresbysund 89.78 15 P **P 14 46 15.8 +1.4**
SCO pmax pmax
comp=Z,62nm,2.9s
SCO Scoresbysund 89.78 15 *i* P **P 14 46 14.9 +0.5**
SCO IAmb IAmb 14 46 17.3
comp=Z,60nm,1.1s
YUK3 Moose Creek 89.78 334 P **P 14 46 15.2 +0.2**
baz=117,SNR=14
I30M Mount Dempster 89.82 338 IAmb IAmb 14 46 16.8
comp=Z,143nm,1.6s
I30M IAMs_20 IAMs_20 15 25 15.6
comp=Z,1μm,22.0s
I30M Mount Dempster 89.82 338 P **P 14 46 14.8 -0.1**
baz=120
G31M Satah River 89.97 340 IAmb IAmb 14 46 23.9
comp=Z,161nm,1.8s
G31M Satah River 89.97 340 P **P 14 46 15.1 -0.2**
baz=122,SNR=14
BGF Bois d'Agland 90.06 42 *e*P **P 14 46 15.9 -0.4**
BGF pmax pmax
comp=Z,101nm,1.3s
F31M Tsiigehtchic 90.07 341 IAmb IAmb 14 46 24.3
comp=Z,138nm,1.6s
F31M Tsiigehtchic 90.07 341 P **P 14 46 16.3 +0.4**
baz=123,SNR=20
J29N Klondike Camp 90.12 337 IAmb IAmb 14 46 18.4
comp=Z,81nm,1.6s
J29N Klondike Camp 90.12 337 P **P 14 46 16.5 +0.3**
baz=119
BVCY Beaver Creek 90.24 335 P **P 14 46 17.5 +0.6**
baz=116,SNR=8.0
DAWY Dawson 90.39 336 IAmb IAmb 14 46 26.1
comp=Z,75nm,1.5s
DAWY Dawson 90.39 336 P **P 14 46 17.2 -0.3**
baz=118,SNR=17
A36M Sachs Harbour 90.41 346 IAmb IAmb 14 46 18.3
comp=Z,48nm,0.9s
A36M Sachs Harbour 90.41 346 P **P 14 46 17.1 -0.2**
baz=131
NEEM North Greenlan 90.43 5 *i* P **P 14 46 17.1 -0.7**
NEEM IAmb IAmb 14 46 19.8
comp=Z,287nm,1.2s
AVF Avril sur Loir 90.47 42 *e*P **P 14 46 17.4 -0.8**
AVF pmax pmax
comp=Z,52nm,1.3s
INK Inuvik 90.47 341 IAmb IAmb 14 46 26.2
comp=Z,114nm,1.4s
INK Inuvik 90.47 341 LR LR 15 30 54.1
comp=Z,2μm,19.2s,baz=106,slow=38
INK Inuvik 90.47 341 P **P 14 46 17.5 -0.2**
baz=123,SNR=36
INK Inuvik 90.47 341 P **P 14 46 17.7 0.0**
INK pmax pmax
comp=Z,65nm,1.5s
EPYK Eagle Plains 90.52 339 IAmb IAmb 14 46 26.6
comp=Z,154nm,1.9s
EPYK Eagle Plains 90.52 339 P **P 14 46 17.6 -0.4**
baz=120,SNR=9.4
I29M Ogilvie Camp, 90.59 338 IAmb IAmb 14 46 19.9
comp=Z,104nm,1.6s
I29M Ogilvie Camp, 90.59 338 P **P 14 46 18.5 +0.2**
baz=118
M27K Edge Creek, AK 90.64 334 IAmb IAmb 14 46 27.8
comp=Z,82nm,1.4s
M27K Edge Creek, AK 90.64 334 P **P 14 46 19.2 +0.4**
baz=115
SSF Saint Saulge 90.65 42 *e*P **P 14 46 18.2 -0.8**
SSF pmax pmax
comp=Z,58nm,1.3s
G30M tAoh Zraii Nji 90.65 340 IAMs_20 IAMs_20 15 31 42.7
comp=Z,1μm,18.0s
G30M tAoh Zraii Nji 90.65 340 P **P 14 46 18.8 +0.1**
baz=120
SMF Signal de Mont 90.75 42 *e*P **P 14 46 19.0 -0.5**
SMF pmax pmax
comp=Z,94nm,1.3s
KAIM Kayak Island 90.76 332 P **P 14 46 19.2 -0.1**
baz=113
VIVF Saint-Julien-l 90.79 44 *e*P **P 14 46 18.1 -1.7**
VIVF pmax pmax
comp=Z,60nm,1.2s
SSB Saint Sauveur 90.82 44 IAmb IAmb 14 46 21.7
comp=Z,48nm,1.2s
SSB Saint Sauveur 90.82 44 P **P 14 46 20.9 +0.9**
SSB pmax pmax
comp=Z,36nm,1.7s
F30M Barrier River 90.83 340 P **P 14 46 19.2 -0.3**
baz=121,SNR=13
VRDI Verde Repeater 90.85 333 IAmb IAmb 14 46 21.5
comp=Z,109nm,1.6s
BCAR Beaver Creek A 90.91 335 P **P 14 46 19.8 -0.1**
L27K Beaver Creek, 90.92 335 IAmb IAmb 14 46 21.9
comp=Z,94nm,1.6s
L27K Beaver Creek, 90.92 335 P **P 14 46 20.2 +0.2**
baz=115
LOR Lormes 90.94 42 P **P 14 46 19.9 -0.5**
LOR pmax pmax
comp=Z,32nm,1.2s
H29M Whitestone 91.02 339 IAmb IAmb 14 46 21.8
comp=Z,88nm,1.7s
H29M Whitestone 91.02 339 P **P 14 46 20.6 +0.2**
baz=118
GLB Gilahina Butte 91.09 333 IAmb IAmb 14 46 22.5
comp=Z,82nm,1.6s
M26K Nabesna, AK 91.13 334 P **P 14 46 20.8 -0.2**
baz=114
G29M Pine Creek 91.23 339 IAmb IAmb 14 46 29.8
comp=Z,111nm,1.8s
G29M Pine Creek 91.23 339 P **P 14 46 21.3 -0.1**
baz=119
I28M Miner Creek 91.24 338 IAmb IAmb 14 46 35.2
comp=Z,79nm,1.6s
I28M Miner Creek 91.24 338 P **P 14 46 21.3 -0.1**
baz=117
BMRM Bremner River 91.26 333 P **P 14 46 21.6 -0.1**
baz=113,SNR=5.6
EGAK Eagle 91.40 337 IAmb IAmb 14 46 31.4
comp=Z,106nm,1.8s
EGAK Eagle 91.40 337 P **P 14 46 21.5 -0.6**
baz=116,SNR=9.9
Q23K Middleton Isla 91.48 331 P **P 14 46 23.3 +0.8**
baz=112
N25K Chitina, Valde 91.50 333 IAmb IAmb 14 47 15.8
comp=Z,75nm,1.9s
N25K Chitina, Valde 91.50 333 P **P 14 46 23.0 +0.2**
baz=113
L26K Log Cabin Wild 91.53 335 IAmb IAmb 14 46 31.4
comp=Z,62nm,1.7s
L26K IAMs_20 IAMs_20 15 34 04.1
comp=Z,969nm,19.0s
L26K Log Cabin Wild 91.53 335 P **P 14 46 22.9 0.0**
baz=114
EYAK Cordova Ski Ar 91.62 332 P **P 14 46 23.4 +0.2**
baz=112
ORIF Oris-en-Rattie 91.64 44 P **P 14 46 24.7 +0.9**
ORIF pmax pmax
comp=Z,43nm,1.1s
LMR La Mourre 91.66 46 *e*P **P 14 46 23.6 -0.2**
LMR pmax pmax
comp=Z,68nm,1.4s
DIV Divide 91.84 333 IAmb IAmb 14 46 25.5
comp=Z,92nm,1.6s
E29M Blow River 91.91 341 IAmb IAmb 14 46 32.7
comp=Z,106nm,1.8s
E29M IAMs_20 IAMs_20 15 31 13.8
comp=Z,999nm,20.0s
E29M Blow River 91.91 341 P **P 14 46 24.3 -0.1**
baz=119
KEST Kesra 91.91 54 P **P 14 46 23.3 -2.0**
KEST LR LR 15 24 20.0
comp=Z,12nm,0.8s,baz=286,slow=5.5,SNR=8.3
comp=Z,780nm,21.9s,baz=245,slow=33
comp=Z,12nm,0.8s
I27K Kandik River 91.93 337 P **P 14 46 24.5 -0.2**
baz=116
BAIF Baives 91.96 39 *e*P **P 14 46 24.7 -0.3**
BAIF pmax pmax
comp=Z,74nm,1.5s
KLU Klutina 92.05 333 IAmb IAmb 14 46 33.8
comp=Z,64nm,1.3s
KLU Klutina 92.05 333 P **P 14 46 25.3 0.0**
baz=112,SNR=6.4
HARP HAARP 92.05 334 P **P 14 46 25.1 -0.2**
baz=112
H27K Steamboat Moun 92.17 338 P **P 14 46 25.4 -0.3**
baz=116,SNR=7.3
SCRK Sand Creek 92.18 336 P **P 14 46 25.2 -0.7**
baz=114,SNR=7.8
P23K Montague Islan 92.18 331 P **P 14 46 25.0 -0.9**
baz=111
MBDF Montbardon 92.20 45 *e*P **P 14 46 27.7 +1.2**
MBDF pmax pmax
comp=Z,28nm,1.2s
F28M Old Crow 92.20 340 P **P 14 46 25.0 -0.8**
baz=117,SNR=6.6
DOU Dourbes 92.21 39 *d*P **P 14 46 26.0 -0.2**
comp=Z,27nm,1.1s
BNI Bardonecchia 92.22 44 P **P 14 46 27.9 +1.3**
BNI pmax pmax
comp=Z,62nm,1.7s
J26L Joseph Creek 92.22 336 IAmb IAmb 14 46 27.4
comp=Z,82nm,1.6s
J26L Joseph Creek 92.22 336 P **P 14 46 25.8 -0.3**
baz=114
CABF La Chapelle 92.22 43 *e*P **P 14 46 26.1 -0.4**
CABF pmax pmax
comp=Z,56nm,1.5s
ISO Isola 92.25 45 P **P 14 46 26.8 +0.1**
ISO pmax pmax
comp=Z,26nm,1.2s
UCC Uccle 92.26 39 *d*P **P 14 46 26.7 +0.3**
comp=Z,18nm,1.3s
UCC Uccle 92.26 39 P **P 14 46 26.0 -0.4**
UCC pmax pmax
comp=Z,52nm,1.3s
EUNU Eureka 92.28 358 IAmb IAmb 14 46 34.5
comp=Z,88nm,1.9s
GLI Glacier Island 92.35 332 P **P 14 46 26.6 0.0**
baz=111
GIVF Givet 92.36 39 *e*P **P 14 46 26.8 -0.1**
GIVF pmax pmax
comp=Z,16nm,1.3s
BMRD Maredsous 92.38 39 *d*P **P 14 46 27.3 +0.4**
comp=Z,25nm,1.3s
LPL La Plagne 92.38 44 *e*P **P 14 46 27.7 +0.3**
LPL pmax pmax
comp=Z,45nm,1.2s
LPG La Plagne 92.38 44 *e*P **P 14 46 28.0 +0.5**
LPG pmax pmax
comp=Z,50nm,1.1s
M24K Tolsona, Glenn 92.39 333 P **P 14 46 27.2 +0.3**
baz=112,SNR=5.5
I26K Coal Creek Min 92.39 337 P **P 14 46 26.6 -0.1**
baz=114
PAX Paxson 92.41 334 IAmb IAmb 14 46 27.8
comp=Z,55nm,1.5s
PAX Paxson 92.41 334 P **P 14 46 26.5 -0.4**
baz=112,SNR=10.0
RIDG Independent Ri 92.44 335 P **P 14 46 26.9 -0.2**
baz=113,SNR=5.4
SBF Sospel 92.44 46 *e*P **P 14 46 27.3 -0.2**
SBF pmax pmax
comp=Z,64nm,1.5s
BOSA Boshof 92.46 120 P **P 14 46 26.8 -1.3**
BOSA Boshof 92.46 120 P **P 14 46 26.4 -1.8**
comp=Z,12nm,1.1s,baz=259,slow=3.0,SNR=7.7
BOSA LR LR 15 25 29.7
comp=Z,2μm,19.6s,baz=262,slow=34
comp=Z,12nm,1.1s
BOSA Boshof 92.46 120 P **P 14 46 26.8 -1.3**
BOSA pmax pmax
comp=Z,23nm,1.2s
G27K Doyon Strip 92.47 339 P **P 14 46 26.9 -0.2**
baz=116
E28M Babbage River 92.54 341 IAMs_20 IAMs_20 15 32 14.6
comp=Z,838nm,19.0s
E28M Babbage River 92.54 341 P **P 14 46 26.6 -0.7**
baz=117
DBG Daneborg 92.58 13 *i* P **P 14 46 27.3 -0.1**
DBG IAmb IAmb 14 46 29.2
comp=Z,64nm,1.3s
BGES Gesves 92.59 39 *d*P **P 14 46 28.3 +0.3**
comp=Z,18nm,1.3s
RCHB Rochefort 92.62 39 *d*P **P 14 46 27.8 -0.3**
comp=Z,19nm,1.3s
D28M Stokes Point 92.62 341 P **P 14 46 27.3 -0.3**
baz=118
BCLA Clavier 92.74 39 *d*P **P 14 46 27.8 -0.8**
comp=Z,9.4nm,1.4s
HAU Haudompre 92.76 42 *e*P **P 14 46 28.3 -0.5**
HAU pmax pmax
comp=Z,85nm,1.7s
SCM Sheep Creek Mo 92.80 333 P **P 14 46 28.6 -0.1**
baz=111
K24K Donnelly Dome 92.85 335 P **P 14 46 29.0 +0.1**
baz=112
PWL Port Wells 92.92 332 P **P 14 46 28.7 -0.5**
baz=110
M23K Glacier View 92.96 333 P **P 14 46 29.1 -0.3**
baz=110
J25K Salcha River, 92.98 336 IAmb IAmb 14 46 31.1
comp=Z,66nm,1.8s
J25K Salcha River, 92.98 336 P **P 14 46 29.3 -0.3**
baz=112,SNR=7.2
HINF Hinteralfeld 93.04 42 *e*P **P 14 46 29.5 -0.7**
HINF pmax pmax
comp=Z,93nm,1.7s
WLF Walferdange 93.07 40 *d*P **P 14 46 31.2 +1.0**
comp=Z,30nm,1.3s
WLF Walferdange 93.07 40 *e*P **P 14 46 30.7 +0.6**
comp=Z,105nm,1.3s,baz=258,slow=4.5
BHOU Houvegnez 93.15 39 *d*P **P 14 46 31.3 +0.7**
comp=Z,14nm,1.5s
KNK Knik Glacier 93.16 332 P **P 14 46 30.0 -0.3**
baz=110
SEW Seward 93.19 331 P **P 14 46 30.2 -0.2**
baz=109
MEM Membach 93.22 39 *d*P **P 14 46 31.8 +0.9**
comp=Z,10nm,1.6s
MEM Membach 93.22 39 P **P 14 46 31.1 +0.2**
MEM pmax pmax
comp=Z,28nm,1.7s
SML Sawmill 93.23 333 P **P 14 46 30.6 -0.2**
baz=110,SNR=5.5
PGF Pioggiola 93.24 47 P **P 14 46 30.7 -0.6**
PGF pmax pmax
comp=Z,26nm,2.0s
G26K Porcupine Rive 93.29 338 P **P 14 46 30.9 +0.1**
baz=114
D27M Malcolm River 93.29 341 IAMs_20 IAMs_20 15 32 37.4
comp=Z,979nm,18.0s
D27M Malcolm River 93.29 341 P **P 14 46 31.1 +0.2**
baz=116
ECH Echery 93.34 41 IAmb IAmb 14 46 32.9
comp=Z,77nm,1.3s
ECH Echery 93.34 41 P **P 14 46 31.9 +0.4**
ECH pmax pmax
comp=Z,313nm,1.4s
ECH Echery 93.34 41 *e*P **P 14 46 31.2 -0.3**
baz=258,slow=4.5
PRP Porcupine Dome 93.39 337 IAmb IAmb 14 46 32.8
comp=Z,64nm,1.7s
PRP Porcupine Dome 93.39 337 P **P 14 46 31.4 0.0**
baz=112,SNR=7.4
O22K Cooper Landing 93.44 331 P **P 14 46 32.4 +0.8**
baz=109
CDF Champ du Feu 93.46 41 *e*P **P 14 46 31.7 -0.5**
CDF pmax pmax
comp=Z,72nm,1.4s
PMR Palmer 93.52 332 P **P 14 46 31.8 -0.2**
baz=109
HDA Harding Lake 93.55 335 P **P 14 46 31.5 -0.6**
baz=111,SNR=5.6
RC01 Rabbit Creek A 93.64 332 IAmb IAmb 14 46 47.8
comp=Z,95nm,1.6s
RC01 Rabbit Creek A 93.64 332 P **P 14 46 31.9 -0.7**
baz=109
ILAR Eielson Array 93.65 336 P **P 14 46 31.5 -1.0**
comp=Z,2.7nm,1.0s,baz=117,slow=0.7,SNR=29
ILAR PP **PP 14 50 15.7 -1.9**

comp=Z,2.7nm,1.0s,baz=105,slow=5.9,SNR=7.6
ILAR LR LR 15 34 56.0
comp=Z,654nm,18.7s,baz=98,slow=40
comp=Z,2.7nm,1.0s
FYU Fort Yukon 93.67 338 IAmb IAmb 14 46 34.4
comp=Z,86nm,1.5s
LBTB Lobatse 93.69 116 P **P** **14 46 32.5 -1.4**
LBTB IAmb IAmb 14 46 35.4
comp=Z,62nm,1.6s
LBTB Lobatse 93.69 116 LR LR 15 25 53.6
comp=Z,809nm,20.0s,baz=254,slow=34
LBTB Lobatse 93.69 116 P **P** **14 46 32.5 -1.4**
LBTB pmax pmax
comp=Z,62nm,1.7s
BRSE Bradley Lake S 93.69 330 P **P** **14 46 32.7 -0.1**
baz=108
F26K Sheenjek River 93.72 339 P **P** **14 46 33.0 +0.2**
baz=113
BMAR Burnt Mountain 93.77 339 P **P** **14 46 32.5 -0.5**
H25L Birch Creek 93.78 337 P **P** **14 46 33.5 +0.4**
baz=112,SNR=8.1
JMIC Jan Mayen 93.79 17 LR LR 15 26 16.2
comp=Z,344nm,19.9s,baz=254,slow=34
BERGE Lenzkirch (DE) 93.92 42 *e*P **P** **14 46 33.9 -0.3**
baz=258,slow=4.5
METMA Mettma DE 93.93 42 *e*P **P** **14 46 33.9 -0.3**
baz=258,slow=4.5
POKR Poker Plat Res 93.99 336 IAmb IAmb 14 46 35.5
comp=Z,86nm,1.6s
POKR Poker Plat Res 93.99 336 P **P** **14 46 33.7 -0.4**
baz=110,SNR=8.2
RND Reindeer 94.00 334 IAmb IAmb 14 46 35.8
comp=Z,73nm,1.4s
RND Reindeer 94.00 334 P **P** **14 46 34.7 +0.5**
M22K Willow 94.02 332 IAmb IAmb 14 46 36.0
comp=Z,57nm,1.2s
M22K Willow 94.02 332 P **P** **14 46 34.1 -0.2**
baz=108
KDAK Kodiak Island 94.03 328 P **P** **14 46 33.5 -0.9**
baz=106
COLA College 94.07 336 P **P** **14 46 34.2 -0.3**
baz=110
COLA College 94.07 336 *i* P **P** **14 46 33.1 -1.3**
COLA pmax pmax
comp=Z,49nm,1.5s
SLE Schleitheim 94.10 42 P **P** **14 46 34.9 -0.1**
SLE pmax pmax
comp=Z,51nm,1.5s
BFO Black Forest 94.12 42 P **P** **14 46 34.7 -0.4**
BFO Black Forest 94.12 42 P **P** **14 46 34.7 -0.4**
BFO pmax pmax
comp=Z,29nm,1.5s
BFO Black Forest 94.12 42 *e*P **P** **14 46 35.1 -0.1**
comp=Z,47nm,1.8s,baz=258,slow=4.5
MCK McKinley 94.14 335 P **P** **14 46 34.8 0.0**
baz=109
CAPN Captain Cook N 94.20 331 P **P** **14 46 34.5 -0.6**
baz=107
BUG Bochum--Univer 94.20 38 P **P** **14 46 36.2 +0.9**
BUG pmax pmax
comp=Z,34nm,1.7s
BUG Bochum--Univer 94.20 38 *e*P **P** **14 46 35.7 +0.4**
comp=Z,98nm,1.6s,baz=258,slow=4.5
F25K Christian Rive 94.21 339 P **P** **14 46 34.8 -0.3**
baz=112
OHAK Old Harbor 94.25 328 P **P** **14 46 35.0 -0.3**
baz=106
CUT Chulitna 94.29 333 IAmb IAmb 14 46 36.5
comp=Z,92nm,1.6s
CUT Chulitna 94.29 333 P **P** **14 46 35.1 -0.4**
baz=108
C27K Jago River 94.33 341 IAMs_20 IAMs_20 15 33 31.9
comp=Z,822nm,20.0s
C27K Jago River 94.33 341 P **P** **14 46 35.6 0.0**
baz=113
TUE Stuetta 94.37 44 IAmb IAmb 14 46 38.1
comp=Z,57nm,1.4s
DAG Danmarks Havn 94.38 11 P **P** **14 46 35.5 -0.1**
DAG pmax pmax
comp=Z,44nm,1.8s
DAG Danmarks Havn 94.38 11 *i* P **P** **14 46 33.8 -1.8**
DAG IAmb IAmb 14 46 36.6
comp=Z,59nm,1.2s
H24K Noodor Dome 94.41 337 P **P** **14 46 35.9 -0.1**
baz=110
NEA2 Nenana 94.47 335 P **P** **14 46 35.9 -0.4**
baz=109,SNR=10
G24K Hadweenzic Riv 94.55 338 IAmb IAmb 14 46 45.6
comp=Z,57nm,1.7s
G24K Hadweenzic Riv 94.55 338 P **P** **14 46 36.7 0.0**
baz=110
TRF Thorofare Moun 94.62 334 IAmb IAmb 14 46 45.4
comp=Z,78nm,1.8s
TRF Thorofare Moun 94.62 334 P **P** **14 46 36.9 -0.4**
baz=108
TNS Taunus Mts 94.64 40 P **P** **14 46 37.7 +0.2**
TNS pmax pmax
comp=Z,19nm,1.7s
TNS Taunus Mts 94.64 40 *e*P **P** **14 46 37.6 +0.1**
comp=Z,38nm,1.3s,baz=258,slow=4.5
TNS *e*pP **pP** **14 46 45.2 +1.7**
MAW Mawson 94.68 165 LR LR 15 26 59.9
comp=Z,1µm,21.9s,baz=232,slow=34
O20K Slope Mountain 94.70 330 P **P** **14 46 37.4 -0.1**
baz=106
IBBN Ibbenburen 94.70 38 *e*P **P** **14 46 37.8 +0.2**
comp=Z,82nm,1.6s,baz=258,slow=4.5
SKT Skwentna 94.73 332 IAmb IAmb 14 46 38.6
comp=Z,87nm,1.5s
SKT Skwentna 94.73 332 P **P** **14 46 37.1 -0.5**
baz=107
I23K Minto, Yukon-K 94.77 336 P **P** **14 46 37.2 -0.4**
baz=109
STU Stuttgart 94.79 41 *e*P **P** **14 46 38.3 +0.2**
comp=Z,69nm,0.9s,baz=258,slow=4.5
DAVOX Davos/Dischmat 94.80 43 LR LR 15 27 25.8
comp=Z,2µm,19.3s,baz=262,slow=34
SPCR Spurr Chakacha 94.81 332 P **P** **14 46 37.1 -1.0**
baz=106
C26K Camden Bay 94.83 341 P **P** **14 46 38.1 +0.3**
baz=112
KASTN Kahler Asten 94.85 39 *e*P **P** **14 46 38.7 +0.3**
comp=Z,28nm,1.5s,baz=258,slow=4.5
Q19K Cape Douglas, 94.89 329 P **P** **14 46 38.0 -0.3**
baz=105
DAVA Damuels 94.91 43 *i* P **P** **14 46 39.5 +0.6**
comp=Z,46nm,1.3s,SNR=12
DAVA *i* PP **PP** **14 50 26.2 -1.9**
comp=Z,4.3nm,0.9s
DAVA Damuels 94.91 43 *e*P **P** **14 46 39.3 +0.4**
comp=Z,85nm,1.4s,baz=258,slow=4.5
F24K Squaw Lake 94.99 338 IAMs_20 IAMs_20 15 31 27.2
comp=Z,976nm,20.0s
F24K Squaw Lake 94.99 338 P **P** **14 46 38.6 -0.1**
baz=110
ZCCA Zocca 95.04 46 IAmb IAmb 14 46 41.2
comp=Z,73nm,1.3s
MILB Miltenberg 95.08 40 *e*P **P** **14 46 39.2 -0.3**
baz=258,slow=4.5
D25K Kavik River 95.09 340 IAmb IAmb 14 46 47.5
comp=Z,51nm,1.8s
D25K Kavik River 95.09 340 P **P** **14 46 39.0 -0.1**
baz=111
BPAW Bear Paw Mtn. 95.11 335 P **P** **14 46 38.8 -0.5**
baz=107,SNR=6.6
CHIR Chirikof Islan 95.14 326 P **P** **14 46 39.2 -0.3**
baz=104
UBR Ueberruh 95.14 42 *e*P **P** **14 46 40.2 +0.3**
comp=Z,89nm,1.3s,baz=258,slow=4.5
PPLA Purkeypile 95.28 333 P **P** **14 46 39.9 -0.4**
baz=106
CAST Castle Rocks 95.38 334 IAmb IAmb 14 46 41.1
comp=Z,45nm,1.5s
CAST Castle Rocks 95.38 334 P **P** **14 46 39.8 -0.7**
baz=106
E24K Your Creek 95.39 339 IAMs_20 IAMs_20 15 34 22.8
comp=Z,947nm,18.0s
E24K Your Creek 95.39 339 P **P** **14 46 40.1 -0.4**
baz=109
FETA Feichten 95.42 43 *i* P **P** **14 46 41.8 +0.5**
comp=Z,40nm,1.4s,SNR=17
FETA *e*PP **PP** **14 50 30.0 -2.1**
comp=Z,6.5nm,1.3s
M20K Styx River 95.43 332 IAmb IAmb 14 46 41.6
comp=Z,59nm,1.8s
M20K Styx River 95.43 332 P **P** **14 46 40.3 -0.6**
baz=106
G23K Bananza Creek 95.52 337 P **P** **14 46 41.0 -0.1**
baz=108
RETA Reutte 95.54 43 *i* P **P** **14 46 42.5 +0.8**
comp=Z,46nm,1.3s,SNR=13
RETA *i* PP **PP** **14 50 31.4 -1.5**
comp=Z,1.5nm,0.4s
O19K Port Alsworth 95.55 330 P **P** **14 46 40.4 -0.8**
baz=105
CHUM Lake Minchumin 95.61 334 P **P** **14 46 41.1 -0.4**
baz=106
RAO Raoul Island 95.72 239 LR LR 15 25 49.9
comp=Z,94nm,18.8s,baz=19,slow=33
TEOL Teolo 95.72 45 IAmb IAmb 14 46 43.8
comp=Z,56nm,1.2s
MOTA Moosalm 95.73 43 *i* P **P** **14 46 43.0 +0.3**
comp=Z,58nm,1.2s
MOTA *i* PP **PP** **14 50 32.6 -1.9**
comp=Z,22nm,1.9s
UBBA Unterbreizbach 95.74 39 *e*P **P** **14 46 42.8 +0.5**
comp=Z,64nm,1.8s,baz=258,slow=4.5
COLD Coldfoot 95.74 338 P **P** **14 46 42.6 +0.6**
baz=108
N19K Bonanza Creek 95.78 331 P **P** **14 46 41.7 -0.8**
baz=104
SQTA Sankt Quirin 95.78 43 *i* P **P** **14 46 43.4 +0.5**
comp=Z,81nm,1.3s,SNR=23
SQTA *i* PP **PP** **14 50 32.8 -2.0**
comp=Z,6.3nm,0.9s
E23K Chandalar 95.78 339 P **P** **14 46 41.6 -0.8**
baz=108
P18K Big Mountain, 95.79 329 P **P** **14 46 41.7 -0.8**
baz=104
H22K Ishtalitna Cre 95.80 336 P **P** **14 46 41.5 -0.8**
baz=107
CESX Cesi 95.83 48 IAmb IAmb 14 46 44.6
comp=Z,63nm,1.6s
I21K Tanana 95.83 336 P **P** **14 46 41.9 -0.6**
baz=106
CTI Castel Tesino 95.85 44 IAmb IAmb 14 46 44.6
comp=Z,65nm,1.3s
D24K Happy Valley 95.85 340 P **P** **14 46 42.1 -0.4**
baz=109
GTTG Gottingen 95.87 39 *e*P **P** **14 46 43.8 +0.8**
comp=Z,59nm,1.6s,baz=258,slow=4.5
O18K Koktuh Hills 95.89 330 P **P** **14 46 42.1 -0.9**
baz=104
L20K Farewell, AK 95.92 333 P **P** **14 46 41.8 -1.2**
baz=105
TOLK Toolik Lake Re 95.95 339 P **P** **14 46 41.2 -1.8**
baz=108
C24K Franklin Bluff 96.00 340 P **P** **14 46 42.1 -1.0**
baz=109
M19K Big River Lodg 96.01 332 IAmb IAmb 14 46 44.4
comp=Z,66nm,1.6s
M19K Big River Lodg 96.01 332 P **P** **14 46 42.7 -0.7**
baz=104
FUR Furstenfeldbru 96.01 42 *e*P **P** **14 46 44.6 +0.8**
comp=Z,57nm,1.2s,baz=258,slow=4.5
WATA Walderalm 96.05 43 *i* P **P** **14 46 44.5 +0.4**
comp=Z,63nm,1.3s,SNR=14
WATA *i* PP **PP** **14 50 35.1 -1.9**
comp=Z,5.6nm,0.8s
WTTA Wattenberg 96.08 43 *i* P **P** **14 46 44.9 +0.6**
comp=Z,87nm,1.2s,SNR=24
WTTA *i* PP **PP** **14 50 35.8 -1.4**
comp=Z,7.8nm,1.4s
WTTA Wattenberg 96.08 43 P **P** **14 46 44.6 +0.3**
WTTA pmax pmax
comp=Z,81nm,1.4s
WTTA Wattenberg 96.08 43 *e*P **P** **14 46 44.4 +0.2**
comp=Z,133nm,1.4s,baz=258,slow=4.5
G22K Bettles 96.14 337 P **P** **14 46 43.1 -0.8**
baz=106
NRDL Niedersach Rie 96.15 38 *e*P **P** **14 46 45.2 +1.1**
comp=Z,31nm,1.4s,baz=258,slow=4.5
CLZ Clausthal 96.18 38 *e*P **P** **14 46 45.1 +0.7**
comp=Z,48nm,1.4s,baz=258,slow=4.5
K20K Telida 96.23 333 IAmb IAmb 14 46 52.1
comp=Z,54nm,1.7s
K20K Telida 96.23 333 P **P** **14 46 43.9 -0.5**
baz=105
GRF Grafenberg Arr 96.28 41 *e*P **P** **14 46 46.0 +1.0**
comp=Z,58nm,1.4s,baz=258,slow=4.5
GRF *e*L L 15 29 09.3
comp=Z,483nm,21.2s
H21K Melozitna Rive 96.30 336 P **P** **14 46 43.3 -1.3**
baz=106
Q16K King Salmon 96.34 329 P **P** **14 46 43.1 -1.9**
baz=103
P17K Kvichak River 96.35 329 P **P** **14 46 44.4 -0.5**
baz=103
N18K Kilae Creek 96.42 331 IAmb IAmb 14 46 45.9
comp=Z,66nm,1.6s
N18K Kilae Creek 96.42 331 P **P** **14 46 44.8 -0.5**
baz=103
D23K Nanushuk River 96.43 339 P **P** **14 46 45.4 +0.2**
baz=107
MUD Monsted U'grnd 96.44 34 P **P** **14 46 47.3 +1.9**
MUD pmax pmax
comp=Z,65nm,1.4s
J20K Nowinta River 96.47 334 IAMs_20 IAMs_20 15 28 57.5
comp=Z,952nm,21.0s
J20K Nowinta River 96.47 334 P **P** **14 46 45.4 -0.1**
baz=104
GRB1 Grafenberg Arr 96.50 41 P **P** **14 46 46.9 +1.0**
GRB1 pmax pmax
comp=Z,45nm,1.3s
ABTA Abfaltersbach 96.56 44 *i* P **P** **14 46 46.9 +0.5**
comp=Z,68nm,1.3s,SNR=22
BSEG Bad Segeberg 96.56 36 P **P** **14 46 46.6 +0.6**
BSEG pmax pmax
comp=Z,24nm,0.9s
BSEG Bad Segeberg 96.56 36 *e*P **P** **14 46 46.5 +0.4**
comp=Z,42nm,1.4s,baz=258,slow=4.5
M18K Stony River 96.57 331 P **P** **14 46 45.1 -0.9**
baz=103
R16K Pilot Point 96.58 327 P **P** **14 46 44.7 -1.3**
baz=102
E22K Anaktuvuk Pass 96.59 338 IAMs_20 IAMs_20 15 32 08.7
comp=Z,1µm,21.0s
E22K Anaktuvuk Pass 96.59 338 P **P** **14 46 45.3 -0.7**
baz=106
C23K Itkillik River 96.66 340 P **P** **14 46 46.1 -0.1**
baz=107
URZ Urewera 96.69 229 LR LR 15 21 32.2
comp=Z,527nm,20.8s,baz=218,slow=30
MOX Moxa 96.71 40 P **P** **14 46 47.3 +0.5**
MOX pmax pmax
comp=Z,15nm,2.1s
MOX Moxa 96.71 40 *e*P **P** **14 46 47.3 +0.5**
comp=Z,66nm,2.1s,baz=258,slow=4.5
MOX *e*L L 15 29 42.7
comp=Z,556nm,20.0s
I20K Naaghedeneel 96.76 335 IAMs_20 IAMs_20 15 32 24.2
comp=Z,889nm,19.0s
CHGN Chignik 96.77 326 P **P** **14 46 46.3 -0.6**
baz=102
FLTG Flechtingen 96.80 38 *e*P **P** **14 46 47.5 +0.4**
comp=Z,49nm,1.7s,baz=258,slow=4.5
LESA Schwarzleotal 96.80 43 *i* P **P** **14 46 48.0 +0.6**
comp=Z,51nm,1.3s,SNR=20
LESA *e*PP **PP** **14 50 40.5 -2.1**
comp=Z,4.3nm,1.0s
O17K Koliganek Bris 96.80 330 P **P** **14 46 46.8 -0.2**
baz=102
MANZ Manzenberg 96.90 40 *e*P **P** **14 46 48.5 +0.7**
comp=Z,14nm,1.5s,baz=258,slow=4.5
NEUB Neuenburg 96.91 39 *e*P **P** **14 46 48.5 +0.8**
comp=Z,31nm,1.2s,baz=258,slow=4.5
ROTZ Rennmuhle 96.92 41 *e*P **P** **14 46 48.1 +0.3**
comp=Z,10.0nm,1.2s,baz=258,slow=4.5
GORT1 Trebel 96.96 37 *e*P **P** **14 46 48.8 +1.0**
comp=Z,40nm,1.4s,baz=258,slow=4.5
F21K Alatna River 96.97 337 P **P** **14 46 47.3 -0.4**
baz=105
TTA Tatalina 96.98 333 P **P** **14 46 47.0 -0.9**
baz=103
N17K Nushagak Hills 97.01 330 P **P** **14 46 47.5 -0.5**
baz=102
PLN Plauen 97.02 40 *e*P **P** **14 46 48.7 +0.4**
comp=Z,14nm,1.4s,baz=258,slow=4.5
J19K Poorman 97.05 334 P **P** **14 46 46.8 -1.2**
baz=103
H20K Anotleneega Mo 97.09 336 P **P** **14 46 47.5 -0.7**
baz=104
P16K Nushagak River 97.10 329 P **P** **14 46 47.1 -1.2**
baz=102
D22K Ayikyak River 97.10 339 P **P** **14 46 48.1 -0.2**
baz=105
L18K Granite Mounta 97.14 332 P **P** **14 46 47.7 -0.8**
baz=102
CHNA Chernabura Isl 97.14 324 P **P** **14 46 47.6 -1.0**
baz=101
ROBS Robic 97.15 44 *e*P **P** **14 46 49.0 +0.1**
KBA Koelnbreinsper 97.19 43 *i* P **P** **14 46 49.4 +0.1**
comp=Z,31nm,1.4s,SNR=11
KBA *i* PP **PP** **14 50 43.0 -2.8**
comp=Z,8.6nm,1.6s
KBA Koelnbreinsper 97.19 43 P **P** **14 46 48.7 -0.6**
KBA pmax pmax
comp=Z,31nm,1.3s
KBA Koelnbreinsper 97.19 43 *e*P **P** **14 46 48.9 -0.4**
comp=Z,40nm,1.3s,baz=258,slow=4.5
TANN Tannenbergstha 97.20 40 *e*P **P** **14 46 49.0 -0.2**
comp=Z,42nm,1.3s,baz=258,slow=4.5
O16K Kokwok River B 97.26 329 P **P** **14 46 49.3 +0.2**
baz=102
MYKA Terra Mystica 97.31 44 *i* P **P** **14 46 49.8 0.0**
comp=Z,40nm,1.6s,SNR=12
MYKA *i* PP **PP** **14 50 44.3 -2.3**
comp=Z,8.9nm,1.1s
M17K Holitna River 97.31 331 P **P** **14 46 48.8 -0.5**
baz=102
VOJS Vojsko 97.37 45 *e*P **P** **14 46 50.4 +0.4**
S14K Fog Glacier 97.39 326 P **P** **14 46 49.4 -0.4**
baz=101
J18K Innoko River 97.41 333 P **P** **14 46 49.2 -0.5**
baz=102
E21K Killik River 97.45 338 P **P** **14 46 49.6 -0.2**
baz=104
NOR Nord 97.46 7 P **P** **14 46 49.5 -0.1**
NOR pmax pmax
comp=Z,10.0nm,1.2s
NOR Nord 97.46 7 *i* P **P** **14 46 48.0 -1.7**
NOR IAmb IAmb 14 46 50.7
comp=Z,14nm,1.2s
BIOA Bad Ischl, Aus 97.49 43 *i* P **P** **14 46 51.0 +0.6**
comp=Z,38nm,1.2s,SNR=13
BIOA *i* PP **PP** **14 50 46.2 -1.7**
comp=Z,5.5nm,0.9s
GORS Gorjuse 97.50 44 *e*P **P** **14 46 49.5 -1.2**
CEL Celeste 97.55 53 IAMs_20 IAMs_20 15 38 15.4
comp=Z,710nm,20.0s
CRNS Crni Vrh 97.64 45 *e*P **P** **14 46 51.2 0.0**
KHC Kasperske Hory 97.69 41 *e*PDIFF **P** **14 46 52.0 +0.6**
KHC *e*pP **pP** **14 46 58.0 +0.6**
KHC *ex* x 14 50 46.0
KHC AMS AMS 15 31 40.0
comp=Z,900nm,16.6s
KHC Kasperske Hory 97.69 41 *ce*P **P** **14 46 51.4 0.0**
KHC pmax pmax
comp=Z,62nm,1.3s
KHC Kasperske Hory 97.69 41 P **P** **14 46 51.9 +0.6**
CLL Collm 97.69 39 IAmb IAmb 14 46 53.3
comp=Z,54nm,1.7s
CLL Collm 97.69 39 ‖ *i* P **P** **14 46 52.3 +1.0**
CLL *e* 14 57 29.0
CLL pmax pmax
comp=Z,54nm,1.6s
CLL Collm 97.69 39 P **P** **14 46 52.6 +1.4**
CLL Collm 97.69 39 *e*P **P** **14 46 52.3 +1.0**
comp=Z,56nm,1.7s,baz=258,slow=4.5
GEC2 GERESS Array S 97.72 42 IAmb IAmb 14 46 53.0
comp=Z,30nm,1.2s
GEC2 GERESS Array S 97.72 42 *e*P **P** **14 46 51.3 -0.2**
comp=Z,32nm,1.2s,baz=258,slow=4.5
GERES GERESS Array B 97.72 42 P **P** **14 46 50.5 -1.0**
GERES GERESS Array B 97.72 42 P **P** **14 46 51.4 -0.2**
comp=Z,10nm,0.9s,baz=250,slow=2.7,SNR=33
GERES LR LR 15 29 02.8
comp=Z,467nm,19.5s,baz=245,slow=34
comp=Z,10nm,0.9s
B22K Teshekpuk Lake 97.73 340 IAmb IAmb 14 46 59.2
comp=Z,50nm,1.6s
B22K Teshekpuk Lake 97.73 340 P **P** **14 46 50.7 -0.2**
baz=104
GCSA Galena City Sc 97.75 335 P **P** **14 46 51.0 -0.1**
baz=102
CUC Castrocucco 97.77 51 IAMs_20 IAMs_20 15 32 56.2
comp=Z,553nm,19.0s
L17K Donlin 97.86 332 P **P** **14 46 51.6 -0.2**
baz=101
C21K Knifeblade Rid 97.91 339 P **P** **14 46 51.5 -0.3**
baz=103
OBKA Obir 97.91 44 *i* P **P** **14 46 53.0 +0.6**
comp=Z,27nm,2.0s
OBKA *e*PP **PP** **14 50 48.8 -2.5**
comp=Z,20nm,2.0s
OBKA Obir 97.91 44 *e*P **P** **14 46 52.6 +0.1**
comp=Z,127nm,2.2s,baz=258,slow=4.5
OBKA *e*pP **pP** **14 46 59.4 +0.9**
MOA Molln 97.93 43 *i* P **P** **14 46 53.0 +0.5**
comp=Z,58nm,1.2s,SNR=20
MOA Molln 97.93 43 *e*P **P** **14 46 52.5 0.0**
comp=Z,78nm,1.3s,baz=258,slow=4.5
B21K Ikpikpuk River 97.95 340 P **P** **14 46 51.6 -0.4**
baz=103
M16K Timber Creek 97.96 331 P **P** **14 46 51.8 -0.4**
baz=101
K17K Iditarod 97.97 332 P **P** **14 46 52.0 -0.3**
baz=101
O15K Ungalikthiuk R 98.06 329 P **P** **14 46 52.3 -0.4**
baz=100
CKRC Cesky Krumlov 98.11 42 *e*PDIFF **P** **14 46 54.4 +1.1**
CKRC AMS AMS 15 31 10.0
comp=Z,1µm,19.5s
CKRC Cesky Krumlov 98.11 42 *e*P **P** **14 46 54.4 +1.1**
CKRC MLR MLR
comp=Z,1µm,19.5s
G19K Purcell Mounta 98.12 336 P **P** **14 46 52.5 -0.4**
baz=102
BRG Berggiesshubel 98.20 40 *i* P **P** **14 46 54.6 +1.1**
BRG Amp 14 46 56.5
comp=Z,32nm,1.4s
BRG Berggiesshubel 98.20 40 P Pdif 14 47 02.2 +8.6
BRG Amp 14 47 03.4
comp=Z,21nm,1.3s
BRG Berggiesshubel 98.20 40 P **P** **14 46 54.0 +0.5**
BRG pmax pmax
comp=Z,18nm,1.5s
BRG Berggiesshubel 98.20 40 *e*P **P** **14 46 54.0 +0.5**
comp=Z,32nm,1.4s,baz=258,slow=4.5
E20K Nigu River 98.21 338 P **P** **14 46 52.8 -0.5**
baz=102
SOKA Soboth 98.26 44 *i* Pdiff **P** **14 46 54.4 +0.3**
comp=Z,12nm,1.3s
SOKA *e*PP **PP** **14 50 49.0 -5.0**
comp=Z,6.4nm,1.7s
L16K Owhat River 98.33 331 P **P** **14 46 53.7 -0.1**
baz=100
N15K Kwethluk River 98.36 330 P **P** **14 46 53.9 -0.2**
baz=100
NB2 NORSAR Subarra 98.36 29 P **P** **14 46 55.0 +0.9**
comp=Z,2.8nm,1.0s,baz=260,slow=4.6
NOA NORSAR Array B 98.36 29 P **P** **14 46 54.3 +0.2**
comp=Z,11nm,1.1s,baz=258,slow=4.5,SNR=7.8
NOA LR LR 15 28 57.8
comp=Z,542nm,19.6s,baz=260,slow=34
comp=Z,11nm,1.1s
E19K Redstone River 98.44 337 P **P** **14 46 54.0 -0.2**
baz=101
J17K VABM Dome 98.44 333 P **P** **14 46 53.4 -0.9**
baz=100
PRU Pruhonice 98.45 41 P **P** **14 46 55.4 +0.7**
PRU pmax pmax
comp=Z,18nm,1.5s
H18K Honhosa River 98.45 335 IAmb IAmb 14 46 56.5
comp=Z,36nm,1.6s
H18K Honhosa River 98.45 335 P **P** **14 46 54.6 +0.2**
baz=100
D20K Etivluk River 98.46 339 P **P** **14 46 54.7 +0.4**
baz=102
F19K Shaleruckik Mo 98.52 337 P **P** **14 46 54.4 -0.2**
baz=101
PVCC Panska Ves 98.55 40 P **P** **14 46 56.3 +1.2**
PVCC pmax pmax
comp=Z,27nm,1.4s
LSZ Lusaka 98.58 108 LR LR 15 28 28.2
comp=Z,2µm,20.9s,baz=260,slow=34
ARSA Arzberg 98.68 44 *i* Pdiff **P** **14 46 56.5 +0.7**
comp=Z,21nm,1.2s,SNR=6.1
ARSA *e*PP **PP** **14 50 52.3 -4.7**
comp=Z,2.2nm,0.6s
ARSA Arzberg 98.68 44 *e*P **P** **14 46 55.8 0.0**
comp=Z,34nm,1.4s,baz=258,slow=4.5
S12K Black Hills 98.68 325 P **P** **14 46 55.0 -0.6**

baz=99
G18K Tagagawik 98.70 336 P P 14 46 55.7 +0.2
baz=100
RPZ Rata Peaks 98.73 222 LR LR 15 21 46.2
comp=Z,767nm,21.7s,baz=140,slow=30
M15K Kasigluk River 98.74 330 P P 14 46 55.5 -0.2
baz=99
O14K Tigyukauivet M 98.80 329 P P 14 46 55.4 -0.6
baz=99
D19K Kuna River 98.96 338 P P 14 46 56.4 -0.2
baz=100
A21K Barrow 98.97 341 P **P 14 46 56.3 -0.2**
baz=101
CONA Conrad Observa 99.00 43 *i* Pdiff **Pdif 14 46 58.2 +0.8**
comp=Z,41nm,1.3s,SNR=15
CONA *i* PP **PP 14 50 55.6 -4.0**
H17K Granite Mounta 99.06 335 IAMs_20 IAMs_20 15 37 36.0
comp=Z,1μm,21.0s
H17K Granite Mounta 99.06 335 P **Pdif 14 46 56.4 -0.7**
baz=99
J16K Anvik River 99.10 333 P **Pdif 14 46 56.5 -0.8**
baz=99
N14K Kuskokwak Cree 99.11 329 P **Pdif 14 46 56.8 -0.6**
baz=98
F18K Selawik 99.22 336 P **Pdif 14 46 56.8 -0.9**
baz=99
I17K Unalakleet 99.23 333 P **Pdif 14 46 56.8 -1.0**
baz=99
RONA Rosalia, Austr 99.26 43 *i* Pdiff **Pdif 14 46 59.1 +0.6**
comp=Z,21nm,1.6s,SNR=7.3
RONA *i* PP **PP 14 50 57.9 -3.6**
comp=Z,11nm,1.3s
L15K Ungalak Mounta 99.27 331 P **Pdif 14 46 57.4 -0.7**
baz=98
FALS False Pass 99.33 324 P **Pdif 14 46 57.2 -1.2**
baz=98
M14K Bethel 99.36 330 P **Pdif 14 46 56.7 -1.8**
baz=98
K15K Wolf Creek Mou 99.38 332 P **Pdif 14 46 57.9 -0.7**
baz=98
HFS Hagfors 99.43 30 LR LR 15 26 25.9
comp=Z,920nm,21.4s,baz=258,slow=32
SOP Sopron 99.44 43 P **Pdif 14 46 59.4 +0.2**
SOP pmax pmax
comp=Z,5.0nm,1.1s
UPC Upice 99.45 40 AMS AMS 15 32 20.0
comp=Z,1μm,21.7s
UPC Upice 99.45 40 P **Pdif 14 46 59.5 +0.3**
UPC pmax pmax
comp=Z,28nm,1.5s
CHVC Chvalec 99.49 40 AMS AMS 15 32 00.0
comp=Z,1μm,20.1s
KRUC Moravsky 99.51 42 *e*P **Pdif 14 46 59.8 +0.3**
KRUC Moravsky 99.51 42 P **Pdif 14 46 59.5 0.0**
KRUC pmax pmax
comp=Z,25nm,1.2s
OSTC Ostas 99.59 40 *e*PDIFF **Pdif 14 47 00.7 +0.9**
OSTC Ostas 99.59 40 *e*P **Pdif 14 47 00.7 +0.9**
DPC Dobruska-Polom 99.63 41 *e*PDIFF **Pdif 14 47 01.6 +1.6**
DPC *ex* x 14 47 07.6
DPC Dobruska-Polom 99.63 41 *e*P **Pdif 14 47 01.6 +1.6**
DPC *e* 14 47 07.6
VRAC Vranov 99.67 42 LR LR 15 30 05.0
comp=Z,358nm,19.7s,baz=252,slow=34
VRAC Vranov 99.67 42 *e*P **Pdif 14 47 00.7 +0.5**
VRAC Vranov 99.67 42 P **Pdif 14 47 01.0 +0.8**
VRAC pmax pmax
comp=Z,22nm,1.3s
KSP Ksiaz 99.67 40 *e*PKP **Pdif 14 47 01.3 +1.1**
KSP Ksiaz 99.67 40 P **Pdif 14 47 00.3 +0.2**
E18K Tukpahlearik C 99.71 337 P **Pdif 14 46 59.7 -0.2**
baz=98
L14K Kuka Creek 99.79 331 P **Pdif 14 46 59.2 -1.1**
baz=97
F17K Baldwin Pennin 99.83 336 P **Pdif 14 47 00.4 0.0**
baz=98
KRLC Kraliky 99.89 41 *e*PDIFF **Pdif 14 47 02.9 +1.7**
KRLC *ex* x 14 47 10.0
KRLC AMS AMS 15 31 40.0
comp=Z,1μm,20.2s
KRLC Kraliky 99.89 41 *e*P **Pdif 14 47 02.9 +1.7**
KRLC *e* 14 47 10.0
KRLC MLR MLR
comp=Z,1μm,20.2s
M13K Dall Lake 100.00 330 P **Pdif 14 47 00.7 -0.6**
baz=97
MODS Modra-Piesok 100.00 43 *e*P **Pdif 14 47 02.4 +0.7**
MODS Modra-Piesok 100.00 43 *e*PDIFF **Pdif 14 47 02.4 +0.7**
H16K Elim 100.00 334 P **Pdif 14 47 00.3 -1.0**
baz=97
C18K Utukok River 100.10 338 P **Pdif 14 47 01.1 -0.6**
baz=97
E17K Hotham Inlet 100.14 337 P **Pdif 14 47 01.1 -0.7**
baz=97,SNR=7.7
JAVC Velka Javorina 100.32 42 *e*P **Pdif 14 47 04.5 +1.4**
MORC Moravsky Berou 100.34 41 *e*P **Pdif 14 47 04.0 +0.8**
J14K Nanvaranak Lak 100.37 332 P **Pdif 14 47 02.0 -0.9**
baz=96
B18K Kokolik River 100.40 339 P **Pdif 14 47 02.9 -0.1**
baz=97
MAUC Maruska 100.48 42 *e*PDIFF **Pdif 14 47 06.2 +2.4**
STEB Steborice 100.51 41 *e*PDIFF **Pdif 14 47 05.3 +1.4**
RDOG Red Dog Mine 100.66 338 P **Pdif 14 47 03.7 -0.5**
baz=96
OKC Ostrava-Krasne 100.74 41 P **Pdif 14 47 05.8 +0.9**
OKC pmax pmax
comp=Z,26nm,1.6s
K13K Kusilvak Mount 100.79 331 P **Pdif 14 47 03.8 -1.1**
baz=96
C17K DeLong Mountai 100.80 338 P **Pdif 14 47 04.1 -0.7**
baz=96
G15K Niukluk 100.81 334 P **Pdif 14 47 04.8 -0.1**
baz=96
UNV Unalaska Valle 101.01 323 P **Pdif 14 47 04.9 -1.1**
baz=96
VYHS Vyhne 101.05 43 *e*P **Pdif 14 47 07.8 +1.5**
VYHS Vyhne 101.05 43 *e*PDIFF **Pdif 14 47 07.8 +1.5**
KBS Kingsbay 101.12 11 IAMs_20 IAMs_20 15 32 04.2
comp=Z,1μm,22.0s
F15K North Star Dit 101.13 335 P **Pdif 14 47 06.2 -0.1**
baz=95
ANM Nome 101.34 334 P **Pdif 14 47 06.9 -0.4**
baz=94
M11K Mekoryuk 101.41 330 P **Pdif 14 47 06.8 -0.7**
baz=94
C16K Lisburne Hills 101.59 338 P **Pdif 14 47 08.0 -0.2**
baz=94
KBN Korca 101.62 51 IAMs_20 IAMs_20 15 28 48.1
comp=Z,733nm,20.0s
F14K Arctic Creek 101.81 335 P **Pdif 14 47 09.2 -0.1**
baz=93
OJC Ojcow 101.83 41 *e*PKP **Pdif 14 47 11.0 +1.2**
OJC Ojcow 101.83 41 P **Pdif 14 47 11.5 +1.7**
NIE Niedzica 102.09 42 *e*PKP **Pdif 14 47 12.3 +1.3**
P08K Saint George I 102.94 326 P **Pdif 14 47 14.2 -0.3**
baz=92
SPIA Saint Paul Isl 103.34 326 P **Pdif 14 47 15.6 -0.7**
baz=92
DRGR 103.52 45 P **Pdif 14 47 18.7 +1.2**
DRGR pmax pmax
comp=Z,7.0nm,2.0s
GAMB Gambell 104.09 333 P **Pdif 14 47 19.8 +0.3**
baz=89
MNK Minsk 106.87 37 *i* P **Pdif 14 47 34.6 +2.6**
MNK *i* 14 51 59.4
MNK *i* PPP PPP 14 54 15.2
MNK *i* 14 58 57.9
MNK *i* SS SS 15 07 04.2 +1.0
MNK *i* SSS SSS 15 11 06.0
MNK pmax pmax
comp=E,21nm,0.8s
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK MLR MLR
comp=E,267nm,18.0s
MNK MLR MLR
comp=Z,626nm,15.0s
MNK MLR MLR
comp=N,669nm,21.0s
TIRR Tirgusor 107.45 47 IAMs_20 IAMs_20 15 38 56.7
comp=Z,596nm,19.0s
AKASG Malin Array Be 107.86 41 PP **PP 14 52 02.6 -2.9**
comp=Z,0.7nm,0.7s,baz=259,slow=8.6,SNR=5.9
BRTR Keskin Array B 111.42 52 PKiKP **PKiKP 14 51 50.7 -0.5**
comp=Z,2.9nm,0.9s,baz=276,slow=1.1,SNR=7.7
BRTR PKKPbc **PKKPab 15 02 54.4 -0.7**
comp=Z,1.4nm,1.0s,baz=90,slow=3.7,SNR=5.4
DZM Mont Dzumac 111.43 240 *e*SS SS 15 08 04.9 -1.0
comp=Z,604nm,33.7s
DZM Mont Dzumac 111.43 240 *e*LR LR 15 24 52.6
comp=Z,2μm,31.4s
KIV Kislovodsk 117.71 47 *i* PKIKP **PKPdf 14 52 00.5 -2.5**
KIV *e* 14 53 12.3
KIV *e*PS **PKKPdf 15 02 57.6 +3.6**
KIV *e*SS SS 15 09 24.7 -3.4
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 117.90 47 PKP **PKPdf 14 52 02.1 -1.1**
comp=Z,9.5nm,0.9s,baz=206,slow=2.0,SNR=19
KBZ Khabaz 117.90 47 *c i* PKIKP **PKPdf 14 52 03.6 +0.4**
SEY Seymchan 119.54 338 *c i* PKIKP **PKPdf 14 52 06.4 +0.6**
SEY pmax pmax
comp=Z,12nm,1.3s
GNI Garni 119.87 51 *i* PKIKP **PKPdf 14 52 05.3 -2.1**
MAK Makhachkala 121.35 47 *i* P **Pdif 14 48 27.7 -9.0**
MAK *e* 14 59 08.2
MAK pmax pmax
comp=Z,87nm,0.6s
MAK MLR MLR
comp=Z,800nm,19.0s
RAYN Ar Rayn 121.94 70 PKPdf 14 52 12.5 +0.8
RAYN Ar Rayn 121.94 70 PKIKP **PKPdf 14 52 12.5 +0.8**
RAYN MLR MLR
comp=Z,1μm,18.0s
PETK Petropavlovsk- 122.00 326 PKP **PKPdf 14 52 10.1 -0.8**
comp=Z,4.3nm,0.8s,baz=74,slow=3.7,SNR=8.4
ARTI Arti 122.85 29 PKP **PKPdf 14 52 11.5 -0.9**
comp=Z,6.5nm,0.9s,baz=302,slow=1.6,SNR=5.9
ARTI Arti 122.85 29 *i* PKIKP **PKPdf 14 52 13.6 +1.2**
ARTI 14 53 50.3
ARTI 14 59 25.1
ARTI SS SS 15 10 29.7 -3.1
STKA Stephens Creek 124.34 217 P **PKPdf 14 52 16.3 +0.3**
STKA P **PKiKP 14 52 16.6 +0.3**
STKA Stephens Creek 124.34 217 PKP **PKPdf 14 52 15.8 -0.3**
comp=Z,5.2nm,0.8s,baz=97,slow=4.2,SNR=14
HTT Hallett 124.71 214 P **PKPdf 14 52 14.2 -2.6**
AKTO Aktyubinsk 125.57 36 PKP **PKPdf 14 52 17.7 -0.1**
comp=Z,7.7nm,0.8s,baz=299,slow=1.3,SNR=26
QLP Quilpie 126.30 224 P **PKPdf 14 52 21.3 +1.3**
QLP Quilpie 126.30 224 P **PKPdf 14 52 19.7 -0.3**
BBOO Buckleboo 126.72 212 P **PKPdf 14 52 19.7 -0.9**
BBOO P **PKiKP 14 52 20.7 -0.4**
ABKAR Akbulak array 127.22 36 PKPdf 14 52 21.2 +0.2
YAK Yakutsk 127.28 346 PKPdf 14 52 20.1 -0.5
YAK Yakutsk 127.28 346 *e*PKIKP **PKPdf 14 52 20.1 -0.5**
YAK *e* 14 54 19.8
YAK *e*PPP PPP 14 57 01.9
YAK *e*SS SS 15 11 25.0 -2.7
YAK *e*SSS SSS 15 16 07.6
YAK pmax pmax
comp=Z,48nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,268nm,4.3s
YAK pmax pmax
comp=N,145nm,5.8s
YAK pmax pmax
comp=E,299nm,5.9s
BRVK Borovoye 130.37 27 PKPdf 14 52 26.8 -0.1
BRVK Borovoye 130.37 27 *c i* PKIKP **PKPdf 14 52 27.7 +0.8**
BRVK pmax pmax
comp=Z,26nm,1.7s
BVAR Borovoye Array 130.44 27 PKP **PKPdf 14 52 26.7 -0.3**
comp=Z,10nm,1.0s,baz=270,slow=1.5,SNR=28
TYV Tymovskoe 131.08 330 *e*PKIKP **PKPdf 14 52 29.2 +1.0**
TYV pmax pmax
comp=Z,23nm,1.3s
TYV pmax pmax
comp=Z,400nm,5.4s
MTSU Mount Surprise 131.45 232 P **PKPdf 14 52 31.2 +1.2**
YSS Yuzhno-Sakhali 133.40 325 *e*PKIKP **PKPdf 14 52 32.9 +0.2**
QIS Mount Isa 133.44 226 P **PKPdf 14 52 34.1 +0.4**
BOD Bodaibo 133.99 354 *e*PKIKP **PKPdf 14 52 32.6 -0.9**
BOD pmax pmax
comp=Z,35nm,1.8s
ASAR Alice Springs 134.97 218 PKhKP PKPpre 14 52 32.7
comp=Z,0.5nm,0.7s,baz=115,slow=2.9,SNR=5.7
ASAR PKP **PKPdf 14 52 36.1 -0.4**
comp=Z,5.5nm,0.7s,baz=130,slow=1.7,SNR=30
AS31 Alice Springs 134.97 218 P **PKPdf 14 52 36.6 +0.1**
ZEA Zeya 135.12 342 *e*PKIKP **PKPdf 14 52 35.7 -0.1**
ZEA *e* 14 55 07.1
ZEA pmax pmax
comp=Z,10.0nm,2.1s
ZALV Zalesovo Beam 135.13 17 PKhKP PKPpre 14 52 29.6
comp=Z,20nm,1.1s,baz=301,slow=0.9,SNR=9.6
ZALV PKP **PKPdf 14 52 35.6 -0.2**
comp=Z,9.8nm,0.8s,baz=300,slow=2.9,SNR=30
KURK Kurchatov 135.64 24 PKPdf 14 52 37.6 +0.8
KURK Kurchatov 135.64 24 *i* PKIKP **PKPdf 14 52 35.4 -1.4**
KURBB Kurchatov Arra 135.67 25 PKP **PKPdf 14 52 35.0 -1.9**
comp=Z,3.7nm,0.2s,baz=313,slow=2.5,SNR=12
KURBB PP **PP 14 55 09.5 -4.5**
comp=Z,0.4nm,0.4s,baz=315,slow=7.0,SNR=5.6
WRKA Warakurna 136.97 211 P **PKPdf 14 52 40.6 +0.4**
KLR Kul'dur 137.22 335 *i* PKIKP **PKPdf 14 52 39.1 -0.7**
KLR pmax pmax
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 137.44 222 PKhKP PKPpre 14 52 28.8
comp=Z,5.0nm,1.3s,baz=142,slow=2.5,SNR=5.9
WRA PKP **PKPdf 14 52 40.9 -0.3**
comp=Z,19nm,0.9s,baz=139,slow=1.7,SNR=42
WB0 Warramunga Arr 137.53 222 PKPdf 14 52 41.1 -0.2
HEH HeiHe 138.04 339 PKP PKPdf 14 52 29.9 -11
HEH sPKP 14 52 40.8
HEH LR LR
comp=N,540nm,20.3s
HEH LR LR
comp=E,630nm,20.4s
HEH LR LR
comp=Z,920nm,18.2s
BTK Batken 138.56 42 PKPdf **PKPdf 14 52 43.5 +0.8**
BTK Batken 138.56 42 PKIKP **PKPdf 14 52 43.5 +0.8**
AAK Ala-Archa 139.31 36 PP **PP 14 55 35.7 -1.6**
comp=Z,4.1nm,1.2s,baz=219,slow=3.1,SNR=4.2
AAK Ala-Archa 139.31 36 *i* PKIKP **PKPdf 14 52 43.6 -0.5**
CIT Chita 139.74 353 *e*PKIKP **PKPdf 14 52 44.8 +0.4**
CIT *e* 14 52 52.2
CIT *e* 14 55 39.6
CIT pmax pmax
comp=Z,90nm,3.0s
IRK Irkutsk 140.00 1 *e*PKHKP PKPpre 14 52 35.3
IRK pmax pmax
comp=Z,59nm,1.5s
MAKZ Makanchi 140.08 26 PKPdf 14 52 44.2 -1.0
MAKZ IAMs_20 IAMs_20 15 52 50.0
comp=Z,650nm,22.0s
MAKZ Makanchi 140.08 26 PKIKP **PKPdf 14 52 44.2 -1.0**
MAKZ MLR MLR
comp=Z,600nm,22.0s
MKAR Makanchi Array 140.22 25 PKhKP PKPpre 14 52 36.3
comp=Z,2.5nm,0.9s,baz=1.3,slow=2.3,SNR=16
BOOM Boomskoye usch 140.23 35 IAMs_20 IAMs_20 15 54 36.0
comp=Z,494nm,20.0s
MOY Mondy 140.41 5 *e*PKIKP **PKPdf 14 52 41.3 -4.5**
MOY pmax pmax
comp=Z,53nm,1.9s
USA0B Ussuriysk Arra 140.90 330 *i* PKIKP **PKPdf 14 52 45.1 -1.6**
USRK Ussuriysk Ar. 140.90 330 PKhKP PKPpre 14 52 40.0
comp=Z,4.9nm,0.8s,baz=134,slow=8.3,SNR=9.9
MDJ Mudanjiang 141.72 332 PKPdf 14 52 45.4 -2.8
MDJ Mudanjiang 141.72 332 PKP **PKPdf 14 52 48.0 -0.2**
BNX BinXian 141.78 335 ⇑PKP PKPdf 14 52 42.3 -5.9
ZAK Zakamensk 141.83 3 *e*PKHKP PKPpre 14 52 41.9
ZAK pmax pmax
comp=Z,11nm,1.4s
MJAR Matsushiro Arr 142.02 315 PKhKP PKPpre 14 52 42.3
comp=Z,33nm,1.1s,baz=36,slow=0.8,SNR=35
KSH Kashi 142.13 39 PKP **PKPdf 14 52 46.0 -3.3**
KSH LR LR
comp=Z,720nm,18.9s
KSH LR LR
comp=Z,500nm,8.9s
KSH LR LR
comp=Z,960nm,19.2s
WUS Wushi 142.91 34 PKPdf 14 52 47.4 -3.2
WUS Wushi 142.91 34 IAMs_20 IAMs_20 16 01 16.8
comp=Z,557nm,21.0s
NIL Nilore 143.48 49 PKPdf PKPab 14 52 48.8 +0.9
NIL Nilore 143.48 49 PKIKP PKPab 14 52 48.8 +0.9
KDU Kakadu 143.75 228 P PKPab 14 52 49.9 +0.5
PSAC1 Pilbara Seismi 143.77 203 P PKPab 14 52 50.6 +1.3
MBWA Marble Bar 144.14 203 P **PKPab 14 52 51.0 +0.3**
KNRA Kununurra 144.15 220 P **PKPab 14 52 51.6 +0.8**
CN2 Changchun 144.17 335 PKP **PKPab 14 52 49.3 -0.9**
CN2 PP **PP 14 56 05.6 -0.7**
CN2 SS SS 15 14 51.8 +1.6
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,400nm,18.0s
ULN Ulaanbaatar 144.38 358 PKPab 14 52 52.0 +0.9
ULN Ulaanbaatar 144.38 358 PKIKP **PKPab 14 52 52.0 +0.9**
GIRL Giralia 144.43 194 P **PKPab 14 52 53.2 +1.5**
SONM Songino Array 144.43 359 PKPdf **PKPab 14 52 52.0 +0.8**
SONM Songino Array 144.43 359 PKP **PKPab 14 52 51.7 +0.5**
comp=Z,29nm,0.8s,baz=335,slow=1.9,SNR=120
SONM PP **PP 14 56 06.3 -1.3**
comp=Z,2.8nm,0.9s,baz=352,slow=2.2,SNR=4.2
SONM Songino Array 144.43 359 PKIKP **PKPab 14 52 52.0 +0.8**
MTN Manton Dam 144.61 226 PKPab 14 52 52.7 +0.1
MTN IAMs_20 IAMs_20 16 00 38.9
comp=Z,475nm,20.0s
MTN Manton Dam 144.61 226 P **PKPab 14 52 52.5 -0.1**
WMQ Urumqi 144.83 23 PKP **PKPab 14 52 53.4 +0.7**
WMQ AMB AMB
comp=Z,280nm,4.9s
WMQ LR LR
comp=Z,520nm,23.7s
XLT XiLinHaoTe 147.13 346 *e*PKPbc **PKPdf 14 52 57.5 -0.2**
XLT PKPab **PKPab 14 53 03.8 +2.4**
XLT PP **PP 14 56 23.6 -0.1**
XLT LR LR
comp=Z,46nm,24.8s
XLT LR LR
comp=Z,380nm,15.6s
XLT LR LR
comp=Z,690nm,22.2s
KSRS Korea Array 147.90 326 PKPbc **PKPdf 14 52 59.3 +0.3**
comp=Z,92nm,1.1s,baz=27,slow=0.7,SNR=42
DL2 Dalian 149.83 335 ⇑*i* PKPbc **PKPdf 14 53 06.0 +3.9**
DL2 PKPab **sPKPdf 14 53 12.8 +2.3**
DL2 PP **PP 14 56 39.9 +0.3**
DL2 AMB AMB
comp=Z,420nm,10.6s
DL2 LR LR
comp=Z,430nm,18.6s
DL2 LR LR
comp=Z,450nm,19.0s
DL2 LR LR
comp=Z,620nm,24.1s
BJI Beijing 150.73 343 PKPbc **PKPdf 14 53 03.1 -0.4**
BJI AMB AMB
comp=Z,170nm,5.7s
BJI LR LR
comp=Z,200nm,22.5s
BJI LR LR
comp=Z,190nm,20.8s
BJI LR LR
comp=Z,330nm,22.5s
HHC Hu-ho-hao-te 150.96 351 *e*PKPbc **PKPdf 14 53 05.0 +1.0**
HHC pPKP PKPbc 14 53 10.4 +0.7
HHC sPKP 14 53 18.1
HHC SS SS 15 16 03.9 -2.5
HHC LR LR
comp=Z,460nm,17.6s
HHC LR LR
comp=Z,300nm,16.8s
HHC LR LR
comp=Z,680nm,18.3s
BTO Baotou 151.41 353 ⇑*i* PKPbc **PKPdf 14 53 05.1 +0.4**
BTO PP **PP 14 56 52.9 +4.5**
BTO LR LR
comp=Z,980nm,20.6s
BTO LR LR
comp=Z,990nm,20.0s
BTO LR LR
comp=Z,2μm,22.0s
GTA Gaotai 152.35 10 PKPbc **PKPdf 14 53 06.5 +0.3**
GTA pPKP pPKPdf 14 53 12.8 +0.3
GTA PP **PP 14 56 56.8 +2.9**
GTA LR LR
comp=Z,350nm,19.6s
GTA LR LR
comp=Z,250nm,20.4s
GTA LR LR
comp=Z,740nm,21.4s
HYB Hyderabad 153.24 75 *e*PKiKP **PKPbc 14 53 15.1 -0.3**
HNS HongShan 153.60 344 ⇑PKPbc **PKPdf 14 53 08.3 +0.4**
HNS AMB AMB
comp=Z,280nm,6.3s
HNS LR LR
comp=Z,700nm,22.2s
HNS LR LR
comp=Z,310nm,17.4s
HNS LR LR
comp=Z,720nm,22.5s
TIA Tai'an 153.93 339 PKPbc **PKPdf 14 53 08.8 +0.4**
TIA LR LR
comp=Z,470nm,19.1s
TIA LR LR
comp=Z,370nm,23.5s
TIA LR LR
comp=Z,830nm,19.1s
GOMU GeErMu 154.12 21 PKPbc **PKPdf 14 53 09.0 -0.2**
GOMU AMB AMB
comp=Z,390nm,6.0s
GOMU LR LR
comp=Z,1μm,21.4s
GOMU LR LR
comp=Z,980nm,21.4s
GOMU LR LR
comp=Z,2μm,22.2s
LZH Lanzhou 156.11 4 *e*PKP **PKPdf 14 53 12.5 +0.9**
LZH PP **PP 14 57 15.0 0.0**
LZH AMB AMB
comp=Z,390nm,6.7s
LZH LR LR
comp=Z,530nm,19.3s
LZH LR LR
comp=Z,560nm,20.2s
LZH LR LR
comp=Z,920nm,19.2s
NJ2 Nanjing 156.80 331 *e*PKP **PKPdf 14 53 12.4 0.0**
LYN LuoYang 156.87 346 PKP **PKPdf 14 53 11.8 -0.6**
LYN PKPab **PKPab 14 53 41.3 -0.7**
LYN AMB AMB
comp=Z,430nm,4.2s
LYN LR LR
comp=Z,840nm,21.0s
LYN LR LR
comp=Z,500nm,18.4s
LYN LR LR
comp=Z,1μm,23.9s
LSA Lhasa 157.91 36 IAMs_20 IAMs_20 16 14 08.8
comp=Z,456nm,19.0s
LSA Lhasa 157.91 36 PKP **PKPdf 14 53 15.5 +1.0**
KAPI Kappang 157.96 220 IAMs_20 IAMs_20 16 04 30.9
comp=Z,452nm,20.0s
XAN Xi'an 158.02 353 ⇓PKP **PKPdf 14 53 14.8 +0.8**
XAN pPKP sPKPdf 14 53 25.3 +3.0
XAN PKPab **PKPab 14 53 47.3 +0.3**
XAN PP **PP 14 57 26.3 +0.9**
XAN LR LR
comp=Z,930nm,20.6s
XAN LR LR
comp=Z,550nm,20.6s
XAN LR LR
comp=Z,1μm,21.2s
LUWI Luwuk 158.58 233 IAMs_20 IAMs_20 16 21 35.1
comp=Z,395nm,22.0s
WHN Wuhan 160.03 338 PKP **PKPdf 14 53 16.8 +0.5**
WHN PKPab **PKPab 14 53 54.6 -1.2**
WHN PP **PP 14 57 40.3 +3.8**
WHN LR LR
comp=Z,2μm,21.4s

CD2	Chengdu	161.25	5	PKP	PKPdf	14 53 16.0	-1.7
PZH	PanZhiHua	165.24	14	PKP	PKPdf	14 53 21.4	-0.4
PZH				PKPab	PKPab	14 54 18.3	-0.6
PZH				PP	PP	14 58 09.8	+5.6
PZH				AMB	AMB		
	comp=Z,320nm,5.7s						
PZH				LR	LR		
	comp=Z,290nm,17.2s						
PZH				LR	LR		
	comp=Z,320nm,18.1s						
PZH				LR	LR		
	comp=Z,530nm,22.6s						
TNCH	TengChong	165.50	27	PKP	PKPdf	14 53 22.8	+0.7
TNCH				pPKP	pPKPdf	14 53 29.1	+0.7
TNCH				sPKP		14 53 36.1	
TNCH				PKPab	PKPab	14 54 19.5	-0.7
TNCH				PP	PP	14 58 08.0	+2.0
TNCH				SKKS		15 04 54.0	
TNCH				SS	SS	15 18 44.1	+1.9
TNCH				AMB	AMB		
	comp=Z,280nm,8.3s						
TNCH				LR	LR		
	comp=Z,160nm,19.9s						
TNCH				LR	LR		
	comp=Z,260nm,21.5s						
TNCH				LR	LR		
	comp=Z,540nm,22.3s						
GYA	Guiyang	165.74	357	⇓PKP	PKPdf	14 53 21.5	-0.7
GYA				PP	PP	14 58 06.8	+0.2
GYA				SS	SS	15 18 43.6	0.0
GYA				AMB	AMB		
	comp=Z,460nm,9.6s						
GYA				LR	LR		
	comp=Z,220nm,27.6s						
GYA				LR	LR		
	comp=Z,170nm,18.2s						
GYA				LR	LR		
	comp=Z,530nm,26.7s						
GULI	GuiLin	166.21	342	⇑PKP	PKPdf	14 53 24.3	+1.9
GULI				PKPab	pPKPab	14 54 29.3	+0.2
KMI	Kunming	166.80	12	⇑PKP	PKPdf	14 53 23.8	+0.6
CHTO	Chiang Mai	170.71	44		PKPdf	14 53 25.1	-0.5
CHTO					PKPab	14 54 43.0	-0.3
CHTO	Chiang Mai	170.71	44	PKIKP	PKPdf	14 53 25.1	-0.5
CHTO						14 54 43.0	
CMAR	Chiang Mai Arr	170.95	45		PKPdf	14 53 25.8	+0.1
CMAR					PKPab	14 54 44.3	0.0
CMAR	Chiang Mai Arr	170.95	45	PKP	PKPdf	14 53 25.1	-0.6
	comp=Z,15nm,1.1s,baz=294,slow=1.7,SNR=51						
CMAR				PKPab	PKPab	14 54 44.5	+0.1
	comp=Z,16nm,1.1s,baz=305,slow=5.6,SNR=22						
CMAR				PP	PP	14 58 32.9	-1.4
	comp=Z,0.5nm,0.4s,baz=332,slow=6.0,SNR=4.4						
QIZ	Qiongzhong	172.09	330	PKP	PKPdf	14 53 25.1	-1.1
QIZ				PP	PP	14 58 40.9	+1.6
QIZ				SS	SS	15 19 50.3	+2.4
QIZ				AMB	AMB		
	comp=Z,390nm,8.8s						
QIZ				LR	LR		
	comp=Z,270nm,23.0s						
QIZ				LR	LR		
	comp=Z,460nm,18.6s						
QIZ				LR	LR		
	comp=Z,720nm,16.5s						

*NEIC **14** 14:43:45.3±0.6, 18°.2N±0°.3×68°.50W±0°.07, h103km±19km, ML2.7/10, Md3.1/4(RSPR), Error ellipse: s-maj=37.5km s-min=5.9km az=191.0*
*RSPR **14** 14:43:46.1, 18°.21N×68°.44W, h103km±3km, MD3.1/4*
*SDD **14** 14:43:51.5±1.8, 18°.52N×68°.29W, h124km±15km, MD2.9, ML2.7, MW4.4*

ISC 14 14:43:45.0±2.7, 18°.1N±0°.2×68°.48W±0°.08, h111km±27km, n34, σ1§60/31, 4C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	Isla Saona	0.30	290	ePg	Pn	14 44 10.3	+9.4
SADR				eSg	Sn	14 44 22.4	+10
SADR				IAML		14 44 27.1	
	comp=N,215nm,1.5s						
IDE	Isla Desecheo	1.00	73		Pn	14 44 06.8	+0.6
IDE					Sn	14 44 21.2	-1.2
IDE	Isla Desecheo	1.00	73	⇑eP	Pn	14 44 06.8	+0.6
IDE	Isla Desecheo	1.00	73	eS	Sn	14 44 21.2	-1.2
MIDR	Miches	1.04	329	ePg	Pn	14 44 11.5	+4.8
MIDR				IAML		14 45 00.3	
	comp=N,34nm,1.8s						
MIDR	Miches	1.04	329	⇑eP	Pn	14 44 05.9	-0.8
MIDR	Miches	1.04	329	eS	Sn	14 44 21.1	-2.0
DR12	Loma Pena Alta	1.10	309	Pn	Pn	14 44 06.3	-1.1
DR12				IAML		14 44 40.9	
	comp=N,98nm,2.0s						
HATOM	Hato Mayor del	1.10	309	ePg	Pn	14 44 12.8	+5.5
HATOM				eSg	Sn	14 44 28.6	+4.3
HATOM				IAML		14 44 40.4	
	comp=N,92nm,2.0s						
CRPR	Cabo Rojo, PR	1.31	93		Sn	14 44 27.9	-0.3
CRPR	Cabo Rojo, PR	1.31	93	ePg	Pn	14 44 15.2	+5.6
CRPR				IAML		14 44 36.1	
	comp=N,43nm,2.2s						
CRPR	Cabo Rojo, PR	1.31	93	eS	Sn	14 44 27.9	-0.3
AGPR	Aguadilla, PR	1.35	74		Pn	14 44 09.7	-0.5
AGPR				IAML		14 44 36.4	
	comp=N,102nm,2.6s						
AGPR	Aguadilla, PR	1.35	74		Sn	14 44 28.9	-0.4
AGPR	Aguadilla, PR	1.35	74	IAML		14 44 25.4	
	comp=E,104nm,3.4s						
AGPR	Aguadilla, PR	1.35	74	ePg	Pn	14 44 14.1	+4.0
AGPR				eSg	Sn	14 44 31.4	+2.1
AGPR				IAML		14 44 50.4	
	comp=N,97nm,3.5s						
AGPR	Aguadilla, PR	1.35	74	⇑eP	Pn	14 44 09.7	-0.5
AGPR	Aguadilla, PR	1.35	74	eS	Sn	14 44 28.9	-0.4
AOPR	Arecibo Observ	1.66	81		Pn	14 44 13.9	0.0
AOPR					Sn	14 44 34.2	-1.6
AOPR	Arecibo Observ	1.66	81	IAML		14 44 38.8	
	comp=E,84nm,0.4s						
AOPR				IAML		14 44 38.9	
	comp=N,81nm,0.3s						
AOPR	Arecibo Observ	1.66	81	ePg	Pn	14 44 16.4	+2.6
AOPR				eSg	Sn	14 44 36.4	+0.6
AOPR				IAML		14 44 38.9	
	comp=N,80nm,0.2s						
AOPR	Arecibo Observ	1.66	81	⇑eP	Pn	14 44 13.9	0.0
AOPR	Arecibo Observ	1.66	81	eS	Sn	14 44 34.2	-1.6
UUPR	Utuado, UPR, P	1.68	84		Sn	14 44 38.0	+1.8
OBIP	Obispado Ponce	1.78	91		Sn	14 44 37.5	-0.9
OBIP	Obispado Ponce	1.78	91	eS	Sn	14 44 37.5	-0.9
CELP	Cerrillos	1.81	90		Pn	14 44 15.8	+0.1
CELP					Sn	14 44 37.9	-1.1
CELP	Cerrillos	1.81	90	IAML		14 44 39.5	
	comp=E,41nm,1.6s						
CELP	Cerrillos	1.81	90	⇓eP	Pn	14 44 15.8	+0.1
CELP	Cerrillos	1.81	90	eS	Sn	14 44 37.9	-1.1
BANI	BANI	1.81	280	ePg	Pn	14 44 23.2	+7.4
BANI				IAML		14 45 03.3	
	comp=N,53nm,1.0s						
ECPR	Experimental S	2.02	83	eS	Sn	14 44 43.0	-0.8
CADR	Cabrera	2.09	319	ePg	Pn	14 44 23.8	+4.6
CADR				IAML		14 45 09.5	
	comp=N,209nm,0.2s						
PDPR	Patillas Dam,	2.34	91	Pn	Pn	14 44 22.4	0.0
PDPR				IAML		14 44 48.1	
	comp=N,30nm,2.6s						
PDPR				IAML		14 44 53.6	
	comp=E,29nm,1.8s						

*IDC **14** 14:47:05.5±2.8, 22°.91N×11°.75W, h0km, mb4.0/6, mbtmp3.9/9, ML3.5/3, Error ellipse: s-maj=94.2km s-min=26.5km az=85.0*

ISC 14 14:47:07.1±2.4, 22°.9N±0°.1×11°.7W±0°.5, h10km, n13, σ0§47/11, mb4.0/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.99	125	Pn	Pn	14 50 52.0	-0.3
TORD	0.3nm,0.3s,baz=315,slow=13,SNR=8.7			Sn	Sn	14 53 34.8	-15
	0.1nm,0.3s,baz=332,slow=29,SNR=1.5 0.9nm,0.6s						
I17CI	DIMBOKRO INFRA	17.43	157	I	I	16 38 10.0	
	baz=338,slow=316,SNR=2.1						
DBIC	Dimbokro	17.43	157	P	Pn	14 51 10.6	+0.1
	0.4nm,0.3s,baz=330,slow=13,SNR=3.8 2.4nm,0.5s						
ESDC	Sonseca Array	17.97	20	P	P	14 51 17.4	-0.1
	baz=269,slow=15,SNR=2.6 0.5nm,0.7s						
I48TN	KESRA INFRASON	22.32	50	I	I	17 09 30.0	
	baz=241,slow=324,SNR=5.1						
GERES	GERESS Array B	32.78	32	P	P	14 53 40.1	-0.3
	0.6nm,0.5s,baz=198,slow=12,SNR=3.6 0.6nm,0.5s						
HFS	Hagfors	41.24	19	P	P	14 54 51.5	-0.6
	1.4nm,0.5s,baz=186,slow=12,SNR=6.1 1.4nm,0.5s						
FINES	FINESS Array B	46.40	24	P	P	14 55 33.4	-0.1
	3.6nm,1.0s,baz=266,slow=5.7,SNR=4.9 3.6nm,1.0s						
ARTI	Arti	60.24	37	P	P	14 57 15.8	+0.5
	1.7nm,0.5s,baz=275,slow=8.7,SNR=4.5 1.7nm,0.5s						
KURBB	Kurchatov Arra	72.78	42	P	P	14 58 36.2	+0.6
	0.7nm,0.5s,baz=290,slow=5.8,SNR=1.7 0.7nm,0.5s						
MKAR	Makanchi Array	76.28	45	P	P	14 58 56.8	+0.6
	0.5nm,0.5s,baz=292,slow=5.7,SNR=12 0.5nm,0.5s						
WRA	Warramunga Arr	148.28	91	PKPbc	PKPbc	15 06 54.0	-0.3
	0.8nm,0.7s,baz=292,slow=2.4,SNR=5.4						
ASAR	Alice Springs	148.43	98	PKPbc	PKPbc	15 06 54.1	-0.5
	0.8nm,0.7s,baz=289,slow=1.8,SNR=12						

*IDC **14** 15:02:22.6±2.3, 22°.35S×179°.62W, h582km±44km, mb3.0/4, mbtmp3.9/6, Error ellipse: s-maj=71.6km s-min=31.1km az=38.0*

ISC 14 15:02:22.4±1.9, 22°.4S±0°.2×179°.6W±0°.3, h579km, n6, σ0§99/6, mb3.6/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.17	334	P	P	15 03 55.5	-0.1
	2.8nm,0.3s,baz=240,slow=20,SNR=9.9						
URZ	Urewera	16.02	189	P	P	15 05 39.4	-1.3
	4.4nm,0.8s,baz=355,slow=11,SNR=1.8						
STKA	Stephens Creek	35.61	246	P	P	15 08 33.2	+0.6
	1.0nm,0.4s,baz=68,slow=11,SNR=5.1 1.0nm,0.4s						
ASAR	Alice Springs	42.64	259	P	P	15 09 29.4	+0.1
	2.1nm,0.7s,baz=97,slow=7.7,SNR=26 2.1nm,0.7s						
WRA	Warramunga Arr	42.88	264	P	P	15 09 30.5	-0.6
	0.5nm,0.4s,baz=96,slow=8.0,SNR=35 0.5nm,0.4s						
QSPA	South Pole Qui	67.64	180	P	P	15 12 23.0	+0.8
	1.5nm,1.1s,baz=39,slow=6.3,SNR=1.7 1.5nm,1.1s						

*JMA **14** 15:16:06.2±0.1, 23°.8N±0°.6×125°.3E±0°.5, h57km, MV2.8/13, NEAR MIYAKOJIMA ISLAND*

ISC 14 15:16:03.8±2.4, 23°.8N±0°.1×125°.24E±0°.09, h10km, n18, σ0§83/29, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	Miyako jima3	0.96	5	P	Pn	15 16 23.7	+0.3
JMJ2				eS	Sn	15 16 36.3	-0.7
JTJ	Tarama	0.99	330	i P	Pn	15 16 24.4	+0.7
JTJ				S	Sn	15 16 37.7	0.0
JOGS	Gusukube	0.99	9	P	Pn	15 16 24.2	+0.5
JOGS				eS	Sn	15 16 37.5	-0.3
JMJ	Miyako jima 2	1.03	3	P	Pg	15 16 23.5	-0.1
JIRB	Irabujima	1.04	357	P	Pn	15 16 24.8	+0.3
JIRB				S	Sn	15 16 39.0	-0.2
JIKM	Ikemajima	1.14	1	P	Pn	15 16 26.3	+0.5
JIKM				S	Sn	15 16 41.0	-0.5
JIJ	Ishigaki jima	1.16	300	P	Pn	15 16 26.7	+0.7
JIJ				S	Sn	15 16 41.6	-0.3
JISG	Ishigakijimahi	1.17	314	P	Pn	15 16 26.8	+0.6
JKRS	Kuro-shima	1.21	292	P	Pg	15 16 27.8	+0.8
JKRS				S	Sn	15 16 43.3	0.0
HATJ	Hateruma jima	1.34	282	P	Pg	15 16 29.3	-0.2
HATJ				S	Sn	15 16 45.6	-0.8
IRIF	Iriomote-Funau	1.48	292	P	Pg	15 16 31.5	-0.8
IRIF				eS	Sb	15 16 49.9	-0.4
YOJ	Yonaguni jima	2.14	289	eP	Pn	15 16 40.6	+1.0
YOJ				eS	Sn	15 17 05.6	-0.7
JYNG	Yonagunijimaku	2.20	288	P	Pn	15 16 41.3	+0.9
JYNG				eS	Sn	15 17 05.9	-1.7
NACB	Ninganchiao	3.35	277	P	Pn	15 16 56.4	+0.1
YHNB	Yeheng	3.63	285	P	Pn	15 17 02.2	+2.0
YULB	Yu-li	3.63	265	P	Pn	15 16 59.3	-0.9
SSLB	Suanglung	3.92	271	P	Pn	15 17 05.5	+1.4
TPUB	Ta-pu	4.25	264	P	Pn	15 17 09.7	+1.0

IDC 14 15:39:34.0±2.1, 3°.94N×125°.36E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=132.9km s-min=27.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.90	179	P	P	15 44 29.6	+0.8
	3.1nm,1.0s,baz=1.0,slow=11,SNR=9.5 3.1nm,1.0s						
WRA	Warramunga Arr	25.32	160	P	P	15 45 02.8	+0.1
	0.7nm,0.4s,baz=336,slow=9.5,SNR=11 0.7nm,0.4s						
ASAR	Alice Springs	28.67	164	P	P	15 45 32.2	-0.7
	0.3nm,0.8s,baz=341,slow=7.6,SNR=6.2 0.3nm,0.8s						
MKAR	Makanchi Array	56.61	326	P	P	15 49 18.8	-0.1
	0.1nm,0.2s,baz=108,slow=7.6,SNR=2.0 0.1nm,0.2s						

*IDC **14** 15:39:45.9±1.0, 44°.65N×150°.07E, h0km, mb3.5/6, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=40.5km s-min=19.3km az=133.0*
*JMA **14** 15:39:47.9±0.9, 45°.N±4°.×15°.0E±°, h30km, MV3.9/13, KURILE ISLANDS REGION*
*SKHL **14** 15:39:50.6±0.3, 44°.80N×149°.80E, h40km±8km, mb4.2/3*

ISC 14 15:39:50.7±0.8, 44°.74N±0°.09×149°.85E±0°.08, h34km, n30, σ1§39/33, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.50	290	eP	Pn	15 40 13.5	-1.6
KUR				AMB	AMB	15 40 15.6	
	130nm,0.5s						
KUR				eS	Sn	15 40 30.5	-2.9
KUR				A	A	15 40 33.4	
	280nm,0.5s						
KUR				A	A	15 40 33.4	
	520nm,0.5s						
SHO	Shikotan	2.34	249	eP	Pn	15 40 26.0	-0.7
SHO				AMB	AMB	15 40 32.1	
	30nm,0.3s						
SHO				eS	Sn	15 40 52.5	-1.7
SHO				A	A	15 40 59.8	
	110nm,0.5s						
SHO				A	A	15 40 59.8	
	130nm,0.5s						
YUK	Yuzh-Kuril'sk	2.95	258	eP	Pn	15 40 34.7	-0.4
YUK				AMB	AMB	15 40 38.1	
	60nm,0.4s						
YUK				eS	Sn	15 41 08.1	-1.1
YUK				A	A	15 41 14.9	
	120nm,0.6s						
YUK				A	A	15 41 14.9	
	230nm,0.6s						
NEM2	Nemuro 2	3.26	247	P	Pn	15 40 39.3	-0.2
NEM2				eS	Sn	15 41 17.9	+0.8
NMR	Nemuro--Hokkai	3.27	247	eP	Pn	15 40 39.0	-0.6
NMR				eS	Sn	15 41 15.3	-2.0
JRA	Rausu	3.49	258	eP	Pn	15 40 44.2	+1.7
JNK	Nakash	3.87	255	P	Pn	15 40 48.6	+0.8
AKK	Akkeshi	4.01	246	eP	Pn	15 40 50.8	+1.1
JAK	Akkeshi	4.11	247	eP	Pn	15 40 51.1	0.0
JAK				eS	Sn	15 41 38.5	+0.4
JTKR	Abashiri--Toko	4.33	262	P	Pn	15 40 56.0	+1.9
JAR	Ashorobuto	4.62	254	P	Pn	15 40 59.8	+1.7
JOB	Onbets	4.72	249	eP	Pn	15 41 01.1	+1.6
JOB				eS	Sn	15 41 52.5	-0.5
JCH	Churui	5.16	248	P	Pn	15 41 06.2	+0.6
JCH				eS	Sn	15 42 02.8	-1.2
JKK2	Kamakawa 2	5.17	263	P	Pn	15 41 08.3	+2.6
ASAJ	Asahikawa	5.23	266	Pn	Pn	15 41 08.3	+1.8
	0.8nm,0.3s,baz=84,slow=9.8,SNR=11						
ASAJ				Sn	Sn	15 42 08.6	+2.9
	baz=72,slow=32 12nm,1.1s						
JNBK	Urakawa-nobuka	5.72	247	P	Pn	15 41 13.0	-0.1
JANG	Nango	7.54	238	eP	Pn	15 41 36.7	-1.5
PETK	Petropavlovsk-	9.84	29	Pn	Pn	15 42 10.3	+0.6
	0.5nm,0.3s,baz=191,slow=12,SNR=4.3 5.9nm,1.0s						
H11N2	WAKE ISLAND Hy	28.68	145	T	T	16 16 18.7	
	baz=335,slow=76,SNR=39						
H11N1	WAKE ISLAND Hy	28.69	145	T	T	16 16 24.9	
	baz=335,slow=76,SNR=23						
H11N3	WAKE ISLAND Hy	28.70	145	T	T	16 16 29.6	
	baz=335,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	29.70	146	T	T	16 17 45.8	
	baz=336,slow=76,SNR=21						
H11S3	WAKE ISLAND Hy	29.71	146	T	T	16 17 41.7	
	baz=336,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy	29.72	146	T	T	16 17 41.3	
	baz=336,slow=76,SNR=20						
ILAR	Eielson Array	39.54	37	P	P	15 47 17.6	-0.3
	0.7nm,0.8s,baz=264,slow=7.8,SNR=9.3 0.7nm,0.8s						
YKA	Yellowknife Ar	53.89	35	P	P	15 49 10.2	+0.1
	0.4nm,0.8s,baz=299,slow=7.0,SNR=4.9 0.4nm,0.8s						
WRA	Warramunga Arr	65.91	196	P	P	15 50 33.2	+0.1
	0.4nm,0.8s,baz=8.9,slow=11,SNR=1.9 0.4nm,0.8s						
PDAR	Pinedale Array	67.78	51	P	P	15 50 45.0	-0.3
	0.7nm,0.9s,baz=297,slow=6.5,SNR=4.4 0.7nm,0.9s						
ASAR	Alice Springs	69.61	196	P	P	15 50 57.0	+0.6
	0.2nm,0.6s,baz=23,slow=5.9,SNR=5.2 0.2nm,0.6s						
TXAR	Lajitas Array	80.48	58	P	P	15 51 59.4	0.0
	0.3nm,0.4s,baz=325,slow=6.4,SNR=4.6 0.3nm,0.4s						

SSNC 14 15:56:16.3±1.2, 19°.71N×75°.54W, h11km±11km, ML1.0, MW1.9, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.32	332	eP	Pg	15 56 21.7	-1.1
RCC	Rio Carpintero	0.32	332	eP	Pg	15 56 22.7	-0.1
RCC				eS	Sg	15 56 26.8	-0.4
RCC				IAML		15 56 27.0	
	comp=E,18nm,0.1s						
RCC				IAML		15 56 27.1	
	comp=N,23nm,0.1s						
MARVS	Santiago de Cu	0.45	310	eP	Pg	15 56 23.7	-1.5
MARVS	Santiago de Cu	0.45	310	eP	Pg	15 56 24.9	-0.3
MARVS				eS	Sg	15 56 30.8	-0.3
GTBY	Guantanamo Bay	0.46	61	eP	Pg	15 56 24.6	-0.7
GTBY	Guantanamo Bay	0.46	61	eP	Pg	15 56 24.6	-0.7
GTBY				eS	Sg	15 56 29.9	-1.4
PINC	Pinares de May	0.81	343	eP	Pg	15 56 29.6	-2.4
PINC	Pinares de May	0.81	343	eP	Pg	15 56 30.3	-1.7
PINC				eS	Sg	15 56 40.7	-2.0
QMBU	Quimbuelo	0.84	54	eP	Pg	15 56 30.8	-1.7
CHIV	Chivirico	0.87	288	eP	Pg	15 56 30.9	-2.2
CHIV				eS	Sg	15 56 42.3	-2.2
NMDO	Nuevo Mundo	0.99	31	eP	Pg	15 56 33.0	-2.5
NMDO				eS	Sg	15 56 46.7	-1.7
MASC	Masc	1.31	69	eP	Pn	15 56 38.8	-1.8
MASC				eS	Sb	15 56 53.4	-4.4
LMGC	Las Mercedes	1.43	285	eP	Pn	15 56 38.7	-3.5
LMGC				eS	Sn	15 56 55.7	-5.2

IDC 14 16:24:35.3±2.2, 33°.46N×11°.14E, h0km, mb3.0/2, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=44.1km s-min=27.4km az=94.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	Kesra	2.71	327	Pn	Pn	16 25 19.5	-0.7
	2.6nm,0.3s,baz=178,slow=3.5,SNR=27						
KEST				Sn	Sb	16 25 56.6	-2.0
	6.2nm,0.3s,baz=132,slow=22,SNR=5.7 4.7nm,0.3s						
AKASG	Malin Array Be	21.74	32	P	P	16 29 28.2	+0.1
	0.7nm,0.6s,baz=228,slow=9.8,SNR=6.3 0.7nm,0.6s						
TORD	Torodi Ar. Bea	21.98	205	P	P	16 29 31.1	+0.1
	0.2nm,0.5s,baz=16,slow=12,SNR=2.1 0.2nm,0.5s						

*KRNET **14** 16:30:45.6±0.1, 39°.64N×75°.58E, mb3.3*
*SOME **14** 16:30:45.0, 39°.72N×75°.70E, h0km*
*NNC **14** 16:30:46.6±1.3, 39°.69N×75°.76E, h6km±9km, mb4.0, mpv3.6, Error ellipse: s-maj=8.8km s-min=6.7km az=174.0*

ISC 14 16:30:42.9±1.5, 39°.64N±0°.05×75°.62E±0°.03, h18km±4km, n61, σ1§51/88, 35C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.67	283	⇑iP	Pg	16 31 16.6	+1.5
SFK				⇑iS	Sg	16 31 39.0	+2.2
SALK	Salom-Alik	1.85	313	⇑eP	Pg	16 31 19.8	+1.3
SALK				⇑iS	Sg	16 31 45.0	+2.4
OHH	Osh	2.34	293	⇑iP	Pg	16 31 27.2	-0.7
OHH				⇑iS	Sg	16 31 57.5	-0.8
ARLS	Aral	2.42	337	⇑iP	Pg	16 31 28.4	-1.0
ARLS				⇑iS	Sg	16 31 59.9	-1.0
ULHL	Ulahol	2.64	10	P	Pg	16 31 34.4	+0.8
	SNR=40						
ULHL	Ulahol	2.64	10	⇓eP	Pg	16 31 32.0	-1.6
ULHL				⇓iS	Sg	16 32 05.8	-2.1
UCH	Uchtor	2.71	342	P	Pg	16 31 35.8	+0.8
	SNR=24						
KDJ	Kajisay	2.75	25	⇑eP	Pg	16 31 33.9	-1.8
KDJ				⇑eS	Sb	16 32 08.4	+3.2
BOOM	Boomskoye usch	2.85	5	⇑eP	Pb	16 31 34.7	+1.3
BOOM				⇑eS	Sb	16 32 10.8	+2.7
AML	Almayashu	2.88	330	P	Pb	16 31 34.5	+0.5
	SNR=24						
AML	Almayashu	2.88	330	⇑eP	Pb	16 31 35.1	+1.1
AML				⇑eS	Sb	16 32 11.2	+2.2
DRK	Karamyk	2.95	268	⇑eP	Pb	16 31 35.5	+0.3
DRK				⇑eS	Sb	16 32 12.5	+1.5
KBK	Karagaybulak	3.05	351	P	Pb	16 31 38.1	+1.3
	SNR=28						
AAK	Ala-Archa	3.11	345	P	Pb	16 31 38.3	+0.6
	SNR=21						
FRU1	Bishkek	3.25	347	⇓eP	Pb	16 31 40.1	0.0
FRU1				⇓eS	Sb	16 32 20.3	+1.0
KST	Kastek	3.41	4	Pg	Pg	16 31 47.9	-0.3
	18nm,0.4s						
KST				Lg	Lg	16 32 33.7	
	51nm,0.4s						
KST	Kastek	3.41	4	eP	Pg	16 31 47.7	-0.5
	7.7nm,0.2s						
KST				eS	Sg	16 32 32.6	+0.2
	110nm,0.8s						
CHMS	Chumysh	3.42	349	P	Pb	16 31 42.5	-0.4
	SNR=9.8						
CHMS	Chumysh	3.42	349	⇑Pn	Pb	16 31 41.9	-0.9
	17nm,0.6s						
CHMS				⇓Lg	Lg	16 32 33.2	
	46nm,0.6s						
ANVS	Anan'yevo	3.50	26	⇑eP	Pb	16 31 44.2	-0.2
ANVS				⇑eS	Sb	16 32 26.4	-0.2
ARK	Arkit	3.51	309	⇑eP	Pb	16 31 43.3	-1.3
ARK				⇑eS	Sb	16 32 25.6	-1.3
PRZ	Przheval'sk	3.53	36	⇑eP	Pb	16 31 45.0	0.0
PRZ				⇑eS	Sb	16 32 28.0	+0.4
TNSS	Tian-Shan	3.54	16	Pg	Pg	16 31 50.0	-0.7
	18nm,0.6s						
TNSS				Lg	Lg	16 32 37.4	
	33

MTBS	**Maitube**	**3.54**	**10**	*eP*		**Pg**	**16 31 50.1**	**-0.6**
	20nm,0.5s							
MTBS				*eS*		**Sg**	**16 32 37.0**	**+0.5**
	33nm,0.4s							
MRKS	**Merke**	**3.59**	**331**	Pg		**Pg**	**16 31 51.3**	**-0.3**
	14nm,0.6s							
MRKS				Lg		Lg	16 32 39.0	
	28nm,0.5s							
MRKS	**Merke**	**3.59**	**331**	*eP*		**Pg**	**16 31 51.3**	**-0.3**
	14nm,0.6s							
MRKS				*eS*		**Sg**	**16 32 39.0**	**+0.9**
	28nm,0.5s							
DGS	**Degeres**	**3.60**	**2**	Pg		**Pg**	**16 31 51.8**	**-0.1**
	16nm,0.6s							
DGS				Lg		Lg	16 32 39.7	
	52nm,0.6s							
MDOK	**Medeo**	**3.68**	**17**	⇑Pg		**Pg**	**16 31 51.2**	**-2.2**
	10nm,0.6s							
MDOK				Pg		**Pg**	**16 31 52.3**	**-1.1**
	6.5nm,0.6s							
MDOK				⇑Lg		Lg	16 32 41.0	
	74nm,0.7s							
MDOK				Lg		Lg	16 32 41.6	
	71nm,0.8s							
MDOK	**Medeo**	**3.68**	**17**	*eP*		**Pg**	**16 31 52.3**	**-1.1**
	5.4nm,0.4s							
MDOK				*eS*		**Sg**	**16 32 40.4**	**-0.6**
	71nm,0.8s							
MNAS	**Manas**	**3.69**	**321**	⇑*eP*		**Pb**	**16 31 46.2**	**-1.4**
MNAS				⇑*eS*		**Sb**	**16 32 30.9**	**-1.1**
AAA	**Alma-Ata**	**3.69**	**15**	Pg		**Pg**	**16 31 54.2**	**+0.6**
	14nm,0.1s							
AAA				Lg		Lg	16 32 44.1	
	19nm,0.3s							
AAA	**Alma-Ata**	**3.69**	**15**	*eP*		**Pg**	**16 31 53.0**	**-0.7**
	16nm,0.1s							
AAA				*eS*		**Sg**	**16 32 42.0**	**+0.4**
	8.5nm,0.2s							
KNDC	**Almaty**	**3.71**	**15**	⇑Lg		Lg	16 32 43.3	
	188nm,0.5s							
BTK	**Batken**	**3.72**	**278**	⇑*eP*		**Pb**	**16 31 46.2**	**-1.8**
BTK				⇑*eS*		**Sb**	**16 32 30.9**	**-1.9**
KOTS	**Kotyrbulak**	**3.76**	**17**	Pg		**Pg**	**16 31 54.7**	**-0.3**
	8.6nm,0.4s							
KOTS				Lg		Lg	16 32 44.7	
	97nm,0.8s							
KOTS	**Kotyrbulak**	**3.76**	**17**	*eP*		**Pg**	**16 31 54.7**	**-0.3**
	8.6nm,0.4s							
KOTS				*eS*		**Sg**	**16 32 44.7**	**+1.0**
	97nm,0.8s							
SGDS	**Sogindy**	**3.88**	**349**	Pg		**Pg**	**16 31 56.4**	**-0.8**
	1.9nm,0.1s							
SGDS				Lg		Lg	16 32 48.0	
	58nm,0.7s							
TRKS	**Terek-Say**	**3.90**	**300**	⇓*eP*		**Pb**	**16 31 48.3**	**-2.8**
TRKS				⇓*eS*		**Sb**	**16 32 33.8**	**-4.2**
SATY	**Saty**	**4.01**	**31**	Pg		**Pg**	**16 31 58.9**	**-0.8**
	10nm,0.8s							
SATY				Lg		Lg	16 32 52.5	
	36nm,1.0s							
ZHN	**Zhinishke**	**4.11**	**30**	Pg		**Pg**	**16 32 00.2**	**-1.4**
	7.1nm,0.7s							
ZHN				Lg		Lg	16 32 54.4	
	20nm,0.3s							
ZHN	**Zhinishke**	**4.11**	**30**	*eP*		**Pg**	**16 32 00.2**	**-1.4**
	7.1nm,0.7s							
ZHN				*eS*		**Sg**	**16 32 54.4**	**-0.5**
	20nm,0.3s							
KURS	**Kuram**	**4.29**	**26**	Pg		**Pg**	**16 32 02.9**	**-2.2**
	7.4nm,1.0s							
KURS				Lg		Lg	16 32 59.4	
	19nm,1.0s							
UZB	**Uzynbulak**	**4.34**	**35**	Pg		**Pg**	**16 32 04.3**	**-1.7**
	2.1nm,0.2s							
UZB				Lg		Lg	16 33 01.3	
	10nm,0.6s							
UZB	**Uzynbulak**	**4.34**	**35**	*eP*		**Pg**	**16 32 04.3**	**-1.7**
	2.1nm,0.2s							
UZB				*eS*		**Sg**	**16 33 01.3**	**-0.9**
	10nm,0.6s							
KPKS	**Kokpek**	**4.46**	**30**	Pg		**Pg**	**16 32 06.8**	**-1.5**
	6.9nm,0.5s							
KPKS				Lg		Lg	16 33 05.5	
	28nm,0.7s							
KPKS	**Kokpek**	**4.46**	**30**	*eP*		**Pn**	**16 31 51.8**	**+2.1**
	16nm,0.6s							
KPKS				*eS*		**Sn**	**16 32 39.7**	**-1.4**
	52nm,0.6s							
KPKS	**Kokpek**	**4.46**	**30**	*eP*		**Pg**	**16 32 06.8**	**-1.5**
	6.9nm,0.5s							
KPKS				*eS*		**Sg**	**16 33 05.5**	**-0.5**
	28nm,0.7s							
SHLS	**Shalkode**	**4.55**	**38**	Pg		**Pg**	**16 32 10.4**	**+0.4**
	6.2nm,0.4s							
SHLS				Lg		Lg	16 33 12.2	
	17nm,0.7s							
SHLS	**Shalkode**	**4.55**	**38**	*eP*		**Pg**	**16 32 11.2**	**+1.2**
	3.2nm,0.2s							
SHLS				*eS*		**Sg**	**16 33 13.1**	**+4.2**
	18nm,0.7s							
PDGK	**Podgornoye**	**4.69**	**37**	⇑Pn		**Pn**	**16 31 54.0**	**+1.0**
	6.1nm,0.7s							
PDGK				⇑Lg		Lg	16 33 08.7	
	15nm,0.6s							
ARXS	**Arharly**	**4.86**	**19**	Pg		**Pg**	**16 32 13.7**	**-2.2**
	0.2nm,0.1s							
ARXS				Lg		Lg	16 33 17.4	
	20nm,0.6s							
KK31	**Karatay Array**	**5.17**	**314**	⇓Pg		**Pg**	**16 32 22.2**	**+0.3**
	0.7nm,0.4s,baz=129,slow=12,SNR=6.3							
KK31				⇓Lg		Lg	16 33 32.7	
	1.7nm,0.4s,baz=134,slow=16,SNR=6.4							
BTLS	**Baital**	**5.52**	**348**	Pg		**Pg**	**16 32 26.0**	**-2.5**
	3.0nm,0.4s							
BTLS				Lg		Lg	16 33 38.3	
	11nm,0.6s							
BTLS	**Baital**	**5.52**	**348**	*eP*		**Pg**	**16 32 26.9**	**-1.7**
	1.7nm,0.3s							
BTLS				*eS*		**Sg**	**16 33 40.1**	**+0.2**
	6.8nm,0.6s							
DJR	**Jarkent**	**5.62**	**32**	Pg		**Pg**	**16 32 28.0**	**-2.5**
	0.9nm,0.2s							
DJR				Lg		Lg	16 33 41.8	
	4.5nm,0.5s							
DJR	**Jarkent**	**5.62**	**32**	*eP*		**Pg**	**16 32 28.0**	**-2.5**
	0.9nm,0.2s							
DJR				*eS*		**Sg**	**16 33 41.8**	**-1.5**
	4.5nm,0.5s							
MK31	**Makanchi Array**	**8.65**	**32**	⇑Lg		Lg	16 35 15.9	
	2.5nm,0.9s							
OTUK	**Ortayu**	**8.92**	**346**	⇑Lg		Lg	16 35 30.9	
	9.5nm,1.0s							
KURK	**Kurchatov**	**11.27**	**10**	⇑Lg		Lg	16 36 42.6	
	11nm,1.0s							

*IDC **14** 16:42:41.0±0.7,9°.70N×126°.61E,h0km,mb3.9/16, mbtmp3.8/16,MS3.2/6,Error ellipse: s-maj=32.3km s-min=15.5km az=71.0*

ISC 14 16:42:47.4±0.6,9°80N±0°.09×126°.7E±0°.2,h42km,n29, σ1°50/19,mb3.8/17,MS3.3/4,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.93**	**202**	Pn	**Pn**	**16 43 34.2**	**+2.7**
	60nm,0.3s,baz=0.0,slow=6.1,SNR=1.7						
DAV				Lg	Lg	16 44 17.1	
	58nm,0.3s,baz=63,slow=16,SNR=4.3						
DAV				LR	LR	16 44 37.8	
	comp=Z,264nm,20.5s,baz=68,slow=42						
JOW	**Kunigami**	**17.00**	**5**	LR	LR	16 52 09.1	
	comp=Z,66nm,19.7s,baz=159,slow=33						
KSRS	**Korea Array**	**27.55**	**2**	LR	LR	17 01 43.1	
	comp=Z,24nm,18.1s,baz=60,slow=41						
CMAR	**Chiang Mai Arr**	**28.22**	**291**	P	**P**	**16 48 34.1**	**-2.4**
	0.2nm,0.4s,baz=103,slow=9.4,SNR=1.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**30.50**	**166**	P	**P**	**16 48 53.6**	**-3.2**
	0.5nm,1.0s,baz=13,slow=38,SNR=2.2						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**34.00**	**168**	P	**P**	**16 49 26.1**	**-1.3**
	0.2nm,0.3s,baz=347,slow=7.2,SNR=11						
	0.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**34.58**	**7**	P	**P**	**16 49 34.2**	**+2.1**
	0.7nm,0.6s,baz=203,slow=6.8,SNR=5.3						
	0.7nm,0.6s						
KLR	**Kul'dur**	**39.53**	**5**	LR	LR	17 07 45.1	
	comp=Z,40nm,18.8s,baz=54,slow=38						
H11S3	**WAKE ISLAND Hy**	**39.66**	**73**	T	T	17 33 23.1	
	baz=262,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.67**	**73**	T	T	17 33 22.3	
	baz=262,slow=76						
H11S2	**WAKE ISLAND Hy**	**39.68**	**73**	T	T	17 33 24.1	
	baz=262,slow=76						
H11N1	**WAKE ISLAND Hy**	**40.01**	**71**	T	T	17 33 52.2	
	baz=265,slow=74,SNR=25						
H11N2	**WAKE ISLAND Hy**	**40.02**	**71**	T	T	17 33 51.9	
	baz=265,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**40.03**	**71**	T	T	17 33 53.7	
	baz=265,slow=74,SNR=24						
SONM	**Songino Array**	**41.60**	**339**	P	**P**	**16 50 31.3**	**-0.1**
	0.4nm,0.5s,baz=157,slow=9.3,SNR=4.4						
SONM				LR	LR	17 09 44.0	
	comp=Z,38nm,18.5s,baz=16,slow=39						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**43.83**	**162**	P	**P**	**16 50 50.1**	**+0.6**
	0.7nm,0.5s,baz=350,slow=12,SNR=3.9						
	0.7nm,0.5s						
PETK	**Petropavlovsk-**	**49.89**	**24**	P	**P**	**16 51 37.2**	**+0.6**
	5.2nm,1.0s,baz=221,slow=11,SNR=1.7						
	5.2nm,1.0s						
MKAR	**Makanchi Array**	**52.65**	**323**	P	**P**	**16 51 58.2**	**+0.7**
	0.9nm,0.6s,baz=120,slow=7.9,SNR=14						
	0.9nm,0.6s						
MA2	**Magadan**	**52.87**	**15**	LR	LR	17 16 17.0	
	comp=Z,63nm,18.1s,baz=101,slow=38						
ZALV	**Zalesovo Beam**	**55.23**	**331**	P	**P**	**16 52 15.8**	**-0.4**
	0.4nm,0.3s,baz=103,slow=7.4,SNR=2.7						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**56.69**	**325**	P	**P**	**16 52 26.3**	**-0.3**
	0.6nm,0.6s,baz=126,slow=6.9,SNR=14						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**62.28**	**325**	P	**P**	**16 53 05.4**	**+0.2**
	0.8nm,0.7s,baz=113,slow=11,SNR=3.0						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**16 54 49.8**	**-0.6**
	0.6nm,0.8s,baz=239,slow=5.3,SNR=10						
	0.6nm,0.8s						
SPITS	**Spitsbergen Ar**	**84.55**	**349**	P	**P**	**16 55 17.2**	**+1.5**
	6.7nm,0.8s,baz=98,slow=2.9,SNR=4.7						
ARCES	**ARCESS Array B**	**84.77**	**340**	P	**P**	**16 55 17.7**	**+0.7**
	3.5nm,0.7s,baz=81,slow=6.4,SNR=6.6						
	3.5nm,0.7s						
FINES	**FINESS Array B**	**86.50**	**332**	P	**P**	**16 55 25.0**	**-0.6**
	1.0nm,0.5s,baz=51,slow=7.6,SNR=9.0						
	1.0nm,0.5s						
HFS	**Hagfors**	**92.65**	**333**	P	**P**	**16 55 54.6**	**-0.1**
	2.0nm,0.7s,baz=100,slow=8.1,SNR=4.1						
	2.0nm,0.7s						
YKA	**Yellowknife Ar**	**94.01**	**24**	P	**P**	**16 55 59.5**	**-1.3**
	0.2nm,0.6s,baz=296,slow=4.6,SNR=12						
	0.2nm,0.6s						
PLCA	**Paso Flores**	**145.62**	**156**	PKPbc	**PKPbc**	**17 02 21.9**	**0.0**
	1.2nm,0.7s,baz=286,slow=2.3,SNR=6.3						

*KRSC **14** 17:05:39.9±0.9,53°.38N×161°.71E,h47km±16km,Ml3.7*
*IDC **14** 17:05:39.1±3.9,53°.97N×161°.28E,h0km,mb3.4/3, mbtmp3.4/4,ML2.5/1,Error ellipse: s-maj=82.6km s-min=43.9km az=132.0*

ISC 14 17:05:44.2±2.2,53°43N±0°.08×161°5E±0°.1,h41km±19km, n25,σ1°06/31,mb3.5/3,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.96**	**250**	*eP*	**Pn**	**17 05 59.2**	**-2.0**
SPN				*eS*	**Sn**	**17 06 13.7**	**+0.2**
NLC	**Nalytchevo**	**1.33**	**260**	*eS*	**Sn**	**17 06 23.0**	**+0.4**
KII	**Karymskiy**	**1.37**	**297**	*eP*	**Pn**	**17 06 06.0**	**-0.8**
KII				*eS*	**Sn**	**17 06 25.5**	**+1.6**
UGLR	**Uglovaya**	**1.63**	**263**	*eP*	**Pn**	**17 06 09.5**	**-1.0**
AVH	**Avacha**	**1.68**	**266**	*eP*	**Pn**	**17 06 10.2**	**-0.8**
DALK	**Dalny**	**1.71**	**258**	*eP*	**Pn**	**17 06 10.4**	**-1.0**
KRX	**Arik**	**1.72**	**269**	*eP*	**Pn**	**17 06 10.6**	**-1.1**
KOK	**Koryaka**	**1.73**	**267**	*eP*	**Pn**	**17 06 11.0**	**-0.9**
PET	**Petropavlovsk**	**1.77**	**258**	*eP*	**Pn**	**17 06 10.9**	**-1.3**
PET				*eS*	**Sn**	**17 06 34.3**	**+0.8**
TUMD	**Tumrok D**	**1.90**	**340**	*eP*	**Pn**	**17 06 12.6**	**-1.5**
TUMD				*eS*	**Sn**	**17 06 37.1**	**+0.4**
RUS	**Russkaya**	**2.07**	**242**	*eP*	**Pn**	**17 06 17.2**	**+0.8**
KRMR	**Karymshinskiy**	**2.13**	**255**	*eP*	**Pn**	**17 06 16.7**	**-0.5**
KRMR				*eS*	**Sn**	**17 06 43.6**	**+1.2**
GNL	**Ganaly**	**2.15**	**279**	*eP*	**Pn**	**17 06 18.0**	**+0.4**
GRL	**Gorelyy**	**2.26**	**249**	*eP*	**Pn**	**17 06 18.7**	**-0.4**
PETK	**Petropavlovsk-**	**2.32**	**264**	Pn	**Pn**	**17 06 19.2**	**-0.5**
	5.7nm,0.3s,baz=83,slow=20,SNR=89						
PETK				Sn	**Sn**	**17 06 47.0**	**0.0**
	5.3nm,0.3s,baz=91,slow=18,SNR=7.8						
	13nm,0.5s						
KMNR	**Kamenistaya**	**2.45**	**343**	*eP*	**Pn**	**17 06 21.5**	**-0.2**
BZWR	**Bezymyannyi-We**	**2.61**	**347**	*eP*	**Pn**	**17 06 23.6**	**-0.3**
KPT	**Kopyto**	**2.65**	**344**	*eP*	**Pn**	**17 06 24.5**	**0.0**
APC	**Apacha**	**2.67**	**261**	*eP*	**Pn**	**17 06 25.2**	**+0.5**
KBTR	**Krutoberegovo**	**2.89**	**15**	*eP*	**Pn**	**17 06 27.2**	**-0.4**
KLY	**Klyuchi**	**2.93**	**351**	*eP*	**Pn**	**17 06 28.6**	**+0.3**
ESO	**Esso**	**2.99**	**328**	*eP*	**Pn**	**17 06 28.7**	**-0.3**
MJAR	**Matsushiro Arr**	**23.43**	**233**	P	**P**	**17 10 51.9**	**+2.4**
	1.3nm,0.8s,baz=29,slow=13,SNR=2.4						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**48.78**	**296**	P	**P**	**17 14 22.7**	**-2.0**
	0.1nm,0.5s,baz=56,slow=6.1,SNR=4.2						
	0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.09**	**259**	P	**P**	**17 15 40.5**	**+0.2**
	0.6nm,0.7s,baz=24,slow=7.5,SNR=6.0						
	0.6nm,0.7s						

*IDC **14** 17:14:30.8±3.5,3°.37N×124°.53E,h356km±41km,mb3.0/7, mbtmp3.7/7,Error ellipse: s-maj=71.8km s-min=11.2km az=69.0*

ISC 14 17:14:28.5±0.9,3°4N±0°.2×124°6E±0°.7,h331km,n8, σ1°01/9,mb3.3/7,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**11.22**	**341**	P	**P**	**17 17 04.0**	**+1.5**
	396nm,0.5s,baz=171,slow=13,SNR=11						
FITZ	**Fitzroy Crossi**	**21.40**	**177**	P	**P**	**17 18 50.7**	**-0.1**
	1.7nm,0.4s,baz=6.6,slow=8.0,SNR=21						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**25.11**	**158**	P	**P**	**17 19 24.2**	**-0.1**
	1.9nm,0.5s,baz=334,slow=11,SNR=25						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**28.40**	**162**	P	**P**	**17 19 53.6**	**0.0**
	0.6nm,0.5s,baz=343,slow=7.4,SNR=23						
ASAR				PcP	**PcP**	**17 22 56.6**	**-0.2**
	0.4nm,1.1s,baz=339,slow=2.5,SNR=2.2						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**38.64**	**157**	P	**P**	**17 21 21.6**	**+0.6**
	1.3nm,0.3s,baz=354,slow=7.6,SNR=6.3						
	1.3nm,0.3s						
SONM	**Songino Array**	**46.95**	**343**	P	**P**	**17 22 25.5**	**-1.7**
	0.1nm,0.3s,baz=138,slow=5.1,SNR=2.0						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.62**	**326**	P	**P**	**17 23 38.3**	**+0.4**
	0.3nm,0.3s,baz=123,slow=6.8,SNR=15						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.87**	**328**	P	**P**	**17 24 06.2**	**-0.6**
	0.2nm,0.4s,baz=125,slow=5.8,SNR=2.1						
	0.2nm,0.4s						

WEL 14 17:27:49.3±0.8,38°S±3°×17°6E±°,h4km±4km,M1.6/11, ML1.9/10,MLv1.6/11,Error ellipse: s-maj=4.5km s-min=3.8km az=57.0,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLRZ	**Highlands Stat**	**0.04**	**297**	P	Pg	17 27 50.4	+0.1
TARZ	**Mount Tarawera**	**0.09**	**67**	P	Pg	17 27 51.8	+0.6
RRRZ	**Republican Roa**	**0.11**	**127**	P	Pg	17 27 51.6	+0.1
RRRZ				S	Sg	17 27 53.7	+0.6
HSRZ	**Hossack Road**	**0.13**	**252**	P	Pg	17 27 52.3	+0.5
MKRZ	**Makatiti**	**0.14**	**21**	P	Pg	17 27 52.9	+0.7
HRRZ	**Handcock Road**	**0.15**	**218**	P	Pg	17 27 52.5	+0.2
OMRZ	**Omania**	**0.17**	**352**	P	Pg	17 27 52.9	+0.3
UTU	**Utuhina**	**0.19**	**300**	P	Pg	17 27 53.6	+0.6
NGRZ	**Ngongotaha**	**0.24**	**315**	P	Pg	17 27 54.6	+0.7
GRRZ	**Galatos Road**	**0.24**	**251**	P	Pg	17 27 57.9	+3.9
KARZ	**Kaharoa**	**0.28**	**334**	P	Pg	17 27 55.1	+0.4
KARZ				S	Sg	17 27 59.1	+0.8
WPRZ	**Whakapapatarin**	**0.31**	**217**	P	Pg	17 27 55.7	+0.4
WPRZ				S	Sg	17 28 00.4	+1.0
MUGZ	**Murupara**	**0.36**	**125**	P	Pg	17 27 56.9	+0.7
URZ	**Urewera**	**0.56**	**89**	P	Pb	17 28 01.5	-0.2

WEL 14 17:28:03.8±0.8,40°S±3°×17°7E±°,h15km±4km,M2.0/8, ML2.5/11,MLv2.0/8,Error ellipse: s-maj=7.4km s-min=4.3km az=98.9,confirmed,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.16**	**334**	P	Pb	17 28 08.5	+0.1
CKHZ				S	Sb	17 28 12.5	+1.1
KAHZ	**Kahuranaki**	**0.22**	**271**	P	Pb	17 28 09.3	-0.3
PWZ	**Pawanui**	**0.33**	**225**	P	Pb	17 28 11.7	+0.4
PXZ	**Pawanui**	**0.33**	**225**	P	Pb	17 28 11.8	+0.4
PXZ				S	Sn	17 28 18.5	-2.0
MCHZ	**McNeill Hill**	**0.51**	**314**	P	Pb	17 28 14.7	+0.3
MCHZ				S	Sn	17 28 23.4	-1.5
MCHZ	**McNeill Hill**	**0.51**	**314**	P	Pb	17 28 14.7	+0.3
MCHZ				S	Sn	17 28 23.3	-1.6
ARHZ	**Aropaoanui**	**0.55**	**346**	P	Pb	17 28 16.0	+0.9
ARHZ				S	Sn	17 28 26.0	+0.1
ARHZ	**Aropaoanui**	**0.55**	**346**	P	Pb	17 28 16.0	+0.9
WPHZ	**Waipukurau**	**0.62**	**244**	P	Pb	17 28 16.2	-0.1
PRHZ	**Porangahau**	**0.62**	**221**	P	Pb	17 28 16.7	+0.4
KRHZ	**Kereru**	**0.63**	**284**	P	Pg	17 28 16.3	+0.1
KRHZ				S	Sb	17 28 26.1	+0.8
KRHZ	**Kereru**	**0.63**	**284**	P	Pg	17 28 16.3	+0.1
KRHZ				S	Sb	17 28 25.9	+0.7
KWHZ	**Kaweka Forest**	**0.69**	**303**	P	Pb	17 28 17.4	-0.1
KWHZ	**Kaweka Forest**	**0.69**	**303**	P	Pg	17 28 17.3	+0.1
NMHZ	**Naumai**	**0.75**	**338**	P	Pb	17 28 19.2	+0.5
BKZ	**Black Stump Fm**	**0.82**	**320**	P	Pg	17 28 19.7	0.0
BKZ				S	Sn	17 28 32.0	-0.7
KNZ	**Kokohu**	**0.87**	**27**	P	Pb	17 28 20.5	0.0
TSZ	**Takapari Road**	**0.96**	**254**	P	Pb	17 28 20.8	-1.4
MOVZ	**Moawhango**	**1.16**	**289**	P	Pn	17 28 25.1	-0.5
MOVZ				S	Sn	17 28 40.9	-0.3
ETVZ	**East Tongariro**	**1.31**	**300**	P	Pb	17 28 27.9	-0.2
TMVZ	**Te Maari**	**1.32**	**301**	P	Pn	17 28 28.0	+0.2
OTVZ	**Oturere**	**1.32**	**298**	P	Pb	17 28 28.2	-0.2
SNVZ	**South Ngauruho**	**1.33**	**297**	P	Pb	17 28 28.3	-0.2
NTVZ	**North Tongarir**	**1.35**	**301**	P	Pb	17 28 28.7	-0.1
NNVZ	**North Ngauruho**	**1.37**	**298**	P	Pb	17 28 29.0	-0.2

*NEIC **14** 17:30:56.5±0.6,24°.3S±0°.1×179°.8W±0°.2,h505km±16km, mb4.5/23,Error ellipse: s-maj=23.7km s-min=15.9km az=119.0*
*IDC **14** 17:30:58.6±1.7,24°.30S×179°.91E,h509km±17km,mb3.3/7, mbtmp4.2/9,Error ellipse: s-maj=20.9km s-min=20.1km az=44.0*
*NOU **14** 17:30:59.3,24°.49S×179°.89W,h524km,mb4.2/12,South of Fiji Islands*

ISC 14 17:30:57.8±0.8,24°46S±0°.07×180°0E±0°.1,h500km,n91, σ1°88/100,mb4.2/13,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.93**	**345**	P	**P**	**17 32 41.0**	**-2.6**
MSVF	**Nonsavu**	**6.93**	**345**	P	**P**	**17 32 44.8**	**+1.3**
	7.4nm,0.4s,baz=208,slow=17,SNR=16						
MSVF	**Nonsavu**	**6.93**	**345**	P	**P**	**17 32 46.0**	**+2.5**
TAVE	**Taveuni**	**7.72**	**1**	P	**P**	**17 32 54.3**	**+2.8**
DGTI	**Dogotuki**	**8.12**	**359**	P	**P**	**17 32 57.8**	**+2.1**
PINNC	**Pines Island,**	**11.62**	**277**	P	**P**	**17 33 32.5**	**0.0**
PINNC	**Pines Island,**	**11.62**	**277**	P	**P**	**17 33 35.4**	**+3.0**
YATNC	**Mamie plateau,**	**12.25**	**279**	P	**P**	**17 33 42.4**	**+3.3**
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	**17 33 45.6**	**+2.2**
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	**17 33 44.7**	**+1.3**
	19nm,0.7s,baz=66,slow=20,SNR=13						
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	**17 33 45.9**	**+2.5**
HAZ	**Te Kaha**	**13.38**	**187**	P	**P**	**17 33 51.4**	**+0.6**
HAZ				S	**S**	**17 36 14.2**	**+0.7**
PKGZ	**Pakihiroa**	**13.46**	**186**	P	**P**	**17 33 56.0**	**+4.4**
PKGZ				S	**S**	**17 36 16.6**	**+1.5**
RUGZ	**Raukumara Rang**	**13.60**	**188**	P	**P**	**17 33 55.9**	**+2.6**
RUGZ				S	**S**	**17 36 19.6**	**+1.6**
URZ	**Urewera**	**13.97**	**189**	P	**P**	**17 33 58.3**	**+1.3**
	9.0nm,1.6s						
URZ	**Urewera**	**13.97**	**189**	P	**P**	**17 33 58.0**	**+1.0**
URZ				S	**S**	**17 36 24.1**	**-0.7**
MWZ	**Matawai**	**13.98**	**188**	P	**P**	**17 34 00.2**	**+2.9**
MWZ				S	**S**	**17 36 26.0**	**+0.8**
MUGZ	**Murupara**	**14.23**	**190**	P	**P**	**17 34 02.9**	**+3.1**
MTHZ	**Maungataniwha**	**14.59**	**190**	P	**P**	**17 34 05.7**	**+2.1**
MTHZ				S	**S**	**17 36 31.8**	**-5.0**
BKZ	**Black Stump Fm**	**14.95**	**190**	P	**P**	**17 34 08.0**	**+0.6**
BKZ	**Black Stump Fm**	**14.95**	**190**	P	**P**	**17 34 08.3**	**+0.9**
BKZ				S	**S**	**17 36 40.3**	**-3.4**
NTVZ	**North Tongarir**	**15.04**	**193**	P	**P**	**17 34 10.4**	**+2.0**
TWVZ	**Taurewa**	**15.06**	**194**	P	**P**	**17 34 11.2**	**+2.6**
ETVZ	**East Tongariro**	**15.06**	**193**	P	**P**	**17 34 10.7**	**+2.0**
WTVZ	**West Tongariro**	**15.07**	**193**	P	**P**	**17 34 11.8**	**+3.1**
OTVZ	**Oturere**	**15.10**	**193**	P	**P**	**17 34 09.4**	**+0.3**
OT

BBOO IAmb IAmb 17 38 21.0
comp=Z,22nm,1.4s
AS31 Alice Springs 41.91 261 P **P 17 38 03.5 -0.7**
ASAR Alice Springs 41.91 261 P **P 17 38 03.3 -0.8**
ASAR Alice Springs 41.91 261 P **P 17 38 03.8 -0.4**
comp=Z,0.9nm,0.4s,baz=92,slow=6.9,SNR=60
ASAR ScP **ScP 17 42 51.5 +0.6**
comp=Z,0.3nm,0.9s,baz=117,slow=4.8,SNR=4.1
comp=Z,0.9nm,0.4s
WR0 Warramunga Arr 42.14 267 P **P 17 38 05.0 -1.1**
WB2 Warramunga Arr 42.32 267 P **P 17 38 06.7 -0.7**
WB2 IAmb IAmb 17 38 07.0
comp=Z,4.8nm,0.5s
WB0 Warramunga Arr 42.33 267 P **P 17 38 06.3 -1.2**
WB0 IAmb IAmb 17 38 07.4
comp=Z,4.5nm,0.7s
WRA Warramunga Arr 42.33 267 P **P 17 38 06.1 -1.4**
WRA Warramunga Arr 42.33 267 P **P 17 38 06.7 -0.8**
comp=Z,3.0nm,0.4s,baz=97,slow=8.3,SNR=43
WRA ScP **ScP 17 42 53.0 +0.4**
comp=Z,0.9nm,0.8s,baz=100,slow=4.2,SNR=5.0
comp=Z,3.0nm,0.4s
MTN Manton Dam 47.46 275 P **P 17 38 45.8 -1.3**
MTN IAmb IAmb 17 39 26.6
comp=Z,25nm,1.4s
FITZ Fitzroy Crossi 50.75 266 P **P 17 39 10.6 -0.8**
VNDA Vanda 53.82 185 P **P 17 39 34.0 +1.4**
comp=Z,2.0nm,0.8s,baz=349,slow=7.7,SNR=2.9
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 65.62 180 P **P 17 40 52.7 +1.0**
QSPA IAmb IAmb 17 40 54.0
comp=Z,5.4nm,0.8s
QSPA South Pole Qui 65.62 180 P **P 17 40 53.1 +1.4**
comp=Z,4.4nm,0.6s,baz=346,slow=0.4,SNR=33
comp=Z,4.4nm,0.6s
SYO Syowa Base 82.46 193⇑ *eP* **P 17 42 24.2 -2.7**
CMAR Chiang Mai Arr 89.68 290 P **P 17 43 02.0 -0.6**
comp=Z,0.2nm,0.7s,baz=118,slow=2.9,SNR=1.8
comp=Z,0.2nm,0.7s
TXAR Lajitas Array 90.76 58 P **P 17 43 05.5 -2.0**
comp=Z,0.5nm,0.8s,baz=255,slow=2.3,SNR=2.5
comp=Z,0.5nm,0.8s
HFS Hagfors 143.09 349 PKhKP PKPpre 17 49 30.4
comp=Z,2.2nm,0.3s,baz=66,slow=3.6,SNR=20
AKASG Malin Array Be 145.42 327 PKPbc **PKPdf 17 49 37.4 -0.8**
comp=Z,0.3nm,0.3s,baz=46,slow=4.0,SNR=1.8
EKA Eskdalemuir Ar 149.08 3 PKPbc **PKPbc 17 49 48.0 -0.9**
comp=Z,1.4nm,0.7s,baz=356,slow=3.2,SNR=4.3

NEIC ***14*** *17:42:19.0±1.7, 15°.0S×0°.1×167°.5E±0°.1, h126km±13km, mb4.4/7, Error ellipse: s-maj=21.9km s-min=16.6km az=216.0*
IDC ***14*** *17:42:19.4±5.4, 15°.05S×167°.40E, h127km±41km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=44.8km s-min=27.6km az=57.0*
NOU ***14*** *17:42:34.6, 16°.29S×167°.34E, h0km, MLv4.1/11, Vanuatu Islands*
ISC 14 17:42:19.1±1.1, 15°.03S±0°.09×167°.5E±0°.1, h129km, n27, σ1$51/28, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.75**	**167**	P	**Pn**	**17 43 03.3**	**+0.8**
KOUNC	**Koumac, New Ca**	**6.30**	**209**	P	**Pn**	**17 43 52.6**	**+2.9**
	0.1nm,1.5s						
KOUNC	**Koumac, New Ca**	**6.30**	**209**	S	Sn	17 44 53.1	-7.4
	0.1nm,1.5s						
MARNC	**Mare, Loyalty**	**6.43**	**176**	P	**Pn**	**17 43 54.3**	**+2.8**
YATNC	**Mamie plateau,**	**7.02**	**185**	P	**Pn**	**17 44 01.0**	**+1.6**
DZM	**Mont Dzumac**	**7.08**	**188**	Pn	**Pn**	**17 44 00.4**	**+0.1**
DZM	**Mont Dzumac**	**7.08**	**188**	P	**Pn**	**17 43 59.5**	**-0.8**
	4.8nm,0.3s,baz=22,slow=5.4,SNR=58						
DZM				S	**Sn**	**17 45 19.8**	**+0.4**
	13nm,0.4s,baz=327,slow=16,SNR=12						
DZM	**Mont Dzumac**	**7.08**	**188**	P	**Pn**	**17 44 01.7**	**+1.4**
DZM	**Mont Dzumac**	**7.08**	**188**	S	Sn	17 45 10.4	-9.0
ONTNC	**Ouen Toro**	**7.31**	**188**	Pn	**Pn**	**17 44 05.4**	**+2.1**
ONTNC				Sn	**Sn**	**17 45 22.7**	**-2.2**
ONTNC	**Ouen Toro**	**7.31**	**188**	P	**Pn**	**17 44 06.1**	**+2.8**
OUENC	**Ouen Island, N**	**7.38**	**185**	P	**Pn**	**17 44 06.3**	**+2.1**
PINNC	**Pines Island,**	**7.54**	**181**	Pn	**Pn**	**17 44 07.1**	**+0.6**
PINNC				Sn	**Sn**	**17 45 29.6**	**-0.9**
PINNC	**Pines Island,**	**7.54**	**181**	P	**Pn**	**17 44 08.7**	**+2.3**
BKZ	**Black Stump Fm**	**25.30**	**164**	P	**P**	**17 47 33.3**	**-0.4**
BKZ				IAmb	IAmb	17 48 10.8	
	comp=Z,19nm,1.5s						
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**17 48 07.3**	**+0.4**
STKA				IAmb	IAmb	17 48 07.8	
	comp=Z,2.2nm,0.6s						
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**17 48 07.2**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=70,slow=15,SNR=6.3						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**32.80**	**250**	P	**P**	**17 48 39.0**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=78,slow=9.2,SNR=11						
	comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**33.60**	**233**	P	**P**	**17 48 46.8**	**-0.4**
FORT	**Forrest**	**39.36**	**240**	P	**P**	**17 49 34.8**	**-1.3**
FORT				IAmb	IAmb	17 50 04.2	
	comp=Z,18nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.21**	**260**	P	**P**	**17 49 42.5**	**-0.8**
VNDA	**Vanda**	**62.57**	**181**	P	**P**	**17 52 29.2**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=34,slow=7.3,SNR=3.4						
	comp=Z,1.5nm,1.0s						
SBA	**Scott Base**	**62.84**	**180**	P	**P**	**17 52 29.5**	**-1.2**
SBA				IAmb	IAmb	17 52 53.4	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**75.00**	**180**	P	**P**	**17 53 46.4**	**+0.1**
QSPA				IAmb	IAmb	17 53 51.3	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**75.00**	**180**	P	**P**	**17 53 46.6**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=360,slow=1.3,SNR=14						
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**82.89**	**324**	P	**P**	**17 54 30.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=104,slow=4.4,SNR=2.4						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**97.59**	**316**	P	**P**	**17 55 38.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=89,slow=5.9,SNR=3.8						
	comp=Z,0.3nm,0.7s						

IDC ***14*** *17:54:42.1±1.8, 18°.19S×178°.29W, h566km±19km, mb3.1/8, mbtmp3.9/9, Error ellipse: s-maj=25.9km s-min=18.6km az=134.0*
NEIC ***14*** *17:54:44.1±1.2, 17°.7S±0°.2×178°.5W±0°.2, h575km±11km, mb4.1/20, Error ellipse: s-maj=37.8km s-min=23.5km az=122.0*
ISC 14 17:54:43.7±0.6, 17°.9S±0°.1×178°.5W±0°.2, h579km, n36, σ1$32/38, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.31**	**272**	P	**P**	**17 56 02.6**	**-0.5**
	14nm,0.7s,baz=142,slow=14,SNR=12						
FUTU	**Fugatoga**	**3.58**	**6**	P	**P**	**17 56 03.2**	**-1.6**
URZ	**Urewera**	**20.66**	**190**	P	**P**	**17 58 39.6**	**-4.5**
	2.3nm,0.3s,baz=356,slow=4.9,SNR=5.6						
	2.3nm,0.3s						
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**18 02 05.0**	**-0.5**
	0.5nm,0.3s,baz=91,slow=7.8,SNR=16						
WRA				PcP	**PcP**	**18 03 36.2**	**+0.4**
	0.8nm,1.2s,baz=86,slow=4.0,SNR=2.3						
	0.5nm,0.3s						
AS31	**Alice Springs**	**44.73**	**254**	P	**P**	**18 02 07.4**	**+0.7**
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**18 02 07.1**	**+0.4**
	3.6nm,0.5s,baz=88,slow=8.7,SNR=108						
ASAR				PcP	**PcP**	**18 03 36.8**	**+0.4**
	0.3nm,0.4s,baz=103,slow=3.9,SNR=4.7						
	3.6nm,0.5s						
VNDA	**Vanda**	**60.46**	**185**	P	**P**	**18 04 02.1**	**+4.4**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**18 05 09.0**	**-1.4**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**18 05 09.3**	**-1.0**
	1.8nm,0.9s,baz=40,slow=6.3,SNR=2.9						
	1.8nm,0.9s						
N25K	**Chitina, Valde**	**83.70**	**16**	P	**P**	**18 06 12.1**	**+0.1**
GLB	**Gilahina Butte**	**83.77**	**16**		**P**	**18 06 12.5**	**+0.2**
TRF	**Thorofare Moun**	**84.01**	**12**	P	**P**	**18 06 12.3**	**-1.3**
TRF				IAmb	IAmb	18 06 42.7	
	comp=Z,8.5nm,1.4s						
RND	**Reindeer**	**84.27**	**13**	P	**P**	**18 06 14.5**	**-0.3**
RND				IAmb	IAmb	18 06 48.3	
	comp=Z,5.9nm,1.3s						
WRH	**Wood River Hil**	**85.37**	**13**	P	**P**	**18 06 19.4**	**-0.6**
WRH				IAmb	IAmb	18 06 28.3	
	comp=Z,3.7nm,1.2s						
Q32M	**Nakina River**	**85.39**	**22**	P	**P**	**18 06 21.5**	**+1.1**
CCB	**Clear Creek Bu**	**85.58**	**13**	P	**P**	**18 06 20.3**	**-0.7**
CCB				IAmb	IAmb	18 06 57.8	
	comp=Z,5.0nm,1.3s						
IL31		**85.88**	**13**	P	**P**	**18 06 21.7**	**-0.7**
IL31				IAmb	IAmb	18 06 33.8	
	comp=Z,7.6nm,1.4s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**18 06 21.2**	**-1.2**
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**18 06 22.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=222,slow=5.3,SNR=19						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**18 06 25.1**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.0,SNR=4.9						
	comp=Z,0.6nm,0.7s						
J25K	**Salcha River,**	**86.08**	**14**	P	**P**	**18 06 23.9**	**+0.5**
J25K				IAmb	IAmb	18 06 24.0	
	comp=Z,3.6nm,1.4s						
J26L	**Joseph Creek**	**86.40**	**14**	P	**P**	**18 06 25.7**	**+0.7**
E19K	**Redstone River**	**86.53**	**8**	P	**P**	**18 06 25.3**	**-0.1**
E19K				IAmb	IAmb	18 07 04.4	
	comp=Z,3.7nm,1.3s						
M30M	**Minto, Yukon**	**86.64**	**18**	P	**P**	**18 06 26.5**	**+0.3**
M30M				IAmb	IAmb	18 06 46.8	
	comp=Z,8.1nm,1.4s						
I26K	**Coal Creek Min**	**87.17**	**14**	P	**P**	**18 06 29.3**	**+0.8**
I26K				IAmb	IAmb	18 07 00.4	
	comp=Z,5.3nm,1.4s						
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**18 06 30.4**	**0.0**
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**18 06 30.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=245,slow=4.0,SNR=2.8						
	comp=Z,0.4nm,0.6s						
D19K	**Kuna River**	**87.40**	**7**	P	**P**	**18 06 30.0**	**+0.5**
D19K				IAmb	IAmb	18 06 55.1	
	comp=Z,3.8nm,1.3s						
K29M	**Barlow Dome**	**87.42**	**17**	P	**P**	**18 06 30.5**	**+0.7**
F24K	**Squaw Lake**	**88.08**	**11**	P	**P**	**18 06 33.6**	**+0.8**
MMPY	**Sheldon Lake,**	**88.38**	**20**	P	**P**	**18 06 35.1**	**+0.9**
BMAR	**Burnt Mountain**	**88.66**	**12**	P	**P**	**18 06 36.2**	**+0.8**
I30M	**Mount Dempster**	**88.80**	**16**	P	**P**	**18 06 36.5**	**+0.2**
YKA	**Yellowknife Ar**	**94.34**	**25**	P	**P**	**18 07 01.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=236,slow=4.7,SNR=2.5						
	comp=Z,0.2nm,0.5s						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**18 13 24.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=347,slow=4.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**175.28**	**182**	PKP	**PKPdf**	**18 13 46.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=201,slow=2.8,SNR=1.3						

IDC ***14*** *18:00:53.6±0.7, 67°.05N×21°.00E, h0km, mbtmp3.4/5, ML2.1/4, Error ellipse: s-maj=14.3km s-min=6.0km az=110.0*
UPP ***14*** *18:00:53.1±0.1, 67°.05N×20°.97E, h0km, ML2.5, Unknown*
ISC 14 18:00:53.1±1.0, 67°.04N±0°.03×20°.94E±0°.03, h9km±8km, n18, σ1$08/25, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**299**	P	**Pg**	**18 00 56.7**	**+0.1**
DUNU				S	**Sg**	**18 00 59.2**	**+0.3**
MASU	**Masugnsbyn**	**0.59**	**44**	P	**Pg**	**18 01 04.1**	**-0.3**
MASU				S	**Sg**	**18 01 11.8**	**-0.3**
ERTU	**Ertsjaerv**	**0.70**	**134**	P	**Pg**	**18 01 06.2**	**-0.3**
ERTU				S	**Sg**	**18 01 15.5**	**0.0**
PAJU	**Pajala**	**0.85**	**90**	P	**Pg**	**18 01 08.8**	**-0.6**
PAJU				S	**Sg**	**18 01 20.2**	**-0.3**
HARU	**Harads**	**0.88**	**179**	P	**Pg**	**18 01 09.8**	**-0.2**
KUA	**Kurravaara**	**0.94**	**346**	P	**Pg**	**18 01 10.5**	**-0.7**
SALU	**Saltoluokta**	**1.01**	**291**	*eP*	**Pg**	**18 01 12.1**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**291**	P	**Pg**	**18 01 12.1**	**-0.2**
LANU	**Lannavaara**	**1.09**	**21**	P	**Pg**	**18 01 13.0**	**-0.9**
KOVU	**Sattni**	**1.22**	**346**	P	**Pg**	**18 01 15.7**	**-0.8**
KALU	**Kalix**	**1.53**	**140**	P	**Pn**	**18 01 21.1**	**+0.5**
SJUU	**Sjulsmark**	**1.56**	**170**	P	**Pn**	**18 01 21.9**	**+0.9**
HEF	**Hetta**	**1.72**	**36**	*eP*	**Pn**	**18 01 24.7**	**+1.5**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 01 42.9**	**+1.8**
	0.3nm,0.3s,baz=214,slow=13,SNR=53						
ARCES				Sn	**Sn**	**18 02 19.1**	**+1.7**
	0.5nm,0.3s,baz=219,slow=17,SNR=1.7						
ARCES				Lg	Lg	18 02 27.7	
	1.3nm,0.3s,baz=219,slow=25,SNR=12						
	1.3nm,0.2s						
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 02 24.9**	**+2.3**
	0.1nm,0.3s,baz=345,slow=12,SNR=13						
FINES				Sn	**Sn**	**18 03 31.8**	**0.0**
	0.2nm,0.3s,baz=345,slow=22,SNR=1.2						
FINES				Lg	Lg	18 04 04.5	
	0.2nm,0.3s,baz=342,slow=30,SNR=2.4						
	1.3nm,0.6s						
NOA	**NORSAR Array B**	**7.37**	**220**	Pn	**Pn**	**18 02 40.2**	**-0.7**
	baz=36,slow=6.8,SNR=8.4						
	1.0nm,0.9s						
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**18 02 45.2**	**+0.7**
	0.2nm,0.3s,baz=27,slow=13,SNR=13						
HFS				Sn	**Sn**	**18 04 08.9**	**-2.1**
	0.2nm,0.3s,baz=27,slow=23,SNR=1.2						
HFS				Lg	Lg	18 04 55.5	
	0.2nm,0.3s,baz=26,slow=24,SNR=1.9						
	1.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**18 03 33.0**	**-1.1**
	12nm,1.1s,baz=159,slow=17,SNR=10						

NEIC ***14*** *18:16:26.9±1.3, 52°.1N±0°.2×179°.7W±0°.2, h156km±12km, mb3.8/28, ML3.1(AEIC), Error ellipse: s-maj=35.0km s-min=14.3km az=159.0*
AEIC ***14*** *18:16:27.5±1.2, 52°.2N±0°.2×179°.7W±0°.2, h151km±8km, Error ellipse: s-maj=26.5km s-min=14.9km az=163.0*
IDC ***14*** *18:16:29.7±6.9, 52°.04N×179°.72W, h177km±65km, mb2.8/5, mbtmp3.4/6, Error ellipse: s-maj=47.4km s-min=20.0km az=168.0*
ISC 14 18:16:27.1±0.8, 52°.1N±0°.1×179°.65W±0°.06, h150km, n57, σ0$96/61, mb3.7/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GANO	**Gareloi North**	**0.61**	**120**		**Pn**	**18 16 49.0**	**-0.1**
GALAA	**Gareloi Lava P**	**0.66**	**124**		**Pn**	**18 16 49.7**	**+0.4**
GAEA	**Gareloi East**	**0.66**	**122**		**Pn**	**18 16 49.7**	**+0.4**
TASE	**Tanaga Southea**	**1.04**	**106**		**Pn**	**18 16 52.5**	**+0.3**
TAFP	**Tanaga Falls P**	**1.05**	**102**		**Pn**	**18 16 52.5**	**+0.1**
TAFP					**Sn**	**18 17 12.3**	**+0.7**
KIKV	**Kanaga Island**	**1.55**	**98**		**Pn**	**18 16 57.4**	**+0.2**
KIWB	**Kanaga Island**	**1.57**	**99**		**Sn**	**18 17 20.9**	**+0.4**
KIWB	**Kanaga Island**	**1.57**	**99**		**Pn**	**18 16 57.2**	**-0.1**
ADK	**Adak**	**1.85**	**97**		**Sn**	**18 17 25.8**	**-0.2**
ADK	**Adak**	**1.85**	**97**	Pn	**Pn**	**18 16 59.6**	**-0.8**
ADAG	**Mount Adagdak**	**1.89**	**93**		**Pn**	**18 17 00.9**	**+0.1**
ADAG					**Sn**	**18 17 27.7**	**+0.9**
GSCK	**Great Sitkin C**	**2.16**	**92**		**Pn**	**18 17 04.2**	**+0.2**
GSCK					**Sn**	**18 17 32.7**	**+0.3**
GSTR	**Great Sitkin T**	**2.21**	**90**	Pn	**Pn**	**18 17 04.0**	**-0.8**
ATKA	**Atka Island**	**3.36**	**87**		**Pn**	**18 17 19.3**	**+0.3**
ATKA					**Sn**	**18 17 58.6**	**-0.5**
UNV	**Unalaska Valle**	**8.12**	**73**	Pn	**Pn**	**18 18 19.8**	**-2.1**
S12K	**Black Hills**	**10.97**	**64**	Pn	**Pn**	**18 19 02.4**	**+2.8**
CNBA	**Chernabura Isl**	**12.24**	**69**	Pn	**Pn**	**18 19 15.9**	**-0.4**
CHGN	**Chignik**	**13.09**	**63**	Pn	**Pn**	**18 19 26.9**	**-0.2**
N15K	**Kwethluk River**	**13.51**	**46**	P	**P**	**18 19 36.7**	**+0.2**
PETK	**Petropavlovsk-**	**13.79**	**283**	P	**Pn**	**18 19 37.1**	**+1.0**
	4.4nm,0.9s,baz=86,slow=16,SNR=1.6						
L18K	**Granite Mounta**	**15.94**	**42**		**Pn**	**18 20 02.0**	**-0.6**
L18K				IAmb	IAmb	18 20 45.7	
	comp=Z,9.9nm,1.4s						
F17K	**Baldwin Pennin**	**17.04**	**26**	P	**P**	**18 20 14.4**	**-1.0**
F17K				IAmb	IAmb	18 20 39.5	
	comp=Z,7.1nm,1.4s						
CNPM	**China Poot**	**17.48**	**54**	P	**P**	**18 20 19.7**	**-0.7**
SPU	**Mount Spurr**	**17.54**	**48**	Pn	**Pn**	**18 20 23.4**	**+1.3**
SPU				IAmb	IAmb	18 20 26.7	
	comp=Z,8.2nm,1.1s						
J20K	**Nowinta River**	**17.91**	**38**	Pn	**Pn**	**18 20 27.2**	**+0.8**
J20K				IAmb	IAmb	18 20 43.5	
	comp=Z,7.3nm,1.4s						
SKT	**Skwentna**	**18.04**	**46**	Pn	**Pn**	**18 20 28.3**	**+0.3**
SKT				IAmb	IAmb	18 20 32.6	
	comp=Z,6.1nm,0.8s						
SLKM	**Skilak Lake**	**18.21**	**51**	P	**P**	**18 20 27.5**	**-0.8**
KTH	**Kantishna Hill**	**18.90**	**42**	Pn	**P**	**18 20 37.2**	**+1.4**
TRF	**Thorofare Moun**	**19.12**	**42**	P	**P**	**18 20 39.3**	**+1.0**
PWL	**Port Wells**	**19.20**	**51**	P	**P**	**18 20 40.0**	**+1.0**
D19K	**Kuna River**	**19.38**	**24**	P	**P**	**18 20 40.1**	**-0.8**
D19K				IAmb	IAmb	18 20 41.1	
	comp=Z,6.6nm,1.4s						
SML	**Sawmill**	**19.43**	**48**	P	**P**	**18 20 40.5**	**-1.0**
BWN	**Browne**	**19.74**	**41**	P	**P**	**18 20 45.1**	**+0.4**
NEA2	**Nenana**	**20.06**	**40**	P	**P**	**18 20 49.6**	**+1.3**
WRH	**Wood River Hil**	**20.41**	**41**	P	**P**	**18 20 52.5**	**+0.6**
WRH				IAmb	IAmb	18 21 21.9	
	comp=Z,6.4nm,1.4s						
G23K	**Bananza Creek**	**20.68**	**34**	P	**P**	**18 20 55.2**	**+0.3**
ILAR	**Eielson Array**	**21.00**	**40**	P	**P**	**18 21 00.2**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=261,slow=12,SNR=4.9						
	comp=Z,0.2nm,0.6s						
GLB	**Gilahina Butte**	**21.46**	**50**	P	**P**	**18 21 01.3**	**-2.1**
RIDG	**Independent Ri**	**21.51**	**44**	P	**P**	**18 21 01.9**	**-2.0**
G24K	**Hadweenzic Riv**	**21.57**	**35**	P	**P**	**18 21 04.0**	**-0.4**
G24K				IAmb	IAmb	18 21 08.1	
	comp=Z,2.8nm,0.8s						
SCRK	**Sand Creek**	**21.94**	**44**	P	**P**	**18 21 07.7**	**-0.7**
SCRK				IAmb	IAmb	18 21 41.5	
	comp=Z,3.1nm,1.2s						
J26L	**Joseph Creek**	**22.26**	**42**	P	**P**	**18 21 11.6**	**0.0**
J26L				IAmb	IAmb	18 21 13.0	
	comp=Z,3.1nm,0.7s						
I26K	**Coal Creek Min**	**22.67**	**40**	P	**P**	**18 21 15.1**	**-0.3**
I26K				IAmb	IAmb	18 21 30.6	
	comp=Z,5.6nm,1.3s						
BCAR	**Beaver Creek A**	**22.68**	**46**	P	**P**	**18 21 17.1**	**+1.5**
BMAR	**Burnt Mountain**	**22.91**	**35**	P	**P**	**18 21 19.0**	**+1.4**
I28M	**Miner Creek**	**24.00**	**41**	P	**P**	**18 21 26.5**	**-1.1**
F28M	**Old Crow**	**24.66**	**36**	P	**P**	**18 21 32.4**	**-1.1**
D27M	**Malcolm River**	**24.88**	**32**	P	**P**	**18 21 35.3**	**-0.2**
E29M	**Blow River**	**25.61**	**35**	P	**P**	**18 21 43.1**	**+1.1**
YKA	**Yellowknife Ar**	**35.10**	**47**	P	**P**	**18 23 06.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=280,slow=8.4,SNR=3.1						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**18 24 40.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=338,slow=3.2,SNR=5.6						
	comp=Z,0.5nm,0.6s						
MK31	**Makanchi Array**	**59.15**	**308**	P	**P**	**18 26 11.0**	**-0.7**
MK31				IAmb	IAmb	18 26 34.3	
	comp=Z,1.6nm,1.4s						
MKAR	**Makanchi Array**	**59.15**	**308**	P	**P**	**18 26 11.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=45,slow=6.7,SNR=7.3						
	comp=Z,0.1nm,0.3s						
MAKZ	**Makanchi**	**59.30**	**308**	P	**P**	**18 26 12.4**	**-0.3**
MAKZ				IAmb	IAmb	18 26 37.7	
	comp=Z,1.4nm,1.1s						
AB31	**Akbulak array**	**67.02**	**322**	P	**P**	**18 27 02.4**	**-1.0**
ABKAR	**Akbulak array**	**67.02**	**322**	P	**P**	**18 27 02.5**	**-0.9**
WRA	**Warramunga Arr**	**82.20**	**223**	P	**P**	**18 28 30.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=28,slow=5.5,SNR=1.3						
	comp=Z,0.2nm,0.6s						

MOS ***14*** *18:24:28.3±1.1, 52°.42N×159°.03E, h68km, mb4.9/33, Error ellipse: s-maj=9.3km s-min=3.9km az=90.3*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
NEIC ***14*** *18:24:30.6±2.0, 52°.57N±0°.09×158°.6E±0°.2, h81km±7km, mb4.3/66, Error ellipse: s-maj=14.9km s-min=12.9km az=129.0*
IDC ***14*** *18:24:32.3±0.9, 52°.61N×158°.77E, h87km±6km, mb3.8/26, mbtmp4.1/31, MS3.5/17, Error ellipse: s-maj=14.6km s-min=11.4km az=139.0*
ISC 14 18:24:29.2±0.6, 52°.47N±0°.05×158°.99E±0°.04, h64km±4km, n220, σ1$30/21⁷, mb4.4/106, 6C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.29**	**263**	PN	**Pn**	**18 24 39.6**	**0.0**
RUS				S	**Sn**	**18 24 47.1**	**-0.1**
GRL	**Gorelyy**	**0.56**	**279**	PN	**Pn**	**18 24 43.6**	**+1.3**
DALK	**Dalny**	**0.58**	**346**	PN	**Pn**	**18 24 42.6**	**+0.3**
DALK				S	**Sn**	**18 24 52.0**	**+0.1**
PET	**Petropavlovsk**	**0.59**	**340**		**Pn**	**18 24 42.4**	**-0.1**
PET	**Petropavlovsk**	**0.59**	**340**	‖ *i* PN	**Pn**	**18 24 42.7**	**+0.3**
PET				*i* S	**Sn**	**18 24 52.3**	**+0.2**
PET				pmax	pmax		
	comp=Z,2μm,0.4s						
PET				smax	smax		
	comp=E,12μm,0.6s						
PET				smax	smax		
	comp=N,13μm,0.6s						
KRMR	**Karymshinskiy**	**0.63**	**305**	PN	**Pn**	**18 24 43.5**	**+0.6**
KRMR				S	**Sn**	**18 24 54.4**	**+1.5**
INSR	**Institute**	**0.64**	**339**	PN	**Pn**	**18 24 43.5**	**+0.5**
INSR				S	**Sn**	**18 24 53.7**	**+0.6**
NLC	**Nalytchevo**	**0.73**	**17**	PN	**Pn**	**18 24 43.5**	**-0.6**
NLC				S	**Sn**	**18 24 54.0**	**-1.0**
UGLR	**Uglovaya**	**0.75**	**353**	PN	**Pn**	**18 24 45.0**	**+0.6**
AVH	**Avacha**	**0.81**	**349**	PN	**Pn**	**18 24 46.0**	**+0.9**
KOK	**Koryaka**	**0.85**	**346**	PN	**Pn**	**18 24 46.7**	**+1.1**
SPN	**Mys Shipunski**	**0.89**	**45**	PN	**Pn**	**18 24 45.8**	**-0.2**
SPN				S	**Sn**	**18 24 59.1**	**+0.7**
**

comp=Z,5.0nm,1.6s
YAK Yakutsk 18.36 313 P **P 18 28 34.8 -3.5**
YAK IAmb IAmb 18 28 58.1
comp=Z,10.0nm,0.8s
YAK Yakutsk 18.36 313 P **Pn 18 28 38.1 -0.9**
comp=Z,5.2nm,0.3s,baz=105,slow=3.6,SNR=5.3
YAK LR LR 18 35 56.8
comp=Z,76nm,20.2s,baz=110,slow=38
YAK Yakutsk 18.36 313 *ce*P **Pn 18 28 37.8 -1.2**
YAK pmax pmax
comp=Z,7.0nm,0.6s
ZEA Zeya 19.02 286 *e*P **Pn 18 28 45.7 -1.3**
USRK Ussuriysk Ar. 19.67 256 LR LR 18 36 41.8
comp=Z,84nm,18.7s,baz=43,slow=37
MJB9 Matsu-Tunnel 21.63 231 P **P 18 29 14.7 +0.7**
MJB9 IAmb IAmb 18 29 16.6
comp=Z,22nm,1.1s
MAJO Matsushiro 21.63 231 P **P 18 29 13.8 -0.2**
MAJO IAmb IAmb 18 29 15.6
comp=Z,23nm,1.1s
MAJO Matsushiro 21.63 231 *i* P **P 18 29 14.1 +0.1**
MAJO pmax pmax
comp=Z,25nm,1.2s
MJAR Matsushiro Arr 21.63 231 P **P 18 29 14.7 +0.7**
comp=Z,7.5nm,1.0s,baz=26,slow=11,SNR=12
comp=Z,7.5nm,1.0s
F15K North Star Dit 22.49 40 P **P 18 29 23.3 +0.4**
C16K Lisburne Hills 23.19 33 P **P 18 29 29.6 -0.5**
C16K IAmb IAmb 18 29 30.8
comp=Z,8.4nm,0.8s
G16K Koyuk River 23.31 41 P **P 18 29 31.4 +0.1**
G16K IAmb IAmb 18 29 33.6
comp=Z,11nm,1.3s
TIXI Tiksi 23.38 336 P **P 18 29 31.1 -0.7**
TIXI Tiksi 23.38 336 P **P 18 29 31.1 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
N15K Kwethluk River 23.62 55 P **P 18 29 34.7 +0.4**
CN2 Changchun 23.82 262 *e*P **P 18 29 34.9 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
RDOG Red Dog Mine 23.94 35 P **P 18 29 36.1 -0.9**
RDOG IAmb IAmb 18 29 39.3
comp=Z,22nm,1.0s
F17K Baldwin Pennin 24.03 39 P **P 18 29 38.6 +0.8**
F17K IAmb IAmb 18 29 40.1
comp=Z,7.5nm,0.8s
M16K Timber Creek 24.20 53 P **P 18 29 40.2 +0.8**
M16K IAmb IAmb 18 29 52.8
comp=Z,19nm,1.4s
H17K Granite Mounta 24.21 43 P **P 18 29 39.3 -0.2**
J17K VABM Dome 24.32 47 P **P 18 29 39.6 -0.9**
J17K IAmb IAmb 18 29 44.3
comp=Z,9.1nm,1.1s
E18K Tukpahlearik C 24.55 37 **P 18 29 42.4 -0.2**
E18K IAmb IAmb 18 29 44.6
comp=Z,11nm,1.3s
C18K Utukok River 24.75 34 P **P 18 29 44.4 0.0**
C18K IAmb IAmb 18 29 46.6
comp=Z,14nm,0.8s
H18K Honhosa River 24.89 43 P **P 18 29 45.4 -0.3**
H18K IAmb IAmb 18 29 48.5
comp=Z,10nm,1.3s
G18K Tagagawik 24.92 41 P **P 18 29 45.8 -0.1**
G18K IAmb IAmb 18 30 19.7
comp=Z,8.7nm,1.2s
M17K Holitna River 24.95 52 P **P 18 29 46.6 +0.4**
M17K IAmb IAmb 18 30 00.3
comp=Z,24nm,1.4s
R16K Pilot Point 25.08 61 P **P 18 29 47.5 +0.1**
F19K Shaleruckik Mo 25.47 39 P **P 18 29 51.4 +0.6**
TTA Tatalina 25.67 48 P **P 18 29 51.3 -1.6**
TTA Tatalina 25.67 48 P **P 18 29 51.3 -1.6**
TTA pmax pmax
comp=Z,6.0nm,1.1s
D19K Kuna River 25.77 35 P **P 18 29 52.7 -0.9**
D19K IAmb IAmb 18 29 59.0
comp=Z,11nm,1.2s
E19K Redstone River 25.82 38 P **P 18 29 53.2 -0.8**
J19K Poorman 25.92 46 P **P 18 29 53.9 -1.1**
KSRS Korea Array 26.36 248 P **P 18 30 00.1 +1.0**
comp=Z,1.2nm,0.8s,baz=52,slow=13,SNR=3.1
KSRS LR LR 18 38 57.9
comp=Z,41nm,21.3s,baz=10.0,slow=33
comp=Z,1.2nm,0.8s
J20K Nowinta River 26.58 46 P **P 18 30 00.7 -0.2**
B21K Ikpikpuk River 27.29 34 P **P 18 30 07.2 -0.1**
B21K IAmb IAmb 18 30 08.8
comp=Z,6.8nm,0.8s
D22K Ayikyak River 27.79 36 P **P 18 30 12.3 +0.5**
D22K IAmb IAmb 18 30 29.2
comp=Z,6.2nm,1.2s
JNU Nakatsue 27.99 237 LR LR 18 41 02.5
comp=Z,33nm,18.1s,baz=14,slow=35
D23K Nanushuk River 28.52 36 P **P 18 30 18.2 0.0**
C23K Itkillik River 28.70 34 P **P 18 30 18.8 -1.0**
E23K Chandalar 28.78 38 P **P 18 30 20.7 0.0**
E23K IAmb IAmb 18 30 22.6
comp=Z,4.9nm,1.0s
E24K Your Creek 29.20 38 P **P 18 30 24.5 +0.2**
E24K IAmb IAmb 18 30 28.6
comp=Z,6.2nm,1.4s
KNK Knik Glacier 29.26 51 P **P 18 30 24.6 -0.2**
SML Sawmill 29.28 51 P **P 18 30 24.3 -0.8**
F24K Squaw Lake 29.38 39 P **P 18 30 24.5 -1.4**
G24K Hadweenzic Riv 29.50 41 P **P 18 30 25.2 -1.7**
G24K IAmb IAmb 18 30 32.3
comp=Z,8.1nm,1.4s
ILAR Eielson Array 29.73 44 P **P 18 30 28.9 -0.2**
comp=Z,2.2nm,0.8s,baz=264,slow=8.1,SNR=22
ILAR PcP **PcP 18 33 30.2 -1.0**
comp=Z,0.2nm,0.5s,baz=288,slow=3.7,SNR=1.9
comp=Z,2.2nm,0.8s
SCM Sheep Creek Mo 29.75 50 P **P 18 30 29.3 0.0**
SCM Sheep Creek Mo 29.75 50 P **P 18 30 29.3 0.0**
SCM pmax pmax
comp=Z,42nm,1.5s
D25K Kavik River 30.09 35 **P 18 30 32.0 -0.2**
D25K IAmb IAmb 18 30 32.9
comp=Z,5.8nm,0.7s
J25K Salcha River, 30.39 45 P **P 18 30 33.6 -1.3**
BMAR Burnt Mountain 30.65 39 P **P 18 30 37.6 +0.5**
SCRK Sand Creek 31.04 46 P **P 18 30 39.7 -1.0**
SCRK IAmb IAmb 18 30 40.8
comp=Z,4.0nm,1.0s
C27K Jago River 31.05 35 P **P 18 30 41.2 +0.5**
C27K IAmb IAmb 18 31 00.5
comp=Z,8.0nm,1.4s
N25K Chitina, Valde 31.07 51 P **P 18 30 41.3 +0.4**
D27M Malcolm River 32.01 36 P **P 18 30 49.2 +0.1**
L27K Beaver Creek, 32.12 47 P **P 18 30 51.0 +0.9**
L27K IAmb IAmb 18 30 52.4
comp=Z,8.5nm,0.9s
BCAR Beaver Creek A 32.14 47 P **P 18 30 51.2 +0.9**
EGAK Eagle 32.18 44 P **P 18 30 49.2 -1.3**
EGAK IAmb IAmb 18 30 51.0
comp=Z,5.6nm,0.9s
M27K Edge Creek, AK 32.21 49 P **P 18 30 52.1 +1.1**
M27K IAmb IAmb 18 30 54.0
comp=Z,11nm,1.2s
F28M Old Crow 32.45 39 P **P 18 30 53.7 +0.7**
I28M Miner Creek 32.62 43 P **P 18 30 54.3 -0.2**
I28M IAmb IAmb 18 31 10.8
comp=Z,3.5nm,1.2s
E29M Blow River 33.15 37 P **P 18 30 59.7 +0.8**
E29M IAmb IAmb 18 31 34.3
comp=Z,6.6nm,1.4s
H29M Whitestone 33.17 41 P **P 18 30 59.9 +0.7**
G29M Pine Creek 33.23 40 P **P 18 31 00.5 +0.8**
H11N2 WAKE ISLAND Hy 33.25 166 T T 19 06 52.2
baz=352,slow=76,SNR=607
H11N3 WAKE ISLAND Hy 33.27 166 T T 19 06 54.1
baz=352,slow=76,SNR=492
H11N1 WAKE ISLAND Hy 33.27 166 T T 19 06 55.0
baz=352,slow=76,SNR=541
SONM Songino Array 33.39 283 PcP **PcP 18 33 41.7 +0.2**
comp=Z,0.6nm,0.6s,baz=92,slow=2.3,SNR=4.0
SONM LR LR 18 45 19.3
comp=Z,123nm,19.0s,baz=48,slow=38
M29M Somme Creek 33.75 48 P **P 18 31 05.7 +1.2**
M29M IAmb IAmb 18 31 24.6
comp=Z,6.6nm,1.3s
L29M L29M 33.77 47 P **P 18 31 05.5 +1.0**
I30M Mount Dempster 34.13 43 P **P 18 31 07.8 +0.1**
I30M IAmb IAmb 18 31 08.7
comp=Z,2.9nm,0.8s
H11S1 WAKE ISLAND Hy 34.43 167 T T 19 08 26.4
baz=352,slow=76,SNR=128
H11S3 WAKE ISLAND Hy 34.44 167 T T 19 08 27.3
baz=352,slow=76,SNR=172
H11S2 WAKE ISLAND Hy 34.45 167 T T 19 08 28.2
baz=352,slow=76,SNR=62
HYT Haines Junctio 34.59 51 P **P 18 31 12.3 +0.7**
WHY Whitehorse 35.87 50 P **P 18 31 23.8 +1.2**
WHY IAmb IAmb 18 31 24.9
comp=Z,4.5nm,0.8s
ZALV Zalesovo Beam 42.55 303 PcP **PcP 18 34 09.3 -0.2**
comp=Z,0.5nm,0.4s,baz=80,slow=2.0,SNR=2.9
ZALV LR LR 18 49 50.5
comp=Z,79nm,18.3s,slow=36
EUNU Eureka 42.72 13 P **P 18 32 19.9 +0.5**
YKA Yellowknife Ar 44.08 42 P **P 18 32 30.3 -0.1**
comp=Z,0.8nm,0.8s,baz=298,slow=8.2,SNR=8.1
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 44.08 42 *i* P **P 18 32 31.7 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
RES Resolute Bay 44.15 22 **P 18 32 31.3 +0.4**
RES IAmb IAmb 18 32 32.2
comp=Z,4.3nm,0.8s
RES Resolute Bay 44.15 22 P **P 18 32 31.3 +0.4**
RES pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 47.49 302 P **P 18 32 55.1 -2.3**
KURK IAmb IAmb 18 32 56.8
comp=Z,4.3nm,1.2s
KURK Kurchatov 47.49 302 *ce*P **P 18 32 56.5 -1.0**
KURK pmax pmax
comp=Z,4.0nm,1.2s
KURBB Kurchatov Arra 47.59 302 P **P 18 32 56.4 -1.9**
comp=Z,0.6nm,0.4s,baz=62,slow=7.5,SNR=4.9
KURBB PcP **PcP 18 34 26.4 -0.6**
comp=Z,0.3nm,0.4s,baz=55,slow=3.5,SNR=4.8
KURBB LR LR 18 53 25.7
comp=Z,63nm,19.8s,baz=174,slow=37
comp=Z,0.6nm,0.4s
SPITS Spitsbergen Ar 47.64 350 P **P 18 32 57.4 -0.9**
comp=Z,1.2nm,0.4s,baz=56,slow=7.4,SNR=20
comp=Z,1.2nm,0.4s
SPITS Spitsbergen Ar 47.64 350 P **P 18 32 57.6 -0.7**
SPITS pmax pmax
comp=Z,39nm,1.3s
MK31 Makanchi Array 47.82 296 P **P 18 32 55.5 -4.6**
MK31 Makanchi Array 47.82 296 P **P 18 32 55.5 -4.6**
MK31 pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 47.82 296 P **P 18 32 55.7 -4.4**
MKAR Makanchi Array 47.82 296 P **P 18 32 58.2 -1.9**
comp=Z,0.4nm,0.5s,baz=53,slow=6.4,SNR=7.4
MKAR LR LR 18 53 14.9
comp=Z,113nm,19.8s,baz=14,slow=36
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 47.82 296 *i* P **P 18 32 59.2 -0.9**
BVAR Borovoye Array 50.25 308 P **P 18 33 16.9 -1.6**
comp=Z,1.0nm,0.5s,baz=52,slow=7.4,SNR=6.9
BVAR PcP **PcP 18 34 36.2 -0.5**
comp=Z,0.9nm,0.6s,baz=77,slow=4.5,SNR=4.0
comp=Z,1.0nm,0.5s
BRVK Borovoye 50.28 308 *ce*P **P 18 33 16.5 -2.3**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
NEW Newport 50.80 59 LR LR 18 55 33.3
comp=Z,51nm,18.7s,baz=292,slow=37
ARCES ARCESS Array B 53.67 342 P **P 18 33 42.5 -1.2**
comp=Z,2.3nm,0.8s,baz=37,slow=7.5,SNR=6.3
comp=Z,2.3nm,0.8s
SUMG Summit 54.66 6 P **P 18 33 50.8 -0.6**
SUMG Summit 54.66 6 P **P 18 33 50.8 -0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.2s
KIRV Kirov 55.49 323 LR LR 19 02 59.4
comp=Z,156nm,18.9s,baz=333,slow=42
NVAR Mina Array Bea 56.59 69 P **P 18 34 07.8 +2.2**
comp=Z,0.6nm,0.4s,baz=291,slow=9.4,SNR=4.3
comp=Z,0.6nm,0.4s
YNE Yellowstone No 56.64 58 P **P 18 34 05.3 -0.5**
YNE IAmb IAmb 18 34 08.3
comp=Z,3.7nm,1.1s
CMAR Chiang Mai Arr 57.39 257 P **P 18 34 12.4 +1.4**
comp=Z,0.5nm,0.6s,baz=23,slow=7.2,SNR=4.6
CMAR LR LR 19 01 55.4
comp=Z,25nm,18.6s,baz=40,slow=39
comp=Z,0.5nm,0.6s
PD31 Pinedale Array 58.42 60 P **P 18 34 19.1 +0.8**
PDAR Pinedale Array 58.42 60 P **P 18 34 19.2 +0.9**
PDAR Pinedale Array 58.42 60 P **P 18 34 19.4 +1.1**
comp=Z,2.9nm,0.8s,baz=321,slow=2.6,SNR=26
comp=Z,2.9nm,0.8s
RSSD Black Hills 60.31 55 P **P 18 34 30.9 -0.4**
RSSD Black Hills 60.31 55 P **P 18 34 30.9 -0.4**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 60.42 336 P **P 18 34 30.9 -0.6**
comp=Z,2.9nm,0.8s,baz=36,slow=4.9,SNR=6.2
comp=Z,2.9nm,0.8s
PMG Port Moresby 62.46 193 LR LR 19 00 49.7
comp=Z,47nm,19.2s,baz=53,slow=35
OBN Obninsk 62.67 327 ‖ *e*P **P 18 34 46.5 -0.2**
OBN *PP **pP 18 35 05.0 +1.4**
OBN *SP **sP 18 35 08.0 -2.7**
OBN *e* 18 43 49.8
OBN SS SS 18 47 16.0 +1.7
OBN SSS SSS 18 50 08.0
OBN pmax pmax
comp=Z,13nm,2.0s
NB2 NORSAR Subarra 63.95 343 P **P 18 34 54.5 -0.6**
comp=Z,1.8nm,0.5s,baz=22,slow=6.5
NB2 NORSAR Subarra 63.95 343 P **P 18 34 54.7 -0.4**
NOA NORSAR Array B 63.95 343 P **P 18 34 54.7 -0.4**
comp=Z,2.0nm,0.6s,baz=21,slow=6.6,SNR=8.8
comp=Z,2.0nm,0.6s
NORES NORESS Array B 64.17 343 P **P 18 34 56.2 -0.4**
HFS Hagfors 64.33 342 P **P 18 34 56.9 -0.7**
comp=Z,2.1nm,0.4s,baz=74,slow=4.3,SNR=17
comp=Z,2.1nm,0.4s
SCHQ Schefferville 66.51 27 P **P 18 35 11.4 -0.3**
comp=Z,2.3nm,0.7s,baz=68,slow=9.4,SNR=2.6
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 68.80 328 P **P 18 35 25.1 -1.1**
comp=Z,0.8nm,0.4s,baz=32,slow=5.9,SNR=14
AKASG LR LR 19 11 21.8
comp=Z,72nm,18.1s,baz=338,slow=41
comp=Z,0.8nm,0.4s
KBZ Khabaz 69.52 316 LR LR 19 11 09.5
comp=Z,31nm,20.2s,baz=355,slow=40
TXAR Lajitas Array 71.50 66 P **P 18 35 44.6 +1.3**
comp=Z,3.5nm,0.7s,baz=298,slow=4.6,SNR=29
comp=Z,3.5nm,0.7s
EKA Eskdalemuir Ar 71.55 349 P **P 18 35 42.9 0.0**
comp=Z,1.2nm,0.5s,baz=20,slow=5.4,SNR=8.4
comp=Z,1.2nm,0.5s
CLL Collm 72.69 338 *i* P **P 18 35 49.1 -0.7**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 72.69 338 *i* P **P 18 35 49.1 -0.7**
comp=Z,9.0nm,1.2s
KHC Kasperske Hory 74.59 337 *ce*P **P 18 36 02.7 +1.6**
KHC pmax pmax
comp=Z,5.0nm,1.3s
GERES GERESS Array B 74.83 337 P **P 18 36 01.6 -0.9**
comp=Z,0.6nm,0.5s,baz=19,slow=3.5,SNR=3.6
GERES LR LR 19 17 59.1
comp=Z,64nm,18.7s,baz=354,slow=43
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 75.23 204 P **P 18 36 05.2 +0.3**
comp=Z,3.0nm,0.8s,baz=18,slow=5.9,SNR=9.9
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 75.23 204 *i* P **P 18 36 05.6 +0.7**
WRA pmax pmax
comp=Z,3.0nm,0.8s
GIVF Givet 75.48 343 *e*P **P 18 36 05.8 -0.3**
GIVF pmax pmax
comp=Z,7.0nm,0.8s
BAIF Baives 75.63 344 *e*P **P 18 36 06.8 -0.2**
BAIF pmax pmax
comp=Z,18nm,1.2s
LESA Schwarzleotal 76.40 337 *e*P **P 18 36 12.1 +0.6**
comp=Z,2.2nm,0.6s
SOKA Sooboth 76.52 335 *e*P **P 18 36 12.3 +0.1**
comp=Z,3.9nm,1.1s
KBA Koelnbreinsper 76.57 337 *i* P **P 18 36 13.4 +0.8**
comp=Z,13nm,0.9s
CDF Champ du Feu 76.64 341 *e*P **P 18 36 12.6 -0.3**
CDF pmax pmax
comp=Z,11nm,1.0s
BRTR Keskin Array B 76.67 320 P **P 18 36 12.8 -0.4**
comp=Z,0.4nm,0.7s,baz=41,slow=2.5,SNR=3.6
comp=Z,0.4nm,0.7s
WATA Walderalm 76.74 338 *e*P **P 18 36 13.2 -0.4**
comp=Z,6.2nm,1.3s
WTTA Wattenberg 76.80 338 *i* P **P 18 36 13.8 -0.1**
comp=Z,4.8nm,0.7s
OBKA Obir 76.80 336 *e*P **P 18 36 13.3 -0.5**
comp=Z,11nm,1.5s
MOTA Moosalm 76.84 338 *i* P **P 18 36 14.2 +0.1**
comp=Z,7.3nm,1.0s
SQTA Sankt Quirin 76.94 338 *e*P **P 18 36 15.5 +0.9**
comp=Z,8.8nm,1.1s
ABTA Abfaltersbach 77.08 337 *i* P **P 18 36 15.6 +0.2**
comp=Z,6.7nm,0.8s
DAVA Damuels 77.17 339 *i* P **P 18 36 16.2 +0.2**
comp=Z,3.1nm,0.8s
HAU Haudompre 77.22 342 *e*P **P 18 36 15.6 -0.4**
HAU pmax pmax
comp=Z,6.0nm,0.7s
FETA Feichten 77.23 338 *e*P **P 18 36 16.7 +0.4**
comp=Z,4.5nm,0.9s
FLN La Foliniere 77.64 346 *e*P **P 18 36 17.8 -0.5**
FLN pmax pmax
comp=Z,74nm,2.0s
GRR Gorron 78.06 346 *e*P **P 18 36 20.4 -0.3**
GRR pmax pmax
comp=Z,15nm,1.2s
LOR Lormes 78.39 343 *e*P **P 18 36 22.2 -0.3**
LOR pmax pmax
comp=Z,9.0nm,0.9s
SGMF Saint Gilles 78.43 348 *e*P **P 18 36 22.5 -0.2**
SGMF pmax pmax
comp=Z,54nm,1.7s
CABF La Chapelle 78.60 341 *e*P **P 18 36 23.8 0.0**
CABF pmax pmax
comp=Z,7.0nm,0.8s
SSF Saint Saulge 78.65 343 *e*P **P 18 36 23.7 -0.3**
SSF pmax pmax
comp=Z,7.0nm,0.9s
ASAR Alice Springs 78.92 203 P **P 18 36 26.6 +1.1**
comp=Z,2.2nm,0.6s,baz=14,slow=5.4,SNR=40
comp=Z,2.2nm,0.6s
AVF Avril sur Loir 78.94 343 *e*P **P 18 36 25.4 -0.1**
AVF pmax pmax
comp=Z,15nm,1.0s
SMF Signal de Mont 78.99 343 *e*P **P 18 36 25.6 -0.3**
SMF pmax pmax
comp=Z,5.0nm,0.9s
LPL La Plagne 79.52 341 *e*P **P 18 36 29.6 +0.6**
LPL pmax pmax
comp=Z,6.0nm,0.6s
LPG La Plagne 79.54 341 *e*P **P 18 36 29.8 +0.6**
LPG pmax pmax
comp=Z,10.0nm,0.9s
TCF Toulx Ste Croi 79.62 344 *e*P **P 18 36 29.4 +0.1**
TCF pmax pmax
comp=Z,6.0nm,0.9s
MFF Saint Martin d 79.70 346 *e*P **P 18 36 29.8 +0.1**
MFF pmax pmax
comp=Z,31nm,1.7s
ORIF Oris-en-Rattie 80.27 341 *e*P **P 18 36 33.4 +0.5**
ORIF pmax pmax
comp=Z,8.0nm,1.0s
MBDF Montbardon 80.27 340 *e*P **P 18 36 35.1 +2.1**
MBDF pmax pmax
comp=Z,8.0nm,1.2s
VIVF Saint-Julien-l 80.56 342 *e*P **P 18 36 34.8 +0.4**
VIVF pmax pmax
comp=Z,10.0nm,1.0s
RJF Les Rejaudoux 80.70 344 *e*P **P 18 36 35.4 +0.3**
RJF pmax pmax
comp=Z,6.0nm,1.0s
CAF Calviac 80.97 344 *e*P **P 18 36 37.2 +0.6**
CAF pmax pmax
comp=Z,8.0nm,0.9s
LFF La Frestale 81.18 345 *e*P **P 18 36 38.1 +0.5**
LFF pmax pmax
comp=Z,5.0nm,0.6s
MMAI Mount Meron Ar 81.68 315 P **P 18 36 40.4 -0.2**
comp=Z,0.9nm,0.4s,baz=42,slow=6.7,SNR=1.7
comp=Z,0.9nm,0.4s
PGF Pioggiola 81.86 338 *e*P **P 18 36 41.8 +0.4**
PGF pmax pmax
comp=Z,11nm,1.1s
EPF Esparros 83.10 344 *e*P **P 18 36 48.5 +0.7**
EPF pmax pmax
comp=Z,3.0nm,0.7s
SJPF Ste Jean 83.27 346 *e*P **P 18 36 49.9 +1.3**
SJPF pmax pmax
comp=Z,9.0nm,1.2s
ETSF Etsaut 83.38 345 *e*P **P 18 36 49.9 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,0.8s
ESDC Sonseca Array 87.04 347 P **P 18 37 06.9 -0.7**
comp=Z,1.5nm,0.8s,baz=4.8,slow=4.1,SNR=8.7
comp=Z,1.5nm,0.8s
KEST Kesra 88.25 336 P **P 18 37 13.4 -0.1**
comp=Z,5.8nm,1.1s,baz=18,slow=8.8,SNR=2.9
comp=Z,5.8nm,1.1s
H03N2 Juan Fernandez 134.88 89 T T 21 13 58.2
baz=315,slow=77,SNR=50
H03N1 Juan Fernandez 134.89 89 T T 21 14 00.3
baz=315,slow=77,SNR=61
H03N3 Juan Fernandez 134.89 89 T T 21 13 57.3
baz=315,slow=77,SNR=50
QSPA South Pole Qui 142.21 180 PKhKP PKPpre 18 43 47.3
comp=Z,1.3nm,0.9s,baz=295,slow=3.8,SNR=4.3
PLCA Paso Flores 144.68 91 PKP **PKPab 18 43 57.5 +0.6**
comp=Z,2.1nm,0.7s,baz=293,slow=4.4,SNR=7.1

---

*JMA **14** 18:33:44.9±0.2,24°.7N±0°.5×121°.9E±0°.5,h70km±2km,*
MV2.3/11,TAIWAN REGION
*TAP **14** 18:33:45.1,24°.74N×121°.90E,h71km,ML3.0,B*
ISC 14 18:33:45.1±1.3,**24°.75N**±0°.03×**121°.93E**±0°.03,**h73**km±6km,
n71,g0**s55**/117,**4C,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TWC	**Suao**	**0.16**	**206**	⇑*i*P		**Pn**	**18 33 55.9**	**0.0**
TWC				*i* S		**Sn**	**18 34 03.6**	**-0.2**
ILA	**Ilan**	**0.16**	**276**	P		**Pn**	**18 33 56.2**	**+0.3**
ILA				*e*S		**Sn**	**18 34 04.5**	**+0.7**
ESAO	**Su ao**	**0.19**	**203**	*e*P		**Pn**	**18 33 55.9**	**-0.1**
ESAO				*e*S		**Sn**	**18 34 03.4**	**-0.6**
NDS	**Dongshan**	**0.22**	**239**	P		**Pn**	**18 33 56.5**	**+0.3**
NDS				*e*S		**Sn**	**18 34 04.9**	**+0.6**
TWE	**Neicheng**	**0.24**	**263**	*i* P		**Pn**	**18 33 56.5**	**+0.2**
TWE				*i* S		**Sn**	**18 34 04.8**	**+0.4**
TIPB	**Shuangxi**	**0.24**	**338**	⇑*i*P		**Pn**	**18 33 56.4**	**+0.1**
TIPB				*i* S		**Sn**	**18 34 04.4**	**-0.1**
TWB1	**Santiao Chiao**	**0.26**	**13**	⇑*i*P		**Pn**	**18 33 56.5**	**+0.1**
TWB1				*i* S		**Sn**	**18 34 04.6**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.31**	**272**	⇑*i*P		**Pn**	**18 33 56.8**	**0.0**
FUSB				*i* S		**Sn**	**18 34 05.0**	**-0.3**
EWUT	**Wuta**	**0.33**	**204**	P		**Pn**	**18 33 56.9**	**+0.1**
EWUT				S		**Sn**	**18 34 05.2**	**-0.2**
ENTT	**Nioudou**	**0.34**	**252**	*i* P		**Pn**	**18 33 57.2**	**+0.3**
ENTT				*i* S		**Sn**	**18 34 05.9**	**+0.3**
NWF	**Wu-fen Shan**	**0.35**	**338**	*i* P		**Pn**	**18 33 57.1**	**+0.1**
NWF				*i* S		**Sn**	**18 34 05.9**	**+0.1**
SXI1	**Grass Mountain**	**0.35**	**353**	*e*P		**Pn**	**18 33 57.2**	**+0.1**
SXI1				*e*S		**Sn**	**18 34 06.2**	**+0.4**
WFSB	**Wu-fen Shan**	**0.35**	**338**	*i* P		**Pn**	**18 33 57.3**	**+0.4**
WFSB				*i* S		**Sn**	**18 34 06.1**	**+0.4**
ENA	**Nanau**	**0.36**	**208**	*i* P		**Pn**	**18 33 56.9**	**-0.1**
ENA				*i* S		**Sn**	**18 34 05.7**	**-0.1**
NWLT	**Wulai**	**0.39**	**274**	*e*P		**Pn**	**18 33 57.1**	**-0.2**
NWLT				*i* S		**Sn**	**18 34 05.2**	**-1.0**
LATG	**Datong**	**0.42**	**240**	P		**Pn**	**18 33 57.6**	**0.0**
LATG				*i* S		**Sn**	**18 34 07.3**	**+0.5**
EOS2	**EOS2**	**0.43**	**140**	*e*P		**Pn**	**18 33 57.9**	**+0.5**
NHY	**Taipei**	**0.43**	**312**	*e*P		**Pn**	**18 33 57.9**	**+0.3**
NHY				*i* S		**Sn**	**18 34 07.6**	**+0.8**
EAHA	**Aohua**	**0.45**	**202**	*e*P		**Pn**	**18 33 57.4**	**-0.3**
EAHA				*e*S		**Sn**	**18 34 06.8**	**-0.3**
TATO	**Taipei**	**0.46**	**300**	P		**Pn**	**18 33 57.7**	**-0.1**
TATO	**Taipei**	**0.46**	**300**	S		**Sn**	**18 34 06.5**	**-0.6**
TAP	**Taipei**	**0.48**	**307**	*i* P		**Pn**	**18 33 58.5**	**+0.5**
TAP				*i* S		**Sn**	**18 34 08.0**	**+0.5**
YHNB	**Yeheng**	**0.51**	**261**	P		**Pn**	**18 33 58.1**	**-0.2**
YHNB	**Yeheng**	**0.51**	**261**	*i* P		**Pn**	**18 33 58.2**	**-0.2**

YHNB			*i* S		**Sn**	**18 34 07.6**	**-0.5**
YM01	**YM01**	**0.51 321**	P		**Pn**	**18 33 58.5**	**+0.2**
YM01			S		**Sn**	**18 34 07.8**	**-0.3**
NSK	**Sanguang**	**0.52 262**	*i* P		**Pn**	**18 33 58.4**	**-0.1**
NSK			*i* S		**Sn**	**18 34 07.5**	**-0.8**
YM08	**YM08**	**0.53 325**	*i* P		**Pn**	**18 33 58.6**	**+0.1**
YM08			*i* S		**Sn**	**18 34 07.9**	**-0.6**
ZUZH	**Zhuzihu**	**0.54 320**	*e*P		**Pn**	**18 33 58.8**	**+0.3**
ZUZH			S		**Sn**	**18 34 08.4**	**-0.1**
TWS1	**Kuangyinshan**	**0.58 307**	P		**Pn**	**18 33 58.5**	**-0.4**
TWS1			S		**Sn**	**18 34 08.4**	**-0.7**
EOS3	**EOS3**	**0.58 142**	P		**Pn**	**18 33 59.2**	**+0.3**
NNSB	**Datong**	**0.59 237**	*i* P		**Pn**	**18 33 59.1**	**0.0**
NNSB			*e*S		**Sn**	**18 34 09.2**	**-0.4**
NNS	**Nan Shan**	**0.59 239**	P		**Pn**	**18 33 59.3**	**+0.1**
NNS			*i* S		**Sn**	**18 34 09.4**	**-0.2**
NTST	**Danshui**	**0.60 314**	*e*P		**Pn**	**18 33 59.8**	**+0.7**
NTST			*i* S		**Sn**	**18 34 09.8**	**+0.3**
TWY	**Chenhua**	**0.60 331**	*e*P		**Pn**	**18 33 59.8**	**+0.6**
NACB	**Ninganchiao**	**0.65 208**	P		**Pn**	**18 33 58.9**	**-0.8**
NACB	**Ninganchiao**	**0.65 208**	*e*P		**Pn**	**18 33 58.7**	**-1.0**
NACB			*e*S		**Sn**	**18 34 09.7**	**-0.7**
ETL	**Fush Village**	**0.65 205**	*e*P		**Pn**	**18 34 00.6**	**+0.8**
ETLH	**Xiulin Townshi**	**0.67 217**	*e*P		**Pn**	**18 33 59.5**	**-0.6**
KSHI	**Guanxi Townshi**	**0.68 272**	*e*P		**Pn**	**18 34 00.1**	**+0.1**
KSHI			*i* S		**Sn**	**18 34 11.4**	**+0.3**
NCUH	**Zhongli**	**0.71 288**	*e*S		**Sn**	**18 34 11.9**	**+0.3**
EOS4	**EOS4**	**0.72 150**	P		**Pn**	**18 33 59.7**	**-0.4**
EOS4			*e*S		**Sn**	**18 34 11.1**	**-0.1**
TWD	**Chiawan**	**0.73 204**	*e*P		**Pn**	**18 34 00.5**	**-0.1**
NFF	**Wufeng Townshi**	**0.74 261**	*e*P		**Pn**	**18 34 00.8**	**0.0**
NFF			*i* S		**Sn**	**18 34 11.7**	**-0.6**
FUSS	**Fushou**	**0.80 231**	*e*P		**Pn**	**18 34 01.8**	**+0.2**
FUSS			*i* S		**Sn**	**18 34 13.2**	**-0.6**
LIOB	**Emei**	**0.83 263**	*e*P		**Pn**	**18 34 01.9**	**+0.1**
LIOB			S		**Sn**	**18 34 12.8**	**-1.3**
TWT	**Tachien**	**0.84 234**	P		**Pn**	**18 34 02.3**	**+0.3**
TWT			*e*S		**Sn**	**18 34 13.9**	**-0.7**
WHF	**Hehuan Shan**	**0.85 225**	*e*P		**Pn**	**18 34 02.5**	**+0.2**
WHF			*e*S		**Sn**	**18 34 14.8**	**-0.4**
SBCB	**Hsinchu**	**0.85 273**	*e*S		**Sn**	**18 34 15.0**	**+0.5**
TDCB	**Techi**	**0.86 235**	*e*P		**Pn**	**18 34 02.7**	**+0.6**
LXIB	**Xiulin Townshi**	**0.86 213**	*e*P		**Pn**	**18 34 01.1**	**-1.1**
HSN	**Hsinchu**	**0.87 274**	*e*S		**Sn**	**18 34 13.8**	**-1.0**
ETM	**Tongmen**	**0.87 207**	*e*P		**Pn**	**18 34 03.0**	**+0.7**
JYNG	**Yonagunijimaku**	**0.97 108**	P		**Pn**	**18 34 03.2**	**-0.2**
WHP	**Taichung City**	**1.01 242**	P		**Pn**	**18 34 04.4**	**+0.4**
WHP			*i* S		**Sn**	**18 34 18.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.03 106**	P		**Pn**	**18 34 03.9**	**-0.2**
OWD	**Renai**	**1.05 221**	*e*P		**Pn**	**18 34 06.1**	**+1.6**
OWD			S		**Sn**	**18 34 17.9**	**-1.0**
NMLH	**Miaoli**	**1.05 259**	*e*S		**Sn**	**18 34 19.1**	**+0.3**
WUSB	**Renai**	**1.05 224**	*e*P		**Pn**	**18 34 04.6**	**+0.1**
WUSB			*i* S		**Sn**	**18 34 18.7**	**-0.3**
NSY	**Sanyi**	**1.11 253**	*e*S		**Sn**	**18 34 18.1**	**-2.0**
WARBT	**Fenglin Townsh**	**1.14 206**	*e*P		**Pn**	**18 34 05.4**	**-0.1**
WCS	**Beigang Elemen**	**1.15 233**	*e*S		**Sn**	**18 34 21.1**	**0.0**
SSLB	**Suanglung**	**1.30 223**	P		**Pn**	**18 34 08.2**	**+0.6**
SSLB	**Suanglung**	**1.30 223**	*e*P		**Pn**	**18 34 08.2**	**+0.6**
SSLB			*e*S		**Sn**	**18 34 25.0**	**+0.5**
WNT	**Mingjian**	**1.43 233**	*e*S		**Sn**	**18 34 27.6**	**+0.3**
WHYT	**Xinyi Township**	**1.43 223**	*e*P		**Pn**	**18 34 10.2**	**+0.9**
WHYT			*e*S		**Sn**	**18 34 28.2**	**+0.7**
YULB	**Yu-li**	**1.47 203**	P		**Pn**	**18 34 11.5**	**+1.7**
IRIF	**Iriomote-Funau**	**1.69 104**	P		**Pn**	**18 34 12.4**	**-0.3**
IRIF			*e*S		**Sn**	**18 34 33.2**	**-0.4**
JKRS	**Kuro-shima**	**1.97 105**	P		**Pn**	**18 34 16.6**	**+0.2**
JKRS			S		**Sn**	**18 34 40.2**	**+0.1**
JIJ	**Ishigaki jima**	**2.06 100**	P		**Pn**	**18 34 17.4**	**-0.1**
JIJ			*e*S		**Sn**	**18 34 41.8**	**-0.5**
JISG	**Ishigakijimahi**	**2.18 94**	P		**Pn**	**18 34 19.4**	**+0.3**
JISG			*e*S		**Sn**	**18 34 45.4**	**+0.2**
MATB	**Ma-tsu**	**2.27 308**	*i* P		**Pn**	**18 34 20.2**	**-0.2**
MATB			*i* S		**Sn**	**18 34 46.4**	**-1.0**

*SJA **14** 18:41:59.2±0.6, 23°.96S×66°.86W, h212km±5km, ML3.4, MW3.5*
*GUC **14** 18:41:59.9±0.5, 23°.97S×66°.86W, h210km±7km, ML3.7*
ISC 14 18:41:58.9±1.9, **23°.98S**±0°.04×**66°.82W**±0°.05,
h213km±16km, **n23**, σ1§**22**/35, **1C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.50**	**119**	*e*P	**Pn**	**18 42 28.7**	**+0.5**
SLA	**San Lorenzo**	**1.41**	**122**	*e*P	**Pn**	**18 42 34.1**	**+0.9**
SLA				*e*S	**S**	**18 43 00.7**	**+1.0**
SLA	**San Lorenzo**	**1.41**	**122**	*e*P	**Pn**	**18 42 33.9**	**+0.7**
AF01	**San Pedro de A**	**1.62**	**309**	*e*P	Pn	18 42 24.1	-11
AF01				*e*S	**S**	**18 43 01.8**	**-1.3**
AF01				IAML		18 43 02.1	
	comp=Z,174nm,0.1s						
YJA	**Yavi**	**2.16**	**34**	*e*P	**Pn**	**18 42 41.9**	**+1.3**
YJA				*e*S	**S**	**18 43 08.3**	**-4.3**
YJA	**Yavi**	**2.16**	**34**	*e*P	**Pn**	**18 42 41.1**	**+0.6**
YJA				*e*S	**S**	**18 43 12.7**	**+0.1**
FSA	**Cafayete**	**2.25**	**161**	*e*P	**Pn**	**18 42 41.7**	**+0.5**
FSA				*e*S	**S**	**18 43 13.0**	**-1.0**
ALOL	**LOMAS DE OLMED**	**2.60**	**87**	*e*P	Pn	18 42 50.9	+6.1
GO02	**Mina Guanaco**	**2.79**	**244**	*e*P	**Pn**	**18 42 48.0**	**+0.9**
GO02	**Mina Guanaco**	**2.79**	**244⇑**	*e*P	**Pn**	**18 42 48.0**	**+0.9**
GO02				*e*S	**S**	**18 43 24.6**	**+0.1**
GO02				IAML		18 43 25.0	
	comp=N,322nm,0.2s						
AHML	**Horco Molle**	**3.10**	**155**	*e*P	**Pn**	**18 42 50.2**	**-0.3**
AHML				*e*S	**S**	**18 43 30.4**	**-0.1**
PB09	**IPOC Station P**	**3.12**	**314**	*e*P	**Pn**	**18 42 52.1**	**+1.2**
PB09				*e*S	**S**	**18 43 31.5**	**+0.4**
PB09				IAML		18 43 33.5	
	comp=Z,49nm,0.2s						
PB09	**IPOC Station P**	**3.12**	**314**	*e*P	**Pn**	**18 42 51.9**	**+1.0**
PB09				*e*S	**S**	**18 43 30.9**	**-0.2**
PB09				IAML		18 43 34.3	
	comp=N,48nm,0.3s						
PB14	**IPOC Station P**	**3.34**	**258**	*e*P	**Pn**	**18 42 53.9**	**+0.4**
PB14				*e*S	**S**	**18 43 35.1**	**-0.8**
PB14				IAML		18 43 36.4	
	comp=Z,80nm,0.4s						
PB14	**IPOC Station P**	**3.34**	**258**	*e*P	**Pn**	**18 42 53.6**	**+0.1**
PB14				IAML		18 43 36.8	
	comp=E,50nm,0.6s						
AC02	**Maricunga**	**3.53**	**216**	*e*P	**Pn**	**18 42 58.7**	**+2.7**
AC02				*e*S	**S**	**18 43 39.1**	**-1.4**
PB01	**IPOC Station P**	**3.83**	**319**	*e*P	**Pn**	**18 42 59.5**	**+0.2**
PB01				*e*S	**S**	**18 43 46.1**	**-0.2**
PB01				IAML		18 43 47.3	
	comp=Z,50nm,0.2s						
PB01	**IPOC Station P**	**3.83**	**319**	*e*P	**Pn**	**18 42 59.4**	**+0.2**
AC01	**Pan de Azucar**	**4.05**	**237**	*e*P	**Pn**	**18 43 01.5**	**-0.3**
AC01				*e*S	**S**	**18 43 49.2**	**-1.9**
AC01				IAML		18 43 49.7	
	comp=Z,20nm,0.3s						
AC01	**Pan de Azucar**	**4.05**	**237**	*e*P	**Pn**	**18 43 01.4**	**-0.5**
PB08	**IPOC Station P**	**4.39**	**330**	*e*P	**Pn**	**18 43 06.9**	**+0.4**
PB08				*e*S	**S**	**18 43 59.0**	**-0.3**
PB08				IAML		18 44 04.5	
	comp=Z,30nm,0.5s						
PB08	**IPOC Station P**	**4.39**	**330**	*e*P	**Pn**	**18 43 07.4**	**+0.9**
TA01	**Diego Aracena**	**4.61**	**317**	*e*P	**Pn**	**18 43 09.4**	**+0.6**

*NEIC **14** 18:43:02.2±2.0, 9°.43N±0°.08×126°.2E±0°.1, h35km±1km, mb4.3/14, Error ellipse: s-maj=19.9km s-min=11.9km az=72.0*
*IDC **14** 18:43:09.8±3.1, 9°.83N×125°.97E, h75km±31km, mb3.7/17, mbtmp4.0/18, MS3.2/3, Error ellipse: s-maj=30.3km s-min=18.5km az=65.0*
ISC 14 18:43:03.9±0.5, **9°.39N**±0°.07×**126°.2E**±0°.1, **h50**km, **n40,**
σ1§**58**/37, **mb4.1**/24, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.39**	**195**	Pn	**Pn**	**18 43 39.2**	**-1.4**
DAV	**Davao City (W)**	**2.39**	**195**	P	Pn	18 43 51.2	+11
	108nm,0.3s,baz=17,slow=7.1,SNR=5.3						
DAV				S	Sn	18 44 24.9	+16
	142nm,0.4s,baz=301,slow=14,SNR=5.8						
DAV				LR	LR	18 45 11.2	
	comp=Z,501nm,19.7s,baz=18,slow=44						
TGY	**Tagaytay City**	**6.98**	**313**	LR	LR	18 47 10.4	
	comp=Z,92nm,22.0s,baz=121,slow=37						

TNTI	**Ternate**	**8.63**	**172**	Pn	**Pn**	**18 45 04.8**	**-1.6**
MYLDM	**Lahad Datu**	**8.73**	**242**	Pn	**Pn**	**18 45 06.7**	**-0.8**
TPUB	**Ta-pu**	**14.83**	**340**	Pn	**Pn**	**18 46 29.6**	**-1.1**
SBUM	**Sibu**	**15.53**	**245**	P	**P**	**18 46 48.6**	**+5.3**
MTN	**Manton Dam**	**22.62**	**167**	P	**P**	**18 48 01.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.94**	**292**	P	**P**	**18 48 51.7**	**+1.9**
	0.3nm,0.6s,baz=93,slow=6.7,SNR=7.0						
	0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**35.04**	**7**	LR	LR	19 03 51.7	
	comp=Z,54nm,20.0s,baz=41,slow=36						
MORW	**Morawa**	**39.47**	**194**	P	**P**	**18 50 28.8**	**-0.9**
MORW				IAmb	IAmb	18 50 36.0	
	comp=Z,23nm,1.5s						
ULN	**Ulaanbaatar**	**41.63**	**341**	P	**P**	**18 50 44.6**	**-2.8**
SONM	**Songino Array**	**41.83**	**340**	P	**P**	**18 50 46.9**	**-2.0**
SONM	**Songino Array**	**41.83**	**340**	P	**P**	**18 50 48.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=166,slow=9.2,SNR=5.2						
	comp=Z,0.4nm,0.4s						
NWAO	**Narrogin (SRO)**	**42.94**	**191**	P	**P**	**18 50 56.3**	**-1.8**
BBOO	**Buckleboo**	**43.00**	**168**	P	**P**	**18 50 59.4**	**+0.9**
BBOO				IAmb	IAmb	18 51 11.0	
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**43.59**	**161**	P	**P**	**18 51 02.5**	**-0.8**
STKA				IAmb	IAmb	18 51 36.2	
	comp=Z,8.9nm,1.2s						
STKA	**Stephens Creek**	**43.59**	**161**	P	P	18 51 10.6	+7.3
	comp=Z,0.9nm,0.4s,baz=312,slow=5.7,SNR=4.1						
	comp=Z,0.9nm,0.4s						
TOO	**Toolangi**	**50.08**	**160**	P	**P**	**18 51 54.4**	**+0.5**
TOO				IAmb	IAmb	18 52 27.2	
	comp=Z,9.1nm,1.5s						
PETK	**Petropavlovsk-**	**50.46**	**24**	P	**P**	**18 51 59.1**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=184,slow=5.9,SNR=1.1						
	comp=Z,1.7nm,0.6s						
YAK	**Yakutsk**	**52.61**	**2**	P	**P**	**18 52 11.1**	**-1.3**
MK31	**Makanchi Array**	**52.70**	**323**	P	**P**	**18 52 12.8**	**-0.7**
MK31				IAmb	IAmb	18 52 16.0	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**18 52 12.6**	**-0.9**
MKAR	**Makanchi Array**	**52.70**	**323**	P	**P**	**18 52 13.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=124,slow=8.0,SNR=12						
MKAR				PcP	**PcP**	**18 53 23.7**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=121,slow=4.6,SNR=1.4						
	comp=Z,1.2nm,0.6s						
MAKZ	**Makanchi**	**52.89**	**323**	P	**P**	**18 52 13.9**	**-1.0**
MAKZ				IAmb	IAmb	18 52 14.8	
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**55.37**	**332**	P	**P**	**18 52 30.7**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=129,slow=5.7,SNR=3.1						
	comp=Z,0.4nm,0.3s						
SEY	**Seymchan**	**56.68**	**14**	P	**P**	**18 52 42.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=168,slow=12,SNR=2.4						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**56.77**	**326**	P	**P**	**18 52 41.3**	**-1.5**
KURK				IAmb	IAmb	18 53 13.9	
	comp=Z,3.8nm,1.2s						
KURBB	**Kurchatov Arra**	**56.77**	**326**	P	**P**	**18 52 41.6**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=128,slow=6.9,SNR=7.1						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**62.36**	**326**	P	**P**	**18 53 21.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=8.5,SNR=3.9						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**67.51**	**320**	P	**P**	**18 53 53.2**	**-1.6**
ABKAR				IAmb	IAmb	18 54 19.0	
	comp=Z,2.3nm,1.4s						
ILAR	**Eielson Array**	**80.25**	**26**	P	**P**	**18 55 11.0**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=259,slow=6.1,SNR=4.1						
	comp=Z,0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**84.87**	**349**	P	**P**	**18 55 33.4**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=74,slow=6.2,SNR=5.2						
	comp=Z,2.1nm,0.6s						
ARCES	**ARCESS Array B**	**85.00**	**340**	P	**P**	**18 55 33.9**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=74,slow=6.2,SNR=6.4						
	comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**86.64**	**332**	P	**P**	**18 55 42.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=65,slow=4.9,SNR=10						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**87.21**	**321**	P	**P**	**18 55 44.3**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=66,slow=5.3,SNR=1.8						
	comp=Z,0.3nm,0.5s						
HFS	**Hagfors**	**92.80**	**332**	P	**P**	**18 56 10.3**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=69,slow=5.1,SNR=4.7						
	comp=Z,4.4nm,1.0s						
NOA	**NORSAR Array B**	**93.52**	**334**	P	**P**	**18 56 14.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=83,slow=6.2,SNR=1.5						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**94.58**	**24**	P	**P**	**18 56 19.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=297,slow=4.7,SNR=9.7						
	comp=Z,0.5nm,0.7s						
PLCA	**Paso Flores**	**145.42**	**157**	PKPbc	**PKiKP**	**19 02 41.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=235,slow=3.4,SNR=3.8						

*IDC **14** 18:45:16.5±1.9, 6°.57S×132°.30E, h0km, mb3.8/6, mbtmp3.9/9, ML4.0/3, MS3.4/4, Error ellipse: s-maj=76.5km s-min=24.8km az=81.0*
*NEIC **14** 18:45:21.7±1.5, 6°.59S±0°.05×132°.7E±0°.1, h35km±2km, mb4.5/5, Error ellipse: s-maj=20.8km s-min=9.1km az=95.0*
*DJA **14** 18:45:22.4±0.4, 6°S±2°×13°2E±°, h135km±8km, M4.4/12, mB4.7/3, mb4.4/6, MLv4.5/12, Mw(mB)4.0/3*
ISC 14 18:45:20.7±0.6, **6°.65S**±0°.05×**132°.39E**±0°.07, **h35**km, **n50,**
σ1§**96**/46, **mb3.8**/8, **MS3.2**/3, **1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**219**	Pn	Pn	18 45 53.2	+5.2
SAUI	**Saumlaki**	**1.71**	**219**	P	Pn	18 45 54.0	+6.0
SAUI				S	Sn	18 46 20.1	+11
KMPI	**Kaimana, Papua**	**3.25**	**24**	P	**Pn**	**18 46 11.0**	**+1.8**
KMPI				S	**Sn**	**18 46 48.1**	**+1.5**
FAKI	**Fak Fak**	**3.71**	**358**		**Pn**	**18 46 15.9**	**+0.4**
FAKI				Sn	**Sn**	**18 46 56.2**	**-1.9**
FAKI	**Fak Fak**	**3.71**	**358**	P	**Pn**	**18 46 16.4**	**+0.9**
FAKI	**Fak Fak**	**3.71**	**358**	P	**Pn**	**18 46 16.5**	**+0.9**
MSAI	**Masohi**	**4.76**	**313**	P	**Pn**	**18 46 30.5**	**+0.4**
RKPI	**Ransiki, Papua**	**5.41**	**19**	P	**Pn**	**18 46 40.0**	**+1.1**
RKPI				S	**Sn**	**18 47 41.0**	**+1.0**
SWI	**Sorong**	**5.86**	**349**	P	**Pn**	**18 46 45.1**	**0.0**
	0.4nm878nm24nm,0.7s						
DRS	**Darwin Rock St**	**5.93**	**194**	P	Pn	18 46 51.1	+5.1
KDU	**Kakadu**	**6.00**	**179**	P	Pn	18 46 52.1	+5.1
MTN	**Manton Dam**	**6.28**	**191**		**Pn**	**18 46 53.6**	**+2.7**
MTN	**Manton Dam**	**6.28**	**191**	P	**Pn**	**18 46 54.9**	**+4.1**
MTN	**Manton Dam**	**6.28**	**191**	S	**Sn**	**18 48 06.8**	**+5.4**
SANI	**Sanana**	**7.85**	**305**	P	**Pn**	**18 47 11.8**	**-0.7**
SANI	**Sanana**	**7.85**	**305**	P	**Pn**	**18 47 11.3**	**-1.2**
	0.1nm16nm,0.6s						
SOEI	**Soe**	**8.61**	**248**	Pn	**Pn**	**18 47 23.8**	**+0.8**
SOEI	**Soe**	**8.61**	**248**	P	**Pn**	**18 47 23.2**	**+0.1**
KNRA	**Kununurra**	**9.65**	**201**		**Pn**	**18 47 38.4**	**+1.2**
COEN	**Coen**	**12.85**	**125**	Pn	**Pn**	**18 48 19.1**	**-1.8**
COEN	**Coen**	**12.85**	**125**	P	**P**	**18 48 28.5**	**-2.9**
FITZ	**Fitzroy Crossi**	**13.14**	**209**	Pn	**Pn**	**18 48 23.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**13.14**	**209**	Pn	**Pn**	**18 48 24.8**	**-0.2**
	1.0nm,0.3s,baz=38,slow=12,SNR=24						
FITZ				Sn	Sn	18 50 40.9	-9.1
	2.7nm,0.3s,baz=27,slow=24,SNR=7.9						
	2.3nm,0.3s						
WB0	**Warramunga Arr**	**13.18**	**172**		**Pn**	**18 48 26.8**	**+1.3**
WRAB	**Tennant Creek**	**13.34**	**172**	Pn	Pn	18 48 24.3	-3.4
WRA	**Warramunga Arr**	**13.35**	**172**	Pn	**Pn**	**18 48 27.1**	**-0.7**
WRA	**Warramunga Arr**	**13.35**	**172**	Pn	**Pn**	**18 48 28.3**	**+0.6**
	0.7nm,0.3s,baz=350,slow=13,SNR=15						
WRA				Sn	**Sn**	**18 50 49.4**	**-5.5**
	1.1nm,0.3s,baz=352,slow=23,SNR=7.7						
	2.3nm,0.5s						
WB2	**Warramunga Arr**	**13.35**	**172**		**Pn**	**18 48 28.6**	**+0.8**
WR0	**Warramunga Arr**	**13.39**	**171**	Pn	**Pn**	**18 48 28.8**	**+0.5**
QIS	**Mount Isa**	**15.49**	**154**	P	**P**	**18 49 01.6**	**+0.9**
AS31	**Alice Springs**	**16.98**	**175**		**Pn**	**18 49 15.8**	**+0.1**
ASAR	**Alice Springs**	**16.98**	**175**	P	**Pn**	**18 49 17.1**	**+1.5**
	0.6nm,0.3s,baz=354,slow=13,SNR=70						
ASAR				S	**Sn**	**18 52 18.5**	**-4.9**
	3.0nm,0.7s,baz=357,slow=29,SNR=6.0						
	1.6nm,0.5s						
AS01	**Alice Springs**	**16.98**	**175**	P	**Pn**	**18 49 18.1**	**+2.4**
WRKA	**Warakurna**	**18.70**	**192**	P	**P**	**18 49 36.7**	**+0.5**
KRVT	**Keravat (AS076**	**19.68**	**84**	LR	LR	18 57 54.7	
	comp=Z,92nm,18.8s,baz=348,slow=38						
KKM	**Kota Kinabalu**	**20.49**	**308**	P	**P**	**18 49 53.7**	**-2.2**
KKM				IAmb	IAmb	18 50 32.0	
	comp=Z,26nm,1.1s						
FORT	**Forrest**	**24.34**	**189**	P	**P**	**18 50 34.6**	**-0.8**
FORT				IAmb	IAmb	18 51 03.3	
	comp=Z,29nm,0.8s						
STKA	**Stephens Creek**	**26.53**	**162**	LR	LR	19 02 52.9	
	comp=Z,68nm,18.3s,baz=8.2,slow=40						
NWAO	**Narrogin (SRO)**	**29.70**	**206**	LR	LR	19 05 08.0	
	comp=Z,62nm,20.4s,baz=36,slow=40						
PSI	**Prapat**	**34.71**	**285**	LR	LR	19 06 27.1	
	comp=Z,60nm,21.5s,baz=58,slow=37						
JMN	**Monobe**	**40.18**	**2**	P	**P**	**18 52 53.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.37**	**308**	P	**P**	**18 53 03.1**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=134,slow=7.2,SNR=7.9						
	comp=Z,0.5nm,0.4s						
SONM	**Songino Array**	**58.90**	**340**	P	**P**	**18 55 15.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=157,slow=7.8,SNR=2.7						
	comp=Z,0.4nm,0.8s						
MK31	**Makanchi Array**	**69.26**	**326**	P	**P**	**18 56 24.5**	**+0.2**
MK31				IAmb	IAmb	18 56 39.1	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**69.26**	**326**	P	**P**	**18 56 25.3**	**+1.1**
MKAR	**Makanchi Array**	**69.26**	**326**	P	**P**	**18 56 25.6**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=120,slow=7.6,SNR=12						
	comp=Z,1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**72.34**	**333**	P	**P**	**18 56 43.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=141,slow=5.5,SNR=1.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**73.48**	**328**	P	**P**	**18 56 50.6**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=5.7,SNR=4.6						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**79.05**	**327**	P	**P**	**18 57 21.5**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=136,slow=6.9,SNR=4.5						
	comp=Z,0.6nm,0.6s						
SYO	**Syowa Base**	**84.84**	**201⇓**	*e*P	**P**	**18 57 53.1**	**+1.7**

*MOS **14** 18:53:14.6±1.0, 45°.79N×151°.10E, h74km, mb4.9/6, Error ellipse: s-maj=9.1km s-min=6.3km az=63.7*
*NEIC **14** 18:53:16.3±2.1, 45°.8N±0°.1×151°.1E±0°.2, h75km±11km, mb4.6/40, Error ellipse: s-maj=22.2km s-min=12.7km az=146.0*
*SKHL **14** 18:53:16.4±0.2, 45°.60N×151°.10E, h94km±5km, mb5.6/4, msha6.3/4*
*JMA **14** 18:53:16.8±1.1, 46°N±5°×15°1E±°, h30km, MV4.9/20, KURILE ISLANDS REGION*
*NIED **14** 18:53:16.8, 45°.71N×150°.88E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.74; $M_{\theta\theta}$0.17; $M_{\phi\phi}$0.57; $M_{r\theta}$=2.74; $M_{\theta\phi}$0.73; $M_{\phi r}$0.27; Fault plane solution: $M_0$2.88000×10^{15} NP1: ϕ_s197.00000°, δ16.00000°, λ=161.00000°. NP2: ϕ_s89.00000°, δ85.00000°, λ=75.00000°.*
*IDC **14** 18:53:18.6±2.0, 45°.95N×150°.92E, h90km±17km, mb3.7/22, mbtmp4.0/30, MS3.1/8 Error ellipse: s-maj=15.4km s-min=10.1km az=133.0*
ISC 14 18:53:15.9±0.4, **45°.69N**±0°.05×**151°.11E**±0°.05, **h75**km, **n172,**
σ1§**51**/170, **mb4.5**/57, **6C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.33**	**260**	*c i*PN	**Pn**	**18 53 51.7**	**-0.3**
KUR				*e*S	**Sn**	**18 54 18.6**	**-1.0**
KUR				pmax	pmax		
	comp=Z,910nm,0.4s						
KUR				pmax	pmax		
	comp=E,283nm,0.3s						
KUR				pmax	pmax		
	comp=N,224nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.3s			

PAU	**Pauzhetka**	**6.91**	**31**	*e*P	**Pn**	**18 54 53.5**	**-0.8**
PAU				*e*S	**Sn**	**18 56 06.9**	**-4.4**
JNBK	**Urakawa-nobuka**	**6.92**	**243**	P	**Pn**	**18 54 53.2**	**-1.4**
UGL	**Uglegorsk**	**7.01**	**302**	*e*P	**Pn**	**18 54 57.3**	**+1.6**
UGL				*e*S	**Sn**	**18 56 12.8**	**-1.1**
TYV	**Tymovskoe**	**7.65**	**316**	*e*PN	**Pn**	**18 55 05.2**	**+0.7**
TYV				*e*S	**Sn**	**18 56 28.3**	**-1.2**
TYV				pmax	pmax		
	comp=Z,12nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,3.2s						
TYV				smax	smax		
	comp=N,20nm,0.8s						
TYV				smax	smax		
	comp=E,19nm,0.8s						
TYV	**Tymovskoe**	**7.65**	**316**	*e*P	**Pn**	**18 55 05.2**	**+0.7**
TYV				*e*S	**Sn**	**18 56 28.3**	**-1.2**
PEA0B	**Petropavlovsk-**	**8.57**	**28**	Pn	**Pn**	**18 55 16.7**	**-0.4**
PEA0B	**Petropavlovsk-**	**8.57**	**28**	PN	**Pn**	**18 55 16.7**	**-0.4**
PETK	**Petropavlovsk-**	**8.57**	**28**	Pn	**Pn**	**18 55 16.3**	**-0.8**
PETK	**Petropavlovsk-**	**8.57**	**28**	P	**Pn**	**18 55 16.6**	**-0.5**
	comp=E,24nm,0.6s,baz=190,slow=11,SNR=29						
PETK				LR	LR	18 59 18.4	
	comp=E,157nm,18.1s,baz=184,slow=43						
JANG	**Nango**	**8.81**	**236**	*e*P	**Pn**	**18 55 17.8**	**-2.5**
JANG				*e*S	Sn	18 56 47.5	-10
JTM	**Tenmabayashi**	**8.81**	**240**	Pn	**Pn**	**18 55 17.6**	**-2.8**
PET	**Petropavlovsk**	**8.83**	**31**	Pn	**Pn**	**18 55 18.5**	**-2.1**
PET	**Petropavlovsk**	**8.83**	**31**	*e*PN	**Pn**	**18 55 18.5**	**-2.1**
PET	**Petropavlovsk**	**8.83**	**31**	*e*P	**Pn**	**18 55 22.5**	**+1.9**
JTH	**Tanohata**	**8.90**	**233**	*e*S	Sn	18 56 49.0	-11
NKL	**Nikolayevsk**	**10.09**	**321**	*e*P	**Pn**	**18 55 39.0**	**+1.3**
JMM	**Marumori**	**10.97**	**228**	Pn	Pn	18 55 45.1	-4.7
MJAR	**Matsushiro Arr**	**13.33**	**231**	P	**Pn**	**18 56 24.2**	**+2.3**
	comp=E,0.6nm,0.4s,baz=28,slow=15,SNR=12						
MAJO	**Matsushiro**	**13.33**	**231**	P	**Pn**	**18 56 19.8**	**-2.1**
MAJO	**Matsushiro**	**13.33**	**231**	PN	**Pn**	**18 56 19.8**	**-2.1**
KLR	**Kul'dur**	**13.56**	**292**	P	**Pn**	**18 56 24.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=97,slow=9.8,SNR=5.2						
KLR				LR	LR	19 01 14.7	
	comp=E,43nm,20.0s,baz=94,slow=36						
USRK	**Ussuriysk Ar.**	**13.63**	**271**	P	**Pn**	**18 56 25.8**	**+0.2**
	comp=E,1.9nm,0.7s,baz=69,slow=12,SNR=2.3						
MA2	**Magadan**	**13.91**	**359**	Pn	**Pn**	**18 56 28.2**	**-1.0**
MA2	**Magadan**	**13.91**	**359**	P	**Pn**	**18 56 28.1**	**-1.2**
	comp=E,3.0nm,0.4s,baz=186,slow=12,SNR=9.4						
MA2				LR	LR	19 02 28.4	
	comp=E,68nm,21.0s,baz=128,slow=40						
MA2	**Magadan**	**13.91**	**359**	P	**Pn**	**18 56 28.3**	**-1.0**
MA2	**Magadan**	**13.91**	**359**	*e*P	**Pn**	**18 56 28.3**	**-1.0**
JGF	**Kuroka**	**14.49**	**231**	Pn	**Pn**	**18 56 35.8**	**-1.3**
MDJ	**Mudanjiang**	**15.22**	**274**	Pn	**Pn**	**18 56 45.3**	**-1.0**
MDJ	**Mudanjiang**	**15.22**	**274**	P	**Pn**	**18 56 46.3**	**0.0**
MDJ				sP	pP	18 57 05.8	+1.4
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HEH	**HeiHe**	**16.49**	**295**	*e*P	**P**	**18 57 03.4**	**-0.2**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SHEM	**Shemya Is, Ala**	**16.55**	**57**	P	**P**	**18 57 05.2**	**+0.9**
	comp=Z,39nm,0.4s,baz=248,slow=14,SNR=1.4						
SEY	**Seymchan**	**17.29**	**2**	P	**Pn**	**18 57 10.9**	**-1.2**
	comp=Z,4.9nm,1.0s,baz=159,slow=8.7,SNR=12						
SEY	**Seymchan**	**17.29**	**2**	*e*P	**P**	**18 57 12.7**	**+0.2**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CN2	**Changchun**	**18.30**	**273**	*e*P	**P**	**18 57 23.3**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**19.15**	**253**	P	**Pn**	**18 57 34.9**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=56,slow=11,SNR=14						
KSRS				LR	LR	19 03 46.5	
	comp=Z,31nm,20.1s,baz=30,slow=33						
JNU	**Nakatsue**	**19.98**	**238**	P	**Pn**	**18 57 47.1**	**+2.6**
	comp=Z,5.1nm,0.7s,baz=84,slow=9.2,SNR=5.2						
JNU				LR	LR	19 05 04.4	
	comp=Z,72nm,19.1s,baz=30,slow=35						
YAK	**Yakutsk**	**20.51**	**331**	P	**P**	**18 57 46.1**	**-1.4**
YAK				IAmb	IAmb	18 57 52.3	
	comp=Z,20nm,0.8s						
YAK	**Yakutsk**	**20.51**	**331**	P	Pn	18 57 50.6	+0.3
	comp=Z,21nm,0.7s,baz=146,slow=3.1,SNR=12						
YAK				LR	LR	19 07 16.1	
	comp=Z,42nm,18.8s,baz=120,slow=41						
YAK	**Yakutsk**	**20.51**	**331**	*e*P	Pn	18 57 49.6	-0.8
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
BJI	**Beijing**	**26.08**	**270**	P	**P**	**18 58 44.4**	**+2.1**
BJI				ScP	**ScP**	**19 05 39.3**	**-1.5**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,110nm,5.1s						
BJT	**Baijiatuau**	**26.09**	**270**	P	**P**	**18 58 42.6**	**+0.2**
BJT	**Baijiatuau**	**26.09**	**270**	P	**P**	**18 58 42.6**	**+0.2**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.5s						
JOW	**Kunigami**	**26.18**	**232**	LR	LR	19 08 34.8	
	comp=Z,27nm,18.6s,baz=44,slow=35						
NJ2	**Nanjing**	**28.35**	**253**	*e*P	**P**	**18 59 02.9**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.99**	**148**	T	T	19 30 39.1	
	baz=337,slow=76,SNR=1437						
HHC	**Hu-ho-hao-te**	**28.99**	**275**	*e*P	**P**	**18 59 09.6**	**+1.2**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,78nm,5.9s						
H11N1	**WAKE ISLAND Hy**	**29.00**	**148**	T	T	19 30 40.3	
	baz=337,slow=76,SNR=873						
H11N3	**WAKE ISLAND Hy**	**29.00**	**148**	T	T	19 30 40.5	
	baz=337,slow=76,SNR=1002						
H11S1	**WAKE ISLAND Hy**	**30.04**	**149**	T	T	19 31 59.0	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.05**	**149**	T	T	19 31 58.6	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**30.06**	**149**	T	T	19 32 00.8	
	baz=342,slow=76,SNR=506						
SONM	**Songino Array**	**30.39**	**290**	P	**P**	**18 59 23.1**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=74,slow=6.2,SNR=2.0						
WHN	**Wuhan**	**32.31**	**255**	P	**P**	**18 59 38.1**	**+0.5**
C18K	**Utukok River**	**33.23**	**30**	P	**P**	**18 59 44.6**	**-0.7**
D19K	**Kuna River**	**34.27**	**30**	P	**P**	**18 59 53.7**	**-0.6**
D19K				IAmb	IAmb	19 00 33.6	
	comp=Z,8.7nm,1.3s						
H19K	**Roundabout Mou**	**34.27**	**36**	P	**P**	**18 59 54.9**	**+0.6**
E22K	**Anaktuvuk Pass**	**36.49**	**32**	P	**P**	**19 00 13.8**	**+0.5**
LZH	**Lanzhou**	**36.53**	**272**	*e*P	**P**	**19 00 14.1**	**-0.1**
LZH				pP	pP	19 00 24.3	-7.6
LZH				sP	sP	19 00 34.3	-6.1
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
BRLK	**Bradley Lake**	**36.57**	**46**	P	**P**	**19 00 12.6**	**-1.5**
COLD	**Coldfoot**	**36.99**	**34**	P	**P**	**19 00 17.6**	**+0.1**
COLD				IAmb	IAmb	19 00 19.0	
	comp=Z,6.5nm,0.7s						
C23K	**Itkillik River**	**37.18**	**29**	IAmb	IAmb	19 00 20.2	
	comp=Z,6.9nm,0.7s						
TOLK	**Toolik Lake Re**	**37.38**	**31**	IAmb	IAmb	19 00 22.3	
	comp=Z,5.9nm,0.6s						
GTA	**Gaotai**	**37.76**	**279**	*e*P	**P**	**19 00 24.9**	**+0.3**
GTA				pP	pP	19 00 43.3	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
C24K	**Franklin Bluff**	**37.82**	**30**	IAmb	IAmb	19 00 25.9	
	comp=Z,9.5nm,0.8s						
COLA	**College**	**37.83**	**38**	P	**P**	**19 00 24.2**	**-0.4**
COLA	**College**	**37.83**	**38**	P	**P**	**19 00 24.2**	**-0.4**
COLA				pmax	pmax		
	comp=Z,14nm,0.4s						
HDA	**Harding Lake**	**38.22**	**38**	P	**P**	**19 00 27.8**	**-0.2**
HDA				IAmb	IAmb	19 00 29.1	
	comp=Z,4.5nm,0.6s						
ILAR	**Eielson Array**	**38.24**	**38**	P	**P**	**19 00 28.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=265,slow=7.2,SNR=29						
	comp=Z,1.9nm,0.7s						
D25K	**Kavik River**	**38.59**	**30**	IAmb	IAmb	19 00 32.4	
	comp=Z,7.0nm,0.6s						
F25K	**Christian Rive**	**38.77**	**33**	IAmb	IAmb	19 00 34.4	
	comp=Z,3.2nm,0.6s						
FYU	**Fort Yukon**	**38.91**	**35**	P	**P**	**19 00 32.7**	**-1.0**
D27M	**Malcolm River**	**40.51**	**31**	IAmb	IAmb	19 00 48.9	
	comp=Z,5.8nm,0.8s						
L27K	**Beaver Creek,**	**40.59**	**40**	P	**P**	**19 00 48.7**	**+1.0**
F28M	**Old Crow**	**40.98**	**33**	P	**P**	**19 00 51.9**	**+1.1**
F28M				IAmb	IAmb	19 00 53.1	
	comp=Z,6.2nm,0.6s						
I28M	**Miner Creek**	**41.14**	**36**	IAmb	IAmb	19 00 54.3	
	comp=Z,4.7nm,0.6s						
I29M	**Ogilvie Camp,**	**41.82**	**36**	P	**P**	**19 00 58.1**	**+0.3**
ZALV	**Zalesovo Beam**	**42.11**	**306**	PcP	**PcP**	**19 02 53.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=74,slow=5.1,SNR=3.8						
G30M	**tAoh Zraii Nji**	**42.45**	**34**	IAmb	IAmb	19 01 04.8	
	comp=Z,7.5nm,0.8s						
I30M	**Mount Dempster**	**42.65**	**36**	IAmb	IAmb	19 01 07.3	
	comp=Z,16nm,1.2s						
G31M	**Satah River**	**43.22**	**34**	P	**P**	**19 01 09.9**	**+0.9**
G31M				IAmb	IAmb	19 01 10.6	
	comp=Z,9.3nm,1.1s						
INK	**Inuvik**	**43.29**	**32**	P	**P**	**19 01 10.4**	**+0.9**
INK				IAmb	IAmb	19 01 11.1	
	comp=Z,7.2nm,0.6s						
INK	**Inuvik**	**43.29**	**32**	P	**P**	**19 01 10.5**	**+0.9**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH	**PanZhiHua**	**43.48**	**261**	P	**P**	**19 01 12.0**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,5.9s						
KMI	**Kunming**	**43.68**	**259**	⇑P	**P**	**19 01 14.9**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMQ	**Urumqi**	**44.01**	**291**	*e*P	**P**	**19 01 15.8**	**0.0**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
A36M	**Sachs Harbour**	**45.41**	**26**	IAmb	IAmb	19 01 28.2	
	comp=Z,8.1nm,0.8s						
MKAR	**Makanchi Array**	**46.19**	**297**	P	**P**	**19 01 33.0**	**0.0**
	comp=Z,0.2nm,0.4s,baz=69,slow=7.8,SNR=6.1						
MKAR				PcP	**PcP**	**19 03 08.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=69,slow=4.7,SNR=2.3						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**46.19**	**297**	P	**P**	**19 01 33.0**	**0.0**
MKAR						19 03 08.0	
MKAR	**Makanchi Array**	**46.19**	**297**	*e*P	**P**	**19 01 33.0**	**0.0**
KURK	**Kurchatov**	**46.79**	**304**	P	**P**	**19 01 38.1**	**+0.5**
KURK	**Kurchatov**	**46.79**	**304**	*e*P	**P**	**19 01 38.1**	**+0.5**
KURBB	**Kurchatov Arra**	**46.88**	**304**	P	**P**	**19 01 38.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=74,slow=8.9,SNR=5.0						
	comp=Z,1.3nm,0.6s						
BVAR	**Borovoye Array**	**50.45**	**309**	P	**P**	**19 02 04.5**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=57,slow=5.3,SNR=1.7						
	comp=Z,0.2nm,0.4s						
CHTO	**Chiang Mai**	**50.51**	**256**	P	**P**	**19 02 06.9**	**+0.4**
CHTO				IAmb	IAmb	19 02 08.3	
	comp=Z,7.5nm,0.8s						
CHTO	**Chiang Mai**	**50.51**	**256**	P	**P**	**19 02 06.9**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CM31	**Chiang Mai Arr**	**50.76**	**255**	P	**P**	**19 02 08.9**	**+0.5**
CM31				IAmb	IAmb	19 02 10.4	
	comp=Z,5.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**50.76**	**255**	P	**P**	**19 02 09.6**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=40,slow=7.3,SNR=34						
	comp=Z,2.7nm,0.6s						
RES	**Resolute Bay**	**52.28**	**18**	IAmb	IAmb	19 02 23.2	
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.60**	**36**	P	**P**	**19 02 22.3**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=300,slow=7.1,SNR=15						
	comp=Z,0.7nm,0.4s						
NEEM	**North Greenlan**	**56.36**	**6**	*i* P	**P**	**19 02 46.5**	**-2.4**
NEEM				IAmb	IAmb	19 02 48.6	
	comp=Z,4.3nm,0.6s						
ABKAR	**Akbulak array**	**58.03**	**309**	P	**P**	**19 03 00.5**	**-0.2**
AKTO	**Aktyubinsk**	**58.39**	**311**	LR	LR	19 31 51.7	
	comp=Z,147nm,20.4s,baz=31,slow=40						
KULLO	**Kullorsuaq**	**58.52**	**9**	*i* P	**P**	**19 03 01.9**	**-1.8**
KULLO				IAmb	IAmb	19 03 03.0	
	comp=Z,5.8nm,0.7s						
SIMJ	**Simiganj**	**58.73**	**295**	P	**P**	**19 03 03.6**	**-2.3**
UPNV	**Upernavik**	**60.31**	**9**	*i* P	**P**	**19 03 13.8**	**-2.2**
UPNV				IAmb	IAmb	19 03 15.1	
	comp=Z,5.4nm,0.7s						
SUMG	**Summit**	**61.85**	**3**	P	**P**	**19 03 26.6**	**-0.4**
SUMG	**Summit**	**61.85**	**3**	P	**P**	**19 03 26.6**	**-0.4**
SUMG				pmax	pmax		
	comp=Z,12nm,0.9s						
SUMG	**Summit**	**61.85**	**3**	*i* P	**P**	**19 03 26.0**	**-0.9**
SUMG				IAmb	IAmb	19 03 27.6	
	comp=Z,13nm,0.8s						
FINES	**FINESS Array B**	**64.39**	**334**	P	**P**	**19 03 42.3**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=44,slow=8.1,SNR=1.5						
	comp=Z,0.5nm,0.4s						
ICESG	**Greenland Ices**	**65.26**	**4**	*i* P	**P**	**19 03 48.4**	**-1.0**
ICESG				IAmb	IAmb	19 03 49.6	
	comp=Z,9.9nm,0.8s						
PDAR	**Pinedale Array**	**66.50**	**52**	P	**P**	**19 03 58.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=358,slow=1.4,SNR=4.0						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**67.07**	**197**	P	**P**	**19 04 02.3**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=15,slow=6.6,SNR=10						
	comp=Z,2.3nm,0.6s						
DY2G	**Dye2**	**67.38**	**7**	*i* P	**P**	**19 04 01.9**	**-0.9**
DY2G				IAmb	IAmb	19 04 03.2	
	comp=Z,11nm,1.0s						
FITZ	**Fitzroy Crossi**	**67.56**	**206**	P	**P**	**19 04 06.1**	**+1.9**
	comp=Z,5.7nm,1.0s,baz=8.6,slow=5.4,SNR=3.7						
	comp=Z,5.7nm,1.0s						
ULM	**Lac du Bonnet**	**68.23**	**40**	P	**P**	**19 04 07.7**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=297,slow=4.5,SNR=2.9						
	comp=Z,1.1nm,0.5s						
NB2	**NORSAR Subarra**	**68.77**	**340**	P	**P**	**19 04 10.0**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.77**	**340**	P	**P**	**19 04 10.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=30,slow=6.6,SNR=4.2						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**68.95**	**339**	P	**P**	**19 04 11.2**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=19,slow=5.0,SNR=5.6						
	comp=Z,1.1nm,0.5s						
KBZ	**Khabaz**	**70.58**	**313**	P	**P**	**19 04 23.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=55,slow=0.8,SNR=1.8						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**70.78**	**197**	P	**P**	**19 04 26.5**	**+2.4**
	comp=Z,2.7nm,0.7s,baz=14,slow=6.0,SNR=27						
	comp=Z,2.7nm,0.7s						
AKASG	**Malin Array Be**	**71.64**	**325**	P	**P**	**19 04 27.3**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=38,slow=6.1,SNR=5.6						
	comp=Z,0.4nm,0.4s						
SCHQ	**Schefferville**	**74.82**	**22**	P	**P**	**19 04 47.9**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=259,slow=5.0,SNR=5.2						
	comp=Z,1.7nm,0.5s						
BUR08	**Bucovina Ar. S**	**75.67**	**326**	P	**P**	**19 04 52.1**	**-0.8**
STHS	**Stebnicka Huta**	**75.72**	**329**	*e*P	**P**	**19 04 52.3**	**-0.7**
STHS	**Stebnicka Huta**	**75.72**	**329**	*e*P	**P**	**19 04 52.3**	**-0.7**
KOLS	**Kolonicke sedl**	**75.74**	**328**	*e*P	**P**	**19 04 53.7**	**+0.6**
KOLS	**Kolonicke sedl**	**75.74**	**328**	*e*P	**P**	**19 04 53.7**	**+0.6**
CLL	**Collm**	**76.84**	**335**	*e*P	**P**	**19 04 55.0**	**-4.2**
EKA	**Eskdalemuir Ar**	**77.02**	**345**	P	**P**	**19 04 59.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=17,slow=5.1,SNR=8.6						
	comp=Z,0.5nm,0.3s						
STKA	**Stephens Creek**	**77.68**	**188**	P	**P**	**19 05 06.5**	**+2.5**
	comp=Z,2.2nm,0.9s,baz=354,slow=10,SNR=3.2						
	comp=Z,2.2nm,0.9s						
BRTR	**Keskin Array B**	**78.19**	**316**	P	**P**	**19 05 06.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=50,slow=7.8,SNR=2.2						
	comp=Z,0.8nm,0.8s						
GERES	**GERESS Array B**	**78.78**	**333**	P	**P**	**19 05 09.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=50,slow=9.2,SNR=2.9						
	comp=Z,0.7nm,0.5s						
TXAR	**Lajitas Array**	**79.23**	**59**	P	**P**	**19 05 14.6**	**+1.6**
	comp=Z,1.0nm,0.4s,baz=298,slow=4.4,SNR=13						
	comp=Z,1.0nm,0.4s						
QSPA	**South Pole Qui**	**135.43**	**180**	PKP	**PKiKP**	**19 12 28.2**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=312,slow=3.5,SNR=1.8						
H03N2	**Juan Fernandez**	**140.14**	**90**	T	T	21 49 07.3	
	baz=307,slow=77,SNR=41						
H03N1	**Juan Fernandez**	**140.15**	**90**	T	T	21 49 15.7	
	baz=307,slow=77,SNR=52						
H03N3	**Juan Fernandez**	**140.15**	**90**	T	T	21 49 08.2	
	baz=307,slow=77,SNR=51						
ELIB	**Princess Elisa**	**144.24**	**205**	*d*PKPdf	**PKPdf**	**19 12 41.9**	**+0.1**
PLCA	**Paso Flores**	**149.49**	**96**	PKPbc	**PKiKP**	**19 12 57.6**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=268,slow=2.7,SNR=5.9						
CPUP	**Villa Florida**	**150.20**	**59**	PKPbc	**PKiKP**	**19 12 59.3**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=13,slow=3.7,SNR=6.2						
SNAA	**Sanae**	**151.14**	**197**	PKPbc	**PKPbc**	**19 12 59.8**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=172,slow=6.5,SNR=6.6						

*DJA **14** 18:55:42.7±0.5,9°S×3°×11°3E±°,h13km±4km,M4.3/23,*
mB4.7/3,mb4.5/6,MLv4.2/23,Mw(mB)4.0/3
*IDC **14** 18:55:44.5±4.8,8°85S×112°83E,h63km±61km,mb3.3/7,*
mbtmp3.6/9,ML3.8/2,Error ellipse: s-maj=77.2km
s-min=14.7km az=42.0

ISC 14 18:55:44.5±1.2,9.08S±0.09×112.81E±0.04,h69km±11km,
n34,σ1s27/37,mb3.5/7,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.02**	**38**	P	**Pn**	**18 56 01.7**		**-1.5**
GMJI				S	**Sn**	**18 56 15.0**		**-2.0**
JAGI	**Jajag, Banyuwa**	**1.46**	**66**	P	**Pn**	**18 56 08.6**		**-0.3**
JAGI				S	**Sn**	**18 56 26.3**		**-1.0**
PCJI	**Pacitan**	**1.84**	**298**	P	**Pn**	**18 56 12.7**		**-1.2**
ABJI	**Asem Bagus**	**1.90**	**48**	P	**Pn**	**18 56 15.4**		**+0.6**
ABJI				S	**Sn**	**18 56 40.5**		**+2.7**
NGJI	**Ngawi**	**2.16**	**322**	P	**Pn**	**18 56 18.5**		**+0.2**
NGJI				S	**Sn**	**18 56 47.0**		**+2.9**
GRJI	**Gresik**	**2.17**	**351**	P	**Pn**	**18 56 18.9**		**+0.4**
GRJI				S	**Sn**	**18 56 44.4**		**0.0**
KMMI	**Kalianget**	**2.32**	**30**	P	**Pn**	**18 56 20.6**		**+0.2**
DNP	**Denpasar**	**2.41**	**81**	P	**Pn**	**18 56 22.0**		**+0.4**
TBJI	**Tambak Boyo**	**2.44**	**337**	P	**Pn**	**18 56 21.9**		**-0.2**
UGM	**Wanagama**	**2.54**	**297**	P	**Pn**	**18 56 23.4**		**-0.1**
UGM				S	**Sn**	**18 56 53.6**		**+0.2**
SRBI	**Singaraja**	**2.57**	**68**	P	**Pn**	**18 56 24.4**		**+0.5**
SRBI				S	**Sn**	**18 56 54.7**		**+0.5**
YOGI	**Yogyakarta**	**2.78**	**297**	P	**Pn**	**18 56 26.9**		**+0.1**
SMRI	**Semarang**	**3.09**	**311**	P	**Pn**	**18 56 31.6**		**+0.6**
KPJI	**Karang Pucung**	**4.21**	**294**	P	**Pn**	**18 56 46.7**		**+0.5**
KPJI				S	**Sn**	**18 57 36.5**		**+2.3**
CMJI	**Cimerak**	**4.50**	**286**	P	**Pn**	**18 56 49.6**		**-0.6**
PLAI	**Plampang**	**4.92**	**87**	P	**Pn**	**18 56 57.3**		**+1.4**
LEM	**Lembang**	**5.61**	**293**	P	**Pn**	**18 57 05.9**		**+0.4**
	3.5nm,0.3s,baz=120,slow=20,SNR=3.7							
LEM				S	**Sn**	**18 58 06.7**		**-2.0**
	24nm,0.7s,baz=182,slow=22,SNR=3.8							
	12nm,0.5s							
CNJI	**Cibinong**	**5.89**	**287**	P	**Pn**	**18 57 08.7**		**-0.5**
WBSI	**Waikabubak, Su**	**6.52**	**95**	P	**Pn**	**18 57 17.9**		**0.0**
	0.1nm24nm,0.8s							
CGJI	**Cibinong**	**7.46**	**289**	P	**Pn**	**18 57 32.6**		**+1.9**
FITZ	**Fitzroy Crossi**	**15.35**	**127**	P	**Pn**	**18 59 18.1**		**+0.9**
	0.2nm,0.3s,baz=276,slow=7.4,SNR=6.6							
FITZ				S	Sn	19 01 56.0		-10
	2.4nm,0.9s,baz=283,slow=14,SNR=1.0							
	2.4nm,0.8s							
WRA	**Warramunga Arr**	**23.45**	**120**	P	**P**	**19 00 48.9**		**+0.9**
	0.8nm,0.7s,baz=296,slow=11,SNR=5.9							
	0.8nm,0.7s							
ASAR	**Alice Springs**	**24.85**	**128**	P	**P**	**19 01 03.1**		**+2.4**
	0.7nm,0.5s,baz=302,slow=8.5,SNR=13							
	0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.59**	**333**	P	**P**	**19 01 52.3**		**+0.2**
	0.3nm,0.7s,baz=150,slow=8.8,SNR=2.2							
	0.3nm,0.7s							
H08S2	**Diego Garcia H**	**39.90**	**269**	T	T	19 45 52.8		
	baz=95							
H08S3	**Diego Garcia H**	**39.91**	**269**	T	T	19 45 52.2		
	baz=95,slow=74							
H08S1	**Diego Carcia H**	**39.92**	**269**	T	T	19 45 48.8		
	baz=95,slow=74							
SONM	**Songino Array**	**56.95**	**355**	P	**P**	**19 05 22.1**		**-0.7**
	0.4nm,0.6s,baz=170,slow=7.8,SNR=4.6							
	0.4nm,0.6s							
KLR	**Kul'dur**	**60.40**	**14**	P	**P**	**19 05 45.1**		**-1.4**
	0.4nm,0.4s,baz=129,slow=3.5,SNR=4.1							
	0.4

IDC 14 19:20:23.5±4.0, 3.°43S×135.°83E, h0km, mb3.5/2, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=181.0km s-min=31.1km az=80.0
DJA 14 19:20:25.1±0.7, 4.°S±4.°×13.°5E±.°, h25km±7km, M3.8/8, mb4.1/2, MLv3.7/8

ISC 14 19:20:27.7±1.0, 3.°67S±0.°07×135.°04E±0.°06, h25km, n10, σ1§42/14, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.33**	**270**	P	**Pn**	**19 20 50.3**	**-0.4**
SRPI	**Serui, Papua**	**2.15**	**34**	P	**Pn**	**19 21 03.3**	**+1.3**
SRPI				S	**Sb**	**19 21 33.5**	**+1.2**
RKPI	**Ransiki, Papua**	**2.31**	**338**	P	**Pb**	**19 21 07.0**	**-1.7**
RKPI				S	**Sb**	**19 21 37.7**	**+0.8**
BAKI	**Biak**	**2.68**	**23**	P	**Pb**	**19 21 12.4**	**-2.6**
BAKI				S	**Sb**	**19 21 47.7**	**+0.1**
FAKI	**Fak Fak**	**2.88**	**285**	P	**Pn**	**19 21 11.4**	**-0.7**
FAKI				S	**Sn**	**19 21 46.7**	**+0.7**
SWI	**Sorong**	**4.70**	**306**	P	**Pn**	**19 21 37.0**	**0.0**
JAY	**Jayapura**	**5.77**	**79**	P	**Pn**	**19 21 49.8**	**-2.0**
WRA	**Warramunga Arr**	**16.19**	**182**	Pn	**P**	**19 24 17.4**	**+0.8**
	0.1nm,0.3s,baz=4.1,slow=12,SNR=5.4 0.6nm,0.6s						
ASAR	**Alice Springs**	**19.91**	**183**	P	**Pn**	**19 24 59.6**	**+0.3**
	2.3nm,0.8s,baz=7.0,slow=11,SNR=24 2.3nm,0.8s						
MKAR	**Makanchi Array**	**68.36**	**324**	P	**P**	**19 31 28.7**	**+1.6**
	0.3nm,0.7s,baz=109,slow=6.9,SNR=4.8 0.3nm,0.7s						

IDC 14 19:24:40.5±2.8, 6.°84N×127.°38E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=170.3km s-min=27.5km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.84**	**184**	P	P	19 30 05.4	+0.6
	2.8nm,1.0s,baz=0.0,slow=9.1,SNR=2.0 2.8nm,1.0s						
WRA	**Warramunga Arr**	**27.48**	**166**	P	P	19 30 29.1	+0.4
	0.3nm,0.8s,baz=344,slow=9.4,SNR=1.6 0.3nm,0.8s						
ASAR	**Alice Springs**	**30.98**	**168**	P	P	19 30 59.0	-0.9
	0.2nm,0.4s,baz=343,slow=8.6,SNR=4.1 0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.41**	**324**	P	P	19 34 16.7	-0.1
	0.1nm,0.4s,baz=119,slow=7.1,SNR=4.5 0.1nm,0.4s						

BJI 14 19:57:03.9, 35.°40N×36.°30W, h5km, mB5.9/23, mb5.0/30, Ms6.3/41, Ms7 6.0/41
MOS 14 19:57:03.5±1.2, 35.°36N×36.°22W, h10km, mb5.5/99, MS5.6/49, Error ellipse: s-maj=7.1km s-min=3.2km az=136.0
IDC 14 19:57:03.6±0.4, 35.°34N×36.°11W, h0km, mb4.8/37, mbtmp4.8/37, MS5.4/81, Error ellipse: s-maj=12.0km s-min=9.1km az=150.0
NEIC 14 19:57:05.0±1.6, 35.°43N±0.°09×36.°04W±0.°10, h10km±1km, mb5.5/601, Ms_20 5.3/867, Mwb6.1/98, Mww6.2/83, Error ellipse: s-maj=15.2km s-min=13.1km az=166.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr-0.02; Mθθ0.77; Mφφ-0.76; Mrθ-0.20; Mθφ1.57; Mφr-0.01; Fault plane solution: M0 1.76000×10^18 NP1: φs283.09000°, δ88.36000°, λ6.29000°. NP2: φs192.91000°, δ83.71000°, λ178.35000°. Principal axes: T 1.7702, Plg6.0000°, Azm148.0000°; N -0.0291, Plg83.0000°, Azm298.0000°; P -1.7411, Plg3.0000°, Azm58.0000°;
IPGP 14 19:57:05.0, 35.°39N×36.°07W, h15km, Mw6.2, Fault plane solution: NP1: φs189.00000°, δ86.00000°, λ-179.00000°. NP2: φs99.00000°, δ89.00000°, λ-4.00000°.
NEIC 14 19:57:05.1, 35.°43N×36.°06W, h24km
NEIC 14 19:57:05.1, 35.°43N×36.°18W, h24km, Moment Tensor Solution. Duration: 5§6 Moment tensor: Scale 10^18Nm; Mrr-0.01; Mθθ0.81; Mφφ-0.80; Mrθ-0.57; Mθφ1.96; Mφr-0.59; Fault plane solution: M0 2.26000×10^18 NP1: φs282.70000°, δ73.37000°, λ9.72000°. NP2: φs189.89000°, δ80.69000°, λ163.15000°. Principal axes: T 2.3929, Plg18.0000°, Azm145.0000°; N -0.2647, Plg71.0000°, Azm342.0000°; P -2.1281, Plg5.0000°, Azm237.0000°;
RSNC 14 19:57:05.3±3.2, 35.°N±10.°×3.°6W±1.°0, h10km, M5.5, mb5.3, mB5.8, mBc6.9, Ms(BB)5.5, Mw(mB)5.4, MwMwp5.5, Mwp5.7, Hypocentre not reviewed by the ISC
IGIL 14 19:57:05.9, 35.°41N×36.°28W, h10km, Ms6.0
NEIC 14 19:57:05.1, 35.°43N×36.°09W, h10km
INMG 14 19:57:08.0±5.4, 35.°45N×36.°27W, h10km, mb5.6, Ms5.5, MW5.7, #DIST_RANGE: DISTANT
GCMT 14 19:57:12.0±0.0, 35.°26N×35.°87W, h17km, MW6.2/172, Moment Tensor Solution. s167, c356; s172, c650; Duration: 3§0 Moment tensor: Scale 10^18Nm; Mrr-0.08±.01; Mθθ0.96±.01; Mφφ-0.88±.01; Mrθ-0.32±.03; Mθφ1.98±.01; Mφr0.22±.03; Best double couple: M0 2.22100×10^18 NP1: φs193.00000°, δ81.00000°, λ-176.00000°. NP2: φs102.00000°, δ86.00000°, λ-9.00000°. Principal axes: T 2.2340, Plg4.0000°, Azm148.0000°; N -0.0270, Plg80.0000°, Azm259.0000°; P -2.2070, Plg10.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 14 19:57:05.7±0.5, 35.°25N±0.°04×36.°17W±0.°03, h13km±2km, h14km: pP-P, n1827, σ1§71/1431, mb5.4/461, MS5.4/573, 102C-107D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**7.23**	**59**	⇑P	**Pn**	**19 58 50.0**	**-1.0**
CMLA	**Cha da Macela**	**8.93**	**71**	Pn	**Pn**	**19 59 11.0**	**-3.3**
CMLA	**Cha da Macela**	**8.93**	**71**	P	**Pn**	**19 59 11.0**	**-3.3**
CMLA	**Cha da Macela**	**8.93**	**71**	⇑P	**Pn**	**19 59 13.4**	**-1.0**
PMOZ	**Porto Moniz, M**	**15.92**	**93**		**Pn**	**20 00 47.9**	**-1.5**
PMOZ	**Porto Moniz, M**	**15.92**	**93**	*e*P	**P**	**20 00 53.4**	**+0.4**
PMOZ				*i* Amb		20 01 12.7	
	655nm,1.7s						
PMOZ				*e*S	**Sn**	**20 03 36.7**	**-9.1**
PMOZ				*i* AMs_20		20 05 27.2	
	20μm,20.0s						
PMOZ	**Porto Moniz, M**	**15.92**	**93**	P	**Pn**	**20 00 49.6**	**+0.2**
PMOZ				S	**Sn**	**20 03 41.9**	**-3.9**
PMAR	**Madeira**	**16.17**	**93**	*e*P	**P**	**20 00 57.3**	**+1.3**
PMAR				*i* Amb		20 01 12.9	
	868nm,1.7s						
FUL	**Funchal**	**16.21**	**94**	*e*P	**P**	**20 00 57.1**	**+0.9**
FUL				*i* Amb		20 01 20.4	
	775nm,1.6s						
PMPST	**Porto Santo, M**	**16.56**	**92**	*e*P	**P**	**20 01 02.0**	**+1.9**
PMPST				*i* Amb		20 01 17.8	
	1μm,1.4s						
PMPS	**Porto Santo**	**16.57**	**92**	*e*P	**P**	**20 01 00.4**	**+0.3**
PMPS				*i* Amb		20 01 18.3	
	1μm,1.5s						
EOSO	**Osorio**	**18.94**	**106**	P	**P**	**20 01 26.5**	**+0.1**
EOSO				S	**Sn**	**20 05 00.0**	**+1.0**
DRLN	**Deer Lake**	**21.00**	**318**		**P**	**20 01 47.7**	**-1.0**
DRLN	**Deer Lake**	**21.00**	**318**	⇑P	**P**	**20 01 48.2**	**-0.4**
PMAFR	**Mafra**	**21.73**	**72**	P	**P**	**20 02 02.8**	**+6.2**
PMAFR				*i* Amb		20 02 12.0	
	584nm,1.8s						
PMAFR	**Mafra**	**21.73**	**72**	P	**P**	**20 01 58.0**	**+1.4**
PMAFR				S	Sn	20 06 06.2	+0.2
GBN	**Guysborough**	**21.74**	**305**	P	**P**	**20 01 56.0**	**-0.6**
LIS	**Lisbon**	**21.83**	**73**	*e*P	**P**	**20 01 58.9**	**+1.2**
LIS				*e*S	**S**	**20 06 01.5**	**+2.8**
LIS				IAMs_20	IAMs_20	20 06 39.7	
	comp=N,97μm,24.0s						
LIS	**Lisbon**	**21.83**	**73**	*e*P	**P**	**20 02 02.9**	**+5.2**
LIS				*i* Amb		20 02 17.4	
	comp=N,789nm,1.9s						
LIS	**Lisbon**	**21.83**	**73**	*e*P	**P**	**20 01 58.8**	**+1.2**
LIS				*e*S	**S**	**20 06 01.5**	**+2.8**
PFVI	**Vila Bisbo**	**22.12**	**77**	P	**P**	**20 01 55.8**	**-5.1**
PFVI	**Vila Bisbo**	**22.12**	**77**	*e*P	**P**	**20 02 03.0**	**+2.2**
PFVI				*i* Amb		20 02 31.6	
	comp=N,653nm,1.6s						
PFVI	**Vila Bisbo**	**22.12**	**77**	P	**P**	**20 02 02.2**	**+1.3**
PFVI				S	**S**	**20 06 06.2**	**+1.9**
PSBE	**So Bento**	**22.13**	**71**	*e*P	**P**	**20 02 03.0**	**+2.1**
PSBE				*i* Amb		20 02 43.4	
	comp=N,265nm,1.7s						
PTEO	**Sao Teotonio**	**22.18**	**76**	*e*P	**P**	**20 02 03.0**	**+1.5**
PTEO				*i* Amb		20 02 24.8	
	comp=N,772nm,1.5s						
MORF	**Marmelete**	**22.25**	**77**	P	**P**	**20 01 57.5**	**-4.8**
MORF	**Marmelete**	**22.25**	**77**	*e*P	**P**	**20 02 03.5**	**+1.2**
MORF				*e*S	**S**	**20 06 09.9**	**+3.0**
MORF				IAMs_20	IAMs_20	20 06 51.2	
	comp=N,76μm,21.2s						
MORF	**Marmelete**	**22.25**	**77**	*e*P	**P**	**20 02 04.4**	**+2.1**
MORF				*i* Amb		20 02 23.7	
	comp=N,609nm,1.6s						
MORF	**Marmelete**	**22.25**	**77**	*e*P	**P**	**20 02 03.5**	**+1.2**
MORF				*e*S	**S**	**20 06 09.9**	**+3.0**
PCAS	**Casmilo, Conde**	**22.38**	**69**	*e*P	**P**	**20 02 05.4**	**+1.8**
PCAS				*i* Amb		20 02 23.7	
	comp=N,302nm,1.5s						
PTO	**Porto**	**22.40**	**67**	*e*P	P	20 02 18.9	+15
PTO				*i* Amb		20 02 38.2	
	comp=N,266nm,1.4s						
COI	**Coimbra**	**22.46**	**69**	P	**P**	**20 02 03.2**	**-1.2**
COI	**Coimbra**	**22.46**	**69**	*e*P	**P**	**20 02 06.3**	**+1.9**
COI				*i* Amb		20 02 16.7	
	comp=N,412nm,1.6s						
COI	**Coimbra**	**22.46**	**69**	P	**P**	**20 02 03.2**	**-1.2**
COI				pmax	pmax		
	comp=Z,693nm,1.7s						
COI				MLR	MLR		
	comp=Z,35μm,20.0s						
COI	**Coimbra**	**22.46**	**69**	⇓P	**P**	**20 02 06.6**	**+2.1**
PMTG	**Montargil**	**22.56**	**72**	*e*P	**P**	**20 02 05.9**	**+0.4**
PMTG				*i* Amb		20 02 23.0	
	comp=Z,467nm,1.7s						
MESJ	**Messejana**	**22.57**	**75**	P	**P**	**20 02 03.3**	**-2.3**
MESJ	**Messejana**	**22.57**	**75**	*e*P	**P**	**20 02 06.7**	**+1.0**
MESJ				*e*S	**S**	**20 06 16.1**	**+3.3**
MESJ				IAMs_20	IAMs_20	20 06 46.8	
	comp=N,36μm,17.1s						
MESJ	**Messejana**	**22.57**	**75**	*e*P	**P**	**20 02 07.7**	**+2.1**
MESJ				*i* Amb		20 02 22.9	
	comp=N,562nm,1.6s						
MESJ	**Messejana**	**22.57**	**75**	*e*P	**P**	**20 02 06.7**	**+1.0**
MESJ				*e*S	**S**	**20 06 16.1**	**+3.3**
MESJ	**Messejana**	**22.57**	**75**	⇓P	**P**	**20 02 05.5**	**-0.2**
EVO	**Evora**	**22.72**	**73**	*e*P	**P**	**20 02 09.6**	**+2.4**
EVO				*i* Amb		20 02 21.2	
	comp=N,254nm,1.6s						
EVO	**Evora**	**22.72**	**73**	P	**P**	**20 02 06.0**	**-1.2**
EVO				S	**S**	**20 06 16.0**	**+0.6**
PCVE	**Castro Verde**	**22.72**	**76**	*e*P	**P**	**20 02 09.5**	**+2.2**
PCVE				*i* Amb		20 02 24.5	
	comp=N,610nm,1.7s						
PCVE	**Castro Verde**	**22.72**	**76**	P	**P**	**20 02 07.8**	**+0.6**
PCVE				S	**S**	**20 06 16.0**	**+0.5**
PGAV	**Gavieira, Arco**	**22.75**	**64**	*e*P	**P**	**20 02 09.7**	**+2.0**
PGAV				*i* Amb		20 02 29.9	
	comp=N,296nm,1.7s						
PGAV				*e*S	**S**	**20 06 15.8**	**-0.3**
PGAV				*i* AMs_20		20 08 57.9	
	comp=N,13μm,22.0s						
PBDV	**Barranco-do-Ve**	**22.83**	**77**	*e*P	**P**	**20 02 11.0**	**+2.5**
PBDV				*i* Amb		20 02 26.2	
	comp=N,512nm,1.6s						
PBEJ	**Beja**	**22.84**	**75**	*e*P	**P**	**20 02 11.2**	**+2.6**
PBEJ				*i* Amb		20 02 28.8	
	comp=N,326nm,1.8s						
PVIS	**Viseu**	**22.89**	**68**	*e*P	**P**	**20 02 09.8**	**+0.8**
PCAB	**Cabril**	**22.89**	**65**	*e*P	**P**	**20 02 10.6**	**+1.5**
PCAB				*i* Amb		20 02 30.9	
	comp=N,263nm,1.6s						
HAL	**Halifax**	**22.93**	**302**	P	**P**	**20 02 05.7**	**-3.6**
HAL	**Halifax**	**22.93**	**302**	P	**P**	**20 02 05.7**	**-3.6**
HAL				pmax	pmax		
	comp=Z,177nm,0.6s						
HAL				MLR	MLR		
	comp=Z,4μm,20.0s						
PVAQ	**Vaqueiros**	**22.99**	**76**	P	**P**	**20 02 09.4**	**-0.7**
PVAQ				IAmb	IAmb	20 02 25.2	
	comp=Z,370nm,1.6s						
PVAQ	**Vaqueiros**	**22.99**	**76**	*e*P	**P**	**20 02 09.4**	**-0.7**
PVAQ				*i* Amb		20 02 26.7	
	comp=Z,423nm,1.8s						
PVAQ				*i* AMs_20		20 09 11.5	
	comp=Z,23μm,18.0s						
PVAQ	**Vaqueiros**	**22.99**	**76**	P	**P**	**20 02 09.4**	**-0.7**
POLO	**Lamas de Olo**	**23.03**	**66**	*e*P	**P**	**20 02 09.7**	**-0.8**
POLO				*i* Amb		20 02 45.5	
	comp=Z,133nm,1.9s						
PESTR	**Estremoz**	**23.05**	**73**	P	**P**	**20 02 11.7**	**+1.0**
PESTR	**Estremoz**	**23.05**	**73**	*e*P	**P**	**20 02 12.5**	**+1.8**
PESTR				*i* Amb		20 02 26.8	
	comp=Z,264nm,1.6s						
PESTR	**Estremoz**	**23.05**	**73**	P	**P**	**20 02 10.5**	**-0.1**
PESTR				S	**S**	**20 06 22.5**	**+1.3**
PESTR	**Estremoz**	**23.05**	**73**	⇓P	**P**	**20 02 10.3**	**-0.4**
PVRL	**Vila Real**	**23.08**	**66**	*e*P	**P**	**20 02 12.8**	**+1.8**
PVRL				*i* Amb		20 02 33.7	
	comp=Z,368nm,1.9s						
MTE	**Manteigas**	**23.14**	**69**	P	**P**	**20 02 09.8**	**-1.8**
MTE				IAmb	IAmb	20 02 21.8	
	comp=Z,211nm,1.4s						
MTE	**Manteigas**	**23.14**	**69**	*e*P	**P**	**20 02 12.8**	**+1.2**
MTE				*i* Amb		20 02 28.1	
	comp=Z,294nm,1.5s						
MTE				*e*S	Sn	20 06 38.5	-1.3
MTE				*i* AMs_20		20 09 05.6	
	comp=Z,23μm,20.0s						
MTE	**Manteigas**	**23.14**	**69**	⇑P	**P**	**20 02 13.3**	**+1.7**
SACV	**Santiago Islan**	**23.14**	**148**	P	**P**	**20 02 11.9**	**+0.2**
SACV	**Santiago Islan**	**23.14**	**148**	⇑P	**P**	**20 02 11.8**	**+0.1**
PCBR	**Castelo Branco**	**23.16**	**70**	*e*P	**P**	**20 02 11.4**	**-0.3**
PCBR				*i* Amb		20 02 27.1	
	comp=Z,201nm,1.7s						
EGRO	**El Granado**	**23.17**	**76**	P	**P**	**20 02 13.4**	**+1.5**
EGRO				S	**S**	**20 06 22.5**	**-0.7**
PMRV	**Marv??o**	**23.21**	**71**	*e*P	**P**	**20 02 13.4**	**+1.0**
PMRV				*i* Amb		20 02 43.8	
	comp=Z,297nm,1.8s						
PMRV				*e*S	**S**	**20 06 26.4**	**+2.5**
PMRV				*i* AMs_20		20 09 07.6	
	comp=Z,24μm,20.0s						
PBAR	**Barrancos**	**23.49**	**74**	*e*P	**P**	**20 02 14.3**	**-0.8**
PBAR				*i* Amb		20 02 42.9	
	comp=Z,168nm,1.5s						
PBAR	**Barrancos**	**23.49**	**74**	P	**P**	**20 02 13.4**	**-1.8**
PBAR				S	**S**	**20 06 34.5**	**+6.0**
EBAD	**Badajoz**	**23.50**	**73**	P	**P**	**20 02 14.7**	**-0.6**
EBAD				S	**S**	**20 06 34.5**	**+5.9**
MVO	**Moncorvo**	**23.58**	**67**	*e*P	**P**	**20 02 17.4**	**+1.3**
MVO				*i* Amb		20 02 38.2	
	comp=Z,348nm,1.7s						
MVO				*e*S	**S**	**20 06 31.2**	**+1.1**
MVO				*i* AMs_20		20 08 46.4	
	comp=Z,11μm,20.0s						
EMIN	**Mina Concepcio**	**23.80**	**75**	S	**S**	**20 06 41.0**	**+7.6**
EMIN				P	**P**	**20 02 18.4**	**+0.2**
AVE	**Averroes**	**23.81**	**86**	P	**P**	**20 02 18.2**	**-0.1**
AVE	**Averroes**	**23.81**	**86**	P	**P**	**20 02 18.9**	**+0.6**
AVE				S	**S**	**20 06 34.5**	**+0.8**
AVE	**Averroes**	**23.81**	**86**	⇓P	**P**	**20 02 20.2**	**+1.9**
PBRG	**Braganca**	**23.86**	**65**	*e*P	**P**	**20 02 20.6**	**+1.8**
PBRG				*i* Amb		20 02 29.7	
	comp=Z,146nm,1.6s						
LMN	**Caledonia Moun**	**24.07**	**305**	P	**P**	**20 02 17.6**	**-3.1**
RTC	**Rabat Centre**	**24.12**	**85**	P	**P**	**20 02 21.3**	**+0.1**
SFS	**San Fernando**	**24.27**	**78**	P	**P**	**20 02 23.3**	**+0.8**
TIO	**Tiouine**	**24.56**	**92**	S	**S**	**20 06 45.3**	**-0.7**
TIO				P	**P**	**20 02 25.3**	**-0.1**
ECAB	**El Cabril**	**24.77**	**74**	S	**S**	**20 06 47.5**	**-1.6**
ECAB				P	**P**	**20 02 26.0**	**-1.1**
TARIF	**Tarifa**	**24.84**	**79**	S	**S**	**20 06 56.3**	**+6.2**
TARIF				P	**P**	**20 02 28.3**	**+0.6**
LIJA	**Lijar**	**24.87**	**77**	P	**P**	**20 02 28.7**	**+0.6**
VAL	**Valentia**	**24.92**	**40**	P	**P**	**20 02 28.3**	**+0.1**
VAL	**Valentia**	**24.92**	**40**	P	**P**	**20 02 28.7**	**+0.5**
ECEU	**Ceuta**	**25.01**	**80**	S	**S**	**20 06 51.8**	**-1.1**
ECEU				P	**P**	**20 02 31.3**	**+2.0**
CEU	**Ceuta**	**25.01**	**80**	P	**P**	**20 02 28.1**	**-1.1**
GGN	**Saint George**	**25.29**	**302**	P	**P**	**20 02 30.9**	**-0.7**
BATG	**Bathurst New B**	**25.31**	**307**	P	**P**	**20 02 30.5**	**-1.4**
EADA	**Adamuz**	**25.43**	**74**	S	**S**	**20 07 04.8**	**+5.2**
EADA				P	**P**	**20 02 32.7**	**-0.4**
PAB	**San Pablo**	**25.57**	**71**	P	**P**	**20 02 33.8**	**-0.5**
PAB				IAmb	IAmb	20 02 38.9	
	comp=Z,80nm,1.2s						
PAB	**San Pablo**	**25.57**	**71**	P	**P**	**20 02 34.4**	**0.0**
PAB	**San Pablo**	**25.57**	**71**	⇑P	**P**	**20 02 34.9**	**+0.5**
EMMW	**East Machias**	**25.63**	**301**	P	**P**	**20 02 34.0**	**-0.8**
G65A	**Princeton**	**25.80**	**302**	P	**P**	**20 02 35.3**	**-1.1**
ESDC	**Sonseca Array**	**25.86**	**71**	P	**P**	**20 02 35.9**	**-1.1**
ESDC	**Sonseca Array**	**25.86**	**71**	P	**P**	**20 02 36.5**	**-0.5**
	comp=Z,33nm,1.2s,baz=276,slow=7.5,SNR=28						
ESDC				LR	LR	20 10 14.8	
	comp=Z,21μm,20.0s,baz=269,slow=31 comp=Z,33nm,1.2s						
ESBB	**Sonseca Array**	**25.86**	**71**	IAmb	IAmb	20 02 50.8	
	comp=Z,84nm,1.2s						
IGLA	**Glengowla, Co**	**26.16**	**38**	P	**P**	**20 02 40.3**	**+0.8**
MDT	**Midelt**	**26.22**	**86**	LR	LR	20 10 55.5	
	comp=Z,24μm,18.9s,baz=302,slow=32						
NRS	**Narsarsuaq**	**26.59**	**350**	IAMs_20	IAMs_20	20 10 07.9	
	comp=Z,14μm,20.0s						
NRS	**Narsarsuaq**	**26.59**	**350**	*i* P	**P**	**20 02 43.2**	**-0.1**
NRS				IAmb	IAmb	20 02 48.3	
	comp=Z,62nm,1.5s						
ICQ	**Pointe Anglais**	**26.81**	**312**	P	**P**	**20 02 44.3**	**-1.0**
ICQ				IAmb	IAmb	20 02 54.0	
	comp=Z,111nm,1.0s						
ICQ				IAMs_20	IAMs_20	20 11 58.8	
	comp=Z,9μm,22.0s						
IWEX	**Carrickbyrne,**	**26.99**	**42**	P	**P**	**20 02 48.7**	**+1.7**
BBTS	**Babate**	**27.05**	**134**	LR	LR	20 10 36.1	
	comp=Z,31μm,21.3s,baz=193,slow=30						
IVI	**Ivigtut**	**27.08**	**347**	*i* P	**P**	**20 02 48.0**	**+0.3**
WVL	**Waterville**	**27.16**	**300**	IAmb	IAmb	20 02 54.4	
	comp=Z,71nm,1.1s						
QUIF	**Quistinic**	**27.52**	**52**	*e*P	**P**	**20 02 51.7**	**-0.1**
QUIF				pmax	pmax		
	comp=Z,72nm,1.4s						
ROSF	**Rostrenen**	**27.56**	**52**	*e*P	**P**	**20 02 53.4**	**+1.2**
ROSF				pmax	pmax		
	comp=Z,36nm,1.1s						
DSB	**Dublin**	**27.61**	**40**	P	**P**	**20 02 53.9**	**+1.3**
I63A	**Otisfield**	**27.75**	**299**	IAmb	IAmb	20 03 32.9	
	comp=Z,63nm,0.6s						
G62A	**West of Eustis**	**27.87**	**301**	IAmb	IAmb	20 03 26.6	
	comp=Z,55nm,0.8s						
SGMF	**Saint Gilles**	**28.00**	**52**	*e*P	**P**	**20 02 57.5**	**+1.4**
SGMF				pmax	pmax		
	comp=Z,97nm,1.5s						
ILTH	**Belurgan, Co L**	**28.02**	**39**	P	**P**	**20 02 56.7**	**+0.6**
SJPF	**Ste Jean**	**28.05**	**63**	*e*P	**P**	**20 02 57.7**	**+1.1**
SJPF				pmax	pmax		
	comp=Z,64nm,1.4s						
LMQ	**La Malbaie**	**28.18**	**306**	IAmb	IAmb	20 03 44.9	
	comp=Z,43nm,0.8s						
CART	**Cartagena**	**28.30**	**75**	IAMs_20	IAMs_20	20 11 07.1	
	comp=Z,12μm,22.0s						
ETSF	**Etsaut**	**28.52**	**64**	*e*P	**P**	**20 03 01.3**	**+0.4**
ETSF				pmax	pmax		
	comp=Z,136nm,1.8s						
M63A	**Gales Ferry**	**28.66**	**293**	IAmb	IAmb	20 03 05.5	
	comp=Z,128nm,1.4s						
LBNH	**Lisbon**	**28.73**	**299**	IAmb	IAmb	20 03 54.2	
	comp=Z,39nm,0.7s						
SCHQ	**Schefferville**	**28.84**	**322**	P	**P**	**20 03 01.8**	**-1.7**
SCHQ	**Schefferville**	**28.84**	**322**	P	**P**	**20 03 02.5**	**-1.0**
	comp=Z,18nm,0.9s,baz=118,slow=10,SNR=15 comp=Z,18nm,0.9s						
SCHQ	**Schefferville**	**28.84**	**322**	⇓P	**P**	**20 03 02.9**	**-0.7**
LDAQ	**Lac Daran**	**28.88**	**307**	IAmb	IAmb	20 03 41.1	
	comp=Z,115nm,1.0s						
HNH	**Hanover**	**28.94**	**298**	IAmb	IAmb	20 03 50.7	
	comp=Z,89nm,1.2s						
J61A	**Chester**	**29.11**	**297**	IAmb	IAmb	20 03 23.5	
	comp=Z,135nm,1.7s						
GRR	**Gorron**	**29.13**	**52**	*e*P	**P**	**20 03 06.8**	**+0.6**
GRR				pmax	pmax		
	comp=Z,148nm,1.7s						
L61B	**Northampton**	**29.16**	**295**	IAmb	IAmb	20 03 46.1	
	comp=Z,195nm,1.9s						
L61B	**Northampton**	**29.16**	**295**	P	**P**	**20 03 06.8**	**+0.4**
	baz=92						
EPF	**Esparros**	**29.18**	**63**	*e*P	**P**	**20 03 07.4**	**+0.6**
EPF				pmax	pmax		
	comp=Z,52nm,1.4s						
MFF	**Saint Martin d**	**29.24**	**56**	*e*P	**P**	**20 03 07.8**	**+0.6**
MFF				pmax	pmax		
	comp=Z,49nm,1.0s						
MFF	**Saint Martin d**	**29.24**	**56**	⇑P	**P**	**20 03 06.9**	**-0.2**
FLN	**La Foliniere**	**29.46**	**52**	*e*P	**P**	**20 03 10.9**	**+1.8**
FLN				pmax	pmax		
	comp=Z,90nm,1.6s						
LFF	**La Frestale**	**29.63**	**60**	*e*P	**P**	**20 03 10.6**	**0.0**
LFF				pmax	pmax		
	comp=Z,25nm,1.0s						
LDF	**La Druitiere**	**29.66**	**52**	*e*P	**P**	**20 03 11.2**	**+0.4**
LDF				pmax	pmax		
	comp=Z,28nm,1.2s						
CEST	**Esterri de Car**	**29.84**	**64**	IAmb	IAmb	20 03 28.5	
	comp=Z,74nm,1.4s						
TRY	**Troy**	**29.90**	**296**	IAmb	IAmb	20 03 55.9	
	comp=Z,69nm,0.9s						
ACCN	**Adirondack Com**	**29.92**	**297**	IAmb	IAmb	20 03 15.2	
	comp=Z,69nm,1.1s						
RJF	**Les Rejaudoux**	**30.21**	**59**	*e*P	**P**	**20 03 14.8**	**-1.0**
RJF				pmax	pmax		
	comp=Z,42nm,1.4s						
ESK	**Eskdalemuir**	**30.23**	**38**	⇓P	P	20 03 20.9	+5.1
ESK	**Eskdalemuir**	**30.23**	**38**	⇓P	P	20 03 20.9	+5.0
EKA	**Eskdalemuir Ar**	**30.26**	**38**	P	**P**	**20 03 14.8**	**-1.4**
	comp=Z,5.2nm,0.9s,baz=238,slow=7.3,SNR=8.4						
EKA				PcP	**PcP**	**20 06 18.9**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=257,slow=2.8,SNR=1.2 comp=Z,5.2nm,0.9s						
ISOG	**Isortoq, Green**	**30.38**	**358**	*i* P	**P**	**20 03 15.9**	**-1.0**
ISOG				IAmb	IAmb

comp=Z,51nm,1.0s
DY2G Dye2 31.82 352 ⇑P **P 20 03 29.6 -0.3**
SMF Signal de Mont 31.97 57 *e*P **P 20 03 31.8 +0.5**
SMF pmax pmax
comp=Z,37nm,1.1s
MVL Millersville 31.98 291 IAmb IAmb 20 03 48.8
comp=Z,76nm,1.6s
LOR Lormes 32.05 56 *e*P **P 20 03 33.3 +1.3**
LOR pmax pmax
comp=Z,14nm,0.9s
LOR Lormes 32.05 56 ⇓P **P 20 03 33.3 +1.3**
SSB Saint Sauveur 32.34 59 P **P 20 03 36.5 +1.9**
SSB pmax pmax
comp=Z,30nm,1.1s
PECO Prince Edward 32.36 298 IAmb IAmb 20 03 36.1
comp=Z,65nm,0.7s
VIVF Saint-Julien-l 32.41 60 *e*P **P 20 03 37.2 +2.0**
VIVF pmax pmax
comp=Z,35nm,1.2s
M57A Sunshine Farm, 32.49 293 IAmb IAmb 20 03 42.4
comp=Z,41nm,1.0s
SFJD Kangerlussuaq 32.88 350 P **P 20 03 37.0 -1.9**
SFJD IAmb IAmb 20 04 01.6
comp=Z,42nm,0.9s
SFJD Kangerlussuaq 32.88 350 LR LR 20 14 17.8
comp=Z,18μm,18.3s,baz=164,slow=32
SFJD Kangerlussuaq 32.88 350 P **P 20 03 37.0 -1.9**
SFJD pmax pmax
comp=Z,42nm,1.0s
SFJD MLR MLR
comp=Z,17μm,19.0s
SFJD Kangerlussuaq 32.88 350 *i* P **P 20 03 36.1 -2.9**
SFJD IAmb IAmb 20 03 43.4
comp=Z,30nm,1.1s
SFJD Kangerlussuaq 32.88 350 ⇓P **P 20 03 38.4 -0.5**
RUSF Rustrel 32.96 62 ⇓P **P 20 03 43.4 +3.4**
UCC Uccle 32.98 49 *d*P **P 20 03 39.1 -0.9**
DOU Dourbes 32.99 51 *d*P **P 20 03 39.5 -0.6**
VLDQ Val d'Or 33.00 306 IAmb IAmb 20 03 42.8
comp=Z,42nm,1.0s
VLDQ IAMs_20 IAMs_20 20 16 26.8
comp=Z,4μm,20.0s
SSPA Standing Stone 33.10 292 P **P 20 03 41.2 0.0**
SSPA IAmb IAmb 20 04 16.4
comp=Z,85nm,1.7s
SSPA Standing Stone 33.10 292 ⇓P **P 20 03 42.0 +0.7**
GIVF Givet 33.13 51 *e*P **P 20 03 42.3 +0.9**
GIVF pmax pmax
comp=Z,43nm,1.2s
BMRD Maredsous 33.14 50 *d*P **P 20 03 40.8 -0.6**
BMRD *d*x x 20 03 43.4
ORIF Oris-en-Rattie 33.27 60 *e*P **P 20 03 44.4 +1.7**
ORIF pmax pmax
comp=Z,17nm,1.0s
BGES Gesves 33.35 50 *d*P **P 20 03 42.8 -0.6**
comp=Z,12nm,1.0s
RCHB Rochefort 33.40 51 *d*x x 20 03 44.6
GRTK Grand Turk 33.48 255 IAMs_20 IAMs_20 20 13 32.7
comp=Z,4μm,21.0s
BCLA Clavier 33.49 50 *d*P **P 20 03 44.0 -0.5**
CABF La Chapelle 33.51 57 *e*P **P 20 03 45.7 +0.9**
CABF pmax pmax
comp=Z,56nm,1.2s
WVNY West Valley, N 33.54 295 IAmb IAmb 20 03 46.7
comp=Z,57nm,0.7s
MDP Montagnes des 33.64 211 LR LR 20 14 09.1
comp=Z,7μm,21.6s,baz=28,slow=30
LMR La Mourre 33.70 63 *e*P **P 20 03 48.0 +1.6**
LMR pmax pmax
comp=Z,29nm,1.3s
HAU Haudompre 33.81 55 *e*P **P 20 03 47.2 -0.2**
HAU pmax pmax
comp=Z,57nm,1.5s
BNI Bardonecchia 33.84 60 P **P 20 03 50.9 +3.1**
BNI pmax pmax
comp=Z,232nm,1.7s
BNI Bardonecchia 33.84 60 ⇑P **P 20 03 50.1 +2.3**
LPL La Plagne 33.89 59 *e*P **P 20 03 50.6 +2.3**
LPL pmax pmax
comp=Z,26nm,1.1s
MBDF Montbardon 33.89 61 *e*P **P 20 03 49.7 +1.4**
MBDF pmax pmax
comp=Z,51nm,1.3s
LPG La Plagne 33.90 59 *e*P **P 20 03 48.3 -0.2**
LPG pmax pmax
comp=Z,12nm,0.9s
WLF Walferdange 33.91 52 IAmb IAmb 20 04 07.6
comp=Z,67nm,1.2s
WLF Walferdange 33.91 52 P **P 20 03 48.7 +0.6**
WLF Walferdange 33.91 52 *d*x x 20 03 50.5
WLF Walferdange 33.91 52 P **P 20 03 50.5 +2.4**
WLF pmax pmax
comp=Z,53nm,1.8s
WLF Walferdange 33.91 52 ⇑P **P 20 03 50.8 +2.7**
SADO Sadowa 33.92 300 IAmb IAmb 20 03 49.3
comp=Z,137nm,1.8s
SADO Sadowa 33.92 300 LR LR 20 18 23.6
comp=Z,1μm,18.0s,baz=108,slow=38
SADO Sadowa 33.92 300 ⇑P **P 20 03 48.2 -0.1**
BHOU Houvegnez 33.92 50 *d*P **P 20 03 47.0 -1.3**
BHOU *d*x x 20 03 49.3
ICESG Greenland Ices 33.95 358 *i* P **P 20 03 47.2 -1.4**
ICESG IAmb IAmb 20 03 51.2
comp=Z,89nm,0.9s
ICESG Greenland Ices 33.95 358 ⇑P **P 20 03 47.5 -1.1**
MEM Membach 33.97 50 *d*x x 20 03 51.0
MEM Membach 33.97 50 P **P 20 03 51.0 +2.3**
MEM pmax pmax
comp=Z,20nm,1.6s
HINF Hinteralfeld 34.13 55 *e*P **P 20 03 51.4 +1.2**
HINF pmax pmax
comp=Z,71nm,1.9s
S57A Dark Hollow, R 34.26 287 IAmb IAmb 20 03 53.5
comp=Z,52nm,1.0s
ECH Echery 34.38 54 IAmb IAmb 20 04 10.8
comp=Z,64nm,1.5s
ECH Echery 34.38 54 P **P 20 03 54.2 +1.9**
ECH pmax pmax
comp=Z,175nm,1.9s
CDF Champ du Feu 34.47 54 *e*P **P 20 03 52.8 -0.4**
CDF pmax pmax
comp=Z,52nm,1.3s
MCWV Mont Chateau 34.69 291 IAmb IAmb 20 03 58.5
comp=Z,39nm,0.9s
MONC Moncucco Torin 34.72 60 ⇓P **P 20 03 57.0 +1.7**
ALLY Alegheny Colle 34.73 294 IAmb IAmb 20 04 02.7
comp=Z,73nm,1.1s
SDDR Presa de Saban 34.99 252 P **P 20 03 57.6 -0.3**
SDDR IAmb IAmb 20 04 45.1
comp=Z,158nm,1.9s
SDDR IAMs_20 IAMs_20 20 14 37.8
comp=Z,4μm,21.0s
ILULI Ilulissat 35.01 351 IAmb IAmb 20 04 29.7
comp=Z,164nm,1.8s
ILULI Ilulissat 35.01 351 *i* P **P 20 03 55.1 -2.3**
R55A Marlinton 35.09 288 IAmb IAmb 20 04 35.1
comp=Z,72nm,1.3s
BFO Black Forest 35.16 54 P **P 20 03 58.0 -1.1**
BFO IAmb IAmb 20 04 18.5
comp=Z,112nm,1.5s
BFO Black Forest 35.16 54 P **P 20 03 58.0 -1.1**
BFO pmax pmax
comp=Z,113nm,1.5s
BFO MLR MLR
comp=Z,12μm,20.0s
BFO Black Forest 35.16 54 ⇑P **P 20 03 60.0 +0.9**
X58A Rowland 35.20 282 IAmb IAmb 20 04 09.5
comp=Z,53nm,0.9s
N53A Lisbon 35.32 293 IAmb IAmb 20 04 07.8
comp=Z,95nm,1.2s
TNS Taunus Mts 35.45 51 P **P 20 04 02.7 +1.1**
BLA Blacksburg 35.51 286 ⇓P **P 20 04 03.9 +1.7**
BLA Blacksburg 35.51 286 ⇓P **P 20 04 03.9 +1.7**
Q54A Coxs Mills 35.54 290 IAmb IAmb 20 04 38.0
comp=Z,185nm,1.9s
PGF Pioggiola 35.56 64 *e*P **P 20 04 03.7 +1.1**
PGF pmax pmax
comp=Z,17nm,0.8s
PGF Pioggiola 35.56 64 ⇓P **P 20 04 03.8 +1.1**
M52A Chesterland 35.65 294 IAmb IAmb 20 04 04.9
comp=Z,65nm,0.7s
O53A New Philadelph 35.67 292 IAmb IAmb 20 04 21.4
comp=Z,59nm,1.2s
TUE Stuetta 35.74 58 P **P 20 04 05.8 +1.5**
comp=Z,6μmcomp=Z,291nm,1.6s
TUE Stuetta 35.74 58 ⇓P **P 20 04 05.9 +1.6**
MSSA Maissana 35.86 61 IAmb IAmb 20 04 17.8
comp=Z,130nm,1.5s
P53A Whipple 35.90 290 IAmb IAmb 20 04 07.3
comp=Z,38nm,0.8s
PCRV Puerto La Cruz 35.98 233 P **P 20 04 07.1 +0.7**
comp=Z,9.7nm,1.0s,baz=346,slow=8.3,SNR=1.2
comp=Z,9.7nm,1.0s
KMY Karmoy 36.05 35 *e*S **S 20 09 43.2 -1.7**
KMY *e*SS **SnSn 20 12 15.6 +6.0**
KMY IVMs_BB IVMs_BB 20 19 27.7
comp=Z,5μm,5.8s
S54A Dingess, Beckl 36.10 288 IAmb IAmb 20 04 09.5
comp=Z,49nm,0.9s
SCO Scoresbysund 36.12 8 P **P 20 04 04.8 -2.1**
SCO IAmb IAmb 20 04 29.3
comp=Z,62nm,1.3s
SCO IAMs_20 IAMs_20 20 13 12.2
comp=Z,6μm,20.0s
SCO Scoresbysund 36.12 8 P **P 20 04 04.8 -2.1**
SCO pmax pmax
comp=Z,62nm,1.3s
SCO MLR MLR
comp=Z,6μm,20.0s
SCO Scoresbysund 36.12 8 *i* P **P 20 04 07.9 +1.0**
SCO Scoresbysund 36.12 8 ⇓P **P 20 04 10.8 +3.8**
DAVOX Davos/Dischmat 36.12 57 LR LR 20 16 09.2
comp=Z,10μm,21.8s,baz=253,slow=32
DAVA Damuels 36.14 56 *i* pP **P 20 04 08.5 +0.9**
comp=Z,6.4nm,0.7s
DAVA Damuels 36.14 56 ⇓P **P 20 04 08.6 +0.9**
VSL Villasalto 36.15 69 IAmb IAmb 20 04 28.7
comp=Z,149nm,1.6s
O52A Adamsville 36.16 292 IAmb IAmb 20 04 09.9
comp=Z,71nm,0.9s
FUORN Ofenpass-Fuorn 36.38 57 IAmb IAmb 20 04 39.5
comp=Z,130nm,1.9s
FUORN IAMs_20 IAMs_20 20 15 45.8
comp=Z,8μm,22.0s
N51A Ashland 36.47 293 IAmb IAmb 20 04 12.2
comp=Z,60nm,0.8s
VLC Villacollemand 36.49 61 P **P 20 04 09.1 -1.4**
UMMG Uummannaq 36.51 351 *i* P **P 20 04 08.5 -1.7**
UMMG IAmb IAmb 20 04 14.5
comp=Z,68nm,1.5s
ASK Askoy 36.55 33 *e*P **P 20 04 09.3 -1.4**
ASK IVmB_BB 20 04 35.9
comp=Z,3μm,3.9s
ASK *e*S **S 20 09 50.5 -2.0**
ASK *e*SS **SS 20 12 32.8 +0.8**
ASK IVMs_BB IVMs_BB 20 19 10.6
comp=Z,5μm,10.4s
BER Bergen 36.57 34 *e*S **S 20 09 54.3 +1.5**
BER *e*SS **SS 20 12 32.4 0.0**
BER IVMs_BB IVMs_BB 20 14 59.3
comp=Z,6μm,22.9s
I49A Point Hope 36.57 298 IAmb IAmb 20 04 12.4
comp=Z,75nm,0.8s
SUE Sulen 36.60 32 *e*S **S 20 09 48.5 -4.7**
SUE *e*SS **SS 20 12 34.8 +1.7**
SNART Snartemo 36.69 37 *e*P **P 20 04 10.7 -1.2**
SNART Snartemo 36.69 37 *i* P **P 20 04 10.0 -1.9**
BLS5 Blasjo 36.71 35 *e*P **P 20 04 11.1 -1.1**
BLS5 *e*S **S 20 09 54.4 -0.8**
BLS5 *e*SS **SS 20 12 36.2 +0.9**
BLS5 IVMs_BB IVMs_BB 20 15 29.9
comp=Z,6μm,20.3s
FETA Feichten 36.71 57 *e*pP pP 20 04 14.6 -1.0
comp=Z,24nm,2.1s
RETA Reutte 36.75 56 *i* pP pP 20 04 15.7 -0.1
comp=Z,17nm,1.6s
KEST Kesra 36.81 76 IAmb IAmb 20 04 44.1
comp=Z,69nm,1.3s
KEST Kesra 36.81 76 P **P 20 04 11.7 -1.7**
comp=Z,7.8nm,0.9s,baz=265,slow=3.1,SNR=9.9
comp=Z,7.8nm,0.9s
JSC Jenkinsville 36.81 282 IAmb IAmb 20 04 49.9
comp=Z,99nm,1.7s
FOO Floro 36.96 32 *e*S **S 20 09 56.3 -2.5**
FOO *e*SS **SS 20 12 41.9 +1.5**
FOO IVMs_BB IVMs_BB 20 19 15.7
comp=Z,8μm,6.6s
MOTA Moosalm 36.97 56 *e*pP **P 20 04 15.8 +1.1**
comp=Z,14nm,0.9s
ODD1 Odda 36.97 35 *e*P **P 20 04 13.5 -1.0**
ODD1 IVmBBB 20 04 22.4
comp=Z,2μm,3.0s
ODD1 *e*S **S 20 09 59.3 +0.1**
ODD1 *e*SS **SS 20 12 39.2 -1.6**
ODD1 IVMsBB 20 15 12.7
comp=Z,6μm,6.7s
ACSO Alum Creek Sta 37.01 292 IAmb IAmb 20 04 16.8
comp=Z,56nm,0.8s
ACSO Alum Creek Sta 37.01 292 ⇓P **P 20 04 16.1 +1.1**
NMDO Nuevo Mundo 37.04 257 IAMs_20 IAMs_20 20 16 05.9
comp=Z,4μm,22.0s
SQTA Sankt Quirin 37.04 56 *e*pP **P 20 04 16.3 +1.0**
comp=Z,30nm,1.2s,SNR=6.9
MUD Monsted U'grnd 37.13 41 *i* P **P 20 04 16.2 +0.5**
OSSC Osservatorio P 37.14 62 IAmb IAmb 20 04 30.2
comp=Z,76nm,1.1s
GRFO Grafenberg 37.18 52 P **P 20 04 15.5 -0.8**
GRFO IAmb IAmb 20 04 35.3
comp=Z,166nm,1.8s
GRFO Grafenberg 37.18 52 P **P 20 04 15.5 -0.8**
GRFO pmax pmax
comp=Z,166nm,1.8s
GRFO MLR MLR
comp=Z,18μm,22.0s
GRA1 Grafenberg Arr 37.18 52 IAmb IAmb 20 04 35.4
comp=Z,164nm,1.8s
GRF Grafenberg Arr 37.18 52 P **P 20 04 19.0 +2.7**
P51A Williamsport 37.18 291 IAmb IAmb 20 04 18.0
comp=Z,70nm,0.8s
HYA Hoyanger 37.27 33 *e*P **P 20 04 15.8 -1.1**
HYA IVmB_BB 20 04 17.3
comp=Z,6μm,4.2s
HYA *e*S **S 20 10 04.3 +0.8**
HYA *e*SS **SS 20 12 45.8 -0.9**
HYA IVMs_BB IVMs_BB 20 18 41.4
comp=Z,7μm,8.8s
AAM Ann Arbor 37.29 295 IAmb IAmb 20 04 19.1
comp=Z,51nm,0.9s
WATA Walderalm 37.30 56 *i* pP **P 20 04 17.4 -0.1**
comp=Z,23nm,1.1s,SNR=9.2
HOMB Homborsund 37.31 38 *e*P **P 20 04 15.2 -2.0**
HOMB *e*S **S 20 10 04.7 +0.5**
HOMB *e*SS **SS 20 12 49.6 +2.1**
HOMB IVMs_BB IVMs_BB 20 16 25.4
comp=Z,7μm,21.7s
HOMB Homborsund 37.31 38 *i* P **P 20 04 20.2 +3.0**
WTTA Wattenberg 37.33 56 *i* pP **P 20 04 18.3 +0.5**
comp=Z,32nm,1.1s,SNR=10
TEOL Teolo 37.37 59 IAmb IAmb 20 04 35.7
comp=Z,56nm,1.0s
SSFO Shawnee State 37.41 290 IAmb IAmb 20 04 20.1
comp=Z,55nm,0.8s
SUMG Summit 37.41 359 P **P 20 04 16.9 -1.5**
SUMG IAMs_20 IAMs_20 20 16 12.8
comp=Z,4μm,21.0s
SUMG Summit 37.41 359 P **P 20 04 16.9 -1.5**
SUMG pmax pmax
comp=Z,150nm,1.0s
SUMG MLR MLR
comp=Z,4μm,21.0s
SUMG Summit 37.41 359 *i* P **P 20 04 17.0 -1.5**
SUMG IAmb IAmb 20 04 24.2
comp=Z,118nm,1.1s
SUMG Summit 37.41 359 ⇓P **P 20 04 18.1 -0.3**
NUUG Nuugaatsiaq 37.44 351 *i* P **P 20 04 16.6 -1.6**
NUUG IAmb IAmb 20 04 21.8
comp=Z,28nm,1.3s
GTBY Guantanamo Bay 37.48 256 IAMs_20 IAMs_20 20 16 08.5
comp=Z,4μm,20.0s
FLTG Flechtingen 37.48 48 ⇑P **P 20 04 18.5 -0.2**
V53A Saluda 37.71 285 IAmb IAmb 20 04 56.9
comp=Z,144nm,1.8s
L48A N Adams 37.90 295 IAmb IAmb 20 04 24.0
comp=Z,57nm,0.8s
L48A IAMs_20 IAMs_20 20 20 35.8
comp=Z,3μm,19.0s
ABTA Abfaltersbach 37.93 57 *e*pP **P 20 04 23.8 +1.0**
comp=Z,26nm,1.0s,SNR=10
NKC Novy Kostel 38.01 51 *e*P **P 20 04 23.4 +0.1**
NKC *e*S **S 20 10 20.9 +5.8**
NKC AMS AMS 20 16 40.0
comp=Z,18μm,20.6s
NKC Novy Kostel 38.01 51 *e*P **P 20 04 23.4 +0.1**
NKC *e*S **S 20 10 20.9 +5.8**
NKC MLR MLR
comp=Z,18μm,20.6s
SKAR Skarslia 38.04 34 *e*P **P 20 04 25.9 +2.5**
SKAR IVmB_BB 20 04 27.1
comp=Z,4μm,4.9s
SKAR *e*S **S 20 10 11.3 -4.0**
SKAR *e*SS **SS 20 13 02.7 +0.4**
SKAR IVMs_BB IVMs_BB 20 16 06.2
comp=Z,5μm,5.2s
LESA Schwarzleotal 38.04 56 *e*pP **P 20 04 24.4 +0.7**
comp=Z,11nm,1.1s,SNR=9.5
AKN Aaknes 38.05 31 *e*S **S 20 10 12.0 -3.4**
AKN *e*SS **SS 20 13 03.9 +1.5**
AKN IVMs_BB IVMs_BB 20 17 56.0
comp=Z,6μm,4.6s
TZTN Tazewell 38.10 286 IAmb IAmb 20 04 49.8
comp=Z,72nm,1.2s
TZTN Tazewell 38.10 286 ⇓P **P 20 04 25.5 +1.3**
CESX Cesi 38.19 64 IAmb IAmb 20 04 38.9
comp=Z,104nm,1.1s
TAM Tamanrasset 38.25 97 P **P 20 04 25.3 -0.5**
TAM IAmb IAmb 20 04 45.4
comp=Z,103nm,1.2s
TAM Tamanrasset 38.25 97 P **P 20 04 25.3 -0.5**
TAM pmax pmax
comp=Z,103nm,1.2s
TAM MLR MLR
comp=Z,13μm,18.0s
KONO Kongsberg 38.29 36 *e*P **P 20 04 23.8 -1.7**
KONO IVmB_BB 20 04 51.2
comp=Z,3μm,5.5s
KONO *e*S **S 20 10 18.7 -0.3**
KONO *e*SS **SS 20 13 07.2 0.0**
KONO IVMs_BB IVMs_BB 20 18 27.6
comp=Z,5μm,6.8s
KONO Kongsberg 38.29 36 *i* P **P 20 04 24.7 -0.8**
KONO pmax pmax
comp=Z,89nm,1.6s
MOL Molde 38.45 31 *e*S **S 20 10 19.1 -2.2**
MOL *e*SS **SS 20 13 15.7 +5.5**
MOL IVMs_BB IVMs_BB 20 18 02.0
comp=Z,5μm,5.0s
CLL Collm 38.45 50 *e*P **P 20 04 26.0 -1.0**
CLL *i* 20 04 33.2
CLL *e*S **S 20 10 23.0 +1.3**
CLL pmax pmax
comp=Z,41nm,1.7s
CLL Collm 38.45 50 P **P 20 04 27.2 +0.2**
comp=Z,25nm,1.4s
CLL Collm 38.45 50 *e*P **P 20 04 26.0 -1.0**
comp=Z,41nm,1.7s
CLL *e*Plp 20 04 29.0
comp=Z,700nm,27.0s
CLL *i* x x 20 04 33.2
comp=Z,40nm,1.3s
CLL *e*PP **PP 20 05 53.0 -1.8**
CLL *i* x x 20 06 06.2
CLL *i* PPP PPP 20 06 12.8
CLL *i* PPPP 20 06 24.7
CLL *i* x x 20 06 54.4
CLL *e*S **S 20 10 23.0 +1.3**
comp=N,4μm,22.2s
CLL *e*S **S 20 10 23.0 +1.3**
comp=E,9μm,24.5s
CLL *e*x x 20 10 51.0
CLL *e*SS **SS 20 13 14.0 +3.3**
CLL AMS AMS 20 17 42.0
TKL Tuckaleechee C 38.48 285 IAmb IAmb 20 04 53.8
comp=Z,104nm,1.2s
TKL Tuckaleechee C 38.48 285 LR LR 20 19 43.4
comp=Z,581nm,19.2s,baz=80,slow=35
TKL Tuckaleechee C 38.48 285 ⇓P **P 20 04 28.8 +1.4**
CHIV Chivirico 38.49 258 IAMs_20 IAMs_20 20 16 45.3
comp=Z,3μm,20.0s
KBA Koelnbreinsper 38.50 57 *e*pP **P 20 04 28.8 +1.1**
comp=Z,18nm,1.0s,SNR=7.2
KBA Koelnbreinsper 38.50 57 ⇓P **P 20 04 29.2 +1.5**
KBA Koelnbreinsper 38.50 57 ⇓P **P 20 04 29.2 +1.5**
FDMO Fiordimonte 38.52 63 IAmb IAmb 20 04 48.2
comp=Z,148nm,1.5s
NRCA Norcia 38.56 63 IAmb IAmb 20 04 55.4
comp=Z,137nm,1.6s
JMI Jan Mayen 38.61 14 *e* PKiKP 20 13 37.5 -16
HSKC Hora Svate Kat 38.66 51 AMS AMS 20 17 00.0
comp=Z,26μm,19.2s
KHC Kasperske Hory 38.68 53 *e*P **P 20 04 29.5 +0.4**
KHC *e*S **S 20 10 26.2 +0.8**
KHC AMS AMS 20 17 10.0
comp=Z,10μm,17.9s
KHC Kasperske Hory 38.68 53 *c e*P **P 20 04 29.4 +0.4**
KHC pmax pmax
comp=Z,89nm,1.7s
KHC Kasperske Hory 38.68 53 P **P 20 04 29.1 +0.1**
comp=Z,26nm,2.3s
KHC Kasperske Hory 38.68 53 ⇓P **P 20 04 29.3 +0.2**
BIOA Bad Ischl, Aus 38.70 56 *i* pP **P 20 04 29.5 +0.3**
comp=Z,16nm,0.7s,SNR=17
JMIC Jan Mayen 38.70 14 *e* PKiKP 20 13 36.0 -18
JMIC Jan Mayen 38.70 14 LR LR 20 14 44.1
comp=Z,5μm,21.2s,baz=208,slow=28
SABO M.te Sabotino 38.70 58 IAMs_20 IAMs_20 20 17 13.8
comp=Z,9μm,22.0s
GUMA Gualdo di Mace 38.70 63 IAmb IAmb 20 04 46.3
comp=Z,123nm,0.9s
MYKA Terra Mystica 38.71 57 *e*pP **P 20 04 30.8 +1.5**
comp=Z,13nm,1.0s
JNE Jan Mayen East 38.74 14 *e* PKiKP 20 13 29.8 -24
JNW Jan Mayen West 38.75 14 *e* PKiKP 20 13 31.3 -22
GERES GERESS Array B 38.76 54 P P 20 04 24.2 -5.5
GERES GERESS Array B 38.76 54 P **P 20 04 27.9 -1.8**
comp=Z,2.7nm,0.9s,baz=262,slow=9.3,SNR=9.8
GERES LR LR 20 17 25.0
comp=Z,10μm,21.7s,baz=261,slow=32
comp=Z,2.7nm,0.9s
STRU Stroemstad 38.87 37 *i* P **P 20 04 35.1 +4.7**
DOMB Dombas 38.88 32 *e*P **P 20 04 30.6 +0.1**
DOMB *e*S **S 20 10 27.2 -0.9**
DOMB *e*SS **SS 20 13 22.0 +2.7**
DOMB IVMs_BB IVMs_BB 20 22 01.6
comp=Z,6μm,5.7s
OSL Oslo 38.92 36 *e*S **S 20 10 25.7 -2.8**
OSL *e*SS **SnSn 20 13 17.4 -1.4**
OSL IVMs_BB IVMs_BB 20 15 35.0
comp=Z,5μm,5.6s
UPNV Upernavik 38.96 351 *i* P **P 20 04 28.0 -2.9**
UPNV IAmb IAmb 20 04 35.1
comp=Z,21nm,1.0s
BRG Berggiesshubel 39.01 51 *e*P **P 20 04 32.4 +0.7**
BRG Amp 20 04 34.8
comp=Z,18nm,1.1s
JAVS Javornik 39.03 58 *i* P **P 20 04 32.7 +0.7**
ZVC Zvikov 39.09 53 *e*P **P 20 04 32.7 +0.3**
ZVC *e*S **S 20 10 34.9 +3.4**
ZVC AMS AMS 20 21 30.0
comp=Z,12μm,13.2s
MOA Molln 39.12 55 *i* pP **P 20 04 32.7 0.0**
comp=Z,14nm,1.0s,SNR=5.6
BJUU Bjuv 39.13 42 *i* P **P 20 04 35.1 +2.5**
BAUV El Baul 39.15 236 P **P 20 04 33.7 +0.5**
BAUV IAMs_20 IAMs_20 20 20 36.5
comp=Z,3μm,20.0s
CRNS Crni Vrh 39.16 58 *e*P **P 20 04 33.9 +0.9**
CRNS *e*S **S 20 10 32.2 -0.3**
CKRC Cesky Krumlov 39.16 54 *e*P **P 20 04 33.3 +0.3**
CKRC *e*S **S 20 10 33.2 +0.7**
CKRC AMS AMS 20 17 20.0
comp=Z,10μm,20.0s
CKRC Cesky Krumlov 39.16 54 *e*P **P 20 04 33.3 +0.3**
CKRC *e*S **S 20 10 33.2 +0.7**
CKRC MLR MLR
comp=Z,10μm,20.0s
L46A Eue Claire 39.27 295 IAmb IAmb 20 04 35.4
comp=Z,75nm,0.8s
PRA Prague 39.27 52 *e*P **P 20 04 34.7 +0.8**
PRA *e*S **S 20 10 38.3 +4.2**
PRA AMS AMS 20 18 20.0
comp=Z,13μm,16.1s
PRA Prague 39.27 52 *e*P **P 20 04 34.7 +0.8**
PRA *e*S **S 20 10 38.3 +4.2**
PRA MLR MLR
comp=Z,13μm,16.1s
CEY Cerknica 39.29 59 *e*P **P 20 04 34.2 +0.1**

LUNU	Lund	39.29	43	*i* P	P	20 04 34.0	+0.1		
NBO00	NORSAR Array S	39.29	34	IAmb	IAmb	20 04 39.1			
	comp=Z,153nm,1.6s								
NBCL	Cascavel-CE	39.32	183	*e*P	P	20 04 35.3	+0.8		
BORU	Boraas	39.33	40	*i* P	P	20 04 35.6	+1.4		
CLRN	Clyde River	39.34	343	⇓P	P	20 04 33.6	-0.5		
OBKA	Obir	39.34	57	*ep*P	P	20 04 33.8	-0.8		
	comp=Z,23nm,0.7s,SNR=6.4								
OBKA	Obir	39.34	57	*e*P	P	20 04 33.1	-1.5		
PRU	Pruhonice	39.34	52	*e*P	P	20 04 34.5	0.0		
PRU				*e*S	S	20 10 39.7	+4.5		
PRU				AMS	AMS	20 21 00.0			
	comp=Z,11μm,15.3s								
PRU	Pruhonice	39.34	52	*e*P	P	20 04 34.5	0.0		
PRU				*e*S	S	20 10 39.7	+4.5		
PRU				MLR	MLR				
	comp=Z,11μm,15.3s								
NC204	NORSAR Array S	39.37	34	IAmb	IAmb	20 05 02.4			
	comp=Z,248nm,1.9s								
PVCC	Panska Ves	39.38	51	*e*P	P	20 04 34.6	-0.2		
PVCC				AMS	AMS	20 17 30.0			
	comp=Z,22μm,19.3s								
PVCC	Panska Ves	39.38	51	*e*P	P	20 04 34.6	-0.2		
PVCC				MLR	MLR				
	comp=Z,22μm,19.3s								
GOPC	GO Pecny, Ondr	39.50	52	AMS	AMS	20 18 10.0			
	comp=Z,9μm,14.8s								
NB2	NORSAR Subarra	39.50	34	P	P	20 04 34.9	-0.8		
	comp=Z,4.2nm,0.7s,baz=252,slow=9.3								
NB2				PCP	PcP	20 06 55.1	+12		
	comp=Z,8.4nm,1.1s,baz=222,slow=1.7								
NB2	NORSAR Subarra	39.50	34	P	P	20 04 34.9	-0.8		
	baz=252,slow=9.3								
NOA	NORSAR Array B	39.50	34	P	P	20 04 34.8	-0.9		
	comp=Z,5.9nm,0.7s,baz=252,slow=8.6,SNR=17								
NOA				LR	LR	20 19 06.3			
	comp=Z,3μm,19.5s,baz=245,slow=34								
	comp=Z,5.9nm,0.7s								
NB201	NORSAR Array S	39.54	34	IAmb	IAmb	20 04 46.2			
	comp=Z,104nm,1.4s								
NC602	NORSAR Array S	39.55	35	*e*P	P	20 04 34.9	-1.2		
NC602				*e*S	S	20 10 37.5	-0.6		
NC602				*e*SS	SS	20 13 32.9	+0.3		
NC602				IVMs_BB	IVMs_BB	20 16 57.7			
	comp=Z,5μm,22.5s								
NORES	NORESS Array B	39.55	35	P	P	20 04 40.8	+4.7		
NORES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
GBRS	Gornja Briga	39.57	59	*e*P	P	20 04 36.0	-0.4		
GBRS				*i*		20 04 38.6			
GBRS				*e*S	S	20 10 39.9	+1.1		
NC303	NORSAR Array S	39.63	34	IAmb	IAmb	20 04 49.8			
	comp=Z,77nm,1.1s								
SOKA	Soboth	39.67	57	*ep*P	P	20 04 38.2	+0.9		
	comp=Z,6.9nm,1.0s								
DEL	Delary	39.67	42	*i* P	P	20 04 39.1	+2.0		
BOAV	Boa Vista	39.75	220	P	P	20 04 38.0	-0.2		
BOAV				IAMs_20	IAMs_20	20 18 06.1			
	comp=Z,4μm,20.0s								
BOAV	Boa Vista	39.75	220	*e*P	P	20 04 39.3	+1.1		
NC405	NORSAR Array S	39.75	34	P	P	20 04 33.0	-4.8		
NC405				IAmb	IAmb	20 05 09.5			
	comp=Z,139nm,1.9s								
TBLU	Trondheim	39.86	31	*e*S	S	20 10 43.2	+0.7		
TBLU				*e*SS	SnSn	20 13 42.5	+1.2		
BOJS	Bojanci	39.88	59	*e*P	P	20 04 38.2	-0.8		
WCI	Wyandotte Cave	39.88	290	P	P	20 04 39.7	+0.5		
WCI	Wyandotte Cave	39.88	290	P	P	20 04 39.7	+0.5		
WCI				pmax	pmax				
	comp=Z,27nm,0.9s								
WCI				MLR	MLR				
	comp=Z,2μm,21.0s								
DBG	Daneborg	39.91	7	*i* P	P	20 04 42.0	+3.2		
DBG				IAmb	IAmb	20 04 52.1			
	comp=Z,63nm,1.5s								
DBG	Daneborg	39.91	7	⇑P	P	20 04 44.2	+5.4		
TREC	Trest	39.94	53	*e*P	P	20 04 38.6	-0.9		
TREC				*e*S	S	20 10 43.9	-0.3		
TREC				AMS	AMS	20 21 50.0			
	comp=Z,9μm,13.6s								
TREC	Trest	39.94	53	*e*P	P	20 04 38.6	-0.9		
TREC				*e*S	S	20 10 43.9	-0.3		
TREC				MLR	MLR				
	comp=Z,9μm,13.6s								
ARSA	Arzberg	39.98	56	*i* pP	P	20 04 40.2	+0.3		
	comp=Z,8.5nm,0.9s								
CRES	Cresnjevec Ost	40.00	59	*e*P	P	20 04 40.6	+0.6		
H43A	Windswept, Lux	40.08	299	P	P	20 04 40.4	-0.3		
H43A				IAmb	IAmb	20 04 42.5			
	comp=Z,68nm,0.9s								
SFIN	Lafayette	40.10	293	IAMs_20	IAMs_20	20 18 35.3			
	comp=Z,3μm,19.0s								
CONA	Conrad Observa	40.19	55	*i* P	P	20 04 40.6	-1.1		
	comp=Z,11nm,1.7s								
F42A	Maple Grove Fa	40.24	301	P	P	20 04 38.4	-3.7		
UPC	Upice	40.30	51	*e*P	P	20 04 42.3	-0.2		
UPC				*e*S	S	20 10 50.7	+1.1		
UPC				AMS	AMS	20 18 40.0			
	comp=Z,17μm,17.8s								
UPC	Upice	40.30	51	*e*P	P	20 04 42.3	-0.2		
UPC				*e*S	S	20 10 50.7	+1.1		
UPC				MLR	MLR				
	comp=Z,17μm,17.8s								
MTDJ	Mount Denham	40.32	256	IAMs_20	IAMs_20	20 16 53.9			
	comp=Z,4μm,22.0s								
CHVC	Chvalec	40.33	51	*e*P	P	20 04 42.6	-0.1		
CHVC				AMS	AMS	20 18 40.0			
	comp=Z,15μm,17.4s								
CHVC	Chvalec	40.33	51	*e*P	P	20 04 42.6	-0.1		
CHVC				MLR	MLR				
	comp=Z,15μm,17.4s								
PTJ	Puntijarka	40.35	58	P	P	20 04 45.0	+2.0		
CLTN	Cedars of Leba	40.39	286	IAmb	IAmb	20 05 09.0			
	comp=Z,90nm,1.3s								
VAE	Valguarnera	40.40	72	LR	LR	20 19 37.1			
	comp=Z,25μm,18.9s,baz=258,slow=34								
HFS	Hagfors	40.40	36	P	P	20 04 40.8	-2.3		
	comp=Z,7.2nm,0.8s,baz=256,slow=6.0,SNR=9.4								
HFS				LR	LR	20 18 19.9			
	comp=Z,12μm,21.9s,baz=257,slow=32								
	comp=Z,7.2nm,0.8s								
OSTC	Ostas	40.43	51	*ex*	x	20 04 53.6			
OSTC				*e*S	S	20 10 53.6	+2.0		
OSTC				AMS	AMS	20 18 00.0			
	comp=Z,19μm,22.5s								
L44A	Lake County Fo	40.44	296	IAmb	IAmb	20 04 45.0			
	comp=Z,73nm,1.1s								
L44A				IAMs_20	IAMs_20	20 18 48.0			
	comp=Z,3μm,21.0s								
L44A	Lake County Fo	40.44	296	P	P	20 04 43.8	+0.1		
	baz=82								
DBIC	Dimbokro	40.46	127	P	P	20 04 41.8	-2.3		
DBIC				IAmb	IAmb	20 04 46.4			
	comp=Z,53nm,0.8s								
DBIC	Dimbokro	40.46	127	P	P	20 04 42.7	-1.4		
	comp=Z,53nm,0.8s,baz=305,slow=8.6,SNR=48								
DBIC				LR	LR	20 19 03.2			
	comp=Z,17μm,21.2s,baz=305,slow=33								
	comp=Z,53nm,0.8s								
DBIC	Dimbokro	40.46	127	P	P	20 04 43.6	-0.5		
DBIC	Dimbokro	40.46	127	⇑P	P	20 04 42.5	-1.7		
KSP	Ksiaz	40.49	51	*e*P	P	20 04 43.9	-0.1		
KSP				*e*S	S	20 10 56.6	+4.3		
KSP				*e*L	L	20 16 59.8			
	comp=Z,26μm,30.0s								
KSP	Ksiaz	40.49	51	P	P	20 04 44.8	+0.8		
KSP	Ksiaz	40.49	51	P	P	20 04 43.8	-0.2		
	comp=Z,26nm,2.1s								
KSP	Ksiaz	40.49	51	⇑P	P	20 04 43.8	-0.2		
RONA	Rosalia, Austr	40.49	56	*i* pP	pP	20 04 46.1	-1.2		
	comp=Z,9.7nm,1.2s								
DPC	Dobruska-Polom	40.50	51	*e*P	P	20 04 43.8	-0.3		
DPC				*ex*	x	20 04 54.3			
DPC				*e*S	S	20 10 56.4	+3.8		
DPC				AMS	AMS	20 18 50.0			
	comp=Z,14μm,16.3s								
DPC	Dobruska-Polom	40.50	51	*e*P	P	20 04 43.8	-0.3		
DPC				*e*S	S	20 10 56.4	+3.8		
DPC				MLR	MLR				
	comp=Z,14μm,16.3s								
DPC	Dobruska-Polom	40.50	51	P	P	20 04 43.8	-0.3		
	comp=Z,1μmcomp=Z,23nm,1.1s								
KRUC	Moravsky	40.53	53	*e*P	P	20 04 43.5	-0.9		
KRUC				*e*S	S	20 10 54.9	+1.9		
TORD	Torodi Ar. Bea	40.60	113	P	P	20 04 43.4	-1.9		
TORD	Torodi Ar. Bea	40.60	113	P	P	20 04 44.0	-1.3		
	comp=Z,49nm,0.9s,baz=315,slow=9.2,SNR=92								
TORD				LR	LR	20 20 13.0			
	comp=Z,16μm,18.6s,baz=307,slow=34								
	comp=Z,49nm,0.9s								
SGRT	San Giovanni R	40.63	65	IAMs_20	IAMs_20	20 20 10.7			
	comp=Z,8μm,22.0s								
M44A	Midewin, Midew	40.65	295	IAmb	IAmb	20 04 51.3			
	comp=Z,128nm,1.8s								
VRAC	Vranov	40.66	53	LR	LR	20 18 22.5			
	comp=Z,8μm,21.9s,baz=254,slow=32								
VRAC	Vranov	40.66	53	*e*P	P	20 04 44.6	-0.9		
VRAC				*e*S	S	20 10 57.2	+2.2		
VRAC	Vranov	40.66	53	⇑P	P	20 04 44.9	-0.6		
VRAC	Vranov	40.66	53	P	P	20 04 44.8	-0.6		
K43A	Burlington	40.68	297	P	P	20 04 43.6	-2.1		
NBPB	Pedra_Branca-C	40.70	185	*e*P	P	20 04 47.7	+1.6		
KULLO	Kullorsuaq	40.71	352	*i* P	P	20 04 44.6	-0.9		
KULLO	Kullorsuaq	40.71	352	⇓P	P	20 04 45.2	-0.3		
MAL2	Monte Alegre,	40.73	208	P	P	20 04 46.2	-0.1		
KRLC	Kraliky	40.79	52	*e*P	P	20 04 46.2	-0.3		
KRLC				AMS	AMS	20 17 50.0			
	comp=Z,14μm,22.3s								
KRLC	Kraliky	40.79	52	*e*P	P	20 04 46.2	-0.3		
KRLC				MLR	MLR				
	comp=Z,14μm,22.3s								
RCBR	Riachuelo	40.86	180	P	P	20 04 46.3	-1.1		
RCBR	Riachuelo	40.86	180	LR	LR	20 17 43.7			
	comp=Z,3μm,19.6s,baz=4.0,slow=30								
RCBR	Riachuelo	40.86	180	P	P	20 04 46.3	-1.1		
RCBR				pmax	pmax				
	comp=Z,36nm,1.3s								
RCBR				MLR	MLR				
	comp=Z,9μm,22.0s								
RCBR	Riachuelo	40.86	180	*e*P	P	20 04 49.6	+2.2		
A050A	Klekovaca	40.87	60	*e*P	P	20 04 46.6	-0.7		
I42A	Draeger Farm,	40.96	299	IAmb	IAmb	20 04 49.5			
	comp=Z,53nm,0.9s								
CUC	Castrocucco	40.97	67	IAmb	IAmb	20 05 05.2			
	comp=Z,121nm,1.1s								
CUC	Castrocucco	40.97	67	⇑P	P	20 04 49.0	+0.8		
SDV	Santo Domingo	40.98	239	P	P	20 04 49.0	+0.4		
SDV				IAmb	IAmb	20 05 05.1			
	comp=Z,135nm,1.4s								
SDV	Santo Domingo	40.98	239	P	P	20 04 49.2	+0.6		
	comp=Z,28nm,0.9s,baz=42,slow=4.9,SNR=19								
	comp=Z,28nm,0.9s								
SDV	Santo Domingo	40.98	239	*e*P	P	20 04 50.3	+1.7		
A051A	Mrakovica	41.08	60	*e*P	P	20 04 47.6	-1.5		
MODS	Modra-Piesok	41.13	55	*e*P	P	20 04 48.9	-0.4		
MODS				pmax	pmax				
	comp=Z,49nm,1.3s								
MODS	Modra-Piesok	41.13	55	*e*P	P	20 04 48.9	-0.4		
MODS				*e*S	S	20 11 08.1	+6.1		
MODS				*e*SS	SS	20 14 02.3	-2.1		
MODS				*e*L	L	20 17 18.9			
OLIL	Olney	41.17	291	IAmb	IAmb	20 05 14.9			
	comp=Z,82nm,1.1s								
GKP	Gorka Klasztor	41.20	47	*e*P	P	20 04 51.5	+1.7		
GKP				*e*S	S	20 11 04.8	+2.1		
GKP				*e*L	L	20 17 55.0			
	comp=Z,20μm,25.0s								
GKP	Gorka Klasztor	41.20	47	P	P	20 04 53.2	+3.4		
GKP	Gorka Klasztor	41.20	47	*e*P	P	20 04 51.0	+1.2		
SMOL	Smolenice	41.23	54	*e*P	P	20 04 51.2	+1.1		
MORC	Moravsky Berou	41.28	52	P	P	20 04 48.6	-1.9		
MORC	Moravsky Berou	41.28	52	*e*P	P	20 04 50.0	-0.6		
MORC				*e*S	S	20 11 06.7	+2.5		
MORC	Moravsky Berou	41.28	52	⇑P	P	20 04 50.5	-0.1		
MORC	Moravsky Berou	41.28	52	⇓P	P	20 04 53.0	+2.5		
BLY	Banja Luka	41.30	60	*e*P	P	20 04 51.9	+1.1		
MPLH	Magyarpolny	41.36	56	P	P	20 04 50.9	-0.3		
	comp=Z,3μmcomp=Z,74nm,1.6s								
JAVC	Velka Javorina	41.38	54	*e*P	P	20 04 49.6	-1.8		
STEB	Steborice	41.43	52	*e*P	P	20 04 51.4	-0.3		
MAUC	Maruska	41.47	53	*e*P	P	20 04 52.1	0.0		
MAUC				*e*S	S	20 11 08.8	+1.8		
WVT	Waverly	41.55	287	P	P	20 04 52.4	-0.5		
WVT	Waverly	41.55	287	P	P	20 04 52.4	-0.5		
WVT				pmax	pmax				
	comp=Z,51nm,1.3s								
WVT				MLR	MLR				
	comp=Z,1μm,21.0s								
WVT	Waverly	41.55	287	⇓P	P	20 04 53.8	+0.9		
OKC	Ostrava-Krasne	41.67	52	AMS	AMS	20 18 20.0			
	comp=Z,10μm,19.5s								
OKC	Ostrava-Krasne	41.67	52	P	P	20 04 56.5	+2.8		
HDIL	Hopedale	41.72	294	IAmb	IAmb	20 05 18.8			
	comp=Z,117nm,1.4s								
HDIL				IAMs_20	IAMs_20	20 22 44.2			
	comp=Z,3μm,18.0s								
L42A	Oliver, Polo	41.76	296	IAMs_20	IAMs_20	20 19 27.8			
	comp=Z,3μm,21.0s								
KOVH	Kovagotottos	41.82	58	⇑P	P	20 04 56.6	+1.6		
TIP	Timpagrande	41.84	68	⇓P	P	20 04 55.4	0.0		
SRO	Srobarova	41.85	55	*e*P	P	20 04 57.1	+1.9		
SRO				pmax	pmax				
	comp=Z,46nm,1.5s								
SRO	Srobarova	41.85	55	*e*P	P	20 04 57.0	+1.9		
STON	Ston	41.90	63	*e*P	P	20 04 54.6	-1.1		
JFWS	Jewell Farm	42.05	297	IAMs_20	IAMs_20	20 25 05.3			
	comp=Z,2μm,18.0s								
JFWS	Jewell Farm	42.05	297	⇓P	P	20 04 57.5	+0.6		
LEIR	Leirfjorden	42.08	27	*e*S	S	20 11 15.7	+0.2		
LEIR				*e*SS	SS	20 14 23.8	+1.2		
LEIR				IVMs_BB	IVMs_BB	20 16 25.7			
	comp=Z,10μm,5.8s								
STOK	Stokkvaagen	42.13	27	*e*S	S	20 11 14.5	-1.7		
STOK				*e*SS	SS	20 14 26.1	+2.6		
VYHS	Vyhne	42.16	54	*e*P	P	20 04 56.9	-0.9		
VYHS				*e*S	S	20 11 23.9	+6.6		
VYHS	Vyhne	42.16	54	*e*P	P	20 04 56.9	-0.9		
VYHS				*e*S	S	20 11 23.9	+6.6		
VYHS				*e*L	L	20 17 33.9			
MORH	Mrgy, Hungar	42.19	58	⇓P	P	20 04 57.6	-0.3		
MORH	Mrgy, Hungar	42.19	58	P	P	20 04 57.7	-0.3		
	comp=Z,25nm,1.6s								
SIUC	Southern Illin	42.25	290	IAmb	IAmb	20 05 00.5			
	comp=Z,84nm,1.0s								
BUD	Budapest	42.35	56	P	P	20 05 01.2	+1.9		
DAG	Danmarks Havn	42.36	6	P	P	20 05 05.8	+6.8		
DAG	Danmarks Havn	42.36	6	P	P	20 04 59.1	+0.1		
DAG				pmax	pmax				
	comp=Z,37nm,1.2s								
DAG	Danmarks Havn	42.36	6	*i* P	P	20 04 57.7	-1.3		
DAG	Danmarks Havn	42.36	6	⇑P	P	20 04 58.8	-0.2		
NBLV	Livramento - P	42.39	181	*e*P	P	20 04 60.0	0.0		
EYMN	Ely	42.40	305	IAMs_20	IAMs_20	20 21 22.9			
	comp=Z,5μm,22.0s								
EYMN	Ely	42.40	305	⇑P	P	20 04 59.3	-0.4		
BRY	Bratogost	42.51	63	⇑*i* P	P	20 05 02.6	+1.8		
E38A	The Farm, Brul	42.54	303	IAmb	IAmb	20 05 01.9			
	comp=Z,87nm,0.9s								
E38A				IAMs_20	IAMs_20	20 23 51.8			
	comp=Z,4μm,18.0s								
MOR8	Moi Rana	42.60	28	*e*P	P	20 05 00.8	-0.3		
MOR8				*e*S	S	20 11 26.6	+3.3		
MOR8				*e*SS	SS	20 14 39.7	+6.7		
MOR8				IVMs_BB	IVMs_BB	20 19 59.5			
	comp=Z,8μm,5.6s								
HAPS	Han Pijesak,BI	42.64	61	*e*P	P	20 04 57.7	-4.1		
OJC	Ojcow	42.73	52	*e*P	P	20 05 05.0	+2.7		
OJC				*e*S	S	20 11 29.4	+3.9		
OJC				*e*L	L	20 18 02.3			
	comp=Z,18μm,29.0s								
OJC	Ojcow	42.73	52	P	P	20 04 60.0	-2.4		
OJC				IAmb	IAmb	20 05 12.5			
	comp=Z,109nm,1.7s								
OJC	Ojcow	42.73	52	P	P	20 05 00.0	-2.4		
OJC				pmax	pmax				
	comp=Z,109nm,1.7s								
OJC	Ojcow	42.73	52	⇑P	P	20 05 05.4	+3.0		
NEEM	North Greenlan	42.80	355	*i* P	P	20 05 02.2	-0.8		
NEEM				IAmb	IAmb	20 05 07.1			
	comp=Z,23nm,0.9s								
CEME	Cevo	42.84	63	⇑*i*P	P	20 05 04.1	+0.7		
BUM	Brajici-Budva	42.86	63	⇑*i*P	P	20 05 05.4	+1.8		
N41A	Harden Midland	42.86	294	IAmb	IAmb	20 05 04.9			
	comp=Z,73nm,0.8s								
L40A	Anamosa	42.89	296	IAMs_20	IAMs_20	20 26 18.8			
	comp=Z,2μm,18.0s								
PSZ	Piszkesteto	42.90	55	P	P	20 05 02.2	-1.7		
PSZ	Piszkesteto	42.90	55	⇓P	P	20 05 04.6	+0.6		
PSZ	Piszkesteto	42.90	55	P	P	20 05 04.5	+0.6		
PSZ	Piszkesteto	42.90	55	*e*P	P	20 05 05.1	+1.2		
PSZ	Piszkesteto	42.90	55	⇓P	P	20 05 05.2	+1.3		
TEKS	Tekeris	42.99	60	*e*P	P	20 05 03.4	-1.2		
BBLS	Lazi&#263i	42.99	61	*e*P	P	20 05 03.0	-1.7		
RUDO	Rudo	43.00	61	*e*P	P	20 05 02.0	-2.7		
PLE	Pljevlja	43.06	62	⇑*i*P	P	20 05 06.8	+1.5		
NIE	Niedzica	43.08	53	*e*P	P	20 05 06.2	+1.0		
NIE				*e*S	S	20 11 35.2	+4.4		
NIE				*e*L	L	20 18 09.4			
	comp=Z,8μm,40.5s								
NIE	Niedzica	43.08	53	P	P	20 05 08.6	+3.3		
NIE	Niedzica	43.08	53	P	P	20 05 07.0	+1.7		
	comp=Z,18nm,1.8s								
PDG	Podgorica	43.10	63	*e*P	P	20 05 09.6	+4.1		
PDG	Podgorica	43.10	63	⇑*i*P	P	20 05 07.0	+1.5		
FRGS	Fruska Gora	43.11	59	*e*P	P	20 05 04.6	-1.0		
KOME	Kolasin	43.23	62	⇑*i*P	P	20 05 08.6	+2.0		
NBCA	Caruaru-PE	43.24	180	*e*P	P	20 05 07.5	+0.7		
BEL	Belsk	43.32	49	*e*P	P	20 05 11.6	+4.5		
BEL				*e*S	S	20 11 39.1	+4.9		
BEL				*e*L	L	20 18 08.4			
	comp=Z,77μm,32.6s								
FAUS	Fauske	43.35	26	*e*P	P	20 05 05.7	-1.4		
FAUS				*e*S	S	20 11 30.7	-3.5		
FAUS				*e*SS	SS	20 14 52.0	+4.4		
FAUS				IVMs_BB	IVMs_BB	20 20 20.7			
	comp=Z,6μm,4.5s								
PBMO	Poplar Bluff	43.42	289	IAmb	IAmb	20 05 09.7			
	comp=Z,59nm,0.9s								
ITTB	Itaituba	43.49	209	*e*P	P	20 05 09.4	+0.6		
IVA	Berane	43.50	62	⇑*i*P	P	20 05 10.5	+1.7		
R9F13	Warsaw-Wawer	43.54	49	*e*P	P	20 05 19.9	+11		
STEI	Steigen	43.54	25	*e*S	S	20 11 36.1	-0.8		
STEI				*e*SS	SS	20 14 52.2	+1.0		
STEI				IVMs_BB	IVMs_BB	20 22 25.6			
	comp=Z,7μm,6.0s								
STHS	Stebnicka Huta	43.70	53	*e*P	P	20 05 12.6	+2.4		
STHS				pmax	pmax				
	comp=Z,20nm,1.3s								
STHS	Stebnicka Huta	43.70	53	*e*P	P	20 05 12.6	+2.4		
CCM	Cathedral Cave	43.73	291	P	P	20 05 09.4	-1.2		
CCM	Cathedral Cave	43.73	291	P	P	20 05 09.4	-1.2		
CCM				pmax	pmax				
	comp=Z,68nm,1.6s								
CCM				MLR	MLR				
	comp=Z,2μm,19.0s								
TIR	Tirane	43.74	65	IAMs_20	IAMs_20	20 21 45.2			
	comp=Z,6μm,19.0s								
T42A	Van Buren	43.87	289	IAmb	IAmb	20 05 36.2			
	comp=Z,49nm,0.9s								
BANR	Banloc	44.01	59	⇑P	P	20 05 13.4	+0.6		
PBUR	Paburge	44.09	43	*e*P	P	20 05 13.9	+0.7		
FCC	Fort Churchill	44.20	321	P	P	20 05 13.0	-1.0		
FCC				IAmb	IAmb	20 05 46.4			
	comp=Z,68nm,1.1s								
FCC				IAMs_20	IAMs_20	20 22 17.7			
	comp=Z,7μm,21.0s								
FCC	Fort Churchill	44.20	321	P	P	20 05 13.0	-1.0		
FCC				pmax	pmax				
	comp=Z,68nm,1.1s								
FCC				MLR	MLR				
	comp=Z,7μm,21.0s								
FCC	Fort Churchill	44.20	321	⇑P	P	20 05 13.8	-0.2		
SIRR	Siria	44.26	57	⇓P	P	20 05 14.4	-0.4		
BZS	Buzias	44.31	58	⇑P	P	20 05 14.5	-0.7		
BZS	Buzias	44.31	58	P	P	20 05 15.3	+0.1		
BZS	Buzias	44.31	58	⇑P	P	20 05 15.3	+0.1		
ACRG	Accra	44.33	123	P	P	20 05 14.5	-1.1		
ACRG				IAmb	IAmb	20 05 31.4			
	comp=Z,60nm,1.1s								
KOLS	Kolonicke sedl	44.41	53	*e*P	P	20 05 16.2	+0.3		
KOLS				pmax	pmax				
	comp=Z,19nm,1.0s								
KOLS	Kolonicke sedl	44.41	53	*e*P	P	20 05 16.2	+0.3		
OHR	Ohrid	44.48	65	*i* P	P	20 05 22.7	+6.1		
RAF	Rauma	44.48	36	*e*P	P	20 05 16.2	0.0		
MDVR	Moldovita	44.50	59	⇑P	P	20 05 17.5	+0.7		
HOLU	Holmets	44.51	54	P	P	20 05 16.8	+0.1		
MACA	Manacapuru-AM	44.60	216	IAMs_20	IAMs_20	20 21 55.6			
	comp=Z,2μm,20.0s								
MACA	Manacapuru-AM	44.60	216	*e*P	P	20 05 17.3	-0.4		
N38A	Joes South For	44.62	295	IAmb	IAmb	20 05 18.8			
	comp=Z,44nm,0.9s								
KWP	Kalwaria Pacla	44.63	52	*e*P	P	20 05 20.4	+2.7		
KWP				*e*S	S	20 12 03.5	+10		
KWP				*e*L	L	20 18 58.8		

KEF	**Keuruu**	**46.10**	**35**	*e*P	**P**	**20 05 29.5**	**+0.3**
PLNA	**Plana**	**46.13**	**62**	*e*P	**P**	**20 05 29.6**	**-0.2**
MDB	**Medias**	**46.15**	**57**	⇓P	**P**	**20 05 29.4**	**-0.5**
MDB	**Medias**	**46.15**	**57**	P	**P**	**20 05 29.3**	**-0.5**
TNR	**Turnu Rosu**	**46.15**	**58**	⇓P	**P**	**20 05 30.3**	**+0.4**
TNR	**Turnu Rosu**	**46.15**	**58**	P	**P**	**20 05 30.2**	**+0.4**
MPEP	**Malo Peshtene**	**46.18**	**61**	*e*P	**P**	**20 05 30.6**	**+0.5**
ITM	**Ithomi**	**46.27**	**70**	IAMs_20	IAMs_20	20 25 28.6	
	comp=Z,5μm,21.0s						
KSV	**Kosov**	**46.31**	**54**	P	**P**	**20 05 30.8**	**-0.2**
N35A	**Tabor**	**46.39**	**296**	IAMs_20	IAMs_20	20 26 30.3	
	comp=Z,3μm,18.0s						
ROSC	**El Rosal**	**46.41**	**238**	IAmb	IAmb	20 05 47.5	
	comp=Z,45nm,1.1s						
ROSC	**El Rosal**	**46.41**	**238**	P	**P**	**20 05 32.6**	**0.0**
	comp=Z,6.2nm,0.3s,baz=126,slow=9.2,SNR=6.7						
ROSC				LR	LR	20 25 44.3	
	comp=Z,927nm,18.1s,baz=36,slow=37						
	comp=Z,6.2nm,0.3s						
ARR	**Arges**	**46.45**	**58**	⇓P	**P**	**20 05 32.2**	**0.0**
BUR08	**Bucovina Ar. S**	**46.49**	**55**	IAmb	IAmb	20 05 51.7	
	comp=Z,87nm,1.7s						
ECSD	**EROS Data Cent**	**46.49**	**300**	IAmb	IAmb	20 05 33.1	
	comp=Z,62nm,0.9s						
ECSD	**EROS Data Cent**	**46.49**	**300**	⇑P	**P**	**20 05 32.0**	**-0.5**
RNPP8	**Varash**	**46.50**	**50**	P	**P**	**20 05 31.7**	**-0.7**
BURAR	**Bucovina Array**	**46.51**	**55**	⇓P	**P**	**20 05 33.3**	**+0.6**
BURAR	**Bucovina Array**	**46.51**	**55**	P	**P**	**20 05 33.3**	**+0.6**
IIGN	**Ignalina**	**46.51**	**44**	*e*P	**P**	**20 05 33.2**	**+0.8**
MIAR	**Mount Ida**	**46.51**	**287**	IAmb	IAmb	20 05 46.8	
	comp=Z,81nm,1.2s						
MIAR	**Mount Ida**	**46.51**	**287**	⇓P	**P**	**20 05 33.3**	**+0.6**
MIAR	**Mount Ida**	**46.51**	**287**	⇓P	**P**	**20 05 33.3**	**+0.6**
RNPP9	**Sopachiv**	**46.52**	**50**	P	**P**	**20 05 31.8**	**-0.8**
VLAD	**Vladila**	**46.53**	**60**	⇑P	**P**	**20 05 33.6**	**+0.8**
MMB	**Musomishta**	**46.56**	**63**	*e*P	**P**	**20 05 35.5**	**+2.4**
FINES	**FINESS Array B**	**46.60**	**36**	P	**P**	**20 05 31.5**	**-1.6**
	comp=Z,13nm,0.7s,baz=255,slow=5.5,SNR=18						
FINES				LR	LR	20 23 33.8	
	comp=Z,7μm,18.8s,baz=264,slow=34						
	comp=Z,13nm,0.7s						
FIA1	**FINESS Array S**	**46.60**	**36**	P	**P**	**20 05 32.6**	**-0.5**
PGB	**Panagyurishte**	**46.66**	**62**	*e*P	**P**	**20 05 37.5**	**+3.6**
KTK1	**Kautokeino**	**46.68**	**25**	*e*SS	SS	20 15 51.0	+2.9
VOIR		**46.73**	**58**	⇓P	**P**	**20 05 33.7**	**-0.7**
VOIR		**46.73**	**58**	P	**P**	**20 05 33.7**	**-0.7**
VOIR		**46.73**	**58**	P	**P**	**20 05 34.3**	**-0.1**
	comp=Z,29nm,1.0s						
MTUR	**Matau**	**46.77**	**58**	⇑P	**P**	**20 05 34.3**	**-0.5**
MTUR	**Matau**	**46.77**	**58**	P	**P**	**20 05 34.3**	**-0.5**
VSU	**Vasula**	**46.78**	**40**	*i* P	**P**	**20 05 32.4**	**-2.1**
VSU				pmax	pmax		
	comp=Z,60nm,1.1s						
VSU	**Vasula**	**46.78**	**40**	*e*P	**P**	**20 05 35.0**	**+0.5**
HUMR	**Humele**	**46.84**	**59**	⇑P	**P**	**20 05 35.0**	**-0.3**
NACGM	**Naroch**	**46.84**	**45**	*e*P	**P**	**20 05 34.0**	**-1.0**
DOPR	**Dopca**	**46.87**	**57**	⇓P	**P**	**20 05 35.7**	**+0.2**
TEFE	**Tefe**	**46.90**	**221**	*e*P	**P**	**20 05 37.5**	**+1.6**
OUL	**Oulu**	**46.93**	**31**	P	**P**	**20 05 40.2**	**+4.6**
OUL				pmax	pmax		
	comp=Z,71nm,1.3s						
OZUR		**47.12**	**57**	⇑P	**P**	**20 05 36.7**	**-0.7**
PLD	**Plovdiv**	**47.16**	**62**	*e*P	**P**	**20 05 38.8**	**+1.1**
PRAR	**RASCA**	**47.22**	**55**	⇓P	**P**	**20 05 37.6**	**-0.5**
BJO1	**Bjornoya**	**47.22**	**17**	*e*S	**S**	**20 12 29.9**	**0.0**
BJO1				*e*SS	**SS**	**20 15 57.5**	**+0.7**
BJO1				IVMs_BB	IVMs_BB	20 18 59.5	
	comp=Z,4μm,3.4s						
HAMF	**Hammerfest**	**47.25**	**23**	*e*S	**S**	**20 12 32.5**	**+2.0**
HAMF				*e*SS	**SS**	**20 15 58.9**	**+1.6**
HAMF				IVMs_BB	IVMs_BB	20 24 31.6	
	comp=Z,3μm,7.7s						
MLR	**Muntele Rosu**	**47.34**	**58**	⇑P	**P**	**20 05 38.6**	**-0.6**
MLR	**Muntele Rosu**	**47.34**	**58**	P	**P**	**20 05 38.6**	**-0.6**
MLR	**Muntele Rosu**	**47.34**	**58**	P	**P**	**20 05 40.4**	**+1.1**
	comp=Z,63nm,1.4s						
COVR	**Voineasa-Covas**	**47.45**	**57**	⇓P	**P**	**20 05 39.5**	**-0.5**
MNK	**Minsk**	**47.50**	**45**	*i* P	**P**	**20 05 41.9**	**+1.7**
	comp=E,12nm,1.0s						
MNK				*i* P	**P**	**20 05 41.9**	**+1.7**
	comp=N,21nm,1.0s						
MNK				*i* P	**P**	**20 05 41.9**	**+1.7**
	comp=Z,84nm,0.9s,baz=274						
MNK				*i* PcP	**PcP**	**20 07 11.6**	**+1.4**
MNK				*i* PP	**PP**	**20 07 31.9**	**+0.5**
MNK				*i* PPP	PPP	20 08 17.1	
MNK				*i* S	**S**	**20 12 35.7**	**+1.3**
MNK				*i* SS	**SS**	**20 15 58.5**	**-3.4**
MNK				*i* SSS	SSS	20 17 06.6	
MNK				*i* LR	LR	20 19 26.9	
MNK				*i* LRM	MLR	20 21 14.7	
	comp=E,34μm,21.7s						
MNK				*i* LRM	MLR	20 24 02.7	
	comp=Z,22μm,17.9s						
MNK				*i* LRM	MLR	20 24 06.0	
	comp=N,21μm,20.3s						
MNK	**Minsk**	**47.50**	**45**	*i* P	**P**	**20 05 41.9**	**+1.7**
MNK				*i*		20 07 11.5	
MNK				*i*		20 07 31.8	
MNK				*i* PPP	PPP	20 08 17.1	
MNK				*i* S	**S**	**20 12 35.6**	**+1.3**
MNK				*i* SS	**SS**	**20 15 58.4**	**-3.4**
MNK				*i* SSS	SSS	20 17 06.6	
MNK				pmax	pmax		
	comp=N,21nm,1.0s						
MNK				pmax	pmax		
	comp=E,12nm,1.0s						
MNK				pmax	pmax		
	comp=Z,84nm,0.9s						
KSU1	**Kansas State U**	**47.54**	**293**	IAMs_20	IAMs_20	20 22 56.1	
	comp=Z,2μm,22.0s						
KSU1	**Kansas State U**	**47.54**	**293**	⇓P	**P**	**20 05 40.5**	**-0.2**
SGF	**Sodankyl**	**47.55**	**28**	P	**P**	**20 05 44.1**	**+3.7**
SGF				pmax	pmax		
	comp=Z,62nm,1.1s						
ARA0	**ARCESS Array S**	**47.59**	**25**	*e*P	**P**	**20 05 43.4**	**+2.7**
ARA0				*e*S	**S**	**20 12 37.0**	**+1.6**
ARA0				*e*SS	**SS**	**20 16 04.2**	**+1.3**
ARA0				IVMs_BB	IVMs_BB	20 25 51.0	
	comp=Z,3μm,5.0s						
ARCES	**ARCESS Array B**	**47.59**	**25**	P	**P**	**20 05 39.2**	**-1.5**
	comp=Z,10nm,0.9s,baz=240,slow=5.0,SNR=12						
ARCES				LR	LR	20 23 54.8	
	comp=Z,4μm,18.5s,baz=262,slow=34						
	comp=Z,10nm,0.9s						
TESR	**Tescani**	**47.64**	**56**	⇑P	**P**	**20 05 40.8**	**-0.6**
TESR	**Tescani**	**47.64**	**56**	P	**P**	**20 05 42.9**	**+1.5**
	comp=Z,27nm,1.1s						
MI28	**Mi28,Pidlybu**	**47.68**	**50**	P	**P**	**20 05 42.3**	**+0.7**
SULR		**47.71**	**59**	⇑P	**P**	**20 05 42.2**	**+0.3**
PLOR3	**Plostina Array**	**47.76**	**57**	P	**P**	**20 05 43.3**	**+0.9**
	comp=Z,38nm,1.4s						
PLOR	**Plostina**	**47.76**	**57**	⇓P	**P**	**20 05 41.6**	**-0.9**
PLOR	**Plostina**	**47.76**	**57**	P	**P**	**20 05 41.5**	**-0.9**
VRI	**Vrincioaia**	**47.81**	**57**	⇑P	**P**	**20 05 42.3**	**-0.5**
VRI	**Vrincioaia**	**47.81**	**57**	P	**P**	**20 05 42.3**	**-0.5**
VRI	**Vrincioaia**	**47.81**	**57**	P	**P**	**20 05 44.7**	**+1.9**
	comp=Z,49nm,1.3s						
ISR	**Istrita**	**47.82**	**58**	⇑P	**P**	**20 05 43.2**	**+0.3**
ISR	**Istrita**	**47.82**	**58**	P	**P**	**20 05 43.2**	**+0.3**
ISR	**Istrita**	**47.82**	**58**	P	**P**	**20 05 45.2**	**+2.3**
	comp=Z,49nm,1.0s						
MDND	**Maddock**	**47.84**	**306**	IAMs_20	IAMs_20	20 25 22.5	
	comp=Z,5μm,19.0s						
RDO	**Rodhopi**	**47.96**	**64**	IAmb	IAmb	20 06 05.0	
	comp=Z,66nm,1.5s						
RDO				IAMs_20	IAMs_20	20 23 54.8	
	comp=Z,5μm,18.0s						
RDO	**Rodhopi**	**47.96**	**64**	⇓P	**P**	**20 05 44.8**	**+0.8**
KBS	**Kingsbay**	**47.98**	**11**	IAMs_20	IAMs_20	20 21 31.5	
	comp=Z,4μm,19.0s						
KBS	**Kingsbay**	**47.98**	**11**	*e*S	**S**	**20 12 40.4**	**-0.3**
KBS				*e*SS	**SS**	**20 16 15.4**	**+6.5**
KBS				IVMs_BB	IVMs_BB	20 19 45.5	
	comp=Z,2μm,27.2s						
SUSD	**Miller**	**48.01**	**301**	IAMs_20	IAMs_20	20 25 50.6	
	comp=Z,3μm,20.0s						
MI30	**MI30,Zelenitsa**	**48.03**	**50**	P	**P**	**20 05 43.1**	**-1.3**
	comp=Z,72nm,0.9s						
BGNE	**Belgrade**	**48.10**	**297**	IAMs_20	IAMs_20	20 25 32.5	
	comp=Z,2μm,21.0s						
SDBA	**SAO DESIDERIO**	**48.12**	**191**	*e*P	**P**	**20 05 47.3**	**+1.9**
RES	**Resolute Bay**	**48.18**	**342**	P	**P**	**20 05 44.0**	**-1.1**
RES				IAmb	IAmb	20 05 59.2	
	comp=Z,48nm,0.9s						
RES				IAMs_20	IAMs_20	20 21 11.0	
	comp=Z,2μm,19.0s						
RES	**Resolute Bay**	**48.18**	**342**	LR	LR	20 22 56.3	
	comp=Z,2μm,19.8s,baz=122,slow=32						
RES	**Resolute Bay**	**48.18**	**342**	P	**P**	**20 05 44.0**	**-1.1**
RES				pmax	pmax		
	comp=Z,49nm,0.9s						
RES				MLR	MLR		
	comp=Z,2μm,19.0s						
RES	**Resolute Bay**	**48.18**	**342**	⇑P	**P**	**20 05 45.0**	**-0.1**
SPA0	**Spitsbergen Ar**	**48.33**	**13**	*e*P	**P**	**20 05 47.0**	**+0.7**
SPA0				*e*S	**S**	**20 12 50.0**	**+4.4**
SPA0				IVMs_BB	IVMs_BB	20 21 15.1	
	comp=Z,2μm,11.4s						
SPITS	**Spitsbergen Ar**	**48.33**	**13**	P	**P**	**20 05 44.1**	**-2.2**
	comp=Z,9.1nm,1.0s,baz=235,slow=5.1,SNR=1.6						
SPITS				LR	LR	20 21 18.9	
	comp=Z,4μm,18.4s,baz=209,slow=30						
	comp=Z,9.1nm,1.0s						
DEOK	**Depew**	**48.38**	**289**	IAmb	IAmb	20 05 59.2	
	comp=Z,68nm,1.3s						
ALN	**Alexandroupoli**	**48.40**	**64**	IAMs_20	IAMs_20	20 24 16.4	
	comp=Z,5μm,19.0s						
ALN	**Alexandroupoli**	**48.40**	**64**	⇓P	**P**	**20 05 49.7**	**+2.4**
ALN	**Alexandroupoli**	**48.40**	**64**	⇓P	**P**	**20 05 49.7**	**+2.4**
H10S3	**ASCENSION HYDR**	**48.44**	**151**	T	T	20 57 13.3	
	baz=336,slow=74,SNR=2815						
H10S2	**ASCENSION HYDR**	**48.45**	**151**	T	T	20 57 15.5	
	baz=244,slow=74,SNR=4133						
FFC	**Flin Flon**	**48.50**	**315**	P	**P**	**20 05 47.6**	**-0.3**
FFC				IAmb	IAmb	20 06 02.4	
	comp=Z,61nm,1.1s						
FFC	**Flin Flon**	**48.50**	**315**	IAMs_20	IAMs_20	20 25 48.1	
	comp=Z,5μm,19.0s						
FFC	**Flin Flon**	**48.50**	**315**	P	**P**	**20 05 47.6**	**-0.3**
FFC				pmax	pmax		
	comp=Z,61nm,1.1s						
FFC				MLR	MLR		
	comp=Z,5μm,19.0s						
FFC	**Flin Flon**	**48.50**	**315**	⇑P	**P**	**20 05 48.2**	**+0.3**
SORM	**Soroca**	**48.51**	**54**	⇓P	**P**	**20 05 46.3**	**-1.8**
SORM	**Soroca**	**48.51**	**54**	P	**P**	**20 05 46.3**	**-1.8**
OK052	**Battle Ridge R**	**48.57**	**290**	IAmb	IAmb	20 06 01.4	
	comp=Z,76nm,1.1s						
OK052				IAMs_20	IAMs_20	20 24 47.9	
	comp=Z,2μm,21.0s						
OK031	**S. Brethren Rd**	**48.61**	**289**	IAmb	IAmb	20 06 03.0	
	comp=Z,68nm,1.1s						
OK031				IAMs_20	IAMs_20	20 24 46.9	
	comp=Z,2μm,20.0s						
AK11	**Malin Array Si**	**48.66**	**50**	P	**P**	**20 05 47.9**	**-1.3**
KIEV	**Kiev**	**48.68**	**50**	P	**P**	**20 05 46.4**	**-2.9**
KIEV				IAmb	IAmb	20 06 02.6	
	comp=Z,52nm,1.0s						
KIEV	**Kiev**	**48.68**	**50**	⇑P	**P**	**20 05 48.4**	**-0.9**
KIEV	**Kiev**	**48.68**	**50**	*i* P	**P**	**20 05 47.6**	**-1.8**
	SNR=12						
KIEV	**Kiev**	**48.68**	**50**	⇑P	**P**	**20 05 48.2**	**-1.1**
AKASG	**Malin Array Be**	**48.69**	**50**	P	**P**	**20 05 47.1**	**-2.3**
AKASG	**Malin Array Be**	**48.69**	**50**	P	**P**	**20 05 48.1**	**-1.4**
	comp=Z,16nm,0.7s,baz=274,slow=7.6,SNR=51						
AKASG				LR	LR	20 25 36.8	
	comp=Z,10μm,18.3s,baz=277,slow=35						
	comp=Z,16nm,0.7s						
AKASG	**Malin Array Be**	**48.69**	**50**	*i* P	**P**	**20 05 48.0**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,17nm,0.7s						
AKBB	**Malin Array Si**	**48.69**	**50**	IAmb	IAmb	20 06 02.6	
	comp=Z,58nm,1.0s						
AKBB	**Malin Array Si**	**48.69**	**50**	*ce*P	**P**	**20 05 48.1**	**-1.3**
AKBB				pmax	pmax		
	comp=Z,70nm,1.0s						
KAN13	**South Haven SW**	**48.78**	**291**	IAmb	IAmb	20 06 03.2	
	comp=Z,50nm,0.9s						
E28A	**Huff**	**48.79**	**304**	IAMs_20	IAMs_20	20 25 48.9	
	comp=Z,3μm,20.0s						
KAN09	**Caldwell North**	**48.85**	**291**	IAmb	IAmb	20 06 03.7	
	comp=Z,65nm,1.2s						
K30B	**Basset**	**48.86**	**299**	IAmb	IAmb	20 06 03.4	
	comp=Z,53nm,1.0s						
K30B				IAMs_20	IAMs_20	20 26 53.4	
	comp=Z,2μm,19.0s						
HARR	**Harsova**	**48.88**	**58**	⇑P	**P**	**20 05 49.8**	**-1.2**
HARR	**Harsova**	**48.88**	**58**	P	**P**	**20 05 49.7**	**-1.2**
ICOR	**Ion Corvin**	**48.91**	**59**	⇑P	**P**	**20 05 50.0**	**-1.2**
CFR	**Carcaliu**	**48.92**	**58**	⇑P	**P**	**20 05 51.0**	**-0.3**
CFR	**Carcaliu**	**48.92**	**58**	P	**P**	**20 05 50.9**	**-0.3**
EUNU	**Eureka**	**48.94**	**350**	P	**P**	**20 05 50.3**	**-0.8**
EUNU				IAmb	IAmb	20 06 15.0	
	comp=Z,41nm,0.9s						
EUNU	**Eureka**	**48.94**	**350**	⇑P	**P**	**20 05 51.0**	**-0.1**
TLBR	**Topalu**	**48.99**	**59**	⇓P	**P**	**20 05 50.5**	**-1.3**
KAN17	**Caldwell West**	**48.99**	**291**	IAmb	IAmb	20 06 16.0	
	comp=Z,90nm,1.4s						
VADS	**Vadso**	**49.01**	**24**	*e*P	**P**	**20 05 50.7**	**-0.9**
VADS				*e*S	**S**	**20 12 53.8**	**-1.5**
VADS				*e*SS	**SS**	**20 16 27.1**	**+1.3**
VADS				IVMs_BB	IVMs_BB	20 24 27.4	
	comp=Z,3μm,15.6s						
KIS	**Kishinev**	**49.02**	**55**	*e*P	**P**	**20 05 50.0**	**-2.1**
KIS				*e*L	L	20 20 20.0	
KIS				LQM		20 22 42.0	
	comp=Z,2μm,15.0s						
KIS				LRM	MLR	20 28 43.0	
	comp=Z,2μm,15.0s						
KIS	**Kishinev**	**49.02**	**55**	*e*P	**P**	**20 05 50.0**	**-2.1**
KIS				*e*		20 13 00.0	
KIS				MLR	MLR		
	comp=Z,2μm,15.0s						
MILM	**Milestii Mici**	**49.03**	**55**	*e*P	**P**	**20 05 50.0**	**-2.1**
	comp=Z,250nm,1.6s						
MILM				*e*S	S	20 12 05.0	-51
MILM				*e*L	L	20 19 56.0	
MILM				LQM		20 22 36.0	
	comp=Z,4μm,15.0s						
MILM				LRM	MLR	20 28 23.0	
	comp=Z,2μm,13.0s						
MILM	**Milestii Mici**	**49.03**	**55**	⇓P	**P**	**20 05 50.8**	**-1.3**
MILM	**Milestii Mici**	**49.03**	**55**	P	**P**	**20 05 50.8**	**-1.3**
SNDB	**Serra Nova Dou**	**49.11**	**200**	*e*P	**P**	**20 05 55.0**	**+2.0**
237A	**Washetta, Mont**	**49.12**	**284**	IAMs_20	IAMs_20	20 24 39.9	
	comp=Z,2μm,19.0s						
IDI	**Anoyia**	**49.12**	**71**	LR	LR	20 23 37.7	
	comp=Z,2μm,20.9s,baz=299,slow=32						
JOF	**Joensuu**	**49.13**	**34**	*e*P	**P**	**20 05 52.1**	**-0.5**
OK029	**Liberty Lake**	**49.13**	**289**	IAMs_20	IAMs_20	20 25 14.8	
	comp=Z,2μm,19.0s						
TPGR	**Topolog**	**49.18**	**58**	⇓P	**P**	**20 05 53.1**	**-0.3**
TIRR	**Tirgusor**	**49.26**	**59**	IAmb	IAmb	20 06 10.4	
	comp=Z,63nm,1.2s						
TIRR				IAMs_20	IAMs_20	20 23 13.7	
	comp=Z,5μm,21.0s						
TIRR	**Tirgusor**	**49.26**	**59**	⇓P	**P**	**20 05 52.7**	**-1.3**
TIRR	**Tirgusor**	**49.26**	**59**	P	**P**	**20 05 52.6**	**-1.3**
TIRR	**Tirgusor**	**49.26**	**59**	⇓P	**P**	**20 05 52.8**	**-1.1**
R32A	**Long Quarter,**	**49.30**	**293**	IAmb	IAmb	20 05 55.4	
	comp=Z,56nm,1.0s						
R32A				IAMs_20	IAMs_20	20 24 11.8	
	comp=Z,2μm,21.0s						
CROK	**Carrier**	**49.32**	**291**	IAMs_20	IAMs_20	20 24 46.6	
	comp=Z,2μm,21.0s						
HOPEN	**Hopen**	**49.37**	**16**	*e*S	**S**	**20 12 59.9**	**-0.4**
HOPEN				*e*SS	**SS**	**20 16 35.5**	**+4.1**
HOPEN				IVMs_BB	IVMs_BB	20 23 21.1	
	comp=Z,3μm,3.5s						
TLCR		**49.38**	**58**	⇑P	**P**	**20 05 54.0**	**-0.8**
TLCR		**49.38**	**58**	P	**P**	**20 05 54.0**	**-0.8**
X34A	**Smith Ranch, M**	**49.81**	**288**	IAmb	IAmb	20 06 09.4	
	comp=Z,45nm,1.0s						
PURM	**Purcari**	**49.83**	**56**	⇓P	**P**	**20 05 57.4**	**-0.8**
PURM	**Purcari**	**49.83**	**56**	P	**P**	**20 05 57.0**	**-1.2**
	comp=Z,4μmcomp=Z,201nm,1.0s						
HKT	**Hockley**	**49.89**	**282**	P	**P**	**20 06 01.9**	**+3.0**
OK038	**West end E0370**	**49.91**	**291**	IAmb	IAmb	20 06 14.7	
	comp=Z,41nm,0.8s						
CBKS	**Cedar Bluff**	**49.96**	**294**	IAmb	IAmb	20 06 08.9	
	comp=Z,42nm,0.8s						
CBKS				IAMs_20	IAMs_20	20 27 51.1	
	comp=Z,3μm,19.0s						
NOKA	**Waynoka**	**50.01**	**291**	IAmb	IAmb	20 06 12.8	
	comp=Z,55nm,1.0s						
FW13	**Cleburne**	**50.28**	**285**	IAmb	IAmb	20 06 25.4	
	comp=Z,83nm,1.2s						
TGUH	**Tegucigalpa,Un**	**50.40**	**259**	IAMs_20	IAMs_20	20 24 11.8	
	comp=Z,2μm,20.0s						
TBTG	**Tabatinga, AM**	**50.42**	**226**	*e*P	**P**	**20 06 04.3**	**+1.3**
FW07	**Weatherford**	**50.43**	**286**	IAmb	IAmb	20 06 26.5	
	comp=Z,93nm,1.3s						
CMC01	**Camacan, BA**	**50.43**	**184**	*e*P	**P**	**20 06 04.5**	**+1.5**
WMOK	**Wichita Mounta**	**50.51**	**289**	IAmb	IAmb	20 06 15.9	
	comp=Z,64nm,1.4s						
WMOK	**Wichita Mounta**	**50.51**	**289**	⇓P	**P**	**20 06 03.6**	**0.0**
WMOK	**Wichita Mounta**	**50.51**	**289**	⇓P	**P**	**20 06 03.6**	**0.0**
PDRB	**Porto dos Gac**	**50.51**	**206**	*e*P	**P**	**20 06 04.6**	**+1.0**
ELIS	**Ellis County**	**50.56**	**290**	IAmb	IAmb	20 06 27.7	
	comp=Z,85nm,1.4s						
ELIS				IAMs_20	IAMs_20	20 26 49.4	
	comp=Z,2μm,18.0s						
WTFS	**Witchita Falls**	**50.59**	**287**	IAmb	IAmb	20 06 41.9	
	comp=Z,112nm,1.7s						
JANB	**Januaria**	**50.63**	**190**	*e*P	**P**	**20 06 05.5**	**+1.0**
JTS	**Las Juntas de**	**50.75**	**253**	IAMs_20	IAMs_20	20 23 12.5	
	comp=Z,3μm,22.0s						
JTS	**Las Juntas de**	**50.75**	**253**	LR	LR	20 25 19.7	
	comp=Z,2μm,20.0s,baz=43,slow=33						
DGMT	**Dagmar**	**50.75**	**307**	IAmb	IAmb	20 06 15.1	
	comp=Z,70nm,0.9s						
DGMT	**Dagmar**	**50.75**	**307**	IAMs_20	IAMs_20	20 27 17.5	
	comp=Z,2μm,20.0s						
DGMT	**Dagmar**	**50.75**	**307**	⇑P	**P**	**20 06 05.6**	**+0.4**
435B	**Jarrell**	**50.98**	**283**	IAmb	IAmb	20 06 35.2	
	comp=Z,71nm,1.0s						
435B				IAMs_20	IAMs_20	20 26 08.3	
	comp=Z,3μm,19.0s						
435B	**Jarrell**	**50.98**	**283**	P	**P**	**20 06 07.7**	**+0.6**
	baz=67						
OGNE	**Ogallala**	**51.05**	**297**	IAmb	IAmb	20 06 07.8	
	comp=Z,40nm,1.0s						
OGNE				IAMs_20	IAMs_20	20 25 55.6	
	comp=Z,2μm,22.0s						
SMWD	**Samnorwood**	**51.51**	**290**	IAmb	IAmb	20 06 23.7	
	comp=Z,53nm,0.9s						
RSSD	**Black Hills**	**51.63**	**302**	P	**P**	**20 06 10.2**	**-2.0**
RSSD	**Black Hills**	**51.63**	**302**	IAMs_20	IAMs_20	20 28 06.4	
	comp=Z,3μm,19.0s						
RSSD	**Black Hills**	**51.63**	**302**	P	**P**	**20 06 10.2**	**-2.0**
RSSD				pmax	pmax		
	comp=Z,12nm,1.1s						
RSSD				MLR	MLR		
	comp=Z,4μm,19.0s						
RSSD	**Black Hills**	**51.63**	**302**	⇓P	**P**	**20 06 11.6**	**-0.5**
BDFB	**Brasilia**	**51.85**	**195**	P	**P**	**20 06 14.8**	**+1.0**
BDFB	**Brasilia**	**51.85**	**195**	P	**P**	**20 06 13.6**	**-0.2**
	comp=Z,9.8nm,0.8s,baz=19,slow=5.1,SNR=11						
BDFB				LR	LR	20 23 25.0	
	comp=Z,7μm,21.8s,baz=14,slow=30						
	comp=Z,9.8nm,0.8s						
BDFB	**Brasilia**	**51.85**	**195**	P	**P**	**20 06 14.8**	**+1.0**
BDFB				pmax	pmax		
	comp=Z,34nm,1.1s						
MTO3	**Montecristo**	**51.89**	**260**	P	**P**	**20 06 14.3**	**-0.1**
MTO3				IAmb	IAmb	20 06 44.0	
	comp=Z,70nm,1.2s						
BRDY	**Brady**	**51.91**	**285**	IAmb	IAmb	20 06 36.9	
	comp=Z,53nm,1.1s						
BORA	**Eskisehir**	**51.91**	**64**	IAMs_20	IAMs_20	20 27 22.4	
	comp=Z,5μm,18.0s						
APMT	**Aspermont**	**52.04**	**287**	IAmb	IAmb	20 06 17.8	
	comp=Z,35nm,0.8s						
KSCO	**Kaye Shedlock'**	**52.05**	**295**	IAmb	IAmb	20 06 25.6	
	comp=Z,76nm,1.4s						
KSCO				IAMs_20	IAMs_20	20 27 59.4	
	comp=Z,3μm,20.0s						
OBN	**Obninsk**	**52.42**	**44**	P	**P**	**20 06 15.5**	**-2.1**
OBN	**Obninsk**	**52.42**	**44**	LR	LR	20 27 26.3	
	comp=Z,15μm,19.7s,baz=272,slow=35						
OBN	**Obninsk**	**52.42**	**44**	⇑P	**P**	**20 06 16.9**	**-0.6**
OBN	**Obninsk**	**52.42**	**44**	*de*P	**P**	**20 06 16.2**	**-1.3**
OBN				*e**PP	**pP**	**20 06 18.0**	**-2.7**
OBN				*i* *SP	**sP**	**20 06 21.7**	**-0.3**
OBN				*i* S	**S**	**20 13 44.8**	**+1.8**
OBN				SSS	SSS	20 19 08.0	
OBN				pmax	pmax		
	comp=Z,58nm,1.0s						
OBN				MLR	MLR		
	comp=Z,5μm,15.0s						
OBN	**Obninsk**	**52.42**	**44**	P	**P**	**20 06 17.2**	**-0.3**
	comp=Z,3μmcomp=Z,96nm,1.7s						
OBN	**Obninsk**	**52.42**	**44**	⇓

ISCO IAMs_20 IAMs_20 20 27 48.8
comp=Z,3µm,22.0s
ISCO Idaho Springs 54.00 297 ⇓P **P 20 06 30.4 +0.5**
ISCO Idaho Springs 54.00 297 ⇓P **P 20 06 30.4 +0.5**
SALV Santo Antonio 54.14 203 *e*P **P 20 06 31.1 +0.5**
IPMB Ipameri, GO 54.16 194 *e*P **P 20 06 32.8 +2.0**
YKA Yellowknife Ar 54.19 326 P **P 20 06 30.2 -0.2**
comp=Z,7.5nm,0.9s,baz=86,slow=7.1,SNR=73
YKA LR LR 20 29 09.1
comp=Z,3µm,18.1s,baz=74,slow=36
comp=Z,7.5nm,0.9s
YKA Yellowknife Ar 54.19 326 *i* P **P 20 06 30.3 -0.2**
YKA pmax pmax
comp=Z,12nm,0.9s
LPSR Galich'ya Gora 54.29 47 *e*P **P 20 06 30.4 -0.9**
LPSR pmax pmax
comp=Z,72nm,0.7s
BR131 Keskin Array S 54.29 63 IAmb IAmb 20 06 52.3
comp=Z,66nm,1.2s
BR131 Keskin Array S 54.29 63 *i* P **P 20 06 30.7 -1.1**
BRTR Keskin Array B 54.29 63 P **P 20 06 29.6 -2.1**
BRTR Keskin Array B 54.29 63 P **P 20 06 31.3 -0.5**
comp=Z,13nm,1.0s,baz=275,slow=5.7,SNR=26
BRTR LR LR 20 27 54.6
comp=Z,5µm,21.9s,baz=283,slow=34
comp=Z,13nm,1.0s
PMNB Patos De Minas 54.38 192 *e*P **P 20 06 32.9 +0.6**
ODSA Odessa 54.39 287 IAmb IAmb 20 06 56.3
comp=Z,58nm,1.2s
RIB01 Linhares ES 54.41 185 *e*P **P 20 06 34.3 +1.8**
EGMT Eagleton 54.47 308 IAmb IAmb 20 06 42.2
comp=Z,52nm,1.1s
EGMT IAMs_20 IAMs_20 20 28 32.8
comp=Z,3µm,22.0s
EGMT Eagleton 54.47 308 ⇓P **P 20 06 33.0 +0.1**
SDCO Great Sand Dun 54.60 295 IAMs_20 IAMs_20 20 30 46.9
comp=Z,2µm,18.0s
SDCO Great Sand Dun 54.60 295 ⇓P **P 20 06 35.0 +0.7**
VORR Voronezh 54.67 48 *e*P **P 20 06 32.2 -1.9**
VORR pmax pmax
comp=Z,60nm,0.9s
KIRS Kirsehir-Merke 54.69 64 ⇑P **P 20 06 34.4 -0.2**
VSR Storozhevoye 54.76 48 *e*P **P 20 06 32.9 -1.9**
VSR pmax pmax
comp=Z,10.0nm,0.8s
MNHN Monahans 54.86 286 IAmb IAmb 20 06 57.8
comp=Z,34nm,0.9s
VORD Divnogorie 54.90 48 *e*P **P 20 06 33.8 -2.0**
VORD pmax pmax
comp=Z,30nm,1.0s
CZSB Cruzeiro do Su 54.91 226 IAmb IAmb 20 06 49.4
comp=Z,62nm,1.0s
CZSB IAMs_20 IAMs_20 20 27 03.5
comp=Z,3µm,22.0s
CZSB Cruzeiro do Su 54.91 226 *e*P **P 20 06 35.6 -0.7**
SAND Sanderson 54.91 284 IAmb IAmb 20 06 58.2
comp=Z,34nm,1.0s
PTLB Pontes e Lacer 54.93 207 IAmb IAmb 20 07 03.2
comp=Z,42nm,1.2s
PTLB IAMs_20 IAMs_20 20 26 47.7
comp=Z,2µm,20.0s
PTLB Pontes e Lacer 54.93 207 *e*P **P 20 06 36.6 +0.3**
CMIG Matias Romero 54.95 267 LR LR 20 27 24.3
comp=Z,2µm,21.6s,baz=58,slow=33
RLMT Red Lodge 54.95 304 IAmb IAmb 20 07 06.2
comp=Z,38nm,1.2s
RLMT IAMs_20 IAMs_20 20 29 28.0
comp=Z,3µm,20.0s
ANN Anapa 55.39 56 *e*P **P 20 06 39.1 -0.3**
ANN *e*S **S 20 14 24.6 +1.1**
ANN pmax pmax
comp=Z,116nm,1.7s
ANN MLR MLR
comp=Z,6µm,15.0s
YNE Yellowstone No 55.49 304 IAmb IAmb 20 07 04.4
comp=Z,50nm,1.0s
YNE IAMs_20 IAMs_20 20 29 26.1
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 55.59 295 IAMs_20 IAMs_20 20 29 09.0
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 55.59 295 P **P 20 06 42.1 +0.7**
baz=69,SNR=12
YMP Mirror Lake Pl 55.67 304 IAmb IAmb 20 07 25.8
comp=Z,78nm,1.2s
YMP IAMs_20 IAMs_20 20 30 03.9
comp=Z,3µm,19.0s
O20A White River Ci 55.80 298 IAmb IAmb 20 07 01.9
comp=Z,45nm,1.1s
O20A IAMs_20 IAMs_20 20 29 50.2
comp=Z,3µm,21.0s
BW06 Boulder Array 55.87 302 ⇑P **P 20 06 42.5 -0.7**
PD31 Pinedale Array 55.87 302 IAmb IAmb 20 07 18.4
comp=Z,49nm,1.2s
PDAR Pinedale Array 55.87 302 P **P 20 06 41.4 -1.9**
PDAR Pinedale Array 55.87 302 P **P 20 06 42.5 -0.7**
comp=Z,19nm,0.9s,baz=74,slow=7.1,SNR=94
PDAR LR LR 20 30 22.9
comp=Z,1µm,20.3s,slow=36
comp=Z,19nm,0.9s
YNR Norris Junctio 56.03 304 IAmb IAmb 20 07 21.0
comp=Z,72nm,1.5s
YNR IAMs_20 IAMs_20 20 29 44.5
comp=Z,4µm,20.0s
YNM Yellowstone No 56.04 304 IAMs_20 IAMs_20 20 29 45.9
comp=Z,3µm,20.0s
TOKA Tokat 56.15 61 IAmb IAmb 20 07 02.8
comp=Z,33nm,0.9s
TOKA IAMs_20 IAMs_20 20 28 57.3
comp=Z,4µm,22.0s
SIV San Ignacio 56.17 209 LR LR 20 27 57.8
comp=Z,3µm,19.7s,baz=56,slow=33
YFT Old Faithful 56.22 304 IAmb IAmb 20 07 00.6
comp=Z,32nm,1.0s
YMR Madison River 56.24 304 IAMs_20 IAMs_20 20 30 02.0
comp=Z,3µm,20.0s
FLWY Flagg Ranch 56.24 303 IAmb IAmb 20 06 51.6
comp=Z,39nm,1.1s
FLWY IAMs_20 IAMs_20 20 30 26.2
comp=Z,3µm,20.0s
VRH Novokhopyorsk 56.31 48 *e*P **P 20 06 44.6 -1.3**
VRH pmax pmax
comp=Z,40nm,0.9s
LOHW Long Hollow 56.33 303 IAmb IAmb 20 06 51.8
comp=Z,61nm,1.6s
LOHW IAMs_20 IAMs_20 20 30 21.4
comp=Z,4µm,21.0s
ANMO Albuquerque 56.33 292 P **P 20 06 45.5 -1.1**
ANMO Albuquerque 56.33 292 IAMs_20 IAMs_20 20 29 28.0
comp=Z,2µm,19.0s
ANMO Albuquerque 56.33 292 P **P 20 06 46.7 +0.1**
comp=Z,4.3nm,0.7s,baz=244,slow=8.3,SNR=9.2
ANMO LR LR 20 29 50.9
comp=Z,1µm,19.2s,baz=231,slow=35
comp=Z,4.3nm,0.7s
ANMO Albuquerque 56.33 292 *i* P **P 20 06 47.1 +0.5**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
YHL Hebgen Lake 56.33 304 IAMs_20 IAMs_20 20 30 53.4
comp=Z,2µm,20.0s
YHB Horse Butte 56.37 304 IAmb IAmb 20 06 52.7
comp=Z,55nm,1.2s
YHB IAMs_20 IAMs_20 20 30 04.5
comp=Z,3µm,21.0s
MOOW Moose Ponds 56.38 303 IAMs_20 IAMs_20 20 30 21.9
comp=Z,4µm,21.0s
TX31 Lajitas Ar. Si 56.39 284 IAmb IAmb 20 07 09.5
comp=Z,31nm,0.9s
TXAR Lajitas Array 56.39 284 P **P 20 06 46.3 -0.7**
TXAR Lajitas Array 56.39 284 P **P 20 06 47.3 +0.3**
comp=Z,4.1nm,0.7s,baz=93,slow=7.5,SNR=23
TXAR LR LR 20 30 27.7
comp=Z,756nm,18.5s,baz=63,slow=36
comp=Z,4.1nm,0.7s
BOZ Bozeman (W) 56.40 305 IAmb IAmb 20 06 55.7
comp=Z,34nm,0.9s
BOZ IAMs_20 IAMs_20 20 30 33.1
comp=Z,4µm,19.0s
BOZ Bozeman (W) 56.40 305 ⇑P **P 20 06 46.8 -0.1**
SNOW Snow King Moun 56.48 303 IAMs_20 IAMs_20 20 30 26.6
comp=Z,4µm,21.0s
BSCB Bom Sucesso 56.53 190 *e*P **P 20 06 50.4 +2.6**
TPAW Teton Pass 56.60 303 IAmb IAmb 20 06 52.9
comp=Z,124nm,1.8s
TPAW IAMs_20 IAMs_20 20 30 39.0
comp=Z,4µm,20.0s
RDMU Red Mountain 56.61 299 IAMs_20 IAMs_20 20 31 19.4
comp=Z,2µm,19.0s

A36M Sachs Harbour 56.62 338 IAMs_20 IAMs_20 20 27 11.4
comp=Z,2µm,21.0s
A36M Sachs Harbour 56.62 338 P **P 20 06 47.8 0.0**
baz=78,SNR=32
MNTX Cornudas Mount 56.77 288 ⇓P **P 20 06 49.4 -0.1**
C36M Paulatuk 56.78 335 IAMs_20 IAMs_20 20 34 56.9
comp=Z,2µm,18.0s
C36M Paulatuk 56.78 335 P **P 20 06 49.1 +0.2**
baz=78,SNR=7.5
VHRN Van Horn 56.83 287 IAmb IAmb 20 07 14.2
comp=Z,47nm,1.1s
AHID Auburn Hatcher 56.95 302 IAmb IAmb 20 07 03.2
comp=Z,51nm,0.9s
AHID IAMs_20 IAMs_20 20 31 34.0
comp=Z,3µm,20.0s
AHID Auburn Hatcher 56.95 302 ⇑P **P 20 06 50.6 -0.2**
PV23 Carpenter Ridg 56.95 296 IAmb IAmb 20 07 31.6
comp=Z,42nm,1.0s
PV10 Paradox Valley 56.99 296 IAmb IAmb 20 07 52.3
comp=Z,86nm,1.4s
CAM01 Campos-RJ 57.00 186 *e*P **P 20 06 52.5 +1.5**
MVCO Mesa Verde 57.02 295 IAmb IAmb 20 07 09.2
comp=Z,69nm,1.0s
MVCO IAMs_20 IAMs_20 20 28 57.8
comp=Z,2µm,19.0s
MVCO Mesa Verde 57.02 295 ⇑P **P 20 06 52.6 +1.1**
DLMT Dillon 57.12 305 IAMs_20 IAMs_20 20 31 15.1
comp=Z,3µm,19.0s
ERBR Yeremizino-Bor 57.16 54 *e*P **P 20 06 53.1 +1.1**
ERBR *e*S **S 20 14 50.5 +3.5**
ERBR pmax pmax
comp=Z,69nm,1.4s
ERBR MLR MLR
comp=Z,5µm,15.0s
BB19B Bebedouro 57.22 194 *e*P **P 20 06 55.7 +3.0**
PANT Pantanal (Braz 57.33 203 *e*P **P 20 06 54.6 +1.2**
SOC Sochi 57.33 57 *e*P **P 20 06 53.5 +0.2**
SOC *e* 20 08 57.5
SOC *e*PPP PPP 20 10 17.8
SOC *e*S **S 20 14 51.5 +2.2**
SOC pmax pmax
comp=Z,53nm,1.3s
SOC MLR MLR
comp=Z,2µm,16.0s
P18A Preston Nutter 57.42 298 IAmb IAmb 20 07 23.7
comp=Z,35nm,1.0s
P18A IAMs_20 IAMs_20 20 31 14.1
comp=Z,3µm,20.0s
BSUT Blindstream Ca 57.47 299 IAMs_20 IAMs_20 20 31 47.2
comp=Z,3µm,19.0s
MSO Missoula 57.53 307 IAmb IAmb 20 06 59.7
comp=Z,37nm,1.1s
MSO IAMs_20 IAMs_20 20 31 56.9
comp=Z,2µm,21.0s
MSO Missoula 57.53 307 ⇓P **P 20 06 54.6 -0.2**
VSLR Vesyoloye 57.59 57 *i* P **P 20 06 53.5 -1.6**
VSLR pmax pmax
comp=Z,133nm,1.3s
VSLR MLR MLR
comp=Z,2µm,16.0s
HWUT Hardware Ranch 57.66 301 IAmb IAmb 20 07 05.8
comp=Z,29nm,0.7s
HWUT IAMs_20 IAMs_20 20 31 42.2
comp=Z,3µm,20.0s
HWUT Hardware Ranch 57.66 301 ⇓P **P 20 06 56.1 +0.2**
LABN Labinsk 57.67 55 *e*P **P 20 07 00.4 +4.8**
LABN *e*S S 20 15 07.5 +14
LABN pmax pmax
comp=Z,85nm,1.9s
LABN MLR MLR
comp=Z,7µm,16.0s
TLIG Tlapa 57.72 269 P **P 20 06 57.3 +0.8**
TLIG IAMs_20 IAMs_20 20 28 06.5
comp=Z,2µm,22.0s
TCUT Toone Canyon 57.73 300 IAMs_20 IAMs_20 20 32 09.9
comp=Z,3µm,19.0s
SRU San Rafael Swe 57.81 298 IAMs_20 IAMs_20 20 31 06.4
comp=Z,2µm,20.0s
GAZ Gaziantep 57.81 65 IAmb IAmb 20 07 17.3
comp=Z,53nm,1.0s
GAZ Gaziantep 57.81 65 ⇑P **P 20 06 58.2 +1.3**
RPRD Ribas do Rio P 57.87 199 *e*P **P 20 06 58.2 +1.0**
JLU Joensuu 57.94 300 IAmb IAmb 20 07 09.2
comp=Z,37nm,1.0s
JLU IAMs_20 IAMs_20 20 32 37.6
comp=Z,4µm,19.0s
ATAH Atahualpa 57.96 232 LR LR 20 30 02.8
comp=Z,1µm,21.1s,baz=44,slow=34
WRGLY Wrigley 58.01 328 IAMs_20 IAMs_20 20 31 24.0
comp=Z,2µm,18.0s
MMAI Mount Meron Ar 58.06 70 P **P 20 06 58.3 -0.4**
comp=Z,17nm,1.1s,baz=289,slow=9.0,SNR=3.9
MMAI LR LR 20 31 53.3
comp=Z,4µm,20.3s,baz=277,slow=36
comp=Z,17nm,1.1s
TMUT Trail Mountain 58.24 298 IAmb IAmb 20 07 16.4
comp=Z,41nm,1.3s
MPU Maple Canyon 58.28 299 IAMs_20 IAMs_20 20 32 43.7
comp=Z,2µm,20.0s
121A Cookes Peak, D 58.29 290 IAmb IAmb 20 07 11.4
comp=Z,66nm,1.4s
121A IAMs_20 IAMs_20 20 34 13.3
comp=Z,2µm,22.0s
121A Cookes Peak, D 58.29 290 P **P 20 07 01.3 +0.8**
baz=66,SNR=11
Q16A Castle Valley 58.35 298 IAmb IAmb 20 07 25.0
comp=Z,62nm,1.7s
Q16A IAMs_20 IAMs_20 20 31 23.7
comp=Z,3µm,20.0s
SPUT South Promonto 58.39 301 IAmb IAmb 20 07 36.6
comp=Z,70nm,1.6s
AQDB Aquidauana 58.44 202 IAmb IAmb 20 07 21.5
comp=Z,27nm,1.0s
AQDB Aquidauana 58.44 202 *e*P **P 20 07 02.5 +1.3**
HVU Hansel Valley 58.45 301 IAmb IAmb 20 07 31.7
comp=Z,79nm,1.6s
HVU IAMs_20 IAMs_20 20 32 33.9
comp=Z,3µm,18.0s
KIRV Kirov 58.50 38 LR LR 20 31 15.3
comp=Z,9µm,18.9s,baz=285,slow=35
KIRV Kirov 58.50 38 *ce*P **P 20 06 59.6 -1.6**
BDQN Bodoquena, MS 58.74 203 *e*P **P 20 07 04.4 +1.2**
VAO Valinhos 58.83 192 P **P 20 07 05.9 +1.9**
VAO IAMs_20 IAMs_20 20 27 16.1
comp=Z,4µm,20.0s
VAO Valinhos 58.83 192 *e*P **P 20 07 05.2 +1.3**
BGU Big Grassy Mou 58.94 301 IAmb IAmb 20 07 27.4
comp=Z,27nm,1.0s
BGU IAMs_20 IAMs_20 20 30 56.0
comp=Z,3µm,22.0s
HLID Hailey 58.95 304 IAmb IAmb 20 07 35.7
comp=Z,52nm,1.6s
HLID IAMs_20 IAMs_20 20 32 32.8
comp=Z,3µm,19.0s
PARB Paraibuna 58.96 190 *e*P **P 20 07 06.7 +1.9**
DUG Dugway, Tooele 59.05 300 IAMs_20 IAMs_20 20 33 03.1
comp=Z,3µm,19.0s
DUG Dugway, Tooele 59.05 300 ⇑P **P 20 07 05.2 -0.4**
DUG Dugway, Tooele 59.05 300 ⇑P **P 20 07 05.2 -0.4**
GOF Gofitskoye 59.08 54 *ce*P **P 20 07 06.8 +1.3**
NEW Newport 59.10 310 IAMs_20 IAMs_20 20 31 54.1
comp=Z,3µm,20.0s
NEW Newport 59.10 310 LR LR 20 32 05.8
comp=Z,3µm,20.2s,baz=68,slow=36
NEW Newport 59.10 310 P **P 20 07 05.3 -0.4**
NEW Newport 59.10 310 ⇑P **P 20 07 05.2 -0.5**
EIL Elat 59.11 74 LR LR 20 34 01.3
comp=Z,2µm,18.5s,baz=284,slow=38
X18A Snowflake 59.14 293 IAMs_20 IAMs_20 20 30 18.3
comp=Z,2µm,20.0s
KOPT Kop Dagi 59.14 61 IAmb IAmb 20 07 25.1
comp=Z,44nm,1.1s
KOPT IAMs_20 IAMs_20 20 33 50.3
comp=Z,3µm,20.0s
KOTAN Kotaneelee Air 59.16 324 P **P 20 07 06.4 +0.5**
baz=72
KIV Kislovodsk 59.23 56 P **P 20 07 05.9 -0.8**
KIV IAMs_20 IAMs_20 20 33 37.1
comp=Z,4µm,19.0s
KIV Kislovodsk 59.23 56 P **P 20 07 08.3 +1.7**
KIV S **S 20 15 14.1 -0.1**
KIV Kislovodsk 59.23 56 *e*P **P 20 07 07.5 +0.8**
KIV *e*S **S 20 15 15.5 +1.3**
KIV *e*SS **SS 20 19 11.6 +3.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s

KIV Kislovodsk 59.23 56 P **P 20 07 07.5 +0.8**
KVAR Kislovodsk Arr 59.23 56 LR LR 20 30 44.7
comp=Z,4µm,21.4s,baz=266,slow=34
SHA1 Shidzhatmaz 59.28 56 *e*P **P 20 07 07.6 +0.4**
TCRU Three Creeks R 59.39 298 IAMs_20 IAMs_20 20 32 09.2
comp=Z,3µm,20.0s
BCA Borcka 59.40 59 ⇓P **P 20 07 07.4 -0.4**
MTPU Mount Pierson 59.42 297 IAMs_20 IAMs_20 20 33 25.0
comp=Z,2µm,19.0s
KBZ Khabaz 59.45 56 P **P 20 07 08.4 +0.4**
comp=Z,21nm,0.9s,baz=302,slow=6.6,SNR=23
KBZ LR LR 20 31 37.6
comp=Z,3µm,20.2s,baz=311,slow=35
comp=Z,21nm,0.9s
KBZ Khabaz 59.45 56 *ce*P **P 20 07 07.1 -0.9**
KBZ pmax pmax
comp=Z,29nm,1.0s
KBZ MLR MLR
comp=Z,3µm,17.0s
BELG Belogornoye 59.45 45 LR LR 20 31 35.2
comp=Z,22µm,19.7s,baz=299,slow=35
BELG Belogornoye 59.45 45 *i* P **P 20 07 06.1 -1.8**
BELG pmax pmax
comp=Z,27nm,1.1s
PLID Pearl Lake 59.47 306 IAMs_20 IAMs_20 20 31 41.4
comp=Z,3µm,22.0s
LPAZ La Paz 59.56 216 P **P 20 07 10.4 +0.7**
comp=Z,34nm,0.9s,baz=20,slow=6.2,SNR=31
LPAZ LR LR 20 32 17.3
comp=Z,634nm,19.5s,slow=35
comp=Z,34nm,0.9s
LPAZ La Paz 59.56 216 ⇓P **P 20 07 10.3 +0.5**
LPAZ La Paz 59.56 216 *e*P **P 20 07 10.8 +1.1**
ASF Jabal al Asfar 59.56 70 LR LR 20 32 41.1
comp=Z,3µm,20.2s,baz=326,slow=36
FRTB Fartura 59.64 194 *e*P **P 20 07 10.8 +1.2**
PKCU Pink Cliffs 59.74 297 IAmb IAmb 20 07 20.8
comp=Z,48nm,1.2s
PKCU IAMs_20 IAMs_20 20 33 16.7
comp=Z,2µm,18.0s
WUAZ Wupatki 59.81 294 IAmb IAmb 20 07 24.7
comp=Z,31nm,0.9s
WUAZ IAMs_20 IAMs_20 20 31 43.9
comp=Z,2µm,18.0s
319A Douglas 59.93 289 IAmb IAmb 20 08 13.1
comp=Z,53nm,1.3s
MFID Camas Ranch 59.96 304 IAmb IAmb 20 07 17.4
comp=Z,60nm,1.6s
MFID IAMs_20 IAMs_20 20 33 13.5
comp=Z,3µm,19.0s
F10A Beach Ranch, E 59.97 307 IAMs_20 IAMs_20 20 33 35.2
comp=Z,2µm,19.0s
F10A Beach Ranch, E 59.97 307 ⇑P **P 20 07 11.1 -0.6**
C09A Chrisman Ranch 59.99 310 IAmb IAmb 20 07 16.2
comp=Z,69nm,1.4s
C09A IAMs_20 IAMs_20 20 32 30.6
comp=Z,3µm,19.0s
NCK Nalchik 60.01 56 *i* P **P 20 07 10.6 -1.4**
NCK pmax pmax
comp=Z,17nm,1.0s
LDASE Londrina, Braz 60.02 196 *e*P **P 20 07 13.9 +1.8**
TOAD Toad River Com 60.14 323 P **P 20 07 12.5 -0.2**
baz=70
KNB Kanab 60.28 296 IAMs_20 IAMs_20 20 33 08.1
comp=Z,3µm,19.0s
X16A Lo Mia Camp, P 60.31 293 IAMs_20 IAMs_20 20 31 06.2
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 60.37 308 IAmb IAmb 20 07 24.0
comp=Z,43nm,0.9s
E09A IAMs_20 IAMs_20 20 32 03.7
comp=Z,3µm,22.0s
INK Inuvik 60.37 335 P **P 20 07 12.3 -1.7**
INK IAMs_20 IAMs_20 20 36 07.7
comp=Z,2µm,18.0s
INK Inuvik 60.37 335 LR LR 20 32 02.2
comp=Z,2µm,18.9s,baz=58,slow=35
INK Inuvik 60.37 335 P **P 20 07 13.8 -0.1**
baz=69,SNR=23
INK Inuvik 60.37 335 P **P 20 07 12.3 -1.7**
INK pmax pmax
comp=Z,65nm,1.2s
INK Inuvik 60.37 335 ⇑P **P 20 07 13.8 -0.1**
MARD Mardin 60.38 63 IAMs_20 IAMs_20 20 31 23.5
comp=Z,3µm,22.0s
BMO Blue Mountains 60.42 306 IAmb IAmb 20 07 22.7
comp=Z,32nm,1.1s
BMO IAMs_20 IAMs_20 20 32 52.5
comp=Z,2µm,20.0s
BMO Blue Mountains 60.42 306 ⇓P **P 20 07 14.5 -0.4**
PSUT Pine Spring 60.44 298 IAmb IAmb 20 07 28.7
comp=Z,52nm,1.0s
PSUT IAMs_20 IAMs_20 20 33 49.9
comp=Z,3µm,19.0s
B08A Colville Reser 60.45 310 IAMs_20 IAMs_20 20 32 26.8
comp=Z,3µm,20.0s
ELK Elko 60.56 301 IAmb IAmb 20 07 51.0
comp=Z,65nm,1.6s
ELK IAMs_20 IAMs_20 20 32 05.8
comp=Z,3µm,22.0s
ELK Elko 60.56 301 LR LR 20 34 02.4
comp=Z,2µm,18.1s,baz=70,slow=37
ELK Elko 60.56 301 ⇓P **P 20 07 16.5 +0.4**
ELK Elko 60.56 301 ⇓P **P 20 07 16.5 +0.4**
SPR3 Spring Creek 3 60.59 299 IAmb IAmb 20 08 05.9
comp=Z,44nm,1.2s
SPR3 IAMs_20 IAMs_20 20 33 59.0
comp=Z,3µm,19.0s
LCMT Little Creek M 60.60 296 IAMs_20 IAMs_20 20 34 04.3
comp=Z,2µm,19.0s
TGTN Hyland Airport 60.66 327 P **P 20 07 17.0 +0.8**
baz=70,SNR=7.0
D08A Wollman Farm, 60.66 309 IAmb IAmb 20 07 20.3
comp=Z,83nm,2.0s
D08A IAMs_20 IAMs_20 20 32 54.5
comp=Z,3µm,18.0s
TUC Tucson 60.69 291 P **P 20 07 16.1 -0.8**
TUC Tucson 60.69 291 IAMs_20 IAMs_20 20 35 27.6
comp=Z,2µm,20.0s
TUC Tucson 60.69 291 P **P 20 07 16.1 -0.8**
TUC pmax pmax
comp=Z,28nm,1.6s
TUC MLR MLR
comp=Z,2µm,20.0s
KARS Kars 60.73 59 P **P 20 07 21.0 +3.9**
KARS pmax pmax
comp=Z,69nm,2.0s
NNA Nana 60.74 227 LR LR 20 34 38.3
comp=Z,752nm,18.1s,baz=23,slow=37
F31M Tsiigehtchic 60.76 334 IAMs_20 IAMs_20 20 33 37.2
comp=Z,3µm,18.0s
F31M Tsiigehtchic 60.76 334 P **P 20 07 16.8 +0.2**
baz=68,SNR=18
GURO Guroymak-BITLI 60.80 62 P **P 20 07 16.7 -1.0**
GURO IAmb IAmb 20 07 36.1
comp=Z,33nm,1.2s
GURO IAMs_20 IAMs_20 20 31 52.4
comp=Z,3µm,22.0s
E08A Dider Farm, El 60.96 308 IAMs_20 IAMs_20 20 33 52.4
comp=Z,2µm,20.0s
G31M Satah River 61.14 334 IAMs_20 IAMs_20 20 31 54.4
comp=Z,2µm,18.0s
G31M Satah River 61.14 334 P **P 20 07 19.3 0.0**
baz=68,SNR=7.7
HAWA Hanford 61.30 308 P **P 20 07 19.5 -1.2**
HAWA IAMs_20 IAMs_20 20 34 11.4
comp=Z,3µm,19.0s
HAWA Hanford 61.30 308 ⇓P **P 20 07 21.0 +0.3**
PB18 Visviri 61.33 217 P **P 20 07 20.9 -0.8**
G08A Pilot Rock 61.35 307 IAMs_20 IAMs_20 20 31 38.8
comp=Z,2µm,22.0s
WTLY Watson Lake, Y 61.41 325 IAMs_20 IAMs_20 20 33 33.2
comp=Z,3µm,18.0s
WTLY Watson Lake, Y 61.41 325 P **P 20 07 21.8 +0.6**
baz=68
F30M Barrier River 61.42 335 P **P 20 07 21.3 +0.1**
baz=67,SNR=17
E07A Sunnyside 61.45 309 P **P 20 07 21.0 -0.7**
E07A IAMs_20 IAMs_20 20 29 51.2
comp=Z,2µm,19.0s
PTGB Pitanga 61.51 196 *e*P **P 20 07 24.2 +1.8**
MMPY Sheldon Lake, 61.58 328 IAmb IAmb 20 07 34.1
comp=Z,37nm,1.5s
MMPY IAMs_20 IAMs_20 20 32 33.5
comp=Z,2µm,19.0s
MMPY Sheldon Lake, 61.58 328 P **P 20 07 22.9 +0.5**
baz=68
H31M Peel River 61.60 332 IAMs_20 IAMs_20 20 33 57.6

comp=Z,3µm,18.0s
H31M Peel River 61.60 332 P **P** **20 07 23.2 +0.7**
baz=67
GEVA Gevas 61.64 61 P **P** **20 07 22.2 -1.1**
GEVA IAmb IAmb 20 07 44.7
comp=Z,59nm,1.4s
Y14A Wickenburg 61.69 293 IAMs_20 IAMs_20 20 34 56.7
comp=Z,3µm,19.0s
LTY Liberty 61.70 310 IAMs_20 IAMs_20 20 33 05.7
comp=Z,2µm,20.0s
D28M Stokes Point 61.71 337 P **P** **20 07 23.7 +0.7**
baz=65
MXC Moxie City 61.72 309 IAMs_20 IAMs_20 20 28 37.5
comp=Z,3µm,22.0s
F07A Phinny Hill Vi 61.74 308 IAmb IAmb 20 07 56.8
comp=Z,35nm,1.1s
F07A IAMs_20 IAMs_20 20 34 54.2
comp=Z,3µm,19.0s
R11B Troy Canyon, C 61.75 299 IAmb IAmb 20 07 53.7
comp=Z,26nm,1.2s
R11B IAMs_20 IAMs_20 20 32 45.7
comp=Z,3µm,22.0s
R11B Troy Canyon, C 61.75 299 P **P** **20 07 24.2 +0.1**
baz=66,SNR=10.0
J08A Circle Bar Ran 61.77 305 IAMs_20 IAMs_20 20 33 29.3
comp=Z,2µm,20.0s
G30M tAoh Zraii Nji 61.83 334 IAmb IAmb 20 07 51.2
comp=Z,28nm,0.8s
G30M IAMs_20 IAMs_20 20 34 19.5
comp=Z,3µm,19.0s
G30M tAoh Zraii Nji 61.83 334 P **P** **20 07 23.7 -0.3**
baz=66
E29M Blow River 61.83 336 IAMs_20 IAMs_20 20 33 53.1
comp=Z,2µm,20.0s
E29M Blow River 61.83 336 P **P** **20 07 23.9 0.0**
baz=65
GNI Garni 62.09 59 P **P** **20 07 26.1 -0.3**
GNI Garni 62.09 59 IAMs_20 IAMs_20 20 34 14.1
comp=Z,3µm,22.0s
GNI Garni 62.09 59 LR LR 20 34 35.5
comp=Z,3µm,20.8s,baz=308,slow=36
GNI Garni 62.09 59 P **P** **20 07 27.4 +1.1**
GNI S **S** **20 15 50.9 -0.1**
GNI Garni 62.09 59 *i* P **P** **20 07 26.0 -0.3**
GNI pmax pmax
comp=Z,32nm,1.1s
GNI MLR MLR
comp=Z,3µm,21.0s
GNI Garni 62.09 59 P **P** **20 07 26.9 +0.6**
GNI Garni 62.09 59 P **P** **20 07 27.6 +1.3**
comp=Z,1µmcomp=Z,43nm,1.5s
GNI Garni 62.09 59 ⇑P **P** **20 07 28.0 +1.6**
S11A Rachel 62.16 298 IAMs_20 IAMs_20 20 36 09.5
comp=Z,2µm,19.0s
I07A Izee 62.17 306 IAMs_20 IAMs_20 20 34 06.8
comp=Z,2µm,20.0s
WVOR Wild Horse Val 62.24 304 IAmb IAmb 20 07 59.9
comp=Z,48nm,1.1s
WVOR IAMs_20 IAMs_20 20 34 36.9
comp=Z,3µm,20.0s
WVOR Wild Horse Val 62.24 304 ⇓P **P** **20 07 28.3 +1.0**
WVOR Wild Horse Val 62.24 304 ⇓P **P** **20 07 28.3 +1.0**
EPYK Eagle Plains 62.26 333 IAmb IAmb 20 07 37.3
comp=Z,48nm,1.1s
EPYK IAMs_20 IAMs_20 20 34 06.9
comp=Z,2µm,18.0s
EPYK Eagle Plains 62.26 333 P **P** **20 07 27.0 +0.1**
baz=65
E28M Babbage River 62.28 336 IAMs_20 IAMs_20 20 34 21.3
comp=Z,2µm,21.0s
E28M Babbage River 62.28 336 P **P** **20 07 26.8 -0.2**
baz=64
V12A Nelson 62.31 296 IAmb IAmb 20 07 51.5
comp=Z,42nm,1.1s
V12A IAMs_20 IAMs_20 20 35 56.7
comp=Z,3µm,20.0s
G06A Carlson Farm, 62.46 308 IAmb IAmb 20 07 38.3
comp=Z,50nm,1.3s
G06A IAMs_20 IAMs_20 20 35 27.2
comp=Z,3µm,19.0s
D27M Malcolm River 62.46 337 P **P** **20 07 28.3 0.0**
baz=63
G29M Pine Creek 62.50 334 IAMs_20 IAMs_20 20 34 32.2
comp=Z,2µm,19.0s
G29M Pine Creek 62.50 334 P **P** **20 07 28.5 0.0**
baz=64
D05A Enumclaw 62.55 310 IAMs_20 IAMs_20 20 33 42.4
comp=Z,3µm,18.0s
LON Longmire 62.61 309 IAMs_20 IAMs_20 20 34 04.0
comp=Z,3µm,20.0s
I30M Mount Dempster 62.61 332 IAMs_20 IAMs_20 20 34 39.4
comp=Z,3µm,18.0s
I30M Mount Dempster 62.61 332 P **P** **20 07 29.6 +0.2**
baz=65
PB12 IPOC Station P 62.62 217 P **P** **20 07 28.6 -1.3**
PB12 IAMs_20 IAMs_20 20 33 38.1
comp=Z,1µm,21.0s
FARO Faro, Yukon 62.63 328 IAmb IAmb 20 07 40.2
comp=Z,21nm,1.0s
FARO IAMs_20 IAMs_20 20 33 06.1
comp=Z,2µm,21.0s
FARO Faro, Yukon 62.63 328 P **P** **20 07 29.8 +0.4**
baz=66
DLBC Dease Lake 62.63 324 P **P** **20 07 29.4 -0.2**
comp=Z,12nm,1.1s,baz=62,slow=6.3,SNR=6.6
DLBC LR LR 20 34 45.6
comp=Z,4µm,18.1s,baz=62,slow=36
comp=Z,12nm,1.1s
DLBC Dease Lake 62.63 324 P **P** **20 07 29.8 +0.3**
baz=67
DLBC Dease Lake 62.63 324 ⇓P **P** **20 07 30.7 +1.2**
Q09A Carvers 62.70 300 IAMs_20 IAMs_20 20 34 48.5
comp=Z,2µm,19.0s
R33M Jennings River 62.70 325 IAMs_20 IAMs_20 20 34 07.4
comp=Z,2µm,19.0s
R33M Jennings River 62.70 325 P **P** **20 07 30.1 +0.1**
baz=66
113A Mohawk Valley, 62.77 292 IAmb IAmb 20 07 53.9
comp=Z,30nm,1.2s
113A IAMs_20 IAMs_20 20 33 26.3
comp=Z,2µm,21.0s
TPNV Topopah Spring 62.81 297 IAmb IAmb 20 07 55.9
comp=Z,20nm,0.9s
TPNV IAMs_20 IAMs_20 20 34 19.0
comp=Z,3µm,22.0s
F28M Old Crow 62.84 335 IAmb IAmb 20 07 40.0
comp=Z,32nm,0.8s
F28M IAMs_20 IAMs_20 20 34 38.0
comp=Z,2µm,20.0s
F28M Old Crow 62.84 335 P **P** **20 07 30.5 -0.2**
baz=63,SNR=27
MAK Makhachkala 62.85 55 *e*P P 20 07 25.5 -5.6
MAK *e*SSS SSS 20 22 51.4
MAK pmax pmax
comp=Z,98nm,1.4s
MAK MLR MLR
comp=Z,6µm,16.0s
J30M Hart River 62.87 331 P **P** **20 07 32.0 +0.9**
baz=65
PGC Sidney 62.88 312 IAMs_20 IAMs_20 20 36 03.8
comp=Z,2µm,18.0s
BLYC Blythe 62.91 294 IAmb IAmb 20 07 55.0
comp=Z,32nm,1.2s
GNW Green Mountain 62.93 311 IAMs_20 IAMs_20 20 33 25.2
comp=Z,3µm,22.0s
H29M Whitestone 62.93 334 IAMs_20 IAMs_20 20 33 06.5
comp=Z,2µm,20.0s
H29M Whitestone 62.93 334 P **P** **20 07 31.7 +0.4**
baz=64
N32M Quiet Lake 62.95 327 IAMs_20 IAMs_20 20 34 25.8
comp=Z,2µm,19.0s
N32M Quiet Lake 62.95 327 P **P** **20 07 32.3 +0.7**
baz=66
HOOD Mount Hood Mea 63.08 308 IAMs_20 IAMs_20 20 36 13.6
comp=Z,2µm,19.0s
M31M Drury Creek, Y 63.08 329 IAmb IAmb 20 07 43.1
comp=Z,26nm,1.0s
M31M IAMs_20 IAMs_20 20 34 35.2
comp=Z,2µm,18.0s
M31M Drury Creek, Y 63.08 329 P **P** **20 07 33.3 +0.8**
baz=65,SNR=9.5
MAYO Mayo, Yukon 63.12 330 IAMs_20 IAMs_20 20 32 08.8
comp=Z,3µm,22.0s
MAYO Mayo, Yukon 63.12 330 P **P** **20 07 33.5 +0.9**
baz=64
C27K Jago River 63.14 338 IAMs_20 IAMs_20 20 39 01.8
comp=Z,1µm,19.0s
C27K Jago River 63.14 338 P **P** **20 07 32.8 +0.1**
baz=61
WCT Wildcat Mounta 63.15 297 IAMs_20 IAMs_20 20 34 38.9
comp=Z,2µm,20.0s
P33M Teslin, Yukon 63.22 326 IAMs_20 IAMs_20 20 34 49.1
comp=Z,3µm,18.0s
P33M Teslin, Yukon 63.22 326 P **P** **20 07 34.0 +0.6**
baz=65
CLRS Cowichan Lake 63.23 312 IAMs_20 IAMs_20 20 32 46.9
comp=Z,2µm,22.0s
PINE Pine Mountain 63.24 306 IAMs_20 IAMs_20 20 33 19.0
comp=Z,2µm,19.0s
I05D Terrebonne, OR 63.28 307 IAMs_20 IAMs_20 20 33 24.9
comp=Z,2µm,20.0s
I29M Ogilvie Camp, 63.28 333 P **P** **20 07 34.2 +0.4**
baz=63,SNR=21
T35M Bob Quinn 63.32 322 P **P** **20 07 34.9 +0.8**
baz=66
C26K Camden Bay 63.36 339 P **P** **20 07 34.2 +0.1**
baz=60
PB08 IPOC Station P 63.36 215 IAMs_20 IAMs_20 20 33 38.9
comp=Z,3µm,22.0s
PB08 IPOC Station P 63.36 215 P P 20 07 30.5 -4.7
PB08 S **S** **20 16 09.0 +1.4**
S34M Telegraph Cree 63.38 323 P **P** **20 07 35.0 +0.6**
baz=66
GLA Glamis 63.44 293 IAmb IAmb 20 07 59.1
comp=Z,30nm,1.1s
GLA IAMs_20 IAMs_20 20 34 18.2
comp=Z,3µm,20.0s
GWY Greenwater Val 63.44 297 IAmb IAmb 20 07 46.0
comp=Z,53nm,1.2s
Q32M Nakina River 63.49 325 IAMs_20 IAMs_20 20 28 09.3
comp=Z,2µm,20.0s
Q32M Nakina River 63.49 325 P **P** **20 07 36.1 +0.7**
baz=65
F04D Rainier, OR 63.64 309 IAMs_20 IAMs_20 20 34 36.3
comp=Z,2µm,20.0s
J05D Fort Rock, OR 63.64 306 IAMs_20 IAMs_20 20 34 25.7
comp=Z,3µm,21.0s
NLWA Neilton Lookou 63.65 311 IAmb IAmb 20 07 59.5
comp=Z,53nm,1.2s
U35K Hyder 63.65 321 P **P** **20 07 36.9 +0.7**
baz=66
J29N Klondike Camp 63.66 332 IAMs_20 IAMs_20 20 34 33.1
comp=Z,2µm,21.0s
J29N Klondike Camp 63.66 332 P **P** **20 07 37.4 +1.1**
baz=63
K29M Barlow Dome 63.66 331 IAMs_20 IAMs_20 20 34 35.2
comp=Z,2µm,19.0s
K29M Barlow Dome 63.66 331 P **P** **20 07 37.2 +0.9**
baz=63
NVAR Mina Array Bea 63.66 300 P **P** **20 07 35.9 -1.0**
NVAR Mina Array Bea 63.66 300 P **P** **20 07 36.3 -0.7**
comp=Z,10nm,0.9s,baz=75,slow=6.0,SNR=26
NVAR LR LR 20 36 10.6
comp=Z,2µm,18.1s,baz=72,slow=37
comp=Z,10nm,0.9s
H04A Detroit Lake 63.69 307 IAmb IAmb 20 08 05.4
comp=Z,62nm,1.4s
H04A IAMs_20 IAMs_20 20 34 43.7
comp=Z,2µm,22.0s
ARTI Arti 63.81 38 P **P** **20 07 34.2 -3.1**
ARTI Arti 63.81 38 LR LR 20 34 58.7
comp=Z,12µm,18.5s,baz=290,slow=36
ARTI Arti 63.81 38⇑*e*P **P** **20 07 37.5 +0.2**
ARTI pmax pmax
comp=Z,73nm,1.7s
ARTI MLR MLR
comp=Z,11µm,17.5s
ARTI Arti 63.81 38 ⇑P **P** **20 07 37.2 -0.1**
G27K Doyon Strip 63.83 335 IAMs_20 IAMs_20 20 35 42.2
comp=Z,2µm,18.0s
G27K Doyon Strip 63.83 335 P **P** **20 07 37.6 +0.3**
baz=61
I28M Miner Creek 63.85 333 IAmb IAmb 20 07 49.8
comp=Z,48nm,1.2s
I28M IAMs_20 IAMs_20 20 35 09.1
comp=Z,3µm,18.0s
I28M Miner Creek 63.85 333 P **P** **20 07 38.0 +0.4**
baz=62
DSP Deep Springs 63.88 299 IAmb IAmb 20 08 00.6
comp=Z,26nm,1.2s
DSP IAMs_20 IAMs_20 20 38 59.0
comp=Z,2µm,18.0s
LHV Little Huntoon 63.88 300 IAMs_20 IAMs_20 20 36 05.9
comp=Z,2µm,18.0s
PAHR Pah Rah Range 63.88 301 IAmb IAmb 20 07 43.5
comp=Z,43nm,1.2s
PAHR IAMs_20 IAMs_20 20 34 46.6
comp=Z,3µm,20.0s
P32M Atlin 63.89 326 IAMs_20 IAMs_20 20 35 41.9
comp=Z,2µm,19.0s
P32M Atlin 63.89 326 P **P** **20 07 38.7 +0.9**
baz=64
GSC Goldstone, Bar 63.93 296 IAmb IAmb 20 08 02.3
comp=Z,24nm,1.1s
GSC IAMs_20 IAMs_20 20 35 21.6
comp=Z,3µm,20.0s
M30M Minto, Yukon 63.93 330 IAmb IAmb 20 07 48.7
comp=Z,21nm,0.9s
M30M IAMs_20 IAMs_20 20 32 48.5
comp=Z,2µm,22.0s
M30M Minto, Yukon 63.93 330 P **P** **20 07 38.8 +0.8**
baz=63,SNR=9.0
SLBS Sierra La Lagu 63.95 282 P **P** **20 07 38.4 -0.4**
SLBS IAmb IAmb 20 07 49.6
comp=Z,34nm,1.3s
ITAB Concordia 63.96 196 P **P** **20 07 34.5 -4.0**
ITAB Concordia 63.96 196 *e*P **P** **20 07 41.6 +3.1**
WHY Whitehorse 63.96 327 IAmb IAmb 20 08 00.7
comp=Z,49nm,1.5s
WHY IAMs_20 IAMs_20 20 35 07.4
comp=Z,2µm,19.0s
WHY Whitehorse 63.96 327 P **P** **20 07 38.9 +0.6**
baz=64
N31M Braeburn, Yuko 63.99 328 IAMs_20 IAMs_20 20 34 00.1
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 63.99 328 P **P** **20 07 39.1 +0.6**
baz=64
OZB Mount Ozzard 63.99 313 IAMs_20 IAMs_20 20 34 11.1
comp=Z,4µm,21.0s
LPIG La Paz 64.04 282 LR LR 20 33 53.6
comp=Z,486nm,20.4s,baz=68,slow=34
F03A Seaside 64.05 309 IAMs_20 IAMs_20 20 34 23.2
comp=Z,3µm,21.0s
H27K Steamboat Moun 64.06 334 P **P** **20 07 39.2 +0.4**
baz=61
CPBX Cerro Prieto 64.08 293 IAMs_20 IAMs_20 20 38 38.2
comp=Z,2µm,20.0s
D25K Kavik River 64.10 338 IAMs_20 IAMs_20 20 34 24.3
comp=Z,2µm,22.0s
D25K Kavik River 64.10 338 P **P** **20 07 39.2 +0.1**
baz=58
H04D Lebanon 64.11 307 IAMs_20 IAMs_20 20 29 17.0
comp=Z,2µm,20.0s
G03D McMinnville, O 64.17 308 IAMs_20 IAMs_20 20 29 13.2
comp=Z,2µm,19.0s
BBB Bella Bella 64.17 317 IAMs_20 IAMs_20 20 35 13.3
comp=Z,4µm,20.0s
BBB Bella Bella 64.17 317 LR LR 20 35 24.5
comp=Z,3µm,19.8s,baz=64,slow=36
I04A Tendick Farm, 64.21 307 IAMs_20 IAMs_20 20 32 59.6
comp=Z,2µm,19.0s
F26K Sheenjek River 64.23 336 IAMs_20 IAMs_20 20 36 28.7
comp=Z,1µm,18.0s
F26K Sheenjek River 64.23 336 P **P** **20 07 40.6 +0.6**
baz=60
L29M L29M 64.24 330 IAMs_20 IAMs_20 20 32 45.5
comp=Z,3µm,22.0s
L29M L29M 64.24 330 P **P** **20 07 41.1 +1.0**
baz=63
J04A Umpqua Nationa 64.24 306 IAMs_20 IAMs_20 20 34 51.5
comp=Z,3µm,20.0s
K04D Chiloquin, OR 64.26 305 IAMs_20 IAMs_20 20 34 47.3
comp=Z,2µm,22.0s
DAWY Dawson 64.29 332 P **P** **20 07 37.2 -3.2**
DAWY IAmb IAmb 20 07 51.5
comp=Z,47nm,1.0s
DAWY IAMs_20 IAMs_20 20 35 02.9
comp=Z,2µm,20.0s
DAWY Dawson 64.29 332 P **P** **20 07 41.4 +1.0**
baz=62,SNR=24
PB01 IPOC Station P 64.30 215 P **P** **20 07 39.0 -1.9**
PB01 IAmb IAmb 20 07 54.6
comp=Z,44nm,1.0s
PB01 IAMs_20 IAMs_20 20 34 07.7
comp=Z,3µm,20.0s
PNTR Pine Nut 64.30 301 IAMs_20 IAMs_20 20 34 47.7
comp=Z,3µm,22.0s
I27K Kandik River 64.39 334 P **P** **20 07 41.3 +0.2**
baz=61
BUCK Buck Mountain 64.41 307 IAMs_20 IAMs_20 20 31 53.9
comp=Z,3µm,22.0s
PFO Pinyon Flats O 64.42 294 IAMs_20 IAMs_20 20 36 34.8
comp=Z,2µm,20.0s
PFO Pinyon Flats O 64.42 294 LR LR 20 36 45.7
comp=Z,999nm,18.8s,baz=64,slow=37
WAKR Walker 64.43 300 IAMs_20 IAMs_20 20 36 18.5
comp=Z,2µm,20.0s
CPUP Villa Florida 64.44 201 P **P** **20 07 42.9 +1.3**
comp=Z,4.5nm,0.8s,baz=21,slow=5.5,SNR=10
CPUP LR LR 20 35 31.8
comp=Z,2µm,18.1s,baz=24,slow=36
comp=Z,4.5nm,0.8s
CPUP Villa Florida 64.44 201 ⇓P **P** **20 07 43.6 +2.0**
CPUP Villa Florida 64.44 201 *e*P **P** **20 07 43.2 +1.6**
O30N Mendenhall 64.44 328 IAmb IAmb 20 07 57.0
comp=Z,36nm,1.3s
O30N IAMs_20 IAMs_20 20 34 25.2
comp=Z,3µm,21.0s
O30N Mendenhall 64.44 328 P **P** **20 07 41.9 +0.5**
baz=63
HEBO Mount Hebo 64.48 309 IAMs_20 IAMs_20 20 35 18.5
comp=Z,3µm,19.0s
G26K Porcupine Rive 64.49 335 P **P** **20 07 42.0 +0.4**
baz=60
BMAR Burnt Mountain 64.51 336 P **P** **20 07 40.1 -1.7**
C24K Franklin Bluff 64.58 339 IAMs_20 IAMs_20 20 35 29.8
comp=Z,2µm,20.0s
C24K Franklin Bluff 64.58 339 P **P** **20 07 42.4 +0.2**
baz=57
WRAK Wrangell Islan 64.61 322 P **P** **20 07 43.4 +0.9**
baz=64
EGAK Eagle 64.63 333 IAmb IAmb 20 07 54.9
comp=Z,36nm,1.0s
EGAK IAMs_20 IAMs_20 20 35 42.6
comp=Z,3µm,19.0s
EGAK Eagle 64.63 333 P **P** **20 07 43.0 +0.4**
baz=61,SNR=9.4
EGAK Eagle 64.63 333 ⇓P **P** **20 07 43.2 +0.7**
M29M Somme Creek 64.68 330 IAMs_20 IAMs_20 20 33 30.3
comp=Z,2µm,21.0s
M29M Somme Creek 64.68 330 P **P** **20 07 43.9 +0.9**
baz=62
SKAG Skagway 64.69 326 IAMs_20 IAMs_20 20 36 14.9
comp=Z,2µm,20.0s
SKAG Skagway 64.69 326 P **P** **20 07 43.8 +0.8**
baz=63
V35K Ketchikan 64.71 321 P **P** **20 07 44.7 +1.5**
baz=64
SVE Sverdlovsk 64.75 37 *e*P **P** **20 07 46.5 +3.1**
SVE *e*S **S** **20 16 25.2 +1.9**
SVE pmax pmax
comp=Z,62nm,1.3s
ESJX Sierra Juarez 64.76 292 IAMs_20 IAMs_20 20 34 36.0
comp=Z,2µm,22.0s
F25K Christian Rive 64.78 336 IAMs_20 IAMs_20 20 34 12.3
comp=Z,2µm,22.0s
F25K Christian Rive 64.78 336 P **P** **20 07 44.6 +1.1**
baz=58
L04D Klamath Falls 64.81 305 IAMs_20 IAMs_20 20 34 54.7
comp=Z,2µm,20.0s
HATC Hat Creek Radi 64.84 303 IAMs_20 IAMs_20 20 36 21.8
comp=Z,3µm,20.0s
R32K Eaglecrest 64.85 325 IAMs_20 IAMs_20 20 29 45.2
comp=Z,3µm,22.0s
R32K Eaglecrest 64.85 325 P **P** **20 07 45.0 +0.9**
baz=63
CCAC Calif City Air 64.88 296 IAMs_20 IAMs_20 20 36 48.9
comp=Z,3µm,20.0s
VTX Valle De La Tr 64.91 292 IAMs_20 IAMs_20 20 38 14.2
comp=Z,2µm,19.0s
D24K Happy Valley 64.93 339 IAMs_20 IAMs_20 20 39 03.2
comp=Z,2µm,18.0s
D24K Happy Valley 64.93 339 P **P** **20 07 44.7 +0.2**
baz=56
HYT Haines Junctio 65.03 328 IAMs_20 IAMs_20 20 35 40.8
comp=Z,2µm,18.0s
HYT Haines Junctio 65.03 328 P **P** **20 07 46.2 +0.8**
baz=62
C23K Itkillik River 65.07 340 IAMs_20 IAMs_20 20 34 49.8
comp=Z,2µm,18.0s
C23K Itkillik River 65.07 340 P **P** **20 07 45.3 0.0**
baz=55
I26K Coal Creek Min 65.10 334 IAMs_20 IAMs_20 20 34 53.8
comp=Z,2µm,20.0s
I26K Coal Creek Min 65.10 334 P **P** **20 07 45.9 +0.3**
baz=60
ELS Elsinore Mount 65.12 295 IAMs_20 IAMs_20 20 33 59.4
comp=Z,2µm,21.0s
P30M Million Dollar 65.12 327 P **P** **20 07 46.6 +0.7**
baz=62
U33K Whale Pass 65.13 322 P **P** **20 07 45.8 -0.1**
baz=63
CBX Cerro Bola 65.16 293 IAMs_20 IAMs_20 20 32 32.6
comp=Z,4µm,22.0s
PLBC Pleasant Camp 65.16 326 P **P** **20 07 46.7 +0.6**
baz=62
FYU Fort Yukon 65.18 335 IAMs_20 IAMs_20 20 36 10.0
comp=Z,2µm,22.0s
S32K Killisnoo 65.24 324 P **P** **20 07 47.6 +1.0**
baz=63
YUK4 Talbot Arm 65.28 329 P **P** **20 07 47.1 +0.1**
baz=62
YBH Yreka Blue Hor 65.29 305 IAMs_20 IAMs_20 20 35 35.5
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 65.29 305 LR LR 20 35 45.7
comp=Z,2µm,21.5s,baz=60,slow=36
CMB Columbia Colle 65.31 300 IAmb IAmb 20 07 53.2
comp=Z,85nm,1.9s
AFDM Forest Hills D 65.32 301 IAMs_20 IAMs_20 20 36 02.7
comp=Z,2µm,20.0s
YUK6 Outpost Mounta 65.35 328 P **P** **20 07 48.2 +0.6**
baz=62
TJX Tijuana 65.36 293 IAMs_20 IAMs_20 20 37 22.9
comp=Z,2µm,21.0s
ORV Oroville 65.42 302 IAmb IAmb 20 07 59.6
comp=Z,36nm,1.1s
ORV IAMs_20 IAMs_20 20 36 25.3
comp=Z,2µm,20.0s
CRAG Craig 65.42 322 P **P** **20 07 48.5 +0.7**
baz=63
E24K Your Creek 65.43 338 IAMs_20 IAMs_20 20 33 23.1
comp=Z,2µm,22.0s
E24K Your Creek 65.43 338 P **P** **20 07 48.4 +0.6**
baz=56
TOLK Toolik Lake Re 65.44 338 IAMs_20 IAMs_20 20 36 18.6
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 65.44 338 P **P** **20 07 48.0 +0.2**
baz=56,SNR=11
PASC Pasadena Art C 65.45 295 IAMs_20 IAMs_20 20 37 55.9
comp=Z,3µm,19.0s
K02D Willamette Mer 65.51 306 IAMs_20 IAMs_20 20 33 43.1
comp=Z,3µm,21.0s
H25L Birch Creek 65.54 335 P **P** **20 07 49.1 +0.7**
baz=58
F24K Squaw Lake 65.55 337 IAMs_20 IAMs_20 20 39 18.3
comp=Z,2µm,18.0s
F24K Squaw Lake 65.55 337 P **P** **20 07 49.6 +1.1**
baz=56
B22K Teshekpuk Lake 65.55 341 P **P** **20 07 48.9 +0.5**
baz=53
D23K Nanushuk River 65.59 339 IAMs_20 IAMs_20 20 34 02.5
comp=Z,2µm,20.0s
D23K Nanushuk River 65.59 339 P **P** **20 07 49.4 +0.7**
baz=55
J26L Joseph Creek 65.66 333 IAMs_20 IAMs_20 20 36 24.0
comp=Z,3µm,18.0s
J26L Joseph Creek 65.66 333 P **P** **20 07 49.6 +0.2**
baz=59
BVCY Beaver Creek 65.67 330 P **P** **20 07 50.4 +0.9**
baz=60,SNR=11
L02F Cave Junction 65.70 305 IAMs_20 IAMs_20 20 31 23.1
comp=Z,3µm,19.0s
CNLB Canela 65.70 194 *e*P **P** **20 07 52.5 +2.6**
BCAR Beaver Creek A 65.72 331 P **P** **20 07 49.0 -0.7**
L27K Beaver Creek, 65.73 331 IAMs_20 IAMs_20 20 33 28.0
comp=Z,3µm,22.0s
L27K Beaver Creek, 65.73 331 P **P** **20 07 50.1 +0.3**
baz=60
O29M Mount Kennedy 65.75 328 IAMs_20 IAMs_20 20 36 04.7
comp=Z,2µm,19.0s
O29M Mount Kennedy 65.75 328 P **P** **20 07 50.5 +0.5**
baz=61
A21K Barrow 65.77 342 P **P** **20 07 49.9 +0.1**
baz=50

YUK8	Steele Glacier baz=60	65.78 329	P	P	20 07 50.8 +0.4
SIT	Sitka baz=62	65.79 324	P	P	20 07 50.9 +0.8
E23K	Chandalar comp=Z,3μm,22.0s	65.79 338	IAms_20	IAms_20	20 33 21.6
E23K	Chandalar baz=55	65.79 338	P	P	20 07 50.3 +0.2
S31K	Pelican comp=Z,2μm,20.0s	65.80 325	IAms_20	IAms_20	20 36 26.4
S31K	Pelican baz=62	65.80 325	P	P	20 07 51.0 +0.9
YUK3	Moose Creek baz=60,SNR=8.1	65.83 330	P	P	20 07 51.3 +0.6
PRP	Porcupine Dome	65.84 334	P	P	20 07 49.5 -1.1
PRP	comp=Z,48nm,1.2s		IAmb	IAmb	20 08 06.9
PRP	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 36 55.4
PRP	Porcupine Dome baz=58,SNR=18	65.84 334	P	P	20 07 51.3 +0.8
G24K	Hadweenzic Riv comp=Z,2μm,22.0s	65.86 336	IAms_20	IAms_20	20 34 29.9
G24K	Hadweenzic Riv baz=56	65.86 336	P	P	20 07 51.7 +1.1
BCW	Bitter Crk WRg comp=Z,2μm,19.0s	66.00 297	IAms_20	IAms_20	20 38 32.4
SCRK	Sand Creek comp=Z,2μm,18.0s	66.09 333	IAms_20	IAms_20	20 35 16.4
SCRK	Sand Creek baz=58,SNR=12	66.09 333	P	P	20 07 53.2 +1.0
M27K	Edge Creek, AK comp=Z,3μm,22.0s	66.11 331	IAms_20	IAms_20	20 33 53.0
M27K	Edge Creek, AK baz=59	66.11 331	P	P	20 07 53.4 +1.0
AKTO	Aktyubinsk comp=Z,14μm,21.7s,baz=282,slow=34	66.20 44	LR	LR	20 35 06.8
O28M	Mount Upton baz=60	66.21 329	P	P	20 07 53.7 +0.5
D22K	Ayikyak River comp=Z,2μm,20.0s	66.23 339	IAms_20	IAms_20	20 36 13.3
D22K	Ayikyak River baz=53	66.23 339	P	P	20 07 53.4 +0.5
J25K	Salcha River, comp=Z,2μm,18.0s	66.27 334	IAms_20	IAms_20	20 36 35.9
J25K	Salcha River, baz=57,SNR=12	66.27 334	P	P	20 07 53.7 +0.4
B21K	Ikpikpuk River comp=Z,2μm,19.0s	66.32 340	IAms_20	IAms_20	20 36 23.6
B21K	Ikpikpuk River baz=52	66.32 340	P	P	20 07 53.8 +0.5
L26K	Log Cabin Wild comp=Z,36nm,1.1s	66.35 332	IAmb	IAmb	20 08 03.8
L26K	comp=Z,2μm,18.0s		IAms_20	IAms_20	20 36 58.2
L26K	Log Cabin Wild baz=58,SNR=15	66.35 332	P	P	20 07 54.7 +1.0
BCPM	Bancas Point comp=Z,3μm,21.0s	66.38 328	IAms_20	IAms_20	20 29 09.4
E22K	Anaktuvuk Pass comp=Z,39nm,1.4s	66.42 338	IAmb	IAmb	20 08 09.2
E22K	comp=Z,1μm,18.0s		IAms_20	IAms_20	20 39 55.3
E22K	Anaktuvuk Pass baz=54,SNR=8.4	66.42 338	P	P	20 07 54.3 +0.2
COLD	Coldfoot baz=54,SNR=14	66.45 337	P	P	20 07 55.1 +0.8
H24K	Noodor Dome comp=Z,1μm,20.0s	66.48 335	IAms_20	IAms_20	20 36 10.3
H24K	Noodor Dome baz=56	66.48 335	P	P	20 07 55.3 +0.7
M26K	Nabesna, AK comp=Z,2μm,22.0s	66.54 331	IAms_20	IAms_20	20 34 18.2
M26K	Nabesna, AK baz=58	66.54 331	P	P	20 07 55.7 +0.8
MENT	Mentasta comp=Z,33nm,1.2s	66.54 332	IAmb	IAmb	20 08 06.7
MENT	comp=Z,2μm,18.0s		IAms_20	IAms_20	20 37 04.2
RIDG	Independent Ri comp=Z,2μm,18.0s	66.54 333	IAms_20	IAms_20	20 37 16.2
RIDG	Independent Ri baz=58,SNR=19	66.54 333	P	P	20 07 55.8 +0.8
C21K	Knifeblade Rid baz=51	66.66 340	P	P	20 07 56.0 +0.4
G23K	Bananza Creek comp=Z,2μm,21.0s	66.69 337	IAms_20	IAms_20	20 36 31.9
G23K	Bananza Creek baz=54	66.69 337	P	P	20 07 56.9 +1.0
ILAR	Eielson Array	66.73 334	P	P	20 07 54.9 -1.2
ILAR	Eielson Array comp=Z,4.9nm,0.8s,baz=49,slow=5.0,SNR=42	66.73 334	P	P	20 07 56.2 +0.2
ILAR	comp=Z,1μm,19.5s,baz=53,slow=36 comp=Z,4.9nm,0.8s		LR	LR	20 36 53.5
POKR	Poker Plat Res comp=Z,28nm,1.2s	66.73 335	IAmb	IAmb	20 08 11.6
POKR	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 37 32.9
POKR	Poker Plat Res baz=56,SNR=7.0	66.73 335	P	P	20 07 56.7 +0.5
B20K	Meade River baz=50	66.76 341	P	P	20 07 54.4 -1.7
K24K	Donnelly Dome baz=57,SNR=8.3	66.86 333	P	P	20 07 58.0 +1.0
E21K	Killik River comp=Z,1μm,20.0s	66.87 339	IAms_20	IAms_20	20 35 51.0
E21K	Killik River baz=52	66.87 339	P	P	20 07 56.8 -0.2
HDA	Harding Lake comp=Z,29nm,0.8s	66.95 334	IAmb	IAmb	20 08 13.3
HDA	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 35 42.9
HDA	Harding Lake baz=56,SNR=14	66.95 334	P	P	20 07 57.9 +0.4
COLA	College	67.01 334	P	P	20 07 55.6 -2.3
COLA	College comp=Z,2μm,19.0s	67.01 334	IAms_20	IAms_20	20 37 40.6
COLA	College	67.01 334 *i*	P	P	20 07 56.9 -1.0
COLA	comp=Z,57nm,2.3s		pmax	pmax	
G22K	Bettles baz=53	67.05 337	P	P	20 07 58.2 +0.1
CCB	Clear Creek Bu comp=Z,34nm,1.0s	67.13 334	IAmb	IAmb	20 08 14.2
CCB	comp=Z,2μm,20.0s		IAms_20	IAms_20	20 34 49.5
PAX	Paxson comp=Z,55nm,1.3s	67.20 332	IAmb	IAmb	20 08 19.3
PAX	Paxson baz=57,SNR=12	67.20 332	P	P	20 07 59.9 +0.6
MESA	MESA	67.27 329	IAms_20	IAms_20	20 39 01.8
MESA	MESA comp=Z,3μm,18.0s	67.27 329	P	P	20 08 00.7 +0.8
CPSB	Cacapava Do Su	67.30 196 *e*P	P	P	20 08 02.2 +2.2
WRH	Wood River Hil comp=Z,20nm,0.8s	67.33 334	IAmb	IAmb	20 08 10.1
WRH	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 37 49.8
VRDI	Verde Repeater comp=Z,3μm,21.0s	67.34 330	IAms_20	IAms_20	20 35 08.6
GLB	Gilahina Butte comp=Z,2μm,20.0s	67.37 330	IAms_20	IAms_20	20 35 08.4
I23K	Minto, Yukon-K comp=Z,2μm,19.0s	67.38 335	IAms_20	IAms_20	20 37 54.1
I23K	Minto, Yukon-K baz=54,SNR=13	67.38 335	P	P	20 08 01.0 +0.8
HARP	HAARP baz=57	67.39 332	P	P	20 08 01.1 +0.7
D20K	Etivluk River baz=50	67.45 340	P	P	20 08 00.8 +0.1
F21K	Alatna River comp=Z,2μm,21.0s	67.48 338	IAms_20	IAms_20	20 34 53.3
F21K	Alatna River baz=52	67.48 338	P	P	20 08 01.1 +0.3
N25K	Chitina, Valde comp=Z,62nm,1.4s	67.60 331	IAmb	IAmb	20 08 59.6
N25K	comp=Z,3μm,21.0s		IAms_20	IAms_20	20 34 05.4
N25K	Chitina, Valde baz=57	67.60 331	P	P	20 08 01.3 -0.5
NEA2	Nenana comp=Z,36nm,1.0s	67.60 335	IAmb	IAmb	20 08 17.4
NEA2	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 38 08.1
NEA2	Nenana baz=54,SNR=11	67.60 335	P	P	20 08 01.9 +0.2
H22K	Ishtalitna Cre baz=53	67.62 336	P	P	20 08 02.4 +0.6
A19K	Wainwright baz=46	67.62 342	P	P	20 08 02.1 +0.5
E20K	Nigu River baz=50	67.62 340	P	P	20 08 02.3 +0.5
SNH	Sunshine Point comp=Z,3μm,20.0s	67.64 329	IAms_20	IAms_20	20 30 26.7
PB14	IPOC Station P comp=Z,53nm,1.8s	67.81 214	IAmb	IAmb	20 08 28.2
PB14	IPOC Station P	67.81 214	S	S	20 17 00.1 -1.7
ABKAR	Akbulak array	67.85 45	P	P	20 08 02.0 -1.4
ABKAR	Akbulak array comp=Z,61nm,1.9s	67.85 45	IAmb	IAmb	20 08 41.9
ABKAR	Akbulak array	67.85 45	⇑P	P	20 08 04.1 +0.6
BERG	Berg Lake comp=Z,3μm,19.0s	67.89 329	IAms_20	IAms_20	20 30 14.0
M24K	Tolsona, Glenn comp=Z,2μm,20.0s	67.95 332	IAms_20	IAms_20	20 28 58.5
M24K	Tolsona, Glenn baz=56	67.95 332	P	P	20 08 03.8 -0.1
BMRM	Bremner River baz=57	67.95 330	P	P	20 08 04.1 +0.1
BWN	Browne comp=Z,2μm,18.0s	67.99 334	IAms_20	IAms_20	20 38 09.8
D19K	Kuna River comp=Z,2μm,19.0s	68.01 340	IAms_20	IAms_20	20 36 08.1
D19K	Kuna River baz=48	68.01 340	P	P	20 08 04.2 0.0
MCK	McKinley comp=Z,72nm,1.6s	68.06 334	IAmb	IAmb	20 08 20.3
MCK	McKinley baz=54	68.06 334	P	P	20 08 04.9 +0.3
HMT	Hamilton comp=Z,3μm,21.0s	68.16 329	IAms_20	IAms_20	20 34 06.2
KLU	Klutina comp=Z,43nm,0.9s	68.19 331	IAmb	IAmb	20 08 11.1
KLU	comp=Z,1μm,21.0s		IAms_20	IAms_20	20 35 23.0
KLU	Klutina baz=56,SNR=10	68.19 331	P	P	20 08 05.9 +0.4
RND	Reindeer comp=Z,17nm,0.8s	68.22 333	IAmb	IAmb	20 08 15.7
RND	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 36 34.5
H21K	Melozitna Rive comp=Z,2μm,22.0s	68.23 336	IAms_20	IAms_20	20 38 19.6
H21K	Melozitna Rive baz=52	68.23 336	P	P	20 08 06.0 +0.4
I21K	Tanana comp=Z,1μm,20.0s	68.25 336	IAms_20	IAms_20	20 38 32.2
I21K	Tanana baz=52,SNR=14	68.25 336	P	P	20 08 06.4 +0.7
F20K	Avaraart Lake comp=Z,2μm,19.0s	68.27 338	IAms_20	IAms_20	20 38 34.1
F20K	Avaraart Lake baz=50	68.27 338	P	P	20 08 06.2 +0.5
RAGM	Ragged Mountai comp=Z,3μm,21.0s	68.30 330	IAms_20	IAms_20	20 35 26.0
B18K	Kokolik River baz=46	68.39 342	P	P	20 08 07.1 +0.6
E19K	Redstone River comp=Z,2μm,20.0s	68.45 339	IAms_20	IAms_20	20 37 40.7
E19K	Redstone River baz=49	68.45 339	P	P	20 08 07.1 +0.2
KAIM	Kayak Island baz=56	68.45 329	P	P	20 08 07.5 +0.4
SCM	Sheep Creek Mo comp=Z,30nm,1.0s	68.55 332	IAmb	IAmb	20 08 35.8
SCM	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 38 09.5
SCM	Sheep Creek Mo baz=55	68.55 332	P	P	20 08 08.0 +0.3
BPAW	Bear Paw Mtn. comp=Z,49nm,1.4s	68.57 335	IAmb	IAmb	20 08 23.3
BPAW	comp=Z,2μm,20.0s		IAms_20	IAms_20	20 36 43.6
BPAW	Bear Paw Mtn. baz=53	68.57 335	P	P	20 08 07.8 +0.1
PLTB	Pedras Altas	68.65 196	P	P	20 08 09.5 +1.0
PLTB	Pedras Altas	68.65 196	*e*P	P	20 08 10.8 +2.3
EYAK	Cordova Ski Ar baz=56	68.65 330	P	P	20 08 08.8 +0.5
TRF	Thorofare Moun comp=Z,52nm,1.2s	68.71 334	IAmb	IAmb	20 08 27.3
TRF	comp=Z,2μm,18.0s		IAms_20	IAms_20	20 37 06.5
TRF	Thorofare Moun baz=53	68.71 334	P	P	20 08 08.9 0.0
M23K	Glacier View baz=55	68.73 332	P	P	20 08 09.1 +0.3
C18K	Utukok River comp=Z,3μm,20.0s	68.74 341	IAms_20	IAms_20	20 37 43.4
C18K	Utukok River baz=46	68.74 341	P	P	20 08 08.9 +0.1
KTH	Kantishna Hill comp=Z,2μm,20.0s	68.88 334	IAms_20	IAms_20	20 38 47.8
SML	Sawmill comp=Z,51nm,1.2s	68.96 332	IAmb	IAmb	20 08 30.1
SML	comp=Z,2μm,18.0s		IAms_20	IAms_20	20 38 20.1
SML	Sawmill baz=54	68.96 332	P	P	20 08 11.0 +0.8
H20K	Anotleneega Mo baz=50	69.01 337	P	P	20 08 10.9 +0.4
GLI	Glacier Island comp=Z,2μm,21.0s	69.01 331	IAms_20	IAms_20	20 37 47.6
GLI	Glacier Island baz=55	69.01 331	P	P	20 08 10.3 -0.2
F19K	Shaleruckik Mo comp=Z,27nm,1.2s	69.02 339	IAmb	IAmb	20 08 45.2
F19K	comp=Z,2μm,21.0s		IAms_20	IAms_20	20 35 20.1
F19K	Shaleruckik Mo baz=48,SNR=5.9	69.02 339	P	P	20 08 10.3 -0.1
TBOT	Tacuaremb	69.13 198	*e*P	P	20 08 13.7 +2.3
CHUM	Lake Minchumin baz=52,SNR=8.3	69.17 335	P	P	20 08 11.6 +0.2
AC02	Maricunga comp=Z,20nm,0.9s	69.17 211	IAmb	IAmb	20 08 27.2
AC02	comp=Z,2μm,20.0s		IAms_20	IAms_20	20 37 14.9
KNK	Knik Glacier comp=Z,2μm,20.0s	69.24 332	IAms_20	IAms_20	20 37 11.6
KNK	Knik Glacier baz=54,SNR=8.8	69.24 332	P	P	20 08 13.1 +1.2
G19K	Purcell Mounta comp=Z,1μm,20.0s	69.27 338	IAms_20	IAms_20	20 38 18.8
G19K	Purcell Mounta baz=48	69.27 338	P	P	20 08 12.3 +0.3
I20K	Naaghedeneel comp=Z,1μm,20.0s	69.32 336	IAms_20	IAms_20	20 38 49.4
I20K	Naaghedeneel baz=50	69.32 336	P	P	20 08 12.8 +0.4
CUT	Chulitna comp=Z,2μm,20.0s	69.34 333	IAms_20	IAms_20	20 37 17.9
CUT	Chulitna baz=53	69.34 333	P	P	20 08 12.8 +0.4
CAST	Castle Rocks comp=Z,2μm,19.0s	69.37 334	IAms_20	IAms_20	20 39 02.9
CAST	Castle Rocks baz=52	69.37 334	P	P	20 08 13.0 +0.2
C17K	DeLong Mountai baz=44	69.38 342	P	P	20 08 12.9 +0.2
PMR	Palmer comp=Z,46nm,1.0s	69.39 332	IAmb	IAmb	20 08 29.1
PMR	comp=Z,2μm,18.0s		IAms_20	IAms_20	20 38 33.6
PMR	Palmer baz=53,SNR=5.3	69.39 332	P	P	20 08 13.0 +0.2
E18K	Tukpahlearik C comp=Z,2μm,20.0s	69.43 340	IAms_20	IAms_20	20 38 22.9
E18K	Tukpahlearik C baz=46	69.43 340	P	P	20 08 13.1 +0.1
H19K	Roundabout Mou comp=Z,1μm,19.0s	69.48 337	IAms_20	IAms_20	20 41 58.5
H19K	Roundabout Mou baz=49	69.48 337	P	P	20 08 13.6 +0.3
PWL	Port Wells comp=Z,2μm,22.0s	69.52 331	IAms_20	IAms_20	20 35 15.0
PWL	Port Wells baz=54	69.52 331	P	P	20 08 14.0 +0.3
Q23K	Middleton Isla baz=55	69.54 329	P	P	20 08 13.8 +0.1
RDOG	Red Dog Mine comp=Z,49nm,1.3s	69.61 341	IAmb	IAmb	20 08 48.3
RDOG	comp=Z,2μm,20.0s		IAms_20	IAms_20	20 37 20.4
RDOG	Red Dog Mine baz=44	69.61 341	P	P	20 08 14.4 +0.2
J20K	Nowinta River comp=Z,2μm,20.0s	69.61 336	IAms_20	IAms_20	20 36 29.8
J20K	Nowinta River baz=50	69.61 336	P	P	20 08 14.3 +0.1
P23K	Montague Islan baz=54	69.65 330	P	P	20 08 14.7 +0.3
M22K	Willow comp=Z,2μm,20.0s	69.67 332	IAms_20	IAms_20	20 38 33.0
M22K	Willow baz=53	69.67 332	P	P	20 08 15.0 +0.4
F18K	Selawik baz=46,SNR=11	69.73 339	P	P	20 08 15.0 +0.1
PPLA	Purkeypile baz=51	69.74 334	P	P	20 08 15.2 0.0
G18K	Tagagawik comp=Z,66nm,1.9s	69.92 338	IAmb	IAmb	20 08 31.2
G18K	comp=Z,1μm,20.0s		IAms_20	IAms_20	20 38 23.9
G18K	Tagagawik baz=47	69.92 338	P	P	20 08 16.2 +0.2
RC01	Rabbit Creek A comp=Z,56nm,1.2s	69.93 332	IAmb	IAmb	20 08 36.2
RC01	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 39 01.8
RC01	Rabbit Creek A baz=53	69.93 332	P	P	20 08 16.3 +0.1
E17K	Hotham Inlet baz=45	70.01 340	P	P	20 08 16.5 0.0
SKT	Skwentna comp=Z,53nm,1.4s	70.06 333	IAmb	IAmb	20 08 37.4
SKT	comp=Z,3μm,21.0s		IAms_20	IAms_20	20 37 50.3
SKT	Skwentna baz=52	70.06 333	P	P	20 08 17.4 +0.3
C16K	Lisburne Hills comp=Z,2μm,20.0s	70.07 342	IAms_20	IAms_20	20 37 46.7
C16K	Lisburne Hills baz=42	70.07 342	P	P	20 08 16.9 0.0
K20K	Telida comp=Z,2μm,21.0s	70.11 335	IAms_20	IAms_20	20 39 29.3
K20K	Telida baz=50	70.11 335	P	P	20 08 17.9 +0.6
GCSA	Galena City Sc baz=48	70.14 337	P	P	20 08 17.5 +0.1
J19K	Poorman comp=Z,2μm,22.0s	70.22 336	IAms_20	IAms_20	20 37 17.1
J19K	Poorman baz=49	70.22 336	P	P	20 08 17.5 -0.5
O22K	Cooper Landing comp=Z,2μm,21.0s	70.29 331	IAms_20	IAms_20	20 38 03.4
O22K	Cooper Landing baz=53	70.29 331	P	P	20 08 18.4 0.0
F17K	Baldwin Pennin comp=Z,33nm,1.3s	70.30 340	IAmb	IAmb	20 08 53.4
F17K	comp=Z,2μm,21.0s		IAms_20	IAms_20	20 38 53.9
F17K	Baldwin Pennin baz=45	70.30 340	P	P	20 08 17.8 -0.5
RAYN	Ar Rayn	70.32 75	P	P	20 08 16.5 -2.8
RAYN	Ar Rayn comp=Z,3μm,20.0s	70.32 75	IAms_20	IAms_20	20 40 41.8
RAYN	Ar Rayn	70.32 75	P	P	20 08 20.0 +0.8
RAYN			S	S	20 17 31.8 +0.4
RAYN	Ar Rayn	70.32 75	P	P	20 08 16.5 -2.8
RAYN	comp=Z,18nm,1.0s		pmax	pmax	
RAYN	comp=Z,3μm,20.0s		MLR	MLR	
RAYN	Ar Rayn	70.32 75	P	P	20 08 20.0 +0.8
RAYN	Ar Rayn	70.32 75	⇑P	P	20 08 20.2 +1.0
H18K	Honhosa River comp=Z,67nm,1.8s	70.33 338	IAmb	IAmb	20 08 54.1
H18K	comp=Z,2μm,20.0s		IAms_20	IAms_20	20 39 41.9
H18K	Honhosa River baz=47	70.33 338	P	P	20 08 18.3 -0.3
SEW	Seward baz=53	70.41 331	P	P	20 08 18.6 -0.5
SLKM	Skilak Lake comp=Z,28nm,0.8s	70.47 331	IAmb	IAmb	20 08 31.8
SLKM	comp=Z,2μm,19.0s		IAms_20	IAms_20	20 39 28.1
STLK	Strandline Lak comp=Z,1μm,22.0s	70.48 333	IAms_20	IAms_20	20 38 14.2
L20K	Farewell, AK baz=50	70.61 334	P	P	20 08 19.8 -0.5
CAPN	Captain Cook N baz=52	70.67 332	P	P	20 08 21.0 +0.3
M20K	Styx River comp=Z,2μm,20.0s	70.72 333	IAms_20	IAms_20	20 39 17.4
M20K	Styx River baz=50	70.72 333	P	P	20 08 20.7 -0.4
SPU	Mount Spurr comp=Z,1μm,20.0s	70.76 333	IAms_20	IAms_20	20 38 15.7
SPCR	Spurr Chakacha baz=51	70.81 333	P	P	20 08 21.5 -0.2
J18K	Innoko River comp=Z,1μm,19.0s	70.94 336	IAms_20	IAms_20	20 40 01.1
J18K	Innoko River baz=48	70.94 336	P	P	20 08 22.4 0.0
H17K	Granite Mounta comp=Z,2μm,18.0s	70.96 338	IAms_20	IAms_20	20 43 08.5
H17K	Granite Mounta baz=46,SNR=7.2	70.96 338	P	P	20 08 22.6 +0.1
TTA	Tatalina baz=48	71.06 335	P	P	20 08 22.6 -0.5
L19K	White Mountain comp=Z,2μm,20.0s	71.14 334	IAms_20	IAms_20	20 39 12.8
L19K	White Mountain baz=49	71.14 334	P	P	20 08 23.3 -0.3
BRSE	Bradley Lake S baz=52	71.15 331	P	P	20 08 23.5 -0.2
M19K	Big River Lodg comp=Z,2μm,19.0s	71.16 334	IAms_20	IAms_20	20 40 19.2
M19K	Big River Lodg baz=50	71.16 334	P	P	20 08 23.7 0.0
BRLK	Bradley Lake comp=Z,2μm,19.0s	71.19 331	IAms_20	IAms_20	20 39 06.7
AC04	Llanos de Chal comp=Z,2μm,19.0s	71.20 212	IAms_20	IAms_20	20 38 19.7
G16K	Koyuk River comp=Z,2μm,21.0s	71.37 339	IAms_20	IAms_20	20 38 27.9
G16K	Koyuk River baz=44	71.37 339	P	P	20 08 24.8 0.0
BRVK	Borovoye	71.44 38	P	P	20 08 24.3 -1.3
BRVK	comp=Z,48nm,1.3s		IAmb	IAmb	20 08 59.0
BRVK	Borovoye	71.44 38	P	P	20 08 26.6 +1.0
BRVK			S	S	20 17 44.0 +0.5
BRVK	Borovoye	71.44 38	*ce*P	P	20 08 24.7 -0.9
BRVK	comp=Z,41nm,2.5s		pmax	pmax	
BRVK	comp=Z,8μm,17.0s		MLR	MLR	
BRVK	Borovoye	71.44 38	⇑P	P	20 08 26.4 +0.9
CNPM	China Poot comp=Z,2μm,22.0s	71.48 331	IAms_20	IAms_20	20 34 47.9
BVAR	Borovoye Array comp=Z,9.3nm,0.8s,baz=295,slow=4.2,SNR=28	71.52 38	P	P	20 08 26.0 0.0
BVAR	comp=Z,8μm,18.1s,baz=299,slow=36 comp=Z,9.3nm,0.8s		LR	LR	20 40 01.1
BVAR	Borovoye Array	71.52 38	P	P	20 08 26.0 0.0
HOM	Homer comp=Z,3μm,21.0s	71.56 331	IAms_20	IAms_20	20 37 21.0
HOM	Homer baz=51	71.56 331	P	P	20 08 26.0 -0.1
MBAR	Mbarara	71.64 104	P	P	20 08 24.6 -2.9
MBAR	Mbarara	71.64 104	P	P	20 08 28.6 +1.0
MBAR			S	S	20 17 47.3 +0.1
MBAR	Mbarara	71.64 104 *i*	P	P	20 08 27.5 0.0
MBAR	comp=Z,25nm,1.2s		pmax	pmax	
MBAR	comp=Z,5μm,16.0s		MLR	MLR	
O20K	Slope Mountain baz=50	71.67 332	P	P	20 08 27.0 +0.1
LCO	Las Campanas comp=Z,2μm,21.0s	71.74 212	IAms_20	IAms_20	20 37 52.9
J17K	VABM Dome comp=Z,1μm,20.0s	71.77 337	IAms_20	IAms_20	20 39 46.7
J17K	VABM Dome baz=46	71.77 337	P	P	20 08 27.6 +0.3
L18K	Granite Mounta comp=Z,2μm,19.0s	71.77 335	IAms_20	IAms_20	20 40 39.1
L18K	Granite Mounta	71.77 335	P	P	20 08 27.5 +0.2

	baz=48					
F15K	North Star Dit	71.79 340	IAMs_20	IAMs_20	20 39 36.1	
	comp=Z,2μm,19.0s					
F15K	North Star Dit	71.79 340	P	P	20 08 28.2	+0.7
	baz=42					
H16K	Elim	71.88 339	P	P	20 08 28.2	+0.2
	baz=44,SNR=8.8					
N19K	Bonanza Creek	71.91 333	IAMs_20	IAMs_20	20 39 55.0	
	comp=Z,3μm,19.0s					
N19K	Bonanza Creek	71.91 333	P	P	20 08 27.8	-0.6
	baz=49					
I17K	Unalakleet	71.94 337	IAMs_20	IAMs_20	20 40 39.3	
	comp=Z,1μm,20.0s					
I17K	Unalakleet	71.94 337	P	P	20 08 28.4	+0.1
	baz=45					
M18K	Stony River	71.95 334	P	P	20 08 28.3	-0.2
	baz=48					
K17K	Iditarod	71.98 336	IAMs_20	IAMs_20	20 40 30.6	
	comp=Z,2μm,22.0s					
K17K	Iditarod	71.98 336	P	P	20 08 29.1	+0.5
	baz=47					
G15K	Niukluk	72.15 339	P	P	20 08 29.5	-0.1
	baz=43					
P19K	Oil Pt	72.18 332	IAMs_20	IAMs_20	20 33 09.4	
	comp=Z,2μm,20.0s					
P19K	Oil Pt	72.18 332	P	P	20 08 29.7	-0.2
	baz=50					
O19K	Port Alsworth	72.25 332	IAMs_20	IAMs_20	20 41 48.0	
	comp=Z,2μm,18.0s					
O19K	Port Alsworth	72.25 332	P	P	20 08 30.0	-0.2
	baz=49					
CO01	Juntas del Tor	72.33 211	IAMs_20	IAMs_20	20 37 48.4	
	comp=Z,3μm,20.0s					
J16K	Anvik River	72.34 337	IAMs_20	IAMs_20	20 43 28.0	
	comp=Z,1μm,18.0s					
J16K	Anvik River	72.34 337	P	P	20 08 30.0	-0.7
	baz=45					
L17K	Donlin	72.38 335	P	P	20 08 31.2	+0.2
	baz=46					
F14K	Arctic Creek	72.43 340	P	P	20 08 31.8	+0.5
	baz=41					
N18K	Kilae Creek	72.51 333	IAMs_20	IAMs_20	20 39 19.0	
	comp=Z,2μm,20.0s					
N18K	Kilae Creek	72.51 333	P	P	20 08 31.8	0.0
	baz=48					
SYI	Shuyak Island	72.52 331	IAMs_20	IAMs_20	20 40 55.4	
	comp=Z,3μm,20.0s					
Q20K	Shuyak Island	72.52 331	P	P	20 08 32.0	+0.1
	baz=50					
M17K	Holitna River	72.58 334	IAMs_20	IAMs_20	20 41 05.7	
	comp=Z,2μm,20.0s					
M17K	Holitna River	72.58 334	P	P	20 08 32.6	+0.3
	baz=47					
CO05	La Serena	72.76 211	IAMs_20	IAMs_20	20 41 24.9	
	comp=Z,2μm,19.0s					
GO04	Tololo Observa	72.79 211	IAMs_20	IAMs_20	20 39 16.8	
	comp=Z,2μm,22.0s					
O18K	Koktuh Hills	72.81 332	IAMs_20	IAMs_20	20 40 33.8	
	comp=Z,2μm,21.0s					
O18K	Koktuh Hills	72.81 332	P	P	20 08 33.4	-0.2
	baz=48					
Q19K	Cape Douglas,	72.82 331	IAMs_20	IAMs_20	20 40 37.1	
	comp=Z,2μm,20.0s					
Q19K	Cape Douglas,	72.82 331	P	P	20 08 33.3	-0.4
	baz=49					
ANM	Nome	72.85 339	IAMs_20	IAMs_20	20 40 03.2	
	comp=Z,2μm,21.0s					
ANM	Nome	72.85 339	P	P	20 08 33.7	0.0
	baz=41					
LODK	Lodwar	72.97 98	P	P	20 08 34.4	-1.0
LODK			IAmb	IAmb	20 08 52.4	
	comp=Z,30nm,1.1s					
LODK	Lodwar	72.97 98	P	P	20 08 37.1	+1.8
	SNR=17					
L16K	Owhat River	73.08 335	IAMs_20	IAMs_20	20 41 22.6	
	comp=Z,1μm,20.0s					
L16K	Owhat River	73.08 335	P	P	20 08 35.4	+0.3
	baz=46					
N17K	Nushagak Hills	73.09 334	IAMs_20	IAMs_20	20 40 42.2	
	comp=Z,1μm,19.0s					
N17K	Nushagak Hills	73.09 334	P	P	20 08 35.6	+0.4
	baz=47					
P18K	Big Mountain,	73.12 332	IAmb	IAmb	20 08 49.2	
	comp=Z,36nm,1.1s					
P18K			IAMs_20	IAMs_20	20 40 34.3	
	comp=Z,1μm,20.0s					
P18K	Big Mountain,	73.12 332	P	P	20 08 35.2	-0.3
	baz=48					
KDAK	Kodiak Island	73.13 330	LR	LR	20 41 33.5	
	comp=Z,μm,18.1s,baz=264,slow=36					
KDAK	Kodiak Island	73.13 330	P	P	20 08 35.4	-0.1
	baz=50					
ZON	Zonda	73.14 209	IAMs_20	IAMs_20	20 41 46.9	
	comp=Z,2μm,18.0s					
CO03	El Pedregal	73.33 211	IAMs_20	IAMs_20	20 39 10.9	
	comp=Z,2μm,18.0s					
K15K	Wolf Creek Mou	73.34 337	IAMs_20	IAMs_20	20 40 54.7	
	comp=Z,2μm,19.0s					
K15K	Wolf Creek Mou	73.34 337	P	P	20 08 36.2	-0.6
	baz=44					
SHMA	Al-Shehemyia	73.38 70	P	P	20 08 37.9	+0.4
SHMA			S	S	20 18 05.9	-0.5
M16K	Timber Creek	73.38 335	IAMs_20	IAMs_20	20 38 43.7	
	comp=Z,2μm,22.0s					
M16K	Timber Creek	73.38 335	P	P	20 08 37.3	+0.3
	baz=46					
O17K	Koliganek Bris	73.57 333	P	P	20 08 38.4	+0.4
	baz=47					
J14K	Nanvaranak Lak	73.66 338	IAMs_20	IAMs_20	20 40 50.8	
	comp=Z,2μm,21.0s					
J14K	Nanvaranak Lak	73.66 338	P	P	20 08 38.8	+0.3
	baz=42					
P17K	Kvichak River	73.72 332	P	P	20 08 39.3	+0.4
	baz=47					
L15K	Ungalak Mounta	73.77 336	P	P	20 08 39.5	+0.2
	baz=44					
OHAK	Old Harbor	73.78 330	IAMs_20	IAMs_20	20 41 50.9	
	comp=Z,2μm,20.0s					
OHAK	Old Harbor	73.78 330	P	P	20 08 39.9	+0.5
	baz=49					
ACHA	Angle Creek He	73.95 331	IAMs_20	IAMs_20	20 34 01.2	
	comp=Z,1μm,20.0s					
O16K	Kokwok River B	74.06 333	IAMs_20	IAMs_20	20 41 04.0	
	comp=Z,2μm,18.0s					
O16K	Kokwok River B	74.06 333	P	P	20 08 41.1	+0.1
	baz=46					
TRNA	Turayna	74.15 71	P	P	20 08 43.7	+1.6
TRNA			S	S	20 18 14.6	-0.6
Q16K	King Salmon	74.15 332	P	P	20 08 41.9	+0.4
	baz=47					
M15K	Kasigluk River	74.21 335	P	P	20 08 42.4	+0.6
	baz=44					
TSUM	Tsumeb	74.37 128	P	P	20 08 43.9	+0.5
TSUM	Tsumeb	74.37 128	LR	LR	20 35 19.1	
	comp=Z,6μm,21.8s,baz=318,slow=31					
N15K	Kwethluk River	74.38 334	IAMs_20	IAMs_20	20 35 58.2	
	comp=Z,2μm,22.0s					
N15K	Kwethluk River	74.38 334	P	P	20 08 43.6	+0.8
	baz=45					
L14K	Kuka Creek	74.41 336	IAMs_20	IAMs_20	20 41 26.0	
	comp=Z,2μm,20.0s					
L14K	Kuka Creek	74.41 336	P	P	20 08 43.6	+0.6
	baz=43					
P16K	Nushagak River	74.42 333	P	P	20 08 43.2	+0.2
	baz=46					
BRZS	Berezniki	74.45 39	*e*P	P	20 08 43.0	-0.4
BRZS	Berezniki	74.45 39	*e*P	P	20 08 43.1	-0.4
M14K	Bethel	74.60 336	IAmb	IAmb	20 09 00.2	
	comp=Z,48nm,1.0s					
M14K			IAMs_20	IAMs_20	20 45 51.0	
	comp=Z,1μm,18.0s					
M14K	Bethel	74.60 336	P	P	20 08 44.3	+0.3
	baz=43					
K13K	Kusilvak Mount	74.61 337	IAMs_20	IAMs_20	20 41 21.0	
	comp=Z,3μm,20.0s					
K13K	Kusilvak Mount	74.61 337	P	P	20 08 44.6	+0.5
	baz=42					
SLWR	Sila	74.87 71	P	P	20 08 47.0	+0.7
SLWR			S	S	20 18 23.9	+0.6
VA03	San Esteban	74.95 210	IAMs_20	IAMs_20	20 41 21.9	
	comp=Z,3μm,20.0s					
O15K	Ungalikthiuk R	74.99 334	P	P	20 08 46.1	-0.2
	baz=45					
VA06	Catapilco	75.08 210	IAMs_20	IAMs_20	20 41 26.3	
	comp=Z,2μm,19.0s					
N14K	Kuskokwak Cree	75.11 335	P	P	20 08 45.8	-1.2
	baz=43					
GAMB	Gambell	75.21 341	P	P	20 08 46.0	-1.5
	baz=36					
R16K	Pilot Point	75.27 332	IAMs_20	IAMs_20	20 35 16.1	
	comp=Z,2μm,19.0s					
R16K	Pilot Point	75.27 332	P	P	20 08 47.4	-0.6
	baz=46					
JRN	Qarnain Island	75.30 70	P	P	20 08 49.0	+0.2
JRN			S	S	20 18 28.9	+0.8
M13K	Dall Lake	75.32 336	P	P	20 08 47.6	-0.7
	baz=42					
O14K	Tigyukauivet M	75.45 334	IAMs_20	IAMs_20	20 42 54.6	
	comp=Z,2μm,20.0s					
O14K	Tigyukauivet M	75.45 334	P	P	20 08 48.2	-0.8
	baz=44					
MT16	CCHEN	75.52 209	IAmb	IAmb	20 09 27.9	
	comp=Z,71nm,1.1s					
MT03	Universidad Ad	75.58 209	IAMs_20	IAMs_20	20 39 23.4	
	comp=Z,2μm,20.0s					
MT05	Renca	75.58 209	IAMs_20	IAMs_20	20 40 59.5	
	comp=Z,3μm,22.0s					
MT02	Curacav	75.62 210	IAMs_20	IAMs_20	20 41 08.7	
	comp=Z,3μm,21.0s					
BILL	Bilibino	75.65 351	P	P	20 08 47.1	-2.9
BILL			IAmb	IAmb	20 09 06.2	
	comp=Z,71nm,1.6s					
BILL	Bilibino	75.65 351	*ce*P	P	20 08 50.6	+0.6
BILL			pmax	pmax		
	comp=Z,51nm,1.6s					
CHIR	Chirikof Islan	75.69 330	P	P	20 08 49.7	-0.8
	baz=47					
MT13	San Alfonso	75.71 209	IAMs_20	IAMs_20	20 40 42.9	
	comp=Z,3μm,22.0s					
GHWR	Ruwais	75.85 71	P	P	20 08 52.4	+0.6
GHWR			S	S	20 18 33.5	-0.6
MT09	Talagante	76.01 209	IAMs_20	IAMs_20	20 40 43.1	
	comp=Z,2μm,22.0s					
BO04	La Punta	76.05 209	IAMs_20	IAMs_20	20 40 53.0	
	comp=Z,3μm,22.0s					
M11K	Mekoryuk	76.28 337	IAMs_20	IAMs_20	20 42 03.1	
	comp=Z,2μm,18.0s					
M11K	Mekoryuk	76.28 337	P	P	20 08 52.7	-1.0
	baz=40					
CHGN	Chignik	76.49 331	IAMs_20	IAMs_20	20 35 16.3	
	comp=Z,2μm,22.0s					
CHGN	Chignik	76.49 331	P	P	20 08 54.5	-0.4
	baz=45					
WIN	Windhoek	76.52 130	P	P	20 08 55.6	-0.1
WIN	Windhoek	76.52 130	P	P	20 08 55.7	-0.1
WIN			pmax	pmax		
	comp=Z,24nm,1.1s					
WIN			MLR	MLR		
	comp=Z,4μm,21.0s					
BO01	Tunca	76.59 209	IAMs_20	IAMs_20	20 41 41.3	
	comp=Z,2μm,21.0s					
MZWR	Madinat Zayed	76.73 70	P	P	20 08 57.5	+0.5
MZWR			S	S	20 18 41.6	-2.2
TRQA	Tornquist	76.77 201	P	P	20 08 57.5	+0.9
TRQA			IAmb	IAmb	20 09 28.1	
	comp=Z,50nm,1.4s					
TRQA	Tornquist	76.77 201	P	P	20 08 57.5	+0.9
TRQA			pmax	pmax		
	comp=Z,51nm,1.5s					
TRQA			MLR	MLR		
	comp=Z,3μm,19.0s					
BO02	Sierra Bellavi	76.82 209	IAMs_20	IAMs_20	20 47 23.4	
	comp=Z,2μm,18.0s					
MZR	Muzera	76.83 71	P	P	20 08 57.2	-0.3
MZR			S	S	20 18 45.7	+0.8
MZR	Muzera	76.83 71	*i* P	P	20 08 56.7	-0.8
	SNR=11					
S14K	Fog Glacier	76.95 331	P	P	20 08 55.4	-2.4
	baz=44					
KURK	Kurchatov	76.97 36	P	P	20 08 56.4	-1.4
KURK			IAmb	IAmb	20 09 16.2	
	comp=Z,26nm,0.8s					
KURK	Kurchatov	76.97 36	P	P	20 08 59.3	+1.5
KURK			S	S	20 18 46.2	+0.6
KURK	Kurchatov	76.97 36	*ce*P	P	20 08 56.9	-0.9
KURK			pmax	pmax		
	comp=Z,29nm,0.8s					
KURK	Kurchatov	76.97 36	⇓P	P	20 08 57.6	-0.3
BRLS	Borolday	76.98 46	*e*P	P	20 08 57.5	-0.6
BRLS	Borolday	76.98 46	*e*P	P	20 08 57.5	-0.6
KURBB	Kurchatov Arra	76.99 36	P	P	20 08 57.6	-0.3
	comp=Z,12nm,0.9s,baz=312,slow=5.9,SNR=40					
KURBB			LR	LR	20 41 13.2	
	comp=Z,5μm,21.2s,baz=304,slow=34					
	comp=Z,12nm,0.9s					
AJN	Ajban	77.14 69	P	P	20 08 60.0	+0.7
AJN			S	S	20 18 44.0	-4.4
KMBO	Kilima Mbogo	77.16 101	P	P	20 08 58.6	-1.1
KMBO	Kilima Mbogo	77.16 101	P	P	20 09 03.9	+4.1
KMBO	Kilima Mbogo	77.16 101	P	P	20 08 58.6	-1.1
KMBO			pmax	pmax		
	comp=Z,15nm,1.1s					
KMBO			MLR	MLR		
	comp=Z,6μm,19.0s					
KMBO	Kilima Mbogo	77.16 101	*i* P	P	20 09 02.3	+2.5
	SNR=5.9					
KMBO	Kilima Mbogo	77.16 101	⇓P	P	20 09 03.6	+3.8
SHME	Shamm	77.22 67	P	P	20 08 59.5	-0.1
SHME	Shamm	77.22 67	P	P	20 08 59.0	-0.6
KKAR	Karatay Array	77.34 46	P	P	20 08 57.7	-2.4
KKAR	Karatay Array	77.34 46	P	P	20 08 57.7	-2.4
ASUD	Al Ashush, Dub	77.37 69	P	P	20 09 01.4	+0.9
ASUD			S	S	20 18 50.8	0.0
ASUD	Al Ashush, Dub	77.37 69	P	P	20 09 01.0	+0.5
BANOM	Banah	77.40 67	P	P	20 09 00.5	-0.2
BANOM	Banah	77.40 67	*i* P	P	20 09 00.2	-0.5
	SNR=9.0					
NAZ	Nazwa, Dubai	77.43 68	P	P	20 09 01.0	+0.2
NAZ			S	S	20 18 47.5	-3.9
NAZ	Nazwa, Dubai	77.43 68	*i* P	P	20 09 00.9	0.0
	SNR=8.6					
FAQ	Al Faqa, Dubai	77.51 69	P	P	20 09 01.5	+0.2
FAQ			S	S	20 18 52.6	+0.3
FAQ	Al Faqa, Dubai	77.51 69	P	P	20 09 00.8	-0.5
MASF	Masafi	77.60 68	P	P	20 09 02.2	+0.4
MASF			S	S	20 18 54.1	+0.7
MSFE	Esma-Masafi	77.61 68	P	P	20 09 01.2	-0.7
ZALV	Zalesovo Beam	77.62 31	P	P	20 09 02.0	+0.7
ZALV	Zalesovo Beam	77.62 31	P	P	20 09 02.6	+1.2
	comp=Z,5.7nm,1.0s,baz=308,slow=7.2,SNR=12					
ZALV			LR	LR	20 43 34.9	
	comp=Z,4μm,18.8s,slow=36					
	comp=Z,5.7nm,1.0s					
ZALV	Zalesovo Beam	77.62 31	P	P	20 09 02.1	+0.7
MDH	Madha	77.74 68	P	P	20 09 03.4	+0.8
MDH			S	S	20 18 53.9	-1.0
MDH	Madha	77.74 68	*i* P	P	20 09 02.9	+0.3
	SNR=6.9					
UOSS	Minazif	77.86 68	P	P	20 09 01.6	-1.7
UOSS			IAmb	IAmb	20 09 18.2	
	comp=Z,53nm,0.9s					
UOSS	Minazif	77.86 68	IAMs_20	IAMs_20	20 48 11.0	
	comp=Z,2μm,20.0s					
UOSS	Minazif	77.86 68	P	P	20 09 02.9	-0.5
UOSS			S	S	20 18 51.5	-4.7
UOSS	Minazif	77.86 68	*i* P	P	20 09 02.8	-0.5
	SNR=17					
UOSS	Minazif	77.86 68	⇓P	P	20 09 02.7	-0.6
HATD	Hatta, Dubai	77.88 68	P	P	20 09 03.3	-0.1
HATD			S	S	20 18 53.1	-3.2
HATD	Hatta, Dubai	77.88 68	*i* P	P	20 09 02.8	-0.6
	SNR=7.1					
ASHO	Ashiyiah	77.90 68	P	P	20 09 03.9	+0.3
	SNR=7.8					
ASHO	Ashiyiah	77.90 68	*i* P	P	20 09 02.7	-0.8
	SNR=14					
SEM	Semipalatinsk	77.96 36	*e*P	P	20 09 02.8	-0.9
SEM			MLR	MLR		
	comp=Z,1μm,16.0s					
SEM	Semipalatinsk	77.96 36	*e*P	P	20 09 02.8	-0.9
SEM			LR	LR	20 41 32.8	
	comp=Z,1μm,16.0s					
CHNA	Chernabura Isl	78.00 330	P	P	20 09 02.2	-1.3
	baz=44					
ALNE	Al Ain	78.00 69	P	P	20 09 04.1	0.0
	SNR=9.6					
ALNE			S	S	20 18 57.4	-0.3
ALNE	Al Ain	78.00 69	*i* P	P	20 09 03.7	-0.4
	SNR=18					
CNBA	Chernabura Isl	78.01 330	IAMs_20	IAMs_20	20 39 02.5	
	comp=Z,3μm,19.0s					
BTLS	Baital	78.19 43	*e*P	P	20 09 03.9	-0.8
BTLS	Baital	78.19 43	*e*P	P	20 09 04.0	-0.8
UMZA	Um Al Zommool	78.28 71	P	P	20 09 05.6	0.0
UMZA			S	S	20 19 00.5	-0.2
S12K	Black Hills	78.34 332	P	P	20 09 04.3	-1.1
	baz=42					
KIBK	Kibwezi	78.51 101	P	P	20 09 05.6	-1.5
KIBK	Kibwezi	78.51 101	P	P	20 09 02.3	-4.8
KIBK	Kibwezi	78.51 101	P	P	20 09 10.4	+3.3
	SNR=11					
SOHO	SOHO	78.56 69	P	P	20 09 07.0	-0.1
SOHO			S	S	20 19 02.0	-1.6
SOHO	SOHO	78.56 69	*i* P	P	20 09 06.8	-0.3
	SNR=16					
JASK	Jask - Hormozg	78.61 66	P	P	20 09 09.2	+1.8
JASK			S	S	20 19 02.7	-1.4
LSZ	Lusaka	78.97 118	LR	LR	20 42 35.4	
	comp=Z,9μm,19.7s,baz=326,slow=35					
LSZ	Lusaka	78.97 118	P	P	20 09 04.1	-5.4
LSZ			S	S	20 19 11.2	+3.0
ARQ	Araqi	78.99 69	P	P	20 09 10.5	+1.0
ARQ			S	S	20 19 07.4	-0.9
SIMJ	Simiganj	79.06 50	P	P	20 09 08.1	-1.8
SIMJ			IAmb	IAmb	20 09 43.5	
	comp=Z,59nm,1.7s					
BTK	Batken	79.35 48	IAmb	IAmb	20 09 44.3	
	comp=Z,111nm,1.9s					
HOQ	Hoqain	79.46 69	P	P	20 09 11.8	-0.3
	SNR=8.6					
HOQ			S	S	20 19 13.5	+0.2
FALS	False Pass	79.49 332	P	P	20 09 10.4	-1.3
	baz=41					
DOK	Doka	79.73 75	P	P	20 09 14.1	+0.4
DOK			S	S	20 19 16.6	+0.4
ABTO	Aybut	79.77 76	P	P	20 09 15.4	+1.5
ABTO			S	S	20 19 16.4	-0.4
BSY	Bisya	79.84 69	P	P	20 09 14.6	+0.4
	SNR=5.0					
AAK	Ala-Archa	79.94 45	P	P	20 09 13.9	-0.7
AAK			IAmb	IAmb	20 09 33.2	
	comp=Z,61nm,1.6s					
AAK	Ala-Archa	79.94 45	LR	LR	20 45 17.9	
	comp=Z,9μm,18.5s,baz=327,slow=36					
AAK	Ala-Archa	79.94 45	P	P	20 09 15.6	+1.0
AAK			S	S	20 19 15.2	-2.9
AAK	Ala-Archa	79.94 45	*i* P	P	20 09 13.8	-0.8
AAK			pmax	pmax		
	comp=Z,39nm,1.5s					
AAK			MLR	MLR		
	comp=Z,8μm,18.0s					
AAK	Ala-Archa	79.94 45	*i* P	P	20 09 15.0	+0.4
	SNR=6.9					
AAK	Ala-Archa	79.94 45	⇑P	P	20 09 15.6	+1.0
SPIA	Saint Paul Isl	80.11 337	P	P	20 09 13.8	-1.1
	baz=36					
BIDO	Bidbid	80.11 68	P	P	20 09 16.3	+0.7
	SNR=14					
SMDO	Samad	80.31 69	P	P	20 09 18.3	+1.5
P08K	Saint George I	80.34 336	IAMs_20	IAMs_20	20 39 45.6	
	comp=Z,2μm,18.0s					
P08K	Saint George I	80.34 336	P	P	20 09 14.7	-1.6
	baz=37					
RBK	Rabkut	80.41 75	P	P	20 09 17.6	+0.3
TDK	Taldyqorghan	80.59 41	*e*P	P	20 09 17.0	-0.8
TDK			MLR	MLR		
	comp=Z,3μm,15.0s					
TDK	Taldyqorghan	80.59 41	*e*P	P	20 09 17.1	-0.8
TDK			LR	LR	20 43 23.4	
	comp=Z,3μm,15.3s					
WSAR	Wadi Sarin	80.65 68	LR	LR	20 46 02.9	
	comp=Z,1μm,21.2s,baz=295,slow=36					
JMDO	Jabal Madar	80.74 69	P	P	20 09 18.3	-0.7
DMTO	DMTO	80.88 75	P	P	20 09 17.6	-2.2
DMTO			S	S	20 19 28.1	-0.2
AAA	Alma-Ata	80.95 43	*e*P	P	20 09 19.1	-0.8
AAA			pmax	pmax		
	comp=Z,46nm,1.4s					
AAA	Alma-Ata	80.95 43	*e*P	P	20 09 19.1	-0.8
	comp=Z,46nm,1.4s					
LVA	Lava Point	81.01 333	IAMs_20	IAMs_20	20 44 39.8	
	comp=Z,2μm,18.0s					
MDOK	Medeo	81.05 43	*e*P	P	20 09 19.6	-0.9
MDOK			*e*S	S	20 19 28.7	-1.0
MDOK			MLR	MLR		
	comp=Z,2μm,17.0s					
MDOK	Medeo	81.05 43	*e*P	P	20 09 19.7	-0.9
MDOK			*e*S	S	20 19 28.8	-1.0
MDOK			LR	LR	20 43 38.6	
	comp=Z,2μm,17.4s					
TNSS	Tian-Shan	81.08 43	*e*P	P	20 09 19.6	-1.4
TNSS	Tian-Shan	81.08 43	*e*P	P	20 09 19.7	-1.4
MAKZ	Makanchi	81.23 38	P	P	20 09 19.6	-1.7
MAKZ			IAmb	IAmb	20 09 39.6	
	comp=Z,27nm,0.8s					
MAKZ	Makanchi	81.23 38	P	P	20 09 19.6	-1.7
MAKZ			pmax	pmax		
	comp=Z,27nm,0.9s					
MAKZ			MLR	MLR		
	comp=Z,11μm,19.0s					
MAKZ	Makanchi	81.23 38	⇓P	P	20 09 20.9	-0.3
MAKZ			⇑P	sP	20 09 25.9	0.0
WBK	Wadi Bani Khal	81.26 69	P	P	20 09 23.6	+1.7
NGCH	Negor - Chabah	81.34 65	P	P	20 09 24.5	+2.4
MK31	Makanchi Array	81.40 38	*ce*P	P	20 09 22.6	+0.4
MKAR	Makanchi Array	81.40 38	P	P	20 09 19.9	-2.3
MKAR	Makanchi Array	81.40 38	P	P	20 09 21.8	-0.4
	comp=Z,2.9nm,0.7s,baz=313,slow=4.5,SNR=24					
MKAR			LR	LR	20 45 28.6	
	comp=Z,11μm,19.7s,baz=305,slow=36					
	comp=Z,2.9nm,0.7s					
UNV	Unalaska Valle	81.43 333	P	P	20 09 19.7	-2.4
	baz=39					
KBL	Kabul	81.55 54	P	P	20 09 22.6	-0.8
KBL			S	S	20 19 32.1	-3.2
KBU	Kabul Universi	81.62 54	P	P	20 09 23.1	-0.7
DQM	DQM	81.67 72	P	P	20 09 26.0	+2.0
DQM			S	S	20 19 36.0	-0.5
KPKS	Kokpek	81.75 42	*e*P	P	20 09 23.3	-0.9
KPKS	Kokpek	81.75 42	*e*P	P	20 09 23.3	-0.9
ZHN	Zhinishke	81.81 42	*e*P	P	20 09 24.0	-0.6
ZHN	Zhinishke	81.81 42	*e*P	P	20 09 24.0	-0.6
JLN	Jalan Bani Buh	81.86 69	P	P	20 09 25.8	+0.8
	SNR=7.6					
JLN			S	S	20 19 39.2	+0.8
SATY	Saty	81.87 42	*e*P	P	20 09 24.3	-0.6
SATY	Saty	81.87 42	*e*P	P	20 09 24.3	-0.6
SEY	Seymchan	81.91 356	LR	LR	20 43 11.2	
	comp=Z,3μm,21.1s,baz=3.5,slow=34					
SEY	Seymchan	81.91 356	*e*P	P	20 09 24.0	-0.5
SEY			pmax	pmax		
	comp=Z,20nm,1.7s					
PLCA	Paso Flores	81.96 206	IAmb	IAmb	20 10 01.9	
	comp=Z,70nm,1.8s					
PLCA	Paso Flores	81.96 206	P	P	20 09 25.4	+0.4
	comp=Z,6.8nm,0.8s,baz=29,slow=6.5,SNR=15					
PLCA			LR	LR	20 45 24.8	
	comp=Z,2μm,19.3s,baz=40,slow=35					
	comp=Z,6.8nm,0.8s					
PLCA	Paso Flores	81.96 206	⇑P	P	20 09 28.0	+3.0
PLCA	Paso Flores	81.96 206	*e*P	P	20 09 27.1	+2.1
UZB	Uzynbulak	82.15 42	*e*P	P	20 09 25.5	-0.9
UZB	Uzynbulak	82.15 42	*e*P	P	20 09 25.5	-0.9
ZSN	Zaisan	82.21 36	*e*P	P	20 09 25.8	-0.6
ZSN	Zaisan	82.21 36	*e*P	P	20 09 25.9	-0.6
YAK	Yakutsk	82.38 7	P	P	20 09 24.0	-2.9
YAK			IAmb	IAmb	20 09 46.2	
	comp=Z,38nm,0.9s					
YAK	Yakutsk	82.38 7	LR	LR	20 41 48.9	
	comp=Z,1μm,21.8s,baz=342,slow=33					
YAK	Yakutsk	82.38 7	*e*P	P	20 09 27.8	+0.8
YAK			*e*		20 12 35.6	
YAK			*e*PPP	PPP	20 14 27.3	
YAK			*e*S	SKSac	20 19 44.0	-3.3
YAK			*e*		20 20 37.4	
YAK			*e*SS	SS	20 25 04.3	+2.8

YAK				pmax	pmax		
	comp=E,197nm,5.7s						
YAK				smax	smax		
	comp=E,82nm,3.5s						
YAK				smax	smax		
	comp=N,353nm,5.1s						
YAK				MLR	MLR		
	comp=Z,296nm,16.0s						
YAK				MLR	MLR		
	comp=N,296nm,18.0s						
YAK				MLR	MLR		
	comp=E,633nm,26.0s						
SHLS	**Shalkode**	**82.38**	**42**	*e*P	**P**	**20 09 28.3**	**+0.8**
SHLS				pmax	pmax		
	comp=Z,28nm,1.0s						
SHLS	**Shalkode**	**82.38**	**42**	*e*P	**P**	**20 09 28.3**	**+0.8**
	comp=Z,28nm,1.0s						
MATP	**Matopo**	**82.59**	**121**	LR	LR	20 43 03.8	
	comp=Z,9μm,21.8s,baz=316,slow=33						
KSH	**Kashi**	**82.79**	**46**	P	**P**	**20 09 30.8**	**+1.1**
KSH				S	**S**	**20 19 46.8**	**-0.9**
KSH				SS	**SS**	**20 25 16.8**	**+7.6**
KSH				pmax	pmax		
	comp=Z,29nm,1.1s						
KSH				pmax	pmax		
	comp=Z,470nm,4.9s						
KSH				LR	LR		
	comp=Z,12μm,22.7s						
KSH				LR	LR		
	comp=Z,9μm,21.0s						
KSH				LR	LR		
	comp=Z,17μm,22.7s						
LBTB	**Lobatse**	**83.71**	**126**	LR	LR	20 41 39.1	
	comp=Z,5μm,21.6s,baz=327,slow=32						
LBTB	**Lobatse**	**83.71**	**126**	⇑P	**P**	**20 09 36.1**	**+1.6**
BOD	**Bodaibo**	**83.95**	**16**	*e*P	**P**	**20 09 34.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,76nm,1.4s						
NIL	**Nilore**	**84.84**	**52**	P	**P**	**20 09 38.1**	**-2.1**
NIL	**Nilore**	**84.84**	**52**	P	**P**	**20 09 41.2**	**+1.0**
NIL	**Nilore**	**84.84**	**52**	P	**P**	**20 09 38.1**	**-2.1**
NIL				pmax	pmax		
	comp=Z,83nm,1.6s						
NIL				MLR	MLR		
	comp=Z,3μm,20.0s						
MA2	**Magadan**	**85.35**	**356**	LR	LR	20 45 21.2	
	comp=Z,2μm,20.9s,baz=8.0,slow=34						
SRNI	**Srinagar**	**85.58**	**51**	*e*P	**P**	**20 09 41.8**	**-2.0**
SRNI				*e*S	**SKSac**	**20 20 05.7**	**-3.3**
SRNI				IAMs_20	IAMs_20	20 21 47.8	
	comp=Z,510nm,12.3s						
MOY	**Mondy**	**85.65**	**25**	*e*P	**P**	**20 09 44.1**	**+0.1**
MOY				pmax	pmax		
	comp=Z,67nm,2.0s						
SUR	**Sutherland**	**85.92**	**135**	LR	LR	20 44 08.3	
	comp=Z,2μm,19.2s,baz=335,slow=33						
BOSA	**Boshof**	**85.96**	**129**	P	**P**	**20 09 45.4**	**-0.4**
BOSA	**Boshof**	**85.96**	**129**	P	**P**	**20 09 46.6**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=316,slow=6.4,SNR=8.7						
BOSA				LR	LR	20 46 29.7	
	comp=Z,3μm,18.4s,baz=322,slow=34						
	comp=Z,3.6nm,0.6s						
BOSA	**Boshof**	**85.96**	**129**	⇓P	**P**	**20 09 49.1**	**+3.3**
WMQ	**Urumqi**	**86.19**	**37**	P	P	20 09 51.8	+5.0
WMQ				S	**S**	**20 20 20.5**	**-0.9**
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
WMQ				LR	LR		
	comp=Z,14μm,19.9s						
WMQ				LR	LR		
	comp=Z,9μm,18.7s						
WMQ				LR	LR		
	comp=Z,7μm,22.3s						
IRK	**Irkutsk**	**86.26**	**23**	*e*P	P	20 09 53.1	+6.2
IRK				pmax	pmax		
	comp=Z,93nm,2.2s						
JMU	**Jammu**	**86.50**	**52**	*e*P	**P**	**20 09 48.0**	**-0.4**
JMU				*e*S	**SKSac**	**20 20 12.9**	**-1.9**
JMU				IAMs_20	IAMs_20	20 22 17.9	
	comp=Z,571nm,16.4s						
JASL	**Jaisalmer**	**87.46**	**59**	*e*P	**P**	**20 09 52.1**	**-1.1**
JASL				*e*S	**SKSac**	**20 20 17.0**	**-4.0**
JASL				IAMs_20	IAMs_20	20 21 57.4	
	comp=Z,429nm,16.4s						
ZAK	**Zakamensk**	**87.52**	**25**	*e*P	**P**	**20 09 53.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,12nm,1.7s						
SRGN	**SRI GANGA NAGA**	**87.62**	**55**	*e*P	**P**	**20 09 51.2**	**-2.8**
SRGN				*e*S	**SKSac**	**20 20 18.0**	**-3.9**
SRGN				IAMs_20	IAMs_20	20 22 20.5	
	comp=Z,419nm,20.4s						
DHRM	**DHARAMSHALA**	**87.70**	**52**	*e*P	**P**	**20 09 55.3**	**+0.7**
DHRM				IAmb	IAmb	20 10 10.9	
	comp=Z,26nm,1.2s						
SHEM	**Shemya Is, Ala**	**88.50**	**342**	LR	LR	20 48 56.2	
	comp=Z,812nm,19.5s,baz=320,slow=35						
BHUJ	**Bhuj**	**88.84**	**62**	*e*P	**P**	**20 09 58.5**	**-1.2**
BHUJ				*e*S	**SKSac**	**20 20 27.2**	**-2.0**
BHUJ				IAMs_20	IAMs_20	20 21 14.4	
	comp=Z,566nm,20.5s						
SMLA	**Simla**	**88.99**	**52**	*e*P	**P**	**20 10 00.7**	**+0.3**
SMLA				IAmb	IAmb	20 10 19.1	
	comp=Z,37nm,1.3s						
CIT	**Chita**	**89.14**	**18**	*e*P	**P**	**20 10 03.4**	**+2.6**
RTK	**Rohtak**	**89.88**	**54**	*e*P	**P**	**20 10 05.5**	**+0.9**
RTK				*e*S	**SKSac**	**20 20 32.3**	**-3.0**
RTK				IAMs_20	IAMs_20	20 22 24.6	
	comp=Z,599nm,20.4s						
DDI	**Dehra Dun**	**90.10**	**52**	*e*P	**P**	**20 10 02.6**	**-3.1**
DDI				*e*S	**SKSac**	**20 20 35.3**	**-1.4**
DDI				IAMs_20	IAMs_20	20 22 26.5	
	comp=Z,412nm,12.1s						
KUDL	**Kundal**	**90.50**	**55**	*e*P	**P**	**20 10 06.4**	**-1.1**
KUDL				*e*S	**SKSac**	**20 20 35.4**	**-3.5**
KUDL				IAMs_20	IAMs_20	20 22 32.2	
	comp=Z,522nm,12.3s						
NPLP	**NPLP New Delhi**	**90.63**	**54**	*e*P	**P**	**20 10 07.5**	**-0.6**
NPLP				*e*S	**SKSac**	**20 20 36.4**	**-3.3**
NPLP				IAMs_20	IAMs_20	20 22 32.7	
	comp=Z,670nm,12.3s						
LDR	**Lodi Road**	**90.70**	**54**	*e*P	**P**	**20 10 07.5**	**-0.9**
LDR				*e*S	**SKSac**	**20 20 38.4**	**-1.6**
LDR				IAMs_20	IAMs_20	20 22 34.8	
	comp=Z,598nm,16.3s						
SONM	**Songino Array**	**90.76**	**24**	P	**P**	**20 10 05.2**	**-3.3**
SONM	**Songino Array**	**90.76**	**24**	P	**P**	**20 10 08.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=337,slow=7.2,SNR=4.7						
SONM				PP	**PP**	**20 13 42.8**	**-0.3**
	comp=Z,4.3nm,1.2s,baz=328,slow=4.5,SNR=3.5						
SONM				LR	LR	20 53 23.8	
	comp=Z,3μm,18.1s,baz=336,slow=37						
	comp=Z,0.5nm,0.6s						
MERT	**Meerut**	**90.78**	**53**	*e*P	**P**	**20 10 08.5**	**-0.3**
MERT				*e*S	**SKSac**	**20 20 37.5**	**-3.0**
MERT				IAMs_20	IAMs_20	20 22 34.3	
	comp=Z,470nm,12.3s						
ULN	**Ulaanbaatar**	**90.95**	**24**	P	**P**	**20 10 09.6**	**+0.1**
ULN	**Ulaanbaatar**	**90.95**	**24**	P	**P**	**20 10 10.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,25nm,2.9s						
ASOR	**Ausora**	**90.95**	**53**	*e*P	**P**	**20 10 08.5**	**-1.1**
ASOR				*e*S	**SKSac**	**20 20 37.5**	**-4.0**
ASOR				IAMs_20	IAMs_20	20 22 34.3	
	comp=Z,526nm,12.3s						
PET	**Petropavlovsk**	**91.15**	**351**	*e*P	**P**	**20 10 10.9**	**+0.9**
PET				*e*S	**S**	**20 21 06.8**	**-0.8**
PET				*e*SS	**SS**	**20 27 19.1**	**+9.2**
PET				MLR	MLR		
	comp=Z,3μm,20.0s						
PETK	**Petropavlovsk-**	**91.18**	**352**	LR	LR	20 51 49.1	
	comp=Z,1μm,18.0s,baz=2.6,slow=36						
RPN	**Rapa Nui**	**92.83**	**239**	LR	LR	20 48 45.9	
	comp=Z,338nm,18.2s,baz=55,slow=33						
HEH	**HeiHe**	**93.63**	**10**	*e*P	P	20 10 28.9	+7.3
HEH				sP	pwP	20 10 39.3	+10
LKN	**LUCKNOW**	**94.33**	**53**	*e*P	**P**	**20 10 25.9**	**+0.7**
LKN				*e*S	**SKSac**	**20 20 58.6**	**-3.6**
LKN				IAMs_20	IAMs_20	20 23 15.6	
	comp=Z,444nm,20.4s						
BHPL	**Bhopal**	**94.35**	**58**	*e*P	**P**	**20 10 26.8**	**+1.4**
BHPL				*e*S	**SKSac**	**20 20 59.6**	**-1.1**
BHPL				IAMs_20	IAMs_20	20 23 17.0	
	comp=Z,306nm,16.2s						
NRDN	**NARMADA NAGAR**	**94.51**	**58**	*e*P	**P**	**20 10 23.9**	**-2.3**
NRDN				*e*S	**SKSac**	**20 20 58.8**	**-2.7**
NRDN				IAMs_20	IAMs_20	20 23 17.7	
	comp=Z,598nm,20.4s						
POO	**Poona**	**94.84**	**63**	*e*P	**P**	**20 10 24.8**	**-2.9**
POO				*e*S	**SKSac**	**20 21 01.6**	**-1.8**
POO				IAMs_20	IAMs_20	20 23 23.1	
	comp=Z,593nm,20.2s						
KLR	**Kul'dur**	**95.20**	**8**	LR	LR	20 49 31.6	
	comp=Z,1μm,21.2s,baz=338,slow=33						
KLR	**Kul'dur**	**95.20**	**8**	*e*P	**P**	**20 10 29.1**	**+0.3**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA	**Gaotai**	**95.31**	**33**	*e*P	**P**	**20 10 29.8**	**+0.1**
GTA				pP	pP	20 10 34.0	+0.9
GTA				PP	**PP**	**20 14 18.9**	**-0.1**
GTA				S	**S**	**20 21 45.6**	**+0.2**
GTA				SS	**SS**	**20 28 12.1**	**+1.4**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
GTA				LR	LR		
	comp=Z,4μm,17.8s						
GTA				LR	LR		
	comp=Z,4μm,18.2s						
GTA				LR	LR		
	comp=Z,3μm,19.6s						
GOMU	**GeErMu**	**95.53**	**38**	P	**P**	**20 10 28.8**	**-2.2**
GOMU				pmax	pmax		
	comp=Z,350nm,7.5s						
GOMU				LR	LR		
	comp=Z,5μm,19.7s						
GOMU				LR	LR		
	comp=Z,7μm,19.5s						
GOMU				LR	LR		
	comp=Z,13μm,20.3s						
AKL	**Akola**	**95.72**	**60**	*e*P	**P**	**20 10 29.0**	**-2.7**
AKL				*e*S	**SKSac**	**20 21 06.2**	**-1.9**
AKL				IAMs_20	IAMs_20	20 23 33.7	
	comp=Z,541nm,16.4s						
KAD	**Karad**	**95.86**	**64**	*e*P	**P**	**20 10 29.0**	**-3.4**
KAD				*e*S	**SKSac**	**20 21 06.2**	**-2.7**
KAD				IAMs_20	IAMs_20	20 23 35.7	
	comp=Z,413nm,20.5s						
ALBI	**Allahabad**	**95.93**	**53**	*e*P	**P**	**20 10 31.0**	**-1.5**
ALBI				*e*S	**SKSac**	**20 21 06.2**	**-2.7**
ALBI				IAMs_20	IAMs_20	20 23 33.7	
	comp=Z,481nm,16.4s						
VAR	**Varanasi**	**96.72**	**53**	*e*P	**P**	**20 10 34.0**	**-2.1**
VAR				*e*S	**SKSac**	**20 21 11.1**	**-2.0**
VAR				IAMs_20	IAMs_20	20 23 42.2	
	comp=Z,545nm,20.4s						
XLT	**XiLinHaoTe**	**97.27**	**20**	*e*P	**P**	**20 10 37.3**	**-1.1**
XLT				S	**S**	**20 22 02.8**	**+0.8**
XLT				SS	**SS**	**20 28 34.6**	**-3.2**
XLT				pmax	pmax		
	comp=Z,3.0nm,1.2s						
XLT				LR	LR		
	comp=Z,2μm,15.8s						
XLT				LR	LR		
	comp=Z,990nm,19.8s						
BNX	**BinXian**	**98.03**	**12**	⇓P	Pdif	20 10 42.9	+1.2
BNX				S	**S**	**20 22 06.8**	**-1.3**
BNX				pmax	pmax		
	comp=Z,7.0nm,2.4s						
BNX				pmax	pmax		
	comp=Z,170nm,4.6s						
BNX				LR	LR		
	comp=Z,1μm,20.2s						
BNX				LR	LR		
	comp=Z,2μm,15.2s						
BNX				LR	LR		
	comp=Z,2μm,16.4s						
YSS	**Yuzhno-Sakhali**	**98.16**	**1**	*e*P	P	20 10 34.6	-7.6
YSS				*e*		20 14 43.7	
YSS				*e*PPP	PPP	20 16 45.0	
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
BTO	**Baotou**	**98.35**	**25**	*e*P	**P**	**20 10 42.3**	**-1.1**
BTO				pP	**pP**	**20 10 47.3**	**+0.5**
BTO				sP	**sP**	**20 10 49.3**	**+1.3**
BTO				S	**S**	**20 22 08.1**	**-3.2**
BTO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BTO				pmax	pmax		
	comp=Z,280nm,6.4s						
BTO				LR	LR		
	comp=Z,9μm,16.2s						
BTO				LR	LR		
	comp=Z,10μm,16.4s						
BTO				LR	LR		
	comp=Z,10μm,23.9s						
HHC	**Hu-ho-hao-te**	**98.66**	**24**	*e*P	**P**	**20 10 42.3**	**-2.5**
HHC				S	**S**	**20 22 05.6**	**-8.4**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,97nm,4.7s						
HHC				LR	LR		
	comp=Z,5μm,14.5s						
HHC				LR	LR		
	comp=Z,5μm,15.3s						
HHC				LR	LR		
	comp=Z,5μm,17.6s						
CN2	**Changchun**	**99.56**	**13**	*e*P	**Pdif**	**20 10 45.8**	**-2.7**
CN2				*e*S	**S**	**20 22 12.4**	**-8.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,6.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
BOK	**Bokaro**	**99.64**	**52**	*e*P	**Pdif**	**20 10 47.0**	**-2.2**
BOK				*e*S	**SKSac**	**20 21 25.9**	**-2.1**
BOK				IAMs_20	IAMs_20	20 25 03.9	
	comp=Z,493nm,12.3s						
KNTI	**KHUNTI**	**99.76**	**53**	*e*P	**Pdif**	**20 10 48.4**	**-1.6**
KNTI				*e*S	**SKSac**	**20 21 23.3**	**-5.4**
KNTI				IAMs_20	IAMs_20	20 24 14.8	
	comp=Z,404nm,12.3s						
LZH	**Lanzhou**	**99.84**	**32**	*e*P	**Pdif**	**20 10 50.6**	**+0.4**
LZH				sP	pwP	20 10 59.6	+1.7
LZH				SKS	**SKSac**	**20 21 27.8**	**-1.2**
LZH				S	**S**	**20 22 25.3**	**+1.0**
LZH				SS	**SS**	**20 29 13.3**	**-1.3**
LZH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LZH				LR	LR		
	comp=Z,5μm,20.3s						
LZH				LR	LR		
	comp=Z,3μm,17.9s						
LZH				LR	LR		
	comp=Z,5μm,17.2s						
MNCY	**Minicoy**	**100.62**	**72**	*e*P	**Pdif**	**20 10 51.1**	**-2.7**
SNY	**Shenyang**	**101.08**	**15**	SS	SS	20 29 32.4	+1.7
SNY				pmax	pmax		
	comp=Z,170nm,6.5s						
SNY				LR	LR		
	comp=N,1μm,19.2s						
SNY				LR	LR		
	comp=E,2μm,16.9s						
SNY				LR	LR		
	comp=Z,2μm,15.7s						
KOD	**Kodaikanal**	**102.80**	**68**	*e*P	**Pdif**	**20 11 01.6**	**-2.3**
KOD				*e*S	**SKSac**	**20 21 41.0**	**-3.0**
KOD				IAMs_20	IAMs_20	20 25 34.6	
	comp=Z,499nm,20.5s						
HNS	**HongShan**	**102.82**	**23**	⇑P	**Pdif**	**20 11 04.5**	**+1.3**
HNS				S		20 22 41.5	
HNS				LR	LR		
	comp=Z,4μm,17.2s						
HNS				LR	LR		
	comp=Z,4μm,17.1s						
HNS				LR	LR		
	comp=Z,4μm,16.9s						
TRD	**Trivandrum**	**103.51**	**69**	*e*P	**Pdif**	**20 11 03.2**	**-3.4**
TRD				*e*S	**SKSac**	**20 21 44.0**	**-2.6**
TRD				IAMs_20	IAMs_20	20 25 46.9	
	comp=Z,518nm,20.7s						
TNCH	**TengChong**	**106.28**	**42**	Pdif	**Pdif**	**20 11 14.3**	**-4.8**
TNCH				PP	**PP**	**20 15 44.9**	**+2.5**
TNCH				S		20 23 08.8	
TNCH				SS	**SS**	**20 30 42.4**	**-1.6**
TNCH				AMB	AMB		
	comp=Z,240nm,7.3s						
TNCH				LR	LR		
	comp=Z,1μm,28.5s						
TNCH				LR	LR		
	comp=Z,2μm,27.5s						
TNCH				LR	LR		
	comp=Z,3μm,27.6s						
MALK	**Mahakanadarawa**	**106.30**	**67**	PP	PKiKP	20 15 43.1	+13
TAOE	**Nuku Hiva Isla**	**106.45**	**271**	*e*LQ	LQ	20 41 44.2	
	comp=Z,6μm,41.6s						
TAOE				*e*LR	LR	20 46 18.7	
	comp=Z,1μm,29.4s						
PZH	**PanZhiHua**	**106.81**	**39**	SS	SS	20 30 40.1	-11
PZH				AMB	AMB		
	comp=Z,210nm,6.7s						
PZH				LR	LR		
	comp=N,3μm,21.2s						
PZH				LR	LR		
	comp=E,2μm,19.6s						
PZH				LR	LR		
	comp=Z,2μm,21.1s						
MAJO	**Matsushiro**	**108.38**	**5**	IAMs_20	IAMs_20	21 05 10.4	
	comp=Z,1μm,19.0s						
GYA	**Guiyang**	**109.27**	**35**	PKP	**PKiKP**	**20 15 34.5**	**-1.5**
GYA				SS	SS	20 31 21.1	-2.8
GYA				AMB	AMB		
	comp=Z,62nm,3.9s						
GYA				LR	LR		
	comp=Z,2μm,24.8s						
GYA				LR	LR		
	comp=Z,740nm,16.9s						
GYA				LR	LR		
	comp=Z,2μm,22.1s						
NVL	**N'lazarevskaya**	**111.14**	**165**	*i* PKIKP	**PKiKP**	**20 15 44.5**	**+6.7**
NVL				*e*SS	SS	20 32 04.5	+15
NVL				pmax	pmax		
	comp=Z,15nm,1.1s						
NVL				MLR	MLR		
	comp=Z,1μm,17.0s						
QIZ	**Qiongzhong**	**117.11**	**36**	PKP	**PKPdf**	**20 15 48.5**	**-2.5**
QIZ				SS	SS	20 33 05.8	-2.0
QIZ				AMB	AMB		
	comp=Z,170nm,4.7s						
QIZ				LR	LR		
	comp=Z,2μm,24.7s						
QIZ				LR	LR		
	comp=Z,3μm,22.7s						
QIZ				LR	LR		
	comp=Z,3μm,17.9s						
SYO	**Syowa Base**	**117.61**	**157**	‖ *i* Pdiff	**Pdif**	**20 12 05.9**	**-2.0**
SYO	**Syowa Base**	**117.61**	**157**	‖ *i*pPKPdf	pPKPdf	20 15 53.0	-1.2
PPT2	**Papeete2**	**118.86**	**268**	*e*PP	**PP**	**20 17 10.3**	**-3.0**
	comp=Z,97nm,28.8s						
PPT2	**Papeete2**	**118.86**	**268**	*e*SS	SS	20 33 30.8	-2.1
	comp=Z,3μm,31.0s						
PPT2	**Papeete2**	**118.86**	**268**	*e*LQ	LQ	20 47 12.2	
	comp=Z,4μm,34.0s						
PPT2				*e*LR	LR	20 51 59.4	
	comp=Z,726nm,39.2s						
PPT2				*e*LR	LR	20 52 04.9	
	comp=Z,766nm,26.5s						
LHMI	**Lhok Sumawe**	**120.34**	**57**	IAMs_20	IAMs_20	21 09 22.9	
	comp=Z,1μm,20.0s						
TBI	**Tubuai**	**121.59**	**262**	*e*SS	SS	20 34 10.2	+2.4
	comp=Z,6μm,31.0s						
TBI	**Tubuai**	**121.59**	**262**	*e*LQ	LQ	20 48 14.1	
	comp=Z,15μm,41.2s						
TBI				*e*LR	LR	20 53 21.2	
	comp=Z,6μm,34.0s						
QSPA	**South Pole Qui**	**125.14**	**180**	PKP	**PKiKP**	**20 16 06.1**	**+0.9**
	comp=Z,5.9nm,0.9s,baz=277,slow=1.5,SNR=10						
VNDA	**Vanda**	**136.90**	**186**	PKP	**PKiKP**	**20 16 29.1**	**+0.5**
	comp=Z,5.1nm,1.0s,baz=120,slow=9.2,SNR=5.5						
LUWI	**Luwuk**	**140.72**	**35**	IAMs_20	IAMs_20	21 20 08.9	
	comp=Z,1μm,21.0s						
TNTI	**Ternate**	**141.00**	**27**	IAMs_20	IAMs_20	21 20 42.6	
	comp=Z,431nm,22.0s						
JAGI	**Jajag, Banyuwa**	**141.95**	**53**	IAMs_20	IAMs_20	21 26 58.1	
	comp=Z,962nm,20.0s						
MANU	**Manus Island**	**146.79**	**354**	IAMs_20	IAMs_20	21 21 10.7	
	comp=Z,452nm,21.0s						
SOEI	**Soe**	**148.97**	**40**		**PKPdf**	**20 16 47.0**	**-3.1**
SOEI	**Soe**	**148.97**	**40**	PKP	**PKPdf**	**20 16 52.1**	**+2.1**
KDU	**Kakadu**	**155.29**	**27**	P	PKPab	20 17 16.0	-8.2
DZM	**Mont Dzumac**	**156.27**	**298**	*e*P	**PKPdf**	**20 16 59.1**	**-1.4**
	comp=Z,124nm,24.6s						
DZM	**Mont Dzumac**	**156.27**	**298**	*e*PP	**PP**	**20 21 07.7**	**+1.6**
	comp=Z,234nm,27.2s						
DZM	**Mont Dzumac**	**156.27**	**298**	*e*SS	SS	20 40 52.5	-3.6
	comp=Z,2μm,31.8s						
DZM	**Mont Dzumac**	**156.27**	**298**	*e*LR	LR	21 09 25.7	
	comp=Z,3μm,26.6s						
WRA	**Warramunga Arr**	**162.60**	**31**	PKP	**PKPdf**	**20 17 08.9**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=313,slow=1.5,SNR=7.9						
WRA				PKPab	**PKPab**	**20 17 56.5**	**+0.7**
	comp=Z,3.4nm,1.0s,baz=342,slow=4.3,SNR=6.4						
ASAR	**Alice Springs**	**165.59**	**39**	PKP	**PKPdf**	**20 17 10.6**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=305,slow=0.8,SNR=4.8						
ASAR				PKPab	**PKPab**	**20 18 09.1**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=335,slow=3.9,SNR=14						
STKA	**Stephens Creek**	**176.15**	**30**	PKP	**PKPdf**	**20 17 15.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=50,slow=12,SNR=3.2						

PRE ***14*** *20:07:07.5±0.7, 20°.67S×33°.15E, h5km, ML2.6*
BUL ***14*** *20:07:11.9±1.0, 20°.67S×33°.10E, h17km±33km, MD3.4*
ISC 14 20:07:11.5±2.4, 20°.77S±0°.07×32°.9E±0°.1, h10km, n13, σ2s02/25, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.06**	**207**	*i* P	**Pb**	**20 08 05.2**	**-1.0**
MOPA				*i* S	**Sb**	**20 08 42.9**	**-0.7**
MUSN	**Musina, Limpop**	**3.20**	**241**	*e*P	**Pn**	**20 08 03.4**	**+1.4**
MUSN				*e*S	**Sn**	**20 08 43.3**	**+3.1**
MUSN				IAML		20 08 52.8	
	comp=Z,39nm,0.6s						
MUSN	**Musina, Limpop**	**3.20**	**241**	*i* P	**Pn**	**20 08 05.0**	**+3.1**
MUSN				*i* S	**Sn**	**20 08 42.5**	**+2.3**
BLWY	**Bulawayo**	**4.06**	**278**	*i* P	**Pn**	**20 08 15.7**	**+1.8**
BLWY				*i* S	**Sn**	**20 09 02.5**	**+0.8**
MATP	**Matopo**	**4.13**	**274**	*i* P	**Pn**	**20 08 15.6**	**+0.8**
MATP				*i* S	**Sn**	**20 09 04.2**	**+0.9**
PILG	**Pilgrimsrest,**	**4.61**	**206**	*e*P	**Pn**	**20 08 21.3**	**-0.1**
PILG				*e*S	**Sn**	**20 09 16.1**	**+1.0**
PILG				IAML		20 09 43.7	
	comp=Z,8.9nm,0.7s						
LEPH	**Lephalale, Lim**	**5.63**	**236**	*e*P	**Pn**	**20 08 36.6**	**+1.2**
LEPH				*e*S	**Sn**	**20 09 42.0**	**+1.8**
LEPH				IAML		20 10 07.0	
	comp=Z,18nm,0.7s						
POGA	**Pongola**	**6.63**	**189**	*e*P	**Pn**	**20 08 49.1**	**0.0**
POGA				*e*S	**Sn**	**20 10 02.4**	**-2.4**
POGA				IAML		20 10 49.1	
	comp=Z,4.5nm,0.4s						
LSZ	**Lusaka**	**7.06**	**320**	*e*P	**Pn**	**20 08 54.3**	**-0.8**
LSZ				*e*S	**Sn**	**20 10 11.3**	**-4.3**
LSZ				IAML		20 10 52.4	
	comp=Z,14nm,0.6s						
LBTB	**Lobatse**	**7.94**	**237**	*e*P	**Pn**	**20 09 07.8**	**+0.7**
LBTB				*e*S	**Sn**	**20 10 36.3**	**-0.8**
LBTB				IAML		20 11 27.6	
	comp=Z,5.2nm,0.7s						
LBTB	**Lobatse**	**7.94**	**237**	*i* P	**Pn**	**20 09 08.2**	**+1.1**
LBTB				*i* S	**Sn**	**20 10 33.1**	**-4.1**
BOSA	**Boshof**	**10.45**	**220**	*e*P	**Pn**	**20 09 42.5**	**+1.1**
BOSA				*e*S	**Sn**	**20 11 36.1**	**-2.6**
BOSA				IAML		20 11 41.3	
	comp=Z,0.7nm,0.6s						
BOSA	**Boshof**	**10.45**	**220**	*i* P	**Pn**	**20 09 41.1**	**-0.3**

SJA ***14*** *20:15:14.4±0.6, 23°.85S×67°.11W, h204km±6km, ML3.8, MW3.8*
GUC ***14*** *20:

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.82**	**115**	*eP*	Pn	20 15 38.4	-5.5
SALTA				*eP*		20 15 44.1	
AF01	**San Pedro de A**	**1.32**	**314**		**Pn**	**20 15 47.9**	**+0.6**
AF01				Sn	**Sn**	**20 16 14.7**	**+2.6**
AF01	**San Pedro de A**	**1.32**	**314**	*eP*	**Pn**	**20 15 48.3**	**+1.0**
AF01				*eS*	**Sn**	**20 16 19.0**	**+7.0**
AF01				IAML		20 16 32.5	
	comp=Z,352nm,0.7s						
AF01	**San Pedro de A**	**1.32**	**314⇓**	*eP*	**Pn**	**20 15 48.2**	**+1.0**
AF01				*eS*	**Sn**	**20 16 13.0**	**+1.0**
AF01				IAML		20 16 15.2	
	comp=E,728nm,0.5s						
SLA	**San Lorenzo**	**1.72**	**119**	*eP*	**Pn**	**20 15 51.6**	**+0.9**
SLA				*eS*	**Sn**	**20 16 15.2**	**-3.1**
SLA	**San Lorenzo**	**1.72**	**119**	*eP*	**Pn**	**20 15 51.6**	**+0.9**
SLA				*eS*	**Sn**	**20 16 18.8**	**+0.6**
AZAP	**Zapla**	**1.94**	**101**	*eP*	**Pn**	**20 15 53.1**	**+0.1**
YJA	**Yavi**	**2.27**	**42**	*eP*	**Pn**	**20 15 57.0**	**+0.2**
YJA				*eS*	**Sn**	**20 16 28.5**	**-0.5**
YJA	**Yavi**	**2.27**	**42⇑**	*eP*	**Pn**	**20 15 56.7**	**-0.1**
YJA				*eS*	**Sn**	**20 16 27.9**	**-1.1**
FSA	**Cafayete**	**2.46**	**155**	*eP*	**Pn**	**20 15 59.2**	**+0.6**
GO02	**Mina Guanaco**	**2.56**	**240**		**Pn**	**20 16 00.6**	**+0.7**
GO02				Sn	**Sn**	**20 16 34.3**	**-0.3**
GO02	**Mina Guanaco**	**2.56**	**240**	*eP*	**Pn**	**20 15 59.8**	**0.0**
GO02				*eS*	**Sn**	**20 16 35.0**	**+0.4**
GO02	**Mina Guanaco**	**2.56**	**240⇑**	*eP*	**Pn**	**20 16 00.4**	**+0.6**
GO02				*eS*	**Sn**	**20 16 34.6**	**0.0**
PB09	**IPOC Station P**	**2.83**	**317**		**Pn**	**20 16 02.5**	**-0.4**
PB09				Sn	**Sn**	**20 16 39.8**	**-0.2**
PB09				IAML		20 16 41.8	
	comp=N,359nm,0.3s						
PB09				IAML		20 16 42.0	
	comp=E,347nm,0.5s						
PB09	**IPOC Station P**	**2.83**	**317**	*eP*	**Pn**	**20 16 03.1**	**+0.2**
PB09				*eS*	**Sn**	**20 16 40.4**	**+0.4**
PB09				IAML		20 16 42.8	
	comp=Z,243nm,0.3s						
PB09	**IPOC Station P**	**2.83**	**317⇓**	*eP*	**Pn**	**20 16 03.6**	**+0.7**
PB09				*eS*	**Sn**	**20 16 39.5**	**-0.5**
PB09				IAML		20 16 42.0	
	comp=N,351nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.90**	**89**	*eP*	**Pn**	**20 16 03.5**	**0.0**
PB14	**IPOC Station P**	**3.06**	**255**	Pn	**Pn**	**20 16 05.8**	**+0.1**
PB14				Sn	**Sn**	**20 16 43.2**	**-1.8**
PB14				IAML		20 16 45.7	
	comp=E,286nm,0.3s						
PB14	**IPOC Station P**	**3.06**	**255**	*eP*	**Pn**	**20 16 05.8**	**+0.1**
PB14				*eS*	**Sn**	**20 16 44.4**	**-0.6**
PB14				IAML		20 16 44.9	
	comp=Z,326nm,1.0s						
PB14	**IPOC Station P**	**3.06**	**255⇑**	*eP*	**Pn**	**20 16 05.8**	**+0.1**
PB14				*eS*	**Sn**	**20 16 43.0**	**-2.0**
PB14				IAML		20 16 45.9	
	comp=E,273nm,0.3s						
AHML	**Horco Molle**	**3.33**	**151**	*eP*	**Pn**	**20 16 09.0**	**+0.4**
AHML				*eS*	**Sn**	**20 16 49.8**	**-0.6**
AHML	**Horco Molle**	**3.33**	**151⇑**	*eP*	**Pn**	**20 16 08.8**	**+0.2**
AHML				*eS*	**Sn**	**20 16 49.7**	**-0.7**
AC02	**Maricunga**	**3.44**	**211**	Pn	**Pn**	**20 16 11.2**	**+0.7**
AC02	**Maricunga**	**3.44**	**211**	*eP*	**Pn**	**20 16 10.6**	**+0.1**
AC02				*eS*	**Sn**	**20 16 56.9**	**+3.2**
AC02				IAML		20 17 00.3	
	comp=Z,69nm,0.2s						
AC02	**Maricunga**	**3.44**	**211⇑**	*eP*	**Pn**	**20 16 11.2**	**+0.7**
AC02				*eS*	**Sn**	**20 16 54.1**	**+0.4**
PB01	**IPOC Station P**	**3.56**	**322**		**Pn**	**20 16 11.1**	**-0.4**
PB01				IAML		20 16 53.7	
	comp=N,365nm,0.5s						
PB01				IAML		20 16 55.2	
	comp=E,420nm,0.5s						
PB01	**IPOC Station P**	**3.56**	**322**	*eP*	**Pn**	**20 16 11.3**	**-0.3**
PB01				*eS*	**Sn**	**20 16 54.2**	**-1.4**
PB01				IAML		20 16 59.2	
	comp=Z,223nm,0.2s						
PB01	**IPOC Station P**	**3.56**	**322⇑**	*eP*	**Pn**	**20 16 11.2**	**-0.4**
PB01				*eS*	**Sn**	**20 16 52.7**	**-2.8**
AC01	**Pan de Azucar**	**3.86**	**233**	Pn	**Pn**	**20 16 14.3**	**-0.8**
AC01				Sn	**Sn**	**20 16 59.3**	**-2.8**
AC01				IAML		20 17 00.5	
	comp=N,365nm,0.5s						
AC01	**Pan de Azucar**	**3.86**	**233**	*eP*	**Pn**	**20 16 14.3**	**-0.8**
AC01				*eS*	**Sn**	**20 17 00.4**	**-1.7**
AC01				IAML		20 17 02.8	
	comp=Z,149nm,0.3s						
PB08	**IPOC Station P**	**4.16**	**333**		**Pn**	**20 16 19.4**	**+0.1**
PB08				Sn	**Sn**	**20 17 07.7**	**-1.8**
PB08				IAML		20 17 11.0	
	comp=E,236nm,0.6s						
PB08				IAML		20 17 11.9	
	comp=N,167nm,0.3s						
PB08	**IPOC Station P**	**4.16**	**333**	*eP*	**Pn**	**20 16 19.6**	**+0.3**
PB08				*eS*	**Sn**	**20 17 09.7**	**+0.2**
PB08				IAML		20 17 14.5	
	comp=Z,93nm,0.4s						
TA01	**Diego Aracena**	**4.33**	**319**	Pn	**Pn**	**20 16 20.0**	**-1.1**
TA01				IAML		20 17 11.7	
	comp=N,217nm,0.5s						
TA01				IAML		20 17 12.4	
	comp=E,250nm,0.4s						
TA01	**Diego Aracena**	**4.33**	**319**	*eP*	**Pn**	**20 16 20.6**	**-0.5**
TA01				*eS*	**Sn**	**20 17 10.4**	**-2.4**
TA01				IAML		20 17 20.0	
	comp=Z,95nm,0.5s						
TA02	**Huaiquique**	**4.53**	**322**	Pn	**Pn**	**20 16 22.9**	**-0.8**
CYA	**Choya**	**4.70**	**165**	*eP*	**Pn**	**20 16 26.2**	**+0.5**
CYA				*eS*	Sn	20 17 06.9	-14
VCA	**Vinchina**	**4.93**	**191**	*eP*	**Pn**	**20 16 25.6**	**-3.2**
AC04	**Llanos de Chal**	**5.57**	**219**	Pn	**Pn**	**20 16 34.6**	**-2.3**
LCO	**Las Campanas**	**6.02**	**211**	Pn	**Pn**	**20 16 40.8**	**-2.1**
PB12	**IPOC Station P**	**6.02**	**330**	Pn	**Pn**	**20 16 40.0**	**-2.9**
GO04	**Tololo Observa**	**7.06**	**207**		**Pn**	**20 16 53.8**	**-2.7**
CO03	**El Pedregal**	**7.61**	**204**		**Pn**	**20 17 01.3**	**-2.2**
LPAZ	**La Paz**	**7.61**	**353**	Pn	**Pn**	**20 17 03.8**	**-0.4**
LPAZ	**La Paz**	**7.61**	**353**	P	**Pn**	**20 17 04.0**	**-0.2**
	comp=Z,19nm,0.4s,baz=150,slow=7.2,SNR=74						
LPAZ				S	**Sn**	**20 18 27.3**	**-3.1**
	comp=Z,6.2nm,0.9s,baz=182,slow=5.6,SNR=3.6						
CO06	**Fray Jorge**	**7.85**	**210**	Pn	**Pn**	**20 17 03.7**	**-2.9**
SIV	**San Ignacio**	**9.71**	**37**	P	**Pn**	**20 17 28.3**	**-2.6**
	comp=Z,14nm,0.4s,baz=210,slow=12,SNR=56						
MT08	**Bocatoma Ro**	**9.86**	**194**		**Pn**	**20 17 30.9**	**-2.0**
MT02	**Curacav**	**9.98**	**200**	Pn	**Pn**	**20 17 30.5**	**-3.8**
MT13	**San Alfonso**	**10.20**	**195**		**Pn**	**20 17 34.7**	**-2.7**
LMEL	**Las Melosas**	**10.28**	**194**	Pn	**Pn**	**20 17 34.6**	**-3.8**
MT09	**Talagante**	**10.42**	**198**	Pn	**Pn**	**20 17 36.9**	**-3.2**
BO04	**La Punta**	**10.52**	**196**	Pn	**Pn**	**20 17 39.1**	**-2.3**
BO01	**Tunca**	**11.02**	**197**	Pn	**Pn**	**20 17 46.4**	**-1.4**
AQDB	**Aquidauana**	**11.14**	**75**	Pn	**Pn**	**20 17 49.0**	**-0.4**
PTLB	**Pontes e Lacer**	**11.28**	**43**	Pn	**Pn**	**20 17 48.7**	**-2.6**
VILB	**Vilhena**	**12.71**	**32**		**Pn**	**20 18 08.9**	**-0.6**
BI02	**San Fabin de**	**13.23**	**195**		**Pn**	**20 18 15.8**	**-0.1**
LR05	**Currie**	**16.81**	**193**	P	**P**	**20 18 53.9**	**-4.5**
LR05				IAmb	IAmb	20 19 01.6	
	comp=Z,33nm,1.4s						
PLCA	**Paso Flores**	**17.05**	**189**	P	**P**	**20 18 57.5**	**-3.6**
PLCA	**Paso Flores**	**17.05**	**189**	P	**Pn**	**20 19 02.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=11,slow=12,SNR=6.0						
VAO	**Valinhos**	**18.54**	**91**	P	**P**	**20 19 17.1**	**-0.6**
VAO				IAmb	IAmb	20 19 18.6	
	comp=Z,18nm,1.0s						
BDFB	**Brasilia**	**19.77**	**69**	P	**P**	**20 19 30.5**	**-0.4**
BDFB	**Brasilia**	**19.77**	**69**	P	**P**	**20 19 30.3**	**-0.6**
	comp=Z,10nm,0.5s,baz=240,slow=12,SNR=18						
BELA	**Belgrano 2**	**56.18**	**172**	P	**P**	**20 24 34.8**	**+0.4**
BELA				IAmb	IAmb	20 24 55.8	
	comp=Z,9.7nm,1.3s						
SNAA	**Sanae**	**59.51**	**161**	P	**P**	**20 24 59.2**	**+1.5**
SNAA				IAmb	IAmb	20 25 01.2	
	comp=Z,16nm,1.5s						
SNAA	**Sanae**	**59.51**	**161**	P	**P**	**20 24 59.3**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=306,slow=7.9,SNR=7.7						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**66.32**	**180**	P	**P**	**20 25 44.9**	**+2.1**
QSPA				IAmb	IAmb	20 25 45.3	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**66.32**	**180**	P	**P**	**20 25 44.9**	**+2.1**
	comp=Z,2.0nm,0.5s,baz=323,slow=1.0,SNR=18						
	comp=Z,2.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**20 26 45.1**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=261,slow=5.6,SNR=29						
	comp=Z,1.6nm,0.4s						
PDAR	**Pinedale Array**	**76.98**	**329**	P	**P**	**20 26 48.5**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.6,SNR=3.8						
	comp=Z,0.3nm,0.5s						
ULM	**Lac du Bonnet**	**78.07**	**342**	P	**P**	**20 26 52.9**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=159,slow=5.2,SNR=4.9						
	comp=Z,2.6nm,0.6s						
BOSA	**Boshof**	**80.91**	**117**	P	**P**	**20 27 09.2**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=265,slow=3.7,SNR=12						
	comp=Z,1.9nm,0.4s						
YKA	**Yellowknife Ar**	**93.97**	**340**	P	**P**	**20 28 11.8**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=140,slow=4.5,SNR=10.0						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**128.50**	**205**	PKP	**PKiKP**	**20 34 00.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=137,slow=2.2,SNR=12						
WRA	**Warramunga Arr**	**131.67**	**207**	PKP	**PKiKP**	**20 34 07.5**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=157,slow=1.8,SNR=13						
BVAR	**Borovoye Array**	**136.78**	**37**	PKP	**PKiKP**	**20 34 16.8**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=309,slow=0.9,SNR=2.3						
KURBB	**Kurchatov Arra**	**142.36**	**36**	PKP	**PKiKP**	**20 34 26.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=302,slow=2.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**143.35**	**28**	PKP	PKPbc	20 34 24.8	+0.9
	comp=Z,2.4nm,0.7s,baz=299,slow=5.1,SNR=9.3						
MKAR	**Makanchi Array**	**146.52**	**39**	PKPbc	**PKPbc**	**20 34 33.5**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=316,slow=2.7,SNR=38						
SONM	**Songino Array**	**155.55**	**11**	PKP	**PKPdf**	**20 34 47.4**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=5.7,slow=1.4,SNR=2.4						

IDC ***14*** *20:15:33.8±0.7, 11°.49N×126°.00E, h0km, mb3.8/12, mbtmp3.8/12, Error ellipse: s-maj=43.0km s-min=14.7km az=65.0*
NEIC ***14*** *20:15:39.0±1.4, 11°.32N±0°.07×125°.7E±0°.2, h27km±6km, mb4.4/16, Error ellipse: s-maj=27.0km s-min=8.8km az=75.0*

ISC 14 20:15:38.6±0.7, 11°.43N±0°.09×125°.9E±0°.1, h33km, n39, σ1900/35, mb4.1/18, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	**Lahad Datu**	**9.57**	**230**	Pn	**Pn**	**20 17 52.0**	**-2.1**
SOEI	**Soe**	**21.11**	**184**		**P**	**20 20 21.7**	**+1.0**
MTN	**Manton Dam**	**24.68**	**168**	P	**P**	**20 20 55.7**	**-1.0**
MTN				IAmb	IAmb	20 21 15.3	
	comp=Z,18nm,1.4s						
KULM	**Kulim**	**25.66**	**258**	P	**P**	**20 21 08.1**	**+2.4**
CMAR	**Chiang Mai Arr**	**26.91**	**288**	P	**P**	**20 21 17.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=100,slow=7.2,SNR=7.4						
	comp=Z,0.7nm,0.6s						
KNRA	**Kununurra**	**27.08**	**174**	P	**P**	**20 21 16.1**	**-2.3**
KNRA				IAmb	IAmb	20 21 56.4	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**29.34**	**180**	P	**P**	**20 21 38.8**	**+0.3**
WB0	**Warramunga Arr**	**32.12**	**165**	P	**P**	**20 22 02.9**	**-0.2**
WB0				IAmb	IAmb	20 22 26.1	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**32.27**	**165**	P	**P**	**20 22 04.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=346,slow=8.8,SNR=2.6						
WRA				PcP	**PcP**	**20 24 52.7**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=342,slow=2.5,SNR=1.4						
	comp=Z,0.6nm,0.6s						
WB2	**Warramunga Arr**	**32.27**	**165**	P	**P**	**20 22 03.8**	**-0.7**
WB2				IAmb	IAmb	20 22 22.8	
	comp=Z,8.0nm,1.3s						
WR0	**Warramunga Arr**	**32.34**	**165**	P	**P**	**20 22 05.0**	**-0.1**
AS31	**Alice Springs**	**35.76**	**167**	P	**P**	**20 22 35.3**	**+0.7**
ASAR	**Alice Springs**	**35.76**	**167**	P	**P**	**20 22 33.7**	**-1.0**
ASAR	**Alice Springs**	**35.76**	**167**	P	**P**	**20 22 35.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=351,slow=7.3,SNR=20						
ASAR				PcP	**PcP**	**20 25 02.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=337,slow=3.8,SNR=1.8						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**39.80**	**339**	P	**P**	**20 23 08.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=156,slow=12,SNR=4.1						
	comp=Z,0.1nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**39.99**	**75**	T	T	21 06 18.1	
	baz=264						
H11S1	**WAKE ISLAND Hy**	**40.01**	**75**	T	T	21 06 22.5	
	baz=264						
H11S2	**WAKE ISLAND Hy**	**40.01**	**75**	T	T	21 06 19.6	
	baz=264						
H11N1	**WAKE ISLAND Hy**	**40.29**	**73**	T	T	21 06 42.4	
	baz=265,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**40.30**	**73**	T	T	21 06 34.5	
	baz=265,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.31**	**73**	T	T	21 06 35.4	
	baz=265,slow=75,SNR=16						
FORT	**Forrest**	**42.02**	**177**	P	**P**	**20 23 26.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**44.87**	**190**	P	**P**	**20 23 51.6**	**+1.7**
BBOO	**Buckleboo**	**45.05**	**168**	P	**P**	**20 23 51.7**	**+0.3**
STKA	**Stephens Creek**	**45.62**	**161**	P	**P**	**20 23 56.4**	**+0.4**
STKA				IAmb	IAmb	20 24 20.6	
	comp=Z,9.8nm,1.4s						
STKA	**Stephens Creek**	**45.62**	**161**	P	**P**	**20 23 55.8**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=340,slow=8.6,SNR=7.9						
	comp=Z,1.3nm,0.4s						
MK31	**Makanchi Array**	**50.87**	**322**	P	**P**	**20 24 36.7**	**+0.3**
MK31				IAmb	IAmb	20 24 38.2	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**50.87**	**322**	P	**P**	**20 24 37.0**	**+0.6**
MKAR	**Makanchi Array**	**50.87**	**322**	P	**P**	**20 24 37.0**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=122,slow=8.3,SNR=18						
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**53.42**	**331**	P	**P**	**20 24 55.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=110,slow=8.3,SNR=4.1						
	comp=Z,0.2nm,0.3s						
KURK	**Kurchatov**	**54.89**	**325**	P	**P**	**20 25 06.5**	**+0.6**
KURBB	**Kurchatov Arra**	**54.90**	**325**	P	**P**	**20 25 06.6**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=127,slow=7.1,SNR=26						
	comp=Z,1.5nm,0.6s						
BVAR	**Borovoye Array**	**60.49**	**325**	P	**P**	**20 25 45.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=148,slow=8.7,SNR=3.7						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**65.74**	**319**	P	**P**	**20 26 20.2**	**0.0**
AKTO	**Aktyubinsk**	**67.18**	**320**	P	**P**	**20 26 29.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=48,slow=10,SNR=1.8						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**78.58**	**26**	P	**P**	**20 27 36.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=268,slow=7.6,SNR=4.2						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**20 27 59.6**	**-0.5**
	comp=Z,5.1nm,1.0s,baz=78,slow=4.9,SNR=1.8						
	comp=Z,5.1nm,1.0s						
FINES	**FINESS Array B**	**84.69**	**332**	P	**P**	**20 28 06.8**	**-2.2**
	comp=Z,4.4nm,1.1s,baz=82,slow=3.1,SNR=3.6						
PLCA	**Paso Flores**	**147.42**	**156**	PKPbc	**PKPbc**	**20 35 20.0**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=269,slow=5.7,SNR=4.1						

VIE ***14*** *20:29:32.1±1.0, 51°.52N×16°.02E, h0km, mb2.5/1, ml2.4/2, Error ellipse: s-maj=7.7km s-min=5.9km az=48.0, Suspected Mining induced.*
PRU ***14*** *20:29:33.5, 51°.53N×16°.10E, h0km*

ISC 14 20:29:30.4±0.8, 51°.66N±0°.03×16°.12E±0°.03, h0km, n27, σ0967/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.82**	**172**	*e*Pg	**Pg**	**20 29 46.4**	**+0.2**
KSP				*e*Sg	**Sg**	**20 29 56.7**	**-0.1**
CHVC	**Chvalec**	**1.07**	**182**	*e*PG	**Pg**	**20 29 51.2**	**+0.3**
CHVC				*e*SG	**Sg**	**20 30 04.3**	**-0.5**
	comp=Z,18nm,0.4s						
OSTC	**Ostas**	**1.10**	**177**	*e*PG	**Pg**	**20 29 51.7**	**+0.1**
OSTC				*e*SG	**Sg**	**20 30 05.5**	**-0.4**
	comp=Z,20nm,0.3s						
UPC	**Upice**	**1.15**	**183**	*e*PG	**Pg**	**20 29 52.5**	**0.0**
UPC				*e*SG	**Sg**	**20 30 06.2**	**-1.2**
	comp=Z,23nm,0.3s						
DPC	**Dobruska-Polom**	**1.31**	**174**	*e*PG	**Pg**	**20 29 55.4**	**-0.2**
DPC				*e*SG	**Sg**	**20 30 11.5**	**-1.1**
	comp=Z,11nm,0.4s						
PVCC	**Panska Ves**	**1.50**	**221**	*e*PG	**Pg**	**20 29 59.0**	**-0.1**
PVCC				*e*SG	**Sb**	**20 30 18.4**	**-0.2**
	comp=Z,38nm,0.3s						
BRG	**Berggiesshubel**	**1.58**	**241**	Pg	**Pg**	**20 30 00.6**	**-0.1**
BRG				Sg	**Sg**	**20 30 21.0**	**0.0**
BRG				Amp		20 30 22.1	
	comp=Z,12nm,0.4s						
KRLC	**Kraliky**	**1.64**	**165**	*e*PG	**Pn**	**20 30 00.6**	**+0.1**
KRLC				*e*SG	**Sn**	**20 30 21.2**	**-1.1**
	comp=Z,8.1nm,0.3s						
PRU	**Pruhonice**	**1.95**	**212**	*e*SG	**Sb**	**20 30 31.3**	**-0.3**
CLL	**Collm**	**1.98**	**261**	*i* Pn	**Pn**	**20 30 05.1**	**-0.1**
CLL				*i* Pg	**Pg**	**20 30 08.2**	**-0.2**
CLL				*i* x	x	20 30 12.2	
CLL				*i* Sg	**Sg**	**20 30 33.4**	**-0.6**
	comp=Z,4.0nm,0.2s						
HSKC	**Hora Svate Kat**	**1.99**	**239**	*e*PG	**Pb**	**20 30 07.9**	**+0.3**
HSKC				*e*SG	**Sb**	**20 30 33.3**	**+0.4**
STEB	**Steborice**	**2.02**	**148**	*e*PG	**Pb**	**20 30 08.2**	**+0.2**
MORC	**Moravsky Berou**	**2.09**	**154**	*e*PN	**Pn**	**20 30 06.3**	**-0.4**
MORC				*e*SG	**Sb**	**20 30 35.5**	**-0.2**
OKC	**Ostrava-Krasne**	**2.23**	**144**	*e*SG	**Sb**	**20 30 40.3**	**+0.6**
VRAC	**Vranov**	**2.37**	**172**	*e*PN	**Pn**	**20 30 11.1**	**+0.5**
VRAC				*e*SG	**Sb**	**20 30 43.5**	**-0.3**
KRUC	**Moravsky**	**2.60**	**176**	*e*SG	**Sb**	**20 30 51.7**	**+1.2**
NKC	**Novy Kostel**	**2.73**	**240**	*e*SG	**Sg**	**20 30 58.2**	**+0.3**
	comp=Z,8.0nm,0.3s						
OJC	**Ojcow**	**2.74**	**120**	*e*Pg	**Pg**	**20 30 22.7**	**-0.1**
OJC				*e*Sg	**Sg**	**20 30 59.3**	**+1.0**
KHC	**Kasperske Hory**	**3.01**	**214**	*e*PG	**Pb**	**20 30 26.0**	**+1.1**
KHC				*e*SG	**Sb**	**20 31 03.8**	**+1.7**
MODS	**Modra-Piesok**	**3.37**	**167**	*e*SG	**Sg**	**20 31 18.3**	**-0.4**
BSD	**Bornholm Skovb**	**3.54**	**349**	*e*P	**Pn**	**20 30 27.0**	**+0.5**
BSD				*e*S	**Sn**	**20 31 07.6**	**-1.5**
CONA	**Conrad Observa**	**3.74**	**183**	*e*Pn	**Pn**	**20 30 29.5**	**0.0**
	comp=Z,0.2nm,0.2s						
CONA				*e*Sg	**Sg**	**20 31 30.5**	**0.0**
	comp=Z,1.8nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.28**	**203**	*i* Pn	**Pn**	**20 30 36.3**	**-0.6**
	comp=Z,0.1nm,0.1s						
BIOA				*e*Sg	**Sg**	**20 31 49.1**	**+1.1**
	comp=Z,3.7nm,0.4s						
LUNU	**Lund**	**4.29**	**339**	*e*P	**Pn**	**20 30 37.8**	**+0.9**
LUNU				*e*S	**Sn**	**20 31 27.3**	**-0.3**
BLEU	**Blekinge**	**4.66**	**358**	*e*P	**Pn**	**20 30 42.2**	**+0.2**
BJUU	**Bjuv**	**4.79**	**339**	*e*P	**Pn**	**20 30 43.5**	**-0.3**
BJUU				*e*S	**Sn**	**20 31 38.4**	**-1.5**
DEL	**Delary**	**5.00**	**346**	*e*P	**Pn**	**20 30 46.5**	**-0.1**
DEL				*e*S	**Sn**	**20 31 44.9**	**-0.2**

CNRM ***14*** *20:36:52.4, 34°.52N×5°.47W, h9km, ML3.2*
IGIL ***14*** *20:36:53.0, 34°.60N×5°.50W, h4km, ML2.9*
INMG ***14*** *20:36:53.4±1.3, 34°.59N×5°.50W, h16km, ML2.7, Error ellipse: s-maj=4.6km s-min=1.9km az=75.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Fez (Marr)*
MDD ***14*** *20:36:54.9±0.8, 34°.61N×5°.56W, h24km±6km, mb_Lg2.8/12, Error ellipse: s-maj=4.1km s-min=3.3km az=94.0*
SFS ***14*** *20:36:54.5, 34°.61N×5°.56W, h53km, ML3.3/18, ML3.5/19, MLv3.5/19*

ISC 14 20:36:53.5±1.1, 34°.61N±0°.02×5°.52W±0°.02, h32km±9km, n99, σ1931/145, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHEFC	**Chefchaouen**	**0.51**	**16**	P	**Pb**	**20 37 04.0**	**-0.3**
CHEFC	**Chefchaouen**	**0.51**	**16**	S	**Sn**	**20 37 13.4**	**+1.0**
SMIR	**Smir Dam**	**1.07**	**6**	P	**Pb**	**20 37 14.7**	**+1.2**
LCRM	**LCR**	**1.07**	**149**	P	**Pn**	**20 37 12.2**	**-0.3**
LCRM	**LCR**	**1.07**	**149**	S	**Sb**	**20 37 27.4**	**0.0**
IFR	**Ifrane**	**1.14**	**163**	P	**Pn**	**20 37 13.0**	**-0.4**
IFR				S	**Sn**	**20 37 28.2**	**+0.2**
PVLZ	**Pen de Vlez**	**1.14**	**60**	P	**Pb**	**20 37 16.1**	**+1.4**
RTC	**Rabat Centre**	**1.27**	**241**	P	**Pb**	**20 37 16.4**	**-0.5**
RTC	**Rabat Centre**	**1.27**	**241**	S	**Sb**	**20 37 34.2**	**+1.3**
CEU	**Ceuta**	**1.29**	**5**	P	**Pb**	**20 37 17.4**	**+0.3**
AKLM	**AKL**	**1.37**	**94**	P	**Pb**	**20 37 17.8**	**-0.7**
AKLM	**AKL**	**1.37**	**94**	S	**Sb**	**20 37 38.1**	**+2.4**
TARIF	**Tarifa**	**1.42**	**358**	P	**Pb**	**20 37 18.7**	**-0.6**
PALE	**Palemas**	**1.43**	**65**	P	**Pb**	**20 37 20.0**

PBAR			*i* AML	AML	20 38 37.1	
PBAR			*i* AML	AML	20 38 37.3	
PBAR			*i* AML	AML	20 38 39.7	
PBAR	**Barrancos**	**3.76 341**	P	**Pn**	**20 37 50.0**	**+0.8**
PBAR			S	**Sn**	**20 38 32.6**	**+0.1**
TZRR	**Tazzarine**	**3.82 181**	P	**Pn**	**20 37 50.1**	**0.0**
OUZM	**OUZ**	**3.84 196**	P	**Pn**	**20 37 52.3**	**+1.8**
MESJ	**Messejana**	**3.89 327**	*e*P	**Pn**	**20 37 52.0**	**+1.0**
MESJ			*e*S	**Sn**	**20 38 35.1**	**-0.5**
MESJ			IAML		20 38 38.7	
comp=N,19nm,0.4s						
MESJ	**Messejana**	**3.89 327**	*e*P	**Pn**	**20 37 52.0**	**+1.0**
MESJ			*e*S	**Sn**	**20 38 36.0**	**+0.3**
MESJ			*i* AML	AML	20 38 38.3	
MESJ			*i* AML	AML	20 38 39.0	
MESJ			*i* AML	AML	20 38 39.0	
PBEJ	**Beja**	**3.90 332**	*e*P	**Pn**	**20 37 52.0**	**+0.8**
PBEJ			*e*S	**Sn**	**20 38 35.8**	**0.0**
PBEJ			*i* AML	AML	20 38 39.6	
PBEJ			*i* AML	AML	20 38 40.3	
PBEJ			*i* AML	AML	20 38 40.4	
PTEO	**Sao Teotonio**	**3.91 319**	*e*P	**Pn**	**20 37 52.1**	**+0.8**
PTEO			*e*S	**Sn**	**20 38 36.7**	**+0.5**
PTEO			*i* AML	AML	20 38 37.4	
PTEO			*i* AML	AML	20 38 39.6	
PTEO			*i* AML	AML	20 38 40.4	
TIO	**Tiouine**	**3.96 202**	P	**Pn**	**20 37 52.5**	**+0.3**
TIO	**Tiouine**	**3.96 202**	P	**Pn**	**20 37 53.6**	**+1.4**
EBAD	**Badajoz**	**4.31 344**	P	**Pn**	**20 37 57.4**	**+0.7**
EBAD			S	**Sn**	**20 38 47.7**	**+1.8**
EBAD	**Badajoz**	**4.31 344**	P	**Pn**	**20 37 57.4**	**+0.7**
EBAD			S	**Sn**	**20 38 44.2**	**-1.7**
EBAD			*i* Vmb_Lg		20 38 49.4	
FIGM	**Figuig**	**4.33 124**	P	**Pn**	**20 37 58.5**	**+1.3**
EVO	**Evora**	**4.40 334**	*e*P	**Pn**	**20 37 58.9**	**+0.9**
EVO			*e*S	**Sn**	**20 38 48.1**	**0.0**
EVO			*i* AML	AML	20 38 48.6	
EVO			*i* AML	AML	20 38 48.7	
EVO			*i* AML	AML	20 38 48.8	
EVO	**Evora**	**4.40 334**	P	**Pn**	**20 37 58.6**	**+0.6**
EVO			S	**Sn**	**20 38 47.7**	**-0.4**
PSIM	**Granatula de C**	**4.43 18**	P	**Pn**	**20 37 59.9**	**+1.4**
PSIM			S	**Sn**	**20 38 47.7**	**-1.3**
ZGR	**Zagora**	**4.48 181**	P	**Pn**	**20 38 00.7**	**+1.4**
EAH	**EAH**	**4.52 230**	P	**Pn**	**20 38 00.5**	**+0.9**
PESTR	**Estremoz**	**4.56 339**	*e*P	**Pn**	**20 38 01.7**	**+1.4**
PESTR			*e*S	**Sn**	**20 38 51.9**	**-0.3**
PESTR			*i* AML	AML	20 38 55.1	
PESTR			*i* AML	AML	20 38 59.9	
PESTR			*i* AML	AML	20 39 11.6	
PESTR	**Estremoz**	**4.56 339**	P	**Pn**	**20 38 01.3**	**+1.1**
PESTR			S	**Sn**	**20 38 52.8**	**+0.7**
TTIG	**Tnine Tigouga,**	**4.75 212**	P	**Pn**	**20 38 01.4**	**-1.6**
PMTG	**Montargil**	**4.95 335**	*e*P	**Pn**	**20 38 06.3**	**+0.7**
PMTG			*e*S	**Sn**	**20 39 01.9**	**+0.2**
PMTG			*i* AML	AML	20 39 02.7	
PMTG			*i* AML	AML	20 39 03.0	
PMTG			*i* AML	AML	20 39 06.4	
PAB	**San Pablo**	**5.01 10**	P	**Pn**	**20 38 07.4**	**+0.9**
PAB			S	**Sn**	**20 39 01.0**	**-2.3**
PAB			*i* Vmb_Lg		20 39 04.7	
PMRV	**Marv??o**	**5.04 343**	*e*P	**Pn**	**20 38 08.2**	**+1.4**
PMRV			*e*S	**Sn**	**20 39 04.3**	**+0.5**
PMRV			*i* AML	AML	20 39 10.5	
PMRV			*i* AML	AML	20 39 21.1	
PMRV			*i* AML	AML	20 39 24.9	
PMAFR	**Mafra**	**5.28 326**	*e*P	**Pn**	**20 38 12.9**	**+2.7**
PMAFR			*e*S	**Sn**	**20 39 10.5**	**+0.5**
PMAFR			*i* AML	AML	20 39 15.8	
PMAFR			*i* AML	AML	20 39 19.8	
PMAFR			*i* AML	AML	20 39 23.8	
PCBR	**Castelo Branco**	**5.45 344**	*e*P	**Pn**	**20 38 13.8**	**+1.4**
PCBR			*e*S	**Sn**	**20 39 12.3**	**-1.6**
PCBR			*i* AML	AML	20 39 14.1	
PCBR			*i* AML	AML	20 39 14.2	
PCBR			*i* AML	AML	20 39 14.4	
PSBE	**So Bento**	**5.55 333**	*e*P	**Pn**	**20 38 15.1**	**+1.2**
UCM	**Universidad Co**	**5.96 17**	P	**Pn**	**20 38 20.7**	**+1.2**
MTE	**Manteigas**	**6.00 345**	*e*P	**Pn**	**20 38 21.4**	**+1.3**
MTE			*e*S	**Sn**	**20 39 26.7**	**-0.9**
MTE			*i* AML	AML	20 39 27.7	
MTE			*i* AML	AML	20 39 50.7	
MTE			*i* AML	AML	20 39 59.9	
GUD	**Guadarrama**	**6.12 10**	P	**Pn**	**20 38 22.9**	**+1.2**
PVIS	**Viseu**	**6.38 343**	*e*P	**Pn**	**20 38 26.5**	**+1.2**
MVO	**Moncorvo**	**6.65 350**	*e*P	**Pn**	**20 38 30.4**	**+1.4**
MVO			*e*S	**Sn**	**20 39 42.9**	**-0.8**
MVO			*i* AML	AML	20 39 44.0	
MVO			*i* AML	AML	20 40 03.8	
MVO			*i* AML	AML	20 40 05.4	
ETOR	**Torete**	**6.77 23**	P	**Pn**	**20 38 31.6**	**+0.8**
ETOR			S	**Sn**	**20 39 42.6**	**-4.2**
PVRL	**Vila Real**	**6.88 346**	*e*P	**Pn**	**20 38 33.0**	**+1.0**
PVRL			*e*S	**Sn**	**20 39 48.7**	**-0.5**
PVRL			*i* AML	AML	20 39 49.9	
PVRL			*i* AML	AML	20 39 51.3	
PVRL			*i* AML	AML	20 39 51.4	
POLO	**Lamas de Olo**	**6.99 346**	*e*P	**Pn**	**20 38 34.6**	**+1.0**
POLO			*e*S	**Sn**	**20 39 49.8**	**-2.2**
POLO			*i* AML	AML	20 39 57.8	
POLO			*i* AML	AML	20 40 01.8	
PBRG	**Braganca**	**7.25 353**	*e*P	**Pn**	**20 38 38.3**	**+1.1**
PCAB	**Cabril**	**7.36 345**	*e*P	**Pn**	**20 38 40.0**	**+1.3**
ELOB	**Lobios**	**7.51 345**	P	**Pn**	**20 38 42.2**	**+1.3**
ELOB			S	**Sn**	**20 39 59.2**	**-5.7**
PGAV	**Gavieira, Arco**	**7.65 344**	*e*P	**Pn**	**20 38 44.3**	**+1.5**

*BGR **14** 20:43:19.9, 34˚.17N×37˚.00W, h10km, mb4.7*
*IDC **14** 20:43:30.8±0.5, 35˚.23N×36˚.00W, h0km, mb4.4/34, mbtmp4.4/34, MS4.5/37, Error ellipse: s-maj=13.3km s-min=11.1km az=156.0*
*MOS **14** 20:43:30.8±0.9, 35˚.26N×36˚.01W, h10km, mb5.0/85, Error ellipse: s-maj=8.9km s-min=3.5km az=136.3*
*BJI **14** 20:43:30.0, 35˚.30N×36˚.00W, h5km, mb4.5/14, Ms5.2/3, Ms7 5.1/3*
*NEIC **14** 20:43:32.9±1.7, 35˚.34N±0˚.05×35˚.91W±0˚.10, h10km±1km, mb5.0/221, Error ellipse: s-maj=14.3km s-min=6.5km az=294.0*
*GCMT **14** 20:43:34.9±0.2, 35˚.27N±0˚.02×36˚.08W±0˚.02, h24km±1km, MW5.2/125, Moment Tensor Solution. s34,c39; s125,c178; Duration: 1ŝ0 Moment tensor: Scale 10^17 Nm; Mrr-0.07±.04; Mθθ0.47±.03; Mφφ-0.39±.03; Mrθ0.00±.08; Mθφ0.82±.03; Mφr-0.00±.06; Best double couple: M0:0.93000×10^17 NP1:φs14.00000°, δ90.00000°, λ-180.00000°. NP2:φs284.00000°, δ90.00000°, λ0.00000°. Principal axes: T 0.9660, Plg0.0000°, Azm329.0000°; N -0.0720, Plg90.0000°, Azm60.0000°; P -0.8940, Plg0.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **14** 20:43:35.0±5.8, 35˚.54N×36˚.19W, h10km, M4.7, mb4.9, #DIST_RANGE: DISTANT*

ISC 14 20:43:33.5±0.3, 35˚.30N±0˚.05×35˚.95W±0˚.05, h14km, n556, σ1ŝ26/470, mb4.9/261, MS4.6/40, 52C-20D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**8.74**	**71**		**Pn**	**20 45 36.4**	**-3.1**
CMLA	**Cha da Macela**	**8.74**	**71**	P	**Pn**	**20 45 36.9**	**-0.5**
PMOZ	**Porto Moniz, M**	**15.73**	**94**	*e*P	**P**	**20 47 20.4**	**+1.7**
PMOZ				*i* Amb		20 47 34.0	
406nm,1.4s							
MACI	**Morro de la Ar**	**17.95**	**108**		**Pn**	**20 47 41.8**	**-1.0**
MACI				IAmb	IAmb	20 47 47.8	
comp=Z,232nm,1.4s							
DRLN	**Deer Lake**	**21.09**	**318**	P	**P**	**20 48 16.4**	**-0.9**
DRLN				IAmb	IAmb	20 48 21.0	
comp=Z,86nm,1.1s							
GBN	**Guysborough**	**21.86**	**305**	P	**P**	**20 48 25.1**	**-0.5**
PFVI	**Vila Bisbo**	**21.93**	**77**	*e*P	**P**	**20 48 29.0**	**+2.5**
PFVI				*i* Amb		20 48 38.4	
comp=Z,253nm,1.5s							
PSBE	**So Bento**	**21.94**	**71**	*e*P	**P**	**20 48 28.8**	**+2.2**
PSBE				*i* Amb		20 48 36.9	
comp=Z,92nm,2.0s							
PTEO	**Sao Teotonio**	**21.99**	**76**	*e*P	**P**	**20 48 30.0**	**+2.9**
PTEO				*i* Amb		20 48 38.3	
comp=Z,154nm,1.9s							
MORF	**Marmelete**	**22.06**	**77**	*e*P	**P**	**20 48 31.4**	**+3.5**
MORF				*i* Amb		20 48 39.1	
comp=Z,98nm,1.7s							
MORF	**Marmelete**	**22.06**	**77**	*e*P	**P**	**20 48 32.1**	**+4.2**
PCAS	**Casmilo, Conde**	**22.19**	**69**	*e*P	**P**	**20 48 30.3**	**+1.0**
PCAS				*i* Amb		20 48 31.2	
comp=Z,85nm,1.5s							
COI	**Coimbra**	**22.27**	**69**	P	**P**	**20 48 31.2**	**+1.2**
COI				IAmb	IAmb	20 48 33.3	
comp=Z,76nm,1.1s							
COI	**Coimbra**	**22.27**	**69**	*e*P	**P**	**20 48 31.8**	**+1.8**
COI				*i* Amb		20 48 33.0	
comp=Z,92nm,1.1s							
COI	**Coimbra**	**22.27**	**69**	P	**P**	**20 48 31.3**	**+1.2**
COI				pmax	pmax		
comp=Z,76nm,1.2s							
PMTG	**Montargil**	**22.37**	**72**	*e*P	**P**	**20 48 31.9**	**+0.7**
PMTG				*i* Amb		20 48 46.1	
comp=Z,83nm,1.5s							
MESJ	**Messejana**	**22.38**	**75**	*e*P	**P**	**20 48 34.0**	**+2.7**
MESJ				*i* Amb		20 48 46.1	
comp=Z,73nm,1.5s							
EVO	**Evora**	**22.53**	**74**	*e*P	**P**	**20 48 33.6**	**+0.7**
EVO				*i* Amb		20 48 56.6	
comp=Z,61nm,1.9s							
PCVE	**Castro Verde**	**22.53**	**76**	*e*P	**P**	**20 48 35.9**	**+3.0**
PCVE				*i* Amb		20 48 44.3	
comp=Z,80nm,1.6s							
PGAV	**Gavieira, Arco**	**22.56**	**65**	*e*P	**P**	**20 48 39.9**	**+6.6**
PGAV				*i* Amb		20 48 54.8	
comp=Z,97nm,2.0s							
PVIS	**Viseu**	**22.70**	**68**	*e*P	**P**	**20 48 36.0**	**+1.2**
PCAB	**Cabril**	**22.71**	**65**	*e*P	**P**	**20 48 36.2**	**+1.4**
PCAB				*i* Amb		20 48 56.4	
comp=Z,90nm,1.7s							
PVAQ	**Vaqueiros**	**22.80**	**76**	P	**P**	**20 48 33.8**	**-2.0**
PVAQ				IAmb	IAmb	20 48 55.0	
comp=Z,78nm,1.4s							
PVAQ	**Vaqueiros**	**22.80**	**76**	*e*P	**P**	**20 48 39.9**	**+4.1**
PVAQ				*i* Amb		20 48 55.2	
comp=Z,99nm,1.5s							
POLO	**Lamas de Olo**	**22.84**	**66**	*e*P	**P**	**20 48 37.4**	**+1.2**
POLO				*i* Amb		20 48 38.8	
comp=Z,27nm,1.4s							
PESTR	**Estremoz**	**22.86**	**73**	*e*P	**P**	**20 48 40.5**	**+4.1**
PESTR				*i* Amb		20 48 43.4	
comp=Z,52nm,1.8s							
PVRL	**Vila Real**	**22.89**	**66**	*e*P	**P**	**20 48 37.7**	**+1.0**
PVRL				*i* Amb		20 48 41.1	
comp=Z,71nm,1.5s							
MTE	**Manteigas**	**22.95**	**69**	P	**P**	**20 48 35.9**	**-1.4**
MTE				IAmb	IAmb	20 48 39.1	
comp=Z,60nm,1.2s							
MTE	**Manteigas**	**22.95**	**69**	*e*P	**P**	**20 48 38.0**	**+0.7**
MTE				*i* Amb		20 48 45.3	
comp=Z,86nm,1.8s							
PCBR	**Castelo Branco**	**22.97**	**70**	*e*P	**P**	**20 48 38.8**	**+1.4**
PCBR				*i* Amb		20 48 45.4	
comp=Z,52nm,1.8s							
PMRV	**Marv??o**	**23.02**	**71**	*e*P	**P**	**20 48 39.4**	**+1.3**
PMRV				*i* Amb		20 48 40.6	
comp=Z,54nm,1.5s							
SACV	**Santiago Islan**	**23.08**	**148**	P	**P**	**20 48 37.9**	**-0.9**
PBAR	**Barrancos**	**23.30**	**74**	*e*P	**P**	**20 48 45.5**	**+4.6**
PBAR				*i* Amb		20 49 09.4	
comp=Z,35nm,1.6s							
MVO	**Moncorvo**	**23.39**	**67**	*e*P	**P**	**20 48 42.6**	**+0.7**
MVO				*i* Amb		20 48 53.2	
comp=Z,92nm,1.7s							
AVE	**Averroes**	**23.62**	**87**	P	**P**	**20 48 40.6**	**-3.6**
AVE				IAmb	IAmb	20 48 49.2	
comp=Z,57nm,0.9s							
PBRG	**Braganca**	**23.67**	**65**	*e*P	**P**	**20 48 45.6**	**+1.1**
PBRG				*i* Amb		20 48 48.1	
comp=Z,45nm,1.8s							
LMN	**Caledonia Moun**	**24.20**	**305**	P	**P**	**20 48 45.5**	**-4.0**
PAB	**San Pablo**	**25.38**	**71**	P	**P**	**20 49 00.1**	**-0.2**
PAB				IAmb	IAmb	20 49 03.2	
comp=Z,30nm,1.0s							
PAB	**San Pablo**	**25.38**	**71**	P	**P**	**20 49 01.1**	**+0.8**
ESDC	**Sonseca Array**	**25.67**	**71**	P	**P**	**20 49 02.4**	**-0.6**
ESDC	**Sonseca Array**	**25.67**	**71**	P	**P**	**20 49 03.0**	**0.0**
comp=Z,8.5nm,1.0s,baz=273,slow=8.2,SNR=26							
ESDC				LR	LR	20 56 39.5	
comp=Z,700nm,19.9s,baz=216,slow=31							
comp=Z,8.5nm,1.0s							
ESBB	**Sonseca Array**	**25.67**	**71**	P	**P**	**20 49 02.8**	**-0.2**
MDT	**Midelt**	**26.03**	**86**	LR	LR	20 57 31.1	
comp=Z,816nm,19.5s,baz=326,slow=32							
F64A	**Sherman**	**26.61**	**303**	P	**P**	**20 49 08.5**	**-2.7**
ICQ	**Pointe Anglais**	**26.91**	**312**	P	**P**	**20 49 11.3**	**-2.7**
ICQ				IAmb	IAmb	20 49 19.8	
comp=Z,35nm,1.1s							
BBTS	**Babate**	**26.96**	**135**	LR	LR	20 57 51.9	
comp=Z,452nm,18.6s,baz=229,slow=32							
IVI	**Ivigtut**	**27.07**	**347**	*e*P	**P**	**20 49 16.0**	**+0.7**
IVI				IAmb	IAmb	20 49 27.4	
comp=Z,12nm,1.4s							
QUIF	**Quistinic**	**27.34**	**52**	*e*P	**P**	**20 49 20.9**	**+3.1**
QUIF				pmax	pmax		
comp=Z,40nm,1.4s							
SGMF	**Saint Gilles**	**27.82**	**52**	*e*P	**P**	**20 49 22.6**	**+0.4**
SGMF				pmax	pmax		
comp=Z,100nm,1.7s							
SJPF	**Ste Jean**	**27.86**	**63**	*e*P	**P**	**20 49 22.7**	**+0.1**
SJPF				pmax	pmax		
comp=Z,23nm,1.2s							
ETSF	**Etsaut**	**28.33**	**64**	*e*P	**P**	**20 49 27.3**	**+0.4**
ETSF				pmax	pmax		
comp=Z,14nm,1.1s							
SCHQ	**Schefferville**	**28.91**	**322**	P	**P**	**20 49 30.9**	**-0.9**
SCHQ	**Schefferville**	**28.91**	**322**	P	**P**	**20 49 31.1**	**-0.8**
comp=Z,2.5nm,0.6s,baz=106,slow=8.2,SNR=9.7							
SCHQ				LR	LR	20 59 42.2	
comp=Z,699nm,20.6s,baz=97,slow=34							
comp=Z,2.5nm,0.6s							
GRR	**Gorron**	**28.95**	**52**	*e*P	**P**	**20 49 32.8**	**+0.5**
GRR				pmax	pmax		
comp=Z,22nm,1.0s							
EPF	**Esparros**	**29.00**	**64**	*e*P	**P**	**20 49 33.4**	**+0.6**
EPF				pmax	pmax		
comp=Z,18nm,1.3s							
MFF	**Saint Martin d**	**29.06**	**56**	*e*P	**P**	**20 49 33.7**	**+0.5**
MFF				pmax	pmax		
comp=Z,34nm,1.2s							
LFF	**La Frestale**	**29.44**	**60**	*e*P	**P**	**20 49 36.6**	**0.0**
LFF				pmax	pmax		
comp=Z,19nm,1.0s							
LDF	**La Druitiere**	**29.48**	**52**	*e*P	**P**	**20 49 38.3**	**+1.4**
LDF				pmax	pmax		
comp=Z,18nm,1.1s							
RJF	**Les Rejaudoux**	**30.03**	**59**	*e*P	**P**	**20 49 41.7**	**-0.1**
RJF				pmax	pmax		
comp=Z,38nm,1.8s							
ACCN	**Adirondack Com**	**30.07**	**297**	P	**P**	**20 49 42.1**	**-0.1**
ACCN				IAmb	IAmb	20 49 44.6	
comp=Z,37nm,1.2s							
FRNY	**Flat Rock**	**30.11**	**300**	P	**P**	**20 49 42.0**	**-0.5**
EKA	**Eskdalemuir Ar**	**30.11**	**38**	P	**P**	**20 49 41.7**	**-0.7**
comp=Z,4.2nm,0.9s,baz=236,slow=9.0,SNR=5.6							
comp=Z,4.2nm,0.9s							
CAF	**Calviac**	**30.38**	**60**	*e*P	**P**	**20 49 44.9**	**0.0**
CAF				pmax	pmax		
comp=Z,13nm,1.1s							
MTLF	**Montolieu**	**30.38**	**63**	*e*P	**P**	**20 49 45.2**	**+0.2**
MTLF				pmax	pmax		
comp=Z,15nm,0.9s							
NUUK	**Nuuk**	**30.47**	**346**	*i* P	P	20 49 53.0	+7.5
TCF	**Toulx Ste Croi**	**30.62**	**57**	*e*P	**P**	**20 49 47.5**	**+0.4**
TCF				pmax	pmax		
comp=Z,30nm,0.9s							
BORG	**Borgarnes**	**30.77**	**12**	LR	LR	20 58 57.3	
comp=Z,654nm,20.2s,baz=169,slow=30							
CLF	**Chambon-Foret**	**30.92**	**54**	P	**P**	**20 49 50.2**	**+0.6**
TRQ	**Mont Tremblant**	**30.93**	**303**	P	**P**	**20 49 48.5**	**-1.4**
TRQ				IAmb	IAmb	20 49 58.8	
comp=Z,14nm,0.8s							
BGF	**Bois d'Agland**	**31.09**	**57**	*e*P	**P**	**20 49 51.4**	**+0.2**
BGF				pmax	pmax		
comp=Z,14nm,0.9s							
AVF	**Avril sur Loir**	**31.47**	**56**	*e*P	**P**	**20 49 56.8**	**+2.3**
AVF				pmax	pmax		
comp=Z,4.0nm,0.9s							
WUPA	**West Chester U**	**31.57**	**290**		**P**	**20 49 55.0**	**-0.5**
SSF	**Saint Saulge**	**31.61**	**56**	*e*P	**P**	**20 49 55.8**	**+0.1**
SSF				pmax	pmax		
comp=Z,17nm,1.5s							
SJG	**San Juan**	**31.78**	**245**	LR	LR	21 00 36.0	
comp=Z,268nm,21.9s,baz=79,slow=32							
SMF	**Signal de Mont**	**31.79**	**57**	*e*P	**P**	**20 49 57.8**	**+0.5**
SMF				pmax	pmax		
comp=Z,35nm,1.4s							
DY2G	**Dye2**	**31.79**	**352**	*i* P	**P**	**20 49 57.3**	**-0.1**
DY2G				IAmb	IAmb	20 50 07.2	
comp=Z,11nm,0.7s							
LOR	**Lormes**	**31.87**	**56**	*e*P	**P**	**20 50 00.5**	**+2.4**
LOR				pmax	pmax		
comp=Z,14nm,1.4s							
SSB	**Saint Sauveur**	**32.15**	**59**	P	**P**	**20 50 00.4**	**-0.2**
SSB	**Saint Sauveur**	**32.15**	**59**	P	**P**	**20 50 00.4**	**-0.2**
SSB				pmax	pmax		
comp=Z,9.0nm,0.9s							
VIVF	**Saint-Julien-l**	**32.22**	**60**	*e*P	**P**	**20 50 02.3**	**+1.1**
VIVF				pmax	pmax		
comp=Z,15nm,1.2s							
PECO	**Prince Edward**	**32.50**	**298**	P	**P**	**20 50 02.8**	**-0.7**
PECO				IAmb	IAmb	20 50 04.5	
comp=Z,18nm,0.6s							
BAIF	**Baives**	**32.56**	**51**	*e*P	**P**	**20 50 04.2**	**+0.1**
BAIF				pmax	pmax		
comp=Z,24nm,1.2s							
UCC	**Uccle**	**32.81**	**49**	P	**P**	**20 50 06.4**	**+0.2**
UCC	**Uccle**	**32.81**	**49**	P	**P**	**20 50 06.4**	**+0.2**
UCC				pmax	pmax		
comp=Z,3.0nm,0.8s							
DOU	**Dourbes**	**32.81**	**51**	*d*P	**P**	**20 50 07.1**	**+0.9**
SFJD	**Kangerlussuaq**	**32.86**	**349**	P	**P**	**20 50 06.4**	**0.0**
SFJD				IAmb	IAmb	20 50 15.7	
comp=Z,31nm,1.4s							
SFJD	**Kangerlussuaq**	**32.86**	**349**	LR	LR	21 00 40.8	
comp=Z,1μm,18.9s,baz=159,slow=31							
SFJD	**Kangerlussuaq**	**32.86**	**349**	P	**P**	**20 50 06.4**	**0.0**
SFJD				pmax	pmax		
comp=Z,31nm,1.4s							
SFJD	**Kangerlussuaq**	**32.86**	**349**	*i* P	**P**	**20 50 09.3**	**+2.9**
SFJD				IAmb	IAmb	20 50 15.6	
comp=Z,8.4nm,1.2s							
GIVF	**Givet**	**32.96**	**51**	*e*P	**P**	**20 50 07.6**	**+0.1**
GIVF				pmax	pmax		
comp=Z,28nm,1.3s							
ORIF	**Oris-en-Rattie**	**33.08**	**60**	*e*P	**P**	**20 50 10.1**	**+1.3**
ORIF				pmax	pmax		
comp=Z,6.0nm,0.9s							
VLDQ	**Val d'Or**	**33.12**	**306**	P	**P**	**20 50 09.4**	**+0.5**
VLDQ				IAmb	IAmb	20 50 11.6	
comp=Z,13nm,0.9s							
BGES	**Gesves**	**33.18**	**50**	*d*P	**P**	**20 50 10.1**	**+0.6**
comp=Z,6.3nm,1.0s							
RCHB	**Rochefort**	**33.23**	**51**	*d*P	**P**	**20 50 10.0**	**+0.1**
CABF	**La Chapelle**	**33.32**	**57**	*e*P	**P**	**20 50 11.7**	**+0.8**
CABF				pmax	pmax		
comp=Z,31nm,1.3s							
R58B	**Mineral**	**33.55**	**287**	P	**P**	**20 50 11.7**	**-1.1**
R58B				IAmb	IAmb	20 51 18.2	
comp=Z,15nm,0.8s							
HAU	**Haudompre**	**33.63**	**55**	*e*P	**P**	**20 50 14.8**	**+1.3**
HAU				pmax	pmax		
comp=Z,23nm,1.4s							
BNI	**Bardonecchia**	**33.65**	**60**	P	**P**	**20 50 15.2**	**+1.4**
BNI				IAmb	IAmb	20 50 21.0	
comp=Z,41nm,1.8s							
BNI	**Bardonecchia**	**33.65**	**60**	P	**P**	**20 50 15.2**	**+1.4**
BNI				pmax	pmax		
comp=Z,41nm,1.8s							
LPL	**La Plagne**	**33.71**	**59**	*e*P	**P**	**20 50 15.6**	**+1.2**
LPL				pmax	pmax		
comp=Z,9.0nm,1.0s							
MBDF	**Montbardon**	**33.71**	**61**	*e*P	**P**	**20 50 15.6**	**+1.3**
MBDF				pmax	pmax		
comp=Z,11nm,1.0s							
LPG	**La Plagne**	**33.72**	**59**	*e*P	**P**	**20 50 15.8**	**+1.2**
LPG				pmax	pmax		
comp=Z,8.0nm,1.0s							
WLF	**Walferdange**	**33.73**	**52**	P	**P**	**20 50 14.8**	**+0.5**
WLF				IAmb	IAmb	20 50 24.9	
comp=Z,34nm,1.5s							
WLF	**Walferdange**	**33.73**	**52**	*d*P	**P**	**20 50 14.7**	**+0.4**
WLF	**Walferdange**	**33.73**	**52**	P	**P**	**20 50 14.8**	**+0.5**
WLF				pmax	pmax		
comp=Z,34nm,1.5s							
MDP	**Montagnes des**	**33.78**	**211**	LR	LR	21 00 24.9	
comp=Z,583nm,21.0s,baz=78,slow=30							
ICESG	**Greenland Ices**	**33.90**	**358**	*i* P	**P**	**20 50 16.0**	**+0.1**
ICESG				IAmb	IAmb	20 50 25.1	
comp=Z,26nm,0.8s							
ISO	**Isola**	**33.90**	**62**	P	**P**	**20 50 17.1**	**+1.2**
ISO				pmax	pmax		
comp=Z,14nm,1.1s							
HINF	**Hinteralfeld**	**33.95**	**55**	*e*P	**P**	**20 50 17.6**	**+1.3**
HINF				pmax	pmax		
comp=Z,14nm,1.4s							
ECH	**Echery**	**34.20**	**54**	P	**P**	**20 50 19.3**	**+0.9**
CDF	**Champ du Feu**	**34.30**	**54**	*e*P	**P**	**20 50 19.3**	**0.0**
CDF				pmax	pmax		
comp=Z,27nm,1.4s							
BUG	**Bochum--Univer**	**34.74**	**49**	P	**P**	**20 50 24.0**	**+1.1**
BUG				pmax	pmax		
comp=Z,14nm,1.1s							
BUG	**Bochum--Univer**	**34.74**	**49**	*e*P	**P**	**20 50 24.0**	**+1.1**
comp=Z,70nm,1.8s,baz=264,slow=8.5							
BFO	**Black Forest**	**34.99**	**54**	P	**P**	**20 50 25.3**	**+0.1**
BFO				IAmb	IAmb	20 50 27.8	
comp=Z,36nm,1.7s							
BFO	**Black Forest**	**34.99**	**54**	P	**P**	**20 50 25.3**	**+0.1**
BFO				pmax	pmax		
comp=Z,36nm,1.7s							
BFO	**Black Forest**	**34.99**	**54**	*e*P	**P**	**20 50 25.7**	**+0.5**
comp=Z,38nm,1.7s,baz=264,slow=8.5							
IBBN	**Ibbenburen**	**35.20**	**47**	*i* P	**P**	**20 50 26.2**	**-0.7**
IBBN	**Ibbenburen**	**35.20**	**47**	*e*P	**P**	**20 50 27.9**	**+1.0**
comp=Z,140nm,2.1s,baz=264,slow=8.5							
TNS	**Taunus Mts**	**35.28**	**51**	P	**P**	**20 50 29

comp=Z,27nm,1.3s
GRA1 Grafenberg Arr 37.00 52 IAmb IAmb 20 50 55.9
comp=Z,29nm,1.3s
GRF Grafenberg Arr 37.00 52 P **P 20 50 43.6 +1.2**
GRF pmax pmax
comp=Z,21nm,1.3s
BSEG Bad Segeberg 37.03 45 P **P 20 50 43.7 +1.2**
BSEG pmax pmax
comp=Z,45nm,1.0s
BSEG Bad Segeberg 37.03 45 *i* P **P 20 50 42.5 0.0**
BSEG Bad Segeberg 37.03 45 *eP* **P 20 50 43.1 +0.5**
comp=Z,44nm,1.0s,baz=264,slow=8.5
WATA Walderalm 37.11 56 *ep*P **P 20 50 44.8 +1.2**
comp=Z,15nm,1.5s
WTTA Wattenberg 37.15 56 *i* pP **P 20 50 44.6 +0.7**
comp=Z,7.1nm,0.8s
WTTA Wattenberg 37.15 56 P **P 20 50 45.0 +1.0**
WTTA pmax pmax
comp=Z,11nm,0.9s
GRB1 Grafenberg Arr 37.26 53 P **P 20 50 45.6 +1.0**
GRB1 pmax pmax
comp=Z,13nm,1.1s
FLTG Flechtingen 37.31 48 *eP* **P 20 50 45.6 +0.6**
comp=Z,13nm,0.8s,baz=264,slow=8.5
MOX Moxa 37.34 51 P **P 20 50 45.7 +0.4**
MOX pmax pmax
comp=Z,16nm,1.4s
MOX Moxa 37.34 51 *eP* **P 20 50 46.2 +0.9**
comp=Z,38nm,1.7s,baz=264,slow=8.5
SUMG Summit 37.37 359 P **P 20 50 45.2 -0.5**
SUMG IAmb IAmb 20 50 57.0
comp=Z,29nm,0.9s
SUMG Summit 37.37 359 P **P 20 50 45.2 -0.5**
SUMG pmax pmax
comp=Z,29nm,0.9s
SUMG Summit 37.37 359 *i* P **P 20 50 45.5 -0.2**
SUMG IAmb IAmb 20 50 56.8
comp=Z,20nm,0.9s
GORT1 Trebel 37.45 47 *eP* **P 20 50 47.6 +1.5**
comp=Z,89nm,1.8s,baz=264,slow=8.5
NEUB Neuenburg 37.50 50 *eP* **P 20 50 47.5 +0.9**
comp=Z,8.4nm,1.1s,baz=264,slow=8.5
MANZ Manzenberg 37.60 52 *eP* **P 20 50 48.6 +1.1**
comp=Z,9.3nm,2.0s,baz=264,slow=8.5
ROTZ Rotzenmuhle 37.65 52 *eP* **P 20 50 48.6 +0.7**
comp=Z,8.2nm,2.0s,baz=264,slow=8.5
PLN Plauen 37.67 51 *eP* **P 20 50 48.7 +0.6**
comp=Z,2.7nm,1.0s,baz=264,slow=8.5
ABTA Abfaltersbach 37.75 57 *ep*P **P 20 50 49.5 +0.6**
comp=Z,14nm,1.3s
NKC Novy Kostel 37.83 52 AMS AMS 21 06 00.0
comp=Z,900nm,16.0s
NKC Novy Kostel 37.83 52 P **P 20 50 50.9 +1.4**
NKC pmax pmax
comp=Z,12nm,1.4s
TANN Tannenbergstha 37.86 51 *eP* **P 20 50 50.3 +0.6**
comp=Z,10nm,1.1s,baz=264,slow=8.5
LESA Schwarzleotal 37.86 56 *i* pP **P 20 50 50.7 +0.8**
comp=Z,5.4nm,0.8s
TAM Tamanrasset 38.08 98 P **P 20 50 52.4 +0.4**
TAM Tamanrasset 38.08 98 P **P 20 50 52.4 +0.4**
TAM pmax pmax
comp=Z,16nm,0.9s
KONO Kongsberg 38.14 36 *i* P **P 20 50 51.4 -0.5**
KONO pmax pmax
comp=Z,7.0nm,0.9s
TZTN Tazewell 38.26 286 IAmb IAmb 20 50 57.6
comp=Z,29nm,0.7s
CLL Collm 38.28 50 *eP* **P 20 50 53.0 -0.2**
CLL *i* 20 51 01.5
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 38.28 50 P **P 20 50 53.9 +0.7**
comp=Z,10nm,1.1s
CLL Collm 38.28 50 *eP* **P 20 50 53.0 -0.2**
comp=Z,9.0nm,1.0s
CLL *i* x x 20 51 01.5
CLL *i* x x 20 51 05.8
CLL *e*PPPP 20 52 49.0
CLL Collm 38.28 50 *eP* **P 20 50 53.8 +0.7**
comp=Z,11nm,1.2s,baz=264,slow=8.5
KBA Koelnbreinsper 38.32 57 *ep*P **P 20 50 54.3 +0.5**
comp=Z,14nm,1.4s
KBA Koelnbreinsper 38.32 57 P **P 20 50 50.8 -3.0**
KBA pmax pmax
comp=Z,19nm,1.7s
KBA Koelnbreinsper 38.32 57 *eP* **P 20 50 53.9 +0.1**
comp=Z,21nm,1.4s,baz=264,slow=8.5
FDMO Fiordimonte 38.33 63 IAmb IAmb 20 50 55.2
comp=Z,19nm,0.7s
KHC Kasperske Hory 38.51 53 *eP* **P 20 50 56.0 +0.8**
KHC Kasperske Hory 38.51 53 *ceP* **P 20 50 54.7 -0.5**
KHC pmax pmax
comp=Z,35nm,1.8s
KHC Kasperske Hory 38.51 53 P **P 20 50 56.0 +0.8**
comp=Z,8.3nm,1.4s
BIOA Bad Ischl, Aus 38.52 56 *i* P **P 20 50 55.6 +0.3**
comp=Z,20nm,1.6s
GERES GERESS Array B 38.58 54 P **P 20 50 55.7 -0.2**
comp=Z,0.3nm,0.3s,baz=258,slow=5.3,SNR=4.0
GERES LR LR 21 04 29.1
comp=Z,436nm,19.0s,baz=225,slow=33
comp=Z,0.3nm,0.3s
BRG Berggiesshubel 38.83 51 *eP* **P 20 50 58.2 +0.4**
BRG Amp 20 51 00.6
comp=Z,8.7nm,1.1s
BRG Berggiesshubel 38.83 51 P **P 20 50 58.8 +1.0**
BRG pmax pmax
comp=Z,9.0nm,2.8s
BRG Berggiesshubel 38.83 51 *eP* **P 20 50 58.3 +0.5**
comp=Z,8.7nm,1.1s,baz=264,slow=8.5
ZVC Zvikov 38.92 53 *eP* **P 20 50 59.6 +1.0**
UPNV Upernavik 38.94 351 *i* P P 20 51 06.2 +7.7
UPNV IAmb IAmb 20 51 31.1
comp=Z,4.9nm,0.7s
MOA Molln 38.94 55 *i* P **P 20 50 58.9 0.0**
comp=Z,10nm,1.1s
OBKA Obir 39.16 58 *ep*P **P 20 51 01.2 +0.4**
comp=Z,13nm,0.8s
OBKA Obir 39.16 58 *eP* **P 20 51 00.7 0.0**
comp=Z,12nm,0.8s,baz=264,slow=8.5
PRU Pruhonice 39.16 52 P **P 20 51 02.2 +1.5**
PRU pmax pmax
comp=Z,17nm,1.6s
PVCC Panska Ves 39.21 51 AMS AMS 21 06 20.0
comp=Z,1μm,17.5s
PVCC Panska Ves 39.21 51 P **P 20 51 01.0 0.0**
PVCC pmax pmax
comp=Z,14nm,1.6s
BAUV El Baul 39.34 236 P **P 20 51 01.8 -0.7**
NB2 NORSAR Subarra 39.35 34 P **P 20 51 02.9 +0.8**
comp=Z,4.2nm,0.6s,baz=252,slow=8.6
NOA NORSAR Array B 39.35 34 P **P 20 51 02.5 +0.3**
comp=Z,8.2nm,0.8s,baz=252,slow=8.6,SNR=18
NOA LR LR 21 05 15.7
comp=Z,164nm,18.5s,baz=265,slow=33
comp=Z,8.2nm,0.8s
NBCL Cascavel-CE 39.38 184 *eP* **P 20 51 04.0 +1.3**
NC602 NORSAR Array S 39.41 35 P **P 20 51 03.0 +0.5**
NC303 NORSAR Array S 39.48 34 P **P 20 51 03.5 +0.3**
TREC Trest 39.76 53 P **P 20 51 02.7 -3.0**
TREC pmax pmax
comp=Z,5.0nm,2.4s
ARSA Arzberg 39.80 56 *i* pP **P 20 51 06.6 +0.6**
comp=Z,4.8nm,1.0s
CONA Conrad Observa 40.01 55 *i* P **P 20 51 08.0 +0.1**
comp=Z,4.4nm,1.4s
U49A Red Boiling Sp 40.02 287 IAmb IAmb 20 51 43.2
comp=Z,31nm,0.6s
UPC Upice 40.13 51 *eP* **P 20 51 09.3 +0.6**
UPC Upice 40.13 51 *eP* **P 20 51 09.3 +0.6**
HFS Hagfors 40.26 36 P **P 20 51 09.8 +0.3**
comp=Z,5.3nm,0.8s,baz=193,slow=6.1,SNR=6.3
HFS LR LR 21 05 16.0
comp=Z,609nm,18.8s,baz=189,slow=32
comp=Z,5.3nm,0.8s
OSTC Ostas 40.26 51 *eP* **P 20 51 10.7 +0.9**
OSTC Ostas 40.26 51 *eP* **P 20 51 10.7 +0.9**
RONA Rosalia, Austr 40.31 56 *eP* **P 20 51 10.5 +0.2**
comp=Z,6.6nm,1.2s
KSP Ksiaz 40.32 51 *eP* **P 20 51 11.2 +0.9**
KSP Ksiaz 40.32 51 P **P 20 51 10.4 +0.2**
KSP pmax pmax
comp=Z,12nm,1.7s
KSP Ksiaz 40.32 51 P **P 20 51 11.0 +0.8**
comp=Z,12nm,1.7s

DPC Dobruska-Polom 40.32 52 *eP* **P 20 51 11.0 +0.7**
DPC Dobruska-Polom 40.32 52 *eP* **P 20 51 11.0 +0.7**
DPC Dobruska-Polom 40.32 52 P **P 20 51 11.3 +1.0**
comp=Z,22nm,2.5s
DBIC Dimbokro 40.35 128 P **P 20 51 09.6 -1.2**
DBIC IAmb IAmb 20 51 11.1
comp=Z,34nm,0.7s
DBIC Dimbokro 40.35 128 P **P 20 51 10.2 -0.6**
comp=Z,31nm,0.6s,baz=308,slow=7.9,SNR=50
DBIC LR LR 21 05 19.6
comp=Z,739nm,20.6s,baz=340,slow=32
comp=Z,31nm,0.6s
DBIC Dimbokro 40.35 128 P **P 20 51 10.4 -0.4**
KRUC Moravsky 40.35 54 *eP* **P 20 51 10.5 -0.1**
KRUC Moravsky 40.35 54 P **P 20 51 11.2 +0.6**
TORD Torodi Ar. Bea 40.45 114 P **P 20 51 10.8 -0.9**
TORD Torodi Ar. Bea 40.45 114 P **P 20 51 11.2 -0.6**
comp=Z,21nm,0.8s,baz=317,slow=5.7,SNR=78
comp=Z,21nm,0.8s
VRAC Vranov 40.48 53 *eP* **P 20 51 12.0 +0.3**
VRAC Vranov 40.48 53 ⇓P **P 20 51 12.3 +0.6**
VRAC Vranov 40.48 53 ⇓P **P 20 51 12.3 +0.6**
CLTN Cedars of Leba 40.55 286 IAmb IAmb 20 51 59.1
comp=Z,18nm,0.6s
KRLC Kraliky 40.61 52 *eP* **P 20 51 13.7 +1.0**
KRLC Kraliky 40.61 52 *eP* **P 20 51 13.7 +1.0**
KULLO Kullorsuaq 40.69 351 *i* P P 20 51 17.8 +4.9
KULLO IAmb IAmb 20 51 22.6
comp=Z,12nm,1.0s
NBPB Pedra_Branca-C 40.77 186 *eP* **P 20 51 14.9 +0.6**
CUC Castrocucco 40.78 67 IAmb IAmb 20 51 15.7
comp=Z,37nm,1.1s
RCBR Riachuelo 40.91 180 *eP* **P 20 51 15.7 +0.3**
MODS Modra-Piesok 40.95 55 *eP* **P 20 51 16.0 +0.5**
MODS pmax pmax
comp=Z,18nm,1.3s
MODS Modra-Piesok 40.95 55 *eP* **P 20 51 16.0 +0.5**
GKP Gorka Klasztor 41.03 47 *eP* **P 20 51 17.6 +1.6**
SMOL Smolenice 41.05 54 *eP* **P 20 51 17.0 +0.7**
MORC Moravsky Berou 41.10 52 *eP* P 20 51 09.0 -7.8
MORC Moravsky Berou 41.10 52 ⇓P **P 20 51 17.5 +0.7**
MORC Moravsky Berou 41.10 52 ⇓P **P 20 51 17.5 +0.7**
SDV Santo Domingo 41.16 239 P **P 20 51 18.3 +0.5**
MPLH Magyarpolny 41.18 56 P **P 20 51 18.4 +1.0**
comp=Z,34nm,1.4s
STEB Steborice 41.25 52 *eP* **P 20 51 18.6 +0.6**
MAUC Maruska 41.29 53 *eP* **P 20 51 19.4 +1.1**
SRO Srobarova 41.67 55 *eP* **P 20 51 22.0 +0.6**
SRO pmax pmax
comp=Z,16nm,1.0s
SRO Srobarova 41.67 55 *eP* **P 20 51 22.0 +0.6**
WVT Waverly 41.72 287 P **P 20 51 21.4 -0.5**
WVT Waverly 41.72 287 P **P 20 51 21.4 -0.5**
WVT pmax pmax
comp=Z,11nm,0.6s
VYHS Vyhne 41.98 54 *eP* **P 20 51 24.2 +0.2**
VYHS Vyhne 41.98 54 *eP* **P 20 51 24.2 +0.2**
MORH Mrgy, Hungar 42.00 58 ⇓P **P 20 51 24.6 +0.5**
MORH Mrgy, Hungar 42.00 58 P **P 20 51 24.7 +0.6**
comp=Z,13nm,1.5s
DAG Danmarks Havn 42.29 6 P **P 20 51 24.1 -2.0**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 42.29 6 *i* P **P 20 51 26.1 0.0**
DAG IAmb IAmb 20 51 38.6
comp=Z,4.8nm,0.9s
NBLV Livramento - P 42.44 181 *eP* **P 20 51 28.4 +0.4**
OJC Ojcow 42.55 52 *eP* **P 20 51 29.6 +1.0**
OJC Ojcow 42.55 52 P **P 20 51 29.7 +1.1**
comp=Z,15nm,1.6s
E38A The Farm, Brul 42.67 303 IAmb IAmb 20 51 31.2
comp=Z,38nm,1.3s
PSZ Piszkesteto 42.72 55 P **P 20 51 30.6 +0.5**
PSZ pmax pmax
comp=Z,9.0nm,1.4s
NEEM North Greenlan 42.77 355 *i* P **P 20 51 33.7 +3.4**
NEEM IAmb IAmb 20 51 40.6
comp=Z,7.0nm,1.4s
NIE Niedzica 42.90 53 *eP* **P 20 51 33.4 +1.9**
NIE Niedzica 42.90 53 P **P 20 51 33.6 +2.1**
NIE pmax pmax
comp=Z,4.0nm,1.7s
NIE Niedzica 42.90 53 P **P 20 51 33.5 +2.1**
comp=Z,4.5nm,1.7s
N41A Harden Midland 43.01 294 IAmb IAmb 20 51 42.2
comp=Z,17nm,0.7s
NBCA Caruaru-PE 43.29 180 *eP* **P 20 51 36.0 +1.0**
PBMO Poplar Bluff 43.58 289 IAmb IAmb 20 51 40.6
comp=Z,25nm,1.1s
ITTB Itaituba 43.62 209 *eP* **P 20 51 38.6 +1.0**
SIRR Siria 44.08 57 ⇑P **P 20 51 41.9 +0.9**
BZS Buzias 44.13 58 ⇑P **P 20 51 42.6 +1.2**
BZS Buzias 44.13 58 ⇑P **P 20 51 42.6 +1.2**
KOLS Kolonicke sedl 44.23 53 *eP* **P 20 51 43.5 +1.4**
KOLS pmax pmax
comp=Z,18nm,1.5s
KOLS Kolonicke sedl 44.23 53 *eP* **P 20 51 43.5 +1.4**
FCC Fort Churchill 44.27 321 P **P 20 51 41.9 -0.4**
FCC Fort Churchill 44.27 321 P **P 20 51 41.9 -0.4**
FCC pmax pmax
comp=Z,15nm,0.9s
HOLU Holmets 44.34 54 P **P 20 51 44.2 +1.2**
KWP Kalwaria Pacla 44.46 52 P **P 20 51 45.6 +1.6**
KWP pmax pmax
comp=Z,38nm,2.6s
KWP Kalwaria Pacla 44.46 52 P **P 20 51 45.8 +1.8**
comp=Z,38nm,2.6s
SURR Surduc 44.47 58 ⇑P **P 20 51 45.3 +1.3**
BOVS Bovan 44.49 61 ⇑P **P 20 51 44.9 +0.6**
BERU Beregovo 44.54 54 P **P 20 51 46.2 +1.6**
NBAN Anadia - AL 44.73 180 *eP* **P 20 51 46.4 0.0**
DRGR 44.74 56 ⇓P **P 20 51 46.9 +0.6**
DRGR 44.74 56 ⇓P **P 20 51 46.9 +0.6**
BRIU Brid 44.77 54 P **P 20 51 47.1 +0.6**
HERR Herculane 44.80 59 ⇑P **P 20 51 47.5 +0.8**
KORU Korolevo 44.87 55 P **P 20 51 48.7 +1.5**
GZR Gura Zlata 44.97 58 ⇑P **P 20 51 49.5 +1.3**
GZR Gura Zlata 44.97 58 ⇑P **P 20 51 49.5 +1.3**
DEV Deva 44.99 58 ⇑P **P 20 51 50.1 +1.9**
DEV Deva 44.99 58 ⇑P **P 20 51 50.1 +1.9**
MARR Marisel-Cluj 45.03 57 ⇓P **P 20 51 48.9 +0.2**
ULM Lac du Bonnet 45.23 309 P **P 20 51 48.9 -1.2**
comp=Z,5.6nm,0.8s,baz=90,slow=7.9,SNR=11
ULM LR LR 21 09 13.3
comp=Z,438nm,20.0s,baz=70,slow=34
comp=Z,5.6nm,0.8s
MORS Morshin 45.27 53 P **P 20 51 52.7 +2.3**
MORS Morshin 45.27 53 P **P 20 51 52.7 +2.3**
SMTB Santa Maria do 45.28 196 *eP* **P 20 51 51.7 +0.9**
CJR Cluj-Napoca 45.35 56 ⇑P **P 20 51 51.9 +0.7**
CJR Cluj-Napoca 45.35 56 ⇑P **P 20 51 51.9 +0.7**
AGMN Agassiz Nation 45.41 306 IAmb IAmb 20 51 52.8
comp=Z,15nm,0.7s
RAKU Rahkiv 45.57 55 P **P 20 51 53.2 +0.4**
STNU Starunia 45.72 54 P **P 20 51 54.8 +0.8**
ARCR ARCALIA 45.82 56 ⇓P **P 20 51 55.4 +0.6**
NBLA Lagarto - SE 46.08 183 *eP* **P 20 51 56.7 -0.3**
X40A Basin Creek Fa 46.10 286 IAmb IAmb 20 52 02.6
comp=Z,14nm,1.0s
ARR Arges 46.27 58 ⇑P **P 20 52 00.6 +2.1**
BUR08 Bucovina Ar. S 46.31 55 IAmb IAmb 20 52 01.0
comp=Z,15nm,1.2s
BURAR Bucovina Array 46.33 55 ⇑P **P 20 52 00.9 +2.0**
BURAR Bucovina Array 46.33 55 ⇑P **P 20 52 00.9 +2.0**
RNPP8 Varash 46.33 50 P **P 20 51 59.1 +0.4**
RNPP9 Sopachiv 46.35 50 P **P 20 51 59.3 +0.4**
VLAD Vladila 46.35 60 ⇑P **P 20 52 00.2 +1.2**
RNPP5 Staryi Chortor 46.36 50 P **P 20 51 59.4 +0.4**
HHAR Hobbs 46.43 289 IAmb IAmb 20 52 03.1
comp=Z,12nm,1.0s
FINES FINESS Array B 46.45 36 P **P 20 51 59.7 +0.2**
comp=Z,14nm,0.8s,baz=255,slow=5.7,SNR=22
comp=Z,14nm,0.8s
VOIR 46.55 58 ⇑P **P 20 52 01.4 +0.8**
VOIR 46.55 58 ⇑P **P 20 52 01.4 +0.8**
VOIR 46.55 58 P **P 20 52 01.2 +0.6**
ECSD EROS Data Cent 46.63 300 IAmb IAmb 20 52 04.4
comp=Z,12nm,0.8s
VSU Vasula 46.63 40 *ceP* **P 20 52 00.1 -0.8**
VSU pmax pmax
comp=Z,45nm,1.3s
HUMR Humele 46.66 59 ⇑P **P 20 52 02.3 +0.9**
MIAR Mount Ida 46.67 287 IAmb IAmb 20 52 06.0
comp=Z,17nm,0.9s

MIAR Mount Ida 46.67 287 P **P 20 52 01.8 +0.1**
MIAR pmax pmax
comp=Z,28nm,1.1s
NACGM Naroch 46.68 45 *eP* **P 20 52 02.0 +0.6**
baz=272
DOPR Dopca 46.69 57 ⇑P **P 20 52 02.1 +0.4**
HORU Horodok 46.91 53 P **P 20 52 03.1 -0.3**
HORU Horodok 46.91 53 P **P 20 52 03.1 -0.3**
NOR Nord 46.95 4 *i* P **P 20 52 05.2 +1.9**
NOR IAmb IAmb 20 52 11.4
comp=Z,3.3nm,0.9s
KMPD K-Podol'skiy 47.02 54 P **P 20 52 03.9 -0.3**
PRAR RASCA 47.04 55 ⇑P **P 20 52 05.4 +1.0**
MLR Muntele Rosu 47.16 58 LR LR 21 09 01.7
comp=Z,414nm,21.4s,baz=93,slow=32
MLR Muntele Rosu 47.16 58 ⇑P **P 20 52 06.0 +0.5**
MLR Muntele Rosu 47.16 58 ⇑P **P 20 52 06.0 +0.5**
MLR Muntele Rosu 47.16 58 P **P 20 52 07.4 +1.9**
comp=Z,22nm,1.5s
COVR Voineasa-Covas 47.27 57 ⇑P **P 20 52 07.8 +1.5**
MNK Minsk 47.33 45 *i* P **P 20 52 06.2 -0.3**
comp=E,16nm,0.8s
MNK *i* P **P 20 52 06.2 -0.3**
comp=N,25nm,1.7s
MNK *i* P **P 20 52 06.2 -0.3**
comp=Z,25nm,0.8s,baz=273
MNK *i* PcP **PcP 20 53 36.7 -0.5**
MNK *i* PP **PP 20 53 57.0 -0.6**
MNK *i* PPP PPP 20 54 40.0
MNK *i* S **S 20 59 00.2 +0.5**
MNK *i* SS **SS 21 02 26.5 -0.3**
MNK *i* SSS SSS 21 03 30.0
MNK *i* LQ LQ 21 06 38.0
MNK *i* LR LR 21 09 30.2
MNK *i* LRM MLR 21 10 45.8
comp=E,576nm,16.6s
MNK *i* LRM MLR 21 12 00.7
comp=Z,769nm,15.2s
MNK *i* LRM MLR 21 12 01.4
comp=N,566nm,15.0s
MNK Minsk 47.33 45 *i* P **P 20 52 06.2 -0.3**
MNK *i* 20 53 36.6
MNK *i* 20 53 56.9
MNK *i* PPP PPP 20 54 39.9
MNK *i* S **S 20 59 00.1 +0.5**
MNK *i* SS **SS 21 02 26.4 -0.3**
MNK *i* SSS SSS 21 03 29.9
MNK pmax pmax
comp=N,25nm,1.7s
MNK pmax pmax
comp=Z,25nm,0.8s
MNK pmax pmax
comp=E,16nm,0.8s
MNK MLR MLR
comp=Z,769nm,15.0s
MNK MLR MLR
comp=N,566nm,15.0s
TESR Tescani 47.46 56 ⇑P P 20 52 14.6 +6.9
ARCES ARCESS Array B 47.47 25 P **P 20 52 07.6 +0.2**
comp=N,10nm,1.0s,baz=258,slow=8.9,SNR=4.8
comp=N,10nm,1.0s
MI28 Mi28,Pidlybu 47.51 50 P **P 20 52 08.5 +0.5**
PLOR3 Plostina Array 47.57 57 P **P 20 52 09.1 +0.5**
comp=N,14nm,1.0s
PLOR Plostina 47.58 57 ⇑P **P 20 52 09.0 +0.3**
PLOR Plostina 47.58 57 ⇑P **P 20 52 09.0 +0.3**
NDNU Novodnistrovsk 47.61 53 P **P 20 52 07.8 -1.0**
VRI Vrincioaia 47.63 57 ⇓P **P 20 52 09.8 +0.8**
VRI Vrincioaia 47.63 57 ⇓P **P 20 52 09.8 +0.8**
LUBAR Lubar, Ukraine 47.69 52 P **P 20 52 10.1 +0.7**
ODBI Odobesti 47.87 57 P **P 20 52 12.0 +1.1**
comp=N,8.3nm,0.8s
RES Resolute Bay 48.19 342 P **P 20 52 12.6 -0.3**
RES IAmb IAmb 20 52 24.4
comp=Z,12nm,0.9s
RES Resolute Bay 48.19 342 P **P 20 52 12.6 -0.3**
RES pmax pmax
comp=Z,12nm,0.9s
SDBA SAO DESIDERIO 48.20 192 *eP* **P 20 52 14.0 +0.3**
SPITS Spitsbergen Ar 48.24 13 P **P 20 52 13.8 +0.5**
comp=Z,7.7nm,1.0s,baz=235,slow=5.1,SNR=1.3
comp=Z,7.7nm,1.0s
SORM Soroca 48.33 54 ⇓P **P 20 52 13.2 -1.2**
SORM Soroca 48.33 54 ⇓P **P 20 52 13.2 -1.2**
AK20 Malin Array Si 48.37 50 P **P 20 52 14.4 -0.3**
AK19 Malin Array Si 48.38 50 P **P 20 52 14.4 -0.3**
H10S3 ASCENSION HYDR 48.39 151 T T 21 43 24.1
baz=336,slow=74,SNR=902
H10S2 ASCENSION HYDR 48.40 151 T T 21 43 27.6
baz=244,slow=74,SNR=844
KIEV Kiev 48.51 50 P **P 20 52 14.3 -1.4**
KIEV Kiev 48.51 50 ⇑P **P 20 52 15.8 +0.1**
KIEV Kiev 48.51 50 ⇑P **P 20 52 15.8 +0.1**
KIEV Kiev 48.51 50 P **P 20 52 15.4 -0.3**
comp=Z,133nm,1.0s
AKASG Malin Array Be 48.52 50 P **P 20 52 13.8 -1.9**
AKASG Malin Array Be 48.52 50 P **P 20 52 15.4 -0.3**
comp=Z,18nm,0.8s,baz=274,slow=7.6,SNR=26
AKASG LR LR 21 11 56.1
comp=Z,598nm,18.2s,baz=206,slow=35
comp=Z,18nm,0.8s
AKBB Malin Array Si 48.52 50 *ceP* **P 20 52 15.2 -0.5**
AKBB pmax pmax
comp=Z,34nm,1.0s
AKBB Malin Array Si 48.52 50 P **P 20 52 15.2 -0.5**
AK09 Malin Array Si 48.56 50 P **P 20 52 16.0 -0.1**
FFC Flin Flon 48.60 315 P **P 20 52 16.0 -0.3**
FFC IAmb IAmb 20 52 25.9
comp=Z,14nm,0.9s
FFC Flin Flon 48.60 315 P **P 20 52 16.0 -0.3**
FFC pmax pmax
comp=Z,14nm,0.9s
QUOK Quay 48.60 290 IAmb IAmb 20 52 20.1
comp=Z,16nm,0.8s
ICOR Ion Corvin 48.72 59 ⇑P **P 20 52 17.1 -0.4**
CFR Carcaliu 48.73 58 ⇑P **P 20 52 17.1 -0.4**
CFR Carcaliu 48.73 58 ⇑P **P 20 52 17.1 -0.4**
TLBR Topalu 48.80 59 ⇑P **P 20 52 17.6 -0.4**
BLOK Blackwell 48.81 291 IAmb IAmb 20 52 21.6
comp=Z,19nm,0.9s
MILM Milestii Mici 48.85 55 ⇑P **P 20 52 17.6 -0.8**
MILM Milestii Mici 48.85 55 ⇑P **P 20 52 17.6 -0.8**
EUNU Eureka 48.92 350 P **P 20 52 17.6 -1.0**
EUNU IAmb IAmb 20 52 29.4
comp=Z,16nm,1.0s
TPGR Topolog 49.00 58 ⇑P **P 20 52 18.6 -1.0**
TIRR Tirgusor 49.08 59 ⇑P **P 20 52 19.9 -0.2**
TIRR Tirgusor 49.08 59 ⇑P **P 20 52 20.0 -0.2**
TLCR 49.20 58 ⇓P **P 20 52 19.5 -1.6**
TLCR 49.20 58 ⇓P **P 20 52 19.5 -1.6**
PURM Purcari 49.65 56 ⇑P **P 20 52 24.4 -0.1**
PURM Purcari 49.65 56 P **P 20 52 24.1 -0.4**
comp=Z,111nm,0.9s
WMOK Wichita Mounta 50.66 289 P **P 20 52 31.8 -0.6**
DGMT Dagmar 50.87 307 IAmb IAmb 20 52 50.2
comp=Z,16nm,0.9s
JTS Las Juntas de 50.94 253 LR LR 21 13 16.9
comp=Z,228nm,18.8s,baz=95,slow=35
PLPT Palo Pinto 50.97 286 IAmb IAmb 20 52 45.9
comp=Z,16nm,0.8s
BDFB Brasilia 51.94 195 P **P 20 52 42.3 +0.2**
BDFB IAmb IAmb 20 52 43.0
comp=Z,20nm,1.3s
BDFB Brasilia 51.94 195 P **P 20 52 41.3 -0.8**
comp=Z,8.4nm,1.0s,baz=51,slow=6.1,SNR=7.4
comp=Z,8.4nm,1.0s
BDFB Brasilia 51.94 195 P **P 20 52 42.3 +0.2**
BDFB pmax pmax
comp=Z,20nm,1.3s
BRDY Brady 52.08 285 IAmb IAmb 20 52 46.4
comp=Z,13nm,0.9s
MTO3 Montecristo 52.08 261 P **P 20 52 43.3 -0.2**
MTO3 IAmb IAmb 20 52 52.5
comp=Z,33nm,1.3s
OBN Obninsk 52.26 44 P **P 20 52 43.4 -0.6**
OBN Obninsk 52.26 44 LR LR 21 13 41.2
comp=Z,534nm,19.7s,baz=178,slow=35
OBN Obninsk 52.26 44 ⇓P **P 20 52 44.3 +0.4**
OBN Obninsk 52.26 44 *ceP* **P 20 52 44.4 +0.4**
OBN *e**PP **pP 20 52 46.7 -0.8**
OBN *e**SP **sP 20 52 49.5 +1.0**
OBN *e* 20 54 45.0
OBN 21 02 38.0
OBN SS SKiKP 21 03 51.0 -16

OBN SSS SSS 21 05 26.0
OBN pmax pmax
comp=Z,101nm,1.7s
OBN MLR MLR
comp=Z,365nm,13.0s
OBN Obninsk 52.26 44 P **P** **20 52 44.2 +0.2**
comp=Z,61nm,1.2s
LAO LASA Array 52.60 305 IAmb IAmb 20 53 03.9
comp=Z,34nm,1.4s
DKNS Dickens 52.70 288 IAmb IAmb 20 52 58.1
comp=Z,13nm,0.7s
OTAV Otavalo 52.75 238 *e*P P 20 52 55.0 +6.3
AMTX Amarillo 52.85 290 IAmb IAmb 20 52 52.5
comp=Z,17nm,0.9s
KLMR Klimovskoe 52.98 36 *e*P **P** **20 52 47.4 -1.8**
KLMR pmax pmax
comp=Z,28nm,1.4s
JCT Junction City 53.02 284 IAmb IAmb 20 53 00.8
comp=Z,12nm,0.8s
ETMB Extrema 53.22 218 *e*P **P** **20 52 55.4 +3.9**
POST Post 53.37 288 IAmb IAmb 20 53 02.7
comp=Z,17nm,0.8s
ANTO Ankara 53.44 63 P **P** **20 52 53.0 -0.1**
ANTO Ankara 53.44 63 P **P** **20 52 53.0 -0.1**
comp=Z,9.1nm,1.6s
OZNA Ozona 53.90 285 IAmb IAmb 20 53 07.6
comp=Z,14nm,0.9s
BR106 Keskin Array S 54.09 63 P **P** **20 52 58.5 +0.6**
comp=Z,72nmcomp=Z,6.6nm,1.1s
BR131 Keskin Array S 54.11 63 *i* P **P** **20 52 58.5 +0.4**
BRTR Keskin Array B 54.11 63 P **P** **20 52 56.7 -1.3**
BRTR Keskin Array B 54.11 63 P **P** **20 52 58.1 +0.1**
comp=Z,5.1nm,1.0s,baz=286,slow=5.0,SNR=13
BRTR LR LR 21 15 19.5
comp=Z,193nm,19.5s,baz=162,slow=35
comp=Z,5.1nm,1.0s
LPSR Galich'ya Gora 54.12 47 *e*P **P** **20 52 56.0 -1.7**
LPSR pmax pmax
comp=Z,50nm,0.9s
YKA Yellowknife Ar 54.25 326 P **P** **20 52 58.7 +0.1**
comp=Z,1.3nm,0.7s,baz=84,slow=7.1,SNR=22
YKA LR LR 21 14 37.4
comp=Z,265nm,18.6s,baz=41,slow=34
comp=Z,1.3nm,0.7s
IPMB Ipameri, GO 54.26 194 *e*P **P** **20 52 58.9 -0.2**
VORR Voronezh 54.50 48 *e*P **P** **20 52 59.8 -0.7**
VORR pmax pmax
comp=Z,62nm,1.1s
KIRS Kirsehir-Merke 54.51 64 ⇑P **P** **20 53 01.9 +1.0**
VSR Storozhevoye 54.59 48 *e*P **P** **20 52 58.1 -3.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 54.73 49 *e*P **P** **20 53 00.4 -1.8**
VORD pmax pmax
comp=Z,20nm,0.8s
MNHN Monahans 55.02 286 IAmb IAmb 20 53 15.1
comp=Z,11nm,0.9s
PTLB Pontes e Lacer 55.06 208 P **P** **20 53 04.1 -0.7**
PTLB IAmb IAmb 20 53 17.5
comp=Z,31nm,1.7s
PTLB Pontes e Lacer 55.06 208 *e*P **P** **20 53 07.1 +2.2**
YNE Yellowstone No 55.61 304 IAmb IAmb 20 53 12.8
comp=Z,10nm,0.9s
O20A White River Ci 55.94 298 IAmb IAmb 20 53 41.7
comp=Z,16nm,1.2s
TOKA Tokat 55.97 62 IAmb IAmb 20 53 12.9
comp=Z,15nm,0.9s
PDAR Pinedale Array 56.00 302 P **P** **20 53 10.6 -1.2**
PDAR Pinedale Array 56.00 302 P **P** **20 53 10.9 -0.9**
comp=Z,5.7nm,1.0s,baz=71,slow=7.5,SNR=17
PDAR LR LR 21 17 29.1
comp=Z,187nm,19.2s,slow=36
comp=Z,5.7nm,1.0s
VRH Novokhopyorsk 56.14 48 *e*P **P** **20 53 09.8 -2.6**
VRH pmax pmax
comp=Z,31nm,0.6s
YMR Madison River 56.36 304 IAmb IAmb 20 53 18.9
comp=Z,21nm,1.0s
YHL Hebgen Lake 56.45 304 IAmb IAmb 20 53 35.1
comp=Z,25nm,1.7s
ANMO Albuquerque 56.48 292 P **P** **20 53 16.6 +1.2**
ANMO Albuquerque 56.48 292 *i* P **P** **20 53 17.2 +1.9**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
TXAR Lajitas Array 56.55 284 P **P** **20 53 15.1 -0.7**
TXAR Lajitas Array 56.55 284 P **P** **20 53 15.6 -0.2**
comp=Z,5.9nm,1.0s,baz=79,slow=6.5,SNR=16
comp=Z,5.9nm,1.0s
TPAW Teton Pass 56.73 303 IAmb IAmb 20 53 17.9
comp=Z,20nm,1.6s
RDMU Red Mountain 56.74 299 IAmb IAmb 20 53 42.4
comp=Z,43nm,2.0s
AHID Auburn Hatcher 57.08 302 IAmb IAmb 20 53 28.5
comp=Z,17nm,1.2s
MVCO Mesa Verde 57.16 295 IAmb IAmb 20 53 25.1
comp=Z,15nm,1.0s
VSLR Vesyoloye 57.41 57 *i* P **P** **20 53 22.5 +1.0**
VSLR pmax pmax
comp=Z,48nm,1.4s
HWUT Hardware Ranch 57.80 301 IAmb IAmb 20 53 28.1
comp=Z,17nm,1.1s
ATAH Atahualpa 58.13 232 LR LR 21 18 25.9
comp=Z,346nm,20.8s,baz=84,slow=36
KIRV Kirov 58.35 38 LR LR 21 16 32.9
comp=Z,480nm,19.7s,baz=241,slow=34
KIRV Kirov 58.35 38*ce*P **P** **20 53 27.3 -0.5**
HVU Hansel Valley 58.58 301 IAmb IAmb 20 53 33.5
comp=Z,22nm,1.5s
VAO Valinhos 58.92 192 *e*P **P** **20 53 32.5 +0.2**
KIV Kislovodsk 59.05 56 *e*P **P** **20 53 32.8 -0.3**
KIV pmax pmax
comp=Z,4.0nm,1.0s
HLID Hailey 59.07 304 IAmb IAmb 20 53 42.2
comp=Z,26nm,1.9s
SHA1 Shidzhatmaz 59.10 56 *i* P **P** **20 53 34.8 +1.2**
DUG Dugway, Tooele 59.19 300 P **P** **20 53 35.0 +0.8**
NEW Newport 59.21 310 IAmb IAmb 20 53 42.9
comp=Z,13nm,0.9s
NEW Newport 59.21 310 LR LR 21 18 31.3
comp=Z,484nm,20.0s,baz=45,slow=36
NEW Newport 59.21 310 P **P** **20 53 33.4 -0.7**
KBZ Khabaz 59.27 56 P **P** **20 53 35.8 +1.3**
comp=Z,9.1nm,0.9s,baz=309,slow=6.3,SNR=23
comp=Z,9.1nm,0.9s
KBZ Khabaz 59.27 56*ce*P **P** **20 53 35.0 +0.5**
KBZ pmax pmax
comp=Z,15nm,1.0s
BELG Belogornoye 59.28 45 LR LR 21 18 10.8
comp=Z,1μm,19.8s,baz=284,slow=35
BELG Belogornoye 59.28 45 *i* P **P** **20 53 34.1 -0.3**
BELG pmax pmax
comp=Z,7.0nm,1.0s
LPAZ La Paz 59.70 216 P **P** **20 53 37.5 -0.9**
LPAZ IAmb IAmb 20 53 49.9
comp=Z,17nm,1.0s
LPAZ La Paz 59.70 216 P **P** **20 53 37.8 -0.7**
comp=Z,5.2nm,0.9s,baz=354,slow=4.6,SNR=12
LPAZ LR LR 21 16 14.2
comp=Z,242nm,20.7s,slow=33
comp=Z,5.2nm,0.9s
NCK Nalchik 59.83 56 *i* P **P** **20 53 40.1 +1.7**
NCK pmax pmax
comp=Z,3.0nm,0.2s
INK Inuvik 60.40 335 IAmb IAmb 20 53 50.5
comp=Z,22nm,1.2s
INK Inuvik 60.40 335 P **P** **20 53 41.7 -0.1**
E09A Wood Farm, Sta 60.48 308 IAmb IAmb 20 53 52.1
comp=Z,9.9nm,0.9s
PSUT Pine Spring 60.57 298 IAmb IAmb 20 53 55.2
comp=Z,11nm,0.9s
GURO Guroymak-BITLI 60.62 62 P **P** **20 53 43.6 -0.5**
ELK Elko 60.69 301 P **P** **20 53 45.9 +1.3**
ELK IAmb IAmb 20 53 48.9
comp=Z,31nm,1.9s
ELK Elko 60.69 301 P **P** **20 53 45.9 +1.3**
ELK pmax pmax
comp=Z,31nm,2.0s
F31M Tsiigehtchic 60.79 334 IAmb IAmb 20 53 54.0
comp=Z,18nm,1.0s
TRLG Trialeti 60.91 58 P **P** **20 53 42.4 -3.6**
HAWA Hanford 61.41 308 P **P** **20 53 47.9 -1.2**
HAWA IAmb IAmb 20 55 41.0
comp=Z,9.9nm,0.9s
GEVA Gevas 61.45 62 P **P** **20 53 49.8 +0.1**
PB18 Visviri 61.48 217 P **P** **20 53 49.9 -0.5**
PTGB Pitanga 61.61 197 *e*P **P** **20 53 53.4 +2.7**

J08A Circle Bar Ran 61.89 305 IAmb IAmb 20 54 06.3
comp=Z,13nm,0.9s
GNI Garni 61.90 59 P **P** **20 53 51.4 -1.4**
GNI Garni 61.90 59 *i* P **P** **20 53 53.5 +0.7**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 61.90 59 P **P** **20 53 53.5 +0.7**
comp=Z,13nm,1.6s
W13A Hualapai Mount 62.00 295 IAmb IAmb 20 54 03.5
comp=Z,15nm,1.5s
V12A Nelson 62.45 296 P **P** **20 53 55.4 -1.0**
V12A IAmb IAmb 20 54 01.2
comp=Z,7.8nm,1.0s
DLBC Dease Lake 62.70 324 LR LR 21 19 57.8
comp=Z,388nm,18.3s,baz=16,slow=35
F28M Old Crow 62.87 335 IAmb IAmb 20 54 12.8
comp=Z,12nm,1.1s
J30M Hart River 62.92 332 IAmb IAmb 20 54 10.1
comp=Z,10nm,0.8s
ARTI Arti 63.65 38 P **P** **20 54 02.7 -1.2**
ARTI IAmb IAmb 20 54 08.2
comp=Z,11nm,1.0s
ARTI Arti 63.65 38 P **P** **20 54 03.4 -0.6**
comp=Z,9.1nm,0.9s,baz=279,slow=4.8,SNR=9.1
ARTI LR LR 21 21 05.1
comp=Z,533nm,18.4s,baz=147,slow=35
comp=Z,9.1nm,0.9s
ARTI Arti 63.65 38*c i*P **P** **20 54 04.5 +0.6**
ARTI 20 54 42.5
ARTI S **S** **21 02 41.0 +3.5**
ARTI SS **SS** **21 06 45.6 +1.3**
ARTI pmax pmax
comp=Z,15nm,1.1s
NVAR Mina Array Bea 63.80 300 P **P** **20 54 05.3 -0.2**
comp=Z,3.0nm,0.8s,baz=64,slow=6.3,SNR=8.1
comp=Z,3.0nm,0.8s
PAHR Pah Rah Range 64.01 302 IAmb IAmb 20 54 10.7
comp=Z,20nm,1.3s
ITAB Concordia 64.06 196 *e*P **P** **20 54 10.3 +3.6**
D25K Kavik River 64.13 338 IAmb IAmb 20 54 18.3
comp=Z,17nm,1.4s
BBB Bella Bella 64.26 317 LR LR 21 21 48.4
comp=Z,437nm,20.1s,baz=41,slow=36
DAWY Dawson 64.34 332 P **P** **20 54 07.9 -0.5**
BMAR Burnt Mountain 64.54 336 P **P** **20 54 09.2 -0.4**
CPUP Villa Florida 64.55 201 P **P** **20 54 08.6 -1.4**
CPUP IAmb IAmb 20 54 09.7
comp=Z,11nm,1.2s
CPUP Villa Florida 64.55 201 P **P** **20 54 08.6 -1.4**
comp=Z,3.0nm,0.9s,baz=33,slow=5.3,SNR=5.4
comp=Z,3.0nm,0.9s
CPUP Villa Florida 64.55 201 P **P** **20 54 08.6 -1.4**
CPUP pmax pmax
comp=Z,11nm,1.3s
SVE Sverdlovsk 64.59 37 *e*P **P** **20 54 10.3 +0.2**
EGAK Eagle 64.67 333 IAmb IAmb 20 54 24.8
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 65.47 338 IAmb IAmb 20 54 28.0
comp=Z,10nm,1.1s
BCAR Beaver Creek A 65.76 331 P **P** **20 54 17.7 0.0**
PRP Porcupine Dome 65.87 335 P **P** **20 54 18.1 -0.3**
PRP IAmb IAmb 20 54 23.4
comp=Z,11nm,1.0s
AKTO Aktyubinsk 66.04 44 P **P** **20 54 20.3 +0.8**
comp=Z,9.4nm,0.7s,baz=296,slow=5.7,SNR=25
AKTO LR LR 21 23 22.4
comp=Z,552nm,18.1s,baz=282,slow=36
comp=Z,9.4nm,0.7s
SCRK Sand Creek 66.14 333 P **P** **20 54 21.1 +1.0**
SCRK IAmb IAmb 20 54 31.1
comp=Z,10nm,1.0s
G23K Bananza Creek 66.72 337 IAmb IAmb 20 54 28.9
comp=Z,8.9nm,0.9s
IL31 66.77 334 IAmb IAmb 20 54 41.2
comp=Z,21nm,1.9s
ILAR Eielson Array 66.77 334 P **P** **20 54 24.1 +0.2**
comp=Z,2.1nm,0.8s,baz=48,slow=5.2,SNR=13
comp=Z,2.1nm,0.8s
HDA Harding Lake 66.99 334 IAmb IAmb 20 54 35.9
comp=Z,14nm,1.2s
CCB Clear Creek Bu 67.16 334 IAmb IAmb 20 54 30.8
comp=Z,6.3nm,0.8s
WRH Wood River Hil 67.36 334 IAmb IAmb 20 54 31.7
comp=Z,13nm,1.2s
I23K Minto, Yukon-K 67.42 335 IAmb IAmb 20 54 32.9
comp=Z,6.9nm,0.8s
NEA2 Nenana 67.64 335 IAmb IAmb 20 54 40.4
comp=Z,8.9nm,1.1s
ABKAR Akbulak array 67.69 45 P **P** **20 54 28.7 -1.4**
ABKAR Akbulak array 67.69 45 IAmb IAmb 20 54 31.6
comp=Z,24nm,1.9s
I21K Tanana 68.28 336 IAmb IAmb 20 54 39.0
comp=Z,10.0nm,0.8s
KTH Kantishna Hill 68.91 334 IAmb IAmb 20 54 47.9
comp=Z,15nm,1.1s
RDOG Red Dog Mine 69.62 341 IAmb IAmb 20 54 52.8
comp=Z,17nm,1.3s
C16K Lisburne Hills 70.08 342 IAmb IAmb 20 54 55.1
comp=Z,15nm,1.1s
RAYN Ar Rayn 70.13 75 ⇑P **P** **20 54 46.2 +0.5**
J18K Innoko River 70.97 336 IAmb IAmb 20 55 01.3
comp=Z,14nm,1.1s
BRVK Borovoye 71.29 38 P **P** **20 54 50.9 -1.4**
BRVK IAmb IAmb 20 55 06.7
comp=Z,11nm,1.1s
BRVK Borovoye 71.29 38*ce*P **P** **20 54 53.6 +1.3**
BRVK pmax pmax
comp=Z,11nm,1.7s
BVAR Borovoye Array 71.36 38 P **P** **20 54 52.7 0.0**
comp=Z,2.7nm,0.8s,baz=302,slow=5.5,SNR=10.0
comp=Z,2.7nm,0.8s
LODK Lodwar 72.80 98 P **P** **20 55 03.3 +1.3**
KDAK Kodiak Island 73.18 330 LR LR 21 25 14.5
comp=Z,321nm,20.1s,baz=193,slow=34
BILL Bilibino 75.63 352 *i* P **P** **20 55 17.5 0.0**
BILL pmax pmax
comp=Z,11nm,1.4s
KURK Kurchatov 76.83 36 P **P** **20 55 24.5 -0.2**
KURK Kurchatov 76.83 36*ce*P **P** **20 55 25.2 +0.6**
KURK pmax pmax
comp=Z,10.0nm,1.7s
KURBB Kurchatov Arra 76.84 37 P **P** **20 55 24.9 +0.2**
comp=Z,3.1nm,0.7s,baz=311,slow=6.0,SNR=36
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 77.48 31 P **P** **20 55 29.3 +1.0**
comp=Z,0.6nm,0.7s,baz=306,slow=5.0,SNR=7.2
ZALV LR LR 21 28 21.6
comp=Z,265nm,19.5s,slow=35
comp=Z,0.6nm,0.7s
UOSS Minazif 77.67 68 P **P** **20 55 29.1 -0.8**
UOSS IAmb IAmb 20 55 40.6
comp=Z,15nm,0.8s
LSZ Lusaka 78.83 118 P **P** **20 55 35.9 -0.5**
LSZ IAmb IAmb 20 55 37.9
comp=Z,15nm,1.3s
LSZ Lusaka 78.83 118 LR LR 21 28 50.1
comp=Z,269nm,21.6s,baz=46,slow=34
LSZ Lusaka 78.83 118 P **P** **20 55 35.9 -0.5**
LSZ pmax pmax
comp=Z,15nm,1.3s
SIMJ Simiganj 78.89 50 P **P** **20 55 36.0 -0.6**
SIMJ IAmb IAmb 20 56 49.7
comp=Z,8.9nm,0.6s
AAK Ala-Archa 79.78 45 P **P** **20 55 39.7 -1.7**
AAK IAmb IAmb 20 55 52.0
comp=Z,32nm,1.9s
AAK Ala-Archa 79.78 45 P **P** **20 55 40.6 -0.8**
comp=Z,1.8nm,0.9s,baz=208,slow=11,SNR=4.5
AAK LR LR 21 31 16.3
comp=Z,314nm,18.7s,baz=352,slow=36
comp=Z,1.8nm,0.9s
AAK Ala-Archa 79.78 45*ce*P **P** **20 55 41.9 +0.5**
AAK pmax pmax
comp=Z,13nm,1.8s
MAKZ Makanchi 81.08 38 P **P** **20 55 47.6 -0.5**
MAKZ Makanchi 81.08 38 P **P** **20 55 47.6 -0.5**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
MK31 Makanchi Array 81.25 38*ce*P **P** **20 55 49.2 +0.2**
MKAR Makanchi Array 81.25 38 P **P** **20 55 48.8 -0.3**
MKAR Makanchi Array 81.25 38 P **P** **20 55 49.0 -0.1**
comp=Z,2.0nm,0.7s,baz=318,slow=5.3,SNR=25
MKAR LR LR 21 31 23.6
comp=Z,420nm,19.3s,baz=288,slow=35
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 81.25 38 P **P** **20 55 49.0 -0.1**
SEY Seymchan 81.87 356 *e*P P 20 55 56.8 +4.8

SEY pmax pmax
comp=Z,11nm,1.9s
PLCA Paso Flores 82.09 206 P **P** **20 55 52.9 -0.4**
comp=Z,3.0nm,1.1s,baz=28,slow=6.2,SNR=3.9
PLCA LR LR 21 32 31.7
comp=Z,300nm,19.6s,baz=84,slow=36
comp=Z,3.0nm,1.1s
PLCA Paso Flores 82.09 206 *e*P **P** **20 55 57.7 +4.4**
YAK Yakutsk 82.31 7 *i* P **P** **20 55 54.5 +0.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s
KSH Kashi 82.62 46 P **P** **20 55 57.8 +1.3**
KSH pP pwP 20 56 03.5 -1.3
KSH pmax pmax
comp=Z,6.0nm,1.1s
LBTB Lobatse 83.59 127 LR LR 21 28 34.8
comp=Z,263nm,21.1s,baz=18,slow=32
MA2 Magadan 85.31 357 LR LR 21 31 52.8
comp=Z,418nm,21.6s,baz=322,slow=34
BOSA Boshof 85.85 129 P **P** **20 56 11.3 -1.6**
comp=Z,2.4nm,0.8s,baz=320,slow=7.9,SNR=4.8
comp=Z,2.4nm,0.8s
WMQ Urumqi 86.04 37 *e*P **P** **20 56 14.9 +1.2**
SONM Songino Array 90.64 24 P **P** **20 56 34.5 -1.1**
comp=Z,0.4nm,1.0s,baz=321,slow=6.5,SNR=1.8
comp=Z,0.4nm,1.0s
GTA Gaotai 95.17 33 *e*P **P** **20 56 56.3 -0.4**
GTA pP sP 20 57 02.1 +0.7
GTA pmax pmax
comp=Z,2.0nm,1.2s
HHC Hu-ho-hao-te 98.54 24 *e*P **P** **20 57 09.8 -2.1**
PZH PanZhiHua 106.66 39 PKP **PKiKP** **21 01 59.1 +0.3**
QSPA South Pole Qui 125.19 180 PKP **PKPdf** **21 02 31.5 -1.1**
comp=Z,0.6nm,0.3s,baz=216,slow=5.6,SNR=2.2
WRA Warramunga Arr 162.46 32 PKPab **PKPab** **21 04 23.1 +0.2**
comp=Z,0.6nm,0.8s,baz=339,slow=4.3,SNR=2.6
ASAR Alice Springs 165.43 40 PKPab **PKPab** **21 04 34.8 -1.2**
comp=Z,0.7nm,0.9s,baz=340,slow=2.8,SNR=5.2

---

*IDC **14** 21:02:51.6±2.5, 43°.09N×105°.00W, h0km, mb3.2/2, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=51.2km s-min=8.3km az=156.0*
*NEIC **14** 21:02:52.7±2.3, 43°.67N±0°.05×105°.35W±0°.06, h0km±1km, ML3.6/62, Error ellipse: s-maj=9.5km s-min=5.9km az=328.0*
ISC 14 21:02:54.4±0.9, **43°.66N**±0°.05×**105°.31W**±0°.04, **h0**km, **n30**, σ1**9**32/22, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**63**	Pg	**Pg**	**21 03 14.3**	**+0.2**
RSSD	**Black Hills**	**1.03**	**63**	Pn	**Pb**	**21 03 14.7**	**-0.6**
RSSD				IAML		21 03 46.2	
	328nm,2.2s						
RSSD				IAML		21 03 46.4	
	204nm,1.8s						
K22A	**Casper**	**1.34**	**222**		**Pg**	**21 03 20.1**	**-0.1**
K22A				IAML		21 03 43.3	
	comp=E,737nm,0.3s						
N23A	**Red Feather La**	**2.80**	**190**		**Pn**	**21 03 40.2**	**-0.6**
N23A				IAML		21 04 24.8	
	comp=N,137nm,0.5s						
N23A				IAML		21 04 26.6	
	comp=E,128nm,0.7s						
LAO	**LASA Array**	**3.10**	**348**		**Pn**	**21 03 44.2**	**-0.5**
LAO				IAML		21 04 43.6	
	comp=E,258nm,0.9s						
BRIGG	**Briggsdale**	**3.16**	**166**		**Pn**	**21 03 44.6**	**-1.0**
BRIGG				IAML		21 05 06.1	
	comp=E,110nm,1.9s						
BRIGG				IAML		21 05 31.7	
	comp=N,106nm,2.5s						
RLMT	**Red Lodge**	**3.19**	**299**		**Pn**	**21 03 45.7**	**-0.5**
PD31	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**21 03 46.3**	**-0.3**
PDAR	**Pinedale Array**	**3.23**	**255**		**Pn**	**21 03 46.2**	**-0.5**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**21 03 48.1**	**+1.4**
	comp=N,3.8nm,0.3s,baz=65,slow=16,SNR=61						
PDAR				Pg	**Pg**	**21 03 57.0**	**+0.6**
	comp=N,8.0nm,0.3s,baz=59,slow=18,SNR=17						
PDAR				Lg	Lg	21 04 35.0	
	comp=N,21nm,0.3s,baz=77,slow=32,SNR=17						
	comp=N,4.3nm,0.3s						
YNE	**Yellowstone No**	**3.63**	**293**	Pn	**Pn**	**21 03 52.1**	**-0.1**
YNE				IAML		21 04 54.8	
	comp=E,80nm,0.4s						
YNE				IAML		21 04 54.8	
	comp=N,99nm,0.8s						
OGNE	**Ogallala**	**3.64**	**137**		**Pn**	**21 03 52.4**	**+0.2**
OGNE				IAML		21 05 13.4	
	comp=N,116nm,1.4s						
YMP	**Mirror Lake Pl**	**3.65**	**289**		**Pn**	**21 03 52.8**	**+0.3**
YMP				IAML		21 04 56.6	
	comp=E,114nm,0.4s						
YMP				IAML		21 04 59.9	
	comp=N,116nm,0.9s						
LOHW	**Long Hollow**	**3.84**	**271**		**Pn**	**21 03 52.6**	**-2.5**
ISCO	**Idaho Springs**	**3.86**	**183**		**Pn**	**21 03 55.2**	**-0.1**
H17A	**Grant Village**	**3.87**	**283**		**Pn**	**21 03 53.6**	**-1.9**
H17A				IAML		21 05 00.6	
	comp=N,62nm,1.4s						
H17A				IAML		21 05 01.7	
	comp=E,68nm,2.1s						
MOOW	**Moose Ponds**	**3.94**	**273**		**Pn**	**21 03 55.0**	**-1.4**
SNOW	**Snow King Moun**	**3.96**	**269**		**Pn**	**21 03 55.1**	**-1.7**
SNOW				IAML		21 05 12.4	
	comp=E,71nm,2.1s						
SNOW				IAML		21 05 47.8	
	comp=E,97nm,1.9s						
YFT	**Old Faithful**	**4.06**	**283**	IAML		21 05 12.0	
	comp=E,53nm,2.1s						
TPAW	**Teton Pass**	**4.10**	**270**	IAML		21 05 39.3	
	comp=E,53nm,1.9s						
O20A	**White River Ci**	**4.14**	**213**	IAML		21 05 46.7	
	comp=E,88nm,2.0s						
AHID	**Auburn Hatcher**	**4.33**	**260**	IAML		21 05 16.3	
	comp=E,84nm,2.1s						
AHID				IAML		21 05 16.3	
	comp=E,66nm,1.9s						
E28A	**Huff**	**4.38**	**47**	IAML		21 05 47.7	
	comp=E,101nm,2.2s						
RDMU	**Red Mountain**	**4.42**	**227**	IAML		21 05 23.4	
	comp=E,39nm,1.3s						
HWUT	**Hardware Ranch**	**5.05**	**248**	IAML		21 05 43.6	
	comp=E,37nm,1.2s						
HWUT				IAML		21 05 46.5	
	comp=E,60nm,2.1s						
BSUT	**Blindstream Ca**	**5.12**	**234**	IAML		21 05 41.7	
	comp=N,26nm,1.9s						
BSUT				IAML		21 05 58.1	
	comp=E,30nm,2.0s						
I10CA	**LAC DU BONNET**	**9.12**	**41**	I	I	21 58 20.0	
	comp=E,0.2nm,1.6s,baz=220,slow=330,SNR=4.2						
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn	**Pn**	**21 05 06.9**	**-1.7**
	comp=E,3.7nm,0.3s,baz=231,slow=11,SNR=22						
ULM				Lg	Lg	21 07 44.3	
	comp=E,0.3nm,0.3s,baz=318,slow=15,SNR=4.1						
	comp=E,6.4nm,0.3s						
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**21 07 29.0**	**+3.3**
	comp=E,0.3nm,0.7s,baz=142,slow=11,SNR=2.7						
	comp=E,0.3nm,0.7s						
MKAR	**Makanchi Array**	**89.68**	**355**	P	**P**	**21 15 54.2**	**0.0**
	comp=E,0.6nm,1.0s,baz=20,slow=4.6,SNR=3.1						
	comp=E,0.6nm,1.0s						

---

*UPA **14** 21:09:46.9±1.2, 5°.57N×76°.07W, h36km±56km, MW4.6*
*IDC **14** 21:09:47.7±1.6, 5°.71N×76°.11W, h60km±14km, mb3.7/20, mbtmp4.1/25, MS4.0/1, Error ellipse: s-maj=14.2km s-min=10.8km az=50.0*
*RSNC **14** 21:09:47.7±0.0, 6°N±1°×7°6W±°, h11km±2km, M4.2, mB5.1, mb5.2, ML4.0, Mw(mB)4.5*
*NEIC **14** 21:09:47.7±2.2, 5°.71N±0°.05×76°.14W±0°.06, h68km±8km, mb4.5/32, Error ellipse: s-maj=9.6km s-min=6.5km az=113.0*
ISC 14 21:09:45.8±0.7, **5°.70N**±0°.02×**76°.05W**±0°.03, **h46**km±6km, **n166**, σ2**68**/196, **mb4.2**/30, **1C-3D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.17**	**12**	P	**Pn**	**21 09 55.0**	**+1.3**
CBOC				S	**Sn**	**21 10 00.8**	**+1.6**
MEDEC	**Medelln, Ant**	**0.73**	**39**	P	**Pn**	**21 10 01.6**	**+1.6**
MEDEC				S	**Sn**	**21 10 12.3**	**+2.0**
CMAN1	**Manizales, Cal**	**0.81**	**140**	P	**Pn**	**21 10 01.6**	**+0.4**

CMAN1 S Sn 21 10 12.3 0.0
PLMC San Jos del P 0.82 196 P Pn 21 10 02.3 +1.2
PLMC S Sn 21 10 14.1 +1.9
GUY2C Guyana, Caldas 0.83 125 P Pn 21 10 01.8 +0.3
GUY2C S Sn 21 10 13.4 +0.5
NIZA Niza - Manizal 0.86 138 P Pn 21 10 02.3 +0.5
NIZA S Sn 21 10 13.9 +0.5
NORC Norcasia 1.18 96 P Pn 21 10 07.8 +1.8
NORC S Sn 21 10 22.9 +2.0
DBBC Dabeiba 1.32 353 P Pn 21 10 10.6 +2.7
DBBC S Sn 21 10 32.3 +7.9
SOLC Bahia Solano 1.45 291 P Pn 21 10 11.9 +2.3
SOLC S Sn 21 10 32.7 +5.2
PIZC Pizarro, Choco 1.50 241 P Pn 21 10 13.0 +2.8
PIZC S Sn 21 10 33.3 +4.8
YOTC Yotoco, Valle 1.73 190 P Pn 21 10 14.9 +1.4
YOTC S Sn 21 10 36.5 +2.0
PTBC PUERTO BERRIO, 1.79 62 P Pn 21 10 17.0 +2.7
PTBC S Sn 21 10 39.3 +3.5
ROSC El Rosal 1.92 116 Pn 21 10 19.9 +3.5
ROSC El Rosal 1.92 116 P Pn 21 10 20.0 +3.5
922nm,0.3s,baz=335,slow=4.6,SNR=229
ROSC S Sn 21 10 43.7 +4.2
1µm,0.4s,baz=25,slow=9.8,SNR=9.6
ROSC El Rosal 1.92 116 P Pn 21 10 19.9 +3.5
ROSC S Sn 21 10 44.8 +5.2
ORTC Ortega, Tolima 1.95 156 P Pn 21 10 19.0 +2.5
ORTC S Sn 21 10 44.8 +5.0
UREC San Jos de Ur 2.10 14 P Pn 21 10 21.0 +2.4
UREC San Jos de Ur 2.10 14 *i* P Pn 21 10 21.4 +2.9
UREC *i* S Sn 21 10 47.8 +4.3
MALC Bahia Malaga 2.11 217 P Pn 21 10 21.3 +2.7
MALC S Sn 21 10 48.0 +4.3
ZARC Zaragoza, Cauc 2.14 34 P Pn 21 10 21.7 +2.6
APAC Apartado, Choc 2.25 346 P Pn 21 10 25.2 +4.6
APAC S Sn 21 10 59.4 +12
PTAC Punta Ardita, 2.27 310 P Pn 21 10 23.0 +2.2
PTAC Punta Ardita, 2.27 310 ‖ *i* P Pn 21 10 23.5 +2.8
PTAC *i* S Sn 21 10 50.6 +3.1
PRAC Prado 2.29 150 P Pn 21 10 24.3 +3.2
CHIC Chingaza 2.54 115 P Pn 21 10 28.4 +3.5
CHIC S Sn 21 11 10.2 +15
JAMC Jamundi, Valle 2.54 194 P Pn 21 10 26.7 +1.9
JAMC S Sn 21 10 56.3 +1.6
BRJC Barrancabermej 2.62 61 P Pn 21 10 29.0 +3.4
BRJC S Sn 21 11 06.5 +10
VILC Villavicencio, 2.83 124 P Pn 21 10 33.1 +4.5
VILC S Sn 21 11 09.7 +8.2
URMC La Uribe, Meta 2.95 146 P Pn 21 10 32.3 +2.0
URMC S Sn 21 11 14.3 +10
RUSC La Rusia 2.96 86 Pn 21 10 32.6 +1.9
RUSC La Rusia 2.96 86 P Pn 21 10 34.4 +3.7
RUSC S Sn 21 11 20.7 +15
BARC Barichara 2.98 73 P Pn 21 10 34.3 +3.4
BARC S Sn 21 11 10.5 +4.9
BETC Betania 3.06 169 P Pn 21 10 34.2 +2.5
BETC S Sn 21 11 10.0 +2.9
LCBC Los crdobas, 3.15 354 *eP* Pn 21 10 36.4 +3.4
CAPC Capurgana 3.19 336 P Pn 21 10 37.7 +4.2
POPC Popayan, Colom 3.20 191 P Pn 21 10 36.5 +2.7
POPC S Sn 21 11 14.0 +3.1
GR1C Gorgona, Isla 3.41 218 P Pn 21 10 37.2 +0.7
GR1C S Sn 21 11 15.5 -0.2
UPD2 Meteti 3.44 326 *eP* Pn 21 10 40.2 +3.3
UPD2 *i* S Sn 21 11 18.4 +2.0
GARC Garzon, Huila 3.53 171 P Pn 21 10 40.9 +2.5
OCAC Ocana 3.70 47 P Pn 21 10 44.5 +3.8
OCAC S Sn 21 11 27.9 +4.7
PAMC Pamplona, Colo 3.71 64 P Pn 21 10 43.9 +2.9
PAMC S Sn 21 11 27.6 +3.9
BBAC Balboa, Cauca 3.84 198 P Pn 21 10 46.3 +3.6
BBAC S Sn 21 11 32.3 +5.6
FLOC Florencia 4.11 174 Pn 21 10 48.0 +1.9
FLOC Florencia 4.11 174 P Pn 21 10 48.7 +2.6
FLOC S Sn 21 11 48.3 +15
MACC Macarena, Meta 4.16 148 P Pn 21 10 49.0 +2.2
CRUC La Cruz 4.20 192 P Pn 21 10 54.3 +6.6
CRUC S Sn 21 11 44.5 +8.8
SJCC San Jacinto, C 4.26 12 P Pn 21 10 51.7 +3.5
SJCC S Sn 21 11 47.1 +10
TAMC Tame, Arauca 4.30 80 P Pn 21 10 52.1 +3.4
TAMC S Sn 21 11 41.1 +3.4
PEDA3 Pedasi 4.35 295 ‖ *i* P Pn 21 10 50.9 +1.5
ACHO3 Achotines, Los 4.44 293 *eP* Pn 21 10 52.1 +1.5
PCRI3 Pocri, Los San 4.49 296 *i* P Pn 21 10 53.0 +1.7
CNTA3 Canitas, Panam 4.49 321 *eP* Pn 21 10 53.7 +2.3
ARGC Ariguani, Magd 4.50 23 P Pn 21 10 55.2 +3.7
ARGC S Sn 21 11 56.7 +14
GCUF Volcan Galeras 4.63 196 P Pn 21 10 57.4 +3.7
GCUF S Sn 21 11 51.2 +4.8
AZU Azuero 4.68 297 P Pn 21 10 56.2 +2.2
AZU Azuero 4.68 297 ⇑ *i* P Pn 21 10 56.0 +2.1
AZU *i* S Sn 21 11 48.4 +1.3
UPA Univ. de Panam 4.75 314 *i* P Pn 21 10 56.1 +1.2
CHIT3 Chitre 4.88 298 *eP* Pn 21 10 58.5 +1.7
CHIT3 *i* S Sn 21 11 52.5 +0.4
CMBC Cumbal 5.05 201 P Pn 21 11 04.8 +5.4
CACAO El Cacao, Vera 5.05 289 P Pn 21 11 00.5 +1.4
CACAO El Cacao, Vera 5.05 289 *i* P Pn 21 11 00.3 +1.2
PNME Penonome 5.07 303 *eP* Pn 21 11 00.7 +1.4
PNME *eS* Sn 21 11 58.1 +1.5
BCIP Isla Barro Col 5.10 313 Pn Pn 21 11 01.2 +1.5
BCIP Isla Barro Col 5.10 313 P Pn 21 11 01.7 +2.0
BCIP S Sn 21 11 59.0 +1.7
BCIP Isla Barro Col 5.10 313 ‖ *eP* Pn 21 11 02.0 +2.3
TULM Tulcn-Chalpat 5.25 199 P Pn 21 11 09.9 +7.7
BONI La Bonita 5.42 196 P Pn 21 11 10.8 +6.5
CALO3 Calobre, Verag 5.42 299 *eP* Pn 21 11 08.2 +4.0
STIA3 Santiago, Vera 5.44 296 *eP* Pn 21 11 06.3 +1.9
GMAL Guarumal, Vera 5.54 292 P Pn 21 11 08.7 +2.9
GMAL Guarumal, Vera 5.54 292 *i* P Pn 21 11 08.6 +2.9
GMAL *i* S Sn 21 12 08.9 +0.6
SMRC Santa Marta, M 5.72 18 Pn Pn 21 11 10.2 +1.9
CUSE Cuicocha Este 5.85 204 P Pn 21 11 15.4 +5.0
OTAV Otavalo 5.93 204 Pn Pn 21 11 11.9 +0.3
PAC1 Pacto, Paraso 6.05 207 P Pn 21 11 14.3 +1.4
SDV Santo Domingo 6.24 59 Pn Pn 21 11 18.6 +3.1
SDV Santo Domingo 6.24 59 P Pn 21 11 19.0 +3.5
27nm,0.3s,baz=239,slow=5.3,SNR=58
SDV S Sn 21 12 27.8 +2.2
241nm,0.5s,baz=50,slow=20,SNR=12
BRU2 Volcan 7.27 295 Pn Pn 21 11 26.3 -3.4
BRU2 Volcan 7.27 295 *eP* Pn 21 11 33.8 +4.1
BAUV El Baul 8.57 67 Pn Pn 21 11 45.6 -1.7
HATO Hato, Curacao 9.51 47 Pn Pn 21 11 56.7 -3.5
SOCE Pocosol 9.68 299 Pn Pn 21 12 00.3 -2.2
JTS Las Juntas de 9.93 298 P Pn 21 12 06.1 +0.2
3.3nm,0.4s,baz=3.0,slow=19,SNR=1.5
ESPN Las Esperanzas 10.39 309 Pn Pn 21 12 11.1 -1.2
ACON Acoyapa 10.96 305 Pn Pn 21 12 20.8 +0.7
PCRV Puerto La Cruz 12.14 68 P Pn 21 12 38.2 +1.8
5.7nm,0.4s,baz=337,slow=3.2,SNR=7.1
PCRV S Sn 21 14 41.7 -8.8
22nm,0.7s,baz=161,slow=17,SNR=3.8
MTDJ Mount Denham 12.54 353 Pn Pn 21 12 43.3 +1.6
MTDJ Mount Denham 12.54 353 *eP* Pn 21 12 45.2 +3.5
ATAH Atahualpa 12.96 190 P Pn 21 12 49.1 +1.3
2.4nm,0.5s,baz=311,slow=6.3,SNR=2.0
PAPH Port-au-Prince 13.26 16 Pn Pn 21 12 48.3 -3.2
CZSB Cruzeiro do Su 13.75 166 Pn Pn 21 12 55.3 -2.9
BANI BANI 13.79 23 Pn Pn 21 12 56.8 -2.0
SDDR Presa de Saban 13.99 19 P P 21 13 05.9 -2.6
SDDR Presa de Saban 13.99 19 *eP* P 21 13 05.8 -2.6
GTBY Guantanamo Bay 14.17 4 Pn Pn 21 13 03.3 -0.6
GTBY Guantanamo Bay 14.17 4 *eP* P 21 13 07.6 -2.7
RCC Rio Carpintero 14.21 1 *eP* Pn 21 13 07.3 +2.9
MARVS Santiago de Cu 14.22 1 *eP* P 21 13 08.7 -2.1
QMBU Quimbuelo 14.46 5 *eP* P 21 13 11.8 -1.9
MASC Masc 14.50 7 *eP* P 21 13 11.8 -2.2
DR12 Loma Pena Alta 14.54 26 Pn 21 13 07.2 -1.8
PINC Pinares de May 14.70 1 *eP* P 21 13 15.1 -1.2
NMDO Nuevo Mundo 14.81 4 Pn Pn 21 13 11.0 -1.4
NMDO Nuevo Mundo 14.81 4 *eP* P 21 13 18.1 +0.7
MOAC Moa 14.91 4 *eP* P 21 13 16.9 -1.7
CRPR Cabo Rojo, PR 15.03 35 Pn Pn 21 13 12.2 -3.1
CRPR IAmb IAmb 21 13 38.8
comp=Z,28nm,0.8s
HLGC Holguin 15.10 360 *eP* P 21 13 22.5 +1.8
LTUP Las Tunas 15.20 357 *eP* P 21 13 22.8 +1.0
CELP Cerrillos 15.39 36 Pn Pn 21 13 18.1 -1.9
AOPR Arecibo Observ 15.50 35 Pn Pn 21 13 19.5 -1.9
AOPR IAmb IAmb 21 13 44.6
comp=Z,30nm,0.8s
SJG San Juan 15.67 37 P P 21 13 26.1 -0.9
comp=Z,11nm,0.3s,baz=255,slow=12,SNR=3.7
PDPR Patillas Dam, 15.68 38 Pn Pn 21 13 17.5 -6.2
BOAV Boa Vista 15.83 101 P Pn 21 13 21.7 -4.0
BOAV IAmb IAmb 21 13 34.8
comp=Z,18nm,0.7s
HUMP Col San Antoni 15.88 38 Pn Pn 21 13 23.3 -3.0
NNA Nana 17.59 183 LR LR 21 22 14.4
comp=Z,442nm,18.8s,baz=352,slow=42
ETMB Extrema 18.26 148 P P 21 13 55.3 -0.4
CMIG Matias Romero 21.63 303 P P 21 14 31.6 -0.7
comp=Z,0.8nm,0.4s,baz=120,slow=23,SNR=1.5
comp=Z,0.8nm,0.4s
LPAZ La Paz 23.21 160 P P 21 14 48.8 -0.9
LPAZ La Paz 23.21 160 P P 21 14 51.4 +1.8
comp=Z,1.2nm,0.5s,baz=348,slow=2.8,SNR=6.7
comp=Z,1.2nm,0.5s
MDP Montagnes des 23.31 90 P P 21 14 51.0 +0.9
comp=Z,24nm,1.0s,baz=233,slow=16,SNR=1.8
comp=Z,24nm,1.0s
VILB Vilhena 24.32 140 P P 21 14 58.2 -1.2
VILB IAmb IAmb 21 15 24.2
comp=Z,30nm,1.1s
451A Vernon 26.41 341 P P 21 15 18.3 +0.1
P48A Milroy 34.66 347 P P 21 16 30.5 -0.5
ABTX Abilene, Hawle 34.67 324 P P 21 16 28.8 -2.3
ABTX IAmb IAmb 21 16 52.9
comp=Z,18nm,1.5s
FVM French Village 34.70 340 P P 21 16 29.9 -1.4
FVM IAmb IAmb 21 16 33.6
comp=Z,10nm,1.1s
BDFB Brasilia 34.93 128 P P 21 16 34.4 +0.7
comp=Z,2.3nm,0.9s,baz=42,slow=18,SNR=1.9
comp=Z,2.3nm,0.9s
TXAR Lajitas Array 35.12 315 P P 21 16 34.8 -0.4
comp=Z,0.3nm,0.7s,baz=121,slow=10.0,SNR=1.9
comp=Z,0.3nm,0.7s
N49A Columbus Grove 35.82 349 P 21 16 37.1 -3.9
CPUP Villa Florida 36.65 151 P P 21 16 46.2 -2.0
comp=Z,2.4nm,0.7s,baz=326,slow=7.4,SNR=5.5
SDCO Great Sand Dun 41.67 324 P P 21 17 29.3 -1.0
EYMN Ely 44.12 345 P P 21 17 48.9 -0.8
EYMN IAmb IAmb 21 17 51.5
comp=Z,6.4nm,0.9s
PV23 Carpenter Ridg 44.22 322 P P 21 17 49.3 -1.7
PV23 IAmb IAmb 21 17 57.1
comp=Z,11nm,1.0s
LR05 Currie 45.85 176 P P 21 18 04.4 +0.9
PLCA Paso Flores 46.48 174 P P 21 18 08.9 +0.3
comp=Z,1.1nm,0.6s,baz=348,slow=7.2,SNR=4.8
comp=Z,1.1nm,0.6s
PD31 Pinedale Array 47.33 326 P P 21 18 10.5 -5.0
PD31 IAmb IAmb 21 18 35.5
comp=Z,6.0nm,1.3s
PDAR Pinedale Array 47.33 326 P P 21 18 15.3 -0.1
comp=Z,0.3nm,0.4s,baz=112,slow=7.2,SNR=3.6
comp=Z,0.3nm,0.4s
ULM Lac du Bonnet 47.42 343 P P 21 18 14.3 -1.4
ULM IAmb IAmb 21 18 41.6
comp=Z,8.1nm,1.1s
ULM Lac du Bonnet 47.42 343 P P 21 18 15.5 -0.2
comp=Z,1.7nm,0.5s,baz=131,slow=9.0,SNR=4.5
comp=Z,1.7nm,0.5s
LAO LASA Array 48.41 332 P P 21 18 24.3 +0.7
LAO IAmb IAmb 21 18 33.9
comp=Z,8.7nm,1.1s
MOOW Moose Ponds 48.63 327 P P 21 18 24.2 -1.3
SCHQ Schefferville 49.55 7 P P 21 18 32.8 +0.8
SCHQ IAmb IAmb 21 18 39.4
comp=Z,11nm,1.4s
SCHQ Schefferville 49.55 7 P P 21 18 33.0 +1.0
comp=Z,6.3nm,0.6s,baz=212,slow=6.7,SNR=14
comp=Z,6.3nm,0.6s
NVAR Mina Array Bea 50.24 317 P P 21 18 38.0 +0.2
comp=Z,0.3nm,0.5s,baz=112,slow=5.8,SNR=1.2
comp=Z,0.3nm,0.5s
BOZ Bozeman (W) 50.32 328 P P 21 18 36.8 -1.5
FCC Fort Churchill 54.74 349 P P 21 19 10.9 +0.5
FCC IAmb IAmb 21 19 11.9
comp=Z,4.6nm,0.8s
YKA Yellowknife Ar 63.34 341 P P 21 20 10.4 +0.5
comp=Z,1.3nm,0.7s,baz=141,slow=6.4,SNR=25
comp=Z,1.3nm,0.7s
SUMG Summit 70.63 11 P P 21 20 57.5 +0.9
DBIC Dimbokro 70.73 85 P P 21 20 56.6 -1.2
DBIC IAmb IAmb 21 21 39.9
comp=Z,4.0nm,0.8s
DBIC Dimbokro 70.73 85 P P 21 21 02.2 +4.3
comp=Z,1.1nm,0.4s,baz=237,slow=7.5,SNR=2.4
O30N Mendenhall 70.74 333 P P 21 20 55.2 -1.9
O30N IAmb IAmb 21 21 20.6
comp=Z,7.7nm,1.1s
ESDC Sonseca Array 72.60 50 P P 21 21 09.8 +1.1
comp=Z,1.8nm,0.9s,baz=260,slow=5.5,SNR=7.3
comp=Z,1.8nm,0.9s
A36M Sas Harbour 72.78 346 P P 21 21 07.9 -1.2
EKA Eskdalemuir Ar 75.63 34 P P 21 21 26.8 +0.8
comp=Z,2.1nm,0.7s,baz=244,slow=5.5,SNR=6.8
comp=Z,2.1nm,0.7s
ILAR Eielson Array 76.75 335 P P 21 21 32.2 0.0
comp=Z,0.7nm,0.8s,baz=127,slow=4.7,SNR=8.4
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 76.82 78 P P 21 21 33.4 -0.1
comp=Z,0.4nm,0.4s,baz=289,slow=6.9,SNR=6.5
comp=Z,0.4nm,0.4s
SPITS Spitsbergen Ar 84.96 12 P P 21 22 16.4 +0.6
comp=Z,1.5nm,0.4s,baz=222,slow=1.1,SNR=11
comp=Z,1.5nm,0.4s
HFS Hagfors 84.97 30 P P 21 22 15.7 -0.5
comp=Z,1.0nm,0.5s,baz=254,slow=5.4,SNR=1.4
comp=Z,1.0nm,0.5s
GERES GERESS Array B 85.59 41 P P 21 22 19.3 -0.3
comp=Z,1.3nm,0.7s,baz=270,slow=4.0,SNR=7.0
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 88.73 20 P P 21 22 34.9 +0.7
comp=Z,2.8nm,0.9s,baz=275,slow=6.8,SNR=1.5
comp=Z,2.8nm,0.9s
QSPA South Pole Qui 95.72 180 P P 21 23 06.4 -0.3
comp=Z,0.5nm,0.6s,baz=9.0,slow=4.4,SNR=3.1
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 119.77 18 PKP **PKPdf** 21 28 30.7 -0.4
comp=Z,0.2nm,0.7s,baz=359,slow=6.7,SNR=2.0
MKAR Makanchi Array 124.32 18 PKP **PKPdf** 21 28 39.1 -0.9
comp=Z,0.2nm,0.7s,baz=323,slow=2.2,SNR=2.4
SONM Songino Array 126.65 358 PKP **PKPdf** 21 28 44.6 0.0
comp=Z,0.2nm,0.5s,baz=80,slow=1.6,SNR=2.0
ASAR Alice Springs 146.09 235 PKPbc **PKPdf** 21 29 21.2 +0.3
comp=Z,1.7nm,0.7s,baz=116,slow=3.6,SNR=14
WRA Warramunga Arr 147.25 242 PKPbc **PKPdf** 21 29 23.9 +1.0
comp=Z,1.2nm,0.6s,baz=107,slow=3.1,SNR=9.1
CMAR Chiang Mai Arr 155.49 12 PKPab **PKPab** 21 30 01.3 +0.4
comp=Z,2.4nm,0.5s,baz=329,slow=5.7,SNR=22

RSNC 14 21:16:24.5±0.0, 6°N±1°×7°6W±°, h25km±2km, M3.0, mb4.4, ML2.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	**Ciudad Bolivar**	**0.23**	**357**	P	Pb	21 16 30.4	-0.4
CBOC				S	Sb	21 16 36.1	+1.1
GUY2C	**Guyana, Caldas**	**0.75**	**123**	P	Pb	21 16 37.1	-2.1
GUY2C				S	Sb	21 16 48.6	-0.6
PLMC	**San Jos del P**	**0.77**	**201**	P	Pb	21 16 37.6	-1.8
PLMC				S	Sb	21 16 49.1	-0.4
NIZA	**Niza - Manizal**	**0.78**	**137**	P	Pb	21 16 37.6	-1.9
NIZA				S	Sb	21 16 49.2	-0.6
NORC	**Norcasia**	**1.13**	**93**	P	Pn	21 16 42.9	-1.9
NORC				S	Sn	21 16 58.0	-1.5
DBBC	**Dabeiba**	**1.39**	**351**	P	Pn	21 16 46.5	-2.0
DBBC				S	Sn	21 17 05.3	-0.8
PIZC	**Pizarro, Choco**	**1.51**	**244**	P	Pn	21 16 49.1	-0.8
PIZC				S	Sn	21 17 08.7	-0.1
YOTC	**Yotoco, Valle**	**1.67**	**192**	P	Pn	21 16 50.7	-1.6
YOTC				S	Sn	21 17 12.4	-0.6
PTBC	**PUERTO BERRIO,**	**1.78**	**59**	P	Pn	21 16 53.1	-0.6
PTBC				S	Sn	21 17 15.3	-0.3
ROSC	**El Rosal**	**1.85**	**115**	P	Pn	21 16 56.4	+1.4
ROSC				S	Sb	21 17 23.3	+2.6
ORTC	**Ortega, Tolima**	**1.87**	**156**	P	Pn	21 16 54.7	-0.3
ORTC				S	Sn	21 17 18.2	+0.4
MALC	**Bahia Malaga**	**2.09**	**220**	P	Pn	21 16 57.2	-0.7
MALC				S	Sn	21 17 24.4	+1.3
UREC	**San Jos de Ur**	**2.16**	**12**	P	Pn	21 16 58.1	-0.8
UREC				S	Sn	21 17 24.0	-0.9
ZARC	**Zaragoza, Cauc**	**2.17**	**31**	P	Pn	21 16 59.6	+0.5
ZARC				S	Sn	21 17 24.9	-0.3
PRAC	**Prado**	**2.20**	**150**	P	Pn	21 17 00.3	+0.7
APAC	**Apartado, Choc**	**2.33**	**346**	P	Pn	21 17 02.1	+0.9
PTAC	**Punta Ardita,**	**2.35**	**310**	P	Pn	21 16 58.7	-2.8
PTAC				S	Sn	21 17 26.5	-3.0
CHIC	**Chingaza**	**2.47**	**114**	P	Pn	21 17 04.1	+0.6
JAMC	**Jamundi, Valle**	**2.49**	**196**	P	Pn	21 17 02.1	-1.6
JAMC				S	Sn	21 17 31.3	-2.1
VILC	**Villavicencio,**	**2.75**	**123**	P	Pb	21 17 11.0	-2.1
URMC	**La Uribe, Meta**	**2.87**	**146**	P	Pn	21 17 08.0	-0.7
BETC	**Betania**	**2.98**	**169**	P	Pn	21 17 09.6	-0.7
POPC	**Popayan, Colom**	**3.14**	**192**	P	Pn	21 17 13.4	+0.7
POPC				S	Sn	21 17 49.4	-0.1
GR1C	**Gorgona, Isla**	**3.39**	**220**	P	Pn	21 17 18.0	+2.2
PAMC	**Pamplona, Colo**	**3.69**	**62**	P	Pn	21 17 20.1	-0.4
OCAC	**Ocana**	**3.71**	**46**	P	Pn	21 17 20.6	+0.1
BBAC	**Balboa, Cauca**	**3.79**	**199**	P	Pn	21 17 23.6	+2.0
FLOC	**Florencia**	**4.04**	**175**	P	Pn	21 17 24.4	-0.4
BCIP	**Isla Barro Col**	**5.18**	**313**	P	Pn	21 17 37.2	-3.3
BCIP				S	Sn	21 18 33.8	-5.7

*IDC **14** 21:24:14.5±0.5, 9°68N×126°45E, h0km, mb4.4/28, mbtmp4.4/31, ML4.5/2, MS4.0/2, Error ellipse: s-maj=20.3km s-min=10.9km az=85.0*
*DJA **14** 21:24:15.2±1.7, 10°N±15°×12°7E±°, h10km, M5.0/21, mb4.6/21, mB5.8/1, MLv5.2/3, Mw(mB)5.4/1*
*NEIC **14** 21:24:17.5±2.0, 9°79N±0°06×126°45E±0°08, h10km±1km, mb4.9/111, Error ellipse: s-maj=14.0km s-min=10.2km az=84.0*
*BJI **14** 21:24:17.0, 9°35N×126°51E, h43km, mB5.0/7, mb4.5/45, Ms4.5/5, Ms7 4.2/5*

ISC 14 21:24:16.7±0.3, 9°72N±0°04×126°42E±0°07, h10km, n197, σ1§31/192, mb4.8/95, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.77**	**198**		**Pn**	**21 25 05.0**	**+3.8**
DAV	**Davao City (W)**	**2.77**	**198**	Pn	**Pn**	**21 24 58.3**	**-2.8**
102nm,0.4s,baz=348,slow=5.5,SNR=1.0							
DAV				Sn	**Sn**	**21 25 31.8**	**-2.8**
51nm,0.3s,baz=103,slow=15,SNR=6.9							
DAV				LR	LR	21 25 43.7	
comp=Z,1µm,19.0s,baz=344,slow=33							
TGY	**Tagaytay City**	**6.91**	**310**	Pn	**Pn**	**21 25 58.0**	**-0.1**
24nm,0.3s,baz=87,slow=14,SNR=1.3							
71nm,0.3s							
TNTI	**Ternate**	**8.94**	**174**	Pn	**Pn**	**21 26 27.3**	**+1.2**
MYLDM	**Lahad Datu**	**9.06**	**241**		**Pn**	**21 26 28.6**	**+1.0**
MRSI	**Marisa**	**10.21**	**206**	P	Pn	21 26 48.9	+5.5
24nm,1.0s							
TOLI2	**Tolitoli**	**10.23**	**214**	Pn	**Pn**	**21 26 43.8**	**0.0**
KKM	**Kota Kinabalu**	**10.75**	**251**	Pn	**Pn**	**21 26 50.7**	**-0.2**
SANI	**Sanana**	**11.70**	**182**	P	**Pn**	**21 27 07.0**	**+3.1**
18nm,0.8s							
FAKI	**Fak Fak**	**13.84**	**155**	Pn	**Pn**	**21 27 33.0**	**-0.1**
TTSI	**Tana Toraja**	**14.29**	**208**	P	**P**	**21 27 45.4**	**-1.1**
25nm,1.3s							
YULB	**Yu-li**	**14.45**	**341**		**P**	**21 27 48.2**	**-0.1**
TPUB	**Ta-pu**	**14.59**	**338**		**P**	**21 27 49.7**	**-0.2**
SSLB	**Suanglung**	**14.93**	**340**		**P**	**21 27 54.0**	**+0.4**
SPSI	**Sidrap Palu**	**15.13**	**206**	P	**P**	**21 27 55.4**	**-0.5**
12nm,1.2s							
YHNB	**Yeheng**	**15.62**	**343**	P	**P**	**21 28 03.4**	**+2.0**
SBUM	**Sibu**	**15.85**	**244**		**P**	**21 28 05.1**	**+1.2**
KAPI	**Kappang**	**16.08**	**205**	Pn	**Pn**	**21 28 03.4**	**+0.4**
0.6nm,0.3s,baz=152,slow=2.4,SNR=4.3							
5.9nm,0.8s							
BKSI	**Bulukumba**	**16.21**	**203**	P	**P**	**21 28 09.8**	**+1.9**
JOW	**Kunigami**	**17.11**	**6**	Pn	**Pn**	**21 28 15.0**	**-1.0**
STKI	**Sintang**	**17.70**	**238**	P	**P**	**21 28 29.6**	**+5.2**
26nm,0.9s							
MMRI	**Maumere**	**18.71**	**193**		**Pn**	**21 28 38.5**	**+2.6**
MMRI	**Maumere**	**18.71**	**193**	P	**Pn**	**21 28 39.2**	**+3.3**
40nm,0.9s							
SOEI	**Soe**	**19.47**	**186**		**Pn**	**21 28 46.4**	**+1.2**
SOEI				IAmb	IAmb	21 28 59.0	
comp=Z,68nm,1.1s							
SOEI	**Soe**	**19.47**	**186**	P	**Pn**	**21 28 47.8**	**+2.6**
comp=Z,52nm,1.1s							
WSI	**Waingapu**	**20.21**	**198**	P	Pn	21 28 55.9	+2.1
comp=Z,64nm,1.0s							
PLAI	**Plampang**	**20.34**	**205**	P	Pn	21 28 58.6	+3.2
comp=Z,31nm,0.9s							
WBSI	**Waikabubak, Su**	**20.47**	**200**	P	Pn	21 28 58.1	+1.1
comp=Z,24nm,0.8s							
BASI	**Baing, Sumba**	**20.65**	**197**	P	Pn	21 29 00.3	+1.3
comp=Z,84nm,0.9s							
KMMI	**Kalianget**	**20.77**	**217**	P	Pn	21 29 02.5	+2.0
comp=Z,34nm,0.9s							
SRBI	**Singaraja**	**20.92**	**213**	P	Pn	21 29 03.5	+1.3
GRJI	**Gresik**	**21.59**	**221**	P	**P**	**21 29 11.2**	**+4.3**
JCJ	**Chichijima**	**22.81**	**39**	P	**P**	**21 29 20.6**	**+0.8**
MTN	**Manton Dam**	**22.90**	**168**	P	**P**	**21 29 22.1**	**+1.2**
MTN				IAmb	IAmb	21 29 40.4	
comp=Z,27nm,1.1s							
NJ2	**Nanjing**	**23.30**	**344**	⇑P	**P**	**21 29 26.8**	**+2.0**
NJ2				pmax	pmax		
comp=Z,20nm,0.9s							
WHN	**Wuhan**	**23.57**	**333**	⇑P	**P**	**21 29 29.9**	**+2.3**
WHN				pmax	pmax		
comp=Z,44nm,0.9s							
JNU	**Nakatsue**	**23.65**	**9**	P	**P**	**21 29 29.2**	**+0.8**
MYKOM	**Kota Tinggi**	**23.78**	**252**	P	**P**	**21 29 31.7**	**+1.9**
MYKOM				IAmb	IAmb	21 29 35.6	
comp=Z,37nm,0.8s							
JMN	**Monobe**	**24.86**	**15**	P	**P**	**21 29 39.9**	**+0.3**
JMN				IAmb	IAmb	21 29 43.9	
comp=Z,45nm,1.1s							
LEM	**Lembang**	**24.92**	**229**	P	**P**	**21 29 40.0**	**-0.5**
comp=Z,10nm,0.4s,baz=70,slow=4.1,SNR=6.0							
comp=Z,10nm,0.4s							
KNRA	**Kununurra**	**25.34**	**175**	P	**P**	**21 29 45.8**	**+1.8**
KNRA				IAmb	IAmb	21 30 08.3	
comp=Z,15nm,0.8s							
IPM	**Ipoh**	**25.72**	**260**	P	**P**	**21 29 48.7**	**+1.0**
IPM				IAmb	IAmb	21 29 53.7	
comp=Z,32nm,1.0s							
ENH	**Enshi**	**25.84**	**325**	P	**P**	**21 29 47.5**	**-1.0**
KULM	**Kulim**	**25.92**	**262**	P	**P**	**21 29 50.0**	**+0.6**
KULM				IAmb	IAmb	21 30 01.4	
comp=Z,43nm,1.4s							
PHRA	**Phrae**	**26.83**	**292**	P	**P**	**21 29 57.3**	**-0.2**
KSRS	**Korea Array**	**27.64**	**3**	P	**P**	**21 30 05.7**	**+1.1**
comp=Z,3.2nm,0.9s,baz=183,slow=11,SNR=12							
comp=Z,3.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**27.66**	**182**	P	**P**	**21 30 05.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.66**	**182**	P	**P**	**21 30 03.6**	**-1.3**
comp=Z,18nm,0.8s,baz=16,slow=9.5,SNR=13							
comp=Z,18nm,0.8s							
TIA	**Tai'an**	**27.69**	**344**	P	**P**	**21 30 06.1**	**+1.0**
TIA				pmax	pmax		
comp=Z,17nm,1.1s							
LYN	**LuoYang**	**27.82**	**335**	P	**P**	**21 30 07.4**	**+1.1**
LYN				sP	pwP	21 30 24.1	+12
LYN				pmax	pmax		
comp=Z,10.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**28.00**	**291**	P	**P**	**21 30 08.5**	**+0.5**
comp=Z,0.5nm,0.3s,baz=95,slow=6.3,SNR=14							
CMAR				PcP	**PcP**	**21 33 21.7**	**-1.5**
comp=Z,0.5nm,0.4s,baz=142,slow=2.3,SNR=5.1							
comp=Z,0.5nm,0.3s							

WRA PcP **PcP** **21 33 29.2 -0.2**
comp=Z,0.4nm,0.6s,baz=334,slow=2.7,SNR=2.0
comp=Z,1.2nm,0.9s
WB2 Warramunga Arr 30.50 165 P **P** **21 30 32.2 +2.0**
TNCH TengChong 30.57 303 P **P** **21 30 34.0 +2.9**
TNCH pP pwP 21 30 43.1 +6.5
TNCH sP sP 21 30 47.9 +14
TNCH PP **PnPn** **21 31 34.8 +4.6**
TNCH pmax pmax
comp=Z,160nm,4.8s
MBWA Marble Bar 31.39 192 P **P** **21 30 38.3 +0.3**
MBWA IAmb IAmb 21 30 39.0
comp=Z,27nm,1.4s
BJT Baijiatuau 31.52 345 P **P** **21 30 38.7 -0.3**
BJT IAmb IAmb 21 30 41.3
comp=Z,30nm,1.5s
BJI Beijing 31.54 345 P **P** **21 30 40.5 +1.4**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI pmax pmax
comp=Z,130nm,6.1s
BJI LR LR
comp=Z,230nm,16.7s
BJI LR LR
comp=Z,91nm,15.8s
BJI LR LR
comp=Z,170nm,15.4s
PSA00 Pilbara Seismi 31.76 192 P **P** **21 30 40.4 -0.9**
PSA00 IAmb IAmb 21 30 42.4
comp=Z,16nm,0.9s
LZH Lanzhou 33.31 326 *e*P **P** **21 30 55.3 +0.3**
LZH pmax pmax
comp=Z,7.0nm,1.2s
HHC Hu-ho-hao-te 33.68 339 *e*P **P** **21 30 59.3 +1.3**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,150nm,6.3s
ASAR Alice Springs 33.98 168 P **P** **21 30 59.2 -1.6**
comp=Z,0.4nm,0.5s,baz=343,slow=7.2,SNR=7.5
ASAR PcP **PcP** **21 33 38.7 -0.3**
comp=Z,1.4nm,0.9s,baz=330,slow=2.7,SNR=4.7
ASAR ScP **ScP** **21 37 23.0 -1.1**
comp=Z,0.6nm,1.0s,baz=320,slow=3.6,SNR=4.3
comp=Z,0.4nm,0.5s
USA0B Ussuriysk Arra 34.69 7 P **P** **21 31 07.2 +0.6**
USA0B IAmb IAmb 21 31 09.2
comp=Z,16nm,1.4s
USRK Ussuriysk Ar. 34.69 7 P **P** **21 31 06.5 0.0**
USRK Ussuriysk Ar. 34.69 7 P **P** **21 31 05.1 -1.4**
comp=Z,4.1nm,0.9s,baz=192,slow=7.6,SNR=5.2
comp=Z,4.1nm,0.9s
MDJ Mudanjiang 34.87 4 P **P** **21 31 07.7 -0.6**
MDJ Mudanjiang 34.87 4 P **P** **21 31 09.9 +1.7**
MDJ sP pwP 21 31 24.3 +8.2
MDJ S **S** **21 36 42.1 +2.8**
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ LR LR
comp=Z,210nm,6.6s
MDJ LR LR
comp=Z,240nm,6.5s
MDJ LR LR
comp=Z,490nm,7.4s
XLT XiLinHaoTe 35.21 347 *e*P **P** **21 31 11.4 +0.1**
XLT pmax pmax
comp=Z,13nm,0.8s
BRDH Bariadhala 35.69 295 LR LR 21 46 52.2
comp=Z,542nm,18.0s,baz=356,slow=38
BNX BinXian 35.90 1 ⇑P **P** **21 31 18.6 +1.6**
BNX pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 36.34 300 **P** **21 31 22.5 +1.2**
SHL IAmb IAmb 21 31 27.1
comp=Z,11nm,0.7s
GTA Gaotai 37.91 326 *e*P **P** **21 31 35.6 +1.2**
GTA PcP **PcP** **21 33 51.1 +0.6**
GTA pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 39.63 5 P **P** **21 31 48.7 +0.1**
comp=Z,2.5nm,0.7s,baz=213,slow=8.5,SNR=10
comp=Z,2.5nm,0.7s
MORW Morawa 39.84 194 P **P** **21 31 51.0 +0.5**
MORW IAmb IAmb 21 31 52.0
comp=Z,45nm,1.2s
H11S3 WAKE ISLAND Hy 39.94 73 T T 22 14 59.3
baz=262,slow=74,SNR=50
H11S1 WAKE ISLAND Hy 39.95 73 T T 22 15 05.3
baz=262,slow=74,SNR=23
H11S2 WAKE ISLAND Hy 39.95 73 T T 22 14 53.7
baz=262,slow=74,SNR=20
H11N1 WAKE ISLAND Hy 40.29 71 T T 22 15 22.8
baz=266,slow=75,SNR=55
H11N2 WAKE ISLAND Hy 40.30 71 T T 22 15 20.1
baz=266,slow=75,SNR=40
FORT Forrest 40.30 178 P **P** **21 31 55.1 +0.8**
FORT IAmb IAmb 21 31 55.4
comp=Z,24nm,0.7s
H11N3 WAKE ISLAND Hy 40.31 71 T T 22 15 20.7
baz=266,slow=75,SNR=53
HEH HeiHe 40.41 1 *e*P **P** **21 31 56.5 +1.5**
ULN Ulaanbaatar 41.38 340 P **P** **21 32 03.9 +0.6**
SONM Songino Array 41.58 340 P **P** **21 32 05.2 +0.4**
SONM Songino Array 41.58 340 P **P** **21 32 05.4 +0.5**
comp=Z,2.5nm,0.8s,baz=162,slow=9.7,SNR=16
comp=Z,2.5nm,0.8s
EIDS Eidsvold 42.35 146 P **P** **21 32 12.0 +0.7**
BBOO Buckleboo 43.28 168 P **P** **21 32 18.8 +0.1**
BBOO IAmb IAmb 21 32 34.5
comp=Z,13nm,0.8s
NWAO Narrogin (SRO) 43.31 191 P **P** **21 32 19.3 +0.4**
STKA Stephens Creek 43.84 161 P **P** **21 32 21.9 -1.3**
STKA Stephens Creek 43.84 161 P **P** **21 32 21.9 -1.3**
comp=Z,3.5nm,0.8s,baz=334,slow=6.0,SNR=4.4
comp=Z,3.5nm,0.8s
PEA0B Petropavlovsk- 50.07 24 P **P** **21 33 13.4 +1.7**
PETK Petropavlovsk- 50.07 24 P **P** **21 33 12.3 +0.6**
PETK Petropavlovsk- 50.07 24 P **P** **21 33 09.5 -2.1**
comp=Z,6.7nm,1.0s,baz=229,slow=7.3,SNR=1.6
comp=Z,6.7nm,1.0s
YAK Yakutsk 52.27 2 P **P** **21 33 28.9 +0.9**
YAK IAmb IAmb 21 33 30.5
comp=Z,17nm,0.8s
YAK Yakutsk 52.27 2 P **P** **21 33 27.9 0.0**
comp=Z,11nm,0.6s,baz=46,slow=2.4,SNR=2.4
comp=Z,11nm,0.6s
MK31 Makanchi Array 52.55 323 P **P** **21 33 30.2 -0.2**
MKAR Makanchi Array 52.55 323 P **P** **21 33 29.7 -0.7**
MKAR Makanchi Array 52.55 323 P **P** **21 33 30.6 +0.2**
comp=Z,2.6nm,0.6s,baz=122,slow=8.1,SNR=37
MKAR ScP **ScP** **21 38 37.7 -0.6**
comp=Z,0.2nm,0.7s,baz=134,slow=4.2,SNR=1.7
comp=Z,2.6nm,0.6s
MAKZ Makanchi 52.74 323 P **P** **21 33 31.6 -0.2**
KSH Kashi 53.70 312 P **P** **21 33 40.8 +1.6**
KSH pmax pmax
comp=Z,6.0nm,1.3s
NIL Nilore 54.16 305 P **P** **21 33 42.4 -0.2**
NIL IAmb IAmb 21 33 43.3
comp=Z,22nm,1.2s
ZAA0 Zalesovo Array 55.17 331 P **P** **21 33 48.7 -0.7**
ZALV Zalesovo Beam 55.17 331 P **P** **21 33 48.6 -0.8**
comp=Z,2.9nm,0.8s,baz=121,slow=5.7,SNR=11
comp=Z,2.9nm,0.8s
KURK Kurchatov 56.60 326 P **P** **21 33 59.5 -0.3**
KURK IAmb IAmb 21 34 08.1
comp=Z,9.8nm,1.0s
KURBB Kurchatov Arra 56.60 326 P **P** **21 33 59.3 -0.5**
comp=Z,2.6nm,0.7s,baz=125,slow=6.8,SNR=31
comp=Z,2.6nm,0.7s
BTK Batken 57.66 311 P **P** **21 34 06.7 -0.8**
GAR Garm 57.75 310 P **P** **21 34 07.4 -0.9**
GAR IAmb IAmb 21 34 08.9
comp=Z,11nm,0.9s
KBL Kabul 57.76 305 P **P** **21 34 07.7 -0.9**
KBL IAmb IAmb 21 34 09.0
comp=Z,7.1nm,0.8s
CHGR Chuyangaron 58.55 309 P **P** **21 34 12.7 -1.1**
CHGR IAmb IAmb 21 34 15.1
comp=Z,8.1nm,0.8s
SIMJ Simiganj 58.66 309 P **P** **21 34 13.6 -1.1**
KK31 Karatay Array 58.74 315 P **P** **21 34 14.2 -0.8**
KKAR Karatay Array 58.74 315 P **P** **21 34 14.2 -0.8**
KKAR Karatay Array 58.74 315 P **P** **21 34 14.4 -0.6**
KKAR IAmb IAmb 21 34 15.5
comp=Z,2.6nm,0.9s

KIWB Kanaga Island 61.98 36 P **P** **21 34 36.9 -0.1**
BVAR Borovoye Array 62.20 326 P **P** **21 34 38.4 0.0**
comp=Z,2.8nm,0.8s,baz=121,slow=11,SNR=9.0
comp=Z,2.8nm,0.8s
BRVK Borovoye 62.27 326 P **P** **21 34 38.2 -0.7**
BRVK IAmb IAmb 21 34 39.6
comp=Z,5.6nm,0.9s
BILL Bilibino 63.89 16 P **P** **21 34 50.0 +0.6**
BKZ Black Stump Fm 67.27 140 P **P** **21 35 12.6 +0.8**
RTZ Ruatahuna 67.28 139 P **P** **21 35 11.8 -0.1**
ABKAR Akbulak array 67.38 319 P **P** **21 35 11.5 -0.8**
ABKAR IAmb IAmb 21 35 12.2
comp=Z,5.6nm,1.1s
ABKAR Akbulak array 67.38 319 P **P** **21 35 11.3 -0.9**
C16K Lisburne Hills 73.03 21 P **P** **21 35 47.5 +1.0**
C16K IAmb IAmb 21 35 57.4
comp=Z,14nm,1.3s
RDOG Red Dog Mine 73.85 22 P **P** **21 35 51.7 +0.3**
RDOG IAmb IAmb 21 38 09.8
comp=Z,19nm,1.6s
L16K Owhat River 73.97 28 P **P** **21 35 51.8 -0.4**
L16K IAmb IAmb 21 35 56.3
comp=Z,21nm,1.2s
J17K VABM Dome 74.43 27 P **P** **21 35 55.9 +1.0**
J17K IAmb IAmb 21 35 57.5
comp=Z,20nm,1.4s
E18K Tukpahlearik C 74.56 23 P **P** **21 35 57.1 +1.6**
E18K IAmb IAmb 21 35 58.0
comp=Z,9.1nm,1.1s
C18K Utukok River 74.61 21 P **P** **21 35 57.2 +1.4**
K17K Ididarod 74.67 28 P **P** **21 35 57.5 +1.3**
O18K Koktuh Hills 75.81 31 P **P** **21 36 03.6 +0.7**
B20K Meade River 76.28 20 P **P** **21 36 06.1 +0.8**
B20K IAmb IAmb 21 36 08.2
comp=Z,19nm,1.3s
GNI Garni 77.46 309 P **P** **21 36 11.2 -1.6**
GNI IAmb IAmb 21 36 15.7
comp=Z,30nm,1.9s
CAST Castle Rocks 77.56 27 P **P** **21 36 12.0 -0.8**
RAYN Ar Rayn 77.91 292 P **P** **21 36 13.5 -2.1**
RAYN IAmb IAmb 21 36 15.9
comp=Z,7.7nm,0.8s
E22K Anaktuvuk Pass 77.97 22 P **P** **21 36 15.4 +0.5**
C23K Itkillik River 78.51 21 P **P** **21 36 19.2 +1.3**
C23K IAmb IAmb 21 36 20.5
comp=Z,9.4nm,0.7s
KBZ Khabaz 78.69 313 P **P** **21 36 18.5 -0.8**
comp=Z,2.8nm,1.0s,baz=123,slow=2.6,SNR=4.6
comp=Z,2.8nm,1.0s
I23K Minto, Yukon-K 78.81 25 P **P** **21 36 20.8 +1.2**
I23K IAmb IAmb 21 36 26.5
comp=Z,18nm,1.6s
TOLK Toolik Lake Re 78.82 22 P **P** **21 36 21.2 +1.5**
KIV Kislovodsk 78.83 313 P **P** **21 36 19.2 -1.0**
KIV IAmb IAmb 21 36 28.7
comp=Z,6.0nm,0.8s
GEVA Gevas 78.86 307 P **P** **21 36 19.4 -1.3**
NEA2 Nenana 78.93 26 P **P** **21 36 19.7 -0.5**
NEA2 IAmb IAmb 21 38 50.8
comp=Z,33nm,1.9s
MCK McKinley 78.98 27 P **P** **21 36 19.7 -0.9**
MCK IAmb IAmb 21 36 22.2
comp=Z,7.7nm,0.8s
D24K Happy Valley 79.11 21 P **P** **21 36 21.0 -0.2**
D24K IAmb IAmb 21 36 23.6
comp=Z,7.5nm,0.8s
SIRT Sirnak 79.40 306 P **P** **21 36 23.1 -0.4**
GURO Guroymak-BITLI 79.65 308 P **P** **21 36 24.4 -0.5**
GURO IAmb IAmb 21 36 26.7
comp=Z,7.6nm,0.9s
ILAR Eielson Array 79.86 26 P **P** **21 36 25.1 -0.2**
comp=Z,1.2nm,0.8s,baz=236,slow=5.4,SNR=13
comp=Z,1.2nm,0.8s
RIDG Independent Ri 80.79 27 P **P** **21 36 30.7 +0.2**
N25K Chitina, Valde 81.04 29 P **P** **21 36 31.0 -0.9**
N25K IAmb IAmb 21 37 20.2
comp=Z,29nm,1.6s
SCRK Sand Creek 81.16 27 P **P** **21 36 32.9 +0.4**
SCRK IAmb IAmb 21 37 24.7
comp=Z,29nm,2.0s
D27M Malcolm River 81.91 21 P **P** **21 36 37.7 +1.4**
D27M IAmb IAmb 21 36 39.3
comp=Z,5.6nm,0.8s
F28M Old Crow 82.50 23 P **P** **21 36 39.9 +0.5**
F28M IAmb IAmb 21 36 42.1
comp=Z,5.7nm,0.8s
I28M Miner Creek 82.75 25 P **P** **21 36 41.2 +0.4**
I28M IAmb IAmb 21 36 43.9
comp=Z,10nm,0.8s
DAWY Dawson 83.16 26 P **P** **21 36 41.4 -1.6**
DAWY IAmb IAmb 21 36 45.2
comp=Z,11nm,1.2s
I29M Ogilvie Camp, 83.43 25 P **P** **21 36 44.1 -0.1**
I29M IAmb IAmb 21 36 47.0
comp=Z,15nm,1.3s
M29M Somme Creek 83.82 28 P **P** **21 36 47.3 +0.9**
L29M L29M 83.86 27 P **P** **21 36 46.2 -0.4**
G30M tAoh Zraii Nji 83.99 23 P **P** **21 36 47.4 +0.3**
G30M IAmb IAmb 21 36 49.0
comp=Z,9.4nm,1.1s
K29M Barlow Dome 84.01 26 P **P** **21 36 47.8 +0.4**
VOI Vohitsoka 84.11 247 P **P** **21 36 47.3 -1.4**
I30M Mount Dempster 84.26 25 P **P** **21 36 48.9 +0.3**
I30M IAmb IAmb 21 36 51.0
comp=Z,6.9nm,0.8s
J30M Hart River 84.39 25 P **P** **21 36 49.6 +0.2**
HYT Haines Junctio 84.54 29 P **P** **21 36 49.6 -0.5**
SPITS Spitsbergen Ar 84.58 349 P **P** **21 36 49.1 -0.7**
comp=Z,5.6nm,0.7s,baz=96,slow=8.5,SNR=8.1
comp=Z,5.6nm,0.7s
INK Inuvik 84.73 22 P **P** **21 36 51.1 +0.4**
INK IAmb IAmb 21 36 52.8
comp=Z,8.8nm,1.1s
ARCES ARCESS Array B 84.75 340 P **P** **21 36 50.8 -0.1**
comp=Z,5.3nm,0.7s,baz=69,slow=4.0,SNR=13
comp=Z,5.3nm,0.7s
G31M Satah River 84.76 23 P **P** **21 36 50.9 0.0**
F31M Tsiigehtchic 84.85 22 P **P** **21 36 50.9 -0.4**
F31M IAmb IAmb 21 36 53.2
comp=Z,7.3nm,0.8s
H31M Peel River 84.97 24 P **P** **21 36 53.3 +1.2**
N31M Braeburn, Yuko 85.24 28 P **P** **21 36 55.1 +1.6**
BRTR Keskin Array B 85.99 309 P **P** **21 36 56.0 -1.8**
comp=Z,1.0nm,0.8s,baz=73,slow=4.1,SNR=4.4
comp=Z,1.0nm,0.8s
FARO Faro, Yukon 86.20 28 P **P** **21 36 58.5 +0.2**
A36M Sachs Harbour 86.39 17 P **P** **21 36 59.3 +0.4**
FINES FINESS Array B 86.44 332 P **P** **21 36 59.1 -0.2**
comp=Z,8.1nm,0.9s,baz=64,slow=5.6,SNR=17
comp=Z,8.1nm,0.9s
AKASG Malin Array Be 87.08 321 P **P** **21 37 01.8 -0.9**
comp=Z,0.6nm,0.5s,baz=64,slow=5.3,SNR=6.6
comp=Z,0.6nm,0.5s
C36M Paulatuk 87.70 20 P **P** **21 37 05.2 -0.1**
C36M IAmb IAmb 21 37 07.1
comp=Z,7.7nm,0.9s
EUNU Eureka 88.78 5 P **P** **21 37 09.2 -1.2**
EUNU IAmb IAmb 21 37 26.8
comp=Z,8.7nm,1.4s
KIBK Kibwezi 88.79 267 P **P** **21 37 09.8 -2.0**
KIBK IAmb IAmb 21 37 12.5
comp=Z,5.8nm,1.0s
KMBO Kilima Mbogo 89.37 269 P **P** **21 37 13.1 -1.6**
DAG Danmarks Havn 91.31 352 *i*P **P** **21 37 22.0 -0.2**
RES Resolute Bay 92.00 10 P **P** **21 37 23.9 -1.5**
RES IAmb IAmb 21 37 27.3
comp=Z,4.1nm,0.9s
HFS Hagfors 92.60 332 P **P** **21 37 27.8 -0.6**
comp=Z,3.9nm,0.9s,baz=38,slow=2.6,SNR=6.3
comp=Z,3.9nm,0.9s
NEEM North Greenlan 92.97 359 *i*P **P** **21 37 31.4 +1.1**
NC303 NORSAR Array S 93.16 334 P **P** **21 37 29.4 -1.6**
NOA NORSAR Array B 93.31 334 P **P** **21 37 30.5 -1.3**
comp=Z,2.4nm,1.1s,baz=65,slow=4.6,SNR=3.4
comp=Z,2.4nm,1.1s
IDI Anoyia 93.71 307 P **P** **21 37 32.0 -2.2**
YKA Yellowknife Ar 94.19 24 P **P** **21 37 36.2 +0.5**
comp=Z,2.5nm,0.7s,baz=298,slow=4.8,SNR=34
comp=Z,2.5nm,0.7s
GERES GERESS Array B 97.21 322 P **P** **21 37 50.1 +0.1**
comp=Z,0.7nm,0.7s,baz=59,slow=10,SNR=2.6
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 118.07 49 PKP **PKPdf** **21 43 05.0 +0.2**
comp=Z,0.3nm,0.6s,baz=311,slow=3.1,SNR=2.1
TORD Torodi Ar. Bea 120.61 292 PKP **PKPdf** **21 43 09.1 -0.8**
comp=Z,0.5nm,0.6s,baz=16,slow=3.3,SNR=4.2

PLCA Paso Flores 145.65 157 PKPbc **PKPdf** **21 43 56.6 +0.7**
comp=Z,4.7nm,0.8s,baz=223,slow=4.7,SNR=10

IDC 14 21:38:24.4±2.1, 8°.61S×127°.35E, h0km, mb3.1/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=159.5km s-min=30.1km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.14**	**150**	Pn	Pn	21 41 31.6	-0.8
	0.1nm,0.3s,baz=327,slow=14,SNR=5.0						
WRA				Sn	Sn	21 44 00.5	+1.0
	0.1nm,0.3s,baz=327,slow=23,SNR=2.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**16.24**	**158**	Pn	Pn	21 42 15.2	+1.1
	baz=342,slow=12,SNR=4.9						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**68.17**	**328**	P	P	21 49 26.6	0.0
	0.1nm,0.6s,baz=116,slow=6.6,SNR=1.6						
	0.1nm,0.6s						

IDC 14 21:51:45.1±1.9, 8°.86S×127°.22E, h0km, mb3.6/1, mbtmp4.1/4, ML4.3/3, Error ellipse: s-maj=94.1km s-min=27.3km az=71.0
DJA 14 21:52:08.0±1.0, 9°.5±10°.×12°.6E±°, h52km±24km, M4.1/7, mb4.7/2, MLv3.8/7
ISC 14 21:51:49.8±1.5, 9°.1S±0°.1×127°.1E±0°.1, h35km, n9, σ1§55/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.90**	**256**	P	**Pn**	**21 52 34.7**	**+1.1**
MMRI	**Maumere**	**4.84**	**275**	P	**Pn**	**21 52 58.4**	**-1.8**
AAI	**Ambon**	**5.44**	**11**	P	Pn	21 53 30.0	+22
BASI	**Baing, Sumba**	**6.55**	**259**	P	**Pn**	**21 53 23.6**	**-0.1**
	0.3nm66nm,0.9s						
WSI	**Waingapu**	**6.76**	**264**	P	**Pn**	**21 53 26.6**	**0.0**
	71nm,0.8s						
FITZ	**Fitzroy Crossi**	**9.10**	**189**	Pn	**Pn**	**21 54 00.6**	**+1.9**
	2.5nm,0.3s,baz=17,slow=11,SNR=47						
FITZ				Sn	**Sn**	**21 55 39.1**	**-0.8**
	2.9nm,0.3s,baz=247,slow=21,SNR=7.7						
	5.2nm,0.4s						
WRA	**Warramunga Arr**	**12.87**	**148**	Pn	**Pn**	**21 54 51.2**	**+0.8**
	1.7nm,0.3s,baz=327,slow=13,SNR=42						
WRA				Sn	**Sn**	**21 57 11.5**	**-1.0**
	1.2nm,0.3s,baz=316,slow=24,SNR=7.5						
	2.6nm,0.3s						
ASAR	**Alice Springs**	**15.91**	**157**	Pn	**Pn**	**21 55 32.3**	**+1.1**
	1.4nm,0.3s,baz=332,slow=9.5,SNR=58						
ASAR				Sn	**Sn**	**21 58 23.8**	**-2.7**
	0.4nm,0.3s,baz=329,slow=22,SNR=5.8						
	4.9nm,0.8s						
MKAR	**Makanchi Array**	**68.43**	**329**	P	**P**	**22 02 48.2**	**0.0**
	0.3nm,0.5s,baz=118,slow=7.1,SNR=7.1						
	0.3nm,0.5s						

SJA 14 21:54:27.3±0.7, 32°.05S×71°.63W, h40km±999km, ML3.4, MW3.5
GUC 14 21:54:30.1±0.7, 32°.19S×71°.49W, h66km±3km, ML3.7
ISC 14 21:54:28.0±1.4, 32°.05S±0°.03×71°.73W±0°.06, h59km±17km, n50, σ1§09/77, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.62**	**145**	*i*P	**Pn**	**21 54 41.8**	**+0.6**
VA06				*e*S	**Sn**	**21 54 51.3**	**+0.4**
VA06				IAML		21 54 52.2	
	comp=N,10μm,0.1s						
VA01	**Torpederas**	**0.97**	**176**	*e*P	**Pn**	**21 54 46.4**	**+0.8**
VA01				*e*S	**Sn**	**21 54 59.2**	**+0.6**
VA01				IAML		21 55 00.7	
	comp=Z,401nm,0.1s						
VA01	**Torpederas**	**0.97**	**176**	*e*P	**Pn**	**21 54 46.4**	**+0.8**
VA01				*e*S	**Sn**	**21 54 59.2**	**+0.6**
VA01				IAML		21 55 01.7	
	comp=E,5μm,0.1s						
ROCH	**El Roble**	**1.10**	**147**	⇑*e*P	**Pn**	**21 54 47.4**	**-0.1**
ROCH				*e*S	**Sn**	**21 55 01.2**	**-0.8**
ROC1	**El Roble**	**1.10**	**147**	*e*P	**Pn**	**21 54 47.3**	**-0.2**
ROC1				*e*S	**Sn**	**21 55 01.1**	**-0.9**
VA03	**San Esteban**	**1.22**	**126**	*e*P	**Pn**	**21 54 48.3**	**-0.7**
VA03				*e*S	**Sn**	**21 55 03.2**	**-1.4**
VA03				IAML		21 55 04.5	
	comp=Z,2μm,0.2s						
VA03	**San Esteban**	**1.22**	**126**	⇑*e*P	**Pn**	**21 54 48.4**	**-0.6**
VA03				*e*S	**Sn**	**21 55 02.9**	**-1.8**
VA03				IAML		21 55 04.5	
	comp=E,6μm,0.2s						
MT02	**Curacav**	**1.30**	**158**	*e*P	**Pn**	**21 54 49.8**	**-0.2**
MT02				*e*S	**Sn**	**21 55 04.8**	**-1.7**
MT02				IAML		21 55 06.1	
	comp=Z,527nm,0.2s						
MT02	**Curacav**	**1.30**	**158**	*e*P	**Pn**	**21 54 49.9**	**-0.1**
MT02				*e*S	**Sn**	**21 55 05.2**	**-1.3**
PEL	**Peldehue**	**1.40**	**141**	*e*P	Pn	21 54 34.5	-17
PEL				*e*S	**Sn**	**21 55 07.5**	**-1.3**
PEL	**Peldehue**	**1.40**	**141**	*e*P	**Pn**	**21 54 51.0**	**-0.4**
PEL				*e*S	**Sn**	**21 55 06.9**	**-2.0**
PEL				IAML		21 55 09.1	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.50**	**36**	*e*P	**Pn**	**21 54 52.9**	**+0.1**
CO03				*e*S	**Sn**	**21 55 11.1**	**-0.2**
CO03				IAML		21 55 11.5	
	comp=Z,510nm,0.3s						
MT05	**Renca**	**1.57**	**148**	*e*P	**Pn**	**21 54 53.9**	**+0.1**
MT05				*e*S	**Sn**	**21 55 13.0**	**-0.1**
MT05				IAML		21 55 13.3	
	comp=Z,791nm,0.5s						
MT10	**Hacienda Santa**	**1.58**	**141**	⇑*e*P	**Pn**	**21 54 53.7**	**-0.1**
MT10				*e*S	**Sn**	**21 55 11.9**	**-1.4**
VA05	**Santo Domingo**	**1.60**	**177**	*e*P	**Pn**	**21 54 54.7**	**+0.7**
VA05				*e*S	**Sn**	**21 55 14.0**	**+0.3**
MT14	**Cerro Cal¡n**	**1.67**	**144**	*e*P	**Pn**	**21 54 55.1**	**0.0**
MT14				*e*S	**Sn**	**21 55 14.1**	**-1.4**
MT16	**CCHEN**	**1.71**	**144**	⇑*e*P	**Pn**	**21 54 55.3**	**-0.2**
FCH	**Farellones**	**1.76**	**137**	*e*P	**Pn**	**21 54 56.0**	**-0.4**
FCH				*i*S	**Sn**	**21 55 16.5**	**-1.4**
FCH				IAML		21 55 17.8	
	comp=E,924nm,0.2s						
MT03	**Universidad Ad**	**1.77**	**145**	*e*P	**Pn**	**21 54 56.4**	**+0.1**
MT03				*e*S	**Sn**	**21 55 18.1**	**+0.3**
MT03				IAML		21 55 19.3	
	comp=Z,1μm,0.1s						
MT03	**Universidad Ad**	**1.77**	**145**	*e*P	**Pn**	**21 54 56.3**	**-0.1**
MT09	**Talagante**	**1.83**	**160**	*e*P	**Pn**	**21 54 57.7**	**+0.4**
MT09				*e*S	**Sn**	**21 55 18.8**	**-0.6**
MT09				IAML		21 55 21.7	
	comp=N,1μm,0.2s						
MT01	**Popeta**	**1.85**	**168**	*e*P	**Pn**	**21 54 57.1**	**-0.3**
MT01				*e*S	**Sn**	**21 55 21.7**	**+2.0**
MT01				IAML		21 55 23.2	
	comp=Z,306nm,0.1s						
MT01	**Popeta**	**1.85**	**168**	*e*P	**Pn**	**21 54 57.5**	**+0.1**
MT01				*e*S	**Sn**	**21 55 19.4**	**-0.3**
MT15	**Las Vizcachas**	**1.85**	**147**	*e*P	**Pn**	**21 54 57.4**	**-0.1**
MT04	**Ro Olivares**	**1.90**	**136**	*e*P	**Pn**	**21 54 58.6**	**+0.3**
MT04				*e*S	**Sn**	**21 55 21.6**	**+0.3**
MT04				IAML		21 55 22.3	
	comp=Z,485nm,0.2s						
MT04	**Ro Olivares**	**1.90**	**136**	*e*P	**Pn**	**21 54 58.5**	**+0.2**
MT04				IAML		21 55 22.5	
	comp=E,850nm,0.2s						
MT08	**Bocatoma Ro**	**2.00**	**134**	*e*P	**Pn**	**21 54 59.8**	**+0.2**
MT08				*e*S	**Sn**	**21 55 24.6**	**+0.9**
MT08				IAML		21 55 27.6	
	comp=Z,448nm,0.6s						
GO04	**Tololo Observa**	**2.03**	**23**	*e*P	**Pn**	**21 55 00.5**	**+0.3**
GO04				*e*S	Sn	21 55 12.4	-12
MT13	**San Alfonso**	**2.08**	**145**	*e*P	**Pn**	**21 55 00.9**	**+0.3**
MT13				*e*S	**Sn**	**21 55 25.5**	**+0.1**
MT13				IAML		21 55 25.6	
	comp=Z,504nm,0.5s						
MT13	**San Alfonso**	**2.08**	**145**	*e*P	**Pn**	**21 55 00.8**	**+0.3**
RTLS	**Leoncito**	**2.08**	**84**	*e*P	**Pn**	**21 55 01.3**	**+0.5**
RTLS				*e*S	**Sn**	**21 55 28.7**	**+2.9**
RTLS				IAML		21 55 28.8	
	comp=Z,444nm,0.6s						
BO04	**La Punta**	**2.15**	**154**	*e*P	**Pn**	**21 55 01.6**	**+0.1**
BO04				*e*S	**Sn**	**21 55 25.7**	**-1.3**
LMEL	**Las Melosas**	**2.20**	**145**	*e*P	**Pn**	**21 55 02.9**	**+0.6**

```
LMEL                                  eS      Sn      21 55 28.9 +0.4
LMEL  Las Melosas        2.20 145⇑    eP      Pn      21 55 02.4 +0.1
LMEL                                  IAML            21 55 30.2
      comp=E,983nm,0.1s
BO01  Tunca              2.40 167     eP      Pn      21 55 05.0 +0.1
BO01                                  IAML            21 55 39.4
      comp=Z,114nm,0.2s
BO01  Tunca              2.40 167     eP      Pn      21 55 05.0 +0.1
CO01  Juntas del Tor     2.50  35     eP      Pn      21 55 07.2 +0.8
CO01                                  eS      Sn      21 55 35.8 -0.1
CO01                                  IAML            21 55 52.4
      comp=Z,74nm,0.4s
DOCA  Reserva Natura     2.51  65     eP      Pn      21 55 07.9 +1.1
DOCA                                  eS      Sn      21 55 37.7 +1.3
DOCA                                  IAML            21 55 39.4
      comp=Z,140nm,0.6s
ZON   Zonda              2.64  80     eP      Pn      21 55 09.8 +1.5
ZON                                   eS      Sn      21 55 22.7 -16
ZON                                   IAML            21 55 46.6
      comp=Z,79nm,0.4s
AROD  Rodeo              2.69  46     eP      Pn      21 55 11.1 +1.9
ACCO  Cerro Coronel      2.70  58     eP      Pn      21 55 10.9 +1.5
ACCO                                  eS      Sn      21 55 38.9 -2.2
SJA   San Juan           2.75  80     eP      Pn      21 55 00.7 -8.9
SJA                                   IAML            21 55 32.3
      comp=Z,155nm,0.8s
BO02  Sierra Bellavi     2.84 164     eP      Pn      21 55 11.4 +0.4
ACDV  Cuesta del Vie     2.92  51     eP      Pn      21 55 29.1 +17
ACDV                                  IAML            21 56 18.5
      comp=Z,54nm,0.9s
LCO   Las Campanas       3.16  17     eP      Pn      21 55 15.9 +0.4
LCO                                   eS      Sn      21 55 47.3 -4.8
LCO                                   eS              21 55 53.1
LCO                                   IAML            21 56 07.6
      comp=Z,159nm,0.6s
AGUA  GUANDACOL          3.78  48     eP      Pn      21 55 25.6 +1.7
AGUA                                  eS      Sn      21 55 50.1 -17
AGUA                                  IAML            21 55 54.1
      comp=Z,88nm,0.5s
RFA   San Rafael         3.84 136     eP      Pn      21 55 25.2 +0.5
RFA                                   eS      Sn      21 55 52.8 -16
RFA                                   IAML            21 56 29.8
      comp=Z,21nm,1.7s
AVFE  Valle Fertil       3.91  70     eP      Pn      21 55 25.7 +0.1
AVFE                                  IAML            21 56 32.5
      comp=Z,55nm,0.7s
APLL  PUNTA DE LOS L     4.75  71     eP      Pn      21 55 36.9 -0.2
ACLC  CERRO LA CRUZ      4.87  59     IAML            21 56 59.0
      comp=Z,15nm,0.4s
```

*IDC **14** 21:57:11.4±2.4, 33°.04N×88°.30E, h0km, mb3.4/3, mbtmp3.5/6, ML3.8/2, Error ellipse: s-maj=55.2km s-min=32.6km az=59.0*

ISC 14 21:57:15.6±1.6, 33°.0N±0°.2×88°.3E±0°.3, h35km, n6, σ1§25/6, Xizang

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
MKAR  Makanchi Array     14.47 343   Pn      Pn              22 00 37.1 -0.8
      0.1nm,0.3s,baz=164,slow=12,SNR=8.9
      0.8nm,1.1s
CMAR  Chiang Mai Arr     17.40 144   P       Pn              22 01 15.1 -0.6
      0.3nm,0.3s,baz=332,slow=9.9,SNR=4.4
      0.9nm,0.4s
KURBB Kurchatov Arra     18.98 341   P       P               22 01 32.8 -1.0
      0.4nm,0.8s,baz=146,slow=12,SNR=2.8
SONM  Songino Array      20.15  38   P       P               22 01 47.7 +0.8
      0.8nm,0.7s,baz=229,slow=11,SNR=8.3
      0.8nm,0.7s
ZALV  Zalesovo Beam      21.04 354   P       P               22 01 56.0 -0.3
      0.4nm,0.4s,baz=153,slow=10,SNR=2.4
      0.4nm,0.4s
HFS   Hagfors            54.43 324   P       P               22 06 40.4 +1.4
      2.0nm,0.8s,baz=87,slow=10,SNR=1.6
      2.0nm,0.8s
```

*IDC **14** 22:04:04.0±0.8, 9°.81N×126°.79E, h0km, mb3.9/13, mbtmp3.9/14, ML4.3/1, MS3.5/2, Error ellipse: s-maj=33.0km s-min=15.4km az=81.0*

ISC 14 22:04:10.1±0.7, 9.79N±0°.08×126°.8E±0°.2, h41km, n24, σ0§95/19, mb3.9/14, Mindanao

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
DAV   Davao City (W)     2.94 203    Pn      Pn              22 04 54.1 -0.3
      44nm,0.3s,baz=88,slow=8.0,SNR=5.6
DAV                                  Sn      Sn              22 05 29.6 +1.2
      52nm,0.3s,baz=66,slow=23,SNR=6.6
DAV                                  LR      LR              22 05 49.1
      comp=Z,550nm,19.2s,baz=52,slow=35
      65nm,0.3s
KSRS  Korea Array        27.57   2   P       P               22 09 52.7 -0.6
      0.3nm,0.3s,baz=194,slow=9.9,SNR=1.5
      0.3nm,0.3s
CMAR  Chiang Mai Arr     28.28 291   P       P               22 09 59.8 -0.1
      0.5nm,0.3s,baz=91,slow=6.9,SNR=4.8
      0.5nm,0.3s
PSI   Prapat             28.50 258   LR      LR              22 22 44.1
      comp=Z,138nm,18.8s,baz=72,slow=39
WRA   Warramunga Arr     30.47 166   P       P               22 10 18.6 -0.6
      0.4nm,0.8s,baz=344,slow=9.2,SNR=2.6
      0.4nm,0.8s
ASAR  Alice Springs      33.97 168   P       P               22 10 48.9 -1.1
      0.2nm,0.4s,baz=351,slow=7.0,SNR=6.1
ASAR                                 PcP     PcP             22 13 28.0 +0.4
      0.2nm,0.5s,baz=341,slow=2.4,SNR=1.7
      0.2nm,0.4s
H11S3 WAKE ISLAND Hy 39.60  73       T       T               22 54 46.5
      baz=262,slow=73,SNR=12
H11S1 WAKE ISLAND Hy 39.62  73       T       T               22 54 40.9
      baz=262,slow=73,SNR=7.8
H11S2 WAKE ISLAND Hy 39.62  73       T       T               22 54 40.3
      baz=262,slow=73,SNR=14
H11N1 WAKE ISLAND Hy 39.96  71       T       T               22 55 14.9
      baz=265,slow=74,SNR=19
H11N2 WAKE ISLAND Hy 39.96  71       T       T               22 55 03.1
      baz=265,slow=74,SNR=16
H11N3 WAKE ISLAND Hy 39.98  71       T       T               22 55 14.5
      baz=265,slow=74,SNR=16
SONM  Songino Array      41.64 339   P       P               22 11 55.6 +1.0
      0.5nm,0.5s,baz=158,slow=11,SNR=7.4
      0.5nm,0.5s
PETK  Petropavlovsk-     49.88  24   P       P               22 12 58.8 -0.6
      8.3nm,1.1s,baz=209,slow=8.1,SNR=1.6
      8.3nm,1.1s
MKAR  Makanchi Array     52.70 323   P       P               22 13 20.2 -0.5
      0.8nm,0.6s,baz=123,slow=8.3,SNR=14
      0.8nm,0.6s
ZALV  Zalesovo Beam      55.28 331   P       P               22 13 38.9 -0.4
      0.4nm,0.3s,baz=128,slow=6.9,SNR=2.4
      0.4nm,0.3s
KURBB Kurchatov Arra     56.74 325   P       P               22 13 48.8 -1.0
      0.7nm,0.4s,baz=124,slow=7.1,SNR=6.1
      0.7nm,0.4s
BVAR  Borovoye Array     62.33 325   P       P               22 14 27.2 -1.1
      0.6nm,0.6s,baz=127,slow=4.3,SNR=2.1
      0.6nm,0.6s
ARCES ARCESS Array B     84.81 340   P       P               22 16 40.6 +0.6
      4.3nm,0.9s,baz=59,slow=4.4,SNR=7.7
      4.3nm,0.9s
FINES FINESS Array B     86.54 332   P       P               22 16 49.1 +0.4
      1.8nm,0.7s,baz=22,slow=1.0,SNR=6.1
      1.8nm,0.7s
HFS   Hagfors            92.70 333   P       P               22 17 16.9 -0.8
      1.9nm,0.8s,baz=90,slow=7.9,SNR=5.3
      1.9nm,0.8s
YKA   Yellowknife Ar     94.00  24   P       P               22 17 26.0 +2.4
      0.7nm,0.7s,baz=295,slow=4.7,SNR=11
TORD  Torodi Ar. Bea    120.89 292   PKP     PKPdf           22 22 58.6 -0.5
      0.1nm,0.4s,baz=63,slow=2.1,SNR=1.2
PLCA  Paso Flores       145.57 156   PKPbc   PKPab           22 23 45.0 +0.1
      0.9nm,0.7s,baz=336,slow=5.2,SNR=4.0
```

IDC 14 22:38:54.6±1.9, 6°.66S×129°.24E, h0km, mb3.4/2, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=93.1km s-min=26.4km az=77.0, Banda Sea

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
FITZ  Fitzroy Crossi     11.90 197   Pn      Pn              22 41 46.0 +0.4
      0.2nm,0.3s,baz=12,slow=14,SNR=8.2
FITZ                                 Sn      Sn              22 43 45.1 -14
      0.6nm,0.3s,baz=86,slow=18,SNR=6.8
      3.8nm,1.0s
WRA   Warramunga Arr     14.10 160   Pn      Pn              22 42 15.7  0.0
      0.8nm,0.3s,baz=339,slow=13,SNR=16
WRA                                  Sn      Sn              22 44 37.4 -16
      0.5nm,0.3s,baz=323,slow=24,SNR=4.8
      0.6nm,0.5s
ASAR  Alice Springs      17.49 166   P       Pn              22 42 59.7 -0.4
      0.7nm,0.3s,baz=340,slow=11,SNR=38
ASAR                                 S       Sn              22 46 01.1 -14
      0.2nm,0.4s,baz=345,slow=25,SNR=2.7
      2.4nm,0.6s
MKAR  Makanchi Array     67.53 327   P       P               22 49 51.9 -0.9
      0.1nm,0.6s,baz=131,slow=6.3,SNR=1.9
      0.1nm,0.6s
ZALV  Zalesovo Beam      70.95 334   P       P               22 50 14.7 +1.0
      0.3nm,0.3s,baz=115,slow=6.5,SNR=1.6
      0.3nm,0.3s
```

*IDC **14** 22:57:04.8±1.2, 55°.32S×27°.10W, h0km, mb3.9/3, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=73.9km s-min=26.9km az=93.0*

ISC 14 22:57:08.2±1.2, 55°.2S±0°.2×28°.5W±0°.4, h35km, n8, σ1§50/8, mb4.0/3, 1C, South Sandwich Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
SNAA  Sanae              19.84 156   P       Pn              23 01 38.6 +1.3
SNAA  Sanae              19.84 156   ⇑P      Pn              23 01 38.6 +1.3
      comp=Z,49nm,0.4s
SNAA  Sanae              19.84 156   P       P               23 01 33.2 -2.4
      comp=Z,0.1nm,0.3s,baz=311,slow=11,SNR=1.7
      comp=Z,2.5nm,1.0s
QSPA  South Pole Qui     35.08 180   P       P               23 03 58.3 +0.7
      comp=Z,0.9nm,0.4s,baz=219,slow=6.5,SNR=5.4
      comp=Z,0.9nm,0.4s
VNDA  Vanda              47.42 183   P       P               23 05 38.4  0.0
      comp=Z,1.7nm,0.8s,baz=180,slow=4.0,SNR=2.3
      comp=Z,1.7nm,0.8s
TORD  Torodi Ar. Bea     72.65  31   P       P               23 08 32.7 +0.7
      comp=Z,0.6nm,0.7s,baz=202,slow=5.6,SNR=4.5
      comp=Z,0.6nm,0.7s
ILAR  Eielson Array     149.00 313   PKPbc   PKPab           23 16 54.8 -0.5
      comp=Z,0.9nm,0.8s,baz=90,slow=1.8,SNR=9.1
SONM  Songino Array     151.38  86   PKPbc   PKiKP           23 16 56.8 -1.0
      comp=Z,0.5nm,0.9s,baz=252,slow=1.4,SNR=3.9
```

*IDC **14** 22:57:17.8±0.8, 55°.31S×26°.91W, h0km, mb4.1/6, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=29.8km s-min=20.8km az=72.0*

ISC 14 22:57:21.5±0.7, 55°.3S±0°.1×27°.0W±0°.2, h25km, n17, σ0§70/17, mb4.2/6, 3C, South Sandwich Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
VNA1  Neumayer--Stat     17.43 159   P       P               23 01 24.7 +1.2
VNA1  Neumayer--Stat     17.43 159   ⇑P      P               23 01 24.7 +1.2
      comp=Z,4.3nm,0.4s
VNA3  Neumayer Olymp     17.64 161   P       Pn              23 01 24.2 -1.0
VNA3  Neumayer Olymp     17.64 161   ⇑P      Pn              23 01 24.2 -1.0
      comp=Z,5.8nm,0.8s
VNA2  Neumayer--Watz     17.82 159   P       Pn              23 01 27.4  0.0
      baz=307,slow=14
VNA2  Neumayer--Watz     17.82 159   ⇑P      Pn              23 01 27.4  0.0
      comp=Z,4.2nm,0.5s,baz=307,slow=14
SNAA  Sanae              19.36 157   P       P               23 01 45.4 +0.5
      comp=Z,0.7nm,0.3s,baz=322,slow=13,SNR=11
      comp=Z,1.5nm,0.6s
QSPA  South Pole Qui     34.93 180   P       P               23 04 10.9 -0.1
      comp=Z,1.3nm,0.3s,baz=246,slow=2.7,SNR=8.9
      comp=Z,1.3nm,0.3s
CPUP  Villa Florida      36.44 310   P       P               23 04 23.6 -0.4
      comp=Z,1.0nm,0.5s,baz=161,slow=7.2,SNR=3.0
      comp=Z,1.0nm,0.5s
BOSA  Boshof             45.67  76   P       P               23 05 40.5 +0.3
      comp=Z,2.5nm,1.1s,baz=229,slow=9.3,SNR=1.7
      comp=Z,2.5nm,1.1s
VNDA  Vanda              47.31 183   P       P               23 05 51.8 -0.5
      comp=Z,2.0nm,0.8s,baz=149,slow=4.7,SNR=4.0
      comp=Z,2.0nm,0.8s
LPAZ  La Paz             50.07 304   P       P               23 06 15.8 +1.0
      comp=Z,1.2nm,0.5s,baz=60,slow=5.3,SNR=5.3
      comp=Z,1.2nm,0.5s
TORD  Torodi Ar. Bea     72.36  29   P       P               23 08 44.5 -0.5
      comp=Z,1.5nm,0.6s,baz=206,slow=4.8,SNR=9.8
      comp=Z,1.5nm,0.6s
CMAR  Chiang Mai Arr    125.19 110   PKP     PKPdf           23 16 19.5 -0.2
      comp=Z,1.1nm,0.3s,baz=236,slow=3.9,SNR=5.8
YKA   Yellowknife Ar    135.72 318   PKP     PKPdf           23 16 37.8 -0.4
      comp=Z,0.2nm,0.7s,baz=146,slow=1.6,SNR=3.7
ILAR  Eielson Array     149.72 313   PKPbc   PKPbc           23 17 07.7 +0.2
      comp=Z,2.2nm,0.8s,baz=122,slow=1.6,SNR=13
SONM  Songino Array     150.54  85   PKPbc   PKiKP           23 17 10.9  0.0
      comp=Z,1.2nm,0.7s,baz=225,slow=2.7,SNR=7.7
```

IDC 14 22:58:06.0±11.0, 21°.70S×179°.74W, h636km±83km, mb2.7/2, mbtmp3.8/3, Error ellipse: s-maj=318.0km s-min=43.0km az=148.0, Fiji Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
MSVF  Nonsavu             4.46 332   P       P               22 59 37.4 -0.1
      17nm,0.4s,baz=294,slow=23,SNR=9.7
ASAR  Alice Springs      42.67 258   P       P               23 05 09.7 +0.3
      0.6nm,0.4s,baz=97,slow=7.9,SNR=8.2
      0.6nm,0.4s
WRA   Warramunga Arr     42.84 264   P       P               23 05 10.5 -0.2
      0.7nm,0.6s,baz=101,slow=8.3,SNR=7.6
      0.7nm,0.6s
HFS   Hagfors           140.44 349   PKP     PKPdf           23 16 21.5 -2.3
      3.4nm,1.1s,baz=45,slow=2.9,SNR=5.2
AKASG Malin Array Be    143.24 329   PKP     PKPdf           23 16 28.9 -0.1
      0.6nm,0.5s,baz=44,slow=4.1,SNR=5.1
```

IDC 14 23:17:27.7±2.9, 3°.56S×134°.59E, h0km, mb3.8/2, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=130.8km s-min=25.3km az=83.0, Irian Jaya region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
WRA   Warramunga Arr     16.28 181   Pn      P               23 21 19.9 -1.3
      0.5nm,0.3s,baz=359,slow=13,SNR=9.2
      1.1nm,0.5s
FITZ  Fitzroy Crossi     16.90 211   Pn      Pn              23 21 25.1 -0.8
      0.2nm,0.3s,baz=36,slow=6.6,SNR=3.0
      3.0nm,0.9s
ASAR  Alice Springs      20.00 182   P       P               23 22 01.6 -0.5
      0.6nm,0.3s,baz=7.8,slow=11,SNR=46
      5.6nm,0.8s
MKAR  Makanchi Array     68.01 324   P       P               23 28 29.5 +0.6
      0.8nm,0.6s,baz=111,slow=8.1,SNR=12
      0.8nm,0.6s
ZALV  Zalesovo Beam      70.66 331   P       P               23 28 44.2 -1.0
      0.4nm,0.6s,baz=123,slow=7.1,SNR=1.7
      0.4nm,0.6s
```

*ISK **14** 23:20:18.6, 39°.29N×40°.21E, h4km, ML2.5/14*
*AFAD **14** 23:20:19.1, 39°.31N×40°.16E, h7km±4km, ML2.2*

ISC 14 23:20:19.2±1.2, 39°.30N±0°.03×40°.19E±0°.02, h4km±12km, n22, σ0§83/31, Turkey

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
YEDI  Yedisu-Bingol      0.30  64   Pg      Pg              23 20 25.1  0.0
YEDI                                 Sg      Sg              23 20 29.7 +0.6
BNGB  Bingl              0.49 129   Pg      Pg              23 20 28.6  0.0
BNGB                                 Sg      Sg              23 20 35.7 +0.7
TNCL  Tunceli-Merkez     0.54 250   P       Pg              23 20 29.5 -0.1
TNCL                                 S       Sb              23 20 37.9 -1.5
TNCL                                 i AML   AML             23 20 38.0
      comp=E,642nm,0.3s
TNCL                                 i AML   AML             23 20 40.0
      comp=N,504nm,0.1s
EUZM  Uzumlu             0.56 317   P       Pg              23 20 30.0 +0.2
EUZM                                 i AML   AML             23 20 43.0
      comp=N,83nm,0.7s
EUZM                                 i AML   AML             23 20 44.0
      comp=E,108nm,0.3s
KARO  Karliova-Bingo     0.66  89   Pg      Pg              23 20 31.4 -0.5
KARO                                 Sg      Sg              23 20 41.6 +1.0
KOVA  Elazig, Kovanc     0.67 206   P       Pb              23 20 32.4 -1.0
KOVA                                 i AML   AML             23 20 42.0
      comp=N,308nm,0.3s
KOVA                                 S       Sb              23 20 42.1 -1.0
KOVA                                 i AML   AML             23 20 43.0
      comp=E,391nm,0.2s
SLHN  Bingol, Solhan     0.73 118   P       Pg              23 20 32.3 -0.9
SLHN                                 S       Sb              23 20 44.6 -0.4
SLHN                                 i AML   AML             23 20 45.0
      comp=N,172nm,0.2s
SLHN                                 i AML   AML             23 20 46.0
      comp=E,358nm,0.3s
PTK   Pertek             0.75 237   Pg      Pg              23 20 33.5  0.0
PTK                                  Sg      Sb              23 20 44.2 -1.2
HANI  Diyarbakir_Han     0.90 170   P       Pn              23 20 38.2 -0.1
HANI                                 i AML   AML             23 20 53.0
      comp=N,43nm,0.3s
HANI                                 i AML   AML             23 21 01.0
      comp=E,30nm,0.5s
VRTB  Varto-Mus          0.99  98   Pg      Pg              23 20 37.4 -0.8
BAYT  Aydıntepe-Bayb     1.09 358   Pn      Pb              23 20 40.4 -0.3
ELZG  Elazig             1.24 230   P       Pg              23 20 42.1 -0.8
ELZG                                 i AML   AML             23 21 03.0
      comp=E,121nm,0.3s
ELZG                                 i AML   AML             23 21 04.0
      comp=N,109nm,0.3s
DIYA  Diyarbakir         1.38 182   P       Pg              23 20 46.3 +0.7
DIYA                                 S       Sn              23 21 06.0 +2.1
DIYA                                 i AML   AML             23 21 08.0
      comp=N,59nm,0.3s
DIYA                                 i AML   AML             23 21 09.0
      comp=E,41nm,0.5s
SVAN  Silvan-Diyarba     1.39 145   Pn      Pb              23 20 45.3 -0.5
KOPR  Koprukoy-ERZUR     1.45  61   Pn      Pn              23 20 45.9 -0.5
GURO  Guroymak-BITLI     1.62 117   Pn      Pn              23 20 48.5 -0.1
MAYA  Malatya/Merkez     1.69 235   P       Pb              23 20 50.1 -0.7
MAYA                                 S       Sg              23 21 14.7 +1.2
MAYA                                 i AML   AML             23 21 16.0
      comp=N,24nm,0.7s
MAYA                                 i AML   AML             23 21 17.0
      comp=E,22nm,0.7s
MLAZ  Malazgirt-MUS      1.84  94   Pn      Pn              23 20 51.7 +0.1
MAZI  Mazidag            1.85 174   Pn      Pn              23 20 51.9 +0.1
SENK  Senkaya-Erzuru     2.08  52   Pn      Pn              23 20 55.3 +0.3
URFA  Urfa               2.15 211   Pn      Pn              23 20 56.4 +0.6
AGRB  Hanur-Agry         2.18  82   Pn      Pn              23 20 57.2 +0.8
```

IDC 14 23:24:18.5±1.3, 55°.22S×27°.07W, h0km, mb3.6/2, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=75.9km s-min=31.1km az=87.0, South Sandwich Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
SNAA  Sanae              19.48 157   P       Pn              23 28 47.5 -0.3
      0.2nm,0.3s,baz=313,slow=12,SNR=6.4
      1.8nm,0.9s
QSPA  South Pole Qui     35.03 180   P       P               23 31 11.7 -0.8
      0.9nm,0.8s,baz=208,slow=1.6,SNR=1.8
      0.9nm,0.8s
TORD  Torodi Ar. Bea     72.30  29   P       P               23 35 45.2 -0.4
      0.3nm,0.6s,baz=196,slow=6.2,SNR=2.4
      0.3nm,0.6s
ILAR  Eielson Array     149.61 313   PKPbc   PKPbc           23 44 08.2 -0.1
      0.7nm,0.7s,baz=130,slow=2.5,SNR=12
SONM  Songino Array     150.60  85   PKPbc   PKPbc           23 44 11.3 -0.1
      0.2nm,0.5s,baz=264,slow=1.4,SNR=2.4
```

*IDC **15** 00:08:28.2±3.0, 50°.08N×129°.50W, h0km, mbtmp3.0/5, ML3.2/5, Error ellipse: s-maj=40.7km s-min=22.2km az=68.0*
*PGC **15** 00:08:32.4±2.4, 50°.52N×130°.37W, h10km, MLSn3.1/15, Mw3.8/15, 209km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 15 00:08:33.7±3.2, 50°.6N±0°.1×130°.18W±0°.08, h11km±17km, n30, σ2§46/18, Vancouver Island region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
HOLB  Holberg            1.30  88   P       Pg              00 08 56.4 -2.3
HOLB                                 S       Sg              00 09 13.6 -2.0
BPEB  Brooks Peninsu     1.60 105   Pn      Pn              00 09 00.1 -1.8
BPEB                                 Sn      Sn              00 09 20.0 -2.7
PACB  Port Alice, BC     1.72  95   Pn      Pn              00 09 02.0 -1.5
PACB                                 Sn      Sn              00 09 22.7 -2.7
PHC   Port Hardy         1.75  86   Pn      Pn              00 09 02.9 -1.0
PHC                                  Sn      Sn              00 09 24.3 -1.8
JEDB  Jedway, Haida      1.81 340   Pn      Pn              00 09 02.0 -2.7
JEDB                                 Sn      Sn              00 09 23.6 -4.0
MAYB  Maynard            1.93  95   Pn      Pn              00 09 05.2 -1.3
MAYB                                 Sn      Sn              00 09 29.3 -1.5
BBB   Bella Bella        2.04  38   Pn      Pn              00 09 07.0 -0.9
      3.1nm,0.3s,baz=226,slow=5.9,SNR=61
BBB                                  Sn      Sn              00 09 32.7 -0.7
      5.7nm,0.3s,baz=245,slow=17,SNR=5.5
      10nm,0.5s
BBB   Bella Bella        2.04  38   Pn      Pn              00 09 07.2 -0.8
BAIB  Barry Inlet        2.21 334   Pn      Pn              00 09 07.8 -2.5
BAIB                                 Sn      Sn              00 09 33.9 -3.6
HG1B  Mitchell Dam       2.63 333   Pn      Pn              00 09 14.7 -1.3
HG1B                                 Sn      Sn              00 09 45.5 -2.4
NCRB  Newcastle Ridg     2.64  93   Pn      Pn              00 09 16.0 -0.3
NCSB  Newcastle Ridg     2.64  93   Pn      Pn              00 09 15.5 -0.7
NCSB                                 Sn      Sn              00 09 47.4 -0.9
BUTB  Butedale           2.68  23   Pn      Pn              00 09 16.7 -0.2
BUTB                                 Sn      Sn              00 09 48.7 -0.7
GDR   Gold River         2.79 106   Pn      Pn              00 09 17.4 -0.8
GRIB  Gribbell Islan     2.81  13   Pn      Pn              00 09 17.6 -0.9
BNAB  Bonilla            2.91 355   Pn      Pn              00 09 18.7 -1.1
BNAB                                 Sn      Sn              00 09 52.5 -2.2
DIB   Dawson Inlet,      2.97 332   Pn      Pn              00 09 17.8 -2.8
CBB   Campbell River     3.14  99   Pn      Pn              00 09 22.5 -0.5
CBB                                  Sn      Sn              00 09 58.8 -1.5
GRNB  Grenville Isla     3.25   2   Pn      Pn              00 09 23.5 -1.0
GRNB                                 Sn      Sn              00 10 01.5 -1.7
UBRB  Upper Baezaeko     4.42  56   Pn      Pn              00 09 41.9 +1.1
UBRB                                 Sn      Sn              00 10 32.1 -0.2
DLBC  Dease Lake         7.85   1   Pn      Pn              00 10 29.6 +1.8
      0.2nm,0.3s,baz=180,slow=17,SNR=1.2
      0.9nm,0.6s
YKA   Yellowknife Ar    14.63  30   Pn      Pn              00 11 56.9 -3.4
      baz=220,slow=12,SNR=1.9
      0.1nm,0.4s
PDAR  Pinedale Array    16.14 111   Pn      Pn              00 12 10.3 -10
      0.1nm,0.3s,baz=298,slow=12,SNR=2.5
      0.3nm,0.6s
ILAR  Eielson Array     16.69 335   P       P               00 12 32.6 +3.0
      baz=145,slow=11,SNR=4.5
      0.3nm,0.8s
H11N2 WAKE ISLAND Hy 57.87 262      T       T               01 20 59.1
      baz=42,slow=76,SNR=94
H11N3 WAKE ISLAND Hy 57.87 262      T       T               01 20 59.1
      baz=42,slow=76,SNR=115
H11N1 WAKE ISLAND Hy 57.89 262      T       T               01 20 58.9
      baz=42,slow=76,SNR=79
H11S1 WAKE ISLAND Hy 58.90 261      T       T               01 22 18.2
      baz=40,slow=75,SNR=5.6
H11S2 WAKE ISLAND Hy 58.91 261      T       T               01 22 14.6
      baz=40,slow=75,SNR=3.7
H11S3 WAKE ISLAND Hy 58.92 261      T       T               01 22 18.3
      baz=40,slow=75,SNR=4.2
```

*IDC **15** 00:28:18.1±1.9, 1°.29N×126°.79E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=192.6km s-min=20.7km az=66.0*
*DJA **15** 00:28:25.3±0.7, 1°.N±3°.×12°.7E±°, h25km±7km, M3.8/13, MLv3.8/13*

ISC 15 00:28:24.2±1.3, 1°.4N±0°.1×126°.87E±0°.07, h35km, n10, σ1§80/13, mb3.7/4, Northern Molucca Sea

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op      ISC             h m s     ISC
TNTI  Ternate            0.77 139   P       Pn              00 28 40.2 +1.6
TNTI                                 S       Sn              00 28 51.2 +2.2
LBMI  Labuha             2.09 162   P       Pn              00 28 57.5 +0.8
KMSI  Cibinong           2.99 255   P       Pn              00 29 11.3 +2.2
KMSI                                 S       Sn              00 29 46.6 +2.8
SANI  Sanana             3.50 195   P       Pn              00 29 16.0 -0.2
NLAI  Namlea             4.58 177   P       Pn              00 29 31.6 +0.6
LUWI  Luwuk              4.74 240   P       Pn              00 29 32.6 -0.6
LUWI                                 S       Sn              00 30 27.1 +0.1
WRA   Warramunga Arr    22.41 161   P       P               00 33 16.9 -3.0
      0.6nm,0.3s,baz=339,slow=10,SNR=8.0
      0.6nm,0.3s
ASAR  Alice Springs     25.80 165   P       P               00 33 51.3 -1.0
      0.8nm,0.4s,baz=344,slow=8.4,SNR=8.7
      0.8nm,0.4s
```

MKAR	**Makanchi Array**	**59.57**	**326**	P	**P**	**00 38 23.8**	**-0.7**
	0.3nm,0.4s,baz=121,slow=7.5,SNR=8.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.80**	**328**	P	**P**	**00 38 52.1**	**-0.7**
	1.0nm,0.6s,baz=127,slow=6.2,SNR=14						
	1.0nm,0.6s						

*TIR **15** 00:34:11.0, 39°.97N×20°.69E, h2km±1km, Md2.5/2, Ml2.3/6*
*ATH **15** 00:34:10.6, 39°.99N×20°.60E, h10km±2km, ML2.4/13,*
Manual Solution by M.Kolligri First location: 2019/02/15
00:35:08, This location: 2020/07/02 10:31:56 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km

ISC 15 00:34:11.3±1.0, 39°.97N±0°.02×20°.67E±0°.02, h6km±9km, n30, σ0s87/47, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.18**	**344**	P	**Pg**	**00 34 14.3**	**-0.7**
LSK				S	**Sg**	**00 34 18.0**	**+0.5**
LSK				AML	AML	00 34 20.6	
	16nm,0.3s						
LSK				AML	AML	00 34 22.8	
	11nm,0.6s						
JAN	**Janina**	**0.35**	**156**	P	**Pg**	**00 34 18.0**	**0.0**
JAN				S	**Sg**	**00 34 23.6**	**+0.9**
PENT	**Pentalofos**	**0.42**	**58**	P	**Pg**	**00 34 20.0**	**+0.4**
PENT				S	**Sg**	**00 34 26.1**	**+0.9**
MSVA	**Metsovo**	**0.45**	**117**	P	**Pb**	**00 34 20.7**	**-1.0**
MSVA				S	**Sb**	**00 34 27.2**	**-1.4**
IGT	**Igoumenitsa**	**0.51**	**210**	P	**Pg**	**00 34 20.5**	**-0.6**
IGT				S	**Sb**	**00 34 30.3**	**0.0**
IGT	**Igoumenitsa**	**0.51**	**210**	P	**Pg**	**00 34 20.4**	**-0.7**
IGT				S	**Sb**	**00 34 28.6**	**-1.7**
SRN	**Sarande**	**0.52**	**260**	P	**Pg**	**00 34 21.2**	**-0.1**
SRN				S	**Sb**	**00 34 31.1**	**+0.5**
SRN				AML	AML	00 34 33.1	
	0.7nm,0.6s						
SRN				AMd		00 35 06.4	
NEST	**Nestorio**	**0.53**	**34**	P	**Pg**	**00 34 21.1**	**-0.5**
NEST				S	**Sb**	**00 34 30.3**	**-0.7**
NEST				AML	AML	00 34 32.0	
	0.9nm,0.3s						
NEST	**Nestorio**	**0.53**	**34**	P	**Pg**	**00 34 21.4**	**-0.1**
NEST				S	**Sb**	**00 34 29.5**	**-1.6**
KPRO	**Kipourio**	**0.54**	**92**	P	**Pg**	**00 34 21.2**	**-0.5**
KPRO				S	**Sg**	**00 34 29.9**	**+1.2**
KBN	**Korca**	**0.66**	**8**	P	**Pg**	**00 34 23.4**	**-0.5**
KBN				S	**Sb**	**00 34 33.8**	**-0.8**
KBN				AML	AML	00 34 36.2	
	0.7nm,0.8s						
KBN				AMd		00 34 59.4	
KEK	**Kerkira**	**0.72**	**249**	P	**Pb**	**00 34 25.0**	**-1.2**
PRGA	**Parga**	**0.72**	**197**	P	**Pb**	**00 34 26.0**	**-0.1**
TETR	**Tetrakomo, Epi**	**0.78**	**143**	P	**Pb**	**00 34 26.8**	**-0.6**
TETR				S	**Sb**	**00 34 38.4**	**+0.1**
ARTB	**Arta**	**0.85**	**163**	P	**Pb**	**00 34 28.5**	**+0.1**
KZN	**Kozani**	**0.91**	**68**	P	**Pg**	**00 34 28.3**	**-0.5**
FNA	**Florina**	**0.97**	**34**	P	**Pb**	**00 34 30.5**	**-0.1**
FNA				S	**Sn**	**00 34 45.4**	**-0.4**
FNA				AML	AML	00 34 58.3	
	0.2nm,0.6s						
FNA	**Florina**	**0.97**	**34**	P	**Pg**	**00 34 29.4**	**-0.6**
VLO	**Vlora**	**1.02**	**299**	P	**Pn**	**00 34 31.6**	**-0.6**
THL	**Klokotos Trika**	**1.12**	**111**	P	**Pg**	**00 34 32.4**	**-0.3**
OHR	**Ohrid**	**1.14**	**5**	*i* Pn	**Pn**	**00 34 34.2**	**+0.3**
OHR				*i* Sn	**Sn**	**00 34 52.2**	**+2.3**
LKD2	**Lefkada island**	**1.18**	**180**	Pn	**Pn**	**00 34 34.8**	**+0.4**
LKD2				S	**Sn**	**00 34 51.6**	**+0.8**
LKD2				AML	AML	00 35 08.4	
	0.8nm,1.0s						
LKD2	**Lefkada island**	**1.18**	**180**	P	**Pb**	**00 34 33.8**	**-0.3**
EVGI	**Lefkada island**	**1.35**	**180**	P	**Pg**	**00 34 37.4**	**+0.1**
EVR	**Evrytania**	**1.38**	**140**	P	**Pn**	**00 34 36.8**	**-0.4**
LIT	**Litokhoron**	**1.41**	**84**	P	**Pn**	**00 34 37.0**	**-0.5**
ANX	**Ano Chora**	**1.69**	**144**	P	**Pn**	**00 34 41.8**	**+0.4**
PHP	**Peshkopia**	**1.72**	**354**	P	**Pg**	**00 34 44.5**	**+0.3**
PHP				S	**Sg**	**00 35 09.1**	**+2.6**
PUK	**Puka**	**2.15**	**344**	P	**Pb**	**00 34 50.0**	**-0.7**
BCI	**Bajram Curri**	**2.43**	**350**	P	**Pb**	**00 34 55.7**	**+0.2**
BCI				Sn	**Sg**	**00 35 29.3**	**-0.2**

*IDC **15** 00:35:15.4±2.6, 2°.07S×133°.33E, h0km, mb3.7/3,*
mbtmp3.8/5, ML3.8/2, MS3.8/1, Error ellipse:
s-maj=126.6km s-min=22.8km az=80.0
*DJA **15** 00:35:17.9±0.3, 2°.5±4°×13°.4E±°, h10km, M4.3/11, mb4.3/4,*
MLv4.3/11

ISC 15 00:35:17.9±0.8, 1°.84S±0°.06×133°.72E±0°.07, h26km, n14, σ1s84/15, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.56**	**54**	P	**Pb**	**00 35 29.6**	**+0.5**
RKPI				S	**Sn**	**00 35 39.6**	**+1.0**
KMPI	**Kaimana, Papua**	**1.81**	**181**	P	**Pb**	**00 35 51.4**	**+1.1**
FAKI	**Fak Fak**	**1.82**	**234**	P	**Pn**	**00 35 47.7**	**+0.2**
BAKI	**Biak**	**2.47**	**75**	P	**Pb**	**00 36 00.5**	**-1.1**
BAKI				S	**Sb**	**00 36 32.1**	**+0.5**
SWI	**Sorong**	**2.65**	**291**	P	**Pn**	**00 35 58.9**	**0.0**
MSAI	**Masohi**	**5.02**	**253**	P	**Pn**	**00 36 31.6**	**+0.1**
SAUI	**Saumlaki**	**6.56**	**201**	P	**Pn**	**00 36 54.7**	**+1.9**
FITZ	**Fitzroy Crossi**	**18.00**	**206**	P	**Pn**	**00 39 22.4**	**-4.0**
	0.3nm,0.3s,baz=20,slow=11,SNR=10						
FITZ				S	Sn	00 42 26.8	-20
	1.8nm,0.9s,baz=232,slow=21,SNR=1.8						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**18.00**	**178**	P	**Pn**	**00 39 22.8**	**-3.6**
	0.3nm,0.3s,baz=356,slow=12,SNR=8.5						
WRA				S	Sn	00 42 35.5	-11
	0.8nm,0.7s,baz=357,slow=24,SNR=5.2						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**21.70**	**180**	P	**P**	**00 40 07.0**	**-0.1**
	2.1nm,0.6s,baz=5.4,slow=11,SNR=21						
	2.1nm,0.6s						
HNR	**Honiara**	**27.15**	**107**	LR	LR	00 51 45.0	
	comp=Z,175nm,19.9s,baz=324,slow=36						
CN2	**Changchun**	**46.04**	**352**	*e*P	**P**	**00 43 39.5**	**+0.2**
MKAR	**Makanchi Array**	**66.11**	**324**	P	**P**	**00 46 04.4**	**+1.5**
	0.4nm,0.5s,baz=122,slow=6.9,SNR=6.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**70.19**	**326**	P	**P**	**00 46 29.8**	**+1.4**
	0.6nm,0.7s,baz=121,slow=5.3,SNR=8.3						
	0.6nm,0.7s						

TXNET 15 00:48:42.1, 31°.4N±0°.7×103°.5W±0°.7, h5km±1km, ML1.4/6, Error ellipse: s-maj=1.1km s-min=1.0km az=113.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.04**	**7**	P	Pg	00 48 43.5	+0.1
PCOS				S	Sg	00 48 44.6	+0.3
TPB10	**Southeast of T**	**0.22**	**247**	P	Pg	00 48 47.6	+1.1
TPB10				S	Sg	00 48 51.2	+1.8
TPB07	**Mentone**	**0.25**	**328**	P	Pg	00 48 47.9	+0.9
TPB07				S	Sg	00 48 51.9	+1.7
TPB03	**Saragosa**	**0.28**	**180**	S	Sb	00 48 54.3	-0.6
PECS	**Pecos**	**0.30**	**270**	P	Pg	00 48 48.6	+0.6
PECS				S	Sg	00 48 53.2	+1.3
TPB06	**Permian Basin**	**0.38**	**43**	S	Sb	00 48 56.1	-1.4
TPB12	**Southwest of T**	**0.41**	**248**	S	Sg	00 48 56.7	+1.3
TPB05	**Hovey Rd**	**0.48**	**160**	P	Pg	00 48 52.1	+0.8
TPB05				S	Sg	00 48 58.6	+1.0
TPB01	**Permian Basin**	**0.48**	**208**	P	Pg	00 48 52.2	+0.8
TPB01				S	Sg	00 48 58.3	+0.7
TPB08	**Permian Basin**	**0.71**	**132**	S	Sb	00 49 07.0	-0.1
TPB11	**China Draw**	**0.72**	**322**	S	Sb	00 49 06.4	-0.9
ALPN	**Alpine**	**1.00**	**186**	P	Pb	00 49 01.9	-0.1
ALPN				S	Sb	00 49 16.1	+0.7
HTMS	**Hat Mesa**	**1.10**	**355**	S	Sn	00 49 20.3	+0.2
TMB02	**Rankin**	**1.28**	**97**	S	Sn	00 49 25.0	+0.8
VHRN	**Van Horn**	**1.39**	**246**	P	Pn	00 49 08.2	-0.1
VHRN				S	Sn	00 49 27.0	-0.1
TMB04	**Seminole**	**1.53**	**35**	S	Sg	00 49 32.5	+1.3
MNTX	**Cornudas Mount**	**1.63**	**282**	P	Pb	00 49 12.4	-0.2
MNTX				S	Sg	00 49 34.3	-0.2
SAND	**Sanderson**	**1.85**	**139**	P	Pb	00 49 16.1	-0.4
TX31	**Lajitas Ar. Si**	**2.03**	**184**	P	Pb	00 49 19.4	-0.2
TX31				S	Sg	00 49 47.0	-0.5

TXNET 15 00:52:46.9, 31°.6N±0°.7×104°.3W±0°.8, h4km±1km, ML1.5/6, Error ellipse: s-maj=1.2km s-min=1.0km az=59.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	00 52 53.6	-0.1
TPB11				S	Sg	00 52 58.3	-0.1
PECS	**Pecos**	**0.43**	**129**	P	Pg	00 52 55.5	+0.4
PECS				S	Sg	00 53 00.9	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	00 52 56.7	+0.3
TPB12				S	Sg	00 53 03.0	+0.1
TPB07	**Mentone**	**0.50**	**97**	P	Pg	00 52 57.1	+0.4
TPB07				S	Sg	00 53 03.6	+0.5
TPB10	**Southeast of T**	**0.56**	**130**	P	Pg	00 52 57.9	+0.2
TPB10				S	Sg	00 53 05.6	+0.8
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	00 52 58.2	+0.3
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	00 53 10.3	+0.8
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	00 53 01.8	-0.6
TPB01				S	Sg	00 53 12.1	-0.7
TPB04	**Verhalen**	**0.96**	**118**	S	Sg	00 53 17.5	-0.2
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	00 53 05.8	+0.4
MNTX				S	Sb	00 53 18.6	-0.6
TPB16	**Coyonosa**	**1.00**	**121**	S	Sg	00 53 19.0	0.0
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	00 53 07.1	-0.1
VHRN				S	Sb	00 53 21.9	-0.2
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	00 53 21.5	+0.1
MNHN	**Monahans**	**1.31**	**103**	P	Pg	00 53 10.5	-1.6
ALPN	**Alpine**	**1.37**	**157**	P	Pn	00 53 11.6	-1.3
ALPN				S	Sg	00 53 29.1	-1.8
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	00 53 13.7	-0.1
ODSA	**Odessa**	**1.53**	**71**	P	Pn	00 53 14.6	-0.4
ODSA				S	Sn	00 53 34.5	-1.0
TMB04	**Seminole**	**1.79**	**56**	S	Sb	00 53 42.7	-0.5
TMB02	**Rankin**	**1.94**	**103**	P	Pn	00 53 21.6	+0.8
TMB02				S	Sn	00 53 46.6	+0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	00 53 30.1	+0.1

*IDC **15** 01:16:52.5±1.0, 55°.37S×27°.00W, h0km, mb4.0/5,*
mbtmp4.0/5, MS3.7/3, Error ellipse: s-maj=34.4km
s-min=28.8km az=27.0
*NEIC **15** 01:16:54.5±0.7, 55°.3S±0°.1×27°.1W±0°.1, h10km±1km,*
mb4.7/5, Error ellipse: s-maj=21.6km s-min=11.1km
az=23.0

ISC 15 01:16:56.2±0.6, 55°.3S±0°.1×27°.1W±0°.1, h25km, n34, σ0s67/31, mb4.3/7, MS3.8/3, 1C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.52**	**277**	Pn	**Pn**	**01 18 16.4**	**-0.3**
VNA1	**Neumayer--Stat**	**17.47**	**159**	P	**P**	**01 20 59.0**	**+0.2**
VNA1	**Neumayer--Stat**	**17.47**	**159**	⇓P	**P**	**01 20 59.0**	**+0.2**
	comp=Z,0.4nm,0.2s						
VNA3	**Neumayer Olymp**	**17.68**	**161**	P	**P**	**01 21 00.7**	**-0.5**
VNA3	**Neumayer Olymp**	**17.68**	**161**	⇓P	**P**	**01 21 00.7**	**-0.5**
	comp=Z,0.2nm,0.2s						
VNA2	**Neumayer--Watz**	**17.87**	**159**	P	**P**	**01 21 04.6**	**+1.4**
	baz=319,slow=12						
VNA2	**Neumayer--Watz**	**17.87**	**159**	⇓P	**P**	**01 21 04.6**	**+1.4**
	comp=Z,0.4nm,0.2s,baz=319,slow=12						
SNAA	**Sanae**	**19.41**	**157**	P	**Pn**	**01 21 21.1**	**-0.3**
SNAA	**Sanae**	**19.41**	**157**		**Pn**	**01 21 20.6**	**-0.8**
SNAA	**Sanae**	**19.41**	**157**	⇑P	**Pn**	**01 21 21.1**	**-0.3**
	comp=Z,2.6nm,0.4s						
PMSA	**Palmer Station**	**20.43**	**228**	Pn	Pn	01 21 32.8	-0.5
PMSA				IAmb	IAmb	01 21 38.1	
	comp=Z,75nm,1.2s						
SYO	**Syowa Base**	**32.13**	**142**	‖*e*sP	**P**	**01 23 22.1**	**+1.0**
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**01 23 46.0**	**+0.1**
QSPA				IAmb	IAmb	01 24 21.9	
	comp=Z,5.4nm,1.1s						
CPUP	**Villa Florida**	**36.36**	**310**	P	**P**	**01 23 58.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=158,slow=6.3,SNR=3.3						
CPUP				LR	LR	01 39 25.5	
	comp=Z,47nm,18.3s,baz=196,slow=37						
	comp=Z,0.5nm,0.4s						
MT09	**Talagante**	**37.13**	**287**	P	**P**	**01 24 05.1**	**+0.3**
MT09				IAmb	IAmb	01 24 12.8	
	comp=Z,28nm,1.4s						
MT01	**Popeta**	**37.21**	**287**	P	**P**	**01 24 05.3**	**0.0**
BOSA	**Boshof**	**45.75**	**76**	P	**P**	**01 25 15.0**	**-0.5**
	comp=Z,3.9nm,1.0s,baz=214,slow=11,SNR=3.4						
	comp=Z,3.9nm,1.0s						
VNDA	**Vanda**	**47.32**	**183**	P	**P**	**01 25 26.5**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=175,slow=10,SNR=3.7						
	comp=Z,3.2nm,1.0s						
LPAZ	**La Paz**	**49.99**	**305**	P	**P**	**01 25 49.9**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=168,slow=9.3,SNR=3.7						
	comp=Z,0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.39**	**30**	P	**P**	**01 28 20.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.39**	**30**	P	**P**	**01 28 20.4**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=204,slow=5.2,SNR=9.4						
	comp=Z,1.2nm,0.6s						
PCRV	**Puerto La Cruz**	**72.40**	**321**	LR	LR	02 00 57.1	
	comp=Z,51nm,19.6s,slow=36						
RPZ	**Rata Peaks**	**80.15**	**193**	LR	LR	02 00 57.7	
	comp=Z,88nm,20.3s,baz=134,slow=33						
NRS	**Narsarsuaq**	**117.03**	**350**		**PKiKP**	**01 35 37.7**	**+0.4**
YKA	**Yellowknife Ar**	**135.65**	**318**	PKP	**PKPdf**	**01 36 12.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=133,slow=1.4,SNR=3.1						
H31M	**Peel River**	**144.82**	**317**		**PKPdf**	**01 36 28.6**	**-0.7**
I30M	**Mount Dempster**	**145.44**	**315**		**PKPab**	**01 36 30.9**	**0.0**
L29M	**L29M**	**145.48**	**311**		**PKPab**	**01 36 31.9**	**+0.9**
DAWY	**Dawson**	**146.32**	**313**		**PKPab**	**01 36 33.7**	**-0.5**
G29M	**Pine Creek**	**146.56**	**318**		**PKPab**	**01 36 34.5**	**-0.4**
E29M	**Blow River**	**146.85**	**321**		**PKPab**	**01 36 35.0**	**-1.0**
F28M	**Old Crow**	**147.41**	**319**		**PKiKP**	**01 36 37.4**	**-1.0**
ILAR	**Eielson Array**	**149.65**	**313**	PKPbc	**PKiKP**	**01 36 42.5**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=119,slow=2.7,SNR=21						
SONM	**Songino Array**	**150.63**	**85**	PKPbc	**PKiKP**	**01 36 45.2**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=225,slow=2.8,SNR=6.4						

*TIR **15** 01:18:28.6, 39°.39N×20°.63E, h26km, Ml3.7/12*
*PDG **15** 01:18:28.7±0.7, 39°.40N×20°.68E, h16km±1km, ML3.6/9,*
Error ellipse: s-maj=1.2km s-min=1.3km az=0.0
*BEO **15** 01:18:29.8±0.6, 39°.34N×20°.72E, h17km±3km, ML3.3/10*
*THE **15** 01:18:29.1, 39°.40N×20°.76E, h0km±2km, ML3.3/13, Error*
ellipse: s-maj=2.1km s-min=0.6km az=230.0
*ATH **15** 01:18:29.1, 39°.42N×20°.75E, h11km±1km, ML3.4/30,*
Manual Solution by M.Kolligri First location: 2019/02/15
01:19:22, This location: 2020/07/02 10:23:37 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 0 km;
Longitude uncertainty: 0 km
*IDC **15** 01:18:33.8±1.4, 39°.50N×20°.71E, h59km±17km, mb3.4/12,*
mbtmp3.6/18, Error ellipse: s-maj=12.7km s-min=11.9km
az=170.0

ISC 15 01:18:28.8±0.8, 39°.41N±0°.01×20°.71E±0°.02, h15km±5km, n182, σ1s51/252, mb3.6/12, 14C-11D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGA	**Parga**	**0.27**	**244**	P	**Pg**	**01 18 35.0**	**+0.4**
PRGA				S	**Sb**	**01 18 39.7**	**-0.1**
JAN	**Janina**	**0.27**	**23**	P	**Pg**	**01 18 34.6**	**-0.1**
JAN				S	**Sg**	**01 18 39.1**	**+0.4**
	14μm,0.3s						
JAN	**Janina**	**0.27**	**23**	P	**Pg**	**01 18 34.5**	**-0.3**
JAN				S	**Sg**	**01 18 38.2**	**-0.6**
ARTB	**Arta**	**0.32**	**140**	P	**Pg**	**01 18 35.1**	**-0.4**
ARTB				S	**Sg**	**01 18 40.0**	**0.0**
IGT	**Igoumenitsa**	**0.32**	**293**	P	**Pg**	**01 18 35.5**	**-0.1**
IGT				S	**Sb**	**01 18 41.1**	**-0.2**
IGT				AML	AML	01 18 43.9	
	58nm,0.3s						
IGT	**Igoumenitsa**	**0.32**	**293**	P	**Pg**	**01 18 35.2**	**-0.3**
IGT				S	**Sb**	**01 18 41.1**	**-0.2**
	20μm,0.3s						
IGT	**Igoumenitsa**	**0.32**	**293**	P	**Pg**	**01 18 35.4**	**-0.1**
IGT				S	**Sb**	**01 18 41.1**	**-0.2**
TETR	**Tetrakomo, Epi**	**0.44**	**98**	P	**Pg**	**01 18 37.0**	**-0.7**
TETR				S	**Sg**	**01 18 43.2**	**-0.4**
MSVA	**Metsovo**	**0.51**	**45**	P	**Pg**	**01 18 38.8**	**-0.3**
MSVA				S	**Sg**	**01 18 45.9**	**-0.2**
TSLK	**Tsoukalades, L**	**0.58**	**185**	P	**Pg**	**01 18 40.3**	**+0.1**
TSLK				S	**Sb**	**01 18 48.8**	**+0.1**
LKD2	**Lefkada island**	**0.62**	**184**	P	**Pg**	**01 18 40.8**	**-0.1**
LKD2				S	**Sb**	**01 18 50.7**	**+0.9**
LKD2				AML	AML	01 18 53.0	
	10nm,0.6s						
LKD2	**Lefkada island**	**0.62**	**184**	P	**Pg**	**01 18 40.8**	**-0.1**
LKD2				S	**Sb**	**01 18 50.5**	**+0.7**
	3μm,0.6s						
LKD2	**Lefkada island**	**0.62**	**184**	P	**Pg**	**01 18 40.7**	**-0.3**
LKD2				S	**Sb**	**01 18 50.1**	**+0.3**
SRN	**Sarande**	**0.73**	**311**	P	**Pb**	**01 18 42.4**	**-0.8**
SRN				S	**Sg**	**01 18 53.8**	**+1.2**
SRN				AML	AML	01 19 03.5	
	2.7nm,0.5s						
DRAG	**Dragano-Lefkad**	**0.73**	**189**	P	**Pb**	**01 18 42.7**	**-0.5**
DRAG				S	**Sg**	**01 18 52.8**	**+0.1**
KPRO	**Kipourio**	**0.74**	**42**	P	**Pb**	**01 18 42.4**	**-1.1**
KPRO				S	**Sg**	**01 18 54.3**	**+1.1**
	2μm,0.6s						
KPRO	**Kipourio**	**0.74**	**42**	P	**Pb**	**01 18 42.3**	**-1.3**
KPRO				S	**Sb**	**01 18 52.1**	**-1.4**
LSK	**Leskovik**	**0.75**	**353**	P	**Pb**	**01 18 43.1**	**-0.6**
LSK				S	**Sn**	**01 18 55.3**	**-0.9**
LSK				AML	AML	01 19 00.5	
	27nm,0.7s						
KEK	**Kerkira**	**0.77**	**294**	P	**Pb**	**01 18 44.1**	**+0.1**
KEK				S	**Sn**	**01 18 56.8**	**+0.3**
	3μm,0.5s						
KEK	**Kerkira**	**0.77**	**294**	P	**Pg**	**01 18 44.5**	**+0.6**
EVGI	**Lefkada island**	**0.78**	**183**	P	**Pb**	**01 18 43.3**	**-0.8**
PENT	**Pentalofos**	**0.85**	**22**	P	**Pb**	**01 18 44.9**	**-0.6**
PENT	**Pentalofos**	**0.85**	**22**	P	**Pb**	**01 18 44.7**	**-0.8**
FSK	**Fiskardo**	**0.95**	**187**	P	**Pb**	**01 18 46.6**	**-0.4**
EVR	**Evrytania**	**0.98**	**119**	P	**Pb**	**01 18 47.7**	**+0.1**
EVR				S	**Sg**	**01 19 00.8**	**+0.1**
	1μm,0.9s						
EVR	**Evrytania**	**0.98**	**119**	P	**Pg**	**01 18 47.9**	**+0.1**
PVO	**Paravola**	**1.01**	**141**	P	**Pb**	**01 18 47.9**	**-0.1**
THL	**Klokotos Trika**	**1.02**	**81**	P	**Pb**	**01 18 47.0**	**-1.2**
THL				S	**Sb**	**01 19 01.5**	**+0.1**
	602nm,0.6s						
THL	**Klokotos Trika**	**1.02**	**81**	P	**Pb**	**01 18 47.3**	**-0.8**
NEST	**Nestorio**	**1.04**	**14**	P	**Pb**	**01 18 48.1**	**-0.5**
NEST				S	**Sn**	**01 19 04.8**	**+1.4**
NEST				AML	AML	01 19 11.3	
	7.8nm,0.5s						
NEST	**Nestorio**	**1.04**	**14**	P	**Pb**	**01 18 48.0**	**-0.6**
NEST				S	**Sn**	**01 19 04.4**	**+1.0**
	2μm,0.7s						
NEST	**Nestorio**	**1.04**	**14**	P	**Pb**	**01 18 48.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.17**	**109**	P	**Pn**	**01 18 50.4**	**-0.2**
DMLN	**Damoulianata-K**	**1.20**	**193**	P	**Pb**	**01 18 51.7**	**+0.5**
TYRN	**Tyrnavos**	**1.21**	**75**	P	**Pn**	**01 18 50.9**	**-0.4**
TYRN				S	**Sg**	**01 19 08.8**	**+0.8**
	882nm,0.6s						
KZN	**Kozani**	**1.21**	**42**	P	**Pn**	**01 18 51.5**	**+0.1**
KZN				S	**Sg**	**01 19 09.8**	**+1.7**
	2μm,0.6s						
KZN	**Kozani**	**1.21**	**42**	P	**Pb**	**01 18 51.7**	**+0.1**
KBN	**Korca**	**1.22**	**3**	P	**Pb**	**01 18 52.2**	**+0.5**
KBN				S	**Sg**	**01 19 09.3**	**+1.0**
KBN				AML	AML	01 19 14.9	
	4.1nm,1.1s						
VLS	**Valsamata**	**1.23**	**185**	P	**Pn**	**01 18 51.3**	**-0.2**
VLS				S	**Sg**	**01 19 10.6**	**+2.0**
	2μm,0.6s						
ANX	**Ano Chora**	**1.24**	**130**	P	**Pn**	**01 18 51.6**	**-0.1**
PSDA	**Pessada-Kefalo**	**1.29**	**185**	P	**Pb**	**01 18 52.8**	**0.0**
AXS	**Araxos**	**1.31**	**157**	P	**Pn**	**01 18 52.7**	**+0.1**
GINA	**Giannouli**	**1.32**	**78**	P	**Pn**	**01 18 52.9**	**+0.1**
LRSO	**Larissa Observ**	**1.32**	**78**	P	**Pn**	**01 18 53.0**	**+0.2**
EFP	**Efpalio**	**1.35**	**136**	P	**Pb**	**01 18 53.8**	**0.0**
VLO	**Vlora**	**1.42**	**319**	Pn	**Pg**	**01 18 56.3**	**+0.2**
VLO				Sn	**Sg**	**01 19 14.6**	**+0.1**
KTI	**Kastanea**	**1.46**	**47**	P	**Pb**	**01 18 55.9**	**+0.1**
FNA	**Florina**	**1.47**	**20**	P	**Pb**	**01 18 56.2**	**+0.3**
FNA				S	**Sg**	**01 19 19.1**	**+2.9**
FNA				AML	AML	01 19 21.1	
	3.9nm,0.8s						
FNA	**Florina**	**1.47**	**20**	P	**Pn**	**01 18 55.2**	**+0.4**
FNA				S	**Sg**	**01 19 16.6**	**+0.4**
	2μm,0.7s						
FNA	**Florina**	**1.47**	**20**	*e*Pg	**Pb**	**01 18 56.1**	**+0.3**
FNA				*e*Sg	**Sg**	**01 19 19.1**	**+2.9**
FNA	**Florina**	**1.47**	**20**	P	**Pn**	**01 18 54.9**	**+0.1**
RLS	**Riolos of Patr**	**1.47**	**156**	P	**Pn**	**01 18 54.8**	**0.0**
KALE	**Kalithea**	**1.50**	**132**	P	**Pb**	**01 18 57.0**	**+0.5**
LIT	**Litokhoron**	**1.54**	**63**	P	**Pb**	**01 18 56.6**	**-0.4**
LIT				S	**Sg**	**01 19 18.9**	**+0.6**
	870nm,0.6s						
LIT	**Litokhoron**	**1.54**	**63**	P	**Pn**	**01 18 56.1**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**1.55**	**168**	P

MATE	**Matera**	**3.32**	**293**	⇓P	**Pn**	**01 19 21.1**	**+0.9**
MATE				⇓S	**Sn**	**01 19 57.5**	**-1.9**
BOSS	**Bosilegrad**	**3.37**	**23**	*e*Pn	**Pn**	**01 19 22.9**	**+2.0**
BOSS				*e*Sn	**Sn**	**01 20 04.0**	**+3.4**
CEME	**Cevo**	**3.42**	**337**	⇓*i*Pn	**Pn**	**01 19 21.7**	**0.0**
CEME				*i* Sn	**Sn**	**01 20 02.8**	**+0.8**
HCY	**Herceg Novi**	**3.47**	**332**	Pn	**Pn**	**01 19 22.7**	**+0.3**
HCY	**Herceg Novi**	**3.47**	**332**	*e*Pn	**Pn**	**01 19 22.0**	**-0.4**
HCY	**Herceg Novi**	**3.47**	**332**	*e*Pn	**Pn**	**01 19 22.2**	**-0.2**
HCY				*i* Sn	**Sn**	**01 20 04.4**	**+1.2**
BARS	**Barje**	**3.51**	**13**	*e*Pn	**Pn**	**01 19 25.1**	**+2.3**
BARS				*e*Sn	**Sn**	**01 20 04.3**	**+0.2**
IVA	**Berane**	**3.52**	**350**	*e*Pn	**Pn**	**01 19 23.3**	**+0.2**
IVA				*i* Sn	**Sn**	**01 20 05.9**	**+1.4**
KOME	**Kolasin**	**3.56**	**346**	*e*Pn	**Pn**	**01 19 23.6**	**0.0**
KOME				*i* Sn	**Sn**	**01 20 06.2**	**+0.7**
NKME	**Niksic**	**3.61**	**339**	Pn	**Pn**	**01 19 25.3**	**+0.9**
NKME	**Niksic**	**3.61**	**339**	*e*Pn	**Pn**	**01 19 24.2**	**-0.1**
NKME				*i* Sn	**Sn**	**01 20 07.9**	**+1.2**
VTS	**Vitosha**	**3.73**	**30**	*e*Pn	**Pn**	**01 19 28.5**	**+2.4**
VTS				*e*Sn	**Sn**	**01 20 09.9**	**+0.1**
SELS	**Selova**	**3.82**	**4**	*e*Pn	**Pn**	**01 19 29.1**	**+1.9**
SJES	**Sjenica**	**3.89**	**352**	*e*Pn	**Pn**	**01 19 29.8**	**+1.6**
SJES	**Sjenica**	**3.89**	**352**	*e*Pn	**Pn**	**01 19 30.5**	**+2.3**
PLD	**Plovdiv**	**4.11**	**47**	*e*Pn	**Pn**	**01 19 32.3**	**+1.2**
ZAPS	**Zavoj**	**4.13**	**20**	*e*Pn	**Pn**	**01 19 33.8**	**+2.4**
ZAPS				*e*Sn	**Sn**	**01 20 19.1**	**-0.3**
STON	**Ston**	**4.14**	**328**	*e*Pn	**Pn**	**01 19 31.3**	**-0.2**
GOCS	**Kraljevo Serbi**	**4.16**	**2**	*e*Pn	**Pn**	**01 19 33.4**	**+1.6**
IVAS	**Ivanjica**	**4.19**	**354**	*e*Pn	**Pn**	**01 19 33.0**	**+0.8**
BOVS	**Bovan**	**4.29**	**10**	⇑P	**Pn**	**01 19 34.7**	**+1.1**
BOVS				⇑S	**Sn**	**01 20 26.0**	**+2.7**
BOVS	**Bovan**	**4.29**	**10**	*e*Pn	**Pn**	**01 19 34.6**	**+1.1**
BOVS				*e*Sn	**Sn**	**01 20 24.0**	**+0.6**
RUDO	**Rudo**	**4.33**	**347**	*e*Pn	**Pn**	**01 19 34.1**	**0.0**
BLKB	**Belogradchik**	**4.46**	**19**	⇓S	**Sn**	**01 20 31.4**	**+3.7**
GRUS	**Gruza**	**4.48**	**0**	*e*Pn	**Pn**	**01 19 37.4**	**+1.2**
ZAGS	**Zajecar**	**4.55**	**14**	*e*Pn	**Pn**	**01 19 38.9**	**+1.8**
BBLS	**Lazi&#263i**	**4.56**	**348**	*e*Pn	**Pn**	**01 19 38.8**	**+1.4**
DIVS	**Divibare**	**4.72**	**354**	*e*Pn	**Pn**	**01 19 40.0**	**+0.4**
TRUS	**Trudelj**	**4.82**	**357**	*e*Pn	**Pn**	**01 19 42.8**	**+1.9**
HAPS	**Han Pijesak,BI**	**4.86**	**345**	*e*Pn	**Pn**	**01 19 41.7**	**+0.2**
KUBS	**Kucevo**	**5.05**	**8**	*e*Pn	**Pn**	**01 19 45.2**	**+1.1**
TEKS	**Tekeris**	**5.22**	**351**	*e*Pn	**Pn**	**01 19 46.3**	**-0.1**
TEKS	**Tekeris**	**5.22**	**351**	*e*Pn	**Pn**	**01 19 46.2**	**-0.1**
IDI	**Anoyia**	**5.29**	**140**	P	**Pn**	**01 19 51.6**	**+4.2**
	8.6nm,0.5s,baz=341,slow=23,SNR=1.8						
IDI				S	**Sn**	**01 20 51.7**	**+3.7**
	23nm,0.9s,baz=97,slow=12,SNR=1.9						
VAE	**Valguarnera**	**5.31**	**251**	P	**Pn**	**01 19 52.3**	**+4.7**
	5.7nm,0.9s,baz=176,slow=20,SNR=1.2						
VAE				S	**Sn**	**01 20 52.8**	**+4.2**
	13nm,0.6s,baz=296,slow=12,SNR=5.2						
MDVR	**Moldovita**	**5.42**	**8**	⇓P	**Pn**	**01 19 51.5**	**+2.4**
HERR	**Herculane**	**5.62**	**12**	⇑P	**Pn**	**01 19 54.0**	**+2.2**
HERR				⇑S	**Sn**	**01 20 58.9**	**+2.9**
FRGS	**Fruska Gora**	**5.79**	**354**	*e*Pn	**Pn**	**01 19 54.1**	**-0.1**
FRGS	**Fruska Gora**	**5.79**	**354**	*e*Pn	**Pn**	**01 19 54.7**	**+0.5**
BLY	**Banja Luka**	**5.95**	**335**	*e*Pn	**Pn**	**01 19 55.6**	**-0.8**
A050A	**Klekovaca**	**5.95**	**330**	*e*Pn	**Pn**	**01 19 57.6**	**+1.1**
GZR	**Gura Zlata**	**6.18**	**14**	⇑P	**Pn**	**01 20 01.7**	**+2.2**
GZR				⇓S	**Sn**	**01 21 12.2**	**+2.3**
BZS	**Buzias**	**6.24**	**6**	⇓P	**Pn**	**01 20 01.3**	**+0.9**
BZS				⇓S	**Sn**	**01 21 12.0**	**+0.5**
A051A	**Mrakovica**	**6.28**	**334**	*e*Pn	**Pn**	**01 20 00.4**	**-0.5**
ARR	**Arges**	**6.63**	**25**	⇑P	**Pn**	**01 20 08.2**	**+2.4**
ARR				⇓S	**Sn**	**01 21 24.7**	**+3.8**
VOIR		**6.83**	**27**	⇑P	**Pn**	**01 20 11.3**	**+2.8**
MORH	**Mrgy, Hungar**	**6.97**	**348**	⇓P	**Pn**	**01 20 10.7**	**+0.3**
MLR	**Muntele Rosu**	**7.21**	**31**	P	**Pn**	**01 20 16.0**	**+2.3**
	2.5nm,0.6s,baz=293,slow=15,SNR=4.6						
MLR				S	**Sn**	**01 21 35.6**	**+0.2**
	3.0nm,0.6s,baz=129,slow=17,SNR=1.2						
MLR	**Muntele Rosu**	**7.21**	**31**	⇑P	**Pn**	**01 20 16.9**	**+3.2**
BOJS	**Bojanci**	**7.31**	**328**	*e*Pn	**Pn**	**01 20 13.1**	**-1.9**
CRES	**Cresnjevec Ost**	**7.50**	**331**	*e*Pn	**Pn**	**01 20 17.2**	**-0.4**
PLOR	**Plostina**	**7.79**	**32**	⇑P	**Pn**	**01 20 25.5**	**+3.9**
VRI	**Vrincioaia**	**7.83**	**33**	⇑P	**Pn**	**01 20 26.5**	**+4.3**
CEY	**Cerknica**	**7.85**	**326**	*e*Pn	**Pn**	**01 20 22.3**	**-0.1**
SOKA	**Soboth**	**8.37**	**332**	*i* Pn	**Pn**	**01 20 29.4**	**-0.3**
	1.3nm,0.3s,SNR=4.5						
OBKA	**Obir**	**8.41**	**330**	*i* Pn	**Pn**	**01 20 30.4**	**+0.2**
	2.4nm,0.5s						
OBKA	**Obir**	**8.41**	**330**	*e*Pn	**Pn**	**01 20 29.9**	**-0.4**
RONA	**Rosalia, Austr**	**8.89**	**340**	*e*Pn	Pn	01 20 46.2	+10
	0.7nm,0.3s						
KBA	**Koelnbreinsper**	**9.36**	**327**	*i* Pn	**Pn**	**01 20 44.1**	**+0.8**
	0.9nm,0.3s						
ABTA	**Abfaltersbach**	**9.47**	**323**	*i* Pn	**Pn**	**01 20 44.8**	**0.0**
	1.6nm,0.5s						
MOA	**Molln**	**9.64**	**333**	*e*Pn	**Pn**	**01 20 48.0**	**+0.9**
	1.2nm,0.3s						
BIOA	**Bad Ischl, Aus**	**9.74**	**331**	*i* Pn	**Pn**	**01 20 49.2**	**+0.9**
	1.7nm,0.3s						
LESA	**Schwarzleotal**	**9.92**	**327**	*i* Pn	**Pn**	**01 20 50.9**	**+0.1**
	1.2nm,0.6s,SNR=4.3						
BRTR	**Keskin Array B**	**9.99**	**84**	P	**Pn**	**01 20 55.2**	**+3.3**
	0.3nm,0.6s,baz=264,slow=12,SNR=4.3						
BRTR				S	**Sn**	**01 22 41.0**	**-2.8**
	0.2nm,0.3s,baz=308,slow=33,SNR=1.3						
WTTA	**Wattenberg**	**10.26**	**323**	*i* Pn	**Pn**	**01 20 56.7**	**+1.1**
	2.6nm,0.5s						
WATA	**Walderalm**	**10.34**	**323**	*i* Pn	**Pn**	**01 20 58.6**	**+1.9**
	2.0nm,0.4s						
SQTA	**Sankt Quirin**	**10.43**	**322**	*i* Pn	**Pn**	**01 20 58.8**	**+0.8**
	1.9nm,0.4s						
FETA	**Feichten**	**10.53**	**320**	*i* Pn	**Pn**	**01 21 01.4**	**+2.1**
	1.2nm,0.7s						
MOTA	**Moosalm**	**10.57**	**322**	*i* Pn	**Pn**	**01 21 00.8**	**+0.9**
	2.0nm,0.5s						
GERES	**GERESS Array B**	**10.69**	**334**	P	**Pn**	**01 21 02.3**	**+0.8**
	0.4nm,0.4s,baz=152,slow=12,SNR=5.1						
GERES				S	**Sn**	**01 22 54.0**	**-6.9**
	0.3nm,0.5s,baz=149,slow=24,SNR=1.7						
DAVOX	**Davos/Dischmat**	**10.81**	**316**	P	**Pn**	**01 21 05.7**	**+2.5**
	0.6nm,0.3s,baz=280,slow=15,SNR=2.6						
DAVOX				S	**Sn**	**01 22 59.4**	**-4.6**
	0.7nm,0.3s,baz=348,slow=18,SNR=2.2						
RETA	**Reutte**	**10.84**	**321**	*i* Pn	**Pn**	**01 21 04.4**	**+1.0**
	0.4nm,0.2s						
HFS	**Hagfors**	**21.22**	**350**	P	**P**	**01 23 12.8**	**-1.0**
	1.3nm,0.6s,baz=162,slow=12,SNR=5.9						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**22.31**	**7**	P	**P**	**01 23 24.2**	**-1.3**
	0.9nm,0.4s,baz=174,slow=9.2,SNR=12						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**22.45**	**348**	P	**P**	**01 23 26.1**	**-1.0**
	0.5nm,0.5s,baz=163,slow=10,SNR=3.8						
	0.5nm,0.5s						
EKA	**Eskdalemuir Ar**	**22.53**	**323**	P	**P**	**01 23 27.3**	**-0.6**
	3.5nm,0.8s,baz=120,slow=10,SNR=8.5						
	3.5nm,0.8s						
ARCES	**ARCESS Array B**	**30.30**	**3**	P	**P**	**01 24 38.0**	**-1.1**
	2.5nm,0.8s,baz=185,slow=9.6,SNR=8.1						
	2.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.08**	**218**	P	**P**	**01 24 47.0**	**+0.5**
	0.5nm,0.7s,baz=27,slow=9.9,SNR=5.6						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**36.22**	**51**	P	**P**	**01 25 30.9**	**0.0**
	0.5nm,0.6s,baz=266,slow=8.1,SNR=3.0						
	0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**38.93**	**359**	P	**P**	**01 25 52.9**	**-0.7**
	6.9nm,0.9s,baz=173,slow=8.6,SNR=1.5						
	6.9nm,0.9s						
KURBB	**Kurchatov Arra**	**41.39**	**55**	P	**P**	**01 26 13.1**	**-1.1**
	0.5nm,0.7s,baz=283,slow=8.1,SNR=4.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**44.54**	**59**	P	**P**	**01 26 39.0**	**-0.9**
	0.5nm,0.5s,baz=278,slow=7.4,SNR=17						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**44.77**	**49**	P	**P**	**01 26 40.5**	**-1.0**
	1.4nm,0.4s,baz=282,slow=8.1,SNR=8.7						
	1.4nm,0.4s						
YKA	**Yellowknife Ar**	**72.29**	**340**	P	**P**	**01 29 52.4**	**-0.8**
	0.1nm,0.6s,baz=32,slow=5.9,SNR=1.9						
	0.1nm,0.6s						

IDC 15 01:20:34.6±3.4, 32°.91N×87°.80E, h0km, mb3.2/2, mbtmp3.4/5, ML3.8/2, MS3.2/4, Error ellipse: s-maj=77.4km s-min=32.0km az=61.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.49**	**345**	Pn	Pn	01 23 59.5	-1.3
	0.1nm,0.3s,baz=160,slow=14,SNR=4.5						
MKAR				LR	LR	01 30 17.9	
	comp=Z,74nm,19.1s,baz=254,slow=40						
	0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.54**	**142**	P	Pn	01 24 40.5	-0.1
	0.6nm,0.3s,baz=328,slow=12,SNR=5.4						
CMAR				LR	LR	01 32 22.4	
	comp=Z,25nm,18.8s,baz=255,slow=40						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**18.97**	**342**	P	P	01 24 57.0	-0.3
	1.3nm,1.0s,baz=154,slow=12,SNR=5.3						
SONM	**Songino Array**	**20.49**	**38**	P	P	01 25 14.4	+0.3
	1.1nm,0.8s,baz=224,slow=12,SNR=5.4						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**21.13**	**355**	P	P	01 25 20.4	-0.4
	0.8nm,0.7s,baz=171,slow=12,SNR=4.0						
ZALV				LR	LR	01 34 34.2	
	comp=Z,111nm,19.3s,baz=298,slow=40						
	0.8nm,0.7s						
EIL	**Elat**	**44.89**	**281**	LR	LR	01 51 11.0	
	comp=Z,38nm,18.5s,baz=256,slow=41						

IDC 15 01:32:04.3±1.2, 32°.80S×77°.71E, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/14, Error ellipse: s-maj=39.6km s-min=33.0km az=17.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**23.92**	**229**	T	T	02 02 13.1	
	baz=65,slow=74,SNR=284						
H04N1	**CROZET ISLANDS**	**23.93**	**229**	T	T	02 02 13.5	
	baz=65,slow=74,SNR=259						
H04N3	**CROZET ISLANDS**	**23.93**	**228**	T	T	02 02 12.1	
	baz=65,slow=74,SNR=301						
H04S1	**CROZET ISLANDS**	**24.14**	**227**	T	T	02 02 28.5	
	baz=62,slow=75,SNR=10						
H04S3	**CROZET ISLANDS**	**24.15**	**227**	T	T	02 02 27.2	
	baz=62,slow=75,SNR=17						
H04S2	**CROZET ISLANDS**	**24.16**	**227**	T	T	02 02 30.5	
	baz=62,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**25.50**	**348**	T	T	02 04 12.1	
	baz=244,slow=74,SNR=13						
H08S3	**Diego Garcia H**	**25.51**	**348**	T	T	02 04 13.9	
	baz=172,slow=74,SNR=34						
H01W2	**Cape Leeuwin H**	**30.22**	**104**	T	T	02 09 46.2	
	baz=263,slow=74,SNR=2.7						
H01W3	**Cape Leeuwin H**	**30.22**	**104**	T	T	02 09 45.2	
	baz=263,slow=74,SNR=4.5						
H01W1	**Cape Leeuwin H**	**30.23**	**104**	T	T	02 09 46.2	
	baz=263,slow=74,SNR=6.6						
NWAO	**Narrogin (SRO)**	**33.06**	**101**	LR	LR	01 49 37.9	
	comp=Z,70nm,20.8s,baz=52,slow=32						
MAW	**Mawson**	**35.91**	**190**	LR	LR	01 51 00.3	
	comp=Z,149nm,18.9s,baz=86,slow=32						
PALK	**Pallekele**	**39.95**	**5**	LR	LR	01 51 43.7	
	comp=Z,55nm,21.3s,baz=192,slow=30						
PSI	**Prapat**	**40.70**	**34**	LR	LR	01 52 58.8	
	comp=Z,157nm,18.8s,baz=206,slow=31						
BOSA	**Boshof**	**44.92**	**261**	LR	LR	01 54 41.0	
	comp=Z,70nm,19.9s,baz=158,slow=30						
FITZ	**Fitzoy Crossi**	**45.31**	**83**	LR	LR	01 57 10.6	
	comp=Z,58nm,19.5s,baz=217,slow=33						
SUR	**Sutherland**	**47.43**	**254**	LR	LR	01 55 42.4	
	comp=Z,68nm,21.9s,baz=132,slow=30						
KAPI	**Kappang**	**47.93**	**64**	LR	LR	01 59 16.2	
	comp=Z,41nm,20.3s,baz=220,slow=34						
ASAR	**Alice Springs**	**49.84**	**95**	P	P	01 40 59.5	+0.1
	0.3nm,0.6s,baz=241,slow=7.6,SNR=4.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**51.78**	**90**	P	P	01 41 13.8	-0.2
	1.0nm,1.0s,baz=241,slow=8.0,SNR=4.5						
WRA				LR	LR	02 02 28.4	
	comp=Z,51nm,18.1s,baz=96,slow=35						
	1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**54.86**	**25**	LR	LR	02 03 32.2	
	comp=Z,20nm,18.1s,baz=210,slow=34						
QSPA	**South Pole Qui**	**57.35**	**180**	P	P	01 41 54.0	0.0
	3.1nm,1.0s,baz=277,slow=5.4,SNR=4.3						
	3.1nm,1.0s						
PMG	**Port Moresby**	**67.71**	**87**	LR	LR	02 12 49.7	
	comp=Z,61nm,18.3s,baz=168,slow=36						
MKAR	**Makanchi Array**	**79.33**	**3**	P	P	01 44 11.5	-0.1
	0.3nm,0.6s,baz=194,slow=5.3,SNR=3.5						
	0.3nm,0.6s						
KSRS	**Korea Array**	**84.12**	**38**	LR	LR	02 21 10.7	
	comp=Z,11nm,19.4s,baz=355,slow=35						
TORD	**Torodi Ar. Bea**	**85.62**	**289**	P	P	01 44 45.1	0.0
	1.1nm,0.9s,baz=116,slow=4.1,SNR=5.6						
	1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**86.61**	**4**	LR	LR	02 22 59.1	
	comp=Z,23nm,18.5s,baz=332,slow=35						
DBIC	**Dimbokro**	**87.36**	**280**	LR	LR	02 20 21.6	
	comp=Z,30nm,19.6s,baz=122,slow=33						

*UCR **15** 02:03:36.1±0.9, 8°.83N×84°.13W, h0km±6km, MW3.5*
*UPA **15** 02:03:37.4±1.9, 8°.82N×84°.15W, h12km±22km, MW4.1*

ISC 15 02:03:37.2±2.4, 8°.87N±0°.07×84°.10W±0°.07, h14km±16km, n27, σ0°.42/34, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIMO	**Fila Mora**	**0.75**	**81**	*e*P	**Pb**	**02 03 51.5**	**-0.6**
PICV	**PH. Pirrs**	**0.76**	**353**	*e*P	**Pb**	**02 03 52.4**	**+0.2**
PISJ	**San Jermim**	**0.76**	**359**	*e*P	**Pb**	**02 03 52.2**	**0.0**
ABE2	**San Pablo**	**0.83**	**3**	*e*P	**Pb**	**02 03 53.4**	**-0.2**
LCR2	**La Lucha 2**	**0.87**	**6**	*e*P	**Pb**	**02 03 53.7**	**-0.5**
DRK0	**Durika**	**0.93**	**65**	*e*P	**Pb**	**02 03 55.3**	**0.0**
BELE	**Belen**	**1.10**	**356**	*e*P	**Pb**	**02 03 57.9**	**-0.2**
VICA	**Volcano Irazu**	**1.14**	**13**	*e*P	**Pb**	**02 03 58.5**	**-0.4**
CVIMO	**Finca Echandi**	**1.16**	**8**	*e*P	**Pn**	**02 03 59.4**	**+0.1**
VTCV	**VTCV, Calle Va**	**1.17**	**19**	*e*P	**Pn**	**02 03 59.1**	**-0.2**
VTLA	**Turrialba Volc**	**1.17**	**16**	*e*P	**Pn**	**02 03 59.3**	**-0.2**
CVTQ	**Turrialba Volc**	**1.18**	**16**	*e*P	**Pn**	**02 03 59.2**	**-0.3**
CVTV	**Tajo**	**1.18**	**17**	*e*P	**Pn**	**02 03 59.5**	**-0.1**
VTR0	**Volcan Turrial**	**1.19**	**16**	*e*P	**Pn**	**02 03 59.8**	**0.0**
CVTR	**Volcan Turrial**	**1.19**	**16**	*e*P	**Pn**	**02 03 59.7**	**-0.1**
VBV1	**V. Barva**	**1.23**	**0**	*e*P	**Pn**	**02 04 00.7**	**+0.3**
ALCO	**Alturas Coton,**	**1.26**	**86**	*e*P	**Pn**	**02 04 00.1**	**-0.4**
MLIR3	**Monte Lirio, C**	**1.27**	**93**	*e*P	**Pb**	**02 04 01.2**	**+0.3**
MLIR3				*e*S	**Sg**	**02 04 19.1**	**+1.0**
CVTG	**V. Turrialba,**	**1.31**	**14**	*e*P	**Pb**	**02 04 01.8**	**+0.2**
PTPM	**Petroterminale**	**1.38**	**119**	*e*P	**Pb**	**02 04 02.5**	**-0.3**
PTPM				*i* S	**Sb**	**02 04 20.3**	**0.0**
BRU2	**Volcan**	**1.40**	**93**	*e*P	**Pn**	**02 04 02.5**	**0.0**
BRU2	**Volcan**	**1.40**	**93**	*e*P	**Pn**	**02 04 02.5**	**0.0**
BRU2				*i* S	**Sb**	**02 04 21.2**	**+0.2**
BRU2				*e*S	**Sg**	**02 04 21.7**	**-0.7**
BC3P	**Paso Ancho**	**1.48**	**92**	*e*P	**Pn**	**02 04 02.5**	**-1.1**
BC3P				*e*S	**Sb**	**02 04 23.4**	**+0.1**
JTS	**Las Juntas de**	**1.64**	**329**	*e*P	**Pn**	**02 04 05.4**	**-0.3**
CNI2	**El Empalme, Bo**	**1.70**	**71**	*e*P	**Pn**	**02 04 05.9**	**-0.6**
CNI2				*e*S	**Sb**	**02 04 29.6**	**0.0**
PSOM3	**Paja de Sombre**	**1.77**	**96**	*e*P	**Pn**	**02 04 08.2**	**+0.8**
CHGR2	**Aguacate**	**1.94**	**88**	*e*P	**Pn**	**02 04 09.9**	**+0.2**
CHGR2				*i* S	**Sn**	**02 04 34.2**	**+0.3**

NNC 15 02:17:56.1±5.5, 37°.00N×70°.88E, h0km, mb3.9, mpv3.8, 3C-3D, Error ellipse: s-maj=57.9km s-min=29.4km az=154.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**357**	⇓P	Pn	02 19 29.3	+1.8
	2.2nm,0.2s,baz=173,slow=12,SNR=180						
KK31				⇑S	Sn	02 20 39.2	+1.2
	3.5nm,0.5s,baz=184,slow=23,SNR=4.1						
TKM2	**Tokmak 2**	**6.94**	**30**	⇑P	Pn	02 19 38.9	-0.2
	2.9nm,0.5s						
TKM2				⇓S	Sn	02 20 59.7	+0.9
	3.3nm,0.8s						
AB31	**Akbulak array**	**14.60**	**330**	⇑P	Pn	02 21 21.4	-2.4
	0.2nm,0.3s,baz=148,slow=11,SNR=27						
AKTO	**Aktyubinsk**	**16.30**	**330**	⇓P	Pn	02 21 45.5	-0.7
	1.9nm,0.9s						

*NEIC **15** 02:30:53.2±1.4, 56°.01N±0°.08×150°.1W±0°.1, h10km±2km, ML3.7/50, ML3.4(AEIC), Error ellipse: s-maj=14.2km s-min=10.1km az=150.0*
*AEIC **15** 02:30:57.9±1.4, 56°.00N±0°.09×150°.1W±0°.1, h9km±8km, Error ellipse: s-maj=14.6km s-min=9.5km az=153.0*

ISC 15 02:30:52.0±1.3, 56°.01N±0°.07×150°.05W±0°.06, h10km, n97, σ1°.36/91, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.17**	**306**		**Pn**	**02 31 29.0**	**+1.0**
OHAK				Sn	**Sn**	**02 31 53.6**	**-1.3**
OHAK	**Old Harbor**	**2.17**	**306**	P	**Pn**	**02 31 28.9**	**+0.8**
OHAK	**Old Harbor**	**2.17**	**306**	S	**Sn**	**02 31 53.7**	**-1.2**
KDAK	**Kodiak Island**	**2.26**	**323**		**Sn**	**02 31 56.1**	**-1.1**
SII	**Sitkinak Islan**	**2.37**	**285**		**Sn**	**02 31 59.3**	**-0.8**
SII	**Sitkinak Islan**	**2.37**	**285**	Pn	**Pn**	**02 31 31.9**	**+1.0**
SII				IAML		02 32 00.1	
	comp=N,261nm,0.6s						
SII				IAML		02 32 00.2	
	comp=E,586nm,0.8s						
SII	**Sitkinak Islan**	**2.37**	**285**	P	**Pn**	**02 31 31.8**	**+0.9**
SII	**Sitkinak Islan**	**2.37**	**285**	S	**Sn**	**02 31 59.3**	**-0.8**
R18K	**Karluk**	**2.88**	**305**	IAML		02 32 14.0	
	comp=N,252nm,0.5s						
R18K				IAML		02 32 14.8	
	comp=E,225nm,0.4s						
R18K	**Karluk**	**2.88**	**305**		**Pn**	**02 31 39.5**	**+1.6**
R18K					**Sn**	**02 32 11.7**	**-0.9**
SYI	**Shuyak Island**	**2.90**	**335**	Pn	**Pn**	**02 31 39.4**	**+1.2**
SYI	**Shuyak Island**	**2.90**	**335**		**Sn**	**02 32 12.3**	**-0.8**
CHIR	**Chirikof Islan**	**3.14**	**269**		**Pn**	**02 31 42.2**	**+0.7**
CHIR				IAML		02 32 17.8	
	comp=N,174nm,0.4s						
CHIR				IAML		02 32 18.0	
	comp=E,159nm,0.5s						
CHIR	**Chirikof Islan**	**3.14**	**269**		**Sn**	**02 32 16.5**	**-2.5**
CHIR	**Chirikof Islan**	**3.14**	**269**	P	**Pn**	**02 31 42.2**	**+0.7**
KAHG	**Katmai Hook Gl**	**3.49**	**317**		**Pn**	**02 31 48.8**	**+2.4**
Q19K	**Cape Douglas,**	**3.51**	**328**		**Pn**	**02 31 48.7**	**+2.0**
Q19K				IAML		02 32 33.9	
	comp=E,278nm,1.4s						
Q19K				IAML		02 32 34.6	
	comp=N,189nm,1.6s						
KCE	**Katmai Mt Cerb**	**3.58**	**311**		**Pn**	**02 31 50.0**	**+2.4**
CNPM	**China Poot**	**3.59**	**350**		**Pn**	**02 31 48.2**	**+0.6**
CNPM				IAML		02 33 51.2	
	comp=E,74nm,3.5s						
CNPM	**China Poot**	**3.59**	**350**		**Sn**	**02 32 28.5**	**-1.5**
ACHA	**Angle Creek He**	**3.63**	**310**	Pn	**Pn**	**02 31 50.6**	**+2.4**
ANCK	**Angle Creek**	**3.69**	**309**		**Pn**	**02 31 51.4**	**+2.2**
BRSE	**Bradley Lake S**	**3.76**	**355**		**Sn**	**02 32 31.8**	**-2.6**
BRLK	**Bradley Lake**	**3.79**	**354**	Pn	**Pn**	**02 31 50.7**	**+0.2**
BRLK				IAML		02 33 55.8	
	comp=N,65nm,3.4s						
BRLK				IAML		02 34 13.4	
	comp=E,66nm,2.9s						
BRLK	**Bradley Lake**	**3.79**	**354**		**Sn**	**02 32 33.4**	**-1.7**
AUCH	**Augustine Cone**	**3.83**	**333**		**Pn**	**02 31 52.9**	**+1.9**
Q23K	**Middleton Isla**	**3.96**	**29**		**Pn**	**02 31 53.9**	**+1.1**
PLK1	**Peulik 1**	**4.02**	**299**		**Pn**	**02 31 55.7**	**+2.2**
P19K	**Oil Pt**	**4.03**	**336**		**Pn**	**02 31 55.8**	**+2.0**
P19K	**Oil Pt**	**4.03**	**336**	IAML		02 32 46.9	
	comp=E,82nm,0.4s						
P19K				IAML		02 33 10.1	
	comp=N,84nm,4.1s						
PLBL	**Peulik Blue Cr**	**4.08**	**297**		**Pn**	**02 31 56.7**	**+2.2**
SEW	**Seward**

OSTC *e*SG **Sg** **02 32 29.8 -0.5**
comp=Z,30nm,0.3s
UPC Upice 1.01 190 *e*PG **Pg** **02 32 19.4 +0.3**
UPC *e*SG **Sg** **02 32 31.3 -1.0**
DPC Dobruska-Polom 1.16 179 *e*PG **Pg** **02 32 21.9 0.0**
DPC *e*SG **Sg** **02 32 35.6 -1.3**
comp=Z,22nm,0.4s
PVCC Panska Ves 1.46 229 *e*PG **Pb** **02 32 28.2 +0.5**
PVCC *e*SG **Sg** **02 32 46.2 -0.4**
comp=Z,71nm,0.4s
KRLC Kraliky 1.47 167 *e*PG **Pn** **02 32 27.6 +0.1**
KRLC *e*SG **Sg** **02 32 46.4 -0.4**
comp=Z,27nm,0.4s
BRG Berggiesshubel 1.60 248 Pg **Pg** **02 32 30.6 +0.2**
BRG Sg **Sg** **02 32 51.6 +0.4**
BRG Amp 02 32 52.9
comp=Z,28nm,0.4s
STEB Steborice 1.84 148 *e*PG **Pg** **02 32 34.5 -0.4**
STEB *e*SG **Sb** **02 32 57.6 -0.1**
PRA Prague 1.86 220 *e*SG **Sb** **02 32 58.1 -0.1**
PRU Pruhonice 1.88 217 *e*PG **Pb** **02 32 34.9 0.0**
PRU *e*SG **Sb** **02 32 58.2 -0.7**
comp=Z,26nm,0.6s
MORC Moravsky Berou 1.91 155 *e*PN **Pn** **02 32 33.5 0.0**
MORC *e*SG **Sn** **02 32 58.9 +0.6**
HSKC Hora Svate Kat 2.01 245 *e*PG **Pb** **02 32 36.8 -0.4**
HSKC *e*SG **Sb** **02 33 03.5 +0.8**
OKC Ostrava-Krasne 2.05 144 *e*PG **Pg** **02 32 38.9 -0.1**
OKC *e*SG **Sb** **02 33 04.4 +0.6**
CLL Collm 2.06 266 *e*Pn **Pn** **02 32 36.0 +0.4**
CLL *e*Pg **Pg** **02 32 40.0 +0.8**
CLL *e*Sg **Sg** **02 33 06.0 0.0**
comp=Z,7.0nm,0.7s
VRAC Vranov 2.21 175 *e*PN **Pn** **02 32 37.5 -0.2**
VRAC *e*SG **Sb** **02 33 08.6 +0.2**
KRUC Moravsky 2.45 178 *e*PN **Pn** **02 32 40.7 -0.2**
KRUC *e*SG **Sb** **02 33 16.0 +0.7**
ZVC Zvikov 2.46 214 *e*SG **Sb** **02 33 16.5 +0.8**
OJC Ojcow 2.57 119 *e*Pg **Pg** **02 32 49.3 +0.3**
OJC *e*Sg **Sg** **02 33 24.2 +1.8**
NKC Novy Kostel 2.74 244 *e*PN **Pn** **02 32 46.0 +1.0**
NKC *e*SG **Sg** **02 33 27.4 -0.4**
comp=Z,18nm,0.4s
KHC Kasperske Hory 2.94 217 *e*PN **Pn** **02 32 49.1 +1.4**
KHC *e*PG **Pb** **02 32 54.2 +1.2**
KHC *e*SN **Sn** **02 33 21.9 -1.9**
KHC *e*SG **Sb** **02 33 31.4 +1.9**
comp=Z,8.4nm,0.4s
CKRC Cesky Krumlov 2.97 206 *e*PN **Pn** **02 32 49.1 +0.9**
CKRC *e*PG **Pg** **02 32 55.1 -1.6**
CKRC *e*SG **Sb** **02 33 30.9 +0.5**
LANS Liptovska Anna 3.12 138 *e*PN **Pb** **02 32 54.9 -1.2**
LANS *e*PG **Pg** **02 33 02.9 +3.4**
LANS *e*SG **Sg** **02 33 39.1 -0.8**
MODS Modra-Piesok 3.20 168 *e*PG **Pg** **02 33 01.7 +0.7**
MODS *e*SG **Sg** **02 33 43.2 +0.7**
VYHS Vyhne 3.44 150 *e*PN **Pn** **02 32 53.9 -0.6**
CONA Conrad Observa 3.59 185 *i* Pn **Pn** **02 32 55.7 -1.0**
comp=Z,0.7nm,0.4s
CONA Sg **Sg** **02 33 55.2 +0.1**
comp=Z,3.4nm,0.4s
BSD Bornholm Skovb 3.71 348 *e* **Pn** **02 32 58.2 0.0**
baz=178,slow=11
BSD *i* P **Pn** **02 32 59.4 +1.3**
BSD *i* P Pb 02 32 59.6 -6.4
BSD *i* S **Sn** **02 33 40.8 -1.7**
BSD IAML 02 33 44.9
comp=N,2.0nm,0.3s
BSD IAML 02 33 45.8
comp=Z,1.1nm,0.3s
MOA Molln 3.89 200 *i* Pn **Pn** **02 33 00.4 -0.3**
comp=Z,0.4nm,0.2s
MOA Sg **Sg** **02 34 04.0 -0.5**
comp=Z,9.3nm,0.7s
BIOA Bad Ischl, Aus 4.19 205 *e*Pn **Pn** **02 33 03.5 -1.4**
comp=Z,0.7nm,0.3s
BIOA *i* Sn **Sn** **02 33 56.6 +2.1**
comp=Z,4.5nm,0.4s
ARSA Arzberg 4.29 187 *i* Pn **Pn** **02 33 06.2 0.0**
comp=Z,0.3nm,0.3s
ARSA *i* Sn **Sn** **02 33 56.6 -0.3**
comp=Z,2.9nm,0.5s
LUNU Lund 4.46 339 *i* P **Pn** **02 33 09.5 +0.9**
LUNU *i* S **Sn** **02 33 59.2 -2.0**
BLEU Blekinge 4.81 357 *e*P **Pn** **02 33 14.8 +1.4**
BLEU *e*S **Sn** **02 34 08.0 -1.8**
KBA Koelnbreinsper 4.83 205 *i* Pn **Pn** **02 33 12.7 -1.1**
comp=Z,0.5nm,0.3s
KBA *e*Sg **Sg** **02 34 35.0 +0.2**
comp=Z,6.9nm,0.8s
BJUU Bjuv 4.97 338 *e*P **Pn** **02 33 16.6 +1.2**
BJUU *e*S **Sn** **02 34 10.4 -3.1**
DEL Delary 5.17 345 *i* P **Pn** **02 33 19.5 +1.2**
DEL *i* S **Sn** **02 34 17.9 -0.7**
DEL IAML 02 34 19.9
comp=Z,1.3nm,0.3s

BER ***15*** *02:41:36.3±2.7, 80°.49N×2°.41W, h10km, mb(Pn)3.6, ML1.9(DNK), Confirmed Earthquake*
DNK ***15*** *02:41:38.0±3.0, 80°.45N×1°.85W, h36km±37km, ML1.9*
KOLA ***15*** *02:41:39.7, 81°.20N×3°.53E, h0km, ML1.9, Error ellipse: s-maj=108.9km s-min=33.2km az=40.0, Arctic Ocean*
FCIAR ***15*** *02:41:40.0, 80°.33N×0°.10W, h10km, station OMEGA has station magnitude of 3.70*
ISC 15 02:41:30.8±0.9, 80°.25N±0°.06×1°.04W±0°.04, h10km, n26, σ2ᵖ56/46, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.70**	**113**	*e*P	**Pg**	**02 42 21.7**	**-0.8**
KBS				*e*S	**Sg**	**02 42 53.9**	**-3.5**
KBS				IAML		02 42 58.4	
comp=Z,20nm,0.6s							
KBS	**Kingsbay**	**2.70**	**113**	P	**Pg**	**02 42 21.7**	**-0.8**
KBS				S	**Sb**	**02 42 53.0**	**+0.7**
KBS	**Kingsbay**	**2.70**	**113**	*e*P	**Pg**	**02 42 21.5**	**-1.0**
KBS				*e*S	**Sb**	**02 42 52.8**	**+0.5**
KBS	**Kingsbay**	**2.70**	**113**	*i* P	**Pg**	**02 42 21.4**	**-1.2**
NOR	**Nord**	**2.82**	**306**	*i* P	**Pn**	**02 42 14.9**	**-0.8**
NOR				*i*		02 42 41.9	
NOR				IAML		02 42 43.1	
comp=Z,5.2nm,0.3s							
NOR	**Nord**	**2.82**	**306**	*i* P	**Pn**	**02 42 14.9**	**-0.8**
NOR				*i*		02 42 41.9	
NOR				IAML		02 42 43.1	
comp=Z,5.2nm,0.3s							
BRBB	**Barentsburg B**	**3.59**	**119**	*e*P	**Pb**	**02 42 35.6**	**+1.3**
BRBB				*e*S	**Sb**	**02 43 17.2**	**-0.6**
BRBB	**Barentsburg B**	**3.59**	**119**	P	**Pb**	**02 42 35.4**	**+1.1**
BRBB				S	**Sb**	**02 43 16.8**	**-1.0**
BRBA	**Barentsburg A**	**3.62**	**120**	*e*P	**Pb**	**02 42 36.4**	**+1.7**
BRBA				*e*S	**Sb**	**02 43 18.3**	**-0.2**
BRBA				IAML		02 43 22.1	
comp=Z,14nm,0.8s							
SPA0	**Spitsbergen Ar**	**3.86**	**114**	*e*P	**Pb**	**02 42 38.3**	**-0.6**
SPA0				*e*S	**Sb**	**02 43 22.2**	**-3.4**
SPA0				IAML		02 43 27.5	
comp=Z,12nm,0.6s							
SPA0	**Spitsbergen Ar**	**3.86**	**114**	*e*P	**Pb**	**02 42 38.4**	**-0.6**
SPA0				*e*S	**Sb**	**02 43 21.9**	**-3.8**
SPITS	**Spitsbergen Ar**	**3.86**	**114**	P	**Pb**	**02 42 38.1**	**-0.8**
SPITS				S	**Sb**	**02 43 22.5**	**-3.2**
HSPB	**Hornsund (broa**	**4.61**	**127**	*e*P	**Pb**	**02 42 50.0**	**-1.5**
HSPB				*e*S	**Sb**	**02 43 42.8**	**-4.2**
HSPB				IAML		02 43 45.5	
comp=Z,6.6nm,0.5s							
HSPB	**Hornsund (broa**	**4.61**	**127**	P	**Pb**	**02 42 50.4**	**-1.2**
HSPB				S	**Sb**	**02 43 43.0**	**-4.0**
DAG	**Danmarks Havn**	**4.94**	**234**	*e*	**Pn**	**02 42 44.8**	**0.0**
baz=43,slow=14							
DAG				*i* P	**Pn**	**02 42 48.0**	**+3.2**
DAG				*i* S	**Sn**	**02 43 40.4**	**-1.5**
DAG				IAML		02 43 44.0	
comp=Z,14nm,0.4s							
DAG	**Danmarks Havn**	**4.94**	**234**	*e*	**Pn**	**02 42 44.8**	**0.0**
baz=43,slow=14							
DAG				*i* P	**Pn**	**02 42 48.0**	**+3.2**
DAG				*i* P	**Pn**	**02 42 48.2**	**+3.4**
DAG				*i* S	**Sn**	**02 43 40.4**	**-1.5**
DAG				IAML		02 43 44.0	
comp=Z,14nm,0.4s							
HOPEN	**Hopen**	**6.39**	**112**	*e*P	Pn	02 43 12.6	+7.7
HOPEN				*e*S	**Sn**	**02 44 23.0**	**+5.2**
HOPEN				IAML		02 44 49.2	
comp=Z,13nm,0.1s							
HOPEN	**Hopen**	**6.39**	**112**	*e*P	Pn	02 43 12.0	+7.2
HOPEN				*e*S	**Sn**	**02 44 20.2**	**+2.5**
DBG	**Daneborg**	**7.26**	**225**	*e*P	**Pn**	**02 43 21.2**	**+4.5**
DBG				*i* S	**Sn**	**02 44 35.3**	**-3.8**
DBG				IAML		02 44 40.5	
comp=Z,3.4nm,0.3s							
DBG	**Daneborg**	**7.26**	**225**	*e*P	**Pn**	**02 43 21.2**	**+4.5**
DBG				*i* S	**Sn**	**02 44 35.3**	**-3.8**
DBG				IAML		02 44 40.5	
comp=Z,3.4nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.84**	**62**	*e*P	**Pn**	**02 43 29.2**	**+4.5**
ZFI2				*e*S	**Sn**	**02 44 51.5**	**-1.9**
OMEGA	**Omega**	**7.87**	**62**	*e*P	**Pn**	**02 43 29.0**	**+4.0**
OMEGA				*e*S	**Sn**	**02 44 53.0**	**-0.9**
comp=Z,18nm,2.9s							
NEEM	**North Greenlan**	**9.79**	**279**	*i* P	**Pn**	**02 43 51.1**	**-0.4**
NEEM				*i* S	Sn	02 45 29.7	-12
NEEM				IAML		02 45 32.7	
comp=Z,3.2nm,0.4s							
NEEM	**North Greenlan**	**9.79**	**279**	*i* P	**Pn**	**02 43 51.1**	**-0.4**
NEEM				*i* S	Sn	02 45 29.7	-12
NEEM				IAML		02 45 32.7	
comp=Z,3.2nm,0.4s							
SUMG	**Summit**	**11.37**	**248**	*i* P	**Pn**	**02 44 14.5**	**+1.2**
SUMG				*e*		02 46 11.9	
SUMG				IAML		02 46 15.8	
comp=Z,1.7nm,0.3s							
SUMG	**Summit**	**11.37**	**248**	*i* P	**Pn**	**02 44 14.5**	**+1.2**
SUMG				*e*		02 46 11.9	
SUMG				IAML		02 46 15.8	
comp=Z,1.7nm,0.3s							

SOME ***15*** *02:44:27.2, 43°.02N×77°.15E, h10km*
KRNET ***15*** *02:44:27.8±0.1, 41°.91N×76°.11E, h9km, mb2.1*
NNC 15 02:44:25.9±1.6, 42°.95N×77°.19E, h0km, mb1.5, mpv2.2, 12C, Error ellipse: s-maj=9.8km s-min=6.0km az=162.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.20**	**295**	P	Pg	02 44 31.0	+1.2
TNSS				S	Sg	02 44 33.8	+1.4
TNSS	**Tian-Shan**	**0.20**	**295**	*e*P	Pg	02 44 31.0	+1.2
TNSS				*e*S	Sg	02 44 33.9	+1.6
MDOK	**Medeo**	**0.23**	**333**	⇑P	Pg	02 44 30.7	+0.2
MDOK				Pg	Pg	02 44 31.1	+0.6
MDOK				⇑S	Sg	02 44 33.5	0.0
MDOK				Lg	Lg	02 44 34.1	
MDOK	**Medeo**	**0.23**	**333**	*e*P	Pg	02 44 31.1	+0.6
MDOK				*e*S	Sg	02 44 34.1	+0.6
KOTS	**Kotyrbulak**	**0.29**	**348**	P	Pg	02 44 32.0	+0.6
KOTS				S	Sg	02 44 35.8	+0.7
KOTS	**Kotyrbulak**	**0.29**	**348**	*e*P	Pg	02 44 32.1	+0.7
KOTS				*e*S	Sg	02 44 36.0	+0.8
ANVS	**Anan'yevo**	**0.39**	**116**	⇑*e*P	Pn	02 44 55.2	+16
ANVS				⇑*e*S	Sb	02 45 15.6	+33
KDJ	**Kajisay**	**0.82**	**181**	⇑*i*P	Pb	02 44 43.9	+0.7
KDJ				⇑*i*S	Sb	02 44 55.7	+0.8
BOOM	**Boomskoye usch**	**1.03**	**244**	⇑*e*P	Pg	02 44 39.6	-6.1
BOOM				⇑*e*S	Sg	02 44 48.0	-11
DGS	**Degeres**	**1.08**	**286**	P	Pg	02 44 46.2	-0.5
0.8nm,0.5s							
DGS				S	Sg	02 44 59.8	-0.8
2.1nm,0.3s							
TKM2	**Tokmak 2**	**1.17**	**269**	⇑*i*P	Pg	02 44 48.6	+0.2
TKM2				⇑*i*S	Sg	02 45 03.5	-0.1
TARG	**Taragay, Kyrgy**	**1.30**	**159**	⇑*i*P	Pn	02 44 52.2	+0.4
TARG				⇑*i*S	Sn	02 45 10.0	-0.2
BLB	**Baldybastay**	**1.48**	**39**	P	Pn	02 44 53.3	-0.6
2.5nm,0.1s							
BLB				S	Sg	02 45 12.6	-0.8
3.7nm,0.2s							

DJA ***15*** *02:50:24.8±0.3, 9°.5S×3°.12°4E±°, h65km±8km, M4.7/16, mB5.3/6, mb4.6/16, MLv4.7/16, Mw(mB)4.7/6*
IDC ***15*** *02:50:24.7±2.0, 8°.81S×124°.14E, h85km±17km, mb4.0/11, mbtmp4.3/13, MS3.2/9, Error ellipse: s-maj=30.6km s-min=11.7km az=63.0*
NEIC ***15*** *02:50:25.7±1.8, 9°.3S±0°.1×123°.55E±0°.08, h83km±6km, mb4.5/14, Error ellipse: s-maj=20.2km s-min=7.4km az=210.0*
ISC 15 02:50:24.9±0.4, 9°.35S±0°.05×123°.59E±0°.06, h75km, n103, σ1ᵖ75/100, mb4.5/27, 1C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.78**	**121**		**Pn**	**02 50 43.6**	**+2.3**
SOEI	**Soe**	**0.78**	**121**	P	**Pn**	**02 50 43.1**	**+1.8**
MMRI	**Maumere**	**1.51**	**298**	Pn	**Pn**	**02 50 50.5**	**+0.3**
MMRI	**Maumere**	**1.51**	**298**	P	**Pn**	**02 50 50.7**	**+0.5**
MMRI	**Maumere**	**1.51**	**298**	S	**Sn**	**02 51 10.5**	**+1.2**
MMRI	**Maumere**	**1.51**	**298**	P	**Pn**	**02 50 50.2**	**0.0**
MMRI				S	**Sn**	**02 51 08.8**	**-0.5**
BASI	**Baing, Sumba**	**3.09**	**254**	P	**Pn**	**02 51 13.5**	**+2.1**
WSI	**Waingapu**	**3.26**	**264**	P	**Pn**	**02 51 14.8**	**+1.1**
BBSI	**Bau Bau**	**3.97**	**345**	P	**Pn**	**02 51 23.2**	**-0.3**
WBSI	**Waikabubak, Su**	**4.15**	**266**	P	**Pn**	**02 51 25.5**	**-0.4**
WBSI				S	**Sn**	**02 52 13.2**	**0.0**
BSSI	**Bau Bau, Buton**	**4.43**	**316**	P	**Pn**	**02 51 30.3**	**+0.6**
KDI	**Kendari**	**5.45**	**350**	P	**Pn**	**02 51 42.4**	**-1.2**
0.6nm85nm,0.7s							
KAPI	**Kappang**	**5.75**	**318**	Pn	**Pn**	**02 51 49.4**	**+1.7**
KAPI	**Kappang**	**5.75**	**318**	P	**Pn**	**02 51 48.0**	**+0.2**
12nm,0.5s,baz=130,slow=7.7,SNR=14							
KAPI				S	**Sn**	**02 52 54.4**	**+2.0**
9.2nm,0.5s,baz=63,slow=23,SNR=1.4							
KAPI				LR	LR	02 54 12.1	
comp=Z,202nm,19.0s,baz=157,slow=40							
KAPI	**Kappang**	**5.75**	**318**	P	**Pn**	**02 51 50.1**	**+2.3**
PLAI	**Plampang**	**5.76**	**275**	P	**Pn**	**02 51 49.5**	**+1.6**
PLAI	**Plampang**	**5.76**	**275**	P	**Pn**	**02 51 48.0**	**+0.1**
0.9nm2μm128nm,0.7s							
SPSI	**Sidrap Palu**	**6.56**	**324**	P	**Pn**	**02 51 59.4**	**+0.6**
0.1nm19nm,0.7s							
NLAI	**Namlea**	**7.01**	**30**	P	**Pn**	**02 52 06.1**	**+1.1**
TTSI	**Tana Toraja**	**7.30**	**329**	P	**Pn**	**02 52 09.2**	**+0.2**
0.2nm27nm,0.8s							
SANI	**Sanana**	**7.64**	**18**	P	**Pn**	**02 52 15.0**	**+1.4**
SANI	**Sanana**	**7.64**	**18**	P	**Pn**	**02 52 11.8**	**-1.8**
0.4nm1μm132nm,0.9s							
DRS	**Darwin Rock St**	**7.81**	**114**	P	**Pn**	**02 52 15.4**	**-0.5**
KNRA	**Kununurra**	**8.06**	**142**	Pn	**Pn**	**02 52 17.9**	**-1.5**
MTN	**Manton Dam**	**8.18**	**116**	Pn	**Pn**	**02 52 19.8**	**-1.2**
MTN	**Manton Dam**	**8.18**	**116**	P	**Pn**	**02 52 20.1**	**-0.9**
SRBI	**Singaraja**	**8.37**	**278**	P	**Pn**	**02 52 24.6**	**+1.0**
27nm,0.9s							
FITZ	**Fitzroy Crossi**	**8.92**	**167**	P	**Pn**	**02 52 29.8**	**-1.3**
32nm,0.4s,baz=3.7,slow=10,SNR=166							
FITZ				S	**Sn**	**02 54 03.3**	**-6.6**
275nm,0.6s,baz=108,slow=6.6,SNR=28							
FITZ				LR	LR	02 56 29.6	
comp=Z,170nm,19.5s,baz=338,slow=39							
FITZ	**Fitzroy Crossi**	**8.92**	**167**	P	**Pn**	**02 52 29.9**	**-1.1**
KDU	**Kakadu**	**9.33**	**112**	P	**Pn**	**02 52 35.1**	**-1.6**
JAGI	**Jajag, Banyuwa**	**9.36**	**275**	Pn	**Pn**	**02 52 34.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**9.36**	**275**	P	**Pn**	**02 52 36.5**	**-0.6**
17nm,0.5s							
GMJI	**Gumukmas**	**10.08**	**275**	P	**Pn**	**02 52 48.0**	**+1.1**
14nm,1.0s							
TOLI2	**Tolitoli**	**10.77**	**345**	P	**Pn**	**02 52 58.6**	**+2.3**
SWI	**Sorong**	**11.38**	**43**	P	**Pn**	**02 53 04.9**	**+0.2**
KPJI	**Karang Pucung**	**14.64**	**277**	P	**Pn**	**02 53 49.2**	**+1.0**
WB0	**Warramunga Arr**	**14.71**	**136**	Pn	**Pn**	**02 53 44.9**	**-4.2**
WRA	**Warramunga Arr**	**14.79**	**137**	P	Pn	02 53 45.5	-4.6
4.9nm,0.5s,baz=317,slow=14,SNR=38							
WRA				S	Sn	02 56 19.6	-14
21nm,0.8s,baz=311,slow=24,SNR=17							
WB2	**Warramunga Arr**	**14.80**	**137**	Pn	Pn	02 53 45.5	-4.8
LEM	**Lembang**	**16.01**	**278**	LR	LR	03 02 19.5	
comp=Z,84nm,19.8s,baz=170,slow=43							
WRKA	**Warakurna**	**16.23**	**165**	P	**Pn**	**02 54 07.4**	**-1.0**
DAV	**Davao City (W)**	**16.44**	**7**	LR	LR	03 01 12.4	
comp=Z,42nm,18.6s,baz=160,slow=41							
AS31	**Alice Springs**	**17.32**	**147**	P	**Pn**	**02 54 21.4**	**-0.5**
ASAR	**Alice Springs**	**17.32**	**147**	P	**Pn**	**02 54 21.1**	**-0.8**
27nm,0.8s,baz=325,slow=13,SNR=106							
ASAR				S	Sn	02 57 22.3	-12
17nm,0.7s,baz=319,slow=23,SNR=12							
ASAR				LR	LR	03 00 49.8	
comp=Z,86nm,21.3s,baz=303,slow=36							
ASAR				ScP	**ScP**	**03 02 26.6**	**-2.6**
1.9nm,0.8s,baz=341,slow=2.9,SNR=4.6							
AS01	**Alice Springs**	**17.34**	**146**	P	**Pn**	**02 54 21.0**	**-1.2**
MEEK	**Meekatharra**	**17.82**	**195**	P	**Pn**	**02 54 29.3**	**+1.2**
QIS	**Mount Isa**	**19.05**	**128**	P	**Pn**	**02 54 42.5**	**-0.3**
COEN	**Coen**	**19.72**	**105**	P	**P**	**02 54 48.4**	**-0.3**
COEN	**Coen**	**19.72**	**105**	P	**P**	**02 54 49.4**	**+0.7**
MORW	**Morawa**	**20.85**	**199**	P	**P**	**02 55 01.6**	**+0.8**
MORW	**Morawa**	**20.85**	**199**	P	**P**	**02 55 01.9**	**+1.1**
OOD	**Oodnadatta**	**21.60**	**150**	P	**P**	**02 55 09.6**	**+0.8**
FORT	**Forrest**	**21.72**	**170**	P	**P**	**02 55 10.5**	**+0.5**
FORT	**Forrest**	**21.72**	**170**	P	**P**	**02 55 10.5**	**+0.5**
MTSU	**Mount Surprise**	**21.93**	**116**	P	**P**	**02 55 13.2**	**+0.8**
KMBL	**Kambalda**	**21.96**	**184**	P	**P**	**02 55 13.8**	**+1.2**
BLDU	**Ballidu**	**22.11**	**196**	P	**P**	**02 55 14.9**	**+0.7**
KLBR	**Kellerberrin**	**22.78**	**193**	P	**P**	**02 55 21.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**24.18**	**193**	P	**P**	**02 55 34.3**	**-0.1**
NWAO				IAmb	IAmb	02 55 50.8	
comp=Z,35nm,1.5s							
INKA	**Innaminka**	**24.42**	**141**	P	**P**	**02 55 39.0**	**+2.4**
LCRK	**Leigh Creek**	**25.04**	**149**	P	**P**	**02 55 44.0**	**+1.8**
BBOO	**Buckleboo**	**26.03**	**156**	P	**P**	**02 55 51.4**	**+0.1**
BBOO				IAmb	IAmb	02 55 53.0	
comp=Z,14nm,0.9s							
PSI	**Prapat**	**27.38**	**295**	LR	LR	03 09 20.5	
comp=Z,54nm,18.4s,baz=124,slow=41							
HTT	**Hallett**	**27.82**	**152**	P	**P**	**02 56 08.6**	**+1.3**
STKA	**Stephens Creek**	**27.95**	**146**	P	**P**	**02 56 09.5**	**+1.0**
STKA	**Stephens Creek**	**27.95**	**146**	P	**P**	**02 56 09.7**	**+1.2**
comp=Z,3.4nm,0.9s,baz=313,slow=9.8,SNR=6.3							
STKA				LR	LR	03 08 52.0	
comp=Z,75nm,18.5s,baz=206,slow=39							
comp=Z,3.4nm,0.9s							
ARPS	**Mount Arapiles**	**31.92**	**152**	P	**P**	**02 56 45.1**	**+1.7**
YNG	**Young**	**33.68**	**141**	P	**P**	**02 57 00.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**36.81**	**319**	P	**P**	**02 57 25.1**	**-0.9**
comp=Z,0.8nm,0.3s,baz=128,slow=8.4,SNR=4.9							
CMAR				ScP	**ScP**	**03 03 24.9**	**-2.2**
comp=Z,2.6nm,0.8s,baz=130,slow=4.1,SNR=11							
CMAR				LR	LR	03 14 07.9	
comp=Z,19nm,19.0s,baz=155,slow=39							
comp=Z,0.8nm,0.3s							
KMI	**Kunming**	**39.84**	**330**	⇑P	**P**	**02 57 55.1**	**+3.6**
KMI				pmax	pmax		
comp=Z,14nm,0.7s							
NJ2	**Nanjing**	**41.42**	**354**	*e*P	**P**	**02 58 04.8**	**+0.7**
NJ2				pmax	pmax		
comp=Z,13nm,1.1s							
PZH	**PanZhiHua**	**41.48**	**330**	P	**P**	**02 58 06.4**	**+1.5**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,90nm,6.0s							
XAN	**Xi'an**	**45.35**	**343**	⇓P	**P**	**02 58 36.1**	**+0.3**
XAN				pmax	pmax		
comp=Z,9.0nm,0.7s							
MJAR	**Matsushiro Arr**	**47.68**	**16**	P	P	02 58 46.4	-7.6
comp=Z,1.7nm,0.7s,baz=197,slow=9.3,SNR=4.4							
comp=Z,1.7nm,0.7s							
LZH	**Lanzhou**	**48.88**	**339**	*e*P	**P**	**02 59 04.9**	**+1.5**
LZH				pP	pwP	02 59 23.8	-1.7
LZH				sP	sP	02 59 31.8	+2.6
LZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**51.17**	**348**	*e*P	**P**	**02 59 24.8**	**+4.2**
HHC				pmax	pmax		
comp=Z,2.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,84nm,6.8s							
GTA	**Gaotai**	**53.30**	**337**	*e*P	**P**	**02 59 36.8**	**+0.3**
GTA				pmax	pmax		
comp=Z,2.0nm,1.3s							
QRZ	**Quartz Range**	**53.34**	**134**	P	**P**	**02 59 38.4**	**+1.7**
RPZ	**Rata Peaks**	**53.49**	**138**	P	**P**	**02 59 38.3**	**+0.5**
comp=Z,8.8nm,0.8s,baz=356,slow=21,SNR=2.9							
comp=Z,8.8nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.84**	**7**	P	P	02 59 34.8	-5.4
comp=Z,1.5nm,0.3s,baz=191,slow=6.8,SNR=9.5							
comp=Z,1.5nm,0.3s							
ULN	**Ulaanbaatar**	**58.83**	**347**		**P**	**03 00 17.3**	**+1.5**
ULN				IAmb	IAmb	03 00 18.5	
comp=Z,3.7nm,1.0s							
SONM	**Songino Array**	**58.94**	**347**	P	**P**	**03 00 12.8**	**-3.8**
comp=Z,0.6nm,0.4s,baz=159,slow=5.9,SNR=10							
comp=Z,0.6nm,0.4s							
HEH	**HeiHe**	**59.45**	**3**	*e*P	**P**	**03 00 17.8**	**-2.0**
HEH				pmax	pmax		
comp=Z,8.0nm,0.7s							
KSH	**Kashi**	**65.65**	**321**	P	**P**	**03 01 02.5**	**+0.9**
KSH				pP	pwP	03 01 22.6	-1.8
KSH				pmax	pmax		
comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**66.92**	**330**	P	**P**	**03 01 07.4**	**-2.0**
MK31				IAmb	IAmb	03 01 08.0	
comp=Z,2.8nm,0.8s							
MKAR	**Makanchi Array**	**66.92**	**330**	P	**P**	**03 01 07.3**	**-2.0**
MKAR	**Makanchi Array**	**66.92**	**330**	P	**P**	**03 01 06.9**	**-2.4**
comp=Z,3.1nm,0.5s,baz=133,slow=7.2,SNR=48							
comp=Z,3.1nm,0.5s							
KBL	**Kabul**	**67.58**	**313**	P	**P**	**03 01 12.1**	**-2.0**
KBL				IAmb	IAmb	03 01 19.5	
comp=Z,5.1nm,0.5s							
VNDA	**Vanda**	**70.96**	**172**	P	**P**	**03 01 33.6**	**-0.4**
comp=Z,1.4nm,0.6s,baz=303,slow=8.6,SNR=2.4							
comp=Z,1.4nm,0.6s							
ZAA0	**Zalesovo Array**	**71.06**	**337**	IAmb	IAmb	03 01 32.1	
comp=Z,3.8nm,0.7s							
ZALV	**Zalesovo Beam**	**71.06**	**337**		**P**	**03 01 31.6**	**-3.2**
ZALV	**Zalesovo Beam**	**71.06**	**337**	P	**P**	**03 01 31.1**	**-3.7**
comp=Z,3.5nm,0.5s,baz=142,slow=5.6,SN

NP1:ϕ_s124.00000°,δ39.00000°,λ84.00000°. NP2: ϕ_s=312.00000°,δ51.00000°,λ95.00000°. Principal axes: T 3.1230, Plg82.0000°, Azm251.0000°; N 0.1740, Plg4.0000°, Azm129.0000°; P -3.2970, Plg6.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 02:56:16.0±0.4, 55.09S±0.08×31.63W±0.09, h10km, n104, σ1§07/73, mb4.8/20, MS3.8/29, 6D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	2.93	284		Pn	02 57 02.2	-0.4
VNA1	Neumayer--Stat	18.68	156	P	Pn	03 00 35.6	+1.4
VNA1	Neumayer--Stat	18.68	156	⇓P	Pn	03 00 35.6	+1.4
	comp=Z,18nm,0.8s						
PMSA	Palmer Station	18.69	226	LR	LR	03 06 06.5	
	comp=Z,679nm,20.9s,baz=60,slow=32						
VNA3	Neumayer Olymp	18.79	158	P	Pn	03 00 37.1	+1.5
VNA3	Neumayer Olymp	18.79	158	⇓P	Pn	03 00 37.1	+1.5
	comp=Z,37nm,0.9s						
VNA2	Neumayer--Watz	19.08	156	P	P	03 00 38.0	-0.3
	baz=317,slow=14						
VNA2	Neumayer--Watz	19.08	156	⇓P	P	03 00 38.0	-0.3
	comp=Z,8.1nm,0.6s,baz=317,slow=14						
SNAA	Sanae	20.68	154	P	P	03 00 56.4	+0.6
SNAA	Sanae	20.68	154	P	P	03 00 55.6	-0.1
SNAA	Sanae	20.68	154	⇓P	P	03 00 56.4	+0.6
	comp=Z,408nm,0.9s						
SNAA	Sanae	20.68	154	P	P	03 00 55.2	-0.6
	comp=Z,19nm,0.9s,baz=300,slow=12,SNR=16						
	comp=Z,19nm,0.9s						
MG02	Cerro Sombrero	22.08	260	P	P	03 01 10.7	-0.1
TROLL	Troll, Antarti	22.25	153	P	P	03 01 13.6	+0.9
TROLL	Troll, Antarti	22.25	153	⇓P	P	03 01 13.6	+0.9
	comp=Z,758nm,0.7s						
BELA	Belgrano 2	22.92	182	P	P	03 01 19.6	0.0
BELA				IAmb	IAmb	03 01 31.2	
	comp=Z,60nm,1.7s						
TRQA	Tornquist	26.63	297	P	P	03 01 55.4	+0.9
AY01	Puyuhuapi	28.17	275		P	03 02 08.2	-0.1
AY01				IAmb	IAmb	03 02 09.5	
	comp=Z,16nm,0.7s						
LL02	Futaleuf	28.47	278	P	P	03 02 08.0	-3.0
LL02				IAmb	IAmb	03 02 16.8	
	comp=Z,24nm,1.6s						
PLCA	Paso Flores	29.34	283	P	P	03 02 18.9	+0.2
	comp=Z,3.1nm,1.0s,baz=116,slow=5.6,SNR=11						
PLCA				LR	LR	03 14 00.4	
	comp=Z,291nm,19.6s,baz=135,slow=36						
	comp=Z,3.1nm,1.0s						
BO04	La Punta	34.24	292	P	P	03 03 01.1	-0.8
BO04				IAmb	IAmb	03 03 20.0	
	comp=Z,47nm,1.7s						
CPUP	Villa Florida	34.32	316	P	P	03 03 02.2	-0.3
CPUP	Villa Florida	34.32	316	P	P	03 03 02.5	0.0
	comp=Z,5.4nm,0.9s,baz=161,slow=8.3,SNR=12						
CPUP				LR	LR	03 18 50.2	
	comp=Z,100nm,18.2s,baz=162,slow=39						
	comp=Z,5.4nm,0.9s						
MT09	Talagante	34.61	292	P	P	03 03 05.1	-0.1
PEL	Peldehue	34.93	293	P	P	03 03 09.1	+1.2
PEL				IAmb	IAmb	03 03 09.6	
	comp=Z,19nm,0.9s						
VA05	Santo Domingo	35.03	291	P	P	03 03 08.5	-0.2
QSPA	South Pole Qui	35.17	180	P	P	03 03 10.5	+0.8
QSPA				IAmb	IAmb	03 03 20.2	
	comp=Z,38nm,1.1s						
QSPA	South Pole Qui	35.17	180	P	P	03 03 09.4	-0.4
	comp=Z,9.7nm,1.1s,baz=174,slow=3.6,SNR=4.5						
QSPA				LR	LR	03 17 09.2	
	comp=Z,201nm,18.4s,baz=192,slow=36						
	comp=Z,9.7nm,1.1s						
VA06	Catapilco	35.71	293	P	P	03 03 15.7	+1.2
CO03	El Pedregal	36.74	295	P	P	03 03 25.0	+1.6
CO03				IAmb	IAmb	03 03 30.5	
	comp=Z,51nm,1.8s						
AC02	Maricunga	39.20	301	P	P	03 03 45.6	+1.0
GO02	Mina Guanaco	40.82	301	P	P	03 03 58.4	+0.5
GO02				IAmb	IAmb	03 04 15.5	
	comp=Z,16nm,0.7s						
BDFB	Brasilia	41.35	336	P	P	03 04 03.4	+1.3
BDFB				IAmb	IAmb	03 05 09.8	
	comp=Z,24nm,1.6s						
BDFB	Brasilia	41.35	336	P	P	03 04 03.2	+1.1
	comp=Z,4.9nm,0.6s,baz=154,slow=7.0,SNR=13						
BDFB				LR	LR	03 17 48.0	
	comp=Z,108nm,21.6s,baz=152,slow=31						
	comp=Z,4.9nm,0.6s						
MAW	Mawson	42.40	145	LR	LR	03 19 15.6	
	comp=Z,80nm,19.1s,baz=296,slow=33						
SUR	Sutherland	42.90	80	LR	LR	03 18 08.6	
	comp=Z,118nm,18.7s,baz=224,slow=31						
PB01	IPOC Station P	44.27	305	P	P	03 04 26.7	+1.0
PB01				IAmb	IAmb	03 04 27.8	
	comp=Z,20nm,1.1s						
PTLB	Pontes e Lacer	44.90	321	P	P	03 04 31.2	+0.5
PTLB				IAmb	IAmb	03 04 37.5	
	comp=Z,10.0nm,1.0s						
SIV	San Ignacio	45.12	318	LR	LR	03 23 37.3	
	comp=Z,103nm,18.7s,baz=128,slow=36						
VNDA	Vanda	47.39	184	P	P	03 04 50.1	+0.4
	comp=Z,1.3nm,0.6s,baz=184,slow=8.5,SNR=4.1						
	comp=Z,1.3nm,0.6s						
LPAZ	La Paz	47.78	310	P	P	03 04 55.4	+1.3
LPAZ				IAmb	IAmb	03 04 57.4	
	comp=Z,11nm,0.8s						
LPAZ	La Paz	47.78	310	P	P	03 04 55.4	+1.3
	comp=Z,8.5nm,0.5s,baz=134,slow=6.0,SNR=31						
LPAZ				LR	LR	03 26 57.7	
	comp=Z,82nm,18.8s,baz=178,slow=38						
	comp=Z,8.5nm,0.5s						
BOSA	Boshof	48.24	81	P	P	03 04 56.6	-0.4
	comp=Z,3.7nm,0.8s,baz=202,slow=7.4,SNR=7.6						
BOSA				LR	LR	03 21 35.6	
	comp=Z,91nm,18.9s,baz=205,slow=32						
	comp=Z,3.7nm,0.8s						
H10N1	ASCENSION HYDR	49.06	23	T	T	03 58 31.4	
	baz=192,slow=76,SNR=42						
H10N3	ASCENSION HYDR	49.06	23	T	T	03 58 31.4	
	baz=192,slow=76,SNR=48						
H10N2	ASCENSION HYDR	49.08	23	T	T	03 58 32.2	
	baz=192,slow=76,SNR=32						
RCBR	Riachuelo	49.23	354	LR	LR	03 24 01.5	
	comp=Z,36nm,18.2s,baz=224,slow=34						
LKGWB	Lokgwabe	49.48	73	*i* P	P	03 05 07.4	+0.9
KOOLE	Kule	49.82	71	*i* P	P	03 05 07.9	-1.2
SKOMA	Sekoma	50.67	76	*i* P	P	03 05 16.2	+0.7
KGCAE	Kacgae	51.03	73	*i* P	P	03 05 17.1	-1.2
LBTB	Lobatse	51.21	78	P	P	03 05 19.1	-0.6
LBTB				IAmb	IAmb	03 05 46.2	
	comp=Z,20nm,1.6s						
LBTB	Lobatse	51.21	78	LR	LR	03 25 43.3	
	comp=Z,47nm,18.2s,baz=212,slow=35						
TSUM	Tsumeb	51.51	66	LR	LR	03 21 54.3	
	comp=Z,94nm,22.0s,baz=174,slow=30						
GRTLG	Ghanzi	51.69	71	*i* P	P	03 05 21.6	-1.6
KDWAN	Kaudwane	51.97	76	*i* P	P	03 05 24.0	-1.3
QNGWA	Qangwa	53.15	70	*i* P	P	03 05 32.9	-1.2
BROLN	Tlhalogang	55.28	77	*i* P	P	03 05 48.5	-1.0
MACA	Manacapuru-AM	56.86	325	P	P	03 06 00.2	-0.6
LSZ	Lusaka	60.45	74	P	P	03 06 25.8	-0.2
LSZ	Lusaka	60.45	74	LR	LR	03 30 18.9	
	comp=Z,175nm,18.7s,baz=225,slow=34						
ATAH	Atahualpa	60.54	304	LR	LR	03 33 55.6	
	comp=Z,51nm,19.1s,baz=161,slow=37						
RPN	Rapa Nui	61.30	263	LR	LR	03 30 58.2	
	comp=Z,52nm,18.2s,baz=51,slow=34						
BOAV	Boa Vista	62.03	327	P	P	03 06 35.9	-0.5
MDP	Montagnes des	62.46	336	LR	LR	03 31 46.1	
	comp=Z,93nm,21.6s,baz=143,slow=34						
DBIC	Dimbokro	65.45	29	P	P	03 07 02.4	+3.5
DBIC				IAmb	IAmb	03 07 08.8	
	comp=Z,6.7nm,0.9s						
DBIC	Dimbokro	65.45	29	P	P	03 06 58.3	-0.7
	comp=Z,3.0nm,0.8s,baz=192,slow=7.4,SNR=6.2						
DBIC				LR	LR	03 29 31.0	
	comp=Z,99nm,18.6s,baz=155,slow=30						
	comp=Z,3.0nm,0.8s						
OTAV	Otavalo	67.04	308	P	P	03 07 11.2	+1.4
OTAV				IAmb	IAmb	03 07 26.7	
	comp=Z,10nm,1.1s						
BBTS	Babate	70.64	15	LR	LR	03 33 09.2	
	comp=Z,89nm,20.7s,baz=79,slow=31						
PCRV	Puerto La Cruz	70.67	325	LR	LR	03 38 21.6	
	comp=Z,66nm,22.0s,slow=36						
SDV	Santo Domingo	71.58	319	LR	LR	03 40 53.1	
	comp=Z,83nm,18.3s,baz=76,slow=37						
TORD	Torodi Ar. Bea	73.56	34	P	P	03 07 49.0	-0.1
TORD	Torodi Ar. Bea	73.56	34	P	P	03 07 48.9	-0.1
	comp=Z,2.8nm,0.7s,baz=200,slow=5.9,SNR=11						
	comp=Z,2.8nm,0.7s						
SJG	San Juan	78.59	327	LR	LR	03 42 11.9	
	comp=Z,33nm,21.6s,baz=215,slow=35						
JTS	Las Juntas de	78.89	306	LR	LR	03 46 30.2	
	comp=Z,33nm,19.5s,baz=108,slow=38						
URZ	Urewera	83.82	202	LR	LR	03 41 28.5	
	comp=Z,54nm,21.2s,baz=256,slow=32						
TEIG	Tepich	89.10	308	P	P	03 09 12.1	+0.8
CMIG	Matias Romero	89.51	301	LR	LR	03 44 34.9	
	comp=Z,28nm,21.2s,baz=168,slow=32						
MDT	Midelt	90.57	22	LR	LR	03 44 08.9	
	comp=Z,180nm,20.7s,baz=200,slow=32						
PPT2	Papete2	90.64	237	*e*LR	LR	03 38 08.8	
	comp=Z,129nm,25.8s						
PPT2				*e*LR	LR	03 38 16.7	
	comp=Z,126nm,30.8s						
ATD	Arta Tunnel	90.67	71	LR	LR	03 48 56.4	
	comp=Z,5.9nm,18.3s,slow=35						
STKA	Stephens Creek	93.20	174	LR	LR	03 49 04.4	
	comp=Z,158nm,19.2s,baz=201,slow=34						
KEST	Kesra	97.04	33	LR	LR	03 49 20.4	
	comp=Z,181nm,19.3s,baz=304,slow=33						
ESDC	Sonseca Array	97.31	21	P	Pdif	03 09 51.0	+2.2
	comp=Z,0.2nm,0.3s,baz=187,slow=3.7,SNR=1.7						
ESDC				LR	LR	03 48 37.8	
	comp=Z,126nm,19.8s,baz=198,slow=32						
ASAR	Alice Springs	100.59	167	P	Pdif	03 10 02.1	-1.9
	comp=Z,0.3nm,0.6s,baz=180,slow=4.0,SNR=5.5						
DZM	Mont Dzumac	101.61	197	*e*LR	LR	03 43 04.6	
	comp=Z,160nm,25.7s						
PDAR	Pinedale Array	117.71	306	PKP	PKPdf	03 15 00.5	-1.3
	comp=Z,0.2nm,0.5s,baz=138,slow=2.1,SNR=2.4						
NVAR	Mina Array Bea	118.70	297	PKP	PKiKP	03 15 04.6	+0.7
	comp=Z,0.2nm,0.5s,baz=149,slow=2.1,SNR=1.6						
FINES	FINESS Array B	124.75	30	PKP	PKPdf	03 15 14.0	-0.3
	comp=Z,1.5nm,0.6s,baz=207,slow=2.3,SNR=9.0						
CMAR	Chiang Mai Arr	127.77	114	PKP	PKPdf	03 15 21.4	-0.1
	comp=Z,0.9nm,0.3s,baz=198,slow=1.7,SNR=5.6						
ARCES	ARCESS Array B	131.01	23	PKP	PKPdf	03 15 25.4	-0.8
	comp=Z,4.6nm,1.0s,baz=204,slow=1.8,SNR=5.8						
AAK	Ala-Archa	132.07	73	PKP	PKPdf	03 15 28.8	-0.4
	comp=Z,1.2nm,0.7s,baz=203,slow=6.7,SNR=3.7						
YKA	Yellowknife Ar	133.79	320	PKP	PKPdf	03 15 31.3	-0.2
	comp=Z,0.6nm,0.6s,baz=146,slow=2.0,SNR=14						
BVAR	Borovoye Array	136.42	59	PKP	PKPdf	03 15 36.3	-0.5
	comp=Z,1.5nm,0.7s,baz=233,slow=2.0,SNR=4.7						
MKAR	Makanchi Array	139.00	73	PKhKP	PKPpre	03 15 36.6	
	comp=Z,0.4nm,0.7s,baz=245,slow=2.9,SNR=3.9						
KURBB	Kurchatov Arra	139.20	66	PKP	PKPdf	03 15 40.6	-1.4
	comp=Z,0.4nm,0.3s,baz=229,slow=2.9,SNR=4.2						
ZALV	Zalesovo Beam	144.23	65	PKP	PKPab	03 15 49.0	+0.2
	comp=Z,3.3nm,0.7s,baz=225,slow=1.7,SNR=9.4						
ILAR	Eielson Array	147.60	314	PKPbc	PKPbc	03 15 58.6	-0.4
	comp=Z,3.5nm,0.6s,baz=119,slow=1.7,SNR=72						
HNS	HongShan	151.16	114	⇓PKPbc	PKPbc	03 16 07.4	-1.3
TIA	Tai'an	151.50	118	PKPbc	PKiKP	03 16 10.1	+0.1
HHC	Hu-ho-hao-te	151.92	105	*e*P	PKPdf	03 16 01.8	-2.3
HHC	Hu-ho-hao-te	151.92	105	pmax	pmax		
	comp=Z,140nm,5.0s						
HHC	Hu-ho-hao-te	151.92	105	pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	153.20	88	PKPbc	PKPbc	03 16 12.7	-0.5
	comp=Z,2.4nm,0.6s,baz=229,slow=2.2,SNR=20						

MEX 15 03:07:59.7±0.3, 16.59N×94.65W, h18km±5km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.04	127	*e*P	Pg	03 08 00.3	-2.6
NILT				*i* S	Sg	03 08 02.1	-3.0
NILT	Santiago Nilte	0.04	127	*e*P	Pg	03 08 00.5	-2.4
NILT				*e*S	Sg	03 08 02.1	-2.9
CMIG	Matias Romero	0.54	336	*e*P	Pg	03 08 08.7	-1.9
CMIG				*i* S	Sg	03 08 15.8	-2.1
CMIG	Matias Romero	0.54	336	*i* P	Pg	03 08 08.6	-2.0
CMIG				*e*S	Sg	03 08 15.9	-2.1
UXUV	UXUV	0.87	34	*e*P	Pb	03 08 13.5	-2.9
UXUV				*e*S	Sb	03 08 24.1	-3.6
UXUV	UXUV	0.87	34	*e*P	Pb	03 08 13.5	-2.9
UXUV				*i* S	Sb	03 08 24.1	-3.6
TGIG		1.48	83	*i* S	Sn	03 08 41.9	-2.5
TGIG		1.48	83	*e*P	Pn	03 08 21.1	-4.5
TGIG				*e*S	Sn	03 08 41.9	-2.5
NEUV	Arroyo Zacate	1.57	316	*e*P	Pb	03 08 27.6	-0.6
NEUV				*e*S	Sb	03 08 48.8	+1.1
NEUV	Arroyo Zacate	1.57	316	*e*P	Pb	03 08 27.5	-0.7
NEUV				*e*S	Sb	03 08 48.8	+1.2
HUIG	Huatulco	1.62	240	*e*P	Pb	03 08 29.2	+0.1
HUIG				*e*S	Sg	03 08 51.5	-0.5
YOIG	Yosondua	2.78	276	*e*P	Pn	03 08 44.2	+0.5
YOIG				*e*S	Sg	03 09 27.1	-2.2
CHUJ	Union Juarez	2.87	121	*e*P	Pn	03 08 45.3	+0.6
CHUJ				*e*S	Sn	03 09 18.4	-0.5
TXIG	Tlaxiaco	3.05	283	*e*P	Pb	03 08 51.2	-2.5
TXIG				*e*S	Sb	03 09 31.8	+1.0

*IDC **15** 03:08:44.4±1.7, 53.85N×161.87E, h0km, mb3.5/4, mbtmp3.5/5, ML2.8/1, MS3.8/3, Error ellipse: s-maj=72.8km s-min=24.3km az=159.0*
*KRSC **15** 03:08:47.4±1.2, 54.18N×161.56E, h41km±21km, Ml4.1*
*MOS **15** 03:08:48.7±0.6, 54.18N×161.62E, h47km, mb3.8/1, Error ellipse: s-maj=10.6km s-min=5.6km az=77.0*

ISC 15 03:08:44.7±1.5, 54.16N±0.04×161.48E±0.06, h2km±10km, n70, σ1§09/75, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	1.20	265	PN	Pn	03 09 10.0	+1.5
KII	Karymskiy	1.20	265	*e*P	Pn	03 09 10.0	+1.5
TUMD	Tumrok D	1.22	329	*e*P	Pn	03 09 09.1	+0.4
TUMD				*e*S	Sg	03 09 24.1	+0.4
SPN	Mys Shipunski	1.38	220	PN	Pg	03 09 11.6	+0.6
SPN				S	Sg	03 09 27.9	-0.9
SPN	Mys Shipunski	1.38	220	*e*P	Pg	03 09 11.6	+0.6
SPN				*e*S	Sg	03 09 27.9	-0.9
NLC	Nalytchevo	1.61	233	PN	Pg	03 09 16.4	+0.8
NLC				S	Sb	03 09 35.8	0.0
NLC	Nalytchevo	1.61	233	*e*P	Pg	03 09 16.4	+0.8
NLC				*e*S	Sb	03 09 35.9	0.0
KMNR	Kamenistaya	1.75	336	PN	Pb	03 09 18.2	+0.7
KMNR	Kamenistaya	1.75	336	*e*P	Pb	03 09 18.2	+0.7
UGLR	Uglovaya	1.85	240	PN	Pg	03 09 19.9	-0.1
UGLR	Uglovaya	1.85	240	*e*P	Pg	03 09 19.9	-0.1
AVH	Avacha	1.86	242	PN	Pg	03 09 20.3	0.0
AVH	Avacha	1.86	242	*e*P	Pg	03 09 20.4	0.0
KRX	Arik	1.86	246	PN	Pg	03 09 20.1	-0.2
KRX	Arik	1.86	246	*e*P	Pg	03 09 20.2	-0.2
BZWR	Bezymyannyi-We	1.89	343	PN	Pb	03 09 20.9	+0.9
BZWR	Bezymyannyi-We	1.89	343	*e*P	Pb	03 09 20.9	+0.9
KOK	Koryaka	1.90	244	PN	Pg	03 09 20.7	-0.4
KOK	Koryaka	1.90	244	*e*P	Pg	03 09 20.8	-0.4
KIRR	Kirishev	1.91	340	PN	Pb	03 09 19.8	-0.4
KIRR	Kirishev	1.91	340	*e*P	Pb	03 09 19.9	-0.4
KPT	Kopyto	1.95	339	PN	Pb	03 09 20.8	-0.1
KPT	Kopyto	1.95	339	*e*P	Pb	03 09 20.8	-0.1
DALK	Dalny	1.98	236	PN	Pb	03 09 21.5	+0.1
DALK				S	Sn	03 09 45.0	+0.5
DALK	Dalny	1.98	236	*e*P	Pb	03 09 21.5	+0.1
DALK				*e*S	Sn	03 09 45.0	+0.5
INSR	Institute	2.04	238	*e*S	Sb	03 09 47.4	-0.6
PET	Petropavlovsk	2.04	237	*e*PN	Pb	03 09 22.3	0.0
PET				*e*S	Sb	03 09 46.8	-1.2
PET				pmax	pmax		
	comp=Z,77nm,0.3s						
PET				smax	smax		
	comp=E,485nm,0.5s						
PET				smax	smax		
	comp=N,921nm,0.6s						
PET	Petropavlovsk	2.04	237	*e*P	Pb	03 09 22.2	-0.1
PET				*e*S	Sb	03 09 46.6	-1.4
KOZ	Kozyrevsk	2.11	335	PN	Pb	03 09 23.0	-0.6
KOZ	Kozyrevsk	2.11	335	*e*P	Pb	03 09 23.1	-0.6
KRSR	Krestovskiy	2.12	346	PN	Pn	03 09 22.5	+1.3
KRSR	Krestovskiy	2.12	346	*e*P	Pn	03 09 22.5	+1.3
GNL	Ganaly	2.15	259	PN	Pb	03 09 24.4	+0.2
GNL	Ganaly	2.15	259	*e*P	Pb	03 09 24.4	+0.2
KBTR	Krutoberegovo	2.19	20	PN	Pn	03 09 23.5	+1.5
KBTR	Krutoberegovo	2.19	20	*e*P	Pn	03 09 23.5	+1.5
KLY	Klyuchi	2.21	348	PN	Pn	03 09 23.1	+0.9
KLY	Klyuchi	2.21	348	*e*P	Pn	03 09 23.2	+0.9
KBG	Krutoberegovo	2.21	18	PN	Pn	03 09 22.3	+0.1
KBG	Krutoberegovo	2.21	18	*e*P	Pn	03 09 22.4	+0.1
ESO	Esso	2.38	319	PN	Pn	03 09 26.1	+1.4
ESO	Esso	2.38	319	*e*P	Pn	03 09 26.2	+1.4
SRDR	Sredinnyy	2.38	336	PN	Pn	03 09 25.9	+1.2
SRDR	Sredinnyy	2.38	336	*e*P	Pn	03 09 25.9	+1.2
KRMR	Karymshinskiy	2.41	238	PN	Pb	03 09 28.4	-0.2
KRMR				S	Sn	03 09 55.7	+0.8
KRMR	Karymshinskiy	2.41	238	*e*P	Pb	03 09 28.4	-0.2
KRMR				*e*S	Sn	03 09 55.8	+0.8
SMKR	Semkarok	2.42	360	PN	Pn	03 09 26.7	+1.4
SMKR	Semkarok	2.42	360	*e*P	Pn	03 09 26.7	+1.4
RUS	Russkaya	2.48	227	PN	Pb	03 09 29.3	-0.7
RUS				S	Sb	03 09 59.6	-1.3
RUS	Russkaya	2.48	227	*e*P	Pb	03 09 29.3	-0.7
RUS				*e*S	Sb	03 09 59.7	-1.3
PETK	Petropavlovsk-	2.49	246	Pn	Pb	03 09 28.3	-1.8
	comp=N,9.2nm,0.3s,baz=71,slow=20,SNR=18						
PETK				Sn	Sb	03 10 00.9	-0.2
	comp=N,21nm,0.3s,baz=308,slow=24,SNR=19						
	comp=N,15nm,0.4s						
GRL	Gorelyy	2.60	233	PN	Pb	03 09 30.9	-1.1
GRL	Gorelyy	2.60	233	*e*P	Pb	03 09 31.0	-1.1
APC	Apacha	2.86	246	PN	Pb	03 09 34.4	-2.0
APC	Apacha	2.86	246	*e*P	Pb	03 09 34.4	-2.0
PAU	Pauzhetka	3.91	228	PN	Pn	03 09 49.3	+3.7
PAU	Pauzhetka	3.91	228	*e*P	Pn	03 09 49.4	+3.7
YAK	Yakutsk	18.39	308	LR	LR	03 21 41.9	
	comp=N,54nm,18.3s,baz=292,slow=41						
MJAR	Matsushiro Arr	23.86	232	P	P	03 13 58.5	-0.7
	comp=N,1.1nm,0.6s,baz=23,slow=11,SNR=2.0						
	comp=N,1.1nm,0.6s						
H11N2	WAKE ISLAND Hy	34.62	171	T	T	03 52 38.4	
	baz=355,slow=76						
H11N3	WAKE ISLAND Hy	34.63	171	T	T	03 52 42.8	
	baz=355,slow=76						
H11N1	WAKE ISLAND Hy	34.64	171	T	T	03 52 43.7	
	baz=355,slow=76						
H11S1	WAKE ISLAND Hy	35.81	172	T	T	03 54 06.8	
	baz=352						
H11S3	WAKE ISLAND Hy	35.83	172	T	T	03 54 02.2	
	baz=352						
H11S2	WAKE ISLAND Hy	35.83	172	T	T	03 54 11.8	
	baz=352						
TXAR	Lajitas Array	69.47	68	P	P	03 19 53.9	-0.5
	comp=N,0.1nm,0.4s,baz=318,slow=6.6,SNR=3.9						
	comp=N,0.1nm,0.4s						
GERES	GERESS Array B	73.83	338	LR	LR	03 57 19.4	
	comp=N,124nm,18.5s,baz=212,slow=39						
WRA	Warramunga Arr	77.40	206	P	P	03 20 39.8	-1.2
	comp=N,0.5nm,0.7s,baz=21,slow=6.1,SNR=4.9						
	comp=N,0.5nm,0.7s						
WSAR	Wadi Sarin	78.64	294	LR	LR	03 58 58.7	
	comp=N,80nm,18.1s,baz=244,slow=38						
ASAR	Alice Springs	81.08	205	P	P	03 21 00.9	-0.1
	comp=N,0.5nm,0.8s,baz=27,slow=4.3,SNR=3.8						
	comp=N,0.5nm,0.8s						

*IDC **15** 03:10:37.1±2.5, 0.17S×122.54E, h85km±23km, mb3.7/11, mbtmp4.1/13, MS3.3/4, Error ellipse: s-maj=26.0km s-min=12.6km az=78.0*
*NEIC **15** 03:10:38.0±2.0, 0.15S±0.07×122.7E±0.2, h89km±7km, mb4.3/10, Error ellipse: s-maj=23.9km s-min=5.9km az=69.0*
*DJA **15** 03:10:39.0±0.2, 0.3S±2.2×122.3E±.4, h58km±7km, M4.5/20, mB5.3/3, mb4.7/6, MLv4.3/20, Mw(mB)4.7/3*

ISC 15 03:10:38.4±0.5, 0.25S±0.04×122.63E±0.04, h100km, n51, σ1§42/57, mb4.0/17, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.80	170		Pn	03 10 55.7	-1.2
LUWI	Luwuk	0.80	170	P	Pn	03 10 55.6	-1.2
LUWI				S	Sn	03 11 05.7	-4.9
MRSI	Marisa	1.00	316	P	Pn	03 10 57.3	-1.6
MRSI				S	Sn	03 11 11.5	-2.7
APSI	Ampana	1.18	236	P	Pn	03 11 00.6	-0.3
KMSI	Cibinong	1.58	59	P	Pn	03 11 06.2	+0.5
KMSI				S	Sn	03 11 26.7	+0.3
TOLI2	Tolitoli	2.29	306		Pn	03 11 14.3	-0.5
PCI	Palu	2.87	257	P	Pn	03 11 22.5	0.0
KDI	Kendari	3.68	180	P	Pn	03 11 33.1	-0.3
SANI	Sanana	3.80	118	P	Pn	03 11 31.9	-3.1
TTSI	Tana Toraja	3.95	225	P	Pn	03 11 37.8	+0

KURBB **Kurchatov Arra 62.99 330** P **P 03 20 54.1 -0.5**
comp=Z,1.4nm,0.2s,baz=133,slow=5.5,SNR=12
comp=Z,1.4nm,0.2s
KURK **Kurchatov 63.01 330** P **P 03 20 54.2 -0.5**
KURK IAmb IAmb 03 20 55.8
comp=Z,5.1nm,0.9s
BVAR **Borovoye Array 68.50 329** P **P 03 21 29.4 -0.6**
comp=Z,1.4nm,0.9s,baz=126,slow=7.7,SNR=5.0
comp=Z,1.4nm,0.9s
ABKAR **Abkulak array 72.70 322** P **P 03 21 55.3 -0.3**
AKTO **Aktyubinsk 74.29 323** P **P 03 22 04.4 -0.4**
comp=Z,1.2nm,0.5s,baz=98,slow=2.9,SNR=5.6
comp=Z,1.2nm,0.5s
QSPA **South Pole Qui 89.68 180** P **P 03 23 26.0 +0.8**
comp=Z,0.8nm,0.6s,baz=308,slow=1.3,SNR=5.1
comp=Z,0.8nm,0.6s
ARCES **ARCESS Array B 92.73 340** LR LR 04 11 11.0
comp=Z,70nm,19.0s,baz=257,slow=39
FINES **FINESS Array B 93.36 331** LR LR 04 06 50.1
comp=Z,73nm,20.0s,baz=238,slow=36
PSUT **Pine Spring 115.83 47** **PKiKP 03 29 07.2 -3.0**
LCO **Las Campanas 148.23 157** **PKiKP 03 30 14.9 -0.8**

---

*IDC **15** 03:26:02.6±2.3,2°.18N×126°.41E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=184.8km s-min=28.7km az=66.0*

DJA 15 03:26:08.6±0.4,2°N±5°×12°7E±°,h10km,M3.2/7,MLv3.2/7, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**162**	P	Pn	03 26 38.5	+0.6
WRA	**Warramunga Arr**	**23.36**	**162**	P	P	03 31 12.3	-5.2
	0.5nm,0.6s,baz=340,slow=11,SNR=6.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.77**	**166**	P	P	03 31 44.4	-4.5
	0.1nm,0.4s,baz=345,slow=11,SNR=2.1						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**58.74**	**326**	P	P	03 36 01.5	-5.3
	0.1nm,0.5s,baz=122,slow=7.6,SNR=1.8						
	0.1nm,0.5s						

---

*IDC **15** 03:34:56.4±0.8,25°.11N×141°.52E,h83km±7km,mb3.8/18, mbtmp4.1/20,MS3.1/11,Error ellipse: s-maj=18.2km s-min=11.8km az=83.0*
*JMA **15** 03:34:57.3±0.3,25°N±2°×14°1E±°,h0km,MD4.9/21, MV5.4/21,IOTO ISLANDS REGION*
JMA Felt I J1 at IOTO ISLANDS REGION .
*NEIC **15** 03:34:59.2±1.6,25°.00N±0°.09×141°.4E±0°.1,h95km±8km, mb4.6/28,Error ellipse: s-maj=19.5km s-min=12.8km az=94.0*

ISC 15 03:34:58.4±0.5,25°.08N±0°.05×141°.61E±0°.08,h100km,n88, σ1§51/83,mb4.2/30,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.62**	**18**	P	Pn	03 35 26.5	+0.2
JHH2				S	Sn	03 35 46.7	-0.7
JHH2	**Haha-jima-NKT2**	**1.62**	**18**	A	A	03 35 26.5	
	comp=N,53nm,0.5s,comp=E,38nm,0.3s						
CBIJ	**Chichi jima**	**2.07**	**14**	P	Pn	03 35 31.9	0.0
CBIJ				eS	Sn	03 35 58.2	+0.8
CBIJ	**Chichi jima**	**2.07**	**14**	A	A	03 35 31.9	
	comp=N,9.0nm,2.0s,comp=E,13nm,0.5s						
JCJ	**Chichijima**	**2.07**	**14**		Pn	03 35 32.5	+0.6
JCJ	**Chichijima**	**2.07**	**14**	P	Pn	03 35 27.4	-4.5
	comp=E,342nm,0.4s,baz=320,slow=22,SNR=187						
JCJ				S	Sn	03 35 51.9	-5.6
	comp=E,1μm,0.3s,baz=287,slow=20,SNR=9.2						
JHJ2	**Mitsune**	**8.15**	**349**	eP	Pn	03 36 54.5	+0.6
JHJ	**Hachijo jima P**	**8.16**	**349**	P	Pn	03 36 55.4	+1.2
	comp=E,58nm,0.3s,baz=294,slow=23,SNR=7.7						
JHJ				S	Sn	03 38 22.2	-2.5
	comp=E,101nm,0.6s,baz=47,slow=17,SNR=1.5						
JHJ				LR	LR	03 39 51.5	
	comp=E,92nm,19.2s,baz=66,slow=36						
JMYK	**Miyake Tsubota**	**9.12**	**349**	eP	Pn	03 37 09.1	+1.9
BSO1	**Boso 1**	**9.55**	**357**	P	Pn	03 37 12.2	-0.2
BSO1				eS	Sn	03 38 56.7	-1.0
BSO3	**Boso 3**	**9.73**	**355**	P	Pn	03 37 14.2	-0.9
JOD2	**Odawara 2**	**10.38**	**348**	eP	Pn	03 37 24.4	+0.2
JAO	**Obara**	**10.82**	**341**	eP	Pn	03 37 33.2	+2.9
JGF	**Kuroka**	**11.11**	**342**	Pn	Pn	03 37 34.9	+0.7
JRY	**Ryogami san**	**11.14**	**349**	eP	Pn	03 37 33.5	-1.1
JRY				eS	Sn	03 39 35.9	-1.3
MJAR	**Matsushiro Arr**	**11.79**	**346**	P	Pn	03 37 41.3	-2.0
	comp=E,2.3nm,0.5s,baz=126,slow=11,SNR=12						
MJAR				S	Sn	03 39 50.0	-2.8
	comp=E,1.3nm,0.5s,baz=244,slow=30,SNR=2.0						
MJAR				LR	LR	03 42 09.9	
	comp=E,67nm,19.4s,baz=182,slow=37						
MAJO	**Matsushiro**	**11.79**	**346**	Pn	Pn	03 37 43.0	-0.3
MJB9	**Matsu-Tunnel**	**11.79**	**346**	Pn	Pn	03 37 44.1	+0.8
JNU	**Nakatsue**	**12.33**	**313**	LR	LR	03 41 21.8	
	comp=E,61nm,21.9s,baz=165,slow=32						
JMM	**Marumori**	**12.76**	**357**	Pn	Pn	03 37 53.6	-2.5
JSD	**Sado**	**13.22**	**348**		Pn	03 37 59.9	-2.3
KSRS	**Korea Array**	**16.97**	**320**	P	P	03 38 52.6	+2.7
	comp=E,0.8nm,0.5s,baz=127,slow=12,SNR=4.7						
KSRS				LR	LR	03 44 46.5	
	comp=E,28nm,19.3s,baz=135,slow=35						
NACB	**Ninganchiao**	**18.22**	**271**	P	P	03 39 01.8	-2.0
YHNB	**Yeheng**	**18.36**	**273**	P	Pn	03 39 09.2	+2.6
YHNB				IAmb	IAmb	03 39 09.7	
	comp=Z,33nm,0.8s						
YULB	**Yu-li**	**18.60**	**269**	P	Pn	03 39 11.1	+1.7
YULB				IAmb	IAmb	03 39 12.6	
	comp=Z,42nm,1.0s						
SSLB	**Suanglung**	**18.85**	**270**	Pn	Pn	03 39 15.1	+2.7
SSLB				IAmb	IAmb	03 39 16.9	
	comp=Z,33nm,0.9s						
ASAJ	**Asahikawa**	**19.00**	**2**	P	P	03 39 14.6	+2.4
	comp=Z,10nm,0.8s,baz=215,slow=12,SNR=9.3						
ASAJ				LR	LR	03 47 55.7	
	comp=Z,42nm,18.8s,baz=104,slow=41						
JKA	**Kamikawa-asahi**	**19.00**	**2**	P	Pn	03 39 15.2	+1.2
JKA				IAmb	IAmb	03 39 19.0	
	comp=Z,21nm,1.0s						
USA0B	**Ussuriysk Arra**	**20.62**	**340**	P	P	03 39 31.7	+2.0
KNMB	**Chin-men Tao**	**21.09**	**273**	P	P	03 39 35.5	+0.6
KNMB				IAmb	IAmb	03 39 46.0	
	comp=Z,23nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**23.96**	**98**	T	T	04 05 01.1	
	baz=283,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.96**	**98**	T	T	04 05 26.1	
	baz=283,slow=74						
H11N3	**WAKE ISLAND Hy**	**23.98**	**98**	T	T	04 04 56.2	
	baz=283,slow=74						
H11S3	**WAKE ISLAND Hy**	**24.17**	**101**	T	T	04 05 47.2	
	baz=289,slow=75						
H11S1	**WAKE ISLAND Hy**	**24.18**	**101**	T	T	04 05 48.0	
	baz=289,slow=75						
H11S2	**WAKE ISLAND Hy**	**24.19**	**101**	T	T	04 05 48.9	
	baz=289,slow=75						
KLR	**Kul'dur**	**25.31**	**345**	P	P	03 40 16.2	+0.7
	comp=Z,0.9nm,0.5s,baz=164,slow=15,SNR=3.9						
KLR				LR	LR	03 49 02.4	
	comp=Z,65nm,20.1s,baz=300,slow=34						
	comp=Z,0.9nm,0.5s						
PETK	**Petropavlovsk-**	**30.50**	**19**	LR	LR	03 54 06.8	
	comp=Z,32nm,20.1s,baz=99,slow=38						
SONM	**Songino Array**	**35.84**	**318**	P	P	03 41 47.7	-0.8
	comp=Z,0.2nm,0.5s,baz=134,slow=12,SNR=1.7						
	comp=Z,0.2nm,0.5s						
COEN	**Coen**	**38.83**	**178**	P	P	03 42 13.9	0.0
COEN				IAmb	IAmb	03 42 50.3	
	comp=Z,16nm,1.5s						
MTN	**Manton Dam**	**39.06**	**196**	P	P	03 42 14.9	-0.8
CMAR	**Chiang Mai Arr**	**40.04**	**269**	P	P	03 42 22.9	-1.1
	comp=Z,1.0nm,0.3s,baz=63,slow=7.9,SNR=11						
CMAR				LR	LR	03 58 05.3	
	comp=Z,16nm,21.5s,baz=70,slow=35						
	comp=Z,1.0nm,0.3s						
SHL	**Shillong**	**44.73**	**282**	P	P	03 43 02.1	-0.1
WB0	**Warramunga Arr**	**45.13**	**190**	P	P	03 43 04.3	-0.7
WB2	**Warramunga Arr**	**45.31**	**190**	P	P	03 43 06.0	-0.5
WRA	**Warramunga Arr**	**45.31**	**190**	P	P	03 43 06.0	-0.4
	comp=Z,15nm,0.4s,baz=8.4,slow=8.7,SNR=132						
BILL	**Bilibino**	**45.52**	**13**	P	P	03 43 09.0	+1.4
BILL				IAmb	IAmb	03 43 34.0	
	comp=Z,8.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**45.65**	**201**	P	P	03 43 09.4	+0.3
AS31	**Alice Springs**	**49.03**	**189**	P	P	03 43 35.2	-0.1
ASAR	**Alice Springs**	**49.03**	**189**	P	P	03 43 34.5	-0.9
	comp=Z,1.3nm,0.5s,baz=8.5,slow=9.5,SNR=17						
ASAR				PcP	PcP	03 44 57.9	+0.1
	comp=Z,1.1nm,0.8s,baz=14,slow=3.6,SNR=6.2						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**50.68**	**320**	PcP	PcP	03 45 02.9	-0.6
	comp=Z,0.6nm,0.5s,baz=92,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**51.37**	**311**	P	P	03 43 52.9	0.0
MKAR	**Makanchi Array**	**51.37**	**311**	P	P	03 43 51.9	-1.0
	comp=Z,0.3nm,0.5s,baz=90,slow=9.0,SNR=5.1						
KURBB	**Kurchatov Arra**	**54.09**	**315**	P	P	03 44 12.5	-0.2
	comp=Z,1.1nm,0.5s,baz=92,slow=8.1,SNR=13						
	comp=Z,1.1nm,0.5s						
J20K	**Nowinta River**	**56.52**	**28**	P	P	03 44 32.5	+2.5
STKA	**Stephens Creek**	**56.64**	**180**	P	P	03 44 31.0	-0.1
STKA	**Stephens Creek**	**56.64**	**180**	P	P	03 44 31.0	-0.1
	comp=Z,3.6nm,0.6s,baz=352,slow=8.6,SNR=9.2						
	comp=Z,3.6nm,0.6s						
FORT	**Forrest**	**57.04**	**194**	P	P	03 44 34.0	0.0
BBOO	**Buckleboo**	**57.81**	**186**	P	P	03 44 39.4	0.0
D23K	**Nanushuk River**	**58.85**	**23**	P	P	03 44 49.1	+2.9
D23K				IAmb	IAmb	03 45 19.2	
	comp=Z,6.2nm,1.1s						
BVAR	**Borovoye Array**	**59.18**	**318**	P	P	03 44 48.7	-0.1
	comp=Z,1.2nm,0.4s,baz=93,slow=8.9,SNR=7.1						
	comp=Z,1.2nm,0.4s						
E24K	**Your Creek**	**59.49**	**24**	IAmb	IAmb	03 45 19.8	
	comp=Z,3.2nm,0.9s						
ILAR	**Eielson Array**	**59.72**	**28**	P	P	03 44 52.4	+0.1
	comp=Z,0.3nm,0.7s,baz=259,slow=6.1,SNR=6.1						
ILAR				pP	pP	03 45 13.2	-2.7
	comp=Z,1.7nm,0.8s,baz=249,slow=6.4,SNR=5.0						
	comp=Z,0.3nm,0.7s						
KK31	**Karatay Array**	**59.85**	**307**	P	P	03 44 54.3	+0.7
KK31				IAmb	IAmb	03 44 54.7	
	comp=Z,2.7nm,0.6s						
KKAR	**Karatay Array**	**59.85**	**307**	P	P	03 44 53.9	+0.3
KKAR	**Karatay Array**	**59.85**	**307**	P	P	03 44 53.6	0.0
KKAR				IAmb	IAmb	03 44 54.6	
	comp=Z,1.8nm,0.7s						
F25K	**Christian Rive**	**60.50**	**25**	P	P	03 45 00.6	+3.0
F25K				IAmb	IAmb	03 45 27.8	
	comp=Z,7.2nm,1.2s						
BMAR	**Burnt Mountain**	**60.89**	**25**	P	P	03 45 03.0	+2.8
E28M	**Babbage River**	**62.84**	**24**	IAmb	IAmb	03 45 42.5	
	comp=Z,13nm,1.4s						
ABKAR	**Abkulak array**	**66.13**	**315**	P	P	03 45 34.6	-0.4
A36M	**Sachs Harbour**	**67.34**	**20**	P	P	03 45 45.7	+3.4
A36M				IAmb	IAmb	03 46 10.3	
	comp=Z,10nm,1.1s						
YKA	**Yellowknife Ar**	**74.15**	**28**	P	P	03 46 24.5	+0.7
	comp=Z,0.9nm,0.8s,baz=288,slow=6.0,SNR=12						
YKA				pP	pP	03 46 46.0	-2.3
	comp=Z,0.5nm,0.6s,baz=292,slow=6.3,SNR=3.3						
	comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**75.27**	**341**	P	P	03 46 29.7	-0.4
	comp=Z,4.5nm,1.0s,baz=58,slow=5.6,SNR=4.3						
	comp=Z,4.5nm,1.0s						
NEW	**Newport**	**78.74**	**42**	LR	LR	04 16 58.1	
	comp=Z,48nm,21.2s,baz=274,slow=32						
KBZ	**Khabaz**	**79.00**	**313**	P	P	03 46 51.1	-0.3
	comp=Z,3.3nm,0.8s,baz=102,slow=4.0,SNR=10						
	comp=Z,3.3nm,0.8s						
FINES	**FINESS Array B**	**79.52**	**334**	P	P	03 46 52.6	-1.3
	comp=Z,2.0nm,0.4s,baz=69,slow=4.5,SNR=34						
	comp=Z,2.0nm,0.4s						
NVAR	**Mina Array Bea**	**82.17**	**51**	P	P	03 47 09.1	+0.3
	comp=Z,1.0nm,0.7s,baz=305,slow=4.7,SNR=6.7						
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**83.93**	**324**	P	P	03 47 16.1	-1.1
	comp=Z,1.2nm,0.5s,baz=52,slow=5.2,SNR=8.7						
	comp=Z,1.2nm,0.5s						
YMR	**Madison River**	**84.17**	**43**	P	P	03 47 21.1	+2.2
YMR				IAmb	IAmb	03 47 22.9	
	comp=Z,5.2nm,0.9s						
HFS	**Hagfors**	**85.06**	**337**	P	P	03 47 21.0	-1.7
	comp=Z,3.1nm,0.9s,baz=46,slow=8.3,SNR=5.3						
	comp=Z,3.1nm,0.9s						
NB2	**NORSAR Subarra**	**85.28**	**338**	P	P	03 47 22.5	-1.4
	comp=Z,2.4nm,0.8s,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**85.28**	**338**	P	P	03 47 22.6	-1.3
	comp=Z,1.7nm,0.7s,baz=46,slow=4.9,SNR=5.8						
	comp=Z,1.7nm,0.7s						
PDAR	**Pinedale Array**	**86.00**	**44**	P	P	03 47 29.3	+1.1
PDAR	**Pinedale Array**	**86.00**	**44**	P	P	03 47 27.8	-0.4
	comp=Z,0.8nm,0.8s,baz=291,slow=4.6,SNR=6.2						
PDAR				pP	pP	03 47 50.3	-3.0
	comp=Z,0.7nm,0.8s,baz=320,slow=3.9,SNR=4.5						
PDAR				LR	LR	04 20 48.3	
	comp=Z,26nm,21.2s,baz=355,slow=32						
	comp=Z,0.8nm,0.8s						
BRTR	**Kein Array B**	**86.98**	**313**	P	P	03 47 31.9	-0.9
	comp=Z,0.4nm,0.7s,baz=72,slow=3.1,SNR=1.6						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**97.22**	**53**	LR	LR	04 28 58.6	
	comp=Z,22nm,18.7s,baz=328,slow=33						
PLCA	**Paso Flores**	**149.03**	**128**	PKPbc	PKPbc	03 54 35.2	+0.2
	comp=Z,1.6nm,0.9s,baz=239,slow=3.9,SNR=4.9						
LPAZ	**La Paz**	**150.89**	**78**	PKPbc	PKPbc	03 54 41.4	+0.5
	comp=Z,1.3nm,0.6s,baz=222,slow=20,SNR=4.0						

---

*NEIC **15** 03:47:28.6±1.9,18°.2S±0°.1×178°.1W±0°.1,h574km±6km, mb4.8/265,Error ellipse: s-maj=16.9km s-min=13.4km az=154.0*
*NOU **15** 03:47:28.6,18°.21S×178°.04W,h583km,mb5.0/95,Fiji Islands Region*
*IDC **15** 03:47:28.1±0.8,18°.20S×178°.08W,h574km±8km,mb4.1/19, mbtmp5.0/22,Error ellipse: s-maj=12.0km s-min=10.4km az=159.0*
*GCMT **15** 03:47:29.6±0.6,18°.37S±0°.06×178°.05W±0°.05, h592km±4km,MW5.3/43,Moment Tensor Solution. s43,c58; Duration: 1§1 Moment tensor: Scale 1017Nm; Mrr-0.00±.04; Mθθ-0.64±.07; Mφφ0.64±.06; Mrθ-0.30±.06; Mθφ-0.64±.06; Mφr-0.52±.07; Best double couple: M0 1.08400×1017 NP1:φ§114.00000°,δ57.00000°, λ-178.00000°. NP2:φ§23.00000°,δ88.00000°, λ-33.00000°. Principal axes: T 1.0510, Plg21.0000°, Azm73.0000°; N 0.0680, Plg57.0000°, Azm199.0000°; P -1.1180, Plg24.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 15 03:47:27.9±0.2,18°.26S±0°.05×178°.11W±0°.04,h574km, n843,σ1§06/736,mb4.8/204,58C-52D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.67**	**272**	P	P	03 48 37.6	+1.7
TAVE	**Taveuni**	**2.30**	**312**	P	P	03 48 42.9	+1.7
DGTI	**Dogotuki**	**2.83**	**313**	P	P	03 48 45.1	+1.1
MSVF	**Nonsavu**	**3.69**	**278**	P	P	03 48 51.8	+2.5
MSVF	**Nonsavu**	**3.69**	**278**	P	P	03 48 51.4	+2.0
	1μm,0.5s,baz=128,slow=7.1,SNR=765						
MSVF				S	S	03 50 00.8	+5.0
	155nm,1.1s,baz=319,slow=23,SNR=9.7						
MSVF	**Nonsavu**	**3.69**	**278**	P	P	03 48 51.9	+2.5
FUTU	**Fugatoga**	**3.93**	**360**	P	P	03 48 52.4	+1.4
FUTU	**Fugatoga**	**3.93**	**360**	P	P	03 48 53.1	+2.0
YSA	**Yasawairara**	**4.40**	**290**	P	P	03 48 56.3	+1.9
AFI	**Afiamalu**	**7.47**	**56**	P	P	03 49 19.6	-1.9
AFI	**Afiamalu**	**7.47**	**56**	P	P	03 49 20.2	-1.2
NIUE	**Niue**	**7.80**	**97**	S	S	03 51 02.5	+2.5
GLKZ	**Green Lake**	**10.95**	**179**	P	P	03 49 53.8	-1.8
GLKZ				S	S	03 51 59.5	+2.3
DVP	**Devils Point**	**13.05**	**270**	P	P	03 50 19.9	+2.6
PINNC	**Pines Island,**	**14.21**	**250**	P	P	03 50 29.7	+0.6
PINNC	**Pines Island,**	**14.21**	**250**	P	P	03 50 29.8	+0.7
YATNC	**Mamie plateau,**	**14.58**	**252**	P	P	03 50 33.3	+0.6
OUENC	**Ouen Island, N**	**14.70**	**251**	P	P	03 50 34.1	+0.2
DZM	**Mont Dzumac**	**14.99**	**253**	P	P	03 50 37.0	+0.2
DZM	**Mont Dzumac**	**14.99**	**253**	eP	P	03 50 35.5	-1.3
	219nm,1.4s						
DZM				eS	S	03 53 07.4	-4.3
	744nm,24.7s						
DZM	**Mont Dzumac**	**14.99**	**253**	P	P	03 50 36.6	-0.2
	54nm,0.6s,baz=100,slow=6.6,SNR=52						
DZM	**Mont Dzumac**	**14.99**	**253**	P	P	03 50 37.0	+0.2
ONTNC	**Ouen Toro**	**15.03**	**252**	P	P	03 50 39.1	+2.0
NFK	**Norfolk Island**	**16.67**	**227**	P	P	03 50 53.5	+1.0
	comp=Z,10μm,0.8s						
KOUNC	**Koumac, New Ca**	**16.76**	**259**	P	P	03 50 55.3	+1.9
RAR	**Rarotonga**	**17.51**	**103**	P	P	03 51 00.7	+0.5
RAR	**Rarotonga**	**17.51**	**103**	P	P	03 50 59.6	-0.6
	comp=Z,65nm,0.8s,baz=254,slow=7.9,SNR=8.9						
OUZ	**Omahuta**	**18.43**	**202**	P	P	03 51 11.1	+2.7
GRZ	**Great Barrier**	**18.80**	**196**	P	P	03 51 13.3	+1.6
KUZ	**Kuaotunu**	**19.20**	**195**	P	P	03 51 17.2	+1.8
HAZ	**Te Kaha**	**19.75**	**190**	P	P	03 51 19.5	-0.9
HAZ				S	S	03 54 20.6	-8.1
URZ	**Urewera**	**20.36**	**191**	P	P	03 51 23.2	-2.6
	comp=Z,21nm,0.6s,baz=96,slow=7.1,SNR=14						
URZ				S	S	03 54 31.9	-6.3
	comp=Z,11nm,0.7s,baz=293,slow=19,SNR=5.1						
MWZ	**Matawai**	**20.36**	**190**	P	P	03 51 25.8	-0.1
MWZ				S	S	03 54 30.2	-8.2
HIZ	**Hauiti**	**21.09**	**195**	P	P	03 51 34.4	+1.9
BFZ	**Birch Farm**	**22.87**	**191**	P	P	03 51 44.4	-3.9
QRZ	**Quartz Range**	**23.89**	**198**	P	P	03 51 57.9	+0.6
QRZ	**Quartz Range**	**23.89**	**198**	S	S	03 55 35.5	+1.6
QRZ	**Quartz Range**	**23.89**	**198**	P	P	03 51 57.3	-0.1
NNZ	**Nelson**	**24.02**	**196**	P	P	03 51 57.7	-0.8
THZ	**Tophouse**	**24.65**	**196**	P	P	03 52 03.8	-0.4
THZ				S	S	03 55 40.5	-5.5
DSZ	**Denniston Nort**	**24.94**	**198**	P	P	03 52 07.6	+0.8
DSZ				S	S	03 55 49.7	-0.9
INZ	**Inchbonnie**	**25.95**	**198**	P	P	03 52 15.0	-0.5
WVZ	**Waitaha Valley**	**26.48**	**199**	P	P	03 52 19.9	-0.2
RPZ	**Rata Peaks**	**26.97**	**197**	P	P	03 52 25.2	+0.6
PAE	**Paea**	**27.14**	**93**	eP	P	03 52 26.3	0.0
	comp=Z,52nm,1.2s						
PPT2	**Papeete2**	**27.15**	**93**	eS	S	03 59 08.1	-8.9
	comp=Z,190nm,35.0s						
PPT2				eS	SS	03 59 13.1	-17
	comp=Z,351nm,26.0s						
PPT	**Papeete**	**27.15**	**93**	P	P	03 52 26.2	-0.3
	comp=Z,106nm,0.9s,baz=87,slow=2.6,SNR=7.7						
	comp=Z,106nm,0.9s						
PPTF	**Pamatai, Papee**	**27.16**	**93**	P	P	03 52 26.6	0.0
PPTF	**Pamatai, Papee**	**27.16**	**93**	P	P	03 52 26.6	0.0
FOZ	**Fox Glacier**	**27.18**	**199**	P	P	03 52 25.5	-0.8
FOZ	**Fox Glacier**	**27.18**	**199**	P	P	03 52 26.1	-0.2
TBI	**Tubuai**	**27.23**	**106**	eS	sS	03 59 17.1	-1.0
	comp=Z,649nm,29.5s						
TIAR	**Tiarei**	**27.37**	**93**	eP	P	03 52 29.0	+0.6
	comp=Z,6.4nm,0.7s						
TMZ	**Timaru**	**27.60**	**197**	P	P	03 52 29.2	-0.8
JCZ	**Jackson Bay**	**28.00**	**200**	P	P	03 52 33.8	+0.2
JCZ	**Jackson Bay**	**28.00**	**200**	P	P	03 52 33.5	-0.1
AUWSH	**Wavell State H**	**28.04**	**246**	P	P	03 52 35.4	+1.3
ODZ	**Otahua Downs**	**28.31**	**197**	P	P	03 52 36.2	+0.1
WKZ	**Wanaka**	**28.59**	**199**	P	P	03 52 37.7	-0.9
XMAS	**Kiritimati**	**28.66**	**47**	P	P	03 52 39.0	-0.6
XMAS	**Kiritimati**	**28.66**	**47**	P	P	03 52 39.3	-0.3
EAZ	**Earnscleugh**	**28.87**	**199**	P	P	03 52 40.8	-0.2
TW1H	**Toowoomba 1 Ha**	**29.00**	**246**	P	P	03 52 43.9	+1.4
PMOR	**Pomariorio Ree**	**29.12**	**88**	eP	P	03 52 43.5	-0.1
	comp=Z,329nm,1.1s						
VAH	**Vaihoa**	**29.33**	**89**	eP	P	03 52 45.1	-0.3
	comp=Z,165nm,0.9s						
MLZ	**Mavora Lakes**	**29.36**	**200**	P	P	03 52 45.3	0.0
EIDS	**Eidsvold**	**29.41**	**251**	P	P	03 52 46.1	+0.1
EIDS	**Eidsvold**	**29.41**	**251**	P	P	03 52 46.0	-0.1
	comp=Z,103nm,1.4s						
EIDS	**Eidsvold**	**29.41**	**251**	P	P	03 52 46.5	+0.5
TUZ	**Tuapeka**	**29.43**	**198**	P	P	03 52 45.8	0.0
WHZ	**Wether Hill Ro**	**29.89**	**200**	P	P	03 52 51.0	+1.3
WHZ	**Wether Hill Ro**	**29.89**	**200**	P	P	03 52 49.9	+0.2
ARMA	**Armidale**	**30.01**	**240**	P	P	03 52 52.6	+1.4
ARMA	**Armidale**	**30.01**	**240**	P	P	03 52 52.4	+1.1
	comp=Z,83nm,0.8s						
ARMA	**Armidale**	**30.01**	**240**	P	P	03 52 52.6	+1.4
APZ	**The Paps**	**30.71**	**199**	P	P	03 52 57.4	+0.5
MGCD	**Mangrove Creek**	**31.32**	**236**	P	P	03 53 03.5	+1.2
	comp=Z,54nm,1.0s						
MGCD	**Mangrove Creek**	**31.32**	**236**	P	P	03 53 03.7	+1.4
ALOT	**Alotau**	**31.43**	**280**	P	P	03 53 04.5	+1.1
ALOT	**Alotau**	**31.43**	**280**	S	S	03 57 32.7	+1.0
SYDH	**Sydney Hard Ro**	**31.81**	**235**	P	P	03 53 07.7	+1.3
WOLH	**Wollongong Har**	**31.95**	**234**	P	P	03 53 08.8	+1.2
AULRC	**Lightning Ridg**	**32.83**	**244**	P	P	03 53 15.9	+0.7
AUDCS	**Dubbo College**	**32.99**	**239**	P	P	03 53 17.5	+1.0
TV1H	**Townsville Har**	**33.21**	**263**	P	P	03 53 18.8	+0.4
CNB	**Canberra Magne**	**33.44**	**233**	P	P	03 53 21.3	+1.0
	comp=Z,172nm,0.9s						
CNB	**Canberra Magne**	**33.44**	**233**	P	P	03 53 21.5	+1.2
CAN	**Canberra**	**33.72**	**233**	P	P	03 53 23.4	+0.8
YNG	**Young**	**33.82**	**235**	P	P	03 53 24.1	+0.7
	comp=Z,115nm,1.4s						
YNG	**Young**	**33.82**	**235**	P	P	03 53 25.0	+1.6
MILA	**Mila**	**34.27**	**230**	P	P	03 53 27.9	+0.7
	comp=Z,13nm,1.7s						
PMG	**Port Moresby**	**34.80**	**280**	P	P	03 53 32.8	+1.1
CMSA	**Cobar Meteorol**	**35.22**	**241**	P	P	03 53 35.8	+0.6
	comp=Z,143nm,1.4s						
CMSA	**Cobar Meteorol**	**35.22**	**241**	P	P	03 53 35.9	+0.8
MTSU	**Mount Surprise**	**35.65**	**264**	P	P	03 53 37.6	-1.3
	comp=Z,25nm,0.7s						
MTSU	**Mount Surprise

comp=Z,3.4nm,0.5s,baz=88,slow=4.9,SNR=5.1
ASAR ScP **ScP** **03 59 19.8 -0.3**
comp=Z,1.3nm,0.7s,baz=87,slow=4.0,SNR=3.0
ASAR S **S** **04 00 47.5 -2.9**
comp=Z,27nm,0.9s,baz=93,slow=14,SNR=24
comp=Z,102nm,0.6s
KDU Kakadu 47.83 269 P **P** **03 55 14.2 -0.4**
comp=Z,22nm,0.5s
KDU Kakadu 47.83 269 P **P** **03 55 14.5 -0.2**
MTN Manton Dam 49.07 269 IAmb IAmb 03 55 40.8
comp=Z,74nm,1.9s
MTN Manton Dam 49.07 269 P **P** **03 55 23.5 -0.4**
comp=Z,17nm,0.6s
WRKA Warakurna 50.01 252 P **P** **03 55 30.7 +0.1**
comp=Z,116nm,0.8s
WRKA Warakurna 50.01 252 P **P** **03 55 30.7 +0.1**
FORT Forrest 50.11 245 P **P** **03 55 30.9 -0.4**
comp=Z,127nm,0.7s
FORT Forrest 50.11 245 P **P** **03 55 30.9 -0.4**
KNRA Kununurra 50.73 264 P **P** **03 55 35.3 -0.6**
KNRA Kununurra 50.73 264 P **P** **03 55 35.6 -0.4**
comp=Z,21nm,0.8s
SWI Sorong 52.60 283 P **P** **03 55 49.5 +0.1**
FITZ Fitzroy Crossi 53.25 261 P **P** **03 55 54.0 0.0**
comp=Z,2.0nm,0.9s
KMBL Kambalda 55.41 244 P **P** **03 56 08.2 -0.8**
comp=Z,29nm,1.3s
KMBL Kambalda 55.41 244 P **P** **03 56 08.2 -0.8**
SOEI Soe 56.35 270 IAmb IAmb 03 56 18.2
comp=Z,57nm,1.1s
SOEI Soe 56.35 270 P **P** **03 56 16.4 +0.5**
SOEI Soe 56.35 270 P **P** **03 56 16.4 +0.5**
comp=Z,54nm,1.2s
SANI Sanana 57.08 280 P **P** **03 56 20.9 +0.2**
SANI Sanana 57.08 280 P **P** **03 56 20.4 -0.3**
comp=Z,61nm,0.9s
PSA00 Pilbara Seismi 58.09 256 P **P** **03 56 27.0 -0.5**
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 58.09 256 P **P** **03 56 27.3 -0.2**
PSAC1 Pilbara Seismi 58.13 256 P **P** **03 56 27.1 -0.6**
comp=Z,22nm,0.6s
MBWA Marble Bar 58.26 256 P **P** **03 56 28.3 -0.3**
MBWA Marble Bar 58.26 256 P **P** **03 56 28.0 -0.6**
comp=Z,17nm,0.8s
MBWA Marble Bar 58.26 256 P **P** **03 56 28.1 -0.6**
MEEK Meekatharra 58.57 250 P **P** **03 56 30.0 -0.7**
comp=Z,23nm,0.8s
MEEK Meekatharra 58.57 250 P **P** **03 56 30.2 -0.5**
KLBR Kellerberrin 58.92 244 P **P** **03 56 32.6 -0.3**
comp=Z,129nm,0.6s
KLBR Kellerberrin 58.92 244 P **P** **03 56 32.6 -0.3**
NWAO Narrogin (SRO) 59.29 242 P **P** **03 56 35.1 -0.2**
BLDU Ballidu 59.88 245 P **P** **03 56 39.0 -0.3**
comp=Z,31nm,0.8s
BLDU Ballidu 59.88 245 P **P** **03 56 39.1 -0.3**
VNDA Vanda 60.12 185 P **P** **03 56 41.7 +1.7**
comp=Z,1.6nm,0.7s,baz=353,slow=6.0,SNR=1.6
comp=Z,1.6nm,0.7s
MUN Mundaring 60.22 243 P **P** **03 56 41.8 +0.3**
comp=Z,36nm,1.5s
MUN Mundaring 60.22 243 P **P** **03 56 41.9 +0.4**
MORW Morawa 60.60 246 P **P** **03 56 43.8 -0.3**
MORW Morawa 60.60 246 P **P** **03 56 43.6 -0.5**
comp=Z,13nm,1.0s
PLAI Plampang 62.77 269 P **P** **03 56 58.6 +0.2**
PLAI Plampang 62.77 269 P **P** **03 56 58.3 -0.1**
TOLI2 Tolitoli 63.06 281 P **P** **03 57 00.5 +0.2**
CCD Concordia, Ant 64.60 194 P **P** **03 57 10.0 +0.5**
CCD pP **pwP** **03 59 06.0 +2.6**
JAGI Jajag, Banyuwa 66.31 269 P **P** **03 57 19.4 -1.4**
JAGI IAmb IAmb 03 57 20.6
comp=Z,27nm,0.8s
JAGI Jajag, Banyuwa 66.31 269 P **P** **03 57 19.6 -1.2**
MYLDM Lahad Datu 66.67 284 IAmb IAmb 03 57 26.7
comp=Z,40nm,1.2s
MYLDM Lahad Datu 66.67 284 P **P** **03 57 24.0 +1.1**
JMM Marumori 67.89 326 IAmb IAmb 03 57 30.5
comp=Z,53nm,1.0s
JMM Marumori 67.89 326 P **P** **03 57 29.9 +0.1**
JGF Kuroka 68.19 322 P **P** **03 57 31.6 -0.2**
JGF IAmb IAmb 03 57 32.4
comp=Z,27nm,0.7s
JGF Kuroka 68.19 322 P **P** **03 57 31.5 -0.3**
INU Inuyama 68.21 322 P **P** **03 57 32.1 +0.2**
INU IAmb IAmb 03 57 32.7
comp=Z,30nm,1.0s
INU Inuyama 68.21 322 P **P** **03 57 32.4 +0.5**
MJAR Matsushiro Arr 68.36 323 P **P** **03 57 32.5 -0.3**
comp=Z,39nm,0.7s,baz=157,slow=5.7,SNR=77
comp=Z,39nm,0.7s
MAJO Matsushiro 68.36 323 P **P** **03 57 32.9 +0.1**
MAJO Matsushiro 68.36 323 P **P** **03 57 32.8 +0.1**
MAJO Matsushiro 68.36 323 P **P** **03 57 32.4 -0.4**
MAJO PcP **PcP** **03 57 53.4 +0.1**
JMN Monobe 69.04 318 P **P** **03 57 37.9 +0.9**
JMN Monobe 69.04 318 P **P** **03 57 37.9 +0.9**
JSD Sado 69.39 324 P **P** **03 57 39.2 +0.3**
ADK Adak 69.85 1 P **P** **03 57 40.4 -0.9**
ATKA Atka Island 70.25 3 P **P** **03 57 42.8 -0.8**
ATKA Atka Island 70.25 3 P **P** **03 57 42.9 -0.7**
JNU Nakatsue 70.59 316 P **P** **03 57 46.0 -0.2**
JNU IAmb IAmb 03 57 47.0
comp=Z,26nm,0.9s
JNU Nakatsue 70.59 316 P **P** **03 57 46.3 +0.1**
JKA Kamikawa-asahi 71.72 331 IAmb IAmb 03 57 54.7
comp=Z,54nm,1.0s
QSPA South Pole Qui 71.80 180 P **P** **03 57 53.8 +1.0**
QSPA IAmb IAmb 03 59 57.3
comp=Z,42nm,1.6s
QSPA South Pole Qui 71.80 180 P **P** **03 57 53.5 +0.7**
comp=Z,4.5nm,0.7s,baz=226,slow=1.0,SNR=20
comp=Z,4.5nm,0.7s
QSPA South Pole Qui 71.80 180 P **P** **03 57 53.7 +0.9**
QSPA PcP **PcP** **03 58 10.7 +3.0**
QSPA pP **pP** **03 59 51.4 +1.5**
TWGBT Beinan 72.09 302 P **P** **03 57 53.9 -1.2**
TWG Pinlang 72.09 302 IAmb IAmb 03 57 56.4
comp=Z,36nm,0.8s
YULB Yu-li 72.19 303 IAmb IAmb 03 57 55.8
comp=Z,23nm,0.6s
YULB Yu-li 72.19 303 P **P** **03 57 55.1 -0.6**
NACB Ninganchiao 72.34 304 P **P** **03 57 56.3 -0.2**
UNV Unalaska Valle 72.50 7 P **P** **03 57 54.9 -1.8**
baz=192
SSLB Suanglung 72.66 303 P **P** **03 57 57.8 -0.6**
TPUB Ta-pu 72.68 302 P **P** **03 57 57.4 -1.1**
YHNB Yeheng 72.76 304 P **P** **03 57 59.3 +0.3**
BBJI Bungbulang 72.77 268 P **P** **03 57 59.3 0.0**
KSM Kuching 73.01 277 P **P** **03 58 00.9 +0.3**
KSM Kuching 73.01 277 P **P** **03 58 01.3 +0.7**
YSS Yuzhno-Sakhali 73.86 333 P **P** **03 58 04.8 +0.2**
YSS Yuzhno-Sakhali 73.86 333 P **P** **03 58 05.3 +0.7**
FALS False Pass 73.90 9 P **P** **03 58 03.3 -1.4**
baz=194
PETK Petropavlovsk- 74.09 345 P **P** **03 58 05.1 -0.7**
comp=Z,47nm,0.7s,baz=106,slow=7.3,SNR=39
comp=Z,47nm,0.7s
CHNA Chernabura Isl 74.50 11 P **P** **03 58 06.8 -1.2**
baz=198
P08K Saint George I 74.92 5 P **P** **03 58 10.7 +0.3**
baz=188
S12K Black Hills 74.92 9 P **P** **03 58 09.4 -1.0**
baz=196
KSRS Korea Array 75.15 318 P **P** **03 58 12.8 +0.7**
comp=Z,8.0nm,0.7s,baz=131,slow=6.5,SNR=29
comp=Z,8.0nm,0.7s
KSAR Wonju Array Be 75.17 318 P **P** **03 58 12.5 +0.3**
KS19 Wonju Array Si 75.21 318 IAmb IAmb 03 58 14.3
comp=Z,100nm,1.9s
S14K Fog Glacier 75.89 11 P **P** **03 58 15.5 -0.4**
baz=198
CHGN Chignik 76.11 11 IAmb IAmb 03 58 16.8
comp=Z,37nm,0.8s
CHGN Chignik 76.11 11 P **P** **03 58 15.9 -1.1**
baz=199
CHIR Chirikof Islan 76.21 13 P **P** **03 58 17.0 -0.5**
baz=202
USA0B Ussuriysk Arra 77.06 326 IAmb IAmb 03 58 24.5
comp=Z,50nm,1.3s
USRK Ussuriysk Ar. 77.06 326 P **P** **03 58 22.5 0.0**
USRK Ussuriysk Ar. 77.06 326 P **P** **03 58 23.2 +0.7**
comp=Z,7.4nm,0.6s,baz=140,slow=2.5,SNR=14
comp=Z,7.4nm,0.6s
SII Sitkinak Islan 77.20 13 P **P** **03 58 22.9 -0.1**
baz=203
OHAK Old Harbor 78.01 14 P **P** **03 58 26.9 -0.3**
baz=204
R18K Karluk 78.07 13 P **P** **03 58 27.2 -0.4**
baz=203
NJ2 Nanjing 78.38 309 ⇓P **P** **03 58 30.6 +0.7**
NJ2 sP **sP** **04 01 31.3 +2.1**
NJ2 pmax pmax
comp=Z,33nm,0.7s
NJ2 pmax pmax
comp=Z,140nm,3.9s
SLBS Sierra La Lagu 78.49 60 P **P** **03 58 31.8 +1.1**
O15K Ungalikthiuk R 78.60 9 P **P** **03 58 29.5 -1.0**
baz=198
MDJ Mudanjiang 78.63 325 P **P** **03 58 31.4 +0.5**
MDJ pmax pmax
comp=Z,94nm,1.0s
MDJ pmax pmax
comp=Z,180nm,4.3s
Q16K King Salmon 78.67 11 P **P** **03 58 30.2 -0.5**
baz=201,SNR=5.8
KDAK Kodiak Island 78.68 14 P **P** **03 58 30.7 -0.1**
baz=205
P16K Nushagak River 78.77 10 P **P** **03 58 30.4 -0.9**
baz=199,SNR=6.6
M11K Mekoryuk 78.96 6 P **P** **03 58 32.8 +0.5**
baz=192
PNTR Pine Nut 79.01 43 IAmb IAmb 03 58 35.5
comp=Z,29nm,1.2s
N14K Kuskokwak Cree 79.05 8 P **P** **03 58 32.6 -0.1**
baz=196
P17K Kvichak River 79.20 11 P **P** **03 58 33.0 -0.5**
baz=201,SNR=17
O16K Kokwok River B 79.28 10 IAmb IAmb 03 58 33.5
comp=Z,20nm,0.8s
O16K Kokwok River B 79.28 10 P **P** **03 58 32.7 -1.3**
baz=199
M13K Dall Lake 79.30 7 P **P** **03 58 34.4 +0.3**
baz=194
Q20K Shuyak Island 79.47 13 P **P** **03 58 34.8 -0.2**
baz=205
NVAR Mina Array Bea 79.48 44 P **P** **03 58 36.6 +0.7**
NVAR Mina Array Bea 79.48 44 P **P** **03 58 36.4 +0.5**
comp=Z,3.7nm,0.7s,baz=225,slow=8.7,SNR=25
comp=Z,3.7nm,0.7s
Q19K Cape Douglas, 79.50 13 P **P** **03 58 34.5 -0.7**
baz=204
N15K Kwethluk River 79.51 9 IAmb IAmb 03 58 36.4
comp=Z,23nm,0.7s
N15K Kwethluk River 79.51 9 P **P** **03 58 35.1 -0.2**
baz=197
P18K Big Mountain, 79.61 12 P **P** **03 58 35.1 -0.6**
P18K IAmb IAmb 03 58 35.8
comp=Z,49nm,0.8s
P18K Big Mountain, 79.61 12 P **P** **03 58 34.9 -0.9**
baz=202,SNR=16
O17K Koliganek Bris 79.62 11 P **P** **03 58 34.9 -0.9**
baz=200,SNR=5.3
M14K Bethel 79.81 8 IAmb IAmb 03 58 38.3
comp=Z,24nm,0.8s
M14K Bethel 79.81 8 P **P** **03 58 36.8 +0.1**
baz=196
M15K Kasigluk River 79.93 9 P **P** **03 58 37.4 0.0**
baz=197
O18K Koktuh Hills 80.04 12 P **P** **03 58 37.5 -0.6**
baz=202,SNR=16
P19K Oil Pt 80.25 13 P **P** **03 58 39.1 0.0**
baz=204
L14K Kuka Creek 80.29 7 IAmb IAmb 03 58 40.5
comp=Z,29nm,0.9s
L14K Kuka Creek 80.29 7 P **P** **03 58 39.3 +0.1**
baz=195
N17K Nushagak Hills 80.31 10 P **P** **03 58 38.8 -0.6**
baz=200
CN2 Changchun 80.47 322 *e*P **P** **03 58 40.8 +0.2**
CN2 *e*PP **PP** **04 01 57.0 +2.1**
CN2 pmax pmax
comp=Z,50nm,1.2s
M16K Timber Creek 80.50 9 P **P** **03 58 41.1 +0.8**
baz=198
O19K Port Alsworth 80.53 12 P **P** **03 58 39.7 -0.7**
baz=203,SNR=16
BNX BinXian 80.54 325 ⇓P **P** **03 58 40.8 -0.1**
BNX pmax pmax
comp=Z,71nm,1.0s
HOM Homer 80.59 13 P **P** **03 58 41.2 +0.4**
baz=205
K13K Kusilvak Mount 80.64 6 IAmb IAmb 03 58 42.4
comp=Z,29nm,1.3s
K13K Kusilvak Mount 80.64 6 P **P** **03 58 41.1 +0.1**
baz=193
N18K Kilae Creek 80.69 11 P **P** **03 58 40.8 -0.5**
baz=201
O20K Slope Mountain 80.76 13 P **P** **03 58 41.0 -0.8**
baz=204
L15K Ungalak Mounta 80.77 8 P **P** **03 58 41.4 -0.3**
baz=196
BRSE Bradley Lake S 80.86 14 P **P** **03 58 41.9 -0.4**
baz=206
WHN Wuhan 81.04 306 P **P** **03 58 44.3 +0.5**
WHN pmax pmax
comp=Z,50nm,0.8s
N19K Bonanza Creek 81.07 11 IAmb IAmb 03 58 43.3
comp=Z,32nm,1.1s
N19K Bonanza Creek 81.07 11 P **P** **03 58 41.8 -1.6**
baz=203,SNR=7.3
L16K Owhat River 81.08 9 IAmb IAmb 03 58 44.7
comp=Z,53nm,1.1s
L16K Owhat River 81.08 9 P **P** **03 58 43.4 +0.1**
baz=198
M17K Holitna River 81.10 10 P **P** **03 58 44.0 +0.6**
baz=200
R11B Troy Canyon, C 81.24 45 P **P** **03 58 45.5 +0.6**
baz=238
K15K Wolf Creek Mou 81.35 8 P **P** **03 58 45.4 +0.7**
baz=196
M18K Stony River 81.45 11 P **P** **03 58 45.1 -0.1**
baz=201
SEW Seward 81.48 14 P **P** **03 58 44.7 -0.7**
baz=207
J14K Nanvaranak Lak 81.55 7 P **P** **03 58 45.3 -0.4**
baz=194
MA2 Magadan 81.61 345 P **P** **03 58 45.0 -1.0**
MA2 IAmb IAmb 03 58 46.0
comp=Z,33nm,0.9s
MA2 Magadan 81.61 345 P **P** **03 58 45.3 -0.8**
MA2 Magadan 81.61 345 P **P** **03 58 44.5 -1.6**
comp=Z,42nm,1.0s
L17K Donlin 81.66 9 P **P** **03 58 47.1 +0.8**
baz=199
SLKM Skilak Lake 81.67 14 IAmb IAmb 03 58 46.6
comp=Z,37nm,0.7s
TIA Tai'an 81.69 312 P **P** **03 58 47.6 +0.5**
TIA pmax pmax
comp=Z,21nm,0.9s
TUC Tucson 81.69 52 P **P** **03 58 48.9 +1.7**
CAPN Captain Cook N 81.70 13 P **P** **03 58 47.2 +0.7**
baz=206
O22K Cooper Landing 81.75 14 P **P** **03 58 46.2 -0.6**
baz=207
SPCR Spurr Chakacha 81.87 12 P **P** **03 58 46.1 -1.3**
baz=205,SNR=5.2
P23K Montague Islan 81.88 15 P **P** **03 58 46.7 -0.8**
baz=209
I07A Izee 81.91 38 IAmb IAmb 04 01 05.4
comp=Z,23nm,0.5s
GAMB Gambell 81.92 3 P **P** **03 58 47.6 +0.1**
baz=186
L18K Granite Mounta 81.99 10 IAmb IAmb 03 58 49.3
comp=Z,30nm,0.7s
L18K Granite Mounta 81.99 10 P **P** **03 58 48.4 +0.4**
baz=200
M19K Big River Lodg 82.09 11 IAmb IAmb 03 58 49.0
comp=Z,82nm,1.9s
M19K Big River Lodg 82.09 11 P **P** **03 58 47.9 -0.6**
baz=203
K17K Iditarod 82.21 9 P **P** **03 58 49.1 0.0**
baz=199
STLK Strandline Lak 82.22 12 IAmb IAmb 03 58 48.6
comp=Z,20nm,0.8s
L19K White Mountain 82.27 11 IAmb IAmb 03 58 51.0
comp=Z,26nm,1.1s
L19K White Mountain 82.27 11 P **P** **03 58 49.2 -0.2**
baz=202
RC01 Rabbit Creek A 82.29 13 IAmb IAmb 03 58 49.9
comp=Z,21nm,1.0s
RC01 Rabbit Creek A 82.29 13 P **P** **03 58 49.0 -0.5**
baz=207
UBPT Khong Chiam 82.31 289 P **P** **03 58 51.2 +0.6**
M20K Styx River 82.31 12 IAmb IAmb 03 58 53.8
comp=Z,52nm,1.8s
M20K Styx River 82.31 12 P **P** **03 58 49.3 -0.5**
baz=204
319A Douglas 82.41 54 IAmb IAmb 03 58 53.5
comp=Z,21nm,0.9s
PWL Port Wells 82.41 14 P **P** **03 58 49.3 -0.9**
baz=208
J16K Anvik River 82.43 8 IAmb IAmb 03 58 51.5
comp=Z,30nm,0.9s
J16K Anvik River 82.43 8 P **P** **03 58 50.3 +0.2**
baz=197
U15A North Rim 82.54 48 IAmb IAmb 03 58 53.8
comp=Z,16nm,0.9s
SKT Skwentna 82.72 12 IAmb IAmb 03 59 24.9
comp=Z,36nm,1.7s
SKT Skwentna 82.72 12 P **P** **03 58 50.5 -1.1**
baz=205
GLI Glacier Island 82.72 15 P **P** **03 58 51.0 -0.7**
baz=210
L20K Farewell, AK 82.72 11 P **P** **03 58 51.0 -0.7**
baz=203
J17K VABM Dome 82.74 9 IAmb IAmb 03 58 52.8
comp=Z,19nm,0.7s
J17K VABM Dome 82.74 9 P **P** **03 58 52.1 +0.4**
baz=198
IPM Ipoh 82.74 277 IAmb IAmb 03 58 54.3
comp=Z,32nm,0.8s
IPM Ipoh 82.74 277 P **P** **03 58 54.0 +1.1**
EYAK Cordova Ski Ar 82.77 15 P **P** **03 58 52.5 +0.7**
baz=211
TTA Tatalina 82.77 10 IAmb IAmb 03 58 53.0
comp=Z,34nm,1.1s
TTA Tatalina 82.77 10 P **P** **03 58 51.9 -0.1**
baz=201
TTA Tatalina 82.77 10 P **P** **03 58 52.1 +0.1**
M22K Willow 82.81 13 P **P** **03 58 51.2 -0.9**
baz=207
KNK Knik Glacier 82.87 14 IAmb IAmb 03 58 52.7
comp=Z,24nm,0.8s
KNK Knik Glacier 82.87 14 P **P** **03 58 51.9 -0.5**
baz=208,SNR=5.6
PMR Palmer 82.88 14 IAmb IAmb 03 58 52.6
comp=Z,56nm,1.4s
PMR Palmer 82.88 14 P **P** **03 58 51.6 -0.8**
baz=208,SNR=8.6
PMR Palmer 82.88 14 P **P** **03 58 51.8 -0.6**
I17K Unalakleet 83.00 8 P **P** **03 58 53.2 +0.2**
baz=197
PKCU Pink Cliffs 83.02 47 IAmb IAmb 04 00 01.0
comp=Z,45nm,1.6s
DUN6 Lazy B Ranch 83.08 53 IAmb IAmb 03 58 56.7
comp=Z,60nm,1.3s
LTY Liberty 83.09 35 IAmb IAmb 04 02 07.4
comp=Z,16nm,0.3s
SIT Sitka 83.10 22 P **P** **03 58 54.6 +1.0**
baz=220
ANM Nome 83.14 6 P **P** **03 58 53.6 -0.1**
baz=192
J18K Innoko River 83.16 10 IAmb IAmb 03 58 54.6
comp=Z,39nm,0.8s
J18K Innoko River 83.16 10 P **P** **03 58 53.7 -0.1**
baz=200
SML Sawmill 83.25 14 P **P** **03 58 53.4 -0.9**
baz=208
DIV Divide 83.26 15 IAmb IAmb 03 58 54.7
comp=Z,35nm,0.8s
CUT Chulitna 83.36 13 P **P** **03 58 54.0 -0.8**
baz=206,SNR=11
HEH HeiHe 83.36 328 *e*P **P** **03 58 54.8 -0.3**
HEH sP **PP** **04 02 12.8 -5.3**
HEH pmax pmax
comp=Z,26nm,1.3s
M23K Glacier View 83.37 14 P **P** **03 58 54.3 -0.7**
baz=209
BMRM Bremner River 83.42 16 IAmb IAmb 03 58 55.7
comp=Z,31nm,1.0s
BMRM Bremner River 83.42 16 P **P** **03 58 54.6 -0.7**
baz=212,SNR=5.6
PPLA Purkeypile 83.42 12 IAmb IAmb 03 59 40.0
comp=Z,28nm,1.4s
PPLA Purkeypile 83.42 12 P **P** **03 58 54.4 -0.9**
baz=205
MESA MESA 83.47 17 P **P** **03 58 55.8 +0.2**
baz=214,SNR=5.7
S31K Pelican 83.48 21 P **P** **03 58 54.9 -0.5**
baz=220
K20K Telida 83.50 11 IAmb IAmb 03 58 56.1
comp=Z,34nm,0.8s
K20K Telida 83.50 11 P **P** **03 58 54.9 -0.6**
baz=203
SCM Sheep Creek Mo 83.50 14 P **P** **03 58 54.9 -0.8**
baz=209,SNR=12
H16K Elim 83.54 7 P **P** **03 58 55.3 -0.4**
baz=195
KLU Klutina 83.54 15 IAmb IAmb 04 00 05.9
comp=Z,34nm,1.6s
KLU Klutina 83.54 15 P **P** **03 58 56.1 +0.3**
baz=211
MAW Mawson 83.62 200 P P 03 58 51.3 -4.9
G15K Niukluk 83.69 6 P **P** **03 58 56.0 -0.4**
baz=193
PNL Peninsula 83.80 19 P **P** **03 58 57.0 -0.1**
baz=217
J19K Poorman 83.83 10 IAmb IAmb 03 58 57.7
comp=Z,15nm,1.0s
J19K Poorman 83.83 10 P **P** **03 58 57.0 -0.1**
baz=201,SNR=9.0
CAST Castle Rocks 83.92 11 P **P** **03 58 55.7 -1.9**
baz=205,SNR=35
VRDI Verde Repeater 83.94 16 IAmb IAmb 03 58 58.4
comp=Z,17nm,0.8s
F14K Arctic Creek 83.96 5 P **P** **03 58 57.5 -0.2**
baz=191
N25K Chitina, Valde 83.96 15 P **P** **03 58 57.7 -0.3**
baz=212,SNR=16
M24K Tolsona, Glenn 84.01 14 P **P** **03 58 58.0 -0.2**
baz=210,SNR=7.6
GLB Gilahina Butte 84.03 16 IAmb IAmb 03 58 58.6
comp=Z,26nm,0.7s
H17K Granite Mounta 84.10 8 P **P** **03 58 58.0 -0.5**
baz=197
RPSI Rantau Prapat 84.16 275 IAmb IAmb 03 59 00.5
comp=Z,26nm,0.9s
PSI Prapat 84.19 275 P **P** **03 59 00.0 -0.3**
BJT Baijiatuau 84.22 315 IAmb IAmb 03 59 00.6
comp=Z,14nm,0.8s
BJI Beijing 84.23 315 P **P** **03 59 00.0 +0.4**
BJI pmax pmax
comp=Z,14nm,1.1s
BJI pmax pmax
comp=Z,88nm,4.2s
J20K Nowinta River 84.24 10 IAmb IAmb 03 58 59.8
comp=Z,19nm,0.7s
J20K Nowinta River 84.24 10 P **P** **03 58 58.6 -0.5**
baz=203
G16K Koyuk River 84.26 7 P **P** **03 58 58.8 -0.4**
baz=195
KTH Kantishna Hill 84.26 12 IAmb IAmb 03 58 58.7
comp=Z,27nm,0.9s
LYN LuoYang 84.27 309 ⇓*i*P **P** **03 59 00.6 +0.6**
LYN pmax pmax
comp=Z,130nm,0.8s
TRF Thorofare Moun 84.29 12 P **P** **03 58 58.5 -1.2**
baz=206,SNR=29
CHUM Lake Minchumin 84.30 11 P **P** **03 58 57.9 -1.5**
baz=204,SNR=14
F15K North Star Dit 84.33 6 IAmb IAmb 03 59 00.1
comp=Z,17nm,1.2s
F15K North Star Dit 84.33 6 P **P** **03 58 58.8 -0.7**
baz=193
GCSA Galena City Sc 84.34 9 P **P** **03 58 59.4 -0.2**
baz=200
O28M Mount Upton 84.46 18 P **P** **03 59 00.4 -0.2**
baz=216
HARP HAARP 84.50 15 P **P** **03 58 59.9 -0.6**
baz=211,SNR=6.7
H18K Honhosa River 84.51 8 IAmb IAmb 03 59 00.8
comp=Z,26nm,1.6s
H18K Honhosa River 84.51 8 P **P** **03 58 59.7 -0.8**
baz=199
O29M Mount Kennedy 84.56 19 P **P** **03 59 00.8 -0.1**
baz=217
BPAW Bear Paw Mtn. 84.74 12 P **P** **03 58 59.9 -1.7**
baz=206
I20K Naaghedeneel 84.76 10 P **P** **03 59 01.4 -0.3**
baz=202
MCK McKinley 84.82 13 IAmb IAmb 03 59 02.1

comp=Z,37nm,1.0s
MCK McKinley 84.82 13 P P 03 59 01.0 -1.0
baz=208,SNR=17
P30M Million Dollar 84.92 19 P P 03 59 03.2 +0.6
baz=219
PAX Paxson 84.92 14 P P 03 59 01.6 -1.0
baz=211
SKAG Skagway 84.93 20 P P 03 59 03.5 +0.9
baz=220
YUK8 Steele Glacier 85.00 18 P P 03 59 03.0 -0.3
baz=216,SNR=9.0
M26K Nabesna, AK 85.04 16 IAmb IAmb 03 59 04.0
comp=Z,27nm,1.0s
M26K Nabesna, AK 85.04 16 P P 03 59 02.9 -0.3
baz=213
YUK6 Outpost Mounta 85.13 18 P P 03 59 03.7 -0.2
baz=218
H19K Roundabout Mou 85.14 9 P P 03 59 03.1 -0.3
baz=201
G18K Tagagawik 85.18 8 P P 03 59 02.8 -0.9
baz=198
YUK3 Moose Creek 85.20 17 P P 03 59 03.9 -0.3
baz=216,SNR=14
S34M Telegraph Cree 85.26 23 IAmb IAmb 03 59 05.8
comp=Z,17nm,0.8s
S34M Telegraph Cree 85.26 23 P P 03 59 04.9 +0.7
baz=224,SNR=7.4
M27K Edge Creek, AK 85.30 16 IAmb IAmb 03 59 05.7
comp=Z,36nm,1.1s
M27K Edge Creek, AK 85.30 16 P P 03 59 04.2 -0.3
baz=214
HYT Haines Junctio 85.30 19 P P 03 59 04.6 +0.1
baz=218
MENT Mentasta 85.31 15 P P 03 59 04.5 +0.1
H20K Anotleneega Mo 85.34 10 P P 03 59 04.2 -0.3
baz=202
YUK4 Talbot Arm 85.37 18 P P 03 59 05.1 +0.2
baz=217
NONG Nongkai 85.38 291 P P 03 59 06.4 +0.7
F17K Baldwin Pennin 85.39 7 P P 03 59 04.2 -0.4
baz=196
SRIT Nakonsritamara 85.42 281 P P 03 59 07.8 +1.8
GYA Guiyang 85.45 300 ⇓P **P 03 59 06.4 +0.3**
GYA pmax pmax
comp=Z,17nm,0.9s
L26K Log Cabin Wild 85.48 15 IAmb IAmb 03 59 06.0
comp=Z,25nm,1.3s
L26K Log Cabin Wild 85.48 15 P P 03 59 04.8 -0.5
baz=213,SNR=6.0
VHRN Van Horn 85.48 56 IAmb IAmb 03 59 09.4
comp=Z,38nm,1.8s
I21K Tanana 85.54 11 IAmb IAmb 03 59 05.8
comp=Z,49nm,1.4s
I21K Tanana 85.54 11 P P 03 59 04.5 -0.9
baz=205
NEA2 Nenana 85.56 12 P P 03 59 03.8 -1.7
baz=208
K24K Donnelly Dome 85.57 14 P P 03 59 05.3 -0.4
baz=211,SNR=14
P32M Atlin 85.57 21 P P 03 59 05.5 -0.2
baz=222
Q32M Nakina River 85.60 22 P P 03 59 06.2 +0.1
baz=223
BVCY Beaver Creek 85.61 16 P P 03 59 05.8 -0.1
baz=215,SNR=13
G19K Purcell Mounta 85.63 8 P P 03 59 05.5 -0.3
baz=200
O30N Mendenhall 85.69 19 P P 03 59 06.4 +0.1
baz=220,SNR=6.9
RIDG Independent Ri 85.73 14 IAmb IAmb 03 59 06.9
comp=Z,22nm,1.0s
RIDG Independent Ri 85.73 14 P P 03 59 05.8 -0.6
baz=212,SNR=9.9
F18K Selawik 85.73 7 P P 03 59 05.1 -1.1
baz=198
H21K Melozitna Rive 85.83 10 IAmb IAmb 03 59 08.5
comp=Z,37nm,1.6s
H21K Melozitna Rive 85.83 10 P P 03 59 06.4 -0.4
baz=204
HDA Harding Lake 85.84 13 IAmb IAmb 03 59 06.9
comp=Z,16nm,0.7s
HDA Harding Lake 85.84 13 P P 03 59 05.8 -1.0
baz=210,SNR=13
SLVN Son La 85.88 294 P P 03 59 09.5 +1.4
L27K Beaver Creek, 85.89 16 P P 03 59 06.9 -0.3
baz=214,SNR=7.2
TX31 Lajitas Ar. Si 85.95 57 IAmb IAmb 03 59 10.9
comp=Z,22nm,0.9s
TXAR Lajitas Array 85.95 57 P P 03 59 09.7 +1.3
comp=Z,20nm,1.0s,baz=220,slow=6.0,SNR=97
comp=Z,20nm,1.0s
E17K Hotham Inlet 85.95 6 P P 03 59 06.8 -0.5
baz=196
WHY Whitehorse 85.99 20 IAmb IAmb 03 59 09.0
comp=Z,13nm,1.1s
WHY Whitehorse 85.99 20 P P 03 59 07.6 -0.2
baz=221
I23K Minto, Yukon-K 86.00 12 IAmb IAmb 03 59 11.4
comp=Z,16nm,1.2s
I23K Minto, Yukon-K 86.00 12 P P 03 59 06.3 -1.3
baz=207
DLBC Dease Lake 86.04 23 P P 03 59 08.9 +0.8
baz=225
COLA College 86.06 12 P P 03 59 06.7 -1.2
COLA College 86.06 12 P P 03 59 06.6 -1.2
baz=209
COLA College 86.06 12 P P 03 59 06.9 -0.9
ANMO Albuquerque 86.10 51 P P 03 59 09.4 +0.3
SCRK Sand Creek 86.13 14 P P 03 59 07.8 -0.7
baz=212,SNR=7.0
IL31 86.17 13 IAmb IAmb 03 59 08.3
comp=Z,19nm,1.0s
ILAR Eielson Array 86.17 13 P P 03 59 07.3 -1.1
comp=Z,6.8nm,0.5s,baz=220,slow=4.9,SNR=282
comp=Z,6.8nm,0.5s
F19K Shaleruckik Mo 86.19 8 IAmb IAmb 03 59 08.6
comp=Z,9.8nm,0.8s
F19K Shaleruckik Mo 86.19 8 P P 03 59 07.6 -0.8
baz=199
XLT XiLinHaoTe 86.20 319 *e*P **P 03 59 08.8 -0.4**
XLT pmax pmax
comp=Z,36nm,1.0s
H22K Ishtalitna Cre 86.30 11 P P 03 59 08.4 -0.6
baz=205
M29M Somme Creek 86.30 17 P P 03 59 09.1 -0.1
baz=217
P33M Teslin, Yukon 86.33 21 P P 03 59 09.1 -0.3
baz=223
N31M Braeburn, Yuko 86.34 19 IAmb IAmb 03 59 10.5
comp=Z,20nm,1.0s
N31M Braeburn, Yuko 86.34 19 P P 03 59 09.3 0.0
baz=220
POKR Poker Plat Res 86.35 12 IAmb IAmb 03 59 08.9
comp=Z,18nm,0.7s
POKR Poker Plat Res 86.35 12 P P 03 59 08.1 -1.2
baz=209,SNR=16
J25K Salcha River, 86.36 14 IAmb IAmb 03 59 09.6
comp=Z,12nm,0.6s
J25K Salcha River, 86.36 14 P P 03 59 08.6 -0.8
baz=211
ALPN Alpine 86.38 57 IAmb IAmb 03 59 12.5
comp=Z,16nm,1.1s
R33M Jennings River 86.38 22 P P 03 59 10.2 +0.5
baz=224
E18K Tukpahlearik C 86.41 7 IAmb IAmb 03 59 09.9
comp=Z,11nm,0.7s
E18K Tukpahlearik C 86.41 7 P P 03 59 09.2 -0.2
baz=197
F20K Avaraart Lake 86.67 9 P P 03 59 10.2 -0.5
baz=201
J26L Joseph Creek 86.67 14 P P 03 59 11.0 0.0
baz=213
XAN Xi'an 86.70 307 ⇓P **P 03 59 12.4 +0.7**
XAN pmax pmax
comp=Z,82nm,1.1s
RDOG Red Dog Mine 86.78 6 P P 03 59 10.9 -0.3
baz=194
C16K Lisburne Hills 86.79 5 IAmb IAmb 03 59 14.3
comp=Z,20nm,1.6s
C16K Lisburne Hills 86.79 5 P P 03 59 10.8 -0.4
baz=192
BILL Bilibino 86.81 354 P P 03 59 10.3 -1.0
BILL IAmb IAmb 03 59 12.8
comp=Z,14nm,0.9s
HIA Hailar 86.82 325 IAmb IAmb 03 59 13.1
comp=Z,15nm,1.1s
E19K Redstone River 86.85 8 IAmb IAmb 03 59 12.0
comp=Z,17nm,0.6s
E19K Redstone River 86.85 8 P P 03 59 11.1 -0.5
baz=200
M30M Minto, Yukon 86.88 18 IAmb IAmb 03 59 12.7
comp=Z,23nm,0.9s
M30M Minto, Yukon 86.88 18 P P 03 59 11.8 -0.1
baz=219,SNR=14
H24K Noodor Dome 86.90 12 IAmb IAmb 03 59 12.9
comp=Z,29nm,1.9s
H24K Noodor Dome 86.90 12 P P 03 59 10.4 -1.5
baz=209
L29M L29M 86.92 17 IAmb IAmb 03 59 13.4
comp=Z,43nm,1.2s
L29M L29M 86.92 17 P P 03 59 12.3 +0.2
baz=218
N32M Quiet Lake 86.94 20 IAmb IAmb 03 59 13.5
comp=Z,25nm,1.2s
N32M Quiet Lake 86.94 20 P P 03 59 12.7 +0.5
baz=222
S22A 4UR Ranch, Cre 87.03 49 P P 03 59 13.9 +0.4
baz=244
PRP Porcupine Dome 87.10 13 P P 03 59 11.8 -1.2
baz=211,SNR=8.1
F21K Alatna River 87.16 9 P P 03 59 12.5 -0.6
baz=203
C17K DeLong Mountai 87.17 5 P P 03 59 12.6 -0.4
baz=194
G22K Bettles 87.21 10 P P 03 59 12.8 -0.4
baz=205
G23K Bananza Creek 87.27 11 IAmb IAmb 03 59 14.2
comp=Z,16nm,1.4s
G23K Bananza Creek 87.27 11 P P 03 59 13.1 -0.6
baz=207
M31M Drury Creek, Y 87.31 19 P P 03 59 13.3 -0.6
baz=221,SNR=7.3
DAWY Dawson 87.35 16 IAmb IAmb 03 59 14.8
comp=Z,23nm,1.3s
DAWY Dawson 87.35 16 P P 03 59 14.0 0.0
baz=216,SNR=9.1
PDAR Pinedale Array 87.41 43 P P 03 59 15.2 0.0
comp=Z,2.3nm,0.7s,baz=215,slow=2.9,SNR=25
comp=Z,2.3nm,0.7s
SAND Sanderson 87.42 57 IAmb IAmb 03 59 16.8
comp=Z,12nm,1.0s
I26K Coal Creek Min 87.45 14 IAmb IAmb 03 59 15.1
comp=Z,16nm,1.1s
I26K Coal Creek Min 87.45 14 P P 03 59 14.4 0.0
baz=213
C18K Utukok River 87.53 6 P P 03 59 14.1 -0.7
baz=196
FARO Faro, Yukon 87.66 19 P P 03 59 15.0 -0.6
baz=222
K29M Barlow Dome 87.67 17 IAmb IAmb 03 59 16.8
comp=Z,28nm,1.4s
K29M Barlow Dome 87.67 17 P P 03 59 15.6 -0.1
baz=218
H25L Birch Creek 87.69 12 P P 03 59 14.6 -0.9
baz=210
COLD Coldfoot 87.71 11 IAmb IAmb 03 59 16.5
comp=Z,20nm,0.9s
COLD Coldfoot 87.71 11 P P 03 59 15.5 0.0
baz=206
HHC Hu-ho-hao-te 87.72 314 *e*P **P 03 59 17.5 +1.1**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,190nm,4.8s
D19K Kuna River 87.72 7 IAmb IAmb 03 59 16.0
comp=Z,9.9nm,0.7s
D19K Kuna River 87.72 7 P P 03 59 15.1 -0.6
baz=199
G24K Hadweenzic Riv 87.74 12 IAmb IAmb 03 59 15.8
comp=Z,8.5nm,0.7s
G24K Hadweenzic Riv 87.74 12 P P 03 59 14.9 -0.9
baz=209
E20K Nigu River 87.74 8 P P 03 59 15.5 -0.3
baz=201,SNR=24
SRDT SRDT 87.75 286 P P 03 59 18.7 +1.8
MAYO Mayo, Yukon 87.93 17 P P 03 59 17.2 +0.4
baz=220
J29N Klondike Camp 87.97 16 P P 03 59 17.2 +0.3
baz=218
I27K Kandik River 88.05 14 P P 03 59 16.8 -0.6
baz=214
FYU Fort Yukon 88.07 13 IAmb IAmb 03 59 17.6
comp=Z,9.1nm,0.6s
D20K Etivluk River 88.11 8 P P 03 59 17.1 -0.4
baz=200,SNR=14
B18K Kokolik River 88.16 6 P P 03 59 17.1 -0.5
baz=196
TOAD Toad River Com 88.16 25 P P 03 59 18.2 +0.3
baz=229
E21K Killik River 88.22 9 P P 03 59 17.3 -0.7
baz=203
KMI Kunming 88.24 297 ⇓P **P 03 59 20.8 +1.4**
KMI pmax pmax
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 88.26 10 IAmb IAmb 03 59 18.8
comp=Z,22nm,1.0s
E22K Anaktuvuk Pass 88.26 10 P P 03 59 17.9 -0.3
baz=205
I28M Miner Creek 88.33 15 IAmb IAmb 03 59 19.0
comp=Z,10nm,0.8s
I28M Miner Creek 88.33 15 P P 03 59 18.1 -0.6
baz=216
F24K Squaw Lake 88.38 11 IAmb IAmb 03 59 19.6
comp=Z,17nm,0.7s
F24K Squaw Lake 88.38 11 P P 03 59 18.5 -0.3
baz=209,SNR=18
DRIO Del Rio 88.44 58 IAmb IAmb 03 59 21.7
comp=Z,22nm,1.0s
T25A Trinidad 88.52 50 P P 03 59 19.8 -0.6
baz=246
E23K Chandalar 88.55 10 IAmb IAmb 03 59 20.3
comp=Z,13nm,0.8s
E23K Chandalar 88.55 10 P P 03 59 19.4 -0.3
baz=207
J30M Hart River 88.57 17 P P 03 59 19.7 -0.2
baz=219
OZNA Ozona 88.59 57 IAmb IAmb 03 59 22.1
comp=Z,9.4nm,0.8s
H27K Steamboat Moun 88.59 14 P P 03 59 19.9 +0.1
baz=214
G26K Porcupine Rive 88.70 13 P P 03 59 20.2 0.0
baz=212
E24K Your Creek 88.76 11 IAmb IAmb 03 59 21.2
comp=Z,6.2nm,0.7s
E24K Your Creek 88.76 11 P P 03 59 20.3 -0.2
baz=208
C21K Kniffelade Rid 88.77 8 P P 03 59 20.5 0.0
baz=202,SNR=16
D22K Ayikyak River 88.81 9 P P 03 59 20.9 +0.2
baz=204
TGTN Hyland Airport 88.83 21 P P 03 59 21.6 +0.6
baz=227
ELIB Princess Elisa 88.84 187 *d*P **P 03 59 21.2 +0.1**
comp=Z,6.4nm,0.7s
F25K Christian Rive 88.87 12 IAmb IAmb 03 59 21.7
comp=Z,6.1nm,0.8s
F25K Christian Rive 88.87 12 P P 03 59 21.1 0.0
baz=211
BMAR Burnt Mountain 88.94 12 P P 03 59 21.5 +0.1
LL02 Futaleuf 88.98 135 P P 03 59 23.6 +1.4
LL02 IAmb IAmb 03 59 24.3
comp=Z,10nm,0.9s
N23A Red Feather La 89.00 46 P P 03 59 21.5 -1.1
baz=245
833A Chaparral WMA, 89.03 60 P P 03 59 22.6 0.0
baz=249
G27K Doyon Strip 89.04 14 IAmb IAmb 03 59 22.6
comp=Z,12nm,1.4s
G27K Doyon Strip 89.04 14 P P 03 59 21.8 -0.1
baz=214
I30M Mount Dempster 89.06 16 IAmb IAmb 03 59 22.7
comp=Z,24nm,1.1s
I30M Mount Dempster 89.06 16 P P 03 59 21.7 -0.4
baz=219
TOLK Toolik Lake Re 89.08 10 IAmb IAmb 03 59 22.6
comp=Z,9.2nm,0.8s
TOLK Toolik Lake Re 89.08 10 P P 03 59 21.6 -0.5
baz=207,SNR=7.9
POST Post 89.10 55 IAmb IAmb 03 59 23.8
comp=Z,7.4nm,0.7s
D23K Nanushuk River 89.19 10 P P 03 59 22.5 0.0
baz=206,SNR=19
B21K Ikpikpuk River 89.22 8 IAmb IAmb 03 59 23.2
comp=Z,30nm,1.4s
B21K Ikpikpuk River 89.22 8 P P 03 59 22.1 -0.4
baz=202
F26K Sheenjek River 89.26 12 IAmb IAmb 03 59 24.1
comp=Z,8.3nm,0.9s
F26K Sheenjek River 89.26 12 P P 03 59 22.9 +0.1
baz=212
CMAR Chiang Mai Arr 89.27 290 P P 03 59 25.1 +1.1
comp=Z,16nm,0.9s,baz=109,slow=2.8,SNR=62
comp=Z,16nm,0.9s
B20K Meade River 89.27 7 IAmb IAmb 03 59 23.5
comp=Z,25nm,1.1s
B20K Meade River 89.27 7 P P 03 59 22.4 -0.3
baz=200
H29M Whitestone 89.33 15 P P 03 59 22.7 -0.5
baz=217
CHTO Chiang Mai 89.38 290 P P 03 59 25.3 +0.8
CHTO IAmb IAmb 03 59 26.3
comp=Z,16nm,0.8s
KOTAN Kotaneelee Air 89.45 24 P P 03 59 24.0 +0.2
baz=230
HNDO Hondo 89.56 59 IAmb IAmb 03 59 27.3
comp=Z,16nm,0.8s
PZH PanZhiHua 89.57 298 P P 03 59 25.9 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.2s
D24K Happy Valley 89.66 10 IAmb IAmb 03 59 25.5
comp=Z,15nm,0.9s
D24K Happy Valley 89.66 10 P P 03 59 24.5 -0.2
baz=208
EPYK Eagle Plains 89.87 15 P P 03 59 25.2 -0.5
baz=219
TROLL Troll, Antarti 89.96 180 P P 03 59 26.3 0.0
TROLL Troll, Antarti 89.96 180 ⇓P **P 03 59 26.3 0.0**
comp=Z,97nm,0.3s
G29M Pine Creek 89.97 15 IAmb IAmb 03 59 26.6
comp=Z,19nm,1.1s
G29M Pine Creek 89.97 15 P P 03 59 25.7 -0.5
baz=218
C23K Itkillik River 89.99 9 P P 03 59 26.2 +0.1
baz=206,SNR=13
H31M Peel River 90.06 17 IAmb IAmb 03 59 26.9
comp=Z,10nm,0.9s
H31M Peel River 90.06 17 P P 03 59 25.9 -0.7
baz=221
F28M Old Crow 90.10 14 P P 03 59 26.3 -0.4
baz=216
C24K Franklin Bluff 90.19 10 P P 03 59 27.0 0.0
baz=208
D25K Kavik River 90.23 11 P P 03 59 26.4 -1.0
baz=210
SNAA Sanae 90.24 179 P P 03 59 27.4 -0.2
SNAA Sanae 90.24 179 ⇓P **P 03 59 27.4 -0.2**
comp=Z,53nm,0.7s
SNAA Sanae 90.24 179 P P 03 59 27.2 -0.4
comp=Z,2.1nm,0.7s,baz=170,slow=6.1,SNR=2.1
comp=Z,2.1nm,0.7s
APMT Aspermont 90.27 55 IAmb IAmb 03 59 29.3
comp=Z,8.0nm,0.9s
VNA3 Neumayer Olymp 90.37 176 P P 03 59 28.3 +0.2
VNA3 Neumayer Olymp 90.37 176 ⇑P **P 03 59 28.3 +0.2**
comp=Z,13nm,0.8s
BRDY Brady 90.42 57 IAmb IAmb 03 59 30.1
comp=Z,8.5nm,1.1s
G30M tAoh Zraii Nji 90.47 15 P P 03 59 27.8 -0.7
baz=219
A21K Barrow 90.57 7 P P 03 59 28.2 -0.6
baz=200
VNA2 Neumayer--Watz 90.81 177 P P 03 59 30.8 +0.7
baz=199,slow=4.3
VNA2 Neumayer--Watz 90.81 177 ⇑P **P 03 59 30.8 +0.7**
comp=Z,5.4nm,0.7s,baz=199,slow=4.3
PLCA Paso Flores 90.89 134 P P 03 59 31.6 +0.3
comp=Z,1.5nm,0.7s,baz=232,slow=6.5,SNR=6.1
comp=Z,1.5nm,0.7s
C27K Jago River 90.98 11 IAmb IAmb 03 59 32.3
comp=Z,10.0nm,0.9s
C27K Jago River 90.98 11 P P 03 59 30.3 -0.4
baz=212
E28M Babbage River 90.98 13 IAmb IAmb 03 59 31.5
comp=Z,12nm,0.9s
E28M Babbage River 90.98 13 P P 03 59 30.4 -0.4
baz=216
C26K Camden Bay 91.01 11 P P 03 59 30.6 -0.2
baz=211
F30M Barrier River 91.06 15 P P 03 59 30.5 -0.6
baz=220
E29M Blow River 91.17 14 IAmb IAmb 03 59 33.1
comp=Z,8.6nm,1.1s
E29M Blow River 91.17 14 P P 03 59 31.1 -0.6
baz=218
D27M Malcolm River 91.20 12 IAmb IAmb 03 59 33.0
comp=Z,24nm,1.6s
D27M Malcolm River 91.20 12 P P 03 59 31.6 -0.2
baz=215
LZH Lanzhou 91.33 308 *e*P **P 03 59 34.4 +1.1**
LZH pP sP 04 02 43.3 +7.3
LZH sP PP 04 03 25.0 +3.5
LZH pmax pmax
comp=Z,34nm,1.2s
F31M Tsiigehtchic 91.45 16 P P 03 59 32.2 -0.6
baz=222
PLPT Palo Pinto 91.50 56 IAmb IAmb 03 59 35.3
comp=Z,9.8nm,0.8s
D28M Stokes Point 91.74 13 P P 03 59 33.5 -0.6
baz=217
INK Inuvik 92.15 15 IAmb IAmb 03 59 36.2
comp=Z,13nm,0.9s
INK Inuvik 92.15 15 P P 03 59 35.3 -0.8
baz=222
ULN Ulaanbaatar 93.60 319 P P 03 59 42.4 -1.1
ULN IAmb IAmb 03 59 44.2
comp=Z,11nm,1.0s
SONM Songino Array 94.00 319 P P 03 59 44.8 -0.5
SONM IAmb IAmb 03 59 46.4
comp=Z,19nm,1.8s
SONM Songino Array 94.00 319 P P 03 59 45.4 +0.2
comp=Z,1.9nm,0.6s,baz=123,slow=3.4,SNR=13
SONM PP PP 04 03 37.4 -4.4
comp=Z,1.3nm,0.9s,baz=120,slow=8.8,SNR=5.6
comp=Z,1.9nm,0.6s
YKA Yellowknife Ar 94.53 25 P P 03 59 46.8 -0.4
comp=Z,1.3nm,0.6s,baz=245,slow=4.9,SNR=24
comp=Z,1.3nm,0.6s
C36M Paulatuk 95.35 17 IAmb IAmb 03 59 51.1
comp=Z,4.9nm,0.8s
C36M Paulatuk 95.35 17 P P 03 59 50.4 -0.3
baz=231
GTA Gaotai 95.47 310 P P 03 59 52.8 +0.7
GTA pmax pmax
comp=Z,7.0nm,1.1s
TIXI Tiksi 96.57 345 P P 03 59 54.8 -1.3
TIXI IAmb IAmb 03 59 55.6
comp=Z,6.4nm,0.8s
A36M Sachs Harbour 96.75 14 P P 03 59 56.5 -0.4
baz=230
ZALV Zalesovo Beam 108.68 322 PKiKP **PKiKP 04 04 50.3 -1.6**
comp=Z,1.3nm,0.6s,baz=48,slow=2.1,SNR=3.9
MKAR Makanchi Array 109.58 314 PKiKP **PKiKP 04 04 52.6 -1.3**
comp=Z,1.6nm,0.5s,baz=202,slow=0.8,SNR=13
MKAR SKP 04 07 35.1
comp=Z,1.1nm,0.8s,baz=86,slow=0.9,SNR=5.3
KURBB Kurchatov Arra 112.33 318 PKiKP **PKiKP 04 04 57.5 -1.4**
comp=Z,2.2nm,0.5s,baz=95,slow=2.0,SNR=9.6
KURBB SKP 04 07 40.1
comp=Z,0.3nm,0.3s,baz=107,slow=1.8,SNR=6.6
KSH Kashi 113.51 306 PKP **PKiKP 04 05 03.6 +1.9**
AAK Ala-Archa 114.82 309 PKP PKPdf 04 05 03.0 -1.2
comp=Z,0.3nm,0.3s,baz=180,slow=4.0,SNR=4.0
AAK Ala-Archa 114.82 309 PKPdf PKPdf 04 05 02.8 -1.4
BVAR Borovoye Array 117.29 321 PKP **PKPdf 04 05 07.5 -0.9**
comp=Z,5.2nm,0.6s,baz=100,slow=2.6,SNR=13
BVAR SKP 04 07 49.7
comp=Z,2.0nm,0.7s,baz=120,slow=2.0,SNR=4.6
KKAR Karatay Array 117.76 310 PKPdf **PKPdf 04 05 08.6 -1.0**
KBL Kabul 118.70 300 PKPdf 04 05 12.1 +0.1
SPITS Spitsbergen Ar 119.63 357 PKP **PKPdf 04 05 11.2 -1.1**
comp=Z,12nm,0.9s,baz=64,slow=6.6,SNR=9.8
ARTI Arti 123.40 326 PKPdf **PKPdf 04 05 19.4 -0.7**
ARTI Arti 123.40 326 PKP **PKPdf 04 05 19.6 -0.4**
comp=Z,11nm,0.8s,baz=50,slow=2.4,SNR=15
ABKAR Akbulak array 124.38 318 PKPdf **PKPdf 04 05 21.7 -0.4**
ABKAR Akbulak array 124.38 318 PKPdf **PKPdf 04 05 21.3 -0.8**
AKTO Aktyubinsk 125.32 319 PKP **PKPdf 04 05 23.8 -0.1**
comp=Z,5.6nm,0.9s,baz=48,slow=1.9,SNR=17
KIRV Kirov 126.97 331 PKP **PKPdf 04 05 25.9 -0.9**
comp=Z,11nm,0.5s,baz=163,slow=3.0,SNR=5.4
SOHO SOHO 128.97 287 *i* PKPdf **PKPdf 04 05 30.8 -0.8**
SNR=10

UOSS	Minazif	129.33	288	*i* PKPdf	PKPdf	04 05 31.3	-1.0
	SNR=7.5						
HATD	Hatta, Dubai	129.39	287	*i* PKPdf	PKPdf	04 05 31.9	-0.5
	SNR=7.5						
MSFE	Esma-Masafi	129.40	288	*i* PKPdf	PKPdf	04 05 32.0	-0.5
	SNR=11						
ASHO	Ashiyiah	129.45	287	PKPdf	PKPdf	04 05 32.1	-0.5
ALNE	Al Ain	129.68	286	*i* PKPdf	PKPdf	04 05 31.9	-1.1
	SNR=7.0						
NAZ	Nazwa, Dubai	129.82	288	PKiKP	PKPdf	04 05 33.3	+0.1
FAQ	Al Faqa, Dubai	129.87	287	PKPdf	PKPdf	04 05 32.7	-0.7
ASUD	Al Ashush, Dub	130.10	287	*i* PKPdf	PKPdf	04 05 31.3	-2.5
	SNR=6.1						
BELG	Belogornoye	130.73	325	PKP	PKPdf	04 05 33.5	-0.6
	comp=Z,21nm,0.8s,baz=65,slow=1.1,SNR=12						
BELG				SKPbc	SKPbc	04 08 05.1	0.0
	comp=Z,36nm,0.8s,baz=82,slow=2.1,SNR=16						
MZR	Muzera	131.68	285	PKiKP	PKPdf	04 05 37.7	+0.9
FINES	FINESS Array B	133.60	344	PKhKP	PKPpre	04 05 30.7	
	comp=Z,3.3nm,0.8s,baz=48,slow=2.8,SNR=7.3						
FINES				PKP	PKPdf	04 05 38.2	-1.0
	comp=Z,4.4nm,0.7s,baz=93,slow=2.8,SNR=7.6						
FINES				PP	PP	04 08 15.8	-0.3
	comp=Z,9.2nm,1.0s,baz=31,slow=8.9,SNR=8.4						
FINES				SKP		04 08 19.9	
	comp=Z,6.9nm,0.9s,baz=46,slow=4.0,SNR=5.7						
NB2	NORSAR Array	136.76	353	PKP	P	04 05 35.5	-11
	comp=Z,2.6nm,0.5s,baz=16,slow=3.8						
NOA	NORSAR Array B	136.76	353	PKhKP	PKPpre	04 05 34.8	
	comp=Z,1.9nm,0.8s,baz=15,slow=4.8,SNR=6.1						
NOA				PKP	PKPdf	04 05 44.4	-0.8
	comp=Z,1.8nm,0.7s,baz=14,slow=4.1,SNR=5.8						
HFS	Hagfors	137.32	351	PKhKP	PKPpre	04 05 34.7	
	comp=Z,2.0nm,0.6s,baz=29,slow=3.4,SNR=7.3						
BORU	Boraas	139.86	351	*i* P	P	04 05 42.7	-0.2
ONAU	Onsala	140.22	352	*i* P	P	04 05 43.6	-3.2
FABU	Falkenberg	140.48	351	*i* P	P	04 05 45.4	+1.6
BLEU	Blekinge	140.59	348	*i* P	PKPpre	04 05 45.0	
DEL	Delary	140.80	349	*i* P	P	04 05 45.4	+6.2
AKASG	Malin Array Be	141.00	332	PKhKP	PKPpre	04 05 46.7	
	comp=Z,3.3nm,0.4s,baz=44,slow=4.2,SNR=58						
AKASG				SKPbc	SKPbc	04 08 35.8	-0.6
	comp=Z,1.8nm,0.7s,baz=40,slow=3.9,SNR=5.2						
KIEV	Kiev	141.01	332	⇑P	PKPpre	04 05 47.5	
KIEV	Kiev	141.01	332	PKPdf	PKPpre	04 05 46.3	
LAWE	Loch Awe, Argy	141.67	7	*e*P	PKPpre	04 05 49.1	
LUNU	Lund	141.67	349	*e*P	P	04 05 49.5	+7.5
BSD	Bornholm Skovb	141.89	348	*i* P	PKPpre	04 05 49.8	
EKA	Eskdalemuir Ar	142.79	5	PKhKP	PKPpre	04 05 52.8	
	comp=Z,2.1nm,0.5s,baz=328,slow=2.6,SNR=17						
TOKA	Tokat	143.02	314	PKPdf	PKPdf	04 05 55.8	-1.4
GKP	Gorka Klasztor	143.07	345	*e*PKP	PKPab	04 05 54.2	-0.3
GAL1	Galloway	143.11	6	*e*P	PKPab	04 05 53.7	-0.9
DIKM	Dikmen	143.22	316	⇑P	PKPbc	04 05 57.0	+1.1
SORM	Soroca	143.23	330	⇑P	PKPab	04 05 55.0	-0.3
BEL	Belsk	143.33	340	*e*PKP	PKPab	04 05 56.1	+0.6
EDMD	Edmundbyers	143.38	4	*e*P	PKPab	04 05 54.4	-1.2
PURM	Purcari	143.58	327	⇑P	PKPab	04 05 56.8	+0.1
IOMK	Kirk Michael	143.72	6	*e*P	PKPab	04 05 55.8	-1.2
ILTH	Belurgan, Co L	143.74	8	*e*P	PKPab	04 05 56.0	-1.0
WIM	Isle of Man	143.82	7	*e*P	PKPbc	04 05 56.2	-1.1
MILM	Milestii Mici	143.85	328	⇑P	PKPbc	04 05 57.3	-0.3
HPK	Haverah Park	144.27	4	*e*P	PKPbc	04 05 58.2	-0.4
KWP	Kalwaria Pacla	144.50	337	*e*PKP	PKPdf	04 05 59.4	0.0
WPS	Cemaes, Angles	144.58	7	*e*P	PKPdf	04 05 58.9	-0.4
WLF1	Llynfaes	144.70	7	*e*P	PKPdf	04 05 59.3	-0.2
LBWR	Ladybower, Pea	144.82	4	*e*P	PKPdf	04 05 58.5	-1.3
VLDR	Vladesti	144.96	327	⇑P	PKPbc	04 06 01.8	+0.7
TLCR		145.02	326	⇑P	PKPdf	04 06 01.2	+0.9
OJC	Ojcow	145.04	340	*e*PKP	PKPbc	04 06 00.9	+0.6
BURAR	Bucovina Array	145.05	332	⇑P	PKPbc	04 06 01.9	+0.5
SCTR	Scanteiesti	145.12	327	⇑P	PKPbc	04 06 01.9	+0.4
GHRR		145.15	328	⇑P	PKPab	04 06 02.9	+0.1
TESR	Tescani	145.20	330	⇑P	PKPbc	04 06 02.1	+0.3
LLW	Llanuwychllyn	145.21	6	*e*P	PKPdf	04 06 00.8	+0.4
FOEL	Foel Wylfa	145.21	5	*e*P	PKPdf	04 06 00.8	+0.3
STHS	Stebnicka Huta	145.22	338	*e*PKP	PKPdf	04 06 01.3	+0.6
BRTR	Keskin Array B	145.23	315	PKPbc	PKPdf	04 06 02.0	+0.8
BRTR	Keskin Array B	145.23	315	PKPbc	PKPdf	04 06 01.6	+0.5
	comp=Z,18nm,0.9s,baz=135,slow=4.4,SNR=73						
BRTR				SKPbc	SKPbc	04 08 47.4	+0.3
	comp=Z,3.3nm,0.8s,baz=115,slow=2.0,SNR=7.8						
KOLS	Kolonicke sedl	145.24	336	*e*PKP	PKPbc	04 06 02.2	+0.4
KIRS	Kirsehir-Merke	145.32	314	⇑P	PKPdf	04 06 01.4	+0.2
IZVR	Izvoarele	145.33	327	⇑P	PKPab	04 06 03.4	0.0
COSR	Cosmesti PH	145.34	328	⇓P	PKPbc	04 06 03.0	+0.9
TUDR		145.34	328	⇑P	PKPab	04 06 04.0	+0.5
CFR	Carcaliu	145.38	327	⇑P	PKPbc	04 06 02.3	0.0
PANC	Panciu	145.41	328	⇑P	PKPbc	04 06 02.8	+0.4
TPGR	Topolog	145.45	326	⇑P	PKPbc	04 06 03.1	+0.5
ONER	Baraj Valea Uz	145.45	330	⇓P	PKPbc	04 06 03.2	+0.7
CWF	Charnwood Fore	145.50	3	*e*P	PKPdf	04 06 01.5	+0.5
ODBI	Odobesti	145.53	328	⇑P	PKPbc	04 06 02.9	+0.2
WACR	West Acre	145.59	1	*e*P	PKPdf	04 06 01.8	+0.7
HLM1	Long Mynd	145.61	5	*e*P	PKPdf	04 06 01.4	+0.2
VRI	Vrincioaia	145.62	329	⇑P	PKPbc	04 06 03.1	+0.1
PLOR	Plostina	145.67	329	⇑P	PKPbc	04 06 03.2	0.0
TIRR	Tirgusor	145.71	325	⇓P	PKPdf	04 06 03.0	+1.4
ANTO	Ankara	145.73	315		PKPdf	04 06 03.2	+1.3
ANTO	Ankara	145.73	315	⇑P	PKPbc	04 06 04.0	+0.4
BMR	Baia Mare	145.75	334	⇓P	PKPbc	04 06 03.4	+0.1
OSTC	Ostas	145.81	344	⇑*e*PKP	PKPbc	04 06 03.9	+0.5
HARR	Harsova	145.82	326	⇓P	PKPbc	04 06 04.2	+0.6
CHVC	Chvalec	145.82	344	⇑*e*PKP	PKPbc	04 06 03.8	+0.4
ARCR	ARCALIA	145.84	332	⇑P	PKPbc	04 06 04.1	+0.6
TLBR	Topalu	145.85	326	⇑P	PKPbc	04 06 04.1	+0.4
MFTR	Murfatlar	145.89	325	⇑P	PKPbc	04 06 04.1	+0.3
OKC	Ostrava-Krasne	145.90	341	⇑*e*PKP	PKPbc	04 06 03.8	+0.2
COVR	Voineasa-Covas	145.90	329	⇑P	PKPbc	04 06 03.7	-0.1
UPC	Upice	145.90	344	⇑*e*PKP	PKPbc	04 06 04.1	+0.5
OZUR		145.92	330	⇓P	PKPbc	04 06 04.2	+0.3
STEB	Steborice	145.92	342	⇑*e*PKP	PKPbc	04 06 03.9	+0.2
STEB				*e*PKPAB	PKPab	04 06 03.6	+0.6
DPC	Dobruska-Polom	145.96	343	⇑*e*PKP	PKPbc	04 06 04.5	+0.6
RSBS	Rosebush, Pemb	145.97	7	*e*P	PKPdf	04 06 03.1	+1.3
MANR	Mangalia	146.04	324	⇑P	PKPbc	04 06 04.8	+0.7
KRLC	Kraliky	146.09	343	⇑*e*PKP	PKPbc	04 06 04.5	+0.3
MCH1	Michaelchurch	146.12	5	*e*P	PKPdf	04 06 02.8	+0.8
MORC	Moravsky Berou	146.13	342	PKPbc	PKPbc	04 06 04.5	+0.2
MORC	Moravsky Berou	146.13	342	⇑P	PKPbc	04 06 04.7	+0.4
NEHR	Nehoiu	146.15	329	⇑P	PKPbc	04 06 04.4	-0.1
AMRR	Amara	146.19	327	⇑P	PKPbc	04 06 05.3	+0.7
DOPR	Dopca	146.20	330	⇓P	PKPbc	04 06 05.3	+0.6
ELMS	Elmsett, Ipswi	146.23	1	*e*P	PKPbc	04 06 04.0	-0.5
PVCC	Panska Ves	146.25	345	⇑*e*PKP	PKPbc	04 06 05.0	+0.4
MLR	Muntele Rosu	146.28	329	PKPbc	PKPbc	04 06 04.6	-0.4
	comp=Z,20nm,0.8s,baz=320,slow=3.1,SNR=18						
MLR	Muntele Rosu	146.28	329	⇓P	PKPbc	04 06 04.7	-0.3
MONM	Monmouth	146.29	5	*e*P	PKPdf	04 06 04.0	+1.7
RICC	Richard	146.34	346	⇑*e*PKP	PKPbc	04 06 05.4	+0.6
STRD	Stroud	146.40	5	*e*P	PKPdf	04 06 04.0	+1.5
MAUC	Maruska	146.41	341	⇑*e*PKP	PKPbc	04 06 05.8	+0.7
HSKC	Hora Svate Kat	146.44	347	⇑*e*PKP	PKPbc	04 06 05.2	+0.1
LEHL	Lehliu	146.55	327	⇓P	PKPbc	04 06 06.1	+0.5
MMAI	Mount Meron Ar	146.57	303	PKPbc	PKPbc	04 06 06.5	+0.3
	comp=Z,17nm,0.5s,baz=67,slow=6.4,SNR=37						
SWN1	Swindon	146.69	4	*e*P	PKPbc	04 06 05.4	-0.3
PRA	Prague	146.71	345	⇑*e*PKP	PKPbc	04 06 06.2	+0.4
VOIR		146.75	330	⇓P	PKPbc	04 06 05.9	-0.3
PRU	Pruhonice	146.76	345	⇑*e*PKP	PKPbc	04 06 05.9	-0.1
GOPC	GO Pecny, Ondr	146.76	345	⇑*e*PKP	PKPbc	04 06 06.3	+0.3
VRAC	Vranov	146.83	342	*e*PKP	PKPbc	04 06 06.1	-0.1
VRAC	Vranov	146.83	342	⇓P	PKPbc	04 06 06.5	+0.3
VYHS	Vyhne	146.84	339	*e*PKP	PKPbc	04 06 06.7	+0.4
VYHS				*e*		04 06 09.9	
JAVC	Velka Javorina	146.91	341	*e*PKP	PKPbc	04 06 07.3	+0.8
BORR	Bors	146.92	335	⇓P	PKiKP	04 06 08.1	-0.3
WOL	Wolverton	146.93	4	*e*P	PKPdf	04 06 05.4	+2.0
PSZ	Piszkesteto	146.97	338	⇑P	PKPbc	04 06 07.0	+0.3
NKC	Novy Kostel	147.00	346	⇑*e*PKP	PKPbc	04 06 06.6	0.0
KRUC	Moravsky	147.11	342	*e*PKP	PKPbc	04 06 06.4	-0.5
TREC	Trest	147.15	344	⇑*e*PKP	PKPdf	04 06 04.1	+0.2
TREC				*e*PKPAB	PKPbc	04 06 07.7	+0.6
ZVC	Zvikov	147.35	345	⇑*e*PKP	PKPbc	04 06 07.8	+0.2
ZVC				*e*PKPAB	PKPab	04 06 11.8	+0.4
HUMR	Humele	147.44	329	⇑P	PKPbc	04 06 07.4	-0.5
MODS	Modra-Piesok	147.46	341	*e*PKP	PKPbc	04 06 08.7	+0.8
MODS				*e*		04 06 12.9	
UCC	Uccle	147.48	357	*d*PKP	PKPbc	04 06 07.4	-0.4
UCC				*d*PKPab	PKiKP	04 06 11.1	+1.7
MEM	Membach	147.56	355	*d*PKP	PKPbc	04 06 07.4	-0.6
BTNL	Ternell	147.57	355	*d*PKP	PKPbc	04 06 07.8	-0.3
SRO	Srobarova	147.61	339	*e*PKP	PKPbc	04 06 08.9	+0.7
SRO				*e*		04 06 13.3	
BSTI	Sart Tilman	147.62	356	*d*PKP	PKPbc	04 06 08.3	+0.2
BSTI				*d*PKPab	PKPab	04 06 11.7	-0.7
GRF	Grafenberg Arr	147.75	349	*e*PKP	PKPbc	04 06 08.7	+0.1
	baz=17,slow=2.2						
GRFO	Grafenberg	147.76	349		PKPbc	04 06 08.7	+0.1
KHC	Kasperske Hory	147.79	346	*e*PKPDF	PKPdf	04 06 04.0	-1.0
KHC				⇑*e*PKP	PKPbc	04 06 09.0	+0.3
KHC				*e*PKPAB	PKPab	04 06 13.0	-0.2
BCLA	Clavier	147.80	356	*d*PKP	PKPbc	04 06 08.3	-0.3
BCLA				*d*PKPab	PKPab	04 06 12.2	-1.0
BHOU	Houvegnez	147.81	355	*d*PKP	PKPbc	04 06 09.0	+0.3
GZR	Gura Zlata	147.84	332	⇑P	PKPbc	04 06 08.6	-0.4
SURR	Surduc	147.84	333	⇓P	PKPbc	04 06 09.2	+0.3
BGES	Gesves	147.85	356	*d*PKPab	PKPab	04 06 12.4	-1.0
CKRC	Cesky Krumlov	147.90	344	⇑*e*PKP	PKPbc	04 06 09.4	+0.4
BMRD	Maredsous	147.95	357	*d*PKP	PKPbc	04 06 08.6	-0.4
BMRD				*d*PKPab	PKPab	04 06 13.1	-0.7
GERES	GERESS Array B	148.02	345		PKPbc	04 06 09.5	+0.1
GERES	GERESS Array B	148.02	345	PKPbc	PKPbc	04 06 09.2	-0.2
	comp=Z,14nm,0.7s,baz=32,slow=3.8,SNR=41						
RCHB	Rochefort	148.07	356	*d*PKP	PKPbc	04 06 09.2	-0.1
RCHB				*d*PKPab	PKPab	04 06 13.6	-0.6
DOU	Dourbes	148.16	357	*d*PKP	PKPbc	04 06 09.2	-0.4
BZS	Buzias	148.17	333	⇑P	PKPbc	04 06 09.7	0.0
CONA	Conrad Observa	148.28	342	*i* PKP	PKPbc	04 06 10.0	-0.1
	comp=Z,12nm,0.7s,SNR=16						
RONA	Rosalia, Austr	148.36	341	*i* PKP	PKPbc	04 06 10.3	+0.1
	comp=Z,28nm,0.8s,SNR=12						
HERR	Herculane	148.40	332	⇑P	PKPbc	04 06 10.2	-0.2
BAND	Balkesir-Ban	148.47	320	⇑P	PKPbc	04 06 10.5	-0.2
WLF	Walferdange	148.48	355	*d*PKP	PKPbc	04 06 10.7	+0.3
BANR	Banloc	148.56	334	⇓P	PKPbc	04 06 11.5	+0.8
MDVR	Moldovita	148.79	332	⇓P	PKPbc	04 06 11.2	-0.2
MOA	Molln	148.80	344	*i* PKP	PKPbc	04 06 11.3	0.0
	comp=Z,23nm,1.2s,SNR=6.2						
VALD	Valchedram	148.82	329	*e*P	PKPbc	04 06 11.6	+0.2
MORH	Mrgy, Hungar	148.86	337	⇓P	PKPbc	04 06 11.2	-0.3
DIM	Dimitrovgrad	148.87	325	*e*P	PKPbc	04 06 11.7	+0.1
MPEP	Malo Peshtene	148.91	328	*e*P	PKPbc	04 06 12.0	+0.3
JSA	Saint Aubin	148.97	5	*e*P	PKPbc	04 06 11.2	-0.4
ARSA	Arzberg	148.99	342	*i* PKP	PKPbc	04 06 11.6	-0.1
	comp=Z,8.9nm,1.1s						
BIOA	Bad Ischl, Aus	149.11	344	*i* PKP	PKPbc	04 06 11.7	-0.3
	comp=Z,14nm,0.9s,SNR=7.9						
FRGS	Fruska Gora	149.29	335	⇓*i* P	PKPbc	04 06 12.3	-0.3
KOGS	Kog	149.49	340	*i* PKPbc	PKPbc	04 06 12.1	-0.8
KOGS				*i* PKPab	PKPab	04 06 19.8	-0.5
BFO	Black Forest	149.55	352		PKPbc	04 06 12.8	-0.3
LESA	Schwarzleotal	149.60	345	*i* PKP	PKPbc	04 06 12.6	-0.7
	comp=Z,20nm,0.9s,SNR=9.9						
SOKA	Soboth	149.66	342	*i* PKP	PKPbc	04 06 12.9	-0.5
	comp=Z,17nm,0.8s,SNR=8.6						
BOVS	Bovan	149.68	331	⇑P	PKPbc	04 06 12.7	-0.8
VTS	Vitosha	149.70	328	*e*P	PKPbc	04 06 13.2	-0.6
KBA	Koelnbreinsper	149.75	344	*i* PKP	PKPbc	04 06 13.0	-0.8
	comp=Z,20nm,1.0s,SNR=11						
TEKS	Tekeris	149.91	334	*e*P	PKPbc	04 06 13.6	-0.4
WATA	Walderalm	149.93	347	*i* PKP	PKPbc	04 06 13.6	-0.5
	comp=Z,20nm,0.7s,SNR=11						
OBKA	Obir	149.95	342	*i* PKP	PKPbc	04 06 13.4	-0.8
	comp=Z,10nm,0.9s						
OBKA	Obir	149.95	342	⇓*i* P	PKPbc	04 06 12.6	-1.6
RETA	Reutte	149.96	348	*i* PKP	PKPbc	04 06 13.8	-0.4
	comp=Z,13nm,0.7s,SNR=6.4						
WTTA	Wattenberg	149.99	347	*i* PKP	PKPbc	04 06 14.2	-0.1
	comp=Z,40nm,0.6s,SNR=21						
MOTA	Moosalm	150.02	347	*i* PKP	PKPbc	04 06 14.0	-0.3
	comp=Z,22nm,0.8s						
MYKA	Terra Mystica	150.09	344	*i* PKP	PKPbc	04 06 13.6	-0.9
	comp=Z,22nm,0.7s,SNR=8.8						
SQTA	Sankt Quirin	150.12	347	*i* PKP	PKPbc	04 06 14.4	-0.1
	comp=Z,26nm,0.7s,SNR=10						
ABTA	Abfaltersbach	150.27	345	*i* PKP	PKPbc	04 06 14.2	-0.7
	comp=Z,39nm,0.7s,SNR=14						
CRES	Cresnjevec Ost	150.29	341	⇓*i* P	PKPbc	04 06 13.2	-1.7
DAVA	Damuels	150.32	349	*i* PKP	PKPbc	04 06 14.9	-0.2
	comp=Z,28nm,1.1s,SNR=12						
LJU	Ljubljana	150.38	342	*i* PKPbc	PKPbc	04 06 14.7	-0.3
FETA	Feichten	150.41	348	*i* PKiKP	PKPbc	04 06 15.3	0.0
	comp=Z,22nm,0.8s,SNR=9.0						
BBLS	Lazići	150.52	334	⇑*i* P	PKPbc	04 06 14.1	-1.4
A051A	Mrakovica	150.52	338	⇓*i* P	PKPbc	04 06 14.1	-1.4
HAPS	Han Pijesak,Bl	150.53	335	⇓*i* P	PKPbc	04 06 15.4	-0.2
BOJS	Bojanci	150.64	341	*i* PKPbc	PKPbc	04 06 15.6	-0.1
BOJS	Bojanci	150.64	341	⇓*i* P	PKPbc	04 06 15.5	-0.1
BLY	Banja Luka	150.65	337	⇓*i* P	PKPbc	04 06 13.3	-2.4
CEY	Cerknica	150.68	342	⇓*i* P	PKPbc	04 06 14.8	-1.0
RUDO	Rudo	150.73	333	*e*P	PKPbc	04 06 15.1	-0.9
SJES	Sjenica	150.76	332	⇓*i* P	PKPbc	04 06 15.4	-0.8
A050A	Klekovaca	151.12	338	⇓*i* P	PKPbc	04 06 15.8	-1.1
BRY	Bratogost	151.67	334	*e*P	PKPbc	04 06 17.2	-1.1
PDG	Podgorica	151.74	332	⇓*i* P	PKPbc	04 06 15.6	-2.6
STON	Ston	152.04	335	*e*P	PKPbc	04 06 16.9	-1.9
HCY	Herceg Novi	152.06	333	*e*P	PKPbc	04 06 16.7	-2.3
CEST	Esterri de Car	155.73	1		PKPab	04 06 47.3	+0.2
ESDC	Sonseca Array	158.07	12	PKPab	PKPab	04 06 56.5	-0.7
ESDC	Sonseca Array	158.07	12	PKPab	PKPab	04 06 56.2	-1.0
	comp=Z,4.7nm,1.0s,baz=350,slow=3.9,SNR=16						
KEST	Kesrn	161.38	341	PKPab	PKPab	04 07 11.6	-0.2
	comp=Z,11nm,0.9s,baz=39,slow=2.1,SNR=8.3						
TORD	Torodi Ar. Bea	174.91	178	PKP	PKPdf	04 06 31.7	-1.5
	comp=Z,1.3nm,1.0s,baz=340,slow=1.9,SNR=5.2						
TORD				PKPab	PKPab	04 08 11.9	0.0
	comp=Z,0.4nm,0.8s,baz=194,slow=4.2,SNR=2.2						

*IDC **15** 03:47:30.2±0.9, 55°.19S×31°.47W, h0km, mb3.9/7, mbtmp3.9/7, MS3.5/13, Error ellipse: s-maj=34.2km s-min=20.6km az=59.0*
*NEIC **15** 03:47:32.8±1.3, 55°.1S±0°.1×31°.6W±0°.1, h10km±2km, mb4.5/13, Error ellipse: s-maj=18.6km s-min=11.2km az=154.0*
ISC 15 03:47:32.1±0.7, 55°.1S±0°.1×31°.6W±0°.1, h10km, n35, σ0§76/26, mb4.2/10, MS3.5/12, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	2.98	285		Pn	03 48 18.9	-0.5
PMSA	Palmer Station	18.68	226	LR	LR	03 57 26.8	
	comp=Z,282nm,19.3s,baz=234,slow=32						
SNAA	Sanae	20.61	154	P	P	03 52 12.5	+1.4
SNAA	Sanae	20.61	154	P	P	03 52 09.9	-1.2
	5.4nm,1.0s,baz=309,slow=15,SNR=6.5						
	5.4nm,1.0s						
MG05	Puerto Natales	24.39	261	P	P	03 52 50.2	0.0
TRQA	Tornquist	26.69	297	P	P	03 53 11.1	-0.1
TRQA				IAmb	IAmb	03 53 30.7	
	comp=Z,9.2nm,1.2s						
AY01	Puyuhuapi	28.21	275	P	P	03 53 24.7	0.0
AY01				IAmb	IAmb	03 53 42.9	
	comp=Z,14nm,1.3s						
PLCA	Paso Flores	29.39	283	P	P	03 53 35.2	-0.1
	comp=Z,1.0nm,0.9s,baz=157,slow=6.8,SNR=5.4						
PLCA				LR	LR	04 05 28.7	
	comp=Z,86nm,18.9s,baz=164,slow=37						
	comp=Z,1.0nm,0.9s						
CPUP	Villa Florida	34.39	316	P	P	03 54 19.3	+0.1
CPUP				IAmb	IAmb	03 54 42.5	
	comp=Z,6.9nm,1.4s						
CPUP	Villa Florida	34.39	316	P	P	03 54 18.3	-1.0
	comp=Z,1.0nm,0.6s,baz=136,slow=6.2,SNR=4.3						
CPUP				LR	LR	04 09 49.7	
	comp=Z,36nm,18.6s,baz=168,slow=39						
	comp=Z,1.0nm,0.6s						
MT09	Talagante	34.67	292	P	P	03 54 21.3	-0.5
MT09				IAmb	IAmb	03 54 34.4	
	comp=Z,24nm,1.4s						
QSPA	South Pole Qui	35.11	180	P	P	03 54 26.3	+0.9
QSPA				IAmb	IAmb	03 54 36.5	
	comp=Z,9.9nm,1.2s						
QSPA	South Pole Qui	35.11	180	P	P	03 54 24.9	-0.4
	comp=Z,0.6nm,0.6s,baz=332,slow=3.7,SNR=5.9						
QSPA				LR	LR	04 07 46.5	
	comp=Z,100nm,18.3s,baz=210,slow=35						
	comp=Z,0.6nm,0.6s						
VA06	Catapilco	35.77	293	P	P	03 54 31.8	+0.7
CO01	Juntas del Tor	37.18	297	P	P	03 54 44.3	+0.8
BDFB	Brasilia	41.42	336	P	P	03 55 19.6	+0.8
	comp=Z,1.7nm,0.7s,baz=122,slow=8.3,SNR=3.6						
	comp=Z,1.7nm,0.7s						
SUR	Sutherland	42.87	80	LR	LR	04 09 24.5	
	comp=Z,34nm,18.9s,baz=193,slow=31						
PTLB	Pontes e Lacer	44.97	321	P	P	03 55 47.8	+0.5
VNDA	Vanda	47.34	184	LR	LR	04 16 06.3	
	comp=Z,56nm,18.1s,baz=141,slow=36						
LPAZ	La Paz	47.85	309	P	P	03 56 11.6	+1.0
LPAZ				IAmb	IAmb	03 56 33.2	
	comp=Z,3.9nm,1.0s						
LPAZ	La Paz	47.85	309	P	P	03 56 11.7	+1.0
	comp=Z,2.0nm,0.4s,baz=102,slow=5.0,SNR=6.6						
LPAZ				LR	LR	04 17 45.9	
	comp=Z,29nm,20.2s,baz=191,slow=38						
	comp=Z,2.0nm,0.4s						
RCBR	Riachuelo	49.30	354	LR	LR	04 14 10.4	
	comp=Z,15nm,19.1s,baz=236,slow=32						
LBTB	Lobatse	51.19	78	LR	LR	04 15 34.3	
	comp=Z,30nm,18.2s,baz=192,slow=33						
MACA	Manacapuru-AM	56.93	325	P	P	03 57 16.4	-1.0
LSZ	Lusaka	60.43	73	LR	LR	04 21 34.6	
	comp=Z,56nm,18.4s,baz=196,slow=34						
BOAV	Boa Vista	62.10	327	P	P	03 57 52.4	-0.7
BOAV				IAmb	IAmb	03 58 18.0	
	comp=Z,5.7nm,1.2s						
DBIC	Dimbokro	65.48	29	LR	LR	04 20 07.7	
	comp=Z,72nm,19.4s,baz=155,slow=30						
TORD	Torodi Ar. Bea	73.58	34	P	P	03 59 05.4	+0.1
TORD	Torodi Ar. Bea	73.58	34	P	P	03 59 05.2	-0.1
	comp=Z,0.7nm,0.7s,baz=205,slow=5.8,SNR=6.8						
	comp=Z,0.7nm,0.7s						
KEST	Kesra	97.07	32	LR	LR	04 40 46.3	
	comp=Z,68nm,19.1s,baz=288,slow=33						
ESDC	Sonseca Array	97.35	21	LR	LR	04 43 43.9	
	comp=Z,43nm,18.5s,baz=259,slow=35						
YKA	Yellowknife Ar

ULHL	Ulahol	1.66	331	⇓iP		Pn	03 58 08.2	-0.1
ULHL				⇓iS		Sb	03 58 31.5	+0.8
PRZ	Przheval'sk	1.86	25	⇑eP		Pn	03 58 12.2	+1.1
PRZ				⇑eS		Sb	03 58 37.9	+1.3
BOOM	Boomskoye usch	1.98	329	⇓eP		Pn	03 58 13.0	+0.3
BOOM				⇓iS		Sb	03 58 39.7	-0.3
ANVS	Anan'yevo	2.00	7	⇑iP		Pn	03 58 13.5	+0.6
ANVS				⇑iS		Sb	03 58 40.3	-0.1
TNSS	Tian-Shan comp=E,101nm,0.4s	2.25	353	Pg		Pb	03 58 20.9	+0.7
TNSS				Lg		Lg	03 58 54.0	
TNSS	Tian-Shan comp=E,138nm,0.7s	2.25	353	eP		Pb	03 58 18.8	-1.4
TNSS				eS		Sg	03 58 54.2	+2.2
MDOK	Medeo comp=E,36nm,0.6s	2.37	355	Pg		Pb	03 58 21.6	-0.4
MDOK				⇑Pg		Pg	03 58 23.7	-1.2
MDOK	comp=E,91nm,0.9s			Lg		Lg	03 58 54.8	
MDOK	comp=E,103nm,0.8s			⇑Lg		Lg	03 58 57.5	
MDOK	comp=E,188nm,0.6s			eP		Pb	03 58 20.3	-1.7
MDOK	comp=E,408nm,1.0s			eS		Sg	03 58 56.8	+1.1
SATY	Saty comp=E,232nm,0.3s	2.40	19	Pg		Pb	03 58 22.6	+0.2
SATY				Lg		Lg	03 58 56.5	
SATY	Saty comp=E,35nm,0.5s	2.40	19	eP		Pg	03 58 40.3	+15
SATY				eS		Sg	03 59 30.9	+34
MTBS	Maitube comp=E,7.0nm,0.2s	2.42	344	Pg		Pb	03 58 23.4	+0.5
MTBS				Lg		Lg	03 58 57.8	
MTBS	Maitube comp=E,19nm,0.1s	2.42	344	eP		Pb	03 58 20.9	-1.9
MTBS				eS		Sg	03 58 57.9	+0.5
AAA	Alma-Ata comp=E,85nm,0.3s	2.43	353	Pg		Pg	03 58 24.5	-1.5
AAA				Lg		Lg	03 58 59.6	
AAA	Alma-Ata comp=E,136nm,0.3s	2.43	353	eP		Pb	03 58 22.5	-0.4
AAA				eS		Sg	03 59 00.2	+2.7
KNDC	Almaty comp=E,24nm,0.1s	2.43	354	⇑Pg		Pg	03 58 26.0	-0.1
KNDC				⇑Lg		Lg	03 59 00.6	
KOTS	Kotyrbulak comp=E,190nm,0.7s	2.44	356	Pg		Pb	03 58 24.3	+1.2
KOTS				Lg		Lg	03 59 00.1	
KOTS	Kotyrbulak comp=E,41nm,0.3s	2.44	356	eP		Pb	03 58 22.0	-1.1
KOTS				eS		Sg	03 58 59.6	+1.8
KST	Kastek comp=E,325nm,0.3s	2.46	336	Pg		Pb	03 58 24.6	+1.1
KST				Lg		Lg	03 58 60.0	
KST	Kastek comp=E,13nm,0.3s	2.46	336	eP		Pb	03 58 22.7	-0.8
KST				eS		Sg	03 59 00.7	+2.1
TKM2	Tokmak 2 SNR=16	2.48	329	P		Pn	03 58 21.8	+2.2
TKM2				⇓Pg		Pb	03 58 24.9	+0.9
TKM2	Tokmak 2 comp=E,34nm,0.5s	2.48	329	⇓Lg		Lg	03 59 01.6	
TKM2	Tokmak 2 comp=E,95nm,0.4s	2.48	329	eP		Pn	03 58 20.1	+0.5
TKM2				eS		Sn	03 58 51.8	+2.0
ARLS	Aral	2.50	296	⇓iP		Pn	03 58 19.6	-0.2
ARLS				⇓iS		Sn	03 58 51.1	+0.9
ZHN	Zhinishke comp=E,20nm,0.2s	2.50	19	Pg		Pb	03 58 23.3	-1.0
ZHN				Lg		Lg	03 58 58.0	
ZHN	Zhinishke comp=E,104nm,0.4s	2.50	19	eP		Pb	03 58 22.6	-1.6
ZHN				eS		Sg	03 59 00.7	+0.8
UCH	Uchtor comp=E,4.6nm,0.1s SNR=10	2.55	305	P		Pn	03 58 22.1	+1.4
UCH	Uchtor comp=E,166nm,0.2s	2.55	305	⇓iP		Pn	03 58 20.8	0.0
UCH				⇓iS		Sn	03 58 53.1	+1.3
KBK	Karagaybulak SNR=9.6	2.57	317	P		Pb	03 58 23.3	-2.2
KBK	Karagaybulak comp=E,40nm,0.9s	2.57	317	⇑iP		Pn	03 58 21.2	+0.4
KBK				⇑iS		Sn	03 58 53.6	+1.6
UZB	Uzynbulak comp=E,51nm,0.5s	2.66	28	Pg		Pb	03 58 26.8	-0.2
UZB				Lg		Lg	03 59 04.0	
UZB	Uzynbulak comp=E,73nm,0.6s	2.66	28	eP		Pb	03 58 24.6	-2.4
UZB				eS		Sg	03 59 04.0	-1.0
SALK	Salom-Alik comp=E,62nm,0.4s	2.67	273	⇑iP		Pn	03 58 21.8	-0.3
SALK				⇑iS		Sn	03 58 54.6	+0.4
DGS	Degeres comp=E,52nm,0.5s	2.70	335	Pg		Pb	03 58 29.0	+1.4
DGS				Lg		Lg	03 59 07.3	
DGS	comp=E,142nm,0.7s							
KURS	Kuram comp=E,40nm,0.9s	2.76	13	Pg		Pb	03 58 29.5	+1.0
KURS				Lg		Lg	03 59 08.3	
KURS	comp=E,78nm,0.9s							
AAK	Ala-Archa comp=E,74nm,20.3s,baz=216,slow=38	2.81	312	LR		LR	03 59 46.0	
AAK	Ala-Archa SNR=17	2.81	312	P		Pn	03 58 25.9	+1.9
AAK	Ala-Archa	2.81	312	⇑iP		Pn	03 58 24.2	+0.2
AAK				⇑iS		Sn	03 58 59.0	+1.3
SHLS	Shalkode comp=E,29nm,0.5s	2.84	33	Pg		Pg	03 58 32.6	-1.3
SHLS				Lg		Lg	03 59 13.3	
SHLS	Shalkode comp=E,107nm,0.5s	2.84	33	eP		Pb	03 58 30.2	+0.3
SHLS				eS		Sg	03 59 13.7	+2.9
KPKS	Kokpek comp=E,9.0nm,0.2s	2.85	20	Pg		Pb	03 58 30.6	+0.5
KPKS				Lg		Lg	03 59 10.2	
KPKS	Kokpek comp=E,22nm,0.3s	2.85	20	eP		Pn	03 58 26.9	+2.3
KPKS				eS		Sb	03 59 07.8	+3.1
KPKS	Kokpek comp=E,178nm,0.5s	2.85	20	eP		Pb	03 58 28.1	-2.0
KPKS				eS		Sg	03 59 10.0	-1.0
FRU1	Bishkek comp=E,12nm,0.2s	2.85	316	⇑iP		Pn	03 58 25.1	+0.6
FRU1				⇑iS		Sn	03 59 00.5	+1.9
KTBS	Karatobe comp=E,178nm,0.5s	2.95	351	Pg		Pb	03 58 33.7	+1.9
KTBS				Lg		Lg	03 59 15.5	
KTBS	comp=E,100nm,0.5s							
PDGK	Podgornoye comp=E,263nm,0.7s	2.99	32	⇑Pg		Pb	03 58 31.8	-0.8
PDGK				⇓Lg		Lg	03 59 13.8	
PDGK	comp=E,24nm,0.5s							
SFK	Sufi-Kurgan comp=E,113nm,0.7s	3.03	256	⇓iP		Pn	03 58 26.5	-0.6
SFK				⇓iS		Sn	03 59 02.9	-0.4
AML	Almayashu SNR=13	3.04	297	P		Pn	03 58 29.1	+1.7
AML	Almayashu	3.04	297	⇓iP		Pn	03 58 27.4	0.0
AML				⇓iS		Sn	03 59 04.8	+1.0
KRBS	Karabastau comp=E,32nm,0.5s	3.14	338	Pg		Pb	03 58 36.9	+1.8
KRBS				Lg		Lg	03 59 21.0	
KRBS	comp=E,104nm,0.5s							
KUU	Kurty comp=E,34nm,0.3s	3.18	347	Pg		Pg	03 58 41.1	+0.7
KUU				Lg		Lg	03 59 28.7	
KUU	comp=E,107nm,0.3s							
EKS2	Erkin-Say	3.25	306	P		Sg	03 59 24.1	+0.4
	SNR=5.1							
SGDS	Sogindy comp=E,14nm,0.7s	3.33	324	Pg		Pb	03 58 39.1	+0.9
SGDS				Lg		Lg	03 59 25.7	
SGDS	comp=E,92nm,0.7s							
ARSB	Arslanbob	3.33	280	⇑iP		Pn	03 58 31.0	-0.2
ARSB				⇑iS		Sn	03 59 10.7	+0.1
BLB	Baldybastay comp=E,120nm,0.3s	3.40	14	Pg		Pb	03 58 40.6	+1.0
BLB				Lg		Lg	03 59 27.1	
BLB	comp=E,91nm,0.4s							
ARXS	Arharly comp=E,17nm,0.5s	3.43	6	Pg		Pb	03 58 40.7	+0.7
ARXS				Lg		Lg	03 59 27.4	
ARXS	comp=E,58nm,0.4s							
OHH	Osh	3.47	267	⇑iP		Pn	03 58 32.6	-0.5
OHH				⇑iS		Sn	03 59 13.6	-0.3
MRKS	Merke comp=E,10nm,0.4s	3.63	304	Pg		Pb	03 58 44.7	+1.2
MRKS				Lg		Lg	03 59 34.4	
MRKS	comp=E,50nm,0.4s							
MRKS	Merke comp=E,3.5nm,0.3s	3.63	304	eP		Pb	03 58 41.5	-1.9
MRKS				eS		Sg	03 59 33.2	-2.9
MRKS	comp=E,50nm,0.4s							
DJR	Jarkent comp=E,13nm,0.5s	3.97	26	Pg		Pb	03 58 50.1	+0.9
DJR				Lg		Lg	03 59 43.5	
DJR	comp=E,72nm,0.4s							
DJR	Jarkent comp=E,1.8nm,0.2s	3.97	26	eP		Pb	03 58 49.2	0.0
DJR				eS		Sg	03 59 46.1	-0.8
DJR	comp=E,39nm,0.3s							
MNAS	Manas	3.99	297	⇑iP		Pn	03 58 40.4	+0.1
MNAS				⇑iS		Sn	03 59 26.9	0.0
ARK	Arkit	4.17	286	⇓iP		Pn	03 58 42.7	0.0
ARK				⇓iS		Sn	03 59 30.9	-0.3
TDK	Taldyqorghan comp=E,65nm,0.4s	4.27	10	Pg		Pb	03 58 53.2	-1.1
TDK				Lg		Lg	03 59 49.4	
TDK	comp=E,0.3nm,0.2s							
KAPS	Kapalarasan comp=E,5.1nm,0.4s	4.72	18	Pg		Pb	03 59 03.2	+1.3
KAPS				Lg		Lg	04 00 06.2	
KAPS	comp=E,11nm,0.3s							
TRKS	Terek-Say	4.73	281	⇓iP		Pn	03 58 49.6	-0.9
TRKS				⇓iS		Sn	03 59 43.5	-1.7
BTLS	Baital comp=E,16nm,1.2s	4.88	331	Pg		Pb	03 59 07.3	+2.7
BTLS				Lg		Lg	04 00 12.9	
BTLS	comp=E,20nm,0.6s							
BTLS	Baital comp=E,2.0nm,0.1s	4.88	331	eP		Pb	03 59 07.6	+3.0
BTLS				eS		Sg	04 00 18.0	+2.1
BTLS	comp=E,13nm,0.4s							
KK31	Karatay Array comp=E,1.6nm,0.4s,baz=125,slow=15,SNR=11	5.58	297	⇑Pg		Pb	03 59 18.7	+2.1
KK31				⇑Lg		Lg	04 00 34.7	
KK31	comp=E,6.8nm,0.5s,baz=118,slow=31,SNR=12							
KKAR	Karatay Array	5.58	297	⇑iP		Pn	03 59 02.3	+0.3
KKAR				⇑iS		Sn	04 00 04.6	-1.3
BRLS	Borolday comp=E,2.5nm,0.7s	6.02	294	Pg		Pb	03 59 24.0	0.0
BRLS				Lg		Lg	04 00 44.0	
BRLS	comp=E,7.5nm,0.6s							
BRLS	Borolday comp=E,2.1nm,0.3s	6.02	294	eP		Pb	03 59 26.5	+2.5
BRLS				eS		Sg	04 00 50.4	-2.2
BRLS	comp=E,8.2nm,0.3s							
MK31	Makanchi Array comp=E,0.3nm,0.5s,baz=201,slow=16,SNR=10	6.98	29	⇓Pn		Pn	03 59 20.7	-0.5
MK31				⇑Pg		Pb	03 59 44.1	+3.6
MK31	comp=E,0.7nm,0.5s,baz=221,slow=10,SNR=3.5							
MK31				⇓Sn		Sn	04 00 41.1	+0.7
MK31	comp=E,0.9nm,0.5s,baz=206,slow=23,SNR=4.3							
MK31				⇓Lg		Lg	04 01 14.0	
MK31	comp=E,4.1nm,0.7s,baz=212,slow=27,SNR=4.5							
MKAR	Makanchi Array comp=E,0.2nm,0.3s,baz=202,slow=16,SNR=10	6.98	29	Pn		Pn	03 59 19.5	-1.7
MKAR				Sn		Sn	04 00 41.8	+1.4
MKAR	comp=E,0.5nm,0.3s,baz=204,slow=23,SNR=5.1							
MKAR				Lg		Lg	04 01 19.1	
MKAR	comp=E,0.5nm,0.3s,baz=212,slow=25,SNR=7.0							
MKAR	comp=E,0.2nm,0.4s							
OTUK	Ortayu comp=E,35nm,0.9s	8.25	336	⇑Lg		Lg	04 01 59.9	
KURBB	Kurchatov Arra comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=4.5	9.86	4	Pn		Pn	03 59 60.0	-0.6
KURBB				Lg		Lg	04 02 53.5	
KURBB	comp=E,0.1nm,0.3s,baz=190,slow=31,SNR=7.9							
KURBB	comp=E,0.6nm,0.3s							
KURK	Kurchatov comp=E,15nm,1.2s	9.96	5	⇓Lg		Lg	04 02 54.0	
BVAR	Borovoye Array baz=143,slow=13,SNR=1.7	13.11	341	Pn		Pn	04 00 43.7	-1.3
BVAR				Lg		Lg	04 04 34.1	
BVAR	baz=92,slow=29,SNR=6.2							
BVAR	comp=E,0.4nm,0.5s							
AKTO	Aktyubinsk comp=E,0.1nm,0.3s,baz=121,slow=12,SNR=1.6	16.55	312	P		P	04 01 34.1	+0.6
AKTO	comp=E,0.8nm,0.6s							
FINES	FINESS Array B comp=E,1.4nm,0.8s,baz=100,slow=8.4,SNR=4.7	36.95	321	P		P	04 04 45.6	-2.1
FINES	comp=E,1.4nm,0.8s							
TORD	Torodi Ar. Bea comp=E,0.7nm,0.6s,baz=40,slow=6.1,SNR=12	70.70	271	P		P	04 08 49.6	-5.4
TORD	comp=E,0.7nm,0.6s							

KOLA 15 04:04:30.2, 67°.68N×33°.72E, h0km, ML1.4, Error ellipse: s-maj=2.9km s-min=1.4km az=130.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	Apatity	0.16	228	P	Pg	04 04 33.3	0.0
APA				S	Sg	04 04 35.6	+0.2
APA0	Apatity Array	0.29	256	P	Pg	04 04 35.5	-0.2
APA0				S	Sg	04 04 39.2	-0.2
LVZ	Lovozero	0.42	58	P	Pg	04 04 37.2	-1.0
LVZ				S	Sg	04 04 43.7	+0.1
KVDA	Kovda	1.04	199	P	Pg	04 04 48.9	-1.3
KVDA				S	Sg	04 05 02.8	-0.9
TERR	Teriberka	1.62	18	S	Sn	04 05 20.2	-1.2
VADS	Vadso	2.92	329	S	Sn	04 05 52.5	-1.0
ARCES	ARCESS Array B 8.6nm,0.8s,baz=81,slow=1.0,SNR=28	3.54	306	PKP	Pn	04 05 25.4	-1.0
ARCES	ARCESS Array B	3.54	306	P	Pn	04 05 25.3	-1.1
ARCES				S	Sn	04 06 07.2	-1.6

DJA 15 04:08:54.9±1.4, 9°.5±4°.5, 11°.3E±°, h26km±14km, M4.0/13, mb5.3/3, MLv3.3/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	1.04	35	P	Pb	04 09 14.1	-0.2
GMJI				S	Sb	04 09 26.9	-0.6
JAGI	Jajag, Banyuwa	1.45	63	P	Pn	04 09 20.4	+0.9
JAGI				S	Sn	04 09 38.2	+0.5
PCJI	Pacitan	1.89	299	P	Pn	04 09 25.2	-0.3
SRBI	Singaraja	2.57	66	P	Pn	04 09 34.9	+0.1
UGM	Wanagama	2.59	298	P	Pn	04 09 35.3	+0.1
TWSI	Taliwang, Sumb	4.01	85	P	Pn	04 09 54.6	-0.1
KPJI	Karang Pucung	4.26	294	P	Pn	04 09 58.8	+0.7
CMJI	Cimerak	4.55	287	P	Pn	04 10 01.6	-0.5
PLAI	Plampang	4.89	87	P	Pn	04 10 06.9	+0.1
TNG	Tangerang 542nm,0.4s	6.81	295	P	Pn	04 10 32.2	-0.9
TNG				P	Pn	04 10 32.2	-0.9

UPA 15 04:14:50.8±2.2, 6°.74N×77°.12W, h51km±39km, MD3.6
RSNC 15 04:14:52.0±0.0, 7°.N±1°.×7°.7W±°., h22km±2km, M1.7, ML1.5
ISC 15 04:14:47.9±1.7, 6°.85N±0°.09×77°.12W±0°.04, h9km±18km, n13, σ1°.04/21, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.74	293	P	Pn	04 15 05.4	+0.8
PTAC				S	Sn	04 15 16.7	+0.6
PTAC	Punta Ardita,	0.74	293	i P	Pn	04 15 05.6	+1.0
PTAC				i S	Sn	04 15 16.8	+0.8
DBBC	Dabeiba	0.92	80	P	Pn	04 15 07.5	+0.3
DBBC				S	Sn	04 15 19.6	-1.0
APAC	Apartado, Choc	1.17	27	P	Pb	04 15 11.1	+0.7
APAC				S	Sb	04 15 25.4	-0.3
CBOC	Ciudad Bolivar	1.48	132	P	Pg	04 15 16.7	+0.4
CBOC				S	Sg	04 15 35.6	0.0
UREC	San Jos de Ur	1.81	60	P	Pb	04 15 20.9	-0.5
UREC				S	Sb	04 15 44.5	+0.3
UREC	San Jos de Ur	1.81	60	i P	Pb	04 15 21.1	-0.2
UREC				i S	Sn	04 15 41.8	-0.8
UPD2	Meteti	1.90	332	i P	Pb	04 15 22.7	-0.1
UPD2				i S	Sn	04 15 45.5	+0.8
CNTA3	Canitas, Panam	2.93	323	eP	Pb	04 15 37.6	-2.8
TABO3	Taboga, Panama	3.08	309	eP	Pn	04 15 37.7	+0.8
UPA	Univ. de Panam	3.19	312	eP	Pn	04 15 40.0	+1.7
AZU	Azuero	3.26	287	eP	Pn	04 15 39.0	-0.3
BCIP	Isla Barro Col	3.54	311	eP	Pn	04 15 41.9	-1.2

KRSC 15 04:18:20.9±2.3, 48°.28N×155°.16E, h84km±33km, Ml4.1
MOS 15 04:18:20.9±1.3, 48°.65N×153°.80E, h106km, mb3.7/1, Error ellipse: s-maj=36.8km s-min=7.3km az=67.8
SKHL 15 04:18:23.2±0.6, 48°.80N×153°.90E, h109km±9km, mb4.5/2, msha5.2/2
IDC 15 04:18:24.6±10.0, 48°.84N×153°.76E, h116km±64km, mb3.1/4, mbtmp3.5/5, Error ellipse: s-maj=125.5km s-min=30.3km az=0.0
ISC 15 04:18:22.0±1.1, 48°.6N±0°.2×154°.1E±0°.2, h100km, n46, σ1°.52/51, mb3.3/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.47	32	PN	Pn	04 19 01.8	+1.1
SKR				S	Sn	04 19 30.6	+0.2
SKR	Severo-Kuril's	2.47	32	eP	Pn	04 19 01.1	+0.4
SKR				AMB	AMB	04 19 02.4	
SKR	40nm,0.6s			eS	Sn	04 19 30.0	-0.4
SKR				A	A	04 19 32.5	
SKR	50nm,0.2s			A	A	04 19 32.5	
PAU	60nm,0.2s Pauzhetka	3.37	31	PN	Pn	04 19 14.1	+1.5
PAU				S	Sn	04 19 50.7	-1.0
PAU	Pauzhetka	3.37	31	eP	Pn	04 19 14.2	+1.5
PAU				eS	Sn	04 19 52.1	+0.4
PAU	Pauzhetka	3.37	31	eP	Pn	04 19 14.5	+1.9
PAU				AMB	AMB	04 19 15.0	
PAU	30nm,0.2s			eS	Sn	04 19 52.5	+0.8
PAU				A	A	04 19 53.6	
PAU	50nm,0.2s			A	A	04 19 53.6	
PAU	80nm,0.2s						
GRL	Gorelyy	4.71	31	PN	Pn	04 19 31.8	+1.0
GRL				S	Sn	04 20 24.1	-0.1
GRL	Gorelyy	4.71	31	eP	Pn	04 19 32.6	+1.8
GRL				eS	Sn	04 20 24.5	+0.2
RUS	Russkaya	4.77	35	PN	Pn	04 19 31.3	-0.2
RUS				S	Sn	04 20 22.5	-3.1
RUS	Russkaya	4.77	35	eP	Pn	04 19 31.6	+0.1
RUS	Russkaya	4.77	35	eP	Pn	04 19 31.3	-0.2
PETK	Petropavlovsk- 5.4nm,0.4s,baz=184,slow=11,SNR=16	5.07	26	P	Pn	04 19 36.6	+1.1
PET	Petropavlovsk	5.30	32	eP	Pn	04 19 36.6	-2.0
DALK	Dalny	5.34	32	PN	Pn	04 19 39.7	+0.5
DALK				S	Sn	04 20 37.9	-1.4
DALK	Dalny	5.34	32	eP	Pn	04 19 39.7	+0.5
KUR	Kuril'sk	5.42	234	eP	Pn	04 19 39.7	-0.6
KUR				eS	Sn	04 20 40.6	-0.7
UGLR	Uglovaya	5.51	31	PN	Pn	04 19 42.9	+1.3
UGLR	Uglovaya	5.51	31	eP	Pn	04 19 43.2	+1.6
KOK	Koryaka	5.51	30	PN	Pn	04 19 43.8	+2.1
KOK	Koryaka	5.51	30	eP	Pn	04 19 43.7	+2.1
KOK	Koryaka	5.51	30	eP	Pn	04 19 43.8	+2.1
AVH	Avacha	5.53	31	PN	Pn	04 19 43.7	+1.9
AVH	Avacha	5.53	31	eP	Pn	04 19 44.3	+2.5
AVH	Avacha	5.53	31	eP	Pn	04 19 43.7	+1.9
KRX	Arik	5.57	30	PN	Pn	04 19 44.6	+2.1
GNL	Ganaly	5.65	24	PN	Pn	04 19 45.6	+2.0
SPN	Mys Shipunski	5.87	38	PN	Pn	04 19 45.5	-0.9
SPN	Mys Shipunski	5.87	38	eP	Pn	04 19 46.4	0.0
SPN	Mys Shipunski	5.87	38	eP	Pn	04 19 45.5	-0.9
SHO	Shikotan	6.89	229	eP	Pn	04 20 03.6	+3.2
YUK	Yuzh-Kuril'sk	7.28	234	eP	Pn	04 20 07.2	+1.5
NMR	Nemuro--Hokkai	7.81	231	eP	Pn	04 20 14.2	+1.4
NMR				eS	Sn	04 21 36.8	-2.8
KBTR	Krutoberegovo	9.30	32	PN	Pn	04 20 31.9	-1.1
KBTR	Krutoberegovo	9.30	32	eP	Pn	04 20 31.7	-1.3
H11N2	WAKE ISLAND Hy 30.61 156 baz=343,slow=76			T	T	04 57 01.9	
H11N1	WAKE ISLAND Hy 30.63 156 baz=343,slow=76			T	T	04 56 57.4	
H11N3	WAKE ISLAND Hy 30.63 156 baz=343,slow=76			T	T	04 57 05.8	
H11S1	WAKE ISLAND Hy 31.73 157 baz=344,slow=76			T	T	04 58 18.9	
H11S3	WAKE ISLAND Hy 31.73 157 baz=344,slow=76			T	T	04 58 30.0	
H11S2	WAKE ISLAND Hy 31.74 157 baz=344,slow=76			T	T	04 58 21.8	
MKAR	Makanchi Array 0.2nm,0.5s,baz=75,slow=6.1,SNR=4.1 0.2nm,0.5s	46.67	296	P	P	04 26 38.9	-1.4
KURK	Kurchatov 0.4nm,0.7s,baz=66,slow=8.4,SNR=3.3 0.4nm,0.7s	46.89	303	P	P	04 26 41.3	-0.6
KURK	Kurchatov	46.89	303	eP	P	04 26 41.3	-0.6
KURBB	Kurchatov Arra 0.4nm,0.7s,baz=66,slow=8.4,SNR=3.3 0.4nm,0.7s	46.98	302	P	P	04 26 41.3	-1.3
EKA	Eskdalemuir Ar 0.4nm,0.5s,baz=26,slow=5.5,SNR=3.8 0.4nm,0.5s	74.68	347	P	P	04 29 49.1	-1.0
TXAR	Lajitas Array 0.3nm,0.7s,baz=296,slow=5.4,SNR=4.2 0.3nm,0.7s	76.03	62	P	P	04 29 60.0	+1.5
TXAR	Lajitas Array	76.03	62	P	P	04 30 00.0	+1.5

SJA 15 04:27:16.5±0.6, 20°.58S×69°.24W, h108km±3km, ML3.7, MW3.7
GUC 15 04:27:18.2±0.9, 20°.60S×69°.27W, h97km±3km, ML3.5
IDC 15 04:27:40.7±7.8, 19°.18S×67°.45W, h160km±53km, mb3.3/1, mbtmp3.5/3, Error ellipse: s-maj=108.3km s-min=53.6km az=39.0
ISC 15 04:27:17.6±1.2, 20°.66S±0°.03×69°.31W±0°.05, h105km±7km, n24, σ1°.52/40, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX03	IPOC Station P	0.39	311	eP	Pn	04 27 32.9	-0.6
PX03				eS	Sn	04 27 45.0	-0.3
PX03				IAML		04 27 46.2	
PB01	comp=N,3μm,0.3s IPOC Station P	0.41	203	eP	Pn	04 27 33.7	+0.2
PB01				eS	Sn	04 27 45.4	-0.1
PB01				IAML		04 27 46.5	
PB01	comp=Z,3μm,0.2s IPOC Station P	0.41	203	eP	Pn	04 27 33.7	+0.2
PB01				eS	Sn	04 27 46.0	+0.4
PB01				IAML		04 27 47.3	
PB08	comp=N,4μm,0.2s IPOC Station P	0.54	16	eP	Pn	04 27 34.1	-0.6
PB08				eS	Sn	04 27 46.8	-0.7
PB08				IAML		04 27 47.0	
PB08	comp=Z,2μm,0.2s IPOC Station P	0.54	16	eP	Pn	04 27 34.1	-0.6
PB08				eS	Sn	04 27 46.7	-0.8
PB08				IAML		04 27 47.5	
TA01	comp=E,4μm,0.2s Diego Aracena	0.82	276	eP	Pn	04 27 37.1	+0.5
TA01				eS	Sn	04 27 52.6	+1.7
TA01	Diego Aracena	0.82	276	eP	Pn	04 27 37.2	+0.5
TA01				eS	Sn	04 27 51.8	+0.9
TA01				IAML		04 27 52.4	
TA02	comp=N,1μm,0.3s Huaiquique	0.86	297	eP	Pn	04 27 37.5	+0.5
TA02				eS	Sn	04 27 53.5	+1.9
TA02				IAML		04 27 56.4	
TA02	comp=Z,1μm,0.1s Huaiquique	0.86	297	eP	Pn	04 27 37.5	+0.5
TA02				eS	Sn	04 27 51.7	+0.1
TA02				IAML		04 27 54.4	
PB09	comp=N,3μm,0.1s IPOC Station P	1.13	177	eP	Pn	04 27 40.9	+0.8

PB09 *e*S **Sn** **04 27 59.0 +2.0**
PB09 IAML 04 28 01.3
comp=Z,834nm,0.6s
PB09 IPOC Station P 1.13 177⇑ *e*P **Pn** **04 27 40.9 +0.8**
PB09 *e*S **Sn** **04 27 58.8 +1.8**
PB09 IAML 04 27 59.9
comp=E,887nm,0.3s
PX02 IPOC Station P 1.88 334 *e*P **Pn** **04 27 49.6 +0.6**
PX02 *e*S **Sn** **04 28 13.1 +0.1**
PB12 IPOC Station P 2.25 335 *e*P **Pn** **04 27 53.1 -0.7**
PB12 *e*S **Sn** **04 28 21.7 +0.3**
PB12 IPOC Station P 2.25 335⇑ *e*P **Pn** **04 27 53.0 -0.7**
PB12 *e*S **Sn** **04 28 21.5 +0.1**
PB12 IAML 04 28 22.5
comp=E,232nm,0.2s
AP01 Chacalluta 2.48 337 *e*P **Pn** **04 27 56.1 -0.5**
AP01 IAML 04 28 44.3
comp=Z,246nm,0.3s
AP01 Chacalluta 2.48 337 *e*P **Pn** **04 27 57.4 +0.8**
AP01 *e*S **Sn** **04 28 26.9 +0.4**
AF01 San Pedro de A 2.51 155 *e*P Pn 04 28 03.2 +5.8
AF01 *e*S Sn 04 28 40.2 +12
AF01 San Pedro de A 2.51 155 *e*P **Pn** **04 27 59.5 +2.2**
AF01 *e*S **Sn** **04 28 30.5 +2.7**
AF01 IAML 04 28 47.3
comp=N,132nm,0.5s
YJA Yavi 3.85 114 *e*P **Pn** **04 28 16.4 +1.1**
YJA *e*S **Sn** **04 28 56.7 -3.1**
PB14 IPOC Station P 4.07 194 *e*P **Pn** **04 28 17.3 -0.8**
PB14 *e*S **Sn** **04 29 01.4 -3.6**
GO02 Mina Guanaco 4.49 183 *e*P **Pn** **04 28 24.3 +0.5**
LPAZ La Paz 4.49 15 P **Pn** **04 28 28.5 +4.4**
comp=N,1.8nm,0.3s,baz=163,slow=3.5,SNR=10
LPAZ S Sn 04 29 06.0 -10
comp=N,2.0nm,0.6s,baz=187,slow=12,SNR=5.2
BDFB Brasilia 20.84 80 P **P** **04 31 49.0 -2.1**
comp=N,1.4nm,0.5s,baz=173,slow=5.7,SNR=3.5
TORD Torodi Ar. Bea 77.43 71 P P 04 39 06.7 +4.9
comp=N,0.4nm,0.5s,baz=254,slow=5.4,SNR=5.5
comp=N,0.4nm,0.5s

---

*IDC **15** 04:29:36.0±0.5, 1.86S×151.14E, h0km, mb4.5/19, mbtmp4.5/19, MS3.5/20, Error ellipse: s-maj=21.5km s-min=12.8km az=79.0*
*NEIC **15** 04:29:38.7±1.3, 1.9S±0.1×151.1E±0.1, h10km±1km, mb4.8/70, Error ellipse: s-maj=20.4km s-min=18.6km az=184.0*
*DJA **15** 04:29:50.6±2.0, 2.3S±9.9×151.1E±1.2, h123km±14km, M4.8/17, mb4.8/17, mB5.8/2, Mw(mB)5.4/2*
ISC 15 04:29:41.7±0.4, 1.84S±0.06×151.10E±0.07, h35km, n322, σ0=95/279, mb4.7/67, MS3.6/16, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.62 159**		LR	LR	04 31 33.2	
	comp=Z,813nm,19.3s,baz=39,slow=45						
MANU	**Manus Island**	**3.74 267**		Pn	**Pn**	**04 30 37.2**	**+0.3**
PMG	**Port Moresby**	**8.48 207**		Pn	**Pn**	**04 31 45.7**	**+3.6**
	2.3nm,0.3s,baz=356,slow=11,SNR=5.6						
PMG				LR	LR	04 35 11.5	
	comp=Z,438nm,20.9s,baz=9.0,slow=40						
JAY	**Jayapura**	**10.41 266**		LR	LR	04 35 34.0	
	comp=Z,153nm,21.4s,baz=194,slow=34						
JAY	**Jayapura**	**10.41 266**		P	**Pn**	**04 32 12.3**	**+3.7**
SMPI	**Sarmi**	**12.38 269**		P	**Pn**	**04 32 37.5**	**+1.9**
COEN	**Coen**	**14.37 213**		P	**P**	**04 33 05.7**	**-3.5**
COEN	**Coen**	**14.37 213**		P	**P**	**04 33 06.0**	**-3.2**
COEN	**Coen**	**14.37 213**		S	**Sn**	**04 35 44.2**	**+3.3**
GUMO	**Guam**	**16.53 338**		LR	LR	04 38 24.7	
	comp=Z,86nm,20.9s,baz=64,slow=32						
MTSU	**Mount Surprise**	**17.51 202**		P	**P**	**04 33 45.7**	**+1.6**
TV1H	**Townsville Har**	**17.82 193**		P	**P**	**04 33 49.1**	**+1.6**
FAKI	**Fak Fak**	**18.86 266**		P	**P**	**04 33 58.3**	**-0.8**
	49nm,1.3s						
KDU	**Kakadu**	**21.37 239**		P	**P**	**04 34 25.2**	**-1.1**
QIS	**Mount Isa**	**21.73 210**		P	**P**	**04 34 29.8**	**-0.3**
MTN	**Manton Dam**	**22.59 240**		P	**P**	**04 34 38.3**	**-1.2**
MTN				IAmb	IAmb	04 34 38.9	
	comp=Z,21nm,0.8s						
MTN	**Manton Dam**	**22.59 240**		P	**P**	**04 34 38.2**	**-1.3**
DRS	**Darwin Rock St**	**22.61 241**		P	**P**	**04 34 39.1**	**-0.6**
WB0	**Warramunga Arr**	**24.18 221**		P	**P**	**04 34 54.0**	**-0.9**
WB2	**Warramunga Arr**	**24.33 221**		P	**P**	**04 34 55.8**	**-0.6**
WRA	**Warramunga Arr**	**24.34 221**		P	**P**	**04 34 55.6**	**-0.8**
	comp=Z,101nm,0.6s,baz=46,slow=9.4,SNR=631						
WRA				LR	LR	04 45 18.8	
	comp=Z,102nm,20.8s,baz=19,slow=39						
DZM	**Mont Dzumac**	**25.04 145**		P	**P**	**04 35 03.2**	**+0.2**
DZM	**Mont Dzumac**	**25.04 145**		P	**P**	**04 35 02.6**	**-0.4**
	comp=Z,29nm,0.7s,baz=206,slow=8.8,SNR=24						
	comp=Z,29nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**25.37**	**37**	T	T	05 01 45.5	
	baz=220,slow=76						
H11S2	**WAKE ISLAND Hy**	**25.38**	**37**	T	T	05 01 43.4	
	baz=220,slow=76						
H11S1	**WAKE ISLAND Hy**	**25.39**	**37**	T	T	05 01 44.2	
	baz=220,slow=76						
QLP	**Quilpie**	**25.47 194**		P	**P**	**04 35 06.8**	**+0.2**
KNRA	**Kununurra**	**25.96 237**		P	**P**	**04 35 10.2**	**-1.0**
KNRA				IAmb	IAmb	04 35 12.4	
	comp=Z,28nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**26.44**	**35**	T	T	05 03 10.0	
	baz=218,slow=76						
H11N3	**WAKE ISLAND Hy**	**26.45**	**35**	T	T	05 03 11.0	
	baz=218,slow=76						
H11N2	**WAKE ISLAND Hy**	**26.46**	**35**	T	T	05 03 13.0	
	baz=218,slow=76						
AS01	**Alice Springs**	**27.33 216**		P	**P**	**04 35 22.3**	**-1.2**
AS31	**Alice Springs**	**27.35 216**		P	**P**	**04 35 23.0**	**-0.8**
AS31				IAmb	IAmb	04 35 24.6	
	comp=Z,6.9nm,0.4s						
ASAR	**Alice Springs**	**27.36 216**		P	**P**	**04 35 22.9**	**-0.9**
	comp=Z,13nm,0.6s,baz=51,slow=8.2,SNR=149						
ASAR				LR	LR	04 46 16.7	
	comp=Z,144nm,19.8s,baz=312,slow=37						
	comp=Z,13nm,0.6s						
AULRC	**Lightning Ridg**	**27.60 186**		P	**P**	**04 35 25.2**	**-0.6**
OOD	**Oodnadatta**	**29.73 208**		P	**P**	**04 35 43.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**29.75 235**		P	**P**	**04 35 43.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**29.75 235**		LR	LR	04 48 02.8	
	comp=Z,97nm,19.7s,baz=54,slow=37						
FITZ	**Fitzroy Crossi**	**29.75 235**		P	**P**	**04 35 43.8**	**-1.3**
JCJ	**Chichijima**	**30.02 344**		LR	LR	04 46 36.8	
	comp=Z,36nm,20.5s,baz=340,slow=34						
BKSI	**Bulukumba**	**31.11 263**		P	**P**	**04 35 55.3**	**-1.9**
STKA	**Stephens Creek**	**31.19 196**		P	**P**	**04 35 56.9**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=22,slow=10,SNR=4.8						
STKA				LR	LR	04 48 12.0	
	comp=Z,97nm,19.1s,baz=30,slow=36						
	comp=Z,2.5nm,0.8s						
WRKA	**Warakurna**	**31.87 222**		P	**P**	**04 36 02.2**	**-1.7**
YNG	**Young**	**32.39 184**		P	**P**	**04 36 08.4**	**+0.2**
CNB	**Canberra Magne**	**33.35 183**		P	**P**	**04 36 16.9**	**+0.3**
PLAI	**Plampang**	**33.88 257**		P	**P**	**04 36 21.5**	**+0.1**
PLAI	**Plampang**	**33.88 257**		P	**P**	**04 36 18.8**	**-2.6**
	comp=Z,27nm,0.8s						
TWSI	**Taliwang, Sumb**	**34.73 257**		P	**P**	**04 36 25.6**	**-3.3**
	comp=Z,14nm,0.7s						
TOO	**Toolangi**	**35.93 188**		P	**P**	**04 36 38.5**	**-0.4**
MBWA	**Marble Bar**	**36.10 236**		P	**P**	**04 36 39.1**	**-1.4**
FORT	**Forrest**	**36.12 215**		P	**P**	**04 36 39.4**	**-1.2**
FORT	**Forrest**	**36.12 215**		P	**P**	**04 36 39.0**	**-1.5**
JNU	**Nakatsue**	**39.67 333**		LR	LR	04 53 04.0	
	comp=Z,28nm,18.7s,baz=352,slow=36						
MEEK	**Meekatharra**	**39.75 229**		P	**P**	**04 37 09.9**	**-1.4**
MJAR	**Matsushiro Arr**	**40.03 344**		LR	LR	04 50 20.4	
	comp=Z,86nm,20.8s,baz=134,slow=31						
HAZ	**Te Kaha**	**43.34 149**		P	**P**	**04 37 40.9**	**+0.4**
QRZ	**Quartz Range**	**43.38 156**		P	**P**	**04 37 41.6**	**+0.8**
URZ	**Urewera**	**43.38 150**		P	**P**	**04 37 41.0**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=286,slow=2.1,SNR=7.1						
URZ				LR	LR	04 54 29.9	
	comp=Z,53nm,19.4s,baz=71,slow=34						
	comp=Z,4.5nm,0.5s						
URZ	**Urewera**	**43.38 150**		P	**P**	**04 37 41.2**	**+0.4**
RTZ	**Ruatahuna**	**43.59 150**		P	**P**	**04 37 43.0**	**+0.3**
RTZ				IAmb	IAmb	04 37 44.4	
	comp=Z,14nm,0.5s						
RTZ	**Ruatahuna**	**43.59 150**		P	**P**	**04 37 42.9**	**+0.3**
MWZ	**Matawai**	**43.65 150**		P	**P**	**04 37 43.5**	**+0.5**
BKZ	**Black Stump Fm**	**43.78 151**		P	**P**	**04 37 44.0**	**-0.2**
PUZ	**Puketiti**	**43.83 149**		P	**P**	**04 37 44.4**	**0.0**
TSZ	**Takapari Road**	**44.24 152**		P	**P**	**04 37 47.6**	**-0.1**
KNZ	**Kokohu**	**44.25 150**		P	**P**	**04 37 47.6**	**-0.2**
THZ	**Tophouse**	**44.32 157**		P	**P**	**04 37 48.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**44.34 222**		LR	LR	04 57 20.6	
	comp=Z,133nm,18.6s,baz=246,slow=38						
MRZ	**Mangatainoka R**	**44.55 153**		P	**P**	**04 37 49.2**	**-0.9**
INZ	**Inchbonnie**	**44.59 159**		P	**P**	**04 37 50.5**	**0.0**
KSRS	**Korea Array**	**44.61 334**		P	**P**	**04 37 50.5**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=154,slow=10,SNR=5.7						
	comp=Z,1.6nm,0.8s						
FOZ	**Fox Glacier**	**44.73 161**		P	**P**	**04 37 52.0**	**+0.4**
BFZ	**Birch Farm**	**44.87 153**		P	**P**	**04 37 52.2**	**-0.5**
JCZ	**Jackson Bay**	**44.89 162**		P	**P**	**04 37 54.3**	**+1.3**
LTZ	**Lake Taylor**	**44.95 158**		P	**P**	**04 37 53.4**	**0.0**
KHZ	**Kahutara**	**45.13 156**		P	**P**	**04 37 53.8**	**-1.0**
RPZ	**Rata Peaks**	**45.32 160**		P	**P**	**04 37 55.4**	**-0.9**
	comp=Z,8.2nm,0.7s,baz=346,slow=17,SNR=4.0						
	comp=Z,8.2nm,0.7s						
RPZ	**Rata Peaks**	**45.32 160**		P	**P**	**04 37 56.6**	**+0.3**
GVZ	**Greta Valley S**	**45.40 157**		P	**P**	**04 37 56.5**	**-0.5**
NJ2	**Nanjing**	**45.49 321**		*e*P	**P**	**04 37 58.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,1.9s						
LBZ	**Lake Benmore**	**45.62 161**		P	**P**	**04 37 58.1**	**-0.6**
MLZ	**Mavora Lakes**	**45.87 163**		P	**P**	**04 38 00.4**	**-0.3**
MQZ	**McQueen's Vall**	**45.88 158**		P	**P**	**04 38 00.2**	**-0.5**
ODZ	**Otahua Downs**	**46.35 161**		P	**P**	**04 38 04.1**	**-0.3**
TUZ	**Tuapeka**	**46.84 162**		P	**P**	**04 38 08.1**	**-0.1**
MDJ	**Mudanjiang**	**50.07 340**		P	**P**	**04 38 33.8**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,16nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,160nm,6.2s						
CN2	**Changchun**	**50.92 336**		*e*P	**P**	**04 38 37.8**	**-1.7**
BNX	**BinXian**	**51.81 339**		⇓P	**P**	**04 38 45.8**	**-0.4**
BNX				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN	**Xi'an**	**53.32 316**		⇑P	**P**	**04 38 57.6**	**-0.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**53.55 344**		LR	LR	05 02 26.9	
	comp=Z,52nm,18.4s,baz=230,slow=37						
PETK	**Petropavlovsk-**	**55.03 5**		P	**P**	**04 39 09.5**	**-0.2**
	comp=Z,6.9nm,0.5s,baz=160,slow=6.2,SNR=38						
PETK				LR	LR	04 57 45.1	
	comp=Z,48nm,19.9s,baz=110,slow=31						
	comp=Z,6.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**55.11 294**		P	**P**	**04 39 11.6**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=104,slow=5.3,SNR=10						
	comp=Z,2.1nm,0.5s						
XLT	**XiLinHaoTe**	**55.27 330**		*e*P	**P**	**04 39 11.5**	**-0.2**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PZH	**PanZhiHua**	**55.30 304**		P	**P**	**04 39 14.9**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
HHC	**Hu-ho-hao-te**	**55.67 324**		*e*P	**P**	**04 39 15.6**	**+0.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,59nm,4.4s						
HEH	**HeiHe**	**55.73 342**		*e*P	**P**	**04 39 14.8**	**+0.1**
HEH				pmax	pmax		
	comp=Z,12nm,0.7s						
MA2	**Magadan**	**61.23 360**		LR	LR	05 02 21.4	
	comp=Z,35nm,21.5s,baz=123,slow=32						
GTA	**Gaotai**	**62.35 317**		*e*P	**P**	**04 40 02.4**	**+1.3**
GTA				pP	pP	04 40 06.0	-4.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**62.60 328**		P	**P**	**04 40 03.5**	**+0.9**
ULN				IAmb	IAmb	04 40 05.2	
	comp=Z,17nm,1.6s						
SONM	**Songino Array**	**62.93 328**		P	**P**	**04 40 05.6**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=149,slow=6.4,SNR=19						
	comp=Z,3.2nm,0.8s						
P08K	**Saint George I**	**66.37**	**23**	P	**P**	**04 40 27.1**	**+0.3**
	baz=224						
FALS	**False Pass**	**67.72**	**26**	P	**P**	**04 40 36.1**	**+0.7**
	baz=230						
CHGN	**Chignik**	**70.85**	**27**	P	**P**	**04 40 55.6**	**+0.8**
	baz=235						
M13K	**Dall Lake**	**71.36**	**22**	P	**P**	**04 40 58.0**	**+0.2**
	baz=229						
O14K	**Tigyukauivet M**	**71.42**	**24**	P	**P**	**04 40 58.3**	**+0.2**
	baz=231						
O15K	**Ungalikthiuk R**	**71.95**	**24**	P	**P**	**04 41 02.7**	**+1.3**
	baz=233						
R16K	**Pilot Point**	**71.96**	**26**	P	**P**	**04 41 02.2**	**+0.8**
	baz=235						
M14K	**Bethel**	**72.10**	**22**	P	**P**	**04 41 03.0**	**+0.8**
	baz=230						
L14K	**Kuka Creek**	**72.21**	**21**	P	**P**	**04 41 03.7**	**+0.8**
	baz=229						
J14K	**Nanvaranak Lak**	**72.84**	**20**	P	**P**	**04 41 06.8**	**+0.2**
	baz=228						
L15K	**Ungalak Mounta**	**72.87**	**22**	P	**P**	**04 41 07.5**	**+0.6**
	baz=230						
K15K	**Wolf Creek Mou**	**73.25**	**21**	P	**P**	**04 41 09.3**	**+0.2**
	baz=230						
R18K	**Karluk**	**73.36**	**27**	P	**P**	**04 41 10.8**	**+1.0**
	baz=238						
M16K	**Timber Creek**	**73.42**	**23**	P	**P**	**04 41 11.1**	**+1.0**
	baz=233						
O17K	**Koliganek Bris**	**73.43**	**25**	P	**P**	**04 41 10.9**	**+0.8**
	baz=235						
ANM	**Nome**	**73.49**	**18**	P	**P**	**04 41 10.7**	**+0.3**
	baz=226						
L16K	**Owhat River**	**73.64**	**22**	P	**P**	**04 41 11.8**	**+0.4**
	baz=232						
N17K	**Nushagak Hills**	**73.83**	**24**	P	**P**	**04 41 12.6**	**+0.1**
	baz=235						
F14K	**Arctic Creek**	**73.84**	**17**	P	**P**	**04 41 14.0**	**+1.5**
	baz=225						
P18K	**Big Mountain,**	**74.00**	**25**	P	**P**	**04 41 14.6**	**+1.0**
	baz=237						
G15K	**Niukluk**	**74.20**	**18**	P	**P**	**04 41 15.8**	**+1.2**
	baz=227						
L17K	**Donlin**	**74.34**	**22**	P	**P**	**04 41 16.4**	**+0.9**
	baz=233						
Q19K	**Cape Douglas,**	**74.44**	**26**	P	**P**	**04 41 16.4**	**+0.2**
	baz=238						
F15K	**North Star Dit**	**74.50**	**17**	P	**P**	**04 41 17.5**	**+1.1**
	baz=226						
H16K	**Elim**	**74.53**	**19**	P	**P**	**04 41 16.9**	**+0.3**
	baz=229						
K17K	**Iditarod**	**74.69**	**22**	P	**P**	**04 41 18.2**	**+0.7**
	baz=233						
J17K	**VABM Dome**	**74.82**	**21**	P	**P**	**04 41 18.9**	**+0.7**
	baz=232						
G16K	**Koyuk River**	**75.00**	**18**	P	**P**	**04 41 20.4**	**+1.2**
	baz=229						
L18K	**Granite Mounta**	**75.00**	**23**	P	**P**	**04 41 19.8**	**+0.5**
	baz=235						
P19K	**Oil Pt**	**75.00**	**26**	P	**P**	**04 41 20.4**	**+1.0**
	baz=239						
H17K	**Granite Mounta**	**75.49**	**19**	P	**P**	**04 41 23.2**	**+1.1**
H17K				IAmb	IAmb	04 41 24.2	
	comp=Z,6.9nm,0.8s						
H17K	**Granite Mounta**	**75.49**	**19**	P	**P**	**04 41 22.0**	**-0.1**
	baz=231						
TTA	**Tatalina**	**75.67**	**22**	P	**P**	**04 41 22.3**	**-0.9**
	baz=235						
L19K	**White Mountain**	**75.69**	**23**	P	**P**	**04 41 23.5**	**+0.1**
	baz=237						
J18K	**Innoko River**	**75.71**	**21**	P	**P**	**04 41 23.8**	**+0.4**
	baz=235						
VNDA	**Vanda**	**75.83 178**		P	**P**	**04 41 23.1**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=336,slow=5.9,SNR=4.1						
	comp=Z,2.2nm,0.7s						
F17K	**Baldwin Pennin**	**76.03**	**18**	P	**P**	**04 41 25.7**	**+0.6**
	baz=230						
C16K	**Lisburne Hills**	**76.11**	**15**	P	**P**	**04 41 26.2**	**+0.7**
	baz=225						
BRSE	**Bradley Lake S**	**76.14**	**26**	P	**P**	**04 41 26.3**	**+0.4**
	baz=241						
H18K	**Honhosa River**	**76.14**	**20**	P	**P**	**04 41 25.5**	**-0.3**
	baz=233						
M20K	**Styx River**	**76.21**	**24**	P	**P**	**04 41 27.1**	**+0.8**
	baz=238						
L20K	**Farewell, AK**	**76.23**	**23**	P	**P**	**04 41 27.5**	**+1.1**
	baz=238						
SPCR	**Spurr Chakacha**	**76.24**	**25**	P	**P**	**04 41 27.2**	**+0.6**
	baz=239						
E17K	**Hotham Inlet**	**76.28**	**17**	P	**P**	**04 41 27.9**	**+1.4**
	baz=229						
GCSA	**Galena City Sc**	**76.41**	**20**	P	**P**	**04 41 28.4**	**+1.2**
	baz=234						
J19K	**Poorman**	**76.42**	**21**	P	**P**	**04 41 28.1**	**+0.7**
	baz=236						
CAPN	**Captain Cook N**	**76.47**	**25**	P	**P**	**04 41 28.0**	**+0.3**
	baz=240						
G18K	**Tagagawik**	**76.50**	**19**	P	**P**	**04 41 28.1**	**+0.3**
	baz=232						
RDOG	**Red Dog Mine**	**76.62**	**16**	P	**P**	**04 41 29.8**	**+1.4**
RDOG	**Red Dog Mine**	**76.62**	**16**	P	**P**	**04 41 29.0**	**+0.6**
	baz=228,SNR=7.1						
F18K	**Selawik**	**76.62**	**18**	P	**P**	**04 41 28.8**	**+0.4**
	baz=231						
K20K	**Telida**	**76.64**	**22**	P	**P**	**04 41 29.4**	**+0.7**
	baz=237						
C17K	**DeLong Mountai**	**76.83**	**16**	P	**P**	**04 41 30.9**	**+1.3**
	baz=227,SNR=5.9						
E18K	**Tukpahlearik C**	**76.86**	**17**	IAmb	IAmb	04 41 31.8	
	comp=Z,9.1nm,1.2s						
E18K	**Tukpahlearik C**	**76.86**	**17**	P	**P**	**04 41 29.6**	**-0.2**
	baz=230						
SEW	**Seward**	**76.88**	**26**	P	**P**	**04 41 30.2**	**+0.2**
	baz=242						
SKT	**Skwentna**	**76.91**	**24**	P	**P**	**04 41 30.9**	**+0.7**
	baz=240						
O22K	**Cooper Landing**	**76.94**	**26**	P	**P**	**04 41 31.1**	**+0.7**
	baz=242						
MK31	**Makanchi Array**	**76.99 319**		P	**P**	**04 41 31.5**	**+0.4**
MKAR	**Makanchi Array**	**76.99 319**		P	**P**	**04 41 31.4**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=186,slow=24,SNR=7.4						
	comp=Z,3.0nm,0.8s						
H19K	**Roundabout Mou**	**77.01**	**20**	P	**P**	**04 41 31.7**	**+1.1**
	baz=234						
J20K	**Nowinta River**	**77.06**	**22**	P	**P**	**04 41 32.3**	**+1.3**
	baz=237						
G19K	**Purcell Mounta**	**77.16**	**19**	IAmb	IAmb	04 41 33.5	
	comp=Z,7.5nm,0.8s						
G19K	**Purcell Mounta**	**77.16**	**19**	P	**P**	**04 41 32.4**	**+0.9**
	baz=234						
MAKZ	**Makanchi**	**77.20 319**		P	**P**	**04 41 32.9**	**+0.7**
MAKZ				IAmb	IAmb	04 41 33.5	
	comp=Z,5.4nm,0.8s						
RC01	**Rabbit Creek A**	**77.23**	**25**	P	**P**	**04 41 32.8**	**+0.8**
	baz=242						
F19K	**Shaleruckik Mo**	**77.36**	**18**	IAmb	IAmb	04 41 34.0	
	comp=Z,6.1nm,0.8s						
F19K	**Shaleruckik Mo**	**77.36**	**18**	P	**P**	**04 41 33.0**	**+0.4**
	baz=233						
CAST	**Castle Rocks**	**77.43**	**23**	IAmb	IAmb	04 43 04.9	
	comp=Z,6.5nm,0.5s						
CAST	**Castle Rocks**	**77.43**	**23**	P	**P**	**04 41 33.1**	**0.0**
	baz=239						
C18K	**Utukok River**	**77.49**	**16**	P	**P**	**04 41 33.3**	**-0.1**
	baz=229						
H20K	**Anotleneega Mo**	**77.53**	**20**	P	**P**	**04 41 34.3**	**+0.6**
	baz=236						
CHUM	**Lake Minchumin**	**77.58**	**22**	P	**P**	**04 41 34.8**	**+0.9**
	baz=239						
PMR	**Palmer**	**77.72**	**25**	P	**P**	**04 41 34.7**	**0.0**
	baz=242						
PWL	**Port Wells**	**77.72**	**26**	P	**P**	**04 41 35.5**	**+0.7**
	baz=243						
ZALV	**Zalesovo Beam**	**77.76 326**		P	**P**	**04 41 34.5**	**-0.6**
ZALV	**Zalesovo Beam**	**77.76 326**		P	**P**	**04 41 34.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=90,slow=5.9,SNR=7.1						
	comp=Z,1.5nm,0.5s						
B18K	**Kokolik River**	**77.80**	**15**	P	**P**	**04 41 36.1**	**+1.1**
	baz=229						
E19K	**Redstone River**	**77.90**	**18**	P	**P**	**04 41 36.7**	**+1.1**
	baz=233						
KNK	**Knik Glacier**	**77.92**	**25**	P	**P**	**04 41 36.2**	**+0.2**
	baz=243						
F20K	**Avaraart Lake**	**78.13**	**19**	IAmb	IAmb	04 41 39.0	
	comp=Z,7.2nm,0.9s						
F20K	**Avaraart Lake**	**78.13**	**19**	P	**P**	**04 41 38.2**	**+1.3**
	baz=235,SNR=11						
TRF	**Thorofare Moun**	**78.14**	**23**	P	**P**	**04 41 36.6**	**-0.7**
	baz=241						
SML	**Sawmill**	**78.16**	**25**	P	**P**	**04 41 37.2**	**-0.1**
	baz=243						
D19K	**Kuna River**	**78.27**	**17**	IAmb	IAmb	04 41 39.2	
	comp=Z,18nm,1.4s						
D19K	**Kuna River**	**78.27**	**17**	P	**P**	**04 41 37.9**	**+0.2**
	baz=232						
H21K	**Melozitna Rive**	**78.34**	**21**	P	**P**	**04 41 38.8**	**+0.7**
	baz=238						
I21K	**Tanana**	**78.38**	**21**	IAmb	IAmb	04 41 40.4	
	comp=Z,8.1nm,0.8s						
I21K	**Tanana**	**78.38**	**21**	P	**P**	**04 41 39.0**	**+0.7**
	baz=239						
E20K	**Nigu River**	**78.69**	**18**	P	**P**	**04 41 40.7**	**+0.6**
	baz=234						
MCK	**McKinley**	**78.81**	**23**	P	**P**	**04 41 40.1**	**-0.7**
	baz=242,SNR=5.3						
D20K	**Etivluk River**	**78.84**	**17**	P	**P**	**04 41 40.9**	**+0.1**
	baz=234						
F21K	**Alatna River**	**78.96**	**19**	P	**P**	**04 41 41.9**	**+0.4**
	baz=237						
H22K	**Ishtalitna Cre**	**78.97**	**21**	P	**P**	**04 41 42.6**	**+1.0**
	baz=239						
KLU	**Klutina**	**79.05**	**26**	P	**P**	**04 41 43.0**	**+0.8**
	baz=245						
NEA2	**Nenana**	**79.17**	**22**	P	**P**	**04 41 43.3**	**+0.6**
	baz=242						
M24K	**Tolsona, Glenn**	**79.21**	**25**	P	**P**	**04 41 42.9**	**-0.1**
	baz=245						
I23K	**Minto, Yukon-K**	**79.33**	**22**	P	**P**	**04 41 43.7**	**+0.2**
	baz=241						
G22K	**Bettles**	**79.45**	**20**	P	**P**	**04 41 44.9**	**+0.8**
	baz=239						
B20K	**Meade River**	**79.46**	**16**	P	**P**	**04 41 45.1**	**+1.0**
	baz=233						
E21K	**Killik River**	**79.48**	**18**	P	**P**	**04 41 45.5**	**+1.2**
	baz=236						
WRH	**Wood River Hil**	**79.48**	**

baz=245,SNR=18
E23K Chandalar 80.66 19 P **P 04 41 51.7 +0.9**
baz=241
G24K Hadweenzic Riv 80.74 21 IAmb IAmb 04 41 52.8
comp=Z,7.1nm,0.8s
G24K Hadweenzic Riv 80.74 21 P **P 04 41 51.7 +0.5**
baz=243
D23K Nanushuk River 80.77 18 P **P 04 41 52.6 +1.3**
baz=240
L26K Log Cabin Wild 80.78 25 IAmb IAmb 04 41 52.8
comp=Z,6.2nm,0.8s
L26K Log Cabin Wild 80.78 25 P **P 04 41 52.1 +0.6**
baz=247
SCRK Sand Creek 80.89 24 P **P 04 41 52.5 +0.4**
SCRK Sand Creek 80.89 24 P **P 04 41 52.7 +0.5**
baz=246
TOLK Toolik Lake Re 80.96 19 IAmb IAmb 04 41 54.2
comp=Z,12nm,1.2s
TOLK Toolik Lake Re 80.96 19 P **P 04 41 52.8 +0.4**
baz=241
F24K Squaw Lake 80.98 20 IAmb IAmb 04 41 54.6
comp=Z,12nm,0.8s
F24K Squaw Lake 80.98 20 P **P 04 41 53.4 +1.0**
baz=242
E24K Your Creek 81.04 19 P **P 04 41 53.7 +0.9**
baz=242
H25L Birch Creek 81.14 21 P **P 04 41 54.5 +1.3**
baz=244
M27K Edge Creek, AK 81.15 26 P **P 04 41 54.8 +1.1**
baz=249
C23K Itkillik River 81.24 17 IAmb IAmb 04 41 55.5
comp=Z,7.7nm,0.8s
C23K Itkillik River 81.24 17 P **P 04 41 54.7 +1.0**
baz=239
J26L Joseph Creek 81.27 23 P **P 04 41 54.9 +0.7**
baz=247
O28M Mount Upton 81.35 28 P **P 04 41 54.9 0.0**
baz=250
AAK Ala-Archa 81.41 313 LR LR 05 20 18.9
comp=Z,24nm,18.2s,baz=348,slow=37
L27K Beaver Creek, 81.43 25 P **P 04 41 56.2 +1.2**
baz=249
D24K Happy Valley 81.45 18 IAmb IAmb 04 41 56.9
comp=Z,8.2nm,0.8s
D24K Happy Valley 81.45 18 P **P 04 41 55.6 +0.7**
baz=241
YUK3 Moose Creek 81.57 27 P **P 04 41 57.0 +1.1**
baz=250
BVCY Beaver Creek 81.62 26 P **P 04 41 57.3 +1.4**
baz=250
YUK8 Steele Glacier 81.72 27 P **P 04 41 57.3 +0.5**
baz=251
I26K Coal Creek Min 81.75 23 P **P 04 41 57.0 +0.5**
baz=247
C24K Franklin Bluff 81.76 18 IAmb IAmb 04 41 58.3
comp=Z,8.3nm,0.9s
C24K Franklin Bluff 81.76 18 P **P 04 41 57.6 +1.2**
baz=241
F25K Christian Rive 81.78 20 P **P 04 41 57.2 +0.5**
baz=244
O29M Mount Kennedy 81.96 28 P **P 04 41 58.1 +0.2**
baz=252
G26K Porcupine Rive 82.17 21 P **P 04 41 59.3 +0.7**
baz=246
YUK4 Talbot Arm 82.25 27 P **P 04 42 00.6 +1.1**
baz=252
YUK6 Outpost Mounta 82.26 28 P **P 04 41 59.7 +0.1**
baz=252
D25K Kavik River 82.30 19 P **P 04 41 59.6 +0.2**
D25K IAmb IAmb 04 42 00.7
comp=Z,6.0nm,0.8s
D25K Kavik River 82.30 19 P **P 04 42 00.3 +0.9**
baz=244,SNR=7.0
F26K Sheenjek River 82.34 20 P **P 04 42 00.9 +1.3**
baz=246
I27K Kandik River 82.45 23 P **P 04 42 00.8 +0.5**
baz=248
HYT Haines Junctio 82.62 28 P **P 04 42 02.1 +0.8**
baz=253
P30M Million Dollar 82.67 29 P **P 04 42 02.9 +1.3**
baz=253
M29M Somme Creek 82.68 26 P **P 04 42 01.5 -0.1**
baz=252
H27K Steamboat Moun 82.72 22 P **P 04 42 02.3 +0.6**
baz=248,SNR=5.4
DAWY Dawson 82.81 25 P **P 04 42 03.0 +0.9**
baz=251
G27K Doyon Strip 82.89 22 P **P 04 42 03.3 +0.8**
baz=248
C26K Camden Bay 83.02 18 P **P 04 42 03.7 +0.7**
baz=245
L29M L29M 83.03 26 P **P 04 42 04.1 +0.7**
baz=252
I28M Miner Creek 83.05 23 P **P 04 42 03.9 +0.5**
baz=250
O30N Mendenhall 83.27 28 P **P 04 42 05.4 +0.8**
baz=254
C27K Jago River 83.28 19 IAmb IAmb 04 42 06.3
comp=Z,7.3nm,1.0s
C27K Jago River 83.28 19 P **P 04 42 05.3 +0.9**
baz=246
M30M Minto, Yukon 83.46 26 P **P 04 42 05.7 +0.2**
baz=253
K29M Barlow Dome 83.52 25 P **P 04 42 06.5 +0.6**
baz=252
WHY Whitehorse 83.81 28 P **P 04 42 08.1 +0.6**
baz=255
F28M Old Crow 83.82 21 P **P 04 42 08.2 +0.9**
baz=250,SNR=5.4
D27M Malcolm River 84.03 19 IAmb IAmb 04 42 09.9
comp=Z,4.2nm,0.7s
D27M Malcolm River 84.03 19 P **P 04 42 09.5 +1.1**
baz=249
WRAK Wrangell Islan 84.11 33 P **P 04 42 09.3 +0.5**
baz=258
J30M Hart River 84.23 24 P **P 04 42 10.0 +0.5**
baz=254
G29M Pine Creek 84.27 22 P **P 04 42 09.9 +0.3**
baz=252
E28M Babbage River 84.28 20 IAmb IAmb 04 42 11.3
comp=Z,5.0nm,0.7s
E28M Babbage River 84.28 20 P **P 04 42 10.5 +0.9**
baz=250
KK31 Karatay Array 84.38 313 IAmb IAmb 04 42 12.5
comp=Z,6.6nm,1.1s
KKAR Karatay Array 84.38 313 P **P 04 42 10.7 0.0**
KKAR Karatay Array 84.38 313 P **P 04 42 11.0 +0.4**
I30M Mount Dempster 84.40 24 P **P 04 42 10.7 +0.3**
baz=253
M31M Drury Creek, Y 84.43 27 P **P 04 42 11.0 +0.5**
baz=256
EPYK Eagle Plains 84.60 23 P **P 04 42 11.7 +0.4**
baz=253
E29M Blow River 84.78 21 P **P 04 42 12.2 +0.1**
baz=252
N32M Quiet Lake 84.79 28 P **P 04 42 11.3 -1.0**
baz=257
D28M Stokes Point 84.80 20 P **P 04 42 12.6 +0.5**
baz=251
FARO Faro, Yukon 84.92 27 P **P 04 42 13.3 +0.3**
baz=256
SIMJ Simiganj 84.96 309 P **P 04 42 14.4 +0.5**
SIMJ IAmb IAmb 04 43 04.7
comp=Z,5.6nm,1.2s
G30M tAoh Zraii Nji 84.97 22 P **P 04 42 13.1 0.0**
baz=253
F30M Barrier River 85.31 22 P **P 04 42 15.2 +0.4**
baz=254
T35M Bob Quinn 85.35 33 P **P 04 42 15.9 +0.6**
baz=260
H31M Peel River 85.38 23 P **P 04 42 15.8 +0.7**
baz=255
R33M Jennings River 85.44 30 P **P 04 42 16.3 +0.6**
baz=259
DLBC Dease Lake 85.74 31 P **P 04 42 18.1 +1.0**
baz=260
BVAR Borovoye Array 85.87 323 P **P 04 42 17.4 -0.5**
comp=Z,3.9nm,0.5s,baz=112,slow=5.7,SNR=16
comp=Z,3.9nm,0.5s
F31M Tsiigehtchic 86.02 22 P **P 04 42 18.3 0.0**
baz=256
INK Inuvik 86.32 21 P **P 04 42 19.6 -0.1**
baz=256
WTLY Watson Lake, Y 86.65 30 P **P 04 42 21.7 +0.1**
baz=261
TGTN Hyland Airport 87.13 28 P **P 04 42 23.3 -0.6**
baz=261
QSPA South Pole Qui 88.10 180 P **P 04 42 27.6 -0.9**
comp=Z,3.5nm,0.8s,baz=284,slow=0.4,SNR=10
comp=Z,3.5nm,0.8s
YBH Yreka Blue Hor 88.36 48 LR LR 05 15 03.7
comp=Z,57nm,19.9s,baz=310,slow=31
KOTAN Kotaneelee Air 89.01 30 P **P 04 42 32.6 -0.2**
baz=265
A36M Sachs Harbour 89.77 18 IAmb IAmb 04 42 36.6
comp=Z,3.5nm,0.8s
A36M Sachs Harbour 89.77 18 P **P 04 42 35.6 -0.5**
baz=264
C36M Paulatuk 89.88 21 P **P 04 42 36.1 -0.6**
baz=265
NVAR Mina Array Bea 91.60 52 P **P 04 42 45.7 0.0**
comp=Z,0.6nm,0.6s,baz=317,slow=6.6,SNR=2.3
comp=Z,0.6nm,0.6s
ABKAR Akbulak array 92.14 319 P **P 04 42 45.7 -1.9**
ABKAR IAmb IAmb 04 43 39.9
comp=Z,6.7nm,1.7s
ABKAR Akbulak array 92.14 319 P **P 04 42 45.9 -1.7**
YKA Yellowknife Ar 93.61 28 P **P 04 42 54.1 0.0**
comp=Z,1.1nm,0.8s,baz=272,slow=5.2,SNR=20
comp=Z,1.1nm,0.8s
PDAR Pinedale Array 98.11 47 P **P 04 43 14.7 -0.7**
comp=Z,0.6nm,0.6s,baz=216,slow=2.0,SNR=7.3
PDAR LR LR 05 20 28.8
comp=Z,31nm,20.4s,baz=308,slow=31
comp=Z,0.6nm,0.6s
LPIG La Paz 98.59 66 LR LR 05 21 28.7
comp=Z,26nm,18.5s,baz=317,slow=32
TORD Torodi Ar. Bea 147.70 292 PKPbc **PKPbc 04 49 22.9 -0.9**
comp=Z,0.6nm,0.5s,baz=78,slow=2.2,SNR=8.3

*KRSC **15** 04:49:38.2±1.7, 53°.36N×161°.83E, h48km±22km, Ml3.7*
*IDC **15** 04:49:43.9±5.0, 52°.21N×160°.87E, h0km, mb3.2/3, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=232.3km s-min=26.6km az=12.0*
ISC 15 04:49:38.8±2.4, 53°.3N±0°.1×161°.8E±0°.1, h20km, n26, σ1.9 04/27, mb3.3/3, Off east of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**259**	*eP*	**Pn**	**04 49 58.7**	**-0.1**
SPN				*eS*	**Sn**	**04 50 13.5**	**+0.3**
NLC	**Nalytchevo**	**1.47**	**265**	*eP*	**Pn**	**04 50 04.2**	**+0.1**
NLC				*eS*	**Sb**	**04 50 23.6**	**-0.2**
KII	**Karymskiy**	**1.56**	**298**	*eP*	**Pn**	**04 50 04.7**	**-0.8**
UGLR	**Uglovaya**	**1.78**	**268**	*eP*	**Pn**	**04 50 09.3**	**+0.8**
AVH	**Avacha**	**1.83**	**269**	*eP*	**Pn**	**04 50 10.0**	**+0.9**
DALK	**Dalny**	**1.85**	**262**	*eP*	**Pn**	**04 50 09.4**	**+0.2**
KRX	**Arik**	**1.88**	**272**	*eP*	**Pn**	**04 50 10.2**	**+0.3**
KOK	**Koryaka**	**1.89**	**270**	*eP*	**Pn**	**04 50 10.6**	**+0.6**
PET	**Petropavlovsk**	**1.91**	**262**	*eP*	**Pn**	**04 50 10.6**	**+0.5**
TUMD	**Tumrok D**	**2.05**	**337**	*eP*	**Pn**	**04 50 11.6**	**-0.6**
RUS	**Russkaya**	**2.17**	**247**	*eP*	**Pn**	**04 50 13.9**	**+0.2**
KRMR	**Karymshinskiy**	**2.26**	**259**	*eP*	**Pn**	**04 50 15.6**	**+0.7**
KRMR				*eS*	**Sn**	**04 50 43.0**	**+0.8**
GNL	**Ganaly**	**2.33**	**281**	*eP*	**Pn**	**04 50 17.4**	**+1.4**
GRL	**Gorelyy**	**2.37**	**253**	*eP*	**Pn**	**04 50 18.1**	**+1.4**
PETK	**Petropavlovsk-**	**2.47**	**267**	Pn	**Pn**	**04 50 19.1**	**+1.3**
	3.7nm,0.3s,baz=88,slow=17,SNR=32						
PETK				Sn	**Sn**	**04 50 49.6**	**+2.3**
	2.2nm,0.3s,baz=100,slow=20,SNR=4.1						
	11nm,0.5s						
KMNR	**Kamenistaya**	**2.60**	**340**	*eP*	**Pn**	**04 50 21.1**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.75**	**345**	*eP*	**Pn**	**04 50 23.7**	**+1.8**
KIRR	**Kirishev**	**2.77**	**343**	*eP*	**Pn**	**04 50 23.1**	**+1.0**
KPT	**Kopyto**	**2.80**	**342**	*eP*	**Pn**	**04 50 23.6**	**+1.0**
APC	**Apacha**	**2.81**	**264**	*eP*	**Pb**	**04 50 26.4**	**-2.0**
KBTR	**Krutoberegovo**	**2.96**	**11**	*eP*	**Pn**	**04 50 24.8**	**+0.3**
ESO	**Esso**	**3.17**	**327**	*eP*	**Pn**	**04 50 27.8**	**+0.4**
SRDR	**Sredinnyy**	**3.23**	**339**	*eP*	**Pn**	**04 50 28.0**	**-0.4**
KURBB	**Kurchatov Arra**	**48.57**	**302**	P	P	04 58 31.3	+11
	0.2nm,0.5s,baz=56,slow=7.7,SNR=2.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**48.97**	**296**	P	P	04 58 31.2	+7.7
	0.2nm,0.6s,baz=72,slow=11,SNR=2.3						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**69.61**	**68**	P	P	05 01 00.4	+14
	0.2nm,0.9s,baz=330,slow=5.0,SNR=1.7						
	0.2nm,0.9s						

IDC 15 04:54:48.4±9.9, 17°.27S×173°.12W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=438.7km s-min=42.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.70**	**258**	P	P	05 03 42.4	-0.3
	0.3nm,0.5s,baz=96,slow=7.7,SNR=1.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**49.81**	**253**	P	P	05 03 43.5	0.0
	2.2nm,0.5s,baz=89,slow=8.3,SNR=32						
	2.2nm,0.5s						
ILAR	**Eielson Array**	**84.22**	**11**	P	P	05 07 21.3	0.0
	0.3nm,0.8s,baz=198,slow=4.7,SNR=2.5						
	0.3nm,0.8s						

*SJA **15** 04:59:36.0, 30°.04S×71°.59W, h10km, ML2.8*
*GUC **15** 04:59:39.1±0.7, 30°.12S×71°.32W, h67km±2km, ML2.5*
ISC 15 04:59:39.9±1.6, 30°.08S±0°.04×71°.41W±0°.06, h52km±11km, n18, σ1.9 31/23, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.22**	**42⇑**	*iP*	**Pn**	**04 59 49.0**	**+0.4**
CO05				*eS*	**Sn**	**04 59 56.1**	**+1.4**
CO05				IAML		04 59 57.6	
	comp=N,526nm,0.3s						
GO04	**Tololo Observa**	**0.54**	**100**	*i P*	**Pn**	**04 59 50.6**	**-1.4**
GO04	**Tololo Observa**	**0.54**	**100**	*eP*	**Pn**	**04 59 51.1**	**-0.8**
GO04				*eS*	**Sn**	**05 00 00.1**	**-0.5**
CO06	**Fray Jorge**	**0.62**	**198**	*eP*	**Pn**	**04 59 53.0**	**+0.2**
CO06				*eS*	**Sn**	**05 00 02.6**	**+0.6**
CO03	**El Pedregal**	**0.98**	**141**	*eP*	**Pn**	**04 59 56.2**	**-1.3**
CO03				*eS*	**Sn**	**05 00 08.8**	**-1.6**
CO03				IAML		05 00 09.4	
	comp=E,161nm,0.1s						
CO01	**Juntas del Tor**	**1.15**	**85**	*i P*	**Pn**	**04 59 58.4**	**-1.5**
CO01	**Juntas del Tor**	**1.15**	**85⇑**	*iP*	**Pn**	**04 59 59.1**	**-0.7**
CO01				*eS*	**Sn**	**05 00 13.7**	**-0.9**
CO01				IAML		05 00 14.1	
	comp=E,118nm,0.2s						
LCO	**Las Campanas**	**1.23**	**30⇑**	*iP*	**Pn**	**05 00 00.5**	**-0.6**
AROD	**Rodeo**	**1.68**	**93**	*i P*	**Pn**	**05 00 07.8**	**+0.6**
AC04	**Llanos de Chal**	**1.90**	**9**	*i P*	**Pn**	**05 00 08.8**	**-1.0**
AC04	**Llanos de Chal**	**1.90**	**9**	*eP*	**Pn**	**05 00 09.5**	**-0.3**
ACCO	**Cerro Coronel**	**2.09**	**105**	*i P*	**Pn**	**05 00 14.5**	**+1.7**
AGUA	**GUANDACOL**	**2.61**	**78**	*i P*	**Pn**	**05 00 22.5**	**+2.9**
VA03	**San Esteban**	**2.77**	**165**	*i P*	**Pn**	**05 00 22.1**	**+0.2**
VCA	**Vinchina**	**3.10**	**65**	*i P*	**Pn**	**05 00 28.8**	**+2.3**
MT02	**Curacav**	**3.17**	**176**	*i P*	**Pn**	**05 00 27.1**	**-0.3**
MT01	**Popeta**	**3.77**	**178**	*i P*	**Pn**	**05 00 36.1**	**+0.5**
AC02	**Maricunga**	**3.81**	**32**	*i P*	**Pn**	**05 00 35.6**	**-0.9**

*NEIC **15** 05:06:29.0±1.9, 4°.02S±0°.08×128°.62E±0°.07, h110km±8km, mb4.4/13, Error ellipse: s-maj=12.6km s-min=8.8km az=152.0*
*DJA **15** 05:06:30.7±0.2, 4°.S±2°.×12°.9E±°., h114km±3km, M4.4/22, mB5.0/4, mb4.5/15, MLv4.5/22, Mw(mB)4.3/4, MwMwp4.9/1, Mwp5.2/1*
*IDC **15** 05:06:36.4±3.6, 4°.20S×128°.32E, h202km±32km, mb3.5/5, mbtmp4.1/8, Error ellipse: s-maj=47.9km s-min=10.8km az=64.0*
ISC 15 05:06:29.3±0.6, 3°.95S±0°.05×128°.68E±0°.05, h150km, n63, σ2.9 47/60, mb4.2/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.55**	**298**	P	**Pn**	**05 06 49.7**	**-1.2**
AAI				S	**Sn**	**05 07 03.1**	**-4.2**
MSAI	**Masohi**	**0.65**	**22**	P	**Pn**	**05 06 49.7**	**-1.7**
NLAI	**Namlea**	**1.73**	**294**	P	**Pn**	**05 07 00.2**	**-1.1**
NLAI				S	**Sn**	**05 07 22.9**	**-3.0**
SANI	**Sanana**	**3.29**	**305**	P	**Pn**	**05 07 18.4**	**-1.9**
SANI	**Sanana**	**3.29**	**305**	S	**Sn**	**05 07 54.3**	**-5.5**
SANI	**Sanana**	**3.29**	**305**	P	**Pn**	**05 07 18.3**	**-2.0**
SANI				S	**Sn**	**05 07 53.6**	**-6.2**
LBMI	**Labuha**	**3.49**	**340**	P	**Pn**	**05 07 22.3**	**-0.7**
FAKI	**Fak Fak**	**3.70**	**74**	Pn	**Pn**	**05 07 25.1**	**-0.6**
FAKI	**Fak Fak**	**3.70**	**74**	P	**Pn**	**05 07 25.6**	**-0.1**
FAKI	**Fak Fak**	**3.70**	**74**	S	**Sn**	**05 08 06.3**	**-3.1**
FAKI	**Fak Fak**	**3.70**	**74**	P	**Pn**	**05 07 25.6**	**-0.1**
FAKI				S	**Sn**	**05 08 05.8**	**-3.6**
SWI	**Sorong**	**4.00**	**40**	P	**Pn**	**05 07 28.3**	**-1.2**
SWI				S	**Sn**	**05 08 11.6**	**-4.8**
SAUI	**Saumlaki**	**4.78**	**147**	P	**Pn**	**05 07 42.0**	**+2.2**
TNTI	**Ternate**	**4.87**	**344**	P	**Pn**	**05 07 39.7**	**-1.3**
KMPI	**Kaimana, Papua**	**5.02**	**87**	P	**Pn**	**05 07 42.9**	**0.0**
KDI	**Kendari**	**6.05**	**270**	P	**Pn**	**05 07 56.7**	**0.0**
	0.2nm67nm,0.7s						
BBSI	**Bau Bau**	**6.28**	**256**	P	**Pn**	**05 08 01.9**	**+2.1**
LUWI	**Luwuk**	**6.57**	**296**	P	**Pn**	**05 08 05.3**	**+1.7**
SOEI	**Soe**	**7.25**	**217**	Pn	**Pn**	**05 08 14.1**	**+1.3**
SOEI	**Soe**	**7.25**	**217**	P	Pn	05 08 16.8	+4.0
	0.1nm35nm,0.9s						
BAKI	**Biak**	**7.90**	**70**	P	**Pn**	**05 08 21.8**	**+0.4**
	58nm,1.1s						
MRSI	**Marisa**	**8.04**	**303**	P	**Pn**	**05 08 23.1**	**-0.2**
	2μm82nm,1.0s						
BSSI	**Bau Bau, Buton**	**8.45**	**255**	P	**Pn**	**05 08 31.5**	**+2.8**
	26nm,0.7s						
BKSI	**Bulukumba**	**8.64**	**261**	P	**Pn**	**05 08 33.7**	**+2.4**
	14nm,0.7s						
DRS	**Darwin Rock St**	**8.71**	**166**	S	**Sn**	**05 10 09.9**	**+0.9**
SPSI	**Sidrap Palu**	**8.89**	**270**	P	**Pn**	**05 08 36.8**	**+2.2**
TTSI	**Tana Toraja**	**8.89**	**275**	P	**Pn**	**05 08 37.2**	**+2.6**
	1μm28nm,0.8s						
KAPI	**Kappang**	**8.97**	**263**	Pn	**Pn**	**05 08 35.9**	**+0.3**
KAPI	**Kappang**	**8.97**	**263**	P	**Pn**	**05 08 37.3**	**+1.7**
	4.7nm,0.4s,baz=91,slow=4.2,SNR=6.3						
MTN	**Manton Dam**	**9.16**	**165**	Pn	**Pn**	**05 08 37.8**	**-0.5**
TOLI2	**Tolitoli**	**9.36**	**302**	Pn	**Pn**	**05 08 41.8**	**+0.9**
KNRA	**Kununurra**	**11.66**	**180**	Pn	**Pn**	**05 09 11.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.38**	**192**	P	**P**	**05 09 45.9**	**-2.7**
	4.3nm,0.8s,baz=34,slow=9.3,SNR=7.9						
WB0	**Warramunga Arr**	**16.68**	**161**		**Pn**	**05 10 14.3**	**-0.1**
WRAB	**Tennant Creek**	**16.82**	**161**	P	**Pn**	**05 10 16.3**	**+0.2**
WRAB				IAmb	IAmb	05 10 17.9	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**16.83**	**161**	P	**Pn**	**05 10 16.7**	**+0.5**
	comp=Z,6.5nm,0.6s,baz=343,slow=12,SNR=38						
WRA				S	**S**	**05 13 15.8**	**-7.6**
	comp=Z,1.6nm,0.8s,baz=345,slow=22,SNR=4.8						
COEN	**Coen**	**17.42**	**126**	P	**Pn**	**05 10 23.9**	**+0.6**
COEN	**Coen**	**17.42**	**126**	P	**Pn**	**05 10 25.5**	**+2.2**
MBWA	**Marble Bar**	**19.20**	**206**	P	**Pn**	**05 10 41.8**	**-2.4**
MBWA				IAmb	IAmb	05 10 43.2	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**19.51**	**205**	P	**Pn**	**05 10 45.6**	**-2.2**
PSA00				IAmb	IAmb	05 10 46.6	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**19.51**	**205**	P	**Pn**	**05 10 45.7**	**-2.2**
	comp=Z,29nm,0.8s						
QIS	**Mount Isa**	**19.64**	**148**	P	**Pn**	**05 10 49.0**	**-0.4**
AS31	**Alice Springs**	**20.24**	**166**	P	Pn	05 10 54.9	-1.6
AS31				IAmb	IAmb	05 10 56.3	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**20.24**	**166**	P	Pn	05 10 55.2	-1.3
	comp=Z,33nm,0.8s,baz=347,slow=12,SNR=231						
ASAR				S	**S**	**05 14 29.4**	**-2.6**
	comp=Z,2.4nm,0.7s,baz=51,slow=13,SNR=9.8						
ASAR				PcP	**PcP**	**05 15 02.5**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=339,slow=2.3,SNR=4.3						
	comp=Z,33nm,0.8s						
AS01	**Alice Springs**	**20.25**	**166**	P	Pn	05 10 54.9	-1.7
	comp=Z,57nm,0.9s						
WRKA	**Warakurna**	**20.97**	**181**	P	Pn	05 11 02.3	-3.0
OOD	**Oodnadatta**	**24.64**	**165**	P	**P**	**05 11 37.6**	**+1.6**
LCRK	**Leigh Creek**	**27.86**	**162**	P	**P**	**05 12 08.1**	**+3.3**
BBOO	**Buckleboo**	**29.53**	**167**	P	**P**	**05 12 21.0**	**+1.3**
BBOO				IAmb	IAmb	05 12 35.2	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**29.53**	**167**	P	**P**	**05 12 21.5**	**+1.8**
STKA	**Stephens Creek**	**30.32**	**158**	P	**P**	**05 12 28.7**	**+2.1**
	comp=Z,1.4nm,0.3s,baz=338,slow=8.2,SNR=7.6						
	comp=Z,1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.80**	**308**	P	**P**	**05 13 24.8**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=139,slow=7.1,SNR=4.7						
	comp=Z,0.7nm,0.3s						
CHTO	**Chiang Mai**	**37.00**	**309**	P	**P**	**05 13 26.4**	**+1.8**
CHTO				IAmb	IAmb	05 13 27.1	
	comp=Z,2.5nm,0.6s						
PZH	**PanZhiHua**	**39.95**	**321**	P	P	05 13 55.1	+5.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
PINNC	**Pines Island,**	**41.84**	**120**	P	P	05 14 08.8	+4.1
HHC	**Hu-ho-hao-te**	**47.25**	**342**	*eP*	P	05 14 54.6	+7.2
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
WMQ	**Urumqi**	**60.14**	**327**	*eP*	P	05 16 27.6	+6.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
CASY	**Casey**	**63.51**	**188**	P	P	05 16 49.4	+6.3
MKAR	**Makanchi Array**	**64.97**	**327**	P	**P**	**05 16 56.2**	**+3.1**
MKAR	**Makanchi Array**	**64.97**	**327**	P	**P**	**05 16 53.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=120,slow=7.2,SNR=4.4						
	comp=Z,0.4nm,0.7s						
MAKZ	**Makanchi**	**65.15**	**327**	P	P	05 16 58.5	+4.3
DRK	**Karamyk**	**67.76**	**316**	P	**P**	**05 17 14.2**	**+3.0**
DRK				IAmb	IAmb	05 17 16.4	
	comp=Z,5.6nm,1.0s						
KURBB	**Kurchatov Arra**	**69.24**	**328**	P	**P**	**05 17 20.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=129,slow=4.6,SNR=4.4						
	comp=Z,0.2nm,0.5s						

*ISN **15** 05:16:05.3±0.9, 34°.30N×45°.67E, h26km±11km, ML2.8*
*TEH **15** 05:16:05.2, 34°.30N×45°.60E, h8km±60km*
ISC 15 05:16:05.2±1.1, 34°.31N±0°.03×45°.61E±0°.04, h18km, n10, σ0.9 39/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**355**	Pg	**Pb**	**05 16 09.7**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.32**	**128**	Pg	**Pg**	**05 16 11.6**	**-0.5**
IDHR	**Dehrash**	**0.75**	**59**	Pg	**Pb**	**05 16 19.4**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.85**	**144**	Pg	**Pg**	**05 16 21.4**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.19**	**91**	Pg	**Pg**	**05 16 28.8**	**+0.6**
IBDR	**Badra**	**1.23**	**167**	*e*Pn	**Pg**	**05 16 29.0**	**0.0**
IBDR				*e*Sn	**Sg**	**05 16 45.0**	**0.0**
IBDR				AML	AML	05 16 52.5	
	comp=N,143nm,0.4s						
IBDR				AML	AML	05 16 59.6	
	comp=E,128nm,0.5s						
ILIN	**Lien**	**1.27**	**61**	Pg	**Pg**	**05 16 29.9**	**+0.1**
BHD	**Baghdad**	**1.46**	**225**	*e*Pn	**Pb**	**05 16 32.0**	**+0.2**
BHD				*e*Sn	**Sg**	**05 16 52.0**	**-0.4**
IKRK	**Kirkuk**	**1.51**	**316**	*e*Pn	**Pb**	**05 16 33.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**05 16 54.0**	**+0.1**
IKRK				AML	AML	05 16 59.7	
	comp=N,240nm,0.8s						
IKRK				AML	AML	05 17 00.2	
	comp=E,284nm,0.4s						
IKFM	**Kafar-mosalman**	**2.02**	**112**	Pn	**Pb**	**05 16 41.8**	**+0.5**

WEL 15 05:17:13.3±0.9, 33°S±16°×17°9E±2°9, h332km±25km, mB4.2/7, ML4.2/13, MLv4.0/8, Mw(mB)3.2/7, Error ellipse: s-maj=40.9km s-min=13.9km az=115.1, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.35**	**191**	P	Pn	05 18 22.9	-1.9
HAZ				S	S	05 19 22.1	-0.3
RUGZ	**Raukumara Rang**	**4.57**	**191**	P	Pn	05 18 26.6	-0.7
RUGZ				S	S	05 19 26.3	-0.7
TWGZ	**Tauwhareparae**	**4.73**	**188**	P	Pn	05 18 29.7	+0.6
TWGZ				S	S	05 19 29.0	-1.2
MWZ	**Matawai**	**4.95**	**192**	P	Pn	05 18 32.0	+0.5
MWZ				S	S	05 19 35.0	+0.4
URZ	**Urewera**	**4.96**	**196**	P	Pn	05 18 31.2	-0.4
URZ				S	S	05 19 34.7	-0.1
TKGZ	**Te Karaka**	**5.01**	**189**	P	Pn	05 18 32.1	+0.1
TKGZ				S	S	05 19 35.2	-0.5
CNGZ	**Carnagh Statio**	**5.02**	**185**	P	Pn	05

MUGZ	**Murupara**	**5.25 198**	P	Pn	05 18 35.7	+0.9
RIGZ	**Rimuhau**	**5.28 189**	P	Pn	05 18 35.5	+0.3
RIGZ			S	S	05 19 40.6	-0.7
RTZ	**Ruatahuna**	**5.33 196**	P	Pn	05 18 35.8	0.0
RTZ			S	S	05 19 44.8	+2.3
MTHZ	**Maungataniwha**	**5.59 196**	P	Pn	05 18 39.2	+0.5
MTHZ			S	S	05 19 50.7	+2.9
MHGZ	**Mahia Peninsul**	**5.71 187**	P	Pn	05 18 41.3	+1.3
NMHZ	**Naumai**	**5.83 195**	P	Pn	05 18 42.1	+0.6
NMHZ			S	S	05 19 55.7	+2.8
BKZ	**Black Stump Fm**	**5.97 198**	P	Pn	05 18 42.1	-1.1
BKZ			S	S	05 19 56.1	+0.2
ETVZ	**East Tongariro**	**6.17 203**	P	Pn	05 18 45.8	+0.3
OTVZ	**Oturere**	**6.21 203**	P	Pn	05 18 46.1	+0.1
KWHZ	**Kaweka Forest**	**6.23 197**	P	Pn	05 18 45.7	-0.4
KWHZ			S	S	05 20 02.3	+0.9
KRHZ	**Kereru**	**6.45 197**	P	Pn	05 18 47.9	-0.8
KRHZ			S	S	05 20 06.1	0.0
KAHZ	**Kahuranaki**	**6.49 193**	P	Pn	05 18 48.9	-0.2
KAHZ			S	S	05 20 03.8	-3.1
PXZ	**Pawanui**	**6.72 193**	P	Pn	05 18 50.9	-0.9
PXZ			S	S	05 20 12.4	+0.7

*IDC **15** 05:37:20.6±2.9, 9˚33S×120˚22E, h0km, mb3.7/2, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=265.1km s-min=27.7km az=52.0*
*DJA **15** 05:37:23.2±0.4, 10˚S±4˚×11˚9E±˚, h10km, M3.9/14, mb4.2/7, MLv3.8/14*

ISC 15 05:37:23.9±1.0, 10˚36S±0˚08×119˚24E±0˚05, h41km, n17, σ2°37/22, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.73**	**11**	P	**Pn**	**05 37 36.1**	**-1.7**
WBSI				S	**Sn**	**05 37 45.7**	**-2.2**
WSI	**Waingapu**	**1.25**	**56**	P	**Pn**	**05 37 45.1**	**+0.3**
WSI				S	**Sn**	**05 38 04.0**	**+3.6**
BASI	**Baing, Sumba**	**1.32**	**84**	P	**Pn**	**05 37 48.2**	**+2.3**
PLAI	**Plampang**	**2.10**	**316**	P	**Pn**	**05 37 57.0**	**+0.4**
PLAI				S	**Sn**	**05 38 23.8**	**+2.2**
TWSI	**Taliwang, Sumb**	**2.83**	**305**	P	**Pn**	**05 38 07.7**	**+1.0**
TWSI				S	**Sn**	**05 38 40.9**	**+1.3**
MMRI	**Maumere**	**3.42**	**60**	P	**Pn**	**05 38 15.7**	**+1.0**
DNP	**Denpasar**	**4.32**	**292**	P	**Pn**	**05 38 26.0**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.37**	**16**	P	**Pn**	**05 38 28.8**	**+1.0**
SRBI	**Singaraja**	**4.58**	**299**	P	**Pn**	**05 38 31.7**	**+1.1**
SOEI	**Soe**	**4.98**	**83**	P	**Pn**	**05 38 38.9**	**+2.6**
	0.1nm26nm,0.7s						
BKSI	**Bulukumba**	**5.08**	**10**	P	**Pn**	**05 38 38.8**	**+1.2**
	0.1nm27nm,0.5s						
JAGI	**Jajag, Banyuwa**	**5.36**	**290**	P	**Pn**	**05 38 42.3**	**+0.8**
	0.1nm11nm,1.0s						
GMJI	**Gumukmas**	**6.09**	**289**	P	**Pn**	**05 38 53.3**	**+1.9**
WRA	**Warramunga Arr**	**17.39**	**125**	Pn	**Pn**	**05 41 22.9**	**-0.7**
	0.1nm,0.3s,baz=303,slow=14,SNR=2.2						
WRA				Sn	**Sn**	**05 44 29.3**	**-7.1**
	0.1nm,0.3s,baz=359,slow=28,SNR=0.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**19.25**	**135**	P	**Pn**	**05 41 48.0**	**+1.8**
	0.1nm,0.3s,baz=317,slow=12,SNR=8.2						
	0.7nm,0.9s						
MKAR	**Makanchi Array**	**65.77**	**333**	P	**P**	**05 48 04.6**	**-0.1**
	0.4nm,0.7s,baz=120,slow=8.5,SNR=5.2						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**70.39**	**339**	P	**P**	**05 48 32.2**	**-1.3**
	0.5nm,0.5s,baz=155,slow=7.8,SNR=2.2						
	0.5nm,0.5s						

PGC 15 06:05:17.7±1.1, 50˚53N×130˚33W, h10km, MLSn3.3/25, Mw3.9/25, 206km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.41**	**84**	P	Pn	06 05 41.5	-1.9
HOLB				S	Sn	06 05 57.7	-4.2
BPEB	**Brooks Peninsu**	**1.68**	**102**	Pn	Pn	06 05 44.7	-2.5
PACB	**Port Alice, BC**	**1.81**	**92**	Pn	Pn	06 05 47.0	-2.0
PACB				Sn	Sn	06 06 07.3	-4.6
JEDB	**Jedway, Haida**	**1.85**	**343**	Pn	Pn	06 05 47.3	-2.2
JEDB				Sn	Sn	06 06 09.3	-3.6
PHC	**Port Hardy**	**1.85**	**83**	Pn	Pn	06 05 48.0	-1.5
PHC				Sn	Sn	06 06 09.0	-3.9
MAYB	**Maynard**	**2.02**	**92**	Pn	Pn	06 05 50.2	-1.7
MAYB				Sn	Sn	06 06 12.6	-4.7
BBB	**Bella Bella**	**2.17**	**39**	Pn	Pn	06 05 52.4	-1.4
BBB				Sn	Sn	06 06 16.8	-3.8
BAIB	**Barry Inlet**	**2.24**	**337**	Pn	Pn	06 05 53.0	-1.9
BAIB				Sn	Sn	06 06 19.7	-2.9
NTKA	**Nootka**	**2.57**	**110**	Pn	Pn	06 05 57.2	-2.1
HG1B	**Mitchell Dam**	**2.66**	**336**	Pn	Pn	06 06 00.4	-0.2
HG1B				Sn	Sn	06 06 29.9	-3.0
NCRB	**Newcastle Ridg**	**2.73**	**91**	Pn	Pn	06 06 00.3	-1.4
NCSB	**Newcastle Ridg**	**2.73**	**91**	Pn	Pn	06 06 00.4	-1.3
NCSB				Sn	Sn	06 06 30.8	-4.1
BUTB	**Butedale**	**2.79**	**24**	Pn	Pn	06 06 02.0	-0.5
BUTB				Sn	Sn	06 06 33.5	-2.8
GDR	**Gold River**	**2.86**	**103**	Pn	Pn	06 06 01.9	-1.4
GRIB	**Gribbell Islan**	**2.91**	**14**	Pn	Pn	06 06 02.8	-1.2
GRIB				Sn	Sn	06 06 35.0	-4.2
BNAB	**Bonilla**	**2.98**	**356**	Pn	Pn	06 06 03.8	-1.1
BNAB				Sn	Sn	06 06 36.5	-4.1
DIB	**Dawson Inlet,**	**2.99**	**334**	Sn	Sn	06 06 38.1	-2.9
CBB	**Campbell River**	**3.22**	**97**	Pn	Pn	06 06 07.6	-0.7
CBB				Sn	Sn	06 06 42.1	-4.6
GRNB	**Grenville Isla**	**3.33**	**4**	Pn	Pn	06 06 08.9	-0.9
GRNB				Sn	Sn	06 06 45.6	-3.9
PCLB	**Port Clements**	**3.47**	**338**	Sn	Sn	06 06 51.5	-1.4
OZB	**Mount Ozzard**	**3.51**	**115**	Pn	Pn	06 06 11.5	-0.8
MBLB	**Minette Bay Lo**	**3.67**	**16**	Sn	Sn	06 06 54.3	-3.3
KITB	**Kitimat**	**3.71**	**16**	Pn	Pn	06 06 14.2	-0.8
KITB				Sn	Sn	06 06 55.5	-3.1
TXB	**Texada**	**3.88**	**100**	Pn	Pn	06 06 16.8	-0.6
MGRB	**Mount Grey**	**3.96**	**111**	Pn	Pn	06 06 17.3	-1.3
UBRB	**Upper Baezaeko**	**4.55**	**56**	Pn	Pn	06 06 25.4	-1.2
UBRB				Sn	Sn	06 07 17.6	-1.9
SYMB	**Survey Mountai**	**4.69**	**112**	Pn	Pn	06 06 28.7	+0.2
GOBB	**Galiano Island**	**4.70**	**107**	Pn	Pn	06 06 29.1	+0.6
OBC	**Olympics--Boni**	**4.79**	**119**	Pn	Pn	06 06 30.2	+0.3
V35K	**Ketchikan**	**4.87**	**351**	Pn	Pn	06 06 30.5	-0.5
V35K				Sn	Sn	06 07 24.9	-2.5
OSD	**Olympics--Snow**	**5.12**	**119**	Pn	Pn	06 06 35.1	+0.5
LLLB	**Lillooet**	**5.38**	**86**	Pn	Pn	06 06 38.2	+0.1
FSJB	**Fort St James**	**5.39**	**41**	Pn	Pn	06 06 38.5	+0.3
FSJB				Sn	Sn	06 07 38.5	-1.8
T35M	**Bob Quinn**	**6.47**	**0**	Pn	Pn	06 06 54.1	+1.2
T35M				Sn	Sn	06 08 07.3	+0.6
GPW	**Glacier Peak**	**6.47**	**108**	Pn	Pn	06 06 53.5	+0.3
FMW	**Mount Fremont**	**6.76**	**119**	Pn	Pn	06 06 57.1	0.0
LTY	**Liberty**	**7.16**	**113**	Pn	Pn	06 07 03.5	+1.0
B08A	**Colville Reser**	**7.49**	**103**	Pn	Pn	06 07 07.3	+0.4
DLBC	**Dease Lake**	**7.93**	**1**	Pn	Pn	06 07 13.5	+0.5
R32K	**Eaglecrest**	**8.14**	**344**	Pn	Pn	06 07 16.4	+0.6

IDC 15 06:07:07.6±2.9, 54˚07N×86˚56E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=23.3km s-min=14.7km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**264**	I	I	06 12 52.6	
	baz=83,slow=339,SNR=16						
ZALV	**Zalesovo Beam**	**1.04**	**264**	Pg	Pg	06 07 25.9	-1.6
	0.3nm,0.3s,baz=82,slow=17,SNR=3.9						
ZALV				Lg	Lg	06 07 42.6	
	0.6nm,0.3s,baz=83,slow=28,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	06 08 38.8	+1.1
	baz=54,slow=14,SNR=4.4						
KURBB				Lg	Lg	06 10 18.8	
	baz=45,slow=28,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn	06 09 02.9	+0.9
	0.1nm,0.3s,baz=21,slow=13,SNR=4.0						
	0.1nm,0.3s						

*IDC **15** 06:07:41.2±1.8, 5˚48S×152˚20E, h0km, mb3.8/5, mbtmp3.8/6, ML1.9/1, MS3.5/2, Error ellipse: s-maj=76.9km s-min=21.5km az=125.0*

ISC 15 06:07:46.0±2.1, 5˚56S±0˚4×152˚4E±0˚4, h35km, n9, σ0°98/7, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.32**	**346**	LR	LR	06 08 17.1	
	comp=Z,86nm,21.2s,baz=184,slow=30						
PMG	**Port Moresby**	**6.39**	**233**	Pn	**Pn**	**06 09 17.4**	**-0.2**
	1.5nm,0.3s,baz=46,slow=11,SNR=4.5						
PMG				Sn	**Sn**	**06 10 30.5**	**+1.1**
	1.6nm,0.3s,baz=72,slow=11,SNR=3.6						
	8.2nm,0.4s						
DZM	**Mont Dzumac**	**21.31**	**142**	LR	LR	06 20 01.9	
	comp=Z,78nm,18.0s,baz=4.5,slow=34						
WRA	**Warramunga Arr**	**22.59**	**229**	P	**P**	**06 12 42.7**	**-1.0**
	0.8nm,0.5s,baz=53,slow=9.7,SNR=10						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.26**	**223**	P	**P**	**06 13 08.8**	**-0.3**
	0.8nm,0.5s,baz=57,slow=8.9,SNR=16						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**06 19 54.4**	**-0.9**
	0.8nm,1.0s,baz=123,slow=5.3,SNR=3.8						
	0.8nm,1.0s						
ILAR	**Eielson Array**	**83.06**	**22**	P	**P**	**06 20 08.4**	**+0.7**
	1.5nm,0.9s,baz=246,slow=5.7,SNR=17						
	1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**84.15**	**322**	LR	LR	06 58 15.6	
	comp=Z,30nm,18.8s,baz=173,slow=36						
BVAR	**Borovoye Array**	**89.61**	**323**	P	**P**	**06 20 40.5**	**+0.5**
	0.4nm,0.4s,baz=126,slow=4.1,SNR=2.2						
	0.4nm,0.4s						

*NOU **15** 06:08:56.3, 16˚26S×176˚33W, h491km, mb4.4/20, Fiji Islands Region*
*NEIC **15** 06:09:19.9±1.2, 18˚1S±0˚1×178˚09W±0˚08, h578km±10km, mb4.5/27, Error ellipse: s-maj=18.0km s-min=9.7km az=199.0*
*IDC **15** 06:09:21.5±1.0, 18˚22S×178˚22W, h589km±9km, mb3.5/12, mbtmp4.4/14, Error ellipse: s-maj=17.4km s-min=11.0km az=127.0*

ISC 15 06:09:21.2±0.5, 18˚09S±0˚10×178˚18W±0˚09, h590km, n71, σ1°12/74, mb4.3/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.61**	**275**	P	**P**	**06 10 42.7**	**-0.7**
MSVF	**Nonsavu**	**3.61**	**275**	P	**P**	**06 10 43.2**	**-0.2**
	244nm,0.6s,baz=142,slow=4.9,SNR=268						
MSVF				S	**S**	**06 11 50.7**	**+0.3**
	44nm,1.0s,baz=140,slow=22,SNR=10.0						
AFI	**Afiamalu**	**7.43**	**57**	P	**P**	**06 11 11.5**	**-3.4**
PINNC	**Pines Island,**	**14.21**	**249**	P	**P**	**06 12 20.3**	**-2.0**
OUENC	**Ouen Island, N**	**14.70**	**250**	P	**P**	**06 12 28.3**	**+1.4**
DZM	**Mont Dzumac**	**14.98**	**252**	P	**P**	**06 12 28.2**	**-1.5**
DZM				IAmb	IAmb	06 13 03.2	
	comp=Z,30nm,1.1s						
DZM	**Mont Dzumac**	**14.98**	**252**	P	**P**	**06 12 28.5**	**-1.2**
	comp=Z,11nm,0.4s,baz=110,slow=11,SNR=23						
DZM	**Mont Dzumac**	**14.98**	**252**	P	**P**	**06 12 28.8**	**-0.8**
KOUNC	**Koumac, New Ca**	**16.73**	**259**	P	**P**	**06 12 46.7**	**+0.9**
LUES	**Luesalemba Tem**	**17.08**	**293**	P	**P**	06 12 38.3	-11
OUZ	**Omahuta**	**18.56**	**202**	P	**P**	**06 13 05.3**	**+3.1**
URZ	**Urewera**	**20.51**	**191**	P	**P**	**06 13 17.3**	**-2.5**
	comp=Z,3.0nm,0.4s,baz=357,slow=3.0,SNR=8.1						
URZ				S	**S**	**06 16 31.4**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=77,slow=23,SNR=1.2						
	comp=Z,3.0nm,0.4s						
URZ	**Urewera**	**20.51**	**191**	P	**P**	**06 13 17.8**	**-2.0**
QRZ	**Quartz Range**	**24.02**	**198**	P	**P**	**06 13 53.6**	**+2.5**
TKNZ	**Takaka Hill**	**24.10**	**197**	P	**P**	**06 13 50.6**	**-1.2**
KHZ	**Kahutara**	**25.25**	**194**	P	**P**	**06 14 01.8**	**-0.1**
LTZ	**Lake Taylor**	**25.91**	**196**	P	**P**	**06 14 06.7**	**-1.1**
LTZ				IAmb	IAmb	06 14 29.6	
	comp=Z,19nm,1.4s						
INZ	**Inchbonnie**	**26.09**	**198**	P	**P**	**06 14 08.2**	**-1.1**
FOZ	**Fox Glacier**	**27.32**	**199**	P	**P**	**06 14 19.3**	**-0.7**
JCZ	**Jackson Bay**	**28.13**	**200**	P	**P**	**06 14 27.2**	**0.0**
EIDS	**Eidsvold**	**29.41**	**250**	P	**P**	**06 14 38.8**	**+0.3**
MLZ	**Mavora Lakes**	**29.50**	**200**	P	**P**	**06 14 39.4**	**+0.4**
ARMA	**Armidale**	**30.04**	**240**	P	**P**	**06 14 44.9**	**+0.9**
CNB	**Canberra Magne**	**33.49**	**233**	P	**P**	**06 15 14.1**	**+1.0**
CMSA	**Cobar Meteorol**	**35.25**	**241**	P	**P**	**06 15 28.2**	**+0.4**
TOO	**Toolangi**	**37.23**	**231**	P	**P**	**06 15 43.6**	**-0.3**
TOO				IAmb	IAmb	06 15 45.5	
	comp=Z,6.2nm,0.7s						
COEN	**Coen**	**37.33**	**271**	P	**P**	**06 15 45.0**	**0.0**
COEN				IAmb	IAmb	06 15 46.2	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**06 15 56.5**	**+0.3**
STKA				IAmb	IAmb	06 15 57.8	
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**06 15 57.0**	**+0.8**
	comp=Z,9.5nm,0.5s,baz=89,slow=10,SNR=35						
	comp=Z,9.5nm,0.5s						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**06 15 57.0**	**+0.8**
INKA	**Innaminka**	**38.88**	**248**	P	**P**	**06 15 58.4**	**+1.0**
ARPS	**Mount Arapiles**	**39.72**	**234**	P	**P**	**06 16 04.3**	**+0.3**
HTT	**Hallett**	**41.24**	**240**	P	**P**	**06 16 16.9**	**+0.7**
LCRK	**Leigh Creek**	**41.38**	**244**	P	**P**	**06 16 17.5**	**+0.3**
OOD	**Oodnadatta**	**43.36**	**248**	P	**P**	**06 16 33.5**	**+0.8**
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**06 16 33.8**	**-0.1**
BBOO				IAmb	IAmb	06 16 34.5	
	comp=Z,12nm,0.7s						
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**06 16 34.2**	**+0.3**
WB0	**Warramunga Arr**	**44.78**	**260**	P	**P**	**06 16 42.8**	**-1.1**
WRA	**Warramunga Arr**	**44.82**	**260**	P	**P**	**06 16 42.9**	**-1.3**
WRA	**Warramunga Arr**	**44.82**	**260**	P	**P**	**06 16 43.6**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=97,slow=7.0,SNR=63						
	comp=Z,5.0nm,0.7s						
AS31	**Alice Springs**	**44.95**	**254**	P	**P**	**06 16 44.6**	**-0.5**
AS31				IAmb	IAmb	06 16 46.1	
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**06 16 45.1**	**-0.1**
	comp=Z,33nm,0.5s,baz=88,slow=8.7,SNR=364						
ASAR				S	**S**	**06 22 40.2**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=83,slow=16,SNR=6.5						
	comp=Z,33nm,0.5s						
FORT	**Forrest**	**50.13**	**245**	P	**P**	**06 17 22.6**	**-1.0**
KNRA	**Kununurra**	**50.69**	**264**	P	**P**	**06 17 27.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**53.22**	**261**	P	**P**	**06 17 45.4**	**-0.5**
MBWA	**Marble Bar**	**58.24**	**256**	P	**P**	**06 18 19.8**	**-0.8**
MJAR	**Matsushiro Arr**	**68.19**	**323**	P	**P**	**06 19 23.7**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=152,slow=7.2,SNR=8.1						
	comp=Z,3.0nm,0.5s						
JSD	**Sado**	**69.22**	**324**	P	**P**	**06 19 30.0**	**+0.1**
JSD				IAmb	IAmb	06 19 32.7	
	comp=Z,12nm,1.0s						
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**06 19 46.6**	**+0.8**
PEA0B	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**06 19 56.7**	**-0.1**
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**06 19 57.4**	**+0.6**
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**06 19 56.8**	**0.0**
	comp=Z,3.5nm,0.6s,baz=86,slow=6.8,SNR=7.1						
	comp=Z,3.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**76.89**	**326**	P	**P**	**06 20 15.8**	**+2.3**
	comp=Z,2.3nm,0.7s,baz=166,slow=5.4,SNR=4.2						
	comp=Z,2.3nm,0.7s						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**06 20 29.1**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=231,slow=8.2,SNR=4.2						
	comp=Z,0.7nm,0.5s						
P18K	**Big Mountain,**	**79.46**	**12**	P	**P**	**06 20 27.4**	**+0.4**
P18K				IAmb	IAmb	06 20 28.3	
	comp=Z,12nm,1.1s						
O18K	**Koktuh Hills**	**79.89**	**12**	P	**P**	**06 20 28.9**	**-0.2**
O18K				IAmb	IAmb	06 20 30.4	
	comp=Z,15nm,0.9s						
ILSW	**Iliamna Southw**	**80.42**	**12**	P	**P**	**06 20 31.5**	**-0.5**
ILSW				IAmb	IAmb	06 20 33.2	
	comp=Z,21nm,1.1s						
CAST	**Castle Rocks**	**83.77**	**11**	P	**P**	**06 20 47.8**	**-1.0**
CAST				IAmb	IAmb	06 20 49.2	
	comp=Z,5.1nm,0.7s						
TRF	**Thorofare Moun**	**84.14**	**12**	P	**P**	**06 20 50.5**	**-0.3**
TRF				IAmb	IAmb	06 20 51.5	
	comp=Z,8.7nm,0.8s						
RND	**Reindeer**	**84.40**	**13**		**P**	**06 20 52.0**	**0.0**
RND				IAmb	IAmb	06 20 53.1	
	comp=Z,7.7nm,0.8s						
TXAR	**Lajitas Array**	**85.91**	**58**	P	**P**	**06 21 01.9**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=218,slow=6.4,SNR=13						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**06 20 59.4**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=224,slow=4.8,SNR=21						
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**06 21 08.1**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=211,slow=2.8,SNR=7.3						
	comp=Z,0.7nm,0.7s						
G30M	**tAoh Zraii Nji**	**90.32**	**15**		**P**	**06 21 20.0**	**+0.3**
G30M				IAmb	IAmb	06 21 21.2	
	comp=Z,6.1nm,0.9s						
F31M	**Tsiigehtchic**	**91.30**	**16**		**P**	**06 21 24.6**	**+0.5**
YKA	**Yellowknife Ar**	**94.41**	**25**	P	**P**	**06 21 38.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=246,slow=5.2,SNR=5.2						
YKA				PKiKP	**PKiKP**	**06 26 18.6**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=246,slow=3.9,SNR=3.6						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**112.17**	**318**	PKiKP	**PKiKP**	**06 26 49.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=74,slow=2.0,SNR=4.5						
BRTR	**Keskin Array B**	**145.07**	**315**	PKPbc	**PKPbc**	**06 27 54.0**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=120,slow=4.4,SNR=5.7						
MMAI	**Mount Meron Ar**	**146.43**	**303**	PKPbc	**PKPbc**	**06 27 57.8**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=12,slow=7.4,SNR=2.1						
GERES	**GERESS Array B**	**147.85**	**345**	PKPbc	**PKiKP**	**06 28 01.8**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=20,slow=4.3,SNR=11						
ESDC	**Sonseca Array**	**157.92**	**12**	PKPab	**PKPab**	**06 28 47.9**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=13,slow=5.4,SNR=4.6						

*PGC **15** 06:27:36.4±0.7, 50˚56N×130˚26W, h10km, MLSn3.5/40, Mw4.3, mb4.0(NEIC), 195km west of Port Hardy, Bc Vancouver Island, Canada Region*
*NEIC **15** 06:27:37.4±2.6, 50˚67N±0˚07×130˚10W±0˚05, h10km±1km, mb4.0/14, Error ellipse: s-maj=11.7km s-min=6.2km az=184.0*
*IDC **15** 06:27:39.0±1.1, 50˚66N×129˚76W, h0km, mb3.6/4, mbtmp3.7/11, ML3.8/6, MS3.4/19, Error ellipse: s-maj=17.5km s-min=9.3km az=66.0*

ISC 15 06:27:37.4±3.7, 50˚62N±0˚05×130˚17W±0˚04, h17km±25km, n223, σ1°58/235, mb3.8/7, MS3.3/13, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.30**	**88**		**Pn**	**06 27 59.1**	**-1.8**
HOLB	**Holberg**	**1.30**	**88**	P	**Pn**	**06 27 59.5**	**-1.4**
HOLB				S	**Sb**	**06 28 15.7**	**-2.2**
BPEB	**Brooks Peninsu**	**1.61**	**106**	Pn	**Pn**	**06 28 02.7**	**-2.4**
PACB	**Port Alice, BC**	**1.72**	**95**	Pn	**Pn**	**06 28 05.0**	**-1.6**
PACB				Sn	**Sn**	**06 28 25.2**	**-3.0**
PHC	**Port Hardy**	**1.75**	**86**	Pn	**Pn**	**06 28 06.0**	**-1.0**
PHC				Sn	**Sn**	**06 28 27.0**	**-1.8**
HG4B	**Hotspring**	**1.79**	**339**		**Pn**	**06 28 05.0**	**-2.7**
JEDB	**Jedway, Haida**	**1.79**	**339**	Pn	**Pn**	**06 28 05.2**	**-2.5**
JEDB				Sn	**Sn**	**06 28 27.8**	**-2.3**
MAYB	**Maynard**	**1.93**	**95**	Pn	**Pn**	**06 28 08.2**	**-1.4**
MAYB				Sn	**Sn**	**06 28 30.4**	**-3.1**
BBB	**Bella Bella**	**2.03**	**39**	Pn	**Pn**	**06 28 10.3**	**-0.6**
	25nm,0.3s,baz=225,slow=6.0,SNR=363						
BBB				Sn	**Sn**	**06 28 34.6**	**-1.2**
	37nm,0.3s,baz=302,slow=23,SNR=5.6						
BBB	**Bella Bella**	**2.03**	**39**	Pn	**Pn**	**06 28 10.2**	**-0.6**
BBB				Sn	**Sn**	**06 28 33.5**	**-2.3**
BAIB	**Barry Inlet**	**2.19**	**334**	Pn	**Pn**	**06 28 10.7**	**-2.5**
BAIB				Sn	**Sn**	**06 28 36.8**	**-3.2**
NTKA	**Nootka**	**2.51**	**113**	Pn	**Pn**	**06 28 14.6**	**-2.9**
HG1B	**Mitchell Dam**	**2.62**	**333**	Pn	**Pn**	**06 28 15.8**	**-3.1**
HG1B				Sn	**Sn**	**06 28 47.1**	**-3.2**
NCRB	**Newcastle Ridg**	**2.64**	**93**	Pn	**Pn**	**06 28 18.4**	**-1.0**
NCSB	**Newcastle Ridg**	**2.64**	**93**	Pn	**Pn**	**06 28 18.4**	**-1.0**
ETB	**Estevan Point**	**2.66**	**117**	Pn	**Pn**	**06 28 17.6**	**-1.8**
BUTB	**Butedale**	**2.67**	**23**	Pn	**Pn**	**06 28 19.2**	**-0.5**
BUTB				Sn	**Sn**	**06 28 49.2**	**-2.5**
MOBC	**Moresby Island**	**2.76**	**337**	Pn	**Pn**	**06 28 19.3**	**-1.7**
MOBC	**Moresby Island**	**2.76**	**337**	Pn	**Pn**	**06 28 18.9**	**-2.1**
MOBC				Sn	**Sn**	**06 28 51.2**	**-2.8**
GDR	**Gold River**	**2.79**	**106**	Pn	**Pn**	**06 28 19.7**	**-1.6**
GDR				Sn	**Sn**	**06 28 52.1**	**-2.5**
GRIB	**Gribbell Islan**	**2.80**	**13**	Pn	**Pn**	**06 28 20.7**	**-0.8**
GRIB				Sn	**Sn**	**06 28 53.5**	**-1.3**
BNAB

S34M	**Telegraph Cree**	**7.33 356**	Pn	**Pn**	**06 29 24.3 +0.7**
S34M			Sn	**Sn**	**06 30 46.6 +0.2**
B08A	**Colville Reser**	**7.42 104**	Pn	**Pn**	**06 29 25.7 +0.9**
B08A	**Colville Reser**	**7.42 104**	Pn	**Pn**	**06 29 25.8 +0.9**
NBC4	**NorthernBC 4**	**7.64 45**	Sn	**Sn**	**06 30 53.6 -0.5**
MXC	**Moxie City**	**7.70 118**		**Pn**	**06 29 29.9 +1.2**
HOOD	**Mount Hood Mea**	**7.79 130**		**Pn**	**06 29 32.6 +2.4**
DLBC	**Dease Lake**	**7.83 1**		**Pn**	**06 29 33.0 +2.4**
DLBC	**Dease Lake**	**7.83 1**	Pn	**Pn**	**06 29 33.4 +2.7**
	1.5nm,0.3s,baz=183,slow=11,SNR=24				
DLBC			Sn	**Sn**	**06 31 03.0 +4.1**
	0.2nm,0.3s,baz=194,slow=19,SNR=1.5				
DLBC			Lg	Lg	06 31 45.5
	0.3nm,0.3s,baz=230,slow=14,SNR=1.6				
DLBC			LR	LR	06 32 32.7
	comp=Z,276nm,20.0s,baz=207,slow=38				
	4.8nm,0.4s				
DLBC	**Dease Lake**	**7.83 1**	Pn	**Pn**	**06 29 32.7 +2.0**
E07A	**Sunnyside**	**7.96 117**		**Pn**	**06 29 32.5 +0.2**
BDMTA	**Bald Mountain**	**8.02 54**	Pn	**Pn**	**06 29 35.2 +2.0**
BDMTA			Sn	**Sn**	**06 31 03.2 -0.3**
HAWA	**Hanford**	**8.23 117**	Pn	**Pn**	**06 29 37.1 +1.1**
D08A	**Wollman Farm,**	**8.23 111**	Pn	**Pn**	**06 29 35.7 -0.4**
F07A	**Phinny Hill Vi**	**8.31 121**	Pn	**Pn**	**06 29 38.2 +1.2**
G06A	**Carlson Farm,**	**8.37 126**	Pn	**Pn**	**06 29 39.9 +1.9**
Q32M	**Nakina River**	**8.45 353**	Pn	**Pn**	**06 29 40.4 +1.3**
Q32M	**Nakina River**	**8.45 353**	Pn	**Pn**	**06 29 40.4 +1.3**
E08A	**Dider Farm, El**	**8.45 115**	Pn	**Pn**	**06 29 38.1 -0.9**
TOAD	**Toad River Com**	**8.73 17**	Pn	**Pn**	**06 29 45.8 +3.0**
R33M	**Jennings River**	**8.81 357**	Pn	**Pn**	**06 29 45.9 +1.9**
NEW	**Newport**	**8.83 100**		**Pn**	**06 29 44.4 +0.2**
NEW	**Newport**	**8.83 100**	Pn	**Pn**	**06 29 44.6 +0.4**
	0.8nm,0.3s,baz=302,slow=12,SNR=9.7				
NEW			Lg	Lg	06 32 05.2
	0.1nm,0.3s,baz=253,slow=13,SNR=1.6				
NEW			LR	LR	06 33 16.3
	comp=Z,274nm,19.4s,baz=288,slow=39				
	2.7nm,0.3s				
E09A	**Wood Farm, Sta**	**8.97 113**	Pn	**Pn**	**06 29 46.8 +0.6**
P32M	**Atlin**	**9.21 349**	Pn	**Pn**	**06 29 50.5 +0.9**
P32M	**Atlin**	**9.21 349**	Pn	**Pn**	**06 29 50.6 +1.1**
FNSB	**Fort Nelson**	**9.26 25**	Pn	**Pn**	**06 29 50.9 +0.8**
FNSB			Sn	**Sn**	**06 31 32.1 -1.7**
P33M	**Teslin, Yukon**	**9.73 352**		**Pn**	**06 29 57.3 +0.7**
P33M	**Teslin, Yukon**	**9.73 352**	Pn	**Pn**	**06 29 58.0 +1.4**
YBH	**Yreka Blue Hor**	**10.28 147**	Pn	**Pn**	**06 30 08.0 +3.8**
	2.1nm,0.8s,baz=310,slow=13,SNR=2.0				
BMO	**Blue Mountains**	**10.40 119**	Pn	**Pn**	**06 30 06.7 +0.8**
WHY	**Whitehorse**	**10.41 347**	Pn	**Pn**	**06 30 06.7 +0.8**
WHY	**Whitehorse**	**10.41 347**	Pn	**Pn**	**06 30 06.7 +0.8**
BSMT	**Bassoo Peak**	**10.44 99**	Pn	**Pn**	**06 30 07.7 +1.3**
N32M	**Quiet Lake**	**10.68 352**	Pn	**Pn**	**06 30 09.9 +0.3**
O30N	**Mendenhall**	**10.70 344**	Pn	**Pn**	**06 30 11.4 +1.5**
JTMT	**Jette**	**10.79 99**	Pn	**Pn**	**06 30 12.3 +1.1**
PLID	**Pearl Lake**	**11.01 115**		**Pn**	**06 30 14.4 +0.1**
PCA	**Pinnacle**	**11.08 333**	Pn	**Pn**	**06 30 16.0 +0.9**
O28M	**Mount Upton**	**11.62 335**	Pn	**Pn**	**06 30 23.0 +0.4**
FARO	**Faro, Yukon**	**11.77 353**	Pn	**Pn**	**06 30 22.4 -2.0**
MKRVA	**Milk River, Al**	**11.96 90**	Pn	**Pn**	**06 30 28.9 +1.7**
HLID	**Hailey**	**12.84 117**	Pn	**Pn**	**06 30 38.3 -0.9**
DLMT	**Dillon**	**12.88 107**	Pn	**Pn**	**06 30 38.8 -1.1**
MCMT	**McKenzie Canyo**	**13.01 110**	Pn	**Pn**	**06 30 40.4 -1.3**
K29M	**Barlow Dome**	**13.83 346**	Pn	**Pn**	**06 30 55.1 +2.5**
L27K	**Beaver Creek,**	**13.97 338**	P	**Pn**	**06 30 55.6 +1.1**
YHL	**Hebgen Lake**	**14.01 107**	Pn	**Pn**	**06 30 55.2 -0.1**
YMR	**Madison River**	**14.23 107**	Pn	**Pn**	**06 30 58.3 0.0**
ELK	**Elko**	**14.34 128**	LR	LR	06 36 23.6
	comp=Z,70nm,19.1s,baz=330,slow=37				
DAWY	**Dawson**	**14.35 343**	P	**P**	**06 31 06.2 -0.4**
J30M	**Hart River**	**14.37 349**	P	**P**	**06 31 05.8 -1.1**
H17A	**Grant Village**	**14.61 108**	Pn	**Pn**	**06 31 02.7 -0.9**
YKA	**Yellowknife Ar**	**14.62 30**	Pn	**Pn**	**06 31 01.8 -1.5**
	0.2nm,0.3s,baz=223,slow=12,SNR=14				
	1.7nm,0.9s				
YKAW1	**Yellowknife Wh**	**14.65 30**	P	**Pn**	**06 31 03.0 -0.6**
YKAW3	**Yellowknife Wh**	**14.66 29**	P	**Pn**	**06 31 03.0 -0.9**
FLWY	**Flagg Ranch**	**14.71 109**	Pn	**Pn**	**06 31 04.7 -0.2**
NVAR	**Mina Array Bea**	**14.81 141**	Pn	**P**	**06 31 12.6 +0.4**
	0.1nm,0.3s,baz=316,slow=8.2,SNR=4.3				
	0.7nm,0.7s				
TPAW	**Teton Pass**	**14.89 111**	Pn	**Pn**	**06 31 07.0 -0.3**
KDAK	**Kodiak Island**	**14.90 307**	LR	LR	06 35 27.1
	comp=Z,167nm,20.8s,baz=359,slow=31				
I30M	**Mount Dempster**	**15.00 350**	P	**P**	**06 31 12.7 -1.2**
SNOW	**Snow King Moun**	**15.02 111**	Pn	**Pn**	**06 31 10.2 +1.1**
DOT	**Dot Lake**	**15.03 336**	P	**Pn**	**06 31 09.5 +0.7**
LOHW	**Long Hollow**	**15.03 110**	Pn	**Pn**	**06 31 11.0 +1.9**
H31M	**Peel River**	**15.38 354**	P	**P**	**06 31 18.3 +0.2**
HWUT	**Hardware Ranch**	**15.70 118**		**Pn**	**06 31 17.5 -0.5**
HWUT			IAmb	IAmb	06 31 23.4
	comp=Z,13nm,1.4s				
I28M	**Miner Creek**	**15.71 345**	P	**P**	**06 31 23.1 +1.3**
PD31	**Pinedale Array**	**16.14 111**	P	**Pn**	**06 31 25.6 +1.9**
PD31			IAmb	IAmb	06 31 28.2
	comp=Z,11nm,1.2s				
PDAR	**Pinedale Array**	**16.14 111**	P	**P**	**06 31 26.1 -0.7**
PDAR	**Pinedale Array**	**16.14 111**	Pn	**P**	**06 31 26.9 0.0**
	comp=Z,0.1nm,0.3s,baz=313,slow=12,SNR=20				
PDAR			LR	LR	06 36 37.1
	comp=Z,55nm,20.3s,baz=316,slow=34				
	comp=Z,3.9nm,0.9s				
J25K	**Salcha River,**	**16.15 336**	P	**Pn**	**06 31 24.3 +0.9**
I27K	**Kandik River**	**16.15 343**	P	**Pn**	**06 31 23.6 +0.2**
H29M	**Whitestone**	**16.20 348**	P	**P**	**06 31 29.3 +2.2**
I26K	**Coal Creek Min**	**16.20 340**	P	**Pn**	**06 31 23.4 -0.6**
RND	**Reindeer**	**16.27 329**	P	**Pn**	**06 31 24.9 -0.1**
RND			IAmb	IAmb	06 31 33.8
	comp=Z,10nm,1.4s				
ILAR	**Eielson Array**	**16.68 335**	Pn	**P**	**06 31 36.9 +4.5**
	comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=18				
ILAR			LR	LR	06 38 04.9
	comp=Z,149nm,18.2s,baz=173,slow=37				
	comp=Z,2.4nm,1.0s				
H27K	**Steamboat Moun**	**16.70 344**	P	**Pn**	**06 31 29.6 -0.8**
G29M	**Pine Creek**	**16.82 349**	P	**Pn**	**06 31 31.1 -0.7**
TPNV	**Topopah Spring**	**16.92 139**	P	**Pn**	**06 31 33.2 -0.4**
TPNV			IAmb	IAmb	06 31 53.2
	comp=Z,12nm,1.4s				
F31M	**Tsiigehtchic**	**16.97 355**	P	**Pn**	**06 31 33.1 -0.6**
G27K	**Doyon Strip**	**17.24 345**	P	**Pn**	**06 31 36.8 -0.4**
F30M	**Barrier River**	**17.27 353**	P	**Pn**	**06 31 37.2 -0.3**
FFC	**Flin Flon**	**17.53 66**	P	**P**	**06 31 43.1 +1.3**
FFC	**Flin Flon**	**17.53 66**	P	**P**	**06 31 41.7 -0.1**
MSU	**Marysvale**	**17.58 127**	P	**Pn**	**06 31 42.7 +1.0**
F28M	**Old Crow**	**17.72 340**	P	**P**	**06 31 45.5 +1.7**
FYU	**Fort Yukon**	**17.72 340**	P	**Pn**	**06 31 43.7 +0.6**
G26K	**Porcupine Rive**	**17.76 342**	P	**P**	**06 31 46.9 +2.6**
INK	**Inuvik**	**17.82 356**	P	**Pn**	**06 31 40.4 -3.9**
K22A	**Casper**	**18.04 107**	P	**P**	**06 31 48.0 +0.3**
F26K	**Sheenjek River**	**18.48 343**	P	**P**	**06 31 48.9 -3.3**
E28M	**Babbage River**	**18.61 349**	P	**P**	**06 31 50.6 -3.1**
F25K	**Christian River**	**18.68 341**	P	**P**	**06 31 52.4 -2.2**
KUKN	**Kugluktuk,NWT**	**18.80 18**	P	**P**	**06 31 53.1 -2.6**
C36M	**Paulatuk**	**19.02 7**	P	**P**	**06 31 55.0 -3.1**
D28M	**Stokes Point**	**19.21 351**	P	**P**	**06 31 57.8 -2.5**
MDND	**Maddock**	**20.08 86**		**P**	**06 32 10.7 +0.7**
C27K	**Jago River**	**20.13 346**	P	**P**	**06 32 09.3 -0.9**
D25K	**Kavik River**	**20.30 343**	P	Pn	06 32 16.6 +2.4
MVCO	**Mesa Verde**	**20.48 123**		**P**	**06 32 14.4 -0.2**
MVCO			IAmb	IAmb	06 32 20.0
	comp=Z,9.6nm,1.1s				
C26K	**Camden Bay**	**20.58 346**	P	Pn	06 32 17.5 +0.1
A36M	**Sachs Harbour**	**21.56 4**	P	**P**	**06 32 21.6 -4.0**
ULM	**Lac du Bonnet**	**21.74 78**	P	**P**	**06 32 27.7 -0.1**
	comp=Z,1.9nm,0.5s,baz=295,slow=9.3,SNR=7.2				
ULM			LR	LR	06 40 41.5
	comp=Z,69nm,19.9s,baz=338,slow=36				
	comp=Z,1.9nm,0.5s				
ULM	**Lac du Bonnet**	**21.74 78**	P	**P**	**06 32 28.3 +0.5**
FCC	**Fort Churchill**	**22.15 54**	P	**P**	**06 32 33.6 +1.5**
BLKN	**Baker Lake**	**22.56 40**	P	**P**	**06 32 37.8 +1.4**
EPLO	**Experimental L**	**23.23 78**	P	**P**	**06 32 43.8 +0.2**
ANMO	**Albuquerque**	**23.27 123**	LR	LR	06 41 06.0
	comp=Z,52nm,19.6s,baz=106,slow=35				
ECSD	**EROS Data Cent**	**23.68 94**	P	**P**	**06 32 49.3 +1.3**
ECSD			IAmb	IAmb	06 32 52.2
	comp=Z,7.6nm,1.1s				
SOLO	**Sioux Lookout**	**24.16 77**	P	**P**	**06 32 52.6 +0.1**
PKLO	**Pickle Lake**	**24.84 72**	P	**P**	**06 32 59.9 +1.3**
AMTX	**Amarillo**	**25.96 116**	P	**P**	**06 33 08.0 -1.1**
RES	**Resolute Bay**	**28.20 19**	LR	LR	06 44 48.8
	comp=Z,64nm,20.9s,baz=18,slow=37				
TXAR	**Lajitas Array**	**29.14 127**	P	**P**	**06 33 39.0 +1.4**
	comp=Z,1.3nm,1.0s,baz=325,slow=7.5,SNR=8.0				
TXAR			LR	LR	06 45 58.6
	comp=Z,40nm,20.3s,baz=313,slow=38				
	comp=Z,1.3nm,1.0s				
SADO	**Sadowa**	**34.27 80**	LR	LR	06 49 27.1
	comp=Z,57nm,18.3s,baz=253,slow=38				
TKL	**Tuckaleechee C**	**36.38 96**	LR	LR	06 49 54.0
	comp=Z,136nm,18.3s,baz=302,slow=37				
SFJD	**Kangerlussuaq**	**41.04 36**	LR	LR	06 50 53.2
	comp=Z,76nm,18.4s,baz=356,slow=34				
JTS	**Las Juntas de**	**54.66 121**	LR	LR	07 04 20.5
	comp=Z,44nm,18.4s,baz=240,slow=40				
H11N2	**WAKE ISLAND Hy**	**57.87 262**	T	T	07 40 05.1
	baz=42,slow=75,SNR=452				
H11N3	**WAKE ISLAND Hy**	**57.88 262**	T	T	07 40 03.9
	baz=42,slow=75,SNR=423				
H11N1	**WAKE ISLAND Hy**	**57.89 262**	T	T	07 40 06.8
	baz=42,slow=75,SNR=212				
H11S1	**WAKE ISLAND Hy**	**58.91 261**	T	T	07 41 28.0
	baz=40,slow=75,SNR=24				
H11S2	**WAKE ISLAND Hy**	**58.91 261**	T	T	07 41 21.8
	baz=40,slow=75,SNR=14				
H11S3	**WAKE ISLAND Hy**	**58.92 261**	T	T	07 41 11.6
	baz=40,slow=75,SNR=16				
SJG	**San Juan**	**59.77 98**	LR	LR	07 06 36.5
	comp=Z,14nm,18.1s,baz=300,slow=39				
SDV	**Santo Domingo**	**64.06 109**	LR	LR	07 08 40.4
	comp=Z,30nm,18.8s,baz=256,slow=39				
FINES	**FINESS Array B**	**66.68 12**	LR	LR	07 06 10.3
	comp=Z,68nm,20.1s,baz=1.0,slow=35				
KSRS	**Korea Array**	**68.76 303**	LR	LR	07 08 29.6
	comp=Z,11nm,18.3s,baz=40,slow=36				
ZALV	**Zalesovo Beam**	**71.74 339**	P	**P**	**06 39 03.0 +4.7**
	comp=Z,0.3nm,0.5s,baz=43,slow=6.5,SNR=2.3				
	comp=Z,0.3nm,0.5s				
HHC	**Hu-ho-hao-te**	**74.13 316**	*e*P	**P**	**06 39 12.3 -0.5**
HHC			pmax	pmax	
	comp=Z,17nm,0.6s				
HHC			pmax	pmax	
	comp=Z,37nm,3.9s				
DAVOX	**Davos/Dischmat**	**77.03 27**	LR	LR	07 15 11.9
	comp=Z,56nm,18.8s,baz=352,slow=37				
MKAR	**Makanchi Array**	**79.00 338**	P	**P**	**06 39 43.8 +3.7**
	comp=Z,0.2nm,0.7s,baz=31,slow=3.9,SNR=4.0				
	comp=Z,0.2nm,0.7s				
PZH	**PanZhiHua**	**90.57 315**	P	**P**	**06 40 39.5 +0.6**
PZH			pmax	pmax	
	comp=Z,10.0nm,0.5s				
PZH			pmax	pmax	
	comp=Z,100nm,4.5s				

*ASRS **15** 06:30:40.0±0.8, 54°.42N×86°.83E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:30:44.1±2.8, 54°.37N×86°.89E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=23.1km s-min=15.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**252**	I	I	06 37 50.9	
	baz=69,slow=339,SNR=9.8						
ZALV	**Zalesovo Beam**	**1.29**	**252**	Pg	Pg	06 31 07.2	-1.6
	1.3nm,0.3s,baz=67,slow=16,SNR=16						
ZALV				Lg	Lg	06 31 26.3	
	1.0nm,0.3s,baz=68,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	Pn	06 32 20.1	+1.4
	0.1nm,0.3s,baz=54,slow=14,SNR=14						
KURBB				Sn	Sn	06 33 30.3	-1.4
	baz=31,slow=18,SNR=1.1						
KURBB				Lg	Lg	06 34 05.7	
	baz=53,slow=30,SNR=5.9						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	06 32 44.2	+0.9
	0.1nm,0.3s,baz=25,slow=14,SNR=5.6						
MKAR				Sn	Sn	06 34 14.6	-1.3
	0.1nm,0.3s,baz=21,slow=26,SNR=6.0						
MKAR				Lg	Lg	06 35 01.3	
	baz=34,slow=29,SNR=5.7						
	0.2nm,0.2s						
BVAR	**Borovoye Array**	**9.88**	**269**	Sn	Sn	06 34 53.2	-5.7
	baz=77,slow=25,SNR=2.6						

*UPA **15** 06:47:42.7±0.4, 6°.83N×77°.26W, h42km±6km, MD3.5, MW4.1*

*RSNC **15** 06:47:44.4±0.0, 7°.N±2°.×7°.7W±°, h23km±4km, M1.9, ML1.9*

ISC 15 06:47:44.4±1.6, 7°.06N±0°.05×77°.21W±0°.04, h34km±4km, n13, σ1°35/23, 1C, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.60**	**279**	P	**Pb**	**06 47 54.9**	**-1.7**
PTAC				S	**Sn**	**06 48 04.3**	**-0.7**
PTAC	**Punta Ardita,**	**0.60**	**279**	↑*i*P	**Pb**	**06 47 55.0**	**-1.6**
PTAC				*i* S	**Sn**	**06 48 04.2**	**-0.7**
SOLC	**Bahia Solano**	**0.85**	**193**	P	**Pb**	**06 48 00.5**	**-0.3**
SOLC				S	**Sb**	**06 48 15.1**	**+3.2**
DBBC	**Dabeiba**	**1.00**	**92**	P	**Pn**	**06 48 00.9**	**-1.2**
DBBC				S	**Sn**	**06 48 12.9**	**-2.2**
APAC	**Apartado, Choc**	**1.05**	**37**	P	**Pn**	**06 48 02.1**	**-0.6**
APAC				S	**Sn**	**06 48 16.2**	**0.0**
UPD2	**Meteti**	**1.68**	**332**	*e*P	**Pn**	**06 48 11.1**	**-0.4**
UPD2				*e*S	**Sn**	**06 48 34.3**	**+2.5**
CBOC	**Ciudad Bolivar**	**1.68**	**135**	P	**Pn**	**06 48 11.0**	**-0.6**
CBOC				S	**Sn**	**06 48 31.2**	**-0.9**
UREC	**San Jos de Ur**	**1.80**	**67**	P	**Pn**	**06 48 13.3**	**+0.1**
UREC				S	**Sn**	**06 48 36.1**	**+1.2**
UREC	**San Jos de Ur**	**1.80**	**67**	*i* P	**Pn**	**06 48 13.3**	**+0.1**
UREC				*i* S	**Sn**	**06 48 36.1**	**+1.2**
ZARC	**Zaragoza, Cauc**	**2.38**	**79**	P	**Pn**	**06 48 21.7**	**+0.7**
ZARC				S	**Sn**	**06 48 49.4**	**+0.4**
CNTA3	**Canitas, Panam**	**2.71**	**322**	*e*P	**Pn**	**06 48 25.7**	**0.0**
AZU	**Azuero**	**3.12**	**284**	P	**Pn**	**06 48 31.7**	**+0.4**
BCIP	**Isla Barro Col**	**3.34**	**309**	P	**Pn**	**06 48 34.0**	**-0.3**

*IDC **15** 06:59:59.8±1.1, 29°.98S×71°.09W, h0km, mb3.7/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=35.1km s-min=23.8km az=141.0*

*GUC **15** 07:00:05.9±0.7, 30°.05S×71°.17W, h56km±2km, ML4.4*

*NEIC **15** 07:00:06.6±2.1, 30°.02S±0°.04×71°.39W±0°.04, h37km±11km, mb4.5/3, Error ellipse: s-maj=6.5km s-min=4.6km az=166.0*

*SJA **15** 07:00:06.6±1.1, 30°.12S×71°.26W, h46km±7km, ML3.8, MW3.5*

ISC 15 07:00:06.1±0.8, 30°.03S±0°.03×71°.36W±0°.04, h47km±6km, n92, σ1°41/123, mb4.3/4, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.15**	**44**		**Pn**	**07 00 14.8**	**+1.0**
CO05	**La Serena**	**0.15**	**44**	*e*P	**Pn**	**07 00 14.8**	**+1.0**
CO05				*i* S	**Sn**	**07 00 21.4**	**+2.2**
CO05				IAML		07 00 22.9	
	comp=E,12μm,0.3s						
GO04	**Tololo Observa**	**0.51**	**107**		**Pn**	**07 00 16.9**	**-0.7**
GO04	**Tololo Observa**	**0.51**	**107**	*i* P	**Pn**	**07 00 17.2**	**-0.4**
GO04				*e*S	**Sn**	**07 00 25.6**	**0.0**
GO04	**Tololo Observa**	**0.51**	**107**	*e*P	**Pn**	**07 00 16.8**	**-0.8**
GO04				*i* S	**Sn**	**07 00 25.1**	**-0.6**
CO06	**Fray Jorge**	**0.69**	**200**		**Pn**	**07 00 20.3**	**+0.7**
CO06	**Fray Jorge**	**0.69**	**200**	↓*i*P	**Pn**	**07 00 20.6**	**+1.0**
CO06				*e*S	**Sn**	**07 00 31.7**	**+2.4**
CO03	**El Pedregal**	**0.99**	**144**		**Pn**	**07 00 22.9**	**-0.9**
CO03	**El Pedregal**	**0.99**	**144**	*i* P	**Pn**	**07 00 23.2**	**-0.7**
CO03				*e*S	**Sn**	**07 00 36.2**	**-0.6**
CO03				IAML		07 00 37.0	
	comp=Z,3μm,0.4s						
CO03	**El Pedregal**	**0.99**	**144**	↓*i*P	**Pn**	**07 00 23.2**	**-0.7**
CO03				*i* S	**Sn**	**07 00 35.5**	**-1.3**
CO03				IAML		07 00 37.0	
	comp=E,9μm,0.4s						
CO01	**Juntas del Tor**	**1.10**	**88**		**Pn**	**07 00 24.5**	**-0.9**
CO01	**Juntas del Tor**	**1.10**	**88**	↓*i*P	**Pn**	**07 00 24.9**	**-0.5**
CO01				*i* S	**Sn**	**07 00 38.0**	**-1.6**
CO01				IAML		07 00 38.6	
	comp=N,8μm,0.5s						
LCO	**Las Campanas**	**1.17**	**30**		**Pn**	**07 00 25.8**	**-0.5**
LCO	**Las Campanas**	**1.17**	**30**	↑*e*P	**Pn**	**07 00 26.1**	**-0.2**
LCO				*i* S	**Sn**	**07 00 41.7**	**+0.5**
LCO				IAML		07 00 45.0	
	comp=N,22μm,0.3s						
AROD	**Rodeo**	**1.64**	**95**	*i* P	**Pn**	**07 00 33.6**	**+0.8**
AROD				*e*S	**Sn**	**07 00 53.8**	**+0.8**
AC04	**Llanos de Chal**	**1.83**	**8**		**Pn**	**07 00 36.7**	**+1.5**
AC04	**Llanos de Chal**	**1.83**	**8**	↑*i*P	**Pn**	**07 00 35.8**	**+0.6**
AC04				*i* S	**Sn**	**07 00 58.5**	**+1.3**
AC04				IAML		07 01 07.0	
	comp=N,2μm,0.8s						
ACDV	**Cuesta del Vie**	**1.95**	**95**	*i* P	**Pn**	**07 00 37.9**	**+1.0**
ACDV				*e*S	**Sn**	**07 01 01.3**	**+1.1**
ACDV				IAML		07 01 03.7	
	comp=Z,398nm,0.4s						
ACCO	**Cerro Coronel**	**2.06**	**106**	*i* P	**Pn**	**07 00 40.1**	**+1.5**
ACCO				*e*S	**Sn**	**07 01 04.3**	**+1.0**
VA06	**Catapilco**	**2.53**	**179**	Pn	**Pn**	**07 00 45.3**	**+0.6**
VA06	**Catapilco**	**2.53**	**179**	*e*P	**Pn**	**07 00 45.5**	**+0.8**
VA06				IAML		07 01 24.5	
	comp=N,4μm,0.5s						
AGUA	**GUANDACOL**	**2.55**	**79**	*i* P	**Pn**	**07 00 47.4**	**+2.2**
AGUA				*e*S	**Sn**	**07 01 17.0**	**+1.9**
AGUA				IAML		07 01 26.2	
	comp=Z,657nm,0.4s						
ZON	**Zonda**	**2.76**	**124**	Pn	**Pn**	**07 00 49.8**	**+1.8**
ZON	**Zonda**	**2.76**	**124**	*i* P	Pn	07 00 43.3	-4.7
ZON				IAML		07 01 26.8	
	comp=Z,149nm,0.4s						
AUSP	**Uspallata**	**2.77**	**143**	*i* P	**Pn**	**07 00 50.0**	**+1.7**
AUSP				*e*S	**Sn**	**07 01 21.5**	**+1.0**
VA03	**San Esteban**	**2.81**	**166**		**Pn**	**07 00 48.8**	**+0.1**
VA03	**San Esteban**	**2.81**	**166**	*e*P	**Pn**	**07 00 49.0**	**+0.3**
VA03				*e*S	**Sn**	**07 01 21.0**	**-0.5**
VA03				IAML		07 01 36.5	
	comp=E,2μm,0.5s						
ROCH	**El Roble**	**2.95**	**174**	*e*S	**Sn**	**07 01 25.4**	**+0.4**
ROCH				*e*P	**Pn**	**07 00 51.2**	**+0.5**
ROCH				IAML		07 01 36.7	
	comp=N,2μm,0.5s						
ROCH				IAML		07 01 36.7	
	comp=N,1μm,0.5s						
VA01	**Torpederas**	**3.00**	**185**		**Pn**	**07 00 50.7**	**-0.4**
VA01	**Torpederas**	**3.00**	**185**	*e*P	**Pn**	**07 00 51.2**	**+0.2**
VCA	**Vinchina**	**3.04**	**66**	*i* P	**Pn**	**07 00 54.3**	**+2.4**
VCA				*e*S	**Sn**	**07 01 29.4**	**+2.2**
PEL	**Peldehue**	**3.16**	**170**	Pn	**Pn**	**07 00 54.3**	**+0.8**
PEL	**Peldehue**	**3.16**	**170**	*e*P	**Pn**	**07 00 54.5**	**+1.0**
PEL				*e*S	**Sn**	**07 01 29.8**	**-0.1**
PEL				IAML		07 01 44.4	
	comp=E,735nm,0.2s						
MT02	**Curacav**	**3.23**	**177**		**Pn**	**07 00 54.8**	**+0.5**
MT02	**Curacav**	**3.23**	**177**	*e*P	**Pn**	**07 00 54.4**	**+0.1**
MT02				*i* S	**Sn**	**07 01 31.1**	**-0.4**
MT02				IAML		07 01 48.3	
	comp=E,566nm,0.4s						
MT10	**Hacienda Santa**	**3.31**	**168**	*e*P	**Pn**	**07 00 56.4**	**+0.8**
MT10				*e*S	**Sn**	**07 01 33.6**	**-0.2**
MT10				IAML		07 01 47.1	
	comp=E,2μm,0.4s						
MT05	**Renca**	**3.40**	**171**		**Pn**	**07 00 57.4**	**+0.8**
MT05	**Renca**	**3.40**	**171**	*i* P	**Pn**	**07 00 57.8**	**+1.1**
MT05				*e*S	**Sn**	**07 01 37.3**	**+1.5**
MT05				IAML		07 02 01.0	
	comp=Z,517nm,0.8s						
MT05	**Renca**	**3.40**	**171**	*e*P	**Pn**	**07 00 57.3**	**+0.6**
MT05				*e*S	**Sn**	**07 01 35.5**	**-0.2**
FCH	**Farellones**	**3.41**	**165**	*e*P	**Pn**	**07 00 58.7**	**+1.5**
FCH				*i* S	**Sn**	**07 01 38.3**	**+1.8**
FCH				IAML		07 01 51.6	
	comp=E,607nm,0.2s						
MT14	**Cerro Calı¡n**	**3.43**	**168**	*e*P	**Pn**	**07 00 58.7**	**+1.5**
MT14				*i* S	**Sn**	**07 01 38.0**	**+1.4**
MT16	**CCHEN**	**3.46**	**168**		**Pn**	**07 00 58.7**	**+1.1**
MT04	**Ro Olivares**	**3.52**	**163**	*e*P	**Pn**	**07 01 00.3**	**+1.7**
MT04				*i* S	**Sn**	**07 01 43.1**	**+4.0**
MT04				IAML		07 01 52.9	
	comp=N,509nm,0.6s						
MT03	**Universidad Ad**	**3.53**	**168**		**Pn**	**07 00 59.8**	**+1.2**
MT03	**Universidad Ad**	**3.53**	**168**	*i* P	**Pn**	**07 01 00.0**	**+1.5**
MT03				*e*S	**Sn**	**07 01 39.6**	**+0.5**
MT03				IAML		07 01 52.9	
	comp=Z,562nm,0.2s						
MT03	**Universidad Ad**

baz=115,slow=75,SNR=9.4
H11S1 WAKE ISLAND Hyl 26.33 272 T T 09 38 23.3
baz=115,slow=75,SNR=14
H11S3 WAKE ISLAND Hyl 26.34 272 T T 09 38 22.5
baz=115,slow=75,SNR=11
KURBB Kurchatov Arra 149.51 39 PKPbc **PKPbc 07 19 49.5 -0.3**
comp=Z,0.7nm,0.4s,baz=301,slow=3.2,SNR=7.5
ZALV Zalesovo Beam 150.53 29 PKPbc **PKPbc 07 19 51.8 -0.4**
comp=Z,2.6nm,0.6s,baz=292,slow=1.6,SNR=7.9
MKAR Makanchi Array 153.60 43 PKPbc **PKPbc 07 19 58.9 -0.6**
comp=Z,0.2nm,0.5s,baz=262,slow=2.9,SNR=2.3

---

*ASRS **15** 07:00:40.0±0.6, 54°.17N×87°.16E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 07:00:42.2±3.0, 54°.29N×87°.20E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=25.8km s-min=16.9km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**257**	I	I	07 08 23.6	
	baz=77,slow=339,SNR=18						
ZALV	**Zalesovo Beam**	**1.44**	**257**	Pg	Pn	07 01 08.0	-1.5
	1.3nm,0.3s,baz=74,slow=16,SNR=10						
ZALV				Lg	Lg	07 01 29.1	
	0.7nm,0.3s,baz=70,slow=27,SNR=1.7						
KURBB	**Kurchatov Arra**	**6.44**	**239**	Pn	Pn	07 02 19.0	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=7.8						
KURBB				Sn	Sn	07 03 30.5	-1.8
	baz=15,slow=37,SNR=1.6						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	Pn	07 02 42.5	+1.1
	0.1nm,0.3s,baz=24,slow=14,SNR=4.4						
MKAR				Sn	Sn	07 04 13.4	-0.4
	0.1nm,0.3s,baz=23,slow=28,SNR=1.6						
MKAR				Lg	Lg	07 04 59.6	
	baz=22,slow=16,SNR=1.4						
	0.1nm,0.3s						

---

*IDC **15** 07:02:12.5±1.1, 53°.85N×161°.86E, h0km, mb3.7/10, mbtmp3.6/12, ML3.1/2, MS3.5/2, Error ellipse: s-maj=31.5km s-min=18.1km az=154.0*
*KRSC **15** 07:02:14.5±1.3, 53°.32N×161.96E, h40km±22km, Ml3.9*
ISC 15 07:02:13.9±0.8, 53°.34N±0°.06×161°.96E±0°.05, h20km, n39, σ2°.07/41, mb3.8/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.19**	**259**	*eP*	**Pb**	**07 02 36.0**	**+0.3**
SPN				*eS*	**Sn**	**07 02 50.8**	**-0.1**
NLC	**Nalytchevo**	**1.58**	**265**	*eP*	**Pb**	**07 02 41.7**	**-0.7**
NLC				*eS*	**Sb**	**07 03 00.9**	**-1.0**
KII	**Karymskiy**	**1.65**	**296**	*eP*	**Pb**	**07 02 42.2**	**-1.4**
UGLR	**Uglovaya**	**1.89**	**267**	*eP*	**Pb**	**07 02 46.9**	**-0.8**
AVH	**Avacha**	**1.94**	**269**	*eP*	**Pb**	**07 02 47.5**	**-1.0**
DALK	**Dalny**	**1.96**	**262**	*eP*	**Pb**	**07 02 46.7**	**-2.1**
KRX	**Arik**	**1.99**	**272**	*eP*	**Pb**	**07 02 47.8**	**-1.5**
KOK	**Koryaka**	**2.00**	**270**	*eP*	**Pb**	**07 02 48.1**	**-1.4**
PET	**Petropavlovsk**	**2.02**	**262**	*eP*	**Pb**	**07 02 47.8**	**-2.0**
TUMD	**Tumrok D**	**2.08**	**334**	*eP*	**Pb**	**07 02 49.2**	**-1.7**
RUS	**Russkaya**	**2.28**	**248**	*eP*	**Pb**	**07 02 52.4**	**-1.8**
RUS				*eS*	**Sb**	**07 03 18.5**	**-3.4**
KRMR	**Karymshinskiy**	**2.37**	**259**	*eP*	**Pb**	**07 02 52.4**	**-3.3**
GNL	**Ganaly**	**2.43**	**280**	*eP*	**Pb**	**07 02 54.9**	**-2.0**
GRL	**Gorelyy**	**2.48**	**253**	*eP*	**Pb**	**07 02 55.5**	**-2.4**
PETK	**Petropavlovsk-**	**2.57**	**267**	Pn	**Pb**	**07 02 56.5**	**-2.8**
	10nm,0.3s,baz=87,slow=19,SNR=44						
PETK				Sn	**Sb**	**07 03 29.5**	**-1.0**
	7.7nm,0.3s,baz=90,slow=18,SNR=5.4						
PETK				LR	LR	07 03 42.1	
	comp=Z,90nm,19.6s,baz=105,slow=34						
	29nm,0.6s						
KMNR	**Kamenistaya**	**2.62**	**338**	*eP*	**Pb**	**07 02 58.4**	**-1.8**
BZWR	**Bezymyannyi-We**	**2.76**	**343**	*eP*	**Pb**	**07 03 00.9**	**-1.8**
KIRR	**Kirishev**	**2.78**	**341**	*eP*	**Pb**	**07 03 00.3**	**-2.7**
KBTR	**Krutoberegovo**	**2.92**	**9**	*eP*	**Pb**	**07 03 01.9**	**-3.2**
APC	**Apacha**	**2.92**	**264**	*eP*	**Pb**	**07 03 02.7**	**-2.6**
BKI	**Bering**	**3.00**	**50**	*eP*	**Pb**	**07 03 04.2**	**-2.4**
BKI				*eS*	**Sn**	**07 03 36.5**	**+0.9**
ESO	**Esso**	**3.21**	**325**	*eP*	**Pn**	**07 03 05.3**	**+2.1**
SRDR	**Sredinnyy**	**3.25**	**337**	*eP*	**Pn**	**07 03 05.2**	**+1.4**
SMKR	**Semkarok**	**3.26**	**355**	*eP*	**Pb**	**07 03 08.9**	**-2.2**
PAU	**Pauzhetka**	**3.67**	**241**	*eP*	**Pb**	**07 03 13.9**	**-4.1**
KLR	**Kul'dur**	**19.26**	**270**	P	**Pn**	**07 06 38.7**	**+0.7**
	0.1nm,0.3s,baz=88,slow=7.6,SNR=4.3						
	0.9nm,0.5s						
MJAR	**Matsushiro Arr**	**23.59**	**234**	P	**P**	**07 07 26.1**	**+2.9**
	2.1nm,0.7s,baz=25,slow=9.4,SNR=4.5						
	2.1nm,0.7s						
ILAR	**Eielson Array**	**27.84**	**46**	P	**P**	**07 08 00.6**	**-1.0**
	0.5nm,1.0s,baz=248,slow=10,SNR=2.4						
	0.5nm,1.0s						
KURBB	**Kurchatov Arra**	**48.65**	**303**	P	**P**	**07 10 54.6**	**-1.5**
	0.4nm,0.5s,baz=55,slow=7.6,SNR=4.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.05**	**297**	P	**P**	**07 10 57.7**	**-1.6**
	0.2nm,0.5s,baz=57,slow=7.0,SNR=7.3						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**51.11**	**309**	P	**P**	**07 11 13.9**	**-0.8**
	0.5nm,0.4s,baz=59,slow=7.4,SNR=3.2						
	0.5nm,0.4s						
JMIC	**Jan Mayen**	**55.79**	**356**	LR	LR	07 33 51.8	
	comp=Z,58nm,19.6s,baz=266,slow=34						
CMAR	**Chiang Mai Arr**	**59.33**	**260**	P	**P**	**07 12 17.4**	**+3.0**
	0.7nm,0.3s,baz=28,slow=5.9,SNR=4.7						
	0.7nm,0.3s						
NB2	**NORSAR Subarra**	**63.61**	**345**	P	**P**	**07 12 44.4**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=24,slow=6.5						
NOA	**NORSAR Array B**	**63.61**	**345**	P	**P**	**07 12 41.0**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=20,slow=6.5,SNR=4.3						
	comp=Z,0.9nm,0.7s						
KAPI	**Kappang**	**68.10**	**226**	LR	LR	07 44 01.2	
	comp=Z,20nm,20.1s,baz=100,slow=37						
AKASG	**Malin Array Be**	**68.97**	**330**	P	**P**	**07 13 16.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=29,slow=6.6,SNR=3.7						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**69.50**	**68**	P	**P**	**07 13 22.3**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=321,slow=5.4,SNR=4.8						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**80.46**	**206**	P	P	07 14 28.0	+4.1
	comp=Z,0.3nm,0.5s,baz=19,slow=5.0,SNR=2.7						
	comp=Z,0.3nm,0.5s						

---

*GCG **15** 07:22:00.0±3.4, 15°.64N×95°.94W, h50km±964km, MD4.5, Hypocentre not reviewed by the ISC*
*IDC **15** 07:22:00.4±0.7, 15°.76N×95°.57W, h0km, mb4.1/16, mbtmp4.2/19, ML4.0/3, MS4.1/39, Error ellipse: s-maj=23.0km s-min=12.5km az=59.0*
*NEIC **15** 07:22:02.2±2.5, 15°.62N±0°.04×95°.67W±0°.04, h14km±5km, mb4.5/61, Md4.9/114(MEX), Error ellipse: s-maj=7.0km s-min=4.1km az=214.0*
*MEX **15** 07:22:03.2±0.5, 15°.48N×95°.70W, h15km±6km, MD4.8*
*GCMT **15** 07:22:06.2±0.4, 15°.74N±0°.02×95°.61W±0°.03, h15km, MW4.9/79, Moment Tensor Solution. s24,c27; s79,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.06; $M_{\theta\theta}$-0.95±.04; $M_{\phi\phi}$-0.38±.05; $M_{r\theta}$2.31±.20; $M_{\theta\phi}$0.41±.05; $M_{\phi r}$-1.95±.24; Best double couple: $M_0$3.27100×10^{16} NP1:ϕ_s291.00000°, δ12.00000°, λ73.00000°. NP2: ϕ_s129.00000°, δ79.00000°, λ94.00000°. Principal axes: T 3.3770, Plg56.0000°, Azm44.0000°; N -0.2150, Plg3.0000°, Azm308.0000°; P -3.1650, Plg34.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*RSNC **15** 07:22:06.3±2.3, 16°.8N×9°.5W±1°.0, h27km±12km, M4.8, mB5.4, mb4.4, Mw(mB)4.8, MwMwp4.8, Mwp5.1, Hypocentre not reviewed by the ISC*
ISC 15 07:21:59.9±1.3, 15°.56N±0°.04×95°.64W±0°.02, h2km±8km, n218, σ2°.20/257, mb4.4/26, MS4.3/37, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**295**		**Pb**	**07 22 11.1**	**-0.3**
HUIG					**Sb**	**07 22 18.1**	**-1.1**
HUIG	**Huatulco**	**0.50**	**295**	*eP*	**Pb**	**07 22 11.2**	**-0.2**
HUIG				*i* S	**Sb**	**07 22 18.1**	**-1.1**
HUIG	**Huatulco**	**0.50**	**295**	*eP*		07 22 11.0	
HUIG				*eS*		07 22 17.6	
PANG	**Puerto Angel**	**0.81**	**278**		**Pg**	**07 22 16.1**	**+0.6**
PANG					**Sg**	**07 22 25.5**	**-0.5**
PANG	**Puerto Angel**	**0.81**	**278**	*eP*	**Pg**	**07 22 16.1**	**+0.6**
PANG				*i* S	**Sg**	**07 22 25.5**	**-0.5**
NILT	**Santiago Nilte**	**1.40**	**44**	*eP*	**Pn**	**07 22 25.7**	**-0.8**
NILT				*i* S	**Sb**	**07 22 43.1**	**-2.1**
PEIG	**Puerto Escondi**	**1.52**	**287**		**Pn**	**07 22 26.4**	**-1.7**
PEIG	**Puerto Escondi**	**1.52**	**287**	*eP*	**Pn**	**07 22 26.4**	**-1.7**
PEIG				*i* S	**Sn**	**07 22 43.4**	**-5.1**
CMIG	**Matias Romero**	**1.69**	**25**		**Pn**	**07 22 29.5**	**-0.9**
CMIG					**Sn**	**07 22 51.2**	**-1.4**
CMIG	**Matias Romero**	**1.69**	**25**	Pn	**Pn**	**07 22 29.8**	**-0.6**
	216nm,0.3s,baz=219,slow=13,SNR=227						
CMIG				Sn	**Sb**	**07 22 52.2**	**-1.2**
	356nm,0.3s,baz=193,slow=4.1,SNR=15						
CMIG				LR	LR	07 22 59.2	
	comp=Z,3μm,21.2s,baz=140,slow=40						
CMIG	**Matias Romero**	**1.69**	**25**	*eP*	**Pn**	**07 22 29.5**	**-0.9**
CMIG				*eS*	**Sn**	**07 22 51.2**	**-1.4**
CARR	**Arriaga**	**1.80**	**67**	*eP*	**Pn**	**07 22 30.2**	**-1.7**
CARR				*i* S	**Sn**	**07 22 53.1**	**-2.1**
OXBJ	**Oaxaca**	**1.83**	**325**		**Pn**	**07 22 32.7**	**+0.1**
OXBJ					**Sn**	**07 22 55.9**	**-0.5**
OXBJ	**Oaxaca**	**1.83**	**325**	*eP*	**Pn**	**07 22 32.7**	**+0.1**
OXBJ				*eS*	**Sn**	**07 22 54.9**	**-1.5**
OXIG	**Oaxaca**	**1.84**	**325**		**Pn**	**07 22 32.8**	**+0.1**
OXIG					**Sn**	**07 22 54.4**	**-2.2**
VHO	**Vista Hermosa**	**1.84**	**325**	*eP*	**Pn**	**07 22 32.8**	**+0.1**
VHO				*eS*	**Sn**	**07 22 52.8**	**-3.8**
NEUV	**Arroyo Zacate**	**2.15**	**356**	*eP*	**Pn**	**07 22 36.6**	**-0.2**
NEUV				*eS*	**Sn**	**07 23 02.4**	**-1.7**
YOIG	**Yosondua**	**2.24**	**305**		**Pn**	**07 22 38.7**	**+0.4**
YOIG					**Sn**	**07 23 03.8**	**-2.9**
YOIG	**Yosondua**	**2.24**	**305**	*eP*	**Pn**	**07 22 38.7**	**+0.4**
YOIG				*i* S	**Sn**	**07 23 03.8**	**-2.9**
UXUV	**UXUV**	**2.26**	**39**	*eP*	**Pn**	**07 22 38.5**	**+0.2**
UXUV				*i* S	**Sn**	**07 23 05.9**	**-0.9**
PCIG		**2.34**	**86**		**Pn**	**07 22 38.8**	**-0.5**
PCIG		**2.34**	**86**	*eP*	**Pn**	**07 22 38.6**	**-0.7**
PCIG				*eP*	**Pn**	**07 22 38.8**	**-0.5**
PCIG				*i* S	**Sn**	**07 23 06.1**	**-2.5**
PNIG	**Pinotepa**	**2.53**	**289**		**Pn**	**07 22 41.4**	**-0.7**
PNIG	**Pinotepa**	**2.53**	**289**	*eP*	**Pn**	**07 22 41.4**	**-0.7**
PNIG				*i* S	**Sn**	**07 23 07.5**	**-6.1**
TXIG	**Tlaxiaco**	**2.65**	**310**		**Pn**	**07 22 44.7**	**+0.8**
TXIG					**Sn**	**07 23 13.9**	**-2.9**
TXIG	**Tlaxiaco**	**2.65**	**310**	*eP*	**Pn**	**07 22 44.7**	**+0.8**
TXIG				*i* S	**Sn**	**07 23 13.9**	**-2.9**
TGIG		**2.71**	**63**		**Pn**	**07 22 44.6**	**+0.1**
TGIG					**Sn**	**07 23 16.6**	**-1.3**
TGIG		**2.71**	**63**	*eP*	**Pn**	**07 22 44.6**	**+0.1**
TGIG				*i* S	**Sn**	**07 23 16.6**	**-1.3**
TGIG		**2.71**	**63**	*eP*		07 22 44.3	
TGIG				*eS*		07 23 19.0	
TUIG	**Tuzandepetl**	**2.73**	**25**	*eP*	**Pb**	**07 22 48.5**	**-0.9**
TUIG				*i* S	**Sn**	**07 23 18.6**	**+0.4**
TOIG	**Toxpalan**	**2.87**	**332**		**Pn**	**07 22 48.4**	**+1.6**
TOIG					**Sn**	**07 23 21.8**	**-0.2**
TOIG	**Toxpalan**	**2.87**	**332**	*eP*	**Pn**	**07 22 48.4**	**+1.6**
TOIG				*eS*	**Sn**	**07 23 21.8**	**-0.2**
PMUV	**Sontecomapan**	**3.01**	**9**	*eP*	**Pn**	**07 22 47.0**	**-1.8**
PMUV				*i* S	**Sg**	**07 23 33.9**	**-2.9**
TPIG	**Tehuac#an**	**3.29**	**330**		**Pb**	**07 23 00.6**	**+1.5**
TPIG					**Sn**	**07 23 32.2**	**-0.3**
TPIG	**Tehuac#an**	**3.29**	**330**	*eP*	**Pb**	**07 23 00.6**	**+1.5**
TPIG				*i* S	**Sn**	**07 23 32.2**	**-0.3**
MGIG	**Malinaltepec**	**3.32**	**301**		**Pn**	**07 22 53.9**	**+0.8**
MGIG					**Sn**	**07 23 30.4**	**-2.9**
MGIG	**Malinaltepec**	**3.32**	**301**	*eP*	**Pn**	**07 22 53.9**	**+0.8**
MGIG				*i* S	**Sn**	**07 23 30.4**	**-2.9**
FTIG	**Fresnillo de T**	**3.34**	**315**		**Pn**	**07 22 54.4**	**+1.1**
FTIG					**Sn**	**07 23 31.1**	**-2.6**
FTIG	**Fresnillo de T**	**3.34**	**315**	*eP*	**Pn**	**07 22 54.4**	**+1.1**
FTIG				*i* S	**Sn**	**07 23 31.1**	**-2.6**
CHUJ	**Union Juarez**	**3.44**	**97**	*eP*	**Pn**	**07 22 55.0**	**+0.3**
CHUJ				*eS*	**Sn**	**07 23 28.2**	**-8.0**
CCIG	**Comitan**	**3.44**	**77**		**Pn**	**07 22 54.8**	**+0.1**
CCIG	**Comitan**	**3.44**	**77**	*eP*	**Pn**	**07 22 54.8**	**+0.4**
CCIG				*i* S	**Sn**	**07 23 35.5**	**-0.8**
CCIG	**Comitan**	**3.44**	**77**	*eP*		07 22 55.3	
TLIG	**Tlapa**	**3.44**	**306**	Pn	**Pn**	**07 22 55.6**	**+1.0**
TLIG	**Tlapa**	**3.44**	**306**	*eP*	**Pn**	**07 22 56.5**	**+1.8**
TLIG				*i* S	**Sn**	**07 23 30.7**	**-5.5**
CRIG	**Cruz Grande**	**3.56**	**290**		**Pn**	**07 22 55.5**	**-0.6**
CRIG	**Cruz Grande**	**3.56**	**290**	*eP*	**Pn**	**07 22 55.5**	**-0.6**
CRIG				*i* S	**Sn**	**07 23 31.4**	**-7.3**
JAUV	**Jalcomulco**	**3.95**	**344**	*eP*	**Pn**	**07 23 03.5**	**+2.0**
JAUV				*eS*	**Sn**	**07 23 47.1**	**-1.4**
HUEH	**Huehuetenango**	**4.00**	**93**		**Pn**	**07 23 04.0**	**+1.7**
HUEH	**Huehuetenango**	**4.00**	**93**	*eP*	**Pn**	**07 23 06.5**	**+4.2**
HUEH				*i* S	**Sn**	**07 23 47.1**	**-2.8**
DAIG	**Los Arroyos**	**4.12**	**291**		**Pn**	**07 23 04.2**	**+0.3**
DAIG	**Los Arroyos**	**4.12**	**291**	*eP*	**Pn**	**07 23 04.2**	**+0.3**
DAIG				*i* S	**Sn**	**07 23 45.3**	**-7.3**
LVIG	**Laguna Verde**	**4.21**	**350**	*eP*	**Pn**	**07 23 08.1**	**+3.0**
LVIG				*eS*	**Sn**	**07 23 54.3**	**-0.4**
PBCV	**Popocatepetl**	**4.41**	**321**	*eP*	Pn	07 23 01.5	-6.6
PBCV				*i* S	**Sn**	**07 23 52.9**	**-7.3**
PPM	**Popocatepetl**	**4.51**	**321**	*eP*	**Pn**	**07 23 05.4**	**-4.3**
PPM				*i* S	**Sn**	**07 23 59.8**	**-3.2**
PPIG	**Popocatepetl**	**4.51**	**321**		**Sn**	**07 23 59.8**	**-3.3**
YAIG	**Yautepec**	**4.64**	**316**		**Pn**	**07 23 12.5**	**+1.3**
YAIG	**Yautepec**	**4.64**	**316**	*eP*	**Pn**	**07 23 12.5**	**+1.3**
YAIG				*i* S	**Sn**	**07 24 02.2**	**-3.6**
PLIG	**Platanillo**	**4.65**	**308**		**Pn**	**07 23 13.5**	**+2.3**
PLIG					**Sn**	**07 24 02.6**	**-3.3**
PLIG	**Platanillo**	**4.65**	**308**	*eP*	**Pn**	**07 23 13.5**	**+2.3**
PLIG				*i* S	**Sn**	**07 24 02.6**	**-3.3**
CAIG	**El Cayaco**	**4.69**	**289**		**Pn**	**07 23 12.3**	**+0.6**
CAIG	**El Cayaco**	**4.69**	**289**	*eP*	**Pn**	**07 23 12.3**	**+0.6**
CAIG				*i* S	Sn	07 23 56.8	-10
MPVM	**San Francisco**	**4.85**	**319**	*eP*	**Pb**	**07 23 22.3**	**-3.4**
MPVM				*i* S	**Sn**	**07 24 17.0**	**+6.0**
THVM	**De Xico**	**4.91**	**320**	*eP*	Pn	07 23 20.4	+5.5
THVM				*eS*	**Sn**	**07 24 16.6**	**+4.1**
TLVM	**San Miguel Top**	**4.95**	**318**	*eP*	**Pn**	**07 23 18.8**	**+3.2**
TLVM				*i* S	**Sn**	**07 24 12.2**	**-1.4**
CXUV	**Coxquihui**	**4.95**	**338**	*eP*	Pn	07 23 20.4	+5.0
CXUV				*i* S	**Sn**	**07 24 18.2**	**+5.0**
XCVM	**Xochimilco**	**4.95**	**318**	*eP*	**Pn**	**07 23 19.8**	**+4.2**
XCVM				*i* S	**Sn**	**07 24 15.4**	**+1.8**
MAVM	**Malinalco, Edo**	**5.00**	**313**		**Pn**	**07 23 15.6**	**-0.6**
MAVM					**Sn**	**07 24 12.4**	**-2.3**
MAVM	**Malinalco, Edo**	**5.00**	**313**	*eP*	**Pn**	**07 23 15.6**	**-0.6**
MAVM				*i* S	**Sn**	**07 24 12.4**	**-2.3**
CNCY	**Coyoacan**	**5.04**	**318**	*i* S	Sn	07 24 04.5	-11
UNM	**Universidad Na**	**5.05**	**319**	*eP*	**Pn**	**07 23 17.4**	**+0.5**
UNM				*eS*	**Sn**	**07 24 20.8**	**+4.8**
COVM	**Coyoacan**	**5.05**	**319**	*eP*	**Pn**	**07 23 17.5**	**+0.6**
COVM				*eS*	**Sn**	**07 24 14.2**	**-1.8**
PBVM	**Pinon**	**5.07**	**320**		**Pn**	**07 23 18.6**	**+1.7**
PBVM					**Sn**	**07 24 14.2**	**-1.9**
PBVM	**Pinon**	**5.07**	**320**	*eP*	**Pn**	**07 23 18.6**	**+1.7**
PBVM				*eS*	**Sn**	**07 24 14.2**	**-1.9**
BJVM	**Benito Juarez**	**5.08**	**319**	*eP*	**Pn**	**07 23 17.5**	**+0.3**
BJVM				*eS*	**Sn**	**07 24 15.1**	**-1.6**
AOVM	**Tlapan**	**5.10**	**317**		**Sn**	**07 24 15.1**	**-2.4**
AOVM	**Tlapan**	**5.10**	**317**	*eP*	**Pn**	**07 23 21.1**	**+3.4**
AOVM				*i* S	**Sn**	**07 24 15.1**	**-2.4**
CJVM	**Cuajimalpa**	**5.14**	**318**	*eP*	Pn	07 23 24.0	+5.8
CJVM				*i* S	**Sn**	**07 24 16.9**	**-1.4**
INVM	**La Marquesa**	**5.16**	**317**	*eP*	**Pn**	**07 23 22.4**	**+3.9**
INVM				*i* S	**Sn**	**07 24 17.3**	**-1.4**
ARIG	**Puente Sto Nin**	**5.26**	**302**		**Pn**	**07 23 21.6**	**+2.0**
ARIG	**Puente Sto Nin**	**5.26**	**302**	*eP*	**Pn**	**07 23 21.6**	**+2.0**
ARIG				*eS*	**Sn**	**07 24 17.2**	**-3.6**
SCIG	**Sabancuy**	**5.44**	**51**	*eP*		07 23 20.9	
PETF	**Flores**	**5.71**	**75**		**Pn**	**07 23 25.9**	**+0.2**
PETF	**Flores**	**5.71**	**75**	*eP*	**Pn**	**07 23 24.7**	**-1.0**
PETF				*eS*	**Sn**	**07 24 24.2**	**-7.6**
PETF	**Flores**	**5.71**	**75**	*eP*		07 23 24.5	
DHIG	**Demacu**	**5.72**	**326**		**Sn**	**07 24 32.8**	**+0.3**
DEIG	**Demacu**	**5.72**	**326**	*eP*	**Pn**	**07 23 29.2**	**+3.1**
DEIG				*i* S	**Sn**	**07 24 32.8**	**+0.3**
ZIIG	**Zihuatanejo**	**5.95**	**291**		**Pn**	**07 23 30.4**	**+1.4**
ZIIG	**Zihuatanejo**	**5.95**	**291**	*eP*	**Pn**	**07 23 30.4**	**+1.4**
ZIIG				*eS*	**Sn**	**07 24 31.3**	**-6.4**
ACIG	**Acambay**	**5.97**	**318**		**Pb**	**07 23 47.2**	**+2.4**
ACIG					**Sn**	**07 24 37.1**	**-1.5**
ACIG	**Acambay**	**5.97**	**318**	*eP*	Pn	07 23 35.4	+5.9
ACIG				*i* S	**Sn**	**07 24 37.1**	**-1.5**
ESQI	**Esquipulas**	**6.16**	**98**		**Pn**	**07 23 34.3**	**+2.2**
MTO3	**Montecristo**	**6.17**	**100**		**Pn**	**07 23 33.5**	**+1.2**
CTUV	**Llano Grande**	**6.42**	**337**	*eP*	**Pn**	**07 23 39.6**	**+4.0**
CTUV				*i* S	**Sn**	**07 24 51.3**	**+1.8**
MOIG	**Morelia**	**6.69**	**309**	*eP*	**Pn**	**07 23 43.8**	**+4.4**
MOIG				*eS*	**Sn**	**07 24 54.8**	**-1.7**
JRQG	**Juriquilla Cam**	**6.86**	**319**	Pn	**Pn**	**07 23 43.5**	**+1.7**
JRQG	**Juriquilla Cam**	**6.86**	**319**	*eP*	**Pn**	**07 23 43.2**	**+1.4**
JRQG				*eS*	**Sn**	**07 25 01.7**	**+1.0**
TGUH	**Tegucigalpa,Un**	**8.23**	**99**	Pn	**Pn**	**07 24 01.6**	**+1.1**
TEIG	**Tepich**	**8.41**	**55**	Pn	**Pn**	**07 24 00.8**	**-2.0**
TEIG	**Tepich**	**8.41**	**55**	Pn	**Pn**	**07 24 03.2**	**+0.5**
	0.1nm,0.3s,baz=239,slow=24,SNR=66						
TEIG				Sn	**Sn**	**07 25 30.9**	**-7.4**
	baz=67,slow=24						
ZAIG	**Zacatecas**	**9.71**	**319**	Pn	**Pn**	**07 24 22.6**	**+1.6**
ESPN	**Las Esperanzas**	**11.50**	**105**	Pn	**Pn**	**07 24 47.2**	**+1.9**
JTS	**Las Juntas de**	**11.65**	**115**	Pn	**Pn**	**07 24 50.2**	**+2.8**
	0.3nm,0.3s,baz=318,slow=22,SNR=1.2						
	2.6nm,0.9s						
833A	**Chaparral WMA,**	**13.17**	**345**		**Pn**	**07 25 09.1**	**+1.0**
MLDN	**Muldoon**	**14.22**	**355**	Pn	**Pn**	**07 25 22.1**	**-0.2**
HNDO	**Hondo**	**14.31**	**347**		**Pn**	**07 25 24.1**	**+0.5**
HKT	**Hockley**	**14.33**	**359**		**Pn**	**07 25 21.9**	**-1.8**
DRIO	**Del Rio**	**14.54**	**342**		**Pn**	**07 25 27.1**	**+0.3**
HNVL	**Huntsville, TX**	**15.13**	**1**		**Pn**	**07 25 34.3**	**-0.4**
HNVL				IAmb	IAmb	07 25 46.8	
	comp=Z,28nm,1.0s						
435B	**Jarrell**	**15.26**	**354**	Pn	**Pn**	**07 25 36.1**	**-0.4**
435B				IAmb	IAmb	07 26 03.3	
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**15.34**	**346**	Pn	**Pn**	**07 25 38.1**	**+0.6**
JCT				IAmb	IAmb	07 25 56.7	
	comp=Z,16nm,0.8s						
SAND	**Sanderson**	**15.52**	**339**	P	**Pn**	**07 25 41.9**	**+1.9**
TXAR	**Lajitas Array**	**15.58**	**333**		**P**	**07 25 42.9**	**-2.4**
TXAR	**Lajitas Array**	**15.58**	**333**	Pn	**Pn**	**07 25 42.3**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=27						
TXAR				LR	LR	07 32 26.4	
	comp=Z,276nm,21.6s,baz=152,slow=41						
	comp=Z,4.2nm,1.0s						
TX31	**Lajitas Ar. Si**	**15.58**	**333**		**Pn**	**07 25 42.2**	**+1.4**
BRDY	**Brady**	**15.96**	**349**		**Pn**	**07 25 46.7**	**+1.2**
OZNA	**Ozona**	**16.10**	**343**	P	**Pn**	**07 25 48.3**	**+0.8**
NATX	**Nacogdoches**	**16.16**	**3**	Pn	**Pn**	**07 25 45.1**	**-3.0**
NATX				IAmb	IAmb	07 26 08.8	
	comp=Z,21nm,0.8s						
LPIG	**La Paz**	**16.20**	**304**	Pn	**Pn**	**07 25 49.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=79,slow=5.7,SNR=1.7						
LPIG				LR	LR	07 31 05.8	
	comp=Z,1μm,18.5s,baz=124,slow=34						
	comp=Z,3.4nm,0.3s						
WHTX	**Lake Whitney,**	**16.45**	**355**	P	**Pn**	**07 25 52.3**	**+0.5**
WHTX				IAmb	IAmb	07 26 08.2	
	comp=Z,63nm,1.3s						
ALPN	**Alpine**	**16.48**	**335**	P	**P**	**07 25 55.0**	**-0.1**
ALPN				IAmb	IAmb	07 25 58.4

comp=Z,370nm,20.4s,slow=39
ULM Lac du Bonnet 34.60 360 P **P 07 28 48.2 -1.9**
comp=Z,6.6nm,1.0s,baz=184,slow=9.1,SNR=7.5
comp=Z,6.6nm,1.0s
YBH Yreka Blue Hor 35.01 324 LR LR 07 44 21.3
comp=Z,713nm,18.2s,baz=151,slow=38
NEW Newport 37.10 336 LR LR 07 47 03.6
comp=Z,441nm,19.0s,baz=172,slow=41
LPAZ La Paz 41.69 138 P **P 07 29 53.0 +2.0**
comp=Z,1.1nm,0.8s,baz=315,slow=10.0,SNR=5.4
LPAZ LR LR 07 46 12.5
comp=Z,102nm,21.8s,baz=310,slow=35
comp=Z,1.1nm,0.8s
MDP Montagnes des 43.47 99 LR LR 07 50 19.7
comp=Z,220nm,18.7s,baz=276,slow=39
SCHQ Schefferville 45.09 23 P **P 07 30 15.2 -2.1**
comp=Z,4.3nm,1.0s,baz=232,slow=12,SNR=3.3
SCHQ LR LR 07 52 49.1
comp=Z,304nm,19.7s,baz=195,slow=41
comp=Z,4.3nm,1.0s
PTLB Pontes e Lacer 47.42 129 P **P 07 30 36.2 +0.1**
PTLB IAmb IAmb 07 30 45.0
comp=Z,5.9nm,1.0s
YKA Yellowknife Ar 48.76 348 P **P 07 30 44.9 -0.9**
comp=Z,2.7nm,1.0s,baz=158,slow=7.5,SNR=23
YKA PcP **PcP 07 32 10.7 -0.1**
comp=Z,0.6nm,0.9s,baz=168,slow=2.8,SNR=6.0
comp=Z,2.7nm,1.0s
TAOE Nuku Hiva Isla 50.32 244 *e*S **S 07 38 16.0 +3.4**
comp=Z,126nm,25.8s
TAOE *e*LR LR 07 45 22.9
comp=Z,162nm,22.6s
MT08 Bocatoma Ro 54.52 154 P **P 07 31 29.6 0.0**
CPUP Villa Florida 55.87 138 P **P 07 31 41.5 +2.3**
comp=Z,0.9nm,0.7s,baz=1.8,slow=7.8,SNR=3.0
CPUP LR LR 07 55 14.4
comp=Z,164nm,21.2s,baz=332,slow=36
comp=Z,0.9nm,0.7s
BDFB Brasilia 56.33 121 P **P 07 31 44.1 +1.3**
comp=Z,4.1nm,0.8s,baz=311,slow=8.5,SNR=7.5
BDFB LR LR 07 56 32.3
comp=Z,146nm,18.9s,baz=341,slow=37
comp=Z,4.1nm,0.8s
I30M Mount Dempster 56.67 341 P **P 07 31 44.6 0.0**
I30M IAmb IAmb 07 31 45.8
comp=Z,10nm,1.3s
NRS Narsarsuaq 57.85 26 *i* P **P 07 31 50.9 -1.9**
NRS IAmb IAmb 07 31 53.2
comp=Z,18nm,0.9s
INK Inuvik 57.98 344 LR LR 07 58 41.4
comp=Z,224nm,20.7s,baz=244,slow=38
RES Resolute Bay 59.13 0 LR LR 08 00 27.3
comp=Z,132nm,19.0s,baz=205,slow=39
KDAK Kodiak Island 59.56 329 LR LR 07 58 06.7
comp=Z,160nm,18.3s,baz=329,slow=36
ILAR Eielson Array 60.04 337 P **P 07 32 08.9 +0.9**
ILAR Eielson Array 60.04 337 P **P 07 32 07.8 -0.2**
comp=Z,2.9nm,0.9s,baz=129,slow=4.9,SNR=29
ILAR LR LR 08 01 10.5
comp=Z,204nm,18.8s,baz=117,slow=39
comp=Z,2.9nm,0.9s
PLCA Paso Flores 60.65 158 P **P 07 32 14.6 +2.0**
comp=Z,2.7nm,0.9s,baz=323,slow=8.7,SNR=5.6
PLCA LR LR 07 53 31.9
comp=Z,196nm,18.6s,baz=334,slow=31
comp=Z,2.7nm,0.9s
TRQA Tornquist 61.98 150 P **P 07 32 22.1 +0.6**
PPT Papeete 62.53 240 LR LR 07 53 44.7
comp=Z,86nm,21.2s,baz=52,slow=30
PPT2 Papeete2 62.54 240 *e*LR LR 07 51 02.8
comp=Z,129nm,24.5s
PPT2 *e*LR LR 07 51 09.0
comp=Z,112nm,23.8s
KULLO Kullorsuaq 62.69 11 *i* P **P 07 32 25.9 +0.2**
KULLO IAmb IAmb 07 32 27.0
comp=Z,16nm,1.1s
RCBR Riachuelo 62.85 105 LR LR 08 02 43.8
comp=Z,101nm,18.3s,baz=270,slow=39
F21K Alatna River 63.56 338 P **P 07 32 32.1 +0.5**
ICESG Greenland Ices 63.75 19 *e*P **P 07 32 33.3 0.0**
TBI Tubuai 65.30 235 *e*LR LR 07 52 31.6
comp=Z,895nm,28.5s
SUMG Summit 65.70 16 *i* P **P 07 32 46.1 +0.1**
NEEM North Greenlan 65.78 10 *i* P **P 07 32 46.4 0.0**
NEEM IAmb IAmb 07 32 47.3
comp=Z,15nm,1.2s
BORG Borgarnes 69.36 26 LR LR 08 04 10.5
comp=Z,164nm,18.8s,baz=270,slow=37
DAG Danmarks Havn 71.98 14 *i* P **P 07 33 23.1 -1.4**
DAG IAmb IAmb 07 33 24.8
comp=Z,5.6nm,1.1s
EKA Eskdalemuir Ar 78.76 36 P **P 07 34 03.0 -0.9**
comp=Z,2.2nm,0.7s,baz=290,slow=8.4,SNR=4.9
comp=Z,2.2nm,0.7s
SPITS Spitsbergen Ar 79.26 11 LR LR 08 13 48.3
comp=Z,212nm,18.5s,baz=234,slow=39
ESDC Sonseca Array 81.50 51 P **P 07 34 19.5 +0.3**
ESDC Sonseca Array 81.50 51 P **P 07 34 17.5 -1.7**
comp=Z,2.5nm,1.0s,baz=285,slow=5.6,SNR=8.0
ESDC LR LR 08 09 19.7
comp=Z,156nm,19.0s,baz=287,slow=35
comp=Z,2.5nm,1.0s
MDT Midelt 82.58 58 LR LR 08 09 39.7
comp=Z,54nm,18.7s,baz=314,slow=35
NB2 NORSAR Subarra 84.44 28 P **P 07 34 34.6 +0.6**
comp=Z,2.3nm,0.8s,baz=296,slow=5.3
NOA NORSAR Array B 84.44 28 P **P 07 34 33.2 -0.8**
comp=Z,1.6nm,0.8s,baz=292,slow=4.8,SNR=5.0
NOA LR LR 08 13 35.1
comp=Z,90nm,18.5s,baz=290,slow=37
comp=Z,1.6nm,0.8s
HFS Hagfors 85.93 28 LR LR 08 13 40.7
comp=Z,154nm,18.8s,baz=304,slow=36
MA2 Magadan 88.10 332 LR LR 08 19 04.9
comp=Z,69nm,18.6s,baz=75,slow=39
DBIC Dimbokro 88.99 83 LR LR 08 10 56.2
comp=Z,68nm,20.1s,baz=262,slow=33
DAVOX Davos/Dischmat 89.06 41 LR LR 08 11 22.9
comp=Z,118nm,19.7s,baz=288,slow=33
FINES FINESS Array B 90.56 24 LR LR 08 14 43.5
comp=Z,106nm,21.6s,baz=300,slow=35
GERES GERESS Array B 90.62 39 LR LR 08 14 38.6
comp=Z,109nm,20.2s,baz=302,slow=35
MSVF Nonsavu 91.24 252 LR LR 08 07 27.0
comp=Z,103nm,19.8s,baz=47,slow=30
VRAC Vranov 92.13 37 LR LR 08 16 44.9
comp=Z,96nm,19.1s,baz=325,slow=36
KEST Kesra 92.74 52 LR LR 08 13 59.8
comp=Z,112nm,18.1s,baz=345,slow=34
YAK Yakutsk 94.85 340 LR LR 08 21 26.9
comp=Z,102nm,18.6s,baz=93,slow=38
AKASG Malin Array Be 98.32 32 LR LR 08 22 15.5
comp=Z,95nm,18.5s,baz=298,slow=37
OBN Obninsk 98.85 26 LR LR 08 21 37.3
comp=Z,109nm,18.8s,baz=344,slow=36
MLR Muntele Rosu 99.53 37 LR LR 08 23 48.5
comp=Z,106nm,18.2s,baz=313,slow=37
DZM Mont Dzumac 102.87 250 *e*LR LR 08 09 51.6
comp=Z,89nm,22.1s
MKAR Makanchi Array 117.91 2 PKP **PKPdf 07 40 47.6 -0.8**
comp=Z,0.2nm,0.6s,baz=56,slow=2.6,SNR=3.3
STKA Stephens Creek 125.72 242 PKP **PKiKP 07 41 04.2 +0.2**
comp=Z,3.6nm,1.1s,baz=158,slow=4.1,SNR=3.4
CMAR Chiang Mai Arr 143.28 336 PKP **PKPdf 07 41 37.3 +0.6**
comp=Z,1.0nm,0.3s,baz=5.3,slow=1.0,SNR=6.1

---

*JMA **15** 07:46:51.0±0.1, 34°N±2°×13°8E±°, h321km, MV3.0/29, ENSYUNADA*
*IDC **15** 07:46:52.4±4.9, 34°.03N×137°.83E, h274km±185km, mb2.8/2, mbtmp3.4/3, Error ellipse: s-maj=254.4km s-min=142.1km az=6.0*
ISC 15 07:46:52.8±1.2, 34°.33N±0°.09×137°.78E±0°.07, h305km±10km, n19, σ0°83/26, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO5	**TONANKAI O.B.S**	**0.09**	**214**	P	**Pn**	**07 47 31.8**	**+0.5**
TTO4	**TONANKAI O.B.S**	**0.37**	**212**	P	**Pn**	**07 47 32.0**	**+0.5**
JSG	**Sagara**	**0.48**	**44**	*e*P	**Pn**	**07 47 32.4**	**+0.5**
TTO3	**TONANKAI O.B.S**	**0.56**	**214**	*e*P	**Pn**	**07 47 32.7**	**+0.6**
JIE	**Ise**	**0.89**	**274**	P	**Pn**	**07 47 33.4**	**+0.1**
TTO1	**TONANKAI O.B.S**	**1.08**	**230**	*e*P	**Pn**	**07 47 34.0**	**+0.2**
JYN	**Shimob**	**1.33**	**28**	*e*P	**Pn**	**07 47 35.7**	**+0.3**
JOD2	**Odawara 2**	**1.43**	**49**	*e*P	**Pn**	**07 47 36.4**	**+0.4**
JOD2				*e*S	**S**	**07 48 10.8**	**+0.4**
JYTA	**Yamagatataniai**	**1.53**	**326**	P	**Pn**	**07 47 36.9**	**+0.4**
JWY	**Kouya**	**1.81**	**267**	*e*P	**Pn**	**07 47 38.7**	**0.0**
JTNC	**Tanabenakahech**	**1.87**	**255**	P	**Pn**	**07 47 38.9**	**-0.2**
JRY	**Ryogami san**	**1.92**	**28**	P	**Pn**	**07 47 40.3**	**+0.9**
JRY				*e*S	**S**	**07 48 18.1**	**+1.6**
JWT	**Wachi**	**2.17**	**297**	P	**Pn**	**07 47 41.6**	**+0.2**
JWT				S	**S**	**07 48 18.6**	**-1.5**
MJAR	**Matsushiro Arr**	**2.24**	**9**	P	**Pn**	**07 47 42.5**	**+0.6**
13nm,0.5s,baz=185,slow=9.8,SNR=34							
MJAR				S	**S**	**07 48 20.5**	**-0.6**
1.2nm,0.3s,baz=86,slow=32,SNR=1.3							
MAT	**Matsushiro**	**2.24**	**9**	P	**Pn**	**07 47 42.5**	**+0.6**
MAT				S	**S**	**07 48 20.5**	**-0.6**
JAG	**Ashikaga**	**2.50**	**33**	P	**Pn**	**07 47 43.8**	**-0.4**
JAG				*e*S	**S**	**07 48 23.2**	**-1.9**
BSO1	**Boso 1**	**2.67**	**82**	*e*P	**Pn**	**07 47 44.5**	**-0.6**
BSO1				*e*S	**S**	**07 48 25.9**	**-1.0**
WRA	**Warramunga Arr**	**54.07**	**184**	P	**P**	**07 55 46.3**	**-0.4**
0.2nm,0.3s,baz=1.3,slow=7.4,SNR=5.2							
0.2nm,0.3s							
ASAR	**Alice Springs**	**57.79**	**184**	P	**P**	**07 56 13.8**	**+1.0**
0.1nm,0.2s,baz=20,slow=11,SNR=4.5							
0.1nm,0.2s							

---

*IDC **15** 07:53:21.2±1.4, 27°.45S×178°.18W, h168km±14km, mb3.6/12, mbtmp4.1/13, MS3.3/1, Error ellipse: s-maj=22.4km s-min=16.3km az=160.0*
*NEIC **15** 07:53:22.9±1.7, 27°.6S±0°.1×178°.1W±0°.2, h185km±7km, mb4.5/16, Error ellipse: s-maj=22.3km s-min=14.9km az=96.0*
ISC 15 07:53:21.9±0.4, 27°.70S±0°.07×178°.03W±0°.09, h180km, n57, σ1°44/55, mb4.0/18, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.55**	**176**		**Pn**	**07 53 56.2**	**+2.0**
RAO	**Raoul Island**	**1.55**	**176**	P	**Pn**	**07 53 56.3**	**+2.1**
2μm,0.3s,baz=101,slow=6.2,SNR=16							
RAO				LR	LR	07 54 11.5	
comp=Z,255nm,20.2s,baz=85,slow=28							
RAO				S	**Sn**	**07 54 21.7**	**+2.2**
2μm,0.3s,baz=214,slow=23,SNR=6.5							
MSVF	**Nonsavu**	**10.56**	**339**		**Pn**	**07 55 50.6**	**+1.7**
MSVF	**Nonsavu**	**10.56**	**339**	P	**Pn**	**07 55 51.0**	**+2.2**
121nm,0.8s,baz=141,slow=14,SNR=50							
URZ	**Urewera**	**11.29**	**200**	P	**Pn**	**07 55 56.4**	**-1.7**
3.0nm,0.5s,baz=358,slow=5.7,SNR=7.8							
URZ				S	Sn	07 57 52.5	-11
9.5nm,0.5s,baz=294,slow=22,SNR=9.4							
NIUE	**Niue**	**11.36**	**43**	Pn	**Pn**	**07 55 57.4**	**-1.7**
RTZ	**Ruatahuna**	**11.65**	**200**	Pn	**Pn**	**07 56 00.3**	**-2.6**
BKZ	**Black Stump Fm**	**12.31**	**200**	Pn	Pn	07 56 05.2	-6.0
BFZ	**Birch Farm**	**13.78**	**199**	Pn	Pn	07 56 21.3	-8.4
MSWZ	**Moikau Station**	**14.75**	**200**	Pn	Pn	07 56 34.4	-7.4
DZM	**Mont Dzumac**	**15.16**	**288**	P	**P**	**07 56 49.1**	**+1.1**
5.8nm,0.5s,baz=114,slow=8.4,SNR=8.1							
TUWZ	**Tuamarina**	**15.20**	**204**	P	**Pn**	**07 56 42.0**	**-5.2**
CTZ	**Chatham Island**	**16.04**	**176**	P	**P**	**07 56 58.4**	**+1.0**
CTZ				IAmb	IAmb	07 57 17.8	
comp=Z,31nm,1.1s							
GVZ	**Greta Valley S**	**16.87**	**203**	P	**P**	**07 57 03.8**	**-2.8**
RAR	**Rarotonga**	**17.82**	**73**	P	**P**	**07 57 15.5**	**-1.7**
RAR				IAmb	IAmb	07 57 21.6	
comp=Z,27nm,0.7s							
RAR	**Rarotonga**	**17.82**	**73**	P	**P**	**07 57 16.4**	**-0.8**
comp=Z,12nm,0.3s,baz=183,slow=16,SNR=5.8							
STKA	**Stephens Creek**	**35.14**	**253**	P	**P**	**07 59 58.8**	**+0.4**
comp=Z,2.5nm,1.1s,baz=87,slow=5.4,SNR=4.3							
comp=Z,2.5nm,1.1s							
COEN	**Coen**	**38.58**	**283**	P	**P**	**08 00 28.2**	**+0.6**
COEN				IAmb	IAmb	08 00 40.4	
comp=Z,16nm,1.4s							
ASAR	**Alice Springs**	**43.29**	**264**	P	**P**	**08 01 04.9**	**-1.2**
comp=Z,0.8nm,0.8s,baz=96,slow=7.2,SNR=8.0							
comp=Z,0.8nm,0.8s							
WR0	**Warramunga Arr**	**43.85**	**269**	P	**P**	**08 01 09.6**	**-0.9**
WRA	**Warramunga Arr**	**44.03**	**269**	P	**P**	**08 01 11.0**	**-1.0**
WRA	**Warramunga Arr**	**44.03**	**269**	P	**P**	**08 01 11.7**	**-0.3**
comp=Z,1.4nm,0.7s,baz=108,slow=7.6,SNR=10							
WRA				PcP	**PcP**	**08 02 54.5**	**+0.3**
comp=Z,0.4nm,0.6s,baz=108,slow=3.3,SNR=4.9							
comp=Z,1.4nm,0.7s							
WB0	**Warramunga Arr**	**44.05**	**270**	P	**P**	**08 01 11.0**	**-1.1**
QSPA	**South Pole Qui**	**62.40**	**180**	P	**P**	**08 03 26.5**	**+1.1**
QSPA	**South Pole Qui**	**62.40**	**180**	P	**P**	**08 03 27.2**	**+1.9**
comp=Z,1.1nm,0.6s,baz=97,slow=1.3,SNR=7.3							
comp=Z,1.1nm,0.6s							
KAPI	**Kappang**	**63.14**	**279**	LR	LR	08 30 20.8	
comp=Z,23nm,20.7s,baz=58,slow=35							
JGF	**Kuroka**	**75.74**	**324**	IAmb	IAmb	08 04 47.3	
comp=Z,26nm,1.5s							
JGF				P	**P**	**08 04 48.0**	**+0.4**
MJAR	**Matsushiro Arr**	**76.02**	**325**	P	**P**	**08 04 46.3**	**-3.0**
comp=Z,5.6nm,0.5s,baz=170,slow=5.2,SNR=22							
comp=Z,5.6nm,0.5s							
JNU	**Nakatsue**	**77.53**	**318**	P	**P**	**08 04 57.3**	**-0.5**
SYO	**Syowa Base**	**79.73**	**193**	*e*P	**P**	**08 05 10.0**	**+0.8**
KSRS	**Korea Array**	**82.28**	**319**	P	**P**	**08 05 23.1**	**0.0**
comp=Z,1.7nm,0.7s,baz=138,slow=6.7,SNR=5.8							
comp=Z,1.7nm,0.7s							
PEA0B	**Petropavlovsk-**	**83.20**	**346**	P	**P**	**08 05 27.7**	**+0.2**
PETK	**Petropavlovsk-**	**83.20**	**346**	P	**P**	**08 05 27.4**	**-0.1**
comp=Z,2.6nm,0.5s,baz=116,slow=7.7,SNR=17							
comp=Z,2.6nm,0.5s							
USRK	**Ussuriysk Ar.**	**84.91**	**326**	P	**P**	**08 05 36.2**	**-0.1**
comp=Z,3.1nm,0.8s,baz=218,slow=2.2,SNR=4.7							
comp=Z,3.1nm,0.8s							
NVAR	**Mina Array Bea**	**86.28**	**43**	P	**P**	**08 05 44.3**	**+0.7**
comp=Z,1.0nm,0.7s,baz=223,slow=8.9,SNR=4.5							
comp=Z,1.0nm,0.7s							
O18K	**Koktuh Hills**	**89.24**	**11**	P	**P**	**08 05 56.2**	**-0.6**
O18K				IAmb	IAmb	08 06 34.7	
comp=Z,9.7nm,1.3s							
G06A	**Carlson Farm,**	**89.41**	**37**	P	**P**	**08 05 58.9**	**+0.8**
G06A				IAmb	IAmb	08 06 09.1	
comp=Z,4.7nm,1.2s							
K15K	**Wolf Creek Mou**	**90.66**	**8**	P	**P**	**08 06 03.5**	**+0.2**
TXAR	**Lajitas Array**	**90.96**	**57**	P	**P**	**08 06 07.2**	**+1.5**
comp=Z,0.1nm,0.6s,baz=279,slow=2.0,SNR=3.7							
comp=Z,0.1nm,0.6s							
STLK	**Strandline Lak**	**91.39**	**12**	P	**P**	**08 06 05.5**	**-1.4**
STLK				IAmb	IAmb	08 06 29.0	
comp=Z,3.0nm,1.3s							
J16K	**Anvik River**	**91.73**	**8**	P	**P**	**08 06 08.8**	**+0.5**
J16K				IAmb	IAmb	08 06 09.6	
comp=Z,6.4nm,1.1s							
PDAR	**Pinedale Array**	**94.20**	**43**	P	**P**	**08 06 20.9**	**+0.4**
comp=Z,0.4nm,0.7s,baz=219,slow=3.8,SNR=3.8							
comp=Z,0.4nm,0.7s							
ILAR	**Eielson Array**	**95.31**	**13**	P	**P**	**08 06 24.2**	**-0.5**
comp=Z,0.2nm,0.6s,baz=212,slow=5.3,SNR=5.8							
comp=Z,0.2nm,0.6s							
MKAR	**Makanchi Array**	**116.00**	**311**	PKP	**PKPdf**	**08 11 42.0**	**-1.1**
comp=Z,0.3nm,0.5s,baz=64,slow=3.4,SNR=7.1							
KURBB	**Kurchatov Arra**	**119.19**	**315**	PKP	**PKPdf**	**08 11 48.0**	**-1.1**
comp=Z,0.4nm,0.7s,baz=108,slow=1.7,SNR=5.5							
BVAR	**Borovoye Array**	**124.44**	**317**	PKP	**PKPdf**	**08 11 58.7**	**-0.4**
comp=Z,1.2nm,0.4s,baz=92,slow=1.0,SNR=8.0							
ARCES	**ARCESS Array B**	**135.95**	**348**	PKhKP	PKPpre	08 12 20.2	
comp=Z,3.7nm,0.9s,baz=22,slow=1.3,SNR=4.5							
FINES	**FINESS Array B**	**142.60**	**341**	PKhKP	PKPpre	08 12 27.4	
comp=Z,4.7nm,1.0s,baz=56,slow=5.0,SNR=9.8							
NC303	**NORSAR Array S**	**145.89**	**352**		**PKPdf**	**08 12 38.7**	**+0.2**
NC204	**NORSAR Array S**	**145.91**	**352**	PKPdf	**PKPdf**	**08 12 38.6**	**0.0**
NB2	**NORSAR Subarra**	**146.09**	**352**	PKP	**PKPdf**	**08 12 39.6**	**+0.7**
comp=Z,5.8nm,0.8s,baz=18,slow=2.9							
NOA	**NORSAR Array B**	**146.09**	**352**	PKPbc	**PKPab**	**08 12 40.6**	**-0.5**
comp=Z,2.6nm,0.7s,baz=16,slow=2.8,SNR=15							
HFS	**Hagfors**	**146.60**	**349**	PKPbc	**PKPdf**	**08 12 40.7**	**+1.0**
comp=Z,6.3nm,0.6s,baz=48,slow=2.2,SNR=20							
AKASG	**Malin Array Be**	**149.11**	**325**	PKPbc	**PKPbc**	**08 12 47.9**	**-0.6**
comp=Z,2.1nm,0.5s,baz=44,slow=3.5,SNR=22							
MMAI	**Mount Meron Ar**	**150.75**	**289**	PKPbc	**PKiKP**	**08 12 54.3**	**+0.6**
comp=Z,7.7nm,0.6s,baz=86,slow=5.3,SNR=8.4							
BRTR	**Keskin Array B**	**151.21**	**303**	PKPbc	**PKPbc**	**08 12 53.9**	**-0.2**
comp=Z,1.5nm,0.6s,baz=141,slow=5.1,SNR=6.0							
BRTR				PKPab	**PKPab**	**08 13 03.1**	**+0.5**
comp=Z,1.1nm,0.6s,baz=86,slow=3.8,SNR=4.3							
EKA	**Eskdalemuir Ar**	**152.14**	**6**	PKPbc	**PKPbc**	**08 12 54.0**	**-1.4**
comp=Z,0.8nm,0.6s,baz=336,slow=1.8,SNR=1.7							
EKA				PKPab	**PKPab**	**08 13 05.1**	**-0.7**
comp=Z,0.6nm,0.6s,baz=357,slow=4.4,SNR=3.4							

---

*SOME **15** 07:54:28.7, 39°.57N×73°.25E, h5km*

---

*KRNET **15** 07:54:32.7±0.1, 39°.50N×73°.58E, h15km, mb3.6*
*NNC **15** 07:54:35.1±2.0, 39°.63N×73°.64E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=16.7km s-min=8.4km az=169.0*
*IDC **15** 07:54:36.0±3.7, 39°.71N×73°.44E, h0km, mb3.4/1, mbtmp3.4/5, ML2.7/4, MS2.9/2, Error ellipse: s-maj=41.3km s-min=31.3km az=50.0*
ISC 15 07:54:33.6±1.4, 39°.58N±0°.04×73°.48E±0°.03, h5km±9km, n75, σ2°05/108, 25C-27D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.43**	**2**	⇑*e*P	**Pg**	**07 54 42.7**	**+0.6**
SFK				⇑*e*S	**Sg**	**07 54 49.9**	**+2.1**
OHH	**Osh**	**1.08**	**331**	⇑*e*P	**Pn**	**07 54 54.9**	**-0.7**
OHH				⇑*e*S	**Sg**	**07 55 11.2**	**+2.7**
DRK	**Karamyk**	**1.30**	**266**	⇓*e*P	**Pb**	**07 54 58.3**	**-0.5**
DRK				⇓*e*S	**Sg**	**07 55 17.1**	**+1.6**
SALK	**Salom-Alik**	**1.33**	**11**	⇑*e*P	**Pb**	**07 54 58.5**	**-0.7**
SALK				⇑*e*S	**Sg**	**07 55 17.4**	**+1.0**
ARSB	**Arslanbob**	**1.79**	**348**	⇑*e*P	**Pb**	**07 55 07.1**	**+0.2**
ARSB				⇑*e*S	**Sg**	**07 55 32.2**	**+1.2**
BTK	**Batken**	**2.10**	**284**	⇓*e*P	**Pb**	**07 55 11.6**	**-0.7**
BTK				⇓*e*S	**Sb**	**07 55 39.9**	**+1.1**
ARLS	**Aral**	**2.37**	**15**	⇑*e*P	**Pb**	**07 55 14.7**	**-2.2**
ARLS				⇑*e*S	**Sb**	**07 55 45.2**	**-1.3**
ARK	**Arkit**	**2.50**	**333**	⇓*e*P	**Pb**	**07 55 17.2**	**-1.9**
ARK				⇓*e*S	**Sb**	**07 55 49.7**	**-0.5**
GAR	**Garm**	**2.52**	**258**	⇓*e*P	**Pb**	**07 55 16.9**	**-2.6**
GAR				⇓*e*S	**Sb**	**07 55 49.1**	**-1.7**
AML	**Almayashu**	**2.56**	**4**	P	**Pb**	**07 55 19.3**	**-0.9**
SNR=35							
AML	**Almayashu**	**2.56**	**4**	⇓*e*P	**Pb**	**07 55 17.8**	**-2.4**
AML				⇓*e*S	**Sb**	**07 55 50.7**	**-1.4**
TRKS	**Terek-Say**	**2.64**	**318**	⇓*e*P	**Pn**	**07 55 17.7**	**+0.6**
TRKS				⇓*e*S	**Sn**	**07 55 51.9**	**+2.3**
UCH	**Uchtor**	**2.76**	**16**	P	**Pb**	**07 55 24.1**	**+0.3**
SNR=7.7							
UCH	**Uchtor**	**2.76**	**16**	⇑*e*P	**Pb**	**07 55 20.3**	**-3.5**
UCH				⇑*e*S	**Sb**	**07 55 55.1**	**-3.0**
MNAS	**Manas**	**3.00**	**346**	⇑*e*P	**Pn**	**07 55 24.0**	**+2.0**
MNAS				⇑*e*S	**Sn**	**07 56 01.4**	**+3.0**
EKS2	**Erkin-Say**	**3.09**	**4**	P	**Pb**	**07 55 27.2**	**-1.9**
SNR=28							
AAK	**Ala-Archa**	**3.15**	**14**	LR	LR	07 56 06.5	
comp=Z,60nm,18.1s,baz=165,slow=30							
AAK	**Ala-Archa**	**3.15**	**14**	P	**Pb**	**07 55 28.2**	**-2.1**
SNR=12							
AAK	**Ala-Archa**	**3.15**	**14**	⇓*e*P	**Pn**	**07 55 25.7**	**+1.6**
AAK				⇓*e*S	**Sn**	**07 56 04.2**	**+2.0**
MRKS	**Merke**	**3.17**	**357**	*e*P	**Pb**	**07 55 28.0**	**-2.5**
12nm,0.2s							
MRKS				*e*S	**Sb**	**07 56 11.4**	**+1.9**
185nm,0.7s							
KBK	**Karagaybulak**	**3.27**	**19**	P	**Pb**	**07 55 29.9**	**-2.3**
SNR=9.0							
KBK	**Karagaybulak**	**3.27**	**19**	⇓*e*P	**Pn**	**07 55 27.1**	**+1.4**
KBK				⇓*e*S	**Sn**	**07 56 06.9**	**+1.8**
FRU1	**Bishkek**	**3.34**	**15**	⇑*e*P	**Pn**	**07 55 28.4**	**+1.8**
FRU1				⇑*e*S	**Sn**	**07 56 09.2**	**+2.4**
ULHL	**Ulahol**	**3.39**	**37**	⇓*e*P	**Pn**	**07 55 28.3**	**+0.9**
ULHL				⇓*e*S	**Sn**	**07 56 08.9**	**+0.8**
BOOM	**Boomskoye usch**	**3.45**	**32**	⇓*e*P	**Pn**	**07 55 29.4**	**+1.1**
BOOM				⇓*e*S	**Sn**	**07 56 10.8**	**+1.2**
CHMS	**Chumysh**	**3.55**	**15**	P	**Pn**	**07 55 31.8**	**+2.3**
SNR=5.3							
CHMS	**Chumysh**	**3.55**	**15**	⇑*e*P	**Pn**	**07 55 31.0**	**+1.6**
CHMS				⇑*e*S	**Sn**	**07 56 13.5**	**+1.7**
DZA	**Taraz**	**3.69**	**335**	Pg	**Pb**	**07 55 41.9**	**+2.7**
DZA				Lg	Lg	07 56 34.1	
DZA	**Taraz**	**3.69**	**335**	*e*P	**Pb**	**07 55 35.3**	**-3.9**
47nm,0.1s							
DZA				*e*S	**Sb**	**07 56 23.9**	**-0.4**
64nm,0.1s							
TKM2	**Tokmak 2**	**3.70**	**25**	⇑Pn	**Pb**	**07 55 35.6**	**-4.1**
5.0nm,0.6s							
TKM2				Pg	**Pg**	**07 55 46.2**	**+1.7**
9.3nm,0.6s							
TKM2				Lg	Lg	07 56 31.7	
37nm,0.7s							
TKM2	**Tokmak 2**	**3.70**	**25**	⇑*e*P	**Pn**	**07 55 33.1**	**+1.4**
TKM2				⇑*e*S	**Sn**	**07 56 17.1**	**+1.3**
USP	**Ospenovka**	**3.77**	**11**	P	**Pb**	**07 55 36.3**	**-4.3**
SNR=11							
KDJ	**Kajisay**	**3.79**	**47**	⇑*e*P	**Pn**	**07 55 33.8**	**+0.9**
KDJ				⇑*e*S	**Sn**	**07 56 18.3**	**+0.3**
KST	**Kastek**	**3.94**	**28**	Pg	**Pb**	**07 55 43.8**	**+0.2**
5.7nm,0.6s							
KST				Lg	Lg	07 56 37.1	
76nm,0.6s							
KST	**Kastek**	**3.94**	**28**	*e*P	**Pb**	**07 55 42.6**	**-1.0**
4.4nm,0.3s							
KST				*e*S	**Sg**	**07 56 36.3**	**-3.7**
87nm,0.7s							
SGDS	**Sogindy**	**3.97**	**12**	Pg	**Pb**	**07 55 44.5**	**+0.5**
1.8nm,0.1s							
SGDS				Lg	Lg	07 56 38.4	
52nm,0.7s							
DGS	**Degeres**	**4.05**	**24**	Pg	**Pb**	**07 55 46.7**	**+1.3**
9.0nm,0.6s							
DGS				Lg	Lg	07 56 42.2	
114nm,0.7s							
KK31	**Karatay Array**	**4.17**	**329**	Pn	**Pn**	**07 55 42.0**	**+4.0**
2.0nm,0.3s,baz=135,slow=13,SNR=38							
KK31				⇓Pg	**Pg**	**07 55 52.6**	**-0.9**

34nm,0.7s
SATY Saty 5.08 45 *e*P Pg 07 56 15.3 +4.2
0.3nm,0.1s
SATY *e*S Sg 07 57 32.4 +15
28nm,0.6s
ZHN Zhinishke 5.17 45 *e*P **Pb 07 56 06.6 +2.0**
1.4nm,0.1s
ZHN *e*S **Sg 07 57 17.3 -2.5**
11nm,0.3s
KURS Kuram 5.26 41 Pg **Pb 07 56 07.7 +1.6**
4.0nm,0.7s
KURS Lg Lg 07 57 18.0
16nm,1.7s
BTLS Baital 5.48 4 Pg **Pb 07 56 11.5 +1.7**
1.2nm,0.3s
BTLS Lg Lg 07 57 24.9
8.2nm,0.6s
BTLS Baital 5.48 4 *e*P **Pb 07 56 11.2 +1.5**
0.6nm,0.1s
BTLS *e*S **Sg 07 57 25.4 -4.0**
14nm,0.4s
UZB Uzynbulak 5.49 48 Pg **Pb 07 56 12.4 +2.3**
12nm,0.7s
UZB Lg Lg 07 57 25.8
8.6nm,0.8s
UZB Uzynbulak 5.49 48 *e*P Pg 07 56 13.2 -5.5
4.1nm,0.2s
UZB *e*S **Sg 07 57 28.8 -1.0**
13nm,0.6s
KPKS Kokpek 5.51 43 Pg **Pb 07 56 11.7 +1.3**
6.0nm,0.4s
KPKS Lg Lg 07 57 24.9
16nm,0.6s
KPKS Kokpek 5.51 43 *e*P Pn 07 55 45.2 -11
7.4nm,0.3s
KPKS *e*S Sn 07 56 40.8 -19
114nm,0.7s
KPKS Kokpek 5.51 43 *e*P **Pb 07 56 12.8 +2.4**
6.2nm,0.4s
KPKS *e*S **Sg 07 57 28.1 -2.4**
21nm,0.8s
ARXS Arharly 5.65 34 Pg **Pb 07 56 14.5 +1.7**
0.4nm,0.1s
ARXS Lg Lg 07 57 30.5
25nm,0.5s
SHLS Shalkode 5.75 50 *e*P **Pg 07 56 22.6 -1.1**
3.7nm,0.4s
SHLS *e*S **Sg 07 57 45.0 +6.8**
7.6nm,0.2s
BLB Baldybastay 5.86 38 Pg **Pb 07 56 19.0 +2.7**
32nm,0.6s
BLB Lg Lg 07 57 37.8
22nm,0.5s
DJR Jarkent 6.68 43 Pg **Pb 07 56 33.3 +2.9**
3.7nm,0.7s
DJR Lg Lg 07 58 02.0
12nm,1.0s
DJR Jarkent 6.68 43 *e*P Pg 07 56 34.9 -6.8
0.6nm,0.2s
DJR *e*S **Sg 07 58 06.3 -1.9**
10nm,0.6s
MKAR Makanchi Array 9.66 39 Pn Pn 07 56 57.3 +4.0
baz=231,slow=19,SNR=6.9
MKAR Lg Lg 07 59 40.3
0.1nm,0.3s,baz=229,slow=24,SNR=5.9
0.8nm,0.9s
KURBB Kurchatov Arra 11.60 16 Pn **Pn 07 57 18.5 -1.3**
0.1nm,0.3s,baz=204,slow=11,SNR=5.8
KURBB Lg Lg 08 00 38.2
baz=207,slow=30,SNR=6.4
0.1nm,0.2s
BVAR Borovoye Array 13.62 352 Pn **Pn 07 57 47.5 +0.2**
baz=167,slow=13,SNR=5.7
BVAR Lg Lg 08 01 43.1
baz=154,slow=27,SNR=1.4
1.2nm,0.5s
AB31 Akbulak array 13.66 320 ⇑P **Pn 07 57 45.5 -2.5**
0.2nm,0.3s,baz=136,slow=13,SNR=8.5
AKTO Aktyubinsk 15.38 320 ⇓P **P 07 58 16.2 +0.3**
1.6nm,0.7s
ZALV Zalesovo Beam 16.31 24 Pn **P 07 58 23.7 -2.5**
0.2nm,0.3s,baz=216,slow=11,SNR=8.4
1.3nm,0.5s
SONM Songino Array 25.04 60 P **P 07 59 60.0 +1.3**
0.6nm,0.8s,baz=264,slow=10,SNR=3.7
SONM LR LR 08 10 47.4
comp=Z,74nm,21.5s,baz=349,slow=39
0.6nm,0.8s

---

*SJA **15** 08:01:59.0, 30.°01S×71.°45W, h10km, ML3.1*
*GUC **15** 08:02:02.5±0.7, 30.°00S×71.°19W, h59km±1km, ML3.6*
ISC 15 08:02:03.6±1.3, 30.°04S±0.°03×71.°30W±0.°05, h43km±9km, n45, σ1°946/61, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.13**	**25**	*e*P	**Pn**	**08 02 11.0**	**+0.3**
CO05				*e*S	**Sn**	**08 02 17.2**	**+1.5**
GO04	**Tololo Observa**	**0.46**	**107**	*i*P	**Pn**	**08 02 12.2**	**-2.0**
GO04	**Tololo Observa**	**0.46**	**107**	⇑*e*P	**Pn**	**08 02 12.9**	**-1.3**
GO04				*e*S	**Sn**	**08 02 20.8**	**-0.8**
GO04				IAML		08 02 21.8	
	comp=N,8μm,0.6s						
CO06	**Fray Jorge**	**0.70**	**204**	⇓*e*P	**Pn**	**08 02 16.4**	**-0.7**
CO06				*e*S	**Sn**	**08 02 27.2**	**+0.4**
CO03	**El Pedregal**	**0.96**	**147**	*i*P	**Pn**	**08 02 18.2**	**-2.6**
CO03	**El Pedregal**	**0.96**	**147**	⇓*e*P	**Pn**	**08 02 18.9**	**-1.8**
CO03				*e*S	**Sn**	**08 02 31.2**	**-2.1**
CO03				IAML		08 02 32.1	
	comp=E,1μm,0.1s						
CO01	**Juntas del Tor**	**1.05**	**87**	*i*P	**Pn**	**08 02 20.0**	**-2.1**
CO01	**Juntas del Tor**	**1.05**	**87**	⇓*e*P	**Pn**	**08 02 20.7**	**-1.4**
CO01				*e*S	**Sn**	**08 02 33.8**	**-1.9**
LCO	**Las Campanas**	**1.15**	**27**	*i*P	**Pn**	**08 02 21.3**	**-2.2**
LCO	**Las Campanas**	**1.15**	**27**	⇑*e*P	**Pn**	**08 02 21.9**	**-1.5**
LCO				*e*S	**Sn**	**08 02 36.7**	**-1.5**
LCO				IAML		08 02 40.6	
	comp=E,2μm,0.5s						
AROD	**Rodeo**	**1.59**	**95**	*i*P	**Pn**	**08 02 29.7**	**+0.1**
AC04	**Llanos de Chal**	**1.84**	**6**	*i*P	**Pn**	**08 02 31.6**	**-1.1**
AC04	**Llanos de Chal**	**1.84**	**6**	*e*P	**Pn**	**08 02 31.9**	**-0.8**
AC04				*e*S	**Sn**	**08 02 58.2**	**+3.5**
ACDV	**Cuesta del Vie**	**1.90**	**95**	*i*P	**Pn**	**08 02 34.1**	**+0.4**
ACCO	**Cerro Coronel**	**2.01**	**106**	*i*P	**Pn**	**08 02 36.4**	**+1.0**
DOCA	**Reserva Natura**	**2.12**	**116**	*i*P	**Pn**	**08 02 36.5**	**-0.4**
RTLS	**Leoncito**	**2.46**	**136**	*i*P	**Pn**	**08 02 42.3**	**+0.8**
AGUA	**GUANDACOL**	**2.50**	**78**	*i*P	**Pn**	**08 02 43.6**	**+1.6**
VA06	**Catapilco**	**2.52**	**180**	⇓*e*P	**Pn**	**08 02 41.3**	**-0.6**
VA06				*e*S	**Sn**	**08 03 11.7**	**+0.3**
VA06				IAML		08 03 21.9	
	comp=N,390nm,0.4s						
VA03	**San Esteban**	**2.79**	**167**	*i*P	**Pn**	**08 02 44.6**	**-1.3**
VA03	**San Esteban**	**2.79**	**167**	*e*P	**Pn**	**08 02 45.4**	**-0.5**
VA03				*e*S	**Sn**	**08 03 18.5**	**0.0**
VA03				IAML		08 03 26.8	
	comp=E,234nm,0.1s						
ROCH	**El Roble**	**2.94**	**175**	*e*P	**Pn**	**08 02 47.6**	**-0.4**
ROCH				*e*S	**Sn**	**08 03 24.0**	**+1.9**
ROCH				IAML		08 03 32.4	
	comp=N,210nm,0.3s						
VCA	**Vinchina**	**3.00**	**65**	*e*P	**Pn**	**08 02 50.2**	**+1.4**
VCA				*e*S	**Sn**	**08 03 26.1**	**+2.6**
VCA				IAML		08 03 35.5	
	comp=N,116nm,0.4s						
PEL	**Peldehue**	**3.14**	**171**	*e*P	**Pn**	**08 02 50.6**	**-0.1**
PEL				IAML		08 03 39.1	
	comp=E,76nm,0.1s						
MT02	**Curacav**	**3.22**	**178**	*i*P	**Pn**	**08 02 50.0**	**-1.6**
MT02	**Curacav**	**3.22**	**178**	*e*P	**Pn**	**08 02 50.6**	**-1.0**
MT02				*e*S	**Sn**	**08 03 28.9**	**+0.2**
MT02				IAML		08 03 43.0	
	comp=E,72nm,0.8s						
MT10	**Hacienda Santa**	**3.29**	**169**	*e*P	**Pn**	**08 02 52.3**	**-0.5**
MT10				*e*S	**Sn**	**08 03 30.6**	**-0.1**
MT10				IAML		08 03 41.6	
	comp=E,173nm,0.5s						
MT05	**Renca**	**3.38**	**172**	*i*P	**Pn**	**08 02 53.4**	**-0.5**
MT05	**Renca**	**3.38**	**172**	*e*P	**Pn**	**08 02 54.1**	**+0.2**
MT05				IAML		08 03 45.6	
	comp=E,158nm,0.5s						
AVFE	**Valle Fertil**	**3.38**	**102**	*i*P	**Pn**	**08 02 53.6**	**-0.4**
FCH	**Farellones**	**3.39**	**166**	*e*P	**Pn**	**08 02 55.1**	**+0.8**
FCH				IAML		08 03 44.7	
MT14	**Cerro Cal¡n**	**3.41**	**169**	*e*P	**Pn**	**08 02 54.9**	**+0.5**
MT14				*e*S	**Sn**	**08 03 35.1**	**+1.5**
MT14				IAML		08 03 45.9	
	comp=E,113nm,0.5s						
MT16	**CCHEN**	**3.45**	**169**	*e*P	**Pn**	**08 02 55.1**	**+0.2**
MT16				*e*S	**Sn**	**08 03 35.3**	**+0.8**
MT16				IAML		08 03 50.6	
	comp=N,39nm,0.7s						
MT04	**Ro Olivares**	**3.50**	**164**	*i*P	**Pn**	**08 02 56.7**	**+1.0**
MT04	**Ro Olivares**	**3.50**	**164**	*e*P	**Pn**	**08 02 57.4**	**+1.6**
MT04				*e*S	**Sn**	**08 03 39.6**	**+3.6**
MT04				IAML		08 03 48.2	
	comp=E,44nm,0.6s						
MT03	**Universidad Ad**	**3.51**	**169**	*i*P	**Pn**	**08 02 55.7**	**-0.1**
MT03	**Universidad Ad**	**3.51**	**169**	*e*P	**Pn**	**08 02 56.1**	**+0.3**
MT03				IAML		08 03 49.6	
	comp=E,138nm,0.3s						
MT08	**Bocatoma Ro**	**3.57**	**162**	*e*P	**Pn**	**08 02 59.7**	**+3.0**
AC02	**Maricunga**	**3.72**	**31**	*i*P	**Pn**	**08 02 58.1**	**-0.9**
MT01	**Popeta**	**3.82**	**179**	*i*P	**Pn**	**08 02 58.2**	**-1.6**
ACLC	**CERRO LA CRUZ**	**3.83**	**82**	*i*P	**Pn**	**08 03 00.0**	**-0.2**
AC01	**Pan de Azucar**	**3.92**	**9**	*i*P	**Pn**	**08 02 59.4**	**-2.0**
APLL	**PUNTA DE LOS L**	**4.15**	**96**	*i*P	**Pn**	**08 03 03.8**	**-0.6**
BO01	**Tunca**	**4.35**	**178**	*i*P	**Pn**	**08 03 05.5**	**-1.6**
RFA	**San Rafael**	**5.29**	**154**	*i*P	**Pn**	**08 03 19.4**	**-0.8**

---

*SKHL **15** 08:11:43.6±0.6, 47.°80N×153.°60E, h146km±6km, mb5.0/4, msha5.6/4*
*MOS **15** 08:11:46.2±1.6, 48.°23N×153.°04E, h144km, mb4.0/2, Error ellipse: s-maj=13.1km s-min=8.3km az=60.5*
*JMA **15** 08:11:48.3±0.8, 47.°N±8.°×15.°4E±.°, h154km, MV3.8/10, KURILE ISLANDS REGION*
*IDC **15** 08:11:48.8±2.2, 48.°31N×152.°96E, h151km±20km, mb3.5/18, mbtmp3.9/22, Error ellipse: s-maj=17.8km s-min=12.3km az=137.0*
*NEIC **15** 08:11:49.4±1.4, 48.°5N±0.°1×152.°9E±0.°2, h140km±12km, mb4.0/23, Error ellipse: s-maj=30.0km s-min=4.9km az=135.0*
ISC 15 08:11:48.4±0.6, 48.°22N±0.°08×153.°03E±0.°07, h150km, n97, σ1°917/86, mb3.9/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.19**	**38**	*e*P	**Pn**	**08 12 37.1**	**-0.9**
SKR				AMB	AMB	08 12 40.1	
	60nm,0.3s						
SKR				*e*S	**Sn**	**08 13 16.8**	**+0.3**
SKR				A	A	08 13 18.1	
	170nm,0.2s						
SKR				A	A	08 13 18.1	
	150nm,0.2s						
KUR	**Kuril'sk**	**4.64**	**232**	*e*PN	**Pn**	**08 12 56.8**	**-0.1**
KUR				*e*S	**Sn**	**08 13 53.4**	**+3.1**
KUR				pmax	pmax		
	comp=Z,29nm,0.3s						
KUR				smax	smax		
	comp=N,21nm,0.2s						
KUR				smax	smax		
	comp=E,59nm,0.2s						
KUR	**Kuril'sk**	**4.64**	**232**	*e*P	Pn	08 12 54.0	-2.9
KUR				AMB	AMB	08 13 01.1	
	comp=E,30nm,0.3s						
KUR				*e*S	**Sn**	**08 13 48.6**	**-1.7**
KUR				A	A	08 14 00.4	
	comp=E,20nm,0.2s						
KUR				A	A	08 14 00.4	
	comp=E,60nm,0.2s						
PEA0B	**Petropavlovsk-**	**5.73**	**29**	Pn	**Pn**	**08 13 10.0**	**-1.3**
PEA0B	**Petropavlovsk-**	**5.73**	**29**	PN	**Pn**	**08 13 10.0**	**-1.3**
PETK	**Petropavlovsk-**	**5.73**	**29**	Pn	**Pn**	**08 13 09.4**	**-1.9**
PETK	**Petropavlovsk-**	**5.73**	**29**	P	**Pn**	**08 13 10.6**	**-0.7**
	comp=E,3.1nm,0.6s,baz=165,slow=10,SNR=9.5						
SHO	**Shikotan**	**6.12**	**227**	*e*PN	Pn	08 13 12.9	-3.7
SHO				pmax	pmax		
	comp=Z,21nm,0.3s						
SHO				pmax	pmax		
	comp=N,7.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,10.0nm,0.2s						
SHO	**Shikotan**	**6.12**	**227**	*e*P	Pn	08 13 12.9	-3.7
SHO				AMB	AMB	08 13 15.8	
	comp=E,20nm,0.3s						
SHO				*e*S	Sn	08 14 19.0	-6.7
SHO				A	A	08 14 23.6	
	comp=E,40nm,0.2s						
SHO				A	A	08 14 23.6	
	comp=E,50nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**6.50**	**233**	*e*PN	**Pn**	**08 13 20.3**	**-1.4**
YUK				S	**Sn**	**08 14 32.6**	**-2.1**
YUK				pmax	pmax		
	comp=Z,133nm,0.5s						
YUK				pmax	pmax		
	comp=E,42nm,0.4s						
YUK				pmax	pmax		
	comp=N,37nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**6.50**	**233**	*e*P	**Pn**	**08 13 19.5**	**-2.2**
YUK				AMB	AMB	08 13 21.8	
	comp=N,140nm,0.4s						
YUK				*e*S	**Sn**	**08 14 32.3**	**-2.4**
YUK				A	A	08 14 37.2	
	comp=N,90nm,0.6s						
YUK				A	A	08 14 37.2	
	comp=N,80nm,0.6s						
NEM2	**Nemuro 2**	**7.03**	**229**	P	Pn	08 13 24.8	-4.0
NEM2				*e*S	Sn	08 14 39.4	-8.0
NMR	**Nemuro--Hokkai**	**7.04**	**229**	*e*PN	Pn	08 13 24.9	-3.9
NMR	**Nemuro--Hokkai**	**7.04**	**229**	*e*P	Pn	08 13 25.1	-3.7
YSS	**Yuzhno-Sakhali**	**7.06**	**264**	*e*PN	**Pn**	**08 13 30.0**	**+0.9**
YSS				*e*S	**Sn**	**08 14 46.2**	**-1.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	**Yuzhno-Sakhali**	**7.06**	**264**	*e*P	**Pn**	**08 13 30.0**	**+0.9**
YSS				*e*S	**Sn**	**08 14 51.8**	**+3.7**
TYV	**Tymovskoe**	**7.25**	**295**	*e*P	Pn	08 13 34.6	+3.0
JNK	**Nakash**	**7.42**	**234**	P	**Pn**	**08 13 32.7**	**-1.2**
JTKR	**Abashiri--Toko**	**7.63**	**240**	*e*P	**Pn**	**08 13 36.4**	**-0.3**
AKK	**Akkeshi**	**7.74**	**231**	*e*P	Pn	08 13 34.8	-3.4
JAK	**Akkeshi**	**7.83**	**231**	P	Pn	08 13 35.8	-3.7
JAK				S	Sn	08 14 59.1	-7.6
JAR	**Ashorobuto**	**8.13**	**236**	*e*P	**Pn**	**08 13 42.3**	**-1.1**
JAR				*e*S	**Sn**	**08 15 11.2**	**-2.6**
JKA	**Kamikawa-asahi**	**8.32**	**244**	Pn	**Pn**	**08 13 46.9**	**+1.0**
JKA	**Kamikawa-asahi**	**8.32**	**244**	*e*P	**Pn**	**08 13 46.9**	**+1.0**
ASAJ	**Asahikawa**	**8.32**	**244**	P	**Pn**	**08 13 45.8**	**-0.2**
	comp=Z,4.8nm,0.4s,baz=71,slow=17,SNR=7.3						
ASAJ	**Asahikawa**	**8.32**	**244**	PN	**Pn**	**08 13 46.9**	**+1.0**
JOB	**Onbets**	**8.35**	**234**	P	**Pn**	**08 13 43.9**	**-2.5**
JOB				*e*S	Sn	08 15 12.4	-6.8
JCH	**Churui**	**8.80**	**234**	P	Pn	08 13 49.4	-3.0
JCH				*e*S	Sn	08 15 21.1	-9.0
NKL	**Nikolayevsk**	**9.26**	**307**	*e*P	Pn	08 14 02.0	+3.7
JNBK	**Urakawa-nobuka**	**9.36**	**234**	P	Pn	08 13 55.4	-4.4
JANG	**Nango**	**11.37**	**231**	*e*P	Pn	08 14 19.9	-6.5
KLR	**Kul'dur**	**14.08**	**282**	P	**Pn**	**08 15 00.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=85,slow=11,SNR=4.3						
SEY	**Seymchan**	**14.76**	**359**	P	**P**	**08 15 09.3**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=135,slow=13,SNR=9.3						
USA0B	**Ussuriysk Arra**	**15.10**	**262**		**Pn**	**08 15 14.7**	**+0.9**
USA0B				IAmb	IAmb	08 15 42.8	
	comp=Z,5.5nm,0.8s						
USA0B	**Ussuriysk Arra**	**15.10**	**262**	P	**Pn**	**08 15 14.7**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**15.10**	**262**	Pn	**Pn**	**08 15 14.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**15.10**	**262**	P	**Pn**	**08 15 14.1**	**+0.3**
KIWB	**Kanaga Island**	**19.43**	**68**	P	**P**	**08 16 03.9**	**+1.0**
KSRS	**Korea Array**	**21.23**	**249**	P	**P**	**08 16 24.1**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=42,slow=10,SNR=6.8						
	comp=Z,2.0nm,0.5s						
C18K	**Utukok River**	**30.39**	**31**	P	**P**	**08 17 45.4**	**-0.4**
C18K				IAmb	IAmb	08 17 55.6	
	comp=Z,4.8nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**30.55**	**154**	T	T	08 49 49.9	
	baz=341,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**30.57**	**154**	T	T	08 49 51.3	
	baz=341,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**30.57**	**154**	T	T	08 49 50.3	
	baz=341,slow=76,SNR=13						
G18K	**Tagagawik**	**30.63**	**37**	P	**P**	**08 17 48.2**	**+0.3**
H19K	**Roundabout Mou**	**31.46**	**38**	P	**P**	**08 17 55.0**	**-0.2**
H19K				IAmb	IAmb	08 18 01.6	
	comp=Z,3.8nm,1.1s						
E19K	**Redstone River**	**31.50**	**34**	P	**P**	**08 17 56.0**	**+0.5**
E19K				IAmb	IAmb	08 18 20.1	
	comp=Z,3.8nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**31.66**	**155**	T	T	08 51 10.2	
	baz=342,slow=76,SNR=36						
H11S3	**WAKE ISLAND Hy**	**31.66**	**155**	T	T	08 51 11.0	
	baz=342,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**31.67**	**155**	T	T	08 51 10.4	
	baz=342,slow=76,SNR=36						
H21K	**Melozitna Rive**	**32.98**	**38**	P	**P**	**08 18 09.2**	**+0.7**
D22K	**Ayikyak River**	**33.45**	**32**	P	**P**	**08 18 13.6**	**+1.0**
E22K	**Anaktuvuk Pass**	**33.65**	**34**	P	**P**	**08 18 15.0**	**+0.7**
E22K				IAmb	IAmb	08 18 18.1	
	comp=Z,3.2nm,1.4s						
COLD	**Coldfoot**	**34.16**	**35**	P	**P**	**08 18 18.5**	**-0.2**
E23K	**Chandalar**	**34.46**	**34**	P	**P**	**08 18 22.4**	**+1.1**
E23K				IAmb	IAmb	08 18 32.4	
	comp=Z,3.2nm,1.2s						
D24K	**Happy Valley**	**34.86**	**32**	P	**P**	**08 18 25.1**	**+0.4**
D24K				IAmb	IAmb	08 18 39.5	
	comp=Z,4.3nm,1.4s						
E24K	**Your Creek**	**34.88**	**34**	P	**P**	**08 18 25.6**	**+0.7**
F24K	**Squaw Lake**	**35.07**	**35**	P	**P**	**08 18 26.9**	**+0.3**
G24K	**Hadweenzic Riv**	**35.20**	**36**	P	**P**	**08 18 28.4**	**+0.8**
ILAR	**Eielson Array**	**35.45**	**40**	P	**P**	**08 18 29.3**	**-0.5**
ILAR	**Eielson Array**	**35.45**	**40**	P	**P**	**08 18 29.7**	**0.0**
	comp=Z,0.4nm,0.8s,baz=263,slow=5.6,SNR=6.4						
	comp=Z,0.4nm,0.8s						
D25K	**Kavik River**	**35.75**	**32**	P	**P**	**08 18 33.6**	**+1.3**
BMAR	**Burnt Mountain**	**36.34**	**35**	P	**P**	**08 18 38.2**	**+0.9**
C27K	**Jago River**	**36.70**	**32**	P	**P**	**08 18 41.0**	**+0.7**
C27K				IAmb	IAmb	08 18 50.4	
	comp=Z,3.4nm,1.4s						
HMT	**Hamilton**	**37.11**	**47**	P	**P**	**08 18 43.3**	**-0.7**
F28M	**Old Crow**	**38.15**	**35**	P	**P**	**08 18 53.7**	**+1.2**
F28M				IAmb	IAmb	08 19 08.4	
	comp=Z,4.2nm,1.5s						
E29M	**Blow River**	**38.83**	**33**	P	**P**	**08 18 59.2**	**+1.1**
E29M				IAmb	IAmb	08 19 02.1	
	comp=Z,2.5nm,1.2s						
I30M	**Mount Dempster**	**39.84**	**38**	P	**P**	**08 19 07.6**	**+0.9**
H31M	**Peel River**	**40.57**	**37**	P	**P**	**08 19 13.5**	**+0.9**
MK31	**Makanchi Array**	**46.23**	**296**	P	**P**	**08 19 57.6**	**-0.6**
MK31				IAmb	IAmb	08 19 58.4	
	comp=Z,3.1nm,1.1s						
MK31	**Makanchi Array**	**46.23**	**296**	P	**P**	**08 19 57.6**	**-0.6**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**46.23**	**296**	P	**P**	**08 19 58.0**	**-0.2**
MKAR	**Makanchi Array**	**46.23**	**296**	P	**P**	**08 19 57.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=70,slow=7.5,SNR=14						
	comp=Z,1.2nm,0.4s						
MKAR	**Makanchi Array**	**46.23**	**296**	P	**P**	**08 19 58.0**	**-0.2**
MKAR	**Makanchi Array**	**46.23**	**296**	*e*P	**P**	**08 19 58.0**	**-0.2**
MAKZ	**Makanchi**	**46.41**	**296**	P	**P**	**08 19 58.9**	**-0.7**
MAKZ				IAmb	IAmb	08 20 00.4	
	comp=Z,4.6nm,1.2s						
MAKZ	**Makanchi**	**46.41**	**296**	P	**P**	**08 19 58.9**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KURK	**Kurchatov**	**46.51**	**302**	P	**P**	**08 20 00.9**	**+0.6**
KURK	**Kurchatov**	**46.51**	**302**	*e*P	**P**	**08 20 00.9**	**+0.6**
KURBB	**Kurchatov Arra**	**46.61**	**302**	P	**P**	**08 20 00.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=71,slow=9.7,SNR=4.2						
	comp=Z,1.0nm,0.5s						
EUNU	**Eureka**	**47.70**	**12**	P	**P**	**08 20 08.9**	**-0.2**
EUNU				IAmb	IAmb	08 20 26.8	
	comp=Z,4.6nm,1.4s						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**08 20 25.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=299,slow=7.5,SNR=7.4						
	comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**49.79**	**37**	P	**P**	**08 20 26.0**	**+0.8**
BVAR	**Borovoye Array**	**49.89**	**308**	P	**P**	**08 20 25.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=48,slow=7.4,SNR=5.6						
	comp=Z,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**56.45**	**340**	P	**P**	**08 21 12.4**	**-1.4**
	comp=Z,3.8nm,1.0s,baz=43,slow=6.8,SNR=1.5						
	comp=Z,3.8nm,1.0s						
FINES	**FINESS Array B**	**62.69**	**334**	P	**P**	**08 21 55.6**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=28,slow=6.5,SNR=10						
	comp=Z,0.6nm,0.3s						
PDAR	**Pinedale Array**	**63.93**	**54**	P	**P**	**08 22 05.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=315,slow=7.6,SNR=2.1						
	comp=Z,0.2nm,0.6s						
NOA	**NORSAR Array B**	**66.82**	**341**	P	**P**	**08 22 22.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=28,slow=6.0,SNR=2.3						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**67.06**	**339**	P	**P**	**08 22 24.2**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=26,slow=3.8,SNR=10						
	comp=Z,3.3nm,0.9s						
WRA	**Warramunga Arr**	**69.88**	**199**	P	**P**	**08 22 42.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=10,slow=6.6,SNR=2.5						
	comp=Z,0.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**70.41**	**208**	P	**P**	**08 22 46.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=18,slow=6.4,SNR=1.6						
	comp=Z,1.2nm,0.7s						
SCHQ	**Schefferville**	**71.98**	**23**	P	**P**	**08 22 55.3**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=339,slow=8.9,SNR=7.9						
	comp=Z,0.9nm,0.3s						
ASAR	**Alice Springs**	**73.58**	**198**	P	**P**	**08 23 06.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=13,slow=5.4,SNR=4.7						
	comp=Z,0.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**74.90**	**346**	P	**P**	**08 23 12.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=17,slow=4.9,SNR=11						
	comp=Z,1.5nm,0.4s						
TXAR	**Lajitas Array**	**76.82**	**61**	P	**P**	**08 23 24.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=293,slow=4.5,SNR=4.8						
	comp=Z,0.3nm,0.6s						
MMAI	**Mount Meron Ar**	**81.80**	**311**	P	**P**	**08 23 50.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=95,slow=7.2,SNR=1.6						
	comp=Z,1.2nm,0.5s						
QSPA	**South Pole Qui**	**137.95**	**180**	PKP	**PKPdf**	**08 30 54.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=214,slow=0.8,SNR=5.5						
CPUP	**Villa Florida**	**147.77**	**58**	PKPbc	**PKPdf**	**08 31 14.0**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=56,slow=2.3,SNR=2.8						

---

*ASRS **15** 08:15:19.0±0.7, 54.°26N×86.°18E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 08:15:20.2±2.6, 54.°33N×86.°21E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=19.5km s-min=13.4km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZAL

Mwp5.1/1
ISC 15 08:21:29.4±0.5, 0°.04N±0°.06×126°.65E±0°.05, h50km, n71, σ0.95/71, mb4.5/16, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.02**	**44**		**Pn**	**08 21 47.8**	**+0.4**
TNTI	**Ternate**	**1.02**	**44**	P	**Pn**	**08 21 48.3**	**+0.9**
TNTI	**Ternate**	**1.02**	**44**	P	**Pn**	**08 21 48.0**	**+0.6**
LBMI	**Labuha**	**1.08**	**128**	P	**Pn**	**08 21 48.5**	**+0.3**
SANI	**Sanana**	**2.18**	**198**	P	**Pn**	**08 22 03.0**	**-0.2**
SANI	**Sanana**	**2.18**	**198**	P	**Pn**	**08 22 02.3**	**-0.9**
KMSI	**Cibinong**	**2.73**	**281**	P	**Pn**	**08 22 10.4**	**-0.3**
NLAI	**Namlea**	**3.28**	**172**	P	**Pn**	**08 22 19.2**	**+0.8**
AAI	**Ambon**	**4.01**	**157**	P	**Pn**	**08 22 29.8**	**+1.5**
LUWI	**Luwuk**	**4.03**	**255**	Pn	**Pn**	**08 22 28.6**	**0.0**
LUWI	**Luwuk**	**4.03**	**255**	P	**Pn**	**08 22 28.5**	**-0.1**
MRSI	**Marisa**	**4.73**	**275**	P	**Pn**	**08 22 38.7**	**+0.4**
APSI	**Ampana**	**5.09**	**259**	P	Pn	08 22 55.4	+12
KDI	**Kendari**	**5.66**	**225**	P	**Pn**	**08 22 51.4**	**+0.4**
	0.6nm2μm122nm,0.6s						
TOLI2	**Tolitoli**	**5.97**	**280**	Pn	**Pn**	**08 22 55.9**	**+0.7**
TOLI2	**Tolitoli**	**5.97**	**280**	P	**Pn**	**08 22 56.8**	**+1.6**
FAKI	**Fak Fak**	**6.32**	**118**	Pn	**Pn**	**08 22 59.9**	**-0.1**
FAKI	**Fak Fak**	**6.32**	**118**	P	**Pn**	**08 23 01.7**	**+1.7**
FAKI	**Fak Fak**	**6.32**	**118**	S	**Sn**	**08 24 11.0**	**+0.1**
FAKI	**Fak Fak**	**6.32**	**118**	P	**Pn**	**08 23 00.8**	**+0.8**
	0.1nm29nm,0.8s						
BBSI	**Bau Bau**	**6.84**	**217**	P	**Pn**	**08 23 08.6**	**+1.4**
	0.3nm66nm,0.8s						
TTSI	**Tana Toraja**	**7.49**	**246**	P	**Pn**	**08 23 17.0**	**+0.9**
SPSI	**Sidrap Palu**	**7.95**	**240**	P	**Pn**	**08 23 24.0**	**+1.6**
	3μm158nm,0.5s						
BKSI	**Bulukumba**	**8.42**	**231**	P	**Pn**	**08 23 30.4**	**+1.6**
	3μm538nm38nm,0.6s						
KAPI	**Kappang**	**8.53**	**234**		**Pn**	**08 23 31.8**	**+1.4**
KAPI	**Kappang**	**8.53**	**234**	P	**Pn**	**08 23 30.9**	**+0.6**
	6.2nm,0.3s,baz=41,slow=5.4,SNR=13						
KAPI				S	**Sn**	**08 25 05.7**	**+0.5**
	8.7nm,0.4s,baz=359,slow=21,SNR=4.9						
	16nm,0.4s						
KAPI	**Kappang**	**8.53**	**234**	P	**Pn**	**08 23 32.5**	**+2.2**
SAUI	**Saumlaki**	**9.21**	**150**	P	**Pn**	**08 23 41.0**	**+1.2**
JAY	**Jayapura**	**14.27**	**100**	LR	LR	08 31 57.6	
	comp=Z,115nm,18.5s,baz=329,slow=44						
FITZ	**Fitzroy Crossi**	**18.05**	**183**	P	**P**	**08 25 36.1**	**-0.5**
	0.2nm,0.3s,baz=63,slow=20,SNR=1.4						
	0.7nm,0.4s						
LEM	**Lembang**	**20.18**	**250**	P	**P**	**08 26 01.2**	**+1.0**
	24nm,0.7s,baz=18,slow=17,SNR=3.5						
	24nm,0.7s						
BBJI	**Bungbulang**	**20.36**	**248**	P	**P**	**08 26 02.8**	**+0.7**
WB0	**Warramunga Arr**	**21.09**	**159**	P	**P**	**08 26 08.8**	**-1.1**
WB0				IAmb	IAmb	08 26 12.2	
	comp=Z,11nm,0.4s						
WRA	**Warramunga Arr**	**21.23**	**160**	P	**P**	**08 26 08.7**	**-2.7**
WRA	**Warramunga Arr**	**21.23**	**160**	P	**P**	**08 26 10.4**	**-0.9**
	comp=Z,3.4nm,0.3s,baz=339,slow=11,SNR=88						
	comp=Z,3.4nm,0.3s						
WB2	**Warramunga Arr**	**21.24**	**160**	P	**P**	**08 26 09.7**	**-1.7**
COEN	**Coen**	**21.47**	**131**	P	**P**	**08 26 12.9**	**-1.0**
COEN				IAmb	IAmb	08 26 26.5	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**21.47**	**131**	P	**P**	**08 26 14.0**	**+0.1**
QIS	**Mount Isa**	**24.07**	**149**	P	**P**	**08 26 40.0**	**-0.3**
AS31	**Alice Springs**	**24.59**	**164**	P	**P**	**08 26 44.5**	**-0.5**
ASAR	**Alice Springs**	**24.59**	**164**	P	**P**	**08 26 44.6**	**-0.4**
	comp=Z,15nm,0.9s,baz=344,slow=9.9,SNR=90						
ASAR				PcP	**PcP**	**08 30 21.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=357,slow=2.1,SNR=4.7						
ASAR				ScP	**ScP**	**08 33 55.0**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=344,slow=2.6,SNR=5.4						
	comp=Z,15nm,0.9s						
AS01	**Alice Springs**	**24.60**	**164**	P	**P**	**08 26 45.3**	**+0.2**
WRKA	**Warakurna**	**24.98**	**176**	P	**P**	**08 26 49.1**	**+0.6**
OOD	**Oodnadatta**	**29.00**	**163**	P	**P**	**08 27 25.0**	**+0.4**
FORT	**Forrest**	**30.68**	**178**	P	**P**	**08 27 37.5**	**-1.9**
FORT				IAmb	IAmb	08 28 05.5	
	comp=Z,8.0nm,0.8s						
FORT	**Forrest**	**30.68**	**178**	P	**P**	**08 27 40.1**	**+0.7**
LCRK	**Leigh Creek**	**32.25**	**161**	P	**P**	**08 27 54.3**	**+1.0**
BBOO	**Buckleboo**	**33.85**	**166**	P	**P**	**08 28 06.9**	**-0.3**
STKA	**Stephens Creek**	**34.75**	**157**	P	**P**	**08 28 13.9**	**-1.1**
STKA				IAmb	IAmb	08 28 16.1	
	comp=Z,8.6nm,1.1s						
STKA	**Stephens Creek**	**34.75**	**157**	P	**P**	**08 28 14.7**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=331,slow=8.9,SNR=20						
	comp=Z,3.1nm,0.3s						
STKA	**Stephens Creek**	**34.75**	**157**	P	**P**	**08 28 14.9**	**-0.1**
SONM	**Songino Array**	**50.76**	**342**	P	**P**	**08 30 25.0**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=160,slow=7.9,SNR=4.7						
	comp=Z,0.9nm,0.8s						
MSVF	**Nonsavu**	**53.53**	**112**	P	**P**	**08 30 45.7**	**+0.1**
TUWZ	**Tuamarina**	**59.36**	**140**	P	**P**	**08 31 25.3**	**-1.3**
MK31	**Makanchi Array**	**60.55**	**327**	P	**P**	**08 31 35.0**	**+0.3**
MKAR	**Makanchi Array**	**60.55**	**327**	P	**P**	**08 31 34.9**	**+0.1**
MKAR	**Makanchi Array**	**60.55**	**327**	P	**P**	**08 31 35.1**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=122,slow=7.4,SNR=17						
	comp=Z,0.8nm,0.4s						
GAR	**Garm**	**64.39**	**314**	P	**P**	**08 31 59.7**	**-0.9**
GAR				IAmb	IAmb	08 32 02.1	
	comp=Z,4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**64.81**	**328**	P	**P**	**08 32 03.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=124,slow=6.0,SNR=13						
	comp=Z,1.4nm,0.7s						
KURK	**Kurchatov**	**64.81**	**329**	P	**P**	**08 32 03.4**	**+0.4**
KURK				IAmb	IAmb	08 32 25.8	
	comp=Z,3.7nm,0.9s						
ADK	**Adak**	**70.05**	**33**	P	**P**	**08 32 36.4**	**+0.3**
GSTR	**Great Sitkin T**	**70.49**	**33**	P	**P**	**08 32 39.5**	**+0.6**
ABKAR	**Akbulak array**	**74.96**	**321**	P	**P**	**08 33 05.5**	**+0.1**
OPO	**Ambohidratompo**	**80.03**	**251**	LR	LR	09 06 01.2	
	comp=Z,32nm,21.3s,baz=338,slow=33						
J16K	**Anvik River**	**82.26**	**26**	P	**P**	**08 33 45.9**	**+0.7**
J16K				IAmb	IAmb	08 34 03.6	
	comp=Z,8.8nm,1.4s						
L16K	**Owhat River**	**82.36**	**28**	P	**P**	**08 33 46.0**	**+0.2**
J17K	**VABM Dome**	**82.96**	**26**	P	**P**	**08 33 49.3**	**+0.4**
J17K				IAmb	IAmb	08 33 50.9	
	comp=Z,6.5nm,1.1s						
K17K	**Iditarod**	**83.14**	**27**	P	**P**	**08 33 50.2**	**+0.4**
C18K	**Utukok River**	**83.52**	**21**	P	**P**	**08 33 52.2**	**+0.5**
C18K				IAmb	IAmb	08 33 52.6	
	comp=Z,2.7nm,1.1s						
J18K	**Innoko River**	**84.01**	**26**	P	**P**	**08 33 53.7**	**-0.6**
J18K				IAmb	IAmb	08 34 32.5	
	comp=Z,6.7nm,1.4s						
H19K	**Roundabout Mou**	**84.55**	**24**	P	**P**	**08 33 57.0**	**+0.1**
H19K				IAmb	IAmb	08 34 26.0	
	comp=Z,6.7nm,1.4s						

*REN **15** 08:22:04.5±1.9, 36°.57N±0°.01×112°.82W±0°.02, h4km±5km, Error ellipse: s-maj=2.5km s-min=1.6km az=47.0*
NEIC 15 08:22:03.7±0.8, 36°.538N±0°.007×112°.78W±0°.02, h10km±9km, ML2.6/37, ML2.2/4(REN), Error ellipse: s-maj=2.7km s-min=0.9km az=78.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U15A	**North Rim**	**0.41**	**106**		Pg	08 22 11.8	0.0
U15A				Sg	Sg	08 22 17.5	+0.3
U15A				IAML		08 22 17.9	
	comp=N,886nm,0.2s						
U15A				IAML		08 22 19.6	
	comp=E,865nm,0.9s						
KNB	**Kanab**	**0.48**	**356**	Pg	Pg	08 22 13.3	+0.1
KNB				Sg	Sg	08 22 19.0	-0.5
LCMT	**Little Creek M**	**0.60**	**322**	Pg	Pg	08 22 15.2	-0.3
LCMT				Sg	Sg	08 22 22.4	-1.0
ZNPU	**Zion National**	**0.86**	**341**		Pg	08 22 20.1	-0.3
ZNPU					Sg	08 22 31.6	-0.1
PKCU	**Pink Cliffs**	**0.98**	**22**	Pg	Pg	08 22 21.9	-0.7
PKCU				Sg	Sg	08 22 35.5	+0.2
PKCU				IAML		08 22 44.7	
	comp=N,191nm,0.3s						
ICU	**Indian Springs**	**1.10**	**304**		Pg	08 22 24.6	-0.3
ICU					Sg	08 22 38.3	-1.0
ARUT	**Antelope Range**	**1.35**	**337**		Pg	08 22 30.0	+0.3
ARUT					Sb	08 22 46.8	+0.1
BTU	**Barney Top**	**1.41**	**30**		Pb	08 22 30.4	0.0
WUAZ	**Wupatki**	**1.53**	**131**		Pg	08 22 32.8	-0.3
MTPU	**Mount Pierson**	**1.57**	**17**		Pn	08 22 31.8	-0.3
MTPU				IAML		08 22 54.9	
	comp=E,51nm,0.6s						
W13A	**Hualapai Mount**	**1.69**	**212**		Pn	08 22 34.2	+0.6
V12A	**Nelson**	**1.86**	**245**		Pb	08 22 38.3	+0.4
V12A				IAML		08 23 04.1	
	comp=E,36nm,0.5s						
V12A				IAML		08 23 04.2	
	comp=N,32nm,0.5s						
SHPR	**Sheep Range**	**1.92**	**270**		Pn	08 22 37.6	+1.0
MSU	**Marysvale**	**2.03**	**13**		Pn	08 22 39.2	+1.1
TCRU	**Three Creeks R**	**2.08**	**7**		Pn	08 22 39.9	+0.9
PSUT	**Pine Spring**	**2.17**	**337**		Pn	08 22 40.7	+0.6
Y14A	**Wickenburg**	**2.60**	**184**	Pn	Pn	08 22 47.0	+1.1
Q16A	**Castle Valley**	**2.69**	**28**		Pn	08 22 48.2	+0.9
SPR3	**Spring Creek 3**	**2.75**	**334**	Pn	Pn	08 22 49.2	+1.1
NSP	**Numbskull Pass**	**2.77**	**275**		Pn	08 22 50.7	+2.5
TPNV	**Topopah Spring**	**2.82**	**279**		Pn	08 22 50.3	+1.3
TPNV				IAML		08 23 32.9	
	comp=N,19nm,0.3s						
TPNV				IAML		08 23 39.7	
	comp=N,17nm,0.8s						
AMDNV	**Amargosa**	**2.83**	**269**		Pb	08 22 51.5	-2.7
GMRC	**Granite Mounta**	**2.93**	**234**		Pn	08 22 51.1	+0.7
PV07	**Paradox Valley**	**3.79**	**59**		Pn	08 23 05.3	+2.9
PV15	**Paradox Valley**	**3.86**	**61**		Pn	08 23 05.4	+2.0
DSP	**Deep Springs**	**4.24**	**283**	Pn	Pn	08 23 10.1	+1.8
DSP				IAML		08 24 51.0	
	comp=N,11nm,4.7s						
TCUT	**Toone Canyon**	**4.70**	**13**	Pn	Pn	08 23 18.2	+3.4

*NEIC **15** 08:23:12.6±2.8, 61°.10N±0°.03×152°.18W±0°.07, h105km±3km, Error ellipse: s-maj=5.4km s-min=3.9km az=104.0*
AEIC 15 08:23:14.4±0.8, 61°.06N±0°.03×151°.94W±0°.07, h91km±1km, ML2.2, ML2.4/134(NEIC), Error ellipse: s-maj=4.7km s-min=4.1km az=110.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPU	**Mount Spurr**	**0.13**	**336**		Pn	08 23 26.6	-0.9
SPU				Sn	Sn	08 23 36.4	-0.7
SPU				IAML		08 23 36.9	
	comp=E,165nm,0.5s						
SPU				IAML		08 23 37.3	
	comp=N,164nm,0.4s						
SPCN	**Chakachatna No**	**0.20**	**325**		Pn	08 23 27.1	-0.5
SPCG	**Spurr Capps Gl**	**0.23**	**351**		Pn	08 23 27.1	-0.8
SPCG					Sn	08 23 37.1	-0.8
CKL	**Chakachamna La**	**0.23**	**305**		Pn	08 23 27.0	-0.8
SPBG	**Spurr Blockage**	**0.29**	**314**		Pn	08 23 27.5	-0.6
SPBG					Sn	08 23 38.1	-0.1
STLK	**Strandline Lak**	**0.44**	**7**		Pn	08 23 28.0	-1.0
STLK				Sn	Sn	08 23 38.6	-1.2
STLK				IAML		08 23 39.5	
	comp=N,64nm,0.2s						
STLK				IAML		08 23 40.1	
	comp=E,77nm,0.2s						
SPNN	**North Nagishla**	**0.48**	**310**		Pn	08 23 28.8	-0.6
CAPN	**Captain Cook N**	**0.48**	**127**		Pn	08 23 29.8	+0.7
CAPN				Sn	Sn	08 23 43.9	+3.8
CAPN				IAML		08 23 48.5	
	comp=N,254nm,1.3s						
RDT	**Redoubt**	**0.54**	**205**		Pn	08 23 28.7	-1.0
RDT					Sn	08 23 40.6	-0.5
DFR	**Drift River**	**0.59**	**218**		Pn	08 23 29.3	-0.9
DFR					Sn	08 23 41.0	-0.9
RDJH	**Redoubt Jeurge**	**0.63**	**222**		Pn	08 23 29.7	-0.8
RDJH					Sn	08 23 42.0	-0.6
NCT	**North Crescent**	**0.70**	**224**		Pn	08 23 30.4	-0.8
NCT					Sn	08 23 43.1	-0.5
RDWB	**Redoubt West**	**0.72**	**218**		Pn	08 23 30.5	-0.9
RDWB					Sn	08 23 43.5	-0.7
RED	**Redoubt Volcan**	**0.76**	**213**		Pn	08 23 30.9	-0.8
RED					Sn	08 23 44.2	-0.5
FIS	**Fire Island**	**0.84**	**84**		Pn	08 23 32.7	+0.3
FIS				IAML		08 23 52.3	
	comp=N,116nm,1.4s						
FIS				IAML		08 23 53.8	
	comp=E,106nm,0.8s						
SKT	**Skwentna**	**0.94**	**12**		Pn	08 23 32.6	-1.0
SKT				IAML		08 23 47.7	
	comp=E,34nm,0.4s						
M20K	**Styx River**	**1.00**	**326**		Pn	08 23 33.8	-0.5
M20K	**Styx River**	**1.00**	**326**	IAML		08 23 49.8	
	comp=E,29nm,0.7s						
SLKM	**Skilak Lake**	**1.01**	**123**		Pn	08 23 33.5	-0.8
SLKM				IAML		08 23 50.0	
	comp=N,84nm,0.2s						
SLKM				IAML		08 23 52.6	
	comp=E,67nm,0.1s						
O20K	**Slope Mountain**	**1.04**	**199**		Pn	08 23 34.2	-0.5
O20K					Sn	08 23 49.7	-0.2
RC01	**Rabbit Creek A**	**1.07**	**88**		Pn	08 23 34.2	-0.8
RC01				IAML		08 23 51.4	
	comp=N,78nm,0.2s						
RC01				IAML		08 23 51.7	
	comp=E,71nm,0.2s						
M22K	**Willow**	**1.12**	**51**		Pn	08 23 35.5	0.0
M22K					Sn	08 23 51.9	+0.5
ILSW	**Iliamna Southw**	**1.23**	**209**		Pn	08 23 36.3	-0.8
O22K	**Cooper Landing**	**1.23**	**117**	Pn	Pn	08 23 35.9	-1.0
O22K				IAML		08 23 55.4	
	comp=N,111nm,0.4s						
O22K				IAML		08 23 59.9	
	comp=E,115nm,0.5s						
ILS	**Iliamna Low So**	**1.24**	**207**		Pn	08 23 36.3	-0.8
N19K	**Bonanza Creek**	**1.27**	**260**		Pn	08 23 36.6	-0.8
BRLK	**Bradley Lake**	**1.40**	**158**	Pn	Pn	08 23 38.2	-0.9
BRLK				IAML		08 23 59.6	
	comp=E,63nm,0.8s						
HOM	**Homer**	**1.42**	**174**	Pn	Pn	08 23 38.6	-0.5
M19K	**Big River Lodg**	**1.45**	**307**		Pn	08 23 39.0	-0.5
M19K	**Big River Lodg**	**1.45**	**307**	IAML		08 24 00.3	
	comp=E,22nm,0.7s						
BRSE	**Bradley Lake S**	**1.45**	**155**		Pn	08 23 38.7	-0.9
BRSE					Sn	08 23 57.6	-1.1
PMR	**Palmer**	**1.46**	**67**	Pn	Pn	08 23 38.4	-1.2
PMR				IAML		08 24 01.8	
	comp=E,47nm,0.2s						
PMR				IAML		08 24 01.8	
	comp=N,64nm,0.2s						
O19K	**Port Alsworth**	**1.46**	**234**	Pn	Pn	08 23 38.2	-1.4
O19K				IAML		08 24 00.6	
	comp=N,38nm,0.5s						
O19K				IAML		08 24 09.8	
	comp=E,33nm,0.4s						
OPT	**Oil Point**	**1.55**	**205**		Pn	08 23 40.8	-0.2
P19K	**Oil Pt**	**1.55**	**205**	Pn	Pn	08 23 40.3	-0.6
P19K	**Oil Pt**	**1.55**	**205**		Sn	08 24 01.1	+0.1
P19K	**Oil Pt**	**1.55**	**205**	IAML		08 24 02.9	
	comp=E,69nm,0.5s						
P19K				IAML		08 24 04.4	
	comp=N,54nm,0.4s						
CUT	**Chulitna**	**1.57**	**30**		Pn	08 23 40.5	-0.5
CNPM	**China Poot**	**1.58**	**167**	Pn	Pn	08 23 40.0	-1.3
GHO	**Glory Hole Cre**	**1.62**	**63**	Pn	Pn	08 23 40.6	-1.2
GHO				IAML		08 24 01.9	
	comp=N,55nm,0.6s						
GHO				IAML		08 24 03.5	
	comp=E,49nm,0.3s						
L20K	**Farewell, AK**	**1.69**	**328**		Pn	08 23 41.6	-1.1
KNK	**Knik Glacier**	**1.72**	**77**		Pn	08 23 41.5	-1.6
KNK				IAML		08 24 05.3	
	comp=E,69nm,0.3s						
KNK				IAML		08 24 05.6	
	comp=N,63nm,0.4s						
PWL	**Port Wells**	**1.77**	**95**	Pn	Pn	08 23 42.0	-1.7
PWL				IAML		08 24 05.8	
	comp=E,61nm,0.3s						
L19K	**White Mountain**	**1.79**	**310**		Pn	08 23 43.4	-0.5
PPLA	**Purkeypile**	**1.84**	**356**		Pn	08 23 43.5	-1.2
SML	**Sawmill**	**1.89**	**65**		Pn	08 23 43.8	-1.4
SML	**Sawmill**	**1.89**	**65**	IAML		08 24 13.2	
	comp=E,38nm,1.4s						
SML				IAML		08 24 15.1	
	comp=N,27nm,0.9s						
M18K	**Stony River**	**1.92**	**285**		Pn	08 23 44.5	-1.1
N18K	**Kilae Creek**	**1.97**	**261**		Pn	08 23 45.1	-1.1
O18K	**Koktuh Hills**	**2.02**	**235**	Pn	Pn	08 23 45.9	-1.0
Q19K	**Cape Douglas,**	**2.30**	**203**	Pn	Pn	08 23 49.6	-1.1
P18K	**Big Mountain,**	**2.34**	**226**	Pn	Pn	08 23 49.8	-1.4
SCM	**Sheep Creek Mo**	**2.35**	**69**	IAML		08 24 26.0	
	comp=N,25nm,0.9s						
CAST	**Castle Rocks**	**2.37**	**358**		Pn	08 23 50.2	-1.3
GLI	**Glacier Island**	**2.37**	**92**		Pn	08 23 48.6	-2.9
GLI	**Glacier Island**	**2.37**	**92**	IAML		08 24 18.9	
	comp=E,36nm,0.5s						
SYI	**Shuyak Island**	**2.47**	**185**	Pn	Pn	08 23 51.9	-1.0
SYI				IAML		08 24 30.7	
	comp=E,26nm,1.3s						
SYI				IAML		08 24 46.4	
	comp=N,20nm,1.5s						
P23K	**Montague Islan**	**2.48**	**113**		Pn	08 23 51.1	-1.9
K20K	**Telida**	**2.51**	**338**		Pn	08 23 52.4	-1.0
TRF	**Thorofare Moun**	**2.52**	**17**		Pn	08 23 52.4	-1.3
TRF				IAML		08 24 26.1	
	comp=E,14nm,1.1s						
TRF				IAML		08 24 26.2	
	comp=N,14nm,0.4s						
KTH	**Kantishna Hill**	**2.55**	**10**	Pn	Pn	08 23 52.6	-1.3
KTH				IAML		08 24 42.6	
	comp=E,7.6nm,1.4s						
KTH				IAML		08 24 59.6	
	comp=N,8.3nm,1.1s						
L18K	**Granite Mounta**	**2.55**	**299**		Pn	08 23 52.8	-1.0
N17K	**Nushagak Hills**	**2.63**	**261**		Pn	08 23 54.0	-0.9
N17K	**Nushagak Hills**	**2.63**	**261**	IAML		08 24 38.7	
	comp=N,6.2nm,1.4s						
M17K	**Holitna River**	**2.68**	**280**		Pn	08 23 54.7	-0.9
M17K	**Holitna River**	**2.68**	**280**	IAML		08 24 16.9	
	comp=E,9.1nm,1.4s						
M17K				IAML		08 24 33.0	
	comp=N,8.1nm,1.4s						
TTA	**Tatalina**	**2.68**	**316**	Pn	Pn	08 23 54.2	-1.6
FID	**Port Fidalgo**	**2.69**	**94**		Pn	08 23 52.4	-3.3
HIN	**Hinchinbrook I**	**2.75**	**102**	Pn	Pn	08 23 54.0	-2.7
HIN				IAML		08 24 31.3	
	comp=N,30nm,1.3s						
RND	**Reindeer**	**2.76**	**30**		Pn	08 23 55.5	-1.3
RND				IAML		08 24 52.8	
	comp=N,5.8nm,1.2s						
O17K	**Koliganek Bris**	**2.86**	**245**		Pn	08 23 57.5	-0.5
KAHG	**Katmai Hook Gl**	**2.89**	**208**		Pn	08 23 58.2	-0.3
P17K	**Kvichak River**	**2.93**	**232**		Pn	08 23 58.4	-0.5
KLU	**Klutina**	**2.94**	**79**	IAML		08 24 32.6	
	comp=E,25nm,0.2s						
M24K	**Tolsona, Glenn**	**2.95**	**67**	Pn	Pn	08 23 58.3	-1.0
M24K				IAML		08 24 50.5	
	comp=N,23nm,1.0s						
DIV	**Divide**	**3.00**	**86**		Pn	08 23 57.7	-2.2
MCK	**McKinley**	**3.02**	**26**		Pn	08 23 58.7	-1.6
BPAW	**Bear Paw Mtn.**	**3.08**	**8**	Pn	Pn	08 23 59.1	-1.9
BPAW				IAML		08 24 40.1	
	comp=N,6.0nm,1.4s						
BPAW				IAML		08 24 43.2	
	comp=E,4.3nm,1.5s						
J20K	**Nowinta River**	**3.29**	**343**		Pn	08 24 02.4	-1.4
KDAK	**Kodiak Island**	**3.31**	**186**		Pn	08 24 02.2	-1.8
KDAK	**Kodiak Island**	**3.31**	**186**	IAML		08 25 11.8	
	comp=E,7.7nm,1.3s						
KDAK				IAML		08 25 40.9	
	comp=E,10.0nm,1.4s						
ACHA	**Angle Creek He**	**3.34**	**212**	Pn	Pn	08 24 03.6	-0.9
K17K	**Iditarod**	**3.44**	**302**		Pn	08 24 05.1	-0.7
K17K	**Iditarod**	**3.44**	**302**	IAML		08 25 22.1	
	comp=N,4.6nm,1.3s						
K17K				IAML		08 26 11.6	
	comp=E,7.3nm,1.4s						
BMRM	**Bremner River**	**3.57**	**88**		Pn	08 24 04.9	-2.7
N25K	**Chitina, Valde**	**3.58**	**78**		Pn	08 24 05.9	-1.9
N25K	**Chitina, Valde**	**3.58**	**78**	IAML		08 24 48.9	
	comp=N,8.3nm,0.4s						
N25K				IAML		08 24 49.7	
	comp=E,8.7nm,1.2s						
PAX	**Paxson**	**3.60**	**55**		Pn	08 24 07.5	-0.6
P16K	**Nushagak River**	**3.65**	**239**		Pn	08 24 08.5	-0.2
L16K	**Owhat River**	**3.68**	**283**		Pn	08 24 08.3	-0.8
L16K	**Owhat River**	**3.68**	**283**	IAML		08 24 44.1	
	comp=N,5.2nm,1.5s						
L16K				IAML		08 24 46.9	
	comp=E,3.8nm,1.5s						
NEA2	**Nenana**	**3.78**	**19**	Pn	Pn	08 24 09.1	-1.3
WASW	**Wrangell South**	**3.83**	**73**		Pn	08 24 10.3	-0.9
HMT	**Hamilton**	**3.85**	**98**	Pn	Pn	08 24 10.6	-0.7
WRH	**Wood River Hil**	**3.85**	**26**		Pn	08 24 10.1	-1.3
WRH	**Wood River Hil**	**3.85**	**26**	IAML		08 25 30.5	
	comp=E,2.5nm,1.3s						
K24K	**Donnelly Dome**	**3.97**	**43**		Pn	08 24 13.7	+0.7
CCB	**Clear Creek Bu**	**4.07**	**26**		Pn	08 24 12.4	-1.9
CCB				IAML		08 24 48.8	
	comp=N,2.1nm,1.3s						
CCB				IAML		08 25 01.9	
	comp=E,2.4nm,1.4s						
I21K	**Tanana**	**4.13**	**360**		Pn	08 24 14.7	-0.5
I21K	**Tanana**	**4.13**	**360**	IAML		08 25 25.3	
	comp=N,2.2nm,1.4s						
I21K				IAML		08 25 38.6	
	comp=E,3.1nm,1.4s						
RIDG	**Independent Ri**	**4.26**	**48**		Pn	08 24 16.3	-0.6
RIDG				IAML		08 25 17.0	
	comp=N,8.8nm,1.0s						
I23K	**Minto, Yukon-K**	**4.27**	**15**		Pn	08 24 15.7	-1.3
I23K	**Minto, Yukon-K**	**4.27**	**15**	IAML		08 25 30.0	
	comp=N,2.1

TECO			IAML			08 35 08.6	
	comp=Z,90nm,0.2s						
TECO	**Alcaldia de Te**	**0.40 264**	P		**Pn**	**08 35 08.0**	**-0.1**
TECO	**Alcaldia de Te**	**0.40 264**	P		**Pn**	**08 35 08.3**	**+0.2**
UESV	**Universidad de**	**0.41 278**	P		**Pn**	**08 35 08.4**	**+0.2**
UESV	**Universidad de**	**0.41 278**	P		**Pn**	**08 35 08.6**	**+0.4**
COEG	**Centro de Oper**	**0.50 275⇑**	*eP*		**Pn**	**08 35 08.6**	**+0.1**
COEG	**Centro de Oper**	**0.50 275**	P		**Pn**	**08 35 08.5**	**-0.1**
COEG	**Centro de Oper**	**0.50 275**	P		**Pn**	**08 35 08.8**	**+0.2**
LCND	**La Caada**	**0.54 120⇑**	*iP*		**Pn**	**08 35 08.7**	**0.0**
LCND			IAML			08 35 09.4	
	comp=Z,703nm,0.4s						
LCND			*e*S		**S**	**08 35 28.8**	**-0.7**
LCND	**La Caada**	**0.54 120**	P		**Pn**	**08 35 08.8**	**+0.2**
LCND	**La Caada**	**0.54 120**	P		**Pn**	**08 35 08.6**	**0.0**
LCND	**La Caada**	**0.54 120**	P		**Pn**	**08 35 08.7**	**0.0**
PAVA	**Las Pavas**	**0.57 284⇑**	*eP*		**Pn**	**08 35 09.3**	**+0.5**
PAVA	**Las Pavas**	**0.57 284**	S		**S**	**08 35 29.1**	**-0.8**
PAVA	**Las Pavas**	**0.57 284**	P		**Pn**	**08 35 09.2**	**+0.3**
PAVA	**Las Pavas**	**0.57 284**	P		**Pn**	**08 35 09.4**	**+0.5**
CNCH	**Conchagua**	**0.60 120⇑**	*iP*		**Pn**	**08 35 08.9**	**-0.2**
CNCH	**Conchagua**	**0.60 120**	P		**Pn**	**08 35 09.1**	**0.0**
CNCH	**Conchagua**	**0.60 120**	P		**Pn**	**08 35 08.4**	**-0.7**
CNCH	**Conchagua**	**0.60 120**	P		**Pn**	**08 35 08.9**	**-0.2**
LFRS	**El Faro**	**0.67 274**	*eP*		**Pn**	**08 35 09.5**	**+0.1**
INTHN	**La Esperanza I**	**0.77 20**	P		**Pn**	**08 35 11.2**	**+1.1**
INTHN	**La Esperanza I**	**0.77 20**	P		**Pn**	**08 35 11.1**	**+1.1**
LOMA	**Loma Larga**	**0.78 275⇑**	*eP*		**Pn**	**08 35 10.3**	**+0.4**
LOMA			IAML			08 35 11.4	
	comp=Z,265nm,0.2s						
LOMA	**Loma Larga**	**0.78 275**	P		**Pn**	**08 35 10.3**	**+0.4**
LOMA	**Loma Larga**	**0.78 275**	S		**S**	**08 35 30.3**	**-1.5**
LOMA	**Loma Larga**	**0.78 275**	P		**Pn**	**08 35 10.3**	**+0.4**
PMON	**Piamonte**	**0.93 278**	P		**Pn**	**08 35 12.2**	**+1.5**
PMON	**Piamonte**	**0.93 278**	P		**Pn**	**08 35 12.3**	**+1.5**
JAYA	**Jayaque - finc**	**1.05 274**	*eP*		**Pn**	**08 35 12.0**	**+0.3**
JAYA	**Jayaque - finc**	**1.05 274**	S		**S**	**08 35 34.9**	**0.0**
JAYA	**Jayaque - finc**	**1.05 274**	P		**Pn**	**08 35 12.2**	**+0.6**
JAYA	**Jayaque - finc**	**1.05 274**	P		**Pn**	**08 35 11.8**	**+0.1**
JAYA	**Jayaque - finc**	**1.05 274**	*eP*			08 35 11.8	
JAYA			*e*S			08 35 34.3	
CHOHN	**Orocuina**	**1.18 95**	P		**Pn**	**08 35 13.1**	**+0.4**
CHOHN	**Orocuina**	**1.18 95**	P		**Pn**	**08 35 13.0**	**+0.4**
MTO3	**Montecristo**	**1.26 310**	*eP*			08 35 14.6	
NUBE	**Las Nubes**	**1.41 283**	*eP*		**Pn**	**08 35 15.3**	**+0.8**
NUBE	**Las Nubes**	**1.41 283**	*eP*			08 35 15.3	
YUSH	**Yuscaran**	**1.53 76**	P		**Pn**	**08 35 16.3**	**+0.8**
YUSH	**Yuscaran**	**1.53 76**	P		**Pn**	**08 35 16.2**	**+0.7**
PKGN	**Cerro Pekin**	**1.63 124**	P		**Pn**	**08 35 16.9**	**+0.5**
PKGN	**Cerro Pekin**	**1.63 124**	P		**Pn**	**08 35 16.1**	**-0.3**
PKGN	**Cerro Pekin**	**1.63 124**	P		**Pn**	**08 35 16.6**	**+0.2**
PLRN	**Geotermica Pol**	**1.85 122**	P		**Pn**	**08 35 19.5**	**+1.1**
PLRN			S		**S**	**08 35 46.8**	**-0.3**
PLRN	**Geotermica Pol**	**1.85 122**	P		**Pn**	**08 35 20.1**	**+1.6**
ROCN	**Rota Cerro Neg**	**1.91 123**	P		**Pn**	**08 35 19.5**	**+0.5**
ROCN			S		**S**	**08 35 47.9**	**-0.2**
ROCN	**Rota Cerro Neg**	**1.91 123**	P		**Pn**	**08 35 19.5**	**+0.5**
CNGA	**AI SSO del Vol**	**1.95 123**	P		**Pn**	**08 35 20.0**	**+0.5**
CNGA	**AI SSO del Vol**	**1.95 123**	S		**S**	**08 35 47.7**	**-1.3**
CNGA	**AI SSO del Vol**	**1.95 123**	P		**Pn**	**08 35 20.0**	**+0.5**
MACN	**El Madrono**	**1.99 124**	P		**Pn**	**08 35 22.4**	**+2.5**
RCVN	**Varillal2**	**2.12 90**	P		**Pn**	**08 35 21.9**	**+0.6**
MOMN	**Momotombo**	**2.13 123**	P		**Pn**	**08 35 22.4**	**+1.0**
RCPN	**Sur Rio San Ju**	**2.22 91**	P		**Pn**	**08 35 23.0**	**+0.7**
COPN	**Copaltepe**	**2.23 129**	P		**Pn**	**08 35 23.0**	**+0.7**
COPN	**Copaltepe**	**2.23 129**	P		**Pn**	**08 35 23.4**	**+1.1**
NISHN	**Nisperales Com**	**2.23 12**	P		**Pn**	**08 35 21.0**	**-1.5**
TISN	**Laguna Tiscapa**	**2.50 125**	P		**Pn**	**08 35 26.9**	**+1.5**
CRUN	**El Crucero**	**2.57 128**	P		**Pn**	**08 35 23.4**	**-2.8**

*IDC **15** 08:38:21.8±3.1, 54°.35N×87°.14E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.3km s-min=20.2km az=47.0*

ASRS 15 08:38:21.0±1.4, 54°.28N×86°.84E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**255**	I	I	08 45 25.7	
	baz=74,slow=338,SNR=15						
ZALV	**Zalesovo Beam**	**1.24**	**255**	Pg	Pn	08 38 46.8	+1.3
	2.4nm,0.3s,baz=74,slow=16,SNR=22						
ZALV				Lg	Lg	08 39 06.1	
	1.7nm,0.3s,baz=75,slow=33,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.26**	**238**	Pn	Pn	08 39 59.5	+4.9
	0.1nm,0.3s,baz=54,slow=14,SNR=4.1						
KURBB				Sn	Sn	08 41 12.2	+5.5
	0.1nm,0.3s,baz=4.8,slow=23,SNR=1.5						
KURBB				Lg	Lg	08 41 49.0	
	0.1nm,0.3s,baz=80,slow=28,SNR=2.1						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.03**	**203**	Pn	Pn	08 40 22.0	+3.1
	baz=42,slow=11,SNR=2.0						
	0.1nm,0.2s						

*IDC **15** 08:56:34.0±2.3, 53°.63N×164°.79W, h0km, mb3.8/4, mbtmp3.6/6, ML2.9/2, MS3.0/1, Error ellipse: s-maj=39.5km s-min=33.3km az=3.0*

*NEIC **15** 08:56:36.0±2.5, 53°.41N±0°.08×164°.88W±0°.02, h18km±9km, mb3.6/12, ML3.7/12, ML3.6(AEIC), Error ellipse: s-maj=11.1km s-min=1.7km az=175.0*

*AEIC **15** 08:56:37.2±2.7, 53°.50N±0°.07×164°.87W±0°.05, h26km±7km, Error ellipse: s-maj=10.6km s-min=4.1km az=171.0*

ISC 15 08:56:36.8±1.1, 53°.47N±0°.09×164°.80W±0°.04, h27km, n89, σ1§40/84, mb4.0/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.85**	**322**		**Pb**	**08 56 52.1**	**-0.9**
AKSA					**Sb**	**08 57 03.5**	**-0.5**
AHB	**Akutan Harbor**	**0.88**	**318**		**Pb**	**08 56 52.7**	**-0.8**
AKBBA	**Akutan Broad B**	**0.92**	**314**		**Pn**	**08 56 53.4**	**-0.6**
AKBBA					**Sb**	**08 57 05.8**	**-0.1**
ZRO	**Akutan Zero**	**0.94**	**312**		**Pn**	**08 56 53.5**	**-0.7**
LVA	**Lava Point**	**1.01**	**314**		**Pn**	**08 56 54.8**	**-0.4**
LVA	**Lava Point**	**1.01**	**314**	IAML		08 57 10.8	
	comp=N,3μm,0.6s						
LVA				IAML		08 57 13.5	
	comp=E,2μm,0.6s						
AKGG	**Akutan Green G**	**1.02**	**317**		**Pn**	**08 56 54.7**	**-0.6**
UNV	**Unalaska Valle**	**1.08**	**291**		**Pn**	**08 56 55.0**	**-1.1**
UNV	**Unalaska Valle**	**1.08**	**291**		**Sn**	**08 57 09.2**	**-1.0**
WEBT	**Westdahl Beart**	**1.12**	**1**		**Pn**	**08 56 56.5**	**-0.3**
MREP	**Makushin Rep't**	**1.21**	**287**		**Pn**	**08 56 57.4**	**-0.6**
MTBL	**Makushin Table**	**1.22**	**295**		**Pn**	**08 56 57.9**	**-0.3**
MSW	**Makushin Switc**	**1.26**	**292**		**Pn**	**08 56 58.1**	**-0.5**
MSW					**Sn**	**08 57 14.2**	**-0.4**
MGOD	**Makushin Gods**	**1.27**	**286**		**Pn**	**08 56 58.2**	**-0.7**
MAPS	**Pakushin South**	**1.32**	**286**		**Pn**	**08 56 58.9**	**-0.6**
MAPS					**Sn**	**08 57 15.7**	**-0.3**
SSLS	**Shishaldin Sou**	**1.33**	**20**		**Pn**	**08 56 59.1**	**-0.6**
ISLZ	**Isanotski Laza**	**1.41**	**27**		**Pn**	**08 57 00.3**	**-0.5**
ISNN	**Isanotski Nort**	**1.49**	**23**		**Pn**	**08 57 01.8**	**0.0**
FALS	**False Pass**	**1.61**	**30**		**Pn**	**08 57 03.1**	**-0.4**
OKFG	**Magazine Ridge**	**1.86**	**269**		**Pn**	**08 57 07.3**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.94**	**269**		**Pn**	**08 57 08.4**	**+0.4**
HAG	**Hague Volcano**	**2.51**	**41**		**Pn**	**08 57 17.5**	**+1.7**
PS4A	**Pavlof South-4**	**2.55**	**41**		**Pn**	**08 57 17.9**	**+1.5**
PN7A	**Pavlof North-7**	**2.56**	**39**		**Pn**	**08 57 18.7**	**+2.2**
PVV	**Pavlof Volcano**	**2.60**	**41**		**Pn**	**08 57 18.7**	**+1.7**
PS1A	**Pavlof South-1**	**2.65**	**41**		**Pn**	**08 57 19.5**	**+1.8**
S12K	**Black Hills**	**2.75**	**34**		**Pn**	**08 57 20.2**	**+1.1**
S12K				IAML		08 58 05.5	
	comp=E,186nm,0.6s						
CNBA	**Chernabura Isl**	**3.35**	**64**		**Pn**	**08 57 27.3**	**-0.1**
VNFG	**Fog Glacier, M**	**4.14**	**45**		**Pn**	**08 57 39.5**	**+1.3**
VNFG	**Fog Glacier, M**	**4.14**	**45**	IAML		08 59 53.9	
	comp=E,210nm,2.0s						
P08K	**Saint George I**	**4.16**	**321**	Pn	**Pn**	**08 57 39.5**	**+1.1**
CHGN	**Chignik**	**4.65**	**50**	Pn	**Pn**	**08 57 45.9**	**+0.8**
CHGN				IAML		08 59 05.3	
	comp=E,41nm,0.8s						
CHGN				IAML		08 59 10.9	
	comp=N,32nm,2.7s						
CHIR	**Chirikof Islan**	**5.83**	**62**		**Pn**	**08 58 01.3**	**0.0**
O14K	**Tigyukauivet M**	**6.12**	**17**	Pn	**Pn**	**08 58 07.3**	**+2.0**
O15K	**Ungalikthiuk R**	**6.36**	**24**		**Pn**	**08 58 10.1**	**+1.5**
M11K	**Mekoryuk**	**6.98**	**354**		**Pn**	**08 58 17.2**	**+0.2**
M13K	**Dall Lake**	**7.01**	**6**	Pn	**Pn**	**08 58 18.7**	**+1.2**
ANCK	**Angle Creek**	**7.06**	**44**		**Pn**	**08 58 20.7**	**+2.3**
O16K	**Kokwok River B**	**7.17**	**28**		**Pn**	**08 58 21.5**	**+1.8**
N15K	**Kwethluk River**	**7.20**	**19**		**Pn**	**08 58 22.0**	**+1.9**
M14K	**Bethel**	**7.46**	**11**		**Pn**	**08 58 26.4**	**+2.6**
M15K	**Kasigluk River**	**7.58**	**16**		**Pn**	**08 58 27.8**	**+2.4**
O17K	**Koliganek Bris**	**7.61**	**31**		**Pn**	**08 58 28.0**	**+2.2**
P18K	**Big Mountain,**	**7.96**	**38**	Pn	**Pn**	**08 58 32.1**	**+1.5**
L14K	**Kuka Creek**	**7.98**	**7**	Pn	**Pn**	**08 58 33.1**	**+2.3**
KDAK	**Kodiak Island**	**8.15**	**53**	Pn	**Pn**	**08 58 32.7**	**-0.5**
KDAK	**Kodiak Island**	**8.15**	**53**	Pn	**Pn**	**08 58 31.6**	**-1.5**
	comp=N,0.3nm,0.3s,baz=307,slow=15,SNR=20						
KDAK				Sn	**Sn**	**09 00 00.6**	**-3.6**
	comp=N,0.1nm,0.3s,baz=176,slow=19,SNR=1.6						
	comp=N,1.7nm,0.5s						
N17K	**Nushagak Hills**	**8.20**	**27**	Pn	**Pn**	**08 58 35.6**	**+1.8**
M16K	**Timber Creek**	**8.21**	**20**	Pn	**Pn**	**08 58 36.2**	**+2.2**
O18K	**Koktuh Hills**	**8.29**	**36**	Pn	**Pn**	**08 58 36.3**	**+1.1**
K13K	**Kusilvak Mount**	**8.49**	**0**	Pn	**Pn**	**08 58 40.3**	**+2.5**
N18K	**Kilae Creek**	**8.70**	**30**	Pn	**Pn**	**08 58 41.6**	**+0.9**
L16K	**Owhat River**	**8.74**	**17**	Pn	**Pn**	**08 58 42.4**	**+1.2**
M17K	**Holitna River**	**8.88**	**24**		**Pn**	**08 58 45.3**	**+2.1**
K15K	**Wolf Creek Mou**	**9.02**	**10**	Pn	**Pn**	**08 58 47.6**	**+2.6**
L18K	**Granite Mounta**	**9.77**	**23**	Pn	**Pn**	**08 58 57.4**	**+2.0**
K17K	**Iditarod**	**9.88**	**18**	Pn	**Pn**	**08 58 58.8**	**+1.9**
M19K	**Big River Lodg**	**10.11**	**29**	Pn	**Pn**	**08 59 02.4**	**+2.3**
L19K	**White Mountain**	**10.21**	**27**	Pn	**Pn**	**08 59 02.3**	**+1.0**
J17K	**VABM Dome**	**10.39**	**14**	Pn	**Pn**	**08 59 05.5**	**+1.6**
K20K	**Telida**	**11.38**	**25**	Pn	**Pn**	**08 59 19.2**	**+1.8**
CAST	**Castle Rocks**	**11.97**	**29**	Pn	**Pn**	**08 59 26.4**	**+1.0**
KLU	**Klutina**	**12.91**	**44**		**Pn**	**08 59 36.4**	**-1.9**
ILAR	**Eielson Array**	**14.52**	**32**	Pn	Pn	08 59 57.6	-2.6
	baz=232,slow=14,SNR=1.4						
	comp=N,0.2nm,0.6s						
H24K	**Noodor Dome**	**14.99**	**28**	Pn	**Pn**	**09 00 06.9**	**+0.3**
H24K				IAmb	IAmb	09 00 40.8	
	comp=Z,5.9nm,1.5s						
M27K	**Edge Creek, AK**	**15.01**	**45**	Pn	**Pn**	**09 00 06.6**	**-0.3**
G23K	**Bananza Creek**	**15.12**	**23**	Pn	**Pn**	**09 00 08.0**	**-0.3**
L27K	**Beaver Creek,**	**15.35**	**42**	Pn	**Pn**	**09 00 11.8**	**+0.4**
L27K				IAmb	IAmb	09 00 23.2	
	comp=Z,3.6nm,1.4s						
BCAR	**Beaver Creek A**	**15.37**	**42**	Pn	**Pn**	**09 00 09.8**	**-1.8**
I26K	**Coal Creek Min**	**16.08**	**34**	Pn	**Pn**	**09 00 21.8**	**+1.2**
DAWY	**Dawson**	**16.78**	**41**	P	**Pn**	**09 00 31.8**	**+2.1**
DAWY				IAmb	IAmb	09 01 00.3	
	comp=Z,6.0nm,1.4s						
I28M	**Miner Creek**	**17.27**	**36**	P	**Pn**	**09 00 36.2**	**+0.5**
K29M	**Barlow Dome**	**17.43**	**43**	P	**Pn**	**09 00 38.5**	**+0.7**
K29M				IAmb	IAmb	09 01 17.9	
	comp=Z,5.5nm,1.5s						
H29M	**Whitestone**	**18.23**	**35**	P	**Pn**	**09 00 46.9**	**-0.5**
I30M	**Mount Dempster**	**18.46**	**39**	P	**P**	**09 00 49.9**	**-0.3**
I30M				IAmb	IAmb	09 01 07.1	
	comp=Z,4.4nm,1.4s						
G29M	**Pine Creek**	**18.71**	**34**	P	**P**	**09 00 52.9**	**0.0**
H31M	**Peel River**	**19.48**	**39**	P	**P**	**09 01 01.4**	**+0.1**
H31M				IAmb	IAmb	09 01 40.8	
	comp=Z,6.1nm,1.3s						
A36M	**Sachs Harbour**	**25.14**	**28**	P	**P**	**09 02 00.4**	**+1.2**
YKA	**Yellowknife Ar**	**27.42**	**51**	P	**P**	**09 02 20.8**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=276,slow=10,SNR=6.3						
	comp=Z,0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**40.10**	**224**	T	T	09 46 54.9	
	baz=26,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.11**	**224**	T	T	09 47 03.0	
	baz=26,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.12**	**224**	T	T	09 47 03.9	
	baz=26,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**41.28**	**223**	T	T	09 48 26.4	
	baz=25,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**41.29**	**223**	T	T	09 48 28.6	
	baz=25,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**41.30**	**223**	T	T	09 48 32.5	
	baz=25,slow=76,SNR=18						
JNU	**Nakatsue**	**49.20**	**273**	LR	LR	09 28 45.3	
	comp=Z,14nm,18.0s,baz=8.5,slow=39						
TXAR	**Lajitas Array**	**50.01**	**93**	P	**P**	**09 05 29.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=302,slow=6.3,SNR=8.3						
	comp=Z,0.5nm,0.6s						
ARCES	**ARCESS Array B**	**57.08**	**356**	P	**P**	**09 06 20.9**	**+1.0**
	comp=Z,4.1nm,1.1s,baz=10,slow=7.4,SNR=1.1						
	comp=Z,4.1nm,1.1s						
FINES	**FINESS Array B**	**65.11**	**354**	P	**P**	**09 07 13.7**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=356,slow=5.6,SNR=3.4						
	comp=Z,3.7nm,0.9s						

*IDC **15** 08:57:32.9±1.1, 39°.59S×44°.95E, h0km, mb3.9/7, mbtmp4.0/7, MS3.4/2, Error ellipse: s-maj=63.1km s-min=20.4km az=22.0*

ISC 15 08:57:34.3±1.2, 39°.6S±0°.4×44°.9E±0°.2, h10km, n13, σ0§57/9, mb4.0/6, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.76**	**283**	P	**P**	**09 02 15.6**	**+0.1**
	5.8nm,0.9s,baz=191,slow=9.6,SNR=2.1						
	5.8nm,0.9s						
LBTB	**Lobatse**	**21.82**	**306**	P	**P**	**09 02 27.6**	**+0.8**
	4.0nm,0.7s,baz=132,slow=11,SNR=8.3						
LBTB				LR	LR	09 09 29.3	
	comp=Z,28nm,20.6s,baz=136,slow=33						
	4.0nm,0.7s						
H01W2	**Cape Leeuwin H**	**54.05**	**108**	T	T	10 05 23.7	
	baz=243,slow=75,SNR=17						
H01W3	**Cape Leeuwin H**	**54.06**	**108**	T	T	10 05 23.6	
	baz=243,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**54.07**	**108**	T	T	10 05 23.4	
	baz=243,slow=75,SNR=12						
DBIC	**Dimbokro**	**65.03**	**303**	P	**P**	**09 08 14.2**	**-0.7**
	2.6nm,0.8s,baz=163,slow=7.9,SNR=3.4						
	2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.13**	**313**	P	**P**	**09 08 22.2**	**+0.2**
	0.7nm,0.7s,baz=121,slow=5.2,SNR=5.6						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**74.57**	**108**	P	**P**	**09 09 14.3**	**+0.6**
	0.4nm,0.7s,baz=228,slow=5.5,SNR=8.6						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**76.67**	**52**	P	**P**	**09 09 25.1**	**-0.4**
	0.6nm,0.3s,baz=228,slow=8.2,SNR=4.8						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**77.13**	**105**	P	**P**	**09 09 28.5**	**+0.1**
	0.8nm,0.9s,baz=225,slow=4.5,SNR=4.6						
	0.8nm,0.9s						
TGY	**Tagaytay City**	**88.45**	**70**	LR	LR	09 43 32.4	
	comp=Z,79nm,21.1s,baz=27,slow=31						
TXAR	**Lajitas Array**	**152.26**	**258**	PKPbc	**PKiKP**	**09 17 30.5**	**-0.3**
	0.5nm,1.1s,baz=93,slow=3.2,SNR=2.8						
YKA	**Yellowknife Ar**	**153.97**	**338**	PKPab	**PKPab**	**09 17 46.6**	**+0.2**
	0.3nm,0.7s,baz=48,slow=4.4,SNR=5.9						

*SJA **15** 09:09:18.9±0.6, 21°.65S×67°.52W, h175km±8km, ML2.6, MW2.6*

*SCB **15** 09:09:18.3±0.8, 21°.19S×67°.37W, h187km±11km, ML2.2/2, Error ellipse: s-maj=10.0km s-min=5.3km az=0.0*

ISC 15 09:09:17.3±2.9, 21°.3S±0°.1×67°.37W±0°.05, h202km±24km, n16, σ0§94/22, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.62**	**89**	Pg	**Pn**	**09 09 53.5**	**+0.7**
MOCB				Sg	**S**	**09 10 18.7**	**-1.1**
MOCB				IAML		09 10 23.7	
	20nm,0.2s						
PB09	**IPOC Station P**	**1.81**	**253**	*eP*	**Pn**	**09 09 55.5**	**+1.2**
PB09				*e*S	**S**	**09 10 21.7**	**-0.9**
PB09				IAML		09 10 42.1	
	comp=Z,13nm,3.3s						
PB09	**IPOC Station P**	**1.81**	**253**	Pg	**Pn**	**09 09 54.8**	**+0.5**
AF01	**San Pedro de A**	**1.82**	**204**	*e*S	S	09 10 14.1	-9.1
AF01				IAML		09 10 17.4	
	comp=Z,34nm,0.1s						
YJA	**Yavi**	**1.94**	**118**	*eP*	**Pn**	**09 09 56.6**	**+0.7**
YJA				*e*S	**S**	**09 10 24.5**	**-0.9**
PB01	**IPOC Station P**	**1.99**	**276**	*eP*	**Pn**	**09 09 56.7**	**+0.7**
PB01				*e*S	**S**	**09 10 23.8**	**-1.6**
PB01	**IPOC Station P**	**1.99**	**276**	Pg	**Pn**	**09 09 56.5**	**+0.5**
PB01				Sg	**S**	**09 10 25.0**	**-0.4**
PB01				IAML		09 10 33.1	
	comp=Z,5.3nm,0.2s						
PB08	**IPOC Station P**	**2.02**	**304**	*eP*	**Pn**	**09 09 58.4**	**+1.8**
PB08				*e*S	**S**	**09 10 27.4**	**+0.9**
PB08	**IPOC Station P**	**2.02**	**304**	Pg	**Pn**	**09 09 56.9**	**+0.3**
TA01	**Diego Aracena**	**2.72**	**285**	*eP*	**Pn**	**09 10 04.4**	**+0.5**
TA01				*e*S	**S**	**09 10 38.9**	**-0.5**
TA01				IAML		09 10 42.1	
	comp=Z,11nm,1.7s						
TA01	**Diego Aracena**	**2.72**	**285**	Pg	**Pn**	**09 10 04.3**	**+0.5**
TA02	**Huaiquique**	**2.77**	**291**	*e*S	**S**	**09 10 39.7**	**-0.8**
TA02				IAML		09 11 20.0	
	comp=Z,41nm,0.1s						
TA02	**Huaiquique**	**2.77**	**291**	Pg	**Pn**	**09 10 04.6**	**+0.2**
PB12	**IPOC Station P**	**3.84**	**313**	*eP*	**Pn**	**09 10 18.0**	**+0.6**
PB12				*e*S	**S**	**09 11 02.9**	**-1.0**
PB12				IAML		09 11 04.7	
	comp=Z,7.9nm,1.2s						
PB12	**IPOC Station P**	**3.84**	**313**	Pg	**Pn**	**09 10 17.2**	**-0.2**
AP01	**Chacalluta**	**4.02**	**316**	*eP*	Pn	09 10 39.7	+20

*ISN **15** 09:13:16.9±1.2, 34°.34N×46°.20E, h5km±12km, ML2.9*

*TEH **15** 09:13:18.3, 34°.36N×46°.27E, h7km±76km*

ISC 15 09:13:18.4±1.0, 34°.37N±0°.04×46°.27E±0°.04, h10km, n12, σ0§63/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.25**	**99**	Pg	**Pg**	**09 13 24.4**	**+0.8**
IDHR	**Dehrash**	**0.34**	**16**	Pg	**Pg**	**09 13 25.7**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.39**	**230**	Pg	**Pg**	**09 13 25.9**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.58**	**284**	Pg	**Pb**	**09 13 30.2**	**-0.5**
KCHF	**Cheshme Sefid,**	**0.65**	**98**	Pg	**Pg**	**09 13 30.6**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.74**	**184**	Pg	**Pg**	**09 13 32.4**	**-0.4**
ILIN	**Lien**	**0.79**	**46**	Pg	**Pg**	**09 13 33.6**	**-0.2**
SNQR	**Sonqor, Kerman**	**1.22**	**66**	Pg	**Pb**	**09 13 41.6**	**-0.2**
IBDR	**Badra**	**1.29**	**193**	*e*Pn	**Pg**	**09 13 43.0**	**-0.1**
	baz=10.0						
IBDR				*e*Sn	**Sg**	**09 14 01.0**	**+1.2**
IBDR				AML	AML	09 14 05.2	
	comp=N,124nm,0.4s						
IKFM	**Kafar-mosalman**	**1.56**	**122**	Pg	**Pg**	**09 13 48.3**	**0.0**
IKRK	**Kirkuk**	**1.89**	**304**	*e*Pn	**Pn**	**09 13 51.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**09 14 17.0**	**+0.3**
IKRK				AML	AML	09 14 22.6	
	comp=N,135nm,0.2s						
IKRK				AML	AML	09 14 22.6	
	comp=E,229nm,0.4s						
HGHA	**Hamedan- Ghaye**	**2.40**	**62**	Pn	**Pb**	**09 14 00.7**	**-1.2**

*IDC **15** 09:16:14.4±3.3, 28°.96S×70°.23W, h72km±30km, mb3.1/2, mbtmp3.6/6, MS3.4/1, Error ellipse: s-maj=40.3km s-min=30.6km az=93.0*

*SJA **15** 09:16:17.6±0.7, 28°.98S×70°.16W, h122km±3km, ML3.7, MW3.7*

*GUC **15** 09:16:19.4±0.7, 29°.01S×70°.17W, h120km±5km, ML3.9*

ISC 15 09:16:18.1±0.8, 28°.98S±0°.03×70°.12W±0°.03, h125km±6km, n53, σ1§87/82, 9D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.51**	**266**	*eP*	**Pn**	**09 16 36.6**	**-0.3**
LCO				*e*S	**Sn**	**09 16 50.6**	**-0.6**
LCO	**Las Campanas**	**0.51**	**266**	*eP*	**Pn**	**09 16 36.2**	**-0.8**
LCO				*i*S	**Sn**	**09 16 49.8**	**-1.4**
CO01	**Juntas del Tor**	**0.99**	**178**	*eP*	**Pn**	**09 16 40.3**	**-0.5**
CO01				*e*S	**Sn**	**09 16 57.7**	**-0.3**
CO01				IAML		09 16 58.2	
	comp=Z,1μm,0.5s						
CO01	**Juntas del T

comp=Z,148nm,0.6s
PB14 IPOC Station P 4.34 357 *e*P **Pn 09 17 21.5 -1.2**
PB14 *e*S **Sn 09 18 10.7 -2.1**
PB14 IAML 09 18 33.3
comp=Z,70nm,0.5s
MT02 Curacav 4.35 191 *e*S **Sn 09 18 10.2 -2.3**
MT02 IAML 09 18 13.3
comp=Z,46nm,0.2s
MT04 Ro Olivares 4.41 180 *e*P **Pn 09 17 24.3 +0.8**
MT04 *e*S **Sn 09 18 14.4 +0.3**
MT04 IAML 09 18 24.2
comp=Z,45nm,0.5s
MT05 Renca 4.43 187 *e*P **Pn 09 17 23.0 -0.5**
MT05 *e*S **Sn 09 18 14.1 -0.2**
MT05 IAML 09 18 16.6
comp=Z,75nm,0.8s
MT08 Bocatoma Ro 4.45 179 *e*S **Sn 09 18 07.1 -8.0**
FSA Cafayete 4.66 53 *e*S **Sn 09 18 12.4 -7.7**
MT13 San Alfonso 4.75 182 *e*P **Pn 09 17 28.4 +0.5**
MT01 Popeta 4.96 191 *e*P **Pn 09 17 28.6 -2.0**
MT01 *e*S **Sn 09 18 23.9 -3.1**
H03N1 Juan Fernandez 8.74 237 T T 09 26 29.7
baz=65,slow=72,SNR=68
H03N2 Juan Fernandez 8.75 237 T T 09 26 25.5
baz=65,slow=72,SNR=76
H03N3 Juan Fernandez 8.76 237 T T 09 26 20.0
baz=65,slow=72,SNR=69
CPUP Villa Florida 11.65 80 P **Pn 09 18 58.1 -2.4**
comp=Z,0.8nm,0.6s,baz=256,slow=14,SNR=3.7
PLCA Paso Flores 11.73 182 P **Pn 09 18 59.4 -2.2**
comp=Z,1.2nm,0.7s,baz=4.5,slow=14,SNR=2.9
LPAZ La Paz 12.77 9 P **Pn 09 19 14.4 -1.4**
comp=Z,1.5nm,0.5s,baz=166,slow=11,SNR=7.7
SIV San Ignacio 15.39 35 P **Pn 09 19 47.1 -1.5**
comp=Z,2.0nm,0.8s,baz=207,slow=11,SNR=8.6
PCRV Puerto La Cruz 39.29 9 LR LR 09 43 44.2
comp=Z,51nm,18.5s,slow=42
TXAR Lajitas Array 66.25 328 P **P 09 26 54.5 +1.4**
comp=Z,0.3nm,0.6s,baz=140,slow=5.0,SNR=4.1
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 80.95 70 P **P 09 28 22.7 +3.5**
comp=Z,0.3nm,0.7s,baz=228,slow=3.7,SNR=2.0
comp=Z,0.3nm,0.7s
MKAR Makanchi Array 152.10 43 PKPbc **PKiKP 09 36 00.9 +1.9**
comp=Z,0.2nm,0.4s,baz=298,slow=3.1,SNR=3.1

---

*ASRS **15** 09:20:16.0±1.1, 53°.95N×86°.64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:20:18.8±3.0, 53°.96N×86°.59E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.6km s-min=14.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**270**	I	I	09 26 00.0	
	baz=89,slow=341,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.04**	**270**	Pg	Pg	09 20 38.0	-0.7
	0.9nm,0.3s,baz=90,slow=17,SNR=5.8						
ZALV				Lg	Lg	09 20 53.8	
	1.7nm,0.3s,baz=100,slow=28,SNR=8.4						
KURBB	**Kurchatov Arra**	**5.97**	**239**	Pn	Pn	09 21 48.6	+0.3
	0.1nm,0.3s,baz=56,slow=14,SNR=1.5						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	09 22 13.2	+1.3
	0.1nm,0.3s,baz=25,slow=14,SNR=5.4						
	0.1nm,0.3s						

---

*ASRS **15** 09:25:25.0±1.0, 54°.38N×86°.79E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:25:28.3±3.4, 54°.40N×86°.90E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=29.1km s-min=16.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**251**	I	I	09 32 20.0	
	baz=68,slow=340,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.31**	**251**	Pg	Pg	09 25 51.2	-2.1
	0.9nm,0.3s,baz=68,slow=16,SNR=9.2						
ZALV				Lg	Lg	09 26 10.9	
	1.3nm,0.3s,baz=72,slow=28,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.36**	**237**	Pn	Pn	09 27 04.2	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=2.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	09 27 29.6	+1.7
	0.1nm,0.3s,baz=26,slow=13,SNR=4.5						
MKAR				Sn	Sn	09 28 59.4	-1.4
	baz=25,slow=27,SNR=2.2						
	0.1nm,0.3s						

---

*ASRS **15** 09:29:53.0±0.5, 54°.98N×88°.48E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:30:16.5±2.8, 53°.68N×87°.02E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.6km s-min=15.9km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**282**	I	I	09 37 00.0	
	baz=101,slow=340,SNR=16						
ZALV	**Zalesovo Beam**	**1.33**	**282**	Pg	Pg	09 30 41.1	-0.9
	0.7nm,0.3s,baz=102,slow=18,SNR=5.5						
ZALV				Lg	Lg	09 30 59.3	
	1.6nm,0.3s,baz=100,slow=29,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn	Pn	09 31 48.3	+1.1
	0.1nm,0.3s,baz=58,slow=14,SNR=1.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.53**	**206**	Pn	Pn	09 32 08.6	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=4.6						
	0.1nm,0.3s						

---

*ASRS **15** 09:35:00.0±1.1, 53°.66N×87°.99E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:34:55.8±4.2, 54°.18N×86°.73E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=43.5km s-min=16.8km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.15**	**259**	I	I	09 42 48.1	
	0.1nm,0.6s,baz=81,slow=340,SNR=15						
ZALV	**Zalesovo Beam**	**1.15**	**259**	Pg	Pb	09 35 18.6	0.0
	0.2nm,0.3s,baz=77,slow=19,SNR=2.8						
KURBB	**Kurchatov Arra**	**6.15**	**238**	Pn	Pn	09 36 26.4	-1.4
	0.1nm,0.3s,baz=56,slow=12,SNR=1.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**203**	Pn	Pn	09 36 53.9	+1.8
	0.1nm,0.3s,baz=26,slow=12,SNR=5.6						
MKAR				Sn	Sn	09 38 22.9	+0.6
	0.1nm,0.3s,baz=90,slow=15,SNR=1.4						
MKAR				Lg	Lg	09 39 03.0	
	0.1nm,0.3s,baz=32,slow=43,SNR=1.8						
	0.1nm,0.3s						

---

*UPP **15** 09:47:27.8±0.4, 64°.75N×21°.09E, h1km±3km, ML2.8, Unknown*
*DNK **15** 09:47:28.2±0.4, 64°.75N×21°.09E, h0km, ML2.8(UPP), Explosion*
*HEL **15** 09:47:28.6±0.2, 64°.76N×21°.06E, h0km, ML1.6, Explosion*
ISC 15 09:47:27.5±0.7, 64°.74N±0°.02×21°.10E±0°.02, h0km, n48, σ1§12/67, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURU	**Burvik**	**0.20**	**142**	P	**Pg**	**09 47 31.8**	**+0.6**
BURU				S	**Sg**	**09 47 34.8**	**+1.1**
BURU	**Burvik**	**0.20**	**142**	P	**Pg**	**09 47 31.8**	**+0.6**
BURU				S	**Sg**	**09 47 34.8**	**+1.1**
BURU	**Burvik**	**0.20**	**142**	PG	**Pg**	**09 47 31.6**	**+0.4**
	baz=325						
BURU				SG	**Sg**	**09 47 34.8**	**+1.1**
ODEU	**Stanfors**	**0.37**	**207**	P	**Pg**	**09 47 35.0**	**+0.5**
ODEU				S	**Sg**	**09 47 40.2**	**+0.9**
ODEU	**Stanfors**	**0.37**	**207**	P	**Pg**	**09 47 35.0**	**+0.5**
ODEU				S	**Sg**	**09 47 40.2**	**+0.9**
SVAU	**Svanoeiden**	**0.70**	**250**	P	**Pg**	**09 47 40.9**	**0.0**
SVAU	**Svanoeiden**	**0.70**	**250**	P	**Pg**	**09 47 40.9**	**0.0**
LILU	**Lilltraesk**	**0.77**	**317**	P	**Pg**	**09 47 41.9**	**-0.2**
LILU	**Lilltraesk**	**0.77**	**317**	P	**Pg**	**09 47 41.9**	**-0.2**
SJUU	**Sjulsmark**	**0.80**	**15**	P	**Pg**	**09 47 42.7**	**-0.1**
SJUU	**Sjulsmark**	**0.80**	**15**	P	**Pg**	**09 47 42.7**	**-0.1**
UMAU	**Umeaa**	**0.88**	**192**	P	**Pg**	**09 47 44.5**	**+0.3**
UMAU	**Umeaa**	**0.88**	**192**	P	**Pg**	**09 47 44.5**	**+0.3**
UMAU	**Umeaa**	**0.88**	**192**	PB	**Pg**	**09 47 44.6**	**+0.3**
UMAU				SB	**Sg**	**09 47 56.0**	**+0.4**
OBF0	**Syolatti, Pyha**	**1.37**	**99**	PG	**Pg**	**09 47 53.3**	**-0.5**
	baz=280						
OBF0				MSG		09 48 10.6	
	comp=Z,3.6nm,0.2s						
OBF0				SB	**Sb**	**09 48 12.1**	**+0.1**
BREU	**Bredtraesk**	**1.39**	**233**	P	**Pn**	**09 47 53.6**	**-0.5**
BREU	**Bredtraesk**	**1.39**	**233**	P	**Pn**	**09 47 53.6**	**-0.5**
HARU	**Harads**	**1.43**	**358**	P	**Pn**	**09 47 54.1**	**-0.6**
HARU	**Harads**	**1.43**	**358**	P	**Pn**	**09 47 54.1**	**-0.6**
KALU	**Kalix**	**1.47**	**39**	P	**Pn**	**09 47 54.8**	**-0.4**
KALU	**Kalix**	**1.47**	**39**	P	**Pn**	**09 47 54.8**	**-0.4**
KALU	**Kalix**	**1.47**	**39**	PN	**Pn**	**09 47 55.0**	**-0.2**
KALU				SN	**Sn**	**09 48 15.9**	**+0.8**
OUF	**Merijarvi**	**1.61**	**102**	PG	**Pn**	**09 47 57.5**	**+0.4**
OUF				MSG		09 48 17.3	
	comp=Z,3.3nm,0.2s						
OUF				SG	**Sn**	**09 48 18.6**	**+0.1**
HUSU	**Husum**	**1.63**	**211**	P	**Pb**	**09 47 58.1**	**-0.2**
HUSU	**Husum**	**1.63**	**211**	P	**Pb**	**09 47 58.1**	**-0.2**
HUSU	**Husum**	**1.63**	**211**	PN	**Pb**	**09 47 58.4**	**0.0**
HUSU				SN	**Sn**	**09 48 18.9**	**-0.1**
OBF4	**Vikkela, Lumij**	**1.72**	**86**	PG	**Pn**	**09 47 59.2**	**+0.7**
OBF4				MSG		09 48 20.4	
	comp=Z,4.2nm,0.2s						
OBF4				SN	**Sg**	**09 48 22.8**	**+0.3**
VAF	**Ylistaro**	**1.84**	**157**	PG	**Pb**	**09 48 01.7**	**-0.2**
VAF				MSG		09 48 23.8	
	comp=Z,6.3nm,0.2s						
VAF				SG	**Sb**	**09 48 25.7**	**+0.3**
ERTU	**Ertsjaerv**	**1.88**	**13**	PG	**Pn**	**09 48 01.4**	**+0.6**
	baz=196						
ERTU				SG	**Sb**	**09 48 26.2**	**-0.5**
TOF	**Tornio**	**1.91**	**44**	PG	**Pn**	**09 48 02.1**	**+0.9**
TOF				MSG		09 48 25.4	
	comp=Z,3.6nm,0.2s						
TOF				SG	**Sg**	**09 48 28.2**	**-0.5**
OUL	**Oulu**	**2.07**	**78**	PB	**Pn**	**09 48 04.0**	**+0.5**
OUL				SG	**Sb**	**09 48 32.5**	**+0.3**
HEMU	**Hemsoen**	**2.48**	**215**	PG	**Pb**	**09 48 11.9**	**-0.9**
HEMU				SG	**Sb**	**09 48 44.3**	**+0.4**
RANF	**Ranua**	**2.71**	**59**	PG	**Pb**	**09 48 17.1**	**+0.4**
	baz=241						
RANF				SG	**Sb**	**09 48 50.1**	**-0.2**
KLF	**Kolari**	**2.77**	**24**	PN	**Pn**	**09 48 14.1**	**+1.1**
KLF				SN	**Sn**	**09 48 48.0**	**+0.9**
KLF				MSG		09 48 49.7	
	comp=Z,1.4nm,0.2s						
RNF	**Rovaniemi**	**2.77**	**45**	SG	**Sg**	**09 48 54.8**	**-1.6**
SUF	**Sumiainen**	**3.02**	**130**	MSG		09 48 58.2	
	comp=Z,1.1nm,0.2s						
SUF				SG	**Sb**	**09 49 00.7**	**+1.1**
KEF	**Keuruu**	**3.08**	**145**	MSG		09 49 00.1	
	comp=Z,1.2nm,0.2s						
KEF				SG	**Sg**	**09 49 04.4**	**-2.0**
NIF	**Nilsia**	**3.24**	**112**	SN	**Sn**	**09 49 00.0**	**+1.2**
LANU	**Lannavaara**	**3.34**	**6**	PN	**Pn**	**09 48 22.1**	**+1.2**
KAF	**Kangasniemi**	**3.52**	**136**	SG	**Sg**	**09 49 17.9**	**-2.6**
MSF	**Maaselka**	**3.53**	**67**	PG	**Pb**	**09 48 32.9**	**+2.1**
RAF	**Rauma**	**3.74**	**175**	SG	**Sg**	**09 49 25.1**	**-2.4**
OLKF	**Oulanka, Finla**	**3.80**	**62**	SN	**Sn**	**09 49 11.5**	**-1.1**
HEF	**Hetta**	**3.83**	**14**	SN	**Sn**	**09 49 12.8**	**-0.4**
RMF	**Romuvaara**	**3.86**	**94**	SB	**Sb**	**09 49 20.1**	**-3.4**
KU6	**Riekki**	**3.90**	**67**	SG	**Sg**	**09 49 29.8**	**-2.8**
FIA0	**FINESS Array S**	**4.00**	**143**	SG	**Sg**	**09 49 32.5**	**-3.5**
KIF	**Kilpisjarvi**	**4.29**	**359**	PG	**Pb**	**09 48 45.4**	**+1.7**
KIF				SN	**Sn**	**09 49 25.6**	**+1.1**

---

*SJA **15** 09:54:51.0, 30°.09S×71°.56W, h10km, ML2.8*
*GUC **15** 09:54:54.3±0.6, 30°.15S×71°.29W, h68km±2km, ML2.5*
ISC 15 09:54:54.7±1.6, 30°.11S±0°.05×71°.39W±0°.06, h56km±11km, n21, σ1§08/26, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**34**	*e*P	**Pn**	**09 55 04.3**	**+0.5**
CO05				*i* S	**Sn**	**09 55 11.7**	**+1.3**
CO05				IAML		09 55 11.9	
	comp=N,549nm,0.1s						
GO04	**Tololo Observa**	**0.51**	**97**	*i* P	**Pn**	**09 55 05.5**	**-1.2**
GO04	**Tololo Observa**	**0.51**	**97**	*e*P	**Pn**	**09 55 06.0**	**-0.7**
GO04				*i* S	**Sn**	**09 55 14.9**	**-0.6**
CO06	**Fray Jorge**	**0.60**	**201**	*e*P	**Pn**	**09 55 07.8**	**+0.2**
CO06				*i* S	**Sn**	**09 55 17.8**	**+0.9**
CO03	**El Pedregal**	**0.94**	**141**	*e*P	**Pn**	**09 55 10.9**	**-1.1**
CO03				*i* S	**Sn**	**09 55 23.2**	**-1.4**
CO03				IAML		09 55 23.7	
	comp=N,311nm,0.1s						
CO01	**Juntas del Tor**	**1.13**	**84**	*i* P	**Pn**	**09 55 13.3**	**-1.2**
CO01	**Juntas del Tor**	**1.13**	**84**	*e*P	**Pn**	**09 55 14.1**	**-0.4**
CO01				*i* S	**Sn**	**09 55 28.4**	**-0.8**
CO01				IAML		09 55 29.0	
	comp=N,240nm,0.2s						
LCO	**Las Campanas**	**1.25**	**29**	*i* P	**Pn**	**09 55 15.3**	**-0.9**
AROD	**Rodeo**	**1.66**	**92**	*i* P	**Pn**	**09 55 22.6**	**+0.9**
AC04	**Llanos de Chal**	**1.92**	**8**	*i* P	**Pn**	**09 55 24.5**	**-0.5**
ACDV	**Cuesta del Vie**	**1.96**	**92**	*i* P	**Pn**	**09 55 27.3**	**+1.6**
ACCO	**Cerro Coronel**	**2.06**	**104**	*i* P	**Pn**	**09 55 29.1**	**+1.8**
DOCA	**Reserva Natura**	**2.16**	**113**	*i* P	**Pn**	**09 55 28.9**	**+0.3**
RTLS	**Leoncito**	**2.46**	**134**	*i* P	**Pn**	**09 55 34.6**	**+1.9**
VA03	**San Esteban**	**2.74**	**165**	*i* P	**Pn**	**09 55 36.0**	**-0.3**
MT02	**Curacav**	**3.15**	**176**	*i* P	**Pn**	**09 55 40.6**	**-1.2**
AVFE	**Valle Fertil**	**3.44**	**100**	*i* P	**Pn**	**09 55 46.4**	**+0.6**
MT04	**Ro Olivares**	**3.45**	**162**	*i* P	**Pn**	**09 55 47.3**	**+1.1**
MT01	**Popeta**	**3.75**	**178**	*i* P	**Pn**	**09 55 49.3**	**-0.7**
AC02	**Maricunga**	**3.82**	**32**	*i* P	**Pn**	**09 55 51.9**	**+0.4**
BO02	**Sierra Bellavi**	**4.70**	**174**	*i* P	**Pn**	**09 56 03.1**	**0.0**

---

*IDC **15** 09:55:15.3±1.7, 54°.67N×83°.70E, h0km, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=16.4km s-min=10.0km az=8.0*
*ASRS **15** 09:55:36.0±0.9, 54°.25N×86°.20E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
ISC 15 09:55:15.3±2.4, 54°.6N±0°.2×83°.54E±0°.10, h0km, n5, σ1§46/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**132**	I	I	10 00 37.5	
	0.1nm,2.4s,baz=321,slow=324,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.02**	**132**	Pg	**Pb**	**09 55 35.4**	**-0.4**
	1.7nm,0.3s,baz=322,slow=15,SNR=11						
ZALV				Lg	Lg	09 55 46.4	
	9.9nm,0.3s,baz=319,slow=24,SNR=20						
ZALV				Rg	Rg	09 55 53.0	
	86nm,1.0s,baz=310,slow=25,SNR=11						
KURBB	**Kurchatov Arra**	**5.05**	**219**	Pn	**Pn**	**09 56 33.0**	**+0.7**
	0.7nm,0.6s,baz=40,slow=13,SNR=4.1						
KURBB				Pg	**Pg**	**09 56 50.4**	**-1.7**
	baz=38,slow=16,SNR=11						
KURBB				Sn	**Sn**	**09 57 32.5**	**+1.2**
	baz=28,slow=16						
KURBB				Lg	Lg	09 57 55.3	
	0.1nm,0.3s,baz=42,slow=31,SNR=5.1						
MKAR	**Makanchi Array**	**7.90**	**186**	Pn	**Pn**	**09 57 12.5**	**+1.2**
	0.1nm,0.3s,baz=15,slow=15,SNR=7.4						
MKAR				Lg	Lg	09 59 21.6	
	0.1nm,0.3s,baz=16,slow=29,SNR=1.8						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**7.95**	**264**	Pn	**Pn**	**09 57 12.3**	**+0.2**
	0.1nm,0.3s,baz=72,slow=14,SNR=4.2						
	2.2nm,0.6s						

---

*NEIC **15** 10:10:48.2±1.6, 5°.62S±0°.05×128°.7E±0°.1, h306km±9km, mb4.3/17, Error ellipse: s-maj=16.1km s-min=6.0km az=107.0*
*DJA **15** 10:10:48.5±0.3, 6°.S±3°.×12°.9E±°, h297km±5km, M4.7/19, mb4.5/19, mB5.3/6, MLv4.7/16, Mw(mB)4.7/6, MwMwp5.4/1, Mwp5.6/1*
*IDC **15** 10:10:51.8±3.0, 5°.82S×128°.43E, h345km±35km, mb3.2/6, mbtmp4.3/10, Error ellipse: s-maj=30.0km s-min=10.3km az=68.0*
ISC 15 10:10:47.8±0.5, 5°.66S±0°.05×128°.73E±0°.07, h300km, n75, σ1§41/76, mb3.9/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.03**	**345**	P	**Pn**	**10 11 35.6**	**+0.7**
NLAI	**Namlea**	**2.91**	**326**	P	**Pn**	**10 11 44.2**	**+1.6**
NLAI				S	**S**	**10 12 25.6**	**-0.8**
SAUI	**Saumlaki**	**3.44**	**132**	Pn	**Pn**	**10 11 49.2**	**+1.2**
SAUI	**Saumlaki**	**3.44**	**132**	P	**Pn**	**10 11 49.2**	**+1.2**
FAKI	**Fak Fak**	**4.44**	**52**		**Pn**	**10 11 58.4**	**-0.6**
FAKI	**Fak Fak**	**4.44**	**52**	P	**Pn**	**10 11 58.9**	**-0.1**
SANI	**Sanana**	**4.51**	**323**	P	**Pn**	**10 11 59.7**	**-0.1**
KMPI	**Kaimana, Papua**	**5.34**	**68**	P	**Pn**	**10 12 08.0**	**-1.3**
	283nm,1.0s						
SWI	**Sorong**	**5.39**	**28**	P	**Pn**	**10 12 08.7**	**-1.2**
	0.6nm2μm88nm,0.7s						
SOEI	**Soe**	**6.01**	**227**		**Pn**	**10 12 18.4**	**+1.1**
SOEI	**Soe**	**6.01**	**227**	P	**Pn**	**10 12 19.2**	**+1.8**
	0.9nm8μm183nm,0.7s						
BBSI	**Bau Bau**	**6.13**	**271**	P	**Pn**	**10 12 19.7**	**+1.0**
	0.3nm84nm,1.1s						
KDI	**Kendari**	**6.32**	**285**	P	**Pn**	**10 12 22.9**	**+1.9**
	0.2nm48nm,0.9s						
DRS	**Darwin Rock St**	**7.06**	**163**	P	**Pn**	**10 12 31.3**	**+1.4**
MMRI	**Maumere**	**7.09**	**245**	Pn	**Pn**	**10 12 31.7**	**+1.4**
MTN	**Manton Dam**	**7.52**	**162**	Pn	**Pn**	**10 12 35.2**	**-0.3**
MTN	**Manton Dam**	**7.52**	**162**	P	**Pn**	**10 12 36.0**	**+0.5**
KDU	**Kakadu**	**7.90**	**152**	P	**Pn**	**10 12 40.7**	**+0.6**
BSSI	**Bau Bau, Buton**	**8.21**	**266**	P	**Pn**	**10 12 45.7**	**+1.7**
	68nm,0.8s						
SRPI	**Serui, Papua**	**8.38**	**64**	P	**Pn**	**10 12 46.0**	**-0.1**
BKSI	**Bulukumba**	**8.58**	**272**	P	**Pn**	**10 12 49.6**	**+1.1**
	32nm,1.0s						
BAKI	**Biak**	**8.60**	**59**	P	**Pn**	**10 12 49.2**	**+0.5**
	75nm,0.8s						
SPSI	**Sidrap Palu**	**9.09**	**280**	P	**Pn**	**10 12 56.2**	**+1.4**
	39nm,1.0s						
MRSI	**Marisa**	**9.12**	**312**	P	**Pn**	**10 12 55.5**	**+0.3**
	16nm,0.6s						
TTSI	**Tana Toraja**	**9.26**	**286**	P	**Pn**	**10 12 58.2**	**+1.3**
SGSI	**Sangihe**	**9.82**	**341**	P	**Pn**	**10 13 04.3**	**+0.5**
KNRA	**Kununurra**	**9.95**	**180**	Pn	**Pn**	**10 13 05.4**	**+0.1**
PCI	**Palu**	**10.06**	**298**	P	**Pn**	**10 13 08.7**	**+2.0**
PLAI	**Plampang**	**11.31**	**253**	P	Pn	10 13 09.8	-12
FITZ	**Fitzroy Crossi**	**12.72**	**193**	Pn	**Pn**	**10 13 37.6**	**-1.5**
FITZ	**Fitzroy Crossi**	**12.72**	**193**	P	**Pn**	**10 13 38.6**	**-0.5**
	14nm,0.4s,baz=26,slow=10.0,SNR=57						
FITZ				S	**S**	**10 15 59.4**	**-0.9**
	1.9nm,0.3s,baz=349,slow=17,SNR=3.1						
WB0	**Warramunga Arr**	**15.06**	**159**	P	**P**	**10 14 06.0**	**+0.4**
WRAB	**Tennant Creek**	**15.20**	**159**	P	**P**	**10 14 07.5**	**+0.3**
WRA	**Warramunga Arr**	**15.21**	**159**	P	**P**	**10 14 06.5**	**-0.7**
WRA	**Warramunga Arr**	**15.21**	**159**	P	**P**	**10 14 08.2**	**+1.0**
	24nm,0.6s,baz=341,slow=12,SNR=138						
WRA				S	**S**	**10 16 49.5**	**-3.3**
	6.1nm,0.9s,baz=335,slow=20,SNR=8.9						
COEN	**Coen**	**16.44**	**121**		**P**	**10 14 21.2**	**+0.5**
COEN				IAmb	IAmb	10 14 22.9	
	comp=Z,24nm,0.7s						
MBWA	**Marble Bar**	**17.71**	**209**	P	**P**	**10 14 34.4**	**0.0**
MBWA				IAmb	IAmb	10 14 35.0	
	comp=Z,7.3nm,0.7s						
MBWA	**Marble Bar**	**17.71**	**209**	P	**Pn**	**10 14 38.2**	**+0.3**
PSA00	**Pilbara Seismi**	**18.01**	**208**	P	**P**	**10 14 37.5**	**0.0**
PSA00				IAmb	IAmb	10 14 44.8	
	comp=Z,11nm,0.9s						
PSA00	**Pilbara Seismi**	**18.01**	**208**	P	**P**	**10 14 42.2**	**+4.6**
QIS	**Mount Isa**	**18.19**	**146**	P	**P**	**10 14 36.4**	**-3.1**
AS31	**Alice Springs**	**18.58**	**165**		**P**	**10 14 44.5**	**+0.8**
AS31				IAmb	IAmb	10 14 46.3	
	comp=Z,8.6nm,0.7s						
ASAR	**Alice Springs**	**18.58**	**165**	P	**P**	**10 14 44.9**	**+1.2**
	comp=Z,11nm,0.3s,baz=343,slow=11,SNR=259						
ASAR				S	**S**	**10 17 58.0**	**-1.6**
	comp=Z,11nm,0.9s,baz=346,slow=22,SNR=34						
AS01	**Alice Springs**	**18.59**	**165**	P	**P**	**10 14 45.3**	**+1.4**
PMG	**Port Moresby**	**18.64**	**103**	P	**P**	**10 14 48.1**	**+3.6**
	comp=Z,13nm,0.6s,baz=281,slow=5.7,SNR=5.7						
OOD	**Oodnadatta**	**22.98**	**164**	P	**P**	**10 15 27.3**	**+0.6**
MEEK	**Meekatharra**	**22.99**	**204**	P	**P**	**10 15 26.6**	**-0.2**
INKA	**Innaminka**	**24.75**	**154**	P	**P**	**10 15 40.3**	**-2.4**
FORT	**Forrest**	**24.99**	**181**	P	**P**	**10 15 44.2**	**-0.7**
FORT				IAmb	IAmb	10 15 46.5	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**24.99**	**181**	P	**P**	**10 15 45.5**	**+0.6**
LCRK	**Leigh Creek**	**26.22**	**161**	P	**P**	**10 15 54.1**	**-1.8**
KMBL	**Kambalda**	**26.37**	**193**	P	**P**	**10 15 57.6**	**+0.4**
KLBR	**Kellerberrin**	**27.77**	**200**	P	**P**	**10 16 09.7**	**+0.1**
BBOO	**Buckleboo**	**27.86**	**167**	P	**P**	**10 16 10.1**	**-0.3**
BBOO				IAmb	IAmb	10 16 11.4	
	comp=Z,5.3nm,0.6s						
BBOO	**Buckleboo**	**27.86**	**167**	P	**P**	**10 16 11.2**	**+0.8**
STKA	**Stephens Creek**	**28.73**	**157**	P	**P**	**10 16 18.4**	**+0.4**
STKA	**Stephens Creek**	**28.73**	**157**	P	**P**	**10 16 18.9**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=335,slow=10.0,SNR=8.0						
	comp=Z,1.9nm,0.5s						
STKA	**Stephens Creek**	**28.73**	**157**	P	**P**	**10 16 15.6**	**-2.5**
NWAO	**Narrogin (SRO)**	**29.17**	**200**	P	**P**	**10 16 21.5**	**-0.4**
NWAO				IAmb	IAmb	10 16 40.4	
	comp=Z,16nm,1.2s						
HTT	**Hallett**	**29.21**	**162**	P	**P**	**10 16 20.4**	**-2.0**
CMSA	**Cobar Meteorol**	**30.25**	**150**	P	P	10 16 26.2	-5.3
HNR	**Honiara**	**31.16**	**99**	P	**P**	**10 16 40.2**	**+0.5**
**MGB

*NEIC **15** 10:29:22.4±1.3,23°.18S±0°.02×68°.6W±0°.1,h93km±8km, mb4.5/17,Error ellipse: s-maj=14.1km s-min=2.2km az=89.0*
*GUC **15** 10:29:22.6±0.7,23°.20S×68°.72W,h90km±5km,ML4.5*
*IDC **15** 10:29:22.7±0.5,23°.06S×68°.46W,h100km±4km,mb4.1/8, mbtmp4.3/11,MS3.2/3,Error ellipse: s-maj=18.0km s-min=13.5km az=90.0*
ISC 15 10:29:21.9±0.5,**23°.14S**±0°.03×**68°.69W**±0°.04,**h97**km±4km, **n134**,σ1$**73**/153,**mb4.3**/15,**6C-7D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.51**	**68**		**Pn**	**10 29 38.1**	**+0.3**
AF01	**San Pedro de A**	**0.51**	**68**	*i* P	**Pn**	**10 29 38.2**	**+0.5**
AF01				*e*S	**Sn**	10 29 52.4	+2.8
AF01	**San Pedro de A**	**0.51**	**68**⇓	*e*P	**Pn**	**10 29 38.3**	**+0.5**
AF01				*e*S	**Sn**	**10 29 50.6**	**+1.0**
PB09	**IPOC Station P**	**1.43**	**339**		**Pn**	**10 29 48.6**	**+1.2**
PB09	**IPOC Station P**	**1.43**	**339**	*i* P	**Pn**	**10 29 48.5**	**+1.2**
PB09				*e*S	**Sn**	**10 30 06.4**	**-0.1**
PB09				IAML		10 30 17.2	
	comp=Z,2μm,0.7s						
PB09	**IPOC Station P**	**1.43**	**339**	*e*P	**Pn**	**10 29 49.0**	**+1.6**
PB09				*e*S	**Sn**	**10 30 09.2**	**+2.7**
PB14	**IPOC Station P**	**2.15**	**226**	Pn	**Pn**	**10 29 57.1**	**+0.4**
PB14	**IPOC Station P**	**2.15**	**226**	*i* P	**Pn**	**10 29 56.6**	**-0.1**
PB14				*e*S	**Sn**	**10 30 22.0**	**-1.1**
PB14				IAML		10 30 28.3	
	comp=Z,3μm,0.3s						
PB14	**IPOC Station P**	**2.15**	**226**⇑	*e*P	**Pn**	**10 29 57.0**	**+0.4**
PB14				*e*S	**Sn**	**10 30 24.1**	**+1.0**
PB14				IAML		10 30 31.8	
	comp=N,3μm,0.5s						
GO02	**Mina Guanaco**	**2.17**	**202**	Pn	**Pn**	**10 29 57.5**	**+0.6**
GO02	**Mina Guanaco**	**2.17**	**202**	*i* P	**Pn**	**10 29 57.1**	**+0.3**
GO02				*e*S	**Sn**	**10 30 24.3**	**+0.7**
GO02	**Mina Guanaco**	**2.17**	**202**⇑	*e*P	**Pn**	**10 29 57.8**	**+0.9**
GO02				*e*S	**Sn**	**10 30 24.7**	**+1.1**
GO02				IAML		10 30 31.3	
	comp=N,7μm,0.3s						
PB01	**IPOC Station P**	**2.21**	**340**		**Pn**	**10 29 58.3**	**+1.0**
PB01	**IPOC Station P**	**2.21**	**340**	*i* P	**Pn**	**10 29 57.5**	**+0.3**
PB01				*e*S	**Sn**	**10 30 23.6**	**-0.7**
PB01				IAML		10 30 32.0	
	comp=Z,1μm,0.3s						
PB01	**IPOC Station P**	**2.21**	**340**	*e*P	**Pn**	**10 29 58.3**	**+1.0**
PB01				*e*S	**Sn**	**10 30 26.6**	**+2.3**
PB01				IAML		10 30 31.2	
	comp=E,2μm,0.4s						
PX03	**IPOC Station P**	**2.86**	**342**	*e*P	**Pn**	**10 30 08.1**	**+2.2**
TA01	**Diego Aracena**	**2.91**	**331**		**Pn**	**10 30 07.8**	**+1.4**
TA01	**Diego Aracena**	**2.91**	**331**	*i* P	**Pn**	**10 30 05.5**	**-0.9**
TA01				*e*S	**Sn**	**10 30 39.5**	**-1.2**
TA01				IAML		10 30 55.0	
	comp=Z,696nm,0.6s						
TA01	**Diego Aracena**	**2.91**	**331**⇑	*e*P	**Pn**	**10 30 06.1**	**-0.3**
TA01				IAML		10 30 52.1	
	comp=N,1μm,0.6s						
PB08	**IPOC Station P**	**3.02**	**352**		**Pn**	**10 30 08.8**	**+0.5**
PB08	**IPOC Station P**	**3.02**	**352**	*i* P	**Pn**	**10 30 08.7**	**+0.5**
PB08				*e*S	**Sn**	**10 30 43.2**	**-0.5**
PB08				IAML		10 30 54.2	
	comp=Z,364nm,0.4s						
PB08	**IPOC Station P**	**3.02**	**352**⇑	*e*P	**Pn**	**10 30 09.3**	**+1.2**
PB08				*e*S	**Sn**	**10 30 48.5**	**+4.8**
PB08				IAML		10 30 56.2	
	comp=E,606nm,0.3s						
YJA	**Yavi**	**3.09**	**72**	*i* P	**Pn**	**10 30 11.7**	**+2.5**
YJA	**Yavi**	**3.09**	**72**⇑	*e*P	**Pn**	**10 30 11.9**	**+2.7**
YJA				*e*S	**Sn**	**10 30 49.3**	**+3.7**
TA02	**Huaiquique**	**3.15**	**335**		**Pn**	**10 30 10.3**	**+0.7**
TA02	**Huaiquique**	**3.15**	**335**	*e*P	**Pn**	**10 30 12.3**	**+2.7**
TA02				IAML		10 31 01.0	
	comp=N,1μm,0.7s						
SLA	**San Lorenzo**	**3.31**	**119**	*i* P	**Pn**	**10 30 13.3**	**+1.4**
SLA				*e*S	**Sn**	**10 30 52.4**	**+1.8**
SLA	**San Lorenzo**	**3.31**	**119**	*e*P	**Pn**	**10 30 14.8**	**+2.9**
AC01	**Pan de Azucar**	**3.46**	**210**	Pn	**Pn**	**10 30 13.9**	**+0.2**
AC01	**Pan de Azucar**	**3.46**	**210**	*i* P	**Pn**	**10 30 13.3**	**-0.5**
AC01				IAML		10 31 07.7	
	comp=Z,1μm,0.2s						
AC01	**Pan de Azucar**	**3.46**	**210**⇑	*e*P	**Pn**	**10 30 12.6**	**-1.2**
AC01				*e*S	**Sn**	**10 30 54.8**	**+1.0**
AZAP	**Zapla**	**3.50**	**109**	*i* P	**Pn**	**10 30 16.9**	**+2.4**
AZAP				IAML		10 31 03.7	
	comp=Z,212nm,1.0s						
AC02	**Maricunga**	**3.70**	**186**	Pn	**Pn**	**10 30 17.9**	**+0.5**
AC02	**Maricunga**	**3.70**	**186**	*i* P	**Pn**	**10 30 18.3**	**+0.9**
AC02				IAML		10 31 10.5	
	comp=Z,576nm,0.5s						
FSA	**Cafayete**	**3.85**	**141**	*i* P	**Pn**	**10 30 21.1**	**+1.9**
PB12	**IPOC Station P**	**4.76**	**341**	Pn	**Pn**	**10 30 33.7**	**+2.3**
PB12	**IPOC Station P**	**4.76**	**341**	*i* P	**Pn**	**10 30 30.6**	**-0.8**
PB18	**Visviri**	**5.57**	**352**		Pn	10 30 47.6	+4.7
LC0	**Las Campanas**	**6.12**	**197**	Pn	**Pn**	**10 30 47.2**	**-2.8**
LPAZ	**La Paz**	**6.84**	**5**	Pn	**Pn**	**10 31 01.5**	**+1.3**
LPAZ	**La Paz**	**6.84**	**5**	P	**Pn**	**10 31 01.4**	**+1.2**
	comp=Z,17nm,0.5s,baz=198,slow=4.9,SNR=24						
LPAZ	**La Paz**	**6.84**	**5**	*e*P	**Pn**	**10 30 56.1**	**-4.1**
CO01	**Juntas del Tor**	**6.92**	**190**		**Pn**	**10 30 59.4**	**-1.5**
GO04	**Tololo Observa**	**7.25**	**195**		**Pn**	**10 31 02.6**	**-2.8**
CO03	**El Pedregal**	**7.87**	**193**		**Pn**	**10 31 10.5**	**-3.2**
VA03	**San Esteban**	**9.72**	**189**		**Pn**	**10 31 36.4**	**-2.5**
SIV	**San Ignacio**	**10.11**	**47**	P	**Pn**	**10 31 41.4**	**-2.8**
	comp=Z,132nm,0.4s,baz=237,slow=10,SNR=630						
SIV				S	**Sn**	**10 33 29.0**	**-6.7**
	comp=Z,7.7nm,0.5s,baz=144,slow=21,SNR=3.1						
MT08	**Bocatoma Ro**	**10.33**	**186**		**Pn**	**10 31 46.5**	**-0.8**
MURT	**Porto Murtinho**	**10.36**	**84**	*e*P	**Pn**	**10 31 43.2**	**-4.4**
MT09	**Talagante**	**10.79**	**190**	Pn	**Pn**	**10 31 51.2**	**-2.2**
CPUP	**Villa Florida**	**10.81**	**109**	P	**Pn**	**10 31 51.3**	**-2.3**
	comp=Z,2.9nm,0.8s,baz=305,slow=13,SNR=6.7						
CPUP				LR	LR	10 35 53.5	
	comp=Z,28nm,19.2s,baz=245,slow=37						
CPUP	**Villa Florida**	**10.81**	**109**	*e*P	**Pn**	**10 31 51.2**	**-2.3**
BDQN	**Bodoquena, MS**	**11.42**	**79**	*e*P	**Pn**	**10 31 57.4**	**-4.5**
PTLB	**Pontes e Lacer**	**11.83**	**51**	Pn	**Pn**	**10 32 04.3**	**-3.1**
PTLB	**Pontes e Lacer**	**11.83**	**51**	*e*P	**Pn**	**10 32 03.4**	**-4.0**
AQDB	**Aquidauana**	**12.36**	**80**	*e*P	**Pn**	**10 32 11.0**	**-3.5**
VILB	**Vilhena**	**12.95**	**40**	Pn	**Pn**	**10 32 21.1**	**-1.3**
VILB	**Vilhena**	**12.95**	**40**	*e*P	**Pn**	**10 32 18.0**	**-4.4**
BI02	**San Fabin de**	**13.66**	**189**	Pn	**Pn**	**10 32 31.1**	**-0.4**
RPRD	**Ribas do Rio P**	**14.18**	**82**	*e*P	**Pn**	**10 32 36.6**	**-1.7**
SALV	**Santo Antonio**	**14.21**	**62**	*e*P	**Pn**	**10 32 36.6**	**-2.1**
PTGB	**Pitanga**	**15.29**	**99**	*e*P	**Pn**	**10 32 52.0**	**-0.5**
CPSB	**Cacapava Do Su**	**15.42**	**121**	*e*P	**Pn**	**10 32 53.2**	**-0.8**
ITAB	**Concordia**	**15.54**	**109**		**P**	**10 32 56.1**	**-1.7**
ITAB				IAmb	IAmb	10 33 39.0	
	comp=Z,37nm,1.2s						
ITAB	**Concordia**	**15.54**	**109**	*e*P	**Pn**	**10 32 55.2**	**-0.3**
CZSB	**Cruzeiro do Su**	**15.80**	**345**	P	**Pn**	**10 32 59.6**	**+0.7**
CZSB				IAmb	IAmb	10 33 38.1	
	comp=Z,22nm,0.7s						
CZSB	**Cruzeiro do Su**	**15.80**	**345**	*e*P	**Pn**	**10 32 57.8**	**-1.2**
PLTB	**Pedras Altas**	**15.90**	**126**	P	**Pn**	**10 32 59.6**	**-0.5**
PLTB	**Pedras Altas**	**15.90**	**126**	*e*P	**P**	**10 33 00.3**	**-1.5**
LDASE	**Londrina, Braz**	**16.16**	**94**	*e*P	**P**	**10 33 03.7**	**-1.1**
PDRB	**Porto dos Gac**	**16.17**	**47**	*e*P	**Pn**	**10 33 02.7**	**-0.8**
CNLB	**Canela**	**17.14**	**115**	*e*P	**P**	**10 33 15.2**	**-0.4**
LR05	**Currie**	**17.27**	**189**	P	**P**	**10 33 16.8**	**0.0**
LR05				IAmb	IAmb	10 33 51.4	
	comp=Z,18nm,0.8s						
CLDB	**Colider**	**17.33**	**47**	*e*P	**Pn**	**10 33 16.0**	**-1.8**
ITRB	**Iturama**	**17.41**	**82**	*e*P	**P**	**10 33 19.6**	**+1.0**
ARAG	**Araguaiana, MT**	**17.55**	**68**	*e*P	**P**	**10 33 19.4**	**-0.7**
PLCA	**Paso Flores**	**17.61**	**185**	P	**Pn**	**10 33 21.2**	**+0.1**
PLCA	**Paso Flores**	**17.61**	**185**	P	**Pn**	**10 33 22.1**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=329,slow=8.1,SNR=5.7						
PLCA	**Paso Flores**	**17.61**	**185**	*e*P	**Pn**	**10 33 24.9**	**+3.8**
MAJ01	**Sao Joao Batis**	**18.30**	**107**	*e*P	**Pn**	**10 33 29.3**	**-0.1**
LL05	**Los Muermos**	**18.65**	**191**	P	**P**	**10 33 32.3**	**+0.3**
TBTG	**Tabatinga, AM**	**18.88**	**356**	*e*P	**P**	**10 33 35.7**	**+0.9**
IPMB	**Ipameri, GO**	**19.85**	**79**	*e*P	**P**	**10 33 44.8**	**-0.5**
TEFE	**Tefe**	**19.91**	**12**	*e*P	**P**	**10 33 47.4**	**-1.0**
SNDB	**Serra Nova Dou**	**19.94**	**59**	*e*P	**P**	**10 33 44.2**	**-2.1**
VAO	**Valinhos**	**19.99**	**94**	P	**P**	**10 33 45.6**	**-1.3**
VAO				IAmb	IAmb	10 33 46.6	
	comp=Z,21nm,0.7s						
VAO	**Valinhos**	**19.99**	**94**	*e*P	**P**	**10 33 45.2**	**-1.7**
BDFB	**Brasilia**	**20.87**	**73**	P	**P**	**10 33 55.3**	**-1.1**
	comp=Z,5.9nm,0.6s,baz=241,slow=10,SNR=10						
	comp=Z,5.9nm,0.6s						
PARB	**Paraibuna**	**21.20**	**95**	*e*P	**P**	**10 33 59.9**	**0.0**
PMNB	**Patos De Minas**	**21.29**	**82**	*e*P	**P**	**10 34 02.2**	**+1.3**
MACA	**Manacapuru-AM**	**21.32**	**22**	P	**P**	**10 34 01.3**	**+0.1**
MACA				IAmb	IAmb	10 34 05.4	
	comp=Z,23nm,0.6s						
MACA	**Manacapuru-AM**	**21.32**	**22**	*e*P	**P**	**10 34 02.9**	**+1.7**
AY01	**Puyuhuapi**	**21.47**	**188**	P	**P**	**10 34 03.2**	**+0.8**
ITTB	**Itaituba**	**22.48**	**36**	*e*P	**P**	**10 34 12.8**	**-0.6**
SMTB	**Santa Maria do**	**24.71**	**58**	*e*P	**P**	**10 34 35.9**	**+1.7**
SDBA	**SAO DESIDERIO**	**25.00**	**69**	*e*P	**P**	**10 34 37.6**	**+0.6**
MAL2	**Monte Alegre,**	**25.28**	**36**	P	**P**	**10 34 38.9**	**-0.5**
MAL2				IAmb	IAmb	10 34 57.1	
	comp=Z,25nm,0.8s						
BSFB	**Barra de Sao F**	**26.33**	**86**	*e*P	**P**	**10 34 51.5**	**+2.6**
BOAV	**Boa Vista**	**26.60**	**18**	P	**P**	**10 34 52.0**	**+0.6**
BOAV	**Boa Vista**	**26.60**	**18**	*e*P	**P**	**10 34 52.6**	**+1.3**
MDP	**Montagnes des**	**32.16**	**31**	LR	LR	10 49 26.3	
	comp=Z,69nm,18.4s,baz=300,slow=38						
PCRV	**Puerto La Cruz**	**33.35**	**7**	LR	LR	10 49 29.7	
	comp=Z,68nm,19.4s,slow=36						
HOPE	**Hope Point**	**39.35**	**150**	P	**P**	**10 36 42.1**	**+0.5**
TEIG	**Tepich**	**47.15**	**335**	P	**P**	**10 37 44.6**	**0.0**
VNA3	**Neumayer Olymp**	**58.47**	**161**	P	**P**	**10 39 07.6**	**+0.2**
VNA3	**Neumayer Olymp**	**58.47**	**161**	⇓P	**P**	**10 39 07.6**	**+0.2**
	comp=Z,0.3nm,0.2s						
VNA1	**Neumayer--Stat**	**58.68**	**160**	P	**P**	**10 39 07.8**	**-1.0**
VNA1	**Neumayer--Stat**	**58.68**	**160**	⇓P	**P**	**10 39 07.8**	**-1.0**
	comp=Z,0.2nm,0.1s						
VNA2	**Neumayer--Watz**	**59.04**	**160**	P	**P**	**10 39 11.8**	**+0.5**
	baz=296,slow=8.3						
VNA2	**Neumayer--Watz**	**59.04**	**160**	⇓P	**P**	**10 39 11.8**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=296,slow=8.3						
SNAA	**Sanae**	**60.67**	**161**	P	**P**	**10 39 23.0**	**+0.5**
SNAA	**Sanae**	**60.67**	**161**		**P**	**10 39 22.8**	**+0.3**
SNAA	**Sanae**	**60.67**	**161**	⇓P	**P**	**10 39 23.0**	**+0.5**
	comp=Z,9.5nm,0.2s						
SNAA	**Sanae**	**60.67**	**161**	P	**P**	**10 39 22.3**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=263,slow=8.9,SNR=6.7						
	comp=Z,5.3nm,0.9s						
TXAR	**Lajitas Array**	**62.09**	**326**	P	**P**	**10 39 33.4**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=133,slow=4.3,SNR=1.6						
TROLL	**Troll, Antarti**	**62.39**	**161**	P	**P**	**10 39 34.8**	**+0.6**
TROLL	**Troll, Antarti**	**62.39**	**161**	⇓P	**P**	**10 39 34.8**	**+0.6**
	comp=Z,20nm,0.4s						
VHRN	**Van Horn**	**63.93**	**325**	P	**P**	**10 39 46.0**	**+1.1**
VHRN				IAmb	IAmb	10 40 22.8	
	comp=Z,2.9nm,0.9s						
QSPA	**South Pole Qui**	**67.06**	**180**	P	**P**	**10 40 05.5**	**+0.8**
QSPA				IAmb	IAmb	10 40 32.2	
	comp=Z,6.8nm,0.8s						
QSPA	**South Pole Qui**	**67.06**	**180**	P	**P**	**10 40 05.6**	**+1.0**
	comp=Z,5.6nm,0.5s,baz=359,slow=0.1,SNR=93						
QSPA				pP	**PcP**	**10 40 30.9**	**-1.3**
	comp=Z,4.8nm,0.6s,baz=160,slow=1.7,SNR=6.4						
	comp=Z,5.6nm,0.5s						
ANMO	**Albuquerque**	**67.98**	**327**	P	**P**	**10 40 12.0**	**+1.1**
ANMO				IAmb	IAmb	10 40 38.7	
	comp=Z,4.8nm,1.4s						
SYO	**Syowa Base**	**74.90**	**159**⇓	*e*P	**P**	**10 40 51.0**	**-0.7**
PDAR	**Pinedale Array**	**75.63**	**330**	P	**P**	**10 40 57.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=150,slow=8.2,SNR=3.5						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**76.94**	**342**	P	**P**	**10 41 03.5**	**0.0**
	comp=Z,2.9nm,0.5s,baz=159,slow=6.4,SNR=11						
ULM				pP	**pP**	**10 41 29.0**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=144,slow=8.6,SNR=2.3						
	comp=Z,2.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.72**	**70**	P	**P**	**10 41 08.2**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=260,slow=5.8,SNR=59						
TORD				pP	**pP**	**10 41 33.7**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=262,slow=5.1,SNR=3.7						
	comp=Z,9.2nm,0.7s						
BOSA	**Boshof**	**82.51**	**118**	P	**P**	**10 41 34.2**	**-0.2**
	comp=Z,3.7nm,0.9s,baz=252,slow=6.4,SNR=5.1						
BOSA				pP	**pP**	**10 42 00.5**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=287,slow=5.2,SNR=1.9						
	comp=Z,3.7nm,0.9s						
YKA	**Yellowknife Ar**	**92.79**	**340**	P	**P**	**10 42 23.4**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=143,slow=4.7,SNR=36						
YKA				pP	**pP**	**10 42 49.9**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=144,slow=4.5,SNR=7.1						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**128.55**	**207**	PKP	**PKPdf**	**10 48 18.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=127,slow=2.0,SNR=24						
ASAR				pPKP	**pPKPdf**	**10 48 46.4**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=159,slow=1.9,SNR=5.2						
WRA	**Warramunga Arr**	**131.64**	**210**	PKP	**PKiKP**	**10 48 25.0**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=155,slow=1.6,SNR=13						
KURBB	**Kurchatov Arra**	**142.58**	**35**	PKhKP	PKPpre	10 48 40.2	
	comp=Z,0.4nm,0.4s,baz=303,slow=3.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**143.34**	**26**	PKP	PKPbc	10 48 42.5	+0.5
	comp=Z,3.0nm,0.7s,baz=311,slow=3.7,SNR=9.0						
ZALV				pPKP	pPKPdf	10 49 10.6	-1.8
	comp=Z,1.0nm,0.7s,baz=294,slow=2.7,SNR=2.1						
MKAR	**Makanchi Array**	**146.82**	**38**	PKPbc	**PKPdf**	**10 48 52.0**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=320,slow=1.7,SNR=34						
MKAR				pPKPbc	pPKPbc	10 49 19.5	-0.7
	comp=Z,2.4nm,0.8s,baz=343,slow=2.5,SNR=6.2						
LEM	**Lembang**	**150.00**	**173**	PKPbc	**PKiKP**	**10 49 03.5**	**+0.5**
	comp=Z,13nm,0.6s,baz=35,slow=6.9,SNR=4.0						
SONM	**Songino Array**	**155.05**	**8**	PKP	**PKPdf**	**10 49 02.3**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=253,slow=1.5,SNR=3.6						
SONM				pPKP	**PKPab**	**10 49 29.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=350,slow=3.5,SNR=4.2						

*IDC **15** 10:32:10.7±1.8,2°.75S×128°.39E,h0km,mb3.5/3, mbtmp3.6/4,ML3.8/1,Error ellipse: s-maj=140.7km s-min=23.6km az=68.0*
*DJA **15** 10:32:24.2±0.2,3°.S±3°.×12°.7E±°,h80km±4km,M4.1/18, mB5.1/2,mb4.2/9,MLv4.0/18,Mw(mB)4.5/2*
ISC 15 10:32:23.3±0.9,**3°.38S**±0°.08×**127°.42E**±0°.07,**h100**km,**n18**, σ0$**81**/21,**mb3.5**/3,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.35**	**293**	P	**Pn**	**10 32 38.3**	**+0.2**
NLAI				S	**Sn**	**10 32 48.9**	**-0.3**
AAI	**Ambon**	**0.83**	**112**	P	**Pn**	**10 32 41.7**	**-0.2**
AAI				S	**Sn**	**10 32 55.5**	**-0.5**
MSAI	**Masohi**	**1.50**	**89**	P	**Pn**	**10 32 50.4**	**+0.8**
SANI	**Sanana**	**1.94**	**313**	P	**Pn**	**10 32 54.6**	**-0.5**
SANI				S	**Sn**	**10 33 18.9**	**-0.6**
TNTI	**Ternate**	**4.12**	**359**	P	**Pn**	**10 33 24.6**	**+0.5**
SWI	**Sorong**	**4.58**	**57**	P	**Pn**	**10 33 31.1**	**+0.8**
KDI	**Kendari**	**4.83**	**263**	P	**Pn**	**10 33 33.2**	**-0.5**
FAKI	**Fak Fak**	**4.84**	**85**	P	**Pn**	**10 33 34.3**	**+0.4**
LUWI	**Luwuk**	**5.19**	**296**	P	**Pn**	**10 33 38.6**	**0.0**
	0.3nm2μm73nm,0.7s						
BBSI	**Bau Bau**	**5.27**	**246**	P	**Pn**	**10 33 38.7**	**-1.0**
	0.2nm46nm,0.8s						
SAUI	**Saumlaki**	**5.99**	**140**	P	**Pn**	**10 33 50.4**	**+1.0**
SOEI	**Soe**	**7.07**	**206**	P	**Pn**	**10 34 04.9**	**+0.6**
	0.1nm20nm,1.1s						
BSSI	**Bau Bau, Buton**	**7.43**	**248**	P	**Pn**	**10 34 10.1**	**+1.0**
	0.1nm20nm,0.8s						
SPSI	**Sidrap Palu**	**7.66**	**265**	P	**Pn**	**10 34 13.9**	**+1.7**
WRA	**Warramunga Arr**	**17.80**	**158**	P	**P**	**10 36 22.5**	**-1.5**
	0.3nm,0.3s,baz=340,slow=11,SNR=6.8						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**21.12**	**163**	P	**P**	**10 37 00.3**	**+0.1**
	0.6nm,0.3s,baz=344,slow=9.3,SNR=16						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**63.81**	**327**	P	**P**	**10 42 45.4**	**+0.5**
	0.5nm,0.7s,baz=126,slow=8.3,SNR=6.3						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**68.10**	**329**	P	**P**	**10 43 12.2**	**-0.1**
	0.2nm,0.3s,baz=128,slow=5.6,SNR=4.8						
	0.2nm,0.3s						

*DSN **15** 10:33:28.9±1.8,27°.66N×53°.17E,h10km,ML3.0/9,Error ellipse: s-maj=28.0km s-min=12.5km az=9.0*
*TEH **15** 10:33:28.9,27°.63N×53°.36E,h6km±55km*
*OMAN **15** 10:33:30.2±1.4,27°.94N×53°.49E,h10km,mb4.3/4, ml3.5/11,Error ellipse: s-maj=16.7km s-min=5.3km az=0.0*
ISC 15 10:33:31.7±0.9,**27°.65N**±0°.04×**53°.33E**±0°.05,**h16**km,**n42**, σ1$**52**/47,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.34**	**205**	Pg	**Pg**	**10 33 36.4**	**-2.4**
LMD1				Sg	**Sg**	**10 33 42.4**	**-1.3**
QIR1	**Qir**	**0.86**	**343**	Pg	**Pb**	**10 33 46.9**	**-1.4**
JHRM	**Jahrom**	**0.88**	**15**	Pg	**Pb**	**10 33 47.1**	**-1.5**
DSBU	**Dashti - Bushe**	**1.96**	**292**	Pn	**Pb**	**10 34 06.0**	**-1.0**
SHI	**Shiraz**	**2.11**	**340**	Pn	**Pb**	**10 34 08.1**	**-1.5**
AHBU	**AHRAM**	**2.16**	**304**	Pn	**Pb**	**10 34 08.8**	**-1.6**
KAZ2	**Kazeron-Fars-I**	**2.44**	**324**	Pn	**Pn**	**10 34 12.5**	**+1.6**
GENO	**Geno**	**2.54**	**95**	Pn	**Pn**	**10 34 13.3**	**+0.8**
SHMA	**Al-Shehemyia**	**2.77**	**230**	P	**Pb**	**10 34 18.5**	**-2.3**
SHMA				S	**Sb**	**10 34 57.8**	**+3.4**
IBND	**Bandar-abas**	**2.86**	**93**	Pn	**Pn**	**10 34 17.6**	**+0.9**
SHME	**Shamm**	**2.98**	**122**	P	**Pn**	**10 34 19.3**	**+1.0**
SHME	**Shamm**	**2.98**	**122**	P	**Pn**	**10 34 17.2**	**-1.1**
BANOM	**Banah**	**3.17**	**122**	P	**Pn**	**10 34 21.9**	**+0.9**
BANOM	**Banah**	**3.17**	**122**	P	**Pn**	**10 34 20.3**	**-0.6**
BANOM				S	**Sn**	**10 35 00.6**	**+2.1**
NAZ	**Nazwa, Dubai**	**3.38**	**141**	P	**Pn**	**10 34 26.4**	**+2.6**
NAZ	**Nazwa, Dubai**	**3.38**	**141**	P	**Pn**	**10 34 21.8**	**-2.1**
MASF	**Masafi**	**3.41**	**131**	P	**Pn**	**10 34 26.3**	**+2.1**
MASF				S	**Sn**	**10 35 07.6**	**+3.3**
MSFE	**Esma-Masafi**	**3.42**	**131**	P	**Pn**	**10 34 24.8**	**+0.5**
ASUD	**Al Ashush, Dub**	**3.51**	**149**	P	**Pn**	**10 34 27.5**	**+1.9**
MDH	**Madha**	**3.55**	**131**	P	**Pn**	**10 34 26.9**	**+0.8**
MDH				S	**Sn**	**10 35 10.1**	**+2.3**
MDH	**Madha**	**3.55**	**131**	P	**Pn**	**10 34 26.1**	**0.0**
SMRA	**Abu-Samra**	**3.67**	**218**	P	**Pn**	**10 34 29.9**	**+2.2**
UOSS	**Minazif**	**3.73**	**136**	P	**Pn**	**10 34 29.1**	**+0.4**
UOSS	**Minazif**	**3.73**	**136**	P	**Pn**	**10 34 28.1**	**-0.6**
HATD	**Hatta, Dubai**	**3.78**	**138**	P	**Pn**	**10 34 30.9**	**+1.5**
HATD	**Hatta, Dubai**	**3.78**	**138**	P	**Pn**	**10 34 28.3**	**-1.0**
KRBR	**Kerman**	**3.80**	**52**	Pn	**Pn**	**10 34 31.6**	**+1.6**
ASHO	**Ashiyiah**	**3.84**	**140**	P	**Pn**	**10 34 31.1**	**+0.9**
SNR=6.9							
ASHO	**Ashiyiah**	**3.84**	**140**	P	**Pn**	**10 34 30.2**	**-0.1**
KHGB	**Koh Gabri**	**3.87**	**45**	Pn	**Pn**	**10 34 31.4**	**+0.6**
IMEH	**Mehriz**	**3.89**	**16**	Pn	**Pn**	**10 34 31.9**	**+0.8**
ALNE	**Al Ain**	**4.20**	**148**	P	**Pn**	**10 34 36.4**	**+1.4**
ALNE	**Al Ain**	**4.20**	**148**	P	**Pn**	**10 34 34.4**	**-0.7**
SOHO	**SOHO**	**4.54**	**140**	P	**Pn**	**10 34 40.4**	**+0.6**
SOHO	**SOHO**	**4.54**	**140**	P	**Pn**	**10 34 38.7**	**-1.1**
ARQ	**Araqi**	**5.18**	**145**	P	**Pn**	**10 34 49.1**	**+0.6**
BSY	**Bisya**	**6.02**	**143**	P	**Pn**	**10 35 00.4**	**+0.3**
SNR=12							
SMDO	**Samad**	**6.26**	**136**	P

12nm,0.3s,baz=245,slow=18,SNR=6.9
PMG Port Moresby 7.82 144 LR LR 10 54 06.1
comp=Z,39nm,19.2s,baz=80,slow=46
WRA Warramunga Arr 18.57 205 P **P** **10 52 24.6 -1.3**
0.3nm,0.3s,baz=29,slow=11,SNR=13
1.6nm,0.6s
ASAR Alice Springs 22.11 201 P **P** **10 53 03.9 -0.3**
0.9nm,0.7s,baz=30,slow=10,SNR=17
0.9nm,0.7s
FITZ Fitzroy Crossi 22.28 227 P **P** **10 53 07.1 +1.0**
1.0nm,0.4s,baz=21,slow=8.6,SNR=6.2
1.0nm,0.4s
H11S3 WAKE ISLAND Hy 32.03 47 T T 11 28 29.2
baz=230,slow=76,SNR=8.9
H11S2 WAKE ISLAND Hy 32.04 47 T T 11 28 27.3
baz=230,slow=76,SNR=6.3
H11S1 WAKE ISLAND Hy 32.05 47 T T 11 28 26.5
baz=230,slow=76,SNR=6.7
JHJ Hachijo jima 2 36.08 356 LR LR 11 09 15.3
comp=Z,51nm,19.1s,baz=93,slow=35
NWAO Narrogin (SRO) 37.98 216 LR LR 11 12 14.8
comp=Z,63nm,19.3s,baz=216,slow=38
MKAR Makanchi Array 72.41 321 P **P** **10 59 35.2 +0.5**
0.3nm,0.8s,baz=112,slow=6.4,SNR=4.4
0.3nm,0.8s
ILAR Eielson Array 84.60 24 P **P** **11 00 41.1 -0.4**
0.3nm,0.8s,baz=268,slow=5.9,SNR=4.6
0.3nm,0.8s
QSPA South Pole Qui 86.88 180 P **P** **11 00 53.3 +0.3**
1.6nm,1.0s,baz=210,slow=1.3,SNR=6.8
1.6nm,1.0s

---

*GCG **15** 10:55:25.8±2.1, 14°.56N×94°.57W, h36km±999km, MD4.8, Hypocentre not reviewed by the ISC*
*IDC **15** 10:55:27.2±3.4, 15°.01N×94°.30W, h0km, mb3.4/2, mbtmp3.4/4, ML2.7/3, Error ellipse: s-maj=49.1km s-min=39.0km az=176.0*
*MEX **15** 10:55:28.3±1.6, 14°.66N×94°.43W, h16km±59km, MD4.3*
ISC 15 10:55:26.7±2.4, 14°.76N±0°.07×94°.42W±0°.03, h16km±15km, n26, σ2§17/44, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.50**	**51**	*e*P	**Pn**	**10 55 52.3**	**-0.6**
PCIG				*i* S	**Sb**	**10 56 09.3**	**-3.6**
CARR	**Arriaga**	**1.56**	**18**	*e*P	**Pn**	**10 55 53.2**	**-0.7**
CARR				*i* S	**Sg**	**10 56 15.3**	**-1.9**
NILT	**Santiago Nilte**	**1.81**	**354**	*e*P	**Pn**	**10 55 56.5**	**-0.7**
NILT				*i* S	**Sn**	**10 56 18.3**	**-1.6**
HUIG	**Huatulco**	**1.92**	**302**	*i* P	**Pn**	**10 55 57.2**	**-1.5**
HUIG				*e*S	**Sn**	**10 56 17.9**	**-4.6**
HUIG	**Huatulco**	**1.92**	**302**	*i* P		10 55 57.1	
HUIG				*i* S		10 56 17.7	
THIG		**2.09**	**86**	*e*P	**Pb**	**10 56 05.2**	**+0.9**
THIG				*i* S	**Sn**	**10 56 27.1**	**+0.3**
CHUJ	**Union Juarez**	**2.26**	**81**	*e*P	**Pn**	**10 56 03.2**	**-0.5**
CHUJ				*i* S	**Sn**	**10 56 26.0**	**-5.4**
CMIG	**Matias Romero**	**2.37**	**349**	Pn	**Pn**	**10 56 05.1**	**+0.1**
	8.4nm,0.3s,baz=170,slow=14,SNR=217						
CMIG				Sn	**Sn**	**10 56 32.4**	**-1.2**
	17nm,0.3s,baz=94,slow=3.8,SNR=13						
	36nm,0.5s						
CMIG	**Matias Romero**	**2.37**	**349**	*e*P	**Pn**	**10 56 05.0**	**+0.1**
CMIG				*i* S	**Sn**	**10 56 30.4**	**-3.3**
TGIG		**2.37**	**32**	*e*P	**Pn**	**10 56 05.9**	**+0.9**
TGIG				*e*S	**Sb**	**10 56 37.6**	**-0.5**
TGIG		**2.37**	**32**	*e*P		10 56 05.9	
UXUV	**UXUV**	**2.56**	**6**	*e*P	**Pn**	**10 56 09.3**	**+1.7**
UXUV				*e*S	**Sn**	**10 56 40.5**	**+2.0**
CCIG	**Comitan**	**2.67**	**55**	*e*P	**Pn**	**10 56 10.9**	**+1.6**
CCIG				*i* S	**Sn**	**10 56 42.0**	**+0.5**
CCIG	**Comitan**	**2.67**	**55**	*e*P		10 56 10.8	
CCIG				*i* S		10 56 44.7	
PEIG	**Puerto Escondi**	**2.91**	**296**	*e*P	**Pn**	**10 56 10.9**	**-1.5**
PEIG				*e*S	Sn	10 56 40.8	-6.2
VHO	**Vista Hermosa**	**3.20**	**316**	*e*P	**Pn**	**10 56 17.5**	**+0.9**
NEUV	**Arroyo Zacate**	**3.23**	**336**	*e*P	**Pn**	**10 56 17.0**	**+0.2**
NEUV				*i* S	**Sn**	**10 56 55.2**	**+0.3**
YOIG	**Yosondua**	**3.66**	**305**	*e*P	**Pn**	**10 56 24.3**	**+1.3**
YOIG				*e*S	**Sn**	**10 57 03.1**	**-3.0**
PNIG	**Pinotepa**	**3.93**	**295**	*i* P	**Pn**	**10 56 26.3**	**-0.1**
PNIG				*i* S	Sn	10 57 06.2	-6.0
TXIG	**Tlaxiaco**	**4.07**	**308**	*e*P	**Pn**	**10 56 29.5**	**+1.0**
TXIG				*i* S	**Sn**	**10 57 14.0**	**-2.0**
TOIG	**Toxpalan**	**4.18**	**323**	*e*P	**Pn**	**10 56 33.1**	**+3.1**
TOIG				*i* S	**Sn**	**10 57 16.5**	**-2.1**
MGIG	**Malinaltepec**	**4.74**	**302**	*e*P	**Pn**	**10 56 39.8**	**+2.0**
MGIG				*i* S	**Sn**	**10 57 29.5**	**-3.1**
FTIG	**Fresnillo de T**	**4.75**	**312**	*e*P	**Pn**	**10 56 40.2**	**+2.5**
FTIG				*i* S	**Sn**	**10 57 30.7**	**-1.9**
TLIG	**Tlapa**	**4.87**	**306**	*e*P	**Pn**	**10 56 41.7**	**+2.3**
TLIG				*i* S	**Sn**	**10 57 32.2**	**-3.4**
PETF	**Flores**	**4.88**	**63**	*i* P		10 56 40.9	
CRIG	**Cruz Grande**	**4.95**	**294**	*e*P	Pn	10 56 36.9	-3.5
CRIG				*i* S	Sn	10 57 29.2	-8.2
TEIG	**Tepich**	**8.00**	**46**	Pn	**Pn**	**10 57 21.8**	**-0.5**
	baz=232,slow=19,SNR=11						
TEIG				Sn	**Sn**	**10 58 49.1**	**-3.4**
	baz=232,slow=19						
TXAR	**Lajitas Array**	**16.84**	**331**	Pn	**Pn**	**10 59 23.6**	**+1.7**
	baz=153,slow=13,SNR=6.5						
	0.7nm,0.9s						
YKA	**Yellowknife Ar**	**49.78**	**348**	P	**P**	**11 04 19.4**	**+1.1**
	0.4nm,0.7s,baz=156,slow=7.7,SNR=6.4						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**61.23**	**337**	P	**P**	**11 05 42.5**	**+1.7**
	0.4nm,0.8s,baz=128,slow=7.4,SNR=5.3						
	0.4nm,0.8s						

---

*IDC **15** 10:57:37.9±0.7, 12°.86S×45°.38E, h0km, mb3.9/10, mbtmp4.0/12, ML4.6/3, MS3.3/7, Error ellipse: s-maj=21.2km s-min=18.4km az=122.0*
*NEIC **15** 10:57:39.0±2.4, 12°.80S±0°.08×45°.4E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=20.3km s-min=13.5km az=266.0*
ISC 15 10:57:38.8±0.5, 12°.87S±0°.07×45°.38E±0°.08, h10km, n43, σ1§37/40, mb4.3/16, MS3.5/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.93**	**163**	Pn	**Pn**	**10 59 07.5**	**+0.6**
	4.6nm,0.3s,baz=338,slow=12,SNR=381						
OPO				LR	LR	11 00 50.7	
	comp=Z,58nm,18.7s,baz=192,slow=32						
ABPO	**Ambohimpanom**	**6.36**	**164**		**Pn**	**10 59 13.0**	**+0.2**
VOI	**Vohitsoka**	**9.09**	**172**		**Pn**	**10 59 50.4**	**+0.2**
FOMA	**Nahampoana Res**	**12.13**	**173**	Pn	**Pn**	**11 00 31.0**	**-0.8**
KIBK	**Kibwezi**	**12.73**	**325**		**Pn**	**11 00 38.7**	**-1.5**
MSEY	**Mahe Island**	**12.88**	**52**	Pn	**Pn**	**11 00 39.0**	**-3.1**
RER	**Riviere de l'E**	**12.89**	**131**		**Pn**	**11 00 41.4**	**-0.8**
KMBO	**Kilima Mbogo**	**14.18**	**325**	Pn	Pn	11 00 51.7	-8.3
LSZ	**Lusaka**	**16.85**	**260**	P	**Pn**	**11 01 34.9**	**-0.1**
LSZ	**Lusaka**	**16.85**	**260**	Pn	**Pn**	**11 01 35.8**	**+0.8**
	0.9nm,0.3s,baz=88,slow=8.5,SNR=20						
LSZ				Sn	Sn	11 04 31.1	-11
	0.4nm,0.3s,baz=22,slow=16,SNR=3.3						
LSZ				LR	LR	11 07 51.3	
	comp=Z,42nm,18.0s,baz=70,slow=36						
	14nm,0.8s						
MATP	**Matopo**	**17.82**	**243**	P	**P**	**11 01 48.0**	**0.0**
	0.3nm,0.3s,baz=64,slow=12,SNR=16						
MATP				S	**Sn**	**11 05 00.2**	**-5.8**
	1.0nm,0.5s,baz=335,slow=16,SNR=1.4						
	7.1nm,0.7s						
LODK	**Lodwar**	**19.00**	**328**	P	**Pn**	**11 02 01.9**	**+0.4**
POGA	**Pongola**	**19.27**	**220**	P	**P**	**11 02 04.2**	**+0.6**
POGA				IAmb	IAmb	11 02 08.9	
	comp=Z,15nm,1.0s						
LBTB	**Lobatse**	**22.23**	**234**	P	**P**	**11 02 35.0**	**-1.0**
LBTB				IAmb	IAmb	11 02 40.0	
	comp=Z,16nm,0.9s						
LBTB	**Lobatse**	**22.23**	**234**	P	**P**	**11 02 36.5**	**+0.6**
	comp=Z,15nm,0.9s,baz=64,slow=9.3,SNR=18						
LBTB				LR	LR	11 11 20.0	
	comp=Z,88nm,20.4s,baz=71,slow=37						
	comp=Z,15nm,0.9s						
BOSA	**Boshof**	**24.42**	**227**	P	**P**	**11 02 58.0**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=57,slow=8.6,SNR=16						
	comp=Z,4.2nm,0.6s						
SOE	**Somerset East**	**26.81**	**219**	P	**P**	**11 03 19.9**	**+0.5**
SUR	**Sutherland**	**29.72**	**225**	P	**P**	**11 03 46.5**	**+1.0**
MMAI	**Mount Meron Ar**	**46.61**	**348**	LR	LR	11 26 18.0	
	comp=Z,27nm,18.2s,baz=177,slow=37						
TORD	**Torodi Ar. Bea**	**50.44**	**299**	P	**P**	**11 06 38.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=119,slow=5.1,SNR=1.9						
	comp=Z,0.2nm,0.5s						
GNI	**Garni**	**52.75**	**359**	LR	LR	11 29 20.1	
	comp=Z,58nm,20.1s,baz=222,slow=36						
MANT	**Manisa**	**53.46**	**344**	P	**P**	**11 07 00.2**	**+0.8**
SIMJ	**Simiganj**	**55.82**	**22**	P	**P**	**11 07 18.6**	**+2.1**
SIMJ				IAmb	IAmb	11 07 31.1	
	comp=Z,4.1nm,0.9s						
CHGR	**Chuyangaron**	**55.88**	**22**	P	**P**	**11 07 15.8**	**-1.0**
CHGR				IAmb	IAmb	11 07 27.4	
	comp=Z,11nm,1.1s						
KK31	**Karatay Array**	**60.27**	**21**	P	**P**	**11 07 48.4**	**+0.9**
KK31				IAmb	IAmb	11 07 56.4	
	comp=Z,3.4nm,1.1s						
KKAR	**Karatay Array**	**60.27**	**21**	P	**P**	**11 07 48.3**	**+0.8**
AAK	**Ala-Archa**	**61.36**	**24**	LR	LR	11 34 02.7	
	comp=Z,33nm,18.3s,baz=313,slow=36						
ABKAR	**Akbulak array**	**63.18**	**11**	P	**P**	**11 08 07.2**	**+0.3**
ABKAR				IAmb	IAmb	11 08 15.3	
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**67.54**	**338**	P	**P**	**11 08 36.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=145,slow=3.6,SNR=3.4						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**67.98**	**26**	P	**P**	**11 08 37.5**	**-0.6**
MK31				IAmb	IAmb	11 08 48.7	
	comp=Z,2.8nm,1.4s						
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**11 08 37.4**	**-0.7**
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**11 08 39.1**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=223,slow=6.6,SNR=7.1						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**69.06**	**16**	P	**P**	**11 08 44.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=204,slow=3.3,SNR=4.1						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**69.53**	**321**	P	**P**	**11 08 48.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=116,slow=5.3,SNR=5.8						
	comp=Z,0.6nm,0.6s						
QSPA	**South Pole Qui**	**77.22**	**180**	P	**P**	**11 09 32.6**	**-0.4**
QSPA	**South Pole Qui**	**77.22**	**180**	P	**P**	**11 09 34.8**	**+1.8**
	comp=Z,5.5nm,1.1s,baz=230,slow=3.3,SNR=5.9						
	comp=Z,5.5nm,1.1s						
ASAR	**Alice Springs**	**83.61**	**113**	P	**P**	**11 10 07.2**	**-0.9**
ASAR	**Alice Springs**	**83.61**	**113**	P	**P**	**11 10 08.7**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=265,slow=4.7,SNR=20						
ASAR				LR	LR	11 41 55.2	
	comp=Z,32nm,21.1s,baz=253,slow=32						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**83.61**	**113**	P	**P**	**11 10 08.0**	**-0.1**
WRA	**Warramunga Arr**	**84.74**	**109**	P	**P**	**11 10 13.8**	**0.0**
WRA	**Warramunga Arr**	**84.74**	**109**	P	**P**	**11 10 14.5**	**+0.6**
	comp=Z,2.0nm,1.1s,baz=261,slow=3.5,SNR=8.2						
	comp=Z,2.0nm,1.1s						
WRAB	**Tennant Creek**	**84.75**	**109**	P	**P**	**11 10 13.5**	**-0.4**
WRAB				IAmb	IAmb	11 10 24.8	
	comp=Z,5.4nm,1.2s						
TXAR	**Lajitas Array**	**146.94**	**305**	PKPbc	**PKPbc**	**11 17 21.9**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=105,slow=3.9,SNR=6.2						

STR 15 10:59:41.1±0.7, 48°N±6°×°±°, h0km, MLv1.5/2, Error ellipse: s-maj=0.0km s-min=0.0km az=21.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.20**	**111**	Sg	Sg	10 59 50.9	+3.4
ECH	**Echery**	**0.20**	**111**	Pg	Pg	10 59 46.9	+2.0
ECH				Sg	Sg	10 59 50.9	+3.4
XAFF	**Xaffevillers**	**0.21**	**305**	Sg	Sg	10 59 47.9	+0.2
XAFF	**Xaffevillers**	**0.21**	**305**	Pg	Pg	10 59 45.2	+0.2
XAFF				Sg	Sg	10 59 47.9	+0.2
WLS	**Welschbruch**	**0.34**	**69**	Pg	Pg	10 59 47.8	+0.1
WLS				Sg	Sg	10 59 52.5	+0.4
WALT	**Westhalten**	**0.42**	**140**	Pg	Pg	10 59 49.5	+0.4
VOGT	**Vogtsburg - To**	**0.57**	**111**	Pg	Pb	10 59 54.9	+0.9
ILLF	**Illfurth**	**0.66**	**157**	Pg	Pg	10 59 53.3	-0.4

STR 15 10:59:43.8±0.5, 46°N±3°×°±°, h0km, MLv1.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=20.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSB	**Saint Sauveur**	**0.29**	**199**	Pg	Pg	10 59 49.4	0.0
SSB				Sg	Sg	10 59 53.6	+0.4
COLF	**Collangettes**	**0.69**	**267**	Pg	Pg	10 59 56.6	-0.5
COLF				Sg	Sg	11 00 07.3	+1.2
OG35	**Corcelles**	**0.79**	**52**	Pg	Pg	10 59 58.2	-0.7
PLDF	**La Plantade**	**0.85**	**300**	Pg	Pg	10 59 59.1	-0.9
PLDF				Sg	Sg	11 00 11.2	+0.2
OGMY	**Moye**	**0.91**	**69**	Pg	Pg	11 00 00.7	-0.5
LBL	**Lubilhac**	**1.06**	**253**	Pg	Pg	11 00 03.1	-1.0
LBL				Sg	Sg	11 00 17.7	-0.2
ORIF	**Oris-en-Rattie**	**1.06**	**127**	Pg	Pg	11 00 04.0	-0.1

---

*IDC **15** 11:07:48.2±1.4, 30°.30N×87°.57E, h0km, mb3.8/12, mbtmp3.8/14, ML4.0/2, MS3.2/4, Error ellipse: s-maj=29.7km s-min=26.2km az=165.0*
ISC 15 11:07:53.0±1.0, 30°.3N±0°.1×87°.7E±0°.1, h35km, n18, σ1§15/15, mb3.7/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.64**	**136**	Pn	**Pn**	**11 11 29.7**	**-1.2**
	0.5nm,0.3s,baz=328,slow=14,SNR=9.3						
CMAR				LR	LR	11 19 16.1	
	comp=Z,14nm,18.2s,baz=190,slow=44						
	0.5nm,0.3s						
AAK	**Ala-Archa**	**16.20**	**323**	LR	LR	11 18 29.6	
	comp=Z,81nm,18.8s,baz=97,slow=40						
MKAR	**Makanchi Array**	**16.98**	**347**	Pn	**Pn**	**11 11 46.1**	**-1.6**
	0.2nm,0.3s,baz=156,slow=12,SNR=11						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**21.41**	**344**	P	**P**	**11 12 36.0**	**-1.7**
	2.5nm,1.1s,baz=157,slow=11,SNR=11						
	2.5nm,1.1s						
SONM	**Songino Array**	**22.66**	**34**	P	**P**	**11 12 52.2**	**+0.9**
	1.2nm,0.9s,baz=229,slow=11,SNR=6.9						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**23.71**	**356**	P	**P**	**11 13 02.8**	**+1.2**
	0.7nm,0.3s,baz=186,slow=10,SNR=5.4						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**25.97**	**336**	P	**P**	**11 13 22.1**	**-0.1**
	1.9nm,0.6s,baz=278,slow=39,SNR=1.4						
	1.9nm,0.6s						
KBZ	**Khabaz**	**37.71**	**303**	LR	LR	11 32 38.8	
	comp=Z,70nm,19.1s,baz=90,slow=40						
KLR	**Kul'dur**	**38.16**	**48**	P	**P**	**11 15 09.5**	**+0.6**
	0.8nm,0.7s,baz=266,slow=15,SNR=1.9						
	0.8nm,0.7s						
OBN	**Obninsk**	**43.69**	**320**	LR	LR	11 37 27.7	
	comp=Z,102nm,18.7s,baz=264,slow=41						
BRTR	**Keskin Array B**	**44.64**	**297**	P	**P**	**11 16 04.1**	**+1.7**
	0.5nm,0.5s,baz=85,slow=6.1,SNR=1.8						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**47.51**	**313**	P	**P**	**11 16 23.3**	**-1.3**
	0.1nm,0.3s,baz=79,slow=7.1,SNR=4.6						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**50.34**	**327**	P	**P**	**11 16 46.0**	**-0.2**
	3.3nm,1.0s,baz=95,slow=8.6,SNR=4.5						
	3.3nm,1.0s						
ARCES	**ARCESS Array B**	**52.25**	**337**	P	**P**	**11 17 00.7**	**+0.3**
	5.3nm,0.9s,baz=107,slow=8.2,SNR=10						
	5.3nm,0.9s						
HFS	**Hagfors**	**56.33**	**325**	P	**P**	**11 17 30.9**	**+0.7**
	1.7nm,0.6s,baz=100,slow=7.5,SNR=5.2						
	1.7nm,0.6s						
NOA	**NORSAR Array B**	**57.49**	**326**	P	**P**	**11 17 37.6**	**-0.9**
	1.1nm,0.8s,baz=84,slow=7.0,SNR=2.3						
	1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.04**	**279**	P	**P**	**11 19 59.9**	**+0.4**
	0.4nm,0.4s,baz=53,slow=4.6,SNR=5.1						
	0.4nm,0.4s						
SIV	**San Ignacio**	**148.03**	**289**	PKPbc	**PKPbc**	**11 27 35.8**	**+0.3**
	0.8nm,0.2s,baz=69,slow=8.6,SNR=6.8						

DJA 15 11:20:09.1±0.7, 1°S±3°×12°0E±°, h27km±8km, M3.5/11, MLv3.5/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.54**	**347**	P	Pn	11 20 20.7	-0.3
TTSI	**Tana Toraja**	**1.61**	**185**	P	Pn	11 20 35.1	-0.7
SPSI	**Sidrap Palu**	**2.52**	**184**	P	Pn	11 20 47.8	-0.6
MRSI	**Marisa**	**2.74**	**46**	P	Pn	11 20 50.2	-1.1
MRSI				S	Sn	11 21 23.1	-0.5
LUWI	**Luwuk**	**2.84**	**82**	P	Pn	11 20 52.1	-0.6
LUWI				S	Sn	11 21 27.0	+1.0
BKB	**Balikpapan**	**3.07**	**273**	P	Pn	11 20 56.1	+0.3
BKSI	**Bulukumba**	**3.87**	**178**	P	Pn	11 21 06.8	-0.1
BSSI	**Bau Bau, Buton**	**4.71**	**174**	P	Pn	11 21 18.3	-0.2
MMRI	**Maumere**	**7.51**	**162**	P	Pn	11 21 57.7	+0.8

---

*MOS **15** 11:28:41.8±1.2, 54°.29N×86°.13E, h8km, mb4.3/3, Error ellipse: s-maj=8.9km s-min=6.9km az=76.2*
*ASRS **15** 11:28:41.6, 54°.3N±0°.9×86°.1E±0°.9, h5km, MLh4.1/12, confirmed*
*NNC **15** 11:28:42.5±2.1, 54°.26N×86°.11E, h0km, mb4.7, mpv4.0, Error ellipse: s-maj=19.6km s-min=13.6km az=171.0, Suspected Mining explosion.*
*IDC **15** 11:28:43.5±1.4, 54°.28N×86°.09E, h0km, mb3.4/1, mbtmp4.0/6, ML3.8/5, Error ellipse: s-maj=12.5km s-min=11.4km az=108.0*
ISC 15 11:28:42.0±0.5, 54°.30N±0°.02×86°.12E±0°.02, h0km, n90, σ1§78/130, mb3.8/5, 18C-14D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJR2	**Bachatsky-2, K**	**0.02**	**173**	⇑P	**Pg**	**11 28 43.1**	**+0.7**
BJR2				S	**Sg**	**11 28 43.5**	**+0.8**
BJR1	**Bachatsky 1, K**	**0.08**	**216**	⇑P	**Pg**	**11 28 44.3**	**+0.7**
BJR1				S	**Sg**	**11 28 45.6**	**+1.0**
BJR3	**Bachatsky-3 (S**	**0.08**	**166**	⇓P	**Pg**	**11 28 44.0**	**+0.4**
BJR3				S	**Sg**	**11 28 45.2**	**+0.6**
POMOR	**Pomortsevo, Ku**	**0.26**	**66**	⇑P	**Pg**	**11 28 45.9**	**-1.1**
POMOR				S	**Sg**	**11 28 50.5**	**+0.2**
POMOR	**Pomortsevo, Ku**	**0.26**	**66**	PG	**Pg**	**11 28 45.9**	**-1.1**
SALR	**Pechorkino, Sa**	**0.27**	**295**	⇓P	**Pg**	**11 28 48.4**	**+1.2**
SALR				S	**Sg**	**11 28 53.3**	**+2.6**
SALR	**Pechorkino, Sa**	**0.27**	**295**	PG	**Pg**	**11 28 48.6**	**+1.4**
SALR						11 28 52.4	
VCHU	**Verkh-Chumysh,**	**0.40**	**152**	⇓P	**Pg**	**11 28 50.0**	**+0.3**
VCHU				S	**Sg**	**11 28 56.5**	**+1.7**
VCHU	**Verkh-Chumysh,**	**0.40**	**152**	PG	**Pg**	**11 28 50.1**	**+0.5**
VCHU						11 28 54.8	
KOTO	**Kotino, Kuzbas**	**0.48**	**104**	P	**Pb**	**11 28 52.7**	**-0.7**
KOTO				S	**Sb**	**11 29 00.9**	**-0.1**
KOTO	**Kotino, Kuzbas**	**0.48**	**104**	PG	**Pb**	**11 28 52.9**	**-0.5**
KOTO						11 29 00.3	
ZAA0	**Zalesovo Array**	**0.85**	**246**	⇑P	**Pg**	**11 28 58.2**	**-0.1**
	2.7nm,0.2s						
ZAA0				⇓S	**Sg**	**11 29 10.3**	**+1.2**
	40nm,0.4s						
ZALV	**Zalesovo Beam**	**0.85**	**246**	Pg	**Pg**	**11 28 58.2**	**0.0**
	27nm,0.3s,baz=65,slow=16,SNR=154						
ZALV				Lg	Lg	11 29 10.1	
	177nm,0.3s,baz=66,slow=27,SNR=63						
KEM	**Kemerovo**	**1.04**	**359**	P	**Pg**	**11 29 03.0**	**+1.0**
KEM				S	**Sn**	**11 29 19.0**	**-0.2**
KEM	**Kemerovo**	**1.04**	**359**	PG	**Pb**	**11 29 03.4**	**+0.5**
KEM						11 29 19.0	
ELT	**Eltsovka**	**1.05**	**176**	P	**Pg**	**11 29 01.3**	**-0.7**
ELT				S	**Sg**	**11 29 15.0**	**-0.6**
ELT	**Eltsovka**	**1.05**	**176**	PG	**Pg**	**11 29 01.7**	**-0.4**
ELT						11 29 16.1	
TAIL	**Tailep, Kuzbas**	**1.07**	**143**	P	**Pg**	**11 29 02.3**	**-0.1**
TAIL				S	**Sb**	**11 29 18.2**	**+0.3**
KALT3	**Kaltan 3**	**1.11**	**135**	P	**Pg**	**11 29 03.5**	**+0.2**
KALT3				S	**Sb**	**11 29 19.1**	**0.0**
MALIN	**Malinovka, Kuz**	**1.12**	**142**	P	**Pb**	**11 29 04.2**	**0.0**
KALT2	**Kaltan 2**	**1.15**	**141**	P	**Pg**	**11 29 04.1**	**0.0**
KALT2				S	**Sb**	**11 29 20.5**	**+0.2**
KALT1	**Kaltan 1**	**1.18**	**139**	P	**Pg**	**11 29 04.5**	**0.0**
KALT1				S	**Sb**	**11 29 21.3**	**+0.3**
KIYZ	**Kiyzas, Kuzbas**	**1.22**	**127**	P	**Pg**	**11 29 05.2**	**-0.2**
KIYZ				S	**Sb**	**11 29 22.1**	**-0.2**
BALAH	**Balakhonka, Ku**	**1.31**	**357**	P	**Pg**	**11 29 07.6**	**+0.4**
BALAH				S	**Sb**	**11 29 25.8**	**+0.9**
KHAR	**Kharino, NSO,**	**1.51**	**283**	P	**Pn**	**11 29 10.4**	**+0.1**
KHAR				S	**Sn**	**11 29 30.7**	**+0.1**
KHAR	**Kharino, NSO,**	**1.51**	**283**	PG	**Pn**	**11 29 11.5**	**+1.2**
KHAR						11 29 32.5	
LUZB	**Luzhba, Kemero**	**1.76**	**110**	P	**Pn**	**11 29 14.2**	**+0.4**
LUZB				S	**Sn**	**11 29 37.4**	**+0.4**
LUZB	**Luzhba, Kemero**	**1.76**	**110**	PN	**Pn**	**11 29 14.3**	**+0.5**
NVSII	**Novosibirsk**	**1.76**	**289**	⇑P	**Pn**	**11 29 15.4**	**+1.6**
NVSII				S	**Sn**	**11 29 37.8**	**+0.9**
NVS	**Novosibirsk**	**1.77**	**289**	⇑P	**Pn**	**11 29 15.4**	**+1.6**
NVS				S	**Sn**	**11 29 37.9**	**+1.0**
NVS	**Novosibirsk**	**1.77**	**289**	PN	**Pn**	**11 29 15.2**	**+1.4**
NVS						11 29 39.9	
ASR1	**Anjero-Sudjens**	**1.77**	**358**	P	**Pn**	**11 29 13.4**	**-0.5**
ASR1				S	**Sg**	**11 29 39.9**	**+1.0**
BRCR	**Berchikul'**	**1.84**	**43**	⇑P	**Pn**	**11 29 15.3**	**+0.3**
B

2.9nm,0.4s,baz=28,slow=29,SNR=6.7
MK31 ⇑Lg Lg 11 32 48.3
34nm,0.9s,baz=25,slow=28,SNR=15
MK31 Makanchi Array 7.90 200 *d* iP **Pn 11 30 40.1 +1.9**
MKAR Makanchi Array 7.90 200 Pn **Pn 11 30 40.2 +2.1**
7.4nm,0.3s,baz=25,slow=14,SNR=310
MKAR Sn **Sn 11 32 07.8 -0.5**
2.3nm,0.3s,baz=28,slow=29,SNR=7.8
MKAR Lg Lg 11 32 46.8
1.4nm,0.3s,baz=24,slow=24,SNR=12
17nm,0.4s
MKAR Makanchi Array 7.90 200 P **Pn 11 30 40.0 +1.9**
MKAR S **Sn 11 32 07.3 -0.9**
MAKZ Makanchi 7.95 201 P **Pn 11 30 40.8 +1.9**
MAKZ S **Sn 11 32 08.0 -1.5**
MAKZ Makanchi 7.95 201 *i* P **Pn 11 30 40.5 +1.7**
MAKZ pmax pmax
comp=Z,7.0nm,0.5s
BVAR Borovoye Array 9.43 269 Pn **Pn 11 30 60.0 +1.0**
comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=28
BVAR Sn **Sn 11 32 40.4 -5.3**
comp=Z,0.8nm,0.3s,baz=69,slow=26,SNR=18
comp=Z,6.7nm,0.4s
BVAR Borovoye Array 9.43 269 P **Pn 11 31 00.0 +1.0**
BRVK Borovoye 9.48 269 P **Pn 11 31 00.2 +0.4**
BRVK S **Sn 11 32 40.7 -6.3**
BRVK Borovoye 9.48 269 ⇑ *i* P **Pn 11 31 01.2 +1.5**
KAPS Kapalarasan 10.03 209 Pg Pn 11 31 44.5 +37
comp=Z,0.7nm,0.1s
KAPS Lg Lg 11 33 55.9
comp=Z,7.3nm,0.4s
OTUK Ortayu 10.54 240 *i* P **Pn 11 31 14.3 0.0**
OTUK pmax pmax
comp=Z,1.0nm,0.2s
DJR Jarkent 10.80 205 Pg Pn 11 31 59.6 +42
comp=Z,0.5nm,0.2s
DJR Lg Lg 11 34 22.1
comp=Z,3.2nm,0.8s
BLB Baldybastay 11.37 209 Pg Pn 11 32 09.2 +44
comp=Z,4.7nm,0.4s
BLB Lg Lg 11 34 40.6
comp=Z,8.9nm,0.7s
AAK Ala-Archa 13.97 218 Pn **Pn 11 32 01.0 -0.2**
comp=Z,0.2nm,0.3s,baz=18,slow=18,SNR=7.2
AAK Lg Lg 11 36 05.2
comp=Z,0.1nm,0.3s,baz=44,slow=24,SNR=4.2
comp=Z,2.1nm,0.7s
AAK Ala-Archa 13.97 218 ⇓ *i* P **Pn 11 32 01.7 +0.5**
SONM Songino Array 14.27 109 Lg Lg 11 36 09.9
comp=Z,0.2nm,0.3s,baz=294,slow=32,SNR=5.3
ULN Ulaanbaatar 14.62 108 ⇓ *e* P **Pn 11 32 12.4 +2.3**
ULN pmax pmax
comp=Z,6.0nm,1.6s
ARTI Arti 15.87 289 Sn **Sn 11 35 22.5 -0.4**
comp=Z,0.4nm,0.3s,baz=6.1,slow=22,SNR=3.6
AKTO Aktyubinsk 17.54 269 P **Pn 11 32 49.0 +1.4**
comp=Z,0.2nm,0.3s,baz=58,slow=14,SNR=3.7
AKTO S **Sn 11 35 55.2 -8.2**
comp=Z,0.5nm,0.3s,baz=282,slow=15,SNR=1.4
comp=Z,1.0nm,0.5s
XLT XiLinHaoTe 22.04 106 *e* P P 11 33 23.3 -15
XLT pmax pmax
comp=Z,6.0nm,1.7s
BELG Belogornoye 22.87 281 ⇓ *e* P **P 11 33 46.1 -0.6**
BELG pmax pmax
comp=Z,8.0nm,3.0s
ZEA Zeya 23.93 74 ⇓ *e* P **P 11 33 57.1 -0.3**
OBN Obninsk 28.16 292 *e* P **P 11 34 34.5 -1.1**
OBN *e* 11 35 23.6
OBN *e* PPP PPP 11 35 33.4
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,59nm,10.0s
KLR Kul'dur 28.29 81 ⇓ *e* P **P 11 34 34.3 -2.6**
KLR pmax pmax
comp=Z,11nm,2.5s
USA0B Ussuriysk Arra 31.08 90 ⇓ *e* P **P 11 35 00.2 -1.4**
ILAR Eielson Array 54.48 25 P **P 11 38 10.7 -0.1**
comp=Z,0.3nm,0.6s,baz=324,slow=5.9,SNR=4.1
comp=Z,0.3nm,0.6s

TRN 15 11:29:22.6, 16.72N×60.78W, h25km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.00**	**289**	*e*P	Pb	11 29 42.1	+0.8
ANBD				*e*S	Sn	11 29 57.2	+2.8
ANBD	**Bethesda, Anti**	**1.00**	**289**	*e*P	Pb	11 29 42.1	+0.8
ANBD				*e*S	Sn	11 29 57.2	+2.8
TBG	**Guadaloupe-3**	**1.20**	**224**	*e*P	Pb	11 29 45.7	+1.1
TBG				*e*S	Sb	11 30 02.4	+2.7
TBG	**Guadaloupe-3**	**1.20**	**224**	*e*P	Pb	11 29 45.7	+1.1
TBG				*e*S	Sb	11 30 02.4	+2.7
ANWB	**Willy Bob**	**1.35**	**315**	*e*P	Pb	11 29 47.1	-0.1
ANWB				*e*S	Sb	11 30 05.3	+1.2
ANWB	**Willy Bob**	**1.35**	**315**	*e*P	Pb	11 29 47.1	-0.1
ANWB				*e*S	Sb	11 30 05.3	+1.2
MBWH		**1.36**	**271**	*e*P	Pb	11 29 48.5	+1.2
MBWH				*e*S	Sb	11 30 06.0	+1.8
MBWH		**1.36**	**271**	*e*P	Pb	11 29 48.5	+1.2
MBWH				*e*S	Sb	11 30 06.0	+1.8
MBFL	**Flemmings, Mon**	**1.38**	**271**	*e*P	Pb	11 29 48.8	+1.2
MBFL				*e*S	Sb	11 30 06.0	+1.1
MBFL	**Flemmings, Mon**	**1.38**	**271**	*e*P	Pb	11 29 48.8	+1.2
MBFL				*e*S	Sb	11 30 06.0	+1.1
DSLB	**Salisbury**	**1.42**	**206**	*e*P	Pb	11 29 48.0	-0.3
DSLB				*e*S	Sb	11 30 06.5	+0.5
DSLB	**Salisbury**	**1.42**	**206**	*e*P	Pb	11 29 48.0	-0.3
DSLB				*e*S	Sb	11 30 06.5	+0.5

TXNET 15 11:31:54.1, 31.7N±0.7×104.4W±, h7km±1km, ML2.2/10, Error ellipse: s-maj=1.7km s-min=0.9km az=63.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.33**	**29**	P	Pg	11 32 01.3	+0.7
TPB11				S	Sg	11 32 05.9	+0.9
PECS	**Pecos**	**0.41**	**132**	P	Pn	11 32 06.6	+0.1
PECS	**Pecos**	**0.41**	**132**	P	Pb	11 32 02.9	-0.7
PECS				S	Sg	11 32 08.6	+1.2
TPB07	**Mentone**	**0.48**	**98**	P	Pg	11 32 03.9	+0.6
TPB07				S	Sb	11 32 11.0	-1.1
TPB12	**Southwest of T**	**0.49**	**152**	P	Pg	11 32 03.5	0.0
TPB12	**Southwest of T**	**0.49**	**152**	P	Pg	11 32 03.5	0.0
TPB12				S	Sg	11 32 10.4	+0.6
TPB10	**Southeast of T**	**0.54**	**132**	P	Pb	11 32 05.2	-0.7
TPB10	**Southeast of T**	**0.54**	**132**	P	Pb	11 32 05.2	-0.7
TPB10				S	Sb	11 32 13.0	-0.8
GDL2	**Guadalupe Moun**	**0.57**	**348**	P	Pg	11 32 05.7	+0.6
PCOS	**Crockett Middl**	**0.65**	**111**	S	Sb	11 32 17.0	-0.1
CLNB	**Carlsbad**	**0.68**	**25**	P	Pb	11 32 08.6	+0.2
CLNB				S	Sb	11 32 18.1	0.0
TPB01	**Permian Basin**	**0.80**	**151**	P	Pg	11 32 09.6	+0.2
TPB01	**Permian Basin**	**0.80**	**151**	P	Pg	11 32 09.5	+0.1
TPB01				S	Sg	11 32 20.0	+0.3
TPB03	**Saragosa**	**0.83**	**133**	P	Pb	11 32 10.9	+0.1
TPB03				S	Sb	11 32 22.1	-0.1
CLN7	**Carlsbad 7**	**0.84**	**25**	P	Pg	11 32 10.5	+0.3
TPB06	**Permian Basin**	**0.86**	**90**	P	Pn	11 32 18.0	+5.3
TPB06	**Permian Basin**	**0.86**	**90**	S	Sg	11 32 22.3	+0.6
TPB04	**Verhalen**	**0.94**	**119**	P	Pb	11 32 12.6	0.0
HTMS	**Hat Mesa**	**0.96**	**31**	S	Sb	11 32 26.3	+0.1
MNTX	**Cornudas Mount**	**0.99**	**273**	P	Pg	11 32 13.3	+0.2
MNTX				S	Sg	11 32 26.1	+0.2
NM01	**Eunice**	**0.99**	**45**	S	Sb	11 32 27.3	+0.2
TPB05	**Hovey Rd**	**1.06**	**133**	P	Pb	11 32 14.7	0.0
TPB05	**Hovey Rd**	**1.06**	**133**	P	Pg	11 32 14.5	+0.1
TPB05				S	Sb	11 32 28.8	0.0
VHRN	**Van Horn**	**1.08**	**218**	P	Pg	11 32 14.5	-0.2
VHRN				S	Sb	11 32 29.4	0.0
MNHN	**Monahans**	**1.28**	**103**	P	Pn	11 32 18.1	-0.4
TPB08	**Permian Basin**	**1.35**	**123**	S	Sn	11 32 38.0	+0.3
ALPN	**Alpine**	**1.36**	**158**	P	Pn	11 32 19.2	-0.4
ALPN	**Alpine**	**1.36**	**158**	P	Pn	11 32 19.2	-0.5
ALPN				S	Sb	11 32 37.1	-0.6
CPRX	**Cap Rock**	**1.41**	**12**	P	Pb	11 32 21.0	+0.1
ODSA	**Odessa**	**1.50**	**71**	P	Pb	11 32 22.0	-0.3
ODSA				S	Sb	11 32 41.7	+0.1
TMB04	**Seminole**	**1.77**	**56**	P	Pb	11 32 26.7	-0.2
TMB04				S	Sg	11 32 50.9	0.0
TMB02	**Rankin**	**1.92**	**103**	P	Pb	11 32 29.2	-0.3
TMB02				S	Sb	11 32 54.3	+0.6
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	11 32 35.2	-1.7
TX31				S	Sb	11 33 04.8	-1.4
SAND	**Sanderson**	**2.47**	**132**	P	Pb	11 32 37.1	-1.7

NEIC ***15*** *11:46:26.9±1.3, 17.1S±0.3×178.6W±0.2, h569km±18km, mb4.3/14, Error ellipse: s-maj=42.8km s-min=22.0km az=173.0*
IDC ***15*** *11:46:26.2±1.8, 17.86S×178.39W, h557km±12km, mb3.4/5, mbtmp4.3/7, Error ellipse: s-maj=29.5km s-min=19.0km az=87.0*
ISC 15 11:46:26.1±0.8, 17.7S±0.1×178.5W±0.1, h547km, n24, σ1§68/27, mb4.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**269**	P	**P**	**11 47 44.2**	**+1.4**
MSVF	**Nonsavu**	**3.29**	**269**	P	**P**	**11 47 44.8**	**+2.0**
MSVF				S	**S**	**11 48 48.3**	**+3.1**
AFI	**Afiamalu**	**7.50**	**61**	P	**P**	**11 48 18.4**	**-0.5**
DZM	**Mont Dzumac**	**14.80**	**251**	P	**P**	**11 49 35.8**	**+2.0**
DZM	**Mont Dzumac**	**14.80**	**251**	P	**P**	**11 49 33.2**	**-0.6**
URZ	**Urewera**	**20.82**	**190**	P	**P**	**11 50 27.9**	**-1.7**
URZ				S	**S**	**11 53 43.5**	**-3.1**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**11 51 43.4**	**-0.9**
ARMA	**Armidale**	**29.96**	**239**	P	**P**	**11 51 50.8**	**+0.3**
COEN	**Coen**	**37.01**	**270**	P	**P**	**11 52 48.7**	**-1.3**
COEN				IAmb	IAmb	11 52 50.2	
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**11 53 03.4**	**+0.4**
STKA				IAmb	IAmb	11 53 04.6	
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**11 53 04.1**	**+1.1**
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**11 53 40.6**	**-0.3**
BBOO				IAmb	IAmb	11 53 42.5	
WB0	**Warramunga Arr**	**44.54**	**260**	P	**P**	**11 53 48.2**	**-1.6**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**11 53 47.8**	**-2.3**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**11 53 48.6**	**-1.5**
AS31	**Alice Springs**	**44.76**	**254**	P	**P**	**11 53 50.8**	**-0.6**
AS31				IAmb	IAmb	11 53 51.7	
ASAR	**Alice Springs**	**44.76**	**254**	P	**P**	**11 53 51.2**	**-0.2**
ASAR				PcP	**PcP**	**11 55 22.9**	**+1.0**
MTN	**Manton Dam**	**48.71**	**268**	P	**P**	**11 54 19.5**	**-1.9**
MTN				IAmb	IAmb	11 54 56.2	
FORT	**Forrest**	**50.01**	**244**	P	**P**	**11 54 30.0**	**-0.7**
FORT				IAmb	IAmb	11 54 30.9	
FITZ	**Fitzroy Crossi**	**52.97**	**260**	P	**P**	**11 54 50.8**	**-1.4**
MBWA	**Marble Bar**	**58.03**	**256**	P	**P**	**11 55 26.0**	**-1.4**
MBWA				IAmb	IAmb	11 55 29.6	
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**11 56 59.5**	**+3.1**
QSPA				IAmb	IAmb	11 57 07.0	
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**11 58 06.1**	**-0.8**
SNAA	**Sanae**	**90.79**	**179**	P	**P**	**11 58 32.1**	**+1.3**

UUSS ***15*** *12:02:50.8±1.0, 40.46N±0.01×111.94W±0.01, h9km±7km, ML3.2/16, ML3.2/72(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=214.0*
NEIC ***15*** *12:02:50.8±1.1, 40.480N±0.010×111.957W±0.006, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=303.0*
IDC ***15*** *12:02:51.0±2.1, 40.66N×111.95W, h0km, mb2.8/1, mbtmp3.0/3, ML3.5/2, Error ellipse: s-maj=59.0km s-min=7.2km az=142.0*
ISC 15 12:02:50.9±0.8, 40.48N±0.02×111.95W±0.02, h10km±6km, n82, σ0§78/87, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.02**	**179**		**Pg**	**12 02 52.6**	**-0.4**
CWU	**Camp Williams**	**0.12**	**254**		**Pg**	**12 02 54.0**	**0.0**
GMU	**Granite Mounta**	**0.17**	**56**		**Pg**	**12 02 54.7**	**-0.1**
GMU					**Sg**	**12 02 57.3**	**-0.2**
MHD	**Mile High Driv**	**0.21**	**33**		**Pg**	**12 02 55.6**	**+0.1**
MHD	**Mile High Driv**	**0.21**	**33**		**Sg**	**12 02 59.0**	**+0.4**
NOQ	**North Oquirrh**	**0.21**	**324**		**Pg**	**12 02 56.0**	**+0.5**
NOQ					**Sg**	**12 02 59.4**	**+0.8**
AAU	**Alta**	**0.27**	**65**		**Pg**	**12 02 56.4**	**-0.1**
HRU	**Hogsback Ridge**	**0.31**	**10**		**Pg**	**12 02 57.7**	**+0.4**
RBU	**Red Butte Cany**	**0.32**	**20**		**Pg**	**12 02 57.5**	**+0.1**
RBU	**Red Butte Cany**	**0.32**	**20**		**Sg**	**12 03 02.3**	**+0.6**
DCU	**Deer Creek Res**	**0.33**	**101**		**Pg**	**12 02 57.5**	**-0.1**
SAIU	**Southern Antel**	**0.41**	**335**		**Pg**	**12 02 59.4**	**+0.3**
WMUT	**West Mountain**	**0.41**	**167**		**Pg**	**12 02 59.1**	**0.0**
LDJ	**Lady**	**0.43**	**76**		**Pg**	**12 02 59.8**	**+0.4**
RCJ	**Ross Creek**	**0.43**	**65**		**Pg**	**12 02 59.5**	**+0.1**
HLJ	**Hailstone**	**0.44**	**73**		**Pg**	**12 02 59.8**	**+0.2**
KLJ	**Keetly**	**0.45**	**70**		**Pg**	**12 02 59.9**	**+0.2**
HEB	**Heber**	**0.47**	**87**		**Pg**	**12 03 00.5**	**+0.3**
MPU	**Maple Canyon**	**0.52**	**152**		**Pg**	**12 03 00.9**	**-0.2**
MPU	**Maple Canyon**	**0.52**	**152**		**Sg**	**12 03 08.4**	**+0.3**
DAU	**Daniels Canyon**	**0.54**	**97**		**Pg**	**12 03 01.6**	**+0.2**
FPU	**Francis Peak**	**0.55**	**9**		**Pg**	**12 03 01.9**	**+0.1**
N16A	**Rees Ranch, Co**	**0.57**	**44**		**Pb**	**12 03 02.6**	**-0.4**
NAIU	**Northern Antel**	**0.58**	**339**		**Pg**	**12 03 02.2**	**+0.1**
SNUT	**Stansbury Nort**	**0.59**	**314**		**Pg**	**12 03 02.4**	**+0.1**
HTU	**Hoyt Peak**	**0.59**	**70**		**Pg**	**12 03 02.9**	**+0.4**
HTU					**Sb**	**12 03 11.4**	**-0.7**
DUG	**Dugway, Tooele**	**0.72**	**247**	Pg	**Pg**	**12 03 04.7**	**0.0**
DUG				Sg	**Sn**	**12 03 17.5**	**-0.8**
TCUT	**Toone Canyon**	**0.76**	**33**		**Pb**	**12 03 05.9**	**-0.5**
TCUT	**Toone Canyon**	**0.76**	**33**		**Pb**	**12 03 06.0**	**-0.4**
LHUT	**Little Humpy P**	**0.84**	**60**		**Pb**	**12 03 07.8**	**0.0**
BSUT	**Blindstream Ca**	**0.91**	**86**	Pg	**Pg**	**12 03 08.3**	**-0.2**
BGU	**Big Grassy Mou**	**0.93**	**299**		**Pg**	**12 03 08.9**	**0.0**
BGU				Sg	**Sb**	**12 03 22.2**	**+0.5**
BGU				IAML		12 03 24.0	
	comp=E,2μm,0.6s						
BGU				IAML		12 03 24.4	
	comp=N,688nm,0.3s						
EPU	**East Promontor**	**0.97**	**339**		**Pg**	**12 03 09.8**	**+0.1**
LEVU	**Levan**	**0.98**	**174**		**Pb**	**12 03 09.3**	**-0.8**
ELU	**Electric Lake**	**1.02**	**145**		**Pb**	**12 03 10.5**	**-0.3**
MCU	**Monte Cristo P**	**1.04**	**19**		**Pn**	**12 03 11.4**	**-0.4**
EMUT	**Emma Park**	**1.10**	**127**		**Pb**	**12 03 11.8**	**-0.3**
FLU	**Fool Peak**	**1.11**	**189**		**Pb**	**12 03 11.8**	**-0.6**
HWUT	**Hardware Ranch**	**1.16**	**14**		**Pb**	**12 03 12.8**	**-0.4**
HWUT				IAML		12 03 32.7	
	comp=N,444nm,0.6s						
HWUT				IAML		12 03 35.9	
	comp=N,518nm,0.9s						
SNO	**Snow College**	**1.21**	**165**		**Pb**	**12 03 14.1**	**+0.1**
ARGU	**Argyle Ridge**	**1.26**	**121**		**Pb**	**12 03 15.1**	**+0.1**
DCM	**Dugout Coal Mi**	**1.31**	**126**		**Pn**	**12 03 15.5**	**0.0**
TMUT	**Trail Mountain**	**1.31**	**154**		**Pn**	**12 03 15.5**	**-0.1**
TMUT				IAML		12 03 35.9	
	comp=E,418nm,0.6s						
TMUT				IAML		12 03 38.1	
	comp=N,321nm,0.6s						
HVU	**Hansel Valley**	**1.44**	**335**		**Pn**	**12 03 16.6**	**-0.6**
HVU				IAML		12 03 41.3	
	comp=N,388nm,0.6s						
HVU				IAML		12 03 46.1	
	comp=E,401nm,0.5s						
BCE	**Book Cliffs Ea**	**1.47**	**126**		**Pb**	**12 03 18.3**	**-0.2**
ROA	**Roan Cliffs**	**1.47**	**123**		**Pb**	**12 03 18.4**	**-0.1**
MLI	**Malad Range**	**1.55**	**355**		**Pn**	**12 03 18.6**	**-0.1**
P18A	**Preston Nutter**	**1.56**	**122**		**Pb**	**12 03 20.1**	**+0.1**
P18A				IAML		12 03 43.2	
	comp=N,220nm,0.4s						
P18A				IAML		12 03 50.9	
	comp=E,193nm,0.5s						
Q16A	**Castle Valley**	**1.67**	**159**		**Pn**	**12 03 20.0**	**-0.4**
SRU	**San Rafael Swe**	**1.75**	**141**		**Pn**	**12 03 21.4**	**-0.1**
SRU				IAML		12 03 50.3	
	comp=N,171nm,0.8s						
SRU				IAML		12 03 51.5	
	comp=E,207nm,0.4s						
TCRU	**Three Creeks R**	**1.91**	**192**		**Pn**	**12 03 22.8**	**-0.9**
MSU	**Marysvale**	**1.97**	**185**		**Pn**	**12 03 25.0**	**+0.4**
IMU	**Iron Mountain**	**2.06**	**207**		**Pb**	**12 03 28.5**	**-0.1**
NMUT	**North Mineral**	**2.08**	**200**		**Pg**	**12 03 30.5**	**-0.3**
SPR3	**Spring Creek 3**	**2.35**	**232**		**Pb**	**12 03 33.0**	**-0.7**
SPR3				IAML		12 04 12.2	
	comp=E,83nm,0.5s						
SPR3				IAML		12 04 15.7	
	comp=N,100nm,0.7s						
AHID	**Auburn Hatcher**	**2.37**	**15**		**Pb**	**12 03 32.1**	**-1.8**
PSUT	**Pine Spring**	**2.44**	**218**		**Pn**	**12 03 31.5**	**+0.5**
PSUT				IAML		12 04 18.3	
	comp=N,80nm,0.7s						
MTPU	**Mount Pierson**	**2.44**	**184**		**Pn**	**12 03 32.3**	**+1.1**
ELK	**Elko**	**2.52**	**277**		**Pb**	**12 03 35.6**	**-0.7**
ELK				IAML		12 04 13.8	
	comp=N,104nm,0.3s						
BTU	**Barney Top**	**2.72**	**179**		**Pb**	**12 03 38.8**	**-1.1**
O20A	**White River Ci**	**2.86**	**96**	Pn	**Pn**	**12 03 39.1**	**+2.3**
O20A				IAML		12 04 21.7	
	comp=N,129nm,0.5s						
PD31	**Pinedale Array**	**2.91**	**37**	Pn	**Pn**	**12 03 38.7**	**+1.3**
PDAR	**Pinedale Array**	**2.91**	**37**		**Pn**	**12 03 38.7**	**+1.3**
PDAR	**Pinedale Array**	**2.91**	**37**	Pn	**Pn**	**12 03 37.9**	**+0.5**
	comp=N,1.3nm,0.3s,baz=226,slow=14,SNR=46						
PDAR				Pg	**Pb**	**12 03 42.9**	**-0.1**
	comp=N,7.3nm,0.3s,baz=226,slow=15,SNR=38						
PDAR				Lg	Lg	12 04 18.7	
	comp=N,28nm,0.3s,baz=216,slow=33,SNR=23						
	comp=N,3.4nm,0.3s						
PV23	**Carpenter Ridg**	**3.05**	**131**		**Pn**	**12 03 39.6**	**+0.2**
PV10	**Paradox Valley**	**3.08**	**132**		**Pn**	**12 03 41.6**	**+1.8**
TPAW	**Teton Pass**	**3.10**	**14**		**Pn**	**12 03 39.2**	**-0.9**
TPAW				IAML		12 04 37.5	
	comp=N,56nm,0.7s						
TPAW				IAML		12 04 44.7	
	comp=N,84nm,0.9s						
SNOW	**Snow King Moun**	**3.11**	**16**		**Pn**	**12 03 39.6**	**-0.6**
SNOW				IAML		12 04 34.1	
	comp=N,126nm,0.7s						
SNOW				IAML		12 04 34.3	
	comp=N,101nm,0.7s						
PV11	**David Mesa, Pa**	**3.23**	**131**		**Pn**	**12 03 42.8**	**+1.0**
LOHW	**Long Hollow**	**3.29**	**17**	Pn	**Pn**	**12 03 43.3**	**+0.6**
LOHW				IAML		12 04 36.0	
	comp=N,95nm,0.5s						
LOHW				IAML		12 04 36.1	
	comp=N,59nm,0.4s						
PV13	**Radium Mtn., P**	**3.36**	**133**		**Pn**	**12 03 43.6**	**0.0**
PV13				IAML		12 04 47.5	
	comp=N,81nm,0.6s						
PV13				IAML		12 04 48.9	
	comp=E,121nm,0.5s						
MOOW	**Moose Ponds**	**3.39**	**15**		**Pn**	**12 03 43.9**	**-0.2**
PV15	**Paradox Valley**	**3.43**	**127**	Pn	**Pn**	**12 03 44.7**	**0.0**
HLID	**Hailey**	**3.58**	**330**	Pn	**Pn**	**12 03 46.8**	**+0.1**
MVCO	**Mesa Verde**	**4.23**	**139**	Pn	**Pn**	**12 03 57.2**	**+1.5**
YHL	**Hebgen Lake**	**4.41**	**7**		**Pn**	**12 04 00.2**	**+2.1**
YHL				IAML		12 04 45.4	
	comp=N,18nm,5.0s						
YHL				IAML		12 05 35.2	
	comp=E,21nm,4.2s						
N23A	**Red Feather La**	**4.59**	**83**		**Pn**	**12 04 01.6**	**+1.1**
N23A				IAML		12 05 16.5	
	comp=N,40nm,0.6s						
N23A				IAML		12 05 20.2	
	comp=E,50nm,1.0s						
WUAZ	**Wupatki**	**4.97**	**175**		**Pn**	**12 04 06.2**	**+0.4**
WUAZ				IAML		12 05 30.9	
	comp=E,21nm,0.6s						
WUAZ				IAML		12 05 36.4	
	comp=E,16nm,1.4s						
NVAR	**Mina Array Bea**	**5.32**	**249**	Pn	**Pn**	**12 04 13.7**	**+3.0**
	comp=E,0.7nm,0.3s,baz=50,slow=14,SNR=4.5						
NVAR				Pg	**Pb**	**12 04 26.0**	**+1.8**
	comp=E,0.8nm,0.3s,baz=50,slow=15,SNR=6.2						
NVAR				Lg	Lg	12 05 39.5	
	comp=E,4.1nm,0.3s,baz=67,slow=29,SNR=8.9						
	comp=E,0.9nm,0.4s						
ANMO	**Albuquerque**	**7.03**	**140**	Pg	Pb	12 04 58.7	+5.5
	comp=E,0.3nm,0.3s,baz=138,slow=15,SNR=13						
ANMO				Lg	Lg	12 06 26.7	
	comp=E,0.2nm,0.3s,baz=312,slow=14,SNR=4.3						
NEW	**Newport**	**8.62**	**336**	Lg	Lg	12 07 17.1	
	comp=E,0.1nm,0.3s,baz=322,slow=9.5,SNR=2.0						
YKA	**Yellowknife Ar**	**22.10**	**357**	P	**P**	**12 07 45.0**	**-1.0**
	comp=E,0.4nm,0.8s,baz=178,slow=10,SNR=5.6						
	comp=E,0.4nm,0.8s						

IDC ***15*** *12:09:50.2±0.8, 40.40N×111.72W, h0km, mb3.3/2, mbtmp3.3/8, ML3.2/6, MS2.9/5, Error ellipse: s-maj=13.8km s-min=7.1km az=136.0*
UUSS ***15*** *12:09:51.2±1.1, 40.46N±0.01×111.95W±0.01, h9km±7km, ML3.7/21, ML3.8/86(NEIC), Mwr3.8/23(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=206.0*
NEIC ***15*** *12:09:51.2±0.9, 40.472N±0.010×111.964W±0.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=82.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.93; $M_{\theta\theta}$=0.20; $M_{\phi\phi}$=5.12; $M_{r\theta}$=1.20; $M_{\theta\phi}$=0.03; $M_{r\phi}$=1.35; Fault plane solution: M_0=5.34000×10^{14} NP1:ϕ_s=12.28000°, δ=38.82000°, λ=-69.79000°. NP2: ϕ_s=166.98000°, δ=53.96000°, λ=-105.54000°. Principal axes: T 5.3077, Plg8.0000°, Azm268.0000°; N 0.0681, Plg13.0000°, Azm176.0000°; P -5.3758, Plg75.0000°, Azm29.0000°;*
NEIC ***15*** *12:09:51.3, 40.46N×111.95W, h9km*
ISC 15 12:09:51.8±1.0, 40.47N±0.02×111.95W±0.02, h6km±8km, n100, σ0§82/106, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CWU	**Camp Williams**	**0.12**	**261**		**Pg**	**12 09 54.5**	**+0.1**
GMU	**Granite Mounta**	**0.18**	**52**		**Pg**	**12 09 55.2**	**-0.3**
GMU					**Sg**	**12 09 58.0**	**0.0**
MHD	**Mile High Driv**	**0.23**	**30**		**Pg**	**12 09 56.1**	**-0.3**
MHD	**Mile High Driv**	**0.23**	**30**		**Sg**	**12 09 59.5**	**+0.1**
NOQ	**North Oquirrh**	**0.23**	**326**		**Pg**	**12 09 56.5**	**+0.2**
NOQ					**Sg**	**12 09 59.9**	**+0.5**
AAU	**Alta**	**0.27**	**62**		**Pg**	**12 09 56.8**	**-0.4**
HRU	**Hogsback Ridge**	**0.33**	**9**		**Pg**	**12 09 58.1**	**-0.1**
DCU	**Deer Creek Res**	**0.33**	**99**		**Pg**	**12 09 58.0**	**-0.2**
RBU	**Red Butte Cany**	**0.33**	**19**		**Pg**	**12 09 58.0**	**-0.4**
RBU	**Red Butte Cany**	**0.33**	**

comp=E,2μm,1.0s
BGU Big Grassy Mou 0.94 300 Pg Pg 12 10 09.2 -0.6
BGU Sg Sb 12 10 22.6 -0.9
BGU IAML 12 10 24.6
comp=E,5μm,0.6s
BGU IAML 12 10 26.7
comp=N,2μm,0.9s
LEVU Levan 0.96 174 Pg 12 10 09.7 -0.6
EPU East Promontor 0.99 340 Pg 12 10 10.2 -0.6
ELU Electric Lake 1.00 145 Pb 12 10 10.9 -0.9
MCU Monte Cristo P 1.05 19 Pg 12 10 11.2 -0.8
EMUT Emma Park 1.09 126 Pg 12 10 12.3 -0.4
FLU Fool Peak 1.10 189 Pg 12 10 12.2 -0.6
LTU Little Mountai 1.15 349 Pg 12 10 12.7 -1.1
HWUT Hardware Ranch 1.18 14 Pg 12 10 13.5 -0.9
HWUT Sg Sb 12 10 29.8 -0.5
HWUT IAML 12 10 31.5
comp=N,2μm,0.7s
HWUT IAML 12 10 34.9
comp=N,2μm,0.8s
SNO Snow College 1.19 164 Pb 12 10 14.5 -0.5
RSUT Red Spur Mount 1.24 19 Pg 12 10 14.9 -0.7
ARGU Argyle Ridge 1.26 120 Pb 12 10 15.6 -0.5
TMUT Trail Mountain 1.30 154 Pg 12 10 15.8 -0.9
DCM Dugout Coal Mi 1.30 126 Pg 12 10 16.0 -0.8
DBD Des Bee Dove 1.33 150 Pn 12 10 16.4 -0.8
HVU Hansel Valley 1.45 335 Pn 12 10 17.3 -1.5
HVU IAML 12 10 42.2
comp=E,1μm,0.7s
HVU IAML 12 10 42.2
comp=N,1μm,0.7s
BCE Book Cliffs Ea 1.46 125 Pn 12 10 18.7 -0.3
ROA Roan Cliffs 1.46 123 Pb 12 10 18.8 -0.7
WCU Willow Creek 1.50 184 Pn 12 10 18.5 -1.1
P18A Preston Nutter 1.55 122 Pb 12 10 20.6 -0.6
P18A IAML 12 10 43.7
comp=N,1μm,0.4s
P18A IAML 12 10 45.0
comp=E,844nm,0.5s
MLI Malad Range 1.57 355 Pn 12 10 19.1 -1.2
Q16A Castle Valley 1.66 158 Pn 12 10 20.9 -0.8
OWUT Old Woman Plat 1.73 166 Pn 12 10 22.4 -0.3
SRU San Rafael Swe 1.74 140 Pn 12 10 22.7 -0.1
SRU IAML 12 10 49.8
comp=E,962nm,0.4s
SRU IAML 12 10 51.0
comp=N,817nm,0.5s
TCRU Three Creeks R 1.89 192 Pn 12 10 24.4 -0.5
TCRU IAML 12 10 59.1
comp=E,506nm,0.7s
MSU Marysvale 1.96 185 Pn 12 10 25.3 -0.5
IMU Iron Mountain 2.05 207 Pb 12 10 28.9 -0.8
NMUT North Mineral 2.07 200 Pb 12 10 28.8 -1.1
SPR3 Spring Creek 3 2.35 232 Pb 12 10 32.6 -2.1
SPR3 IAML 12 11 12.7
comp=E,352nm,0.6s
SPR3 IAML 12 11 16.2
comp=N,400nm,0.7s
AHID Auburn Hatcher 2.38 15 Pn 12 10 32.0 +0.3
MTPU Mount Pierson 2.43 184 Pn 12 10 33.0 +0.6
PSUT Pine Spring 2.43 218 Pn 12 10 32.2 0.0
PSUT IAML 12 11 18.9
comp=N,310nm,0.8s
ELK Elko 2.52 277 LR LR 12 11 08.7
comp=N,89nm,20.6s,baz=108,slow=29
O20A White River Ci 2.86 95 Pn **Pn 12 10 39.5 +1.4**
O20A IAML 12 11 40.2
comp=N,666nm,0.9s
PD31 Pinedale Array 2.92 37 Pn 12 10 38.6 -0.5
PDAR Pinedale Array 2.92 37 Pn **Pn 12 10 38.5 -0.5**
comp=N,3.9nm,0.3s,baz=228,slow=14,SNR=69
PDAR Pg **Pb 12 10 43.8 -0.6**
comp=N,16nm,0.3s,baz=232,slow=15,SNR=49
PDAR Lg Lg 12 11 20.9
comp=N,45nm,0.3s,baz=223,slow=30,SNR=16
PDAR LR LR 12 11 48.2
comp=N,82nm,20.6s,baz=321,slow=41
comp=N,8.9nm,0.5s
PV23 Carpenter Ridg 3.04 131 Pn 12 10 40.7 0.0
PV10 Paradox Valley 3.07 132 Pn 12 10 41.0 -0.1
TPAW Teton Pass 3.11 14 Pn 12 10 39.8 -1.9
TPAW IAML 12 11 37.3
comp=N,164nm,1.3s
TPAW IAML 12 11 43.8
comp=N,287nm,0.9s
SNOW Snow King Moun 3.12 16 Pn 12 10 41.5 -0.4
SNOW IAML 12 11 34.5
comp=N,312nm,0.8s
SNOW IAML 12 11 35.2
comp=N,405nm,0.7s
PV11 David Mesa, Pa 3.22 131 Pn 12 10 43.4 +0.3
PV07 Paradox Valley 3.26 127 Pn 12 10 43.2 -0.5
LOHW Long Hollow 3.30 17 Pn 12 10 43.6 -0.7
LOHW IAML 12 11 37.7
comp=N,178nm,0.7s
PV13 Radium Mtn., P 3.35 132 Pn 12 10 44.8 -0.1
PV13 IAML 12 11 36.4
comp=N,354nm,0.6s
PV15 Paradox Valley 3.42 127 Pn **Pn 12 10 45.5 -0.5**
KNB Kanab 3.51 191 Pn 12 10 46.7 -0.4
R11B Troy Canyon, C 3.52 234 Pn 12 10 46.3 -0.9
R11B IAML 12 11 43.2
comp=N,113nm,0.7s
HLID Hailey 3.60 330 Pn **Pn 12 10 48.4 +0.1**
FLWY Flagg Ranch 3.73 14 Pn 12 10 50.0 -0.1
FLWY IAML 12 11 55.3
comp=N,94nm,1.1s
FLWY IAML 12 11 58.4
comp=N,116nm,1.4s
MVCO Mesa Verde 4.22 139 Pn **Pn 12 10 56.0 -0.9**
YHB Horse Butte 4.32 7 Pn 12 10 57.8 -0.4
Q09A Carvers 4.35 250 Pn 12 10 58.0 -0.6
YHL Hebgen Lake 4.42 7 Pn 12 11 00.7 +1.0
N23A Red Feather La 4.59 83 Pn 12 11 03.0 +1.0
N23A IAML 12 12 16.2
comp=N,173nm,0.8s
S22A 4UR Ranch, Cre 4.82 123 Pn **Pn 12 11 03.7 -1.5**
S22A IAML 12 12 31.2
comp=N,67nm,0.8s
S22A IAML 12 12 34.1
comp=E,60nm,1.1s
TPNV Topopah Spring 4.86 225 Pn 12 11 05.3 -0.4
TPNV IAML 12 12 34.6
comp=E,66nm,0.8s
TPNV IAML 12 12 36.4
comp=E,77nm,0.8s
WUAZ Wupatki 4.96 175 Pn 12 11 07.4 +0.4
WUAZ IAML 12 12 25.9
comp=E,71nm,0.5s
WUAZ IAML 12 12 26.9
comp=E,84nm,0.7s
NVAR Mina Array Bea 5.32 250 Pn **Pn 12 11 13.5 +1.5**
comp=E,2.6nm,0.3s,baz=69,slow=12,SNR=18
NVAR Pg **Pb 12 11 26.6 +1.2**
comp=E,3.4nm,0.3s,baz=53,slow=16,SNR=11
NVAR Lg Lg 12 12 38.9
comp=E,12nm,0.3s,baz=60,slow=35,SNR=3.2
NVAR LR LR 12 13 35.6
comp=E,202nm,20.2s,baz=106,slow=42
comp=E,1.7nm,0.4s
WVOR Wild Horse Val 5.39 294 Pn 12 11 13.6 +0.7
RSSD Black Hills 6.91 56 Pn **Pn 12 11 32.1 -1.8**
ANMO Albuquerque 7.02 140 Pn **Pn 12 11 34.0 -1.4**
comp=E,0.2nm,0.3s,baz=137,slow=11,SNR=6.6
ANMO Pg Pb 12 11 59.7 +5.4
comp=E,1.3nm,0.3s,baz=135,slow=14,SNR=27
ANMO Lg Lg 12 13 26.6
comp=E,0.8nm,0.3s,baz=259,slow=13,SNR=4.6
comp=E,0.3nm,0.4s
LAO LASA Array 7.48 32 Pn **Pn 12 11 40.8 -0.7**
OGNE Ogallala 7.55 83 Pn 12 11 41.6 -0.9
EGMT Eagleton 7.72 11 Pn **Pn 12 11 46.7 +1.9**
YBH Yreka Blue Hor 8.22 282 Pn **Pn 12 11 54.7 +3.0**
baz=76,slow=14,SNR=1.3
YBH LR LR 12 14 50.0
comp=E,92nm,19.5s,baz=357,slow=36
comp=E,1.9nm,0.9s
NEW Newport 8.63 336 Lg Lg 12 14 16.9
comp=E,0.2nm,0.3s,baz=282,slow=22,SNR=2.4
TXAR Lajitas Array 13.01 146 Pn **Pn 12 12 57.0 -0.4**
baz=335,slow=15,SNR=1.7
TXAR Pg P 12 13 51.2 +43
comp=E,0.1nm,0.3s,baz=323,slow=17,SNR=4.7
TXAR Lg Lg 12 16 34.2
baz=322,slow=30,SNR=1.8

comp=E,0.4nm,1.0s
ULM Lac du Bonnet 14.92 44 Pn Pn 12 13 17.6 -5.5
comp=E,0.3nm,0.3s,baz=227,slow=14,SNR=3.6
ULM Lg Lg 12 17 28.3
comp=E,0.1nm,0.3s,baz=164,slow=1.9,SNR=3.5
comp=E,1.0nm,0.4s
YKA Yellowknife Ar 22.12 357 P **P 12 14 46.4 -1.3**
comp=E,1.1nm,0.9s,baz=177,slow=10.0,SNR=16
comp=E,1.1nm,0.9s
CMIG Matias Romero 27.58 143 LR LR 12 28 45.1
comp=E,46nm,18.1s,baz=264,slow=41
ILAR Eielson Array 31.55 332 P **P 12 16 16.4 +1.8**
comp=E,0.5nm,0.9s,baz=128,slow=7.0,SNR=4.9
comp=E,0.5nm,0.9s

*NOU **15** 12:10:11.2, 36°.61S×178°.53E, h241km, mb3.9/7, Off E. Coast of N. Island, N.Z.*
*WEL **15** 12:10:30.8±1.2, 37°.S±7°×17°.7E±°, h113km±11km, M2.6/18, ML2.8/7, MLv2.6/18, Error ellipse: s-maj=8.7km s-min=6.5km az=19.5, confirmed*
ISC 15 12:10:25.8±2.0, 37°.33S±0°.07×177°.46E±0°.07, h165km±11km, n98, σ1§64/105, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.50**	**149**	P	**Pn**	**12 10 49.0**	**+0.3**
HAZ				S	**Sn**	**12 11 03.4**	**-3.1**
RUGZ	**Raukumara Rang**	**0.66**	**165**	P	**Pn**	**12 10 49.8**	**0.0**
MXZ	**Matakaoa Point**	**0.72**	**109**	P	**Pn**	**12 10 50.9**	**+0.9**
MXZ				S	**Sn**	**12 11 07.5**	**-1.0**
PKGZ	**Pakihiroa**	**0.73**	**138**	P	**Pn**	**12 10 51.4**	**+1.3**
OPRZ	**Ohinepanea**	**0.88**	**234**	P	**Pn**	**12 10 51.3**	**+0.2**
MARZ	**Manawahe**	**0.90**	**223**	P	**Pn**	**12 10 51.5**	**+0.2**
WMGZ	**Waiomatatini S**	**0.91**	**123**	P	**Pn**	**12 10 52.7**	**+1.5**
WMGZ				S	**Sn**	**12 11 10.4**	**-0.4**
TWGZ	**Tauwhareparae**	**0.94**	**154**	P	**Pn**	**12 10 53.6**	**+2.0**
TWGZ				S	**Sn**	**12 11 12.1**	**+0.6**
URZ	**Urewera**	**0.97**	**196**	P	**Pn**	**12 10 52.5**	**+0.9**
URZ	**Urewera**	**0.97**	**196**	P	**Pn**	**12 10 52.6**	**+0.9**
URZ				S	**Sn**	**12 11 10.1**	**-1.6**
PUZ	**Puketiti**	**0.98**	**140**	P	**Pn**	**12 10 53.3**	**+1.5**
PUZ				S	**Sn**	**12 11 10.6**	**-1.3**
MWZ	**Matawai**	**1.01**	**177**	P	**Pn**	**12 10 53.4**	**+1.3**
MWZ				S	**Sn**	**12 11 11.1**	**-1.3**
TGRZ	**Tauranga**	**1.03**	**247**	P	**Pn**	**12 10 52.7**	**+0.5**
TKGZ	**Te Karaka**	**1.15**	**165**	P	**Pn**	**12 10 55.7**	**+2.5**
TARZ	**Mount Tarawera**	**1.18**	**219**	P	**Pn**	**12 10 55.3**	**+1.7**
KARZ	**Kaharoa**	**1.19**	**234**	P	**Pn**	**12 10 54.6**	**+1.1**
MUGZ	**Murupara**	**1.27**	**205**	P	**Pn**	**12 10 55.5**	**+1.3**
CNGZ	**Carnagh Statio**	**1.30**	**153**	P	**Pn**	**12 10 57.0**	**+2.5**
KMRZ	**Kaimai**	**1.31**	**246**	P	**Pn**	**12 10 54.7**	**0.0**
RTZ	**Ruatahuna**	**1.34**	**196**	P	**Pn**	**12 10 55.3**	**+0.4**
RIGZ	**Rimuhau**	**1.40**	**170**	P	**Pn**	**12 10 57.2**	**+1.7**
PRRZ	**Plateau Road**	**1.44**	**215**	P	**Pn**	**12 10 57.6**	**+1.7**
SNGZ	**Shannon Statio**	**1.46**	**184**	P	**Pn**	**12 10 57.7**	**+1.7**
ALRZ	**Allen Road**	**1.52**	**215**	P	**Pn**	**12 10 58.5**	**+1.9**
MTHZ	**Maungataniwha**	**1.60**	**198**	P	**Pn**	**12 10 57.4**	**-0.1**
TOZ	**Tahuroa Road**	**1.61**	**255**	P	**Pn**	**12 10 59.0**	**+1.5**
RAHZ	**Arahi**	**1.61**	**190**	P	**Pn**	**12 10 59.6**	**+2.0**
KNZ	**Kokohu**	**1.70**	**174**	P	**Pn**	**12 11 00.3**	**+1.8**
MRHZ	**Matea Rd**	**1.71**	**208**	P	**Pn**	**12 11 00.3**	**+1.6**
WHHZ	**Waihua**	**1.76**	**186**	P	**Pn**	**12 11 01.0**	**+2.0**
TLZ	**Tolley Road**	**1.82**	**236**	P	**Pn**	**12 11 01.9**	**+2.1**
NMHZ	**Naumai**	**1.84**	**196**	P	**Pn**	**12 11 02.3**	**+2.2**
MKAZ	**Moumakai**	**1.85**	**276**	P	**Pn**	**12 11 01.3**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.86**	**169**	P	**Pn**	**12 11 02.8**	**+2.6**
WIAZ	**Waiheke Island**	**1.93**	**285**	P	**Pn**	**12 11 02.1**	**+1.1**
WATZ	**Wairara**	**1.94**	**224**	P	**Pn**	**12 11 03.7**	**+2.6**
ARHZ	**Arohaonui**	**1.97**	**190**	P	**Pn**	**12 11 03.6**	**+2.2**
BKZ	**Black Stump Fm**	**1.99**	**202**	P	**Pn**	**12 11 03.2**	**+1.5**
BKZ	**Black Stump Fm**	**1.99**	**202**	P	**Pn**	**12 11 03.4**	**+1.7**
ETAZ	**East Tamaki Re**	**2.06**	**280**	P	**Pn**	**12 11 04.2**	**+1.8**
MBAZ	**Motutapu North**	**2.12**	**284**	P	**Pn**	**12 11 04.8**	**+1.6**
MCHZ	**McNeill Hill**	**2.20**	**196**	P	**Pn**	**12 11 06.1**	**+2.1**
KWHZ	**Kaweka Forest**	**2.25**	**201**	P	**Pn**	**12 11 06.3**	**+1.7**
NTVZ	**North Tongarir**	**2.26**	**218**	P	**Pn**	**12 11 07.4**	**+2.5**
TMVZ	**Te Maari**	**2.26**	**217**	P	**Pn**	**12 11 07.2**	**+2.4**
ETVZ	**East Tongariro**	**2.27**	**217**	P	**Pn**	**12 11 07.3**	**+2.3**
KRVZ	**Karewarewa**	**2.27**	**218**	P	**Pn**	**12 11 07.9**	**+2.9**
NNVZ	**North Ngauruho**	**2.31**	**218**	P	**Pn**	**12 11 08.1**	**+2.5**
OTVZ	**Oturere**	**2.31**	**217**	P	**Pn**	**12 11 07.9**	**+2.4**
WTVZ	**West Tongariro**	**2.31**	**219**	P	**Pn**	**12 11 07.8**	**+2.3**
SNVZ	**South Ngauruho**	**2.34**	**217**	P	**Pn**	**12 11 08.3**	**+2.4**
CKHZ	**Cape Kidnapper**	**2.35**	**187**	P	**Pn**	**12 11 07.7**	**+1.9**
NGZ	**Ngauruhoe**	**2.35**	**218**	P	**Pn**	**12 11 08.8**	**+2.8**
TWVZ	**Taurewa**	**2.36**	**222**	P	**Pn**	**12 11 08.5**	**+2.5**
RVAZ	**Riverhead Bore**	**2.37**	**283**	P	**Pn**	**12 11 07.9**	**+1.9**
HIZ	**Hauiti**	**2.37**	**239**	P	**Pn**	**12 11 08.9**	**+2.8**
HIZ	**Hauiti**	**2.37**	**239**	P	**Pn**	**12 11 09.0**	**+3.0**
TUVZ	**Tukino**	**2.40**	**216**	P	**Pn**	**12 11 08.9**	**+2.3**
FWVZ	**Far West T-bar**	**2.44**	**217**	P	**Pn**	**12 11 09.4**	**+2.3**
KRHZ	**Kereru**	**2.46**	**200**	P	**Pn**	**12 11 08.5**	**+1.3**
MOVZ	**Moawhango**	**2.47**	**212**	P	**Pn**	**12 11 08.8**	**+1.5**
WNVZ	**Wahianoa**	**2.48**	**216**	P	**Pn**	**12 11 09.7**	**+2.3**
KAHZ	**Kahuranaki**	**2.50**	**190**	P	**Pn**	**12 11 09.6**	**+1.9**
PKVZ	**Pokaka**	**2.57**	**220**	P	**Pn**	**12 11 11.2**	**+2.7**
MTVZ	**Mangateitei**	**2.58**	**217**	P	**Pn**	**12 11 11.1**	**+2.5**
PXZ	**Pawanui**	**2.74**	**190**	P	**Pn**	**12 11 12.0**	**+1.5**
PNHZ	**Pukenui**	**2.76**	**200**	P	**Pn**	**12 11 11.6**	**+0.8**
WPHZ	**Waipukurau**	**2.85**	**196**	P	**Pn**	**12 11 13.4**	**+1.6**
WCZ	**Waipu Caves**	**2.86**	**298**	P	**Pn**	**12 11 12.5**	**+0.5**
TSZ	**Takapari Road**	**2.97**	**203**	P	**Pn**	**12 11 14.1**	**+0.8**
PRHZ	**Porangahau**	**3.00**	**192**	P	**Pn**	**12 11 15.0**	**+1.2**
DVHZ	**Dannevirke**	**3.13**	**198**	P	**Pn**	**12 11 16.1**	**+0.7**
ANWZ	**Angora Road**	**3.22**	**193**	P	**Pn**	**12 11 17.8**	**+1.3**
POWZ	**Post Office Ro**	**3.33**	**203**	P	**Pn**	**12 11 18.7**	**+0.9**
PRWZ	**Pori Road**	**3.42**	**199**	P	**Pn**	**12 11 20.2**	**+1.2**
BFZ	**Birch Farm**	**3.48**	**195**	P	**Pn**	**12 11 20.5**	**+0.8**
BFZ	**Birch Farm**	**3.48**	**195**	P	**Pn**	**12 11 20.4**	**+0.7**
MRZ	**Mangatainoka R**	**3.64**	**203**	P	**Pn**	**12 11 22.1**	**+0.5**
TIWZ	**Tintock**	**3.66**	**199**	P	**Pn**	**12 11 22.7**	**+0.8**
CPWZ	**Castlepoint**	**3.71**	**195**	P	**Pn**	**12 11 24.1**	**+1.5**
HOWZ	**Holdsworth Sta**	**3.87**	**202**	P	**Pn**	**12 11 24.8**	**+0.1**
OGWZ	**Otaki Gorge**	**3.91**	**206**	P	**Pn**	**12 11 25.4**	**+0.2**
TMWZ	**Te Maipa**	**3.97**	**197**	P	**Pn**	**12 11 26.2**	**+0.3**
KIW	**Kapiti Island**	**4.05**	**209**	P	**Pn**	**12 11 27.0**	**+0.1**
MTW	**Mount Morrison**	**4.12**	**201**	P	**Pn**	**12 11 27.6**	**-0.2**
CAW	**Cannon Point**	**4.21**	**205**	P	**Pn**	**12 11 28.7**	**-0.3**
TRWZ	**Traveller**	**4.29**	**198**	P	**Pn**	**12 11 30.2**	**0.0**
PAWZ	**Paruwai Farm**	**4.34**	**201**	P	**Pn**	**12 11 30.4**	**-0.4**
MSWZ	**Moikau Station**	**4.43**	**202**	P	**Pn**	**12 11 31.3**	**-0.6**
SNZO	**South Karori**	**4.51**	**207**	P	**Pn**	**12 11 33.2**	**+0.2**
BHW	**Baring Head**	**4.54**	**205**	P	**Pn**	**12 11 32.7**	**-0.6**
PLWZ	**Palliser**	**4.57**	**201**	P	**Pn**	**12 11 33.1**	**-0.6**
TCW	**Tory Channel**	**4.60**	**211**	P	**Pn**	**12 11 33.6**	**-0.5**
TUWZ	**Tuamarina**	**4.92**	**213**	P	**Pn**	**12 11 38.6**	**+0.3**
QRZ	**Quartz Range**	**5.19**	**226**	P	**Pn**	**12 11 42.8**	**+1.0**
KHZ	**Kahutara**	**5.91**	**209**	P	**Pn**	**12 11 50.9**	**-0.4**
KHZ	**Kahutara**	**5.91**	**209**	P	**Pn**	**12 11 50.5**	**-0.8**
TMZ	**Timaru**	**8.57**	**213**	P	**Pn**	**12 12 26.1**	**-0.5**

*IDC **15** 12:24:14.8±1.5, 26°.83N×67°.14E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=41.6km s-min=30.5km az=117.0*
ISC 15 12:24:16.4±1.3, 27°.0N±0°.2×67°.2E±0°.2, h10km, n7, σ2§05/7, mb3.5/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.59**	**246**	Pn	Pn	12 26 26.6	+5.8
WSAR	0.3nm,0.3s,baz=101,slow=22,SNR=7.1						
				Sn	**Sn**	**12 27 57.7**	**-0.1**
	0.6nm,0.3s,baz=284,slow=13,SNR=4.5						
AAK	**Ala-Archa**	**16.71**	**19**	Pn	**Pn**	**12 28 08.2**	**-2.6**
	0.1nm,0.3s,baz=189,slow=7.1,SNR=5.9						
MKAR	**Makanchi Array**	**23.09**	**27**	P	**P**	**12 29 22.6**	**+0.3**
	0.3nm,0.6s,baz=206,slow=11,SNR=5.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**25.14**	**17**	P	**P**	**12 29 42.8**	**+1.3**
	0.5nm,0.5s,baz=213,slow=8.6,SNR=11						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**26.11**	**4**	P	**P**	**12 29 53.2**	**+2.9**
	0.5nm,0.4s,baz=183,slow=8.5,SNR=2.4						
	0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**62.42**	**271**	P	**P**	**12 34 39.6**	**-0.4**
	0.4nm,0.6s,baz=62,slow=7.6,SNR=3.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**81.79**	**122**	P	**P**	**12 36 35.9**	**0.0**
	0.4nm,0.9s,baz=296,slow=5.3,SNR=4.6						
	0.4nm,0.9s						

*IDC **15** 12:30:28.8±1.2, 55°.09N×164°.64E, h0km, mb3.4/5, mbtmp3.4/6, ML2.4/1, Error ellipse: s-maj=54.0km s-min=20.5km az=153.0*
*KRSC **15** 12:30:29.4±0.9, 54°.92N×164°.75E, h50km±23km, Ml3.5*
ISC 15 12:30:30.7±1.9, 54°.98N±0°.05×164°.69E±0°.05, h14km±13km, n30, σ1§16/35, mb3.5/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.77**	**73**	*e*P	**Pg**	**12 30 45.5**	**-0.2**
BKI				*e*S	**Sb**	**12 30 56.1**	**-0.1**
KBTR	**Krutoberegovo**	**1.62**	**320**	*e*P	**Pn**	**12 30 57.6**	**-1.3**
KBTR				*e*S	**Sn**	**12 31 17.8**	**-1.8**
KBG	**Krutoberegovo**	**1.70**	**319**	*e*S	**Sb**	**12 31 21.5**	**-1.4**
TUMD	**Tumrok D**	**2.48**	**277**	*e*P	**Pn**	**12 31 10.8**	**+0.2**
TUMD				*e*S	**Sn**	**12 31 41.2**	**+0.6**
KRSR	**Krestovskiy**	**2.65**	**300**	*e*P	**Pn**	**12 31 13.3**	**+0.3**
KRSR				*e*S	**Sn**	**12 31 46.4**	**+1.4**
KLY	**Klyuchi**	**2.65**	**302**	*e*P	**Pn**	**12 31 12.6**	**-0.3**
KLY				*e*S	**Sn**	**12 31 44.3**	**-0.5**
KMNR	**Kamenistaya**	**2.66**	**289**	*e*P	**Pn**	**12 31 14.8**	**+1.7**
KMNR				*e*S	**Sn**	**12 31 45.8**	**+0.7**
KIRR	**Kirishev**	**2.66**	**293**	*e*P	**Pn**	**12 31 15.0**	**+1.8**
KOZ	**Kozyrevsk**	**2.94**	**293**	*e*P	**Pn**	**12 31 19.1**	**+2.1**
KII	**Karymskiy**	**3.20**	**255**	*e*P	**Pn**	**12 31 21.5**	**+0.9**
SPN	**Mys Shipunski**	**3.33**	**237**	*e*S	**Sn**	**12 31 58.8**	**-2.9**
ESO	**Esso**	**3.54**	**288**	*e*P	**Pn**	**12 31 26.1**	**+0.9**
NLC	**Nalytchevo**	**3.63**	**242**	*e*S	**Sn**	**12 32 07.1**	**-1.9**
UGLR	**Uglovaya**	**3.88**	**245**	*e*P	**Pn**	**12 31 30.9**	**+0.9**
AVH	**Avacha**	**3.90**	**246**	*e*P	**Pn**	**12 31 31.3**	**+1.0**
KRX	**Arik**	**3.90**	**248**	*e*P	**Pn**	**12 31 31.0**	**+0.6**
KOK	**Koryaka**	**3.94**	**247**	*e*P	**Pn**	**12 31 31.9**	**+1.2**
DALK	**Dalny**	**4.01**	**243**	*e*P	**Pn**	**12 31 31.9**	**+0.3**
GNL	**Ganaly**	**4.15**	**255**	*e*P	**Pn**	**12 31 34.4**	**+0.7**
OSSR	**Ossora**	**4.37**	**349**	*e*P	**Pn**	**12 31 37.5**	**+1.0**
OSSR				*e*S	**Sn**	**12 32 27.1**	**-0.2**
PETK	**Petropavlovsk-**	**4.53**	**248**	Pn	**Pn**	**12 31 39.4**	**+0.6**
	0.9nm,0.3s,baz=68,slow=17,SNR=15						
PETK				Sn	**Sn**	**12 32 31.4**	**+0.3**
	1.4nm,0.3s,baz=88,slow=20,SNR=2.8						
	2.6nm,0.5s						
GRL	**Gorelyy**	**4.62**	**241**	*e*P	**Pn**	**12 31 39.9**	**-0.2**
ILAR	**Eielson Array**	**25.55**	**48**	P	**P**	**12 35 58.1**	**-0.4**
	0.8nm,0.6s,baz=261,slow=9.2,SNR=15						
	0.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.23**	**176**	T	T	13 15 47.2	
	baz=359,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**35.24**	**176**	T	T	13 15 54.2	
	baz=359,slow=76,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**35.25**	**176**	T	T	13 15 50.4	
	baz=359,slow=76,SNR=6.9						
YKA	**Yellowknife Ar**	**39.92**	**46**	P	**P**	**12 38 03.3**	**-0.5**
	0.2nm,0.4s,baz=292,slow=8.2,SNR=2.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**49.75**	**297**	P	**P**	**12 39 22.1**	**-0.2**
	0.4nm,0.7s,baz=47,slow=6.0,SNR=4.0						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**67.43**	**71**	P	**P**	**12 41 26.4**	**+0.6**
	0.2nm,0.6s,baz=320,slow=7.0,SNR=2.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**82.65**	**208**	P	**P**	**12 42 54.1**	**+0.8**
	0.4nm,1.0s,baz=8.6,slow=7.9,SNR=2.4						
	0.4nm,1.0s						

*IDC **15** 12:47:24.3±0.9, 13°.62S×111°.37W, h0km, mb4.0/10, mbtmp4.0/10, MS4.3/49, Error ellipse: s-maj=28.6km s-min=20.5km az=63.0*
*NEIC **15** 12:47:27.1±1.2, 13°.6S±0°.1×111°.63W±0°.07, h10km±1km, mb4.7/55, Error ellipse: s-maj=21.0km s-min=6.1km az=212.0*
*GCMT **15** 12:47:31.1±0.2, 13°.55S±0°.01×111°.38W±0°.01, h20km±1km, MW5.1/132, Moment Tensor Solution. s62,c79; s132,c197; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.87±.15; $M_{\theta\theta}$3.38±.15; $M_{\phi\phi}$-2.51±.17; $M_{r\theta}$0.11±.24; $M_{\theta\phi}$5.36±.12; $M_{r\phi}$-0.17±.26; Best double couple: M_o6.12000×10^{16} NP1:ϕ_s14.00000°, δ88.00000°, λ-178.00000°. NP2:ϕ_s284.00000°, δ88.00000°, λ-2.00000°. Principal axes: T 6.5510, Plg0.0000°, Azm329.0000°; N -0.8630, Plg88.0000°, Azm61.0000°; P -5.6890, Plg2.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 12:47:26.5±0.5, 13°.64S±0°.08×111°.53W±0°.08, h11km, n122, σ1§61/74, mb4.6/36, MS4.3/49, 1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.58**	**172**	Pn	**Pn**	**12 50 39.5**	**+0.4**
PAYG	**Puerto Ayora**	**24.67**	**60**	P	**P**	**12 52 48.6**	**+1.0**
PAYG				IAmb	IAmb	12 52 53.2	
	comp=Z,26nm,1.2s						
TAOE	**Nuku Hiva Isla**	**28.45**	**277**	*e*LR	LR	13 00 21.4	
	comp=Z,510nm,24.5s						
ATAH	**Atahualpa**	**33.20**	**82**	P	**P**	**12 54 03.0**	**-1.2**
	comp=Z,3.1nm,0.9s,baz=148,slow=14,SNR=2.3						
ATAH				LR	LR	13 04 25.7	
	comp=Z,529nm,18.8s,baz=259,slow=31						
	comp=Z,3.1nm,0.9s						
TLIG	**Tlapa**	**33.54**	**23**	P	**P**	**12 54 06.3**	**-0.4**
TLIG				IAmb	IAmb	12 54 19.2	
	comp=Z,16nm,1.4s						
NNA	**Nana**	**33.85**	**91**	LR	LR	13 04 08.4	
	comp=Z,226nm,20.4s,baz=256,slow=30						
RTAL	**Retalhuleu**	**34.19**	**36**	P	**P**	**12 54 14.7**	**+2.5**
MOIG	**Morelia**	**34.64**	**17**	P	**P**	**12 54 17.5**	**+1.2**
CMIG	**Matias Romero**	**34.68**	**29**	LR	LR	13 05 13.3	
	comp=Z,737nm,21.5s,baz=216,slow=31						
MTO3	**Montecristo**	**35.47**	**39**	P	**P**	**12 54 24.7**	**+1.2**
JTS	**Las Juntas de**	**35.51**	**49**	P	**P**	**12 54 25.4**	**+1.7**
JTS				IAmb	IAmb	12 54 25.8	
	comp=Z,17nm,1.4s						
JTS	**Las Juntas

ROSC El Rosal 41.25 66 LR LR 13 09 01.8
comp=Z,169nm,18.1s,baz=202,slow=32
AC02 Maricunga 41.70 115 P **P** **12 55 17.3 +1.1**
LPAZ La Paz 41.96 99 P **P** **12 55 18.7 +0.2**
LPAZ La Paz 41.96 99 P **P** **12 55 18.1 -0.5**
comp=Z,1.7nm,0.4s,baz=266,slow=1.5,SNR=4.8
LPAZ LR LR 13 08 41.5
comp=Z,249nm,20.0s,baz=258,slow=30
comp=Z,1.7nm,0.4s
HSIG 42.41 1 P **P** **12 55 21.2 0.0**
833A Chaparral WMA, 43.34 16 P **P** **12 55 29.1 +0.3**
TX31 Lajitas Ar. Si 43.39 10 P **P** **12 55 29.2 -0.1**
TXAR Lajitas Array 43.39 10 P **P** **12 55 29.2 -0.1**
comp=Z,2.8nm,1.1s,baz=186,slow=10,SNR=12
TXAR LR LR 13 10 13.5
comp=Z,191nm,18.9s,slow=32
comp=Z,2.8nm,1.1s
LL01 San Ignacio de 44.26 138 P **P** **12 55 37.1 +1.1**
LL01 IAmb IAmb 12 55 40.6
comp=Z,14nm,1.2s
SAND Sanderson 44.28 12 P **P** **12 55 36.9 +0.5**
SAND IAmb IAmb 12 55 44.5
comp=Z,22nm,1.5s
ALPN Alpine 44.41 10 P **P** **12 55 38.5 +0.9**
ALPN IAmb IAmb 12 55 45.4
comp=Z,19nm,1.5s
ETMB Extrema 44.49 90 P **P** **12 55 38.4 +0.1**
ETMB IAmb IAmb 12 55 54.4
comp=Z,12nm,1.5s
VHRN Van Horn 44.62 8 P **P** **12 55 39.2 +0.1**
VHRN IAmb IAmb 12 55 41.0
comp=Z,11nm,1.4s
PLCA Paso Flores 44.76 135 LR LR 13 09 47.0
comp=Z,1μm,18.7s,baz=274,slow=30
JCT Junction City 45.29 14 P **P** **12 55 44.5 +0.1**
JCT IAmb IAmb 12 55 56.2
comp=Z,11nm,1.1s
OZNA Ozona 45.42 13 P **P** **12 55 45.8 +0.3**
OZNA IAmb IAmb 12 55 48.2
comp=Z,9.1nm,1.1s
MNHN Monahans 45.51 11 P **P** **12 55 46.8 +0.6**
MNHN IAmb IAmb 12 55 53.1
comp=Z,5.6nm,0.7s
121A Cookes Peak, D 46.05 4 P **P** **12 55 50.6 +0.1**
BRDY Brady 46.26 15 P **P** **12 55 52.2 +0.1**
BRDY IAmb IAmb 12 56 03.5
comp=Z,7.4nm,0.9s
ODSA Odessa 46.31 11 P **P** **12 55 52.5 0.0**
SDV Santo Domingo 46.36 63 P **P** **12 55 52.8 -0.6**
SDV IAmb IAmb 12 56 05.8
comp=Z,14nm,1.2s
SDV Santo Domingo 46.36 63 P **P** **12 55 52.4 -1.0**
comp=Z,3.4nm,0.8s,baz=264,slow=8.9,SNR=4.8
SDV LR LR 13 13 42.5
comp=Z,149nm,18.1s,baz=262,slow=34
comp=Z,3.4nm,0.8s
RAR Rarotonga 46.49 254 LR LR 13 10 13.0
comp=Z,356nm,18.4s,baz=95,slow=29
PFO Pinyon Flats O 47.22 354 LR LR 13 10 50.3
comp=Z,354nm,21.5s,baz=198,slow=30
SN07 Snyder 07 47.57 12 P **P** **12 56 02.1 -0.2**
LENM Lemitar 47.74 5 P **P** **12 56 04.2 +0.4**
PLPT Palo Pinto 47.89 15 P **P** **12 56 04.3 -0.5**
DKNS Dickens 48.12 12 P **P** **12 56 05.8 -0.7**
DKNS IAmb IAmb 12 56 14.4
comp=Z,8.9nm,0.9s
ANMO Albuquerque 48.56 6 LR LR 13 13 12.2
comp=Z,417nm,18.3s,baz=356,slow=32
SIV San Ignacio 48.75 99 LR LR 13 13 01.2
comp=Z,193nm,18.9s,baz=276,slow=32
SMWD Samnorwood 49.65 12 P **P** **12 56 17.9 -0.4**
SMWD IAmb IAmb 12 56 28.9
comp=Z,11nm,0.9s
SHPR Sheep Range 49.99 356 P **P** **12 56 22.1 +1.1**
PTLB Pontes e Lacer 50.65 99 P **P** **12 56 25.8 -0.4**
PTLB IAmb IAmb 12 56 41.1
comp=Z,8.7nm,1.1s
MIAR Mount Ida 50.87 19 P **P** **12 56 27.3 -0.2**
MIAR IAmb IAmb 12 56 38.6
comp=Z,8.8nm,0.9s
CPUP Villa Florida 52.15 113 P **P** **12 56 36.5 -0.8**
comp=Z,0.7nm,0.5s,baz=308,slow=3.4,SNR=3.3
CPUP LR LR 13 14 30.9
comp=Z,313nm,20.9s,baz=272,slow=31
comp=Z,0.7nm,0.5s
NVAR Mina Array Bea 52.18 353 P **P** **12 56 37.9 +0.4**
comp=Z,2.3nm,0.7s,baz=187,slow=12,SNR=9.1
NVAR LR LR 13 14 21.2
comp=Z,311nm,18.5s,baz=169,slow=31
comp=Z,2.3nm,0.7s
PCRV Puerto La Cruz 52.20 65 LR LR 13 16 03.2
comp=Z,322nm,20.3s,slow=33
SPR3 Spring Creek 3 52.43 357 P **P** **12 56 39.0 -0.4**
MPU Maple Canyon 53.38 360 P **P** **12 56 46.5 +0.2**
ELK Elko 54.22 357 P **P** **12 56 52.1 -0.4**
ELK IAmb IAmb 12 57 00.8
comp=Z,6.8nm,1.3s
SJG San Juan 54.76 56 LR LR 13 15 48.4
comp=Z,144nm,20.3s,baz=210,slow=31
TKL Tuckaleechee C 55.63 27 LR LR 13 19 52.3
comp=Z,108nm,18.9s,baz=208,slow=35
YBH Yreka Blue Hor 56.05 350 LR LR 13 15 18.3
comp=Z,660nm,20.8s,baz=174,slow=30
PDAR Pinedale Array 56.16 2 P **P** **12 57 06.0 -0.5**
comp=Z,0.6nm,0.6s,baz=174,slow=3.9,SNR=6.5
PDAR LR LR 13 17 01.9
comp=Z,280nm,19.0s,baz=178,slow=32
comp=Z,0.6nm,0.6s
K22A Casper 56.20 4 P **P** **12 57 06.3 -0.3**
K22A IAmb IAmb 12 57 14.5
comp=Z,9.1nm,1.1s
MFID Camas Ranch 56.91 356 P **P** **12 57 11.8 +0.1**
HLID Hailey 56.98 358 P **P** **12 57 13.1 +0.8**
HLID IAmb IAmb 12 57 22.1
comp=Z,8.1nm,1.4s
I07A Izee 57.90 353 P **P** **12 57 20.2 +1.6**
I07A IAmb IAmb 12 57 31.3
comp=Z,8.1nm,1.1s
MCMT McKenzie Canyo 58.20 359 P **P** **12 57 19.8 -1.1**
PMSA Palmer Station 60.45 159 LR LR 13 16 45.9
comp=Z,318nm,21.1s,baz=320,slow=29
BDFB Brasília 61.29 100 LR LR 13 21 22.0
comp=Z,66nm,19.1s,baz=289,slow=33
MDP Montagnes des 61.34 76 LR LR 13 20 49.9
comp=Z,205nm,18.6s,baz=212,slow=33
NEW Newport 61.83 356 LR LR 13 19 57.1
comp=Z,273nm,19.7s,baz=176,slow=32
RAO Raoul Island 62.98 244 LR LR 13 21 56.9
comp=Z,119nm,19.0s,baz=16,slow=33
ULM Lac du Bonnet 65.08 11 LR LR 13 23 33.9
comp=Z,156nm,18.5s,baz=217,slow=33
SADO Sadowa 65.15 25 LR LR 13 25 05.3
comp=Z,190nm,18.4s,baz=208,slow=35
URZ Urewera 67.10 234 LR LR 13 20 04.3
comp=Z,245nm,21.5s,baz=208,slow=29
BBB Bella Bella 67.11 349 LR LR 13 22 39.2
comp=Z,207nm,21.0s,baz=172,slow=32
RPZ Rata Peaks 71.64 228 LR LR 13 24 07.9
comp=Z,291nm,18.7s,baz=119,slow=31
DLBC Dease Lake 73.40 350 LR LR 13 26 10.1
comp=Z,150nm,18.3s,baz=141,slow=32
BELA Belgrano 2 74.00 168 P **P** **12 59 01.7 0.0**
RCBR Riachuelo 74.71 92 LR LR 13 28 56.2
comp=Z,53nm,18.9s,baz=251,slow=33
YKA Yellowknife Ar 75.92 359 P **P** **12 59 12.5 -0.3**
comp=Z,1.1nm,1.0s,baz=174,slow=7.1,SNR=9.9
YKA LR LR 13 29 39.9
comp=Z,448nm,18.3s,baz=226,slow=33
comp=Z,1.1nm,1.0s
VNDA Vanda 76.04 193 LR LR 13 24 45.9
comp=Z,60nm,20.9s,baz=112,slow=30
QSPA South Pole Qui 76.47 180 P **P** **12 59 17.5 +1.2**
QSPA South Pole Qui 76.47 180 P **P** **12 59 17.8 +1.6**
comp=Z,3.3nm,0.9s,baz=111,slow=1.9,SNR=12
QSPA LR LR 13 28 26.1
comp=Z,182nm,18.6s,baz=120,slow=32
comp=Z,3.3nm,0.9s
DZM Mont Dzumac 77.72 250 eLR LR 13 23 15.9
comp=Z,249nm,26.4s
SCHQ Scheferville 77.95 25 LR LR 13 32 21.5
comp=Z,237nm,20.4s,baz=224,slow=35
KDAK Kodiak Island 78.76 339 LR LR 13 25 37.8
comp=Z,338nm,21.6s,baz=347,slow=29
SCRK Sand Creek 81.28 346 P **P** **12 59 42.4 -0.2**
SCRK IAmb IAmb 12 59 50.0
comp=Z,7.1nm,1.2s
ILAR Eielson Array 82.64 346 P **P** **12 59 48.9 -0.6**
comp=Z,0.8nm,1.2s,baz=177,slow=5.1,SNR=5.6
ILAR LR LR 13 27 51.5
comp=Z,128nm,20.6s,slow=29
comp=Z,0.8nm,1.2s
WRH Wood River Hil 82.69 345 P **P** **12 59 50.2 +0.4**
SNAA Sanae 82.89 162 LR LR 13 32 43.1
comp=Z,195nm,18.1s,baz=220,slow=33
PRP Porcupine Dome 82.94 346 P **P** **12 59 51.6 +0.4**
INK Inuvik 83.25 352 LR LR 13 32 18.2
comp=Z,230nm,20.0s,baz=226,slow=32
FRB Frobisher Bay 83.89 18 LR LR 13 35 02.9
comp=Z,255nm,19.1s,baz=246,slow=34
F26K Sheenjek River 84.49 348 P **P** **12 59 59.9 +0.9**
H11S2 WAKE ISLAND Hy 86.66 290 T T 14 35 59.7
baz=106,slow=75,SNR=43
H11S1 WAKE ISLAND Hy 86.67 290 T T 14 36 03.3
baz=106,slow=75,SNR=45
H11S3 WAKE ISLAND Hy 86.67 290 T T 14 36 00.4
baz=106,slow=75,SNR=41
H11N3 WAKE ISLAND Hy 86.80 291 T T 14 36 10.7
baz=106,slow=74,SNR=22
H11N2 WAKE ISLAND Hy 86.81 291 T T 14 36 15.3
baz=106,slow=74,SNR=16
H11N1 WAKE ISLAND Hy 86.81 291 T T 14 36 13.6
baz=106,slow=74,SNR=17
RES Resolute Bay 88.76 4 LR LR 13 37 25.0
comp=Z,297nm,18.9s,baz=195,slow=34
SHEM Shemya Is, Ala 91.53 324 LR LR 13 32 09.8
comp=Z,244nm,21.7s,baz=134,slow=29
SFJD Kangerlussuaq 91.70 20 LR LR 13 40 15.7
comp=Z,92nm,18.2s,baz=235,slow=35
SYO Syowa Base 95.06 170 ‖ eP **P** **13 00 47.0 -2.1**
STKA Stephens Creek 96.71 235 LR LR 13 36 42.7
comp=Z,136nm,20.9s,baz=57,slow=30
BBTS Babate 98.10 77 LR LR 13 39 04.1
comp=Z,86nm,20.8s,baz=114,slow=32
MAW Mawson 98.88 178 LR LR 13 40 02.4
comp=Z,161nm,20.5s,baz=175,slow=32
BVAR Borovoye Array 140.68 358 PKP **PKPdf** **13 06 53.8 -2.4**
comp=Z,0.5nm,0.7s,baz=277,slow=2.4,SNR=2.1
KURBB Kurchatov Arra 142.22 350 PKP **PKPdf** **13 06 56.1 -2.9**
comp=Z,0.5nm,0.6s,baz=17,slow=2.8,SNR=7.0
MKAR Makanchi Array 144.97 343 PKPbc **PKPab** **13 07 03.0 -0.2**
comp=Z,0.7nm,0.7s,baz=2.9,slow=2.9,SNR=8.9
CMAR Chiang Mai Arr 150.34 283 PKPbc **PKPbc** **13 07 19.7 +0.8**
comp=Z,1.9nm,0.7s,baz=74,slow=1.5,SNR=11

*BER **15** 12:55:43.6±2.4, 79°.46N×2°.32E, h10km, mb(Pn)3.3, Confirmed Earthquake*
*DNK **15** 12:55:45.5±2.8, 79°.51N×2°.54E, h36km±32km*
*FCIAR **15** 12:55:46.0, 79°.33N×3°.38E, h10km, station OMEGA has station magnitude of 3.90 station ZFI2 has station magnitude of 3.80*
*KOLA **15** 12:55:46.5, 79°.24N×3°.44E, h0km, ML1.9, Error ellipse: s-maj=33.4km s-min=22.0km az=20.0, Greenland sea, Knipovich ridge, north*
ISC 15 12:55:39.3±1.6, 79°.55N±0°.07×3°.20E±0°.06, h13km±11km, n24, σ1°48/36, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.76**	**107**	*e*P	**Pg**	**12 56 14.1**	**+1.2**
KBS				*e*S	**Sg**	**12 56 35.0**	**-0.8**
KBS				IAML		12 56 42.3	
comp=Z,18nm,0.3s							
KBS	**Kingsbay**	**1.76**	**107**	P	**Pg**	**12 56 14.1**	**+1.2**
KBS				S	**Sg**	**12 56 34.9**	**-0.8**
KBS	**Kingsbay**	**1.76**	**107**	*e*P	**Pg**	**12 56 13.8**	**+0.9**
KBS				*e*S	**Sg**	**12 56 34.9**	**-0.8**
KBS	**Kingsbay**	**1.76**	**107**	*i* P	**Pg**	**12 56 14.1**	**+1.2**
KBS				*i* S	**Sg**	**12 56 34.7**	**-1.0**
BRBB	**Barentsburg B**	**2.59**	**119**	*e*P	**Pb**	**12 56 26.0**	**+0.5**
BRBB				*e*S	**Sb**	**12 56 55.5**	**-1.7**
BRBB	**Barentsburg B**	**2.59**	**119**	P	**Pb**	**12 56 25.9**	**+0.3**
BRBB				S	**Sb**	**12 56 56.2**	**-1.0**
BRBA	**Barentsburg A**	**2.62**	**119**	*e*P	**Pb**	**12 56 27.2**	**+1.3**
BRBA				*e*S	**Sb**	**12 56 56.5**	**-1.3**
BRBA				IAML		12 57 00.6	
comp=Z,7.7nm,0.2s							
SPA0	**Spitsbergen Ar**	**2.90**	**112**	*e*P	**Pb**	**12 56 30.8**	**0.0**
SPA0				*e*S	**Sb**	**12 57 03.7**	**-2.3**
SPA0				IAML		12 57 08.0	
comp=Z,8.3nm,0.2s							
SPA0	**Spitsbergen Ar**	**2.90**	**112**	*e*P	**Pb**	**12 56 30.7**	**0.0**
SPA0				*e*S	**Sb**	**12 57 03.6**	**-2.4**
SPITS	**Spitsbergen Ar**	**2.90**	**112**	P	**Pb**	**12 56 30.8**	**0.0**
SPITS				S	**Sb**	**12 57 04.6**	**-1.4**
HSPB	**Hornsund (broa**	**3.58**	**129**	*e*P	**Pn**	**12 56 38.5**	**+4.2**
HSPB				*e*S	**Sn**	**12 57 18.1**	**+1.7**
HSPB				IAML		12 57 21.4	
comp=Z,3.6nm,0.8s							
HSPB	**Hornsund (broa**	**3.58**	**129**	P	**Pb**	**12 56 39.3**	**-3.1**
HSPB				S	**Sn**	**12 57 17.8**	**+1.4**
NOR	**Nord**	**3.84**	**312**	*i* P	**Pn**	**12 56 39.5**	**+1.6**
NOR	**Nord**	**3.84**	**312**	*i* P	**Pn**	**12 56 39.5**	**+1.6**
DAG	**Danmarks Havn**	**5.26**	**249**	*i* P	**Pn**	**12 56 57.2**	**-0.2**
DAG				*i* S	Sn	12 57 50.1	-7.6
DAG	**Danmarks Havn**	**5.26**	**249**	*i* P	**Pn**	**12 56 57.2**	**-0.2**
DAG				*i* S	Sn	12 57 50.1	-7.6
DBG	**Daneborg**	**7.40**	**237**	*i* P	**Pn**	**12 57 27.1**	**+0.4**
DBG				*i* S	Sn	12 58 42.7	-7.6
DBG	**Daneborg**	**7.40**	**237**	*i* P	**Pn**	**12 57 27.1**	**+0.4**
DBG				*i* S	Sn	12 58 42.7	-7.6
ZFI2	**Zemlya Franca-**	**7.54**	**59**	*e*P	Pn	12 57 34.7	+6.0
ZFI2				*e*S	**Sn**	**12 58 53.9**	**+0.2**
comp=Z,25nm,3.8s							
OMEGA	**Omega**	**7.56**	**59**	*e*P	Pn	12 57 34.6	+5.7
OMEGA				*e*S	**Sn**	**12 58 54.5**	**+0.4**
comp=Z,31nm,3.3s							
NEEM	**North Greenlan**	**10.67**	**286**	*i* P	**Pn**	**12 58 10.6**	**-1.2**
NEEM	**North Greenlan**	**10.67**	**286**	*i* P	**Pn**	**12 58 10.6**	**-1.2**
SUMG	**Summit**	**11.87**	**257**	*i* P	**Pn**	**12 58 27.3**	**-0.9**
SUMG	**Summit**	**11.87**	**257**	*i* P	**Pn**	**12 58 27.3**	**-0.9**

TXNET 15 12:56:36.7, 31°.6N±0°.5×104°.3W±0°.6, h5km±1km, ML1.9/6, Error ellipse: s-maj=1.0km s-min=0.7km az=60.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.36**	**32**	P	Pg	12 56 43.7	-0.1
TPB11				S	Sg	12 56 48.6	0.0
PECS	**Pecos**	**0.42**	**127**	P	Pg	12 56 45.2	+0.4
PECS				S	Sg	12 56 50.7	+0.3
PECS	**Pecos**	**0.42**	**127**	P	Pg	12 56 45.4	+0.5
PECS				S	Sg	12 56 48.8	-1.6
TPB12	**Southwest of T**	**0.48**	**148**	P	Pg	12 56 45.8	-0.3
TPB12				S	Sg	12 56 52.7	+0.3
TPB07	**Mentone**	**0.50**	**95**	S	Sg	12 56 53.6	+0.6
TPB10	**Southeast of T**	**0.55**	**128**	S	Sg	12 56 55.3	+0.9
GDL2	**Guadalupe Moun**	**0.58**	**351**	P	Pg	12 56 48.3	+0.3
PCOS	**Crockett Middl**	**0.67**	**109**	S	Sg	12 56 59.5	+1.1
CLNB	**Carlsbad**	**0.71**	**27**	S	Sg	12 57 00.1	+0.4
TPB01	**Permian Basin**	**0.79**	**149**	P	Pg	12 56 51.6	-0.3
TPB01				S	Sg	12 57 02.3	0.0
TPB03	**Saragosa**	**0.83**	**130**	S	Sg	12 57 04.3	+0.6
CLN7	**Carlsbad 7**	**0.87**	**26**	P	Pg	12 56 53.2	-0.3
TPB06	**Permian Basin**	**0.89**	**88**	S	Sg	12 57 05.8	+0.5
MNTX	**Cornudas Mount**	**0.96**	**275**	P	Pb	12 56 56.2	+0.3
MNTX				S	Sb	12 57 08.7	-0.2
HTMS	**Hat Mesa**	**0.99**	**32**	S	Sb	12 57 10.1	+0.1
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pg	12 56 56.1	+0.2
NM01	**Eunice**	**1.03**	**45**	S	Sb	12 57 11.6	+0.7
VHRN	**Van Horn**	**1.04**	**217**	P	Pg	12 56 57.1	+0.3
VHRN				S	Sb	12 57 11.4	0.0
VHRN	**Van Horn**	**1.04**	**217**	P	Pb	12 56 57.2	-0.1
TPB05	**Hovey Rd**	**1.06**	**131**	P	Pg	12 56 57.2	+0.1
TPB05				S	Sg	12 57 10.8	-0.2
MNHN	**Monahans**	**1.31**	**102**	S	Sg	12 57 18.7	-0.2
MNHN	**Monahans**	**1.31**	**102**	P	Pn	12 57 00.8	-0.9
ALPN	**Alpine**	**1.36**	**157**	P	Pn	12 57 01.6	-0.9
ALPN				S	Sg	12 57 19.2	-1.1
ALPN	**Alpine**	**1.36**	**157**	P	Pn	12 57 01.6	-0.8
ALPN				S	Sg	12 57 19.4	-0.9
TPB08	**Permian Basin**	**1.37**	**122**	S	Sb	12 57 20.5	-0.2
CPRX	**Cap Rock**	**1.44**	**13**	P	Pn	12 57 03.3	-0.3
ODSA	**Odessa**	**1.53**	**71**	P	Pn	12 57 04.6	-0.2
ODSA				S	Sn	12 57 24.6	-0.6
TMB04	**Seminole**	**1.80**	**56**	P	Pn	12 57 08.8	+0.3
TMB04				S	Sb	12 57 32.5	-0.6
TMB02	**Rankin**	**1.94**	**102**	P	Pn	12 57 10.8	+0.4
TMB02				S	Sn	12 57 36.2	+1.0
TX31	**Lajitas Ar. Si**	**2.34**	**167**	S	Sb	12 57 50.2	+1.5
TX31	**Lajitas Ar. Si**	**2.34**	**167**	P	Pb	12 57 18.1	-1.4
SAND	**Sanderson**	**2.48**	**132**	P	Pb	12 57 21.5	-0.3
SAND				S	Sb	12 57 53.7	+1.1
SAND	**Sanderson**	**2.48**	**132**	P	Pb	12 57 21.5	-0.3
MSTX	**Muleshoe**	**2.65**	**28**	S	Sb	12 57 55.9	-1.7
MSTX	**Muleshoe**	**2.65**	**28**	P	Pb	12 57 23.0	-1.8
MSTX	**Muleshoe**	**2.65**	**28**	P	Pb	12 57 23.0	-1.7
POST	**Post**	**2.74**	**58**	P	Pb	12 57 24.1	-2.1
POST				S	Sn	12 57 56.2	+1.3

IDC 15 13:20:15.4±999.0, 47°.92N×49°.71E, h0km, Error ellipse: s-maj=346.8km s-min=144.0km az=64.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.00**	**62**	I	I	13 55 00.0	
0.1nm,0.6s,baz=250,slow=310,SNR=1.1							
I46RU	**ZALESOVO INFRA**	**22.76**	**61**	I	I	15 38 25.9	
baz=268,slow=333,SNR=2.0							
I34MN	**SONGINO INFRAS**	**37.30**	**68**	I	I	17 10 25.5	
baz=288,slow=340							

*NORS **15** 13:37:36.7, 42°.99N×44°.49E, h11km, MPVA4.0*
*MOS **15** 13:37:36.1, 43°.00N×44°.50E, h13km, MPVA4.0*
*TIF **15** 13:37:37.2, 43°.04N×44°.53E, h7km±1km*
*DRS **15** 13:37:39.8, 42°.88N×44°.74E, h18km, FELT I=II MSK at Vladikavkaz, Gizel', Verkhnyaya Saniba*
ISC 15 13:37:37.9±0.9, 43°.01N±0°.01×44°.53E±0°.01, h14km±8km, n89, σ0°98/170, 2C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.12**	**70**	*i* Pg	**Pb**	**13 37 41.3**	**-0.6**
VLKR				*e*Sg	**Sb**	**13 37 44.5**	**-0.1**
VLKR	**Vladikavkaz**	**0.12**	**70**	*i* PG	**Pb**	**13 37 41.3**	**-0.6**
LACR	**Lac**	**0.25**	**224**	*i* Pg	**Pb**	**13 37 43.5**	**-0.7**
LACR				*e*Sg	**Sb**	**13 37 48.1**	**-0.3**
LACR	**Lac**	**0.25**	**224**	*i* PG	**Pb**	**13 37 43.5**	**-0.7**
LACR				*e*S	**Sb**	**13 37 48.1**	**-0.3**
ARNR	**Ardon**	**0.25**	**314**	*i* Pg	**Pg**	**13 37 43.0**	**-0.3**
ARNR				*e*Sg	**Sb**	**13 37 47.7**	**-0.7**
ARNR	**Ardon**	**0.25**	**314**	*i* PG	**Pg**	**13 37 43.0**	**-0.3**
ARNR				*e*S	**Sb**	**13 37 47.7**	**-0.7**
KMGR	**Komgaron**	**0.25**	**78**	*i* Pg	**Pb**	**13 37 43.7**	**-0.6**
KMGR				*e*Sg	**Sb**	**13 37 49.4**	**+0.8**
KMGR	**Komgaron**	**0.25**	**78**	*i* PG	**Pb**	**13 37 43.7**	**-0.6**
KMGR				*e*S	**Sb**	**13 37 49.3**	**+0.8**
MTEO	**Meteo**	**0.33**	**179**	P	**Pb**	**13 37 45.3**	**-0.4**
MTEO				S	**Sb**	**13 37 50.7**	**-0.3**
MTEO	**Meteo**	**0.33**	**179**	*e*PG	**Pb**	**13 37 45.3**	**-0.4**
MTEO				*e*S	**Sb**	**13 37 50.7**	**-0.3**
KORR	**Kora**	**0.35**	**283**	*i* Pg	**Pg**	**13 37 44.5**	**-0.5**
KORR				*e*Sg	**Sb**	**13 37 50.8**	**-0.4**
KORR	**Kora**	**0.35**	**283**	*i* PG	**Pg**	**13 37 44.5**	**-0.5**
KORR				*e*S	**Sb**	**13 37 50.8**	**-0.4**
BTKR	**Batakoyurt**	**0.37**	**2**	*e*Pg	**Pb**	**13 37 46.4**	**+0.2**
BTKR				*e*Sg	**Sb**	**13 37 52.7**	**+0.9**
BTKR	**Batakoyurt**	**0.37**	**2**	*e*PG	**Pb**	**13 37 46.4**	**+0.2**
BTKR				*e*S	**Sb**	**13 37 52.7**	**+0.9**
STDR	**Stavd-Durt**	**0.50**	**317**	*e*Pg	**Pb**	**13 37 47.7**	**-0.7**
STDR				*e*Sg	**Sb**	**13 37 56.7**	**+1.2**
STDR	**Stavd-Durt**	**0.50**	**317**	*e*PG	**Pb**	**13 37 47.7**	**-0.7**
STDR				*e*S	**Sb**	**13 37 56.7**	**+1.2**
GUDG	**Gudauri**	**0.54**	**184**	P	**Pb**	**13 37 49.0**	**-0.3**
GUDG				S	**Sb**	**13 37 57.2**	**+0.1**
GUDG	**Gudauri**	**0.54**	**184**	*i* Pg	**Pb**	**13 37 49.0**	**-0.3**
GUDG				*e*Sg	**Sb**	**13 37 57.3**	**+0.3**
GUDG	**Gudauri**	**0.54**	**184**	*i* PG	**Pb**	**13 37 49.0**	**-0.3**
GUDG				*e*S	**Sb**	**13 37 57.3**	**+0.3**
LSNR	**Lesken**	**0.58**	**298**	*e*Pg	**Pb**	**13 37 49.4**	**-0.5**
LSNR				*e*Sg	**Sn**	**13 37 59.6**	**-1.5**
LSNR	**Lesken**	**0.58**	**298**	*e*PG	**Pb**	**13 37 49.4**	**-0.5**
LSNR				*e*S	**Sn**	**13 37 59.6**	**-1.5**
DIGR	**Digorskoe uzhe**	**0.70**	**262**	*e*Pg	**Pg**	**13 37 51.1**	**-0.5**
DIGR				*e*Sg	**Sb**	**13 38 01.2**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.70**	**262**	*e*PG	**Pg**	**13 37 51.1**	**-0.5**
DIGR				*e*S	**Sb**	**13 38 01.2**	**-0.5**
CHRG	**Chargali**	**0.74**	**156**	P	**Pb**	**13 37 52.5**	**0.0**
CHRG				S	**Sn**	**13 38 03.3**	**-1.8**
PRTR	**Priterechnaya**	**0.77**	**347**	*e*Pg	**Pn**	**13 37 53.8**	**-0.5**
PRTR				*e*Sg	**Sn**	**13 38 06.8**	**+1.2**
PRTR	**Priterechnaya**	**0.77**	**347** ‖	*e*PG	**Pb**	**13 37 53.1**	**+0.1**
NCK	**Nalchik**	**0.84**	**306**	*e*Pg	**Pn**	**13 37 54.9**	**-0.5**
NCK				*e*Sg	**Sn**	**13 38 06.8**	**-0.6**
NCK	**Nalchik**	**0.84**	**306**	*e*PG	**Pn**	**13 37 54.8**	**-0.5**
NCK				*e*S	**Sn**	**13 38 06.8**	**-0.6**
GARIG	**Gari**	**0.88**	**243**	P	**Pn**	**13 37 54.9**	**-1.0**
GARIG				S	**Sn**	**13 38 07.7**	**-0.7**
GROC	**Groznyy**	**0.95**	**78**	*e*Pg	**Pn**	**13 37 57.3**	**+0.5**
GROC				*e*Sg	**Sn**	**13 38 11.2**	**+1.1**
GROC	**Groznyy**	**0.95**	**78**	*e*PG	**Pn**	**13 37 57.3**	**+0.5**
GROC				*e*S	**Sn**	**13 38 11.2**	**+1.1**
ALIG	**Mtskhetisjvari**	**1.11**	**216**	P	**Pg**	**13 37 59.0**	**-0.3**
ALIG				S	**Sn**	**13 38 15.7**	**+1.4**
ALIG	**Mtskhetisjvari**	**1.11**	**216**	*e*PG	**Pg**	**13 37 59.0**	**-0.3**
ALIG				*e*S	**Sn**	**13 38 15.6**	**+1.4**
KBTC	**Kuba-Taba**	**1.15**	**315**	*i* Pg	**Pg**	**13 37 59.8**	**-0.3**
KBTC				*e*Sg	**Sn**	**13 38 15.3**	**+0.1**
KBTC	**Kuba-Taba**	**1.15**	**315**	*i* PG	**Pg**	**13 37 59.8**	**-0.3**
KBTC				*e*S	**Sn**	**13 38 15.3**	**+0.1**
DVE	**Vedeno**	**1.17**	**92**	*e*Pg	**Pg**	**13 38 00.4**	**-0.1**
DVE				*e*Sg	**Sn**	**13 38 17.6**	**+1.8**
DVE	**Vedeno**	**1.17**	**92**	*e*PG	**Pg**	**13 38 00.4**	**-0.1**
DVE				*e*S	**Sn**	**13 38 17.5**	**+1.8**
TBLG	**Delisi**	**1.28**	**173**	P	**Pg**	**13 38 02.8**	**+0.2**
TBLG				S	**Sg**	**13 38 22.0**	**+2.7**
TBLG	**Delisi**	**1.28**	**173**	*e*PG	**Pg**	**13 38 02.8**	**+0.2**
TBLG				*e*S	**Sg**	**13 38 22.0**	**+2.7**
BTLR	**Botlikh**	**1.29**	**105**	*e*Pg	**Pg**	**13 38 02.7**	**-0.1**
BTLR				*e*Sg	**Sg**	**13 38 20.9**	**+1.3**
BTLR	**Botlikh**	**1.29**	**105**	*e*PG	**Pg**	**13 38 02.7**	**-0.1**
BTLR				*e*S	**Sg**	**13 38 20.9**	**+1.3**
TKB	**Tkibuli**	**1.31**	**240**	P	**Pg**	**13 38 02.7**	**-0.4**
TKB				S	**Sg**	**13 38 21.8**	**+1.8**
TKB	**Tkibuli**	**1.31**	**240**	*e*PG	**Pg**	**13 38 02.6**	**-0.4**
TKB				*e*S	**Sg**	**13 38 21.8**	**+1.8**
KBZ	**Khabaz**	**1.39**	**302**	*e*Pg	**Pn**	**13 38 02.1**	**-0.7**
KBZ				*e*Sg	**Sb**	**13 38 21.4**	**+0.2**
KBZ	**Khabaz**	**1.39**	**302**	*e*PG	**Pn**	**13 38 02.1**	**-0.7**
KBZ				*e*S	**Sb**	**13 38 21.4**	**+0.2**
PYA1	**Pyatigorsk**	**1.48**	**316**	*e*Pg	**Pn**	**13 38 04.0**	**-0.2**
PYA1				*e*Sg	**Sb**

DBC	**Dubki**	**1.69**	**89**	*e*PN	**Pg**	**13 38 09.4**	**-0.9**
DBC				*e*S	**Sg**	**13 38 32.9**	**+0.7**
UNCR	**Uncukul**	**1.69**	**99**	*e*Pg	**Pb**	**13 38 08.2**	**-0.6**
UNCR				*e*Sg	**Sg**	**13 38 32.7**	**+0.3**
UNCR	**Uncukul**	**1.69**	**99**	*e*PN	**Pg**	**13 38 09.1**	**-1.3**
UNCR				*e*S	**Sg**	**13 38 32.6**	**+0.3**
UNCR				pmax	pmax		
comp=Z,34nm,0.2s							
LGD	**Lagodekhi**	**1.73**	**132**	P	**Pg**	**13 38 10.5**	**-0.5**
LGD				S	**Sg**	**13 38 34.1**	**+0.6**
LGD	**Lagodekhi**	**1.73**	**132**	*e*PN	**Pg**	**13 38 10.5**	**-0.5**
LGD				*e*S	**Sg**	**13 38 34.0**	**+0.6**
KRNR	**Karanay**	**1.76**	**95**	*e*Pg	**Pb**	**13 38 09.5**	**-0.4**
KRNR				*e*Sg	**Sg**	**13 38 32.5**	**-1.9**
KRNR	**Karanay**	**1.76**	**95**	*e*PN	**Pb**	**13 38 09.5**	**-0.4**
ARKR	**Arakani**	**1.86**	**102**	*e*Pg	**Pg**	**13 38 12.5**	**-1.1**
ARKR				*e*Sg	**Sg**	**13 38 38.3**	**+0.6**
ARKR	**Arakani**	**1.86**	**102**	*e*PN	**Pg**	**13 38 12.5**	**-1.1**
ARKR				*e*S	**Sg**	**13 38 38.3**	**+0.6**
BUJR	**Buynaksk**	**1.90**	**95**	*e*Pg	**Pb**	**13 38 12.5**	**+0.1**
BUJR				*e*Sg	**Sg**	**13 38 38.9**	**-0.2**
BUJR	**Buynaksk**	**1.90**	**95**	*e*PN	**Pb**	**13 38 12.5**	**+0.1**
KMKR	**Kumukh**	**2.09**	**114**	*e*Pg	**Pb**	**13 38 15.1**	**-0.6**
KMKR				*e*Sg	**Sg**	**13 38 43.3**	**-1.9**
KMKR	**Kumukh**	**2.09**	**114**	*e*PN	**Pb**	**13 38 15.1**	**-0.6**
KMKR				*e*S	**Sg**	**13 38 43.3**	**-1.9**
ALER	**Alexandrovskoy**	**2.11**	**327**	*e*Pg	**Pb**	**13 38 14.2**	**-1.7**
ALER				*e*Sg	**Sb**	**13 38 40.7**	**-1.2**
ALER	**Alexandrovskoy**	**2.11**	**327**	*e*PN	**Pb**	**13 38 14.2**	**-1.7**
DOMR	**Dombai**	**2.14**	**279**	*e*Pg	**Pb**	**13 38 16.0**	**-0.6**
DOMR				*e*Sg	**Sb**	**13 38 43.5**	**+0.4**
DOMR	**Dombai**	**2.14**	**279**	*e*PN	**Pb**	**13 38 16.0**	**-0.6**
DOMR				*e*S	**Sb**	**13 38 43.5**	**+0.4**
VSHL	**Vashlovani**	**2.26**	**141**	P	**Pb**	**13 38 18.3**	**-0.1**
GOF	**Gofitskoye**	**2.31**	**333**	*ce*PN	**Pg**	**13 38 25.3**	**+3.1**
SGKR	**Sergokala**	**2.37**	**102**	*e*Pn	**Pb**	**13 38 18.8**	**-1.5**
SGKR				*e*Sn	**Sb**	**13 38 50.3**	**+0.9**
SGKR	**Sergokala**	**2.37**	**102**	*e*PN	**Pb**	**13 38 18.8**	**-1.5**
SGKR				*e*S	**Sb**	**13 38 50.3**	**+0.9**
GRYR	**Gornoye**	**2.73**	**295**	*e*Pn	**Pb**	**13 38 25.4**	**-1.1**
GRYR				*e*Sn	**Sn**	**13 38 54.9**	**+0.7**
AKT	**Akhty**	**2.83**	**122**	*e*Pn	**Pb**	**13 38 24.9**	**-3.2**
AKT				*e*Sn	**Sb**	**13 39 01.4**	**-1.2**
AKT	**Akhty**	**2.83**	**122**	*e*PN	**Pb**	**13 38 24.9**	**-3.2**
AKT				*e*S	**Sb**	**13 39 01.4**	**-1.2**
GNI	**Garni**	**2.86**	**177**	*e*PN	**Pb**	**13 38 28.5**	**-0.3**
GNI				*e*S	**Sb**	**13 39 04.2**	**+0.6**
KSMR	**Kasumkent**	**3.02**	**116**	*e*PN	**Pg**	**13 38 33.2**	**-2.5**
KSMR				*e*S	**Sb**	**13 39 09.2**	**+1.1**
ANN	**Anapa**	**5.43**	**292**	*e*P	**Pn**	**13 38 58.7**	**+0.4**
ANN				*e*S	**Sn**	**13 40 02.1**	**+1.5**
ANN				pmax	pmax		
comp=Z,47nm,0.8s							
OBN	**Obninsk**	**13.18**	**340**	*e*P	**Pn**	**13 40 45.2**	**+0.8**
OBN				pmax	pmax		
comp=Z,9.0nm,0.4s							
OBN				MLR	MLR		
comp=Z,436nm,6.0s							

BJI ***15*** *13:40:50.3, 15°.13S×174°.32W, h289km, mB5.0/27, mb5.0/66*
MOS ***15*** *13:40:51.1±1.1, 15°.61S×174°.91W, h292km, mb5.2/24, Error ellipse: s-maj=8.2km s-min=7.4km az=58.8*
NOU ***15*** *13:40:51.8, 15°.76S×174°.72W, h293km, mb5.0/85, Tonga Islands*
NEIC ***15*** *13:40:52.6±1.6, 15°.71S±0°.09×174°.83W±0°.08, h296km±5km, mb5.3/355, Mww5.3/14, Error ellipse: s-maj=13.1km s-min=11.1km az=162.0*
NEIC ***15*** *13:40:52.3, 15°.36S×174°.79W, h330km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr=0.93; Mθθ=0.32; Mφφ=0.61; Mrθ=-0.06; Mrφ=0.76; Mθφ=0.35; Fault plane solution: M0=1.16000×10^17^ NP1:φs=59.11000°, δ=42.54000°, λ=-60.21000°. NP2:φs=201.27000°, δ=54.07000°, λ=-114.51000°. Principal axes: T 1.2663, Plg=6.0000°, Azm=308.0000°; N -0.2156, Plg=20.0000°, Azm=216.0000°; P -1.0507, Plg=69.0000°, Azm=55.0000°;*
NEIC ***15*** *13:40:52.3, 15°.76S×174°.79W, h330km*
IDC ***15*** *13:40:53.1±0.6, 15°.73S×174°.95W, h307km±4km, mb4.5/20, mbtmp5.1/21, Error ellipse: s-maj=11.5km s-min=8.3km az=150.0*
GCMT ***15*** *13:40:54.6±0.2, 15°.67S±0°.03×174°.73W±0°.02, h300km±1km, MW5.3/112, Moment Tensor Solution. s112, c172; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr=1.01±.03; Mθθ=0.26±.05; Mφφ=0.74±.05; Mrθ=0.15±.05; Mrφ=0.51±.04; Best double couple: M0=1.28700×10^17^ NP1:φs=50.00000°, δ=35.00000°, λ=-70.00000°. NP2:φs=205.00000°, δ=58.00000°, λ=-104.00000°. Principal axes: T 1.4230, Plg=12.0000°, Azm=305.0000°; N -0.2710, Plg=11.0000°, Azm=213.0000°; P -1.1510, Plg=73.0000°, Azm=79.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 15 13:40:51.7±0.3, 15°.68S±0°.04×174°.82W±0°.04, h294km±2km, h295km:pP-P, n1071, σ1s15/1015, mb5.2/250, 59C-107D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**59**		**Pn**	**13 41 50.7**	**-0.9**
AFI	**Afiamalu**	**3.43**	**59**	P	**Pn**	**13 41 50.6**	**-1.0**
AFI	**Afiamalu**	**3.43**	**59**	S	**S**	**13 42 38.5**	**-0.9**
AFI	**Afiamalu**	**3.43**	**59**	P	**Pn**	**13 41 50.7**	**-0.9**
FUTU	**Fugatoga**	**3.47**	**293**	Pn	**Pn**	**13 41 53.0**	**+1.1**
FUTU	**Fugatoga**	**3.47**	**293**	P	**Pn**	**13 41 53.2**	**+1.2**
FUTU	**Fugatoga**	**3.47**	**293**	P	**S**	**13 42 43.4**	**+3.3**
LKBA	**Tubou, Lakemba**	**4.59**	**236**	P	**Pn**	**13 42 04.3**	**0.0**
TAVE	**Taveuni**	**5.00**	**258**	P	**Pn**	**13 42 10.4**	**+1.4**
DGTI	**Dogotuki**	**5.28**	**263**	P	**Pn**	**13 42 13.3**	**+1.0**
NIUE	**Niue**	**5.76**	**127**	Pn	**Pn**	**13 42 17.0**	**-1.0**
NIUE	**Niue**	**5.76**	**127**	P	**Pn**	**13 42 17.3**	**-0.7**
NIUE	**Niue**	**5.76**	**127**	P	**Pn**	**13 42 17.3**	**-0.7**
NIUE				S	**S**	**13 43 28.5**	**+1.1**
MSVF	**Nonsavu**	**7.13**	**252**	Pn	**Pn**	**13 42 36.2**	**+1.5**
MSVF	**Nonsavu**	**7.13**	**252**	P	**Pn**	**13 42 36.1**	**+1.4**
95nm,0.9s,baz=116,slow=23,SNR=28							
MSVF				S	**S**	**13 43 58.5**	**+0.5**
20nm,0.9s,baz=275,slow=23,SNR=0.8							
MSVF	**Nonsavu**	**7.13**	**252**	P	**Pn**	**13 42 35.9**	**+1.2**
GLKZ	**Green Lake**	**13.82**	**191**	P	**P**	**13 43 53.7**	**-2.3**
GLKZ				S	S	13 46 19.3	-9.2
RAR	**Rarotonga**	**15.29**	**113**	P	**P**	**13 44 11.0**	**-1.4**
RAR	**Rarotonga**	**15.29**	**113**	P	**Pn**	**13 44 15.9**	**+2.1**
RAR				pmax	pmax		
comp=Z,83nm,0.6s							
PINNC	**Pines Island,**	**18.11**	**245**	P	**P**	**13 44 42.2**	**-0.8**
PINNC				IAmb	IAmb	13 44 46.3	
comp=Z,93nm,1.1s							
DZM	**Mont Dzumac**	**18.83**	**247**	P	**P**	**13 44 49.9**	**-0.9**
DZM	**Mont Dzumac**	**18.83**	**247**	*e*P	**P**	**13 44 49.0**	**-1.8**
comp=Z,170nm,30.5s							
DZM				*e*S	**S**	**13 48 04.2**	**-5.0**
comp=Z,338nm,25.6s							
DZM				*e*LR	LR	13 49 36.2	
comp=Z,281nm,21.4s							
DZM	**Mont Dzumac**	**18.83**	**247**	P	**P**	**13 44 49.4**	**-1.4**
comp=Z,16nm,0.9s,baz=260,slow=19,SNR=8.3							
OUZ	**Omahuta**	**22.06**	**206**	P	**P**	**13 45 24.1**	**+1.4**
WCZ	**Waipu Caves**	**22.38**	**204**	P	**P**	**13 45 26.3**	**+0.7**
KUZ	**Kuaotunu**	**22.60**	**200**	P	**P**	**13 45 27.9**	**+0.3**
HAZ	**Te Kaha**	**22.94**	**195**	P	**P**	**13 45 29.6**	**-1.1**
HAZ				S	**S**	**13 49 26.2**	**+7.9**
PKGZ	**Pakihiroa**	**22.97**	**195**	P	**P**	**13 45 32.3**	**+1.3**
MKAZ	**Moumakai**	**23.12**	**201**	P	**P**	**13 45 32.9**	**+0.6**
PUZ	**Puketiti**	**23.13**	**194**	P	**P**	**13 45 32.5**	**+0.1**
PUZ				S	**S**	**13 49 28.0**	**+6.6**
TWGZ	**Tauwhareparae**	**23.29**	**194**	P	**P**	**13 45 34.9**	**+1.0**
MWZ	**Matawai**	**23.55**	**195**	P	**P**	**13 45 34.2**	**-2.1**
MWZ				S	**S**	**13 49 29.4**	**+1.3**
TOZ	**Tahuroa Road**	**23.57**	**199**	P	**P**	**13 45 36.7**	**+0.3**
URZ	**Urewera**	**23.59**	**196**	P	**P**	**13 45 33.0**	**-3.5**
URZ				S	**S**	**13 49 36.8**	**+8.1**
RIGZ	**Rimuhau**	**23.85**	**194**	P	**P**	**13 45 38.6**	**-0.3**
TLZ	**Tolley Road**	**24.11**	**199**	P	**P**	**13 45 40.9**	**-0.5**
PPT	**Papeete**	**24.25**	**98**	P	**P**	**13 45 44.2**	**+1.4**
comp=Z,30nm,0.8s,baz=322,slow=12,SNR=2.9							
comp=Z,30nm,0.8s							
PPT2	**Papeete2**	**24.25**	**98**	*e*S	**S**	**13 49 38.8**	**-1.0**
comp=Z,305nm,28.5s							
PPT2				*es*S	sS	13 51 01.7	-13
comp=Z,313nm,25.8s							
PPT2				*es*S	SS	13 51 07.8	-27
comp=Z,420nm,26.0s							
XMAS	**Kiritimati**	**24.60**	**46**	P	**P**	**13 45 46.1**	**+0.1**
XMAS	**Kiritimati**	**24.60**	**46**	P	**P**	**13 45 46.5**	**+0.5**
BKZ	**Black Stump Fm**	**24.61**	**196**	P	**P**	**13 45 44.5**	**-1.4**
ETVZ	**East Tongariro**	**24.80**	**198**	P	**P**	**13 45 45.3**	**-2.3**
PXZ	**Pawanui**	**25.32**	**195**	P	**P**	**13 45 50.6**	**-1.5**
TSZ	**Takapari Road**	**25.59**	**197**	P	**P**	**13 45 53.0**	**-1.5**
PMOR	**Pomariorio Ree**	**25.97**	**92**	*e*P	**P**	**13 45 58.4**	**+0.2**
comp=Z,128nm,0.8s							
BFZ	**Birch Farm**	**26.09**	**196**	P	**P**	**13 45 56.9**	**-2.2**
VAH	**Vaihoa**	**26.20**	**93**	*e*P	**P**	**13 46 00.2**	**-0.1**
comp=Z,98nm,0.9s							
MRZ	**Mangatainoka R**	**26.25**	**197**	P	**P**	**13 45 57.1**	**-3.4**
QRZ	**Quartz Range**	**27.36**	**201**	P	**P**	**13 46 10.5**	**+0.2**
QRZ	**Quartz Range**	**27.36**	**201**	P	**P**	**13 46 08.7**	**-1.6**
NNZ	**Nelson**	**27.42**	**200**	P	**P**	**13 46 09.6**	**-1.2**
THZ	**Tophouse**	**28.07**	**200**	P	**P**	**13 46 15.4**	**-1.3**
DSZ	**Denniston Nort**	**28.43**	**201**	P	**P**	**13 46 18.7**	**-1.1**
KHZ	**Kahutara**	**28.46**	**198**	P	**P**	**13 46 20.5**	**+0.5**
KHZ	**Kahutara**	**28.46**	**198**	P	**P**	**13 46 17.6**	**-2.4**
GVZ	**Greta Valley S**	**29.12**	**199**	P	**P**	**13 46 23.7**	**-2.1**
LTZ	**Lake Taylor**	**29.19**	**200**	P	**P**	**13 46 23.2**	**-3.3**
INZ	**Inchbonnie**	**29.41**	**201**	P	**P**	**13 46 26.3**	**-2.1**
EIDS	**Eidsvold**	**33.28**	**248**		**P**	**13 47 00.8**	**-1.6**
WHZ	**Wether Hill Ro**	**33.41**	**202**	P	**P**	**13 47 03.0**	**-0.2**
WHZ				IAmb	IAmb	13 47 05.2	
comp=Z,63nm,0.9s							
ARMA	**Armidale**	**34.03**	**239**	P	**P**	**13 47 08.2**	**-0.6**
AULRC	**Lightning Ridg**	**36.81**	**242**	P	**P**	**13 47 32.6**	**+0.3**
CNB	**Canberra Magne**	**37.50**	**232**	P	**P**	**13 47 38.1**	**0.0**
PMG	**Port Moresby**	**37.59**	**275**	P	**P**	**13 47 40.9**	**+1.8**
CAN	**Canberra**	**37.78**	**232**	P	**P**	**13 47 40.1**	**-0.3**
CAN	**Canberra**	**37.78**	**232**	P	**P**	**13 47 40.3**	**-0.1**
CAN	**Canberra**	**37.78**	**232**	P	**P**	**13 47 40.1**	**-0.3**
CAN				pmax	pmax		
comp=Z,16nm,1.0s							
CAN	**Canberra**	**37.78**	**232**	P	**P**	**13 47 39.8**	**-0.6**
CAN				pP	**pwP**	**13 48 40.7**	**-0.4**
MTSU	**Mount Surprise**	**39.12**	**260**	P	**P**	**13 47 51.5**	**-0.2**
CMSA	**Cobar Meteorol**	**39.24**	**239**	P	**P**	**13 47 52.4**	**0.0**
WAKE	**Wake Island**	**39.24**	**332**	P	**P**	**13 47 52.5**	**0.0**
QLP	**Quilpie**	**39.55**	**247**	P	**P**	**13 47 55.6**	**+0.5**
MANU	**Manus Island**	**39.65**	**286**	P	**P**	**13 47 57.5**	**+1.4**
KIP	**Kipapa**	**40.39**	**25**	P	**P**	**13 48 03.7**	**+1.8**
KIP				IAmb	IAmb	13 48 03.7	
comp=Z,199nm,1.1s							
KIP	**Kipapa**	**40.39**	**25**	‖*i*P	**P**	**13 48 02.9**	**+1.0**
KIP				pmax	pmax		
comp=Z,69nm,1.1s							
KIP	**Kipapa**	**40.39**	**25**	P	**P**	**13 48 03.6**	**+1.7**
COEN	**Coen**	**40.60**	**267**	P	**P**	**13 48 04.3**	**+0.5**
COEN	**Coen**	**40.60**	**267**	P	**P**	**13 48 04.6**	**+0.8**
TOO	**Toolangi**	**41.23**	**230**	P	**P**	**13 48 08.5**	**-0.2**
TOO	**Toolangi**	**41.23**	**230**	P	**P**	**13 48 08.5**	**-0.2**
TOO				pmax	pmax		
comp=Z,21nm,1.2s							
CORO	**Coronation Par**	**41.63**	**224**	P	**P**	**13 48 12.1**	**+0.4**
TAU	**Tasmania Unive**	**42.19**	**222**	P	**P**	**13 48 15.9**	**-0.3**
TAU	**Tasmania Unive**	**42.19**	**222**	P	**P**	**13 48 15.9**	**-0.3**
TAU				pmax	pmax		
comp=Z,60nm,1.5s							
BRAT	**Ballarat**	**42.39**	**231**	P	**P**	**13 48 18.1**	**+0.2**
STKA	**Stephens Creek**	**42.72**	**240**	P	**P**	**13 48 20.5**	**-0.1**
STKA	**Stephens Creek**	**42.72**	**240**	P	**P**	**13 48 20.0**	**-0.6**
comp=Z,5.9nm,0.8s,baz=92,slow=9.7,SNR=13							
STKA				PcP	**PP**	**13 50 06.8**	**+0.2**
comp=Z,11nm,0.7s,baz=79,slow=2.9,SNR=9.2							
comp=Z,5.9nm,0.8s							
STKA	**Stephens Creek**	**42.72**	**240**	P	**P**	**13 48 21.0**	**+0.4**
STKA	**Stephens Creek**	**42.72**	**240**	‖*e*P	**P**	**13 48 20.2**	**-0.4**
INKA	**Innaminka**	**42.78**	**246**	P	**P**	**13 48 22.1**	**+0.9**
QIS	**Mount Isa**	**43.48**	**257**	P	**P**	**13 48 26.7**	**-0.2**
HTT	**Hallett**	**45.23**	**238**	P	**P**	**13 48 40.9**	**+0.3**
AUMBR	**Murray Bridge**	**45.30**	**236**	P	**P**	**13 48 41.2**	**+0.2**
LCRK	**Leigh Creek**	**45.32**	**243**	P	**P**	**13 48 41.3**	**+0.1**
JAY	**Jayapura**	**45.71**	**282**	P	**P**	**13 48 43.7**	**-0.8**
comp=Z,46nm,1.0s							
WHYH	**Whyalla**	**46.27**	**239**	P	**P**	**13 48 49.1**	**+0.6**
OOD	**Oodnadatta**	**47.25**	**247**	P	**P**	**13 48 56.5**	**+0.4**
BBOO	**Buckleboo**	**47.49**	**240**	P	**P**	**13 48 57.6**	**-0.4**
BBOO	**Buckleboo**	**47.49**	**240**	P	**P**	**13 48 57.8**	**-0.2**
SMPI	**Sarmi**	**47.76**	**282**	P	**P**	**13 49 00.9**	**+0.6**
comp=Z,39nm,0.9s							
WB0	**Warramunga Arr**	**48.41**	**257**	P	**P**	**13 49 04.0**	**-1.2**
WB2	**Warramunga Arr**	**48.44**	**257**	P	**P**	**13 49 04.2**	**-1.2**
WRAB	**Tennant Creek**	**48.44**	**257**	‖*e*P	**P**	**13 49 03.8**	**-1.6**
WRAB				pmax	pmax		
comp=Z,25nm,0.7s							
WRA	**Warramunga Arr**	**48.45**	**257**	P	**P**	**13 49 04.2**	**-1.2**
comp=Z,25nm,0.7s,baz=90,slow=7.2,SNR=185							
WRA				pP	**pP**	**13 50 07.2**	**+0.9**
comp=Z,2.4nm,0.9s,baz=93,slow=8.1,SNR=1.5							
WRA				PcP	**PcP**	**13 50 26.4**	**-0.5**
comp=Z,12nm,0.8s,baz=89,slow=3.9,SNR=12							
WRA				S	**S**	**13 55 38.8**	**-5.0**
comp=Z,0.5nm,0.9s,baz=91,slow=13,SNR=2.4							
WRA				PKiKP	**PKiKP**	**13 57 13.9**	**-1.9**
comp=Z,0.7nm,0.7s,baz=79,slow=0.9,SNR=3.9							
comp=Z,25nm,0.7s							
AS01	**Alice Springs**	**48.68**	**252**	P	**P**	**13 49 06.6**	**-0.6**
AS31	**Alice Springs**	**48.72**	**252**	P	**P**	**13 49 06.8**	**-0.8**
ASAR	**Alice Springs**	**48.73**	**252**	P	**P**	**13 49 06.3**	**-1.2**
comp=Z,145nm,0.7s,baz=86,slow=8.3,SNR=1314							
ASAR				PcP	**PcP**	**13 50 27.5**	**-0.3**
comp=Z,13nm,0.7s,baz=90,slow=5.7,SNR=8.6							
ASAR				S	**S**	**13 55 42.5**	**-5.0**
comp=Z,4.3nm,1.1s,baz=90,slow=14,SNR=9.4							
ASAR				PKiKP	**PKiKP**	**13 57 14.2**	**-1.9**
comp=Z,0.3nm,0.7s,baz=96,slow=1.5,SNR=4.2							
comp=Z,145nm,0.7s							
BAKI	**Biak**	**50.48**	**282**	P	**P**	**13 49 21.5**	**+0.7**
comp=Z,85nm,0.9s							
KDU	**Kakadu**	**51.09**	**266**	P	**P**	**13 49 25.1**	**-0.2**
MTN	**Manton Dam**	**52.35**	**266**	P	**P**	**13 49 33.9**	**-0.6**
MTN	**Manton Dam**	**52.35**	**266**	P	**P**	**13 49 34.4**	**-0.1**
FAKI	**Fak Fak**	**53.60**	**278**	P	**P**	**13 49 43.4**	**-0.3**
comp=Z,21nm,0.8s							
WRKA	**Warakurna**	**53.82**	**250**	P	**P**	**13 49 44.4**	**-0.7**
FORT	**Forrest**	**54.07**	**243**	P	**P**	**13 49 45.9**	**-0.9**
FORT				IAmb	IAmb	13 49 46.7	
comp=Z,69nm,0.7s							
FORT	**Forrest**	**54.07**	**243**	P	**P**	**13 49 47.0**	**+0.2**
KNRA	**Kununurra**	**54.17**	**262**	P	**P**	**13 49 47.6**	**-0.1**
SWI	**Sorong**	**55.17**	**280**	P	**P**	**13 49 55.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**56.82**	**258**	P	**P**	**13 50 06.5**	**+0.1**
AAI	**Ambon**	**57.26**	**276**	P	**P**	**13 50 10.1**	**+0.5**
comp=Z,70nm,0.8s							
NLAI	**Namlea**	**58.43**	**276**	P	**P**	**13 50 17.2**	**-0.5**
comp=Z,58nm,0.7s							
SOEI	**Soe**	**59.55**	**268**	P	**P**	**13 50 24.5**	**-1.0**
SOEI				IAmb	IAmb	13 50 36.1	
comp=Z,68nm,0.7s							
SOEI	**Soe**	**59.55**	**268**	P	**P**	**13 50 27.1**	**+1.6**
SOEI	**Soe**	**59.55**	**268**	P	**P**	**13 50 27.0**	**+1.6**
comp=Z,104nm,0.9s							
SANI	**Sanana**	**59.83**	**277**	P	**P**	**13 50 27.3**	**0.0**
SANI	**Sanana**	**59.83**	**277**	P	**P**	**13 50 26.9**	**-0.4**
comp=Z,70nm,0.9s							
MMRI	**Maumere**	**61.75**	**269**	P	**P**	**13 50 38.7**	**-1.4**
MMRI				IAmb	IAmb	13 50 40.6	
comp=Z,63nm,1.1s							
MMRI	**Maumere**	**61.75**	**269**	P	**P**	**13 50 39.9**	**-0.2**
MMRI	**Maumere**	**61.75**	**269**	P	**P**	**13 50 39.8**	**-0.3**
comp=Z,71nm,1.0s							
PSA00	**Pilbara Seismi**	**61.82**	**254**	P	**P**	**13 50 39.8**	**-0.6**
PSA00				IAmb	IAmb	13 50 40.8	
comp=Z,35nm,0.7s							
PSA00	**Pilbara Seismi**	**61.82**	**254**	P	**P**	**13 50 40.1**	**-0.4**
MBWA	**Marble Bar**	**61.97**	**254**	P	**P**	**13 50 40.7**	**-0.8**
MBWA	**Marble Bar**	**61.97**	**254**	P	**P**	**13 50 41.6**	**+0.1**
MBWA	**Marble Bar**	**61.97**	**254**	P	**P**	**13 50 40.8**	**-0.7**
KMSI	**Cibinong**	**62.53**	**279**	P	**P**	**13 50 45.7**	**+0.5**
KDI	**Kendari**	**62.54**	**274**	P	**P**	**13 50 46.8**	**+1.5**
comp=Z,1μmcomp=Z,47nm,1.0s							
KLBR	**Kellerberrin**	**62.90**	**242**	P	**P**	**13 50 46.7**	**-0.8**
VNDA	**Vanda**	**62.96**	**186**	P	**P**	**13 50 48.2**	**+1.2**
VNDA	**Vanda**	**62.96**	**186**	P	**P**	**13 50 47.5**	**+0.5**
comp=Z,20nm,1.0s,baz=7.9,slow=5.1,SNR=13							
comp=Z,20nm,1.0s							
VNDA	**Vanda**	**62.96**	**186**	P	**P**	**13 50 48.2**	**+1.2**
VNDA				pmax	pmax		
comp=Z,40nm,1.1s							
VNDA	**Vanda**	**62.96**	**186**	P	**P**	**13 50 48.0**	**+0.9**
VNDA				PcP	**PcP**	**13 51 23.4**	**+1.3**
LUWI	**Luwuk**	**63.20**	**277**	P	**P**	**13 50 50.5**	**+0.8**
LUWI				IAmb	IAmb	13 50 51.2	
comp=Z,59nm,0.8s							
LUWI	**Luwuk**	**63.20**	**277**	P	**P**	**13 50 51.1**	**+1.4**
LUWI	**Luwuk**	**63.20**	**277**	P	**P**	**13 50 51.1**	**+1.4**
comp=Z,81nm,0.8s							
NWAO	**Narrogin (SRO)**	**63.29**	**241**	P	**P**	**13 50 49.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**63.29**	**241**	P	**P**	**13 50 49.1**	**-0.9**
NWAO				pmax	pmax		
comp=Z,21nm,1.2s							
NWAO	**Narrogin (SRO)**	**63.29**	**241**	P	**P**	**13 50 49.7**	**-0.3**
BSSI	**Bau Bau, Buton**	**64.03**	**271**	P	**P**	**13 50 55.0**	**0.0**
comp=Z,30nm,0.7s							
WBSI	**Waikabubak, Su**	**64.27**	**267**	P	**P**	**13 50 58.3**	**+1.6**
comp=Z,43nm,1.1s							
APSI	**Ampana**	**64.31**	**277**	P	**P**	**13 50 57.3**	**+0.4**
comp=Z,82nm,1.2s							
MRSI	**Marisa**	**64.44**	**278**	P	**P**	**13 50 58.1**	**+0.4**
comp=Z,49nm,1.0s							
BKSI	**Bulukumba**	**64.58**	**272**	P	**P**	**13 50 58.4**	**-0.2**
comp=Z,14nm,0.8s							
KAPI	**Kappang**	**65.02**	**272**	P	**P**	**13 51 02.3**	**+0.9**
KAPI	**Kappang**	**65.02**	**272**	*d*iP	**P**	**13 51 01.4**	**0.0**
KAPI				pmax	pmax		
comp=Z,24nm,0.9s							
SPSI	**Sidrap Palu**	**65.28**	**273**	P	**P**	**13 51 02.8**	**-0.3**
comp=Z,28nm,0.9s							
TOLI2	**Tolitoli**	**65.74**	**278**	P	**P**	**13 51 05.5**	**-0.5**
TOLI2	**Tolitoli**	**65.74**	**278**	P	**P**	**13 51 06.4**	**+0.4**
PLAI	**Plampang**	**66.00**	**267**	P	**P**	**13 51 08.3**	**+0.6**
PLAI	**Plampang**	**66.00**	**267**	P	**P**	**13 51 07.6**	**-0.1**
comp=Z,52nm,0.9s							
PCI	**Palu**	**66.05**	**276**	P	**P**	**13 51 10.1**	**+2.1**
GIRL	**Giralia**	**66.84**	**252**	P	**P**	**13 51 13.8**	**+1.0**
TWSI	**Taliwang, Sumb**	**66.88**	**267**	P	**P**	**13 51 12.8**	**-0.5**
comp=Z,930nmcomp=Z,113nm,0.9s							
ADK	**Adak**	**67.30**	**359**	P	**P**	**13 51 15.7**	**+0.7**
ADK	**Adak**	**67.30**	**359**	P	**P**	**13 51 15.7**	**+0.7**
ADK				pmax	pmax		
comp=Z,159nm,1.3s							
JMM	**Marumori**	**67.63**	**323**	P	**P**	**13 51 18.5**	**+1.1**
CCD	**Concordia, Ant**	**67.86**	**194**	P	**P**	**13 51 19.2**	**+0.4**
CCD				PcP	**PcP**	**13 51 43.2**	**+0.2**
CCD				pP	**pwP**	**13 52 29.1**	**+1.8**
JGF	**Kuroka**	**68.20**	**319**	P	**P**	**13 51 21.9**	**+0.9**
INU	**Inuyama**	**68.25**	**319**	P	**P**	**13 51 20.8**	**-0.5**
INU	**Inuyama**	**68.25**	**319**	P	**P**	**13 51 22.7**	**+1.4**
MJAR	**Matsushiro Arr**	**68.28**	**321**	P	**P**	**13 51 21.0**	**-0.5**
comp=Z,8.2nm,0.8s,baz=155,slow=5.6,SNR=18							
comp=Z,8.2nm,0.8s							
MJAR	**Matsushiro Arr**	**68.28**	**321**	P	**P**	**13 51 21.0**	**-0.5**
MAJO	**Matsushiro**	**68.28**	**321**	P	**P**	**13 51 21.4**	**-0.1**
MAJO	**Matsushiro**	**68.28**	**321**	P	**P**	**13 51 21.8**	**+0.3**
MAJO	**Matsushiro**	**68.28**	**321**	*d*iP	**P**	**13 51 20.9**	**-0.6**
MAJO				pmax	pmax		
comp=Z,33nm,1.4s							
MAJO	**Matsushiro**	**68.28**	**321**	P	**P**	**13 51 21.2**	**-0.3**
MJB9	**Matsu-T

comp=Z,62nm,0.8s
PFO Pinyon Flats O 74.11 48 P **P 13 51 57.1 +0.6**
PFO IAmb IAmb 13 51 58.5
comp=Z,64nm,1.4s
PFO Pinyon Flats O 74.11 48 *d iP* **P 13 51 57.0 +0.6**
PFO pmax pmax
comp=Z,86nm,1.4s
SRIG Santa Rosalia 74.21 55 P **P 13 51 57.1 +0.1**
SRIG IAmb IAmb 13 51 58.7
comp=Z,53nm,1.0s
SBUM Sibu 74.30 277 P **P 13 51 57.6 -0.3**
SBUM Sibu 74.30 277 P **P 13 51 59.6 +1.8**
STKI Sintang 74.34 275 P **P 13 51 59.7 +1.6**
QSPA South Pole Qui 74.36 180 P **P 13 51 57.3 -0.1**
QSPA IAmb IAmb 13 51 59.5
comp=Z,65nm,1.1s
QSPA South Pole Qui 74.36 180 P **P 13 51 57.5 +0.1**
comp=Z,37nm,1.0s,baz=214,slow=0.9,SNR=63
comp=Z,37nm,1.0s
R16K Pilot Point 74.37 10 P **P 13 51 56.3 -0.9**
baz=197
YBH Yreka Blue Hor 74.65 38 P **P 13 52 00.3 +1.0**
YBH Yreka Blue Hor 74.65 38 P **P 13 52 00.3 +1.0**
YBH pmax pmax
comp=Z,83nm,0.9s
WAKR Walker 74.76 42 P **P 13 52 00.6 +0.5**
WAKR IAmb IAmb 13 52 02.4
comp=Z,52nm,0.8s
OHAK Old Harbor 74.81 12 P **P 13 51 59.4 -0.4**
baz=201
HATC Hat Creek Radi 74.84 39 P **P 13 52 00.8 +0.4**
KPJI Karang Pucung 74.86 267 P **P 13 52 01.1 +0.1**
comp=Z,34nm,0.7s
R18K Karluk 74.91 11 P **P 13 52 00.3 +0.1**
baz=200
DSP Deep Springs 75.09 44 P **P 13 52 02.5 +0.7**
DSP IAmb IAmb 13 52 04.3
comp=Z,60nm,1.1s
YERR Yerington 75.16 42 P **P 13 52 02.9 +0.5**
YERR IAmb IAmb 13 52 04.3
comp=Z,72nm,1.0s
L04D Klamath Falls 75.19 38 P **P 13 52 02.8 +0.4**
ACHA Angle Creek He 75.36 11 P **P 13 52 02.8 -0.2**
KSRS Korea Array 75.41 316 P **P 13 52 04.9 +1.3**
comp=Z,12nm,0.9s,baz=126,slow=5.7,SNR=27
comp=Z,12nm,0.9s
KSAR Wonju Array Be 75.43 316 P **P 13 52 04.4 +0.7**
KSAR Wonju Array Be 75.43 316 P **P 13 52 04.4 +0.7**
NVAR Mina Array Bea 75.45 43 P **P 13 52 05.0 +0.9**
comp=Z,44nm,0.8s,baz=227,slow=9.5,SNR=124
NVAR pP **pwP 13 53 15.8 +0.4**
comp=Z,1.7nm,0.7s,baz=252,slow=4.9,SNR=1.3
NVAR PP **PP 13 54 57.7 -0.3**
comp=Z,2.0nm,0.8s,baz=243,slow=10,SNR=3.6
comp=Z,44nm,0.8s
KDAK Kodiak Island 75.47 12 P **P 13 52 03.6 +0.1**
baz=202
O14K Tigyukauivet M 75.48 7 P **P 13 52 03.0 -0.5**
baz=193
Q16K King Salmon 75.58 10 P **P 13 52 04.0 0.0**
baz=198,SNR=6.4
O15K Ungalikthiuk R 75.59 8 P **P 13 52 03.6 -0.5**
baz=195
113A Mohawk Valley, 75.63 50 P **P 13 52 05.3 +0.3**
113A IAmb IAmb 13 52 07.0
comp=Z,38nm,1.0s
P16K Nushagak River 75.71 9 P **P 13 52 04.2 -0.5**
baz=197,SNR=11
KSM Kuching 75.85 276 P **P 13 52 07.4 +0.7**
J04A Umpqua Nationa 75.93 37 P **P 13 52 07.4 +0.7**
TYV Tymovskoe 75.99 334 *eP* **P 13 52 06.4 -0.2**
TYV pmax pmax
comp=Z,40nm,0.9s
TYV pmax pmax
comp=Z,200nm,4.9s
TPNV Topopah Spring 76.02 45 IAmb IAmb 13 52 09.3
comp=Z,42nm,0.9s
BBJI Bungbulang 76.06 266 P **P 13 52 07.7 -0.2**
N14K Kuskokwak Cree 76.09 7 P **P 13 52 07.3 +0.4**
baz=193
I04A Tendick Farm, 76.09 36 IAmb IAmb 13 52 09.1
comp=Z,48nm,0.9s
P17K Kvichak River 76.10 10 P **P 13 52 06.6 -0.4**
baz=198
M11K Mekoryuk 76.12 4 P **P 13 52 08.2 +1.2**
baz=188
VLA Vladivostok 76.20 323⇓ *eP* **P 13 52 08.9 +1.0**
VLA pmax pmax
comp=Z,16nm,1.4s
O16K Kokwok River B 76.23 9 IAmb IAmb 13 52 08.6
comp=Z,37nm,0.9s
O16K Kokwok River B 76.23 9 P **P 13 52 06.7 -1.1**
baz=196
LEM Lembang 76.25 267 P **P 13 52 09.8 +0.7**
comp=Z,80nm,0.9s
Q20K Shuyak Island 76.28 12 P **P 13 52 06.3 -1.7**
baz=202
INCN Inchon 76.29 316 P **P 13 52 10.0 +1.4**
Q19K Cape Douglas, 76.34 11 P **P 13 52 07.7 -0.7**
baz=201
V12A Nelson 76.34 46 IAmb IAmb 13 52 11.2
comp=Z,62nm,1.1s
H04D Lebanon 76.36 35 IAmb IAmb 13 52 11.1
comp=Z,99nm,1.2s
M13K Dall Lake 76.39 6 P **P 13 52 09.1 +0.5**
baz=191,SNR=7.9
Q09A Carvers 76.41 43 IAmb IAmb 13 52 11.4
comp=Z,77nm,1.1s
P18K Big Mountain, 76.49 10 P **P 13 52 08.5 -0.7**
P18K Big Mountain, 76.49 10 P **P 13 52 08.7 -0.6**
baz=199,SNR=25
N15K Kwethluk River 76.52 8 P **P 13 52 08.8 -0.6**
baz=194
PSTR Posyet 76.55 322⇓ *eP* **P 13 52 11.5 +1.6**
O17K Koliganek Bris 76.55 9 P **P 13 52 09.3 -0.2**
baz=198,SNR=11
W13A Hualapai Mount 76.70 47 IAmb IAmb 13 52 13.4
comp=Z,51nm,1.0s
S11A Rachel 76.72 44 IAmb IAmb 13 52 12.8
comp=Z,45nm,1.0s
Y14A Wickenburg 76.76 49 IAmb IAmb 13 52 13.4
comp=Z,48nm,0.9s
H04A Detroit Lake 76.77 36 IAmb IAmb 13 52 12.1
comp=Z,39nm,0.7s
USRK Ussuriysk Ar. 76.79 324 P **P 13 52 12.2 +1.0**
USRK Ussuriysk Ar. 76.79 324 P **P 13 52 11.9 +0.7**
comp=Z,9.0nm,0.8s,baz=124,slow=3.2,SNR=14
comp=Z,9.0nm,0.8s
USRK Ussuriysk Ar. 76.79 324 P **P 13 52 12.2 +1.0**
USA0B Ussuriysk Arra 76.80 324 *c iP* **P 13 52 12.5 +1.3**
M14K Bethel 76.87 6 P **P 13 52 11.9 +0.8**
M14K Bethel 76.87 6 P **P 13 52 11.6 +0.4**
baz=193,SNR=21
O18K Koktuh Hills 76.93 10 IAmb IAmb 13 52 12.8
comp=Z,84nm,1.0s
O18K Koktuh Hills 76.93 10 P **P 13 52 11.4 -0.2**
baz=199,SNR=14
M15K Kasigluk River 76.96 7 P **P 13 52 12.1 +0.4**
baz=194
I05D Terrebonne, OR 77.04 36 IAmb IAmb 13 52 14.6
comp=Z,41nm,0.9s
P19K Oil Pt 77.09 11 IAmb IAmb 13 52 13.1
comp=Z,49nm,0.8s
P19K Oil Pt 77.09 11 P **P 13 52 12.7 +0.2**
baz=201
R11B Troy Canyon, C 77.20 44 P **P 13 52 14.2 +0.3**
baz=238
N17K Nushagak Hills 77.26 9 P **P 13 52 13.2 -0.2**
baz=197
L14K Kuka Creek 77.37 6 IAmb IAmb 13 52 15.9
comp=Z,56nm,0.8s
L14K Kuka Creek 77.37 6 P **P 13 52 14.3 +0.3**
baz=192
HOM Homer 77.40 12 P **P 13 52 14.4 +0.2**
baz=203
O19K Port Alsworth 77.41 10 P **P 13 52 13.9 -0.3**
baz=200,SNR=20
HOOD Mount Hood Mea 77.46 35 IAmb IAmb 13 52 16.7
comp=Z,88nm,1.1s
M16K Timber Creek 77.49 8 P **P 13 52 14.9 +0.2**
baz=196
WVOR Wild Horse Val 77.51 39 IAmb IAmb 13 52 17.3
comp=Z,67nm,1.0s
WVOR Wild Horse Val 77.51 39 P **P 13 52 16.2 +0.8**
NLWA Neilton Lookou 77.57 33 IAmb IAmb 13 52 17.7
comp=Z,64nm,1.1s
O20K Slope Mountain 77.60 11 P **P 13 52 15.2 -0.2**
baz=202,SNR=5.1
N18K Kilae Creek 77.61 9 P **P 13 52 14.9 -0.5**
baz=199
TUC Tucson 77.63 51 P **P 13 52 17.5 +1.3**
TUC IAmb IAmb 13 52 18.7
comp=Z,37nm,0.9s
TUC Tucson 77.63 51 P **P 13 52 17.5 +1.3**
TUC pmax pmax
comp=Z,37nm,0.9s
BRSE Bradley Lake S 77.66 12 P **P 13 52 16.0 +0.3**
baz=204,SNR=8.5
K13K Kusilvak Mount 77.77 5 P **P 13 52 16.9 +0.7**
baz=190
L15K Ungalak Mounta 77.83 6 P **P 13 52 17.1 +0.6**
baz=193,SNR=17
I07A Izee 77.94 37 IAmb IAmb 13 52 19.7
comp=Z,42nm,1.0s
N19K Bonanza Creek 77.96 10 IAmb IAmb 13 52 18.0
comp=Z,81nm,1.4s
N19K Bonanza Creek 77.96 10 P **P 13 52 17.0 -0.4**
baz=200
M17K Holitna River 78.06 8 IAmb IAmb 13 52 20.0
comp=Z,90nm,1.3s
M17K Holitna River 78.06 8 P **P 13 52 18.8 +1.0**
baz=197
L16K Owhat River 78.09 7 IAmb IAmb 13 52 20.2
comp=Z,47nm,1.1s
L16K Owhat River 78.09 7 P **P 13 52 19.0 +1.0**
baz=195,SNR=13
X16A Lo Mia Camp, P 78.13 49 IAmb IAmb 13 52 21.6
comp=Z,66nm,1.0s
J08A Circle Bar Ran 78.13 38 IAmb IAmb 13 52 20.7
comp=Z,81nm,1.2s
CGJI Cibinong 78.16 266 P **P 13 52 18.6 -0.8**
GNW Green Mountain 78.22 33 IAmb IAmb 13 52 20.9
comp=Z,87nm,1.4s
SEW Seward 78.26 13 IAmb IAmb 13 52 19.8
comp=Z,42nm,0.9s
SEW Seward 78.26 13 P **P 13 52 19.5 +0.7**
baz=205,SNR=5.4
319A Douglas 78.34 53 IAmb IAmb 13 52 22.7
comp=Z,63nm,0.9s
Q23K Middleton Isla 78.35 14 P **P 13 52 19.5 +0.1**
baz=208
CLRS Cowichan Lake 78.36 31 IAmb IAmb 13 52 21.6
comp=Z,73nm,1.0s
SPR3 Spring Creek 3 78.38 44 IAmb IAmb 13 52 21.9
comp=Z,38nm,1.1s
M18K Stony River 78.39 9 P **P 13 52 19.7 +0.1**
baz=199
MDJ Mudanjiang 78.42 323 P **P 13 52 21.3 +1.1**
MDJ S **S 14 01 52.3 +1.3**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ pmax pmax
comp=Z,170nm,6.9s
MDJ LR LR
comp=Z,350nm,5.3s
MDJ LR LR
comp=Z,340nm,15.8s
MDJ LR LR
comp=Z,410nm,11.9s
MDJ Mudanjiang 78.42 323 P **P 13 52 21.5 +1.3**
K15K Wolf Creek Mou 78.42 6 P **P 13 52 20.7 +0.9**
baz=193
U15A North Rim 78.49 47 IAmb IAmb 13 52 23.6
comp=Z,72nm,1.0s
CAPN Captain Cook N 78.52 12 P **P 13 52 21.2 +0.9**
baz=203
O22K Cooper Landing 78.54 12 P **P 13 52 20.2 -0.3**
baz=205
CBB Campbell River 78.55 30 IAmb IAmb 13 52 22.7
comp=Z,56nm,0.9s
P23K Montague Islan 78.61 14 P **P 13 52 21.6 +0.8**
baz=207
L17K Donlin 78.65 8 P **P 13 52 22.5 +1.5**
baz=196
J14K Nanvaranak Lak 78.67 5 P **P 13 52 21.4 +0.3**
baz=191
WUAZ Wupatki 78.70 48 IAmb IAmb 13 52 24.6
comp=Z,69nm,1.2s
ELK Elko 78.70 42 IAmb IAmb 13 52 23.8
comp=Z,46nm,1.1s
ELK Elko 78.70 42 P **P 13 52 22.6 +0.5**
GRNR Gornyy 78.72 331⇓ *iP* **P 13 52 22.0 +0.4**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=Z,120nm,16.0s
SPCR Spurr Chakacha 78.72 11 P **P 13 52 20.3 -1.2**
baz=202,SNR=7.7
F07A Phinny Hill Vi 78.77 36 IAmb IAmb 13 52 23.8
comp=Z,40nm,0.9s
L18K Granite Mounta 78.95 9 IAmb IAmb 13 52 24.9
comp=Z,38nm,1.0s
L18K Granite Mounta 78.95 9 P **P 13 52 24.0 +1.3**
baz=198,SNR=12
G08A Pilot Rock 78.97 37 IAmb IAmb 13 52 25.1
comp=Z,61nm,1.0s
MXC Moxie City 78.98 35 IAmb IAmb 13 52 24.9
comp=Z,24nm,0.8s
M19K Big River Lodg 79.00 10 P **P 13 52 22.6 -0.3**
baz=200,SNR=5.6
STLK Strandline Lak 79.07 11 IAmb IAmb 13 52 23.4
comp=Z,39nm,1.1s
RC01 Rabbit Creek A 79.09 12 IAmb IAmb 13 52 24.5
comp=Z,46nm,1.0s
RC01 Rabbit Creek A 79.09 12 P **P 13 52 23.0 -0.4**
baz=204,SNR=13
CRAG Craig 79.12 23 P **P 13 52 23.7 +0.1**
baz=221
HKPS Hong Kong Po S 79.13 297 IAmb IAmb 13 52 27.1
comp=Z,59nm,0.9s
GRNB Grenville Isla 79.15 25 IAmb IAmb 13 52 25.9
comp=Z,76nm,1.4s
HIN Hinchinbrook I 79.17 14 IAmb IAmb 13 52 24.7
comp=Z,66nm,1.0s
PWL Port Wells 79.18 13 P **P 13 52 22.8 -1.1**
baz=206
LTY Liberty 79.18 34 IAmb IAmb 13 52 25.9
comp=Z,56nm,1.4s
L19K White Mountain 79.19 9 P **P 13 52 23.7 -0.3**
baz=200
M20K Styx River 79.19 10 P **P 13 52 23.6 -0.4**
baz=201
K17K Iditarod 79.21 8 P **P 13 52 24.6 +0.5**
baz=196
GAMB Gambell 79.24 1 P **P 13 52 24.3 +0.2**
baz=183
NJ2 Nanjing 79.25 308 *eP* **P 13 52 26.3 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
KAIM Kayak Island 79.26 15 P **P 13 52 24.6 +0.2**
baz=210
HAWA Hanford 79.29 35 IAmb IAmb 13 52 26.7
comp=Z,51nm,0.8s
MTPU Mount Pierson 79.35 46 IAmb IAmb 13 52 28.8
comp=Z,79nm,1.5s
GLI Glacier Island 79.47 13 P **P 13 52 25.6 +0.1**
baz=207,SNR=5.4
EYAK Cordova Ski Ar 79.48 14 P **P 13 52 25.9 +0.4**
baz=208
J16K Anvik River 79.49 6 P **P 13 52 26.4 +0.9**
baz=194
SIT Sitka 79.56 21 P **P 13 52 26.2 +0.2**
baz=218
SKT Skwentna 79.57 11 P **P 13 52 24.9 -1.1**
baz=203,SNR=5.9
V35K Ketchikan 79.58 23 P **P 13 52 26.9 +0.8**
baz=222
U33K Whale Pass 79.61 22 P **P 13 52 26.6 +0.3**
baz=220
M22K Willow 79.63 12 P **P 13 52 25.7 -0.5**
baz=204,SNR=11
L20K Farewell, AK 79.63 10 P **P 13 52 25.7 -0.6**
baz=200
KNK Knik Glacier 79.65 13 P **P 13 52 26.4 -0.1**
baz=206,SNR=9.2
BMO Blue Mountains 79.68 38 IAmb IAmb 13 52 28.6
comp=Z,41nm,1.0s
PMR Palmer 79.68 12 IAmb IAmb 13 52 27.4
comp=Z,31nm,0.9s
PMR Palmer 79.68 12 P **P 13 52 26.0 -0.5**
baz=205,SNR=13
PMR Palmer 79.68 12 P **P 13 52 26.6 +0.1**
BGLC Bering Glacier 79.71 15 P **P 13 52 26.8 0.0**
baz=211
TTA Tatalina 79.73 9 IAmb IAmb 13 52 28.7
comp=Z,52nm,1.2s
TTA Tatalina 79.73 9 P **P 13 52 27.5 +0.6**
baz=198,SNR=18
TTA Tatalina 79.73 9 P **P 13 52 27.5 +0.6**
MFID Camas Ranch 79.77 39 IAmb IAmb 13 52 29.3
comp=Z,43nm,0.9s
J17K VABM Dome 79.77 7 IAmb IAmb 13 52 29.3
comp=Z,52nm,0.9s
J17K VABM Dome 79.77 7 P **P 13 52 28.0 +1.0**
baz=195,SNR=23
BERG Berg Lake 79.84 15 IAmb IAmb 13 52 28.8
comp=Z,87nm,1.4s
GHO Glory Hole Cre 79.88 12 IAmb IAmb 13 52 28.7
comp=Z,73nm,1.1s
S31K Pelican 79.97 20 P **P 13 52 28.9 +0.8**
baz=218
121A Cookes Peak, D 79.99 52 IAmb IAmb 13 52 31.8
comp=Z,50nm,1.0s
121A Cookes Peak, D 79.99 52 P **P 13 52 30.8 +1.6**
baz=244,SNR=27
DUG Dugway, Tooele 80.00 43 P **P 13 52 29.4 +0.4**
KLR Kul'dur 80.02 328 *eP* **P 13 52 28.0 -0.7**
KLR pmax pmax
comp=Z,10.0nm,1.2s
MA2 Magadan 80.03 343 P **P 13 52 28.4 -0.1**
MA2 IAmb IAmb 13 52 29.1
comp=Z,51nm,0.9s
MA2 Magadan 80.03 343 P **P 13 52 28.0 -0.5**
MA2 Magadan 80.03 343 *d iP* **P 13 52 27.1 -1.4**
MA2 pmax pmax
comp=Z,58nm,1.0s
MA2 Magadan 80.03 343 P **P 13 52 27.8 -0.7**
SML Sawmill 80.03 12 IAmb IAmb 13 52 29.5
comp=Z,49nm,1.4s
SML Sawmill 80.03 12 P **P 13 52 28.7 +0.2**
baz=206
I17K Unalakleet 80.07 6 IAmb IAmb 13 52 30.9
comp=Z,45nm,1.0s
I17K Unalakleet 80.07 6 P **P 13 52 29.4 +0.9**
baz=194,SNR=6.1
MESA MESA 80.11 16 P **P 13 52 28.1 -1.1**
baz=212
BMRM Bremner River 80.12 14 P **P 13 52 28.5 -0.5**
baz=209,SNR=17
WRAK Wrangell Islan 80.12 22 P **P 13 52 29.6 +0.5**
baz=221
S32K Killisnoo 80.14 21 P **P 13 52 28.8 -0.2**
baz=219
E09A Wood Farm, Sta 80.14 36 IAmb IAmb 13 52 30.8
comp=Z,33nm,0.9s
J18K Innoko River 80.14 8 IAmb IAmb 13 52 30.8
comp=Z,46nm,0.9s
J18K Innoko River 80.14 8 P **P 13 52 28.2 -0.8**
baz=198
M23K Glacier View 80.15 13 P **P 13 52 29.5 +0.4**
baz=206
MDSI Maura Dua 80.15 268 P **P 13 52 29.1 -1.1**
comp=Z,31nm,0.9s
CUT Chulitna 80.19 11 P **P 13 52 28.8 -0.5**
baz=204,SNR=10
SCM Sheep Creek Mo 80.27 13 P **P 13 52 29.1 -0.7**
baz=207,SNR=14
KLU Klutina 80.28 14 IAmb IAmb 13 52 30.9
comp=Z,39nm,1.1s
KLU Klutina 80.28 14 P **P 13 52 28.9 -0.9**
baz=208,SNR=8.4
PPLA Purkeypile 80.30 10 P **P 13 52 30.0 0.0**
baz=202
ANM Nome 80.32 4 IAmb IAmb 13 52 31.8
comp=Z,31nm,0.8s
ANM Nome 80.32 4 P **P 13 52 30.6 +0.7**
baz=189,SNR=17
BNX BinXian 80.33 323 ⇑P **P 13 52 30.9 +0.5**
BNX pmax pmax
comp=Z,58nm,0.9s
PNL Peninsula 80.39 17 P **P 13 52 30.9 +0.5**
baz=214,SNR=5.6
PNL Peninsula 80.39 17 P **P 13 52 31.6 +1.2**
K20K Telida 80.42 9 IAmb IAmb 13 52 31.9
comp=Z,44nm,1.1s
K20K Telida 80.42 9 P **P 13 52 30.5 0.0**
baz=200
CN2 Changchun 80.43 321 *eP* **P 13 52 31.3 +0.3**
CN2 *ep*P pP 13 53 38.5 -0.5
CN2 *e*PP **PP 13 55 41.6 +2.7**
CN2 SKS **SKSac 14 02 17.5 -2.8**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,90nm,3.0s
Q16A Castle Valley 80.47 45 IAmb IAmb 13 52 35.5
comp=Z,45nm,1.5s
R31K City Hall, Gus 80.49 20 P **P 13 52 30.2 -0.7**
baz=218
PINM Pinnacle 80.50 17 P **P 13 52 31.5 +0.4**
baz=214
B08A Colville Reser 80.57 34 IAmb IAmb 13 52 32.7
comp=Z,43nm,0.8s
PLID Pearl Lake 80.58 38 IAmb IAmb 13 52 33.3
comp=Z,28nm,0.8s
LLLB Lillooet 80.62 31 IAmb IAmb 13 52 33.4
comp=Z,52nm,1.1s
VRDI Verde Repeater 80.63 15 IAmb IAmb 13 52 33.0
comp=Z,77nm,1.2s
H16K Elim 80.65 5 P **P 13 52 32.2 +0.6**
baz=192,SNR=46
N25K Chitina, Valde 80.68 14 P **P 13 52 31.6 -0.4**
baz=209,SNR=24
HLID Hailey 80.71 40 IAmb IAmb 13 52 34.9
comp=Z,51nm,0.9s
GLB Gilahina Butte 80.72 15 IAmb IAmb 13 52 33.2
comp=Z,66nm,1.1s
M24K Tolsona, Glenn 80.76 13 P **P 13 52 33.4 +1.0**
baz=208,SNR=10
R32K Eaglecrest 80.78 20 P **P 13 52 33.2 +0.7**
baz=219
J19K Poorman 80.80 8 P **P 13 52 33.1 +0.7**
baz=199
CAST Castle Rocks 80.81 10 P **P 13 52 30.8 -1.8**
baz=202,SNR=12
C09A Chrisman Ranch 80.81 35 IAmb IAmb 13 52 34.4
comp=Z,43nm,0.9s
HVU Hansel Valley 80.82 42 IAmb IAmb 13 52 34.6
comp=Z,28nm,0.8s
G15K Niukluk 80.85 5 P **P 13 52 32.9 +0.2**
baz=190
SRU San Rafael Swe 81.01 45 IAmb IAmb 13 52 36.3
comp=Z,71nm,1.4s
O28M Mount Upton 81.08 16 P **P 13 52 34.1 -0.3**
baz=214
PLBC Pleasant Camp 81.12 19 P **P 13 52 34.6 +0.4**
baz=217
KTH Kantishna Hill 81.13 11 IAmb IAmb 13 52 35.5
comp=Z,60nm,1.4s
O29M Mount Kennedy 81.15 17 IAmb IAmb 13 52 36.2
comp=Z,58nm,1.4s
O29M Mount Kennedy 81.15 17 P **P 13 52 35.0 +0.4**
baz=215
TRF Thorofare Moun 81.15 11 IAmb IAmb 13 52 36.2
comp=Z,49nm,1.0s
TRF Thorofare Moun 81.15 11 P **P 13 52 33.6 -0.9**
baz=204,SNR=27
F14K Arctic Creek 81.17 4 P **P 13 52 34.9 +0.5**
baz=188
H17K Granite Mounta 81.17 6 P **P 13 52 34.5 +0.1**
baz=194
J20K Nowinta River 81.19 9 IAmb IAmb 13 52 35.9
comp=Z,39nm,0.9s
J20K Nowinta River 81.19 9 P **P 13 52 34.9 +0.4**
baz=200,SNR=20
CHUM Lake Minchumin 81.20 10 P **P 13 52 33.4 -1.1**
baz=202,SNR=18
HARP HAARP 81.25 13 P **P 13 52 35.2 +0.3**
baz=209,SNR=9.2
T35M Bob Quinn 81.32 23 P **P 13 52 36.4 +1.0**
baz=223
GCSA Galena City Sc 81.34 8 P **P 13 52 36.1 +0.8**
baz=197,SNR=19
RND Reindeer 81.38 11 IAmb IAmb 13 52 36.6
comp=Z,69nm,1.0s
RND Reindeer 81.38 11 P **P 13 52 35.5 -0.1**
G16K Koyuk River 81.38 5 IAmb IAmb 13 52 37.3
comp=Z,53nm,1.2s
G16K Koyuk River 81.38 5 P **P 13 52 35.8 +0.4**
baz=192
VHRN Van Horn 81.43 55 IAmb IAmb 13 52 39.0
comp=Z,55nm,0.9s
SKAG Skagway 81.45 19 IAmb IAmb 13 52 38.2

comp=Z,42nm,1.1s
SKAG **Skagway** 81.45 19 P P 13 52 36.8 +0.9
baz=218,SNR=5.1
SKAG **Skagway** 81.45 19 P P 13 52 36.8 +0.9
P30M **Million Dollar** 81.47 18 P P 13 52 36.5 +0.4
baz=217
F15K **North Star Dit** 81.51 4 IAmb IAmb 13 52 37.7
comp=Z,40nm,1.2s
F15K **North Star Dit** 81.51 4 P P 13 52 36.4 +0.3
baz=190
BSUT **Blindstream Ca** 81.53 44 IAmb IAmb 13 52 39.2
comp=Z,52nm,1.2s
H18K **Honhosa River** 81.55 7 P P 13 52 35.9 -0.5
baz=196
BPAW **Bear Paw Mtn.** 81.62 10 P P 13 52 35.4 -1.4
baz=203,SNR=8.6
YUK8 **Steele Glacier** 81.63 16 P P 13 52 37.2 0.0
baz=214,SNR=13
MCK **McKinley** 81.66 11 P P 13 52 36.8 -0.2
baz=205,SNR=56
S34M **Telegraph Cree** 81.68 22 P P 13 52 38.1 +0.9
baz=222,SNR=6.7
NEW **Newport** 81.71 35 P P 13 52 37.3 -0.4
I20K **Naaghedeneel** 81.72 9 IAmb IAmb 13 52 38.9
comp=Z,40nm,0.9s
I20K **Naaghedeneel** 81.72 9 P P 13 52 37.5 +0.2
baz=200
YUK6 **Outpost Mounta** 81.73 17 P P 13 52 37.9 +0.2
baz=215,SNR=6.3
PV13 **Radium Mtn., P** 81.74 47 IAmb IAmb 13 52 40.2
comp=Z,70nm,1.3s
QIZ **Qiongzhong** 81.75 292 P P 13 52 42.3 +3.9
QIZ pP pP 13 53 46.3 -0.4
QIZ S SKSac 14 02 30.3 0.0
QIZ sS sS 14 04 23.3 -3.9
QIZ SS SS 14 07 58.5 +6.4
QIZ pmax pmax
comp=Z,150nm,5.8s
M26K **Nabesna, AK** 81.75 14 P P 13 52 37.5 -0.1
baz=211
YUK3 **Moose Creek** 81.85 16 P P 13 52 38.5 +0.2
baz=213,SNR=18
HYT **Haines Junctio** 81.88 17 IAmb IAmb 13 52 40.1
comp=Z,54nm,1.2s
HYT **Haines Junctio** 81.88 17 P P 13 52 37.9 -0.4
baz=216,SNR=11
TX31 **Lajitas Ar. Si** 81.90 57 IAmb IAmb 13 52 41.8
comp=Z,84nm,1.4s
TXAR **Lajitas Array** 81.90 57 P P 13 52 40.4 +1.2
comp=Z,17nm,1.0s,baz=224,slow=5.2,SNR=83
TXAR PP PP 13 55 49.9 -1.5
comp=Z,1.1nm,1.0s,baz=251,slow=5.0,SNR=3.3
comp=Z,17nm,1.0s
YUK4 **Talbot Arm** 81.98 17 P P 13 52 39.9 +0.9
baz=215,SNR=6.5
M27K **Edge Creek, AK** 81.98 15 P P 13 52 39.0 +0.1
baz=212
PV07 **Paradox Valley** 81.99 47 IAmb IAmb 13 52 42.9
comp=Z,32nm,1.0s
ANMO **Albuquerque** 82.03 50 P P 13 52 40.6 +0.7
ANMO IAmb IAmb 13 52 42.0
comp=Z,77nm,1.2s
ANMO **Albuquerque** 82.03 50*d* iP P 13 52 41.0 +1.2
ANMO pmax pmax
comp=Z,35nm,1.3s
MENT **Mentasta** 82.05 14 IAmb IAmb 13 52 40.5
comp=Z,35nm,0.9s
MENT **Mentasta** 82.05 14 P P 13 52 39.7 +0.7
PV15 **Paradox Valley** 82.06 47 IAmb IAmb 13 52 41.6
comp=Z,42nm,0.8s
P32M **Atlin** 82.07 20 P P 13 52 39.7 +0.4
baz=220
Q32M **Nakina River** 82.07 21 P P 13 52 40.1 +0.7
baz=221
TLIG **Tlapa** 82.08 69 IAmb IAmb 13 52 43.1
comp=Z,55nm,1.3s
H19K **Roundabout Mou** 82.15 8 IAmb IAmb 13 52 41.4
comp=Z,78nm,1.2s
H19K **Roundabout Mou** 82.15 8 P P 13 52 39.8 +0.3
baz=198
L26K **Log Cabin Wild** 82.21 14 IAmb IAmb 13 52 41.3
comp=Z,37nm,0.9s
L26K **Log Cabin Wild** 82.21 14 P P 13 52 39.9 +0.1
baz=210,SNR=18
G18K **Tagagawik** 82.24 7 IAmb IAmb 13 52 41.2
comp=Z,48nm,1.1s
G18K **Tagagawik** 82.24 7 P P 13 52 40.3 +0.4
baz=196
O30N **Mendenhall** 82.25 18 IAmb IAmb 13 52 41.9
comp=Z,61nm,1.2s
O30N **Mendenhall** 82.25 18 P P 13 52 39.9 -0.2
baz=217,SNR=19
BVCY **Beaver Creek** 82.29 15 P P 13 52 39.8 -0.5
baz=213,SNR=20
H20K **Anotleneega Mo** 82.32 8 P P 13 52 40.5 +0.1
baz=199
ALPN **Alpine** 82.33 56 IAmb IAmb 13 52 44.4
comp=Z,30nm,0.9s
K24K **Donnelly Dome** 82.35 13 P P 13 52 40.5 -0.1
baz=208,SNR=28
TIA **Tai'an** 82.35 311 P P 13 52 42.4 +1.2
TIA S SKSac 14 02 36.0 +2.4
TIA pmax pmax
comp=Z,48nm,1.0s
TIA LR LR
comp=Z,460nm,16.6s
TIA LR LR
comp=Z,500nm,15.8s
TIA LR LR
comp=Z,610nm,21.4s
NEA2 **Nenana** 82.42 11 P P 13 52 39.7 -1.1
baz=205,SNR=16
SEY **Seymchan** 82.44 346⇓*i* P P 13 52 40.8 -0.2
SEY pmax pmax
comp=Z,94nm,1.0s
I21K **Tanana** 82.46 10 IAmb IAmb 13 52 42.2
comp=Z,58nm,1.4s
I21K **Tanana** 82.46 10 P P 13 52 40.6 -0.5
baz=202,SNR=14
DLBC **Dease Lake** 82.47 22 P P 13 52 42.0 +0.6
baz=223,SNR=7.2
WRH **Wood River Hil** 82.49 11 P P 13 52 40.5 -0.7
RIDG **Independent Ri** 82.49 13 IAmb IAmb 13 52 42.4
comp=Z,41nm,1.0s
RIDG **Independent Ri** 82.49 13 P P 13 52 40.8 -0.6
baz=209,SNR=20
F17K **Baldwin Pennin** 82.51 5 P P 13 52 41.1 -0.1
baz=193,SNR=32
WHY **Whitehorse** 82.53 19 P P 13 52 41.3 -0.4
baz=218,SNR=7.6
PECS **Pecos** 82.54 55 IAmb IAmb 13 52 44.5
comp=Z,64nm,1.4s
L27K **Beaver Creek,** 82.60 14 P P 13 52 41.7 -0.2
baz=212
BCAR **Beaver Creek A** 82.61 14 P P 13 52 42.0 0.0
HDA **Harding Lake** 82.65 12 IAmb IAmb 13 52 44.3
comp=Z,62nm,1.0s
HDA **Harding Lake** 82.65 12 P P 13 52 41.4 -0.7
baz=207,SNR=37
G19K **Purcell Mounta** 82.66 7 IAmb IAmb 13 52 43.8
comp=Z,54nm,0.9s
G19K **Purcell Mounta** 82.66 7 P P 13 52 42.7 +0.6
baz=197
MSO **Missoula** 82.73 37 IAmb IAmb 13 52 44.9
comp=Z,30nm,1.0s
H21K **Melozitna Rive** 82.78 9 IAmb IAmb 13 52 44.4
comp=Z,80nm,1.4s
H21K **Melozitna Rive** 82.78 9 P P 13 52 43.0 +0.3
baz=201
F18K **Selawik** 82.81 6 P P 13 52 42.7 -0.1
baz=195,SNR=35
P33M **Teslin, Yukon** 82.84 20 P P 13 52 43.5 +0.2
baz=220,SNR=8.1
R33M **Jennings River** 82.84 21 P P 13 52 43.6 +0.2
baz=222
I23K **Minto, Yukon-K** 82.87 11 IAmb IAmb 13 52 43.9
comp=Z,43nm,1.1s
I23K **Minto, Yukon-K** 82.87 11 P P 13 52 42.5 -0.6
baz=205,SNR=23
HEH **HeiHe** 82.89 327 *e*P P 13 52 43.4 -0.2
HEH S SKSac 14 02 31.8 -4.7
HEH pmax pmax
comp=Z,15nm,1.5s
SCRK **Sand Creek** 82.89 13 IAmb IAmb 13 52 44.7
comp=Z,33nm,0.9s
SCRK **Sand Creek** 82.89 13 P P 13 52 43.7 +0.2
baz=210,SNR=28
COLA **College** 82.90 11 P P 13 52 43.0 -0.3
COLA **College** 82.90 11 P P 13 52 42.8 -0.5
baz=206
COLA **College** 82.90 11 P P 13 52 43.0 -0.3
COLA **College** 82.90 11*c i*P P 13 52 42.1 -1.2
COLA pmax pmax
comp=Z,113nm,0.9s
N31M **Braeburn, Yuko** 82.91 18 IAmb IAmb 13 52 45.2
comp=Z,44nm,1.1s
N31M **Braeburn, Yuko** 82.91 18 P P 13 52 43.7 +0.1
baz=218,SNR=11
M29M **Somme Creek** 82.94 16 P P 13 52 44.1 +0.4
baz=215
S22A **4UR Ranch, Cre** 82.97 48 P P 13 52 45.4 +0.7
baz=244,SNR=73
IL31 82.99 12 IAmb IAmb 13 52 44.6
comp=Z,74nm,1.2s
ILAR **Eielson Array** 82.99 12 P P 13 52 42.9 -0.9
comp=Z,22nm,0.8s,baz=206,slow=5.5,SNR=295
ILAR PP PP 13 56 00.1 +0.7
comp=Z,1.7nm,0.9s,baz=217,slow=7.2,SNR=4.0
comp=Z,22nm,0.8s
O20A **White River Ci** 83.04 45 IAmb IAmb 13 52 46.5
comp=Z,43nm,0.9s
E17K **Hotham Inlet** 83.08 5 P P 13 52 44.5 +0.3
baz=193
LOHW **Long Hollow** 83.12 41 IAmb IAmb 13 52 47.0
comp=Z,55nm,1.2s
J25K **Salcha River,** 83.15 12 IAmb IAmb 13 52 45.8
comp=Z,53nm,0.8s
J25K **Salcha River,** 83.15 12 P P 13 52 44.6 -0.2
baz=208
POKR **Poker Plat Res** 83.19 11 P P 13 52 44.3 -0.6
baz=206,SNR=30
H22K **Ishtalitna Cre** 83.22 9 P P 13 52 44.8 -0.1
baz=203
F19K **Shaleruckik Mo** 83.24 7 P P 13 52 45.3 +0.3
baz=196
SAND **Sanderson** 83.38 57 IAmb IAmb 13 52 48.5
comp=Z,62nm,1.4s
YFT **Old Faithful** 83.39 40 IAmb IAmb 13 52 49.7
comp=Z,39nm,1.0s
PD31 **Pinedale Array** 83.39 42 IAmb IAmb 13 52 47.8
comp=Z,38nm,0.8s
PDAR **Pinedale Array** 83.39 42 P P 13 52 45.9 -0.7
PDAR **Pinedale Array** 83.39 42 P P 13 52 46.4 -0.3
comp=Z,41nm,0.9s,baz=211,slow=3.1,SNR=237
PDAR PKKPbc PKKPbc 14 11 04.2 -1.9
comp=Z,1.1nm,1.0s,baz=118,slow=4.5,SNR=5.0
comp=Z,41nm,0.9s
MNHN **Monahans** 83.40 55 IAmb IAmb 13 52 48.4
comp=Z,47nm,1.0s
J26L **Joseph Creek** 83.44 13 P P 13 52 46.0 -0.2
baz=210
BOZ **Bozeman (W)** 83.47 39 IAmb IAmb 13 52 48.8
comp=Z,57nm,1.1s
N32M **Quiet Lake** 83.47 19 IAmb IAmb 13 52 48.1
comp=Z,50nm,1.2s
N32M **Quiet Lake** 83.47 19 P P 13 52 46.9 +0.5
baz=220
M30M **Minto, Yukon** 83.50 17 IAmb IAmb 13 52 47.7
comp=Z,45nm,1.2s
M30M **Minto, Yukon** 83.50 17 P P 13 52 46.0 -0.5
baz=217,SNR=22
H17A **Grant Village** 83.52 41 IAmb IAmb 13 52 50.3
comp=Z,52nm,1.1s
E18K **Tukpahlearik C** 83.52 5 P P 13 52 47.0 +0.5
baz=194
L29M **L29M** 83.57 16 P P 13 52 47.3 +0.5
baz=215
D17K **Noatak River** 83.59 4 P P 13 52 47.5 +0.8
baz=191
YNM **Yellowstone No** 83.60 40 IAmb IAmb 13 52 51.3
comp=Z,74nm,1.2s
YNR **Norris Junctio** 83.61 40 IAmb IAmb 13 52 51.5
comp=Z,52nm,1.3s
F20K **Avaraart Lake** 83.69 7 IAmb IAmb 13 52 48.8
comp=Z,40nm,0.9s
F20K **Avaraart Lake** 83.69 7 P P 13 52 47.7 +0.4
baz=198
H24K **Noodor Dome** 83.76 11 P P 13 52 46.3 -1.5
baz=206
M31M **Drury Creek, Y** 83.89 18 P P 13 52 47.9 -0.6
E19K **Redstone River** 83.90 7 P P 13 52 48.6 +0.2
baz=197
BELA **Belgrano 2** 83.91 172 P P 13 52 48.2 -0.2
BELA IAmb IAmb 13 52 49.7
comp=Z,42nm,1.2s
PRP **Porcupine Dome** 83.92 12 P P 13 52 48.7 0.0
baz=208,SNR=57
RDOG **Red Dog Mine** 83.95 4 IAmb IAmb 13 52 50.2
comp=Z,30nm,0.8s
RDOG **Red Dog Mine** 83.95 4 P P 13 52 48.6 0.0
baz=192,SNR=8.3
C16K **Lisburne Hills** 84.00 4 IAmb IAmb 13 52 50.2
comp=Z,41nm,1.1s
C16K **Lisburne Hills** 84.00 4 P P 13 52 48.3 -0.6
baz=189
DAWY **Dawson** 84.04 15 IAmb IAmb 13 52 50.7
comp=Z,64nm,1.1s
DAWY **Dawson** 84.04 15 P P 13 52 49.4 +0.2
baz=214,SNR=46
WTLY **Watson Lake, Y** 84.12 21 P P 13 52 49.6 -0.1
baz=224,SNR=5.2
F21K **Alatna River** 84.15 8 IAmb IAmb 13 52 50.9
comp=Z,27nm,0.8s
F21K **Alatna River** 84.15 8 P P 13 52 49.1 -0.6
baz=201
G22K **Bettles** 84.15 9 P P 13 52 49.9 +0.3
baz=202
G23K **Bananza Creek** 84.19 10 IAmb IAmb 13 52 51.3
comp=Z,47nm,1.0s
G23K **Bananza Creek** 84.19 10 P P 13 52 49.8 0.0
baz=204
FARO **Faro, Yukon** 84.22 18 P P 13 52 49.9 -0.2
baz=220,SNR=6.9
I26K **Coal Creek Min** 84.22 13 IAmb IAmb 13 52 51.6
comp=Z,47nm,0.9s
I26K **Coal Creek Min** 84.22 13 P P 13 52 50.3 +0.2
baz=210
K29M **Barlow Dome** 84.33 16 IAmb IAmb 13 52 52.5
comp=Z,53nm,1.1s
K29M **Barlow Dome** 84.33 16 P P 13 52 51.1 +0.3
baz=216
C17K **DeLong Mountai** 84.35 4 P P 13 52 50.8 +0.2
baz=191
DRIO **Del Rio** 84.40 58 IAmb IAmb 13 52 53.6
comp=Z,66nm,1.0s
T25A **Trinidad** 84.45 49 P P 13 52 51.5 -0.6
baz=246,SNR=5.9
UBPT **Khong Chiam** 84.51 287 P P 13 52 53.4 +0.9
H25L **Birch Creek** 84.53 11 P P 13 52 50.8 -0.7
baz=208
TOAD **Toad River Com** 84.54 23 P P 13 52 51.4 -0.4
baz=227,SNR=27
OZNA **Ozona** 84.54 56 IAmb IAmb 13 52 54.2
comp=Z,58nm,1.1s
MAYO **Mayo, Yukon** 84.56 16 P P 13 52 51.7 0.0
baz=217
G24K **Hadweenzic Riv** 84.61 11 P P 13 52 50.9 -1.0
baz=206
HNS **HongShan** 84.61 311 ⇑P P 13 52 53.3 +0.7
HNS S SKSac 14 02 47.6 -0.5
HNS pmax pmax
comp=Z,44nm,1.3s
HNS LR LR
comp=Z,410nm,16.5s
HNS LR LR
comp=Z,350nm,15.1s
HNS LR LR
comp=Z,410nm,16.3s
BILL **Bilibino** 84.61 353 P P 13 52 52.5 +0.6
BILL IAmb IAmb 13 52 53.7
comp=Z,50nm,1.0s
BILL **Bilibino** 84.61 353*d i*P P 13 52 51.5 -0.4
BILL pmax pmax
comp=Z,72nm,1.2s
COLD **Coldfoot** 84.64 9 P P 13 52 53.3 +1.2
COLD IAmb IAmb 13 52 53.9
comp=Z,40nm,0.9s
COLD **Coldfoot** 84.64 9 P P 13 52 52.2 +0.2
baz=204,SNR=42
J29N **Klondike Camp** 84.65 15 P P 13 52 52.3 0.0
baz=215
C18K **Utukok River** 84.67 5 P P 13 52 51.8 -0.4
baz=193
BJT **Baijiatuau** 84.67 314 IAmb IAmb 13 52 55.0
comp=Z,53nm,1.2s
BJT **Baijiatuau** 84.67 314 P P 13 52 53.4 +0.6
BJT **Baijiatuau** 84.67 314 P P 13 52 53.2 +0.4
BJI **Beijing** 84.68 314 P P 13 52 53.5 +0.7
BJI S S 14 03 00.4 +5.4
BJI pmax pmax
comp=Z,21nm,1.1s
BJI pmax pmax
comp=Z,49nm,4.0s
Q24A **Divide** 84.68 47 P P 13 52 53.2 -0.2
baz=245,SNR=12
ISCO **Idaho Springs** 84.71 46 P P 13 52 53.4 0.0
E20K **Nigu River** 84.79 7 P P 13 52 53.0 +0.2
baz=198
D19K **Kuna River** 84.81 6 IAmb IAmb 13 52 54.1
comp=Z,49nm,0.8s
D19K **Kuna River** 84.81 6 P P 13 52 53.1 +0.2
baz=196
I27K **Kandik River** 84.81 13 P P 13 52 52.9 -0.1
baz=212
PPI **Padang Panjang** 84.86 271 P P 13 52 55.6 +1.2
SGCY **Sterling City** 84.91 55 IAmb IAmb 13 52 56.6
comp=Z,34nm,0.9s
N23A **Red Feather La** 84.95 45 P P 13 52 54.6 0.0
baz=244
ZEA **Zeya** 84.97 330 *e*P P 13 52 54.1 +0.1
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
833A **Chaparral WMA,** 85.01 59 P P 13 52 55.0 +0.2
baz=249
I28M **Miner Creek** 85.06 14 P P 13 52 54.3 0.0
baz=214,SNR=19
LYN **LuoYang** 85.15 308⇓*i* P P 13 52 56.4 +1.1
LYN SKS SKSac 14 02 52.8 +1.1
LYN S ScS 14 03 05.3 -3.4
LYN pmax pmax
comp=Z,110nm,0.8s
LYN pmax pmax
comp=Z,340nm,3.6s
D20K **Etivluk River** 85.18 7 P P 13 52 54.5 -0.2
baz=198
J30M **Hart River** 85.23 16 P P 13 52 55.2 0.0
baz=217
E21K **Killik River** 85.23 8 P P 13 52 54.7 -0.3
baz=200
E22K **Anaktuvuk Pass** 85.23 8 P P 13 52 54.7 -0.4
baz=202,SNR=53
F24K **Squaw Lake** 85.28 10 P P 13 52 55.0 -0.3
baz=206
B18K **Kokolik River** 85.32 5 P P 13 52 55.7 +0.3
baz=192
H27K **Steamboat Moun** 85.36 13 P P 13 52 56.2 +0.5
baz=212,SNR=28
I29M **Ogilvie Camp,** 85.37 14 P P 13 52 55.3 -0.4
baz=215
E23K **Chandalar** 85.49 9 P P 13 52 56.3 0.0
baz=204
G26K **Porcupine Rive** 85.52 12 P P 13 52 57.1 +0.7
baz=210
IPM **Ipoh** 85.59 276 P P 13 52 58.6 +0.6
E24K **Your Creek** 85.68 10 P P 13 52 57.3 0.0
baz=205
F25K **Christian Rive** 85.74 11 P P 13 52 58.2 +0.7
baz=208
I30M **Mount Dempster** 85.74 15 P P 13 52 57.4 -0.3
baz=217
C21K **Knifeblade Rid** 85.81 7 P P 13 52 58.3 +0.5
baz=199
D22K **Ayikyak River** 85.81 8 P P 13 52 57.9 +0.1
baz=201
G27K **Doyon Strip** 85.83 13 P P 13 52 57.9 -0.1
baz=212
KOTAN **Kotaneelee Air** 85.85 23 P P 13 52 57.8 -0.3
baz=228,SNR=7.2
ENH **Enshi** 85.92 303 P P 13 53 00.4 +1.1
TOLK **Toolik Lake Re** 86.03 9 P P 13 52 58.7 -0.2
baz=204,SNR=11
H29M **Whitestone** 86.06 14 P P 13 52 59.2 +0.1
baz=215
F26K **Sheenjek River** 86.10 11 P P 13 52 59.8 +0.5
baz=209
D23K **Nanushuk River** 86.17 9 P P 13 52 59.4 -0.2
baz=203
B21K **Ikpikpuk River** 86.27 7 P P 13 52 59.8 -0.2
baz=199
TIY **Taiyuan** 86.39 311 *e*P P 13 53 03.0 +1.6
TIY SKS SKSac 14 02 52.6 -6.8
TIY S ScS 14 03 18.3 -0.8
TIY sS sS 14 05 10.3 -3.6
TIY pmax pmax
comp=Z,56nm,0.8s
TIY pmax pmax
comp=Z,170nm,4.7s
XLT **XiLinHaoTe** 86.40 317 *e*P P 13 53 02.3 +0.9
XLT SKS SKSac 14 02 57.0 -2.3
XLT S S 14 03 14.0 +2.1
XLT pmax pmax
comp=Z,24nm,1.0s
EPYK **Eagle Plains** 86.58 14 P P 13 53 01.3 -0.3
baz=216,SNR=8.5
HIA **Hailar** 86.60 323 P P 13 53 02.7 +0.6
HIA **Hailar** 86.60 323*d i*P P 13 53 02.3 +0.2
HIA pmax pmax
comp=Z,26nm,0.9s
D24K **Happy Valley** 86.61 9 P P 13 53 01.6 -0.1
baz=205,SNR=13
G29M **Pine Creek** 86.71 14 P P 13 53 01.4 -0.8
baz=215,SNR=6.2
H31M **Peel River** 86.72 16 P P 13 53 01.4 -0.9
baz=219,SNR=7.6
F28M **Old Crow** 86.89 13 P P 13 53 02.8 -0.3
baz=214,SNR=16
GYA **Guiyang** 86.97 298 ⇓P P 13 53 04.9 +0.4
GYA pP pwP 13 54 16.3 +2.5
GYA SKS SKSac 14 03 03.6 0.0
GYA S S 14 03 17.4 -0.7
GYA pmax pmax
comp=Z,36nm,1.7s
GYA pmax pmax
comp=Z,150nm,4.4s
C23K **Itkillik River** 86.98 8 P P 13 53 03.6 +0.2
baz=203
C24K **Franklin Bluff** 87.14 9 P P 13 53 04.4 +0.2
baz=205
D25K **Kavik River** 87.15 10 P P 13 53 03.5 -0.8
baz=207
PSI **Prapat** 87.15 274 P P 13 53 06.2 +0.5
G30M **tAoh Zraii Nji** 87.19 14 P P 13 53 04.2 -0.4
baz=217
435B **Jarrell** 87.34 57 P P 13 53 05.9 -0.2
baz=250
NONG **Nongkai** 87.47 289 P P 13 53 08.1 +1.2
RSSD **Black Hills** 87.59 43 P P 13 53 06.9 -0.3
RSSD pmax pmax
comp=Z,24nm,1.2s
A21K **Barrow** 87.68 6 P P 13 53 06.3 -0.3
baz=198
XAN **Xi'an** 87.69 306 ⇓P P 13 53 08.6 +0.9
XAN SKS SKSac 14 03 07.5 +0.1
XAN S S 14 03 26.3 +1.8
XAN pmax pmax
comp=Z,71nm,1.2s
XAN LR LR
comp=Z,420nm,11.0s
XAN LR LR
comp=Z,570nm,18.5s
XAN LR LR
comp=Z,820nm,19.9s
WMOK **Wichita Mounta** 87.76 53 P P 13 53 07.6 -0.4
SLVN **Son La** 87.76 293 P P 13 53 10.4 +2.1
E28M **Babbage River** 87.78 12 P P 13 53 06.9 -0.4
baz=214
F30M **Barrier River** 87.79 14 P P 13 53 06.9 -0.4
baz=217
C27K **Jago River** 87.87 10 P P 13 53 07.7 +0.1
baz=210
C26K **Camden Bay** 87.92 10 P P 13 53 07.9 +0.1
baz=209
E29M **Blow River** 87.95 13 P P 13 53 07.4 -0.6
baz=215
D27M **Malcolm River** 88.04 11 P P 13 53 08.7 +0.1
baz=212
GSI **Gunungsitoli** 88.05 272 P P 13 53 11.7 +1.9
SRIT **Nakonsritamara** 88.08 279 P P 13 53 11.1 +1.2
WRGLY **Wrigley** 88.11 21 P P 13 53 08.6 -0.2

baz=229,SNR=6.1
F31M Tsiigehtchic 88.14 15 P P 13 53 08.9 0.0
baz=219,SNR=24
HHC Hu-ho-hao-te 88.22 313⇓ *i*P **P 13 53 11.3 +1.2**
HHC SKS **SKSac 14 03 12.3 +1.9**
HHC S **S 14 03 28.9 -0.4**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.5s
HKT Hockley 88.49 58⇑ *i*P **P 13 53 12.9 +1.5**
HKT pmax pmax
comp=Z,41nm,1.5s
D28M Stokes Point 88.55 12 P P 13 53 10.1 -0.6
baz=214
LR04 Corral 88.56 131 P P 13 53 15.4 +3.8
YAK Yakutsk 88.84 337 *e*P **P 13 53 10.8 -1.5**
YAK *e**PP **pP 13 54 17.3 -4.4**
YAK *e* 13 56 43.7
YAK *e*PPP PPP 13 58 42.2
YAK *e*S **SKSac 14 03 11.6 -1.2**
YAK *e* 14 03 37.8
YAK *e**SS pS 14 05 17.9 +17
YAK *e*SSS SSS 14 13 16.2
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,182nm,5.1s
YAK pmax pmax
comp=N,102nm,4.4s
YAK pmax pmax
comp=E,132nm,5.9s
YAK smax smax
comp=E,108nm,4.1s
YAK smax smax
comp=N,93nm,3.9s
INK Inuvik 88.87 14 P P 13 53 11.8 -0.5
baz=219,SNR=10
INK Inuvik 88.87 14 P P 13 53 11.5 -0.8
BTO Baotou 89.22 313 *e*P **P 13 53 16.8 +2.0**
BTO pP **pwP 13 54 26.9 +0.4**
BTO sP **sP 13 54 57.3 +2.6**
BTO S **S 14 03 35.8 -2.8**
BTO pmax pmax
comp=N,88nm,1.1s
BTO pmax pmax
comp=N,340nm,4.6s
BTO LR LR
comp=N,270nm,6.4s
BTO LR LR
comp=N,290nm,6.8s
BTO LR LR
comp=N,230nm,4.9s
KMI Kunming 89.92 296⇓ P **P 13 53 20.4 +1.9**
KMI SKS **SKSac 14 03 24.5 +3.2**
KMI S **ScS 14 03 51.0 +1.8**
KMI SS **SS 14 09 53.0 +1.2**
KMI pmax pmax
comp=N,39nm,1.0s
KMI LR LR
comp=N,170nm,21.3s
KMI LR LR
comp=N,360nm,15.6s
KMI LR LR
comp=N,510nm,18.4s
SRDT SRDT 90.12 285 P P 13 53 21.1 +1.8
PLCA Paso Flores 90.33 133 P P 13 53 21.3 +1.2
comp=N,5.4nm,1.0s,baz=228,slow=3.4,SNR=8.4
comp=N,5.4nm,1.0s
CD2 Chengdu 90.80 302 P P 13 53 23.1 +0.8
CD2 pmax pmax
comp=N,10.0nm,0.5s
YKA Yellowknife Ar 90.90 24 P P 13 53 22.0 +0.1
comp=N,6.9nm,0.9s,baz=234,slow=4.6,SNR=71
YKA PP **PP 13 57 04.9 +2.2**
comp=N,1.0nm,1.1s,baz=230,slow=7.1,SNR=4.7
comp=N,6.9nm,0.9s
PZH PanZhiHua 91.18 297 P P 13 53 25.8 +1.6
PZH pmax pmax
comp=N,10.0nm,0.7s
PZH pmax pmax
comp=N,100nm,4.9s
CMAR Chiang Mai Arr 91.41 289 P P 13 53 25.9 +0.6
comp=N,11nm,0.9s,baz=93,slow=2.5,SNR=65
CMAR pP **pP 13 54 38.3 +3.3**
comp=N,2.0nm,1.0s,baz=106,slow=4.6,SNR=2.1
CMAR PKiKP **PKiKP 13 58 14.2 -1.4**
comp=N,0.9nm,0.5s,baz=95,slow=1.6,SNR=6.8
CMAR PKKPbc **PKKPbc 14 10 44.6 -0.4**
comp=N,1.1nm,0.8s,baz=291,slow=4.1,SNR=6.0
comp=N,11nm,0.9s
CHTO Chiang Mai 91.50 289 P P 13 53 27.0 +1.3
ELIB Princess Elisa 91.73 186 *d*P **P 13 53 25.4 -0.5**
comp=Z,19nm,1.2s
MIAR Mount Ida 91.75 55 P P 13 53 26.7 +0.2
C36M Paulatuk 92.00 16 P P 13 53 26.1 -0.7
baz=228
SYO Syowa Base 92.05 192⇓ *e*P **P 13 53 26.6 -0.6**
SYO Syowa Base 92.05 192⇓ *e*PcP **PcP 13 53 28.4 +0.5**
LZH Lanzhou 92.29 307 *e*P **P 13 53 30.3 +1.1**
LZH pP pP 13 54 38.5 -0.4
LZH sP sP 13 55 08.3 -0.9
LZH SKS **SKSac 14 03 37.4 +3.3**
LZH pmax pmax
comp=Z,37nm,0.9s
TROLL Troll, Antarti 92.50 179 P P 13 53 29.3 -0.2
TROLL Troll, Antarti 92.50 179⇓ P **P 13 53 29.3 -0.2**
comp=Z,856nm,1.4s
SNAA Sanae 92.69 177 P P 13 53 30.6 +0.3
SNAA Sanae 92.69 177⇓ P **P 13 53 30.6 +0.3**
comp=Z,130nm,1.0s
SNAA Sanae 92.69 177 P P 13 53 30.5 +0.2
comp=Z,6.8nm,1.0s,baz=172,slow=9.1,SNR=5.0
comp=Z,6.8nm,1.0s
SNAA Sanae 92.69 177 *ce*P **P 13 53 30.6 +0.3**
SNAA pmax pmax
comp=Z,26nm,1.4s
VNA3 Neumayer Olymp 92.70 175 P P 13 53 30.6 +0.3
VNA3 Neumayer Olymp 92.70 175⇓ P **P 13 53 30.6 +0.3**
comp=Z,16nm,1.1s
VNA2 Neumayer--Watz 93.18 176 P P 13 53 32.5 +0.1
baz=172,slow=3.5
VNA2 Neumayer--Watz 93.18 176⇓ P **P 13 53 32.5 +0.1**
comp=Z,12nm,0.7s,baz=172,slow=3.5
VNA1 Neumayer--Stat 93.38 176 P P 13 53 33.2 -0.1
VNA1 Neumayer--Stat 93.38 176⇓ P **P 13 53 33.2 -0.1**
comp=Z,22nm,1.2s
A36M Sachs Harbour 93.49 14 P P 13 53 33.8 +0.2
baz=227
TNCH TengChong 93.56 295 P P 13 53 36.9 +1.6
TNCH pmax pmax
comp=Z,22nm,1.2s
NVL N'lazarevskaya 93.65 182 *e*P **P 13 53 34.1 -0.5**
NVL pmax pmax
comp=Z,37nm,1.4s
ULN Ulaanbaatar 93.74 319⇓ *i*P **P 13 53 35.3 -0.3**
ULN pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 94.15 318 P P 13 53 37.1 -0.3
comp=Z,2.8nm,0.8s,baz=116,slow=4.1,SNR=13
SONM PP **PP 13 57 25.1 -3.5**
comp=Z,0.5nm,0.4s,baz=118,slow=12,SNR=3.1
comp=Z,2.8nm,0.8s
ULM Lac du Bonnet 95.01 39 P P 13 53 39.6 -1.5
comp=Z,6.1nm,0.8s,baz=265,slow=4.1,SNR=10
ULM PP **PP 13 57 33.1 -1.9**
comp=Z,3.1nm,0.9s,baz=263,slow=8.1,SNR=3.3
comp=Z,6.1nm,0.8s
GTA Gaotai 96.29 309 *e*P **P 13 53 47.8 +0.4**
GTA pP pwP 13 55 01.9 +4.6
GTA SKS **SKSac 14 03 53.9 -1.5**
GTA pmax pmax
comp=Z,8.0nm,1.1s
WVT Waverly 96.70 54 P P 13 53 50.8 +1.7
WMQ Urumqi 106.03 312 Pdif **Pdif 13 54 32.0 +1.4**
ZSN Zaisan 108.32 315 *e*PKiKP **PKiKP 13 58 44.3 -0.9**
ZALV Zalesovo Beam 108.61 322 PKiKP **PKiKP 13 58 44.5 -0.9**
comp=Z,1.7nm,0.5s,baz=48,slow=2.2,SNR=9.9
ZALV PKKPab **PKKPab 14 10 08.7 +0.1**
comp=Z,0.2nm,0.4s,baz=241,slow=4.9,SNR=3.6
MKAR Makanchi Array 110.05 315 Pdiff **Pdif 13 54 48.7 +0.4**
comp=Z,0.5nm,0.6s,baz=83,slow=3.6,SNR=5.2
MKAR PKiKP **PKiKP 13 58 47.7 -0.7**
comp=Z,3.0nm,0.6s,baz=65,slow=1.3,SNR=31
MKAR PKKPbc **PKKPbc 14 09 51.1 -1.8**
comp=Z,0.6nm,0.8s,baz=260,slow=5.7,SNR=5.0
MKAR PKKPab **PKKPab 14 10 02.7 +0.2**
comp=Z,1.8nm,1.1s,baz=286,slow=4.5,SNR=6.5
SHLS Shalkode 111.97 311 *i*PKIKP **PKiKP 13 58 50.5 -1.8**
SHLS Shalkode 111.97 311 *e*PKIKP **PKiKP 13 58 50.6 -1.8**
UZB Uzynbulak 112.29 311 *i*PKIKP **PKiKP 13 58 52.1 -0.9**
UZB Uzynbulak 112.29 311 *e*PKIKP **PKiKP 13 58 52.2 -0.9**
KURK Kurchatov 112.45 319*c i*PKIKP **PKiKP 13 58 51.9 -0.9**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURBB Kurchatov Arra 112.51 319 PKiKP PKiKP 13 58 51.7 -1.3
comp=Z,5.1nm,0.8s,baz=94,slow=1.8,SNR=34
KURBB PP **PP 13 59 42.5 -1.9**
comp=Z,1.5nm,0.9s,baz=87,slow=7.9,SNR=4.0
KPKS Kokpek 112.54 311 *i*PKIKP **PKiKP 13 58 52.2 -1.2**
KPKS Kokpek 112.54 311 *e*PKIKP **PKiKP 13 58 52.2 -1.2**
SATY Saty 112.74 310 *i*PKIKP **PKiKP 13 58 52.9 -0.9**
SATY Saty 112.74 310 *e*PKIKP **PKiKP 13 58 53.0 -0.9**
TDK Taldyqorghan 112.74 313 *i*PKIKP **PKiKP 13 58 52.7 -0.9**
TDK Taldyqorghan 112.74 313 *e*PKIKP **PKiKP 13 58 52.7 -0.9**
MDOK Medeo 113.73 311 *i*PKIKP **PKiKP 13 58 54.6 -1.1**
MDOK Medeo 113.73 311 *e*PKIKP **PKiKP 13 58 54.6 -1.1**
TNSS Tian-Shan 113.81 310 *i*PKIKP **PKiKP 13 58 54.7 -1.5**
TNSS Tian-Shan 113.81 310 *e*PKIKP **PKiKP 13 58 54.8 -1.5**
KSH Kashi 114.55 307 PKP PKPdf 13 58 58.0 +0.6
SGDS Sogindy 115.49 311 *i*PKIKP **PKPdf 13 58 57.9 -1.1**
SGDS Sogindy 115.49 311 *e*PKIKP **PKPdf 13 58 58.0 -1.1**
AAK Ala-Archa 115.62 310 PKP **PKPdf 13 58 58.8 -0.6**
comp=Z,2.3nm,0.8s,baz=161,slow=7.6,SNR=3.3
AAK Ala-Archa 115.62 310*c i*PKIKP **PKPdf 13 58 59.1 -0.3**
AAK pmax pmax
comp=Z,7.0nm,2.5s
BTLS Baital 115.83 313 *i*PKIKP **PKPdf 13 58 58.6 -0.9**
BTLS Baital 115.83 313 *e*PKIKP **PKPdf 13 58 58.7 -0.9**
BRZS Berezniki 116.31 318 *i*PKIKP **PKPdf 13 58 59.3 -1.0**
BRZS Berezniki 116.31 318 *e*PKIKP **PKPdf 13 58 59.3 -1.0**
SPITS Spitsbergen Ar 117.24 357 PKP **PKPdf 13 59 00.5 -0.9**
comp=Z,11nm,0.7s,baz=54,slow=3.4,SNR=14
BVAR Borovoye Array 117.26 322 PKP **PKPdf 13 59 01.1 -0.9**
comp=Z,16nm,0.7s,baz=94,slow=1.5,SNR=59
BVAR PP **PP 14 00 14.1 -3.4**
comp=Z,1.2nm,0.7s,baz=98,slow=6.0,SNR=1.9
BRVK Borovoye 117.32 322*d i*PKIKP **PKPdf 13 59 01.3 -0.8**
BRVK pmax pmax
comp=Z,18nm,1.0s
DZA Taraz 117.93 310 *i*PKIKP **PKPdf 13 59 02.8 -0.9**
DZA Taraz 117.93 310 *e*PKIKP **PKPdf 13 59 02.8 -0.9**
BRLS Borolday 119.01 311 *i*PKIKP **PKPdf 13 59 05.3 -0.4**
BRLS Borolday 119.01 311 *e*PKIKP **PKPdf 13 59 05.3 -0.4**
CHGR Chuyangaron 119.87 306 PKIKP **PKPdf 13 59 07.8 +0.2**
KBL Kabul 120.13 301 PKIKP **PKPdf 13 59 08.5 +0.1**
SVE Sverdlovsk 121.65 328 *e*PKIKP **PKPdf 13 59 10.1 -0.2**
SVE pmax pmax
comp=Z,26nm,1.0s
ARTI Arti 122.97 328 *i*PKIKP **PKPdf 13 59 12.6 -0.3**
ARTI 14 00 55.9
ARTI 14 05 54.9
ARTI SS SS 14 17 09.7 -6.2
LVZ Lovozero 124.47 347⇓ *i*PKIKP **PKPdf 13 59 15.3 -0.2**
ARCES ARCESS Array B 124.69 351 PKP **PKPdf 13 59 15.1 -0.8**
comp=Z,27nm,0.7s,baz=11,slow=1.5,SNR=64
KIRV Kirov 126.18 333⇑ *i*PKIKP **PKPdf 13 59 19.1 +0.2**
KLMR Klimovskoe 128.58 339 *e*PKIKP **PKPdf 13 59 21.5 -2.0**
KLMR pmax pmax
comp=Z,39nm,1.2s
BELG Belogornoye 130.38 327*de*PKIKP **PKPdf 13 59 26.2 -0.9**
BOSA Boshof 131.87 204 PKP **PKPdf 13 59 31.3 +0.3**
comp=Z,3.1nm,1.0s,baz=145,slow=1.0,SNR=3.9
FINES FINESS Array B 131.91 347 PKhKP PKPpre 13 59 19.8
comp=Z,1.7nm,0.6s,baz=26,slow=3.5,SNR=7.2
FINES PKP **PKPdf 13 59 29.3 -0.5**
comp=Z,7.8nm,0.6s,baz=25,slow=3.2,SNR=20
MOS Moscow 132.94 336 *i*PKIKP **PKPdf 13 59 32.4 +0.5**
MOS pmax pmax
comp=Z,41nm,0.9s
OBN Obninsk 133.81 336 PKP **PKPdf 13 59 33.6 +0.1**
comp=Z,13nm,0.4s,baz=352,slow=7.1,SNR=3.7
OBN Obninsk 133.81 336 *i*PKIKP **PKPdf 13 59 33.8 +0.3**
OBN *e* 14 02 05.6
OBN *e*PPP PPP 14 05 02.9
OBN pmax pmax
comp=Z,17nm,0.9s
VRH Novokhopyorsk 134.08 329 PKIKP **PKPdf 13 59 31.1 -3.1**
VRH pmax pmax
comp=Z,9.0nm,1.0s
VSU Vasula 134.38 344⇑ *e*PKIKP **PKPdf 13 59 31.9 -2.6**
NB2 NORSAR Subarra 134.50 356 PKP **PKPdf 13 59 34.4 -0.3**
comp=Z,43nm,1.4s,baz=13,slow=4.1
NB2 NORSAR Subarra 134.50 356 PKP **PKPdf 13 59 34.4 -0.3**
baz=13,slow=4.1
NOA NORSAR Array B 134.50 356 PKP **PKPdf 13 59 34.1 -0.7**
comp=Z,6.8nm,0.9s,baz=14,slow=4.1,SNR=11
LPSR Galich'ya Gora 134.54 332 PKIKP **PKPdf 13 59 35.6 +0.6**
LPSR pmax pmax
comp=Z,25nm,1.4s
VORR Voronezh 135.02 330 PKIKP **PKiKP 13 59 37.8 +0.4**
VORR pmax pmax
comp=Z,16nm,1.4s
HFS Hagfors 135.18 354 PKhKP PKPpre 13 59 22.0
comp=Z,4.3nm,0.8s,baz=106,slow=3.2,SNR=7.2
HFS PKP **PKPdf 13 59 35.1 -0.9**
comp=Z,8.1nm,0.7s,baz=104,slow=3.7,SNR=9.5
NCK Nalchik 137.18 318⇑ *i*PKIKP **PKiKP 13 59 42.1 -0.1**
MNK Minsk 137.43 341 *i*PKHKP PKPpre 13 59 31.6
MNK *i* 14 02 38.1
MNK *i* 14 06 12.8
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK MLR MLR
comp=Z,51nm,7.0s
MNK MLR MLR
comp=E,303nm,26.0s
MNK MLR MLR
comp=N,323nm,21.0s
KBZ Khabaz 137.51 319 PKP **PKPdf 13 59 42.2 +1.5**
comp=N,3.9nm,0.9s,baz=182,slow=4.1,SNR=5.7
KBZ Khabaz 137.51 319⇓ *i*PKIKP **PKiKP 13 59 42.5 -0.2**
KIV Kislovodsk 137.53 319 *e*PKIKP **PKPdf 13 59 41.4 +0.4**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 137.53 319 PKP **PKPdf 13 59 41.2 +0.2**
SHA1 Shidzhatmaz 137.66 319⇓ *i*PKIKP **PKPdf 13 59 41.4 0.0**
GNI Garni 137.88 313 PKP **PKPdf 13 59 39.7 -2.1**
comp=Z,7.0nm,0.6s,baz=153,slow=2.3,SNR=5.1
GNI Garni 137.88 313⇓ *e*PKIKP **PKPdf 13 59 41.3 -0.5**
SOC Sochi 139.57 321 *e*PKIKP **PKPdf 13 59 43.2 -1.4**
SOC *e* 14 02 42.2
SOC *e*PPP PPP 14 05 47.8
SOC *e*SS SS 14 20 31.4 -6.4
SOC *e*SSS SSS 14 25 53.5
EKA Eskdalemuir Ar 139.91 7 PKhKP PKPpre 13 59 36.1
comp=Z,0.6nm,0.4s,baz=340,slow=2.5,SNR=2.1
EKA PKP **PKPdf 13 59 43.0 -1.8**
comp=Z,0.8nm,0.4s,baz=356,slow=2.6,SNR=5.1
AKASG Malin Array Be 140.06 336 PKhKP PKPpre 13 59 36.4
comp=Z,3.3nm,0.6s,baz=40,slow=3.9,SNR=10.0
AKBB Malin Array Si 140.06 336⇓ *e*PKIKP **PKPdf 13 59 40.5 -4.7**
AK04 Malin Array Si 140.06 336 PKP **PKPdf 13 59 44.7 -0.5**
KIEV Kiev 140.07 336 ⇓P **PKPdf 13 59 40.7 -4.5**
KIEV Kiev 140.07 336 ⇓PKIKP **PKPdf 13 59 40.7 -4.5**
KIEV Kiev 140.07 336 PKP **PKPdf 13 59 44.3 -0.9**
AK08 Malin Array Si 140.10 336 PKP **PKPdf 13 59 44.7 -0.6**
AK16 Malin Array Si 140.13 336 PKP **PKPdf 13 59 44.6 -0.7**
AK12 Malin Array Si 140.13 336 PKP **PKPdf 13 59 44.9 -0.4**
AK13 Malin Array Si 140.19 336 PKP **PKPdf 13 59 45.4 -0.1**
RNPP9 Sopachiv 140.69 340 PKP **PKPdf 13 59 45.9 -0.4**
RNPP2 Kostyukhnivka 140.76 339 PKP **PKPdf 13 59 45.8 -0.7**
RNPP1 Kostyukhnivka 140.78 340 PKP **PKPdf 13 59 45.8 -0.7**
RAYN Ar Rayn 141.33 288 ⇑PKIKP **PKPdf 13 59 44.9 -3.5**
SORM Soroca 142.43 334 ⇑P **PKPdf 13 59 46.4 -3.1**
SORM Soroca 142.43 334 ⇑PKIKP **PKPdf 13 59 46.4 -3.1**
OJC Ojcow 143.57 344 *e*PKP PKPab 13 59 49.0 +0.2
KSP Ksiaz 143.80 348 *e*PKP PKPab 13 59 50.7 +1.0
STHS Stebnicka Huta 143.90 342 *e*PKIKP PKPab 13 59 50.4 +0.3
STHS Stebnicka Huta 143.90 342 *e*PKP PKPab 13 59 50.4 +0.3
CLL Collm 143.91 352 *i*PKIKP PKPab 13 59 50.0 -0.1
CLL *e* 14 01 07.0
CLL pmax pmax
comp=Z,38nm,0.7s
CLL Collm 143.91 352 *i*PKPdf PKPab 13 59 50.0 -0.1
comp=Z,38nm,0.7s
CLL *i* x x 13 59 53.1
comp=Z,29nm,0.9s
CLL *e*pPKPdf pPKPdf 14 01 07.0 +1.7
BZK Bozkurt 143.94 322 ⇓P PKPab 13 59 49.8 -0.6
KOLS Kolonicke sedl 144.01 341 *e*PKIKP **PKPab 13 59 51.2 +0.6**
KOLS Kolonicke sedl 144.01 341 *e*PKP **PKPab 13 59 51.2 +0.6**
OSTC Ostas 144.09 348 *e*PKP **PKPab 13 59 51.7 +0.9**
OSTC Ostas 144.09 348 *e*PKIKP **PKPab 13 59 51.7 +0.9**
CHVC Chvalec 144.09 348 *e*PKP **PKPab 13 59 51.7 +0.8**
CHVC Chvalec 144.09 348 *e*PKIKP **PKPab 13 59 51.7 +0.8**
BURAR Bucovina Array 144.10 337 ⇓P **PKPab 13 59 50.7 -0.4**
BURAR Bucovina Array 144.10 337 ⇓PKIKP **PKPab 13 59 50.7 -0.4**
NIE Niedzica 144.16 343 *e*PKP **PKPab 13 59 51.9 +0.7**
NIE Niedzica 144.16 343 PKP **PKPab 13 59 51.9 +0.7**
UPC Upice 144.18 348 *e*PKP **PKPab 13 59 51.9 +0.7**
UPC Upice 144.18 348 *e*PKIKP **PKPab 13 59 51.9 +0.7**
BRG Berggiesshubel 144.19 351 *i*PKP **PKPab 13 59 51.6 +0.4**
BRG Amp 13 59 54.0
comp=Z,31nm,1.0s
BRG Berggiesshubel 144.19 351 P **PKiKP 13 59 56.5 +0.2**
BRG Amp 13 59 58.6
comp=Z,15nm,0.8s
DPC Dobruska-Polom 144.26 348 *e*PKP **PKPab 13 59 52.1 +0.5**
DPC Dobruska-Polom 144.26 348 *e*PKIKP **PKPab 13 59 52.1 +0.5**
DPC Dobruska-Polom 144.26 348 PKP **PKPab 13 59 51.9 +0.3**
VLDR Vladesti 144.33 332 ⇑P **PKPab 13 59 52.5 +0.6**
STEB Steborice 144.34 346 *e*PKP **PKPab 13 59 52.0 +0.2**
OKC Ostrava-Krasne 144.34 346 *e*PKP **PKPab 13 59 52.4 +0.6**
OKC Ostrava-Krasne 144.34 346 *e*PKIKP **PKPab 13 59 52.4 +0.6**
PVCC Panska Ves 144.42 350 *e*PKP **PKPab 13 59 52.7 +0.6**
PVCC Panska Ves 144.42 350 *e*PKIKP **PKPab 13 59 52.7 +0.6**
TESR Tescani 144.43 334 ⇓P **PKPab 13 59 52.1 -0.2**
KRLC Kraliky 144.43 347 *e*PKP **PKPab 13 59 52.8 +0.6**
KRLC Kraliky 144.43 347 *e*PKIKP **PKPab 13 59 52.8 +0.6**
GHRR 144.46 333 ⇑P PKPbc 13 59 53.5 +1.0
TLCR 144.49 331 ⇑P **PKPab 13 59 53.0 +0.5**
TLCR 144.49 331 ⇑PKIKP **PKPab 13 59 53.0 +0.5**
HSKC Hora Svate Kat 144.53 351 *e*PKP **PKPab 13 59 52.8 +0.3**
MORC Moravsky Berou 144.54 346 *e*PKP **PKPab 13 59 52.5 -0.1**
MORC Moravsky Berou 144.54 346 ⇓P **PKPab 13 59 53.0 +0.4**
MORC Moravsky Berou 144.54 346 ⇓PKIKP **PKPab 13 59 53.0 +0.4**
LANS Liptovska Anna 144.64 344 *e*PKIKP **PKPdf 13 59 54.0 +0.5**
LANS Liptovska Anna 144.64 344 *e*PKP **PKPdf 13 59 54.0 +0.5**
NEGRR Negrea 144.65 332 ⇑P **PKPdf 13 59 54.0 +0.5**
COSR Cosmesti PH 144.66 333 ⇓P **PKPdf 13 59 54.9 +1.4**
ILGA Ilgaz 144.66 321 PKPbc **PKPdf 13 59 54.8 +0.8**
SLCR Slobozia Conac 144.66 332 ⇑P **PKPdf 13 59 54.1 +0.6**
ONER Baraj Valea Uz 144.67 334 ⇑P **PKPdf 13 59 54.1 +0.6**
BMR Baia Mare 144.69 338 ⇓P PKPbc 13 59 53.3 +0.1
BMR Baia Mare 144.69 338 ⇓PKIKP PKPbc 13 59 53.3 +0.2
IZVR Izvoarele 144.70 332 ⇑P **PKPab 13 59 54.1 +0.8**
TUDR 144.70 332 ⇓P PKPbc 13 59 54.0 +0.7
PANC Panciu 144.72 333 ⇑P **PKPdf 13 59 54.5 +0.9**
SCHLR Schela 144.73 332 ⇑P PKPbc 13 59 53.8 +0.5
CFR Carcaliu 144.81 331 ⇓P PKPbc 13 59 53.6 0.0
CFR Carcaliu 144.81 331 ⇓PKIKP PKPbc 13 59 53.6 0.0
ODBI Odobesti 144.84 333 ⇑P **PKPab 13 59 55.1 +1.2**
MAUC Maruska 144.86 346 *e*PKP PKPbc 13 59 54.2 +0.5
ARCR ARCALIA 144.87 337 ⇓P PKPbc 13 59 54.4 +0.6
PRA Prague 144.89 350 *e*PKP PKPbc 13 59 54.4 +0.7
PRA Prague 144.89 350 *e*PKIKP PKPbc 13 59 54.4 +0.7
VRI Vrincioaia 144.91 333 ⇓P PKPbc 13 59 53.4 -0.5
VRI Vrincioaia 144.91 333 ⇓PKIKP PKPbc 13 59 53.4 -0.5
VRI Vrincioaia 144.91 333 PKP PKPbc 13 59 54.0 +0.1
TPGR Topolog 144.92 331 ⇓P PKPbc 13 59 54.5 +0.6
PRU Pruhonice 144.95 349 *e*PKP PKPbc 13 59 54.0 +0.1
PRU Pruhonice 144.95 349 *e*PKIKP PKPbc 13 59 54.0 +0.1
PLOR Plostina 144.95 334 ⇓P PKPbc 13 59 54.1 +0.1
PLOR Plostina 144.95 334 ⇓PKIKP PKPbc 13 59 54.1 0.0
PLOR3 Plostina Array 144.95 334 PKP **PKPdf 13 59 54.8 +0.7**
KECS Kecovo 144.95 342 *e*PKIKP PKPbc 13 59 54.3 +0.4
KECS Kecovo 144.95 342 *e*PKP PKPbc 13 59 54.3 +0.4
UCC Uccle 144.97 1 *d*PKP **PKPdf 13 59 53.7 -0.2**
GOPC GO Pecny, Ondr 144.98 349 *e*PKP **PKPdf 13 59 53.9 -0.1**
GOPC GO Pecny, Ondr 144.98 349 *e*PKIKP **PKPdf 13 59 53.9 -0.1**
OZUR 145.12 335 ⇑P **PKPab 13 59 55.7 +0.7**
COVR Voineasa-Covas 145.14 334 ⇑P **PKPdf 13 59 55.1 +0.6**
MEM Membach 145.16 359 *d*PKP **PKPdf 13 59 54.5 +0.2**
BTNL Ternell 145.18 359 *d*PKP **PKPdf 13 59 54.4 +0.1**
BST1 Sart Tilman 145.19 360 *d*PKP **PKPdf 13 59 54.7 +0.4**
VRAC Vranov 145.19 347 *e*PKP **PKPdf 13 59 54.7 +0.3**
VRAC Vranov 145.19 347 ⇓P **PKPbc 13 59 55.6 +0.9**
VRAC Vranov 145.19 347 ⇓PKP2 **PKPbc 13 59 55.6 +0.9**
TIRR Tirgusor 145.22 330 ⇓P **PKPdf 13 59 55.3 +0.8**
TIRR Tirgusor 145.22 330 ⇓P **PKPdf 13 59 55.3 +0.8**
TIRR Tirgusor 145.22 330 ⇓PKP2 **PKPdf 13 59 55.3 +0.8**
HARR Harsova 145.27 331 ⇑P **PKPbc 13 59 55.9 +0.9**
HARR Harsova 145.27 331 ⇑PKP2 **PKPbc 13 59 55.9 +0.9**
MESR Meseseni 145.33 339 ⇑P **PKPab 13 59 57.3 +1.7**
TLBR Topalu 145.33 331 ⇑P **PKPab 13 59 56.7 +1.0**
BCLA Clavier 145.35 360 *d*PKPdf **PKPdf 13 59 54.9 +0.3**
JAVC Velka Javorina 145.37 345 *e*PKP **PKPbc 13 59 56.2 +0.9**
DOPR Dopca 145.38 335 ⇓P **PKPbc 13 59 56.3 +0.9**
BGES Gesves 145.39 0 *d*PKP **PKPdf 13 59 54.9 +0.3**
VYHS Vyhne 145.41 344 *e*PKP2 **PKPdf 13 59 55.5 +0.7**
VYHS Vyhne 145.41 344 *e*PKP **PKPdf 13 59 55.5 +0.7**
VYHS *e* 14 01 09.2
BHOU Houvegnez 145.41 359 *d*PKP **PKPdf 13 59 55.7 +1.0**
MFTR Murfatlar 145.43 330 ⇑P **PKPbc 13 59 56.4 +0.9**
CJR Cluj-Napoca 145.46 337 ⇑P **PKPbc 13 59 56.2 +0.6**
CJR Cluj-Napoca 145.46 337 ⇑PKP2 **PKPbc 13 59 56.2 +0.6**
BMRD Maredsous 145.47 0 *d*PKP **PKPdf 13 59 54.9 +0.1**
KRUC Moravsky 145.47 347 *e*PKP **PKPdf 13 59 55.3 +0.5**
BR131 Keskin Array S 145.50 320*d i*PKP2 **PKPdf 13 59 55.9 +0.5**
BRTR Keskin Array B 145.50 320 PKPbc **PKPdf 13 59 55.7 +0.3**
comp=Z,46nm,0.7s,baz=122,slow=1.5,SNR=140
BRTR pPKPbc **pPKPdf 14 01 09.8 +1.1**
comp=Z,9.9nm,1.0s,baz=134,slow=3.6,SNR=2.5
BR105 Keskin Array S 145.52 320 PKP **PKPdf 13 59 56.4 +1.0**
MLR Muntele Rosu 145.54 334 PKPbc **PKPdf 13 59 55.6 +0.4**
comp=Z,59nm,0.9s,baz=39,slow=1.4,SNR=39
MLR Muntele Rosu 145.54 334 ⇓P **PKPbc 13 59 56.8 +0.9**
MLR Muntele Rosu 145.54 334 PKP **PKPdf 13 59 56.0 +0.8**
ZVC Zvikov 145.54 350 *e*PKP **PKPdf 13 59 55.3 +0.3**
ZVC *ex* x 14 01 12.6
ISR Istrita 145.57 333 ⇑P **PKPbc 13 59 56.7 +0.7**
ISR Istrita 145.57 333 ⇑PKP2 **PKPbc 13 59 56.7 +0.7**
AMRR Amara 145.61 332 ⇑P **PKPab 13 59 57.2 +0.4**
AMRR Amara 145.61 332 ⇑PKP2 **PKPab 13 59 57.2 +0.4**
MANR Mangalia 145.61 329 ⇑P **PKPab 13 59 57.3 +0.5**
RCHB Rochefort 145.62 360 *d*PKPdf **PKPdf 13 59 54.8 -0.2**
PSZ Piszkesteto 145.63 342 ⇑P **PKPdf 13 59 56.3 +1.1**
PSZ Piszkesteto 145.63 342 ⇑PKP2 **PKPdf 13 59 56.3 +1.1**
KIRS Kirsehir-Merke 145.67 318 ⇑P **PKPdf 13 59 55.9 +0.3**
MARR Marisel-Cluj 145.67 338 ⇓P **PKPdf 13 59 56.3 +0.9**
DOU Dourbes 145.67 1 *d*PKP **PKPdf 13 59 55.8 +0.7**
DRGR 145.72 336 ⇓P **PKPdf 13 59 56.4 +0.9**
DRGR 145.72 338 ⇓PKP2 **PKPdf 13 59 56.4 +0.9**
GRFO Grafenberg 145.73 353 **PKPbc 13 59 56.5 +0.3**
GRFO Grafenberg 145.73 353 PKP2 **PKPbc 13 59 56.5 +0.3**
SMOL Smolenice 145.75 345 *e*PKP2 **PKPbc 13 59 57.5 +1.2**
MODS Modra-Piesok 145.91 346 *e*PKP2 **PKPbc 13 59 58.1 +1.2**
MODS Modra-Piesok 145.91 346 *e*PKP **PKPbc 13 59 58.1 +1.2**
MODS *e* 14 01 10.9
ANTO Ankara 145.94 320 ⇓P **PKPdf 13 59 57.3 +1.2**
ANTO Ankara 145.94 320 ⇓PKP2 **PKPdf 13 59 57.3 +1.2**
ANTO Ankara 145.94 320 PKP **PKPdf 13 59 57.2 +1.2**
KHC Kasperske Hory 145.94 350 *e*PKP **PKPdf 13 59 56.2 +0.5**
KHC *ex* x 14 01 11.7
KHC Kasperske Hory 145.94 350*d i*PKIKP **PKPdf 13 59 55.9 +0.2**
KHC Kasperske Hory 145.94 350 PKP **PKPdf 13 59 56.5 +0.8**
LEHL Lehliu 145.95 332 ⇓P **PKPab 13 59 58.3 +0.2**
VOIR 145.95 335 ⇑P **PKPab 13 59 58.0 +0.9**
VOIR 145.95 335 ⇑PKP2 **PKPbc 13 59 58.0 +0.9**
VOIR 145.95 335 PKP **PKPbc 13 59 56.3 +0.4**
TNR Turnu Rosu 146.09 336 ⇑P **PKPbc 13 59 58.1 +0.6**
TNR Turnu Rosu 146.09 336 ⇑PKP2 **PKPbc 13 59 58.1 +0.6**
WLF Walferdange 146.10 359 *d*PKP **PKPbc 13 59 57.4 +0.1**
CKRC Cesky Krumlov 146.12 349 *e*PKP **PKPdf 13 59 56.4 +0.4**
CKRC Cesky Krumlov 146.12 349 *e*PKIKP **PKPdf 13 59 56.4 +0.4**
SRO Srobarova 146.17 344 *e*PKP2 **PKPbc 13 59 58.1 +0.5**
SRO Srobarova 146.17 344 *e*PKP **PKPbc 13 59 58.1 +0.5**
ARR Arges 146.18 335 ⇑P **PKPbc 13 59 59.0 +1.1**
GERES GERESS Array B 146.20 350 PKPbc **PKPdf 13 59 56.8 +0.6**
comp=Z,29nm,0.7s,baz=17,slow=1.4,SNR=69
GERES pPKPbc pPKPab 14 01 11.9 +1.8
comp=Z,11nm,1.2s,baz=24,slow=7.5,SNR

LOT	Lotru	146.46	336	⇑P	PKPdf	13 59 58.4	+1.6
MDUB	Mudurnu	146.52	323		PKPbc	13 59 59.4	+0.4
SIRR	Siria	146.54	339	⇓P	PKPbc	13 59 58.9	+0.2
CONA	Conrad Observa	146.66	347	ePKP	PKPdf	13 59 57.6	+0.5
comp=Z,17nm,1.5s,SNR=44							
CONA				i PKP	PKPbc	13 59 59.6	+0.5
comp=Z,97nm,0.9s							
NEF	NEVSHA	146.66	330	eP	PKPbc	14 00 00.0	+0.8
HUMR	Humele	146.72	334	⇓P	PKPbc	13 59 59.5	+0.3
RONA	Rosalia, Austr	146.78	346	i PKP	PKPdf	13 59 57.6	+0.4
comp=Z,10nm,1.1s							
RONA				ePKP	PKPbc	13 59 59.9	+0.6
comp=Z,79nm,0.9s,SNR=21							
SURR	Surduc	146.82	338	⇓P	PKPbc	13 59 59.7	+0.2
STU	Stuttgart	146.84	355		PKPbc	13 59 59.5	0.0
STU	Stuttgart	146.84	355	PKP2	PKPbc	13 59 59.5	0.0
GZR	Gura Zlata	146.89	337	⇓P	PKPbc	13 59 59.5	-0.3
GZR	Gura Zlata	146.89	337	⇓PKP2	PKPbc	13 59 59.5	-0.3
MOA	Molln	147.06	349	ePKP	PKPbc	14 00 00.2	+0.1
comp=Z,60nm,1.0s,SNR=9.8							
BHL	Bhannes	147.10	309	eP	PKPbc	14 00 00.6	-0.2
BZS	Buzias	147.12	339	⇓P	PKPbc	14 00 00.3	0.0
BZS	Buzias	147.12	339	⇓PKP2	PKPbc	14 00 00.3	0.0
RCY	Rachaya	147.14	308	eP	PKPbc	14 00 01.3	+0.3
DQRL	Deir Qamar	147.25	309	eP	PKPbc	14 00 01.8	+0.6
SZH	Strazhitsa	147.27	331	eP	PKPbc	14 00 01.0	+0.2
BIOA	Bad Ischl, Aus	147.32	349	i PKP	PKPdf	13 59 58.4	+0.3
comp=Z,12nm,1.4s							
BIOA				ePKP	PKPbc	14 00 00.7	-0.1
comp=Z,52nm,1.1s,SNR=12							
ARSA	Arzberg	147.37	347	i PKP	PKPdf	13 59 57.4	-0.8
comp=Z,6.0nm,1.3s							
ARSA				i PKP	PKPbc	14 00 01.0	0.0
comp=Z,38nm,1.1s,SNR=11							
VLAD	Vladila	147.39	334	⇓P	PKPbc	14 00 01.7	+0.6
HERR	Herculane	147.46	337	⇑P	PKPbc	14 00 01.6	+0.4
BANR	Banloc	147.49	339	⇓P	PKPbc	14 00 02.2	+0.9
MORH	Mrgy, Hungar	147.54	342	⇑P	PKPbc	14 00 01.1	-0.3
MMAI	Mount Meron Ar	147.67	308	PKPbc	PKPbc	14 00 03.4	+1.1
comp=Z,55nm,0.7s,baz=60,slow=4.9,SNR=50							
MMAI				pPKPbc	pPKPbc	14 01 16.3	+1.5
comp=Z,27nm,1.1s,baz=26,slow=6.5,SNR=3.2							
LESA	Schwarzleotal	147.74	350	i PKP	PKPdf	13 59 58.9	+0.1
comp=Z,8.5nm,1.1s							
LESA				ePKP	PKPbc	14 00 01.9	-0.2
comp=Z,46nm,1.2s,SNR=8.4							
MDVR	Moldovita	147.80	338	⇑P	PKPbc	14 00 01.8	-0.4
RETA	Reutte	147.95	353	i PKP	PKPdf	13 59 59.4	+0.2
comp=Z,7.6nm,1.5s							
RETA				ePKP	PKPbc	14 00 02.6	0.0
comp=Z,49nm,1.1s,SNR=13							
KBA	Koelnbreinsper	147.97	349	i PKP	PKPdf	13 59 59.0	-0.3
comp=Z,12nm,1.4s							
KBA				i PKP	PKPbc	14 00 02.0	-0.8
comp=Z,24nm,0.6s,SNR=8.6							
WATA	Walderalm	148.00	352	i PKP	PKPdf	13 59 59.4	0.0
comp=Z,11nm,1.0s							
WATA				ePKP	PKPbc	14 00 02.6	-0.2
comp=Z,20nm,0.6s,SNR=8.1							
SOKA	Soboth	148.02	347	i PKP	PKPdf	13 59 59.3	0.0
comp=Z,15nm,1.6s							
SOKA				ePKP	PKPbc	14 00 02.3	-0.5
comp=Z,59nm,1.3s,SNR=10							
VALD	Valchedram	148.05	335	eP	PKPbc	14 00 03.7	+0.9
MOTA	Moosalm	148.05	352	i PKP	PKPdf	13 59 59.6	+0.1
comp=Z,13nm,1.0s							
MOTA				ePKP	PKPbc	14 00 03.3	+0.4
comp=Z,64nm,1.0s							
WTTA	Wattenberg	148.06	352	i PKP	PKPdf	13 59 59.7	+0.2
comp=Z,14nm,1.3s							
WTTA				i PKP	PKPbc	14 00 03.1	+0.1
comp=Z,60nm,0.7s,SNR=17							
FRGS	Fruska Gora	148.13	340	⇓iP	PKPbc	14 00 03.0	-0.1
SQTA	Sankt Quirin	148.16	352	ePKP	PKPdf	13 59 59.7	+0.2
comp=Z,13nm,1.2s							
SQTA				ePKP	PKPbc	14 00 03.3	+0.1
comp=Z,34nm,0.8s,SNR=9.9							
MPEP	Malo Peshtene	148.19	334	eP	PKPbc	14 00 03.5	+0.3
GHAJ	Ghor Haditha	148.23	305		PKPbc	14 00 02.6	-1.1
DAVA	Damuels	148.25	354	i PKP	PKPdf	13 59 60.0	+0.2
comp=Z,11nm,1.3s							
DAVA				ePKP	PKPbc	14 00 03.7	+0.2
comp=Z,86nm,1.0s,SNR=17							
OBKA	Obir	148.28	348	i PKP	PKPbc	14 00 02.7	-0.8
comp=Z,22nm,1.0s							
OBKA	Obir	148.28	348	⇓iP	PKPbc	14 00 02.4	-1.1
MYKA	Terra Mystica	148.35	349	i PKP	PKPdf	13 59 59.8	0.0
comp=Z,8.4nm,1.3s							
MYKA				i PKP	PKPbc	14 00 02.8	-0.8
comp=Z,38nm,0.8s,SNR=10							
BAND	Balkesir-Ban	148.35	325	⇑P	PKPbc	14 00 04.2	+0.5
FETA	Feichten	148.41	353	ePKP	PKPdf	14 00 00.5	+0.5
comp=Z,14nm,1.1s,SNR=20							
FETA				i PKP	PKPbc	14 00 04.1	+0.2
comp=Z,54nm,1.1s							
ABTA	Abfaltersbach	148.43	350	ePKP	PKPdf	13 59 59.8	-0.2
comp=Z,17nm,1.0s,SNR=26							
ABTA				i PKP	PKPbc	14 00 03.3	-0.5
comp=Z,78nm,0.9s							
PGB	Panagyurishte	148.68	332	eP	PKPbc	14 00 04.6	0.0
LJU	Ljubljana	148.73	347	ePKPdf	PKPdf	14 00 00.9	+0.5
LJU				i PKPbc	PKPbc	14 00 04.6	0.0
CRES	Cresnjevec Ost	148.74	346	⇓iP	PKPbc	14 00 03.2	-1.4
TEKS	Tekeris	148.76	340	⇓iP	PKPbc	14 00 04.5	-0.2
BOVS	Bovan	148.78	337	⇓P	PKPbc	14 00 04.1	-0.6
VTS	Vitosha	149.01	334	eP	PKPbc	14 00 05.6	+0.1
PLNA	Plana	149.04	333	eP	PKPbc	14 00 06.1	+0.5
CEY	Cerknica	149.04	347	i PKPbc	PKPbc	14 00 05.2	-0.2
CEY	Cerknica	149.04	347	⇓iP	PKPbc	14 00 05.0	-0.4
RZN	Rozhen	149.07	331	eP	PKPbc	14 00 04.8	-0.9
BOJS	Bojanci	149.09	346	i PKPbc	PKPbc	14 00 05.7	+0.2
BOJS	Bojanci	149.09	346	⇓iP	PKPbc	14 00 05.4	0.0
A051A	Mrakovica	149.13	344	⇓iP	PKPbc	14 00 05.4	-0.2
BLY	Banja Luka	149.30	343	⇓iP	PKPbc	14 00 06.2	+0.2
MANT	Manisa	149.36	322		PKPbc	14 00 05.2	-1.4
SENIN	Lac Senin/Sane	149.36	357		PKPbc	14 00 06.5	+0.1
HAPS	Han Pijesak,Bl	149.37	340	⇓iP	PKPbc	14 00 06.7	+0.4
BBLS	Lazi&#263i	149.41	340	⇓iP	PKPbc	14 00 06.4	0.0
MMB	Musomishta	149.64	332	eP	PKPbc	14 00 06.5	-0.5
RUDO	Rudo	149.64	339	eP	PKPbc	14 00 06.1	-0.8
KKB	Krupnik	149.68	333	eP	PKPbc	14 00 07.6	+0.6
A050A	Klekovaca	149.72	344	⇓iP	PKPbc	14 00 06.6	-0.5
SJES	Sjenica	149.75	338	⇓iP	PKPbc	14 00 07.3	+0.1
SSB	Saint Sauveur	150.49	1	PKIKP	PKPbc	14 00 08.6	-0.3
BRY	Bratogost	150.56	340	eP	PKPbc	14 00 08.6	-0.3
PDG	Podgorica	150.73	338	⇓iP	PKPbc	14 00 09.2	-0.2
PDG	Podgorica	150.73	338	⇓P	PKPbc	14 00 09.5	+0.1
STON	Ston	150.86	341	⇓iP	PKPbc	14 00 08.7	-1.0
DRME	Dracevica, Mon	150.97	338	⇑iP	PKPbc	14 00 09.5	-0.5
HCY	Herceg Novi	150.98	339	eP	PKPbc	14 00 09.7	-0.3
PGAV	Gavieira, Arco	151.35	21	ePKPbc	PKPbc	14 00 11.2	+0.2
PGAV				ePKPab	PKPab	14 00 20.5	+0.2
TIR	Tirane	151.44	336	⇑P	PKiKP	14 00 12.1	+0.6
TIR	Tirane	151.44	336	⇑PKIKP	PKiKP	14 00 12.1	+0.6
PCAB	Cabril	151.66	21	ePKPbc	PKPbc	14 00 12.3	+0.6
PBRG	Braganca	152.01	19	ePKPbc	PKPbc	14 00 12.6	+0.2
PBRG				ePKPab	PKPab	14 00 23.1	+0.1
POLO	Lamas de Olo	152.04	21	ePKPbc	PKPbc	14 00 12.9	+0.2
PVRL	Vila Real	152.16	21	ePKPbc	PKPbc	14 00 12.8	0.0
PVRL				ePKPab	PKPab	14 00 23.7	+0.1
MVO	Moncorvo	152.49	20	ePKPdf	PKPdf	14 00 07.6	+1.2
MVO				ePKPbc	PKPbc	14 00 14.1	+0.5
PVIS	Viseu	152.59	22	ePKPbc	PKPbc	14 00 14.0	+0.2
PVIS				ePKPab	PKPab	14 00 25.5	0.0
COI	Coimbra	152.84	23	ePKPbc	PKPbc	14 00 15.0	+0.8
PCAS	Casmilo, Conde	152.94	24	ePKPab	PKPab	14 00 27.4	+0.4
MTE	Manteigas	152.99	22	ePKPbc	PKPbc	14 00 14.9	+0.2
MTE				ePKPab	PKPab	14 00 27.5	+0.3
PCBR	Castelo Branco	153.51	22	ePKPab	PKPab	14 00 29.4	+0.1
PMRV	Marv??o	153.90	23	ePKPbc	PKPbc	14 00 16.9	+0.2
PMRV				ePKPab	PKPab	14 00 30.8	-0.3
PESTR	Estremoz	154.32	23	ePKPab	PKPab	14 00 32.7	-0.1
TIP	Timpagrande	154.49	339	⇓P	PKPbc	14 00 18.2	+0.3
ESDC	Sonseca Array	154.79	17	PKP	PKPdf	14 00 09.4	-0.3
comp=Z,2.3nm,0.9s,baz=322,slow=2.6,SNR=12							
ESDC				PKPab	PKPab	14 00 35.3	+0.5
comp=Z,13nm,0.9s,baz=328,slow=4.0,SNR=26							
ESDC				PP	PP	14 04 12.1	+1.3
comp=Z,0.9nm,0.8s,baz=337,slow=4.6,SNR=3.2							
PAB	San Pablo	154.80	18	PKP2	PKPab	14 00 35.3	+0.4
MESJ	Messejana	154.95	26	ePKPab	PKPab	14 00 35.9	+0.4
PBAR	Barrancos	155.13	23	ePKPab	PKPab	14 00 36.8	+0.6
PCVE	Castro Verde	155.20	26	ePKPab	PKPab	14 00 37.4	+0.8
MORF	Marmelete	155.22	27	ePKPab	PKPab	14 00 37.0	+0.3
KEST	Kesra	159.69	350	PKP	PKPdf	14 00 14.8	-1.2
comp=Z,3.1nm,0.8s,baz=199,slow=2.3,SNR=4.1							
KEST				PKPab	PKPab	14 00 55.3	-0.8
comp=Z,14nm,0.9s,baz=30,slow=5.1,SNR=6.1							
DBIC	Dimbokro	166.69	131	PKP	PKPdf	14 00 21.8	-1.3
comp=Z,11nm,1.0s,baz=240,slow=1.4,SNR=10							
DBIC				PKPab	PKPab	14 01 26.6	-0.9
comp=Z,12nm,1.0s,baz=212,slow=5.0,SNR=9.4							
TORD	Torodi Ar. Bea	175.78	126	PKP	PKPdf	14 00 26.1	-1.5
comp=Z,11nm,1.1s,baz=343,slow=3.7,SNR=34							
TORD				PKPab	PKPab	14 02 06.8	-1.0
comp=Z,2.2nm,0.7s,baz=256,slow=3.4,SNR=12							
TORD				PP	PP	14 05 59.9	-0.5
comp=Z,1.7nm,1.1s,baz=304,slow=2.7,SNR=3.8							

TXNET 15 13:55:20.6,31°N±1°×10°3W±°, h6km±3km, ML1.5/6, 2D, Error ellipse: s-maj=2.3km s-min=1.2km az=33.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	Crockett Middl	0.01	291	⇓P	Pg	13 55 22.0	+0.3
PCOS				S	Sg	13 55 22.9	+0.4
TPB10	Southeast of T	0.25	242	P	Pg	13 55 26.2	+0.6
TPB10				S	Sg	13 55 30.3	+1.4
TPB04	Verhalen	0.29	138	P	Pb	13 55 28.2	-0.1
TPB04				S	Sb	13 55 32.7	-0.6
TPB03	Saragosa	0.32	183	P	Pg	13 55 27.6	+0.8
TPB03				S	Sg	13 55 32.6	+1.6
PECS	Pecos	0.32	264	⇓P	Pg	13 55 27.4	+0.6
PECS				S	Sg	13 55 32.1	+1.0
TPB16	Coyonosa	0.35	143	S	Sb	13 55 34.3	-0.7
TPB05	Hovey Rd	0.50	163	S	Sb	13 55 38.4	-1.1
TPB01	Permian Basin	0.52	208	P	Pg	13 55 30.7	+0.1
TPB08	Permian Basin	0.72	135	S	Sb	13 55 45.7	0.0
ALPN	Alpine	1.03	187	P	Pg	13 55 40.3	-0.1
TMB02	Rankin	1.26	99	S	Sn	13 56 02.8	+0.5
VHRN	Van Horn	1.42	245	P	Pn	13 55 46.7	-0.4
VHRN				S	Sg	13 56 06.5	+0.3
MNTX	Cornudas Mount	1.64	281	P	Pb	13 55 51.0	-0.2
SAND	Sanderson	1.87	140	S	Sg	13 56 20.2	-0.3

RSNC 15 14:00:38.6±0.0, 7°N±1°×7°3W±°, h149km±2km, M2.2, mb3.6, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	186	P	Pn	14 00 58.6	-0.5
BARC				S	Sn	14 01 14.0	-0.7
BRJC	Barrancabermej	0.60	287	P	Pn	14 01 00.2	-0.2
BRJC				S	Sn	14 01 18.0	+1.0
PAMC	Pamplona, Colo	0.70	40	P	Pn	14 01 01.3	-0.3
PAMC				S	Sn	14 01 18.7	-0.4
RUSC	La Rusia	0.91	175	P	Pn	14 01 02.5	-0.6
RUSC				S	Sn	14 01 20.9	-0.8
PTBC	PUERTO BERRIO,	1.31	259	P	Pn	14 01 05.2	-1.0
PTBC				S	Sn	14 01 26.1	-1.2
TAMC	Tame, Arauca	1.41	105	P	Pn	14 01 06.7	-0.5
TAMC				S	Sn	14 01 28.7	-0.3
OCAC	Ocana	1.44	354	P	Pn	14 01 07.4	-0.2
OCAC				S	Sn	14 01 30.0	+0.1
ZARC	Zaragoza, Cauc	1.82	292	P	Pn	14 01 11.3	-0.3
ZARC				S	Sn	14 01 36.4	-0.5
NORC	Norcasia	2.10	234	P	Pn	14 01 14.4	-0.5
NORC				S	Sn	14 01 42.4	-0.4
CHIC	Chingaza	2.23	195	P	Pn	14 01 16.6	-0.2
CHIC				S	Sn	14 01 45.5	-0.7
ROSC	El Rosal	2.26	211	P	Pn	14 01 18.0	+0.8
ROSC				S	Sn	14 01 52.0	+5.1
GUY2C	Guyana, Caldas	2.69	235	P	Pn	14 01 23.3	+0.7
GUY2C				S	Sn	14 01 59.1	+2.7
PRAC	Prado	3.52	209	P	Pn	14 01 31.7	-0.9
PRAC				S	Sn	14 02 14.4	-0.1
ORTC	Ortega, Tolima	3.54	216	P	Pn	14 01 33.1	+0.1
ORTC				S	Sn	14 02 10.3	-4.9
SJCC	San Jacinto, C	3.67	327	P	Pn	14 01 32.7	-1.9
SJCC				S	Sn	14 02 14.0	-4.1
URMC	La Uribe, Meta	3.73	199	P	Pn	14 01 34.9	-0.6
URMC				S	Sn	14 02 20.0	+0.4
URIC	Uribia, Colomb	5.00	13	P	Pn	14 01 51.9	-0.2

IGQ ***15*** *14:05:54.1±0.4, 1°N±2°×7°8W±°, h5km±2km, MLv3.5/19*
RSNC ***15*** *14:05:54.6±0.3, 1°N±4°×7°8W±°, h9km, M3.7, ML3.0*
ISC 15 14:05:54.5±1.0, 0.74N±0.02×77.85W±0.02, h4km±9km, n58, σ0.51/66, 10C-10D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULM	Tulcn-Chalpat	0.07	110	P	Pg	14 05 55.8	-0.5
CHL2	Volc¡n Chiles	0.09	312	⇑P	Pg	14 05 56.6	-0.1
CHL2				S	Sg	14 05 58.2	0.0
CHL1	Volc¡n Chiles	0.11	298	⇑P	Pg	14 05 56.8	-0.1
CHL1				S	Sg	14 05 58.8	+0.2
ATUL	Tulcn	0.13	75	⇓P	Pg	14 05 57.1	-0.1
ECEN	Cerro Negro	0.15	304	⇑P	Pg	14 05 57.5	-0.1
LNGL	El Angel-Carch	0.15	270	⇓P	Pg	14 05 57.8	+0.1
LNGL				S	Sg	14 06 00.4	+0.6
ATLC	Ecuador-Tulcan	0.17	57	⇓P	Pg	14 05 58.1	+0.2
CMBC	Cumbal	0.20	7	P	Pg	14 05 59.1	+0.6
CMBC	Cumbal	0.20	7	⇓P	Pg	14 05 58.9	+0.4
CHMA	Chilma	0.25	300	⇑P	Pg	14 05 59.4	0.0
CHMA				S	Sg	14 06 03.3	+0.7
YAHU	Yahuarcocha	0.43	211	P	Pg	14 06 02.6	-0.2
YAHU				S	Sg	14 06 09.8	+1.3
AIB2	Ibarra (Univer	0.47	213	P	Pb	14 06 04.7	-0.8
URCU	Urcuqui	0.51	234	⇓P	Pg	14 06 04.3	+0.1
ALIT	Ecuador-Imbabu	0.52	276	P	Pg	14 06 04.2	-0.2
LITE1	Lita	0.52	276	⇑P	Pg	14 06 04.0	-0.3
IMBA	Imbabura, San	0.58	217	⇓P	Pb	14 06 06.9	-0.5
CUIC	Cuicocha-Domo	0.67	230	⇓P	Pg	14 06 07.4	0.0
CAYA	Cayambe	0.68	192	P	Pg	14 06 07.1	-0.4
CAYA				S	Sg	14 06 16.9	+0.5
GCUF	Volcan Galeras	0.70	46	P	Pg	14 06 08.4	+0.5
CUSE	Cuicocha Este	0.70	232	P	Pg	14 06 08.5	+0.6
CUSE	Cuicocha Este	0.70	232	P	Pb	14 06 08.6	-0.8
ANGU	Angureal	0.71	193	⇑P	Pg	14 06 07.8	-0.3
ANGU				S	Sg	14 06 17.8	+0.5
CAYR	Refugio Cayamb	0.74	192	⇓P	Pg	14 06 08.3	-0.4
CAYR				S	Sg	14 06 19.4	+1.1
OTAV	Otavalo	0.78	230	P	Pg	14 06 09.1	-0.4
OTAV	Otavalo	0.78	230	⇓P	Pg	14 06 09.1	-0.4
CASC	Dorado de Casc	0.79	140	⇓P	Pg	14 06 09.4	-0.1
REVN	San Rafael	0.84	165	⇑P	Pg	14 06 10.0	-0.6
AV03	Acelerografo,	0.87	142	P	Pg	14 06 10.5	-0.6
PULU	Pululahua	0.97	223	P	Pg	14 06 12.6	-0.4
PAC1	Pacto, Paraso	1.05	244	P	Pg	14 06 14.2	-0.5
PAC1	Pacto, Paraso	1.05	244	P	Pg	14 06 13.8	-0.9
YANA	Yana	1.12	220	P	Pg	14 06 15.7	-0.2
SNLR	San Lorenzo-Es	1.14	299	P	Pn	14 06 16.9	-0.3
PINO	Pino	1.17	220	P	Pb	14 06 17.2	-0.4
GGPC	Guagua Pichinc	1.18	219	P	Pb	14 06 17.9	+0.1
TERV	Terraza Guagua	1.18	220	P	Pb	14 06 17.4	-0.3
JUA2	San Juan 2	1.21	219	P	Pb	14 06 17.9	-0.3
CRUC	La Cruz	1.22	47	P	Pg	14 06 17.8	-0.1
ANTI	Antisana	1.22	195	P	Pg	14 06 17.6	-0.3
GGPT	Toaza - Volcan	1.23	219	P	Pg	14 06 17.8	-0.3
ANTS	Antisana-Sarah	1.27	195	P	Pg	14 06 18.4	-0.5
ANTG	Antisana-Guama	1.30	198	⇑P	Pg	14 06 18.5	-0.9
TOMA	Boca Toma-Volc	1.36	205	P	Pb	14 06 21.9	+1.2
BBAC	Balboa, Cauca	1.41	25	P	Pn	14 06 21.1	0.0
BBAC	Balboa, Cauca	1.41	25	⇑P	Pn	14 06 20.5	-0.6
VC1	Cotopaxi 1	1.48	202	P	Pg	14 06 23.4	+0.6
BVC2	Cotopaxi Volca	1.50	202	P	Pg	14 06 23.2	0.0
BTAM	Cotopaxi Volca	1.51	201	P	Pg	14 06 23.4	0.0
TAMB	Tambo	1.52	200	P	Pg	14 06 23.7	+0.2
BNAS	Cotopaxi Volca	1.54	204	P	Pg	14 06 24.8	+0.8
CAMI	Rancho Maria	1.55	205	P	Pb	14 06 24.0	-0.1
RVRD	Rio Verde	1.57	282	⇑P	Pn	14 06 23.1	0.0
BMOR	Cotopaxi Volca	1.58	203	P	Pg	14 06 25.1	+0.3
SLOR	San Lorenzo -	1.60	204	P	Pg	14 06 25.1	0.0
BRRN	Barrancas-Volc	1.64	203	P	Pg	14 06 26.8	+0.9
PIAT	Ana Tenorio	1.77	193	P	Pn	14 06 26.6	+0.3
POPC	Popayan, Colom	2.14	33	P	Pb	14 06 33.2	-0.7
FLOC	Florencia	2.35	69	P	Pb	14 06 37.0	-0.4

BJI ***15*** *14:08:05.3, 23°81N×121°80E, h33km, mB4.7/18, mb4.4/58, ML4.5/7, Ms4.1/40, Ms7 4.0/42*
NIED ***15*** *14:08:06.7, 23°78N×121°73E, h42km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr7.11; Mθθ-3.17; Mφφ-3.94; Mrθ2.42; Mrφ-4.10; Mθφ0.30; Fault plane solution: M0 7.80000×10^15 NP1: φs210.00000°, δ39.00000°, λ71.00000°. NP2: φs54.00000°, δ53.00000°, λ105.00000°.*
NEIC ***15*** *14:08:06.9, 23°79N×121°77E, h44km*
JMA ***15*** *14:08:06.7±0.1, 23°8N±0°4×121°7E±0°9, h42km±2km, MD4.6/19, MV4.9/19, TAIWAN REGION*
TAP ***15*** *14:08:07.1, 23°80N×121°75E, h46km, ML5.2, B*
NEIC ***15*** *14:08:07.1±1.5, 23°77N±0°04×121°78E±0°07, h43km±5km, mb4.8/98, Mwr4.6/27, Error ellipse: s-maj=9.6km s-min=4.5km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr8.66; Mθθ-4.43; Mφφ-4.23; Mrθ-0.34; Mrφ-4.32; Mθφ0.75; Fault plane solution: M0 8.70000×10^15 NP1: φs40.64000°, δ46.15000°, λ83.01000°. NP2: φs230.68000°, δ44.29000°, λ97.22000°. Principal axes: T 8.7337, Plg85.0000°, Azm236.0000°; N -0.0775, Plg5.0000°, Azm46.0000°; P -8.6563, Plg1.0000°, Azm136.0000°;*
ASIES ***15*** *14:08:07.1, 23°80N×121°75E, h46km, ML5.2, Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10^22Nm; Mrr5.32; Mθθ-2.49; Mφφ-2.79; Mrθ0.29; Mrφ-1.99; Mθφ1.74; Fault plane solution: M0 5.31318×10^22 NP1: φs230.65000°, δ37.26000°, λ103.74000°. NP2: φs33.58000°, δ53.97000°, λ79.76000°. Principal axes: T Plg78.1360°, Azm265.8720°; N Plg8.2680°, Azm39.6370°; P Plg8.4490°, Azm130.8740°;*
IDC ***15*** *14:08:08.5±2.7, 23°81N×121°79E, h64km±24km, mb4.2/23, mbtmp4.4/27, ML3.8/4, MS3.8/31 Error ellipse: s-maj=17.2km s-min=11.7km az=65.0*
ISC 15 14:08:07.0±0.4, 23°78N±0°02×121°78E±0°02, h47km±3km, n647, σ1.39/778, mb4.7/99, MS3.9/29, 27C-76D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.18	297	i P	Pn	14 08 15.0	+0.1
TEYL				eS	Sn	14 08 21.0	+0.6
SHUL	Shoufeng	0.20	271	⇑iP	Pn	14 08 15.0	+0.1
SHUL				i S	Sn	14 08 21.2	+0.7
TEGC	Jichi Village	0.23	251	⇑iP	Pn	14 08 15.2	+0.1
TEGC				eS	Sn	14 08 21.3	+0.4
HWA	Hwalien	0.25	321	⇑iP	Pn	14 08 15.3	-0.1
HWA				i S	Sn	14 08 21.5	+0.3
ESL	Shilin	0.32	276	⇑iP	Pn	14 08 15.6	-0.3
ESL				eS	Sn	14 08 21.7	-0.7
ETM	Tongmen	0.32	305	⇑iP	Pn	14 08 15.6	-0.4
ETM				S	Sn	14 08 21.8	-0.5
TWD	Chiawan	0.34	331	⇑iP	Pn	14 08 15.9	-0.3
TWD				i S	Sn	14 08 22.2	-0.5
EGFH	Guangfu	0.34	251	P	Pn	14 08 16.2	0.0
EGFH				eS	Sn	14 08 22.5	-0.2
WARBT	Fenglin Townsh	0.36	260	⇑iP	Pn	14 08 16.0	-0.5
WARBT				S	Sn	14 08 22.1	-1.1
ETL	Fush Village	0.40	339	⇑P	Pn	14 08 16.6	-0.3
ETL				eS	Sn	14 08 23.1	-0.8
LXIB	Xiulin Townshi	0.41	306	⇓iP	Pn	14 08 16.6	-0.5
LXIB				S	Sn	14 08 23.2	-1.1
NACB	Ninganchiao	0.42	337		Pn	14 08 16.2	-0.9
NACB				Sn	Sn	14 08 23.6	-0.7
NACB	Ninganchiao	0.42	337	P	Pn	14 08 16.8	-0.3
NACB	Ninganchiao	0.42	337	⇑iP	Pn	14 08 16.7	-0.5
NACB				eS	Sn	14 08 23.4	-0.9
HGSD

NSK	**Sanguang**	**0.97 337**	⇓*i*P	**Pn**	**14 08 24.5**	**+0.3**
NSK			*i* S	**Sn**	**14 08 36.2**	**-0.8**
ILA	**Ilan**	**0.98 358**	⇓P	**Pn**	**14 08 25.1**	**+0.8**
ILA			*e*S	**Sn**	**14 08 38.6**	**+1.6**
FUSB	**Fushanzhiwuyua**	**0.99 350**	⇓*i*P	**Pn**	**14 08 24.8**	**+0.3**
FUSB			*e*S	**Sn**	**14 08 37.3**	**-0.1**
WNT	**Mingjian**	**1.00 276**	⇓*i*P	**Pn**	**14 08 26.1**	**+1.4**
WNT			*i* S	**Sn**	**14 08 39.6**	**+1.8**
NWLT	**Wulai**	**1.02 346**	⇓*i*P	**Pn**	**14 08 25.2**	**+0.3**
NWLT			S	**Sn**	**14 08 38.2**	**+0.1**
NFF	**Wufeng Townshi**	**1.04 325**	⇓*i*P	**Pn**	**14 08 26.0**	**+0.8**
NFF			S	**Sn**	**14 08 40.0**	**+1.4**
LONT	**Longtian**	**1.06 214**	*e*P	**Pn**	**14 08 24.9**	**-0.4**
LONT			*e*S	**Sn**	**14 08 38.6**	**-0.4**
NTC	**Toucheng**	**1.07 3**	*e*P	**Pn**	**14 08 26.7**	**+1.2**
NTC			S	**Sn**	**14 08 40.9**	**+1.6**
TCU	**Taichung**	**1.07 290**	⇓P	**Pn**	**14 08 27.0**	**+1.5**
TCU			*i* S	**Sn**	**14 08 41.4**	**+2.1**
TWQ1	**Liyutan**	**1.08 302**	⇓*i*P	**Pn**	**14 08 26.9**	**+1.2**
TWQ1			*e*S	**Sn**	**14 08 40.5**	**+1.1**
NSTT	**Nanjuang**	**1.10 320**	⇓P	**Pn**	**14 08 27.4**	**+1.3**
NSTT			*e*S	**Sn**	**14 08 41.1**	**+1.0**
STYH	**Taoyuan**	**1.10 237**	⇑P	**Pn**	**14 08 26.8**	**+0.8**
STYH			*e*S	**Sn**	**14 08 41.5**	**+1.4**
LIOB	**Emei**	**1.10 321**	⇓*i*P	**Pn**	**14 08 27.6**	**+1.5**
LIOB			S	**Sn**	**14 08 41.7**	**+1.5**
WGK	**Gukeng**	**1.12 265**	⇓*i*P	**Pn**	**14 08 27.3**	**+1.1**
WGK			S	**Sn**	**14 08 42.1**	**+1.6**
NSY	**Sanyi**	**1.12 304**	⇓*i*P	**Pn**	**14 08 27.6**	**+1.3**
NSY			S	**Sn**	**14 08 42.0**	**+1.3**
WCKO	**Fanlu**	**1.13 253**	⇓P	**Pn**	**14 08 27.7**	**+1.3**
WCKO			*e*S	**Sn**	**14 08 43.0**	**+2.3**
KSHI	**Guanxi Townshi**	**1.13 331**	⇓*i*P	**Pn**	**14 08 27.9**	**+1.5**
KSHI			*e*S	**Sn**	**14 08 42.2**	**+1.4**
WDL	**Douliou City**	**1.14 267**	*e*P	**Pn**	**14 08 27.9**	**+1.4**
WDL			*e*S	**Sn**	**14 08 43.5**	**+2.6**
WDLH	**Douliu**	**1.14 266**	⇓*e*P	**Pn**	**14 08 27.9**	**+1.4**
WDLH			*e*S	**Sn**	**14 08 43.5**	**+2.5**
LDUT	**Ludao**	**1.14 194**	⇓P	**Pn**	**14 08 25.7**	**-0.9**
LDUT			*e*S	**Sn**	**14 08 40.0**	**-1.0**
WCHH	**Zhanghua**	**1.15 285**	⇓*i*P	**Pn**	**14 08 28.2**	**+1.5**
WCHH			*i* S	**Sn**	**14 08 43.4**	**+2.1**
TWGBT	**Beinan**	**1.16 214**	P	**Pn**	**14 08 26.8**	**+0.1**
TWGBT	**Beinan**	**1.16 214**	*e*P	**Pn**	**14 08 26.0**	**-0.8**
TPUB	**Ta-pu**	**1.16 246**		**Pn**	**14 08 26.9**	**+0.1**
TPUB	**Ta-pu**	**1.16 246**	P	**Pn**	**14 08 28.5**	**+1.7**
TPUB	**Ta-pu**	**1.16 246**	S	**Sn**	**14 08 44.1**	**+2.6**
TPUB	**Ta-pu**	**1.16 246**	⇓*i*P	**Pn**	**14 08 28.1**	**+1.3**
TPUB			S	**Sn**	**14 08 43.3**	**+1.8**
TWG	**Pinlang**	**1.16 214**		**Pn**	**14 08 26.0**	**-0.7**
TWG	**Pinlang**	**1.16 214**	*e*P	**Pn**	**14 08 25.9**	**-0.8**
WCH1	**Changhua City**	**1.16 285**	⇓P	**Pn**	**14 08 28.4**	**+1.6**
WCH1			S	**Sn**	**14 08 43.9**	**+2.4**
CHN4	**Tsaushan**	**1.17 249**	⇓P	**Pn**	**14 08 28.3**	**+1.4**
CHN4			*i* S	**Sn**	**14 08 44.5**	**+2.7**
NMLH	**Miaoli**	**1.17 310**	⇓*i*P	**Pn**	**14 08 28.1**	**+1.1**
NMLH			*e*S	**Sn**	**14 08 42.9**	**+1.1**
TTN	**Taitung**	**1.18 210**	*e*P	**Pn**	**14 08 27.8**	**+0.8**
TTN			*e*S	**Sn**	**14 08 42.4**	**+0.5**
WDJ	**Dajia District**	**1.18 299**	⇓*i*P	**Pn**	**14 08 28.2**	**+1.1**
WDJ			*e*S	**Sn**	**14 08 43.7**	**+1.6**
TIPB	**Shuangxi**	**1.18 2**	⇓*i*P	**Pn**	**14 08 28.4**	**+1.2**
TIPB			*i* S	**Sn**	**14 08 43.7**	**+1.5**
WTP	**Ta-pu**	**1.19 244**	⇓*i*P	**Pn**	**14 08 28.8**	**+1.5**
WTP			S	**Sn**	**14 08 44.4**	**+2.0**
NHDH	**Xindian Distri**	**1.20 349**	P	**Pn**	**14 08 28.1**	**+0.8**
NHDH			*i* S	**Sn**	**14 08 42.8**	**+0.3**
TATO	**Taipei**	**1.22 348**		**Pn**	**14 08 28.2**	**+0.7**
TATO	**Taipei**	**1.22 348**	P	**Pn**	**14 08 28.5**	**+0.9**
TATO	**Taipei**	**1.22 348**	S	**Sn**	**14 08 44.4**	**+1.5**
CHN2	**Minshiung**	**1.22 258**	⇓P	**Pn**	**14 08 29.4**	**+1.8**
CHN2			*i* S	**Sn**	**14 08 46.1**	**+3.2**
TWB1	**Santiao Chiao**	**1.23 9**	⇓*i*P	**Pn**	**14 08 28.8**	**+1.0**
TWB1			*e*S	**Sn**	**14 08 44.1**	**+0.8**
SBCB	**Hsinchu**	**1.24 324**	⇓*i*P	**Pn**	**14 08 29.2**	**+1.3**
SBCB			S	**Sn**	**14 08 45.9**	**+2.5**
HSN	**Hsinchu**	**1.25 324**	⇓*i*P	**Pn**	**14 08 29.4**	**+1.3**
HSN			S	**Sn**	**14 08 45.8**	**+2.0**
JYNG	**Yonagunijimaku**	**1.26 58**	P	**Pn**	**14 08 29.3**	**+1.1**
JYNG			*e*S	**Sn**	**14 08 45.1**	**+1.2**
JYNG	**Yonagunijimaku**	**1.26 58**	A	A	14 08 29.3	
	comp=N,20nm,1.2s,comp=E,21nm,0.5s					
NHY	**Taipei**	**1.27 351**	*e*P	**Pn**	**14 08 29.0**	**+0.8**
NHY			*e*S	**Sn**	**14 08 45.7**	**+1.6**
CHY	**Chiayi**	**1.27 257**	⇓*e*P	**Pn**	**14 08 29.7**	**+1.4**
CHY			*e*S	**Sn**	**14 08 45.8**	**+1.6**
WTK	**Tuku**	**1.28 266**	⇓P	**Pn**	**14 08 29.9**	**+1.5**
WTK			*e*S	**Sn**	**14 08 46.6**	**+2.3**
NWF	**Wu-fen Shan**	**1.28 0**	*e*P	**Pn**	**14 08 29.7**	**+1.1**
NWF			*i* S	**Sn**	**14 08 46.6**	**+2.0**
WFSB	**Wu-fen Shan**	**1.28 0**	⇓*i*P	**Pn**	**14 08 29.6**	**+1.2**
WFSB			*e*S	**Sn**	**14 08 46.2**	**+1.7**
WRL	**Guolierlin Hig**	**1.29 276**	⇓*e*P	**Pn**	**14 08 29.8**	**+1.3**
WRL			*i* S	**Sn**	**14 08 47.0**	**+2.4**
TWK	**Hsinying**	**1.29 247**	*e*P	**Pn**	**14 08 30.3**	**+1.7**
TWK			S	**Sn**	**14 08 47.1**	**+2.3**
CHN1	**Nanshi**	**1.29 243**	⇓*i*P	**Pn**	**14 08 30.1**	**+1.4**
CHN1			*e*S	**Sn**	**14 08 46.6**	**+1.8**
NCUH	**Zhongli**	**1.30 336**	⇓P	**Pn**	**14 08 29.6**	**+0.9**
NCUH			S	**Sn**	**14 08 47.0**	**+2.1**
SGST	**Jiashian**	**1.30 238**	⇑P	**Pn**	**14 08 29.4**	**+0.7**
SGST			S	**Sn**	**14 08 47.2**	**+2.3**
SNST	**Tainan City**	**1.30 245**	*e*P	**Pn**	**14 08 30.3**	**+1.6**
SNST			*i* S	**Sn**	**14 08 47.8**	**+2.8**
SXI1	**Grass Mountain**	**1.31 4**	⇓*i*P	**Pn**	**14 08 30.1**	**+1.2**
SXI1			*e*S	**Sn**	**14 08 46.5**	**+1.3**
YOJ	**Yonaguni jima**	**1.31 59**		**Pn**	**14 08 30.1**	**+1.2**
YOJ	**Yonaguni jima**	**1.31 59**	P	**Pn**	**14 08 30.7**	**+1.8**
YOJ	**Yonaguni jima**	**1.31 59**	S	**Sn**	**14 08 47.9**	**+2.6**
YOJ	**Yonaguni jima**	**1.31 59**	⇓*i*P	**Pn**	**14 08 30.2**	**+1.3**
YOJ			S	**Sn**	**14 08 46.3**	**+1.0**
YOJ	**Yonaguni jima**	**1.31 59**	P	**Pn**	**14 08 30.0**	**+1.2**
YOJ			*e*S	**Sn**	**14 08 46.5**	**+1.2**
YOJ	**Yonaguni jima**	**1.31 59**	A	A	14 08 30.0	
	comp=N,13nm,2.3s,comp=E,17nm,1.3s					
TWS1	**Kuangyinshan**	**1.35 346**	*e*P	**Pn**	**14 08 29.1**	**-0.4**
TWS1			*i* S	**Sn**	**14 08 46.8**	**+0.6**
YM01	**YM01**	**1.37 352**	⇓P	**Pn**	**14 08 30.1**	**+0.3**
YM01			*e*S	**Sn**	**14 08 46.2**	**-0.6**
WTCT	**Ta-ch'eng**	**1.37 274**	⇓*i*P	**Pn**	**14 08 31.0**	**+1.3**
WTCT			*i* S	**Sn**	**14 08 49.3**	**+2.6**
ZUZH	**Zhuzihu**	**1.39 351**	⇓*i*P	**Pn**	**14 08 30.3**	**+0.3**
ZUZH			*i* S	**Sn**	**14 08 47.6**	**+0.4**
ECL	**Taimali**	**1.40 213**	*e*P	**Pn**	**14 08 29.2**	**-0.9**
NTST	**Danshui**	**1.41 348**	⇓*e*P	**Pn**	**14 08 30.9**	**+0.7**
NTST			*e*S	**Sn**	**14 08 49.0**	**+1.4**
YM08	**YM08**	**1.41 353**	⇓P	**Pn**	**14 08 30.3**	**+0.1**
ANP	**Anpu**	**1.42 351**	⇓*e*P	**Pn**	**14 08 30.6**	**+0.2**
WSF	**Szhu**	**1.43 265**	⇓P	**Pn**	**14 08 31.7**	**+1.2**
WSF			S	**Sn**	**14 08 50.6**	**+2.5**
ICHU	**Yijhu**	**1.44 253**	⇓*e*P	**Pn**	**14 08 32.0**	**+1.4**
ICHU			*e*S	**Sn**	**14 08 50.6**	**+2.3**
WSL	**Shuilin Townsh**	**1.44 260**	*e*P	**Pn**	**14 08 32.0**	**+1.4**
WSL			S	**Sn**	**14 08 50.9**	**+2.5**
CHN3	**Shinhua**	**1.48 242**	*e*P	**Pn**	**14 08 32.6**	**+2.5**
CHN3			S	**Sn**	**14 08 53.4**	**+4.2**
SCST	**Cishan**	**1.48 233**	*i* P	**Pn**	**14 08 33.8**	**+2.6**
SCST			*e*S	**Sn**	**14 08 53.8**	**+4.5**
TSMG	**Majia**	**1.50 224**	*e*P	**Pn**	**14 08 33.2**	**+1.9**
TSMG			*e*S	**Sn**	**14 08 52.6**	**+2.8**
TWY	**Chenhua**	**1.50 354**	⇑*e*P	**Pn**	**14 08 31.4**	**0.0**
CHN8	**Yiju**	**1.50 253**	*e*P	**Pn**	**14 08 32.6**	**+1.2**
CHN8			*e*S	**Sn**	**14 08 52.0**	**+2.1**
SSHA	**Shanhua**	**1.51 245**	*e*P	**Pn**	**14 08 33.5**	**+1.9**
SSHA			*e*S	**Sn**	**14 08 52.6**	**+2.5**
SHHT	**Tainan City**	**1.52 240**	P	**Pn**	**14 08 34.7**	**+3.0**
SHHT			S	**Sn**	**14 08 55.0**	**+4.8**
TWM1	**Shoushan**	**1.57 233**	*e*P	**Pn**	**14 08 35.5**	**+3.1**
MASBT	**Mashibuluo**	**1.57 222**	*e*P	**Pn**	**14 08 33.7**	**+1.3**
MASBT			*e*S	**Sn**	**14 08 54.4**	**+2.8**
SCLT	**Jiali**	**1.57 248**	P	**Pn**	**14 08 34.3**	**+1.9**
SCLT			*i* S	**Sn**	**14 08 54.2**	**+2.6**
SGLT	**Jiouru**	**1.58 229**	*e*P	**Pn**	**14 08 35.4**	**+2.8**
SGLT			*e*S	**Sn**	**14 08 54.9**	**+3.0**
TAI1	**Yung-k'ang**	**1.60 243**	*e*P	**Pn**	**14 08 33.5**	**+0.7**
TAI1			*e*S	**Sn**	**14 08 55.2**	**+2.9**
EAST	**Anshuo**	**1.64 212**	*e*P	**Pn**	**14 08 33.3**	**0.0**
TAW	**Tawu**	**1.64 210**	*e*P	**Pn**	**14 08 32.8**	**-0.5**
TAWH	**Dawu Township**	**1.65 210**	*e*P	**Pn**	**14 08 32.0**	**-1.6**
TAWH			*e*S	**Sn**	**14 08 52.1**	**-1.5**
SNJT	**Kaohsiung City**	**1.68 233**	*e*P	**Pn**	**14 08 36.8**	**+3.0**
TSCK	**Chigu Township**	**1.68 248**	*e*P	**Pn**	**14 08 35.3**	**+1.4**
TSCK			*e*S	**Sn**	**14 08 57.4**	**+3.2**
LAY	**Lan-yu**	**1.75 187**	*e*P	**Pn**	**14 08 33.9**	**-0.9**
LAY			*e*S	**Sn**	**14 08 55.7**	**-0.3**
SCZT	**Fangliau**	**1.76 217**	*e*P	**Pn**	**14 08 36.4**	**+1.4**
SCZT			*e*S	**Sn**	**14 08 58.0**	**+1.7**
LYUB	**Lan-yu**	**1.78 186**	⇓*e*P	**Pn**	**14 08 33.8**	**-1.5**
WSSB	**Gushan**	**1.80 231**	*e*P	**Pn**	**14 08 37.0**	**+1.4**
SLIU	**Shizi**	**1.80 210**	*e*P	**Pn**	**14 08 35.5**	**-0.1**
PCYT	**Pengchaiyu**	**1.86 8**	*e*P	**Pn**	**14 08 37.1**	**+0.7**
PCYT			*e*S	**Sn**	**14 08 59.2**	**+0.6**
IRIF	**Iriomote-Funau**	**1.87 73**	P	**Pn**	**14 08 37.8**	**+1.3**
IRIF			*e*S	**Sn**	**14 09 00.4**	**+1.6**
IRIF	**Iriomote-Funau**	**1.87 73**	A	A	14 08 37.8	
	comp=N,16nm,1.3s,comp=E,11nm,1.2s					
HATJ	**Hateruma jima**	**1.88 81**	P	**Pn**	**14 08 37.9**	**+1.3**
HATJ			*e*S	**Sn**	**14 09 00.4**	**+1.4**
HATJ	**Hateruma jima**	**1.88 81**	A	A	14 08 37.9	
	comp=N,12nm,0.8s,comp=E,13nm,1.8s					
WLCH	**Liuqiu**	**1.92 222**	*e*P	**Pn**	**14 08 40.0**	**+2.8**
TWP	**Hsiaoliuchiu**	**1.94 223**	*e*P	**Pn**	**14 08 41.3**	**+3.9**
SMST	**Manzhou Townsh**	**1.96 206**	*e*P	**Pn**	**14 08 38.5**	**+0.8**
SMST			S	**Sn**	**14 09 01.4**	**+0.4**
HEN	**Hengchun**	**2.01 209**	*e*P	**Pn**	**14 08 39.4**	**+0.9**
HEN			*e*S	**Sn**	**14 09 03.5**	**+1.1**
WDGT	**Dungji**	**2.01 255**	*i* P	**Pn**	**14 08 39.2**	**+0.7**
WDGT			*e*S	**Sn**	**14 09 02.6**	**+0.2**
TWKBT	**Hengchun**	**2.04 206**	*e*P	**Pn**	**14 08 39.3**	**+0.5**
TWKBT			*e*S	**Sn**	**14 09 04.3**	**+1.2**
TWK1	**Hengchun**	**2.04 206**	*e*P	**Pn**	**14 08 39.8**	**+1.0**
TWK1			*e*S	**Sn**	**14 09 03.8**	**+0.7**
PHUB	**P'eng-hu**	**2.04 263**	⇓P	**Pn**	**14 08 39.3**	**+0.5**
PHUB			*i* S	**Sn**	**14 09 03.4**	**+0.3**
TSEB	**Hengchuen, Pin**	**2.04 204**	*e*P	**Pn**	**14 08 39.8**	**+0.9**
PNG	**Penghu**	**2.05 264**	⇓P	**Pn**	**14 08 39.4**	**+0.4**
PNG			S	**Sn**	**14 09 04.7**	**+1.4**
JKRS	**Kuro-shima**	**2.09 77**	P	**Pn**	**14 08 41.1**	**+1.6**
JKRS			*e*S	**Sn**	**14 09 05.2**	**+0.9**
JKRS	**Kuro-shima**	**2.09 77**	A	A	14 08 41.1	
	comp=N,15nm,1.8s,comp=E,13nm,1.2s					
VCHM	**Qimei**	**2.23 256**	*e*P	**Pn**	**14 08 41.5**	**+0.1**
JIJ	**Ishigaki jima**	**2.24 75**	P	**Pn**	**14 08 42.5**	**+0.9**
JIJ			*e*S	**Sn**	**14 09 08.4**	**+0.5**
JIJ	**Ishigaki jima**	**2.24 75**	A	A	14 08 42.5	
	comp=N,4.0nm,0.6s,comp=E,4.0nm,0.6s					
VWUC	**VWUC**	**2.44 300**	*e*P	**Pn**	**14 08 43.7**	**-0.6**
JISG	**Ishigakijimahi**	**2.45 70**	P	**Pn**	**14 08 45.3**	**+0.9**
JISG			*e*S	**Sn**	**14 09 13.2**	**+0.1**
JISG	**Ishigakijimahi**	**2.45 70**	A	A	14 08 45.3	
	comp=N,11nm,0.6s,comp=E,9.0nm,0.5s					
PTMZ	**Houxiangcun**	**2.73 298**	*e*P	**Pn**	**14 08 47.8**	**-0.5**
JTJ	**Tarama**	**2.80 72**	P	**Pn**	**14 08 50.3**	**+1.0**
JTJ			*e*S	**Sn**	**14 09 22.1**	**+0.2**
JTJ	**Tarama**	**2.80 72**	A	A	14 08 50.3	
	comp=N,7.0nm,3.9s,comp=E,6.0nm,2.7s					
MATB	**Ma-tsu**	**2.88 325**	*e*P	**Pn**	**14 08 49.9**	**-0.5**
KNM	**Kinmen**	**3.12 282**	*e*P	**Pn**	**14 08 55.0**	**+1.4**
QZH	**Quanzhou**	**3.13 292**	⇓*i*Pn	**Pn**	**14 08 53.0**	**-0.7**
QZH			Sn	**Sn**	**14 09 26.3**	**-3.5**
QZH			smax	smax		
	comp=E,2μm,0.6s					
QZH			smax	smax		
	comp=E,2μm,0.6s					
KNMB	**Chin-men Tao**	**3.17 283**		**Pn**	**14 08 53.6**	**-0.8**
KNMB	**Chin-men Tao**	**3.17 283**	*e*P	**Pn**	**14 08 53.9**	**-0.4**
JIRB	**Irabujima**	**3.27 71**	*e*P	**Pn**	**14 08 56.4**	**+0.8**
JIRB			*e*S	**Sn**	**14 09 33.5**	**+0.2**
JIKM	**Ikemajima**	**3.36 70**	*e*P	**Pn**	**14 08 57.8**	**+0.8**
JIKM			S	**Sn**	**14 09 36.4**	**+0.7**
JMJ	**Miyako jima 2**	**3.37 72**	P	**Pn**	**14 08 58.7**	**+1.6**
JMJ2	**Miyako jima3**	**3.38 73**	*e*P	**Pn**	**14 08 58.5**	**+1.3**
JMJ2			S	**Sn**	**14 09 37.3**	**+1.3**
MHZQ	**Yeshan**	**3.40 313**	*e*P	**Pn**	**14 08 56.5**	**-1.0**
XPSS	**Dashiqiu**	**3.45 336**	*e*P	**Pn**	**14 08 57.4**	**-0.8**
JOGS	**Gusukube**	**3.45 73**	*e*P	**Pn**	**14 08 59.5**	**+1.3**
JOGS			S	**Sn**	**14 09 38.9**	**+1.0**
AXDP	**Jialang**	**3.65 289**	*e*P	**Pn**	**14 09 00.7**	**-0.2**
ZPLA	**Ao Xicun**	**3.69 273**	*e*P	**Pn**	**14 09 01.3**	**-0.2**
DSXP	**Dongshan**	**3.99 270**	*e*P	**Pn**	**14 09 05.8**	**+0.2**
SXFK	**Yanhouchang**	**4.56 306**	*e*P	**Pn**	**14 09 12.8**	**-0.7**
JOW	**Kunigami**	**6.62 61**	Pn	**Pn**	**14 09 41.0**	**-0.7**
JOW	**Kunigami**	**6.62 61**	P	**Pn**	**14 09 41.2**	**-0.5**
	comp=E,8.7nm,0.3s,baz=198,slow=12,SNR=14					
JOW			S	**Sn**	**14 10 51.1**	**-4.7**
	comp=E,12nm,0.3s,baz=125,slow=24,SNR=1.1					
	comp=E,18nm,0.3s					
NJ2	**Nanjing**	**8.63 343**	⇑P	**Pn**	**14 10 08.5**	**-0.8**
NJ2			sP		14 10 19.9	
NJ2			S	**Sn**	**14 11 43.8**	**-1.5**
NJ2			pmax	pmax		
	comp=E,80nm,0.6s					
NJ2			pmax	pmax		
	comp=E,260nm,4.3s					
NJ2			smax	smax		
	comp=E,100nm,1.1s					
NJ2			smax	smax		
	comp=E,90nm,1.1s					
NJ2			LR	LR		
	comp=E,960nm,8.1s					
NJ2			LR	LR		
	comp=E,960nm,7.1s					
NJ2			LR	LR		
	comp=E,2μm,9.7s					
CNSH	**ChangSha**	**9.08 301**	P	**Pn**	**14 10 14.3**	**-1.2**
CNSH			pmax	pmax		
	comp=E,12nm,0.5s					
WHN	**Wuhan**	**9.44 317**	P	**Pn**	**14 10 19.3**	**-1.0**
WHN			S	**Sn**	**14 12 00.1**	**-4.9**
WHN			LR	LR		
	comp=E,2μm,5.4s					
WHN			LR	LR		
	comp=E,2μm,20.0s					
GULI	**GuiLin**	**10.50 281**	P	**Pn**	**14 10 35.1**	**+0.2**
GULI			LR	LR		
	comp=E,400nm,9.8s					
GULI			LR	LR		
	comp=E,700nm,13.6s					
GULI			LR	LR		
	comp=E,790nm,15.2s					
QIZ	**Qiongzhong**	**12.08 249**	Pn	**Pn**	**14 10 56.3**	**-0.2**
QIZ	**Qiongzhong**	**12.08 249**	P	**Pn**	**14 10 55.5**	**-1.0**
QIZ			S	**Sn**	**14 13 05.6**	**-4.2**
QIZ			pmax	pmax		
	comp=E,210nm,6.7s					
QIZ			LR	LR		
	comp=E,250nm,12.1s					
QIZ			LR	LR		
	comp=E,130nm,9.4s					
QIZ			LR	LR		
	comp=E,390nm,17.4s					
JNU	**Nakatsue**	**12.27 39**	Pn	**Pn**	**14 10 58.1**	**-1.0**
JNU	**Nakatsue**	**12.27 39**	P	**Pn**	**14 11 00.3**	**+1.3**
	comp=E,0.2nm,0.3s,baz=204,slow=10,SNR=2.1					
JNU			LR	LR	14 15 38.5	
	comp=E,198nm,20.8s,baz=184,slow=37					
	comp=E,6.4nm,1.0s					
ENH	**Enshi**	**12.71 303**	Pn	**Pn**	**14 11 05.5**	**+0.3**
LYN	**LuoYang**	**13.45 325**	*e*P	**Pn**	**14 11 15.8**	**+0.6**
LYN			PP	**P**	**14 11 25.4**	**+2.1**
LYN			LR	LR		
	comp=E,880nm,11.5s					
LYN			LR	LR		
	comp=E,510nm,8.8s					
LYN			LR	LR		
	comp=E,870nm,12.2s					
GYA	**Guiyang**	**13.95 284**	⇑P	**Pn**	**14 11 22.9**	**+0.8**
GYA			S	**Sn**	**14 13 56.9**	**+1.3**
GYA			pmax	pmax		
	comp=E,14nm,0.8s					
GYA			pmax	pmax		
	comp=E,110nm,3.5s					
GYA			LR	LR		
	comp=E,190nm,6.3s					
GYA			LR	LR		
	comp=E,760nm,13.7s					
GYA			LR	LR		
	comp=E,840nm,14.8s					
KSAR	**Wonju Array Be**	**14.59 20**	Pn	**Pn**	**14 11 31.0**	**+0.6**
KSRS	**Korea Array**	**14.61 20**	P	**Pn**	**14 11 33.0**	**+2.2**
	comp=E,1.5nm,0.3s,baz=195,slow=11,SNR=21					
KSRS			LR	LR	14 18 13.3	
	comp=E,158nm,18.9s,baz=185,slow=42					
	comp=E,13nm,0.9s					
KS19	**Wonju Array Si**	**14.64 20**	Pn	**Pn**	**14 11 29.8**	**-1.3**
HNS	**HongShan**	**14.87 338**	⇑P	**Pn**	**14 11 36.8**	**+2.7**
HNS			S	**Sn**	**14 14 22.4**	**+4.8**
HNS			pmax	pmax		
	comp=E,35nm,0.9s					
HNS			LR	LR		
	comp=E,410nm,16.5s					
HNS			LR	LR		
	comp=E,350nm,14.9s					
HNS			LR	LR		
	comp=E,430nm,18.6s					
XAN	**Xi'an**	**15.19 315**	⇑P	**Pn**	**14 11 39.1**	**+0.7**
XAN			pP	P	14 11 46.1	+3.4
XAN			sP	pP	14 11 50.0	-3.9
XAN			pmax	pmax		
	comp=E,27nm,0.8s					
XAN			LR	LR		
	comp=E,670nm,21.3s					
XAN			LR	LR		
	comp=E,490nm,22.7s					
XAN			LR	LR		
	comp=E,800nm,22.7s					
DAV	**Davao City (W)**	**17.02 167**	LR	LR	14 18 12.8	
	comp=E,183nm,21.9s,baz=356,slow=36					
CD2	**Chengdu**	**17.50 298**	P	**Pn**	**14 12 08.0**	**+0.3**
CD2			S	**Sn**	**14 15 21.3**	**-0.4**
CD2			pmax	pmax		
	comp=E,10.0nm,0.4s					
CD2			LR	LR		
	comp=E,250nm,9.4s					
CD2			LR	LR		
	comp=E,510nm,6.5s					
UBPT	**Khong Chiam**	**17.53 244**		**Pn**	**14 12 07.4**	**-0.7**
JGF	**Kuroka**	**17.91 45**		**Pn**	**14 12 11.9**	**-0.8**
PZH	**PanZhiHua**	**18.34 283**	P	**Pn**	**14 12 20.6**	**+2.5**
PZH			S	**Sn**	**14 15 38.5**	**-3.6**
PZH			pmax	pmax		
	comp=E,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=E,80nm,5.0s					
PZH			LR	LR		
	comp=E,400nm,12.4s					
PZH			LR	LR		
	comp=E,430nm,13.7s					
PZH			LR	LR		
	comp=E,440nm,14.1s					
JHJ	**Hachijo jima 2**	**18.34 56**	LR	LR	14 19 39.6	
	comp=E,94nm,18.4s,baz=288,slow=38					
JCJ	**Chichijima**	**18.72 76**	LR	LR	14 18 17.1	
	comp=E,168nm,20.8s,baz=282,slow=32					
MJAR	**Matsushiro Arr**	**19.03 44**	P	**P**	**14 12 26.8**	**+1.7**
	comp=E,0.1nm,0.3s,baz=216,slow=6.2,SNR=5.2					
MJAR			LR	LR	14 20 41.8	
	comp=E,140nm,19.4s,baz=216,slow=40					
	comp=E,2.4nm,0.7s					
HHC	**Hu-ho-hao-te**	**19.05 336**	*e*P	**Pn**	**14 12 28.3**	**+1.7**
HHC			pmax	pmax		
	comp=E,17nm,0.8s					
HHC			pmax	pmax		
	comp=E,110nm,4.5s					
HHC			LR	LR		
	comp=E,270nm,18.3s					
HHC			LR	LR		
	comp=E,250nm,21.1s					
HHC			LR	LR		
	comp=E,350nm,17.7s					
BTO	**Baotou**	**19.47 332**	*e*P	**Pn**	**14 12 32.9**	**+1.4**
BTO			pP	**pP**	**14 12 42.6**	**+1.7**
BTO			sP	**sP**	**14 12 50.1**	**+3.3**
BTO			PP	**PnPn**	**14 12 52.4**	**+6.6**
BTO			S	**Sn**	**14 16 13.3**	**+4.2**
BTO			pmax	pmax		
	comp=E,22nm,0.9s					
BTO			pmax	pmax		
	comp=E,200nm,3.7s					
BTO			LR	LR		
	comp=E,580nm,9.4s					
BTO			LR	LR		
	comp=E,340nm,5.8s					
BTO			LR	LR		
	comp=E,440nm,8.1s					
LZH	**Lanzhou**	**19.76 312**	*e*P	**P**	**14 12 29.8**	**-3.4**
LZH			pP	Pn	14 12 39.3	+4.3
LZH			sP	pP	14 12 46.1	+1.5
LZH			pmax	pmax		
	comp=Z,27nm,1.4s					
LZH			LR	LR		
	comp=N,390nm,13.7s					
LZH			LR	LR		
	comp=E,530nm,16.1s					
LZH			LR	LR		
	comp=Z,620nm,18.2s					
CN2	**Changchun**	**20.20 8**	*e*P	**P**	**14 12 34.3**	**-3.4**
CN2			*e*PP	**sP**	**14 12 55.3**	**+1.1**
CN2			*e*S	**

SONM Songino Array 26.95 337 P **P** **14 13 44.1 0.0**
comp=Z,4.4nm,0.6s,baz=154,slow=10,SNR=27
SONM LR LR 14 25 43.1
comp=Z,341nm,18.8s,baz=154,slow=39
comp=Z,4.4nm,0.6s
SHL Shillong 27.20 280 P **P** **14 13 47.0 +0.4**
SHL IAmb IAmb 14 13 51.3
comp=Z,15nm,0.9s
BRDH Bariadhala 27.69 274 LR LR 14 25 26.6
comp=Z,122nm,18.3s,baz=166,slow=38
IPM Ipoh 27.73 229 P **P** **14 13 51.7 +0.4**
LSA Lhasa 27.93 289 P **P** **14 13 55.4 +1.9**
KAPI Kappang 28.69 184 LR LR 14 25 26.5
comp=Z,94nm,21.8s,baz=12,slow=36
MMRI Maumere 32.22 179 P **P** **14 14 30.7 -0.3**
MMRI IAmb IAmb 14 14 42.4
comp=Z,12nm,0.8s
MDSI Maura Dua 32.92 214 P **P** **14 14 39.1 +2.0**
comp=Z,16nm,1.0s
SOEI Soe 33.42 176 P **P** **14 14 40.6 -1.0**
SOEI IAmb IAmb 14 14 57.1
comp=Z,13nm,0.9s
WMQ Urumqi 34.32 314 *e*P **P** **14 14 50.9 +1.8**
MTN Manton Dam 37.53 165 P **P** **14 15 14.8 -1.9**
MTN IAmb IAmb 14 15 24.2
comp=Z,5.9nm,0.8s
YAK Yakutsk 38.61 6 LR LR 14 33 07.9
comp=Z,130nm,19.4s,baz=124,slow=39
MK31 Makanchi Array 39.00 316 P **P** **14 15 29.2 +0.3**
MKAR Makanchi Array 39.00 316 P **P** **14 15 28.9 +0.1**
MKAR Makanchi Array 39.00 316 P **P** **14 15 29.1 +0.3**
comp=Z,5.8nm,0.7s,baz=109,slow=9.4,SNR=76
MKAR PcP **PcP** **14 17 37.6 -0.8**
comp=Z,2.3nm,0.8s,baz=93,slow=4.9,SNR=5.5
MKAR LR LR 14 33 04.3
comp=Z,200nm,18.4s,baz=135,slow=38
comp=Z,5.8nm,0.7s
MAKZ Makanchi 39.21 316 P **P** **14 15 30.3 -0.3**
KNRA Kununurra 39.81 169 P **P** **14 15 35.2 -0.6**
PETK Petropavlovsk- 39.90 33 LR LR 14 31 45.4
comp=Z,108nm,21.0s,baz=207,slow=36
KRVT Keravat (AS076 40.60 129 LR LR 14 29 39.6
comp=Z,60nm,19.3s,baz=55,slow=32
ZAA0 Zalesovo Array 40.87 327 P **P** **14 15 43.7 -0.6**
ZAA0 IAmb IAmb 14 15 44.1
comp=Z,9.2nm,0.7s
ZALV Zalesovo Beam 40.87 327 P **P** **14 15 43.5 -0.7**
ZALV Zalesovo Beam 40.87 327 P **P** **14 15 43.3 -0.9**
comp=Z,8.7nm,0.5s,baz=114,slow=8.2,SNR=46
ZALV LR LR 14 33 33.4
comp=Z,184nm,20.4s,baz=108,slow=37
comp=Z,8.7nm,0.5s
MA2 Magadan 41.15 22 LR LR 14 34 28.3
comp=Z,128nm,18.2s,baz=226,slow=38
KSH Kashi 41.57 303 P **P** **14 15 53.1 +2.7**
KSH pP pP 14 16 03.1 +0.1
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH LR LR
comp=Z,160nm,11.3s
KSH LR LR
comp=Z,300nm,17.5s
KSH LR LR
comp=Z,360nm,15.1s
H11N1 WAKE ISLAND Hy 41.97 87 T T 15 01 14.7
baz=283,slow=74,SNR=28
H11N2 WAKE ISLAND Hy 41.97 86 T T 15 01 26.5
baz=283,slow=74,SNR=24
H11N3 WAKE ISLAND Hy 41.98 87 T T 15 01 11.6
baz=283,slow=74,SNR=26
H11S3 WAKE ISLAND Hy 42.09 88 T T 15 01 10.7
baz=284,slow=75,SNR=57
H11S1 WAKE ISLAND Hy 42.10 88 T T 15 01 10.3
baz=284,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 42.10 88 T T 15 01 15.3
baz=284,slow=75,SNR=26
KURK Kurchatov 42.74 320 P **P** **14 15 59.3 -0.3**
KURK IAmb IAmb 14 16 00.9
comp=Z,7.4nm,0.6s
KURBB Kurchatov Arra 42.76 320 P **P** **14 15 59.5 -0.2**
comp=Z,4.3nm,0.6s,baz=112,slow=9.2,SNR=37
KURBB PcP **PcP** **14 17 49.1 -1.4**
comp=Z,0.8nm,0.7s,baz=120,slow=3.4,SNR=4.1
comp=Z,4.3nm,0.6s
COEN Coen 42.95 149 P **P** **14 16 03.0 +1.4**
COEN IAmb IAmb 14 16 03.5
comp=Z,19nm,0.9s
AAK Ala-Archa 43.18 308 P **P** **14 16 04.8 +1.3**
AAK Ala-Archa 43.18 308 LR LR 14 35 58.6
comp=Z,124nm,19.6s,baz=128,slow=39
NIL Nilore 43.34 294 P **P** **14 16 05.5 +0.8**
NIL IAmb IAmb 14 16 06.1
comp=Z,14nm,0.9s
WB0 Warramunga Arr 45.00 163 P **P** **14 16 17.0 -0.9**
PSA00 Pilbara Seismi 45.12 183 P **P** **14 16 16.9 -1.9**
PSA00 IAmb IAmb 14 16 17.6
comp=Z,9.7nm,0.8s
WRAB Tennant Creek 45.15 163 P **P** **14 16 18.7 -0.5**
WRAB IAmb IAmb 14 16 19.1
comp=Z,6.9nm,0.8s
WRA Warramunga Arr 45.15 163 P **P** **14 16 18.7 -0.5**
WRA Warramunga Arr 45.15 163 P **P** **14 16 18.4 -0.8**
comp=Z,4.4nm,0.7s,baz=346,slow=8.7,SNR=44
WRA PcP **PcP** **14 17 59.7 +0.6**
comp=Z,0.5nm,0.6s,baz=355,slow=3.9,SNR=1.7
comp=Z,4.4nm,0.7s
WB2 Warramunga Arr 45.16 163 P **P** **14 16 18.3 -0.9**
WB2 IAmb IAmb 14 16 19.1
comp=Z,7.7nm,0.8s
WR0 Warramunga Arr 45.22 163 P **P** **14 16 18.7 -1.0**
WR0 IAmb IAmb 14 16 19.7
comp=Z,7.5nm,0.8s
BTK Batken 45.58 303 P **P** **14 16 21.4 -1.1**
GAR Garm 45.89 302 P **P** **14 16 25.8 +0.7**
KK31 Karatay Array 46.14 308 P **P** **14 16 27.2 +0.4**
KK31 IAmb IAmb 14 16 28.6
comp=Z,6.5nm,0.9s
KKAR Karatay Array 46.14 308 P **P** **14 16 27.7 +0.8**
CHGR Chuyangaron 46.77 301 P **P** **14 16 32.3 +0.3**
CHGR IAmb IAmb 14 16 33.3
comp=Z,8.9nm,0.8s
KBL Kabul 46.82 296 P **P** **14 16 33.8 +1.2**
KBL IAmb IAmb 14 16 34.6
comp=Z,14nm,0.8s
TIXI Tiksi 48.06 3 P **P** **14 16 39.4 -1.9**
TIXI IAmb IAmb 14 16 40.8
comp=Z,10nm,1.1s
TIXI Tiksi 48.06 3 LR LR 14 39 42.3
comp=Z,148nm,18.1s,baz=191,slow=39
BVAR Borovoye Array 48.33 321 P **P** **14 16 43.5 -0.2**
comp=Z,3.3nm,0.4s,baz=98,slow=9.3,SNR=24
BVAR PcP **PcP** **14 18 08.8 -1.0**
comp=Z,3.4nm,0.7s,baz=103,slow=3.2,SNR=6.1
comp=Z,3.3nm,0.4s
BRVK Borovoye 48.40 321 P **P** **14 16 44.1 -0.1**
BRVK IAmb IAmb 14 16 45.1
comp=Z,8.7nm,1.0s
AS31 Alice Springs 48.61 165 P **P** **14 16 46.1 -0.1**
ASAR Alice Springs 48.61 165 P **P** **14 16 46.1 -0.1**
ASAR Alice Springs 48.61 165 P **P** **14 16 45.9 -0.3**
comp=Z,3.2nm,0.8s,baz=334,slow=7.0,SNR=45
comp=Z,3.2nm,0.8s
BILL Bilibino 51.88 20 P **P** **14 17 10.1 -0.2**
HRA Herat 52.44 296 P **P** **14 17 15.5 +0.1**
ABKAR Akbulak array 54.11 315 P **P** **14 17 27.3 +0.2**
ABKAR IAmb IAmb 14 17 28.2
comp=Z,7.9nm,0.7s
ABKAR PcP **PcP** **14 18 30.1 -1.3**
FORT Forrest 54.59 173 P **P** **14 17 29.3 -1.3**
AKTO Aktyubinsk 55.44 316 LR LR 14 43 08.5
comp=Z,188nm,20.5s,baz=124,slow=38
ARTI Arti 55.84 323 P **P** **14 17 38.8 -0.7**
ARTI IAmb IAmb 14 17 39.4
comp=Z,5.2nm,0.7s
STKA Stephens Creek 58.50 160 P **P** **14 17 58.1 -0.3**
STKA IAmb IAmb 14 17 59.0
comp=Z,6.8nm,0.6s
STKA Stephens Creek 58.50 160 P **P** **14 17 58.4 -0.1**
comp=Z,5.3nm,0.5s,baz=341,slow=6.6,SNR=25
comp=Z,5.3nm,0.5s
M11K Mekoryuk 60.76 33 P **P** **14 18 14.7 +1.1**
baz=267
F14K Arctic Creek 61.10 27 P **P** **14 18 17.2 +1.3**
baz=264
ANM Nome 61.42 28 P **P** **14 18 18.3 +0.1**
ANM IAmb IAmb 14 18 21.0
comp=Z,7.7nm,1.0s
ANM Nome 61.42 28 P **P** **14 18 19.9 +1.8**
baz=265
K13K Kusilvak Mount 61.58 31 P **P** **14 18 19.6 +0.4**
K13K IAmb IAmb 14 18 22.0
comp=Z,4.4nm,0.6s
K13K Kusilvak Mount 61.58 31 P **P** **14 18 20.7 +1.5**
baz=268
C16K Lisburne Hills 61.80 24 P **P** **14 18 21.2 +0.6**
C16K IAmb IAmb 14 18 23.0
comp=Z,5.4nm,0.8s
C16K Lisburne Hills 61.80 24 P **P** **14 18 22.1 +1.5**
baz=263,SNR=6.2
F15K North Star Dit 61.82 27 P **P** **14 18 21.1 +0.3**
F15K North Star Dit 61.82 27 P **P** **14 18 22.3 +1.5**
baz=266
G15K Niukluk 62.02 28 P **P** **14 18 23.5 +1.3**
baz=266
J14K Nanvaranak Lak 62.13 30 P **P** **14 18 23.3 +0.4**
J14K IAmb IAmb 14 18 25.4
comp=Z,4.7nm,0.8s
J14K Nanvaranak Lak 62.13 30 P **P** **14 18 24.6 +1.8**
baz=268
FALS False Pass 62.22 39 P **P** **14 18 24.2 +0.5**
baz=272
L14K Kuka Creek 62.51 32 P **P** **14 18 23.6 -1.9**
L14K Kuka Creek 62.51 32 P **P** **14 18 24.6 -0.9**
baz=270
D17K Noatak River 62.59 25 P **P** **14 18 26.2 +0.3**
baz=266
C17K DeLong Mountai 62.62 24 P **P** **14 18 26.7 +0.6**
baz=265
RDOG Red Dog Mine 62.68 24 P **P** **14 18 27.8 +1.2**
baz=266
G16K Koyuk River 62.75 27 P **P** **14 18 27.4 +0.3**
G16K IAmb IAmb 14 18 29.5
comp=Z,9.4nm,1.1s
G16K Koyuk River 62.75 27 P **P** **14 18 28.1 +1.1**
baz=268
H16K Elim 62.78 28 P **P** **14 18 28.3 +1.1**
baz=268,SNR=9.8
M14K Bethel 62.86 32 P **P** **14 18 28.9 +1.1**
M14K IAmb IAmb 14 18 38.8
comp=Z,8.2nm,1.0s
M14K Bethel 62.86 32 P **P** **14 18 28.8 +1.1**
baz=270
DZM Mont Dzumac 62.97 133 *e*LR LR 14 37 13.7
comp=Z,146nm,25.0s
DZM Mont Dzumac 62.97 133 LR LR 14 45 34.7
comp=Z,48nm,18.0s,baz=104,slow=36
N14K Kuskokwak Cree 63.01 33 P **P** **14 18 29.7 +0.9**
baz=271
E17K Hotham Inlet 63.04 25 P **P** **14 18 29.6 +0.6**
baz=267
K15K Wolf Creek Mou 63.06 31 P **P** **14 18 30.3 +1.2**
K15K IAmb IAmb 14 18 39.9
comp=Z,4.4nm,0.8s
K15K Wolf Creek Mou 63.06 31 P **P** **14 18 30.7 +1.5**
baz=270
B18K Kokolik River 63.18 23 P **P** **14 18 31.9 +2.1**
baz=266
F17K Baldwin Pennin 63.24 26 P **P** **14 18 31.4 +1.2**
F17K IAmb IAmb 14 18 32.9
comp=Z,11nm,0.9s
F17K Baldwin Pennin 63.24 26 P **P** **14 18 32.3 +2.1**
baz=268
C18K Utukok River 63.35 24 P **P** **14 18 31.5 +0.4**
C18K IAmb IAmb 14 18 33.1
comp=Z,7.7nm,0.7s
C18K Utukok River 63.35 24 P **P** **14 18 32.3 +1.2**
baz=267
I17K Unalakleet 63.44 29 P **P** **14 18 33.1 +1.5**
baz=270
J16K Anvik River 63.48 30 P **P** **14 18 33.5 +1.6**
baz=270
E18K Tukpahlearik C 63.53 25 P **P** **14 18 33.0 +0.9**
E18K IAmb IAmb 14 18 35.2
comp=Z,10nm,0.8s
E18K Tukpahlearik C 63.53 25 P **P** **14 18 34.0 +1.8**
baz=268,SNR=8.0
H17K Granite Mounta 63.78 28 P **P** **14 18 36.1 +2.3**
H17K Granite Mounta 63.78 28 P **P** **14 18 35.0 +1.1**
baz=270
N15K Kwethluk River 63.80 33 P **P** **14 18 35.5 +1.4**
N15K IAmb IAmb 14 18 44.4
comp=Z,9.9nm,1.1s
N15K Kwethluk River 63.80 33 P **P** **14 18 35.4 +1.4**
baz=272
F18K Selawik 63.89 26 P **P** **14 18 35.9 +1.4**
baz=270,SNR=22
O15K Ungalikthiuk R 63.98 34 P **P** **14 18 37.0 +1.7**
baz=273
L16K Owhat River 64.04 31 P **P** **14 18 37.1 +1.5**
baz=272
J17K VABM Dome 64.17 29 P **P** **14 18 37.9 +1.5**
J17K VABM Dome 64.17 29 P **P** **14 18 38.2 +1.8**
baz=272
G18K Tagagawik 64.29 27 P **P** **14 18 38.1 +0.8**
G18K IAmb IAmb 14 18 39.3
comp=Z,11nm,0.9s
G18K Tagagawik 64.29 27 P **P** **14 18 38.5 +1.3**
baz=271
M16K Timber Creek 64.32 32 P **P** **14 18 39.2 +1.7**
M16K IAmb IAmb 14 18 51.3
comp=Z,12nm,1.1s
M16K Timber Creek 64.32 32 P **P** **14 18 38.9 +1.4**
baz=273
H18K Honhosa River 64.43 27 P **P** **14 18 39.6 +1.5**
H18K IAmb IAmb 14 18 40.9
comp=Z,7.1nm,1.1s
H18K Honhosa River 64.43 27 P **P** **14 18 39.0 +0.9**
baz=272
CHNA Chernabura Isl 64.44 39 P **P** **14 18 39.3 +1.0**
baz=275
D19K Kuna River 64.48 24 P **P** **14 18 38.9 +0.4**
D19K Kuna River 64.48 24 P **P** **14 18 39.7 +1.3**
baz=270
K17K Iditarod 64.55 30 P **P** **14 18 39.9 +0.9**
K17K IAmb IAmb 14 18 42.0
comp=Z,9.0nm,0.8s
K17K Iditarod 64.55 30 P **P** **14 18 40.0 +1.1**
baz=273
L17K Donlin 64.58 31 P **P** **14 18 40.5 +1.3**
baz=273
F19K Shaleruckik Mo 64.63 26 P **P** **14 18 39.3 -0.1**
F19K IAmb IAmb 14 18 41.2
comp=Z,5.9nm,1.0s
F19K Shaleruckik Mo 64.63 26 P **P** **14 18 40.6 +1.2**
baz=271
E19K Redstone River 64.83 25 P **P** **14 18 41.1 +0.4**
E19K Redstone River 64.83 25 P **P** **14 18 41.8 +1.1**
baz=271
O16K Kokwok River B 64.84 34 P **P** **14 18 42.1 +1.2**
baz=274
G19K Purcell Mounta 64.93 26 P **P** **14 18 41.8 +0.4**
G19K IAmb IAmb 14 18 44.1
comp=Z,7.1nm,0.8s
G19K Purcell Mounta 64.93 26 P **P** **14 18 42.7 +1.3**
baz=272
CHGN Chignik 64.96 37 P **P** **14 18 42.2 +0.5**
baz=276
A21K Barrow 64.99 21 P **P** **14 18 42.5 +0.8**
baz=270,SNR=5.2
D20K Etivluk River 65.03 23 P **P** **14 18 43.0 +1.0**
baz=271
M17K Holitna River 65.03 32 P **P** **14 18 43.5 +1.4**
baz=274
GCSA Galena City Sc 65.08 28 P **P** **14 18 43.9 +1.6**
baz=273,SNR=6.0
E20K Nigu River 65.20 24 P **P** **14 18 44.5 +1.3**
baz=272,SNR=34
H19K Roundabout Mou 65.22 27 P **P** **14 18 44.0 +0.7**
H19K Roundabout Mou 65.22 27 P **P** **14 18 44.8 +1.6**
baz=273
N17K Nushagak Hills 65.22 33 P **P** **14 18 44.9 +1.5**
baz=275
J18K Innoko River 65.22 29 P **P** **14 18 44.0 +0.6**
J18K Innoko River 65.22 29 P **P** **14 18 44.8 +1.4**
baz=274
L18K Granite Mounta 65.33 31 P **P** **14 18 45.9 +1.9**
baz=274
O17K Koliganek Bris 65.33 33 P **P** **14 18 45.6 +1.6**
baz=275
F20K Avaraart Lake 65.43 25 P **P** **14 18 44.1 -0.5**
F20K IAmb IAmb 14 18 46.9
comp=Z,7.0nm,0.8s
F20K Avaraart Lake 65.43 25 P **P** **14 18 45.9 +1.3**
baz=273
TTA Tatalina 65.58 30 P **P** **14 18 46.0 +0.3**
TTA IAmb IAmb 14 18 48.1
comp=Z,7.3nm,0.6s
TTA Tatalina 65.58 30 P **P** **14 18 47.3 +1.5**
baz=275
J19K Poorman 65.67 29 P **P** **14 18 47.6 +1.4**
baz=274
C21K Knifeblade Rid 65.67 23 P **P** **14 18 47.6 +1.5**
baz=273
B21K Ikpikpuk River 65.71 22 P **P** **14 18 46.4 +0.1**
B21K Ikpikpuk River 65.71 22 P **P** **14 18 47.9 +1.5**
baz=273
P17K Kvichak River 65.72 34 P **P** **14 18 47.7 +1.2**
baz=276
M18K Stony River 65.80 31 P **P** **14 18 48.3 +1.3**
baz=275
N18K Kilae Creek 65.84 32 P **P** **14 18 49.3 +1.9**
baz=276
H20K Anotleneega Mo 65.87 27 P **P** **14 18 48.9 +1.4**
baz=274
E21K Killik River 66.01 24 P **P** **14 18 49.1 +0.7**
baz=274
I20K Naaghedeneel 66.10 28 P **P** **14 18 50.6 +1.7**
baz=275
KBZ Khabaz 66.15 309 P **P** **14 18 48.9 -0.7**
comp=Z,4.0nm,1.0s,baz=141,slow=3.5,SNR=7.4
comp=Z,4.0nm,1.0s
L19K White Mountain 66.19 31 P **P** **14 18 49.5 -0.1**
L19K IAmb IAmb 14 18 54.4
comp=Z,7.5nm,1.1s
L19K White Mountain 66.19 31 P **P** **14 18 51.4 +1.8**
baz=276
KIV Kislovodsk 66.26 309 P **P** **14 18 50.8 +0.3**
comp=Z,9.9nm,1.2s
O18K Koktuh Hills 66.27 33 P **P** **14 18 51.7 +1.6**
baz=277
F21K Alatna River 66.29 25 P **P** **14 18 51.8 +1.7**
baz=275
J20K Nowinta River 66.30 28 P **P** **14 18 51.9 +1.6**
baz=276
P18K Big Mountain, 66.31 34 P **P** **14 18 52.0 +1.5**
baz=277
K20K Telida 66.42 29 P **P** **14 18 52.5 +1.5**
baz=276
D22K Ayikyak River 66.45 23 P **P** **14 18 52.6 +1.4**
baz=275,SNR=25
N19K Bonanza Creek 66.52 32 P **P** **14 18 52.8 +1.0**
baz=277
CHIR Chirikof Islan 66.57 38 P **P** **14 18 53.2 +1.1**
baz=278
O19K Port Alsworth 66.67 33 P **P** **14 18 53.6 +1.0**
baz=277
H21K Melozitna Rive 66.72 27 P **P** **14 18 54.4 +1.5**
baz=276
E22K Anaktuvuk Pass 66.84 24 P **P** **14 18 54.4 +0.7**
E22K Anaktuvuk Pass 66.84 24 P **P** **14 18 55.0 +1.3**
baz=276,SNR=25
R18K Karluk 66.96 36 P **P** **14 18 55.9 +1.4**
baz=278
M20K Styx River 67.03 31 P **P** **14 18 55.8 +0.8**
baz=278
C23K Itkillik River 67.08 22 P **P** **14 18 56.3 +1.2**
baz=276
G22K Bettles 67.09 25 P **P** **14 18 56.1 +0.9**
baz=277
I21K Tanana 67.11 27 P **P** **14 18 57.0 +1.6**
baz=277,SNR=11
CHUM Lake Minchumin 67.14 29 P **P** **14 18 57.3 +1.8**
baz=277,SNR=5.2
D23K Nanushuk River 67.16 23 P **P** **14 18 56.4 +0.7**
D23K Nanushuk River 67.16 23 P **P** **14 18 57.5 +1.8**
baz=277
Q19K Cape Douglas, 67.19 34 P **P** **14 18 57.0 +1.0**
baz=278
SII Sitkinak Islan 67.26 37 P **P** **14 18 57.7 +1.2**
baz=279
H22K Ishtalitna Cre 67.27 26 P **P** **14 18 58.1 +1.6**
baz=277
CAST Castle Rocks 67.30 29 P **P** **14 18 57.3 +0.6**
CAST IAmb IAmb 14 18 59.1
comp=Z,12nm,0.8s
CAST Castle Rocks 67.30 29 P **P** **14 18 58.0 +1.4**
baz=278,SNR=9.1
PPLA Purkeypile 67.33 30 P **P** **14 18 58.1 +1.1**
baz=278
COLD Coldfoot 67.56 25 P **P** **14 18 59.4 +1.2**
baz=278,SNR=10.0
TOLK Toolik Lake Re 67.60 23 P **P** **14 18 59.8 +1.2**
baz=278,SNR=15
OHAK Old Harbor 67.64 36 P **P** **14 18 59.7 +0.9**
baz=279
E23K Chandalar 67.67 24 P **P** **14 18 59.7 +0.7**
E23K Chandalar 67.67 24 P **P** **14 19 00.4 +1.4**
baz=278,SNR=24
BPAW Bear Paw Mtn. 67.69 28 P **P** **14 19 00.4 +1.3**
baz=278,SNR=8.8
G23K Bananza Creek 67.70 25 P **P** **14 19 00.5 +1.3**
baz=278
C24K Franklin Bluff 67.76 22 P **P** **14 19 00.1 +0.8**
C24K Franklin Bluff 67.76 22 P **P** **14 19 00.5 +1.2**
baz=278
SKT Skwentna 67.76 31 P **P** **14 19 00.6 +1.0**
baz=279
D24K Happy Valley 67.80 23 P **P** **14 19 00.1 +0.5**
D24K Happy Valley 67.80 23 P **P** **14 19 00.7 +1.0**
baz=278
Q20K Shuyak Island 67.88 34 P **P** **14 19 01.0 +0.6**
baz=280
KDAK Kodiak Island 67.92 35 P **P** **14 19 01.1 +0.5**
baz=280
E24K Your Creek 68.08 24 P **P** **14 19 02.5 +0.9**
baz=279
CAPN Captain Cook N 68.14 32 P **P** **14 19 02.9 +1.1**
baz=280
OBN Obninsk 68.15 322 P **P** **14 19 02.4 +0.3**
comp=Z,28nm,0.6s
I23K Minto, Yukon-K 68.22 27 P **P** **14 19 03.7 +1.4**
baz=280,SNR=7.1
CUT Chulitna 68.28 30 P **P** **14 19 03.7 +1.0**
baz=280
F24K Squaw Lake 68.40 24 P **P** **14 19 05.0 +1.5**
baz=280
NEA2 Nenana 68.43 28 P **P** **14 19 04.4 +0.7**
NEA2 Nenana 68.43 28 P **P** **14 19 04.9 +1.2**
baz=280,SNR=18
M22K Willow 68.46 31 P **P** **14 19 04.6 +0.7**
baz=280
BRSE Bradley Lake S 68.52 33 P **P** **14 19 04.8 +0.4**
baz=280
D25K Kavik River 68.63 22 P **P** **14 19 05.7 +0.8**
baz=281
MCK McKinley 68.64 29 P **P** **14 19 05.8 +0.8**
baz=280
H24K Noodor Dome 68.70 26 P **P** **14 19 07.0 +1.6**
baz=281
G24K Hadweenzic Riv 68.70 25 P **P** **14 19 06.8 +1.4**
baz=281
WRH Wood River Hil 68.87 28 P **P** **14 19 07.1 +0.7**
O22K Cooper Landing 68.88 32 P **P** **14 19 06.7 +0.1**
baz=281
COLA College 68.89 27 P **P** **14 19 07.4 +0.9**
baz=281
PMR Palmer 68.95 31 P **P** **14 19 08.0 +1.0**
baz=281
C26K Camden Bay 69.02 22 P **P** **14 19 08.7 +1.4**
baz=282,SNR=13
POKR Poker Plat Res 69.02 27 P **P** **14 19 08.3 +0.9**
POKR IAmb IAmb 14 19 10.1
comp=Z,15nm,0.9s
POKR Poker Plat Res 69.02 27 P **P** **14 19 08.9 +1.5**
baz=281,SNR=8.6
SEW Seward 69.09 32 P **P** **14 19 09.0 +1.2**
baz=281
MARD Mardin 69.12 303 P **P** **14 19 08.6 -0.1**
F25K Christian Rive 69.23 24 P **P** **14 19 10.3 +1.6**
baz=282,SNR=33
SML Sawmill 69.28 31 P **P** **14 19 09.8 +0.7**
baz=282
KNK Knik Glacier 69.31 31 P **P** **14 19 10.2 +1.0**
baz=282
ILAR Eielson Array 69.32 27 P **P** **14 19 08.3 -0.9**
ILAR Eielson Array 69.32 27 P **P** **14 19 08.8 -0.4**
comp=Z,2.9nm,0.6s,baz=271,slow=5.2,SNR=64
comp=Z,2.9nm,0.6s
HDA Harding Lake 69.37 28 P **P** **14 19 10.1 +0.6**
baz=282
H25L Birch Creek 69.44 26 P **P** **14 19 11.6 +1.6**

baz=282
PWL Port Wells 69.48 32 P **P 14 19 11.2 +0.9**
baz=282
C27K Jago River 69.49 22 P **P 14 19 11.3 +1.1**
baz=283
M23K Glacier View 69.57 30 P **P 14 19 12.0 +1.1**
baz=282
BMAR Burnt Mountain 69.67 24 P **P 14 19 12.6 +1.2**
PRP Porcupine Dome 69.72 26 P **P 14 19 12.2 +0.4**
PRP IAmb IAmb 14 19 14.5
comp=Z,5.4nm,0.6s
PRP Porcupine Dome 69.72 26 P **P 14 19 13.0 +1.1**
baz=283,SNR=7.7
SCM Sheep Creek Mo 69.75 30 P **P 14 19 12.7 +0.7**
baz=282
F26K Sheenjek River 69.77 24 P **P 14 19 12.8 +0.8**
F26K Sheenjek River 69.77 24 P **P 14 19 13.6 +1.6**
baz=283
SPITS Spitsbergen Ar 69.99 348 P **P 14 19 12.2 -1.0**
comp=Z,13nm,1.0s,baz=107,slow=5.6,SNR=6.0
SPITS LR LR 14 53 36.4
comp=Z,77nm,18.2s,baz=34,slow=39
comp=Z,13nm,1.0s
J25K Salcha River, 69.99 27 P **P 14 19 12.9 -0.6**
baz=283
K24K Donnelly Dome 70.00 28 P **P 14 19 14.0 +0.5**
baz=283,SNR=6.5
G26K Porcupine Rive 70.08 25 P **P 14 19 15.4 +1.5**
baz=284
ARCES ARCESS Array B 70.11 338 P **P 14 19 13.4 -0.6**
comp=Z,3.4nm,0.9s,baz=47,slow=8.8,SNR=4.1
comp=Z,3.4nm,0.9s
RIDG Independent Ri 70.42 28 P **P 14 19 16.8 +0.7**
baz=284
KLU Klutina 70.47 31 P **P 14 19 17.5 +1.0**
baz=284
D27M Malcolm River 70.52 22 P **P 14 19 17.5 +0.9**
baz=286
HARP HAARP 70.61 30 P **P 14 19 18.0 +0.8**
baz=284
SCRK Sand Creek 70.73 28 P **P 14 19 18.5 +0.5**
baz=285,SNR=6.0
I26K Coal Creek Min 70.74 26 P **P 14 19 18.6 +0.7**
baz=285
J26L Joseph Creek 70.77 27 P **P 14 19 18.7 +0.4**
baz=285
G27K Doyon Strip 70.93 25 P **P 14 19 20.1 +1.0**
baz=286
N25K Chitina, Valde 71.06 30 P **P 14 19 21.4 +1.3**
baz=285
H27K Steamboat Moun 71.14 25 P **P 14 19 21.9 +1.5**
baz=286
E28M Babbage River 71.20 23 P **P 14 19 21.6 +0.9**
baz=287
BMRM Bremner River 71.22 31 P **P 14 19 22.3 +1.3**
baz=285
L26K Log Cabin Wild 71.25 29 P **P 14 19 22.2 +1.0**
baz=286
D28M Stokes Point 71.26 22 P **P 14 19 22.3 +1.3**
baz=288
I27K Kandik River 71.28 26 P **P 14 19 22.4 +1.1**
baz=286
F28M Old Crow 71.37 24 P **P 14 19 22.1 +0.4**
F28M Old Crow 71.37 24 P **P 14 19 22.9 +1.1**
baz=287,SNR=29
M26K Nabesna, AK 71.58 29 P **P 14 19 24.0 +0.9**
baz=286
KAIM Kayak Island 71.59 32 P **P 14 19 24.6 +1.5**
baz=286
E29M Blow River 71.84 23 P **P 14 19 25.1 +0.6**
baz=288
L27K Beaver Creek, 71.91 28 P **P 14 19 26.6 +1.5**
baz=287
BCAR Beaver Creek A 71.93 28 P **P 14 19 26.6 +1.4**
I28M Miner Creek 71.99 26 P **P 14 19 26.4 +0.8**
I28M IAmb IAmb 14 19 27.8
comp=Z,13nm,0.8s
I28M Miner Creek 71.99 26 P **P 14 19 26.7 +1.1**
baz=288
FINES FINESS Array B 72.06 330 P **P 14 19 25.1 -0.8**
comp=Z,2.6nm,0.5s,baz=46,slow=6.1,SNR=29
FINES LR LR 14 54 09.5
comp=Z,159nm,20.0s,baz=62,slow=38
comp=Z,2.6nm,0.5s
BGLC Bering Glacier 72.08 32 P **P 14 19 27.1 +1.0**
baz=286
M27K Edge Creek, AK 72.09 29 P **P 14 19 26.9 +0.6**
M27K IAmb IAmb 14 19 43.4
comp=Z,8.9nm,1.1s
M27K Edge Creek, AK 72.09 29 P **P 14 19 26.8 +0.5**
baz=287
G29M Pine Creek 72.27 24 P **P 14 19 27.6 +0.4**
G29M Pine Creek 72.27 24 P **P 14 19 28.0 +0.9**
baz=289
H29M Whitestone 72.36 25 P **P 14 19 28.4 +0.7**
H29M Whitestone 72.36 25 P **P 14 19 28.3 +0.7**
baz=289
BVCY Beaver Creek 72.53 29 P **P 14 19 29.8 +1.0**
baz=288
DAWY Dawson 72.64 27 P **P 14 19 30.2 +0.8**
baz=288,SNR=13
I29M Ogilvie Camp, 72.67 26 P **P 14 19 30.2 +0.7**
baz=289
MESA MESA 72.70 31 P **P 14 19 30.6 +0.6**
baz=288
F30M Barrier River 72.85 23 P **P 14 19 31.3 +0.7**
baz=291,SNR=30
YUK3 Moose Creek 72.90 30 P **P 14 19 31.5 +0.2**
baz=288
G30M tAoh Zraii Nji 72.92 24 P **P 14 19 31.1 +0.1**
baz=290
BZK Bozkurt 72.92 309 P **P 14 19 30.3 -1.1**
comp=Z,91nm,2.0s
EPYK Eagle Plains 72.94 24 P **P 14 19 31.3 +0.1**
baz=290,SNR=20
J29N Klondike Camp 73.00 27 P **P 14 19 32.6 +1.0**
baz=289
O28M Mount Upton 73.35 30 P **P 14 19 33.9 -0.1**
baz=289
YUK8 Steele Glacier 73.38 30 P **P 14 19 34.2 +0.1**
baz=289
INK Inuvik 73.39 22 P **P 14 19 33.9 +0.2**
baz=292,SNR=27
I30M Mount Dempster 73.48 25 P **P 14 19 34.9 +0.4**
baz=291
L29M L29M 73.49 28 P **P 14 19 35.7 +1.2**
baz=290
K29M Barlow Dome 73.50 27 P **P 14 19 35.7 +1.1**
baz=290
AK09 Malin Array Si 73.52 318 P **P 14 19 33.6 -1.2**
AK03 Malin Array Si 73.52 319 P **P 14 19 33.5 -1.3**
AKASG Malin Array Be 73.53 319 P **P 14 19 33.1 -1.7**
comp=Z,0.5nm,0.4s,baz=61,slow=6.3,SNR=8.4
comp=Z,0.5nm,0.4s
AK08 Malin Array Si 73.53 318 P **P 14 19 33.7 -1.1**
AK10 Malin Array Si 73.54 318 P **P 14 19 33.8 -1.1**
AK02 Malin Array Si 73.55 318 P **P 14 19 33.6 -1.4**
AK04 Malin Array Si 73.56 319 P **P 14 19 33.6 -1.4**
AK11 Malin Array Si 73.57 318 P **P 14 19 33.8 -1.3**
M29M Somme Creek 73.57 29 P **P 14 19 36.3 +1.2**
baz=290,SNR=8.4
AK07 Malin Array Si 73.59 318 P **P 14 19 33.8 -1.4**
AK15 Malin Array Si 73.59 319 P **P 14 19 33.9 -1.3**
AK22 Malin Array Si 73.60 319 P **P 14 19 34.0 -1.3**
AK21 Malin Array Si 73.62 319 P **P 14 19 33.8 -1.6**
AK18 Malin Array Si 73.62 319 P **P 14 19 34.0 -1.4**
AK20 Malin Array Si 73.65 319 P **P 14 19 33.8 -1.7**
F31M Tsiigehtchic 73.65 23 P **P 14 19 35.1 -0.1**
baz=292,SNR=15
AK19 Malin Array Si 73.65 319 P **P 14 19 34.4 -1.2**
BR131 Keskin Array S 73.85 307 P **P 14 19 35.8 -1.3**
BRTR Keskin Array B 73.85 307 P **P 14 19 36.5 -0.6**
BRTR Keskin Array B 73.85 307 P **P 14 19 37.0 -0.1**
comp=Z,2.3nm,0.5s,baz=114,slow=2.6,SNR=13
comp=Z,2.3nm,0.5s
BR104 Keskin Array S 73.85 307 P **P 14 19 37.0 -0.1**
comp=Z,4.1nm,0.9s
BR106 Keskin Array S 73.86 307 P **P 14 19 37.4 +0.2**
comp=Z,5.8nm,1.2s
YUK4 Talbot Arm 73.87 30 P **P 14 19 37.5 +0.6**
baz=290
H31M Peel River 74.05 25 P **P 14 19 37.8 +0.2**
baz=292
YUK6 Outpost Mounta 74.13 30 P **P 14 19 39.4 +0.9**
baz=290
M30M Minto, Yukon 74.25 28 P **P 14 19 40.3 +1.3**
baz=291,SNR=14

O29M Mount Kennedy 74.26 31 P **P 14 19 40.1 +1.0**
baz=290
MAYO Mayo, Yukon 74.26 27 P **P 14 19 40.0 +1.0**
baz=292
A36M Sachs Harbour 74.34 17 P **P 14 19 39.0 -0.2**
baz=299,SNR=13
PURM Purcari 74.39 314 P **P 14 19 39.4 -0.5**
comp=Z,22nm,0.6s
MI28 Mi28,Pidlybu 74.40 319 P **P 14 19 38.9 -1.0**
ANTO Ankara 74.42 307 P **P 14 19 39.8 -0.6**
comp=Z,6.8nm,0.7s
HYT Haines Junctio 74.57 30 P **P 14 19 40.8 -0.1**
HYT IAmb IAmb 14 19 44.0
comp=Z,10nm,1.0s
HYT Haines Junctio 74.57 30 P **P 14 19 42.2 +1.3**
baz=291
P30M Million Dollar 75.08 31 P **P 14 19 44.8 +1.0**
baz=292
N31M Braeburn, Yuko 75.10 29 P **P 14 19 45.1 +1.2**
baz=292
O30N Mendenhall 75.23 30 P **P 14 19 45.8 +1.1**
baz=292
RNPP9 Sopachiv 75.30 320 P **P 14 19 43.9 -1.2**
NDNU Novodnistrovsk 75.34 317 P **P 14 19 44.4 -1.0**
RNPP8 Varash 75.34 320 P **P 14 19 45.1 -0.3**
RNPP5 Staryi Chortor 75.36 320 P **P 14 19 44.3 -1.2**
M31M Drury Creek, Y 75.43 28 P **P 14 19 46.7 +1.0**
baz=293
CSS Mathiatis 75.57 302 P **P 14 19 47.1 0.0**
comp=Z,60nm,1.0s
WHY Whitehorse 75.83 30 P **P 14 19 49.1 +1.0**
baz=293
FARO Faro, Yukon 75.87 28 P **P 14 19 48.1 -0.1**
FARO IAmb IAmb 14 19 50.0
comp=Z,17nm,1.1s
FARO Faro, Yukon 75.87 28 P **P 14 19 49.0 +0.8**
baz=294,SNR=9.7
C36M Paulatuk 76.00 19 P **P 14 19 48.6 -0.2**
baz=301
SKAG Skagway 76.09 31 P **P 14 19 50.2 +0.7**
baz=293
S31K Pelican 76.24 32 P **P 14 19 51.2 +0.8**
baz=293
N32M Quiet Lake 76.43 29 P **P 14 19 52.1 +0.6**
baz=295
KLYT Kilyos 76.68 309 P **P 14 19 53.2 +0.1**
comp=Z,131nm,1.2s
P32M Atlin 76.79 30 P **P 14 19 54.3 +0.7**
baz=294
P33M Teslin, Yukon 76.94 30 P **P 14 19 55.7 +1.3**
baz=295,SNR=6.0
R32K Eaglecrest 76.95 32 P **P 14 19 55.7 +1.3**
baz=294
SIT Sitka 77.05 33 P **P 14 19 56.6 +1.7**
baz=294
MORS Morshin 77.30 318 P **P 14 19 56.1 -0.4**
MLR Muntele Rosu 77.32 314 LR LR 14 58 27.2
comp=Z,123nm,18.3s,baz=68,slow=39
Q32M Nakina River 77.73 31 P **P 14 20 00.4 +1.4**
baz=296
R33M Jennings River 78.14 30 P **P 14 20 02.4 +1.2**
baz=297
HFS Hagfors 78.18 331 P **P 14 19 60.0 -1.2**
comp=Z,3.7nm,0.9s,baz=129,slow=0.9,SNR=5.3
HFS LR LR 14 56 46.2
comp=Z,260nm,21.4s,baz=42,slow=37
comp=Z,3.7nm,0.9s
U33K Whale Pass 78.55 33 P **P 14 20 04.2 +1.0**
baz=296
S34M Telegraph Cree 78.73 31 P **P 14 20 05.2 +0.9**
baz=297
WTLY Watson Lake, Y 78.78 29 P **P 14 20 05.6 +1.0**
baz=298
WRAK Wrangell Islan 78.81 33 P **P 14 20 06.1 +1.4**
baz=296
CRAG Craig 78.83 34 P **P 14 20 05.9 +1.0**
baz=296
NB2 NORSAR Subarra 78.83 332 P **P 14 20 03.6 -1.2**
comp=Z,2.3nm,0.7s,baz=62,slow=5.6
NOA NORSAR Array B 78.83 332 P **P 14 20 04.2 -0.6**
comp=Z,1.1nm,0.5s,baz=77,slow=6.0,SNR=5.9
NOA LR LR 14 58 22.4
comp=Z,159nm,18.5s,baz=65,slow=38
comp=Z,1.1nm,0.5s
DLBC Dease Lake 79.01 31 P **P 14 20 06.8 +0.9**
baz=298
OJC Ojcow 79.33 320 P **P 14 20 06.7 -1.0**
comp=Z,13nm,0.8s
WRGLY Wrigley 79.41 25 P **P 14 20 08.7 +0.8**
baz=302,SNR=7.2
T35M Bob Quinn 79.58 32 P **P 14 20 10.2 +1.2**
baz=298
VYHS Vyhne 80.62 319 *e*P **P 14 20 14.6 -0.2**
KOTAN Kotaneelee Air 80.83 28 P **P 14 20 15.6 0.0**
baz=302
TOAD Toad River Com 80.99 29 P **P 14 20 17.4 +0.9**
baz=301,SNR=5.2
MPLH Magyarpolny 81.98 318 P **P 14 20 22.1 +0.1**
comp=Z,29nm,1.6s
CONA Conrad Observa 82.66 319 *e*P **P 14 20 25.1 -0.5**
comp=Z,5.5nm,1.3s
YKA Yellowknife Ar 83.13 23 P **P 14 20 27.4 -0.2**
comp=Z,3.6nm,0.7s,baz=313,slow=4.9,SNR=50
comp=Z,3.6nm,0.7s
GERES GERESS Array B 83.50 321 P **P 14 20 29.7 -0.3**
comp=Z,4.9nm,0.8s,baz=57,slow=4.9,SNR=22
comp=Z,4.9nm,0.8s
MOA Molln 83.64 320 *e*P **P 14 20 30.0 -0.6**
comp=Z,5.6nm,0.6s
SOKA Soboth 83.74 318 *e*P **P 14 20 30.8 -0.4**
comp=Z,5.5nm,0.7s
OBKA Obir 84.11 318 *e*P **P 14 20 32.6 -0.6**
comp=Z,8.0nm,0.7s
KBA Koelnbreinsper 84.56 319 *e*P **P 14 20 34.6 -0.9**
comp=Z,5.2nm,0.9s
LESA Schwarzleotal 84.79 320 *e*P **P 14 20 35.3 -1.2**
comp=Z,5.3nm,0.9s
ABTA Abfaltersbach 85.22 319 *e*P **P 14 20 37.2 -1.5**
comp=Z,7.4nm,0.9s
WTTA Wattenberg 85.48 320 *i*P **P 14 20 39.3 -0.8**
comp=Z,7.7nm,0.9s
SQTA Sankt Quirin 85.75 320 *i*P **P 14 20 39.7 -1.7**
comp=Z,7.0nm,1.0s
FETA Feichten 86.14 320 *e*P **P 14 20 41.8 -1.5**
comp=Z,7.4nm,1.3s
CEL Celeste 87.14 311 P **P 14 20 48.3 0.0**
comp=Z,27nm,1.2s
BORG Borgarnes 87.25 345 LR LR 15 02 31.8
comp=Z,57nm,21.6s,baz=16,slow=37
SENIN Lac Senin/Sane 88.48 321 P **P 14 20 52.6 -2.2**
F10A Beach Ranch, E 92.38 37 P **P 14 21 13.2 +0.4**
FRB Frobisher Bay 92.39 5 LR LR 15 05 59.7
comp=Z,42nm,19.2s,baz=354,slow=38
KEST Kesra 92.94 311 P **P 14 21 15.2 -0.3**
comp=Z,5.2nm,0.8s,baz=9.5,slow=6.1,SNR=4.9
comp=Z,5.2nm,0.8s
PPT2 Papeete2 95.73 107 *e*LR LR 14 52 23.9
comp=Z,66nm,25.0s
NVAR Mina Array Bea 96.35 43 P **P 14 21 31.8 +0.5**
comp=Z,2.7nm,0.8s,baz=291,slow=3.4,SNR=8.5
comp=Z,2.7nm,0.8s
R11B Troy Canyon, C 98.09 42 P **P 14 21 39.0 0.0**
baz=309
ESDC Sonseca Array 99.09 321 LR LR 15 11 16.5
comp=Z,66nm,18.2s,baz=156,slow=38

---

*IDC **15** 14:15:18.1±2.9, 19°.60S×177°.65W, h563km±22km, mb3.2/4, mbtmp4.1/7, Error ellipse: s-maj=47.7km s-min=22.6km az=45.0*

ISC 15 14:15:18.0±2.2, 19°.8S±0°.2×177°.7W±0°.3, h550km, n7, σ1§50/10, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**297**	P	**P**	**14 16 44.8**	**+0.3**
	3.6nm,0.5s,baz=100,slow=24,SNR=6.0						
DZM	**Mont Dzumac**	**15.02**	**259**	P	**P**	**14 18 28.9**	**+1.0**
	9.9nm,0.9s,baz=98,slow=15,SNR=2.0						
URZ	**Urewera**	**18.91**	**193**	P	**P**	**14 19 04.3**	**+0.4**
	1.8nm,0.3s,baz=337,slow=3.2,SNR=8.5						
URZ				S	**S**	**14 22 05.7**	**-1.8**
	8.8nm,1.1s,baz=84,slow=21,SNR=1.1						
STKA	**Stephens Creek**	**38.37**	**243**	P	**P**	**14 21 53.5**	**+0.9**
	0.9nm,0.3s,baz=79,slow=10.0,SNR=6.5						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**44.99**	**256**	P	**P**	**14 22 44.4**	**-0.5**
	1.6nm,0.5s,baz=86,slow=8.2,SNR=70						
ASAR				PcP	**PcP**	**14 24 12.3**	**-1.9**
	0.8nm,0.8s,baz=99,slow=3.5,SNR=6.7						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**45.02**	**261**	P	**P**	**14 22 44.2**	**-0.9**
	1.2nm,0.4s,baz=98,slow=8.0,SNR=40						
WRA				PcP	**PcP**	**14 24 12.6**	**-1.8**
	0.5nm,0.6s,baz=99,slow=3.2,SNR=3.9						
	1.2nm,0.4s						
QSPA	**South Pole Qui**	**70.22**	**180**	P	**P**	**14 25 37.1**	**+1.4**
	1.8nm,0.7s,baz=53,slow=3.4,SNR=10						
	1.8nm,0.7s						

---

*ASIES **15** 14:44:30.7, 24°.77N×122°.66E, h103km, ML4.5, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=4.84; $M_{\theta\theta}$5.92; $M_{\phi\phi}$=-1.08; $M_{r\theta}$=-2.53; $M_{\theta\phi}$2.17; $M_{\phi r}$1.68; Fault plane solution: $M_0$6.61399×10^{21} NP1: ϕ_s=229.00000°, δ41.43000°, λ=-130.56000°. NP2: ϕ_s=97.79000°, δ59.82000°, λ=-60.14000°. Principal axes: T Plg10.0610°, Azm166.8380°; N Plg25.4850°, Azm261.6890°; P Plg62.3300°, Azm57.0610°;*
*TAP **15** 14:44:30.7, 24°.77N×122°.66E, h103km, ML4.5, C*
*NEIC **15** 14:44:30.8±2.4, 24°.71N±0°.06×122°.64E±0°.04, h102km±4km, mb4.2/15, Error ellipse: s-maj=9.0km s-min=5.0km az=197.0*
*IDC **15** 14:44:30.6±5.1, 24°.83N×122°.59E, h101km±51km, mb3.5/10, mbtmp3.9/11, MS2.7/1, Error ellipse: s-maj=48.7km s-min=13.5km az=65.0*
*JMA **15** 14:44:31.1±0.1, 25°.N±1°.×122°.6E±0°.4, h101km±1km, MV3.1/19, NW OFF ISHIGAKIJIMA IS*

ISC 15 14:44:30.7±0.6, 24°.72N±0°.03×122°.64E±0°.02, h104km±4km, n205, σ1§11/320, mb4.1/18, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.39**	**134**	P	**Pn**	**14 44 46.4**	**+0.3**
JYNG				*e*S	**Sn**	**14 44 57.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.43**	**127**		**Pn**	**14 44 46.0**	**-0.4**
YOJ				Sn	**Sn**	**14 44 57.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.43**	**127**	P	**Pn**	**14 44 46.4**	**0.0**
YOJ	**Yonaguni jima**	**0.43**	**127**	*i* P	**Pn**	**14 44 46.5**	**+0.2**
YOJ				*e*S	**Sn**	**14 44 58.1**	**0.0**
YOJ	**Yonaguni jima**	**0.43**	**127**	P	**Pn**	**14 44 46.6**	**+0.2**
YOJ				*e*S	**Sn**	**14 44 57.9**	**-0.2**
EOS2	**EOS2**	**0.47**	**231**	*i* P	**Pn**	**14 44 47.3**	**+0.8**
EOS2				*e*S	**Sn**	**14 44 59.5**	**+1.1**
EOS3	**EOS3**	**0.52**	**214**	*i* P	**Pn**	**14 44 47.8**	**+0.9**
EOS3				*i* S	**Sn**	**14 45 00.5**	**+1.6**
TWB1	**Santiao Chiao**	**0.66**	**296**	P	**Pn**	**14 44 48.3**	**+0.2**
TWB1				*e*S	**Sn**	**14 45 00.7**	**-0.4**
EOS4	**EOS4**	**0.66**	**206**	*e*P	**Pn**	**14 44 48.3**	**+0.6**
TWC	**Suao**	**0.72**	**261**	||*i* P	**Pn**	**14 44 48.8**	**+0.2**
TWC				*e*S	**Sn**	**14 45 01.6**	**-0.6**
ESAO	**Su ao**	**0.74**	**259**	P	**Pn**	**14 44 48.9**	**+0.2**
ESAO				*e*S	**Sn**	**14 45 01.9**	**-0.4**
TIPB	**Shuangxi**	**0.78**	**289**	||*i* P	**Pn**	**14 44 49.7**	**+0.5**
TIPB				*i* S	**Sn**	**14 45 02.7**	**-0.5**
SXI1	**Grass Mountain**	**0.79**	**299**	P	**Pn**	**14 44 49.6**	**+0.3**
SXI1				*e*S	**Sn**	**14 45 03.5**	**+0.2**
ILA	**Ilan**	**0.81**	**273**	*i* P	**Pn**	**14 44 50.2**	**+0.7**
ILA				*i* S	**Sn**	**14 45 04.1**	**+0.5**
EWUT	**Wuta**	**0.83**	**251**	*i* P	**Pn**	**14 44 50.1**	**+0.5**
EWUT				S	**Sn**	**14 45 03.9**	**0.0**
NDS	**Dongshan**	**0.84**	**264**	*e*P	**Pn**	**14 44 50.3**	**+0.6**
NWF	**Wu-fen Shan**	**0.85**	**294**	*i* P	**Pn**	**14 44 50.5**	**+0.6**
WFSB	**Wu-fen Shan**	**0.85**	**294**	P	**Pn**	**14 44 50.5**	**+0.6**
WFSB				*e*S	**Sn**	**14 45 04.5**	**+0.2**
ENA	**Nanau**	**0.87**	**251**	*e*P	**Pn**	**14 44 50.5**	**+0.5**
ENA				*e*S	**Sn**	**14 45 05.1**	**+0.6**
TWE	**Neicheng**	**0.88**	**270**	*i* P	**Pn**	**14 44 50.8**	**+0.6**
TWE				*e*S	**Sn**	**14 45 04.9**	**+0.1**
EAHA	**Aohua**	**0.91**	**245**	*i* P	**Pn**	**14 44 51.0**	**+0.7**
EAHA				*e*S	**Sn**	**14 45 05.8**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.95**	**273**	P	**Pn**	**14 44 51.5**	**+0.5**
ENTT	**Nioudou**	**0.98**	**266**	*i* P	**Pn**	**14 44 52.0**	**+0.9**
ENTT				*e*S	**Sn**	**14 45 07.4**	**+0.8**
LATG	**Datong**	**1.03**	**260**	*i* P	**Pn**	**14 44 52.7**	**+0.9**
LATG				*e*S	**Sn**	**14 45 08.5**	**+0.8**
NWLT	**Wulai**	**1.03**	**273**	P	**Pn**	**14 44 52.2**	**+0.5**
PCYT	**Pengchaiyu**	**1.04**	**331**	P	**Pn**	**14 44 52.4**	**+0.5**
YM01	**YM01**	**1.06**	**294**	*i* P	**Pn**	**14 44 52.7**	**+0.7**
YM08	**YM08**	**1.06**	**296**	P	**Pn**	**14 44 52.5**	**+0.4**
IRIF	**Iriomote-Funau**	**1.07**	**111**	P	**Pn**	**14 44 52.4**	**+0.3**
IRIF				S	**Sn**	**14 45 08.3**	**+0.1**
TATO	**Taipei**	**1.07**	**284**		**Pn**	**14 44 52.1**	**-0.1**
TATO				Sn	**Sn**	**14 45 08.4**	**0.0**
TATO	**Taipei**	**1.07**	**284**	P	**Pn**	**14 44 52.6**	**+0.4**
TATO	**Taipei**	**1.07**	**284**	S	**Sn**	**14 45 08.8**	**+0.4**
ETL	**Fush Village**	**1.08**	**239**	*e*P	**Pn**	**14 44 52.4**	**+0.2**
ETL				*e*S	**Sn**	**14 45 08.6**	**+0.1**
TWY	**Chenhua**	**1.09**	**301**	*e*P	**Pn**	**14 44 52.2**	**-0.1**
NACB	**Ninganchiao**	**1.09**	**240**		**Pn**	**14 44 51.6**	**-0.8**
NACB				Sn	**Sn**	**14 45 06.6**	**-2.2**
NACB	**Ninganchiao**	**1.09**	**240**	P	**Pn**	**14 44 52.2**	**-0.2**
NACB	**Ninganchiao**	**1.09**	**240**	S	**Sn**	**14 45 09.1**	**+0.3**
NACB	**Ninganchiao**	**1.09**	**240**	P	**Pn**	**14 44 52.2**	**-0.2**
NACB				*e*S	**Sn**	**14 45 08.4**	**-0.4**
ANP	**Anpu**	**1.12**	**295**	*e*P	**Pn**	**14 44 53.5**	**+0.8**
TWD	**Chiawan**	**1.14**	**236**	P	**Pn**	**14 44 52.9**	**0.0**
TWD				S	**Sn**	**14 45 09.4**	**-0.4**
YHNB	**Yeheng**	**1.15**	**268**		**Pn**	**14 44 53.6**	**+0.6**
YHNB	**Yeheng**	**1.15**	**268**	P	**Pn**	**14 44 53.9**	**+0.8**
YHNB	**Yeheng**	**1.15**	**268**	*i* P	**Pn**	**14 44 54.1**	**+1.0**
YHNB				*i* S	**Sn**	**14 45 10.5**	**+0.5**
NSK	**Sanguang**	**1.16**	**268**	*i* P	**Pn**	**14 44 54.2**	**+1.0**
NSK				S	**Sn**	**14 45 10.6**	**+0.3**
NTST	**Danshui**	**1.17**	**293**	P	**Pn**	**14 44 54.0**	**+0.8**
NTST				*e*S	**Sn**	**14 45 11.0**	**+0.8**
ETLH	**Xiulin Townshi**	**1.17**	**244**	*i* P	**Pn**	**14 44 53.7**	**+0.4**
ETLH				*e*S	**Sn**	**14 45 10.8**	**+0.3**
TWS1	**Kuangyinshan**	**1.17**	**289**	*i* P	**Pn**	**14 44 53.2**	**0.0**
TWS1				S	**Sn**	**14 45 10.0**	**-0.3**
NNSB	**Datong**	**1.18**	**256**	P	**Pn**	**14 44 54.2**	**+0.7**
NNS	**Nan Shan**	**1.18**	**257**	*i* P	**Pn**	**14 44 54.2**	**+0.7**
NNS				S	**Sn**	**14 45 10.9**	**+0.1**
HWA	**Hwalien**	**1.20**	**232**	*e*P	**Pn**	**14 44 54.0**	**+0.5**
HWA				*e*S	**Sn**	**14 45 11.4**	**+0.6**
HATJ	**Hateruma jima**	**1.25**	**122**	P	**Pn**	**14 44 55.2**	**+1.0**
HATJ				*e*S	**Sn**	**14 45 13.4**	**+1.5**
TEYL	**Yanliau Villag**	**1.27**	**228**	*i* P	**Pn**	**14 44 54.5**	**+0.1**
TEYL				*i* S	**Sn**	**14 45 12.3**	**-0.1**
ETM	**Tongmen**	**1.29**	**235**	*i* P	**Pn**	**14 44 54.7**	**+0.1**
LXIB	**Xiulin Townshi**	**1.31**	**238**	P	**Pn**	**14 44 55.0**	**-0.1**
LXIB				*e*S	**Sn**	**14 45 12.5**	**-1.0**
JKRS	**Kuro-shima**	**1.34**	**111**	P	**Pn**	**14 44 56.0**	**+0.8**
JKRS				*e*S	**Sn**	**14 45 14.7**	**+0.9**
NCUH	**Zhongli**	**1.34**	**281**	*e*S	**Sn**	**14 45 14.7**	**+0.9**
SHUL	**Shoufeng**	**1.35**	**227**	P	**Pn**	**14 44 55.7**	**+0.3**
SHUL				*e*S	**Sn**	**14 45 13.9**	**-0.1**
FUSS	**Fushou**	**1.35**	**250**	P	**Pn**	**14 44 56.7**	**+1.0**
FUSS				S	**Sn**	**14 45 14.9**	**+0.4**
WHF	**Hehuan Shan**	**1.38**	**246**	*e*P	**Pn**	**14 44 56.6**	**+0.6**
WHF				S	**Sn**	**14 45 14.9**	**-0.3**
NFF	**Wufeng Townshi**	**1.39**	**267**	P	**Pn**	**14 44 56.7**	**+0.9**
NFF				*i* S	**Sn**	**14 45 15.6**	**+0.7**
TWT	**Tachien**	**1.41**	**251**	*e*P	**Pn**	**14 44 57.7**	**+1.5**
TWT				*e*S	**Sn**	**14 45 16.3**	**+0.7**
JIJ	**Ishigaki jima**	**1.42**	**104**	P	**Pn**	**14 44 56.4**	**+0.3**
JIJ				*e*S	**Sn**	**14 45 15.7**	**+0.3**
TEGC	**Jichi Village**	**1.42**	**225**	*e*P	**Pn**	**14 44 56.7**	**+0.6**
TEGC				*e*S	**Sn**	**14 45 16.0**	**+0.5**
ESL	**Shilin**	**1.42**	**231**	*i* P	**Pn**	**14 44 56.2**	**0.0**
ESL				S	**Sn**	**14 45 14.1**	**-1.4**
TDCB	**Techi**	**1.43**	**251**	*i* P	**Pn**	**14 44 57.5**	**+1.2**
TDCB				*i* S	**Sn**	**14 45 16.3**	**+0.5**
LIOB	**Emei**	**1.48**	**268**	*i* P	**Pn**	**14 44 57.9**	**+1.1**
LIOB				*e*S	**Sn**	**14 45 17.2**	**+0.5**
NSTT	**Nanjuang**	**1.49**	**267**	P	**Pn**	**14 44 58.0**	**+1.0**
NSTT				*i* S	**Sn**	**14 45 17.2**	**+0.2**
WARBT	**Fenglin Townsh**	**1.52**	**229**	P	**Pn**	**14 44 57.2**	**-0.2**
WARBT				*e*S	**Sn**	**14 45 16.3**	**-1.3**
HSN	**Hsinchu**	**1.52**	**273**	*e*P	**Pn**	**14 44 57.8**	**+0.4**
HSN				*e*S	**Sn**	**14 45 17.6**	**0.0**
EGFH	**Guangfu**	**1.52**	**227**	*i* P	**Pn**	**14 44 57.5**	**+0.1**
EGFH				*i* S	**Sn**	**14 45 17.0**	**-0.7**
JISG	**Ishigakijimahi**	**1.53**	**95**	P	**Pn**	**14 44 57.9**	**+0.4**
JISG				*e*S	**Sn**	**14 45 17.9**	**+0.1**
OWD	**Renai**	**1.54**	**241**	P	**Pn**	**14 44 58.2**	**+0.5**
OWD				*e*S	**Sn**	**14 45 18.0**	**-0.2**

WUSB	**Renai**	**1.56 243**	*i* P	**Pn**	**14 44 59.1**	**+1.1**
WUSB			*e*S	**Sn**	**14 45 19.1**	**+0.3**
WHP	**Taichung City**	**1.60 254**	*i* P	**Pn**	**14 45 00.2**	**+1.8**
WHP			*e*S	**Sn**	**14 45 20.9**	**+1.3**
HGSD	**Ruisui**	**1.65 222**	P	**Pn**	**14 44 59.2**	**+0.2**
HGSD			*e*S	**Sn**	**14 45 20.7**	**+0.2**
VWDT	**VWDT**	**1.67 235**	P	**Pn**	**14 45 00.1**	**+0.9**
VWDT			S	**Sn**	**14 45 20.9**	**-0.1**
NMLH	**Miaoli**	**1.69 264**	*i* P	**Pn**	**14 45 00.6**	**+1.2**
NMLH			*e*S	**Sn**	**14 45 22.5**	**+1.1**
EHYH	**Wanrong**	**1.70 224**	*e*P	**Pn**	**14 44 59.9**	**+0.3**
EHY	**Hungye**	**1.70 225**	*i* P	**Pn**	**14 44 59.5**	**-0.1**
WCS	**Beigang Elemen**	**1.71 248**	P	**Pn**	**14 45 01.3**	**+1.6**
WCS			*e*S	**Sn**	**14 45 23.0**	**+1.2**
NSY	**Sanyi**	**1.73 260**	*i* P	**Pn**	**14 45 01.5**	**+1.4**
NSY			*e*S	**Sn**	**14 45 23.4**	**+0.9**
ECBN	**Changbin**	**1.77 218**	*i* P	**Pn**	**14 45 00.8**	**+0.4**
ECBN			*e*S	**Sn**	**14 45 22.4**	**-0.7**
SMLT	**Sun Moon Lake**	**1.79 243**	*e*P	**Pn**	**14 45 01.5**	**+0.7**
SMLT			*e*S	**Sn**	**14 45 25.0**	**+1.2**
SSLB	**Suanglung**	**1.79 239**		**Pn**	**14 45 01.1**	**+0.3**
SSLB			Sn	**Sn**	**14 45 23.9**	**+0.1**
SSLB	**Suanglung**	**1.79 239**	P	**Pn**	**14 45 01.7**	**+0.9**
SSLB	**Suanglung**	**1.79 239**	S	**Sn**	**14 45 24.8**	**+1.0**
SSLB	**Suanglung**	**1.79 239**	P	**Pn**	**14 45 01.8**	**+0.9**
YULB	**Yu-li**	**1.80 223**		**Pn**	**14 45 00.5**	**-0.4**
YULB			Sn	**Sn**	**14 45 21.4**	**-2.5**
YULB	**Yu-li**	**1.80 223**	P	**Pn**	**14 45 00.7**	**-0.2**
YULB	**Yu-li**	**1.80 223**	*i* P	**Pn**	**14 45 00.8**	**0.0**
TYC	**Yuchr**	**1.82 244**	P	**Pn**	**14 45 02.7**	**+1.6**
TYC			*i* S	**Sn**	**14 45 25.9**	**+1.7**
EYUL	**Yuli**	**1.82 222**	P	**Pn**	**14 45 01.6**	**+0.4**
EYUL			*e*S	**Sn**	**14 45 24.9**	**+0.6**
TWF1	**Yuli**	**1.83 222**	*i* P	**Pn**	**14 45 01.3**	**+0.1**
TWF1			*i* S	**Sn**	**14 45 23.6**	**-1.0**
WDJ	**Dajia District**	**1.86 259**	*e*P	**Pn**	**14 45 02.9**	**+1.4**
WDJ			*e*S	**Sn**	**14 45 26.1**	**+1.0**
TCU	**Taichung**	**1.88 253**	*e*P	**Pn**	**14 45 03.0**	**+1.2**
TCU			*e*S	**Sn**	**14 45 26.6**	**+1.0**
JTJ	**Tarama**	**1.88 92**	P	**Pn**	**14 45 03.0**	**+1.2**
JTJ			*e*S	**Sn**	**14 45 26.2**	**+0.6**
CHKH	**Chenggong**	**1.90 217**	*e*P	**Pn**	**14 45 02.1**	**0.0**
CHKH			*e*S	**Sn**	**14 45 24.8**	**-1.3**
WHYT	**Xinyi Township**	**1.92 238**	*i* P	**Pn**	**14 45 04.2**	**+1.7**
WHYT			*i* S	**Sn**	**14 45 28.5**	**+1.8**
FULB	**Fuli**	**1.95 219**	*e*P	**Pn**	**14 45 03.2**	**+0.4**
FULB			*e*S	**Sn**	**14 45 27.1**	**-0.2**
WJS	**Zhushan**	**1.96 243**	*e*P	**Pn**	**14 45 05.3**	**+2.4**
WJS			*e*S	**Sn**	**14 45 30.4**	**+2.9**
WNT	**Mingjian**	**1.97 245**	*e*P	**Pn**	**14 45 04.9**	**+1.9**
WNT			*e*S	**Sn**	**14 45 29.7**	**+2.0**
CHKT	**Chengkung**	**1.99 216**	P	**Pn**	**14 45 03.0**	**-0.2**
CHKT			*e*S	**Sn**	**14 45 26.1**	**-2.0**
WCHH	**Zhanghua**	**2.00 252**	*i* P	**Pn**	**14 45 04.5**	**+1.1**
WCHH			*e*S	**Sn**	**14 45 28.9**	**+0.5**
EHD	**Haiduan**	**2.04 220**	P	**Pn**	**14 45 03.8**	**-0.2**
ALS	**Alishan**	**2.06 235**	*i* P	**Pn**	**14 45 06.1**	**+1.6**
ALS			*e*S	**Sn**	**14 45 31.3**	**+1.1**
ECS	**Chishang**	**2.07 219**	*e*P	**Pn**	**14 45 05.5**	**+1.1**
ECS			S	**Sn**	**14 45 30.8**	**+0.7**
CHN5	**Tsauling**	**2.11 238**	*e*P	**Pn**	**14 45 06.7**	**+1.8**
EDH	**Donghe**	**2.12 215**	*e*P	**Pn**	**14 45 05.1**	**+0.1**
EDH			*e*S	**Sn**	**14 45 30.3**	**-1.0**
ELDTW	**Lidau**	**2.12 225**	*e*P	**Pn**	**14 45 05.4**	**+0.2**
WGK	**Gukeng**	**2.16 242**	*e*P	**Pn**	**14 45 07.5**	**+2.1**
WGK			*e*S	**Sn**	**14 45 34.4**	**+2.4**
WDLH	**Douliu**	**2.17 242**	*e*P	**Pn**	**14 45 07.5**	**+1.9**
WDLH			S	**Sn**	**14 45 34.5**	**+2.1**
WRL	**Guolierlin Hig**	**2.22 249**	*e*P	**Pn**	**14 45 07.1**	**+0.9**
WRL			*e*S	**Sn**	**14 45 33.4**	**0.0**
WCKO	**Fanlu**	**2.25 236**	P	**Pn**	**14 45 08.7**	**+2.0**
WCKO			*e*S	**Sn**	**14 45 36.8**	**+2.5**
LONT	**Longtian**	**2.27 218**	*i* P	**Pn**	**14 45 07.3**	**+0.3**
LONT			*e*S	**Sn**	**14 45 34.0**	**-0.7**
WTK	**Tuku**	**2.30 244**	*e*P	**Pn**	**14 45 08.7**	**+1.4**
WTK			*e*S	**Sn**	**14 45 36.4**	**+1.2**
STYH	**Taoyuan**	**2.30 228**	P	**Pn**	**14 45 08.8**	**+1.5**
STYH			*e*S	**Sn**	**14 45 36.2**	**+0.9**
LDUT	**Ludao**	**2.30 208**	*i* P	**Pn**	**14 45 07.2**	**-0.1**
LDUT			*e*S	**Sn**	**14 45 33.1**	**-2.2**
CHN2	**Minshiung**	**2.30 240**	*e*S	**Sn**	**14 45 38.1**	**+2.8**
JIRB	**Irabujima**	**2.31 87**	*e*P	**Pn**	**14 45 08.1**	**+0.8**
JIRB			*e*S	**Sn**	**14 45 36.0**	**+0.5**
WTCT	**Ta-ch'eng**	**2.31 249**	*e*P	**Pn**	**14 45 08.3**	**+0.9**
WTCT			*e*S	**Sn**	**14 45 36.1**	**+0.5**
CHN4	**Tsaushan**	**2.31 234**	*e*P	**Pn**	**14 45 08.2**	**+0.8**
CHN4			*e*S	**Sn**	**14 45 38.4**	**+2.8**
TPUB	**Ta-pu**	**2.32 233**		**Pn**	**14 45 08.7**	**+1.1**
TPUB	**Ta-pu**	**2.32 233**	P	**Pn**	**14 45 09.3**	**+1.8**
TPUB	**Ta-pu**	**2.32 233**	P	**Pn**	**14 45 09.3**	**+1.8**
TPUB			*e*S	**Sn**	**14 45 37.6**	**+1.8**
CHY	**Chiayi**	**2.36 239**	*e*P	**Pn**	**14 45 09.7**	**+1.7**
CHY			*i* S	**Sn**	**14 45 38.1**	**+1.4**
WTP	**Ta-pu**	**2.36 232**	*e*P	**Pn**	**14 45 10.2**	**+2.1**
WTP			*e*S	**Sn**	**14 45 39.0**	**+2.1**
TWGBT	**Beinan**	**2.37 217**	P	**Pn**	**14 45 08.2**	**0.0**
TWGBT	**Beinan**	**2.37 217**	S	**Sn**	**14 45 36.5**	**-0.5**
TWGBT	**Beinan**	**2.37 217**	P	**Pn**	**14 45 08.2**	**0.0**
TWGBT			S	**Sn**	**14 45 35.8**	**-1.2**
TWG	**Pinlang**	**2.37 218**		**Pn**	**14 45 07.4**	**-0.8**
TWG	**Pinlang**	**2.37 218**	*i* P	**Pn**	**14 45 08.5**	**+0.2**
TWG			S	**Sn**	**14 45 35.8**	**-1.3**
JIKM	**Ikemajima**	**2.38 85**	*e*P	**Pn**	**14 45 09.6**	**+1.3**
JIKM			*e*S	**Sn**	**14 45 38.9**	**+1.7**
JMJ	**Miyako jima 2**	**2.42 87**	P	**Pn**	**14 45 09.6**	**+0.8**
TWK	**Hsinying**	**2.44 234**	*e*P	**Pn**	**14 45 10.9**	**+1.8**
TWK			*e*S	**Sn**	**14 45 40.5**	**+1.8**
JMJ2	**Miyako jima3**	**2.45 89**	*e*P	**Pn**	**14 45 10.6**	**+1.4**
WSF	**Szhu**	**2.45 244**	*e*P	**Pn**	**14 45 10.5**	**+1.3**
WSF			S	**Sn**	**14 45 40.0**	**+1.0**
CHN1	**Nanshi**	**2.46 232**	*e*P	**Pn**	**14 45 11.4**	**+2.0**
CHN1			*e*S	**Sn**	**14 45 41.0**	**+1.9**
SNST	**Tainan City**	**2.46 233**	*e*S	**Sn**	**14 45 41.5**	**+2.4**
SGST	**Jiashian**	**2.49 230**	*e*P	**Pn**	**14 45 11.1**	**+1.4**
SGST			*e*S	**Sn**	**14 45 41.2**	**+1.5**
WSL	**Shuilin Townsh**	**2.50 242**	*e*P	**Pn**	**14 45 11.3**	**+1.4**
WSL			*e*S	**Sn**	**14 45 41.1**	**+1.1**
JOGS	**Gusukube**	**2.52 88**	*e*P	**Pn**	**14 45 11.6**	**+1.5**
JOGS			*e*S	**Sn**	**14 45 42.0**	**+1.6**
ICHU	**Yijhu**	**2.54 238**	*e*P	**Pn**	**14 45 12.1**	**+1.6**
ICHU			*e*S	**Sn**	**14 45 42.9**	**+1.8**
CHN8	**Yiju**	**2.61 239**	*e*P	**Pn**	**14 45 12.8**	**+1.6**
CHN8			*i* S	**Sn**	**14 45 43.9**	**+1.5**
ECL	**Taimali**	**2.62 216**	*i* P	**Pn**	**14 45 11.5**	**+0.1**
ECL			*e*S	**Sn**	**14 45 40.8**	**-2.0**
CHN3	**Shinhua**	**2.65 232**	*e*S	**Sn**	**14 45 47.0**	**+3.6**
SCST	**Cishan**	**2.68 228**	*e*P	**Pn**	**14 45 14.4**	**+2.2**
SHHT	**Tainan City**	**2.69 232**	*e*P	**Pn**	**14 45 15.6**	**+3.1**
SCLT	**Jiali**	**2.71 236**	P	**Pn**	**14 45 14.5**	**+1.8**
SCLT			S	**Sn**	**14 45 47.0**	**+1.9**
MASBT	**Mashibuluo**	**2.79 222**	*e*P	**Pn**	**14 45 15.7**	**+2.0**
TSCK	**Chigu Township**	**2.81 237**	*e*P	**Pn**	**14 45 15.5**	**+1.6**
TSCK			*e*S	**Sn**	**14 45 48.2**	**+0.9**
MATB	**Ma-tsu**	**2.82 301**	*e*P	**Pn**	**14 45 14.1**	**0.0**
TAW	**Tawu**	**2.84 215**	*e*S	**Sn**	**14 45 47.0**	**-1.1**
EAST	**Anshuo**	**2.85 216**	*e*P	**Pn**	**14 45 15.1**	**+0.5**
LAY	**Lan-yu**	**2.85 201**	*e*P	**Pn**	**14 45 14.4**	**-0.1**
TAWH	**Dawu Township**	**2.86 214**	*e*P	**Pn**	**14 45 15.3**	**+0.7**
TAWH			*e*S	**Sn**	**14 45 47.5**	**-1.1**
LYUB	**Lan-yu**	**2.87 200**	*e*P	**Pn**	**14 45 14.4**	**-0.4**
VWUC	**VWUC**	**2.91 276**	*e*P	**Pn**	**14 45 15.3**	**+0.1**
VWUC			*e*S	**Sn**	**14 45 47.4**	**-2.2**
SCZT	**Fangliau**	**2.98 219**	*e*P	**Pn**	**14 45 18.4**	**+2.1**
SLIU	**Shizi**	**3.01 214**	*e*P	**Pn**	**14 45 17.9**	**+1.3**
PNG	**Penghu**	**3.04 248**	*e*P	**Pn**	**14 45 17.1**	**+0.1**
PNG			*e*S	**Sn**	**14 45 51.1**	**-1.7**
PHUB	**P'eng-hu**	**3.05 247**	*e*P	**Pn**	**14 45 17.1**	**0.0**
PHUB			*e*S	**Sn**	**14 45 51.3**	**-1.7**
WDGT	**Dungji**	**3.09 243**	*e*P	**Pn**	**14 45 18.5**	**+0.9**
XPSS	**Dashiqiu**	**3.12 315**	*e*P	**Pn**	**14 45 17.9**	**-0.1**
PTMZ	**Houxiangcun**	**3.21 276**	*e*P	**Pn**	**14 45 19.6**	**+0.3**
TWKBT	**Hengchun**	**3.23 212**	*e*P	**Pn**	**14 45 21.2**	**+1.6**
TWKBT			S	**Sn**	**14 45 58.2**	**+0.8**
VCHM	**Qimei**	**3.30 244**	*e*P	**Pn**	**14 45 21.4**	**+1.0**
VCHM			*i* S	**Sn**	**14 45 57.9**	**-1.1**
KNMB	**Chin-men Tao**	**3.88 267**	Pn	**Pn**	**14 45 27.8**	**-0.4**
KNMB	**Chin-men Tao**	**3.88 267**	*e*P	**Pn**	**14 45 28.1**	**-0.1**
AXDP	**Jialang**	**4.25 273**	*e*P	**Pn**	**14 45 33.6**	**+0.5**
ZPLA	**Ao Xicun**	**4.53 261**	*e*P	**Pn**	**14 45 37.7**	**+0.7**
DSXP	**Dongshan**	**4.86 259**	*e*P	**Pn**	**14 45 42.2**	**+0.7**
JOW	**Kunigami**	**5.50 66**	Pn	**Pn**	**14 45 48.8**	**-1.4**
JOW	**Kunigami**	**5.50 66**	P	**Pn**	**14 45 49.3**	**-0.9**
JOW	17nm,0.2s,baz=126,slow=20,SNR=23		S	Sn	14 46 37.5	-15
JOW	**Kunigami**	**5.50 66**	P	**Pn**	**14 45 49.5**	**-0.7**
KSRS	**Korea Array**	**13.47 18**	P	**Pn**	**14 47 38.5**	**+1.0**
USRK	**Ussuriysk Ar.**	**20.88 19**	P	**P**	**14 49 04.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**22.88 259**	LR	LR	14 58 28.4	
SBUM	**Sibu**	**24.32 206**	P	**P**	**14 49 39.9**	**+1.2**
SBUM			IAmb	IAmb	14 49 40.8	
JKA	**Kamikawa-asahi**	**25.29 35**	P	**P**	**14 49 46.3**	**-1.0**
JKA			IAmb	IAmb	14 49 55.5	
SONM	**Songino Array**	**26.42 335**	P	**P**	**14 49 57.7**	**+0.1**
SONM			pP	**pP**	**14 50 21.2**	**+0.8**
MK31	**Makanchi Array**	**38.89 315**	P	**P**	**14 51 44.9**	**-1.0**
MK31			IAmb	IAmb	14 51 46.3	
MKAR	**Makanchi Array**	**38.89 315**	P	**P**	**14 51 44.5**	**-1.4**
MKAR	**Makanchi Array**	**38.89 315**	P	**P**	**14 51 45.0**	**-1.0**
MKAR			PcP	**PcP**	**14 53 53.7**	**-1.1**
MAKZ	**Makanchi**	**39.09 315**	P	**P**	**14 51 46.7**	**-1.0**
MAKZ			IAmb	IAmb	14 52 20.5	
KNRA	**Kununurra**	**40.59 171**	P	**P**	**14 52 00.4**	**+0.2**
KURBB	**Kurchatov Arra**	**42.56 319**	P	**P**	**14 52 14.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**42.66 176**	P	**P**	**14 52 16.6**	**-0.5**
WB0	**Warramunga Arr**	**45.67 164**	P	**P**	**14 52 41.5**	**+0.3**
WB0			IAmb	IAmb	14 53 08.3	
WRA	**Warramunga Arr**	**45.83 165**	P	**P**	**14 52 43.1**	**+0.7**
WRA	**Warramunga Arr**	**45.83 165**	P	**P**	**14 52 43.3**	**+0.9**
KKAR	**Karatay Array**	**46.21 307**	P	**P**	**14 52 46.0**	**+0.8**
BVAR	**Borovoye Array**	**48.11 320**	P	**P**	**14 52 58.9**	**-0.9**
AS31	**Alice Springs**	**49.32 166**	P	**P**	**14 53 10.3**	**+0.9**
ASAR	**Alice Springs**	**49.32 166**	P	**P**	**14 53 10.8**	**+1.4**
ASAR	**Alice Springs**	**49.32 166**	P	**P**	**14 53 11.1**	**+1.7**
ASAR			PcP	**PcP**	**14 54 30.8**	**+0.2**
ABKAR	**Akbulak array**	**54.02 314**	P	**P**	**14 53 43.2**	**-0.9**
STKA	**Stephens Creek**	**59.12 161**	P	**P**	**14 54 20.9**	**+0.5**
STKA	**Stephens Creek**	**59.12 161**	P	**P**	**14 54 20.8**	**+0.5**
J17K	**VABM Dome**	**62.97 30**	P	**P**	**14 54 46.6**	**+0.6**
J17K			IAmb	IAmb	14 55 23.5	
PINNC	**Pines Island,**	**64.07 134**	P	**P**	**14 54 52.2**	**-1.5**
J19K	**Poorman**	**64.48 29**	P	**P**	**14 54 55.7**	**-0.1**
J19K			IAmb	IAmb	14 55 19.3	
D22K	**Ayikyak River**	**65.28 23**	P	**P**	**14 54 60.0**	**-1.1**
D22K			IAmb	IAmb	14 55 35.2	
H21K	**Melozitna River**	**65.53 27**	P	**P**	**14 55 03.6**	**+0.9**
H21K			IAmb	IAmb	14 55 11.7	
ARCES	**ARCESS Array B**	**69.54 338**	P	**P**	**14 55 27.3**	**-0.5**
FINES	**FINESS Array B**	**71.65 330**	P	**P**	**14 55 40.0**	**-0.7**
PTBC	**PUERTO BERRIO,**	**2.64 211**	P	Pn	15 09 25.1	-0.3
PTBC			S	Sn	15 09 57.8	-1.3
RUSC	**La Rusia**	**2.92 180**	P	Pn	15 09 29.1	-0.1
RUSC			S	Sn	15 10 04.9	-1.0
URIC	**Uribia, Colomb**	**3.06 21**	P	Pn	15 09 28.6	-1.8
URIC			S	Sn	15 10 03.8	-4.4
APAC	**Apartado, Choc**	**3.56 255**	P	Pn	15 09 35.1	-1.7
DBBC	**Dabeiba**	**3.57 240**	P	Pn	15 09 37.9	+0.9
GUY2C	**Guyana, Caldas**	**4.23 212**	P	Pn	15 09 47.1	+1.2
PLMC	**San Jos del P**	**5.02 219**	P	Pn	15 09 56.7	+0.9
URMC	**La Uribe, Meta**	**5.69 193**	P	Pn	15 10 05.2	+0.5

*IDC **15** 15:28:55.9±2.7, 6°.10N×126°.92E, h0km, mb3.8/3, mbtmp4.0/4, ML3.9/1, MS3.6/1, Error ellipse: s-maj=75.7km s-min=19.1km az=48.0*
*DJA **15** 15:29:02.7±0.5, 6°N±3°×12°6E±°, h132km±6km, M4.3/11, mb4.2/11, mB4.8/2, MLv4.4/11, Mw(mB)4.0/2*

ISC 15 15:29:02.2±1.7, 6°.3N±0°.1×126°.5E±0°.1, h68km, n17, σ1°78/14, mb3.5/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.21**	**312**	Pg	**Pn**	**15 29 25.8**	**+2.5**
	132nm,0.3s,baz=102,slow=19,SNR=8.9						
DAV				LR	LR	15 29 41.8	
	comp=Z,42nm,19.9s,baz=182,slow=28						
DAV				Lg	Lg	15 29 43.8	
	316nm,0.3s,baz=150,slow=20,SNR=8.7						
SGSI	**Sangihe**	**2.73**	**201**	P	**Pn**	**15 29 44.6**	**+0.9**
SGSI				S	**Sn**	**15 30 18.0**	**+2.4**
TNTI	**Ternate**	**5.52**	**171**	P	**Pn**	**15 30 24.5**	**+2.7**
	0.2nm32nm,1.2s						
KMSI	**Cibinong**	**6.18**	**204**	P	**Pn**	**15 30 30.2**	**-0.6**
LUWI	**Luwuk**	**8.15**	**207**	P	**Pn**	**15 30 56.2**	**-1.6**
	47nm,1.0s						
SANI	**Sanana**	**8.27**	**184**	P	**Pn**	**15 30 58.6**	**-0.8**
	785nm26nm,0.7s						
SWI	**Sorong**	**8.53**	**146**	P	**Pn**	**15 31 04.9**	**+1.9**
	22nm,0.9s						
NLAI	**Namlea**	**9.45**	**176**	P	**Pn**	**15 31 15.8**	**+0.1**
KDI	**Kendari**	**10.86**	**201**	P	**Pn**	**15 31 33.3**	**-1.6**
KAPI	**Kappang**	**13.06**	**211**	Pn	**Pn**	**15 32 05.7**	**+0.8**
	0.6nm,0.3s,baz=24,slow=12,SNR=7.5						
	10nm,0.8s						
WRA	**Warramunga Arr**	**27.16**	**164**	P	**P**	**15 34 39.1**	**-0.2**
	0.8nm,0.6s,baz=342,slow=10,SNR=14						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**30.61**	**167**	P	**P**	**15 35 10.2**	**+0.2**
	0.4nm,0.4s,baz=345,slow=7.1,SNR=15						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**40.57**	**160**	P	**P**	**15 36 32.9**	**-2.2**
	0.8nm,0.3s,baz=334,slow=9.0,SNR=4.0						
	0.8nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**41.00**	**69**	T	T	16 20 42.3	
	baz=258,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.01**	**69**	T	T	16 20 42.9	
	baz=258						
H11S2	**WAKE ISLAND Hy**	**41.01**	**69**	T	T	16 20 44.5	
	baz=258,slow=74						
KDAK	**Kodiak Island**	**79.90**	**33**	LR	LR	16 18 19.5	
	comp=Z,34nm,19.6s,baz=55,slow=37						

*IDC **15** 15:31:35.1±0.9, 35°.69N×92°.41E, h0km, mb3.9/7, mbtmp3.8/13, ML3.1/5, MS3.4/19, Error ellipse: s-maj=38.3km s-min=14.7km az=54.0*

ISC 15 15:31:36.9±0.7, 35°.9N±0°.1×92°.4E±0°.1, h10km, n30, σ1°56/16, mb4.0/7, MS3.4/16, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZH	**PanZhiHua**	**12.28**	**137**	P	**Pn**	**15 34 31.0**	**-0.9**
PZH				S	**Sn**	**15 36 50.9**	**+2.0**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,60nm,3.5s						
PZH				LR	LR		
	comp=N,280nm,7.8s						
PZH				LR	LR		
	comp=E,290nm,8.0s						
PZH				LR	LR		
	comp=Z,360nm,9.6s						
MKAR	**Makanchi Array**	**13.30**	**328**	Pn	**Pn**	**15 34 46.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=141,slow=13,SNR=28						
MKAR				Sn	**Sn**	**15 37 10.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=140,slow=21,SNR=2.0						
MKAR				Lg	Lg	15 38 35.8	
	comp=Z,0.1nm,0.3s,baz=134,slow=29,SNR=2.1						
	comp=Z,3.1nm,0.6s						
AAK	**Ala-Archa**	**15.42**	**301**	Pn	**Pn**	**15 35 16.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=114,slow=10,SNR=5.5						
AAK				LR	LR	15 42 11.3	
	comp=Z,306nm,18.6s,baz=115,slow=41						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**15.85**	**37**	Pn	**Pn**	**15 35 19.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=227,slow=14,SNR=6.3						
SONM				Lg	Lg	15 39 58.6	
	comp=Z,0.1nm,0.3s,baz=234,slow=26,SNR=6.5						
SONM				LR	LR	15 41 06.6	
	comp=Z,24nm,19.0s,baz=208,slow=36						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**17.84**	**330**	P	**Pn**	**15 35 45.2**	**0.0**
	baz=137,slow=13,SNR=13						
	comp=Z,2.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.27**	**160**	P	**Pn**	**15 35 48.8**	**-1.8**
	comp=Z,3.0nm,0.9s,baz=332,slow=12,SNR=23						
CMAR				LR	LR	15 42 28.1	
	comp=Z,30nm,20.0s,baz=330,slow=36						
ZALV	**Zalesovo Beam**	**18.86**	**346**	P	**P**	**15 35 59.0**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=176,slow=10,SNR=7.4						
ZALV				Lg	Lg	15 41 39.4	
	comp=Z,0.1nm,0.3s,baz=163,slow=25,SNR=3.6						
	comp=Z,2.0nm,0.8s						
BVAR	**Borovoye Array**	**23.12**	**325**	P	**P**	**15 36 44.8**	**+1.8**
	comp=Z,2.3nm,0.7s,baz=130,slow=8.5,SNR=12						
	comp=Z,2.3nm,0.7s						
KSRS	**Korea Array**	**28.45**	**76**	LR	LR	15 49 55.9	
	comp=Z,68nm,18.5s,baz=240,slow=39						
AKTO	**Aktyubinsk**	**28.71**	**311**	P	**P**	**15 37 33.5**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=94,slow=9.1,SNR=5.8						
	comp=Z,2.6nm,0.9s						
ARTI	**Arti**	**30.78**	**323**	LR	LR	15 51 39.5	
	comp=Z,35nm,20.9s,baz=194,slow=39						
USRK	**Ussuriysk Ar.**	**31.20**	**62**	LR	LR	15 51 36.5	
	comp=Z,197nm,18.6s,baz=252,slow=38						
WSAR	**Wadi Sarin**	**31.79**	**256**	LR	LR	15 54 02.2	
	comp=Z,65nm,18.9s,baz=82,slow=42						
PSI	**Prapat**	**33.44**	**168**	LR	LR	15 53 11.4	
	comp=Z,31nm,18.1s,baz=358,slow=39						
YAK	**Yakutsk**	**35.02**	**30**	LR	LR	15 53 20.7	
	comp=Z,46nm,19.1s,baz=22,slow=37						
MJAR	**Matsushiro Arr**	**36.71**	**75**	LR	LR	15 54 14.8	
	comp=Z,41nm,18.9s,baz=288,slow=37						
GNI	**Garni**	**37.44**	**291**	LR	LR	15 58 18.0	
	comp=Z,32nm,20.8s,baz=66,slow=43						
KBZ	**Khabaz**	**38.36**	**297**	LR	LR	15 57 55.0	
	comp=Z,50nm,18.5s,baz=68,slow=41						
ASAJ	**Asahikawa**	**38.83**	**62**	LR	LR	15 56 01.7	
	comp=Z,171nm,18.4s,baz=320,slow=38						
DAV	**Davao City (W)**	**41.74**	**125**	LR	LR	15 56 23.9	
	comp=Z,48nm,20.5s,baz=331,slow=36						
MA2	**Magadan**	**44.05**	**39**	LR	LR	16 00 49.4	
	comp=Z,37nm,18.0s,baz=222,slow=40						
BRTR	**Keskin Array B**	**45.88**	**293**	P	**P**	**15 40 00.4**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=108,slow=7.9,SNR=5.8						
	comp=Z,1.6nm,0.9s						
KAPI	**Kappang**	**48.07**	**142**	LR	LR	16 02 09.6	
	comp=Z,35nm,18.8s,baz=328,slow=38						
ARCES	**ARCESS Array B**	**48.85**	**335**	LR	LR	16 02 53.1	
	comp=Z,166nm,19.2s,baz=326,slow=38						
MLR	**Muntele Rosu**	**50.00**	**303**	LR	LR	16 06 50.0	
	comp=Z,74nm,18.8s,baz=36,slow=42						
NOA	**NORSAR Array B**	**55.25**	**324**	LR	LR	16 05 51.1	
	comp=Z,30nm,19.8s,baz=10,slow=37						
GERES	**GERESS Array B**	**57.11**	**310**	P	**P**	**15 41 24.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=90,slow=5.3,SNR=3.5						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**68.24**	**137**	P	**P**	**15 42 37.0**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=320,slow=8.0,SNR=6.3						
	comp=Z,1.7nm,1.0s						
ASAR	**Alice Springs**	**71.03**	**140**	P	**P**	**15 42 54.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=321,slow=6.0,SNR=11						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.99**	**281**	P	**P**	**15 44 01.9**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=35,slow=3.5,SNR=4.2						

IDC 15 14:52:55.4±2.6, 11°.17S×123°.59E, h0km, mb3.2/1, mbtmp3.0/3, ML3.0/2, Error ellipse: s-maj=200.7km s-min=35.0km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.53**	**131**	Pn	Pn	14 56 08.9	0.0
	0.1nm,0.3s,baz=311,slow=14,SNR=5.5						
WRA				Sn	Sn	14 58 26.8	-13
	0.1nm,0.3s,baz=315,slow

comp=Z,1.0nm,1.0s

IDC 15 15:56:32.5±2.1, 6°39S×149°88E, h0km, mb3.5/3, mbtmp3.7/4, ML2.3/1, Error ellipse: s-maj=114.1km s-min=27.7km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**222**	Pn	Pn	15 57 37.0	+1.6
	16nm,0.3s,baz=40,slow=17,SNR=36						
PMG				Sn	Sn	15 58 19.5	-3.9
	25nm,0.3s,baz=33,slow=22,SNR=12						
	28nm,0.3s						
WRA	**Warramunga Arr**	**20.23**	**227**	P	P	16 01 08.5	-0.9
	1.4nm,0.3s,baz=52,slow=11,SNR=28						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**23.04**	**220**	P	P	16 01 39.1	-0.4
	0.4nm,0.5s,baz=58,slow=9.3,SNR=28						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**84.73**	**23**	P	P	16 09 08.6	+0.4
	0.5nm,1.1s,baz=232,slow=5.6,SNR=2.2						
	0.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**147.96**	**285**	PKPbc	PKPbc	16 16 20.2	-0.7
	0.2nm,0.3s,baz=87,slow=2.8,SNR=2.5						

*NEIC **15** 16:05:43.2±0.7, 40°463N±0°010×111°937W±0°009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.7km az=227.0*

UUSS 15 16:05:43.4±0.8, 40°469N±0°009×111°937W±0°007, h7km±1km, ML2.2/5, ML1.9/20(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=198.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.02**	**221**		Pg	16 05 46.6	+1.6
CWU	**Camp Williams**	**0.13**	**260**		Pg	16 05 46.6	+0.3
GMU	**Granite Mounta**	**0.17**	**51**		Pg	16 05 47.3	+0.2
GMU					Sg	16 05 49.8	+0.3
MHD	**Mile High Driv**	**0.22**	**28**		Pg	16 05 48.1	+0.3
NOQ	**North Oquirrh**	**0.23**	**323**		Pg	16 05 48.6	+0.5
NOQ					Sg	16 05 51.9	+0.7
AAU	**Alta**	**0.26**	**62**		Pg	16 05 48.9	+0.2
AAU					Sg	16 05 52.6	+0.4
DCU	**Deer Creek Res**	**0.32**	**100**		Pg	16 05 50.1	+0.3
RBU	**Red Butte Cany**	**0.33**	**17**		Pg	16 05 50.0	+0.1
RBU	**Red Butte Cany**	**0.33**	**17**		Sg	16 05 54.6	+0.3
WMUT	**West Mountain**	**0.40**	**169**		Pg	16 05 51.6	+0.3
RCJ	**Ross Creek**	**0.42**	**63**		Pg	16 05 52.0	+0.3
SAIU	**Southern Antel**	**0.43**	**334**		Pg	16 05 51.9	+0.1
HLJ	**Hailstone**	**0.43**	**71**		Pg	16 05 52.3	+0.4
KLJ	**Keetly**	**0.44**	**68**		Pg	16 05 52.4	+0.4
MPU	**Maple Canyon**	**0.51**	**153**		Pg	16 05 53.6	+0.3
DAU	**Daniels Canyon**	**0.52**	**96**		Pg	16 05 54.2	+0.6
NLU	**North Lily Min**	**0.53**	**192**		Pg	16 05 53.7	+0.1
HTU	**Hoyt Peak**	**0.58**	**69**		Pg	16 05 55.4	+0.7
NAIU	**Northern Antel**	**0.59**	**338**		Pg	16 05 54.9	+0.1
SNUT	**Stansbury Nort**	**0.60**	**314**		Pg	16 05 55.4	+0.3
DUG	**Dugway, Tooele**	**0.72**	**248**		Pg	16 05 57.2	-0.2
TCUT	**Toone Canyon**	**0.76**	**32**		Pg	16 05 58.6	+0.4
LHUT	**Little Humpy P**	**0.83**	**59**		Pb	16 06 00.3	-0.1
BSUT	**Blindstream Ca**	**0.90**	**85**		Pg	16 06 00.9	+0.2
BSUT	**Blindstream Ca**	**0.90**	**85**	IAML		16 06 14.8	
	comp=E,27nm,1.1s						
BGU	**Big Grassy Mou**	**0.95**	**299**		Pg	16 06 01.6	-0.1
BGU	**Big Grassy Mou**	**0.95**	**299**	IAML		16 06 15.4	
	comp=N,33nm,0.4s						
EPU	**East Promontor**	**0.99**	**339**		Pg	16 06 02.4	-0.1
HWUT	**Hardware Ranch**	**1.17**	**14**		Pg	16 06 05.8	-0.1
HWUT				IAML		16 06 23.3	
	comp=N,44nm,0.6s						
HWUT				IAML		16 06 25.2	
	comp=N,27nm,0.5s						
HVU	**Hansel Valley**	**1.45**	**334**		Pn	16 06 09.2	-1.0
HVU				IAML		16 06 32.3	
	comp=E,24nm,0.3s						
HVU				IAML		16 06 34.1	
	comp=N,26nm,0.6s						
SRU	**San Rafael Swe**	**1.74**	**141**	Pn	Pn	16 06 13.8	-0.5
SRU				IAML		16 06 40.3	
	comp=N,13nm,0.6s						
SRU				IAML		16 06 48.7	
	comp=E,11nm,0.7s						

*AFAD **15** 16:05:50.3, 43°34N×44°47E, h6km±5km, ML2.7*
*MOS **15** 16:05:52.5, 43°00N×44°48E, h12km, MPVA4.0*
*NORS **15** 16:05:52.8, 42°99N×44°49E, h11km, MPVA4.1*
*TIF **15** 16:05:53.4, 43°03N×44°53E, h7km±1km*
*DRS **15** 16:05:55.7, 43°06N×44°55E, h30km, FELT I=II MSK at Vladikavkaz, Gizel', Verkhnyaya Saniba*

ISC 15 16:05:54.3±0.8, 43°04N±0°01×44°54E±0°01, h15km±5km, n96, σ0°98/177, 1C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.10**	**88**	*i* Pg	**Pg**	**16 05 57.4**	**-0.2**
VLKR				*e*Sg	**Sg**	**16 06 00.7**	**+0.8**
VLKR	**Vladikavkaz**	**0.10**	**88**	*i* PG	**Pg**	**16 05 57.4**	**-0.2**
ARNR	**Ardon**	**0.23**	**307**	*i* Pg	**Pg**	**16 05 59.1**	**-0.2**
ARNR				*i* Sg	**Sb**	**16 06 03.9**	**-0.3**
ARNR	**Ardon**	**0.23**	**307**	*i* PG	**Pg**	**16 05 59.2**	**-0.2**
ARNR				*i* S	**Sb**	**16 06 03.9**	**-0.3**
KMGR	**Komgaron**	**0.24**	**86**	*e*Pg	**Pb**	**16 05 59.8**	**-0.6**
KMGR				*i* Sg	**Sb**	**16 06 05.4**	**+0.9**
KMGR	**Komgaron**	**0.24**	**86**	⇓*i*PG	**Pb**	**16 05 59.9**	**-0.5**
KMGR				*e*S	**Sb**	**16 06 05.4**	**+0.9**
LACR	**Lac**	**0.28**	**219**	*i* Pg	**Pg**	**16 05 59.7**	**-0.6**
LACR				*e*Sg	**Sg**	**16 06 04.3**	**-0.1**
LACR	**Lac**	**0.28**	**219**	*i* PG	**Pg**	**16 05 59.7**	**-0.6**
LACR				*e*S	**Sg**	**16 06 04.3**	**-0.1**
BTKR	**Batakoyurt**	**0.33**	**1**	*e*Pg	**Pb**	**16 06 02.2**	**+0.3**
BTKR				*e*Sg	**Sn**	**16 06 09.0**	**-2.2**
BTKR	**Batakoyurt**	**0.33**	**1**	*e*PG	**Pb**	**16 06 02.2**	**+0.3**
BTKR				*e*S	**Sn**	**16 06 09.0**	**-2.2**
KORR	**Kora**	**0.35**	**277**	*e*Pg	**Pg**	**16 06 00.7**	**-0.7**
KORR				*e*Sg	**Sb**	**16 06 07.1**	**-0.4**
KORR	**Kora**	**0.35**	**277**	*e*PG	**Pg**	**16 06 00.7**	**-0.7**
KORR				*e*S	**Sb**	**16 06 07.1**	**-0.4**
MTEO	**Meteo**	**0.36**	**180**	P	**Pg**	**16 06 01.4**	**-0.5**
MTEO				S	**Sg**	**16 06 06.8**	**-0.3**
MTEO	**Meteo**	**0.36**	**180**	*e*PG	**Pg**	**16 06 01.4**	**-0.5**
MTEO				*e*S	**Sg**	**16 06 06.8**	**-0.3**
STDR	**Stavd-Durt**	**0.48**	**313**	*e*Pg	**Pb**	**16 06 04.0**	**-0.3**
STDR				*e*Sg	**Sn**	**16 06 13.1**	**-1.6**
STDR	**Stavd-Durt**	**0.48**	**313**	*e*PG	**Pb**	**16 06 04.1**	**-0.3**
STDR				*e*S	**Sn**	**16 06 13.1**	**-1.6**
LSNR	**Lesken**	**0.57**	**295**	*e*Pg	**Pg**	**16 06 05.1**	**-0.4**
LSNR				*e*Sg	**Sg**	**16 06 13.1**	**-0.1**
LSNR	**Lesken**	**0.57**	**295**	*e*PG	**Pg**	**16 06 05.1**	**-0.4**
LSNR				*e*S	**Sg**	**16 06 13.1**	**-0.1**
GUDG	**Gudauri**	**0.58**	**184**	P	**Pg**	**16 06 05.2**	**-0.5**
GUDG				S	**Sg**	**16 06 13.4**	**-0.1**
GUDG	**Gudauri**	**0.58**	**184**	*e*Pg	**Pg**	**16 06 05.3**	**-0.5**
GUDG				*e*Sg	**Sg**	**16 06 13.5**	**0.0**
GUDG	**Gudauri**	**0.58**	**184**	*e*PG	**Pg**	**16 06 05.2**	**-0.5**
GUDG				*e*S	**Sg**	**16 06 13.3**	**-0.1**
TRKR	**Terskaya**	**0.69**	**12**	*e*Pg	**Pn**	**16 06 09.4**	**-0.2**
TRKR				*e*Sg	**Sn**	**16 06 21.9**	**+1.8**
TRKR	**Terskaya**	**0.69**	**12**	⇓*e*PG	**Pg**	**16 06 07.2**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.72**	**259**	*e*Pg	**Pg**	**16 06 07.5**	**-0.8**
DIGR				*i* Sg	**Sg**	**16 06 17.4**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.72**	**259**	*e*PG	**Pg**	**16 06 07.5**	**-0.8**
DIGR				*i* S	**Sg**	**16 06 17.4**	**-0.4**
PRTR	**Priterechnaya**	**0.73**	**345**	*e*Pg	**Pn**	**16 06 09.7**	**-0.5**
PRTR				*e*Sg	**Sn**	**16 06 22.6**	**+1.6**
PRTR	**Priterechnaya**	**0.73**	**345**	*e*PG	**Pn**	**16 06 09.6**	**-0.5**
PRTR				*e*S	**Sn**	**16 06 22.6**	**+1.6**
CHRG	**Chargali**	**0.77**	**158**	P	**Pg**	**16 06 08.6**	**-0.6**
CHRG				S	**Sg**	**16 06 19.3**	**-0.1**
NCK	**Nalchik**	**0.82**	**304**	*e*Pg	**Pg**	**16 06 10.4**	**+0.2**
NCK				*e*Sg	**Sn**	**16 06 23.6**	**+0.3**
NCK	**Nalchik**	**0.82**	**304**	*e*PG	**Pg**	**16 06 10.4**	**+0.2**
NCK				*e*S	**Sn**	**16 06 23.6**	**+0.3**
GROC	**Groznyy**	**0.94**	**80**	*e*Pg	**Pn**	**16 06 13.3**	**+0.4**
GROC				*e*Sg	**Sn**	**16 06 26.8**	**+0.8**
GROC	**Groznyy**	**0.94**	**80**	*e*PG	**Pn**	**16 06 13.3**	**+0.4**
GROC				*e*S	**Sn**	**16 06 26.8**	**+0.8**
KBTC	**Kuba-Taba**	**1.13**	**314**	*e*Pg	**Pg**	**16 06 15.7**	**-0.3**
KBTC				*e*Sg	**Sg**	**16 06 32.1**	**+1.3**
KBTC	**Kuba-Taba**	**1.13**	**314**	*e*PG	**Pg**	**16 06 15.7**	**-0.3**
KBTC				*e*S	**Sg**	**16 06 32.1**	**+1.3**
ALIG	**Mtskhetisjvari**	**1.14**	**215**	P	**Pn**	**16 06 15.2**	**-0.6**
ALIG				S	**Sn**	**16 06 31.5**	**+0.2**
ALIG	**Mtskhetisjvari**	**1.14**	**215**	*e*PG	**Pn**	**16 06 15.2**	**-0.6**
ALIG				*e*S	**Sn**	**16 06 31.4**	**+0.2**
DVE	**Vedeno**	**1.17**	**94**	*e*Pg	**Pg**	**16 06 16.4**	**-0.4**
DVE				*e*Sg	**Sg**	**16 06 33.7**	**+1.6**
DVE	**Vedeno**	**1.17**	**94**	*e*PG	**Pg**	**16 06 16.4**	**-0.4**
DVE				*e*S	**Sg**	**16 06 33.7**	**+1.6**
BTLR	**Botlikh**	**1.30**	**106**	*e*Pg	**Pg**	**16 06 19.1**	**-0.1**
BTLR				*e*Sg	**Sg**	**16 06 36.9**	**+0.8**
BTLR	**Botlikh**	**1.30**	**106**	*e*PG	**Pg**	**16 06 19.1**	**-0.1**
BTLR				*e*S	**Sg**	**16 06 36.9**	**+0.8**
TBLG	**Delisi**	**1.32**	**173**	P	**Pg**	**16 06 20.2**	**+0.6**
TBLG				S	**Sg**	**16 06 37.8**	**+0.9**
TBLG	**Delisi**	**1.32**	**173**	*e*PG	**Pg**	**16 06 20.3**	**+0.6**
TBLG				*e*S	**Sg**	**16 06 37.7**	**+0.9**
TKB	**Tkibuli**	**1.33**	**239**	P	**Pb**	**16 06 18.9**	**0.0**
TKB	**Tkibuli**	**1.33**	**239**	*e*PG	**Pb**	**16 06 18.9**	**0.0**
BTNK	**Botanikuri**	**1.37**	**172**	*e*PG	**Pb**	**16 06 19.8**	**+0.1**
KBZ	**Khabaz**	**1.38**	**300**	*e*Pg	**Pn**	**16 06 18.4**	**-0.5**
KBZ				*e*Sg	**Sb**	**16 06 37.4**	**+0.3**
KBZ	**Khabaz**	**1.38**	**300**	*e*PG	**Pn**	**16 06 18.4**	**-0.5**
KBZ				*e*S	**Sb**	**16 06 37.4**	**+0.3**
PYA1	**Pyatigorsk**	**1.46**	**315**	*e*Pg	**Pn**	**16 06 19.9**	**-0.3**
PYA1				*e*Sg	**Sb**	**16 06 39.9**	**+0.3**
PYA1	**Pyatigorsk**	**1.46**	**315**	*e*PG	**Pn**	**16 06 19.9**	**-0.3**
PYA1				*e*S	**Sb**	**16 06 39.9**	**+0.3**
DLMR	**Dylym**	**1.53**	**88**	*e*Pg	**Pg**	**16 06 22.9**	**-0.9**
DLMR				*e*Sg	**Sg**	**16 06 44.0**	**+0.3**
DLMR	**Dylym**	**1.53**	**88**	*e*PG	**Pg**	**16 06 23.1**	**-0.7**
DLMR				*e*S	**Sg**	**16 06 45.4**	**+1.7**
DLMR				pmax	pmax		
	comp=Z,102nm,0.2s						
SHA1	**Shidzhatmaz**	**1.54**	**298**	*e*Pg	**Pn**	**16 06 20.7**	**-0.7**
SHA1				*e*Sg	**Sn**	**16 06 41.0**	**-0.2**
SHA1	**Shidzhatmaz**	**1.54**	**298**	*e*PG	**Pb**	**16 06 21.9**	**-0.7**
SHA1				*e*S	**Sg**	**16 06 43.0**	**-0.8**
TRLG	**Trialeti**	**1.54**	**192**	P	**Pb**	**16 06 22.7**	**+0.1**
TRLG				S	**Sg**	**16 06 44.1**	**+0.3**
TRLG	**Trialeti**	**1.54**	**192**	*e*PG	**Pb**	**16 06 22.6**	**+0.1**
TRLG				*e*S	**Sg**	**16 06 44.1**	**+0.3**
BEYR	**Belyy Ugol+**	**1.58**	**308**	*e*Pg	**Pn**	**16 06 21.4**	**-0.3**
BEYR				*e*Sg	**Sn**	**16 06 41.9**	**-0.1**
BEYR	**Belyy Ugol+**	**1.58**	**308**	*e*PG	**Pn**	**16 06 21.5**	**-0.3**
BEYR				*e*S	**Sn**	**16 06 41.9**	**-0.1**
KIV0	**Kislovodsk Arr**	**1.62**	**305**	*e*Pg	**Pn**	**16 06 22.3**	**-0.1**
KIV0				*e*Sg	**Sb**	**16 06 45.1**	**+0.9**
KIV	**Kislovodsk**	**1.63**	**305**	*e*Pg	**Pn**	**16 06 21.7**	**-0.8**
KIV				*e*Sg	**Sb**	**16 06 44.1**	**-0.3**
KIV	**Kislovodsk**	**1.63**	**305**	*e*PG	**Pn**	**16 06 22.3**	**-0.2**
KIV				*e*S	**Sb**	**16 06 45.1**	**+0.7**
KZRT	**Kazreti**	**1.66**	**184**	P	**Pb**	**16 06 24.2**	**-0.3**
KZRT				S	**Sb**	**16 06 46.5**	**+1.3**
KZRT	**Kazreti**	**1.66**	**184**	*e*PN	**Pb**	**16 06 24.2**	**-0.3**
KZRT				*e*S	**Sb**	**16 06 46.5**	**+1.3**
XNZR	**Khunzakh**	**1.67**	**107**	*e*Pg	**Pb**	**16 06 24.1**	**-0.7**
XNZR				*e*Sg	**Sg**	**16 06 46.7**	**-1.5**
HNZR	**Khunzah**	**1.68**	**106**	*e*PN	**Pb**	**16 06 24.5**	**-0.4**
HNZR				*e*S	**Sg**	**16 06 47.9**	**-0.4**
HNZR				pmax	pmax		
	comp=Z,47nm,0.4s						
DBC	**Dubki**	**1.68**	**90**	*e*Pg	**Pb**	**16 06 24.4**	**-0.5**
DBC				*e*Sg	**Sb**	**16 06 46.4**	**+0.4**
DBC	**Dubki**	**1.68**	**90**	*e*PN	**Pg**	**16 06 25.4**	**-1.2**
DBC				*e*S	**Sg**	**16 06 48.9**	**+0.5**
UNCR	**Uncukul**	**1.69**	**100**	*i* Pg	**Pb**	**16 06 25.2**	**+0.1**
UNCR				*e*Sg	**Sg**	**16 06 48.5**	**-0.2**
UNCR	**Uncukul**	**1.69**	**100**	*i* PN	**Pb**	**16 06 25.2**	**+0.1**
UNCR				*e*S	**Sg**	**16 06 48.5**	**-0.2**
LGD	**Lagodekhi**	**1.75**	**133**	P	**Pg**	**16 06 26.7**	**-1.1**
LGD	**Lagodekhi**	**1.75**	**133**	*e*PN	**Pg**	**16 06 26.7**	**-1.1**
KRNR	**Karanay**	**1.75**	**96**	*i* Pg	**Pb**	**16 06 25.1**	**-1.1**
KRNR				*e*Sg	**Sb**	**16 06 48.7**	**+0.6**
KRNR	**Karanay**	**1.75**	**96**	*i* PN	**Pb**	**16 06 26.1**	**-0.1**
KRNR				*e*S	**Sg**	**16 06 50.8**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,23nm,0.4s						
ARKR	**Arakani**	**1.86**	**103**	*e*Pg	**Pb**	**16 06 27.6**	**-0.4**
ARKR				*e*Sg	**Sb**	**16 06 52.1**	**+1.0**
ARKR	**Arakani**	**1.86**	**103**	*e*PN	**Pb**	**16 06 27.6**	**-0.4**
BUJR	**Buynaksk**	**1.90**	**96**	*e*Pg	**Pg**	**16 06 30.3**	**-0.5**
BUJR				*e*Sg	**Sg**	**16 06 54.4**	**-1.0**
BUJR	**Buynaksk**	**1.90**	**96**	*e*PN	**Pg**	**16 06 30.3**	**-0.5**
EPOS	**Posof**	**2.04**	**222**	P	**Pb**	**16 06 30.1**	**-1.1**
EPOS				S	**Sg**	**16 06 58.9**	**-1.0**
EPOS				*i* AML	AML	16 07 00.0	
	comp=Z,48nm,0.6s						
EPOS				*i* AML	AML	16 07 03.0	
	comp=Z,60nm,0.6s						
ALER	**Alexandrovskoy**	**2.08**	**326**	*e*Pg	**Pn**	**16 06 29.7**	**+1.0**
ALER				*e*Sg	**Sn**	**16 06 54.0**	**-0.4**
ALER	**Alexandrovskoy**	**2.08**	**326**	*e*PN	**Pn**	**16 06 29.7**	**+1.0**
KMKR	**Kumukh**	**2.10**	**115**	*e*Pg	**Pb**	**16 06 31.2**	**-1.0**
KMKR				*e*Sg	**Sg**	**16 06 59.8**	**-2.0**
KMKR	**Kumukh**	**2.10**	**115**	*e*PN	**Pb**	**16 06 31.2**	**-1.0**
KMKR				*e*S	**Sg**	**16 06 59.8**	**-2.0**
VSHL	**Vashlovani**	**2.28**	**142**	P	**Pb**	**16 06 34.3**	**-0.8**
GOF	**Gofitskoye**	**2.29**	**332**	*e*Pn	**Pb**	**16 06 34.4**	**-0.8**
GOF				*e*Sn	**Sb**	**16 07 02.6**	**-0.6**
GOF	**Gofitskoye**	**2.29**	**332**	*ce*PN	**Pg**	**16 06 40.0**	**+1.9**
SGKR	**Sergokala**	**2.37**	**103**	*e*Pn	**Pb**	**16 06 36.7**	**0.0**
SGKR				*e*Sn	**Sb**	**16 07 04.9**	**-0.8**
SGKR	**Sergokala**	**2.37**	**103**	*e*PN	**Pb**	**16 06 34.6**	**-2.1**
SGKR				*e*S	**Sb**	**16 07 06.2**	**+0.4**
SGKR				pmax	pmax		
	comp=Z,15nm,0.8s						
URKR	**Urkarakh**	**2.45**	**110**	*e*PN	**Pn**	**16 06 35.3**	**+1.5**
URKR				*e*S	**Sb**	**16 07 07.5**	**-0.6**
URKR				pmax	pmax		
	comp=Z,39nm,0.1s						
EAK	**Akyaka**	**2.46**	**197**	P	**Pb**	**16 06 39.5**	**+1.3**
EAK				S	**Sb**	**16 07 10.3**	**+2.0**
DIGO	**Kars**	**2.77**	**199**	P	**Pg**	**16 06 45.6**	**-1.7**
DAGI	**Agillar**	**2.77**	**226**	P	**Pn**	**16 06 40.0**	**+1.8**
DAGI				S	**Sb**	**16 07 19.7**	**+2.4**
AKT	**Akhty**	**2.84**	**122**	*e*Pn	**Pn**	**16 06 40.5**	**+1.4**
AKT				*e*Sn	**Sb**	**16 07 16.1**	**-3.2**
AKT	**Akhty**	**2.84**	**122**	*e*PN	**Pn**	**16 06 40.5**	**+1.4**
AKT				*e*S	**Sb**	**16 07 16.1**	**-3.2**
GNI	**Garni**	**2.90**	**177**	*e*PN	**Pb**	**16 06 45.0**	**-0.7**
GNI				*e*S	**Sb**	**16 07 20.2**	**-0.8**
DBAD	**Bademkaya**	**2.93**	**227**	P	**Pn**	**16 06 43.1**	**+2.7**
DBAD				S	**Sb**	**16 07 22.9**	**+1.1**
DBAD				*i* AML	AML	16 07 27.0	
	comp=Z,23nm,0.6s						
DBAD				*i* AML	AML	16 07 27.0	
	comp=Z,26nm,0.5s						
DDEM	**Demirkent**	**2.99**	**225**	P	**Pn**	**16 06 44.3**	**+3.0**
DDEM				*i* AML	AML	16 07 43.0	
	comp=Z,21nm,0.7s						
DDEM				*i* AML	AML	16 07 45.0	
	comp=Z,20nm,0.5s						
KOTA	**Agri, Merkez-K**	**3.39**	**198**	P	**Pb**	**16 06 52.0**	**-2.1**

*SOF **15** 16:14:20.2, 40°57N±0°04×28°30E±0°07, h2km±2km, MD4.1/6*
*IDC **15** 16:14:26.6±1.5, 40°75N×28°11E, h0km, mb3.4/3, mbtmp3.4/7, ML3.5/3, MS3.0/4, Error ellipse: s-maj=25.9km s-min=10.7km az=41.0*
*MCSM **15** 16:14:27.5±0.5, 41°N±2°×2°8E±°, h9km±4km, mb4.2, mB5.8, MLv4.2, Mw(mB)5.4*
*ISK **15** 16:14:27.3, 40°78N×27°94E, h20km, ML4.1/33*
*THE **15** 16:14:27.2, 40°77N×28°15E, h32km±43km, ML4.0/5, Error ellipse: s-maj=43.6km s-min=2.5km az=322.0*
*AFAD **15** 16:14:27.5, 40°78N×27°90E, h10km±3km, MW3.8*
*ATH **15** 16:14:29.5, 40°77N×27°77E, h18km±4km, ML3.9/14, Manual Solution by A.Agalos First location: 2019/02/15 16:15:58, This location: 2019/02/16 00:41:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 5 km*
*CFUSG **15** 16:14:31.3, 41°52N×27°82E, h3km, mb3.5/6, Sea of Marmara Magtype MSH 3.2 from 5 stations*

ISC 15 16:14:27.7±0.9, 40°79N±0°02×27°93E±0°01, h18km±6km, n190, σ1°14/233, MS2.9/3, 12C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKR	**Tekirdag**	**0.36**	**304**	Pg	**Pg**	**16 14 35.5**	**+0.2**
CRLT	**Corlu**	**0.37**	**336**	Pg	**Pb**	**16 14 36.2**	**+0.4**
EDC	**Edincik**	**0.44**	**187**	Pg	**Pb**	**16 14 36.9**	**-0.1**
EDC				Sg	**Sb**	**16 14 43.2**	**-0.1**
BAND	**Balkesir-Ban**	**0.45**	**164**	P	**Pb**	**16 14 37.1**	**0.0**
BAND				S	**Sg**	**16 14 42.7**	**-0.2**
SLVT	**Silivri**	**0.49**	**25**	Pg	**Pg**	**16 14 37.5**	**-0.1**
ELBA	**Catalca**	**0.52**	**46**	P	**Pg**	**16 14 38.2**	**0.0**
ELBA				S	**Sb**	**16 14 45.9**	**+0.3**
SART	**Tekirdag**	**0.58**	**261**	P	**Pg**	**16 14 38.8**	**-0.5**
SART				S	**Sg**	**16 14 46.8**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.58**	**260**	Pg	**Pg**	**16 14 38.5**	**-0.8**
KCTX	**Karacabey (Bur**	**0.61**	**148**	Pg	**Pb**	**16 14 39.9**	**0.0**
KRBG	**Karabiga-Canak**	**0.62**	**231**	Pg	**Pg**	**16 14 39.7**	**-0.3**
CTKS	**Kestanelik-??a**	**0.62**	**44**	Pg	**Pg**	**16 14 39.9**	**-0.2**
CTKS				Sg	**Sb**	**16 14 49.5**	**+1.0**
AVCI	**Avcilar-stanb**	**0.63**	**70**	Pg	**Pb**	**16 14 40.3**	**+0.1**
AVCI				Sg	**Sb**	**16 14 49.8**	**+1.0**
CTYL	**Yalikoy Yolu**	**0.74**	**21**	Pg	**Pg**	**16 14 41.7**	**-0.5**
CTYL	**Yalikoy Yolu**	**0.74**	**21**	P	**Pg**	**16 14 41.9**	**-0.3**
ARMT	**Armutlu**	**0.74**	**107**	Pg	**Pb**	**16 14 42.4**	**+0.3**
BGKT	**Bogazkoy**	**0.75**	**58**	Pg	**Pg**	**16 14 42.0**	**-0.3**
GONE	**Gonen-Balikesi**	**0.76**	**194**	Pg	**Pb**	**16 14 42.6**	**+0.1**
VIZE	**Kirklareli, Vi**	**0.79**	**355**	P	**Pg**	**16 14 43.1**	**-0.1**
VIZE				S	**Sg**	**16 14 53.6**	**-0.2**
SUSR	**Susurluk-Balik**	**0.83**	**172**	Pg	**Pb**	**16 14 43.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.84**	**120**	Pg	**Pg**	**16 14 43.7**	**-0.3**
ISK	**Istanbul-Kandi**	**0.90**	**72**	Pg	**Pg**	**16 14 44.5**	**-0.7**
KAVV	**Kandilli-Istan**	**0.90**	**72**	Pg	**Pb**	**16 14 45.2**	**+0.4**
PHSR	**Pinarhisar**	**0.90**	**340**	Pg	**Pb**	**16 14 45.2**	**+0.4**
BLKS	**Balkesir-Sus**	**0.91**	**178**	P	**Pb**	**16 14 45.4**	**+0.4**
BLKS				S	**Sb**	**16 14 57.5**	**+0.7**
KLYT	**Kilyos**	**0.96**	**61**	Pg	**Pg**	**16 14 45.8**	**-0.5**
KLYT	**Kilyos**	**0.96**	**61**	P	**Pg**	**16 14 45.8**	**-0.5**
LPK	**Lapseki**	**0.98**	**246**	Pg	**Pg**	**16 14 46.2**	**-0.6**
KURT	**Yalova, Merkez**	**0.99**	**101**	P	**Pb**	**16 14 46.6**	**+0.3**
KURT				S	**Sb**	**16 15 00.3**	**+1.3**
YENI	**Yenice-Canakka**	**1.00**	**212**	Pg	**Pg**	**16 14 46.4**	**-0.7**
CANM	**Can-anakkale**	**1.03**	**221**	Pg	**Pg**	**16 14 46.6**	**-1.0**
ORLT	**Orhaneli**	**1.04**	**135**	Pg	**Pn**	**16 14 48.3**	**+0.8**
UKOP	**Uzunkopru-Edir**	**1.04**	**290**	Pg	**Pg**	**16 14 47.7**	**-0.2**
BKES	**Balkesir-Mer**	**1.05**	**180**	P	**Pn**	**16 14 48.3**	**+0.7**
BKES				S	**Sn**	**16 15 02.6**	**+0.8**
BALY	**Balya**	**1.07**	**193**	P	**Pn**	**16 14 48.3**	**+0.4**
BALY				S	**Sn**	**16 15 02.7**	**+0.3**
ERIK	**Erikli-Kesan**	**1.08**	**264**	Pn	**Pb**	**16 14 47.4**	**-0.5**
YLV	**Yalova**	**1.12**	**101**	P	**Pb**	**16 14 48.7**	**+0.2**
ULDT	**Uludag**	**1.12**	**125**	P	**Pb**	**16 14 49.0**	**+0.3**
ULDT				S	**Sb**	**16 15 03.6**	**+0.6**
ARMN	**Kirklareli, Me**	**1.14**	**341**	P	**Pb**	**16 14 49.2**	**+0.3**
ARMN				S	**Sb**	**16 15 03.1**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.18**	**251**	Pn	**Pb**	**16 14 48.9**	**-0.6**
KIRK	**Kırklareli**	**1.18**	**328**	P	**Pb**	**16 14 49.3**	**-0.2**
KIRK				S	**Sb**	**16 15 04.7**	**+0.2**
DURS	**Dursunbey**	**1.25**	**161**	P	**Pg**	**16 14 52.3**	**+0.3**
DST	**Dursunbey**	**1.29**	**156**	Pn	**Pn**	**16 14 50.6**	**-0.3**
COMU	**Canakkale**	**1.31**	**239**	Pn	**Pn**	**16

0.4nm,0.3s,baz=286,slow=15,SNR=20
BRTR Sn **Sn** **16 16 25.0 -1.9**
0.5nm,0.3s,baz=312,slow=13,SNR=3.7
BRTR Lg Lg 16 16 44.7
baz=171,slow=25
0.8nm,0.2s
TYRN Tyrnavos 4.49 258 P **Pn** **16 15 34.8 -0.1**
BR104 Keskin Array S 4.50 102 P **Pn** **16 15 36.8 +1.7**
BZK Bozkurt 4.71 74 P **Pn** **16 15 39.3 +1.4**
KIRS Kirsehir-Merke 4.88 108 ⇓P **Pb** **16 15 49.5 -3.3**
MLR Muntele Rosu 4.92 343 Pn **Pn** **16 15 43.6 +2.7**
2.9nm,0.3s,baz=152,slow=15,SNR=17
MLR Lg Lg 16 17 04.0
1.6nm,0.3s,baz=140,slow=1.7,SNR=3.3
19nm,0.6s
MLR Muntele Rosu 4.92 343 ⇓P **Pn** **16 15 42.7 +1.8**
VOIR 5.11 337 ⇓P **Pn** **16 15 44.4 +1.1**
VOIR 5.11 337 P **Pn** **16 15 44.7 +1.3**
0.1nm13nm,0.6s
VARL Varlezi 5.11 359 ⇑P **Pn** **16 15 45.2 +1.9**
ANX Ano Chora 5.13 247 P **Pn** **16 15 43.8 0.0**
PLOR Plostina 5.15 350 ⇓P **Pn** **16 15 45.9 +2.0**
VRI Vrincioaia 5.15 351 ⇓P **Pn** **16 15 45.9 +2.0**
VRI Vrincioaia 5.15 351 P **Pn** **16 15 46.0 +2.0**
0.2nm23nm,0.5s
COVR Voineasa-Covas 5.21 347 ⇑P **Pn** **16 15 46.7 +2.0**
KLV Kalavryta, Ach 5.25 240 P **Pn** **16 15 45.4 +0.1**
GHRR 5.29 356 P **Pn** **16 15 46.8 +1.0**
DOPR Dopca 5.50 341 ⇑P **Pn** **16 15 50.8 +2.1**
OZUR 5.53 344 ⇓P **Pn** **16 15 51.2 +2.0**
TNR Turnu Rosu 5.55 332 ⇑P **Pn** **16 15 50.8 +1.4**
LOT Lotru 5.57 328 ⇑P **Pn** **16 15 51.0 +1.2**
DIKM Dikmen 5.59 79 P **Pn** **16 15 51.1 +1.1**
0.3nm43nm,1.8s
VLI Veliai 5.63 225 P **Pn** **16 15 51.0 +0.4**
SEV Sevastopol' 5.65 46⇑*iP* **Pn** **16 15 51.1 +0.3**
SEV Pm 16 15 56.3
comp=Z,309nm,0.3s
SEV *e*S **Sn** **16 16 51.2 -4.1**
SEV Sm 16 16 58.9
comp=N,2.0nm,0.2s
SEV Sm 16 16 58.9
comp=E,8.0nm,0.3s
TARU Tarkhankut 5.69 35 *e*P **Pn** **16 15 52.2 +0.9**
TARU Pm 16 15 52.7
comp=Z,33nm,0.4s
TARU *e*S **Sn** **16 16 51.2 -4.9**
TARU Sm 16 16 54.9
comp=N,49nm,0.5s
TARU Sm 16 16 54.9
comp=E,21nm,0.4s
HERR Herculane 5.76 317 ⇑P **Pn** **16 15 52.0 -0.3**
TESR Tescani 5.80 351 ⇑P **Pn** **16 15 54.0 +1.2**
TESR Tescani 5.80 351 P **Pn** **16 15 53.6 +0.8**
comp=E,0.2nmcomp=E,27nm,2.8s
YAL Yalta 5.89 49 *e*P **Pn** **16 15 54.8 +0.7**
YAL Pm 16 15 57.9
comp=Z,13nm,0.3s
YAL *e*S **Sn** **16 16 58.9 -2.2**
YAL Sm 16 17 01.5
comp=N,3.0nm,0.3s
YAL Sm 16 17 01.5
comp=E,10.0nm,0.3s
GZR Gura Zlata 5.95 322 ⇑P **Pn** **16 15 55.6 +0.6**
IDI Anoyia 5.99 205 Pn **Pn** **16 15 56.9 +1.4**
comp=E,8.2nm,0.9s,baz=3.6,slow=16,SNR=0.8
IDI Sn **Sn** **16 17 01.3 -2.4**
comp=E,1.4nm,0.3s,baz=329,slow=9.1,SNR=1.8
DNZ2 Donuzlav2 6.00 38 *e*S **Sn** **16 16 59.8 -3.9**
DNZ2 Sm 16 17 05.4
comp=N,22nm,0.5s
DNZ2 Sm 16 17 05.4
comp=E,14nm,0.3s
MDVR Moldovita 6.07 313 ⇓P **Pn** **16 15 56.7 +0.1**
TIR Tirane 6.12 278 P **Pn** **16 15 58.1 +0.8**
comp=E,0.4nmcomp=E,58nm,0.6s
ALU Alushta 6.15 49 *e*P **Pn** **16 16 00.6 +3.0**
ALU Pm 16 16 01.3
comp=Z,12nm,0.3s
SIM Simferopol' 6.16 45 *e*P **Pn** **16 15 58.9 +1.1**
SIM Pm 16 15 59.2
comp=Z,41nm,0.3s
SIM *e*S **Sn** **16 17 07.2 -0.5**
SIM Sm 16 17 14.0
comp=N,23nm,0.4s
SIM Sm 16 17 14.0
comp=E,18nm,0.3s
SURR Surduc 6.53 321 ⇓P **Pn** **16 16 03.3 +0.5**
SUDU Sudak 6.62 49 *e*P **Pn** **16 16 07.0 +3.0**
SUDU Pm 16 16 12.8
comp=Z,29nm,0.4s
SUDU *e*S **Sn** **16 17 20.6 +1.6**
SUDU Sm 16 17 25.3
comp=N,30nm,0.4s
SUDU Sm 16 17 25.3
comp=E,2.0nm,0.2s
BURAR Bucovina Array 7.10 345 ⇑P **Pn** **16 16 13.1 +2.4**
SIRR Siria 7.12 322 ⇓P **Pn** **16 16 10.7 -0.3**
CSS Mathiatis 7.21 142 P **Pn** **16 16 13.2 +0.9**
comp=E,0.2nmcomp=E,57nm,1.6s
BAL3X Bal3x, Balta 7.25 9 P **Pn** **16 16 13.6 +0.9**
SORM Soroca 7.35 2 P **Pn** **16 16 13.5 -0.6**
comp=E,0.7nmcomp=E,6μmcomp=E,5.1nm,0.6s
CHRU Chernivtsi 7.65 350 P **Pn** **16 16 18.9 +0.8**
comp=E,0.3nmcomp=E,52nm,0.5s
NDNU Novodnistrovsk 7.82 357 P **Pn** **16 16 19.7 -0.8**
KMPD K-Podol'skiy 7.85 353 P **Pn** **16 16 22.3 +1.4**
TRSU Trosnyk 8.13 336 P **Pn** **16 16 26.3 +1.6**
BRIU Brid 8.32 337 P **Pn** **16 16 28.1 +0.7**
BERU Beregovo 8.35 335 P **Pn** **16 16 28.3 +0.6**
HORU Horodok 8.49 353 P **Pn** **16 16 30.6 +0.8**
MUKU Mukachevo 8.53 336 P **Pn** **16 16 30.4 +0.2**
MORH Mrgy, Hungar 8.66 312 P **Pn** **16 16 32.1 +0.1**
HOLU Holmets 8.69 335 P **Pn** **16 16 32.9 +0.5**
TIP Timpagrande 8.73 263 P **Pn** **16 16 33.3 +0.2**
comp=E,13nm,1.1s
UZHM Uzhgorod 8.81 335 P **Pn** **16 16 35.1 +1.0**
LUBAR Lubar, Ukraine 9.13 359 P **Pn** **16 16 39.2 +0.6**
PSZ Piszkesteto 9.16 324 P **Pn** **16 16 39.3 +0.3**
CEL Celeste 9.64 259 P **Pn** **16 16 45.9 +0.3**
comp=E,21nm,1.4s
AK07 Malin Array Si 9.80 5 P **Pn** **16 16 47.6 -0.1**
AK13 Malin Array Si 9.86 4 P **Pn** **16 16 49.2 +0.7**
AK09 Malin Array Si 9.88 5 P **Pn** **16 16 49.5 +0.8**
AK14 Malin Array Si 9.88 4 P **Pn** **16 16 49.7 +1.0**
AKASG Malin Array Be 9.96 5 Pn **Pn** **16 16 49.5 -0.3**
comp=E,0.7nm,0.3s,baz=187,slow=12,SNR=4.1
AKASG Sn **Sn** **16 18 35.9 -5.1**
comp=E,0.5nm,0.3s,baz=196,slow=21,SNR=3.4
comp=E,0.3nm,0.5s
AK18 Malin Array Si 9.97 4 P **Pn** **16 16 50.9 +0.9**
PLTM Poltava 9.97 26 P **Pn** **16 16 50.4 +0.4**
AK22 Malin Array Si 10.01 4 P **Pn** **16 16 51.3 +0.8**
MI28 Mi28,Pidlybu 10.15 359 P **Pn** **16 16 52.5 +0.1**
MODS Modra-Piesok 10.73 319 *e*PN **Pn** **16 16 58.9 -1.5**
GNI Garni 12.82 87 P **Pn** **16 17 30.1 +0.9**
comp=E,7.0nm,1.2s
KHC Kasperske Hory 13.13 314 P **Pn** **16 17 33.9 +0.6**
DAVOX Davos/Dischmat 14.34 301 LR LR 16 24 12.0
comp=E,59nm,18.1s,baz=86,slow=40
OBN Obninsk 15.44 19 P **Pn** **16 18 05.2 +0.8**
comp=E,21nm,0.6s
FINES FINESS Array B 20.72 357 P Pn 16 19 10.6 +1.4
comp=E,1.9nm,0.8s,baz=163,slow=9.3,SNR=7.5
comp=E,1.9nm,0.8s
NOA NORSAR Array B 22.72 339 LR LR 16 29 51.0
comp=E,42nm,18.2s,baz=10.0,slow=40
AKTO Aktyubinsk 23.01 55 LR LR 16 31 03.0
comp=E,26nm,20.3s,baz=198,slow=44
ARTI Arti 25.20 41 LR LR 16 30 38.4
comp=E,49nm,18.8s,baz=161,slow=39
MKAR Makanchi Array 39.03 62 P **P** **16 21 54.6 +1.4**
comp=E,0.2nm,0.6s,baz=268,slow=7.2,SNR=3.7
comp=E,0.2nm,0.6s
YKA Yellowknife Ar 72.75 343 P **P** **16 25 55.4 +1.0**
comp=E,0.5nm,1.0s,baz=26,slow=5.4,SNR=6.0
comp=E,0.5nm,1.0s

*MOS **15** 16:20:52.5±0.8, 6°.82N×126°.77E, h81km, mb5.2/63, Error ellipse: s-maj=8.9km s-min=4.3km az=111.2*
*BJI **15** 16:20:53.7, 6°.85N×126°.92E, h92km, mB5.1/29, mb5.2/77*
*GCMT **15** 16:20:53.7±0.4, 6°.73N±0°.02×126°.95E±0°.03, h86km±4km, MW4.8/72, Moment Tensor Solution. s17,c17; s72,c89;*

Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.74±.11; Mθθ0.43±.11; Mφφ-2.18±.12; Mrθ0.25±.07; Mrφ0.91±.10; Mθφ1.06±.08; Best double couple: M0:2.40700×10^16 NP1:φs140.00000°, δ37.00000°, λ56.00000°. NP2: φs1.00000°, δ60.00000°, λ113.00000°. Principal axes: T 2.1460, Plg66.0000°, Azm315.0000°; N 0.5160, Plg20.0000°, Azm169.0000°; P -2.6690, Plg12.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*NEIC **15** 16:20:54.7±2.0, 6°.79N±0°.09×126°.77E±0°.09, h81km±2km, mb5.1/242 Error ellipse: s-maj=13.8km s-min=12.0km az=224.0*
*DJA **15** 16:20:55.0±0.3, 7°N±2°×12°7E±°, h92km±3km, M4.8/64, mb5.0/64, mB5.3/34, MLv5.4/10, Mw(mB)4.7/34, MwMwp4.5/4, Mwp4.9/4*
*IDC **15** 16:20:55.7±1.1, 6°.81N×126°.85E, h94km±8km, mb4.6/28, mbtmp5.0/32, MS3.4/41, Error ellipse: s-maj=14.1km s-min=8.9km az=74.0*
ISC 15 16:20:55.4±0.4,**6.75N**±0°.03×**126°.81E**±0°.05,**h95**km±3km,
h94km;**pP-P,n928,**σ1§**15**/852,**mb5.0**/257,**31C-17D,**
Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.26**	**285**	Pn	**Pn**	**16 21 18.4**	**0.0**
DAV				Sn	**Sn**	**16 21 31.1**	**-4.8**
DAV	**Davao City (W)**	**1.26**	**285**	P	**Pn**	**16 21 18.8**	**+0.4**
5μm,0.4s,baz=78,slow=2.2,SNR=174							
DAV				S	**Sn**	**16 21 36.9**	**+1.1**
16μm,0.5s,baz=284,slow=24,SNR=9.1							
DAV	**Davao City (W)**	**1.26**	**285**	P	**Pn**	**16 21 19.4**	**+1.0**
DAV				S	**Sn**	**16 21 38.1**	**+2.3**
DAV	**Davao City (W)**	**1.26**	**285**	P	**Pn**	**16 21 19.5**	**+1.0**
DAV	**Davao City (W)**	**1.26**	**285**	P	**Pn**	**16 21 15.0**	**-3.5**
SGSI	**Sangihe**	**3.29**	**203**	P	**Pn**	**16 21 45.4**	**+0.4**
SGSI				S	**Sn**	**16 22 23.8**	**+0.5**
TNTI	**Ternate**	**5.96**	**175**	P	**Pn**	**16 22 20.8**	**-0.4**
1.0nm2μm196nm,0.8s							
KMSI	**Cibinong**	**6.75**	**205**	P	**Pn**	**16 22 32.2**	**+0.3**
LBMI	**Labuha**	**7.37**	**175**	P	**Pn**	**16 22 39.7**	**-0.7**
1.0nm5μm200nm,0.8s							
I39PW	**PALAU INFRASON**	**7.72**	**84**	I	I	17 13 40.0	
baz=270,slow=295,SNR=1.0							
MRSI	**Marisa**	**7.89**	**218**	P	**Pn**	**16 22 48.3**	**+0.8**
LUWI	**Luwuk**	**8.72**	**208**	Pn	**Pn**	**16 23 01.1**	**+2.3**
LUWI	**Luwuk**	**8.72**	**208**	P	**Pn**	**16 23 01.1**	**+2.3**
LUWI	**Luwuk**	**8.72**	**208**	P	**Pn**	**16 23 01.1**	**+2.3**
SWI	**Sorong**	**8.77**	**149**	P	**Pn**	**16 22 58.4**	**-1.1**
2μm114nm,0.5s							
SANI	**Sanana**	**8.77**	**185**	P	**Pn**	**16 22 56.3**	**-3.2**
2μm128nm,0.7s							
APSI	**Ampana**	**9.18**	**214**	P	**Pn**	**16 23 07.0**	**+1.9**
4μm445nm,1.2s							
TGY	**Tagaytay City**	**9.31**	**322**	P	**Pn**	**16 23 06.5**	**-0.4**
58nm,0.4s,baz=143,slow=15,SNR=4.0							
TGY				LR	LR	16 27 47.6	
comp=Z,128nm,18.4s,baz=130,slow=44							
NLAI	**Namlea**	**9.92**	**178**	P	**Pn**	**16 23 12.8**	**-2.4**
2μm123nm,0.8s							
MSAI	**Masohi**	**10.24**	**168**	P	**Pn**	**16 23 19.7**	**+0.1**
55nm,0.8s							
PCI	**Palu**	**10.30**	**223**	P	**Pn**	**16 23 20.1**	**-0.3**
81nm,1.1s							
AAI	**Ambon**	**10.46**	**172**	P	**Pn**	**16 23 23.3**	**+0.9**
57nm,0.6s							
FAKI	**Fak Fak**	**11.03**	**150**	P	**Pn**	**16 23 29.6**	**-0.7**
FAKI	**Fak Fak**	**11.03**	**150**	P	**Pn**	**16 23 30.3**	**0.0**
50nm,1.0s							
KDI	**Kendari**	**11.42**	**202**	P	**Pn**	**16 23 32.2**	**-3.4**
702nm45nm,1.0s							
TTSI	**Tana Toraja**	**11.97**	**216**	P	**Pn**	**16 23 42.5**	**-0.4**
1μm106nm,0.9s							
BAKI	**Biak**	**12.18**	**130**	P	**Pn**	**16 23 44.6**	**-1.1**
70nm,0.9s							
SPSI	**Sidrap Palu**	**12.75**	**214**	P	**Pn**	**16 23 52.8**	**-0.5**
1μm727nm34nm,0.7s							
KAPI	**Kappang**	**13.64**	**211**		**Pn**	**16 24 02.0**	**-2.9**
KAPI	**Kappang**	**13.64**	**211**	P	**Pn**	**16 24 05.0**	**0.0**
22nm,0.6s,baz=11,slow=12,SNR=12							
KAPI				LR	LR	16 29 59.0	
comp=Z,178nm,18.6s,baz=29,slow=40							
KAPI	**Kappang**	**13.64**	**211**	P	**Pn**	**16 24 04.2**	**-0.7**
KAPI	**Kappang**	**13.64**	**211**	*c*P	**Pn**	**16 24 04.8**	**-0.2**
BKSI	**Bulukumba**	**13.72**	**209**	P	**Pn**	**16 24 05.0**	**-1.0**
BSSI	**Bau Bau, Buton**	**14.27**	**206**	P	**Pn**	**16 24 12.9**	**-0.2**
1μm35nm,0.7s							
SMPI	**Sarmi**	**14.71**	**126**	P	**Pn**	**16 24 18.0**	**-0.9**
103nm,1.3s							
SBUM	**Sibu**	**15.15**	**254**		**Pn**	**16 24 24.8**	**+0.4**
SBUM	**Sibu**	**15.15**	**254**	P	**P**	**16 24 26.8**	**-0.5**
MMRI	**Maumere**	**15.94**	**197**	P	**Pn**	**16 24 35.1**	**+0.7**
1μm65nm,1.4s							
GENI	**Genyem**	**16.25**	**124**	P	**Pn**	**16 24 35.9**	**-2.3**
74nm,1.0s							
SOEI	**Soe**	**16.59**	**189**	P	**P**	**16 24 43.8**	**+0.5**
SOEI	**Soe**	**16.59**	**189**	P	**Pn**	**16 24 42.8**	**+0.4**
1μm101nm,0.9s							
JAY	**Jayapura**	**16.65**	**123**	P	**P**	**16 24 43.5**	**-0.5**
17nm,0.8s,baz=270,slow=10,SNR=2.5							
JAY	**Jayapura**	**16.65**	**123**	P	**Pn**	**16 24 43.0**	**-0.2**
STKI	**Sintang**	**16.67**	**247**	P	**P**	**16 24 45.6**	**+1.4**
70nm,1.1s							
KSM	**Kuching**	**17.26**	**253**	Pn	**P**	**16 24 52.4**	**+1.7**
KSM	**Kuching**	**17.26**	**253**	P	**P**	**16 24 53.5**	**+2.8**
YULB	**Yu-li**	**17.38**	**343**	P	**P**	**16 24 47.4**	**-4.5**
YULB	**Yu-li**	**17.38**	**343**	P	**Pn**	**16 24 52.5**	**+0.5**
TPUB	**Ta-pu**	**17.50**	**341**		**P**	**16 24 48.5**	**-4.8**
TPUB	**Ta-pu**	**17.50**	**341**	P	**Pn**	**16 24 54.3**	**+0.8**
WSI	**Waingapu**	**17.55**	**202**	P	**P**	**16 24 52.7**	**-1.1**
SSLB	**Suanglung**	**17.85**	**342**	P	**P**	**16 24 52.3**	**-4.9**
SSLB	**Suanglung**	**17.85**	**342**	P	**Pn**	**16 24 59.4**	**+1.6**
WBSI	**Waikabubak, Su**	**17.88**	**204**	P	**Pn**	**16 24 58.1**	**0.0**
46nm,0.6s							
PLAI	**Plampang**	**17.90**	**210**	P	**Pn**	**16 24 58.9**	**+0.6**
PLAI	**Plampang**	**17.90**	**210**	P	**P**	**16 24 57.6**	**-0.1**
66nm,0.9s							
BASI	**Baing, Sumba**	**17.96**	**200**	P	**Pn**	**16 25 00.5**	**+1.5**
1μm89nm,0.7s							
NACB	**Ninganchiao**	**18.04**	**344**	P	**Pn**	**16 25 01.0**	**+1.0**
TWSI	**Taliwang, Sumb**	**18.29**	**213**	P	**P**	**16 25 02.1**	**+0.1**
51nm,1.1s							
YHNB	**Yeheng**	**18.57**	**344**	P	**P**	**16 25 03.9**	**-1.1**
YHNB	**Yeheng**	**18.57**	**344**	P	**Pn**	**16 25 06.7**	**+0.3**
TABU	**Tabubil**	**18.70**	**129**	P	**P**	**16 25 06.5**	**0.0**
KMMI	**Kalianget**	**18.76**	**223**	P	**Pn**	**16 25 08.4**	**-0.2**
63nm,1.1s							
DLV	**Lat**	**18.79**	**287**	P	**Pn**	**16 25 08.9**	**-0.4**
DLV	**Lat**	**18.79**	**287**	P	**Pn**	**16 25 10.3**	**+1.0**
GUMO	**Guam**	**19.03**	**68**	LR	LR	16 31 42.9	
comp=Z,124nm,21.0s,baz=260,slow=34							
ABJI	**Asem Bagus**	**19.13**	**221**	P	**P**	**16 25 11.2**	**+0.1**
KNMB	**Chin-men Tao**	**19.38**	**336**	P	**P**	**16 25 12.2**	**-1.6**
DRS	**Darwin Rock St**	**19.48**	**168**	P	**P**	**16 25 16.1**	**+1.1**
JAGI	**Jajag, Banyuwa**	**19.69**	**220**	P	**P**	**16 25 17.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**19.69**	**220**	P	**Pn**	**16 25 19.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**19.69**	**220**	P	**P**	**16 25 18.4**	**+1.1**
49nm,1.1s							
HKPS	**Hong Kong Po S**	**19.69**	**323**	P	**P**	**16 25 14.6**	**-2.6**
MTN	**Manton Dam**	**19.93**	**168**	P	**P**	**16 25 19.4**	**-0.5**
MTN	**Manton Dam**	**19.93**	**168**	P	**P**	**16 25 20.6**	**+0.8**
comp=Z,30nm,0.6s							
MTN	**Manton Dam**	**19.93**	**168**	P	**P**	**16 25 21.1**	**+1.2**
GMJI	**Gumukmas**	**20.00**	**222**	P	**P**	**16 25 20.3**	**-0.4**
JOW	**Kunigami**	**20.03 4**		P	**P**	**16 25 17.2**	**-3.7**
JOW	**Kunigami**	**20.03 4**		P	**P**	**16 25 20.8**	**0.0**
comp=Z,47nm,0.5s,baz=155,slow=15,SNR=18							
JOW				LR	LR	16 33 32.8	
comp=Z,76nm,19.0s,baz=284,slow=38							
JOW	**Kunigami**	**20.03 4**		P	**Pn**	**16 25 21.8**	**-1.6**
comp=Z,124nm,1.1s							
KDU	**Kakadu**	**20.11**	**164**	P	**P**	**16 25 22.6**	**+0.7**
comp=Z,43nm,0.5s							
KDU	**Kakadu**	**20.11**	**164**	P	**P**	**16 25 22.7**	**+0.9**
QIZ	**Qiongzhong**	**20.53**	**308**	P	**P**	**16 25 24.9**	**-1.5**
QIZ	**Qiongzhong**	**20.53**	**308**	P	Pn	16 25 27.3	-2.1
QIZ				pP	pP	16 25 42.9	-2.0
QIZ				S	**S**	**16 29 11.6**	**+0.7**
QIZ				pmax	pmax		
comp=Z,65nm,1.1s							
QIZ				pmax	pmax		
comp=Z,210nm,4.6s							
QIZ				LR	LR		
comp=Z,130nm,13.7s							
QIZ				LR	LR		
comp=Z,170nm,16.9s							
QIZ				LR	LR		
comp=Z,240nm,21.6s							
QIZ	**Qiongzhong**	**20.53**	**308**	P	Pn	16 25 27.7	-1.7
NGJI	**Ngawi**	**20.75**	**228**	P	**P**	**16 25 29.9**	**+1.1**
comp=Z,78nm,0.8s							
TPI	**Tanjungpandan**	**21.32**	**244**	P	**P**	**16 25 34.9**	**0.0**
KNRA	**Kununurra**	**22.36**	**175**	P	**P**	**16 25 46.3**	**+0.5**
KNRA	**Kununurra**	**22.36**	**175**	P	**P**	**16 25 46.2**	**+0.3**
comp=Z,59nm,0.6s							
UBPT	**Khong Chiam**	**22.57**	**294**	P	**P**	**16 25 47.8**	**-0.4**
UBPT	**Khong Chiam**	**22.57**	**294**	P	**P**	**16 25 48.4**	**+0.2**
KPJI	**Karang Pucung**	**22.66**	**232**	P	**P**	**16 25 50.5**	**+1.5**
comp=Z,52nm,0.9s							
MYKOM	**Kota Tinggi**	**23.41**	**259**	P	**P**	**16 25 56.2**	**-0.1**
MYKOM	**Kota Tinggi**	**23.41**	**259**	P	**P**	**16 25 57.3**	**+1.0**
LEM	**Lembang**	**23.41**	**235**	LR	LR	16 37 07.8	
comp=Z,93nm,21.3s,baz=26,slow=41							
LEM	**Lembang**	**23.41**	**235**	P	**P**	**16 25 57.7**	**+1.2**
comp=Z,1μmcomp=Z,48nm,0.8s							
BBJI	**Bungbulang**	**23.75**	**234**	P	**P**	**16 26 00.8**	**+1.4**
GULI	**GuiLin**	**24.23**	**321**	P	**P**	**16 26 04.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.71**	**183**	P	**P**	**16 26 08.5**	**+0.6**
CGJI	**Cibinong**	**24.90**	**238**	P	**P**	**16 26 08.2**	**-1.5**
comp=Z,892nmcomp=Z,47nm,0.9s							
JCJ	**Chichijima**	**24.97 34**		P	**P**	**16 26 08.2**	**-2.0**
JCJ	**Chichijima**	**24.97 34**		LR	LR	16 34 13.1	
comp=Z,40nm,21.8s,baz=260,slow=32							
JCJ	**Chichijima**	**24.97 34**		P	**P**	**16 26 10.2**	**0.0**
MDSI	**Maura Dua**	**25.19**	**244**	P	**P**	**16 26 12.0**	**-0.4**
comp=Z,640nmcomp=Z,44nm,0.7s							
NONG	**Nongkai**	**25.66**	**298**	P	**P**	**16 26 17.1**	**+0.5**
IPM	**Ipoh**	**25.75**	**266**	P	**P**	**16 26 17.2**	**-0.3**
IPM				IAmb	IAmb	16 26 19.1	
comp=Z,44nm,0.7s							
IPM	**Ipoh**	**25.75**	**266**	P	**P**	**16 26 18.2**	**+0.7**
KULM	**Kulim**	**26.05**	**268**	P	**P**	**16 26 20.0**	**-0.2**
KULM	**Kulim**	**26.05**	**268**	P	**P**	**16 26 21.0**	**+0.8**
COEN	**Coen**	**26.21**	**142**	P	**P**	**16 26 21.6**	**0.0**
NJ2	**Nanjing**	**26.25**	**345**	*eP*	**P**	**16 26 21.8**	**+0.1**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.7s							
WHN	**Wuhan**	**26.41**	**335**	P	**P**	**16 26 23.5**	**+0.3**
WHN				pmax	pmax		
comp=Z,170nm,1.8s							
JNU	**Nakatsue**	**26.52 8**		P	**P**	**16 26 22.4**	**-1.8**
JNU	**Nakatsue**	**26.52 8**		LR	LR	16 37 48.0	
comp=Z,41nm,20.0s,baz=179,slow=38							
JNU	**Nakatsue**	**26.52 8**		P	**P**	**16 26 23.3**	**-0.9**
comp=Z,34nm,0.9s							
PPI	**Padang Panjang**	**27.30**	**256**	P	**P**	**16 26 31.7**	**+0.2**
comp=Z,48nm,0.8s							
WB0	**Warramunga Arr**	**27.38**	**164**	P	**P**	**16 26 31.1**	**-0.9**
GYA	**Guiyang**	**27.43**	**318**	⇓P	**P**	**16 26 33.5**	**+0.9**
GYA				pP	pP	16 26 53.3	-0.7
GYA				S	**S**	**16 31 05.1**	**-1.2**
GYA				pmax	pmax		
comp=Z,14nm,0.8s							
GYA				pmax	pmax		
comp=Z,200nm,9.4s							
GYA				LR	LR		
comp=Z,160nm,5.6s							
GYA				LR	LR		
comp=Z,91nm,4.3s							
GYA				LR	LR		
comp=Z,99nm,5.2s							
KRVT	**Keravat (AS076**	**27.47**	**113**	LR	LR	16 37 03.3	
comp=Z,71nm,19.6s,baz=27,slow=35							
WRAB	**Tennant Creek**	**27.53**	**164**⇑*eP*		**P**	**16 26 33.3**	**-0.1**
WRAB				pmax	pmax		
comp=Z,9.0nm,0.9s							
WRA	**Warramunga Arr**	**27.54**	**165**	P	**P**	**16 26 31.0**	**-2.4**
WRA	**Warramunga Arr**	**27.54**	**165**	P	**P**	**16 26 33.3**	**-0.2**
comp=Z,3.8nm,0.9s,baz=336,slow=11,SNR=27							
WRA				PcP	**PcP**	**16 29 50.0**	**+0.6**
comp=Z,2.9nm,0.5s,baz=332,slow=2.6,SNR=5.3							
WRA				S	**S**	**16 31 05.2**	**-2.7**
comp=Z,1.1nm,0.8s,baz=337,slow=14,SNR=2.4							
WRA				ScP	**ScP**	**16 33 22.1**	**+0.4**
comp=Z,2.2nm,0.6s,baz=341,slow=3.1,SNR=14							
WRA				LR	LR	16 39 31.1	
comp=Z,63nm,20.4s,baz=344,slow=40							
comp=Z,3.8nm,0.9s							
WB2	**Warramunga Arr**	**27.54**	**165**	IAmb	IAmb	16 26 59.1	
comp=Z,53nm,1.4s							
WR0	**Warramunga Arr**	**27.61**	**164**	P	**P**	**16 26 33.6**	**-0.5**
JMN	**Monobe**	**27.64 13**		P	**P**	**16 26 33.4**	**-0.8**
JMN				IAmb	IAmb	16 26 39.7	
comp=Z,64nm,0.7s							
JMN	**Monobe**	**27.64 13**		P	**P**	**16 26 34.6**	**+0.3**
comp=Z,106nm,0.8s							
PSI	**Prapat**	**28.05**	**263**	P	**P**	**16 26 38.4**	**+0.1**
PSI				pmax	pmax		
comp=Z,12nm,0.7s							
RPSI	**Rantau Prapat**	**28.07**	**263**	P	**P**	**16 26 38.4**	**+0.1**
PHRA	**Phrae**	**28.39**	**297**	P	**P**	**16 26 39.4**	**-1.7**
ENH	**Enshi**	**28.50**	**327**	P	**P**	**16 26 39.1**	**-2.9**
ENH				IAmb	IAmb	16 26 43.5	
comp=Z,58nm,0.7s							
ENH	**Enshi**	**28.50**	**327**	P	**P**	**16 26 42.1**	**+0.1**
comp=Z,89nm,0.9s							
MBWA	**Marble Bar**	**28.59**	**194**	P	**P**	**16 26 40.5**	**-2.3**
MBWA	**Marble Bar**	**28.59**	**194**	P	**P**	**16 26 42.9**	**+0.1**
comp=Z,24nm,1.0s							
MBWA	**Marble Bar**	**28.59**	**194**	P	**P**	**16 26 43.4**	**+0.7**
SISI	**Saibi**	**28.80**	**255**	P	**P**	**16 26 43.2**	**-1.6**
PSAD1	**Pilbara Seismi**	**28.85**	**194**	P	**P**	**16 26 45.0**	**0.0**
comp=Z,26nm,0.7s							
PSA00	**Pilbara Seismi**	**28.96**	**193**	P	**P**	**16 26 43.2**	**-2.8**
PSA00	**Pilbara Seismi**	**28.96**	**193**	P	**P**	**16 26 46.4**	**+0.4**
comp=Z,27nm,0.8s							
PSA00	**Pilbara Seismi**	**28.96**	**193**	P	**P**	**16 26 46.6**	**+0.6**
KMI	**Kunming**	**29.39**	**311**	⇑P	**P**	**16 26 51.4**	**+1.2**
KMI				pmax	pmax		
comp=Z,22nm,0.7s							
KMI				LR	LR		
comp=Z,170nm,24.9s							
CMAR	**Chiang Mai Arr**	**29.52**	**296**	P	**P**	**16 26 52.2**	**+1.0**
comp=Z,3.0nm,0.6s,baz=89,slow=7.4,SNR=27							
CMAR				PcP	**PcP**	**16 29 56.1**	**+1.7**
comp=Z,4.3nm,0

comp=Z,3.2nm,0.5s,baz=347,slow=7.5,SNR=88
ASAR PcP **PcP** **16 29 58.9 +0.6**
comp=Z,7.6nm,0.6s,baz=348,slow=2.5,SNR=18
ASAR S **S** **16 31 59.9 -2.5**
comp=Z,0.5nm,0.6s,baz=344,slow=12,SNR=2.6
ASAR ScP **ScP** **16 33 33.4 +0.7**
comp=Z,1.6nm,0.7s,baz=340,slow=3.2,SNR=6.3
ASAR LR LR 16 41 37.7
comp=Z,73nm,18.5s,baz=338,slow=40
comp=Z,3.2nm,0.5s
AS01 Alice Springs 31.02 167 P **P** **16 27 03.9 -0.4**
comp=Z,8.8nm,0.5s
MAJO Matsushiro 31.44 18 P **P** **16 27 04.6 -3.2**
MAJO IAmb IAmb 16 27 07.7
comp=Z,29nm,1.1s
MAJO Matsushiro 31.44 18 P **P** **16 27 08.0 +0.2**
MAJO Matsushiro 31.44 18 *c iP* **P** **16 27 06.5 -1.3**
MAJO pmax pmax
comp=Z,29nm,1.2s
MAJO Matsushiro 31.44 18 P **P** **16 27 06.8 -1.1**
MJAR Matsushiro Arr 31.44 18 P **P** **16 27 06.6 -1.2**
comp=Z,17nm,0.9s,baz=190,slow=9.0,SNR=23
MJAR PcP **PcP** **16 29 59.9 +0.8**
comp=Z,3.2nm,0.7s,baz=180,slow=2.7,SNR=4.2
MJAR LR LR 16 38 30.6
comp=Z,36nm,21.4s,baz=210,slow=34
comp=Z,17nm,0.9s
MJB9 Matsu-Tunnel 31.44 18 IAmb IAmb 16 27 08.7
comp=Z,29nm,1.1s
WRKA Warakurna 31.62 177 P **P** **16 27 09.8 +0.2**
comp=Z,22nm,1.0s
WRKA Warakurna 31.62 177 P **P** **16 27 10.1 +0.5**
XAN Xi'an 31.80 331 ⇑P **P** **16 27 10.3 -0.8**
XAN pP pP 16 27 33.9 +1.1
XAN pmax pmax
comp=Z,130nm,0.7s
CD2 Chengdu 32.31 321 P **P** **16 27 15.8 +0.1**
CD2 pmax pmax
comp=Z,70nm,0.5s
DL2 Dalian 32.36 352 P **P** **16 27 16.3 +0.5**
DL2 pmax pmax
comp=Z,69nm,0.7s
HNS HongShan 32.44 342 ⇑P **P** **16 27 16.0 -0.6**
HNS pmax pmax
comp=Z,46nm,0.7s
JSD Sado 32.84 17 P **P** **16 27 17.5 -2.5**
JSD IAmb IAmb 16 28 31.0
comp=Z,103nm,1.9s
TIY Taiyuan 33.48 339 *eP* **P** **16 27 25.5 -0.2**
TIY pmax pmax
comp=Z,25nm,0.8s
JMM Marumori 33.48 20 P **P** **16 27 26.1 +0.4**
JMM Marumori 33.48 20 P **P** **16 27 26.0 +0.4**
MEEK Meekatharra 34.12 193 P **P** **16 27 31.6 +0.3**
comp=Z,43nm,0.7s
MEEK Meekatharra 34.12 193 P **P** **16 27 32.3 +0.9**
BJT Baijiatuau 34.48 345 P **P** **16 27 33.2 -1.1**
BJT IAmb IAmb 16 27 34.6
comp=Z,20nm,0.5s
BJT Baijiatuau 34.48 345 P **P** **16 27 34.5 +0.2**
BJT Baijiatuau 34.48 345 P **P** **16 27 33.2 -1.1**
BJT pmax pmax
comp=Z,20nm,0.5s
BJT Baijiatuau 34.48 345 P **P** **16 27 33.5 -0.7**
BJI Beijing 34.50 346 P **P** **16 27 33.8 -0.6**
BJI pmax pmax
comp=Z,13nm,0.5s
BJI pmax pmax
comp=Z,43nm,6.2s
OOD Oodnadatta 35.39 166 P **P** **16 27 42.7 +0.5**
MSHR Mys Shultsa 35.90 5 ⇓ *iP* **P** **16 27 47.1 +0.7**
MSHR pmax pmax
comp=Z,74nm,1.9s
PSTR Posyet 35.93 5 ⇓ *eP* **P** **16 27 46.7 0.0**
LZH Lanzhou 35.99 327 *eP* **P** **16 27 48.5 +1.0**
LZH pP pP 16 28 08.4 -1.1
LZH sP sP 16 28 16.8 -3.7
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,250nm,7.1s
LZH LR LR
comp=Z,200nm,14.1s
LZH LR LR
comp=Z,220nm,14.8s
LZH LR LR
comp=Z,300nm,17.9s
JTM Tenmabayashi 36.22 18 P **P** **16 27 49.7 +0.6**
VLA Vladivostok 36.50 6 ⇓ *eP* **P** **16 27 50.6 -0.9**
VLA pmax pmax
comp=Z,30nm,2.0s
HHC Hu-ho-hao-te 36.59 340 ⇓ *iP* **P** **16 27 52.8 +0.3**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,84nm,4.9s
INKA Innaminka 36.84 159 P **P** **16 27 55.1 +0.6**
BTO Baotou 36.91 339 *eP* **P** **16 27 57.3 +2.1**
BTO pP **pP** **16 28 20.8 +3.7**
BTO sP **sP** **16 28 32.1 +4.0**
BTO PP **PnPn** **16 29 26.1 +3.7**
BTO S **S** **16 33 38.0 +4.8**
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,190nm,5.3s
BTO LR LR
comp=Z,190nm,7.7s
BTO LR LR
comp=Z,200nm,5.0s
BTO LR LR
comp=Z,280nm,6.3s
CN2 Changchun 36.93 358 *eP* **P** **16 27 52.9 -2.2**
CN2 *ep*P pP 16 28 15.4 -0.7
CN2 *eP*P **PP** **16 29 21.1 0.0**
MORW Morawa 37.08 196 P **P** **16 27 56.7 +0.1**
MORW IAmb IAmb 16 28 13.9
comp=Z,22nm,1.0s
MORW Morawa 37.08 196 P **P** **16 27 57.2 +0.5**
comp=Z,16nm,0.7s
MORW Morawa 37.08 196 P **P** **16 27 57.7 +1.1**
QLP Quilpie 37.19 154 P **P** **16 27 57.4 -0.2**
comp=Z,27nm,0.6s
FORT Forrest 37.33 178 P **P** **16 27 59.2 +0.5**
FORT Forrest 37.33 178 P **P** **16 27 59.2 +0.5**
comp=Z,50nm,1.0s
FORT Forrest 37.33 178 P **P** **16 27 59.6 +0.9**
BRDH Bariadhala 37.38 299 LR LR 16 43 43.0
comp=Z,104nm,21.2s,baz=168,slow=37
USA0B Ussuriysk Arra 37.58 6 IAmb IAmb 16 28 01.5
comp=Z,13nm,0.6s
USA0B Ussuriysk Arra 37.58 6 ⇓ *iP* **P** **16 28 00.6 -0.1**
USRK Ussuriysk Ar. 37.58 6 P **P** **16 28 01.0 +0.3**
USRK Ussuriysk Ar. 37.58 6 P **P** **16 28 01.1 +0.3**
comp=Z,11nm,0.5s,baz=187,slow=7.9,SNR=50
USRK LR LR 16 42 17.6
comp=Z,22nm,21.9s,baz=185,slow=34
comp=Z,11nm,0.5s
MDJ Mudanjiang 37.80 3 IAmb IAmb 16 28 05.2
comp=Z,36nm,1.2s
MDJ Mudanjiang 37.80 3 P **P** **16 28 02.8 +0.3**
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,180nm,5.0s
MDJ Mudanjiang 37.80 3 P **P** **16 28 03.0 +0.5**
comp=Z,26nm,1.0s
MDJ Mudanjiang 37.80 3 P **P** **16 28 02.8 +0.3**
XLT XiLinHaoTe 38.19 347 *eP* **P** **16 28 05.1 -0.8**
XLT pP pwP 16 28 28.8 -1.2
XLT pmax pmax
comp=Z,28nm,0.6s
KMBL Kambalda 38.19 187 P **P** **16 28 06.6 +0.6**
comp=Z,47nm,0.6s
KMBL Kambalda 38.19 187 P **P** **16 28 06.7 +0.8**
SHL Shillong 38.23 303 P **P** **16 28 06.3 -0.3**
BLDU Ballidu 38.39 194 P **P** **16 28 08.0 +0.4**
comp=Z,40nm,0.9s
BLDU Ballidu 38.39 194 P **P** **16 28 08.7 +1.1**
LCRK Leigh Creek 38.56 164 P **P** **16 28 10.1 +1.0**
BNX BinXian 38.85 1 ⇓P **P** **16 28 10.5 -0.8**
BNX pmax pmax
comp=Z,12nm,0.8s
KLBR Kellerberrin 39.09 192 P **P** **16 28 14.2 +0.7**
comp=Z,94nm,0.7s
KLBR Kellerberrin 39.09 192 P **P** **16 28 14.4 +0.9**

ASAJ Asahikawa 39.71 18 LR LR 16 43 53.1
comp=Z,48nm,21.9s,baz=178,slow=35
ASAJ Asahikawa 39.71 18 P **P** **16 28 18.5 0.0**
ASAJ pmax pmax
comp=Z,36nm,0.5s
JKA Kamikawa-asahi 39.71 18 P **P** **16 28 18.5 0.0**
MUN Mundaring 39.81 194 P **P** **16 28 20.4 +0.9**
comp=Z,75nm,1.0s
MUN Mundaring 39.81 194 P **P** **16 28 20.4 +0.9**
BBOO Buckleboo 40.31 168 P **P** **16 28 24.0 +0.5**
BBOO IAmb IAmb 16 28 24.6
comp=Z,17nm,0.5s
BBOO Buckleboo 40.31 168 P **P** **16 28 24.1 +0.5**
comp=Z,21nm,0.8s
BBOO Buckleboo 40.31 168 P **P** **16 28 24.1 +0.5**
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 25.5 +0.5**
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 25.8 +0.8**
comp=Z,138nm,1.0s
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 26.3 +1.2**
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 26.1 +1.1**
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 25.5 +0.5**
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 25.5 +0.5**
NWAO pmax pmax
comp=Z,89nm,1.2s
NWAO Narrogin (SRO) 40.49 192 P **P** **16 28 26.2 +1.2**
NWAO PcP **PcP** **16 30 26.8 +0.8**
H11S3 WAKE ISLAND Hy 40.53 69 T T 17 12 42.7
baz=258,slow=75,SNR=15
H11S1 WAKE ISLAND Hy 40.55 69 T T 17 12 34.6
baz=258,slow=75,SNR=10
H11S2 WAKE ISLAND Hy 40.55 69 T T 17 12 53.1
baz=258,slow=75,SNR=14
LSA Lhasa 40.57 309 IAmb IAmb 16 28 28.6
comp=Z,36nm,1.5s
LSA Lhasa 40.57 309 *i* P **P** **16 28 27.3 +0.9**
SNR=10
LSA Lhasa 40.57 309 P **P** **16 28 27.3 +0.9**
LSA PcP **PcP** **16 30 28.3 +1.3**
GTA Gaotai 40.59 327 P **P** **16 28 27.5 +1.5**
GTA PcP **PcP** **16 30 28.0 +1.5**
GTA pmax pmax
comp=Z,57nm,1.1s
STKA Stephens Creek 40.92 161 P **P** **16 28 28.9 +0.4**
STKA Stephens Creek 40.92 161 P **P** **16 28 28.9 +0.4**
comp=Z,3.2nm,1.0s
STKA Stephens Creek 40.92 161 P **P** **16 28 29.0 +0.4**
comp=Z,7.9nm,0.5s,baz=335,slow=7.9,SNR=29
STKA LR LR 16 47 26.1
comp=Z,38nm,21.7s,baz=17,slow=39
comp=Z,7.9nm,0.5s
STKA Stephens Creek 40.92 161 P **P** **16 28 29.0 +0.4**
STKA Stephens Creek 40.92 161 P **P** **16 28 29.0 +0.4**
GOMU GeErMu 41.41 320 P **P** **16 28 33.8 +0.7**
GOMU pmax pmax
comp=Z,25nm,0.9s
HTT Hallett 41.58 165 P **P** **16 28 34.7 +0.6**
comp=Z,13nm,1.8s
HTT Hallett 41.58 165 P **P** **16 28 35.0 +1.0**
CMSA Cobar Meteorol 42.13 156 P **P** **16 28 38.8 +0.3**
comp=Z,13nm,1.7s
CMSA Cobar Meteorol 42.13 156 P **P** **16 28 39.1 +0.6**
comp=Z,13nm,1.7s
YSS Yuzhno-Sakhali 42.34 16 P **P** **16 28 39.5 -0.5**
YSS IAmb IAmb 16 28 42.3
comp=Z,25nm,0.9s
YSS Yuzhno-Sakhali 42.34 16 P **P** **16 28 41.7 +1.7**
comp=Z,36nm,1.4s
YSS Yuzhno-Sakhali 42.34 16 *eP* **P** **16 28 40.6 +0.6**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzhno-Sakhali 42.34 16 P **P** **16 28 40.6 +0.6**
KLR Kul'dur 42.55 5 LR LR 16 47 49.1
comp=Z,22nm,18.0s,baz=215,slow=38
KLR Kul'dur 42.55 5 *eP* **P** **16 28 40.4 -1.2**
KLR pmax pmax
comp=Z,19nm,1.2s
HIA Hailar 42.79 353 P **P** **16 28 43.4 -0.3**
HIA PcP **PcP** **16 30 34.1 +0.7**
HEH HeiHe 43.37 1 *eP* **P** **16 28 47.9 -0.3**
HEH PcP **PcP** **16 30 35.4 +0.2**
HEH pmax pmax
comp=Z,15nm,0.9s
ARMA Armidale 43.95 148 P **P** **16 28 51.4 -2.0**
ARMA IAmb IAmb 16 29 18.5
comp=Z,35nm,1.4s
ARMA Armidale 43.95 148 P **P** **16 28 54.8 +1.4**
UGL Uglegorsk 44.12 14 *eP* **P** **16 28 55.6 +1.4**
UGL pmax pmax
comp=Z,70nm,0.7s
ULN Ulaanbaatar 44.30 341 P **P** **16 28 54.6 -1.4**
ULN Ulaanbaatar 44.30 341 P **P** **16 28 56.4 +0.4**
ULN Ulaanbaatar 44.30 341 *c iP* **P** **16 28 55.9 -0.1**
ULN pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 44.30 341 P **P** **16 28 56.2 +0.2**
ULN PcP **PP** **16 30 39.3 -1.7**
SONM Songino Array 44.49 340 P **P** **16 28 57.5 0.0**
SONM Songino Array 44.49 340 P **P** **16 28 57.6 +0.2**
comp=Z,4.0nm,0.5s,baz=159,slow=8.3,SNR=31
SONM PcP **PcP** **16 30 39.7 +0.4**
comp=Z,4.1nm,0.8s,baz=162,slow=3.0,SNR=6.6
comp=Z,4.0nm,0.5s
SONM Songino Array 44.49 340 P **P** **16 28 57.5 0.0**
SONM pmax pmax
comp=Z,8.0nm,1.0s
GRNR Gornyy 44.61 9 ⇑ *iP* **P** **16 28 59.1 +0.9**
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.9s
ARPS Mount Arapiles 45.52 163 P **P** **16 29 06.3 +0.7**
comp=Z,18nm,1.1s
ARPS Mount Arapiles 45.52 163 P **P** **16 29 06.0 +0.4**
comp=Z,23nm,0.9s
TYV Tymovskoe 45.92 14 *eP* **P** **16 29 09.6 +1.1**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,200nm,4.6s
CIT Chita 46.44 349 *eP* **P** **16 29 12.1 -0.6**
CIT *e* 16 29 33.6
CIT *e* 16 31 48.3
CIT pmax pmax
comp=Z,38nm,2.6s
CAN Canberra 46.78 155 P **P** **16 29 16.8 +1.3**
CAN Canberra 46.78 155 P **P** **16 29 16.0 +0.5**
comp=Z,13nm,0.9s
CAN Canberra 46.78 155 P **P** **16 29 15.7 +0.2**
CAN Canberra 46.78 155 P **P** **16 29 16.8 +1.3**
CAN pmax pmax
comp=Z,18nm,1.2s
CAN Canberra 46.78 155 P **P** **16 29 17.7 +2.1**
ZEA Zeya 46.86 0 *eP* **P** **16 29 14.8 -1.0**
ZEA *e* 16 30 48.5
ZEA pmax pmax
comp=Z,10.0nm,0.9s
CNB Canberra Magne 46.93 155 P **P** **16 29 17.9 +1.2**
TOO Toolangi 47.41 160 P **P** **16 29 22.1 +1.7**
TOO Toolangi 47.41 160 P **P** **16 29 22.1 +1.7**
TOO pmax pmax
comp=Z,30nm,1.9s
ZAK Zakamensk 47.73 340 *eP* **P** **16 29 21.9 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,0.8s
HYB Hyderabad 48.23 287 *eP* **P** **16 29 27.6 +0.5**
HYB IVmB_BB 16 29 28.3
comp=Z,265nm,0.9s
DZM Mont Dzumac 48.25 128 P **P** **16 29 26.0 -1.2**
DZM Mont Dzumac 48.25 128 *e*LR LR 16 43 12.0
comp=Z,239nm,32.4s
DZM Mont Dzumac 48.25 128 LR LR 16 50 32.4
comp=Z,67nm,18.1s,baz=299,slow=37
MOY Mondy 49.60 339 *eP* **P** **16 29 37.4 +0.3**
MOY pmax pmax
comp=Z,14nm,1.7s
WMQ Urumqi 50.33 324 ⇓P **P** **16 29 44.1 +1.3**
WMQ sP sP 16 30 16.9 +1.1
WMQ pmax pmax
comp=Z,48nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.9s
WMQ LR LR
comp=Z,120nm,22.7s
WMQ Urumqi 50.33 324 P **P** **16 29 44.3 +1.5**
BOD Bodaibo 51.91 351 *eP* **P** **16 29 53.9 -0.3**

BOD pmax pmax
comp=Z,16nm,1.0s
PEA0B Petropavlovsk- 52.63 23 P **P** **16 30 01.1 +1.4**
PEA0B Petropavlovsk- 52.63 23 *d iP* **P** **16 30 01.2 +1.5**
PETK Petropavlovsk- 52.63 23 P **P** **16 30 00.4 +0.8**
PETK Petropavlovsk- 52.63 23 P **P** **16 30 00.9 +1.2**
comp=Z,15nm,0.5s,baz=195,slow=3.8,SNR=33
PETK PcP **PcP** **16 31 08.2 -0.2**
comp=Z,3.7nm,0.5s,baz=213,slow=6.0,SNR=1.8
PETK LR LR 16 53 09.6
comp=Z,18nm,19.9s,baz=217,slow=37
comp=Z,15nm,0.5s
PETK Petropavlovsk- 52.63 23 P **P** **16 30 00.4 +0.8**
PET Petropavlovsk 52.94 24 ⇓ *eP* **P** **16 30 00.0 -1.9**
PET pmax pmax
comp=Z,78nm,1.3s
ZSN Zaisan 54.05 326 *eP* **P** **16 30 10.4 +0.3**
ZSN pmax pmax
comp=Z,9.0nm,0.9s
ZSN Zaisan 54.05 326 *eP* **P** **16 30 10.4 +0.3**
comp=Z,9.4nm,0.9s
WUS Wushi 54.41 317 IAmb IAmb 16 30 14.5
comp=Z,23nm,0.8s
WUS Wushi 54.41 317 P **P** **16 30 13.5 +0.5**
SHLS Shalkode 55.11 319 *eP* **P** **16 30 16.2 -1.8**
SHLS pmax pmax
comp=Z,26nm,1.0s
SHLS Shalkode 55.11 319 *eP* **P** **16 30 16.2 -1.8**
comp=Z,26nm,1.0s
MK31 Makanchi Array 55.16 324 P **P** **16 30 18.4 +0.2**
MK31 Makanchi Array 55.16 324 *c iP* **P** **16 30 18.6 +0.4**
MKAR Makanchi Array 55.16 324 P **P** **16 30 18.2 0.0**
MKAR Makanchi Array 55.16 324 P **P** **16 30 18.6 +0.4**
comp=Z,44nm,0.5s,baz=120,slow=8.0,SNR=1106
MKAR PcP **PcP** **16 31 17.9 -0.4**
comp=Z,5.6nm,0.7s,baz=124,slow=5.2,SNR=3.7
MKAR ScP **ScP** **16 35 09.4 +0.8**
comp=Z,0.6nm,0.9s,baz=131,slow=4.0,SNR=2.9
comp=Z,44nm,0.5s
YAK Yakutsk 55.21 2 P **P** **16 30 17.3 -0.9**
YAK Yakutsk 55.21 2 *c iP* **P** **16 30 17.8 -0.4**
YAK pmax pmax
comp=Z,60nm,0.7s
YAK Yakutsk 55.21 2 P **P** **16 30 17.8 -0.4**
MAKZ Makanchi 55.35 324 P **P** **16 30 18.4 -1.1**
MAKZ Makanchi 55.35 324 P **P** **16 30 18.4 -1.1**
MAKZ pmax pmax
comp=Z,38nm,0.6s
MAKZ Makanchi 55.35 324 P **P** **16 30 19.9 +0.3**
MAKZ PcP **PcP** **16 31 18.6 -0.4**
UZB Uzynbulak 55.39 319 *eP* **P** **16 30 20.2 +0.1**
UZB pmax pmax
comp=Z,13nm,0.6s
UZB Uzynbulak 55.39 319 *eP* **P** **16 30 20.2 +0.1**
comp=Z,13nm,0.6s
TARG Taragay, Kyrgy 55.59 317 P **P** **16 30 22.2 +0.4**
TARG IAmb IAmb 16 30 31.3
comp=Z,16nm,0.8s
TARG Taragay, Kyrgy 55.59 317 P **P** **16 30 22.3 +0.4**
TARG pmax pmax
comp=Z,16nm,0.8s
KPKS Kokpek 55.76 319 *eP* **P** **16 30 22.6 0.0**
KPKS pmax pmax
comp=Z,8.0nm,0.4s
KPKS Kokpek 55.76 319 *eP* **P** **16 30 22.6 0.0**
comp=Z,8.0nm,0.4s
SATY Saty 55.76 318 *eP* **P** **16 30 22.7 0.0**
SATY pmax pmax
comp=Z,13nm,0.7s
SATY Saty 55.76 318 *eP* **P** **16 30 22.8 0.0**
comp=Z,13nm,0.7s
MA2 Magadan 55.78 14 P **P** **16 30 22.9 +0.6**
MA2 Magadan 55.78 14 LR LR 16 56 51.7
comp=Z,10.0nm,18.3s,baz=200,slow=39
MA2 Magadan 55.78 14 P **P** **16 30 23.2 +0.8**
MA2 Magadan 55.78 14 *c iP* **P** **16 30 23.0 +0.6**
MA2 pmax pmax
comp=Z,21nm,0.7s
MA2 Magadan 55.78 14 P **P** **16 30 23.0 +0.6**
comp=Z,33nm,0.7s
MA2 Magadan 55.78 14 P **P** **16 30 22.9 +0.6**
MA2 PcP **PcP** **16 31 21.1 +0.7**
ZHN Zhinishke 55.79 319 *eP* **P** **16 30 23.0 +0.1**
ZHN pmax pmax
comp=Z,6.0nm,0.4s
ZHN Zhinishke 55.79 319 *eP* **P** **16 30 23.0 +0.1**
comp=Z,6.4nm,0.4s
KSH Kashi 56.00 314 P **P** **16 30 26.3 +1.8**
KSH pmax pmax
comp=Z,26nm,1.1s
MSVF Nonsavu 56.14 116 LR LR 16 52 00.9
comp=Z,66nm,21.5s,baz=348,slow=33
MSVF Nonsavu 56.14 116 P **P** **16 30 25.7 0.0**
NIL Nilore 56.19 306 P **P** **16 30 26.0 +0.2**
NIL Nilore 56.19 306 P **P** **16 30 26.0 +0.2**
NIL Nilore 56.19 306 P **P** **16 30 26.0 +0.2**
NIL pmax pmax
comp=Z,80nm,0.7s
NIL Nilore 56.19 306 P **P** **16 30 25.9 +0.2**
TDK Taldyqorghan 56.63 321 *eP* **P** **16 30 28.9 +0.2**
TDK pmax pmax
comp=Z,10.0nm,0.5s
TDK Taldyqorghan 56.63 321 *eP* **P** **16 30 29.0 +0.2**
comp=Z,9.6nm,0.5s
ARXS Arharly 56.65 319 *eP* P 16 30 37.2 +8.3
MDOK Medeo 56.70 318 *eP* **P** **16 30 29.5 +0.1**
MDOK Medeo 56.70 318 *eP* **P** **16 30 29.6 +0.1**
TNSS Tian-Shan 56.72 318 *eP* **P** **16 30 29.4 -0.4**
TNSS Tian-Shan 56.72 318 *eP* **P** **16 30 29.5 -0.4**
AAA Alma-Ata 56.81 318 *eP* **P** **16 30 30.1 0.0**
AAA pmax pmax
comp=Z,11nm,0.5s
AAA Alma-Ata 56.81 318 *eP* **P** **16 30 30.2 0.0**
comp=Z,11nm,0.5s
DGTI Dogotuki 57.16 114 P **P** **16 30 33.5 +0.6**
BOOM Boomskoye usch 57.17 317 P **P** **16 30 33.3 +0.5**
BOOM Boomskoye usch 57.17 317 P **P** **16 30 33.3 +0.5**
BOOM pmax pmax
comp=Z,88nm,1.6s
KBK Karagaybulak 57.91 317 P **P** **16 30 38.2 +0.3**
SNR=14
ZAA0 Zalesovo Array 57.96 332 P **P** **16 30 37.4 -0.5**
ZALV Zalesovo Beam 57.96 332 P **P** **16 30 37.1 -0.7**
ZALV Zalesovo Beam 57.96 332 P **P** **16 30 37.3 -0.6**
comp=Z,16nm,0.4s,baz=122,slow=6.5,SNR=84
ZALV LR LR 16 55 50.9
comp=Z,43nm,18.3s,baz=112,slow=36
comp=Z,16nm,0.4s
ZALV Zalesovo Beam 57.96 332 *i* P **P** **16 30 37.2 -0.7**
ZALV pmax pmax
comp=Z,16nm,0.4s
UCH Uchtor 58.04 316 P **P** **16 30 40.8 +1.5**
SNR=8.2
CHMS Chumysh 58.17 317 P **P** **16 30 39.9 +0.2**
SNR=12
AAK Ala-Archa 58.21 317 P **P** **16 30 40.6 +0.6**
AAK IAmb IAmb 16 30 42.0
comp=Z,51nm,2.0s
AAK Ala-Archa 58.21 317 LR LR 16 57 51.4
comp=Z,96nm,18.9s,baz=82,slow=38
AAK Ala-Archa 58.21 317 P **P** **16 30 40.6 +0.6**
AAK Ala-Archa 58.21 317 P **P** **16 30 40.7 +0.6**
SNR=5.8
AAK Ala-Archa 58.21 317 P **P** **16 30 40.6 +0.6**
AAK pmax pmax
comp=Z,51nm,2.0s
AAK Ala-Archa 58.21 317 *i* P **P** **16 30 40.5 +0.4**
SNR=9.3
SGDS Sogindy 58.43 318 *eP* **P** **16 30 41.3 -0.2**
SGDS Sogindy 58.43 318 *eP* **P** **16 30 41.3 -0.2**
AML Almayashu 58.57 316 P **P** **16 30 43.8 +0.9**
SNR=24
EKS2 Erkin-Say 58.71 316 P **P** **16 30 44.4 +0.9**
SNR=18
SEY Seymchan 59.10 13 *eP* **P** **16 30 45.9 +0.3**
SEY pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 59.27 327 P **P** **16 30 47.3 +0.2**
KURK Kurchatov 59.27 327 P **P** **16 30 47.2 +0.2**
KURK Kurchatov 59.27 327 *c iP* **P** **16 30 47.1 +0.1**
KURK pmax pmax
comp=Z,73nm,0.8s
KURK Kurchatov 59.27 327 P **P** **16 30 47.1 +0.1**
KURBB Kurchatov Arra 59.27 326 P **P** **16 30 47.2 +0.2**
comp=Z,46nm,0.7s,baz=126,slow=6.2,SNR=401

KURBB PP **PP** **16 32 59.7 +0.8**
comp=Z,1.9nm,0.9s,baz=134,slow=8.8,SNR=4.0
comp=Z,46nm,0.7s
BTLS Baital 59.44 319*c i*P **P** **16 30 48.2 -0.1**
BTLS pmax pmax
comp=Z,7.0nm,0.6s
BTLS Baital 59.44 319⇑*i*P **P** **16 30 48.3 -0.1**
comp=Z,7.4nm,0.6s
KBL Kabul 59.79 306 P **P** **16 30 50.8 -0.4**
KBL Kabul 59.79 306 P **P** **16 30 51.0 -0.1**
SNR=9.2
KBL Kabul 59.79 306 P **P** **16 30 50.8 -0.4**
KBL pmax pmax
comp=Z,31nm,0.7s
SHEM Shemya Is, Ala 59.85 31 LR LR 16 57 48.1
comp=Z,38nm,18.4s,baz=260,slow=37
GAR Garm 59.97 311 P **P** **16 30 52.4 +0.1**
DZA Taraz 60.47 316 *e*P **P** **16 30 55.5 0.0**
DZA pmax pmax
comp=Z,19nm,1.2s
DZA Taraz 60.47 316 *e*P **P** **16 30 55.5 0.0**
comp=Z,19nm,1.2s
CHGR Chuyangaron 60.74 311 P **P** **16 30 57.2 -0.2**
CHGR Chuyangaron 60.74 311 P **P** **16 30 57.3 -0.2**
CHGR pmax pmax
comp=Z,47nm,0.9s
SIMJ Simiganj 60.86 311 P **P** **16 30 58.4 +0.1**
SIMJ IAmb IAmb 16 30 59.1
comp=Z,14nm,0.8s
KKAR Karatay Array 61.11 316 P **P** **16 30 59.8 0.0**
KKAR Karatay Array 61.11 316 P **P** **16 30 59.1 -0.7**
KKAR IAmb IAmb 16 31 00.8
comp=Z,21nm,1.0s
KKAR Karatay Array 61.11 316 P **P** **16 30 59.8 0.0**
KKAR pmax pmax
comp=Z,21nm,1.0s
BRLS Boroldoy 61.56 316*c i*P **P** **16 31 03.0 +0.2**
BRLS pmax pmax
comp=Z,15nm,0.9s
BRLS Boroldoy 61.56 316⇑*i*P **P** **16 31 03.0 +0.2**
comp=Z,15nm,0.9s
BRZS Berezniki 62.30 324⇑*i*P **P** **16 31 07.8 +0.2**
BRZS pmax pmax
comp=Z,8.0nm,0.7s
BRZS Berezniki 62.30 324⇑*i*P **P** **16 31 07.8 +0.2**
comp=Z,7.6nm,0.7s
MSZ Milford Sound 63.12 148 P **P** **16 31 14.8 +1.7**
JCZ Jackson Bay 63.17 147 P **P** **16 31 14.7 +1.1**
DSZ Denniston Nort 63.38 144 P **P** **16 31 16.4 +1.5**
WHZ Wether Hill Ro 63.97 149 P **P** **16 31 19.8 +1.2**
NNZ Nelson 63.99 142 P **P** **16 31 18.6 -0.3**
THZ Tophouse 64.04 143 P **P** **16 31 19.5 +0.3**
LBZ Lake Benmore 64.14 147 P **P** **16 31 20.4 +0.6**
RPZ Rata Peaks 64.18 146 P **P** **16 31 21.3 +1.2**
comp=Z,53nm,2.9s
RPZ Rata Peaks 64.18 146 P **P** **16 31 20.6 +0.5**
LTZ Lake Taylor 64.29 144 P **P** **16 31 21.5 +0.6**
OXZ Oxford 64.49 145 P **P** **16 31 22.1 0.0**
URZ Urewera 64.70 138 LR LR 16 58 54.3
comp=Z,34nm,21.9s,baz=41,slow=35
URZ Urewera 64.70 138 P **P** **16 31 26.3 +2.8**
comp=Z,19nm,1.4s
URZ Urewera 64.70 138 S **S** **16 39 57.7 +1.2**
comp=Z,19nm,1.4s
URZ Urewera 64.70 138 P **P** **16 31 23.5 0.0**
BKZ Black Stump Fm 64.78 139 P **P** **16 31 24.6 +0.5**
BKZ Black Stump Fm 64.78 139 P **P** **16 31 24.5 +0.3**
KHZ Kahutara 64.81 143 P **P** **16 31 24.5 +0.4**
KHZ Kahutara 64.81 143 P **P** **16 31 24.2 0.0**
TIXI Tiksi 64.85 1 P **P** **16 31 22.7 -1.3**
TIXI IAmb IAmb 16 31 24.2
comp=Z,22nm,0.6s
TIXI Tiksi 64.85 1 LR LR 17 00 55.9
comp=Z,22nm,20.0s,baz=187,slow=37
TIXI Tiksi 64.85 1⇓*e*P **P** **16 31 23.2 -0.7**
TIXI pmax pmax
comp=Z,18nm,0.6s
TIXI Tiksi 64.85 1 P **P** **16 31 23.4 -0.5**
BVAR Borovoye Array 64.86 326 P **P** **16 31 24.5 +0.1**
comp=Z,41nm,0.5s,baz=124,slow=7.7,SNR=272
comp=Z,41nm,0.5s
HAZ Te Kaha 64.88 137 P **P** **16 31 26.5 +1.8**
TSZ Takapari Road 64.93 140 P **P** **16 31 26.1 +1.1**
BRVK Borovoye 64.93 326 P **P** **16 31 24.3 -0.6**
BRVK Borovoye 64.93 326 P **P** **16 31 24.9 +0.1**
BRVK Borovoye 64.93 326*c i*P **P** **16 31 24.9 +0.1**
BRVK pmax pmax
comp=Z,50nm,0.9s
BRVK Borovoye 64.93 326 P **P** **16 31 25.0 +0.2**
MWZ Matawai 65.01 138 P **P** **16 31 26.2 +0.5**
PUZ Puketiti 65.37 137 P **P** **16 31 28.4 +0.5**
PXZ Pawanui 65.49 140 P **P** **16 31 29.2 +0.5**
ATKA Atka Island 66.00 35 P **P** **16 31 31.8 +0.1**
ATKA Atka Island 66.00 35 P **P** **16 31 32.3 +0.6**
comp=Z,162nm,0.8s
JLN Jalan Bani Buh 66.57 291 P **P** **16 31 35.3 -0.6**
BILL Bilibino 66.64 15 P **P** **16 31 35.4 -0.2**
BILL Bilibino 66.64 15⇑*e*P **P** **16 31 35.5 -0.1**
BILL pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 66.64 15 P **P** **16 31 35.4 -0.2**
BILL PcP **pwP** **16 32 05.0 +1.3**
WBK Wadi Bani Khal 66.99 292 P **P** **16 31 38.1 -0.6**
NRIK Noril'sk 67.54 346 P **P** **16 31 40.9 -0.3**
comp=Z,12nm,0.7s,baz=122,slow=6.5,SNR=43
NRIK LR LR 17 02 41.7
comp=Z,51nm,21.2s,baz=150,slow=37
comp=Z,12nm,0.7s
NRIK Noril'sk 67.54 346*c i*P **P** **16 31 40.7 -0.5**
NRIK pmax pmax
comp=Z,15nm,0.8s
JMDO Jabal Madar 67.79 291 P **P** **16 31 43.2 -0.5**
BIDO Bidbid 67.80 293 P **P** **16 31 43.7 -0.1**
SMDO Samad 67.86 292 P **P** **16 31 43.1 -1.1**
JASK Jask - Hormozg 68.15 295 P **P** **16 31 46.6 +0.7**
DQM DQM 68.26 289 P **P** **16 31 46.9 +0.2**
HOQ Hoqain 68.56 293 P **P** **16 31 47.8 -0.7**
SNR=9.2
BSY Bisya 68.63 292 P **P** **16 31 48.3 -0.7**
ARQ Araqi 69.27 292 P **P** **16 31 52.6 -0.4**
SOHO SOHO 69.28 293 P **P** **16 31 52.2 -0.8**
SOHO SOHO 69.28 293 P **P** **16 31 51.8 -1.1**
MDH Madha 69.54 294 P **P** **16 31 53.1 -1.4**
UOSS Minazif 69.61 294 P **P** **16 31 53.4 -1.6**
UOSS Minazif 69.61 294 P **P** **16 31 54.2 -0.8**
UOSS Minazif 69.61 294 P **P** **16 31 53.8 -1.2**
UOSS Minazif 69.61 294 P **P** **16 31 53.5 -1.5**
MASF Masafi 69.67 294 P **P** **16 31 56.3 +0.9**
MSFE Esma-Masafi 69.67 294 P **P** **16 31 55.4 +0.1**
HATD Hatta, Dubai 69.67 294 P **P** **16 31 55.2 -0.1**
SNR=8.3
HATD Hatta, Dubai 69.67 294 *i*P **P** **16 31 55.1 -0.3**
SNR=8.3
SHME Shamm 69.71 295 P **P** **16 31 55.1 -0.4**
SHME Shamm 69.71 295 P **P** **16 31 55.8 +0.2**
ASHO Ashiyiah 69.73 294 P **P** **16 31 55.2 -0.6**
SNR=8.1
ASHO Ashiyiah 69.73 294 *i*P **P** **16 31 55.1 -0.7**
SNR=8.1
ABKAR Akbulak array 69.89 320 P **P** **16 31 56.1 0.0**
ALNE Al Ain 70.00 293 P **P** **16 31 57.4 0.0**
ALNE Al Ain 70.00 293 *i*P **P** **16 31 57.4 0.0**
SNR=7.5
P08K Saint George I 70.06 32 P **P** **16 31 57.6 +0.6**
baz=251
NAZ Nazwa, Dubai 70.10 294 P **P** **16 31 56.9 -1.1**
NAZ Nazwa, Dubai 70.10 294 P **P** **16 31 58.0 0.0**
ASUD Al Ashush, Dub 70.40 294 P **P** **16 32 00.1 +0.3**
ASUD Al Ashush, Dub 70.40 294 P **P** **16 32 00.1 +0.3**
UMZA Um Al Zommool 70.51 292 P **P** **16 32 00.1 -0.4**
DMTO DMTO 70.73 286 P **P** **16 32 01.3 -0.5**
UNV Unalaska Valle 70.92 35 P **P** **16 32 02.7 +0.4**
UNV Unalaska Valle 70.92 35 P **P** **16 32 02.9 +0.5**
baz=255
RBK Rabkut 71.44 286 P **P** **16 32 05.6 -0.7**
SVE Sverdlovsk 71.45 328*de*P **P** **16 32 05.7 +0.2**
SVE pmax pmax
comp=Z,75nm,1.1s
DOK Doka 71.49 287 P **P** **16 32 06.0 -0.5**
GAMB Gambell 71.63 24 P **P** **16 32 07.6 +1.2**
baz=247
MZWR Madinat Zayed 71.70 293 P **P** **16 32 07.7 0.0**
MZR Muzera 72.07 292 P **P** **16 32 10.1 +0.2**
MZR Muzera 72.07 292 *i*P **P** **16 32 10.1 +0.2**
SNR=26
ABTO Aybut 72.31 286 P **P** **16 32 10.7 -0.8**
ARTI Arti 72.53 327 P **P** **16 32 10.8 -1.2**
ARTI IAmb IAmb 16 32 12.4
comp=Z,59nm,1.4s
ARTI Arti 72.53 327 LR LR 17 08 49.8
comp=Z,31nm,18.6s,baz=130,slow=40
ARTI Arti 72.53 327*c i*P **P** **16 32 11.4 -0.6**
ARTI *PP **pP** **16 32 34.4 -1.1**
ARTI 16 34 54.2
ARTI S **S** **16 41 31.2 +2.4**
ARTI SS **SS** **16 46 09.2 -0.2**
ARTI pmax pmax
comp=Z,46nm,1.4s
GHWR Ruwais 72.62 293 P **P** **16 32 13.3 +0.2**
JRN Qarnain Island 72.66 294 P **P** **16 32 13.1 -0.2**
M11K Mekoryuk 72.90 29 P **P** **16 32 14.9 +0.8**
baz=253
FALS False Pass 72.92 35 P **P** **16 32 15.0 +0.6**
baz=257
FALS False Pass 72.92 35 P **P** **16 32 14.9 +0.6**
SLWR Sila 73.71 293 P **P** **16 32 19.2 -0.4**
CASY Casey 73.80 187 P **P** **16 32 18.6 -0.5**
K13K Kusilvak Mount 74.06 27 P **P** **16 32 22.2 +1.4**
baz=254
TRNA Turayna 74.14 294 P **P** **16 32 21.8 -0.3**
M13K Dall Lake 74.27 29 P **P** **16 32 23.8 +1.7**
baz=256
F14K Arctic Creek 74.40 23 P **P** **16 32 23.9 +1.1**
baz=252
SMRA Abu-Samra 74.50 294 P **P** **16 32 23.9 -0.3**
ANM Nome 74.51 25 P **P** **16 32 24.4 +0.9**
baz=253
SAKB Bahrain 74.75 295 P **P** **16 32 25.5 -0.1**
J14K Nanvaranak Lak 74.77 27 P **P** **16 32 26.1 +1.2**
baz=255
L14K Kuka Creek 74.81 28 IAmb IAmb 16 32 27.7
comp=Z,42nm,1.0s
L14K Kuka Creek 74.81 28 P **P** **16 32 26.4 +1.2**
baz=256,SNR=8.2
N14K Kuskokwak Cree 74.96 30 P **P** **16 32 27.2 +1.1**
baz=257
M14K Bethel 75.02 29 P **P** **16 32 28.1 +1.8**
baz=257,SNR=6.4
O14K Tigyukauivet M 75.03 30 P **P** **16 32 27.6 +1.1**
baz=258
F15K North Star Dit 75.14 23 P **P** **16 32 27.6 +0.6**
baz=253
G15K Niukluk 75.18 24 P **P** **16 32 28.0 +0.8**
baz=254
L15K Ungalak Mounta 75.45 28 P **P** **16 32 30.0 +1.1**
baz=257
K15K Wolf Creek Mou 75.57 27 IAmb IAmb 16 35 17.4
comp=Z,84nm,1.9s
K15K Wolf Creek Mou 75.57 27 P **P** **16 32 30.9 +1.3**
baz=257
M15K Kasigluk River 75.61 29 P **P** **16 32 31.0 +1.2**
baz=258
C16K Lisburne Hills 75.66 21 P **P** **16 32 31.0 +1.0**
baz=252
O15K Ungalikthiuk R 75.74 31 P **P** **16 32 31.8 +1.3**
baz=259
N15K Kwethluk River 75.80 30 IAmb IAmb 16 32 33.3
comp=Z,34nm,0.9s
N15K Kwethluk River 75.80 30 P **P** **16 32 32.4 +1.5**
baz=259
H16K Elim 75.83 25 P **P** **16 32 31.7 +0.7**
baz=256
G16K Koyuk River 75.97 24 P **P** **16 32 32.5 +0.7**
baz=255
CHGN Chignik 75.98 34 P **P** **16 32 32.6 +0.6**
baz=261
J16K Anvik River 76.21 26 P **P** **16 32 34.7 +1.5**
baz=257
D17K Noatak River 76.30 22 P **P** **16 32 35.1 +1.4**
baz=254
I17K Unalakleet 76.30 26 P **P** **16 32 35.3 +1.6**
baz=257
L16K Owhat River 76.40 28 IAmb IAmb 16 32 36.5
comp=Z,42nm,1.2s
L16K Owhat River 76.40 28 P **P** **16 32 35.4 +1.2**
baz=259,SNR=7.0
RDOG Red Dog Mine 76.47 21 IAmb IAmb 16 32 36.1
comp=Z,14nm,0.6s
RDOG Red Dog Mine 76.47 21 P **P** **16 32 35.5 +1.0**
baz=254
C17K DeLong Mountai 76.49 21 P **P** **16 32 35.6 +1.0**
baz=254
M16K Timber Creek 76.51 29 IAmb IAmb 16 32 37.2
comp=Z,25nm,0.7s
M16K Timber Creek 76.51 29 P **P** **16 32 36.0 +1.0**
baz=259
E17K Hotham Inlet 76.61 22 P **P** **16 32 36.5 +1.2**
baz=255
F17K Baldwin Pennin 76.67 23 IAmb IAmb 16 32 37.7
comp=Z,16nm,0.6s
F17K Baldwin Pennin 76.67 23 P **P** **16 32 36.8 +1.1**
baz=256
O16K Kokwok River B 76.68 30 IAmb IAmb 16 32 38.5
comp=Z,23nm,0.8s
O16K Kokwok River B 76.68 30 P **P** **16 32 37.1 +1.2**
baz=260
H17K Granite Mounta 76.86 25 P **P** **16 32 38.2 +1.3**
baz=258
J17K VABM Dome 76.91 26 IAmb IAmb 16 32 39.2
comp=Z,15nm,0.8s
J17K VABM Dome 76.91 26 P **P** **16 32 38.1 +1.0**
baz=259
L17K Donlin 77.02 28 P **P** **16 32 39.5 +1.7**
baz=260,SNR=5.1
K17K Iditarod 77.12 27 IAmb IAmb 16 32 41.0
comp=Z,26nm,1.0s
K17K Iditarod 77.12 27 P **P** **16 32 39.9 +1.5**
baz=260,SNR=9.4
RAR Rarotonga 77.15 113 LR LR 17 00 12.3
comp=Z,45nm,22.0s,baz=274,slow=31
E18K Tukpahlearik C 77.15 22 IAmb IAmb 16 32 40.6
comp=Z,23nm,0.7s
E18K Tukpahlearik C 77.15 22 P **P** **16 32 39.7 +1.3**
baz=256
B18K Kokolik River 77.21 20 P **P** **16 32 40.3 +1.6**
baz=255,SNR=18
O17K Koliganek Bris 77.21 30 P **P** **16 32 40.0 +1.1**
baz=261
C18K Utukok River 77.23 21 IAmb IAmb 16 32 40.6
comp=Z,17nm,0.8s
C18K Utukok River 77.23 21 P **P** **16 32 39.8 +0.9**
baz=256
Q16K King Salmon 77.28 31 P **P** **16 32 40.6 +1.4**
baz=262
N17K Nushagak Hills 77.28 29 P **P** **16 32 40.9 +1.6**
baz=261
M17K Holitna River 77.30 29 P **P** **16 32 41.0 +1.6**
baz=261
F18K Selawik 77.33 23 P **P** **16 32 40.7 +1.3**
baz=258
P17K Kvichak River 77.46 31 P **P** **16 32 41.3 +1.0**
baz=262
CHIR Chirikof Islan 77.47 34 P **P** **16 32 41.5 +1.0**
baz=264
CHIR Chirikof Islan 77.47 34 P **P** **16 32 41.4 +1.0**
comp=Z,100nm,1.3s
H18K Honhosa River 77.55 25 P **P** **16 32 41.4 +0.6**
baz=259
G18K Tagagawik 77.58 24 P **P** **16 32 41.9 +1.0**
baz=259
KIRV Kirov 77.70 328*ce*P **P** **16 32 41.4 -0.2**
L18K Granite Mounta 77.78 28 P **P** **16 32 43.3 +1.3**
baz=261
ACHA Angle Creek He 77.91 32 IAmb IAmb 16 32 43.8
comp=Z,21nm,1.2s
N18K Kilae Creek 77.94 29 P **P** **16 32 44.0 +1.0**
baz=262
J18K Innoko River 77.96 27 P **P** **16 32 44.0 +0.9**
baz=261
M18K Stony River 78.08 29 P **P** **16 32 45.2 +1.5**
baz=262
BELG Belogornoye 78.09 322*c i*P **P** **16 32 43.4 -0.5**
BELG pmax pmax
comp=Z,13nm,0.9s
P18K Big Mountain, 78.10 31 P **P** **16 32 44.3 +0.4**
baz=263
GCSA Galena City Sc 78.10 25 P **P** **16 32 44.4 +0.7**
baz=260
F19K Shaleruckik Mo 78.11 23 P **P** **16 32 44.5 +0.8**
baz=259
O18K Koktuh Hills 78.17 30 IAmb IAmb 16 32 46.6
comp=Z,44nm,1.1s
O18K Koktuh Hills 78.17 30 P **P** **16 32 45.3 +1.1**
baz=263
TTA Tatalina 78.20 27 P **P** **16 32 45.4 +0.9**
baz=262
G19K Purcell Mounta 78.25 24 P **P** **16 32 45.7 +1.1**
baz=260
R18K Karluk 78.30 33 P **P** **16 32 45.1 +0.2**
baz=264
D19K Kuna River 78.30 21 IAmb IAmb 16 32 46.7
comp=Z,18nm,0.9s
D19K Kuna River 78.30 21 P **P** **16 32 45.7 +0.9**
baz=258,SNR=13
SII Sitkinak Islan 78.35 34 P **P** **16 32 46.3 +1.0**
baz=265
SII Sitkinak Islan 78.35 34 P **P** **16 32 46.3 +1.0**
comp=Z,53nm,1.3s
H19K Roundabout Mou 78.41 24 IAmb IAmb 16 32 51.2
comp=Z,16nm,0.8s
H19K Roundabout Mou 78.41 24 P **P** **16 32 46.5 +1.1**
baz=261
E19K Redstone River 78.43 22 P **P** **16 32 46.8 +1.2**
baz=260
J19K Poorman 78.53 26 P **P** **16 32 47.4 +1.3**
baz=262
L19K White Mountain 78.63 28 P **P** **16 32 47.6 +0.9**
baz=263
N19K Bonanza Creek 78.64 29 IAmb IAmb 16 32 49.4
comp=Z,14nm,0.8s
N19K Bonanza Creek 78.64 29 P **P** **16 32 48.3 +1.4**
baz=263
O19K Port Alsworth 78.65 30 P **P** **16 32 48.0 +1.1**
baz=264
M19K Big River Lodg 78.81 28 P **P** **16 32 49.1 +1.3**
baz=263
Q19K Cape Douglas, 78.86 31 P **P** **16 32 48.3 +0.2**
baz=264
D20K Etivluk River 78.89 21 P **P** **16 32 49.1 +1.1**
baz=260,SNR=16
OHAK Old Harbor 78.90 33 P **P** **16 32 49.4 +1.2**
baz=265
OHAK Old Harbor 78.90 33 P **P** **16 32 49.6 +1.4**
F20K Avaraart Lake 78.94 23 P **P** **16 32 49.4 +1.1**
baz=261
E20K Nigu River 78.96 22 P **P** **16 32 49.7 +1.2**
baz=260
H20K Anotleneega Mo 79.05 25 P **P** **16 32 50.1 +1.2**
baz=262
L20K Farewell, AK 79.11 28 P **P** **16 32 50.1 +0.7**
baz=264
I20K Naaghedeneel 79.13 25 P **P** **16 32 50.7 +1.3**
baz=263
K20K Telida 79.13 27 P **P** **16 32 50.8 +1.3**
baz=263,SNR=5.3
P19K Oil Pt 79.14 31 P **P** **16 32 51.1 +1.5**
baz=265
J20K Nowinta River 79.19 26 IAmb IAmb 16 32 53.0
comp=Z,50nm,1.9s
J20K Nowinta River 79.19 26 P **P** **16 32 51.2 +1.5**
baz=263
KDAK Kodiak Island 79.32 33 P **P** **16 32 51.7 +1.2**
KDAK Kodiak Island 79.32 33 LR LR 17 01 43.2
comp=Z,92nm,21.8s,baz=82,slow=31
KDAK Kodiak Island 79.32 33 P **P** **16 32 51.5 +1.0**
baz=266
KDAK Kodiak Island 79.32 33 P **P** **16 32 51.7 +1.2**
KDAK pmax pmax
comp=Z,51nm,0.6s
A21K Barrow 79.36 19 P **P** **16 32 51.7 +1.2**
baz=259
RAYN Ar Rayn 79.39 293 P **P** **16 32 51.4 -0.3**
RAYN Ar Rayn 79.39 293 P **P** **16 32 51.5 -0.3**
RAYN Ar Rayn 79.39 293 P **P** **16 32 51.4 -0.3**
RAYN pmax pmax
comp=Z,38nm,0.7s
RAYN Ar Rayn 79.39 293 *i*P **P** **16 32 51.5 -0.3**
SNR=30
M20K Styx River 79.40 28 IAmb IAmb 16 32 53.0
comp=Z,14nm,0.7s
M20K Styx River 79.40 28 P **P** **16 32 52.0 +1.0**
baz=264
O20K Slope Mountain 79.48 30 P **P** **16 32 52.6 +1.1**
baz=265
Q20K Shuyak Island 79.48 32 P **P** **16 32 52.4 +1.0**
baz=266
C21K Knifeblade Rid 79.61 21 P **P** **16 32 53.1 +1.1**
baz=262
GNI Garni 79.63 309 P **P** **16 32 53.7 +0.9**
GNI Garni 79.63 309*c i*P **P** **16 32 53.6 +0.8**
GNI pmax pmax
comp=Z,17nm,0.7s
GNI Garni 79.63 309 P **P** **16 32 53.8 +0.9**
SPCR Spurr Chakacha 79.78 29 P **P** **16 32 54.2 +1.1**
baz=265
E21K Killik River 79.80 22 IAmb IAmb 16 32 54.9
comp=Z,31nm,1.3s
F21K Alatna River 79.83 23 P **P** **16 32 53.7 +0.5**
baz=263
H21K Melozitna Rive 79.93 25 IAmb IAmb 16 32 56.0
comp=Z,30nm,1.4s
H21K Melozitna Rive 79.93 25 P **P** **16 32 55.0 +1.3**
baz=264
PPLA Purkeypile 79.93 27 IAmb IAmb 16 32 55.3
comp=Z,16nm,0.8s
PPLA Purkeypile 79.93 27 P **P** **16 32 54.7 +0.7**
baz=265,SNR=5.4
HOM Homer 79.94 31 P **P** **16 32 54.0 +0.1**
baz=266
CHUM Lake Minchumin 79.96 26 P **P** **16 32 55.0 +1.1**
baz=265
CAST Castle Rocks 80.02 27 IAmb IAmb 16 32 56.2
comp=Z,20nm,0.8s
CAST Castle Rocks 80.02 27 P **P** **16 32 55.3 +1.0**
baz=265,SNR=18
SKT Skwentna 80.16 28 IAmb IAmb 16 32 56.0
comp=Z,14nm,0.7s
SKT Skwentna 80.16 28 P **P** **16 32 55.3 +0.3**
baz=266,SNR=9.1
I21K Tanana 80.22 25 IAmb IAmb 16 32 57.7
comp=Z,26nm,1.0s
I21K Tanana 80.22 25 P **P** **16 32 56.6 +1.3**
baz=265,SNR=16
CAPN Captain Cook N 80.26 30 P **P** **16 32 56.7 +1.1**
baz=266
D22K Ayikyak River 80.33 21 P **P** **16 32 57.2 +1.3**
baz=264,SNR=8.5
BRSE Bradley Lake S 80.41 31 P **P** **16 32 56.6 +0.2**
baz=267
NCK Nalchik 80.47 313⇑*e*P **P** **16 32 57.3 +0.2**
NCK pmax pmax
comp=Z,78nm,2.8s
H22K Ishtalitna Cre 80.54 24 P **P** **16 32 58.4 +1.4**
baz=265
KTH Kantishna Hill 80.55 27 IAmb IAmb 16 32 59.6
comp=Z,20nm,1.1s
BPAW Bear Paw Mtn. 80.56 26 IAmb IAmb 16 32 59.1
comp=Z,29nm,0.8s
BPAW Bear Paw Mtn. 80.56 26 P **P** **16 32 58.0 +0.8**
baz=266,SNR=21
E22K Anaktuvuk Pass 80.56 22 IAmb IAmb 16 32 59.5
comp=Z,20nm,1.1s
E22K Anaktuvuk Pass 80.56 22 P **P** **16 32 58.3 +1.1**
baz=264,SNR=17
CUT Chulitna 80.78 28 IAmb IAmb 16 33 00.3
comp=Z,20nm,0.7s
CUT Chulitna 80.78 28 P **P** **16 32 59.1 +0.8**
baz=267
M22K Willow 80.82 29 P **P** **16 32 58.9 +0.4**
baz=267
TRF Thorofare Moun 80.83 27 IAmb IAmb 16 33 00.1
comp=Z,32nm,1.0s
TRF Thorofare Moun 80.83 27 P **P** **16 32 59.3 +0.5**
baz=267,SNR=9.1
O22K Cooper Landing 80.95 30 P **P** **16 32 59.9 +0.7**
baz=268
RC01 Rabbit Creek A 80.97 29 IAmb IAmb 16 33 02.0
comp=Z,28nm,0.6s
RC01 Rabbit Creek A 80.97 29 P **P** **16 33 00.1 +0.8**
baz=268,SNR=10
KBZ Khabaz 80.98 313 P **P** **16 32 59.3 -0.5**
comp=Z,4.5nm,0.8s,baz=138,slow=3.4,SNR=12
KBZ LR LR 17 14 04.0
comp=Z,34nm,18.0s,baz=58,slow=39
comp=Z,4.5nm,0.8s
KBZ Khabaz 80.98 313⇑*i*P **P** **16 32 59.6 -0.2**
KBZ pmax pmax
comp=Z,13nm,1.3s
D23K Nanushuk River 81.05 21 IAmb IAmb 16 33 02.4
comp=Z,16nm,0.8s

D23K	Nanushuk River baz=265	81.05	21	P	P	16 33 01.1 +1.4
SEW	Seward comp=Z,20nm,0.6s	81.07	30	IAmb	IAmb	16 33 02.6
SEW	Seward baz=268	81.07	30	P	P	16 33 00.4 +0.5
COLD	Coldfoot comp=Z,16nm,0.7s	81.11	23	IAmb	IAmb	16 33 02.3
COLD	Coldfoot baz=266,SNR=31	81.11	23	P	P	16 33 01.3 +1.3
KIV	Kislovodsk	81.13	313	P	P	16 33 01.0 +0.3
KIV	comp=Z,22nm,0.7s			IAmb	IAmb	16 33 02.7
KIV	Kislovodsk	81.13	313	P	P	16 33 01.3 +0.5
KIV	Kislovodsk comp=Z,25nm,1.1s	81.13	313	*e*P	P	16 32 59.7 -1.0
KIV	Kislovodsk SNR=10	81.13	313	*i* P	P	16 33 01.5 +0.8
G23K	Bananza Creek comp=Z,15nm,0.8s	81.14	24	IAmb	IAmb	16 33 04.1
G23K	Bananza Creek baz=266,SNR=19	81.14	24	P	P	16 33 01.6 +1.4
C23K	Itkillik River comp=Z,25nm,0.6s	81.15	20	IAmb	IAmb	16 33 02.2
C23K	Itkillik River baz=265	81.15	20	P	P	16 33 01.1 +1.0
SHA1	Shidzhatmaz	81.15	313⇑	*e*P	P	16 33 01.8 +0.8
PMR	Palmer comp=Z,21nm,0.9s	81.28	29	IAmb	IAmb	16 33 02.0
PMR	Palmer baz=268,SNR=7.5	81.28	29	P	P	16 33 01.2 +0.2
I23K	Minto, Yukon-K comp=Z,20nm,0.7s	81.33	25	IAmb	IAmb	16 33 04.0
I23K	Minto, Yukon-K baz=267,SNR=22	81.33	25	P	P	16 33 02.0 +0.8
E23K	Chandalar comp=Z,17nm,0.9s	81.38	22	IAmb	IAmb	16 33 04.2
E23K	Chandalar baz=267	81.38	22	P	P	16 33 02.6 +1.1
NEA2	Nenana comp=Z,20nm,0.8s	81.42	26	IAmb	IAmb	16 33 04.1
NEA2	Nenana baz=268,SNR=18	81.42	26	P	P	16 33 02.6 +0.9
TOLK	Toolik Lake Re comp=Z,22nm,0.7s	81.43	22	IAmb	IAmb	16 33 04.0
TOLK	Toolik Lake Re baz=266,SNR=20	81.43	22	P	P	16 33 03.1 +1.4
MCK	McKinley baz=268,SNR=33	81.45	27	P	P	16 33 02.3 +0.4
KNK	Knik Glacier comp=Z,30nm,0.9s	81.60	29	IAmb	IAmb	16 33 04.4
KNK	Knik Glacier baz=269,SNR=6.7	81.60	29	P	P	16 33 03.4 +0.6
PWL	Port Wells baz=269	81.65	30	P	P	16 33 03.5 +0.5
SML	Sawmill comp=Z,30nm,1.0s	81.67	29	IAmb	IAmb	16 33 04.6
SML	Sawmill baz=269,SNR=5.6	81.67	29	P	P	16 33 03.6 +0.4
VRH	Novokhopyorsk	81.71	321	*e*P	P	16 33 02.2 -1.2
VRH	comp=Z,22nm,1.3s			pmax	pmax	
D24K	Happy Valley baz=267	81.73	21	P	P	16 33 04.7 +1.4
GURO	Guroymak-BITLI comp=Z,30nm,0.8s	81.76	308	IAmb	IAmb	16 33 06.4
C24K	Franklin Bluff comp=Z,21nm,1.0s	81.80	21	IAmb	IAmb	16 33 05.6
C24K	Franklin Bluff baz=267	81.80	21	P	P	16 33 04.8 +1.2
E24K	Your Creek baz=268	81.81	22	P	P	16 33 04.8 +1.1
WRH	Wood River Hil comp=Z,26nm,1.3s	81.84	26	IAmb	IAmb	16 33 05.2
M23K	Glacier View baz=269,SNR=7.2	81.96	29	P	P	16 33 05.1 +0.5
COLA	College baz=269	81.96	25	P	P	16 33 04.7 +0.2
COLA	College	81.96	25	P	P	16 33 06.3 +1.8
COLA	College	81.96	25⇑	*i*P	P	16 33 04.2 -0.3
COLA	comp=Z,49nm,2.6s			pmax	pmax	
H24K	Noodor Dome comp=Z,25nm,0.8s	81.97	24	IAmb	IAmb	16 33 07.7
H24K	Noodor Dome baz=268	81.97	24	P	P	16 33 05.8 +1.2
F24K	Squaw Lake baz=268	82.01	23	P	P	16 33 06.2 +1.4
P23K	Montague Islan baz=270	82.10	30	P	P	16 33 06.3 +0.9
POKR	Poker Plat Res baz=269,SNR=9.2	82.14	25	P	P	16 33 06.3 +0.8
SCM	Sheep Creek Mo comp=Z,20nm,0.9s	82.14	29	IAmb	IAmb	16 33 07.1
SCM	Sheep Creek Mo baz=270	82.14	29	P	P	16 33 06.5 +0.8
G24K	Hadweenzic Riv comp=Z,20nm,0.8s	82.15	24	IAmb	IAmb	16 33 08.5
G24K	Hadweenzic Riv baz=269,SNR=16	82.15	24	P	P	16 33 06.7 +1.2
GLI	Glacier Island baz=270	82.25	30	P	P	16 33 06.6 +0.5
HDA	Harding Lake comp=Z,27nm,0.6s	82.34	26	IAmb	IAmb	16 33 07.0
HDA	Harding Lake baz=270,SNR=23	82.34	26	P	P	16 33 06.3 -0.2
IL31	comp=Z,13nm,0.7s	82.37	26	IAmb	IAmb	16 33 07.5
ILAR	Eielson Array	82.37	26	P	P	16 33 05.7 -1.0
ILAR	Eielson Array comp=Z,9.7nm,0.6s,baz=241,slow=5.0,SNR=241	82.37	26	P	P	16 33 05.9 -0.8
ILAR	comp=Z,31nm,18.0s,baz=220,slow=44 comp=Z,9.7nm,0.6s			LR	LR	17 21 43.1
D25K	Kavik River baz=269	82.61	21	P	P	16 33 08.6 +0.7
Q23K	Middleton Isla baz=271	82.63	31	P	P	16 33 07.3 -0.8
M24K	Tolsona, Glenn baz=271,SNR=5.2	82.69	28	P	P	16 33 10.2 +1.8
MARD	Mardin comp=Z,20nm,0.6s	82.80	307	IAmb	IAmb	16 33 11.0
H25L	Birch Creek baz=270	82.81	24	P	P	16 33 10.5 +1.6
KLU	Klutina comp=Z,16nm,0.6s	82.82	29	IAmb	IAmb	16 33 11.8
KLU	Klutina baz=271,SNR=7.0	82.82	29	P	P	16 33 10.7 +1.6
KLMR	Klimovskoe	82.83	330	*e*P	P	16 33 06.4 -2.7
KLMR	comp=Z,33nm,0.8s			pmax	pmax	
K24K	Donnelly Dome baz=271,SNR=15	82.85	27	P	P	16 33 09.7 +0.5
F25K	Christian Rive baz=270	82.88	23	P	P	16 33 11.0 +1.7
KOPT	Kop Dagi comp=Z,25nm,0.7s	82.89	309	IAmb	IAmb	16 33 17.1
DIV	Divide comp=Z,21nm,0.8s	82.90	29	IAmb	IAmb	16 33 12.5
EYAK	Cordova Ski Ar baz=271	82.92	30	P	P	16 33 10.9 +1.4
PRP	Porcupine Dome baz=271,SNR=8.0	82.94	25	P	P	16 33 09.6 -0.2
J25K	Salcha River, comp=Z,10nm,0.6s	83.02	26	IAmb	IAmb	16 33 10.5
J25K	Salcha River, baz=271,SNR=15	83.02	26	P	P	16 33 09.7 -0.5
VSLR	Vesyoloye	83.07	313⇑	*e*P	P	16 33 10.8 +0.1
VSLR	comp=Z,35nm,0.7s			pmax	pmax	
C26K	Camden Bay baz=271,SNR=7.7	83.12	20	P	P	16 33 12.3 +1.8
HARP	HAARP baz=271	83.16	28	P	P	16 33 12.4 +1.6
RIDG	Independent Ri comp=Z,54nm,1.2s	83.27	27	IAmb	IAmb	16 33 13.5
RIDG	Independent Ri baz=272,SNR=16	83.27	27	P	P	16 33 11.9 +0.5
VORR	Voronezh	83.27	321	P	P	16 33 11.5 -0.1
VORR	comp=Z,19nm,0.6s			pmax	pmax	
BMAR	Burnt Mountain	83.29	23	P	P	16 33 13.0 +1.6
SOC	Sochi	83.29	313	*e*P	P	16 33 10.5 -1.4
SOC				*e*		16 36 20.5
SOC				*e*PPP	PPP	16 38 12.5
SOC				*e*S	S	16 43 23.6 -1.4
SOC				*e*SS	SS	16 48 50.2 -1.5
SOC				*e*SSS	SSS	16 52 17.3
SOC	comp=Z,16nm,0.6s			pmax	pmax	
SOC	comp=Z,55nm,15.0s			MLR	MLR	
VOI	Vohitsoka	83.30	247	P	P	16 33 11.4 -1.1
VOI	Vohitsoka	83.30	247	P	P	16 33 11.7 -0.8
VSR	Storozhevoye	83.31	321	*e*P	P	16 33 10.0 -1.8
VSR	comp=Z,10.0nm,0.8s			pmax	pmax	
LPSR	Galich'ya Gora	83.40	322	*e*P	P	16 33 11.4 -0.8
LPSR	comp=Z,22nm,0.8s			pmax	pmax	
F26K	Sheenjek River baz=272	83.45	23	P	P	16 33 13.5 +1.3
N25K	Chitina, Valde comp=Z,20nm,1.0s	83.45	29	IAmb	IAmb	16 33 14.9
N25K	Chitina, Valde baz=272,SNR=9.7	83.45	29	P	P	16 33 13.8 +1.3
BMRM	Bremner River comp=Z,25nm,0.7s	83.47	29	IAmb	IAmb	16 33 14.6
BMRM	Bremner River baz=272,SNR=6.2	83.47	29	P	P	16 33 13.6 +1.1
C27K	Jago River comp=Z,11nm,0.7s	83.55	21	IAmb	IAmb	16 33 14.8
C27K	Jago River baz=272	83.55	21	P	P	16 33 14.0 +1.4
KAIM	Kayak Island baz=272	83.60	30	P	P	16 33 14.4 +1.3
G26K	Porcupine Rive baz=272	83.61	23	P	P	16 33 14.9 +1.9
SCRK	Sand Creek baz=272,SNR=9.9	83.64	26	P	P	16 33 14.2 +0.8
J26L	Joseph Creek comp=Z,19nm,0.8s	83.80	26	IAmb	IAmb	16 33 15.8
J26L	Joseph Creek baz=273	83.80	26	P	P	16 33 14.9 +0.7
MENT	Mentasta comp=Z,24nm,0.7s	83.81	27	IAmb	IAmb	16 33 16.3
I26K	Coal Creek Min comp=Z,21nm,0.8s	83.94	25	IAmb	IAmb	16 33 17.3
I26K	Coal Creek Min baz=273	83.94	25	P	P	16 33 15.3 +0.6
L26K	Log Cabin Wild comp=Z,15nm,0.8s	83.97	27	IAmb	IAmb	16 33 17.2
L26K	Log Cabin Wild baz=273,SNR=11	83.97	27	P	P	16 33 16.4 +1.4
MOS	Moscow	84.02	325	*e*P	P	16 33 14.4 -0.9
MOS	comp=Z,46nm,1.0s			pmax	pmax	
VRDI	Verde Repeater comp=Z,23nm,0.6s	84.02	29	IAmb	IAmb	16 33 17.3
M26K	Nabesna, AK comp=Z,18nm,1.1s	84.17	28	IAmb	IAmb	16 33 18.3
M26K	Nabesna, AK baz=273,SNR=6.2	84.17	28	P	P	16 33 17.2 +1.2
G27K	Doyon Strip comp=Z,18nm,0.9s	84.46	23	IAmb	IAmb	16 33 20.1
G27K	Doyon Strip baz=274	84.46	23	P	P	16 33 19.0 +1.6
D27M	Malcolm River comp=Z,26nm,0.8s	84.54	21	IAmb	IAmb	16 33 20.3
D27M	Malcolm River baz=274	84.54	21	P	P	16 33 19.0 +1.2
H27K	Steamboat Moun baz=274	84.55	24	P	P	16 33 19.7 +1.8
I27K	Kandik River baz=274	84.56	25	P	P	16 33 19.9 +2.0
OBN	Obninsk	84.66	325	*e*P	P	16 33 18.2 -0.3
OBN				*e**PP	pP	16 33 39.3 -3.2
OBN				*e*		16 36 33.5
OBN				*e*PPP	PPP	16 38 27.2
OBN	comp=Z,33nm,0.8s			pmax	pmax	
OBN	comp=Z,117nm,21.0s			MLR	MLR	
OBN	Obninsk comp=Z,42nm,1.1s	84.66	325	P	P	16 33 18.3 -0.3
L27K	Beaver Creek, comp=Z,16nm,0.8s	84.66	27	IAmb	IAmb	16 33 21.0
L27K	Beaver Creek, baz=274	84.66	27	P	P	16 33 20.0 +1.5
BCAR	Beaver Creek A	84.68	27	P	P	16 33 19.8 +1.2
M27K	Edge Creek, AK comp=Z,20nm,1.1s	84.69	28	IAmb	IAmb	16 33 20.7
M27K	Edge Creek, AK baz=274	84.69	28	P	P	16 33 20.0 +1.2
MESA	MESA baz=274	84.82	30	P	P	16 33 20.5 +1.0
ANN	Anapa	84.86	314	*e*P	P	16 33 18.5 -1.2
ANN				*e**PP	pP	16 33 40.6 -3.1
ANN				*e*S	SKSac	16 43 33.7 -2.0
ANN	comp=Z,120nm,0.9s			pmax	pmax	
F28M	Old Crow baz=276,SNR=43	85.08	23	P	P	16 33 21.7 +1.2
E28M	Babbage River comp=Z,27nm,1.1s	85.11	22	IAmb	IAmb	16 33 22.9
E28M	Babbage River baz=276	85.11	22	P	P	16 33 21.9 +1.3
BVCY	Beaver Creek baz=275	85.16	28	P	P	16 33 22.7 +1.8
I28M	Miner Creek baz=276	85.27	25	P	P	16 33 23.3 +1.7
D28M	Stokes Point baz=277	85.32	21	P	P	16 33 23.0 +1.5
YUK3	Moose Creek baz=276	85.41	28	P	P	16 33 23.8 +1.4
O28M	Mount Upton baz=276	85.64	29	P	P	16 33 25.4 +1.7
DAWY	Dawson comp=Z,8.7nm,0.6s	85.65	26	IAmb	IAmb	16 33 25.7
DAWY	Dawson baz=276	85.65	26	P	P	16 33 24.8 +1.4
PINM	Pinnacle baz=276	85.67	30	P	P	16 33 25.2 +1.5
E29M	Blow River comp=Z,26nm,1.7s	85.73	22	IAmb	IAmb	16 33 25.7
E29M	Blow River baz=277	85.73	22	P	P	16 33 25.1 +1.4
YUK8	Steele Glacier baz=276	85.79	29	P	P	16 33 25.8 +1.4
H29M	Whitestone comp=Z,13nm,0.8s	85.83	24	IAmb	IAmb	16 33 26.5
H29M	Whitestone baz=277	85.83	24	P	P	16 33 25.2 +1.0
G29M	Pine Creek comp=Z,28nm,0.8s	85.88	23	IAmb	IAmb	16 33 26.8
G29M	Pine Creek baz=277	85.88	23	P	P	16 33 25.3 +0.9
I29M	Ogilvie Camp, baz=277	85.96	25	P	P	16 33 25.9 +1.0
PPT2	Papeete2 comp=Z,79nm,27.2s	85.97	108	*e*LR	LR	17 00 35.1
J29N	Klondike Camp baz=277	86.11	26	P	P	16 33 26.9 +1.2
PNL	Peninsula baz=277	86.15	31	P	P	16 33 26.8 +0.9
M29M	Somme Creek comp=Z,14nm,0.6s	86.26	28	IAmb	IAmb	16 33 29.0
M29M	Somme Creek baz=277	86.26	28	P	P	16 33 27.9 +1.4
YUK4	Talbot Arm baz=277	86.32	29	P	P	16 33 28.0 +1.1
L29M	L29M comp=Z,12nm,0.8s	86.33	27	IAmb	IAmb	16 33 29.8
L29M	L29M baz=278	86.33	27	P	P	16 33 28.6 +1.8
VNDA	Vanda	86.39	173	P	P	16 33 25.8 -0.9
VNDA	Vanda comp=Z,2.9nm,0.5s,baz=322,slow=7.2,SNR=7.7	86.39	173	P	P	16 33 26.9 +0.3
VNDA	comp=Z,73nm,18.3s,baz=328,slow=37 comp=Z,2.9nm,0.5s			LR	LR	17 13 54.4
VNDA	Vanda	86.39	173	P	P	16 33 27.0 +0.3
EPYK	Eagle Plains baz=279	86.47	24	P	P	16 33 28.1 +0.7
O29M	Mount Kennedy baz=277	86.48	30	P	P	16 33 29.0 +1.3
K29M	Barlow Dome baz=278	86.50	26	P	P	16 33 28.8 +1.1
YUK6	Outpost Mounta baz=278	86.50	29	P	P	16 33 28.1 +0.2
G30M	tAoh Zraii Nji comp=Z,8.3nm,0.6s	86.57	23	IAmb	IAmb	16 33 28.6
G30M	tAoh Zraii Nji baz=279	86.57	23	P	P	16 33 27.8 -0.1
F30M	Barrier River baz=279	86.63	22	P	P	16 33 28.3 +0.2
I30M	Mount Dempster baz=279	86.78	25	P	P	16 33 29.6 +0.6
J30M	Hart River comp=Z,21nm,1.9s	86.91	25	IAmb	IAmb	16 35 00.7
J30M	Hart River baz=279	86.91	25	P	P	16 33 30.1 +0.4
HYT	Haines Junctio baz=278	86.94	29	P	P	16 33 30.5 +0.6
M30M	Minto, Yukon	87.01	27	P	P	16 33 31.3 +1.2
M30M	Minto, Yukon baz=279	87.01	27	P	P	16 33 31.2 +1.2
P30M	Million Dollar baz=279	87.31	30	P	P	16 33 32.1 +0.4
INK	Inuvik baz=282,SNR=7.9	87.35	22	P	P	16 33 31.5 0.0
F31M	Tsiigehtchic	87.44	22	P	P	16 33 31.6 -0.3
F31M	comp=Z,17nm,0.7s			IAmb	IAmb	16 33 32.8
F31M	Tsiigehtchic baz=281,SNR=15	87.44	22	P	P	16 33 32.0 0.0
BALJ	Balqa	87.45	302	P	P	16 33 32.0 -0.9
PUL	Pulkovo	87.48	330‖	*e*P	P	16 33 34.3 +2.0
PUL	comp=Z,56nm,0.5s			pmax	pmax	
H31M	Peel River comp=Z,44nm,1.9s	87.52	24	IAmb	IAmb	16 34 51.2
H31M	Peel River baz=281	87.52	24	P	P	16 33 32.9 +0.5
MMAI	Mount Meron Ar comp=Z,4.6nm,0.4s,baz=76,slow=7.8,SNR=30	87.54	303	P	P	16 33 34.5 +1.2
MMAI	comp=Z,25nm,18.1s,baz=70,slow=39 comp=Z,4.6nm,0.4s			LR	LR	17 17 53.4
SPA0	Spitsbergen Ar	87.56	349	*e*P	P	16 33 31.6 -0.7
SPITS	Spitsbergen Ar comp=Z,7.0nm,0.6s,baz=92,slow=7.5,SNR=13	87.56	349	P	P	16 33 31.7 -0.7
SPITS	comp=Z,36nm,18.0s,baz=46,slow=40 comp=Z,7.0nm,0.6s			LR	LR	17 19 06.8
O30N	Mendenhall baz=280	87.63	29	P	P	16 33 33.6 +0.5
N31M	Braeburn, Yuko comp=Z,9.8nm,0.8s	87.66	28	IAmb	IAmb	16 33 35.2
N31M	Braeburn, Yuko baz=280	87.66	28	P	P	16 33 34.1 +0.8
ARA0	ARCESS Array S	87.66	340	*e*P	P	16 33 32.2 -0.9
ARCES	ARCESS Array B comp=Z,6.3nm,0.7s,baz=89,slow=5.3,SNR=22	87.66	340	P	P	16 33 32.2 -0.9
PLBC	comp=Z,6.3nm,0.7s Pleasant Camp baz=279	87.71	30	P	P	16 33 35.4 +2.0
BR131	Keskin Array S	88.17	310	P	P	16 33 35.4 -0.9
BR131	comp=Z,36nm,1.8s			IAmb	IAmb	16 33 42.2
BR131	Keskin Array S	88.17	310	*d i*P	P	16 33 35.5 -0.8
BRTR	Keskin Array B	88.17	310	P	P	16 33 35.1 -1.2
BRTR	Keskin Array B comp=Z,5.2nm,0.7s,baz=109,slow=4.4,SNR=26	88.17	310	P	P	16 33 35.4 -0.9
BRTR	comp=Z,1.3nm,0.8s,baz=92,slow=8.2,SNR=4.6 comp=Z,5.2nm,0.7s			PP	PP	16 37 06.0 +1.6
M31M	Drury Creek, Y baz=281	88.18	28	P	P	16 33 36.1 +0.4
WHY	Whitehorse comp=Z,10nm,0.8s	88.23	29	IAmb	IAmb	16 33 37.9
WHY	Whitehorse baz=280	88.23	29	P	P	16 33 36.9 +0.8
EIL	Elat comp=Z,15nm,18.3s,baz=62,slow=40	88.31	300	LR	LR	17 20 29.3
KTK1	Kautokeino	88.57	339	*e*P	P	16 33 36.5 -0.8
FARO	Faro, Yukon comp=Z,17nm,0.7s	88.65	27	IAmb	IAmb	16 33 39.5
FARO	Faro, Yukon baz=282	88.65	27	P	P	16 33 38.8 +0.9
SIT	Sitka baz=280	88.66	33	P	P	16 33 38.9 +1.0
R32K	Eaglecrest baz=281	88.86	31	P	P	16 33 39.2 +0.3
S32K	Killisnoo baz=281	88.98	32	P	P	16 33 39.8 +0.3
N32M	Quiet Lake baz=282	89.00	29	P	P	16 33 40.1 +0.5
P32M	Atlin baz=282	89.01	30	P	P	16 33 39.9 +0.2
KIBK	Kibwezi	89.04	268	P	P	16 33 40.8 0.0
KIBK	comp=Z,8.0nm,0.9s			IAmb	IAmb	16 33 42.3
KIBK	Kibwezi	89.04	268	P	P	16 33 41.2 +0.4
A36M	Sachs Harbour comp=Z,9.5nm,0.8s	89.10	17	IAmb	IAmb	16 33 40.7
A36M	Sachs Harbour baz=289,SNR=9.9	89.10	17	P	P	16 33 40.0 +0.2
FINES	FINESS Array B comp=Z,4.5nm,0.7s,baz=70,slow=4.1,SNR=29	89.23	332	P	P	16 33 39.8 -0.8
P33M	comp=Z,4.5nm,0.7s Teslin, Yukon baz=282	89.33	29	P	P	16 33 41.2 0.0
JETT	Jettan, Norway	89.39	340	*e*P	P	16 33 40.5 -0.7
VSU	Vasula	89.54	329‖	*e*P	P	16 33 40.8 -1.3
VSU	comp=Z,132nm,3.3s			pmax	pmax	
AK09	Malin Array Si	89.59	321	P	P	16 33 41.8 -0.7
AK08	Malin Array Si	89.61	321	P	P	16 33 41.9 -0.7
AK03	Malin Array Si	89.61	321	P	P	16 33 41.8 -0.8
AKASG	Malin Array Be	89.61	321	P	P	16 33 41.4 -1.2
AKASG	comp=Z,14nm,1.3s			IAmb	IAmb	16 33 43.0
AKASG	Malin Array Be comp=Z,5.4nm,0.6s,baz=67,slow=5.0,SNR=28	89.61	321	P	P	16 33 41.7 -0.9
AKBB	comp=Z,5.4nm,0.6s Malin Array Si comp=Z,31nm,1.6s	89.61	321	IAmb	IAmb	16 33 42.6
AKBB	Malin Array Si	89.61	321	*ce*P	P	16 33 41.5 -1.1
AKBB	comp=Z,21nm,1.6s			pmax	pmax	
AKBB	Malin Array Si	89.61	321	P	P	16 33 41.4 -1.1
AK10	Malin Array Si	89.62	321	P	P	16 33 41.9 -0.7
AK01	Malin Array Si	89.62	321	P	P	16 33 41.9 -0.7
KIEV	Kiev	89.63	321	P	P	16 33 41.8 -0.8
KIEV	comp=Z,28nm,1.6s			IAmb	IAmb	16 33 42.7
KIEV	Kiev	89.63	321	P	P	16 33 41.8 -0.8
KIEV	comp=Z,28nm,1.6s			pmax	pmax	
KIEV	Kiev SNR=5.9	89.63	321	*i* P	P	16 33 41.6 -1.1
KIEV	Kiev	89.63	321	P	P	16 33 41.3 -1.3
AK23	Malin Array Si	89.67	321	P	P	16 33 42.2 -0.6
KMBO	Kilima Mbogo	89.69	269	P	P	16 33 44.9 +0.9
KMBO	Kilima Mbogo	89.69	269	P	P	16 33 44.9 +0.9
KMBO	comp=Z,9.0nm,1.1s			pmax	pmax	
KMBO	Kilima Mbogo SNR=6.4	89.69	269	*i* P	P	16 33 44.4 +0.4
MNK	Minsk	89.72	325	*i* P	P	16 33 41.2 -1.8
MNK				*i* *PP	pP	16 34 04.9 -2.3
MNK				*i*		16 37 13.0
MNK				*i* PPP	PPP	16 39 11.9
MNK				*i* S	SKSac	16 44 02.8 -2.1
MNK				*i* SS	SS	16 50 25.4 +0.4
MNK				*i* SSS	SSS	16 54 02.0
MNK	comp=E,14nm,1.0s			pmax	pmax	
MNK	comp=Z,14nm,0.8s			pmax	pmax	
MNK	comp=N,18nm,0.8s			pmax	pmax	
MNK	comp=Z,104nm,16.0s			MLR	MLR	
MNK	comp=N,354nm,21.0s			MLR	MLR	
TRO	Tromso	89.85	341	*e*P	P	16 33 42.5 -0.8
NOR	Nord	90.11	355	*i* P	P	16 33 42.5 -1.8
NOR	comp=Z,4.3nm,0.7s			IAmb	IAmb	16 33 44.5
C36M	Paulatuk baz=290	90.36	20	P	P	16 33 46.0 +0.3
R33M	Jennings River baz=284	90.42	30	P	P	16 33 46.6 +0.3
MI28	Mi28,Pidlybu	90.54	321	P	P	16 33 46.3 -0.6
LUBAR	Lubar, Ukraine	90.68	320	P	P	16 33 46.7 -0.9
WTLY	Watson Lake, Y baz=286	91.30	29	P	P	16 33 50.8 +0.5
T35M	Bob Quinn baz=284	91.39	32	P	P	16 33 51.3 +0.6
RNPP9	Sopachiv	91.54	322	P	P	16 33 51.0 -0.5

RNPP2	Kostyukhnivka	91.56	322	P	P	16 33 51.0 -0.6
RNPP8	Varash	91.58	322	P	P	16 33 51.2 -0.5
RNPP5	Staryi Chortor	91.58	322	P	P	16 33 51.2 -0.5
STEI	Steigen	91.72	339	eP	P	16 33 50.9 -1.1
FAUS	Fauske	91.91	339	eP	P	16 33 51.8 -1.1
TESR	Tescani	92.10	317	P	P	16 33 54.1 -0.2
MOR8	Moi Rana	92.69	338	eP	P	16 33 54.4 -2.1
WRGLY	Wrigley	92.74	25	P	P	16 33 57.3 +0.5
	baz=291					
MLR	Muntele Rosu	92.79	316	LR	LR	17 19 49.4
	comp=Z,52nm,19.4s,baz=56,slow=38					
BUR08	Bucovina Ar. S	92.82	318	IAmb	IAmb	16 34 39.7
	comp=Z,14nm,1.8s					
TOAD	Toad River Com	93.41	30	P	P	16 34 00.3 +0.2
	baz=289					
KOTAN	Kotaneelee Air	93.56	28	P	P	16 34 01.2 +0.6
	baz=290					
DAG	Danmarks Havn	94.29	352	P	P	16 34 02.8 -0.9
DAG				pmax	pmax	
	comp=Z,15nm,0.9s					
DAG	Danmarks Havn	94.29	352	i P	P	16 34 02.0 -1.7
DAG				IAmb	IAmb	16 34 03.4
	comp=Z,10nm,0.9s					
NSS	Namsos	94.31	337	eP	P	16 34 02.2 -1.8
KOLS	Kolonicke sedl	94.39	320	eP	P	16 34 03.8 -1.0
KOLS	Kolonicke sedl	94.39	320	ePDIFF	P	16 34 03.8 -1.0
RES	Resolute Bay	94.85	10	IAmb	IAmb	16 34 07.5
	comp=Z,6.0nm,0.9s					
SYO	Syowa Base	95.25	201	‖ i P	P	16 34 09.2 +1.1
HFS	Hagfors	95.40	332	P	P	16 34 07.8 -1.3
	comp=Z,5.6nm,0.9s,baz=108,slow=4.8,SNR=13					
	comp=Z,5.6nm,0.9s					
NEEM	North Greenlan	95.93	360	i P	P	16 34 11.6 0.0
NEEM				IAmb	IAmb	16 34 12.0
	comp=Z,8.2nm,0.8s					
NB2	NORSAR Subarra	96.13	334	P	P	16 34 10.7 -1.8
	comp=Z,2.4nm,0.8s,baz=64,slow=4.6					
NB2	NORSAR Subarra	96.13	334	P	P	16 34 10.7 -1.8
	baz=64,slow=4.6					
NOA	NORSAR Array B	96.13	334	P	P	16 34 11.0 -1.5
	comp=Z,1.7nm,0.8s,baz=65,slow=4.5,SNR=4.9					
NOA				LR	LR	17 20 26.6
	comp=Z,28nm,19.8s,baz=15,slow=37					
	comp=Z,1.7nm,0.8s					
QSPA	South Pole Qui	96.63	180	P	P	16 34 15.4 +0.8
QSPA				IAmb	IAmb	16 35 46.3
	comp=Z,12nm,1.5s					
QSPA	South Pole Qui	96.63	180	P	P	16 34 15.0 +0.3
	comp=Z,4.2nm,0.8s,baz=262,slow=1.4,SNR=16					
	comp=Z,4.2nm,0.8s					
YKA	Yellowknife Ar	96.74	24	P	P	16 34 15.5 +0.4
	comp=Z,4.0nm,0.7s,baz=298,slow=4.7,SNR=56					
YKA				PKKPbc	PKKPbc	16 50 56.3 -3.6
	comp=Z,0.6nm,0.8s,baz=133,slow=2.8,SNR=7.3					
YKA				LR	LR	17 23 26.4
	comp=Z,30nm,19.0s,baz=302,slow=39					
	comp=Z,4.0nm,0.7s					
VRAC	Vranov	97.84	322	LR	LR	17 24 51.1
	comp=Z,35nm,18.4s,baz=20,slow=39					
BRG	Berggiesshubel	98.87	324	eP	Pdif	16 34 25.7 +0.7
BRG				Amp		16 34 26.6
	comp=Z,3.7nm,0.8s					
BRG	Berggiesshubel	98.87	324	P	Pdif	16 34 31.2 +6.2
BRG				Amp		16 34 33.2
	comp=Z,4.8nm,0.9s					
CLL	Collm	99.25	324	eP	Pdif	16 34 28.0 +1.3
KHC	Kasperske Hory	99.75	322	‖ eP	Pdif	16 34 28.8 -0.2
KHC				pmax	pmax	
	comp=Z,26nm,2.5s					
GERES	GERESS Array B	99.78	322	P	Pdif	16 34 28.8 -0.4
	comp=Z,1.8nm,0.8s,baz=68,slow=7.4,SNR=8.2					
	comp=Z,1.8nm,0.8s					
PDAR	Pinedale Array	109.04	40	PKKPab	PKKPab	16 50 34.0 -2.0
	comp=Z,0.6nm,0.7s,baz=104,slow=1.3,SNR=4.0					
121A	Cookes Peak, D	115.07	49	P	PKiKP	16 39 25.0 -1.3
	baz=297					
T25A	Trinidad	115.28	44	P	PKiKP	16 39 25.9 -0.9
	baz=301					
SCHQ	Schefferville	117.60	9	PKP	PKiKP	16 39 30.7 +0.3
	comp=Z,2.1nm,0.6s,baz=7.7,slow=4.4,SNR=5.2					
TXAR	Lajitas Array	119.67	51	PKP	PKiKP	16 39 35.7 +0.3
	comp=Z,0.8nm,0.5s,baz=322,slow=1.3,SNR=8.7					
TORD	Torodi Ar. Bea	122.01	290	PKP	PKiKP	16 39 39.8 -0.3
	comp=Z,107nm,0.3s,baz=65,slow=1.8,SNR=1.8					
T42A	Van Buren	123.86	36		PKiKP	16 39 43.7 +0.5
DBIC	Dimbokro	129.96	284	PKP	PKiKP	16 39 55.7 -0.3
	comp=Z,3.6nm,0.5s,baz=91,slow=2.0,SNR=7.4					
PLCA	Paso Flores	142.77	158	PKhKP	PKPpre	16 40 14.8
	comp=Z,2.4nm,0.8s,baz=212,slow=3.7,SNR=6.6					
BO02	Sierra Bellavi	147.72	152		PKiKP	16 40 31.3 -0.4
TRQA	Tornquist	147.83	167		PKiKP	16 40 30.9 -0.9
TRQA	Tornquist	147.83	167	PKP2	PKiKP	16 40 30.9 -0.9
AUSP	Uspallata	150.50	151	i P	PKPdf	16 40 29.0 -2.7
RTLS	Leoncito	150.89	151	i P	PKPdf	16 40 26.7 -5.6
CPUP	Villa Florida	160.13	169	PKP	PKPdf	16 40 43.6 -0.9
	comp=Z,0.6nm,0.3s,baz=138,slow=4.7,SNR=3.1					
CPUP				PKPab	PKPab	16 41 26.1 +1.5
	comp=Z,4.5nm,1.0s,baz=199,slow=6.2,SNR=5.5					
CZSB	Cruzeiro do Su	160.62	94	eP	PKPdf	16 40 46.7 +1.3
LPAZ	La Paz	162.57	124	PKP	PKPdf	16 40 49.1 +1.1
	comp=Z,3.1nm,0.9s,baz=348,slow=0.9,SNR=6.2					
LPAZ				PKPab	PKPab	16 41 38.5 +1.9
	comp=Z,2.9nm,0.7s,baz=188,slow=1.9,SNR=5.6					
LPAZ	La Paz	162.57	124	eP	PKPdf	16 40 48.0 0.0
BSFB	Barra de Sao F	163.01	224	eP	PKPdf	16 40 47.3 -0.3
SIV	San Ignacio	168.00	141	PKP	PKPdf	16 40 52.0 +0.1
	comp=Z,1.8nm,0.7s,baz=168,slow=2.0,SNR=7.8					
BDFB	Brasilia	169.80	209	PKPab	PKPab	16 42 08.5 +0.9
	comp=Z,1.6nm,0.4s,baz=125,slow=9.1,SNR=3.5					
SMTB	Santa Maria do	174.06	249	eP	PKPdf	16 40 55.2 +0.1

*NEIC **15** 16:34:01.0±1.2, 20°.5S±0°.1×169°.6E±0°.1, h128km±9km, mb4.2/15, Error ellipse: s-maj=24.3km s-min=16.3km az=139.0*
*NOU **15** 16:34:01.0, 20°.55S×169°.68E, h89km, MLv4.5/8, Vanuatu Islands*
*IDC **15** 16:34:06.1±3.6, 20°.63S×169°.07E, h180km±23km, mb3.7/4, mbtmp4.2/6, Error ellipse: s-maj=41.0km s-min=20.9km az=34.0*

ISC 15 16:34:01.4±0.9, **20°.53S**±0°.08×**169°.50E**±0°.10, **h150**km, **n33**, σ**1**§**48**/34, **mb4.0**/8, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.67	235	P	Pn	16 34 30.6	-2.2
MARNC	Mare, Loyalty	1.67	235	S	Sn	16 34 53.5	-3.4
PINNC	Pines Island,	2.83	222	Pn	Pn	16 34 45.3	-1.2
DVP	Devils Point	3.05	336	S	Sn	16 35 25.6	-1.0
DZM	Mont Dzumac	3.24	241	P	Pn	16 34 51.8	-0.1
	54nm,0.3s,baz=77,slow=10,SNR=1210						
DZM				S	Sn	16 35 29.9	-1.2
	243nm,0.3s,baz=144,slow=22,SNR=27						
DZM	Mont Dzumac	3.24	241	P	Pn	16 34 51.6	-0.3
DZM	Mont Dzumac	3.24	241	S	Sn	16 35 31.2	+0.1
ONTNC	Ouen Toro	3.35	237		Pn	16 34 53.0	-0.2
ONTNC	Ouen Toro	3.35	237	P	Pn	16 34 53.1	-0.1
ONTNC	Ouen Toro	3.35	237	S	Sn	16 35 33.6	+0.2
EIDS	Eidsvold	17.64	251		Pn	16 37 58.8	+0.8
EIDS				IAmb	IAmb	16 38 02.2	
	comp=Z,12nm,1.1s						
URZ	Urewera	18.86	161	P	Pn	16 38 12.0	-0.2
	comp=Z,8.0nm,0.8s,baz=243,slow=3.0,SNR=11						
ARMA	Armidale	18.89	235	P	P	16 38 10.9	+0.4
ARMA				IAmb	IAmb	16 38 16.9	
	comp=Z,10nm,0.9s						
RTZ	Ruatahuna	19.15	162	P	Pn	16 38 15.0	-0.7
BKZ	Black Stump Fm	19.53	164	P	P	16 38 18.0	+0.7
BKZ				IAmb	IAmb	16 38 19.5	
	comp=Z,8.9nm,0.8s						
MRZ	Mangatainoka R	20.73	167	P	P	16 38 30.2	+0.2
MRZ				IAmb	IAmb	16 38 35.7	
	comp=Z,21nm,1.1s						
COEN	Coen	25.96	280	P	P	16 39 19.9	-0.4
COEN				IAmb	IAmb	16 39 22.2	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	27.40	240	P	P	16 39 35.1	+2.1
STKA				IAmb	IAmb	16 39 37.1	
	comp=Z,3.2nm,0.8s						
STKA	Stephens Creek	27.40	240	P	P	16 39 32.4	-0.6
	comp=Z,2.2nm,0.7s,baz=85,slow=11,SNR=6.0						
	comp=Z,2.2nm,0.7s						
BBOO	Buckleboo	32.16	241	P	P	16 40 16.8	+1.9
BBOO				IAmb	IAmb	16 40 34.8	
	comp=Z,4.3nm,1.0s						
WB0	Warramunga Arr	32.94	265	P	P	16 40 23.1	+1.2
WB0				IAmb	IAmb	16 40 24.4	
	comp=Z,2.5nm,0.8s						
WB2	Warramunga Arr	32.95	265	P	P	16 40 23.3	+1.3
WRA	Warramunga Arr	32.96	265	P	P	16 40 23.5	+1.3
WRA	Warramunga Arr	32.96	265	P	P	16 40 19.2	-2.9
	comp=Z,1.9nm,0.8s,baz=95,slow=8.2,SNR=6.4						
	comp=Z,1.9nm,0.8s						
AS31	Alice Springs	33.08	258	P	P	16 40 25.4	+2.3
AS31				IAmb	IAmb	16 40 26.2	
	comp=Z,3.1nm,0.8s						
ASAR	Alice Springs	33.08	258	P	P	16 40 24.8	+1.7
ASAR	Alice Springs	33.08	258	P	P	16 40 20.5	-2.7
	comp=Z,1.8nm,0.6s,baz=87,slow=8.7,SNR=28						
	comp=Z,1.8nm,0.6s						
MTN	Manton Dam	37.47	276	P	P	16 41 02.3	+1.6
FORT	Forrest	38.54	246	P	P	16 41 09.0	-0.5
FITZ	Fitzroy Crossi	41.38	266	P	P	16 41 34.0	+0.9
QSPA	South Pole Qui	69.53	180	P	P	16 44 54.9	+1.2
	comp=Z,3.7nm,0.7s,baz=354,slow=1.2,SNR=17						
	comp=Z,3.7nm,0.7s						
EKA	Eskdalemuir Ar	144.81	353	PKP	PKPdf	16 53 19.9	-0.2
	comp=Z,0.7nm,0.4s,baz=29,slow=1.8,SNR=4.6						
GERES	GERESS Array B	145.74	331	PKPbc	PKiKP	16 53 24.5	-1.8
	comp=Z,0.7nm,0.7s,baz=27,slow=1.1,SNR=4.4						

*IDC **15** 16:57:03.7±1.0, 28°.83S×178°.21W, h87km±9km, mb3.9/5, mbtmp4.2/5, MS3.1/1, Error ellipse: s-maj=30.9km s-min=24.0km az=5.0*
*NEIC **15** 16:57:05.3±1.9, 29°.6S±0°.1×178°.2W±0°.1, h89km±9km, mb4.4/12, Error ellipse: s-maj=17.9km s-min=16.3km az=57.0*

ISC 15 16:57:04.0±0.8, **29°.61S**±0°.08×**178°.1W**±0°.1, **h100**km, **n48**, σ**1**§**73**/46, **mb4.3**/11, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.36	18	P	Pn	16 57 18.6	-0.3
GLKZ				S	Sn	16 57 31.8	+1.8
RAO	Raoul Island	0.37	18	P	Pn	16 57 18.9	0.0
	3μm,0.2s,baz=24,slow=21,SNR=12						
RAO				S	Sn	16 57 30.6	+0.5
	6μm,0.3s,baz=84,slow=22,SNR=12						
RAO				LR	LR	16 57 36.9	
	comp=Z,447nm,20.4s,baz=355,slow=68						
RAO	Raoul Island	0.37	18	P	Pn	16 57 19.0	0.0
RIZ	Raoul Island	0.38	16	P	Pn	16 57 19.1	+0.1
MXZ	Matakaoa Point	8.49	200	S	Sn	17 00 39.1	+0.9
WMGZ	Waiomatatini S	8.70	199	P	Pn	16 59 04.6	-2.4
HAZ	Te Kaha	8.84	202	P	Pn	16 59 07.3	-1.4
PKGZ	Pakihiroa	8.84	200	P	Pn	16 59 06.5	-2.4
PKGZ				S	Sn	17 00 49.1	+2.4
RUGZ	Raukumara Rang	9.06	202	P	Pn	16 59 08.7	-3.3
RUGZ				S	Sn	17 00 53.7	+1.5
TWGZ	Tauwhareparae	9.16	200	P	Pn	16 59 09.8	-3.5
TWGZ				S	Sn	17 00 55.5	+1.0
CNGZ	Carnagh Statio	9.38	198	P	Pn	16 59 12.0	-4.2
TKGZ	Te Karaka	9.44	200	P	Pn	16 59 13.4	-3.6
TKGZ				S	Sn	17 01 02.1	+0.9
URZ	Urewera	9.52	204	P	Pn	16 59 14.8	-3.2
	2.8nm,0.3s,baz=347,slow=5.1,SNR=28						
URZ				S	Sn	17 01 04.9	+1.9
	31nm,0.3s,baz=269,slow=22,SNR=22						
HIZ	Hauiti	10.65	212	Pn	Pn	16 59 32.0	-1.4
ARMA	Armidale	26.24	261	P	P	17 02 31.4	+1.6
ARMA				IAmb	IAmb	17 02 38.5	
	comp=Z,9.8nm,1.1s						
EIDS	Eidsvold	27.67	271	P	P	17 02 43.5	+0.9
EIDS				IAmb	IAmb	17 02 52.6	
	comp=Z,11nm,1.1s						
PPT	Papeete	28.63	72	LR	LR	17 11 57.5	
	comp=Z,34nm,19.3s,baz=318,slow=31						
STKA	Stephens Creek	34.62	256	P	P	17 03 44.7	+1.0
STKA	Stephens Creek	34.62	256	P	P	17 03 44.0	+0.4
	comp=Z,1.7nm,0.5s,baz=106,slow=16,SNR=4.6						
	comp=Z,1.7nm,0.5s						
COEN	Coen	39.02	285	P	P	17 04 19.9	-1.1
COEN				IAmb	IAmb	17 04 22.9	
	comp=Z,5.6nm,1.1s						
BBOO	Buckleboo	39.15	253	P	P	17 04 22.4	+0.4
BBOO				IAmb	IAmb	17 04 25.5	
	comp=Z,5.2nm,0.8s						
AS31	Alice Springs	43.12	266	P	P	17 04 55.3	+0.7
ASAR	Alice Springs	43.12	266	P	P	17 04 54.6	0.0
ASAR	Alice Springs	43.12	266	P	P	17 04 55.2	+0.6
	comp=Z,1.1nm,0.5s,baz=108,slow=7.4,SNR=58						
	comp=Z,1.1nm,0.5s						
WB2	Warramunga Arr	44.02	271	P	P	17 05 02.4	+0.5
WRA	Warramunga Arr	44.03	271	P	P	17 05 02.4	+0.4
	comp=Z,2.7nm,0.6s,baz=110,slow=7.8,SNR=27						
	comp=Z,2.7nm,0.6s						
WB0	Warramunga Arr	44.05	272	P	P	17 05 02.5	+0.4
WB0				IAmb	IAmb	17 05 03.6	
	comp=Z,4.1nm,0.9s						
FORT	Forrest	46.21	254	P	P	17 05 17.3	-1.8
KNRA	Kununurra	50.61	274	P	P	17 05 52.6	-0.4
KNRA				IAmb	IAmb	17 05 58.6	
	comp=Z,5.2nm,0.8s						
FITZ	Fitzroy Crossi	52.32	269	P	P	17 06 05.5	-0.3
	comp=Z,1.8nm,0.6s,baz=90,slow=5.1,SNR=2.6						
	comp=Z,1.8nm,0.6s						
CASY	Casey	55.82	208	P	P	17 06 31.9	+1.5
QSPA	South Pole Qui	60.50	180	P	P	17 07 05.6	+2.4
QSPA	South Pole Qui	60.50	180	P	P	17 07 09.9	+6.6
	comp=Z,2.6nm,0.5s,baz=257,slow=0.8,SNR=28						
	comp=Z,2.6nm,0.5s						
H03S2	Juan Fernandez	80.94	124	T	T	18 38 49.4	
	baz=238,slow=74,SNR=7.5						
H03S1	Juan Fernandez	80.95	124	T	T	18 38 48.1	
	baz=238,slow=74,SNR=7.2						
H03S3	Juan Fernandez	80.95	124	T	T	18 38 46.5	
	baz=238,slow=74,SNR=8.1						
MKAR	Makanchi Array	117.23	310	PKP	PKPdf	17 15 35.5	-1.8
	comp=Z,0.2nm,0.5s,baz=96,slow=1.4,SNR=2.3						
BVAR	Borovoye Array	125.81	316	PKP	PKPdf	17 15 53.0	-0.5
	comp=Z,1.1nm,0.5s,baz=96,slow=4.5,SNR=2.7						
ARCES	ARCESS Array B	137.81	348	PKP	PKPdf	17 16 14.2	-1.5
	comp=Z,3.7nm,0.8s,baz=72,slow=2.9,SNR=1.9						
H10N3	ASCENSION HYDR	139.54	154	T	T	19 52 35.2	
	baz=203,slow=75,SNR=6.7						
H10N1	ASCENSION HYDR	139.54	154	T	T	19 52 24.0	
	baz=203,slow=75,SNR=7.8						
H10N2	ASCENSION HYDR	139.56	154	T	T	19 52 35.5	
	baz=203,slow=75,SNR=7.3						
FINES	FINESS Array B	144.39	340	PKP	PKPbc	17 16 26.8	+0.4
	comp=Z,2.7nm,0.4s,baz=49,slow=4.0,SNR=46						
NB2	NORSAR Subarra	147.97	352	PKP	PKPdf	17 16 35.2	+1.3
	comp=Z,0.8nm,0.5s,baz=15,slow=2.9						
NOA	NORSAR Array B	147.97	352	PKPbc	PKPdf	17 16 35.4	+1.5
	comp=Z,1.2nm,0.7s,baz=27,slow=3.3,SNR=4.3						
HFS	Hagfors	148.46	349	PKPbc	PKPbc	17 16 38.6	+0.3
	comp=Z,2.4nm,0.5s,baz=54,slow=2.6,SNR=14						
AKASG	Malin Array Be	150.65	324	PKPbc	PKPbc	17 16 42.4	-1.6
	comp=Z,2.9nm,0.5s,baz=47,slow=3.1,SNR=19						
MMAI	Mount Meron Ar	151.29	285	PKPbc	PKiKP	17 16 46.7	+0.1
	comp=Z,2.9nm,0.4s,baz=83,slow=6.8,SNR=19						

*IDC **15** 17:02:00.1±2.3, 3°.43S×130°.13E, h0km, mb3.6/2, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=119.1km s-min=27.2km az=74.0*
*DJA **15** 17:02:01.6±0.5, 3°.5±2°.×13°.1E±°, h13km±4km, M3.2/7, MLv3.2/7*

ISC 15 17:01:59.5±0.9, **3°.37S**±0°.06×**130°.84E**±0°.05, **h10**km, **n8**, σ**2**§**91**/13, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.48	72	P	Pn	17 02 28.3	+2.1
FAKI				S	Sg	17 02 48.8	+1.8
MSAI	Masohi	1.91	271	P	Pn	17 02 33.5	+1.4
SWI	Sorong	2.53	10	P	Pn	17 02 39.9	-0.7
SWI				S	Sn	17 03 09.3	-2.2
AAI	Ambon	2.66	263	P	Pn	17 02 44.0	+1.5
AAI				S	Sn	17 03 15.5	+0.7
FITZ	Fitzroy Crossi	15.50	199	Pn	Pn	17 05 36.5	-1.8
	0.1nm,0.3s,baz=17,slow=14,SNR=1.2						
FITZ				Sn	Sn	17 08 13.0	-17
	baz=204,slow=20,SNR=3.3						
	1.2nm,0.9s						
WRA	Warramunga Arr	16.82	169	Pn	P	17 05 59.3	+1.8
	0.1nm,0.3s,baz=347,slow=10.0,SNR=2.5						
WRA				Sn	Sn	17 08 55.0	-7.4
	baz=352,slow=24,SNR=2.0						
	0.3nm,0.4s						
ASAR	Alice Springs	20.39	172	P	P	17 06 39.0	+2.3
	2.5nm,0.5s,baz=351,slow=11,SNR=50						
ASAR				S	S	17 10 25.8	+0.6
	0.2nm,0.7s,baz=350,slow=19,SNR=2.8						
	2.5nm,0.5s						
MKAR	Makanchi Array	65.70	326	P	P	17 12 44.2	-0.1
	0.4nm,0.7s,baz=118,slow=8.0,SNR=6.2						
	0.4nm,0.7s						

*NEIC **15** 17:05:18.8±1.6, 60°.85N±0°.02×146°.89W±0°.04, h26km±8km, ML3.3/182, ML3.1(AEIC), Error ellipse: s-maj=2.7km s-min=2.7km az=111.0*
*AEIC **15** 17:05:19.6±1.6, 60°.82N±0°.02×146°.84W±0°.02, h15km±2km, Error ellipse: s-maj=3.2km s-min=1.6km az=179.0*

ISC 15 17:05:18.6±0.9, **60°.82N**±0°.02×**146°.89W**±0°.02, **h28**km±5km, **n215**, σ0§**80**/230, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	Glacier Island	0.12	299	Pg	Pb	17 05 23.2	-0.5
GLI					Sb	17 05 27.3	+0.1
GLI				IAML		17 05 28.0	
	comp=N,6μm,0.2s						
GLI	Glacier Island	0.12	299	P	Pb	17 05 23.5	-0.3
GLI	baz=116						
				S	Sb	17 05 27.6	+0.3
	baz=116						
FID	Port Fidalgo	0.21	110		Pb	17 05 24.2	-0.5
FID					Sb	17 05 28.8	-0.1
HIN	Hinchinbrook I	0.47	156		Pb	17 05 28.4	-0.1
HIN				Sg	Sb	17 05 35.6	+0.5
HIN				IAML		17 05 36.6	
	comp=E,2μm,0.7s						
EYAK	Cordova Ski Ar	0.62	116		Pb	17 05 30.5	-0.4
EYAK	Cordova Ski Ar	0.62	116	P	Pb	17 05 30.6	-0.3
	baz=297						
EYAK	Cordova Ski Ar	0.62	116	P	Pb	17 05 30.7	-0.3
EYAK	Cordova Ski Ar	0.62	116	S	Sn	17 05 41.3	+0.7
DIV	Divide	0.62	60		Pb	17 05 30.1	-1.0
PWL	Port Wells	0.71	274	Pn	Pb	17 05 31.5	-0.9
PWL				Sg	Sb	17 05 41.3	-0.5
PWL				IAML		17 05 42.5	
	comp=E,1μm,0.3s						
PWL				IAML		17 05 49.2	
	comp=N,2μm,0.3s						
PWL	Port Wells	0.71	274	P	Pb	17 05 31.5	-0.9
	baz=93						
PWL				S	Sb	17 05 41.8	-0.1
	baz=93						
KLU	Klutina	0.82	34		Pb	17 05 33.3	-1.0
KLU				Sg	Sb	17 05 43.9	-1.0
KLU				IAML		17 05 44.7	
	comp=E,1μm,0.4s						
KLU				IAML		17 05 48.9	
	comp=N,995nm,0.3s						
KLU	Klutina	0.82	34	P	Pb	17 05 33.3	-1.0
	baz=214						
KLU				S	Sb	17 05 44.1	-0.9
	baz=214						
P23K	Montague Islan	0.87	197		Pb	17 05 34.6	-0.5
P23K					Sn	17 05 47.5	+0.8
P23K	Montague Islan	0.87	197	P	Pb	17 05 34.6	-0.5
	baz=18						
P23K				S	Sn	17 05 47.5	+0.8
	baz=18						
P23K				S	Sn	17 05 47.5	+0.8
	baz=18						
KNK	Knik Glacier	0.97	308		Pn	17 05 36.1	-0.2
KNK					Sn	17 05 49.3	+0.1
KNK				IAML		17 05 53.2	
	comp=E,932nm,0.6s						
KNK				IAML		17 05 54.4	
	comp=N,808nm,0.7s						
KNK	Knik Glacier	0.97	308	P	Pn	17 05 36.0	-0.4
	baz=127						
KNK				S	Sn	17 05 50.0	+0.8
	baz=127						
SCM	Sheep Creek Mo	1.04	348		Pn	17 05 36.9	-0.5
SCM					Sn	17 05 50.8	-0.2
SCM	Sheep Creek Mo	1.04	348	P	Pn	17 05 36.9	-0.5
	baz=167						
M23K	Glacier View	1.05	338		Pn	17 05 37.5	-0.1
M23K					Sn	17 05 51.8	+0.4
M23K	Glacier View	1.05	338	P	Pn	17 05 37.5	-0.1
	baz=156						
M23K				S	Sn	17 05 51.8	+0.4
	baz=156						
GOAT	Goat Mountain	1.09	102		Pn	17 05 38.0	0.0
BMRM	Bremner River	1.12	82		Pn	17 05 38.3	-0.3
BMRM	Bremner River	1.12	82		Sb	17 05 54.2	+0.6
BMRM	Bremner River	1.12	82	P	Pn	17 05 38.3	-0.3
	baz=263						
BMRM				S	Sb	17 05 54.2	+0.6
	baz=263						
RAGM	Ragged Mountai	1.18	111		Pn	17 05 39.1	-0.1
SML	Sawmill	1.21	325	Pn	Pn	17 05 39.7	-0.1
SML	Sawmill	1.21	325		Sb	17 05 56.3	+0.2
SML	Sawmill	1.21	325	IAML		17 05 56.6	
	comp=E,1μm,0.5s						
SML				IAML		17 05 56.7	
	comp=N,948nm,0.4s						
SML	Sawmill	1.21	325	P	Pn	17 05 39.9	+0.2
	baz=144						
SML				S	Sb	17 05 56.3	+0.2
	baz=144						
M24K	Tolsona, Glenn	1.33	15	Pn	Pn	17 05 41.9	+0.4
M24K				IAML		17 06 02.5	
	comp=E,745nm,0.6s						
M24K				IAML		17 06 03.2	
	comp=N,504nm,0.5s						
M24K	Tolsona, Glenn	1.33	15	P	Pn	17 05 42.0	+0.5
	baz=194						
PMR	Palmer	1.33	306	Pn	Pn

comp=E,261nm,0.4s
VRDI Verde Repeater 1.72 75 Pn 17 05 47.1 +0.2
VRDI IAML 17 06 10.7
comp=N,440nm,0.6s
VRDI IAML 17 06 11.3
comp=E,251nm,0.5s
HARP HAARP 1.78 27 Pn 17 05 49.0 +1.4
HARP HAARP 1.78 27 P **Pn 17 05 49.0 +1.4**
baz=208
M22K Willow 1.82 302 Pn 17 05 49.1 +1.1
BGLC Bering Glacier 1.92 110 Pn 17 05 50.1 +0.8
CAPN Captain Cook N 2.09 270 Pn 17 05 53.4 +1.7
SNH Sunshine Point 2.10 106 Pn 17 05 52.3 +0.3
SNH IAML 17 06 20.2
comp=N,186nm,0.2s
SNH IAML 17 06 26.3
comp=E,163nm,0.6s
BRSE Bradley Lake S 2.21 242 Pn 17 05 53.6 +0.3
BRSE Bradley Lake S 2.21 242 P **Pn 17 05 53.6 +0.3**
baz=59
BARK Barkley Ridge 2.21 99 Pn 17 05 53.5 +0.1
KIAG Kiagna River 2.22 85 Pn 17 05 53.8 +0.1
BALM Baldy 2.23 83 Pn 17 05 54.0 +0.3
BRLK Bradley Lake 2.26 244 Pn **Pn 17 05 54.2 +0.2**
BRLK IAML 17 06 33.0
comp=E,259nm,0.8s
BRLK IAML 17 06 33.2
comp=N,265nm,0.7s
CUT Chulitna 2.27 316 Pn 17 05 55.9 +1.7
M26K Nabesna, AK 2.44 48 Pn 17 05 57.9 +1.3
STLK Strandline Lak 2.49 288 Pn 17 05 58.0 +0.6
STLK IAML 17 06 30.4
comp=E,113nm,0.6s
STLK IAML 17 06 40.6
comp=N,113nm,0.6s
SKT Skwentna 2.52 299 Pn 17 05 58.2 +0.5
SKT Skwentna 2.52 299 P **Pn 17 05 58.2 +0.5**
baz=115
MESA MESA 2.53 103 Pn 17 05 57.7 -0.2
MESA IAML 17 06 39.3
comp=N,169nm,0.4s
MESA IAML 17 06 42.4
comp=E,180nm,0.6s
MESA MESA 2.53 103 P **Pn 17 05 58.9 +1.0**
baz=287
CNPM China Poot 2.53 241 Pn 17 05 57.8 0.0
CNPM IAML 17 06 33.1
comp=E,156nm,0.3s
CNPM IAML 17 06 33.2
comp=N,138nm,0.4s
SPCG Spurr Capps Gl 2.54 283 Pn 17 05 58.5 +0.5
SPU Mount Spurr 2.54 280 Pn 17 05 58.1 +0.1
MENT Mentasta 2.60 34 Pn 17 05 60.0 +1.2
MENT IAML 17 06 36.8
comp=E,193nm,0.8s
MENT IAML 17 06 37.0
comp=N,158nm,0.6s
MENT Mentasta 2.60 34 P **Pn 17 06 00.5 +1.7**
MENT Mentasta 2.60 34 S **Sb 17 06 35.6 -0.3**
SPCR Spurr Chakacha 2.62 281 Pn 17 05 59.5 +0.4
HOM Homer 2.65 246 Pn **Pn 17 05 58.4 -0.9**
SPBG Spurr Blockage 2.70 282 Pn 17 06 00.9 +0.6
RDT Redoubt 2.73 267 Pn 17 06 00.5 -0.1
RND Reindeer 2.75 341 Pn 17 06 01.4 +0.4
RND IAML 17 06 42.4
comp=N,85nm,0.5s
RND IAML 17 06 47.4
comp=E,75nm,1.1s
L26K Log Cabin Wild 2.77 36 Pn 17 06 02.2 +1.1
L26K IAML 17 06 41.8
comp=E,81nm,0.5s
L26K IAML 17 06 51.3
comp=N,86nm,0.4s
RKAV Rock Avalanche 2.79 98 Pn 17 06 01.7 +0.3
M27K Edge Creek, AK 2.85 55 Pn 17 06 03.6 +1.3
M27K IAML 17 06 39.5
comp=N,72nm,0.7s
DFR Drift River 2.86 268 Pn 17 06 02.3 -0.1
SPNN North Nagishla 2.88 283 Pn 17 06 03.5 +0.8
RDJH Redoubt Jeurge 2.92 268 Pn 17 06 03.4 +0.1
RED Redoubt Volcan 2.93 265 Pn 17 06 03.2 -0.2
O20K Slope Mountain 2.94 258 Pn 17 06 03.9 +0.4
O20K Slope Mountain 2.94 258 P **Pn 17 06 03.9 +0.4**
baz=73
RDWB Redoubt West 2.95 266 Pn 17 06 03.6 -0.1
NCT North Crescent 2.98 268 Pn 17 06 04.0 -0.1
K24K Donnelly Dome 3.04 9 Pn 17 06 06.7 +1.9
K24K Donnelly Dome 3.04 9 P **Pn 17 06 06.7 +1.9**
baz=190
YUK2 White River 3.07 69 Pn 17 06 07.0 +1.6
MCK McKinley 3.07 343 Pn 17 06 07.0 +1.7
MCK McKinley 3.07 343 P **Pn 17 06 07.1 +1.9**
baz=161
RIDG Independent Ri 3.08 17 Pn 17 06 07.1 +1.7
RIDG IAML 17 06 60.0
comp=N,61nm,1.0s
RIDG IAML 17 07 01.6
comp=E,88nm,0.9s
RIDG Independent Ri 3.08 17 P **Pn 17 06 07.2 +1.7**
baz=198
TRF Thorofare Moun 3.08 330 Pn 17 06 07.0 +1.4
TRF IAML 17 06 57.5
comp=E,71nm,0.6s
TRF IAML 17 06 58.6
comp=N,74nm,0.7s
TRF Thorofare Moun 3.08 330 P **Pn 17 06 07.2 +1.7**
baz=147
DOT Dot Lake 3.13 24 Pn 17 06 07.4 +1.4
ILS Iliamna Low So 3.19 257 Pn 17 06 06.1 -0.9
M20K Styx River 3.19 292 Pn 17 06 07.2 +0.3
ILSW Iliamna Southw 3.22 258 Pn 17 06 06.1 -1.3
ILSW IAML 17 06 47.5
comp=N,87nm,0.3s
YUK3 Moose Creek 3.24 70 Pn 17 06 09.0 +1.2
YUK3 Moose Creek 3.24 70 P **Pn 17 06 09.0 +1.2**
baz=256
PPLA Purkeypile 3.26 312 Pn 17 06 08.5 +0.5
PPLA Purkeypile 3.26 312 P **Pn 17 06 08.8 +0.8**
baz=127
L27K Beaver Creek, 3.28 45 Pn 17 06 09.2 +1.1
BVCY Beaver Creek 3.29 58 Pn 17 06 10.5 +2.2
BCAR Beaver Creek A 3.30 45 Pn **Pn 17 06 09.5 +1.1**
KTH Kantishna Hill 3.33 327 Pn **Pn 17 06 10.4 +1.6**
KTH IAML 17 07 04.7
comp=E,84nm,0.8s
KTH IAML 17 07 10.7
comp=N,104nm,1.0s
PCA Pinnacle 3.36 100 Pn 17 06 09.0 -0.4
PINM Pinnacle 3.37 100 P **Pn 17 06 09.5 +0.1**
baz=285
SCRK Sand Creek 3.44 22 Pn 17 06 11.2 +0.8
SCRK Sand Creek 3.44 22 P **Pn 17 06 11.6 +1.1**
baz=204
YUK8 Steele Glacier 3.49 79 Pn 17 06 12.6 +1.3
CAST Castle Rocks 3.57 319 Pn 17 06 13.0 +0.8
CAST IAML 17 07 07.2
comp=E,67nm,0.5s
CAST IAML 17 07 10.3
comp=N,50nm,1.2s
CAST Castle Rocks 3.57 319 P **Pn 17 06 13.3 +1.2**
baz=134
HDA Harding Lake 3.60 360 Pn 17 06 13.2 +0.7
HDA IAML 17 07 06.2
comp=E,43nm,0.7s
HDA IAML 17 07 12.9
comp=N,46nm,0.4s
HDA Harding Lake 3.60 360 P **Pn 17 06 13.3 +0.7**
baz=179
BCPM Bancas Point 3.70 100 Pn **Pn 17 06 13.5 -0.4**
BCPM IAML 17 07 11.3
comp=E,78nm,1.0s
BCPM IAML 17 07 15.3
comp=N,68nm,0.5s
WRH Wood River Hil 3.70 352 Pn 17 06 14.4 +0.5
WRH IAML 17 07 14.9
comp=E,36nm,0.8s
WRH IAML 17 07 18.3
comp=N,34nm,1.0s
N19K Bonanza Creek 3.72 273 Pn **Pn 17 06 13.8 -0.5**
N19K IAML 17 06 59.4
comp=N,33nm,0.6s
L20K Farewell, AK 3.73 300 Pn 17 06 14.2 -0.1
O19K Port Alsworth 3.73 264 Pn **Pn 17 06 15.5 +1.3**
M19K Big River Lodg 3.77 290 Pn 17 06 14.8 -0.1
M19K IAML 17 07 17.8
comp=E,43nm,0.8s
M19K IAML 17 07 23.1
comp=N,34nm,0.5s
BPAW Bear Paw Mtn. 3.80 332 Pn 17 06 15.8 +0.5
BPAW IAML 17 07 15.5
comp=N,42nm,1.1s
BPAW IAML 17 07 17.1
comp=E,40nm,0.7s
BPAW Bear Paw Mtn. 3.80 332 P **Pn 17 06 16.4 +1.2**
baz=148
CCB Clear Creek Bu 3.86 354 Pn 17 06 16.5 +0.4
J25K Salcha River, 3.87 10 Pn 17 06 16.4 +0.2
PNL Peninsula 3.91 104 Pn 17 06 17.2 +0.4
PNL Peninsula 3.91 104 P **Pn 17 06 16.6 -0.2**
PNL Peninsula 3.91 104 S **Sn 17 07 00.9 -0.8**
NEA2 Nenana 3.92 346 Pn 17 06 17.1 +0.3
NEA2 Nenana 3.92 346 P **Pn 17 06 17.4 +0.5**
baz=164
IL03 Eielson Array 3.96 0 Pn **Pn 17 06 17.6 +0.1**
IL31 3.96 360 Pn 17 06 17.4 0.0
ILAR Eielson Array 3.96 360 Pn **Pn 17 06 17.4 -0.1**
J26L Joseph Creek 4.00 21 Pn 17 06 19.2 +1.2
J26L IAML 17 07 22.0
comp=E,31nm,0.9s
YUK4 Talbot Arm 4.04 79 P **Pn 17 06 20.9 +2.3**
baz=265
L19K White Mountain 4.05 293 Pn 17 06 18.9 +0.1
L19K White Mountain 4.05 293 IAML 17 07 08.0
comp=E,35nm,0.7s
COLA College 4.09 354 Pn 17 06 19.9 +0.7
COLA College 4.09 354 P **Pn 17 06 20.0 +0.8**
O29M Mount Kennedy 4.13 94 Pn 17 06 20.9 +0.9
O29M IAML 17 07 21.0
comp=E,56nm,0.5s
O29M IAML 17 07 24.2
comp=N,44nm,0.5s
KDAK Kodiak Island 4.22 226 IAML 17 07 08.3
comp=N,56nm,1.0s
KDAK IAML 17 07 08.3
comp=N,43nm,0.4s
K20K Telida 4.23 310 Pn 17 06 20.7 -0.4
K20K IAML 17 07 29.2
comp=N,24nm,0.6s
K20K IAML 17 07 34.7
comp=E,39nm,1.1s
POKR Poker Plat Res 4.32 357 Pn 17 06 22.6 +0.3
M29M Somme Creek 4.33 64 Pn **Pn 17 06 23.7 +1.0**
M29M IAML 17 07 14.4
comp=N,52nm,0.4s
M29M IAML 17 07 14.8
comp=E,36nm,0.4s
YUK5 Granite Creek 4.41 82 Pn 17 06 24.9 +1.2
N18K Kilae Creek 4.42 272 Pn 17 06 23.0 -0.8
N18K IAML 17 07 28.3
comp=E,23nm,1.0s
I23K Minto, Yukon-K 4.49 347 Pn 17 06 25.1 +0.5
I23K IAML 17 07 37.2
comp=N,24nm,0.9s
I23K IAML 17 07 42.6
comp=E,21nm,0.9s
HYT Haines Junctio 4.59 86 Pn 17 06 26.4 +0.2
L29M L29M 4.72 57 Pn 17 06 28.9 +0.9
L29M IAML 17 07 22.8
comp=N,19nm,0.6s
L29M IAML 17 07 51.0
comp=E,16nm,1.1s
PRP Porcupine Dome 4.75 7 Pn 17 06 28.6 +0.1
PRP IAML 17 07 51.9
comp=N,18nm,0.9s
J20K Nowinta River 4.76 318 Pn **Pn 17 06 28.9 +0.6**
J20K IAML 17 07 52.0
comp=N,43nm,0.7s
J20K IAML 17 07 53.8
comp=E,31nm,1.0s
DAWY Dawson 4.76 44 Pn **Pn 17 06 29.6 +1.1**
TTA Tatalina 4.81 300 Pn **Pn 17 06 28.2 -1.0**
TTA IAML 17 08 00.7
comp=N,21nm,1.1s
I26K Coal Creek Min 4.81 19 Pn 17 06 29.9 +0.8
I26K IAML 17 07 51.4
comp=N,18nm,0.9s
I26K IAML 17 07 58.4
comp=E,21nm,0.8s
OHAK Old Harbor 4.90 225 Pn **Pn 17 06 29.6 -0.7**
OHAK IAML 17 07 27.2
comp=N,16nm,0.5s
L18K Granite Mounta 4.90 291 Pn 17 06 29.6 -0.7
L18K IAML 17 08 02.2
comp=N,15nm,1.1s
I21K Tanana 4.95 334 Pn 17 06 30.8 -0.2
N17K Nushagak Hills 5.07 271 Pn **Pn 17 06 31.5 -1.3**
N17K IAML 17 07 30.6
comp=N,21nm,0.9s
M30M Minto, Yukon 5.12 66 Pn **Pn 17 06 34.1 +0.8**
M17K Holitna River 5.15 281 Pn 17 06 32.8 -0.9
M17K IAML 17 07 34.9
comp=E,32nm,1.1s
M17K IAML 17 08 19.0
comp=N,23nm,0.8s
J19K Poorman 5.16 312 Pn **Pn 17 06 33.7 -0.1**
J19K IAML 17 08 03.8
comp=N,20nm,1.1s
J19K IAML 17 08 05.4
comp=E,32nm,1.1s
O30N Mendenhall 5.29 86 Pn 17 06 34.3 -1.4
O30N IAML 17 07 35.4
comp=N,14nm,1.0s
O30N IAML 17 07 35.5
comp=E,14nm,1.0s
I20K Naaghedeneel 5.29 322 Pn 17 06 36.4 +0.8
K29M Barlow Dome 5.31 51 Pn **Pn 17 06 37.4 +1.3**
J18K Innoko River 5.32 304 Pn 17 06 36.0 -0.1
J18K IAML 17 08 06.0
comp=N,12nm,0.7s
I27K Kandik River 5.36 24 Pn 17 06 38.2 +1.6
J29N Klondike Camp 5.41 44 Pn **Pn 17 06 37.9 +0.6**
H21K Melozitna Rive 5.54 334 Pn 17 06 39.8 +0.7
I28M Miner Creek 5.61 31 Pn 17 06 41.5 +1.4
SII Sitkinak Islan 5.72 225 Pn **Pn 17 06 40.7 -1.0**
K17K Iditarod 5.74 294 Pn **Pn 17 06 41.3 -0.5**
FYU Fort Yukon 5.81 7 Pn **Pn 17 06 42.9 +0.1**
WHY Whitehorse 5.89 86 Pn **Pn 17 06 43.7 -0.4**
M16K Timber Creek 5.89 277 Pn **Pn 17 06 42.6 -1.3**
G24K Hadweenzic Riv 5.91 358 Pn **Pn 17 06 44.4 +0.2**
SKAG Skagway 5.93 98 Pn **Pn 17 06 44.2 -0.3**
I29M Ogilvie Camp, 5.99 37 Pn **Pn 17 06 44.9 -0.4**
G23K Bananza Creek 6.07 348 Pn 17 06 46.0 -0.4
L16K Owhat River 6.14 284 Pn **Pn 17 06 46.3 -1.0**
M31M Drury Creek, Y 6.14 72 Pn **Pn 17 06 46.9 -0.4**
J30M Hart River 6.14 48 Pn 17 06 48.5 +1.0
BESE Bessie Mountai 6.49 105 Pn 17 06 53.4 +1.1
I30M Mount Dempster 6.50 43 Pn **Pn 17 06 53.2 +0.8**
N15K Kwethluk River 6.56 270 Pn **Pn 17 06 52.8 -0.3**
COLD Coldfoot 6.59 349 Pn **Pn 17 06 54.2 +0.7**
P32M Atlin 6.68 95 Pn **Pn 17 06 55.3 +0.5**
O15K Ungalikthiuk R 6.70 261 Pn 17 06 54.9 0.0
BMAR Burnt Mountain 6.71 8 Pn **Pn 17 06 55.6 +0.4**
F24K Squaw Lake 6.74 357 Pn **Pn 17 06 55.5 -0.1**
R32K Eaglecrest 6.79 107 Pn **Pn 17 06 55.7 -0.6**
CHIR Chirikof Islan 6.80 226 Pn **Pn 17 06 54.9 -1.6**
F25K Christian Rive 6.82 4 Pn **Pn 17 06 56.4 -0.3**
J16K Anvik River 6.90 297 Pn **Pn 17 06 56.4 -1.4**
P33M Teslin, Yukon 6.97 89 Pn **Pn 17 06 58.6 -0.2**
F26K Sheenjek River 7.00 9 Pn **Pn 17 06 59.6 +0.4**
G19K Purcell Mounta 7.02 324 Pn **Pn 17 06 59.9 +0.5**
F21K Alatna River 7.04 339 Pn **Pn 17 06 59.9 +0.2**
SIT Sitka 7.07 117 Pn **Pn 17 06 59.2 -0.9**
K15K Wolf Creek Mou 7.15 288 Pn **Pn 17 07 01.1 -0.1**
S32K Killisnoo 7.17 113 Pn **Pn 17 07 01.4 +0.1**

NEIC ***15*** *17:35:52.3±2.1,25°.2S±0°.1×179°.9W±0°.2, h487km±4km, mb4.3/24, Error ellipse: s-maj=24.3km s-min=16.7km az=121.0*
IDC ***15*** *17:35:54.4±2.3,25°.19S×179°.76E, h490km±24km, mb3.4/6, mbtmp4.2/9, Error ellipse: s-maj=25.0km s-min=21.8km az=130.0*
ISC 15 17:35:54.2±0.7,25°.13S±0°.08×179°.9E±0°.1, h501km, n40, σ1§12/40, mb4.2/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.56**	**346**	P	**P**	**17 37 46.0**	**-0.3**
MSVF	**Nonsavu**	**7.56**	**346**	P	**P**	**17 37 45.9**	**-0.3**
	2.0nm,0.4s,baz=240,slow=23,SNR=4.5						
PINNC	**Pines Island,**	**11.67**	**280**	P	**P**	**17 38 30.1**	**+0.8**
DZM	**Mont Dzumac**	**12.71**	**281**	P	**P**	**17 38 41.0**	**+0.6**
DZM	**Mont Dzumac**	**12.71**	**281**	P	**P**	**17 38 41.4**	**+1.0**
	8.7nm,0.7s,baz=119,slow=12,SNR=3.6						
URZ	**Urewera**	**13.30**	**190**	P	**P**	**17 38 44.4**	**-2.0**
	9.1nm,0.9s,baz=260,slow=22,SNR=1.9						
URZ				S	**S**	**17 41 08.0**	**-0.3**
	6.3nm,1.0s,baz=253,slow=19,SNR=1.7						
MRZ	**Mangatainoka R**	**15.90**	**192**	P	**P**	**17 39 12.2**	**-1.4**
MRZ				IAmb	IAmb	17 39 38.8	
	comp=Z,14nm,1.1s						
SNZO	**South Karori**	**16.71**	**194**	P	**P**	**17 39 19.9**	**-2.0**
LTZ	**Lake Taylor**	**18.70**	**198**	P	**P**	**17 39 40.5**	**-0.3**
HNR	**Honiara**	**24.57**	**306**	P	**P**	**17 40 33.5**	**-0.6**
ARMA	**Armidale**	**25.53**	**252**	P	**P**	**17 40 44.2**	**+1.7**
EIDS	**Eidsvold**	**26.05**	**263**	P	**P**	**17 40 47.0**	**0.0**
TOO	**Toolangi**	**31.72**	**239**	P	**P**	**17 41 37.8**	**+1.5**
TOO				IAmb	IAmb	17 42 17.6	
	comp=Z,9.1nm,1.4s						
MCQ	**Macquarie Isla**	**33.19**	**202**	P	**P**	**17 41 49.3**	**+0.8**
STKA	**Stephens Creek**	**34.20**	**250**	P	**P**	**17 41 57.7**	**+0.3**
STKA	**Stephens Creek**	**34.20**	**250**	P	**P**	**17 41 57.0**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=77,slow=9.8,SNR=6.7						
	comp=Z,1.5nm,0.5s						
COEN	**Coen**	**36.24**	**281**	P	**P**	**17 42 15.0**	**+0.4**
COEN				IAmb	IAmb	17 42 27.6	
	comp=Z,24nm,1.4s						
BBOO	**Buckleboo**	**38.89**	**248**	P	**P**	**17 42 35.3**	**-0.9**
BBOO				IAmb	IAmb	17 43 07.9	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**41.76**	**262**	P	**P**	**17 42 58.4**	**-0.8**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**17 42 58.2**	**-1.1**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**17 42 59.2**	**-0.1**
	comp=Z,9.5nm,1.0s,baz=92,slow=7.7,SNR=93						
	comp=Z,9.5nm,1.0s						
WR0	**Warramunga Arr**	**42.06**	**268**	P	**P**	**17 43 00.6**	**-1.0**
WB2	**Warramunga Arr**	**42.23**	**268**	P	**P**	**17 43 02.2**	**-0.8**
WB2				IAmb	IAmb	17 43 03.3	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**42.24**	**268**	P	**P**	**17 43 02.2**	**-0.9**
WB0				IAmb	IAmb	17 43 03.2	
	comp=Z,8.1nm,0.7s						
WRA	**Warramunga Arr**	**42.25**	**268**	P	**P**	**17 43 02.5**	**-0.6**
	comp=Z,5.6nm,0.6s,baz=99,slow=6.9,SNR=90						
	comp=Z,5.6nm,0.6s						
FORT	**Forrest**	**45.81**	**251**	P	**P**	**17 43 29.7**	**-1.0**
FORT				IAmb	IAmb	17 44 11.5	
	comp=Z,15nm,1.1s						
MTN	**Manton Dam**	**47.47**	**276**	P	**P**	**17 43 42.5**	**-0.9**
MTN				IAmb	IAmb	17 43 44.2	
	comp=Z,11nm,1.3s						
KNRA	**Kununurra**	**48.60**	**271**	P	**P**	**17 43 51.6**	**-0.3**
KNRA				IAmb	IAmb	17 43 52.5	
	comp=Z,15nm,1.1s						
HATHI	**Halema'uma'u T**	**50.45**	**31**	P	**P**	**17 44 03.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**50.65**	**267**	P	**P**	**17 44 07.0**	**0.0**
MBWA	**Marble Bar**	**55.08**	**261**	P	**P**	**17 44 37.8**	**-0.9**
MBWA				IAmb	IAmb	17 45 04.1	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**56.38**	**251**	P	**P**	**17 44 47.0**	**-0.6**
MORW				IAmb	IAmb	17 45 22.1	
	comp=Z,16nm,1.2s						
QSPA	**South Pole Qui**	**64.96**	**180**	P	**P**	**17 45 44.9**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=13,slow=14,SNR=3.1						
	comp=Z,1.2nm,0.6s						
LVA	**Lava Point**	**79.89**	**8**	P	**P**	**17 47 08.6**	**-1.5**
PEA0B	**Petropavlovsk-**	**80.27**	**347**	P	**P**	**17 47 11.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**89.86**	**290**	P	**P**	**17 48 01.4**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=4.5,SNR=2.7						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**91.16**	**58**	P	**P**	**17 48 08.4**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=204,slow=5.3,SNR=4.6						
	comp=Z,0.6nm,0.7s						
HFS	**Hagfors**	**143.73**	**348**	PKP	PKPab	17 54 29.9	-0.1
	comp=Z,1.4nm,0.4s,baz=48,slow=2.1,SNR=11						
MMAI	**Mount Meron Ar**	**148.10**	**293**	PKPbc	**PKPbc**	**17 54 44.5**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=72,slow=4.7,SNR=1.2						
BRTR	**Keskin Array B**	**148.23**	**306**	PKPbc	**PKPbc**	**17 54 43.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=88,slow=4.5,SNR=2.9						

IDC ***15*** *17:36:18.6±6.3,25°.31S×179°.72E, h525km±70km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=51.1km s-min=27.3km az=23.0*
ISC 15 17:36:16.9±1.2,25°.3S±0°.2×179°.8E±0°.2, h507km, n7, σ1§12/7, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.16**	**189**	P	**P**	**17 39 07.6**	**+0.1**
	5.3nm,0.7s,baz=0.0,slow=7.1,SNR=5.9						
STKA	**Stephens Creek**	**34.03**	**250**	P	**P**	**17 42 18.9**	**+0.6**
	0.8nm,0.3s,baz=70,slow=7.6,SNR=7.0						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**41.61**	**262**	P	**P**	**17 43 20.6**	**+0.3**
	1.3nm,0.3s,baz=97,slow=8.0,SNR=4.8						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**42.10**	**268**	P	**P**	**17 43 24.0**	**-0.3**
	2.7nm,0.4s,baz=104,slow=8.1,SNR=34						
	2.7nm,0.4s						
QSPA	**South Pole Qui**	**64.84**	**180**	P	**P**	**17 46 04.9**	**-0.4**
	1.1nm,0.7s,baz=53,slow=6.1,SNR=1.6						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**91.33**	**58**	P	**P**	**17 48 29.5**	**+1.0**
	0.2nm,0.4s,baz=205,slow=2.3,SNR=1.8						
	0.2nm,0.4s						
HFS	**Hagfors**	**143.81**	**348**	PKP	**PKPdf**	**17 54 51.7**	**-1.8**
	1.1nm,0.4s,baz=27,slow=0.3,SNR=4.4						

TRN ***15*** *17:39:05.5, 10°.74N×62°.33W, h44km, MD3.5, North of the Paria peninsula.*
FUNV ***15*** *17:39:06.7, 10°.64N×62°.26W, h58km, MW3.5*
ISC 15 17:39:03.4±1.3, 10°.66N±0°.04×62°.31W±0°.04, h89km±15km, n30, σ1§52/57, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.89**	**91**	*eP*	**Pn**	**17 39 22.8**	**+1.1**
TRN				*eS*	**Sn**	**17 39 34.5**	**-1.0**
TRN	**Trinidad (W)**	**0.89**	**91**	*eP*	**Pn**	**17 39 22.8**	**+1.1**
TRN				*eS*	**Sn**	**17 39 34.5**	**-1.0**
TBH	**Brigand Hill**	**1.23**	**98**	*e*	**Pn**	**17 39 28.9**	**+3.1**
GRFF	**Grenada Fort F**	**1.49**	**22**	*eP*	**Pn**	**17 39 29.6**	**+0.6**
GRFF				*eS*	**Sn**	**17 39 46.1**	**-2.2**
GRFF	**Grenada Fort F**	**1.49**	**22**	*eP*	**Pn**	**17 39 29.6**	**+0.6**
GRFF				*eS*	**Sn**	**17 39 46.1**	**-2.2**
GRGR	**Grenville**	**1.60**	**23**	*eP*	**Pn**	**17 39 30.3**	**-0.1**
GRGR				*eS*	**Sn**	**17 39 49.4**	**-1.4**
GRGR	**Grenville**	**1.60**	**23**	*eP*	**Pn**	**17 39 30.3**	**-0.1**
GRGR				*eS*	**Sn**	**17 39 49.4**	**-1.4**
GRW	**Mount Saint Ca**	**1.62**	**23**	*eP*	**Pn**	**17 39 31.3**	**+0.6**
GRW				*eS*	**Sn**	**17 39 50.4**	**-1.0**
GRW	**Mount Saint Ca**	**1.62**	**23**	*eP*	**Pn**	**17 39 31.3**	**+0.6**
GRW				*eS*	**Sn**	**17 39 50.4**	**-1.0**
GRHS	**Sauteurs**	**1.69**	**23**	*eP*	**Pn**	**17 39 31.5**	**0.0**
GRHS				*eS*	**Sn**	**17 39 50.7**	**-2.1**
GRHS	**Sauteurs**	**1.69**	**23**	*eP*	**Pn**	**17 39 31.5**	**0.0**
GRHS				*eS*	**Sn**	**17 39 50.7**	**-2.1**
GRSS	**Sisters**	**1.77**	**23**	*eP*	**Pn**	**17 39 33.1**	**+0.6**
GRSS				*eS*	**Sn**	**17 39 53.3**	**-1.3**
GRSS	**Sisters**	**1.77**	**23**	*eP*	**Pn**	**17 39 33.1**	**+0.6**
GRSS				*eS*	**Sn**	**17 39 53.3**	**-1.3**
TOSP	**Speyside**	**1.85**	**70**	*eP*	**Pn**	**17 39 35.0**	**+1.5**
TOSP				*eS*	**Sn**	**17 39 55.9**	**-0.7**
TOSP	**Speyside**	**1.85**	**70**	*eP*	**Pn**	**17 39 35.0**	**+1.5**
TOSP				*eS*	**Sn**	**17 39 55.9**	**-0.7**
GCMP	**Grenada, Carri**	**2.01**	**25**	*eP*	**Pn**	**17 39 36.2**	**+0.5**
GCMP				*eS*	**Sn**	**17 39 58.6**	**-1.7**
GCMP	**Grenada, Carri**	**2.01**	**25**	*eP*	**Pn**	**17 39 36.2**	**+0.5**
GCMP				*eS*	**Sn**	**17 39 58.6**	**-1.7**
PCRV	**Puerto La Cruz**	**2.34**	**258**	*eP*	**Pn**	**17 39 42.2**	**+2.1**
PCRV				*eS*	**Sn**	**17 40 08.4**	**0.0**
PCRV	**Puerto La Cruz**	**2.34**	**258**	*eP*	**Pn**	**17 39 42.0**	**+1.8**
PCRV				*eS*	**Sn**	**17 40 08.3**	**0.0**
PCRV	**Puerto La Cruz**	**2.34**	**258**	*eP*	**Pn**	**17 39 42.0**	**+1.8**
PCRV				*eS*	**Sn**	**17 40 08.3**	**0.0**
SVT	**Saint Vincent**	**2.70**	**23**	*eP*	**Pn**	**17 39 45.9**	**+0.9**
SVT				*eS*	**Sn**	**17 40 17.0**	**+0.2**
SVT	**Saint Vincent**	**2.70**	**23**	*eP*	**Pn**	**17 39 45.9**	**+0.9**
SVT				*eS*	**Sn**	**17 40 17.0**	**+0.2**
SVB	**Belmont**	**2.79**	**22**	*eP*	**Pn**	**17 39 48.2**	**+2.0**

SVB				*e*S	**Sn**	**17 40 18.5**	**-0.6**
SVB	**Belmont**	**2.79**	**22**	*e*P	**Pn**	**17 39 48.2**	**+2.0**
SVB				*e*S	**Sn**	**17 40 18.5**	**-0.6**
SLBI	**Saint Lucia, B**	**3.59**	**21**	*e*P	**Pn**	**17 39 58.5**	**+1.6**
SLBI				*e*S	**Sn**	**17 40 37.0**	**-1.2**
SLBI	**Saint Lucia, B**	**3.59**	**21**	*e*P	**Pn**	**17 39 58.5**	**+1.6**
SLBI				*e*S	**Sn**	**17 40 37.0**	**-1.2**
LUEV	**Luepa**	**4.86**	**170**	*e*P	**Pn**	**17 40 15.5**	**+1.2**
LUEV				*e*S	**Sn**	**17 41 06.5**	**-2.9**
CACV	**CAICARA DEL OR**	**5.19**	**234**	*e*P	**Pn**	**17 40 15.6**	**-3.1**
CACV				*e*S	Sn	17 41 06.5	-11
BENV	**Beln**	**5.25**	**263**	*e*P	**Pn**	**17 40 22.2**	**+2.6**
BAUV	**El Baul**	**5.91**	**254**	*e*P	**Pn**	**17 40 29.9**	**+1.5**
BAUV				*e*S	**Sn**	**17 41 32.0**	**-2.8**

IDC 15 17:51:09.2±999.0, 50°88N×48°29E, h0km, Error ellipse: s-maj=409.8km s-min=134.1km az=94.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.22**	**91**	I	I	18 26 00.0	
0.5nm,0.6s,baz=280,slow=306,SNR=5.7							
I46RU	**ZALESOVO INFRA**	**22.33**	**68**	I	I	20 06 00.0	
baz=276,slow=329,SNR=2.0							
I34MN	**SONGINO INFRAS**	**37.16**	**71**	I	I	21 40 20.0	
baz=296,slow=342,SNR=0.9							

CNRM ***15*** *18:00:04.4, 33°03N×6°29W, h0km*
SFS ***15*** *18:00:05.2, 33°39N×6°48W, h49km, ML3.3/7, ML3.4/7, MLv3.5/7*
MDD ***15*** *18:00:06.8±0.5, 33°33N×6°45W, h50km, Mb3.9/4, M_mb3.2/4, Error ellipse: s-maj=5.5km s-min=4.0km az=96.0*
INMG ***15*** *18:00:06.6±1.3, 33°28N×6°42W, h47km±14km, ML2.3, Error ellipse: s-maj=4.8km s-min=3.6km az=97.0. #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
IGIL ***15*** *18:00:07.8, 33°28N×6°42W, h48km, ML1.9*
ISC 15 18:00:05.2±0.9, 33°54N±0°05×6°26W±0°04, h10km, n45, σ2°13/61, 4C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.33**	**253**	P	**Pg**	**18 00 14.5**	**+2.6**
ZHG	**ZHG**	**0.33**	**253**	S	**Sg**	**18 00 19.9**	**+3.6**
IFR	**Ifrane**	**0.95**	**91**	S	**Sn**	**18 00 38.8**	**+0.3**
IFR				P	**Pn**	**18 00 25.5**	**+0.7**
AVE	**Averroes**	**0.99**	**256**	S	**Sg**	**18 00 32.4**	**-4.8**
AVE				P	Pg	18 00 21.3	-3.0
LCRM	**LCR**	**1.18**	**83**	P	**Pn**	**18 00 29.3**	**+1.4**
LCRM	**LCR**	**1.18**	**83**	S	**Sn**	**18 00 45.2**	**+1.0**
MD31	**MD31**	**1.43**	**118**	P	**Pn**	**18 00 30.6**	**-0.7**
MD31	**MD31**	**1.43**	**118**	S	**Sn**	**18 00 47.3**	**-2.9**
MDT	**Midelt**	**1.57**	**117**	P	**Pn**	**18 00 32.7**	**-0.6**
TISM	**Timmit**	**1.82**	**185**	P	Pn	18 00 30.4	-6.2
TISM	**Timmit**	**1.82**	**185**	S	Sn	18 00 46.5	-13
AKLM	**AKL**	**2.21**	**64**	P	**Pb**	**18 00 44.3**	**-1.1**
OUZM	**OUZ**	**2.66**	**189**	P	Pn	18 00 43.4	-4.9
TIO	**Tiouine**	**2.74**	**198**	S	Sn	18 01 11.3	-11
TIO				P	Pn	18 00 43.8	-5.6
TIO	**Tiouine**	**2.74**	**198**	P	Pn	18 00 44.0	-5.4
ZGR	**Zagora**	**3.46**	**171**	P	Pn	18 00 53.4	-5.8
PBDV	**Barranco-do-Ve**	**3.93**	**340**	*e*S	**Sn**	**18 01 51.1**	**-0.8**
PBDV				*i* AML	AML	18 01 51.4	
PBDV				*i* AML	AML	18 01 53.0	
PBDV				*i* AML	AML	18 01 53.5	
PVAQ	**Vaqueiros**	**4.03**	**343**	*e*P	**Pn**	**18 01 08.4**	**+1.4**
PVAQ				*i* AML	AML	18 01 55.0	
PVAQ	**Vaqueiros**	**4.03**	**343**	P	**Pn**	**18 01 07.3**	**+0.3**
PVAQ				S	**Sn**	**18 01 52.2**	**-2.0**
EGRO	**El Granado**	**4.10**	**346**	S	**Sn**	**18 01 55.1**	**-1.0**
EGRO				P	**Pn**	**18 01 09.0**	**+1.0**
EGRO	**El Granado**	**4.10**	**346**	P	**Pn**	**18 01 09.3**	**+1.3**
EGRO				⇑*i*Vmb_V		18 01 12.3	
247nm,SNR=2.1							
EGRO				S	**Sn**	**18 01 53.4**	**-2.7**
PFVI	**Vila Bisbo**	**4.15**	**330**	*e*P	**Pn**	**18 01 09.3**	**+0.7**
PFVI				*e*S	**Sn**	**18 01 54.9**	**-2.3**
PFVI	**Vila Bisbo**	**4.15**	**330**	P	**Pn**	**18 01 08.3**	**-0.4**
PFVI				S	**Sn**	**18 01 54.7**	**-2.5**
EMIN	**Mina Concepcio**	**4.23**	**356**	S	**Sn**	**18 01 57.0**	**-2.2**
MORF	**Marmelete**	**4.23**	**333**	*e*P	**Pn**	**18 01 10.6**	**+0.9**
MORF				*e*S	**Sn**	**18 01 56.6**	**-2.6**
MORF				IAML		18 01 59.0	
comp=N,3.4nm,0.1s							
MORF	**Marmelete**	**4.23**	**333**	*e*P	**Pn**	**18 01 10.7**	**+0.9**
MORF				*e*S	**Sn**	**18 01 57.5**	**-1.7**
MORF				*i* AML	AML	18 01 58.6	
MORF				*i* AML	AML	18 01 59.2	
MORF				*i* AML	AML	18 01 59.8	
PCVE	**Castro Verde**	**4.33**	**341**	*e*P	**Pn**	**18 01 12.5**	**+1.4**
PCVE				*e*S	**Sn**	**18 02 00.2**	**-1.4**
PCVE				*i* AML	AML	18 02 01.3	
PCVE				*i* AML	AML	18 02 01.3	
PCVE				*i* AML	AML	18 02 02.9	
PTEO	**Sao Teotonio**	**4.47**	**334**	*e*P	**Pn**	**18 01 14.4**	**+1.4**
PTEO				*e*S	**Sn**	**18 02 04.7**	**-0.3**
MESJ	**Messejana**	**4.57**	**340**	*e*P	**Pn**	**18 01 15.6**	**+1.2**
MESJ				*e*S	**Sn**	**18 02 05.3**	**-2.4**
MESJ				IAML		18 02 07.7	
comp=N,1.5nm,0.1s							
MESJ	**Messejana**	**4.57**	**340**	*e*P	**Pn**	**18 01 16.4**	**+1.9**
MESJ				*e*S	**Sn**	**18 02 06.0**	**-1.6**
MESJ				*i* AML	AML	18 02 09.6	
MESJ				*i* AML	AML	18 02 09.7	
MESJ				*i* AML	AML	18 02 10.1	
ECAB	**El Cabril**	**4.57**	**8**	P	**Pn**	**18 01 16.9**	**+2.4**
ECAB				⇑*i*Vmb_V		18 01 22.2	
comp=N,48nm,SNR=0.7							
ECAB				S	**Sn**	**18 02 05.4**	**-2.3**
PBAR	**Barrancos**	**4.66**	**352**	*e*P	**Pn**	**18 01 18.0**	**+2.3**
PBAR				*e*S	**Sn**	**18 02 08.2**	**-1.7**
PBAR				*i* AML	AML	18 02 11.2	
PBAR				*i* AML	AML	18 02 12.5	
PBAR				*i* AML	AML	18 02 12.7	
PBAR	**Barrancos**	**4.66**	**352**	P	**Pn**	**18 01 17.3**	**+1.6**
PBAR				S	**Sn**	**18 02 08.2**	**-1.7**
EADA	**Adamuz**	**4.81**	**16**	P	**Pn**	**18 01 20.2**	**+2.4**
EADA				S	**Sn**	**18 02 12.9**	**-0.8**
EADA	**Adamuz**	**4.81**	**16**	P	**Pn**	**18 01 20.6**	**+2.8**
EADA				⇑*i*Vmb_V		18 01 25.1	
comp=N,75nm,SNR=1.1							
EADA				S	**Sn**	**18 02 12.1**	**-1.5**
EBAD	**Badajoz**	**5.24**	**354**	P	**Pn**	**18 01 25.1**	**+1.5**
EBAD				S	**Sn**	**18 02 21.5**	**-2.5**
EBAD	**Badajoz**	**5.24**	**354**	P	**Pn**	**18 01 25.3**	**+1.7**
EBAD				⇑*i*Vmb_V		18 01 31.8	
comp=N,152nm,SNR=1.9							
EBAD				S	**Sn**	**18 02 21.9**	**-2.1**
PESTR	**Estremoz**	**5.42**	**349**	*e*S	**Sn**	**18 02 27.1**	**-1.4**
PESTR	**Estremoz**	**5.42**	**349**	S	**Sn**	**18 02 26.5**	**-2.0**
PSIM	**Granatula de C**	**5.64**	**20**	P	**Pn**	**18 01 31.8**	**+2.6**
PSIM				S	**Sn**	**18 02 31.9**	**-2.2**
PMTG	**Montargil**	**5.74**	**345**	*e*P	**Pn**	**18 01 32.4**	**+2.0**
PMTG				*e*S	**Sn**	**18 02 35.1**	**-1.3**
PMTG				*i* AML	AML	18 02 42.1	
PMTG				*i* AML	AML	18 02 44.4	
PMRV	**Marv??o**	**5.94**	**352**	*e*P	**Pn**	**18 01 35.0**	**+1.7**
PMRV				*e*S	**Sn**	**18 02 39.3**	**-2.1**
PMRV				*i* AML	AML	18 02 41.2	
PMRV				*i* AML	AML	18 02 41.7	
PMRV				*i* AML	AML	18 02 43.2	
PAB	**San Pablo**	**6.18**	**14**	S	**Sn**	**18 02 44.3**	**-3.3**
PCBR	**Castelo Branco**	**6.36**	**352**	*e*S	**Sn**	**18 02 50.6**	**-1.0**
PCBR				*i* AML	AML	18 02 50.8	
PCBR				*i* AML	AML	18 02 51.2	
PCBR				*i* AML	AML	18 03 00.0	
MVO	**Moncorvo**	**7.63**	**356**	*e*S	**Sn**	**18 03 16.6**	**-6.5**
MVO				*i* AML	AML	18 03 18.9	
MVO				*i* AML	AML	18 03 19.6	
MVO				*i* AML	AML	18 03 19.7	

IDC 15 18:00:20.1±2.5, 2°87N×128°57E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=219.0km s-min=27.0km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**166**	P	P	18 05 29.6	-0.9
0.5nm,0.7s,baz=344,slow=10.0,SNR=5.6							
0.5nm,0.7s							
MKAR	**Makanchi Array**	**59.31**	**325**	P	P	18 10 24.3	+0.5
0.3nm,0.5s,baz=111,slow=8.2,SNR=6.0							
0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**62.19**	**332**	P	P	18 10 43.7	+0.4
0.2nm,0.3s,baz=111,slow=7.9,SNR=1.6							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**63.45**	**327**	P	P	18 10 51.3	-0.5
0.2nm,0.4s,baz=123,slow=6.8,SNR=2.6							
0.2nm,0.4s							

BJI ***15*** *18:11:41.4, 51°53N×176°56W, h39km, mB5.2/26, mb4.9/70, Ms4.7/44, Ms7 4.4/44*
NEIC ***15*** *18:11:45.1, 51°12N×176°79W, h46km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}2.60; $M_{\theta\theta}$-3.11; $M_{\phi\phi}$0.52; $M_{r\theta}$1.13; $M_{\theta\phi}$-0.55; $M_{\phi r}$1.61; Fault plane solution: $M_0$3.54000×10^{16} NP1: ϕ_s285.27000°, δ37.66000°, λ130.90000°. NP2: ϕ_s57.69000°, δ62.50000°, λ63.19000°. Principal axes: T 3.5549, Plg62.0000°, Azm284.0000°; N -0.0366, Plg24.0000°, Azm71.0000°; P -3.5183, Plg13.0000°, Azm167.0000°;*
MOS ***15*** *18:11:45.6±1.1, 51°69N×176°85W, h54km, mb5.0/50, MS4.1/5 Error ellipse: s-maj=7.2km s-min=5.5km az=94.7*
NEIC ***15*** *18:11:45.1, 51°62N×176°96W, h46km*
AEIC ***15*** *18:11:45.3±2.8, 51°46N±0°06×176°79W±0°07, h43km±4km, Error ellipse: s-maj=9.7km s-min=6.0km az=158.0*
NEIC ***15*** *18:11:47±1.6, 51°7N±0°1×176°91W±0°07, h55km±4km, mb4.9/423, Mww5.0/12, ML4.8(AEIC), Error ellipse: s-maj=15.3km s-min=5.7km az=166.0*
GCMT ***15*** *18:11:47.0±0.2, 51°52N±0°02×176°79W±0°02, h47km, MW5.0/109, Moment Tensor Solution. s84,c106; s109,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.01±.14; $M_{\theta\theta}$-3.44±.10; $M_{\phi\phi}$-0.57±.10; $M_{r\theta}$1.62±.09; $M_{\theta\phi}$-1.19±.07; $M_{\phi r}$1.54±.07; Best double couple: $M_0$4.52400×10^{16} NP1:ϕ_s260.00000°, δ32.00000°, λ108.00000°. NP2:ϕ_s59.00000°, δ60.00000°, λ79.00000°. Principal axes: T 4.6680, Plg73.0000°, Azm302.0000°; N -0.2890, Plg9.0000°, Azm65.0000°; P -4.3800, Plg14.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***15*** *18:11:47.9±0.6, 51°70N×176°89W, h59km±4km, mb4.2/39, mbtmp4.5/43, MS4.1/91 Error ellipse: s-maj=13.3km s-min=7.5km az=176.0*
ISC 15 18:11:46.8±0.3, 51°57N±0°05×176°87W±0°03, h52km±2km, h51km:pP-P, n879, σ1s50/736, mb4.9/258, MS4.2/108, 13C-24D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.30**	**311**		**Pn**	**18 11 55.3**	**-0.7**
KIWB	**Kanaga Island**	**0.34**	**329**		**Pn**	**18 11 55.8**	**-0.6**
ADK	**Adak**	**0.34**	**20**		**Sn**	**18 12 02.9**	**-0.4**
ADK	**Adak**	**0.34**	**20**		**Pn**	**18 11 55.1**	**-1.3**
ADK	**Adak**	**0.34**	**20**	P	**Pn**	**18 11 55.5**	**-0.9**
ADK	**Adak**	**0.34**	**20**	S	**Sn**	**18 12 03.2**	**0.0**
ADK	**Adak**	**0.34**	**20**	P	**Pn**	**18 11 55.1**	**-1.3**
ADK						18 12 02.9	
KIRH	**Kanaga Island**	**0.36**	**337**		**Pn**	**18 11 56.5**	**-0.1**
KIKV	**Kanaga Island**	**0.37**	**329**		**Pn**	**18 11 56.3**	**-0.4**
KINC	**Kanaga Island**	**0.40**	**336**		**Pn**	**18 11 56.8**	**-0.2**
KICM	**Kanaga Island**	**0.41**	**330**		**Pn**	**18 11 57.0**	**0.0**
GSCK	**Great Sitkin C**	**0.63**	**44**		**Pn**	**18 11 59.0**	**-0.6**
TAFL	**Tanaga Flats**	**0.67**	**287**		**Pn**	**18 11 60.0**	**-0.2**
GSMY	**Great Sitkin M**	**0.69**	**46**		**Pn**	**18 12 00.0**	**-0.5**
GSIG	**Igitkin Island**	**0.72**	**54**		**Sn**	**18 12 11.0**	**-0.1**
TAFP	**Tanaga Falls P**	**0.77**	**296**		**Pn**	**18 12 01.3**	**-0.2**
TASE	**Tanaga Southea**	**0.78**	**291**		**Pn**	**18 12 01.6**	**0.0**
GAEA	**Gareloi East**	**1.19**	**281**		**Pn**	**18 12 07.4**	**+0.3**
GALAA	**Gareloi Lava P**	**1.20**	**280**		**Pn**	**18 12 07.3**	**+0.1**
GANO	**Gareloi North**	**1.23**	**283**		**Pn**	**18 12 07.8**	**+0.1**
GASW	**Gareloi Southw**	**1.25**	**281**		**Pn**	**18 12 08.0**	**0.0**
ATKA	**Atka Island**	**1.77**	**68**		**Sn**	**18 12 35.1**	**-1.3**
ATKA	**Atka Island**	**1.77**	**68**		**Pn**	**18 12 13.9**	**-1.1**
ATKA	**Atka Island**	**1.77**	**68**	P	**Pn**	**18 12 15.5**	**+0.5**
ATKA	**Atka Island**	**1.77**	**68**	S	**Sn**	**18 12 39.1**	**+2.7**
OKSP	**Okmok Steeple**	**5.52**	**69**		**Pn**	**18 13 07.8**	**+1.5**
SHEM	**Shemya Is, Ala**	**5.68**	**285**	P	**Pn**	**18 13 08.0**	**-0.5**
186nm,0.6s,baz=60,slow=2.0,SNR=11							
SHEM				S	**Sn**	**18 14 15.4**	**+3.1**
47nm,0.3s,baz=281,slow=21,SNR=1.3							
OKTU	**Okmok Mt. Tuli**	**5.69**	**68**		**Pn**	**18 13 09.9**	**+1.2**
OKFG	**Magazine Ridge**	**5.78**	**68**		**Pn**	**18 13 11.9**	**+2.1**
MAPS	**Pakushin South**	**6.44**	**66**		**Pn**	**18 13 19.9**	**+1.0**
MAPS					**Sn**	**18 14 34.9**	**+3.9**
MREP	**Makushin Rep't**	**6.55**	**66**		**Pn**	**18 13 22.2**	**+1.8**
MSW	**Makushin Switc**	**6.56**	**65**		**Pn**	**18 13 22.4**	**+1.8**
P08K	**Saint George I**	**6.63**	**38**	Pn	**Pn**	**18 13 21.2**	**-0.3**
P08K	**Saint George I**	**6.63**	**38**	P	Pn	18 13 26.3	+4.8
baz=223							
MTBL	**Makushin Table**	**6.64**	**65**		**Pn**	**18 13 23.1**	**+1.5**
UNV	**Unalaska Valle**	**6.70**	**66**	Pn	**Pn**	**18 13 23.0**	**+0.6**
UNV	**Unalaska Valle**	**6.70**	**66**	P	**Pn**	**18 13 25.4**	**+3.0**
baz=251							
UNV	**Unalaska Valle**	**6.70**	**66**	P	**Pn**	**18 13 24.6**	**+2.2**
SPIA	**Saint Paul Isl**	**6.82**	**32**		**Sn**	**18 14 42.5**	**+2.3**
SPIA	**Saint Paul Isl**	**6.82**	**32**	P	Pn	18 13 28.6	+4.5
baz=217							
ZRO	**Akutan Zero**	**7.07**	**65**		**Pn**	**18 13 29.0**	**+1.5**
AKGG	**Akutan Green G**	**7.09**	**64**		**Pn**	**18 13 28.4**	**+0.6**
AHB	**Akutan Harbor**	**7.17**	**65**		**Pn**	**18 13 30.4**	**+1.6**
WESE	**West Dahl East**	**7.96**	**64**		**Pn**	**18 13 41.9**	**+2.2**
ISLZ	**Isanotski Laza**	**8.52**	**63**		**Pn**	**18 13 49.5**	**+2.2**
FALS	**False Pass**	**8.72**	**63**	Pn	**Pn**	**18 13 49.4**	**-0.6**
FALS	**False Pass**	**8.72**	**63**	P	**Pn**	**18 13 53.2**	**+3.2**
baz=251							
HAG	**Hague Volcano**	**9.68**	**61**		**Pn**	**18 14 05.3**	**+2.0**
HAG	**Hague Volcano**	**9.68**	**61**	P	**Pn**	**18 14 05.3**	**+2.0**
S12K	**Black Hills**	**9.72**	**59**	P	**Pn**	**18 14 07.2**	**+3.5**
baz=249							
PS1A	**Pavlof South-1**	**9.80**	**61**		**Pn**	**18 14 06.8**	**+1.9**
M11K	**Mekoryuk**	**10.65**	**30**	Pn	**Pn**	**18 14 15.3**	**-1.2**
M11K	**Mekoryuk**	**10.65**	**30**	P	Pn	18 14 20.8	+4.3
baz=219							
CNBA	**Chernabura Isl**	**10.86**	**66**		**Pn**	**18 14 17.9**	**-1.5**
M13K	**Dall Lake**	**11.63**	**35**		**Pn**	**18 14 27.4**	**-2.4**
M13K	**Dall Lake**	**11.63**	**35**	P	Pn	18 14 34.7	+4.9
baz=226							
O14K	**Tigyukauivet M**	**11.72**	**43**	Pn	**Pn**	**18 14 31.2**	**+0.2**
O14K	**Tigyukauivet M**	**11.72**	**43**	P	Pn	18 14 34.7	+3.7
baz=235							
CHGN	**Chignik**	**11.85**	**59**	Pn	**Pn**	**18 14 31.5**	**-1.3**
CHGN	**Chignik**	**11.85**	**59**	P	Pn	18 14 36.5	+3.7
baz=252							
N14K	**Kuskokwak Cree**	**11.94**	**40**	P	Pn	18 14 38.1	+4.0
baz=232							
O15K	**Ungalikthiuk R**	**12.30**	**45**	P	P	18 14 43.1	-6.7
baz=238							
K13K	**Kusilvak Mount**	**12.34**	**28**		**Pn**	**18 14 37.3**	**-2.1**
K13K	**Kusilvak Mount**	**12.34**	**28**	P	P	18 14 43.7	-6.4
baz=218							
M14K	**Bethel**	**12.37**	**36**	Pn	**Pn**	**18 14 38.1**	**-1.7**
M14K	**Bethel**	**12.37**	**36**	P	P	18 14 43.9	-6.5
baz=228							
L14K	**Kuka Creek**	**12.52**	**33**	P	P	18 14 47.2	-4.9
baz=225							
GAMB	**Gambell**	**12.54**	**11**	Pn	**Pn**	**18 14 40.3**	**-2.0**
GAMB	**Gambell**	**12.54**	**11**	P	Pn	18 14 45.5	+3.3
baz=196,SNR=8.6							
R16K	**Pilot Point**	**12.68**	**54**	P	P	18 14 48.4	-5.6
baz=249							
N15K	**Kwethluk River**	**12.73**	**41**	P	P	18 14 48.6	-5.9
baz=234							
M15K	**Kasigluk River**	**12.81**	**38**	P	P	18 14 49.6	-5.8
baz=231							
P16K	**Nushagak River**	**13.06**	**48**	P	**P**	**18 14 53.6**	**-4.5**
baz=242							
L15K	**Ungalak Mounta**	**13.16**	**34**	P	**P**	**18 14 55.3**	**-3.9**
baz=227							
CHIR	**Chirikof Islan**	**13.27**	**63**	Pn	**Pn**	**18 14 49.1**	**-3.1**
CHIR	**Chirikof Islan**	**13.27**	**63**	P	P	18 14 55.3	-5.2
baz=258							
O16K	**Kokwok River B**	**13.28**	**45**	Pn	P	18 14 55.1	-5.5
O16K	**Kokwok River B**	**13.28**	**45**	P	**P**	**18 14 56.3**	**-4.2**
baz=240							
J14K	**Nanvaranak Lak**	**13.30**	**27**	P	**P**	**18 14 56.6**	**-4.1**
baz=219							
Q16K	**King Salmon**	**13.54**	**50**	P	**P**	**18 14 59.8**	**-3.7**
baz=246							
K15K	**Wolf Creek Mou**	**13.58**	**32**		**Pn**	**18 14 54.2**	**-2.2**
K15K	**Wolf Creek Mou**	**13.58**	**32**	P	**P**	**18 15 00.6**	**-3.4**
baz=225							
M16K	**Timber Creek**	**13.68**	**39**		**Pn**	**18 14 55.2**	**-2.7**
M16K	**Timber Creek**	**13.68**	**39**	P	**P**	**18 15 02.2**	**-2.9**
baz=234							
O17K	**Koliganek Bris**	**13.81**	**46**	P	**P**	**18 15 03.6**	**-2.9**
baz=241							
L16K	**Owhat River**	**13.91**	**36**		**Pn**	**18 15 00.6**	**-0.2**
L16K	**Owhat River**	**13.91**	**36**	P	**P**	**18 15 05.1**	**-2.4**
baz=231							
ACHA	**Angle Creek He**	**14.03**	**53**		**Pn**	**18 15 02.6**	**0.0**
N17K	**Nushagak Hills**	**14.14**	**43**		**Pn**	**18 15 03.3**	**-0.7**
N17K	**Nushagak Hills**	**14.14**	**43**	P	**P**	**18 15 08.0**	**-2.1**
baz=239,SNR=6.9							
SII	**Sitkinak Islan**	**14.20**	**61**	Pn	**Pn**	**18 15 02.8**	**-2.0**
SII	**Sitkinak Islan**	**14.20**	**61**	P	**P**	**18 15 07.9**	**-3.0**
baz=257							
ANM	**Nome**	**14.35**	**20**		**Pn**	**18 15 05.0**	**-1.6**
ANM	**Nome**	**14.35**	**20**	P	**P**	**18 15 10.6**	**-1.7**
baz=211							
ANM	**Nome**	**14.35**	**20**	P	**Pn**	**18 15 05.0**	**-1.6**
P18K	**Big Mountain,**	**14.50**	**49**		**Pn**	**18 15 06.8**	**-2.0**
P18K	**Big Mountain,**	**14.50**	**49**	P	**P**	**18 15 12.5**	**-1.7**
baz=246							
M17K	**Holitna River**	**14.51**	**40**		**Pn**	**18 15 06.9**	**-1.8**
M17K	**Holitna River**	**14.51**	**40**	P	**P**	**18 15 12.7**	**-1.5**
baz=236							
J16K	**Anvik River**	**14.59**	**30**	Pn	**Pn**	**18 15 08.3**	**-1.6**
J16K	**Anvik River**	**14.59**	**30**	P	**P**	**18 15 14.5**	**-0.7**
baz=224,SNR=9.9							
L17K	**Donlin**	**14.61**	**36**	P	**P**	**18 15 14.2**	**-1.1**
baz=232,SNR=12							
O18K	**Koktuh Hills**	**14.70**	**47**	Pn	**Pn**	**18 15 09.2**	**-2.2**
O18K	**Koktuh Hills**	**14.70**	**47**	P	**P**	**18 15 14.9**	**-1.5**
baz=244							
N18K	**Kilae Creek**	**14.77**	**44**	Pn	**Pn**	**18 15 10.5**	**-1.8**
N18K	**Kilae Creek**	**14.77**	**44**	P	**P**	**18 15 16.3**	**-0.8**
baz=241,SNR=6.9							
OHAK	**Old Harbor**	**14.81**	**58**	Pn	**Pn**	**18 15 09.8**	**-3.0**
OHAK	**Old Harbor**	**14.81**	**58**	P	**P**	**18 15 16.0**	**-1.6**
baz=256							
OHAK	**Old Harbor**	**14.81**	**58**	P	**P**	**18 15 15.4**	**-2.2**
K17K	**Iditarod**	**14.97**	**35**	Pn	**Pn**	**18 15 11.7**	**-3.2**
K17K	**Iditarod**	**14.97**	**35**	P	**P**	**18 15 19.4**	**+0.1**
baz=230,SNR=14							
I17K	**Unalakleet**	**15.00**	**28**		**Pn**	**18 15 11.6**	**-3.6**
I17K	**Unalakleet**	**15.00**	**28**	P	**P**	**18 15 19.3**	**-0.3**
baz=222,SNR=5.8							
G15K	**Niukluk**	**15.01**	**21**	P	**P**	**18 15 18.7**	**-1.1**
baz=213							
PET	**Petropavlovsk**	**15.03**	**285**	*e*P	**Pn**	**18 15 13.2**	**-2.5**
PET				*e*S	**Sn**	**18 17 59.7**	**-1.1**
PET				MLR	MLR		
comp=Z,1μm,15.0s							
PET				MLR	MLR		
comp=Z,900nm,15.0s							
Q19K	**Cape Douglas,**	**15.10**	**52**		**Pn**	**18 15 14.7**	**-1.8**
Q19K				IAmb	IAmb	18 15 22.3	
comp=Z,59nm,1.1s							
Q19K	**Cape Douglas,**	**15.10**	**52**	P	**P**	**18 15 19.8**	**-1.0**
baz=250							
H16K	**Elim**	**15.16**	**25**	P	**P**	**18 15 20.5**	**-0.8**
baz=218,SNR=38							
J17K	**VABM Dome**	**15.16**	**32**		**Pn**	**18 15 15.8**	**-1.5**
M18K	**Stony River**	**15.21**	**41**	P	**P**	**18 15 21.9**	**-0.1**
baz=238							
O19K	**Port Alsworth**	**15.25**	**47**		**Pn**	**18 15 15.3**	**-3.2**
O19K	**Port Alsworth**	**15.25**	**47**	P	**P**	**18 15 21.2**	**-1.2**
baz=245,SNR=8.6							
L18K	**Granite Mounta**	**15.27**	**38**		**Pn**	**18 15 17.2**	**-1.4**
L18K	**Granite Mounta**	**15.27**	**38**	P	**P**	**18 15 22.7**	**+0.1**
baz=235							
KDAK	**Kodiak Island**	**15.31**	**57**	Pn	**Pn**	**18 15 16.4**	**-2.8**
KDAK	**Kodiak Island**	**15.31**	**57**	P	**Pn**	**18 15 16.7**	**-2.5**
comp=Z,5.0nm,0.3s,baz=320,slow=4.0,SNR=49							
KDAK				S	**Sn**	**18 18 10.9**	**+3.4**
comp=Z,5.8nm,0.6s,baz=191,slow=21,SNR=1.2							
KDAK				LR	LR	18 21 42.9	
comp=Z,2μm,22.0s,baz=91,slow=39							
KDAK	**Kodiak Island**	**15.31**	**57**	P	**P**	**18 15 21.7**	**-1.4**
baz=255							
KDAK	**Kodiak Island**	**15.31**	**57**	‖*e*P	**Pn**	**18 15 15.7**	**-3.6**
N19K	**Bonanza Creek**	**15.45**	**44**		**Pn**	**18 15 19.2**	**-1.8**
N19K	**Bonanza Creek**	**15.45**	**44**	P	**P**	**18 15 24

SKT	**Skwentna**	**17.24**	**43**	P	**P**	**18 15 42.7 -1.8**
SKT				IAmb	IAmb	18 15 48.0
	comp=Z,58nm,0.9s					
SKT	**Skwentna**	**17.24**	**43**	P	**P**	**18 15 46.4 +1.9**
	baz=244,SNR=26					
SLKM	**Skilak Lake**	**17.26**	**48**		**P**	**18 15 43.0 -1.7**
J20K	**Nowinta River**	**17.35**	**35**	P	**P**	**18 15 47.4 +1.8**
	baz=234					
F18K	**Selawik**	**17.37**	**23**	P	**P**	**18 15 48.3 +2.5**
	baz=219,SNR=23					
PPLA	**Purkeypile**	**17.39**	**40**		**Pn**	**18 15 44.3 -1.3**
PPLA				IAmb	IAmb	18 15 51.8
	comp=Z,121nm,1.6s					
PPLA	**Purkeypile**	**17.39**	**40**	P	**P**	**18 15 49.1 +2.8**
	baz=240,SNR=17					
O22K	**Cooper Landing**	**17.48**	**49**	P	**Pn**	**18 15 45.0 -1.5**
O22K				IAmb	IAmb	18 15 51.7
	comp=Z,46nm,0.6s					
O22K	**Cooper Landing**	**17.48**	**49**	P	**P**	**18 15 48.4 +1.3**
	baz=251					
SEW	**Seward**	**17.50**	**50**		**Pn**	**18 15 44.8 -1.9**
SEW				IAmb	IAmb	18 15 55.0
	comp=Z,163nm,1.7s					
SEW	**Seward**	**17.50**	**50**	P	**P**	**18 15 46.7 -0.5**
	baz=252					
D17K	**Noatak River**	**17.54**	**18**	P	**P**	**18 15 49.7 +2.0**
	baz=210,SNR=32					
I20K	**Naaghedeneel**	**17.61**	**33**	IAmb	IAmb	18 15 53.7
	comp=Z,59nm,1.1s					
I20K	**Naaghedeneel**	**17.61**	**33**	P	**P**	**18 15 50.6 +2.2**
	baz=232					
C16K	**Lisburne Hills**	**17.67**	**14**	P	**Pn**	**18 15 46.7 -2.1**
C16K	**Lisburne Hills**	**17.67**	**14**	P	**P**	**18 15 50.8 +1.6**
	baz=205					
RC01	**Rabbit Creek A**	**17.68**	**47**	P	**Pn**	**18 15 47.2 -1.8**
RC01	**Rabbit Creek A**	**17.68**	**47**	P	**P**	**18 15 50.9 +1.6**
	baz=249					
CAST	**Castle Rocks**	**17.69**	**38**		**Pn**	**18 15 47.3 -1.9**
CAST	**Castle Rocks**	**17.69**	**38**	P	**P**	**18 15 51.6 +2.1**
	baz=239,SNR=25					
G19K	**Purcell Mounta**	**17.71**	**27**	P	**P**	**18 15 51.7 +2.1**
	baz=224					
E18K	**Tukpahlearik C**	**17.81**	**21**	P	**Pn**	**18 15 48.9 -1.7**
E18K	**Tukpahlearik C**	**17.81**	**21**	P	**P**	**18 15 53.4 +2.7**
	baz=216,SNR=13					
CHUM	**Lake Minchumin**	**17.85**	**37**	P	**P**	**18 15 53.5 +2.4**
	baz=238,SNR=11					
RDOG	**Red Dog Mine**	**17.88**	**17**		**Pn**	**18 15 48.3 -3.1**
RDOG	**Red Dog Mine**	**17.88**	**17**	P	**P**	**18 15 54.4 +2.8**
	baz=210,SNR=6.1					
CUT	**Chulitna**	**17.95**	**43**	IAmb	IAmb	18 15 56.5
	comp=Z,55nm,0.8s					
CUT	**Chulitna**	**17.95**	**43**	P	**P**	**18 15 54.2 +1.9**
	baz=245,SNR=7.1					
F19K	**Shaleruckik Mo**	**18.03**	**25**	P	**P**	**18 15 55.3 +2.2**
	baz=222					
PMR	**Palmer**	**18.13**	**46**	P	**Pn**	**18 15 56.2 +1.7**
	baz=248					
C17K	**DeLong Mountai**	**18.21**	**16**	P	**Pn**	**18 15 57.5 +2.1**
	baz=209,SNR=26					
KTH	**Kantishna Hill**	**18.21**	**39**	P	**P**	**18 15 53.9 -1.3**
KTH				IAmb	IAmb	18 15 58.1
	comp=Z,93nm,0.9s					
PWL	**Port Wells**	**18.25**	**48**	P	**Pn**	**18 15 55.9 0.0**
	baz=252					
GHO	**Glory Hole Cre**	**18.29**	**45**		**Pn**	**18 15 55.1 -1.4**
KNK	**Knik Glacier**	**18.37**	**47**	P	**P**	**18 15 55.8 -1.2**
KNK	**Knik Glacier**	**18.37**	**47**	P	**Pn**	**18 15 58.0 +0.6**
	baz=250					
TRF	**Thorofare Moun**	**18.41**	**40**		**P**	**18 15 55.9 -1.7**
TRF				IAmb	IAmb	18 16 03.9
	comp=Z,63nm,0.9s					
TRF	**Thorofare Moun**	**18.41**	**40**	P	**Pn**	**18 15 59.1 +1.1**
	baz=242,SNR=16					
BILL	**Biiibino**	**18.45**	**340**	P	**P**	**18 15 56.4 -1.4**
BILL	**Biiibino**	**18.45**	**340**	⇓*iP*	**Pn**	**18 15 58.9 +0.6**
BILL				pmax	pmax	
	comp=Z,38nm,1.3s					
P23K	**Montague Islan**	**18.46**	**51**	P	**Pn**	**18 15 58.3 -0.2**
	baz=255					
BPAW	**Bear Paw Mtn.**	**18.46**	**37**	P	**Pn**	**18 15 57.4 -1.1**
BPAW	**Bear Paw Mtn.**	**18.46**	**37**	P	**Pn**	**18 15 59.1 +0.6**
	baz=239,SNR=20					
SML	**Sawmill**	**18.56**	**45**	P	**P**	**18 15 58.1 -1.0**
SML	**Sawmill**	**18.56**	**45**	P	**Pn**	**18 16 00.4 +0.6**
	baz=249					
SML	**Sawmill**	**18.56**	**45**	P	**P**	**18 15 58.1 -1.0**
SML				pmax	pmax	
	comp=Z,21nm,1.1s					
E19K	**Redstone River**	**18.64**	**24**	IAmb	IAmb	18 16 07.3
	comp=Z,50nm,0.8s					
I21K	**Tanana**	**18.69**	**34**	P	**P**	**18 15 58.8 -1.6**
I21K	**Tanana**	**18.69**	**34**	P	**Pn**	**18 16 02.5 +1.3**
	baz=235,SNR=26					
H21K	**Melozitna Rive**	**18.69**	**32**	IAmb	IAmb	18 16 04.2
	comp=Z,119nm,1.9s					
H21K	**Melozitna Rive**	**18.69**	**32**	P	**Pn**	**18 16 01.7 +0.4**
	baz=233					
C18K	**Utukok River**	**18.72**	**18**	P	**Pn**	**18 16 02.9 +1.3**
	baz=212					
M23K	**Glacier View**	**18.83**	**46**	P	**Pn**	**18 16 03.2 +0.3**
	baz=250					
GLI	**Glacier Island**	**18.84**	**49**	P	**Pn**	**18 16 02.6 -0.4**
	baz=253					
Q23K	**Middleton Isla**	**18.85**	**53**	P	**Pn**	**18 16 01.6 -1.6**
	baz=258					
RND	**Reindeer**	**18.97**	**41**		**P**	**18 16 02.2 -1.3**
RND				IAmb	IAmb	18 16 08.3
	comp=Z,42nm,0.6s					
RND	**Reindeer**	**18.97**	**41**	P	**P**	**18 16 02.3 -1.3**
RND				pmax	pmax	
	comp=Z,42nm,0.6s					
SCM	**Sheep Creek Mo**	**19.02**	**46**	P	**Pn**	**18 16 05.1 -0.2**
	baz=250					
BWN	**Browne**	**19.08**	**38**	IAmb	IAmb	18 16 17.9
	comp=Z,85nm,1.0s					
MCK	**McKinley**	**19.08**	**40**	P	**P**	**18 16 02.7 -2.0**
MCK				IAmb	IAmb	18 16 09.9
	comp=Z,35nm,0.8s					
MCK	**McKinley**	**19.08**	**40**	P	**Pn**	**18 16 04.6 -1.4**
	baz=243,SNR=20					
MCK	**McKinley**	**19.08**	**40**	P	**P**	**18 16 02.7 -2.0**
MCK				pmax	pmax	
	comp=Z,35nm,0.8s					
B18K	**Kokolik River**	**19.23**	**16**	P	**Pn**	**18 16 08.5 +0.8**
	baz=210					
D19K	**Kuna River**	**19.24**	**21**	IAmb	IAmb	18 16 13.8
	comp=Z,109nm,1.1s					
D19K	**Kuna River**	**19.24**	**21**	P	**Pn**	**18 16 08.0 +0.2**
	baz=218,SNR=71					
EYAK	**Cordova Ski Ar**	**19.39**	**50**	P	**P**	**18 16 07.5 -0.5**
	baz=256					
NEA2	**Nenana**	**19.43**	**37**	P	**P**	**18 16 06.6 -2.0**
NEA2	**Nenana**	**19.43**	**37**	P	**Pn**	**18 16 08.9 -1.2**
	baz=241,SNR=22					
F21K	**Alatna River**	**19.49**	**28**	P	**Pn**	**18 16 11.0 +0.3**
	baz=228					
E20K	**Nigu River**	**19.51**	**23**	P	**Pn**	**18 16 11.4 +0.4**
	baz=222					
KLU	**Klutina**	**19.55**	**47**	P	**P**	**18 16 09.3 -0.6**
KLU	**Klutina**	**19.55**	**47**	P	**Pn**	**18 16 10.2 -1.4**
	baz=253,SNR=6.1					
I23K	**Minto, Yukon-K**	**19.60**	**36**	P	**Pn**	**18 16 09.9 -2.2**
I23K				IAmb	IAmb	18 16 17.7
	comp=Z,60nm,1.1s					
I23K	**Minto, Yukon-K**	**19.60**	**36**	P	**Pn**	**18 16 11.6 -0.5**
	baz=239,SNR=32					
M24K	**Tolsona, Glenn**	**19.62**	**46**	P	**Pn**	**18 16 11.9 -0.5**
	baz=251,SNR=6.7					
WRH	**Wood River Hil**	**19.75**	**38**	P	**P**	**18 16 10.3 -1.7**
WRH				IAmb	IAmb	18 16 26.3
	comp=Z,67nm,1.6s					
D20K	**Etivluk River**	**19.75**	**22**	P	**Pn**	**18 16 13.1 -0.8**
	baz=220,SNR=83					
MA2	**Magadan**	**19.80**	**306**	P	**P**	**18 16 11.9 -0.7**
MA2	**Magadan**	**19.80**	**306**	P	**Pn**	**18 16 13.5 -1.0**
	comp=Z,8.1nm,0.8s,baz=95,slow=9.9,SNR=19					
MA2				LR	LR	18 23 34.9
	comp=Z,196nm,21.7s,baz=106,slow=36					
MA2	**Magadan**	**19.80**	**306**	P	**Pn**	**18 16 15.0 +0.5**
KAIM	**Kayak Island**	**19.91**	**53**	P	**Pn**	**18 16 14.3 -1.4**
	baz=259					
SEY	**Seymchan**	**19.93**	**317**	P	**Pn**	**18 16 14.9 -0.9**
	comp=Z,18nm,1.1s,baz=111,slow=11,SNR=28					
SEY				LR	LR	18 23 49.8
	comp=Z,1μm,20.9s,baz=152,slow=36					
SEY	**Seymchan**	**19.93**	**317**	⇓*iP*	**Pn**	**18 16 15.5 -0.4**
SEY				pmax	pmax	
	comp=Z,104nm,1.5s					
CCB	**Clear Creek Bu**	**19.94**	**38**	P	**P**	**18 16 12.3 -1.7**
COLA	**College**	**20.03**	**37**	P	**P**	**18 16 13.5 -1.5**
COLA	**College**	**20.03**	**37**	P	**Pn**	**18 16 16.3 -0.7**
	baz=242					
COLA	**College**	**20.03**	**37**	*ceP*	**Pn**	**18 16 15.3 -1.7**
COLA				pmax	pmax	
	comp=Z,26nm,0.8s					
BMRM	**Bremner River**	**20.03**	**49**	P	**Pn**	**18 16 16.5 -0.8**
	baz=256					
HDA	**Harding Lake**	**20.16**	**39**	P	**P**	**18 16 14.8 -1.7**
HDA				IAmb	IAmb	18 16 29.4
	comp=Z,32nm,0.7s					
HDA	**Harding Lake**	**20.16**	**39**	P	Pn	18 16 16.8 -2.0
	baz=244,SNR=16					
HARP	**HAARP**	**20.17**	**45**	P	Pn	18 16 17.1 -1.7
	baz=252					
N25K	**Chitina, Valde**	**20.20**	**48**	P	**P**	**18 16 15.8 -1.1**
N25K	**Chitina, Valde**	**20.20**	**48**	P	Pn	18 16 18.0 -1.2
	baz=254,SNR=7.6					
G23K	**Bananza Creek**	**20.23**	**31**	P	Pn	18 16 18.2 -1.3
	baz=235,SNR=22					
POKR	**Poker Plat Res**	**20.30**	**37**	P	Pn	18 16 18.7 -1.6
	baz=242,SNR=7.4					
ILAR	**Eielson Array**	**20.35**	**38**	P	**P**	**18 16 17.3 -1.2**
ILAR	**Eielson Array**	**20.35**	**38**	P	**P**	**18 16 16.4 -2.0**
	comp=Z,4.3nm,0.6s,baz=238,slow=9.9,SNR=40					
ILAR				PcP	**PcP**	**18 20 28.3 -1.0**
	comp=Z,2.4nm,0.6s,baz=288,slow=3.2,SNR=10					
ILAR				ScP	**ScP**	**18 23 59.9 -1.2**
	comp=Z,0.5nm,0.6s,baz=276,slow=3.2,SNR=6.5					
ILAR				LR	LR	18 25 25.8
	comp=Z,560nm,18.6s,baz=228,slow=40					
	comp=Z,4.3nm,0.6s					
ILAR	**Eielson Array**	**20.35**	**38**	P	**P**	**18 16 17.3 -1.2**
K24K	**Donnelly Dome**	**20.39**	**41**	P	Pn	18 16 18.9 -2.5
	baz=247,SNR=23					
COLD	**Coldfoot**	**20.48**	**30**	P	**P**	**18 16 19.3 -0.6**
COLD				IAmb	IAmb	18 16 26.9
	comp=Z,43nm,1.0s					
COLD	**Coldfoot**	**20.48**	**30**	P	Pn	18 16 20.3 -2.1
	baz=233,SNR=41					
BGLC	**Bering Glacier**	**20.50**	**52**	P	**P**	**18 16 18.9 -1.2**
	baz=260					
GLB	**Gilahina Butte**	**20.52**	**48**	P	**P**	**18 16 19.9 -0.5**
C21K	**Knifeblade Rid**	**20.52**	**23**	P	Pn	18 16 20.4 -2.6
	baz=222,SNR=39					
E22K	**Anaktuvuk Pass**	**20.58**	**27**	IAmb	IAmb	18 16 28.5
	comp=Z,34nm,0.9s					
E22K	**Anaktuvuk Pass**	**20.58**	**27**	P	Pn	18 16 21.3 -2.3
	baz=229					
VRDI	**Verde Repeater**	**20.64**	**49**	P	Pn	18 16 22.8 -1.8
RIDG	**Independent Ri**	**20.75**	**42**	IAmb	IAmb	18 16 37.9
	comp=Z,63nm,0.9s					
RIDG	**Independent Ri**	**20.75**	**42**	P	**P**	**18 16 22.3 -0.6**
	baz=249,SNR=18					
D22K	**Ayikyak River**	**20.85**	**25**	P	**P**	**18 16 23.3 -0.5**
D22K				IAmb	IAmb	18 16 26.3
	comp=Z,54nm,1.1s					
D22K	**Ayikyak River**	**20.85**	**25**	P	Pn	18 16 24.1 -2.6
	baz=226					
J25K	**Salcha River,**	**20.87**	**39**	P	**P**	**18 16 22.9 -1.2**
	baz=246					
MENT	**Mentasta**	**20.96**	**44**	P	Pn	18 16 29.7 +1.4
G24K	**Hadweenzic Riv**	**21.07**	**33**	IAmb	IAmb	18 16 44.0
	comp=Z,86nm,1.3s					
G24K	**Hadweenzic Riv**	**21.07**	**33**	P		18 16 27.5
	baz=238,SNR=22					
M26K	**Nabesna, AK**	**21.13**	**46**	P	**P**	**18 16 27.9 +0.9**
	baz=254					
L26K	**Log Cabin Wild**	**21.15**	**44**	IAmb	IAmb	18 16 41.6
	comp=Z,36nm,1.0s					
L26K	**Log Cabin Wild**	**21.15**	**44**	P	**P**	**18 16 27.4 +0.2**
	baz=252,SNR=7.2					
E23K	**Chandalar**	**21.16**	**28**		**PcP**	**18 20 31.6 +0.7**
MESA	**MESA**	**21.17**	**52**	P	**P**	**18 16 26.9 -0.7**
	baz=261					
SCRK	**Sand Creek**	**21.19**	**41**	IAmb	IAmb	18 16 39.6
	comp=Z,64nm,0.8s					
SCRK	**Sand Creek**	**21.19**	**41**	P	**P**	**18 16 27.4 -0.3**
	baz=249,SNR=19					
PRP	**Porcupine Dome**	**21.19**	**37**	P	**P**	**18 16 26.2 -1.5**
PRP	**Porcupine Dome**	**21.19**	**37**	P	**P**	**18 16 27.8 0.0**
	baz=244					
F24K	**Squaw Lake**	**21.38**	**31**	IAmb	IAmb	18 16 33.9
	comp=Z,30nm,0.8s					
D23K	**Nanushuk River**	**21.44**	**26**	IAmb	IAmb	18 16 34.4
	comp=Z,41nm,0.9s					
D23K	**Nanushuk River**	**21.44**	**26**	P	**P**	**18 16 31.4 +1.3**
	baz=229					
E24K	**Your Creek**	**21.51**	**29**	P	**P**	**18 16 31.8 +0.7**
	baz=234					
TOLK	**Toolik Lake Re**	**21.54**	**27**	IAmb	IAmb	18 16 52.4
	comp=Z,51nm,0.9s					
TOLK	**Toolik Lake Re**	**21.54**	**27**	P	**P**	**18 16 31.8 +0.6**
	baz=232,SNR=14					
J26L	**Joseph Creek**	**21.55**	**40**	IAmb	IAmb	18 16 43.2
	comp=Z,42nm,1.1s					
J26L	**Joseph Creek**	**21.55**	**40**	P	**P**	**18 16 31.0 -0.5**
	baz=249					
M27K	**Edge Creek, AK**	**21.63**	**47**	P	**P**	**18 16 31.0 -1.3**
M27K	**Edge Creek, AK**	**21.63**	**47**	P	**P**	**18 16 32.9 +0.5**
	baz=256					
FYU	**Fort Yukon**	**21.78**	**34**	IAmb	IAmb	18 16 51.5
	comp=Z,126nm,1.6s					
L27K	**Beaver Creek,**	**21.83**	**45**	P	**P**	**18 16 34.8 +0.4**
	baz=254					
A21K	**Barrow**	**21.83**	**17**	P	**P**	**18 16 34.6 +0.4**
	baz=216,SNR=10					
BCAR	**Beaver Creek A**	**21.85**	**45**	P	**P**	**18 16 33.4 -1.2**
PINM	**Pinnacle**	**22.00**	**53**	P	**P**	**18 16 36.5 +0.2**
	baz=263					
I26K	**Coal Creek Min**	**22.01**	**38**	P	**P**	**18 16 35.1 -1.2**
	baz=247					
C23K	**Itkillik River**	**22.04**	**24**	P	**P**	**18 16 37.3 +0.7**
	baz=228					
D24K	**Happy Valley**	**22.07**	**27**	IAmb	IAmb	18 16 56.2
	comp=Z,68nm,1.2s					
D24K	**Happy Valley**	**22.07**	**27**	P	**P**	**18 16 38.3 +1.4**
	baz=232					
BVCY	**Beaver Creek**	**22.10**	**47**	P	**P**	**18 16 37.8 +0.4**
	baz=257,SNR=7.6					
O28M	**Mount Upton**	**22.12**	**51**	P	**P**	**18 16 38.3 +0.5**
	baz=261					
F25K	**Christian Rive**	**22.15**	**32**	P	**P**	**18 16 36.2 -1.6**
F25K	**Christian Rive**	**22.15**	**32**	P	**P**	**18 16 38.6 +0.8**
	baz=239					
YUK3	**Moose Creek**	**22.16**	**48**	P	**P**	**18 16 38.6 +0.4**
	baz=259					
PNL	**Peninsula**	**22.39**	**54**	P	**P**	**18 16 40.6 +0.2**
	baz=265					
YUK8	**Steele Glacier**	**22.40**	**50**	P	**P**	**18 16 41.5 +0.7**
	baz=260					
BMAR	**Burnt Mountain**	**22.42**	**33**	P	**P**	**18 16 39.7 -1.0**
C24K	**Franklin Bluff**	**22.46**	**26**	IAmb	IAmb	18 17 01.2
	comp=Z,103nm,1.2s					
C24K	**Franklin Bluff**	**22.46**	**26**	P	**P**	**18 16 41.5 +0.4**
	baz=231					
G26K	**Porcupine Rive**	**22.47**	**34**	P	**P**	**18 16 41.7 +0.5**
	baz=243					
F26K	**Sheenjek River**	**22.70**	**32**	P	**P**	**18 16 44.0 +0.3**
	baz=241					
I27K	**Kandik River**	**22.72**	**38**	P	**P**	**18 16 43.6 -0.4**
	baz=249					
O29M	**Mount Kennedy**	**22.86**	**53**	P	**P**	**18 16 45.3 -0.2**
	baz=264					
D25K	**Kavik River**	**22.87**	**28**	P	**P**	**18 16 45.2 -0.3**
	baz=235					
YUK4	**Talbot Arm**	**22.94**	**50**	P	**P**	**18 16 47.0 +0.5**
	baz=261					
H27K	**Steamboat Moun**	**22.99**	**37**	P	**P**	**18 16 47.0 +0.4**
	baz=248					
YUK6	**Outpost Mounta**	**23.03**	**51**	P	**P**	**18 16 47.3 -0.1**
	baz=263					
DAWY	**Dawson**	**23.14**	**43**	P	**P**	**18 16 47.4 -0.9**
DAWY				IAmb	IAmb	18 17 12.3
	comp=Z,94nm,1.7s					
DAWY	**Dawson**	**23.14**	**43**	P	**P**	**18 16 48.2 -0.1**
	baz=255,SNR=7.3					
G27K	**Doyon Strip**	**23.17**	**35**	P	**P**	**18 16 48.3 -0.1**
	baz=246					
M29M	**Somme Creek**	**23.20**	**47**	P	**P**	**18 16 48.4 -0.5**
	baz=259					
I28M	**Miner Creek**	**23.32**	**39**	P	**P**	**18 16 49.6 -0.4**
	baz=251					
HYT	**Haines Junctio**	**23.43**	**51**	P	**P**	**18 16 51.1 -0.1**
	baz=264					
L29M	**L29M**	**23.48**	**46**	P	**P**	**18 16 51.8 +0.3**
	baz=258					
C26K	**Camden Bay**	**23.64**	**27**	P	**P**	**18 16 53.4 +0.6**
	baz=236					
J29N	**Klondike Camp**	**23.74**	**42**	IAmb	IAmb	18 17 21.0
	comp=Z,54nm,1.3s					
J29N	**Klondike Camp**	**23.74**	**42**	P	**P**	**18 16 53.6 -0.3**
	baz=255					
C27K	**Jago River**	**23.82**	**28**	P	**P**	**18 16 52.5 -2.0**
C27K	**Jago River**	**23.82**	**28**	P	**P**	**18 16 54.0 -0.6**
	baz=238,SNR=11					
K29M	**Barlow Dome**	**23.90**	**44**	IAmb	IAmb	18 16 58.7
	comp=Z,36nm,1.0s					
K29M	**Barlow Dome**	**23.90**	**44**	P	**P**	**18 16 54.6 -0.8**
	baz=257					
I29M	**Ogilvie Camp,**	**23.95**	**40**	IAmb	IAmb	18 17 17.6
	comp=Z,72nm,1.4s					
I29M	**Ogilvie Camp,**	**23.95**	**40**	P	**P**	**18 16 54.6 -1.2**
	baz=253					
M30M	**Minto, Yukon**	**23.99**	**47**	P	**P**	**18 16 55.1 -1.1**
	baz=261					
S31K	**Pelican**	**24.00**	**59**	P	**P**	**18 16 54.7 -1.5**
	baz=271					
O30N	**Mendenhall**	**24.12**	**52**	P	**P**	**18 16 56.3 -1.1**
	baz=265					
F28M	**Old Crow**	**24.13**	**34**	IAmb	IAmb	18 17 18.4
	comp=Z,33nm,1.3s					
F28M	**Old Crow**	**24.13**	**34**	P	**P**	**18 16 57.3 -0.1**
	baz=247,SNR=8.4					
H29M	**Whitestone**	**24.18**	**38**	IAmb	IAmb	18 17 22.8
	comp=Z,25nm,1.1s					
R31K	**City Hall, Gus**	**24.25**	**57**	P	**P**	**18 16 57.1 -1.4**
	baz=271					
SKAG	**Skagway**	**24.45**	**55**	P	**P**	**18 16 59.3 -1.0**
	baz=269					
D27M	**Malcolm River**	**24.47**	**30**	P	**P**	**18 16 59.1 -1.4**
D27M				IAmb	IAmb	18 17 19.4
	comp=Z,33nm,1.2s					
D27M					**PcP**	**18 20 37.5 -0.1**
G29M	**Pine Creek**	**24.54**	**37**	P	**P**	**18 17 00.9 -0.3**
	baz=250					
SIT	**Sitka**	**24.55**	**61**	P	**P**	**18 17 00.6 -0.7**
	baz=274					
J30M	**Hart River**	**24.56**	**42**	IAmb	IAmb	18 17 28.9
	comp=Z,22nm,0.8s					
J30M					**PcP**	**18 20 37.6 -0.4**
J30M	**Hart River**	**24.56**	**42**	P	**P**	**18 17 01.3 -0.2**
	baz=257					
E28M	**Babbage River**	**24.65**	**32**	IAmb	IAmb	18 17 22.0
	comp=Z,122nm,2.0s					
E28M					**PcP**	**18 20 38.4 +0.4**
I30M	**Mount Dempster**	**24.69**	**41**	IAmb	IAmb	18 17 03.7
	comp=Z,26nm,0.7s					
I30M	**Mount Dempster**	**24.69**	**41**	P	**P**	**18 17 02.0 -0.7**
	baz=256					
WHY	**Whitehorse**	**24.71**	**52**	P	**P**	**18 17 02.2 -0.6**
	baz=267					
EPYK	**Eagle Plains**	**24.86**	**38**	P	**P**	**18 17 02.3 -1.8**
EPYK					**PcP**	**18 20 38.4 -0.2**
EPYK	**Eagle Plains**	**24.86**	**38**	P	**P**	**18 17 02.9 -1.2**
	baz=253					
S32K	**Killisnoo**	**24.92**	**60**	P	**P**	**18 17 03.5 -1.1**
	baz=274					
M31M	**Drury Creek, Y**	**25.05**	**48**	P	**P**	**18 17 05.3 -0.5**
	baz=264					
E29M	**Blow River**	**25.11**	**33**	IAmb	IAmb	18 17 26.9
	comp=Z,51nm,1.5s					
E29M					**PcP**	**18 20 38.7 -0.3**
E29M	**Blow River**	**25.11**	**33**	P	**P**	**18 17 06.2 -0.1**
	baz=248					
D28M	**Stokes Point**	**25.22**	**31**	P	**P**	**18 17 07.3 +0.2**
	baz=245					
G30M	**tAoh Zraii Nji**	**25.23**	**37**		**PcP**	**18 20 39.2 -0.2**
G30M	**tAoh Zraii Nji**	**25.23**	**37**	P	**P**	**18 17 06.2 -1.2**
	baz=252					
F30M	**Barrier River**	**25.59**	**36**	P	**P**	**18 17 10.1 -0.5**
	baz=252					
N32M	**Quiet Lake**	**25.61**	**51**	P	**P**	**18 17 10.0 -0.9**
	baz=267					
H31M	**Peel River**	**25.65**	**40**	IAmb	IAmb	18 17 46.3
	comp=Z,27nm,1.1s					
H31M					**PcP**	**18 20 40.0 -0.3**
H31M	**Peel River**	**25.65**	**40**	P	**P**	**18 17 10.5 -0.7**
	baz=257					
P33M	**Teslin, Yukon**	**25.72**	**53**	P	**P**	**18 17 10.8 -1.2**
P33M	**Teslin, Yukon**	**25.72**	**53**	P	**P**	**18 17 11.1 -0.9**
	baz=270					
U33K	**Whale Pass**	**25.87**	**63**	P	**P**	**18 17 11.9 -1.3**
	baz=278					
CRAG	**Craig**	**25.97**	**64**	P	**P**	**18 17 13.1 -1.0**
	baz=279					
Q32M	**Nakina River**	**26.04**	**56**	P	**P**	**18 17 14.6 -0.3**
	baz=272					
UGL	**Uglegorsk**	**26.09**	**281**	*eP*	**P**	**18 17 16.7 +1.4**
UGL				pmax	pmax	
	comp=Z,110nm,1.0s					
WRAK	**Wrangell Islan**	**26.25**	**62**	P	**P**	**18 17 14.9 -1.8**
	baz=277					
F31M	**Tsiigehtchic**	**26.29**	**37**	P	**P**	**18 17 15.3 -1.6**
F31M					**PcP**	**18 20 40.9 -0.7**
F31M	**Tsiigehtchic**	**26.29**	**37**	P	**P**	**18 17 16.5 -0.4**
	baz=254					
YSS	**Yuzhno-Sakhali**	**26.50**	**276**	P	**P**	**18 17 18.3 -0.8**
YSS				IAmb	IAmb	18 17 21.2
	comp=Z,65nm,1.1s					
YSS	**Yuzhno-Sakhali**	**26.50**	**276**	P	**P**	**18 17 20.4 +1.4**
YSS	**Yuzhno-Sakhali**	**26.50**	**276**	*eP*	**P**	**18 17 20.0 +1.0**
YSS				*eS*	**S**	**18 21 52.3 +3.0**
YSS				pmax	pmax	
	comp=Z,50nm,1.2s					
YSS				pmax	pmax	
	comp=Z,300nm,4.4s					
MMPY	**Sheldon Lake,**	**26.54**	**48**	P	**P**	**18 17 18.6 -0.7**
	baz=266					
INK	**Inuvik**	**26.61**	**35**	PcP	**PcP**	**18 20 42.2 -0.1**
INK	**Inuvik**	**26.61**	**35**	P	**P**	**18 17 18.9 -0.9**
	comp=Z,2.2nm,0.3s,baz=246,slow=7.5,SNR=9.8					
INK				PcP	**PcP**	**18 20 42.7 +0.3**
	comp=Z,11nm,0.7s,baz=163,slow=2.4,SNR=11					
	comp=Z,2.2nm,0.3s					
INK	**Inuvik**	**26.61**	**35**	P	**P**	**18 17 19.6 -0.2**
	baz=253					
R33M	**Jennings River**	**26.68**	**55**	P	**P**	**18 17 19.3 -1.4**
	baz=273					
S34M	**Telegraph Cree**	**26.72**	**58**	P	**P**	**18 17 19.3 -1.6**
	baz=275					
V35K	**Ketchikan**	**26.84**	**64**	P	**P**	**18 17 20.7 -1.3**
	baz=280					
DLBC	**

YAK LR LR 18 32 18.5
comp=E,271nm,18.1s,baz=90,slow=41
comp=E,2.3nm,0.4s
YAK Yakutsk 30.20 311⇓ *e*P **P 18 17 53.7 +1.9**
YAK pmax pmax
comp=Z,7.0nm,0.7s
A36M Sachs Harbour 30.34 29 IAmb IAmb 18 17 57.4
comp=Z,16nm,0.7s
A36M PcP **PcP 18 20 50.9 -0.7**
A36M Sachs Harbour 30.34 29 P **P 18 17 53.3 +0.4**
baz=256,SNR=18
TIXI Tiksi 31.07 330 PcP **PcP 18 20 52.5 -1.1**
TIXI Tiksi 31.07 330 P **P 18 18 00.5 +1.1**
comp=Z,1.3nm,0.3s,baz=111,slow=10,SNR=3.8
TIXI PcP **PcP 18 20 53.0 -0.5**
comp=Z,11nm,0.5s,baz=113,slow=2.7,SNR=26
TIXI ScP **ScP 18 24 31.1 -0.7**
comp=Z,9.4nm,0.9s,baz=100,slow=3.3,SNR=14
TIXI LR LR 18 31 45.2
comp=Z,702nm,18.2s,baz=106,slow=39
comp=Z,1.3nm,0.3s
TIXI Tiksi 31.07 330⇓ *e*P **P 18 18 01.6 +2.2**
TIXI pmax pmax
comp=Z,22nm,4.0s
KLR Kul'dur 32.29 286 LR LR 18 30 53.2
comp=Z,489nm,21.7s,baz=64,slow=36
KLR Kul'dur 32.29 286 *d i*P **P 18 18 10.2 -0.1**
KLR pmax pmax
comp=Z,22nm,1.0s
JMM Marumori 32.57 262 IAmb IAmb 18 18 14.1
comp=Z,44nm,1.1s
JMM Marumori 32.57 262 P **P 18 18 14.2 +1.3**
ZEA Zeya 33.23 296 *e*P **P 18 18 17.2 -1.3**
ZEA *e* 18 21 00.2
ZEA *e* 18 28 36.6
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
LLLB Lilloet 33.87 69 IAmb IAmb 18 18 26.9
comp=Z,17nm,0.8s
YKA Yellowknife Ar 34.22 47 P **P 18 18 26.3 -0.7**
comp=Z,4.9nm,0.9s,baz=284,slow=8.5,SNR=41
YKA pP **pP 18 18 42.5 +2.1**
comp=Z,2.1nm,0.8s,baz=281,slow=8.1,SNR=5.0
YKA PcP **PcP 18 21 03.1 +0.7**
comp=Z,8.7nm,0.8s,baz=282,slow=2.9,SNR=33
YKA ScP **ScP 18 24 42.2 -0.6**
comp=Z,0.9nm,0.8s,baz=270,slow=3.2,SNR=6.2
YKA LR LR 18 33 46.4
comp=Z,271nm,21.5s,baz=282,slow=38
comp=Z,4.9nm,0.9s
YKA Yellowknife Ar 34.22 47 *i* P **P 18 18 26.8 -0.2**
YKA pmax pmax
comp=Z,5.0nm,0.9s
H11N2 WAKE ISLAND Hy 34.24 208 T T 18 54 50.3
baz=18,slow=76,SNR=4772
H11N3 WAKE ISLAND Hy 34.24 208 T T 18 54 52.8
baz=18,slow=76,SNR=4769
H11N1 WAKE ISLAND Hy 34.25 208 T T 18 54 51.7
baz=18,slow=76,SNR=4041
HEH HeiHe 34.44 290 *e*P **P 18 18 26.9 -2.1**
HEH PcP **PcP 18 21 03.3 0.0**
HEH pmax pmax
comp=Z,8.0nm,0.8s
HEH LR LR
comp=Z,160nm,17.7s
HEH LR LR
comp=Z,350nm,15.0s
HEH LR LR
comp=Z,620nm,16.8s
USA0B Ussuriysk Arra 34.47 278 IAmb IAmb 18 18 30.6
comp=Z,22nm,1.0s
USA0B Ussuriysk Arra 34.47 278 *ce*P **P 18 18 28.7 -0.6**
USRK Ussuriysk Ar. 34.47 278 P **P 18 18 28.6 -0.7**
comp=Z,10nm,0.5s,baz=53,slow=9.4,SNR=27
USRK pP **pP 18 18 42.3 -0.2**
comp=Z,9.9nm,0.8s,baz=61,slow=6.6,SNR=4.9
USRK LR LR 18 31 46.9
comp=Z,226nm,21.3s,baz=52,slow=35
comp=Z,10nm,0.5s
GNW Green Mountain 34.61 75 IAmb IAmb 18 18 50.7
comp=Z,22nm,1.1s
MAJO Matsushiro 35.01 262 P **P 18 18 33.5 -0.6**
MAJO Matsushiro 35.01 262 P **P 18 18 34.9 +0.8**
MAJO Matsushiro 35.01 262 *c i*P **P 18 18 34.5 +0.4**
MAJO pmax pmax
comp=Z,51nm,1.1s
MAJO Matsushiro 35.01 262 P **P 18 18 34.8 +0.7**
MAJO sP **sP 18 18 55.0 +1.8**
MJAR Matsushiro Arr 35.01 262 P **P 18 18 34.5 +0.4**
comp=Z,15nm,0.9s,baz=52,slow=7.9,SNR=25
MJAR pP **pP 18 18 49.8 +2.6**
comp=Z,2.8nm,0.6s,baz=45,slow=6.4,SNR=3.9
MJAR LR LR 18 30 54.9
comp=Z,287nm,21.7s,baz=62,slow=33
comp=Z,15nm,0.9s
VLA Vladivostok 35.09 277 *ce*P **P 18 18 35.7 +1.0**
VLA pmax pmax
comp=Z,27nm,1.2s
H11S1 WAKE ISLAND Hy 35.45 208 T T 18 56 23.0
baz=18,slow=76,SNR=2976
H11S2 WAKE ISLAND Hy 35.47 208 T T 18 56 22.6
baz=18,slow=76,SNR=1473
H11S3 WAKE ISLAND Hy 35.47 208 T T 18 56 18.8
baz=18,slow=76,SNR=1343
MDJ Mudanjiang 35.73 280 IAmb IAmb 18 18 41.6
comp=Z,10.0nm,0.9s
MDJ Mudanjiang 35.73 280 P **P 18 18 38.5 -1.7**
MDJ pmax pmax
comp=Z,13nm,1.4s
MDJ pmax pmax
comp=Z,210nm,4.1s
MDJ Mudanjiang 35.73 280 P **P 18 18 41.2 +1.0**
MSHR Mys Shultsa 35.84 276 *d i*P **P 18 18 41.9 +0.8**
MSHR pmax pmax
comp=Z,94nm,1.0s
JGF Kuroka 36.14 262 IAmb IAmb 18 18 46.2
comp=Z,36nm,1.1s
JGF Kuroka 36.14 262 P **P 18 18 45.3 +1.5**
JHJ Hachijo jima 2 36.31 257 LR LR 18 31 08.7
comp=Z,185nm,20.5s,baz=98,slow=32
BNX BinXian 36.50 283 ⇓P **P 18 18 45.8 -0.9**
BNX pmax pmax
comp=Z,21nm,1.0s
MXC Moxie City 36.60 75 P **P 18 18 48.2 +0.5**
MXC IAmb IAmb 18 18 53.8
comp=Z,22nm,1.4s
E07A Sunnyside 36.87 75 IAmb IAmb 18 19 10.7
comp=Z,35nm,1.5s
HAWA Hanford 37.15 75 P **P 18 18 52.4 +0.1**
HAWA IAmb IAmb 18 19 10.9
comp=Z,18nm,0.8s
F07A Phinny Hill Vi 37.16 76 IAmb IAmb 18 18 59.2
comp=Z,30nm,1.1s
D08A Wollman Farm, 37.19 73 P **P 18 18 52.6 0.0**
D08A IAmb IAmb 18 19 13.4
comp=Z,38nm,1.5s
E08A Dider Farm, El 37.38 74 IAmb IAmb 18 19 15.4
comp=Z,31nm,1.4s
YBH Yreka Blue Hor 37.66 83 P **P 18 18 58.3 +1.5**
comp=Z,5.7nm,1.0s,baz=274,slow=5.2,SNR=5.1
YBH LR LR 18 31 06.9
comp=Z,282nm,19.8s,baz=311,slow=31
comp=Z,5.7nm,1.0s
NEW Newport 37.68 71 IAmb IAmb 18 18 59.2
comp=Z,28nm,0.8s
NEW Newport 37.68 71 LR LR 18 31 26.7
comp=Z,248nm,21.9s,baz=292,slow=31
NEW Newport 37.68 71 P **P 18 18 58.1 +1.3**
NEW pmax pmax
comp=Z,40nm,1.1s
E09A Wood Farm, Sta 37.92 74 IAmb IAmb 18 19 19.6
comp=Z,22nm,1.1s
G08A Pilot Rock 38.05 76 P **P 18 18 59.3 -0.8**
G08A IAmb IAmb 18 19 54.5
comp=Z,14nm,1.3s
I07A Izee 38.35 78 IAmb IAmb 18 19 30.2
comp=Z,13nm,0.9s
CN2 Changchun 38.70 282 *e*P **P 18 19 06.0 +0.7**
CN2 *e*S **S 18 24 58.4 +0.1**
CN2 LR LR
comp=Z,190nm,8.0s
CN2 LR LR
comp=Z,270nm,8.0s
F10A Beach Ranch, E 38.74 74 IAmb IAmb 18 19 26.0
comp=Z,28nm,1.1s

RES Resolute Bay 39.07 25 LR LR 18 38 16.4
comp=Z,252nm,18.2s,baz=233,slow=41
RES Resolute Bay 39.07 25 P **P 18 19 08.1 0.0**
JCJ Chichijima 39.26 247 LR LR 18 31 07.8
comp=Z,347nm,22.0s,baz=64,slow=30
BMO Blue Mountains 39.28 76 P **P 18 19 09.7 -0.6**
BMO Blue Mountains 39.28 76 P **P 18 19 09.7 -0.6**
BMO pmax pmax
comp=Z,9.0nm,1.1s
J08A Circle Bar Ran 39.37 78 IAmb IAmb 18 19 35.3
comp=Z,15nm,1.1s
JMN Monobe 39.53 263 IAmb IAmb 18 19 15.7
comp=Z,33nm,1.1s
JMN Monobe 39.53 263 P **P 18 19 13.4 +1.0**
WVOR Wild Horse Val 39.78 80 P **P 18 19 15.0 +0.5**
WVOR IAmb IAmb 18 19 45.2
comp=Z,18nm,0.8s
WVOR Wild Horse Val 39.78 80 P **P 18 19 15.0 +0.5**
WVOR pmax pmax
comp=Z,18nm,0.9s
CVPM Vollmer Peak 40.22 88 pP 18 19 31.4 +0.1
MSO Missoula 40.27 71 P **P 18 19 18.5 0.0**
MSO IAmb IAmb 18 19 20.7
comp=Z,42nm,1.2s
BPMT Black Pine Rid 40.76 71 P **P 18 19 22.4 -0.3**
KSRS Korea Array 40.84 272 P **P 18 19 24.1 +0.9**
comp=Z,12nm,0.9s,baz=59,slow=7.7,SNR=18
KSRS pP **pP 18 19 39.2 +2.8**
comp=Z,3.0nm,0.8s,baz=56,slow=6.9,SNR=3.5
KSRS LR LR 18 35 47.8
comp=Z,51nm,21.5s,baz=60,slow=35
comp=Z,12nm,0.9s
KSAR Wonju Array Be 40.87 272 P **P 18 19 23.1 -0.4**
KSAR Wonju Array Be 40.87 272 P **P 18 19 23.1 -0.4**
PAHR Pah Rah Range 40.89 84 P **P 18 19 24.1 +0.3**
PAHR IAmb IAmb 18 19 52.9
comp=Z,16nm,0.9s
MHC Mount Hamilton 40.92 88 P **P 18 19 24.8 +0.8**
MHC Mount Hamilton 40.92 88 P **P 18 19 24.8 +0.8**
MFID Camas Ranch 40.95 77 IAmb IAmb 18 20 14.2
comp=Z,42nm,2.0s
PNTR Pine Nut 41.12 84 P **P 18 19 26.7 +0.9**
PNTR IAmb IAmb 18 19 55.5
comp=Z,33nm,0.9s
HRY Holter Researc 41.57 70 P **P 18 19 29.1 -0.2**
WAKR Walker 41.58 85 IAmb IAmb 18 19 57.5
comp=Z,16nm,1.1s
LRM Limekiln Ridge 41.67 72 P **P 18 19 29.4 -0.8**
HLID Hailey 41.73 76 IAmb IAmb 18 19 43.4
comp=Z,20nm,1.2s
JNU Nakatsue 41.79 265 P **P 18 19 31.4 +0.3**
JNU Nakatsue 41.79 265 LR LR 18 35 33.1
comp=Z,232nm,21.7s,baz=90,slow=34
JNU Nakatsue 41.79 265 P **P 18 19 32.4 +1.3**
DLMT Dillon 41.83 72 IAmb IAmb 18 20 11.5
comp=Z,38nm,1.6s
DLMT PcP **PcP 18 21 27.0 +0.5**
TJN Taejon 41.86 271 P **P 18 19 32.8 +1.2**
MCMT McKenzie Canyo 41.97 73 P **P 18 19 32.9 +0.2**
RYN Ryan 42.07 84 IAmb IAmb 18 20 02.4
comp=Z,13nm,0.9s
EGMT Eagleton 42.09 67 P **P 18 19 33.4 -0.1**
EGMT IAmb IAmb 18 19 35.0
comp=Z,24nm,0.7s
EGMT PcP **PcP 18 21 27.2 0.0**
BOZ Bozeman (W) 42.28 71 P **P 18 19 34.8 -0.3**
BOZ IAmb IAmb 18 19 36.6
comp=Z,62nm,1.6s
BOZ Bozeman (W) 42.28 71 P **P 18 19 34.8 -0.3**
BOZ pmax pmax
comp=Z,62nm,1.6s
NVAR Mina Array Bea 42.33 84 P **P 18 19 35.5 -0.1**
NVAR PcP **PcP 18 21 28.9 +0.6**
NVAR Mina Array Bea 42.33 84 P **P 18 19 37.1 +1.4**
comp=Z,5.4nm,0.8s,baz=285,slow=8.0,SNR=22
NVAR PcP **PcP 18 21 29.1 +0.8**
comp=Z,4.3nm,0.8s,baz=289,slow=3.5,SNR=5.4
NVAR ScP **ScP 18 25 14.9 +0.5**
comp=Z,0.9nm,0.8s,baz=312,slow=3.2,SNR=3.5
NVAR LR LR 18 33 46.0
comp=Z,175nm,21.7s,baz=242,slow=31
comp=Z,5.4nm,0.8s
ELK Elko 42.84 80 LR LR 18 35 50.4
comp=Z,219nm,19.7s,baz=314,slow=34
ELK Elko 42.84 80 P **P 18 19 41.1 +1.3**
YHL Hebgen Lake 42.95 72 IAmb IAmb 18 19 43.9
comp=Z,28nm,1.1s
YMR Madison River 43.18 72 P **P 18 19 43.0 +0.5**
YNR Norris Junctio 43.32 72 P **P 18 19 44.2 +0.6**
YNR IAmb IAmb 18 19 47.4
comp=Z,23nm,1.1s
H17A Grant Village 43.56 72 IAmb IAmb 18 19 50.2
comp=Z,14nm,0.8s
FLWY Flagg Ranch 43.66 73 IAmb IAmb 18 19 50.3
comp=Z,31nm,1.4s
HVU Hansel Valley 43.73 77 IAmb IAmb 18 20 07.5
comp=Z,14nm,1.0s
MOOW Moose Ponds 43.83 73 P **P 18 19 47.9 +0.2**
DL2 Dalian 43.86 278 P **P 18 19 47.8 +0.1**
DL2 S **S 18 26 09.4 -5.5**
DL2 pmax pmax
comp=Z,71nm,1.1s
DL2 pmax pmax
comp=Z,260nm,5.5s
DL2 LR LR
comp=Z,540nm,23.2s
DL2 LR LR
comp=Z,410nm,21.8s
DL2 LR LR
comp=Z,410nm,32.2s
RLMT Red Lodge 43.93 71 IAmb IAmb 18 19 51.1
comp=Z,55nm,1.2s
R11B Troy Canyon, C 44.06 83 P **P 18 19 49.3 -0.3**
baz=307,SNR=12
BGU Big Grassy Mou 44.08 78 P **P 18 19 50.4 +0.7**
XLT XiLinHaoTe 44.29 288 *e*P **P 18 19 51.8 +0.5**
XLT PcP **PP 18 21 35.3 +0.3**
XLT pmax pmax
comp=Z,21nm,1.2s
TPNV Topopah Spring 44.52 85 IAmb IAmb 18 20 12.7
comp=Z,19nm,0.9s
HWUT Hardware Ranch 44.57 76 PcP **PcP 18 21 36.8 +0.9**
DUG Dugway, Tooele 44.65 79 P **P 18 19 54.3 +0.1**
DUG IAmb IAmb 18 20 08.0
comp=Z,20nm,1.1s
DUG Dugway, Tooele 44.65 79 P **P 18 19 54.3 +0.1**
DUG pmax pmax
comp=Z,20nm,1.1s
NRIK Noril'sk 44.85 330 P **P 18 19 54.7 -0.5**
NRIK IAmb IAmb 18 20 11.5
comp=Z,18nm,1.2s
NRIK Noril'sk 44.85 330 P **P 18 19 55.2 -0.1**
comp=Z,3.1nm,0.6s,baz=78,slow=5.5,SNR=5.3
NRIK LR LR 18 42 38.2
comp=Z,332nm,18.2s,baz=45,slow=41
comp=Z,3.1nm,0.6s
NRIK Noril'sk 44.85 330 ⇓*e*P **P 18 19 54.8 -0.5**
NRIK pmax pmax
comp=Z,37nm,4.0s
TCUT Toone Canyon 44.95 77 IAmb IAmb 18 21 12.2
comp=Z,21nm,1.0s
PRN Pahroc Range 44.98 83 P **P 18 19 56.9 0.0**
PRN IAmb IAmb 18 20 26.2
comp=Z,38nm,0.9s
DGMT Dagmar 45.02 64 IAmb IAmb 18 21 38.5
comp=Z,17nm,0.9s
PSUT Pine Spring 45.02 81 IAmb IAmb 18 20 30.5
comp=Z,9.7nm,0.7s
PD31 Pinedale Array 45.10 74 IAmb IAmb 18 20 10.2
comp=Z,17nm,0.8s
PDAR Pinedale Array 45.10 74 P **P 18 19 57.5 -0.4**
PDAR Pinedale Array 45.10 74 P **P 18 19 58.8 +0.9**
comp=Z,9.1nm,0.5s,baz=311,slow=3.5,SNR=102
PDAR LR LR 18 36 15.4
comp=Z,147nm,18.6s,baz=293,slow=33
comp=Z,9.1nm,0.5s
BSUT Blindstream Ca 45.69 77 IAmb IAmb 18 20 12.0
comp=Z,13nm,1.1s
LCMT Little Creek M 46.35 82 IAmb IAmb 18 20 37.6
comp=Z,13nm,0.9s
MTPU Mount Pierson 46.35 81 P **P 18 20 08.1 +0.1**
MTPU IAmb IAmb 18 20 31.7
comp=Z,17nm,1.2s
RDMU Red Mountain 46.40 76 IAmb IAmb 18 20 21.0
comp=Z,25nm,1.0s
Q16A Castle Valley 46.43 79 IAmb IAmb 18 20 10.6

comp=Z,18nm,1.2s
BJI Beijing 46.51 283 P **P 18 20 09.6 +0.9**
BJI pmax pmax
comp=Z,16nm,0.9s
BJI LR LR
comp=Z,160nm,19.0s
BJI LR LR
comp=Z,150nm,17.6s
BJI LR LR
comp=Z,280nm,20.2s
BJT Baijiatuau 46.53 283 IAmb IAmb 18 20 10.8
comp=Z,34nm,1.0s
BJT Baijiatuau 46.53 283 P **P 18 20 09.9 +1.0**
BJT Baijiatuau 46.53 283 P **P 18 20 09.8 +0.9**
BJT pmax pmax
comp=Z,33nm,1.3s
BJT Baijiatuau 46.53 283 P **P 18 20 09.6 +0.8**
BJT pP **pP 18 20 23.6 +1.1**
PFO Pinyon Flats O 46.55 88 P **P 18 20 11.9 +2.6**
comp=Z,1.7nm,0.6s,baz=305,slow=12,SNR=1.3
PFO LR LR 18 35 55.7
comp=Z,219nm,21.4s,baz=260,slow=31
P18A Preston Nutter 46.56 78 IAmb IAmb 18 20 31.9
comp=Z,21nm,1.2s
KNB Kanab 46.61 82 IAmb IAmb 18 20 45.4
comp=Z,15nm,1.0s
PKCU Pink Cliffs 46.65 81 IAmb IAmb 18 20 43.3
comp=Z,14nm,1.0s
SRU San Rafael Swe 46.71 78 IAmb IAmb 18 20 13.3
comp=Z,12nm,1.0s
NEEM North Greenlan 46.96 14 *e*P **P 18 20 11.8 -0.4**
NEEM IAmb IAmb 18 20 12.8
comp=Z,3.0nm,0.7s
K22A Casper 46.98 72 IAmb IAmb 18 20 20.8
comp=Z,12nm,0.9s
W13A Hualapai Mount 47.18 85 IAmb IAmb 18 20 25.8
comp=Z,7.2nm,0.8s
ULN Ulaanbaatar 47.26 297 P **P 18 20 13.5 -1.1**
ULN **PcP 18 21 43.0 -2.1**
ULN IAmb IAmb 18 21 46.0
comp=Z,14nm,0.9s
ULN Ulaanbaatar 47.26 297 ⇑*i*P **P 18 20 14.9 +0.3**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 47.26 297 P **P 18 20 15.1 +0.5**
ULN PcP **PcP 18 21 45.1 0.0**
U15A North Rim 47.31 82 IAmb IAmb 18 20 27.9
comp=Z,21nm,0.8s
O20A White River Ci 47.47 76 IAmb IAmb 18 20 36.8
comp=Z,21nm,0.7s
RSSD Black Hills 47.57 69 P **P 18 20 16.4 -0.8**
RSSD IAmb IAmb 18 20 20.9
comp=Z,15nm,0.7s
RSSD PcP **PcP 18 21 45.6 -0.7**
RSSD Black Hills 47.57 69 P **P 18 20 16.4 -0.8**
RSSD 18 21 45.6
RSSD pmax pmax
comp=Z,15nm,0.7s
RSSD Black Hills 47.57 69 P **P 18 20 16.9 -0.3**
RSSD pP **pP 18 20 31.4 +0.5**
RSSD PcP **PcP 18 21 46.5 +0.1**
SONM Songino Array 47.64 297 P **P 18 20 17.1 -0.5**
SONM **PcP 18 21 45.4 -1.0**
SONM Songino Array 47.64 297 P **P 18 20 17.0 -0.6**
comp=Z,6.1nm,0.7s,baz=54,slow=7.7,SNR=40
SONM PcP **PcP 18 21 46.5 +0.1**
comp=Z,13nm,0.9s,baz=70,slow=2.5,SNR=18
SONM ScP **ScP 18 25 35.0 -1.0**
comp=Z,2.7nm,1.0s,baz=72,slow=3.4,SNR=8.2
SONM LR LR 18 41 36.6
comp=Z,280nm,19.3s,baz=66,slow=38
comp=Z,6.1nm,0.7s
SONM Songino Array 47.64 297 P **P 18 20 17.1 -0.5**
SONM 18 21 45.4
BLYC Blythe 47.67 87 IAmb IAmb 18 20 29.6
comp=Z,8.5nm,0.8s
JOW Kunigami 47.79 261 LR LR 18 41 02.5
comp=Z,62nm,19.3s,baz=310,slow=37
ZAK Zakamensk 47.89 302 *e*P **P 18 20 20.1 +0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MDND Maddock 47.92 62 P **P 18 20 19.5 -0.1**
PV23 Carpenter Ridg 48.04 78 IAmb IAmb 18 20 22.5
comp=Z,22nm,1.0s
E28A Huff 48.05 64 IAmb IAmb 18 20 36.2
comp=Z,23nm,0.9s
PV07 Paradox Valley 48.27 78 P **P 18 20 21.8 -0.9**
PV07 IAmb IAmb 18 20 42.1
comp=Z,12nm,1.0s
TIA Tai'an 48.33 278 P **P 18 20 23.0 +0.1**
TIA pmax pmax
comp=Z,55nm,1.0s
TIA LR LR
comp=Z,220nm,19.6s
TIA LR LR
comp=Z,180nm,20.0s
TIA LR LR
comp=Z,340nm,23.0s
MOY Mondy 48.36 304 *e*P **P 18 20 25.4 +2.3**
MOY pmax pmax
comp=Z,6.0nm,1.4s
PV15 Paradox Valley 48.44 78 IAmb IAmb 18 21 06.0
comp=Z,10nm,0.7s
WUAZ Wupatki 48.47 83 IAmb IAmb 18 20 36.6
comp=Z,16nm,0.8s
Y14A Wickenburg 48.49 85 IAmb IAmb 18 20 42.0
comp=Z,8.8nm,1.0s
ULM Lac du Bonnet 48.57 58 P **P 18 20 22.8 -1.7**
comp=Z,2.6nm,0.7s,baz=313,slow=5.3,SNR=6.1
ULM LR LR 18 41 32.9
comp=Z,154nm,18.6s,baz=318,slow=37
comp=Z,2.6nm,0.7s
GUMO Guam 48.78 233 LR LR 18 38 42.7
comp=Z,30nm,20.5s,baz=82,slow=33
HHC Hu-ho-hao-te 48.80 287 ⇓*i*P **P 18 20 27.8 +1.2**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.6s
HHC LR LR
comp=Z,220nm,21.0s
HHC LR LR
comp=Z,170nm,20.2s
HHC LR LR
comp=Z,240nm,24.4s
HNS HongShan 49.06 281 ⇑P **P 18 20 29.3 +0.9**
HNS S **S 18 27 27.0 -2.3**
HNS pmax pmax
comp=Z,89nm,1.1s
HNS LR LR
comp=Z,280nm,19.4s
HNS LR LR
comp=Z,390nm,19.6s
MVCO Mesa Verde 49.14 79 P **P 18 20 29.4 -0.1**
MVCO **PcP 18 21 52.0 -0.2**
X16A Lo Mia Camp, P 49.14 84 P **P 18 20 29.4 0.0**
X16A IAmb IAmb 18 20 41.9
comp=Z,6.8nm,0.8s
SSE Sheshan 49.21 270 P **P 18 20 30.6 +0.9**
SSE pP **pP 18 20 45.9 +2.8**
ISCO Idaho Springs 49.26 74 IAmb IAmb 18 20 50.5
comp=Z,20nm,1.5s
ISCO Idaho Springs 49.26 74 P **P 18 20 31.6 +1.2**
ISCO pmax pmax
comp=Z,9.0nm,1.4s
UPNV Upernavik 49.40 20 *e*P **P 18 20 30.2 -0.3**
S22A 4UR Ranch, Cre 49.82 77 IAmb IAmb 18 20 37.1
comp=Z,16nm,1.2s
S22A 4UR Ranch, Cre 49.82 77 P **P 18 20 35.2 +0.5**
baz=309,SNR=9.2
BTO Baotou 49.87 288 *e*P **P 18 20 35.9 +1.2**
BTO pP **pP 18 20 44.1 -4.3**
BTO sP **sP 18 20 51.5 -2.8**
BTO PP **PP 18 22 28.3 -1.2**
BTO S **S 18 27 43.4 +2.6**
BTO pmax pmax
comp=Z,92nm,1.0s
BTO pmax pmax
comp=Z,170nm,3.8s
BTO LR LR
comp=Z,550nm,16.9s
BTO LR LR
comp=Z,280nm,10.6s
BTO LR LR
comp=Z,470nm,11.1s
X18A Snowflake 49.99 83 P **P 18 20 36.3 +0.4**

NJ2 Nanjing 50.01 273 ⇓P **P** **18 20 35.8 0.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
TIY Taiyuan 50.24 283 *e*P **P** **18 20 39.1 +1.5**
TIY S **S** **18 27 46.5 +0.4**
TIY sS **sS** **18 28 07.8 -1.4**
TIY pmax pmax
comp=Z,55nm,0.9s
TIY pmax pmax
comp=Z,97nm,5.3s
TIY LR LR
comp=Z,180nm,19.9s
TIY LR LR
comp=Z,160nm,18.6s
TIY LR LR
comp=Z,290nm,22.7s
SPITS Spitsbergen Ar 50.27 356 P **P** **18 20 35.5 -1.7**
comp=Z,2.6nm,0.5s,baz=57,slow=9.1,SNR=14
SPITS LR LR 18 42 51.2
comp=Z,233nm,18.7s,baz=326,slow=37
comp=Z,2.6nm,0.5s
SDCO Great Sand Dun 50.63 76 IAmb IAmb 18 21 01.3
comp=Z,7.1nm,0.8s
F33A 5 Mile Ranch, 50.94 63 IAmb IAmb 18 20 42.9
comp=Z,14nm,1.2s
TUC Tucson 50.96 85 P **P** **18 20 42.1 -0.9**
TUC IAmb IAmb 18 20 55.2
comp=Z,12nm,0.8s
TUC Tucson 50.96 85 P **P** **18 20 42.1 -0.9**
TUC pmax pmax
comp=Z,12nm,0.8s
DAG Danmarks Havn 51.19 6 *e*P **P** **18 20 42.6 -1.5**
T25A Trinidad 51.68 76 IAmb IAmb 18 20 52.9
comp=Z,26nm,1.0s
T25A Trinidad 51.68 76 P **P** **18 20 49.1 +0.6**
baz=310,SNR=9.3
ANMO Albuquerque 51.87 80 P **P** **18 20 50.0 0.0**
ANMO IAmb IAmb 18 21 45.4
comp=Z,7.0nm,0.7s
ANMO Albuquerque 51.87 80 LR LR 18 40 28.5
comp=Z,134nm,21.6s,baz=114,slow=33
ANMO Albuquerque 51.87 80⇓*e*P **P** **18 20 50.6 +0.6**
ANMO Albuquerque 51.87 80 P **P** **18 20 51.2 +1.2**
ECSD EROS Data Cent 52.06 65 IAmb IAmb 18 20 51.4
comp=Z,9.1nm,0.8s
FRB Frobisher Bay 52.23 32 LR LR 18 44 04.0
comp=Z,266nm,22.0s,baz=300,slow=37
FRB Frobisher Bay 52.23 32 P **P** **18 20 51.2 -0.7**
FRB pmax pmax
comp=Z,10.0nm,1.0s
LYN LuoYang 52.29 280 *e*P **P** **18 20 52.6 -0.2**
LYN pmax pmax
comp=Z,98nm,0.8s
LYN LR LR
comp=Z,380nm,10.0s
LYN LR LR
comp=Z,300nm,14.1s
LYN LR LR
comp=Z,410nm,20.0s
121A Cookes Peak, D 52.67 83 P **P** **18 20 55.7 -0.2**
121A IAmb IAmb 18 21 08.1
comp=Z,9.5nm,0.8s
121A Cookes Peak, D 52.67 83 P **P** **18 20 54.3 -1.6**
baz=312
SUMG Summit 52.82 15 *e*P **P** **18 20 56.7 0.0**
E38A The Farm, Brul 53.05 59 P **P** **18 20 57.2 -1.1**
E38A IAmb IAmb 18 21 39.7
comp=Z,16nm,1.1s
RTBA Rita Blanca 53.15 76 IAmb IAmb 18 21 00.7
comp=Z,14nm,1.0s
I37A Lemond, Waseca 53.69 63 P **P** **18 21 02.5 -0.5**
WHN Wuhan 53.85 275 P **P** **18 21 04.5 +0.2**
WHN pmax pmax
comp=Z,34nm,0.7s
R32A Long Quarter, 54.26 71 IAmb IAmb 18 21 08.1
comp=Z,15nm,0.9s
SSLB Suanglung 54.53 264 P **P** **18 21 08.4 -1.0**
SSLB Suanglung 54.53 264 P **P** **18 21 09.8 +0.3**
ZALV Zalesovo Beam 54.77 314 P **P** **18 21 10.3 -0.4**
comp=Z,0.3nm,0.4s,baz=44,slow=7.2,SNR=2.4
ZALV PcP **PcP** **18 22 12.4 -0.2**
comp=Z,11nm,0.9s,baz=43,slow=5.2,SNR=21
ZALV LR LR 18 46 30.1
comp=Z,286nm,19.5s,baz=51,slow=38
XAN Xi'an 54.81 282 ⇑P **P** **18 21 11.4 +0.1**
XAN pP pP 18 21 24.4 -0.9
XAN sP sP 18 21 28.8 -2.3
XAN pmax pmax
comp=Z,89nm,0.9s
XAN LR LR
comp=Z,300nm,17.2s
XAN LR LR
comp=Z,250nm,21.3s
XAN LR LR
comp=Z,410nm,22.0s
SFJD Kangerlussuaq 55.02 23 LR LR 18 48 13.7
comp=Z,188nm,19.9s,baz=331,slow=40
SFJD Kangerlussuaq 55.02 23 *e*P **P** **18 21 08.2 -4.1**
TPUB Ta-pu 55.09 264 P **P** **18 21 15.4 +1.9**
VHRN Van Horn 55.60 82 P **P** **18 21 17.2 0.0**
VHRN IAmb IAmb 18 21 19.0
comp=Z,12nm,0.9s
VHRN PcP **PcP** **18 22 16.0 -0.4**
N38A Joes South For 55.87 66 P **P** **18 21 17.4 -1.5**
POST Post 56.17 78 IAmb IAmb 18 21 33.5
comp=Z,16nm,0.8s
DY2G Dye2 56.46 21 *e*P **P** **18 21 22.4 -0.6**
LZH Lanzhou 56.49 287 *e*P **P** **18 21 23.9 +0.4**
LZH pP pP 18 21 34.9 -2.6
LZH pmax pmax
comp=Z,36nm,1.1s
LZH LR LR
comp=Z,370nm,17.5s
LZH LR LR
comp=Z,410nm,17.2s
LZH LR LR
comp=Z,550nm,19.2s
GTA Gaotai 56.61 293 *e*P **P** **18 21 23.8 -0.5**
GTA sP pP 18 21 37.1 -1.2
GTA pmax pmax
comp=Z,12nm,0.9s
GTA LR LR
comp=Z,160nm,18.2s
GTA LR LR
comp=Z,250nm,17.4s
GTA LR LR
comp=Z,370nm,18.9s
WMOK Wichita Mounta 56.68 75 P **P** **18 21 25.3 +0.6**
WMOK pmax pmax
comp=Z,11nm,1.0s
ALPN Alpine 56.72 82 IAmb IAmb 18 21 36.7
comp=Z,9.8nm,0.7s
OK029 Liberty Lake 56.76 73 P **P** **18 21 25.0 -0.2**
OK029 IAmb IAmb 18 21 26.3
comp=Z,22nm,1.0s
APMT Aspermont 56.84 77 IAmb IAmb 18 22 01.7
comp=Z,34nm,1.6s
LPIG La Paz 57.03 92 LR LR 18 41 49.9
comp=Z,83nm,20.1s,baz=296,slow=32
ENH Enshi 57.05 278 P **P** **18 21 27.1 -0.3**
ENH Enshi 57.05 278 P **P** **18 21 26.6 -0.8**
ENH pP **pP** **18 21 41.6 +0.1**
N41A Harden Midland 57.28 64 IAmb IAmb 18 21 28.9
comp=Z,19nm,0.9s
TX31 Lajitas Ar. Si 57.43 83 IAmb IAmb 18 21 31.5
comp=Z,12nm,1.0s
TXAR Lajitas Array 57.43 83 P **P** **18 21 30.0 -0.2**
TXAR PcP **PcP** **18 22 23.0 -0.5**
TXAR Lajitas Array 57.43 83 P **P** **18 21 30.7 +0.5**
comp=Z,7.5nm,0.9s,baz=299,slow=4.6,SNR=46
TXAR LR LR 18 43 12.4
comp=Z,92nm,21.9s,baz=308,slow=33
comp=Z,7.5nm,0.9s
JMIC Jan Mayen 57.47 4 LR LR 18 47 18.2
comp=Z,104nm,18.9s,baz=46,slow=37
SLBS Sierra La Lagu 57.56 92 P **P** **18 21 30.7 -0.4**
SLBS IAmb IAmb 18 21 56.6
comp=Z,9.6nm,0.9s
OZNA Ozona 57.88 80 IAmb IAmb 18 22 03.9
comp=Z,13nm,0.9s
S39A Bolivar 57.91 69 IAmb IAmb 18 21 32.3
comp=Z,14nm,0.9s
ARCES ARCESS Array B 58.10 351 P **P** **18 21 34.4 +0.1**
comp=Z,2.5nm,0.6s,baz=17,slow=7.4,SNR=11
ARCES LR LR 18 47 39.0
comp=Z,365nm,20.3s,baz=352,slow=37
comp=Z,2.5nm,0.6s
FW03 Perrin-Whitt E 58.28 76 P **P** **18 21 35.2 -0.7**
FW03 IAmb IAmb 18 21 38.9
comp=Z,13nm,0.8s
PLPT Palo Pinto 58.29 76 IAmb IAmb 18 21 57.7
comp=Z,19nm,0.9s
HHAR Hobbs 58.51 70 IAmb IAmb 18 21 37.5
comp=Z,18nm,1.1s
CCM Cathedral Cave 58.86 67 P **P** **18 21 38.2 -1.7**
CCM IAmb IAmb 18 21 39.6
comp=Z,16nm,0.8s
CCM Cathedral Cave 58.86 67 P **P** **18 21 38.2 -1.7**
CCM pmax pmax
comp=Z,16nm,0.9s
CCM Cathedral Cave 58.86 67 P **P** **18 21 38.6 -1.3**
SCHQ Schefferville 59.10 39 P **P** **18 21 40.9 -0.5**
comp=Z,2.0nm,0.8s,baz=19,slow=18,SNR=3.9
SCHQ LR LR 18 48 12.2
comp=Z,254nm,20.7s,baz=332,slow=37
comp=Z,2.0nm,0.8s
DRIO Del Rio 59.25 80 IAmb IAmb 18 21 42.9
comp=Z,8.1nm,0.9s
SZP Santa 59.50 260 P **P** **18 21 45.5 +0.9**
T42A Van Buren 59.65 68 IAmb IAmb 18 21 44.5
comp=Z,13nm,0.8s
KURK Kurchatov 59.76 315 P **P** **18 21 44.0 -1.9**
KURK IAmb IAmb 18 22 33.4
comp=Z,6.6nm,0.9s
KURK Kurchatov 59.76 315*d*⇓*i*P **P** **18 21 44.7 -1.2**
KURK pmax pmax
comp=Z,16nm,2.1s
KURK Kurchatov 59.76 315 P **P** **18 21 44.8 -1.1**
KURBB Kurchatov Arra 59.86 315 P **P** **18 21 45.4 -1.2**
comp=Z,3.0nm,0.5s,baz=42,slow=6.6,SNR=55
KURBB LR LR 18 50 01.7
comp=Z,339nm,19.2s,baz=163,slow=38
comp=Z,3.0nm,0.5s
MIAR Mount Ida 59.92 71 P **P** **18 21 47.8 +0.5**
MIAR pmax pmax
comp=Z,33nm,1.5s
WHAR Wooly Hollow 60.16 70 IAmb IAmb 18 21 49.2
comp=Z,25nm,1.2s
PBMO Poplar Bluff 60.21 67 P **P** **18 21 48.0 -1.2**
WMQ Urumqi 60.25 304 *e*P **P** **18 21 51.4 +1.9**
WMQ LR LR
comp=Z,210nm,19.5s
LCAR Lake Charles 60.28 68 IAmb IAmb 18 21 49.4
comp=Z,17nm,1.1s
O48B Farmland 60.75 61 P **P** **18 21 51.3 -1.6**
SADO Sadowa 60.75 54 P **P** **18 21 53.0 +0.2**
comp=Z,18nm,1.0s,baz=332,slow=6.7,SNR=3.7
SADO LR LR 18 49 06.8
comp=Z,185nm,19.1s,baz=139,slow=37
comp=Z,18nm,1.0s
833A Chaparral WMA, 60.78 80 P **P** **18 21 49.5 -3.8**
baz=315
MK31 Makanchi Array 60.86 309 P **P** **18 21 51.8 -1.7**
MK31 Makanchi Array 60.86 309⇓*e*P **P** **18 21 53.0 -0.5**
MKAR Makanchi Array 60.86 309 P **P** **18 21 52.4 -1.1**
comp=Z,1.0nm,0.5s,baz=54,slow=6.4,SNR=11
MKAR PKKP **PKKPdf** **18 42 47.0 -0.7**
comp=Z,0.3nm,0.7s,baz=308,slow=7.1,SNR=3.7
MKAR LR LR 18 49 41.0
comp=Z,126nm,19.2s,baz=26,slow=37
comp=Z,1.0nm,0.5s
GYA Guiyang 61.50 277 ⇓P **P** **18 21 58.5 +0.2**
GYA pmax pmax
comp=Z,21nm,1.0s
BVAR Borovoye Array 61.52 321 P **P** **18 21 57.5 -0.4**
comp=Z,12nm,0.6s,baz=50,slow=6.6,SNR=70
BVAR LR LR 18 51 21.2
comp=Z,750nm,19.2s,baz=46,slow=39
comp=Z,12nm,0.6s
BRVK Borovoye 61.53 321 P **P** **18 21 57.5 -0.5**
BRVK IAmb IAmb 18 22 30.0
comp=Z,7.7nm,0.7s
BRVK Borovoye 61.53 321⇑*e*P **P** **18 21 58.0 0.0**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 61.53 321 P **P** **18 21 58.0 0.0**
BRVK PcP **PcP** **18 22 38.7 -0.6**
WCI Wyandotte Cave 61.54 64 P **P** **18 21 57.8 -0.5**
WCI Wyandotte Cave 61.54 64 P **P** **18 21 57.8 -0.5**
WCI pmax pmax
comp=Z,31nm,1.0s
KRVT Keravat (AS076 61.66 216 LR LR 18 43 20.1
comp=Z,113nm,20.9s,baz=172,slow=31
GOMU GeErMu 61.69 293 P **P** **18 21 58.8 -1.0**
GOMU S **S** **18 30 20.1 +1.4**
GOMU pmax pmax
comp=Z,7.0nm,0.9s
GOMU LR LR
comp=Z,500nm,18.9s
GOMU LR LR
comp=Z,360nm,18.7s
GOMU LR LR
comp=Z,490nm,18.4s
HKT Hockley 61.80 77⇓*i*P **P** **18 22 00.8 +0.8**
SVE Sverdlovsk 62.08 328 *e*P **P** **18 22 01.4 -0.2**
WVT Waverly 62.15 66 P **P** **18 22 01.7 -0.7**
WVT IAmb IAmb 18 22 03.1
comp=Z,8.3nm,0.7s
WVT Waverly 62.15 66 P **P** **18 22 01.7 -0.7**
WVT pmax pmax
comp=Z,8.0nm,0.7s
WVT Waverly 62.15 66 P **P** **18 22 02.2 -0.2**
BORG Borgarnes 62.48 12 *i* P LR 18 52 36.5
comp=Z,89nm,18.3s,baz=340,slow=39
BORG Borgarnes 62.48 12 *i* P **P** **18 22 05.4 +1.3**
PLAL Pickwick Lake 62.83 67 P **P** **18 22 05.8 -1.1**
U49A Red Boiling Sp 63.05 65 IAmb IAmb 18 22 09.1
comp=Z,19nm,1.0s
ARTI Arti 63.16 329 P **P** **18 22 07.8 -1.0**
ARTI IAmb IAmb 18 22 10.0
comp=Z,9.2nm,0.5s
ARTI Arti 63.16 329 LR LR 18 52 07.3
comp=Z,313nm,20.5s,baz=44,slow=38
ARTI Arti 63.16 329*c* *i*P **P** **18 22 08.2 -0.6**
ARTI *PP **pP** **18 22 20.4 -2.6**
ARTI 18 24 24.3
ARTI S **S** **18 30 40.1 +4.3**
ARTI SS **SS** **18 34 44.7 +3.2**
ARTI pmax pmax
comp=Z,6.0nm,0.5s
ARTI Arti 63.16 329 P **P** **18 22 08.9 +0.1**
ARTI pP **pP** **18 22 25.4 +2.3**
ARTI sP **sP** **18 22 31.6 +2.8**
X48A Hartselle 63.80 67 IAmb IAmb 18 22 13.5
comp=Z,26nm,1.3s
SWET Sewanee 63.88 66 P **P** **18 22 12.9 -1.0**
SWET IAmb IAmb 18 22 14.2
comp=Z,23nm,1.1s
KIRV Kirov 63.92 335 LR LR 18 53 22.1
comp=Z,130nm,19.8s,baz=18,slow=39
KIRV Kirov 63.92 335⇓*i*P **P** **18 22 15.6 +1.9**
HNR Honiara 63.97 206 LR LR 18 44 55.8
comp=Z,91nm,19.5s,baz=346,slow=31
Q54A Coxs Mills 64.00 60 IAmb IAmb 18 22 15.6
comp=Z,23nm,1.0s
KLMR Klimovskoe 64.20 341 *e*P P 18 22 26.0 +10
KLMR pmax pmax
comp=Z,22nm,1.4s
PZH PanZhiHua 64.50 281 P **P** **18 22 18.6 +0.4**
PZH pmax pmax
comp=Z,140nm,1.0s
PZH pmax pmax
comp=Z,130nm,4.5s
FPAL Fort Paine 64.55 66 P **P** **18 22 17.4 -0.9**
Y49A Blount Mountai 64.59 67 IAmb IAmb 18 22 18.7
comp=Z,13nm,0.9s
DAV Davao City (W) 64.67 248 LR LR 18 45 18.5
comp=Z,180nm,21.5s,baz=38,slow=31
TKL Tuckaleechee C 64.79 64 P **P** **18 22 19.6 -0.2**
comp=Z,35nm,1.1s,baz=309,slow=5.4,SNR=19
TKL LR LR 18 48 57.4
comp=Z,164nm,21.1s,baz=326,slow=34
comp=Z,35nm,1.1s
LRAL Lakeview Retre 64.84 68 IAmb IAmb 18 22 20.3
comp=Z,11nm,0.9s
KMI Kunming 64.89 279 ⇑P **P** **18 22 20.9 0.0**
KMI pmax pmax
comp=Z,60nm,1.0s
KMI LR LR
comp=Z,97nm,24.5s
KMI LR LR
comp=Z,170nm,25.0s
KMI LR LR
comp=Z,200nm,26.9s
KMI Kunming 64.89 279 P **P** **18 22 21.2 +0.3**
R55A Marlinton 64.89 60 IAmb IAmb 18 22 53.3
comp=Z,16nm,1.0s
QIZ Qiongzhong 64.97 269 P **P** **18 22 20.6 -0.6**
QIZ S **S** **18 30 57.1 -2.2**
QIZ pmax pmax
comp=Z,190nm,3.9s
QIZ LR LR
comp=Z,150nm,13.7s
QIZ LR LR
comp=Z,130nm,13.7s
QIZ LR LR
comp=Z,160nm,23.4s
W52A Murphy 65.11 65 P **P** **18 22 21.5 -0.4**
V53A Saluda 65.32 63 IAmb IAmb 18 22 24.4
comp=Z,20nm,0.9s
BLA Blacksburg 65.51 61 IAmb IAmb 18 22 25.7
comp=Z,21nm,0.8s
FINES FINESS Array B 65.86 348 P **P** **18 22 25.5 -0.8**
comp=Z,2.2nm,0.7s,baz=11,slow=9.0,SNR=6.8
FINES LR LR 18 52 59.0
comp=Z,239nm,20.8s,baz=6.0,slow=38
comp=Z,2.2nm,0.7s
FINES FINESS Array B 65.86 348 *i* P **P** **18 22 24.3 -2.0**
FINES pmax pmax
comp=Z,1.0nm,0.6s
250A Grady 66.03 68 P **P** **18 22 26.8 -1.1**
T57A Hurt 66.30 60 IAmb IAmb 18 22 30.4
comp=Z,10nm,0.8s
152A Waverly Hall 66.42 67 IAmb IAmb 18 22 30.4
comp=Z,19nm,0.9s
HODGE Hodges 66.68 64 P **P** **18 22 31.5 -0.5**
SLVN Son La 66.96 276 IAmb IAmb 18 22 35.7
comp=Z,19nm,0.9s
SLVN Son La 66.96 276 P **P** **18 22 34.9 +0.9**
TABU Tabubil 66.96 226 P **P** **18 22 34.7 +0.7**
W57A Gilead 67.26 62 IAmb IAmb 18 22 36.4
comp=Z,20nm,0.8s
V58A Windy Hill, Pi 67.27 61 IAmb IAmb 18 22 36.8
comp=Z,21nm,1.0s
NB2 NORSAR Subarra 67.56 356 P **P** **18 22 37.2 0.0**
comp=Z,0.6nm,0.5s,baz=6.0,slow=6.5
NOA NORSAR Array B 67.56 356 P **P** **18 22 37.0 -0.2**
comp=Z,0.8nm,0.5s,baz=5.2,slow=6.6,SNR=6.8
NOA pP **pP** **18 22 52.2 +0.6**
comp=Z,3.2nm,0.9s,baz=5.8,slow=6.4,SNR=5.2
NOA LR LR 18 50 09.2
comp=Z,129nm,21.8s,baz=355,slow=34
comp=Z,0.8nm,0.5s
AAK Ala-Archa 67.66 311 P **P** **18 22 37.1 -1.2**
AAK Ala-Archa 67.66 311 LR LR 18 55 32.3
comp=Z,165nm,18.4s,baz=26,slow=39
AAK Ala-Archa 67.66 311⇓*e*P **P** **18 22 38.6 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 67.66 311 P **P** **18 22 38.0 -0.4**
TAOE Nuku Hiva Isla 67.98 140 *e*S **S** **18 31 27.7 -8.0**
comp=Z,139nm,26.1s
TAOE Nuku Hiva Isla 67.98 140 *e*LR LR 18 43 14.9
comp=Z,394nm,28.8s
PMG Port Moresby 68.19 219 LR LR 18 46 29.9
comp=Z,102nm,20.0s,baz=54,slow=30
AKTO Aktyubinsk 68.22 326 LR LR 18 56 08.5
comp=Z,479nm,19.4s,baz=42,slow=39
HFS Hagfors 68.33 354 P **P** **18 22 41.4 -0.6**
comp=Z,4.2nm,0.7s,baz=357,slow=3.0,SNR=17
HFS LR LR 18 51 14.0
comp=Z,184nm,21.9s,baz=0.5,slow=35
comp=Z,4.2nm,0.7s
ARLS Aral 68.34 310 P **P** **18 22 42.9 +0.3**
ABKAR Akbulak array 68.51 324 P **P** **18 22 41.9 -1.4**
ABKAR Akbulak array 68.51 324 IAmb IAmb 18 22 44.9
comp=Z,5.6nm,0.7s
LSA Lhasa 68.51 291 P **P** **18 22 45.3 +1.1**
LSA pmax pmax
comp=Z,11nm,0.5s
LSA Lhasa 68.51 291 P **P** **18 22 45.4 +1.2**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 68.51 291 P **P** **18 22 45.4 +1.2**
LSA sP **sP** **18 23 07.1 +3.0**
LSA PcP **PcP** **18 23 10.2 +1.0**
KKAR Karatay Array 69.14 314 P **P** **18 22 46.1 -1.2**
KKAR Karatay Array 69.14 314 P **P** **18 22 46.1 -1.2**
MSVF Nonsavu 69.14 185 LR LR 18 48 23.3
comp=Z,103nm,20.6s,baz=44,slow=32
FAKI Fak Fak 69.28 236 P **P** **18 22 47.7 -0.8**
FAKI IAmb IAmb 18 22 49.7
comp=Z,30nm,0.9s
FAKI Fak Fak 69.28 236 P **P** **18 22 49.1 +0.6**
KSH Kashi 69.35 308 P **P** **18 22 51.8 +3.0**
KSH pP sP 18 23 06.9 -2.2
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=Z,200nm,17.2s
KSH LR LR
comp=Z,270nm,15.8s
KSH LR LR
comp=Z,290nm,19.9s
BELG Belogornoye 69.85 333 LR LR 18 56 35.7
comp=Z,206nm,20.1s,baz=24,slow=38
BELG Belogornoye 69.85 333⇓*e*P **P** **18 22 51.8 +0.3**
BELG pmax pmax
comp=Z,4.0nm,0.9s
NONG Nongkai 69.88 274 P **P** **18 22 52.4 +0.2**
TRKS Terek-Say 70.09 312 P **P** **18 22 54.1 +0.7**
OBN Obninsk 70.11 340 LR LR 18 58 18.0
comp=Z,149nm,18.6s,baz=8.5,slow=40
OBN Obninsk 70.11 340 *e*P **P** **18 22 54.3 +1.3**
OBN *e* 18 23 16.2
OBN *e* 18 25 26.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
UBPT Khong Chiam 70.53 270 IAmb IAmb 18 23 40.3
comp=Z,40nm,1.7s
UBPT Khong Chiam 70.53 270 P **P** **18 22 58.2 +2.0**
SHL Shillong 71.15 287 P **P** **18 23 00.2 +0.1**
SHL pmax pmax
comp=Z,60nm,1.3s
PHRA Phrae 71.36 276 P **P** **18 23 00.7 -0.6**
DRK Karamyk 71.40 310 IAmb IAmb 18 23 56.4
comp=Z,26nm,1.8s
DRK Karamyk 71.40 310 P **P** **18 23 02.1 +0.5**
BTK Batken 71.40 311 IAmb IAmb 18 23 05.1
comp=Z,9.6nm,1.1s
BTK Batken 71.40 311 P **P** **18 23 01.1 -0.2**
BTK pmax pmax
comp=Z,10.0nm,1.0s
CMIG Matias Romero 71.85 85 P **P** **18 23 04.1 -0.1**
comp=Z,6.8nm,1.0s,baz=330,slow=7.3,SNR=7.9
CMIG LR LR 18 50 23.5
comp=Z,111nm,21.7s,baz=358,slow=32
comp=Z,6.8nm,1.0s
CHTO Chiang Mai 71.92 278 P **P** **18 23 03.9 -0.7**
CHTO IAmb IAmb 18 23 05.7
comp=Z,19nm,1.2s
CHTO Chiang Mai 71.92 278 P **P** **18 23 03.9 -0.7**
CHTO pmax pmax
comp=Z,19nm,1.3s
CM31 Chiang Mai Arr 72.19 277 IAmb IAmb 18 23 07.5
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 72.19 277 P **P** **18 23 05.8 -0.5**
CMAR Chiang Mai Arr 72.19 277 P **P** **18 23 06.5 +0.3**
comp=Z,9.2nm,0.8s,baz=28,slow=7.0,SNR=59
CMAR pP **PcP** **18 23 22.9 -1.3**
comp=Z,3.5nm,0.8s,baz=23,slow=6.4,SNR=4.0
CMAR LR LR 18 57 49.9
comp=Z,52nm,19.1s,baz=35,slow=38
comp=Z,9.2nm,0.8s
CMAR Chiang Mai Arr 72.19 277 *i* P **P** **18 23 06.5 +0.3**
CMAR pmax pmax
comp=Z,10.0nm,0.8s
TOLI2 Tolitoli 72.26 248 IAmb IAmb 18 23 07.1
comp=Z,28nm,0.9s
TOLI2 Tolitoli 72.26 248 P **P** **18 23 06.9 +0.3**
MNK Minsk 72.30 345 *i* P **P** **18 23 04.5 -1.8**
MNK *i* *PP **pP** **18 23 15.8 -5.1**
MNK *i* 18 25 44.2
MNK *i* PPP PPP 18 27 29.3
MNK *i* S **S** **18 32 25.9 +0.8**
MNK *i* SS **SS** **18 37 05.5 +3.0**
MNK pmax pmax
comp=N,14nm,1.1s

MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK MLR MLR
comp=E,645nm,26.0s
MNK MLR MLR
comp=N,417nm,19.0s
MNK MLR MLR
comp=Z,167nm,17.0s
GAR Garm 72.48 311 IAmb IAmb 18 23 08.3
comp=Z,18nm,0.6s
VRH Novokhopyorsk 72.52 336 *e*P **P 18 23 05.3 -2.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
PPT Papeete 72.86 153 LR LR 18 47 09.8
comp=Z,231nm,20.6s,baz=352,slow=29
LUWI Luwuk 72.87 245 P **P 18 23 10.3 +0.1**
PPT2 Papeete2 72.88 153 *e*S **SKiKP 18 32 37.6 -1.0**
comp=Z,135nm,31.5s
PPT2 *e*SS **SS 18 37 20.6 +6.5**
comp=Z,54nm,25.8s
PPT2 *e*LR LR 18 45 14.5
comp=Z,234nm,29.0s
PPT2 *e*LR LR 18 45 37.8
comp=Z,327nm,24.2s
VSR Storozhevoye 73.14 337 *e*P **P 18 23 08.9 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
CHGR Chuyangaron 73.29 312 IAmb IAmb 18 23 13.4
comp=Z,25nm,0.8s
CHGR Chuyangaron 73.29 312 P **P 18 23 12.3 -0.3**
CHGR pmax pmax
comp=Z,42nm,1.0s
DZET Dzherino 73.33 312 P **P 18 23 12.6 -0.2**
DZET pmax pmax
comp=Z,17nm,0.7s
EKA Eskdalemuir Ar 73.34 4 P **P 18 23 12.4 0.0**
comp=Z,0.4nm,0.4s,baz=4.5,slow=5.0,SNR=4.9
comp=Z,0.4nm,0.4s
VORD Divnogorie 73.34 337 *e*P **P 18 23 11.2 -1.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
SIMJ Simiganj 73.36 312 P **P 18 23 11.9 -1.2**
SIMJ IAmb IAmb 18 23 13.9
comp=Z,15nm,0.9s
NAYO Nakonayok 73.85 273 P **P 18 23 16.8 +0.8**
RAR Rarotonga 74.00 163 LR LR 18 49 44.3
comp=Z,447nm,19.7s,baz=317,slow=31
DZM Mont Dzumac 74.77 196 *e*S **S 18 32 56.3 +2.6**
comp=Z,62nm,25.1s
DZM Mont Dzumac 74.77 196 *e*LR LR 18 46 35.9
comp=Z,329nm,26.7s
DZM Mont Dzumac 74.77 196 LR LR 18 48 51.0
comp=Z,133nm,21.7s,baz=0.0,slow=30
SOR Soroa 74.80 73 IAmb IAmb 18 23 26.8
comp=Z,22nm,1.1s
KHAM Kharkiv 74.96 339 P **P 18 23 24.1 +2.0**
SRDT SRDT 75.19 274 P **P 18 23 24.7 +0.9**
AKASG Malin Array Be 75.73 343 P **P 18 23 24.5 -1.9**
comp=Z,1.3nm,0.5s,baz=19,slow=5.9,SNR=8.3
AKASG LR LR 19 02 01.1
comp=Z,113nm,18.2s,baz=28,slow=40
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 75.73 343 *i*P **P 18 23 26.0 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 75.73 343⇓ *e*P **P 18 23 24.6 -1.8**
AKBB pmax pmax
comp=Z,28nm,2.3s
AKBB Malin Array Si 75.73 343 P **P 18 23 28.4 +2.0**
AK15 Malin Array Si 75.75 343 P **P 18 23 28.0 +1.5**
KBL Kabul 76.66 309 P **P 18 23 29.9 -2.4**
KBL Kabul 76.66 309 P **P 18 23 29.9 -2.4**
KBL pmax pmax
comp=Z,25nm,0.5s
CLL Collm 77.16 354 *e*sP **sP 18 23 54.0 -1.0**
CLL *e*S **S 18 33 17.0 -2.4**
CLL *e*PS **PnS 18 34 04.0 +0.5**
CLL *e*(PPS) 18 34 28.0
CLL *e*SS **SS 18 38 24.0 +7.7**
CLL AMS AMS 18 59 00.0
comp=Z,200nm,18.8s
MTSU Mount Surprise 77.25 218 P **P 18 23 36.8 +1.5**
KDU Kakadu 77.55 231 P **P 18 23 37.4 +0.4**
KAPI Kappang 77.83 246 P **P 18 23 39.0 +0.3**
KAPI IAmb IAmb 18 23 52.2
comp=Z,22nm,1.1s
KAPI Kappang 77.83 246 LR LR 18 54 40.8
comp=Z,23nm,20.8s,baz=44,slow=33
KAPI Kappang 77.83 246 P **P 18 23 39.7 +1.0**
KAPI Kappang 77.83 246 P **P 18 23 39.0 +0.3**
KAPI pmax pmax
comp=Z,22nm,1.2s
DRS Darwin Rock St 78.09 232 P **P 18 23 40.6 +0.6**
KMPD K-Podol'skiy 78.27 344 P **P 18 23 40.3 -0.4**
MTN Manton Dam 78.33 232 P **P 18 23 41.1 -0.3**
MTN Manton Dam 78.33 232 P **P 18 23 41.8 +0.4**
TBI Tubuai 78.38 154 *e*SS SS 18 38 38.1 +0.8
TBI comp=Z,2μm,32.8s *e*LR LR 18 47 44.4
comp=Z,2μm,31.2s
KOLS Kolonicke sedl 78.55 347 *e*P **P 18 23 44.3 +2.0**
KOLS Kolonicke sedl 78.55 347 *e*P **P 18 23 44.3 +2.0**
KVAR Kislovodsk Arr 78.88 332 LR LR 19 01 20.7
comp=Z,160nm,21.9s,baz=248,slow=38
KIV Kislovodsk 78.88 332 *e*P **P 18 23 44.1 -0.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,104nm,19.0s
KBZ Khabaz 79.03 332 P **P 18 23 44.9 0.0**
comp=Z,2.5nm,0.9s,baz=90,slow=2.9,SNR=6.8
KBZ LR LR 19 04 39.3
comp=Z,131nm,18.2s,baz=13,slow=40
comp=Z,2.5nm,0.9s
KBZ Khabaz 79.03 332⇑ *e*P **P 18 23 45.3 +0.4**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
NCK Nalchik 79.03 331⇓ *e*P **P 18 23 46.8 +1.8**
NCK pmax pmax
comp=Z,19nm,0.9s
SHA1 Shidzhatmaz 79.09 332⇑ *e*P **P 18 23 46.3 +0.7**
SOEI Soe 79.25 239 IAmb IAmb 18 23 50.2
comp=Z,42nm,1.3s
SOEI Soe 79.25 239 P **P 18 23 48.2 +1.6**
BUR08 Bucovina Ar. S 79.37 345 IAmb IAmb 18 25 18.2
comp=Z,34nm,2.0s
MMRI Maumere 79.42 242 IAmb IAmb 18 23 52.8
comp=Z,18nm,0.9s
VYHS Vyhne 79.42 349 *e*P **P 18 23 50.5 +3.5**
VYHS Vyhne 79.42 349 *e*P **P 18 23 50.5 +3.5**
ANN Anapa 79.54 336 *e*P **P 18 23 45.5 -2.2**
ANN *e**PP **PcP 18 23 57.7 +2.2**
ANN *e* 18 26 45.3
ANN *e*S **S 18 33 44.4 -0.7**
ANN pmax pmax
comp=Z,60nm,1.3s
GERES GERESS Array B 79.56 353 P **P 18 23 47.3 -0.6**
comp=Z,0.4nm,0.5s,baz=333,slow=3.7,SNR=2.9
comp=Z,0.4nm,0.5s
KULM Kulim 81.21 267 IAmb IAmb 18 23 58.3
comp=Z,28nm,1.2s
KULM Kulim 81.21 267 P **P 18 23 57.9 +0.8**
QIS Mount Isa 81.29 221 P **P 18 23 57.3 0.0**
MLR Muntele Rosu 81.34 344 LR LR 19 03 06.1
comp=Z,146nm,20.7s,baz=30,slow=38
VOIR 81.54 345 P **P 18 23 59.5 +0.9**
VOIR pmax pmax
comp=Z,10.0nm,1.3s
IPM Ipoh 81.60 267 IAmb IAmb 18 23 59.7
comp=Z,15nm,1.0s
IPM Ipoh 81.60 267 P **P 18 23 59.6 +0.4**
GNI Garni 81.72 329 LR LR 19 05 21.9
comp=Z,317nm,20.0s,baz=50,slow=39
KNRA Kununurra 81.92 232 P **P 18 24 00.2 -0.5**
KNRA IAmb IAmb 18 24 01.8
comp=Z,16nm,0.9s
PLAI Plampang 82.06 245 P **P 18 24 00.7 -0.8**
ESPN Las Esperanzas 82.15 80 P **P 18 24 02.0 0.0**
WB0 Warramunga Arr 82.82 226 IAmb IAmb 18 24 05.8
comp=Z,17nm,1.0s
WRAB Tennant Creek 82.98 225 *d*iP **P 18 24 05.9 -0.3**
WRAB pmax pmax
comp=Z,27nm,1.5s
WB2 Warramunga Arr 82.99 225 IAmb IAmb 18 24 06.7
comp=Z,20nm,1.1s
WRA Warramunga Arr 83.00 225 P **P 18 24 05.7 -0.6**
comp=Z,8.6nm,0.8s,baz=36,slow=6.0,SNR=47
WRA PP **PP 18 27 16.3 -1.5**
comp=Z,0.1nm,0.2s,baz=23,slow=7.9,SNR=11
WRA LR LR 18 55 34.8
comp=Z,81nm,21.9s,baz=2.0,slow=32
comp=Z,8.6nm,0.8s
JTS Las Juntas de 83.22 82 PP **PP 18 27 19.1 -0.2**
comp=Z,5.9nm,0.4s,baz=316,slow=18,SNR=4.8
JTS LR LR 19 00 57.1
comp=Z,63nm,20.8s,baz=290,slow=35
PSI Prapat 84.21 267 LR LR 19 06 35.8
comp=Z,46nm,18.4s,baz=11,slow=39
PSI Prapat 84.21 267 P **P 18 24 13.2 +0.3**
PSI Prapat 84.21 267 P **P 18 24 13.0 +0.1**
PSI pmax pmax
comp=Z,43nm,1.0s
QLP Quilpie 84.99 214 P **P 18 24 18.2 +2.0**
BR131 Keskin Array S 85.26 337 IAmb IAmb 18 24 49.4
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 85.26 337 *d*iP **P 18 24 17.7 -0.2**
BRTR Keskin Array B 85.26 337 P **P 18 24 16.5 -1.3**
BRTR Keskin Array B 85.26 337 P **P 18 24 17.4 -0.4**
comp=Z,4.9nm,0.8s,baz=40,slow=3.2,SNR=20
BRTR LR LR 19 09 23.5
comp=Z,57nm,18.0s,baz=342,slow=41
comp=Z,4.9nm,0.8s
FITZ Fitzroy Crossi 85.54 234 IAmb IAmb 18 24 20.6
comp=Z,5.6nm,0.9s
LEM Lembang 86.40 254 LR LR 18 59 24.5
comp=Z,52nm,19.9s,baz=286,slow=33
AS01 Alice Springs 86.43 224 P **P 18 24 24.2 +0.7**
AS31 Alice Springs 86.45 224 IAmb IAmb 18 24 25.1
comp=Z,3.7nm,0.8s
ASAR Alice Springs 86.45 224 P **P 18 24 23.8 +0.2**
comp=Z,14nm,0.8s,baz=26,slow=5.1,SNR=114
ASAR PKKPbc **PKKPbc 18 42 19.0 +0.1**
comp=Z,0.1nm,0.5s,baz=208,slow=2.3,SNR=6.6
ASAR LR LR 18 57 55.7
comp=Z,81nm,20.0s,baz=52,slow=32
comp=Z,14nm,0.8s
INKA Innaminka 87.31 217 P **P 18 24 28.5 +0.9**
SJG San Juan 88.20 63 LR LR 19 07 47.5
comp=Z,81nm,18.7s,baz=242,slow=38
ESDC Sonseca Array 88.92 5 P **P 18 24 33.8 -1.7**
comp=Z,0.6nm,0.5s,baz=345,slow=4.4,SNR=4.7
ESDC LR LR 19 02 44.4
comp=Z,46nm,22.0s,baz=349,slow=34
comp=Z,0.6nm,0.5s
CMSA Cobar Meteorol 89.06 211 P **P 18 24 36.7 +0.9**
OOD Oodnadatta 89.34 221 P **P 18 24 38.2 +1.0**
URZ Urewera 89.61 185 LR LR 18 59 31.3
comp=Z,84nm,20.4s,baz=132,slow=32
WRKA Warakurna 90.16 228 P **P 18 24 42.2 +1.0**
LCRK Leigh Creek 90.70 218 P **P 18 24 45.6 +2.1**
STKA Stephens Creek 90.75 214 P **P 18 24 44.7 +1.0**
comp=Z,11nm,0.9s,baz=356,slow=7.6,SNR=19
comp=Z,11nm,0.9s
STKA Stephens Creek 90.75 214 P **P 18 24 44.6 +0.9**
STKA Stephens Creek 90.75 214 *c i*P **P 18 24 44.3 +0.6**
VAE Valguarnera 90.78 351 LR LR 19 07 51.3
comp=Z,111nm,20.4s,baz=350,slow=37
WSAR Wadi Sarin 91.07 311 LR LR 19 11 04.8
comp=Z,58nm,18.6s,baz=68,slow=39
MMAI Mount Meron Ar 91.13 333 LR LR 19 12 37.3
comp=Z,117nm,18.5s,baz=20,slow=40
IDI Anoyia 91.43 342 LR LR 19 11 18.6
comp=Z,61nm,18.2s,baz=91,slow=39
ASF Jabal al Asfar 91.49 332 LR LR 19 14 15.8
comp=Z,70nm,18.3s,baz=8.3,slow=41
PALK Pallekele 92.01 284 LR LR 19 08 20.4
comp=Z,36nm,21.1s,baz=20,slow=37
SDV Santo Domingo 93.01 72 P **P 18 24 54.2 -0.8**
SDV IAmb IAmb 18 25 16.3
comp=Z,5.2nm,0.8s
SDV Santo Domingo 93.01 72 LR LR 19 06 15.3
comp=Z,33nm,21.9s,baz=42,slow=35
RUSC La Rusia 93.92 76 IAmb IAmb 18 25 18.4
comp=Z,12nm,1.2s
ROSC El Rosal 93.99 77 LR LR 19 09 18.3
comp=Z,57nm,19.3s,baz=324,slow=37
EIL Elat 94.41 333 LR LR 19 13 59.1
comp=Z,100nm,19.8s,baz=58,slow=40
PCRV Puerto La Cruz 95.47 66 LR LR 19 06 25.3
comp=Z,65nm,21.4s,slow=34
RPZ Rata Peaks 95.48 189 LR LR 19 06 03.7
comp=Z,99nm,18.1s,baz=322,slow=34
TORD Torodi Ar. Bea 115.55 2 **PKiKP 18 30 22.0 -1.1**
TORD Torodi Ar. Bea 115.55 2 PKP **PKiKP 18 30 21.9 -1.1**
comp=Z,94nm,0.3s,baz=0.8,slow=2.6,SNR=1.6
H03N2 Juan Fernandez 120.04 107 T T 20 41 52.6
baz=317,slow=77,SNR=474
H03N1 Juan Fernandez 120.05 107 T T 20 41 53.9
baz=317,slow=77,SNR=535
H03N3 Juan Fernandez 120.05 107 T T 20 42 04.2
baz=317,slow=77,SNR=937
KMBO Kilima Mbogo 122.13 319 **PKPdf 18 30 35.2 -0.9**
KMBO Kilima Mbogo 122.13 319 PKIKP **PKPdf 18 30 35.2 -0.9**
CPUP Villa Florida 128.38 85 PKP **PKPdf 18 30 46.4 -0.9**
comp=Z,1.6nm,0.8s,baz=161,slow=0.3,SNR=3.3
PLCA Paso Flores 129.88 108 PKP **PKPdf 18 30 49.5 -0.3**
comp=Z,4.5nm,0.9s,baz=283,slow=2.1,SNR=7.4
QSPA South Pole Qui 141.32 180 PKPpre 18 31 03.0
QSPA South Pole Qui 141.32 180 PKhKP PKPpre 18 31 04.9
comp=Z,3.4nm,0.7s,baz=39,slow=2.4,SNR=17
QSPA PKP **PKiKP 18 31 12.5 -0.5**
comp=Z,11nm,0.9s,baz=309,slow=0.8,SNR=14
MAW Mawson 147.37 218 PKPbc **PKPdf 18 31 15.9 -4.7**
comp=Z,38nm,1.0s,baz=135,slow=2.9,SNR=1.7
BOSA Boshof 151.72 316 PKPbc **PKPbc 18 31 34.8 -0.5**
comp=Z,29nm,0.7s,baz=32,slow=1.9,SNR=80
BOSA PKPab **pPKPdf 18 31 45.8 +1.2**
comp=Z,8.4nm,0.8s,baz=1.9,slow=5.9,SNR=7.0

IDC 15 18:25:41.4±2.2, 26°.68N×66°.60E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=59.7km s-min=34.3km az=72.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.61**	**28**	P	P	18 30 52.8	-1.2
	0.4nm,0.6s,baz=206,slow=9.6,SNR=5.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**25.60**	**18**	P	P	18 31 12.9	+0.7
	0.8nm,0.7s,baz=211,slow=8.5,SNR=7.8						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**26.47**	**5**	P	P	18 31 20.8	+0.7
	0.9nm,0.7s,baz=180,slow=8.6,SNR=4.2						
	0.9nm,0.7s						
NOA	**NORSAR Array B**	**50.40**	**329**	P	P	18 34 39.6	-0.6
	0.4nm,0.7s,baz=100,slow=8.2,SNR=3.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**82.05**	**121**	P	P	18 38 04.1	+0.1
	0.4nm,1.0s,baz=290,slow=5.2,SNR=4.6						
	0.4nm,1.0s						

*AEIC **15** 18:27:36.4±0.4, 53°.11N±0°.09×164°.50W±0°.09, h26km±9km, Error ellipse: s-maj=12.8km s-min=7.5km az=164.0*
NEIC 15 18:27:33.9±0.8, 53°.16N±0°.04×164°.52W±0°.08, h10km±2km, ML3.1/8, ML2.9(AEIC), Error ellipse: s-maj=10.2km s-min=3.8km az=131.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.20**	**325**		Pb	18 27 56.4	-0.3
AKSA					Sb	18 28 12.3	+0.1
AKBBA	**Akutan Broad B**	**1.26**	**319**		Pb	18 27 57.6	-0.1
AKBBA					Sb	18 28 14.0	0.0
ZRO	**Akutan Zero**	**1.27**	**318**		Pn	18 27 57.8	+0.1
ZRO					Sb	18 28 14.3	-0.1
WESE	**West Dahl East**	**1.32**	**358**		Pn	18 27 58.3	-0.1
AKRB	**Akutan Reef Bi**	**1.34**	**317**		Pn	18 27 58.8	+0.2
AKRB					Sb	18 28 16.2	0.0
LVA	**Lava Point**	**1.35**	**319**		Pn	18 27 58.2	-0.5
LVA				IAML		18 28 22.0	
	comp=E,299nm,0.5s						
AKGG	**Akutan Green G**	**1.36**	**321**		Pn	18 27 58.9	0.0
UNV	**Unalaska Valle**	**1.37**	**301**		Pn	18 27 58.6	-0.4
UNV	**Unalaska Valle**	**1.37**	**301**		Sb	18 28 15.8	-1.2
WECS	**Westdahl Cape**	**1.38**	**354**		Pn	18 27 59.5	+0.2
MREP	**Makushin Rep't**	**1.48**	**297**		Pn	18 28 00.5	-0.1
MTBL	**Makushin Table**	**1.52**	**303**		Pn	18 28 01.3	+0.2
MGOD	**Makushin Gods**	**1.54**	**295**		Pn	18 28 01.5	0.0
MSW	**Makushin Switc**	**1.55**	**300**		Pn	18 28 01.5	+0.1
MSW					Sn	18 28 20.9	-0.7
MAPS	**Pakushin South**	**1.58**	**295**		Pn	18 28 01.8	-0.1
FALS	**False Pass**	**1.82**	**21**	Pn	Pn	18 28 04.2	-1.0
OKTU	**Okmok Mt. Tuli**	**2.12**	**277**		Pn	18 28 09.2	-0.2
HAG	**Hague Volcano**	**2.65**	**34**		Pn	18 28 16.9	+0.2
S12K	**Black Hills**	**2.93**	**28**	Pn	Pn	18 28 18.8	-1.6
S12K				IAML		18 28 50.9	
	comp=E,46nm,1.2s						
CNBA	**Chernabura Isl**	**3.35**	**58**		Pn	18 28 26.6	+0.3
CNBA	**Chernabura Isl**	**3.35**	**58**	IAML		18 29 32.1	
	comp=N,26nm,1.0s						
CHGN	**Chignik**	**4.74**	**46**	Pn	Pn	18 28 44.1	-1.2
CHGN				IAML		18 29 41.4	
	comp=E,24nm,1.2s						

TXNET 15 18:36:46.6, 31°.6N±0°.8×104°.6W±0°.8, h4km±2km, ML1.9/6, Error ellipse: s-maj=1.3km s-min=1.2km az=140.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.54**	**57**	P	Pg	18 36 56.9	-0.1
TPB11				S	Sg	18 37 04.3	+0.2
GDL2	**Guadalupe Moun**	**0.59**	**17**	P	Pg	18 36 58.0	+0.1
PECS	**Pecos**	**0.66**	**114**	P	Pg	18 36 59.4	+0.3
PECS				S	Sg	18 37 08.2	+0.6
MNTX	**Cornudas Mount**	**0.70**	**275**	P	Pg	18 37 00.6	+0.6
MNTX				S	Sg	18 37 09.4	+0.4
TPB10	**Southeast of T**	**0.78**	**117**	S	Sg	18 37 12.3	+0.7
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	18 37 04.2	-0.1
VHRN				S	Sb	18 37 17.1	-0.7
TPB05	**Hovey Rd**	**1.28**	**124**	S	Sg	18 37 27.5	-0.3
ALPN	**Alpine**	**1.49**	**147**	P	Pn	18 37 13.8	-0.4
ALPN				S	Sn	18 37 33.2	-1.0
MNHN	**Monahans**	**1.57**	**100**	P	Pn	18 37 15.7	+0.4
MNHN				S	Sb	18 37 36.6	+0.1
ODSA	**Odessa**	**1.78**	**74**	S	Sg	18 37 43.3	-0.6
TX31	**Lajitas Ar. Si**	**2.42**	**161**	Pg	Pb	18 37 30.8	0.0

*MOS **15** 18:46:09.3±1.7, 48°.32N×153°.14E, h149km, mb3.9/1, Error ellipse: s-maj=26.7km s-min=8.0km az=64.6*
*SKHL **15** 18:46:11.1±0.6, 48°.60N×153°.10E, h147km±3km, mb4.3/2, msha5.1/2*
*IDC **15** 18:46:12.7±3.0, 48°.46N×153°.08E, h161km±31km, mb3.0/5, mbtmp3.6/7, Error ellipse: s-maj=37.6km s-min=25.1km az=124.0*
*KRSC **15** 18:46:13.7±2.5, 48°.69N×153°.58E, h203km±26km, Ml4.2*
ISC 15 18:46:11.2±1.2, 48°.5N±0°.2×153°.3E±0°.1, h150km, n36, σ1°93/45, mb3.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.86**	**39**	PN	**Pn**	**18 46 59.0**	**+2.3**
SKR				S	**Sn**	**18 47 33.8**	**+1.9**
SKR	**Severo-Kuril's**	**2.86**	**39**	*e*P	**Pn**	**18 46 59.0**	**+2.3**
SKR				*e*S	**Sn**	**18 47 33.9**	**+1.9**
SKR	**Severo-Kuril's**	**2.86**	**39**	*e*P	**Pn**	**18 46 57.1**	**+0.4**
SKR				AMB	AMB	18 47 00.4	
	40nm,0.4s						
SKR				*e*S	**Sn**	**18 47 31.1**	**-0.8**
SKR				A	A	18 47 37.1	
	50nm,0.3s						
SKR				A	A	18 47 37.1	
	40nm,0.3s						
PAU	**Pauzhetka**	**3.74**	**36**	PN	**Pn**	**18 47 10.1**	**+2.1**
PAU				S	**Sn**	**18 47 54.2**	**+2.1**
PAU	**Pauzhetka**	**3.74**	**36**	*e*P	**Pn**	**18 47 10.2**	**+2.1**
PAU				*e*S	**Sn**	**18 47 54.2**	**+2.1**
PAU	**Pauzhetka**	**3.74**	**36**	*e*P	**Pn**	**18 47 08.8**	**+0.8**
PAU				AMB	AMB	18 47 11.0	
	30nm,0.5s						
PAU				*e*S	**Sn**	**18 47 52.4**	**+0.3**
PAU				A	A	18 47 57.4	
	80nm,0.3s						
PAU				A	A	18 47 57.4	
	120nm,0.3s						
KDTR	**Khodutka, Kamc**	**4.53**	**41**	PN	**Pn**	**18 47 18.1**	**-0.1**
KDTR				S	**Sn**	**18 48 08.6**	**-1.8**
KDTR	**Khodutka, Kamc**	**4.53**	**41**	*e*P	**Pn**	**18 47 18.2**	**-0.1**
KDTR				*e*S	**Sn**	**18 48 08.7**	**-1.8**
KDTR	**Khodutka, Kamc**	**4.53**	**41**	*e*P	**Pn**	**18 47 18.1**	**-0.1**
KDTR				*e*S	**Sn**	**18 48 08.6**	**-1.8**
KUR	**Kuril'sk**	**4.95**	**231**	*e*P	**Pn**	**18 47 22.1**	**-1.7**
KUR				*e*S	**Sn**	**18 48 17.1**	**-3.3**
RUS	**Russkaya**	**5.16**	**38**	*e*S	**Sn**	**18 48 23.7**	**-1.9**
PETK	**Petropavlovsk-**	**5.40**	**30**	P	**Pn**	**18 47 32.8**	**+3.0**
	4.2nm,0.5s,baz=204,slow=12,SNR=19						
PET	**Petropavlovsk**	**5.67**	**35**	*e*P	**Pn**	**18 47 32.8**	**-0.5**
DALK	**Dalny**	**5.71**	**35**	*e*S	**Sn**	**18 48 35.2**	**-3.4**
KOK	**Koryaka**	**5.87**	**33**	PN	**Pn**	**18 47 39.0**	**+2.9**
KOK	**Koryaka**	**5.87**	**33**	*e*P	**Pn**	**18 47 39.1**	**+2.9**
KOK	**Koryaka**	**5.87**	**33**	*e*P	**Pn**	**18 47 39.0**	**+2.9**
UGLR	**Uglovaya**	**5.88**	**35**	PN	**Pn**	**18 47 38.5**	**+2.3**
UGLR	**Uglovaya**	**5.88**	**35**	*e*P	**Pn**	**18 47 38.5**	**+2.3**
AVH	**Avacha**	**5.89**	**34**	PN	**Pn**	**18 47 39.1**	**+2.8**
AVH	**Avacha**	**5.89**	**34**	*e*P	**Pn**	**18 47 39.1**	**+2.8**
KRX	**Arik**	**5.93**	**33**	PN	**Pn**	**18 47 39.7**	**+2.7**
KRX	**Arik**	**5.93**	**33**	*e*P	**Pn**	**18 47 39.7**	**+2.7**
SHO	**Shikotan**	**6.44**	**226**	PN	Pn	18 47 37.7	-6.0
KMNR	**Kamenistaya**	**8.43**	**28**	PN	**Pn**	**18 48 09.1**	**-1.1**
KMNR	**Kamenistaya**	**8.43**	**28**	*e*P	**Pn**	**18 48 09.2**	**-1.1**
KBTR	**Krutoberegovo**	**9.67**	**33**	PN	**Pn**	**18 48 26.3**	**-0.3**
KBTR	**Krutoberegovo**	**9.67**	**33**	*e*P	**Pn**	**18 48 26.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**15.31**	**262**	P	**Pn**	**18 49 38.2**	**-1.1**
	2.7nm,0.6s,baz=49,slow=14,SNR=4.8						
KSRS	**Korea Array**	**21.49**	**249**	P	**P**	**18 50 47.5**	**-0.4**
	1.9nm,0.6s,baz=51,slow=10,SNR=6.9						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**46.26**	**296**	P	**P**	**18 54 20.6**	**-0.6**
	0.2nm,0.6s,baz=74,slow=7.7,SNR=2.5						
	0.2nm,0.6s						
KURK	**Kurchatov**	**46.51**	**302**	P	**P**	**18 54 23.4**	**+0.4**
KURK	**Kurchatov**	**46.51**	**302**	*e*P	**P**	**18 54 23.4**	**+0.4**
KURBB	**Kurchatov Arra**	**46.60**	**302**	P	**P**	**18 54 23.4**	**-0.4**
	0.5nm,0.7s,baz=69,slow=8.4,SNR=4.9						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**62.51**	**334**	P	**P**	**18 56 18.3**	**+0.1**
	0.5nm,0.6s,baz=35,slow=7.0,SNR=3.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**73.91**	**198**	P	**P**	**18 57 29.4**	**-0.2**
	0.1nm,0.5s,baz=15,slow=5.7,SNR=1.7						
	0.1nm,0.5s						

*CATAC **15** 19:03:45.5±0.5, 13°.N±5°.×87°.7W±°., h10km, M3.2/8, MLv3.2/8, rejected*
SNET 15 19:03:43.0±1.0, 12°.42N×87°.69W, h14km±7km, ML2.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.86**	**350**	*e*P	Pg	19 03 58.9	-0.8
CNCH				*e*S	Sb	19 04 11.4	+0.2
CNCH	**Conchagua**	**0.86**	**350**	P	Pg	19 03 59.1	-0.6
PACN	**Al O del Volca**	**0.88**	**85**	P	Pb	19 03 55.9	-4.1
LCND	**La Caada**	**0.90**	**347**	*e*P	Pb	19 03 59.2	-1.2
LCND				*e*S	Sg	19 04 12.5	+0.1
LCND				IAML		19 04 16.6	
	comp=Z,459nm,0.3s						
LCND	**La Caada**	**0.90**	**347**	P	Pb	19 03 59.6	-0.8
ROCN	**Rota Cerro Neg**	**0.93**	**84**	P	Pb	19 03 56.5	-4.4
CNGA	**Al SSO del Vol**	**0.96**	**86**	P	Pb	19 03 57.2	-4.3
MACN	**El Madrono**	**0.99**	**87**	P	Pb	19 03 57.5	-4.4
LEVN	**Ruinas Leon Vi**	**1.04**	**91**	P	Sb	19 04 11.1	-5.3
COPN	**Copaltepe**	**1.10**	**103**	P	Sb	19 04 12.6	-5.3
MOMN	**Momotombo**	**1.12**	**91**	P	Pb	19 03 59.0	-5.2
BLLM	**Bellamira**	**1.15**	**332**	*e*P	Pb	19 04 03.8	-0.9
LCY	**Lacayo**	**1.16**	**329**	*e*P	Pb	19 04 04.0	-0.9
LCY				*e*S	Sb	19 04 20.1	+0.3
RANC	**El Ranchito**	**1.16**	**330**	*e*P	Pb	19 04 04.2	-0.8
RANC				*e*S	Sg	19 04 20.4	-0.2
RANC	**El Ranchito**	**1.16**	**330**	P	Sn	19 04 21.5	+0.7
CHOHN	**Orocuina**	**1.17**	**26**	P	Pn	19 04 01.4	-3.6
CHOHN	**Orocuina**	**1.17**	**26**	P	Pn	19 04 01.5	-3.6
PACA	**Pacayal**	**1.21**	**329**	*e*P	Pn	19 04 05.0	-0.6
PACA				*e*S	Sn	19 04 21.9	0.0
PACA				IAML		19 04 23.6	
	comp=Z,3μm,0.3s						
APYN	**Apoyeque**	**1.32**	**98**	P	Sb	19 04 17.0	-7.3
TECA	**Tecapa**	**1.33**	**323**	*e*P	Pn	19 04 06.5	-0.8

```
TECA                                    eP          Pb      19 04 06.6 -1.2
TECA                                    IAML                19 04 29.9
     comp=Z,113nm,0.3s
APQ2 Apoyeque          1.35  99   P          Sb      19 04 17.4 -7.7
ALLN Telcor Managua    1.41 101   P          Sn      19 04 22.2 -4.3
SABN Sabanita          1.56 107   P          Sn      19 04 22.2 -8.2
SCLA Alcaldia de Sa    1.63 321   eP         Pn      19 04 11.0 -0.3
SCLA                                    IAML                19 04 36.9
     comp=Z,23nm,0.5s
YUSH Yuscaran          1.73  28   P          Pn      19 04 09.1 -3.6
YUSH Yuscaran          1.73  28   P          Pn      19 04 09.0 -3.7
NADN Granada           1.75 112   P          Pg      19 04 23.0 +6.4
RCVN Varilla!2         1.86  51   P          Pn      19 04 09.8 -4.8
RCPN Sur Rio San Ju    1.90  55   P          Pn      19 04 10.4 -4.7
JAYA Jayaque - finc    2.11 306   eP         Pn      19 04 17.5 -0.6
JAYA                                    eS         Sn      19 04 43.9 -0.3
NUBE Las Nubes         2.51 306   eP         Pn      19 04 24.1 +0.5
NUBE                                    eS         Sn      19 04 54.7 +0.6
RAFA San Farael, Vo    4.52 122   P          Pn      19 04 51.4  0.0
```

NEIC ***15*** *19:06:13.9±2.5, 12°.88S±0°.07×45°.3E±0°.1, h10km±1km, mb4.2/16, Error ellipse: s-maj=18.7km s-min=12.4km az=262.0*
IDC ***15*** *19:06:14.6±0.7, 13°.05S×45°.52E, h0km, mb3.8/10, mbtmp3.9/12, ML4.3/3, MS3.2/2, Error ellipse: s-maj=22.9km s-min=13.5km az=142.0*

ISC 15 19:06:13.6±0.5, 12°.98S±0°.06×45°.35E±0°.07, h10km, n44, σ2s16/45, mb4.1/16, Northwest of Madagascar

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
OPO  Ambohidratompo      5.83 163   Pn        Pn      19 07 42.5 +2.2
     4.7nm,0.3s,baz=332,slow=12,SNR=98
OPO                                Sn        Sn      19 08 45.1 -2.3
     7.9nm,0.3s,baz=108,slow=22,SNR=22
OPO                                LR        LR      19 09 33.8
     comp=Z,115nm,20.2s,baz=164,slow=35
ABPO Ambohimpanom        6.27 164              Pn      19 07 48.5 +2.1
ABPO                               Sn        Sn      19 08 54.3 -3.9
VOI  Vohitsoka           8.98 171              Pn      19 08 25.2 +1.6
FOMA Nahampoana Res     12.03 173   Pn        Pn      19 09 06.6 +1.4
KIBK Kibwezi            12.81 325              Pn      19 09 13.7 -2.4
RER  Riviere de l'E     12.83 131   Pn        Pn      19 09 17.2 +0.9
MSEY Mahe Island        12.97  51   Pn        Pn      19 09 15.2 -3.0
KMBO Kilima Mbogo       14.25 325              Pn      19 09 33.5 -2.4
LSZ  Lusaka             16.80 260   P         Pn      19 10 08.5 -0.8
LSZ                                IAmb      IAmb    19 10 16.2
     comp=Z,18nm,1.0s
LSZ  Lusaka             16.80 260   Pn        P       19 10 12.0 +0.5
     comp=Z,0.4nm,0.3s,baz=81,slow=8.1,SNR=11
     comp=Z,8.9nm,0.7s
MATP Matopo             17.75 243   P         P       19 10 23.4 +1.4
     comp=Z,0.1nm,0.3s,baz=69,slow=14,SNR=8.6
MATP                               S         S       19 13 47.9 +1.6
     comp=Z,1.3nm,0.7s,baz=294,slow=17,SNR=2.1
     comp=Z,3.9nm,0.8s
MBAR Mbarara            19.00 309   P         P       19 10 31.1 -4.7
POGA Pongola            19.16 220   P         P       19 10 35.1 -2.3
POGA                               IAmb      IAmb    19 10 45.6
     comp=Z,7.8nm,0.9s
LBTB Lobatse            22.15 234   P         P       19 11 06.7 -3.2
LBTB                               IAmb      IAmb    19 11 15.4
     comp=Z,10nm,1.1s
LBTB Lobatse            22.15 234   P         P       19 11 12.1 +2.2
     comp=Z,4.8nm,0.7s,baz=52,slow=12,SNR=7.3
     comp=Z,4.8nm,0.7s
BOSA Boshof             24.33 227   P         P       19 11 28.5 -3.3
BOSA                               IAmb      IAmb    19 11 43.9
     comp=Z,9.2nm,1.4s
BOSA Boshof             24.33 227   P         P       19 11 33.7 +1.9
     comp=Z,1.4nm,0.4s,baz=58,slow=9.5,SNR=9.1
     comp=Z,1.4nm,0.4s
SUR  Sutherland         29.63 225   P         P       19 12 18.3 -1.3
GNI  Garni              52.86 359   LR        LR      19 38 41.1
     comp=Z,40nm,19.0s,baz=240,slow=37
BRTR Keskin Array B     53.56 349   P         P       19 15 37.8 +2.9
     comp=Z,0.2nm,0.3s,baz=187,slow=10,SNR=1.7
     comp=Z,0.2nm,0.3s
TIP  Timpagrande        58.35 334   P         P       19 16 08.1 -1.0
CMAR Chiang Mai Arr     61.38  60   P         P       19 16 38.1 +7.8
     comp=Z,0.6nm,0.9s,baz=232,slow=4.7,SNR=4.3
BURAR Bucovina Array    62.95 345   P         P       19 16 39.7 -0.7
ABKAR Abkulak array     63.29  11   P         P       19 16 42.9 +0.4
ABKAR                              IAmb      IAmb    19 16 51.0
     comp=Z,5.3nm,1.3s
ABKAR Abkulak array     63.29  11   P         P       19 16 42.8 +0.3
SNAA Sanae              65.33 195   P         P       19 16 56.3 +0.6
GERES GERESS Array B    67.63 338   P         P       19 17 15.4 +4.7
     comp=Z,1.7nm,1.1s,baz=155,slow=9.9,SNR=3.8
     comp=Z,1.7nm,1.1s
MAKZ Makanchi           67.97  26   P         P       19 17 11.4 -1.4
MAKZ                               IAmb      IAmb    19 17 27.3
     comp=Z,1.2nm,0.9s
MK31 Makanchi Array     68.09  26   P         P       19 17 13.4 -0.2
MK31                               IAmb      IAmb    19 17 34.9
     comp=Z,1.5nm,1.1s
MKAR Makanchi Array     68.09  26   P         P       19 17 13.7 +0.1
MKAR Makanchi Array     68.09  26   P         P       19 17 15.9 +2.3
     comp=Z,0.2nm,0.5s,baz=218,slow=9.0,SNR=5.7
     comp=Z,0.2nm,0.5s
BVAR Borovoye Array     69.17  16   P         P       19 17 22.1 +2.0
     comp=Z,0.6nm,0.7s,baz=187,slow=7.3,SNR=3.8
     comp=Z,0.6nm,0.7s
ESDC Sonseca Array      69.61 321   P         P       19 17 26.3 +3.1
     comp=Z,0.4nm,0.6s,baz=131,slow=5.7,SNR=3.1
     comp=Z,0.4nm,0.6s
CLL  Collm              69.93 339   P         P       19 17 25.1 +0.3
CLL                                IAmb      IAmb    19 17 46.8
     comp=Z,1.5nm,0.5s
ZALV Zalesovo Beam      74.65  23   P         P       19 17 56.9 +3.8
     comp=Z,0.4nm,0.6s,baz=235,slow=5.1,SNR=3.8
     comp=Z,0.4nm,0.6s
QSPA South Pole Qui     77.11 180   P         P       19 18 06.9 -0.3
QSPA                               IAmb      IAmb    19 18 43.8
     comp=Z,6.6nm,1.5s
ASAR Alice Springs      83.59 113   P         P       19 18 42.0 -0.8
ASAR Alice Springs      83.59 113   P         P       19 18 44.8 +2.0
     comp=Z,0.7nm,0.6s,baz=264,slow=4.5,SNR=12
     comp=Z,0.7nm,0.6s
AS31 Alice Springs      83.59 113   P         P       19 18 43.3 +0.5
WRA  Warramunga Arr     84.73 109   P         P       19 18 49.3 +0.6
WRA  Warramunga Arr     84.73 109   P         P       19 18 50.4 +1.7
     comp=Z,0.7nm,0.8s,baz=259,slow=3.2,SNR=4.6
     comp=Z,0.7nm,0.8s
WB0  Warramunga Arr     84.81 109   P         P       19 18 48.6 -0.5
MGBR Mount Gambier      86.23 128   P         P       19 18 56.1 +0.3
TXAR Lajitas Array     146.98 304   PKPbc     PKiKP   19 25 60.0 +0.1
     comp=Z,0.2nm,0.5s,baz=52,slow=4.0,SNR=2.5
```

JMA ***15*** *19:08:09.9±0.1, 28°.6N±0°.7×14°.2E±°, h42km, MV4.3/26, NEAR CHICHIJIMA ISLAND*
IDC ***15*** *19:08:10.1±3.7, 28°.45N×141°.55E, h36km±29km, mb3.8/21, mbtmp4.0/22, ML3.6/1, MS2.8/2, Error ellipse: s-maj=27.0km s-min=16.1km az=85.0*
NEIC ***15*** *19:08:10.2±2.9, 28°.57N±0°.05×141°.69E±0°.08, h41km±6km, mb4.5/35, Error ellipse: s-maj=10.2km s-min=6.8km az=84.0*

ISC 15 19:08:09.3±0.5, 28°.50N±0°.04×141°.70E±0°.09, h35km, n94, σ1s85/98, mb4.2/33, Bonin Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
CBIJ Chichi jima        1.46 163   P         Pn      19 08 35.0 +1.8
CBIJ                               eS        Sn      19 08 51.5 +0.5
JCJ  Chichijima         1.46 163              Pn      19 08 35.0 +1.8
JCJ                                Sn        Sn      19 08 51.6 +0.5
JCJ  Chichijima         1.46 163   Pn        Pn      19 08 29.3 -3.9
     144nm,0.3s,baz=288,slow=23,SNR=90
JCJ                                Sn        Sn      19 08 45.7 -5.4
     388nm,0.3s,baz=120,slow=23,SNR=32
JHH2 Haha-jima-NKT2     1.90 167   eP        Pn      19 08 41.6 +2.4
JHH2                               eS        Sn      19 09 04.8 +2.7
JHCJ Hachijojimakas     4.84 341   eP        Pn      19 09 22.8 +3.1
JHCJ                               eS        Sn      19 10 17.9 +3.4
JHJ2 Mitsune            4.88 341   Pn        Pn      19 09 21.6 +1.5
JHJ2                               Sn        Sn      19 10 15.1 -0.3
JHJ2 Mitsune            4.88 341   eP        Pn      19 09 23.0 +2.9
JHJ  Hachijo jima 2     4.89 341   Pn        Pn      19 09 24.5 +4.1
     5.3nm,0.3s,baz=172,slow=13,SNR=6.0
JHJ                                Sn        Sn      19 10 14.0 -1.8
     22nm,0.3s,baz=63,slow=24,SNR=4.8
BSO1 Boso 1             6.17 354   eP        Pn      19 09 40.5 +3.1
BSO1                               eS        Sn      19 10 49.1 +2.7
BSO3 Boso 3             6.37 351   eP        Pn      19 09 43.6 +3.2
JOD2 Odawara 2          7.10 342   eP        Pn      19 09 54.2 +3.5
JOD2                               eS        Sn      19 11 13.4 +3.2
JNY  Yasuok             7.58 336   eP        Pn      19 10 02.3 +5.0
JRY  Ryogami san        7.86 343   eP        Pn      19 10 04.7 +3.5
JRY                                eS        Sn      19 11 30.4 +1.5
JGF  Kuroka             7.98 334   Pn        Pn      19 10 02.3 -0.6
JAG  Ashikaga           8.13 347   eP        Pn      19 10 06.2 +1.3
JAG                                eS        Sn      19 11 34.4 -1.0
JHO  Hitachi            8.15 354   eP        Pn      19 10 06.8 +1.7
JHO                                eS        Sn      19 11 32.5 -3.4
JMN  Monobe             8.49 310   Pn        Pn      19 10 09.4 -0.4
MJAR Matsushiro Arr     8.54 341   Pn        Pn      19 10 14.2 +3.6
     0.2nm,0.3s,baz=163,slow=12,SNR=11
MAJO Matsushiro         8.55 341   Pn        Pn      19 10 09.3 -1.3
MJB9 Matsu-Tunnel       8.55 341   Pn        Pn      19 10 09.8 -0.8
JMM  Marumori           9.38 356   Pn        Pn      19 10 20.0 -1.9
JMM                                Sn        Sn      19 11 59.6 -6.4
JNU  Nakatsue          10.38 299   LR        LR      19 14 16.6
     comp=Z,48nm,19.9s,baz=146,slow=36
JTM  Tenmabayashi      12.27 358   Pn        Pn      19 11 01.1 -0.4
ERM  Erimo             13.54   5   Pn        Pn      19 11 16.1 -2.8
JKA  Kamikawa-asahi    15.61   2   Pn        Pn      19 11 44.6 -1.9
JKA                                IAmb      IAmb    19 11 59.2
     comp=Z,32nm,1.4s
ASAJ Asahikawa         15.61   2   Pn        Pn      19 11 46.9 +0.3
     comp=Z,0.4nm,0.3s,baz=207,slow=14,SNR=4.6
     comp=Z,6.5nm,1.0s
NACB Ninganchiao       18.52 261   P         Pn      19 12 23.7 +0.5
YHNB Yeheng            18.57 263   P         Pn      19 12 23.7 -0.1
YHNB                               IAmb      IAmb    19 12 39.7
     comp=Z,53nm,1.4s
YULB Yu-li             19.03 259   P         Pn      19 12 29.4  0.0
SSLB Suanglung         19.20 261   P         Pn      19 12 32.4 +1.1
SSLB                               IAmb      IAmb    19 12 39.5
     comp=Z,21nm,1.0s
TPUB Ta-pu             19.64 260   P         Pn      19 12 36.1 -0.5
TPUB                               IAmb      IAmb    19 13 19.8
     comp=Z,34nm,1.4s
KLR  Kul'dur           22.07 342   P         P       19 13 00.2 -0.8
     comp=Z,1.7nm,0.8s,baz=150,slow=9.1,SNR=5.2
     comp=Z,1.7nm,0.8s
H11N2 WAKE ISLAND Hy   24.56 105   T         T       19 38 59.0
     baz=296,slow=75,SNR=184
H11N1 WAKE ISLAND Hy   24.57 105   T         T       19 38 56.7
     baz=296,slow=75,SNR=91
H11N3 WAKE ISLAND Hy   24.58 105   T         T       19 38 57.9
     baz=296,slow=75,SNR=134
H11S3 WAKE ISLAND Hy   24.94 108   T         T       19 39 00.7
     baz=296,slow=74,SNR=15
H11S1 WAKE ISLAND Hy   24.95 108   T         T       19 39 02.6
     baz=296,slow=74,SNR=10
H11S2 WAKE ISLAND Hy   24.96 108   T         T       19 39 03.1
     baz=296,slow=74,SNR=8.8
ULN  Ulaanbaatar       33.02 315   P         P       19 14 40.9 -0.3
ULN                                IAmb      IAmb    19 14 42.8
     comp=Z,5.9nm,1.4s
SONM Songino Array     33.41 315   P         P       19 14 44.7  0.0
     comp=Z,0.5nm,0.7s,baz=115,slow=10.0,SNR=3.6
     comp=Z,0.5nm,0.7s
LUWI Luwuk             34.52 215   P         P       19 14 54.6 +0.1
CMAR Chiang Mai Arr    40.28 265   P         P       19 15 41.1 -2.3
     comp=Z,0.2nm,0.4s,baz=61,slow=8.8,SNR=1.7
CMAR                               LR        LR      19 32 08.2
     comp=Z,14nm,18.3s,baz=120,slow=36
     comp=Z,0.2nm,0.4s
COEN Coen              42.23 178   P         P       19 15 59.0 -0.1
COEN                               IAmb      IAmb    19 16 23.9
     comp=Z,17nm,1.4s
MTN  Manton Dam        42.35 195   P         P       19 15 59.8 -0.3
MTN                                IAmb      IAmb    19 16 41.2
     comp=Z,7.9nm,1.1s
KNRA Kununurra         45.66 198   P         P       19 16 25.5 -1.2
KNRA                               IAmb      IAmb    19 17 00.8
     comp=Z,12nm,1.4s
ZALV Zalesovo Beam     48.15 318   P         P       19 16 46.6 +0.8
     comp=Z,0.3nm,0.3s,baz=100,slow=8.0,SNR=2.8
     comp=Z,0.3nm,0.3s
WB0  Warramunga Arr    48.50 189   P         P       19 16 48.8  0.0
WB2  Warramunga Arr    48.67 189   P         P       19 16 49.9 -0.2
WB2                                IAmb      IAmb    19 16 54.6
     comp=Z,5.1nm,0.8s
WRA  Warramunga Arr    48.68 189   P         P       19 16 50.0 -0.2
     comp=Z,2.3nm,0.3s,baz=7.1,slow=7.8,SNR=38
     comp=Z,2.3nm,0.3s
FITZ Fitzroy Crossi    48.85 200   P         P       19 16 50.5 -1.0
L14K Kuka Creek        49.05  32   P         P       19 16 52.1 -0.5
MK31 Makanchi Array    49.26 309   P         P       19 16 53.4 -1.1
MKAR Makanchi Array    49.26 309   P         P       19 16 53.0 -1.4
MKAR Makanchi Array    49.26 309   P         P       19 16 53.9 -0.6
     comp=Z,0.2nm,0.3s,baz=88,slow=9.2,SNR=7.5
MKAR                               PcP       PcP     19 18 17.6 +0.6
     comp=Z,0.6nm,0.5s,baz=76,slow=6.1,SNR=6.8
MKAR                               ScP       ScP     19 22 07.6 -2.0
     comp=Z,0.4nm,0.7s,baz=91,slow=4.8,SNR=4.4
     comp=Z,0.2nm,0.3s
MAKZ Makanchi          49.47 309   P         P       19 16 55.4 -0.7
J17K VABM Dome         51.20  30   P         P       19 17 09.8 +0.9
K17K Iditarod          51.39  31   P         P       19 17 08.1 -2.2
N17K Nushagak Hills    51.48  34   P         P       19 17 09.2 -1.8
KURK Kurchatov         51.70 314   P         P       19 17 12.8  0.0
KURK                               IAmb      IAmb    19 17 43.8
     comp=Z,5.8nm,1.4s
KURBB Kurchatov Arra   51.76 314   P         P       19 17 12.9 -0.4
     comp=Z,1.2nm,0.5s,baz=92,slow=8.0,SNR=14
     comp=Z,1.2nm,0.5s
O18K Koktuh Hills      52.36  35   P         P       19 17 18.8 +1.3
AS31 Alice Springs     52.40 189   P         P       19 17 17.2 -1.0
ASAR Alice Springs     52.40 189   P         P       19 17 17.2 -1.1
ASAR Alice Springs     52.40 189   P         P       19 17 18.4 +0.1
     comp=Z,0.4nm,0.3s,baz=12,slow=7.5,SNR=14
     comp=Z,0.4nm,0.3s
J19K Poorman           52.84  29   P         P       19 17 19.2 -1.8
J19K                               IAmb      IAmb    19 17 32.6
     comp=Z,9.0nm,1.4s
J20K Nowinta River     53.51  29   P         P       19 17 26.1 +0.1
J20K                               IAmb      IAmb    19 17 35.6
     comp=Z,11nm,1.4s
KDAK Kodiak Island     53.51  37   P         P       19 17 26.2 +0.2
F24K Squaw Lake        56.52  26   P         P       19 17 47.7 -0.1
ILAR Eielson Array     56.70  29   P         P       19 17 49.5 +0.5
     comp=Z,0.5nm,0.7s,baz=274,slow=5.6,SNR=7.0
     comp=Z,0.5nm,0.7s
BVAR Borovoye Array    56.73 317   P         P       19 17 49.9 +0.5
     comp=Z,1.0nm,0.4s,baz=90,slow=7.4,SNR=13
     comp=Z,1.0nm,0.4s
BMAR Burnt Mountain    57.79  26   P         P       19 17 57.9 +1.2
SCRK Sand Creek        57.93  30   P         P       19 17 58.7 +0.8
SCRK                               IAmb      IAmb    19 18 02.0
     comp=Z,6.7nm,1.4s
F26K Sheenjek River    57.97  26   P         P       19 17 58.9 +0.9
F26K                               IAmb      IAmb    19 18 15.6
     comp=Z,5.9nm,1.5s
I28M Miner Creek       59.65  28   P         P       19 18 10.6 +0.9
I28M                               IAmb      IAmb    19 18 12.2
     comp=Z,6.4nm,1.4s
CHGR Chuyangaron       59.86 300   P         P       19 18 11.7  0.0
G29M Pine Creek        60.35  27   P         P       19 18 15.4 +1.0
I30M Mount Dempster    61.15  28   P         P       19 18 21.3 +1.2
I30M                               IAmb      IAmb    19 18 25.1
     comp=Z,4.6nm,1.5s
ARTI Arti              63.16 322   P         P       19 18 33.7 +0.2
ARTI                               IAmb      IAmb    19 18 34.6
     comp=Z,4.8nm,1.1s
ARTI Arti              63.16 322   P         P       19 18 34.1 +0.6
     comp=Z,1.2nm,0.3s,baz=81,slow=4.3,SNR=5.4
     comp=Z,1.2nm,0.3s
ABKAR Abkulak array    63.81 314              P       19 18 36.8 -1.2
ABKAR Abkulak array    63.81 314   P         P       19 18 36.9 -1.0
AKTO Aktyubinsk        64.73 315   P         P       19 18 44.2 +0.3
     comp=Z,0.7nm,0.3s,baz=69,slow=12,SNR=3.6
     comp=Z,0.7nm,0.3s
BELG Belogornoye       70.32 320   P         P       19 19 20.0 +0.9
     comp=Z,5.6nm,0.7s,baz=14,slow=4.2,SNR=4.5
     comp=Z,5.6nm,0.7s
YKA  Yellowknife Ar    71.12  28   P         P       19 19 24.8 +1.0
     comp=Z,0.1nm,0.4s,baz=292,slow=6.9,SNR=2.7
     comp=Z,0.1nm,0.4s
ARCES ARCESS Array B   72.08 341   P         P       19 19 31.9 +2.3
     comp=Z,2.5nm,0.8s,baz=39,slow=6.2,SNR=5.0
     comp=Z,2.5nm,0.8s
FINES FINESS Array B   76.50 334   P         P       19 19 56.1 +0.7
     comp=Z,0.9nm,0.3s,baz=39,slow=5.3,SNR=17
     comp=Z,0.9nm,0.3s
KBZ  Khabaz            76.74 313   P         P       19 19 57.9 +0.9
     comp=Z,2.1nm,0.8s,baz=96,slow=4.2,SNR=6.8
     comp=Z,2.1nm,0.8s
AKASG Malin Array Be   81.24 324   P         P       19 20 21.8 +0.3
     comp=Z,0.6nm,0.3s,baz=54,slow=5.4,SNR=9.2
     comp=Z,0.6nm,0.3s
HFS  Hagfors           81.97 337   P         P       19 20 25.7 +0.4
     comp=Z,1.4nm,0.7s,baz=56,slow=7.2,SNR=7.1
     comp=Z,1.4nm,0.7s
NOA  NORSAR Array B    82.15 338   P         P       19 20 27.0 +0.7
     comp=Z,1.2nm,0.8s,baz=43,slow=5.0,SNR=2.2
     comp=Z,1.2nm,0.8s
BRTR Keskin Array B    84.74 313   P         P       19 20 41.0 +0.9
     comp=Z,1.1nm,0.7s,baz=72,slow=3.1,SNR=4.8
     comp=Z,1.1nm,0.7s
H03N2 Juan Fernandez  144.97 108   T         T       22 09 33.3
     baz=278
H03N3 Juan Fernandez  144.98 108   T         T       22 09 33.6
     baz=278,slow=74
H03N1 Juan Fernandez  144.99 108   T         T       22 09 31.3
     baz=278,slow=74
```

IDC ***15*** *19:35:10.9±1.0, 32°.95N×94°.91E, h0km, mb3.6/11, mbtmp3.6/15, ML3.3/4, MS3.2/5, Error ellipse: s-maj=39.3km s-min=17.4km az=56.0*

ISC 15 19:35:15.8±0.8, 32°.9N±0°.1×94°.8E±0°.2, h35km, n16, σ0s72/15, mb3.6/11, MS3.3/3, Xizang

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
CMAR Chiang Mai Arr    14.89 165   Pn        Pn      19 38 43.3 -0.5
     baz=349,slow=18,SNR=4.1
CMAR                               LR        LR      19 44 40.9
     comp=Z,30nm,18.1s,baz=355,slow=38
     0.3nm,0.3s
MKAR Makanchi Array    16.83 329   Pn        Pn      19 39 07.4 -1.2
     0.1nm,0.3s,baz=140,slow=13,SNR=11
     0.8nm,0.6s
SONM Songino Array     17.25  27   P         Pn      19 39 13.9 -0.2
     0.1nm,0.3s,baz=219,slow=12,SNR=18
     2.8nm,0.9s
AAK  Ala-Archa         18.73 307   P         P       19 39 32.1 +0.5
     0.1nm,0.3s,baz=214,slow=6.6,SNR=4.7
AAK                                LR        LR      19 47 32.4
     comp=Z,83nm,18.2s,baz=128,slow=40
     0.3nm,0.4s
KURBB Kurchatov Arra   21.36 331   P         P       19 40 00.6 +0.7
     4.0nm,0.7s,baz=138,slow=11,SNR=51
     4.0nm,0.7s
ZALV Zalesovo Beam     22.18 344   P         P       19 40 10.0 +1.4
     2.1nm,0.8s,baz=158,slow=12,SNR=9.5
ZALV                               LR        LR      19 49 30.1
     comp=Z,25nm,18.3s,baz=332,slow=39
     2.1nm,0.8s
BVAR Borovoye Array    26.66 326   P         P       19 40 51.8 +0.6
     0.3nm,0.5s,baz=120,slow=8.7,SNR=2.3
     0.3nm,0.5s
KIRV Kirov             39.63 324   LR        LR      20 01 02.1
     comp=Z,112nm,18.4s,baz=331,slow=39
AKASG Malin Array Be   50.32 311   P         P       19 44 08.6 -0.3
     0.3nm,0.4s,baz=72,slow=6.9,SNR=4.7
     0.3nm,0.4s
FINES FINESS Array B   51.61 325   P         P       19 44 18.8 +0.3
     1.0nm,0.7s,baz=93,slow=7.8,SNR=5.7
     1.0nm,0.7s
ARCES ARCESS Array B   52.34 335   P         P       19 44 24.1 +0.4
     4.4nm,1.0s,baz=72,slow=6.0,SNR=1.7
     4.4nm,1.0s
NOA  NORSAR Array B    58.79 326   P         P       19 45 09.9 -0.3
     0.7nm,0.8s,baz=78,slow=7.2,SNR=1.9
NOA                                LR        LR      20 10 31.5
     comp=Z,22nm,18.0s,baz=20,slow=36
     0.7nm,0.8s
WRA  Warramunga Arr    64.73 139   P         P       19 45 51.4 +0.7
     0.6nm,0.9s,baz=326,slow=7.2,SNR=3.0
     0.6nm,0.9s
ASAR Alice Springs     67.50 141   P         P       19 46 09.1 +0.6
     0.3nm,0.7s,baz=328,slow=6.4,SNR=4.2
     0.3nm,0.7s
ILAR Eielson Array     71.44  23   P         P       19 46 31.8 -0.4
     0.3nm,0.8s,baz=284,slow=6.2,SNR=4.2
     0.3nm,0.8s
YKA  Yellowknife Ar    81.99  13   P         P       19 47 31.3 -0.5
     0.2nm,0.7s,baz=334,slow=5.1,SNR=3.9
     0.2nm,0.7s
```

NOU ***15*** *19:37:44.2, 17°.94S×177°.70W, h594km, MLv3.8/5, Fiji Islands Region*
IDC ***15*** *19:37:48.9±4.5, 17°.87S×178°.36W, h585km±22km, mb3.2/4, mbtmp4.2/5, Error ellipse: s-maj=106.6km s-min=70.5km az=144.0*

ISC 15 19:37:45.6±2.0, 17°.9S±0°.3×177°.8W±0°.3, h590km, n10, σ0s68/11, mb3.9/4, Fiji Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
LKBA Tubou, Lakemba     1.00 248   P         P       19 38 55.1 -0.7
TAVE Taveuni            2.28 300   P         P       19 39 00.3  0.0
DGTI Dogotuki           2.79 303   P         P       19 39 02.4 -0.5
FUTU Fugatoga           3.54 356   P         P       19 39 07.0 -0.4
MSVF Nonsavu            3.92 271   P         P       19 39 09.3 -0.6
     29nm,0.6s,baz=98,slow=5.0,SNR=28
MSVF Nonsavu            3.92 271   P         P       19 39 09.7 -0.2
STKA Stephens Creek    39.13 241   P         P       19 44 23.8  0.0
     3.3nm,0.7s,baz=92,slow=8.6,SNR=7.5
     3.3nm,0.7s
WRA  Warramunga Arr    45.17 259   P         P       19 45 10.8 -0.5
     1.3nm,0.5s,baz=97,slow=7.6,SNR=9.3
     1.3nm,0.5s
ASAR Alice Springs     45.32 254   P         P       19 45 12.4  0.0
     6.2nm,0.6s,baz=87,slow=8.9,SNR=140
ASAR                               PcP       PcP     19 46 40.8 +1.5
     0.4nm,0.5s,baz=92,slow=3.3,SNR=5.7
     6.2nm,0.6s
FITZ Fitzroy Crossi    53.57 260   P         P       19 46 13.1 +0.2
     0.9nm,0.6s,baz=90,slow=7.5,SNR=1.9
     0.9nm,0.6s
```

IDC ***15*** *19:42:25.6±1.3, 82°.71N×9°.68W, h0km, mb3.4/3, mbtmp3.8/7, ML3.9/4, MS3.4/21, Error ellipse: s-maj=35.8km s-min=17.6km az=22.0*
BER ***15*** *19:42:29.4±4.0, 83°.03N×6°.61W, h10km, mb(Pn)3.9, ML2.2(DNK), Confirmed Earthquake*
DNK ***15*** *19:42:30.8±2.4, 82°.96N×5°.89W, h33km±40km, ML2.2*
FCIAR ***15*** *19:42:33.0, 82°.85N×4°.19W, h10km, station ZFI2 has station magnitude of 3.90 station OMEGA has station magnitude of 3.70*

ISC 15 19:42:26.2±0.8, 82°.89N±0°.07×7°.43W±0°.04, h10km, n44, σ2s85/42, mb3.2/3, MS3.3/19, North of Svalbard

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op        ISC        h m s     ISC
NOR  Nord               1.81 229   i P       Pg      19 43 02.2 +1.5
NOR                                i S       Sg      19 43 23.8 -0.2
NOR                                IAML                19 43 26.4
     comp=Z,36nm,0.3s
NOR  Nord               1.81 229   i P       Pg      19 43 02.2 +1.5
NOR                                i S       Sg      19 43 23.8 -0.2
NOR                                IAML                19 43 26.4
     comp=Z,36nm,0.3s
KBS  Kingsbay           4.99 132   eP        Pn      19 43 42.4 +1.4
KBS                                eS        Sn      19 44 33.8 -4.8
KBS                                IAML                19 44 37.9
     comp=Z,10.0nm,0.5s
KBS  Kingsbay           4.99 132   eP        Pn      19 43 42.0 +1.1
KBS                                eS        Sn      19 44 33.2 -5.3
KBS  Kingsbay           4.99 132   i P       Pn      19 43 41.1 +0.1
BRBB Barentsburg B      5.94 132   eP        Pn      19 43 56.0 +2.0
BRBB                               e                 19 43 58.9
BRBB                               eS        Sn      19 44 57.6 -4.4
BRBA Barentsburg A      5.97 132   eP        Pn      19 43 57.0 +2.5
BRBA                               e                 19 43 59.2
BRBA                               eS        Sn      19 44 58.7 -4.0
BRBA                               IAML                19 45 05.0
     comp=Z,6.2nm,0.3s
SPA0 Spitsbergen Ar     6.07 128   eP        Pn      19 43 57.4 +1.6
SPA0                               e                 19 44 04.6
SPA0                               eS        Sn      19 45 00.4 -4.8
SPA0                               IAML                19 45 02.5
     comp=Z,5.4nm,0.5s
SPA0 Spitsbergen Ar     6.07 128   eP        Pn      19 43 57.3 +1.5
SPA0                               eS        Sn      19 44 59.8 -5.4
SPITS Spitsbergen Ar    6.07 128   Pn        Pn      19 43 57.3 +1.6
     baz=359,slow=9.1
```

comp=Z,7.7nm,0.3s
DAG Danmarks Havn 6.45 204 *e* **Pn 19 44 01.2 +0.3**
baz=23,slow=14
DAG *i* P **Pn 19 44 04.9 +4.0**
DAG *e*S **Sn 19 45 12.8 -1.6**
DAG IAML 19 45 19.7
comp=Z,3.3nm,0.3s
DAG Danmarks Havn 6.45 204 *e* **Pn 19 44 01.2 +0.3**
baz=23,slow=14
DAG *i* P **Pn 19 44 04.9 +4.0**
DAG *e*S **Sn 19 45 13.2 -1.1**
DAG IAML 19 45 19.7
comp=Z,3.3nm,0.3s
HSPB Hornsund (broa 7.06 134 *e*P **Pn 19 44 11.8 +2.5**
ZFI2 Zemlya Franca- 7.79 77 *e*P **Pn 19 44 18.0 -1.4**
ZFI2 *e*S Sn 19 45 35.4 -12
comp=Z,31nm,3.8s
OMEGA Omega 7.82 77 *e*P **Pn 19 44 18.2 -1.5**
OMEGA *e*S Sn 19 45 36.0 -12
comp=Z,19nm,2.6s
HOPEN Hopen 8.44 121 *e*P **Pn 19 44 29.4 +1.1**
HOPEN Hopen 8.44 121 *e*P **Pn 19 44 29.0 +0.7**
HOPEN *e*S Sn 19 45 53.0 -10
NEEM North Greenlan 8.92 257 *i* P **Pn 19 44 36.5 +1.4**
NEEM *i* S **Sn 19 46 11.8 -3.8**
NEEM IAML 19 46 18.0
comp=Z,8.6nm,0.4s
NEEM North Greenlan 8.92 257 *i* P **Pn 19 44 36.5 +1.4**
NEEM *i* S **Sn 19 46 11.8 -3.8**
NEEM IAML 19 46 18.0
comp=Z,8.6nm,0.4s
DBG Daneborg 8.95 203 *e*P **Pn 19 44 38.7 +3.5**
DBG *e*S **Sn 19 46 13.7 -2.3**
ARCES ARCESS Array B 15.07 133 Pn **Pn 19 45 59.3 +0.5**
comp=Z,0.2nm,0.3s,baz=352,slow=12,SNR=11
ARCES LR LR 19 52 20.7
comp=Z,107nm,18.3s,baz=324,slow=39
comp=Z,3.1nm,0.6s
RES Resolute Bay 16.67 292 Pn **Pn 19 46 16.8 -2.5**
comp=Z,0.3nm,0.3s,baz=35,slow=12,SNR=19
comp=Z,4.3nm,0.8s
SFJD Kangerlussuaq 18.55 238 P **P 19 46 38.9 -3.5**
comp=Z,0.4nm,0.3s,baz=345,slow=12,SNR=1.9
SFJD LR LR 19 54 20.0
comp=Z,68nm,18.1s,baz=1.0,slow=39
comp=Z,5.1nm,0.7s
LSH Leshukonskoye 21.70 112 *e*P **P 19 47 19.3 +2.7**
NRIK Noril'sk 22.52 67 P **P 19 47 29.1 +3.7**
comp=Z,2.9nm,0.6s,baz=6.3,slow=9.2,SNR=3.6
NRIK LR LR 19 56 09.6
comp=Z,49nm,18.8s,baz=338,slow=36
comp=Z,2.9nm,0.6s
FRB Frobisher Bay 23.73 255 LR LR 19 55 30.7
comp=Z,49nm,18.8s,baz=77,slow=34
YKA Yellowknife Ar 30.49 299 P **P 19 48 38.5 -0.1**
comp=Z,0.1nm,0.3s,baz=13,slow=8.4,SNR=5.2
comp=Z,0.1nm,0.3s
ARTI Arti 31.46 104 LR LR 20 03 13.9
comp=Z,44nm,20.4s,baz=181,slow=39
SCHQ Schefferville 32.23 249 LR LR 20 01 50.0
comp=Z,53nm,18.4s,baz=26,slow=36
AKASG Malin Array Be 33.97 137 LR LR 20 02 47.1
comp=Z,54nm,21.8s,baz=357,slow=36
BELG Belogornoye 34.13 116 LR LR 20 05 24.5
comp=Z,23nm,19.0s,baz=272,slow=40
BVAR Borovoye Array 36.23 93 LR LR 20 06 03.6
comp=Z,65nm,20.4s,baz=14,slow=39
ZALV Zalesovo Beam 37.12 78 LR LR 20 08 30.1
comp=Z,23nm,18.9s,baz=344,slow=42
AKTO Aktyubinsk 37.26 106 LR LR 20 06 42.6
comp=Z,68nm,20.8s,baz=94,slow=39
MLR Muntele Rosu 38.88 142 LR LR 20 04 45.0
comp=Z,67nm,20.4s,baz=56,slow=34
BBB Bella Bella 42.04 308 LR LR 20 07 19.6
comp=Z,53nm,19.4s,baz=150,slow=36
MKAR Makanchi Array 43.83 83 P **P 19 50 35.6 +3.7**
comp=Z,0.3nm,0.8s,baz=1.9,slow=7.3,SNR=4.0
MKAR LR LR 20 11 18.8
comp=Z,35nm,18.9s,baz=342,slow=39
comp=Z,0.3nm,0.8s
NEW Newport 44.75 297 LR LR 20 09 26.8
comp=Z,76nm,21.6s,baz=267,slow=36
SONM Songino Array 45.63 60 LR LR 20 10 28.3
comp=Z,36nm,20.9s,baz=264,slow=37
KLR Kul'dur 46.57 36 LR LR 20 10 57.6
comp=Z,42nm,18.2s,baz=28,slow=36
AAK Ala-Archa 46.96 91 LR LR 20 12 24.7
comp=Z,33nm,19.2s,baz=310,slow=38
ELK Elko 51.96 293 LR LR 20 15 39.9
comp=Z,141nm,19.4s,baz=306,slow=38
TKL Tuckaleechee C 53.15 261 LR LR 20 15 24.6
comp=Z,40nm,19.6s,baz=354,slow=38
ANMO Albuquerque 56.65 284 LR LR 20 16 31.9
comp=Z,63nm,21.7s,baz=164,slow=36

*KOLA **15** 20:09:55.9, 76°.44N×15°.80E, h0km, ML2.5, Error ellipse: s-maj=35.6km s-min=18.4km az=90.0, Spitsbergen,Norwegian sea*
*NAO **15** 20:09:58.3±2.6, 76°.53N×16°.46E, h9km±14km, ML2.7*
*FCIAR **15** 20:09:59.0, 76°.61N×17°.45E, h10km, station OMEGA has station magnitude of 3.70 station ZFI2 has station magnitude of 3.70*
BER 15 20:10:00.5±3.7, 76°.49N×16°.30E, h14km±22km, ML2.2, ML2.7(NAO)**, 1D, Confirmed Earthquake, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.54**	**341**		Pg	Pg	20 10 07.6	-3.6
HSPB					Lg	Lg	20 10 15.3	
HSPB	**Hornsund (broa**	**0.54**	**341**	*e*P		Pg	20 10 07.6	-3.6
HSPB				*e*S		Sg	20 10 15.4	-3.0
HSPB				IAML			20 10 17.6	
	comp=Z,124nm,0.6s							
BRBA	**Barentsburg A**	**1.64**	**345**	Pn		Pn	20 10 27.3	-1.5
BRBA				Lg		Lg	20 10 50.1	
BRBA	**Barentsburg A**	**1.64**	**345**	*e*P		Pn	20 10 27.4	-1.4
BRBA				*e*Sg		Sn	20 10 49.5	-0.1
BRBA				IAML			20 10 55.7	
	comp=Z,63nm,0.4s							
BRBB	**Barentsburg B**	**1.68**	**345**	Pn		Pn	20 10 27.6	-1.6
BRBB				Lg		Lg	20 10 51.9	
BRBB	**Barentsburg B**	**1.68**	**345**	*e*P		Pn	20 10 27.6	-1.7
BRBB				*e*Sg		Sb	20 10 51.9	0.0
BRBB	**Barentsburg B**	**1.68**	**345**	P		Pn	20 10 27.4	-1.8
BRBB				S		Sn	20 10 50.9	+0.4
SPA0	**Spitsbergen Ar**	**1.69**	**0**	Pn		Pn	20 10 27.6	-2.0
	baz=183,slow=18							
SPA0				Pg		Pb	20 10 29.1	-2.2
	baz=172,slow=22							
SPA0				Lg		Lg	20 10 51.2	
	baz=164,slow=28							
SPA0	**Spitsbergen Ar**	**1.69**	**0**	Pn		Pn	20 10 27.6	-2.0
	baz=183,slow=18							
SPA0				Pg		Pb	20 10 29.1	-2.2
	baz=172,slow=22							
SPA0				Sg		Sn	20 10 51.2	+0.2
	baz=164,slow=28							
SPA0	**Spitsbergen Ar**	**1.69**	**0**	*i*P		Pn	20 10 27.5	-2.1
SPA0				*e*S		Sn	20 10 47.9	-3.1
SPITS	**Spitsbergen Ar**	**1.69**	**0**	P		Pn	20 10 27.3	-2.3
SPITS				S		Sn	20 10 50.6	-0.4
HOPEN	**Hopen**	**2.04**	**85**	Pn		Pn	20 10 32.5	-1.9
HOPEN				Pg		Pb	20 10 36.7	-0.6
HOPEN				Sn		Sn	20 10 55.7	-3.8
HOPEN				Lg		Lg	20 11 01.4	
HOPEN	**Hopen**	**2.04**	**85**	*e*P		Pn	20 10 32.9	-1.5
HOPEN				*e*Pg		Pb	20 10 36.7	-0.6
HOPEN				*e*S		Sn	20 10 56.1	-3.4
HOPEN				*e*Sg		Sb	20 11 02.0	-0.5
HOPEN				IAML			20 11 04.0	
	comp=Z,46nm,0.5s							
HOPEN	**Hopen**	**2.04**	**85**	*e*P		Pn	20 10 32.4	-2.0
HOPEN				*e*S		Sn	20 10 55.0	-4.6
BJO1	**Bjornoya**	**2.11**	**160**	*e*S		Sn	20 10 57.7	-3.6
BJO1				IAML			20 11 09.4	
	comp=Z,15nm,0.3s							
BJO1	**Bjornoya**	**2.11**	**160**	P		Pn	20 10 33.5	-1.8
BJO1				*e*S		Sn	20 10 57.9	-3.3
KBS	**Kingsbay**	**2.62**	**341**	Pn		Pn	20 10 39.9	-2.3
KBS				Pg		Pb	20 10 45.6	-1.4
KBS				Lg		Lg	20 11 20.7	
KBS	**Kingsbay**	**2.62**	**341**	*e*Pg		Pb	20 10 45.3	-1.7
KBS				*e*Sg		Sb	20 11 20.5	+1.5
KBS				IAML			20 11 27.7	
	comp=Z,30nm,0.4s							
KBS	**Kingsbay**	**2.62**	**341**	P		Pn	20 10 39.9	-2.3
KBS				S		Sn	20 11 10.8	-2.9
KBS	**Kingsbay**	**2.62**	**341**	*e*P		Pn	20 10 39.7	-2.6
KBS				*e*S		Sn	20 11 10.7	-3.0
VADS	**Vadso**	**7.40**	**143**	P		Pn	20 11 41.9	-5.9
VADS				S		Sn	20 13 05.2	-6.1
ZFI2	**Zemlya Franca-**	**7.43**	**40**	*e*P		Pn	20 11 45.3	-2.8
ZFI2				*e*S		Sn	20 13 02.4	-10
	comp=Z,21nm,3.5s							
OMEGA	**Omega**	**7.43**	**41**	*e*P		Pn	20 11 45.1	-3.1
OMEGA				*e*S		Sn	20 13 02.3	-10
	comp=Z,20nm,4.1s							
ARCES	**ARCESS Array B**	**7.48**	**154**	P		Pn	20 11 43.3	-5.7
ARCES				S		Sn	20 13 09.5	-3.9
PRVG	**Vayda Guba**	**8.16**	**138**	P		Pn	20 11 53.2	-5.0
PRVG				S		Sn	20 13 23.8	-6.3

IDC 15 20:15:28.2±4.6, 26°.47S×70°.30E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/8, Error ellipse: s-maj=127.0km s-min=47.2km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.84**	**7**	T		T	20 38 51.7	
	baz=186,slow=75,SNR=18							
H08S2	**Diego Garcia H**	**18.84**	**7**	T		T	20 38 46.3	
	baz=186,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**18.85**	**7**	T		T	20 38 47.7	
	baz=186,slow=75,SNR=19							
H04N2	**CROZET ISLANDS**	**24.56**	**212**	T		T	20 47 04.7	
	baz=44,slow=74,SNR=36							
H04N1	**CROZET ISLANDS**	**24.57**	**212**	T		T	20 47 06.6	
	baz=44,slow=74,SNR=36							
H04N3	**CROZET ISLANDS**	**24.57**	**212**	T		T	20 47 04.5	
	baz=44,slow=74,SNR=39							
PALK	**Pallekele**	**35.03**	**18**	LR		LR	20 33 26.5	
	comp=Z,55nm,18.3s,baz=190,slow=31							
H01W2	**Cape Leeuwin H**	**38.38**	**114**	T		T	21 03 05.2	
	baz=271,slow=75,SNR=3.9							
H01W3	**Cape Leeuwin H**	**38.38**	**113**	T		T	21 03 07.0	
	baz=271,slow=75,SNR=3.0							
H01W1	**Cape Leeuwin H**	**38.39**	**114**	T		T	21 03 04.6	
	baz=271,slow=75,SNR=5.8							
BOSA	**Boshof**	**39.82**	**256**	LR		LR	20 35 44.2	
	comp=Z,51nm,19.0s,baz=158,slow=30							
LBTB	**Lobatse**	**40.14**	**262**	LR		LR	20 37 19.3	
	comp=Z,57nm,18.1s,baz=132,slow=33							
LSZ	**Lusaka**	**40.73**	**277**	LR		LR	20 37 29.4	
	comp=Z,37nm,19.6s,baz=158,slow=32							
SUR	**Sutherland**	**43.20**	**250**	LR		LR	20 37 52.2	
	comp=Z,61nm,20.4s,baz=120,slow=31							
CMAR	**Chiang Mai Arr**	**52.61**	**35**	P		P	20 24 43.9	-0.1
	1.6nm,1.1s,baz=225,slow=7.0,SNR=10							
CMAR				LR		LR	20 42 25.7	
	comp=Z,24nm,21.4s,baz=190,slow=31							
	1.6nm,1.1s							
BRDH	**Bariadhala**	**53.05**	**25**	LR		LR	20 46 31.8	
	comp=Z,31nm,18.1s,baz=212,slow=35							
ASAR	**Alice Springs**	**57.16**	**102**	P		P	20 25 17.1	0.0
	0.2nm,0.6s,baz=245,slow=7.7,SNR=2.2							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**73.72**	**9**	P		P	20 27 03.4	-0.4
	0.3nm,0.6s,baz=175,slow=6.7,SNR=4.0							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**77.10**	**5**	P		P	20 27 23.5	+0.5
	0.3nm,0.7s,baz=202,slow=6.6,SNR=4.5							
	0.3nm,0.7s							
KSRS	**Korea Array**	**83.48**	**43**	LR		LR	21 01 18.3	
	comp=Z,10nm,21.9s,baz=175,slow=33							

*CATAC **15** 20:16:18.1±10.0, 12°.N±79°.9°0W±4°.6, h51km±155km, M3.8/6, MLv3.8/6, Error ellipse: s-maj=190.1km s-min=42.0km az=28.4*
*SNET **15** 20:16:33.3±0.8, 13°.28N×89°.52W, h55km±6km, ML3.2*
*GCG **15** 20:16:33.1±0.8, 13°.30N×89°.55W, h59km±9km, MD3.5, Hypocentre not reviewed by the ISC*
ISC 15 20:16:30.1±2.2, 13°.1N±0°.1×89°.60W±0°.07, h15km±13km, n33, σ0°75/47, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**36**	*e*P		**Pn**	**20 16 42.7**	**+0.6**
LALI				*e*S		**Sb**	**20 16 49.8**	**+3.3**
LALI	**Alcalda de L**	**0.46**	**36**	P		**Pn**	**20 16 42.7**	**+0.6**
LALI	**Alcalda de L**	**0.46**	**36**	*e*P			20 16 42.6	
JAYA	**Jayaque - finc**	**0.55**	**15**	*e*P		**Pn**	**20 16 43.7**	**0.0**
JAYA				*e*S		**Sn**	**20 16 52.0**	**-0.7**
JAYA				IAML			20 16 53.4	
	comp=Z,1μm,0.2s							
JAYA	**Jayaque - finc**	**0.55**	**15**	P		**Pn**	**20 16 43.8**	**+0.2**
JAYA	**Jayaque - finc**	**0.55**	**15**	*i* P			20 16 43.7	
JAYA				*i* S			20 16 52.4	
PANCS	**Alcalda de**	**0.64**	**40**	P		**Pn**	**20 16 44.8**	**+0.1**
PMON	**Piamonte**	**0.65**	**25**	*e*P		**Pn**	**20 16 44.8**	**-0.2**
PMON				*e*S		**Sn**	**20 16 54.0**	**-1.1**
PMON	**Piamonte**	**0.65**	**25**	P		**Pn**	**20 16 45.0**	**+0.1**
LOMA	**Loma Larga**	**0.67**	**39**	*e*P		**Pn**	**20 16 45.2**	**0.0**
LOMA				*e*S		**Sn**	**20 16 54.7**	**-0.9**
LOMA	**Loma Larga**	**0.67**	**39**	P		**Pn**	**20 16 45.3**	**+0.1**
BOQS	**Boqueron**	**0.69**	**27**	*e*P		**Pn**	**20 16 45.6**	**0.0**
BOQS				*e*S		**Sn**	**20 16 55.5**	**-0.6**
UEES	**Universidad Ev**	**0.69**	**30**	*e*P		**Pn**	**20 16 45.2**	**-0.2**
CEVE	**Cerro Verde**	**0.71**	**358**	P		**Pb**	**20 16 44.8**	**+0.6**
UESS	**Universidad de**	**0.71**	**33**	*e*P		**Pn**	**20 16 45.8**	**0.0**
SBLS	**San Blas**	**0.72**	**358**	*e*P		**Pn**	**20 16 46.1**	**+0.2**
LFRS	**El Faro**	**0.73**	**46**	*e*P		**Pn**	**20 16 46.0**	**+0.1**
LFRS				*e*S		**Sn**	**20 16 55.4**	**-1.5**
SNJE	**San Jose**	**0.75**	**360**	*e*P		**Pn**	**20 16 46.3**	**0.0**
LFU	**La Fuente**	**0.79**	**37**	*e*P		**Pn**	**20 16 46.9**	**+0.2**
NUBE	**Las Nubes**	**0.80**	**347**	*e*P		**Pn**	**20 16 46.9**	**+1.1**
NUBE				*e*S		**Sb**	**20 16 56.6**	**0.0**
NUBE	**Las Nubes**	**0.80**	**347**	P		**Pg**	**20 16 44.8**	**-0.8**
NUBE	**Las Nubes**	**0.80**	**347**	*e*P			20 16 46.9	
NUBE				*e*S			20 16 57.4	
COEG	**Centro de Oper**	**0.86**	**54**	*e*P		**Pb**	**20 16 47.5**	**+0.7**
COEG				*e*S		**Sn**	**20 16 59.1**	**-1.1**
COEG	**Centro de Oper**	**0.86**	**54**	P		**Pn**	**20 16 47.8**	**+0.1**
PAVA	**Las Pavas**	**0.88**	**47**	*e*P		**Pn**	**20 16 48.2**	**+0.2**
PAVA				*e*S		**Sb**	**20 16 59.1**	**+0.4**
PAVA				IAML			20 17 01.5	
	comp=Z,470nm,0.4s							
PAVA	**Las Pavas**	**0.88**	**47**	P		**Pn**	**20 16 48.5**	**+0.5**
SNVI	**San Vicente**	**0.89**	**56**	*e*P		**Pn**	**20 16 48.4**	**+0.2**
TECO	**Alcaldia de Te**	**0.90**	**62**	*e*P		**Pb**	**20 16 48.1**	**+0.7**
TECO				*e*S		**Sb**	**20 16 59.4**	**+0.1**
PQSS	**Presa 15 de Se**	**1.13**	**63**	*e*P		**Pb**	**20 16 51.5**	**+0.1**
PQSS				*e*S		**Sb**	**20 17 05.1**	**-0.8**
PQSS	**Presa 15 de Se**	**1.13**	**63**	P		**Pg**	**20 16 51.6**	**-0.3**
TECA	**Tecapa**	**1.13**	**71**	*e*P		**Pb**	**20 16 51.6**	**+0.1**
TECA				*e*S		**Sn**	**20 17 06.7**	**-0.4**
PACA	**Pacayal**	**1.29**	**74**	*e*P		**Pb**	**20 16 54.5**	**+0.4**
PACA				*e*S		**Sb**	**20 17 10.2**	**-0.4**
PACA				IAML			20 17 13.6	
	comp=Z,959nm,0.2s							
MTO3	**Montecristo**	**1.29**	**10**	P		**Pn**	**20 16 53.8**	**0.0**
MTO3	**Montecristo**	**1.29**	**10**	*e*P			20 16 53.3	
CNCH	**Conchagua**	**1.73**	**85**	*e*P		**Pn**	**20 17 00.3**	**+0.5**
CNCH				*e*S		**Sn**	**20 17 20.8**	**-0.9**
CNCH	**Conchagua**	**1.73**	**85**	P		**Pn**	**20 17 00.2**	**+0.5**
CHOHN	**Orocuina**	**2.40**	**81**	P		**Pn**	**20 17 09.8**	**+0.8**

*IDC **15** 20:17:07.7±0.9, 12°.17N×143°.22E, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, Error ellipse: s-maj=37.1km s-min=21.0km az=113.0*
ISC 15 20:17:11.7±0.9, 12°.2N±0°.2×143°.3E±0°.2, h25km, n15, σ1°24/9, mb3.7/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.07**	**46**	Pn		**Pn**	**20 17 44.9**	**+0.1**
	24nm,0.3s,baz=176,slow=7.0,SNR=9.2							
GUMO					Sn	**Sn**	**20 18 08.7**	**-1.0**
	81nm,0.3s,baz=173,slow=23,SNR=13							
	58nm,0.3s							
H11S3	**WAKE ISLAND Hy 23.37**	**71**		T		T	20 46 36.0	
	baz=262,slow=74,SNR=9.1							
H11S1	**WAKE ISLAND Hy 23.39**	**71**		T		T	20 46 36.8	
	baz=262,slow=74,SNR=5.6							
H11S2	**WAKE ISLAND Hy 23.39**	**71**		T		T	20 46 32.5	
	baz=262,slow=74,SNR=9.7							
H11N1	**WAKE ISLAND Hy 23.85**	**69**		T		T	20 47 10.5	
	baz=255,slow=75,SNR=9.1							
H11N2	**WAKE ISLAND Hy 23.86**	**69**		T		T	20 47 09.9	
	baz=255,slow=75,SNR=10							
H11N3	**WAKE ISLAND Hy 23.86**	**69**		T		T	20 47 13.4	
	baz=255,slow=75,SNR=8.9							
WRA	**Warramunga Arr**	**33.10**	**196**	P		**P**	**20 23 45.1**	**-0.7**
	0.8nm,0.8s,baz=13,slow=8.9,SNR=5.0							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**36.78**	**195**	P		**P**	**20 24 17.0**	**-0.5**
	0.3nm,0.8s,baz=18,slow=12,SNR=4.7							
	0.3nm,0.8s							
SONM	**Songino Array**	**47.06**	**326**	P		P	20 25 35.8	-5.6
	0.2nm,0.5s,baz=114,slow=8.0,SNR=1.4							
KURBB	**Kurchatov Arra**	**64.76**	**320**	P		**P**	**20 27 48.3**	**+0.4**
	0.4nm,0.7s,baz=104,slow=7.4,SNR=5.9							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**70.12**	**322**	P		**P**	**20 28 21.2**	**-0.7**
	0.3nm,0.4s,baz=115,slow=10.0,SNR=3.0							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**70.50**	**25**	P		**P**	**20 28 22.8**	**-1.2**
	0.5nm,0.6s,baz=252,slow=5.9,SNR=7.8							
	0.5nm,0.6s							
YKA	**Yellowknife Ar**	**84.81**	**27**	P		**P**	**20 29 44.2**	**+0.4**
	0.2nm,0.4s,baz=286,slow=5.7,SNR=4.2							
	0.2nm,0.4s							
NVAR	**Mina Array Bea**	**88.98**	**51**	P		**P**	**20 30 07.2**	**+2.3**
	0.5nm,0.5s,baz=334,slow=4.2,SNR=2.5							
	0.5nm,0.5s							

*IDC **15** 20:25:17.7±1.4, 49°.86N×28°.93W, h0km, mb3.8/11, mbtmp3.8/12, ML3.9/1, MS3.4/33, Error ellipse: s-maj=44.4km s-min=19.8km az=177.0*
*NEIC **15** 20:25:20.2±1.7, 50°.1N±0°.1×28°.94W±0°.08, h10km±2km, mb4.3/20, Error ellipse: s-maj=25.4km s-min=7.4km az=167.0*
ISC 15 20:25:19.5±0.8, 50°.0N±0°.2×29°.0W±0°.1, h10km, n70, σ1°01/41, mb4.2/18, MS3.4/33, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.49**	**61**	Pn		**Pn**	**20 29 10.9**	**+0.2**
	baz=259,slow=12							
	2.6nm,0.7s							
MESJ	**Messejana**	**19.16**	**121**	P		**P**	**20 29 44.0**	**+1.1**
MESJ				IAmb		IAmb	20 30 10.5	
	comp=Z,32nm,1.5s							
PAB	**San Pablo**	**20.25**	**112**	P		**P**	**20 29 56.8**	**+1.9**
PAB				IAmb		IAmb	20 29 59.6	
	comp=Z,19nm,1.4s							
SFJD	**Kangerlussuaq**	**20.28**	**335**	LR		LR	20 35 55.2	
	comp=Z,81nm,18.1s,baz=156,slow=31							
ESDC	**Sonseca Array**	**20.41**	**111**	P		**P**	**20 29 58.6**	**+2.1**
ESDC	**Sonseca Array**	**20.41**	**111**	P		**P**	**20 29 56.2**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=310,slow=12,SNR=7.8							
ESDC				LR		LR	20 36 36.2	
	comp=Z,105nm,18.1s,baz=290,slow=33							
	comp=Z,1.6nm,0.9s							
CLF	**Chambon-Foret**	**20.50**	**83**			**P**	**20 29 57.9**	**+0.5**
UCC	**Uccle**	**21.16**	**75**	P		**P**	**20 30 03.4**	**-1.0**
CEST	**Esterri de Car**	**22.03**	**98**	P		**P**	**20 30 15.2**	**+1.1**
CEST				IAmb		IAmb	20 30 23.4	
	comp=Z,21nm,1.5s							
SCHQ	**Schefferville**	**23.41**	**297**	LR		LR	20 37 44.6	
	comp=Z,89nm,20.4s,baz=52,slow=32							
NBO00	**NORSAR Array S**	**24.66**	**48**	P		**P**	**20 30 39.6**	**-0.5**
NAO01	**NORSAR Array S**	**24.69**	**49**	P		**P**	**20 30 38.1**	**-2.2**
NOA	**NORSAR Array B**	**24.87**	**48**	P		**P**	**20 30 42.2**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=262,slow=9.4,SNR=1.4							
NOA				LR		LR	20 39 01.4	
	comp=Z,103nm,18.9s,baz=270,slow=33							
	comp=Z,1.7nm,1.0s							
MDT	**Midelt**	**24.88**	**124**	LR		LR	20 38 49.2	
	comp=Z,32nm,18.5s,baz=3.5,slow=33							
FRB	**Frobisher Bay**	**25.15**	**318**	LR		LR	20 38 20.0	
	comp=Z,48nm,20.2s,baz=168,slow=31							
DAVOX	**Davos/Dischmat**	**25.79**	**82**	LR		LR	20 40 17.5	
	comp=Z,94nm,18.5s,baz=263,slow=35							
HFS	**Hagfors**	**26.00**	**51**	LR		LR	20 39 34.6	
	comp=Z,85nm,18.2s,baz=260,slow=33							
CLL	**Collm**	**26.38**	**71**	*e*P		**P**	**20 30 56.0**	**+0.3**
GERES	**GERESS Array B**	**27.50**	**76**	LR		LR	20 41 42.3	
	comp=Z,86nm,18.2s,baz=300,slow=36							
VRAC	**Vranov**	**29.15**	**74**	LR		LR	20 42 43.8	
	comp=Z,93nm,18.1s,baz=319,slow=36							
FINES	**FINESS Array B**	**32.05**	**48**	P		**P**	**20 31 45.3**	**-0.7**
FINES	**FINESS Array B**	**32.05**	**48**	P		**P**	**20 31 45.9**	**0.0**
	comp=Z,3.6nm,0.8s,baz=245,slow=8.2,SNR=8.6							
FINES				LR		LR	20 43 34.2	
	comp=Z,115nm,19.2s,baz=280,slow=34							
	comp=Z,3.6nm,0.8s							
FIA1	**FINESS Array S**	**32.06**	**48**	P		**P**	**20 31 45.3**	**-0.7**
SADO	**Sadowa**	**33.86**	**281**	LR		LR	20 44 34.1	
	comp=Z,73nm,20.1s,baz=93,slow=34							
BUR08	**Bucovina Ar. S**	**35.09**	**72**	P		**P**	**20 32 13.7**	**+1.0**
BUR08				IAmb		IAmb	20 32 25.7	
	comp=Z,7.1nm,1.4s							
BURAR	**Bucovina Array**	**35.11**	**72**	P		**P**	**20 32 13.6**	**+0.8**
AKASG	**Malin Array Be**	**36.31**	**66**	P		**P**	**20 32 22.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=319,slow=11,SNR=1.7							
AKASG				LR		LR	20 47 45.1	
	comp=Z,93nm,18.6s,baz=252,slow=37							
	comp=Z,0.4nm,0.5s							
MLR	**Muntele Rosu**	**36.49**	**75**	LR		LR	20 46 60.0	
	comp=Z,60nm,18.2s,baz=328,slow=36							
OBN	**Obninsk**	**38.85**	**56**	LR		LR	20 47 39.3	
	comp=Z,45nm,19.5s,baz=328,slow=34							
ULM	**Lac du Bonnet**	**41.59**	**297**	LR		LR	20 46 52.0	
	comp=Z,64nm,18.9s,baz=224,slow=31							
TKL	**Tuckaleechee C**	**41.75**	**271**	LR		LR	20 51 03.3	
	comp=Z,40nm,18.1s,baz=92,slow=37							
SJG	**San Juan**	**43.53**	**237**	LR		LR	20 46 37.6	
	comp=Z,23nm,21.3s,baz=138,slow=29							
BR131	**Keskin Array S**	**44.33**	**78**	P		**P**	**20 33 28.6**	**-1.1**
BR131			

H10N3	ASCENSION HYDR	58.94	163	T	T		21 38 39.6	
	baz=351							
H10N1	ASCENSION HYDR	58.95	163	T	T		21 38 45.3	
	baz=351							
JTS	Las Juntas de	60.61	249	LR	LR		20 59 17.7	
	comp=Z,21nm,18.8s,baz=98,slow=34							
CMIG	Matias Romero	61.65	263	LR	LR		21 02 27.5	
	comp=Z,24nm,18.1s,baz=2.0,slow=36							
KURBB	Kurchatov Arra	62.28	43	P	P		20 35 41.5	+0.2
	comp=Z,1.5nm,0.8s,baz=321,slow=6.8,SNR=13							
	comp=Z,1.5nm,0.8s							
ZALV	Zalesovo Beam	62.48	38	LR	LR		21 01 34.0	
	comp=Z,21nm,20.7s,baz=242,slow=35							
KK31	Karatay Array	63.75	54	P	P		20 35 51.4	+0.1
KK31				IAmb	IAmb		20 36 18.8	
	comp=Z,4.2nm,1.5s							
KKAR	Karatay Array	63.75	54	P	P		20 35 51.6	+0.4
LPIG	La Paz	66.50	280	LR	LR		21 03 20.8	
	comp=Z,48nm,19.0s,baz=25,slow=34							
GAR	Garm	66.57	57	P	P		20 36 09.7	0.0
MK31	Makanchi Array	66.79	44	P	P		20 36 10.5	-0.3
MK31				IAmb	IAmb		20 36 13.4	
	comp=Z,1.5nm,0.8s							
MKAR	Makanchi Array	66.79	44	P	P		20 36 10.4	-0.5
MKAR	Makanchi Array	66.79	44	P	P		20 36 10.9	+0.1
	comp=Z,1.7nm,0.8s,baz=327,slow=6.2,SNR=19							
MKAR				LR	LR		21 04 03.7	
	comp=Z,50nm,20.4s,baz=289,slow=35							
	comp=Z,1.7nm,0.8s							
SONM	Songino Array	75.23	29	P	P		20 37 03.9	+1.7
	comp=Z,1.0nm,0.9s,baz=335,slow=4.2,SNR=7.1							
	comp=Z,1.0nm,0.9s							
WRA	Warramunga Arr	147.21	30	PKPbc	PKPdf		20 45 01.8	+1.1
	comp=Z,0.5nm,1.0s,baz=344,slow=2.9,SNR=1.8							
ASAR	Alice Springs	150.51	33	PKPbc	PKPbc		20 45 10.8	-0.5
	comp=Z,0.5nm,0.8s,baz=298,slow=2.1,SNR=5.5							

RSNC 15 20:27:50.5±0.0, 7°N±1°×7°3W±°, h148km±2km, M3.4, mB4.9, ML3.1, Mw(mB)4.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	183	P	Pn	20 28 10.3	-0.7
BARC				S	Sn	20 28 25.6	-0.9
BRJC	Barrancabermej	0.59	284	P	Pn	20 28 11.9	-0.2
BRJC				S	Sn	20 28 28.5	0.0
PAMC	Pamplona, Colo	0.69	43	P	Pn	20 28 13.0	-0.3
PAMC				S	Sn	20 28 30.1	-0.5
RUSC	La Rusia	0.94	175	P	Pn	20 28 14.5	-0.6
RUSC				S	Sn	20 28 33.2	-0.7
PTBC	PUERTO BERRIO,	1.31	257	P	Pn	20 28 16.7	-1.3
PTBC				S	Sn	20 28 37.9	-1.1
OCAC	Ocana	1.41	354	P	Pn	20 28 18.2	-0.9
OCAC				S	Sn	20 28 40.4	-0.7
TAMC	Tame, Arauca	1.43	106	P	Pn	20 28 18.7	-0.5
TAMC				S	Sn	20 28 40.3	-0.8
ZARC	Zaragoza, Cauc	1.80	292	P	Pn	20 28 22.9	-0.3
ZARC				S	Sn	20 28 48.2	-0.1
NORC	Norcasia	2.11	233	P	Pn	20 28 26.5	-0.3
NORC				S	Sn	20 28 54.6	-0.1
CHIC	Chingaza	2.26	194	P	Pn	20 28 28.7	-0.3
CHIC				S	Sn	20 28 58.3	-0.3
ROSC	El Rosal	2.28	210	P	Pn	20 28 30.3	+1.0
ROSC				S	Sn	20 29 00.0	+0.9
UREC	San Jos de Ur	2.52	291	P	Pn	20 28 30.1	-1.7
UREC				S	Sn	20 29 01.1	-2.4
GUY2C	Guyana, Caldas	2.70	234	P	Pn	20 28 34.8	+0.3
GUY2C				S	Sn	20 29 09.7	+1.3
VILC	Villavicencio,	2.75	191	P	Pn	20 28 34.1	-0.7
VILC				S	Sn	20 29 07.7	-1.3
CBOC	Ciudad Bolivar	2.98	251	P	Pn	20 28 38.8	+1.0
CBOC				S	Sn	20 29 14.8	+0.6
DBBC	Dabeiba	3.02	274	P	Pn	20 28 37.9	-0.3
DBBC				S	Sn	20 29 14.3	-0.7
ARGC	Ariguani, Magd	3.19	341	P	Pn	20 28 40.4	+0.1
ARGC				P		20 28 41.0	
ARGC				S	Sn	20 29 19.2	+0.4
ARGC				S		20 29 19.4	
SDV	Santo Domingo	3.24	51	P	Pn	20 28 40.1	-0.9
SDV				S	Sn	20 29 16.2	-3.9
PRAC	Prado	3.54	209	P	Pn	20 28 44.2	-0.6
PRAC				S	Sn	20 29 25.5	-1.3
APAC	Apartado, Choc	3.54	288	P	Pn	20 28 44.2	-0.6
APAC				S	Sn	20 29 25.4	-1.5
ORTC	Ortega, Tolima	3.56	216	P	Pn	20 28 45.5	+0.4
ORTC				S	Sn	20 29 27.9	+0.5
SJCC	San Jacinto, C	3.64	327	P	Pn	20 28 44.5	-1.6
SJCC				S	Sn	20 29 25.5	-3.7
PLMC	San Jos del P	3.64	238	P	Pn	20 28 46.0	-0.1
PLMC				S	Sn	20 29 27.6	-1.6
URMC	La Uribe, Meta	3.76	199	P	Pn	20 28 47.2	-0.5
URMC				S	Sn	20 29 30.9	-1.1
CRJC	Cerrejon, Guaj	4.17	4	P	Pn	20 28 50.5	-2.6
CRJC				S	Sn	20 29 37.3	-4.5
YOTC	Yotoco, Valle	4.24	228	P	Pn	20 28 54.7	+0.7
YOTC				S	Sn	20 29 43.8	+0.4
SMRC	Santa Marta, M	4.43	346	P	Pn	20 28 55.1	-1.3
SMRC				S	Sn	20 29 43.5	-4.2
CAPC	Capurgana	4.51	294	P	Pn	20 28 56.6	-0.9
CAPC				S	Sn	20 29 45.4	-4.3
PTAC	Punta Ardita,	4.62	274	P	Pn	20 28 58.1	-0.7
MACC	Macarena, Meta	4.70	188	P	Pn	20 28 57.8	-2.2
MACC				S	Sn	20 29 50.4	-3.8
URIC	Uribia, Colomb	4.98	13	P	Pn	20 29 00.5	-3.1
URIC				S	Sn	20 29 57.0	-3.7
MALC	Bahia Malaga	5.00	236	P	Pn	20 29 05.2	+1.2
JAMC	Jamundi, Valle	5.01	224	P	Pn	20 29 03.9	-0.3
JAMC				S	Sn	20 30 01.9	+0.2
GARC	Garzon, Huila	5.16	207	P	Pn	20 29 05.4	-0.9
GARC				S	Sn	20 30 03.2	-2.2
GR1C	Gorgona, Isla	6.26	233	P	Pn	20 29 21.0	+0.2

IDC 15 20:30:46.8±3.6, 12°55N×141°52E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=172.4km s-min=30.5km az=81.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	36.76	192	P	P	20 37 56.1	-0.2
	0.1nm,0.4s,baz=17,slow=9.2,SNR=4.5						
	0.1nm,0.4s						
MKAR	Makanchi Array	59.99	317	P	P	20 40 57.1	+1.7
	0.1nm,0.4s,baz=85,slow=11,SNR=1.9						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	63.32	321	P	P	20 41 16.4	-1.3
	0.4nm,0.5s,baz=90,slow=8.0,SNR=6.6						
	0.4nm,0.5s						
BVAR	Borovoye Array	68.72	322	P	P	20 41 52.1	-0.3
	1.4nm,0.7s,baz=102,slow=8.1,SNR=5.0						
	1.4nm,0.7s						
FINES	FINESS Array B	90.70	334	P	P	20 43 51.8	+0.4
	0.6nm,0.3s,baz=64,slow=4.9,SNR=14						
	0.6nm,0.3s						

NEIC ***15*** *20:49:24.3±1.9, 61°14N±0°04×152°32W±0°07, h136km±3km, Error ellipse: s-maj=5.3km s-min=4.7km az=217.0*

AEIC 15 20:49:26.5±2.3, 61°15N±0°02×152°30W±0°09, h124km±4km, ML2.4, ML2.6/193(NEIC), **Error ellipse: s-maj=6.0km s-min=3.4km az=89.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCR	Spurr Chakacha	0.07	41		Pn	20 49 42.8	-0.7
SPBG	Spurr Blockage	0.12	344		Pn	20 49 43.3	-0.3
SPBG					Sn	20 49 56.4	-0.1
SPU	Mount Spurr	0.13	74		Pn	20 49 42.8	-0.8
SPU	Mount Spurr	0.13	74		Sn	20 49 55.8	-0.6
SPU	Mount Spurr	0.13	74	IAML		20 49 56.4	
	comp=E,83nm,0.8s						
SPU				IAML		20 49 56.4	
	comp=N,78nm,0.5s						
SPCG	Spurr Capps Gl	0.20	43		Pn	20 49 43.2	-0.6
STLK	Strandline Lak	0.42	33		Pn	20 49 43.8	-0.7
STLK				IAML		20 49 57.7	
	comp=N,85nm,1.0s						
STLK				IAML		20 49 57.8	
	comp=E,85nm,0.4s						
STLK	Strandline Lak	0.42	33		Sn	20 49 57.2	-0.9
RDT	Redoubt	0.58	185		Pn	20 49 44.5	-1.0
RDT					Sn	20 49 58.8	-1.0
DFR	Drift River	0.59	199		Pn	20 49 44.7	-0.9
DFR					Sn	20 49 59.1	-0.9
RDJH	Redoubt Jeurge	0.61	204		Pn	20 49 45.2	-0.5
NCT	North Crescent	0.66	208		Pn	20 49 45.5	-0.6
NCT					Sn	20 50 00.4	-0.5
CAPN	Captain Cook N	0.68	124		Pn	20 49 46.9	+0.9
CAPN				IAML		20 50 04.8	
	comp=E,225nm,0.4s						
RDWB	Redoubt West	0.71	202		Pn	20 49 45.8	-0.7
RDWB					Sn	20 50 01.0	-0.7
RED	Redoubt Volcan	0.77	198		Pn	20 49 46.1	-0.8
RED					Sn	20 50 01.6	-0.7
M20K	Styx River	0.84	332		Pn	20 49 46.8	-0.6
M20K				IAML		20 50 03.5	
	comp=N,48nm,0.8s						
M20K	Styx River	0.84	332		Sn	20 50 02.9	-0.5
SKT	Skwentna	0.91	24		Pn	20 49 47.4	-0.6
SKT	Skwentna	0.91	24		Sn	20 50 03.9	-0.5
SKT	Skwentna	0.91	24	IAML		20 50 04.7	
	comp=E,137nm,0.7s						
SKT				IAML		20 50 05.7	
	comp=N,135nm,0.4s						
FIS	Fire Island	1.01	89		Pn	20 49 48.0	-0.8
FIS				IAML		20 50 09.1	
	comp=E,141nm,0.6s						
FIS				IAML		20 50 09.5	
	comp=N,137nm,0.5s						
O20K	Slope Mountain	1.08	189		Pn	20 49 49.0	-0.7
O20K					Sn	20 50 07.1	-0.2
N19K	Bonanza Creek	1.11	253	Pn	Pn	20 49 49.1	-0.9
N19K				IAML		20 50 07.7	
	comp=N,29nm,1.0s						
ILW	Iliamna West	1.17	201		Pn	20 49 50.0	-0.7
SLKM	Skilak Lake	1.21	121		Pn	20 49 50.1	-0.8
SLKM				IAML		20 50 09.2	
	comp=N,143nm,0.4s						
SLKM				IAML		20 50 09.8	
	comp=E,115nm,0.4s						
M22K	Willow	1.21	59	Pn	Pn	20 49 50.9	0.0
ILSW	Iliamna Southw	1.24	200		Pn	20 49 50.5	-0.9
ILSW				IAML		20 50 10.7	
	comp=E,60nm,0.8s						
ILSW				IAML		20 50 14.0	
	comp=N,39nm,0.9s						
RC01	Rabbit Creek A	1.25	92		Pn	20 49 50.3	-1.0
RC01				IAML		20 50 11.3	
	comp=N,66nm,0.3s						
RC01				IAML		20 50 12.6	
	comp=E,53nm,0.3s						
ILS	Iliamna Low So	1.25	198		Pn	20 49 50.8	-0.8
M19K	Big River Lodg	1.26	308	Pn	Pn	20 49 50.9	-0.5
O19K	Port Alsworth	1.38	227		Pn	20 49 51.5	-1.2
O19K				IAML		20 50 12.3	
	comp=N,110nm,0.6s						
O19K				IAML		20 50 12.7	
	comp=E,72nm,0.4s						
O22K	Cooper Landing	1.43	117	Pn	Pn	20 49 51.2	-2.1
HOM	Homer	1.53	167		Pn	20 49 53.1	-1.3
L20K	Farewell, AK	1.53	331		Pn	20 49 53.5	-1.0
BRLK	Bradley Lake	1.56	153		Pn	20 49 53.2	-1.6
BRLK				IAML		20 50 17.9	
	comp=N,114nm,0.1s						
BRLK				IAML		20 50 18.3	
	comp=E,118nm,0.6s						
OPT	Oil Point	1.57	197		Pn	20 49 54.6	-0.4
P19K	Oil Pt	1.57	197		Pn	20 49 54.1	-0.8
P19K				IAML		20 50 19.0	
	comp=N,120nm,0.6s						
CUT	Chulitna	1.59	37		Pn	20 49 53.9	-1.2
PMR	Palmer	1.59	72	Pn	Pn	20 49 53.2	-2.0
PMR				IAML		20 50 17.5	
	comp=N,48nm,0.6s						
PMR				IAML		20 50 17.7	
	comp=E,54nm,0.4s						
L19K	White Mountain	1.60	312	Pn	Pn	20 49 54.5	-0.7
BRSE	Bradley Lake S	1.61	151		Pn	20 49 54.3	-1.1
CNPM	China Poot	1.71	161		Pn	20 49 55.0	-1.6
CNPM				IAML		20 50 22.1	
	comp=N,115nm,0.6s						
M18K	Stony River	1.73	283		Pn	20 49 55.9	-0.9
GHO	Glory Hole Cre	1.74	67		Pn	20 49 55.6	-1.4
GHO	Glory Hole Cre	1.74	67		Sn	20 50 18.1	-2.2
GHO	Glory Hole Cre	1.74	67	IAML		20 50 19.8	
	comp=N,83nm,0.5s						
GHO				IAML		20 50 20.7	
	comp=E,83nm,0.8s						
SEW	Seward	1.75	125	Pn	Pn	20 49 55.6	-1.4
PPLA	Purkeypile	1.76	2		Pn	20 49 56.6	-0.6
N18K	Kilae Creek	1.81	257	Pn	Pn	20 49 56.3	-1.5
KNK	Knik Glacier	1.88	80		Pn	20 49 56.5	-2.1
KNK	Knik Glacier	1.88	80		Sn	20 50 22.5	-0.6
KNK	Knik Glacier	1.88	80	IAML		20 50 22.9	
	comp=N,131nm,0.5s						
KNK				IAML		20 50 23.4	
	comp=E,134nm,0.6s						
AUCH	Augustine Cone	1.88	198		Pn	20 49 57.9	-0.8
O18K	Koktuh Hills	1.94	229	Pn	Pn	20 49 58.4	-0.9
PWL	Port Wells	1.96	97	Pn	Pn	20 49 57.6	-1.9
PWL				IAML		20 50 23.6	
	comp=E,91nm,0.6s						
SML	Sawmill	2.02	69	Pn	Pn	20 49 58.5	-1.9
SML				IAML		20 50 25.6	
	comp=N,62nm,0.9s						
SML				IAML		20 50 26.5	
	comp=E,58nm,0.9s						
SML	Sawmill	2.02	69		Sn	20 50 24.4	-1.8
CAST	Castle Rocks	2.28	2	Pn	Pn	20 50 02.4	-1.2
P18K	Big Mountain,	2.29	221		Pn	20 50 02.7	-1.0
M23K	Glacier View	2.29	72		Sn	20 50 30.4	-1.9
Q19K	Cape Douglas,	2.33	197	Pn	Pn	20 50 02.8	-1.4
Q19K				IAML		20 50 38.7	
	comp=E,69nm,1.0s						
L18K	Granite Mounta	2.35	299	Pn	Pn	20 50 03.6	-0.8
K20K	Telida	2.37	340		Pn	20 50 03.3	-1.3
N17K	Nushagak Hills	2.47	258	Pn	Pn	20 50 05.0	-0.9
SCM	Sheep Creek Mo	2.48	72	Pn	Pn	20 50 04.6	-1.6
SCM	Sheep Creek Mo	2.48	72		Sn	20 50 36.0	-0.7
M17K	Holitna River	2.49	278	Pn	Pn	20 50 05.0	-1.3
M17K				IAML		20 50 36.3	
	comp=E,16nm,1.1s						
M17K				IAML		20 51 03.0	
	comp=N,7.9nm,1.2s						
TRF	Thorofare Moun	2.50	21	Pn	Pn	20 50 04.9	-1.6
TRF				IAML		20 50 39.3	
	comp=N,19nm,0.9s						
TRF				IAML		20 50 39.0	
	comp=E,18nm,0.6s						
KTH	Kantishna Hill	2.50	14		Pn	20 50 05.0	-1.4
KTH				IAML		20 50 36.5	
	comp=N,11nm,1.1s						
KTH				IAML		20 50 45.2	
	comp=E,10nm,1.2s						
TTA	Tatalina	2.50	317	Pn	Pn	20 50 05.1	-1.3
SYI	Shuyak Island	2.55	181		Pn	20 50 05.4	-1.6
SYI				IAML		20 50 39.9	
	comp=N,49nm,1.2s						
SYI				IAML		20 50 40.7	
	comp=E,42nm,0.6s						
GLI	Glacier Island	2.55	94		Pn	20 50 04.5	-2.4
P23K	Montague Islan	2.68	113		Pn	20 50 06.9	-1.8
P23K					Sn	20 50 39.8	-1.3
O17K	Koliganek Bris	2.75	242		Pn	20 50 08.7	-0.8
CHUM	Lake Minchumin	2.75	360		Pn	20 50 08.4	-1.0
RND	Reindeer	2.78	34	Pn	Pn	20 50 07.7	-2.4
RND				IAML		20 50 45.6	
	comp=N,9.4nm,1.1s						
RND				IAML		20 51 06.4	
	comp=E,8.1nm,1.2s						
KAHC	Katmai Hardscr	2.85	210		Pn	20 50 10.1	-0.9
FID	Port Fidalgo	2.87	95	Pn	Pn	20 50 08.0	-3.2
KAHG	Katmai Hook Gl	2.89	204		Pn	20 50 10.7	-0.8
HIN	Hinchinbrook I	2.94	102	Pn	Pn	20 50 09.2	-2.9
HIN				IAML		20 50 47.8	
	comp=E,37nm,1.2s						
HIN				IAML		20 51 49.7	
	comp=N,18nm,1.1s						
BPAW	Bear Paw Mtn.	3.02	11	Pn	Pn	20 50 10.4	-2.7
L17K	Donlin	3.03	292		Pn	20 50 12.2	-1.0
MCK	McKinley	3.03	30	Pn	Pn	20 50 10.8	-2.4
M24K	Tolsona, Glenn	3.08	69	Pn	Pn	20 50 11.5	-2.4
KLU	Klutina	3.10	81		Pn	20 50 11.7	-2.5
KLU				IAML		20 50 52.0	
	comp=E,30nm,0.6s						
J18K	Innoko River	3.11	320		Pn	20 50 11.2	-3.0
J20K	Nowinta River	3.16	345	Pn	Pn	20 50 13.3	-1.6
J20K				IAML		20 50 51.7	
	comp=N,4.6nm,0.8s						
DIV	Divide	3.17	87	Pn	Pn	20 50 12.3	-2.8
M16K	Timber Creek	3.24	271	Pn	Pn	20 50 14.3	-1.6
M16K				IAML		20 52 06.3	
	comp=E,5.0nm,1.1s						
J19K	Poorman	3.24	333	Pn	Pn	20 50 14.8	-1.2
K17K	Iditarod	3.24	302	Pn	Pn	20 50 15.1	-0.8
K17K				IAML		20 50 53.2	
	comp=E,7.6nm,1.1s						
K17K				IAML		20 50 54.8	
	comp=N,9.0nm,1.0s						
EYAK	Cordova Ski Ar	3.26	98	Pn	Pn	20 50 13.1	-3.2
O16K	Kokwok River B	3.27	244	Pn	Pn	20 50 15.0	-1.4
O16K				IAML		20 51 44.9	
	comp=N,4.1nm,1.0s						
BWN	Browne	3.31	22	Pn	Pn	20 50 14.9	-1.9
BWN				IAML		20 51 14.1	
	comp=E,12nm,0.9s						
BWN				IAML		20 51 17.7	
	comp=N,11nm,1.1s						
ACHA	Angle Creek He	3.32	209	Pn	Pn	20 50 15.5	-1.6
KDAK	Kodiak Island	3.38	183	Pn	Pn	20 50 15.3	-2.4
KDAK				IAML		20 50 56.6	
	comp=N,17nm,0.8s						
KDAK				IAML		20 51 08.6	
	comp=N,14nm,0.9s						
Q23K	Middleton Isla	3.43	118	Pn	Pn	20 50 16.6	-1.8
L16K	Owhat River	3.49	282	Pn	Pn	20 50 17.6	-1.6
L16K				IAML		20 51 11.1	
	comp=N,3.2nm,1.1s						
N25K	Chitina, Valde	3.74	80	Pn	Pn	20 50 20.1	-2.4
N25K				IAML		20 51 05.5	
	comp=E,16nm,0.6s						
BMRM	Bremner River	3.75	89	Pn	Pn	20 50 20.5	-2.1
NEA2	Nenana	3.76	22	Pn	Pn	20 50 20.5	-2.3
I20K	Naaghedeneel	3.79	346	Pn	Pn	20 50 20.9	-2.3
I20K				IAML		20 51 45.4	
	comp=N,11nm,1.1s						
I20K				IAML		20 52 13.0	
	comp=E,11nm,0.8s						
RAGM	Ragged Mountai	3.82	98	Pn	Pn	20 50 20.7	-2.9
WRH	Wood River Hil	3.86	28	Pn	Pn	20 50 21.2	-2.9
J17K	VABM Dome	3.89	308	Pn	Pn	20 50 23.4	-1.1
N15K	Kwethluk River	3.96	259	Pn	Pn	20 50 24.1	-1.4
N15K				IAML		20 51 22.9	
	comp=E,17nm,1.2s						
N15K				IAML		20 51 41.1	
	comp=N,9.6nm,1.0s						
OHAK	Old Harbor	3.97	188	Pn	Pn	20 50 22.6	-3.0
OHAK				IAML		20 51 06.3	
	comp=N,4.4nm,1.0s						
OHAK				IAML		20 52 14.2	
	comp=E,6.4nm,1.1s						
HMT	Hamilton	4.03	98	Pn	Pn	20 50 23.8	-2.6
K24K	Donnelly Dome	4.03	46		Pn	20 50 26.6	+0.1
I21K	Tanana	4.05	2		Pn	20 50 24.4	-2.2
I21K				IAML		20 51 42.1	
	comp=N,6.8nm,0.7s						
CCB	Clear Creek Bu	4.07	28	Pn	Pn	20 50 24.4	-2.4
KAIM	Kayak Island	4.08	104	Pn	Pn	20 50 24.0	-3.1
HDA	Harding Lake	4.09	35		Pn	20 50 25.5	-1.7
HDA				IAML		20 51 12.8	
	comp=N,11nm,0.5s						
HDA				IAML		20 51 13.1	
	comp=E,17nm,0.6s						
GLB	Gilahina Butte	4.11	82	Pn	Pn	20 50 25.6	-1.9
GLB				IAML		20 51 14.4	
	comp=E,8.6nm,0.4s						
GLB				IAML		20 51 16.1	
	comp=N,13nm,0.4s						
I23K	Minto, Yukon-K	4.23	17	Pn	Pn	20 50 25.6	-3.4
I23K				IAML		20 51 05.7	
	comp=E,7.1nm,0.2s						
I23K				IAML		20 51 05.8	
	comp=N,2.9nm,0.6s						
VRDI	Verde Repeater	4.29	85	Pn	Pn	20 50 26.5	-3.5
VRDI				IAML		20 51 21.7	
	comp=N,4.1nm,0.3s						
VRDI				IAML		20 51 40.7	
	comp=E,2.1nm,0.9s						
BERG	Berg Lake	4.29	96	Pn	Pn	20 50 26.1	-3.7
RIDG	Independent Ri	4.33	50	Pn	Pn	20 50 28.0	-2.5
RIDG				IAML		20 51 35.0	
	comp=N,14nm,0.9s						
IL31		4.40	32		Pn	20 50 29.0	-2.2
ILAR	Eielson Array	4.40	32	Pn	Pn	20 50 29.5	-1.8
MENT	Mentasta	4.42	62	Pn	Pn	20 50 28.6	-3.0
MENT				IAML		20 51 42.3	
	comp=E,13nm,0.8s						
J16K	Anvik River	4.44	303	Pn	Pn	20 50 30.5	-1.3
J16K				IAML		20 51 41.1	
	comp=E,3.7nm,1.1s						
J16K				IAML		20 52 20.9	
	comp=N,4.4nm,1.1s						
H21K	Melozitna Rive	4.53	357	Pn	Pn	20 50 31.2	-1.8
K15K	Wolf Creek Mou	4.54	289	Pn	Pn	20 50 31.6	-1.5
K15K				IAML		20 52 12.3	
	comp=N,5.4nm,1.1s						
K15K				IAML		20 53 36.5	
	comp=E,2.7nm,1.1s						
POKR	Poker Flat Res	4.55	27	Pn	Pn	20 50 31.9	-1.4
POKR				IAML		20 51 46.6	
	comp=E,1.9nm,0.8s						
POKR				IAML		20 52 32.0	
	comp=N,2.1nm,0.8s						
DOT	Dot Lake	4.58	53		Pn	20 50 32.2	-1.6
M26K	Nabesna, AK	4.60	70	Pn	Pn	20 50 32.2	-1.8
M26K				IAML		20 51 45.7	
	comp=N,7.5nm,0.6s						
M26K				IAML		20 52 04.6	
	comp=E,4.2nm,0.8s						
L26K	Log Cabin Wild	4.61	62	Pn	Pn	20 50 32.2	-1.9
L26K				IAML		20 51 46.0	
	comp=E,9.2nm,1.1s						
L26K				IAML		20 51 49.1	
	comp=N,10nm,0.5s						
SII	Sitkinak Islan	4.71	193	Pn	Pn	20 50 33.1	-2.4
J25K	Salcha River,	4.71	39		Pn	20 50 34.3	-1.2
J25K				IAML		20 51 29.0	
	comp=E,5.4nm,0.9s						
J25K				IAML		20 51 41.8	
	comp=N,2.9nm,0.7s						
SNH	Sunshine Point	4.76	98	Pn	Pn	20 50 35.0	-1.2
H19K	Roundabout Mou	4.78	339	Pn	Pn	20 50 33.7	-2.6
H19K				IAML		20 51 42.5	
	comp=E,2.1nm,1.0s						
SCRK	Sand Creek	4.78	50	Pn	Pn	20 50 34.2	-2.3
SCRK				IAML		20 51 28.7	
	comp=E,5.1nm,0.5s						
SCRK				IAML		20 51 47.2	
	comp=N,3.8nm,0.8s						
H18K	Honhosa River	4.87	328	Pn	Pn	20 50 35.5	-2.0
H18K				IAML		20 52 11.0	
	comp=N,1.3nm,1.1

DAWY	Dawson	6.64	58	Pn	Pn	20 50 58.6	-2.8
F24K	Squaw Lake	6.68	15	Pn	Pn	20 50 56.1	-5.8
M29M	Somme Creek	6.69	73	Pn	Pn	20 50 58.0	-4.2
O29M	Mount Kennedy	6.79	91	Pn	Pn	20 50 57.9	-5.7
I28M	Miner Creek	7.04	47		Pn	20 51 03.6	-3.3
HYT	Haines Junctio	7.21	86	Pn	Pn	20 51 03.7	-5.5
K29M	Barlow Dome	7.36	62	Pn	Pn	20 51 07.1	-4.0
O30N	Mendenhall	7.90	86	Pn	Pn	20 51 10.0	-8.5
C18K	Utukok River	8.41	337	Pn	Pn	20 51 21.6	-3.7
WHY	Whitehorse	8.51	86	Pn	Pn	20 51 22.7	-3.9
G29M	Pine Creek	8.51	41	Pn	Pn	20 51 23.5	-3.1
SKAG	Skagway	8.59	94	Pn	Pn	20 51 23.0	-4.7
G30M	tAoh Zraii Nji	9.14	43	Pn	Pn	20 51 32.6	-2.4

*IDC **15** 21:27:45.8±1.4, 12°.97S×166°.37E, h0km, mb3.9/8, mbtmp3.9/8, MS3.3/5, Error ellipse: s-maj=42.7km s-min=30.0km az=112.0*

ISC 15 21:27:52.5±1.3, 13°.0S±0°.2×166°.3E±0°.3, h44km, n12, σ0°72/8, mb3.8/8, MS3.6/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	Honiara	7.17	299	LR		LR	21 31 50.2	
	comp=Z,131nm,18.8s,baz=345,slow=34							
DZM	Mont Dzumac	9.03	179	LR		LR	21 33 17.7	
	comp=Z,80nm,18.7s,baz=146,slow=37							
URZ	Urewera	26.94	161	LR		LR	21 41 59.1	
	comp=Z,69nm,18.4s,baz=100,slow=32							
WRA	Warramunga Arr	31.39	253	P		P	21 34 09.5	0.0
	0.5nm,0.8s,baz=82,slow=9.0,SNR=2.5							
	0.5nm,0.8s							
ASAR	Alice Springs	32.47	246	P		P	21 34 18.7	-0.3
	0.6nm,0.8s,baz=74,slow=9.6,SNR=8.2							
	0.6nm,0.8s							
KLR	Kul'dur	69.05	337	P		P	21 38 53.5	-0.1
	1.2nm,0.8s,baz=104,slow=8.3,SNR=3.4							
	1.2nm,0.8s							
CMAR	Chiang Mai Arr	73.39	294	P		P	21 39 21.4	+0.9
	0.3nm,0.3s,baz=104,slow=5.6,SNR=2.1							
	0.3nm,0.3s							
QSPA	South Pole Qui	77.03	180	P		P	21 39 40.8	0.0
	3.8nm,1.0s,baz=345,slow=6.3,SNR=5.5							
	3.8nm,1.0s							
ILAR	Eielson Array	85.17	18	P		P	21 40 24.1	+0.3
	0.2nm,0.8s,baz=252,slow=4.9,SNR=2.0							
ILAR				LR		LR	22 16 56.3	
	comp=Z,31nm,19.4s,baz=218,slow=35							
	0.2nm,0.8s							
PDAR	Pinedale Array	94.46	47	LR		LR	22 20 53.9	
	comp=Z,20nm,18.8s,baz=286,slow=34							
MKAR	Makanchi Array	95.31	317	P		P	21 41 11.6	-0.3
	0.8nm,0.8s,baz=102,slow=6.1,SNR=8.0							
	0.8nm,0.8s							
ZALV	Zalesovo Beam	95.44	324	P		P	21 41 11.1	-1.2
	0.6nm,0.6s,baz=98,slow=6.1,SNR=2.7							
	0.6nm,0.6s							

*DNK **15** 21:43:40.6±2.9, 79°.96N×1°.42E, h36km±23km, ML1.3*
*FCIAR **15** 21:43:40.0, 79°.83N×1°.93E, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 3.90*
*BER **15** 21:43:41.0±2.9, 79°.97N×1°.20E, h29km±31km, mb(Pn)3.0, ML1.3(DNK), Confirmed Earthquake*

ISC 15 21:43:34.1±1.0, 79°.91N±0°.06×0°.96E±0°.04, h10km, n18, σ3°15/34, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBS	Kingsbay	2.25	111	eP		Pn	21 44 13.6	+2.3
KBS				eS		Sn	21 44 37.9	-1.2
KBS				IAML			21 44 39.5	
	comp=Z,11nm,0.1s							
KBS	Kingsbay	2.25	111	eP		Pn	21 44 13.3	+2.0
KBS				eS		Sn	21 44 38.0	-1.1
KBS	Kingsbay	2.25	111	i P		Pn	21 44 13.2	+1.9
KBS				i S		Sn	21 44 37.8	-1.4
BRBB	Barentsburg B	3.12	119	eP		Pn	21 44 27.9	+4.6
BRBB				eS		Sn	21 45 01.3	+0.8
BRBA	Barentsburg A	3.15	120	eP		Pn	21 44 28.3	+4.8
BRBA				IAML			21 45 02.0	
	comp=Z,6.5nm,0.5s							
BRBA				eS		Sn	21 45 02.1	+1.0
NOR	Nord	3.30	309	i P		Pn	21 44 29.0	+3.3
NOR				eS		Sn	21 45 05.7	+0.8
NOR	Nord	3.30	309	i P		Pn	21 44 29.0	+3.3
NOR				eS		Sn	21 45 05.7	+0.8
SPA0	Spitsbergen Ar	3.41	113	eP		Pn	21 44 30.4	+3.2
SPA0				e			21 44 31.8	
SPA0				eS		Sn	21 45 07.1	-0.5
SPA0				IAML			21 45 09.8	
	comp=Z,4.7nm,0.9s							
SPA0	Spitsbergen Ar	3.41	113	eP		Pn	21 44 30.1	+2.9
SPA0				eS		Sn	21 45 06.8	-0.9
DAG	Danmarks Havn	5.05	241	i P		Pn	21 44 52.5	+2.8
DAG				i S		Sn	21 45 46.1	-1.8
DAG				IAML			21 45 51.3	
	comp=Z,1.2nm,0.3s							
DAG	Danmarks Havn	5.05	241	i P		Pn	21 44 52.5	+2.8
DAG				i S		Sn	21 45 46.1	-1.8
DAG				IAML			21 45 51.3	
	comp=Z,1.2nm,0.3s							
HOPEN	Hopen	5.94	113	P		Pn	21 45 03.6	+1.7
HOPEN				S		Sn	21 46 05.2	-4.7
DBG	Daneborg	7.29	231	i P		Pn	21 45 25.0	+4.6
DBG				eS		Sn	21 46 40.3	-2.7
DBG	Daneborg	7.29	231	i P		Pn	21 45 25.0	+4.6
DBG				eS		Sn	21 46 40.3	-2.7
ZFI2	Zemlya Franca-	7.70	61	eP		Pn	21 45 27.4	+1.4
ZFI2				eS		Sn	21 46 46.7	-6.5
	comp=Z,38nm,3.6s							
OMEGA	Omega	7.72	61	eP		Pn	21 45 27.7	+1.5
OMEGA				eS		Sn	21 46 46.9	-6.7
	comp=Z,32nm,3.3s							
NEEM	North Greenlan	10.19	283	i P		Pn	21 46 01.9	+1.5
NEEM				eS		Sn	21 47 43.3	-11
NEEM				IAML			21 47 50.8	
	comp=Z,0.7nm,0.3s							
NEEM	North Greenlan	10.19	283	i P		Pn	21 46 01.9	+1.5
NEEM				eS		Sn	21 47 43.3	-11
NEEM				IAML			21 47 50.8	
	comp=Z,0.7nm,0.3s							

*KRSC **15** 22:10:11.7±1.1, 53°.27N×161°.98E, h61km±20km, Ml3.8*
*IDC **15** 22:10:12.2±3.2, 53°.63N×161°.56E, h0km, mb3.5/7, mbtmp3.5/8, ML2.7/1, MS2.4/2, Error ellipse: s-maj=67.7km s-min=23.9km az=134.0*

ISC 15 22:10:10.1±1.7, 53°.48N±0°.06×161°.92E±0°.05, h2km±10km, n41, σ1°34/43, mb3.7/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.20	252	eP		Pg	22 10 33.8	+0.7
SPN				eS		Sg	22 10 48.8	+0.3
KII	Karymskiy	1.57	292	eP		Pg	22 10 40.4	+0.3
NLC	Nalytchevo	1.57	260	eP		Pn	22 10 39.3	+0.3
NLC				eS		Sn	22 10 58.7	-1.2
UGLR	Uglovaya	1.87	263	eP		Pn	22 10 44.5	+1.3
AVH	Avacha	1.92	265	eP		Pb	22 10 45.1	-0.6
TUMD	Tumrok D	1.94	333	eP		Pg	22 10 47.4	+0.2
DALK	Dalny	1.95	258	eP		Pn	22 10 44.1	-0.1
KRX	Arik	1.96	268	eP		Pn	22 10 45.6	+1.1
KOK	Koryaka	1.97	266	eP		Pn	22 10 45.9	+1.3
PET	Petropavlovsk	2.01	258	eP		Pn	22 10 45.5	+0.4
RUS	Russkaya	2.31	244	eP		Pn	22 10 49.5	+0.4
RUS				eS		Sn	22 11 16.2	-1.9
KRMR	Karymshinskiy	2.37	256	eP		Pn	22 10 50.8	+0.8
GNL	Ganaly	2.38	277	eP		Pb	22 10 52.5	-1.2
KMNR	Kamenistaya	2.48	337	eP		Pb	22 10 55.9	+0.5
GRL	Gorelyy	2.50	250	eP		Pn	22 10 52.5	+0.6
PETK	Petropavlovsk-	2.56	263	Pn		Pn	22 10 54.1	+1.5
	8.7nm,0.3s,baz=74,slow=18,SNR=46							
PETK				Sn		Sn	22 11 24.6	+0.3
	5.5nm,0.3s,baz=73,slow=20,SNR=5.0							
PETK				LR		LR	22 11 54.1	
	comp=Z,52nm,21.8s,baz=114,slow=43							
	29nm,0.5s							
KIRR	Kirishev	2.64	340	eP		Pb	22 10 57.8	-0.4
KPT	Kopyto	2.68	339	eP		Pb	22 10 58.5	-0.2
KBTR	Krutoberegovo	2.78	10	eP		Pb	22 10 59.5	-1.0
KBG	Krutoberegovo	2.82	9	eS		Sb	22 11 34.2	-1.8
KOZ	Kozyrevsk	2.84	336	eP		Pb	22 11 00.3	-1.2
KRSR	Krestovskiy	2.85	345	eP		Pb	22 11 00.4	-1.3
KDTR	Khodutka, Kamc	2.88	236	eP		Pn	22 10 57.1	+0.2
KDTR				eS		Sn	22 11 28.4	-3.6
APC	Apacha	2.92	261	eP		Pn	22 10 57.3	-0.2
KLY	Kl¡yuchi	2.93	346	eP		Pb	22 11 01.3	-1.7
BKI	Bering	2.94	52	eP		Pb	22 11 01.0	-2.1
BKI				eS		Sn	22 11 33.8	+0.3
ESO	Esso	3.08	324	eP		Pb	22 11 03.2	-2.4
SRDR	Sredinnyy	3.11	337	eP		Pb	22 11 03.0	-3.2
SMKR	Semkarok	3.12	355	eP		Pb	22 11 05.7	-0.6
MA2	Magadan	8.67	319	LR		LR	22 15 36.2	
	comp=Z,47nm,18.0s,baz=140,slow=38							
MJAR	Matsushiro Arr	23.65	234	P		P	22 15 24.1	+1.4
	2.4nm,1.0s,baz=36,slow=10,SNR=4.1							
	2.4nm,1.0s							
H11N2	WAKE ISLAND Hy	33.91	172	T		T	22 53 51.6	
	baz=352							
H11N3	WAKE ISLAND Hy	33.92	172	T		T	22 54 08.8	
	baz=352							
H11N1	WAKE ISLAND Hy	33.92	172	T		T	22 53 46.5	
	baz=352							
SONM	Songino Array	34.87	284	P		P	22 17 02.3	-0.4
	0.4nm,0.8s,baz=67,slow=8.0,SNR=3.1							
	0.4nm,0.8s							
SPITS	Spitsbergen Ar	46.93	351	P		P	22 18 43.0	+1.6
	7.5nm,0.8s,baz=72,slow=9.7,SNR=6.0							
KURBB	Kurchatov Arra	48.55	302	P		P	22 18 53.6	-0.8
	0.3nm,0.5s,baz=56,slow=7.6,SNR=3.3							
	0.3nm,0.5s							
MKAR	Makanchi Array	48.97	296	P		P	22 18 57.8	+0.1
	0.1nm,0.3s,baz=57,slow=6.9,SNR=1.8							
	0.1nm,0.3s							
BVAR	Borovoye Array	51.00	309	P		P	22 19 12.3	-0.6
	0.3nm,0.5s,baz=48,slow=8.8,SNR=1.9							
	0.3nm,0.5s							
FINES	FINESS Array B	60.19	337	P		P	22 20 20.1	+1.3
	0.9nm,0.5s,baz=41,slow=6.6,SNR=8.0							
	0.9nm,0.5s							
NOA	NORSAR Array B	63.47	345	P		P	22 20 42.4	+1.4
	0.5nm,0.6s,baz=24,slow=6.5,SNR=1.5							
	0.5nm,0.6s							

*NEIC **15** 22:10:59.5±1.1, 43°.48N±0°.08×105°.33W±0°.05, h0km±1km, ML3.5/72, Error ellipse: s-maj=14.1km s-min=6.6km az=172.0*
*IDC **15** 22:11:02.9±2.4, 43°.51N×105°.38W, h0km, mb3.9/5, mbtmp3.7/8, ML3.4/3, MS3.0/2, Error ellipse: s-maj=66.6km s-min=9.4km az=154.0*

ISC 15 22:11:01.0±0.8, 43°.45N±0°.05×105°.39W±0°.04, h0km, n44, σ1°66/30, mb3.9/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
K22A	Casper	1.15	227			Pn	22 11 29.4	+4.9
K22A				IAML			22 11 53.4	
	comp=E,744nm,0.6s							
RSSD	Black Hills	1.19	55	Pn		Pb	22 11 24.1	-0.4
RSSD	Black Hills	1.19	55	Pg		Pg	22 11 23.6	-0.1
PD31	Pinedale Array	3.13	259	Pn		Pb	22 11 56.5	-1.1
PDAR	Pinedale Array	3.13	259	Pn		Pn	22 11 53.9	+2.1
PDAR	Pinedale Array	3.13	259	Pn		Pb	22 11 57.6	0.0
	comp=E,5.2nm,0.3s,baz=78,slow=15,SNR=39							
PDAR				Lg		Lg	22 12 40.8	
	comp=E,9.6nm,0.3s,baz=68,slow=30,SNR=4.7							
	comp=E,3.4nm,0.3s							
RLMT	Red Lodge	3.25	302			Pn	22 11 55.5	+2.1
RLMT				IAML			22 12 46.9	
	comp=E,86nm,0.8s							
RLMT				IAML			22 12 53.8	
	comp=E,114nm,0.8s							
LAO	LASA Array	3.29	350			Pn	22 11 54.2	+0.4
OGNE	Ogallala	3.53	134			Pn	22 11 56.1	-1.0
OGNE				IAML			22 13 09.1	
	comp=E,152nm,1.1s							
ISCO	Idaho Springs	3.65	183			Pn	22 11 58.5	-0.5
YNE	Yellowstone No	3.67	297			Pn	22 11 59.4	+0.2
YNE				IAML			22 13 02.3	
	comp=E,74nm,0.8s							
YNE				IAML			22 13 02.4	
	comp=N,91nm,0.7s							
YMP	Mirror Lake Pl	3.67	292			Pn	22 11 57.7	-1.5
YMP				IAML			22 13 02.7	
	comp=N,114nm,1.1s							
LOHW	Long Hollow	3.79	274	Pn		Pn	22 11 59.9	-1.0
GCMT	Greycliff	3.85	309	Pn		Pn	22 12 00.7	-0.9
H17A	Grant Village	3.86	286			Pg	22 12 13.4	-1.6
H17A				IAML			22 13 11.2	
	comp=N,52nm,1.2s							
FLWY	Flagg Ranch	3.90	281			Pn	22 12 02.8	+0.5
FLWY				IAML			22 13 19.5	
	comp=N,63nm,1.1s							
FLWY				IAML			22 13 23.9	
	comp=N,70nm,1.1s							
MOOW	Moose Ponds	3.90	276			Pn	22 12 03.0	+0.6
SNOW	Snow King Moun	3.91	272			Pn	22 12 02.8	+0.4
SNOW				IAML			22 13 21.2	
	comp=N,92nm,1.1s							
SNOW				IAML			22 13 22.9	
	comp=N,88nm,1.1s							
O20A	White River Ci	3.94	214	Pn		Pb	22 12 08.6	-2.8
O20A				IAML			22 13 26.3	
	comp=N,78nm,1.1s							
O20A				IAML			22 13 42.9	
	comp=E,66nm,1.2s							
YNR	Norris Junctio	4.02	290	Pn		Pb	22 12 08.6	-4.1
YNR						Pg	22 12 17.9	-0.1
TPAW	Teton Pass	4.05	272	IAML			22 13 47.3	
	comp=E,74nm,1.1s							
YFT	Old Faithful	4.06	286	IAML			22 13 24.4	
	comp=E,38nm,2.1s							
YMR	Madison River	4.20	289	IAML			22 13 25.7	
	comp=N,96nm,0.9s							
YMR				IAML			22 13 54.0	
	comp=E,73nm,0.9s							
AHID	Auburn Hatcher	4.24	263	IAML			22 13 26.1	
	comp=E,67nm,1.0s							
AHID				IAML			22 13 26.4	
	comp=E,52nm,1.2s							
RDMU	Red Mountain	4.24	229	IAML			22 13 25.8	
	comp=E,53nm,1.0s							
RDMU				IAML			22 13 28.7	
	comp=N,65nm,1.1s							
YHB	Horse Butte	4.38	289	IAML			22 13 55.0	
	comp=E,29nm,2.8s							
YHL	Hebgen Lake	4.40	291	IAML			22 13 34.4	
	comp=E,85nm,1.2s							
YHL				IAML			22 13 47.3	
	comp=N,64nm,1.2s							
Q24A	Divide	4.49	178	IAML			22 13 36.9	
	comp=E,40nm,0.9s							
HWUT	Hardware Ranch	4.92	250	IAML			22 13 49.5	
	comp=E,52nm,0.8s							
BSUT	Blindstream Ca	4.95	236	IAML			22 13 57.5	
	comp=N,24nm,2.1s							
BSUT				IAML			22 14 03.8	
	comp=E,33nm,1.1s							
BOZ	Bozeman (W)	4.95	298	IAML			22 13 40.7	
	comp=E,26nm,1.3s							
BOZ				IAML			22 13 41.4	
	comp=E,21nm,1.1s							
HRY	Holter Researc	5.61	308			Pn	22 12 25.5	-0.2
HRY					Pg	Pg	22 12 47.3	-1.0
MDND	Maddock	5.98	41	Pg		Pg	22 12 51.7	-3.9
ELK	Elko	7.81	253	LR		LR	22 16 05.1	
	comp=E,111nm,18.9s,baz=289,slow=39							
ANMO	Albuquerque	8.53	186	Lg		Lg	22 15 35.8	
	comp=E,0.1nm,0.3s,baz=15,slow=19,SNR=1.7							
I10CA	LAC DU BONNET	9.31	40	I		I	23 06 30.0	
	comp=E,0.1nm,1.4s,baz=227,slow=334,SNR=1.5							
ULM	Lac du Bonnet	9.41	40	Pn		Pn	22 13 17.0	-0.8
	comp=E,1.3nm,0.3s,baz=226,slow=11,SNR=11							
ULM				Lg		Lg	22 15 47.0	
	comp=E,0.4nm,0.3s,baz=322,slow=19,SNR=2.0							
	comp=E,3.0nm,0.3s							
TKL	Tuckaleeches C	18.36	108	LR		LR	22 21 56.4	
	comp=E,41nm,19.4s,baz=327,slow=36							
YKA	Yellowknife Ar	19.83	347	P		Pn	22 15 34.3	-0.1
	comp=E,0.1nm,0.3s,baz=162,slow=12,SNR=3.8							
	comp=E,0.1nm,0.4s							
ARCES	ARCESS Array B	61.72	18	P		P	22 21 20.6	+0.1
	comp=E,3.7nm,0.9s,baz=324,slow=9.0,SNR=1.4							
	comp=E,3.7nm,0.9s							
FINES	FINESS Array B	68.33	23	P		P	22 22 04.7	+1.2
	comp=E,1.7nm,0.9s,baz=342,slow=8.7,SNR=1.6							
	comp=E,1.7nm,0.9s							
ZALV	Zalesovo Beam	82.58	354	P		P	22 23 26.9	+1.4
	comp=E,0.3nm,0.3s,baz=350,slow=5.0,SNR=2.6							
	comp=E,0.3nm,0.3s							
SONM	Songino Array	84.88	339	P		P	22 23 40.3	+2.7
	comp=E,0.4nm,0.8s,baz=5.5,slow=4.5,SNR=2.3							
	comp=E,0.4nm,0.8s							
MKAR	Makanchi Array	89.88	355	P		P	22 24 03.4	+1.8
	comp=E,0.3nm,0.7s,baz=15,slow=5.0,SNR=4.6							
	comp=E,0.3nm,0.7s							

*IDC **15** 22:11:22.5±1.1, 25°.59N×96°.82E, h0km, mb3.5/7, mbtmp3.5/8, ML4.0/1, MS3.8/2, Error ellipse: s-maj=63.0km s-min=16.9km az=67.0*
*NEIC **15** 22:11:33.6±2.0, 25°.59N±0°.08×95°.6E±0°.1, h48km±19km, mb4.1/5, Error ellipse: s-maj=18.0km s-min=11.0km az=68.0*
*NDI **15** 22:11:34.7±1.6, 25°.46N×96°.32E, h50km, ML3.8, MW3.7, mb4.1(NEIC)*

ISC 15 22:11:26.9±0.8, 25°.58N±0°.07×96°.56E±0°.07, h25km, n23, σ2°39/27, mb3.6/9, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KOHI	KOHIMA	2.21	274	eP		Pn	22 12 06.2	+3.9
KOHI				eS		Sn	22 12 28.5	-0.4
KOHI				IAML			22 12 39.1	
	comp=E,519nm,0.6s							
KOHI				IAML			22 12 39.1	
	comp=E,428nm,0.5s							
IMP	Imphal	2.48	253	eP		Pn	22 12 09.6	+3.8
IMP				eS		Sn	22 12 33.4	-1.8
IMP				eS		Sb	22 12 40.3	-0.6
IMP				IAML			22 12 41.6	
	comp=N,361nm,0.6s							
IMP				IAML			22 12 45.5	
	comp=E,461nm,0.8s							
AZL	Aizawl	3.96	243	eP		Pn	22 12 29.5	+3.3
AZL				eS		Sn	22 13 10.9	-1.2
AZL				IAML			22 13 23.6	
	comp=E,331nm,0.9s							
AZL				IAML			22 13 23.8	
	comp=E,238nm,0.6s							
SHL	Shillong	4.22	271			Pn	22 12 26.2	-3.7
SHL	Shillong	4.22	271	eP		Pn	22 12 32.2	+2.3
SHL				eS		Sn	22 13 13.9	-4.5
TAWA	Tawang	4.66	297	eP		Pn	22 12 40.5	+4.5
TAWA				eS		Sn	22 13 28.6	-0.8
TAWA				eS		Sb	22 13 34.1	-10
TAWA				IAML			22 13 37.4	
	comp=N,233nm,0.5s							
TAWA				IAML			22 13 37.6	
	comp=E,231nm,0.3s							
TAWA				IAML			22 13 44.7	
	comp=E,322nm,0.5s							
LSA	Lhasa	6.31	312	Pn		Pn	22 12 53.9	-5.0
GTK	Tadong	7.34	285	eP		Pn	22 13 15.5	+2.9
GTK				eS		Sn	22 14 31.3	-4.0
GTK				IAML			22 14 44.5	
	comp=E,221nm,0.9s							
GTK				IAML			22 14 47.1	
	comp=E,221nm,1.3s							
CMAR	Chiang Mai Arr	7.42	162	Pn		Pn	22 13 12.2	-1.5
	comp=E,0.6nm,0.3s,baz=338,slow=12,SNR=2.0							
CMAR				Pg		Pb	22 13 37.1	+2.1
	baz=349,slow=15							
CMAR				Lg		Lg	22 15 06.5	
	comp=E,0.4nm,0.3s,baz=332,slow=28,SNR=1.6							
	comp=E,1.1nm,0.3s							
WUS	Wushi	21.21	322	P		P	22 16 10.8	-0.1
SONM	Songino Array	23.54	17	P		P	22 16 33.6	-1.7
	comp=E,0.6nm,0.8s,baz=201,slow=12,SNR=4.8							
	comp=E,0.6nm,0.8s							
MK31	Makanchi Array	24.03	335	P		P	22 16 40.3	+0.4
MKAR	Makanchi Array	24.03	335	P		P	22 16 39.6	-0.2
MKAR	Makanchi Array	24.03	335	P		P	22 16 40.2	+0.3
	comp=E,1.3nm,0.5s,baz=146,slow=9.5,SNR=22							
	comp=E,1.3nm,0.5s							
MAKZ	Makanchi	24.16	335	P		P	22 16 41.4	+0.3
MAKZ				IAmb		IAmb	22 16 43.8	
	comp=Z,2.2nm,0.9s							
GAR	Garm	25.80	308	P		P	22 16 55.3	-0.8
GAR				IAmb		IAmb	22 16 57.5	
	comp=Z,6.1nm,0.7s							
KURBB	Kurchatov Arra	28.60	336	P		P	22 17 21.0	0.0
	comp=Z,0.3nm,0.6s,baz=152,slow=9.2,SNR=4.7							
	comp=Z,0.3nm,0.6s							
ZALV	Zalesovo Beam	29.66	346	P		P	22 17 30.3	0.0
	comp=Z,0.6nm,0.5s,baz=148,slow=8.5,SNR=2.6							
	comp=Z,0.6nm,0.5s							
BVAR	Borovoye Array	33.72	331	P		P	22 18 05.7	-0.3
	comp=Z,0.4nm,0.4s,baz=137,slow=9.9,SNR=4.4							
	comp=Z,0.4nm,0.4s							
JCJ	Chichijima	40.75	77	LR		LR	22 36 58.3	
	comp=Z,91nm,20.6s,baz=99,slow=38							
WRA	Warramunga Arr	58.27	137	P		P	22 21 19.4	-0.3
	comp=Z,0.3nm,0.7s,baz=324,slow=7.5,SNR=2.0							
	comp=Z,0.3nm,0.7s							
ASAR	Alice Springs	60.86	140	P		P	22 21 34.5	-3.0
	comp=Z,0.2nm,0.5s,baz=318,slow=6.4,SNR=4.3							
	comp=Z,0.2nm,0.5s							
HFS	Hagfors	64.67	327	LR		LR	22 52 27.1	
	comp=Z,98nm,18.9s,baz=273,slow=38							

*AFAD **15** 22:13:06.4, 40°.77N×27°.95E, h7km±4km, ML2.2*
*ISK **15** 22:13:06.8, 40°.79N×27°.92E, h19km, ML2.6/9*

ISC 15 22:13:06.7±1.2, 40°.79N±0°.03×27°.93E±0°.03, h15km±11km, n16, σ0°37/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TKR	Tekirdag	0.36	305		Pg	Pb	22 13 14.9	+0.1
EDC	Edincik	0.44	186		Pg	Pb	22 13 16.6	+0.4
EDC					Sg	Sb	22 13 23.1	+0.5
BAND	Balkesir-Ban	0.45	163		P	Pb	22 13 16.6	+0.3
BAND					S	Sg	22 13 21.2	-0.5
SLVT	Silivri	0.49	26		Pg	Pb	22 13 17.1	0.0
SLVT					Sg	Sb	22 13 24.9	+0.8
RKY	Sarkoy-Tekirda	0.58	260		Pg	Pb	22 13 18.8	+0.2
KRBG	Karabiga-Canak	0.62	231		Pg	Pb	22 13 19.4	+0.2
CTKS	Kestanelik-??a	0.63	44		Pg	Pb	22 13 19.7	+0.3
CTYL	Yalikoy Yolu

ASCN	Ascension	9.11	142	Pn	Pn	22 19 15.6	-0.9
MBO	M'Bour	15.27	11	Pn	Pn	22 20 38.9	-1.8
MBO				IAmb	IAmb	22 20 48.9	
	comp=Z,52nm,1.0s						
BBTS	Babate	15.62	12	Pn	Pn	22 20 43.4	-1.9
	comp=Z,2.5nm,0.3s,baz=218,slow=1.1,SNR=5.3						
BBTS				Sn	Sn	22 23 21.1	-17
	comp=Z,0.9nm,0.3s,baz=336,slow=20,SNR=1.5						
	comp=Z,15nm,0.6s						
RCBR	Riachuelo	16.71	252	Pn	Pn	22 20 57.2	-2.1
RCBR	Riachuelo	16.71	252	Pn	P	22 21 01.2	-0.3
	comp=Z,0.2nm,0.3s,baz=84,slow=19,SNR=1.8						
DBIC	Dimbokro	16.75	64		Pn	22 20 57.9	-1.8
DBIC	Dimbokro	16.75	64	Pn	P	22 21 01.1	-0.8
	comp=Z,2.6nm,0.3s,baz=249,slow=13,SNR=35						
DBIC				Sn	Sn	22 23 51.8	-14
	comp=Z,0.5nm,0.3s,baz=120,slow=18,SNR=5.3						
DBIC				LR	LR	22 26 03.0	
	comp=Z,97nm,19.8s,baz=186,slow=32						
	comp=Z,7.0nm,0.4s						
TORD	Torodi Ar. Bea	25.50	57		P	22 22 32.5	-0.8
TORD				IAmb	IAmb	22 22 37.4	
	comp=Z,8.9nm,1.4s						
TORD	Torodi Ar. Bea	25.50	57	P	P	22 22 35.5	+2.1
	comp=Z,7.3nm,0.6s,baz=247,slow=9.5,SNR=40						
	comp=Z,7.3nm,0.6s						
BDFB	Brasilia	31.42	240	LR	LR	22 35 05.7	
	comp=Z,83nm,19.3s,baz=124,slow=34						
MDP	Montagnes des	33.15	280	LR	LR	22 33 52.9	
	comp=Z,62nm,19.3s,baz=137,slow=30						
TAM	Tamanrasset	34.06	45	P	P	22 23 47.1	-2.5
TAM				IAmb	IAmb	22 23 53.6	
	comp=Z,3.6nm,0.9s						
MDT	Midelt	36.34	22	LR	LR	22 38 02.0	
	comp=Z,41nm,21.6s,baz=230,slow=35						
PFVI	Vila Bisbo	39.02	14	P	P	22 24 30.6	-0.8
PFVI				IAmb	IAmb	22 24 44.6	
	comp=Z,39nm,1.0s						
PVAQ	Vaqueiros	39.56	15	P	P	22 24 34.7	-1.2
PVAQ				IAmb	IAmb	22 24 38.1	
	comp=Z,27nm,1.5s						
CART	Cartagena	41.92	23	P	P	22 24 54.0	-1.5
CART				IAmb	IAmb	22 24 55.8	
	comp=Z,58nm,1.2s						
PAB	San Pablo	42.52	18	P	P	22 24 59.0	-1.3
ESDC	Sonseca Array	42.75	18	P	P	22 25 03.8	+1.6
	comp=Z,1.1nm,0.9s,baz=204,slow=9.9,SNR=6.6						
	comp=Z,1.1nm,0.9s						
ILAM	Ilet Lapin Mar	43.28	292	P	P	22 25 06.1	-0.7
CPUP	Villa Florida	44.08	232	LR	LR	22 42 55.4	
	comp=Z,32nm,18.3s,baz=43,slow=35						
KEST	Kesra	45.37	34	LR	LR	22 45 56.0	
	comp=Z,135nm,18.4s,baz=306,slow=38						
WDD	Wied Dalam	48.49	38	P	P	22 25 46.9	-0.7
SJG	San Juan	49.11	295	LR	LR	22 41 37.5	
	comp=Z,37nm,21.5s,baz=188,slow=30						
VAE	Valguarnera	49.51	36	LR	LR	22 47 43.3	
	comp=Z,63nm,18.1s,baz=44,slow=37						
SUR	Sutherland	49.68	134	LR	LR	22 42 12.4	
	comp=Z,33nm,20.1s,baz=222,slow=30						
LSZ	Lusaka	49.68	109	LR	LR	22 45 25.7	
	comp=Z,30nm,18.1s,baz=252,slow=34						
AOPR	Arecibo Observ	49.72	295	P	P	22 25 56.5	-0.9
AOPR				IAmb	IAmb	22 26 05.2	
	comp=Z,34nm,1.2s						
LPAZ	La Paz	49.93	249	P	P	22 25 59.9	+0.2
LPAZ	La Paz	49.93	249	P	P	22 26 04.4	+4.7
	comp=Z,1.8nm,0.8s,baz=42,slow=2.8,SNR=4.5						
	comp=Z,1.8nm,0.8s						
CRPR	Cabo Rojo, PR	49.95	294	P	P	22 25 57.9	-1.2
LBTB	Lobatse	50.19	123	LR	LR	22 43 01.9	
	comp=Z,40nm,21.9s,baz=216,slow=31						
SDV	Santo Domingo	51.37	282	LR	LR	22 47 56.9	
	comp=Z,37nm,18.5s,baz=250,slow=36						
PB08	IPOC Station P	51.83	245	P	P	22 26 13.0	-0.7
PB08				IAmb	IAmb	22 26 23.6	
	comp=Z,6.0nm,0.8s						
PB09	IPOC Station P	52.37	243	P	P	22 26 16.8	-0.6
PB09				IAmb	IAmb	22 26 41.7	
	comp=Z,9.1nm,1.1s						
PB12	IPOC Station P	52.51	247	P	P	22 26 17.9	-0.5
PB12				IAmb	IAmb	22 26 25.1	
	comp=Z,15nm,1.2s						
BBSR	BB Station	53.51	312	P	P	22 26 23.4	-2.0
FUORN	Ofenpass-Fuorn	54.06	25	P	P	22 26 29.0	-0.6
WLF	Walferdange	54.95	20	P	P	22 26 35.6	0.0
WLF				IAmb	IAmb	22 26 47.2	
	comp=Z,14nm,1.3s						
IDI	Anoyia	55.03	45	P	P	22 26 35.3	-1.3
GERES	GERESS Array B	57.26	26	P	P	22 26 54.6	+2.2
	comp=Z,0.5nm,0.7s,baz=218,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,0.7s						
EIL	Elat	60.37	55	LR	LR	22 53 29.2	
	comp=Z,23nm,18.5s,baz=230,slow=36						
MLR	Muntele Rosu	61.25	35	LR	LR	22 55 37.1	
	comp=Z,30nm,20.4s,baz=66,slow=38						
BRTR	Keskin Array B	63.25	44	P	P	22 27 35.9	+2.3
	comp=Z,0.8nm,0.8s,baz=227,slow=4.9,SNR=3.6						
	comp=Z,0.8nm,0.8s						
AKASG	Malin Array Be	66.02	32	P	P	22 27 52.6	+1.3
	comp=Z,0.7nm,0.7s,baz=236,slow=7.4,SNR=2.7						
	comp=Z,0.7nm,0.7s						
HFS	Hagfors	66.03	18	P	P	22 27 53.6	+2.4
	comp=Z,2.0nm,0.7s,baz=241,slow=5.9,SNR=1.3						
	comp=Z,2.0nm,0.7s						
NOA	NORSAR Array B	66.05	16	LR	LR	22 57 36.5	
	comp=Z,16nm,16.4s,baz=10.0,slow=37						
KBZ	Khabaz	71.19	43	P	P	22 28 26.1	+2.5
	comp=Z,2.6nm,0.9s,baz=252,slow=9.6,SNR=5.9						
	comp=Z,2.6nm,0.9s						
TXAR	Lajitas Array	84.84	299	P	P	22 29 42.9	+2.9
	comp=Z,0.5nm,0.7s,baz=120,slow=4.9,SNR=4.9						
	comp=Z,0.5nm,0.7s						
YKA	Yellowknife Ar	92.76	332	P	P	22 30 19.6	+2.8
	comp=Z,0.3nm,0.8s,baz=87,slow=5.1,SNR=2.1						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	144.92	135	PKPbc	PKiKP	22 36 46.0	-0.6
	comp=Z,5.6nm,0.9s,baz=226,slow=2.7,SNR=30						
WRA	Warramunga Arr	147.52	131	PKPbc	PKiKP	22 36 55.0	+3.0
	comp=Z,0.5nm,0.7s,baz=237,slow=3.5,SNR=2.5						

NEIC ***15*** *22:19:58.1±1.5, 15°.2S±0°.2×178°.8W±0°.1, h420km±10km, mb4.6/32, Error ellipse: s-maj=25.7km s-min=16.8km az=155.0*

IDC ***15*** *22:20:02.2±3.4, 15°.48S×179°.21W, h427km±22km, mb3.8/5, mbtmp4.6/7, Error ellipse: s-maj=47.9km s-min=24.6km az=32.0*

ISC 15 22:19:56.9±0.6, 15°.1S±0°.1×178°.87W±0°.09, h400km, n48, σ1§55/50, mb4.5/19, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	1.06	43	P	Pn	22 20 51.9	+3.6
MSVF	Nonsavu	3.95	228		Pn	22 21 11.0	+2.4
MSVF	Nonsavu	3.95	228	P	Pn	22 21 11.2	+2.6
	77nm,0.4s,baz=58,slow=9.5,SNR=163						
NIUE	Niue	9.43	116	P	Pn	22 22 10.6	+2.3
PINNC	Pines Island,	14.95	238	P	P	22 23 09.3	+0.5
DZM	Mont Dzumac	15.55	241	P	P	22 23 16.7	+1.3
DZM				IAmb	IAmb	22 23 17.8	
	comp=Z,55nm,1.4s						
DZM	Mont Dzumac	15.55	241	P	P	22 23 16.8	+1.3
	comp=Z,15nm,1.1s,baz=337,slow=18,SNR=2.5						
RAR	Rarotonga	19.14	111	P	P	22 23 50.7	-2.6
URZ	Urewera	23.35	188	P	P	22 24 29.8	-1.8
	comp=Z,4.2nm,0.5s,baz=27,slow=4.5,SNR=2.4						
	comp=Z,4.2nm,0.5s						
MRZ	Mangatainoka R	25.93	190		P	22 24 52.5	-2.2
MRZ				IAmb	IAmb	22 25 31.6	
	comp=Z,36nm,1.3s						
QRZ	Quartz Range	26.71	195	P	P	22 25 00.4	-1.2
QRZ				IAmb	IAmb	22 25 14.9	
	comp=Z,54nm,1.3s						
SNZO	South Karori	26.71	191	P	P	22 25 01.6	+0.1
TKNZ	Takaka Hill	26.81	194	P	P	22 25 01.8	-0.7
NNZ	Nelson	26.89	193	P	P	22 25 01.8	-1.3
MRNZ	Matariki Terra	27.20	194	P	P	22 25 04.7	-1.2
THZ	Tophouse	27.51	193	P	P	22 25 07.6	-1.2
THZ				IAmb	IAmb	22 25 18.1	
	comp=Z,51nm,1.2s						
DSZ	Denniston Nort	27.76	195	P	P	22 25 09.7	-1.1
KHZ	Kahutara	28.00	192	P	P	22 25 11.8	-1.1
LTZ	Lake Taylor	28.63	194	P	P	22 25 15.7	-2.8
LTZ				IAmb	IAmb	22 25 53.3	
	comp=Z,33nm,1.2s						
INZ	Inchbonnie	28.77	195	P	P	22 25 17.4	-2.3
INZ				IAmb	IAmb	22 25 53.7	
	comp=Z,73nm,1.5s						
OXZ	Oxford	29.20	194	P	P	22 25 21.4	-2.1
OXZ				IAmb	IAmb	22 25 22.8	
	comp=Z,29nm,1.2s						
MQZ	McQueen's Vall	29.43	193	P	P	22 25 23.2	-2.2
FOZ	Fox Glacier	29.95	197	P	P	22 25 28.8	-1.2
FOZ				IAmb	IAmb	22 25 40.9	
	comp=Z,66nm,1.4s						
LBZ	Lake Benmore	30.65	195	P	P	22 25 33.9	-2.2
LBZ				IAmb	IAmb	22 26 15.5	
	comp=Z,25nm,1.2s						
ARMA	Armidale	31.07	236	P	P	22 25 39.7	-0.3
ARMA				IAmb	IAmb	22 25 43.0	
	comp=Z,23nm,1.4s						
WKZ	Wanaka	31.37	197	P	P	22 25 40.4	-2.0
MLZ	Mavora Lakes	32.12	197	P	P	22 25 48.3	-0.5
MLZ				IAmb	IAmb	22 25 52.4	
	comp=Z,48nm,1.3s						
WHZ	Wether Hill Ro	32.65	197	P	P	22 25 53.0	-0.4
WHZ				IAmb	IAmb	22 25 53.8	
	comp=Z,29nm,0.8s						
TOO	Toolangi	38.66	228	P	P	22 26 42.8	-1.2
STKA	Stephens Creek	39.66	238	P	P	22 26 52.4	+0.1
STKA	Stephens Creek	39.66	238	P	P	22 26 52.2	-0.1
	comp=Z,5.7nm,0.8s,baz=68,slow=9.3,SNR=14						
	comp=Z,5.7nm,0.8s						
WB0	Warramunga Arr	44.73	257	P	P	22 27 31.9	-0.9
WB2	Warramunga Arr	44.76	257	P	P	22 27 31.7	-1.3
WRA	Warramunga Arr	44.77	257	P	P	22 27 31.6	-1.5
WRA	Warramunga Arr	44.77	257	P	P	22 27 32.2	-0.9
	comp=Z,1.1nm,0.3s,baz=95,slow=7.8,SNR=43						
WRA				PcP	PcP	22 29 08.3	+1.0
	comp=Z,0.4nm,0.5s,baz=90,slow=3.7,SNR=3.2						
	comp=Z,1.1nm,0.3s						
AS31	Alice Springs	45.19	252	P	P	22 27 35.9	-0.5
AS31				IAmb	IAmb	22 27 36.6	
	comp=Z,10nm,0.4s						
ASAR	Alice Springs	45.19	252	P	P	22 27 36.1	-0.2
	comp=Z,15nm,0.4s,baz=84,slow=8.6,SNR=305						
ASAR				PcP	PcP	22 29 09.7	+0.9
	comp=Z,0.6nm,0.7s,baz=94,slow=4.3,SNR=3.5						
	comp=Z,15nm,0.4s						
KNRA	Kununurra	50.38	262	P	P	22 28 14.7	-1.0
FORT	Forrest	50.86	243	P	P	22 28 18.2	-0.8
FORT				IAmb	IAmb	22 28 19.0	
	comp=Z,16nm,0.6s						
FITZ	Fitzroy Crossi	53.10	259	P	P	22 28 35.5	0.0
QSPA	South Pole Qui	74.95	180	P	P	22 30 56.4	+1.1
QSPA				IAmb	IAmb	22 30 57.0	
	comp=Z,7.3nm,0.9s						
QSPA	South Pole Qui	74.95	180	P	P	22 30 56.3	+1.1
	comp=Z,4.5nm,0.6s,baz=46,slow=0.7,SNR=16						
	comp=Z,4.5nm,0.6s						
PNTR	Pine Nut	77.19	43	P	P	22 31 07.1	-1.2
PNTR				IAmb	IAmb	22 31 35.8	
	comp=Z,21nm,1.4s						
YNE	Yellowstone No	86.29	42	P	P	22 31 53.1	-2.0
TROLL	Troll, Antarti	93.11	180	P	P	22 32 26.4	+0.1
TROLL	Troll, Antarti	93.11	180	⇓P	P	22 32 26.4	+0.1
	comp=Z,250nm,1.1s						
L34A	Svendsen Farm,	94.49	48	P	P	22 32 32.4	-0.6
MMAI	Mount Meron Ar	144.19	306	PKP	PKPdf	22 38 47.9	+1.5
	comp=Z,4.0nm,0.5s,baz=62,slow=5.1,SNR=14						

IDC 15 22:43:07.2±15.0, 6°.42S×129°.90E, h171km±164km, mb3.0/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=117.6km s-min=57.7km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.33	199	P	Pn	22 45 58.3	+1.1
	0.1nm,0.3s,baz=22,slow=11,SNR=2.1						
FITZ				S	Sn	22 48 08.8	-5.2
	1.0nm,0.6s,baz=27,slow=16,SNR=2.0						
	1.9nm,1.0s						
WRA	Warramunga Arr	14.12	163	P	Pn	22 46 18.2	-1.6
	0.2nm,0.3s,baz=343,slow=12,SNR=5.7						
WRA				S	Sn	22 48 43.0	-14
	0.5nm,0.4s,baz=333,slow=23,SNR=7.2						
	0.2nm,0.4s						
ASAR	Alice Springs	17.58	168	P	P	22 47 00.9	+0.4
	0.1nm,0.3s,baz=345,slow=10,SNR=7.6						
	0.5nm,0.6s						
MKAR	Makanchi Array	67.69	327	P	P	22 53 46.0	0.0
	0.3nm,0.5s,baz=121,slow=6.8,SNR=5.0						
	0.3nm,0.5s						

IDC ***15*** *22:54:13.3±0.5, 53°.82N×163°.09W, h0km, mb4.6/39, mbtmp4.6/42, ML3.9/3, MS4.4/66, Error ellipse: s-maj=16.2km s-min=9.0km az=178.0*

AEIC ***15*** *22:54:14.9±2.4, 53°.54N±0°.04×162°.89W±0°.06, h2km±3km, Error ellipse: s-maj=6.5km s-min=5.3km az=161.0*

MOS ***15*** *22:54:14.4±1.0, 53°.75N×163°.01W, h21km, mb5.3/124, MS4.6/8, Error ellipse: s-maj=7.3km s-min=3.6km az=95.3*

BJI ***15*** *22:54:16.0, 53°.80N×162°.90W, h35km, mB5.3/31, mb5.0/78, Ms5.0/57, Ms7 4.7/53*

NEIC ***15*** *22:54:17.9, 53°.71N×162°.98W, h26km*

NEIC ***15*** *22:54:17.6±2.1, 53°.65N±0°.05×162°.93W±0°.07, h35km±1km, mb4.9/309, ML4.7/16, Mwws 1.5/54, Error ellipse: s-maj=9.4km s-min=6.3km az=158.0*

NEIC ***15*** *22:54:17.9, 53°.21N×162°.98W, h26km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^{16}Nm; M_{rr}2.67; $M_{\theta\theta}$-3.06; $M_{\phi\phi}$0.39; $M_{r\theta}$4.38; $M_{\theta\phi}$-1.80; $M_{\phi r}$1.21; Fault plane solution: $M_0$5.60000×10^{16} NP1: ϕ_s234.08000°, δ18.63000°, λ70.71000°. NP2:ϕ_b74.35000°, δ72.46000°, λ96.35000°. Principal axes: T 5.0551, Plg62.0000°, Azm354.0000°; N 1.0905, Plg6.0000°, Azm252.0000°; P -6.1456, Plg27.0000°, Azm159.0000°;*

GCMT ***15*** *22:54:18.6±0.2, 53°.59N±0°.01×162°.82W±0°.03, h16km, MW5.1/104, Moment Tensor Solution. s59,c79; s104,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.00±.13; $M_{\theta\theta}$-3.41±.11; $M_{\phi\phi}$0.40±.09; $M_{r\theta}$3.20±.31; $M_{\theta\phi}$-1.30±.06; $M_{\phi r}$2.05±.30; Best double couple: $M_0$5.12300×10^{16} NP1:ϕ_s270.00000°, δ23.00000°, λ118.00000°. NP2:ϕ_b60.00000°, δ70.00000°, λ79.00000°. Principal axes: T 4.8120, Plg64.0000°, Azm312.0000°; N 0.6130, Plg10.0000°, Azm64.0000°; P -5.4330, Plg24.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 22:54:16.8±0.4, 53°.70N±0°.04×162°.93W±0°.03, h31km±2km, h33km:pP-P, n1212, σ1§23/1195, mb5.0/312, MS4.4/89, 55C-47D, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	Isanotski Laza	1.12	336		Pb	22 54 37.5	-0.2
ISLZ					Sn	22 54 55.5	+4.7
FALS	False Pass	1.19	346		Pb	22 54 37.3	-1.5
FALS				Sn	Sn	22 54 54.6	+2.2
FALS	False Pass	1.19	346	P	Pb	22 54 37.5	-1.3
	baz=167,SNR=97						
FALS	False Pass	1.19	346	P	Pb	22 54 38.2	-0.5
SSLS	Shishaldin Sou	1.19	329		Pb	22 54 38.8	0.0
ISNN	Isanotski Nort	1.24	337		Pb	22 54 39.2	-0.3
ISNN					Sn	22 54 58.8	+5.3
WESE	West Dahl East	1.24	309		Pb	22 54 38.6	-1.1
WECS	Westdahl Cape	1.37	308		Pb	22 54 40.5	-1.3
WEBT	Westdahl Beart	1.39	310		Pb	22 54 41.2	-1.0
AKSA	Akutan Strait	1.69	286		Pn	22 54 44.3	+0.1
AKSA					Sn	22 55 06.1	+1.4
HAG	Hague Volcano	1.73	20		Pb	22 54 46.0	-1.7
HAG	Hague Volcano	1.73	20	P	Pb	22 54 46.1	-1.7
AHB	Akutan Harbor	1.75	285		Pn	22 54 45.0	0.0
PS4A	Pavlof South-4	1.76	20		Pb	22 54 46.5	-1.9
PVV	Pavlof Volcano	1.80	21		Pb	22 54 47.4	-1.7
PN7A	Pavlof North-7	1.82	17		Pb	22 54 48.0	-1.4
AKBBA	Akutan Broad B	1.82	284		Pn	22 54 46.5	+0.6
AKBBA					Sb	22 55 10.7	-1.1
ZRO	Akutan Zero	1.84	283		Pn	22 54 46.5	+0.2
ZRO					Sb	22 55 11.3	-1.1
PS1A	Pavlof South-1	1.86	21		Pb	22 54 48.0	-2.0
AKGG	Akutan Green G	1.88	287		Pn	22 54 47.6	+0.9
AKGG					Sb	22 55 12.7	-0.7
LVA	Lava Point	1.89	285	Pn	Pn	22 54 47.0	+0.1
LVA				IAML		22 55 29.4	
	comp=E,6μm,0.7s						
S12K	Black Hills	2.07	14		Pn	22 54 49.1	-0.2
S12K				Sn	Sb	22 55 17.0	-1.9
S12K				IAML		22 55 40.0	
	comp=E,4μm,0.8s						
S12K	Black Hills	2.07	14	P	Pb	22 54 50.8	-2.8
	baz=195,SNR=64						
UNV	Unalaska Valle	2.12	275	Pn	Pn	22 54 49.2	-0.8
UNV	Unalaska Valle	2.12	275		Sn	22 55 17.4	+2.0
UNV	Unalaska Valle	2.12	275	P	Pn	22 54 49.3	-0.8
	baz=92,SNR=27						
MTBL	Makushin Table	2.24	278		Sb	22 55 22.5	-1.3
CNBA	Chernabura Isl	2.26	59	Pn	Pn	22 54 51.6	-0.3
CHNA	Chernabura Isl	2.26	59	P	Pn	22 54 51.7	-0.3
	baz=242						
CHNA	Chernabura Isl	2.26	59	P	Pn	22 54 51.7	-0.3
OKFG	Magazine Ridge	2.98	266		Pn	22 55 02.7	+0.8
OKRE	Okmok R'deer P	3.12	269		Pn	22 55 04.3	+0.5
OKWE	Okmok W'ng Wal	3.17	268		Pn	22 55 05.4	+0.9
VNSS	Veniaminof 8	3.23	37		Pn	22 55 07.4	+2.0
S14K	Fog Glacier	3.24	36	P	Pn	22 55 06.1	+0.6
	baz=219						
VNFG	Fog Glacier, M	3.24	36		Pn	22 55 07.6	+2.2
VNFG	Fog Glacier, M	3.24	36	IAML		22 56 12.1	
	comp=N,3μm,1.4s						
CHGN	Chignik	3.68	43		Pn	22 55 12.0	+0.6
CHGN				IAML		22 56 34.4	
	comp=E,891nm,1.1s						
CHGN	Chignik	3.68	43	P	Pn	22 55 12.3	+0.8
	baz=227,SNR=26						
CHIR	Chirikof Islan	4.74	60		Pn	22 55 25.4	-0.5
CHIR	Chirikof Islan	4.74	60	IAML		22 57 05.0	
	comp=N,439nm,1.4s						
CHIR				IAML		22 57 08.0	
	comp=E,643nm,2.0s						
CHIR	Chirikof Islan	4.74	60	P	Pn	22 55 25.6	-0.3
	baz=246						
CHIR	Chirikof Islan	4.74	60	P	Pn	22 55 25.4	-0.5
P08K	Saint George I	4.78	310		Pn	22 55 25.2	-1.2
P08K				IAML		22 57 13.6	
	comp=N,877nm,2.2s						
P08K				IAML		22 57 24.8	
	comp=E,762nm,2.0s						
P08K	Saint George I	4.78	310	P	Pn	22 55 26.7	+0.2
	baz=125						
R16K	Pilot Point	4.92	36	Pn	Pn	22 55 29.8	+1.4
R16K	Pilot Point	4.92	36	P	Pn	22 55 28.9	+0.5
	baz=220						
SPIA	Saint Paul Isl	5.43	313	Pn	Pn	22 55 34.5	-0.9
SPIA	Saint Paul Isl	5.43	313	P	Pn	22 55 35.1	-0.3
	baz=127						
O14K	Tigyukauivet M	5.64	9		Pn	22 55 39.5	+1.2
O14K	Tigyukauivet M	5.64	9	P	Pn	22 55 38.8	+0.5
	baz=190						
O15K	Ungalikthiuk R	5.75	16		Pn	22 55 40.7	+0.9
O15K	Ungalikthiuk R	5.75	16	P	Pn	22 55 40.5	+0.6
	baz=199						
SII	Sitkinak Islan	5.78	57	Pn	Pn	22 55 40.1	-0.2
SII	Sitkinak Islan	5.78	57	P	Pn	22 55 40.5	+0.2
	baz=244,SNR=8.7						
SII	Sitkinak Islan	5.78	57	P	Pn	22 55 39.8	-0.5
P16K	Nushagak River	6.00	25	P	Pn	22 55 44.8	+1.4
	baz=210,SNR=8.6						
Q16K	King Salmon	6.09	33	P	Pn	22 55 45.8	+1.3
	baz=218						
ANCK	Angle Creek	6.14	40		Pn	22 55 46.2	+0.9
R18K	Karluk	6.17	48	P	Pn	22 55 46.3	+0.8
	baz=235						
ACHA	Angle Creek He	6.21	40	Pn	Pn	22 55 46.9	+0.6
N14K	Kuskokwak Cree	6.28	6		Pn	22 55 48.7	+1.7
N14K	Kuskokwak Cree	6.28	6	P	Pn	22 55 48.0	+1.0
	baz=187						
O16K	Kokwok River B	6.48	22	Pn	Pn	22 55 50.4	+0.5
O16K	Kokwok River B	6.48	22	P	Pn	22 55 50.8	+0.9
	baz=206						
OHAK	Old Harbor	6.52	53	Pn	Pn	22 55 50.0	-0.4
OHAK	Old Harbor	6.52	53	P	Pn	22 55 50.3	-0.1
	baz=241						
OHAK	Old Harbor	6.52	53	P	Pn	22 55 49.1	-1.3
P17K	Kvichak River	6.58	31		Pn	22 55 53.1	+2.0
P17K	Kvichak River	6.58	31	P	Pn	22 55 51.8	+0.6
	baz=216,SNR=5.8						
N15K	Kwethluk River	6.67	12	Pn	Pn	22 55 53.4	+0.9
N15K	Kwethluk River	6.67	12	P	Pn	22 55 53.3	+0.9
	baz=195						
M13K	Dall Lake	6.73	358	Pn	Pn	22 55 55.5	+2.3
M13K	Dall Lake	6.73	358	P	Pn	22 55 54.4	+1.1
	baz=178						
O17K	Koliganek Bris	6.88	25		Pn	22 55 56.3	+1.0
O17K	Koliganek Bris	6.88	25	P	Pn	22 55 56.7	+1.4
	baz=210,SNR=10						
M11K	Mekoryuk	6.93	346		Pn	22 55 57.1	+1.1
M11K	Mekoryuk	6.93	346	P	Pn	22 55 56.6	+0.6
	baz=164						
ATKA	Atka Island	6.97	262	Pn	Pn	22 55 57.5	+0.9
M14K	Bethel	7.09	4		Pn	22 55 59.2	+1.0
M14K	Bethel	7.09	4	P	Pn	22 55 59.4	+1.2
	baz=185,SNR=11						
P18K	Big Mountain,	7.11	34	Pn	Pn	22 56 00.1	+1.5
P18K	Big Mountain,	7.11	34	P	Pn	22 55 59.6	+1.0
	baz=220						
M15K	Kasigluk River	7.12	9		Pn	22 56 00.0	+1.4
M15K	Kasigluk River	7.12	9	P	Pn	22 55 59.5	+0.9
	baz=191						
KDAK	Kodiak Island	7.13	51	Pn	Pn	22 55 58.4	-0.3
KDAK	Kodiak Island	7.13	51	Pn	Pn	22 55 57.2	-1.5
	comp=E,1.0nm,0.3s,baz=202,slow=16,SNR=16						

baz=209
CNPM China Poot 8.69 43 Pn Pn 22 56 20.6 +0.4
L17K Donlin 8.80 14 P Pn 22 56 22.0 +0.3
baz=198
KIWB Kanaga Island 8.82 264 Pn Pn 22 56 22.6 +0.6
BRLK Bradley Lake 8.98 43 Pn Pn 22 56 24.0 -0.1
BRSE Bradley Lake S 9.02 43 P Pn 22 56 26.2 +1.5
baz=233
J14K Nanvaranak Lak 9.08 358 Pn 22 56 27.7 +2.3
J14K Nanvaranak Lak 9.08 358 P Pn 22 56 26.5 +1.0
baz=178
L18K Granite Mounta 9.16 19 Pn 22 56 27.8 +1.2
L18K Granite Mounta 9.16 19 P Pn 22 56 27.5 +1.0
baz=204,SNR=9.0
K17K Iditarod 9.36 13 Pn Pn 22 56 30.5 +1.1
K17K Iditarod 9.36 13 P Pn 22 56 30.1 +0.8
baz=197
M19K Big River Lodg 9.39 26 P Pn 22 56 30.4 +0.6
baz=213
SPCR Spurr Chakacha 9.47 33 P Pn 22 56 32.2 +1.3
baz=222
SPU Mount Spurr 9.51 34 Pn 22 56 33.0 +1.7
L19K White Mountain 9.52 24 Pn 22 56 33.3 +1.8
L19K White Mountain 9.52 24 P Pn 22 56 32.5 +1.0
baz=210
CAPN Captain Cook N 9.52 37 Pn Pn 22 56 33.1 +1.6
J16K Anvik River 9.69 6 Pn Pn 22 56 35.9 +2.1
J16K Anvik River 9.69 6 P Pn 22 56 35.0 +1.2
baz=188
SLKM Skilak Lake 9.70 40 Pn 22 56 34.9 +0.8
M20K Styx River 9.71 29 P Pn 22 56 34.9 +0.6
baz=217
SEW Seward 9.76 44 Pn 22 56 34.5 -0.2
SEW Seward 9.76 44 P Pn 22 56 35.3 +0.5
baz=235
GANE Gareloi Northe 9.79 265 Pn 22 56 35.1 -0.1
STLK Strandline Lak 9.81 33 Pn 22 56 36.8 +1.2
O22K Cooper Landing 9.88 41 Pn Pn 22 56 37.1 +0.7
O22K Cooper Landing 9.88 41 P Pn 22 56 37.0 +0.6
baz=232
J17K VABM Dome 9.93 10 P Pn 22 56 38.3 +1.2
baz=194
TTA Tatalina 9.94 19 Pn 22 56 38.0 +0.7
TTA Tatalina 9.94 19 P Pn 22 56 38.5 +1.2
baz=205,SNR=8.9
TTA Tatalina 9.94 19 P Pn 22 56 38.0 +0.7
L20K Farewell, AK 10.01 25 P Pn 22 56 39.3 +1.1
baz=213
RC01 Rabbit Creek A 10.25 39 Pn 22 56 40.6 -1.0
RC01 Rabbit Creek A 10.25 39 P Pn 22 56 42.4 +0.8
baz=230
SKT Skwentna 10.27 32 Pn 22 56 42.7 +0.9
SKT Skwentna 10.27 32 P Pn 22 56 42.8 +0.9
baz=221,SNR=8.8
I17K Unalakleet 10.28 6 P Pn 22 56 43.0 +1.1
baz=188,SNR=5.7
J18K Innoko River 10.31 16 P Pn 22 56 43.4 +1.1
baz=201
P23K Montague Islan 10.57 47 P Pn 22 56 45.0 -0.9
baz=240
PWL Port Wells 10.65 42 Pn 22 56 46.6 -0.4
PWL Port Wells 10.65 42 P Pn 22 56 46.6 -0.4
baz=234
K20K Telida 10.72 22 P Pn 22 56 48.6 +0.6
baz=210
Q23K Middleton Isla 10.78 51 P Pn 22 56 49.3 +0.5
baz=245
PPLA Purkeypile 10.79 27 Pn 22 56 51.1 +2.1
PPLA Purkeypile 10.79 27 P Pn 22 56 50.4 +1.3
baz=216
KNK Knik Glacier 10.94 39 Pn 22 56 50.1 -0.8
KNK Knik Glacier 10.94 39 P Pn 22 56 51.5 +0.6
baz=232
ANM Nome 10.97 354 Pn 22 56 51.3 0.0
ANM Nome 10.97 354 P Pn 22 56 51.7 +0.4
baz=172
ANM Nome 10.97 354 P Pn 22 56 51.3 0.0
H16K Elim 10.97 2 P Pn 22 56 52.0 +0.6
baz=182
J19K Poorman 10.98 17 Pn Pn 22 56 53.0 +1.5
J19K Poorman 10.98 17 P Pn 22 56 52.7 +1.2
baz=204
GHO Glory Hole Cre 11.00 37 Pn 22 56 50.5 -1.3
GAMB Gambell 11.07 339 Pn Pn 22 56 53.6 +1.0
GAMB Gambell 11.07 339 P Pn 22 56 53.4 +0.8
baz=152
HIN Hinchinbrook I 11.16 47 Pn 22 56 53.2 -0.8
GLI Glacier Island 11.16 44 P Pn 22 56 54.9 +0.9
baz=237
SML Sawmill 11.23 38 Pn 22 56 53.8 -1.2
SML Sawmill 11.23 38 P Pn 22 56 55.5 +0.5
baz=230
SML Sawmill 11.23 38 P Pn 22 56 53.8 -1.2
CAST Castle Rocks 11.25 26 Pn 22 56 55.8 +0.6
CAST Castle Rocks 11.25 26 P Pn 22 56 56.3 +1.1
baz=215,SNR=7.5
G15K Niukluk 11.34 358 P Pn 22 56 57.5 +1.1
baz=177
H17K Granite Mounta 11.37 7 P Pn 22 56 58.6 +1.7
baz=189
J20K Nowinta River 11.43 20 Pn Pn 22 56 58.7 +1.1
J20K Nowinta River 11.43 20 P Pn 22 56 58.4 +0.9
baz=207,SNR=21
M23K Glacier View 11.45 39 P Pn 22 56 57.4 -0.5
baz=232
GCSA Galena City Sc 11.49 13 P Pn 22 57 00.4 +1.9
baz=198
EYAK Cordova Ski Ar 11.56 47 Pn Pn 22 56 58.6 -0.8
EYAK Cordova Ski Ar 11.56 47 P Pn 22 56 59.9 +0.5
baz=241
CHUM Lake Minchumin 11.58 24 P Pn 22 57 00.9 +1.3
baz=213
SCM Sheep Creek Mo 11.62 39 Pn 22 56 59.0 -1.3
SCM Sheep Creek Mo 11.62 39 P Pn 22 57 00.2 -0.1
baz=233
SCM Sheep Creek Mo 11.62 39 P Pn 22 56 59.1 -1.3
KTH Kantishna Hill 11.67 27 Pn Pn 22 57 01.9 +1.0
H18K Honhosa River 11.71 10 P Pn 22 57 02.3 +0.8
baz=194
G16K Koyuk River 11.73 1 Pn 22 57 03.0 +1.3
G16K Koyuk River 11.73 1 P Pn 22 57 03.1 +1.3
baz=182
TRF Thorofare Moun 11.76 29 Pn 22 57 03.0 +0.6
TRF Thorofare Moun 11.76 29 P Pn 22 57 02.0 -0.3
baz=220,SNR=15
DIV Divide 11.84 44 Pn 22 57 03.0 -0.3
KAIM Kayak Island 11.88 51 Pn 22 57 04.5 +0.6
KAIM Kayak Island 11.88 51 P Pn 22 57 04.4 +0.6
baz=246
I20K Naaghedeneel 11.92 18 P Pn 22 57 05.6 +1.2
baz=205
F14K Arctic Creek 11.93 353 P Pn 22 57 05.3 +0.8
baz=170
RAGM Ragged Mountai 11.96 49 Pn 22 57 04.5 -0.4
KLU Klutina 11.97 43 Pn 22 57 04.3 -0.9
KLU Klutina 11.97 43 P Pn 22 57 04.5 -0.6
baz=237,SNR=12
F15K North Star Dit 12.07 357 P Pn 22 57 07.2 +0.7
baz=175
BPAW Bear Paw Mtn. 12.09 26 Pn 22 57 06.5 -0.2
BPAW Bear Paw Mtn. 12.09 26 P Pn 22 57 07.0 +0.4
baz=216,SNR=7.4
HMT Hamilton 12.12 49 Pn 22 57 07.6 +0.5
RND Reindeer 12.16 31 Pn 22 57 07.1 -0.6
RND Reindeer 12.16 31 P Pn 22 57 07.1 -0.6
M24K Tolsona, Glenn 12.22 40 Pn 22 57 08.0 -0.6
M24K Tolsona, Glenn 12.22 40 P Pn 22 57 08.4 -0.1
baz=234
SUCK Suckling Hills 12.23 51 Pn Pn 22 57 07.8 -0.9
BMRM Bremner River 12.25 46 Pn 22 57 08.5 -0.5
BMRM Bremner River 12.25 46 P Pn 22 57 08.9 0.0
baz=242
H19K Roundabout Mou 12.30 13 P Pn 22 57 10.7 +1.3
baz=198
MCK McKinley 12.37 30 Pn 22 57 10.5 -0.1
MCK McKinley 12.37 30 P Pn 22 57 11.0 +0.4
baz=222
MCK McKinley 12.37 30 P Pn 22 57 10.5 -0.1
BERG Berg Lake 12.40 50 Pn 22 57 10.7 -0.2
G18K Tagagawik 12.41 8 P Pn 22 57 12.0 +0.9
baz=192,SNR=23
H20K Anotleneega Mo 12.49 16 P Pn 22 57 13.1 +1.0
baz=203,SNR=12
N25K Chitina, Valde 12.57 44 Pn 22 57 12.7 -0.6
N25K Chitina, Valde 12.57 44 P Pn 22 57 13.0 -0.3
baz=239
SNH Sunshine Point 12.71 51 Pn Pn 22 57 15.2 +0.1
I21K Tanana 12.76 21 P Pn 22 57 16.8 +1.0
baz=211
HARP HAARP 12.78 40 P Pn 22 57 16.7 +0.6
baz=235
F17K Baldwin Pennin 12.81 3 P Pn 22 57 16.7 +0.3
baz=185
G19K Purcell Mounta 12.81 11 P Pn 22 57 16.4 0.0
baz=196
GLB Gilahina Butte 12.82 45 Pn 22 57 16.1 -0.6
VRDI Verde Repeater 12.87 46 Pn 22 57 17.5 0.0
NEA2 Nenana 12.99 27 Pn 22 57 18.8 -0.2
NEA2 Nenana 12.99 27 P Pn 22 57 18.6 -0.3
baz=219
PAX Paxson 13.00 38 P Pn 22 57 18.7 -0.6
baz=232
H21K Melozitna Rive 13.01 19 P Pn 22 57 19.7 +0.5
baz=208
F18K Selawik 13.04 6 P Pn 22 57 20.5 +1.0
baz=189,SNR=11
MESA MESA 13.12 52 Pn Pn 22 57 21.2 +0.2
MESA MESA 13.12 52 P Pn 22 57 20.8 -0.2
baz=250
WRH Wood River Hil 13.17 29 Pn 22 57 20.6 -0.8
I23K Minto, Yukon-K 13.35 25 Pn 22 57 23.7 -0.1
I23K Minto, Yukon-K 13.35 25 P Pn 22 57 24.4 +0.6
baz=217,SNR=10
CCB Clear Creek Bu 13.39 29 Pn 22 57 24.7 +0.4
F19K Shaleruckik Mo 13.41 9 P Pn 22 57 25.4 +0.8
baz=193
K24K Donnelly Dome 13.43 34 P Pn 22 57 24.5 -0.4
baz=229
HDA Harding Lake 13.47 31 Pn 22 57 24.2 -1.3
HDA Harding Lake 13.47 31 P Pn 22 57 26.0 +0.5
baz=225
H22K Ishtalitna Cre 13.50 21 P Pn 22 57 27.1 +1.2
baz=211
COLA College 13.54 28 Pn Pn 22 57 26.6 +0.2
COLA College 13.54 28 P Pn 22 57 25.6 -0.8
M26K Nabesna, AK 13.63 42 P Pn 22 57 27.5 -0.2
baz=239
MENT Mentasta 13.63 40 Pn 22 57 27.4 -0.4
RIDG Independent Ri 13.70 36 Pn 22 57 27.8 -0.9
RIDG Independent Ri 13.70 36 P Pn 22 57 27.4 -1.3
baz=231
IL31 13.75 30 Pn 22 57 28.1 -1.1
ILAR Eielson Array 13.75 30 Pn Pn 22 57 26.2 -3.0
comp=E,0.2nm,0.3s,baz=215,slow=12,SNR=13
ILAR LR LR 23 03 13.2
comp=E,2µm,20.7s,slow=39
comp=E,0.4nm,0.3s
SHEM Shemya Is, Ala 13.79 275 LR LR 23 02 32.2
comp=E,1µm,21.1s,baz=114,slow=36
L26K Log Cabin Wild 13.82 40 Pn Pn 22 57 31.2 +0.9
L26K Log Cabin Wild 13.82 40 P Pn 22 57 29.6 -0.8
baz=237
F20K Avaraart Lake 13.84 12 P Pn 22 57 30.8 +0.3
baz=198
POKR Poker Plat Res 13.84 28 P Pn 22 57 31.4 +0.9
baz=222
PCA Pinnacle 13.90 54 Pn Pn 22 57 33.0 +1.6
PINM Pinnacle 13.90 54 P Pn 22 57 31.4 0.0
baz=253
M27K Edge Creek, AK 14.06 44 Pn 22 57 33.4 -0.3
M27K Edge Creek, AK 14.06 44 P Pn 22 57 33.0 -0.7
baz=242
E19K Redstone River 14.07 9 P Pn 22 57 33.9 +0.2
baz=194
J25K Salcha River, 14.10 32 Pn Pn 22 57 31.4 -2.7
J25K Salcha River, 14.10 32 P Pn 22 57 32.1 -2.1
baz=228
O28M Mount Upton 14.15 51 P Pn 22 57 34.6 -0.3
baz=250
SCRK Sand Creek 14.15 36 Pn 22 57 32.5 -2.4
SCRK Sand Creek 14.15 36 P Pn 22 57 33.2 -1.7
baz=232,SNR=7.3
BCPM Bancas Point 14.16 54 Pn 22 57 33.9 -1.0
PNL Peninsula 14.20 56 P Pn 22 57 35.1 -0.4
baz=256
H24K Noodor Dome 14.28 26 Pn 22 57 34.3 -2.2
H24K Noodor Dome 14.28 26 P Pn 22 57 35.3 -1.3
baz=219
F21K Alatna River 14.31 15 P Pn 22 57 37.5 +0.6
baz=203
RDOG Red Dog Mine 14.40 0 P Pn 22 57 38.5 +0.3
baz=180
YUK3 Moose Creek 14.40 47 P Pn 22 57 39.0 +0.6
baz=246,SNR=7.3
L27K Beaver Creek, 14.43 41 Pn 22 57 37.5 -1.1
L27K Beaver Creek, 14.43 41 P Pn 22 57 39.1 +0.4
baz=239
BCAR Beaver Creek A 14.45 41 Pn Pn 22 57 38.3 -0.6
G23K Bananza Creek 14.49 21 Pn 22 57 40.0 +0.6
G23K Bananza Creek 14.49 21 P Pn 22 57 40.0 +0.6
baz=212
YUK8 Steele Glacier 14.52 49 P Pn 22 57 40.5 +0.5
baz=249
J26L Joseph Creek 14.62 35 Pn Pn 22 57 39.5 -1.8
J26L Joseph Creek 14.62 35 P Pn 22 57 41.9 +0.6
baz=231,SNR=10
C16K Lisburne Hills 14.67 356 Pn 22 57 43.7 +2.0
C16K Lisburne Hills 14.67 356 P Pn 22 57 42.0 +0.3
baz=174
PRP Porcupine Dome 14.69 29 Pn 22 57 40.3 -1.9
PRP Porcupine Dome 14.69 29 P Pn 22 57 41.6 -0.5
baz=225,SNR=7.4
O29M Mount Kennedy 14.76 54 Pn 22 57 43.7 +0.5
O29M Mount Kennedy 14.76 54 P Pn 22 57 43.8 +0.6
baz=254
C17K DeLong Mountai 14.82 360 P Pn 22 57 44.9 +1.0
baz=180,SNR=15
COLD Coldfoot 14.90 19 P Pn 22 57 45.2 +0.4
baz=211,SNR=34
E20K Nigu River 14.95 10 P Pn 22 57 46.1 +0.5
baz=196
D19K Kuna River 15.02 7 P Pn 22 57 46.3 -0.1
baz=191
C18K Utukok River 15.02 2 Pn 22 57 48.0 +1.5
C18K Utukok River 15.02 2 P Pn 22 57 46.9 +0.4
baz=184,SNR=12
YUK4 Talbot Arm 15.05 50 P Pn 22 57 48.6 +1.5
baz=250
YUK6 Outpost Mounta 15.05 51 P Pn 22 57 46.7 -0.5
baz=252
G24K Hadweenzic Riv 15.06 24 Pn 22 57 47.8 +0.8
G24K Hadweenzic Riv 15.06 24 P Pn 22 57 47.3 +0.2
baz=218
H25L Birch Creek 15.15 27 P Pn 22 57 48.6 +0.4
baz=222
I26K Coal Creek Min 15.27 33 P Pn 22 57 50.2 +0.5
baz=230
D20K Etivluk River 15.35 9 P Pn 22 57 51.1 +0.3
baz=194
E22K Anaktuvuk Pass 15.41 16 Pn Pn 22 57 52.4 +0.7
E22K IAmb IAmb 22 57 58.5
comp=Z,97nm,1.4s
E22K Anaktuvuk Pass 15.41 16 P Pn 22 57 52.4 +0.7
baz=206,SNR=36
HYT Haines Junctio 15.42 52 Pn Pn 22 57 53.7 +1.8
HYT Haines Junctio 15.42 52 P Pn 22 57 52.5 +0.6
baz=254
G25K Bearman Lake 15.45 26 P Pn 22 57 53.0 +0.8
baz=220
P30M Million Dollar 15.50 55 P Pn 22 57 53.5 +0.6
baz=257
FYU Fort Yukon 15.53 27 Pn Pn 22 57 53.9 +0.7
M29M Somme Creek 15.53 46 Pn 22 57 53.1 -0.2
M29M IAmb IAmb 22 58 01.6
comp=Z,48nm,0.8s
M29M Somme Creek 15.53 46 P Pn 22 57 53.3 0.0
baz=247
S31K Pelican 15.54 63 Pn Pn 22 57 53.3 0.0
S31K Pelican 15.54 63 P Pn 22 57 53.7 +0.3
baz=266
F24K Squaw Lake 15.63 22 P Pn 22 57 54.6 +0.2
baz=215
B18K Kokolik River 15.73 1 P Pn 22 57 56.6 +1.0
baz=183
E23K Chandalar 15.73 19 P Pn 22 57 56.4 +0.6
baz=210
DAWY Dawson 15.88 40 Pn 22 57 57.4 -0.3
DAWY Dawson 15.88 40 P Pn 22 57 58.7 +0.9
baz=240,SNR=8.3
L29M L29M 15.94 44 Pn Pn 22 57 58.4 -0.2
L29M IAmb IAmb 22 58 06.8
comp=Z,144nm,1.1s
I27K Kandik River 15.96 33 P Pn 22 57 58.5 -0.2
baz=232
C21K Knifeblade Rid 15.96 11 P Pn 22 57 59.3 +0.5
baz=198
D22K Ayikyak River 15.96 14 Pn Pn 22 57 59.8 +1.0
D22K Ayikyak River 15.96 14 P Pn 22 57 59.3 +0.5
baz=203
E24K Your Creek 15.96 20 Pn 22 57 59.4 +0.6
E24K Your Creek 15.96 20 P Pn 22 57 59.8 +0.9
baz=213,SNR=54
O30N Mendenhall 16.07 53 Pn 22 58 00.1 -0.1
O30N Mendenhall 16.07 53 P Pn 22 58 01.1 +0.9
baz=256
SKAG Skagway 16.18 58 Pn 22 58 01.0 -0.6
SKAG Skagway 16.18 58 P Pn 22 58 01.5 0.0
baz=261
F25K Christian Rive 16.21 24 Pn 22 58 01.6 -0.3
F25K Christian Rive 16.21 24 P Pn 22 58 02.1 +0.1
baz=219
G26K Porcupine Rive 16.21 28 P Pn 22 58 01.7 -0.2
baz=224
TOLK Toolik Lake Re 16.25 18 P P 22 58 04.0 -1.2
baz=210,SNR=56
M30M Minto, Yukon 16.30 47 Pn 22 58 03.7 +0.6
M30M Minto, Yukon 16.30 47 P Pn 22 58 03.0 -0.1
baz=249
D23K Nanushuk River 16.34 16 Pn Pn 22 58 04.2 +0.7
D23K Nanushuk River 16.34 16 P Pn 22 58 04.0 +0.4
baz=207
BMAR Burnt Mountain 16.35 26 P 22 58 05.8 -0.5
H27K Steamboat Moun 16.38 32 P Pn 22 58 02.9 -1.2
baz=230
N31M Braeburn, Yuko 16.40 51 Pn 22 58 04.6 +0.2
N31M Braeburn, Yuko 16.40 51 P Pn 22 58 04.1 -0.3
baz=254
S32K Killisnoo 16.41 65 P Pn 22 58 04.5 +0.1
baz=269
B21K Ikpikpuk River 16.43 10 P Pn 22 58 05.0 +0.4
baz=198
I28M Miner Creek 16.43 35 P Pn 22 58 04.5 -0.3
baz=235,SNR=9.4
K29M Barlow Dome 16.51 42 P P 22 58 06.9 -1.3
baz=244
J29N Klondike Camp 16.52 40 P P 22 58 07.8 -0.4
baz=241,SNR=9.6
B20K Meade River 16.57 7 P Pn 22 58 07.0 +0.5
baz=192
A19K Wainwright 16.58 2 P Pn 22 58 07.2 +0.6
baz=184
WHY Whitehorse 16.62 54 Pn 22 58 08.0 +0.7
WHY Whitehorse 16.62 54 P Pn 22 58 08.0 +0.7
baz=258,SNR=8.1
F26K Sheenjek River 16.66 25 P Pn 22 58 08.4 +0.8
F26K Sheenjek River 16.66 25 P P 22 58 08.5 -1.2
baz=222,SNR=7.5
G27K Doyon Strip 16.72 30 Pn 22 58 08.0 -0.4
G27K Doyon Strip 16.72 30 P Pn 22 58 09.1 +0.7
baz=229
D24K Happy Valley 16.83 18 P P 22 58 10.4 -1.1
baz=210
I29M Ogilvie Camp, 16.95 37 Pn Pn 22 58 11.7 +0.4
I29M Ogilvie Camp, 16.95 37 P P 22 58 12.2 -0.8
baz=238
P32M Atlin 17.02 58 P P 22 58 13.2 -0.6
P32M Atlin 17.02 58 P P 22 58 14.5 +0.7
baz=263
MAYO Mayo, Yukon 17.06 44 P P 22 58 14.1 -0.1
MAYO IAmb IAmb 22 58 19.6
comp=Z,141nm,1.1s
MAYO Mayo, Yukon 17.06 44 P P 22 58 14.6 +0.4
baz=247
C23K Itkillik River 17.14 15 P P 22 58 14.3 -0.7
baz=206
M31M Drury Creek, Y 17.24 49 P P 22 58 17.9 +1.7
M31M Drury Creek, Y 17.24 49 P P 22 58 15.6 -0.6
baz=254,SNR=16
U33K Whale Pass 17.25 70 P P 22 58 19.9 +3.6
U33K IAmb IAmb 22 58 22.0
comp=Z,189nm,2.0s
U33K Whale Pass 17.25 70 P Pn 22 58 15.2 +0.3
baz=274
J30M Hart River 17.30 41 P P 22 58 16.4 -0.5
baz=244
CRAG Craig 17.31 72 P P 22 58 17.1 +0.2
CRAG Craig 17.31 72 P P 22 58 16.6 -0.3
baz=277
C24K Franklin Bluff 17.34 17 P Pn 22 58 16.1 +0.1
baz=209
H29M Whitestone 17.40 34 P Pn 22 58 16.1 -0.7
baz=236
D25K Kavik River 17.44 20 P Pn 22 58 17.5 +0.2
baz=214,SNR=16
P33M Teslin, Yukon 17.55 56 P P 22 58 21.8 +2.1
P33M Teslin, Yukon 17.55 56 P Pn 22 58 18.9 0.0
baz=262,SNR=13
I30M Mount Dempster 17.58 39 P P 22 58 20.3 +0.3
baz=242,SNR=19
N32M Quiet Lake 17.59 53 IAmb IAmb 22 58 26.2
comp=Z,61nm,1.1s
N32M Quiet Lake 17.59 53 P P 22 58 19.7 -0.3
baz=258
Q32M Nakina River 17.69 60 P P 22 58 21.3 -0.1
Q32M Nakina River 17.69 60 P Pn 22 58 20.8 +0.1
baz=266
FARO Faro, Yukon 17.72 49 P P 22 58 21.6 +0.1
FARO Faro, Yukon 17.72 49 P P 22 58 22.1 +0.7
baz=255
F28M Old Crow 17.77 29 P P 22 58 22.3 +0.3
F28M Old Crow 17.77 29 P Pn 22 58 20.9 -0.6
baz=230
A21K Barrow 17.90 7 P Pn 22 58 22.4 -0.5
baz=192
G29M Pine Creek 17.91 33 P Pn 22 58 22.4 -0.7
baz=235,SNR=9.8
EPYK Eagle Plains 18.04 35 P P 22 58 24.7 -0.3
EPYK Eagle Plains 18.04 35 P P 22 58 24.7 -0.3
baz=238,SNR=12
V35K Ketchikan 18.18 72 P 22 58 27.7 +1.2
V35K Ketchikan 18.18 72 P P 22 58 27.7 +1.2
baz=278
C26K Camden Bay 18.22 20 P P 22 58 26.8 -0.1
baz=216
C27K Jago River 18.24 22 P P 22 58 27.6 +0.5
baz=219
S34M Telegraph Cree 18.26 64 P P 22 58 28.4 +1.0
S34M Telegraph Cree 18.26 64 P P 22 58 28.1 +0.7
baz=270
R33M Jennings River 18.39 59 Pn 22 58 29.4 +0.2
R33M Jennings River 18.39 59 P Pn 22 58 29.9 +0.7
baz=266
MOBC Moresby Island 18.39 79 P Pn 22 58 31.4 +2.3
E28M Babbage River 18.52 27 P Pn 22 58 31.2 +0.6
E28M Babbage River 18.52 27 P Pn 22 58 31.1 +0.5
baz=228
G30M tAoh Zraii Nji 18.53 34 P P 22 58 29.6 -0.8
baz=237,SNR=12
D27M Malcolm River 18.59 25 P P 22 58 31.0 -0.1
D27M Malcolm River 18.59 25 P P 22 58 30.8 -0.3
baz=224
H31M Peel River 18.60 38 P Pn 22 58 31.4 -0.3
H31M IAmb IAmb 22 58 38.4
comp=Z,54nm,0.8s
H31M Peel River 18.60 38 P Pn 22 58 33.1 +1.5
baz=243,SNR=41
MMPY Sheldon Lake, 18.75 49 P Pn 22 58 35.1 +1.7
MMPY IAmb IAmb 22 58 39.1
comp=Z,92nm,1.4s
MMPY Sheldon Lake, 18.75 49 P Pn 22 58 35.5 +2.0
baz=256,SNR=34
T35M Bob Quinn 18.77 67 P Pn 22 58 34.2 +0.6
T35M Bob Quinn 18.77 67 P Pn 22 58 35.2 +1.5
baz=274
E29M Blow River 18.84 29 P P 22 58 32.9 -0.9
baz=231
DLBC Dease Lake 18.84 62 P Pn 22 58 35.8 +1.1
comp=Z,0.5nm,0.3s,baz=271,slow=12,SNR=3.8
comp=Z,6.7nm,1.0s
DLBC Dease Lake 18.84 62 P P 22 58 33.6 -0.3
baz=270
F30M Barrier River 19.02 32 P P 22 58 34.5 -1.3
baz=236
G31M Satah River 19.16 35 P P 22 58 35.9 -1.3
baz=240
D28M Stokes Point 19.23 26 P P 22 58 37.1 -0.7
baz=228
WTLY Watson Lake, Y 19.54 57 P P 22 58 41.9 +0.5

baz=266,SNR=5.6
F31M Tsiigehtchic 19.60 34 P Pn 22 58 43.1 -0.3
baz=240
TGTN Hyland Airport 19.93 53 P Pn 22 58 47.8 +0.2
baz=263,SNR=16
INK Inuvik 20.12 32 P P 22 58 46.6 -1.0
INK Inuvik 20.12 32 P P 22 58 44.9 -2.8
comp=Z,11nm,0.8s,baz=220,slow=14,SNR=14
INK Inuvik 20.12 32 P P 22 58 46.3 -1.3
baz=238,SNR=6.2
INK Inuvik 20.12 32 P P 22 58 46.6 -1.0
INK pmax pmax
comp=Z,13nm,1.0s
BILL Biiibino 20.43 327 P P 22 58 52.1 +1.1
BILL IAmb IAmb 22 59 05.1
comp=Z,186nm,1.9s
BILL Biiibino 20.43 327 *d i* P **P 22 58 52.1 +1.1**
BILL pmax pmax
comp=Z,92nm,1.8s
BBB Bella Bella 20.91 80 LR LR 23 05 30.7
comp=Z,694nm,19.1s,baz=288,slow=32
TOAD Toad River Com 21.34 61 P P 22 59 02.8 +1.8
baz=273
KOTAN Kotaneelee Air 21.91 57 P P 22 59 09.1 +2.0
baz=270
WRGLY Wrigley 22.37 49 P P 22 59 14.5 +2.6
baz=263
PET Petropavlovsk 22.75 284⇑ *e* P **P 22 59 15.1 -0.9**
PET pmax pmax
comp=Z,120nm,1.3s
PEA0B Petropavlovsk- 23.28 285 P **P 22 59 21.5 +0.1**
PEA0B Petropavlovsk- 23.28 285⇓ *e* P **P 22 59 22.0 +0.6**
PETK Petropavlovsk- 23.28 285 P **P 22 59 21.1 -0.3**
PETK Petropavlovsk- 23.28 285 P **P 22 59 20.9 -0.6**
comp=Z,12nm,0.7s,baz=76,slow=13,SNR=16
PETK LR LR 23 08 15.3
comp=Z,987nm,20.8s,baz=83,slow=36
comp=Z,12nm,0.7s
PETK Petropavlovsk- 23.28 285 P **P 22 59 21.1 -0.3**
C36M Paulatuk 23.65 34 P **P 22 59 24.4 -0.5**
C36M IAmb IAmb 22 59 46.0
comp=Z,45nm,1.6s
C36M Paulatuk 23.65 34 P **P 22 59 24.1 -0.8**
baz=248,SNR=6.7
OZB Mount Ozzard 23.67 86 P **P 22 59 26.0 +0.7**
A36M Sachs Harbour 24.42 27 P **P 22 59 32.1 +0.1**
A36M IAmb IAmb 22 59 50.9
comp=Z,54nm,0.8s
A36M Sachs Harbour 24.42 27 P **P 22 59 32.3 +0.3**
baz=242
CLRS Cowichan Lake 24.54 86 P **P 22 59 34.3 +0.9**
CLRS IAmb IAmb 22 59 43.8
comp=Z,30nm,1.2s
SEY Seymchan 24.72 310⇑ *e* P **P 22 59 34.2 -0.6**
SEY pmax pmax
comp=Z,31nm,1.3s
MA2 Magadan 25.68 302 P **P 22 59 43.6 0.0**
MA2 Magadan 25.68 302 LR LR 23 10 40.3
comp=Z,888nm,18.6s,baz=108,slow=39
MA2 Magadan 25.68 302⇓ *i* P **P 22 59 44.4 +0.8**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 25.68 302 P **P 22 59 44.0 +0.4**
comp=Z,17nm,0.6s
YKA Yellowknife Ar 26.41 51 P **P 22 59 50.8 +0.8**
comp=Z,2.8nm,0.8s,baz=274,slow=10,SNR=30
YKA LR LR 23 11 33.0
comp=Z,931nm,18.3s,baz=258,slow=39
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 26.41 51 *i* P **P 22 59 51.5 +1.4**
YKA pmax pmax
comp=Z,3.0nm,0.9s
D05A Enumclaw 26.58 87 P **P 22 59 54.0 +2.2**
D05A IAmb IAmb 23 00 11.4
comp=Z,72nm,1.3s
DBO Dodson Butte 28.04 96 P **P 23 00 05.9 +0.9**
I04A Tendick Farm, 28.14 94 P **P 23 00 06.0 +0.2**
E07A Sunnyside 28.16 87 P **P 23 00 07.9 +1.9**
E07A IAmb IAmb 23 00 22.0
comp=Z,61nm,1.9s
HAWA Hanford 28.44 87 P **P 23 00 09.7 +1.2**
HAWA IAmb IAmb 23 00 24.9
comp=Z,21nm,1.0s
NEW Newport 28.94 82 P **P 23 00 14.3 +1.4**
NEW Newport 28.94 82 P **P 23 00 15.0 +2.0**
comp=Z,1.2nm,0.4s,baz=324,slow=8.1,SNR=3.8
comp=Z,1.2nm,0.4s
NEW Newport 28.94 82 P **P 23 00 15.0 +2.0**
JCC Jacoby Creek, 28.99 100 P **P 23 00 15.3 +2.0**
KHMM Horse Mountain 29.13 100 P **P 23 00 15.9 +1.1**
J05D Fort Rock, OR 29.13 94 P **P 23 00 16.1 +1.2**
J05D IAmb IAmb 23 00 33.3
comp=Z,28nm,1.3s
YBH Yreka Blue Hor 29.19 98 P **P 23 00 16.4 +1.1**
YBH IAmb IAmb 23 00 52.1
comp=Z,81nm,1.9s
YBH Yreka Blue Hor 29.19 98 P **P 23 00 17.2 +1.9**
comp=Z,3.7nm,0.9s,baz=318,slow=7.1,SNR=4.2
comp=Z,3.7nm,0.9s
E09A Wood Farm, Sta 29.20 86 P **P 23 00 14.8 -0.4**
E09A IAmb IAmb 23 00 39.9
comp=Z,22nm,1.2s
F10A Beach Ranch, E 30.02 86 P **P 23 00 24.7 +2.1**
BMO Blue Mountains 30.58 88 P **P 23 00 29.5 +1.9**
BMO IAmb IAmb 23 00 42.6
comp=Z,38nm,1.9s
BMO Blue Mountains 30.58 88 P **P 23 00 29.5 +1.9**
BMO pmax pmax
comp=Z,38nm,2.0s
WVOR Wild Horse Val 31.18 93 IAmb IAmb 23 00 48.2
comp=Z,37nm,1.6s
WVOR Wild Horse Val 31.18 93 P **P 23 00 36.7 +3.8**
WVOR pmax pmax
comp=Z,10.0nm,1.0s
PLID Pearl Lake 31.23 87 P **P 23 00 34.1 +0.7**
MFID Camas Ranch 32.27 89 P **P 23 00 44.4 +1.9**
MFID IAmb IAmb 23 00 58.5
comp=Z,15nm,0.9s
LYMT Lyon Mountain 32.42 81 P **P 23 00 44.3 +0.4**
PAHR Pah Rah Range 32.43 98 P **P 23 00 44.7 +0.8**
PAHR IAmb IAmb 23 01 11.6
comp=Z,14nm,1.0s
PNTR Pine Nut 32.70 99 P **P 23 00 47.8 +1.4**
PNTR IAmb IAmb 23 01 14.5
comp=Z,23nm,1.0s
HLID Hailey 33.02 88 P **P 23 00 50.3 +1.2**
HLID IAmb IAmb 23 01 04.9
comp=Z,13nm,1.1s
WAKR Walker 33.18 99 P **P 23 00 50.9 +0.3**
WAKR IAmb IAmb 23 01 18.2
comp=Z,15nm,1.2s
MCMT McKenzie Canyo 33.24 85 P **P 23 00 52.2 +1.1**
RES Resolute Bay 33.46 27 P **P 23 00 51.8 -0.6**
RES Resolute Bay 33.46 27 LR LR 23 16 09.3
comp=Z,993nm,18.1s,baz=247,slow=39
RES Resolute Bay 33.46 27 P **P 23 00 51.8 -0.6**
RES pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 33.63 328 P **P 23 00 53.8 -0.1**
TIXI IAmb IAmb 23 00 54.5
comp=Z,14nm,1.1s
TIXI Tiksi 33.63 328 LR LR 23 16 23.5
comp=Z,1μm,18.4s,baz=165,slow=40
TIXI Tiksi 33.63 328⇑ *i* P **P 23 00 53.2 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.3s
TIXI Tiksi 33.63 328 P **P 23 00 53.6 -0.3**
NVAR Mina Array Bea 33.90 98 P **P 23 00 58.3 +1.4**
NVAR Mina Array Bea 33.90 98 P **P 23 00 59.0 +2.2**
comp=Z,5.7nm,0.8s,baz=297,slow=7.8,SNR=15
NVAR LR LR 23 12 04.2
comp=Z,412nm,20.8s,baz=311,slow=31
comp=Z,5.7nm,0.8s
LHV Little Huntoon 33.90 99 P **P 23 00 57.8 +1.3**
LHV IAmb IAmb 23 01 09.5
comp=Z,14nm,1.1s
UGL Uglegorsk 33.90 285 *e* P **P 23 00 57.2 +0.8**
UGL *e* S **S 23 06 14.3 -4.4**
UGL pmax pmax
comp=Z,60nm,1.1s
UGL MLR MLR
comp=E,500nm,12.0s
UGL MLR MLR
comp=Z,2μm,15.0s
NV11 Mina Array Sit 33.98 98 P **P 23 00 58.0 +0.5**
YHL Hebgen Lake 34.21 83 P **P 23 01 00.6 +1.0**

YHL IAmb IAmb 23 01 12.6
comp=Z,26nm,1.7s
ELK Elko 34.23 93 P **P 23 00 59.8 +0.1**
ELK IAmb IAmb 23 01 18.5
comp=Z,7.9nm,0.8s
ELK Elko 34.23 93 LR LR 23 12 29.6
comp=Z,518nm,20.9s,baz=304,slow=32
ELK Elko 34.23 93 P **P 23 00 59.8 +0.1**
ELK pmax pmax
comp=Z,8.0nm,0.8s
YSS Yuzhno-Sakhali 34.58 281 *e* P **P 23 01 02.9 +0.6**
YSS *e* S **S 23 06 30.8 +1.6**
YSS pmax pmax
comp=Z,20nm,1.1s
DSP Deep Springs 34.80 99 P **P 23 01 06.4 +2.0**
DSP IAmb IAmb 23 01 09.8
comp=Z,41nm,1.7s
YAK Yakutsk 35.23 311 LR LR 23 17 02.6
comp=Z,879nm,18.3s,baz=76,slow=39
YAK Yakutsk 35.23 311 *e* P **P 23 01 06.6 -1.2**
YAK *e* PP **sP 23 01 16.0 -3.9**
YAK *e* 23 02 24.0
YAK *e* PPP PPP 23 02 44.0
YAK *e* 23 03 37.4
YAK *e* S **S 23 06 38.0 -0.9**
YAK *e* 23 11 24.3
YAK pmax pmax
comp=Z,43nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,132nm,4.3s
YAK pmax pmax
comp=N,77nm,3.8s
YAK pmax pmax
comp=E,134nm,4.3s
YAK smax smax
comp=N,168nm,4.6s
YAK smax smax
comp=E,61nm,3.2s
YAK MLR MLR
comp=Z,2μm,20.0s
YAK MLR MLR
comp=N,849nm,21.0s
YAK MLR MLR
comp=E,1μm,18.0s
EUNU Eureka 35.32 17 P **P 23 01 08.8 +0.3**
BGU Big Grassy Mou 35.42 90 P **P 23 01 09.8 -0.2**
BGU IAmb IAmb 23 01 24.6
comp=Z,14nm,1.1s
AHID Auburn Hatcher 35.46 86 P **P 23 01 11.5 +1.3**
R11B Troy Canyon, C 35.55 96 P **P 23 01 12.2 +1.1**
R11B IAmb IAmb 23 01 16.8
comp=Z,16nm,1.1s
R11B Troy Canyon, C 35.55 96 P **P 23 01 12.4 +1.3**
baz=311,SNR=20
ISA Isabella, Lake 35.68 102 P **P 23 01 13.1 +1.0**
ISA IAmb IAmb 23 01 16.4
comp=Z,22nm,1.5s
ISA Isabella, Lake 35.68 102 P **P 23 01 13.1 +1.0**
ISA pmax pmax
comp=Z,22nm,1.5s
SPR3 Spring Creek 3 35.87 94 P **P 23 01 14.2 +0.2**
SPR3 IAmb IAmb 23 01 19.4
comp=Z,21nm,1.4s
DUG Dugway, Tooele 36.01 91 IAmb IAmb 23 01 31.1
comp=Z,20nm,0.9s
DUG Dugway, Tooele 36.01 91 P **P 23 01 18.0 +3.0**
DUG pmax pmax
comp=Z,23nm,1.2s
JKA Kamikawa-asahi 36.23 277 P **P 23 01 15.9 -0.7**
ASAJ Asahikawa 36.23 277 P **P 23 01 16.9 +0.2**
comp=Z,27nm,0.9s,baz=6.1,slow=3.6,SNR=11
ASAJ LR LR 23 18 27.2
comp=Z,228nm,18.4s,baz=95,slow=40
comp=Z,27nm,0.9s
GRNR Gornyy 36.27 291⇑ *i* P **P 23 01 16.4 -0.5**
GRNR pmax pmax
comp=Z,30nm,0.7s
DGMT Dagmar 36.34 74 **S 23 06 58.8 +2.4**
PD31 Pinedale Array 36.37 85 P **P 23 01 19.6 +1.5**
PD31 IAmb IAmb 23 01 32.4
comp=Z,30nm,1.9s
PDAR Pinedale Array 36.37 85 P **P 23 01 19.8 +1.6**
PDAR Pinedale Array 36.37 85 P **P 23 01 20.1 +2.0**
comp=Z,0.5nm,0.5s,baz=293,slow=4.0,SNR=7.0
comp=Z,0.5nm,0.5s
PSUT Pine Spring 36.46 94 P **P 23 01 19.6 +0.8**
PSUT IAmb IAmb 23 01 24.5
comp=Z,12nm,1.0s
PRN Pahroc Range 36.50 97 P **P 23 01 19.9 +0.8**
PRN IAmb IAmb 23 01 24.6
comp=Z,18nm,1.1s
GSC Goldstone, Bar 36.91 101 P **P 23 01 22.9 +0.4**
GSC IAmb IAmb 23 01 28.8
comp=Z,15nm,1.1s
GSC Goldstone, Bar 36.91 101 P **P 23 01 23.0 +0.4**
GSC pmax pmax
comp=Z,15nm,1.2s
BSUT Blindstream Ca 37.02 89 P **P 23 01 23.7 -0.1**
BSUT IAmb IAmb 23 01 40.6
comp=Z,39nm,1.8s
SHPR Sheep Range 37.04 98 P **P 23 01 24.4 +0.6**
FCC Fort Churchill 37.05 54 P **P 23 01 23.6 +0.2**
FCC IAmb IAmb 23 01 33.7
comp=Z,16nm,0.9s
FCC Fort Churchill 37.05 54 P **P 23 01 23.6 +0.2**
FCC pmax pmax
comp=Z,16nm,1.0s
ERM Erimo 37.14 274 P **P 23 01 23.5 -0.8**
ERM IAmb IAmb 23 01 26.6
comp=Z,32nm,0.9s
ERM Erimo 37.14 274 *c i* P **P 23 01 24.6 +0.3**
ERM pmax pmax
comp=Z,59nm,1.3s
ERM Erimo 37.14 274 P **P 23 01 24.9 +0.6**
ERM pP **sP 23 01 35.5 -0.7**
TCRU Three Creeks R 37.24 93 P **P 23 01 26.0 +0.4**
TCRU IAmb IAmb 23 01 35.0
comp=Z,12nm,0.9s
RDMU Red Mountain 37.70 88 P **P 23 01 31.5 +2.1**
RDMU IAmb IAmb 23 01 46.1
comp=Z,36nm,1.5s
V12A Nelson 37.76 99 P **P 23 01 31.0 +1.2**
V12A IAmb IAmb 23 01 38.9
comp=Z,13nm,1.1s
MTPU Mount Pierson 37.77 93 P **P 23 01 30.6 +0.4**
MTPU IAmb IAmb 23 01 45.4
comp=Z,38nm,1.8s
Q16A Castle Valley 37.80 92 P **P 23 01 31.8 +1.5**
Q16A IAmb IAmb 23 01 47.3
comp=Z,14nm,1.0s
LCMT Little Creek M 37.83 96 P **P 23 01 31.8 +1.3**
LCMT IAmb IAmb 23 01 45.5
comp=Z,20nm,1.4s
P18A Preston Nutter 37.90 90 P **P 23 01 33.1 +2.0**
P18A IAmb IAmb 23 01 48.2
comp=Z,16nm,1.1s
SRU San Rafael Swe 38.06 91 P **P 23 01 34.6 +2.2**
SRU IAmb IAmb 23 01 53.1
comp=Z,21nm,1.0s
SRU San Rafael Swe 38.06 91 P **P 23 01 34.6 +2.2**
SRU pmax pmax
comp=Z,21nm,1.0s
KNB Kanab 38.08 95 P **P 23 01 32.9 +0.3**
KNB IAmb IAmb 23 01 41.5
comp=Z,14nm,1.1s
KNB Kanab 38.08 95 P **P 23 01 32.9 +0.3**
KNB pmax pmax
comp=Z,14nm,1.1s
PKCU Pink Cliffs 38.09 94 P **P 23 01 33.9 +1.0**
PKCU IAmb IAmb 23 01 40.1
comp=Z,28nm,1.3s
PFO Pinyon Flats O 38.30 103 P **P 23 01 34.4 0.0**
PFO IAmb IAmb 23 01 48.1
comp=Z,25nm,1.6s
PFO Pinyon Flats O 38.30 103 P **P 23 01 36.9 +2.5**
comp=Z,3.8nm,1.0s,baz=240,slow=5.4,SNR=2.7
PFO LR LR 23 15 04.0
comp=Z,481nm,18.6s,baz=277,slow=33
comp=Z,3.8nm,1.0s
ALE Alert 38.49 12 P **P 23 01 36.0 +0.7**
W13A Hualapai Mount 38.76 98 P **P 23 01 39.8 +1.5**
O20A White River Ci 38.77 88 P **P 23 01 39.9 +1.5**

O20A IAmb IAmb 23 01 56.0
comp=Z,25nm,1.1s
U15A North Rim 38.79 95 P **P 23 01 39.5 +0.9**
U15A IAmb IAmb 23 01 44.1
comp=Z,15nm,1.1s
RSSD Black Hills 38.83 80 P **P 23 01 39.2 +0.4**
RSSD Black Hills 38.83 80 P **P 23 01 39.2 +0.4**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
BLYC Blythe 39.33 101 P **P 23 01 44.6 +1.7**
BLYC IAmb IAmb 23 01 57.0
comp=Z,41nm,1.8s
E28A Huff 39.36 74 P **P 23 01 43.5 +0.5**
E28A IAmb IAmb 23 02 03.7
comp=Z,32nm,0.8s
PV23 Carpenter Ridg 39.39 90 P **P 23 01 44.3 +0.6**
PV23 IAmb IAmb 23 02 33.7
comp=Z,17nm,0.9s
PV11 David Mesa, Pa 39.57 90 P **P 23 01 45.4 +0.3**
PV11 IAmb IAmb 23 01 53.4
comp=Z,12nm,0.6s
PV07 Paradox Valley 39.61 90 P **P 23 01 46.4 +0.9**
PV07 IAmb IAmb 23 02 08.3
comp=Z,22nm,1.4s
KLR Kul'dur 39.65 291 P **P 23 01 44.6 -0.8**
comp=Z,13nm,0.8s,baz=64,slow=9.8,SNR=5.1
KLR LR LR 23 19 04.3
comp=Z,529nm,20.0s,baz=65,slow=38
comp=Z,13nm,0.8s
KLR Kul'dur 39.65 291 *e* P **P 23 01 43.3 -2.1**
KLR pmax pmax
comp=Z,35nm,1.5s
PV13 Radium Mtn., P 39.69 91 P **P 23 01 47.0 +0.8**
PV13 IAmb IAmb 23 02 01.5
comp=Z,29nm,1.0s
ZEA Zeya 39.77 299 *e* P **P 23 01 45.6 -0.7**
ZEA *e* S **S 23 07 40.9 -7.0**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA smax smax
comp=N,100nm,4.6s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
PV15 Paradox Valley 39.78 90 P **P 23 01 47.8 +0.9**
PV15 IAmb IAmb 23 01 55.0
comp=Z,14nm,1.1s
WUAZ Wupatki 39.95 96 P **P 23 01 49.4 +1.2**
WUAZ IAmb IAmb 23 01 54.1
comp=Z,13nm,0.9s
ULM Lac du Bonnet 40.07 67 P **P 23 01 49.2 +0.4**
ULM IAmb IAmb 23 01 58.8
comp=Z,16nm,1.1s
ULM Lac du Bonnet 40.07 67 P **P 23 01 49.2 +0.4**
comp=Z,6.1nm,1.0s,baz=292,slow=10,SNR=8.7
ULM LR LR 23 18 36.6
comp=Z,484nm,20.9s,baz=308,slow=36
comp=Z,6.1nm,1.0s
ULM Lac du Bonnet 40.07 67 P **P 23 01 49.2 +0.4**
ULM pmax pmax
comp=Z,16nm,1.1s
Y14A Wickenburg 40.09 99 P **P 23 01 50.4 +1.1**
113A Mohawk Valley, 40.48 101 P **P 23 01 53.9 +1.5**
MVCO Mesa Verde 40.51 91 P **P 23 01 54.5 +1.6**
X16A Lo Mia Camp, P 40.67 97 P **P 23 01 55.2 +1.0**
H11N2 WAKE ISLAND Hy 41.06 226 T T 23 46 05.8
baz=26,slow=76,SNR=207
H11N3 WAKE ISLAND Hy 41.06 226 T T 23 46 06.3
baz=26,slow=76,SNR=220
H11N1 WAKE ISLAND Hy 41.08 226 T T 23 46 07.2
baz=26,slow=76,SNR=168
AGMN Agassiz Nation 41.13 69 P **P 23 01 57.8 +0.2**
AGMN IAmb IAmb 23 02 12.0
comp=Z,45nm,1.4s
S22A 4UR Ranch, Cre 41.15 89 P **P 23 01 59.7 +1.4**
S22A IAmb IAmb 23 02 03.0
comp=Z,26nm,1.8s
S22A 4UR Ranch, Cre 41.15 89 P **P 23 01 59.1 +0.8**
baz=312,SNR=5.7
X18A Snowflake 41.48 96 P **P 23 02 02.4 +1.5**
HEH HeiHe 41.48 295 *e* P **P 23 01 59.3 -1.1**
HEH PcP **PcP 23 03 57.8 +0.2**
HEH pmax pmax
comp=Z,50nm,0.9s
HEH LR LR
comp=Z,650nm,17.7s
HEH LR LR
comp=Z,780nm,16.7s
HEH LR LR
comp=Z,1μm,15.7s
SUSD Miller 41.59 76 **P 23 02 02.4 +0.9**
SUSD IAmb IAmb 23 02 16.8
comp=Z,36nm,0.7s
SDCO Great Sand Dun 41.94 88 P **P 23 02 05.6 +0.8**
SDCO IAmb IAmb 23 02 34.2
comp=Z,26nm,1.9s
H11S1 WAKE ISLAND Hy 42.23 226 T T 23 47 33.5
baz=26,slow=76,SNR=185
H11S2 WAKE ISLAND Hy 42.24 226 T T 23 47 34.6
baz=26,slow=76,SNR=109
H11S3 WAKE ISLAND Hy 42.24 226 T T 23 47 34.7
baz=26,slow=76,SNR=129
K30B Basset 42.28 78 P **P 23 02 07.0 -0.1**
K30B IAmb IAmb 23 02 36.0
comp=Z,31nm,1.0s
F33A 5 Mile Ranch, 42.29 73 P **P 23 02 06.9 -0.2**
F33A IAmb IAmb 23 02 20.6
comp=Z,18nm,1.2s
USRK Ussuriysk Ar. 42.37 285 P **P 23 02 07.9 +0.1**
comp=Z,2.1nm,0.5s,baz=52,slow=9.3,SNR=4.2
USRK LR LR 23 19 29.1
comp=Z,359nm,21.8s,baz=55,slow=36
comp=Z,2.1nm,0.5s
TUC Tucson 42.55 99 P **P 23 02 10.5 +1.0**
TUC Tucson 42.55 99 P **P 23 02 10.5 +1.0**
TUC pmax pmax
comp=Z,14nm,1.5s
NEEM North Greenlan 42.60 17 *i* P **P 23 02 09.7 +0.1**
NEEM IAmb IAmb 23 02 11.5
comp=Z,18nm,0.9s
KSCO Kaye Shedlock' 42.82 85 **P 23 02 14.7 +3.0**
KSCO IAmb IAmb 23 02 15.8
comp=Z,62nm,1.7s
KULLO Kullorsuaq 42.97 22 *e* P **P 23 02 12.7 +0.3**
KULLO IAmb IAmb 23 02 15.5
comp=Z,6.2nm,0.7s
T25A Trinidad 42.99 88 **P 23 02 14.8 +1.6**
T25A IAmb IAmb 23 02 30.6
comp=Z,27nm,1.2s
T25A Trinidad 42.99 88 P **P 23 02 13.9 +0.7**
baz=312
ANMO Albuquerque 43.26 92 P **P 23 02 15.9 +0.5**
ANMO Albuquerque 43.26 92 P **P 23 02 17.7 +2.3**
comp=Z,3.6nm,1.1s,baz=125,slow=7.4,SNR=5.0
ANMO LR LR 23 19 10.5
comp=Z,308nm,18.3s,baz=114,slow=34
comp=Z,3.6nm,1.1s
ANMO Albuquerque 43.26 92⇓ *e* P **P 23 02 16.9 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ECSD EROS Data Cent 43.36 75 P **P 23 02 15.1 -0.8**
DUN6 Lazy B Ranch 43.38 97 P **P 23 02 15.6 -0.7**
DUN6 IAmb IAmb 23 02 44.7
comp=Z,60nm,1.6s
LENM Lemitar 43.49 93 P **P 23 02 18.8 +1.5**
MAJO Matsushiro 43.59 271 P **P 23 02 18.2 +0.4**
MAJO IAmb IAmb 23 02 21.6
comp=Z,43nm,1.0s
MAJO Matsushiro 43.59 271⇑ *i* P **P 23 02 18.5 +0.7**
MAJO pmax pmax
comp=Z,48nm,1.1s
MAJO Matsushiro 43.59 271 P **P 23 02 18.6 +0.8**
MJAR Matsushiro Arr 43.59 271 P **P 23 02 17.8 0.0**
comp=Z,12nm,1.0s,baz=34,slow=6.9,SNR=16
MJAR LR LR 23 19 06.4
comp=Z,353nm,21.5s,baz=53,slow=34
comp=Z,12nm,1.0s
MJB9 Matsu-Tunnel 43.59 271 P **P 23 02 18.6 +0.8**
MJB9 IAmb IAmb 23 02 22.6
comp=Z,44nm,1.0s
BNM Barren Site 43.71 93 P **P 23 02 20.1 +1.0**

NOR Nord 43.73 7 P **P 23 02 19.4 +1.1**
NOR pmax pmax
comp=Z,21nm,1.7s
NOR Nord 43.73 7 *i* P **P 23 02 18.7 +0.4**
NOR IAmb IAmb 23 02 19.8
comp=Z,16nm,1.0s
EYMN Ely 43.74 67 P **P 23 02 17.9 -0.9**
EYMN IAmb IAmb 23 02 28.5
comp=Z,15nm,1.0s
CRNM Carthage 43.78 93 P **P 23 02 20.7 +1.1**
MSHR Mys Shultsa 43.84 283⇑ *e*P **P 23 02 20.1 +0.4**
MSHR pmax pmax
comp=Z,56nm,1.3s
BGNE Belgrade 43.92 79 P **P 23 02 20.1 -0.2**
BGNE IAmb IAmb 23 02 35.2
comp=Z,24nm,0.9s
BNX BinXian 44.06 289 ⇑P **P 23 02 20.4 -1.0**
BNX pmax pmax
comp=Z,21nm,0.9s
BOD Bodaibo 44.14 310 *e*P **P 23 02 21.1 -0.8**
BOD pmax pmax
comp=Z,33nm,1.3s
121A Cookes Peak, D 44.16 96 P **P 23 02 22.6 0.0**
121A Cookes Peak, D 44.16 96 P **P 23 02 24.5 +1.9**
baz=316
UPNV Upernavik 44.24 24 *e*P **P 23 02 23.7 +1.2**
E38A The Farm, Brul 44.50 69 P **P 23 02 24.8 -0.1**
E38A IAmb IAmb 23 02 44.1
comp=Z,37nm,1.3s
L34A Svendsen Farm, 44.60 77 P **P 23 02 26.3 +0.5**
L34A IAmb IAmb 23 02 40.2
comp=Z,45nm,1.1s
CBKS Cedar Bluff 44.65 83 P **P 23 02 27.0 +0.7**
CBKS IAmb IAmb 23 02 42.5
comp=Z,30nm,1.4s
CBKS Cedar Bluff 44.65 83 P **P 23 02 27.0 +0.7**
CBKS pmax pmax
comp=Z,30nm,1.5s
JGF Kuroka 44.73 271 P **P 23 02 26.7 -0.3**
JGF IAmb IAmb 23 02 38.2
comp=Z,32nm,1.1s
JHJ Hachijo jima 2 45.02 267 LR LR 23 19 21.8
comp=Z,246nm,21.4s,baz=88,slow=34
I37A Lemond, Waseca 45.03 73 P **P 23 02 28.5 -0.7**
I37A IAmb IAmb 23 02 43.5
comp=Z,32nm,0.9s
FRB Frobisher Bay 45.58 38 LR LR 23 24 24.7
comp=Z,2μm,18.2s,baz=301,slow=40
FRB Frobisher Bay 45.58 38 P **P 23 02 34.3 +1.1**
FRB pmax pmax
comp=Z,37nm,0.9s
NUUG Nuugaatsiaq 45.72 25 *i* P **P 23 02 35.5 +1.2**
NUUG IAmb IAmb 23 02 36.1
comp=Z,19nm,1.0s
HIA Hailar 46.13 298 P **P 23 02 37.2 -0.7**
CN2 Changchun 46.34 288 *e*P **P 23 02 39.3 -0.3**
CN2 *e*pP pwP 23 02 49.1 -2.4
CN2 *e*S **S 23 09 21.3 -3.3**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,190nm,10.0s
CN2 LR LR
comp=Z,110nm,10.0s
UMMG Ummannaq 46.54 25 *i* P **P 23 02 42.2 +1.5**
UMMG IAmb IAmb 23 02 42.8
comp=Z,30nm,1.1s
I40A Norwalk 46.68 71 P **P 23 02 41.7 -0.5**
I40A IAmb IAmb 23 02 55.5
comp=Z,19nm,1.0s
NRIK Noril'sk 47.06 333 P **P 23 02 44.5 -0.3**
NRIK IAmb IAmb 23 02 46.3
comp=Z,15nm,1.0s
NRIK Noril'sk 47.06 333 P **P 23 02 44.5 -0.3**
comp=Z,8.9nm,0.9s,baz=63,slow=7.5,SNR=18
NRIK LR LR 23 23 50.7
comp=Z,381nm,20.4s,baz=74,slow=38
comp=Z,8.9nm,0.9s
NRIK Noril'sk 47.06 333*c i*P **P 23 02 45.0 +0.2**
NRIK pmax pmax
comp=Z,18nm,1.0s
N38A Joes South For 47.16 76 P **P 23 02 45.7 -0.3**
KAN13 South Haven SW 47.18 83 P **P 23 02 45.4 -0.8**
KBS Kingsbay 47.59 1 P **P 23 02 49.5 +0.7**
DAG Danmarks Havn 47.83 10 P **P 23 02 51.2 +0.4**
DAG pmax pmax
comp=Z,39nm,1.2s
DAG Danmarks Havn 47.83 10 *i* P **P 23 02 50.8 0.0**
DAG IAmb IAmb 23 02 52.1
comp=Z,27nm,0.8s
WMOK Wichita Mounta 47.97 86 P **P 23 02 52.1 -0.3**
WMOK IAmb IAmb 23 03 11.2
comp=Z,9.1nm,0.9s
WMOK Wichita Mounta 47.97 86 P **P 23 02 52.1 -0.3**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
JCJ Chichijima 48.00 259 LR LR 23 20 39.9
comp=Z,235nm,22.0s,baz=88,slow=33
SUMG Summit 48.30 19 P **P 23 02 55.5 +0.7**
SUMG Summit 48.30 19 P **P 23 02 55.5 +0.7**
SUMG pmax pmax
comp=Z,39nm,1.1s
SUMG Summit 48.30 19 *i* P **P 23 02 56.5 +1.7**
SUMG IAmb IAmb 23 02 58.8
comp=Z,48nm,1.2s
SPA1 Spitsbergen Ar 48.38 0 P **P 23 02 53.7 -1.3**
SPB1 Spitsbergen Ar 48.38 0 P **P 23 02 54.0 -1.0**
SPITS Spitsbergen Ar 48.38 0 P **P 23 02 54.9 -0.1**
comp=Z,2.3nm,0.4s,baz=48,slow=5.0,SNR=18
SPITS LR LR 23 25 03.3
comp=Z,306nm,18.6s,baz=332,slow=38
comp=Z,2.3nm,0.4s
TXAR Lajitas Array 48.91 95 P **P 23 03 01.2 +1.4**
comp=Z,7.5nm,0.9s,baz=305,slow=5.9,SNR=32
TXAR LR LR 23 22 28.9
comp=Z,172nm,19.2s,slow=35
comp=Z,7.5nm,0.9s
LPIG La Paz 48.98 106 LR LR 23 20 53.5
comp=Z,106nm,18.8s,baz=347,slow=33
KSRS Korea Array 49.05 280 P **P 23 03 01.3 +0.7**
comp=Z,8.5nm,0.9s,baz=51,slow=6.4,SNR=14
KSRS LR LR 23 25 14.4
comp=Z,205nm,18.7s,baz=65,slow=38
comp=Z,8.5nm,0.9s
KSAR Wonju Array Be 49.09 280 P **P 23 02 59.8 -1.1**
KSAR Wonju Array Be 49.09 280 P **P 23 02 59.8 -1.1**
SFJD Kangerlussuaq 49.41 29 P **P 23 03 03.7 +0.7**
SFJD Kangerlussuaq 49.41 29 LR LR 23 28 04.5
comp=Z,286nm,18.1s,baz=313,slow=41
SFJD Kangerlussuaq 49.41 29 P **P 23 03 03.7 +0.7**
SFJD pmax pmax
comp=Z,46nm,1.3s
SFJD Kangerlussuaq 49.41 29 *i* P **P 23 03 05.1 +2.1**
SFJD IAmb IAmb 23 03 05.9
comp=Z,54nm,1.4s
SFJD Kangerlussuaq 49.41 29 P **P 23 03 04.6 +1.6**
SFJD pP **pwP 23 03 14.9 +0.3**
HDIL Hopedale 49.58 74 P **P 23 03 04.8 +0.2**
HHAR Hobbs 49.76 81 P **P 23 03 05.8 -0.3**
HHAR IAmb IAmb 23 03 18.6
comp=Z,8.7nm,1.0s
DBG Daneborg 49.84 12 *i* P **P 23 03 07.2 +1.1**
DBG IAmb IAmb 23 03 07.6
comp=Z,21nm,0.9s
CCM Cathedral Cave 50.13 78 P **P 23 03 08.6 -0.2**
CCM IAmb IAmb 23 03 23.5
comp=Z,14nm,1.1s
CCM Cathedral Cave 50.13 78 P **P 23 03 08.6 -0.2**
CCM pmax pmax
comp=Z,14nm,1.1s
MGMO Mountain Grove 50.15 79 P **P 23 03 07.9 -1.1**
MGMO IAmb IAmb 23 03 21.3
comp=Z,10nm,0.9s
BRDY Brady 50.27 90 P **P 23 03 10.7 +0.7**
BRDY IAmb IAmb 23 05 03.6
comp=Z,11nm,0.5s
JNU Nakatsue 50.30 274 P **P 23 03 11.3 +1.1**
comp=Z,16nm,1.0s,baz=47,slow=10,SNR=3.9
JNU LR LR 23 23 11.8
comp=Z,400nm,21.7s,baz=48,slow=35
comp=Z,16nm,1.0s
JCT Junction City 50.37 91 P **P 23 03 11.1 +0.2**
JCT IAmb IAmb 23 03 31.4
comp=Z,19nm,1.1s
JCT Junction City 50.37 91 P **P 23 03 11.1 +0.2**
JCT pmax pmax
comp=Z,19nm,1.1s
FVM French Village 50.65 77 **P 23 03 12.5 -0.3**
FVM IAmb IAmb 23 03 25.8
comp=Z,18nm,1.1s
FVM French Village 50.65 77 P **P 23 03 12.5 -0.3**
FVM pmax pmax
comp=Z,18nm,1.2s
DRIO Del Rio 50.66 93 P **P 23 03 12.7 -0.2**
DRIO IAmb IAmb 23 04 58.1
comp=Z,7.3nm,0.6s
ICESG Greenland Ices 50.70 23 *i* P **P 23 03 13.6 +0.4**
ICESG IAmb IAmb 23 03 14.5
comp=Z,27nm,0.9s
DY2G Dye2 51.00 27 *e*P **P 23 03 16.8 +1.5**
NUUK Nuuk 51.05 32 *i* P **P 23 03 17.9 +2.5**
FCAR Ozark Folk Cen 51.10 80 P **P 23 03 15.3 -0.8**
FCAR IAmb IAmb 23 03 28.6
comp=Z,18nm,1.1s
MIAR Mount Ida 51.18 83 P **P 23 03 17.1 +0.3**
MIAR IAmb IAmb 23 03 32.1
comp=Z,45nm,2.0s
MIAR Mount Ida 51.18 83 P **P 23 03 17.1 +0.3**
MIAR pmax pmax
comp=Z,45nm,2.0s
L48A N Adams 51.40 69 P **P 23 03 18.7 +0.3**
XLT XiLinHaoTe 51.47 294 *e*P **P 23 03 19.5 +0.5**
XLT pmax pmax
comp=Z,34nm,1.1s
XLT pmax pmax
comp=Z,160nm,4.2s
XLT LR LR
comp=Z,48nm,15.8s
XLT LR LR
comp=Z,260nm,13.4s
XLT LR LR
comp=Z,520nm,15.4s
OLIL Olney 51.49 75 P **P 23 03 18.3 -0.7**
OLIL IAmb IAmb 23 03 35.3
comp=Z,30nm,1.0s
SIUC Southern Illin 51.54 76 P **P 23 03 19.1 -0.3**
SIUC IAmb IAmb 23 03 42.4
comp=Z,28nm,1.4s
LCAR Lake Charles 51.54 79 P **P 23 03 18.6 -0.9**
DL2 Dalian 51.72 286 P **P 23 03 21.1 +0.4**
DL2 S **S 23 10 41.8 +1.7**
DL2 pmax pmax
comp=Z,49nm,1.1s
DL2 pmax pmax
comp=Z,160nm,4.0s
DL2 LR LR
comp=Z,450nm,22.3s
DL2 LR LR
comp=Z,560nm,17.5s
DL2 LR LR
comp=Z,620nm,20.4s
SCHQ Schefferville 51.74 47 P **P 23 03 20.9 +0.2**
SCHQ IAmb IAmb 23 03 43.4
comp=Z,13nm,0.9s
SCHQ Schefferville 51.74 47 P **P 23 03 21.4 +0.7**
comp=Z,6.6nm,1.0s,baz=326,slow=6.6,SNR=6.4
SCHQ LR LR 23 27 57.6
comp=Z,778nm,18.4s,baz=325,slow=39
comp=Z,6.6nm,1.0s
IRK Irkutsk 51.96 309 *e*P **P 23 03 20.3 -2.1**
IRK pmax pmax
comp=Z,43nm,1.0s
O48B Farmland 52.13 71 P **P 23 03 22.0 -1.8**
O48B IAmb IAmb 23 03 35.7
comp=Z,31nm,1.3s
833A Chaparral WMA, 52.19 93 P **P 23 03 24.2 -0.2**
833A IAmb IAmb 23 03 46.1
comp=Z,18nm,1.1s
833A Chaparral WMA, 52.19 93 P **P 23 03 25.8 +1.4**
baz=318
USIN University of 52.26 75 P **P 23 03 24.1 -0.7**
SADO Sadowa 52.40 63 LR LR 23 26 48.5
comp=Z,388nm,18.1s,baz=290,slow=37
SCO Scoresbysund 52.98 15 *i* P **P 23 03 31.8 +2.1**
WVT Waverly 53.43 77 P **P 23 03 32.8 -0.7**
WVT IAmb IAmb 23 03 46.5
comp=Z,16nm,0.8s
WVT Waverly 53.43 77 P **P 23 03 32.8 -0.7**
WVT pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 53.53 303 P **P 23 03 33.4 -0.9**
ULN IAmb IAmb 23 03 35.7
comp=Z,19nm,0.9s
ULN Ulaanbaatar 53.53 303*c i*P **P 23 03 34.6 +0.3**
ULN pmax pmax
comp=Z,29nm,1.2s
ULN Ulaanbaatar 53.53 303 P **P 23 03 34.7 +0.4**
ULN pP **sP 23 03 45.3 -1.4**
ZAK Zakamensk 53.66 308 *e*P **P 23 03 34.6 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MOY Mondy 53.85 310 *e*P **P 23 03 37.0 +0.5**
MOY pmax pmax
comp=Z,20nm,1.1s
SONM Songino Array 53.88 303 P **P 23 03 36.6 -0.2**
SONM IAmb IAmb 23 03 38.7
comp=Z,25nm,1.2s
SONM Songino Array 53.88 303 P **P 23 03 37.2 +0.4**
comp=Z,12nm,0.9s,baz=46,slow=6.8,SNR=71
SONM PcP **PcP 23 04 43.6 +1.6**
comp=Z,3.6nm,0.9s,baz=26,slow=3.7,SNR=2.0
SONM LR LR 23 30 19.6
comp=Z,387nm,18.3s,slow=40
comp=Z,12nm,0.9s
ALLY Alegheny Colle 53.96 67 P **P 23 03 36.5 -0.9**
BJI Beijing 54.02 290 P **P 23 03 38.1 +0.4**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI pmax pmax
comp=Z,86nm,5.4s
BJI LR LR
comp=Z,140nm,16.1s
BJI LR LR
comp=Z,150nm,16.9s
BJT Baijiatuau 54.04 290 P **P 23 03 37.8 -0.1**
BJT IAmb IAmb 23 03 42.9
comp=Z,9.8nm,1.0s
BJT Baijiatuau 54.04 290 P **P 23 03 37.8 -0.1**
BJT pmax pmax
comp=Z,10.0nm,1.0s
BJT Baijiatuau 54.04 290 P **P 23 03 38.4 +0.5**
SSFO Shawnee State 54.30 71 P **P 23 03 38.6 -1.3**
SSFO IAmb IAmb 23 03 52.9
comp=Z,22nm,0.9s
CLTN Cedars of Leba 54.33 76 P **P 23 03 39.4 -0.7**
CLTN IAmb IAmb 23 03 55.6
comp=Z,40nm,2.0s
IVI Ivigtut 54.34 33 P **P 23 03 39.6 -0.2**
IVI Ivigtut 54.34 33 *i* P **P 23 03 41.4 +1.7**
IVI Ivigtut 54.34 33 P **P 23 03 41.2 +1.5**
U49A Red Boiling Sp 54.35 75 P **P 23 03 39.4 -0.8**
U49A IAmb IAmb 23 03 53.1
comp=Z,11nm,1.1s
ICQ Pointe Anglais 55.13 52 IAmb IAmb 23 04 05.1
comp=Z,25nm,1.0s
NRS Narsarsuaq 55.25 32 *i* P **P 23 03 47.9 +1.6**
CPCT Cooper Cave 55.82 75 IAmb IAmb 23 04 10.6
comp=Z,8.2nm,1.0s
FPAL Fort Paine 55.84 77 P **P 23 03 50.4 -0.6**
FPAL IAmb IAmb 23 04 03.8
comp=Z,8.1nm,0.9s
SSPA Standing Stone 55.90 66 P **P 23 03 50.9 -0.4**
SSPA IAmb IAmb 23 03 52.0
comp=Z,28nm,1.2s
HHC Hu-ho-hao-te 56.00 294 *e*P **P 23 03 53.4 +1.2**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=Z,410nm,18.5s
HHC LR LR
comp=Z,440nm,18.5s
HHC LR LR
comp=Z,580nm,19.3s
TKL Tuckaleechee C 56.10 74 LR LR 23 27 03.4
comp=Z,414nm,19.7s,baz=326,slow=35
TIA Tai'an 56.16 287 P **P 23 03 54.0 +0.7**
TIA pP **pwP 23 04 04.3 -0.9**
TIA sP **sP 23 04 08.1 +2.7**
TIA pmax pmax
comp=Z,21nm,1.1s
JOW Kunigami 56.41 270 P **P 23 03 55.0 -0.1**
comp=Z,36nm,1.0s,baz=80,slow=11,SNR=3.2
comp=Z,36nm,1.0s
KEV Kevo 56.64 356 P **P 23 03 55.6 -0.5**
V53A Saluda 56.64 74 IAmb IAmb 23 04 24.5
comp=Z,12nm,1.1s
HNS HongShan 56.69 289 ⇑P **P 23 03 58.3 +1.4**
HNS S **S 23 11 47.8 +0.7**
HNS pmax pmax
comp=Z,49nm,0.9s
HNS LR LR
comp=Z,230nm,20.8s
HNS LR LR
comp=Z,420nm,18.8s
HNS LR LR
comp=Z,490nm,17.5s
BLA Blacksburg 56.90 71 IAmb IAmb 23 04 12.7
comp=Z,14nm,0.9s
ARCES ARCESS Array B 56.92 356 P **P 23 03 57.9 -0.3**
comp=Z,6.4nm,0.9s,baz=7.1,slow=7.7,SNR=10
ARCES LR LR 23 30 18.9
comp=Z,276nm,18.4s,baz=350,slow=38
comp=Z,6.4nm,0.9s
TIY Taiyuan 57.73 291 *e*P **P 23 04 05.8 +1.3**
TIY pP **pwP 23 04 17.0 +0.5**
TIY sP sP 23 04 23.4 +6.9
TIY pmax pmax
comp=Z,13nm,0.8s
TIY LR LR
comp=Z,230nm,19.2s
TIY LR LR
comp=Z,270nm,17.2s
TIY LR LR
comp=Z,190nm,15.8s
KMSC Kings Mountain 57.86 73 IAmb IAmb 23 04 17.8
comp=Z,9.4nm,0.8s
LVZ Lovozero 58.01 352⇑ *e*P **P 23 04 05.9 0.0**
LVZ pmax pmax
comp=Z,271nm,4.0s
LVZ Lovozero 58.01 352 P **P 23 04 06.1 +0.2**
comp=Z,63nm,2.4s
NJ2 Nanjing 58.15 282 *e*P **P 23 04 07.6 +0.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
BORG Borgarnes 58.23 18 LR LR 23 31 18.6
comp=Z,317nm,19.6s,baz=335,slow=38
APA Apatity 58.43 353⇓ *i P* **P 23 04 10.1 +1.3**
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,2μm,15.0s
ZAA0 Zalesovo Array 58.97 320 IAmb IAmb 23 04 24.2
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 58.97 320 P **P 23 04 12.9 +0.2**
comp=Z,1.9nm,0.3s,baz=34,slow=7.1,SNR=25
ZALV PcP **PcP 23 05 02.5 +1.0**
comp=Z,0.5nm,0.3s,baz=35,slow=5.3,SNR=1.0
ZALV LR LR 23 32 31.3
comp=Z,626nm,18.3s,baz=44,slow=39
comp=Z,1.9nm,0.3s
LYN LuoYang 59.99 288 P **P 23 04 19.8 -0.3**
LYN pP sP 23 04 28.8 -3.3
LYN pmax pmax
comp=Z,38nm,1.1s
LYN pmax pmax
comp=Z,300nm,4.3s
LYN LR LR
comp=Z,660nm,14.0s
LYN LR LR
comp=Z,280nm,16.5s
LYN LR LR
comp=Z,860nm,21.4s
XAN Xi'an 62.36 290 ⇑P **P 23 04 36.9 +0.7**
XAN pP pwP 23 04 46.3 -1.9
XAN pmax pmax
comp=Z,28nm,1.1s
XAN LR LR
comp=Z,670nm,15.8s
XAN LR LR
comp=Z,470nm,16.5s
XAN LR LR
comp=Z,690nm,17.4s
SSLB Suanglung 63.05 274 P **P 23 04 40.3 -0.6**
YULB Yu-li 63.15 273 P **P 23 04 39.6 -2.0**
JOF Joensuu 63.18 353 *e*P **P 23 04 41.6 +0.5**
GTA Gaotai 63.24 301 P **P 23 04 42.1 0.0**
GTA pP pwP 23 04 52.9 -0.4
GTA pmax pmax
comp=Z,17nm,1.5s
GTA LR LR
comp=Z,400nm,18.2s
GTA LR LR
comp=Z,450nm,20.0s
GTA LR LR
comp=Z,660nm,16.0s
VAF Ylistaro 63.51 357 *e*P **P 23 04 42.9 -0.4**
LZH Lanzhou 63.61 295 *e*P **P 23 04 45.4 +0.7**
LZH pP pwP 23 04 55.4 -1.3
LZH sP sP 23 05 00.9 +4.2
LZH pmax pmax
comp=Z,33nm,1.5s
LZH LR LR
comp=Z,580nm,16.8s
LZH LR LR
comp=Z,720nm,17.5s
LZH LR LR
comp=Z,710nm,16.8s
KURK Kurchatov 63.86 321 P **P 23 04 46.8 +1.0**
KURK Kurchatov 63.86 321*c i*P **P 23 04 46.3 +0.5**
KURK pmax pmax
comp=Z,42nm,1.0s
KURK Kurchatov 63.86 321 P **P 23 04 46.6 +0.8**
KURK pP **pwP 23 04 57.2 -0.2**
KURK sP **sP 23 05 02.1 +3.8**
KURBB Kurchatov Arra 63.97 321 P **P 23 04 47.0 +0.5**
comp=Z,24nm,0.9s,baz=32,slow=6.8,SNR=84
KURBB LR LR 23 35 09.1
comp=Z,713nm,18.4s,baz=126,slow=38
comp=Z,24nm,0.9s
ZSN Zaisan 64.02 316 *e*P **P 23 04 47.5 +0.5**
ZSN pmax pmax
comp=Z,19nm,0.9s
ZSN Zaisan 64.02 316 *e*P **P 23 04 47.5 +0.5**
comp=Z,19nm,0.9s
SVE Sverdlovsk 64.22 335 *e*P **P 23 04 48.8 +0.7**
SVE pmax pmax
comp=Z,34nm,1.3s
KEF Keuruu 64.31 356 *e*P **P 23 04 48.9 +0.3**
KLMR Klimovskoe 64.40 348 *e*P **P 23 04 48.6 -0.6**
KLMR pmax pmax
comp=Z,31nm,1.2s
BVAR Borovoye Array 64.77 328 P **P 23 04 52.6 +0.8**
comp=Z,28nm,0.8s,baz=41,slow=6.9,SNR=136
BVAR LR LR 23 36 59.4
comp=Z,314nm,18.4s,baz=38,slow=40
comp=Z,28nm,0.8s
BRVK Borovoye 64.77 328 P **P 23 04 52.6 +0.8**
BRVK Borovoye 64.77 328*c i*P **P 23 04 52.3 +0.5**
BRVK pmax pmax
comp=Z,61nm,1.7s
BRVK Borovoye 64.77 328 P **P 23 04 52.6 +0.8**
BRVK pP **pwP 23 05 03.0 -0.5**
ENH Enshi 64.85 287 P **P 23 04 52.9 +0.2**
FINES FINESS Array B 64.98 355 P **P 23 04 53.4 +0.5**
FINES FINESS Array B 64.98 355 P **P 23 04 53.1 +0.2**
comp=Z,6.9nm,0.9s,baz=23,slow=7.5,SNR=24
FINES LR LR 23 36 37.5
comp=Z,214nm,18.0s,baz=14,slow=39
comp=Z,6.9nm,0.9s
FINES FINESS Array B 64.98 355 P **P 23 04 53.4 +0.5**
KIRV Kirov 65.05 342 LR LR 23 38 22.3
comp=Z,627nm,18.0s,baz=23,slow=41
KIRV Kirov 65.05 342⇓ *i P* **P 23 04 53.9 +0.5**
ARTI Arti 65.17 336 P **P 23 04 55.2 +0.8**
ARTI Arti 65.17 336 LR LR 23 36 24.6
comp=Z,386nm,20.9s,baz=40,slow=39
ARTI Arti 65.17 336*c i*P **P 23 04 54.5 +0.2**
ARTI S **S 23 13 28.3 -6.5**
ARTI pmax pmax
comp=Z,40nm,1.6s
ARTI Arti 65.17 336 P **P 23 04 54.7 +0.4**
ARTI pP **pwP 23 05 05.0 -1.1**
TAOE Nuku Hiva Isla 65.24 155 *e*LR LR 23 24 06.3
comp=Z,440nm,28.6s
NC204 NORSAR Array S 65.26 3 P **P 23 04 55.8 +1.0**
NB2 NORSAR Subarra 65.51 3 P **P 23 04 57.0 +0.5**

comp=Z,1.7nm,0.8s,baz=356,slow=6.9
NOA NORSAR Array B 65.51 3 P P 23 04 57.0 +0.5
comp=Z,4.0nm,0.9s,baz=357,slow=6.6,SNR=7.0
NOA LR LR 23 35 21.7
comp=Z,82nm,18.1s,baz=340,slow=38
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 65.51 3 P P 23 04 57.0 +0.5
MK31 Makanchi Array 65.61 317 IAmb IAmb 23 05 09.1
comp=Z,15nm,1.1s
MK31 Makanchi Array 65.61 317 *c iP* **P 23 04 57.1 -0.2**
MKAR Makanchi Array 65.61 317 P **P 23 04 57.1 -0.3**
MKAR Makanchi Array 65.61 317 P **P 23 04 57.5 +0.2**
comp=Z,6.1nm,0.8s,baz=48,slow=6.1,SNR=59
MKAR LR LR 23 35 34.6
comp=Z,424nm,19.1s,baz=24,slow=38
comp=Z,6.1nm,0.8s
WMQ Urumqi 65.67 311 *eP* **P 23 04 58.8 +1.0**
WMQ pP pwP 23 05 09.9 +0.6
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,830nm,16.9s
WMQ LR LR
comp=Z,230nm,22.5s
MAKZ Makanchi 65.72 317 P **P 23 04 58.0 -0.1**
MAKZ IAmb IAmb 23 05 10.0
comp=Z,24nm,1.1s
MAKZ Makanchi 65.72 317 P **P 23 04 58.0 -0.1**
MAKZ pmax pmax
comp=Z,24nm,1.2s
MAKZ Makanchi 65.72 317 P **P 23 04 57.8 -0.2**
MAKZ pP **pwP 23 05 08.4 -1.2**
NORES NORESS Array B 65.83 3 P P 23 05 04.2 +5.7
HFS Hagfors 66.48 2 P **P 23 05 03.2 +0.5**
comp=Z,3.8nm,0.4s,baz=16,slow=2.9,SNR=19
comp=Z,3.8nm,0.4s
BRZS Berezniki 66.59 325 *eP* **P 23 05 04.0 +0.4**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 66.59 325 *eP* **P 23 05 04.0 +0.4**
comp=Z,9.0nm,0.9s
KONO Kongsberg 66.84 4 P **P 23 05 05.8 +0.9**
CD2 Chengdu 67.57 292 P **P 23 05 11.1 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
VSU Vasula 67.92 355⇓ *eP* **P 23 05 11.9 +0.2**
VSU pmax pmax
comp=Z,52nm,1.7s
VSU Vasula 67.92 355 *eP* **P 23 05 11.9 +0.2**
GOMU GeErMu 68.24 302 P **P 23 05 13.8 -0.9**
GOMU S **S 23 14 08.1 -5.1**
GOMU pmax pmax
comp=Z,9.0nm,1.1s
GOMU LR LR
comp=Z,600nm,16.4s
GOMU LR LR
comp=Z,680nm,16.4s
GOMU LR LR
comp=Z,1μm,16.6s
TDK Taldyqorghan 68.63 318 *eP* **P 23 05 17.1 +0.6**
TDK pmax pmax
comp=Z,21nm,1.1s
TDK Taldyqorghan 68.63 318 *eP* **P 23 05 17.2 +0.6**
comp=Z,21nm,1.1s
ESQI Esquipulas 68.69 94 P **P 23 05 17.3 0.0**
MTO3 Montecristo 68.80 95 P **P 23 05 16.4 -1.8**
KRVT Keravat (AS076 68.96 229 LR LR 23 31 59.3
comp=Z,105nm,20.0s,baz=145,slow=33
GYA Guiyang 69.36 287 ⇑P **P 23 05 22.1 +0.7**
GYA pmax pmax
comp=Z,23nm,1.2s
MOS Moscow 69.62 348 *eP* **P 23 05 22.0 -0.4**
MOS pmax pmax
comp=Z,23nm,0.8s
MOS MLR MLR
comp=Z,600nm,16.0s
SHLS Shalkode 69.73 316 *eP* **P 23 05 22.9 -0.6**
SHLS pmax pmax
comp=Z,24nm,1.5s
SHLS Shalkode 69.73 316 *eP* **P 23 05 23.0 -0.6**
comp=Z,24nm,1.5s
KPKS Kokpek 69.80 317 *eP* **P 23 05 24.6 +0.7**
KPKS pmax pmax
comp=Z,10.0nm,1.0s
KPKS Kokpek 69.80 317 *eP* **P 23 05 24.6 +0.7**
comp=Z,10nm,1.0s
UZB Uzynbulak 69.92 317 *eP* **P 23 05 25.2 +0.5**
UZB pmax pmax
comp=Z,25nm,1.8s
UZB Uzynbulak 69.92 317 *eP* **P 23 05 25.3 +0.5**
comp=Z,25nm,1.8s
EKA Eskdalemuir Ar 70.06 12 P **P 23 05 26.1 +1.0**
comp=Z,10nm,0.8s,baz=342,slow=5.0,SNR=11
comp=Z,10nm,0.8s
ZHN Zhinishke 70.14 317 *eP* **P 23 05 26.5 +0.5**
ZHN Zhinishke 70.14 317 *eP* **P 23 05 26.6 +0.5**
SATY Saty 70.25 317 *eP* **P 23 05 27.1 +0.4**
SATY pmax pmax
comp=Z,12nm,1.1s
SATY Saty 70.25 317 *eP* **P 23 05 27.2 +0.4**
comp=Z,12nm,1.1s
BTLS Baital 70.28 321 *eP* **P 23 05 27.2 +0.5**
BTLS pmax pmax
comp=Z,17nm,1.1s
BTLS Baital 70.28 321 *eP* **P 23 05 27.3 +0.5**
comp=Z,17nm,1.1s
OBN Obninsk 70.36 348 LR LR 23 40 32.2
comp=Z,142nm,18.2s,baz=0.5,slow=40
OBN Obninsk 70.36 348⇓ *iP* **P 23 05 27.7 +0.8**
OBN *e*PP* **pwP 23 05 37.1 -1.7**
OBN *e* 23 05 49.2
OBN *e* 23 08 04.6
OBN pmax pmax
comp=Z,33nm,1.1s
OBN MLR MLR
comp=Z,229nm,24.0s
OBN Obninsk 70.36 348 P **P 23 05 27.5 +0.6**
comp=Z,42nm,2.5s
AKTO Aktyubinsk 70.67 334 LR LR 23 41 21.6
comp=Z,302nm,18.5s,baz=107,slow=40
MDOK Medeo 70.71 318 *eP* **P 23 05 29.9 +0.4**
MDOK Medeo 70.71 318 *eP* **P 23 05 30.0 +0.4**
AAA Alma-Ata 70.72 318 *eP* **P 23 05 29.9 +0.4**
AAA pmax pmax
comp=Z,28nm,1.2s
AAA Alma-Ata 70.72 318 *eP* **P 23 05 30.0 +0.4**
comp=Z,28nm,1.2s
IIGN Ignalina 71.05 354 *eP* **P 23 05 32.1 +0.9**
ABKAR Akbulak array 71.22 332 P **P 23 05 33.2 +0.9**
ABKAR Akbulak array 71.22 332 IAmb IAmb 23 05 34.6
comp=Z,44nm,0.8s
BELG Belogornoye 71.24 341 LR LR 23 41 37.2
comp=Z,509nm,18.9s,baz=31,slow=40
BELG Belogornoye 71.24 341⇓ *iP* **P 23 05 33.3 +1.0**
BELG pmax pmax
comp=Z,12nm,1.2s
WUS Wushi 71.46 315 P **P 23 05 35.0 +0.9**
WUS pP **pwP 23 05 46.0 +0.3**
WUS sP **PcP 23 05 50.8 -2.7**
TKM2 Tokmak 2 71.48 319 P **P 23 05 35.7 +1.4**
SNR=9.8
USP Ospenovka 71.62 320 P **P 23 05 36.4 +1.4**
SNR=15
BOOM Boomskoye usch 71.71 318 P **P 23 05 36.5 +0.8**
BOOM Boomskoye usch 71.71 318 P **P 23 05 36.5 +0.8**
BOOM pmax pmax
comp=Z,53nm,1.1s
CHMS Chumysh 71.75 319 P **P 23 05 37.1 +1.4**
SNR=16
MNK Minsk 71.79 353 *i* P **P 23 05 34.4 -1.2**
MNK *i* 23 08 13.0
MNK *i* PPP PPP 23 09 57.1
MNK *i* S **S 23 14 52.2 -1.2**
MNK *i* SS **SS 23 19 30.5 +2.2**
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,39nm,1.0s
MNK pmax pmax
comp=E,13nm,1.0s
MNK MLR MLR
comp=N,334nm,22.0s
MNK MLR MLR
comp=E,281nm,16.0s
MNK MLR MLR
comp=Z,344nm,17.0s

PPT Papeete 71.90 167 LR LR 23 30 56.5
comp=Z,185nm,21.3s,baz=358,slow=31
PPT2 Papeete2 71.92 167 *eP* **P 23 05 36.3 -0.6**
comp=Z,38nm,27.2s
PPT2 *eS* **S 23 14 51.4 -4.3**
comp=Z,126nm,29.2s
PPT2 Papeete2 71.92 167 *e*LR LR 23 27 14.6
comp=Z,273nm,32.0s
PPT2 *e*LR LR 23 27 22.8
comp=Z,227nm,22.5s
FRU1 Bishkek 71.96 319 P **P 23 05 38.5 +1.6**
FRU1 Bishkek 71.96 319 P **P 23 05 38.6 +1.6**
FRU1 pmax pmax
comp=Z,123nm,1.1s
KBK Karagaybulak 71.96 319 P **P 23 05 38.6 +1.5**
SNR=14
PZH PanZhiHua 72.09 290 P **P 23 05 38.5 +0.4**
PZH S **S 23 14 58.4 +0.4**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,3.7s
PZH LR LR
comp=Z,300nm,20.0s
PZH LR LR
comp=Z,240nm,18.4s
PZH LR LR
comp=Z,260nm,21.6s
AAK Ala-Archa 72.16 319 P **P 23 05 39.1 +0.8**
AAK Ala-Archa 72.16 319 LR LR 23 40 34.8
comp=Z,802nm,18.1s,baz=31,slow=39
AAK Ala-Archa 72.16 319 P **P 23 05 39.8 +1.5**
SNR=14
AAK Ala-Archa 72.16 319 *ce*P **P 23 05 39.7 +1.4**
AAK pmax pmax
comp=Z,41nm,1.5s
EKS2 Erkin-Say 72.41 320 P **P 23 05 41.4 +1.6**
SNR=10
LPSR Galich'ya Gora 72.50 346⇓ *iP* **P 23 05 40.5 +0.5**
LPSR pmax pmax
comp=Z,37nm,0.8s
SUW Suwalki 72.53 356 P **P 23 05 39.8 -0.3**
SUW Suwalki 72.53 356 P **P 23 05 39.8 -0.3**
SUW pmax pmax
comp=Z,60nm,1.1s
SUW Suwalki 72.53 356 *eP* **P 23 05 41.0 +0.9**
KMI Kunming 72.61 289 ⇑P **P 23 05 41.8 +0.5**
KMI pP pwP 23 05 53.1 -0.3
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI LR LR
comp=Z,250nm,19.7s
KMI LR LR
comp=Z,240nm,16.7s
KMI LR LR
comp=Z,270nm,23.9s
AML Almayashu 72.90 319 P **P 23 05 44.5 +1.5**
SNR=10.0
MSVF Nonsavu 73.00 199 LR LR 23 32 32.8
comp=Z,184nm,21.9s,baz=356,slow=32
DZA Taraz 73.14 321 *eP* **P 23 05 44.4 +0.5**
DZA Taraz 73.14 321 *eP* **P 23 05 44.5 +0.5**
KKAR Karatay Array 73.26 322 P **P 23 05 45.1 +0.4**
KKAR Karatay Array 73.26 322 IAmb IAmb 23 05 57.3
comp=Z,27nm,1.1s
KKAR Karatay Array 73.26 322 P **P 23 05 45.1 +0.4**
QIZ Qiongzhong 73.27 279 P **P 23 05 46.0 +1.0**
QIZ S **S 23 15 11.5 +0.1**
QIZ pmax pmax
comp=Z,27nm,1.6s
QIZ pmax pmax
comp=Z,130nm,4.7s
QIZ LR LR
comp=Z,200nm,16.2s
QIZ LR LR
comp=Z,180nm,13.2s
QIZ LR LR
comp=Z,190nm,20.6s
VORR Voronezh 73.37 346 *eP* **P 23 05 45.7 +0.6**
VORR pmax pmax
comp=Z,24nm,0.7s
VRH Novokhopyorsk 73.44 344⇓ *iP* **P 23 05 46.0 +0.5**
VRH pmax pmax
comp=Z,26nm,0.8s
BRLS Borolday 73.57 323 *eP* **P 23 05 48.3 +1.9**
BRLS Borolday 73.57 323 *eP* **P 23 05 48.4 +1.9**
VSR Storozhevoye 73.82 346 *eP* **P 23 05 45.9 -1.8**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 74.05 346 *eP* **P 23 05 48.4 -0.7**
VORD pmax pmax
comp=Z,20nm,0.9s
KSH Kashi 74.21 316 P P 23 05 54.8 +4.4
KSH pP PcP 23 06 05.8 +0.5
KSH pmax pmax
comp=Z,18nm,0.7s
KSH LR LR
comp=Z,800nm,15.5s
KSH LR LR
comp=Z,440nm,17.5s
KSH LR LR
comp=Z,1μm,16.8s
CHM Chimkent 74.27 322 *eP* **P 23 05 51.0 +0.5**
CHM pmax pmax
comp=Z,15nm,0.9s
CHM Chimkent 74.27 322 *eP* **P 23 05 51.1 +0.5**
comp=Z,15nm,0.9s
RAR Rarotonga 74.65 177 LR LR 23 32 19.1
comp=Z,108nm,20.4s,baz=354,slow=31
RNPP9 Sopachiv 75.00 354 P **P 23 05 55.4 +0.8**
TNCH TengChong 75.04 292 P **P 23 05 56.5 +1.0**
TNCH pP pwP 23 06 06.9 -1.1
TNCH sP PcP 23 06 10.1 +1.0
TNCH S **S 23 15 29.4 -2.1**
TNCH pmax pmax
comp=Z,17nm,1.1s
TNCH pmax pmax
comp=Z,91nm,4.4s
TNCH LR LR
comp=Z,270nm,16.8s
TNCH LR LR
comp=Z,250nm,14.8s
TNCH LR LR
comp=Z,150nm,19.7s
RNPP8 Varash 75.07 354 P **P 23 05 55.3 +0.3**
RNPP5 Staryi Chortor 75.18 354 P **P 23 05 55.4 -0.2**
LSA Lhasa 75.26 300 P **P 23 05 57.5 +0.5**
LSA IAmb IAmb 23 06 12.0
comp=Z,23nm,0.9s
LSA Lhasa 75.26 300 P **P 23 05 58.9 +1.9**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 75.26 300 P **P 23 05 57.5 +0.5**
LSA pmax pmax
comp=Z,23nm,0.9s
CLL Collm 75.31 3 IAmb IAmb 23 05 58.5
comp=Z,19nm,1.1s
CLL Collm 75.31 3 *i* P **P 23 05 57.1 +0.7**
CLL *e*PP* **pwP 23 06 07.0 -1.2**
CLL pmax pmax
comp=Z,21nm,1.1s
CLL Collm 75.31 3 P **P 23 05 56.4 0.0**
comp=Z,21nm,1.4s
CLL Collm 75.31 3 *i* P **P 23 05 57.1 +0.7**
comp=Z,21nm,1.1s
CLL *e*pP **pwP 23 06 07.0 -1.2**
CLL *ex* x 23 21 24.0
CLL *ex* x 23 24 42.0
UCC Uccle 75.32 8 P **P 23 05 56.4 0.0**
UCC Uccle 75.32 8 *d*P **P 23 05 57.3 +0.8**
UCC Uccle 75.32 8 P **P 23 05 56.4 0.0**
UCC pmax pmax
comp=Z,3.0nm,1.3s
MI28 Mi28,Pidlybu 75.36 353 P **P 23 05 57.6 +0.9**
AK21 Malin Array Si 75.41 352 P **P 23 05 56.9 0.0**
AK23 Malin Array Si 75.41 352 P **P 23 05 57.4 +0.4**
AK03 Malin Array Si 75.44 352 P **P 23 05 57.0 -0.2**
AK20 Malin Array Si 75.44 352 P **P 23 05 56.9 -0.3**
AK04 Malin Array Si 75.45 352 P **P 23 05 57.3 +0.1**
AK18 Malin Array Si 75.46 352 P **P 23 05 57.6 +0.4**
AKASG Malin Array Be 75.47 352 P **P 23 05 57.1 -0.2**
AKASG IAmb IAmb 23 05 58.8
comp=Z,17nm,1.4s
AKASG Malin Array Be 75.47 352 P **P 23 05 57.3 0.0**
comp=Z,14nm,0.8s,baz=9.7,slow=5.5,SNR=46

AKASG LR LR 23 40 50.2
comp=Z,205nm,19.4s,baz=20,slow=37
comp=Z,14nm,0.8s
AKASG Malin Array Be 75.47 352 *i* P **P 23 05 57.2 -0.1**
AKASG pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 75.47 352⇑ *iP* **P 23 05 57.3 0.0**
AKBB pmax pmax
comp=Z,45nm,1.1s
KIEV Kiev 75.47 352 P **P 23 05 57.6 +0.2**
KIEV Kiev 75.47 352⇓P **P 23 05 57.8 +0.5**
KIEV Kiev 75.47 352 P **P 23 05 57.8 +0.5**
KIEV Kiev 75.47 352 P **P 23 05 57.3 0.0**
comp=Z,150nm,2.2s
AK01 Malin Array Si 75.48 352 P **P 23 05 57.4 0.0**
AK08 Malin Array Si 75.53 352 P **P 23 05 57.7 0.0**
AK14 Malin Array Si 75.55 352 P **P 23 05 58.1 +0.3**
AK13 Malin Array Si 75.57 352 P **P 23 05 58.1 +0.2**
AK06 Malin Array Si 75.58 352 P **P 23 05 58.0 0.0**
AK07 Malin Array Si 75.62 352 P **P 23 05 58.0 -0.2**
BSTI Sart Tilman 75.64 8 *d*P **P 23 06 00.1 +1.8**
comp=Z,3.6nm,1.0s
MEM Membach 75.64 7 *d*P **P 23 05 59.8 +1.5**
comp=Z,14nm,1.0s
PMG Port Moresby 75.69 231 LR LR 23 33 29.9
comp=Z,132nm,21.6s,baz=14,slow=31
BRG Berggiesshubel 75.76 2 *eP* **P 23 06 00.0 +1.0**
BRG Amp 23 06 02.4
comp=Z,12nm,1.0s
BCLA Clavier 75.78 8 *d*P **P 23 06 00.3 +1.2**
comp=Z,8.6nm,1.2s
BCLA *d*PP **PP 23 08 46.0 -2.4**
BTK Batken 75.78 320 P **P 23 06 00.1 +0.7**
BGES Gesves 75.80 8 *d*P **P 23 06 00.3 +1.1**
KSP Ksiaz 75.82 1 P **P 23 06 00.2 +0.8**
KSP Ksiaz 75.82 1 P **P 23 06 00.2 +0.8**
comp=Z,14nm,1.4s
BMRD Maredsous 75.85 8 *d*P **P 23 06 00.8 +1.3**
comp=Z,11nm,1.2s
DRK Karamyk 75.91 319 P **P 23 06 00.4 0.0**
DRK Karamyk 75.91 319 P **P 23 06 00.4 0.0**
DRK pmax pmax
comp=Z,50nm,0.9s
HSKC Hora Svate Kat 76.02 2 *eP* **P 23 06 01.7 +1.2**
RCHB Rochefort 76.03 8 *d*P **P 23 06 01.7 +1.2**
comp=Z,11nm,1.0s
DOU Dourbes 76.04 8 *d*P **P 23 06 02.0 +1.4**
comp=Z,6.7nm,1.1s
BAIF Baives 76.04 9 *eP* **P 23 06 01.6 +1.0**
BAIF pmax pmax
comp=Z,22nm,1.2s
GIVF Givet 76.05 8 *eP* **P 23 06 01.5 +0.8**
GIVF pmax pmax
comp=Z,15nm,1.0s
CHVC Chvalec 76.08 1 *eP* **P 23 06 02.2 +1.3**
CHVC Chvalec 76.08 1 *eP* **P 23 06 02.2 +1.3**
RICC Richard 76.10 2 *eP* **P 23 06 02.3 +1.4**
OSTC Ostas 76.11 1 *eP* **P 23 06 01.6 +0.6**
OSTC Ostas 76.11 1 *eP* **P 23 06 01.6 +0.6**
UPC Upice 76.16 1 *eP* **P 23 06 02.4 +1.1**
UPC Upice 76.16 1 *eP* **P 23 06 02.4 +1.1**
DPC Dobruska-Polom 76.32 0 *eP* **P 23 06 03.8 +1.6**
DPC Dobruska-Polom 76.32 0 *eP* **P 23 06 03.8 +1.6**
DPC Dobruska-Polom 76.32 0 P **P 23 06 03.6 +1.4**
comp=Z,19nm,1.2s
LUBAR Lubar, Ukraine 76.36 353 P **P 23 06 01.9 -0.5**
NKC Novy Kostel 76.36 3 *eP* **P 23 06 03.7 +1.2**
NKC Novy Kostel 76.36 3 *eP* **P 23 06 03.7 +1.2**
OJC Ojcow 76.42 358 P **P 23 06 03.0 +0.2**
OJC IAmb IAmb 23 06 05.2
comp=Z,36nm,1.5s
OJC Ojcow 76.42 358 P **P 23 06 03.0 +0.2**
OJC pmax pmax
comp=Z,36nm,1.5s
OJC Ojcow 76.42 358 P **P 23 06 03.5 +0.7**
KRLC Kraliky 76.59 0 *eP* **P 23 06 04.9 +1.1**
KRLC Kraliky 76.59 0 *eP* **P 23 06 04.9 +1.1**
WLF Walferdange 76.59 7 P **P 23 06 05.2 +1.4**
WLF IAmb IAmb 23 06 06.7
comp=Z,29nm,1.1s
WLF Walferdange 76.59 7 *d*P **P 23 06 05.7 +1.9**
comp=Z,14nm,1.1s
WLF Walferdange 76.59 7 P **P 23 06 05.2 +1.4**
WLF pmax pmax
comp=Z,29nm,1.1s
PRU Pruhonice 76.66 2 *eP* **P 23 06 05.3 +1.2**
PRU *ep*P **pwP 23 06 13.8 -2.2**
PRU Pruhonice 76.66 2 *eP* **P 23 06 05.3 +1.2**
PRU *e* 23 06 13.8
STEB Steborice 76.73 360 *eP* **P 23 06 05.7 +1.1**
GOPC GO Pecny, Ondr 76.74 2 *eP* **P 23 06 05.7 +1.1**
GOPC *ep*P **pwP 23 06 14.1 -2.4**
GOPC GO Pecny, Ondr 76.74 2 *eP* **P 23 06 05.7 +1.1**
GOPC *e* 23 06 14.1
OKC Ostrava-Krasne 76.83 359 P **P 23 06 07.3 +2.2**
GRA1 Grafenberg Arr 76.86 4 P **P 23 06 06.0 +0.7**
GRA1 IAmb IAmb 23 06 24.5
comp=Z,25nm,1.1s
GRF Grafenberg Arr 76.86 4 P **P 23 06 06.0 +0.7**
GRF pmax pmax
comp=Z,25nm,1.1s
GRFO Grafenberg 76.86 4 P **P 23 06 06.2 +0.9**
GRFO IAmb IAmb 23 06 24.4
comp=Z,24nm,1.1s
GRFO Grafenberg 76.86 4 P **P 23 06 06.2 +0.9**
GRFO pmax pmax
comp=Z,25nm,1.1s
MORC Moravsky Berou 76.89 360 IAmb IAmb 23 06 07.9
comp=Z,12nm,1.1s
MORC Moravsky Berou 76.89 360 *eP* **P 23 06 06.7 +1.2**
MORC Moravsky Berou 76.89 360⇑P **P 23 06 06.6 +1.0**
MORC Moravsky Berou 76.89 360 P **P 23 06 06.5 +1.0**
KWP Kalwaria Pacla 76.93 356 *eP* **P 23 06 07.5 +1.8**
KWP Kalwaria Pacla 76.93 356 P **P 23 06 06.6 +0.9**
KWP Kalwaria Pacla 76.93 356 P **P 23 06 06.6 +0.9**
comp=Z,58nm,1.1s
LDF La Druitiere 77.04 12 *eP* **P 23 06 07.7 +1.4**
LDF pmax pmax
comp=Z,16nm,1.1s
HORU Horodok 77.15 354 P **P 23 06 07.1 +0.2**
HORU Horodok 77.15 354 P **P 23 06 07.1 +0.2**
GRR Gorron 77.16 12 *eP* **P 23 06 07.7 +0.8**
GRR pmax pmax
comp=Z,25nm,1.3s
STHS Stebnicka Huta 77.19 357 *eP* **P 23 06 08.6 +1.4**
STHS pmax pmax
comp=Z,18nm,0.9s
STHS Stebnicka Huta 77.19 357 *eP* **P 23 06 08.6 +1.4**
ZVC Zvikov 77.20 2 *eP* **P 23 06 08.7 +1.5**
NIE Niedzica 77.22 358 P **P 23 06 09.0 +1.7**
NIE Niedzica 77.22 358 P **P 23 06 09.0 +1.7**
comp=Z,6.6nm,1.3s
MAUC Maruska 77.30 359 *eP* **P 23 06 09.4 +1.6**
MAUC *ex* x 23 06 19.1
VRAC Vranov 77.36 0 *eP* **P 23 06 09.3 +1.2**
VRAC Vranov 77.36 0 ⇓P **P 23 06 10.0 +1.8**
VRAC Vranov 77.36 0 P **P 23 06 09.9 +1.8**
TREC Trest 77.37 1 *eP* **P 23 06 06.3 -1.9**
TREC Trest 77.37 1 *eP* **P 23 06 06.3 -1.9**
MORS Morshin 77.38 355 P **P 23 06 09.2 +1.0**
MORS Morshin 77.38 355 P **P 23 06 09.2 +1.0**
KHC Kasperske Hory 77.50 2 *eP* **P 23 06 10.5 +1.6**
KHC *ep*P **PcP 23 06 21.0 +1.8**
KHC Kasperske Hory 77.50 2 *c iP* **P 23 06 10.5 +1.6**
KHC pmax pmax
comp=Z,63nm,1.4s
KHC Kasperske Hory 77.50 2 P **P 23 06 10.2 +1.3**
comp=Z,23nm,1.5s
KRUC Moravsky 77.61 0 *eP* **P 23 06 10.5 +1.0**
TBI Tubuai 77.61 167 *e*LR LR 23 29 48.6
comp=Z,2μm,35.8s
KOLS Kolonicke sedl 77.64 356 *eP* **P 23 06 11.3 +1.6**
KOLS pmax pmax
comp=Z,18nm,1.3s
KOLS Kolonicke sedl 77.64 356 *eP* **P 23 06 11.3 +1.6**
SIMJ Simiganj 77.69 321 P **P 23 06 10.9 +0.6**
NDNU Novodnistrovsk 77.70 353 P **P 23 06 09.2 -0.8**
STNU Starunia 77.77 355 P **P 23 06 10.8 +0.4**
GEC2 GERESS Array S 77.79 2 IAmb IAmb 23 06 12.9
comp=Z,15nm,1.1s
GERES GERESS Array B 77.79 2 P **P 23 06 11.4 +0.8**
GERES GERESS Array B 77.79 2 P **P 23 06 11.8 +1.2**
comp=Z,5.1nm,0.8s,baz=356,slow=4.1,SNR=28
comp=Z,5.1nm,0.8s

KMPD K-Podol'skiy 77.80 354 P pP 23 06 10.8 -8.9
KMPD P **P 23 06 09.8 -0.7**
JAVC Velka Javorina 77.81 360 *e*P **P 23 06 13.0 +2.3**
CKRC Cesky Krumlov 77.83 2 *e*P **P 23 06 11.8 +1.1**
CKRC Cesky Krumlov 77.83 2 *e*P **P 23 06 11.8 +1.1**
CDF Champ du Feu 77.92 7 *e*P **P 23 06 12.1 +0.8**
CDF pmax pmax
comp=Z,10.0nm,1.0s
HOLU Holmets 78.05 356 P **P 23 06 13.5 +1.6**
BFO Black Forest 78.07 6 P **P 23 06 12.9 +0.8**
BFO IAmb IAmb 23 06 24.9
comp=Z,21nm,1.4s
BFO Black Forest 78.07 6 P **P 23 06 12.9 +0.8**
BFO pmax pmax
comp=Z,21nm,1.4s
SORM Soroca 78.09 352 ⇑P **P 23 06 12.4 +0.2**
SORM Soroca 78.09 352 P **P 23 06 12.3 +0.2**
SORM Soroca 78.09 352 P **P 23 06 11.6 -0.5**
comp=Z,35nm,1.1s
MUKU Mukachevo 78.11 356 P **P 23 06 13.3 +1.1**
ECH Echery 78.11 7 P **P 23 06 12.7 +0.4**
ECH IAmb IAmb 23 06 14.7
comp=Z,16nm,1.0s
ECH Echery 78.11 7 P **P 23 06 12.7 +0.4**
ECH pmax pmax
comp=Z,15nm,1.0s
KSV Kosov 78.13 355 P **P 23 06 12.8 +0.4**
KSV Kosov 78.13 355 P **P 23 06 12.8 +0.4**
SMOL Smolenice 78.16 360 *e*P **P 23 06 14.7 +2.2**
VYHS Vyhne 78.17 359 *e*P **P 23 06 14.1 +1.5**
VYHS pmax pmax
comp=Z,26nm,1.4s
VYHS Vyhne 78.17 359 *e*P **P 23 06 14.1 +1.5**
BAL3X Bal3x, Balta 78.18 351 P **P 23 06 12.9 +0.3**
BRIU Brid 78.21 356 P **P 23 06 14.6 +1.8**
NSLU Nyzhne Selyshc 78.28 355 P **P 23 06 14.8 +1.6**
MODS Modra-Piesok 78.30 360 *e*P **P 23 06 15.4 +2.1**
MODS pmax pmax
comp=Z,61nm,1.3s
MODS Modra-Piesok 78.30 360 *e*P **P 23 06 15.4 +2.1**
BERU Beregovo 78.33 356 P **P 23 06 15.6 +2.2**
KORU Korolevo 78.38 356 P **P 23 06 15.9 +2.1**
HINF Hinteralfeld 78.48 7 *e*P **P 23 06 15.0 +0.6**
HINF pmax pmax
comp=Z,15nm,1.3s
PSZ Piszkesteto 78.72 358 IAmb IAmb 23 06 19.0
comp=Z,22nm,1.1s
PSZ Piszkesteto 78.72 358 ⇑P **P 23 06 17.9 +2.1**
PSZ Piszkesteto 78.72 358 P **P 23 06 17.8 +2.1**
PSZ Piszkesteto 78.72 358 *e*P **P 23 06 17.9 +2.1**
CONA Conrad Observa 78.74 1 *i*P **P 23 06 17.7 +1.8**
comp=Z,17nm,1.1s,SNR=8.4
LOR Lormes 78.78 9 *e*P **P 23 06 16.8 +0.8**
LOR pmax pmax
comp=Z,20nm,1.2s
BUR08 Bucovina Ar. S 78.79 354 IAmb IAmb 23 06 18.4
comp=Z,11nm,1.1s
MOA Molln 78.80 2 *i*P **P 23 06 17.3 +1.2**
comp=Z,13nm,1.3s
BURAR Bucovina Array 78.82 354 ⇑P **P 23 06 17.3 +0.9**
BURAR Bucovina Array 78.82 354 P **P 23 06 17.2 +0.9**
BMR Baia Mare 78.85 356 ⇓P **P 23 06 18.2 +1.8**
BMR Baia Mare 78.85 356 P **P 23 06 18.1 +1.8**
BIOA Bad Ischl, Aus 78.94 2 *i*P **P 23 06 18.0 +1.1**
comp=Z,7.2nm,1.0s
SSF Saint Saulge 78.95 9 *e*P **P 23 06 17.8 +0.9**
SSF pmax pmax
comp=Z,26nm,1.3s
RONA Rosalia, Austr 78.97 1 *i*P **P 23 06 19.0 +1.9**
comp=Z,13nm,1.2s
SOP Sopron 78.99 0 P **P 23 06 19.4 +2.3**
MFF Saint Martin d 79.00 12 *e*P **P 23 06 18.1 +0.9**
MFF pmax pmax
comp=Z,13nm,0.9s
RETA Reutte 79.04 4 *i*P **P 23 06 19.0 +1.4**
comp=Z,12nm,1.1s
GOF Gofitskoye 79.14 342 *ce*P **P 23 06 19.5 +1.5**
LESA Schwarzleotal 79.18 3 *i*P **P 23 06 19.7 +1.4**
comp=Z,13nm,1.2s
DAVA Damuels 79.20 5 *i*P **P 23 06 19.9 +1.4**
comp=Z,8.4nm,1.2s
MOTA Moosalm 79.20 4 *i*P **P 23 06 19.9 +1.4**
comp=Z,22nm,1.0s
WATA Walderalm 79.23 4 *i*P **P 23 06 20.2 +1.6**
comp=Z,20nm,0.9s,SNR=6.9
MILM Milestii Mici 79.26 352 ⇓P **P 23 06 19.0 +0.5**
MILM Milestii Mici 79.26 352 P **P 23 06 19.0 +0.5**
PHRA Phrae 79.26 286 P **P 23 06 19.4 +0.4**
WTTA Wattenberg 79.30 4 *i*P **P 23 06 20.9 +1.8**
comp=Z,21nm,0.8s,SNR=7.0
SQTA Sankt Quirin 79.33 4 *i*P **P 23 06 20.9 +1.7**
comp=Z,28nm,0.9s,SNR=12
BGF Bois d'Agland 79.38 10 *e*P **P 23 06 20.0 +0.7**
BGF pmax pmax
comp=Z,25nm,1.4s
ARCR ARCALIA 79.40 355 ⇓P **P 23 06 21.6 +2.2**
MESR Meseseni 79.40 356 ⇓P **P 23 06 21.7 +2.3**
ARSA Arzberg 79.41 1 *i*P **P 23 06 21.3 +1.8**
comp=Z,19nm,1.2s,SNR=5.5
ARSA Arzberg 79.41 1 P **P 23 06 20.3 +0.8**
ARSA IAmb IAmb 23 06 22.0
comp=Z,14nm,1.0s
MPLH Magyarpolny 79.50 360 P **P 23 06 22.1 +2.2**
comp=Z,68nm,1.7s
FETA Feichten 79.51 4 *i*P **P 23 06 21.9 +1.8**
comp=Z,27nm,1.0s,SNR=13
SJG San Juan 79.53 74 LR LR 23 41 30.2
comp=Z,152nm,19.7s,baz=260,slow=36
KBA Koelnbreinsper 79.54 3 *i*P **P 23 06 22.5 +2.1**
comp=Z,30nm,0.9s,SNR=17
KBA Koelnbreinsper 79.54 3 P **P 23 06 22.3 +1.9**
CABF La Chapelle 79.62 8 *e*P **P 23 06 21.9 +1.2**
CABF pmax pmax
comp=Z,24nm,1.2s
CHTO Chiang Mai 79.74 288 P **P 23 06 22.2 +0.6**
CHTO IAmb IAmb 23 06 34.0
comp=Z,27nm,1.4s
CHTO Chiang Mai 79.74 288 P **P 23 06 22.2 +0.6**
CHTO pmax pmax
comp=Z,27nm,1.5s
DRGR 79.77 356 ⇑P **P 23 06 22.8 +1.3**
DRGR 79.77 356 P **P 23 06 22.7 +1.3**
ABTA Abfaltersbach 79.85 3 *i*P **P 23 06 23.3 +1.4**
comp=Z,21nm,1.1s,SNR=6.4
MARR Marisel-Cluj 79.86 356 ⇓P **P 23 06 23.5 +1.4**
FUORN Ofenpass-Fuorn 79.89 5 P **P 23 06 23.6 +1.2**
FUORN IAmb IAmb 23 06 25.4
comp=Z,23nm,1.2s
SENIN Lac Senin/Sane 79.96 7 P **P 23 06 23.8 +1.1**
DZM Mont Dzumac 79.97 209 *e*S S 23 16 08.9 -15
DZM *e*SS **SS 23 21 35.0 -0.1**
comp=Z,89nm,25.1s
DZM *e*LR LR 23 31 19.1
comp=Z,242nm,22.1s
DZM Mont Dzumac 79.97 209 LR LR 23 34 33.5
comp=Z,159nm,20.5s,baz=352,slow=30
SOKA Soboth 79.98 1 *i*P **P 23 06 24.4 +1.8**
comp=Z,38nm,1.2s,SNR=12
TUE Stuetta 79.98 5 P **P 23 06 23.0 +0.1**
TUE IAmb IAmb 23 06 25.9
comp=Z,59nm,2.0s
TUE Stuetta 79.98 5 P **P 23 06 24.3 +1.5**
comp=Z,51nm,0.9s
MYKA Terra Mystica 80.00 2 *i*P **P 23 06 23.8 +1.1**
comp=Z,7.5nm,0.8s
ONER Baraj Valea Uz 80.02 353 ⇑P **P 23 06 25.1 +2.3**
CMAR Chiang Mai Arr 80.02 287 P **P 23 06 23.9 +0.7**
comp=Z,16nm,1.0s,baz=17,slow=5.2,SNR=59
CMAR LR LR 23 45 50.0
comp=Z,178nm,18.7s,baz=20,slow=39
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 80.02 287 *i*P **P 23 06 23.8 +0.6**
CMAR pmax pmax
comp=Z,15nm,1.0s
OBKA Obir 80.14 2 *i*P **P 23 06 25.1 +1.6**
comp=Z,32nm,0.8s,SNR=9.8
GROS Grobnik 80.20 1 *i*P **P 23 06 25.1 +1.3**
GHRR 80.22 353 ⇓P **P 23 06 25.7 +1.8**
KOGS Kog 80.22 1 *i*P **P 23 06 25.3 +1.5**
MAK Makhachkala 80.23 338 *e*P **P 23 06 22.0 -1.9**
MAK *e*PPP PPP 23 11 15.0
MAK *e*S **S 23 16 24.3 -2.3**
MAK *e*SS **SS 23 21 37.1 +0.7**
MAK *e*SSS SSS 23 25 02.1

MAK pmax pmax
comp=Z,113nm,1.0s
KIV Kislovodsk 80.27 342 P **P 23 06 25.1 +0.8**
KIV Kislovodsk 80.27 342 ⇓P **P 23 06 26.2 +2.0**
KIV Kislovodsk 80.27 342 *e*P **P 23 06 25.5 +1.3**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 80.27 342 P **P 23 06 25.6 +1.3**
comp=Z,28nm,0.9s
OZUR 80.30 354 ⇓P **P 23 06 26.1 +1.8**
SIRR Siria 80.33 357 ⇓P **P 23 06 26.1 +1.7**
ANN Anapa 80.34 345 *e*P **P 23 06 21.4 -3.1**
ANN *e**PP **PcP 23 06 32.6 +1.1**
ANN *e* 23 09 27.1
ANN *e*S **S 23 16 22.5 -5.2**
ANN pmax pmax
comp=Z,39nm,1.2s
NIL Nilore 80.36 315 P **P 23 06 25.0 +0.1**
NIL Nilore 80.36 315 P **P 23 06 25.0 +0.1**
NIL pmax pmax
comp=Z,152nm,1.4s
VLDR Vladesti 80.38 352 ⇑P **P 23 06 25.6 +0.9**
CADS Cadrg 80.40 2 *i*P **P 23 06 25.4 +0.6**
MORH Mrgy, Hungar 80.45 359 ⇑P **P 23 06 26.2 +1.2**
MORH Mrgy, Hungar 80.45 359 P **P 23 06 25.8 +0.8**
KBZ Khabaz 80.45 341 P **P 23 06 26.7 +1.6**
comp=Z,15nm,0.9s,baz=311,slow=1.8,SNR=30
KBZ LR LR 23 48 04.1
comp=Z,229nm,18.3s,baz=16,slow=40
comp=Z,15nm,0.9s
KBZ Khabaz 80.45 341 *c i*P **P 23 06 27.1 +2.0**
KBZ pmax pmax
comp=Z,21nm,1.0s
DOPR Dopca 80.45 354 ⇑P **P 23 06 27.4 +2.3**
VRI Vrincioaia 80.47 353 ⇑P **P 23 06 26.1 +0.8**
VRI Vrincioaia 80.47 353 P **P 23 06 26.0 +0.8**
PLOR Plostina 80.48 353 ⇑P **P 23 06 26.0 +0.6**
PLOR Plostina 80.48 353 P **P 23 06 25.9 +0.6**
SHA1 Shidzhatmaz 80.49 341 *c i*P **P 23 06 27.2 +1.6**
CTI Castel Tesino 80.52 4 P **P 23 06 26.2 +0.7**
CTI IAmb IAmb 23 06 48.4
comp=Z,16nm,1.2s
CTI Castel Tesino 80.52 4 P **P 23 06 26.3 +0.7**
CTI pmax pmax
comp=Z,16nm,1.2s
COVR Voineasa-Covas 80.52 354 ⇑P **P 23 06 27.8 +2.3**
NCK Nalchik 80.54 341 ⇑*i*P **P 23 06 27.5 +1.9**
NCK pmax pmax
comp=Z,59nm,1.0s
BRDH Bariadhala 80.67 296 LR LR 23 44 49.5
comp=Z,247nm,18.2s,baz=334,slow=38
NEGRR Negrea 80.71 352 ⇓P **P 23 06 28.1 +1.7**
IZVR Izvoarele 80.71 352 ⇓P **P 23 06 28.0 +1.5**
LFF La Frestale 80.75 12 *e*P **P 23 06 27.5 +0.8**
LFF pmax pmax
comp=Z,27nm,1.3s
LPL La Plagne 80.76 7 *e*P **P 23 06 29.7 +2.6**
LPL pmax pmax
comp=Z,10.0nm,1.2s
LPG La Plagne 80.78 7 *e*P **P 23 06 29.1 +1.9**
LPG pmax pmax
comp=Z,16nm,1.4s
SSB Saint Sauveur 80.81 9 P **P 23 06 28.0 +0.9**
SSB IAmb IAmb 23 06 39.2
comp=Z,51nm,2.0s
SSB Saint Sauveur 80.81 9 P **P 23 06 28.0 +0.9**
SSB pmax pmax
comp=Z,51nm,2.0s
SURR Surduc 80.83 356 ⇓P **P 23 06 28.3 +1.3**
TNR Turnu Rosu 80.83 355 ⇑P **P 23 06 29.0 +1.9**
TNR Turnu Rosu 80.83 355 P **P 23 06 29.0 +1.9**
MLR Muntele Rosu 80.89 354 ⇓P **P 23 06 29.7 +2.0**
MLR Muntele Rosu 80.89 354 P **P 23 06 29.6 +2.0**
GRER 80.93 353 ⇓P **P 23 06 29.6 +1.9**
TLCR 80.98 352 ⇑P **P 23 06 28.8 +0.9**
TLCR 80.98 352 P **P 23 06 28.8 +0.9**
BZS Buzias 80.98 357 ⇑P **P 23 06 29.1 +1.1**
BZS Buzias 80.98 357 P **P 23 06 29.0 +1.1**
VOIR 81.00 354 ⇑P **P 23 06 30.2 +2.1**
VOIR 81.00 354 P **P 23 06 30.2 +2.1**
CFR Carcaliu 81.04 352 ⇑P **P 23 06 29.6 +1.4**
CFR Carcaliu 81.04 352 P **P 23 06 29.6 +1.4**
LOT Lotru 81.06 355 ⇑P **P 23 06 29.6 +1.1**
ARR Arges 81.09 355 ⇓P **P 23 06 30.5 +1.9**
GZR Gura Zlata 81.16 356 ⇑P **P 23 06 30.2 +1.2**
GZR Gura Zlata 81.16 356 P **P 23 06 30.2 +1.2**
SOC Sochi 81.16 344 *e*P **P 23 06 28.7 -0.2**
SOC *e* 23 09 33.9
SOC *e*PPP PPP 23 11 24.3
SOC *e*S **S 23 16 36.3 -0.1**
SOC *e*SS **SS 23 21 48.4 -1.8**
SOC *e*SSS SSS 23 25 17.3
SOC pmax pmax
comp=Z,27nm,0.7s
SOC MLR MLR
comp=Z,163nm,20.0s
BNI Bardonecchia 81.22 7 P **P 23 06 29.7 +0.3**
BNI IAmb IAmb 23 06 41.7
comp=Z,20nm,1.1s
BNI Bardonecchia 81.22 7 P **P 23 06 29.7 +0.3**
BNI pmax pmax
comp=Z,20nm,1.1s
VSLR Vesyoloye 81.23 343 *ce*P **P 23 06 30.4 +1.1**
VSLR pmax pmax
comp=Z,33nm,1.0s
VIVF Saint-Julien-l 81.25 9 *e*P **P 23 06 30.5 +1.1**
VIVF pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 81.29 319 P **P 23 06 29.3 -0.7**
KBL IAmb IAmb 23 06 41.9
comp=Z,20nm,1.0s
KBL Kabul 81.29 319 P **P 23 06 29.3 -0.7**
KBL pmax pmax
comp=Z,19nm,1.0s
TPGR Topolog 81.34 352 ⇓P **P 23 06 31.0 +1.2**
MBDF Montbardon 81.55 7 *e*P **P 23 06 33.1 +1.9**
MBDF pmax pmax
comp=Z,23nm,0.9s
TLBR Topalu 81.68 352 ⇑P **P 23 06 32.3 +0.7**
HERR Herculane 81.69 356 ⇓P **P 23 06 33.0 +1.4**
TIRR Tirgusor 81.73 352 ⇓P **P 23 06 33.0 +1.1**
TIRR Tirgusor 81.73 352 P **P 23 06 33.0 +1.1**
MDVR Moldovita 81.81 357 ⇑P **P 23 06 33.7 +1.3**
HUMR Humele 81.91 354 ⇓P **P 23 06 33.5 +0.6**
SEKA Sheki 81.97 338 P **P 23 06 35.3 +2.0**
MSSA Maissana 82.14 5 P **P 23 06 34.1 -0.1**
MSSA IAmb IAmb 23 06 43.9
comp=Z,17nm,0.9s
ZCCA Zocca 82.18 4 P **P 23 06 35.1 +0.7**
MNGR Mingechevir, A 82.41 337 P **P 23 06 37.7 +2.2**
PCAB Cabril 82.54 19 *e*P **P 23 06 37.1 +0.8**
PCAB *i* Amb 23 06 39.9
comp=Z,52nm,1.9s
ETSF Etsaut 82.59 13 *e*P **P 23 06 37.3 +0.8**
ETSF pmax pmax
comp=Z,12nm,1.1s
PBRG Braganca 82.69 18 *e*P **P 23 06 38.7 +1.7**
GANJ Ganja 82.70 338 P **P 23 06 38.8 +1.7**
POLO Lamas de Olo 82.91 19 *e*P **P 23 06 40.2 +1.9**
POLO *i* Amb 23 06 44.1
comp=Z,25nm,1.8s
BOVS Bovan 82.96 357 ⇓P **P 23 06 39.2 +0.9**
PVRL Vila Real 83.02 19 *e*P **P 23 06 39.0 +0.2**
PVRL *i* Amb 23 06 56.3
comp=Z,39nm,1.8s
CEST Esterri de Car 83.12 12 P **P 23 06 40.2 +0.9**
CEST IAmb IAmb 23 06 42.2
comp=Z,13nm,1.1s
MVO Moncorvo 83.25 18 *e*P **P 23 06 41.9 +1.9**
MVO *i* Amb 23 06 54.5
comp=Z,23nm,1.5s
KARS Kars 83.41 340 P **P 23 06 41.9 +1.0**
KARS Kars 83.41 340 P **P 23 06 41.9 +1.0**
KARS pmax pmax
comp=Z,77nm,1.1s
GNI Garni 83.52 339 P **P 23 06 43.2 +1.7**
GNI Garni 83.52 339 LR LR 23 49 56.7
comp=Z,182nm,18.3s,baz=14,slow=40
GNI Garni 83.52 339 *c i*P **P 23 06 43.8 +2.3**
GNI pmax pmax
comp=Z,56nm,2.4s
PVIS Viseu 83.53 19 *e*P **P 23 06 43.2 +1.8**
GUMA Gualdo di Mace 83.56 3 P **P 23 06 41.5 0.0**

PGF Pioggiola 83.87 6 *e*P **P 23 06 45.4 +2.2**
PGF pmax pmax
comp=Z,40nm,1.3s
MTE Manteigas 83.90 19 *e*P **P 23 06 45.1 +1.8**
MTE *i* Amb 23 06 49.0
comp=Z,27nm,1.7s
LKRN Lenkeran, Azer 83.97 336 P **P 23 06 46.7 +3.1**
PCAS Casmilo, Conde 84.05 19 *e*P **P 23 06 45.8 +1.8**
PCAS *i* Amb 23 06 50.5
comp=Z,59nm,1.7s
PDG Podgorica 84.22 358 ⇓P **P 23 06 46.3 +1.5**
NAX Nakhchivan 84.29 338 P **P 23 06 47.2 +1.8**
PCBR Castelo Branco 84.45 19 *e*P **P 23 06 48.0 +1.9**
KOPT Kop Dagi 84.49 342 P **P 23 06 46.0 -0.6**
KOPT IAmb IAmb 23 07 06.5
comp=Z,20nm,1.2s
ESDC Sonseca Array 85.24 16 P **P 23 06 51.1 +1.0**
ESDC Sonseca Array 85.24 16 P **P 23 06 51.0 +0.9**
comp=Z,4.1nm,0.9s,baz=338,slow=4.7,SNR=18
ESDC LR LR 23 48 04.4
comp=Z,219nm,18.1s,baz=348,slow=38
comp=Z,4.1nm,0.9s
RDO Rodhopi 85.24 354 P **P 23 06 50.9 +0.9**
GURO Guroymak-BITLI 85.62 341 P **P 23 06 53.4 +1.2**
GEVA Gevas 85.64 340 P **P 23 06 53.5 +1.2**
BAUV El Baul 85.75 81 P **P 23 06 52.8 -0.1**
FNA Florina 85.81 357 P **P 23 06 53.7 +0.8**
FNA IAmb IAmb 23 06 54.8
comp=Z,18nm,1.1s
FNA Florina 85.81 357 P **P 23 06 53.7 +0.8**
FNA pmax pmax
comp=Z,18nm,1.1s
ANTO Ankara 85.82 348 P **P 23 06 53.3 +0.3**
ANTO Ankara 85.82 348 ⇓P **P 23 06 55.2 +2.1**
ANTO Ankara 85.82 348 P **P 23 06 55.1 +2.1**
BR131 Keskin Array S 85.85 347 P **P 23 06 54.1 +0.9**
BR131 Keskin Array S 85.85 347 *c i*P **P 23 06 54.3 +1.0**
BRTR Keskin Array B 85.85 347 P **P 23 06 53.8 +0.5**
BRTR Keskin Array B 85.85 347 P **P 23 06 54.8 +1.5**
comp=Z,12nm,0.9s,baz=51,slow=2.0,SNR=36
BRTR LR LR 23 48 12.7
comp=Z,135nm,19.8s,baz=340,slow=38
comp=Z,12nm,0.9s
BRTR Keskin Array B 85.85 347 *i*P **P 23 06 54.7 +1.5**
BRTR pmax pmax
comp=Z,13nm,0.9s
KBN Korca 85.99 357 P **P 23 06 53.6 -0.2**
KBN Korca 85.99 357 P **P 23 06 53.6 -0.2**
KBN pmax pmax
comp=Z,60nm,1.6s
MATE Matera 86.02 0 ⇑P **P 23 06 56.2 +2.3**
BORA Eskisehir 86.08 350 P **P 23 06 54.6 +0.3**
MESJ Messejana 86.24 20 *e*P **P 23 06 53.4 -1.6**
KIRS Kirsehir-Merke 86.40 347 ⇓P **P 23 06 57.9 +2.0**
BNN Bunyan 86.40 345 P **P 23 06 56.5 +0.6**
KAPI Kappang 86.55 257 P **P 23 06 57.6 +0.8**
KAPI Kappang 86.55 257 LR LR 23 40 33.9
comp=Z,66nm,21.3s,baz=32,slow=32
KAPI Kappang 86.55 257 P **P 23 06 57.6 +0.8**
KAPI pmax pmax
comp=Z,36nm,1.4s
SIRT Sirnak 86.55 340 P **P 23 06 57.6 +0.9**
MTN Manton Dam 86.63 243 P **P 23 06 56.9 -0.1**
MARD Mardin 87.06 341 P **P 23 06 59.2 0.0**
KEST Kesra 90.68 6 P **P 23 07 17.6 +1.3**
comp=Z,6.4nm,1.1s,baz=93,slow=17,SNR=3.0
comp=Z,6.4nm,1.1s
WRAB Tennant Creek 90.92 237 ⇑*e*P **P 23 07 17.4 +0.1**
WRAB pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 90.94 237 P **P 23 07 17.9 +0.6**
comp=Z,1.4nm,1.1s,baz=35,slow=5.4,SNR=4.8
comp=Z,1.4nm,1.1s
MDT Midelt 91.81 18 LR LR 23 52 12.4
comp=Z,67nm,18.0s,baz=340,slow=38
PSI Prapat 92.58 278 LR LR 23 48 15.7
comp=Z,64nm,21.8s,baz=11,slow=35
ASAR Alice Springs 94.29 235 P **P 23 07 33.8 +1.0**
comp=Z,1.5nm,1.1s,baz=29,slow=3.8,SNR=4.2
comp=Z,1.5nm,1.1s
WSAR Wadi Sarin 95.38 322 LR LR 23 54 44.3
comp=Z,181nm,18.7s,baz=54,slow=38
EIL Elat 95.53 344 LR LR 23 57 23.3
comp=Z,59nm,18.1s,baz=27,slow=40
RAYN Ar Rayn 99.25 334 P **Pdif 23 07 55.7 +0.2**
RAYN IAmb IAmb 23 08 09.3
comp=Z,5.9nm,1.0s
RAYN Ar Rayn 99.25 334 P **Pdif 23 07 55.7 +0.2**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 99.25 296 LR LR 23 58 53.0
comp=Z,82nm,19.6s,baz=18,slow=39
H03N2 Juan Fernandez 112.89 115 T T 01 16 06.5
baz=323,slow=77,SNR=15
H03N1 Juan Fernandez 112.91 115 T T 01 16 07.8
baz=323,slow=77,SNR=17
H03N3 Juan Fernandez 112.91 115 T T 01 16 06.1
baz=323,slow=77,SNR=22
GDU01 Guandu, BA 120.48 70 *e*P **PKPdf 23 13 02.0 -3.1**
CNLB Canela 125.93 92 *e*P **PKPdf 23 13 11.6 -3.7**
QSPA South Pole Qui 143.47 180 PKhKP PKPpre 23 13 43.8
comp=Z,2.6nm,0.7s,baz=101,slow=5.1,SNR=15
BOSA Boshof 154.22 343 PKPbc **PKPbc 23 14 13.9 +0.5**
comp=Z,2.5nm,0.9s,baz=315,slow=4.3,SNR=4.0
SYO Syowa Base 161.43 206 ⇓*e*PKPdf **PKPdf 23 14 14.0 +1.4**
SYO Syowa Base 161.43 206 ⇓*es*PKPdf sPKPdf 23 14 27.8 +2.6

---

*NEIC **15** 22:57:31.6±1.3, 66°.31N±0°.02×157°.20W±0°.05, h5km±7km, Error ellipse: s-maj=4.0km s-min=2.3km az=220.0*
*AEIC **15** 22:57:31.7±1.4, 66°.30N±0°.02×157°.23W±0°.05, h6km±6km, ML3.6, ML3.8/144(NEIC), Error ellipse: s-maj=4.1km s-min=2.4km az=214.0*

ISC 15 22:57:31.3±1.1, 66°.31N±0°.02×157°.20W±0°.02, h6km±9km, n154, σ0°78/168, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.18**	**165**			**Pg**	**22 57 35.0**	**+0.1**
G19K						**Sg**	**22 57 37.9**	**+0.7**
G19K	**Purcell Mounta**	**0.18**	**165**	P		**Pg**	**22 57 35.3**	**+0.4**
	baz=340							
G19K				S		**Sg**	**22 57 38.0**	**+0.8**
	baz=340							
F19K	**Shaleruckik Mo**	**0.57**	**337**	Pg		**Pg**	**22 57 42.0**	**-0.3**
F19K				Sg		**Sg**	**22 57 50.0**	**+0.3**
G18K	**Tagagawik**	**0.72**	**235**			**Pg**	**22 57 45.4**	**+0.1**
G18K						**Sb**	**22 57 55.7**	**-0.9**
G18K	**Tagagawik**	**0.72**	**235**	P		**Pg**	**22 57 45.3**	**0.0**
	baz=54							
G18K				S		**Sb**	**22 57 56.0**	**-0.6**
	baz=54							
H19K	**Roundabout Mou**	**0.85**	**158**			**Pg**	**22 57 47.6**	**0.0**
H19K						**Sg**	**22 57 58.9**	**+0.4**
H19K				IAML			22 58 03.8	
	comp=N,4μm,0.1s							
H19K	**Roundabout Mou**	**0.85**	**158**	P		**Pg**	**22 57 47.5**	**0.0**
	baz=338							
H19K				S		**Sb**	**22 57 59.6**	**-0.4**
	baz=338							
F20K	**Avaraart Lake**	**0.94**	**38**			**Pg**	**22 57 49.3**	**-0.2**
F20K	**Avaraart Lake**	**0.94**	**38**	IAML			22 58 03.2	
	comp=N,3μm,0.3s							
F18K	**Selawik**	**1.03**	**287**			**Pg**	**22 57 51.0**	**0.0**
F18K						**Sb**	**22 58 05.1**	**-0.1**
F18K						**Sn**	**22 58 07.5**	**+0.6**
F18K	**Selawik**	**1.03**	**287**	P		**Pg**	**22 57 51.2**	**+0.2**
	baz=106							
F18K				S		**Sn**	**22 58 07.5**	**+0.6**
	baz=106							
E19K	**Redstone River**	**1.15**	**359**			**Pg**	**22 57 52.8**	**-0.6**
E19K	**Redstone River**	**1.15**	**359**	IAML			22 58 11.0	
	comp=E,1μm,0.4s							
H20K	**Anotleneega Mo**	**1.26**	**130**			**Pg**	**22 57 55.0**	**-0.5**
H20K						**Sb**	**22 58 12.5**	**+0.6**
H20K	**Anotleneega Mo**	**1.26**	**130**	P		**Pg**	**22 57 55.0**	**-0.5**
	baz=311							
H20K				S		**Sb**	**22 58 12.5**	**+0.6**
	baz=311							
H18K	**Honhosa River**	**1.26**	**203**	Pn		**Pg**	**22 57 54.9**	**-0.6**
H18K				Sg		**Sg**	**22 58 11.7**	**-0.1**
GCSA	**Galena City Sc**	**1.58**	**175**			**Pn**	**22 57 59.9**	**+0.1**
GCSA						**Sb**	**22 58 21.5**	**+0.5**
GCSA	**Galena City Sc**	**1.58**	**175**	P		**Pn**	**22 57 59.9**	**+0.1**
	baz=355							

GCSA				S	Sn	22 58 20.6	0.0
	baz=355						
F17K	Baldwin Pennin	1.64	276	Pn	Pn	22 58 01.0	+0.4
F21K	Alatna River	1.73	57	Pn	Pn	22 58 02.1	0.0
F21K				IAML		22 58 29.3	
	comp=E,806nm,0.4s						
F21K				IAML		22 58 29.6	
	comp=N,893nm,0.8s						
E18K	Tukpahlearik C	1.75	311	Pn	Pn	22 58 02.9	+0.7
H17K	Granite Mounta	1.78	220		Pn	22 58 02.7	0.0
H17K					Sb	22 58 27.3	+0.3
H17K	Granite Mounta	1.78	220	IAML		22 58 28.9	
	comp=N,1μm,0.6s						
H17K	Granite Mounta	1.78	220	P	Pn	22 58 02.3	-0.3
	baz=38						
H17K				S	Sb	22 58 27.3	+0.3
	baz=38						
I20K	Naaghedeneel	1.90	142		Pn	22 58 04.5	+0.2
H21K	Melozitna Rive	1.92	108		Pn	22 58 04.4	-0.1
H21K	Melozitna Rive	1.92	108		Sb	22 58 32.0	+1.2
H21K				IAML		22 58 33.8	
	comp=E,1μm,0.3s						
H21K	Melozitna Rive	1.92	108	P	Pn	22 58 04.4	-0.1
	baz=292						
H21K				S	Sg	22 58 32.3	-0.5
	baz=292						
H21K				S	Sg	22 58 32.3	-0.5
	baz=292						
E20K	Nigu River	1.99	11		Sn	22 58 32.6	+1.7
E17K	Hotham Inlet	2.00	295		Pn	22 58 06.2	+0.6
D19K	Kuna River	2.22	351		Pn	22 58 09.6	+0.8
D19K	Kuna River	2.22	351	IAML		22 58 46.7	
	comp=N,418nm,1.1s						
G16K	Koyuk River	2.31	249		Pn	22 58 09.4	-0.5
G16K				IAML		22 58 45.8	
	comp=N,354nm,0.8s						
G16K	Koyuk River	2.31	249	P	Pb	22 58 11.9	-1.4
	baz=64						
H22K	Ishtalitna Cre	2.41	97		Pn	22 58 11.8	+0.5
J19K	Poorman	2.42	163	Pn	Pn	22 58 11.0	-0.5
J19K				IAML		22 58 49.5	
	comp=E,369nm,0.8s						
J19K				IAML		22 58 56.8	
	comp=N,481nm,0.9s						
D20K	Etivluk River	2.42	5		Pn	22 58 12.9	+1.4
I21K	Tanana	2.44	115		Pn	22 58 11.2	-0.4
I21K				IAML		22 58 50.0	
	comp=E,418nm,0.3s						
I21K				IAML		22 58 54.6	
	comp=N,608nm,0.6s						
I21K	Tanana	2.44	115	P	Pn	22 58 11.8	+0.1
	baz=300						
E21K	Killik River	2.48	29		Pn	22 58 12.0	-0.2
E21K				IAML		22 58 55.5	
	comp=N,359nm,0.8s						
E21K				IAML		22 58 60.0	
	comp=E,398nm,0.8s						
J20K	Nowinta River	2.50	148	Pn	Pn	22 58 12.6	+0.1
J20K				IAML		22 58 58.8	
	comp=E,506nm,0.6s						
J20K				IAML		22 59 00.7	
	comp=N,453nm,0.7s						
D17K	Noatak River	2.70	304		Pn	22 58 15.3	+0.1
E22K	Anaktuvuk Pass	2.78	46	Pn	Pn	22 58 17.4	+0.9
E22K				IAML		22 59 16.6	
	comp=N,228nm,0.9s						
C18K	Utukok River	2.81	329	Pn	Pn	22 58 18.0	+1.2
RDOG	Red Dog Mine	2.83	311	Pn	Pn	22 58 17.5	+0.4
I17K	Unalakleet	2.85	213		Pn	22 58 17.5	+0.2
I17K	Unalakleet	2.85	213	P	Pn	22 58 17.9	+0.6
	baz=30						
J18K	Innoko River	2.87	176	Pn	Pn	22 58 17.7	+0.1
G23K	Bananza Creek	2.90	79	Pn	Pn	22 58 18.9	+0.8
G23K				IAML		22 59 06.9	
	comp=E,246nm,0.5s						
COLD	Coldfoot	2.92	68	Pn	Pn	22 58 18.2	-0.1
J17K	VABM Dome	3.04	196	Pn	Pn	22 58 19.8	-0.1
J17K				IAML		22 59 12.2	
	comp=N,250nm,0.9s						
J17K				IAML		22 59 14.6	
	comp=E,390nm,1.2s						
F15K	North Star Dit	3.10	262	Pn	Pn	22 58 22.1	+1.3
F15K				IAML		22 59 14.2	
	comp=N,185nm,0.8s						
D22K	Ayikyak River	3.11	32	Pn	Pn	22 58 21.2	+0.4
CHUM	Lake Minchumin	3.20	137		Pn	22 58 23.5	+1.4
K20K	Telida	3.25	154	Pn	Pn	22 58 23.5	+0.6
K20K				IAML		22 59 18.8	
	comp=N,187nm,1.0s						
J16K	Anvik River	3.37	207	Pn	Pn	22 58 25.7	+1.3
J16K				IAML		22 59 22.0	
	comp=N,286nm,1.3s						
BPAW	Bear Paw Mtn.	3.43	127		Pn	22 58 26.4	+1.0
BPAW				IAML		22 59 23.3	
	comp=E,163nm,1.4s						
BPAW				IAML		22 59 28.8	
	comp=N,205nm,0.8s						
BPAW	Bear Paw Mtn.	3.43	127	P	Pn	22 58 26.8	+1.4
	baz=313						
TTA	Tatalina	3.44	171	Pn	Pn	22 58 25.2	-0.2
TTA				IAML		22 59 27.6	
	comp=N,133nm,1.2s						
E23K	Chandalar	3.44	56	Pn	Pn	22 58 25.8	+0.3
E23K				IAML		22 59 25.3	
	comp=E,225nm,1.0s						
E23K				IAML		22 59 31.6	
	comp=N,209nm,0.8s						
I23K	Minto, Yukon-K	3.44	106	Pn	Pn	22 58 25.2	-0.2
I23K				IAML		22 59 22.7	
	comp=E,240nm,0.8s						
I23K				IAML		22 59 26.2	
	comp=N,241nm,0.8s						
B21K	Ikpikpuk River	3.46	15	Pn	Pn	22 58 26.4	+0.6
B21K				IAML		22 59 28.7	
	comp=N,216nm,0.9s						
B21K				IAML		22 59 33.0	
	comp=E,259nm,0.9s						
CAST	Castle Rocks	3.63	141		Pn	22 58 29.2	+1.0
CAST				IAML		22 59 14.0	
	comp=N,126nm,0.7s						
CAST	Castle Rocks	3.63	141	P	Pn	22 58 29.5	+1.4
	baz=325						
K17K	Iditarod	3.64	188	Pn	Pn	22 58 28.1	-0.1
K17K				IAML		22 59 37.7	
	comp=N,192nm,1.1s						
K17K				IAML		22 59 44.4	
	comp=E,173nm,1.1s						
D23K	Nanushuk River	3.65	40	Pn	Pn	22 58 30.0	+1.7
D23K				IAML		22 59 33.5	
	comp=E,244nm,1.3s						
D23K				IAML		22 59 35.5	
	comp=N,214nm,0.9s						
B20K	Meade River	3.71	0	Pn	Pn	22 58 29.9	+0.7
B20K				IAML		22 59 36.7	
	comp=N,147nm,1.4s						
B20K				IAML		22 59 46.1	
	comp=E,172nm,1.1s						
C16K	Lisburne Hills	3.72	306	Pn	Pn	22 58 29.7	+0.5
TOLK	Toolik Lake Re	3.75	48	Pn	Pn	22 58 30.7	+1.0
NEA2	Nenana	3.81	113		Pn	22 58 30.3	-0.2
NEA2	Nenana	3.81	113	P	Pn	22 58 30.9	+0.4
	baz=300						
E24K	Your Creek	3.83	59	Pn	Pn	22 58 31.7	+0.9
E24K				IAML		22 59 38.5	
	comp=E,136nm,0.7s						
E24K				IAML		22 59 41.8	
	comp=N,139nm,0.9s						
H24K	Noodor Dome	3.83	93	Pn	Pn	22 58 30.5	-0.3
H24K				IAML		22 59 38.4	
	comp=N,142nm,0.8s						
H24K				IAML		22 59 41.7	
	comp=E,137nm,1.1s						
ANM	Nome	3.84	247	Pn	Pn	22 58 30.5	-0.3
ANM				IAML		22 59 39.6	
	comp=N,121nm,1.1s						
KTH	Kantishna Hill	3.85	133	Pn	Pn	22 58 31.7	+0.6
KTH				IAML		22 59 41.0	
	comp=N,147nm,1.4s						
KTH				IAML		22 59 45.3	
	comp=E,109nm,1.1s						
BWN	Browne	3.90	120		Pn	22 58 32.2	+0.5
BWN				IAML		22 59 51.8	
	comp=E,165nm,1.5s						
G24K	Hadweenzic Riv	3.92	80	Pn	Pn	22 58 31.9	0.0
PPLA	Purkeypile	4.05	146		Pn	22 58 34.4	+0.4
PPLA	Purkeypile	4.05	146	P	Pn	22 58 35.6	+1.6
	baz=330						
L20K	Farewell, AK	4.11	158		Pn	22 58 35.9	+1.2
TRF	Thorofare Moun	4.12	131	Pn	Pn	22 58 34.5	-0.3
TRF				IAML		22 59 45.6	
	comp=N,136nm,1.1s						
L18K	Granite Mounta	4.12	177		Pn	22 58 35.9	+1.2
L18K	Granite Mounta	4.12	177	IAML		22 59 46.8	
	comp=N,111nm,1.1s						
L18K				IAML		22 59 48.2	
	comp=E,107nm,1.2s						
COLA	College	4.14	106		Pn	22 58 35.3	+0.3
POKR	Poker Plat Res	4.21	102		Pn	22 58 35.7	-0.3
POKR				IAML		22 59 47.8	
	comp=N,103nm,0.8s						
POKR				IAML		22 59 48.5	
	comp=E,98nm,0.7s						
POKR	Poker Plat Res	4.21	102	P	Pn	22 58 36.7	+0.7
	baz=291						
L17K	Donlin	4.22	187		Pn	22 58 36.4	+0.2
WRH	Wood River Hil	4.23	112		Pn	22 58 36.3	0.0
CCB	Clear Creek Bu	4.26	109	Pn	Pn	22 58 35.7	-0.9
L19K	White Mountain	4.27	165	Pn	Pn	22 58 36.8	0.0
L19K				IAML		22 59 38.9	
	comp=E,93nm,1.3s						
D24K	Happy Valley	4.28	44	Pn	Pn	22 58 37.4	+0.5
C23K	Itkillik River	4.32	32	Pn	Pn	22 58 39.4	+2.0
C23K				IAML		23 00 01.0	
	comp=N,119nm,1.2s						
C23K				IAML		23 00 09.9	
	comp=E,98nm,1.3s						
MCK	McKinley	4.36	123		Pn	22 58 38.5	+0.5
MCK	McKinley	4.36	123	P	Pn	22 58 39.0	+1.0
	baz=310						
K15K	Wolf Creek Mou	4.45	207	Pn	Pn	22 58 40.9	+1.6
G25K	Bearman Lake	4.46	79		Pn	22 58 39.7	+0.3
J14K	Nanvaranak Lak	4.51	220	Pn	Pn	22 58 40.9	+0.8
ILAR	Eielson Array	4.56	105		Pn	22 58 40.7	0.0
M19K	Big River Lodg	4.59	163	Pn	Pn	22 58 42.0	+0.7
M19K				IAML		22 59 44.2	
	comp=N,70nm,1.3s						
RND	Reindeer	4.60	125	Pn	Pn	22 58 41.8	+0.3
HDA	Harding Lake	4.70	109		Pn	22 58 42.4	-0.3
HDA				IAML		23 00 01.1	
	comp=N,62nm,0.7s						
HDA				IAML		23 00 01.7	
	comp=E,63nm,1.2s						
HDA	Harding Lake	4.70	109	P	Pn	22 58 43.2	+0.5
	baz=298						
L16K	Owhat River	4.73	193	Pn	Pn	22 58 43.6	+0.5
L16K				IAML		22 59 35.3	
	comp=N,75nm,1.2s						
L16K				IAML		23 00 05.6	
	comp=E,74nm,1.1s						
M20K	Styx River	4.79	156	Pn	Pn	22 58 45.4	+1.3
M20K				IAML		22 59 43.3	
	comp=E,81nm,0.9s						
M20K				IAML		23 00 09.3	
	comp=N,50nm,1.4s						
FYU	Fort Yukon	4.81	81	Pn	Pn	22 58 44.6	+0.4
PRP	Porcupine Dome	4.85	94		Pn	22 58 45.4	+0.5
PRP				IAML		23 00 10.8	
	comp=N,70nm,1.1s						
PRP				IAML		23 00 11.5	
	comp=E,74nm,0.9s						
PRP	Porcupine Dome	4.85	94	P	Pn	22 58 45.6	+0.7
	baz=285						
M18K	Stony River	4.88	172		Pn	22 58 45.7	+0.5
M17K	Holitna River	4.93	181	Pn	Pn	22 58 46.5	+0.6
SKT	Skwentna	5.01	148		Pn	22 58 48.0	+1.1
SKT				IAML		23 00 19.8	
	comp=N,46nm,1.0s						
SKT	Skwentna	5.01	148	P	Pn	22 58 48.5	+1.6
	baz=333						
A21K	Barrow	5.04	2		Pn	22 58 47.2	-0.1
D25K	Kavik River	5.09	49	Pn	Pn	22 58 49.5	+1.4
D25K				IAML		23 00 24.5	
	comp=E,63nm,1.4s						
D25K				IAML		23 00 25.3	
	comp=N,65nm,1.2s						
BMAR	Burnt Mountain	5.10	72	Pn	Pn	22 58 48.5	+0.3
J25K	Salcha River,	5.22	104	Pn	Pn	22 58 50.7	+0.8
J25K				IAML		23 00 16.1	
	comp=E,40nm,0.9s						
J25K				IAML		23 00 23.3	
	comp=N,46nm,0.9s						
F26K	Sheenjek River	5.30	69	Pn	Pn	22 58 52.2	+1.2
F26K				IAML		23 00 24.2	
	comp=N,66nm,1.1s						
F26K				IAML		23 00 39.3	
	comp=E,63nm,1.2s						
STLK	Strandline Lak	5.38	151	Pn	Pn	22 58 52.5	+0.3
K24K	Donnelly Dome	5.45	112		Pn	22 58 53.3	+0.3
SPU	Mount Spurr	5.63	154	Pn	Pn	22 58 56.4	+0.8
N19K	Bonanza Creek	5.65	166	Pn	Pn	22 58 55.7	-0.2
N18K	Kilae Creek	5.69	173	Pn	Pn	22 58 56.0	-0.3
N17K	Nushagak Hills	5.81	180	Pn	Pn	22 58 58.1	+0.2
GHO	Glory Hole Cre	5.83	138	Pn	Pn	22 58 56.8	-1.5
RIDG	Independent Ri	5.83	111	Pn	Pn	22 58 58.7	+0.4
I26K	Coal Creek Min	5.86	93	Pn	Pn	22 58 59.2	+0.5
PMR	Palmer	5.92	139	Pn	Pn	22 58 58.9	-0.5
SML	Sawmill	5.96	135	Pn	Pn	22 59 00.3	+0.2
J26L	Joseph Creek	5.98	101	Pn	Pn	22 59 00.7	+0.4
SCRK	Sand Creek	6.04	107	Pn	Pn	22 59 00.9	-0.4
C27K	Jago River	6.06	51	Pn	Pn	22 59 01.9	+0.5
CAPN	Captain Cook N	6.18	151	Pn	Pn	22 59 04.8	+1.7
SCM	Sheep Creek Mo	6.24	132	Pn	Pn	22 59 04.8	+0.9
M24K	Tolsona, Glenn	6.39	126	Pn	Pn	22 59 08.0	+1.9
O18K	Koktuh Hills	6.55	171	Pn	Pn	22 59 08.8	+0.7
ILSW	Iliamna Southw	6.61	162	Pn	Pn	22 59 07.3	-1.8
MENT	Mentasta	6.71	114	Pn	Pn	22 59 09.7	-0.6
L26K	Log Cabin Wild	6.79	113	Pn	Pn	22 59 11.5	0.0
D27M	Malcolm River	6.81	57	Pn	Pn	22 59 13.4	+1.7
F28M	Old Crow	6.92	71	Pn	Pn	22 59 13.1	-0.1
P19K	Oil Pt	6.92	163	Pn	Pn	22 59 14.0	+0.7
KLU	Klutina	6.93	129	Pn	Pn	22 59 13.8	+0.3
P18K	Big Mountain,	7.00	172	Pn	Pn	22 59 15.2	+0.8
GLI	Glacier Island	7.07	136	Pn	Pn	22 59 15.9	+0.7
I28M	Miner Creek	7.12	89	Pn	Pn	22 59 15.7	-0.4
E28M	Babbage River	7.16	63	Pn	Pn	22 59 16.5	0.0
L27K	Beaver Creek,	7.35	109	Pn	Pn	22 59 18.9	-0.1
BCAR	Beaver Creek A	7.36	109	Pn	Pn	22 59 19.4	+0.1
E29M	Blow River	7.73	66	Pn	Pn	22 59 24.5	+0.3
M27K	Edge Creek, AK	7.74	114	Pn	Pn	22 59 23.4	-1.1
DAWY	Dawson	7.82	98	Pn	Pn	22 59 24.6	-0.9
G30M	tAoh Zraii Nji	8.35	76	Pn	Pn	22 59 32.6	-0.2
L29M	L29M	8.76	103	Pn	Pn	22 59 38.5	+0.1
M31M	Drury Creek, Y	10.71	102	Pn	Pn	23 00 06.0	+1.0
A36M	Sachs Harbour	12.58	49	Pn	Pn	23 00 27.8	-2.7

DJA ***15*** *22:58:43.8±0.7, 4°.N±6°×12°.5E±°, h348km±5km, M4.2/13, mB4.8/3, mb4.1/5, MLv4.3/13, Mw(mB)4.1/3*
NEIC ***15*** *22:58:45.0±2.4, 4°.23N±0°.09×124°.7E±0°.1, h397km±7km, mb4.2/21, Error ellipse: s-maj=16.8km s-min=11.2km az=60.0*
IDC ***15*** *22:58:48.0±5.3, 4°.32N×124°.73E, h425km±64km, mb3.3/9, mbtmp4.1/9, Error ellipse: s-maj=44.1km s-min=22.2km az=63.0*
ISC 15 22:58:42.0±0.5, **4°.33N**±0°.07×**124°.60E**±0°.08, **h350**km, **n45**, σ1$**54**/41, **mb3.9**/18, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.13	124	P	Pn	22 59 29.7	+1.3
SGSI				S	S	23 00 07.1	+1.6
KMSI	Cibinong	3.78	189	P	Pn	22 59 49.6	+0.7
TNTI	Ternate	4.49	142		Pn	22 59 58.6	+2.4
TNTI				Sn	S	23 00 60.0	+3.9
TNTI	Ternate	4.49	142	P	Pn	22 59 58.0	+1.8
TNTI				S	S	23 00 56.6	+0.6
MRSI	Marisa	4.65	215	P	Pn	22 59 57.5	-0.5
TOLI2	Tolitoli	4.97	230		Pn	23 00 03.6	+2.2
LUWI	Luwuk	5.63	199	P	Pn	23 00 08.5	-0.3
SANI	Sanana	6.49	168	P	Pn	23 00 17.9	-0.6
PCI	Palu	7.04	223	P	Pn	23 00 25.2	+0.2
	0.3nm3μm29nm,0.8s						
NLAI	Namlea	7.92	162	P	Pn	23 00 35.9	+0.6
KKM	Kota Kinabalu	8.52	282	P	Pn	23 00 43.8	+1.2
FAKI	Fak Fak	10.50	133	P	P	23 01 08.5	+1.3
SBUM	Sibu	12.49	262	P	P	23 01 31.8	+2.6
TPUB	Ta-pu	19.25	349	P	P	23 02 42.5	+0.2
TPUB				IAmb	IAmb	23 03 08.0	
	comp=Z,37nm,1.2s						
QIZ	Qiongzhong	20.52	317	P	P	23 02 55.5	+0.5
QIZ				IAmb	IAmb	23 02 55.8	
	comp=Z,23nm,1.1s						
FITZ	Fitzroy Crossi	22.31	177	P	P	23 03 11.6	+0.4
WB0	Warramunga Arr	25.81	158	P	P	23 03 42.6	-0.1
WB0				IAmb	IAmb	23 03 52.0	
	comp=Z,6.1nm,1.4s						
WRA	Warramunga Arr	25.95	159	P	P	23 03 44.1	+0.1
	comp=Z,0.2nm,0.5s,baz=331,slow=10,SNR=2.1						
	comp=Z,0.2nm,0.5s						
WB2	Warramunga Arr	25.95	159	P	P	23 03 39.4	-4.7
PHRA	Phrae	27.67	303	P	P	23 03 59.9	+0.7
PHRA				IAmb	IAmb	23 04 28.8	
	comp=Z,37nm,1.4s						
CMAR	Chiang Mai Arr	28.74	301	P	P	23 04 10.1	+1.3
	comp=Z,1.0nm,0.3s,baz=105,slow=9.3,SNR=4.1						
	comp=Z,1.0nm,0.3s						
KLR	Kul'dur	45.15	7	P	P	23 06 24.3	-0.7
	comp=Z,0.8nm,0.4s,baz=174,slow=8.1,SNR=4.3						
	comp=Z,0.8nm,0.4s						
SONM	Songino Array	46.08	343	P	P	23 06 32.7	+0.3
	comp=Z,1.1nm,0.7s,baz=156,slow=8.5,SNR=4.3						
	comp=Z,1.1nm,0.7s						
MK31	Makanchi Array	55.86	326	P	P	23 07 44.0	-0.4
MKAR	Makanchi Array	55.86	326	P	P	23 07 43.8	-0.6
MKAR	Makanchi Array	55.86	326	P	P	23 07 44.0	-0.4
	comp=Z,2.6nm,0.6s,baz=118,slow=8.0,SNR=21						
MKAR				PcP	PcP	23 08 37.0	-1.5
	comp=Z,0.6nm,0.5s,baz=120,slow=3.2,SNR=5.2						
	comp=Z,2.6nm,0.6s						
MAKZ	Makanchi	56.05	326	P	P	23 07 45.4	-0.2
KURBB	Kurchatov Arra	60.10	328	P	P	23 08 13.2	-0.2
	comp=Z,1.7nm,0.4s,baz=128,slow=5.0,SNR=15						
	comp=Z,1.7nm,0.4s						
KURK	Kurchatov	60.10	328	P	P	23 08 12.8	-0.6
KURK				IAmb	IAmb	23 08 14.2	
	comp=Z,7.1nm,0.6s						
PYZ	Puysegur Point	62.59	148	P	P	23 08 26.9	-3.1
THZ	Tophouse	63.48	141	P	P	23 08 31.3	-4.7
SNZO	South Karori	64.38	140	P	P	23 08 37.3	-4.3
BVAR	Borovoye Array	65.67	327	P	P	23 08 49.0	-0.7
	comp=Z,0.6nm,0.4s,baz=135,slow=7.1,SNR=5.5						
	comp=Z,0.6nm,0.4s						
BRVK	Borovoye	65.74	327	P	P	23 08 49.4	-0.8
ABKAR	Akbulak array	70.35	321	P	P	23 09 17.7	-0.9
ABKAR	Akbulak array	70.35	321	P	P	23 09 17.8	-0.9
ABKAR				IAmb	IAmb	23 09 18.9	
	comp=Z,1.5nm,0.6s						
ARTI	Arti	73.38	328	P	P	23 09 35.2	-1.2
ARTI				IAmb	IAmb	23 09 58.5	
	comp=Z,6.2nm,1.4s						
O18K	Koktuh Hills	81.35	30	P	P	23 10 17.4	-2.8
J19K	Poorman	81.65	26	P	P	23 10 21.1	-0.5
J19K				IAmb	IAmb	23 10 27.5	
	comp=Z,7.1nm,1.4s						
PPLA	Purkeypile	83.08	27	P	P	23 10 26.6	-2.5
PPLA				IAmb	IAmb	23 10 53.2	
	comp=Z,11nm,1.3s						
D22K	Ayikyak River	83.36	21	P	P	23 10 30.1	-0.2
D22K				IAmb	IAmb	23 10 46.7	
	comp=Z,3.1nm,1.4s						
MAW	Mawson	83.58	200	P	P	23 10 29.6	-1.7
BPAW	Bear Paw Mtn.	83.69	26	P	P	23 10 27.9	-4.1
BPAW				IAmb	IAmb	23 10 55.0	
	comp=Z,5.3nm,1.2s						
ARCES	ARCESS Array B	89.16	340	P	P	23 10 56.9	-1.4
	comp=Z,3.6nm,1.0s,baz=77,slow=5.8,SNR=3.6						
	comp=Z,3.6nm,1.0s						
FINES	FINESS Array B	90.30	332	P	P	23 11 01.3	-2.4
	comp=Z,1.1nm,0.8s,baz=106,slow=4.2,SNR=3.4						
	comp=Z,1.1nm,0.8s						

SJA ***15*** *23:00:22.4±0.8, 30°.57S×71°.87W, h4km±3km, ML3.6, MW3.3*
GUC ***15*** *23:00:26.0±0.8, 30°.57S×71°.86W, h25km±3km, ML3.8*
ISC 15 23:00:24.4±1.5, **30°.55S**±0°.03×**71°.91W**±0°.05, **h10**km±9km, **n49**, σ1$**58**/85, **3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.27	119	eP	Pg	23 00 31.9	+2.1
CO06				eS	Sg	23 00 35.5	+2.2
CO06				IAML		23 00 35.9	
	comp=N,24μm,0.2s						
CO05	La Serena	0.85	43	eP	Pb	23 00 41.8	+0.6
CO05				eS	Sb	23 00 52.8	+0.2
CO05				IAML		23 00 55.0	
	comp=N,4μm,0.4s						
GO04	Tololo Observa	1.03	69	eP	Pg	23 00 37.9	-6.3
GO04				eP	Pb	23 00 42.8	-1.5
GO04				eS	Sb	23 00 57.2	-0.8
GO04				IAML		23 01 00.4	
	comp=Z,2μm,0.2s						
GO04	Tololo Observa	1.03	69	eP	Pg	23 00 43.5	-0.6
GO04				eS	Sb	23 00 57.6	-0.4
GO04				IAML		23 01 00.7	
	comp=N,8μm,0.3s						
CO03	El Pedregal	1.09	106	eP	Pg	23 00 43.4	-1.8
CO03				eS	Sg	23 00 58.3	-1.2
CO03				IAML		23 01 04.3	
	comp=Z,692nm,0.5s						
CO03	El Pedregal	1.09	106	eP	Pg	23 00 43.3	-2.0
CO03				eS	Sg	23 00 56.7	-2.7
CO03				IAML		23 00 59.2	
	comp=N,2μm,0.3s						
CO01	Juntas del Tor	1.67	71	eP	Pn	23 00 53.9	+0.1
CO01				eP	Pb	23 00 54.1	-1.2
CO01				eS	Sn	23 01 02.9	-13
CO01				IAML		23 01 16.5	
	comp=Z,320nm,0.3s						
CO01	Juntas del Tor	1.67	71	eP	Pn	23 00 53.9	+0.1
CO01				eS	Sn	23 01 15.6	+0.1
LCO	Las Campanas	1.85	35	eP	Pn	23 00 57.2	+0.7
LCO				eS	Sg	23 01 24.1	+0.1
LCO				IAML		23 01 27.7	
	comp=Z,811nm,0.7s						
LCO	Las Campanas	1.85	35	eP	Pn	23 00 57.0	+0.6
LCO				eS	Sb	23 01 21.5	-0.3
LCO				IAML		23 01 27.9	
	comp=Z,3μm,0.4s						
VA06	Catapilco	2.07	166	eP	Pn	23 00 58.7	-0.5
VA06				eS	Sn	23 01 26.0	+0.9
VA06				IAML		23 01 33.1	
	comp=N,2μm,0.7s						
AROD	Rodeo	2.14	80	eP	Pb	23 01 02.1	-1.3
AROD				eS	Sb	23 01 29.6	-0.4
ACDV	Cuesta del Vie	2.44	82	eP	Pb	23 01 07.4	-0.9
ACDV				eS	Sb	23 01 38.8	+0.3
ACDV				IAML		23 01 44.9	
	comp=Z,226nm,0.9s						
AC04	Llanos de Chal	2.44	17	eP	Pn	23 01 05.0	+0.7
AC04				eS	Sb	23 01 37.9	-0.7
AC04				IAML		23 01 46.1	
	comp=Z,181nm,0.7s						
AC04	Llan

MT02	**Curacav**	**2.78**	**167**	*e*P	**Pn**	**23 01 10.4 +1.4**
PEL	**Peldehue**	**2.79**	**158**	*e*P	**Pn**	**23 01 09.2 +0.1**
PEL				*e*S	**Sn**	**23 01 44.7 +1.8**
PEL				IAML		23 01 53.2
	comp=E,281nm,0.5s					
ZON	**Zonda**	**2.94**	**111**	*e*P	**Pn**	**23 01 13.0 +1.8**
ZON				*e*S	**Sb**	**23 01 54.5 +1.5**
ZON				IAML		23 01 59.9
	comp=Z,156nm,0.5s					
MT10	**Hacienda Santa**	**2.96**	**157**	*e*P	**Pn**	**23 01 12.7 +1.2**
MT05	**Renca**	**3.00**	**161**	*e*P	**Pn**	**23 01 13.7 +1.6**
MT05				*e*S	**Sn**	**23 01 50.9 +2.7**
MT05				*e*S	**Sb**	**23 01 55.9 +1.1**
MT05				IAML		23 02 01.3
	comp=Z,197nm,0.3s					
MT14	**Cerro Calı¡n**	**3.07**	**158**	*e*P	**Pn**	**23 01 16.6 +3.6**
FCH	**Farellones**	**3.09**	**154**	*e*P	**Pn**	**23 01 15.3 +1.7**
AGUA	**GUANDACOL**	**3.14**	**71**	*e*P	**Pb**	**23 01 18.3 -2.1**
AGUA				*e*S	**Sb**	**23 02 00.5 +1.6**
AGUA				IAML		23 02 08.9
	comp=Z,229nm,0.4s					
MT03	**Universidad Ad**	**3.17**	**158**	*e*P	**Pn**	**23 01 15.0 +0.6**
MT03				*e*S	**Sn**	**23 01 53.9 +1.6**
MT03				IAML		23 02 08.0
	comp=Z,193nm,0.6s					
MT03	**Universidad Ad**	**3.17**	**158**	*e*P	**Pn**	**23 01 15.6 +1.2**
MT03				*e*S	**Sn**	**23 01 51.5 -0.8**
MT03				IAML		23 02 07.8
	comp=E,363nm,0.2s					
MT04	**Ro Olivares**	**3.22**	**153**	*e*P	**Pn**	**23 01 17.4 +2.1**
MT04				*e*S	**Sn**	**23 01 55.9 +2.1**
MT04				IAML		23 02 07.0
	comp=Z,89nm,0.5s					
MT04	**Ro Olivares**	**3.22**	**153**	*e*P	**Pn**	**23 01 16.8 +1.6**
MT04				*e*S	**Sn**	**23 01 55.1 +1.3**
MT04				IAML		23 02 09.5
	comp=E,148nm,0.3s					
MT15	**Las Vizcachas**	**3.27**	**159**	*e*P	**Pn**	**23 01 17.5 +1.8**
MT15				IAML		23 02 06.2
	comp=E,347nm,0.4s					
MT08	**Bocatoma Ro**	**3.31**	**151**	*e*P	**Pn**	**23 01 18.5 +2.1**
MT08				*e*S	**Sn**	**23 01 58.4 +2.5**
MT08				IAML		23 02 09.5
	comp=Z,116nm,0.5s					
MT08	**Bocatoma Ro**	**3.31**	**151**	*e*P	**Pn**	**23 01 17.8 +1.4**
MT08				IAML		23 02 20.1
	comp=N,152nm,0.7s					
MT09	**Talagante**	**3.31**	**167**	*e*P	**Pn**	**23 01 16.5 +0.1**
MT09				IAML		23 02 10.5
	comp=E,214nm,0.2s					
MT01	**Popeta**	**3.35**	**171**	*e*P	**Pn**	**23 01 17.4 +0.5**
MT01				*e*S	**Sn**	**23 02 00.4 +3.6**
MT01				IAML		23 02 10.3
	comp=Z,80nm,0.3s					
MT01	**Popeta**	**3.35**	**171**	*e*P	**Pn**	**23 01 18.0 +1.1**
MT01				IAML		23 02 10.5
	comp=N,109nm,0.1s					
MT13	**San Alfonso**	**3.47**	**157**	*e*P	**Pn**	**23 01 19.4 +0.8**
MT13				*e*S	**Sb**	**23 02 04.9 -3.4**
MT13	**San Alfonso**	**3.47**	**157**	*e*P	**Pn**	**23 01 19.3 +0.8**
MT13				*e*S	**Sn**	**23 02 00.7 +0.9**
MT13				IAML		23 02 16.6
	comp=E,180nm,0.4s					
LMEL	**Las Melosas**	**3.59**	**157**	*e*P	**Pn**	**23 01 21.3 +1.0**
LMEL				*e*S	**Sn**	**23 02 04.9 +2.0**
LMEL	**Las Melosas**	**3.59**	**157**	*e*P	**Pn**	**23 01 21.8 +1.5**
LMEL				*e*S	**Sn**	**23 02 03.7 +0.8**
LMEL				IAML		23 02 14.5
	comp=N,154nm,0.5s					
VCA	**Vinchina**	**3.69**	**62**	*e*S	**Sb**	**23 02 13.9 -0.8**
AVFE	**Valle Fertil**	**3.84**	**93**	*e*P	**Pn**	**23 01 24.9 +1.4**
BO02	**Sierra Bellavi**	**4.34**	**168**	*e*S	**Sb**	**23 02 29.4 -3.8**
AC02	**Maricunga**	**4.43**	**34**	IAML		23 02 49.6
	comp=Z,98nm,0.5s					
RFA	**San Rafael**	**5.11**	**146**	*e*P	**Pn**	**23 01 42.6 +1.5**

*IDC **15** 23:21:14.3± 1.0, 53°.49N× 161°.87E, h0km, mb3.7/15, mbtmp3.8/19, ML4.8/2, Error ellipse: s-maj=21.8km s-min=18.7km az=101.0*
*KRSC **15** 23:21:15.6± 1.1, 53°.32N× 161°.98E, h41km± 17km, Ml3.6*
ISC 15 23:21:17.4±0.8, 53°.35N±0°.07×161°.89E±0°.07, h20km, n45, σ1§**22**/48, **mb3.7**/15, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**258**	*e*P	**Pn**	**23 21 37.1**	**-1.2**
SPN				*e*S	**Sb**	**23 21 53.0**	**-0.1**
NLC	**Nalytchevo**	**1.54**	**264**	*e*P	**Pn**	**23 21 42.8**	**-0.9**
KII	**Karymskiy**	**1.61**	**296**	*e*P	**Pn**	**23 21 43.9**	**-0.8**
UGLR	**Uglovaya**	**1.85**	**267**	*e*P	**Pn**	**23 21 47.8**	**-0.2**
AVH	**Avacha**	**1.89**	**269**	*i* P	**Pn**	**23 21 48.5**	**-0.1**
DALK	**Dalny**	**1.91**	**262**	*e*P	**Pn**	**23 21 47.7**	**-1.1**
KRX	**Arik**	**1.94**	**272**	*i* P	**Pn**	**23 21 49.1**	**-0.3**
KOK	**Koryaka**	**1.95**	**270**	*i* P	**Pn**	**23 21 49.3**	**-0.2**
PET	**Petropavlovsk**	**1.98**	**262**	*e*P	**Pn**	**23 21 49.1**	**-0.6**
PET				*e*S	**Sn**	**23 22 13.9**	**+0.1**
TUMD	**Tumrok D**	**2.06**	**335**	*e*P	**Pn**	**23 21 51.2**	**+0.3**
RUS	**Russkaya**	**2.24**	**247**	*e*P	**Pn**	**23 21 53.1**	**-0.3**
KRMR	**Karymshinskiy**	**2.33**	**259**	*e*P	**Pn**	**23 21 54.0**	**-0.5**
GNL	**Ganaly**	**2.38**	**280**	*e*P	**Pn**	**23 21 56.1**	**+0.6**
GRL	**Gorelyy**	**2.44**	**253**	*e*P	**Pn**	**23 21 56.7**	**+0.4**
PETK	**Petropavlovsk-**	**2.53**	**266**	Pn	**Pn**	**23 21 57.5**	**+0.1**
	59nm,0.6s,baz=73,slow=16,SNR=201						
KMNR	**Kamenistaya**	**2.60**	**339**	*e*P	**Pn**	**23 21 59.4**	**+1.0**
KIRR	**Kirishev**	**2.76**	**342**	*e*P	**Pn**	**23 22 01.6**	**+1.0**
KPT	**Kopyto**	**2.80**	**340**	*e*P	**Pn**	**23 22 02.2**	**+1.1**
APC	**Apacha**	**2.88**	**263**	*e*P	**Pn**	**23 22 03.3**	**+1.2**
KBTR	**Krutoberegovo**	**2.92**	**10**	*e*P	**Pn**	**23 22 03.1**	**+0.5**
KOZ	**Kozyrevsk**	**2.96**	**337**	*e*P	**Pn**	**23 22 04.2**	**+0.9**
BKI	**Bering**	**3.03**	**50**	*e*P	**Pn**	**23 22 03.6**	**-0.6**
KLY	**Klyuchi**	**3.06**	**347**	*e*P	**Pn**	**23 22 04.0**	**-0.6**
ESO	**Esso**	**3.18**	**326**	*e*P	**Pn**	**23 22 06.7**	**+0.4**
SRDR	**Sredinnyy**	**3.23**	**338**	*e*P	**Pn**	**23 22 08.8**	**+1.8**
PAU	**Pauzhetka**	**3.64**	**241**	*e*P	**Pn**	**23 22 14.9**	**+2.4**
MA2	**Magadan**	**8.76**	**320**	Pn	**Pn**	**23 23 24.8**	**+2.0**
	0.6nm,0.3s,baz=116,slow=8.8,SNR=4.6						
	1.7nm,0.3s						
YAK	**Yakutsk**	**19.10**	**310**	P	**P**	**23 25 37.5**	**-1.0**
	3.3nm,0.3s,baz=101,slow=5.2,SNR=2.1						
	14nm,0.5s						
KLR	**Kul'dur**	**19.22**	**270**	P	**P**	**23 25 39.8**	**-0.2**
	1.2nm,0.6s,baz=75,slow=7.7,SNR=4.7						
HEH	**HeiHe**	**21.42**	**276**	*e*P	**P**	**23 26 04.0**	**+0.2**
HEH				pP	**pwP**	**23 26 18.9**	**+5.0**
HEH				LR	LR		
	comp=N,120nm,14.7s						
HEH				LR	LR		
	comp=E,370nm,14.7s						
HEH				LR	LR		
	comp=Z,510nm,15.5s						
MJAR	**Matsushiro Arr**	**23.56**	**234**	P	**P**	**23 26 27.8**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=24,slow=12,SNR=5.0						
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**34.89**	**284**	P	**P**	**23 28 06.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=52,slow=9.7,SNR=2.8						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.55**	**303**	P	**P**	**23 29 18.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=41,slow=7.7,SNR=1.3						
	comp=Z,0.2nm,0.3s						
SPITS	**Spitsbergen Ar**	**47.06**	**351**	P	**P**	**23 29 46.5**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=57,slow=6.1,SNR=6.4						
	comp=Z,3.7nm,0.7s						
KURBB	**Kurchatov Arra**	**48.62**	**303**	P	**P**	**23 29 57.2**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=60,slow=7.5,SNR=2.3						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**49.01**	**296**	P	**P**	**23 30 01.4**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.5,SNR=8.6						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**51.07**	**309**	P	**P**	**23 30 16.4**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=56,slow=7.9,SNR=2.8						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**59.29**	**259**	P	**P**	**23 31 17.6**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=19,slow=6.2,SNR=4.9						
	comp=Z,0.9nm,0.3s						
FINES	**FINESS Array B**	**60.31**	**337**	P	**P**	**23 31 23.2**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=35,slow=7.0,SNR=9.7						
	comp=Z,1.5nm,0.6s						
NOA	**NORSAR Array B**	**63.59**	**345**	P	**P**	**23 31 45.6**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=21,slow=6.7,SNR=4.0						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**64.03**	**343**	P	**P**	**23 31 47.9**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=31,slow=3.4,SNR=4.9						
	comp=Z,1.3nm,0.8s						
AKASG	**Malin Array Be**	**68.94**	**330**	P	**P**	**23 32 20.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.8,SNR=2.4						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**69.54**	**68**	P	**P**	**23 32 24.9**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=305,slow=3.4,SNR=1.5						
	comp=Z,0.1nm,0.5s						
WRA	**Wamunga Arr**	**76.78**	**207**	P	**P**	**23 33 08.2**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=18,slow=5.5,SNR=1.6						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**80.45**	**206**	P	**P**	**23 33 28.4**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=17,slow=6.9,SNR=2.1						
	comp=Z,0.2nm,0.4s						

*KRSC **15** 23:21:31.9± 1.0, 53°.33N× 162°.03E, h42km± 19km, Ml4.6*
*IDC **15** 23:21:31.8± 0.5, 53°.55N× 161°.51E, h0km, mb4.2/33, mbtmp4.3/39, ML4.6/5, MS3.4/2, Error ellipse: s-maj=12.5km s-min=9.8km az=5.0*
*MOS **15** 23:21:36.4± 1.2, 53°.55N× 161°.53E, h45km, mb4.9/39, MS3.9/11, Error ellipse: s-maj=7.3km s-min=5.2km az=98.8*
*NEIC **15** 23:21:45.9± 2.2, 53°.99N± 0°.09× 160°.1E± 0°.1, h66km± 7km, mb4.6/92, Error ellipse: s-maj=14.4km s-min=10.5km az=138.0*
ISC 15 23:21:36.2±0.4, 53°.59N±0°.06×161°.62E±0°.04, h31km, n370, σ1§**48**/339, **mb4.6**/129, **MS4.2**/12, **23C-26D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**243**	*e*S	**Sb**	**23 22 09.1**	**-0.8**
NLC	**Nalytchevo**	**1.43**	**254**	PN	**Pn**	**23 21 59.5**	**-0.4**
NLC				S	**Sb**	**23 22 18.8**	**-1.0**
NLC	**Nalytchevo**	**1.43**	**254**	*e*P	**Pn**	**23 21 59.5**	**-0.4**
NLC				*e*S	**Sb**	**23 22 18.9**	**-1.0**
UGLR	**Uglovaya**	**1.72**	**258**	PN	**Pn**	**23 22 04.7**	**+0.7**
UGLR	**Uglovaya**	**1.72**	**258**	*e*P	**Pn**	**23 22 04.8**	**+0.7**
TUMD	**Tumrok D**	**1.77**	**337**	*e*P	**Pb**	**23 22 07.8**	**-0.1**
KRX	**Arik**	**1.79**	**264**	PN	**Pn**	**23 22 05.5**	**+0.5**
KRX	**Arik**	**1.79**	**264**	*e*P	**Pn**	**23 22 05.5**	**+0.5**
DALK	**Dalny**	**1.81**	**253**	PN	**Pn**	**23 22 06.1**	**+1.0**
DALK	**Dalny**	**1.81**	**253**	*e*P	**Pn**	**23 22 06.2**	**+1.0**
KOK	**Koryaka**	**1.81**	**262**	PN	**Pn**	**23 22 05.7**	**+0.5**
KOK	**Koryaka**	**1.81**	**262**	*e*P	**Pn**	**23 22 05.8**	**+0.5**
PET	**Petropavlovsk**	**1.87**	**253**	Pn	**Pn**	**23 22 05.5**	**-0.5**
PET	**Petropavlovsk**	**1.87**	**253**	*e*PN	**Pn**	**23 22 05.6**	**-0.4**
PET				*e*S	**Sb**	**23 22 33.8**	**+1.3**
PET				smax	smax		
	comp=E,1μm,0.8s						
PET	**Petropavlovsk**	**1.87**	**253**	P	**Pn**	**23 22 04.4**	**-1.6**
RUS	**Russkaya**	**2.21**	**240**	PN	**Pn**	**23 22 09.6**	**-1.0**
RUS	**Russkaya**	**2.21**	**240**	*e*P	**Pn**	**23 22 09.6**	**-1.0**
GRL	**Gorelyy**	**2.38**	**245**	PN	**Pn**	**23 22 14.3**	**+1.2**
GRL	**Gorelyy**	**2.38**	**245**	*e*P	**Pn**	**23 22 14.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.40**	**260**	Pn	**Pn**	**23 22 14.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.40**	**260**	PN	**Pn**	**23 22 14.4**	**+1.1**
PETK	**Petropavlovsk-**	**2.40**	**260**	Pn	**Pn**	**23 22 14.0**	**+0.7**
PETK	**Petropavlovsk-**	**2.40**	**260**	Pn	**Pn**	**23 22 15.2**	**+1.9**
	comp=E,54nm,0.3s,baz=85,slow=19,SNR=36						
PETK				Sn	**Sn**	**23 22 43.6**	**+2.0**
	comp=E,36nm,0.3s,baz=85,slow=21,SNR=6.0						
PETK	**Petropavlovsk-**	**2.40**	**260**	PN	**Pn**	**23 22 14.0**	**+0.7**
ESO	**Esso**	**2.89**	**325**	PN	**Pb**	**23 22 23.6**	**-3.3**
ESO	**Esso**	**2.89**	**325**	*e*P	**Pb**	**23 22 23.7**	**-3.3**
BKI	**Bering**	**3.01**	**56**	PN	**Pn**	**23 22 20.6**	**-1.0**
BKI	**Bering**	**3.01**	**56**	*e*P	**Pn**	**23 22 20.7**	**-1.0**
BKI				*e*S	**Sn**	**23 22 53.2**	**-3.5**
SKR	**Severo-Kuril's**	**4.47**	**232**	*e*PN	Pn	23 22 36.7	-5.0
SKR				pmax	pmax		
	comp=Z,66nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,10.0s						
SHEM	**Shemya Is, Ala**	**7.55**	**92**	Pn	**Pn**	**23 23 22.3**	**-1.7**
	comp=Z,14nm,0.3s,baz=322,slow=4.6,SNR=5.1						
SHEM				Sn	**Sn**	**23 24 40.4**	**-8.1**
	comp=Z,13nm,0.3s,baz=329,slow=19,SNR=7.4						
SHEM				LR	LR	23 26 36.2	
	comp=Z,367nm,18.1s,baz=276,slow=40						
	comp=Z,82nm,0.5s						
MA2	**Magadan**	**8.47**	**319**	Pn	**Pn**	**23 23 35.9**	**-0.6**
MA2	**Magadan**	**8.47**	**319**	Pn	**Pn**	**23 23 40.2**	**+3.7**
	comp=Z,1.1nm,0.3s,baz=121,slow=9.5,SNR=20						
	comp=Z,23nm,0.8s						
MA2	**Magadan**	**8.47**	**319**	‖*e*PN	**Pn**	**23 23 38.7**	**+2.2**
SEY	**Seymchan**	**10.54**	**336**	Pn	**Pn**	**23 24 04.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=163,slow=19,SNR=1.8						
SEY	**Seymchan**	**10.54**	**336**	*e*PN	Pn	23 24 15.3	+10
SEY				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BILL	**Bilibino**	**14.66**	**7**	Pn	**P**	**23 25 05.3**	**-1.7**
BILL	**Bilibino**	**14.66**	**7**	*ce*P	**P**	**23 25 04.7**	**-2.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,271nm,13.0s						
JKA	**Kamikawa-asahi**	**15.66**	**240**	Pn	**Pn**	**23 25 13.4**	**-1.0**
JKA				IAmb	IAmb	23 25 14.7	
	comp=Z,46nm,1.1s						
ASAJ	**Asahikawa**	**15.66**	**240**	Pn	**Pn**	**23 25 11.7**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=63,slow=9.9,SNR=12						
	comp=Z,22nm,0.8s						
ASAJ	**Asahikawa**	**15.66**	**240**	P	**Pn**	**23 25 11.7**	**-2.7**
YAK	**Yakutsk**	**18.82**	**309**	P	**P**	**23 25 51.2**	**-1.7**
YAK				IAmb	IAmb	23 25 52.7	
	comp=Z,38nm,0.6s						
YAK	**Yakutsk**	**18.82**	**309**	P	**P**	**23 25 52.2**	**-0.7**
	comp=Z,5.4nm,0.3s,baz=77,slow=1.9,SNR=9.6						
YAK				S	**Sn**	**23 29 23.8**	**+0.9**
	comp=Z,13nm,0.5s,baz=129,slow=14,SNR=2.2						
	comp=Z,24nm,0.5s						
YAK	**Yakutsk**	**18.82**	**309**	*e*P	**P**	**23 25 52.0**	**-0.9**
YAK				*e*S	Sn	23 29 12.0	-11
YAK				pmax	pmax		
	comp=Z,58nm,1.5s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,17nm,1.9s						
YAK				smax	smax		
	comp=E,292nm,8.0s						
YAK				smax	smax		
	comp=N,221nm,7.8s						
KLR	**Kul'dur**	**19.06**	**269**	P	**P**	**23 25 55.8**	**+0.2**
	comp=N,0.5nm,0.3s,baz=69,slow=9.8,SNR=20						
	comp=N,8.3nm,0.7s						
KLR	**Kul'dur**	**19.06**	**269**	‖*e*P	**Pn**	**23 25 56.9**	**+0.3**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KLR				MLR	MLR		
	comp=Z,318nm,16.0s						
ZEA	**Zeya**	**20.25**	**284**	*e*P	**P**	**23 26 08.3**	**-0.3**
ZEA				*e*		23 26 20.1	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
M14K	**Bethel**	**20.77**	**55**	P	Pn	23 26 23.0	+6.3
M14K				IAmb	IAmb	23 26 35.5	
	comp=Z,56nm,1.3s						
C16K	**Lisburne Hills**	**21.37**	**34**	P	**P**	**23 26 24.1**	**+3.5**
USA0B	**Ussuriysk Arra**	**21.49**	**256**	P	**P**	**23 26 21.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**21.49**	**256**	P	**P**	**23 26 21.6**	**-0.4**
USA0B				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**21.49**	**256**	P	**P**	**23 26 21.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**21.49**	**256**	P	**P**	**23 26 22.6**	**+0.6**
	comp=Z,7.2nm,0.7s,baz=58,slow=11,SNR=7.7						
	comp=Z,7.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**21.49**	**256**	P	**P**	**23 26 21.4**	**-0.6**
N15K	**Kwethluk River**	**21.68**	**57**	P	P	23 26 34.3	+10
N15K				IAmb	IAmb	23 26 47.9	
	comp=Z,50nm,1.2s						
L16K	**Owhat River**	**22.04**	**53**	P	P	23 26 40.1	+12
L16K				IAmb	IAmb	23 27 01.9	
	comp=Z,20nm,1.3s						
M16K	**Timber Creek**	**22.25**	**55**	P	P	23 26 43.0	+13
M16K				IAmb	IAmb	23 27 10.3	
	comp=Z,50nm,1.4s						
JSD	**Sado**	**22.36**	**235**	P	**P**	**23 26 33.0**	**+1.5**
K17K	**Iditarod**	**22.67**	**50**	P	P	23 26 43.4	+8.9
K17K				IAmb	IAmb	23 26 56.8	
	comp=Z,19nm,1.1s						
TIXI	**Tiksi**	**23.02**	**334**	P	**P**	**23 26 38.0**	**0.0**
TIXI				IAmb	IAmb	23 26 40.3	
	comp=Z,9.1nm,0.7s						
TIXI	**Tiksi**	**23.02**	**334**	‖*i*P	**P**	**23 26 38.4**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,358nm,16.0s						
BNX	**BinXian**	**23.31**	**264**	‖P	**P**	**23 26 39.3**	**-2.0**
BNX				pmax	pmax		
	comp=Z,13nm,0.9s						
MJA0	**Matsu Arr-Jizo**	**23.56**	**233**	*e*P	**P**	**23 26 44.1**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,19nm,0.9s						
MJB9	**Matsu-Tunnel**	**23.57**	**233**	P	**P**	**23 26 44.5**	**+0.6**
MJB9				IAmb	IAmb	23 26 49.4	
	comp=Z,43nm,1.1s						
MAJO	**Matsushiro**	**23.58**	**233**	P	**P**	**23 26 44.2**	**+0.3**
MAJO				IAmb	IAmb	23 26 48.4	
	comp=Z,43nm,1.1s						
MAJO	**Matsushiro**	**23.58**	**233**	P	**P**	**23 26 44.2**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,43nm,1.1s						
MJAR	**Matsushiro Arr**	**23.58**	**233**	P	**P**	**23 26 44.1**	**+0.2**
	comp=Z,19nm,0.9s,baz=26,slow=9.7,SNR=18						
	comp=Z,19nm,0.9s						
MJAR	**Matsushiro Arr**	**23.58**	**233**	P	**P**	**23 26 44.1**	**+0.2**
O18K	**Koktuh Hills**	**24.14**	**58**	P	P	23 27 00.0	+11
O18K				IAmb	IAmb	23 27 02.0	
	comp=Z,32nm,1.4s						
P18K	**Big Mountain,**	**24.17**	**59**	P	P	23 26 59.7	+10
P18K				IAmb	IAmb	23 27 38.2	
	comp=Z,24nm,1.4s						
L19K	**White Mountain**	**24.24**	**52**	P	P	23 26 59.8	+10
L19K				IAmb	IAmb	23 27 05.8	
	comp=Z,17nm,1.4s						
N19K	**Bonanza Creek**	**24.44**	**55**	P	P	23 27 02.4	+11
N19K				IAmb	IAmb	23 27 25.2	
	comp=Z,18nm,1.3s						
J20K	**Nowinta River**	**24.65**	**47**	P	P	23 27 02.4	+8.7
JGF	**Kuroka**	**24.74**	**233**	P	**P**	**23 26 56.8**	**+2.1**
JGF				IAmb	IAmb	23 27 00.8	
	comp=Z,36nm,1.4s						
SII	**Sitkinak Islan**	**25.14**	**65**	P	P	23 27 10.5	+12
OHAK	**Old Harbor**	**25.49**	**64**	P	P	23 27 09.6	+8.3
OHAK				IAmb	IAmb	23 27 20.0	
	comp=Z,29nm,1.3s						
STLK	**Strandline Lak**	**25.69**	**53**	P	P	23 27 13.0	+10
KDAK	**Kodiak Island**	**25.76**	**62**	P	P	23 27 15.3	+12
KDAK				IAmb	IAmb	23 27 17.4	
	comp=Z,29nm,1.1s						
KDAK	**Kodiak Island**	**25.76**	**62**	P	**P**	**23 27 04.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=301,slow=13,SNR=1.3						
	comp=Z,2.2nm,0.6s						
KDAK	**Kodiak Island**	**25.76**	**62**	P	**P**	**23 27 04.2**	**+0.5**
E22K	**Anaktuvuk Pass**	**26.11**	**38**	P	P	23 27 16.1	+9.2
HIA	**Hailar**	**26.18**	**278**	P	**P**	**23 27 05.4**	**-2.3**
HIA				IAmb	IAmb	23 27 09.8	
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**26.18**	**278**	P	**P**	**23 27 05.4**	**-2.3**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
BRLK	**Bradley Lake**	**26.32**	**57**	P	P	23 27 18.2	+9.4
FIS	**Fire Island**	**26.49**	**54**		PcP	23 30 43.0	+8.8
C23K	**Itkillik River**	**26.87**	**35**	P	P	23 27 23.3	+10
TOLK	**Toolik Lake Re**	**27.01**	**37**	P	**P**	**23 27 20.7**	**+5.7**
ILAR	**Eielson Array**	**27.81**	**46**	P	**P**	**23 27 22.9**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=263,slow=8.5,SNR=9.4						
	comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**27.81**	**46**	P	**P**	**23 27 22.9**	**+0.8**
D25K	**Kavik River**	**28.25**	**36**	P	P	23 27 33.7	+7.7
KSRS	**Korea Array**	**28.25**	**249**	P	**P**	**23 27 26.1**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=41,slow=9.8,SNR=4.3						
	comp=Z,3.5nm,1.0s						
KSRS	**Korea Array**	**28.25**	**249**	*e*P	**P**	**23 27 28.4**	**+2.2**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
F26K	**Sheenjek River**	**28.94**	**40**	P	P	23 27 43.2	+11
N25K	**Chitina, Valde**	**29.12**	**52**	P	P	23 27 44.1	+10
N25K				IAmb	IAmb	23 27 58.2	
	comp=Z,17nm,1.4s						
L27K	**Beaver Creek,**	**30.18**	**49**	P	P	23 27 53.2	+10
BCAR	**Beaver Creek A**	**30.20**	**49**	P	P	23 27 53.4	+10
F28M	**Old Crow**	**30.58**	**40**	P	P	23 27 55.6	+9.0
XLT	**XiLinHaoTe**	**31.06**	**271**	*e*P	**P**	**23 27 49.3**	**-1.9**
XLT				pP	pwP	23 28 06.1	+2.2
XLT				pmax	pmax		
	comp=Z,4.0nm,1.1s						
DAWY	**Daw

F04A Amboy 47.47 67 P P 23 30 22.2 +14
NEEM North Greenlan 47.65 9 *i* P **P** **23 30 08.9 -0.2**
NEEM IAmb IAmb 23 30 10.7
comp=Z,12nm,0.9s
WMQ Urumqi 47.66 290 *e*P **P** **23 30 09.4 0.0**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=Z,290nm,18.7s
KURK Kurchatov 48.24 302 P **P** **23 30 12.1 -1.6**
KURK IAmb IAmb 23 30 13.5
comp=Z,8.1nm,1.1s
KURK Kurchatov 48.24 302 *de*P **P** **23 30 12.6 -1.1**
KURK pmax pmax
comp=Z,8.0nm,1.7s
KURK MLR MLR
comp=Z,218nm,16.0s
KURBB Kurchatov Arra 48.35 302 P **P** **23 30 13.5 -1.0**
comp=Z,2.4nm,0.5s,baz=56,slow=7.8,SNR=14
KURBB PcP **PcP** **23 31 40.6 -0.1**
comp=Z,0.3nm,0.6s,baz=46,slow=2.7,SNR=1.9
comp=Z,2.4nm,0.5s
MK31 Makanchi Array 48.76 296 P **P** **23 30 17.1 -0.6**
MK31 Makanchi Array 48.76 296⇓ *e*P **P** **23 30 15.5 -2.3**
MKAR Makanchi Array 48.76 296 P **P** **23 30 17.3 -0.5**
comp=Z,1.2nm,0.6s,baz=55,slow=6.4,SNR=23
MKAR PcP **PcP** **23 31 41.8 -0.5**
comp=Z,0.5nm,0.7s,baz=56,slow=6.1,SNR=1.3
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 48.76 296 P **P** **23 30 17.4 -0.4**
MAKZ Makanchi 48.92 296 P **P** **23 30 17.6 -1.4**
MAKZ Makanchi 48.92 296 P **P** **23 30 17.6 -1.4**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
KULLO Kullorsuaq 49.50 13 *i* P **P** **23 30 24.2 +1.2**
KULLO IAmb IAmb 23 30 25.8
comp=Z,13nm,1.1s
DAG Danmarks Havn 49.91 0 P **P** **23 30 27.8 +1.8**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 49.91 0 *i* P **P** **23 30 26.2 +0.2**
DAG IAmb IAmb 23 30 28.0
comp=Z,4.9nm,1.0s
BVAR Borovoye Array 50.79 309 P **P** **23 30 32.2 -0.9**
comp=Z,1.3nm,0.4s,baz=61,slow=8.0,SNR=11
comp=Z,1.3nm,0.4s
BVAR Borovoye Array 50.79 309 P **P** **23 30 32.2 -0.9**
BRVK Borovoye 50.82 309 P **P** **23 30 32.4 -0.9**
BRVK Borovoye 50.82 309 *de*P **P** **23 30 32.9 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK MLR MLR
comp=Z,235nm,16.0s
PZH PanZhiHua 51.36 263 P **P** **23 30 37.1 -0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
ARCES ARCESS Array B 53.09 342 P **P** **23 30 49.6 -0.4**
comp=Z,6.5nm,0.9s,baz=44,slow=7.2,SNR=5.1
comp=Z,6.5nm,0.9s
ARCES ARCESS Array B 53.09 342 *e*P **P** **23 30 50.8 +0.8**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 53.35 7 P **P** **23 30 53.5 +1.2**
SUMG Summit 53.35 7 P **P** **23 30 53.5 +1.2**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 53.35 7 *i* P **P** **23 30 53.0 +0.7**
SUMG IAmb IAmb 23 30 55.5
comp=Z,12nm,1.0s
ARTI Arti 53.74 318 P **P** **23 30 54.0 -0.9**
ARTI IAmb IAmb 23 30 55.6
comp=Z,4.6nm,0.6s
ARTI Arti 53.74 318 *d i*P **P** **23 30 53.8 -1.1**
ARTI 23 32 52.6
ARTI S **S** **23 38 21.3 -5.5**
ARTI pmax pmax
comp=Z,47nm,4.0s
KDJ Kajisay 54.58 295 P **P** **23 30 59.3 -2.2**
NVAR Mina Array Bea 54.71 71 P **P** **23 31 04.8 +2.3**
comp=Z,0.8nm,0.6s,baz=303,slow=8.7,SNR=3.9
comp=Z,0.8nm,0.6s
BOOM Boomskoye usch 55.00 296 P **P** **23 31 04.2 -0.3**
BOOM IAmb IAmb 23 31 08.1
comp=Z,16nm,1.4s
BOOM Boomskoye usch 55.00 296 P **P** **23 31 04.2 -0.3**
BOOM pmax pmax
comp=Z,16nm,1.4s
KIRV Kirov 55.53 324 *d i*P **P** **23 31 08.6 +0.8**
PDAR Pinedale Array 56.48 62 P **P** **23 31 16.6 +1.4**
comp=Z,0.5nm,0.6s,baz=294,slow=4.0,SNR=4.8
comp=Z,0.5nm,0.6s
KLMR Klimovskoe 56.97 330 *e*P **P** **23 31 18.1 0.0**
KLMR *e**PP **pwP** **23 31 33.2 +2.0**
KLMR pmax pmax
comp=Z,31nm,1.4s
KSH Kashi 57.05 293 P **P** **23 31 23.8 +4.7**
KSH pP pwP 23 31 40.8 +8.5
KSH pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 57.81 48 P **P** **23 31 24.6 +0.5**
comp=Z,0.9nm,0.5s,baz=315,slow=8.6,SNR=1.8
comp=Z,0.9nm,0.5s
ULM Lac du Bonnet 57.81 48 P **P** **23 31 24.6 +0.5**
RDMU Red Mountain 58.02 64 P P 23 31 35.0 +8.9
RDMU IAmb IAmb 23 31 47.5
comp=Z,8.0nm,1.1s
ABKAR Abkulak array 58.16 311 P **P** **23 31 25.9 -0.7**
ABKAR IAmb IAmb 23 31 36.9
comp=Z,5.6nm,1.4s
RSSD Black Hills 58.37 58 P P 23 31 37.6 +9.2
RSSD IAmb IAmb 23 31 38.2
comp=Z,3.7nm,0.7s
RSSD Black Hills 58.37 58 P P 23 31 37.6 +9.2
RSSD pmax pmax
comp=Z,4.0nm,0.7s
PHRA Phrae 58.39 258 P **P** **23 31 28.5 -0.1**
CHTO Chiang Mai 58.90 259 P **P** **23 31 31.4 -0.7**
CHTO Chiang Mai 58.90 259 P **P** **23 31 31.4 -0.7**
CHTO pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 59.18 259 P **P** **23 31 34.0 -0.1**
CMAR Chiang Mai Arr 59.18 259 P **P** **23 31 35.0 +0.9**
comp=Z,7.0nm,0.7s,baz=24,slow=7.1,SNR=6.6
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 59.18 259 P **P** **23 31 35.0 +0.9**
DRK Karamyk 59.34 296 P **P** **23 31 34.5 -0.9**
DRK IAmb IAmb 23 31 36.8
comp=Z,2.9nm,0.6s
DRK Karamyk 59.34 296 P **P** **23 31 34.5 -0.9**
DRK pmax pmax
comp=Z,3.0nm,0.6s
BTK Batken 59.45 297 P **P** **23 31 35.1 -0.7**
BTK IAmb IAmb 23 31 37.4
comp=Z,4.8nm,0.6s
BTK Batken 59.45 297 P **P** **23 31 35.1 -0.7**
BTK pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 60.02 337 P **P** **23 31 40.2 +0.9**
comp=Z,6.0nm,0.5s,baz=34,slow=8.9,SNR=34
comp=Z,6.0nm,0.5s
FINES FINESS Array B 60.02 337 P **P** **23 31 40.2 +0.9**
GAR Garm 60.48 296 P **P** **23 31 41.5 -1.5**
GAR IAmb IAmb 23 31 44.5
comp=Z,9.8nm,1.1s
BELG Belogornoye 60.93 320⇓ *e*P **P** **23 31 45.3 -0.3**
BELG pmax pmax
comp=Z,21nm,4.0s
BELG MLR MLR
comp=Z,45nm,17.0s
CHGR Chuyangaron 61.35 297 P **P** **23 31 48.5 -0.3**
CHGR Chuyangaron 61.35 297 P **P** **23 31 48.5 -0.3**
CHGR pmax pmax
comp=Z,10.0nm,0.7s
SIMJ Simiganj 61.43 297 P **P** **23 31 48.6 -0.8**
SIMJ IAmb IAmb 23 31 50.6
comp=Z,4.1nm,0.8s
X16A Lo Mia Camp, P 61.44 70 P P 23 31 58.6 +9.0
OBN Obninsk 62.58 328⇑ *e*P **P** **23 31 55.7 -1.0**
OBN *e**PP **sP** **23 32 08.3 +0.1**
OBN *e**SP **pwP** **23 32 17.1 +7.2**
OBN *e* 23 32 32.2
OBN *e* 23 34 15.4
OBN *e*PPP PPP 23 35 41.9
OBN *e*S **S** **23 40 17.8 -4.2**
OBN *e*SSS SSS 23 47 15.8
OBN pmax pmax
comp=Z,79nm,3.5s
OBN MLR MLR
comp=Z,115nm,16.0s
OBN Obninsk 62.58 328 P **P** **23 31 56.5 -0.2**
comp=Z,16nm,0.5s
NIL Nilore 62.81 290 P **P** **23 31 58.7 +0.1**
NIL Nilore 62.81 290 P **P** **23 31 58.7 +0.1**
NIL pmax pmax
comp=Z,18nm,1.1s
NB2 NORSAR Subarra 63.31 344 P P 23 31 45.6 -16
comp=Z,1.0nm,0.6s,baz=20,slow=6.9
NB2 NORSAR Subarra 63.31 344 P **P** **23 32 02.2 +0.7**
comp=Z,2.9nm,0.6s,baz=21,slow=6.9
NOA NORSAR Array B 63.31 344 P **P** **23 32 02.1 +0.5**
comp=Z,4.2nm,0.7s,baz=20,slow=6.6,SNR=19
comp=Z,4.2nm,0.7s
NOA NORSAR Array B 63.31 344 *e*P **P** **23 32 02.0 +0.5**
NOA pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 63.75 343 P **P** **23 32 04.7 +0.3**
comp=Z,2.7nm,0.5s,baz=44,slow=4.5,SNR=18
comp=Z,2.7nm,0.5s
HFS Hagfors 63.75 343 P **P** **23 32 04.7 +0.3**
LPSR Galich'ya Gora 63.90 325 *e*P **P** **23 32 06.1 +0.6**
LPSR pmax pmax
comp=Z,21nm,0.9s
VRH Novokhopyorsk 64.08 323 *e*P **P** **23 32 06.6 0.0**
VRH pmax pmax
comp=Z,15nm,0.6s
SBM South Baldy 64.14 67 P P 23 32 16.2 +8.4
KBL Kabul 64.47 294 P **P** **23 32 08.4 -1.4**
KBL IAmb IAmb 23 32 09.9
comp=Z,7.7nm,0.8s
KBL Kabul 64.47 294 P **P** **23 32 08.4 -1.4**
KBL pmax pmax
comp=Z,8.0nm,0.9s
VORR Voronezh 64.58 324 P **P** **23 32 10.9 +1.0**
VORR pmax pmax
comp=Z,18nm,0.3s
SCHQ Schefferville 64.78 29 P **P** **23 32 12.6 +1.4**
comp=Z,2.8nm,1.1s,baz=25,slow=6.8,SNR=2.1
comp=Z,2.8nm,1.1s
MNK Minsk 65.68 332 *i* P **P** **23 32 16.6 -0.4**
MNK *i* 23 34 41.6
MNK *i* PPP PPP 23 36 15.9
MNK *i* S **S** **23 40 56.7 -3.7**
MNK *i* SS **SS** **23 45 11.4 -2.4**
MNK pmax pmax
comp=N,21nm,1.1s
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=E,27nm,1.0s
MNK MLR MLR
comp=Z,120nm,18.0s
MNK MLR MLR
comp=N,545nm,23.0s
MNK MLR MLR
comp=E,487nm,23.0s
KAN05 Bluff City Nor 66.71 59 P P 23 32 32.7 +8.8
AK03 Malin Array Si 68.63 330 P **P** **23 32 36.2 +0.4**
AK21 Malin Array Si 68.64 330 P **P** **23 32 35.6 -0.2**
AK22 Malin Array Si 68.64 330 P **P** **23 32 36.0 +0.1**
AKASG Malin Array Be 68.65 330 P **P** **23 32 36.4 +0.4**
comp=E,2.9nm,0.5s,baz=30,slow=6.4,SNR=19
comp=E,2.9nm,0.5s
AKASG Malin Array Be 68.65 330 *e*P **P** **23 32 36.3 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 68.65 330 P **P** **23 32 36.0 +0.1**
AKBB Malin Array Si 68.65 330⇓ *e*P **P** **23 32 36.2 +0.3**
AKBB pmax pmax
comp=Z,27nm,1.4s
AKBB Malin Array Si 68.65 330 P **P** **23 32 35.8 -0.1**
KIEV Kiev 68.66 330 P **P** **23 32 35.6 -0.4**
KIEV Kiev 68.66 330 P **P** **23 32 35.6 -0.4**
KIEV pmax pmax
comp=Z,27nm,1.3s
AK15 Malin Array Si 68.69 330 P **P** **23 32 36.5 +0.4**
AK02 Malin Array Si 68.69 330 P **P** **23 32 36.3 +0.1**
AK08 Malin Array Si 68.70 330 P **P** **23 32 36.5 +0.3**
AK17 Malin Array Si 68.72 330 P **P** **23 32 36.7 +0.4**
AK12 Malin Array Si 68.72 330 P **P** **23 32 36.4 0.0**
AK05 Malin Array Si 68.73 330 P **P** **23 32 36.3 -0.1**
AK14 Malin Array Si 68.75 330 P **P** **23 32 36.5 0.0**
MI28 Mi28,Pidlybu 68.91 331 P **P** **23 32 37.8 +0.3**
RNPP9 Sopachiv 68.98 332 P **P** **23 32 38.6 +0.6**
RNPP8 Varash 69.06 332 P **P** **23 32 38.5 0.0**
TXAR Lajitas Array 69.60 68 P **P** **23 32 43.2 +0.9**
comp=Z,0.8nm,0.6s,baz=298,slow=4.1,SNR=7.8
comp=Z,0.8nm,0.6s
TXAR Lajitas Array 69.60 68 P **P** **23 32 43.2 +0.9**
KIV Kislovodsk 69.69 318 *e*P **P** **23 32 43.4 +0.8**
KIV pmax pmax
comp=Z,5.0nm,1.1s
LUBAR Lubar, Ukraine 69.78 330 P **P** **23 32 43.4 +0.5**
KBZ Khabaz 69.80 317 P **P** **23 32 44.4 +1.3**
comp=Z,6.8nm,0.9s,baz=6.7,slow=17,SNR=12
comp=Z,6.8nm,0.9s
KBZ Khabaz 69.80 317⇓ *e*P **P** **23 32 43.3 +0.2**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KBZ MLR MLR
comp=Z,111nm,17.0s
EKA Eskdalemuir Ar 70.72 351 P **P** **23 32 49.5 +0.9**
comp=Z,2.0nm,0.6s,baz=343,slow=4.5,SNR=3.8
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 70.72 351 P **P** **23 32 49.5 +0.9**
HORU Horodok 70.80 331 P **P** **23 32 50.1 +0.9**
HORU Horodok 70.80 331 P **P** **23 32 50.1 +0.9**
LONY Lake Ozonia 71.02 39 P P 23 32 57.5 +6.8
NDNU Novodnistrovsk 71.08 330 P **P** **23 32 50.9 0.0**
SORM Soroca 71.19 329⇑ P **P** **23 32 52.4 +0.8**
SORM Soroca 71.19 329 P **P** **23 32 51.6 +0.1**
SORM Soroca 71.19 329 P **P** **23 32 51.6 +0.1**
comp=Z,21nm,1.1s
KMPD K-Podol'skiy 71.38 330 P **P** **23 32 52.9 +0.2**
KMPD P **P** **23 32 52.7 0.0**
KSP Ksiaz 71.94 338 P **P** **23 32 56.3 +0.3**
KSP Ksiaz 71.94 338 P **P** **23 32 56.3 +0.3**
comp=Z,11nm,0.8s
GNI Garni 72.00 314 P **P** **23 32 55.5 -1.3**
GNI Garni 72.00 314 P **P** **23 32 55.5 -1.3**
comp=Z,9.1nm,1.1s
STHS Stebnicka Huta 72.05 334 *e*P **P** **23 32 58.0 +1.2**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 72.05 334 *e*P **P** **23 32 58.0 +1.2**
PURM Purcari 72.13 327 P **P** **23 32 57.3 +0.1**
comp=Z,22nm,1.1s
CLL Collm 72.21 340 P **P** **23 32 57.7 0.0**
CLL IAmb IAmb 23 33 00.4
comp=Z,14nm,1.0s
CLL Collm 72.21 340 *i* P **P** **23 32 58.4 +0.8**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 72.21 340 P **P** **23 32 58.4 +0.8**
comp=Z,16nm,0.9s
CLL Collm 72.21 340 *i* P **P** **23 32 58.4 +0.8**
comp=Z,13nm,0.9s
CLL *e*PcP **PcP** **23 33 18.0 +2.3**
KOLS Kolonicke sedl 72.22 333 *e*P **P** **23 32 59.2 +1.4**
KOLS pmax pmax
comp=Z,4.0nm,0.6s
KOLS Kolonicke sedl 72.22 333 *e*P **P** **23 32 59.2 +1.4**
OSTC Ostas 72.22 338 *e*P **P** **23 32 58.1 +0.3**
OSTC Ostas 72.22 338 *e*P **P** **23 32 58.1 +0.3**
CHVC Chvalec 72.23 338 *e*P **P** **23 32 58.9 +1.1**
CHVC Chvalec 72.23 338 *e*P **P** **23 32 58.9 +1.1**
UPC Upice 72.31 338 *e*P **P** **23 32 59.5 +1.2**
UPC Upice 72.31 338 *e*P **P** **23 32 59.5 +1.2**
DPC Dobruska-Polom 72.39 338 *e*P **P** **23 33 00.0 +1.2**
DPC Dobruska-Polom 72.39 338 *e*P **P** **23 33 00.0 +1.2**
DPC Dobruska-Polom 72.39 338 P **P** **23 32 59.7 +0.9**
comp=Z,8.3nm,0.9s
BRG Berggiesshubel 72.42 339 *e*P **P** **23 32 59.9 +1.0**
BRG Amp 23 33 02.4
comp=Z,13nm,1.3s
STEB Steborice 72.44 336 *e*P **P** **23 33 00.2 +1.1**
KRLC Kraliky 72.54 337 *e*P **P** **23 33 00.5 +0.8**
KRLC Kraliky 72.54 337 *e*P **P** **23 33 00.5 +0.8**
HOLU Holmets 72.56 333 P **P** **23 33 00.1 +0.3**
BUR08 Bucovina Ar. S 72.57 331 P **P** **23 33 00.9 +0.8**
BUR08 IAmb IAmb 23 33 02.3
comp=Z,12nm,1.5s
MORC Moravsky Berou 72.64 337 P **P** **23 33 01.7 +1.4**
MORC IAmb IAmb 23 33 02.9
comp=Z,5.5nm,0.8s
MORC Moravsky Berou 72.64 337 *e*P **P** **23 33 01.4 +1.1**
MORC Moravsky Berou 72.64 337⇑ P **P** **23 33 01.7 +1.4**
MORC Moravsky Berou 72.64 337 P **P** **23 33 01.7 +1.4**
MORC pmax pmax
comp=Z,6.0nm,0.8s
HSKC Hora Svate Kat 72.78 339 *e*P **P** **23 33 02.2 +1.1**
PRU Pruhonice 73.13 338 *e*P **P** **23 33 04.3 +1.2**
PRU Pruhonice 73.13 338 *e*P **P** **23 33 04.3 +1.2**
TESR Tescani 73.16 329⇓ P **P** **23 33 04.0 +0.6**
PLAL Pickwick Lake 73.24 54 P P 23 33 13.0 +9.0
PLAL IAmb IAmb 23 33 15.5
comp=Z,4.3nm,0.6s
VRAC Vranov 73.30 337 *e*P **P** **23 33 05.5 +1.2**
VRAC Vranov 73.30 337⇓ P **P** **23 33 05.4 +1.2**
VRAC Vranov 73.30 337⇓ P **P** **23 33 05.4 +1.2**
VLDR Vladesti 73.31 328⇑ P **P** **23 33 05.7 +1.4**
JAVC Velka Javorina 73.47 336 *e*P **P** **23 33 07.5 +2.3**
VYHS Vyhne 73.52 335 *e*P **P** **23 33 06.8 +1.3**
VYHS Vyhne 73.52 335 *e*P **P** **23 33 06.8 +1.3**
KRUC Moravsky 73.58 337 *e*P **P** **23 33 07.1 +1.3**
TLCR 73.67 327⇑ P **P** **23 33 08.4 +2.1**
TLCR 73.67 327⇑ P **P** **23 33 08.4 +2.1**
ZVC Zvikov 73.72 339 *e*P **P** **23 33 08.0 +1.4**
PSZ Piszkesteto 73.78 334⇓ P **P** **23 33 08.9 +1.8**
PSZ Piszkesteto 73.78 334⇓ P **P** **23 33 08.9 +1.8**
SMOL Smolenice 73.84 336 *e*P **P** **23 33 09.9 +2.5**
SMOL pmax pmax
comp=Z,3.0nm,0.9s
COVR Voineasa-Covas 73.89 329⇑ P **P** **23 33 09.7 +2.0**
MODS Modra-Piesok 74.01 336 *e*P **P** **23 33 11.1 +2.7**
MODS Modra-Piesok 74.01 336 *e*P **P** **23 33 11.1 +2.7**
MARR Marisel-Cluj 74.05 332⇓ P **P** **23 33 10.6 +1.9**
DRGR 74.06 332⇑ P **P** **23 33 09.6 +0.9**
DRGR 74.06 332⇑ P **P** **23 33 09.6 +0.9**
TPGR Topolog 74.09 327⇑ P **P** **23 33 10.3 +1.4**
KHC Kasperske Hory 74.14 339 *e*P **P** **23 33 10.2 +1.0**
KHC Kasperske Hory 74.14 339 *e*P **P** **23 33 10.2 +1.0**
MEM Membach 74.16 344 *d*P **P** **23 33 10.4 +1.2**
comp=Z,9.2nm,1.0s
BTNL Ternell 74.17 344 *d*P **P** **23 33 10.6 +1.4**
comp=Z,6.6nm,0.9s
CKRC Cesky Krumlov 74.28 338 *e*P **P** **23 33 11.2 +1.3**
CKRC Cesky Krumlov 74.28 338 *e*P **P** **23 33 11.2 +1.3**
MLR Muntele Rosu 74.29 329 P **P** **23 33 11.8 +1.6**
MLR IAmb IAmb 23 33 13.4
comp=Z,6.8nm,0.7s
MLR Muntele Rosu 74.29 329⇑ P **P** **23 33 12.3 +2.1**
MLR Muntele Rosu 74.29 329 P **P** **23 33 11.8 +1.6**
MLR pmax pmax
comp=Z,7.0nm,0.7s
GEC2 GERESS Array S 74.39 339 P **P** **23 33 11.9 +1.2**
GEC2 IAmb IAmb 23 33 13.3
comp=Z,4.0nm,0.9s
GERES GERESS Array B 74.39 339 P **P** **23 33 12.2 +1.6**
GERES GERESS Array B 74.39 339 P **P** **23 33 11.9 +1.2**
comp=Z,3.4nm,0.8s,baz=46,slow=3.9,SNR=13
comp=Z,3.4nm,0.8s
GERES GERESS Array B 74.39 339 P **P** **23 33 11.9 +1.2**
VOIR 74.61 330⇑ P **P** **23 33 13.9 +1.9**
VOIR 74.61 330⇑ P **P** **23 33 13.9 +1.9**
BMRD Maredsous 74.66 345 *d*P **P** **23 33 13.2 +1.1**
comp=Z,4.9nm,1.0s
CONA Conrad Observa 74.77 337 *i* P **P** **23 33 14.6 +1.7**
comp=Z,6.7nm,1.3s
ARR Arges 74.80 330⇑ P **P** **23 33 14.6 +1.6**
SIRR Siria 74.83 332⇑ P **P** **23 33 14.0 +0.8**
RONA Rosalia, Austr 74.88 337 *i* P **P** **23 33 15.1 +1.6**
comp=Z,1.7nm,0.6s
SURR Surduc 75.17 332⇓ P **P** **23 33 17.0 +1.8**
GZR Gura Zlata 75.32 331⇓ P **P** **23 33 16.9 +0.9**
GZR Gura Zlata 75.32 331⇓ P **P** **23 33 16.9 +0.9**
BZS Buzias 75.44 332⇑ P **P** **23 33 17.9 +1.2**
BZS Buzias 75.44 332⇑ P **P** **23 33 17.9 +1.2**
ARSA Arzberg 75.48 337 *i* P **P** **23 33 18.7 +1.8**
comp=Z,3.6nm,0.7s
BIOA Bad Ischl, Aus 75.49 338 *i* P **P** **23 33 19.5 +2.5**
comp=Z,1.8nm,0.5s
MORH Mrgy, Hungar 75.68 334⇓ P **P** **23 33 18.4 +0.3**
HERR Herculane 75.89 331⇑ P **P** **23 33 20.2 +1.0**
LESA Schwarzleotal 75.96 339 *i* P **P** **23 33 22.0 +2.3**
comp=Z,5.8nm,1.1s
VLAD Vladila 76.11 330⇓ P **P** **23 33 22.5 +2.0**
SOKA Soboth 76.13 337 *i* P **P** **23 33 22.1 +1.4**
comp=Z,8.5nm,1.3s
KBA Koelnbreinsper 76.14 338 *i* P **P** **23 33 22.9 +2.1**
comp=Z,25nm,1.3s
WATA Walderalm 76.27 340 *i* P **P** **23 33 23.2 +1.6**
comp=Z,11nm,1.4s
ECH Echery 76.28 343 P **P** **23 33 23.1 +1.6**
ECH IAmb IAmb 23 33 25.1
comp=Z,6.7nm,1.1s
ECH Echery 76.28 343 P **P** **23 33 23.1 +1.6**
ECH pmax pmax
comp=Z,7.0nm,1.1s
RETA Reutte 76.30 340 *i* P **P** **23 33 23.7 +2.0**
comp=Z,12nm,1.3s
WTTA Wattenberg 76.33 339 *i* P **P** **23 33 23.3 +1.3**
comp=Z,5.5nm,0.9s
MOTA Moosalm 76.36 340 *i* P **P** **23 33 23.6 +1.5**
comp=Z,12nm,1.4s
OBKA Obir 76.41 337 *i* P **P** **23 33 23.6 +1.4**
comp=Z,8.3nm,0.7s
SQTA Sankt Quirin 76.46 340 *i* P **P** **23 33 24.3 +1.7**
comp=Z,9.6nm,0.9s
MYKA Terra Mystica 76.50 338 *i* P **P** **23 33 24.8 +2.0**
comp=Z,2.3nm,0.6s
ABTA Abfaltersbach 76.63 339 *i* P **P** **23 33 25.5 +1.9**
comp=Z,12nm,1.2s
FETA Feichten 76.75 340 *i* P **P** **23 33 25.9 +1.6**
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 76.81 321 P **P** **23 33 25.4 +0.6**
comp=Z,2.5nm,0.8s,baz=36,slow=5.9,SNR=8.3
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 76.81 321 *e*P **P** **23 33 26.2 +1.4**
BRTR pmax pmax
comp=Z,26nm,1.4s
WRA Warramunga Arr 76.93 206 P **P** **23 33 24.4 -0.9**
comp=Z,1.1nm,0.7s,baz=20,slow=5.7,SNR=4.5
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 76.93 206 P **P** **23 33 24.4 -0.9**
KIRS Kirsehir-Merke 77.22 321⇑ P **P** **23 33 28.6 +1.6**
FUORN Ofenpass-Fuorn 77.23 340 P **P** **23 33 28.9 +1.8**
FUORN IAmb IAmb 23 33 34.6
comp=Z,5.5nm,0.8s
BOVS Bovan 77.23 331⇑ P **P** **23 33 27.4 +0.5**
CTI Castel Tesino 77.48 339 P **P** **23 33 28.5 +0.1**
CTI IAmb IAmb 23 33 31.3
comp=Z,16nm,1.3s
CTI Castel Tesino 77.48 339 P **P** **23 33 28.5 +0.1**
CTI pmax pmax
comp=Z,16nm,1.3s
TUE Stuetta 77.55 341 P **P** **23 33 30.1 +1.2**
TUE IAmb IAmb 23 33 32.6
comp=Z,8.8nm,0.7s
FITZ Fitzroy Crossi 77.82 215 P P 23 33 35.3 +5.0
TEOL Teolo 78.14 339 P **P** **23 33 33.3 +1.4**
RDO Rodhopi 78.35 328 P **P** **23 33 34.1 +1.0**
PDG Podgorica 79.03 333⇑ P **P** **23 33 37.3 +0.5**
ZCCA Zocca 79.25 339 P **P** **23 33 40.8 +2.8**
NRCA Norcia 80.21 337 P **P** **23 33 45.1 +1.7**
ASAR Alice Springs 80.60 206 P **P** **23 33 45.1 -0.2**
comp=Z,1.3nm,0.7s,baz=16,slow=5.6,SNR=13
comp=Z,1.3nm,0.7s
ASAR Alice Springs 80.60 206 P **P** **23 33 45.2 -0.2**
MMAI Mount Meron Ar 81.98 317 P **P** **23 33 53.6 +0.7**
comp=Z,2.9nm,0.6s,baz=31,slow=5.0,SNR=6.5
comp=Z,2.9nm,0.6s
RAYN Ar Rayn 85.54 304 P **P** **23 34 10.9 -0.3**
RAYN IAmb IAmb 23 34 24.2
comp=Z,9.8nm,1.2s
RAYN Ar Rayn 85.54 304 P **P** **23 34 10.9 -0.3**
RAYN pmax pmax
comp=Z,10.0nm,1.2s
ESDC Sonseca Array 86.28 349 P **P** **23 34 16.1 +1.4**
ESDC Sonseca Array 86.28 349 P **P** **23 34 15.1 +0.5**
comp=Z,0.9nm,0.7s,baz=353,slow=5.4,SNR=7.2
comp=Z,0.9nm,0.7s
KEST Kesra 87.85 338 P **P** **23 34 22.8 +0.4**
KEST Kesra 87.85 338 P **P** **23 34 22.4 0.0**
comp=Z,3.3nm,0.9s,baz=24,slow=1.2,SNR=4.7
comp=Z,3.3nm,0.9s

CPUP	**Villa Florida**	**140.38**	**62**	PKP		**PKPdf**		**23 41 02.5**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=21,slow=3.6,SNR=5.0								
CPUP	**Villa Florida**	**140.38**	**62**	PKIKP		**PKPdf**		**23 41 02.5**	**+0.8**

*IDC **15** 23:41:49.8±10.0, 11°.36N×41°.51E, h0km, mb3.7/6, mbtmp3.7/6, MS3.8/2, Error ellipse: s-maj=223.5km s-min=52.9km az=10.0*

ISC 15 23:41:51.0±9.6, 11°N±1°×41°.5E±0°.4, h10km, n8, σ0s27/6, mb3.9/6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**29.52**	**207**	LR	LR	23 59 59.5	
	comp=Z,90nm,18.4s,baz=44,slow=37						
AKASG	**Malin Array Be**	**40.54**	**348**	LR	LR	00 06 50.9	
	comp=Z,191nm,18.5s,baz=44,slow=37						
GERES	**GERESS Array B**	**43.98**	**334**	P	**P**	**23 49 58.6**	**0.0**
	0.2nm,0.3s,baz=131,slow=7.3,SNR=4.1						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**47.62**	**23**	P	**P**	**23 50 27.0**	**-0.1**
	0.3nm,0.6s,baz=232,slow=6.4,SNR=1.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**49.33**	**36**	P	**P**	**23 50 40.5**	**0.0**
	1.1nm,0.9s,baz=242,slow=8.6,SNR=3.6						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**49.54**	**30**	P	**P**	**23 50 42.0**	**+0.1**
	1.7nm,1.0s,baz=233,slow=7.9,SNR=9.0						
	1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**54.63**	**30**	P	**P**	**23 51 19.3**	**-0.4**
	1.2nm,0.6s,baz=238,slow=8.5,SNR=8.6						
	1.2nm,0.6s						
SONM	**Songino Array**	**64.90**	**42**	P	**P**	**23 52 30.9**	**+0.1**
	0.8nm,0.9s,baz=267,slow=6.4,SNR=4.3						
	0.8nm,0.9s						

*IDC **15** 23:51:38.6±0.8, 56°.53S×124°.28W, h0km, mb3.9/7, mbtmp3.9/7, MS4.6/42, Error ellipse: s-maj=32.8km s-min=25.4km az=145.0*

*NEIC **15** 23:51:40.7±2.1, 55°.7S±0°.1×125°.0W±0°.2, h10km±1km, mb5.0/25, Ms_20 5.1/29, Mwb5.5/12, Mww5.6/18, Error ellipse: s-maj=21.9km s-min=18.3km az=187.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.11; Mθθ1.43; Mφφ-1.53; Mrθ-0.48; Mθφ1.59; Mφr0.40; Fault plane solution: M0 2.26000×10^17 NP1: φs111.16000°, δ86.69000°, λ-14.87000°. NP2: φs202.04000°, δ75.15000°, λ-176.58000°. Principal axes: T 2.1589, Plg8.0000°, Azm158.0000°; N 0.1930, Plg75.0000°, Azm279.0000°; P -2.3519, Plg13.0000°, Azm66.0000°;*

*NEIC **15** 23:51:40.9, 55°.74S×124°.99W, h10km*

*NEIC **15** 23:51:40.9, 55°.74S×124°.99W, h30km*

*NEIC **15** 23:51:40.9, 56°.04S×124°.81W, h30km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17Nm; Mrr-0.14; Mθθ1.80; Mφφ-1.66; Mrθ-0.26; Mθφ2.21; Mφr-0.79; Fault plane solution: M0 2.93000×10^17 NP1: φs288.90000°, δ73.46000°, λ-1.31000°. NP2: φs19.27000°, δ88.74000°, λ-163.45000°. Principal axes: T 2.9866, Plg11.0000°, Azm153.0000°; N -0.1174, Plg73.0000°, Azm23.0000°; P -2.8692, Plg13.0000°, Azm245.0000°;*

*GCMT **15** 23:51:44.7±0.1, 55°.80S±0°.01×124°.22W±0°.01, h22km, MW5.5/152, Moment Tensor Solution. s132, c222; s152, c289; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr-0.32±.03; Mθθ1.60±.03; Mφφ-1.27±.03; Mrθ-0.16±.05; Mθφ2.25±.03; Mφr-0.22±.05; Best double couple: M0 2.68100×10^17 NP1: φs286.00000°, δ85.00000°, λ1.00000°. NP2: φs196.00000°, δ89.00000°, λ175.00000°. Principal axes: T 2.8530, Plg4.0000°, Azm151.0000°; N -0.3380, Plg85.0000°, Azm4.0000°; P -2.5090, Plg3.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 23:51:40.1±0.4, 55°.71S±0°.08×125°.01W±0°.08, h10km, n111, σ1s24/49, mb4.7/18, MS4.8/57, 1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.39**	**132**	LR	LR	00 06 24.9	
	comp=Z,1μm,21.7s,baz=300,slow=30						
MG01	**Puerto William**	**31.86**	**113**	P	**P**	**23 58 04.0**	**-0.9**
VNDA	**Vanda**	**32.82**	**203**	LR	LR	00 07 28.9	
	comp=Z,1μm,21.2s,baz=88,slow=30						
QSPA	**South Pole Qui**	**34.47**	**180**	P	**P**	**23 58 27.2**	**-0.6**
QSPA				IAmb	IAmb	23 59 21.9	
	comp=Z,18nm,1.6s						
QSPA	**South Pole Qui**	**34.47**	**180**	P	P	23 58 21.6	-6.2
	comp=Z,0.9nm,1.0s,baz=105,slow=5.5,SNR=2.8						
QSPA				LR	LR	00 10 17.2	
	comp=Z,1μm,20.5s,baz=86,slow=33						
	comp=Z,0.9nm,1.0s						
TBI	**Tubuai**	**37.02**	**321**	*e*P	**P**	**23 58 48.2**	**-1.6**
	comp=Z,596nm,27.5s						
TBI				*e*S	**S**	**00 04 37.9**	**+2.6**
	comp=Z,2μm,36.0s						
TBI				*e*SS	**SS**	**00 07 18.0**	**+0.8**
	comp=Z,4μm,25.5s						
TBI				*e*LR	LR	00 08 45.3	
	comp=Z,17μm,27.0s						
TBI				*e*LR	LR	00 08 46.8	
	comp=Z,4μm,29.2s						
PLCA	**Paso Flores**	**38.20**	**90**	LR	LR	00 10 22.7	
	comp=Z,948nm,21.7s,baz=230,slow=30						
H03S2	**Juan Fernandez**	**38.40**	**75**	T	T	00 39 39.4	
	baz=219,slow=74,SNR=206						
H03S1	**Juan Fernandez**	**38.41**	**75**	T	T	00 39 40.7	
	baz=219,slow=74,SNR=204						
H03S3	**Juan Fernandez**	**38.42**	**75**	T	T	00 39 39.9	
	baz=219,slow=74,SNR=227						
H03N3	**Juan Fernandez**	**38.69**	**74**	T	T	00 39 54.2	
	baz=222,slow=72,SNR=28						
H03N2	**Juan Fernandez**	**38.70**	**74**	T	T	00 39 50.2	
	baz=222,slow=72,SNR=43						
H03N1	**Juan Fernandez**	**38.70**	**74**	T	T	00 39 43.8	
	baz=222,slow=72,SNR=28						
BFZ	**Birch Farm**	**40.66**	**266**	IAMs_20	IAMs_20	00 12 02.2	
	comp=Z,2μm,21.0s						
MRZ	**Mangatainoka R**	**41.05**	**266**	IAMs_20	IAMs_20	00 13 05.4	
	comp=Z,2μm,18.0s						
RPZ	**Rata Peaks**	**41.58**	**259**	LR	LR	00 13 13.0	
	comp=Z,1μm,20.0s,baz=134,slow=31						
RTZ	**Ruatahuna**	**41.65**	**269**	P	**P**	**23 59 28.9**	**+0.5**
RTZ				IAmb	IAmb	23 59 31.6	
	comp=Z,73nm,1.8s						
URZ	**Urewera**	**41.82**	**270**	LR	LR	00 12 56.8	
	comp=Z,1μm,20.8s,baz=208,slow=30						
PPT2	**Papeete2**	**42.39**	**324**	*e*P	P	23 59 25.3	-9.3
	comp=Z,151nm,25.5s						
PPT2				*e*S	**S**	**00 05 57.0**	**+1.1**
	comp=Z,866nm,26.2s						
PPT2				*e*SS	**SS**	**00 09 05.6**	**+0.8**
	comp=Z,2μm,27.2s						
PPT2				*e*LR	LR	00 11 15.4	
	comp=Z,5μm,26.2s						
PPT2				*e*LR	LR	00 11 16.2	
	comp=Z,3μm,28.8s						
PPT	**Papeete**	**42.41**	**324**	LR	LR	00 12 42.9	
	comp=Z,1μm,21.2s,baz=154,slow=29						
VA01	**Torpederas**	**43.03**	**81**	P	**P**	**23 59 40.4**	**+0.7**
VA01				IAmb	IAmb	23 59 50.5	
	comp=Z,135nm,1.8s						
RAR	**Rarotonga**	**43.08**	**309**	LR	LR	00 12 23.0	
	comp=Z,532nm,20.9s,baz=150,slow=28						
TOZ	**Tahuroa Road**	**43.10**	**269**	IAMs_20	IAMs_20	00 13 05.9	
	comp=Z,2μm,19.0s						
LMEL	**Las Melosas**	**43.23**	**83**	P	**P**	**23 59 42.4**	**+0.9**
LMEL				IAmb	IAmb	23 59 55.8	
	comp=Z,27nm,1.6s						
TRQA	**Tornquist**	**44.87**	**94**	P	**P**	**23 59 54.3**	**-0.1**
TRQA				IAmb	IAmb	23 59 54.8	
	comp=Z,25nm,1.8s						
ZON	**Zonda**	**45.80**	**82**	P	**P**	**00 00 03.5**	**+1.6**
ZON				IAmb	IAmb	00 00 26.7	
	comp=Z,18nm,1.3s						
SNAA	**Sanae**	**46.63**	**158**	P	**P**	**00 00 07.3**	**-0.6**
SNAA				IAmb	IAmb	00 01 15.4	
	comp=Z,29nm,1.7s						
SNAA	**Sanae**	**46.63**	**158**	P	P	00 00 00.8	-7.2
	comp=Z,1.3nm,1.0s,baz=250,slow=12,SNR=1.1						
SNAA				LR	LR	00 18 30.5	
	comp=Z,883nm,20.0s,baz=231,slow=35						
	comp=Z,1.3nm,1.0s						
HOPE	**Hope Point**	**47.44**	**127**	P	**P**	**00 00 15.5**	**+1.2**
TAOE	**Nuku Hiva Isla**	**48.24**	**340**	P	**P**	**00 00 19.9**	**-1.2**
TAOE	**Nuku Hiva Isla**	**48.24**	**340**	*e*S	**S**	**00 07 20.3**	**-0.3**
	comp=Z,822nm,25.1s						
TAOE				*e*SS	**SS**	**00 10 48.7**	**-1.3**
	comp=Z,379nm,25.5s						
TAOE				*e*LR	LR	00 14 03.1	
	comp=Z,3μm,28.0s						
AC02	**Maricunga**	**49.17**	**78**	P	**P**	**00 00 28.0**	**-0.7**
AC02				IAmb	IAmb	00 01 20.1	
	comp=Z,27nm,2.0s						
ELIB	**Princess Elisa**	**50.72**	**168**	*d*P	**P**	**00 00 39.4**	**-0.1**
	comp=Z,5.2nm,1.2s						
CPUP	**Villa Florida**	**56.18**	**88**	LR	LR	00 21 21.2	
	comp=Z,452nm,20.8s,baz=228,slow=32						
LPAZ	**La Paz**	**58.21**	**71**	P	**P**	**00 01 33.4**	**-1.7**
LPAZ				IAmb	IAmb	00 01 54.4	
	comp=Z,31nm,1.9s						
LPAZ	**La Paz**	**58.21**	**71**	P	**P**	**00 01 33.0**	**-2.1**
	comp=Z,1.8nm,0.9s,baz=204,slow=3.9,SNR=3.7						
	comp=Z,1.8nm,0.9s						
DZM	**Mont Dzumac**	**60.00**	**275**	*e*S	**S**	**00 10 00.9**	**+1.5**
	comp=Z,349nm,23.3s						
DZM				*e*SS	**SS**	**00 13 51.4**	**-4.2**
	comp=Z,102nm,23.3s						
DZM				*e*LQ	LQ	00 16 59.8	
	comp=Z,2μm,31.2s						
DZM				*e*LR	LR	00 19 32.1	
	comp=Z,1μm,25.9s						
DZM	**Mont Dzumac**	**60.00**	**275**	LR	LR	00 22 58.6	
	comp=Z,563nm,20.0s,baz=156,slow=31						
ATAH	**Atahualpa**	**60.82**	**56**	LR	LR	00 21 58.2	
	comp=Z,375nm,19.0s,baz=219,slow=30						
SIV	**San Ignacio**	**62.30**	**77**	LR	LR	00 26 03.9	
	comp=Z,108nm,20.0s,baz=275,slow=33						
CZSB	**Cruzeiro do Su**	**63.05**	**62**	P	**P**	**00 02 09.3**	**+1.8**
CZSB				IAmb	IAmb	00 02 33.8	
	comp=Z,15nm,1.0s						
VILB	**Vilhena**	**65.26**	**76**	P	**P**	**00 02 22.2**	**+0.3**
VILB				IAmb	IAmb	00 02 41.2	
	comp=Z,32nm,1.6s						
STKA	**Stephens Creek**	**66.13**	**248**	P	**P**	**00 02 27.8**	**+0.5**
STKA	**Stephens Creek**	**66.13**	**248**	P	**P**	**00 02 27.9**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=141,slow=8.0,SNR=4.5						
STKA				LR	LR	00 27 00.2	
	comp=Z,564nm,18.9s,baz=131,slow=32						
	comp=Z,1.7nm,0.6s						
OTAV	**Otavalo**	**67.31**	**52**	P	**P**	**00 02 35.3**	**-0.3**
OTAV				IAmb	IAmb	00 02 54.5	
	comp=Z,5.8nm,1.2s						
BDFB	**Brasilia**	**69.90**	**88**	LR	LR	00 30 28.1	
	comp=Z,722nm,20.3s,baz=213,slow=34						
ROSC	**El Rosal**	**73.25**	**54**	LR	LR	00 29 44.9	
	comp=Z,256nm,20.6s,baz=198,slow=31						
JTS	**Las Juntas de**	**73.74**	**41**	LR	LR	00 28 22.7	
	comp=Z,433nm,20.1s,baz=224,slow=30						
SOCE	**Pocosol**	**73.95**	**42**	P	**P**	**00 03 14.2**	**-1.3**
TGUH	**Tegucigalpa,Un**	**76.39**	**38**	IAMs_20	IAMs_20	00 34 41.6	
	comp=Z,573nm,18.0s						
H01W1	**Cape Leeuwin H**	**76.65**	**227**	T	T	01 28 53.2	
	baz=150,slow=76,SNR=96						
H01W2	**Cape Leeuwin H**	**76.65**	**226**	T	T	01 29 07.2	
	baz=150,slow=76,SNR=126						
H01W3	**Cape Leeuwin H**	**76.66**	**226**	T	T	01 29 09.5	
	baz=150,slow=76,SNR=110						
AS31	**Alice Springs**	**76.75**	**248**	P	**P**	**00 03 32.8**	**+1.2**
ASAR	**Alice Springs**	**76.75**	**248**	P	**P**	**00 03 32.2**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=152,slow=6.5,SNR=8.2						
ASAR				LR	LR	00 31 42.9	
	comp=Z,760nm,21.8s,baz=142,slow=31						
	comp=Z,1.2nm,0.9s						
CMIG	**Matias Romero**	**76.86**	**30**	LR	LR	00 31 02.9	
	comp=Z,169nm,18.2s,baz=192,slow=31						
NWAO	**Narrogin (SRO)**	**77.04**	**230**	LR	LR	00 30 49.7	
	comp=Z,207nm,21.1s,baz=104,slow=31						
SDV	**Santo Domingo**	**78.51**	**55**	LR	LR	00 34 03.5	
	comp=Z,231nm,18.5s,baz=236,slow=32						
WB2	**Warramunga Arr**	**79.56**	**250**	P	**P**	**00 03 47.6**	**+0.4**
WRA	**Warramunga Arr**	**79.57**	**250**	P	**P**	**00 03 47.6**	**+0.3**
WRA	**Warramunga Arr**	**79.57**	**250**	P	**P**	**00 03 47.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=144,slow=5.1,SNR=11						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**79.68**	**250**	P	**P**	**00 03 48.5**	**+0.6**
LPIG	**La Paz**	**80.47**	**14**	LR	LR	00 30 42.1	
	comp=Z,365nm,21.1s,baz=201,slow=29						
PMG	**Port Moresby**	**81.09**	**266**	LR	LR	00 35 47.2	
	comp=Z,454nm,18.8s,baz=154,slow=32						
PCRV	**Puerto La Cruz**	**82.49**	**60**	LR	LR	00 35 22.3	
	comp=Z,426nm,21.6s,slow=32						
KRVT	**Keravat (AS076**	**82.50**	**273**	LR	LR	00 35 31.2	
	comp=Z,143nm,19.1s,baz=233,slow=32						
MDP	**Montagnes des**	**84.38**	**73**	LR	LR	00 36 45.3	
	comp=Z,207nm,21.1s,baz=184,slow=32						
RCBR	**Riachuelo**	**84.72**	**93**	LR	LR	00 39 41.9	
	comp=Z,94nm,18.1s,baz=221,slow=34						
FITZ	**Fitzroy Crossi**	**85.63**	**244**	P	**P**	**00 04 18.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**85.63**	**244**	LR	LR	00 36 48.3	
	comp=Z,555nm,21.9s,baz=136,slow=32						
TXAR	**Lajitas Array**	**86.65**	**19**	P	**P**	**00 04 25.3**	**+1.8**
TXAR	**Lajitas Array**	**86.65**	**19**	P	P	00 04 28.6	+5.0
	comp=Z,0.4nm,0.9s,baz=190,slow=6.4,SNR=6.7						
TXAR				LR	LR	00 34 53.8	
	comp=Z,136nm,20.5s,baz=193,slow=30						
	comp=Z,0.4nm,0.9s						
SUR	**Sutherland**	**87.52**	**152**	LR	LR	00 39 09.2	
	comp=Z,315nm,19.5s,baz=202,slow=33						
SAND	**Sanderson**	**87.54**	**20**	P	**P**	**00 04 27.9**	**+0.1**
SAND				IAmb	IAmb	00 04 43.5	
	comp=Z,16nm,1.6s						
SJG	**San Juan**	**88.64**	**55**	LR	LR	00 40 51.4	
	comp=Z,100nm,18.2s,baz=225,slow=33						
PFO	**Pinyon Flats O**	**89.27**	**7**	LR	LR	00 35 56.5	
	comp=Z,410nm,18.1s,baz=212,slow=30						
JAY	**Jayapura**	**90.36**	**265**	LR	LR	00 42 56.8	
	comp=Z,113nm,18.8s,baz=292,slow=34						
ANMO	**Albuquerque**	**91.68**	**15**	LR	LR	00 37 31.6	
	comp=Z,176nm,21.7s,baz=2.5,slow=30						
BOSA	**Boshof**	**92.25**	**154**	LR	LR	00 40 56.3	
	comp=Z,330nm,20.2s,baz=208,slow=32						
SOEI	**Soe**	**93.36**	**247**	IAMs_20	IAMs_20	00 43 20.6	
	comp=Z,978nm,20.0s						
NVAR	**Mina Array Bea**	**93.95**	**5**	LR	LR	00 38 14.7	
	comp=Z,402nm,19.6s,baz=176,slow=30						
H11N3	**WAKE ISLAND Hy**	**94.44**	**299**	T	T	01 50 21.9	
	baz=148,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**94.45**	**299**	T	T	01 50 14.9	
	baz=148,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**94.46**	**299**	T	T	01 50 04.4	
	baz=148,slow=76,SNR=26						
LBTB	**Lobatse**	**95.78**	**153**	LR	LR	00 42 19.0	
	comp=Z,289nm,20.9s,baz=200,slow=32						
LNXT	**Lenox**	**96.35**	**28**	P	**P**	**00 05 07.4**	**-1.0**
YBH	**Yreka Blue Hor**	**97.09**	**2**	LR	LR	00 38 47.1	
	comp=Z,545nm,21.8s,baz=188,slow=29						
TSUM	**Tsumeb**	**98.94**	**144**	LR	LR	00 43 21.0	
	comp=Z,260nm,21.2s,baz=154,slow=32						
PDAR	**Pinedale Array**	**98.98**	**11**	LR	LR	00 42 13.6	
	comp=Z,266nm,18.9s,baz=194,slow=30						
FOMA	**Nahampoana Res**	**99.35**	**173**	IAMs_20	IAMs_20	00 46 07.0	
	comp=Z,849nm,20.0s						
KAPI	**Kappang**	**99.72**	**246**	LR	LR	00 45 51.3	
	comp=Z,422nm,21.7s,baz=153,slow=33						
MATP	**Matopo**	**100.90**	**155**	LR	LR	00 46 08.0	
	comp=Z,394nm,21.1s,baz=239,slow=33						
VOI	**Vohitsoka**	**102.38**	**172**	IAMs_20	IAMs_20	00 46 45.3	
	comp=Z,882nm,20.0s						
LSZ	**Lusaka**	**105.76**	**153**	IAMs_20	IAMs_20	00 53 48.2	
	comp=Z,353nm,20.0s						
YKA	**Yellowknife Ar**	**118.14**	**5**	PKP	**PKiKP**	**00 10 27.5**	**+1.8**
	comp=Z,0.1nm,0.7s,baz=187,slow=2.0,SNR=3.8						
ILAR	**Eielson Array**	**121.32**	**349**	PKPdf	**PKiKP**	**00 10 32.8**	**+0.8**
ILAR	**Eielson Array**	**121.32**	**349**	PKP	**PKiKP**	**00 10 32.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=179,slow=2.5,SNR=5.5						
KMBO	**Kilima Mbogo**	**121.52**	**159**	IAMs_20	IAMs_20	01 00 50.8	
	comp=Z,330nm,20.0s						
G27K	**Doyon Strip**	**122.84**	**352**	IAMs_20	IAMs_20	00 54 00.5	
	comp=Z,600nm,20.0s						
LODK	**Lodwar**	**125.52**	**156**	IAMs_20	IAMs_20	01 01 29.9	
	comp=Z,354nm,20.0s						
D25K	**Kavik River**	**125.69**	**351**	IAMs_20	IAMs_20	00 55 32.0	
	comp=Z,482nm,20.0s						
BILL	**Bilibino**	**133.36**	**331**	IAMs_20	IAMs_20	00 57 54.4	
	comp=Z,379nm,21.0s						
ATD	**Arta Tunnel**	**134.91**	**163**	IAMs_20	IAMs_20	01 03 46.5	
	comp=Z,386nm,22.0s						
CART	**Cartagena**	**138.78**	**92**	IAMs_20	IAMs_20	01 00 27.7	
	comp=Z,278nm,21.0s						
TIXI	**Tiksi**	**146.28**	**327**	PKPdf	**PKPbc**	**00 11 18.8**	**-0.4**
RAYN	**Ar Rayn**	**147.09**	**164**	PKPdf	**PKPdf**	**00 11 20.1**	**-0.8**
ULN	**Ulaanbaatar**	**147.55**	**278**	PKPdf	**PKPbc**	**00 11 22.6**	**-1.1**
SONM	**Songino Array**	**147.90**	**278**	PKPdf	**PKPdf**	**00 11 22.7**	**+1.1**
SONM	**Songino Array**	**147.90**	**278**	PKPbc	**PKPab**	**00 11 27.9**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=113,slow=2.9,SNR=5.7						
MKAR	**Makanchi Array**	**160.84**	**254**	PKPab	**PKPab**	**00 12 21.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=191,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**162.79**	**277**	PKPab	**PKPab**	**00 12 31.0**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=107,slow=1.5,SNR=4.2						

*ISK **16** 00:05:32.3, 42°.57N×33°.38E, h9km, ML2.7/5*

*AFAD **16** 00:05:34.3, 42°.50N×33°.20E, h6km±2km, ML2.6*

ISC 16 00:05:31.9±2.5, 42°.5N±0°.1×33°.27E±0°.05, h9km±13km, n11, σ0s64/19, Black Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BZK	**Bozkurt**	**0.79**	**137**	Pg	**Pb**	**00 05 47.4**	**-0.4**
BZK				Sg	**Sb**	**00 05 58.6**	**0.0**
KURC	**Kurucasile-Bar**	**0.80**	**210**	Pg	**Pn**	**00 05 49.4**	**+0.1**
KURC				Sg	**Sn**	**00 06 01.7**	**+0.4**
BTIN	**Bartın**	**1.18**	**221**	P	**Pg**	**00 05 54.9**	**+0.4**
BTIN				S	**Sb**	**00 06 09.3**	**-0.5**
BTIN				*i* AML	AML	00 06 13.0	
	comp=N,180nm,0.9s						
BTIN				*i* AML	AML	00 06 15.0	
	comp=E,106nm,0.7s						
PELI	**Kastamonı-Ara**	**1.23**	**179**	P	**Pg**	**00 05 56.1**	**+0.6**
PELI				S	**Sb**	**00 06 11.6**	**+0.1**
KBUK	**KARABUK-Merkez**	**1.39**	**201**	P	**Pg**	**00 05 58.7**	**+0.2**
KBUK				S	**Sg**	**00 06 16.5**	**+0.1**
ILGA	**Ilgaz**	**1.52**	**167**	P	**Pg**	**00 06 00.7**	**-0.4**
ILGA				S	**Sg**	**00 06 20.9**	**+0.2**
ILGA				*i* AML	AML	00 06 23.0	
	comp=E,188nm,0.8s						
DEVR	**Zonguldak/Devr**	**1.70**	**215**	P	**Pb**	**00 06 02.6**	**-0.7**
DEVR				S	**Sb**	**00 06 25.2**	**+0.4**
DIKM	**Dikmen**	**1.72**	**120**	Pn	**Pb**	**00 06 02.5**	**-1.2**
BCAM	**Yenicaga**	**1.94**	**208**	P	**Pb**	**00 06 07.0**	**-0.5**
BCAM				S	**Sb**	**00 06 30.9**	**-1.1**
CANT	**Cankiri**	**1.95**	**172**	Pn	**Pb**	**00 06 06.9**	**-0.7**
KVT	**Kavak**	**2.53**	**124**	Pn	**Pn**	**00 06 14.2**	**+1.0**

*MDD **16** 00:25:25.9±1.0, 34°.66N×5°.70W, h4km±6km, mb_Lg2.5/5, Error ellipse: s-maj=6.7km s-min=3.6km az=88.0*

*INMG **16** 00:25:27.1±1.1, 34°.67N×5°.63W, h15km, ML1.8, Error ellipse: s-maj=5.6km s-min=1.7km az=75.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Fez (Marr)*

*SFS **16** 00:25:27.6, 34°.73N×5°.51W, h60km, ML3.0/6, ML3.2/6, MLv3.3/6*

*CNRM **16** 00:25:28.3, 34°.33N×5°.62W, h1km, ML2.1*

ISC 16 00:25:26.7±0.9, 34°.68N±0°.03×5°.61W±0°.03, h22km, n39, σ1s16/52, Morocco

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LCRM	**LCR**	**1.17**	**148**	P	**Pn**	**00 25 47.2**	**-0.7**
LCRM	**LCR**	**1.17**	**148**	S	**Sb**	**00 26 00.7**	**-2.4**
IFR	**Ifrane**	**1.23**	**161**	P	**Pn**	**00 25 48.3**	**-0.4**
IFR				S	**Sb**	**00 26 04.8**	**+0.1**
AKLM	**AKL**	**1.45**	**96**	P	**Pb**	**00 25 54.8**	**+1.7**
AKLM	**AKL**	**1.45**	**96**	S	**Sb**	**00 26 13.8**	**+2.6**
ZHG	**ZHG**	**1.50**	**215**	P	**Pb**	**00 25 54.3**	**+0.4**
ZHG	**ZHG**	**1.50**	**215**	S	**Sb**	**00 26 13.5**	**+1.0**
MD31	**MD31**	**1.94**	**158**	P	**Pn**	**00 25 58.3**	**-0.1**
MD31	**MD31**	**1.94**	**158**	S	**Sn**	**00 26 20.4**	**-1.8**
AVE	**Averroes**	**2.03**	**228**	P	**Pb**	**00 26 02.5**	**-0.5**
AVE				S	**Sb**	**00 26 28.6**	**+0.8**
AVE	**Averroes**	**2.03**	**228**	P	**Pn**	**00 26 01.5**	**+1.8**
AVE	**Averroes**	**2.03**	**228**	S	**Sn**	**00 26 25.6**	**+1.2**
MDT	**Midelt**	**2.04**	**156**	P	**Pn**	**00 25 59.5**	**-0.3**
MDT	**Midelt**	**2.04**	**156**	S	**Sn**	**00 26 23.7**	**-0.9**
PBDV	**Barranco-do-Ve**	**3.18**	**324**	*e*S	**Sn**	**00 26 52.4**	**-0.3**
PVAQ	**Vaqueiros**	**3.21**	**328**	*e*P	**Pn**	**00 26 16.0**	**+0.1**
PVAQ				*e*S	**Sn**	**00 26 52.3**	**-1.2**
PVAQ				*i* AML	AML	00 26 53.7	
PVAQ	**Vaqueiros**	**3.21**	**328**	P	**Pn**	**00 26 15.9**	**0.0**
EGRO	**El Granado**	**3.23**	**333**	P	**Pn**	**00 26 15.5**	**-0.5**
EGRO				S	**Sn**	**00 26 52.4**	**-1.5**
EGRO	**El Granado**	**3.23**	**333**	Pn	**Pn**	**00 26 16.0**	**-0.1**
EGRO				*i* Vmb_Lg		00 26 52.0	
EGRO				Sn	**Sn**	**00 26 53.0**	**-0.8**
ECAB	**El Cabril**	**3.40**	**3**	P	**Pn**	**00 26 17.9**	**-0.5**
ECAB				S	**Sn**	**00 26 57.3**	**-0.8**
ECAB	**El Cabril**	**3.40**	**3**	Pn	**Pn**	**00 26 18.6**	**+0.1**
ECAB				Sn	**Sn**	**00 26 56.1**	**-1.9**
ECAB				*i* Vmb_Lg		00 27 09.8	
PCVE	**Castro Verde**	**3.54**	**327**	*e*S	**Sn**	**00 27 01.1**	**-0.5**
PCVE				*i* AML	AML	00 27 01.3	
PCVE				*

INDI Punta indio, G 1.17 131 P **Pb 00 32 35.4 +3.6**
INDI Punta indio, G 1.17 131 P **Pn 00 32 30.3 -0.9**
CONN Concepcion 1.20 40 P **Pn 00 32 31.8 +0.2**
CONN Concepcion 1.20 40 P **Pn 00 32 31.6 0.0**
CUI Cuipilapa 1.22 89 *eP* **Pb 00 32 32.8 +0.2**
SABN Sabanita 1.33 10 P **Pb 00 32 34.9 +0.3**
SABN Sabanita 1.33 10 P **Pn 00 32 34.2 +0.7**
TENO El Achiote 1.40 87 *eP* **Pn 00 32 35.0 +0.6**
JTS Las Juntas de 1.47 103 **Pn 00 32 35.2 -0.2**
JTS Las Juntas de 1.47 103 Pg **Pn 00 32 35.7 +0.4**
26nm,0.3s,baz=307,slow=18,SNR=39
JTS Lg Lg 00 32 54.0
50nm,0.3s,baz=237,slow=15,SNR=4.9
JTS Las Juntas de 1.47 103 *eP* **Pn 00 32 35.6 +0.3**
USIM UNAN 1.48 5 Pn **Pn 00 32 34.6 -0.8**
TISN Laguna Tiscapa 1.50 5 P **Pn 00 32 36.8 +1.0**
TISN Laguna Tiscapa 1.50 5 P **Pb 00 32 36.9 -0.6**
MGAN Managua 1.51 6 Pn **Pn 00 32 35.8 0.0**
MGAN Managua 1.51 6 *eP* **Pn 00 32 36.5 +0.7**
ALLN Telcor Managua 1.51 5 P **Pb 00 32 38.7 +1.0**
COPN Copaltepe 1.54 353 P **Pn 00 32 37.0 +0.6**
COPN Copaltepe 1.54 353 P **Pn 00 32 36.8 +0.4**
APQ2 Apoyeque 1.55 3 P **Pn 00 32 37.5 +1.0**
APQ2 Apoyeque 1.55 3 P **Pn 00 32 37.3 +0.9**
ARE1 Arenal 1 1.67 96 *eP* **Pb 00 32 39.6 -0.7**
VARE2 V. Arenal 1.67 96 *eP* **Pb 00 32 39.6 -0.7**
CEDE Laguna Cedeo 1.68 95 *eP* **Pb 00 32 39.8 -0.7**
VACR Volcan Arenal 1.71 95 *eP* **Pb 00 32 40.5 -0.4**
FORC Fortuna 1.71 96 *eP* **Pb 00 32 40.8 -0.2**
MOMN Momotombo 1.77 356 P **Pn 00 32 40.0 +0.6**
LEVN Ruinas Leon Vi 1.77 353 P **Pn 00 32 39.8 +0.4**
SOCE Pocosol 1.77 98 Pn **Pn 00 32 40.3 +0.8**
SOCE Pocosol 1.77 98 *eP* **Pb 00 32 41.5 -0.7**
SOCE Pocosol 1.77 98 P **Pb 00 32 41.9 -0.2**
ACON Acoyapa 1.79 42 **Pn 00 32 40.0 +0.3**
MACN El Madrono 1.84 352 P **Pn 00 32 40.9 +0.5**
CNGA AI SSO del Vol 1.87 351 P **Pn 00 32 41.3 +0.4**
CNGN Cerro Negro 1.87 351 Pn **Pn 00 32 41.1 +0.2**
CNGN Cerro Negro 1.87 351 *eP* **Pn 00 32 41.1 +0.2**
PACN AI O del Volca 1.89 348 P **Pn 00 32 41.6 +0.5**
ROCN Rota Cerro Neg 1.90 350 P Pn 00 32 36.4 -4.9
COVE Coope Vega, Sa 1.97 87 P **Pb 00 32 47.3 +1.9**
CRIN San Cristobal 2.15 343 Pn **Pn 00 32 44.1 -0.6**
HDC Heredia 2.34 105 Pn **Pn 00 32 48.2 +0.7**
ESPN Las Esperanzas 2.58 53 Pn **Pn 00 32 50.5 -0.1**
TRT2 Tortugero 2.62 91 P **Pb 00 32 58.0 +1.4**
RCPN Sur Rio San Ju 2.89 6 P **Pn 00 32 57.1 +2.2**
CHOHN Orocuina 2.92 345 P **Pn 00 32 56.2 +0.8**
RCVN Varillal2 2.94 4 P **Pn 00 32 57.0 +1.4**
LCND La Caada 3.03 331 P **Pn 00 32 56.8 0.0**
YUSH Yuscaran 3.32 353 P **Pn 00 33 02.2 +1.3**
YUSH Yuscaran 3.32 353 P **Pn 00 33 02.6 +1.7**
PACA Pacayal 3.38 326 P **Pn 00 33 03.1 +1.3**
TGUH Tegucigalpa,Un 3.50 346 **Pn 00 33 03.7 +0.2**
SLOZ Alcaldia de Sa 4.72 316 P Pn 00 33 03.8 -16
MTO3 Montecristo 4.72 323 Pn **Pn 00 33 20.5 +0.2**
APG El Apazote 5.88 318 Pn **Pn 00 33 37.7 +1.6**
0.1nm,0.3s,baz=94,slow=13,SNR=2.0
BCIP Isla Barro Col 6.63 102 Pn **Pn 00 33 47.3 +0.9**
CMIG Matias Romero 10.44 309 Pn **Pn 00 34 38.9 +0.4**
0.5nm,0.3s,baz=55,slow=11,SNR=5.5
2.1nm,0.5s
SDV Santo Domingo 15.64 95 Pn **Pn 00 35 51.0 +1.5**
0.3nm,0.3s,baz=283,slow=3.1,SNR=5.2
PCRV Puerto La Cruz 21.42 89 P **P 00 36 55.6 -1.2**
9.0nm,0.9s,baz=270,slow=4.0,SNR=5.2
9.0nm,0.9s
152A Waverly Hall 21.98 4 P **P 00 37 02.7 +0.1**
152A IAmb IAmb 00 37 05.8
comp=Z,10nm,0.7s
LRAL Lakeview Retre 22.30 359 P **P 00 37 07.1 +1.1**
GOGA Godfrey 22.83 6 P **P 00 37 11.1 -0.6**
GOGA IAmb IAmb 00 37 13.1
comp=Z,9.5nm,0.9s
DRIO Del Rio 22.93 327 P **P 00 37 12.9 +0.2**
Y49A Blount Mountai 23.11 360 P **P 00 37 14.4 -0.2**
Y49A IAmb IAmb 00 37 15.7
comp=Z,8.5nm,0.6s
Y52A Lilburn 23.22 5 P **P 00 37 15.8 +0.1**
Y52A IAmb IAmb 00 37 16.9
comp=Z,11nm,0.8s
Z41A Richland Creek 23.27 346 P **P 00 37 14.8 -1.3**
Z41A IAmb IAmb 00 37 23.2
comp=Z,8.4nm,0.9s
Y45A Yeager Farm, C 23.30 353 P **P 00 37 16.2 -0.3**
Y45A IAmb IAmb 00 37 17.6
comp=Z,11nm,0.8s
WHTX Lake Whitney, 23.58 336 P **P 00 37 18.6 -0.6**
WHTX IAmb IAmb 00 37 38.2
comp=Z,11nm,0.8s
BRDY Brady 23.63 332 P **P 00 37 19.8 0.0**
HODGE Hodges 23.79 9 P **P 00 37 20.7 -0.6**
HODGE IAmb IAmb 00 37 22.2
comp=Z,6.5nm,0.7s
FPAL Fort Paine 23.80 2 P **P 00 37 21.7 +0.3**
JSC Jenkinsville 24.00 11 P **P 00 37 23.4 +0.1**
PLAL Pickwick Lake 24.28 357 P **P 00 37 25.4 -0.5**
PLAL IAmb IAmb 00 37 26.6
comp=Z,6.7nm,0.8s
PAULI Pauline 24.43 9 P **P 00 37 27.4 +0.2**
W52A Murphy 24.45 5 P **P 00 37 27.2 -0.2**
W52A IAmb IAmb 00 37 28.3
comp=Z,7.5nm,0.8s
BG3 Lake Jocassee 24.45 7 P **P 00 37 27.9 +0.4**
TXAR Lajitas Array 24.62 322 P **P 00 37 29.4 +0.2**
comp=Z,1.9nm,0.7s,baz=135,slow=9.0,SNR=12
TXAR PcP **PcP 00 41 08.9 +2.3**
comp=Z,0.6nm,0.8s,baz=114,slow=3.5,SNR=3.8
comp=Z,1.9nm,0.7s
MIAR Mount Ida 24.68 346 P **P 00 37 28.7 -0.8**
Z35A Perchaven, San 24.69 338 P **P 00 37 30.1 +0.5**
CPCT Cooper Cave 24.76 4 P **P 00 37 30.3 +0.1**
CPCT IAmb IAmb 00 37 32.5
comp=Z,7.0nm,0.8s
KMSC Kings Mountain 24.83 10 P **P 00 37 31.3 +0.5**
KMSC IAmb IAmb 00 37 31.8
comp=Z,8.2nm,0.8s
WHAR Wooly Hollow 25.12 349 P **P 00 37 32.5 -1.0**
WHAR IAmb IAmb 00 37 39.6
comp=Z,7.3nm,0.8s
V53A Saluda 25.13 7 P **P 00 37 33.6 -0.1**
V53A IAmb IAmb 00 37 35.4
comp=Z,4.4nm,0.7s
CLTN Cedars of Leba 25.34 0 P **P 00 37 35.0 -0.5**
WVT Waverly 25.41 357 P **P 00 37 36.1 0.0**
V55A Taylorsville 25.54 10 P **P 00 37 38.8 +1.5**
V55A IAmb IAmb 00 37 40.5
comp=Z,4.8nm,0.7s
V58A Windy Hill, Pi 25.90 14 P **P 00 37 40.1 -0.4**
TZTN Tazewell 25.92 5 P **P 00 37 40.0 -0.7**
TZTN IAmb IAmb 00 37 59.9
comp=Z,6.1nm,1.1s
WMOK Wichita Mounta 26.52 337 P **P 00 37 46.3 +0.1**
WMOK IAmb IAmb 00 37 49.3
comp=Z,8.5nm,0.9s
Q52A Bidwell 28.45 7 P **P 00 38 02.9 -0.5**
LPAZ La Paz 32.29 146 LR LR 00 52 34.0
comp=Z,78nm,19.3s,baz=296,slow=38
ESJX Sierra Juarez 34.58 312 P **P 00 38 56.5 -1.1**
PDAR Pinedale Array 37.84 332 P **P 00 39 24.7 -0.8**
comp=Z,0.5nm,0.7s,baz=128,slow=9.6,SNR=4.6
PDAR PcP **PcP 00 41 42.8 +1.0**
comp=Z,0.3nm,0.4s,baz=134,slow=6.4,SNR=2.1
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 39.74 320 P **P 00 39 43.2 +1.8**
comp=Z,0.7nm,0.5s,baz=129,slow=9.4,SNR=5.4
NVAR PcP **PcP 00 41 50.4 +2.7**
comp=Z,1.7nm,0.7s,baz=128,slow=5.0,SNR=9.0
comp=Z,0.7nm,0.5s
BDFB Brasilia 46.12 124 P **P 00 40 34.6 +1.3**
comp=Z,2.6nm,0.7s,baz=271,slow=12,SNR=4.3
comp=Z,2.6nm,0.7s
SCHQ Schefferville 46.73 15 P **P 00 40 34.3 -3.1**
comp=Z,2.0nm,0.6s,baz=227,slow=7.7,SNR=8.4
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 55.62 345 P **P 00 41 41.9 -2.1**
comp=Z,0.5nm,0.9s,baz=149,slow=7.1,SNR=5.2
YKA PcP **PcP 00 42 43.6 +0.3**
comp=Z,0.2nm,0.6s,baz=140,slow=4.6,SNR=3.9
comp=Z,0.5nm,0.9s
ILAR Eielson Array 68.08 336 P **P 00 43 06.6 -1.3**
comp=Z,0.4nm,0.8s,baz=133,slow=4.8,SNR=6.0
comp=Z,0.4nm,0.8s
MKAR Makanchi Array 121.94 9 PKP **PKiKP 00 51 02.7 -0.5**
comp=Z,0.1nm,0.6s,baz=297,slow=6.3,SNR=1.1
ASAR Alice Springs 139.51 246 PKhKP PKPpre 00 51 35.1
comp=Z,0.1nm,0.3s,baz=88,slow=1.8,SNR=1.2
WRA Warramunga Arr 139.72 252 PKhKP PKPpre 00 51 35.8
comp=Z,0.3nm,0.6s,baz=85,slow=2.2,SNR=2.0
CMAR Chiang Mai Arr 150.61 350 PKPbc **PKPbc 00 52 00.8 -0.6**
comp=Z,0.5nm,0.3s,baz=343,slow=3.8,SNR=5.7

SFS ***16*** *00:42:22.3, 34°.77N×5°.61W, h7km, ML3.2/6, ML3.4/6, MLv3.5/6*
MDD ***16*** *00:42:23.0±0.9, 34°.67N×5°.62W, h3km±8km, mb_Lg2.5/5, Error ellipse: s-maj=6.7km s-min=4.8km az=124.0*
INMG ***16*** *00:42:24.0±0.8, 34°.65N×5°.65W, h16km, ML1.7, Error ellipse: s-maj=4.5km s-min=1.8km az=75.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Fez (Marr)*
IGIL ***16*** *00:42:24.2, 34°.64N×5°.66W, h14km*
CNRM ***16*** *00:42:24.6, 34°.36N×5°.67W, h2km, ML2.2*
ISC 16 00:42:24.0±0.9, 34°.69N±0°.03×5°.61W±0°.04, h22km, n37, σ1§22/52, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRM	**LCR**	**1.18**	**148**	P	**Pn**	**00 42 44.1**	**-1.2**
LCRM	**LCR**	**1.18**	**148**	S	**Sb**	**00 42 58.2**	**-2.4**
IFR	**Ifrane**	**1.23**	**161**	S	**Sn**	**00 43 02.1**	**-0.1**
IFR				P	**Pn**	**00 42 44.8**	**-1.4**
AKLM	**AKL**	**1.45**	**96**	P	**Pb**	**00 42 51.3**	**+0.9**
AKLM	**AKL**	**1.45**	**96**	S	**Sb**	**00 43 11.7**	**+3.2**
ZHG	**ZHG**	**1.51**	**215**	P	**Pn**	**00 42 50.6**	**+0.8**
ZHG	**ZHG**	**1.51**	**215**	S	**Sn**	**00 43 09.8**	**+1.1**
MD31	**MD31**	**1.95**	**159**	P	**Pn**	**00 42 55.2**	**-0.6**
MD31	**MD31**	**1.95**	**159**	S	**Sn**	**00 43 18.0**	**-1.7**
AVE	**Averroes**	**2.04**	**228**	S	**Sb**	**00 43 26.7**	**+1.3**
AVE				P	**Pn**	**00 42 59.3**	**+2.2**
AVE	**Averroes**	**2.04**	**228**	P	**Pn**	**00 42 56.7**	**-0.4**
AVE	**Averroes**	**2.04**	**228**	S	**Sn**	**00 43 21.3**	**-0.6**
MDT	**Midelt**	**2.04**	**156**	P	**Pn**	**00 42 56.5**	**-0.7**
MDT	**Midelt**	**2.04**	**156**	S	**Sn**	**00 43 20.6**	**-1.5**
ELGU	**Los Guajares,**	**2.71**	**36**	S	**Sn**	**00 43 40.0**	**+1.6**
PBDV	**Barranco-do-Ve**	**3.17**	**324**	*eP*	**Pn**	**00 43 12.4**	**-0.2**
PBDV				*eS*	**Sn**	**00 43 48.3**	**-1.6**
PVAQ	**Vaqueiros**	**3.21**	**328**	*eP*	**Pn**	**00 43 13.0**	**-0.1**
PVAQ				*i* AML	AML	00 43 50.8	
PVAQ	**Vaqueiros**	**3.21**	**328**	P	**Pn**	**00 43 12.3**	**-0.7**
PVAQ				S	**Sn**	**00 43 49.0**	**-1.6**
EGRO	**El Granado**	**3.22**	**332**	P	**Pn**	**00 43 12.4**	**-0.9**
EGRO				S	**Sn**	**00 43 50.2**	**-0.8**
EGRO	**El Granado**	**3.22**	**332**	Pn	**Pn**	**00 43 13.1**	**-0.2**
EGRO				Sn	**Sn**	**00 43 50.5**	**-0.5**
EGRO				*i* Vmb_Lg		00 43 58.6	
ECAB	**El Cabril**	**3.39**	**3**	P	**Pn**	**00 43 15.4**	**-0.2**
ECAB				S	**Sn**	**00 43 56.0**	**+0.9**
ECAB	**El Cabril**	**3.39**	**3**	Pn	**Pn**	**00 43 15.7**	**+0.1**
ECAB				Sn	**Sn**	**00 43 54.8**	**-0.3**
ECAB				*i* Vmb_Lg		00 43 57.5	
PCVE	**Castro Verde**	**3.54**	**327**	*eS*	**Sn**	**00 43 57.8**	**-1.0**
PCVE				*i* AML	AML	00 43 58.4	
PCVE				*i* AML	AML	00 43 58.4	
PCVE				*i* AML	AML	00 43 58.6	
PCVE	**Castro Verde**	**3.54**	**327**	P	**Pn**	**00 43 17.1**	**-0.6**
PCVE				S	**Sn**	**00 43 57.7**	**-1.1**
EADA	**Adamuz**	**3.57**	**13**	S	**Sn**	**00 43 58.9**	**-0.8**
EADA	**Adamuz**	**3.57**	**13**	Sn	**Sn**	**00 43 59.5**	**-0.2**
EADA				*i* Vmb_Lg		00 44 16.2	
MORF	**Marmelete**	**3.59**	**317**	*eS*	**Sn**	**00 43 59.5**	**-0.8**
PBAR	**Barrancos**	**3.67**	**342**	*eP*	**Pn**	**00 43 19.5**	**0.0**
PBAR				*eS*	**Sn**	**00 44 00.5**	**-1.6**
PBAR	**Barrancos**	**3.67**	**342**	P	**Pn**	**00 43 18.6**	**-0.9**
PBAR				S	**Sn**	**00 44 00.3**	**-1.7**
MESJ	**Messejana**	**3.79**	**327**	*eP*	**Pn**	**00 43 20.7**	**-0.4**
MESJ	**Messejana**	**3.79**	**327**	*eP*	**Pn**	**00 43 21.0**	**-0.2**
MESJ				*eS*	**Sn**	**00 44 04.2**	**-0.8**
MESJ				*i* AML	AML	00 44 06.7	
EBAD	**Badajoz**	**4.22**	**345**	P	**Pn**	**00 43 27.4**	**+0.4**
EBAD				S	**Sn**	**00 44 14.2**	**-1.3**
EBAD	**Badajoz**	**4.22**	**345**	Pn	**Pn**	**00 43 27.3**	**+0.4**
EBAD				Sn	**Sn**	**00 44 14.3**	**-1.3**
EBAD				*i* Vmb_Lg		00 44 37.2	
PSIM	**Granatula de C**	**4.38**	**19**	Pn	**Pn**	**00 43 29.8**	**+0.5**
PSIM				Sn	**Sn**	**00 44 19.2**	**-0.6**
PESTR	**Estremoz**	**4.47**	**340**	*eS*	**Sn**	**00 44 20.7**	**-1.0**
PMRV	**Marv??o**	**4.94**	**344**	*eS*	**Sn**	**00 44 31.5**	**-2.0**
PAB	**San Pablo**	**4.95**	**11**	*i* Vmb_Lg		00 44 30.0	
PAB				Sn	**Sn**	**00 44 31.3**	**-2.5**

IDC ***16*** *00:58:12.5±4.4, 11°.73N×84°.99W, h0km, mb3.4/4, mbtmp3.4/4, MS3.7/1, Error ellipse: s-maj=125.6km s-min=81.0km az=59.0*
CATAC ***16*** *00:58:15.3±0.9, 11°N±7°×8°7W±°, h10km, M3.7/11, MLv3.7/11, rejected*
UCR ***16*** *00:58:15.0±0.7, 10°.62N×86°.48W, h15km±5km, MW4.1*
ISC 16 00:58:16.4±1.0, 10°.62N±0°.05×86°.43W±0°.06, h23km, n60, σ1§00/55, mb3.4/4, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.87**	**91**	*eP*	**Pb**	**00 58 33.0**	**+0.1**
LCRUZ	**La Cruz**	**0.91**	**60**	*eP*	**Pb**	**00 58 33.3**	**-0.3**
GPS3	**Bodega del ICE**	**1.06**	**82**	*eP*	**Pn**	**00 58 35.9**	**-0.1**
VRLE	**La Escondida,**	**1.06**	**81**	*eP*	**Pn**	**00 58 35.3**	**-0.7**
GPS2	**Hotel Rincn d**	**1.07**	**83**	*eP*	**Pn**	**00 58 35.6**	**-0.5**
VORI	**VORI**	**1.08**	**79**	*eP*	**Pn**	**00 58 35.9**	**-0.5**
PLVR	**Palo Verde**	**1.09**	**104**	*eP*	**Pn**	**00 58 35.4**	**-1.1**
JAPN	**AI SSO del Vol**	**1.17**	**39**	P	**Pn**	**00 58 37.9**	**+0.4**
JAPN	**AI SSO del Vol**	**1.17**	**39**	P	**Pn**	**00 58 37.8**	**+0.4**
INDI	**Punta indio, G**	**1.18**	**129**	P	**Pb**	**00 58 40.2**	**+2.1**
INDI	**Punta indio, G**	**1.18**	**129**	P	**Pn**	**00 58 35.6**	**-1.9**
CONN	**Concepcion**	**1.23**	**40**	P	**Pn**	**00 58 37.3**	**-0.9**
CONN	**Concepcion**	**1.23**	**40**	P	**Pn**	**00 58 37.0**	**-1.3**
CUI	**Cuipilapa**	**1.25**	**88**	*eP*	**Pn**	**00 58 38.1**	**-0.4**
SABN	**Sabanita**	**1.36**	**11**	P	**Pb**	**00 58 45.2**	**+4.0**
SABN	**Sabanita**	**1.36**	**11**	P	**Pn**	**00 58 39.9**	**-0.2**
TENO	**El Achiote**	**1.43**	**86**	*eP*	**Pn**	**00 58 40.4**	**-0.7**
JUNT	**Juntas**	**1.49**	**103**	*eP*	**Pn**	**00 58 42.7**	**+1.0**
TISN	**Laguna Tiscapa**	**1.53**	**6**	P	**Pb**	**00 58 44.5**	**+0.4**
MGAN	**Managua**	**1.53**	**7**	*eP*	**Pn**	**00 58 41.9**	**-0.5**
VERA	**Finca Concepci**	**1.55**	**81**	*eP*	**Pn**	**00 58 43.2**	**+0.5**
COPN	**Copaltepe**	**1.56**	**354**	P	**Pn**	**00 58 42.4**	**-0.4**
COPN	**Copaltepe**	**1.56**	**354**	P	**Pn**	**00 58 41.6**	**-1.3**
APQ2	**Apoyeque**	**1.58**	**4**	P	**Pb**	**00 58 45.2**	**+0.3**
APQ2	**Apoyeque**	**1.58**	**4**	P	**Pn**	**00 58 42.6**	**-0.4**
CBL1	**Cabuya**	**1.67**	**128**	*eP*	**Pn**	**00 58 44.7**	**+0.4**
ARE1	**Arenal 1**	**1.69**	**95**	*eP*	**Pn**	**00 58 45.1**	**+0.5**
VARE2	**V. Arenal**	**1.69**	**95**	*eP*	**Pn**	**00 58 45.3**	**+0.6**
CEDE	**Laguna Cedeo**	**1.70**	**94**	*eP*	**Pn**	**00 58 45.3**	**+0.4**
VACR	**Volcan Arenal**	**1.73**	**95**	*eP*	**Pb**	**00 58 47.3**	**-0.3**
FORC	**Fortuna**	**1.74**	**95**	*eP*	**Pn**	**00 58 46.0**	**+0.7**
MOMN	**Momotombo**	**1.79**	**357**	P	**Pb**	**00 58 48.6**	**+0.1**
MOMN	**Momotombo**	**1.79**	**357**	P	**Pn**	**00 58 45.4**	**-0.5**
SOCE	**Pocosol**	**1.80**	**97**	*eP*	**Pn**	**00 58 46.6**	**+0.5**
SOCE	**Pocosol**	**1.80**	**97**	P	**Pb**	**00 58 49.4**	**+0.7**
ACON	**Acoyapa**	**1.82**	**42**	*eP*	**Pn**	**00 58 46.1**	**-0.3**
MACN	**El Madrono**	**1.85**	**353**	P	**Pn**	**00 58 46.3**	**-0.6**
MACN	**El Madrono**	**1.85**	**353**	P	**Pn**	**00 58 46.1**	**-0.8**
CNGA	**AI SSO del Vol**	**1.89**	**352**	P	**Pn**	**00 58 46.7**	**-0.6**
CNGA	**AI SSO del Vol**	**1.89**	**352**	P	**Pn**	**00 58 46.5**	**-0.8**
CNGN	**Cerro Negro**	**1.89**	**352**	*eP*	**Pn**	**00 58 46.3**	**-1.1**
PACN	**AI O del Volca**	**1.91**	**349**	P	**Pn**	**00 58 46.8**	**-0.8**
PACN	**AI O del Volca**	**1.91**	**349**	P	**Pn**	**00 58 46.7**	**-0.8**
ROCN	**Rota Cerro Neg**	**1.92**	**351**	P	Pn	00 58 41.8	-5.9
COVE	**Coope Vega, Sa**	**2.00**	**87**	P	**Pb**	**00 58 52.7**	**+0.6**
COVE	**Coope Vega, Sa**	**2.00**	**87**	P	**Pb**	**00 58 51.6**	**-0.5**
RCPN	**Sur Rio San Ju**	**2.91**	**6**	P	**Pn**	**00 59 02.0**	**+0.5**
CHOHN	**Orocuina**	**2.94**	**346**	P	**Pn**	**00 59 01.4**	**-0.5**
CNCH	**Conchagua**	**2.98**	**333**	P	Pn	00 58 56.4	-6.0
LCND	**La Caada**	**3.03**	**332**	P	**Pn**	**00 59 02.5**	**-0.5**
YUSH	**Yuscaran**	**3.34**	**353**	P	**Pn**	**00 59 09.8**	**+2.4**
YUSH	**Yuscaran**	**3.34**	**353**	P	**Pn**	**00 59 07.5**	**+0.1**
JAYA	**Jayaque - finc**	**4.22**	**316**	P	Pn	00 59 13.8	-5.7
TXAR	**Lajitas Array**	**24.62**	**322**	P	**P**	**01 03 35.0**	**-0.4**
0.9nm,0.6s,baz=139,slow=9.5,SNR=13
0.9nm,0.6s
PFO Pinyon Flats O 35.79 314 LR LR 01 20 37.7
comp=Z,104nm,18.3s,baz=208,slow=37
PDAR Pinedale Array 37.85 332 P **P 01 05 30.0 -1.8**
0.4nm,0.8s,baz=146,slow=9.2,SNR=2.4
0.4nm,0.8s
NVAR Mina Array Bea 39.74 320 P **P 01 05 48.1 +0.5**
0.9nm,0.7s,baz=130,slow=8.5,SNR=3.6
0.9nm,0.7s
YKA Yellowknife Ar 55.63 345 P P 01 07 44.5 -5.8
0.2nm,0.7s,baz=150,slow=7.1,SNR=2.4
0.2nm,0.7s
ASAR Alice Springs 139.48 246 PKP **PKiKP 01 17 45.6 +0.4**
0.3nm,0.6s,baz=108,slow=1.2,SNR=2.0
WRA Warramunga Arr 139.68 252 PKP **PKiKP 01 17 46.0 +0.3**
0.2nm,0.3s,baz=99,slow=2.2,SNR=2.3

MOS ***16*** *01:06:15.2, 44°.80N×36°.86E, h41km±3km, MPVA3.3*
AFAD ***16*** *01:06:18.2, 44°.58N×37°.18E, h7km±5km, ML2.7*
ISC 16 01:06:15.7±1.2, 44°.80N±0°.05×36°.85E±0°.03, h45km±12km, n23, σ1§24/45, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMNR	**Tamanskiy**	**0.36**	**352**	*eP*	**Pn**	**01 06 25.5**	**+0.5**
TMNR				*eSg*	**Sn**	**01 06 31.9**	**+0.4**
SUKR	**Sukko**	**0.41**	**90**	*i* Pg	**Pn**	**01 06 25.6**	**+0.1**
SUKR				*i* Sg	**Sn**	**01 06 32.8**	**+0.4**
ANN	**Anapa**	**0.41**	**90**	*i* Pg	**Pn**	**01 06 24.8**	**-0.8**
ANN				*i* Sg	**Sn**	**01 06 31.4**	**-1.0**
GLDR	**Gladkovskiy**	**0.64**	**73**	*i* Pg	**Pn**	**01 06 28.6**	**+0.2**
GLDR				*eSg*	**Sn**	**01 06 38.0**	**+0.3**
SPGR	**Shapsug**	**0.87**	**93**	*ePg*	**Pn**	**01 06 31.4**	**-0.1**
SPGR				*eSg*	**Sn**	**01 06 42.7**	**-0.4**
FEO	**Feodosiya**	**1.06**	**282**	*ePg*	**Pn**	**01 06 33.6**	**-0.5**
FEO				*eSg*	**Sn**	**01 06 44.0**	**-3.7**
SUDU	**Sudak**	**1.32**	**275**	*ePg*	**Pn**	**01 06 38.2**	**+0.5**
SUDU				*eSg*	**Sn**	**01 06 54.5**	**+0.4**
ALU	**Alushta**	**1.75**	**267**	*ePg*	**Pn**	**01 06 44.0**	**+0.5**
ALU				*eSg*	**Sn**	**01 07 06.1**	**+1.5**
SRGR	**Sergiyevskiy**	**1.75**	**68**	*ePg*	**Pn**	**01 06 44.0**	**+0.5**
SRGR				*eSg*	**Sn**	**01 07 05.1**	**+0.4**
SIM	**Simferopol'**	**1.95**	**275**	*ePg*	**Pn**	**01 06 46.5**	**+0.2**
SIM				*eSg*	**Sn**	**01 07 09.9**	**+0.3**
YAL	**Yalta**	**1.95**	**262**	*ePg*	**Pn**	**01 06 45.8**	**-0.4**
YAL				*eSg*	**Sn**	**01 07 09.1**	**-0.5**
MRNR	**Maryino**	**2.07**	**114**	*ePg*	**Pn**	**01 06 48.3**	**+0.3**
MRNR				*eSg*	**Sn**	**01 07 11.8**	**-0.7**
SEV	**Sevastopol'**	**2.29**	**265**	*ePn*	**Pn**	**01 06 51.0**	**+0.1**
SEV				*eSn*	**Sn**	**01 07 16.9**	**-0.9**
DNZ2	**Donuzlav2**	**2.64**	**284**	*ePn*	**Pn**	**01 06 57.0**	**+1.3**
DNZ2				*eSn*	**Sn**	**01 07 25.6**	**-0.9**
VSLR	**Vesyoloye**	**2.65**	**119**	*ePn*	**Pn**	**01 06 57.1**	**+1.2**
VSLR				*eSn*	**Sn**	**01 07 26.4**	**-0.4**
ERBR	**Yeremizino-Bor**	**2.72**	**69**	*ePn*	**Pn**	**01 06 57.2**	**+0.3**
ERBR				*eSn*	**Sn**	**01 07 27.0**	**-1.5**
GRYR	**Gornoye**	**3.11**	**101**	*ePn*	**Pn**	**01 07 02.7**	**+0.4**
GRYR				*eSn*	**Sn**	**01 07 37.4**	**-0.9**
IZDR	**Rize**	**4.85**	**144**	P	**Pn**	**01 07 26.9**	**+0.8**
IZDR				S	Sn	01 08 12.7	-8.4
IZDR				*i* AML	AML	01 08 19.0	
comp=E,6.8nm,0.1s
KELT Kelkit 4.97 158 P **Pn 01 07 29.7 +1.7**
KELT S **Sn 01 08 22.5 -1.9**
KELT *i* AML AML 01 08 27.0
comp=N,6.3nm,0.2s
KELT *i* AML AML 01 08 28.0
comp=E,12nm,0.3s
BAYB BAYBURT 5.19 150 P **Pn 01 07 32.5 +1.6**
BAYB S **Sn 01 08 29.3 -0.3**
BAYB *i* AML AML 01 08 32.0
comp=E,10nm,0.3s
BAYB *i* AML AML 01 08 34.0
comp=N,9.8nm,0.3s
DBAD Bademkaya 5.19 135 P **Pn 01 07 31.2 +0.4**
DBAD S **Sn 01 08 26.3 -3.1**
DBAD *i* AML AML 01 09 04.0
comp=N,8.8nm,1.3s
DAGI Agillar 5.25 133 P **Pn 01 07 33.6 +1.9**
DAGI S **Sn 01 08 29.3 -1.8**
DAGI *i* AML AML 01 09 34.0
comp=N,6.0nm,2.9s
DAGI *i* AML AML 01 09 59.0
comp=E,8.1nm,3.1s
KRIK Erzurum-spir 5.38 145 P **Pn 01 07 36.0 +2.4**
KRIK S **Sn 01 08 33.3 -1.0**

SFS ***16*** *01:14:13.3, 34°.82N×5°.55W, h0km, ML3.1/7, ML3.3/7, MLv3.4/7*
MDD ***16*** *01:14:14.7±0.9, 34°.68N×5°.61W, h4km±5km, mb_Lg2.5/5, Error ellipse: s-maj=5.7km s-min=3.1km az=96.0*
INMG ***16*** *01:14:16.2±0.9, 34°.68N×5°.59W, h17km, ML1.8, Error ellipse: s-maj=4.2km s-min=1.7km az=81.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Fez (Marr)*
IGIL ***16*** *01:14:16.0, 34°.72N×5°.46W, h17km, ML2.1*
CNRM ***16*** *01:14:20.3, 34°.23N×5°.51W, h81km, ML2.2*
ISC 16 01:14:15.4±0.9, 34°.64N±0°.03×5°.56W±0°.03, h22km, n41, σ1§89/63, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRM	**LCR**	**1.12**	**148**	P	**Pb**	**01 14 36.5**	**+0.4**
LCRM	**LCR**	**1.12**	**148**	S	**Sb**	**01 14 50.9**	**+0.6**
IFR	**Ifrane**	**1.18**	**162**	S	**Sb**	**01 14 53.3**	**+1.2**
IFR				P	**Pn**	**01 14 37.1**	**+0.3**
AKLM	**AKL**	**1.41**	**95**	P	**Pb**	**01 14 43.6**	**+2.6**
AKLM	**AKL**	**1.41**	**95**	S	**Sb**	**01 15 01.7**	**+3.2**
ZHG	**ZHG**	**1.50**	**217**	P	**Pb**	**01 14 43.0**	**+0.6**
ZHG	**ZHG**	**1.50**	**217**	S	**Sb**	**01 15 02.5**	**+1.5**
MD31	**MD31**	**1.89**	**159**	P	**Pn**	**01 14 46.2**	**-0.3**
MD31

TIO	**Tiouine**	**3.97 202**	P	**Pn**	**01 15 14.2**	**-0.9**
EBAD	**Badajoz**	**4.27 345**	P	**Pn**	**01 15 19.4**	**+0.4**
EBAD			S	**Sn**	**01 16 04.5**	**-3.6**
EBAD	**Badajoz**	**4.27 345**	Pn	**Pn**	**01 15 19.0**	**0.0**
EBAD			Sn	**Sn**	**01 16 05.7**	**-2.4**
EBAD			*i* Vmb_Lg		01 16 12.2	
EVO	**Evora**	**4.35 334**	*e*P	**Pn**	**01 15 19.9**	**-0.3**
EVO			*e*S	**Sn**	**01 16 07.9**	**-2.3**
EVO			*i* AML	AML	01 16 08.7	
EVO			*i* AML	AML	01 16 10.2	
PSIM	**Granatula de C**	**4.41 19**	Pn	**Pn**	**01 15 21.7**	**+0.6**
PSIM			Sn	**Sn**	**01 16 09.6**	**-2.1**
PESTR	**Estremoz**	**4.52 339**	*e*S	**Sn**	**01 16 12.7**	**-1.7**
TTIG	**Tnine Tigouga,**	**4.75 212**	P	**Pn**	**01 15 24.9**	**-0.9**
PMTG	**Montargil**	**4.91 335**	*e*S	**Sn**	**01 16 21.1**	**-2.8**
PMTG			*i* AML	AML	01 16 22.9	
PAB	**San Pablo**	**4.99 11**	Pn	**Pn**	**01 15 29.6**	**+0.6**
PAB			Sn	**Sn**	**01 16 22.8**	**-3.2**
PAB			*i* Vmb_Lg		01 16 39.7	
PMRV	**Marv??o**	**5.00 343**	*e*P	**Pn**	**01 15 29.4**	**+0.4**
PMRV			*e*S	**Sn**	**01 16 23.4**	**-2.6**
PMRV			*i* AML	AML	01 16 24.7	
PMRV			*i* AML	AML	01 16 25.1	

---

*IDC **16** 01:26:30.8±2.2, 16°.73N×119°.98E, h153km±27km, mb3.0/5, mbtmp3.4/5, Error ellipse: s-maj=48.0km s-min=22.5km az=57.0*

ISC 16 01:26:30.3±1.1, 16°.8N±0°.2×120°.0E±0°.3, h150km, n6, σ1§05/7, mb3.2/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.79**	**161**	P	**Pn**	**01 27 14.2**	**-0.9**
	208nm,0.4s,baz=0.0,slow=20,SNR=4.4						
TGY				S	**Sn**	**01 27 51.1**	**+1.4**
	202nm,0.4s,baz=255,slow=12,SNR=1.7						
CMAR	**Chiang Mai Arr**	**20.15**	**278**	P	**P**	**01 30 53.0**	**0.0**
	0.9nm,0.3s,baz=83,slow=8.1,SNR=5.9						
	0.9nm,0.3s						
SONM	**Songino Array**	**32.95**	**343**	P	**P**	**01 32 50.5**	**-0.2**
	0.3nm,0.5s,baz=164,slow=10,SNR=3.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**39.09**	**158**	P	**P**	**01 33 42.9**	**-0.3**
	0.5nm,1.0s,baz=331,slow=9.9,SNR=2.5						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**43.20**	**322**	P	**P**	**01 34 16.4**	**-0.1**
	0.3nm,0.8s,baz=121,slow=7.6,SNR=3.5						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**46.06**	**332**	P	**P**	**01 34 40.0**	**+1.1**
	0.3nm,0.3s,baz=142,slow=8.5,SNR=1.8						
	0.3nm,0.3s						

---

*IDC **16** 01:27:07.0±0.7, 4°.23S×102°.12E, h0km, mb4.4/19, mbtmp4.4/22, ML4.1/3, MS3.6/27, Error ellipse: s-maj=25.5km s-min=12.3km az=49.0*

*NEIC **16** 01:27:11.5±1.7, 4°.52S±0°.08×101°.99E±0°.07, h35km±2km, mb4.7/30, Error ellipse: s-maj=14.3km s-min=10.5km az=217.0*

*DJA **16** 01:27:13.8±0.5, 4°.S±2°.×10°.2E±°, h27km±5km, M4.7/22, mB5.1/6, mb4.8/20, MLv4.8/22, Mw(mB)4.5/6*

ISC 16 01:27:12.4±0.5, 4°.33S±0°.06×102°.10E±0°.05, h35km, n142, σ1§74/118, mb4.7/45, MS3.6/28, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.83**	**36**	P	**Pn**	**01 27 28.9**	**+1.2**
KSI				S	**Sn**	**01 27 37.9**	**-0.9**
MNAI	**Manna**	**0.85**	**92**		**Pn**	**01 27 29.2**	**+1.2**
MNAI	**Manna**	**0.85**	**92**	P	**Pn**	**01 27 29.1**	**+1.1**
MNAI	**Manna**	**0.85**	**92**	S	**Sn**	**01 27 40.4**	**+1.1**
MNAI	**Manna**	**0.85**	**92**	P	**Pn**	**01 27 29.0**	**+1.1**
MNAI				S	**Sn**	**01 27 39.8**	**+0.5**
MDSI	**Maura Dua**	**2.08**	**94**	P	**Pn**	**01 27 45.9**	**+1.1**
MDSI				S	**Sn**	**01 28 10.8**	**+1.3**
PPSI	**Pulau Pagai**	**2.60**	**307**	P	**Pn**	**01 27 56.1**	**+4.1**
PPSI				S	**Sn**	**01 28 26.2**	**+3.8**
PMBI	**Palembang**	**3.01**	**63**		**Pn**	**01 27 58.4**	**+0.8**
PMBI	**Palembang**	**3.01**	**63**	P	**Pn**	**01 27 56.1**	**-1.5**
BLSI	**Bandar Lampung**	**3.30**	**108**	P	**Pn**	**01 28 04.7**	**+3.0**
PPI	**Padang Panjang**	**4.20**	**336**	P	**Pn**	**01 28 16.5**	**+2.4**
SISI	**Saibi**	**4.23**	**315**	P	**Pn**	**01 28 16.8**	**+2.3**
CGJI	**Cibinong**	**4.24**	**123**	P	**Pn**	**01 28 16.4**	**+1.9**
SBJI	**Serang**	**4.39**	**114**	P	**Pn**	**01 28 18.9**	**+2.3**
PPBI	**Pangkal Pinang**	**4.57**	**62**	P	**Pn**	**01 28 18.6**	**-0.5**
BKNI	**Bangkinang**	**4.74**	**347**	Pn	**Pn**	**01 28 24.4**	**+2.9**
SKJI	**Sukabumi**	**5.17**	**121**	P	**Pn**	**01 28 29.4**	**+2.0**
PBSI	**Pulau Batu**	**5.71**	**318**	P	**Pn**	**01 28 35.8**	**+1.0**
	1.1nm121nm,1.1s						
TPI	**Tanjungpandan**	**5.76**	**74**	P	**Pn**	**01 28 36.8**	**+1.3**
CNJI	**Cibinong**	**5.81**	**121**	P	**Pn**	**01 28 37.5**	**+1.3**
	0.5nm38nm,0.7s						
LEM	**Lembang**	**6.03**	**115**	Pn	**Pn**	**01 28 38.8**	**-0.5**
	5.3nm,0.3s,baz=336,slow=22,SNR=1.7						
LEM				Sn	**Sn**	**01 29 50.1**	**+3.0**
	2.2nm,0.3s,baz=308,slow=15,SNR=1.9						
LEM				LR	LR	01 31 21.5	
	comp=Z,444nm,20.9s,baz=288,slow=42						
	13nm,0.4s						
LEM	**Lembang**	**6.03**	**115**	P	**Pn**	**01 28 40.0**	**+0.7**
	0.6nm3μm91nm,0.9s						
MYKOM	**Kota Tinggi**	**6.32**	**16**	Pn	**Pn**	**01 28 46.4**	**+3.1**
MYKOM	**Kota Tinggi**	**6.32**	**16**	P	**Pn**	**01 28 47.5**	**+4.3**
BBJI	**Bungbulang**	**6.34**	**120**	P	**Pn**	**01 28 46.4**	**+2.9**
XMIS	**Christmas Isla**	**7.05**	**150**		**Pn**	**01 28 49.8**	**-3.5**
CMJI	**Cimerak**	**7.18**	**119**	P	**Pn**	**01 28 56.4**	**+1.3**
GSI	**Gunungsitoli**	**7.19**	**321**	Pn	**Pn**	**01 28 56.8**	**+1.6**
GSI	**Gunungsitoli**	**7.19**	**321**	P	**Pn**	**01 28 57.1**	**+1.9**
GSI	**Gunungsitoli**	**7.19**	**321**	P	**Pn**	**01 28 56.8**	**+1.6**
	0.4nm3μm41nm,0.5s						
KPJI	**Karang Pucung**	**7.42**	**114**	P	**Pn**	**01 29 01.1**	**+2.8**
	0.2nm34nm,0.8s						
PSI	**Prapat**	**7.76**	**336**	Pn	**Pn**	**01 28 59.6**	**-3.5**
	0.8nm,0.3s,baz=172,slow=23,SNR=2.5						
PSI				Sn	**Sn**	**01 30 28.8**	**-1.1**
	1.2nm,0.3s,baz=170,slow=17,SNR=1.8						
	2.2nm,0.4s						
SNSI	**Sinabang, Aceh**	**8.84**	**319**	P	**Pn**	**01 29 19.2**	**+1.5**
	85nm,1.3s						
UGM	**Wanagama**	**9.10**	**113**	P	**Pn**	**01 29 24.4**	**+3.0**
UGM	**Wanagama**	**9.10**	**113**	P	**Pn**	**01 29 23.5**	**+2.1**
	52nm,0.5s						
COCO	**West Island**	**9.39**	**213**	Pn	Pn	01 29 26.6	+1.3
COCO	**West Island**	**9.39**	**213**	P	Pn	01 29 26.9	+1.6
GMJI	**Gumukmas**	**11.94**	**110**	P	**Pn**	**01 30 02.7**	**+2.5**
	20nm,0.6s						
KMMI	**Kalianget**	**12.11**	**103**	P	**Pn**	**01 30 03.5**	**+0.8**
	28nm,1.2s						
ABJI	**Asem Bagus**	**12.55**	**107**	P	**Pn**	**01 30 11.2**	**+2.6**
	52nm,0.7s						
JAGI	**Jajag, Banyuwa**	**12.66**	**110**	Pn	**Pn**	**01 30 10.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**12.66**	**110**	P	**Pn**	**01 30 11.7**	**+1.5**
JAGI	**Jajag, Banyuwa**	**12.66**	**110**	P	**Pn**	**01 30 09.8**	**-0.4**
	66nm,1.0s						
SRBI	**Singaraja**	**13.56**	**107**	P	**Pn**	**01 30 22.9**	**+0.5**
	33nm,0.5s						
TWSI	**Taliwang, Sumb**	**15.32**	**107**	P	**Pn**	**01 30 45.3**	**-1.0**
KAPI	**Kappang**	**17.61**	**93**	P	**Pn**	**01 31 14.9**	**-0.3**
	2.6nm,0.3s,baz=253,slow=18,SNR=2.2						
KAPI				LR	LR	01 38 36.0	
	comp=Z,180nm,19.4s,baz=275,slow=39						
	9.4nm,0.5s						
TOLI2	**Tolitoli**	**19.43**	**74**		**P**	**01 31 36.4**	**+0.3**
UBPT	**Khong Chiam**	**19.76**	**10**	P	**P**	**01 31 39.9**	**+0.3**
PHRA	**Phrae**	**22.76**	**355**	P	**P**	**01 32 11.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**22.85**	**352**	P	**P**	**01 32 11.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**22.85**	**352**	P	**P**	**01 32 11.7**	**-1.2**
	7.4nm,0.8s,baz=184,slow=8.4,SNR=31						
CMAR				LR	LR	01 41 21.2	
	comp=Z,90nm,20.1s,baz=170,slow=38						
	7.4nm,0.8s						
CHTO	**Chiang Mai**	**23.20**	**352**	P	**P**	**01 32 15.5**	**-0.9**
PALK	**Pallekele**	**24.27**	**298**	LR	LR	01 41 14.2	
	comp=Z,80nm,18.9s,baz=86,slow=35						
QIZ	**Qiongzhong**	**24.43**	**18**	P	**P**	**01 32 29.1**	**+1.1**
QIZ				S	**S**	**01 36 50.8**	**+5.0**
QIZ				pmax	pmax		
	comp=Z,21nm,1.2s						
QIZ				LR	LR		
	comp=N,120nm,11.2s						
QIZ				LR	LR		
	comp=E,140nm,12.7s						
QIZ				LR	LR		
	comp=Z,190nm,14.5s						
SLVN	**Son La**	**25.56**	**4**	P	**P**	**01 32 37.9**	**-0.5**
SLVN				IAmb	IAmb	01 32 57.1	
	comp=Z,14nm,0.9s						
DAV	**Davao City (W)**	**26.02**	**64**	LR	LR	01 44 13.6	
	comp=Z,73nm,18.5s,baz=338,slow=40						
FITZ	**Fitzroy Crossi**	**26.79**	**123**	P	**P**	**01 32 48.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.79**	**123**	LR	LR	01 43 39.1	
	comp=Z,53nm,19.3s,baz=308,slow=37						
BRDH	**Bariadhala**	**28.72**	**340**	LR	LR	01 47 30.1	
	comp=Z,146nm,18.7s,baz=214,slow=43						
H08S2	**Diego Garcia H**	**29.62**	**262**	T	T	02 04 14.0	
	baz=87,slow=76,SNR=92						
H08S3	**Diego Garcia H**	**29.63**	**262**	T	T	02 04 33.1	
	baz=87,slow=76,SNR=115						
H08S1	**Diego Garcia H**	**29.64**	**262**	T	T	02 04 34.4	
	baz=87,slow=76,SNR=46						
PZH	**PanZhiHua**	**30.65**	**359**	P	**P**	**01 33 27.8**	**+4.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,3.5s						
NWAO	**Narrogin (SRO)**	**31.77**	**155**	LR	LR	01 45 16.8	
	comp=Z,130nm,20.8s,baz=284,slow=34						
H01W3	**Cape Leeuwin H**	**32.39**	**161**	T	T	02 07 37.1	
	baz=338,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**32.40**	**161**	T	T	02 07 36.4	
	baz=338,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**32.40**	**161**	T	T	02 07 34.2	
	baz=338,slow=76,SNR=26						
WB0	**Warramunga Arr**	**35.01**	**119**	P	**P**	**01 34 01.7**	**-0.3**
WB0				IAmb	IAmb	01 34 20.1	
	comp=Z,6.5nm,0.7s						
WRA	**Warramunga Arr**	**35.02**	**119**	P	**P**	**01 34 01.2**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=303,slow=8.8,SNR=24						
WRA				LR	LR	01 50 41.5	
	comp=Z,45nm,18.8s,baz=52,slow=40						
	comp=Z,2.0nm,0.8s						
WB2	**Warramunga Arr**	**35.03**	**119**	P	**P**	**01 34 01.2**	**-1.0**
WB2				IAmb	IAmb	01 34 20.8	
	comp=Z,8.2nm,0.7s						
AS31	**Alice Springs**	**36.20**	**125**	P	**P**	**01 34 12.6**	**+0.4**
ASAR	**Alice Springs**	**36.20**	**125**	P	**P**	**01 34 12.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=302,slow=8.0,SNR=35						
ASAR				S	**S**	**01 39 45.8**	**-4.5**
	comp=Z,1.0nm,1.0s,baz=298,slow=18,SNR=4.7						
	comp=Z,3.2nm,0.8s						
JAY	**Jayapura**	**38.57**	**89**	LR	LR	01 51 57.3	
	comp=Z,89nm,19.3s,baz=200,slow=39						
XAN	**Xi'an**	**38.70**	**9**	⇑P	**P**	**01 34 30.8**	**-2.4**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NJ2	**Nanjing**	**39.53**	**23**	*e*P	**P**	**01 34 43.5**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LYN	**LuoYang**	**39.88**	**13**	P	**P**	**01 34 43.3**	**+0.3**
LYN				pmax	pmax		
	comp=Z,25nm,0.6s						
LYN				LR	LR		
	comp=N,260nm,13.1s						
LYN				LR	LR		
	comp=E,190nm,14.8s						
LYN				LR	LR		
	comp=Z,340nm,18.4s						
LZH	**Lanzhou**	**40.23**	**2**	*e*P	**P**	**01 34 45.8**	**-0.3**
LZH				pP	pP	01 34 55.9	-0.4
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
HNS	**HongShan**	**43.14**	**15**	*e*P	**P**	**01 35 09.5**	**-0.1**
HNS				S	**S**	**01 41 31.0**	**-2.7**
HNS				LR	LR		
	comp=N,220nm,13.4s						
HNS				LR	LR		
	comp=Z,220nm,16.5s						
HHC	**Hu-ho-hao-te**	**45.79**	**10**	*e*P	**P**	**01 35 30.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,5.1s						
STKA	**Stephens Creek**	**46.05**	**131**	P	**P**	**01 35 32.5**	**-0.5**
STKA	**Stephens Creek**	**46.05**	**131**	P	**P**	**01 35 33.1**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=298,slow=7.9,SNR=13						
	comp=Z,4.6nm,0.8s						
NIL	**Nilore**	**46.59**	**326**	P	**P**	**01 35 36.8**	**-0.4**
KSRS	**Korea Array**	**48.01**	**28**	P	**P**	**01 35 47.3**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=233,slow=6.9,SNR=5.4						
	comp=Z,2.5nm,0.8s						
XLT	**XiLinHaoTe**	**49.63**	**13**	*e*P	**P**	**01 36 00.3**	**-0.3**
XLT				sP	sP	01 36 16.9	+1.8
XLT				PP	PP	01 38 04.0	+8.6
XLT				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XLT				pmax	pmax		
	comp=Z,100nm,3.6s						
WMQ	**Urumqi**	**49.66**	**346**	*e*P	**P**	**01 36 01.6**	**+0.8**
WMQ				sP	sP	01 36 18.3	+3.2
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
KRVT	**Keravat (AS076**	**49.78**	**92**	LR	LR	01 59 56.1	
	comp=Z,27nm,19.2s,baz=9.6,slow=40						
KSH	**Kashi**	**49.83**	**334**	P	**P**	**01 36 01.3**	**-1.0**
KSH				pP	pP	01 36 14.1	+1.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WUS	**Wushi**	**49.90**	**337**	P	**P**	**01 36 02.7**	**-0.1**
DRK	**Karamyk**	**51.77**	**330**	IAmb	IAmb	01 36 39.3	
	comp=Z,6.2nm,0.8s						
SONM	**Songino Array**	**52.08**	**4**	P	**P**	**01 36 19.2**	**+0.2**
SONM				IAmb	IAmb	01 36 39.1	
	comp=Z,8.5nm,1.0s						
SONM	**Songino Array**	**52.08**	**4**	P	**P**	**01 36 19.0**	**0.0**
	comp=Z,5.3nm,0.7s,baz=188,slow=9.2,SNR=50						
SONM				LR	LR	02 00 51.8	
	comp=Z,53nm,19.2s,baz=264,slow=39						
	comp=Z,5.3nm,0.7s						
GAR	**Garm**	**52.16**	**329**	P	**P**	**01 36 18.7**	**-1.1**
GAR				IAmb	IAmb	01 36 39.3	
	comp=Z,11nm,1.1s						
SIMJ	**Simiganj**	**52.59**	**327**	P	**P**	**01 36 22.5**	**-0.5**
SIMJ				IAmb	IAmb	01 36 42.3	
	comp=Z,9.2nm,1.4s						
AAK	**Ala-Archa**	**53.02**	**335**	LR	LR	02 02 18.6	
	comp=Z,43nm,18.8s,baz=186,slow=40						
MK31	**Makanchi Array**	**53.83**	**343**	P	**P**	**01 36 31.3**	**-0.6**
MK31				IAmb	IAmb	01 36 32.2	
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**53.83**	**343**	P	**P**	**01 36 31.2**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=147,slow=8.1,SNR=88						
MKAR				LR	LR	02 01 19.5	
	comp=Z,37nm,19.6s,baz=314,slow=38						
	comp=Z,6.7nm,0.7s						
MAKZ	**Makanchi**	**53.94**	**343**	P	**P**	**01 36 32.0**	**-0.6**
MAKZ				IAmb	IAmb	01 36 33.0	
	comp=Z,4.3nm,0.9s						
BNX	**BinXian**	**54.70**	**22**	⇓P	**P**	**01 36 37.8**	**-0.3**
BNX				pmax	pmax		
	comp=Z,16nm,1.1s						
USRK	**Ussuriysk Ar.**	**55.27**	**26**	P	**P**	**01 36 41.2**	**-1.0**
	comp=Z,5.6nm,0.6s,baz=229,slow=5.2,SNR=8.5						
	comp=Z,5.6nm,0.6s						
KURBB	**Kurchatov Arra**	**58.37**	**343**	P	**P**	**01 37 03.2**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=158,slow=6.7,SNR=13						
	comp=Z,4.3nm,0.8s						
KURK	**Kurchatov**	**58.43**	**343**	P	**P**	**01 37 03.9**	**-0.6**
KURK				IAmb	IAmb	01 37 04.9	
	comp=Z,8.8nm,0.9s						
HEH	**HeiHe**	**58.59**	**19**	*e*P	**P**	**01 37 04.9**	**-0.8**
HEH				pmax	pmax		
	comp=Z,13nm,1.0s						
KLR	**Kul'dur**	**59.23**	**22**	LR	LR	02 03 58.8	
	comp=Z,67nm,18.2s,baz=268,slow=37						
ZALV	**Zalesovo Beam**	**59.84**	**348**	P	**P**	**01 37 13.3**	**-0.9**
	comp=Z,13nm,0.8s,baz=163,slow=5.6,SNR=45						
ZALV				LR	LR	02 05 19.8	
	comp=Z,87nm,19.1s,baz=100,slow=38						
	comp=Z,13nm,0.8s						
H04N2	**CROZET ISLANDS**	**60.23**	**218**	T	T	02 42 12.3	
	baz=62,slow=75,SNR=139						
H04N1	**CROZET ISLANDS**	**60.24**	**218**	T	T	02 42 10.2	
	baz=62,slow=75,SNR=171						
H04N3	**CROZET ISLANDS**	**60.24**	**218**	T	T	02 42 08.8	
	baz=62,slow=75,SNR=160						
H04S1	**CROZET ISLANDS**	**60.48**	**217**	T	T	02 42 27.5	
	baz=60,slow=75,SNR=7.9						
H04S3	**CROZET ISLANDS**	**60.49**	**217**	T	T	02 42 27.0	
	baz=60,slow=75,SNR=16						
H04S2	**CROZET ISLANDS**	**60.49**	**217**	T	T	02 42 25.5	
	baz=60,slow=75,SNR=9.6						
BVAR	**Borovoye Array**	**63.08**	**339**	P	**P**	**01 37 35.0**	**-1.2**
	comp=Z,3.2nm,0.6s,baz=142,slow=9.0,SNR=18						
	comp=Z,3.2nm,0.6s						
BRVK	**Borovoye**	**63.15**	**339**	P	**P**	**01 37 35.8**	**-0.9**
BRVK				IAmb	IAmb	01 37 55.3	
	comp=Z,6.5nm,1.2s						
DZM	**Mont Dzumac**	**64.63**	**112**	LR	LR	02 10 18.7	
	comp=Z,53nm,18.2s,baz=192,slow=40						
ABKAR	**Akbulak array**	**64.68**	**331**	P	**P**	**01 37 45.9**	**-0.8**
ABKAR				IAmb	IAmb	01 37 47.1	
	comp=Z,8.5nm,0.8s						
ABKAR	**Akbulak array**	**64.68**	**331**	P	**P**	**01 37 46.0**	**-0.8**
YAK	**Yakutsk**	**69.47**	**13**	LR	LR	02 10 54.2	
	comp=Z,55nm,18.2s,baz=270,slow=38						
ARTI	**Arti**	**70.21**	**336**	P	**P**	**01 38 20.9**	**-0.8**
ARTI				IAmb	IAmb	01 38 21.9	
	comp=Z,13nm,1.2s						
ARTI	**Arti**	**70.21**	**336**	LR	LR	02 16 30.3	
	comp=Z,30nm,18.3s,baz=170,slow=42						
MARD	**Mardin**	**70.35**	**312**	P	**P**	**01 38 23.9**	**+0.9**
MARD				IAmb	IAmb	01 38 24.8	
	comp=Z,4.7nm,0.7s						
KBZ	**Khabaz**	**71.43**	**319**	P	**P**	**01 38 29.6**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=142,slow=4.2,SNR=6.1						
KBZ				LR	LR	02 13 15.9	
	comp=Z,32nm,19.2s,baz=176,slow=39						
	comp=Z,2.9nm,0.9s						
MMAI	**Mount Meron Ar**	**73.09**	**306**	P	**P**	**01 38 40.9**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=74,slow=11,SNR=1.5						
MMAI				LR	LR	02 11 36.8	
	comp=Z,46nm,20.3s,baz=164,slow=36						
	comp=Z,4.3nm,0.9s						
NRIK	**Noril'sk**	**74.19**	**355**	IAmb	IAmb	01 38 44.9	
	comp=Z,7.9nm,1.2s						
NRIK	**Noril'sk**	**74.19**	**355**	P	**P**	**01 38 43.9**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=148,slow=4.0,SNR=5.7						
	comp=Z,1.2nm,0.3s						
MA2	**Magadan**	**74.30**	**23**	LR	LR	02 16 24.0	
	comp=Z,34nm,18.8s,baz=297,slow=40						
URZ	**Urewera**	**75.57**	**128**	LR	LR	02 15 01.7	
	comp=Z,56nm,19.0s,baz=32,slow=38						
LBTB	**Lobatse**	**75.96**	**245**	LR	LR	02 06 24.1	
	comp=Z,98nm,20.1s,baz=48,slow=31						
SYO	**Syowa Base**	**76.36**	**199**	‖*e*P	**P**	**01 38 57.4**	**-0.3**
BOSA	**Boshof**	**76.39**	**242**	P	**P**	**01 39 00.2**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=52,slow=12,SNR=1.7						
BOSA				LR	LR	02 05 47.4	
	comp=Z,97nm,20.6s,baz=42,slow=30						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**76.43**	**312**	P	**P**	**01 38 58.2**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=122,slow=7.5,SNR=6.2						
	comp=Z,1.3nm,0.8s						
TIXI	**Tiksi**	**77.82**	**8**	P	**P**	**01 39 03.2**	**-2.6**
TIXI				IAmb	IAmb	01 39 23.2	
	comp=Z,9.8nm,1.4s						
TIXI	**Tiksi**	**77.82**	**8**	LR	LR	02 17 57.9	
	comp=Z,108nm,18.1s,baz=3.5,slow=39						
QSPA	**South Pole Qui**	**85.65**	**180**	LR	LR	02 15 03.8	
	comp=Z,57nm,18.1s,baz=282,slow=34						
KOLS	**Kolonicke sedl**	**86.57**	**319**	*e*P	**P**	**01 39 54.9**	**+2.7**
FINES	**FINESS Array B**	**87.13**	**332**	P	**P**	**01 39 53.4**	**-1.2**
FINES	**FINESS Array B**	**87.13**	**332**	P	**P**	**01 39 54.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=108,slow=4.2,SNR=5.4						
	comp=Z,1.3nm,0.8s						
VYHS	**Vyhne**	**88.75**	**319**	*e*P	**P**	**01 40 03.9**	**+1.3**
ARCES	**ARCESS Array B**	**89.36**	**340**	P	**P**	**01 40 04.5**	**-0.5**
	comp=Z,6.4nm,1.0s,baz=37,slow=3.0,SNR=4.3						
	comp=Z,6.4nm,1.0s						
SPITS	**Spitsbergen Ar**	**93.33**	**348**	P	**P**	**01 40 21.7**	**-1.6**
	comp=Z,4.8nm,0.9s,baz=174,slow=7.0,SNR=1.3						
	comp=Z,4.8nm,0.9s						
NVAR	**Mina Array Bea**	**130.00**	**42**	PKP	**PKiKP**	**01 46 19.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=333,slow=3.7,SNR=2.0						
PDAR	**Pinedale Array**	**132.51**	**32**	PKP	**PKPdf**	**01 46 23.1**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=309,slow=3.8,SNR=2.7						
BDFB	**Brasilia**	**144.38**	**236**	PKP	**PKPdf**	**01 46 45.7**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=108,slow=3.2,SNR=4.2						
TXAR	**Lajitas Array**	**145.15**	**42**	PKPbc	**PKPdf**	**01 46 46.6**	**-0.6**
	comp=Z,5.1nm,0.6s,baz=262,slow=0.9,SNR=100						

---

*JMA **16** 01:45:12.3±0.2, 35°.2N±0°.8×14°.0E±°, h79km±2km, MV2.8/37, SOUTHERN BOSO PENINSULA*

*IDC **16** 01:45:17.5±1.0, 34°.80N×139°.02E, h92km±13km, mb3.0/2, mbtmp3.3/2, Error ellipse: s-maj=35.2km s-min=6.6km az=69.0*

ISC 16 01:45:12.8±1.0, 35°.17N±0°.05×140°.08E±0°.05, h78km±7km, n23, σ0§64/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKUC	**kamogawauchiur**	**0.10**	**96**	*i* P	**Pn**	**01 45 23.6**	**-0.5**
JKUC				*e*S	**Sn**	**01 45 31.8**	**-0.5**
KTR	**Katsuura**	**0.19**

JUON Uonuma 1.15 329 ⇓P Pn **01 47 01.2 +0.3**
JFY Yanaizu 1.19 356 *i* P Pn **01 47 01.9 +0.6**
JYN Shimob 1.25 235 *i* P Pn **01 47 03.6 +1.4**
MJAR Matsushiro Arr 1.32 285 P Pn **01 47 03.0 -0.1**
98nm,0.6s,baz=90,slow=13,SNR=65
MJAR S **Sn 01 47 20.5 +0.7**
23nm,0.3s,baz=117,slow=13,SNR=3.7
MJAR LR LR 01 47 41.1
comp=Z,119nm,19.8s,baz=65,slow=43
MAJO Matsushiro 1.32 285 P Pn **01 47 03.9 +0.8**
MAT Matsushiro 1.32 285 *i* P Pn **01 47 03.6 +0.5**
JNT Takato 1.39 256 ⇓P Pn **01 47 05.3 +1.3**
JOTO OTAMA OYAMA 1.41 18 *i* P Pn **01 47 05.4 +1.1**
JFK Kawauchi 1.44 37 *i* P Pn **01 47 05.2 +0.6**
JMM Marumori 1.83 26 P Pn **01 47 10.9 +1.0**
JMM Marumori 1.83 26 S Sn **01 47 33.1 +1.1**
JGF Kuroka 2.07 253 P Pn **01 47 15.7 +2.4**
JSD Sado 2.19 326 P Pn **01 47 15.2 +0.3**
INU Inuyama 2.42 250 P Pn **01 47 20.2 +2.2**
JHJ Hachijo jima 2 3.09 180 P Pn **01 47 27.5 +0.3**
29nm,0.3s,baz=55,slow=18,SNR=4.8
JHJ S **Sn 01 48 02.0 -0.9**
61nm,0.3s,baz=301,slow=22,SNR=2.2
60nm,0.3s
JHJ2 Mitsune 3.10 180 P Pn **01 47 29.9 +2.6**
JTM Tenmabayashi 4.67 12 P Pn **01 47 51.2 +2.5**
ERM Erimo 6.35 23 P Pn **01 48 14.1 +2.4**
JEM Erimo 6.35 23 P Pn **01 48 14.0 +2.2**
KSRS Korea Array 9.60 281 P Pn **01 48 58.1 +1.8**
0.3nm,0.3s,baz=95,slow=14,SNR=2.2
0.7nm,0.3s
USRK Ussuriysk Ar. 9.95 326 P Pn **01 49 00.7 -0.3**
0.4nm,0.3s,baz=155,slow=11,SNR=2.3
2.0nm,0.8s
SONM Songino Array 27.18 306 P P **01 52 18.4 -0.5**
0.3nm,0.7s,baz=111,slow=8.0,SNR=1.8
0.3nm,0.7s
H11N2 WAKE ISLAND Hy 28.89 117 T T 02 22 50.3
baz=312
H11N1 WAKE ISLAND Hy 28.90 117 T T 02 22 46.5
baz=312,slow=74
H11N3 WAKE ISLAND Hy 28.91 117 T T 02 22 50.0
baz=312,slow=74
H11S1 WAKE ISLAND Hy 29.55 119 T T 02 23 36.3
baz=314,slow=75,SNR=5.1
H11S3 WAKE ISLAND Hy 29.55 120 T T 02 23 36.9
baz=314,slow=75,SNR=4.1
H11S2 WAKE ISLAND Hy 29.57 119 T T 02 23 35.9
baz=314,slow=75,SNR=3.1
MKAR Makanchi Array 43.45 303 P P **01 54 37.0 -1.0**
0.5nm,0.7s,baz=84,slow=9.4,SNR=6.5
0.5nm,0.7s
KURBB Kurchatov Arra 45.48 308 P P **01 54 52.4 -1.6**
0.6nm,0.3s,baz=79,slow=8.2,SNR=1.8
0.6nm,0.3s
BVAR Borovoye Array 50.16 313 P P **01 55 31.1 +0.9**
0.4nm,0.4s,baz=88,slow=10.0,SNR=2.2
0.4nm,0.4s
FITZ Fitzroy Crossi 55.66 196 P P **01 56 10.4 -0.6**
1.0nm,0.7s,baz=0.0,slow=6.1,SNR=1.9
1.0nm,0.7s
WRA Warramunga Arr 56.09 186 P P **01 56 12.6 -1.5**
0.3nm,0.5s,baz=1.4,slow=7.7,SNR=6.6
0.3nm,0.5s
ASAR Alice Springs 59.82 186 P P **01 56 39.3 -0.9**
0.3nm,0.7s,baz=21,slow=11,SNR=2.9
0.3nm,0.7s

IDC 16 01:48:48.9±2.3, 7°.23S×154°.46E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=81.2km s-min=27.5km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**235**	P	P	01 53 57.9	-0.2
	0.6nm,0.6s,baz=58,slow=10,SNR=7.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.62**	**228**	P	P	01 54 20.2	-0.2
	0.5nm,0.8s,baz=63,slow=10.0,SNR=4.6						
	0.5nm,0.8s						
SONM	**Songino Array**	**69.25**	**328**	P	P	01 59 58.9	+1.0
	0.5nm,0.5s,baz=135,slow=5.0,SNR=4.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**83.23**	**319**	P	P	02 01 17.3	-0.1
	0.4nm,0.7s,baz=102,slow=6.6,SNR=2.9						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**83.79**	**22**	P	P	02 01 19.1	-0.7
	0.2nm,0.7s,baz=236,slow=6.4,SNR=4.6						
	0.2nm,0.7s						

*NNC **16** 01:54:48.8±1.3, 47°.82N×83°.63E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=10.3km s-min=5.4km az=95.0*
*SOME **16** 01:54:49.4, 47°.85N×83°.47E, h5km*
*ASRS **16** 01:55:00.2±0.5, 48°.N±2°.×8°.4E±°, h9km, MLh3.4/10, Error ellipse: s-maj=6.1km s-min=5.1km az=118.1, confirmed*
ISC 16 01:54:49.2±0.7, 47°.83N±0°.03×83°.61E±0°.03, h10km, n36, σ2.9 90/68, 8C-4D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.93**	**114**	*e*P	**Pn**	**01 55 08.8**	**+0.5**
	68nm,0.2s						
ZSN				*e*S	**Sn**	**01 55 22.7**	**+1.0**
	234nm,0.3s						
MK31	**Makanchi Array**	**1.37**	**221**	⇑P	**Pg**	**01 55 15.4**	**-0.1**
	2.2nm,0.2s,baz=47,slow=12,SNR=724						
MK31				S	**Sg**	**01 55 32.8**	**-0.5**
	12nm,0.2s,baz=46,slow=31,SNR=30						
MAKZ	**Makanchi**	**1.51**	**228**	⇓P	**Pg**	**01 55 17.3**	**-0.8**
	7.8nm,0.3s						
MAKZ				⇑S	**Sg**	**01 55 37.1**	**-0.6**
	62nm,0.5s						
DGZ	**Jazzator, Alta**	**3.15**	**52**	Pn	**Pb**	**01 55 41.9**	**-3.3**
DGZ				Pg	**Pg**	**01 55 49.6**	**+0.2**
DGZ				S	**Sn**	**01 56 16.6**	**0.0**
DGZ				Sg	**Sb**	**01 56 26.1**	**+2.3**
UKR	**Ust'-Kan**	**3.20**	**13**	Pn	**Pn**	**01 55 42.3**	**+2.7**
UKR				Pg	**Pg**	**01 55 50.2**	**-0.4**
UKR				Sg	**Sb**	**01 56 28.4**	**+3.1**
SEM	**Semipalatinsk**	**3.40**	**321**	Pg	**Pb**	**01 55 51.8**	**+2.2**
	6.3nm,0.2s						
SEM				Lg	Lg	01 56 36.5	
	30nm,0.1s						
SEM	**Semipalatinsk**	**3.40**	**321**	*e*P	**Pb**	**01 55 51.8**	**+2.2**
	6.3nm,0.2s						
SEM				*e*S	**Sg**	**01 56 36.5**	**-1.8**
	30nm,0.1s						
CHBI	**Chibit, Altay**	**3.57**	**44**	Pn	**Pn**	**01 55 48.1**	**+3.4**
CHBI				Pg	**Pg**	**01 55 57.7**	**+0.2**
CHBI				Sg	**Sg**	**01 56 40.2**	**-3.5**
AKAR	**Aktash**	**3.63**	**45**	Pn	**Pb**	**01 55 49.3**	**-4.2**
AKAR				Pg	**Pg**	**01 55 59.0**	**+0.4**
AKAR				Sg	**Sg**	**01 56 42.7**	**-3.0**
ELDR	**Elanda**	**3.76**	**25**	Pn	**Pn**	**01 55 50.9**	**+3.7**
ELDR				Pg	**Pg**	**01 56 00.2**	**-0.9**
ELDR				Sg	**Sg**	**01 56 49.5**	**-0.2**
CUR	**Chagan-Uzun**	**3.86**	**52**	Pn	**Pn**	**01 55 52.4**	**+3.6**
CUR				Pg	**Pg**	**01 56 02.8**	**-0.3**
CUR				Sg	**Sg**	**01 56 50.0**	**-3.1**
ULGR	**Ulagan, Altay**	**3.99**	**44**	Pn	**Pn**	**01 55 53.6**	**+3.1**
ULGR				Pg	**Pg**	**01 56 04.2**	**-1.4**
ULGR				Sg	**Sg**	**01 56 53.5**	**-3.8**
KURBB	**Kurchatov Arra**	**4.35**	**312**	⇑Pn	**Pn**	**01 55 55.6**	**+0.3**
	1.8nm,0.4s						
KURBB				⇓Lg	Lg	01 57 06.8	
	108nm,0.7s						
KURK	**Kurchatov**	**4.36**	**313**	⇓Pn	**Pn**	**01 55 54.7**	**-0.7**
	2.3nm,0.7s						
KURK				⇓Sn	**Sn**	**01 56 46.5**	**+0.2**
	3.6nm,0.5s						
KURK				⇑Lg	Lg	01 57 07.0	
	23nm,0.4s						
DJR	**Jarkent**	**4.39**	**219**	Pg	**Pg**	**01 56 09.5**	**-3.8**
	3.1nm,0.4s						
DJR				Lg	Lg	01 57 07.0	
	12nm,0.5s						
DJR	**Jarkent**	**4.39**	**219**	*e*P	**Pg**	**01 56 10.6**	**-2.7**
	3.0nm,0.4s						
DJR				*e*S	**Sg**	**01 57 08.9**	**-1.3**
	12nm,0.5s						
GALT	**Gorno-Altaysk,**	**4.40**	**19**	Sg	**Sb**	**01 57 04.5**	**+4.8**
TDK	**Taldyqorghan**	**4.58**	**234**	Pg	**Pg**	**01 56 13.8**	**-3.0**
	26nm,0.3s						
TDK				Lg	Lg	01 57 15.1	
	52nm,0.5s						
TDK	**Taldyqorghan**	**4.58**	**234**	*e*P	**Pg**	**01 56 13.8**	**-3.0**
	26nm,0.3s						
TDK				*e*S	**Sg**	**01 57 15.1**	**-1.0**
	52nm,0.5s						
ARTR	**Artybash**	**4.63**	**29**	Pn	Pb	01 56 04.4	-6.1
ARTR				Pg	**Pg**	**01 56 20.5**	**+2.7**
ARTR				Sg	**Sg**	**01 57 13.7**	**-4.0**
KNOS	**Konyrlen**	**4.64**	**223**	Pg	**Pb**	**01 56 12.7**	**+1.9**
	4.0nm,0.2s						
KNOS				Lg	Lg	01 57 12.3	
	18nm,0.4s						
YALR	**Yailyu, Altay**	**4.72**	**32**	Pn	**Pn**	**01 56 04.7**	**+4.3**
YALR				Pg	**Pg**	**01 56 20.2**	**+0.7**
YALR				Sg	**Sg**	**01 57 15.7**	**-4.9**
BLB	**Baldybastay**	**5.17**	**226**	Pg	**Pg**	**01 56 24.8**	**-3.4**
	7.3nm,0.4s						
BLB				Lg	Lg	01 57 33.4	
	15nm,0.7s						
PDGK	**Podgornoye**	**5.35**	**214**	⇑Pn	**Pn**	**01 56 12.8**	**+3.7**
	8.1nm,1.2s						
PDGK				⇑Lg	Lg	01 57 38.2	
	11nm,0.7s						
TEL	**Teeli**	**5.36**	**51**	Pn	**Pn**	**01 56 13.2**	**+4.0**
TEL				Pg	**Pg**	**01 56 31.5**	**-0.2**
TEL				Sg	**Sg**	**01 57 42.8**	**+1.7**
ARXS	**Arharly**	**5.41**	**230**	Pg	**Pg**	**01 56 28.6**	**-4.2**
	0.8nm,0.1s						
ARXS				Lg	Lg	01 57 40.2	
	21nm,0.7s						
SHLS	**Shalkode**	**5.51**	**213**	Pg	**Pb**	**01 56 26.4**	**+0.9**
	4.4nm,0.3s						
SHLS				Lg	Lg	01 57 35.8	
	15nm,0.4s						
SHLS	**Shalkode**	**5.51**	**213**	*e*P	**Pb**	**01 56 26.4**	**+0.9**
	4.4nm,0.3s						
SHLS				*e*S	**Sb**	**01 57 36.5**	**+4.9**
	15nm,0.4s						
KPKS	**Kokpek**	**5.56**	**220**	Pg	**Pb**	**01 56 30.1**	**+3.7**
KPKS				Lg	Lg	01 57 43.2	
	26nm,0.6s						
KPKS	**Kokpek**	**5.56**	**220**	*e*P	**Pb**	**01 56 30.5**	**+4.1**
	4.2nm,0.3s						
KPKS				*e*S	**Sg**	**01 57 44.0**	**-3.8**
	26nm,0.6s						
UZB	**Uzynbulak**	**5.68**	**216**	Pg	**Pb**	**01 56 32.3**	**+3.8**
UZB				Lg	Lg	01 57 45.9	
UZB	**Uzynbulak**	**5.68**	**216**	*e*P	**Pb**	**01 56 32.3**	**+3.8**
UZB				*e*S	**Sg**	**01 57 46.2**	**-5.4**
ELT	**Eltsovka**	**5.69**	**16**	S	**Sn**	**01 57 18.0**	**-1.0**
ELT				Sg	**Sg**	**01 57 48.7**	**-3.1**
SATY	**Saty**	**6.01**	**219**	*e*P	Pb	01 56 28.6	-5.5
	0.8nm,0.1s						
SATY				*e*S	**Sb**	**01 57 40.2**	**-5.9**
	21nm,0.5s						
VEH	**Verkhnyaya Baz**	**6.91**	**36**	S	**Sn**	**01 57 48.8**	**-0.3**
VEH				Sg	**Sg**	**01 58 27.3**	**-3.5**
OTUK	**Ortayu**	**7.57**	**277**	⇑Pn	**Pn**	**01 56 39.8**	**+0.3**
	3.4nm,1.2s						
OTUK				⇑Lg	Lg	01 58 48.6	
	6.4nm,0.8s						

*TIR **16** 01:57:08.3, 37°.26N×20°.40E, h8km±2km, Md4.1/3, Ml4.5/4*
*GII **16** 01:57:09.4±0.0, 37°.68N×20°.79E, h1km, Mws4.2, confirmed*
*IDC **16** 01:57:14.1±0.7, 37°.70N×20°.73E, h0km, mb4.0/21, mbtmp3.9/37, ML3.7/12, MS3.4/22, Error ellipse: s-maj=13.4km s-min=11.1km az=171.0*
*THE **16** 01:57:15.2, 37°.61N×20°.65E, h0km±3km, ML3.9/5, Error ellipse: s-maj=4.3km s-min=1.0km az=219.0*
*ATH **16** 01:57:15.9, 37°.69N×20°.69E, h12km±1km, ML3.9/28, Manual Solution by A.Agalos First location: 2019/02/16 01:58:08, This location: 2019/02/16 02:38:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NEIC **16** 01:57:15.5±2.4, 37°.54N±0°.05×20°.72E±0°.06, h10km±2km, mb4.2/8, Error ellipse: s-maj=11.0km s-min=5.1km az=223.0*
*MCSM **16** 01:57:17.0±1.6, 38°.N±6°.×2°.1E±°, h29km±18km, mb4.1, MLv4.3*
*PDG **16** 01:57:19.3±1.6, 37°.61N×20°.80E, h2km±11km, ML4.1/12, Error ellipse: s-maj=4.2km s-min=8.8km az=0.0*
*NAO **16** 01:57:20.6, 37°.61N×20°.66E, h10km, mb4.0*
*BEO **16** 01:57:27.5±0.6, 38°.45N×20°.50E, h15km±7km, ML3.7/12*
ISC 16 01:57:15.8±0.8, 37°.64N±0°.03×20°.69E±0°.02, h15km±4km, n369, σ1.9 98/419, mb4.1/28, MS3.4/13, 24C-17D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.14**	**57**	P	**Pg**	**01 57 18.9**	**-0.7**
LTHK				S	**Sg**	**01 57 21.2**	**-0.9**
	124μm,0.2s						
LTHK	**Lithakia**	**0.14**	**57**	P	**Pg**	**01 57 19.0**	**-0.6**
LTHK				S	**Sg**	**01 57 21.0**	**-1.1**
KYPS	**Kipseli, Zakin**	**0.21**	**29**	P	**Pg**	**01 57 20.6**	**-0.1**
KYPS				S	**Sg**	**01 57 22.8**	**-1.2**
ORTH	**Orthonies,Zaky**	**0.22**	**1**	P	**Pg**	**01 57 20.4**	**-0.5**
ORTH				S	**Sg**	**01 57 22.5**	**-1.6**
CLEM	**Kyllini,Ilia,G**	**0.43**	**54**	P	**Pg**	**01 57 24.4**	**-0.1**
CLEM				S	**Sg**	**01 57 30.0**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.45**	**8**	P	**Pg**	**01 57 24.3**	**-0.5**
RTZL				S	**Sg**	**01 57 31.6**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.49**	**350**	P	**Pg**	**01 57 25.0**	**-0.5**
PSDA				S	**Sg**	**01 57 32.7**	**+0.6**
	20μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**350**	P	**Pg**	**01 57 25.1**	**-0.5**
PSDA				S	**Sg**	**01 57 30.9**	**-1.2**
LCHA	**Lechaina**	**0.54**	**56**	P	**Pg**	**01 57 26.8**	**+0.2**
LCHA				S	**Sg**	**01 57 32.9**	**-1.0**
VLS	**Valsamata**	**0.55**	**351**	P	**Pg**	**01 57 25.9**	**-0.8**
VLS				S	**Sg**	**01 57 35.0**	**+1.0**
	16μm,0.5s						
VLS	**Valsamata**	**0.55**	**351**	P	**Pg**	**01 57 26.1**	**-0.6**
VLS				S	**Sg**	**01 57 32.3**	**-1.8**
SMHA	**Samh**	**0.62**	**357**	P	**Pg**	**01 57 26.6**	**-1.4**
SMHA				S	**Sg**	**01 57 34.5**	**-1.7**
DMLN	**Damoulianata-K**	**0.65**	**337**	P	**Pg**	**01 57 27.9**	**-0.8**
DMLN	**Damoulianata-K**	**0.65**	**337**	P	**Pg**	**01 57 27.9**	**-0.8**
DMLN				S	**Sg**	**01 57 35.8**	**-1.5**
RLS	**Riolos of Patr**	**0.74**	**55**	P	**Pg**	**01 57 29.8**	**-0.5**
RLS				S	**Sb**	**01 57 40.8**	**+0.4**
	7μm,0.7s						
RLS	**Riolos of Patr**	**0.74**	**55**	P	**Pg**	**01 57 29.9**	**-0.5**
RLS				S	**Sg**	**01 57 39.4**	**-0.8**
ZARO	**Zacharo**	**0.77**	**101**	P	**Pb**	**01 57 31.2**	**+0.2**
ZARO				S	**Sb**	**01 57 42.2**	**+0.9**
AXS	**Araxos**	**0.78**	**44**	P	**Pg**	**01 57 30.5**	**-0.5**
AXS				S	**Sg**	**01 57 40.2**	**-1.1**
AMT	**Artemida-Makis**	**0.81**	**97**	P	**Pg**	**01 57 31.4**	**-0.3**
AMT				S	**Sb**	**01 57 43.4**	**+0.9**
FSK	**Fiskardo**	**0.83**	**353**	P	**Pg**	**01 57 30.6**	**-1.4**
FSK				S	**Sg**	**01 57 43.2**	**+0.3**
	7μm,0.4s						
FSK	**Fiskardo**	**0.83**	**353**	P	**Pg**	**01 57 30.6**	**-1.4**
FSK				S	**Sg**	**01 57 41.5**	**-1.5**
DRO	**Drossia**	**0.87**	**68**	P	**Pg**	**01 57 32.1**	**-0.6**
DRO	**Drossia**	**0.87**	**68**	P	**Pg**	**01 57 32.3**	**-0.4**
DRO				S	**Sg**	**01 57 44.1**	**0.0**
EVGI	**Lefkada island**	**0.98**	**358**	P	**Pg**	**01 57 33.3**	**-1.6**
EVGI	**Lefkada island**	**0.98**	**358**	P	**Pg**	**01 57 33.6**	**-1.4**
EVGI				S	**Sg**	**01 57 46.5**	**-1.3**
PATG	**Patra B**	**1.02**	**53**	P	**Pg**	**01 57 35.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.05**	**355**	P	**Pg**	**01 57 34.5**	**-1.7**
DRAG	**Dragano-Lefkad**	**1.05**	**355**	P	**Pg**	**01 57 34.9**	**-1.3**
DRAG				S	**Sg**	**01 57 48.8**	**-1.2**
PATC	**Patra C**	**1.05**	**53**	P	**Pg**	**01 57 35.8**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.08**	**0**	P	**Pg**	**01 57 34.7**	**-2.0**
UPR	**University Cam**	**1.08**	**53**	P	**Pg**	**01 57 36.5**	**-0.2**
ITM	**Ithomi**	**1.08**	**114**		**Pg**	**01 57 35.7**	**-1.0**
ITM	**Ithomi**	**1.08**	**114**	P	**Pg**	**01 57 35.6**	**-1.2**
ITM	**Ithomi**	**1.08**	**114**	P	**Pn**	**01 57 37.4**	**+1.0**
MTHA	**Methoni**	**1.15**	**135**	P	**Pn**	**01 57 38.2**	**+0.9**
MTHA				S	**Sn**	**01 57 53.9**	**+1.2**
LKD2	**Lefkada island**	**1.15**	**359**	⇓*e*Pn	**Pg**	**01 57 37.0**	**-1.1**
LKD2				Sn	**Sn**	**01 58 00.4**	**+7.4**
LKD2				AML	AML	01 58 03.4	
	21nm,0.7s						
LKD2				AMd		02 00 29.9	
LKD2	**Lefkada island**	**1.15**	**359**	P	**Pg**	**01 57 36.3**	**-1.8**
LKD2	**Lefkada island**	**1.15**	**359**	P	**Pg**	**01 57 36.6**	**-1.5**
PVO	**Paravola**	**1.18**	**34**	P	**Pb**	**01 57 37.6**	**-0.3**
TSLK	**Tsoukalades, L**	**1.19**	**359**	P	**Pb**	**01 57 36.8**	**-1.3**
TSLK	**Tsoukalades, L**	**1.19**	**359**	P	**Pb**	**01 57 37.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.22**	**70**	P	**Pb**	**01 57 38.1**	**-0.6**
KLV	**Kalavryta, Ach**	**1.22**	**70**	P	**Pb**	**01 57 38.4**	**-0.3**
EFP	**Efpalio**	**1.24**	**50**	P	**Pn**	**01 57 38.6**	**-0.1**
EFP	**Efpalio**	**1.24**	**50**	P	**Pn**	**01 57 38.5**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.28**	**60**	P	**Pn**	**01 57 39.9**	**+0.7**
GUR	**Goura**	**1.34**	**77**	P	**Pn**	**01 57 40.0**	**-0.1**
GUR	**Goura**	**1.34**	**77**	P	**Pn**	**01 57 40.6**	**+0.5**
GUR				S	**Sb**	**01 57 57.6**	**-0.1**
ANX	**Ano Chora**	**1.36**	**45**	P	**Pn**	**01 57 40.5**	**+0.1**
ANX	**Ano Chora**	**1.36**	**45**	P	**Pn**	**01 57 40.8**	**+0.5**
ANX				S	**Sb**	**01 57 57.7**	**-0.6**
KALE	**Kalithea**	**1.37**	**56**	P	**Pn**	**01 57 40.4**	**0.0**
KALE	**Kalithea**	**1.37**	**56**	P	**Pn**	**01 57 41.2**	**+0.7**
ARTB	**Arta**	**1.54**	**8**	P	**Pn**	**01 57 41.9**	**-0.7**
EVR	**Evrytania**	**1.55**	**34**	P	**Pb**	**01 57 44.7**	**+0.4**
EVR	**Evrytania**	**1.55**	**34**	P	**Pn**	**01 57 44.0**	**+1.0**
DLFA	**Delphi**	**1.65**	**59**	P	**Pn**	**01 57 45.2**	**+0.9**
PRGA	**Parga**	**1.66**	**352**	P	**Pn**	**01 57 45.1**	**+0.7**
TETR	**Tetrakomo, Epi**	**1.77**	**15**	P	**Pn**	**01 57 46.5**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.78**	**39**	P	**Pb**	**01 57 48.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.78**	**39**	P	**Pn**	**01 57 47.1**	**+1.0**
IGT	**Igoumenitsa**	**1.92**	**352**	⇓*e*Pn	**Pb**	**01 57 50.7**	**+0.2**
IGT				Sn	**Sg**	**01 58 20.5**	**+3.0**
IGT				AMd		02 00 53.2	
IGT	**Igoumenitsa**	**1.92**	**352**	P	**Pn**	**01 57 48.5**	**+0.6**
IGT	**Igoumenitsa**	**1.92**	**352**	P	**Pn**	**01 57 48.6**	**+0.6**
AXAR	**Agios Charalam**	**1.92**	**53**	P	**Pb**	**01 57 50.5**	**0.0**
AXAR	**Agios Charalam**	**1.92**	**53**	P	**Pn**	**01 57 48.5**	**+0.6**
KRND	**KRANIDI**	**1.97**	**97**	P	**Pb**	**01 57 52.0**	**+0.6**
KRND	**KRANIDI**	**1.97**	**97**	P	**Pn**	**01 57 49.5**	**+0.9**
VLI	**Veliai**	**2.01**	**116**	P	**Pb**	**01 57 51.9**	**-0.2**
VLI	**Veliai**	**2.01**	**116**	P	**Pn**	**01 57 50.7**	**+1.5**
JAN	**Janina**	**2.02**	**3**	P	**Pb**	**01 57 52.3**	**0.0**
JAN	**Janina**	**2.02**	**3**	P	**Pn**	**01 57 49.8**	**+0.4**
MET5	**Makryloggos,Me**	**2.12**	**90**	P	**Pn**	**01 57 52.0**	**+1.3**
MET6	**Megalochori,Me**	**2.12**	**90**	P	**Pn**	**01 57 51.4**	**+0.8**
VIL2	**Platees**	**2.12**	**73**	P	**Pn**	**01 57 51.2**	**+0.6**
VILL	**Villia**	**2.14**	**75**	P	**Pb**	**01 57 53.9**	**-0.4**
THL	**Klokotos Trika**	**2.19**	**28**	P	**Pb**	**01 57 54.3**	**-0.8**
THL	**Klokotos Trika**	**2.19**	**28**	P	**Pn**	**01 57 52.6**	**+1.0**
KEK	**Kerkira**	**2.19**	**342**		**Pn**	**01 57 53.3**	**+1.6**
KEK	**Kerkira**	**2.19**	**342**	P	**Pn**	**01 57 53.0**	**+1.3**
KEK	**Kerkira**	**2.19**	**342**	P	**Pn**	**01 57 52.0**	**+0.3**
AIDA	**Aidipsos**	**2.22**	**56**	P	**Pn**	**01 57 53.0**	**+0.9**
SRN	**Sarande**	**2.31**	**347**	P	**Pn**	**01 57 55.0**	**+1.7**
SRN				S	**Sg**	**01 58 31.4**	**+1.4**
SRN				AML	AML	01 58 41.1	
	2.6nm,0.7s						
SRN	**Sarande**	**2.31**	**347**	P	**Pn**	**01 57 54.5**	**+1.3**
KPRO	**Kipourio**	**2.38**	**13**	P	**Pb**	**01 57 57.7**	**-0.6**
KPRO	**Kipourio**	**2.38**	**13**	P	**Pn**	**01 57 53.7**	**-0.6**
TYRN	**Tyrnavos**	**2.40**	**30**	P	**Pn**	**01 57 56.8**	**+2.3**
TYRN	**Tyrnavos**	**2.40**	**30**	P	**Pn**	**01 57 55.3**	**+0.8**
ATH	**Athens Observa**	**2.42**	**81**	P	**Pn**	**01 57 55.0**	**+0.2**
LRSO	**Larissa Observ**	**2.43**	**33**	P	**Pn**	**01 57 57.6**	**+2.7**
ATHP	**Athens-Neo Psi**	**2.47**	**81**	P	**Pn**	**01 57 56.1**	**+0.6**
VLY	**Voula,Athens**	**2.47**	**84**	P	**Pn**	**01 57 57.6**	**+2.1**
VLY	**Voula,Athens**	**2.47**	**84**	P	**Pn**	**01 57 56.8**	**+1.3**
ATHU	**Athens Univers**	**2.47**	**81**	P	**Pn**	**01 57 56.7**	**+1.2**
LSK	**Leskovik**	**2.51**	**358**	⇑*e*P	**Pn**	**01 57 58.9**	**+2.7**
LSK				S	**Sg**	**01 58 37.4**	**+0.8**
LSK				AML	AML	01 58 51.1	
	6.3nm,0.8s						
LSK	**Leskovik**	**2.51**	**358**	P	**Pn**	**01 57 58.6**	**+2.4**
PTL	**Penteli**	**2.54**	**80**	P	**Pn**	**01 57 58.0**	**+1.4**
PENT	**Pentalofos**	**2.58**	**8**	P	**Pb**	**01 58 00.6**	**-1.3**
NEO	**Neokhori**	**2.59**	**49**	P	**Pn**	**01 57 57.6**	**+0.4**
DION	**Dionisos Attik**	**2.60**	**79**	P	**Pn**	**01 57 59.5**	**+2.1**
DION	**Dionisos Attik**	**2.60**	**79**	P	**Pn**	**01 57 58.4**	**+1.1**
XOR	**Xorichti**	**2.61**	**48**	P	**Pn**	**01 57 58.0**	**+0.5**
NEST	**Nestorio**	**2.79**	**6**	P	**Pb**	**01 58 03.6**	**-1.9**
NEST				S	**Sb**	**01 58 41.7**	**+2.3**
NEST				AMd		02 00 55.8	
NEST	**Nestorio**	**2.79**	**6**	P	**Pb**	**01 58 03.7**	**-1.7**
NEST	**Nestorio**	**2.79**	**6**	P	**Pn**	**01 57 59.8**	**-0.2**
KZN	**Kozani**	**2.80**	**17**	P	**Pn**	**01 57 59.9**	**-0.2**
LIT	**Litokhoron**	**2.83**	**29**		**Pn**	**01 58 02.8**	**+2.3**
LIT	**Litokhoron**	**2.83**	**29**	P	**Pn**	**01 58 02.4**	**+1.9**
LIT	**Litokhoron**	**2.83**	**29**	P	**Pn**	**01 58 00.7**	**+0.2**
KYMI	**Kymi, Euboea I**	**2.87**	**69**	P	**Pn**	**01 58 01.4**	**+0.5**
KTI	**Kastanea**	**2.97**	**21**	P	**Pn**	**01 58 05.9**	**+3.4**
KBN	**Korca**	**2.98**	**1**		**Pn**	**01 58 06.2**	**+3.6**
KBN	**Korca**	**2.98**	**1**	P	**Pn**	**01 58 05.9**	**+3.2**
KBN				S	**Sb**	**01 58 48.5**	**+3.5**
KBN				AML	AML	01 59 12.8	
	2.2nm,1.0s						
KBN	**Korca**	**2.98**	**1**	P	**Pn**	**01 58 05.9**	**+3.2**
SCTE	**Santa Cesarea**	**2.99**	**325**		**Pn**	**01 58 03.3**	**+0.7**
SCTE	**Santa Cesarea**	**2.99**	**325**	P	**Pn**	**01 58 03.3**	**+0.7**
SCTE	**Santa Cesarea**	**2.99**	**325**	P	**

5.4nm,0.3s,baz=347,slow=10.0,SNR=3.7
VAE LR LR 02 00 11.4
comp=Z,168nm,19.7s,baz=36,slow=35
BOSS Bosilegrad 5.04 15 *e*Pn **Pn 01 58 31.7 +0.8**
RAFF Raffo Rosso 5.05 267 **Pn 01 58 30.1 -0.9**
CEME Cevo 5.09 345⇑ *i*Pn **Pn 01 58 33.7 +2.1**
CEME *i* Sn **Sn 01 59 28.3 -1.8**
HCY Herceg Novi 5.09 341 *e*Pn **Pn 01 58 28.6 -3.0**
HCY Herceg Novi 5.09 341⇓ *i*Pn **Pn 01 58 33.6 +2.0**
HCY *i* Sn **Sn 01 59 30.4 +0.3**
RDO Rodhopi 5.14 45 Pn **Pn 01 58 33.1 +1.0**
BARS Barje 5.25 9 *e*Pn **Pn 01 58 34.4 +0.7**
IVA Berane 5.27 354⇑ *i*Pn **Pn 01 58 35.6 +1.6**
IVA *i* Sn **Sn 01 59 37.1 +2.6**
WDD Wied Dalam 5.27 252 **Pn 01 58 34.8 +0.8**
KOME Kolasin 5.29 351⇓ *i*Pn **Pn 01 58 35.6 +1.3**
KOME *i* Sn **Sn 01 59 35.0 0.0**
NKME Niksic 5.30 346⇑ *i*Pn **Pn 01 58 36.3 +1.9**
NKME *i* Sn **Sn 01 59 35.3 +0.2**
VTS Vitosha 5.34 21 *e*Pn **Pn 01 58 37.1 +1.9**
BRY Bratogost 5.51 343 *e*Pn **Pn 01 58 36.6 -0.8**
BRY Bratogost 5.51 343⇑ *i*Pn **Pn 01 58 39.3 +1.9**
BRY *i* Sn **Sn 01 59 40.8 +0.2**
SELS Selova 5.59 3 *e*Pn **Pn 01 58 39.0 +0.6**
SELS *e*Sn Sn 01 59 31.7 -11
SGRT San Giovanni R 5.61 319 Pn **Pn 01 58 39.2 +0.5**
SGRT San Giovanni R 5.61 319 P **Pn 01 58 39.2 +0.5**
SJES Sjenica 5.65 355 *e*Pn **Pn 01 58 40.1 +0.8**
SJES *e*Sn Sn 01 59 33.4 -10
STON Ston 5.71 337 *e*Pn **Pn 01 58 37.8 -2.2**
PLE Pljevlja 5.78 351⇑ *i*Pn **Pn 01 58 43.0 +2.0**
PLE *i* Sn **Sn 01 59 48.9 +1.9**
ZAPS Zavoj 5.82 14 *e*Pn **Pn 01 58 43.2 +1.6**
PAOL Paolisi 5.83 307 **Pn 01 58 44.3 +2.5**
GOCS Kraljevo Serbi 5.92 1 *e*Pn **Pn 01 58 43.8 +0.8**
IVAS Ivanjica 5.95 356 *e*Pn **Pn 01 58 43.4 0.0**
BOVS Bovan 6.04 7⇓ P **Pn 01 58 45.0 +0.5**
BOVS Bovan 6.04 7 *e*Pn **Pn 01 58 44.4 -0.2**
BOVS *e*Sn Sn 01 59 43.6 -10
RUDO Rudo 6.06 351 *e*Pn **Pn 01 58 43.5 -1.4**
GRUS Gruza 6.25 0 *e*Pn **Pn 01 58 47.6 +0.2**
GRUS *e*Sn Sn 01 59 47.5 -11
ZAGS Zajecar 6.28 10 *e*Pn **Pn 01 58 48.8 +0.9**
BBLS Lazi&#263i 6.30 351 *e*Pn **Pn 01 58 48.9 +0.7**
BBLS Lazi&#263i 6.30 351 *e*Pn **Pn 01 58 48.5 +0.3**
BBLS *e*Sn Sn 01 59 49.6 -10
DIVS Divibare 6.48 356 *e*Pn **Pn 01 58 50.3 -0.4**
DIVS *e*Sn Sn 01 59 53.1 -11
HAPS Han Pijesak,BI 6.58 349 *e*Pn **Pn 01 58 52.0 -0.1**
TRUS Trudelj 6.59 358 *e*Pn **Pn 01 58 51.7 -0.3**
TRUS *e*Sn Sn 01 59 54.8 -12
INTR Introdacqua 6.81 312 Pn **Pn 01 58 58.1 +2.8**
KUBS Kucevo 6.81 6 *e*Pn **Pn 01 58 55.4 +0.2**
VLAD Vladila 6.95 23⇑⇑P **Pn 01 58 59.2 +2.1**
TEKS Tekeris 6.96 353 *e*Pn **Pn 01 58 54.6 -2.6**
TEKS Tekeris 6.96 353 *e*Pn **Pn 01 58 55.9 -1.3**
AVAS Avala Beograd 7.06 359 *e*Pn **Pn 01 58 58.5 0.0**
MDVR Moldovita 7.18 6⇑⇑P **Pn 01 58 59.9 -0.4**
HERR Herculane 7.36 10⇑⇑P **Pn 01 59 03.1 +0.5**
A050A Klekovaca 7.53 337 *e*Pn **Pn 01 59 05.2 +0.2**
FRGS Fruska Gora 7.54 355 *e*Pn **Pn 01 59 04.2 -1.0**
FRGS Fruska Gora 7.54 355 *e*Pn **Pn 01 59 04.8 -0.4**
BLY Banja Luka 7.58 341 *e*Pn **Pn 01 59 06.9 +1.2**
NRCA Norcia 7.78 314 **Pn 01 59 10.5 +2.0**
A051A Mrakovica 7.90 340 *e*Pn **Pn 01 59 09.0 -1.2**
GZR Gura Zlata 7.91 11⇑⇑P **Pn 01 59 10.1 -0.1**
FDMO Fiordimonte 7.92 315 **Pn 01 59 12.8 +2.3**
BZS Buzias 8.01 5⇑⇑P **Pn 01 59 10.6 -1.0**
LOT Lotru 8.14 15⇓⇓P **Pn 01 59 14.2 +0.8**
SURR Surduc 8.18 7⇓⇓P **Pn 01 59 14.0 +0.1**
ARR Arges 8.27 20⇑⇑P **Pn 01 59 16.5 +1.3**
VOIR 8.45 21⇑⇑P **Pn 01 59 19.9 +2.2**
VOIR 8.45 21 P **Pn 01 59 19.4 +1.7**
14nm,0.9s
SIRR Siria 8.66 4⇑⇑P **Pn 01 59 20.9 +0.4**
ISR Istrita 8.67 29⇓⇓P **Pn 01 59 24.0 +3.3**
MORH Mrgy, Hungar 8.71 351⇓⇓P **Pn 01 59 20.4 -0.7**
MLR Muntele Rosu 8.78 25 Pn **Pn 01 59 25.0 +2.7**
0.5nm,0.3s,baz=161,slow=5.1,SNR=11
MLR LR LR 02 02 53.7
comp=Z,218nm,20.2s,baz=202,slow=39
9.5nm,0.8s
MLR Muntele Rosu 8.78 25⇓⇓P **Pn 01 59 23.9 +1.6**
MLR Muntele Rosu 8.78 25 P **Pn 01 59 24.7 +2.5**
16nm,1.3s
BOJS Bojanci 8.85 334 *i* Pn **Pn 01 59 23.5 +0.3**
BOJS Bojanci 8.85 334 *e*Pn **Pn 01 59 22.7 -0.4**
DOPR Dopca 9.03 21⇓⇓P **Pn 01 59 27.1 +1.5**
GBRS Gornja Briga 9.03 333 *i* Pn **Pn 01 59 26.2 +0.5**
CRES Cresnjevec Ost 9.07 336 *e*Pn **Pn 01 59 24.5 -1.6**
MARR Marisel-Cluj 9.21 10⇓⇓P **Pn 01 59 28.4 +0.2**
DRGR 9.27 9⇓⇓P **Pn 01 59 29.8 +0.8**
SPBR Spulber 9.28 27⇓⇓P **Pn 01 59 31.7 +2.6**
KEST Kesra 9.31 262 Pn **Pn 01 59 31.1 +1.5**
KEST Kesra 9.31 262 Pn **Pn 01 59 30.6 +1.1**
0.4nm,0.3s,baz=86,slow=8.9,SNR=7.8
KEST Sn **Sn 02 01 10.3 -3.7**
0.1nm,0.3s,baz=101,slow=20,SNR=1.3
KEST LR LR 02 03 07.2
comp=Z,122nm,21.5s,baz=56,slow=38
5.4nm,0.8s
PLOR Plostina 9.34 27⇑⇑P **Pn 01 59 32.0 +2.2**
SKDS Skadanscina 9.35 330 *e*Pn **Pn 01 59 28.1 -1.9**
CEY Cerknica 9.35 332 *e*Pn **Pn 01 59 29.3 -0.7**
VRI Vrincioaia 9.38 27⇓⇓P **Pn 01 59 32.8 +2.4**
VRI Vrincioaia 9.38 27 P **Pn 01 59 32.7 +2.4**
20nm,1.7s
PDKS Podkum 9.43 335 *i* Pn **Pn 01 59 30.9 -0.2**
MPLH Magyarpolny 9.81 347 P **Pn 01 59 36.7 +0.5**
16nm,1.1s
SABO M.te Sabotino 9.87 330 **Pn 01 59 36.8 -0.4**
SOKA Soboth 9.96 337 *e*Pn **Pn 01 59 37.4 -1.0**
2.2nm,0.3s
SOKA *i* Sn **Sn 02 01 23.5 -6.4**
4.8nm,0.6s
OBKA Obir 9.97 335 *i* Pn **Pn 01 59 39.2 +0.7**
2.7nm,0.4s
OBKA *e*Sn **Sn 02 01 27.4 -2.7**
14nm,0.6s
OBKA Obir 9.97 335 *e*Pn **Pn 01 59 37.7 -0.8**
BMR Baia Mare 10.24 11⇓⇓P **Pn 01 59 42.0 -0.2**
BR106 Keskin Array S 10.32 74 P **Pn 01 59 44.0 +0.6**
2.5nm,1.1s
BRTR Keskin Array B 10.34 74 Pn **Pn 01 59 46.4 +2.8**
0.3nm,0.3s,baz=263,slow=12,SNR=10.0
BRTR LR LR 02 04 46.4
comp=Z,180nm,18.4s,baz=272,slow=44
0.6nm,0.8s
ARSA Arzberg 10.34 340 *i* Pn **Pn 01 59 43.1 -0.4**
1.8nm,0.4s
ARSA *e*Sn **Sn 02 01 32.3 -6.7**
1.2nm,0.4s
MYKA Terra Mystica 10.40 332 *i* Pn **Pn 01 59 44.6 +0.2**
1.0nm,0.3s
MYKA *e*Sn **Sn 02 01 36.1 -4.4**
4.8nm,0.7s
RONA Rosalia, Austr 10.56 344 *i* Sn **Sn 02 01 40.3 -4.3**
2.1nm,0.5s
BERU Beregovo 10.69 7 P **Pn 01 59 48.8 +0.5**
CTI Castel Tesino 10.77 324 **Pn 01 59 49.6 +0.1**
KECS Kecovo 10.84 359 *e*PN **Pn 01 59 51.0 +0.6**
CONA Conrad Observa 10.88 343 *i* Pn **Pn 01 59 52.7 +1.7**
0.6nm,0.5s
KBA Koelnbreinsper 10.88 332 *i* Pn **Pn 01 59 51.8 +0.7**
0.7nm,0.4s
KBA *e*Sn **Sn 02 01 46.7 -5.9**
5.0nm,0.6s
NSLU Nyzhne Selyshc 10.91 13 Pn **Pn 01 59 49.9 -1.4**
ABTA Abfaltersbach 10.94 329 *i* Pn **Pn 01 59 52.7 +1.0**
1.6nm,0.5s
ABTA *e*Sn **Sn 02 01 48.6 -5.2**
20nm,0.7s
MOA Molln 11.24 337 *i* Pn **Pn 01 59 55.8 -0.1**
2.5nm,0.4s
MOA *i* Sn **Sn 02 01 56.4 -4.9**
3.7nm,0.5s
BIOA Bad Ischl, Aus 11.31 335 *i* Pn **Pn 01 59 57.5 +0.8**
2.8nm,0.4s
BIOA *i* Sn **Sn 02 01 58.0 -4.8**
4.3nm,0.6s
CHRU Chernivtsi 11.32 18 P **Pn 01 59 57.8 +0.9**
19nm,0.5s
KOLS Kolonicke sedl 11.35 5 *e*PN **Pn 01 59 58.5 +1.1**

LESA Schwarzleotal 11.42 331 *i* Pn **Pn 01 59 58.6 +0.1**
3.4nm,0.5s
LESA *i* Sn **Sn 02 02 02.3 -3.4**
7.8nm,0.5s
KMPD K-Podol'skiy 11.70 19 P **Pn 02 00 02.7 +0.6**
WTTA Wattenberg 11.71 328 *i* Pn **Pn 02 00 03.4 +1.0**
1.8nm,0.4s
WTTA *i* Sn **Sn 02 02 08.6 -4.3**
8.2nm,0.6s
WATA Walderalm 11.79 328 *i* Pn **Pn 02 00 03.6 0.0**
2.7nm,0.5s
WATA *e*Sn **Sn 02 02 10.8 -4.1**
10nm,0.8s
SQTA Sankt Quirin 11.86 327 *i* Pn **Pn 02 00 05.6 +1.2**
1.6nm,0.4s
SQTA *i* Sn **Sn 02 02 13.2 -3.2**
9.6nm,0.7s
FETA Feichten 11.92 325 *i* Pn **Pn 02 00 05.6 +0.3**
1.6nm,0.7s
FETA *i* Sn **Sn 02 02 13.8 -4.2**
2.6nm,0.6s
MOTA Moosalm 12.00 327 *e*Pn **Pn 02 00 05.9 -0.5**
2.7nm,0.6s
MOTA *e*Sn **Sn 02 02 16.5 -3.4**
8.7nm,0.7s
VRAC Vranov 12.04 347 Pn **Pn 02 00 08.5 +1.8**
0.1nm,0.3s,baz=245,slow=20,SNR=1.9
VRAC LR LR 02 06 04.7
comp=Z,156nm,19.1s,baz=176,slow=44
1.3nm,0.8s
DAVOX Davos/Dischmat 12.14 322 Pn **Pn 02 00 09.5 +1.1**
0.5nm,0.3s,baz=150,slow=20
DAVOX Sn **Sn 02 02 18.3 -5.3**
0.5nm,0.3s,baz=188,slow=11,SNR=2.7
DAVOX LR LR 02 05 18.7
comp=Z,161nm,18.3s,baz=120,slow=40
BAL3X Bal3x, Balta 12.19 30 P **Pn 02 00 10.5 +1.7**
TUE Stuetta 12.20 320 Pn **Pn 02 00 09.9 +0.8**
RETA Reutte 12.26 327 *i* Pn **Pn 02 00 09.2 -0.6**
0.2nm,0.3s
RETA *i* Sn **Sn 02 02 21.9 -4.3**
5.8nm,0.7s
GERES GERESS Array B 12.30 338 Pn **Pn 02 00 09.4 -1.0**
0.2nm,0.3s,baz=159,slow=8.6,SNR=4.3
GERES Sn **Sn 02 02 21.2 -6.0**
0.4nm,0.3s,baz=153,slow=27,SNR=6.3
GERES LR LR 02 05 02.0
comp=Z,51nm,19.2s,baz=153,slow=38
0.5nm,0.4s
DAVA Damuels 12.51 324 *i* Pn **Pn 02 00 14.8 +1.5**
0.7nm,0.3s
DAVA *e*Sn **Sn 02 02 25.9 -6.5**
11nm,0.8s
KHC Kasperske Hory 12.59 338 *e*PN **Pn 02 00 14.9 +0.5**
KHC *e*SN **Sn 02 02 28.3 -6.0**
MMAI Mount Meron Ar 12.86 107 Pn **Pn 02 00 17.3 -0.9**
1.0nm,0.3s,baz=286,slow=12,SNR=7.7
MMAI Sn **Sn 02 02 36.5 -4.5**
0.9nm,0.3s,baz=305,slow=35,SNR=2.0
24nm,1.2s
SLTI Sal'it 12.94 110 P Pn 02 00 13.6 -5.5
SLTI Sal'it 12.94 110 S **Sn 02 02 38.4 -4.5**
MMLI Mount Malkishu 13.13 109 P Pn 02 00 16.4 -5.4
MMLI Mount Malkishu 13.13 109 S **Sn 02 02 43.1 -4.5**
SALP Salfit 13.13 111 P Pn 02 00 16.3 -5.5
SALP Salfit 13.13 111 S **Sn 02 02 42.8 -4.9**
KZIT Kziot 13.16 117 P Pn 02 00 16.6 -5.6
KZIT Kziot 13.16 117 S **Sn 02 02 44.3 -4.0**
AMAZ Amatzia 13.20 113 P Pn 02 00 17.2 -5.5
AMAZ Amatzia 13.20 113 S **Sn 02 02 44.3 -4.9**
LUBAR Lubar, Ukraine 13.29 20 P **Pn 02 00 25.2 +1.4**
HMDT Nahal Hemdat 13.30 109 P Pn 02 00 18.6 -5.4
HMDT Nahal Hemdat 13.30 109 S **Sn 02 02 47.2 -4.3**
YTIR Yattir 13.43 113 P Pn 02 00 20.4 -5.6
YTIR Yattir 13.43 113 S **Sn 02 02 50.3 -4.7**
DSI Dead Sea 13.52 112 P Pn 02 00 21.6 -5.4
DSI Dead Sea 13.52 112 S **Sn 02 02 52.5 -4.5**
GHAJ Ghor Haditha 13.79 113 P Pn 02 00 25.2 -5.5
GHAJ Ghor Haditha 13.79 113 S **Sn 02 02 59.1 -4.5**
PRNI Paran 13.91 117 P Pn 02 00 27.5 -4.9
PRNI Paran 13.91 117 S **Sn 02 03 01.9 -4.6**
ZFRI Zfri 13.92 116 P Pn 02 00 26.8 -5.6
ZFRI Zfri 13.92 116 S **Sn 02 03 01.9 -4.7**
RNPP5 Staryi Chortor 14.08 14 P **Pn 02 00 37.3 +2.7**
HRFI Mount Harif 14.12 118 P Pn 02 00 29.8 -5.5
HRFI Mount Harif 14.12 118 S **Sn 02 03 07.3 -4.3**
MBRI Mt Berech 14.18 119 P Pn 02 00 30.6 -5.5
MBRI Mt Berech 14.18 119 S **Sn 02 03 08.6 -4.6**
RNPP8 Varash 14.18 13 P **Pn 02 00 37.4 +1.5**
MI28 Mi28,Pidlybu 14.19 18 P **Pn 02 00 38.1 +2.0**
EIL Elat 14.28 120 Pn **Pn 02 00 36.1 -1.3**
0.3nm,0.3s,baz=335,slow=3.2,SNR=5.5
EIL Sn Sn 02 03 02.3 -13
0.2nm,0.3s,baz=30,slow=13,SNR=2.2
6.4nm,0.9s
EIL Elat 14.28 120 P Pn 02 00 31.8 -5.6
EIL Elat 14.28 120 S **Sn 02 03 11.7 -3.8**
ASF Jabal al Asfar 14.37 107 Pn **Pn 02 00 39.7 +1.0**
0.1nm,0.3s,baz=261,slow=19,SNR=1.5
2.0nm,0.8s
AKASG Malin Array Be 14.41 22 Pn **Pn 02 00 38.4 -0.7**
0.5nm,0.5s,baz=210,slow=9.0,SNR=19
AKASG LR LR 02 07 32.3
comp=Z,102nm,18.7s,baz=208,slow=43
SUW Suwalki 16.47 5 P **Pn 02 01 06.8 +0.7**
KVAR Kislovodsk Arr 17.79 62 P **P 02 01 24.2 +0.6**
baz=270,slow=12
0.9nm,0.6s
KBZ Khabaz 17.88 63 P **P 02 01 25.4 +1.0**
0.1nm,0.3s,baz=231,slow=12,SNR=2.2
0.3nm,0.3s
GNI Garni 18.88 75 P **P 02 01 36.7 +1.1**
0.2nm,0.3s,baz=323,slow=20,SNR=2.4
GNI LR LR 02 10 19.7
comp=Z,114nm,18.5s,baz=271,slow=42
6.3nm,1.0s
ESDC Sonseca Array 19.35 284 P **P 02 01 41.5 +0.8**
0.1nm,0.3s,baz=80,slow=11,SNR=16
3.7nm,1.0s
OBN Obninsk 20.54 27 P **P 02 01 53.0 -0.5**
5.2nm,0.4s,baz=232,slow=19,SNR=1.9
5.2nm,0.4s
MTSE Matsula 21.19 5 *e*P **P 02 02 01.0 +0.6**
MDT Midelt 21.20 264 P **P 02 02 01.6 +0.8**
3.9nm,0.8s,baz=86,slow=8.9,SNR=5.2
MDT LR LR 02 09 42.1
comp=Z,67nm,20.6s,baz=134,slow=35
3.9nm,0.8s
VSU Vasula 21.21 9 *e*P **P 02 02 00.9 +0.2**
MEF Metsahovi 22.73 5 *e*P **P 02 02 17.8 +0.9**
HFS Hagfors 22.96 351 P **P 02 02 18.3 -1.0**
3.2nm,0.5s,baz=168,slow=11,SNR=21
HFS LR LR 02 13 02.1
comp=Z,112nm,18.7s,baz=12,slow=41
3.2nm,0.5s
RAF Rauma 23.42 1 *e*P **P 02 02 24.1 +0.1**
NC602 NORSAR Array S 23.84 349 P **P 02 02 27.8 -0.2**
NC602 IAmb IAmb 02 03 09.5
comp=Z,21nm,1.3s
EKA Eskdalemuir Ar 23.95 325 P **P 02 02 30.4 +1.2**
comp=Z,5.4nm,0.8s,baz=128,slow=8.8,SNR=8.4
comp=Z,5.4nm,0.8s
FINES FINESS Array B 24.07 6 P **P 02 02 30.2 0.0**
FINES FINESS Array B 24.07 6 P **P 02 02 29.9 -0.3**
comp=Z,1.9nm,0.4s,baz=173,slow=11,SNR=26
FINES LR LR 02 12 42.0
comp=Z,147nm,19.7s,baz=193,slow=39
comp=Z,1.9nm,0.4s
FIA1 FINESS Array S 24.07 6 P **P 02 02 30.1 -0.1**
NB2 NORSAR Subarra 24.18 349 P **P 02 02 31.6 +0.3**
comp=Z,3.0nm,0.9s,baz=162,slow=9.3
NOA NORSAR Array B 24.18 349 P **P 02 02 31.6 +0.3**
comp=Z,3.6nm,1.1s,baz=149,slow=9.7,SNR=5.5
NOA LR LR 02 13 15.2
comp=Z,53nm,18.8s,baz=170,slow=40
comp=Z,3.6nm,1.1s
KEF Keuruu 24.70 5 *e*P **P 02 02 37.7 +1.7**
VAF Ylistaro 25.47 2 *e*P **P 02 02 44.8 +1.9**
KIRV Kirov 28.04 32 LR LR 02 14 34.8
comp=Z,96nm,19.0s,baz=228,slow=37
AKTO Aktyubinsk 29.40 52 P **P 02 03 17.4 -1.0**
comp=Z,1.4nm,0.5s,baz=275,slow=8.1,SNR=6.8
comp=Z,1.4nm,0.5s
TORD Torodi Ar. Bea 29.70 220 P **P 02 03 22.1 +0.9**
comp=Z,2µm,0.3s,baz=27,slow=9.6,SNR=1.4
ABKAR Akbulak array 30.44 55 P **P 02 03 27.8 +0.3**
ABKAR Akbulak array 30.44 55 P **P 02 03 27.6 +0.1**

ARTI Arti 31.27 41 P **P 02 03 34.1 -0.7**
comp=Z,1.6nm,0.4s,baz=193,slow=7.8,SNR=5.1
comp=Z,1.6nm,0.4s
ARCES ARCESS Array B 32.07 3 P **P 02 03 41.1 -0.5**
comp=Z,3.8nm,0.9s,baz=185,slow=9.4,SNR=10
ARCES LR LR 02 18 08.3
comp=Z,131nm,19.7s,baz=144,slow=39
comp=Z,3.8nm,0.9s
BORG Borgarnes 36.65 331 LR LR 02 19 25.2
comp=Z,17nm,19.8s,baz=82,slow=36
BVAR Borovoye Array 37.37 49 P **P 02 04 27.4 -0.3**
comp=Z,0.8nm,0.5s,baz=290,slow=5.3,SNR=6.6
comp=Z,0.8nm,0.5s
KKAR Karatay Array 37.89 66 P **P 02 04 32.5 +0.3**
KKAR IAmb IAmb 02 04 36.7
comp=Z,3.5nm,1.4s
KKAR Karatay Array 37.89 66 P **P 02 04 33.5 +1.3**
GAR Garm 38.57 72 IAmb IAmb 02 04 42.0
comp=Z,5.3nm,1.1s
DBIC Dimbokro 38.59 223 P **P 02 04 39.5 +1.2**
comp=Z,4.0nm,1.0s,baz=360,slow=6.9,SNR=5.0
comp=Z,4.0nm,1.0s
BBTS Babate 40.11 245 LR LR 02 23 57.9
comp=Z,79nm,18.4s,baz=304,slow=40
SPITS Spitsbergen Ar 40.69 359 P **P 02 04 55.7 +0.6**
comp=Z,6.2nm,1.0s,baz=194,slow=10.0,SNR=1.4
SPITS LR LR 02 24 23.2
comp=Z,68nm,19.1s,baz=140,slow=40
comp=Z,6.2nm,1.0s
KURBB Kurchatov Arra 42.45 53 P **P 02 05 09.5 -0.3**
comp=Z,1.1nm,0.5s,baz=281,slow=8.8,SNR=11
KURBB LR LR 02 25 00.6
comp=Z,47nm,18.4s,baz=170,slow=39
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 45.47 58 P **P 02 05 35.5 +1.3**
MK31 IAmb IAmb 02 05 53.1
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 45.47 58 P **P 02 05 34.1 -0.1**
MKAR Makanchi Array 45.47 58 P **P 02 05 33.9 -0.3**
comp=Z,0.7nm,0.5s,baz=272,slow=7.1,SNR=10
comp=Z,0.7nm,0.5s
ZAA0 Zalesovo Array 45.95 48 P **P 02 05 39.9 +2.0**
ZAA0 IAmb IAmb 02 05 44.2
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 45.95 48 P **P 02 05 38.6 +0.8**
ZALV Zalesovo Beam 45.95 48 P **P 02 05 37.5 -0.4**
comp=Z,1.8nm,0.5s,baz=273,slow=9.5,SNR=6.5
comp=Z,1.8nm,0.5s
NRIK Noril'sk 47.22 26 P **P 02 05 47.1 -0.5**
comp=Z,0.8nm,0.5s,baz=352,slow=7.1,SNR=1.3
NRIK LR LR 02 27 48.4
comp=Z,47nm,18.1s,baz=266,slow=39
comp=Z,0.8nm,0.5s
SCHQ Schefferville 58.95 318 P **P 02 07 14.8 +0.5**
comp=Z,1.9nm,0.8s,baz=76,slow=8.3,SNR=2.1
comp=Z,1.9nm,0.8s
SONM Songino Array 60.70 50 P **P 02 07 26.1 -0.4**
comp=Z,0.3nm,0.6s,baz=289,slow=9.0,SNR=1.8
comp=Z,0.3nm,0.6s
YAK Yakutsk 65.52 29 LR LR 02 38 21.1
comp=Z,45nm,18.6s,baz=284,slow=38
HHC Hu-ho-hao-te 67.23 55 *e*P P 02 08 05.4 -4.2
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,81nm,5.8s
PZH PanZhiHua 67.63 73 P **P 02 08 13.4 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
RCBR Riachuelo 68.07 244 LR LR 02 39 21.6
comp=Z,20nm,18.1s,baz=234,slow=37
CMAR Chiang Mai Arr 69.83 82 P **P 02 08 26.5 +0.4**
comp=Z,1.6nm,0.3s,baz=299,slow=8.5,SNR=4.1
comp=Z,1.6nm,0.3s
YKA Yellowknife Ar 73.95 340 P **P 02 08 50.1 +0.1**
comp=Z,0.3nm,0.7s,baz=33,slow=4.9,SNR=5.3
comp=Z,0.3nm,0.7s
ILAR Eielson Array 77.46 355 P **P 02 09 11.3 +1.2**
comp=Z,0.2nm,0.6s,baz=348,slow=4.1,SNR=6.6
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 120.38 93 PKP **PKPdf 02 16 07.5 +0.7**
comp=Z,0.4nm,1.1s,baz=314,slow=2.2,SNR=1.4
ASAR Alice Springs 121.98 97 PKP **PKiKP 02 16 12.5 +2.5**
comp=Z,0.5nm,1.0s,baz=310,slow=2.1,SNR=4.2

WEL 16 02:07:08.3±1.3,34°S±7°×17°9E±1°6,h33km,M4.1/7,
ML4.2/11,MLv4.1/7,Error ellipse: s-maj=21.5km
s-min=8.8km az=95.0,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.51**	**193**	P	Pn	02 08 02.4	+1.9
MXZ				S	Sn	02 08 41.8	+1.0
WMGZ	**Waiomatatini S**	**3.74**	**191**	P	Pn	02 08 04.8	+1.2
WMGZ				S	Sn	02 08 48.3	+1.8
HAZ	**Te Kaha**	**3.81**	**198**	P	Pn	02 08 05.5	+0.8
HAZ				S	Sn	02 08 52.1	+3.8
PUZ	**Puketiti**	**4.01**	**192**	P	Pn	02 08 07.3	-0.2
PUZ				S	Sn	02 08 53.9	+0.6
RUGZ	**Raukumara Rang**	**4.04**	**199**	P	Pn	02 08 08.1	+0.2
RUGZ				S	Sn	02 08 55.2	+1.2
TWGZ	**Tauwhareparae**	**4.17**	**195**	P	Pn	02 08 09.3	-0.3
TWGZ				S	Sn	02 08 58.3	+1.2
OPRZ	**Ohinepanea**	**4.31**	**210**	P	Pn	02 08 12.2	+0.6
CNGZ	**Carnagh Statio**	**4.42**	**191**	P	Pn	02 08 12.5	-0.6
MWZ	**Matawai**	**4.42**	**198**	P	Pn	02 08 12.4	-0.8
MWZ				S	Sn	02 09 03.3	-0.1
TKGZ	**Te Karaka**	**4.45**	**195**	P	Pn	02 08 12.3	-1.1
TKGZ				S	Sn	02 09 02.5	-1.5
WCZ	**Waipu Caves**	**4.45**	**245**	P	Pn	02 08 14.2	+0.8
URZ	**Urewera**	**4.47**	**203**	P	Pn	02 08 12.9	-0.8
URZ				S	Sn	02 09 03.6	-1.1
TARZ	**Mount Tarawera**	**4.67**	**208**	P	Pn	02 08 18.3	+1.7
RIGZ	**Rimuhau**	**4.72**	**195**	P	Pn	02 08 15.6	-1.6
MUGZ	**Murupara**	**4.78**	**205**	P	Pn	02 08 16.6	-1.5
RTZ	**Ruatahuna**	**4.84**	**202**	P	Pn	02 08 17.0	-1.9
SNGZ	**Shannon Statio**	**4.89**	**198**	P	Pn	02 08 18.6	-0.9
PRGZ	**Paritu Road**	**4.91**	**193**	P	Pn	02 08 17.8	-1.9
PRRZ	**Plateau Road**	**4.94**	**208**	P	Pn	02 08 20.0	-0.2
ALRZ	**Allen Road**	**5.01**	**208**	P	Pn	02 08 20.4	-0.8
KNZ	**Kokohu**	**5.04**	**195**	P	Pn	02 08 19.4	-2.1
RAHZ	**Arahi**	**5.09**	**200**	P	Pn	02 08 20.4	-1.8
MTHZ	**Maungataniwha**	**5.10**	**202**	P	Pn	02 08 20.2	-2.2
MHGZ	**Mahia Peninsul**	**5.12**	**192**	P	Pn	02 08 20.5	-2.2
TLZ	**Tolley Road**	**5.17**	**215**	P	Pn	02 08 24.9	+1.5
WHHZ	**Waihua**	**5.20**	**198**	P	Pn	02 08 21.9	-1.8
NMHZ	**Naumai**	**5.34**	**201**	P	Pn	02 08 23.7	-2.0
ARHZ	**Aropaoanui**	**5.43**	**199**	P	Pn	02 08 25.3	-1.7
BKZ	**Black Stump Fm**	**5.50**	**203**	P	Pn	02 08 24.9	-3.0
NTVZ	**North Tongarir**	**5.74**	**209**	P	Pn	02 08 28.8	-2.6
TMVZ	**Te Maari**	**5.74**	**209**	P	Pn	02 08 28.7	-2.6
KWHZ	**Kaweka Forest**	**5.75**	**203**	P	Pn	02 08 28.2	-3.3
CKHZ	**Cape Kidnapper**	**5.79**	**197**	P	Pn	02 08 29.4	-2.4
OTVZ	**Oturere**	**5.80**	**209**	P	Pn	02 08 29.3	-2.8
SNVZ	**South Ngauruho**	**5.83**	**209**	P	Pn	02 08 29.7	-2.9
NGZ	**Ngauruhoe**	**5.84**	**210**	P	Pn	02 08 31.0	-1.7
KAHZ	**Kahuranaki**	**5.96**	**198**	P	Pn	02 08 30.6	-3.8
WNVZ	**Wahianoa**	**5.97**	**209**	P	Pn	02 08 31.0	-3.5
KRHZ	**Kereru**	**5.97**	**202**	P	Pn	02 08 29.8	-4.6
MOVZ	**Moawhango**	**5.98**	**207**	P	Pn	02 08 30.3	-4.2
PXZ	**Pawanui**	**6.19**	**198**	P	Pn	02 08 33.6	-3.8
PNHZ	**Pukenui**	**6.27**	**202**	P	Pn	02 08 33.2	-5.3
PRHZ	**Porangahau**	**6.47**	**198**	P	Pn	02 08 36.4	-4.9

---

*IDC **16** 02:35:42.6±1.5,3°.16S×146°.16E,h0km,mb4.0/9,*
mbtmp4.1/9,MS3.4/13,Error ellipse: s-maj=48.9km
s-min=19.7km az=100.0
ISC 16 02:35:47.9±1.3,3°.2S±0°.1×146°.1E±0°.3,h35km,n19,
σ1§12/9,mb4.1/8,MS3.4/9,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**5.47**	**277**	LR	LR	02 39 08.6	
	comp=Z,202nm,19.2s,baz=107,slow=38						
PMG	**Port Moresby**	**6.29**	**171**	LR	LR	02 39 25.6	
	comp=Z,219nm,18.0s,baz=344,slow=36						
HNR	**Honiara**	**15.07**	**115**	LR	LR	02 45 04.6	
	comp=Z,169nm,19.0s,baz=324,slow=37						
GUMO	**Guam**	**16.68**	**356**	LR	LR	02 44 16.6	
	comp=Z,154nm,20.9s,baz=96,slow=31						

WRA Warramunga Arr 20.28 214 P **P 02 40 19.7 -1.0**
11nm,0.9s,baz=37,slow=11,SNR=28
WRA LR LR 02 49 11.2
comp=Z,110nm,18.6s,baz=43,slow=40
11nm,0.9s
ASAR Alice Springs 23.58 209 P **P 02 40 54.6 -1.0**
6.8nm,0.8s,baz=35,slow=9.9,SNR=43
ASAR LR LR 02 49 59.3
comp=Z,127nm,21.1s,baz=41,slow=36
6.8nm,0.8s
FITZ Fitzroy Crossi 24.98 232 P **P 02 41 07.5 -1.0**
7.4nm,0.9s,baz=43,slow=9.3,SNR=17
FITZ LR LR 02 51 26.9
comp=Z,193nm,19.1s,baz=58,slow=38
7.4nm,0.9s
KAPI Kappang 26.39 265 LR LR 02 53 57.2
comp=Z,14nm,18.5s,baz=102,slow=42
DZM Mont Dzumac 27.24 135 LR LR 02 51 23.5
comp=Z,171nm,18.2s,baz=274,slow=35
STKA Stephens Creek 28.89 188 P **P 02 41 44.8 +1.3**
0.7nm,0.4s,baz=354,slow=18,SNR=3.6
0.7nm,0.4s
JOW Kunigami 34.45 331 LR LR 02 53 46.1
comp=Z,89nm,21.1s,baz=12,slow=31
NWAO Narrogin (SRO) 40.12 219 LR LR 03 00 26.0
comp=Z,152nm,19.3s,baz=195,slow=37
URZ Urewera 44.95 145 LR LR 03 01 16.3
comp=Z,28nm,20.1s,baz=27,slow=34
CMAR Chiang Mai Arr 51.19 297 P **P 02 44 48.4 +0.2**
1.0nm,0.3s,baz=113,slow=7.7,SNR=5.4
1.0nm,0.3s
RAR Rarotonga 55.52 114 LR LR 03 08 18.6
comp=Z,16nm,18.2s,baz=236,slow=35
MKAR Makanchi Array 74.77 320 P **P 02 47 24.9 +0.3**
1.5nm,0.9s,baz=110,slow=6.5,SNR=11
1.5nm,0.9s
KURBB Kurchatov Arra 78.46 323 P **P 02 47 45.4 +0.2**
0.3nm,0.4s,baz=101,slow=5.2,SNR=4.8
0.3nm,0.4s
ILAR Eielson Array 83.22 23 P **P 02 48 09.2 -1.2**
0.3nm,0.8s,baz=264,slow=5.4,SNR=2.0
0.3nm,0.8s
BVAR Borovoye Array 83.98 324 P **P 02 48 15.8 +1.2**
1.8nm,0.7s,baz=96,slow=8.8,SNR=10
1.8nm,0.7s

---

*CATAC **16** 02:42:08.4±9.5, 10°N±23°×8°5W±6°3, h387km±82km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=136.0km s-min=48.4km az=92.2, rejected*
*UCR **16** 02:42:37.8±0.9, 10°.58N×86°.42W, h17km±7km, MW3.9*
ISC 16 02:42:34.9±1.9**, 10°.48N**±0°.08×**86°.5W**±0°.1**, h10**km**, n29,**
σ0.95/29, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.98**	**84**	*e*P	**Pb**	**02 42 55.0**	**+0.9**
LCRUZ	**La Cruz**	**1.07**	**56**	*e*P	**Pg**	**02 42 54.9**	**-0.7**
NICO	**Nicoya**	**1.13**	**108**	*e*P	**Pg**	**02 42 56.5**	**-0.1**
PLVR	**Palo Verde**	**1.18**	**96**	*e*P	**Pg**	**02 42 57.3**	**-0.2**
INDI	**Punta indio, G**	**1.19**	**121**	P	**Pb**	**02 42 57.1**	**-0.5**
VRLE	**La Escondida,**	**1.19**	**75**	*e*P	**Pg**	**02 42 57.2**	**-0.6**
GPS2	**Hotel Rincn d**	**1.20**	**77**	*e*P	**Pg**	**02 42 57.5**	**-0.4**
VORI	**VORI**	**1.22**	**74**	*e*P	**Pg**	**02 42 57.6**	**-0.8**
JAPN	**AI SSO del Vol**	**1.34**	**39**	P	**Pb**	**02 42 59.9**	**-0.2**
CUI	**Cuipilapa**	**1.36**	**83**	*e*P	**Pn**	**02 43 00.1**	**+0.1**
CONN	**Concepcion**	**1.40**	**40**	P	**Pn**	**02 42 58.8**	**-1.7**
SABN	**Sabanita**	**1.51**	**14**	P	**Pg**	**02 43 05.9**	**+2.0**
TENO	**El Achiote**	**1.55**	**82**	*e*P	**Pn**	**02 43 02.4**	**-0.3**
JUNT	**Juntas**	**1.57**	**97**	*e*P	**Pn**	**02 43 03.1**	**+0.2**
JTS	**Las Juntas de**	**1.57**	**97**	*e*P	**Pn**	**02 43 02.9**	**-0.1**
TISN	**Laguna Tiscapa**	**1.67**	**9**	P	**Pn**	**02 43 05.6**	**+1.4**
COPN	**Copaltepe**	**1.69**	**358**	P	**Pn**	**02 43 04.0**	**-0.4**
MTEVE	**Monteverde**	**1.69**	**95**	*e*P	**Pn**	**02 43 05.2**	**+0.5**
APQ2	**Apoyeque**	**1.72**	**7**	P	**Pn**	**02 43 04.5**	**-0.3**
ARE1	**Arenal 1**	**1.79**	**91**	*e*P	**Pn**	**02 43 06.8**	**+0.9**
VARE2	**V. Arenal**	**1.79**	**91**	*e*P	**Pn**	**02 43 06.8**	**+0.8**
CEDE	**Laguna Cedeo**	**1.81**	**90**	*e*P	**Pn**	**02 43 06.8**	**+0.7**
VACR	**Volcan Arenal**	**1.83**	**90**	*e*P	**Pn**	**02 43 07.7**	**+1.2**
FORC	**Fortuna**	**1.84**	**90**	*e*P	**Pn**	**02 43 08.0**	**+1.4**
MOMN	**Momotombo**	**1.91**	**360**	P	**Pn**	**02 43 07.1**	**-0.5**
MACN	**El Madrono**	**1.98**	**356**	P	**Pn**	**02 43 08.1**	**-0.4**
CNGA	**AI SSO del Vol**	**2.00**	**355**	P	**Pn**	**02 43 08.5**	**-0.4**
PACN	**AI O del Volca**	**2.02**	**353**	P	**Pn**	**02 43 08.8**	**-0.3**
ROCN	**Rota Cerro Neg**	**2.03**	**354**	P	**Pn**	**02 43 07.0**	**-2.3**

---

*JMA **16** 02:53:19.7±0.6, 46°N±4°×15°1E±°, h30km, MV5.3/17, KURILE ISLANDS REGION*
*NIED **16** 02:53:19.7, 45°.73N×151°.39E, h30km, MW4.5, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; M_{rr}5.48; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$-2.80; $M_{r\theta}$-3.38; $M_{\theta\phi}$-3.44; $M_{r\phi}$0.62; Fault plane solution: $M_0$6.78000×10^15^ NP1:ϕ_s23.00000°, δ40.00000°, λ53.00000°. NP2:ϕ_s248.00000°, δ59.00000°, λ117.00000°.*
*BJI **16** 02:53:20.4, 45°.28N×151°.36E, h38km, mB4.7/16, mb4.8/61, Ms4.3/23, Ms7 4.2/23*
*MOS **16** 02:53:20.9±0.9, 45°.39N×151°.38E, h41km, mb5.0/33, Error ellipse: s-maj=6.1km s-min=4.5km az=105.5*
*SKHL **16** 02:53:21.0±0.2, 45°.20N×151°.60E, h55km±7km, mb5.4/8, ms4.2/5*
*NEIC **16** 02:53:21.6±2.3, 45°.31N±0°.08×151°.5E±0°.1, h35km±2km, mb4.8/68, Error ellipse: s-maj=20.1km s-min=5.4km az=131.0*
*IDC **16** 02:53:24.2±2.3, 45°.51N×151°.30E, h53km±19km, mb3.9/26, mbtmp4.2/34, ML4.1/6, MS3.7/37, Error ellipse: s-maj=17.5km s-min=11.4km az=151.0*
ISC 16 02:53:22.4±0.7**, 45°.18N**±0°.05×**151°.50E**±0°.05**, h52**km±5km**, n446,** σ1**30**/432**, mb4.7**/130**, MS3.9**/41**, 33C-39D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**273**	*e*PN	**Pn**	**02 54 00.6**	**-0.9**
KUR				*e*S	**Sn**	**02 54 31.7**	**+0.1**
KUR				pmax	pmax		
	comp=Z,539nm,0.3s						
KUR				pmax	pmax		
	comp=N,160nm,0.2s						
KUR				pmax	pmax		
	comp=E,185nm,0.2s						
KUR				smax	smax		
	comp=N,4μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.6s						
KUR				MLR	MLR		
	comp=Z,3μm,11.0s						
KUR	**Kuril'sk**	**2.57**	**273**	*i* P	**Pn**	**02 54 00.8**	**-0.7**
KUR				AMB	AMB	02 54 01.7	
	comp=Z,540nm,0.3s						
KUR				*i* S	**Sn**	**02 54 30.5**	**-1.1**
KUR				A	A	02 54 39.2	
	comp=Z,4μm,0.6s						
KUR				A	A	02 54 39.2	
	comp=Z,2μm,0.6s						
KUR				AMS	AMS	02 55 17.0	
	comp=Z,3μm,11.0s						
KUR				AMS	AMS	02 55 17.0	
	comp=Z,4μm,11.0s						
SHO	**Shikotan**	**3.59**	**250**	PN	**Pn**	**02 54 14.3**	**-1.2**
SHO	**Shikotan**	**3.59**	**250**	*i* P	**Pn**	**02 54 14.5**	**-1.0**
SHO				AMB	AMB	02 54 17.0	
	comp=Z,260nm,0.4s						
SHO				*i* S	**Sn**	**02 54 54.8**	**-1.8**
SHO				A	A	02 54 59.6	
	comp=Z,720nm,0.5s						
SHO				A	A	02 54 59.6	
	comp=Z,1μm,0.5s						
SHO				AMS	AMS	02 55 50.2	
	comp=Z,1μm,11.0s						
SHO				AMS	AMS	02 55 50.2	
	comp=Z,2μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**4.19**	**256**	*c* iPN	**Pn**	**02 54 23.9**	**+0.2**
YUK				*i* S	**Sn**	**02 55 11.0**	**-0.3**
YUK				pmax	pmax		
	comp=N,112nm,0.2s						
YUK				pmax	pmax		
	comp=E,134nm,0.2s						
YUK				pmax	pmax		
	comp=Z,454nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.7s						
YUK				smax	smax		
	comp=N,858nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.19**	**256**	*i* P	**Pn**	**02 54 23.9**	**+0.2**
YUK				AMB	AMB	02 54 25.0	
	comp=N,450nm,0.2s						
YUK				*i* S	**Sn**	**02 55 11.0**	**-0.3**
YUK				A	A	02 55 18.0	
	comp=N,860nm,0.7s						
YUK				A	A	02 55 18.0	
	comp=N,2μm,0.7s						
YUK				AMS	AMS	02 56 28.0	
	comp=N,2μm,15.0s						
YUK				AMS	AMS	02 56 28.0	
	comp=N,3μm,15.0s						
NEM2	**Nemuro 2**	**4.52**	**248**	*i* P	**Pn**	**02 54 27.1**	**-1.1**
NEM2				S	**Sn**	**02 55 18.0**	**-1.3**
NMR	**Nemuro--Hokkai**	**4.52**	**249**	*e*PN	**Pn**	**02 54 26.8**	**-1.5**
NMR	**Nemuro--Hokkai**	**4.52**	**249**	*e*P	**Pn**	**02 54 27.3**	**-1.0**
NMR				*e*S	**Sn**	**02 55 17.9**	**-1.7**
RUSJ	**Misakicho**	**4.59**	**259**	*e*PN	**Pn**	**02 54 30.7**	**+1.5**
RUSJ				*e*S	**Sn**	**02 55 25.0**	**+3.8**
JRA	**Rausu**	**4.73**	**257**	P	**Pn**	**02 54 32.2**	**+1.1**
JRA				*e*S	**Sn**	**02 55 26.3**	**+1.8**
JNK	**Nakash**	**5.12**	**254**	P	**Pn**	**02 54 36.6**	**+0.2**
JNK				S	**Sn**	**02 55 33.9**	**-0.2**
AKK	**Akkeshi**	**5.26**	**248**	*e*P	**Pn**	**02 54 37.4**	**-1.0**
JAK	**Akkeshi**	**5.37**	**248**	*i* P	**Pn**	**02 54 39.0**	**-0.9**
JAK				*e*S	**Sn**	**02 55 38.5**	**-1.7**
JTKR	**Abashiri--Toko**	**5.56**	**260**	P	**Pn**	**02 54 43.4**	**+0.9**
JAR	**Ashorobuto**	**5.87**	**254**	P	**Pn**	**02 54 47.5**	**+0.8**
JAR				*e*S	**Sn**	**02 55 53.2**	**+0.7**
JOB	**Onbets**	**5.98**	**250**	P	**Pn**	**02 54 48.1**	**-0.1**
JOB				*e*S	**Sn**	**02 55 53.9**	**-1.3**
SKR	**Severo-Kuril's**	**6.32**	**28**	*e*PN	**Pn**	**02 54 52.1**	**-0.8**
SKR				pmax	pmax		
	comp=Z,231nm,0.5s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SKR	**Severo-Kuril's**	**6.32**	**28**	*e*P	**Pn**	**02 54 52.1**	**-0.8**
SKR				AMB	AMB	02 54 53.8	
	comp=Z,230nm,0.5s						
SKR				*e*S	**Sn**	**02 56 00.9**	**-2.7**
SKR				AMS	AMS	02 56 46.0	
	comp=Z,3μm,14.0s						
SKR				AMS	AMS	02 56 46.0	
	comp=Z,2μm,14.0s						
YSS	**Yuzhno-Sakhali**	**6.34**	**289**	Pn	**Pn**	**02 54 53.0**	**-0.2**
YSS	**Yuzhno-Sakhali**	**6.34**	**289**	*e*PN	**Pn**	**02 54 53.7**	**+0.5**
YSS				*e*S	**Sn**	**02 56 06.3**	**+2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,700nm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzhno-Sakhali**	**6.34**	**289**	*e*P	**Pn**	**02 54 53.7**	**+0.5**
YSS				*e*S	**Sn**	**02 56 04.0**	**-0.2**
YSS				AMS	AMS	02 57 18.0	
	comp=Z,400nm,15.0s						
YSS				AMS	AMS	02 57 18.0	
	comp=Z,700nm,15.0s						
JKK2	**Kamakawa 2**	**6.39**	**261**	P	**Pn**	**02 54 55.4**	**+1.4**
JCH	**Churui**	**6.42**	**249**	P	**Pn**	**02 54 53.7**	**-0.5**
JCH				S	**Sn**	**02 56 04.5**	**-1.6**
JKA	**Kamikawa-asahi**	**6.44**	**264**	Pn	**Pn**	**02 54 56.5**	**+1.9**
ASAJ	**Asahikawa**	**6.44**	**264**	P	**Pn**	**02 54 56.1**	**+1.5**
ASAJ				LR	LR	02 57 37.3	
	comp=Z,8.8nm,0.3s,baz=79,slow=16,SNR=33						
	comp=Z,842nm,18.4s,baz=218,slow=40						
	comp=Z,72nm,0.7s						
JWK2	**Keihoku**	**6.78**	**275**	*e*P	**Pn**	**02 55 02.6**	**+3.3**
ERM	**Erimo**	**6.83**	**245**	Pn	**Pn**	**02 55 01.2**	**+1.2**
ERM	**Erimo**	**6.83**	**245**	*de*PN	**Pn**	**02 55 00.9**	**+1.0**
JAB	**Ashibetsu**	**6.86**	**259**	*e*P	**Pn**	**02 55 02.3**	**+2.0**
JNBK	**Urakawa-nobuka**	**6.97**	**249**	*e*P	**Pn**	**02 55 01.0**	**-0.8**
PAU	**Pauzhetka**	**7.22**	**27**	PN	**Pn**	**02 55 03.2**	**-2.0**
PAU	**Pauzhetka**	**7.22**	**27**	*e*P	**Pn**	**02 55 01.9**	**-3.3**
PAU				AMB	AMB	02 55 10.7	
	comp=Z,60nm,0.5s						
PAU				*e*S	**Sn**	**02 56 22.0**	**-3.7**
PAU				A	A	02 56 27.1	
	comp=Z,60nm,0.4s						
PAU				A	A	02 56 27.1	
	comp=Z,80nm,0.4s						
UGL	**Uglegorsk**	**7.53**	**305**	*e*PN	**Pn**	**02 55 10.7**	**+1.3**
UGL				pmax	pmax		
	comp=Z,60nm,0.6s						
UGL	**Uglegorsk**	**7.53**	**305**	*e*P	**Pn**	**02 55 10.7**	**+1.3**
UGL				AMB	AMB	02 55 12.8	
	comp=Z,60nm,0.6s						
TYV	**Tymovskoe**	**8.21**	**317**	*e*P	**Pn**	**02 55 18.9**	**+0.1**
TYV				*e*S	**Sn**	**02 56 47.4**	**-2.8**
GRL	**Gorelyy**	**8.55**	**28**	PN	**Pn**	**02 55 24.6**	**+1.0**
JANG	**Nango**	**8.77**	**240**	*e*S	**Sn**	**02 56 56.4**	**-7.6**
JTM	**Tenmabayashi**	**8.82**	**244**	Pn	**Pn**	**02 55 26.2**	**-0.9**
JTH	**Tanohata**	**8.83**	**237**	*e*S	**Sn**	**02 56 57.8**	**-7.5**
PEA0B	**Petropavlovsk-**	**8.91**	**25**⇑	*e*PN	**Pn**	**02 55 27.6**	**-0.8**
PETK	**Petropavlovsk-**	**8.91**	**25**	Pn	**Pn**	**02 55 26.3**	**-2.1**
PETK	**Petropavlovsk-**	**8.91**	**25**	P	**Pn**	**02 55 26.1**	**-2.3**
	comp=Z,2.3nm,0.5s,baz=207,slow=13,SNR=11						
PETK	**Petropavlovsk-**	**8.91**	**25**	PN	**Pn**	**02 55 26.3**	**-2.1**
OKH	**Okha**	**10.07**	**329**	*e*P	**Pn**	**02 55 44.0**	**-0.1**
OKH				AMB	AMB	02 55 44.9	
	comp=Z,80nm,0.5s						
NKL	**Nikolayevsk**	**10.66**	**322**	*e*P	**Pn**	**02 55 51.7**	**-0.6**
NKL				AMB	AMB	02 55 55.4	
	comp=Z,40nm,0.3s						
JMM	**Marumori**	**10.85**	**231**	Pn	**Pn**	**02 55 52.4**	**-2.5**
MJAR	**Matsushiro Arr**	**13.24**	**234**	P	**Pn**	**02 56 26.5**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=24,slow=15,SNR=6.0						
MJAR				LR	LR	03 01 53.2	
	comp=Z,131nm,21.7s,baz=44,slow=38						
MAJO	**Matsushiro**	**13.24**	**234**	Pn	**Pn**	**02 56 26.4**	**-1.2**
MAJO	**Matsushiro**	**13.24**	**234**⇑	*e*PN	**Pn**	**02 56 29.1**	**+1.5**
MJB9	**Matsu-Tunnel**	**13.24**	**234**	Pn	**Pn**	**02 56 27.1**	**-0.5**
USA0B	**Ussuriysk Arra**	**13.92**	**273**	Pn	**Pn**	**02 56 35.9**	**-0.9**
USA0B	**Ussuriysk Arra**	**13.92**	**273**	*de*P	**Pn**	**02 56 35.3**	**-1.5**
USRK	**Ussuriysk Ar.**	**13.92**	**273**	P	**Pn**	**02 56 35.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=76,slow=12,SNR=8.2						
USRK				LR	LR	03 01 57.3	
	comp=Z,321nm,18.8s,baz=75,slow=37						
	comp=Z,5.4nm,0.6s						
KLR	**Kul'dur**	**14.02**	**294**	P	**Pn**	**02 56 37.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=99,slow=13,SNR=19						
KLR				LR	LR	03 02 13.8	
	comp=Z,402nm,19.1s,baz=102,slow=38						
	comp=Z,5.7nm,1.0s						
KLR	**Kul'dur**	**14.02**	**294**	*ce*P	**Pn**	**02 56 36.6**	**-1.5**
KLR				pmax	pmax		
	comp=Z,15nm,1.0s						
KLR				MLR	MLR		
	comp=Z,435nm,16.0s						
KLR	**Kul'dur**	**14.02**	**294**	*e*P	**Pn**	**02 56 36.6**	**-1.5**
JGF	**Kuroka**	**14.39**	**233**	Pn	**Pn**	**02 56 42.6**	**-0.6**
MA2	**Magadan**	**14.43**	**358**	P	**Pn**	**02 56 41.3**	**-2.2**
	comp=Z,9.9nm,0.5s,baz=176,slow=12,SNR=17						
MA2				LR	LR	03 02 36.0	
	comp=Z,234nm,18.5s,baz=179,slow=39						
MA2	**Magadan**	**14.43**	**358**	*d* iP	**Pn**	**02 56 41.7**	**-1.8**
MA2	**Magadan**	**14.43**	**358**	*e*P	**Pn**	**02 56 41.7**	**-1.8**
PSTR	**Posyet**	**15.13**	**268**⇑	*e*P	**Pn**	**02 56 50.6**	**-2.1**
MDJ	**Mudanjiang**	**15.54**	**276**	Pn	**Pn**	**02 56 57.2**	**-0.8**
MDJ	**Mudanjiang**	**15.54**	**276**	P	**Pn**	**02 56 57.6**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,18nm,1.2s						
SHEM	**Shemya Is, Ala**	**16.61**	**55**	LR	LR	03 02 40.9	
	comp=Z,182nm,20.8s,baz=290,slow=34						
BNX	**BinXian**	**16.91**	**280**	⇓P	**Pn**	**02 57 13.6**	**-1.6**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH	**HeiHe**	**16.96**	**296**	*e*P	**Pn**	**02 57 14.8**	**-1.0**
HEH				pmax	pmax		
	comp=Z,16nm,1.0s						
HEH				LR	LR		
	comp=Z,140nm,15.5s						
HEH				LR	LR		
	comp=Z,450nm,14.2s						
HEH				LR	LR		
	comp=Z,630nm,16.1s						
SEY	**Seymchan**	**17.80**	**1**	P	**Pn**	**02 57 25.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=171,slow=12,SNR=4.4						
	comp=Z,1.4nm,0.5s						
SEY	**Seymchan**	**17.80**	**1**	⇓*e*P	**P**	**02 57 26.5**	**+0.2**
SEY				pmax	pmax		
	comp=Z,10.0nm,2.5s						
SEY				MLR	MLR		
	comp=Z,292nm,15.0s						
ZEA	**Zeya**	**17.87**	**307**	*e*P	**Pn**	**02 57 25.2**	**-1.9**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZEA				MLR	MLR		
	comp=E,200nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
ZEA	**Zeya**	**17.87**	**307**	*e*P	**Pn**	**02 57 26.0**	**-1.1**
KSRS	**Korea Array**	**19.27**	**255**	P	**Pn**	**02 57 44.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=64,slow=12,SNR=8.8						
KSRS				LR	LR	03 05 11.4	
	comp=Z,171nm,18.5s,baz=60,slow=37						
	comp=Z,3.9nm,0.7s						
KSRS	**Korea Array**	**19.27**	**255**	*e*P	**Pn**	**02 57 44.8**	**+0.7**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSRS	**Korea Array**	**19.27**	**255**	*e*P	**Pn**	**02 57 44.8**	**+0.7**
JNU	**Nakatsue**	**19.95**	**240**	P	**Pn**	**02 57 53.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=66,slow=10.0,SNR=4.5						
JNU				LR	LR	03 07 08.4	
	comp=Z,163nm,18.7s,baz=16,slow=41						
	comp=Z,18nm,1.0s						
YAK	**Yakutsk**	**21.10**	**331**	P	**P**	**02 58 00.1**	**-2.1**
YAK				IAmb	IAmb	02 58 09.0	
	comp=Z,49nm,0.8s						
YAK	**Yakutsk**	**21.10**	**331**	P	**P**	**02 58 01.4**	**-0.7**
	comp=Z,16nm,0.4s,baz=116,slow=1.7,SNR=5.4						
YAK				LR	LR	03 06 42.0	
	comp=Z,126nm,18.2s,baz=112,slow=38						
	comp=Z,16nm,0.4s						
YAK	**Yakutsk**	**21.10**	**331**	*e*P	**P**	**02 58 00.6**	**-1.6**
YAK				*e*		02 58 22.3	
YAK				*e**SS	**sS**	**03 02 14.1**	**+3.6**
YAK				*e*SS	**SnSn**	**03 02 25.0**	**+6.9**
YAK				pmax	pmax		
	comp=Z,34nm,1.4s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.6s						
YAK				pmax	pmax		
	comp=Z,151nm,3.9s						
YAK				pmax	pmax		
	comp=N,161nm,6.4s						
YAK				pmax	pmax		
	comp=E,191nm,4.6s						
BILL	**Bilibino**	**24.18**	**14**⇓	*e*P	**P**	**02 58 33.2**	**-0.3**
BILL				pmax	pmax		
	comp=Z,19nm,2.5s						
BILL				MLR	MLR		
	comp=Z,196nm,16.0s						
XLT	**XiLinHaoTe**	**25.16**	**280**	*e*P	**P**	**02 58 42.5**	**-0.3**
XLT				pmax	pmax		
	comp=Z,18nm,1.1s						
XLT				pmax	pmax		
	comp=Z,110nm,5.1s						
XLT				LR	LR		
	comp=Z,310nm,21.5s						
XLT				LR	LR		
	comp=Z,280nm,13.4s						
BJI	**Beijing**	**26.36**	**271**	P	**P**	**02 58 54.8**	**+1.3**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,44nm,3.8s						
BJI				LR	LR		
	comp=Z,120nm,14.3s						
BJI				LR	LR		
	comp=Z,150nm,14.9s						
BJI				LR	LR		
	comp=Z,150nm,15.1s						
BJT	**Baijiatuau**	**26.38**	**271**	P	**P**	**02 58 55.6**	**+1.9**
BJT				pmax	pmax		
	comp=Z,18nm,1.0s						
TIA	**Tai'an**	**27.39**	**263**	P	**P**	**02 59 03.9**	**+1.1**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.40**	**148**	T	T	03 30 57.8	
	baz=337,slow=76,SNR=355						
H11N1	**WAKE ISLAND Hy**	**28.42**	**148**	T	T	03 30 59.5	
	baz=337,slow=76,SNR=229						
H11N3	**WAKE ISLAND Hy**	**28.42**	**148**	T	T	03 31 02.8	
	baz=337,slow=76,SNR=214						
NJ2	**Nanjing**	**28.47**	**254**	*e*P	**P**	**02 59 14.3**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HNS	**HongShan**	**28.53**	**267**	⇑P	**P**	**02 59 13.9**	**+1.0**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
HNS				LR	LR		
	comp=Z,240nm,14.5s						
HNS				LR	LR		
	comp=Z,210nm,14.0s						
TIXI	**Tiksi**	**28.68**	**345**	P	**P**	**02 59 11.2**	**-2.8**
	comp=Z,1.0nm,0.3s,baz=126,slow=4.7,SNR=3.9						
TIXI				LR	LR	03 12 50.9	
	comp=Z,83nm,18.7s,baz=196,slow=41						
	comp=Z,1.0nm,0.3s						
TIXI	**Tiksi**	**28.68**	**345**⇓	*e*P	**P**	**02 59 11.4**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,136nm,16.0s						
HHC	**Hu-ho-hao-te**	**29.31**	**276**⇓	*i* P	**P**	**02 59 21.3**	**+1.3**
HHC				sP	pwP	02 59 34.8	-2.5
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,64nm,4.4s						
HHC				LR	LR		
	comp=Z,160nm,13.1s						
HHC				LR	LR		
	comp=Z,340nm,13.7s						
HHC				LR	LR		
	comp=Z,480nm,15.7s						
H11S1	**WAKE ISLAND Hy**	**29.45**	**150**	T	T	03 31 28.9	
	baz=338,slow=76,SNR=299						
H11S3	**WAKE ISLAND Hy**	**29.46**	**150**	T	T	03 31 22.5	
	baz=338,slow=76,SNR=225						
H11S2	**WAKE ISLAND Hy**	**29.47**	**150**	T	T	03 31 30.2	
	baz=338,slow=76,SNR=196						
ULN	**Ulaanbaatar**	**30.39**	**291**	P	**P**	**02 59 30.6**	**+1.1**
ULN	**Ulaanbaatar**	**30.39**	**291**⇑	*e*P	**P**	**02 59 30.7**	**+1.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ULN	**Ulaanbaatar**	**30.39**	**291**	*e*P	**P**	**02 59 30.6**	**+1.1**
BTO	**Baotou**	**30.49**	**276**	*e*P	**P**	**02 59 31.9**	**+1.5**
BTO				pP	**pP**	**02 59 41.9**	**-0.5**
BTO				sP	**sP**	**02 59 49.0**	**+1.0**
BTO				PP	**PP**	**03 00 34.8**	**-5.0**
BTO				S	**S**	**03 04 31.4**	**+3.3**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				LR	LR		
	comp=Z,320nm,5.2s						
BTO				LR	LR		
	comp=

LZH pP pP 03 00 37.3 -0.3
LZH sP pwP 03 00 43.3 -0.3
LZH pmax pmax
comp=Z,39nm,1.1s
E24K Your Creek 38.01 32 P **P 03 00 35.3 +0.3**
D24K Happy Valley 38.01 30 P **P 03 00 35.3 +0.3**
D24K IAmb IAmb 03 01 52.6
comp=Z,21nm,1.7s
COLA College 38.07 37⇑ *eP* **P 03 00 36.0 +0.5**
COLA pmax pmax
comp=Z,34nm,3.0s
COLA College 38.07 37 P **P 03 00 36.2 +0.7**
GTA Gaotai 38.12 280 *eP* **P 03 00 37.5 +1.0**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA LR LR
comp=Z,140nm,12.7s
GTA LR LR
comp=Z,130nm,13.4s
GTA LR LR
comp=Z,170nm,14.9s
ILAR Eielson Array 38.48 37 P **P 03 00 38.8 -0.2**
comp=Z,1.0nm,0.6s,baz=263,slow=7.0,SNR=12
ILAR LR LR 03 18 31.4
comp=Z,54nm,19.0s,baz=264,slow=39
comp=Z,1.0nm,0.6s
ILAR Eielson Array 38.48 37 *eP* **P 03 00 39.2 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
D25K Kavik River 38.90 30 P **P 03 00 40.7 -1.8**
DIV Divide 39.16 43 P **P 03 00 45.4 +0.6**
NRIK Noril'sk 39.54 330 LR LR 03 17 57.1
comp=Z,83nm,18.0s,baz=64,slow=38
CD2 Chengdu 39.64 266 P **P 03 00 50.1 +1.0**
CD2 pmax pmax
comp=Z,40nm,1.0s
GYA Guiyang 40.28 258 ⇓P **P 03 00 55.6 +1.0**
GYA pmax pmax
comp=Z,12nm,0.8s
L27K Beaver Creek, 40.81 40 IAmb IAmb 03 01 02.6
comp=Z,20nm,1.7s
M27K Edge Creek, AK 40.87 41 IAmb IAmb 03 01 52.4
comp=Z,32nm,1.8s
I28M Miner Creek 41.39 36 P **P 03 01 04.1 +0.9**
E29M Blow River 41.96 32 P **P 03 01 08.2 +0.5**
L29M L29M 42.47 39 IAmb IAmb 03 01 30.9
comp=Z,26nm,1.8s
ZALV Zalesovo Beam 42.64 307 P **P 03 01 11.3 -2.0**
comp=Z,0.6nm,0.5s,baz=68,slow=6.5,SNR=2.6
ZALV PcP **PcP 03 03 05.2 +0.7**
comp=Z,2.5nm,0.8s,baz=64,slow=3.4,SNR=9.8
comp=Z,0.6nm,0.5s
GOMU GeErMu 43.13 279 P **P 03 01 18.8 +0.8**
GOMU pmax pmax
comp=Z,28nm,0.9s
GOMU LR LR
comp=Z,360nm,14.5s
GOMU LR LR
comp=Z,410nm,14.0s
GOMU LR LR
comp=Z,650nm,14.5s
HYT Haines Junctio 43.19 43 P **P 03 01 19.8 +1.9**
HYT IAmb IAmb 03 01 26.8
comp=Z,49nm,1.8s
INK Inuvik 43.58 31 P **P 03 01 21.6 +0.8**
INK Inuvik 43.58 31 P **P 03 01 21.6 +0.8**
INK pmax pmax
comp=Z,15nm,1.7s
PZH PanZhiHua 43.68 262 P **P 03 01 23.9 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,40nm,4.1s
O30N Mendenhall 43.88 42 P **P 03 01 24.8 +1.4**
O30N IAmb IAmb 03 02 45.4
comp=Z,40nm,1.9s
WMQ Urumqi 44.46 292 *eP* **P 03 01 30.0 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.6s
P33M Teslin, Yukon 45.59 43 P **P 03 01 38.9 +1.9**
P33M IAmb IAmb 03 01 40.5
comp=Z,9.7nm,1.0s
MK31 Makanchi Array 46.68 298 P **P 03 01 44.6 -1.1**
MK31 Makanchi Array 46.68 298 *de*P **P 03 01 45.2 -0.5**
MKAR Makanchi Array 46.68 298 P **P 03 01 45.1 -0.6**
MKAR Makanchi Array 46.68 298 P **P 03 01 45.0 -0.7**
comp=Z,1.6nm,0.5s,baz=69,slow=7.4,SNR=28
MKAR PcP **PcP 03 03 19.3 +0.7**
comp=Z,1.6nm,0.6s,baz=62,slow=3.4,SNR=6.0
MKAR LR LR 03 22 20.8
comp=Z,252nm,18.4s,baz=70,slow=37
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 46.68 298 *eP* **P 03 01 46.0 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 46.68 298 *eP* **P 03 01 46.1 +0.3**
C36M Paulatuk 46.74 29 IAmb IAmb 03 02 02.6
comp=Z,40nm,1.9s
MAKZ Makanchi 46.87 298 P **P 03 01 47.1 -0.1**
MAKZ Makanchi 46.87 298 P **P 03 01 47.1 -0.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.8s
MAKZ Makanchi 46.87 298 P **P 03 01 47.3 +0.1**
KURK Kurchatov 47.31 304 P **P 03 01 49.2 -1.3**
KURK Kurchatov 47.31 304 P **P 03 01 49.4 -1.1**
KURK 03 03 21.7
KURK Kurchatov 47.31 304 P **P 03 01 49.2 -1.3**
KURBB Kurchatov Arra 47.40 304 P **P 03 01 49.4 -1.8**
comp=Z,1.8nm,0.7s,baz=72,slow=8.8,SNR=14
KURBB PcP **PcP 03 03 21.7 +0.7**
comp=Z,1.7nm,1.0s,baz=74,slow=3.8,SNR=6.2
comp=Z,1.8nm,0.7s
JAY Jayapura 48.45 194 LR LR 03 25 59.5
comp=Z,29nm,18.1s,baz=323,slow=40
KRVT Keravat (AS076 49.26 179 LR LR 03 26 10.3
comp=Z,32nm,18.0s,baz=30,slow=40
PHRA Phrae 50.00 255 P **P 03 02 12.5 +1.0**
EUNU Eureka 50.89 11 IAmb IAmb 03 02 17.9
comp=Z,7.9nm,1.0s
CMAR Chiang Mai Arr 50.91 256 P **P 03 02 19.6 +1.2**
comp=Z,2.9nm,0.3s,baz=52,slow=8.2,SNR=7.5
CMAR PcP **PcP 03 03 35.8 +1.5**
comp=Z,1.2nm,0.3s,baz=50,slow=3.6,SNR=4.1
CMAR LR LR 03 26 16.8
comp=Z,64nm,18.5s,baz=35,slow=39
comp=Z,2.9nm,0.3s
CMAR Chiang Mai Arr 50.91 256 *eP* **P 03 02 20.7 +2.3**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR Borovoye Array 51.00 310 P **P 03 02 18.3 -0.4**
comp=Z,0.8nm,0.5s,baz=53,slow=9.6,SNR=5.7
BVAR PcP **PcP 03 03 33.9 -0.2**
comp=Z,2.2nm,0.5s,baz=68,slow=3.4,SNR=7.8
comp=Z,0.8nm,0.5s
BRVK Borovoye 51.04 310⇓ *eP* **P 03 02 17.9 -1.1**
BRVK pmax pmax
comp=Z,17nm,3.8s
BRVK MLR MLR
comp=Z,183nm,17.0s
SHL Shillong 51.21 269 P **P 03 02 21.6 +0.8**
SHL Shillong 51.21 269 P **P 03 02 21.7 +0.8**
SHL pmax pmax
comp=Z,27nm,0.8s
WUS Wushi 51.23 293 IAmb IAmb 03 02 22.5
comp=Z,13nm,0.7s
WUS Wushi 51.23 293 P **P 03 02 21.5 +0.8**
RES Resolute Bay 52.68 18 P **P 03 02 30.7 -0.2**
RES Resolute Bay 52.68 18 P **P 03 02 30.7 -0.2**
RES pmax pmax
comp=Z,6.0nm,1.3s
BOOM Boomskoye usch 52.69 296 P **P 03 02 31.3 -0.3**
YKA Yellowknife Ar 52.86 36 P **P 03 02 32.9 +0.6**
comp=Z,1.7nm,0.9s,baz=299,slow=7.4,SNR=15
YKA PcP **PcP 03 03 41.4 +0.6**
comp=Z,0.4nm,0.8s,baz=290,slow=3.9,SNR=3.9
comp=Z,1.7nm,0.9s
YKA Yellowknife Ar 52.86 36 *eP* **P 03 02 33.4 +1.1**
YKA pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 53.53 297 P **P 03 02 38.1 +0.3**
AAK Ala-Archa 53.53 297 LR LR 03 26 41.0
comp=Z,94nm,20.0s,baz=68,slow=38
AAK Ala-Archa 53.53 297⇑ *eP* **P 03 02 38.0 +0.3**
AAK pmax pmax
comp=Z,11nm,1.7s
AAK MLR MLR
comp=Z,89nm,16.0s
AAK Ala-Archa 53.53 297 *eP* **P 03 02 38.1 +0.3**
AAK Ala-Archa 53.53 297 P **P 03 02 38.1 +0.3**
SPITS Spitsbergen Ar 53.96 350 P **P 03 02 39.2 -1.1**
comp=Z,2.5nm,0.6s,baz=49,slow=15,SNR=7.4
comp=Z,2.5nm,0.6s
ARLS Aral 54.04 296 P **P 03 02 43.0 +1.4**
KSH Kashi 54.22 293 P **P 03 02 47.4 +4.6**
KSH pmax pmax
comp=Z,7.0nm,0.7s
SVE Sverdlovsk 54.22 317 *eP* **P 03 02 40.9 -1.5**
ARSB Arslanbob 55.18 296 IAmb IAmb 03 03 14.1
comp=Z,3.1nm,0.6s
ARTI Arti 55.52 318 P **P 03 02 50.5 -1.3**
ARTI IAmb IAmb 03 02 51.0
comp=Z,7.5nm,1.1s
ARTI Arti 55.52 318*c i*P **P 03 02 50.2 -1.6**
ARTI 03 03 50.6
ARTI S **S 03 10 29.4 -3.7**
ARTI SS **SS 03 14 13.2 -4.6**
ARTI pmax pmax
comp=Z,24nm,2.8s
ARTI Arti 55.52 318 P **P 03 02 50.0 -1.8**
ARTI PcP **PcP 03 03 51.6 +0.4**
ARK Arkit 55.57 297 P **P 03 02 53.7 +1.1**
KK31 Karatay Array 55.78 299 IAmb IAmb 03 02 54.7
comp=Z,5.2nm,0.8s
KKAR Karatay Array 55.78 299 P **P 03 02 53.8 -0.1**
KKAR Karatay Array 55.78 299 P **P 03 02 53.5 -0.4**
KKAR Karatay Array 55.78 299 P **P 03 02 53.5 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
TRKS Terek-Say 56.23 297 P **P 03 02 58.3 +0.9**
NEEM North Greenlan 56.85 6 *i* P **P 03 02 59.2 -2.2**
NEEM IAmb IAmb 03 03 00.7
comp=Z,15nm,1.0s
DRK Karamyk 56.94 295 IAmb IAmb 03 03 04.7
comp=Z,9.0nm,1.0s
DRK Karamyk 56.94 295 P **P 03 03 02.3 -0.3**
BTK Batken 57.25 296 IAmb IAmb 03 03 05.8
comp=Z,11nm,1.0s
BTK Batken 57.25 296 P **P 03 03 04.8 +0.3**
DAG Danmarks Havn 58.17 357 P **P 03 03 09.1 -1.2**
KIRV Kirov 58.36 323⇑ *eP* **P 03 03 12.2 +0.4**
KEV Kevo 58.45 340 P **P 03 03 12.0 -0.3**
ABKAR Akbulak array 58.57 310 P **P 03 03 12.9 -0.6**
ABKAR Akbulak array 58.57 310 P **P 03 03 12.7 -0.8**
ABKAR IAmb IAmb 03 03 14.5
comp=Z,6.8nm,1.1s
KULLO Kullorsuaq 58.99 9 *i* P **P 03 03 15.2 -0.8**
CHGR Chuyangaron 59.10 295 P **P 03 03 17.9 +0.4**
CHGR pmax pmax
comp=Z,56nm,1.1s
SIMJ Simiganj 59.20 295 P **P 03 03 18.2 0.0**
SIMJ Simiganj 59.20 295 P **P 03 03 18.2 0.0**
DZET Dzherino 59.23 296 P **P 03 03 18.7 +0.3**
DZET pmax pmax
comp=Z,15nm,1.0s
NIL Nilore 59.34 288 P **P 03 03 20.3 +1.2**
NIL Nilore 59.34 288 P **P 03 03 20.3 +1.2**
NIL pmax pmax
comp=Z,38nm,0.9s
NIL Nilore 59.34 288 P **P 03 03 20.2 +1.2**
KBL Kabul 61.60 292 P **P 03 03 34.3 -0.5**
KBL Kabul 61.60 292 P **P 03 03 34.3 -0.5**
KBL pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 62.34 3 P **P 03 03 39.3 0.0**
SUMG Summit 62.34 3 P **P 03 03 39.3 0.0**
SUMG pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 62.34 3 *i* P **P 03 03 38.4 -0.9**
SUMG IAmb IAmb 03 03 41.1
comp=Z,7.7nm,0.7s
PSI Prapat 62.38 244 LR LR 03 33 28.9
comp=Z,30nm,18.2s,baz=281,slow=38
NVAR Mina Array Bea 64.17 61 P **P 03 03 53.1 +1.3**
comp=Z,0.1nm,0.3s,baz=314,slow=10,SNR=2.4
comp=Z,0.1nm,0.3s
SCO Scoresbysund 64.56 358 *i* P **P 03 03 52.6 -0.9**
FINES FINESS Array B 64.98 334 P **P 03 03 55.1 -1.3**
comp=Z,6.1nm,0.7s,baz=36,slow=6.3,SNR=23
comp=Z,6.1nm,0.7s
ICESG Greenland Ices 65.75 4 *i* P **P 03 04 01.1 -0.5**
OBN Obninsk 65.97 325 LR LR 03 34 51.8
comp=Z,106nm,18.3s,baz=356,slow=38
PDAR Pinedale Array 66.59 52 P **P 03 04 09.2 +1.8**
comp=Z,0.2nm,0.6s,baz=296,slow=5.5,SNR=2.1
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 66.67 198 P **P 03 04 10.0 +2.4**
comp=Z,2.6nm,0.8s,baz=17,slow=6.8,SNR=9.9
WRA LR LR 03 35 03.1
comp=Z,22nm,18.5s,baz=183,slow=37
comp=Z,2.6nm,0.8s
DZM Mont Dzumac 68.30 165 *e*LR LR 03 25 09.0
comp=Z,64nm,23.1s
DZM Mont Dzumac 68.30 165 LR LR 03 28 57.9
comp=Z,50nm,20.2s,baz=174,slow=31
NB2 NORSAR Subarra 69.35 341 P **P 03 04 23.0 -1.1**
comp=Z,3.2nm,0.5s,baz=29,slow=6.5
NB2 NORSAR Subarra 69.35 341 P **P 03 04 23.5 -0.6**
NOA NORSAR Array B 69.35 341 P **P 03 04 23.1 -0.9**
comp=Z,5.0nm,0.7s,baz=29,slow=6.6,SNR=16
NOA LR LR 03 38 42.4
comp=Z,37nm,18.2s,baz=355,slow=39
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 69.35 341 *eP* **P 03 04 23.7 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.7s
HFS Hagfors 69.53 339 P **P 03 04 24.2 -0.9**
comp=Z,8.4nm,0.6s,baz=50,slow=4.6,SNR=34
HFS LR LR 03 38 57.6
comp=Z,38nm,18.2s,baz=7.0,slow=40
comp=Z,8.4nm,0.6s
NORES NORESS Array B 69.54 340 P **P 03 04 24.3 -0.9**
MNK Minsk 69.77 329 *i* P **P 03 04 31.2 +4.5**
MNK *i* 03 04 53.9
MNK *i* PPP PPP 03 08 46.1
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,14nm,1.1s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=Z,93nm,15.0s
MNK MLR MLR
comp=E,170nm,17.0s
MNK MLR MLR
comp=N,250nm,18.0s
GOF Gofitskoye 70.13 314*ce*P **P 03 04 29.8 +0.7**
NCK Nalchik 70.94 313⇓ *i*P **P 03 04 35.1 +1.0**
NCK pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 71.08 314 P **P 03 04 35.2 +0.1**
KIV Kislovodsk 71.08 314 ⇓P **P 03 04 35.3 +0.1**
KIV Kislovodsk 71.08 314 *eP* **P 03 04 34.9 -0.2**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,90nm,18.0s
KIV Kislovodsk 71.08 314 P **P 03 04 35.2 +0.1**
comp=Z,23nm,0.8s
KIV Kislovodsk 71.08 314 *eP* **P 03 04 35.2 +0.1**
KIV Kislovodsk 71.08 314 P **P 03 04 35.2 +0.1**
KBZ Khabaz 71.14 313 P **P 03 04 35.9 +0.6**
comp=Z,20nm,0.8s,baz=65,slow=3.0,SNR=43
KBZ LR LR 03 39 52.5
comp=Z,182nm,18.1s,baz=35,slow=39
KBZ Khabaz 71.14 313*c i*P **P 03 04 36.0 +0.8**
KBZ pmax pmax
comp=Z,26nm,0.9s
KBZ Khabaz 71.14 313 *eP* **P 03 04 36.0 +0.8**
SHA1 Shidzhatmaz 71.25 314*ce*P **P 03 04 37.0 +0.7**
PALK Pallekele 71.36 261 LR LR 03 39 08.4
comp=Z,42nm,18.4s,baz=94,slow=38
AK03 Malin Array Si 72.20 326 P **P 03 04 40.8 -0.7**
AKASG Malin Array Be 72.22 326 P **P 03 04 41.3 -0.3**
AKASG Malin Array Be 72.22 326 P **P 03 04 40.8 -0.9**
comp=Z,2.5nm,0.4s,baz=36,slow=6.0,SNR=32
AKASG LR LR 03 38 50.3
comp=Z,89nm,18.3s,baz=52,slow=38
comp=Z,2.5nm,0.4s
AKASG Malin Array Be 72.22 326 *eP* **P 03 04 41.1 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 72.22 326 P **P 03 04 41.1 -0.6**
AKBB IAmb IAmb 03 04 42.2
comp=Z,12nm,1.1s
AKBB Malin Array Si 72.22 326⇑ *eP* **P 03 04 40.7 -0.9**
AKBB pmax pmax
comp=Z,22nm,2.0s
AKBB Malin Array Si 72.22 326 P **P 03 04 40.7 -0.9**
AK04 Malin Array Si 72.23 326 P **P 03 04 41.1 -0.6**
KIEV Kiev 72.23 326 P **P 03 04 41.1 -0.6**
KIEV IAmb IAmb 03 04 42.2
comp=Z,11nm,1.1s
KIEV Kiev 72.23 326⇑P **P 03 04 41.1 -0.6**
KIEV Kiev 72.23 326 P **P 03 04 41.1 -0.6**
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 72.23 326 P **P 03 04 40.7 -1.0**
comp=Z,49nm,1.0s
AK01 Malin Array Si 72.23 326 P **P 03 04 41.1 -0.6**
AK21 Malin Array Si 72.23 326 P **P 03 04 41.0 -0.7**
AK22 Malin Array Si 72.23 326 P **P 03 04 40.9 -0.8**
AK08 Malin Array Si 72.26 326 P **P 03 04 41.3 -0.6**
AK11 Malin Array Si 72.26 326 P **P 03 04 41.1 -0.8**
AK02 Malin Array Si 72.26 326 P **P 03 04 41.3 -0.6**
AK20 Malin Array Si 72.27 326 P **P 03 04 41.3 -0.7**
AK10 Malin Array Si 72.29 326 P **P 03 04 41.4 -0.7**
AK19 Malin Array Si 72.29 326 P **P 03 04 41.5 -0.6**
AK17 Malin Array Si 72.30 326 P **P 03 04 41.5 -0.6**
MI28 Mi28,Pidlybu 72.65 327 P **P 03 04 43.1 -1.1**
GNI Garni 72.68 310 LR LR 03 41 08.3
comp=Z,48nm,18.1s,baz=72,slow=40
GNI Garni 72.68 310⇑ *eP* **P 03 04 46.8 +2.0**
GNI pmax pmax
comp=Z,12nm,0.9s
RNPP9 Sopachiv 72.95 328 P **P 03 04 45.8 -0.2**
RNPP8 Varash 73.03 328 P **P 03 04 46.3 -0.1**
LUBAR Lubar, Ukraine 73.42 326 P **P 03 04 48.2 -0.6**
BAL3X Bal3x, Balta 74.22 324 P **P 03 04 53.6 +0.1**
HORU Horodok 74.50 326 P **P 03 04 54.6 -0.5**
HORU Horodok 74.50 326 P **P 03 04 54.6 -0.5**
SIM Simferopol' 74.53 319 *eP* **P 03 04 55.9 +0.5**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,60nm,15.0s
SORM Soroca 74.59 324⇓P **P 03 04 55.4 -0.3**
SORM Soroca 74.59 324 P **P 03 04 55.3 -0.3**
SORM Soroca 74.59 324 P **P 03 04 55.2 -0.4**
comp=Z,23nm,0.9s
NDNU Novodnistrovsk 74.62 325 P **P 03 04 55.3 -0.5**
KMPD K-Podol'skiy 75.01 326 P **P 03 04 57.3 -0.8**
KMPD P **P 03 04 56.9 -1.2**
SCHQ Schefferville 75.19 22 P **P 03 04 59.0 0.0**
comp=Z,3.0nm,0.9s,baz=330,slow=8.6,SNR=3.9
comp=Z,3.0nm,0.9s
PURM Purcari 75.21 323 P **P 03 04 59.1 -0.1**
comp=Z,25nm,0.9s
GURO Guroymak-BITLI 75.29 310 IAmb IAmb 03 05 03.2
comp=Z,14nm,1.2s
MILM Milestii Mici 75.36 323⇓P **P 03 04 59.4 -0.7**
MILM Milestii Mici 75.36 323 P **P 03 04 59.3 -0.7**
MORS Morshin 75.55 327 P **P 03 05 01.7 +0.5**
MORS Morshin 75.55 327 P **P 03 05 01.7 +0.5**
KWP Kalwaria Pacla 75.59 328 P **P 03 05 01.6 +0.2**
KWP Kalwaria Pacla 75.59 328 P **P 03 05 01.6 +0.2**
comp=Z,37nm,1.2s
STNU Starunia 75.66 327 P **P 03 05 01.4 -0.4**
KSV Kosov 75.76 326 P **P 03 05 02.6 +0.2**
KSV Kosov 75.76 326 P **P 03 05 02.6 +0.2**
OJC Ojcow 76.14 330 IAmb IAmb 03 05 05.7
comp=Z,13nm,0.9s
OJC Ojcow 76.14 330 P **P 03 05 04.4 -0.1**
OJC Ojcow 76.14 330 P **P 03 05 04.4 -0.1**
comp=Z,18nm,1.4s
BUR08 Bucovina Ar. S 76.25 326 IAmb IAmb 03 05 06.3
comp=Z,11nm,0.6s
BURAR Bucovina Array 76.27 326⇓P **P 03 05 05.7 +0.2**
BURAR Bucovina Array 76.27 326 P **P 03 05 05.6 +0.2**
STHS Stebnicka Huta 76.30 329 *eP* **P 03 05 05.7 +0.2**
STHS pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 76.30 329 *eP* **P 03 05 05.7 +0.2**
KOLS Kolonicke sedl 76.32 328 *eP* **P 03 05 06.0 +0.4**
KOLS pmax pmax
comp=Z,14nm,0.8s
KOLS Kolonicke sedl 76.32 328 *eP* **P 03 05 06.0 +0.4**
RAKU Rahkiv 76.35 327 P **P 03 05 05.7 -0.1**
BRIU Brid 76.53 328 P **P 03 05 06.8 +0.1**
MUKU Mukachevo 76.56 328 P **P 03 05 06.9 0.0**
TESR Tescani 76.58 324⇓P **P 03 05 07.3 +0.2**
TESR Tescani 76.58 324 P **P 03 05 07.0 -0.1**
comp=Z,28nm,0.8s
GHRR 76.63 324⇑P **P 03 05 08.8 +1.5**
NIE Niedzica 76.64 330 P **P 03 05 07.3 -0.1**
NIE pmax pmax
comp=Z,10.0nm,1.0s
NIE Niedzica 76.64 330 P **P 03 05 07.6 +0.2**
comp=Z,9.8nm,1.0s
TLCR 76.72 322⇓P **P 03 05 08.0 +0.1**
TLCR 76.72 322 P **P 03 05 07.9 +0.1**
TRSU Trosnyk 76.76 327 P **P 03 05 08.6 +0.6**
TRSU Trosnyk 76.76 327 P **P 03 05 08.6 +0.6**
KSP Ksiaz 76.80 333 P **P 03 05 08.0 -0.2**
KSP Ksiaz 76.80 333 P **P 03 05 08.0 -0.2**
comp=Z,13nm,1.6s
MARD Mardin 76.87 310 IAmb IAmb 03 05 11.4
comp=Z,11nm,1.0s
ODBI Odobesti 77.01 324⇓P **P 03 05 11.5 +2.0**
CFR Carcaliu 77.02 323⇑P **P 03 05 09.7 +0.2**
CFR Carcaliu 77.02 323 P **P 03 05 09.7 +0.2**
ARCR ARCALIA 77.04 326⇑P **P 03 05 10.8 +1.2**
STEB Steborice 77.08 331 *eP* **P 03 05 10.3 +0.5**
CHVC Chvalec 77.09 333 *eP* **P 03 05 10.3 +0.4**
CHVC Chvalec 77.09 333 *eP* **P 03 05 10.3 +0.4**
PLOR Plostina 77.11 324⇑P **P 03 05 10.9 +0.8**
PLOR Plostina 77.11 324 P **P 03 05 10.9 +0.8**
TPGR Topolog 77.16 322⇓P **P 03 05 10.9 +0.5**
UPC Upice 77.18 333 *eP* **P 03 05 10.8 +0.4**
UPC Upice 77.18 333 *eP* **P 03 05 10.8 +0.4**
DPC Dobruska-Polom 77.21 332 *eP* **P 03 05 11.3 +0.7**
DPC Dobruska-Polom 77.21 332 *eP* **P 03 05 11.3 +0.7**
DPC Dobruska-Polom 77.21 332 P **P 03 05 10.9 +0.3**
comp=Z,9.8nm,2.0s
KRLC Kraliky 77.30 332 *eP* **P 03 05 11.3 +0.2**
KRLC Kraliky 77.30 332 *eP* **P 03 05 11.3 +0.2**
MORC Moravsky Berou 77.30 331 IAmb IAmb 03 05 12.9
comp=Z,20nm,1.1s
MORC Moravsky Berou 77.30 331 *eP* **P 03 05 11.3 +0.2**
MORC Moravsky Berou 77.30 331 ⇓P **P 03 05 11.8 +0.6**
MORC Moravsky Berou 77.30 331 P **P 03 05 11.7 +0.6**
COVR Voineasa-Covas 77.30 324⇑P **P 03 05 12.4 +1.3**
BISRR Bisoca 77.33 324⇑P **P 03 05 12.0 +0.6**
CLL Collm 77.42 335 IAmb IAmb 03 05 12.2
comp=Z,14nm,1.0s
CLL Collm 77.42 335 *i* P **P 03 05 11.3 -0.4**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 77.42 335 P **P 03 05 11.3 -0.4**
comp=Z,20nm,1.0s
CLL Collm 77.42 335 *i* P **P 03 05 11.3 -0.4**
comp=Z,17nm,1.1s
BRG Berggiesshubel 77.52 334 *eP* **P 03 05 12.2 0.0**
BRG Amp 03 05 15.7
comp=Z,7.5nm,1.1s
DOPR Dopca 77.54 325⇑P **P 03 05 12.1 -0.4**
MAUC Maruska 77.55 331 *eP* **P 03 05 13.2 +0.7**
EKA Eskdalemuir Ar 77.59 346 P **P 03 05 12.7 +0.1**
comp=Z,1.0nm,0.4s,baz=20,slow=5.0,SNR=15
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 77.69 324 IAmb IAmb 03 05 15.5
comp=Z,10nm,0.9s
MLR Muntele Rosu 77.69 324 LR LR 03 42 35.5
comp=Z,92nm,18.1s,baz=330,slow=38
MLR Muntele Rosu 77.69 324⇓P **P 03 05 13.8 +0.3**
MLR Muntele Rosu 77.69 324 P **P 03 05 13.8 +0.3**
ISR Istrita 77.75 324⇑P **P 03 05 14.4 +0.6**
ISR Istrita 77.75 324 P **P 03 05 14.3 +0.6**
RICC Richard 77.75 334 *eP* **P 03 05 14.4 +0.8**
HSKC Hora Svate Kat 77.91 334 *eP* **P 03 05 14.6 +0.1**
DRGR 77.93 327⇑P **P 03 05 14.5 -0.2**
DRGR 77.93 327 P **P 03 05 14.5 -0.2**
VYHS Vyhne 77.94 330 *eP* **P 03 05 15.2 +0.5**
VYHS pmax pmax
comp=Z,14nm,1.2s

VYHS	Vyhne	77.94	330	eP	P	03 05 15.2 +0.5
ICOR	Ion Corvin	78.01	322	⇓P	P	03 05 16.2 +1.1
VRAC	Vranov	78.02	332	eP	P	03 05 15.5 +0.4
VRAC	Vranov	78.02	332	⇓P	P	03 05 16.0 +0.9
VRAC	Vranov	78.02	332	P	P	03 05 15.9 +0.9
JAVC	Velka Javorina	78.03	331	eP	P	03 05 16.6 +1.4
PSZ	Piszkesteto	78.05	329	IAmb	IAmb	03 05 16.9
	comp=Z,7.3nm,0.9s					
PSZ	Piszkesteto	78.05	329	⇑P	P	03 05 16.6 +1.3
PSZ	Piszkesteto	78.05	329	P	P	03 05 16.6 +1.3
PRU	Pruhonice	78.10	333	eP	P	03 05 15.9 +0.4
PRU	Pruhonice	78.10	333	eP	P	03 05 15.9 +0.4
VOIR		78.11	325	P	P	03 05 16.9 +1.2
VOIR				pmax	pmax	
	comp=Z,16nm,0.9s					
VOIR		78.11	325	P	P	03 05 15.8 +0.1
KRUC	Moravsky	78.30	332	eP	P	03 05 16.9 +0.3
KRUC	Moravsky	78.30	332	P	P	03 05 17.6 +1.0
ARR	Arges	78.33	325	⇑P	P	03 05 18.7 +1.8
TREC	Trest	78.39	332	P	P	03 05 15.1 -2.1
SMOL	Smolenice	78.41	331	eP	P	03 05 18.2 +0.9
SMOL				pmax	pmax	
	comp=Z,6.0nm,1.1s					
MODS	Modra-Piesok	78.59	331	eP	P	03 05 19.2 +1.0
MODS				pmax	pmax	
	comp=Z,39nm,1.2s					
MODS	Modra-Piesok	78.59	331	eP	P	03 05 19.2 +1.0
ZVC	Zvikov	78.69	333	eP	P	03 05 19.2 +0.4
SRO	Srobarova	78.70	330	eP	P	03 05 19.9 +1.1
SRO				pmax	pmax	
	comp=Z,20nm,1.6s					
SRO	Srobarova	78.70	330	eP	P	03 05 19.9 +1.1
BR131	Keskin Array S	78.75	316	IAmb	IAmb	03 05 21.1
	comp=Z,8.5nm,1.1s					
BR131	Keskin Array S	78.75	316	⇑iP	P	03 05 19.9 +0.4
BRTR	Keskin Array B	78.75	316	P	P	03 05 19.0 -0.5
	comp=Z,3.7nm,1.0s,baz=31,slow=3.4,SNR=11					
BRTR				LR	LR	03 45 26.0
	comp=Z,68nm,18.9s,baz=110,slow=40					
	comp=Z,3.7nm,1.0s					
BRTR	Keskin Array B	78.75	316	eP	P	03 05 20.2 +0.7
BRTR				pmax	pmax	
	comp=Z,4.0nm,1.0s					
SIRR	Siria	78.77	327	⇓P	P	03 05 19.8 +0.6
SURR	Surduc	79.02	327	⇓P	P	03 05 21.0 +0.4
GZR	Gura Zlata	79.06	326	⇓P	P	03 05 21.1 +0.1
GZR	Gura Zlata	79.06	326	P	P	03 05 21.0 +0.1
KHC	Kasperske Hory	79.15	333	eP	P	03 05 21.9 +0.5
KHC	Kasperske Hory	79.15	333	eeP	P	03 05 21.5 +0.1
KHC				pmax	pmax	
	comp=Z,25nm,1.0s					
CKRC	Cesky Krumlov	79.19	333	eP	P	03 05 21.9 +0.3
CKRC	Cesky Krumlov	79.19	333	eP	P	03 05 21.9 +0.3
TXAR	Lajitas Array	79.25	59	P	P	03 05 23.6 +1.3
	comp=Z,0.6nm,0.8s,baz=298,slow=4.4,SNR=6.4					
	comp=Z,0.6nm,0.8s					
BZS	Buzias	79.33	327	⇓P	P	03 05 22.3 0.0
BZS	Buzias	79.33	327	P	P	03 05 22.3 0.0
GERES	GERESS Array B	79.36	333	P	P	03 05 22.2 -0.4
	comp=Z,2.8nm,0.8s,baz=28,slow=6.0,SNR=12					
GERES				LR	LR	03 44 11.8
	comp=Z,42nm,20.2s,baz=23,slow=39					
	comp=Z,2.8nm,0.8s					
GERES	GERESS Array B	79.36	333	eP	P	03 05 22.7 +0.1
GERES				pmax	pmax	
	comp=Z,3.0nm,0.8s					
GRF	Grafenberg Arr	79.38	335	eP	P	03 05 22.7 +0.1
	comp=Z,9.7nm,1.0s,baz=27,slow=4.8					
SOP	Sopron	79.43	331	P	P	03 05 24.1 +1.3
SOP				pmax	pmax	
	comp=Z,12nm,2.0s					
CONA	Conrad Observa	79.45	331	eP	P	03 05 23.9 +0.9
	comp=Z,12nm,1.4s,SNR=5.5					
RONA	Rosalia, Austr	79.50	331	eP	P	03 05 24.4 +1.1
	comp=Z,5.7nm,0.9s					
HERR	Herculane	79.63	326	⇑P	P	03 05 24.3 +0.3
MORH	Mrgy, Hungar	79.94	329	⇓P	P	03 05 25.4 -0.2
MDVR	Moldovita	79.99	326	⇓P	P	03 05 25.7 -0.3
MEM	Membach	80.01	338	dP	P	03 05 25.9 0.0
	comp=Z,9.4nm,1.1s					
MOA	Molln	80.05	332	iP	P	03 05 27.2 +0.9
	comp=Z,5.2nm,1.0s					
ARSA	Arzberg	80.16	331	iP	P	03 05 27.4 +0.6
	comp=Z,4.0nm,0.9s					
UCC	Uccle	80.25	340	dP	P	03 05 26.3 -0.9
BCLA	Clavier	80.37	339	dP	P	03 05 28.0 +0.2
	comp=Z,4.4nm,1.1s					
BIOA	Bad Ischl, Aus	80.40	333	iP	P	03 05 29.1 +1.0
	comp=Z,12nm,1.3s					
BMRD	Maredsous	80.61	339	dP	P	03 05 29.2 +0.1
	comp=Z,6.1nm,0.9s					
SOKA	Soboth	80.82	331	eP	P	03 05 31.1 +0.7
	comp=Z,7.9nm,1.1s,SNR=6.3					
LESA	Schwarzleotal	80.94	333	iP	P	03 05 31.6 +0.5
	comp=Z,8.9nm,1.1s					
BOVS	Bovan	80.94	326	⇓P	P	03 05 30.5 -0.6
KBA	Koelnbreinsper	81.03	333	iP	P	03 05 32.0 +0.3
	comp=Z,4.6nm,0.6s					
KBA	Koelnbreinsper	81.03	333	P	P	03 05 32.8 +1.1
KBA				pmax	pmax	
	comp=Z,15nm,1.2s					
OBKA	Obir	81.13	332	iP	P	03 05 32.6 +0.5
	comp=Z,10nm,1.6s					
MYKA	Terra Mystica	81.33	332	iP	P	03 05 33.6 +0.5
	comp=Z,11nm,1.6s					
WATA	Walderalm	81.37	334	iP	P	03 05 33.8 +0.4
	comp=Z,4.8nm,0.5s,SNR=4.6					
WTTA	Wattenberg	81.41	334	iP	P	03 05 34.2 +0.5
	comp=Z,5.2nm,0.5s,SNR=7.3					
WTTA	Wattenberg	81.41	334	P	P	03 05 34.7 +1.0
WTTA				pmax	pmax	
	comp=Z,15nm,1.6s					
RETA	Reutte	81.49	334	iP	P	03 05 34.3 +0.3
	comp=Z,5.2nm,1.1s					
MOTA	Moosalm	81.51	334	iP	P	03 05 34.5 +0.3
	comp=Z,6.1nm,0.8s					
SQTA	Sankt Quirin	81.59	334	iP	P	03 05 34.8 +0.2
	comp=Z,7.8nm,1.3s					
ECH	Echery	81.89	337	P	P	03 05 36.1 +0.1
ECH				IAmb	IAmb	03 06 13.9
	comp=Z,17nm,1.5s					
ECH	Echery	81.89	337	P	P	03 05 36.1 +0.1
ECH				pmax	pmax	
	comp=Z,17nm,1.5s					
FETA	Feichten	81.91	334	iP	P	03 05 36.4 0.0
	comp=Z,5.9nm,1.2s					
DAVA	Damuels	81.93	335	iP	P	03 05 36.5 0.0
	comp=Z,9.0nm,1.2s					
PPT	Papeete	82.17	124	LR	LR	03 38 03.8
	comp=Z,61nm,19.5s,baz=332,slow=32					
PPT2	Papeete2	82.19	124	eLR	LR	03 31 20.2
	comp=Z,89nm,23.8s					
PPT2				eLR	LR	03 31 23.3
	comp=Z,125nm,27.2s					
DAVOX	Davos/Dischmat	82.39	335	LR	LR	03 45 55.3
	comp=Z,48nm,19.1s,baz=38,slow=38					
FUORN	Ofenpass-Fuorn	82.42	334	IAmb	IAmb	03 05 44.3
	comp=Z,7.5nm,1.3s					
TUE	Stuetta	82.83	335	IAmb	IAmb	03 05 44.1
	comp=Z,6.3nm,1.1s					
MMAI	Mount Meron Ar	83.00	311	P	P	03 05 43.3 +1.2
	comp=Z,4.5nm,0.7s,baz=42,slow=6.6,SNR=6.4					
MMAI				LR	LR	03 47 15.7
	comp=Z,91nm,19.2s,baz=356,slow=39					
	comp=Z,4.5nm,0.7s					
RAYN	Ar Rayn	84.17	298	P	P	03 05 49.4 +1.1
TKL	Tuckaleechee C	85.29	42	LR	LR	03 45 28.0
	comp=Z,27nm,20.4s,baz=332,slow=37					
SSB	Saint Sauveur	85.30	337	IAmb	IAmb	03 05 57.0
	comp=Z,9.7nm,1.2s					
EIL	Elat	85.81	309	LR	LR	03 51 14.3
	comp=Z,47nm,18.4s,baz=70,slow=41					
URZ	Urewera	86.20	160	LR	LR	03 39 36.1
	comp=Z,55nm,19.6s,baz=80,slow=32					
KEST	Kesra	92.49	330	LR	LR	03 52 01.9
	comp=Z,43nm,18.4s,baz=292,slow=38					
ESDC	Sonseca Array	92.70	341	P	P	03 06 27.4 -1.4
	comp=Z,1.1nm,1.0s,baz=13,slow=5.7,SNR=4.2					
	comp=Z,1.1nm,1.0s					
H03N2	Juan Fernandez	139.86	91	T	T	05 49 45.9
	baz=306,slow=77,SNR=6.4					
H03N3	Juan Fernandez	139.87	91	T	T	05 49 47.0
	baz=306,slow=77,SNR=8.7					
H03N1	Juan Fernandez	139.87	91	T	T	05 49 46.7
	baz=306,slow=77,SNR=10					
ELIB	Princess Elisa	143.89	205	dPKPdf	PKPdf	03 12 50.8 +0.1
ELIB				dpPKPdf	pPKPdf	03 13 03.9 -0.2
BDFB	Brasilia	146.27	35	PKPbc	PKPab	03 12 58.5 +0.2
	comp=Z,2.2nm,0.6s,baz=46,slow=3.6,SNR=4.3					
TROLL	Troll, Antarti	149.35	198	P	PKPbc	03 13 04.8 +0.6
TROLL	Troll, Antarti	149.35	198	⇓P	PKPbc	03 13 04.8 +0.6
	comp=Z,526nm,0.6s					
CPUP	Villa Florida	150.22	61	PKPbc	PKiKP	03 13 09.6 +1.3
	comp=Z,1.0nm,0.9s,baz=307,slow=5.1,SNR=3.1					
SNAA	Sanae	150.73	196	P	PKiKP	03 13 08.9 +0.8
SNAA	Sanae	150.73	196	⇑P	PKiKP	03 13 08.9 +0.8
	comp=Z,114nm,0.8s					
VNA2	Neumayer--Watz	152.20	195	P	PKiKP	03 13 11.7 +0.6
VNA2	Neumayer--Watz	152.20	195	⇑P	PKiKP	03 13 11.7 +0.6
	comp=Z,3.3nm,0.6s					

*DJA **16** 03:00:09.0±0.5,5°S±3°×13°2E±°, h80km±11km, M4.2/6, mb4.6/2, MLv3.9/6*

ISC 16 03:00:09.0±0.9, 4°80S±0°06×132°13E±0°09, h50km, n13, σ0°75/16, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.87	4	P	Pn	03 00 39.1	+0.4
FAKI	Fak Fak	1.87	4	S	Sn	03 01 01.1	-0.1
FAKI	Fak Fak	1.87	4	P	Pn	03 00 38.9	+0.2
FAKI				S	Sn	03 01 00.9	-0.3
KMPI	Kaimana, Papua	1.93	54	P	Pn	03 00 40.5	+1.0
KMPI				S	Sn	03 01 03.0	+0.4
SWI	Sorong	4.01	347	P	Pn	03 01 08.0	0.0
BAKI	Biak	5.35	48	P	Pn	03 01 26.5	+0.1
	48nm,0.6s						
BAKI				S	Sn	03 02 26.3	-0.4
	48nm,0.6s						
DRS	Darwin Rock St	7.68	189	P	Pn	03 01 59.1	+0.8
KDU	Kakadu	7.84	178	P	Pn	03 02 00.3	-0.3
MTN	Manton Dam	8.05	187	P	Pn	03 02 03.0	-0.5
COEN	Coen	14.19	131	P	Pn	03 03 26.1	-1.2
QIS	Mount Isa	17.27	156	P	Pn	03 04 05.6	-1.1
WRKA	Warakurna	20.45	190	P	P	03 04 43.5	+0.9
OOD	Oodnadatta	23.11	172	P	P	03 05 11.9	+1.1

DJA 16 03:00:20.4±0.8, 1°N±3°×9°7E±°, h28km±6km, M4.0/12, mb4.3/1, MLv3.8/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.80	58	P	Pn	03 00 36.6	+0.7
GSI				S	Sb	03 00 46.5	+0.1
SNSI	Sinabang, Aceh	1.62	340	P	Pn	03 00 47.1	0.0
SNSI				S	Sn	03 01 07.6	+0.5
PBSI	Pulau Batu	1.67	124	P	Pn	03 00 48.4	+0.6
PBSI				S	Sn	03 01 08.3	-0.1
MNSI	Mandailing Nat	2.69	92	P	Pn	03 01 02.9	+1.0
MNSI				S	Sn	03 01 34.2	+0.7
SISI	Saibi	3.10	135	P	Pn	03 01 07.2	-0.4
SISI				S	Sn	03 01 44.4	+0.6
MLSI	Meulaboh, Aceh	3.40	352	P	Pn	03 01 11.9	+0.3
MLSI				S	Sn	03 01 51.5	+0.5
PPI	Padang Panjang	3.75	111	P	Pn	03 01 16.2	-0.2
PPI				S	Sn	03 02 00.6	+0.9
BSI	Banda Aceh	4.85	341	P	Pn	03 01 30.5	-1.1

*NEIC **16** 03:02:49.0±1.6, 61°51N±0°02×149°93W±0°04, h41km±4km, Error ellipse: s-maj=3.6km s-min=2.4km az=138.0*

AEIC 16 03:02:49.2±1.0, 61°49N±0°03×149°89W±0°05, h45km±5km, ML2.2, ML2.4/86(NEIC), Error ellipse: s-maj=4.2km s-min=3.2km az=168.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.29	338		Pn	03 02 56.6	-1.2
M22K					Sn	03 03 03.2	-0.6
M22K				IAML		03 03 04.0	
	comp=E,471nm,0.5s						
PMR	Palmer	0.38	74		Pn	03 02 57.7	-1.0
PMR					Sn	03 03 05.0	-0.4
PMR				IAML		03 03 05.4	
	comp=N,192nm,0.3s						
PMR				IAML		03 03 05.5	
	comp=E,229nm,0.4s						
FIS	Fire Island	0.38	205		Pn	03 02 58.5	-0.2
FIS	Fire Island	0.38	205		Sn	03 03 06.0	+0.5
FIS	Fire Island	0.38	205	IAML		03 03 07.7	
	comp=N,387nm,0.8s						
FIS				IAML		03 03 09.4	
	comp=E,220nm,0.4s						
RC01	Rabbit Creek A	0.41	169		Pn	03 02 58.1	-1.0
RC01					Sn	03 03 05.9	-0.1
RC01				IAML		03 03 06.4	
	comp=E,359nm,0.3s						
GHO	Glory Hole Cre	0.54	58		Pn	03 02 60.0	-0.9
GHO				Sn	Sn	03 03 09.0	-0.1
GHO				IAML		03 03 09.4	
	comp=E,217nm,0.6s						
GHO				IAML		03 03 10.0	
	comp=N,245nm,0.3s						
KNK	Knik Glacier	0.69	96		Pn	03 03 02.2	-0.6
KNK					Sn	03 03 13.0	+0.6
SML	Sawmill	0.81	66		Pn	03 03 03.4	-0.9
SML				Sn	Sn	03 03 15.0	-0.3
SML				IAML		03 03 18.3	
	comp=E,88nm,0.7s						
SKT	Skwentna	0.92	303		Pn	03 03 04.6	-1.2
SKT				Sn	Sn	03 03 17.3	-0.7
STLK	Strandline Lak	0.93	271		Pn	03 03 05.2	-0.8
STLK				Sn	Sn	03 03 17.9	-0.3
STLK				IAML		03 03 18.4	
	comp=N,160nm,0.4s						
STLK				IAML		03 03 18.6	
	comp=E,108nm,0.2s						
CUT	Chulitna	0.94	349		Pn	03 03 05.1	-0.9
CUT	Chulitna	0.94	349		Sn	03 03 18.2	0.0
CAPN	Captain Cook N	0.95	221		Pn	03 03 07.0	+0.9
PWL	Port Wells	0.98	129	Pn	Pn	03 03 06.2	-0.4
SLKM	Skilak Lake	1.00	189	Pn	Pn	03 03 05.8	-1.0
SLKM				IAML		03 03 22.1	
	comp=N,83nm,0.2s						
SLKM				IAML		03 03 22.9	
	comp=E,124nm,0.4s						
O22K	Cooper Landing	1.01	175		Pn	03 03 06.3	-0.7
O22K	Cooper Landing	1.01	175		Sn	03 03 21.1	+1.1
O22K	Cooper Landing	1.01	175	IAML		03 03 27.5	
	comp=N,266nm,0.7s						
O22K				IAML		03 03 29.3	
	comp=E,207nm,0.7s						
SPCG	Spurr Capps Gl	1.04	260		Pn	03 03 07.1	-0.4
M23K	Glacier View	1.08	73		Sn	03 03 22.8	+1.1
SPU	Mount Spurr	1.09	254		Sn	03 03 21.4	-0.5
SPU	Mount Spurr	1.09	254		Pn	03 03 07.2	-0.9
SPU	Mount Spurr	1.09	254	IAML		03 03 23.2	
	comp=N,52nm,0.4s						
SPU				IAML		03 03 23.4	
	comp=E,34nm,0.4s						
SPCN	Chakachatna No	1.14	258		Pn	03 03 08.2	-0.5
SPBG	Spurr Blockage	1.22	260		Pn	03 03 09.3	-0.6
SCM	Sheep Creek Mo	1.27	73		Pn	03 03 10.5	-0.1
SCM	Sheep Creek Mo	1.27	73		Sn	03 03 28.0	+1.5
SCM	Sheep Creek Mo	1.27	73	IAML		03 03 29.1	
	comp=N,104nm,0.7s						
SCM				IAML		03 03 29.6	
	comp=E,115nm,0.3s						
SPNN	North Nagishla	1.35	266		Pn	03 03 11.7	-0.1
SEW	Seward	1.41	171		Pn	03 03 12.2	-0.2
GLI	Glacier Island	1.49	113	Pn	Pn	03 03 12.8	-0.6
GLI				IAML		03 03 37.0	
	comp=E,80nm,0.5s						
M20K	Styx River	1.59	286		Pn	03 03 15.0	0.0
M20K				IAML		03 03 37.4	
	comp=E,48nm,0.9s						
RDJH	Redoubt Jeurge	1.68	239		Pn	03 03 16.0	-0.3
RDJH					Sn	03 03 37.0	+0.4
REF	Redoubt East F	1.70	235		Pn	03 03 16.0	-0.6
RDWB	Redoubt West	1.75	236		Pn	03 03 16.7	-0.5
RDWB					Sn	03 03 39.2	+0.8
RED	Redoubt Volcan	1.77	234		Pn	03 03 16.9	-0.5
PPLA	Purkeypile	1.78	324		Pn	03 03 17.2	-0.4
BRLK	Bradley Lake	1.80	196		Pn	03 03 16.4	-1.3
BRLK	Bradley Lake	1.80	196	IAML		03 03 43.3	
	comp=E,41nm,0.6s						
BRLK				IAML		03 03 46.5	
	comp=N,33nm,0.7s						
BRSE	Bradley Lake S	1.80	194		Pn	03 03 16.4	-1.4
BRSE					Sn	03 03 40.1	+0.6
FID	Port Fidalgo	1.81	113	Pn	Pn	03 03 16.7	-1.2
FID				IAML		03 03 43.1	
	comp=N,39nm,0.3s						
FID				IAML		03 03 47.7	
	comp=E,52nm,0.5s						
M24K	Tolsona, Glenn	1.87	69		Pn	03 03 19.7	+0.9
M24K				IAML		03 03 55.1	
	comp=N,37nm,0.8s						
KLU	Klutina	1.90	88		Pn	03 03 18.9	-0.4
KLU	Klutina	1.90	88		Sn	03 03 44.1	+2.0
KLU	Klutina	1.90	88	IAML		03 03 46.0	
	comp=E,26nm,0.3s						
KLU				IAML		03 03 46.0	
	comp=N,28nm,0.3s						
P23K	Montague Islan	1.93	140		Pn	03 03 18.1	-1.4
O20K	Slope Mountain	1.95	225		Pn	03 03 19.8	-0.1
TRF	Thorofare Moun	1.98	355	Pn	Pn	03 03 20.4	0.0
TRF				IAML		03 03 47.7	
	comp=N,30nm,1.1s						
TRF				IAML		03 03 48.1	
	comp=E,27nm,0.7s						
HIN	Hinchinbrook I	1.98	122	Pn	Pn	03 03 19.8	-0.6
HIN				IAML		03 03 53.7	
	comp=N,44nm,1.3s						
RND	Reindeer	1.98	14		Pn	03 03 20.8	+0.5
DIV	Divide	2.02	98		Pn	03 03 20.4	-0.5
CNPM	China Poot	2.08	199	Pn	Pn	03 03 20.9	-0.7
CNPM				IAML		03 03 51.3	
	comp=E,32nm,1.3s						
CNPM				IAML		03 03 52.5	
	comp=N,35nm,0.6s						
KTH	Kantishna Hill	2.13	347		Pn	03 03 22.5	+0.2
KTH				IAML		03 03 51.7	
	comp=E,20nm,0.6s						
KTH				IAML		03 03 52.8	
	comp=N,26nm,1.0s						
L20K	Farewell, AK	2.13	300		Pn	03 03 21.8	-0.5
M19K	Big River Lodg	2.18	283	Pn	Pn	03 03 22.7	-0.3
M19K				IAML		03 03 53.8	
	comp=N,16nm,1.4s						
CAST	Castle Rocks	2.19	333		Pn	03 03 23.1	-0.1
ILS	Iliamna Low So	2.19	227		Pn	03 03 23.0	-0.1
ILSW	Iliamna Southw	2.20	228		Pn	03 03 23.4	+0.1
ILSW	Iliamna Southw	2.20	228	IAML		03 04 13.5	
	comp=E,17nm,1.2s						
MCK	McKinley	2.30	11		Pn	03 03 25.2	+0.6
N19K	Bonanza Creek	2.33	255	Pn	Pn	03 03 24.8	-0.3
L19K	White Mountain	2.45	289		Pn	03 03 26.6	-0.1
L19K				IAML		03 03 57.6	
	comp=N,12nm,1.3s						
N25K	Chitina, Valde	2.54	85		Pn	03 03 28.1	+0.1
N25K				IAML		03 04 08.5	
	comp=N,13nm,0.4s						
N25K				IAML		03 04 08.7	
	comp=E,13nm,1.1s						
BPAW	Bear Paw Mtn.	2.67	350		Pn	03 03 29.7	0.0
BPAW	Bear Paw Mtn.	2.67	350	IAML		03 04 04.2	
	comp=N,9.5nm,1.4s						
K20K	Telida	2.70	316		Pn	03 03 29.6	-0.5
M18K	Stony River	2.84	273		Pn	03 03 31.7	-0.4
N18K	Kilae Creek	3.02	257		Pn	03 03 33.8	-0.8
O18K	Koktuh Hills	3.09	240		Pn	03 03 34.5	-0.9
O18K	Koktuh Hills	3.09	240	IAML		03 04 01.6	
	comp=N,6.6nm,1.5s						
O18K				IAML		03 04 42.6	
	comp=E,7.7nm,1.2s						
TTA	Tatalina	3.21	299		Pn	03 03 36.5	-0.7
L18K	Granite Mounta	3.30	286		Pn	03 03 37.8	-0.5
L18K	Granite Mounta	3.30	286	IAML		03 04 03.3	
	comp=N,6.1nm,1.4s						
L18K				IAML		03 04 26.1	
	comp=E,5.8nm,1.4s						
CCB	Clear Creek Bu	3.31	16		Pn	03 03 38.2	-0.2
CCB	Clear Creek Bu	3.31	16	IAML		03 05 51.1	
	comp=E,6.1nm,0.7s						
CCB				IAML		03 05 51.6	
	comp=N,11nm,0.5s						
J20K	Nowinta River	3.33	326	IAML		03 04 19.4	
	comp=E,7.1nm,0.7s						

ROM 16 03:03:12.4±0.1, 42°814N±0°004×13°273E±0°005, h16km, ML1.3/32, 1C, Error ellipse: s-maj=0.4km s-min=0.2km az=231.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMO1	Montemonaco	0.09	25	P	Pg	03 03 16.0	0.0
MMO1				S	Sg	03 03 18.4	+0.1
MTRA	Matera	0.11	122	P	Pb	03 03 16.1	0.0
MTRA				S	Sb	03 03 18.7	+0.1
MTRA				AML	AML		
	comp=E,286μm,0.1s						
MTRA				AML	AML		
	comp=N,164μm,0.1s						
MTRA				AML	AML		
	comp=E,286μm,0.1s						
MTRA				AML	AML		
	comp=N,164μm,0.1s						
MTRA				AML	AML		
	comp=E,272μm,0.1s						
MTRA				AML	AML		
	comp=N,189μm,0.6s						
MC2	Monte Cornacci	0.12	329	P	Pg	03 03 16.3	0.0
MC2				S	Sb	03 03 19.1	+0.1
NRCA	Norcia	0.12	280	⇑P	Pg	03 03 16.2	0.0
NRCA				S	Sg	03 03 18.7	+0.1
NRCA				AML	AML		
	comp=E,924μm,0.7s						
NRCA				AML	AML		
	comp=N,1090μm,1.2s						
NRCA				AML	AML		
	comp=E,898μm,0.7s						
NRCA				AML	AML		
	comp=N,1120μm,0.1s						
NRCA				AML	AML		
	comp=N,1089μm,1.2s						
NRCA				AML	AML		
	comp=E,890μm,0.1s						
NRCA				AML	AML		
	comp=N,1120μm,0.1s						
NRCA				AML	AML		
	comp=E,891μm,0.1s						
NRCA				AML	AML		
	comp=N,1012μm,0.1s						
SMA1	SAN MARTINO	0.19	166	P	Pg	03 03 17.3	+0.2
SMA1				S	Sg	03 03 20.5	+0.3
SMA1				AML	AML		
	comp=E,121μm,0.2s						
SMA1				AML	AML		
	comp=N,84μm,0.7s						
SMA1				AML	AML		
	comp=E,121μm,0.2s						
SMA1				AML	AML		
	comp=N,66μm,0.1s						
MF5	Montefalcone A	0.22	38	P	Pb	03 03 18.1	0.0
MF5				S	Sb	03 03 22.6	+0.6
MF5				AML	AML		
	comp=E,142μm,0.3s						
MF5				AML	AML		
	comp=N,140μm,0.3s						
FDMO	Fiordimonte	0.26	329	P	Pg	03 03 18.2	0.0
FDMO				S	Sb	03 03 22.6	-0.4
FDMO				AML	AML		
	comp=E,38μm,0.3s						
FDMO				AML	AML		
	comp=N,59μm,0.2s						
FDMO				AML	AML		
	comp=E,37μm,0.3s						
FDMO				AML	AML		
	comp=N,59μm,0.2s	

	comp=E,109μm,0.7s						
LNSS				AML	AML		
	comp=N,121μm,0.5s						
CAMP	**Campotosto**	**0.29**	**160**	P	Pg	03 03 19.0	+0.2
CAMP				S	Sb	03 03 23.7	-0.4
CAMP				AML	AML		
	comp=E,37μm,1.6s						
CAMP				AML	AML		
	comp=N,31μm,1.2s						
GAVE	**Gavelli**	**0.30**	**247**	P	Pg	03 03 19.1	+0.2
GAVE				S	Sb	03 03 24.6	+0.3
GAVE				AML	AML		
	comp=E,140μm,1.0s						
GAVE				AML	AML		
	comp=N,136μm,0.2s						
GAVE				AML	AML		
	comp=E,139μm,0.2s						
GAVE				AML	AML		
	comp=N,136μm,0.2s						
GAVE				AML	AML		
	comp=E,151μm,0.2s						
GAVE				AML	AML		
	comp=N,219μm,1.3s						
RM33	**Pellescritta (**	**0.31**	**188**	P	Pg	03 03 19.1	+0.1
RM33				S	Sb	03 03 24.4	0.0
RM33				AML	AML		
	comp=E,124μm,0.7s						
RM33				AML	AML		
	comp=N,134μm,0.9s						
RM33				AML	AML		
	comp=E,58μm,0.1s						
RM33				AML	AML		
	comp=N,35μm,0.2s						
TERO	**Teramo**	**0.31**	**128**	P	Pg	03 03 19.1	+0.1
TERO				S	Sb	03 03 24.2	-0.2
TERO				AML	AML		
	comp=E,38μm,0.1s						
TERO				AML	AML		
	comp=N,69μm,0.1s						
TERO				AML	AML		
	comp=E,38μm,0.1s						
TERO				AML	AML		
	comp=N,69μm,0.1s						
TERO				AML	AML		
	comp=E,83μm,44.1s						
TERO				AML	AML		
	comp=N,64μm,0.8s						
CESI	**CESI - Serrava**	**0.33**	**305**	P	Pg	03 03 19.5	+0.1
CESI				S	Sb	03 03 24.9	-0.2
CESI				AML	AML		
	comp=E,28μm,0.1s						
CESI				AML	AML		
	comp=N,55μm,0.2s						

TXNET 16 03:45:01.3, 32°N±1°×10°4W±°, h4km±2km, ML1.6/4, Error ellipse: s-maj=1.9km s-min=1.3km az=128.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.39**	**44**	P	Pg	03 45 08.9	0.0
TPB11				S	Sg	03 45 14.2	+0.2
PECS	**Pecos**	**0.50**	**124**	P	Pg	03 45 11.0	+0.1
PECS				S	Sg	03 45 17.5	0.0
TPB12	**Southwest of T**	**0.55**	**142**	P	Pg	03 45 10.8	-1.1
TPB12				S	Sg	03 45 18.2	-0.9
CLNB	**Carlsbad**	**0.73**	**33**	P	Pg	03 45 15.6	+0.2
CLNB				S	Sg	03 45 24.7	-0.2
TPB01	**Permian Basin**	**0.86**	**145**	P	Pg	03 45 16.8	-0.9
TPB01				S	Sg	03 45 28.1	-0.8
MNTX	**Cornudas Mount**	**0.88**	**273**	S	Sb	03 45 30.4	-0.8
TPB03	**Saragosa**	**0.91**	**128**	P	Pg	03 45 18.2	-0.6
TPB03				S	Sg	03 45 30.6	-0.1
VHRN	**Van Horn**	**1.02**	**212**	P	Pg	03 45 20.8	0.0
VHRN				S	Sb	03 45 35.0	-0.3
HTMS	**Hat Mesa**	**1.02**	**36**	S	Sg	03 45 33.7	-0.4
TPB05	**Hovey Rd**	**1.14**	**129**	S	Sg	03 45 37.4	-0.7
MNHN	**Monahans**	**1.39**	**102**	S	Sn	03 45 46.3	-0.1
ALPN	**Alpine**	**1.41**	**154**	P	Pn	03 45 26.4	-1.5
ALPN				S	Sg	03 45 45.1	-1.6
ODSA	**Odessa**	**1.60**	**73**	S	Sg	03 45 52.7	-0.2
TMB04	**Seminole**	**1.86**	**58**	S	Sb	03 46 00.1	+0.7
TMB02	**Rankin**	**2.03**	**102**	S	Sn	03 46 03.1	+1.0
TX31	**Lajitas Ar. Si**	**2.38**	**165**	Pg	Pb	03 45 43.9	-0.9
SAND	**Sanderson**	**2.56**	**131**	S	Sb	03 46 20.9	+1.3
MSTX	**Muleshoe**	**2.67**	**30**	S	Sb	03 46 21.8	-1.0

*NEIC **16** 03:52:01.9±1.3, 31°.42N±0°.02×103°.54W±0°.02, h5km±1km, mb_Lg2.3/7, ML2.2/18, Error ellipse: s-maj=3.5km s-min=3.0km az=321.0*

TXNET 16 03:52:01.5, 31°.4N±0°.7×103°.5W±0°.8, h3km±2km, ML2.4/12, 1C-5D, Error ellipse: s-maj=1.2km s-min=1.0km az=55.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.02**	**165**	⇑P	Pg	03 52 02.5	+0.2
PCOS				S	Sg	03 52 03.2	+0.4
TPB07	**Mentone**	**0.20**	**320**	P	Pg	03 52 07.2	+1.8
TPB07				S	Sg	03 52 10.7	+2.6
TPB10	**Southeast of T**	**0.25**	**235**	⇓P	Pg	03 52 07.7	+1.4
TPB10				S	Sg	03 52 11.8	+2.2
PECS	**Pecos**	**0.31**	**260**		Pb	03 52 08.5	-1.1
PECS				Sg	Sg	03 52 13.2	+1.7
PECS				IAML		03 52 14.9	
	291nm,0.4s						
PECS	**Pecos**	**0.31**	**260**	⇓P	Pb	03 52 08.6	-1.1
PECS				S	Sb	03 52 13.5	-1.5
TPB04	**Verhalen**	**0.32**	**138**	⇓P	Pb	03 52 09.1	-0.8
TPB04				S	Sb	03 52 14.5	-0.9
TPB06	**Permian Basin**	**0.34**	**49**	P	Pb	03 52 09.5	-0.7
TPB06				S	Sb	03 52 14.5	-1.5
TPB03	**Saragosa**	**0.34**	**180**	P	Pb	03 52 09.4	-0.8
TPB16	**Coyonosa**	**0.38**	**143**	P	Pb	03 52 10.2	-0.6
TPB16				S	Sb	03 52 16.2	-0.8
TPB12	**Southwest of T**	**0.43**	**241**	⇓P	Pg	03 52 09.7	-0.1
TPB12				S	Sg	03 52 16.5	+1.0
TPB05	**Hovey Rd**	**0.53**	**162**	P	Pb	03 52 12.7	-0.8
TPB05				S	Sb	03 52 20.6	-0.9
TPB01	**Permian Basin**	**0.53**	**205**	P	Pg	03 52 12.3	+0.6
TPB01				S	Sb	03 52 20.4	-1.2
MNHN	**Monahans**	**0.65**	**97**		Pb	03 52 15.2	-0.3
MNHN				IAML		03 52 29.1	
	129nm,0.7s						
MNHN				IAML		03 52 32.8	
	118nm,0.5s						
MNHN	**Monahans**	**0.65**	**97**	P	Pb	03 52 15.0	-0.5
MNHN				S	Sb	03 52 24.0	-1.0
TPB11	**China Draw**	**0.67**	**319**	S	Sb	03 52 25.4	-0.3
TPB08	**Permian Basin**	**0.74**	**135**	P	Pb	03 52 16.5	-0.6
TPB08				S	Sb	03 52 27.3	-0.5
CLNB	**Carlsbad**	**0.89**	**340**	P	Pb	03 52 20.2	+0.5
NM01	**Eunice**	**0.93**	**6**	P	Pb	03 52 20.6	+0.3
NM01				S	Sb	03 52 34.1	+1.0
CLN7	**Carlsbad 7**	**1.02**	**346**		Pb	03 52 21.6	-0.2
CLN7	**Carlsbad 7**	**1.02**	**346**	P	Pb	03 52 21.8	0.0
HTMS	**Hat Mesa**	**1.05**	**355**		Pn	03 52 23.6	+0.4
HTMS	**Hat Mesa**	**1.05**	**355**	P	Pn	03 52 22.8	-0.4
HTMS				S	Sb	03 52 36.8	+0.3
ALPN	**Alpine**	**1.05**	**186**		Pg	03 52 21.4	-0.2
ALPN				IAML		03 52 45.4	
	44nm,0.3s						
ALPN	**Alpine**	**1.05**	**186**	P	Pg	03 52 21.2	-0.5
ALPN				S	Sg	03 52 35.3	0.0
ODSA	**Odessa**	**1.08**	**50**	Pg	Pg	03 52 21.9	-0.2
ODSA				IAML		03 52 48.0	
	56nm,0.9s						
ODSA				IAML		03 52 55.5	
	73nm,1.0s						
ODSA	**Odessa**	**1.08**	**50**	P	Pg	03 52 22.1	-0.1
ODSA				S	Sb	03 52 37.7	+0.4
TMB02	**Rankin**	**1.28**	**100**	P	Pn	03 52 26.4	0.0
TMB02				S	Sn	03 52 44.1	-0.1
VHRN	**Van Horn**	**1.41**	**244**		Pn	03 52 27.8	-0.4
VHRN				IAML		03 52 53.9	
	28nm,0.6s						
VHRN				IAML		03 52 55.9	
	40nm,0.4s						
VHRN	**Van Horn**	**1.41**	**244**	⇓P	Pn	03 52 28.2	0.0
VHRN				S	Sn	03 52 47.4	+0.1
TMB04	**Seminole**	**1.48**	**36**	P	Pn	03 52 29.4	+0.3
TMB04				S	Sg	03 52 50.2	+1.1
CPRX	**Cap Rock**	**1.63**	**350**		Pb	03 52 32.1	-0.1
CPRX	**Cap Rock**	**1.63**	**350**	P	Pb	03 52 32.3	0.0
SAND	**Sanderson**	**1.89**	**140**	Pn	Pn	03 52 35.3	+0.6
SAND	**Sanderson**	**1.89**	**140**	P	Pb	03 52 36.1	-0.6
SAND				S	Sg	03 53 01.8	-0.5
TX31	**Lajitas Ar. Si**	**2.09**	**184**	Pn	Pn	03 52 38.4	+1.0
TX31	**Lajitas Ar. Si**	**2.09**	**184**	P	Pb	03 52 39.0	-1.0
TX31				S	Sg	03 53 07.7	-0.9
SGCY	**Sterling City**	**2.09**	**76**	Pn	Pb	03 52 39.1	-1.0
SGCY	**Sterling City**	**2.09**	**76**	P	Pb	03 52 39.3	-0.9
SGCY				S	Sb	03 53 06.8	+0.2
OZNA	**Ozona**	**2.11**	**103**	Pn	Pn	03 52 39.0	+1.3
OZNA	**Ozona**	**2.11**	**103**	P	Pb	03 52 39.9	-0.5
POST	**Post**	**2.36**	**46**	Pn	Pn	03 52 42.5	+1.3
SN05	**Snyder 5**	**2.66**	**56**	Pn	Pn	03 52 46.7	+1.4
SN05				IAmb_Lg		03 53 28.7	
	comp=Z,16nm,0.7s						
SN07	**Snyder 07**	**2.77**	**53**	Pn	Pb	03 52 50.2	-1.5
DKNS	**Dickens**	**3.13**	**44**	Pn	Pn	03 52 53.0	+1.3
DRIO	**Del Rio**	**3.20**	**128**	IAmb_Lg		03 53 41.6	
	comp=Z,7.0nm,0.7s						
APMT	**Aspermont**	**3.44**	**56**	Pn	Pn	03 52 56.9	+0.9
AMTX	**Amarillo**	**3.78**	**24**	Pn	Pn	03 53 02.6	+1.9
BRDY	**Brady**	**3.87**	**91**	Pn	Pn	03 53 02.1	+0.3
BRDY				IAmb_Lg		03 54 15.6	
	comp=Z,10nm,0.8s						
HNDO	**Hondo**	**4.12**	**116**	IAmb_Lg		03 54 20.8	
	comp=Z,6.4nm,0.9s						

*SOME **16** 04:12:28.0, 40°.57N×77°.83E, h5km*
*KRNET **16** 04:12:29.4±0.1, 40°.60N×78°.29E, h35km, mb2.6*
*NNC **16** 04:12:29.5±1.0, 40°.56N×77°.85E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=6.5km s-min=5.1km az=3.0

ISC 16 04:12:33.3±2.2, 40.76N±0°.08×77.90E±0°.04, h5km±12km, n35, σ1§27/55, 18C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.97**	**356**	⇑*iP*	**Pg**	**04 12 51.3**	**-0.7**
TARG				⇑*iS*	**Sb**	**04 13 07.2**	**+0.9**
KDJ	**Kajisay**	**1.48**	**339**	⇑*iP*	**Pn**	**04 12 59.8**	**-0.9**
KDJ				⇑*iS*	**Sg**	**04 13 21.8**	**+1.0**
PRZ	**Przheval'sk**	**1.77**	**12**	⇑*eP*	**Pn**	**04 13 02.3**	**-2.4**
PRZ				⇑*eS*	**Sn**	**04 13 26.0**	**-1.7**
ULHL	**Ulahol**	**1.94**	**321**	⇓*iP*	**Pn**	**04 13 07.0**	**-0.2**
ULHL				⇓*iS*	**Sb**	**04 13 34.4**	**+0.5**
ANVS	**Anan'yevo**	**2.03**	**355**	⇑*eP*	**Pn**	**04 13 06.8**	**-1.6**
ANVS				⇑*eS*	**Sn**	**04 13 34.3**	**0.0**
BOOM	**Boomskoye usch**	**2.27**	**320**	⇑*iP*	**Pn**	**04 13 11.6**	**-0.1**
BOOM				⇑*iS*	**Sb**	**04 13 42.2**	**-1.2**
SATY	**Saty**	**2.33**	**9**	Pg	**Pb**	**04 13 16.6**	**+0.8**
	6.2nm,0.5s						
SATY				Lg	Lg	04 13 51.3	
	16nm,0.5s						
TNSS	**Tian-Shan**	**2.39**	**343**	Pg	**Pb**	**04 13 16.5**	**-0.5**
	12nm,0.4s						
TNSS				Lg	Lg	04 13 51.9	
	12nm,0.5s						
TNSS	**Tian-Shan**	**2.39**	**343**	*eP*	**Pb**	**04 13 16.2**	**-0.8**
	12nm,0.4s						
TNSS				*eS*	**Sg**	**04 13 51.0**	**+0.9**
	12nm,0.5s						
ZHN	**Zhinishke**	**2.44**	**9**	*eP*	**Pb**	**04 13 17.6**	**-0.2**
	7.9nm,0.2s						
ZHN				*eS*	**Sg**	**04 13 53.1**	**+1.3**
	20nm,0.2s						
MDOK	**Medeo**	**2.49**	**345**	Pg	**Pb**	**04 13 18.3**	**-0.3**
	14nm,0.4s						
MDOK				Lg	Lg	04 13 54.2	
	11nm,0.6s						
MDOK	**Medeo**	**2.49**	**345**	*eP*	**Pb**	**04 13 18.1**	**-0.5**
	14nm,0.4s						
MDOK				*eS*	**Sg**	**04 13 54.1**	**+0.9**
	11nm,0.6s						
UZB	**Uzynbulak**	**2.53**	**19**	Pg	**Pb**	**04 13 19.9**	**+0.6**
UZB				Lg	Lg	04 13 56.9	
UZB	**Uzynbulak**	**2.53**	**19**	*eP*	**Pb**	**04 13 19.9**	**+0.6**
UZB				*eS*	**Sg**	**04 13 56.9**	**+2.3**
KOTS	**Kotyrbulak**	**2.55**	**347**	Pg	**Pb**	**04 13 19.5**	**-0.1**
	8.0nm,0.3s						
KOTS				Lg	Lg	04 13 56.2	
	12nm,0.4s						
KOTS	**Kotyrbulak**	**2.55**	**347**	*eP*	**Pb**	**04 13 19.4**	**-0.1**
	8.0nm,0.3s						
KOTS				*eS*	**Sg**	**04 13 56.2**	**+1.2**
	12nm,0.4s						
MTBS	**Maitube**	**2.62**	**336**	*eP*	**Pb**	**04 13 19.9**	**-0.8**
	4.3nm,0.2s						
MTBS				*eS*	**Sg**	**04 13 57.2**	**-0.1**
	3.7nm,0.1s						
KST	**Kastek**	**2.71**	**328**	Pg	**Pb**	**04 13 21.9**	**-0.4**
	4.5nm,0.4s						
KST				Lg	Lg	04 14 00.6	
	12nm,0.5s						
KST	**Kastek**	**2.71**	**328**	*eP*	**Pb**	**04 13 21.9**	**-0.4**
	4.5nm,0.4s						
KST				*eS*	**Sg**	**04 14 00.6**	**+0.4**
	12nm,0.5s						
KURS	**Kuram**	**2.74**	**4**	Pg	**Pb**	**04 13 23.6**	**+0.8**
	3.7nm,0.5s						
KURS				Lg	Lg	04 14 03.5	
	7.5nm,0.5s						
KPKS	**Kokpek**	**2.77**	**12**	*eP*	**Pg**	**04 13 25.3**	**-1.0**
	5.3nm,0.6s						
KPKS				*eS*	**Sg**	**04 14 06.6**	**+4.3**
	12nm,0.6s						
PDGK	**Podgornoye**	**2.83**	**24**	⇑Pg	**Pb**	**04 13 23.5**	**-0.9**
	2.5nm,0.6s						
PDGK				⇑Lg	Lg	04 14 04.9	
	9.3nm,0.7s						
ARLS	**Aral**	**2.91**	**293**	⇑*iP*	**Pn**	**04 13 20.6**	**+0.1**
ARLS				⇑*iS*	**Sb**	**04 13 58.3**	**-3.5**
KBK	**Karagaybulak**	**2.92**	**312**	⇑*iP*	**Pn**	**04 13 20.8**	**+0.3**
KBK				⇑*iS*	**Sn**	**04 13 58.2**	**+2.2**
DGS	**Degeres**	**2.95**	**328**	Pg	**Pb**	**04 13 25.8**	**-0.6**
	5.3nm,0.6s						
DGS				Lg	Lg	04 14 07.2	
	12nm,0.6s						
KTBS	**Karatobe**	**3.09**	**343**	Pg	**Pb**	**04 13 28.5**	**-0.2**
	6.1nm,0.4s						
KTBS				Lg	Lg	04 14 12.5	
	12nm,0.4s						
SALK	**Salom-Alik**	**3.10**	**274**	⇓*iP*	**Pn**	**04 13 22.9**	**-0.1**
SALK				⇓*iS*	**Sn**	**04 14 02.5**	**+2.0**
AAK	**Ala-Archa**	**3.17**	**308**	⇑*iP*	**Pn**	**04 13 24.4**	**+0.4**
AAK				⇑*iS*	**Sn**	**04 14 04.6**	**+2.3**
KTMS	**Ketmen**	**3.25**	**33**	Pg	**Pb**	**04 13 32.2**	**+0.7**
	0.5nm,0.2s						
KTMS				Lg	Lg	04 14 18.0	
	5.7nm,0.3s						
KTMS	**Ketmen**	**3.25**	**33**	*eP*	**Pb**	**04 13 32.0**	**+0.5**
	0.5nm,0.2s						
KTMS				*eS*	**Sg**	**04 14 18.0**	**+0.4**
	3.9nm,0.1s						
BLB	**Baldybastay**	**3.37**	**7**	Pg	**Pb**	**04 13 34.4**	**+0.8**
	6.9nm,0.5s						
BLB				Lg	Lg	04 14 22.0	
	8.0nm,0.4s						
KRBS	**Karabastau**	**3.37**	**331**	Pg	**Pb**	**04 13 33.2**	**-0.4**
	5.3nm,0.6s						
KRBS				Lg	Lg	04 14 19.8	
	7.4nm,0.6s						
ARXS	**Arharly**	**3.46**	**359**	Pg	**Pb**	**04 13 35.6**	**+0.6**
	1.6nm,0.4s						
ARXS				Lg	Lg	04 14 24.4	
	6.6nm,0.5s						
DJR	**Jarkent**	**3.84**	**21**	Pg	**Pb**	**04 13 42.7**	**+1.1**
	1.3nm,0.5s						
DJR				Lg	Lg	04 14 36.1	
	4.1nm,0.6s						
DJR	**Jarkent**	**3.84**	**21**	*eP*	**Pb**	**04 13 42.6**	**+1.1**
	1.3nm,0.5s						
DJR				*eS*	**Sg**	**04 14 36.1**	**-0.4**
	4.1nm,0.6s						

*NEIC **16** 04:13:23.4±1.1, 20°.4S±0°.1×176°.2W±0°.3, h517km±18km, mb4.3/15, Error ellipse: s-maj=36.7km s-min=20.6km az=90.0*
*IDC **16** 04:13:31.2±10.0, 20°.24S×177°.34W, h533km±51km, mb2.8/3, mbtmp3.9/5, Error ellipse: s-maj=235.9km s-min=36.3km az=58.0*

ISC 16 04:13:23.1±1.7, 20°.3S±0°.1×176°.3W±0°.2, h500km, n22, σ1§61/21, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.92**	**295**	P	**P**	**04 15 00.8**	**+1.9**
MSVF	**Nonsavu**	**5.92**	**295**	P	**P**	**04 15 00.4**	**+1.5**
	9.3nm,0.4s,baz=127,slow=9.4,SNR=18						
AFI	**Afiamalu**	**7.72**	**35**	P	P	04 15 06.6	-10
RAO	**Raoul Island**	**9.00**	**189**	P	**P**	**04 15 29.9**	**+0.1**
ONTNC	**Ouen Toro**	**16.18**	**260**	P	**P**	**04 16 46.2**	**+0.5**
URZ	**Urewera**	**18.75**	**196**	P	**P**	**04 17 15.1**	**+5.0**
	5.5nm,0.7s,baz=0.0,slow=6.1,SNR=7.4						
RTZ	**Ruatahuna**	**19.12**	**196**	P	**P**	**04 17 11.8**	**-1.9**
RTZ				IAmb	IAmb	04 17 13.4	
	comp=Z,56nm,1.4s						
BHW	**Baring Head**	**22.30**	**198**	P	**P**	**04 17 42.7**	**+0.3**
BHW				IAmb	IAmb	04 18 05.1	
	comp=Z,100nm,1.4s						
TOO	**Toolangi**	**37.27**	**234**	P	**P**	**04 19 51.5**	**-0.4**
TOO				IAmb	IAmb	04 19 52.1	
	comp=Z,1.4nm,0.9s						
STKA	**Stephens Creek**	**39.28**	**244**	P	**P**	**04 20 07.3**	**-1.0**
STKA				IAmb	IAmb	04 20 08.2	
	comp=Z,2.8nm,1.1s						
STKA	**Stephens Creek**	**39.28**	**244**	P	**P**	**04 20 07.3**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=94,slow=14,SNR=2.9						
	comp=Z,0.7nm,0.5s						
WAKE	**Wake Island**	**42.76**	**336**	P	**P**	**04 20 36.6**	**+0.5**
BBOO	**Buckleboo**	**44.03**	**244**	P	**P**	**04 20 45.1**	**-0.9**
BBOO				IAmb	IAmb	04 21 03.4	
	comp=Z,7.2nm,1.3s						
WR0	**Warramunga Arr**	**46.00**	**262**	P	**P**	**04 21 00.4**	**-0.9**
WR0				IAmb	IAmb	04 21 02.7	
	comp=Z,8.7nm,1.4s						
AS31	**Alice Springs**	**46.09**	**256**	P	**P**	**04 21 01.6**	**-0.4**
ASAR	**Alice Springs**	**46.09**	**256**	P	**P**	**04 21 01.0**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=93,slow=8.1,SNR=20						
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**46.19**	**262**	P	**P**	**04 21 01.6**	**-1.1**
WRA	**Warramunga Arr**	**46.19**	**262**	P	**P**	**04 21 00.9**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=97,slow=7.1,SNR=12						
	comp=Z,0.5nm,0.7s						
KNRA	**Kununurra**	**52.24**	**266**	P	**P**	**04 21 47.3**	**-0.3**
KNRA				IAmb	IAmb	04 21 53.0	
	comp=Z,9.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.61**	**262**	P	**P**	**04 22 04.5**	**0.0**
MAJO	**Matsushiro**	**71.03**	**323**	P	**P**	**04 23 48.7**	**-1.4**
MAJO				IAmb	IAmb	04 23 51.8	
	comp=Z,9.6nm,0.6s						
MJB9	**Matsu-Tunnel**	**71.03**	**323**	P	**P**	**04 23 49.5**	**-0.7**
MJB9				IAmb	IAmb	04 23 52.8	
	comp=Z,9.3nm,0.6s						

*NEIC **16** 04:13:28.6±1.2, 56°.24N±0°.09×149°.61W±0°.09, h10km±2km, ML3.5/62, ML3.3(AEIC), Error ellipse: s-maj=16.4km s-min=7.6km az=162.0*
*AEIC **16** 04:13:32.6±1.3, 56°.19N±0°.09×149°.5W±0°.1, h10km±8km, Error ellipse: s-maj=14.7km s-min=9.7km az=152.0*

ISC 16 04:13:27.9±1.7, 56°.24N±0°.09×149°.62W±0°.05, h10km, n96, σ1§05/89, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.24**	**315**		**Pn**	**04 14 06.2**	**+1.2**
KDAK	**Kodiak Island**	**2.24**	**315**		**Sn**	**04 14 32.2**	**-0.5**
OHAK	**Old Harbor**	**2.25**	**298**		**Pn**	**04 14 05.8**	**+0.7**
OHAK				IAML		04 14 32.0	
	comp=N,197nm,0.9s						
OHAK	**Old Harbor**	**2.25**	**298**		**Sn**	**04 14 31.8**	**-1.1**
OHAK	**Old Harbor**	**2.25**	**298**	P	**Pn**	**04 14 05.8**	**+0.7**
OHAK	**Old Harbor**	**2.25**	**298**	S	**Sn**	**04 14 31.7**	**-1.1**
SII	**Sitkinak Islan**	**2.56**	**279**		**Pn**	**04 14 10.0**	**+0.6**
SII				IAML		04 14 39.9	
	comp=E,145nm,0.6s						
SII				IAML		04 14 45.5	
	comp=N,113nm,0.8s						
SII	**Sitkinak Islan**	**2.56**	**279**	P	**Pn**	**04 14 10.0**	**+0.6**
SII	**Sitkinak Islan**	**2.56**	**279**	S	**Sn**	**04 14 39.0**	**-1.5**
SYI	**Shuyak Island**	**2.81**	**329**		**Sn**	**04 14 47.0**	**+0.3**
SYI	**Shuyak Island**	**2.81**	**329**	Pn	**Pn**	**04 14 13.8**	**+1.0**
R18K	**Karluk**	**2.97**	**299**	IAML		04 14 50.9	
	comp=N,173nm,0.4s						
R18K				IAML		04 14 56.6	
	comp=E,130nm,0.5s						
R18K	**Karluk**	**2.97**	**299**		**Pn**	**04 14 16.3**	**+1.4**
R18K					**Sn**	**04 14 49.8**	**-0.8**
CHIR	**Chirikof Islan**	**3.39**	**265**	Pn	**Pn**	**04 14 20.9**	**+0.1**
CHIR	**Chirikof Islan**	**3.39**	**265**	P	**Pn**	**04 14 21.1**	**+0.3**
CNPM	**China Poot**	**3.41**	**346**		**Pn**	**04 14 21.6**	**+0.5**
CNPM	**China Poot**	**3.41**	**346**		**Sn**	**04 14 59.7**	**-1.8**
CNPM	**China Poot**	**3.41**	**346**	IAML		04 15 03.1	
	comp=N,57nm,0.4s						
CNPM				IAML		04 15 05.0	
	comp=E,42nm,0.5s						
Q19K	**Cape Douglas,**	**3.46**	**323**		**Pn**	**04 14 23.6**	**+1.8**
Q19K				IAML		04 15 13.4	
	comp=N,138nm,0.7s						
Q19K				IAML		04 16 28.9	
	comp=E,143nm,1.4s						
KAHG	**Katmai Hook Gl**	**3.50**	**312**		**Pn**	**04 14 24.5**	**+2.2**
BRSE	**Bradley Lake S**	**3.56**	**351**		**Pn**	**04 14 23.5**	**+0.3**
BRSE					**Sn**	**04 15 03.9**	**-1.5**
BRLK	**Bradley Lake**	**3.60**	**350**		**Pn**	**04 14 23.8**	**+0.1**
BRLK				IAML		04 15 06.8	
	comp=N,57nm,0.1s						
BRLK				IAML		04 15 08.8	
	comp=E,72nm,0.2s						
Q23K	**Middleton Isla**	**3.65**	**27**	Pn	**Pn**	**04 14 24.3**	**0.0**
Q23K				IAML		04 15 05.2	
	comp=N,130nm,1.1s						
AU22	**Augustine Moun**	**3.72**	**329**		**Pn**	**04 14 27.1**	**+1.7**
AUCH	**Augustine Cone**	**3.74**	**328**		**Pn**	**04 14 27.4**	**+1.7**
ANCK	**Angle Creek**	**3.75**	**304**		**Pn**	**04 14 28.0**	**+2.2**
AUL	**Augustine Lava**	**3.76**	**329**		**Pn**	**04 14 27.8**	**+1.9**
SEW	**Seward**	**3.88**	**1**	Pn	**Pn**	**04 14 27.4**	**-0.1**
P19K	**Oil Pt**	**3.93**	**332**	Pn	**Pn**	**04 14 29.6**	**+1.4**
P19K				IAML		04 15 18.4	
	comp=N,88nm,0.4s						
P19K				IAML		04 15 22.8	
	comp=E,67nm,0.5s						
O20K	**Slope Mountain**	**4.17**	**339**		**Pn**	**04 14 32.3**	**+0.7**
ILSW	**Iliamna Southw**	**4.20**	**335**		**Pn**	**04 14 32.6**	**+0.7**
ILSW				IAML		04 15 23.4	
	comp=E,30nm,1.0s						
ILSW				IAML		04 15 24.1	
	comp

RC01 IAML 04 15 38.6
comp=N,28nm,0.4s
RC01 IAML 04 15 41.1
comp=E,32nm,0.5s
RAGM Ragged Mountai 4.91 30 Pn 04 14 42.3 +0.6
SUCK Suckling Hills 4.94 36 Pn 04 14 42.8 +0.7
SUCK Suckling Hills 4.94 36 IAML 04 15 38.7
comp=E,55nm,0.4s
GOAT Goat Mountain 5.06 29 Pn 04 14 44.5 +0.8
SPU Mount Spurr 5.12 347 Pn 04 14 44.6 0.0
SPU Mount Spurr 5.12 347 IAML 04 15 46.2
comp=E,17nm,0.5s
SPU IAML 04 15 46.7
comp=N,16nm,0.8s
BGLC Bering Glacier 5.14 38 Pn 04 14 45.8 +1.0
KNK Knik Glacier 5.23 6 Pn 04 14 46.5 +0.4
KNK Knik Glacier 5.23 6 IAML 04 15 47.7
comp=N,15nm,1.0s
KNK IAML 04 15 51.2
comp=E,18nm,1.2s
P16K Nushagak River 5.30 305 Pn 04 14 49.1 +2.1
DIV Divide 5.30 21 Pn 04 14 47.7 +0.6
O17K Koliganek Bris 5.33 315 Pn 04 14 48.6 +1.3
PMR Palmer 5.38 2 Pn 04 14 48.7 +0.6
PMR Palmer 5.38 2 IAML 04 15 52.1
comp=E,13nm,1.0s
STLK Strandline Lak 5.40 349 Pn 04 14 49.1 +0.7
BMRM Bremner River 5.42 27 Pn 04 14 49.6 +0.9
N18K Kilae Creek 5.54 326 Pn 04 14 50.9 +0.6
GHO Glory Hole Cre 5.56 3 Pn 04 14 51.9 +1.2
KLU Klutina 5.61 18 Pn 04 14 52.3 +1.0
BARK Barkley Ridge 5.62 39 Pn 04 14 52.1 +0.7
O16K Kokwok River B 5.63 310 Pn 04 14 53.1 +1.6
MESA MESA 5.66 43 Pn 04 14 53.3 +1.1
SCM Sheep Creek Mo 5.74 11 Pn 04 14 54.2 +1.2
SKT Skwentna 5.84 351 Pn 04 14 55.1 +0.6
N17K Nushagak Hills 5.86 320 Pn 04 14 56.0 +1.3
M20K Styx River 5.95 344 Pn 04 14 56.2 +0.3
RKAV Rock Avalanche 5.97 44 Pn 04 14 57.2 +0.9
N25K Chitina, Valde 5.98 24 Pn 04 14 57.4 +0.9
GLB Gilahina Butte 6.03 28 Pn 04 14 57.8 +0.8
KIAG Kiagna River 6.04 36 Pn 04 14 57.9 +0.5
BALM Baldy 6.13 35 Pn 04 14 59.0 +0.5
M24K Tolsona, Glenn 6.15 15 Pn 04 15 00.3 +1.6
PCA Pinnacle 6.29 48 Pn 04 15 01.4 +0.9
WACK Wrangell Chich 6.38 23 Pn 04 15 03.3 +1.3
PNL Peninsula 6.44 53 Pn 04 15 03.4 +0.7
PNL Peninsula 6.44 53 P **Pn 04 15 03.6 +1.0**
BCPM Bancas Point 6.47 51 Pn 04 15 04.0 +0.9
YUK2 White River 7.17 36 Pn 04 15 14.3 +1.6
TRF Thorofare Moun 7.25 358 Pn 04 15 14.6 +0.7
CAST Castle Rocks 7.31 351 Pn 04 15 15.8 +1.2
MCK McKinley 7.53 2 Pn 04 15 19.3 +1.7
SIT Sitka 7.92 72 P **Pn 04 15 23.1 +0.1**
SKAG Skagway 8.28 61 P **Pn 04 15 27.7 -0.1**
CCB Clear Creek Bu 8.49 5 Pn 04 15 32.5 +1.8
IL31 8.67 8 Pn 04 15 34.3 +1.1

IDC 16 04:25:29.2±4.9, 16°24S×176°94W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=297.9km s-min=62.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.33**	**258**	P	P	04 33 57.4	0.0
	0.2nm,0.4s,baz=92,slow=7.8,SNR=10						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.61**	**253**	P	P	04 33 59.4	-0.2
	2.0nm,0.6s,baz=88,slow=8.3,SNR=40						
	2.0nm,0.6s						
FINES	**FINESS Array B**	**131.96**	**345**	PKP	PKPdf	04 44 43.9	-0.4
	2.1nm,0.9s,baz=29,slow=3.2,SNR=4.1						

IDC 16 04:27:50.6±1.5, 11°39N×142°54E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/1, Error ellipse: s-maj=49.0km s-min=32.8km az=95.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.97**	**139**	LR	LR	04 43 03.8	
	comp=Z,115nm,19.8s,baz=310,slow=34						
WRA	**Warramunga Arr**	**32.17**	**195**	P	P	04 34 20.3	-0.1
	0.4nm,0.8s,baz=12,slow=9.3,SNR=1.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**61.52**	**317**	P	P	04 38 11.1	+1.6
	0.1nm,0.4s,baz=123,slow=7.1,SNR=6.8						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.85**	**321**	P	P	04 38 31.4	-0.1
	0.3nm,0.5s,baz=104,slow=7.0,SNR=4.3						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**70.25**	**322**	P	P	04 39 03.7	-1.9
	0.6nm,0.5s,baz=99,slow=9.2,SNR=2.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**71.51**	**25**	P	P	04 39 13.1	0.0
	0.5nm,0.6s,baz=251,slow=5.6,SNR=12						
	0.5nm,0.6s						

CNRM ***16*** *04:35:33.5, 34°88N×4°47W, h84km*
INMG ***16*** *04:35:33.8±2.3, 34°75N×4°55W, h47km±9km, ML4.4, Error ellipse: s-maj=5.8km s-min=3.9km az=178.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW AI Hoceima (MARR)*
MDD ***16*** *04:35:33.1±0.4, 34°85N×4°59W, h5km±3km, mb_Lg4.2/92, Error ellipse: s-maj=2.7km s-min=1.7km az=155.0*
IDC ***16*** *04:35:33.9±1.4, 34°87N×4°31W, h55km±14km, mb3.8/23, mbtmp4.1/25, MS3.5/6, Error ellipse: s-maj=15.3km s-min=8.5km az=109.0*
CRAAG ***16*** *04:35:33.0, 34°85N×4°59W, Mb4.2, Maroc*
MED_RC ***16*** *04:35:34.0±1.4, 34°83N×4°50W, h46km±3km, MW4.4/11, Moment Tensor Solution. Mantle waves: s11, c17; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr3.93±.50; Mθθ-3.83±.31; Mφφ-0.10±.42; Mrθ-0.95±.25; Mrφ-1.31±.29; Mθf-1.00±.27; Best double couple: Mo4.32000×10^15 NP1:φs82.00000°, δ38.00000°, λ105.00000°. NP2:φs243.00000°, δ54.00000°, λ79.00000°. Principal axes: T 4.2200, Plg77.0000°, Azm113.0000°; N 0.2100, Plg9.0000°, Azm250.0000°; P -4.4200, Plg8.0000°, Azm341.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
SFS ***16*** *04:35:34.2, 34°92N×4°51W, h51km, ML4.7/28, ML5.0/28, MLv4.6/28*
NEIC ***16*** *04:35:34.8±2.0, 34°88N±0°06×4°56W±0°09, h59km±4km, mb4.3/18, Error ellipse: s-maj=10.8km s-min=7.9km az=103.0*
IGIL ***16*** *04:35:35.6, 34°89N×4°64W, h23km, ML4.7*
ISC 16 04:35:34.4±0.5, 34°89N±0°03×4°51W±0°02, h64km±4km, n384, σ1§66/527, mb4.2/42, 13C-47D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Pen de Vlez**	**0.33**	**31**	S	**Sn**	**04 35 51.9**	**-1.0**
PVLZ				P	**Pn**	**04 35 45.3**	**+0.2**
PALE	**Palemas**	**0.57**	**55**	P	**Pn**	**04 35 47.9**	**+0.4**
PALE	**Palemas**	**0.57**	**55**	S	**Sn**	**04 35 58.0**	**+1.0**
AKLM	**AKL**	**0.66**	**125**	P	**Pn**	**04 35 49.6**	**+1.1**
AKLM	**AKL**	**0.66**	**125**	S	**Sn**	**04 35 58.5**	**-0.2**
CHEFC	**Chefchaouen**	**0.71**	**288**	P	**Pn**	**04 35 51.5**	**+2.3**
CHEFC	**Chefchaouen**	**0.71**	**288**	S	**Sn**	**04 36 03.9**	**+3.9**
CEU	**Ceuta**	**1.23**	**325**	S	**Sn**	**04 36 09.9**	**-1.5**
CEU				P	**Pn**	**04 35 55.1**	**-0.4**
ECEU	**Ceuta**	**1.23**	**325**	S	**Sn**	**04 36 10.7**	**-0.7**
ECEU				P	**Pn**	**04 35 56.1**	**+0.6**
ECEU	**Ceuta**	**1.23**	**325**	||Pn	**Pn**	**04 35 56.0**	**+0.4**
ECEU				Sn	**Sn**	**04 36 11.6**	**+0.2**
ECEU				*i* Vmb_Lg		04 36 12.2	
LCRM	**LCR**	**1.24**	**194**	P	**Pn**	**04 35 55.7**	**-0.1**
LCRM	**LCR**	**1.24**	**194**	S	**Sn**	**04 36 15.4**	**+3.6**
GOG	**Mont Gurugu**	**1.29**	**75**	P	**Pn**	**04 35 55.8**	**-0.6**
GOG	**Mont Gurugu**	**1.29**	**75**	S	**Sn**	**04 36 13.1**	**+0.2**
EMEL	**Melilla**	**1.34**	**72**	Pn	**Pn**	**04 35 56.7**	**-0.3**
EMEL				Sn	**Sn**	**04 36 13.1**	**-0.8**
EMEL				*i* Vmb_Lg		04 36 14.2	
EMLI	**Melilla**	**1.34**	**72**	S	**Sn**	**04 36 11.6**	**-2.5**
EMLI				P	**Pn**	**04 35 56.6**	**-0.5**
WMELI	**Melilla**	**1.35**	**71**	S	**Sn**	**04 36 13.3**	**-0.9**
WMELI				P	**Pn**	**04 35 56.8**	**-0.3**
TARIF	**Tarifa**	**1.43**	**323**	P	**Pn**	**04 36 00.6**	**+2.4**
IFR	**Ifrane**	**1.46**	**201**	P	**Pn**	**04 35 58.6**	**-0.3**
IFR				S	**Sn**	**04 36 15.0**	**-2.2**
EALB	**Alboran**	**1.60**	**49**	Pn	**Pn**	**04 36 00.4**	**0.0**
EALB				Sn	**Sn**	**04 36 19.0**	**-1.1**
EALB				*i* Vmb_Lg		04 36 21.2	
JBK	**JBK**	**1.70**	**109**	P	**Pn**	**04 36 01.7**	**-0.3**
JBK	**JBK**	**1.70**	**109**	S	**Sn**	**04 36 20.4**	**-2.4**
TAF	**Taforalt**	**1.73**	**92**	P	**Pn**	**04 36 02.1**	**-0.2**
TAF	**Taforalt**	**1.73**	**92**	S	**Sn**	**04 36 23.2**	**-0.2**
EXBAR	**Barbate**	**1.73**	**319**	Pn	**Pn**	**04 36 02.8**	**+0.5**
EXBAR				Sn	**Sn**	**04 36 25.9**	**+2.5**
EJIF	**Jimena Fronter**	**1.74**	**334**	Pn	**Pn**	**04 36 03.9**	**+1.5**
EJIF				Sn	**Sn**	**04 36 25.9**	**+2.3**
EMAL	**Malaga-Limoner**	**1.87**	**2**	P	**Pn**	**04 36 03.7**	**-0.4**
EMAL				S	**Sn**	**04 36 25.9**	**-0.8**
MD31	**MD31**	**2.03**	**186**	P	**Pn**	**04 36 06.5**	**+0.1**
MD31	**MD31**	**2.03**	**186**	S	**Sn**	**04 36 30.6**	**-0.1**
MDT	**Midelt**	**2.07**	**182**	P	**Pn**	**04 36 07.0**	**0.0**
	246nm,0.3s,baz=39,slow=12,SNR=3612						
MDT				S	**Sn**	**04 36 31.1**	**-0.7**
	951nm,0.4s,baz=27,slow=18,SNR=13						
MDT				LR	LR	04 37 06.0	
	comp=Z,389nm,19.3s,baz=334,slow=45						
MDT	**Midelt**	**2.07**	**182**	P	**Pn**	**04 36 07.2**	**+0.1**
MDT	**Midelt**	**2.07**	**182**	S	**Sn**	**04 36 31.6**	**-0.3**
SFS	**San Fernando**	**2.09**	**319**	P	**Pn**	**04 36 09.7**	**+2.6**
SFS	**San Fernando**	**2.09**	**319**	P	**Pn**	**04 36 09.1**	**+2.0**
SFS				S	**Sn**	**04 36 32.6**	**+0.5**
SFS	**San Fernando**	**2.09**	**319**	Pn	**Pn**	**04 36 07.5**	**+0.4**
SFS				Sn	**Sn**	**04 36 33.7**	**+1.6**
SFS	**San Fernando**	**2.09**	**319**	P	**Pn**	**04 36 08.6**	**+1.5**
SFS	**San Fernando**	**2.09**	**319**	S	**Sn**	**04 36 33.7**	**+1.6**
ELGU	**Los Guajares,**	**2.10**	**20**	P	**Pn**	**04 36 07.0**	**-0.3**
ELGU				S	**Sn**	**04 36 30.7**	**-1.7**
ELGU	**Los Guajares,**	**2.10**	**20**	||Pn	**Pn**	**04 36 07.0**	**-0.3**
ELGU				Sn	**Sn**	**04 36 31.2**	**-1.3**
ELGU				*i* Vmb_Lg		04 36 35.4	
EGOR	**Sierra Gorda,**	**2.24**	**8**	P	**Pn**	**04 36 10.0**	**+0.7**
EGOR				S	**Sn**	**04 36 36.3**	**+0.4**
EGOR	**Sierra Gorda,**	**2.24**	**8**	Pn	**Pn**	**04 36 10.2**	**+0.9**
EGOR				Sn	**Sn**	**04 36 39.0**	**+3.1**
EGOR				*i* Vmb_Lg		04 36 44.4	
ESPR	**Espera**	**2.25**	**331**	P	**Pn**	**04 36 10.9**	**+1.6**
ESPR				S	**Sn**	**04 36 38.8**	**+2.7**
ESPR	**Espera**	**2.25**	**331**	||Pn	**Pn**	**04 36 11.0**	**+1.6**
ESPR				Sn	**Sn**	**04 36 37.6**	**+1.5**
ESPR				*i* Vmb_Lg		04 36 42.2	
ZHG	**ZHG**	**2.28**	**231**	P	**Pn**	**04 36 10.0**	**+0.2**
ZHG				P	**Pn**	**04 36 10.0**	**+0.2**
ZHG	**ZHG**	**2.28**	**231**	S	**Sn**	**04 36 41.0**	**+4.1**
EXMOR	**Moron de la Fr**	**2.35**	**341**	Pn	**Pn**	**04 36 12.7**	**+2.0**
EXMOR				Sn	**Sn**	**04 36 41.9**	**+3.4**
EBER	**Berja**	**2.40**	**33**	P	**Pn**	**04 36 11.3**	**-0.2**
EBER	**Berja**	**2.40**	**33**	Pn	**Pn**	**04 36 11.2**	**-0.2**
EBER				Sn	**Sn**	**04 36 39.5**	**-0.3**
EXCAB	**Granada**	**2.40**	**18**	Pn	**Pn**	**04 36 13.4**	**+2.0**
EXCAB				Sn	**Sn**	**04 36 43.3**	**+3.6**
EXGRA	**Granada**	**2.41**	**17**	Pn	**Pn**	**04 36 12.9**	**+1.4**
EXGRA				Sn	**Sn**	**04 36 42.8**	**+2.8**
EQUE	**Quentar**	**2.47**	**20**	Pn	**Pn**	**04 36 13.3**	**+0.9**
EQUE				Sn	**Sn**	**04 36 42.4**	**+1.0**
EQUE				*i* Vmb_Lg		04 36 44.9	
EQTA	**Presa de Quent**	**2.47**	**20**	P	**Pn**	**04 36 13.4**	**+1.0**
EQTA				S	**Sn**	**04 36 42.5**	**+1.0**
ENIJ	**Nijar**	**2.79**	**41**	P	**Pn**	**04 36 16.2**	**-0.6**
ENIJ				S	**Sn**	**04 36 46.3**	**-3.0**
ENIJ	**Nijar**	**2.79**	**41**	Pn	**Pn**	**04 36 17.0**	**+0.2**
ENIJ				Sn	**Sn**	**04 36 46.9**	**-2.4**
ENIJ				*i* Vmb_Lg		04 36 47.5	
ARNO	**Arenosillo**	**2.84**	**321**	P	**Pn**	**04 36 18.3**	**+1.0**
ARNO				S	**Sn**	**04 36 50.4**	**-0.1**
AVE	**Averroes**	**2.88**	**237**	Pn	**Pn**	**04 36 18.4**	**+0.4**
AVE	**Averroes**	**2.88**	**237**	P	**Pn**	**04 36 18.3**	**+0.4**
AVE				S	**Sn**	**04 36 50.7**	**-0.8**
AVE	**Averroes**	**2.88**	**237**	P	**Pn**	**04 36 17.9**	**0.0**
AVE	**Averroes**	**2.88**	**237**	S	**Sn**	**04 36 52.6**	**+1.1**
E0803	**Jimena (Jaen)**	**3.06**	**16**	Pn	**Pn**	**04 36 22.1**	**+1.8**
E0803				Sn	**Sn**	**04 36 59.6**	**+3.9**
GOLM	**Goulmima**	**3.20**	**187**	P	**Pn**	**04 36 23.0**	**+0.6**
GOLM	**Goulmima**	**3.20**	**187**	S	**Sn**	**04 37 02.0**	**+2.6**
EXCBR	**El Cabril**	**3.26**	**347**	Pn	**Pn**	**04 36 23.9**	**+0.8**
EXCBR				Sn	**Sn**	**04 36 59.9**	**-0.8**
E0802	**Ubeda,Jaen**	**3.26**	**16**	Pn	**Pn**	**04 36 23.4**	**+0.3**
E0802				Sn	**Sn**	**04 37 03.2**	**+2.4**
ECAB	**El Cabril**	**3.26**	**347**	P	**Pn**	**04 36 23.6**	**+0.5**
ECAB				S	**Sn**	**04 36 59.7**	**-1.0**
ECAB	**El Cabril**	**3.26**	**347**	||Pn	**Pn**	**04 36 23.7**	**+0.6**
ECAB				Sn	**Sn**	**04 37 00.0**	**-0.7**
ECAB				*i* Vmb_Lg		04 37 03.9	
EADA	**Adamuz**	**3.27**	**359**	P	**Pn**	**04 36 24.7**	**+1.5**
EADA				S	**Sn**	**04 37 01.7**	**+0.8**
EADA	**Adamuz**	**3.27**	**359**	Pn	**Pn**	**04 36 24.6**	**+1.4**
EADA				Sn	**Sn**	**04 37 02.2**	**+1.2**
EADA				*i* Vmb_Lg		04 37 06.1	
USTO	**Oran**	**3.35**	**74**	P	Pn	04 36 17.0	-7.2
EMIN	**Mina Concepcio**	**3.36**	**329**	P	**Pn**	**04 36 24.7**	**+0.3**
EMIN				S	**Sn**	**04 37 02.1**	**-1.0**
EMIN	**Mina Concepcio**	**3.36**	**329**	||Pn	**Pn**	**04 36 24.8**	**+0.3**
EMIN				Sn	**Sn**	**04 37 01.7**	**-1.4**
EMIN				*i* Vmb_Lg		04 37 05.3	
ARF	**Arif**	**3.46**	**176**	P	**Pn**	**04 36 25.9**	**0.0**
ARF	**Arif**	**3.46**	**176**	S	**Sn**	**04 37 05.9**	**+0.2**
PFARO	**Faro**	**3.49**	**309**	*e*S	**Sn**	**04 37 05.0**	**-1.3**
PFARO				*i* AML	AML	04 37 08.5	
PFARO				*i* AML	AML	04 37 09.1	
ELOR	**Lorca, Murcia**	**3.54**	**38**	Pn	**Pn**	**04 36 27.9**	**+1.0**
ELOR				Sn	**Sn**	**04 37 06.4**	**-1.0**
ELOR				*i* Vmb_Lg		04 37 09.2	
EGRO	**El Granado**	**3.57**	**319**	P	**Pn**	**04 36 27.7**	**+0.4**
EGRO				S	**Sn**	**04 37 05.5**	**-2.7**
EGRO	**El Granado**	**3.57**	**319**	||Pn	**Pn**	**04 36 27.7**	**+0.4**
EGRO				Sn	**Sn**	**04 37 06.1**	**-2.1**
EGRO				*i* Vmb_Lg		04 37 08.1	
TLOR	**Lorca, Murcia**	**3.58**	**39**	P	**Pn**	**04 36 28.7**	**+1.3**
TLOR				S	**Sn**	**04 37 07.5**	**-1.0**
TLOR	**Lorca, Murcia**	**3.58**	**39**	Pn	**Pn**	**04 36 28.8**	**+1.4**
TLOR				Sn	**Sn**	**04 37 07.5**	**-1.0**
ODJA	**Bouhanifia**	**3.60**	**82**	P	**Pn**	**04 36 29.0**	**+1.2**
PVAQ	**Vaqueiros**	**3.61**	**315**	Pn	**Pn**	**04 36 28.3**	**+0.4**
PVAQ	**Vaqueiros**	**3.61**	**315**	||*i*P	**Pn**	**04 36 28.2**	**+0.4**
PVAQ				*e*S	**Sn**	**04 37 07.0**	**-2.2**
PVAQ				*i* AML	AML	04 37 07.5	
PVAQ				*i* AML	AML	04 37 07.6	
PVAQ				*i* AML	AML	04 37 10.4	
PVAQ	**Vaqueiros**	**3.61**	**315**	P	**Pn**	**04 36 28.1**	**+0.3**
PBDV	**Barranco-do-Ve**	**3.63**	**311**	||*i*P	**Pn**	**04 36 28.5**	**+0.4**
PBDV				*e*S	**Sn**	**04 37 07.4**	**-2.4**
PBDV				*i* AML	AML	04 37 08.2	
PBDV				*i* AML	AML	04 37 08.5	
PBDV				*i* AML	AML	04 37 08.6	
SRHM	**Skhour des Reh**	**3.71**	**230**	P	**Pn**	**04 36 31.0**	**+1.6**
EXMAZ	**Mazarron**	**3.74**	**43**	Pn	**Pn**	**04 36 31.2**	**+1.6**
EXMAZ				Sn	**Sn**	**04 37 09.5**	**-2.9**
PALBU	**Albufeira**	**3.74**	**307**	*e*P	**Pn**	**04 36 30.0**	**+0.3**
PALBU				*e*S	**Sn**	**04 37 10.5**	**-2.0**
PALBU				*i* AML	AML	04 37 14.6	
PALBU				*i* AML	AML	04 37 14.7	
PALBU				*i* AML	AML	04 37 19.1	
EZAR	**Zarzadilla de**	**3.75**	**37**	Pn	**Pn**	**04 36 30.4**	**+0.6**
EZAR				Sn	**Sn**	**04 37 11.1**	**-1.6**
EZAR				*i* Vmb_Lg		04 37 14.5	
EXAHM	**Alhama Murcia,**	**3.85**	**39**	Pn	**Pn**	**04 36 32.4**	**+1.2**
EXAHM				Sn	**Sn**	**04 37 13.6**	**-1.5**
PBAR	**Barrancos**	**3.86**	**329**	||*e*P	**Pn**	**04 36 31.7**	**+0.4**
PBAR				*e*S	**Sn**	**04 37 13.1**	**-2.2**
PBAR				*i* AML	AML	04 37 14.1	
PBAR				*i* AML	AML	04 37 17.8	
PBAR				*i* AML	AML	04 37 18.6	
PBAR	**Barrancos**	**3.86**	**329**	P	**Pn**	**04 36 31.6**	**+0.3**
PBAR				S	**Sn**	**04 37 12.9**	**-2.4**
FIGAL	**Figuig**	**3.86**	**134**	P	**Pn**	**04 36 31.8**	**+0.3**
FIGM	**Figuig**	**3.86**	**134**	S	**Sn**	**04 37 14.8**	**-0.8**
EXBUL	**Bullas, Murcia**	**3.90**	**35**	Pn	**Pn**	**04 36 33.1**	**+1.3**
EXBUL				Sn	**Sn**	**04 37 15.6**	**-0.7**
CART	**Cartagena**	**3.91**	**46**			**04 36 31.9**	**0.0**
CART	**Cartagena**	**3.91**	**46**	P	**Pn**	**04 36 30.9**	**-1.1**
CART				S	**Sn**	**04 37 12.3**	**-4.2**
CART	**Cartagena**	**3.91**	**46**	P	**Pn**	**04 36 31.2**	**-0.7**
CART	**Cartagena**	**3.91**	**46**	S	**Sn**	**04 37 14.4**	**-2.2**
PCVE	**Castro Verde**	**3.95**	**315**	||*i*P	**Pn**	**04 36 32.9**	**+0.4**
PCVE				*e*S	**Sn**	**04 37 15.1**	**-2.5**
PCVE				*i* AML	AML	04 37 17.7	
PCVE				*i* AML	AML	04 37 18.8	
PCVE				*i* AML	AML	04 37 19.2	
PCVE	**Castro Verde**	**3.95**	**315**	P	**Pn**	**04 36 32.7**	**+0.2**
PCVE				S	**Sn**	**04 37 14.9**	**-2.7**
EMUR	**La Murta**	**3.96**	**41**	P	**Pn**	**04 36 33.1**	**+0.5**
EMUR				S	**Sn**	**04 37 15.1**	**-2.6**
EMUR	**La Murta**	**3.96**	**41**	Pn	**Pn**	**04 36 33.0**	**+0.4**
EMUR				Sn	**Sn**	**04 37 15.4**	**-2.4**
EMUR				*i* Vmb_Lg		04 37 17.2	
PPOR	**Portimao**	**3.96**	**306**	*e*P	**Pn**	**04 36 33.8**	**+1.2**
PPOR				*e*S	**Sn**	**04 37 15.1**	**-2.6**
PPOR				*i* AML	AML	04 37 18.2	
PPOR				*i* AML	AML	04 37 19.0	
PSIM	**Granatula de C**	**3.97**	**9**	Pn	**Pn**	**04 36 33.9**	**+1.1**
PSIM				Sn	**Sn**	**04 37 19.4**	**+1.3**
PLAGO	**Lagos**	**4.04**	**304**	*e*P	**Pn**	**04 36 34.1**	**+0.4**
PLAGO				*e*S	**Sn**	**04 37 17.4**	**-2.3**
PLAGO				*i* AML	AML	04 37 19.3	
PLAGO				*i* AML	AML	04 37 22.5	
PLAGO				*i* AML	AML	04 37 23.0	
MORF	**Marmelete**	**4.13**	**307**		**Pn**	**04 36 34.8**	**-0.2**
MORF	**Marmelete**	**4.13**	**307**	*e*P	**Pn**	**04 36 34.8**	**-0.2**
MORF				*e*S	**Sn**	**04 37 17.9**	**-4.1**
MORF				IAML		04 37 22.2	
	comp=E,2μm,0.2s						
MORF	**Marmelete**	**4.13**	**307**	*e*P	**Pn**	**04 36 34.8**	**-0.2**
MORF				*e*S	**Sn**	**04 37 19.8**	**-2.2**
MORF				*i* AML	AML	04 37 21.8	
MORF				*i* AML	AML	04 37 23.8	
MORF				*i* AML	AML	04 37 23.8	
PBEJ	**Beja**	**4.13**	**320**	*e*P	**Pn**	**04 36 35.3**	**+0.2**
PBEJ				*e*S	**Sn**	**04 37 19.5**	**-2.6**
PBEJ				*i* AML	AML	04 37 23.2	
PBEJ				*i* AML	AML	04 37 24.4	
PBEJ				*i* AML	AML	04 37 24.7	
PFVI	**Vila Bisbo**	**4.15**	**304**		**Pn**	**04 36 35.1**	**-0.2**
PFVI	**Vila Bisbo**	**4.15**	**304**	||*i*P	**Pn**	**04 36 35.1**	**-0.2**
PFVI				*e*S	**Sn**	**04 37 19.3**	**-3.2**
PFVI				*i* AML	AML	04 37 21.8	
PFVI				*i* AML	AML	04 37 23.5	
PFVI				*i* AML	AML	04 37 25.2	
PFVI	**Vila Bisbo**	**4.15**	**304**	P	**Pn**	**04 36 35.0**	**-0.2**
PFVI				S	**Sn**	**04 37 19.4**	**-3.2**
TZRR	**Tazzarine**	**4.19**	**193**	P	**Pn**	**04 36 36.2**	**+0.3**
TZRR	**Tazzarine**	**4.19**	**193**	S	**Sn**	**04 37 23.9**	**+0.3**
MESJ	**Messejana**	**4.20**	**316**		**Pn**	**04 36 36.2**	**+0.3**
MESJ	**Messejana**	**4.20**	**316**	*e*P	**Pn**	**04 36 36.2**	**+0.3**
MESJ				*e*S	**Sn**	**04 37 19.9**	**-3.7**
MESJ				IAML		04 37 24.1	
	comp=N,802nm,0.3s						
MESJ	**Messejana**	**4.20**	**316**	||*i*P	**Pn**	**04 36 36.2**	**+0.3**
MESJ				*e*S	**Sn**	**04 37 20.4**	**-3.2**
MESJ				*i* AML	AML	04 37 21.9	
MESJ				*i* AML	AML	04 37 24.3	
MESJ				*i* AML	AML	04 37 25.6	
PSVI	**Cabo S. Vicent**	**4.21**	**302**	*e*P	**Pn**	**04 36 36.1**	**0.0**
PSVI				*e*S	**Sn**	**04 37 20.4**	**-3.6**
PSVI				*i* AML	AML	04 37 23.4	
PSVI				*i* AML	AML	04 37 23.7	
PSVI				*i* AML	AML	04 37 24.0	
EXPDH	**Pilar de la Ho**	**4.23**	**44**	Pn	**Pn**	**04 36 37.6**	**+1.3**
EXPDH				Sn	**Sn**	**04 37 22.2**	**-2.1**
PALJ	**Aljezur**	**4.23**	**306**	*e*P	**Pn**	**04 36 37.7**	**+1.3**
PALJ				*e*S	**Sn**	**04 37 21.7**	**-2.8**
PALJ				*i* AML	AML	04 37 24.3	
PALJ				*i* AML	AML	04 37 25.3	
PTEO	**Sao Teotonio**	**4.32**	**309**	||*i*P	**Pn**	**04 36 37.9**	**+0.4**
PTEO				*e*S	**Sn**	**04 37 24.1**	**-2.4**
PTEO				*i* AML	AML	04 37 27.8	
PTEO				*i* AML	AML	04 37 28.0	
PTEO				*i* AML	AML	04 37 30.1	
ETRV	**Los Montesinos**	**4.34**	**43**	Pn	**Pn**	**04 36 39.2**	**+1.3**
ETRV				Sn	**Sn**	**04 37 24.9**	**-2.3**
ETRV				*i* Vmb_Lg		04 37 25.4	
EBAD	**Badajoz**	**4.35**	**333**	P	**Pn**	**04 36 38.4**	**+0.5**
EBAD				S	**Sn**	**04 37 25.0**	**-2.3**
EBAD	**Badajoz**	**4.35**	**333**	Pn	**Pn**	**04 36 38.5**	**+0.5**
EBAD				Sn	**Sn**	**04 37 25.2**	**-2.1**
EBAD				*i* Vmb_Lg		04 37 27.2	
OJGS	**Djebel Guires**	**4.35**	**80**	P	Pn	04 36 44.0	+5.9
OUZM	**OUZ**	**4.40**	**206**	P	**Pn**	**04 36 39.4**	**+0.7**
OUZM				P		04 36 39.7	
TIO	**Tiouine**	**4.58**	**211**	P	**Pn**	**04 36 41.4**	**+0.1**
TIO				S	**Sn**	**04 37 31.3**	**-2.0**
TIO	**Tiouine**	**4.58**	**211**	P	**Pn**	**04 36 41.3**	**0.0**
TIO	**Tiouine**	**4.58**	**211**	S	**Sn**	**04 37 32.6**	**-0.7**
EVO	**Evora**	**4.59**	**323**	*e*P	**Pn**	**04 36 41

LIS *eS* **Sn** **04 37 48.7 -2.8**
LIS *i* AML AML 04 37 50.9
LIS *i* AML AML 04 37 51.1
LIS *i* AML AML 04 37 51.7
EAH EAH 5.34 234 P **Pn** **04 36 51.8 +0.2**
EAH EAH 5.34 234 S **Sn** **04 37 51.8 +0.1**
INMG Instituto de M 5.36 318 *eP* **Pn** **04 36 53.3 +1.5**
INMG *eS* **Sn** **04 37 51.4 -0.7**
TTIG Tnine Tigouga, 5.45 218 P **Pn** **04 36 51.4 -1.8**
PCBR Castelo Branco 5.48 335 ⇓*iP* **Pn** **04 36 54.2 +0.8**
PCBR *eS* **Sn** **04 37 51.5 -3.4**
PCBR *i* AML AML 04 37 53.2
PCBR *i* AML AML 04 37 53.6
PCBR *i* AML AML 04 37 54.4
ECHE Chera 5.48 30 P **Pn** **04 36 54.7 +1.3**
ECHE S **Sn** **04 37 54.6 -0.5**
ECHE Chera 5.48 30 ⇓Pn **Pn** **04 36 54.8 +1.3**
ECHE Sn **Sn** **04 37 56.2 +1.1**
ECHE *i* Vmb_Lg 04 37 58.7
UCM Universidad Co 5.50 10 P **Pn** **04 36 55.0 +1.3**
UCM S **Sn** **04 37 53.7 -2.0**
PMAFR Mafra 5.57 318 ⇓*iP* **Pn** **04 36 55.3 +0.6**
PMAFR *eS* **Sn** **04 37 53.8 -3.6**
PMAFR *i* AML AML 04 37 56.2
PMAFR *i* AML AML 04 37 57.6
PMAFR *i* AML AML 04 38 01.8
PMAFR Mafra 5.57 318 P **Pn** **04 36 55.3 +0.6**
PMAFR S **Sn** **04 37 53.7 -3.7**
PSBE So Bento 5.74 325 ⇓*eP* **Pn** **04 36 57.9 +0.8**
PSBE *eS* **Sn** **04 37 58.7 -2.9**
PSBE *i* AML AML 04 38 02.7
PSBE *i* AML AML 04 38 04.3
PSBE *i* AML AML 04 38 04.5
GUD Guadarrama 5.75 3 Pn **Pn** **04 36 58.3 +1.0**
GUD Sn **Sn** **04 37 57.0 -4.8**
GUD *i* Vmb_Lg 04 38 02.2
MTE Manteigas 6.00 337 Pn **Pn** **04 37 01.1 +0.5**
MTE Manteigas 6.00 337 ⇓*eP* **Pn** **04 37 01.1 +0.5**
MTE *eS* **Sn** **04 38 06.1 -1.9**
MTE *i* AML AML 04 38 08.7
MTE *i* AML AML 04 38 09.1
MTE *i* AML AML 04 38 09.7
PCAS Casmilo, Conde 6.05 330 *eP* **Pn** **04 37 01.6 +0.4**
PCAS *eS* **Sn** **04 38 06.6 -2.5**
PCAS *i* AML AML 04 38 07.8
PCAS *i* AML AML 04 38 11.3
PCAS *i* AML AML 04 38 20.9
COI Coimbra 6.14 331 **Pn** **04 37 03.1 +0.6**
COI Coimbra 6.14 331 *eP* **Pn** **04 37 03.3 +0.8**
COI *eS* **Sn** **04 38 08.6 -2.8**
COI *i* AML AML 04 38 11.1
COI *i* AML AML 04 38 11.6
COI *i* AML AML 04 38 13.2
E0901 Celadas (Terue 6.19 25 ⇓Pn **Pn** **04 37 05.4 +2.1**
E0901 Sn **Sn** **04 38 14.1 +1.4**
E0901 *i* Vmb_Lg 04 38 28.9
CGR Cap Guir 6.20 228 P **Pn** **04 37 02.9 -0.5**
CGR Cap Guir 6.20 228 S **Sn** **04 38 12.4 -0.5**
ETOR Torete 6.23 17 Pn **Pn** **04 37 04.9 +1.1**
ETOR Sn **Sn** **04 38 13.0 -0.6**
ETOR *i* Vmb_Lg 04 38 47.7
EJUZ Juzbado, Salam 6.28 350 Pn **Pn** **04 37 05.3 +0.9**
EJUZ Sn **Sn** **04 38 12.0 -2.8**
EMOS Mosqueruela 6.33 29 ⇓Pn **Pn** **04 37 07.0 +1.7**
EMOS Sn **Sn** **04 38 14.3 -2.0**
EMOS *i* Vmb_Lg 04 38 23.4
PVIS Viseu 6.40 336 *eP* **Pn** **04 37 06.3 +0.2**
PVIS *eS* **Sn** **04 38 14.4 -3.3**
ECOL Islas Columbre 6.49 38 Pn **Pn** **04 37 08.5 +1.4**
ECOL Sn **Sn** **04 38 17.9 -1.8**
MVO Moncorvo 6.57 343 *eP* **Pn** **04 37 09.1 +0.7**
MVO *eS* **Sn** **04 38 18.5 -3.4**
MVO *i* AML AML 04 38 21.8
MVO *i* AML AML 04 38 30.7
MVO *i* AML AML 04 38 31.5
PVRL Vila Real 6.86 339 *eP* **Pn** **04 37 12.9 +0.6**
PVRL *eS* **Sn** **04 38 24.8 -4.1**
PVRL *i* AML AML 04 38 27.6
PVRL *i* AML AML 04 38 28.1
PVRL *i* AML AML 04 38 29.6
POLO Lamas de Olo 6.97 339 *eP* **Pn** **04 37 14.3 +0.4**
POLO *eS* **Sn** **04 38 27.4 -4.3**
POLO *i* AML AML 04 38 29.6
POLO *i* AML AML 04 38 32.5
POLO *i* AML AML 04 38 33.2
PTO Porto 7.02 334 *eP* Pn 04 37 29.3 +15
PTO *eS* Sn 04 38 43.5 +11
PTO *i* AML AML 04 38 47.0
PTO *i* AML AML 04 38 47.7
PTO *i* AML AML 04 38 48.6
PBRG Braganca 7.12 346 *eP* **Pn** **04 37 16.7 +0.8**
PBRG *eS* **Sn** **04 38 32.0 -3.4**
PBRG *i* AML AML 04 38 33.4
PBRG *i* AML AML 04 38 35.1
PBRG *i* AML AML 04 38 35.6
PCAB Cabril 7.35 339 *eP* **Pn** **04 37 19.8 +0.8**
PCAB *eS* **Sn** **04 38 36.5 -4.4**
PCAB *i* AML AML 04 38 39.3
PCAB *i* AML AML 04 38 39.3
PCAB *i* AML AML 04 38 40.1
ELOB Lobios 7.50 339 Pn **Pn** **04 37 21.8 +0.7**
ELOB Sn **Sn** **04 38 41.3 -3.5**
ELOB *i* Vmb_Lg 04 38 46.4
ESAC San Caprasio 7.52 24 Pn **Pn** **04 37 22.7 +1.2**
ESAC Sn **Sn** **04 38 46.3 +1.0**
ESAC *i* Vmb_Lg 04 38 53.7
ETOS Mallorca 7.60 48 P **Pn** **04 37 23.7 +1.2**
ETOS S **Sn** **04 38 44.1 -2.9**
ETOS Mallorca 7.60 48 Pn **Pn** **04 37 23.7 +1.2**
ETOS Sn **Sn** **04 38 43.0 -4.1**
ETOS *i* Vmb_Lg 04 38 48.5
PGAV Gavieira, Arco 7.65 338 *eP* **Pn** **04 37 23.2 0.0**
PGAV *eS* **Sn** **04 38 43.7 -4.8**
PGAV *i* AML AML 04 38 47.0
PGAV *i* AML AML 04 38 47.0
PGAV *i* AML AML 04 38 48.4
EPOB Poblet 7.81 33 Pn **Pn** **04 37 26.9 +1.6**
EPOB Sn **Sn** **04 38 51.6 -0.7**
EPOB *i* Vmb_Lg 04 39 03.8
EZAM Zamans 7.95 337 Pn **Pn** **04 37 28.4 +1.2**
EZAM Sn **Sn** **04 38 51.7 -4.0**
EZAM *i* Vmb_Lg 04 38 59.6
EARA Aranguren 8.20 15 Pn **Pn** **04 37 32.9 +2.4**
EARA *i* Vmb_Lg 04 39 06.4
EORO Oroz-Betelu 8.37 16 Pn **Pn** **04 37 34.6 +1.6**
EORO Sn **Sn** **04 39 06.3 +0.3**
EORO *i* Vmb_Lg 04 39 09.4
ELAN Lanestosa 8.37 5 Pn **Pn** **04 37 33.8 +0.8**
ELAN Sn **Sn** **04 39 05.2 -0.8**
ELAN *i* Vmb_Lg 04 39 10.5
EAGO Agolada(Pontev 8.38 342 Pn **Pn** **04 37 34.1 +1.0**
EAGO *i* Vmb_Lg 04 39 28.2
EMIR Miracle 8.46 32 Pn **Pn** **04 37 36.7 +2.4**
EMIR *i* Vmb_Lg 04 39 12.6
ECHI Chisagues Biel 8.59 24 Pn **Pn** **04 37 37.0 +1.0**
ECHI Sn **Sn** **04 39 15.1 +3.7**
ECHI *i* Vmb_Lg 04 39 16.1
TANT Tantan 8.64 223 P **Pn** **04 37 35.9 -0.7**
TANT P 04 37 36.3
EALK Alkurruntz 8.64 15 Pn **Pn** **04 37 38.0 +1.3**
EALK Sn **Sn** **04 39 09.1 -3.5**
EALK *i* Vmb_Lg 04 39 13.6
EPON Pontenova 8.67 347 Pn **Pn** **04 37 38.1 +1.1**
EPON *i* Vmb_Lg 04 39 11.1
EPON Sn **Sn** **04 39 11.1 -2.1**
EMAZ Mazaricos 8.76 338 Pn **Pn** **04 37 39.3 +1.0**
EMAZ Sn **Sn** **04 39 10.6 -5.0**
EMAZ *i* Vmb_Lg 04 39 28.3
CEST Esterri de Car 8.91 29 Pn **Pn** **04 37 42.3 +1.8**
EJON La Jonquera 9.51 35 Pn **Pn** **04 37 52.8 +4.3**
CGIN Giniginamar, F 10.54 233 Sn **Sn** **04 39 53.4 -5.6**
KEST Kesra 11.36 82 **Pn** **04 38 15.9 +2.1**
KEST Kesra 11.36 82 P **Pn** **04 38 15.4 +1.6**
comp=E,8.0nm,0.6s,baz=256,slow=3.1,SNR=16
SSB Saint Sauveur 12.47 31 **Pn** **04 38 30.8 +1.9**
CLF Chambon-Foret 14.06 19 Pn **Pn** **04 38 51.5 +1.1**
SENIN Lac Senin/Sane 14.53 34 P **P** **04 39 00.7 -1.0**
TAM Tamanrasset 14.91 141 P **Pn** **04 39 03.4 +1.7**
DAVOX Davos/Dischmat 16.08 38 P **P** **04 39 20.0 +1.1**
comp=E,1.0nm,0.3s,baz=262,slow=5.8,SNR=5.9
DAVA Damuels 16.43 37 *i* P **P** **04 39 22.7 +0.1**
comp=E,2.1nm,0.5s
DOU Dourbes 16.59 21 *dP* **P** **04 39 23.8 -0.4**
DOU *dS* **Sn** **04 42 21.1 -4.9**
FETA Feichten 16.68 39 *i* P **P** **04 39 26.3 +0.9**
comp=E,2.1nm,0.4s
FETA *eS* **S** **04 42 39.0 +2.6**
comp=E,6.2nm,0.8s
WLF Walferdange 16.71 25 *dP* **P** **04 39 27.7 +2.2**
CEL Celeste 16.73 72 P **P** **04 39 28.9 +3.0**
comp=E,23nm,1.3s
BMRD Maredsous 16.83 21 *dP* **P** **04 39 28.6 +1.7**
comp=Z,17nm,0.7s
RCHB Rochefort 16.84 22 *dP* **P** **04 39 28.2 +1.3**
comp=Z,12nm,0.7s
BGES Gesves 16.99 21 *dP* **P** **04 39 31.1 +2.4**
RETA Reutte 17.00 38 *i* Pn **P** **04 39 29.1 +0.1**
comp=Z,1.0nm,0.3s
RETA *eS* **S** **04 42 45.1 +2.3**
comp=Z,3.9nm,0.8s
SQTA Sankt Quirin 17.06 39 *i* P **P** **04 39 30.6 +1.0**
comp=Z,2.7nm,0.5s
SQTA *eS* **S** **04 42 46.0 +2.1**
comp=Z,5.1nm,0.6s
MOTA Moosalm 17.08 39 *i* P **P** **04 39 31.6 +1.8**
comp=Z,1.5nm,0.4s
MOTA *eS* **S** **04 42 47.1 +2.5**
comp=Z,4.9nm,0.6s
BCLA Clavier 17.09 22 *dP* **P** **04 39 29.9 +0.2**
comp=Z,6.5nm,0.9s
BHOU Houvegnez 17.25 23 *dP* **P** **04 39 31.4 -0.1**
comp=Z,9.1nm,0.9s
WTTA Wattenberg 17.31 40 *i* P **P** **04 39 33.3 +0.9**
comp=Z,5.0nm,0.5s
WTTA *eS* **S** **04 42 50.1 +1.1**
comp=Z,16nm,0.9s
BSTI Sart Tilman 17.32 22 *dP* **P** **04 39 32.5 +0.3**
WATA Walderalm 17.32 39 *i* P **P** **04 39 34.4 +1.9**
comp=Z,1.4nm,0.3s
WATA *eS* **S** **04 42 52.2 +3.0**
comp=Z,6.2nm,0.7s
ABTA Abfaltersbach 17.46 42 *eP* **P** **04 39 37.3 +3.4**
comp=Z,2.8nm,0.6s
ABTA *eS* **S** **04 42 53.7 +1.9**
comp=Z,3.5nm,1.0s
MEM Membach 17.48 23 *dx* x 04 39 38.8
BTNL Ternell 17.50 23 *dx* x 04 39 39.2
LESA Schwarzleotal 17.96 41 *i* Pn **Pn** **04 39 40.8 +1.2**
comp=Z,2.1nm,0.3s
LESA *eS* **S** **04 43 03.0 +1.4**
comp=Z,5.9nm,1.0s
KBA Koelnbreinsper 18.11 42 *i* Pn **Pn** **04 39 43.6 +1.9**
comp=Z,1.7nm,0.4s
OBKA Obir 18.48 45 *i* Pn **Pn** **04 39 47.2 +1.2**
comp=Z,4.0nm,0.8s
OBKA *eS* **S** **04 43 13.8 +1.4**
comp=Z,15nm,1.9s
BIOA Bad Ischl, Aus 18.64 41 *eP* **Pn** **04 39 47.9 +0.1**
comp=Z,1.8nm,0.3s
SOKA Soboth 18.85 45 *i* Pn **Pn** **04 39 50.6 +0.2**
comp=Z,2.0nm,0.5s
MOA Molln 19.07 42 *i* P **P** **04 39 51.4 -0.2**
comp=Z,1.9nm,0.3s
GEC2 GERESS Array S 19.38 38 P **P** **04 39 54.9 -0.2**
GERES GERESS Array B 19.38 38 P **Pn** **04 39 56.0 -0.7**
GERES GERESS Array B 19.38 38 P **P** **04 39 54.3 -0.7**
comp=Z,3.2nm,0.6s,baz=221,slow=12,SNR=20
GERES S **S** **04 43 29.8 -1.1**
comp=Z,0.7nm,0.8s,baz=229,slow=22,SNR=2.9
KHC Kasperske Hory 19.50 38 *eP* **P** **04 39 57.1 +0.8**
KHC Kasperske Hory 19.50 38 P **P** **04 39 57.1 +0.8**
comp=Z,6.9nm,0.7s
CKRC Cesky Krumlov 19.68 39 *eP* **P** **04 39 59.0 +0.8**
CONA Conrad Observa 20.00 43 *i* P **P** **04 40 01.8 +0.1**
comp=Z,2.6nm,0.4s
ZVC Zvikov 20.01 38 *eP* **P** **04 40 02.4 +0.7**
RONA Rosalia, Austr 20.12 44 *i* P **P** **04 40 03.7 +0.6**
comp=Z,3.0nm,0.5s
RONA *eS* **S** **04 43 44.6 -1.0**
comp=Z,6.2nm,1.7s
EKA Eskdalemuir Ar 20.46 2 P **P** **04 40 07.5 +0.9**
comp=Z,2.2nm,0.6s,baz=180,slow=11,SNR=7.2
comp=Z,2.2nm,0.6s
PRU Pruhonice 20.54 37 *eP* Pn 04 40 09.9 -0.3
MPLH Magyarpolny 20.59 47 P **P** **04 40 09.2 +1.2**
comp=Z,27nm,0.9s
CLL Collm 20.71 32 *eP* **P** **04 40 10.0 +0.7**
CLL *ex* x 04 40 16.0
CLL *ex* x 04 40 27.0
MORH Mrgy, Hungar 20.84 50 ⇑P **P** **04 40 12.1 +1.4**
MORH Mrgy, Hungar 20.84 50 P **P** **04 40 11.7 +1.0**
comp=Z,11nm,0.8s
PVCC Panska Ves 20.90 36 *eP* Pn 04 40 15.6 +1.1
KRUC Moravsky 20.93 41 *eP* **P** **04 40 11.6 -0.1**
MODS Modra-Piesok 21.04 44 *eP* **P** **04 40 13.4 +0.5**
VRAC Vranov 21.18 41 P **P** **04 40 13.7 -0.7**
comp=Z,3.9nm,0.7s,baz=237,slow=12,SNR=7.6
comp=Z,3.9nm,0.7s
VRAC Vranov 21.18 41 *eP* **P** **04 40 14.2 -0.2**
VRAC Vranov 21.18 41 ⇑P **P** **04 40 14.8 +0.4**
SRO Srobarova 21.36 46 *eP* **P** **04 40 17.5 +1.3**
UPC Upice 21.59 37 *eP* **P** **04 40 20.2 +1.4**
DPC Dobruska-Polom 21.65 38 *eP* **P** **04 40 19.4 -0.1**
DPC Dobruska-Polom 21.65 38 P **P** **04 40 19.4 -0.1**
comp=Z,10nm,2.6s
CHVC Chvalec 21.67 37 *eP* **P** **04 40 19.2 -0.4**
KRLC Kraliky 21.73 39 *eP* **P** **04 40 20.6 +0.4**
OSTC Ostas 21.73 38 *eP* **P** **04 40 19.8 -0.4**
MAUC Maruska 21.88 42 *eP* **P** **04 40 21.5 -0.4**
MORC Moravsky Berou 21.95 41 P **P** **04 40 23.4 +0.7**
MORC IAmb IAmb 04 40 25.3
comp=Z,7.4nm,0.8s
MORC Moravsky Berou 21.95 41 *eP* **P** **04 40 23.8 +1.1**
MORC Moravsky Berou 21.95 41 ⇓P **P** **04 40 23.8 +1.1**
VYHS Vyhne 22.00 45 *eP* **P** **04 40 22.9 -0.2**
STEB Steborice 22.16 41 *eP* **P** **04 40 24.9 0.0**
MDVR Moldovita 22.34 56 ⇓P **P** **04 40 28.1 +1.1**
PSZ Piszkesteto 22.35 47 P **P** **04 40 27.4 +0.4**
PSZ IAmb IAmb 04 40 31.6
comp=Z,6.1nm,0.9s
PSZ Piszkesteto 22.35 47 ⇑P **P** **04 40 26.0 -1.0**
TORD Torodi Ar. Bea 22.37 164 P **P** **04 40 27.2 -0.1**
TORD IAmb IAmb 04 40 29.7
comp=Z,5.8nm,0.9s
TORD Torodi Ar. Bea 22.37 164 P **P** **04 40 27.0 -0.4**
comp=Z,8.6nm,0.8s,baz=352,slow=9.4,SNR=45
TORD PcP **PcP** **04 44 20.5 0.0**
comp=Z,0.7nm,0.6s,baz=342,slow=3.3,SNR=7.2
comp=Z,8.6nm,0.8s
BZS Buzias 22.54 54 ⇓P **P** **04 40 29.8 +0.8**
SIRR Siria 22.79 52 ⇓P **P** **04 40 31.4 -0.2**
HERR Herculane 22.85 56 ⇑P **P** **04 40 33.6 +1.4**
SURR Surduc 22.92 54 ⇑P **P** **04 40 34.1 +1.2**
KECS Kecovo 22.96 46 *eP* **P** **04 40 34.0 +0.7**
GZR Gura Zlata 23.25 55 ⇑P **P** **04 40 34.9 -1.3**
NIE Niedzica 23.29 44 P **P** **04 40 36.0 -0.6**
comp=Z,6.8nm,2.9s
DEV Deva 23.48 54 ⇑P **P** **04 40 40.5 +2.1**
DRGR 23.65 52 ⇑P **P** **04 40 40.0 0.0**
MARR Marisel-Cluj 23.88 52 ⇓P **P** **04 40 43.2 +1.1**
IDI Anoyia 24.03 81 P **P** **04 40 45.9 +2.4**
HOLU Holmets 24.11 47 P **P** **04 40 44.7 +0.7**
BERU Beregovo 24.15 48 P **P** **04 40 44.6 +0.2**
KOLS Kolonicke sedl 24.22 46 *eP* **P** **04 40 45.4 +0.4**
MUKU Mukachevo 24.27 48 P **P** **04 40 45.7 +0.3**
BRIU Brid 24.42 48 P **P** **04 40 47.3 +0.5**
KORU Korolevo 24.42 49 P **P** **04 40 46.8 0.0**
ARR Arges 24.50 56 ⇓P **P** **04 40 48.7 +1.0**
VOIR 24.80 56 ⇑P **P** **04 40 51.5 +1.1**
VOIR 24.80 56 P **P** **04 40 50.5 +0.1**
comp=Z,9.7nm,1.4s
ARCR ARCALIA 24.81 52 ⇓P **P** **04 40 51.0 +0.6**
RAKU Rahkiv 25.02 50 P **P** **04 40 51.4 -0.9**
DOPR Dopca 25.16 55 ⇓P **P** **04 40 53.6 -0.1**
MLR Muntele Rosu 25.42 56 ⇓P **P** **04 40 56.8 +0.7**
MLR Muntele Rosu 25.42 56 P **P** **04 40 56.3 +0.2**
comp=Z,8.9nm,1.9s
OZUR 25.46 55 ⇑P **P** **04 40 56.9 +0.5**
STNU Starunia 25.48 48 P **P** **04 40 56.1 -0.3**
BUR08 Bucovina Ar. S 25.54 51 P **P** **04 40 58.1 +0.9**
BURAR Bucovina Array 25.54 51 ⇓P **P** **04 40 58.0 +0.8**
COVR Voineasa-Covas 25.68 55 ⇓P **P** **04 40 59.1 +0.7**
ISR Istrita 25.75 57 P **P** **04 40 59.1 +0.1**
comp=Z,28nm,1.9s
SPBR Spulber 26.03 56 ⇓P **P** **04 41 01.3 -0.2**
VRI Vrincioaia 26.04 56 ⇑P **P** **04 41 01.2 -0.4**
VRI Vrincioaia 26.04 56 P **P** **04 41 01.0 -0.6**
TESR Tescani 26.15 54 ⇑P **P** **04 41 03.3 +0.7**
TESR Tescani 26.15 54 P **P** **04 41 02.5 -0.1**
comp=Z,13nm,0.8s
KMPD K-Podol'skiy 26.64 50 P **P** **04 41 05.6 -1.3**
KMPD P **P** **04 41 04.9 -2.0**
HORU Horodok 26.84 48 P **P** **04 41 06.8 -1.9**
CFR Carcaliu 26.86 58 ⇑P **P** **04 41 08.7 -0.2**
NDNU Novodnistrovsk 27.22 50 P **P** **04 41 10.3 -1.8**
RNPP9 Sopachiv 27.38 44 P **P** **04 41 11.8 -1.7**
SORM Soroca 27.71 51 ⇓P **P** **04 41 14.7 -1.8**
SORM Soroca 27.71 51 P **P** **04 41 14.6 -1.9**
comp=Z,17nm,0.8s
KIS Kishinev 27.72 54 P **P** **04 41 15.1 -1.5**
comp=Z,41nm,0.5s
ELL Elmali 27.89 76 P **P** **04 41 20.1 +1.7**
HFS Hagfors 27.89 20 P **P** **04 41 17.6 -0.4**
comp=Z,2.9nm,0.8s,baz=207,slow=8.3,SNR=11
HFS PcP **PcP** **04 44 31.0 -1.1**
comp=Z,2.0nm,0.8s,baz=130,slow=2.3,SNR=1.7
comp=Z,2.9nm,0.8s
DBIC Dimbokro 28.09 181 P **P** **04 41 20.7 +0.6**
DBIC IAmb IAmb 04 41 45.6
comp=Z,13nm,1.5s
DBIC Dimbokro 28.09 181 P **P** **04 41 20.1 0.0**
comp=Z,3.0nm,0.7s,baz=0.5,slow=7.2,SNR=4.6
comp=Z,3.0nm,0.7s
AK20 Malin Array Si 28.94 46 P **P** **04 41 25.0 -2.4**
AK17 Malin Array Si 28.95 47 P **P** **04 41 25.0 -2.5**
AK14 Malin Array Si 28.96 47 P **P** **04 41 24.8 -2.8**
AK18 Malin Array Si 28.96 47 P **P** **04 41 25.6 -2.0**
AK16 Malin Array Si 28.97 47 P **P** **04 41 25.3 -2.4**
AK22 Malin Array Si 28.98 46 P **P** **04 41 25.2 -2.6**
AK07 Malin Array Si 28.99 47 P **P** **04 41 25.4 -2.5**
AK12 Malin Array Si 28.99 47 P **P** **04 41 25.5 -2.4**
AK06 Malin Array Si 29.00 47 P **P** **04 41 25.5 -2.4**
AK11 Malin Array Si 29.01 47 P **P** **04 41 25.7 -2.3**
AK05 Malin Array Si 29.01 47 P **P** **04 41 25.5 -2.6**
AK02 Malin Array Si 29.02 47 P **P** **04 41 25.8 -2.4**
AK10 Malin Array Si 29.03 47 P **P** **04 41 25.9 -2.4**
KIEV Kiev 29.04 47 ⇓P **P** **04 41 26.3 -2.0**
AK08 Malin Array Si 29.05 47 P **P** **04 41 25.9 -2.5**
AKASG Malin Array Be 29.05 47 P **P** **04 41 26.4 -2.1**
comp=Z,1.8nm,0.5s,baz=247,slow=9.6,SNR=10
comp=Z,1.8nm,0.5s
MNK Minsk 29.84 39 *i* P **P** **04 41 34.0 -1.4**
comp=E,9.0nm,0.9s
MNK *i* P **P** **04 41 34.0 -1.4**
comp=N,16nm,0.9s
MNK *i* P **P** **04 41 34.0 -1.4**
comp=Z,7.0nm,1.0s,baz=242
MNK *i* pP **pP** **04 41 48.8 -2.0**
MNK *i* PP **PnPn** **04 42 31.6 -2.1**
MNK *i* S **S** **04 46 26.5 -1.1**
MNK *i* sS **sS** **04 46 52.3 -2.4**
MNK *i* SS **SnSn** **04 48 02.0 -1.5**
MNK *i* LQ LQ 04 51 17.6
MNK *i* LR LR 04 53 33.4
ANTO Ankara 29.91 69 P **P** **04 41 36.7 +0.4**
comp=Z,4.9nm,2.1s
DIKM Dikmen 31.73 66 P **P** **04 41 51.4 -0.8**
FINES FINESS Array B 32.92 27 P **P** **04 42 01.9 -0.4**
comp=Z,2.2nm,0.7s,baz=228,slow=7.2,SNR=14
comp=Z,2.2nm,0.7s
MMAI Mount Meron Ar 33.01 82 P **P** **04 42 03.0 -0.6**
comp=Z,6.5nm,0.7s,baz=295,slow=10.0,SNR=11
comp=Z,6.5nm,0.7s
KBZ Khabaz 37.29 62 P **P** **04 42 40.0 -0.2**
comp=Z,3.2nm,1.0s,baz=299,slow=3.6,SNR=5.9
comp=Z,3.2nm,1.0s
ARCES ARCESS Array B 38.43 16 P **P** **04 42 49.7 +0.3**
comp=Z,0.9nm,0.4s,baz=215,slow=9.1,SNR=9.4
ARCES PcP **PcP** **04 45 02.0 +0.6**
comp=Z,6.9nm,1.0s,baz=228,slow=2.3,SNR=2.7
comp=Z,0.9nm,0.4s
SCHQ Schefferville 46.74 315 P **P** **04 43 57.8 +0.8**
comp=Z,1.4nm,0.5s,baz=79,slow=10,SNR=7.1
comp=Z,1.4nm,0.5s
ARTI Arti 47.04 43 P **P** **04 43 58.9 -0.4**
FRB Frobisher Bay 47.93 327 LR LR 05 01 50.4
comp=Z,84nm,21.9s,baz=94,slow=33
ABKAR Akbulak array 48.51 52 P **P** **04 44 10.9 +0.2**
ABKAR IAmb IAmb 04 44 11.3
comp=Z,2.3nm,0.7s
ABKAR PcP **PcP** **04 45 36.0 +0.1**
ABKAR Akbulak array 48.51 52 P **P** **04 44 10.8 +0.1**
ABKAR PcP **PcP** **04 45 36.0 +0.1**
BVAR Borovoye Array 54.33 46 P **P** **04 44 54.0 -0.2**
comp=Z,1.5nm,0.6s,baz=266,slow=8.1,SNR=6.2
comp=Z,1.5nm,0.6s
KKAR Karatay Array 57.09 57 P **P** **04 45 13.5 -0.6**
KURBB Kurchatov Arra 59.84 47 P **P** **04 45 32.7 -0.4**
comp=Z,3.5nm,0.5s,baz=293,slow=7.7,SNR=24
comp=Z,3.5nm,0.5s
KURK Kurchatov 59.86 47 P **P** **04 45 32.8 -0.5**
KURK IAmb IAmb 04 45 34.5
comp=Z,4.8nm,0.7s
KSH Kashi 62.23 60 P **P** **04 45 49.6 0.0**
KSH pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 62.29 42 IAmb IAmb 04 45 50.2
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 62.29 42 P **P** **04 45 49.4 -0.2**
comp=Z,3.3nm,0.6s,baz=301,slow=6.9,SNR=18
comp=Z,3.3nm,0.6s
MAKZ Makanchi 63.36 50 P **P** **04 45 56.7 -0.2**
MAKZ IAmb IAmb 04 45 57.4
comp=Z,5.4nm,1.2s
MK31 Makanchi Array 63.56 50 P **P** **04 45 57.8 -0.4**
MK31 IAmb IAmb 04 45 58.7
comp=Z,1.9nm,0.9s
MKAR Makanchi Array 63.56 50 P **P** **04 45 57.4 -0.9**
MKAR Makanchi Array 63.56 50 P **P** **04 45 57.6 -0.6**
comp=Z,1.1nm,0.5s,baz=288,slow=5.8,SNR=19
comp=Z,1.1nm,0.5s
YKA Yellowknife Ar 68.09 332 P **P** **04 46 28.1 +1.1**
comp=Z,1.7nm,0.6s,baz=62,slow=6.1,SNR=25
comp=Z,1.7nm,0.6s
BOSA Boshof 69.14 152 P **P** **04 46 33.9 -0.2**
comp=Z,2.5nm,1.1s,baz=356,slow=6.5,SNR=3.3
comp=Z,2.5nm,1.1s
F31M Tsiigehtchic 71.05 342 P **P** **04 46 43.8 -1.4**
F31M IAmb IAmb 04 46 44.4
comp=Z,4.2nm,0.7s
ILAR Eielson Array 76.38 344 P **P** **04 47 16.9 +0.4**
comp=Z,0.2nm,0.6s,baz=7.2,slow=4.4,SNR=7.2
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 76.81 313 P **P** **04 47 20.6 +0.9**
comp=Z,0.9nm,0.7s,baz=68,slow=6.1,SNR=8.5
comp=Z,0.9nm,0.7s
SONM Songino Array 77.11 40 P **P** **04 47 21.3 +0.2**
comp=Z,0.9nm,0.5s,baz=324,slow=7.1,SNR=4.7
comp=Z,0.9nm,0.5s
CPUP Villa Florida 78.78 227 P **P** **04 47 31.2 +1.0**
comp=Z,1.0nm,0.5s,baz=104,slow=8.3,SNR=4.0
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 80.60 299 P **P** **04 47 42.4 +1.9**
comp=Z,0.2nm,0.6s,baz=66,slow=5.0,SNR=3.6
comp=Z,0.2nm,0.6s
ATAH Atahualpa 81.01 255 LR LR 05 23 10.0
comp=Z,40nm,18.7s,baz=13,slow=35
PZH PanZhiHua 87.33 59 P **P** **04 48 15.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 90.14 67 P **P** **04 48 28.3 +0.3**
comp=Z,0.8nm,0.3s,baz=311,slow=6.8,SNR=6.5
comp=Z,0.8nm,0.3s
USRK Ussuriysk Ar. 91.91 30 LR LR 05 31 56.9
comp=Z,74nm,18.9s,baz=201,slow=37
KSRS Korea Array 95.54 36 LR LR 05 36 52.9
comp=Z,35nm,20.8s,baz=195,slow=38
QIZ Qiongzhong 97.83 60 P **P** **04 49 02.0 -1.3**
QIZ Qiongzhong 97.83 60 S **S** **05 00 24.1 -0.4**
QIZ LR LR
comp=N,140nm,4.0s
QIZ LR LR
comp=E,170nm,6.2s
QIZ LR LR
comp=Z,170nm,12.2s
QSPA South Pole Qui 124.77 180 PKPdf **PKiKP** **04 54 27.0 +0.6**
QSPA South Pole Qui 124.77 180 PKP **PKiKP** **04 54 26.7 +0.4**
comp=Z,4.8nm,0.8s,baz=246,slow=1.2,SNR=24
WRA Warramunga Arr 140.84 79 PKhKP PKPpre 04 54 50.1

comp=Z,0.3nm,0.7s,baz=316,slow=2.6,SNR=6.9
ASAR Alice Springs 142.28 84 PKhKP PKPpre 04 54 53.3
comp=Z,0.6nm,0.6s,baz=298,slow=3.0,SNR=9.3
ASAR SKPbc **SKPbc 04 58 31.2 -1.0**
comp=Z,0.6nm,0.7s,baz=287,slow=1.4,SNR=6.1
COEN Coen 144.19 62 PKPdf **PKPdf 04 55 02.8 -0.8**
STKA Stephens Creek 151.62 94 PKPbc **PKPbc 04 55 21.3 -0.3**
STKA Stephens Creek 151.62 94 PKPbc **PKPbc 04 55 21.5 -0.1**
comp=Z,2.2nm,0.4s,baz=294,slow=2.4,SNR=8.2

---

*IDC **16** 04:46:05.0±2.5, 42°.31N×29°.23W, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, MS3.7/12, Error ellipse: s-maj=88.5km s-min=29.8km az=171.0*
ISC 16 04:46:06.4±2.0, 42°.3N±0°.5×29°.2W±0°.2, h10km, n18, σ0s28/7, mb3.9/6, MS3.6/11, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.23**	**89**	P	**P**	**04 50 30.7**	**-0.1**
	baz=290,slow=12,SNR=2.8						
ESDC				LR	LR	04 56 40.2	
	comp=Z,296nm,20.6s,baz=300,slow=33						
	0.6nm,0.8s						
MDT	**Midelt**	**21.62**	**108**	LR	LR	04 57 31.3	
	comp=Z,187nm,20.8s,baz=321,slow=32						
BORG	**Borgarnes**	**22.96**	**9**	LR	LR	04 57 46.0	
	comp=Z,116nm,18.6s,baz=243,slow=31						
DAVOX	**Davos/Dischmat**	**28.04**	**67**	LR	LR	05 01 44.9	
	comp=Z,117nm,21.0s,baz=286,slow=34						
GERES	**GERESS Array B**	**30.44**	**63**	LR	LR	05 03 38.2	
	comp=Z,122nm,18.1s,baz=275,slow=35						
KEST	**Kesra**	**30.48**	**89**	LR	LR	05 04 27.4	
	comp=Z,169nm,19.3s,baz=322,slow=36						
HFS	**Hagfors**	**31.54**	**41**	LR	LR	05 04 10.8	
	comp=Z,134nm,20.0s,baz=296,slow=34						
FINES	**FINESS Array B**	**37.74**	**40**	P	**P**	**04 53 21.8**	**-0.2**
	1.7nm,0.9s,baz=258,slow=6.5,SNR=0.9						
	1.7nm,0.9s						
AKASG	**Malin Array Be**	**40.16**	**57**	LR	LR	05 09 51.1	
	comp=Z,185nm,18.1s,baz=250,slow=36						
TKL	**Tuckaleechee C**	**42.31**	**280**	LR	LR	05 10 34.2	
	comp=Z,125nm,18.1s,baz=89,slow=35						
ULM	**Lac du Bonnet**	**45.36**	**304**	LR	LR	05 12 27.8	
	comp=Z,153nm,20.3s,baz=104,slow=35						
SDV	**Santo Domingo**	**49.24**	**240**	LR	LR	05 13 38.4	
	comp=Z,43nm,18.9s,baz=285,slow=34						
TXAR	**Lajitas Array**	**59.97**	**284**	P	**P**	**04 56 13.2**	**0.0**
	0.4nm,0.8s,baz=70,slow=6.7,SNR=4.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**62.66**	**42**	P	**P**	**04 56 31.4**	**+0.5**
	0.9nm,0.8s,baz=305,slow=5.1,SNR=2.4						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**68.13**	**41**	P	**P**	**04 57 06.2**	**-0.1**
	1.1nm,0.8s,baz=312,slow=6.1,SNR=8.4						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**72.55**	**42**	P	**P**	**04 57 33.5**	**0.0**
	1.0nm,0.8s,baz=325,slow=5.7,SNR=9.6						
	1.0nm,0.8s						
WSAR	**Wadi Sarin**	**73.23**	**74**	LR	LR	05 31 56.9	
	comp=Z,50nm,21.2s,baz=359,slow=38						
SONM	**Songino Array**	**82.08**	**28**	P	**P**	**04 58 26.9**	**-0.1**
	0.4nm,0.8s,baz=320,slow=4.3,SNR=1.5						
	0.4nm,0.8s						

SVSA 16 04:46:45.1±0.4, 38°.78N×27°.28W, h5km, ML1.1(INMG), Error ellipse: s-maj=2.6km s-min=1.2km az=8.0, #DIST_RANGE: LOCAL #IPMA_REGION: Serra Sta. Barbara, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSBA	**Serra de Santa**	**0.04**	**245**	*eP*	Pg	04 46 46.2	0.0
PSBA				*eS*	Sg	04 46 47.1	0.0
PSBA				*i* AML	AML	04 46 47.4	
	67nm,0.1s						
PSBA				*i* AML	AML	04 46 48.3	
	184nm,0.4s						
PSBA				*i* AML	AML	04 46 48.8	
	59nm,0.2s						
PAGU	**Agualva, Azore**	**0.08**	**103**	*eP*	Pg	04 46 46.8	0.0
PAGU				*eS*	Sg	04 46 47.9	-0.1
PAGU				*i* AML	AML	04 46 48.1	
	190nm,0.4s						
PAGU				*i* AML	AML	04 46 49.8	
	109nm,0.2s						
PAGU				*i* AML	AML	04 46 50.6	
	78nm,0.3s						
ADH	**Angra Heroismo**	**0.13**	**165**	*eP*	Pg	04 46 49.2	+1.4
ADH				*eS*	Sg	04 46 51.1	+1.5
ADH				*i* AML	AML	04 46 53.7	
	7.0nm,0.3s						
ADH				*i* AML	AML	04 46 54.2	
	117nm,0.1s						
ADH				*i* AML	AML	04 46 57.3	
	35nm,0.5s						
PSCM	**Serra do Cume**	**0.15**	**123**	*eP*	Pg	04 46 47.9	-0.2
PSCM				*eS*	Sg	04 46 50.3	+0.2
PSCM				*i* AML	AML	04 46 53.2	
	328nm,0.3s						
PSCM				*i* AML	AML	04 46 59.0	
	160nm,0.4s						
PSCM				*i* AML	AML	04 47 05.3	
	362nm,0.4s						

SVSA 16 04:47:06.1±1.4, 38°.70N×27°.26W, h5km, ML1.1(INMG), Error ellipse: s-maj=9.5km s-min=4.5km az=31.0, #DIST_RANGE: LOCAL #IPMA_REGION: S Caldeira Guilherme Moni, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADH	**Angra Heroismo**	**0.05**	**162**	*eP*	Pg	04 47 12.1	+4.7
ADH				*eS*	Sg	04 47 12.7	+4.4
ADH				*i* AML	AML	04 47 15.4	
	72nm,0.3s						
ADH				*i* AML	AML	04 47 15.8	
	6.5nm,0.2s						
ADH				*i* AML	AML	04 47 19.4	
	65nm,0.4s						
PSBA	**Serra de Santa**	**0.08**	**320**	*eP*	Pg	04 47 08.1	+0.1
PSBA				*eS*	Sg	04 47 08.8	-0.5
PSBA				*i* AML	AML	04 47 10.8	
	96nm,0.2s						
PSBA				*i* AML	AML	04 47 10.9	
	301nm,0.3s						
PSBA				*i* AML	AML	04 47 12.3	
	132nm,0.4s						
PAGU	**Agualva, Azore**	**0.09**	**41**	*eP*	Pg	04 47 08.4	+0.4
PAGU				*eS*	Sg	04 47 09.3	0.0
PAGU				*i* AML	AML	04 47 10.9	
	183nm,0.2s						
PAGU				*i* AML	AML	04 47 11.0	
	131nm,0.3s						
PAGU				*i* AML	AML	04 47 12.1	
	126nm,0.2s						
PSCM	**Serra do Cume**	**0.11**	**91**	*eP*	Pg	04 47 08.6	+0.3
PSCM				*eS*	Sg	04 47 09.3	-0.5
PSCM				*i* AML	AML	04 47 11.4	
	162nm,0.4s						
PSCM				*i* AML	AML	04 47 14.7	
	538nm,0.3s						
PSCM				*i* AML	AML	04 47 19.8	
	415nm,0.5s						

IDC 16 05:03:09.6±1.4, 40°.93N×30°.04W, h0km, mb3.4/3, mbtmp3.4/4, ML3.7/1, MS3.9/1, Error ellipse: s-maj=67.8km s-min=25.9km az=24.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.91**	**85**	P	P	05 07 42.7	-0.1
	baz=292,slow=9.3,SNR=5.3						
	0.7nm,0.8s						
JMIC	**Jan Mayen**	**32.05**	**13**	LR	LR	05 18 33.1	
	comp=Z,205nm,21.6s,baz=252,slow=29						
TORD	**Torodi Ar. Bea**	**39.18**	**126**	P	P	05 10 39.2	-0.1
	1.0nm,1.0s,baz=323,slow=8.7,SNR=3.8						
	1.0nm,1.0s						
YKA	**Yellowknife Ar**	**52.31**	**324**	P	P	05 12 22.7	+0.1
	0.3nm,0.9s,baz=68,slow=7.2,SNR=4.4						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**59.69**	**284**	P	P	05 13 15.8	-0.3
	0.3nm,0.6s,baz=79,slow=6.8,SNR=4.1						
	0.3nm,0.6s						

---

*IDC **16** 05:07:03.9±1.3, 41°.06N×29°.19W, h0km, mb3.6/8, mbtmp3.6/8, MS3.5/18, Error ellipse: s-maj=42.0km s-min=24.2km az=17.0*
ISC 16 05:07:05.6±1.1, 41°.0N±0°.3×29°.3W±0°.1, h10km, n27, σ1s07/10, mb3.5/8, MS3.4/17, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.33**	**86**	P	**Pn**	**05 11 33.4**	**+1.4**
	0.9nm,0.8s,baz=287,slow=9.8,SNR=6.3						
ESDC				LR	LR	05 17 33.3	
	comp=Z,141nm,20.3s,baz=320,slow=33						
MDT	**Midelt**	**21.32**	**105**	LR	LR	05 18 24.9	
	comp=Z,111nm,19.6s,baz=342,slow=32						
BORG	**Borgarnes**	**24.19**	**8**	LR	LR	05 19 00.6	
	comp=Z,88nm,19.9s,baz=229,slow=30						
SCHQ	**Schefferville**	**28.30**	**312**	LR	LR	05 22 24.6	
	comp=Z,115nm,19.6s,baz=50,slow=32						
BBTS	**Babate**	**28.53**	**153**	LR	LR	05 22 45.2	
	comp=Z,40nm,19.4s,baz=301,slow=33						
SFJD	**Kangerlussuaq**	**28.56**	**343**	LR	LR	05 21 16.7	
	comp=Z,73nm,19.7s,baz=160,slow=30						
DAVOX	**Davos/Dischmat**	**28.57**	**65**	LR	LR	05 22 36.2	
	comp=Z,82nm,18.8s,baz=270,slow=33						
KEST	**Kesra**	**30.56**	**87**	LR	LR	05 25 20.0	
	comp=Z,109nm,19.4s,baz=288,slow=36						
GERES	**GERESS Array B**	**31.07**	**61**	LR	LR	05 23 49.0	
	comp=Z,66nm,20.6s,baz=272,slow=32						
NOA	**NORSAR Array B**	**31.64**	**37**	LR	LR	05 24 27.3	
	comp=Z,16nm,19.8s,baz=10.0,slow=33						
HFS	**Hagfors**	**32.52**	**39**	LR	LR	05 25 26.9	
	comp=Z,81nm,18.1s,baz=326,slow=34						
VRAC	**Vranov**	**32.95**	**60**	LR	LR	05 25 59.8	
	comp=Z,58nm,18.1s,baz=326,slow=35						
SADO	**Sadova**	**36.25**	**293**	LR	LR	05 28 03.7	
	comp=Z,143nm,18.7s,baz=74,slow=35						
TORD	**Torodi Ar. Bea**	**38.77**	**127**	P	**P**	**05 14 30.4**	**+0.1**
	0.9nm,1.0s,baz=315,slow=6.5,SNR=4.1						
	0.9nm,1.0s						
MLR	**Muntele Rosu**	**39.79**	**65**	LR	LR	05 30 35.5	
	comp=Z,35nm,18.7s,baz=265,slow=36						
DBIC	**Dimbokro**	**40.57**	**141**	LR	LR	05 30 16.6	
	comp=Z,55nm,19.2s,baz=312,slow=34						
AKASG	**Malin Array Be**	**40.88**	**56**	LR	LR	05 31 11.5	
	comp=Z,78nm,18.4s,baz=252,slow=36						
TKL	**Tuckaleechee C**	**42.49**	**281**	LR	LR	05 31 50.3	
	comp=Z,63nm,18.2s,baz=72,slow=35						
ULM	**Lac du Bonnet**	**46.02**	**305**	LR	LR	05 33 19.8	
	comp=Z,108nm,20.4s,baz=105,slow=34						
YKA	**Yellowknife Ar**	**52.56**	**324**	P	**P**	**05 16 20.3**	**+1.5**
	0.4nm,0.9s,baz=67,slow=6.9,SNR=4.6						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**57.55**	**301**	P	**P**	**05 16 54.7**	**-0.8**
	0.5nm,0.9s,baz=65,slow=7.3,SNR=2.8						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**60.23**	**284**	P	**P**	**05 17 14.3**	**+0.2**
	0.2nm,0.6s,baz=65,slow=6.6,SNR=4.9						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**63.61**	**42**	P	**P**	**05 17 36.1**	**-0.3**
	1.9nm,0.9s,baz=314,slow=7.1,SNR=4.5						
	1.9nm,0.9s						
ILAR	**Eielson Array**	**63.85**	**335**	P	**P**	**05 17 38.1**	**+0.4**
	0.2nm,0.8s,baz=61,slow=6.2,SNR=2.2						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**73.49**	**42**	P	**P**	**05 18 37.7**	**-0.6**
	1.3nm,0.8s,baz=313,slow=5.0,SNR=7.0						
	1.3nm,0.8s						
SONM	**Songino Array**	**83.18**	**28**	P	**P**	**05 19 31.4**	**-0.5**
	0.8nm,0.9s,baz=328,slow=4.6,SNR=3.8						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**157.67**	**44**	PKPab	**PKPab**	**05 27 33.1**	**-1.5**
	0.8nm,1.0s,baz=339,slow=5.0,SNR=4.6						

---

*NEIC **16** 05:08:33.9±1.3, 9°.36N±0°.08×126°.1E±0°.1, h101km±7km, mb4.4/55, Error ellipse: s-maj=15.9km s-min=10.9km az=77.0*
*IDC **16** 05:08:34.0±1.6, 9°.43N×126°.18E, h103km±15km, mb3.9/21, mbtmp4.3/23, MS3.2/5, Error ellipse: s-maj=22.5km s-min=10.3km az=79.0*
ISC 16 05:08:33.4±0.4, 9°.40N±0°.05×126°.17E±0°.08, h100km, n101, σ0s84/95, mb4.3/49, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.39**	**194**	Pn	**Pn**	**05 09 10.7**	**-0.3**
DAV	**Davao City (W)**	**2.39**	**194**	P	**Pn**	**05 09 11.9**	**+0.9**
	194nm,0.3s,baz=62,slow=12,SNR=3.9						
DAV				S	**Sn**	**05 09 42.7**	**+2.8**
	469nm,0.4s,baz=327,slow=21,SNR=7.9						
DAV				LR	LR	05 10 22.5	
	comp=Z,582nm,20.3s,baz=341,slow=45						
TGY	**Tagaytay City**	**6.93**	**313**	P	**Pn**	**05 10 12.6**	**+0.1**
	129nm,0.3s,baz=41,slow=19,SNR=3.2						
MYLDM	**Lahad Datu**	**8.69**	**242**	Pn	**Pn**	**05 10 36.0**	**-0.2**
FAKI	**Fak Fak**	**13.65**	**153**	Pn	**Pn**	**05 11 41.2**	**-1.8**
KAPI	**Kappang**	**15.68**	**204**	LR	LR	05 18 44.3	
	comp=Z,54nm,19.7s,baz=39,slow=39						
JOW	**Kunigami**	**17.45**	**6**	LR	LR	05 17 48.0	
	comp=Z,152nm,20.9s,baz=4.0,slow=32						
JAY	**Jayapura**	**18.70**	**129**	LR	LR	05 20 58.5	
	comp=Z,60nm,18.8s,baz=354,slow=40						
MTN	**Manton Dam**	**22.64**	**167**	P	**P**	**05 13 25.8**	**-0.5**
SLVN	**Son La**	**24.49**	**302**	P	**P**	**05 13 43.4**	**-0.1**
KNRA	**Kununurra**	**25.05**	**174**	P	**P**	**05 13 47.7**	**-0.8**
KNRA				IAmb	IAmb	05 14 02.7	
	comp=Z,8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**27.33**	**181**	P	**P**	**05 14 08.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**27.88**	**292**	P	**P**	**05 14 14.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=82,slow=8.3,SNR=4.8						
CMAR				LR	LR	05 27 13.5	
	comp=Z,33nm,18.3s,baz=105,slow=40						
	comp=Z,0.5nm,0.3s						
KSRS	**Korea Array**	**27.98**	**3**	P	**P**	**05 14 14.7**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=174,slow=9.8,SNR=6.2						
	comp=Z,2.1nm,0.7s						
COEN	**Coen**	**28.69**	**144**	P	**P**	**05 14 20.5**	**-0.7**
COEN				IAmb	IAmb	05 14 26.6	
	comp=Z,15nm,1.5s						
GSI	**Gunungsitoli**	**29.56**	**256**	P	**P**	**05 14 29.1**	**+0.2**
WB0	**Warramunga Arr**	**30.09**	**164**	P	**P**	**05 14 31.6**	**-2.0**
WB0				IAmb	IAmb	05 14 50.3	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**30.25**	**165**	P	**P**	**05 14 33.2**	**-1.7**
WRA	**Warramunga Arr**	**30.25**	**165**	P	**P**	**05 14 33.7**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=345,slow=8.8,SNR=7.5						
WRA				PcP	**PcP**	**05 17 33.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=349,slow=2.5,SNR=2.3						
	comp=Z,0.8nm,0.8s						
MBWA	**Marble Bar**	**31.02**	**192**	P	**P**	**05 14 41.0**	**-0.7**
MBWA				IAmb	IAmb	05 15 03.7	
	comp=Z,6.8nm,1.0s						
AS31	**Alice Springs**	**33.72**	**167**	P	**P**	**05 15 04.4**	**-0.9**
ASAR	**Alice Springs**	**33.72**	**167**	P	**P**	**05 15 04.2**	**-1.2**
ASAR	**Alice Springs**	**33.72**	**167**	P	**P**	**05 15 04.3**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=352,slow=7.0,SNR=19						
ASAR				PcP	**PcP**	**05 17 43.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=2.7,SNR=4.3						
	comp=Z,0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**35.04**	**7**	P	**P**	**05 15 15.9**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=202,slow=8.9,SNR=4.3						
	comp=Z,3.0nm,0.8s						
SHL	**Shillong**	**36.29**	**301**	P	**P**	**05 15 27.6**	**0.0**
ASAJ	**Asahikawa**	**37.41**	**20**	P	**P**	**05 15 36.9**	**+0.1**
	comp=Z,7.0nm,0.9s,baz=146,slow=8.8,SNR=2.7						
	comp=Z,7.0nm,0.9s						
MORW	**Morawa**	**39.47**	**194**	P	**P**	**05 15 54.4**	**+0.3**
KLR	**Kul'dur**	**39.98**	**6**	P	**P**	**05 15 57.8**	**-0.2**
	comp=Z,2.1nm,0.5s,baz=189,slow=5.6,SNR=9.8						
	comp=Z,2.1nm,0.5s						
FORT	**Forrest**	**39.99**	**177**	P	**P**	**05 15 58.8**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**40.27**	**73**	T	T	05 59 03.1	
	baz=262,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**40.28**	**73**	T	T	05 59 01.3	
	baz=262,slow=75,SNR=102						
H11S2	**WAKE ISLAND Hy**	**40.29**	**73**	T	T	05 58 56.3	
	baz=262,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**40.63**	**71**	T	T	05 59 21.4	
	baz=263,slow=75,SNR=58						
H11N2	**WAKE ISLAND Hy**	**40.64**	**71**	T	T	05 59 23.6	
	baz=263,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**40.65**	**71**	T	T	05 59 28.5	
	baz=263,slow=75,SNR=51						
ULN	**Ulaanbaatar**	**41.60**	**341**	P	**P**	**05 16 10.7**	**-0.9**
SONM	**Songino Array**	**41.80**	**340**	P	**P**	**05 16 12.1**	**-1.0**
SONM	**Songino Array**	**41.80**	**340**	P	**P**	**05 16 12.7**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=149,slow=8.3,SNR=3.7						
	comp=Z,0.5nm,0.5s						
BBOO	**Buckleboo**	**43.02**	**168**	P	**P**	**05 16 22.6**	**-0.5**
BBOO				IAmb	IAmb	05 16 24.9	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**43.62**	**161**	P	**P**	**05 16 27.4**	**-0.5**
STKA				IAmb	IAmb	05 16 37.0	
	comp=Z,12nm,1.5s						
STKA	**Stephens Creek**	**43.62**	**161**	P	**P**	**05 16 27.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=339,slow=10.0,SNR=3.0						
	comp=Z,0.6nm,0.3s						
PEA0B	**Petropavlovsk-**	**50.47**	**24**	P	**P**	**05 17 21.4**	**+0.5**
PETK	**Petropavlovsk-**	**50.47**	**24**	P	**P**	**05 17 20.9**	**0.0**
PETK	**Petropavlovsk-**	**50.47**	**24**	P	**P**	**05 17 21.8**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=206,slow=3.4,SNR=7.9						
	comp=Z,3.2nm,0.6s						
MK31	**Makanchi Array**	**52.66**	**323**	P	**P**	**05 17 36.8**	**-0.6**
MK31				IAmb	IAmb	05 17 38.2	
	comp=Z,1.7nm,0.6s						
MKAR	**Makanchi Array**	**52.66**	**323**	P	**P**	**05 17 36.8**	**-0.6**
MKAR	**Makanchi Array**	**52.66**	**323**	P	**P**	**05 17 37.1**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=127,slow=7.8,SNR=32						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**52.85**	**323**	P	**P**	**05 17 38.3**	**-0.5**
MAKZ				IAmb	IAmb	05 17 39.5	
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**55.34**	**332**	P	**P**	**05 17 55.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=111,slow=6.3,SNR=2.3						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**56.73**	**326**	P	**P**	**05 18 06.2**	**-0.5**
KURK				IAmb	IAmb	05 18 07.2	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**56.73**	**326**	P	**P**	**05 18 06.4**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=127,slow=6.8,SNR=7.6						
	comp=Z,1.5nm,0.5s						
GAR	**Garm**	**57.77**	**310**	P	**P**	**05 18 14.0**	**-0.4**
CHGR	**Chuyangaron**	**58.56**	**310**	P	**P**	**05 18 19.5**	**-0.4**
KK31	**Karatay Array**	**58.79**	**315**	P	**P**	**05 18 21.0**	**-0.3**
KK31				IAmb	IAmb	05 18 23.9	
	comp=Z,4.9nm,1.3s						
KKAR	**Karatay Array**	**58.79**	**315**	P	**P**	**05 18 20.8**	**-0.5**
TIXI	**Tiksi**	**62.22**	**1**	P	**P**	**05 18 44.3**	**+0.3**
TIXI				IAmb	IAmb	05 18 44.8	
	comp=Z,5.1nm,0.7s						
BVAR	**Borovoye Array**	**62.32**	**326**	P	**P**	**05 18 45.4**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=117,slow=7.2,SNR=4.1						
	comp=Z,1.0nm,0.5s						
BKZ	**Black Stump Fm**	**67.19**	**140**	P	**P**	**05 19 17.1**	**+0.2**
ABKAR	**Akbulak array**	**67.47**	**320**	P	**P**	**05 19 17.7**	**-0.8**
ABKAR	**Akbulak array**	**67.47**	**320**	P	**P**	**05 19 18.0**	**-0.5**
L14K	**Kuka Creek**	**72.79**	**29**	P	**P**	**05 19 51.8**	**+1.1**
M14K	**Bethel**	**73.02**	**29**	P	**P**	**05 19 52.9**	**+0.8**
C16K	**Lisburne Hills**	**73.42**	**21**	P	**P**	**05 19 55.5**	**+1.2**
C16K				IAmb	IAmb	05 20 04.4	
	comp=Z,12nm,1.5s						
N15K	**Kwethluk River**	**73.82**	**30**	P	**P**	**05 19 57.6**	**+0.7**
O16K	**Kokwok River B**	**74.73**	**31**	P	**P**	**05 20 02.5**	**+0.4**
O16K				IAmb	IAmb	05 20 45.4	
	comp=Z,9.1nm,1.2s						
J17K	**VABM Dome**	**74.83**	**27**	P	**P**	**05 20 03.9**	**+1.2**
J17K				IAmb	IAmb	05 20 12.4	
	comp=Z,15nm,1.4s						
M17K	**Holitna River**	**75.29**	**29**	P	**P**	**05 20 06.2**	**+0.9**
M17K				IAmb	IAmb	05 20 26.1	
	comp=Z,14nm,1.3s						
L18K	**Granite Mounta**	**75.75**	**28**	P	**P**	**05 20 09.0**	**+1.1**
L18K				IAmb	IAmb	05 20 20.3	
	comp=Z,14nm,1.4s						
G19K	**Purcell Mounta**	**76.10**	**24**	P	**P**	**05 20 11.0**	**+1.1**
G19K				IAmb	IAmb	05 20 15.4	
	comp=Z,8.0nm,1.5s						
E19K	**Redstone River**	**76.24**	**23**	P	**P**	**05 20 11.2**	**+0.6**
E19K				IAmb	IAmb	05 20 45.0	
	comp=Z,9.2nm,1.4s						
H19K	**Roundabout Mou**	**76.27**	**25**	P	**P**	**05 20 11.9**	**+1.1**
B21K	**Ikpikpuk River**	**77.49**	**21**	P	**P**	**05 20 18.6**	**+1.0**
B21K				IAmb	IAmb	05 20 55.4	
	comp=Z,5.9nm,0.5s						
PPLA	**Purkeypile**	**77.88**	**28**	P	**P**	**05 20 20.7**	**+0.6**
PPLA				IAmb	IAmb	05 20 22.4	
	comp=Z,10nm,1.5s						
E22K	**Anaktuvuk Pass**	**78.36**	**22**	P	**P**	**05 20 23.0**	**+0.5**
E22K				IAmb	IAmb	05 20 39.2	
	comp=Z,6.2nm,1.4s						
C23K	**Itkillik River**	**78.90**	**21**	P	**P**	**05 20 26.5**	**+1.2**
C23K				IAmb	IAmb	05 20 27.3	
	comp=Z,5.0nm,0.6s						
I23K	**Minto, Yukon-K**	**79.21**	**25**	P	**P**	**05 20 28.2**	**+1.1**
I23K				IAmb	IAmb	05 20 29.4	
	comp=Z,3.6nm,0.7s						
D24K	**Happy Valley**	**79.50**	**21**	P	**P**	**05 20 30.2**	**+1.5**
D24K				IAmb	IAmb	05 20 30.8	
	comp=Z,3.2nm,0.6s						
IL31		**80.26**	**26**	P	**P**	**05 20 32.9**	**+0.1**
ILAR	**Eielson Array**	**80.26**	**26**	P	**P**	**05 20 32.1**	**-0.8**
ILAR	**Eielson Array**	**80.26**	**26**	P	**P**	**05 20 32.5**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=268,slow=5.2,SNR=28						
	comp=Z,1.0nm,0.7s						
F25K	**Christian Rive**	**80.69**	**23**	P	**P**	**05 20 36.2**	**+1.1**
SCRK	**Sand Creek**	**81.56**	**26**	P	**P**	**05 20 40.6**	**+0.6**
SCRK				IAmb	IAmb	05 21 08.1	
	comp=Z,7.8nm,1.4s						
I26K	**Coal Creek Min**	**81.82**	**25**	P	**P**	**05 20 41.3**	**+0.2**
I26K				IAmb	IAmb	05 21 08.3	
	comp=Z,6.7nm,1.4s						
F28M	**Old Crow**	**82.89**	**23**	P	**P**	**05 20 48.0**	**+1.3**
F28M				IAmb	IAmb	05 20 51.2	
	comp=Z,3.3nm,0.8s						
E29M	**Bl

JIKM	Ikemajima	0.48	119	eP	Pn	05 17 21.4	-1.6
JIKM				eS	Sn	05 17 29.9	-0.3
JIRB	Irabujima	0.48	133	eP	Pn	05 17 20.9	-2.0
JIRB				eS	Sn	05 17 29.7	-0.5
JTJ	Tarama	0.52	188	P	Pn	05 17 21.4	-2.1
JTJ				eS	Sn	05 17 30.3	-0.9
JMJ2	Miyako jima3	0.65	130	eP	Pn	05 17 24.9	-0.4
JMJ2				eS	Sn	05 17 35.6	+1.4
JISG	Ishigakijimahi	0.72	217	eP	Pn	05 17 24.3	-1.8
JIJ	Ishigaki jima	0.99	216	eS	Sn	05 17 42.2	-0.4
JKRS	Kuro-shima	1.16	218	eP	Pn	05 17 32.1	-0.2
JOW	Kunigami	3.56	61	Pn	Pn	05 18 03.8	-1.5
	4.1nm,0.3s,baz=235,slow=16,SNR=2.3						
	22nm,0.8s						
CMAR	Chiang Mai Arr	24.88	260	P	P	05 22 33.2	+1.1
	1.0nm,0.3s,baz=63,slow=7.4,SNR=6.6						
	1.0nm,0.3s						
SONM	Songino Array	26.89	332	P	P	05 22 49.7	-0.6
	1.1nm,1.0s,baz=147,slow=9.2,SNR=3.7						
	1.1nm,1.0s						
MKAR	Makanchi Array	39.97	314	P	P	05 24 43.9	+0.1
	0.9nm,0.7s,baz=98,slow=12,SNR=7.8						
	0.9nm,0.7s						
ZALV	Zalesovo Beam	41.27	325	P	P	05 24 53.2	-1.1
	1.2nm,0.6s,baz=118,slow=8.7,SNR=4.3						
	1.2nm,0.6s						
KURBB	Kurchatov Arra	43.52	318	P	P	05 25 12.7	+0.1
	0.7nm,0.7s,baz=108,slow=8.3,SNR=6.3						
	0.7nm,0.7s						
WRA	Warramunga Arr	45.79	167	P	P	05 25 32.5	+1.5
	0.6nm,0.7s,baz=348,slow=7.9,SNR=10						
	0.6nm,0.7s						
ASAR	Alice Springs	49.34	169	P	P	05 26 00.3	+1.8
	0.3nm,0.6s,baz=347,slow=8.1,SNR=3.1						
	0.3nm,0.6s						
ILAR	Eielson Array	66.84	28	P	P	05 28 00.6	+0.1
	0.3nm,0.8s,baz=271,slow=7.0,SNR=2.7						
	0.3nm,0.8s						
YKA	Yellowknife Ar	80.78	24	P	P	05 29 22.4	+0.2
	1.3nm,0.9s,baz=307,slow=5.3,SNR=11						
	1.3nm,0.9s						

*JMA **16** 05:19:04.5±0.3,25°.N±1°×124°.7E±0°.5,h0km,MD4.9/11, MV4.1/11,NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 05:19:04.5,25°.28N×124°.68E,h0km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.07; Mθθ2.09; Mφφ-0.02; Mrθ-0.73; Mθφ0.34; Mφr-0.60; Fault plane solution: M0 2.31000×10^15 NP1: φs273.00000°,δ36.00000°,λ-71.00000°. NP2:φs69.00000°, δ57.00000°,λ-103.00000°.*
*NEIC **16** 05:19:05.6±1.5,25°.13N±0°.10×124°.62E±0°.05,h10km±1km, mb4.5/29 Error ellipse: s-maj=16.9km s-min=6.9km az=167.0*
*IDC **16** 05:19:12.9±3.1,25°.22N×124°.62E,h71km±30km,mb3.6/10, mbtmp3.9/14,MS3.5/13,Error ellipse: s-maj=21.7km s-min=15.9km az=83.0*
ISC 16 05:19:05.8±1.4,25°.21N±0°.05×124°.66E±0°.04,h12km±9km, n83,σ1°±02°/70,mb4.4/25,MS3.5/10,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.56	176	eP	Pg	05 19 17.2	+0.4
JTJ				eS	Sb	05 19 26.1	+0.5
JTJ	Tarama	0.56	176	A	A	05 19 17.2	
	comp=N,44nm,3.5s,comp=E,81nm,3.3s						
JIRB	Irabujima	0.60	129	eP	Pg	05 19 17.0	-0.5
JIRB				eS	Sg	05 19 25.2	-0.2
JIRB	Irabujima	0.60	129	A	A	05 19 17.0	
	comp=N,48nm,2.2s,comp=E,78nm,3.5s						
JIKM	Ikemajima	0.60	117	eS	Sg	05 19 26.3	+0.8
JIKM	Ikemajima	0.60	117	A	A	05 19 26.3	
	comp=N,78nm,2.9s,comp=E,107nm,3.4s						
JISG	Ishigakijimahi	0.69	207	eP	Pb	05 19 19.7	-0.1
JISG				eS	Sn	05 19 31.2	-0.9
JMJ2	Miyako jima3	0.76	127	P	Pg	05 19 20.4	-0.2
JMJ2				eS	Sg	05 19 31.0	+0.4
JMJ2	Miyako jima3	0.76	127	A	A	05 19 20.4	
	comp=N,46nm,2.6s,comp=E,65nm,3.5s						
JOGS	Gusukube	0.81	123	eS	Sg	05 19 33.0	+0.9
JOGS	Gusukube	0.81	123	A	A	05 19 33.0	
	comp=N,49nm,2.9s,comp=E,62nm,2.9s						
JIJ	Ishigaki jima	0.96	209	S	Sb	05 19 37.0	0.0
JIJ	Ishigaki jima	0.96	209	A	A	05 19 37.0	
	comp=N,11nm,1.5s,comp=E,8.0nm,8.7s						
JKRS	Kuro-shima	1.13	212	eP	Pn	05 19 27.5	+0.1
JKRS	Kuro-shima	1.13	212	A	A	05 19 27.5	
	comp=N,44nm,1.7s,comp=E,36nm,2.9s						
IRIF	Iriomote-Funau	1.21	224	eP	Pg	05 19 28.8	-0.3
IRIF				eS	Sn	05 19 46.6	+1.8
IRIF	Iriomote-Funau	1.21	224	A	A	05 19 28.8	
	comp=N,9.0nm,1.9s,comp=E,8.0nm,4.6s						
HATJ	Hateruma jima	1.38	214	eP	Pg	05 19 32.0	-0.4
HATJ	Hateruma jima	1.38	214	A	A	05 19 32.0	
	comp=N,24nm,2.9s,comp=E,24nm,2.0s						
YOJ	Yonaguni jima	1.67	244	Pn	Pn	05 19 33.0	-1.9
NACB	Ninganchiao	2.97	250	Pn	Pn	05 19 52.0	-0.8
YHNB	Yeheng	3.03	261	Pn	Pn	05 19 53.6	0.0
YULB	Yu-li	3.56	240	Pn	Pn	05 20 00.7	-0.2
JOW	Kunigami	3.63	63	Pn	Pn	05 20 02.1	+0.2
JOW	Kunigami	3.63	63	P	Pb	05 20 06.6	-3.4
	comp=E,30nm,0.6s,baz=84,slow=29,SNR=2.3						
SSLB	Suanglung	3.66	248		Pn	05 20 01.2	-1.1
TPUB	Ta-pu	4.14	244	Pn	Pn	05 20 07.8	-1.0
JNU	Nakatsue	9.58	33	LR	LR	05 25 11.9	
	comp=E,226nm,19.8s,baz=204,slow=37						
KSRS	Korea Array	12.53	12	P	Pn	05 22 07.8	+4.0
	comp=E,4.0nm,1.0s,baz=184,slow=14,SNR=5.4						
KSRS				LR	LR	05 26 59.7	
	comp=E,262nm,18.5s,baz=190,slow=37						
MJAR	Matsushiro Arr	16.20	43	P	P	05 22 56.8	+0.3
	comp=E,2.9nm,0.7s,baz=229,slow=10,SNR=6.9						
MJAR				LR	LR	05 28 17.1	
	comp=E,54nm,21.7s,baz=228,slow=34						
USRK	Ussuriysk Ar.	19.87	16	P	Pn	05 23 39.5	+1.0
	comp=E,1.0nm,0.6s,baz=206,slow=13,SNR=1.4						
PHRA	Phrae	23.61	258	P	P	05 24 17.1	+0.2
ASAJ	Asahikawa	23.86	33	LR	LR	05 33 00.1	
	comp=E,96nm,19.3s,baz=142,slow=35						
HIA	Hailar	24.32	352	P	P	05 24 23.0	-0.3
HIA				IAmb	IAmb	05 24 25.0	
	comp=Z,7.5nm,1.0s						
KLR	Kul'dur	24.61	11	P	P	05 24 26.8	+0.9
	comp=Z,1.1nm,0.8s,baz=219,slow=13,SNR=2.4						
	comp=Z,1.1nm,0.8s						
CHTO	Chiang Mai	24.65	260	P	P	05 24 25.9	-0.7
CMAR	Chiang Mai Arr	24.77	259	P	P	05 24 27.0	-0.7
CMAR	Chiang Mai Arr	24.77	259	P	P	05 24 28.1	+0.5
	comp=Z,1.8nm,0.5s,baz=60,slow=8.1,SNR=11						
	comp=Z,1.8nm,0.5s						
BRDH	Bariadhala	30.24	272	LR	LR	05 39 58.6	
	comp=Z,94nm,18.0s,baz=168,slow=41						
KAPI	Kappang	30.41	190	LR	LR	05 37 17.9	
	comp=Z,64nm,22.0s,baz=19,slow=36						
JAY	Jayapura	31.65	148	LR	LR	05 35 26.1	
	comp=Z,106nm,20.1s,baz=56,slow=31						
YAK	Yakutsk	36.97	4	LR	LR	05 43 27.8	
	comp=Z,88nm,19.2s,baz=236,slow=39						
PEA0B	Petropavlovsk-	37.28	33	P	P	05 26 19.5	+2.0
PETK	Petropavlovsk-	37.28	33	P	P	05 26 19.0	+1.5
PETK	Petropavlovsk-	37.28	33	LR	LR	05 41 30.6	
	comp=Z,63nm,20.1s,baz=247,slow=36						
MKAR	Makanchi Array	39.86	314	PcP	PcP	05 28 43.8	-1.2
	comp=Z,1.8nm,0.9s,baz=120,slow=5.2,SNR=4.9						
MKAR				LR	LR	05 44 31.1	
	comp=Z,100nm,19.2s,baz=26,slow=38						
PMG	Port Moresby	40.80	145	LR	LR	05 41 17.0	
	comp=Z,56nm,20.5s,baz=148,slow=32						
ZAA0	Zalesovo Array	41.17	325	P	P	05 26 49.7	-0.3
ZALV	Zalesovo Beam	41.17	325	P	P	05 26 49.5	-0.4
	comp=Z,3.0nm,0.7s,baz=111,slow=8.1,SNR=8.6						
ZALV				LR	LR	05 45 15.0	
	comp=Z,109nm,18.5s,baz=86,slow=38						
	comp=Z,3.0nm,0.7s						
FITZ	Fitzroy Crossi	43.05	179	P	P	05 27 04.1	-1.5
KURBB	Kurchatov Arra	43.41	318	P	P	05 27 07.4	-0.9
	comp=Z,2.1nm,0.8s,baz=112,slow=7.9,SNR=5.9						
	comp=Z,2.1nm,0.8s						
WB0	Warramunga Arr	45.69	167	P	P	05 27 25.8	-1.0
WB0				IAmb	IAmb	05 27 45.0	
	comp=Z,4.7nm,1.0s						
WRA	Warramunga Arr	45.85	167	P	P	05 27 28.1	0.0
WRA	Warramunga Arr	45.85	167	P	P	05 27 28.0	0.0
	comp=Z,1.2nm,0.7s,baz=350,slow=8.1,SNR=5.3						
	comp=Z,1.2nm,0.7s						
WR0	Warramunga Arr	45.91	167	P	P	05 27 28.0	-0.6
WR0				IAmb	IAmb	05 27 53.0	
	comp=Z,3.7nm,0.9s						
TIXI	Tiksi	46.54	2	LR	LR	05 47 06.5	
	comp=Z,126nm,20.2s,baz=192,slow=36						
ASAR	Alice Springs	49.40	169	P	P	05 27 55.9	+0.3
	comp=Z,0.8nm,0.8s,baz=356,slow=14,SNR=5.2						
	comp=Z,0.8nm,0.8s						
ABKAR	Akbulak array	55.01	314	P	P	05 28 36.9	-0.2
STKA	Stephens Creek	59.02	163	P	P	05 29 05.2	-0.4
	comp=Z,0.6nm,0.3s,baz=288,slow=5.5,SNR=3.5						
	comp=Z,0.6nm,0.3s						
E19K	Redstone River	62.44	25	P	P	05 29 30.9	+2.4
E19K				IAmb	IAmb	05 29 55.0	
	comp=Z,3.7nm,1.1s						
N17K	Nushagak Hills	62.61	33	P	P	05 29 30.3	+0.5
N17K				IAmb	IAmb	05 29 52.8	
	comp=Z,4.0nm,1.1s						
L18K	Granite Mounta	62.76	31	P	P	05 29 30.9	+0.1
L19K	White Mountain	63.62	31	P	P	05 29 36.3	-0.2
L19K				IAmb	IAmb	05 29 39.4	
	comp=Z,3.5nm,1.1s						
O18K	Koktuh Hills	63.64	34	P	P	05 29 37.6	+0.9
M20K	Styx River	64.46	31	P	P	05 29 42.2	+0.1
M20K				IAmb	IAmb	05 30 03.3	
	comp=Z,3.5nm,1.1s						
CAST	Castle Rocks	64.78	30	P	P	05 29 44.4	+0.3
STLK	Strandline Lak	65.12	32	P	P	05 29 46.2	-0.1
STLK				IAmb	IAmb	05 29 46.6	
	comp=Z,2.8nm,0.9s						
RND	Reindeer	66.22	29	P	P	05 29 52.8	-0.7
ILAR	Eielson Array	66.85	28	P	P	05 29 56.0	-1.4
	comp=Z,0.4nm,0.8s,baz=247,slow=6.5,SNR=5.1						
	comp=Z,0.4nm,0.8s						
BCAR	Beaver Creek A	69.42	29	P	P	05 30 14.0	+0.4
I28M	Miner Creek	69.57	26	P	P	05 30 15.2	+0.7
I28M				IAmb	IAmb	05 30 16.4	
	comp=Z,3.6nm,1.1s						
M27K	Edge Creek, AK	69.57	30	P	P	05 30 14.3	-0.3
G29M	Pine Creek	69.90	25	P	P	05 30 15.8	-0.7
G29M				IAmb	IAmb	05 30 18.4	
	comp=Z,3.8nm,0.9s						
EPYK	Eagle Plains	70.56	25	P	P	05 30 20.5	0.0
L29M	L29M	71.01	28	P	P	05 30 23.4	+0.1
L29M				IAmb	IAmb	05 30 24.9	
	comp=Z,3.8nm,0.8s						
I30M	Mount Dempster	71.06	26	P	P	05 30 23.1	-0.5
I30M				IAmb	IAmb	05 30 28.8	
	comp=Z,4.0nm,1.1s						
M29M	Somme Creek	71.07	29	P	P	05 30 24.0	+0.3
M29M				IAmb	IAmb	05 30 25.4	
	comp=Z,3.6nm,0.8s						
M30M	Minto, Yukon	71.76	29	P	P	05 30 28.6	+0.7
HYT	Haines Junctio	72.02	31	P	P	05 30 30.3	+0.7
P33M	Teslin, Yukon	74.40	30	P	P	05 30 43.5	0.0
P33M				IAmb	IAmb	05 30 44.9	
	comp=Z,4.7nm,0.8s						
BRTR	Keskin Array B	75.10	307	P	P	05 30 47.6	-0.4
	comp=Z,2.0nm,0.9s,baz=81,slow=3.9,SNR=6.4						
	comp=Z,2.0nm,0.9s						
R33M	Jennings River	75.59	31	P	P	05 30 50.4	-0.1
R33M				IAmb	IAmb	05 30 52.3	
	comp=Z,5.0nm,0.9s						
YKA	Yellowknife Ar	80.79	24	P	P	05 31 19.0	-0.1
	comp=Z,2.8nm,0.8s,baz=305,slow=5.1,SNR=20						
	comp=Z,2.8nm,0.8s						

*MOS **16** 05:23:01.6±0.9,47°.78N×102°.80E,h9km,mb4.3/9,Error ellipse: s-maj=8.7km s-min=7.2km az=70.1*
*IDC **16** 05:23:02.6±0.9,47°.85N×102°.85E,h0km,mb3.9/9, mbtmp3.9/10,ML4.3/1,MS3.3/3,Error ellipse: s-maj=31.2km s-min=13.6km az=15.0*
*BYKL **16** 05:23:03.2±0.5,47°.85N×102°.78E*
*NEIC **16** 05:23:03.6±0.7,47°.7N±0°.2×102°.8E±0°.1,h10km±.1km, mb4.3/19,Error ellipse: s-maj=26.7km s-min=14.3km az=179.0*
ISC 16 05:23:04.3±0.5,47°.91N±0°.03×102°.85E±0°.03,h12km,n108, σ2°±32°/148,mb4.2/21,MS3.5/4,2C-4D,Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	2.39	91	Pn	Pn	05 23 44.0	+0.6
SONM	Songino Array	2.39	91	Pn	Pn	05 23 44.4	+1.0
	68nm,0.3s,baz=271,slow=14,SNR=1200						
SONM				Lg	Lg	05 24 18.7	
	417nm,0.3s,baz=268,slow=34,SNR=35						
	110nm,0.3s						
ZAK	Zakamensk	2.49	6	ePn	Pn	05 23 46.4	+1.7
ZAK				ePg	Pb	05 23 49.2	+0.2
ZAK				ePgPg	Pg	05 23 53.9	+1.9
ZAK				max		05 23 54.8	
	481nm,0.6s						
ZAK				eSg	Sg	05 24 23.3	-0.9
ZAK				Smax		05 24 24.5	
	1μm,0.9s						
ZAK	Zakamensk	2.49	6	eP	Pb	05 23 49.0	0.0
ZAK				e		05 24 23.4	
ZAK				pmax	pmax		
	comp=Z,461nm,0.4s						
ZAK				smax	smax		
	comp=E,1μm,1.3s						
ULN	Ulaanbaatar	2.83	89	Pn	Pn	05 23 50.1	+0.6
ULN				Sn	Sn	05 24 24.7	+1.1
ULN	Ulaanbaatar	2.83	89	⇓iPn	Pn	05 23 50.2	+0.7
ULN				ePg	Pb	05 23 55.0	+0.1
ULN				Pmax		05 24 00.4	
	comp=E,213nm,0.4s						
ULN				eSg	Sb	05 24 31.9	+2.4
ULN				eSgSg	Sg	05 24 36.2	+1.0
ULN				max		05 24 37.3	
	comp=E,2μm,0.7s						
ULN	Ulaanbaatar	2.83	89	iP	Pn	05 23 50.0	+0.6
TLY	Talaya	3.81	7	ePn	Pn	05 24 04.4	+1.6
TLY				ePg	Pb	05 24 12.5	+1.1
TLY				Pmax		05 24 22.8	
	comp=E,127nm,0.6s						
TLY				eSg	Sg	05 25 03.4	-3.1
TLY				Smax		05 25 11.2	
	comp=E,797nm,1.3s						
TLY				e		05 25 15.4	
TLY	Talaya	3.81	7	eP	Pb	05 24 12.9	+1.5
TLY				pmax	pmax		
	comp=Z,132nm,1.2s						
MOY	Mondy	3.94	343	⇑iPn	Pn	05 24 06.2	+1.5
MOY				ePg	Pb	05 24 15.2	+1.4
MOY				Pmax		05 24 18.5	
	comp=Z,150nm,0.9s						
MOY				eSn	Sn	05 24 49.5	-1.5
MOY				eSg	Sb	05 25 07.0	+5.5
MOY				Smax		05 25 20.0	
	comp=Z,670nm,0.8s						
MOY	Mondy	3.94	343	eP	Pn	05 24 06.2	+1.5
MOY				pmax	pmax		
	comp=Z,150nm,0.9s						
ARS	Arshan	4.02	356	ePn	Pn	05 24 07.5	+1.7
ARS				ePg	Pb	05 24 16.7	+1.6
ARS				e		05 24 25.3	
ARS				max		05 24 28.4	
	comp=Z,97nm,0.5s						
ARS				eSg	Sg	05 25 10.7	-2.6
ARS				e		05 25 15.5	
ARS				max		05 25 28.1	
	comp=Z,991nm,0.8s						
ARS	Arshan	4.02	356	eP	Pn	05 24 07.4	+1.7
ARS				pmax	pmax		
	comp=Z,96nm,0.5s						
IVK	Ivanovka	4.02	14	ePn	Pn	05 24 07.6	+1.9
IVK				ePg	Pb	05 24 16.9	+1.8
IVK				Pmax		05 24 25.3	
	comp=Z,175nm,0.7s						
IVK				e		05 24 36.2	
IVK				eSg	Sg	05 25 10.2	-3.2
IVK				Smax		05 25 23.6	
	comp=Z,1μm,1.4s						
IVK	Ivanovka	4.02	14	eP	Pb	05 24 17.8	+2.7
IVK				pmax	pmax		
	comp=Z,174nm,0.6s						
LSTR	Listvyanka	4.16	17	ePn	Pn	05 24 08.4	+0.8
LSTR				ePg	Pb	05 24 19.0	+1.6
LSTR				eSg	Sg	05 25 14.9	-3.0
LSTR				Smax		05 25 20.0	
	comp=Z,734nm,1.2s						
LSTR				e		05 25 25.1	
LSTR				Pmax		05 54 27.6	
	comp=Z,73nm,1.0s						
LSTR	Listvyanka	4.16	17	eP	Pn	05 24 08.9	+1.3
LSTR				pmax	pmax		
	comp=Z,73nm,0.9s						
IRK	Irkutsk	4.43	11	eSn	Sn	05 25 01.7	-1.1
IRK				eSg	Sg	05 25 23.0	-3.5
IRK				Smax		05 25 29.1	
	comp=Z,2μm,0.7s						
IRK	Irkutsk	4.43	11	eP	Pb	05 24 23.9	+1.9
IRK				pmax	pmax		
	comp=Z,148nm,0.2s						
BGT	Bolshoye Golou	4.45	21	ePn	Pn	05 24 13.0	+1.4
BGT				ePg	Pb	05 24 24.6	+2.2
BGT				Pmax		05 24 28.3	
	comp=Z,82nm,0.5s						
BGT				eSg	Sg	05 25 23.5	-3.7
BGT				Smax		05 25 29.1	
	comp=Z,674nm,0.7s						
BGT	Bolshoye Golou	4.45	21	eP	Pn	05 24 11.8	+0.2
BGT				pmax	pmax		
	comp=Z,82nm,0.5s						
KAB	Kabansk	4.81	29	ePg	Pb	05 24 31.6	+3.0
KAB				Pmax		05 24 32.4	
	comp=Z,308nm,0.7s						
KAB				e		05 24 40.5	
KAB				eSg	Sg	05 25 35.3	-3.5
KAB				Smax		05 26 01.0	
	comp=Z,3μm,1.3s						
KAB	Kabansk	4.81	29	eP	Pb	05 24 32.1	+3.5
KAB				pmax	pmax		
	comp=Z,316nm,1.0s						
FFNB	Fofonovo	4.85	30	ePn	Pn	05 24 18.8	+1.7
FFNB				e		05 24 25.0	
FFNB				ePg	Pb	05 24 31.9	+2.8
FFNB				eSg	Sg	05 25 36.5	-3.4
FFNB				e		05 25 48.0	
ORL	Orlik	5.02	338	ePn	Pn	05 24 20.7	+1.1
ORL				ePg	Pb	05 24 34.4	+2.2
ORL				e		05 24 42.5	
ORL				max		05 25 08.0	
	comp=Z,47nm,0.7s						
ORL				e		05 25 25.7	
ORL				eSg	Sg	05 25 40.8	-4.7
ORL				Smax		05 25 44.8	
	comp=Z,287nm,1.2s						
ORL	Orlik	5.02	338	eP	Pb	05 24 35.4	+3.2
ORL				pmax	pmax		
	comp=Z,59nm,0.8s						
UUDB	Ulan-Yde	5.04	36	ePn	Pn	05 24 21.3	+1.7
UUDB				ePg	Pb	05 24 34.9	+2.6
UUDB				Pmax		05 24 36.1	
	comp=Z,319nm,0.6s						
UUDB				eSn	Sn	05 25 17.8	+0.1
UUDB				eSg	Sg	05 25 41.8	-4.0
UUDB				Smax		05 25 54.4	
	comp=Z,1μm,1.1s						
TRG	Tyrgan	5.34	23	ePn	Pn	05 24 23.6	-0.3
TRG				ePg	Pb	05 24 40.1	+2.5
TRG				Pmax		05 25 01.0	
	comp=Z,56nm,1.1s						
TRG				eSn	Sn	05 25 23.8	-1.6
TRG				eSg	Sg	05 25 50.5	-5.3
TRG				Smax		05 25 57.5	
	comp=Z,392nm,0.9s						
TRG	Tyrgan	5.34	23	eP	Pn	05 24 26.0	+2.1
TRG				eS	Sn	05 25 27.0	+1.6
TRG				pmax	pmax		
	comp=Z,51nm,0.9s						
TRG				smax	smax		
	comp=E,393nm,0.7s						
ZRHB	Zarechye	5.40	29	ePn	Pn	05 24 25.7	+1.0
ZRHB				ePg	Pb	05 24 42.1	+3.5
ZRHB				e		05 24 52.9	
ZRHB				max		05 24 54.1	
	comp=E,402nm,0.9s						
ZRHB				eSn	Sn	05 25 27.2	+0.4
ZRHB				eSg	Sg	05 25 53.6	-4.1
ZRHB				Smax		05 26 12.1	
	comp=E,3μm,1.1s						
KELR	Kotokel	5.89	33	ePg	Pb	05 24 50.2	+3.2
KELR				e		05 24 54.5	
KELR				eSg	Sg	05 26 08.3	-5.1
GORB	Goryachinsk	6.15	32	ePn	Pn	05 24 36.4	+1.5
GORB				e		05 24 42.4	
GORB				ePg	Pb	05 24 54.8	+3.5
GORB				e		05 25 48.9	
GORB				eSg	Sg	05 26 15.5	-6.1
OGRR	Ongureny	6.48	26	⇓iPn	Pn	05 24 41.2	+1.8
OGRR				e		05 24 44.4	
OGRR				ePg	Pb	05 25 01.4	+4.5
OGRR				Pmax		05 25 08.1	
	comp=E,45nm,1.0s						
OGRR				eSn	Sn	05 25 50.5	-2.7
OGRR				eSg	Sg	05 26 26.0	-6.1
OGRR				Smax		05 26 40.9	
	comp=E,253nm,1.7s						
OGRR	Ongureny	6.48	26	eP	Pn	05 24 41.5	+2.1
OGRR				pmax	pmax		
	comp=Z,45nm,2.0s						
MXMB	Maximikha	6.54	33	ePn	Pn	05 24 42.0	+1.7
MXMB				e		05 25 00.9	
MXMB				eSg	Sg	05 26 28.6	-5.4
KPC	Khapcheranga	6.55	71	⇓iPn	Pn	05 24 40.1	-0.4
KPC				ePg	Pb	05 25 02.5	+4.4
KPC				Pmax		05 25 05.2	
	comp=E,39nm,0.9s						
KPC				e		05 26 06.0	
KPC				eSg	Sg	05 26 28.3	-6.0
KPC				Smax		05 26 36.2	
	comp=Z,586nm,1.4s						
KPC				e		05 26 46.1	
KPC	Khapcheranga	6.55	71	eP	Pn	05 24 40.0	-0.4
KPC				pmax	pmax		
	comp=Z,40nm,0.8s						
SYVR	Suvo	7.32	36	ePn	Pn	05 24 51.8	+0.8
SYVR				ePg	Pb	05 25 16.3	+5.1
SYVR				Pmax		05 25 22.5	
	comp=Z,25nm,1.1s						
SYVR				eSg	Sg	05 26 52.8	-6.2
SYVR				Smax		05 27 04.2	
	comp=Z,349nm,1.5s						
SYVR				e		05 27 23.2	
SYVR	Suvo	7.32	36	eP	Pn	05 24 52.6	+1.6
SYVR				pmax	pmax		
	comp=Z,32nm,1.6s						
YLYR	Ulyunkhan	8.69	34	ePn	Pn	05 25 10.9	+1.1
YLYR				ePg	Pg	05 25 41.6	-8.9
YLYR				eSg	Sg	05 27 35.5	-7.5
YLYR				Smax		05 27 55.6	
	comp=Z,175nm,1.1s						
NIZB	Nizh Angarsk	8.89	25	eSg	Sg	05 27 39.9	-9.4
NIZB				Smax		05 27 57.3	
	comp=Z,123nm,1.5s						
BTO	Baotou	8.93	142	eP	Pn	05 25 14.1	+0.9
BTO				S	Sn	05 26 54.9	+1.1
BTO				pmax	pmax		
	comp=Z,37nm,0.8s						
BTO				LR	LR		
	comp=N,530nm,7.2s						
BTO				LR	LR		
	comp=E,340nm,4.8s						
BTO				L

NLYR *e*Sn **Sn** **05 27 57.0 -3.0**
NLYR *e*Sg 05 29 05.4
NLYR Smax 05 29 25.6
comp=E,249nm,1.2s
NLYR *e* 05 29 34.6
ZALV Zalesovo Beam 12.86 305 Lg Lg 05 29 43.1
comp=E,0.2nm,0.3s,baz=104,slow=28,SNR=9.2
MKAR Makanchi Array 13.98 273 Pn **P** **05 26 29.3 -0.9**
comp=E,0.5nm,0.3s,baz=86,slow=14,SNR=25
MKAR Lg Lg 05 30 18.4
comp=E,0.3nm,0.3s,baz=84,slow=29,SNR=5.1
MKAR Makanchi Array 13.98 273 P **Pn** **05 26 21.9 -0.2**
KURK Kurchatov 16.03 289 *i* P **P** **05 26 50.6 -2.2**
KURK pmax pmax
comp=Z,10.0nm,1.4s
KURBB Kurchatov Arra 16.08 289 Pn **P** **05 26 51.3 -2.1**
comp=Z,0.2nm,0.3s,baz=93,slow=12,SNR=18
KURBB Lg Lg 05 31 29.9
comp=Z,0.1nm,0.3s,baz=86,slow=34,SNR=4.8
KURBB LR LR 05 33 06.3
comp=Z,102nm,19.2s,baz=186,slow=38
ZEA Zeya 16.44 60 *i* P **Pn** **05 26 55.3 +0.7**
KDJ Kajisay 19.00 262 P **P** **05 27 23.7 -2.2**
KDJ IAmb IAmb 05 27 47.7
comp=Z,11nm,1.0s
KDJ Kajisay 19.00 262 P **P** **05 27 23.7 -2.2**
KDJ pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 19.13 75 Lg Lg 05 33 06.7
comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=4.4
KLR Kul'dur 19.13 75 *i* P **Pn** **05 27 28.1 +0.2**
KLR pmax pmax
comp=Z,17nm,4.0s
BOOM Boomskoye usch 19.67 264 P **P** **05 27 32.5 -0.7**
BOOM Boomskoye usch 19.67 264 P **P** **05 27 32.5 -0.7**
BOOM pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 20.57 266 P Pn 05 27 43.0 -2.3
AAK IAmb IAmb 05 27 45.8
comp=Z,8.2nm,0.9s
AAK Ala-Archa 20.57 266 P Pn 05 27 44.5 -0.8
comp=Z,6.5nm,0.8s,baz=78,slow=8.8,SNR=17
comp=Z,6.5nm,0.8s
AAK Ala-Archa 20.57 266 *i* P Pn 05 27 44.2 -1.1
AAK pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 20.69 37 *i* P **P** **05 27 44.9 +1.0**
YAK pmax pmax
comp=Z,5.0nm,0.7s
BVAR Borovoye Array 21.17 296 P **P** **05 27 49.3 +0.1**
comp=Z,2.9nm,0.8s,baz=98,slow=10,SNR=8.0
comp=Z,2.9nm,0.8s
BRVK Borovoye 21.23 296 *i* P **P** **05 27 50.3 +0.4**
KK31 Karatay Array 23.06 270 P **P** **05 28 07.0 -2.5**
KK31 Karatay Array 23.06 270 P **P** **05 28 07.0 -2.5**
KK31 pmax pmax
comp=Z,3.0nm,1.2s
KKAR Karatay Array 23.06 270 P **P** **05 28 07.0 -2.5**
KKAR Karatay Array 23.06 270 P **P** **05 28 07.0 -2.5**
DRK Karamyk 23.85 261 P **P** **05 28 16.0 -1.6**
DRK IAmb IAmb 05 28 20.2
comp=Z,5.1nm,0.6s
DRK Karamyk 23.85 261 P **P** **05 28 16.0 -1.6**
DRK pmax pmax
comp=Z,5.0nm,0.6s
BTK Batken 24.21 263 P **P** **05 28 19.5 -1.3**
BTK IAmb IAmb 05 28 22.8
comp=Z,4.0nm,1.0s
BTK Batken 24.21 263 P **P** **05 28 19.5 -1.3**
BTK pmax pmax
comp=Z,4.0nm,1.0s
GAR Garm 25.08 261 P **P** **05 28 27.1 -1.6**
GAR IAmb IAmb 05 28 31.8
comp=Z,7.3nm,0.7s
CHGR Chuyangaron 26.03 262 P **P** **05 28 36.0 -1.4**
CHGR Chuyangaron 26.03 262 P **P** **05 28 36.0 -1.4**
CHGR pmax pmax
comp=Z,19nm,0.8s
SIMJ Simiganj 26.13 262 P **P** **05 28 36.6 -1.6**
SIMJ IAmb IAmb 05 28 41.3
comp=Z,6.5nm,0.7s
NIL Nilore 26.36 248 P **P** **05 28 37.7 -2.5**
NIL IAmb IAmb 05 28 48.8
comp=Z,12nm,1.1s
NIL Nilore 26.36 248 P **P** **05 28 37.7 -2.5**
NIL pmax pmax
comp=Z,13nm,1.1s
ARTI Arti 28.12 304 P **P** **05 28 55.6 -0.2**
ARTI IAmb IAmb 05 28 56.6
comp=Z,12nm,1.4s
ARTI Arti 28.12 304 *d i* P **P** **05 28 55.5 -0.3**
ARTI 05 29 40.4
ARTI S **S** **05 33 42.6 +2.2**
ARTI SS **SnSn** **05 34 59.6 +3.9**
ARTI pmax pmax
comp=Z,8.0nm,1.3s
CMAR Chiang Mai Arr 29.55 188 LR LR 05 42 04.1
comp=Z,23nm,19.4s,baz=315,slow=39
OBN Obninsk 40.44 306 ⇑ *i* P **P** **05 30 42.7 +0.5**
OBN *e* 05 32 14.4
OBN *e*SS SS 05 39 40.9 -8.0
OBN pmax pmax
comp=Z,9.0nm,1.1s
OBN MLR MLR
comp=Z,66nm,12.0s
KIV Kislovodsk 41.10 288 *e*P **P** **05 30 47.1 -0.8**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,42nm,16.0s
ARCES ARCESS Array B 41.89 329 P **P** **05 30 54.8 +0.9**
comp=Z,5.9nm,1.0s,baz=84,slow=8.6,SNR=3.7
comp=Z,5.9nm,1.0s
FINES FINESS Array B 43.71 317 P **P** **05 31 08.0 -0.8**
FINES FINESS Array B 43.71 317 P **P** **05 31 09.2 +0.4**
comp=Z,3.7nm,1.1s,baz=74,slow=8.3,SNR=6.1
comp=Z,3.7nm,1.1s
FINES FINESS Array B 43.71 317 *e*P **P** **05 31 09.7 +0.9**
FINES pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 46.24 302 P **P** **05 31 29.0 0.0**
comp=Z,0.5nm,0.4s,baz=57,slow=9.0,SNR=4.2
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 46.24 302 *i* P **P** **05 31 30.7 +1.7**
BRTR Keskin Array B 49.07 287 P **P** **05 31 51.1 -0.3**
BRTR Keskin Array B 49.07 287 P **P** **05 31 51.1 -0.3**
HFS Hagfors 49.79 319 P **P** **05 31 56.6 +0.2**
comp=Z,1.5nm,0.7s,baz=65,slow=9.1,SNR=1.6
comp=Z,1.5nm,0.7s
BUR08 Bucovina Ar. S 50.03 300 P **P** **05 31 58.2 -0.3**
BUR08 IAmb IAmb 05 31 59.3
comp=Z,3.1nm,1.2s
BURAR Bucovina Array 50.03 300 P **P** **05 31 58.2 -0.3**
BURAR Bucovina Array 50.03 300 P **P** **05 31 58.2 -0.3**
NC405 NORSAR Array S 50.18 321 P **P** **05 31 59.5 +0.1**
NOA NORSAR Array B 50.43 321 P **P** **05 32 01.3 0.0**
comp=Z,0.7nm,0.6s,baz=64,slow=7.4,SNR=3.4
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 50.43 321 *e*P **P** **05 32 00.8 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 55.35 29 P **P** **05 32 38.7 +1.2**
ILAR Eielson Array 55.35 29 P **P** **05 32 38.7 +1.2**
E29M Blow River 55.57 23 P **P** **05 32 39.4 +0.4**
FUORN Ofenpass-Fuorn 58.99 307 P **P** **05 33 03.5 -0.3**
FUORN IAmb IAmb 05 33 04.7
comp=Z,3.4nm,1.1s
WRA Warramunga Arr 73.21 149 P **P** **05 34 33.5 -1.6**
WRA Warramunga Arr 73.21 149 P **P** **05 34 34.8 -0.2**
comp=Z,0.6nm,0.9s,baz=343,slow=6.8,SNR=1.7
comp=Z,0.6nm,0.9s
WB2 Warramunga Arr 73.22 149 P **P** **05 34 33.3 -1.8**
WR0 Warramunga Arr 73.30 149 P **P** **05 34 33.4 -2.1**
WR0 IAmb IAmb 05 34 45.7
comp=Z,6.5nm,1.5s
ASAR Alice Springs 76.52 151 P **P** **05 34 53.5 -0.6**
comp=Z,0.3nm,0.6s,baz=347,slow=8.3,SNR=2.0
comp=Z,0.3nm,0.6s
NWAO Narrogin (SRO) 81.50 168 LR LR 06 13 57.3
comp=Z,32nm,20.0s,baz=143,slow=38

*IDC **16** 05:23:25.1±7.5, 21°.63N×143°.10E, h316km±71km, mb3.4/7, mbtmp4.1/7, Error ellipse: s-maj=80.9km s-min=16.4km az=82.0*

ISC 16 05:23:24.8±2.2, 21°.6N±0°.2×143°.0E±0°.7, h311km, n7, σ0s43/7, mb3.8/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.50**	**324**	P	**P**	**05 27 40.1**	**+0.1**
	1.4nm,0.7s,baz=146,slow=8.6,SNR=4.5						
	1.4nm,0.7s						
KLR	**Kul'dur**	**28.99**	**345**	P	**P**	**05 28 56.3**	**+0.1**
	1.3nm,0.6s,baz=173,slow=6.9,SNR=5.3						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**42.17**	**192**	P	**P**	**05 30 47.9**	**+0.1**
	0.3nm,0.4s,baz=15,slow=9.1,SNR=18						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**57.50**	**317**	P	**P**	**05 32 41.9**	**-0.1**
	1.1nm,0.5s,baz=97,slow=8.1,SNR=1.4						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**62.65**	**320**	P	**P**	**05 33 16.9**	**+0.1**
	2.0nm,0.3s,baz=99,slow=7.3,SNR=8.1						
	2.0nm,0.3s						
ARCES	**ARCESS Array B**	**78.96**	**341**	P	**P**	**05 34 54.2**	**+0.2**
	5.4nm,1.1s,baz=68,slow=7.5,SNR=7.5						
	5.4nm,1.1s						
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**05 35 15.5**	**-0.8**
	1.4nm,0.7s,baz=49,slow=6.5,SNR=11						
	1.4nm,0.7s						

*IDC **16** 05:31:48.5±0.9, 41°.40N×29°.32W, h0km, mb3.9/11, mbtmp3.8/12, ML3.4/1, MS3.7/23, Error ellipse: s-maj=28.3km s-min=18.8km az=24.0*
*NEIC **16** 05:31:49.5±0.9, 41°.2N±0°.1×29°.4W±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=23.9km s-min=11.7km az=32.0*
*GCMT **16** 05:31:51.5±0.4, 41°.27N±0°.07×29°.21W±0°.05, h18km±1km, MW4.7/84, Moment Tensor Solution. s13,c14; s84,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.63±.16; $M_{\theta\theta}$0.50±.11; $M_{\phi\phi}$1.13±.11; $M_{r\theta}$-0.89±.40; $M_{\theta\phi}$0.22±.07; $M_{\phi r}$0.10±.28; Best double couple: $M_0$1.58800×10^16^ NP1:ϕs183.00000°, δ43.00000°, λ-119.00000°. NP2: ϕs41.00000°, δ53.00000°, λ-65.00000°. Principal axes: T 1.2130, Plg5.0000°, Azm113.0000°; N 0.7510, Plg20.0000°, Azm205.0000°; P -1.9630, Plg70.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 05:31:49.3±0.5, 41°.2N±0°.1×29°.36W±0°.08, h10km, n53, σ0s81/32, mb4.2/19, MS3.6/22, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**4.56**	**138**	Pn	**Pn**	**05 32 58.2**	**-0.2**
ESDC	**Sonseca Array**	**19.37**	**86**	P	**Pn**	**05 36 16.5**	**+0.2**
	baz=274,slow=11,SNR=5.2						
ESDC				LR	LR	05 42 17.6	
	comp=Z,368nm,20.7s,baz=308,slow=32						
	1.1nm,0.9s						
DRLN	**Deer Lake**	**21.28**	**302**	P	**P**	**05 36 35.9**	**+0.2**
DRLN				IAmb	IAmb	05 36 43.2	
	comp=Z,11nm,1.0s						
MDT	**Midelt**	**21.42**	**105**	LR	LR	05 43 08.9	
	comp=Z,213nm,20.8s,baz=315,slow=32						
NRS	**Narsarsuaq**	**22.22**	**339**	P	**P**	**05 36 46.1**	**+0.4**
NRS				IAmb	IAmb	05 37 00.1	
	comp=Z,9.2nm,0.8s						
BORG	**Borgarnes**	**24.00**	**8**	LR	LR	05 43 44.7	
	comp=Z,194nm,20.2s,baz=226,slow=30						
ECH	**Echery**	**26.68**	**62**	P	**P**	**05 37 27.9**	**-0.4**
SCHQ	**Schefferville**	**28.13**	**312**	LR	LR	05 46 59.2	
	comp=Z,184nm,21.0s,baz=50,slow=32						
SFJD	**Kangerlussuaq**	**28.35**	**343**	LR	LR	05 47 19.5	
	comp=Z,22nm,18.6s,baz=158,slow=33						
DAVOX	**Davos/Dischmat**	**28.54**	**65**	LR	LR	05 47 32.1	
	comp=Z,176nm,19.9s,baz=270,slow=33						
BBTS	**Babate**	**28.73**	**153**	LR	LR	05 47 49.2	
	comp=Z,64nm,19.3s,baz=228,slow=33						
D62A	**Allapoint, All**	**28.84**	**295**	P	**P**	**05 37 45.0**	**-2.5**
D62A				IAmb	IAmb	05 38 01.5	
	comp=Z,9.9nm,1.1s						
KEST	**Kesra**	**30.61**	**88**	LR	LR	05 49 54.9	
	comp=Z,228nm,18.8s,baz=18,slow=36						
GERES	**GERESS Array B**	**31.02**	**61**	LR	LR	05 48 55.7	
	comp=Z,137nm,20.4s,baz=256,slow=33						
NOA	**NORSAR Array B**	**31.52**	**37**	LR	LR	05 48 37.5	
	comp=Z,60nm,20.1s,baz=260,slow=32						
FRB	**Frobisher Bay**	**31.99**	**328**	LR	LR	05 47 39.1	
	comp=Z,116nm,18.3s,baz=100,slow=30						
HFS	**Hagfors**	**32.40**	**40**	LR	LR	05 49 03.8	
	comp=Z,147nm,20.6s,baz=282,slow=32						
KSCT	**Kent School, K**	**32.79**	**286**	P	**P**	**05 38 22.3**	**-0.2**
PAOL	**Paolisi**	**32.82**	**76**	P	**P**	**05 38 22.2**	**-0.7**
PAOL				IAmb	IAmb	05 38 47.4	
	comp=Z,8.0nm,1.2s						
VRAC	**Vranov**	**32.90**	**60**	LR	LR	05 51 02.7	
	comp=Z,130nm,18.2s,baz=288,slow=35						
VAE	**Valguarnera**	**33.79**	**82**	LR	LR	05 50 44.4	
	comp=Z,224nm,21.5s,baz=304,slow=34						
SADO	**Sadowa**	**36.12**	**293**	LR	LR	05 52 48.0	
	comp=Z,258nm,19.3s,baz=78,slow=35						
FINES	**FINESS Array B**	**38.60**	**39**	LR	LR	05 53 29.9	
	comp=Z,106nm,18.9s,baz=304,slow=34						
TORD	**Torodi Ar. Bea**	**38.94**	**127**	P	**P**	**05 39 16.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**38.94**	**127**	P	**P**	**05 39 16.7**	**+1.2**
	comp=Z,1.7nm,1.0s,baz=324,slow=8.3,SNR=5.9						
	comp=Z,1.7nm,1.0s						
SJG	**San Juan**	**38.98**	**245**	LR	LR	05 51 08.5	
	comp=Z,38nm,20.3s,baz=95,slow=30						
EMPR	**Esperanza - Ma**	**38.99**	**246**	P	**P**	**05 39 15.8**	**-0.1**
Y58A	**Scranton**	**40.07**	**276**	P	**P**	**05 39 23.5**	**-1.3**
DBIC	**Dimbokro**	**40.76**	**141**	P	**P**	**05 39 29.7**	**-0.9**
DBIC				IAmb	IAmb	05 39 33.3	
	comp=Z,5.6nm,0.9s						
DBIC	**Dimbokro**	**40.76**	**141**	P	**P**	**05 39 31.8**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=329,slow=7.4,SNR=4.4						
DBIC				LR	LR	05 54 30.3	
	comp=Z,95nm,21.1s,baz=314,slow=33						
	comp=Z,4.3nm,0.9s						
AKASG	**Malin Array Be**	**40.82**	**56**	LR	LR	05 55 38.0	
	comp=Z,156nm,18.8s,baz=283,slow=35						
TKL	**Tuckaleechee C**	**42.40**	**281**	LR	LR	05 56 31.4	
	comp=Z,119nm,18.6s,baz=96,slow=35						
PCRV	**Puto La Cruz**	**43.83**	**235**	LR	LR	05 54 08.9	
	comp=Z,67nm,20.4s,slow=30						
RES	**Resolute Bay**	**44.27**	**340**	P	**P**	**05 39 59.9**	**+1.4**
RES				IAmb	IAmb	05 40 02.3	
	comp=Z,5.2nm,1.0s						
ULM	**Lac du Bonnet**	**45.86**	**305**	LR	LR	05 57 54.2	
	comp=Z,196nm,20.5s,baz=78,slow=34						
BELG	**Belogornoye**	**51.46**	**50**	LR	LR	06 01 14.4	
	comp=Z,98nm,21.6s,baz=269,slow=34						
YKA	**Yellowknife Ar**	**52.37**	**324**	P	**P**	**05 41 01.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=74,slow=7.0,SNR=5.0						
	comp=Z,0.4nm,0.8s						
ARTI	**Arti**	**55.79**	**42**	P	**P**	**05 41 25.7**	**-0.4**
ARTI				IAmb	IAmb	05 41 26.9	
	comp=Z,6.7nm,0.9s						
PDAR	**Pinedale Array**	**57.40**	**301**	P	**P**	**05 41 38.3**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=66,slow=8.3,SNR=5.5						
	comp=Z,0.8nm,0.9s						
NEW	**Newport**	**59.45**	**309**	P	**P**	**05 41 52.5**	**+0.3**
NEW				IAmb	IAmb	05 41 59.0	
	comp=Z,6.3nm,1.1s						
TX31	**Lajitas Ar. Si**	**60.12**	**284**	P	**P**	**05 41 58.3**	**+1.2**
TXAR	**Lajitas Array**	**60.12**	**284**	P	**P**	**05 41 58.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=70,slow=6.8,SNR=7.2						
	comp=Z,0.4nm,0.7s						
BRVK	**Borovoye**	**63.43**	**42**	P	**P**	**05 42 18.8**	**0.0**
BRVK				IAmb	IAmb	05 42 20.3	
	comp=Z,5.0nm,1.0s						
BVAR	**Borovoye Array**	**63.50**	**42**	P	**P**	**05 42 18.9**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=301,slow=6.4,SNR=8.6						
	comp=Z,2.1nm,0.7s						
ILAR	**Eielson Array**	**63.65**	**335**	P	**P**	**05 42 19.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=47,slow=7.6,SNR=1.9						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**68.98**	**40**	P	**P**	**05 42 54.4**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=313,slow=6.6,SNR=18						
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**69.69**	**35**	P	**P**	**05 42 59.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=317,slow=6.3,SNR=5.3						
	comp=Z,1.4nm,0.7s						
GAR	**Garm**	**71.77**	**54**	P	**P**	**05 43 12.0**	**0.0**
MK31	**Makanchi Array**	**73.38**	**42**	P	**P**	**05 43 20.6**	**-0.7**
MKAR	**Makanchi Array**	**73.38**	**42**	P	**P**	**05 43 20.8**	**-0.5**
MKAR	**Makanchi Array**	**73.38**	**42**	P	**P**	**05 43 21.3**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=315,slow=6.3,SNR=16						
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**83.03**	**28**	P	**P**	**05 44 15.1**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=321,slow=5.1,SNR=5.3						
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**157.56**	**44**	PKPab	**PKPab**	**05 52 17.4**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=335,slow=4.1,SNR=6.4						

*INMG **16** 05:39:45.1±0.8, 31°.91N×16°.07W, h14km, ML2.5, Error ellipse: s-maj=7.4km s-min=6.1km az=110.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Desertas (Madeira)*
*CNRM **16** 05:40:00.2, 31°.45N×14°.79W, h257km*

ISC 16 05:39:42.4±1.8, 32°.1N±0°.1×16°.09W±0°.09, h10km, n19, σ2s23/12, 1C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**0.86**	**308**	*e*P	Pg	05 39 59.5	+0.5
FUL				*e*S	**Sg**	**05 40 10.4**	**+0.1**
PMAR	**Madeira**	**0.93**	**311**	⇑ *i*P	Pg	05 40 00.5	+0.2
PMAR				*i* AML	AML	05 40 20.5	
PMAR				*i* AML	AML	05 40 21.3	
PMPS	**Porto Santo**	**0.96**	**348**	*e*P	Pb	05 40 02.1	+0.9
PMPS				*e*S	**Sb**	**05 40 13.9**	**-0.1**
PMPS				*i* AML	AML	05 40 14.8	
PMPS				*i* AML	AML	05 40 14.9	
PMPS				*i* AML	AML	05 40 16.8	
PMPST	**Porto Santo, M**	**0.98**	**348**	*e*P	Pb	05 40 02.2	+0.7
PMPST				*e*S	**Sb**	**05 40 14.8**	**+0.2**
PMPST				*i* AML	AML	05 40 15.3	
PMPST				*i* AML	AML	05 40 15.6	
PMPST				*i* AML	AML	05 40 15.8	
PMOZ	**Porto Moniz, M**	**1.17**	**307**	*e*P	Pn	05 40 03.8	-1.1
PMOZ				*e*S	**Sb**	**05 40 18.6**	**-1.6**
PMOZ				*i* AML	AML	05 40 22.0	
EAH	**EAH**	**5.55**	**93**	P	**Pn**	**05 41 09.3**	**+4.2**
EAH	**EAH**	**5.55**	**93**	S	**Sn**	**05 42 04.8**	**-4.2**
TTIG	**Tnine Tigouga,**	**6.73**	**101**	P	**Pn**	**05 41 22.4**	**+1.0**
TTIG	**Tnine Tigouga,**	**6.73**	**101**	S	Sn	05 42 28.7	-9.4
TIO	**Tiouine**	**7.63**	**97**	P	**Pn**	**05 41 34.5**	**+0.7**
TIO	**Tiouine**	**7.63**	**97**	S	Sn	05 42 50.0	-10
ZHG	**ZHG**	**8.06**	**78**	P	**Pn**	**05 41 41.5**	**+1.9**
ZHG	**ZHG**	**8.06**	**78**	S	Sn	05 43 02.7	-8.2
LCRM	**LCR**	**9.57**	**78**	P	**Pn**	**05 42 01.2**	**+0.8**
LCRM	**LCR**	**9.57**	**78**	S	Sn	05 43 39.2	-8.9
MD31	**MD31**	**9.60**	**83**	P	**Pn**	**05 42 01.8**	**+1.0**
MD31	**MD31**	**9.60**	**83**	S	Sn	05 43 39.9	-8.8
MDT	**Midelt**	**9.73**	**83**	P	**Pn**	**05 42 03.3**	**+0.8**
MDT	**Midelt**	**9.73**	**83**	S	Sn	05 43 43.0	-8.9

IDC 16 05:41:43.0±4.0, 17°.64S×178°.66W, h578km±21km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=137.0km s-min=30.1km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.14**	**268**	P	P	05 43 01.3	0.0
	46nm,0.6s,baz=110,slow=7.6,SNR=37						
STKA	**Stephens Creek**	**38.55**	**241**	P	P	05 48 17.4	+0.1
	1.2nm,0.4s,baz=80,slow=8.5,SNR=3.8						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	05 49 03.6	-0.3
	0.6nm,0.2s,baz=95,slow=7.5,SNR=26						
	0.6nm,0.2s						
ASAR	**Alice Springs**	**44.63**	**254**	P	P	05 49 05.2	-0.1
	7.2nm,0.4s,baz=89,slow=8.1,SNR=140						
	7.2nm,0.4s						
ILAR	**Eielson Array**	**85.68**	**13**	P	P	05 53 20.9	-0.1
	0.2nm,0.6s,baz=206,slow=4.5,SNR=4.6						
	0.2nm,0.6s						

*IDC **16** 05:56:10.8±0.6, 41°.36N×29°.33W, h0km, mb4.1/25, mbtmp4.1/26, ML4.1/1, MS4.4/79, Error ellipse: s-maj=15.8km s-min=13.0km az=178.0*
*IGIL **16** 05:56:12.4, 41°.18N×29°.36W, h10km, Ms4.5*
*NEIC **16** 05:56:12.4±1.3, 41°.3N±0°.1×29°.3W±0°.1, h10km±1km, mb4.9/76, Error ellipse: s-maj=17.6km s-min=14.3km az=195.0*
*GCMT **16** 05:56:13.4±0.1, 41°.42N±0°.02×29°.23W±0°.01, h12km, MW5.1/149, Moment Tensor Solution. s53,c71; s149,c246; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-6.40±.10; $M_{\theta\theta}$0.67±.11; $M_{\phi\phi}$5.72±.08; $M_{r\theta}$1.06±.39; $M_{\theta\phi}$0.87±.09; $M_{\phi r}$1.11±.27; Best double couple: $M_0$6.31600×10^16^ NP1:ϕs3.00000°, δ40.00000°, λ-101.00000°. NP2:ϕs197.00000°, δ51.00000°, λ-81.00000°. Principal axes: T 5.9980, Plg6.0000°, Azm280.0000°; N 0.6280, Plg7.0000°, Azm11.0000°; P -6.6330, Plg81.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SVSA **16** 05:56:15.3±1.6, 41°.25N×29°.25W, h10km, ML4.0(INMG) Error ellipse: s-maj=18.1km s-min=7.5km az=63.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia Atlntico N*

ISC 16 05:56:11.9±0.3, 41°.20N±0°.05×29°.27W±0°.05, h10km, n258, σ1s80/198, mb4.7/87, MS4.5/96, 10D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**2.78**	**166**	*e*P	**Pn**	**05 56 56.6**	**+0.2**
PICO				*e*S	**Sn**	**05 57 26.6**	**-3.5**
PICO				*i* AML	AML	05 57 31.1	
	81nm,0.3s						
PICO				*i* AML	AML	05 57 31.1	
	48nm,0.5s						
PICO				*i* AML	AML	05 57 34.5	
	94nm,0.4s						
PSBA	**Serra de Santa**	**2.86**	**148**	*e*P	**Pn**	**05 56 56.7**	**-0.8**
PAGU	**Agualva, Azore**	**2.91**	**146**	*e*P	**Pn**	**05 56 56.9**	**-1.4**
PAGU				*e*S	**Sn**	**05 57 28.7**	**-4.6**
PAGU				*i* AML	AML	05 57 33.4	
	88nm,0.2s						
PAGU				*i* AML	AML	05 57 33.5	
	170nm,0.2s						
PAGU				*i* AML	AML	05 57 34.1	
	234nm,0.3s						
ADH	**Angra Heroismo**	**2.99**	**148**	*e*P	**Pn**	**05 57 00.4**	**+1.2**
ADH				*e*S	**Sn**	**05 57 32.5**	**-2.6**
ADH				*i* AML	AML	05 57 33.9	
	65nm,0.4s						
ADH				*i* AML	AML	05 57 34.9	
	6.9nm,0.3s						
ADH				*i* AML	AML	05 57 35.9	
	123nm,0.4s						
PSCM	**Serra do Cume**	**3.00**	**146**	*e*P	**Pn**	**05 56 57.8**	**-1.6**
PSET	**Sete Cidades**	**4.35**	**140**	*e*P	**Pn**	**05 57 17.8**	**-0.3**
PSET				*e*S	**Sn**	**05 58 04.1**	**-4.7**
PSET				*i* AML	AML	05 58 06.6	
	83nm,0.4s						
PSET				*i* AML	AML	05 58 09.9	
	62nm,0.2s						
PSET				*i* AML	AML	05 58 13.6	
	109nm,0.3s						
PDA	**Ponta Delgada**	**4.44**	**140**	*e*P	Pn	05 57 13.8	-5.4
PDA				*e*S	Sn	05 58 01.5	-9.4
CMLA	**Cha da Macela**	**4.49**	**139**		**Pn**	**05 57 19.7**	**-0.3**
CMLA	**Cha da Macela**	**4.49**	**139**	*e*P	**Pn**	**05 57 19.5**	**-0.5**
CMLA				*e*S	**Sn**	**05 58 07.8**	**-4.5**
CMLA				*i* AML	AML	05 58 14.7	
	80nm,0.1s						
CMLA				*i* AML	AML	05 58 15.5	
	142nm,0.4s						
CMLA				*i* AML	AML	05 58 16.8	
	120nm,0.2s						
PGRON	**Lagoa das Cont**	**4.56**	**137**	*e*P	**Pn**	**05 57 21.6**	**+0.5**
PGRON				*e*S	**Sn**	**05 58 10.0**	**-4.1**
PGRON				*i* AML	AML	05 58 17.9	
	29nm,0.3s						
PGRON				*i* AML	AML	05 58 18.1	
	98nm,0.4s						
PGRON				*i* AML	AML	05 58 20.0	
	78nm,0.2s						
PSMA	**Santa Maria**	**5.29**	**141**	*e*P	**Pn**	**05 57 30.7**	**-0.3**
PSMN	**Pico do Norte,**	**5.32**	**141**	*e*P	**Pn**	**

PSMN *i* AML AML 05 58 35.5
51nm,0.4s
PSMN *i* AML AML 05 58 35.8
47nm,0.3s
PMOZ Porto Moniz, M 12.76 127 Pn **Pn 05 59 13.4 0.0**
PMAR Madeira 13.00 127 *e*P **Pn 05 59 19.9 +3.1**
FUL Funchal 13.06 127 *e*P **Pn 05 59 20.0 +2.5**
FUL IAmb IAmb 05 59 33.7
comp=Z,324nm,1.6s
LIS Lisbon 15.62 93 *e*P **Pn 05 59 53.5 +1.5**
LIS IAMs_20 IAMs_20 06 04 13.6
comp=Z,5µm,17.7s
LIS Lisbon 15.62 93 *e*P **P 05 59 59.3 +3.1**
LIS IAmb IAmb 06 00 10.8
comp=Z,115nm,1.5s
PSBE So Bento 15.70 89 *e*P **P 06 00 00.7 +3.5**
PGAV Gavieira, Arco 15.73 80 *e*P **P 05 59 56.5 -1.0**
PGAV *e*S S 06 03 23.9 +21
PCAS Casmilo, Conde 15.81 87 *e*P **P 06 00 04.0 +5.6**
PCAS IAmb IAmb 06 00 10.3
comp=Z,36nm,1.5s
COI Coimbra 15.85 87 *e*P **P 06 00 03.0 +4.3**
PCAB Cabril 15.93 81 *e*P **P 06 00 02.4 +2.7**
POLO Lamas de Olo 16.14 82 *e*P **P 06 00 07.4 +5.3**
PVRL Vila Real 16.21 83 *e*P **P 06 00 03.0 +0.1**
PVRL IAmb IAmb 06 00 28.3
comp=Z,40nm,1.4s
PMTG Montargil 16.23 91 *e*P **P 06 00 03.5 +0.5**
PMTG IAmb IAmb 06 00 14.9
comp=Z,36nm,1.5s
PFVI Vila Bisbo 16.36 98 Pn **Pn 06 00 01.9 +0.3**
MORF Marmelete 16.43 97 **P 06 00 05.7 +0.4**
MORF Marmelete 16.43 97 *e*P **Pn 06 00 03.9 +1.3**
MORF IAMs_20 IAMs_20 06 04 14.9
comp=Z,3µm,16.9s
MTE Manteigas 16.47 86 **P 06 00 04.9 -0.8**
MTE Manteigas 16.47 86 *e*P **P 06 00 10.5 +4.8**
MTE IAmb IAmb 06 00 17.7
comp=Z,35nm,1.6s
MTE *e*S S 06 03 34.2 +16
MESJ Messejana 16.58 95 **P 06 00 07.5 +0.6**
MESJ Messejana 16.58 95 *e*P **Pn 06 00 05.8 +1.5**
MESJ IAMs_20 IAMs_20 06 04 29.5
comp=Z,3µm,20.8s
PCBR Castelo Branco 16.62 88 *e*P **P 06 00 10.1 +2.7**
PCBR IAmb IAmb 06 00 44.2
comp=Z,39nm,1.8s
MVO Moncorvo 16.74 83 *e*P **P 06 00 12.2 +3.5**
MVO IAmb IAmb 06 00 19.9
comp=Z,48nm,2.0s
MVO *e*S **S 06 03 29.1 +5.6**
PESTR Estremoz 16.76 91 **P 06 00 08.9 0.0**
PMRV Marv??o 16.78 89 *e*P **P 06 00 14.2 +5.2**
PMRV IAmb IAmb 06 00 16.9
comp=Z,37nm,1.5s
PMRV *e*S S 06 03 46.2 +22
PCVE Castro Verde 16.78 95 *e*P **P 06 00 14.6 +5.4**
PBRG Braganca 16.88 81 *e*P **P 06 00 17.3 +7.0**
PBAR Barrancos 17.37 93 *e*P **P 06 00 22.1 +6.5**
PBAR IAmb IAmb 06 00 33.2
comp=Z,41nm,1.5s
PAB San Pablo 19.05 87 P **Pn 06 00 35.8 +0.9**
ESDC Sonseca Array 19.31 86 P **Pn 06 00 39.1 +1.0**
ESDC Sonseca Array 19.31 86 P **Pn 06 00 39.3 +1.3**
comp=Z,0.1nm,0.3s,baz=288,slow=12,SNR=14
ESDC LR LR 06 06 40.0
comp=Z,2µm,20.4s,baz=290,slow=32
comp=Z,1.7nm,0.8s
ESBB Sonseca Array 19.31 86 P **Pn 06 00 39.6 +1.6**
MDT Midelt 21.35 105 P **P 06 01 01.3 +2.0**
comp=Z,3.6nm,0.8s,baz=344,slow=13,SNR=4.9
MDT LR LR 06 07 31.4
comp=Z,1µm,20.7s,baz=304,slow=32
comp=Z,3.6nm,0.8s
DRLN Deer Lake 21.36 302 P **P 06 00 57.8 -1.3**
DRLN IAmb IAmb 06 01 11.6
comp=Z,108nm,1.4s
EKA Eskdalemuir Ar 22.22 42 P **P 06 01 09.3 +1.0**
comp=Z,3.0nm,0.9s,baz=238,slow=7.8,SNR=4.8
comp=Z,3.0nm,0.9s
CEST Esterri de Car 22.71 76 P **P 06 01 15.6 +1.8**
CLF Chambon-Foret 23.34 62 P **P 06 01 20.2 0.0**
BORG Borgarnes 24.03 8 LR LR 06 08 07.7
comp=Z,1µm,20.5s,baz=214,slow=30
SSB Saint Sauveur 24.85 69 P **P 06 01 35.4 +0.9**
SSB IAmb IAmb 06 01 42.8
comp=Z,23nm,1.4s
UCC Uccle 25.06 56 P **P 06 01 35.9 -0.2**
UCC Uccle 25.06 56 *d*P **P 06 01 35.4 -0.8**
comp=Z,16nm,1.5s
DOU Dourbes 25.10 58 *d*P **P 06 01 36.1 -0.4**
comp=Z,6.2nm,1.4s
BMRD Maredsous 25.24 57 *d*P **P 06 01 36.8 -1.1**
comp=Z,7.5nm,1.3s
BGES Gesves 25.45 57 *d*P **P 06 01 39.4 -0.3**
comp=Z,12nm,1.4s
RCHB Rochefort 25.52 58 *d*P **P 06 01 41.3 +1.0**
BCLA Clavier 25.60 57 *d*P **P 06 01 40.6 -0.5**
comp=Z,12nm,1.4s
WLF Walferdange 26.06 59 *d*P **P 06 01 45.3 +0.1**
MEM Membach 26.07 57 *d*P **P 06 01 46.4 +1.1**
comp=Z,8.5nm,1.5s
BTNL Ternell 26.14 57 *d*P **P 06 01 48.2 +2.1**
comp=Z,7.7nm,1.2s
BNI Bardonecchia 26.38 69 P **P 06 01 49.4 +1.1**
BNI IAmb IAmb 06 01 58.9
comp=Z,38nm,1.8s
ECH Echery 26.63 62 P **P 06 01 50.6 +0.2**
ECH IAmb IAmb 06 01 59.5
comp=Z,43nm,1.5s
BFO Black Forest 27.41 62 P **P 06 02 00.1 +2.6**
BFO IAmb IAmb 06 02 04.9
comp=Z,32nm,1.6s
TUE Stuetta 28.15 66 P **P 06 02 04.5 +0.2**
SCHQ Schefferville 28.20 312 P **P 06 02 05.3 +0.8**
comp=Z,2.1nm,0.9s,baz=112,slow=7.1,SNR=5.2
SCHQ LR LR 06 11 31.8
comp=Z,1µm,19.7s,baz=88,slow=33
comp=Z,2.1nm,0.9s
SFJD Kangerlussuaq 28.40 342 LR LR 06 10 56.7
comp=Z,988nm,18.5s,baz=153,slow=31
DAVA Damuels 28.47 64 *e*pP **P 06 02 08.7 +1.5**
comp=Z,12nm,1.5s
DAVOX Davos/Dischmat 28.50 65 LR LR 06 11 44.3
comp=Z,1µm,20.9s,baz=283,slow=33
BBTS Babate 28.67 154 LR LR 06 12 45.2
comp=Z,396nm,18.0s,baz=236,slow=34
MOTA Moosalm 29.30 64 *i* P **P 06 02 14.7 +0.2**
comp=Z,9.4nm,1.4s
WVL Waterville 29.57 290 P **P 06 02 15.7 -1.0**
NKC Novy Kostel 30.15 58 AMS AMS 06 12 50.0
comp=Z,2µm,20.1s
ABTA Abfaltersbach 30.30 65 *e*P **P 06 02 23.6 +0.3**
comp=Z,12nm,1.6s
LESA Schwarzleotal 30.36 64 *e*P **P 06 02 22.3 -1.5**
comp=Z,8.7nm,1.6s
CLL Collm 30.53 56 *e*S **S 06 07 24.0 -2.5**
KEST Kesra 30.55 88 LR LR 06 14 17.0
comp=Z,2µm,19.0s,baz=292,slow=36
HSKC Hora Svate Kat 30.78 58 AMS AMS 06 13 20.0
comp=Z,2µm,19.7s
KBA Koelnbreinsper 30.84 64 *e*P **P 06 02 28.6 +0.4**
comp=Z,36nm,1.3s
KHC Kasperske Hory 30.89 60 *e*P **P 06 02 28.8 +0.4**
KHC AMS AMS 06 12 50.0
comp=Z,1µm,17.6s
GERES GERESS Array B 30.98 61 P **P 06 02 28.4 -0.8**
GERES GERESS Array B 30.98 61 P **P 06 02 29.7 +0.5**
comp=Z,0.2nm,0.3s,baz=273,slow=8.5,SNR=4.5
GERES LR LR 06 13 27.7
comp=Z,858nm,19.7s,baz=260,slow=34
comp=Z,0.2nm,0.3s
BIOA Bad Ischl, Aus 31.00 63 *i* pP **P 06 02 30.7 +1.4**
comp=Z,6.8nm,1.0s
RICC Richard 31.21 58 AMS AMS 06 14 00.0
comp=Z,2µm,18.7s
MOA Molln 31.41 63 *e*P **P 06 02 32.8 -0.2**
comp=Z,9.2nm,1.2s
PRU Pruhonice 31.49 59 AMS AMS 06 14 40.0
comp=Z,2µm,17.0s
NOA NORSAR Array B 31.50 37 P **P 06 02 33.6 -0.1**
comp=Z,1.1nm,0.9s,baz=251,slow=9.2,SNR=1.6
NOA LR LR 06 13 00.9
comp=Z,361nm,21.7s,baz=245,slow=32
comp=Z,1.1nm,0.9s
PVCC Panska Ves 31.51 58 AMS AMS 06 14 20.0
comp=Z,2µm,17.5s
GOPC GO Pecny, Ondr 31.65 59 AMS AMS 06 14 50.0
comp=Z,2µm,16.4s
OBKA Obir 31.72 65 *e*P **P 06 02 35.4 -0.4**
comp=Z,20nm,1.7s
FRB Frobisher Bay 32.06 328 LR LR 06 12 21.0
comp=Z,322nm,18.8s,baz=115,slow=30
TREC Trest 32.13 60 AMS AMS 06 14 40.0
comp=Z,1µm,17.2s
ARSA Arzberg 32.31 64 *i* P **P 06 02 41.4 +0.5**
comp=Z,9.3nm,1.3s
ARSA Arzberg 32.31 64 P **P 06 02 43.1 +2.2**
ARSA IAmb IAmb 06 02 48.7
comp=Z,20nm,1.6s
HFS Hagfors 32.38 40 LR LR 06 14 20.5
comp=Z,703nm,19.2s,baz=255,slow=34
UPC Upice 32.43 58 AMS AMS 06 14 50.0
comp=Z,2µm,15.3s
CHVC Chvalec 32.45 58 AMS AMS 06 14 10.0
comp=Z,2µm,19.3s
CONA Conrad Observa 32.47 63 *e*P **P 06 02 41.7 -0.7**
comp=Z,10nm,1.9s
OSTC Ostas 32.56 58 AMS AMS 06 14 50.0
comp=Z,2µm,17.6s
DPC Dobruska-Polom 32.63 58 AMS AMS 06 14 20.0
comp=Z,2µm,19.2s
RONA Rosalia, Austr 32.78 63 *e*pP **P 06 02 46.4 +1.3**
comp=Z,3.7nm,1.1s
VRAC Vranov 32.85 60 LR LR 06 15 05.7
comp=Z,684nm,18.1s,baz=275,slow=35
KRLC Kraliky 32.94 59 AMS AMS 06 14 40.0
comp=Z,2µm,19.0s
MODS Modra-Piesok 33.37 62 *e*P **P 06 02 49.7 -0.5**
VAE Valguarnera 33.72 82 LR LR 06 15 06.4
comp=Z,1µm,21.2s,baz=318,slow=34
VYHS Vyhne 34.40 61 *e*P **P 06 03 00.4 +1.4**
NIE Niedzica 35.26 59 P **P 06 03 07.6 +1.1**
SADO Sadowa 36.20 293 LR LR 06 17 00.6
comp=Z,2µm,20.0s,baz=75,slow=35
MUKU Mukachevo 36.94 61 P **P 06 03 21.8 +0.9**
MORS Morshin 37.63 59 P **P 06 03 27.6 +0.9**
STNU Starunia 38.09 60 P **P 06 03 31.2 +0.6**
FINES FINESS Array B 38.59 39 LR LR 06 17 52.3
comp=Z,538nm,20.2s,baz=256,slow=34
TORD Torodi Ar. Bea 38.87 127 P **P 06 03 38.1 +0.7**
comp=Z,1.9nm,1.0s,baz=330,slow=9.3,SNR=9.5
comp=Z,1.9nm,1.0s
SJG San Juan 39.03 245 LR LR 06 15 53.1
comp=Z,209nm,20.6s,baz=82,slow=30
KMPD K-Podol'skiy 39.40 60 P **P 06 03 41.1 -0.4**
MNK Minsk 39.49 50 *i* P **P 06 03 39.8 -2.4**
comp=E,28nm,0.7s
MNK *i* P **P 06 03 39.8 -2.4**
comp=N,5.0nm,0.6s
MNK *i* P **P 06 03 39.8 -2.4**
comp=Z,5.0nm,0.6s,baz=275
MNK *i* PP **PP 06 05 10.1 -2.6**
MNK *i* PPP PPP 06 05 31.7
MNK *i* S **S 06 09 41.5 -2.6**
MNK *i* SS **SS 06 12 35.7 -2.5**
MNK *i* SSS SSS 06 12 54.1
MNK *i* LR LR 06 17 07.9
MNK *i* LRM MLR 06 20 08.6
comp=E,572nm,16.7s
MNK *i* LRM MLR 06 20 41.1
comp=N,499nm,16.1s
MNK *i* LRM MLR 06 20 45.9
comp=Z,777nm,17.0s
MLR Muntele Rosu 39.71 65 LR LR 06 19 49.4
comp=Z,639nm,18.9s,baz=272,slow=36
ARCES ARCESS Array B 39.88 27 LR LR 06 16 58.4
comp=Z,475nm,18.9s,baz=246,slow=31
DBIC Dimbokro 40.69 141 P **P 06 03 54.2 +1.6**
DBIC Dimbokro 40.69 141 P **P 06 03 54.6 +2.1**
comp=Z,5.3nm,0.7s,baz=318,slow=7.4,SNR=9.9
DBIC LR LR 06 19 03.2
comp=Z,705nm,20.4s,baz=322,slow=34
comp=Z,5.3nm,0.7s
AKASG Malin Array Be 40.78 56 P **P 06 03 51.9 -1.1**
comp=Z,1.6nm,0.8s,baz=279,slow=8.2,SNR=7.2
AKASG LR LR 06 20 28.6
comp=Z,976nm,18.4s,baz=272,slow=36
comp=Z,1.6nm,0.8s
AKBB Malin Array Si 40.78 56 P **P 06 03 52.5 -0.5**
SPITS Spitsbergen Ar 41.33 13 P **P 06 03 57.2 0.0**
comp=Z,10nm,0.9s,baz=237,slow=15,SNR=2.8
SPITS LR LR 06 17 05.4
comp=Z,318nm,18.3s,baz=182,slow=30
comp=Z,10nm,0.9s
MDP Montagnes des 41.59 217 LR LR 06 17 16.3
comp=Z,284nm,21.6s,baz=98,slow=30
IDI Anoyia 42.37 80 LR LR 06 20 59.3
comp=Z,273nm,22.0s,baz=288,slow=35
154A Montrose 43.30 277 P **P 06 04 14.1 +0.3**
FCC Fort Churchill 43.33 317 P **P 06 04 13.3 -0.4**
PCRV Puerto La Cruz 43.87 235 LR LR 06 19 12.3
comp=Z,348nm,21.1s,slow=32
RES Resolute Bay 44.33 340 P **P 06 04 20.6 -0.9**
RES Resolute Bay 44.33 340 LR LR 06 19 44.4
comp=Z,175nm,19.0s,baz=73,slow=32
OBN Obninsk 44.39 49 LR LR 06 23 02.7
comp=Z,294nm,19.8s,baz=228,slow=36
ULM Lac du Bonnet 45.93 305 LR LR 06 22 27.0
comp=Z,1µm,20.2s,baz=86,slow=34
BRTR Keskin Array B 46.94 70 P **P 06 04 43.2 +0.3**
comp=Z,1.5nm,0.9s,baz=308,slow=6.2,SNR=4.6
BRTR LR LR 06 25 17.2
comp=Z,150nm,18.6s,baz=280,slow=37
comp=Z,1.5nm,0.9s
RCBR Riachuelo 47.20 189 LR LR 06 20 00.3
comp=Z,74nm,20.7s,baz=32,slow=30
FFC Flin Flon 48.34 312 P **P 06 04 53.5 +0.1**
FFC IAmb IAmb 06 05 05.5
comp=Z,9.1nm,1.2s
ECSD EROS Data Cent 48.49 297 P **P 06 04 54.9 +0.2**
ECSD IAmb IAmb 06 05 06.7
comp=Z,9.9nm,1.2s
S39A Bolivar 48.59 288 P **P 06 04 55.4 -0.2**
SDV Santo Domingo 48.68 240 LR LR 06 21 43.4
comp=Z,99nm,20.5s,baz=72,slow=32
MIAR Mount Ida 50.17 284 P **P 06 05 07.3 -0.4**
MIAR IAmb IAmb 06 05 21.8
comp=Z,35nm,1.7s
KIRV Kirov 50.46 42 LR LR 06 25 41.6
comp=Z,430nm,19.6s,baz=286,slow=35
MMAI Mount Meron Ar 51.16 77 LR LR 06 27 37.0
comp=Z,82nm,19.4s,baz=272,slow=37
BELG Belogornoye 51.43 50 LR LR 06 27 20.8
comp=Z,550nm,18.1s,baz=307,slow=36
KVAR Kislovodsk Arr 51.49 61 LR LR 06 28 22.6
comp=Z,234nm,18.5s,baz=240,slow=38
KBZ Khabaz 51.72 62 P **P 06 05 19.7 +0.6**
comp=Z,2.7nm,0.9s,baz=319,slow=2.9,SNR=5.0
KBZ LR LR 06 27 27.8
comp=Z,274nm,19.5s,baz=318,slow=36
comp=Z,2.7nm,0.9s
NATX Nacogdoches 52.31 282 P **P 06 05 23.6 -0.1**
YKA Yellowknife Ar 52.43 324 P **P 06 05 23.2 -0.9**
comp=Z,0.6nm,0.8s,baz=71,slow=6.9,SNR=10.0
YKA PcP **PcP 06 06 34.0 -0.8**
comp=Z,0.5nm,0.8s,baz=75,slow=3.4,SNR=6.1
YKA LR LR 06 24 59.1
comp=Z,248nm,19.8s,baz=4.5,slow=33
comp=Z,0.6nm,0.8s
EIL Elat 52.50 81 LR LR 06 28 56.9
comp=Z,146nm,19.3s,baz=262,slow=37
ASF Jabal al Asfar 52.68 77 P **P 06 05 26.4 -0.1**
comp=Z,6.5nm,0.8s,baz=309,slow=17,SNR=4.5
ASF LR LR 06 28 35.3
comp=Z,139nm,21.5s,baz=333,slow=37
comp=Z,6.5nm,0.8s
LAO LASA Array 53.61 304 P **P 06 05 34.4 +1.2**
LAO IAmb IAmb 06 05 45.9
comp=Z,16nm,1.1s
ROSC El Rosal 54.11 241 LR LR 06 25 06.7
comp=Z,361nm,21.5s,baz=60,slow=32
GNI Garni 54.49 65 LR LR 06 30 34.6
comp=Z,150nm,18.8s,baz=306,slow=38
EGMT Eagleton 55.24 306 P **P 06 05 44.2 -0.8**
EGMT IAmb IAmb 06 05 57.1
comp=Z,27nm,1.4s
ARTI Arti 55.77 42 P **P 06 05 48.3 -0.3**
ARTI Arti 55.77 42 LR LR 06 30 24.8
comp=Z,377nm,18.3s,baz=284,slow=37
RLMT Red Lodge 56.20 303 P **P 06 05 51.6 -0.5**
YNE Yellowstone No 56.72 303 P **P 06 05 56.6 +0.6**
YNE IAmb IAmb 06 06 08.0
comp=Z,9.3nm,1.2s
HRY Holter Researc 57.09 306 P **P 06 05 57.6 -0.7**
MSTX Muleshoe 57.11 288 P **P 06 05 57.9 -0.7**
MSTX IAmb IAmb 06 06 05.0
comp=Z,7.1nm,0.9s
INK Inuvik 57.31 335 LR LR 06 28 18.2
comp=Z,321nm,18.2s,baz=34,slow=34
BOZ Bozeman (W) 57.47 304 P **P 06 06 01.6 +0.5**
PDAR Pinedale Array 57.47 301 P **P 06 06 00.2 -1.0**
comp=Z,0.7nm,0.7s,baz=66,slow=8.3,SNR=8.4
PDAR LR LR 06 29 25.7
comp=Z,315nm,21.2s,baz=58,slow=35
comp=Z,0.7nm,0.7s
JTS Las Juntas de 57.65 254 LR LR 06 26 20.8
comp=Z,547nm,21.7s,baz=31,slow=31
MOOW Moose Ponds 57.77 302 P **P 06 06 03.3 0.0**
F31M Tsiigehtchic 57.81 334 P **P 06 06 02.5 -0.4**
AKTO Aktyubinsk 58.17 49 P **P 06 06 05.8 +0.1**
comp=Z,8.9nm,0.9s,baz=300,slow=6.9,SNR=12
AKTO LR LR 06 30 24.7
comp=Z,435nm,21.5s,baz=261,slow=35
comp=Z,8.9nm,0.9s
MTO3 Montecristo 58.22 261 P **P 06 06 07.4 +0.7**
MTO3 IAmb IAmb 06 06 24.0
comp=Z,26nm,1.5s
G31M Satah River 58.26 333 P **P 06 06 06.6 +0.6**
MSO Missoula 58.32 307 P **P 06 06 07.0 +0.1**
MSO IAmb IAmb 06 06 18.9
comp=Z,11nm,1.2s
E29M Blow River 58.65 336 P **P 06 06 08.3 -0.4**
E29M IAmb IAmb 06 06 20.2
comp=Z,17nm,1.5s
APG El Apazote 58.66 263 LR LR 06 26 45.5
comp=Z,28nm,21.8s,baz=51,slow=31
SAND Sanderson 58.73 284 P **P 06 06 09.4 -0.6**
SAND IAmb IAmb 06 06 23.2
comp=Z,13nm,1.5s
E28M Babbage River 59.03 336 P **P 06 06 11.4 0.0**
E28M IAmb IAmb 06 06 19.7
comp=Z,11nm,1.3s
D27M Malcolm River 59.09 337 P **P 06 06 10.9 -1.0**
CCIG Comitan 59.11 265 P **P 06 06 12.1 -0.8**
CCIG IAmb IAmb 06 06 15.1
comp=Z,12nm,0.9s
BDFB Brasilia 59.16 201 P **P 06 06 14.5 +1.5**
comp=Z,2.4nm,0.8s,baz=41,slow=12,SNR=3.8
BDFB LR LR 06 28 38.7
comp=Z,155nm,19.7s,baz=353,slow=33
comp=Z,2.4nm,0.8s
ANMO Albuquerque 59.23 291 LR LR 06 31 42.6
comp=Z,648nm,18.2s,baz=234,slow=36
HWUT Hardware Ranch 59.34 300 P **P 06 06 13.8 -0.4**
HWUT IAmb IAmb 06 06 25.5
comp=Z,17nm,1.6s
G29M Pine Creek 59.51 334 P **P 06 06 14.3 -0.5**
NEW Newport 59.53 309 P **P 06 06 14.7 -0.5**
NEW IAmb IAmb 06 06 27.1
comp=Z,17nm,1.1s
NEW Newport 59.53 309 LR LR 06 30 29.0
comp=Z,892nm,18.3s,baz=60,slow=35
C27K Jago River 59.65 338 P **P 06 06 15.1 -0.6**
C27K IAmb IAmb 06 06 28.6
comp=Z,22nm,1.6s
TX31 Lajitas Ar. Si 60.20 284 P **P 06 06 19.8 -0.4**
TX31 IAmb IAmb 06 06 36.0
comp=Z,18nm,1.6s
TXAR Lajitas Array 60.20 284 P **P 06 06 19.9 -0.3**
comp=Z,1.4nm,0.7s,baz=70,slow=6.7,SNR=14
TXAR LR LR 06 31 37.1
comp=Z,220nm,19.6s,baz=52,slow=35
comp=Z,1.4nm,0.7s
J30M Hart River 60.24 332 P **P 06 06 19.9 0.0**
J30M IAmb IAmb 06 06 32.1
comp=Z,8.6nm,1.2s
OTAV Otavalo 60.27 241 P **P 06 06 22.5 +1.3**
OTAV IAmb IAmb 06 07 12.4
comp=Z,12nm,1.8s
VHRN Van Horn 60.37 286 P **P 06 06 20.9 -0.5**
VHRN IAmb IAmb 06 06 33.9
comp=Z,23nm,1.9s
PLID Pearl Lake 60.42 306 P **P 06 06 21.7 +0.1**
PLID IAmb IAmb 06 06 33.7
comp=Z,15nm,1.2s
NRIK Noril'sk 60.48 21 P **P 06 06 22.1 +0.7**
comp=Z,1.9nm,0.8s,baz=329,slow=5.2,SNR=4.2
comp=Z,1.9nm,0.8s
CMIG Matias Romero 60.68 267 LR LR 06 31 32.4
comp=Z,602nm,18.9s,baz=52,slow=35
G27K Doyon Strip 60.74 335 P **P 06 06 22.6 -0.6**
G27K IAmb IAmb 06 06 34.2
comp=Z,15nm,1.4s
C24K Franklin Bluff 60.94 340 P **P 06 06 24.2 -0.3**
I28M Miner Creek 60.99 333 P **P 06 06 24.5 -0.6**
DLBC Dease Lake 61.05 324 LR LR 06 30 18.6
comp=Z,239nm,20.2s,baz=86,slow=34
K29M Barlow Dome 61.08 331 P **P 06 06 26.2 +0.5**
K29M IAmb IAmb 06 06 37.8
comp=Z,12nm,1.4s
D24K Happy Valley 61.34 339 P **P 06 06 27.0 -0.3**
I26K Coal Creek Min 62.15 334 P **P 06 06 33.3 +0.5**
I26K IAmb IAmb 06 06 44.8
comp=Z,17nm,1.4s
ELK Elko 62.16 301 P **P 06 06 33.1 -0.5**
ELK IAmb IAmb 06 07 00.0
comp=Z,17nm,1.7s
B21K Ikpikpuk River 62.50 341 P **P 06 06 35.4 +0.4**
J08A Círcle Bar Ran 62.83 305 P **P 06 06 38.2 +0.4**
BRVK Borovoye 63.41 42 P **P 06 06 41.1 -0.2**
BRVK IAmb IAmb 06 06 49.0
comp=Z,19nm,1.3s
BVAR Borovoye Array 63.48 42 P **P 06 06 42.2 +0.4**
comp=Z,6.6nm,1.0s,baz=297,slow=4.8,SNR=16
BVAR LR LR 06 34 13.5
comp=Z,317nm,18.8s,baz=299,slow=36
comp=Z,6.6nm,1.0s
BBB Bella Bella 63.53 317 LR LR 06 33 36.9
comp=Z,358nm,18.7s,baz=50,slow=35
ILAR Eielson Array 63.70 335 P **P 06 06 42.9 -0.2**
comp=Z,0.4nm,0.7s,baz=41,slow=6.5,SNR=5.5
ILAR LR LR 06 32 27.7
comp=Z,242nm,18.4s,baz=60,slow=34
comp=Z,0.4nm,0.7s
SIV San Ignacio 64.08 214 LR LR 06 31 01.1
comp=Z,259nm,21.6s,baz=334,slow=33
E19K Redstone River 64.75 340 P **P 06 06 48.9 -1.0**
E19K IAmb IAmb 06 07 03.1
comp=Z,22nm,1.6s
NVAR Mina Array Bea 65.41 300 LR LR 06 35 48.0
comp=Z,912nm,18.1s,baz=44,slow=36
ATAH Atahualpa 65.86 235 LR LR 06 33 43.1
comp=Z,281nm,21.5s,baz=23,slow=34
YBH Yreka Blue Hor 66.34 305 LR LR 06 35 48.5
comp=Z,355nm,18.1s,baz=48,slow=36
TIXI Tiksi 66.38 7 P **P 06 07 00.7 +0.3**
TIXI IAmb IAmb 06 07 02.1
comp=Z,26nm,2.0s
TIXI Tiksi 66.38 7 LR LR 06 32 10.0
comp=Z,99nm,21.5s,baz=9.0,slow=33
PFO Pinyon Flats O 66.89 295 LR LR 06 36 09.8
comp=Z,2µm,18.9s,baz=70,slow=36
LPAZ La Paz 67.58 221 P **P 06 07 10.6 +1.2**
LPAZ IAmb IAmb 06 07 25.6
comp=Z,18nm,1.8s
LPAZ La Paz 67.58 221 P **P 06 07 11.4 +2.0**
comp=Z,2.2nm,0.9s,baz=7.0,slow=5.7,SNR=5.3
LPAZ LR LR 06 33 06.4
comp=Z,418nm,22.0s,baz=26,slow=33
comp=Z,2.2nm,0.9s
LPIG La Paz 68.04 283 LR LR 06 36 03.9
comp=Z,565nm,20.0s,baz=48,slow=35
NNA Nana 68.74 231 LR LR 06 35 22.2
comp=Z,159nm,20.3s,baz=32,slow=34
KURK Kurchatov 68.95 40 P **P 06 07 16.4 -0.4**
KURK IAmb IAmb 06 07 24.2
comp=Z,10nm,1.1s
KURBB Kurchatov Arra 68.96 41 P **P 06 07 16.6 -0.4**
comp=Z,4.8nm,0.9s,baz=313,slow=6.4,SNR=36
KURBB LR LR 06 36 54.1
comp=Z,350nm,19.9s,baz=172,slow=36
comp=Z,4.8nm,0.9s
KK31 Karatay Array 69.33 50 P **P 06 07 19.1 -0.4**
KKAR Karatay Array 69.33 50 P **P 06 07 19.2 -0.3**
KKAR Karatay Array 69.33 50 P **P 06 07 18.9 -0.6**
ZAA0 Zalesovo Array 69.68 35 P **P 06 07 20.6 -0.8**
ZALV Zalesovo Beam 69.68 35 P **P 06 07 20.7 -0.7**
ZALV Zalesovo Beam 69.68 35 P **P 06 07 21.2 -0.1**
comp=Z,2.4nm,0.9s,baz=309,slow=7.5,SNR=8.7

ZALV LR LR 06 37 08.1
comp=Z,136nm,21.0s,baz=300,slow=35
comp=Z,2.4nm,0.9s
KDAK Kodiak Island 70.60 332 LR LR 06 36 13.7
comp=Z,206nm,19.1s,baz=255,slow=34
SIMJ Simiganj 71.14 55 P **P 06 07 30.2 -0.6**
SIMJ IAmb IAmb 06 07 32.1
comp=Z,8.4nm,1.1s
CHGR Chuyangaron 71.24 55 P **P 06 07 31.4 +0.1**
GAR Garm 71.73 54 P **P 06 07 34.6 +0.2**
AAK Ala-Archa 71.92 49 P **P 06 07 35.3 -0.1**
AAK IAmb IAmb 06 07 37.7
comp=Z,20nm,1.7s
AAK Ala-Archa 71.92 49 LR LR 06 41 25.4
comp=Z,316nm,19.6s,baz=312,slow=38
CPUP Villa Florida 72.06 206 LR LR 06 38 04.0
comp=Z,65nm,18.1s,baz=25,slow=35
MAKZ Makanchi 73.19 42 P **P 06 07 42.5 -0.3**
MK31 Makanchi Array 73.36 42 P **P 06 07 43.4 -0.4**
MKAR Makanchi Array 73.36 42 P **P 06 07 43.1 -0.7**
MKAR Makanchi Array 73.36 42 P **P 06 07 43.2 -0.5**
comp=Z,3.0nm,0.8s,baz=314,slow=6.0,SNR=23
MKAR LR LR 06 39 27.7
comp=Z,444nm,20.9s,baz=298,slow=35
comp=Z,3.0nm,0.8s
WSAR Wadi Sarin 73.57 73 LR LR 06 42 30.1
comp=Z,202nm,21.6s,baz=334,slow=38
KSH Kashi 74.78 51 P **P 06 07 53.8 +1.5**
KSH pP pwP 06 07 58.8 +1.5
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=N,560nm,17.2s
KSH LR LR
comp=E,540nm,16.8s
KSH LR LR
comp=Z,690nm,19.9s
YAK Yakutsk 75.72 10 LR LR 06 38 49.7
comp=Z,76nm,19.5s,baz=300,slow=34
LSZ Lusaka 77.30 123 LR LR 06 43 09.0
comp=Z,1μm,18.0s,baz=324,slow=36
WMQ Urumqi 78.16 41 *e*P **P 06 08 12.5 +1.2**
WMQ PcP **PcP 06 08 21.1 +0.2**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=N,480nm,15.9s
WMQ LR LR
comp=Z,320nm,17.1s
MATP Matopo 81.39 127 LR LR 06 43 37.0
comp=Z,305nm,20.0s,baz=245,slow=35
SONM Songino Array 83.03 28 P **P 06 08 36.9 -0.6**
comp=Z,1.4nm,0.8s,baz=329,slow=6.4,SNR=6.9
comp=Z,1.4nm,0.8s
LBTB Lobatse 83.22 132 LR LR 06 42 56.1
comp=Z,623nm,22.0s,baz=321,slow=34
BOSA Boshof 85.85 134 LR LR 06 43 30.5
comp=Z,581nm,21.9s,baz=322,slow=33
GTA Gaotai 87.34 37 *e*P **P 06 08 58.6 -0.6**
GTA sP pwP 06 09 05.8 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.7s
GTA LR LR
comp=N,170nm,15.6s
GTA LR LR
comp=E,130nm,15.6s
GTA LR LR
comp=Z,210nm,16.0s
GOMU GeErMu 87.49 42 P **P 06 08 59.0 -1.3**
GOMU pP PcP 06 09 02.8 +0.5
GOMU sP pwP 06 09 06.4 +0.7
PLCA Paso Flores 89.75 210 LR LR 06 48 01.5
comp=Z,97nm,19.9s,baz=7.5,slow=35
HHC Hu-ho-hao-te 90.93 29 *e*P **P 06 09 13.8 -2.2**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.0s
LZH Lanzhou 91.88 36 *e*P **P 06 09 20.8 +0.2**
LZH sP pwP 06 09 28.1 +2.0
LZH pmax pmax
comp=Z,17nm,1.0s
OPO Ambohidratompo 92.30 113 LR LR 06 50 02.1
comp=Z,378nm,20.3s,baz=197,slow=35
XAN Xi'an 95.82 34 ‖P **P 06 09 37.5 -1.1**
XAN pmax pmax
comp=Z,5.0nm,0.8s
BRDH Bariadhala 96.11 53 LR LR 06 58 41.0
comp=Z,209nm,19.2s,baz=108,slow=39
PZH PanZhiHua 98.77 43 P **P 06 09 51.8 -0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,30nm,3.5s
NJ2 Nanjing 101.39 27 *e*P **Pdif 06 10 02.1 -1.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TAOE Nuku Hiva Isla 111.48 277 *e*LR LR 06 47 52.4
comp=Z,240nm,22.4s
PPT2 Papeete2 124.08 276 *e*LR LR 06 53 36.1
comp=Z,256nm,23.5s
PPT2 *e*LR LR 06 53 36.6
comp=Z,303nm,23.0s
TBI Tubuai 127.40 270 *e*LR LR 06 55 10.2
comp=Z,879nm,33.2s
TBI *e*LR LR 06 55 13.2
comp=Z,897nm,26.5s
QSPA South Pole Qui 131.09 180 PKP **PKPdf 06 15 23.8 +1.0**
comp=Z,1.7nm,0.8s,baz=262,slow=0.9,SNR=6.2
DZM Mont Dzumac 156.77 320 *e*LR LR 07 08 35.6
comp=Z,277nm,26.2s
ASAR Alice Springs 157.54 44 PKPab **PKPab 06 16 40.0 -0.4**
comp=Z,1.5nm,0.9s,baz=341,slow=4.1,SNR=6.2

*IDC **16** 06:01:14.6±3.1,34.°10N×45.°35E,h0km,mb3.7/4,*
mbtmp3.8/5,ML3.9/1,MS3.3/1,Error ellipse: s-maj=81.7km
s-min=33.3km az=32.0
*ISN **16** 06:01:19.2±0.6,34.°61N×45.°67E,h6km±21km,ML3.2*
*TEH **16** 06:01:19.6,34.°66N×45.°67E,h11km±17km*
ISC 16 06:01:20.7±1.1,34.°62N±0.°04×45.°65E±0.°04,h16km±8km,
n25,σ1°78/27,mb3.7/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**204**	Pg	**Pg**	**06 01 24.3**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.55**	**157**	Pg	**Pg**	**06 01 31.7**	**+0.1**
IDHR	**Dehrash**	**0.61**	**82**	Pg	**Pg**	**06 01 32.1**	**-0.7**
IGHG	**Ghaleghazi**	**0.81**	**111**	Pg	**Pb**	**06 01 36.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.09**	**155**	Pg	**Pg**	**06 01 42.3**	**+0.4**
ILIN	**Lien**	**1.12**	**74**	Pg	**Pb**	**06 01 41.8**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**106**	Pg	**Pg**	**06 01 43.9**	**+0.1**
IKRK	**Kirkuk**	**1.33**	**306**	*e*Pg	**Pn**	**06 01 45.0**	**+0.4**
IKRK				*e*Sg	**Sb**	**06 02 04.0**	**+2.0**
IKRK				AML	AML	06 02 06.8	
	comp=E,436nm,0.3s						
IKRK				AML	AML	06 02 13.7	
	comp=N,440nm,0.5s						
IBDR	**Badra**	**1.52**	**171**	*e*Pn	**Pb**	**06 01 49.0**	**+0.5**
IBDR				*e*Sn	**Sg**	**06 02 10.0**	**+0.2**
SDS1	**Sardasht. Az.**	**1.53**	**355**	Pg	**Pn**	**06 01 48.9**	**+1.4**
SNQR	**Sonqor, Kerman**	**1.65**	**81**	Pg	**Pb**	**06 01 50.8**	**0.0**
BHD	**Baghdad**	**1.71**	**218**	*e*Pn	**Pn**	**06 01 51.0**	**+1.2**
BHD				*e*Sn	**Sb**	**06 02 15.0**	**+2.0**
IKFM	**Kafar-mosalman**	**2.12**	**120**	Pn	**Pb**	**06 01 58.1**	**-0.7**
MAHB	**Mahabad**	**2.14**	**1**	Pn	**Pn**	**06 01 57.5**	**+1.6**
IDOB	**Doab**	**2.25**	**111**	Pn	**Pb**	**06 01 59.8**	**-1.3**
HSAM	**Samen**	**2.47**	**99**	Pn	**Pn**	**06 02 02.9**	**+2.3**
HGHA	**Hamedan- Ghaye**	**2.77**	**71**	Pn	**Pn**	**06 02 06.9**	**+2.3**
GRMI	**Germi**	**4.55**	**23**	Pn	**Pn**	**06 02 31.3**	**+2.3**
IKLH	**Kolahrood**	**5.09**	**103**	Pn	**Pn**	**06 02 39.1**	**+2.5**
WSAR	**Wadi Sarin**	**16.04**	**132**	Pn	**Pn**	**06 05 00.1**	**-5.5**
	comp=N,0.5nm,0.3s,baz=315,slow=13,SNR=4.1						
	comp=N,5.1nm,1.0s						
FINES	**FINESS Array B**	**29.62**	**341**	P	**P**	**06 07 25.1**	**+0.3**
	comp=N,1.5nm,0.8s,baz=155,slow=4.6,SNR=3.9						
	comp=N,1.5nm,0.8s						
MKAR	**Makanchi Array**	**30.05**	**55**	P	**P**	**06 07 29.7**	**+0.8**
	comp=N,0.7nm,0.9s,baz=260,slow=8.6,SNR=4.8						
	comp=N,0.7nm,0.9s						
HFS	**Hagfors**	**32.88**	**331**	P	**P**	**06 07 52.8**	**-0.7**
	comp=N,0.8nm,0.4s,baz=130,slow=7.1,SNR=8.4						
	comp=N,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.77**	**95**	LR	LR	06 36 10.1	
	comp=N,32nm,18.6s,baz=305,slow=42						
YKA	**Yellowknife Ar**	**81.92**	**351**	P	**P**	**06 13 37.9**	**-1.2**
	comp=N,0.3nm,0.7s,baz=18,slow=5.2,SNR=5.3						
	comp=N,0.3nm,0.7s						

*IDC **16** 06:01:39.6±1.0,24.°96N×124.°90E,h0km,mb3.5/8,*
mbtmp3.5/8,MS2.8/1,Error ellipse: s-maj=41.3km
s-min=21.5km az=66.0
*JMA **16** 06:01:42.5±0.3,25.°N±1.°×124.°7E±0.°5,h7km,MV3.9/11,*
NW OFF MIYAKOJIMA ISLAND
ISC 16 06:01:42.7±2.1,25.°16N±0.°07×124.°79E±0.°04,h14km±13km,
n19,σ1°51/28,mb3.5/8,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.47**	**120**	P	**Pn**	**06 01 54.1**	**-1.0**
JIKM				*e*S	**Sb**	**06 02 02.6**	**+2.9**
JIRB	**Irabujima**	**0.48**	**134**	P	**Pn**	**06 01 53.9**	**-1.2**
JIRB				*e*S	**Sb**	**06 02 01.5**	**+1.7**
JTJ	**Tarama**	**0.53**	**189**	P	**Pn**	**06 01 54.7**	**-1.1**
JTJ				S	**Sb**	**06 02 03.5**	**+2.3**
JMJ2	**Miyako jima3**	**0.64**	**131**	*e*P	**Pn**	**06 01 57.3**	**-0.1**
JMJ2				*e*S	**Sn**	**06 02 07.7**	**+0.4**
JOGS	**Gusukube**	**0.69**	**126**	P	**Pn**	**06 01 58.1**	**+0.1**
JOGS				S	**Sn**	**06 02 08.9**	**+0.4**
JISG	**Ishigakijimahi**	**0.72**	**218**	*e*P	**Pn**	**06 01 57.5**	**-1.0**
JISG				*e*S	**Sn**	**06 02 07.6**	**-1.7**
JIJ	**Ishigaki jima**	**0.99**	**217**	P	**Pn**	**06 02 01.8**	**-0.5**
JIJ				S	**Sn**	**06 02 15.5**	**-0.5**
JKRS	**Kuro-shima**	**1.17**	**218**	P	**Pn**	**06 02 05.3**	**+0.7**
JKRS				S	**Sn**	**06 02 21.8**	**+1.5**
IRIF	**Iriomote-Funau**	**1.27**	**230**	P	**Pn**	**06 02 05.8**	**-0.3**
IRIF				S	**Sn**	**06 02 23.5**	**+0.6**
HATJ	**Hateruma jima**	**1.42**	**219**	*e*P	**Pg**	**06 02 09.9**	**-0.2**
HATJ				*e*S	**Sn**	**06 02 29.1**	**+2.5**
KSRS	**Korea Array**	**12.54**	**12**	LR	LR	06 10 05.1	
	comp=Z,39nm,19.0s,baz=175,slow=40						
SONM	**Songino Array**	**26.90**	**332**	P	**P**	**06 07 24.8**	**+1.4**
	0.9nm,0.8s,baz=161,slow=9.4,SNR=6.6						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**39.98**	**314**	P	**P**	**06 09 17.9**	**+1.0**
	0.7nm,0.7s,baz=106,slow=8.7,SNR=5.6						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**41.27**	**325**	P	**P**	**06 09 27.5**	**+0.1**
	0.9nm,0.5s,baz=109,slow=8.0,SNR=3.8						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**43.53**	**318**	P	**P**	**06 09 46.4**	**+0.6**
	0.6nm,0.8s,baz=104,slow=8.6,SNR=4.4						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**45.78**	**167**	P	**P**	**06 10 02.1**	**-2.0**
	0.5nm,0.8s,baz=348,slow=7.6,SNR=2.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.34**	**169**	P	**P**	**06 10 28.1**	**-3.6**
	0.1nm,0.3s,baz=348,slow=8.9,SNR=1.1						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**66.83**	**28**	P	**P**	**06 12 33.5**	**-0.3**
	0.2nm,0.8s,baz=262,slow=6.4,SNR=4.1						
	0.2nm,0.8s						
YKA	**Yellowknife Ar**	**80.77**	**24**	P	**P**	**06 13 55.8**	**+0.3**
	0.7nm,0.7s,baz=303,slow=5.2,SNR=13						
	0.7nm,0.7s						

*PRU **16** 06:06:45.4,51.°55N×15.°96E,h0km*
*VIE **16** 06:06:45.1±0.6,51.°46N×15.°94E,h0km,mb2.5/4,ml2.4/6,*
Error ellipse: s-maj=5.5km s-min=4.0km az=71.0,
Suspected Mining induced.
ISC 16 06:06:43.3±1.3,51.°57N±0.°06×16.°02E±0.°03,h0km,n28,
σ0°89/47,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**167**	*e*Pg	**Pb**	**06 06 58.6**	**-0.6**
KSP				*e*Sg	**Sb**	**06 07 09.1**	**-0.9**
CHVC	**Chvalec**	**0.99**	**179**	*e*PG	**Pb**	**06 07 03.2**	**0.0**
CHVC				*e*SG	**Sb**	**06 07 16.7**	**-0.1**
OSTC	**Ostas**	**1.03**	**173**	*e*PG	**Pb**	**06 07 04.4**	**+0.5**
OSTC				*e*SG	**Sb**	**06 07 17.6**	**-0.3**
	comp=Z,30nm,0.3s						
UPC	**Upice**	**1.07**	**180**	*e*PG	**Pb**	**06 07 04.4**	**-0.2**
UPC				*e*SG	**Sb**	**06 07 18.6**	**-0.5**
DPC	**Dobruska-Polom**	**1.24**	**171**	*e*PG	**Pg**	**06 07 07.1**	**+0.1**
DPC				*e*SG	**Sb**	**06 07 23.8**	**-0.3**
	comp=Z,18nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**222**	*e*PG	**Pn**	**06 07 10.3**	**+0.4**
PVCC				*e*SG	**Sn**	**06 07 28.8**	**-0.1**
	comp=Z,50nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**243**	Pg	**Pn**	**06 07 11.5**	**+0.3**
BRG				Sg	**Sb**	**06 07 31.4**	**+0.4**
BRG				Amp		06 07 33.3	
	comp=Z,36nm,0.5s						
KRLC	**Kraliky**	**1.58**	**162**	*e*PG	**Pn**	**06 07 12.5**	**0.0**
RICC	**Richard**	**1.59**	**230**	*e*SG	**Sn**	**06 07 34.1**	**+0.2**
PRU	**Pruhonice**	**1.84**	**211**	*e*SG	**Sg**	**06 07 42.4**	**0.0**
HSKC	**Hora Svate Kat**	**1.90**	**240**	*e*PG	**Pn**	**06 07 18.2**	**+1.3**
HSKC				*e*SG	**Sb**	**06 07 43.2**	**+0.2**
CLL	**Collm**	**1.91**	**263**	*e*Pn	Pn	06 07 12.0	-5.0
CLL				*e*Pg	**Pb**	**06 07 16.0**	**-2.9**
CLL				*i* x	x	06 07 19.0	
CLL				*i* x	x	06 07 22.7	
CLL				*e*Sg	**Sb**	**06 07 44.0**	**+0.8**
	comp=Z,11nm,0.6s						
STEB	**Steborice**	**1.98**	**145**	*e*PG	**Pb**	**06 07 20.5**	**+0.3**
STEB				*e*SG	**Sg**	**06 07 47.9**	**+1.0**
MORC	**Moravsky Berou**	**2.04**	**151**	*e*PN	**Pn**	**06 07 18.9**	**0.0**
MORC				*e*SG	**Sb**	**06 07 47.2**	**0.0**
VRAC	**Vranov**	**2.30**	**171**	*e*PN	**Pn**	**06 07 23.3**	**+0.9**
VRAC				*e*SG	**Sg**	**06 07 56.6**	**-0.4**
ZVC	**Zvikov**	**2.43**	**209**	*e*SG	**Sg**	**06 08 01.0**	**-0.4**
KRUC	**Moravsky**	**2.53**	**174**	*e*PN	**Pn**	**06 07 26.2**	**+0.7**
KRUC				*e*SG	**Sg**	**06 08 03.6**	**-0.7**
NKC	**Novy Kostel**	**2.63**	**241**	*e*SG	**Sg**	**06 08 08.2**	**+0.6**
	comp=Z,14nm,0.2s						
OJC	**Ojcow**	**2.75**	**118**	*e*Pg	**Pg**	**06 07 36.0**	**+0.1**
OJC				*e*Sg	**Sg**	**06 08 12.4**	**+0.8**
KHC	**Kasperske Hory**	**2.90**	**214**	*e*PN	**Pn**	**06 07 32.0**	**+1.3**
KHC				*e*PG	**Pb**	**06 07 37.2**	**+1.3**
KHC				*e*SG	**Sg**	**06 08 15.8**	**-0.6**
	comp=Z,7.3nm,0.5s						
JAVC	**Velka Javorina**	**2.92**	**158**	*e*PN	**Pn**	**06 07 30.7**	**-0.2**
JAVC				*e*SG	**Sg**	**06 08 15.1**	**-1.8**
MODS	**Modra-Piesok**	**3.31**	**165**	*e*SG	**Sg**	**06 08 28.8**	**-0.6**
CONA	**Conrad Observa**	**3.65**	**182**	*i* Pn	**Pn**	**06 07 41.8**	**+0.7**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**06 08 39.6**	**-0.9**
	comp=Z,3.0nm,0.3s						
RONA	**Rosalia, Austr**	**3.88**	**177**	*e*Sg	**Sg**	**06 08 45.3**	**-2.6**
	comp=Z,1.1nm,0.2s						
MOA	**Molln**	**3.90**	**198**	*i* Pn	**Pn**	**06 07 44.8**	**+0.4**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**06 08 48.3**	**-0.1**
	comp=Z,1.6nm,0.2s						
BIOA	**Bad Ischl, Aus**	**4.18**	**203**	*e*Sg	**Sg**	**06 08 58.3**	**+0.7**
	comp=Z,5.8nm,0.5s						
ARSA	**Arzberg**	**4.34**	**184**	*e*Sg	**Sg**	**06 09 02.1**	**-0.5**
	comp=Z,1.5nm,0.3s						
LESA	**Schwarzleotal**	**4.69**	**209**	*e*Sg	**Sg**	**06 09 13.0**	**-0.8**
	comp=Z,1.7nm,0.4s						

*IDC **16** 06:07:13.9±2.0,5.°91S×130.°14E,h0km,mb3.5/2,*
mbtmp3.5/5,ML3.7/3,MS4.0/1,Error ellipse: s-maj=92.7km
s-min=25.7km az=77.0
*DJA **16** 06:07:32.5±1.2,6.°S±5.°×13.°0E±.°,h80km±72km,M4.2/6,*
mb4.2/1,MLv4.2/6
ISC 16 06:07:28.1±1.0,6.°36S±0.°07×130.°1E±0.°1,h146km,n9,
σ3°30/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**144**	P	**Pn**	**06 08 06.9**	**+3.8**
FAKI	**Fak Fak**	**4.03**	**32**	P	**Pn**	**06 08 29.3**	**+0.6**
FAKI				S	**Sn**	**06 09 13.7**	**-2.0**
KMPI	**Kaimana, Papua**	**4.47**	**53**	P	**Pn**	**06 08 35.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**12.46**	**200**	Pn	**Pn**	**06 10 19.1**	**-1.5**
	0.7nm,0.3s,baz=21,slow=13,SNR=20						
FITZ				Sn	Sn	06 12 28.3	-10
	1.6nm,0.3s,baz=199,slow=15,SNR=8.0						
	1.3nm,0.3s						
WRA	**Warramunga Arr**	**14.12**	**163**	Pn	**Pn**	**06 10 41.7**	**-0.1**
	0.3nm,0.3s,baz=347,slow=13,SNR=13						
WRA				Sn	Sn	06 13 07.8	-10
	0.8nm,0.3s,baz=335,slow=20,SNR=7.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.60**	**168**	P	**Pn**	**06 11 24.9**	**+0.5**
	0.1nm,0.3s,baz=342,slow=10,SNR=9.4						
ASAR				S	**S**	**06 14 31.9**	**-7.0**
	0.5nm,0.5s,baz=357,slow=26,SNR=6.8						
	0.4nm,0.6s						
SONM	**Songino Array**	**57.87**	**341**	LR	LR	06 44 02.7	
	comp=Z,148nm,20.6s,baz=314,slow=38						
MKAR	**Makanchi Array**	**67.75**	**327**	P	**P**	**06 18 11.3**	**+1.3**
	0.5nm,0.5s,baz=113,slow=8.2,SNR=10						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.02**	**328**	P	**P**	**06 18 37.4**	**+1.4**
	0.2nm,0.6s,baz=125,slow=5.2,SNR=1.9						
	0.2nm,0.6s						

*SJA **16** 06:25:34.0±0.8,24.°22S×67.°15W,h204km±7km,ML4.1,*
MW3.8
*GUC **16** 06:25:35.5±0.8,24.°16S×67.°21W,h195km±7km,ML4.0*
*IDC **16** 06:25:36.0±2.4,24.°08S×67.°04W,h163km±22km,mb3.8/3,*
mbtmp4.1/8,Error ellipse: s-maj=25.9km s-min=19.5km
az=92.0
*NEIC **16** 06:25:36.2±2.4,24.°11S±0.°06×67.°3W±0.°1,h184km±7km,*
mb4.3/13,Error ellipse: s-maj=14.6km s-min=9.4km
az=93.0
*VAO **16** 06:25:37.7±1.1,24.°04S×67.°14W,h191km±7km,mb4.0*
ISC 16 06:25:36.1±0.6,24.°12S±0.°04×67.°24W±0.°04,h182km±6km,
n99,σ1°32/118,mb4.2/7,4C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.83**	**97**	*e*P	Pn	06 25 57.5	-5.9
SALTA				*e*P	**Pn**	**06 26 02.9**	**-0.5**
AF01	**San Pedro de A**	**1.45**	**323**		**Pn**	**06 26 08.5**	**+0.4**
AF01	**San Pedro de A**	**1.45**	**323**	*e*P	**Pn**	**06 26 09.6**	**+1.5**
AF01				*e*S	**Sn**	**06 26 35.7**	**+2.9**
AF01	**San Pedro de A**	**1.45**	**323**	*e*P	**Pn**	**06 26 08.9**	**+0.9**
AF01				*e*S	**Sn**	**06 26 34.0**	**+1.2**
AF01				IAML		06 26 46.4	
	comp=N,648nm,0.2s						
SLA	**San Lorenzo**	**1.69**	**111**	*e*P	**Pn**	**06 26 10.6**	**+0.4**
SLA	**San Lorenzo**	**1.69**	**111**	‖*e*P	**Pn**	**06 26 10.2**	**0.0**
SLA				*e*S	**Sn**	**06 26 36.2**	**-0.5**
AZAP	**Zapla**	**1.99**	**93**	*e*P	**Pn**	**06 26 13.0**	**-0.3**
FSA	**Cafayete**	**2.29**	**150**	*e*P	**Pn**	**06 26 16.8**	**+0.2**
GO02	**Mina Guanaco**	**2.38**	**244**		**Pn**	**06 26 18.4**	**+0.6**
GO02	**Mina Guanaco**	**2.38**	**244**	*e*P	**Pn**	**06 26 18.4**	**+0.6**
GO02				*e*S	**Sn**	**06 26 50.7**	**+0.5**
GO02	**Mina Guanaco**	**2.38**	**244**	⇑*e*P	**Pn**	**06 26 18.4**	**+0.6**
GO02				*e*S	**Sn**	**06 26 50.7**	**+0.5**
YJA	**Yavi**	**2.50**	**40**	*e*P	**Pn**	**06 26 19.8**	**+0.4**
YJA				*e*S	**Sn**	**06 26 48.2**	**-4.8**
YJA	**Yavi**	**2.50**	**40**	‖*e*P	**Pn**	**06 26 19.6**	**+0.2**
YJA				*e*S	**Sn**	**06 26 52.9**	**-0.1**
PB14	**IPOC Station P**	**2.93**	**259**		**Pn**	**06 26 24.1**	**-0.2**
PB14	**IPOC Station P**	**2.93**	**259**	*e*P	**Pn**	**06 26 24.5**	**+0.2**
PB14				*e*S	**Sn**	**06 27 00.6**	**-1.2**
PB14				IAML		06 27 03.7	
	comp=Z,374nm,0.4s						
PB14	**IPOC Station P**	**2.93**	**259**	⇑*e*P	**Pn**	**06 26 24.5**	**+0.2**
PB14				*e*S	**Sn**	**06 26 59.9**	**-1.9**
PB14				IAML		06 27 01.9	
	comp=E,443nm,0.3s						
PB09	**IPOC Station P**	**2.96**	**321**		**Pn**	**06 26 25.4**	**+0.9**
PB09	**IPOC Station P**	**2.96**	**321**	*e*P	**Pn**	**06 26 25.9**	**+1.4**
PB09				*e*S	**Sn**	**06 27 02.4**	**+0.2**
PB09				IAML		06 27 06.5	
	comp=Z,263nm,0.5s						
PB09	**IPOC Station P**	**2.96**	**321**	⇑*e*P	**Pn**	**06 26 25.7**	**+1.2**
PB09				*e*S	**Sn**	**06 27 02.8**	**+0.5**
PB09				IAML		06 27 07.1	
	comp=E,346nm,0.6s						
AHML	**Horco Molle**	**3.16**	**147**	*e*P	**Pn**	**06 26 26.7**	**-0.1**
AHML	**Horco Molle**	**3.16**	**147**	*e*P	**Pn**	**06 26 26.6**	**-0.2**
AHML				*e*S	**Sn**	**06 27 05.1**	**-1.4**
AC02	**Maricunga**	**3.20**	**212**		**Pn**	**06 26 27.8**	**+0.1**
AC02	**Maricunga**	**3.20**	**212**	*e*P	**Pn**	**06 26 28.4**	**+0.7**
AC02				*e*S	**Sn**	**06 27 09.2**	**+1.2**
AC02				IAML		06 27 15.1	
	comp=Z,502nm,0.8s						
AC02	**Maricunga**	**3.20**	**212**	⇑*e*P	**Pn**	**06 26 28.2**	**+0.5**
AC01	**Pan de Azucar**	**3.65**	**236**		**Pn**	**06 26 32.0**	**-0.8**
AC01	**Pan de Azucar**	**3.65**	**236**	*e*P	**Pn**	**06 26 32.1**	**-0.8**
AC01				*e*S	**Sn**	**06 27 15.5**	**-1.8**
AC01				IAML		06 27 17.0	
	comp=Z,238nm,0.1s						
PB01	**IPOC Station P**	**3.70**	**325**		**Pn**	**06 26 33.0**	**-0.6**
PB01	**IPOC Station P**	**3.70**	**325**	*e*P	**Pn**	**06 26 33.2**	**-0.4**
PB01				*e*S	**Sn**	**06 27 17.5**	**-1.1**
PB01				IAML		06 27 23.6	
	comp=Z,228nm,0.2s						
PB08	**IPOC Station P**	**4.34**	**335**	Pn	**Pn**	**06 26 42.4**	**+0.4**
PB08	**IPOC Station P**	**4.34**	**335**	*e*P	**Pn**	**06 26 43.0**	**+1.1**
PB08				*e*S	**Sn**	**06 27 33.9**	**+0.3**
TA01	**Diego Aracena**	**4.46**	**322**	Pn	**Pn**	**06 26 43.2**	**-0.1**
TA01	**Diego Aracena**	**4.46**	**322**	*e*P	**Pn**	**06 26 43.1**	**-0.1**
TA01				*e*S	**Sn**	**06 27 31.6**	**-4.2**
TA01				IAML		06 27 45.5	
	comp=Z,54nm,0.5s						
TA02	**Huaiquique**	**4.67**	**324**	Pn	**Pn**	**06 26 44.1**	**-1.8**
VCA	**Vinchina**	**4.68**	**190**	*e*P	**Pn**	**06 26 47.2**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.29**	**177**	*e*P	**Pn**	**06 26 54.5**	**+0.5**
AC04	**Llanos de Chal**	**5.33**	**219**	Pn	**Pn**	**06 26 52.0**	**-2.3**
AC04	**Llanos de Chal**	**5.33**	**219**	*e*P	**Pn**	**06 26 51.6**	**-2.8**
AC04				*e*S	**Sn**	**06 27 52.1**	**-3.8**
AC04				IAML		06 27 57.1	
	comp=Z,76nm,0.3s						
LCO	**Las Campanas**	**5.77**	**212**	Pn	**Pn**	**06 26 58.1**	**-2.2**
PB12	**IPOC Station P**	**6.19**	**332**	Pn	**Pn**	**06 27 03.8**	**-1.9**
CO01	**Juntas del Tor**	**6.37**	**203**		**Pn**	**06 27 07.7**	**-0.4**
CO05	**La Serena**	**6.79**	**211**	Pn	**Pn**	**06 27 11.2**	**-2.2**
GO04	**Tololo Observa**	**6.81**	**207**		**Pn**	**06 27 11.7**	**-2.2**
CO03	**El Pedregal**	**7.36**	**204**		**Pn**	**06 27 19.1**	**-1.9**
LPAZ	**La Paz**	**7.84**	**354**	Pn	**Pn**	**06 27 28.1**	**+0.2**
LPAZ	**La Paz**	**7.84**	**354**	P	**Pn**	**06 27 28.7**	**+0.8**
	comp=Z,4.1nm,0.3s,baz=158,slow=6.7,SNR=32						
LPAZ				S	**Sn**	**06 28 54.7**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=343,slow=18,SNR=4.6						
LPAZ	**La Paz**	**7.84**	**354**	*e*P	**Pn**

COYC	**Coyhaique**	**21.76 189**	P	**P**	**06 30 13.9 +0.7**
COYC			IAmb	IAmb	06 30 14.6
comp=Z,12nm,1.1s					
MACA	**Manacapuru-AM**	**21.78 18**	P	**P**	**06 30 12.1 -1.6**
MACA			IAmb	IAmb	06 30 13.3
comp=Z,13nm,0.6s					
MACA	**Manacapuru-AM**	**21.78 18**	*eP*	**P**	**06 30 12.6 -1.1**
ITTB	**Itaituba**	**22.55 31**	*eP*	**P**	**06 30 19.6 -1.5**
DIAM	**Diamantina, MG**	**22.71 80**	*eP*	**P**	**06 30 22.7 +0.1**
DUB01	**Friburgo-RJ**	**22.95 90**	*eP*	**P**	**06 30 23.9 -0.9**
JANB	**Januaria**	**23.38 72**	*eP*	**P**	**06 30 27.7 -0.9**
CAM01	**Campos-RJ**	**23.65 90**	*eP*	**P**	**06 30 30.6 -0.5**
SMTB	**Santa Maria do**	**24.14 54**	*eP*	**P**	**06 30 36.5 +0.9**
SDBA	**SAO DESIDERIO**	**24.16 65**	*eP*	**P**	**06 30 35.2 -0.6**
RUSC	**La Rusia**	**30.37 348**	P	**P**	**06 31 32.8 +1.1**
RUSC			IAmb	IAmb	06 31 56.9
comp=Z,6.6nm,1.3s					
SNAA	**Sanae**	**59.31 161**	P	**P**	**06 35 20.0 +1.6**
SNAA			IAmb	IAmb	06 35 46.8
comp=Z,10nm,1.5s					
QSPA	**South Pole Qui**	**66.08 180**	P	**P**	**06 36 03.8 +0.4**
QSPA			IAmb	IAmb	06 36 13.3
comp=Z,7.4nm,1.4s					
QSPA	**South Pole Qui**	**66.08 180**	P	**P**	**06 36 05.8 +2.5**
comp=Z,0.9nm,0.5s,baz=204,slow=2.9,SNR=6.9					
comp=Z,0.9nm,0.5s					
BINY	**Binghamton**	**66.48 353**	P	**P**	**06 36 05.0 -0.9**
TORD	**Torodi Ar. Bea**	**76.81 69**	P	**P**	**06 37 08.6 +0.4**
TORD	**Torodi Ar. Bea**	**76.81 69**	P	**P**	**06 37 08.9 +0.7**
comp=Z,1.1nm,0.5s,baz=261,slow=5.4,SNR=17					
comp=Z,1.1nm,0.5s					
BOSA	**Boshof**	**80.87 117**	P	**P**	**06 37 31.2 +0.8**
comp=Z,4.4nm,1.1s,baz=253,slow=4.7,SNR=4.3					
comp=Z,4.4nm,1.1s					
ASAR	**Alice Springs**	**128.26 205**	PKP	**PKiKP**	**06 44 23.0 +0.8**
comp=Z,0.4nm,0.7s,baz=145,slow=1.8,SNR=4.2					
MKAR	**Makanchi Array**	**146.75 39**	PKPbc	**PKPab**	**06 44 58.4 +0.2**
comp=Z,0.8nm,0.7s,baz=302,slow=4.2,SNR=7.2					

*DJA **16** 06:26:09.6±0.5,3°S±6°×14°0E±°, h25km±5km, M4.2/5, mb4.5/1, MLv4.1/5*
*IDC **16** 06:26:09.9±0.7,2°40S×140°13E, h0km, mb3.8/8, mbtmp3.9/9, ML4.0/1, MS3.3/1, Error ellipse: s-maj=13.9km s-min=7.8km az=12.0*

ISC 16 06:26:11.2±0.7,2°35S±0°07×140°25E±0°05, h10km, n19, σ2§44/19, mb3.8/8, Near north coast of Irian Jaya

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.26 199**	P	P		**Pg**	**06 26 18.3**	**+1.9**
GENI			S	S		**Sg**	**06 26 22.9**	**+3.0**
JAY	**Jayapura**	**0.48 110**	Pg	P		**Pg**	**06 26 21.7**	**+1.1**
307nm,0.3s,baz=253,slow=12,SNR=1460								
JAY			Lg	Lg		Lg	06 26 28.9	
1μm,0.3s,baz=118,slow=17,SNR=48								
JAY	**Jayapura**	**0.48 110**	P	P		**Pg**	**06 26 21.8**	**+1.1**
JAY			S	S		**Sg**	**06 26 28.2**	**+1.1**
SMPI	**Sarmi**	**1.58 283**	P	P		**Pn**	**06 26 39.9**	**+0.6**
SMPI			S	S		**Sn**	**06 27 01.4**	**+1.6**
WAMI	**Wamena**	**2.17 225**	P	Pn			06 26 39.4	-8.0
PMG	**Port Moresby**	**9.81 136**	LR	LR			06 33 32.6	
comp=Z,150nm,18.7s,baz=259,slow=45								
WRA	**Warramunga Arr**	**18.41 198**	P	P		**Pn**	**06 30 25.6**	**-1.2**
0.5nm,0.3s,baz=21,slow=12,SNR=17								
WRA			S	Sn			06 33 41.6	-11
0.4nm,0.3s,baz=15,slow=23,SNR=12								
2.5nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.22 222**	P	P		**Pn**	**06 30 56.4**	**-1.0**
2.9nm,0.7s,baz=48,slow=8.7,SNR=7.2								
FITZ			S	S			**06 34 45.0**	**-8.5**
4.3nm,0.8s,baz=107,slow=11,SNR=6.0								
2.9nm,0.7s								
ASAR	**Alice Springs**	**22.06 196**	P	P		**Pn**	**06 31 05.7**	**-0.8**
2.6nm,0.7s,baz=28,slow=11,SNR=24								
ASAR			S	S			**06 35 10.4**	**+0.4**
1.0nm,0.9s,baz=18,slow=25,SNR=5.2								
2.6nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**34.13 49**	T	T			07 09 01.6	
baz=233,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**34.15 49**	T	T			07 09 03.6	
baz=233,slow=75,SNR=22								
H11N3	**WAKE ISLAND Hy**	**34.15 49**	T	T			07 09 03.0	
baz=233,slow=75,SNR=8.3								
CMAR	**Chiang Mai Arr**	**45.60 299**	P	P		**P**	**06 34 32.6**	**+0.5**
0.8nm,0.3s,baz=109,slow=8.4,SNR=5.3								
0.8nm,0.3s								
MKAR	**Makanchi Array**	**70.45 322**	P	P		**P**	**06 37 26.2**	**+0.2**
0.8nm,0.7s,baz=115,slow=6.7,SNR=12								
0.8nm,0.7s								
ZALV	**Zalesovo Beam**	**72.41 329**	P	P		**P**	**06 37 37.4**	**-0.1**
0.8nm,0.7s,baz=111,slow=7.9,SNR=1.9								
0.8nm,0.7s								
KURBB	**Kurchatov Arra**	**74.33 324**	P	P		**P**	**06 37 49.1**	**+0.2**
0.5nm,0.7s,baz=114,slow=6.4,SNR=5.3								
0.5nm,0.7s								
BVAR	**Borovoye Array**	**79.90 325**	P	P		**P**	**06 38 20.5**	**+0.2**
0.7nm,0.5s,baz=108,slow=6.0,SNR=3.8								
0.7nm,0.5s								
ILAR	**Eielson Array**	**84.87 24**	P	P		**P**	**06 38 45.4**	**-0.6**
0.4nm,0.8s,baz=247,slow=4.5,SNR=4.8								
0.4nm,0.8s								
DBIC	**Dimbokro**	**144.96 278**	PKP	**PKPab**			**06 45 49.4**	**+0.2**
2.5nm,0.6s,baz=117,slow=4.2,SNR=4.7								

*BJI **16** 06:39:44.3,2°81S×140°58E, h10km, mB5.2/34, mb4.7/70, Ms4.8/40, Ms7 4.6/39*
*NEIC **16** 06:39:49.6±1.4,2°41S±0°08×140°20E±0°07, h9km±4km, mb5.2/127, Mww5.3/13, Error ellipse: s-maj=12.1km s-min=10.8km az=187.0*
*DJA **16** 06:39:49.8±0.3,2°S±2°×14°0E±°, h13km±2km, M5.1/67, mb5.4/67, mB5.6/39, MLv5.5/8, Mw(mB)5.1/39, MwMwp5.0/19, Mwp5.3/19*
*NEIC **16** 06:39:50.5,2°42S×140°17E, h16km*
*NEIC **16** 06:39:50.5,2°42S×140°17E, h16km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^17^Nm; M_{rr}0.27; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$0.04; $M_{r\theta}$-0.71; $M_{\phi\theta}$0.16; $M_{r\phi}$0.70; Fault plane solution: $M_0$1.05000×10^17^ NP1:φs83.79000°, δ12.38000°, λ40.84000°. NP2:φs313.61000°, δ81.94000°, λ99.43000°. Principal axes: T 1.0356, Plg52.0000°, Azm234.0000°; N 0.0386, Plg9.0000°, Azm132.0000°; P -1.0742, Plg36.0000°, Azm35.0000°;*
*IDC **16** 06:39:51.1±1.9,2°46S×140°27E, h20km±12km, mb4.7/23, mbtmp4.8/24, ML5.1/1, MS4.6/36 Error ellipse: s-maj=16.4km s-min=9.1km az=79.0*
*RSNC **16** 06:39:52.0±0.0,2°S±6°×14°0E±°, h27km±27km, M2.8, mb3.9, mB5.0, ML2.4, Mw(mB)4.4, MwMwp7.5, Mwp7.2, Hypocentre not reviewed by the ISC*
*GCMT **16** 06:39:53.6±0.2,2°27S±0°01×140°29E±0°01, h18km, MW5.3/107, Moment Tensor Solution. s76,c102; s107,c167; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; M_{rr}0.41±.02; $M_{\theta\theta}$-0.49±.01; $M_{\phi\phi}$0.07±.01; $M_{r\theta}$-0.64±.03; $M_{r\phi}$0.38±.01; $M_{\theta\phi}$0.75±.04; Best double couple: $M_0$1.14300×10^17^ NP1:φs85.00000°, δ21.00000°, λ38.00000°. NP2:φs319.00000°, δ77.00000°, λ107.00000°. Principal axes: T 1.0660, Plg55.0000°, Azm250.0000°; N 0.1540, Plg16.0000°, Azm135.0000°; P -1.2190, Plg30.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 06:39:49.6±0.2,2°45S±0°03×140°19E±0°03, h10km, n667, σ1§27/701, mb5.1/134, MS4.6/52, 4C-3D, Near north coast of Irian Jaya

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.14 187**	P	P		**Pg**	**06 39 56.0**	**+3.1**
GENI	**Genyem**	**0.14 187**	P	P		**Pg**	**06 39 55.9**	**+3.1**
GENI			S	S		**Sg**	**06 40 00.4**	**+5.3**
JAY	**Jayapura**	**0.52 97**	Pg	P		**Pg**	**06 39 59.4**	**-0.4**
9μm,0.3s,baz=249,slow=9.7								
JAY			Lg	Lg		Lg	06 40 07.0	
20μm,0.3s,baz=135,slow=19,SNR=30								
JAY	**Jayapura**	**0.52 97**	P	P		**Pg**	**06 39 59.4**	**-0.4**
JAY			S	S		**Sg**	**06 40 06.2**	**-0.5**
SMPI	**Sarmi**	**1.54 287**	P	P		**Pn**	**06 40 17.1**	**0.0**
SMPI			S	S		**Sn**	**06 40 36.9**	**-0.3**
WAMI	**Wamena**	**2.05 226**	P	P		**Pn**	**06 40 25.9**	**+1.8**
TABU	**Tabubil**	**2.99 160**	P	P		**Pb**	**06 40 41.4**	**-1.5**
SRPI	**Serui, Papua**	**3.98 278**	P	P		**Pn**	**06 40 51.3**	**+0.5**
BAKI	**Biak**	**4.26 287**	P	P		**Pn**	**06 40 55.5**	**+0.9**
MMPI	**Merauke**	**5.98 178**	P	P		**Pn**	**06 41 20.9**	**+2.7**
KMPI	**Kaimana, Papua**	**6.58 259**	P	P		**Pn**	**06 41 28.7**	**+2.2**
MANU	**Manus Island**	**7.19 87**	Pn	Pn			**06 41 36.0**	**+1.2**
FAKI	**Fak Fak**	**7.94 266**	Pn	Pn			**06 41 45.5**	**+0.4**
FAKI	**Fak Fak**	**7.94 266**	P	Pn			**06 41 46.8**	**+1.6**
FAKI	**Fak Fak**	**7.94 266**	S	Sn			**06 43 13.7**	**-1.5**
FAKI	**Fak Fak**	**7.94 266**	P	Pn			**06 41 45.1**	**-0.1**
4μm2μm170nm,0.9s								
SWI	**Sorong**	**9.06 280**	P	Pn			**06 42 00.8**	**+0.3**
148nm,0.7s								
PMG	**Port Moresby**	**9.79 135**	Pn	Pn			**06 42 13.4**	**+2.9**
6.3nm,0.3s,baz=318,slow=7.3,SNR=18								
PMG			LR	LR			06 47 10.9	
comp=Z,9μm,18.7s,baz=302,slow=45								
SAUI	**Saumlaki**	**10.41 238**	Pn	Pn			**06 42 20.7**	**+1.5**
SAUI	**Saumlaki**	**10.41 238**	P	Pn			**06 42 20.6**	**+1.5**
MSAI	**Masohi**	**11.28 265**	P	Pn			**06 42 32.9**	**+2.0**
3μm3μm198nm,1.0s								
I39PW	**PALAU INFRASON**	**11.40 330**	I	I			07 51 10.0	
baz=151,slow=316,SNR=1.6								
COEN	**Coen**	**11.81 166**		Pn			**06 42 39.5**	**+1.3**
COEN	**Coen**	**11.81 166**	P	Pn			**06 42 40.0**	**+1.8**
comp=Z,65nm,1.0s								
COEN	**Coen**	**11.81 166**	S	Sn			**06 44 49.0**	**-1.2**
COEN	**Coen**	**11.81 166**	P	Pn			**06 42 40.0**	**+1.8**
KRVT	**Keravat (AS076**	**11.96 99**	LR	LR			06 46 34.3	
comp=Z,4μm,21.4s,baz=12,slow=34								
AAI	**Ambon**	**12.04 264**	P	Pn			**06 42 42.5**	**+1.2**
comp=Z,154nm,0.7s								
KDU	**Kakadu**	**12.72 217**	P	Pn			**06 42 49.2**	**-1.4**
comp=Z,0.0nmcomp=Z,554nm,0.8s								
KDU	**Kakadu**	**12.72 217**	S	Sn			**06 45 06.4**	**-6.1**
KDU	**Kakadu**	**12.72 217**	P	Pn			**06 42 49.3**	**-1.4**
LBMI	**Labuha**	**12.81 278**	P	Pn			**06 42 53.5**	**+1.6**
comp=Z,4μmcomp=Z,153nm,0.8s								
NLAI	**Namlea**	**13.09 266**	P	Pn			**06 42 57.3**	**+1.5**
comp=Z,3μmcomp=Z,2μmcomp=Z,124nm,0.8s								
TNTI	**Ternate**	**13.21 284**	Pn	Pn			**06 42 57.2**	**-0.1**
TNTI	**Ternate**	**13.21 284**	P	Pn			**06 42 58.8**	**+1.4**
DRS	**Darwin Rock St**	**13.53 222**	P	Pn			**06 43 02.4**	**+0.7**
MTN	**Manton Dam**	**13.67 220**	Pn	Pn			**06 43 02.3**	**-1.5**
MTN	**Manton Dam**	**13.67 220**	P	Pn			**06 43 02.2**	**-1.5**
comp=Z,0.0nmcomp=Z,220nm,1.0s								
MTN	**Manton Dam**	**13.67 220**	S	Sn			**06 45 33.4**	**-2.4**
MTN	**Manton Dam**	**13.67 220**	P	Pn			**06 43 02.2**	**-1.5**
SANI	**Sanana**	**14.19 271**	P	Pn			**06 43 12.3**	**+1.5**
SANI	**Sanana**	**14.19 271**	P	Pn			**06 43 10.4**	**-0.4**
comp=Z,1μmcomp=Z,115nm,0.8s								
MTSU	**Mount Surprise**	**16.11 166**	P	P			**06 43 38.4**	**-1.1**
comp=Z,69nm,0.8s								
MTSU	**Mount Surprise**	**16.11 166**	S	Sn			**06 46 39.2**	**+4.1**
MTSU	**Mount Surprise**	**16.11 166**	P	P			**06 43 38.5**	**-1.1**
KMSI	**Cibinong**	**16.48 280**	P	Pn			**06 43 41.5**	**+0.5**
GUMO	**Guam**	**16.60 16**	LR	LR			06 49 46.8	
comp=Z,2μm,18.5s,baz=197,slow=36								
KNRA	**Kununurra**	**17.30 220**	Pn	Pn			**06 43 50.8**	**-0.6**
KNRA			IAmb	IAmb			06 43 55.3	
comp=Z,162nm,0.7s								
KNRA	**Kununurra**	**17.30 220**	P	Pn			**06 43 51.1**	**-0.3**
comp=Z,235nm,0.7s								
KNRA			S	Sn			06 46 48.4	-16
SOEI	**Soe**	**17.40 245**	P	Pn			**06 43 52.1**	**-0.8**
SOEI	**Soe**	**17.40 245**	P	P			**06 43 56.2**	**+2.1**
SOEI	**Soe**	**17.40 245**	P	Pn			**06 43 52.6**	**-0.2**
LUWI	**Luwuk**	**17.46 274**	P	Pn			**06 43 52.3**	**-1.1**
LUWI			IAmb	IAmb			06 44 04.0	
comp=Z,287nm,1.5s								
LUWI	**Luwuk**	**17.46 274**	P	Pn			**06 43 53.5**	**+0.1**
comp=Z,4μmcomp=Z,179nm,0.9s								
KDI	**Kendari**	**17.60 265**	P	Pn			**06 43 55.3**	**+0.1**
BBSI	**Bau Bau**	**17.83 260**	P	P			**06 43 59.2**	**+0.5**
comp=Z,4μmcomp=Z,5μmcomp=Z,451nm,1.1s								
QIS	**Mount Isa**	**18.01 182**	S	Sn			**06 47 14.7**	**-6.5**
QIS	**Mount Isa**	**18.01 182**	P	Pn			**06 43 57.8**	**-2.4**
QIS	**Mount Isa**	**18.01 182**	P	Pn			**06 44 00.2**	**0.0**
WB0	**Warramunga Arr**	**18.12 198**		Pn			**06 43 59.6**	**-2.0**
BATI	**Baumata**	**18.13 244**	P	P			**06 44 02.3**	**+0.3**
WRAB	**Tennant Creek**	**18.29 198**	P	Pn			**06 44 01.4**	**-2.2**
WRAB			IAmb	IAmb			06 44 09.6	
comp=Z,134nm,0.7s								
WRA	**Warramunga Arr**	**18.30 198**	P	Pn			**06 44 03.8**	**0.0**
comp=Z,6.3nm,0.3s,baz=20,slow=12,SNR=66								
WRA			S	Sn			06 47 17.4	-11
comp=Z,27nm,0.9s,baz=14,slow=22,SNR=7.0								
WRA			LR	LR			06 51 41.6	
comp=Z,4μm,18.2s,baz=16,slow=39								
comp=Z,67nm,0.6s								
MRSI	**Marisa**	**18.47 279**	P	P			**06 44 05.5**	**-0.3**
comp=Z,3μmcomp=Z,90nm,1.0s								
APSI	**Ampana**	**18.59 274**	P	P			**06 44 07.4**	**+0.3**
comp=Z,2μmcomp=Z,232nm,1.0s								
MMRI	**Maumere**	**18.88 250**	P	P			**06 44 10.1**	**-0.2**
MMRI			IAmb	IAmb			06 44 21.3	
comp=Z,130nm,1.1s								
MMRI	**Maumere**	**18.88 250**	P	Pn			**06 44 12.6**	**+1.7**
MMRI	**Maumere**	**18.88 250**	P	Pn			**06 44 11.5**	**+0.6**
comp=Z,109nm,0.7s								
TOLI2	**Tolitoli**	**19.72 280**	P	P			**06 44 19.0**	**-0.5**
TOLI2	**Tolitoli**	**19.72 280**	P	P			**06 44 19.9**	**+0.4**
BSSI	**Bau Bau, Buton**	**19.98 259**	P	Pn			**06 44 24.6**	**+0.6**
comp=Z,3μmcomp=Z,322nm,1.8s								
BKSI	**Bulukumba**	**20.22 261**	P	P			**06 44 26.0**	**+1.1**
comp=Z,2μmcomp=Z,1μmcomp=Z,113nm,1.1s								
TTSI	**Tana Toraja**	**20.35 268**	P	Pn			06 44 27.7	-0.7
comp=Z,120nm,0.8s								
TATA	**Tatamba Isabel**	**20.39 108**	P	Pn			06 44 28.0	-0.9
PCI	**Palu**	**20.40 274**	P	Pn			06 44 28.2	-0.8
comp=Z,3μmcomp=Z,4μmcomp=Z,358nm,1.1s								
SPSI	**Sidrap Palu**	**20.44 265**	P	P			**06 44 28.3**	**+1.0**
comp=Z,5μmcomp=Z,124nm,0.9s								
KAPI	**Kappang**	**20.55 262**		P			**06 44 29.6**	**+1.1**
KAPI	**Kappang**	**20.55 262**	P	P			**06 44 28.9**	**+0.4**
comp=Z,14nm,0.7s,baz=58,slow=3.7,SNR=6.5								
comp=Z,14nm,0.7s								
KAPI	**Kappang**	**20.55 262**	P	P			**06 44 29.1**	**+0.6**
KAPI			P	P			**06 44 29.1**	**+0.6**
KAPI			S	S			**06 48 17.5**	**-1.1**
KAPI			S	S			**06 48 17.5**	**-1.1**
KAPI	**Kappang**	**20.55 262**	P	Pn			06 44 32.0	+1.3
BASI	**Baing, Sumba**	**20.95 248**	P	P			**06 44 33.8**	**+1.0**
comp=Z,3μmcomp=Z,410nm,1.0s								
WSI	**Waiggapu**	**21.02 249**	P	P			**06 44 32.1**	**-1.6**
comp=Z,3μmcomp=Z,265nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.10 222**	P	P			**06 44 34.5**	**0.0**
comp=Z,103nm,0.8s,baz=39,slow=10,SNR=64								
FITZ			S	S			**06 48 22.9**	**-6.7**
comp=Z,41nm,0.7s,baz=138,slow=18,SNR=6.6								
FITZ			LR	LR			06 53 17.8	
comp=Z,3μm,18.6s,baz=40,slow=38								
comp=Z,103nm,0.8s								
WBSI	**Waikabubak, Su**	**21.86 250**	P	P			**06 44 41.8**	**-1.0**
comp=Z,2μmcomp=Z,247nm,0.9s								
AS01	**Alice Springs**	**21.94 195**	P	P			**06 44 43.0**	**-0.5**
AS31	**Alice Springs**	**21.95 196**	P	P			**06 44 42.9**	**-0.7**
AS31	**Alice Springs**	**21.95 196**	P	P			**06 44 43.6**	**0.0**
comp=Z,41nm,0.6s								
ASAR	**Alice Springs**	**21.95 196**	P	P			**06 44 43.7**	**+0.1**
comp=Z,52nm,0.8s,baz=28,slow=9.8,SNR=313								
ASAR			S	S			**06 48 44.3**	**-1.9**
comp=Z,14nm,0.9s,baz=18,slow=19,SNR=4.4								
ASAR			LR	LR			06 53 46.7	
comp=Z,3μm,18.4s,baz=19,slow=38								
comp=Z,52nm,0.8s								
MYLDM	**Lahad Datu**	**22.95 289**	P	P			**06 44 55.0**	**+0.7**
MYLDM	**Lahad Datu**	**22.95 289**	P	P			**06 44 57.8**	**+3.5**
SMKI	**Samarinda**	**23.05 275**	P	P			**06 44 56.3**	**+0.9**
comp=Z,3μmcomp=Z,218nm,1.1s								
PLAI	**Plampang**	**23.17 253**	P	P			**06 44 55.0**	**-1.6**
PLAI	**Plampang**	**23.17 253**	P	P			**06 44 55.2**	**-1.4**
comp=Z,77nm,1.1s								
BKB	**Balikpapan**	**23.31 272**	P	P			**06 44 58.3**	**+0.3**
TWSI	**Taliwang, Sumb**	**24.01 254**	P	P			**06 45 03.2**	**-1.6**
comp=Z,55nm,0.8s								
QLP	**Quilpie**	**24.31 171**	P	P			**06 45 08.4**	**+0.9**
comp=Z,109nm,0.9s								
QLP	**Quilpie**	**24.31 171**	P	P			**06 45 09.0**	**+1.6**
EIDS	**Eidsvold**	**25.09 156**	P	P			**06 45 14.9**	**+0.3**
EIDS			IAmb	IAmb			06 45 20.1	
comp=Z,96nm,0.9s								
EIDS	**Eidsvold**	**25.09 156**	P	P			**06 45 16.6**	**+2.0**
comp=Z,101nm,1.0s								
EIDS	**Eidsvold**	**25.09 156**	P	P			**06 45 16.5**	**+2.0**
INKA	**Innaminka**	**25.16 179**	P	P			**06 45 16.3**	**+1.2**
WRKA	**Warakurna**	**25.21 206**	P	P			**06 45 14.5**	**-1.2**
comp=Z,56nm,0.8s								
WRKA	**Warakurna**	**25.21 206**	P	P			**06 45 15.3**	**-0.4**
KKM	**Kota Kinabalu**	**25.38 290**	P	P			**06 45 17.4**	**0.0**
KKM			IAmb	IAmb			06 45 22.0	
comp=Z,53nm,0.9s								
KKM	**Kota Kinabalu**	**25.38 290**	P	P			**06 45 18.6**	**+1.2**
SRBI	**Singaraja**	**25.48 256**	P	P			**06 45 19.5**	**+1.3**
OOD	**Oodnadatta**	**25.57 189**	P	P			**06 45 19.2**	**+0.4**
ABJI	**Asem Bagus**	**26.38 257**	P	P			**06 45 27.7**	**+1.3**
comp=Z,77nm,1.4s								
KMMI	**Kalianget**	**26.52 259**	P	P			**06 45 28.8**	**+1.2**
comp=Z,2μmcomp=Z,152nm,1.0s								
JAGI	**Jajag, Banyuwa**	**26.58 256**	P	P			**06 45 27.8**	**-0.5**
JAGI			IAmb	IAmb			06 45 36.5	
comp=Z,82nm,1.2s								
JAGI	**Jajag, Banyuwa**	**26.58 256**	P	P			**06 45 29.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**26.58 256**	P	P			**06 45 29.5**	**+1.2**
comp=Z,57nm,1.1s								
MBWA	**Marble Bar**	**27.25 225**	P	P			**06 45 33.2**	**-1.0**
MBWA			IAmb	IAmb			06 45 40.7	
comp=Z,41nm,0.9s								
MBWA	**Marble Bar**	**27.25 225**	P	P			**06 45 33.7**	**-0.4**
comp=Z,54nm,0.8s								
MBWA	**Marble Bar**	**27.25 225**	P	P			**06 45 33.4**	**-0.7**
MBWA	**Marble Bar**	**27.25 225**	P	P			**06 45 34.0**	**-0.2**
PSA00	**Pilbara Seismi**	**27.44 225**	P	P			**06 45 35.3**	**-0.6**
PSA00			IAmb	IAmb			06 46 15.0	
comp=Z,46nm,1.1s								
PSA00	**Pilbara Seismi**	**27.44 225**	P	P			**06 45 35.6**	**-0.3**
comp=Z,43nm,0.9s								
PSA00	**Pilbara Seismi**	**27.44 225**	P	P			**06 45 35.3**	**-0.6**
PSAC1	**Pilbara Seismi**	**27.44 225**	P	P			**06 45 35.1**	**-0.8**
comp=Z,47nm,1.0s								
AULRC	**Lightning Ridg**	**27.84 165**	P	P			**06 45 40.4**	**+1.1**
LCRK	**Leigh Creek**	**27.91 184**	P	P			**06 45 40.3**	**+0.4**
STKA	**Stephens Creek**	**29.30 178**	P	P			**06 45 51.7**	**-0.6**
STKA	**Stephens Creek**	**29.30 178**	P	P			**06 45 52.3**	**-0.1**
comp=Z,5.2nm,0.9s								
STKA	**Stephens Creek**	**29.30 178**	P	P			**06 45 52.2**	**-0.1**
comp=Z,11nm,0.7s,baz=347,slow=8.2,SNR=21								
STKA			LR	LR			06 59 02.6	
comp=Z,3μm,18.3s,baz=352,slow=39								
comp=Z,11nm,0.7s								
STKA	**Stephens Creek**	**29.30 178**	P	P			**06 45 54.3**	**+2.0**
CMSA	**Cobar Meteorol**	**29.40 170**	P	P			**06 45 55.0**	**+1.8**
comp=Z,42nm,1.2s								
CMSA	**Cobar Meteorol**	**29.40 170**	P	P			**06 45 55.0**	**+1.8**
PCJI	**Pacitan**	**29.43 258**	P	P			**06 45 53.0**	**-0.7**
comp=Z,45nm,1.1s								
JCJ	**Chichijima**	**29.44 4**	LR	LR			06 55 05.6	
comp=Z,701nm,21.1s,baz=216,slow=31								
ARMA	**Armidale**	**29.86 160**	P	P			**06 45 57.8**	**+0.4**
ARMA	**Armidale**	**29.86 160**	P	P			**06 45 58.2**	**+0.8**
comp=Z,18nm,1.3s								
KSM	**Kuching**	**30.12 277**	P	P			**06 46 00.9**	**+1.0**
AUPHS	**Peel High Scho**	**30.24 162**	P	P			**06 46 02.4**	**+1.7**
FORT	**Forrest**	**30.42 201**	P	P			**06 46 02.7**	**+0.4**
FORT	**Forrest**	**30.42 201**	P	P			**06 46 02.4**	**+0.1**
comp=Z,86nm,0.7s								
FORT	**Forrest**	**30.42 201**	P	P			**06 46 04.1**	**+1.8**
BBOO	**Buckleboo**	**30.45 187**	P	P			**06 46 02.3**	**-0.2**
BBOO			IAmb	IAmb			06 46 04.2	
comp=Z,29nm,0.8s								
BBOO	**Buckleboo**	**30.45 187**	P	P			**06 46 02.4**	**-0.1**
comp=Z,41nm,0.7s								
BBOO	**Buckleboo**	**30.45 187**	P	P			**06 46 02.7**	**+0.2**
WHYH	**Whyalla**	**30.52 184**	P	P			**06 46 03.7**	**+0.6**
AUDCS	**Dubbo College**	**30.67 166**	P	P			**06 46 05.8**	**+1.3**
HTT	**Hallett**	**30.84 182**	P	P			**06 46 06.2**	**+0.1**
comp=Z,23nm,0.9s								
HTT	**Hallett**	**30.84 182**	P	P			**06 46 06.5**	**+0.5**
JOW	**Kunigami**	**31.30 339**	LR	LR			06 56 34.1	
comp=Z,729nm,21

MJAR Matsushiro Arr 38.83 357 P **P** **06 47 14.3 -0.6**
comp=Z,2.8nm,0.7s,baz=175,slow=8.6,SNR=5.9
MJAR LR LR 07 01 23.8
comp=Z,524nm,20.6s,baz=178,slow=33
comp=Z,2.8nm,0.7s
BKNI Bangkinang 39.23 273 P **P** **06 47 17.2 -1.4**
IPM Ipoh 39.73 280 P **P** **06 47 21.5 -1.3**
IPM Ipoh 39.73 280 P **P** **06 47 23.7 +0.9**
NJ2 Nanjing 39.84 331 *e*P **P** **06 47 26.1 +2.8**
NJ2 sP **sP** **06 47 34.6 +6.9**
NJ2 S **S** **06 53 30.4 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 LR LR
comp=Z,570nm,14.7s
NJ2 LR LR
comp=Z,510nm,16.7s
NJ2 LR LR
comp=Z,1μm,15.2s
MSVF Nonsavu 40.13 115 LR LR 07 04 08.5
comp=Z,1μm,18.5s,baz=306,slow=36
KULM Kulim 40.23 281 P **P** **06 47 25.7 -1.2**
KULM Kulim 40.23 281 P **P** **06 47 28.0 +1.1**
SISI Saibi 41.09 271 P **P** **06 47 33.0 -1.0**
comp=Z,130nm,1.1s
KSRS Korea Array 41.30 345 P **P** **06 47 34.9 -0.4**
comp=Z,3.5nm,0.7s,baz=159,slow=8.4,SNR=9.5
KSRS LR LR 07 04 23.2
comp=Z,576nm,18.9s,baz=145,slow=36
comp=Z,3.5nm,0.7s
RPSI Rantau Prapat 41.56 277 P **P** **06 47 36.1 -1.8**
RPSI IAmb IAmb 06 47 40.3
comp=Z,55nm,0.9s
PSI Prapat 41.58 277 P **P** **06 47 36.8 -1.3**
NONG Nongkai 41.79 301 P **P** **06 47 40.1 +0.4**
SRIT Nakonsritamara 41.92 286 P **P** **06 47 40.6 -0.2**
SRIT IAmb IAmb 06 47 43.8
comp=Z,47nm,1.0s
SRIT Nakonsritamara 41.92 286 P **P** **06 47 42.2 +1.4**
NAYO Nakonayok 41.96 295 P **P** **06 47 41.5 +0.4**
SLVN Son La 42.65 305 P **P** **06 47 48.0 +1.3**
GSI Gunungsitoli 42.76 275 P **P** **06 47 45.7 -2.0**
GSI Gunungsitoli 42.76 275 P **P** **06 47 46.3 -1.4**
GYA Guiyang 43.29 314 ⇓P **P** **06 47 53.8 +1.9**
GYA S **S** **06 54 18.8 -0.8**
GYA SS **SS** **06 57 29.8 -3.4**
GYA pmax pmax
comp=Z,11nm,1.0s
GYA pmax pmax
comp=Z,220nm,5.5s
GYA LR LR
comp=Z,240nm,11.5s
GYA LR LR
comp=Z,210nm,11.7s
GYA LR LR
comp=Z,240nm,23.0s
SRDT SRDT 43.98 294 P **P** **06 47 58.2 +0.8**
TIA Tai'an 44.07 333 P **P** **06 47 57.8 -0.1**
TIA S **S** **06 54 29.1 -1.4**
TIA SS **SS** **06 57 41.9 -6.1**
TIA pmax pmax
comp=Z,9.0nm,0.8s
TIA pmax pmax
comp=Z,260nm,3.5s
TIA LR LR
comp=Z,490nm,15.7s
TIA LR LR
comp=Z,220nm,13.2s
TIA LR LR
comp=Z,670nm,19.6s
PHRA Phrae 44.49 300 P **P** **06 48 00.8 -0.7**
DL2 Dalian 44.57 339 P P 06 48 07.1 +5.3
DL2 S **S** **06 54 43.6 +6.1**
DL2 pmax pmax
comp=Z,31nm,1.4s
DL2 pmax pmax
comp=Z,300nm,8.4s
DL2 LR LR
comp=Z,440nm,20.0s
DL2 LR LR
comp=Z,620nm,19.2s
DL2 LR LR
comp=Z,550nm,15.5s
OUZ Omahuta 44.99 140 P **P** **06 48 07.7 +2.4**
LYN LuoYang 45.09 327 P **P** **06 48 06.3 +0.3**
LYN pP pP 06 48 09.4 +0.2
LYN sP sP 06 48 13.4 +3.0
LYN S **S** **06 54 44.3 -1.0**
LYN SS **ScS** **06 58 02.5 -1.2**
LYN pmax pmax
comp=Z,22nm,0.8s
LYN pmax pmax
comp=Z,230nm,7.3s
LYN LR LR
comp=Z,660nm,13.9s
LYN LR LR
comp=Z,380nm,15.1s
LYN LR LR
comp=Z,760nm,17.1s
KMI Kunming 45.48 309 ⇑P **P** **06 48 11.3 +1.7**
KMI S **S** **06 54 51.5 -0.3**
KMI pmax pmax
comp=Z,32nm,0.8s
KMI LR LR
comp=Z,500nm,20.8s
KMI LR LR
comp=Z,200nm,30.5s
CMAR Chiang Mai Arr 45.59 299 P **P** **06 48 10.8 +0.4**
comp=Z,19nm,0.9s,baz=119,slow=6.3,SNR=73
comp=Z,19nm,0.9s
CHTO Chiang Mai 45.73 299 P **P** **06 48 11.2 -0.2**
CHTO IAmb IAmb 06 48 17.5
comp=Z,63nm,1.5s
HNS HongShan 46.16 332 ⇑P **P** **06 48 14.6 +0.1**
HNS pP **sP** **06 48 23.6 +4.8**
HNS S **S** **06 54 59.0 -1.7**
HNS SS **SS** **06 58 20.6 -5.6**
HNS pmax pmax
comp=Z,17nm,1.3s
HNS LR LR
comp=Z,540nm,15.5s
HNS LR LR
comp=Z,330nm,15.9s
HNS LR LR
comp=Z,660nm,17.8s
ASAJ Asahikawa 46.41 2 LR LR 07 07 14.6
comp=Z,310nm,20.9s,baz=164,slow=35
JKA Kamikawa-asahi 46.41 2 P **P** **06 48 16.1 -0.2**
JKA IAmb IAmb 06 48 17.6
comp=Z,20nm,0.9s
RVAZ Riverhead Bore 46.58 141 P **P** **06 48 21.0 +3.2**
XAN Xi'an 46.72 324 ⇑P **P** **06 48 19.1 +0.1**
XAN pP sP 06 48 23.0 -0.5
XAN S **S** **06 55 06.8 -2.2**
XAN pmax pmax
comp=Z,16nm,1.6s
XAN pmax pmax
comp=Z,260nm,6.8s
PZH PanZhiHua 46.97 310 P **P** **06 48 22.3 +1.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,4.3s
USRK Ussuriysk Ar. 47.02 352 P **P** **06 48 21.1 0.0**
comp=Z,7.0nm,0.9s,baz=181,slow=9.3,SNR=8.2
USRK LR LR 07 05 32.2
comp=Z,594nm,20.1s,baz=163,slow=33
comp=Z,7.0nm,0.9s
BJI Beijing 47.67 335 P **P** **06 48 28.6 +2.4**
BJI S **S** **06 55 21.5 -0.6**
BJI pmax pmax
comp=Z,4.0nm,1.2s
BJI pmax pmax
comp=Z,120nm,5.5s
BJI LR LR
comp=Z,200nm,22.2s
BJI LR LR
comp=Z,140nm,16.7s
BJI LR LR
comp=Z,320nm,18.4s
MDJ Mudanjiang 47.80 350 P **P** **06 48 27.8 +0.6**
MDJ sP sP 06 48 39.6 +8.0
MDJ S **S** **06 55 27.0 +3.1**
MDJ ScS **ScS** **06 58 18.9 -2.1**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ LR LR
comp=Z,450nm,16.5s
MDJ LR LR
comp=Z,450nm,19.6s
MDJ LR LR
comp=Z,810nm,20.6s
RAO Raoul Island 47.89 128 LR LR 07 05 53.7
comp=Z,644nm,21.4s,baz=305,slow=33
CN2 Changchun 47.91 346 *e*P **P** **06 48 29.9 +1.9**
CN2 *es*P sP 06 48 36.8 +4.4
CN2 *e*S **S** **06 55 27.0 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,400nm,12.0s
CD2 Chengdu 47.99 317 P **P** **06 48 30.8 +1.8**
CD2 S **S** **06 55 26.5 -0.7**
CD2 sS sS 06 55 38.9 +6.4
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,160nm,4.6s
CD2 LR LR
comp=Z,540nm,15.7s
CD2 LR LR
comp=Z,370nm,12.3s
CD2 LR LR
comp=Z,310nm,18.0s
DSZ Denniston Nort 48.33 148 P **P** **06 48 34.3 +2.8**
KATZ Kakaramea 48.66 143 P **P** **06 48 36.2 +2.1**
WTVZ West Tongariro 48.69 143 P **P** **06 48 36.5 +2.2**
NNVZ North Ngauruho 48.71 143 P **P** **06 48 37.0 +2.5**
TNCH TengChong 48.76 307 P **P** **06 48 35.1 -0.1**
TNCH pP sP 06 48 41.0 +1.4
TNCH pmax pmax
comp=Z,220nm,4.3s
THZ Tophouse 48.93 148 P **P** **06 48 37.1 +1.1**
URZ Urewera 49.09 141 LR LR 07 09 43.8
comp=Z,1μm,18.8s,baz=42,slow=37
URZ Urewera 49.09 141 P **P** **06 48 37.0 -0.2**
HAZ Te Kaha 49.21 140 P **P** **06 48 40.4 +2.2**
RTZ Ruatahuna 49.22 142 P **P** **06 48 38.5 +0.1**
YSS Yuzhno-Sakhali 49.25 2 P **P** **06 48 37.7 -0.6**
YSS IAmb IAmb 06 48 39.8
comp=Z,21nm,0.8s
YSS Yuzhno-Sakhali 49.25 2 P **P** **06 48 37.8 -0.5**
BKZ Black Stump Fm 49.26 143 P **P** **06 48 39.4 +0.7**
TUWZ Tuamarina 49.26 147 P **P** **06 48 38.3 -0.2**
RUGZ Raukumara Rang 49.27 141 P **P** **06 48 40.3 +1.5**
BNX BinXian 49.30 348 ⇑P **P** **06 48 38.5 -0.2**
BNX pmax pmax
comp=Z,15nm,1.4s
BNX LR LR
comp=Z,410nm,16.8s
BNX LR LR
comp=Z,280nm,15.7s
BNX LR LR
comp=Z,500nm,20.6s
LTZ Lake Taylor 49.31 149 P **P** **06 48 39.7 +0.7**
RPZ Rata Peaks 49.38 151 P **P** **06 48 40.0 +0.6**
RPZ IAmb IAmb 06 48 52.1
comp=Z,37nm,0.9s
RPZ Rata Peaks 49.38 151 P **P** **06 48 40.1 +0.6**
comp=Z,29nm,0.9s,baz=208,slow=6.6,SNR=6.0
comp=Z,29nm,0.9s
RPZ Rata Peaks 49.38 151 P **P** **06 48 42.1 +2.7**
MWZ Matawai 49.39 141 P **P** **06 48 40.6 +0.9**
BSWZ Blackbirch Sta 49.42 147 P **P** **06 48 39.8 +0.1**
RAHZ Arahi 49.47 142 P **P** **06 48 41.4 +1.2**
SNGZ Shannon Statio 49.55 142 P **P** **06 48 41.8 +1.0**
PNHZ Pukenui 49.56 144 P **P** **06 48 41.4 +0.5**
TWGZ Tauwhareparae 49.58 141 P **P** **06 48 42.8 +1.7**
WHZ Wether Hill Ro 49.62 155 P **P** **06 48 41.8 +0.6**
WHZ Wether Hill Ro 49.62 155 P **P** **06 48 42.6 +1.4**
MRZ Mangatainoka R 49.67 145 P **P** **06 48 41.9 +0.2**
PUZ Puketiti 49.70 140 P **P** **06 48 43.0 +1.0**
KHZ Kahutara 49.72 148 P **P** **06 48 41.9 0.0**
GVZ Greta Valley S 49.84 149 P **P** **06 48 43.1 +0.1**
HHC Hu-ho-hao-te 50.38 332 *e*P **P** **06 48 50.8 +3.6**
HHC sP sP 06 48 59.4 +7.8
HHC S **S** **06 56 02.5 +1.9**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,390nm,15.3s
HHC LR LR
comp=Z,260nm,14.3s
HHC LR LR
comp=Z,590nm,16.7s
BTO Baotou 50.94 330 *e*P **P** **06 48 50.5 -0.9**
BTO pP **pP** **06 48 54.4 -0.3**
BTO sP **sP** **06 48 58.5 +2.5**
BTO PP **PP** **06 50 48.0 +0.1**
BTO S **S** **06 56 08.0 -0.3**
BTO pmax pmax
comp=Z,250nm,6.4s
BTO LR LR
comp=Z,580nm,10.1s
BTO LR LR
comp=Z,570nm,14.8s
BTO LR LR
comp=Z,490nm,12.8s
XLT XiLinHaoTe 50.96 338 *e*P **P** **06 48 54.8 +3.4**
XLT pP sP 06 48 59.1 +3.3
XLT S **S** **06 56 12.9 +4.5**
XLT ScS **ScS** **06 58 40.8 -1.7**
XLT pmax pmax
comp=Z,5.0nm,1.4s
XLT LR LR
comp=Z,280nm,15.0s
XLT LR LR
comp=Z,430nm,20.2s
LZH Lanzhou 51.17 322 *e*P **P** **06 48 54.8 +1.5**
LZH pP sP 06 49 02.3 +4.6
LZH sP pP 06 49 05.4 +8.9
LZH S **S** **06 56 05.1 -6.7**
LZH sS sS 06 56 23.0 +5.9
LZH pmax pmax
comp=Z,31nm,1.0s
LZH LR LR
comp=Z,280nm,15.8s
LZH LR LR
comp=Z,430nm,14.4s
LZH LR LR
comp=Z,320nm,17.2s
KLR Kul'dur 51.99 353 LR LR 07 08 37.6
comp=Z,346nm,21.1s,baz=192,slow=33
HEH HeiHe 53.63 350 *e*P **P** **06 49 11.0 -0.1**
HEH PcP **PcP** **06 50 17.1 -0.4**
HEH S **S** **06 56 45.8 +1.1**
HEH pmax pmax
comp=Z,9.0nm,1.0s
HEH LR LR
comp=Z,160nm,15.5s
HEH LR LR
comp=Z,430nm,16.1s
HEH LR LR
comp=Z,490nm,15.7s
SHL Shillong 54.41 304 P **P** **06 49 16.0 -1.5**
SHL IAmb IAmb 06 49 22.0
comp=Z,58nm,1.6s
SHL Shillong 54.41 304 P **P** **06 49 16.7 -0.8**
GTA Gaotai 55.75 323 *e*P **P** **06 49 28.5 +1.7**
GTA sP sP 06 49 42.6 +11
GTA S **S** **06 57 14.9 +1.1**
GTA pmax pmax
comp=Z,9.0nm,1.4s
GTA LR LR
comp=Z,140nm,13.8s
GTA LR LR
comp=Z,180nm,14.9s
GTA LR LR
comp=Z,240nm,16.0s
LSA Lhasa 56.70 308 P **P** **06 49 34.5 +0.3**
LSA Lhasa 56.70 308 P **P** **06 49 36.1 +1.8**
LSA Lhasa 56.70 308 P **P** **06 49 36.0 +1.7**
GOMU GeErMu 57.13 317 P **P** **06 49 38.3 +1.3**
GOMU pP sP 06 49 41.5 0.0
GOMU sP pP 06 49 45.8 +5.5
GOMU S **S** **06 57 32.8 +0.1**
GOMU pmax pmax
comp=Z,7.0nm,0.8s
GOMU LR LR
comp=Z,280nm,14.4s
GOMU LR LR
comp=Z,460nm,14.7s
GOMU LR LR
comp=Z,500nm,14.4s
PETK Petropavlovsk- 57.28 12 P **P** **06 49 36.7 -0.6**
comp=Z,10nm,0.9s,baz=164,slow=5.7,SNR=8.6
PETK LR LR 07 14 20.6
comp=Z,193nm,19.9s,baz=214,slow=36
comp=Z,10nm,0.9s
ULN Ulaanbaatar 57.86 334 P **P** **06 49 41.1 -0.6**
ULN Ulaanbaatar 57.86 334 P **P** **06 49 44.5 +2.8**
ULN P **P** **06 49 44.5 +2.8**
SONM Songino Array 58.12 334 P **P** **06 49 41.9 -1.6**
SONM Songino Array 58.12 334 P **P** **06 49 43.8 +0.3**
comp=Z,1.0nm,0.5s,baz=146,slow=8.4,SNR=4.3
comp=Z,1.0nm,0.5s
PALK Pallekele 60.13 280 LR LR 07 17 48.3
comp=Z,243nm,21.1s,baz=105,slow=38
RAR Rarotonga 61.26 113 LR LR 07 14 42.8
comp=Z,246nm,19.9s,baz=296,slow=34
SHEM Shemya Is, Ala 61.93 23 LR LR 07 12 11.8
comp=Z,816nm,22.0s,baz=277,slow=31
MA2 Magadan 62.40 6 P **P** **06 50 11.9 -0.5**
MA2 IAmb IAmb 06 50 13.5
comp=Z,12nm,1.0s
MA2 Magadan 62.40 6 LR LR 07 16 36.9
comp=Z,129nm,19.7s,baz=195,slow=35
MA2 Magadan 62.40 6 P **P** **06 50 12.9 +0.5**
MA2 Magadan 62.40 6 P **P** **06 50 11.9 -0.5**
comp=Z,14nm,2.1s
HYB Hyderabad 63.86 291 *e*P **P** **06 50 22.6 -0.4**
YAK Yakutsk 64.81 355 P **P** **06 50 27.9 -0.4**
YAK Yakutsk 64.81 355 LR LR 07 18 04.1
comp=Z,209nm,18.6s,baz=154,slow=35
WMQ Urumqi 65.73 321 *e*P **P** **06 50 36.4 +1.7**
SEY Seymchan 65.86 6 LR LR 07 22 43.9
comp=Z,241nm,18.1s,baz=164,slow=39
ZSN Zaisan 69.23 323 *e*P **P** **06 50 56.8 +0.1**
comp=Z,15nm,1.2s
WUS Wushi 70.24 315 P **P** **06 51 02.9 -0.4**
WUS IAmb IAmb 06 51 07.8
comp=Z,32nm,1.5s
PPT Papeete 70.43 108 LR LR 07 17 51.1
comp=Z,325nm,21.7s,baz=246,slow=32
PPT2 Papeete2 70.43 108 *e*LR LR 07 12 33.1
PPT2 *e*LR LR 07 12 34.3
comp=Z,621nm,26.0s
comp=Z,826nm,24.5s
MK31 Makanchi Array 70.49 322 P **P** **06 51 04.0 -0.5**
MK31 IAmb IAmb 06 51 20.6
comp=Z,19nm,1.1s
MKAR Makanchi Array 70.49 322 P **P** **06 51 04.0 -0.5**
MKAR Makanchi Array 70.49 322 P **P** **06 51 04.9 +0.4**
comp=Z,13nm,0.8s,baz=102,slow=7.5,SNR=82
comp=Z,13nm,0.8s
MAKZ Makanchi 70.69 322 P **P** **06 51 05.9 +0.2**
MAKZ IAmb IAmb 06 51 07.1
comp=Z,20nm,0.8s
SHLS Shalkode 70.82 317 *e*P **P** **06 51 04.9 -1.9**
comp=Z,5.6nm,0.9s
TBI Tubuai 71.01 114 *e*SS SS 07 04 53.9 -4.0
TBI *e*LR LR 07 12 51.3
comp=Z,985nm,23.2s
UZB Uzynbulak 71.11 317 *e*P **P** **06 51 08.3 -0.2**
comp=Z,8.7nm,0.8s
UNV Unalaska Valle 71.37 30 P **P** **06 51 10.9 +1.3**
baz=238
TARG Taragay, Kyrgy 71.42 316 P **P** **06 51 10.2 -0.6**
KPKS Kokpek 71.46 318 *e*P **P** **06 51 10.4 -0.2**
comp=Z,5.1nm,0.8s
P08K Saint George I 71.47 27 P **P** **06 51 11.2 +1.0**
baz=234
SATY Saty 71.50 317 *e*P **P** **06 51 10.6 -0.3**
comp=Z,6.5nm,0.7s
SPIA Saint Paul Isl 71.50 26 P **P** **06 51 11.3 +0.9**
baz=233
ZHN Zhinishke 71.52 317 *e*P **P** **06 51 10.8 -0.2**
KSH Kashi 71.98 313 P **P** **06 51 15.9 +2.0**
KSH pmax pmax
comp=Z,21nm,1.0s
TDK Taldyqorghan 72.23 319 *e*P **P** **06 51 15.2 +0.1**
comp=Z,11nm,0.8s
NIL Nilore 72.36 306 P **P** **06 51 15.6 -0.5**
NIL Nilore 72.36 306 P **P** **06 51 17.1 +1.0**
NIL P **P** **06 51 17.1 +1.0**
MDOK Medeo 72.46 317 *e*P **P** **06 51 16.4 -0.3**
ZAA0 Zalesovo Array 72.46 329 P **P** **06 51 15.4 -0.8**
ZALV Zalesovo Beam 72.46 329 P **P** **06 51 15.1 -1.1**
ZALV Zalesovo Beam 72.46 329 P **P** **06 51 15.7 -0.5**
comp=Z,7.2nm,0.7s,baz=109,slow=6.3,SNR=30
comp=Z,7.2nm,0.7s
TNSS Tian-Shan 72.48 317 *e*P **P** **06 51 16.7 -0.4**
AAA Alma-Ata 72.57 317 *e*P **P** **06 51 16.9 -0.3**
comp=Z,15nm,0.9s
BOOM Boomskoye usch 72.99 316 P **P** **06 51 20.1 +0.2**
BOOM IAmb IAmb 06 51 29.4
comp=Z,69nm,2.0s
AAK Ala-Archa 74.05 316 P **P** **06 51 26.2 +0.1**
AAK Ala-Archa 74.05 316 P **P** **06 51 26.8 +0.7**
comp=Z,2.9nm,0.5s,baz=87,slow=5.9,SNR=7.2
comp=Z,2.9nm,0.5s
AAK Ala-Archa 74.05 316 P **P** **06 51 27.2 +1.1**
AAK P **P** **06 51 27.2 +1.1**
SGDS Sogindy 74.22 316 *e*P **P** **06 51 26.7 -0.2**
TIXI Tiksi 74.33 356 P **P** **06 51 25.7 -1.2**
TIXI IAmb IAmb 06 51 32.1
comp=Z,31nm,1.9s
KURK Kurchatov 74.36 325 P **P** **06 51 27.1 -0.4**
KURK Kurchatov 74.36 325 P **P** **06 51 27.6 +0.2**
KURK P **P** **06 51 27.6 +0.2**
KURBB Kurchatov Arra 74.37 324 P **P** **06 51 27.4 -0.1**
comp=Z,6.7nm,0.8s,baz=112,slow=5.6,SNR=58
comp=Z,6.7nm,0.8s
S12K Black Hills 74.53 30 P **P** **06 51 29.3 +1.0**
baz=241
ARSB Arslanbob 74.71 314 P **P** **06 51 29.3 -0.7**
ARSB IAmb IAmb 06 51 32.3
comp=Z,14nm,0.8s
GAMB Gambell 75.03 20 P **P** **06 51 32.1 +1.1**
baz=230
DRK Karamyk 75.05 312 P **P** **06 51 31.9 -0.3**
BTLS Baital 75.13 318 *e*P **P** **06 51 32.1 0.0**
VNDA Vanda 75.91 175 P **P** **06 51 36.1 +0.1**
comp=Z,10nm,0.8s,baz=324,slow=6.1,SNR=10
VNDA LR LR 07 24 27.3
comp=Z,732nm,20.4s,baz=350,slow=35
comp=Z,10nm,0.8s
BTK Batken 75.94 312 P **P** **06 51 36.3 -0.7**
KBL Kabul 75.96 306 P **P** **06 51 35.5 -1.8**
KBL IAmb IAmb 06 51 44.4
comp=Z,18nm,1.2s
KBL Kabul 75.96 306 P **P** **06 51 34.9 -2.4**
GAR Garm 76.03 311 P **P** **06 51 37.2 -0.4**
DZA Taraz 76.34 315 *e*P **P** **06 51 39.0 -0.1**
comp=Z,5.3nm,0.7s
K13K Kusilvak Mount 76.55 24 P **P** **06 51 40.8 +0.9**
baz=238
O14K Tigyukauivet M 76.62 27 P **P** **06 51 40.8 +0.6**
baz=241
CHGR Chuyangaron 76.83 310 P **P** **06 51 42.3 +0.2**
SIMJ Simiganj 76.94 310 P **P** **06 51 42.0 -0.8**
KK31 Karatay Array 76.98 315 P **P** **06 51 42.0 -0.8**
KKAR Karatay Array 76.98 315 P **P** **06 51 42.1 -0.6**
KKAR Karatay Array 76.98 315 P **P** **06 51 42.5 -0.2**
L14K Kuka Creek 77.04 25 P **P** **06 51 42.9 +0.3**
baz=240
M14K Bethel 77.05 25 P **P** **06 51 43.5 +0.8**
baz=240
O15K Ungalikthiuk R 77.24 27 P **P** **06 51 45.1 +1.3**
baz=242
CHM Chimkent 77.42 314 *e*P **P** **06 51 45.2 0.0**
J14K Nanvaranak Lak 77.42 23 P **P** **06 51 45.9 +1.2**
baz=238
BRLS Borolday 77.44 315 *e*P **P** **06 51 45.5 +0.2**
M15K Kasigluk River 77.57 26 P **P** **06 51 46.5 +0.9**
baz=241
N15K Kwethluk River 77.58 26 P **P** **06 51 46.9 +1.2**
baz=242

R16K	Pilot Point	77.58	29	P	P	06 51 45.3	-0.4
	baz=245						
BRZS	Berezniki	77.62	322	eP	P	06 51 46.4	+0.2
L15K	Ungalak Mounta	77.71	25	P	P	06 51 47.4	+1.0
	baz=240						
ANM	Nome	77.72	21	P	P	06 51 46.7	+0.4
	baz=236						
CHIR	Chirikof Islan	77.85	31	P	P	06 51 47.9	+0.6
	baz=247						
F14K	Arctic Creek	77.90	20	P	P	06 51 48.5	+1.2
	baz=235						
K15K	Wolf Creek Mou	78.00	24	P	P	06 51 48.6	+0.6
	baz=240						
P16K	Nushagak River	78.02	28	P	P	06 51 48.9	+0.8
	baz=244						
O16K	Kokwok River B	78.22	27	P	P	06 51 50.1	+0.9
	baz=244						
G15K	Niukluk	78.44	21	P	P	06 51 51.0	+0.7
	baz=238						
M16K	Timber Creek	78.47	26	P	P	06 51 50.9	+0.2
	baz=243						
L16K	Owhat River	78.57	25	P	P	06 51 52.0	+0.9
	baz=242						
F15K	North Star Dit	78.61	20	P	P	06 51 52.0	+0.7
	baz=237						
O17K	Koliganek Bris	78.75	27	P	P	06 51 52.4	+0.2
	baz=245,SNR=5.0						
P17K	Kvichak River	78.81	28	P	P	06 51 52.4	-0.1
	baz=246						
J16K	Anvik River	78.86	23	P	P	06 51 53.3	+0.6
	baz=241						
SII	Sitkinak Islan	78.88	31	P	P	06 51 54.3	+1.4
	baz=248						
H16K	Elim	78.91	22	P	P	06 51 53.5	+0.6
	baz=239,SNR=6.0						
ACHA	Angle Creek He	78.94	29	P	P	06 51 53.6	+0.2
ACHA				IAmb	IAmb	06 52 16.5	
	comp=Z,80nm,2.0s						
N17K	Nushagak Hills	79.03	27	P	P	06 51 54.1	+0.4
	baz=245						
I17K	Unalakleet	79.11	23	P	P	06 51 54.9	+0.9
	baz=241						
G16K	Koyuk River	79.25	21	P	P	06 51 55.3	+0.5
G16K				IAmb	IAmb	06 52 25.7	
	comp=Z,35nm,1.6s						
G16K	Koyuk River	79.25	21	P	P	06 51 55.6	+0.8
	baz=239						
L17K	Donlin	79.26	25	P	P	06 51 55.9	+1.0
	baz=243						
M17K	Holitna River	79.30	26	P	P	06 51 56.1	+0.9
M17K				IAmb	IAmb	06 51 57.3	
	comp=Z,28nm,1.1s						
M17K	Holitna River	79.30	26	P	P	06 51 55.4	+0.2
	baz=244						
TAOE	Nuku Hiva Isla	79.42	98	eLR	LR	07 16 42.6	
	comp=Z,817nm,23.0s						
J17K	VABM Dome	79.52	24	P	P	06 51 56.3	0.0
	baz=242						
K17K	Iditarod	79.52	24	P	P	06 51 56.4	+0.1
	baz=243,SNR=6.3						
OHAK	Old Harbor	79.58	30	P	P	06 51 56.9	+0.2
	baz=249						
OHAK	Old Harbor	79.58	30	P	P	06 51 57.3	+0.6
O18K	Koktuh Hills	79.65	28	P	P	06 51 57.9	+0.7
	baz=247						
N18K	Kilae Creek	79.68	27	P	P	06 51 58.1	+0.8
	baz=246						
C16K	Lisburne Hills	79.82	18	P	P	06 51 57.8	0.0
C16K				IAmb	IAmb	06 52 09.5	
	comp=Z,46nm,1.9s						
C16K	Lisburne Hills	79.82	18	P	P	06 51 57.7	0.0
	baz=236						
NRIK	Noril'sk	79.89	343	P	P	06 51 57.9	-0.3
NRIK	Noril'sk	79.89	343	P	P	06 51 58.0	-0.3
	comp=Z,9.3nm,0.9s,baz=125,slow=5.3,SNR=13						
	comp=Z,9.3nm,0.9s						
H17K	Granite Mounta	79.92	22	P	P	06 51 59.6	+1.2
	baz=241						
BVAR	Borovoye Array	79.94	325	P	P	06 51 59.0	+0.1
	comp=Z,11nm,0.5s,baz=113,slow=7.1,SNR=46						
	comp=Z,11nm,0.5s						
L18K	Granite Mounta	79.97	25	P	P	06 51 59.3	+0.5
L18K				IAmb	IAmb	06 52 17.9	
	comp=Z,30nm,1.3s						
L18K	Granite Mounta	79.97	25	P	P	06 51 59.7	+0.9
	baz=245,SNR=5.8						
BRVK	Borovoye	80.02	325	P	P	06 51 58.9	-0.3
BRVK				IAmb	IAmb	06 52 15.0	
	comp=Z,24nm,1.1s						
BRVK	Borovoye	80.02	325	P	P	06 51 59.0	-0.2
Q19K	Cape Douglas,	80.03	29	P	P	06 51 59.8	+0.5
	baz=248						
M18K	Stony River	80.04	26	P	P	06 51 59.9	+0.8
	baz=246,SNR=5.2						
KDAK	Kodiak Island	80.14	30	P	P	06 52 00.5	+0.7
KDAK				IAmb	IAmb	06 52 01.5	
	comp=Z,28nm,1.1s						
KDAK	Kodiak Island	80.14	30	LR	LR	07 23 25.8	
	comp=Z,609nm,20.3s,baz=87,slow=33						
KDAK	Kodiak Island	80.14	30	P	P	06 51 59.7	-0.1
	baz=249						
O19K	Port Alsworth	80.20	27	P	P	06 52 01.0	+1.0
	baz=247						
D17K	Noatak River	80.22	19	P	P	06 52 01.0	+1.0
	baz=238,SNR=9.5						
E17K	Hotham Inlet	80.31	20	P	P	06 52 01.1	+0.6
	baz=239						
N19K	Bonanza Creek	80.36	27	P	P	06 52 01.7	+0.6
	baz=247						
RDOG	Red Dog Mine	80.46	19	P	P	06 52 02.2	+0.8
	baz=238						
J18K	Innoko River	80.50	24	P	P	06 52 01.6	-0.1
J18K	Innoko River	80.50	24	P	P	06 52 02.6	+1.0
	baz=245						
Q20K	Shuyak Island	80.53	29	P	P	06 52 02.1	+0.2
	baz=249						
TTA	Tatalina	80.56	25	P	P	06 52 01.9	-0.2
TTA	Tatalina	80.56	25	P	P	06 52 03.2	+1.1
	baz=245,SNR=6.8						
TTA	Tatalina	80.56	25	P	P	06 52 02.6	+0.6
C17K	DeLong Mountai	80.60	18	P	P	06 52 03.3	+1.2
	baz=238						
H18K	Honhosa River	80.60	22	P	P	06 52 03.5	+1.3
	baz=243						
L19K	White Mountain	80.74	26	P	P	06 52 04.6	+1.6
	baz=246						
F18K	Selawik	80.81	21	P	P	06 52 03.5	+0.3
	baz=241						
M19K	Big River Lodg	80.83	26	P	P	06 52 03.4	-0.1
	baz=247						
G18K	Tagagawik	80.84	21	P	P	06 52 03.3	-0.1
G18K	Tagagawik	80.84	21	P	P	06 52 03.1	-0.4
	baz=242						
E18K	Tukpahlearik C	80.89	20	P	P	06 52 04.0	+0.4
	baz=240						
O20K	Slope Mountain	80.94	28	P	P	06 52 04.5	+0.4
	baz=249						
GCSA	Galena City Sc	80.99	23	P	P	06 52 04.6	+0.5
	baz=244						
J19K	Poorman	81.16	24	P	P	06 52 05.6	+0.4
J19K	Poorman	81.16	24	P	P	06 52 05.2	+0.1
	baz=246						
HOM	Homer	81.25	28	P	P	06 52 06.1	+0.4
	baz=250						
L20K	Farewell, AK	81.28	25	P	P	06 52 06.3	+0.4
	baz=247						
C18K	Utukok River	81.31	18	P	P	06 52 06.6	+0.6
	baz=240						
M20K	Styx River	81.38	26	P	P	06 52 06.4	0.0
M20K				IAmb	IAmb	06 52 13.2	
	comp=Z,19nm,0.9s						
M20K	Styx River	81.38	26	P	P	06 52 07.0	+0.6
	baz=248						
H19K	Roundabout Mou	81.49	22	P	P	06 52 07.2	+0.4
	baz=245						
B18K	Kokolik River	81.49	18	P	P	06 52 07.2	+0.4
	baz=239						
G19K	Purcell Mounta	81.52	21	P	P	06 52 07.8	+0.8
	baz=244						
K20K	Telida	81.54	25	P	P	06 52 07.5	+0.4
	baz=247						
F19K	Shaleruckik Mo	81.58	21	P	P	06 52 07.7	+0.4
	baz=243						
BRSE	Bradley Lake S	81.71	29	P	P	06 52 08.3	+0.2
	baz=251						
J20K	Nowinta River	81.83	24	P	P	06 52 09.1	+0.4
J20K				IAmb	IAmb	06 52 10.2	
	comp=Z,13nm,0.9s						
J20K	Nowinta River	81.83	24	P	P	06 52 08.2	-0.5
	baz=247						
CAPN	Captain Cook N	81.87	28	P	P	06 52 09.4	+0.5
	baz=250						
E19K	Redstone River	82.06	20	P	P	06 52 09.6	-0.2
E19K				IAmb	IAmb	06 52 14.1	
	comp=Z,17nm,0.9s						
E19K	Redstone River	82.06	20	P	P	06 52 09.8	0.0
	baz=244						
H20K	Anotleneega Mo	82.07	22	P	P	06 52 10.5	+0.6
	baz=246						
SKT	Skwentna	82.12	26	P	P	06 52 09.3	-1.0
	baz=250						
A19K	Wainwright	82.14	17	P	P	06 52 10.5	+0.3
	baz=240						
PPLA	Purkeypile	82.16	25	P	P	06 52 10.7	0.0
	baz=249						
D19K	Kuna River	82.23	19	P	P	06 52 10.5	-0.2
D19K				IAmb	IAmb	06 52 13.8	
	comp=Z,15nm,0.8s						
D19K	Kuna River	82.23	19	P	P	06 52 10.6	-0.2
	baz=243						
JLN	Jalan Bani Buh	82.38	293	P	P	06 52 12.1	-0.3
JLN				P	P	06 52 12.1	-0.3
CAST	Castle Rocks	82.39	25	P	P	06 52 11.3	-0.4
CAST	Castle Rocks	82.39	25	P	P	06 52 11.7	0.0
	baz=249,SNR=5.8						
F20K	Avaraart Lake	82.41	21	P	P	06 52 11.9	+0.3
	baz=245						
O22K	Cooper Landing	82.44	28	P	P	06 52 11.8	-0.1
	baz=251						
SEW	Seward	82.45	28	P	P	06 52 12.0	+0.1
	baz=252						
CHUM	Lake Minchumin	82.46	24	P	P	06 52 11.7	-0.3
	baz=249,SNR=15						
RC01	Rabbit Creek A	82.63	27	P	P	06 52 12.1	-0.8
RC01				IAmb	IAmb	06 52 13.1	
	comp=Z,19nm,0.8s						
RC01	Rabbit Creek A	82.63	27	P	P	06 52 12.4	-0.6
	baz=251,SNR=11						
M22K	Willow	82.67	27	P	P	06 52 13.2	+0.1
	baz=251						
E20K	Nigu River	82.76	20	P	P	06 52 14.0	+0.4
	baz=244						
D20K	Etivluk River	82.82	19	P	P	06 52 14.2	+0.4
	baz=244						
WBK	Wadi Bani Khal	82.83	293	P	P	06 52 15.6	+0.8
WBK				P	P	06 52 15.6	+0.8
MAW	Mawson	82.92	202	LR	LR	07 27 06.6	
	comp=Z,388nm,18.6s,baz=48,slow=34						
KTH	Kantishna Hill	82.93	25	P	P	06 52 13.3	-1.3
H21K	Melozitna Rive	82.93	23	P	P	06 52 14.3	-0.1
H21K				IAmb	IAmb	06 52 36.7	
	comp=Z,22nm,1.6s						
H21K	Melozitna Rive	82.93	23	P	P	06 52 15.1	+0.7
	baz=248						
PMR	Palmer	83.06	27	P	P	06 52 14.1	-1.1
PMR				IAmb	IAmb	06 52 15.3	
	comp=Z,19nm,1.0s						
PMR	Palmer	83.06	27	P	P	06 52 14.8	-0.3
	baz=252,SNR=7.4						
PMR	Palmer	83.06	27	P	P	06 52 14.8	-0.3
I21K	Tanana	83.07	23	P	P	06 52 15.4	+0.2
	baz=249						
TRF	Thorofare Moun	83.16	25	P	P	06 52 14.6	-1.2
TRF				IAmb	IAmb	06 54 07.7	
	comp=Z,42nm,1.8s						
TRF	Thorofare Moun	83.16	25	P	P	06 52 15.0	-0.8
	baz=251						
PWL	Port Wells	83.20	28	P	P	06 52 15.5	-0.5
	baz=253						
GHO	Glory Hole Cre	83.21	27	P	P	06 52 15.0	-1.0
F21K	Alatna River	83.28	21	P	P	06 52 16.7	+0.4
	baz=247						
KNK	Knik Glacier	83.31	27	P	P	06 52 16.7	+0.2
	baz=252,SNR=7.1						
P23K	Montague Islan	83.39	29	P	P	06 52 17.2	+0.2
	baz=254						
SML	Sawmill	83.49	27	P	P	06 52 17.1	-0.4
	baz=252,SNR=9.5						
H22K	Ishtalitna Cre	83.56	23	P	P	06 52 17.3	-0.4
	baz=249						
E21K	Killik River	83.59	20	P	P	06 52 18.1	+0.3
	baz=247						
JMDO	Jabal Madar	83.61	293	P	P	06 52 18.7	-0.2
JMDO				P	P	06 52 18.7	-0.2
C21K	Knifeblade Rid	83.61	19	P	P	06 52 18.2	+0.4
	baz=246						
BIDO	Bidbid	83.69	294	P	P	06 52 16.9	-2.4
SMDO	Samad	83.72	293	P	P	06 52 19.8	+0.2
	SNR=5.5						
SMDO				P	P	06 52 19.8	+0.2
	SNR=5.5						
Q23K	Middleton Isla	83.75	30	P	P	06 52 19.1	+0.4
	baz=254						
M23K	Glacier View	83.76	27	P	P	06 52 18.5	-0.3
	baz=253,SNR=5.7						
GLI	Glacier Island	83.79	28	P	P	06 52 18.3	-0.7
	baz=254						
MCK	McKinley	83.82	25	P	P	06 52 18.2	-0.9
	baz=252						
B21K	Ikpikpuk River	83.86	19	P	P	06 52 18.7	-0.4
B21K				IAmb	IAmb	06 52 40.9	
	comp=Z,12nm,1.1s						
B21K	Ikpikpuk River	83.86	19	P	P	06 52 19.0	0.0
	baz=246						
SCM	Sheep Creek Mo	83.96	27	P	P	06 52 19.8	-0.1
	baz=253,SNR=5.7						
A21K	Barrow	83.97	17	P	P	06 52 19.6	0.0
	baz=244,SNR=6.9						
NEA2	Nenana	84.04	24	P	P	06 52 19.7	-0.4
	baz=252						
I23K	Minto, Yukon-K	84.10	24	P	P	06 52 20.1	-0.3
I23K				IAmb	IAmb	06 52 33.1	
	comp=Z,41nm,1.4s						
I23K	Minto, Yukon-K	84.10	24	P	P	06 52 20.5	+0.1
	baz=251						
D22K	Ayikyak River	84.19	20	P	P	06 52 20.9	0.0
D22K				IAmb	IAmb	06 52 34.1	
	comp=Z,46nm,2.0s						
D22K	Ayikyak River	84.19	20	P	P	06 52 21.0	+0.1
	baz=248						
E22K	Anaktuvuk Pass	84.21	20	P	P	06 52 20.7	-0.3
E22K	Anaktuvuk Pass	84.21	20	P	P	06 52 21.3	+0.3
	baz=249,SNR=9.4						
EYAK	Cordova Ski Ar	84.34	29	P	P	06 52 22.0	+0.3
	baz=255						
G23K	Bananza Creek	84.36	22	P	P	06 52 22.1	+0.4
	baz=250						
HOQ	Hoqain	84.44	294	P	P	06 52 23.3	+0.2
HOQ				P	P	06 52 23.3	+0.2
COLD	Coldfoot	84.47	22	P	P	06 52 22.8	+0.5
	baz=250,SNR=5.1						
BSY	Bisya	84.47	293	P	P	06 52 23.7	+0.4
	SNR=6.3						
BSY				P	P	06 52 23.7	+0.4
	SNR=6.3						
KLU	Klutina	84.51	28	P	P	06 52 23.3	+0.7
	baz=255,SNR=5.8						
M24K	Tolsona, Glenn	84.56	27	P	P	06 52 22.6	-0.3
M24K	Tolsona, Glenn	84.56	27	P	P	06 52 22.4	-0.4
	baz=254						
CCB	Clear Creek Bu	84.58	24	P	P	06 52 21.6	-1.3
CCB				IAmb	IAmb	06 52 24.5	
	comp=Z,16nm,0.9s						
COLA	College	84.62	24	P	P	06 52 23.9	+0.9
	baz=253						
COLA	College	84.62	24	P	P	06 52 22.6	-0.4
KAIM	Kayak Island	84.83	29	P	P	06 52 24.6	+0.4
	baz=256						
HDA	Harding Lake	84.86	25	P	P	06 52 23.9	-0.4
	baz=254						
POKR	Poker Plat Res	84.87	24	P	P	06 52 24.5	+0.1
	baz=253						
D23K	Nanushuk River	84.90	20	P	P	06 52 25.2	+0.8
D23K	Nanushuk River	84.90	20	P	P	06 52 24.8	+0.4
	baz=250						
H24K	Noodor Dome	84.90	23	P	P	06 52 24.4	-0.2
H24K				IAmb	IAmb	06 52 34.4	
	comp=Z,16nm,1.2s						
H24K	Noodor Dome	84.90	23	P	P	06 52 24.8	+0.2
	baz=252,SNR=7.7						
E23K	Chandalar	84.96	21	P	P	06 52 24.5	-0.3
E23K	Chandalar	84.96	21	P	P	06 52 25.6	+0.7
	baz=251						
BMRM	Bremner River	84.99	28	P	P	06 52 23.7	-1.4
	baz=256						
IL31		84.99	24	P	P	06 52 23.2	-1.6
ILAR	Eielson Array	84.99	24	P	P	06 52 23.2	-1.7
	comp=Z,7.2nm,0.8s,baz=257,slow=5.0,SNR=50						
ILAR				LR	LR	07 30 06.5	
	comp=Z,245nm,18.1s,baz=258,slow=36						
	comp=Z,7.2nm,0.8s						
HARP	HAARP	85.09	27	P	P	06 52 24.7	-0.9
	baz=255						
PAX	Paxson	85.10	26	P	P	06 52 25.4	-0.3
	baz=255						
ARQ	Araqi	85.14	294	P	P	06 52 27.0	+0.4
ARQ				P	P	06 52 27.0	+0.4
N25K	Chitina, Valde	85.15	28	P	P	06 52 25.3	-0.6
N25K	Chitina, Valde	85.15	28	P	P	06 52 25.4	-0.5
	baz=256						
TOLK	Toolik Lake Re	85.17	20	P	P	06 52 25.9	+0.1
TOLK				IAmb	IAmb	06 52 38.9	
	comp=Z,54nm,1.8s						
TOLK	Toolik Lake Re	85.17	20	P	P	06 52 25.7	-0.1
	baz=251,SNR=5.7						
K24K	Donnelly Dome	85.19	25	P	P	06 52 26.0	0.0
	baz=255						
SOHO	SOHO	85.20	294	P	P	06 52 26.0	-0.8
SOHO				P	P	06 52 26.0	-0.8
C23K	Itkillik River	85.23	19	P	P	06 52 26.1	+0.1
C23K	Itkillik River	85.23	19	P	P	06 52 26.6	+0.6
	baz=250,SNR=24						
G24K	Hadweenzic Riv	85.32	22	P	P	06 52 26.1	-0.5
G24K				IAmb	IAmb	06 52 31.6	
	comp=Z,16nm,1.2s						
G24K	Hadweenzic Riv	85.32	22	P	P	06 52 27.3	+0.7
	baz=253						
ABKAR	Akbulak array	85.48	320	P	P	06 52 26.6	-1.1
BANOM	Banah	85.56	296	P	P	06 52 29.0	+0.3
UOSS	Minazif	85.57	295	P	P	06 52 28.0	-0.7
UOSS				P	P	06 52 28.0	-0.7
RIDG	Independent Ri	85.57	26	P	P	06 52 27.9	0.0
	baz=256						
J25K	Salcha River,	85.57	25	P	P	06 52 26.7	-1.3
J25K				IAmb	IAmb	06 52 37.6	
	comp=Z,43nm,1.9s						
J25K	Salcha River,	85.57	25	P	P	06 52 27.6	-0.3
	baz=255						
D24K	Happy Valley	85.59	20	P	P	06 52 28.4	+0.5
D24K	Happy Valley	85.59	20	P	P	06 52 27.8	0.0
	baz=251						
HATD	Hatta, Dubai	85.62	295	P	P	06 52 29.1	+0.1
HATD				P	P	06 52 29.1	+0.1
MASF	Masafi	85.64	296	P	P	06 52 29.3	+0.2
MASF				P	P	06 52 29.3	+0.2
ASHO	Ashiyiah	85.68	295	P	P	06 52 29.1	-0.2
SHME	Shamm	85.72	296	P	P	06 52 29.2	-0.2
C24K	Franklin Bluff	85.81	19	P	P	06 52 28.4	-0.5
H25L	Birch Creek	85.83	23	P	P	06 52 29.5	+0.4
	baz=254						
G25K	Bearman Lake	85.86	22	P	P	06 52 29.5	+0.3
	baz=254						
MENT	Mentasta	85.87	26	P	P	06 52 28.6	-0.8
MENT				IAmb	IAmb	06 52 39.0	
	comp=Z,11nm,0.8s						
MENT	Mentasta	85.87	26	P	P	06 52 29.8	+0.4
ALNE	Al Ain	85.91	294	P	P	06 52 30.9	+0.5
ALNE				P	P	06 52 30.9	+0.5
SCRK	Sand Creek	86.00	25	P	P	06 52 29.8	-0.3
	baz=256						
L26K	Log Cabin Wild	86.05	26	P	P	06 52 30.2	-0.1
L26K	Log Cabin Wild	86.05	26	P	P	06 52 30.1	-0.2
	baz=257,SNR=6.8						
M26K	Nabesna, AK	86.07	27	P	P	06 52 30.4	0.0
	baz=257						
MESA	MESA	86.09	29	P	P	06 52 31.1	+0.3
	baz=258						
FYU	Fort Yukon	86.14	23	P	P	06 52 30.6	0.0
FYU				IAmb	IAmb	06 52 46.1	
	comp=Z,24nm,1.1s						
F25K	Christian Rive	86.26	22	P	P	06 52 31.1	-0.2
F25K	Christian Rive	86.26	22	P	P	06 52 31.5	+0.3
	baz=254						
J26L	Joseph Creek	86.30	25	P	P	06 52 31.8	+0.2
	baz=257						
ASUD	Al Ashush, Dub	86.33	295	P	P	06 52 34.1	+1.6
D25K	Kavik River	86.48	20	P	P	06 52 32.3	0.0
D25K				IAmb	IAmb	06 52 43.9	
	comp=Z,13nm,1.0s						
D25K	Kavik River	86.48	20	P	P	06 52 32.6	+0.3
	baz=254						
M27K	Edge Creek, AK	86.57	27	P	P	06 52 32.1	-1.0
	baz=258						
BMAR	Burnt Mountain	86.61	22	P	P	06 52 33.2	+0.2
I26K	Coal Creek Min	86.66	24	P	P	06 52 32.5	-0.7
I26K				IAmb	IAmb	06 52 42.8	
	comp=Z,32nm,1.8s						
I26K	Coal Creek Min	86.66	24	P	P	06 52 32.9	-0.3
	baz=257						
L27K	Beaver Creek,	86.74	26	P	P	06 52 33.9	+0.2
	baz=258,SNR=6.1						
BCAR	Beaver Creek A	86.76	26	P	P	06 52 33.2	-0.6
G26K	Porcupine Rive	86.79	23	P	P	06 52 34.1	+0.3
	baz=256,SNR=7.9						
F26K	Sheenjek River	86.84	22	P	P	06 52 34.4	+0.3
	baz=256						
RBK	Rabkut	86.90	288	P	P	06 52 35.5	+0.1
RBK				P	P	06 52 35.5	+0.1
DOK	Doka	87.04	289	P	P	06 52 35.6	-0.4
DOK				P	P	06 52 35.6	-0.4
BVCY	Beaver Creek	87.05	27	P	P	06 52 35.2	-0.1
	baz=259,SNR=6.8						
O28M	Mount Upton	87.06	29	P	P	06 52 35.2	-0.4
	baz=260						
YUK3	Moose Creek	87.11	28	P	P	06 52 35.6	-0.2
	baz=260						
C26K	Camden Bay	87.13	20	P	P	06 52 35.9	+0.5
	baz=255,SNR=6.1						
WHFO	Wadi Hawf	87.33	288	P	P	06 52 36.9	-0.7
WHFO				P	P	06 52 36.9	-0.7
I27K	Kandik River	87.35	24	P	P	06 52 36.9	+0.3
	baz=258						
YUK8	Steele Glacier	87.35	28	P	P	06 52 36.6	-0.4
	baz=260						
C27K	Jago River	87.46	20	P	P	06 52 37.1	+0.1
	baz=256						
QSPA	South Pole Qui	87.50	180	P	P	06 52 36.9	-0.6
QSPA				IAmb	IAmb	06 52 38.3	
	comp=Z,24nm,1.0s						
QSPA	South Pole Qui	87.50	180	P	P	06 52 36.8	-0.6
	comp=Z,13nm,0.6s,baz=312,slow=1.1,SNR=58						
QSPA				LR	LR	07 32 14.7	
	comp=Z,706nm,19.7s,baz=2.0,slow=36						
	comp=Z,13nm,0.6s						
H27K	Steamboat Moun	87.51	23	P	P	06 52 37.9	+0.5
	baz=258						
G27K	Doyon Strip	87.58	23	P	P	06 52 38.0	+0.3
	baz=258						
ABTO	Aybut	87.75	287	P	P	06 52 39.6	0.0
ABTO				P	P	06 52 39.6	0.0
O29M	Mount Kennedy	87.77	30	P	P	06 52 39.4	+0.5
	baz=261						
YUK4	Talbot Arm	87.89	28	P	P	06 52 40.2	+0.6
	baz=261						
YUK6	Outpost Mounta	87.97	29	P	P	06 52 40.3	+0.4
	baz=261						
DAWY	Dawson	88.00	26	P	P	06 52 40.1	+0.3
	baz=260,SNR=18						
I28M	Miner Creek	88.01	24	P	P	06 52 40.1	+0.2
	baz=260,SNR=7.2						
D27M	Malcolm River	88.33	20	P	P	06 52 41.8	+0.5
	baz=259						
HYT	Haines Junctio	88.37	29	P	P	06 52 42.0	+0.3
	baz=262						
L29M	L29M	88.40	27	P	P	06 52 42.3	+0.5
	baz=262,SNR=9.6						
P30M	Million Dollar	88.54	30	P	P	06 52 42.8	+0.4
	baz=263						
J29N	Klondike Camp	88.56	25	P	P	06 52 43.1	+0.7
J29N				IAmb	IAmb	06 52 51.5	
	comp=Z,22nm,1.5s						
J29N	Klondike Camp	88.56	25	P	P	06 52 42.6	+0.1
	baz=261						
I29M	Ogilvie Camp,	88.66	25	P	P	06 52 42.9	0.0
I29M				IAmb	IAmb	06 52 44.1	
	comp=Z,23nm,1.1s						
I29M	Ogilvie Camp,	88.66

	baz=263							
K29M	Barlow Dome	88.78	26	P	P	06 52 44.2	+0.7	
	baz=262							
M30M	Minto, Yukon	88.94	27	P	P	06 52 44.6	+0.4	
M30M	Minto, Yukon	88.94	27	P	P	06 52 44.3	+0.1	
	baz=263							
G29M	Pine Creek	89.01	23	P	P	06 52 44.0	-0.5	
	baz=262,SNR=7.1							
O30N	Mendenhall	89.05	29	P	P	06 52 44.8	0.0	
	baz=263							
D28M	Stokes Point	89.12	21	P	P	06 52 44.8	-0.1	
	baz=261							
E29M	Blow River	89.28	22	P	P	06 52 46.0	+0.3	
	baz=262							
N31M	Braeburn, Yuko	89.28	29	P	P	06 52 45.2	-0.6	
	baz=264							
SKAG	Skagway	89.28	31	P	P	06 52 45.9	+0.1	
	baz=264							
J30M	Hart River	89.39	25	P	P	06 52 46.6	+0.2	
	baz=263							
I30M	Mount Dempster	89.45	25	P	P	06 52 46.3	-0.4	
I30M				IAmb	IAmb	06 52 47.8		
	comp=Z,14nm,1.1s							
I30M	Mount Dempster	89.45	25	P	P	06 52 46.5	-0.2	
	baz=263,SNR=11							
EPYK	Eagle Plains	89.45	24	P	P	06 52 45.7	-0.9	
EPYK	Eagle Plains	89.45	24	P	P	06 52 46.8	+0.2	
	baz=263,SNR=5.4							
WHY	Whitehorse	89.63	29	P	P	06 52 47.9	+0.3	
	baz=264							
G30M	tAoh Zraii Nji	89.72	23	P	P	06 52 47.4	-0.4	
G30M				IAmb	IAmb	06 55 59.1		
	comp=Z,27nm,1.4s							
G30M	tAoh Zraii Nji	89.72	23	P	P	06 52 47.7	-0.2	
	baz=263,SNR=12							
F30M	Barrier River	89.97	22	P	P	06 52 49.4	+0.5	
	baz=264							
M31M	Drury Creek, Y	90.01	28	P	P	06 52 49.7	+0.5	
	baz=265							
P32M	Atlin	90.11	30	P	P	06 52 50.1	+0.3	
	baz=266							
CRAG	Craig	90.12	35	P	P	06 52 50.1	+0.2	
	baz=266							
U33K	Whale Pass	90.17	34	P	P	06 52 49.7	-0.3	
	baz=266							
H31M	Peel River	90.35	24	P	P	06 52 50.9	+0.1	
	baz=265							
G31M	Satah River	90.48	23	P	P	06 52 51.2	0.0	
	baz=265,SNR=7.1							
FARO	Faro, Yukon	90.50	28	P	P	06 52 51.6	0.0	
	baz=266							
N32M	Quiet Lake	90.55	29	P	P	06 52 51.8	0.0	
	baz=266							
P33M	Teslin, Yukon	90.61	30	P	P	06 52 51.9	-0.3	
	baz=266							
WRAK	Wrangell Islan	90.62	34	P	P	06 52 52.0	-0.1	
	baz=267							
F31M	Tsiigehtchic	90.73	23	P	P	06 52 52.3	-0.1	
	baz=266							
Q32M	Nakina River	90.81	31	P	P	06 52 52.3	-0.9	
	baz=267							
INK	Inuvik	90.88	22	LR	LR	07 31 55.7		
	comp=Z,159nm,20.0s,baz=272,slow=34							
INK	Inuvik	90.88	22	P	P	06 52 52.6	-0.5	
	baz=266							
V35K	Ketchikan	90.97	35	P	P	06 52 53.5	-0.2	
	baz=267							
S34M	Telegraph Cree	91.36	32	P	P	06 52 55.5	0.0	
	baz=268							
SYO	Syowa Base	91.52	201	‖eP	P	06 52 55.6	-0.5	
DLBC	Dease Lake	91.96	32	P	P	06 52 58.2	-0.3	
	baz=269							
WTLY	Watson Lake, Y	92.62	30	P	P	06 53 01.0	-0.4	
	baz=270							
A36M	Sachs Harbour	93.73	18	P	P	06 53 05.3	-0.9	
A36M				IAmb	IAmb	06 55 14.2		
	comp=Z,18nm,1.1s							
A36M	Sachs Harbour	93.73	18	P	P	06 53 06.0	-0.2	
	baz=274							
C36M	Paulatuk	94.31	21	P	P	06 53 08.6	-0.3	
	baz=275							
TOAD	Toad River Com	94.46	31	P	P	06 53 09.6	-0.3	
	baz=273							
KOTAN	Kotaneelee Air	94.99	30	P	P	06 53 12.1	-0.2	
	baz=274							
WRGLY	Wrigley	95.05	27	P	P	06 53 12.1	-0.3	
	baz=275							
RAYN	Ar Rayn	95.26	293	P	P	06 53 13.1	-1.3	
RAYN				IAmb	IAmb	06 56 34.5		
	comp=Z,14nm,1.4s							
ELIB	Princess Elisa	95.76	196	dP	P	06 53 14.9	-0.8	
SPITS	Spitsbergen Ar	98.99	350	LR	LR	07 38 08.2		
	comp=Z,250nm,20.1s,baz=11,slow=35							
YKA	Yellowknife Ar	99.17	27	P	Pdif	06 53 30.5	-0.6	
	comp=Z,1.2nm,1.0s,baz=280,slow=5.0,SNR=9.3							
YKA				LR	LR	07 34 32.8		
	comp=Z,553nm,20.8s,baz=284,slow=33							
	comp=Z,1.2nm,1.0s							
NVAR	Mina Array Bea	100.54	52	P	Pdif	06 53 37.9	-0.2	
	comp=Z,0.4nm,0.5s,baz=275,slow=6.9,SNR=4.8							
FINES	FINESS Array B	103.49	333	Pdiff	Pdif	06 53 50.6	+0.2	
	comp=Z,3.8nm,0.9s,baz=35,slow=6.3,SNR=4.0							
PDAR	Pinedale Array	106.47	46	Pdiff	Pdif	06 54 03.9	-0.5	
	comp=Z,0.6nm,1.0s,baz=288,slow=3.4,SNR=4.0							
TXAR	Lajitas Array	113.90	59	PKiKP	PKiKP	06 58 29.2	-0.5	
	comp=Z,0.7nm,0.8s,baz=283,slow=1.4,SNR=4.3							
TXAR				PKKPab	PKKPab	07 09 17.7	-0.8	
	comp=Z,0.4nm,0.8s,baz=130,slow=5.5,SNR=3.5							
DAVOX	Davos/Dischmat	118.36	323	PKP	PKPdf	06 58 37.7	-0.1	
	comp=Z,0.9nm,0.5s,baz=23,slow=4.8,SNR=2.3							
EKA	Eskdalemuir Ar	119.53	337	PKP	PKiKP	06 58 39.8	+0.2	
	comp=Z,0.0nm,0.4s,baz=25,slow=3.2,SNR=5.6							
SCHQ	Schefferville	123.34	18	PKP	PKPdf	06 58 46.2	-0.7	
	comp=Z,3.3nm,0.7s,baz=357,slow=3.6,SNR=7.5							
PLCA	Paso Flores	128.68	150	PKP	PKPdf	06 58 58.0	+0.3	
	comp=Z,2.6nm,0.7s,baz=26,slow=5.9,SNR=5.2							
PLCA	Paso Flores	128.68	150	P	PKPdf	06 58 58.0	+0.3	
TORD	Torodi Ar. Bea	137.60	287	PKP	PKPdf	06 59 15.3	+0.3	
	comp=Z,3.2nm,1.1s,baz=27,slow=3.7,SNR=8.8							
SMRC	Santa Marta, M	144.79	74	PKPdf	PKPab	06 59 25.5	-1.3	
DBIC	Dimbokro	144.91	278		PKPab	06 59 26.5	-0.8	
DBIC	Dimbokro	144.91	278	PKPbc	PKPab	06 59 26.9	-0.3	
	comp=Z,43nm,0.7s,baz=83,slow=4.1,SNR=59							
ROSC	El Rosal	145.49	85	PKPbc	PKPab	06 59 29.9	0.0	
	comp=Z,12nm,0.6s,baz=142,slow=5.7,SNR=8.5							
LPAZ	La Paz	146.39	125	PKPbc	PKPbc	06 59 33.0	+0.3	
	comp=Z,10nm,0.8s,baz=220,slow=5.4,SNR=17							
CPUP	Villa Florida	146.75	150	PKPbc	PKPbc	06 59 33.0	+0.4	
	comp=Z,12nm,0.9s,baz=222,slow=4.4,SNR=22							
BDFB	Brasilia	160.28	156	PKPab	PKPab	07 00 30.9	+0.1	
	comp=Z,1.9nm,0.6s,baz=303,slow=3.9,SNR=4.5							

*JMA **16** 06:39:50.9±0.3,25°.3N±1°.0×124°.7E±0°.5,h6km,MD4.1/11, MV3.9/11,NW OFF MIYAKOJIMA ISLAND*
*IDC **16** 06:39:51.3±2.6,25°.41N×124°.89E,h0km,mb3.8/6, mbtmp3.8/6,MS3.4/2,Error ellipse: s-maj=56.3km s-min=36.4km az=156.0*

ISC 16 06:39:51.9±2.0,25°.24N±0°.09×124°.72E±0°.04,h7km±14km, n25,σ0°75/26,mb3.6/6,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.57	123	eP	Pg	06 40 02.6	-0.3
JIKM				eS	Sg	06 40 11.0	+0.5
JIKM	Ikemajima	0.57	123	A	A	06 40 02.6	
	comp=N,15nm,3.4s,comp=E,17nm,3.3s						
JIRB	Irabujima	0.58	135	P	Pg	06 40 02.5	-0.6
JIRB				eS	Sg	06 40 10.6	-0.1
JIRB	Irabujima	0.58	135	A	A	06 40 02.5	
	comp=N,7.0nm,0.8s,comp=E,9.0nm,2.9s						
JTJ	Tarama	0.59	181	P	Pg	06 40 03.6	+0.2
JTJ				S	Sb	06 40 12.3	-1.0
JTJ	Tarama	0.59	181	A	A	06 40 03.6	
	comp=N,19nm,1.0s,comp=E,16nm,3.3s						
JMJ2	Miyako jima3	0.74	132	P	Pg	06 40 05.7	-0.5
JMJ2				S	Sg	06 40 16.8	+1.0
JMJ2	Miyako jima3	0.74	132	A	A	06 40 05.7	
	comp=N,10.0nm,3.6s,comp=E,13nm,3.1s						
JISG	Ishigakijimahi	0.75	210	P	Pg	06 40 06.3	+0.1
JISG				eS	Sg	06 40 16.5	+0.6
JOGS	Gusukube	0.79	127	eP	Pg	06 40 06.8	-0.2
JOGS				S	Sg	06 40 17.8	+0.6
JOGS	Gusukube	0.79	127	A	A	06 40 06.8	
	comp=N,11nm,2.8s,comp=E,13nm,5.8s						
JIJ	Ishigaki jima	1.02	211	P	Pg	06 40 10.7	-0.7
JIJ				S	Sg	06 40 24.4	-0.2
JIJ	Ishigaki jima	1.02	211	A	A	06 40 10.7	
	comp=N,6.0nm,1.2s,comp=E,5.0nm,1.1s						
JKRS	Kuro-shima	1.19	213	P	Pg	06 40 14.3	-0.4
JKRS				S	Sb	06 40 30.6	+0.3
JKRS	Kuro-shima	1.19	213	A	A	06 40 14.3	
	comp=N,17nm,0.9s,comp=E,9.0nm,3.5s						
IRIF	Iriomote-Funau	1.27	225	P	Pn	06 40 14.7	-1.4
IRIF				S	Sb	06 40 32.4	-0.3
HATJ	Hateruma jima	1.44	215	P	Pn	06 40 18.8	+0.3
HATJ				S	Sg	06 40 38.5	+0.3
KSRS	Korea Array	12.48	12	LR	LR	06 48 11.8	
	comp=E,59nm,19.3s,baz=335,slow=41						
DAV	Davao City (W)	18.09	177	LR	LR	06 52 06.4	
	comp=E,299nm,19.2s,baz=114,slow=40						
CMAR	Chiang Mai Arr	24.83	259	P	P	06 45 17.3	+2.2
	comp=E,1.4nm,0.3s,baz=69,slow=9.1,SNR=4.5						
	comp=E,1.4nm,0.3s						
SONM	Songino Array	26.80	332	P	P	06 45 32.9	+0.1
	comp=E,1.1nm,0.9s,baz=139,slow=9.3,SNR=6.5						
	comp=E,1.1nm,0.9s						
MKAR	Makanchi Array	39.88	314	P	P	06 47 26.8	+0.5
	comp=E,0.6nm,0.6s,baz=106,slow=8.8,SNR=7.4						
	comp=E,0.6nm,0.6s						
ZALV	Zalesovo Beam	41.17	325	P	P	06 47 36.2	-0.7
	comp=E,0.8nm,0.5s,baz=108,slow=9.5,SNR=3.9						
	comp=E,0.8nm,0.5s						
KURBB	Kurchatov Arra	43.43	318	P	P	06 47 55.2	-0.1
	comp=E,0.7nm,0.8s,baz=106,slow=7.7,SNR=6.5						
	comp=E,0.7nm,0.8s						
YKA	Yellowknife Ar	80.73	24	P	P	06 52 05.2	-0.5
	comp=E,0.6nm,0.7s,baz=304,slow=5.2,SNR=11						
	comp=E,0.6nm,0.7s						

*NEIC **16** 06:41:40.2±0.4,40°.46N±0°.01×111°.94W±0°.01,h6km±1km, Error ellipse: s-maj=1.6km s-min=1.2km az=193.0*

UUSS 16 06:41:40.6±0.6,40°.47N±0°.01×111°.934W±0°.009, h5km±1km,ML1.6/4,ML1.6/28(NEIC),Error ellipse: s-maj=1.6km s-min=1.0km az=202.0,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	Western Traver	0.02	222		Pg	06 41 42.1	+0.4
CWU	Camp Williams	0.13	259		Pg	06 41 43.4	+0.1
GMU	Granite Mounta	0.17	51		Pg	06 41 44.3	+0.3
GMU					Sg	06 41 46.9	+0.7
MHD	Mile High Driv	0.21	28		Pg	06 41 45.1	+0.3
NOQ	North Oquirrh	0.23	322		Pg	06 41 45.5	+0.4
NOQ					Sg	06 41 48.9	+0.7
AAU	Alta	0.26	62		Pg	06 41 45.9	+0.3
DCU	Deer Creek Res	0.32	100		Pg	06 41 47.0	+0.3
RBU	Red Butte Cany	0.32	17		Pg	06 41 47.0	+0.1
JLU	Jordanelle	0.39	70		Pg	06 41 48.4	+0.2
JLU	Jordanelle	0.39	70	Sg	Sg	06 41 54.0	+0.6
JLU				IAML		06 41 54.1	
	comp=N,42nm,0.5s						
JLU				IAML		06 41 55.0	
	comp=E,27nm,0.2s						
RCJ	Ross Creek	0.42	63		Pg	06 41 49.1	+0.4
SAIU	Southern Antel	0.43	334		Pg	06 41 49.1	+0.2
KLJ	Keetly	0.43	68		Pg	06 41 49.4	+0.4
MPU	Maple Canyon	0.51	153		Pg	06 41 50.4	0.0
MPU				Sg	Sg	06 41 57.2	+0.2
DAU	Daniels Canyon	0.52	96		Pb	06 41 51.5	-0.9
HTU	Hoyt Peak	0.58	69		Pg	06 41 52.5	+0.7
NAIU	Northern Antel	0.59	338		Pg	06 41 52.0	0.0
DUG	Dugway, Tooele	0.73	248		Pg	06 41 53.8	-0.7
TCUT	Toone Canyon	0.76	32		Pg	06 41 55.7	+0.5
BSUT	Blindstream Ca	0.90	85		Pg	06 41 57.5	-0.3
BSUT				IAML		06 42 11.5	
	comp=E,15nm,3.4s						
BGU	Big Grassy Mou	0.95	299		Pg	06 41 58.6	-0.2
HWUT	Hardware Ranch	1.17	14		Pg	06 42 03.0	0.0
HWUT				IAML		06 42 22.4	
	comp=E,13nm,2.2s						
HWUT				IAML		06 42 25.0	
	comp=E,11nm,2.1s						
HVU	Hansel Valley	1.45	334		Pn	06 42 06.1	-1.6
HVU				IAML		06 42 34.1	
	comp=N,12nm,2.8s						
HVU				IAML		06 42 36.2	
	comp=E,9.0nm,1.9s						
P18A	Preston Nutter	1.55	122		Pn	06 42 08.9	-0.2
P18A				IAML		06 42 31.4	
	comp=N,9.5nm,3.0s						
P18A				IAML		06 42 45.8	
	comp=E,7.0nm,4.2s						
SRU	San Rafael Swe	1.74	141		Pn	06 42 11.7	+0.1
SRU				IAML		06 42 38.6	
	comp=N,5.8nm,1.4s						
SRU				IAML		06 42 40.4	
	comp=E,7.2nm,2.6s						
AHID	Auburn Hatcher	2.38	15	Pn	Pn	06 42 21.2	+0.7
ELK	Elko	2.53	277	Pn	Pn	06 42 22.9	+0.3
ELK				IAML		06 42 58.5	
	comp=E,4.2nm,4.7s						
ELK				IAML		06 42 59.7	
	comp=E,3.9nm,5.0s						

*MOS **16** 06:45:52.6±0.9,41°.37N×29°.41W,h14km,mb5.0/108, MS4.8/1,Error ellipse: s-maj=7.9km s-min=3.5km az=140.3*
*IDC **16** 06:45:53.5±0.5,41°.42N×29°.38W,h0km,mb4.5/30, mbtmp4.5/31,ML4.1/1,MS4.6/80,Error ellipse: s-maj=14.2km s-min=10.9km az=175.0*
*IGIL **16** 06:45:54.0,41°.20N×29°.38W,h2km,Ms4.7*
*BJI **16** 06:45:54.0,41°.20N×29°.40W,h12km,mB5.3/7,mb4.9/30, Ms5.3/26,Ms7 5.1/27*
*NEIC **16** 06:45:55.4,41°.56N×29°.52W,h16km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04; $M_{\theta\theta}$0.17; $M_{\phi\phi}$0.87; $M_{r\theta}$0.51; $M_{\theta\phi}$0.15; $M_{\phi r}$0.42; Fault plane solution: $M_0$1.16000×10^{17} NP1: ϕ_s359.79000°,δ32.14000°,λ-116.36000°. NP2: ϕ_s210.13000°,δ61.53000°,λ-74.42000°. Principal axes: T 1.0377, Plg15.0000°, Azm289.0000°; N 0.2466, Plg14.0000°, Azm23.0000°; P -1.2843, Plg69.0000°, Azm153.0000°;*
*NEIC **16** 06:45:55.5±1.7,41°.39N±0°.05×29°.25W±0°.10,h10km±1km, mb5.0/116,Mww5.3/48 Error ellipse: s-maj=13.9km s-min=5.8km az=299.0*
*NEIC **16** 06:45:55.4,41°.36N×29°.26W,h16km*
*GCMT **16** 06:45:56.5±0.1,41°.46N±0°.01×29°.21W±0°.01,h12km, MW5.3/163,Moment Tensor Solution. s78,c111; s163,c286; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.03±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$0.96±.01; $M_{r\theta}$0.37±.05; $M_{\theta\phi}$0.05±.01; $M_{\phi r}$0.04±.04; Best double couple: $M_0$1.05700×10^{17} NP1:ϕ_s347.00000°,δ46.00000°, λ-114.00000°. NP2:ϕ_s199.00000°,δ49.00000°, λ-68.00000°. Principal axes: T 0.9730, Plg2.0000°, Azm274.0000°; N 0.1700, Plg17.0000°, Azm4.0000°; P -1.1420, Plg73.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SVSA **16** 06:45:59.0±1.7,41°.34N×28°.95W,h10km,ML4.2(INMG) Error ellipse: s-maj=17.5km s-min=8.1km az=84.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Crista Mdia AtIntico N*

ISC 16 06:45:55.3±0.3,41°.34N±0°.04×29°.28W±0°.04,h10km,n623, σ1s59/579,mb4.9/228,MS4.7/107,40C-21D,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	Rosais	2.73	163	eP	Pn	06 46 37.8	-1.4
ROSA				eS	Sn	06 47 06.7	-5.6
ROSA				i AML	AML	06 47 08.8	
	94nm,0.3s						
ROSA				i AML	AML	06 47 09.3	
	82nm,0.3s						
ROSA				i AML	AML	06 47 10.9	
	151nm,0.7s						
PMAN	Manadas	2.85	161	eS	Sn	06 47 09.4	-5.8
PMAN				i AML	AML	06 47 10.8	
	238nm,0.3s						
PMAN				i AML	AML	06 47 12.8	
	172nm,0.2s						
PICO	Pico	2.91	167	eP	Pn	06 46 40.4	-1.3
PICO				eS	Sn	06 47 11.4	-5.4
PICO				i AML	AML	06 47 12.0	
	209nm,0.4s						
PICO				i AML	AML	06 47 12.2	
	107nm,0.4s						
PICO				i AML	AML	06 47 15.1	
	141nm,0.5s						
PSBA	Serra de Santa	2.97	149	eP	Pn	06 46 39.8	-2.7
PSBA				eS	Sn	06 47 11.1	-7.1
PSBA				i AML	AML	06 47 12.9	
	195nm,0.4s						
PSBA				i AML	AML	06 47 13.9	
	356nm,0.3s						
PSBA				i AML	AML	06 47 17.5	
	319nm,0.4s						
PAGU	Agualva, Azore	3.03	147	eP	Pn	06 46 39.8	-3.4
PAGU				eS	Sn	06 47 11.4	-8.2
PAGU				i AML	AML	06 47 15.2	
	428nm,0.2s						
PAGU				i AML	AML	06 47 15.3	
	172nm,0.3s						
PAGU				i AML	AML	06 47 15.4	
	419nm,0.2s						
ADH	Angra Heroismo	3.11	149	eP	Pn	06 46 43.6	-0.7
PSCM	Serra do Cume	3.11	147	eP	Pn	06 46 41.3	-3.1
PSET	Sete Cidades	4.46	141	eP	Pn	06 47 00.6	-2.3
PDA	Ponta Delgada	4.55	141	eP	Pn	06 46 56.5	-7.6
PDA				eS	Sn	06 47 43.6	-13
PDA				i AML	AML	06 47 51.0	
	273nm,0.5s						
PDA				i AML	AML	06 47 51.9	
	236nm,0.5s						
PDA				i AML	AML	06 47 53.3	
	72nm,0.5s						
CMLA	Cha da Macela	4.60	140	Pn	Pn	06 47 01.9	-2.9
CMLA	Cha da Macela	4.60	140	eP	Pn	06 47 02.4	-2.4
CMLA				eS	Sn	06 47 51.7	-6.7
CMLA				i AML	AML	06 47 56.4	
	262nm,0.4s						
CMLA				i AML	AML	06 47 58.9	
	185nm,0.3s						
CMLA				i AML	AML	06 48 00.2	
	137nm,0.2s						
CMLA	Cha da Macela	4.60	140	eP	Pn	06 47 02.4	-2.4
PGRON	Lagoa das Cont	4.67	139	eP	Pn	06 47 04.0	-1.9
PSMA	Santa Maria	5.40	142	eP	Pn	06 47 13.7	-2.2
PSMA				eS	Sn	06 48 13.0	-5.1
PSMA				i AML	AML	06 48 15.3	
	97nm,0.4s						
PSMA				i AML	AML	06 48 15.3	
	92nm,0.4s						
PSMA				i AML	AML	06 48 16.8	
	34nm,0.2s						
PSMN	Pico do Norte,	5.43	142	eP	Pn	06 47 13.8	-2.4
PSMN				eS	Sn	06 48 12.4	-6.3
PSMN				i AML	AML	06 48 17.2	
	80nm,0.4s						
PSMN				i AML	AML	06 48 17.3	
	34nm,0.3s						
PSMN				i AML	AML	06 48 18.3	
	77nm,0.3s						
PMOZ	Porto Moniz, M	12.85	128	Pn	Pn	06 48 55.9	-2.1
PMOZ	Porto Moniz, M	12.85	128	eP	Pn	06 48 57.9	-0.1
PMOZ	Porto Moniz, M	12.85	128	eS	Sn	06 51 25.3	+4.2
PMAR	Madeira	13.08	127	eP	Pn	06 49 01.9	+0.6
PMAR				IAmb	IAmb	06 49 32.8	
	comp=Z,253nm,1.8s						
PMPST	Porto Santo, M	13.20	125	eP	Pn	06 49 00.3	-2.3
PMPS	Porto Santo	13.21	125	eP	Pn	06 49 01.7	-1.1
PMAFR	Mafra	15.47	92	P	Pn	06 49 32.7	-0.9
PGAV	Gavieira, Arco	15.71	81	eP	Pn	06 49 34.4	-2.4
PGAV				IAmb	IAmb	06 49 47.8	
	comp=Z,135nm,1.4s						
PGAV				eS	S	06 52 53.7	+7.7
PCAS	Casmilo, Conde	15.81	88	eP	Pn	06 49 38.1	+0.2
PCAS				IAmb	IAmb	06 49 44.9	
	comp=Z,125nm,1.6s						
COI	Coimbra	15.85	87	Pn	Pn	06 49 37.4	-0.9
COI				IAmb	IAmb	06 49 45.5	
	comp=Z,118nm,1.1s						
COI	Coimbra	15.85	87	eP	P	06 49 43.3	+1.2
COI				IAmb	IAmb	06 49 46.3	
	comp=Z,258nm,1.5s						
COI	Coimbra	15.85	87	P	Pn	06 49 37.4	-0.9
COI				pmax	pmax		
	comp=Z,119nm,1.1s						
POLO	Lamas de Olo	16.13	83	eP	Pn	06 49 39.5	-2.6
POLO				IAmb	IAmb	06 49 51.8	
	comp=Z,54nm,1.5s						
PVIS	Viseu	16.15	85	eP	Pn	06 49 41.5	-0.8
PVRL	Vila Real	16.20	83	eP	Pn	06 49 41.7	-1.2
PVRL				IAmb	IAmb	06 49 52.5	
	comp=Z,102nm,1.3s						
PMTG	Montargil	16.24	91	eP	Pn	06 49 42.8	-0.6
PMTG				IAmb	IAmb	06 49 46.9	
	comp=Z,98nm,1.3s						
PTEO	Sao Teotonio	16.32	97	eP	Pn	06 49 44.9	+0.5
PTEO				IAmb	IAmb	06 49 52.8	
	comp=Z,156nm,1.8s						
PFVI	Vila Bisbo	16.39	98	Pn	Pn	06 49 43.0	-2.2
PFVI				IAmb	IAmb	06 49 51.7	
	comp=Z,187nm,1.3s						
PFVI	Vila Bisbo	16.39	98	eP	P	06 49 47.4	-0.7
PFVI				IAmb	IAmb	06 49 52.5	
	comp=Z,233nm,1.7s						
PFVI	Vila Bisbo	16.39	98	P	Pn	06 49 45.4	+0.2
MORF	Marmelete	16.45	97	Pn	Pn	06 49 45.3	-0.9
MORF				IAmb	IAmb	06 49 52.7	
	comp=Z,301nm,1.9s						
MORF	Marmelete	16.45	97	eP	Pn	06 49 46.7	+0.5
MORF				IAMs_20	IAMs_20	06 54 37.9	
	comp=Z,4μm,16.6s						
MORF	Marmelete	16.45	97	eP	Pn	06 49 47.3	+1.1
MORF				IAmb	IAmb	06 49 53.5	
	comp=Z,180nm,1.6s						
MORF	Marmelete	16.45	97	eP	Pn	06 49 46.7	+0.5
MTE	Manteigas	16.46	86	Pn	Pn	06 49 44.4	-1.9
MTE	Manteigas	16.46	86	eP	Pn	06 49 47.6	+1.2
MTE				IAmb	IAmb	06 49 53.1	
	comp=Z,89nm,1.6s						
MTE				eS	S	06 53 36.0	+35
EVO	Evora	16.54	93	eP	Pn	06 49 46.2	-1.1
EVO				IAmb	IAmb	06 50 00.6	
	comp=Z,90nm,1.9s						
EVO	Evora	16.54	93	P	Pn	06 49 45.6	-1.7
MESJ	Messejana	16.60	95		Pn	06 49 47.4	-0.6
MESJ	Messejana	16.60	95	eP	Pn	06 49 48.6	+0.6
MESJ				eS	Sn	06 52 55.5	+3.2
MESJ				IAMs_20	IAMs_20	06 54 14.4	
	comp=Z,5μm,22.8s						
MESJ	Messejana	16.60	95	eP	P	06 49 50.2	-0.3
MESJ				IAmb	IAmb	06 49 54.9	
	comp=Z,120nm,1.6s						
MESJ	Messejana	16.60	95	eP	Pn	06 49 48.6	+0.6
MESJ				eS	Sn	06 52 55.5	+3.2
PCBR	Castelo Branco	16.62	88	eP	Pn	06 49 47.9	-0.4
PCBR				IAmb	IAmb	06 50 04.4	
	com

PVAQ	Vaqueiros	17.12	96	Pn	Pn	06 49 54.6	0.0	
EBAD	Badajoz	17.23	91	P	Pn	06 49 53.0	-3.0	
EGRO	El Granado	17.25	96	P	Pn	06 49 54.2	-1.9	
PBAR	Barrancos	17.38	93	eP	P	06 49 58.9	-0.2	
PBAR				IAmb	IAmb	06 50 06.9		
	comp=Z,93nm,1.5s							
PBAR	Barrancos	17.38	93	P	Pn	06 49 58.5	+0.7	
EMIN	Mina Concepcio	17.78	94	P	Pn	06 50 02.9	+0.1	
ECAB	El Cabril	18.63	92	P	P	06 50 10.8	-2.1	
ESPR	Espera	18.70	96	P	Pn	06 50 14.3	+0.2	
IWEX	Carrickbyrne,	18.85	47	P	Pn	06 50 19.7	+3.9	
PAB	San Pablo	19.04	87	P	P	06 50 17.1	-0.4	
PAB	San Pablo	19.04	87	P	P	06 50 17.1	-0.4	
PAB				pmax	pmax			
	comp=Z,79nm,1.4s							
AVE	Averroes	19.12	108	P	Pn	06 50 19.4	+0.2	
AVE				IAmb	IAmb	06 50 31.5		
	comp=Z,269nm,1.9s							
EADA	Adamuz	19.23	91	P	P	06 50 18.4	-1.2	
ESDC	Sonseca Array	19.30	87	P	P	06 50 20.2	-0.1	
ESDC	Sonseca Array	19.30	87	P	Pn	06 50 21.1	-0.3	
	comp=Z,0.1nm,0.3s,baz=288,slow=11,SNR=16							
ESDC				LR	LR	06 56 23.6		
	comp=Z,4μm,20.4s,baz=284,slow=32							
	comp=Z,7.0nm,1.1s							
ESBB	Sonseca Array	19.30	87	P	P	06 50 20.5	+0.2	
ECEU	Ceuta	19.42	98	P	P	06 50 19.8	-1.9	
DSB	Dublin	19.47	45	P	P	06 50 18.2	-3.8	
DSB	Dublin	19.47	45	P	Pn	06 50 25.8	+2.6	
QUIF	Quistinic	19.66	62	eP	Pn	06 50 25.9	+0.4	
QUIF				pmax	pmax			
	comp=Z,95nm,1.2s							
ROSF	Rostrenen	19.66	60	P	Pn	06 50 26.7	+1.2	
ROSF				pmax	pmax			
	comp=Z,44nm,1.3s							
ILTH	Belurgan, Co L	19.88	43	P	Pn	06 50 31.3	+3.3	
TIO	Tiouine	20.54	113	P	P	06 50 34.8	+0.8	
IFR	Ifrane	20.66	104	P	Pn	06 50 37.1	-0.6	
GRR	Gorron	21.26	61	eP	P	06 50 42.7	+1.3	
GRR				pmax	pmax			
	comp=Z,54nm,1.1s							
DRLN	Deer Lake	21.28	301	P	P	06 50 41.3	-0.4	
ETSF	Etsaut	21.32	76	eP	P	06 50 43.1	+0.8	
ETSF				pmax	pmax			
	comp=Z,111nm,1.6s							
MDT	Midelt	21.39	105	P	P	06 50 44.2	+1.1	
	comp=Z,44nm,1.2s,baz=298,slow=10,SNR=9.6							
MDT				LR	LR	06 57 15.1		
	comp=Z,2μm,20.7s,baz=306,slow=32							
	comp=Z,44nm,1.2s							
MFF	Saint Martin d	21.55	66	eP	P	06 50 45.7	+1.1	
MFF				pmax	pmax			
	comp=Z,89nm,1.2s							
FLN	La Foliniere	21.56	60	eP	P	06 50 45.8	+1.1	
FLN				pmax	pmax			
	comp=Z,55nm,1.2s							
EPF	Esparros	21.96	76	eP	P	06 50 49.8	+0.7	
EPF				pmax	pmax			
	comp=Z,184nm,1.7s							
ESK	Eskdalemuir	22.10	42	P	P	06 50 50.2	-0.2	
ESK				IAmb	IAmb	06 50 54.2		
	comp=Z,96nm,1.8s							
ESK	Eskdalemuir	22.10	42	P	P	06 50 50.2	-0.2	
ESK				pmax	pmax			
	comp=Z,96nm,1.8s							
EKA	Eskdalemuir Ar	22.13	42	P	P	06 50 51.8	+1.0	
	comp=Z,9.9nm,1.0s,baz=239,slow=9.1,SNR=8.1							
	comp=Z,9.9nm,1.0s							
LFF	La Frestale	22.13	71	eP	P	06 50 50.9	0.0	
LFF				pmax	pmax			
	comp=Z,56nm,1.1s							
RJF	Les Rejaudoux	22.68	70	eP	P	06 50 57.6	+0.9	
RJF				pmax	pmax			
	comp=Z,57nm,1.2s							
CEST	Esterri de Car	22.68	77	P	P	06 50 56.5	-0.4	
CEST				IAmb	IAmb	06 51 04.2		
	comp=Z,66nm,1.2s							
CAF	Calviac	23.07	71	eP	P	06 51 01.3	+0.4	
CAF				pmax	pmax			
	comp=Z,57nm,1.2s							
TCF	Toulx Ste Croi	23.16	67	eP	P	06 51 02.9	+1.1	
TCF				pmax	pmax			
	comp=Z,82nm,1.2s							
CLF	Chambon-Foret	23.29	63	P	P	06 51 04.0	+1.1	
MTLF	Montolieu	23.30	75	eP	P	06 51 04.2	+1.1	
MTLF				pmax	pmax			
	comp=Z,61nm,1.3s							
BGF	Bois d'Agland	23.61	66	eP	P	06 51 06.2	0.0	
BGF				pmax	pmax			
	comp=Z,71nm,1.2s							
GBN	Guysborough	23.69	291	P	P	06 51 08.2	+1.2	
GBN				IAmb	IAmb	06 51 12.8		
	comp=Z,96nm,1.4s							
BORG	Borgarnes	23.89	8	LR	LR	06 57 51.2		
	comp=Z,2μm,20.9s,baz=189,slow=30							
AVF	Avril sur Loir	23.96	66	eP	P	06 51 09.5	-0.1	
AVF				pmax	pmax			
	comp=Z,32nm,1.1s							
SSF	Saint Saulge	24.07	65	eP	P	06 51 10.8	+0.2	
SSF				pmax	pmax			
	comp=Z,83nm,1.4s							
SMF	Signal de Mont	24.29	66	eP	P	06 51 12.9	+0.2	
SMF				pmax	pmax			
	comp=Z,74nm,1.7s							
LOR	Lormes	24.32	65	P	P	06 51 14.7	+1.8	
LOR				pmax	pmax			
	comp=Z,30nm,1.8s							
ANGG	Ammassalik, Gr	24.78	352	i P	P	06 51 18.0	+1.1	
ANGG				IAmb	IAmb	06 51 21.9		
	comp=Z,42nm,1.1s							
BAIF	Baives	24.78	58	eP	P	06 51 17.9	+0.8	
BAIF				pmax	pmax			
	comp=Z,42nm,1.1s							
SSB	Saint Sauveur	24.81	69	P	P	06 51 18.0	+0.6	
SSB				IAmb	IAmb	06 51 24.7		
	comp=Z,35nm,1.1s							
SSB	Saint Sauveur	24.81	69	P	P	06 51 18.0	+0.6	
SSB				pmax	pmax			
	comp=Z,35nm,1.1s							
ISOG	Isortoq, Green	24.87	350	eP	P	06 51 18.3	+0.7	
ISOG				IAmb	IAmb	06 51 21.4		
	comp=Z,35nm,1.0s							
VIVF	Saint-Julien-l	24.93	70	eP	P	06 51 20.6	+2.1	
VIVF				pmax	pmax			
	comp=Z,106nm,1.4s							
UCC	Uccle	24.99	56	P	P	06 51 19.0	+0.1	
UCC	Uccle	24.99	56	dP	P	06 51 18.8	-0.1	
	comp=Z,32nm,1.3s							
UCC	Uccle	24.99	56	P	P	06 51 19.0	+0.1	
UCC				pmax	pmax			
	comp=Z,20nm,1.4s							
DOU	Dourbes	25.04	58	dP	P	06 51 20.1	+0.8	
	comp=Z,18nm,1.2s							
BMRD	Maredsous	25.17	58	dP	P	06 51 21.0	+0.4	
	comp=Z,16nm,1.3s							
BMRD				dPP	PnPn	06 51 54.7	+0.3	
BGES	Gesves	25.39	57	dP	P	06 51 21.9	-0.6	
	comp=Z,25nm,1.1s							
MAHO	Mahon	25.42	82	P	P	06 51 23.3	+0.4	
MAHO				IAmb	IAmb	06 51 33.7		
	comp=Z,52nm,1.1s							
RCHB	Rochefort	25.45	58	dP	P	06 51 23.0	-0.1	
	comp=Z,9.0nm,1.2s							
BCLA	Clavier	25.53	57	dP	P	06 51 23.8	0.0	
	comp=Z,26nm,1.2s							
BCLA				dPP	PnPn	06 51 58.4	-0.9	
BSTI	Sart Tilman	25.72	57	dP	P	06 51 25.3	-0.2	
	comp=Z,10nm,1.2s							
ORIF	Oris-en-Rattie	25.78	70	P	P	06 51 29.3	+3.0	
ORIF				pmax	pmax			
	comp=Z,24nm,1.9s							
BEBN	Eben Emael	25.82	57	dP	P	06 51 27.0	+0.6	
	comp=Z,43nm,1.1s							
CABF	La Chapelle	25.84	66	eP	P	06 51 28.7	+1.9	
CABF				pmax	pmax			
	comp=Z,47nm,1.2s							
BHOU	Houvegnez	25.97	58	dP	P	06 51 28.4	+0.5	
	comp=Z,14nm,1.5s							
LMN	Caledonia Moun	25.98	292	P	P	06 51 28.1	+0.1	
WLF	Walferdange	25.99	59	dP	P	06 51 27.8	-0.2	
	comp=Z,17nm,1.3s							
MEM	Membach	26.00	57	dP	P	06 51 29.0	+0.9	
	comp=Z,24nm,1.1s							
MEM	Membach	26.00	57	P	P	06 51 31.5	+3.4	
MEM				pmax	pmax			
	comp=Z,47nm,1.3s							
HAU	Haudompre	26.02	63	eP	P	06 51 28.3	-0.1	
HAU				pmax	pmax			
	comp=Z,57nm,1.4s							
BTNL	Ternell	26.07	57	dP	P	06 51 32.2	+3.4	
	comp=Z,19nm,1.1s							
NUUK	Nuuk	26.32	338	eP	P	06 51 30.1	-0.7	
NUUK				IAmb	IAmb	06 51 32.6		
	comp=Z,44nm,1.0s							
BNI	Bardonecchia	26.34	70	P	P	06 51 32.1	+0.7	
BNI	Bardonecchia	26.34	70	P	P	06 51 32.1	+0.7	
BNI				pmax	pmax			
	comp=Z,113nm,1.7s							
LPL	La Plagne	26.34	69	eP	P	06 51 33.7	+2.2	
LPL				pmax	pmax			
	comp=Z,28nm,1.3s							
LPG	La Plagne	26.35	69	eP	P	06 51 35.1	+3.4	
LPG				pmax	pmax			
	comp=Z,37nm,1.2s							
HINF	Hinteralfeld	26.36	64	eP	P	06 51 34.6	+3.1	
HINF				pmax	pmax			
	comp=Z,23nm,1.2s							
MBDF	Montbardon	26.43	70	eP	P	06 51 37.9	+5.7	
MBDF				pmax	pmax			
	comp=Z,27nm,1.3s							
ECH	Echery	26.57	63	P	P	06 51 33.5	+0.1	
ECH				IAmb	IAmb	06 51 41.5		
	comp=Z,66nm,1.4s							
ECH	Echery	26.57	63	P	P	06 51 33.5	+0.1	
ECH				pmax	pmax			
	comp=Z,66nm,1.4s							
CDF	Champ du Feu	26.66	62	eP	P	06 51 33.1	-1.1	
CDF				pmax	pmax			
	comp=Z,64nm,1.3s							
SENIN	Lac Senin/Sane	26.69	67	P	P	06 51 33.5	-1.1	
BUG	Bochum--Univer	26.90	55	P	P	06 51 37.6	+1.4	
BUG				pmax	pmax			
	comp=Z,29nm,1.2s							
DY2G	Dye2	26.91	345	i P	P	06 51 36.9	+0.5	
BFO	Black Forest	27.36	62	P	P	06 51 40.8	+0.4	
BFO				IAmb	IAmb	06 51 57.2		
	comp=Z,31nm,1.3s							
BFO	Black Forest	27.36	62	P	P	06 51 40.8	+0.4	
BFO				pmax	pmax			
	comp=Z,31nm,1.3s							
SLE	Schleitheim	27.47	64	P	P	06 51 42.7	+1.3	
SLE				pmax	pmax			
	comp=Z,14nm,1.4s							
TNS	Taunus Mts	27.51	58	P	P	06 51 44.7	+2.9	
TNS				pmax	pmax			
	comp=Z,12nm,1.4s							
ICQ	Pointe Anglais	27.65	300	P	P	06 51 42.5	-0.4	
TUE	Stuetta	28.10	66	P	P	06 51 47.7	+0.4	
TUE				IAmb	IAmb	06 51 54.4		
	comp=Z,26nm,1.1s							
TUE	Stuetta	28.10	66	P	P	06 51 48.3	+1.1	
	comp=Z,82nm,1.3s							
SCHQ	Schefferville	28.11	312	P	P	06 51 46.8	-0.3	
SCHQ				IAmb	IAmb	06 51 51.4		
	comp=Z,52nm,1.6s							
SCHQ	Schefferville	28.11	312	P	P	06 51 47.8	+0.8	
	comp=Z,11nm,1.1s,baz=103,slow=8.6,SNR=6.5							
SCHQ				LR	LR	07 01 05.1		
	comp=Z,2μm,20.8s,baz=96,slow=33							
	comp=Z,11nm,1.1s							
SFJD	Kangerlussuaq	28.27	342	LR	LR	07 00 40.0		
	comp=Z,1μm,18.6s,baz=151,slow=32							
PGF	Pioggiola	28.34	75	eP	P	06 51 54.4	+5.1	
PGF				pmax	pmax			
	comp=Z,79nm,1.5s							
DAVA	Damuels	28.42	65	i P	P	06 51 50.4	+0.3	
	comp=Z,19nm,1.2s							
DAVOX	Davos/Dischmat	28.44	66	P	P	06 51 51.9	+1.5	
	comp=Z,4.1nm,0.9s,baz=300,slow=10,SNR=4.8							
DAVOX				LR	LR	07 01 28.0		
	comp=Z,2μm,21.0s,baz=282,slow=33							
	comp=Z,4.1nm,0.9s							
FUORN	Ofenpass-Fuorn	28.72	66	P	P	06 51 52.9	+0.1	
BBTS	Babate	28.80	154	LR	LR	07 02 02.7		
	comp=Z,551nm,18.3s,baz=237,slow=34							
D62A	Allapoint, All	28.85	295	P	P	06 51 52.5	-1.2	
D62A				IAmb	IAmb	06 51 59.9		
	comp=Z,37nm,1.2s							
RETA	Reutte	29.01	64	i P	P	06 51 56.1	+0.9	
	comp=Z,13nm,1.1s							
FETA	Feichten	29.01	65	eP	P	06 51 56.1	+0.8	
	comp=Z,18nm,1.3s							
BSEG	Bad Segeberg	29.10	51	P	P	06 51 56.9	+1.1	
BSEG				pmax	pmax			
	comp=Z,25nm,1.2s							
MOTA	Moosalm	29.25	64	i P	P	06 51 58.3	+0.9	
	comp=Z,28nm,1.5s							
GRF	Grafenberg Arr	29.28	60	eP	P	06 51 57.8	+0.3	
	comp=Z,23nm,1.2s,baz=269,slow=8.4							
SQTA	Sankt Quirin	29.33	65	epP	P	06 51 59.2	+1.2	
	comp=Z,24nm,1.2s							
MOX	Moxa	29.56	58	P	P	06 52 01.7	+1.7	
MOX				pmax	pmax			
	comp=Z,12nm,1.3s							
WATA	Walderalm	29.57	64	i pP	pP	06 52 02.0	-0.7	
	comp=Z,19nm,1.4s							
WTTA	Wattenberg	29.61	65	i P	P	06 52 01.0	+0.3	
	comp=Z,28nm,1.5s							
WTTA	Wattenberg	29.61	65	P	P	06 52 02.2	+1.5	
WTTA				pmax	pmax			
	comp=Z,16nm,1.7s							
CTI	Castel Tesino	29.72	67	P	P	06 52 02.0	+0.4	
CTI	Castel Tesino	29.72	67	P	P	06 52 02.0	+0.4	
CTI				pmax	pmax			
	comp=Z,14nm,1.1s							
OSSC	Osservatorio P	29.78	72	P	P	06 52 01.9	-0.2	
OSSC				IAmb	IAmb	06 52 16.9		
	comp=Z,33nm,1.3s							
NKC	Novy Kostel	30.08	59	AMS	AMS	07 02 50.0		
	comp=Z,2μm,17.9s							
KONO	Kongsberg	30.17	39	i P	P	06 52 05.7	+0.5	
KONO				pmax	pmax			
	comp=Z,21nm,1.3s							
ABTA	Abfaltersbach	30.25	65	eP	P	06 52 07.1	+0.8	
	comp=Z,39nm,1.4s							
LESA	Schwarzleotal	30.31	64	eP	P	06 52 07.8	+1.0	
	comp=Z,25nm,1.3s							
CLL	Collm	30.46	56	P	P	06 52 06.6	-1.3	
CLL	Collm	30.46	56	eP	P	06 52 06.0	-1.9	
CLL				e		06 52 10.0		
CLL				eS	S	06 57 07.0	-1.8	
KEST	Kesra	30.55	88	P	P	06 52 08.2	-0.7	
KEST	Kesra	30.55	88	P	P	06 52 09.8	+0.8	
	comp=Z,19nm,1.1s,baz=297,slow=11,SNR=5.6							
KEST				LR	LR	07 04 00.9		
	comp=Z,3μm,19.1s,baz=283,slow=36							
	comp=Z,19nm,1.1s							
HSKC	Hora Svate Kat	30.72	58	AMS	AMS	07 03 00.0		
	comp=Z,2μm,19.6s							
KBA	Koelnbreinsper	30.79	65	epP	pP	06 52 12.3	-1.3	
	comp=Z,81nm,1.2s							
KBA	Koelnbreinsper	30.79	65	P	P	06 52 12.4	+1.3	
KBA				pmax	pmax			
	comp=Z,80nm,1.2s							
KHC	Kasperske Hory	30.82	61	eP	P	06 52 10.8	-0.4	
KHC				AMS	AMS	07 03 40.0		
	comp=Z,2μm,15.0s							
KHC	Kasperske Hory	30.82	61	ceP	P	06 52 11.6	+0.4	
KHC				pmax	pmax			
	comp=Z,58nm,1.7s							
KHC	Kasperske Hory	30.82	61	P	P	06 52 11.3	+0.1	
	comp=Z,14nm,1.3s							
GEC2	GERESS Array S	30.91	61	P	P	06 52 12.2	+0.2	
GERES	GERESS Array B	30.91	61	P	P	06 52 11.6	-0.5	
GERES	GERESS Array B	30.91	61	P	P	06 52 12.3	+0.2	
	comp=Z,2.5nm,0.9s,baz=282,slow=6.5,SNR=9.0							
GERES				LR	LR	07 03 11.4		
	comp=Z,1μm,19.9s,baz=256,slow=34							
	comp=Z,2.5nm,0.9s							
CESX	Cesi	30.92	73	P	P	06 52 12.3	+0.3	
CESX				IAmb	IAmb	06 52 18.2		
	comp=Z,24nm,1.2s							
BIOA	Bad Ischl, Aus	30.94	63	i pP	pP	06 52 14.0	-0.7	
	comp=Z,37nm,1.6s							
MYKA	Terra Mystica	31.04	66	i pP	pP	06 52 14.8	-0.8	
	comp=Z,26nm,1.4s							
BRG	Berggiesshubel	31.04	57	eP	P	06 52 17.7	+4.7	
BRG				Amp		06 52 19.5		
	comp=Z,6.4nm,1.2s							
BRG				PP	PnPn	06 53 15.1	+1.0	
BRG				Amp		06 53 27.0		
	comp=Z,5.6nm,1.1s							
BRG	Berggiesshubel	31.04	57	S	S	06 57 19.0	+1.0	
BRG	Berggiesshubel	31.04	57	P	P	06 52 14.6	+1.5	
RICC	Richard	31.14	58	AMS	AMS	07 03 50.0		
	comp=Z,2μm,17.8s							
ZVC	Zvikov	31.22	60	eP	P	06 52 15.6	+1.0	
CKRC	Cesky Krumlov	31.32	61	AMS	AMS	07 03 20.0		
	comp=Z,1μm,19.1s							
MOA	Molln	31.35	63	eP	P	06 52 16.7	+0.8	
	comp=Z,26nm,1.3s							
PRA	Prague	31.36	59	AMS	AMS	07 04 30.0		
	comp=Z,3μm,16.5s							
NOA	NORSAR Array B	31.40	37	P	P	06 52 16.2	0.0	
	comp=Z,2.3nm,1.0s,baz=232,slow=7.1,SNR=3.4							
NOA				LR	LR	07 02 55.4		
	comp=Z,518nm,21.6s,baz=245,slow=33							
	comp=Z,2.3nm,1.0s							
PRU	Pruhonice	31.43	59	AMS	AMS	07 04 30.0		
	comp=Z,2μm,18.8s							
PVCC	Panska Ves	31.44	58	AMS	AMS	07 04 20.0		
	comp=Z,3μm,16.9s							
JMIC	Jan Mayen	31.52	13	LR	LR	07 02 01.1		
	comp=Z,851nm,18.2s,baz=246,slow=31							
GOPC	GO Pecny, Ondr	31.59	59	AMS	AMS	07 04 50.0		
	comp=Z,3μm,17.3s							
SUMG	Summit	31.64	355	P	P	06 52 18.9	+0.4	
SUMG	Summit	31.64	355	P	P	06 52 18.9	+0.4	
SUMG				pmax	pmax			
	comp=Z,15nm,1.3s							
SUMG	Summit	31.64	355	i P	P	06 52 18.0	-0.5	
OBKA	Obir	31.67	66	eP	P	06 52 18.4	-0.4	
	comp=Z,23nm,0.8s							
FRB	Frobisher Bay	31.94	328	LR	LR	07 01 55.2		
	comp=Z,473nm,19.7s,baz=117,slow=30							
SOKA	Soboth	31.98	65	i P	P	06 52 20.2	-1.3	
	comp=Z,15nm,1.3s							
ARSA	Arzberg	32.25	64	eP	P	06 52 23.6	-0.2	
	comp=Z,25nm,1.4s							
ARSA	Arzberg	32.25	64	P	P	06 52 24.0	+0.2	
ARSA				IAmb	IAmb	06 52 28.6		
	comp=Z,41nm,1.6s							
HFS	Hagfors	32.28	40	P	P	06 52 23.6	-0.2	
	comp=Z,5.1nm,0.9s,baz=240,slow=8.1,SNR=2.4							
HFS				LR	LR	07 03 43.9		
	comp=Z,1μm,20.4s,baz=252,slow=33							
	comp=Z,5.1nm,0.9s							
UPC	Upice	32.36	58	AMS	AMS	07 04 50.0		
	comp=Z,3μm,17.0s							
UPC	Upice	32.36	58	P	P	06 52 26.3	+1.6	
UPC				pmax	pmax			
	comp=Z,15nm,1.6s							
CHVC	Chvalec	32.39	58	eP	P	06 52 23.2	-1.7	
CHVC				AMS	AMS	07 04 30.0		
	comp=Z,3μm,18.1s							
CHVC	Chvalec	32.39	58	eP	P	06 52 23.2	-1.7	
CHVC				MLR	MLR			
	comp=Z,3μm,18.1s							
CONA	Conrad Observa	32.41	63	eP	P	06 52 24.8	-0.4	
	comp=Z,17nm,1.5s							
OSTC	Ostas	32.49	58	eP	P	06 52 26.0	+0.2	
OSTC				AMS	AMS	07 04 40.0		
	comp=Z,3μm,18.5s							
OSTC	Ostas	32.49	58	eP	P	06 52 26.0	+0.2	
OSTC				MLR	MLR			
	comp=Z,3μm,18.5s							
KSP	Ksiaz	32.53	57	P	P	06 52 26.8	+0.6	
KSP				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KSP	Ksiaz	32.53	57	P	P	06 52 26.2	0.0	
	comp=Z,7.5nm,0.9s							
DPC	Dobruska-Polom	32.56	58	eP	P	06 52 29.2	+2.7	
DPC				AMS	AMS	07 04 50.0		
	comp=Z,3μm,16.9s							
DPC	Dobruska-Polom	32.56	58	eP	P	06 52 29.2	+2.7	
DPC				MLR	MLR			
	comp=Z,3μm,16.9s							
DPC	Dobruska-Polom	32.56	58	P	P	06 52 27.5	+1.0	
	comp=Z,9.1nm,1.7s							
KRUC	Moravsky	32.68	61	eP	P	06 52 29.2	+1.8	
KRUC	Moravsky	32.68	61	P	P	06 52 27.5	+0.1	
KRUC				pmax	pmax			
	comp=Z,12nm,1.5s							
RONA	Rosalia, Austr	32.73	63	eP	P	06 52 27.2	-0.8	
	comp=Z,11nm,1.5s							
VRAC	Vranov	32.79	60	LR	LR	07 05 07.2		
	comp=Z,1μm,18.0s,baz=272,slow=35							
VRAC	Vranov	32.79	60	eP	P	06 52 30.3	+1.9	
VRAC	Vranov	32.79	60	P	P	06 52 29.9	+1.5	
VRAC				pmax	pmax			
	comp=Z,16nm,1.8s							
KRLC	Kraliky	32.87	59	eP	P	06 52 29.4	+0.2	
KRLC				AMS	AMS	07 04 30.0		
	comp=Z,2μm,17.7s							
KRLC	Kraliky	32.87	59	eP	P	06 52 29.4	+0.2	
KRLC				MLR	MLR			
	comp=Z,2μm,17.7s							
MODS	Modra-Piesok	33.31	62	eP	P	06 52 33.7	+0.6	
MODS				pmax	pmax			
	comp=Z,77nm,1.4s							
MODS	Modra-Piesok	33.31	62	eP	P	06 52 33.7	+0.6	
MORC	Moravsky Berou	33.38	59	P	P	06 52 33.6	0.0	
MORC	Moravsky Berou	33.38	59	eP	P	06 52 35.8	+2.2	
MORC	Moravsky Berou	33.38	59	P	P	06 52 33.6	0.0	
MORC				pmax	pmax			
	comp=Z,12nm,1.3s							
SMOL	Smolenice	33.40	62	eP	P	06 52 36.4	+2.6	
SMOL				pmax	pmax			
	comp=Z,26nm,1.8s							
JAVC	Velka Javorina	33.53	61	eP	P	06 52 39.2	+4.2	
MPLH	Magyarpolny	33.63	64	P	P	06 52 35.4	-0.4	
	comp=Z,29nm,1.8s							
VAE	Valguarnera	33.71	82	LR	LR	07 04 39.5		
	comp=Z,3μm,21.9s,baz=320,slow=33							
CUC	Castrocucco	33.94	77	P	P	06 52 39.2	+0.5	
SRO	Srobarova	34.07	63	eP	P	06 52 40.7	+1.2	
SRO				pmax	pmax			
	comp=Z,22nm,1.5s							
SRO	Srobarova	34.07	63	eP	P	06 52 40.6	+1.1	
UPNV	Upernavik	34.08	346	eP	P	06 52 37.4	-2.1	
UPNV				IAmb	IAmb	06 52 40.0		
	comp=Z,24nm,1.1s							
VYHS	Vyhne	34.34	61	eP	P	06 52 42.5	+0.6	
VYHS				pmax	pmax			
	comp=Z,42nm,2.4s							
VYHS	Vyhne	34.34	61	eP	P	06 52 42.5	+0.6	
TAM	Tamanrasset	34.51	112	P	P	06 52 44.2	+0.4	
TAM	Tamanrasset	34.51	112	P	P	06 52 44.2	+0.4	
TAM				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MORH	Mrgy, Hungar	34.52	65	⇑P	P	06 52 43.2	-0.2	
MORH	Mrgy, Hungar	34.52	65	P	P	06 52 42.7	-0.8	
	comp=Z,24nm,1.2s							
BUD	Budapest	34.59	63	P	P	06 52 45.1	+1.0	
BUD				pmax	pmax			
	comp=Z,28nm,1.3s	

SSPA Standing Stone 36.32 285 P P 06 52 58.3 -0.7
SSPA IAmb IAmb 06 53 01.2
comp=Z,25nm,1.1s
KOLS Kolonicke sedl 36.54 60 *e*P **P 06 53 04.0 +3.1**
KOLS Kolonicke sedl 36.54 60 *e*P **P 06 53 04.0 +3.1**
SIRR Siria 36.57 65 ⇑P **P 06 53 02.5 +1.3**
HOLU Holmets 36.67 61 P **P 06 53 02.3 +0.4**
BZS Buzias 36.67 66 ⇑P **P 06 53 02.1 +0.1**
BZS Buzias 36.67 66 ⇑P **P 06 53 02.1 +0.1**
MUKU Mukachevo 36.88 61 P **P 06 53 04.4 +0.7**
BERU Beregovo 36.89 61 P **P 06 53 05.7 +1.9**
MDVR Moldovita 36.92 67 ⇑P **P 06 53 03.5 -0.7**
SURR Surduc 36.99 65 ⇑P **P 06 53 04.7 0.0**
TRSU Trosnyk 37.12 61 P **P 06 53 07.6 +1.9**
BRIU Brid 37.12 61 P **P 06 53 07.0 +1.3**
DRGR 37.18 64 ⇑P **P 06 53 06.0 -0.4**
DRGR 37.18 64 ⇑P **P 06 53 06.0 -0.4**
BOVS Bovan 37.19 69 ⇓P **P 06 53 05.9 -0.5**
NEEM North Greenlan 37.34 352 *e*P **P 06 53 06.3 -1.3**
MARR Marisel-Cluj 37.48 64 ⇑P **P 06 53 09.2 +0.2**
GZR Gura Zlata 37.52 66 ⇓P **P 06 53 10.1 +0.8**
GZR Gura Zlata 37.52 66 ⇓P **P 06 53 10.1 +0.8**
MORS Morshin 37.57 60 P **P 06 53 09.8 +0.3**
MORS Morshin 37.57 60 P **P 06 53 09.8 +0.3**
RAKU Rahkiv 37.93 61 P **P 06 53 12.4 -0.2**
MCWV Mont Chateau 38.05 285 P **P 06 53 14.6 +0.9**
MCWV IAmb IAmb 06 53 16.5
comp=Z,46nm,1.3s
S57A Dark Hollow, R 38.05 281 P **P 06 53 14.6 +0.7**
FINES FINESS Array B 38.48 39 P **P 06 53 16.3 -0.8**
comp=Z,5.1nm,0.9s,baz=274,slow=9.0,SNR=5.4
FINES LR LR 07 07 46.5
comp=Z,903nm,19.4s,baz=268,slow=34
comp=Z,5.1nm,0.9s
RNPP9 Sopachiv 38.52 56 P **P 06 53 16.7 -0.9**
VSU Vasula 38.64 44 *i* P **P 06 53 18.3 -0.2**
VSU pmax pmax
comp=Z,14nm,0.9s
BUR08 Bucovina Ar. S 38.68 62 P **P 06 53 19.4 +0.3**
BURAR Bucovina Array 38.70 62 ⇑P **P 06 53 20.4 +1.1**
BURAR Bucovina Array 38.70 62 ⇑P **P 06 53 20.4 +1.1**
NACGM Naroch 38.74 50 *e*P **P 06 53 19.7 +0.4**
baz=274
ARR Arges 38.80 65 ⇓P **P 06 53 24.0 +4.0**
TORD Torodi Ar. Bea 38.95 127 P **P 06 53 21.6 +0.1**
TORD Torodi Ar. Bea 38.95 127 P **P 06 53 21.5 0.0**
comp=Z,20nm,1.1s,baz=327,slow=7.8,SNR=26
comp=Z,20nm,1.1s
Q54A Coxs Mills 39.00 284 P **P 06 53 22.8 +1.0**
Q54A IAmb IAmb 06 54 11.4
comp=Z,59nm,1.8s
VOIR 39.06 65 ⇑P **P 06 53 22.9 +0.6**
VOIR 39.06 65 ⇑P **P 06 53 22.9 +0.6**
VOIR 39.06 65 P **P 06 53 21.6 -0.7**
comp=Z,12nm,2.5s
SJG San Juan 39.09 245 LR LR 07 05 03.6
comp=Z,418nm,21.9s,baz=58,slow=30
P53A Whipple 39.23 285 P **P 06 53 23.7 +0.1**
KMPD K-Podol'skiy 39.33 60 P **P 06 53 22.9 -1.5**
KMPD P **P 06 53 22.9 -1.5**
BLA Blacksburg 39.34 281 P **P 06 53 24.1 -0.6**
BLA IAmb IAmb 06 53 27.6
comp=Z,34nm,1.2s
BLA Blacksburg 39.34 281 P **P 06 53 24.1 -0.6**
BLA pmax pmax
comp=Z,34nm,1.3s
O52A Adamsville 39.34 286 P **P 06 53 24.0 -0.6**
O52A IAmb IAmb 06 53 27.3
comp=Z,37nm,1.5s
MNK Minsk 39.41 51 *i* P **P 06 53 22.7 -2.3**
comp=E,19nm,0.7s
MNK *i* P **P 06 53 22.7 -2.3**
comp=N,4.0nm,0.6s
MNK *i* P **P 06 53 22.7 -2.3**
comp=Z,11nm,0.7s,baz=274
MNK *i* PP **PP 06 54 53.2 -1.9**
MNK *i* PPP PPP 06 55 15.2
MNK *i* S **S 06 59 25.2 -1.1**
MNK *i* SS **SnSn 07 02 20.1 -0.7**
MNK *i* SSS SSS 07 02 38.9
MNK *i* LR LR 07 06 26.7
MNK *i* LRM MLR 07 09 23.6
comp=E,943nm,16.4s
MNK *i* LRM MLR 07 09 31.3
comp=N,1µm,19.1s
MNK *i* LRM MLR 07 09 36.1
comp=Z,2µm,19.5s
MNK Minsk 39.41 51 *i* P **P 06 53 22.6 -2.3**
MNK *i* 06 54 53.2
MNK *i* 06 55 30.5
MNK *i* S **S 06 59 25.1 -1.1**
MNK *i* SS **SnSn 07 02 20.0 -0.7**
MNK *i* 07 03 31.2
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=E,19nm,0.7s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK MLR MLR
comp=E,943nm,16.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,19.0s
U56A King 39.65 280 P **P 06 53 27.8 +0.6**
MLR Muntele Rosu 39.66 65 LR LR 07 09 42.7
comp=Z,995nm,19.2s,baz=274,slow=36
MLR Muntele Rosu 39.66 65 ⇑P P 06 53 32.6 +5.2
MLR Muntele Rosu 39.66 65 ⇑P P 06 53 32.6 +5.2
MLR Muntele Rosu 39.66 65 P **P 06 53 27.8 +0.4**
comp=Z,17nm,1.3s
ARCES ARCESS Array B 39.76 27 P **P 06 53 26.9 -0.8**
comp=Z,6.2nm,0.8s,baz=252,slow=8.2,SNR=5.2
ARCES LR LR 07 06 42.6
comp=Z,640nm,21.5s,baz=260,slow=31
comp=Z,6.2nm,0.8s
NDNU Novodnistrovsk 39.92 60 P **P 06 53 27.8 -1.5**
LUBAR Lubar, Ukraine 39.92 58 P **P 06 53 29.3 0.0**
PLOR Plostina 40.05 64 ⇑P **P 06 53 30.9 +0.4**
PLOR Plostina 40.05 64 ⇑P **P 06 53 30.9 +0.4**
Q52A Bidwell 40.05 285 P **P 06 53 30.9 +0.3**
MI30 MI30,Zelenitsa 40.05 56 P **P 06 53 29.4 -1.0**
VRI Vrincioaia 40.10 64 ⇑P P 06 53 35.6 +4.8
VRI Vrincioaia 40.10 64 ⇑P **P 06 53 35.6 +4.7**
VRI Vrincioaia 40.10 64 P **P 06 53 32.0 +1.1**
comp=Z,12nm,1.4s
ACSO Alum Creek Sta 40.13 287 P **P 06 53 31.8 +0.6**
BISRR Bisoca 40.17 65 P **P 06 53 32.3 +0.8**
comp=Z,48nm,1.3s
U54A Nelsons Funny 40.64 281 P **P 06 53 34.9 -0.6**
U54A IAmb IAmb 06 53 38.0
comp=Z,29nm,1.1s
SORM Soroca 40.66 60 ⇓P **P 06 53 34.0 -1.4**
SORM Soroca 40.66 60 ⇓P **P 06 53 34.0 -1.4**
SORM Soroca 40.66 60 P **P 06 53 34.2 -1.2**
comp=Z,8.2nm,1.1s
KIEV Kiev 40.70 56 ⇑P **P 06 53 35.5 -0.2**
KIEV Kiev 40.70 56 ⇑P **P 06 53 35.5 -0.2**
AKASG Malin Array Be 40.71 56 P **P 06 53 34.5 -1.3**
comp=Z,5.0nm,0.8s,baz=279,slow=8.6,SNR=15
AKASG LR LR 07 10 03.0
comp=Z,2µm,18.8s,baz=270,slow=36
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 40.71 56*ce*P **P 06 53 36.2 +0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 40.71 56 P **P 06 53 35.3 -0.5**
AKBB IAmb IAmb 06 53 40.6
comp=Z,58nm,1.8s
AKBB Malin Array Si 40.71 56*ce*P **P 06 53 36.3 +0.5**
AKBB pmax pmax
comp=Z,11nm,1.1s
AKBB Malin Array Si 40.71 56 P **P 06 53 34.9 -0.9**
DBIC Dimbokro 40.80 141 P **P 06 53 37.3 +0.4**
DBIC IAmb IAmb 06 53 43.5
comp=Z,65nm,1.3s
DBIC Dimbokro 40.80 141 P **P 06 53 37.5 +0.6**
comp=Z,29nm,1.1s,baz=328,slow=9.0,SNR=12
DBIC LR LR 07 08 46.9
comp=Z,1µm,20.3s,baz=320,slow=34
comp=Z,29nm,1.1s
SSFO Shawnee State 40.83 285 P **P 06 53 37.8 +0.9**
SSFO IAmb IAmb 06 53 39.3
comp=Z,33nm,1.1s
SPITS Spitsbergen Ar 41.20 13 LR LR 07 06 48.4
comp=Z,393nm,19.5s,baz=189,slow=30
CFR Carcaliu 41.23 65 ⇑P **P 06 53 39.0 -1.2**
CFR Carcaliu 41.23 65 ⇑P **P 06 53 39.0 -1.2**
S51A Beattyville 41.51 283 P **P 06 53 43.2 +0.6**
TIRR Tirgusor 41.62 66 ⇑P **P 06 53 42.9 -0.5**
TIRR Tirgusor 41.62 66 ⇑P **P 06 53 42.9 -0.5**
TIRR Tirgusor 41.62 66 P **P 06 53 44.3 +0.9**
comp=Z,21nm,0.9s
MDP Montagnes des 41.70 216 LR LR 07 06 59.9
comp=Z,546nm,21.3s,baz=26,slow=30
SDDR Presa de Saban 42.08 251 P **P 06 53 48.7 +1.2**
SDDR IAmb IAmb 06 53 55.0
comp=Z,51nm,1.5s
APA Apatity 42.25 30 ⇓*i*P **P 06 53 48.8 +0.6**
APA pmax pmax
comp=Z,11nm,0.9s
IDI Anoyia 42.35 80 LR LR 07 12 06.6
comp=Z,310nm,18.2s,baz=288,slow=37
TKL Tuckaleechee C 42.44 281 LR LR 07 10 17.9
comp=Z,1µm,18.9s,baz=76,slow=35
LVZ Lovozero 42.75 30 *i* P **P 06 53 53.2 +0.9**
LVZ pmax pmax
comp=Z,24nm,1.1s
154A Montrose 43.28 276 P **P 06 53 56.5 -0.5**
154A IAmb IAmb 06 54 00.5
comp=Z,43nm,1.0s
PCRV Puerto La Cruz 43.94 235 LR LR 07 10 12.5
comp=Z,564nm,20.5s,slow=33
RES Resolute Bay 44.20 340 LR LR 07 08 52.3
comp=Z,361nm,21.4s,baz=122,slow=31
OBN Obninsk 44.31 49 LR LR 07 12 54.7
comp=Z,620nm,18.1s,baz=244,slow=37
OBN Obninsk 44.31 49⇑*e*P **P 06 54 06.2 +1.2**
OBN *e* 06 55 51.0
OBN *e*PPP PPP 06 56 25.0
OBN *e*S S 07 00 49.2 +11
OBN *i* SS **SS 07 03 54.1 -2.6**
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,858nm,17.0s
MOS Moscow 44.78 48 *e*P **P 06 54 08.0 -0.8**
KLMR Klimovskoe 45.00 40 *e*P **P 06 54 10.6 +0.2**
KLMR *e* 06 55 48.4
KLMR pmax pmax
comp=Z,60nm,1.6s
352A Blakely 45.18 276 P **P 06 54 12.5 +0.3**
352A IAmb IAmb 06 54 15.3
comp=Z,24nm,1.0s
WVT Waverly 45.23 283 P **P 06 54 11.8 -0.8**
WVT Waverly 45.23 283 P **P 06 54 11.8 -0.8**
WVT pmax pmax
comp=Z,14nm,1.1s
SIM Simferopol' 45.35 63 P **P 06 54 09.9 -3.5**
N41A Harden Midland 45.58 291 P **P 06 54 16.1 +0.8**
N41A IAmb IAmb 06 54 17.4
comp=Z,22nm,0.9s
SIUC Southern Illin 45.58 286 P **P 06 54 15.7 +0.3**
ULM Lac du Bonnet 45.85 305 P **P 06 54 15.8 -1.5**
comp=Z,2.8nm,0.9s,baz=58,slow=10,SNR=3.9
ULM LR LR 07 12 00.0
comp=Z,2µm,20.8s,baz=78,slow=34
comp=Z,2.8nm,0.9s
ULM Lac du Bonnet 45.85 305 *i* P **P 06 54 16.8 -0.6**
I37A Lemond, Waseca 46.15 296 P **P 06 54 19.9 +0.1**
LPSR Galich'ya Gora 46.21 52 *e*P **P 06 54 21.3 +1.2**
LPSR pmax pmax
comp=Z,61nm,1.9s
ANTO Ankara 46.24 70 P **P 06 54 22.0 +1.3**
ANTO Ankara 46.24 70 P **P 06 54 22.0 +1.3**
comp=Z,11nm,1.1s
FVM French Village 46.34 287 P **P 06 54 20.7 -0.7**
FVM French Village 46.34 287 P **P 06 54 20.7 -0.7**
FVM pmax pmax
comp=Z,61nm,1.9s
VORR Voronezh 46.62 53 *e*P **P 06 54 25.6 +2.2**
VORR pmax pmax
comp=Z,34nm,1.5s
Z47A Carrollton 46.71 280 P **P 06 54 23.9 -0.4**
PBMO Poplar Bluff 46.85 285 P **P 06 54 24.2 -1.2**
PBMO IAmb IAmb 06 54 26.8
comp=Z,18nm,1.1s
P40A Paris 46.88 290 P **P 06 54 24.9 -0.6**
P40A IAmb IAmb 06 54 27.3
comp=Z,19nm,1.0s
BR106 Keskin Array S 46.88 70 P **P 06 54 25.2 -0.6**
comp=Z,74nmcomp=Z,6.0nm,0.9s
BR105 Keskin Array S 46.89 70 P **P 06 54 25.5 -0.3**
comp=Z,102nmcomp=Z,7.0nm,0.8s
BR131 Keskin Array S 46.90 70 P **P 06 54 26.5 +0.6**
BR131 Keskin Array S 46.90 70 *i* P **P 06 54 26.8 +0.9**
BRTR Keskin Array B 46.90 70 P **P 06 54 25.4 -0.5**
BRTR Keskin Array B 46.90 70 P **P 06 54 26.1 +0.1**
comp=Z,3.7nm,0.8s,baz=288,slow=7.2,SNR=14
BRTR PcP **PcP 06 55 58.7 +0.1**
comp=Z,3.8nm,1.1s,baz=297,slow=3.2,SNR=4.1
BRTR LR LR 07 15 30.5
comp=Z,221nm,18.9s,baz=281,slow=38
comp=Z,3.7nm,0.8s
BAUV El Baul 47.02 238 P **P 06 54 26.8 -0.1**
N38A Joes South For 47.22 292 P **P 06 54 27.9 -0.3**
N38A IAmb IAmb 06 54 30.0
comp=Z,15nm,0.9s
T42A Van Buren 47.22 286 P **P 06 54 26.9 -1.3**
T42A IAmb IAmb 06 54 29.8
comp=Z,21nm,1.2s
RCBR Riachuelo 47.33 189 LR LR 07 09 33.8
comp=Z,124nm,21.2s,baz=34,slow=30
RCBR Riachuelo 47.33 189 *e*P **P 06 54 29.9 +0.6**
F33A 5 Mile Ranch, 47.46 299 P **P 06 54 29.6 -0.4**
NBPB Pedra_Branca-C 47.60 194 *e*P **P 06 54 33.5 +2.2**
ANN Anapa 47.62 62 *e*P **P 06 54 31.9 +0.7**
ANN pmax pmax
comp=Z,72nm,1.3s
ANN MLR MLR
comp=Z,824nm,14.0s
FFC Flin Flon 48.25 312 P **P 06 54 35.6 -0.4**
FFC IAmb IAmb 06 54 38.4
comp=Z,12nm,0.8s
FFC Flin Flon 48.25 312 P **P 06 54 35.6 -0.4**
FFC pmax pmax
comp=Z,12nm,0.9s
VRH Novokhopyorsk 48.26 53 *e*P **P 06 54 37.2 +1.1**
VRH pmax pmax
comp=Z,36nm,1.8s
ECSD EROS Data Cent 48.42 297 P **P 06 54 36.7 -0.9**
FCAR Ozark Folk Cen 48.47 285 P **P 06 54 37.3 -0.7**
FCAR IAmb IAmb 06 54 41.1
comp=Z,23nm,1.6s
S39A Bolivar 48.54 288 P **P 06 54 38.3 -0.2**
S39A IAmb IAmb 06 54 40.1
comp=Z,23nm,1.1s
SDV Santo Domingo 48.74 240 P **P 06 54 41.1 +0.6**
SDV IAmb IAmb 06 54 44.0
comp=Z,24nm,1.3s
SDV Santo Domingo 48.74 240 LR LR 07 13 02.5
comp=Z,238nm,20.7s,baz=66,slow=33
SDV Santo Domingo 48.74 240 *e*P **P 06 54 42.6 +2.1**
VBMS Vicksburg 48.99 280 P **P 06 54 41.4 -0.5**
ERBR Yeremizino-Bor 49.30 60 *e*P **P 06 54 44.8 +0.5**
ERBR pmax pmax
comp=Z,44nm,1.4s
SOC Sochi 49.59 63 *e*P **P 06 54 44.7 -1.8**
SOC *e* 06 56 40.5
SOC *e*PPP PPP 06 57 33.5
SOC *e*S **S 07 01 53.9 -0.6**
SOC *e*SS **SS 07 05 27.7 +1.5**
SOC *e*SSS SSS 07 06 50.7
SOC MLR MLR
comp=Z,556nm,18.0s
SUSD Miller 49.72 298 P **P 06 54 47.0 -0.5**
MIAR Mount Ida 50.13 284 P **P 06 54 49.3 -1.4**
WLAR White Oak Lake 50.20 283 P **P 06 54 50.3 -0.9**
KIRV Kirov 50.37 42 LR LR 07 15 25.5
comp=Z,697nm,19.6s,baz=277,slow=35
KIRV Kirov 50.37 42*ce*P **P 06 54 51.1 -1.0**
MMAI Mount Meron Ar 51.14 77 LR LR 07 17 20.7
comp=Z,158nm,19.5s,baz=270,slow=37
BELG Belogornoye 51.35 50 LR LR 07 16 55.4
comp=Z,828nm,18.6s,baz=280,slow=36
BELG Belogornoye 51.35 50 *i* P **P 06 55 00.3 +0.7**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 51.43 61 *e*P **P 06 55 00.5 0.0**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,278nm,16.0s
KVAR Kislovodsk Arr 51.43 61 LR LR 07 16 57.7
comp=Z,327nm,19.1s,baz=252,slow=36
SHA1 Shidzhatmaz 51.49 62 *i* P **P 06 55 02.6 +1.5**
ITTB Itaituba 51.51 215 *e*P **P 06 55 03.1 +1.9**
KBZ Khabaz 51.66 62 P **P 06 55 02.5 +0.5**
comp=Z,6.9nm,0.9s,baz=320,slow=6.2,SNR=12
KBZ LR LR 07 17 01.5
comp=Z,476nm,19.8s,baz=318,slow=36
comp=Z,6.9nm,0.9s
KBZ Khabaz 51.66 62*ce*P **P 06 55 04.0 +2.0**
KBZ pmax pmax
comp=Z,13nm,1.1s
KAN08 Anthony NE Sta 52.06 289 P **P 06 55 04.6 -0.6**
KAN08 IAmb IAmb 06 55 06.7
comp=Z,31nm,1.0s
NCK Nalchik 52.22 62 *i* P **P 06 55 07.5 +1.2**
NCK pmax pmax
comp=Z,13nm,0.9s
YKA Yellowknife Ar 52.32 324 P **P 06 55 05.7 -1.0**
comp=Z,3.0nm,0.9s,baz=74,slow=6.9,SNR=19
YKA PcP **PcP 06 56 16.4 -1.3**
comp=Z,1.4nm,0.8s,baz=75,slow=3.9,SNR=6.9
comp=Z,3.0nm,0.9s
EIL Elat 52.48 81 LR LR 07 18 40.5
comp=Z,223nm,19.4s,baz=273,slow=37
ASF Jabal al Asfar 52.65 77 LR LR 07 18 18.5
comp=Z,205nm,21.6s,baz=328,slow=37
NBLA Lagarto - SE 52.66 191 *e*P **P 06 55 09.5 -0.1**
SMTB Santa Maria do 52.72 203 *e*P **P 06 55 11.1 +0.9**
RSSD Black Hills 53.20 300 P **P 06 55 14.6 +0.8**
RSSD pmax pmax
comp=Z,8.0nm,2.1s
NPGB Novo Progresso 53.77 213 *e*P **P 06 55 19.4 +1.5**
TEIG Tepich 53.82 266 P **P 06 55 18.5 +0.2**
ROSC El Rosal 54.17 240 LR LR 07 14 50.2
comp=Z,646nm,21.6s,baz=46,slow=32
GNI Garni 54.44 65 LR LR 07 20 08.9
comp=Z,264nm,19.4s,baz=310,slow=38
GNI Garni 54.44 65 *i* P **P 06 55 23.4 +0.5**
GNI pmax pmax
comp=Z,16nm,0.9s
GNI Garni 54.44 65 P **P 06 55 24.3 +1.4**
comp=Z,18nm,1.4s
MAK Makhachkala 55.02 61 *e*P **P 06 55 22.3 -4.5**
MAK *e*S **S 07 03 02.5 -6.4**
MAK *e*SS **SS 07 06 47.4 -4.7**
MAK *e*SSS SSS 07 09 00.0
MAK pmax pmax
comp=Z,148nm,1.3s
MAK MLR MLR
comp=Z,830nm,17.0s
TEFE Tefe 55.04 225 *e*P **P 06 55 29.2 +2.0**
SDBA SAO DESIDERIO 55.39 199 *e*P **P 06 55 30.8 +1.1**
NAX Nakhchivan 55.41 66 P **P 06 55 33.9 +4.1**
SEKA Sheki 55.62 63 P P 06 55 36.8 +5.6
ARTI Arti 55.67 42 LR LR 07 19 50.2
comp=Z,629nm,18.1s,baz=287,slow=37
ARTI Arti 55.67 42*c i*P **P 06 55 31.4 +0.1**
ARTI 06 57 36.4
ARTI S **S 07 03 19.3 +2.1**
ARTI SS **SS 07 06 59.2 -2.6**
ARTI pmax pmax
comp=Z,43nm,1.2s
MNGR Mingechevir, A 55.74 63 P **P 06 55 36.3 +4.3**
ISCO Idaho Springs 56.18 296 P **P 06 55 34.0 -1.6**
SVE Sverdlovsk 56.61 41 *e*P **P 06 55 38.0 0.0**
SVE pmax pmax
comp=Z,38nm,1.5s
SNDB Serra Nova Dou 56.81 206 *e*P **P 06 55 41.7 +1.9**
INK Inuvik 57.18 335 LR LR 07 18 10.6
comp=Z,432nm,18.2s,baz=294,slow=34
PDAR Pinedale Array 57.40 301 P **P 06 55 42.5 -1.7**
comp=Z,6.4nm,0.9s,baz=64,slow=6.8,SNR=28
PDAR LR LR 07 20 09.4
comp=Z,937nm,18.2s,baz=35,slow=36
comp=Z,6.4nm,0.9s
CLDB Colider 57.42 211 *e*P **P 06 55 46.6 +2.5**
JTS Las Juntas de 57.68 254 LR LR 07 16 04.1
comp=Z,945nm,21.7s,baz=30,slow=31
MOOW Moose Ponds 57.70 302 P **P 06 55 45.1 -1.0**
MOOW IAmb IAmb 06 55 48.9
comp=Z,28nm,1.5s
JANB Januaria 57.81 197 *e*P **P 06 55 48.4 +1.5**
LKRN Lenkeran, Azer 57.88 65 P **P 06 55 51.5 +4.3**
AKTO Aktyubinsk 58.09 49 LR LR 07 20 08.3
comp=Z,739nm,21.6s,baz=296,slow=35
G31M Satah River 58.13 333 P **P 06 55 47.5 -1.1**
G31M IAmb IAmb 06 55 53.9
comp=Z,19nm,1.1s
MSO Missoula 58.23 306 P **P 06 55 48.8 -1.0**
MSO IAmb IAmb 06 55 51.7
comp=Z,24nm,1.0s
TBTG Tabatinga, AM 58.52 230 *e*P **P 06 55 51.5 -0.4**
APG El Apazote 58.67 262 LR LR 07 16 18.0
comp=Z,42nm,21.2s,baz=46,slow=31
ANMO Albuquerque 59.17 291 LR LR 07 21 25.8
comp=Z,916nm,18.2s,baz=187,slow=36
ANMO Albuquerque 59.17 291 P **P 06 55 57.6 +1.0**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
BDFB Brasilia 59.29 201 P **P 06 55 58.2 +0.9**
comp=Z,6.0nm,1.0s,baz=27,slow=9.3,SNR=7.1
BDFB LR LR 07 17 32.3
comp=Z,238nm,20.8s,baz=346,slow=32
comp=Z,6.0nm,1.0s
NEW Newport 59.44 309 LR LR 07 20 12.2
comp=Z,1µm,18.4s,baz=44,slow=35
TXAR Lajitas Array 60.16 284 P **P 06 56 02.3 -1.0**
comp=Z,5.7nm,0.8s,baz=69,slow=7.1,SNR=34
TXAR LR LR 07 21 20.6
comp=Z,361nm,19.6s,baz=30,slow=35
comp=Z,5.7nm,0.8s
OTAV Otavalo 60.33 241 P **P 06 56 07.1 +2.1**
OTAV pmax pmax
comp=Z,7.0nm,1.6s
OTAV Otavalo 60.33 241 *e*P **P 06 56 05.5 +0.5**
NRIK Noril'sk 60.36 21 P **P 06 56 04.2 +0.3**
comp=Z,4.7nm,0.9s,baz=299,slow=9.2,SNR=5.8
comp=Z,4.7nm,0.9s
NRIK Noril'sk 60.36 21 *i* P **P 06 56 05.1 +1.2**
NRIK pmax pmax
comp=Z,8.0nm,1.1s
ARAG Araguaiana, MT 60.47 205 *e*P **P 06 56 06.0 +0.8**
CMIG Matias Romero 60.69 267 LR LR 07 21 15.8
comp=Z,960nm,18.9s,baz=45,slow=35
DUG Dugway, Tooele 60.80 299 P **P 06 56 06.2 -1.4**
DLBC Dease Lake 60.94 324 LR LR 07 20 02.5
comp=Z,304nm,19.6s,baz=74,slow=34
VILB Vilhena 61.11 215 *e*P **P 06 56 12.0 +2.3**
PMNB Patos De Minas 61.66 199 *e*P **P 06 56 15.9 +2.5**
TOLK Toolik Lake Re 61.76 339 P **P 06 56 12.2 -1.3**
SALV Santo Antonio 61.98 209 *e*P **P 06 56 16.3 +0.8**
ELK Elko 62.09 301 P **P 06 56 15.7 -0.7**
PTLB Pontes e Lacer 62.90 213 *e*P **P 06 56 22.1 +0.5**
CZSB Cruzeiro do Su 63.00 230 *e*P **P 06 56 21.4 -1.0**
BRVK Borovoye 63.31 42 P **P 06 56 23.4 -0.6**
BRVK Borovoye 63.31 42*ce*P **P 06 56 24.4 +0.3**
BRVK pmax pmax
comp=Z,35nm,1.7s
WVOR Wild Horse Val 63.35 304 P **P 06 56 24.4 -0.3**
WVOR Wild Horse Val 63.35 304 P **P 06 56 24.4 -0.3**
WVOR pmax pmax
comp=Z,34nm,1.3s
BVAR Borovoye Array 63.38 42 P **P 06 56 24.8 +0.2**
comp=Z,8.3nm,0.9s,baz=304,slow=6.1,SNR=13
BVAR LR LR 07 23 56.9
comp=Z,500nm,19.4s,baz=311,slow=36
comp=Z,8.3nm,0.9s
ILAR Eielson Array 63.58 335 P **P 06 56 24.6 -1.1**
comp=Z,1.2nm,0.9s,baz=48,slow=6.1,SNR=9.1
comp=Z,1.2nm,0.9s
TUC Tucson 63.63 291 P **P 06 56 27.3 +0.7**
TUC pmax pmax
comp=Z,5.0nm,1.3s
SIV San Ignacio 64.19 214 LR LR 07 20 34.0
comp=Z,434nm,21.3s,baz=74,slow=32
NVAR Mina Array Bea 65.33 300 P **P 06 56 36.9 -0.9**
comp=Z,1.9nm,0.9s,baz=57,slow=6.6,SNR=8.1
NVAR LR LR 07 25 22.1
comp=Z,1µm,18.5s,baz=34,slow=36
comp=Z,1.9nm,0.9s

E18K Tukpahlearik C 65.48 341 P P 06 56 37.5 -0.6
E18K IAmb IAmb 06 56 46.9
comp=Z,20nm,1.4s
G19K Purcell Mounta 65.58 339 P P 06 56 38.7 0.0
G19K IAmb IAmb 06 57 04.3
comp=Z,28nm,1.7s
ATAH Atahualpa 65.93 235 LR LR 07 23 26.8
comp=Z,444nm,21.8s,baz=17,slow=34
AQDB Aquidauana 66.21 207 *eP* **P 06 56 44.2 +1.1**
TIXI Tiksi 66.25 7 P **P 06 56 42.7 -0.2**
TIXI IAmb IAmb 06 56 46.9
comp=Z,9.5nm,1.1s
TIXI Tiksi 66.25 7*ceP* **P 06 56 42.7 -0.2**
TIXI pmax pmax
comp=Z,11nm,1.3s
BRZS Berezniki 66.31 44 *eP* **P 06 56 43.0 -0.6**
BRZS Berezniki 66.31 44 *eP* **P 06 56 43.1 -0.6**
BDQN Bodoquena, MS 66.55 208 *eP* **P 06 56 47.1 +1.7**
PFO Pinyon Flats O 66.83 295 LR LR 07 25 53.2
comp=Z,2μm,19.0s,baz=60,slow=36
LPAZ La Paz 67.68 221 P **P 06 56 53.8 +0.4**
comp=Z,9.0nm,1.0s,baz=10,slow=7.4,SNR=17
LPAZ LR LR 07 22 49.9
comp=Z,783nm,22.0s,baz=28,slow=33
comp=Z,9.0nm,1.0s
LPAZ La Paz 67.68 221 *eP* **P 06 56 54.0 +0.6**
SPU Mount Spurr 67.78 334 P **P 06 56 51.9 -1.0**
LPIG La Paz 68.01 283 LR LR 07 25 47.3
comp=Z,821nm,20.0s,baz=12,slow=35
MBAR Mbarara 68.32 111 P **P 06 56 58.9 +1.8**
NNA Nana 68.82 231 LR LR 07 24 55.9
comp=Z,274nm,20.5s,baz=345,slow=34
KURK Kurchatov 68.85 40 P **P 06 56 58.9 -0.7**
KURK IAmb IAmb 06 57 05.3
comp=Z,19nm,1.1s
KURK Kurchatov 68.85 40*ceP* **P 06 56 59.9 +0.2**
KURK pmax pmax
comp=Z,32nm,1.7s
KURBB Kurchatov Arra 68.86 41 P **P 06 56 59.2 -0.5**
comp=Z,10.0nm,0.9s,baz=313,slow=6.5,SNR=34
comp=Z,10.0nm,0.9s
BRLS Borolday 68.90 51 *eP* **P 06 56 59.8 -0.4**
BRLS pmax pmax
comp=Z,9.0nm,1.5s
BRLS Borolday 68.90 51 *eP* **P 06 56 59.9 -0.4**
comp=Z,8.8nm,1.5s
CHM Chimkent 69.19 52 *eP* **P 06 57 01.1 -0.9**
CHM pmax pmax
comp=Z,17nm,1.2s
CHM Chimkent 69.19 52 *eP* **P 06 57 01.2 -0.9**
comp=Z,17nm,1.2s
KKAR Karatay Array 69.25 51 P **P 06 57 02.3 0.0**
KKAR Karatay Array 69.25 51 P **P 06 57 02.3 0.0**
ZAA0 Zalesovo Array 69.57 35 P **P 06 57 03.8 -0.3**
ZAA0 IAmb IAmb 06 57 07.6
comp=Z,18nm,1.4s
ZALV Zalesovo Beam 69.57 35 P **P 06 57 02.7 -1.3**
ZALV Zalesovo Beam 69.57 35 P **P 06 57 03.8 -0.3**
comp=Z,6.4nm,0.9s,baz=325,slow=7.2,SNR=9.0
ZALV LR LR 07 26 41.0
comp=Z,355nm,22.0s,baz=358,slow=35
comp=Z,6.4nm,0.9s
DZA Taraz 69.86 50 *eP* **P 06 57 05.2 -0.9**
DZA pmax pmax
comp=Z,5.0nm,0.6s
DZA Taraz 69.86 50 *eP* **P 06 57 05.2 -0.9**
comp=Z,4.9nm,0.6s
BTLS Baital 70.06 47 *eP* **P 06 57 06.4 -0.9**
BTLS Baital 70.06 47 *eP* **P 06 57 06.5 -0.9**
BILL Bilibino 70.32 354 *i P* **P 06 57 09.1 +0.7**
BILL pmax pmax
comp=Z,5.0nm,1.1s
PB12 IPOC Station P 70.75 221 P **P 06 57 10.4 -1.3**
SGDS Sogindy 71.39 48 *eP* **P 06 57 14.7 -0.8**
SGDS Sogindy 71.39 48 *eP* **P 06 57 14.8 -0.8**
PB08 IPOC Station P 71.47 219 P **P 06 57 16.1 -0.4**
GAR Garm 71.66 54 P **P 06 57 16.4 -0.9**
AAK Ala-Archa 71.83 49 P **P 06 57 18.7 +0.5**
comp=Z,1.4nm,0.7s,baz=348,slow=6.6,SNR=5.4
AAK LR LR 07 30 59.4
comp=Z,542nm,19.0s,baz=293,slow=38
comp=Z,1.4nm,0.7s
AAK Ala-Archa 71.83 49*ceP* **P 06 57 19.3 +1.0**
AAK pmax pmax
comp=Z,15nm,1.7s
CPUP Villa Florida 72.18 206 LR LR 07 26 18.6
comp=Z,138nm,18.6s,baz=24,slow=34
CPUP Villa Florida 72.18 206 P **P 06 57 18.8 -1.3**
PB01 IPOC Station P 72.41 219 P **P 06 57 20.7 -1.0**
PB01 IAmb IAmb 06 57 23.9
comp=Z,12nm,1.1s
TDK Taldyqorghan 72.45 45 *eP* **P 06 57 21.2 -0.6**
TDK pmax pmax
comp=Z,5.0nm,0.6s
TDK Taldyqorghan 72.45 45 *eP* **P 06 57 21.2 -0.6**
comp=Z,5.1nm,0.6s
AAA Alma-Ata 72.82 47 *eP* **P 06 57 23.4 -0.7**
AAA Alma-Ata 72.82 47 *eP* **P 06 57 23.4 -0.7**
MDOK Medeo 72.92 47 *eP* **P 06 57 23.9 -0.9**
MDOK Medeo 72.92 47 *eP* **P 06 57 23.9 -0.9**
PB09 IPOC Station P 72.94 219 P **P 06 57 25.4 +0.4**
PB09 IAmb IAmb 06 57 28.0
comp=Z,24nm,1.3s
MAKZ Makanchi 73.10 42 P **P 06 57 24.7 -0.9**
MAKZ Makanchi 73.10 42 P **P 06 57 24.7 -0.9**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 73.27 42 P **P 06 57 25.9 -0.7**
MK31 Makanchi Array 73.27 42 *i P* **P 06 57 26.4 -0.2**
MKAR Makanchi Array 73.27 42 P **P 06 57 25.8 -0.8**
MKAR Makanchi Array 73.27 42 P **P 06 57 26.0 -0.6**
comp=Z,4.8nm,0.8s,baz=319,slow=5.8,SNR=29
MKAR LR LR 07 29 22.2
comp=Z,629nm,20.9s,baz=294,slow=36
comp=Z,4.8nm,0.8s
KMBO Kilima Mbogo 73.32 107 P **P 06 57 28.9 +1.3**
KPKS Kokpek 73.62 46 *eP* **P 06 57 28.1 -0.7**
KPKS pmax pmax
comp=Z,18nm,1.6s
KPKS Kokpek 73.62 46 *eP* **P 06 57 28.1 -0.7**
comp=Z,18nm,1.6s
ZHN Zhinishke 73.68 47 *eP* **P 06 57 28.3 -0.9**
ZHN Zhinishke 73.68 47 *eP* **P 06 57 28.3 -0.9**
SATY Saty 73.74 47 *eP* **P 06 57 28.7 -0.8**
SATY Saty 73.74 47 *eP* **P 06 57 28.8 -0.8**
UZB Uzynbulak 74.02 46 *eP* **P 06 57 30.4 -0.8**
UZB pmax pmax
comp=Z,16nm,1.5s
UZB Uzynbulak 74.02 46 *eP* **P 06 57 30.5 -0.8**
comp=Z,16nm,1.5s
ZSN Zaisan 74.08 40 *eP* **P 06 57 30.5 -0.8**
ZSN Zaisan 74.08 40 *eP* **P 06 57 30.6 -0.8**
SHLS Shalkode 74.25 46 *eP* **P 06 57 32.8 +0.3**
SHLS Shalkode 74.25 46 *eP* **P 06 57 32.9 +0.3**
TSUM Tsumeb 74.25 134 LR LR 07 26 58.5
comp=Z,900nm,21.9s,baz=329,slow=33
TARG Taragay, Kyrgy 74.29 48 P **P 06 57 32.6 -0.5**
TARG IAmb IAmb 06 57 43.8
comp=Z,19nm,1.2s
TARG Taragay, Kyrgy 74.29 48 P **P 06 57 32.7 -0.5**
TARG pmax pmax
comp=Z,19nm,1.2s
KSH Kashi 74.70 51 P **P 06 57 36.6 +1.3**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=Z,910nm,17.9s
KSH LR LR
comp=Z,750nm,19.9s
KSH LR LR
comp=Z,860nm,21.3s
CPSB Cacapava Do Su 74.80 201 *eP* **P 06 57 37.6 +2.1**
WUS Wushi 75.43 48 P **P 06 57 39.1 -0.3**
YAK Yakutsk 75.58 10 *eP* **P 06 57 38.5 -1.2**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.9s
YAK pmax pmax
comp=E,5.0nm,1.4s
PB14 IPOC Station P 75.91 218 P **P 06 57 42.5 +0.1**
PB14 IAmb IAmb 06 57 45.6
comp=Z,11nm,1.2s
SEY Seymchan 76.07 359*ceP* **P 06 57 42.5 0.0**
SEY pmax pmax
comp=Z,16nm,2.5s
TBOT Tacuaremb 76.72 203 *eP* **P 06 57 47.1 +0.7**
WIN Windhoek 76.75 137 P **P 06 57 51.2 +4.1**
WIN pmax pmax
comp=Z,11nm,1.1s
AC01 Pan de Azucar 77.30 217 P **P 06 57 50.0 +0.1**
AC01 IAmb IAmb 06 57 53.2
comp=Z,28nm,1.2s
LSZ Lusaka 77.38 124 P **P 06 57 50.2 -0.5**
LSZ IAmb IAmb 06 58 00.2
comp=Z,13nm,1.2s
LSZ Lusaka 77.38 124 LR LR 07 32 52.8
comp=Z,2μm,18.0s,baz=325,slow=36
LSZ Lusaka 77.38 124 P **P 06 57 50.2 -0.5**
LSZ pmax pmax
comp=Z,13nm,1.3s
MOY Mondy 77.78 29 *eP* **P 06 57 52.9 +0.4**
MOY pmax pmax
comp=Z,42nm,2.2s
WMQ Urumqi 78.06 41 *eP* **P 06 57 57.5 +3.3**
WMQ LR LR
comp=Z,470nm,13.3s
WMQ LR LR
comp=Z,540nm,12.1s
WMQ LR LR
comp=Z,500nm,17.1s
IRK Irkutsk 78.47 27 *eP* **P 06 57 57.4 +1.2**
IRK pmax pmax
comp=Z,40nm,1.0s
MA2 Magadan 79.44 360 LR LR 07 30 26.3
comp=Z,134nm,19.1s,baz=14,slow=34
MA2 Magadan 79.44 360*ceP* **P 06 58 01.3 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.3s
MA2 Magadan 79.44 360 P **P 06 58 00.7 -0.7**
comp=Z,12nm,2.2s
LCO Las Campanas 79.80 216 P **P 06 58 03.6 -0.3**
LCO IAmb IAmb 06 58 07.4
comp=Z,17nm,1.1s
LCO Las Campanas 79.80 216 P **P 06 58 03.6 -0.3**
LCO pmax pmax
comp=Z,17nm,1.1s
MATP Matopo 81.47 127 LR LR 07 35 19.5
comp=Z,484nm,18.3s,baz=254,slow=36
SONM Songino Array 82.92 28 P **P 06 58 20.1 -0.1**
comp=Z,3.3nm,1.1s,baz=325,slow=5.6,SNR=14
comp=Z,3.3nm,1.1s
ULN Ulaanbaatar 83.12 28 P **P 06 58 22.2 +0.9**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ZEA Zeya 83.17 14 *eP* **P 06 58 21.1 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
LBTB Lobatse 83.32 132 LR LR 07 32 50.7
comp=Z,878nm,21.5s,baz=324,slow=34
PEL Peldehue 83.35 214 P **P 06 58 26.0 +3.7**
PEL pmax pmax
comp=Z,16nm,1.1s
MT03 Universidad Ad 83.58 214 P **P 06 58 24.0 +0.4**
MT02 Curacav 83.64 214 P **P 06 58 23.4 -0.4**
LMEL Las Melosas 83.76 213 P **P 06 58 24.5 -0.1**
LMEL IAmb IAmb 06 58 28.0
comp=Z,21nm,1.2s
SHEM Shemya Is, Ala 84.15 346 LR LR 07 35 57.3
comp=Z,78nm,19.3s,baz=290,slow=36
PETK Petropavlovsk- 85.73 356 LR LR 07 37 13.6
comp=Z,288nm,18.4s,baz=3.1,slow=36
BOSA Boshof 85.95 134 LR LR 07 33 14.3
comp=Z,871nm,21.9s,baz=318,slow=33
SUR Sutherland 86.67 139 LR LR 07 34 15.7
comp=Z,298nm,19.9s,baz=356,slow=33
GTA Gaotai 87.23 37 *eP* **P 06 58 41.5 -0.6**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,210nm,16.0s
GTA LR LR
comp=Z,270nm,14.9s
KLR Kul'dur 88.28 12 LR LR 07 35 14.4
comp=Z,124nm,19.9s,baz=0.5,slow=34
KLR Kul'dur 88.28 12 *i P* **P 06 58 46.6 -0.1**
KLR pmax pmax
comp=Z,2.0nm,1.2s
PLCA Paso Flores 89.87 210 LR LR 07 38 06.0
comp=Z,155nm,20.3s,baz=14,slow=35
PLCA Paso Flores 89.87 210 *eP* **P 06 58 54.6 +0.5**
BTO Baotou 90.46 30 *eP* **P 06 58 55.8 -1.4**
BTO pP **pP 06 59 00.3 +0.5**
BTO sP **pwP 06 59 03.4 +0.4**
BTO S **S 07 09 50.3 -2.0**
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,430nm,8.1s
BTO LR LR
comp=Z,600nm,14.7s
BTO LR LR
comp=Z,450nm,14.0s
BTO LR LR
comp=Z,860nm,20.2s
HHC Hu-ho-hao-te 90.81 29 *eP* **P 06 58 57.1 -1.8**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,84nm,5.3s
HHC LR LR
comp=Z,180nm,14.9s
HHC LR LR
comp=Z,190nm,14.3s
HHC LR LR
comp=Z,230nm,14.7s
LZH Lanzhou 91.78 36 *eP* **P 06 59 04.3 +0.8**
LZH pP pwP 06 59 10.9 +1.6
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=Z,400nm,17.9s
LZH LR LR
comp=Z,410nm,17.9s
LZH LR LR
comp=Z,510nm,19.6s
YSS Yuzhno-Sakhali 91.80 5 *i P* **P 06 59 04.0 +0.8**
YSS pmax pmax
comp=Z,8.0nm,1.6s
CN2 Changchun 92.24 18 *eP* **P 06 59 03.8 -1.5**
CN2 *eS* **S 07 10 02.5 -5.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,400nm,13.0s
OPO Ambohidratompo 92.36 113 LR LR 07 39 46.1
comp=Z,563nm,20.3s,baz=195,slow=35
USRK Ussuriysk Ar. 93.19 13 LR LR 07 39 50.4
comp=Z,116nm,20.2s,baz=357,slow=35
BRDH Bariadhala 96.03 53 LR LR 07 48 14.9
comp=Z,357nm,18.5s,baz=328,slow=39
PZH PanZhiHua 98.67 43 P **P 06 59 34.1 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PALK Pallekele 99.93 71 LR LR 07 48 47.3
comp=Z,146nm,19.0s,baz=328,slow=38
GYA Guiyang 101.16 39 ⇑P **Pdif 06 59 45.6 -0.5**
GYA pmax pmax
comp=Z,12nm,0.9s
NJ2 Nanjing 101.28 27 *eP* **Pdif 06 59 44.5 -1.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
QIZ Qiongzhong 108.98 41 Pdif **Pdif 07 00 18.6 -2.3**
QIZ S **Sdif 07 12 30.4 -0.5**
QIZ SS **SS 07 20 10.8 +0.3**
QIZ LR LR
comp=Z,200nm,13.9s
QIZ LR LR
comp=Z,170nm,13.5s
QIZ LR LR
comp=Z,280nm,23.6s
TAOE Nuku Hiva Isla 111.45 277 *eLR* LR 07 37 35.2
comp=Z,382nm,22.3s
SYO Syowa Base 121.06 157 ⇑*i*Pdiff pPdif 07 01 16.1 +0.3
PPT2 Papeete2 124.06 276 *eLR* LR 07 43 19.6
comp=Z,437nm,24.8s
PPT2 *eLR* LR 07 43 26.8
comp=Z,329nm,27.0s
TBI Tubuai 127.39 271 *eLR* LR 07 44 49.8
comp=Z,1μm,25.5s
QSPA South Pole Qui 131.22 180 PKP **PKPdf 07 05 05.6 -0.8**
comp=Z,7.2nm,1.0s,baz=238,slow=1.6,SNR=9.3
WRA Warramunga Arr 154.52 38 PKP **PKPdf 07 05 47.8 -0.3**
comp=Z,0.4nm,1.1s,baz=346,slow=0.9,SNR=3.6
DZM Mont Dzumac 156.66 321 *eLR* LR 07 58 29.7
comp=Z,379nm,24.6s
ASAR Alice Springs 157.45 44 PKP **PKPdf 07 05 50.8 -1.1**
comp=Z,1.0nm,1.0s,baz=323,slow=1.1,SNR=5.1
ASAR PKPab **PKPab 07 06 21.9 -1.5**
comp=Z,3.3nm,0.9s,baz=331,slow=4.3,SNR=9.9

---

*IDC **16** 06:48:45.5±1.0, 9°.84N×126°.29E, p0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=58.3km s-min=22.0km az=70.0*
ISC 16 06:48:47.2±0.9, 9°.8N±0°.2×126°.3E±0°.4, h10km, n15, σ0°88/9, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.62**	**165**	P		**P**	**06 55 02.8**	**+1.0**
	0.8nm,0.8s,baz=341,slow=7.8,SNR=1.9							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**34.11**	**167**	P		**P**	**06 55 31.8**	**-0.5**
	0.7nm,0.9s,baz=346,slow=8.9,SNR=1.9							
	0.7nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**40.04**	**73**	T		T	07 39 33.5	
	baz=261,slow=74,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**40.06**	**73**	T		T	07 39 17.7	
	baz=261,slow=74,SNR=5.7							
H11S2	**WAKE ISLAND Hy**	**40.06**	**73**	T		T	07 39 18.7	
	baz=261,slow=74,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**40.39**	**71**	T		T	07 39 52.3	
	baz=265,slow=74,SNR=8.6							
H11N2	**WAKE ISLAND Hy**	**40.40**	**71**	T		T	07 39 51.6	
	baz=265,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**40.41**	**71**	T		T	07 39 50.6	
	baz=265,slow=74,SNR=12							
SONM	**Songino Array**	**41.44**	**340**	P		**P**	**06 56 35.5**	**+1.3**
	0.3nm,0.6s,baz=159,slow=8.5,SNR=2.4							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**52.39**	**323**	P		**P**	**06 57 59.5**	**-0.2**
	1.1nm,0.7s,baz=124,slow=8.6,SNR=6.5							
	1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**56.44**	**326**	P		**P**	**06 58 28.9**	**-0.2**
	0.6nm,0.6s,baz=126,slow=7.0,SNR=4.3							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**79.84**	**26**	P		**P**	**07 00 55.4**	**-0.3**
	0.7nm,1.0s,baz=248,slow=6.0,SNR=4.8							
	0.7nm,1.0s							
ARCES	**ARCESS Array B**	**84.61**	**340**	P		**P**	**07 01 20.5**	**-0.2**
	4.9nm,1.1s,baz=77,slow=4.9,SNR=3.7							
	4.9nm,1.1s							
FINES	**FINESS Array B**	**86.29**	**332**	P		**P**	**07 01 27.9**	**-1.1**
	2.7nm,0.9s,baz=51,slow=6.4,SNR=8.1							
	2.7nm,0.9s							
YKA	**Yellowknife Ar**	**94.16**	**24**	P		**P**	**07 02 05.9**	**-0.2**
	0.4nm,0.6s,baz=298,slow=5.1,SNR=6.9							
	0.4nm,0.6s							

IDC 16 07:20:36.6±1.4, 41°.61N×29°.43W, h0km, mb3.6/4, mbtmp3.5/5, ML3.9/1, MS3.5/2, Error ellipse: s-maj=45.9km s-min=28.2km az=10.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**19.40**	**87**	P		Pn	07 25 05.7	+0.4
	0.1nm,0.3s,baz=292,slow=12,SNR=1.9							
ESDC				LR		LR	07 31 35.9	
	comp=Z,128nm,18.4s,baz=313,slow=34							
	0.2nm,0.4s							
MDT	**Midelt**	**21.57**	**106**	LR		LR	07 31 47.4	
	comp=Z,125nm,22.0s,baz=37,slow=31							
TORD	**Torodi Ar. Bea**	**39.20**	**127**	P		P	07 28 05.9	-0.6
	0.8nm,0.9s,baz=321,slow=9.2,SNR=4.0							
	0.8nm,0.9s							
TXAR	**Lajitas Array**	**59.98**	**284**	P		P	07 30 45.2	+0.1
	0.3nm,0.8s,baz=62,slow=7.1,SNR=6.6							
	0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**68.73**	**41**	P		P	07 31 41.3	-0.6
	0.8nm,0.8s,baz=316,slow=6.0,SNR=6.8							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**73.14**	**42**	P		P	07 32 09.2	+0.4
	0.5nm,0.7s,baz=313,slow=6.2,SNR=5.8							
	0.5nm,0.7s							

IDC 16 07:31:18.5±61.0, 20°.00S×179°.28E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1101.0km s-min=158.1km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.72**	**243**	P		P	07 38 17.7	-1.4
	0.9nm,0.6s,baz=117,slow=11,SNR=3.5							
	0.9nm,0.6s							
WRA	**Warramunga Arr**	**42.14**	**262**	P		P	07 39 13.4	+0.4
	0.4nm,0.6s,baz=95,slow=7.6,SNR=8.4							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**42.15**	**257**	P		P	07 39 13.3	+0.2
	0.8nm,0.8s,baz=83,slow=8.7,SNR=7.6							
	0.8nm,0.8s							

---

*ATH **16** 07:33:15.4, 35°.70N×25°.88E, h20km±5km, ML2.7/4, Manual Solution by M.Kolligri First location: 2019/02/16 07:34:34, This location: 2019/02/18 08:28:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
*THE **16** 07:33:16.0, 35°.70N×25°.87E, h25km±2km, ML2.8/2, Error ellipse: s-maj=2.4km s-min=0.6km az=56.0*
ISC 16 07:33:14.6±1.2, 35°.72N±0°.03×25°.90E±0°.03, h6km±14km, n14, σ0°53/23, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AGNA	**Agios Nikolaos**	**0.55**	**196**	P		**Pb**	**07 33 26.2**	**-0.4**
AGNA				S		**Sb**	**07 33 33.8**	**-0.9**
ZKR	**Zakros**	**0.65**	**156**	P		**Pb**	**07 33 28.4**	**-0.1**
ZKR				S		**Sb**	**07 33 37.4**	**-0.5**
	1μm,0.3s							
ZKR	**Zakros**	**0.65**	**156**	P		**Pb**	**07 33 28.3**	**-0.2**
ZKR				S		**Sg**	**07 33 36.8**	**+1.0**
THR6	**Thira Island,**	**0.76**	**328**	P		**Pb**	**07 33 29.9**	**-0.3**
THR8	**Santorini-Mono**	**0.77**	**334**	P		**Pb**	**07 33 29.8**	**-0.6**
IACM	**Heraklion**	**0.79**	**239**	P		**Pg**	**07 33 30.1**	**+0.3**
IACM				S		**Sg**	**07 33 40.7**	**+0.7**
IACM	**Heraklion**	**0.79**	**239**	P		**Pg**	**07 33 29.5**	**-0.3**
IACM				S		**Sg**	**07 33 40.2**	**+0.2**
ASTA	**Astypalaia**	**0.91**	**24**	P		**Pb**	**07 33 32.9**	**+0.1**
ASTA				S		**Sg**	**07 33 44.2**	**+0.4**
IDI	**Anoyia**	**0.93**	**243**	P		**Pg**	**07 33 31.9**	**-0.5**
IDI				S		**Sg**	**07 33 44.2**	**-0.2**
	600nm,0.4s							
IDI	**Anoyia**	**0.93**	**243**	P		**Pg**	**07 33 32.0**	**-0.5**
IDI				S		**Sg**	**07 33 44.3**	**-0.2**
KARP	**Karpathos**	**1.04**	**99**	P		**Pg**	**07 33 34.2**	**-0.4**
KARP	**Karpathos**	**1.04**	**99**	P		**Pg**	**07 33 34.3**	**-0.4**
TMBK	**Timbaki Herakl**	**1.12**	**236**	P		**Pg**	**07 33 36.1**	**-0.1**
PRNS	**Prines Rethymn**	**1.19**	**253**	P		**Pn**	**07 33 38.6**	**+0.7**
PRNS				S		**Sb**	**07 33 53.7**	**+0.4**

---

*IDC **16** 07:37:26.4±0.8, 12°.77S×45°.33E, h0km, mb3.9/8, mbtmp4.0/10, ML4.8/3, Error ellipse: s-maj=23.1km s-min=21.2km az=129.0*
*NEIC **16** 07:37:28.2±1.8, 12°.85S±0°.09×45°.45E±0°.07, h10km±1km, mb4.5/9, Error ellipse: s-maj=15.7km s-min=11.8km az=180.0*
ISC 16 07:37:27.5±0.6, 12°.90S±0°.07×45°.42E±0°.09, h10km, n31, σ1°54/32, mb4.3/11, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.89**	**163**	Pn		**Pn**	**07 38 56.1**	**+1.0**
	9.4nm,0.3s,baz=336,slow=12,SNR=761							

OPO			Sn	Sn	07 39 57.1	-5.7
	14nm,0.3s,baz=250,slow=18,SNR=22						
ABPO	Ambohimpanom	6.33	164		Pn	07 39 01.4	+0.3
VOI	Vohitsoka	9.05	172		Pn	07 39 38.6	+0.1
FOMA	Nahampoana Res	12.10	173	Pn	Pn	07 40 20.2	+0.1
KIBK	Kibwezi	12.78	325		Pn	07 40 26.8	-2.8
RER	Riviere de l'E	12.84	131		Pn	07 40 30.0	-0.3
KMBO	Kilima Mbogo	14.22	325	Pn	Pn	07 40 47.3	-2.1
LSZ	Lusaka	16.88	260		Pn	07 41 24.4	+0.2
LSZ				IAmb	IAmb	07 41 28.8	
	comp=Z,22nm,0.8s						
LSZ	Lusaka	16.88	260	Pn	Pn	07 41 24.6	+0.3
	comp=Z,1.1nm,0.3s,baz=76,slow=11,SNR=15						
	comp=Z,23nm,0.9s						
MATP	Matopo	17.85	243	P	Pn	07 41 36.1	-0.1
	comp=Z,0.4nm,0.3s,baz=56,slow=13,SNR=15						
	comp=Z,7.6nm,0.9s						
POGA	Pongola	19.27	220	P	P	07 41 53.5	+1.1
LBTB	Lobatse	22.25	234	P	P	07 42 24.7	-0.2
LBTB				IAmb	IAmb	07 42 28.6	
	comp=Z,10nm,0.8s						
BOSA	Boshof	24.43	227	P	P	07 42 47.0	+0.3
BOSA	Boshof	24.43	227	P	P	07 42 46.6	-0.1
	comp=Z,4.2nm,0.5s,baz=54,slow=9.0,SNR=20						
	comp=Z,4.2nm,0.5s						
SOE	Somerset East	26.82	219	P	P	07 43 10.3	+2.1
SUR	Sutherland	29.73	225	P	P	07 43 35.7	+1.3
SUR				IAmb	IAmb	07 43 36.7	
	comp=Z,15nm,1.0s						
HMDM	Hanimaadhoo	33.81	56	P	P	07 44 09.5	-0.6
TORD	Torodi Ar. Bea	50.48	299	P	P	07 46 25.9	-0.2
	comp=Z,0.7nm,0.9s,baz=117,slow=6.9,SNR=2.4						
	comp=Z,0.7nm,0.9s						
KKAR	Karatay Array	60.28	21	P	P	07 47 38.0	+1.8
ABKAR	Akbulak array	63.20	11	P	P	07 47 55.9	+0.1
ABKAR				IAmb	IAmb	07 47 58.0	
	comp=Z,2.0nm,0.8s						
ABKAR	Akbulak array	63.20	11	P	P	07 47 55.5	-0.3
MKAR	Makanchi Array	67.99	26	P	P	07 48 26.8	-0.1
MKAR	Makanchi Array	67.99	26	P	P	07 48 26.6	-0.2
	comp=Z,0.3nm,0.7s,baz=217,slow=7.4,SNR=5.6						
	comp=Z,0.3nm,0.7s						
KURBB	Kurchatov Arra	69.56	22	P	P	07 48 35.9	-0.6
	comp=Z,0.1nm,0.3s,baz=217,slow=6.8,SNR=2.2						
	comp=Z,0.1nm,0.3s						
ESDC	Sonseca Array	69.58	321	P	P	07 48 36.9	-0.1
	comp=Z,0.7nm,0.9s,baz=142,slow=7.5,SNR=2.5						
	comp=Z,0.7nm,0.9s						
QSPA	South Pole Qui	77.20	180	P	P	07 49 23.4	+1.8
QSPA				IAmb	IAmb	07 49 47.9	
	comp=Z,6.3nm,1.3s						
QSPA	South Pole Qui	77.20	180	P	P	07 49 23.4	+1.8
	comp=Z,3.0nm,0.9s,baz=278,slow=2.1,SNR=7.7						
	comp=Z,3.0nm,0.9s						
ASAR	Alice Springs	83.56	113	P	P	07 49 58.1	+1.5
	comp=Z,1.3nm,0.7s,baz=264,slow=5.1,SNR=23						
	comp=Z,1.3nm,0.7s						
WRA	Warramunga Arr	84.69	109	P	P	07 50 03.8	+1.5
	comp=Z,2.0nm,0.8s,baz=262,slow=3.8,SNR=13						
	comp=Z,2.0nm,0.8s						
OHAK	Old Harbor	133.51	14	P	Pdif	07 53 41.7	-0.1
PDAR	Pinedale Array	143.20	329	PKP	PKPdf	07 57 01.8	-0.8
	comp=Z,0.6nm,1.0s,baz=12,slow=1.8,SNR=3.7						

*IDC **16** 07:55:29.4±6.8, 14°.10S×167°.11E, h127km±65km, mb3.8/6, mbtmp4.1/7, Error ellipse: s-maj=54.1km s-min=25.8km az=160.0*
*NEIC **16** 07:55:36.2±2.8, 14°.52S±0°.03×167°.1E±0°.1, h185km±11km, mb4.2/11, Error ellipse: s-maj=19.3km s-min=3.3km az=96.0*
ISC 16 07:55:36.6±0.8, 14°.50S±0°.09×167°.1E±0°.1, h200km, n26, σ1§04/26, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.56	185	Pn	Pn	07 57 22.4	-1.9
DZM	Mont Dzumac	7.56	185	P	Pn	07 57 23.8	-0.5
	12nm,1.0s,baz=153,slow=12,SNR=7.9						
DZM				S	Sn	07 58 49.5	-0.3
	7.0nm,0.9s,baz=20,slow=17,SNR=1.2						
ONTNC	Ouen Toro	7.79	185	Pn	Pn	07 57 27.7	+0.5
EIDS	Eidsvold	18.54	232	Pn	Pn	07 59 39.8	-1.2
EIDS				IAmb	IAmb	07 59 49.6	
	comp=Z,29nm,1.4s						
AFI	Afiamalu	20.46	91	P	P	08 00 00.5	+1.4
STKA	Stephens Creek	29.04	229	P	P	08 01 19.5	+1.4
STKA	Stephens Creek	29.04	229	P	P	08 01 20.3	+2.2
	comp=Z,4.9nm,0.4s,baz=53,slow=9.0,SNR=29						
	comp=Z,4.9nm,0.4s						
TOO	Toolangi	29.95	216	P	P	08 01 27.6	+1.4
TOO				IAmb	IAmb	08 01 35.5	
	comp=Z,5.7nm,1.4s						
WB0	Warramunga Arr	31.68	256	P	P	08 01 41.6	+0.1
WB0				IAmb	IAmb	08 01 56.4	
	comp=Z,6.7nm,1.4s						
WRA	Warramunga Arr	31.75	256	P	P	08 01 41.7	-0.5
WRA	Warramunga Arr	31.75	256	P	P	08 01 42.0	-0.1
	comp=Z,0.8nm,0.6s,baz=86,slow=9.0,SNR=9.9						
	comp=Z,0.8nm,0.6s						
AS31	Alice Springs	32.62	249	P	P	08 01 49.7	0.0
ASAR	Alice Springs	32.62	249	P	P	08 01 49.6	-0.2
ASAR	Alice Springs	32.62	249	P	P	08 01 50.1	+0.4
	comp=Z,1.5nm,0.4s,baz=72,slow=9.6,SNR=57						
	comp=Z,1.5nm,0.4s						
BBOO	Buckleboo	33.61	232	P	P	08 01 59.5	+1.3
BBOO				IAmb	IAmb	08 02 00.8	
	comp=Z,6.1nm,0.7s						
KNRA	Kununurra	37.02	263	P	P	08 02 27.5	0.0
KNRA				IAmb	IAmb	08 02 29.1	
	comp=Z,6.9nm,1.1s						
FITZ	Fitzroy Crossi	39.92	259	P	P	08 02 51.3	-0.3
	comp=Z,1.9nm,0.6s,baz=90,slow=6.1,SNR=4.7						
	comp=Z,1.9nm,0.6s						
QSPA	South Pole Qui	75.53	180	P	P	08 06 58.2	-0.6
QSPA				IAmb	IAmb	08 07 19.2	
	comp=Z,6.0nm,1.5s						
ILAR	Eielson Array	86.35	18	P	P	08 07 54.0	-1.7
	comp=Z,0.5nm,0.8s,baz=238,slow=5.1,SNR=7.2						
	comp=Z,0.5nm,0.8s						
MK31	Makanchi Array	96.94	316	P	P	08 08 44.2	-1.0
MK31				IAmb	IAmb	08 09 03.2	
	comp=Z,1.5nm,1.4s						
MKAR	Makanchi Array	96.94	316	P	P	08 08 46.5	+1.2
	comp=Z,0.5nm,0.8s,baz=106,slow=7.7,SNR=4.1						
	comp=Z,0.5nm,0.8s						
ARCES	ARCESS Array B	119.99	345	PKP	PKiKP	08 14 03.0	+0.2
	comp=Z,8.2nm,1.1s,baz=67,slow=1.7,SNR=34						
FINES	FINESS Array B	125.46	338	PKP	PKiKP	08 14 14.4	+0.7
	comp=Z,2.1nm,0.9s,baz=48,slow=2.8,SNR=3.8						
CAMP	Campotosto	144.04	326	PKPdf	PKPbc	08 14 47.4	+0.2
BNI	Bardonecchia	145.33	335		PKPab	08 14 51.1	-0.4
KEST	Kesra	150.94	321	PKPbc	PKiKP	08 15 07.1	+0.5
	comp=Z,5.1nm,0.7s,baz=150,slow=3.1,SNR=6.4						

*IDC **16** 08:12:40.0±2.4, 10°.73S×112°.33E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=129.7km s-min=25.3km az=47.0*
*DJA **16** 08:12:49.1±0.4, 10°.S±8°.×11°.2E±°., h161km±13km, M3.9/19, mb4.0/5, MLv3.9/19*
ISC 16 08:12:44.0±1.1, 10°.46S±0°.08×112°.40E±0°.05, h24km, n18, σ1§98/24, mb3.6/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	Gumukmas	2.40	25	P	Pb	08 13 25.8	-0.8
PCJI	Pacitan	2.55	332	P	Pn	08 13 25.7	+1.8
PCJI				S	Sb	08 13 57.8	-2.3
JAGI	Jajag, Banyuwa	2.62	41	P	Pb	08 13 29.6	-0.7
JAGI				S	Sb	08 14 00.7	-1.4
UGM	Wanagama	3.14	324	P	Pn	08 13 34.1	+2.1
UGM				S	Sn	08 14 10.0	+1.3
ABJI	Asem Bagus	3.20	35	P	Pn	08 13 34.9	+2.0
ABJI				S	Sn	08 14 11.6	+1.3
NGJI	Ngawi	3.21	343	P	Pn	08 13 34.8	+1.9
YOGI	Yogyakarta	3.35	321	P	Pn	08 13 36.4	+1.5
YOGI				S	Sn	08 14 16.0	+2.0
GRJI	Gresik	3.52	1	P	Pn	08 13 38.3	+1.1
TBJI	Tambak Boyo	3.66	351	S	Sn	08 14 19.4	-2.1
KPJI	Karang Pucung	4.63	312	P	Pn	08 13 54.9	+2.5
CMJI	Cimerak	4.72	304	P	Pn	08 13 55.4	+1.6
CMJI				S	Sn	08 14 46.9	-0.9
TWSI	Taliwang, Sumb	4.74	69	P	Pn	08 13 56.2	+2.2
PLAI	Plampang	5.54	73	P	Pn	08 14 09.5	+4.5
	0.1nm20nm,0.8s						
CNJI	Cibinong	6.08	301	P	Pn	08 14 13.2	+0.8
	23nm,1.2s						
WRA	Warramunga Arr	23.15	117	P	P	08 17 47.5	-1.4
	1.7nm,0.9s,baz=289,slow=11,SNR=6.2						
	1.7nm,0.9s						
ASAR	Alice Springs	24.34	125	P	P	08 17 59.1	-1.1
	0.7nm,0.7s,baz=299,slow=9.4,SNR=11						
	0.7nm,0.7s						
STKA	Stephens Creek	34.38	133	P	P	08 19 27.6	-1.7
	1.2nm,0.8s,baz=329,slow=12,SNR=2.9						
	1.2nm,0.8s						
MKAR	Makanchi Array	63.03	337	P	P	08 23 10.4	+1.3
	0.2nm,0.5s,baz=132,slow=8.6,SNR=5.7						
	0.2nm,0.5s						

*MOS **16** 08:35:22.9±0.7, 50°.09N×155°.34E, h132km, mb3.9/1, Error ellipse: s-maj=28.7km s-min=7.0km az=66.1*
*KRSC **16** 08:35:23.6±1.7, 50°.10N×155°.66E, h136km±11km, Ml4.2*
*IDC **16** 08:35:25.5±2.6, 50°.31N×155°.07E, h143km±20km, mb3.1/5, mbtmp3.6/8, Error ellipse: s-maj=38.1km s-min=15.4km az=156.0*
ISC 16 08:35:23.4±1.0, 50°.1N±0°.1×155°.3E±0°.1, h123km, n48, σ1§43/50, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.77	41	ePN	Pn	08 35 44.3	+0.8
SKR				eS	Sn	08 36 00.2	+1.4
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax	smax		
	comp=E,538nm,0.6s						
SKR				smax	smax		
	comp=N,298nm,0.5s						
SKR	Severo-Kuril's	0.77	41	eP	Pn	08 35 44.3	+0.8
SKR				eS	Sn	08 36 02.0	+3.2
PAU	Pauzhetka	1.66	34	PN	Pn	08 35 52.9	+0.2
PAU				S	Sn	08 36 15.9	+0.7
PAU	Pauzhetka	1.66	34	eP	Pn	08 35 53.0	+0.2
PAU				eS	Sn	08 36 16.0	+0.7
KDTR	Khodutka, Kamc	2.44	45	PN	Pn	08 36 01.8	-0.6
KDTR				S	Sn	08 36 31.2	-1.2
KDTR	Khodutka, Kamc	2.44	45	eP	Pn	08 36 01.8	-0.6
KDTR				eS	Sn	08 36 31.3	-1.2
GRL	Gorelyy	3.00	34	PN	Pn	08 36 11.8	+2.1
GRL	Gorelyy	3.00	34	eP	Pn	08 36 11.9	+2.1
RUS	Russkaya	3.08	39	PN	Pn	08 36 10.1	-0.5
RUS				S	Sn	08 36 45.7	-1.4
RUS	Russkaya	3.08	39	eP	Pn	08 36 10.2	-0.5
RUS				eS	Sn	08 36 45.8	-1.4
KRMR	Karymshinskiy	3.25	32	PN	Pn	08 36 14.0	+1.1
KRMR	Karymshinskiy	3.25	32	eP	Pn	08 36 14.0	+1.1
PETK	Petropavlovsk-	3.35	25	P	Pn	08 36 14.6	+0.3
	comp=N,5.6nm,0.7s,baz=212,slow=12,SNR=16						
PETK				S	Sn	08 36 55.4	+1.7
	comp=N,1.8nm,0.4s,baz=266,slow=24,SNR=4.2						
PET	Petropavlovsk	3.59	34	eS	Sn	08 37 00.2	+1.1
DALK	Dalny	3.63	35	PN	Pn	08 36 18.6	+0.7
DALK				S	Sn	08 37 00.4	+0.3
DALK	Dalny	3.63	35	eP	Pn	08 36 18.6	+0.7
DALK				eS	Sn	08 37 00.5	+0.3
UGLR	Uglovaya	3.80	34	PN	Pn	08 36 21.7	+1.4
UGLR	Uglovaya	3.80	34	eP	Pn	08 36 21.7	+1.4
KOK	Koryaka	3.80	32	PN	Pn	08 36 22.0	+1.7
KOK	Koryaka	3.80	32	eP	Pn	08 36 22.0	+1.7
AVH	Avacha	3.81	33	PN	Pn	08 36 23.0	+2.6
AVH	Avacha	3.81	33	eP	Pn	08 36 23.0	+2.6
KRX	Arik	3.86	31	PN	Pn	08 36 22.6	+1.5
KRX	Arik	3.86	31	eP	Pn	08 36 22.7	+1.5
GNL	Ganaly	3.94	23	PN	Pn	08 36 22.9	+0.7
GNL	Ganaly	3.94	23	eP	Pn	08 36 22.9	+0.7
NLC	Nalytchevo	3.96	38	eS	Sn	08 37 05.6	-2.5
SPN	Mys Shipunski	4.19	43	PN	Pn	08 36 26.7	+1.3
SPN	Mys Shipunski	4.19	43	eP	Pn	08 36 26.8	+1.3
KMNR	Kamenistaya	6.39	26	PN	Pn	08 36 56.3	+1.3
KMNR	Kamenistaya	6.39	26	eP	Pn	08 36 56.4	+1.3
ASAJ	Asahikawa	10.53	240	P	Pn	08 37 52.3	+1.4
	comp=N,7.7nm,0.7s,baz=62,slow=14,SNR=11						
KLR	Kul'dur	15.28	276	P	P	08 38 52.6	-1.7
	comp=N,2.3nm,0.7s,baz=85,slow=13,SNR=8.0						
H11N2	WAKE ISLAND Hy	31.68	159	T	T	09 15 45.3	
	baz=349						
H11N1	WAKE ISLAND Hy	31.70	159	T	T	09 15 48.3	
	baz=349						
H11N3	WAKE ISLAND Hy	31.70	159	T	T	09 15 43.3	
	baz=349						
H11S1	WAKE ISLAND Hy	32.82	160	T	T	09 17 06.6	
	baz=348						
H11S3	WAKE ISLAND Hy	32.83	160	T	T	09 17 11.4	
	baz=348						
H11S2	WAKE ISLAND Hy	32.83	160	T	T	09 17 11.4	
	baz=348						
MKAR	Makanchi Array	46.76	296	P	P	08 43 37.5	-2.5
	comp=N,0.2nm,0.5s,baz=60,slow=8.5,SNR=2.6						
	comp=N,0.2nm,0.5s						
KURK	Kurchatov	46.78	302	P	P	08 43 38.9	-1.2
KURBB	Kurchatov Arra	46.88	302	P	P	08 43 38.9	-1.9
	comp=N,0.6nm,0.9s,baz=74,slow=7.2,SNR=3.5						
	comp=N,0.6nm,0.9s						
NVAR	Mina Array Bea	59.63	65	P	P	08 45 15.3	+0.7
	comp=N,0.3nm,0.6s,baz=305,slow=5.7,SNR=2.5						
	comp=N,0.3nm,0.6s						
PDAR	Pinedale Array	61.62	56	P	P	08 45 28.2	+0.2
	comp=N,0.4nm,0.7s,baz=320,slow=7.1,SNR=5.5						
	comp=N,0.4nm,0.7s						
TXAR	Lajitas Array	74.60	63	P	P	08 46 49.1	0.0
	comp=N,0.3nm,0.5s,baz=301,slow=5.4,SNR=13						
	comp=N,0.3nm,0.5s						
H03N2	Juan Fernandez	137.24	88	T	T	11 26 60.0	
	baz=313						
H03N1	Juan Fernandez	137.25	88	T	T	11 27 00.9	
	baz=313						
H03N3	Juan Fernandez	137.25	88	T	T	11 26 51.4	
	baz=313						

*JMA **16** 08:42:07.0±0.3, 25°.N±1°.×124°.8E±0°.7, h13km±4km, MV3.5/11, NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 08:42:07.0, 25°.43N×124°.81E, h13km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.29; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=3.62; $M_{r\theta}$=4.60; $M_{\phi\theta}$=5.12; $M_{\phi r}$=1.55; Fault plane solution: M_0=7.75000×10^{14} NP1: ϕ_s=356.00000°, δ=42.00000°, λ=-155.00000°. NP2: ϕ_s=247.00000°, δ=74.00000°, λ=-51.00000°.*
ISC 16 08:42:08.3±2.2, 25°.4N±0°.1×124°.82E±0°.06, h14km±16km, n14, σ1§43/21, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.57	137	eP	Pg	08 42 19.2	-0.3
JIKM				eS	Sg	08 42 28.0	+0.8
JIRB	Irabujima	0.61	148	eP	Pg	08 42 19.9	-0.3
JIRB				eS	Sg	08 42 28.7	+0.4
JTJ	Tarama	0.71	189	eP	Pg	08 42 22.2	0.0
JTJ				S	Sg	08 42 32.7	+1.2
JMJ2	Miyako jima3	0.76	142	eP	Pg	08 42 22.8	-0.2
JMJ2				eS	Sg	08 42 34.1	+1.0
JOGS	Gusukube	0.79	137	eP	Pg	08 42 23.3	-0.3
JOGS				S	Sg	08 42 34.4	+0.3
JISG	Ishigakijimahi	0.89	211	eP	Pb	08 42 25.1	-0.4
JISG				eS	Sg	08 42 37.3	+0.3
JIJ	Ishigaki jima	1.16	212	eP	Pn	08 42 28.8	-1.2
JIJ				S	Sb	08 42 45.0	+0.2
JKRS	Kuro-shima	1.33	214	eP	Pb	08 42 32.7	-0.3
IRIF	Iriomote-Funau	1.41	225	eP	Pn	08 42 32.8	-0.7
HATJ	Hateruma jima	1.58	216	eP	Pn	08 42 35.9	0.0
NACB	Ninganchiao	3.15	249	P	Pb	08 43 00.7	-3.5
YHNB	Yeheng	3.19	259	P	Pn	08 43 00.4	+2.2
SSLB	Suanglung	3.84	247	P	Pn	08 43 09.2	+2.1
TPUB	Ta-pu	4.33	243	P	Pn	08 43 16.5	+2.7

*IDC **16** 08:42:41.7±2.9, 40°.24N×141°.01E, h0km, mb3.9/4, mbtmp3.7/6, ML2.9/2, Error ellipse: s-maj=58.5km s-min=24.9km az=123.0*
*JMA **16** 08:42:43.5±0.1, 39°.8N±0°.2×141°.8E±0°.4, h58km, MV3.7/40, NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
ISC 16 08:42:43.3±1.1, 39°.77N±0°.04×141°.88E±0°.07, h58km±7km, n21, σ0§73/30, mb3.9/4, 16D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.17	356	iP	Pn	08 42 52.7	+0.3
JTH				S	Sn	08 42 59.2	+0.2
MIYJ	Miyakonagasawa	0.20	193	iP	Pn	08 42 52.7	+0.2
MIYJ				S	Sn	08 42 59.0	-0.1
JKEN	Kujiedanarisaw	0.45	344	⇓iP	Pn	08 42 54.9	+0.2
JKEN				⇓S	Sn	08 43 03.0	+0.2
JKZ	Kuzumaki	0.47	297	⇓iP	Pn	08 42 55.0	+0.2
JKZ				⇓S	Sn	08 43 02.9	-0.4
JOM	Ohasama	0.54	237	⇓iP	Pn	08 42 55.3	-0.2
JOM				⇓S	Sn	08 43 03.8	-0.7
JANG	Nango	0.66	335	⇓iP	Pn	08 42 56.9	-0.1
JANG				⇓S	Sn	08 43 07.0	0.0
OFUJ	Ofunato	0.71	193	iP	Pn	08 42 57.4	-0.1
OFUJ				S	Sn	08 43 07.3	-0.5
JMK	Ichinoseki	0.96	212	⇓iP	Pn	08 43 00.4	-0.3
JMK				⇓S	Sn	08 43 13.0	-0.6
JRG	Rokugo	1.03	249	⇓iP	Pn	08 43 01.2	-0.4
JRG				⇓S	Sn	08 43 14.8	-0.4
JAH	Hinai	1.04	294	⇓iP	Pn	08 43 01.7	0.0
JAH				⇓S	Sn	08 43 15.6	+0.1
JTM	Tenmabayashi	1.19	329	⇓iP	Pn	08 43 03.8	0.0
JTM				⇓S	Sn	08 43 19.4	+0.4
JIO	Ouri	1.38	198	iP	Pn	08 43 06.0	-0.3
MJAR	Matsushiro Arr	4.33	223	Pn	Pn	08 43 49.1	+2.6
	0.2nm,0.3s,baz=30,slow=14,SNR=8.6						
	1.7nm,0.3s						
ASAJ	Asahikawa	4.38	7	Pn	Pn	08 43 46.5	-0.7
	1.0nm,0.3s,baz=210,slow=14,SNR=11						
ASAJ				Sn	Sn	08 44 36.4	-0.4
	0.8nm,0.3s,baz=242,slow=32,SNR=1.5						
	1.2nm,0.3s						
SEY	Seymchan	24.04	12	P	P	08 47 54.0	+1.6
	0.8nm,0.6s,baz=173,slow=8.1,SNR=5.0						
	0.8nm,0.6s						
H11S1	WAKE ISLAND Hy	30.14	127	T	T	09 20 26.6	
	baz=319,slow=76,SNR=24						
H11S3	WAKE ISLAND Hy	30.14	128	T	T	09 20 20.6	
	baz=319,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	30.15	128	T	T	09 20 20.7	
	baz=319,slow=76,SNR=23						
ZALV	Zalesovo Beam	40.39	310	P	P	08 50 14.3	-0.9
	2.3nm,0.5s,baz=90,slow=7.7,SNR=9.8						
	2.3nm,0.5s						
MKAR	Makanchi Array	43.03	300	P	P	08 50 35.9	-1.0
	0.9nm,0.7s,baz=85,slow=8.8,SNR=8.1						
	0.9nm,0.7s						
KURBB	Kurchatov Arra	44.65	306	P	P	08 50 49.5	-0.4
	1.4nm,0.5s,baz=80,slow=8.3,SNR=6.6						
	1.4nm,0.5s						

*NNC **16** 08:52:33.1±0.8, 43°.23N×80°.05E, h0km, mb4.3, mpv2.9, Error ellipse: s-maj=6.1km s-min=3.3km az=158.0*
*SOME **16** 08:52:33.2, 43°.23N×80°.03E, h10km*
ISC 16 08:52:32.5±1.3, 43°.18N±0°.07×80°.03E±0°.04, h10km, n18, σ2§07/35, 2C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	0.36	41	P	Pg	08 52 39.9	+0.2
	1.1nm,0.2s						
KTMS				S	Sb	08 52 45.0	-1.8
	20nm,0.2s						
KTMS	Ketmen	0.36	41	eP	Pg	08 52 39.9	+0.2
	1.1nm,0.2s						
KTMS				eS	Sg	08 52 44.6	+0.2
	20nm,0.2s						
SHLS	Shalkode	0.42	267	P	Pg	08 52 37.2	-3.6
	15nm,0.2s						
SHLS				S	Sg	08 52 39.8	-6.5
	62nm,0.2s						
SHLS	Shalkode	0.42	267	eP	Pg	08 52 37.1	-3.6
	15nm,0.2s						
SHLS				eS	Sg	08 52 39.8	-6.5
	62nm,0.2s						
PDGK	Podgornoye	0.42	291	⇑P	Pg	08 52 41.0	+0.2
	1.4nm,0.2s						
PDGK				⇓S	Sg	08 52 47.8	+1.3
	14nm,0.3s						
UZB	Uzynbulak	0.74	268	P	Pg	08 52 47.4	+0.6
	1.8nm,0.1s						
UZB				S	Sg	08 52 57.3	+0.8
	27nm,0.1s						
UZB	Uzynbulak	0.74	268	eP	Pg	08 52 47.4	+0.6
	1.8nm,0.1s						
UZB				eS	Sg	08 52 57.3	+0.8
	27nm,0.1s						
KPKS	Kokpek	1.02	287	P	Pg	08 52 52.1	-0.1
	5.8nm,0.2s						
KPKS				S	Sg	08 53 05.7	+0.1
	7.5nm,0.4s						
KPKS	Kokpek	1.02	287	eP	Pg	08 52 52.1	-0.1
	5.8nm,0.2s						
KPKS				eS	Sg	08 53 05.7	+0.1
	7.5nm,0.4s						
ZHN	Zhinishke	1.17	270	P	Pg	08 52 55.9	+0.9
	3.8nm,0.1s						
ZHN				S	Sn	08 53 12.4	+1.3
	21nm,0.3s						
ZHN	Zhinishke	1.17	270	eP	Pg	08 52 55.9	+0.9
	3.8nm,0.1s						
ZHN				eS	Sn	08 53 12.4	+1.3
	21nm,0.3s						
DJR	Jarkent	1.17	352	P	Pb	08 52 54.5	-0.4
	1.4nm,0.1s						
DJR				S	Sn	08 53 10.3	-0.8
	4.9nm,0.1s						
DJR	Jarkent	1.17	352	eP	Pb	08 52 54.5	-0.4
	1.4nm,0.1s						
DJR				eS	Sn	08 53 10.0	-1.1
	4.9nm,0.1s						
SATY	Saty	1.20	265	P	Pb	08 52 56.0	+0.6
	11nm,0.1s						
SATY				S	Sb	08 53 12.1	+1.2
	14nm,0.2s						
KNOS	Konyrlen	1.33	333

GBPR	**Guanica, Bosqu**	**0.29 170**		**Pb**	**08 55 08.8**	**-0.1**
GBPR				**Sb**	**08 55 14.2**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.29 170**	⇑*e*P	**Pb**	**08 55 08.8**	**-0.1**
GBPR	**Guanica, Bosqu**	**0.29 170**	*e*S	**Sb**	**08 55 14.2**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.30 214**		**Pb**	**08 55 08.5**	**-0.7**
CRPR				**Sb**	**08 55 13.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**0.30 214**	IAML		08 55 13.3	
comp=E,3μm,0.4s						
CRPR			IAML		08 55 13.4	
comp=N,4μm,0.3s						
CRPR	**Cabo Rojo, PR**	**0.30 214**	⇑*e*P	**Pb**	**08 55 08.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.30 214**	*e*S	**Sb**	**08 55 13.1**	**-0.8**
OBIP	**Obispado Ponce**	**0.38 125**		**Pb**	**08 55 09.4**	**-1.0**
OBIP				**Sb**	**08 55 15.9**	**0.0**
OBIP	**Obispado Ponce**	**0.38 125**	IAML		08 55 16.4	
comp=N,3μm,0.2s						
OBIP			IAML		08 55 16.7	
comp=E,2μm,0.2s						
OBIP	**Obispado Ponce**	**0.38 125**	⇑*e*P	**Pb**	**08 55 09.4**	**-1.0**
OBIP	**Obispado Ponce**	**0.38 125**	*e*S	**Sb**	**08 55 15.9**	**0.0**
CELP	**Cerrillos**	**0.38 119**		**Pb**	**08 55 10.6**	**+0.1**
CELP				**Sb**	**08 55 17.0**	**+1.0**
CELP	**Cerrillos**	**0.38 119**	IAML		08 55 18.1	
comp=E,4μm,0.4s						
CELP			IAML		08 55 18.2	
comp=N,6μm,0.3s						
CELP	**Cerrillos**	**0.38 119**	⇑*e*P	**Pb**	**08 55 10.6**	**+0.1**
CELP	**Cerrillos**	**0.38 119**	*e*S	**Sb**	**08 55 17.0**	**+1.0**
EMPR	**Esperanza - Ma**	**0.44 61**		**Pn**	**08 55 12.0**	**-1.0**
EMPR				**Sn**	**08 55 19.4**	**-0.8**
EMPR	**Esperanza - Ma**	**0.44 61**	IAML		08 55 19.6	
comp=E,4μm,0.4s						
EMPR			IAML		08 55 19.7	
comp=N,3μm,0.2s						
EMPR	**Esperanza - Ma**	**0.44 61**	⇑*e*P	**Pn**	**08 55 12.0**	**-1.0**
EMPR	**Esperanza - Ma**	**0.44 61**	*e*S	**Sn**	**08 55 19.4**	**-0.8**
IDE	**Isla Desecheo**	**0.53 284**		**Pb**	**08 55 12.1**	**-0.8**
IDE				**Sb**	**08 55 19.5**	**-0.7**
IDE	**Isla Desecheo**	**0.53 284**	⇑*e*P	**Pb**	**08 55 12.1**	**-0.8**
IDE	**Isla Desecheo**	**0.53 284**	*e*S	**Sb**	**08 55 19.5**	**-0.7**
ECPR	**Experimental S**	**0.55 84**	⇑*e*P	**Pb**	**08 55 13.3**	**+0.2**
ECPR	**Experimental S**	**0.55 84**	*e*S	**Sb**	**08 55 21.7**	**+1.1**
SJG	**San Juan**	**0.76 101**		**Pb**	**08 55 16.7**	**0.0**
SJG	**San Juan**	**0.76 101**	IAML		08 55 28.4	
comp=N,2μm,0.4s						
SJG			IAML		08 55 28.7	
comp=N,2μm,0.2s						
SJG	**San Juan**	**0.76 101**	⇑*e*P	**Pb**	**08 55 16.7**	**0.0**
SJG	**San Juan**	**0.76 101**	*e*S	**Sn**	**08 55 27.6**	**-0.6**
GCPR	**Guaynabo City**	**0.81 86**		**Pn**	**08 55 17.4**	**-0.7**
GCPR				**Sn**	**08 55 28.8**	**-0.6**
GCPR	**Guaynabo City**	**0.81 86**	IAML		08 55 31.1	
comp=N,2μm,0.3s						
GCPR	**Guaynabo City**	**0.81 86**	⇑*e*P	**Pn**	**08 55 17.4**	**-0.7**
GCPR	**Guaynabo City**	**0.81 86**	*e*S	**Sn**	**08 55 28.8**	**-0.6**
IGPR	**InterUniversit**	**0.84 110**		**Pn**	**08 55 17.8**	**-0.7**
IGPR				**Sb**	**08 55 29.1**	**+0.1**
IGPR	**InterUniversit**	**0.84 110**	⇑*e*P	**Pn**	**08 55 17.8**	**-0.7**
IGPR	**InterUniversit**	**0.84 110**	*e*S	**Sb**	**08 55 29.1**	**+0.1**
PDPR	**Patillas Dam,**	**0.90 105**		**Pn**	**08 55 18.7**	**-0.6**
PDPR	**Patillas Dam,**	**0.90 105**	⇑*e*P	**Pn**	**08 55 18.8**	**-0.5**
PDPR	**Patillas Dam,**	**0.90 105**	*e*S	**Sn**	**08 55 31.1**	**-0.5**
HUMP	**Col San Antoni**	**1.04 96**		**Pn**	**08 55 20.7**	**-0.5**
HUMP				**Sn**	**08 55 34.6**	**-0.4**
HUMP	**Col San Antoni**	**1.04 96**	IAML		08 55 36.2	
comp=N,1μm,0.3s						
HUMP			IAML		08 55 38.2	
comp=E,2μm,0.2s						
HUMP	**Col San Antoni**	**1.04 96**	⇑*e*P	**Pn**	**08 55 20.7**	**-0.5**
HUMP	**Col San Antoni**	**1.04 96**	*e*S	**Sn**	**08 55 34.6**	**-0.4**
SABA	**Saba**	**3.57 100**	Pn	**Pn**	**08 55 57.2**	**+1.1**
SDDR	**Presa de Saban**	**4.19 281**		**Pn**	**08 56 08.0**	**+3.3**
PAPH	**Port-au-Prince**	**5.10 274**	Pn	**Pn**	**08 56 20.2**	**+3.0**
GRTK	**Grand Turk**	**5.11 310**	Pn	**Pn**	**08 56 18.1**	**+0.8**

*JMA **16** 08:59:11.5±0.3,25°.4N±0°.9×124°.8E±0°.6,h10^{km}±4^{km}, MD4.9/12,MV4.0/12,NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 08:59:11.5,25°.44N×124°.79E,h10^{km},MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.81; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$0.04; $M_{r\theta}$3.19; $M_{\theta\phi}$2.88; $M_{\phi r}$1.40; Fault plane solution: $M_0$4.51000×10^{15} NP1: ϕ_s347.00000°,δ43.00000°,λ167.00000°. NP2: ϕ_s87.00000°,δ81.00000°,λ47.00000°.*
*IDC **16** 08:59:14.6±1.2,25°.50N×124°.92E,h0^{km},mb3.4/5, mbtmp3.6/9,ML3.4/4,MS3.0/2 Error ellipse: s-maj=39.4km s-min=21.2km az=93.0*
ISC 16 08:59:13.9±1.6,**25°.25N**±0°.05×**124°.92E**±0°.04,**h10**^{km}±12^{km}, **n31**,σ1§**46**/32,**mb3.4**/5,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.45**	**137**	P	**Pn**	**08 59 24.2**	**-2.1**
JIKM				*e*S	**Sb**	**08 59 33.2**	**+2.6**
JIKM	**Ikemajima**	**0.45**	**137**	A	A	08 59 24.2	
comp=N,76nm,3.5s,comp=E,148nm,4.5s							
JIRB	**Irabujima**	**0.48**	**151**	*e*P	**Pn**	**08 59 24.9**	**-1.9**
JIRB				*e*S	**Sb**	**08 59 34.1**	**+2.5**
JIRB	**Irabujima**	**0.48**	**151**	A	A	08 59 24.9	
comp=N,63nm,4.5s,comp=E,67nm,1.5s							
JMJ	**Miyako jima 2**	**0.56**	**142**	P	**Pn**	**08 59 28.3**	**+0.5**
JMJ2	**Miyako jima3**	**0.63**	**144**	P	**Pn**	**08 59 28.0**	**-0.9**
JMJ2				*e*S	**Sn**	**08 59 39.0**	**0.0**
JMJ2	**Miyako jima3**	**0.63**	**144**	A	A	08 59 28.0	
comp=N,74nm,1.8s,comp=E,108nm,6.5s							
JTJ	**Tarama**	**0.64**	**198**	*e*P	**Pb**	**08 59 26.7**	**-0.4**
JTJ				*i* S	**Sn**	**08 59 38.1**	**-1.1**
JTJ	**Tarama**	**0.64**	**198**	A	A	08 59 26.7	
comp=N,37nm,3.6s,comp=E,37nm,2.0s							
JOGS	**Gusukube**	**0.66**	**138**	*e*P	**Pn**	**08 59 28.3**	**-1.0**
JOGS				S	**Sn**	**08 59 39.7**	**-0.1**
JOGS	**Gusukube**	**0.66**	**138**	A	A	08 59 28.3	
comp=N,80nm,1.0s,comp=E,98nm,4.1s							
JISG	**Ishigakijimahi**	**0.86**	**220**	*e*P	**Pg**	**08 59 29.8**	**-0.6**
JISG				*e*S	**Sg**	**08 59 42.1**	**+0.5**
JIJ	**Ishigaki jima**	**1.13**	**219**	*e*P	**Pn**	**08 59 33.5**	**-2.2**
JIJ				S	**Sb**	**08 59 49.7**	**-0.5**
JKRS	**Kuro-shima**	**1.30**	**219**	*e*P	**Pn**	**08 59 36.6**	**-1.6**
JKRS				S	**Sg**	**08 59 56.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.41**	**230**	*e*P	**Pn**	**08 59 37.6**	**-2.0**
HATJ	**Hateruma jima**	**1.56**	**220**	*e*P	**Pn**	**08 59 40.6**	**-1.0**
NACB	**Ninganchiao**	**3.21**	**251**	P	**Pn**	**09 00 04.7**	**+0.4**
YHNB	**Yeheng**	**3.26**	**260**	P	**Pn**	**09 00 05.6**	**+0.4**
JOW	**Kunigami**	**3.41**	**62**	Pn	**Pn**	**09 00 07.9**	**+0.8**
comp=E,6.6nm,0.3s,baz=244,slow=13,SNR=7.1							
JOW				Sn	**Sn**	**09 00 44.0**	**-3.5**
comp=E,14nm,0.3s,baz=265,slow=16,SNR=4.2							
comp=E,24nm,0.4s							
YULB	**Yu-li**	**3.78**	**241**	P	**Pn**	**09 00 11.4**	**-0.9**
SSLB	**Suanglung**	**3.89**	**249**	P	**Pn**	**09 00 14.9**	**+1.1**
TPUB	**Ta-pu**	**4.37**	**244**	P	**Pn**	**09 00 21.3**	**+1.0**
JNU	**Nakatsue**	**9.41**	**32**	Pn	**Pn**	**09 01 29.6**	**+0.1**
comp=E,0.5nm,0.3s,baz=217,slow=17,SNR=4.7							
comp=E,7.5nm,0.9s							
TGY	**Tagaytay City**	**11.71**	**199**	LR	LR	09 05 21.6	
comp=E,62nm,20.8s,baz=255,slow=31							
KSRS	**Korea Array**	**12.43**	**11**	Pn	**Pn**	**09 02 11.0**	**+0.2**
comp=E,0.1nm,0.3s,baz=186,slow=11,SNR=5.8							
KSRS				LR	LR	09 06 47.3	
comp=E,103nm,19.9s,baz=180,slow=37							
comp=E,2.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**19.76**	**15**	P	**P**	**09 03 43.2**	**-0.7**
comp=E,0.1nm,0.3s,baz=178,slow=7.9,SNR=2.0							
comp=E,1.3nm,0.5s							
SONM	**Songino Array**	**26.87**	**332**	P	**P**	**09 04 55.8**	**+0.9**
comp=E,0.4nm,0.5s,baz=160,slow=11,SNR=5.0							
comp=E,0.4nm,0.5s							
WRA	**Warramunga Arr**	**45.85**	**168**	P	P	09 07 40.2	+3.9
comp=E,0.8nm,0.9s,baz=347,slow=8.0,SNR=2.6							
comp=E,0.8nm,0.9s							
ASAR	**Alice Springs**	**49.41**	**169**	P	P	09 08 08.8	+4.9
comp=E,0.4nm,0.9s,baz=352,slow=8.7,SNR=1.9							
comp=E,0.4nm,0.9s							
ILAR	**Eielson Array**	**66.70**	**28**	P	**P**	**09 10 06.3**	**+1.6**
comp=E,0.2nm,0.9s,baz=269,slow=4.9,SNR=4.5							
comp=E,0.2nm,0.9s							
YKA	**Yellowknife Ar**	**80.65**	**24**	P	**P**	**09 11 26.0**	**-0.6**
comp=E,0.3nm,0.8s,baz=304,slow=5.4,SNR=5.4							
comp=E,0.3nm,0.8s							

*IDC **16** 09:06:31.9±0.7,25°.32N×124°.99E,h0^{km},mb3.9/14, mbtmp3.9/16,ML3.7/2,MS4.2/61,Error ellipse: s-maj=18.6km s-min=15.8km az=78.0*
*JMA **16** 09:06:33.4±0.2,25°.4N±0°.8×124°.8E±0°.6,h17^{km}±3^{km}, MD5.1/10,MV4.6/10,NW OFF MIYAKOJIMA ISLAND*
JMA Felt II J1 at NW OFF MIYAKOJIMA ISLAND.
*NIED **16** 09:06:33.4,25°.42N×124°.81E,h17^{km},MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.15; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.04; $M_{r\theta}$1.05; $M_{\theta\phi}$0.84; $M_{\phi r}$0.70; Fault plane solution: $M_0$1.42000×10^{16} NP1: ϕ_s345.00000°,δ37.00000°,λ173.00000°. NP2: ϕ_s81.00000°,δ85.00000°,λ53.00000°.*
*GCMT **16** 09:06:34.9±0.4,25°.36N±0°.02×124°.81E±0°.02,h15^{km}±1^{km}, MW4.7/94,Moment Tensor Solution. s9,c9; s94,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.44±.09; $M_{\theta\theta}$0.43±.08; $M_{\phi\phi}$0.01±.07; $M_{r\theta}$-0.09±.24; $M_{\theta\phi}$1.63±.07; $M_{\phi r}$-0.14±.24; Best double couple: $M_0$1.65000×10^{16} NP1:ϕ_s274.00000°,δ85.00000°,λ1.00000°. NP2: ϕ_s184.00000°,δ89.00000°,λ175.00000°. Principal axes: T 1.8730, Plg4.0000°, Azm139.0000°; N -0.4470, Plg85.0000°, Azm350.0000°; P -1.4260, Plg2.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **16** 09:06:34.9,25°.21N×124°.87E,h22^{km},mB4.9/15,mb4.2/43, ML4.6/3,Ms4.8/45,Ms7 4.6/44*
*NEIC **16** 09:06:35.9±1.1,25°.33N±0°.09×124°.96E±0°.07,h18^{km}±5^{km}, mb4.9/60,Error ellipse: s-maj=14.1km s-min=7.9km az=151.0*
ISC 16 09:06:37.3±1.0,**25°.26N**±0°.04×**124°.94E**±0°.04,**h31**^{km}±8^{km}, **n184**,σ1§**85**/116,**mb4.7**/48,**MS4.2**/66,**4C-1D**,**Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.44**	**141**	P	**Pb**	**09 06 45.5**	**-1.4**
JIKM				S	**Sn**	**09 06 54.2**	**-0.2**
JIKM	**Ikemajima**	**0.44**	**141**	A	A	09 06 45.5	
comp=N,184nm,3.6s,comp=E,366nm,4.3s							
JIRB	**Irabujima**	**0.48**	**154**	P	**Pb**	**09 06 46.1**	**-1.4**
JIRB				S	**Sb**	**09 06 54.6**	**+0.1**
JIRB	**Irabujima**	**0.48**	**154**	A	A	09 06 46.1	
comp=N,156nm,3.6s,comp=E,135nm,1.3s							
JMJ2	**Miyako jima3**	**0.63**	**146**	P	**Pb**	**09 06 48.8**	**-1.1**
JMJ2				*e*S	**Sn**	**09 06 60.0**	**+0.9**
JMJ2	**Miyako jima3**	**0.63**	**146**	A	A	09 06 48.8	
comp=N,156nm,4.4s,comp=E,268nm,3.7s							
JOGS	**Gusukube**	**0.66**	**140**	P	**Pb**	**09 06 49.4**	**-0.9**
JOGS				*e*S	**Sb**	**09 06 60.0**	**+0.8**
JOGS	**Gusukube**	**0.66**	**140**	A	A	09 06 49.4	
comp=N,147nm,4.3s,comp=E,255nm,4.7s							
JTJ	**Tarama**	**0.66**	**199**	P	**Pb**	**09 06 48.0**	**-2.3**
JTJ				S	**Sb**	**09 06 59.0**	**-0.2**
JTJ	**Tarama**	**0.66**	**199**	A	A	09 06 48.0	
comp=N,83nm,3.6s,comp=E,84nm,1.6s							
JISG	**Ishigakijimahi**	**0.89**	**220**	P	**Pb**	**09 06 51.0**	**-3.2**
JISG				*e*S	**Sb**	**09 07 03.4**	**-2.2**
JISG	**Ishigakijimahi**	**0.89**	**220**	A	A	09 06 51.0	
comp=N,16nm,0.9s,comp=E,17nm,0.6s							
JIJ	**Ishigaki jima**	**1.15**	**219**	*e*P	**Pn**	**09 06 54.9**	**-2.4**
JIJ	**Ishigaki jima**	**1.15**	**219**	A	A	09 06 54.9	
comp=N,16nm,2.1s,comp=E,10.0nm,5.8s							
JKRS	**Kuro-shima**	**1.33**	**220**	*e*P	**Pn**	**09 06 58.2**	**-1.5**
JKRS	**Kuro-shima**	**1.33**	**220**	A	A	09 06 58.2	
comp=N,35nm,2.7s,comp=E,36nm,1.4s							
IRIF	**Iriomote-Funau**	**1.44**	**230**	*e*P	**Pn**	**09 06 59.0**	**-2.2**
IRIF	**Iriomote-Funau**	**1.44**	**230**	A	A	09 06 59.0	
comp=N,11nm,2.7s,comp=E,10.0nm,2.4s							
HATJ	**Hateruma jima**	**1.59**	**221**	A	A	09 07 01.8	
comp=N,32nm,4.0s,comp=E,17nm,2.6s							
YOJ	**Yonaguni jima**	**1.93**	**246**	Pn	**Pn**	**09 07 07.3**	**-0.6**
TATO	**Taipei**	**3.14**	**265**	Pn	**Pn**	**09 07 24.7**	**0.0**
NACB	**Ninganchiao**	**3.23**	**251**	Pn	**Pn**	**09 07 25.0**	**-0.9**
YHNB	**Yeheng**	**3.29**	**260**		**Pn**	**09 07 26.6**	**-0.2**
JOW	**Kunigami**	**3.38**	**62**	Pn	**Pn**	**09 07 27.3**	**-0.7**
comp=E,14nm,0.3s,baz=144,slow=16,SNR=20							
JOW				Sn	**Sn**	**09 08 06.7**	**-0.4**
comp=E,37nm,0.3s,baz=250,slow=16,SNR=3.9							
comp=E,48nm,0.2s							
YULB	**Yu-li**	**3.81**	**241**		**Pn**	**09 07 32.2**	**-1.7**
SSLB	**Suanglung**	**3.92**	**249**	Pn	**Pn**	**09 07 34.9**	**-0.5**
TWG	**Pinlang**	**4.29**	**236**	Pn	**Pn**	**09 07 43.2**	**+2.6**
TPUB	**Ta-pu**	**4.39**	**244**	Pn	**Pn**	**09 07 42.1**	**+0.2**
KNMB	**Chin-men Tao**	**6.00**	**264**	Pn	**Pn**	**09 08 06.6**	**+2.5**
SSE	**Sheshan**	**6.69**	**331**	Pn	Pn	09 08 19.0	+5.6
SSE				Sn	Sn	09 09 38.1	+10
SSE				smax	smax		
comp=N,160nm,1.2s							
SSE				smax	smax		
comp=E,140nm,1.0s							
SSE				LR	LR		
comp=N,1μm,11.7s							
SSE				LR	LR		
comp=E,2μm,10.8s							
NJ2	**Nanjing**	**8.62**	**323**	*e*P	**Pn**	**09 08 40.3**	**+0.4**
NJ2				S	**Sn**	**09 10 17.0**	**+1.0**
NJ2				pmax	pmax		
comp=E,9.0nm,0.5s							
NJ2				LR	LR		
comp=E,4μm,12.8s							
NJ2				LR	LR		
comp=E,2μm,15.2s							
NJ2				LR	LR		
comp=E,3μm,13.7s							
JNU	**Nakatsue**	**9.39**	**32**	Pn	**Pn**	**09 08 50.3**	**-0.2**
JNU	**Nakatsue**	**9.39**	**32**	Pn	**Pn**	**09 08 50.8**	**+0.3**
comp=E,0.5nm,0.3s,baz=179,slow=11,SNR=5.3							
WHN	**Wuhan**	**10.74**	**302**	P	Pn	09 09 14.1	+5.1
KSAR	**Wonju Array Be**	**12.40**	**11**	Pn	**Pn**	**09 09 32.7**	**+1.1**
KSRS	**Korea Array**	**12.41**	**11**	Pn	**Pn**	**09 09 33.3**	**+1.5**
comp=E,0.1nm,0.3s,baz=196,slow=14,SNR=14							
KSRS				Lg	Lg	09 12 59.5	
comp=E,0.1nm,0.3s,baz=189,slow=20,SNR=1.5							
TIA	**Tai'an**	**12.81**	**330**	P	Pn	09 09 29.4	-7.9
TIA				S	Sn	09 11 40.8	-18
TIA				pmax	pmax		
comp=Z,3.0nm,0.8s							
TIA				pmax	pmax		
comp=Z,360nm,8.2s							
TIA				LR	LR		
comp=N,1μm,14.8s							
TIA				LR	LR		
comp=Z,1μm,15.5s							
DL2	**Dalian**	**13.89**	**349**	P	**P**	**09 10 03.1**	**+3.3**
DL2				S	**S**	**09 12 46.5**	**+0.2**
DL2				pmax	pmax		
comp=Z,43nm,1.4s							
DL2				pmax	pmax		
comp=Z,310nm,7.3s							
DL2				LR	LR		
comp=N,2μm,12.1s							
DL2				LR	LR		
comp=E,3μm,12.0s							
DL2				LR	LR		
comp=Z,1μm,10.9s							
LYN	**LuoYang**	**14.22**	**313**	*e*P	**Pn**	**09 09 58.3**	**+1.7**
LYN				pP	P	09 10 05.3	+1.7
LYN				PP	**PnPn**	**09 10 10.0**	**+5.4**
LYN				pmax	pmax		
comp=Z,14nm,0.6s							
LYN				LR	LR		
comp=Z,5μm,14.6s							
LYN				LR	LR		
comp=Z,4μm,12.8s							
LYN				LR	LR		
comp=Z,6μm,13.5s							
HNS	**HongShan**	**14.91**	**327**	⇑P	**Pn**	**09 10 06.6**	**+0.7**
HNS				pmax	pmax		
comp=Z,7.0nm,0.7s							
HNS				LR	LR		
comp=Z,2μm,13.1s							
HNS				LR	LR		
comp=Z,2μm,12.6s							
HNS				LR	LR		
comp=Z,2μm,14.5s							
JHJ	**Hachijo jima 2**	**15.13**	**55**	LR	LR	09 16 04.7	
comp=Z,425nm,18.3s,baz=118,slow=38							
QIZ	**Qiongzhong**	**15.30**	**249**	P	**Pn**	**09 10 10.4**	**-0.7**
QIZ				S	**Sn**	**09 13 01.8**	**+2.2**
QIZ				LR	LR		
comp=Z,1μm,14.3s							
QIZ				LR	LR		
comp=Z,500nm,16.0s							
QIZ				LR	LR		
comp=Z,530nm,16.5s							
JCJ	**Chichijima**	**15.59**	**80**	Pn	**Pn**	**09 10 14.4**	**-0.5**
MJAR	**Matsushiro Arr**	**15.98**	**42**	Pn	**Pn**	**09 10 20.6**	**+0.7**
baz=228,slow=9.0,SNR=6.6							
MJAR				LR	LR	09 16 46.2	
comp=Z,479nm,20.2s,baz=218,slow=39							
XAN	**Xi'an**	**16.43**	**306**	⇑P	**Pn**	**09 10 25.3**	**-0.3**
XAN				pmax	pmax		
comp=Z,9.0nm,1.2s							
GYA	**Guiyang**	**16.50**	**278**	⇓P	**Pn**	**09 10 26.3**	**-0.3**
GYA				S	**Sn**	**09 13 29.3**	**+0.4**
GYA				pmax	pmax		
comp=Z,9.0nm,0.6s							
GYA				pmax	pmax		
comp=Z,590nm,8.3s							
GYA				LR	LR		
comp=Z,1μm,8.1s							
GYA				LR	LR		
comp=Z,640nm,13.0s							
GYA				LR	LR		
comp=Z,950nm,15.0s							
CN2	**Changchun**	**18.50**	**1**	*e*P	**Pn**	**09 10 51.6**	**+0.5**
CN2				*es*P	pwP	09 11 02.6	+1.3
CN2				*e*S	**Sn**	**09 14 14.6**	**-2.3**
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
CN2				pmax	pmax		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=Z,800nm,10.0s							
CN2				LR	LR		
comp=Z,700nm,10.0s							
CN2				LR	LR		
comp=Z,700nm,11.0s							
HHC	**Hu-ho-hao-te**	**19.13**	**328**	*e*P	**Pn**	**09 10 59.1**	**+0.2**
HHC				pP	pP	09 11 03.3	-2.3
HHC				sP	pwP	09 11 07.8	-0.5
HHC				PP	**PnPn**	**09 11 16.6**	**+4.7**
HHC				S	**Sn**	**09 14 24.6**	**-7.8**
HHC				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,260nm,4.6s							
HHC				LR	LR		
comp=Z,1μm,15.2s							
HHC				LR	LR		
comp=Z,1μm,14.7s							
HHC				LR	LR		
comp=Z,2μm,15.7s							
CD2	**Chengdu**	**19.51**	**292**	P	**P**	**09 11 01.4**	**-0.7**
CD2				S	**S**	**09 14 36.8**	**-4.0**
CD2				pmax	pmax		
comp=Z,10.0nm,1.0s							
CD2				LR	LR		
comp=Z,3μm,12.2s							
CD2				LR	LR		
comp=Z,2μm,14.3s							
CD2				LR	LR		
comp=Z,2μm,12.3s							
MDJ	**Mudanjiang**	**19.67**	**10**	P	**P**	**09 11 04.5**	**+0.8**
MDJ				S	**S**	**09 14 36.0**	**-7.9**
MDJ				pmax	pmax		
comp=Z,8.0nm,1.0s							
MDJ				LR	LR		
comp=Z,1μm,12.4s							
MDJ				LR	LR		
comp=Z,1μm,13.1s							
MDJ				LR	LR		
comp=Z,1μm,13.4s							
SLVN	**Son La**	**19.71**	**263**	P	**P**	**09 11 03.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**19.74**	**15**	P	**P**	**09 11 03.8**	**-0.6**
comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=5.1							
comp=Z,4.5nm,0.8s							
KMI	**Kunming**	**20.09**	**274**	⇑P	P	09 10 56.6	-12
KMI				LR	LR		
comp=N,540nm,8.4s							
KMI				LR	LR		
comp=E,720nm,11.5s							
KMI				LR	LR		
comp=Z,710nm,10.0s							
BNX	**BinXian**	**20.53**	**5**	⇑P	Pn	09 11 14.4	-0.9
BNX				pmax	pmax		
comp=Z,16nm,1.2s							
UBPT	**Khong Chiam**	**20.77**	**245**	P	Pn	09 11 20.1	+1.8
PZH	**PanZhiHua**	**20.91**	**278**	P	**P**	**09 11 17.5**	**+0.1**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,110nm,4.3s							
PZH				LR	LR		
comp=Z,1μm,13.5s							
PZH				LR	LR		
comp=Z,840nm,12.4s							
PZH				LR	LR		
comp=Z,290nm,12.0s							
LZH	**Lanzhou**	**21.07**	**306**	*e*P	**P**	**09 11 19.9**	**+0.8**
LZH				sP	sP	09 11 26.4	-4.1
LZH				sS	sS	09 15 23.1	-1.3
LZH				pmax	pmax		
comp=Z,15nm,1.2s							
LZH				LR	LR		
comp=Z,2μm,14.1s							
LZH				LR	LR		
comp=Z,2μm,14.4s							
LZH				LR	LR		
comp=Z,3μm,14.4s							
GUMO	**Guam**	**22.06**	**118**	LR	LR	09 18 29.7	
comp=Z,396nm,20.9s,baz=326,slow=33							
ASAJ	**Asahikawa**	**23.67**	**33**	P	**P**	**09 11 44.7**	**-1.3**
comp=Z,4.3nm,1.0s,baz=196,slow=18,SNR=2.1							
ASAJ				LR	LR	09 20 20.9	
comp=Z,365nm,21.7s,baz=238,slow=35							
comp=Z,4.3nm,1.0s							
PHRA	**Phrae**	**23.88**	**259**	P	**P**	**09 11 49.3**	**+1.1**
KLR	**Kul'dur**	**24.51**	**11**	LR	LR	09 20 37.8	
comp=Z,127nm,19.9s,baz=104,slow=35							
CHTO	**Chiang Mai**	**24.91**	**260**	P	**P**	**09 11 58.4**	**+0.6**
HEH	**HeiHe**	**25.02**	**4**	*e*P	**P**	**09 12 02.4**	**+4.0**
HEH				LR	LR		
comp=Z,1μm,18.2s							
HEH				LR	LR

WMQ LR LR
comp=Z,1μm,8.5s
WMQ LR LR
comp=Z,890nm,14.9s
WMQ LR LR
comp=Z,650nm,19.7s
PETK Petropavlovsk- 37.09 33 LR LR 09 29 32.2
comp=Z,193nm,18.3s,baz=229,slow=37
MA2 Magadan 38.73 21 LR LR 09 30 34.6
comp=Z,176nm,18.9s,baz=230,slow=37
KRVT Keravat (AS076 39.44 134 LR LR 09 29 06.9
comp=Z,242nm,19.1s,baz=40,slow=34
MK31 Makanchi Array 40.01 314 P **P 09 14 08.6 -0.7**
MKAR Makanchi Array 40.01 314 P **P 09 14 08.2 -1.1**
MKAR Makanchi Array 40.01 314 P **P 09 14 09.0 -0.3**
comp=Z,0.7nm,0.6s,baz=99,slow=11,SNR=9.3
MKAR LR LR 09 32 00.4
comp=Z,462nm,20.7s,baz=91,slow=38
comp=Z,0.7nm,0.6s
MAKZ Makanchi 40.22 314 P **P 09 14 10.6 -0.4**
PMG Port Moresby 40.70 145 LR LR 09 28 24.8
comp=Z,249nm,21.9s,baz=322,slow=32
ZAA0 Zalesovo Array 41.27 325 P **P 09 14 18.7 -0.8**
ZALV Zalesovo Beam 41.27 325 P **P 09 14 18.7 -0.8**
ZALV Zalesovo Beam 41.27 325 P **P 09 14 18.0 -1.5**
comp=Z,1.7nm,0.7s,baz=100,slow=8.3,SNR=7.4
ZALV LR LR 09 32 53.6
comp=Z,525nm,18.5s,baz=140,slow=38
comp=Z,1.7nm,0.7s
COEN Coen 42.85 153 P **P 09 14 32.8 0.0**
KURK Kurchatov 43.52 318 P **P 09 14 37.1 -0.8**
KURBB Kurchatov Arra 43.54 318 P **P 09 14 37.0 -1.1**
comp=Z,0.6nm,0.5s,baz=108,slow=8.8,SNR=3.1
KURBB LR LR 09 34 38.3
comp=Z,289nm,20.6s,baz=137,slow=39
comp=Z,0.6nm,0.5s
AAK Ala-Archa 44.61 306 LR LR 09 36 15.0
comp=Z,766nm,18.4s,baz=100,slow=40
WB0 Warramunga Arr 45.70 168 P **P 09 14 55.5 0.0**
WB0 IAmb IAmb 09 15 26.5
comp=Z,9.3nm,1.0s
PALK Pallekele 45.82 255 LR LR 09 36 36.9
comp=Z,117nm,18.1s,baz=57,slow=39
WRA Warramunga Arr 45.86 168 P **P 09 14 56.1 -0.7**
comp=Z,1.2nm,0.8s,baz=349,slow=8.5,SNR=7.4
comp=Z,1.2nm,0.8s
WB2 Warramunga Arr 45.86 168 P **P 09 14 56.8 0.0**
WB2 IAmb IAmb 09 15 29.8
comp=Z,10nm,1.1s
WR0 Warramunga Arr 45.91 167 P **P 09 14 57.1 -0.1**
TIXI Tiksi 46.47 2 LR LR 09 34 04.4
comp=Z,334nm,18.3s,baz=194,slow=36
HNR Honiara 48.50 131 LR LR 09 33 11.1
comp=Z,104nm,20.0s,baz=308,slow=33
BVAR Borovoye Array 49.05 319 P **P 09 15 21.1 -0.2**
comp=Z,0.4nm,0.4s,baz=98,slow=7.4,SNR=0.9
BVAR LR LR 09 38 59.5
comp=Z,266nm,19.2s,baz=95,slow=40
comp=Z,0.4nm,0.4s
NRIK Noril'sk 49.30 343 LR LR 09 37 52.6
comp=Z,726nm,18.6s,baz=140,slow=38
ASAR Alice Springs 49.41 169 P **P 09 15 24.3 -0.1**
comp=Z,0.6nm,0.7s,baz=358,slow=6.8,SNR=9.1
ASAR LR LR 09 37 23.3
comp=Z,109nm,19.5s,baz=332,slow=37
comp=Z,0.6nm,0.7s
AKTO Aktyubinsk 56.41 315 LR LR 09 42 34.1
comp=Z,322nm,19.2s,baz=44,slow=38
ARTI Arti 56.42 322 P **P 09 16 14.1 -1.6**
comp=Z,1.2nm,0.4s,baz=94,slow=5.5,SNR=3.5
ARTI LR LR 09 43 26.7
comp=Z,480nm,20.1s,baz=98,slow=39
comp=Z,1.2nm,0.4s
NWAO Narrogin (SRO) 58.33 188 LR LR 09 44 25.4
comp=Z,31nm,18.2s,baz=272,slow=39
STKA Stephens Creek 59.01 163 P **P 09 16 33.2 -0.9**
comp=Z,0.9nm,0.6s,baz=334,slow=16,SNR=3.5
STKA LR LR 09 43 39.0
comp=Z,78nm,18.8s,baz=2.2,slow=38
comp=Z,0.9nm,0.6s
DZM Mont Dzumac 61.94 136 *e*LR LR 09 35 16.5
comp=Z,504nm,26.6s
DZM Mont Dzumac 61.94 136 LR LR 09 39 43.6
comp=Z,195nm,21.9s,baz=324,slow=32
E19K Redstone River 62.27 25 IAmb IAmb 09 17 20.0
comp=Z,8.4nm,1.2s
H19K Roundabout Mou 62.59 27 IAmb IAmb 09 17 19.8
comp=Z,18nm,1.2s
BELG Belogornoye 62.79 318 LR LR 09 46 51.2
comp=Z,201nm,19.3s,baz=103,slow=38
J19K Poorman 62.99 29 P **P 09 17 00.4 -0.4**
J19K IAmb IAmb 09 18 41.5
comp=Z,17nm,1.4s
B21K Ikpikpuk River 63.24 23 IAmb IAmb 09 17 06.8
comp=Z,5.5nm,0.8s
O18K Koktuh Hills 63.45 34 P **P 09 17 03.7 -0.3**
ACHA Angle Creek He 63.54 36 P **P 09 17 03.7 -0.9**
E22K Anaktuvuk Pass 64.31 24 IAmb IAmb 09 17 33.2
comp=Z,10nm,1.1s
CAST Castle Rocks 64.60 30 P **P 09 17 11.4 -0.1**
CAST IAmb IAmb 09 17 30.8
comp=Z,9.4nm,1.0s
PPLA Purkeypile 64.61 30 P **P 09 17 11.4 -0.3**
SPU Mount Spurr 64.87 32 P **P 09 17 13.2 -0.1**
SPU IAmb IAmb 09 18 48.3
comp=Z,26nm,1.9s
STLK Strandline Lak 64.93 32 P **P 09 17 12.8 -0.9**
BPAW Bear Paw Mtn. 65.01 29 P **P 09 17 13.6 -0.5**
KDAK Kodiak Island 65.04 36 P **P 09 17 13.3 -1.1**
KDAK Kodiak Island 65.04 36 LR LR 09 47 15.2
comp=Z,47nm,18.8s,baz=102,slow=38
E24K Your Creek 65.56 24 IAmb IAmb 09 18 27.7
comp=Z,7.8nm,1.2s
MCK McKinley 65.96 29 P **P 09 17 19.6 -0.7**
MCK IAmb IAmb 09 17 39.3
comp=Z,8.7nm,1.0s
RND Reindeer 66.05 29 P **P 09 17 19.5 -1.4**
H24K Noodor Dome 66.10 27 IAmb IAmb 09 19 05.3
comp=Z,12nm,1.4s
G24K Hadweenzic Riv 66.13 26 IAmb IAmb 09 18 57.0
comp=Z,28nm,1.9s
SML Sawmill 66.54 31 P **P 09 17 23.8 -0.3**
ILAR Eielson Array 66.68 28 P **P 09 17 21.9 -3.0**
comp=Z,0.8nm,0.8s,baz=288,slow=6.0,SNR=8.8
ILAR LR LR 09 47 47.7
comp=Z,102nm,18.3s,baz=268,slow=37
comp=Z,0.8nm,0.8s
F25K Christian Rive 66.70 25 IAmb IAmb 09 17 48.7
comp=Z,7.3nm,1.1s
GNI Garni 67.00 305 LR LR 09 51 22.7
comp=Z,181nm,20.0s,baz=83,slow=40
SCM Sheep Creek Mo 67.01 31 P **P 09 17 26.3 -0.7**
MSVF Nonsavu 67.07 124 LR LR 09 45 28.7
comp=Z,86nm,18.5s,baz=297,slow=35
F26K Sheenjek River 67.24 24 IAmb IAmb 09 19 27.9
comp=Z,6.0nm,0.9s
KBZ Khabaz 67.47 309 LR LR 09 51 43.2
comp=Z,454nm,18.7s,baz=68,slow=40
J26L Joseph Creek 68.14 28 IAmb IAmb 09 18 11.1
comp=Z,30nm,1.9s
MENT Mentasta 68.42 29 P **P 09 17 36.1 +0.1**
MENT IAmb IAmb 09 17 54.6
comp=Z,14nm,1.2s
OBN Obninsk 68.77 322 LR LR 09 50 49.1
comp=Z,330nm,18.4s,baz=36,slow=39
F28M Old Crow 68.86 24 P **P 09 17 38.4 -0.2**
F28M IAmb IAmb 09 19 38.1
comp=Z,8.4nm,1.1s
M26K Nabesna, AK 68.87 30 IAmb IAmb 09 17 57.9
comp=Z,11nm,1.0s
SPITS Spitsbergen Ar 69.15 348 LR LR 09 52 59.4
comp=Z,140nm,18.0s,baz=18,slow=40
L27K Beaver Creek, 69.23 29 IAmb IAmb 09 19 26.4
comp=Z,16nm,1.5s
BCAR Beaver Creek A 69.25 29 P **P 09 17 41.6 +0.5**
ARCES ARCESS Array B 69.81 338 LR LR 09 52 42.1
comp=Z,296nm,20.0s,baz=89,slow=40
DAWY Dawson 70.01 28 P **P 09 17 45.0 -0.7**
J29N Klondike Camp 70.39 27 P **P 09 17 47.9 -0.1**
EPYK Eagle Plains 70.40 25 P **P 09 17 47.0 -1.1**
EPYK IAmb IAmb 09 18 19.6
comp=Z,9.6nm,1.1s
L29M L29M 70.83 29 IAmb IAmb 09 17 52.9
comp=Z,7.5nm,0.8s
K29M Barlow Dome 70.86 28 IAmb IAmb 09 19 47.0
comp=Z,11nm,1.3s
M29M Somme Creek 70.89 29 IAmb IAmb 09 18 10.8
comp=Z,8.3nm,1.1s
I30M Mount Dempster 70.89 26 IAmb IAmb 09 18 32.1
comp=Z,16nm,1.6s
M30M Minto, Yukon 71.58 29 P **P 09 17 55.4 0.0**
M30M IAmb IAmb 09 18 13.1
comp=Z,21nm,1.6s
HYT Haines Junctio 71.84 31 P **P 09 17 56.0 -1.0**
FINES FINESS Array B 72.23 330 LR LR 09 53 28.2
comp=Z,529nm,18.6s,baz=70,slow=39
N31M Braeburn, Yuko 72.40 30 P **P 09 17 59.9 -0.3**
N31M IAmb IAmb 09 18 11.7
comp=Z,16nm,1.2s
FARO Faro, Yukon 73.21 29 IAmb IAmb 09 18 07.0
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 74.32 319 LR LR 09 51 28.4
comp=Z,212nm,20.5s,baz=56,slow=36
BRTR Keskin Array B 75.27 307 LR LR 09 53 46.8
comp=Z,80nm,21.0s,baz=106,slow=38
DLBC Dease Lake 76.26 32 LR LR 09 53 21.9
comp=Z,82nm,18.9s,baz=286,slow=37
MMAI Mount Meron Ar 76.33 300 LR LR 09 56 57.6
comp=Z,124nm,19.1s,baz=66,slow=40
RES Resolute Bay 77.03 10 LR LR 09 54 44.8
comp=Z,74nm,19.3s,baz=352,slow=38
EIL Elat 77.93 297 LR LR 09 59 41.5
comp=Z,82nm,18.7s,baz=66,slow=41
HFS Hagfors 78.27 332 LR LR 09 57 28.1
comp=Z,501nm,19.1s,baz=50,slow=39
MLR Muntele Rosu 78.34 315 LR LR 09 56 02.8
comp=Z,230nm,19.2s,baz=61,slow=38
JMIC Jan Mayen 78.64 346 LR LR 09 57 22.3
comp=Z,210nm,18.6s,baz=250,slow=39
NOA NORSAR Array B 78.84 333 LR LR 09 57 19.6
comp=Z,278nm,18.3s,baz=55,slow=39
URZ Urewera 79.90 141 LR LR 09 51 39.7
comp=Z,25nm,19.4s,baz=36,slow=34
BBB Bella Bella 80.10 37 LR LR 09 54 26.8
comp=Z,57nm,20.1s,baz=180,slow=36
YKA Yellowknife Ar 80.63 24 P **P 09 18 46.5 -0.2**
comp=Z,1.2nm,0.8s,baz=306,slow=5.1,SNR=19
YKA LR LR 09 58 26.0
comp=Z,65nm,18.3s,baz=306,slow=39
comp=Z,1.2nm,0.8s
VYHS Vyhne 81.38 320 *e*P P 09 18 58.0 +6.9
VRAC Vranov 82.28 321 LR LR 09 57 48.1
comp=Z,356nm,19.2s,baz=38,slow=37
GERES GERESS Array B 84.15 322 LR LR 09 59 18.4
comp=Z,320nm,20.8s,baz=55,slow=38
RAR Rarotonga 86.45 115 LR LR 09 52 37.4
comp=Z,38nm,21.0s,baz=309,slow=32
BORG Borgarnes 86.54 346 LR LR 10 01 08.6
comp=Z,103nm,18.7s,baz=17,slow=38
DAVOX Davos/Dischmat 87.44 321 LR LR 10 01 58.1
comp=Z,325nm,19.8s,baz=74,slow=38
SFJD Kangerlussuaq 87.97 358 LR LR 09 59 46.5
comp=Z,112nm,19.1s,baz=356,slow=36
FRB Frobisher Bay 90.65 6 LR LR 10 03 52.4
comp=Z,62nm,18.1s,baz=334,slow=38
FFC Flin Flon 90.75 25 P **P 09 19 36.9 -0.2**
FFC IAmb IAmb 09 19 38.1
comp=Z,7.3nm,0.9s
MFID Camas Ranch 91.81 40 IAmb IAmb 09 21 34.8
comp=Z,18nm,1.9s
NVAR Mina Array Bea 93.29 45 P **P 09 19 48.8 -0.8**
comp=Z,0.1nm,0.4s,baz=327,slow=8.3,SNR=2.3
comp=Z,0.1nm,0.4s
PPT Papeete 93.40 108 LR LR 09 53 39.5
comp=Z,65nm,21.5s,baz=327,slow=30
PPT2 Papeete2 93.41 108 *e*LR LR 09 49 45.3
comp=Z,299nm,27.8s
PPT2 *e*LR LR 09 49 52.5
comp=Z,184nm,31.8s
KEST Kesra 94.10 313 LR LR 10 06 48.2
comp=Z,128nm,18.4s,baz=332,slow=38
ULM Lac du Bonnet 96.57 25 LR LR 10 06 24.7
comp=Z,59nm,19.1s,baz=5.5,slow=37
TAOE Nuku Hiva Isla 98.14 96 *e*LR LR 09 51 53.5
comp=Z,109nm,28.9s
ESDC Sonseca Array 99.73 322 LR LR 10 09 34.1
comp=Z,153nm,19.4s,baz=342,slow=38

*IDC **16** 09:18:57.2±0.8, 25°.52N×124°.98E, h0km, mb3.5/10, mbtmp3.5/15, ML3.1/5, MS3.7/18, Error ellipse: s-maj=19.4km s-min=17.5km az=101.0*
*NIED **16** 09:18:58.9, 25°.42N×124°.80E, h7km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr1.58; Mθθ-1.21; Mφφ-0.37; Mrθ4.20; Mθφ4.31; Mφr1.49; Fault plane solution: M0 6.32000×1015 NP1: φs=350.00000°, δ47.00000°, λ164.00000°. NP2: φs=91.00000°, δ78.00000°, λ44.00000°.*
*JMA **16** 09:18:58.9±0.3, 25°N±1°×124°.8E±0°.5, h7km, MD4.9/10, MV4.4/10, NW OFF MIYAKOJIMA ISLAND*
JMA Felt I J1 at NW OFF MIYAKOJIMA ISLAND.

ISC 16 09:18:57.4±1.8, 25°.48N±0°.06×124°.86E±0°.05, h3km±13km, n47, σ1°.03/33, mb3.6/10, MS3.7/14, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.66**	**147**	P	**Pb**	**09 19 11.4**	**-0.1**
JIKM				*e*S	**Sb**	**09 19 20.2**	**-0.8**
JIKM	**Ikemajima**	**0.66**	**147**	A	A	09 19 11.4	
comp=N,89nm,1.6s,comp=E,169nm,5.3s							
JIRB	**Irabujima**	**0.71**	**156**	P	**Pg**	**09 19 11.9**	**+0.9**
JIRB				*e*S	**Sg**	**09 19 20.7**	**+0.5**
JIRB	**Irabujima**	**0.71**	**156**	A	A	09 19 11.9	
comp=N,68nm,3.2s,comp=E,69nm,2.1s							
JTJ	**Tarama**	**0.85**	**190**	P	**Pg**	**09 19 14.0**	**+0.4**
JTJ				*e*S	**Sg**	**09 19 25.1**	**+0.6**
JTJ	**Tarama**	**0.85**	**190**	A	A	09 19 14.0	
comp=N,40nm,4.0s,comp=E,43nm,5.7s							
JMJ2	**Miyako jima3**	**0.85**	**150**	P	**Pb**	**09 19 15.1**	**+0.3**
JMJ2				*e*S	**Sb**	**09 19 25.9**	**-0.7**
JMJ2	**Miyako jima3**	**0.85**	**150**	A	A	09 19 15.1	
comp=N,75nm,3.9s,comp=E,120nm,4.1s							
JOGS	**Gusukube**	**0.87**	**145**	P	**Pb**	**09 19 15.2**	**0.0**
JOGS				*e*S	**Sb**	**09 19 26.7**	**-0.5**
JOGS	**Gusukube**	**0.87**	**145**	A	A	09 19 15.2	
comp=N,99nm,4.3s,comp=E,130nm,5.1s							
JISG	**Ishigakijimahi**	**1.02**	**209**	*e*P	**Pg**	**09 19 16.9**	**0.0**
JISG				*e*S	**Sg**	**09 19 29.2**	**-0.9**
JISG	**Ishigakijimahi**	**1.02**	**209**	A	A	09 19 16.9	
comp=N,7.0nm,3.3s,comp=E,8.0nm,5.1s							
JIJ	**Ishigaki jima**	**1.29**	**211**	P	**Pg**	**09 19 20.9**	**-1.1**
JIJ				*e*S	**Sg**	**09 19 37.3**	**-1.4**
JIJ	**Ishigaki jima**	**1.29**	**211**	A	A	09 19 20.9	
comp=N,8.0nm,1.8s,comp=E,9.0nm,5.2s							
JKRS	**Kuro-shima**	**1.46**	**212**	P	**Pn**	**09 19 25.4**	**+0.7**
JKRS				*e*S	**Sb**	**09 19 43.5**	**-0.6**
JKRS	**Kuro-shima**	**1.46**	**212**	A	A	09 19 25.4	
comp=N,22nm,2.1s,comp=E,21nm,6.2s							
IRIF	**Iriomote-Funau**	**1.53**	**222**	P	**Pn**	**09 19 24.8**	**-0.8**
IRIF	**Iriomote-Funau**	**1.53**	**222**	A	A	09 19 24.8	
comp=N,7.0nm,6.5s,comp=E,7.0nm,2.0s							
HATJ	**Hateruma jima**	**1.71**	**214**	A	A	09 19 28.3	
comp=N,14nm,4.2s,comp=E,13nm,2.5s							
JJT3	**Tamagusuku3**	**2.72**	**75**	A	A	09 19 45.0	
comp=N,11nm,4.8s,comp=E,12nm,3.8s							
JOW	**Kunigami**	**3.35**	**66**	Pn	**Pn**	**09 19 49.6**	**-1.1**
comp=E,5.2nm,0.3s,baz=172,slow=14,SNR=11							
JOW				Sn	**Sn**	**09 20 29.7**	**-1.4**
comp=E,12nm,0.3s,baz=184,slow=22,SNR=4.0							
comp=E,24nm,0.5s							
JNU	**Nakatsue**	**9.25**	**33**	Pn	**Pn**	**09 21 11.8**	**0.0**
comp=E,0.1nm,0.3s,baz=20,slow=7.6,SNR=1.8							
comp=E,7.5nm,0.9s							
TGY	**Tagaytay City**	**11.90**	**199**	LR	LR	09 26 04.0	
comp=E,151nm,21.3s,baz=34,slow=36							
KSRS	**Korea Array**	**12.22**	**12**	Pn	**Pn**	**09 21 53.5**	**+1.1**
comp=E,0.1nm,0.3s,baz=192,slow=13,SNR=7.2							
KSRS				LR	LR	09 26 34.9	
comp=E,152nm,18.8s,baz=175,slow=38							
comp=E,0.8nm,0.8s							
MJAR	**Matsushiro Arr**	**15.87**	**43**	Pn	**Pn**	**09 22 41.6**	**-0.3**
baz=233,slow=9.6,SNR=2.5							
MJAR				LR	LR	09 29 01.8	
comp=E,324nm,19.0s,baz=216,slow=38							
comp=E,0.2nm,0.3s							
DAV	**Davao City (W)**	**18.32**	**178**	LR	LR	09 29 20.3	
comp=E,141nm,21.9s,baz=318,slow=34							
USRK	**Ussuriysk Ar.**	**19.56**	**15**	P	**P**	**09 23 26.0**	**-0.2**
comp=E,0.2nm,0.3s,baz=195,slow=12,SNR=4.1							
comp=E,1.3nm,0.6s							
ASAJ	**Asahikawa**	**23.53**	**33**	LR	LR	09 32 58.2	
comp=E,170nm,20.0s,baz=188,slow=36							
KLR	**Kul'dur**	**24.31**	**11**	LR	LR	09 33 56.1	
comp=E,156nm,18.5s,baz=180,slow=37							
CMAR	**Chiang Mai Arr**	**25.00**	**259**	P	**P**	**09 24 25.6**	**+2.9**
comp=E,1.1nm,0.3s,baz=60,slow=8.5,SNR=4.8							
CMAR				LR	LR	09 35 23.0	
comp=E,156nm,18.9s,baz=65,slow=39							
comp=E,1.1nm,0.3s							
SONM	**Songino Array**	**26.65**	**332**	P	**P**	**09 24 38.9**	**+1.4**
comp=E,0.3nm,0.6s,baz=153,slow=9.7,SNR=7.8							
SONM				LR	LR	09 36 33.7	
comp=E,508nm,20.4s,baz=148,slow=40							
comp=E,0.3nm,0.6s							
JAY	**Jayapura**	**31.78**	**149**	LR	LR	09 37 00.9	
comp=E,180nm,19.1s,baz=354,slow=34							
PSI	**Prapat**	**33.63**	**232**	LR	LR	09 38 49.3	
comp=E,140nm,18.4s,baz=72,slow=35							
YAK	**Yakutsk**	**36.69**	**4**	LR	LR	09 40 40.8	
comp=E,136nm,19.0s,baz=146,slow=36							
PETK	**Petropavlovsk-**	**36.95**	**33**	LR	LR	09 42 15.9	
comp=E,124nm,18.9s,baz=236,slow=38							
MA2	**Magadan**	**38.55**	**21**	LR	LR	09 42 51.7	
comp=E,99nm,19.3s,baz=230,slow=37							
KRVT	**Keravat (AS076**	**39.65**	**134**	LR	LR	09 39 26.1	
comp=E,159nm,21.2s,baz=32,slow=31							
MKAR	**Makanchi Array**	**39.81**	**313**	P	**P**	**09 26 31.1**	**-0.8**
comp=E,0.2nm,0.6s,baz=106,slow=8.6,SNR=4.9							
MKAR				LR	LR	09 44 26.1	
comp=E,239nm,21.5s,baz=52,slow=38							
comp=E,0.2nm,0.6s							
PMG	**Port Moresby**	**40.91**	**145**	LR	LR	09 44 19.6	
comp=E,51nm,18.3s,baz=6.5,slow=37							
ZALV	**Zalesovo Beam**	**41.05**	**325**	P	**P**	**09 26 40.3**	**-1.7**
comp=E,0.4nm,0.3s,baz=116,slow=6.7,SNR=5.2							
ZALV				LR	LR	09 45 36.5	
comp=E,230nm,18.2s,baz=123,slow=39							
comp=E,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**43.33**	**318**	P	**P**	**09 27 01.6**	**+0.9**
comp=E,0.3nm,0.3s,baz=110,slow=8.3,SNR=4.4							
comp=E,0.3nm,0.3s							
WRA	**Warramunga Arr**	**46.08**	**168**	P	**P**	**09 27 22.5**	**-0.4**
comp=E,0.4nm,0.7s,baz=350,slow=8.9,SNR=8.7							
comp=E,0.4nm,0.7s							
ASAR	**Alice Springs**	**49.63**	**169**	P	**P**	**09 27 51.1**	**+0.7**
comp=E,0.3nm,0.7s,baz=348,slow=8.1,SNR=5.3							
comp=E,0.3nm,0.7s							
DZM	**Mont Dzumac**	**62.14**	**136**	LR	LR	09 52 29.7	
comp=E,72nm,20.6s,baz=293,slow=32							
ILAR	**Eielson Array**	**66.53**	**28**	P	**P**	**09 29 47.6**	**-0.7**
comp=E,0.4nm,0.9s,baz=270,slow=8.4,SNR=4.6							
comp=E,0.4nm,0.9s							
KBZ	**Khabaz**	**67.27**	**309**	P	**P**	**09 29 54.3**	**+0.8**
comp=E,0.3nm,0.4s,baz=41,slow=9.3,SNR=1.1							
comp=E,0.3nm,0.4s							
YKA	**Yellowknife Ar**	**80.46**	**24**	P	**P**	**09 31 09.6**	**-0.8**
comp=E,0.3nm,0.8s,baz=307,slow=5.4,SNR=4.5							
comp=E,0.3nm,0.8s							

JMA 16 09:22:06.5±0.3, 25°N±1°×124°.8E±0°.4, h9km±4km, MV3.5/9, NW OFF MIYAKOJIMA ISLAND, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.65**	**141**	*e*P	Pg	09 22 19.1	0.0
JIKM				*e*S	Sg	09 22 27.9	+0.2
JIRB	**Irabujima**	**0.69**	**151**	P	Pg	09 22 19.8	-0.1
JTJ	**Tarama**	**0.80**	**186**	*e*P	Pg	09 22 21.8	-0.1
JMJ2	**Miyako jima3**	**0.84**	**145**	*e*P	Pg	09 22 22.6	-0.1
JMJ2				*e*S	Sg	09 22 33.6	-0.1
JOGS	**Gusukube**	**0.87**	**140**	*e*P	Pg	09 22 23.1	-0.2
JOGS				*e*S	Sg	09 22 34.6	0.0
JISG	**Ishigakijimahi**	**0.95**	**208**	*e*P	Pg	09 22 24.5	-0.4
JIJ	**Ishigaki jima**	**1.22**	**209**	*e*P	Pn	09 22 29.3	-0.4
JKRS	**Kuro-shima**	**1.39**	**211**	*e*S	Sg	09 22 51.1	-0.2

TAP 16 09:22:30.9, 24°.45N×122°.95E, h67km±1km, ML2.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.06**	**81**	P	Pn	09 22 40.4	-0.3
EOS3	**EOS3**	**0.60**	**254**	P	Pn	09 22 45.1	+0.8
EOS3				*e*S	Sn	09 22 54.9	+0.9
EOS2	**EOS2**	**0.65**	**267**	P	Pn	09 22 45.8	+0.9
EOS2				S	Sn	09 22 56.8	+1.6
EOS4	**EOS4**	**0.66**	**240**	P	Pn	09 22 46.3	+1.5
EOS4				S	Sn	09 22 56.6	+1.7
TWC	**Suao**	**1.01**	**279**	*e*P	Pn	09 22 50.3	+1.0
EWUT	**Wuta**	**1.06**	**270**	*e*P	Pn	09 22 50.7	+0.7
EWUT				*e*S	Sn	09 23 05.1	+0.8
ENA	**Nanau**	**1.10**	**269**	*e*P	Pn	09 22 52.0	+1.5
TIPB	**Shuangxi**	**1.14**	**297**	*e*P	Pn	09 22 52.4	+1.3
TIPB				*e*S	Sn	09 23 06.9	+0.8
SXI1	**Grass Mountain**	**1.16**	**304**	*e*P	Pn	09 22 51.5	+0.1
TWE	**Neicheng**	**1.19**	**283**	*e*P	Pn	09 22 52.4	+0.7
WFSB	**Wu-fen Shan**	**1.23**	**300**	*e*P	Pn	09 22 52.6	+0.4
NACB	**Ninganchiao**	**1.26**	**258**	P	Pn	09 22 52.5	-0.1
NACB				*e*S	Sn	09 23 09.0	+0.1
ENTT	**Nioudou**	**1.27**	**279**	*e*P	Pn	09 22 54.8	+2.1
FUSB	**Fushanzhiwuyua**	**1.27**	**284**	P	Pn	09 22 54.1	+1.3
FUSB				S	Sn	09 23 09.8	+0.6
SHUL	**Shoufeng**	**1.43**	**243**	*e*P	Pn	09 22 55.0	+0.3
SHUL				S	Sn	09 23 13.6	+0.9
YHNB	**Yeheng**	**1.45**	**279**	P	Pn	09 22 56.1	+1.0
YHNB				*e*S	Sn	09 23 12.6	-0.8
LXIB	**Xiulin Townshi**	**1.46**	**253**	P	Pn	09 22 55.5	0.0
LXIB				S	Sn	09 23 13.7	-0.1
WHF	**Hehuan Shan**	**1.56**	**259**	*e*P	Pn	09 22 58.2	+1.2
WARBT	**Fenglin Townsh**	**1.60**	**243**	*e*P	Pn	09 22 57.4	+0.3
WARBT				*e*S	Sn	09 23 16.5	-0.5
HGSD	**Ruisui**	**1.69**	**236**	P	Pn	09 22 59.5	+1.2
WUSB	**Renai**	**1.73**	**255**	P	Pn	09 23 00.3	+1.3
WUSB				S	Sn	09 23 20.4	+0.2
VWDT	**VWDT**	**1.79**	**248**	P	Pn	09 23 00.7	+1.0
VWDT				*e*S	Sn	09 23 20.1	-1.4
SMLT	**Sun Moon Lake**	**1.95**	**254**	*e*P	Pn	09 23 02.3	+0.4

*NEIC **16** 09:29:46.0±2.6, 17°.58N±0°.05×102°.87W±0°.06, h10km±1km, mb4.6/86, Md4.3/105(MEX), Error ellipse: s-maj=12.2km s-min=6.1km az=228.0*
*IDC **16** 09:29:46.4±2.1, 17°.89N×102°.71W, h0km, mb4.1/8, mbtmp3.9/11, ML3.3/3, MS3.4/11, Error ellipse: s-maj=45.8km s-min=23.0km az=38.0*
*MEX **16** 09:29:48.3±1.4, 17°.61N×102°.97W, h16km±28km, MD4.3*

ISC 16 09:29:43.0±1.5, 17°.47N±0°.05×102°.98W±0°.03, h2km±9km, n216, σ2°.33/279, mb4.6/44, MS3.4/6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.88**	**337**		**Pg**	**09 30 00.2**	**+0.3**
MMIG					**Sg**	**09 30 09.4**	**-2.0**
MMIG	**Aquila**	**0.88**	**337**	*i* P	**Pg**	**09 30 00.2**	**+0.3**
MMIG				*i* S	**Sg**	**09 30 09.4**	**-2.0**
UON	**La Union**	**1.22**	**66**	*e*P	**Pg**	**09 30 06.2**	**-0.2**
UON				*e*S	**Sg**	**09 30 19.9**	**-2.2**
ZIIG	**Zihuatanejo**	**1.45**	**84**		**Pn**	**09 30 10.1**	**-0.2**
ZIIG					**Sb**	**09 30 26.0**	**-3.7**
ZIIG	**Zihuatanejo**	**1.45**	**84**	*i* P	**Pn**	**09 30 10.1**	**-0.2**
ZIIG				*e*S	**Sb**	**09 30 26.0**	**-3.7**
PET2	**Petatlan**	**1.64**	**88**	*e*P	**Pn**	**09 30 12.9**	**0.0**
PET2				*e*S	**Sn**	**09 30 30.4**	**-4.2**
CDAR	**Ciudad de Arme**	**1.76**	**326**	*e*P	**Pn**	**09 30 13.0**	**-1.5**
CDAR				*e*S	**Sn**	**09 30 31.4**	**-6.1**
COMA	**Comala**	**1.99**	**338**	*e*P	**Pn**	**09 30 17.1**	**-0.6**
COMA				*e*S	**Sn**	**09 30 38.7**	**-4.6**
MNGA	**Volcan de Coli**	**2.07**	**343**	*i* P	**Pn**	**09 30 19.1**	**0.0**
MNGA				*e*S	**Sn**	**09 30 41.9**	**-3.8**
CEGR	**Campo Tres**	**2.08**	**337**	*i* P	**Pn**	**09 30 18.4**	**-0.7**
CEGR				*e*S	**Sn**	**09 30 40.8**	**-5.0**
EZ5V		**

ATYC Atoyac 2.45 96 eP Pn 09 30 25.7 +1.7
ATYC eS Sn 09 30 53.0 -1.5
CAIG El Cayaco 2.63 99 Pn 09 30 27.1 +0.7
CAIG Sn 09 30 56.7 -2.3
CAIG El Cayaco 2.63 99 eP Pn 09 30 27.1 +0.7
CAIG eS Sn 09 30 56.7 -2.3
ARIG Puente Sto Nin 2.63 72 Pn 09 30 27.4 +0.8
ARIG Sn 09 30 57.6 -1.6
ARIG Puente Sto Nin 2.63 72 eP Pn 09 30 27.4 +0.8
ARIG eS Sn 09 30 57.6 -1.6
MOIG Morelia 2.78 37 Pn 09 30 28.3 -0.5
MOIG Morelia 2.78 37 eP Pn 09 30 28.9 +0.2
MOIG eS Sn 09 30 58.4 -4.6
CJM Chamela 2.81 316 eP Pn 09 30 27.9 -1.1
CJM eS Sn 09 30 57.3 -6.2
ACP2 Acapulco 3.02 101 Pn 09 30 34.0 +2.1
ACP2 Sn 09 31 04.8 -3.8
ACP2 Acapulco 3.02 101 eP Pn 09 30 34.0 +2.1
ACP2 eS Sn 09 31 04.8 -3.8
TEJU Tejupilco 3.04 62 eP Pn 09 30 34.5 +2.2
TEJU eS Sn 09 31 07.3 -2.0
VNTA La Mica 3.07 100 eS Sn 09 31 05.0 -5.0
DAIG Los Arroyos 3.21 98 Pn 09 30 36.4 +1.8
DAIG Sn 09 31 09.6 -3.8
DAIG Los Arroyos 3.21 98 eP Pn 09 30 36.4 +1.8
DAIG eS Sn 09 31 09.6 -3.8
PLIG Platanillo 3.44 74 Pn 09 30 38.5 +0.8
PLIG Sn 09 31 15.0 -4.1
PLIG Platanillo 3.44 74 eP Pn 09 30 38.5 +0.8
PLIG eS Sn 09 31 15.0 -4.1
MAVM Malinalco, Edo 3.63 65 Sn 09 31 19.8 -4.2
MAVM Malinalco, Edo 3.63 65 eP Pn 09 30 26.5 -14
MAVM eS Sn 09 31 19.8 -4.2
CRIG Cruz Grande 3.75 101 Pn 09 30 43.6 +1.7
CRIG Sn 09 31 21.9 -4.8
CRIG Cruz Grande 3.75 101 eP Pn 09 30 43.6 +1.7
CRIG eS Sn 09 31 21.9 -4.8
ANIG Ahuacatlan 3.85 338 Pn 09 30 43.8 +0.4
ANIG Sn 09 31 26.0 -3.3
ANIG Ahuacatlan 3.85 338 eP Pn 09 30 43.8 +0.4
ANIG eS Sn 09 31 26.0 -3.3
ACIG Acambay 3.85 49 Pn 09 30 44.8 +1.3
ACIG Sn 09 31 29.3 -0.2
ACIG Acambay 3.85 49 eP Pn 09 30 44.8 +1.3
ACIG eS Sn 09 31 29.3 -0.2
INVM La Marquesa 3.87 62 eP Pn 09 30 45.5 +1.6
INVM eS Sn 09 31 30.2 +0.1
AOVM Tlapan 3.91 62 Pn 09 30 46.2 +1.7
AOVM Sn 09 31 30.7 -0.5
AOVM Tlapan 3.91 62 eP Pn 09 30 46.2 +1.7
AOVM eS Sn 09 31 30.7 -0.5
YAIG Yautepec 3.97 69 Pn 09 30 46.6 +1.5
YAIG Sn 09 31 29.2 -3.2
YAIG Yautepec 3.97 69 eP Pn 09 30 46.6 +1.5
YAIG eS Sn 09 31 29.2 -3.2
CJVM Cuajimalpa 3.98 61 eS Sn 09 31 25.2 -7.6
JRQG Juriquilla Cam 4.01 36 Pn 09 30 45.8 +0.1
JRQG Juriquilla Cam 4.01 36 eP Pn 09 30 45.1 -0.6
JRQG eS Sn 09 31 34.6 +1.2
TLVM San Miguel Top 4.03 64 eP Pn 09 30 48.0 +1.9
TLVM eS Sn 09 31 35.6 +1.6
UNM Universidad Na 4.06 62 Pn 09 30 44.1 -2.2
XCVM Xochimilco 4.08 64 eP Pn 09 30 48.4 +1.8
XCVM eS Sn 09 31 28.8 -6.3
BJVM Benito Juarez 4.08 62 eS Sn 09 31 30.8 -4.5
COVM Coyoacan 4.08 62 eS Sn 09 31 33.6 -1.8
MPVM San Francisco 4.14 65 eP Pn 09 30 49.8 +2.2
MPVM eS Sn 09 31 35.5 -1.3
MGIG Malinaltepec 4.16 93 Pn 09 30 50.1 +2.4
MGIG Sn 09 31 33.4 -3.6
MGIG Malinaltepec 4.16 93 eP Pn 09 30 50.1 +2.4
MGIG eS Sn 09 31 33.4 -3.6
PBVM Pinon 4.19 61 Pn 09 30 49.9 +2.0
PBVM Sn 09 31 35.5 -1.9
PBVM Pinon 4.19 61 eP Pn 09 30 49.9 +2.0
PBVM eS Sn 09 31 35.5 -1.9
TLIG Tlapa 4.21 88 Pn Pn 09 30 50.2 +1.8
TLIG Tlapa 4.21 88 eP Pn 09 30 50.8 +2.4
TLIG eS Sn 09 31 35.4 -3.0
THVM De Xico 4.22 64 eP Pn 09 30 50.5 +1.8
THVM eS Sn 09 31 35.1 -3.7
HMTT Tlapaneco 4.23 85 Sn 09 31 35.7 -2.9
HMTT Tlapaneco 4.23 85 eS Sn 09 31 35.7 -2.9
AAIG Aguscalientes 4.51 7 Pn 09 30 51.9 -0.6
AAIG Sn 09 31 45.3 -0.4
AAIG Aguscalientes 4.51 7 eP Pn 09 30 51.9 -0.6
AAIG eS Sn 09 31 45.3 -0.4
FTIG Fresnillo de T 4.64 84 Pn 09 30 56.6 +2.3
FTIG Sn 09 31 46.0 -2.9
FTIG Fresnillo de T 4.64 84 eP Pn 09 30 56.6 +2.3
FTIG eS Sn 09 31 46.0 -2.9
PNIG Pinotepa 4.77 102 Pn 09 30 58.0 +2.0
PNIG Sn 09 31 47.6 -4.2
PNIG Pinotepa 4.77 102 eP Pn 09 30 58.0 +2.0
PNIG eS Sn 09 31 47.6 -4.2
TXIG Tlaxiaco 4.98 92 Pn 09 31 02.1 +3.0
TXIG Sn 09 31 54.3 -3.2
TXIG Tlaxiaco 4.98 92 eP Pn 09 31 02.1 +3.0
TXIG eS Sn 09 31 54.3 -3.2
YOIG Yosondua 5.23 96 Pn 09 31 05.4 +2.8
YOIG Sn 09 31 59.4 -4.3
YOIG Yosondua 5.23 96 eP Pn 09 31 05.4 +2.8
YOIG eS Sn 09 31 59.4 -4.3
ZAIG Zacatecas 5.28 4 Pn 09 31 04.9 +1.6
TPIG Tehuac#an 5.43 79 Pn 09 31 07.7 +2.4
TPIG Sn 09 32 05.9 -2.6
TPIG Tehuac#an 5.43 79 eP Pn 09 31 07.7 +2.4
TPIG eS Sn 09 32 05.9 -2.6
TOIG Toxpalan 5.67 83 Pn 09 31 10.6 +2.1
TOIG Sn 09 32 12.2 -2.1
TOIG Toxpalan 5.67 83 eP Pn 09 31 10.6 +2.1
TOIG eS Sn 09 32 12.2 -2.1
CXUV Coxquihui 5.77 61 eP Pn 09 31 11.3 +1.6
CXUV eS Sn 09 32 16.5 -0.1
PEIG Puerto Escondi 5.78 104 Pn 09 31 12.9 +3.1
PEIG Sn 09 32 11.2 -5.6
PEIG Puerto Escondi 5.78 104 eP Pn 09 31 12.9 +3.1
PEIG eS Sn 09 32 11.2 -5.6
CTUV Llano Grande 5.91 47 eP Pn 09 31 12.8 +1.2
CTUV eS Sn 09 32 14.5 -5.4
VHO Vista Hermosa 5.98 93 eP Pn 09 31 16.3 +3.5
VHO eS Sn 09 32 18.9 -3.2
OXIG Oaxaca 5.98 93 Pn 09 31 16.3 +3.5
OXIG Sn 09 32 18.9 -3.2
JAUV Jalcomulco 6.16 71 eP Pn 09 31 16.7 +1.6
JAUV eS Sn 09 32 26.2 0.0
PMUV Sontecomapan 7.55 81 eP Pn 09 31 34.6 +0.3
CMIG Matias Romero 7.75 92 Pn Pn 09 31 39.2 +2.4
0.6nm,0.3s,baz=305,slow=8.5,SNR=8.2
CMIG Sn Sn 09 33 01.4 -3.8
0.7nm,0.3s,baz=271,slow=21,SNR=1.6
CMIG LR LR 09 34 50.7
comp=Z,317nm,19.1s,baz=292,slow=40
2.9nm,0.5s
PDIG Papasquiaro 7.86 344 Pn 09 31 42.1 +3.5
PDIG Papasquiaro 7.86 344 eP Pn 09 31 42.1 +3.5
SLBS Sierra La Lagu 8.98 315 Pn Pn 09 31 57.0 +3.1
LPIG La Paz 9.51 315 LR LR 09 35 12.9
comp=Z,237nm,21.2s,baz=138,slow=35
HPIG 9.74 346 Pn 09 32 07.6 +3.2
TXAR Lajitas Array 11.82 357 Pn Pn 09 32 35.5 +2.6
TXAR Lajitas Array 11.82 357 Pn Pn 09 32 34.8 +2.0
0.1nm,0.3s,baz=171,slow=15,SNR=9.7
TXAR Lg Lg 09 35 46.5
baz=229,slow=23,SNR=1.7
TXAR LR LR 09 36 27.1
comp=Z,55nm,18.2s,baz=169,slow=35
0.7nm,0.7s
TX31 Lajitas Ar. Si 11.82 357 Pn 09 32 34.8 +1.9
DRIO Del Rio 12.09 10 Pn 09 32 38.2 +1.8
SAND Sanderson 12.45 3 Pn Pn 09 32 43.0 +1.6
HNDO Hondo 12.47 15 Pn 09 32 44.0 +2.4
ALPN Alpine 12.86 357 Pn Pn 09 32 48.1 +1.1
SRIG Santa Rosalia 13.01 321 Pn Pn 09 32 50.0 +1.1
JCT Junction City 13.27 12 Pn 09 32 52.3 -0.2
VHRN Van Horn 13.38 353 Pn Pn 09 32 57.2 +3.0
MTO3 Montecristo 13.45 101 Pn 09 32 53.9 -1.4
OZNA Ozona 13.50 7 Pn 09 32 56.8 +1.2
MNHN Monahans 13.81 1 Pn 09 33 00.1 +0.2
435B Jarrell 14.13 19 Pn Pn 09 33 05.6 +1.3

TEIG Tepich 14.19 77 Pn Pn 09 33 05.5 +0.4
BRDY Brady 14.22 14 Pn Pn 09 33 06.3 +0.8
SGCY Sterling City 14.48 6 Pn 09 33 09.9 +0.8
ODSA Odessa 14.59 1 Pn 09 33 13.0 +2.4
CLN7 Carlsbad 7 14.90 357 Pn 09 33 17.4 +2.6
319A Douglas 14.98 339 Pn 09 33 18.4 +2.5
SN05 Snyder 5 15.46 7 Pn 09 33 23.8 +1.6
SN05 IAmb IAmb 09 33 28.0
comp=Z,29nm,0.9s
POST Post 15.59 5 Pn 09 33 25.7 +1.7
FW13 Cleburne 15.64 18 P P 09 33 28.1 -0.7
SN07 Snyder 07 15.67 7 Pn Pn 09 33 25.7 +0.8
SN07 IAmb IAmb 09 33 29.9
comp=Z,20nm,0.8s
PLPT Palo Pinto 15.85 15 Pn Pn 09 33 27.7 +0.5
PLPT IAmb IAmb 09 33 32.9
comp=Z,44nm,1.1s
FW03 Perrin-Whitt E 16.12 15 Pn Pn 09 33 31.3 +0.5
FW03 IAmb IAmb 09 33 36.0
comp=Z,27nm,0.7s
FW06 Azle 16.19 17 P 09 33 34.2 -0.7
FW06 IAmb IAmb 09 33 37.4
comp=Z,41nm,0.8s
DKNS Dickens 16.23 6 Pn Pn 09 33 32.7 +0.4
AMTX Amarillo 17.38 4 P 09 33 48.2 -0.1
WMOK Wichita Mounta 17.60 12 P Pn 09 33 49.3 -0.2
X34A Smith Ranch, M 17.67 14 P Pn 09 33 51.2 +0.8
X34A IAmb IAmb 09 33 54.4
comp=Z,20nm,0.7s
ANMO Albuquerque 17.68 351 P Pn 09 33 51.7 +1.1
comp=Z,0.1nm,0.3s,baz=320,slow=9.8,SNR=5.7
ANMO LR LR 09 40 16.5
comp=Z,134nm,20.9s,baz=315,slow=36
comp=Z,0.6nm,0.7s
SMWD Samnorwood 17.73 7 P Pn 09 33 50.9 -0.3
SMWD IAmb IAmb 09 33 54.1
comp=Z,21nm,0.7s
Z41A Richland Creek 18.19 28 P Pn 09 33 56.5 -0.3
FNO Franklin 18.40 15 P Pn 09 33 58.0 -1.3
W35A Tecumseh 18.43 16 P Pn 09 33 59.0 -0.7
W35A IAmb IAmb 09 34 00.5
comp=Z,31nm,0.7s
JTS Las Juntas de 18.89 110 LR LR 09 40 44.0
comp=Z,49nm,18.5s,baz=296,slow=35
S22A 4UR Ranch, Cre 20.48 351 P P 09 34 23.0 +0.5
FCAR Ozark Folk Cen 20.72 26 P P 09 34 24.1 -0.7
CBKS Cedar Bluff 21.45 7 P P 09 34 32.0 -0.7
CBKS IAmb IAmb 09 34 33.8
comp=Z,30nm,0.8s
KSCO Kaye Shedlock' 21.46 1 P P 09 34 33.9 +1.0
KSCO IAmb IAmb 09 34 34.6
comp=Z,13nm,0.8s
KSU1 Kansas State U 22.26 13 P P 09 34 40.2 -1.1
KSU1 IAmb IAmb 09 34 43.1
comp=Z,18nm,0.8s
MSU Marysvale 22.45 341 P P 09 34 46.1 +2.4
Q16A Castle Valley 22.53 343 P P 09 34 44.6 +0.1
V48A Smith Brothers 23.17 35 P P 09 34 49.5 -1.5
FVM French Village 23.21 26 P P 09 34 49.8 -1.6
FVM IAmb IAmb 09 34 51.3
comp=Z,12nm,0.7s
SWET Sewanee 23.30 37 P P 09 34 50.8 -1.5
OGNE Ogallala 23.41 2 P P 09 34 54.6 +1.2
N23A Red Feather La 23.48 354 P P 09 34 56.6 +2.2
SIUC Southern Illin 23.52 28 P P 09 34 53.5 -0.9
R11B Troy Canyon, C 23.55 335 P P 09 34 57.9 +2.9
GOGA Godfrey 23.65 44 P P 09 34 54.8 -1.0
GOGA IAmb IAmb 09 34 55.6
comp=Z,12nm,0.9s
CLTN Cedars of Leba 23.70 35 P P 09 34 56.2 -0.1
CLTN IAmb IAmb 09 34 56.9
comp=Z,7.1nm,0.6s
N35A Tabor 24.15 14 P P 09 35 00.4 -0.2
BGNE Belgrade 24.21 9 P P 09 35 01.6 +0.4
CPCT Cooper Cave 24.29 39 P P 09 35 01.1 -0.7
CPCT IAmb IAmb 09 35 01.5
comp=Z,7.8nm,0.6s
USIN University of 24.44 30 P P 09 35 02.4 -0.8
N38A Joes South For 24.72 18 P P 09 35 05.5 -0.2
NVAR Mina Array Bea 24.81 330 P P 09 35 09.4 +2.6
comp=Z,2.2nm,0.8s,baz=154,slow=11,SNR=11
comp=Z,2.2nm,0.8s
OLIL Olney 24.85 29 P P 09 35 06.8 -0.2
OLIL IAmb IAmb 09 35 07.6
comp=Z,15nm,0.8s
TKL Tuckaleechee C 24.88 40 P P 09 35 06.1 -1.2
TKL IAmb IAmb 09 35 07.9
comp=Z,11nm,0.7s
BG3 Lake Jocassee 24.98 42 P P 09 35 07.7 -0.4
BG3 IAmb IAmb 09 35 08.8
comp=Z,17nm,1.2s
K22A Casper 25.28 354 P P 09 35 12.6 +1.7
K22A IAmb IAmb 09 35 14.2
comp=Z,5.9nm,0.8s
K30B Basset 25.28 6 P P 09 35 12.4 +1.6
WCI Wyandotte Cave 25.32 32 P P 09 35 10.4 -0.8
N41A Harden Midland 25.41 22 P P 09 35 11.4 -0.6
V53A Saluda 25.48 41 P P 09 35 11.8 -0.9
V53A IAmb IAmb 09 35 14.4
comp=Z,7.2nm,0.8s
ELK Elko 25.49 338 LR LR 09 44 54.0
comp=Z,96nm,18.1s,baz=270,slow=36
PAULI Pauline 25.59 43 P P 09 35 12.6 -1.0
PAULI IAmb IAmb 09 35 17.3
comp=Z,11nm,0.7s
TZTN Tazewell 25.61 38 P P 09 35 13.0 -0.9
TZTN IAmb IAmb 09 35 34.2
comp=Z,14nm,1.1s
SCIA State Center 25.75 17 P P 09 35 14.9 -0.1
PDAR Pinedale Array 25.83 349 P P 09 35 16.6 +0.6
comp=Z,1.8nm,0.8s,baz=156,slow=9.9,SNR=14
PDAR LR LR 09 46 47.4
comp=Z,125nm,19.9s,baz=171,slow=40
comp=Z,1.8nm,0.8s
HDIL Hopedale 25.86 24 P P 09 35 15.2 -0.9
BLO Bloomington 25.94 30 P P 09 35 16.0 -0.8
BLO IAmb IAmb 09 35 16.8
comp=Z,12nm,0.8s
KMSC Kings Mountain 26.10 43 P P 09 35 17.3 -1.0
KMSC IAmb IAmb 09 35 21.8
comp=Z,10nm,0.6s
L40A Anamosa 26.50 20 P P 09 35 22.3 +0.6
L40A IAmb IAmb 09 35 24.0
comp=Z,12nm,1.0s
U54A Nelsons Funny 26.64 40 P P 09 35 22.5 -0.8
ECSD EROS Data Cent 26.73 10 P P 09 35 23.5 -0.4
TPAW Teton Pass 26.80 347 P P 09 35 24.6 -0.3
LOHW Long Hollow 26.85 348 P P 09 35 25.7 +0.5
JFWS Jewell Farm 27.58 20 P P 09 35 30.5 -1.0
I37A Lemond, Waseca 27.67 15 P P 09 35 32.2 -0.1
I37A IAmb IAmb 09 35 36.5
comp=Z,8.8nm,0.7s
N47A Urbana 27.68 29 P P 09 35 31.6 -0.8
N47A IAmb IAmb 09 35 34.4
comp=Z,9.8nm,0.7s
S54A Dingess, Beckl 27.78 39 P P 09 35 32.6 -0.8
S54A IAmb IAmb 09 35 46.0
comp=Z,16nm,1.2s
O49A Covington 27.80 32 P P 09 35 33.4 -0.1
O49A IAmb IAmb 09 35 36.0
comp=Z,8.5nm,0.7s
BLA Blacksburg 27.95 41 P P 09 35 34.0 -0.9
BLA IAmb IAmb 09 35 34.6
comp=Z,12nm,0.8s
R55A Marlinton 28.81 39 P P 09 35 42.5 -0.1
R55A IAmb IAmb 09 35 43.4
comp=Z,18nm,1.3s
BOZ Bozeman (W) 28.96 347 P P 09 35 43.1 -0.8
AAM Ann Arbor 29.74 30 P P 09 35 49.8 -1.0
AGMN Agassiz Nation 31.29 9 P P 09 36 04.3 0.0
EYMN Ely 31.82 15 P P 09 36 07.8 -1.3
EYMN IAmb IAmb 09 36 09.3
comp=Z,5.3nm,0.7s
SDV Santo Domingo 32.59 101 LR LR 09 49 22.3
comp=Z,47nm,19.6s,baz=240,slow=36
ULM Lac du Bonnet 33.19 8 P P 09 36 20.8 -0.3
ULM IAmb IAmb 09 36 20.8
comp=Z,4.9nm,0.8s
ULM Lac du Bonnet 33.19 8 P P 09 36 19.8 -1.3
comp=Z,4.3nm,0.8s,baz=195,slow=11,SNR=12
comp=Z,4.3nm,0.8s
ATAH Atahualpa 34.47 133 LR LR 09 47 39.2
comp=Z,46nm,20.8s,baz=300,slow=31
FFC Flin Flon 37.19 1 P P 09 36 55.7 +0.3

FFC IAmb IAmb 09 36 56.4
comp=Z,9.0nm,0.8s
YKA Yellowknife Ar 45.70 352 P P 09 38 04.9 -0.3
comp=Z,1.8nm,0.9s,baz=165,slow=7.7,SNR=20
comp=Z,1.8nm,0.9s
SCHQ Schefferville 46.43 28 P P 09 38 11.2 +0.1
comp=Z,5.4nm,1.2s,baz=224,slow=9.5,SNR=5.5
comp=Z,5.4nm,1.2s
LPAZ La Paz 48.01 132 P P 09 38 24.3 -0.2
LPAZ La Paz 48.01 132 LR LR 09 57 32.8
comp=Z,34nm,18.6s,baz=50,slow=35
PB12 IPOC Station P 48.13 137 P P 09 38 23.9 -1.0
L29M L29M 51.64 340 P P 09 38 54.2 +3.3
L29M IAmb IAmb 09 38 58.2
comp=Z,6.6nm,0.8s
K29M Barlow Dome 51.98 341 P P 09 38 56.6 +3.0
K29M IAmb IAmb 09 39 00.8
comp=Z,5.3nm,1.1s
G31M Satah River 53.43 345 P P 09 39 05.0 +0.9
G31M IAmb IAmb 09 39 07.9
comp=Z,5.4nm,0.7s
KDAK Kodiak Island 54.31 330 LR LR 10 00 52.6
comp=Z,90nm,18.2s,baz=134,slow=34
INK Inuvik 54.36 347 P P 09 39 11.4 +0.5
INK IAmb IAmb 09 39 13.2
comp=Z,4.3nm,0.9s
G27K Doyon Strip 55.31 342 P P 09 39 20.0 +2.2
G27K IAmb IAmb 09 39 25.8
comp=Z,3.9nm,0.9s
F28M Old Crow 55.39 344 P P 09 39 19.2 +0.9
F28M IAmb IAmb 09 39 26.7
comp=Z,7.4nm,1.1s
H03N2 Juan Fernandez 55.59 156 T T 10 40 21.8
baz=336
H03N1 Juan Fernandez 55.60 156 T T 10 39 55.7
baz=336
H03N3 Juan Fernandez 55.61 156 T T 10 40 15.5
baz=336
ILAR Eielson Array 55.64 339 P P 09 39 21.2 +0.9
comp=Z,1.3nm,0.9s,baz=156,slow=6.0,SNR=10
comp=Z,1.3nm,0.9s
TRF Thorofare Moun 56.12 337 P P 09 39 25.1 +1.2
H24K Noodor Dome 56.62 340 P P 09 39 27.9 +0.6
H24K IAmb IAmb 09 39 35.6
comp=Z,3.9nm,0.9s
E23K Chandalar 58.48 341 P P 09 39 43.1 +2.8
DY2G Dye2 61.08 23 *i* P P 09 39 58.4 -0.1
EUNU Eureka 63.07 3 P P 09 40 12.5 +1.1
EUNU IAmb IAmb 09 40 13.8
comp=Z,5.5nm,0.9s
ICESG Greenland Ices 64.39 21 *i* P P 09 40 20.9 +0.3
ICESG IAmb IAmb 09 40 22.8
comp=Z,15nm,1.0s
NEEM North Greenlan 65.17 11 *i* P P 09 40 26.4 +0.9
NEEM IAmb IAmb 09 40 27.5
comp=Z,14nm,0.7s
SUMG Summit 65.91 17 P P 09 40 31.1 +0.5
SUMG Summit 65.91 17 *i* P P 09 40 31.0 +0.5
SUMG IAmb IAmb 09 40 32.5
comp=Z,5.9nm,0.8s
ESDC Sonseca Array 85.74 50 P P 09 42 25.4 +1.3
comp=Z,1.4nm,0.9s,baz=295,slow=5.1,SNR=5.4
comp=Z,1.4nm,0.9s
NOA NORSAR Array B 85.97 26 P P 09 42 25.9 +1.1
comp=Z,1.5nm,0.9s,baz=301,slow=5.2,SNR=3.3
comp=Z,1.5nm,0.9s

---

*IDC **16** 09:30:53.9±1.1,25°.40N×124°.93E,h0km,mb3.4/5,*
mbtmp3.4/7,ML3.3/2,MS3.6/1,Error ellipse: s-maj=33.9km
s-min=21.4km az=76.0
*JMA **16** 09:30:55.1±0.3,25°.N±1°×124°.9E±0°.6,h15km,MD4.2/9,*
MV3.7/9,NW OFF MIYAKOJIMA ISLAND
ISC 16 09:30:55.3±2.0,25°.39N±0°.06×124°.91E±0°.06,h12km±14km,
n25,σ1.9 10/21,mb3.3/5,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.56**	**146**	P	**Pb**	**09 31 07.0**	**0.0**
JIKM				*eS*	**Sb**	**09 31 15.2**	**+0.4**
JIKM	**Ikemajima**	**0.56**	**146**	A	A	09 31 07.0	
comp=N,22nm,2.0s,comp=E,25nm,6.3s							
JIRB	**Irabujima**	**0.61**	**157**	P	**Pb**	**09 31 07.5**	**-0.3**
JIRB				*eS*	**Sb**	**09 31 16.4**	**0.0**
JIRB	**Irabujima**	**0.61**	**157**	A	A	09 31 07.5	
comp=N,29nm,0.6s,comp=E,22nm,0.5s							
JMJ2	**Miyako jima3**	**0.75**	**149**	*eP*	**Pb**	**09 31 10.2**	**0.0**
JMJ2				*eS*	**Sb**	**09 31 21.2**	**+0.8**
JMJ2	**Miyako jima3**	**0.75**	**149**	A	A	09 31 10.2	
comp=N,19nm,1.2s,comp=E,16nm,3.6s							
JTJ	**Tarama**	**0.77**	**194**	P	**Pb**	**09 31 10.6**	**+0.1**
JTJ				*eS*	**Sb**	**09 31 21.0**	**0.0**
JTJ	**Tarama**	**0.77**	**194**	A	A	09 31 10.6	
comp=N,7.0nm,1.3s,comp=E,7.0nm,2.5s							
JOGS	**Gusukube**	**0.77**	**144**	P	**Pb**	**09 31 10.8**	**+0.2**
JOGS				*eS*	**Sb**	**09 31 22.4**	**+1.3**
JOGS	**Gusukube**	**0.77**	**144**	A	A	09 31 10.8	
comp=N,14nm,4.6s,comp=E,16nm,3.1s							
JISG	**Ishigakijimahi**	**0.97**	**214**	*eP*	**Pg**	**09 31 13.5**	**-0.4**
JIJ	**Ishigaki jima**	**1.24**	**214**	*eP*	**Pn**	**09 31 17.5**	**-0.8**
JKRS	**Kuro-shima**	**1.41**	**216**	A	A	09 31 20.6	
comp=N,9.0nm,3.2s,comp=E,8.0nm,4.4s							
IRIF	**Iriomote-Funau**	**1.50**	**226**	*eP*	**Pn**	**09 31 21.5**	**-0.5**
JOW	**Kunigami**	**3.35**	**64**	Pn	**Pn**	**09 31 48.0**	**+0.5**
comp=E,7.8nm,0.3s,baz=116,slow=17,SNR=12							
JOW				Sn	**Sn**	**09 32 23.3**	**-3.8**
comp=E,7.4nm,0.3s,baz=220,slow=6.5,SNR=4.3							
comp=E,20nm,0.4s							
KSRS	**Korea Array**	**12.30**	**11**	Pn	**Pn**	**09 33 50.2**	**+0.1**
comp=E,0.1nm,0.3s,baz=187,slow=14,SNR=2.9							
comp=E,0.9nm,0.8s							
SONM	**Songino Array**	**26.75**	**332**	P	**P**	**09 36 35.6**	**+0.9**
comp=E,0.2nm,0.3s,baz=141,slow=7.4,SNR=2.6							
comp=E,0.2nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**39.23**	**92**	T	T	09 54 58.6	
baz=289,slow=74,SNR=7.0							
H11S1	**WAKE ISLAND Hy**	**39.24**	**91**	T	T	09 55 01.6	
baz=289,slow=74,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**39.25**	**92**	T	T	09 55 00.4	
baz=289,slow=74,SNR=3.3							
MKAR	**Makanchi Array**	**39.90**	**314**	P	**P**	**09 38 29.6**	**+0.6**
comp=E,0.4nm,0.5s,baz=96,slow=10,SNR=7.1							
comp=E,0.4nm,0.5s							
WRA	**Warramunga Arr**	**45.98**	**168**	P	**P**	**09 39 18.8**	**+0.3**
comp=E,0.4nm,1.0s,baz=350,slow=8.8,SNR=5.4							
comp=E,0.4nm,1.0s							
HNR	**Honiara**	**48.60**	**131**	LR	LR	09 58 06.2	
comp=E,63nm,21.1s,baz=2.5,slow=34							
ASAR	**Alice Springs**	**49.54**	**169**	P	**P**	**09 39 47.0**	**+1.0**
comp=E,0.3nm,0.9s,baz=349,slow=9.8,SNR=5.3							
comp=E,0.3nm,0.9s							
YKA	**Yellowknife Ar**	**80.52**	**24**	P	**P**	**09 43 07.0**	**0.0**
comp=E,0.4nm,0.9s,baz=296,slow=4.7,SNR=6.5							
comp=E,0.4nm,0.9s							

---

*IDC **16** 09:33:17.0±0.8,11°.89N×143°.70E,h0km,mb4.2/17,*
mbtmp4.2/18,ML3.9/1,MS3.3/5,Error ellipse:
s-maj=22.6km s-min=16.2km az=107.0
*NEIC **16** 09:33:19.8±1.2,11°.86N±0°.10×143°.8E±0°.2,h10km±1km,*
mb4.6/47,Error ellipse: s-maj=25.4km s-min=16.7km
az=96.0
ISC 16 09:33:21.2±0.6,11°.91N±0°.08×143°.7E±0°.1,h25km,n71,
σ1.9 25/49,mb4.5/40,MS3.3/4,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.00**	**34**	Pn	**Pn**	**09 33 54.7**	**+1.3**
40nm,0.3s,baz=181,slow=13,SNR=5.1							
GUMO				Sn	**Sb**	**09 34 19.8**	**-1.6**
323nm,0.3s,baz=20,slow=24,SNR=11							
571nm,0.6s							
DAV	**Davao City (W)**	**18.53**	**257**	LR	LR	09 45 21.5	
comp=Z,47nm,18.4s,baz=307,slow=39							
JHJ2	**Mitsune**	**21.40**	**351**	P	**P**	**09 38 02.1**	**-5.1**
H11S3	**WAKE ISLAND Hy**	**23.09**	**71**	T	T	10 02 30.7	
baz=254							
H11S1	**WAKE ISLAND Hy**	**23.10**	**71**	T	T	10 02 30.7	
baz=254							
H11S2	**WAKE ISLAND Hy**	**23.10**	**71**	T	T	10 02 48.1	
baz=254							
JMN	**Monobe**	**23.51**	**339**	P	**P**	**09 38 28.5**	**-0.9**
JMN				IAmb	IAmb	09 38 42.8	
comp=Z,17nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**23.58**	**68**	T	T	10 03 12.7	
baz=255							

H11N2	WAKE ISLAND Hy	23.59	68	T	T	10 03 07.4	
	baz=255						
H11N3	WAKE ISLAND Hy	23.59	68	T	T	10 03 16.2	
	baz=255						
JNU	Nakatsue	24.17	333	P	P	09 38 35.7	+0.1
JNU				IAmb	IAmb	09 38 37.4	
	comp=Z,18nm,1.0s						
JNU	Nakatsue	24.17	333	P	P	09 38 35.2	-0.4
	comp=Z,9.2nm,0.8s,baz=109,slow=5.6,SNR=4.9						
JNU				LR	LR	09 47 07.2	
	comp=Z,70nm,18.5s,baz=177,slow=34						
	comp=Z,9.2nm,0.8s						
MJAR	Matsushiro Arr	25.02	349	P	P	09 38 42.3	-1.0
	comp=Z,1.5nm,0.7s,baz=172,slow=7.9,SNR=4.4						
MJAR				LR	LR	09 47 49.0	
	comp=Z,98nm,18.6s,baz=168,slow=35						
	comp=Z,1.5nm,0.7s						
ASAJ	Asahikawa	32.10	358	LR	LR	09 55 12.2	
	comp=Z,30nm,18.5s,baz=52,slow=41						
WR0	Warramunga Arr	32.94	196	P	P	09 39 52.4	-1.5
WRAB	Tennant Creek	32.97	196	P	P	09 39 53.5	-0.7
WB2	Warramunga Arr	32.97	196	P	P	09 39 53.7	-0.5
WRA	Warramunga Arr	32.98	196	P	P	09 39 53.2	-1.0
	comp=Z,1.6nm,0.6s,baz=19,slow=9.8,SNR=17						
	comp=Z,1.6nm,0.6s						
ASAR	Alice Springs	36.64	195	P	P	09 40 25.3	-0.6
	comp=Z,0.6nm,0.6s,baz=18,slow=10,SNR=9.1						
	comp=Z,0.6nm,0.6s						
KLR	Kul'dur	38.51	347	LR	LR	09 55 09.3	
	comp=Z,62nm,18.1s,baz=199,slow=34						
CMAR	Chiang Mai Arr	43.62	284	P	P	09 41 23.4	-0.6
	comp=Z,1.7nm,0.5s,baz=83,slow=6.0,SNR=8.1						
	comp=Z,1.7nm,0.5s						
MSVF	Nonsavu	44.90	130	P	P	09 41 34.3	+0.1
MSVF				IAmb	IAmb	09 41 41.4	
	comp=Z,11nm,1.1s						
BBOO	Buckleboo	45.07	189	P	P	09 41 34.6	-0.6
SONM	Songino Array	47.48	326	P	P	09 41 56.1	+1.9
SONM	Songino Array	47.48	326	P	P	09 41 54.0	-0.2
	comp=Z,0.9nm,0.5s,baz=150,slow=7.7,SNR=7.3						
	comp=Z,0.9nm,0.5s						
MK31	Makanchi Array	61.93	317	P	P	09 43 40.1	+1.1
MKAR	Makanchi Array	61.93	317	P	P	09 43 40.1	+1.1
MKAR	Makanchi Array	61.93	317	P	P	09 43 39.4	+0.5
	comp=Z,1.2nm,0.7s,baz=93,slow=9.0,SNR=12						
	comp=Z,1.2nm,0.7s						
ZAA0	Zalesovo Array	62.34	325	P	P	09 43 41.9	+0.4
ZALV	Zalesovo Beam	62.34	325	P	P	09 43 41.6	+0.1
ZALV	Zalesovo Beam	62.34	325	P	P	09 43 41.1	-0.4
	comp=Z,1.9nm,0.7s,baz=94,slow=6.9,SNR=7.1						
	comp=Z,1.9nm,0.7s						
ANM	Nome	63.16	22	P	P	09 43 48.0	+1.2
J16K	Anvik River	64.38	24	P	P	09 43 55.6	+0.8
KURK	Kurchatov	65.15	321	P	P	09 44 00.5	+0.5
C16K	Lisburne Hills	65.16	19	P	P	09 44 01.2	+1.4
KURBB	Kurchatov Arra	65.19	320	P	P	09 44 00.9	+0.6
	comp=Z,4.5nm,0.7s,baz=105,slow=6.6,SNR=54						
	comp=Z,4.5nm,0.7s						
F17K	Baldwin Pennin	65.59	21	P	P	09 44 03.9	+1.3
F17K				IAmb	IAmb	09 44 04.7	
	comp=Z,2.8nm,0.7s						
NRIK	Noril'sk	67.35	341	P	P	09 44 14.3	+0.4
NRIK				IAmb	IAmb	09 44 16.8	
	comp=Z,4.2nm,0.8s						
NRIK	Noril'sk	67.35	341	P	P	09 44 12.0	-1.8
	comp=Z,1.7nm,0.4s,baz=119,slow=8.4,SNR=5.8						
	comp=Z,1.7nm,0.4s						
PMR	Palmer	68.78	28	P	P	09 44 23.0	0.0
PMR				IAmb	IAmb	09 44 39.2	
	comp=Z,6.9nm,1.1s						
B21K	Ikpikpuk River	69.22	19	IAmb	IAmb	09 44 27.4	
	comp=Z,4.5nm,0.7s						
D22K	Ayikyak River	69.58	20	IAmb	IAmb	09 44 31.4	
	comp=Z,4.2nm,0.9s						
E22K	Anaktuvuk Pass	69.62	21	P	P	09 44 29.5	+1.4
KK31	Karatay Array	69.72	312	IAmb	IAmb	09 44 31.1	
	comp=Z,3.4nm,0.8s						
KKAR	Karatay Array	69.72	312	P	P	09 44 30.2	+1.0
GAR	Garm	69.74	307	P	P	09 44 30.4	+0.9
E23K	Chandalar	70.38	21	IAmb	IAmb	09 44 37.2	
	comp=Z,7.5nm,1.1s						
ILAR	Eielson Array	70.55	25	P	P	09 44 32.2	-1.6
	comp=Z,1.0nm,0.7s,baz=253,slow=5.7,SNR=8.2						
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	70.55	322	P	P	09 44 34.9	+0.8
	comp=Z,7.7nm,0.5s,baz=104,slow=7.0,SNR=23						
	comp=Z,7.7nm,0.5s						
SIMJ	Simiganj	70.76	307	P	P	09 44 36.4	+0.6
SIMJ				IAmb	IAmb	09 44 37.1	
	comp=Z,4.9nm,0.8s						
KBL	Kabul	70.78	303	P	P	09 44 36.5	+0.4
KBL				IAmb	IAmb	09 44 50.8	
	comp=Z,3.6nm,0.7s						
E24K	Your Creek	70.79	22	IAmb	IAmb	09 44 49.5	
	comp=Z,3.3nm,1.0s						
F25K	Christian Rive	71.71	22	IAmb	IAmb	09 44 43.7	
	comp=Z,5.2nm,1.1s						
D25K	Kavik River	71.87	21	IAmb	IAmb	09 44 43.9	
	comp=Z,5.2nm,0.9s						
J26L	Joseph Creek	71.89	26	P	P	09 44 42.9	+0.9
J26L				IAmb	IAmb	09 44 44.7	
	comp=Z,3.6nm,0.9s						
F26K	Sheenjek River	72.29	22	IAmb	IAmb	09 44 47.2	
	comp=Z,6.2nm,1.1s						
C27K	Jago River	72.85	20	IAmb	IAmb	09 44 50.0	
	comp=Z,4.1nm,0.8s						
D27M	Malcolm River	73.73	21	IAmb	IAmb	09 44 55.5	
	comp=Z,3.3nm,0.7s						
K29M	Barlow Dome	74.43	27	P	P	09 44 58.3	+1.2
K29M				IAmb	IAmb	09 45 00.4	
	comp=Z,6.6nm,0.9s						
J30M	Hart River	75.00	26	IAmb	IAmb	09 45 03.2	
	comp=Z,6.2nm,1.1s						
G30M	tAoh Zraii Nji	75.22	24	IAmb	IAmb	09 45 03.8	
	comp=Z,3.1nm,0.8s						
G31M	Satah River	75.98	24	IAmb	IAmb	09 45 07.9	
	comp=Z,5.4nm,0.7s						
ABKAR	Akbulak array	77.04	318	P	P	09 45 12.7	+0.6
C36M	Paulatuk	79.72	21	IAmb	IAmb	09 45 29.2	
	comp=Z,4.0nm,0.8s						
YKA	Yellowknife Ar	84.85	27	P	P	09 45 53.7	+0.2
	comp=Z,1.5nm,0.7s,baz=287,slow=5.6,SNR=22						
	comp=Z,1.5nm,0.7s						
BMO	Blue Mountains	87.95	45	P	P	09 46 10.2	+0.9
BMO				IAmb	IAmb	09 46 25.0	
	comp=Z,2.8nm,0.9s						
ARCES	ARCESS Array B	88.33	342	P	P	09 46 10.4	-0.1
ARCES	ARCESS Array B	88.33	342	P	P	09 46 09.6	-0.9
	comp=Z,3.7nm,0.9s,baz=48,slow=1.8,SNR=4.5						
	comp=Z,3.7nm,0.9s						
NVAR	Mina Array Bea	88.83	51	P	P	09 46 15.4	+1.7
	comp=Z,1.9nm,0.7s,baz=258,slow=6.1,SNR=13						
	comp=Z,1.9nm,0.7s						
FINES	FINESS Array B	92.20	335	P	P	09 46 26.6	-2.0
	comp=Z,1.2nm,0.7s,baz=57,slow=7.0,SNR=5.4						
	comp=Z,1.2nm,0.7s						
PDAR	Pinedale Array	93.93	45	P	P	09 46 37.3	0.0
	comp=Z,0.2nm,0.6s,baz=295,slow=5.6,SNR=1.7						
	comp=Z,0.2nm,0.6s						

*NEIC **16** 09:47:30.6±1.5,61°.45N±0°.03×149°.91W±0°.03,h41km±4km, Error ellipse: s-maj=3.7km s-min=1.8km az=165.0*

AEIC 16 09:47:31.0±0.8,61°.41N±0°.03×149°.89W±0°.05,h44km±2km, ML2.3,ML2.4/120(NEIC),Error ellipse: s-maj=3.9km s-min=3.5km az=155.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	Fire Island	0.31	211		Pn	09 47 39.4	-0.2
RC01	Rabbit Creek A	0.33	167		Pn	09 47 39.0	-0.8
RC01					Sn	09 47 46.3	+0.3
RC01				IAML		09 47 46.8	
	comp=E,529nm,0.2s						
RC01				IAML		09 47 47.4	
	comp=N,476nm,0.1s						
M22K	Willow	0.36	342		Pn	09 47 38.7	-1.5
M22K					Sn	09 47 46.1	-0.5
PMR	Palmer	0.41	63		Pn	09 47 39.6	-1.1
PMR					Sn	09 47 46.9	-0.6
PMR				IAML		09 47 47.4	
	comp=E,288nm,0.1s						
PMR				IAML		09 47 47.6	
	comp=N,390nm,0.1s						
GHO	Glory Hole Cre	0.59	51		Pn	09 47 41.9	-1.2
GHO					Sn	09 47 51.6	-0.1
GHO				IAML		09 47 52.5	
	comp=N,339nm,0.2s						
KNK	Knik Glacier	0.69	89		Pn	09 47 43.8	-0.6
KNK					Sn	09 47 54.6	+0.6
KNK				IAML		09 47 55.8	
	comp=E,219nm,0.3s						
SML	Sawmill	0.84	61		Pn	09 47 45.4	-1.1
SML					Sn	09 47 57.1	-0.7
SML				IAML		09 47 58.9	
	comp=E,161nm,0.5s						
SML				IAML		09 48 00.9	
	comp=N,150nm,0.4s						
CAPN	Captain Cook N	0.89	224		Pn	09 47 47.9	+0.8
SLKM	Skilak Lake	0.92	190		Pn	09 47 46.7	-0.8
SLKM				IAML		09 48 01.6	
	comp=N,195nm,0.2s						
SLKM				IAML		09 48 02.2	
	comp=E,185nm,0.4s						
PWL	Port Wells	0.93	126		Pn	09 47 47.2	-0.4
PWL					Sn	09 48 01.5	+1.7
O22K	Cooper Landing	0.93	175		Pn	09 47 46.8	-0.8
STLK	Strandline Lak	0.94	276		Pn	09 47 47.2	-0.6
STLK					Sn	09 47 59.8	-0.4
STLK				IAML		09 48 00.3	
	comp=E,110nm,0.4s						
SKT	Skwentna	0.97	307		Pn	09 47 46.7	-1.5
SKT					Sn	09 48 00.2	-0.7
CUT	Chulitna	1.02	350		Pn	09 47 47.7	-1.0
CUT					Sn	09 48 01.6	-0.3
SPCG	Spurr Capps Gl	1.03	264		Pn	09 47 48.5	-0.6
SPU	Mount Spurr	1.07	259		Pn	09 47 48.6	-1.0
SPU				IAML		09 48 03.7	
	comp=N,101nm,0.3s						
SPU				IAML		09 48 04.7	
	comp=E,67nm,0.2s						
M23K	Glacier View	1.10	69		Pn	09 47 49.5	-0.5
SPCN	Chakachatna No	1.12	262		Pn	09 47 49.7	-0.6
SPCR	Spurr Chakacha	1.14	260		Pn	09 47 49.8	-0.7
SPCR					Sn	09 48 05.1	+0.1
CKL	Chakachamna La	1.20	261		Pn	09 47 50.8	-0.7
SPBG	Spurr Blockage	1.21	264		Pn	09 47 51.0	-0.5
SPBG					Sn	09 48 07.0	+0.3
SCM	Sheep Creek Mo	1.29	70		Pn	09 47 52.4	-0.2
SCM				IAML		09 48 12.2	
	comp=N,77nm,0.5s						
SEW	Seward	1.32	171		Pn	09 47 52.5	-0.5
SEW	Seward	1.32	171		Sn	09 48 10.9	+1.5
SPNN	North Nagishla	1.35	269		Pn	09 47 53.4	-0.2
GLI	Glacier Island	1.45	110		Pn	09 47 54.2	-0.5
GLI					Sn	09 48 13.2	+0.6
GLI				IAML		09 48 19.0	
	comp=N,84nm,0.3s						
GLI				IAML		09 48 19.1	
	comp=E,80nm,0.3s						
RDT	Redoubt	1.49	237		Pn	09 47 54.7	-0.6
DFR	Drift River	1.59	240		Pn	09 47 56.0	-0.7
M20K	Styx River	1.62	288		Pn	09 47 56.9	-0.2
M20K				IAML		09 48 18.8	
	comp=N,27nm,0.8s						
M20K				IAML		09 48 20.4	
	comp=E,44nm,0.9s						
RDJH	Redoubt Jeurge	1.64	241		Pn	09 47 57.2	-0.3
RDJH					Sn	09 48 18.1	+0.7
NCT	North Crescent	1.71	242		Pn	09 47 58.0	-0.4
NCT					Sn	09 48 19.7	+0.6
RDWB	Redoubt West	1.71	239		Pn	09 47 57.8	-0.6
BRLK	Bradley Lake	1.72	197		Pn	09 47 57.9	-0.6
RED	Redoubt Volcan	1.72	236		Pn	09 47 58.1	-0.5
RED					Sn	09 48 21.0	+1.6
BRSE	Bradley Lake S	1.73	195		Pn	09 47 57.6	-0.9
PPLA	Purkeypile	1.84	325		Pn	09 47 60.0	-0.3
P23K	Montague Islan	1.87	138		Pn	09 47 59.2	-1.3
O20K	Slope Mountain	1.89	226		Pn	09 47 59.3	-1.5
M24K	Tolsona, Glenn	1.90	67		Pn	09 48 01.7	+0.8
M24K				IAML		09 48 34.3	
	comp=N,47nm,0.9s						
M24K				IAML		09 48 36.6	
	comp=E,57nm,0.9s						
KLU	Klutina	1.91	86		Pn	09 48 00.8	-0.2
KLU				IAML		09 48 32.3	
	comp=N,49nm,0.4s						
KLU				IAML		09 48 33.4	
	comp=E,39nm,0.3s						
HIN	Hinchinbrook I	1.94	120		Pn	09 48 00.9	-0.6
HIN				IAML		09 48 36.7	
	comp=N,36nm,1.0s						
HIN				IAML		09 48 38.6	
	comp=E,45nm,1.1s						
CNPM	China Poot	2.00	200	Pn	Pn	09 48 01.5	-0.8
CNPM				IAML		09 48 32.7	
	comp=N,36nm,0.3s						
DIV	Divide	2.01	96		Pn	09 48 01.9	-0.5
TRF	Thorofare Moun	2.06	355		Pn	09 48 03.0	-0.2
TRF				IAML		09 48 31.2	
	comp=E,24nm,0.7s						
TRF				IAML		09 48 32.3	
	comp=N,30nm,1.2s						
RND	Reindeer	2.06	13		Pn	09 48 02.8	-0.4
RND				IAML		09 48 35.6	
	comp=N,14nm,0.6s						
RND				IAML		09 48 37.6	
	comp=E,15nm,1.2s						
ILS	Iliamna Low So	2.14	228		Pn	09 48 04.1	-0.1
ILSW	Iliamna Southw	2.15	230		Pn	09 48 04.3	-0.1
L20K	Farewell, AK	2.17	301		Pn	09 48 04.3	-0.4
EYAK	Cordova Ski Ar	2.19	111		Pn	09 48 04.8	-0.1
KTH	Kantishna Hill	2.21	348		Pn	09 48 05.7	+0.6
KTH				IAML		09 48 34.1	
	comp=E,28nm,0.8s						
KTH				IAML		09 48 34.3	
	comp=N,22nm,0.4s						
M19K	Big River Lodg	2.21	285		Pn	09 48 04.7	-0.4
M19K				IAML		09 48 36.0	
	comp=N,22nm,0.8s						
M19K				IAML		09 48 41.9	
	comp=E,13nm,1.1s						
CAST	Castle Rocks	2.26	334		Pn	09 48 05.5	-0.3
N19K	Bonanza Creek	2.31	257		Pn	09 48 06.2	-0.4
N19K				IAML		09 48 39.3	
	comp=N,12nm,0.8s						
MCK	McKinley	2.37	10		Pn	09 48 07.5	+0.1
HARP	HAARP	2.45	64		Pn	09 48 08.8	+0.4
L19K	White Mountain	2.48	290		Pn	09 48 08.8	-0.1
L19K				IAML		09 49 07.3	
	comp=E,11nm,1.1s						
N25K	Chitina, Valde	2.54	83		Pn	09 48 09.2	-0.6
N25K				IAML		09 48 49.4	
	comp=N,20nm,0.7s						
N25K				IAML		09 48 50.5	
	comp=E,17nm,0.4s						
BMRM	Bremner River	2.59	97	Pn	Pn	09 48 09.5	-1.0
PAX	Paxson	2.60	51	Pn	Pn	09 48 12.5	+2.0
CHUM	Lake Minchumin	2.73	337		Pn	09 48 11.6	-0.6
RAGM	Ragged Mountai	2.75	110		Pn	09 48 16.8	+4.3
BPAW	Bear Paw Mtn.	2.75	350		Pn	09 48 12.2	-0.3
BPAW				IAML		09 48 58.6	
	comp=E,8.1nm,1.1s						
BPAW				IAML		09 48 59.9	
	comp=N,8.7nm,1.1s						
K20K	Telida	2.76	317		Pn	09 48 12.1	-0.6
K20K				IAML		09 48 52.3	
	comp=E,13nm,0.6s						
M18K	Stony River	2.85	274		Pn	09 48 13.4	-0.5
HMT	Hamilton	2.95	109	Pn	Pn	09 48 14.0	-1.3
N18K	Kilae Creek	3.01	259		Pn	09 48 15.5	-0.6
SYI	Shuyak Island	3.08	205		Pn	09 48 16.3	-0.7
SYI				IAML		09 48 56.5	
	comp=N,7.9nm,0.9s						
SYI				IAML		09 50 20.2	
	comp=E,8.8nm,1.2s						
Q19K	Cape Douglas,	3.12	219	Pn	Pn	09 48 17.3	-0.3
TTA	Tatalina	3.25	301		Pn	09 48 18.8	-0.7
L18K	Granite Mounta	3.33	287		Pn	09 48 19.9	-0.6
L18K				IAML		09 49 17.4	
	comp=N,7.2nm,1.2s						
CCB	Clear Creek Bu	3.39	15	Pn	Pn	09 48 21.0	-0.3
J20K	Nowinta River	3.40	327		Pn	09 48 21.0	-0.4
J20K				IAML		09 49 17.1	
	comp=N,7.6nm,0.6s						
J20K				IAML		09 49 22.4	
	comp=E,10nm,1.1s						
M17K	Holitna River	3.63	273		Pn	09 48 24.3	-0.3
M17K				IAML		09 49 26.3	
	comp=N,6.5nm,0.6s						
M17K				IAML		09 49 26.6	
	comp=E,5.4nm,0.7s						
IL31		3.64	21	Pn	Pn	09 48 24.8	+0.1
N17K	Nushagak Hills	3.67	259		Pn	09 48 24.7	-0.4
J19K	Poorman	3.70	317		Pn	09 48 24.9	-0.7
J19K				IAML		09 49 20.7	
	comp=E,6.2nm,1.2s						
J19K				IAML		09 49 24.8	
	comp=N,4.2nm,0.8s						
SCRK	Sand Creek	3.75	44	Pn	Pn	09 48 26.4	+0.1
SCRK				IAML		09 49 34.2	
	comp=E,3.7nm,1.0s						
I23K	Minto, Yukon-K	3.76	3		Pn	09 48 26.4	0.0
J18K	Innoko River	3.79	306		Pn	09 48 26.4	-0.4
POKR	Poker Plat Res	3.88	15	Pn	Pn	09 48 27.7	-0.4
POKR				IAML		09 49 36.3	
	comp=N,3.3nm,1.0s						
O17K	Koliganek Bris	3.92	248		Pn	09 48 28.1	-0.4
L17K	Donlin	4.06	284		Pn	09 48 29.9	-0.7
K17K	Iditarod	4.17	292	Pn	Pn	09 48 31.6	-0.5
K17K				IAML		09 50 21.8	
	comp=N,3.9nm,1.0s						
M16K	Timber Creek	4.41	269	Pn	Pn	09 48 34.5	-0.7
M16K				IAML		09 50 52.9	
	comp=N,3.9nm,1.1s						
M16K				IAML		09 51 28.4	
	comp=E,2.9nm,1.2s						
O16K	Kokwok River B	4.45	249	Pn	Pn	09 48 35.1	-0.6
O16K				IAML		09 51 12.2	
	comp=N,3.0nm,1.1s						
H21K	Melozitna Rive	4.46	344		Pn	09 48 36.0	0.0
H24K	Noodor Dome	4.54	11	Pn	Pn	09 48 36.8	-0.3
H22K	Ishtalitna Cre	4.55	352		Pn	09 48 37.8	+0.6
L16K	Owhat River	4.60	278	Pn	Pn	09 48 37.3	-0.6
L16K				IAML		09 49 43.8	
	comp=N,2.8nm,1.1s						
L16K				IAML		09 49 58.2	
	comp=E,3.6nm,1.1s						
J17K	VABM Dome	4.72	299	Pn	Pn	09 48 39.0	-0.5
J17K				IAML		09 49 58.9	
	comp=N,1.7nm,0.8s						
J16K	Anvik River	5.33	295	Pn	Pn	09 48 47.0	-1.0
H18K	Honhosa River	5.36	318	Pn	Pn	09 48 47.7	-0.6
H18K				IAML		09 50 50.3	
	comp=N,1.4nm,1.1s						
K15K	Wolf Creek Mou	5.59	284	Pn	Pn	09 48 50.9	-0.6
G18K	Tagagawik	5.96	323	Pn	Pn	09 48 56.3	-0.2
F21K	Alatna River	6.04	347	Pn	Pn	09 48 57.9	+0.2
F20K	Avaraart Lake	6.21	338	Pn	Pn	09 48 59.7	-0.2
BMAR	Burnt Mountain	6.46	18	Pn	Pn	09 49 03.8	+0.3
E19K	Redstone River	6.85	336	Pn	Pn	09 49 08.5	-0.2
G16K	Koyuk River	6.87	311	Pn	Pn	09 49 09.2	+0.1
F17K	Baldwin Pennin	7.11	320	Pn	Pn	09 49 13.0	+0.8
TOLK	Toolik Lake Re	7.26	1	Pn	Pn	09 49 14.0	-0.5
F15K	North Star Dit	7.87	310	Pn	Pn	09 49 23.1	+0.5

OMAN 16 09:47:33.9±0.8,23°.27N×64°.62E,h10km,mb4.4/7,ml3.5/2, Error ellipse: s-maj=6.6km s-min=5.4km az=133.0,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	Negor - Chabah	3.80	304	P	Pn	09 48 32.1	-0.3
NGCH				S	Sn	09 49 18.6	+1.4
JLN	Jalan Bani Buh	4.94	258	P	Pn	09 48 47.6	-0.5
	SNR=15						
JLN				S	Sn	09 49 45.5	+0.2
WBK	Wadi Bani Khal	5.25	264	P	Pn	09 48 52.4	-0.1
	SNR=47						
WBK				S	Sn	09 49 52.6	-0.4
BIDO	Bidbid	5.97	274	P	Pn	09 49 02.6	+0.3
SMDO	Samad	6.05	269	P	Pn	09 49 03.1	-0.4
SMDO				S	Sn	09 50 14.9	+2.0
JMDO	Jabal Madar	6.08	263	P	Pn	09 49 04.0	+0.1
JMDO				S	Sn	09 50 15.3	+1.8
JASK	Jask - Hormozg	6.67	294	P	Pn	09 49 12.0	+0.1
JASK				S	Sn	09 50 28.4	+0.4
HOQ	Hoqain	6.72	274	P	Pn	09 49 13.1	+0.4
HOQ				S	Sn	09 50 30.3	+1.0
BSY	Bisya	6.86	267	P	Pn	09 49 14.4	-0.1
DQM	DQM	7.38	245	P	Pn	09 49 23.0	+1.4
DQM				S	Sn	09 50 43.7	-1.7
ARQ	Araqi	7.44	272	P	Pn	09 49 24.2	+1.5
ARQ				S	Sn	09 50 50.8	+3.6
SOHO	SOHO	7.46	278	P	Pn	09 49 23.2	+0.4
UOSS	Minazif	7.87	284	P	Pn	09 49 27.2	-1.2
ASHO	Ashiyiah	7.96	282	P	Pn	09 49 31.5	+1.8
	SNR=13						
MASF	Masafi	8.00	287	P	Pn	09 49 29.3	-0.9
BANOM	Banah	8.02	291	P	Pn	09 49 28.8	-1.8
SHME	Shamm	8.19	291	P	Pn	09 49 31.4	-1.4
SHME				S	Sn	09 51 05.2	-0.4

*NEIC **16** 10:00:15.5±1.7,61°.34N±0°.02×149°.74W±0°.05,h36km±3km, Error ellipse: s-maj=3.5km s-min=2.6km az=115.0*

AEIC 16 10:00:15.6±1.4,61°.30N±0°.03×149°.74W±0°.05,h38km±2km, ML3.0,ML3.1/142(NEIC),Error ellipse: s-maj=4.5km s-min=3.5km az=149.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.21	179		Pn	10 00 22.1	-2.0
RC01					Sn	10 00 28.3	-3.3
FIS	Fire Island	0.28	235		Pn	10 00 23.3	-0.5
FIS				IAML		10 00 31.7	
	comp=E,3μm,0.4s						
FIS				IAML		10 00 32.9	
	comp=N,2μm,0.4s						
PMR	Palmer	0.41	45		Pn	10 00 23.9	-1.1
PMR					Sn	10 00 31.0	-0.8
PMR				IAML		10 00 31.6	
	comp=N,2μm,0.5s						
PMR				IAML		10 00 32.2	
	comp=E,2μm,0.4s						
M22K	Willow	0.49	338		Pn	10 00 24.4	-1.7
M22K					Sn	10 00 32.5	-0.9
GHO	Glory Hole Cre	0.61	39		Pn	10 00 26.8	-1.2
GHO					Sn	10 00 36.5	-0.2
KNK	Knik Glacier	0.63	79		Pn	10 00 27.2	-1.0
KNK					Sn	10 00 37.1	+0.1
KNK				IAML		10 00 38.3	
	comp=E,1μm,0.3s						
KNK				IAML		10 00 39.2	
	comp=N,1μm,0.5s						
PWL	Port Wells	0.82	122		Pn	10 00 30.0	-0.6
O22K	Cooper Landing	0.82	179		Pn	10 00 29.5	-1.2
SLKM	Skilak Lake	0.83	197		Pn	10 00 29.6	-1.2
SLKM				IAML		10 00 45.4	
	comp=N,973nm,0.3s						
SML	Sawmill	0.84	53		Pn	10 00 30.1	-0.9
SML					Sn	10 00 42.1	-0.2
SML			

GLI IAML 10 00 57.6
comp=E,512nm,0.4s
RDT Redoubt 1.49 242 Pn 10 00 39.1 -0.8
RDT Sn 10 00 59.0 +0.9
DFR Drift River 1.60 245 Pn 10 00 40.7 -0.7
BRSE Bradley Lake S 1.64 198 Pn 10 00 41.2 -0.7
BRLK Bradley Lake 1.64 201 Pn Pn 10 00 41.6 -0.4
BRLK IAML 10 01 07.1
comp=E,355nm,0.3s
BRLK IAML 10 01 07.5
comp=N,275nm,0.3s
RDJH Redoubt Jeurge 1.66 246 Pn 10 00 41.8 -0.5
RDJH Sn 10 01 02.9 +0.6
RDWB Redoubt West 1.72 243 Pn 10 00 42.5 -0.6
RDWB Sn 10 01 04.1 +0.2
M20K Styx River 1.72 291 Pn 10 00 43.4 +0.3
M20K IAML 10 01 07.2
comp=N,168nm,1.1s
M20K IAML 10 01 08.1
comp=E,239nm,0.7s
NCT North Crescent 1.73 246 Pn 10 00 42.7 -0.5
RED Redoubt Volcan 1.73 240 Pn 10 00 42.6 -0.5
P23K Montague Islan 1.75 138 Pn 10 00 42.2 -1.1
HIN Hinchinbrook I 1.83 118 Pn 10 00 43.9 -0.6
KLU Klutina 1.85 82 Pn 10 00 44.6 -0.2
KLU IAML 10 01 14.3
comp=E,102nm,0.5s
KLU IAML 10 01 19.6
comp=N,144nm,0.4s
O20K Slope Mountain 1.87 230 Pn 10 00 45.5 +0.3
M24K Tolsona, Glenn 1.88 63 Pn Pn 10 00 46.1 +0.9
M24K IAML 10 01 14.7
comp=E,218nm,0.9s
M24K IAML 10 01 19.3
comp=N,211nm,0.9s
HOM Homer 1.90 211 Pn 10 00 45.3 -0.1
DIV Divide 1.93 93 Pn Pn 10 00 45.7 -0.3
DIV Divide 1.93 93 Sn 10 01 10.7 +1.8
CNPM China Poot 1.93 203 Pn 10 00 45.3 -0.6
CNPM IAML 10 01 14.3
comp=N,261nm,0.4s
PPLA Purkeypile 1.97 325 Pn 10 00 46.3 -0.2
EYAK Cordova Ski Ar 2.09 109 Pn 10 00 48.0 -0.1
ILS Iliamna Low So 2.12 232 Pn 10 00 48.6 0.0
RND Reindeer 2.15 11 Pn 10 00 49.3 +0.3
RND IAML 10 01 25.6
comp=N,88nm,0.8s
TRF Thorofare Moun 2.17 354 Pn 10 00 49.5 +0.2
TRF IAML 10 01 20.3
comp=E,74nm,0.4s
TRF IAML 10 01 26.4
comp=N,108nm,0.8s
L20K Farewell, AK 2.29 303 Pn 10 00 50.6 -0.2
M19K Big River Lodg 2.30 287 Pn 10 00 50.9 -0.1
M19K IAML 10 01 30.9
comp=E,71nm,0.9s
M19K IAML 10 01 32.8
comp=N,82nm,0.8s
KTH Kantishna Hill 2.32 347 Pn 10 00 51.7 +0.3
KTH IAML 10 01 21.6
comp=E,90nm,0.6s
KTH IAML 10 01 27.2
comp=N,63nm,0.7s
N19K Bonanza Creek 2.36 260 Pn 10 00 51.9 0.0
CAST Castle Rocks 2.39 334 Pn 10 00 52.9 +0.7
HARP HAARP 2.44 61 Pn 10 00 53.3 +0.5
MCK McKinley 2.47 8 Pn 10 00 54.5 +1.2
N25K Chitina, Valde 2.49 81 Pn Pn 10 00 53.4 -0.3
N25K IAML 10 01 31.5
comp=N,66nm,0.5s
N25K IAML 10 01 35.0
comp=E,58nm,0.5s
O19K Port Alsworth 2.51 246 Pn 10 00 53.5 -0.3
BMRM Bremner River 2.52 95 Pn 10 00 53.3 -0.7
GOAT Goat Mountain 2.55 104 Pn 10 00 53.8 -0.7
L19K White Mountain 2.59 292 Pn 10 00 55.1 +0.2
PAX Paxson 2.61 48 Pn Pn 10 00 56.1 +0.8
RAGM Ragged Mountai 2.65 108 Pn 10 00 55.2 -0.6
WACK Wrangell Chich 2.67 73 Pn 10 00 55.5 -0.8
GLB Gilahina Butte 2.86 85 Pn Pn 10 00 58.6 -0.1
GLB IAML 10 01 43.0
comp=N,64nm,0.6s
GLB IAML 10 01 43.3
comp=E,38nm,0.6s
BPAW Bear Paw Mtn. 2.87 349 Pn Pn 10 00 58.7 0.0
K20K Telida 2.88 317 Pn 10 00 58.6 -0.3
M18K Stony River 2.93 276 Pn 10 00 59.5 -0.1
SYI Shuyak Island 3.01 207 Pn Pn 10 01 00.1 -0.6
SYI IAML 10 01 46.4
comp=E,42nm,0.7s
SYI IAML 10 01 50.2
comp=N,40nm,0.9s
VRDI Verde Repeater 3.04 89 Pn 10 01 00.2 -1.1
N18K Kilae Creek 3.06 261 Pn 10 01 00.9 -0.5
N18K IAML 10 01 54.2
comp=N,38nm,0.8s
O18K Koktuh Hills 3.06 244 Pn Pn 10 01 00.5 -1.0
O18K IAML 10 01 47.1
comp=E,35nm,1.0s
O18K IAML 10 02 04.2
comp=N,40nm,0.9s
Q19K Cape Douglas, 3.08 221 Pn 10 01 02.3 +0.6
K24K Donnelly Dome 3.11 34 Pn 10 01 01.3 -0.8
WRH Wood River Hil 3.27 13 Pn 10 01 05.0 +0.8
WRH IAML 10 02 04.0
comp=N,27nm,0.9s
MENT Mentasta 3.27 57 Pn 10 01 04.4 0.0
MENT IAML 10 02 00.8
comp=E,75nm,0.8s
MENT IAML 10 02 03.8
comp=N,57nm,0.9s
NEA2 Nenana 3.32 5 Pn Pn 10 01 05.1 +0.2
NEA2 IAML 10 01 59.6
comp=N,33nm,1.0s
P18K Big Mountain, 3.33 237 Pn 10 01 04.8 -0.4
RIDG Independent Ri 3.34 41 Pn Pn 10 01 07.1 +1.8
RIDG IAML 10 01 59.4
comp=N,40nm,0.7s
RIDG IAML 10 02 01.5
comp=E,53nm,1.2s
TTA Tatalina 3.37 302 Pn Pn 10 01 05.0 -0.6
HDA Harding Lake 3.37 21 Pn 10 01 06.9 +1.3
HDA IAML 10 02 02.6
comp=E,42nm,0.5s
HDA IAML 10 02 03.6
comp=N,46nm,0.8s
M26K Nabesna, AK 3.38 68 Pn 10 01 05.9 0.0
M26K IAML 10 02 09.0
comp=N,28nm,0.7s
L18K Granite Mounta 3.43 289 Pn 10 01 06.2 -0.2
L18K IAML 10 02 03.9
comp=N,25nm,1.0s
L26K Log Cabin Wild 3.46 57 Pn Pn 10 01 07.7 +0.7
L26K IAML 10 02 03.7
comp=N,35nm,0.4s
L26K IAML 10 02 05.9
comp=E,36nm,0.5s
CCB Clear Creek Bu 3.47 14 Pn Pn 10 01 07.5 +0.5
CCB IAML 10 02 03.6
comp=E,26nm,1.1s
BALM Baldy 3.59 91 Pn 10 01 08.0 -0.8
KIAG Kiagna River 3.60 93 Pn 10 01 08.4 -0.6
BARK Barkley Ridge 3.66 101 Pn 10 01 09.0 -0.7
COLA College 3.69 13 Pn 10 01 10.7 +0.8
M17K Holitna River 3.71 275 Pn 10 01 10.0 -0.2
M17K IAML 10 02 12.5
comp=N,37nm,1.1s
M17K IAML 10 02 13.2
comp=E,55nm,1.1s
IL31 3.72 19 Pn 10 01 11.3 +0.9
ILAR Eielson Array 3.72 19 Pn Pn 10 01 11.2 +0.8
N17K Nushagak Hills 3.72 261 Pn Pn 10 01 09.8 -0.6
KDAK Kodiak Island 3.82 204 Pn Pn 10 01 10.0 -1.7
KDAK IAML 10 02 16.3
comp=E,23nm,0.8s
J19K Poorman 3.83 317 Pn 10 01 12.0 +0.1
I23K Minto, Yukon-K 3.86 2 Pn 10 01 13.2 +0.9
I23K IAML 10 02 16.3
comp=N,22nm,0.8s
P17K Kvichak River 3.95 241 Pn 10 01 13.4 -0.1
POKR Poker Plat Res 3.97 14 Pn 10 01 14.9 +1.0
POKR IAML 10 02 17.7
comp=N,20nm,0.8s
POKR IAML 10 02 27.0
comp=E,17nm,0.9s
MESA MESA 3.99 103 Pn Pn 10 01 14.3 0.0
MESA IAML 10 02 16.9
comp=N,40nm,0.8s
MESA IAML 10 02 19.8
comp=E,36nm,1.0s
BCAR Beaver Creek A 4.13 61 Pn Pn 10 01 16.2 +0.1
L17K Donlin 4.16 285 Pn 10 01 16.0 -0.4
K17K Iditarod 4.28 293 Pn 10 01 17.6 -0.5
K17K IAML 10 02 36.8
comp=N,14nm,1.1s
K17K IAML 10 02 41.1
comp=E,20nm,0.8s
M16K Timber Creek 4.47 270 Pn 10 01 20.6 -0.2
M16K IAML 10 02 41.8
comp=N,14nm,0.8s
O16K Kokwok River B 4.48 251 Pn 10 01 20.2 -0.6
O16K IAML 10 02 37.5
comp=N,13nm,1.0s
PRP Porcupine Dome 4.63 22 Pn Pn 10 01 24.0 +0.9
PRP IAML 10 02 22.8
comp=E,21nm,1.0s
PRP IAML 10 02 23.9
comp=N,20nm,0.7s
L16K Owhat River 4.68 279 Pn 10 01 23.0 -0.6
PCA Pinnacle 4.82 100 Pn Pn 10 01 25.4 -0.2
J16K Anvik River 5.44 296 Pn 10 01 33.9 -0.1
M29M Somme Creek 5.46 73 Pn 10 01 34.4 0.0
DAWY Dawson 5.51 55 Pn 10 01 35.3 +0.2
COLD Coldfoot 5.95 358 Pn 10 01 42.0 +1.0
K29M Barlow Dome 6.20 60 Pn 10 01 44.8 +0.3
M30M Minto, Yukon 6.24 73 Pn 10 01 46.0 +0.9
BMAR Burnt Mountain 6.54 18 Pn 10 01 49.8 +0.6
G27K Doyon Strip 6.56 29 Pn 10 01 50.1 +0.6
O30N Mendenhall 6.66 89 Pn Pn 10 01 50.4 -0.3
ANM Nome 7.84 301 Pn 10 02 07.1 +0.2

*MOS **16** 10:01:26.2±0.9, 25°.35N×124°.95E, h12km, mb5.0/26, MS5.3/8, Error ellipse: s-maj=7.9km s-min=5.0km az=94.6*
*IDC **16** 10:01:26.4±0.6, 25°.45N×124°.95E, h0km, mb4.2/21, mbtmp4.2/24, ML3.7/3, MS4.7/81, Error ellipse: s-maj=16.2km s-min=14.4km az=65.0*
*NIED **16** 10:01:27.5, 25°.44N×124°.83E, h12km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.48; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.28; $M_{r\theta}$5.08; $M_{\theta\phi}$4.18; $M_{\phi r}$3.64; Fault plane solution: $M_0$6.88000×10^{16} NP1: ϕ_s346.00000°, δ36.00000°, λ175.00000°. NP2: ϕ_s80.00000°, δ87.00000°, λ54.00000°.*
*JMA **16** 10:01:27.5±0.3, 25°.4N±0°.8×124°.8E±0°.6, h12km±3km, MD5.5/11, MW5.1/11, NW OFF MIYAKOJIMA ISLAND*
JMA Felt II J1 at NW OFF MIYAKOJIMA ISLAND.
*RSNC **16** 10:01:28.3±0.0, 25°N±10°×12°5E±1°0, h10km±54km, M2.9, mB4.5, mb3.6, ML2.7, Mw(mB)5.2, Hypocentre not reviewed by the ISC*
*NEIC **16** 10:01:28.3±1.3, 25°.29N±0°.04×125°.00E±0°.06, h10km±1km, mb5.1/128, Mww5.1/43, Error ellipse: s-maj=9.9km s-min=7.1km az=285.0*
*NEIC **16** 10:01:28.5, 25°.11N×125°.12E, h14km, Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.50; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-0.94; $M_{r\theta}$-0.19; $M_{\theta\phi}$6.02; $M_{\phi r}$1.08; Fault plane solution: $M_0$6.24000×10^{16} NP1: ϕ_s95.27000°, δ79.84000°, λ-3.78000°. NP2: ϕ_s185.93000°, δ86.28000°, λ-169.82000°. Principal axes: T 6.4321, Plg5.0000°, Azm320.0000°; N -0.3753, Plg79.0000°, Azm206.0000°; P -6.0568, Plg10.0000°, Azm51.0000°;*
*NEIC **16** 10:01:28.5, 25°.31N×125°.01E, h14km*
*BJI **16** 10:01:30.6, 25°.44N×124°.88E, h23km, mB5.2/55, mb4.6/75, ML5.4/6, Ms5.4/96, Ms7 5.2/93*
*GCMT **16** 10:01:31.3±0.2, 25°.36N±0°.01×124°.78E±0°.01, h14km, MW5.2/139, Moment Tensor Solution. s81, c116; s139, c238; Duration: 1ŝ0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.58±.15; $M_{\theta\theta}$1.38±.14; $M_{\phi\phi}$0.20±.15; $M_{r\theta}$1.60±.29; $M_{\theta\phi}$7.76±.14; $M_{\phi r}$1.27±.28; Best double couple: $M_0$7.98100×10^{16} NP1: ϕ_s2.00000°, δ81.00000°, λ173.00000°. NP2: ϕ_s93.00000°, δ84.00000°, λ9.00000°. Principal axes: T 8.9690, Plg11.0000°, Azm317.0000°; N -1.9690, Plg79.0000°, Azm128.0000°; P -6.9930, Plg2.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 10:01:31.3±0.5, 25°.27N±0°.03×124°.98E±0°.03, h32km±3km, n636, σ1ŝ49/546, mb5.0/127, MS4.8/89, 14C-6D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.42**	**145**	P	**Pb**	**10 01 39.9**	**-0.8**
JIKM				*eS*	**Sn**	**10 01 48.8**	**+1.0**
JIKM	**Ikemajima**	**0.42**	**145**	A	A	10 01 39.9	
comp=N,437nm,3.5s,comp=E,919nm,3.4s							
JIRB	**Irabujima**	**0.47**	**159**	P	**Pb**	**10 01 40.5**	**-1.0**
JIRB				*eS*	**Sn**	**10 01 49.7**	**+0.6**
JIRB	**Irabujima**	**0.47**	**159**	A	A	10 01 40.5	
comp=N,380nm,1.4s,comp=E,388nm,7.1s							
JMJ	**Miyako jima 2**	**0.54**	**148**	P	**Pn**	**10 01 43.4**	**+0.7**
JMJ	**Miyako jima 2**	**0.54**	**148**	S	**Sn**	**10 01 54.8**	**+4.2**
JMJ2	**Miyako jima3**	**0.61**	**149**	*eP*	**Pn**	**10 01 43.1**	**-0.6**
JMJ2				*eS*	**Sn**	**10 01 53.9**	**+1.4**
JMJ2	**Miyako jima3**	**0.61**	**149**	A	A	10 01 43.1	
comp=N,480nm,4.1s,comp=E,709nm,4.3s							
JOGS	**Gusukube**	**0.64**	**143**	P	**Pn**	**10 01 44.0**	**-0.1**
JOGS				*eS*	**Sn**	**10 01 55.2**	**+2.1**
JOGS	**Gusukube**	**0.64**	**143**	A	A	10 01 44.0	
comp=N,549nm,5.1s,comp=E,653nm,4.1s							
JTJ	**Tarama**	**0.68**	**202**	P	**Pb**	**10 01 42.8**	**-2.0**
JTJ				*eS*	**Sn**	**10 01 53.9**	**-0.3**
JTJ	**Tarama**	**0.68**	**202**	A	A	10 01 42.8	
comp=N,260nm,5.0s,comp=E,419nm,4.2s							
JISG	**Ishigakijimahi**	**0.92**	**222**	*eP*	**Pb**	**10 01 45.9**	**-2.8**
JISG	**Ishigakijimahi**	**0.92**	**222**	A	A	10 01 45.9	
comp=N,61nm,5.3s,comp=E,53nm,2.3s							
JIJ	**Ishigaki jima**	**1.18**	**220**	P	**Pn**	**10 01 49.9**	**-1.7**
JIJ				*eS*	**Sb**	**10 02 06.2**	**-2.0**
JIJ	**Ishigaki jima**	**1.18**	**220**	A	A	10 01 49.9	
comp=N,75nm,2.2s,comp=E,60nm,2.4s							
JKRS	**Kuro-shima**	**1.36**	**221**	P	**Pn**	**10 01 53.0**	**-1.0**
JKRS				*eS*	**Sb**	**10 02 11.9**	**-1.3**
JKRS	**Kuro-shima**	**1.36**	**221**	A	A	10 01 53.0	
comp=N,209nm,2.4s,comp=E,207nm,3.8s							
IRIF	**Iriomote-Funau**	**1.47**	**231**	P	**Pn**	**10 01 53.9**	**-1.7**
IRIF	**Iriomote-Funau**	**1.47**	**231**	A	A	10 01 53.9	
comp=N,78nm,4.8s,comp=E,56nm,4.3s							
HATJ	**Hateruma jima**	**1.62**	**222**	P	**Pn**	**10 01 56.8**	**-0.8**
HATJ	**Hateruma jima**	**1.62**	**222**	A	A	10 01 56.8	
comp=N,161nm,2.4s,comp=E,173nm,2.9s							
JKE	**Kume jima 2**	**1.93**	**57**	A	A	10 02 01.3	
comp=N,27nm,6.9s,comp=E,20nm,9.9s							
YOJ	**Yonaguni jima**	**1.96**	**246**	Pn	**Pn**	**10 02 01.3**	**-1.1**
YOJ	**Yonaguni jima**	**1.96**	**246**	P	**Pn**	**10 02 02.4**	**0.0**
YOJ	**Yonaguni jima**	**1.96**	**246**	P	**Pn**	**10 02 01.3**	**-1.1**
YOJ	**Yonaguni jima**	**1.96**	**246**	A	A	10 02 00.5	
comp=N,59nm,3.7s,comp=E,82nm,5.7s							
JYNG	**Yonagunijimaku**	**2.02**	**247**	A	A	10 02 01.4	
comp=N,94nm,5.1s,comp=E,59nm,5.4s							
JAGN	**Aguni-jima**	**2.42**	**57**	A	A	10 02 08.3	
comp=N,24nm,5.8s,comp=E,25nm,6.5s							
JJT3	**Tamagusuku3**	**2.67**	**70**	A	A	10 02 12.6	
comp=N,47nm,6.7s,comp=E,48nm,7.7s							
JNTH	**Nagotoyohara**	**3.00**	**65**	A	A	10 02 17.1	
comp=N,9.0nm,9.6s,comp=E,9.0nm,7.4s							
TATO	**Taipei**	**3.18**	**265**		**Pn**	**10 02 19.1**	**0.0**
TATO	**Taipei**	**3.18**	**265**	P	**Pn**	**10 02 19.2**	**+0.1**
JIH	**Iheya**	**3.21**	**56**	A	A	10 02 19.5	
comp=N,16nm,7.1s,comp=E,13nm,10.0s							
NACB	**Ninganchiao**	**3.27**	**251**		**Pn**	**10 02 20.5**	**+0.2**
NACB	**Ninganchiao**	**3.27**	**251**	P	**Pn**	**10 02 20.8**	**+0.5**
YHNB	**Yeheng**	**3.33**	**260**	Pn	**Pn**	**10 02 21.3**	**+0.1**
YHNB	**Yeheng**	**3.33**	**260**	P	**Pn**	**10 02 21.5**	**+0.3**
JOW	**Kunigami**	**3.34**	**62**	Pn	**Pn**	**10 02 21.0**	**-0.3**
JOW	**Kunigami**	**3.34**	**62**	Pn	**Pn**	**10 02 21.3**	**0.0**
comp=E,34nm,0.3s,baz=225,slow=14,SNR=33							
JOW				LR	LR	10 02 51.0	
comp=E,2μm,21.3s,baz=254,slow=26							
JOW				Sn	**Sn**	**10 02 59.4**	**-0.5**
comp=E,29nm,0.3s,baz=308,slow=9.5,SNR=4.6							
comp=E,63nm,0.3s							
JOW	**Kunigami**	**3.34**	**62**	P	**Pn**	**10 02 21.5**	**+0.2**
JOW	**Kunigami**	**3.34**	**62**	A	A	10 02 21.7	
comp=N,8.0nm,9.0s,comp=E,10.0nm,5.6s							
JYRO	**Yoronjima**	**3.57**	**60**	A	A	10 02 24.9	
comp=N,6.0nm,7.4s,comp=E,9.0nm,9.6s							
JOKE	**Okinoerabujima**	**3.83**	**56**	A	A	10 02 28.4	
comp=N,7.0nm,6.6s,comp=E,11nm,9.8s							
YULB	**Yu-li**	**3.85**	**242**		**Pn**	**10 02 26.4**	**-1.9**
YULB	**Yu-li**	**3.85**	**242**	P	**Pn**	**10 02 27.2**	**-1.1**
SSLB	**Suanglung**	**3.96**	**249**	Pn	**Pn**	**10 02 30.3**	**+0.5**
SSLB	**Suanglung**	**3.96**	**249**	P	**Pn**	**10 02 30.1**	**+0.3**
TWG	**Pinlang**	**4.33**	**236**		**Pn**	**10 02 33.2**	**-1.7**
JTK	**Tokunoshima**	**4.35**	**54**	A	A	10 02 35.5	
comp=N,8.0nm,6.8s,comp=E,5.0nm,8.5s							
TPUB	**Ta-pu**	**4.43**	**245**	Pn	**Pn**	**10 02 36.0**	**-0.3**
TPUB	**Ta-pu**	**4.43**	**245**	P	**Pn**	**10 02 37.2**	**+0.9**
JAMN	**Amaminishikomi**	**4.77**	**51**	A	A	10 02 41.3	
comp=N,4.0nm,7.9s,comp=E,5.0nm,8.1s							
JAM	**Amami Oshima**	**5.18**	**52**	A	A	10 02 47.0	
comp=N,4.0nm,10.7s,comp=E,3.0nm,7.5s							
JZK	**Kikaishima**	**5.39**	**55**	A	A	10 02 50.2	
comp=N,22nm,5.5s,comp=E,25nm,11.9s							
JMZ	**Minamidaito 2**	**5.66**	**83**	Pn	**Pn**	**10 02 51.4**	**-1.9**
JMZ	**Minamidaito 2**	**5.66**	**83**	A	A	10 02 55.4	
comp=N,15nm,7.8s,comp=E,7.0nm,10.3s							
JKDJ	**Kitadaitoujima**	**5.74**	**82**	A	A	10 02 56.4	
comp=N,13nm,8.0s,comp=E,10.0nm,8.1s							
QZH	**Quanzhou**	**5.80**	**268**	Pn	**Pn**	**10 02 56.5**	**+1.4**
QZH				Sn	**Sn**	**10 04 01.8**	**+1.2**
QZH				smax	smax		
comp=E,590nm,1.2s							
QZH				smax	smax		
comp=E,490nm,1.5s							
QZH				LR	LR		
comp=E,22μm,16.8s							
QZH				LR	LR		
comp=E,12μm,11.3s							
KNMB	**Chin-men Tao**	**6.04**	**264**		**Pn**	**10 02 58.9**	**+0.4**
SSE	**Sheshan**	**6.70**	**331**	Pn	**Pn**	**10 03 09.1**	**+1.7**
SSE				Sn	**Sn**	**10 04 28.4**	**+5.8**
SSE				smax	smax		
comp=E,510nm,1.0s							
SSE				smax	smax		
comp=E,490nm,0.9s							
SSE				LR	LR		
comp=E,6μm,10.3s							
SSE				LR	LR		
comp=E,10μm,9.3s							
NJ2	**Nanjing**	**8.63**	**323**	*e*P	**Pn**	**10 03 37.4**	**+3.4**
NJ2				S	**Sn**	**10 05 16.0**	**+5.7**
NJ2				pmax	pmax		
comp=E,11nm,0.7s							
NJ2				LR	LR		
comp=E,18μm,12.3s							
NJ2				LR	LR		
comp=E,10μm,13.7s							
NJ2				LR	LR		
comp=E,15μm,15.1s							
SZP	**Santa**	**8.76**	**210**	P	**Pn**	**10 03 38.0**	**+2.2**
JNU	**Nakatsue**	**9.36**	**32**	Pn	**Pn**	**10 03 46.0**	**+1.9**
JNU	**Nakatsue**	**9.36**	**32**	Pn	**Pn**	**10 03 45.5**	**+1.4**
comp=E,0.6nm,0.3s,baz=162,slow=7.9,SNR=7.8							
JNU				LR	LR	10 07 42.3	
comp=E,4μm,19.2s,baz=218,slow=41							
JNU	**Nakatsue**	**9.36**	**32**	P	**Pn**	**10 03 45.0**	**+1.0**
WHN	**Wuhan**	**10.77**	**302**	P	**Pn**	**10 04 02.8**	**-0.4**
WHN				LR	LR		
comp=E,44μm,11.5s							
WHN				LR	LR		
comp=E,29μm,12.5s							
WHN				LR	LR		
comp=E,47μm,11.8s							
GZH	**Guangzhou**	**10.85**	**261**	P	**Pn**	**10 04 01.3**	**-3.0**
GZH				S	**Sn**	**10 05 57.3**	**-7.3**
GZH				pmax	pmax		
comp=E,80nm,1.1s							
GZH				LR	LR		
comp=E,8μm,12.4s							
GZH				LR	LR		
comp=E,6μm,13.9s							
CNSH	**ChangSha**	**11.16**	**288**	P	**Pn**	**10 04 08.1**	**-0.5**
CNSH				S	**Sn**	**10 06 13.6**	**+1.4**
CNSH				pmax	pmax		
comp=E,8.0nm,0.6s							
CNSH				LR	LR		
comp=E,18μm,13.4s							
CNSH				LR	LR		
comp=E,7μm,15.9s							
CNSH				LR	LR		
comp=E,7μm,10.8s							
JMN	**Monobe**	**11.44**	**41**	Pn	**Pn**	**10 04 09.3**	**-3.2**
TGY	**Tagaytay City**	**11.75**	**200**	LR	LR	10 08 53.6	
comp=E,798nm,18.7s,baz=35,slow=38							
KSAR	**Wonju Array Be**	**12.38**	**11**	Pn	**Pn**	**10 04 24.0**	**-1.3**
KSAR	**Wonju Array Be**	**12.38**	**11**	P	**Pn**	**10 04 24.0**	**-1.3**
KSRS	**Korea Array**	**12.40**	**11**	Pn	**Pn**	**10 04 25.9**	**+0.4**
comp=E,0.2nm,0.3s,baz=187,slow=13,SNR=24							
KSRS				Lg	Lg	10 07 54.0	
comp=E,0.1nm,0.3s,baz=210,slow=28,SNR=1.0							
KSRS				LR	LR	10 09 02.5	
comp=E,978nm,19.2s,baz=190,slow=37							
KS19	**Wonju Array Si**	**12.44**	**11**	Pn	**Pn**	**10 04 24.6**	**-1.4**
TIA	**Tai'an**	**12.82**	**330**	P	**Pn**	**10 04 33.5**	**+2.2**
TIA				pmax	pmax		
comp=E,4.0nm,0.5s							
TIA				pmax	pmax		
comp=E,430nm,5.5s							
TIA				LR	LR		
comp=E,12μm,14.1s							
TIA				LR	LR		
comp=E,8μm,13.4s							
TIA				LR	LR		
comp=E,15μm,13.7s							
DL2	**Dalian**	**13.89**	**349**	P	**Pn**	**10 04 47.1**	**+1.3**
DL2				S	Sn	10 07 28.0	+9.2
DL2				pmax	pmax		
comp=E,27nm,1.1s							
DL2				pmax	pmax		
comp=E,700nm,7.3s							
DL2				LR	LR		
comp=E,6μm,11.6s							
DL2				LR	LR		
comp=E,16μm,12.3s							
DL2				LR	LR		
comp=E,5μm,12.0s							
LYN	**LuoYang**	**14.25**	**313**	P	**Pn**	**10 04 51.3**	**+0.5**
LYN				pP	P	10 04 55.8	-1.9
LYN				sP		10 05 00.0	
LYN				S	**Sn**	**10 07 33.5**	**+5.8**
LYN				pmax	pmax		
comp=E,1μm,7.0s							
LYN				LR	LR		
comp=E,24μm,14.8s							
LYN				LR	LR		
comp=E,21μm,12.4s							
LYN				LR	LR		
comp=E,34μm,13.4s							
ENH	**Enshi**	**14.59**	**293**	Pn	**Pn**	**10 04 54.7**	**-0.9**
ENH	**Enshi**	**14.59**	**293**	P	**Pn**	**10 04 55.7**	**+0.2**
HNS	**HongShan**	**14.93**	**327**	⇑P	**Pn**	**10 05 00.4**	**+0.5**
HNS				PP	**PnPn**	**10 05 13.8**	**+5.7**
HNS				S	**Sn**	**10 07 47.6**	**+3.4**
HNS				pmax	pmax		
comp=E,16nm,2.0s							
HNS				LR	LR		
comp=E,9μm,12.7s							
HNS				LR	LR		
comp=E,6μm,13.0s							
HNS				LR	LR		
comp=E,10μm,15.3s							
JHJ	**Hachijo jima 2**	**15.10**	**55**	LR	LR	10 10 51.1	
comp=E,2μm,18.3s,baz=292,slow=38							
QIZ	**Qiongzhong**	**15.34**	**249**		**Pn**	**10 05 05.3**	**-0.1**
QIZ	**Qiongzhong**	**15.34**	**249**	P	**P**	**10 05 08.8**	**-1.1**
QIZ				S	**Sn**	**10 07 58.5**	**+4.1**
QIZ				pmax	pmax		
comp=E,21nm,2.0s							
QIZ				pmax	pmax		
comp=E,170nm,3.9s							
QIZ				LR	LR		
comp=E,5μm,14.0s							
QIZ				LR	LR		
comp=E,2μm,12.6s							
QIZ				LR	LR		
comp=E,3μm,11.1s							
QIZ	**Qiongzhong**	**15.34**	**249**	P	**Pn**	**10 05 06.5**	**+1.0**
JCJ	**Chichijima**	**15.55**	**80**	LR	LR	10 10 56.8	

comp=E,842nm,18.1s,baz=88,slow=37
MAJO Matsushiro 15.95 42 *i* P **Pn 10 05 12.1 -1.2**
MJAR Matsushiro Arr 15.95 42 Pn **Pn 10 05 12.2 -1.1**
baz=234,slow=10.0,SNR=10
MJAR LR LR 10 11 51.1
comp=E,2μm,20.1s,baz=215,slow=39
comp=E,2.0nm,1.1s
TIY Taiyuan 16.36 322 *eP* **Pn 10 05 19.3 +0.7**
TIY PP **pwP 10 05 34.8 +2.9**
TIY S **Sn 10 08 22.0 +2.8**
TIY pmax pmax
comp=E,1μm,4.9s
TIY LR LR
comp=E,6μm,14.2s
TIY LR LR
comp=E,5μm,13.0s
TIY LR LR
comp=E,8μm,14.2s
XAN Xi'an 16.45 306 ⇑P **Pn 10 05 20.5 +0.7**
XAN sP pP 10 05 24.9 -5.3
XAN S **Sn 10 08 23.3 +1.8**
XAN SS **SnSn 10 08 37.3 +2.6**
XAN pmax pmax
comp=E,32nm,1.0s
XAN pmax pmax
comp=E,1μm,8.6s
XAN LR LR
comp=E,13μm,12.4s
XAN LR LR
comp=E,23μm,13.4s
XAN LR LR
comp=E,32μm,11.7s
BJT Baijiatuau 16.46 335 Pn **Pn 10 05 19.7 0.0**
BJT Baijiatuau 16.46 335 P **Pn 10 05 18.9 -0.8**
BJT Baijiatuau 16.46 335 P **Pn 10 05 18.8 -0.9**
BJI Beijing 16.47 336 P **Pn 10 05 19.9 0.0**
BJI pPn **P 10 05 22.8 +0.5**
BJI S **Sn 10 08 26.8 +5.1**
BJI pmax pmax
comp=E,610nm,9.2s
BJI LR LR
comp=E,4μm,14.1s
BJI LR LR
comp=E,2μm,12.5s
BJI LR LR
comp=E,5μm,15.4s
GYA Guiyang 16.53 278 ⇓P **P 10 05 23.6 +0.3**
GYA S **Sn 10 08 26.9 +3.3**
GYA pmax pmax
comp=E,4.0nm,0.9s
GYA pmax pmax
comp=E,520nm,8.0s
GYA LR LR
comp=E,5μm,7.7s
GYA LR LR
comp=E,3μm,11.7s
GYA LR LR
comp=E,4μm,14.6s
SNY Shenyang 16.55 356 ⇑P **P 10 05 28.3 +5.1**
SNY S **S 10 08 36.8 +2.3**
SNY pmax pmax
comp=Z,4.0nm,0.5s
SNY pmax pmax
comp=Z,1μm,9.4s
SNY LR LR
comp=N,4μm,13.3s
SNY LR LR
comp=E,5μm,13.7s
SNY LR LR
comp=Z,5μm,14.9s
PSTR Posyet 17.99 14 *i* P **Pn 10 05 37.7 -1.0**
MSHR Mys Shultsa 18.00 15 *ce*P **P 10 05 40.0 +0.8**
MSHR pmax pmax
comp=Z,86nm,1.2s
DAV Davao City (W) 18.11 178 LR LR 10 12 45.0
comp=Z,923nm,20.7s,baz=332,slow=37
CN2 Changchun 18.49 1 ⇓P **Pn 10 05 45.8 +0.9**
CN2 pP sP 10 05 51.8 -4.6
CN2 *e*S **Sn 10 09 07.1 -3.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,500nm,4.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,4μm,11.0s
CN2 LR LR
comp=Z,3μm,12.0s
HHC Hu-ho-hao-te 19.14 328 ⇑*i*P **Pn 10 05 53.8 +0.9**
HHC pP pP 10 05 57.4 -2.5
HHC sP pwP 10 06 01.8 -0.9
HHC PP **PnPn 10 06 11.6 +5.6**
HHC S **Sn 10 09 26.4 -0.1**
HHC pmax pmax
comp=Z,47nm,1.5s
HHC pmax pmax
comp=Z,960nm,5.5s
HHC LR LR
comp=Z,7μm,12.6s
HHC LR LR
comp=Z,7μm,12.2s
HHC LR LR
comp=Z,9μm,15.7s
CD2 Chengdu 19.54 292 P **P 10 05 56.8 +0.5**
CD2 S **Sn 10 09 37.3 +1.1**
CD2 SS **SnSn 10 09 53.6 +3.1**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,2μm,7.3s
CD2 LR LR
comp=Z,15μm,12.8s
CD2 LR LR
comp=Z,8μm,13.6s
CD2 LR LR
comp=Z,9μm,10.0s
MDJ Mudanjiang 19.66 10 P **P 10 05 56.3 -1.1**
MDJ Mudanjiang 19.66 10 P **Pn 10 05 58.3 -0.7**
MDJ S **S 10 09 32.4 -5.0**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,410nm,8.2s
MDJ LR LR
comp=Z,5μm,13.1s
MDJ LR LR
comp=Z,7μm,12.0s
MDJ LR LR
comp=Z,5μm,13.4s
MDJ Mudanjiang 19.66 10 P **Pn 10 05 58.5 -0.5**
USA0B Ussuriysk Arra 19.73 15 P **P 10 05 57.8 -0.3**
USA0B Ussuriysk Arra 19.73 15 P **P 10 05 57.8 -0.3**
USA0B pmax pmax
comp=Z,61nm,1.3s
USRK Ussuriysk Ar. 19.73 15 P **P 10 05 57.0 -1.1**
comp=Z,0.3nm,0.3s,baz=195,slow=8.8,SNR=12
USRK LR LR 10 13 21.4
comp=Z,2μm,19.4s,baz=196,slow=37
comp=Z,9.1nm,0.9s
BTO Baotou 19.74 324 *eP* **Pn 10 06 01.5 +1.4**
BTO pP **pwP 10 06 06.6 -2.7**
BTO sP **sP 10 06 10.5 +0.2**
BTO PP **PnPn 10 06 22.4 +8.2**
BTO pmax pmax
comp=Z,46nm,1.1s
BTO pmax pmax
comp=Z,1μm,4.4s
BTO LR LR
comp=Z,7μm,10.7s
BTO LR LR
comp=Z,6μm,12.3s
BTO LR LR
comp=Z,10μm,10.0s
SLVN Son La 19.75 263 **P 10 05 58.3 -0.3**
SLVN Son La 19.75 263 P **Pn 10 06 00.6 +0.3**
XLT XiLinHaoTe 19.95 341 *eP* **P 10 06 00.9 +0.2**
XLT pP pP 10 06 04.8 -3.9
XLT S **S 10 09 44.3 +0.8**
XLT pmax pmax
comp=Z,31nm,1.5s
XLT pmax pmax
comp=Z,430nm,4.3s
XLT LR LR
comp=Z,840nm,15.2s
XLT LR LR
comp=Z,8μm,14.8s
XLT LR LR
comp=Z,5μm,17.8s
KMI Kunming 20.13 274 ⇓P Pn 10 06 06.9 +2.0
KMI S Sn 10 09 50.0 -0.7
KMI pmax pmax
comp=Z,24nm,1.1s
KMI pmax pmax
comp=Z,570nm,6.2s
KMI LR LR
comp=Z,3μm,11.7s
KMI LR LR
comp=Z,4μm,11.4s
KMI LR LR
comp=Z,3μm,10.1s
BNX BinXian 20.52 5 ⇑P **P 10 06 07.4 +0.7**
BNX S **S 10 09 54.4 -0.1**
BNX sS **sS 10 10 04.8 -2.6**
BNX pmax pmax
comp=Z,48nm,1.3s
BNX pmax pmax
comp=Z,500nm,4.3s
BNX LR LR
comp=Z,2μm,16.8s
BNX LR LR
comp=Z,8μm,15.2s
BNX LR LR
comp=Z,4μm,10.3s
UBPT Khong Chiam 20.80 245 P **P 10 06 09.5 -0.6**
UBPT Khong Chiam 20.80 245 P Pn 10 06 11.6 -1.0
KKM Kota Kinabalu 20.88 205 P Pn 10 06 13.0 -0.6
MYLDM Lahad Datu 20.92 198 P **P 10 06 09.8 -1.5**
MYLDM Lahad Datu 20.92 198 P Pn 10 06 13.4 -0.6
PZH PanZhiHua 20.94 278 P Pn 10 06 12.9 -1.4
PZH S Sn 10 10 08.8 -1.4
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,150nm,3.5s
PZH LR LR
comp=Z,7μm,14.5s
PZH LR LR
comp=Z,4μm,14.7s
PZH LR LR
comp=Z,4μm,12.7s
LZH Lanzhou 21.09 306 ⇑P **P 10 06 14.4 +1.2**
LZH sP sP 10 06 21.1 -4.0
LZH pmax pmax
comp=Z,41nm,1.8s
LZH pmax pmax
comp=Z,1μm,8.6s
LZH LR LR
comp=Z,7μm,15.8s
LZH LR LR
comp=Z,13μm,15.8s
LZH LR LR
comp=Z,16μm,14.4s
NONG Nongkai 21.51 255 P **P 10 06 20.1 +2.5**
GUMO Guam 22.03 118 LR LR 10 13 14.1
comp=Z,2μm,21.6s,baz=300,slow=32
ASAJ Asahikawa 23.64 33 LR LR 10 16 16.9
comp=Z,2μm,18.5s,baz=240,slow=38
PHRA Phrae 23.92 259 P **P 10 06 42.5 0.0**
TNCH TengChong 23.95 275 P **P 10 06 42.9 0.0**
TNCH pP pP 10 06 48.1 -3.4
TNCH PP **PnPn 10 07 14.8 +2.8**
TNCH S **S 10 10 55.3 -2.4**
TNCH pmax pmax
comp=Z,76nm,0.5s
TNCH pmax pmax
comp=Z,260nm,4.6s
TNCH LR LR
comp=Z,3μm,10.1s
TNCH LR LR
comp=Z,3μm,10.4s
TNCH LR LR
comp=Z,4μm,11.6s
HIA Hailar 24.30 352 P **P 10 06 44.3 -1.5**
HIA Hailar 24.30 352 P **P 10 06 44.4 -1.4**
HIA Hailar 24.30 352 P **P 10 06 44.3 -1.5**
HIA pmax pmax
comp=Z,30nm,1.2s
TOLI2 Tolitoli 24.36 190 P **P 10 06 46.2 -0.4**
KLR Kul'dur 24.49 11 LR LR 10 16 09.0
comp=Z,516nm,19.8s,baz=156,slow=36
KLR Kul'dur 24.49 11 *eP* **P 10 06 45.8 -1.7**
KLR pmax pmax
comp=Z,18nm,0.9s
NAYO Nakonayok 24.75 248 P **P 10 06 51.6 +1.5**
MRSI Marisa 24.82 187 P **P 10 06 54.8 +4.1**
comp=Z,2μmcomp=Z,75nm,2.0s
CHTO Chiang Mai 24.95 260 P **P 10 06 51.9 0.0**
CHTO Chiang Mai 24.95 260 P **P 10 06 51.9 0.0**
CHTO pmax pmax
comp=Z,39nm,1.5s
HEH HeiHe 25.01 4 *eP* **P 10 06 52.5 +0.4**
HEH sP **pwP 10 07 07.9 +4.3**
HEH pmax pmax
comp=Z,9.0nm,1.8s
HEH LR LR
comp=Z,4μm,12.6s
HEH LR LR
comp=Z,6μm,13.1s
HEH LR LR
comp=Z,4μm,13.7s
CM31 Chiang Mai Arr 25.07 260 P **P 10 06 51.5 -1.6**
CMAR Chiang Mai Arr 25.07 260 P **P 10 06 52.8 -0.3**
CMAR Chiang Mai Arr 25.07 260 P **P 10 06 53.7 +0.7**
comp=Z,3.3nm,0.6s,baz=58,slow=8.1,SNR=17
CMAR LR LR 10 16 34.0
comp=Z,1μm,18.1s,baz=80,slow=36
comp=Z,3.3nm,0.6s
CMAR Chiang Mai Arr 25.07 260 P **P 10 06 52.8 -0.3**
MPSI Mapaga 25.27 192 P **P 10 06 57.4 +2.6**
comp=Z,1μmcomp=Z,34nm,1.3s
GTA Gaotai 25.41 310 *eP* **P 10 06 56.3 +0.3**
GTA S **S 10 11 24.3 +3.5**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,470nm,5.1s
GTA LR LR
comp=Z,4μm,15.6s
GTA LR LR
comp=Z,6μm,14.9s
GTA LR LR
comp=Z,7μm,15.3s
SBUM Sibu 25.81 210 P **P 10 06 58.8 -0.9**
SBUM Sibu 25.81 210 P **P 10 07 01.5 +1.8**
YSS Yuzhno-Sakhali 25.85 29 P **P 10 06 58.2 -1.6**
YSS Yuzhno-Sakhali 25.85 29 *eP* **P 10 06 59.2 -0.6**
YSS *e*S **S 10 11 26.2 -1.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=E,900nm,15.0s
YSS MLR MLR
comp=Z,2μm,15.0s
APSI Ampana 26.23 188 P **P 10 07 06.7 +3.2**
SRDT SRDT 26.60 251 P **P 10 07 09.4 +2.6**
ULN Ulaanbaatar 26.63 332 P **P 10 07 06.6 -0.4**
ULN Ulaanbaatar 26.63 332 *i* P **P 10 07 06.1 -0.9**
ULN pmax pmax
comp=Z,17nm,1.2s
SONM Songino Array 26.88 332 P **P 10 07 08.6 -0.7**
SONM Songino Array 26.88 332 P **P 10 07 08.0 -1.3**
comp=Z,4.0nm,1.0s,baz=149,slow=9.6,SNR=23
SONM LR LR 10 19 11.7
comp=Z,6μm,18.2s,baz=140,slow=40
comp=Z,4.0nm,1.0s
SANI Sanana 27.18 178 P **P 10 07 14.1 +2.1**
SANI Sanana 27.18 178 P **P 10 07 15.7 +3.7**
comp=Z,968nmcomp=Z,41nm,0.9s
KSM Kuching 27.57 213 P **P 10 07 16.5 +0.9**
GOMU GeErMu 28.02 300 P P 10 07 26.4 +6.5
GOMU pP pwP 10 07 28.9 -2.5
GOMU sP sP 10 07 33.4 +1.1
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU LR LR
comp=Z,5μm,16.5s
GOMU LR LR
comp=Z,5μm,16.3s
GOMU LR LR
comp=Z,8μm,16.1s
CIT Chita 28.09 345 *eP* **P 10 07 18.9 -1.1**
CIT *e* 10 07 27.1
CIT *e* 10 08 10.6
CIT *e* 10 08 22.6
CIT pmax pmax
comp=Z,81nm,2.1s
ZEA Zeya 28.48 3 *i* P **P 10 07 23.3 0.0**
ZAK Zakamensk 30.15 332 *eP* **P 10 07 36.5 -1.8**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
IPM Ipoh 30.93 232 P **P 10 07 44.7 -0.7**
IPM IAmb IAmb 10 07 47.2
comp=Z,23nm,0.9s
IPM Ipoh 30.93 232 P **P 10 07 46.7 +1.3**
MYKOM Kota Tinggi 30.99 224 P **P 10 07 48.1 +2.2**
IRK Irkutsk 31.18 335 *eP* **P 10 07 43.8 -3.5**
IRK *e* 10 18 26.0
IRK pmax pmax
comp=Z,23nm,0.8s
JAY Jayapura 31.55 149 LR LR 10 18 03.0
comp=Z,2μm,21.7s,baz=330,slow=31
MOY Mondy 32.08 332 *eP* **P 10 07 54.3 -1.0**
MOY pmax pmax
comp=Z,8.0nm,1.8s
PSI Prapat 33.59 232 LR LR 10 21 49.3
comp=Z,879nm,19.9s,baz=44,slow=36
PSI Prapat 33.59 232 P **P 10 08 10.8 +1.9**
PSI Prapat 33.59 232 P **P 10 08 09.1 +0.2**
PSI pmax pmax
comp=Z,20nm,1.1s
RPSI Rantau Prapat 33.66 232 P **P 10 08 09.1 -0.3**
RPSI IAmb IAmb 10 08 12.4
comp=Z,20nm,1.1s
MMRI Maumere 33.81 185 P **P 10 08 09.6 -1.0**
BKNI Bangkinang 33.91 227 P **P 10 08 11.8 +0.2**
TABU Tabubil 34.22 150 P **P 10 08 16.2 +2.0**
WMQ Urumqi 35.48 311 *eP* **P 10 08 26.6 +1.7**
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ LR LR
comp=Z,5μm,11.5s
WMQ LR LR
comp=Z,2μm,11.5s
WMQ LR LR
comp=Z,2μm,15.9s
LEM Lembang 36.10 210 LR LR 10 25 07.6
comp=Z,271nm,19.4s,baz=39,slow=39
YAK Yakutsk 36.88 4 *i* P **P 10 08 34.9 -1.6**
YAK pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 37.06 33 P **P 10 08 37.2 -1.1**
comp=Z,1.3nm,0.7s,baz=236,slow=10,SNR=1.1
PETK LR LR 10 24 54.0
comp=Z,783nm,18.3s,baz=232,slow=38
comp=Z,1.3nm,0.7s
PET Petropavlovsk 37.48 33 *i* P **P 10 08 43.0 +1.2**
PET pmax pmax
comp=Z,48nm,1.2s
MA2 Magadan 38.70 21 LR LR 10 25 20.0
comp=Z,814nm,18.4s,baz=226,slow=37
MA2 Magadan 38.70 21 *ce*P **P 10 08 51.1 -0.9**
MA2 pmax pmax
comp=Z,4.0nm,1.7s
KRVT Keravat (AS076 39.42 134 LR LR 10 22 17.1
comp=Z,1μm,21.0s,baz=50,slow=32
MK31 Makanchi Array 40.03 314 P **P 10 09 02.7 -0.6**
MK31 Makanchi Array 40.03 314 *i* P **P 10 09 03.0 -0.3**
MKAR Makanchi Array 40.03 314 P **P 10 09 02.3 -1.0**
comp=Z,2.3nm,0.7s,baz=107,slow=9.9,SNR=29
MKAR LR LR 10 26 55.3
comp=Z,2μm,20.5s,baz=93,slow=38
comp=Z,2.3nm,0.7s
MKAR Makanchi Array 40.03 314 *ce*P **P 10 09 02.2 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 40.24 314 P **P 10 09 04.6 -0.4**
MAKZ Makanchi 40.24 314 P **P 10 09 04.6 -0.4**
MAKZ pmax pmax
comp=Z,25nm,1.1s
PMG Port Moresby 40.68 145 LR LR 10 23 42.2
comp=Z,755nm,21.2s,baz=322,slow=33
WUS Wushi 40.96 304 **P 10 09 11.3 +0.1**
ZAA0 Zalesovo Array 41.28 325 P **P 10 09 12.2 -1.2**
ZALV Zalesovo Beam 41.28 325 P **P 10 09 12.2 -1.3**
comp=Z,5.3nm,0.8s,baz=106,slow=7.7,SNR=25
ZALV LR LR 10 27 48.1
comp=Z,2μm,18.5s,baz=134,slow=38
comp=Z,5.3nm,0.8s
SEY Seymchan 41.82 18 *i* P **P 10 09 17.4 -0.3**
SEY pmax pmax
comp=Z,13nm,2.5s
KDJ Kajisay 42.60 305 **P 10 09 23.7 -0.9**
KDJ Kajisay 42.60 305 P **P 10 09 23.7 -0.9**
KDJ pmax pmax
comp=Z,17nm,1.1s
COEN Coen 42.84 154 P **P 10 09 25.9 -0.6**
FITZ Fitzroy Crossi 43.11 179 P **P 10 09 28.9 +0.2**
FITZ Fitzroy Crossi 43.11 179 LR LR 10 28 13.3
comp=Z,100nm,21.3s,baz=4.0,slow=37
KSH Kashi 43.24 302 P P 10 09 35.4 +5.6
KSH pmax pmax
comp=Z,5.0nm,1.6s
KSH LR LR
comp=Z,3μm,15.1s
KSH LR LR
comp=Z,3μm,15.5s
KSH LR LR
comp=Z,5μm,14.4s
KURK Kurchatov 43.54 318 P **P 10 09 31.2 -0.7**
KURK IAmb IAmb 10 09 49.2
comp=Z,42nm,1.3s
KURK Kurchatov 43.54 318 *ce*P **P 10 09 31.5 -0.3**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURBB Kurchatov Arra 43.56 318 P **P 10 09 30.5 -1.6**
comp=Z,2.7nm,0.7s,baz=108,slow=9.4,SNR=20
KURBB LR LR 10 29 33.2
comp=Z,1μm,21.2s,baz=140,slow=39
comp=Z,2.7nm,0.7s
HYB Hyderabad 43.77 269 *eP* **P 10 09 34.1 -0.1**
AAK Ala-Archa 44.63 306 P **P 10 09 41.0 0.0**
AAK Ala-Archa 44.63 306 LR LR 10 31 00.9
comp=Z,3μm,18.9s,baz=100,slow=40
AAK Ala-Archa 44.63 306 *i* P **P 10 09 40.6 -0.4**
AAK pmax pmax
comp=Z,4.0nm,1.1s
WB0 Warramunga Arr 45.70 168 P **P 10 09 49.5 +0.2**
WB0 IAmb IAmb 10 10 10.4
comp=Z,20nm,1.1s
SHEM Shemya Is, Ala 45.78 40 LR LR 10 27 23.5
comp=Z,331nm,21.8s,baz=295,slow=34
WRAB Tennant Creek 45.85 168 P **P 10 09 51.2 +0.7**
WRAB IAmb IAmb 10 10 12.5
comp=Z,54nm,1.6s
WRAB Tennant Creek 45.85 168 *i* P **P 10 09 50.2 -0.4**
WRAB pmax pmax
comp=Z,12nm,1.1s
WRA Warramunga Arr 45.85 168 P **P 10 09 52.5 +1.8**
WRA Warramunga Arr 45.85 168 P **P 10 09 51.6 +1.0**
comp=Z,2.1nm,0.7s,baz=350,slow=8.4,SNR=11
WRA LR LR 10 28 18.7
comp=Z,626nm,20.7s,baz=346,slow=35
comp=Z,2.1nm,0.7s
WRA Warramunga Arr 45.85 168 *i* P **P 10 09 51.5 +0.9**
WRA pmax pmax
comp=Z,2.0nm,0.7s
PALK Pallekele 45.86 255 LR LR 10 31 30.3
comp=Z,469nm,18.1s,baz=58,slow=39
WB2 Warramunga Arr 45.86 168 P **P 10 09 51.6 +0.9**
MBWA Marble Bar 46.44 187 P **P 10 09 55.2 +0.1**
MBWA IAmb IAmb 10 10 23.2
comp=Z,18nm,1.1s
TIXI Tiksi 46.46 2 LR LR 10 28 58.9
comp=Z,2μm,18.3s,baz=199,slow=36
TIXI Tiksi 46.46 2 *i* P **P 10 09 54.8 0.0**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
DRK Karamyk 46.47 301 P **P 10 09 56.6 +0.9**
DRK IAmb IAmb 10 11 02.7
comp=Z,36nm,1.6s
DRK Karamyk 46.47 301 P **P 10 09 56.6 +0.9**
DRK pmax pmax
comp=Z,36nm,1.6s
PSA00 Pilbara Seismi 46.83 187 P **P 10 09 59.1 +0.9**
MTSU Mount Surprise 47.07 155 P **P 10 10 02.8 +2.6**

KK31	Karatay Array	47.59	306	P	P	10 10 03.0	-1.1
KK31	Karatay Array	47.59	306	P	P	10 10 03.0	-1.1
KK31				pmax	pmax		
	comp=Z,11nm,1.4s						
KKAR	Karatay Array	47.59	306	P	P	10 10 03.8	-0.3
KKAR	Karatay Array	47.59	306	P	P	10 10 03.8	-0.3
QIS	Mount Isa	47.72	161	P	P	10 10 07.3	+2.1
HNR	Honiara	48.47	131	LR	LR	10 27 43.9	
	comp=Z,696nm,21.9s,baz=308,slow=32						
CHGR	Chuyangaron	48.52	300	P	P	10 10 10.9	-0.5
CHGR				IAmb	IAmb	10 10 37.5	
	comp=Z,16nm,0.9s						
CHGR	Chuyangaron	48.52	300	P	P	10 10 10.9	-0.5
CHGR				pmax	pmax		
	comp=Z,16nm,0.9s						
KBL	Kabul	48.84	295	P	P	10 10 13.5	-0.6
KBL	Kabul	48.84	295	P	P	10 10 13.5	-0.6
KBL				pmax	pmax		
	comp=Z,53nm,1.4s						
BVAR	Borovoye Array	49.06	319	P	P	10 10 14.6	-0.7
	comp=Z,1.4nm,0.7s,baz=114,slow=7.4,SNR=4.3						
BVAR				LR	LR	10 34 17.7	
	comp=Z,671nm,18.0s,baz=98,slow=40						
	comp=Z,1.4nm,0.7s						
BRVK	Borovoye	49.13	319	P	P	10 10 15.5	-0.3
BRVK				IAmb	IAmb	10 10 33.6	
	comp=Z,27nm,1.4s						
BRVK	Borovoye	49.13	319	*ce*P	P	10 10 14.9	-0.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NRIK	Noril'sk	49.30	343	P	P	10 10 15.6	-1.2
NRIK				IAmb	IAmb	10 10 35.2	
	comp=Z,19nm,1.2s						
NRIK	Noril'sk	49.30	343	P	P	10 10 15.1	-1.7
	comp=Z,4.4nm,0.8s,baz=132,slow=8.7,SNR=5.1						
NRIK				LR	LR	10 32 48.0	
	comp=Z,3μm,18.2s,baz=141,slow=38						
	comp=Z,4.4nm,0.8s						
NRIK	Noril'sk	49.30	343	*ce*P	P	10 10 15.4	-1.4
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AS31	Alice Springs	49.41	169	P	P	10 10 17.7	-0.5
ASAR	Alice Springs	49.41	169	P	P	10 10 17.6	-0.7
ASAR	Alice Springs	49.41	169	P	P	10 10 20.0	+1.8
	comp=Z,1.8nm,0.8s,baz=348,slow=8.2,SNR=17						
ASAR				LR	LR	10 32 35.2	
	comp=Z,386nm,18.6s,baz=358,slow=38						
	comp=Z,1.8nm,0.8s						
BILL	Bilibino	49.51	19	*i*P	P	10 10 18.0	-0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
WRKA	Warakurna	50.12	176	P	P	10 10 25.6	+2.1
OOD	Oodnadatta	53.76	168	P	P	10 10 52.1	+1.5
INKA	Innaminka	54.85	163	P	P	10 11 00.0	+1.5
ABKAR	Akbulak array	55.17	314	P	P	10 11 00.2	-0.6
SVE	Sverdlovsk	55.24	323	*e*P	P	10 11 00.6	-0.5
SVE				MLR	MLR		
	comp=Z,4μm,18.0s						
SPIA	Saint Paul Isl	55.51	37	P	P	10 11 02.1	-0.8
	baz=264						
FORT	Forrest	55.81	177	P	P	10 11 05.7	+0.3
P08K	Saint George I	55.83	37	P	P	10 11 03.9	-1.4
	baz=264						
GAMB	Gambell	55.87	29	P	P	10 11 05.2	-0.2
	baz=258						
AKTO	Aktyubinsk	56.43	315	LR	LR	10 37 03.9	
	comp=Z,2μm,21.2s,baz=65,slow=38						
ARTI	Arti	56.44	322	P	P	10 11 08.6	-1.1
ARTI				IAmb	IAmb	10 11 36.2	
	comp=Z,20nm,1.4s						
ARTI	Arti	56.44	322	LR	LR	10 37 07.4	
	comp=Z,2μm,21.2s,baz=96,slow=38						
ARTI	Arti	56.44	322	*d*/P	P	10 11 08.4	-1.3
ARTI						10 12 02.5	
ARTI				S	S	10 19 01.6	+3.3
ARTI				SS	SS	10 22 44.4	-0.9
ARTI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARTI				MLR	MLR		
	comp=Z,2μm,21.0s						
LCRK	Leigh Creek	56.84	166	P	P	10 11 14.8	+2.1
UNV	Unalaska Valle	57.42	41	P	P	10 11 16.6	0.0
	baz=269						
M11K	Mekoryuk	57.93	33	P	P	10 11 20.2	+0.1
	baz=265						
NWAO	Narrogin (SRO)	58.34	188	LR	LR	10 37 24.4	
	comp=Z,171nm,20.4s,baz=308,slow=37						
F14K	Arctic Creek	58.45	27	P	P	10 11 23.3	-0.4
	baz=262						
BBOO	Buckleboo	58.72	169	P	P	10 11 26.2	+0.3
ANM	Nome	58.74	28	P	P	10 11 26.1	+0.4
ANM	Nome	58.74	28	P	P	10 11 24.7	-1.0
	baz=263						
ANM	Nome	58.74	28	P	P	10 11 26.1	+0.4
ANM				pmax	pmax		
	comp=Z,79nm,2.0s						
K13K	Kusilvak Mount	58.80	31	P	P	10 11 26.3	+0.1
	baz=266						
STKA	Stephens Creek	59.00	164	P	P	10 11 27.9	0.0
STKA				IAmb	IAmb	10 11 39.3	
	comp=Z,33nm,1.9s						
STKA	Stephens Creek	59.00	164	P	P	10 11 28.7	+0.8
	comp=Z,2.0nm,0.8s,baz=334,slow=5.7,SNR=4.4						
STKA				LR	LR	10 40 02.7	
	comp=Z,248nm,18.0s,baz=346,slow=39						
	comp=Z,2.0nm,0.8s						
STKA	Stephens Creek	59.00	164	P	P	10 11 29.9	+2.0
F15K	North Star Dit	59.18	27	P	P	10 11 28.2	-0.5
	baz=263						
FALS	False Pass	59.23	40	P	P	10 11 28.0	-1.3
	baz=271						
C16K	Lisburne Hills	59.26	24	P	P	10 11 29.0	-0.2
	baz=261						
M13K	Dall Lake	59.34	33	P	P	10 11 29.0	-0.9
	baz=268						
G15K	Niukluk	59.35	28	P	P	10 11 29.2	-0.8
	baz=264						
J14K	Nanvaranak Lak	59.38	30	P	P	10 11 29.7	-0.4
	baz=266						
L14K	Kuka Creek	59.71	32	P	P	10 11 32.1	-0.3
	baz=268						
CMSA	Cobar Meteorol	59.86	160	P	P	10 11 36.6	+2.8
WSAR	Wadi Sarin	59.96	283	LR	LR	10 39 21.9	
	comp=Z,516nm,19.8s,baz=84,slow=38						
S12K	Black Hills	59.98	39	P	P	10 11 34.6	+0.1
	baz=271						
D17K	Noatak River	60.03	25	P	P	10 11 35.0	+0.4
	baz=264						
M14K	Bethel	60.04	33	P	P	10 11 34.4	-0.4
	baz=269						
C17K	DeLong Mountai	60.08	24	P	P	10 11 35.4	+0.4
	baz=263						
H16K	Elim	60.09	28	P	P	10 11 34.6	-0.4
	baz=266,SNR=5.2						
N14K	Kuskokwak Cree	60.16	34	P	P	10 11 35.0	-0.6
	baz=269						
K15K	Wolf Creek Mou	60.29	31	P	P	10 11 36.2	-0.3
	baz=268						
L15K	Ungalak Mounta	60.29	32	P	P	10 11 36.3	-0.1
	baz=268						
E17K	Hotham Inlet	60.45	26	P	P	10 11 37.4	0.0
	baz=265						
F17K	Baldwin Pennin	60.63	26	P	P	10 11 39.2	+0.5
	baz=266						
M15K	Kasigluk River	60.66	33	P	P	10 11 38.7	-0.3
	baz=270						
B18K	Kokolik River	60.68	23	P	P	10 11 38.1	-0.9
	baz=264						
I17K	Unalakleet	60.72	29	P	P	10 11 38.4	-1.0
	baz=268						
J16K	Anvik River	60.75	30	P	P	10 11 38.6	-0.9
	baz=268						
C18K	Utukok River	60.83	24	P	P	10 11 38.8	-1.3
	baz=265						
N15K	Kwethluk River	60.96	34	P	P	10 11 40.2	-0.9
	baz=270						
A19K	Wainwright	61.02	22	P	P	10 11 40.9	-0.4
	baz=264						
H17K	Granite Mounta	61.10	28	P	P	10 11 41.5	-0.5
	baz=268						
O15K	Ungalikthiuk R	61.11	35	P	P	10 11 41.2	-0.9
	baz=271						
L16K	Owhat River	61.25	32	P	P	10 11 43.2	+0.3
L16K	Owhat River	61.25	32	P	P	10 11 42.2	-0.8
	baz=270						
F18K	Selawik	61.27	26	P	P	10 11 42.6	-0.5
	baz=267,SNR=6.8						
KIRV	Kirov	61.32	325	LR	LR	10 41 09.8	
	comp=Z,3μm,18.2s,baz=84,slow=39						
KIRV	Kirov	61.32	325	*ce*P	P	10 11 42.6	-0.9
J17K	VABM Dome	61.44	30	P	P	10 11 43.6	-0.6
	baz=270						
CHNA	Chernabura Isl	61.44	40	P	P	10 11 43.6	-0.7
	baz=274						
CNBA	Chernabura Isl	61.44	40	P	P	10 11 43.3	-1.1
M16K	Timber Creek	61.51	33	P	P	10 11 44.3	-0.4
	baz=271						
G18K	Tagagawik	61.65	27	P	P	10 11 44.9	-0.8
	baz=269						
H18K	Honhosa River	61.76	28	P	P	10 11 46.4	0.0
	baz=269						
K17K	Iditarod	61.79	31	P	P	10 11 46.3	-0.4
	baz=271						
L17K	Donlin	61.80	31	P	P	10 11 46.6	-0.2
	baz=271						
DZM	Mont Dzumac	61.92	136	*e*P	P	10 11 47.1	-1.0
	comp=Z,90nm,24.7s						
DZM				*e*S	S	10 20 12.2	+2.0
	comp=Z,396nm,25.5s						
DZM				*e*SS	SS	10 24 12.9	-0.3
	comp=Z,193nm,26.4s						
DZM				*e*LR	LR	10 30 09.8	
	comp=Z,2μm,24.8s						
DZM	Mont Dzumac	61.92	136	LR	LR	10 35 09.4	
	comp=Z,694nm,21.5s,baz=316,slow=33						
D19K	Kuna River	61.95	24	IAmb	IAmb	10 12 42.9	
	comp=Z,12nm,0.9s						
D19K	Kuna River	61.95	24	P	P	10 11 47.6	0.0
	baz=268						
O16K	Kokwok River B	61.98	34	P	P	10 11 47.7	-0.3
	baz=273						
CHGN	Chignik	62.00	38	P	P	10 11 46.3	-1.8
	baz=274						
F19K	Shaleruckik Mo	62.03	26	P	P	10 11 46.8	-1.3
	baz=269						
P16K	Nushagak River	62.06	35	P	P	10 11 47.7	-0.8
	baz=273						
M17K	Holitna River	62.23	32	P	P	10 11 49.6	0.0
M17K				IAmb	IAmb	10 11 51.6	
	comp=Z,21nm,1.0s						
M17K	Holitna River	62.23	32	P	P	10 11 48.8	-0.9
	baz=272						
E19K	Redstone River	62.25	25	P	P	10 11 48.6	-1.1
	baz=269						
G19K	Purcell Mounta	62.30	27	P	P	10 11 49.2	-0.8
	baz=270						
N17K	Nushagak Hills	62.39	33	P	P	10 11 49.3	-1.5
	baz=273						
GCSA	Galena City Sc	62.40	28	P	P	10 11 50.4	-0.2
	baz=271						
O17K	Koliganek Bris	62.48	34	P	P	10 11 50.7	-0.5
	baz=273						
J18K	Innoko River	62.50	30	P	P	10 11 50.4	-1.0
	baz=272						
D20K	Etivluk River	62.50	24	P	P	10 11 51.7	+0.4
	baz=269						
L18K	Granite Mounta	62.55	31	P	P	10 11 51.8	+0.1
	baz=272						
H19K	Roundabout Mou	62.56	27	P	P	10 11 51.8	0.0
	baz=271						
A21K	Barrow	62.57	21	P	P	10 11 51.0	-0.8
	baz=268						
E20K	Nigu River	62.65	24	P	P	10 11 51.7	-0.7
	baz=270						
Q16K	King Salmon	62.78	35	P	P	10 11 52.8	-0.4
	baz=274						
BELG	Belogornoye	62.81	318	LR	LR	10 41 27.4	
	comp=Z,911nm,18.8s,baz=133,slow=38						
F20K	Avaraart Lake	62.84	26	P	P	10 11 53.5	-0.1
	baz=271						
TTA	Tatalina	62.84	30	P	P	10 11 53.6	-0.2
	baz=273						
TTA	Tatalina	62.84	30	P	P	10 11 53.5	-0.2
P17K	Kvichak River	62.85	35	P	P	10 11 53.5	-0.3
	baz=274						
J19K	Poorman	62.96	29	P	P	10 11 54.6	+0.2
J19K				IAmb	IAmb	10 12 04.8	
	comp=Z,18nm,1.1s						
J19K	Poorman	62.96	29	P	P	10 11 54.7	+0.2
	baz=272,SNR=7.4						
M18K	Stony River	63.00	32	P	P	10 11 55.4	+0.6
	baz=274						
N18K	Kilae Creek	63.02	33	P	P	10 11 55.0	+0.1
	baz=274						
C21K	Knifeblade Rid	63.16	23	P	P	10 11 55.2	-0.5
	baz=270						
H20K	Anotleneega Mo	63.22	27	P	P	10 11 55.6	-0.6
	baz=272						
B21K	Ikpikpuk River	63.22	23	P	P	10 11 55.6	-0.5
	baz=270						
L19K	White Mountain	63.41	31	P	P	10 11 57.1	-0.5
	baz=274						
I20K	Naaghedeneel	63.42	28	P	P	10 11 57.1	-0.3
	baz=273						
O18K	Koktuh Hills	63.42	34	P	P	10 11 57.1	-0.5
	baz=275						
P18K	Big Mountain,	63.45	34	P	P	10 11 57.6	-0.3
	baz=275						
ACHA	Angle Creek He	63.51	36	IAmb	IAmb	10 12 00.5	
	comp=Z,21nm,1.1s						
J20K	Nowinta River	63.60	29	P	P	10 11 58.2	-0.5
	baz=274						
CHIR	Chirikof Islan	63.60	38	P	P	10 11 58.2	-0.6
	baz=276						
M19K	Big River Lodg	63.65	31	P	P	10 11 58.9	-0.2
	baz=274						
K20K	Telida	63.69	30	P	P	10 11 58.3	-1.0
	baz=274						
N19K	Bonanza Creek	63.70	33	P	P	10 11 59.4	-0.1
	baz=275						
F21K	Alatna River	63.71	25	P	P	10 11 58.9	-0.5
	baz=273						
O19K	Port Alsworth	63.84	33	P	P	10 11 59.7	-0.5
	baz=275						
L20K	Farewell, AK	63.85	31	P	P	10 11 59.9	-0.5
	baz=275						
D22K	Ayikyak River	63.93	24	P	P	10 12 00.8	0.0
	baz=273						
R18K	Karluk	64.05	36	P	P	10 12 01.6	-0.1
	baz=277						
H21K	Melozitna Rive	64.07	27	P	P	10 12 01.9	+0.1
	baz=274						
M20K	Styx River	64.25	31	P	P	10 12 02.3	-0.8
	baz=276						
E22K	Anaktuvuk Pass	64.29	24	IAmb	IAmb	10 12 23.8	
	comp=Z,21nm,1.4s						
E22K	Anaktuvuk Pass	64.29	24	P	P	10 12 02.7	-0.5
	baz=274						
Q19K	Cape Douglas,	64.31	35	P	P	10 12 03.3	-0.2
	baz=277						
SII	Sitkinak Islan	64.31	37	P	P	10 12 03.1	-0.4
	baz=277						
MAK	Makhachkala	64.38	307	*e*P	P	10 11 59.0	-5.1
MAK				*e*S	S	10 20 35.4	-5.0
MAK				pmax	pmax		
	comp=Z,91nm,1.1s						
MAK				MLR	MLR		
	comp=Z,2μm,15.0s						
CHUM	Lake Minchumin	64.43	29	P	P	10 12 03.4	-0.7
	baz=275,SNR=5.5						
P19K	Oil Pt	64.44	34	P	P	10 12 03.9	-0.4
	baz=277						
I21K	Tanana	64.45	28	P	P	10 12 03.9	-0.3
	baz=275						
CAST	Castle Rocks	64.58	30	P	P	10 12 04.5	-0.7
	baz=276,SNR=9.2						
PPLA	Purkeypile	64.58	30	P	P	10 12 04.4	-0.9
	baz=276						
C23K	Itkillik River	64.61	22	P	P	10 12 04.6	-0.6
	baz=274						
H22K	Ishtalitna Cre	64.64	27	P	P	10 12 05.1	-0.4
	baz=275						
D23K	Nanushuk River	64.65	23	P	P	10 12 05.2	-0.3
	baz=274						
O20K	Slope Mountain	64.69	33	P	P	10 12 05.4	-0.7
	baz=277						
OHAK	Old Harbor	64.72	37	P	P	10 12 05.7	-0.3
	baz=278						
SPCR	Spurr Chakacha	64.76	32	P	P	10 12 06.0	-0.4
	baz=277						
SPU	Mount Spurr	64.84	32	IAmb	IAmb	10 12 07.8	
	comp=Z,15nm,1.1s						
STLK	Strandline Lak	64.91	32	IAmb	IAmb	10 13 40.5	
	comp=Z,32nm,2.0s						
COLD	Coldfoot	64.98	25	P	P	10 12 06.8	-0.9
	baz=276						
BPAW	Bear Paw Mtn.	64.99	29	IAmb	IAmb	10 12 08.6	
	comp=Z,12nm,1.0s						
BPAW	Bear Paw Mtn.	64.99	29	P	P	10 12 07.3	-0.5
	baz=276,SNR=5.5						
SKT	Skwentna	64.99	31	IAmb	IAmb	10 13 13.1	
	comp=Z,33nm,1.8s						
SKT	Skwentna	64.99	31	P	P	10 12 06.7	-1.1
	baz=277						
Q20K	Shuyak Island	65.00	35	P	P	10 12 06.9	-1.0
	baz=278						
KDAK	Kodiak Island	65.01	36	P	P	10 12 07.8	-0.2
KDAK	Kodiak Island	65.01	36	LR	LR	10 42 30.3	
	comp=Z,168nm,20.0s,baz=114,slow=38						
KDAK	Kodiak Island	65.01	36	P	P	10 12 07.8	-0.2
	baz=278						
KDAK	Kodiak Island	65.01	36	P	P	10 12 07.8	-0.2
KDAK				pmax	pmax		
	comp=Z,34nm,1.0s						
TOLK	Toolik Lake Re	65.08	24	P	P	10 12 08.0	-0.4
	baz=276						
KTH	Kantishna Hill	65.08	29	P	P	10 12 08.5	0.0
KTH				IAmb	IAmb	10 12 09.6	
	comp=Z,25nm,1.3s						
G23K	Bananza Creek	65.10	26	P	P	10 12 08.0	-0.5
	baz=276						
E23K	Chandalar	65.12	24	P	P	10 12 08.0	-0.7
	baz=276						
C24K	Franklin Bluff	65.28	23	P	P	10 12 09.3	-0.3
	baz=276						
D24K	Happy Valley	65.29	23	IAmb	IAmb	10 12 58.8	
	comp=Z,14nm,1.0s						
D24K	Happy Valley	65.29	23	P	P	10 12 09.3	-0.4
	baz=276						
CAPN	Captain Cook N	65.33	32	P	P	10 12 09.2	-0.7
	baz=278						
TRF	Thorofare Moun	65.38	29	P	P	10 12 09.8	-0.7
	baz=277						
CUT	Chulitna	65.52	31	P	P	10 12 10.2	-1.1
	baz=278						
E24K	Your Creek	65.54	24	P	P	10 12 10.3	-1.1
	baz=277						
I23K	Minto, Yukon-K	65.56	28	IAmb	IAmb	10 12 31.7	
	comp=Z,8.6nm,0.9s						
I23K	Minto, Yukon-K	65.56	28	P	P	10 12 10.2	-1.2
	baz=277						
BRSE	Bradley Lake S	65.68	34	P	P	10 12 11.3	-1.1
	baz=279						
M22K	Willow	65.68	31	P	P	10 12 11.0	-1.3
	baz=278						
NEA2	Nenana	65.75	28	P	P	10 12 12.1	-0.6
	baz=278						
MCK	McKinley	65.94	29	P	P	10 12 13.8	-0.1
MCK	McKinley	65.94	29	P	P	10 12 13.4	-0.5
	baz=278,SNR=11						
MCK	McKinley	65.94	29	P	P	10 12 13.8	-0.1
MCK				pmax	pmax		
	comp=Z,35nm,1.3s						
RC01	Rabbit Creek A	65.97	32	P	P	10 12 13.6	-0.6
	baz=279						
RND	Reindeer	66.02	29	P	P	10 12 14.1	-0.5
RND	Reindeer	66.02	29	P	P	10 12 14.1	-0.5
RND				pmax	pmax		
	comp=Z,41nm,1.0s						
O22K	Cooper Landing	66.07	33	P	P	10 12 14.5	-0.3
	baz=279						
H24K	Noodor Dome	66.08	27	P	P	10 12 14.3	-0.6
	baz=278						
KLMR	Klimovskoe	66.09	328	*e*P	P	10 12 11.1	-3.8
KLMR				pmax	pmax		
	comp=Z,48nm,1.9s						
KLMR				MLR	MLR		
	comp=Z,4μm,19.0s						
G24K	Hadweenzic Riv	66.11	26	P	P	10 12 15.0	0.0
	baz=278						
D25K	Kavik River	66.14	23	P	P	10 12 14.7	-0.5
	baz=278						
PMR	Palmer	66.17	31	IAmb	IAmb	10 12 15.8	
	comp=Z,19nm,1.2s						
PMR	Palmer	66.17	31	P	P	10 12 14.5	-1.0
	baz=279						
PMR	Palmer	66.17	31	P	P	10 12 14.7	-0.7
WRH	Wood River Hil	66.19	28	IAmb	IAmb	10 12 35.3	
	comp=Z,17nm,1.2s						
COLA	College	66.23	28	P	P	10 12 15.6	-0.1
	baz=279						
COLA	College	66.23	28	P	P	10 12 16.1	+0.4
COLA	College	66.23	28	P	P	10 12 13.6	-2.1
GHO	Glory Hole Cre	66.24	31	IAmb	IAmb	10 12 54.6	
	comp=Z,29nm,1.4s						
SEW	Seward	66.26	33	P	P	10 12 15.9	-0.1
	baz=280						
CCB	Clear Creek Bu	66.29	28	IAmb	IAmb	10 12 19.3	
	comp=Z,26nm,1.9s						
POKR	Poker Plat Res	66.37	27	IAmb	IAmb	10 12 18.1	
	comp=Z,18nm,0.9s						
POKR	Poker Plat Res	66.37	27	P	P	10 12 16.4	-0.3
	baz=279,SNR=7.9						
SML	Sawmill	66.52	31	IAmb	IAmb	10 12 17.8	
	comp=Z,20nm,1.1s						
SML	Sawmill	66.52	31	P	P	10 12 17.8	+0.1
	baz=280						
KNK	Knik Glacier	66.52	32	P	P	10 12 17.1	-0.6
	baz=280,SNR=6.2						
C26K	Camden Bay	66.55	22	P	P	10 12 17.3	-0.4
	baz=279						
VRH	Novokhopyorsk	66.62	317	*e*P	P	10 12 18.1	-0.4
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
G25K	Bearman Lake	66.64	26	P	P	10 12 17.7	-0.7
	baz=280						
IL31		66.66	28	IAmb	IAmb	10 13 58.5	
	comp=Z,36nm,2.0s						
ILAR	Eielson Array	66.66	28	P	P	10 12 16.6	-1.9
	comp=Z,1.4nm,0.9s,baz=271,slow=5.0,SNR=20						
ILAR				LR	LR	10 42 52.5	
	comp=Z,211nm,19.2s,baz=281,slow=37						
	comp=Z,1.4nm,0.9s						
F25K	Christian Rive	66.68	25	P	P	10 12 18.1	-0.5
	baz=280						
PWL	Port Wells	66.68	32	P	P	10 12 18.5	-0.2
	baz=280,SNR=5.7						
HDA	Harding Lake	66.69	28	IAmb	IAmb	10 12 18.6	
	comp=Z,17nm,1.0s						
HDA	Harding Lake	66.69	28	P	P	10 12 18.7	-0.1
	baz=280						
M23K	Glacier View	66.80	31	P	P	10 12 19.5	0.0
	baz=280						
H25L	Birch Creek	66.83	26	P	P	10 12 20.0	+0.5
	baz=280						
SCM	Sheep Creek Mo	66.98	31	P	P	10 12 20.6	-0.1
	baz=281,SNR=6.5						
C27K	Jago River	67.02	22	P	P	10 12 20.4	-0.3
	baz=280						
GNI	Garni	67.03	305	LR	LR	10 46 17.0	
	comp=Z,886nm,18.6s,baz=86,slow=40						
MSVF	Nonsavu	67.05	124	LR	LR	10 40 41.2	
	comp=Z,283nm,18.2s,baz=300,slow=35						
PRP	Porcupine Dome	67.09	27	P	P	10 12 21.3	-0.1
	baz=281						
BMAR	Burnt Mountain	67.11	25	P	P	10 12 21.8	+0.4
F26K	Sheenjek River	67.22	24	P	P	10 12 21.5	-0.6
	baz=281						
GLI	Glacier Island	67.27	32	P	P	10 12 22.1	-0.4
	baz=281						
P23K	Montague Islan	67.29	33	P	P	10 12 22.5	-0.1
	baz=281						
K24K	Donnelly Dome	67.31	29	P	P	10 12 22.4	-0.3
	baz=281,SNR=6.3						
J25K	Salcha River,	67.33	28	P	P	10 12 22.6	-0.3
	baz=281						
M24K	Tolsona, Glenn	67.46	31	P	P	10 12 24.2	+0.5
	baz=282,SNR=6.1						
KBZ	Khabaz	67.49	309	P	P	10 12 23.7	-0.4
	comp=Z,3.6nm,0.9s,baz=49,slow=5.2,SNR=6.1						
KBZ				LR	LR	10 46 38.4	
	comp=Z,2μm,18.6s,baz=72,slow=40						
	comp=Z,3.6nm,0.9s						
G26K	Porcupine Rive	67.50	25	P	P	10 12 24.6	+0.8
	baz=282						
KIV	Kislovodsk	67.58	309	*e*P	P	10 12 21.8	-3.1
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,660nm,17.0s						
PAX	Paxson	67.61	30	IAmb	IAmb	10 12 25.1	
	comp=Z,9.8nm,1.0s						
PAX	Paxson	67.61	30	P	P	10 12 24.9	+0.2

baz=282,SNR=7.2
SHA1 Shidzhatmaz 67.66 309 *i* P **P 10 12 25.2 -0.3**
KLU Klutina 67.70 31 P **P 10 12 25.3 0.0**
baz=282
RIDG Independent Ri 67.72 29 P **P 10 12 24.5 -0.8**
baz=282,SNR=7.1
HARP HAARP 67.87 30 P **P 10 12 26.6 +0.3**
baz=282
Q23K Middleton Isla 67.93 33 P **P 10 12 26.5 -0.2**
baz=282
EYAK Cordova Ski Ar 67.99 32 P **P 10 12 27.5 +0.6**
baz=282
LPSR Galich'ya Gora 68.01 319 *e*P **P 10 12 30.8 +3.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
D27M Malcolm River 68.05 23 P **P 10 12 27.9 +0.6**
baz=283
SCRK Sand Creek 68.05 28 P **P 10 12 26.3 -1.2**
baz=283,SNR=8.5
VORR Voronezh 68.05 318 *e*P P 10 12 35.0 +7.5
VORR pmax pmax
comp=Z,18nm,1.2s
I26K Coal Creek Min 68.10 27 P **P 10 12 27.2 -0.4**
baz=283
J26L Joseph Creek 68.11 28 P **P 10 12 26.6 -1.2**
baz=283
VORD Divnogorie 68.16 317 *e*P **P 10 12 25.4 -2.8**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 68.18 317 *e*P **P 10 12 28.0 -0.4**
VSR pmax pmax
comp=Z,8.0nm,1.1s
N25K Chitina, Valde 68.30 31 P **P 10 12 28.1 -0.9**
baz=283
G27K Doyon Strip 68.36 25 P **P 10 12 28.5 -0.8**
baz=284
MENT Mentasta 68.40 29 IAmb IAmb 10 12 48.5
comp=Z,17nm,1.0s
MENT Mentasta 68.40 29 P **P 10 12 30.1 +0.5**
BMRM Bremner River 68.44 32 P **P 10 12 29.5 -0.4**
baz=283
L26K Log Cabin Wild 68.54 29 IAmb IAmb 10 12 31.9
comp=Z,13nm,1.1s
L26K Log Cabin Wild 68.54 29 P **P 10 12 29.9 -0.6**
baz=284,SNR=7.2
H27K Steamboat Moun 68.54 26 P **P 10 12 30.0 -0.5**
baz=284
I27K Kandik River 68.66 26 P **P 10 12 31.1 -0.1**
baz=284
E28M Babbage River 68.70 23 P **P 10 12 31.8 +0.4**
baz=285
KAIM Kayak Island 68.77 33 P **P 10 12 31.9 0.0**
baz=284
OBN Obninsk 68.78 322 LR LR 10 44 19.5
comp=Z,1μm,21.7s,baz=42,slow=38
OBN Obninsk 68.78 322‖ *e*P **P 10 12 29.8 -2.2**
OBN *e* 10 13 01.1
OBN *e* 10 15 06.2
OBN *e*S SKiKP 10 22 09.7 -12
OBN pmax pmax
comp=Z,12nm,1.4s
OBN MLR MLR
comp=Z,1μm,15.0s
F28M Old Crow 68.83 24 IAmb IAmb 10 12 47.1
comp=Z,16nm,1.2s
F28M Old Crow 68.83 24 P **P 10 12 32.6 +0.4**
baz=285,SNR=5.5
M26K Nabesna, AK 68.85 30 P **P 10 12 32.7 +0.3**
baz=284
VRDI Verde Repeater 68.92 31 IAmb IAmb 10 12 53.2
comp=Z,21nm,1.3s
SPITS Spitsbergen Ar 69.15 348 LR LR 10 44 54.7
comp=Z,470nm,21.6s,baz=17,slow=38
L27K Beaver Creek, 69.20 29 P **P 10 12 34.9 +0.3**
baz=285
BCAR Beaver Creek A 69.22 29 P **P 10 12 34.7 0.0**
E29M Blow River 69.34 23 P **P 10 12 35.5 +0.2**
baz=286
M27K Edge Creek, AK 69.36 30 P **P 10 12 35.2 -0.5**
baz=285
I28M Miner Creek 69.38 26 P **P 10 12 35.6 -0.1**
baz=286
G29M Pine Creek 69.72 25 P **P 10 12 37.5 -0.2**
baz=287
SOC Sochi 69.76 309 *e*P **P 10 12 35.6 -2.7**
SOC *e* 10 15 09.7
SOC *e*PPP PPP 10 16 55.0
SOC *e*S **S 10 21 45.0 -0.3**
SOC *e*SS **SS 10 26 09.3 -4.3**
SOC MLR MLR
comp=Z,1μm,18.0s
BVCY Beaver Creek 69.81 30 P **P 10 12 38.7 +0.4**
baz=286
ARCES ARCESS Array B 69.82 338 LR LR 10 47 36.5
comp=Z,1μm,18.7s,baz=84,slow=40
MESA MESA 69.91 32 P **P 10 12 38.6 -0.6**
baz=286
DAWY Dawson 69.98 28 IAmb IAmb 10 12 40.6
comp=Z,15nm,1.0s
DAWY Dawson 69.98 28 P **P 10 12 39.1 -0.3**
baz=286,SNR=10.0
I29M Ogilvie Camp, 70.06 26 IAmb IAmb 10 12 41.2
comp=Z,19nm,1.3s
I29M Ogilvie Camp, 70.06 26 P **P 10 12 39.9 +0.1**
baz=287,SNR=5.7
YUK3 Moose Creek 70.16 30 P **P 10 12 40.1 -0.6**
baz=286
F30M Barrier River 70.33 24 P **P 10 12 41.0 -0.4**
baz=288
J29N Klondike Camp 70.36 27 IAmb IAmb 10 12 43.6
comp=Z,22nm,0.9s
J29N Klondike Camp 70.36 27 P **P 10 12 41.8 0.0**
baz=287,SNR=13
G30M tAoh Zraii Nji 70.37 24 P **P 10 12 41.6 -0.1**
baz=288
EPYK Eagle Plains 70.37 25 IAmb IAmb 10 13 11.1
comp=Z,26nm,1.3s
EPYK Eagle Plains 70.37 25 P **P 10 12 41.6 -0.1**
baz=288
O28M Mount Upton 70.58 31 P **P 10 12 43.2 -0.2**
baz=287
YUK8 Steele Glacier 70.62 31 P **P 10 12 42.9 -0.7**
baz=287
PINM Pinnacle 70.75 32 P **P 10 12 44.0 -0.1**
baz=287
L29M L29M 70.81 29 P **P 10 12 44.7 +0.3**
baz=288
K29M Barlow Dome 70.84 28 P **P 10 12 44.1 -0.6**
baz=288
M29M Somme Creek 70.86 29 P **P 10 12 43.8 -1.1**
baz=288
I30M Mount Dempster 70.87 26 P **P 10 12 44.8 -0.1**
baz=289
INK Inuvik 70.91 23 IAmb IAmb 10 13 06.3
comp=Z,13nm,1.2s
INK Inuvik 70.91 23 LR LR 10 45 37.4
comp=Z,166nm,20.5s,baz=295,slow=38
INK Inuvik 70.91 23 P **P 10 12 45.3 +0.5**
baz=290
INK Inuvik 70.91 23 P **P 10 12 43.7 -1.2**
J30M Hart River 71.10 27 P **P 10 12 46.6 +0.3**
baz=289
G31M Satah River 71.12 24 P **P 10 12 46.5 +0.3**
baz=290
YUK4 Talbot Arm 71.12 30 P **P 10 12 46.9 +0.3**
baz=288,SNR=6.1
F31M Tsiigehtchic 71.13 24 P **P 10 12 46.3 +0.1**
baz=290
PNL Peninsula 71.29 32 P **P 10 12 47.1 -0.3**
baz=288
YUK6 Outpost Mounta 71.38 31 P **P 10 12 47.7 -0.4**
baz=288
H31M Peel River 71.47 25 P **P 10 12 48.5 +0.1**
baz=290
O29M Mount Kennedy 71.48 31 P **P 10 12 48.1 -0.6**
baz=288
M30M Minto, Yukon 71.56 29 P **P 10 12 49.6 +0.6**
baz=289,SNR=9.4
MAYO Mayo, Yukon 71.60 28 P **P 10 12 48.7 -0.5**
baz=290
HYT Haines Junctio 71.81 31 IAmb IAmb 10 12 52.6
comp=Z,17nm,1.1s
HYT Haines Junctio 71.81 31 P **P 10 12 50.4 -0.3**
baz=289,SNR=5.8
A36M Sachs Harbour 72.05 18 P **P 10 12 51.8 +0.2**
baz=296
FINES FINESS Array B 72.24 330 P **P 10 12 50.7 -2.4**
comp=Z,3.4nm,0.9s,baz=68,slow=11,SNR=5.6
FINES LR LR 10 49 30.3
comp=Z,682nm,18.1s,baz=67,slow=40
comp=Z,3.4nm,0.9s
P30M Million Dollar 72.30 31 P **P 10 12 53.3 -0.2**
baz=290
N31M Braeburn, Yuko 72.38 30 IAmb IAmb 10 12 56.0
comp=Z,28nm,1.1s
N31M Braeburn, Yuko 72.38 30 P **P 10 12 53.7 -0.2**
baz=290,SNR=5.6
O30N Mendenhall 72.48 31 IAmb IAmb 10 13 21.7
comp=Z,18nm,1.3s
O30N Mendenhall 72.48 31 P **P 10 12 55.0 +0.5**
baz=290
M31M Drury Creek, Y 72.74 29 P **P 10 12 56.1 0.0**
baz=291,SNR=6.6
PLBC Pleasant Camp 72.81 32 P **P 10 12 56.1 -0.4**
baz=290
WHY Whitehorse 73.08 30 IAmb IAmb 10 12 59.6
comp=Z,19nm,1.1s
WHY Whitehorse 73.08 30 P **P 10 12 58.0 -0.2**
baz=291,SNR=7.3
FARO Faro, Yukon 73.18 29 IAmb IAmb 10 13 00.4
comp=Z,24nm,1.0s
FARO Faro, Yukon 73.18 29 P **P 10 12 58.5 -0.2**
baz=292,SNR=18
SKAG Skagway 73.31 32 P **P 10 12 59.7 +0.3**
baz=291
S31K Pelican 73.41 33 P **P 10 12 59.6 -0.4**
baz=291
C36M Paulatuk 73.61 20 IAmb IAmb 10 13 42.3
comp=Z,48nm,2.0s
C36M Paulatuk 73.61 20 P **P 10 13 01.2 +0.2**
baz=298
N32M Quiet Lake 73.71 30 P **P 10 13 02.1 +0.2**
baz=293
MNK Minsk 73.76 323 *i* P **P 10 13 00.0 -2.2**
MNK *i* 10 13 15.3
MNK *i* 10 15 44.3
MNK *i* PPP PPP 10 17 29.3
MNK *i* S **S 10 22 32.1 +1.1**
MNK *i* 10 23 09.5
MNK *i* SS **SS 10 27 16.8 +2.5**
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,23nm,0.7s
MNK pmax pmax
comp=E,22nm,0.9s
MNK MLR MLR
comp=E,1μm,18.0s
MNK MLR MLR
comp=N,1μm,17.0s
MNK MLR MLR
comp=Z,1μm,17.0s
P32M Atlin 74.02 31 P **P 10 13 03.5 -0.1**
baz=293
P33M Teslin, Yukon 74.20 30 IAmb IAmb 10 13 06.6
comp=Z,34nm,1.4s
P33M Teslin, Yukon 74.20 30 P **P 10 13 04.1 -0.6**
baz=293,SNR=7.0
SIT Sitka 74.20 34 P **P 10 13 04.6 0.0**
baz=292
AKASG Malin Array Be 74.34 319 P **P 10 13 04.0 -1.6**
comp=Z,0.1nm,0.3s,baz=62,slow=5.0,SNR=1.0
AKASG LR LR 10 46 22.3
comp=Z,752nm,20.1s,baz=68,slow=36
comp=Z,0.1nm,0.3s
S32K Killisnoo 74.42 33 P **P 10 13 05.9 0.0**
baz=292
BRTR Keskin Array B 75.29 307 P **P 10 13 10.7 -0.9**
comp=Z,1.8nm,1.0s,baz=99,slow=7.6,SNR=7.0
BRTR LR LR 10 51 04.2
comp=Z,272nm,19.7s,baz=78,slow=40
comp=Z,1.8nm,1.0s
BRTR Keskin Array B 75.29 307 *ce*P **P 10 13 10.6 -1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BR104 Keskin Array S 75.30 307 P **P 10 13 10.7 -0.9**
comp=Z,7.6nm,1.1s
BR106 Keskin Array S 75.30 307 P **P 10 13 10.6 -1.0**
R33M Jennings River 75.38 31 P **P 10 13 11.5 -0.1**
baz=295
ASF Jabal al Asfar 75.48 299 LR LR 10 50 58.6
comp=Z,410nm,18.4s,baz=110,slow=39
LUBAR Lubar, Ukraine 75.50 319 P **P 10 13 10.4 -1.9**
U33K Whale Pass 75.69 34 P **P 10 13 13.4 +0.2**
baz=294
S34M Telegraph Cree 75.93 32 P **P 10 13 14.0 -0.6**
baz=295
CRAG Craig 75.95 35 P **P 10 13 14.6 -0.2**
baz=294
WTLY Watson Lake, Y 76.06 30 IAmb IAmb 10 13 17.2
comp=Z,27nm,1.3s
WTLY Watson Lake, Y 76.06 30 P **P 10 13 15.4 0.0**
baz=296,SNR=7.4
DLBC Dease Lake 76.24 32 IAmb IAmb 10 13 59.8
comp=Z,24nm,1.5s
DLBC Dease Lake 76.24 32 LR LR 10 48 53.3
comp=Z,213nm,18.8s,baz=313,slow=37
DLBC Dease Lake 76.24 32 P **P 10 13 17.1 +0.6**
baz=296
MMAI Mount Meron Ar 76.36 300 LR LR 10 52 25.2
comp=Z,464nm,19.7s,baz=68,slow=40
T35M Bob Quinn 76.77 33 P **P 10 13 19.5 +0.1**
baz=296
V35K Ketchikan 76.79 35 P **P 10 13 19.8 +0.3**
baz=295
WRGLY Wrigley 76.83 26 IAmb IAmb 10 13 20.8
comp=Z,11nm,1.1s
WRGLY Wrigley 76.83 26 P **P 10 13 19.2 -0.4**
baz=300
RES Resolute Bay 77.02 10 LR LR 10 49 39.4
comp=Z,225nm,19.5s,baz=357,slow=38
U35K Hyder 77.35 34 P **P 10 13 22.0 -0.6**
baz=296
EIL Elat 77.96 297 LR LR 10 53 19.2
comp=Z,258nm,19.2s,baz=76,slow=40
KOTAN Kotaneelee Air 78.15 29 P **P 10 13 26.7 -0.4**
baz=300
TOAD Toad River Com 78.26 30 P **P 10 13 28.0 +0.2**
baz=300,SNR=7.0
HFS Hagfors 78.28 332 LR LR 10 52 22.3
comp=Z,3μm,18.4s,baz=52,slow=39
MLR Muntele Rosu 78.36 315 LR LR 10 51 25.8
comp=Z,1μm,21.8s,baz=58,slow=38
JMIC Jan Mayen 78.64 346 LR LR 10 53 41.3
comp=Z,541nm,19.0s,baz=62,slow=40
NOA NORSAR Array B 78.85 333 LR LR 10 52 05.5
comp=Z,1μm,19.7s,baz=55,slow=39
KOLS Kolonicke sedl 79.17 319 *e*P **P 10 13 30.7 -2.3**
KOLS Kolonicke sedl 79.17 319 *e*P **P 10 13 30.7 -2.3**
URZ Urewera 79.88 141 LR LR 10 44 17.6
comp=Z,411nm,21.6s,baz=35,slow=32
YKA Yellowknife Ar 80.60 24 P **P 10 13 40.0 -0.4**
YKA Yellowknife Ar 80.60 24 P **P 10 13 40.4 0.0**
comp=Z,3.9nm,0.9s,baz=306,slow=5.2,SNR=48
YKA LR LR 10 54 03.2
comp=Z,168nm,19.9s,baz=310,slow=39
comp=Z,3.9nm,0.9s
YKA Yellowknife Ar 80.60 24 P **P 10 13 40.0 -0.4**
VRAC Vranov 82.30 321 LR LR 10 52 54.8
comp=Z,1μm,20.4s,baz=52,slow=38
MODS Modra-Piesok 82.37 320 *e*P **P 10 13 49.2 -0.9**
MODS Modra-Piesok 82.37 320 *e*P **P 10 13 49.2 -0.9**
CLL Collm 83.23 324 *e*P **P 10 13 55.0 +0.5**
IDI Anoyia 83.43 306 LR LR 10 57 14.8
comp=Z,185nm,19.4s,baz=34,slow=40
GERES GERESS Array B 84.17 322 P **P 10 13 59.1 -0.3**
comp=Z,0.6nm,0.6s,baz=53,slow=5.2,SNR=4.4
GERES LR LR 10 54 12.9
comp=Z,1μm,20.5s,baz=56,slow=38
comp=Z,0.6nm,0.6s
RAR Rarotonga 86.42 115 LR LR 10 49 09.0
comp=Z,131nm,20.1s,baz=290,slow=33
BORG Borgarnes 86.54 346 LR LR 10 57 06.3
comp=Z,430nm,18.4s,baz=22,slow=39
DAVOX Davos/Dischmat 87.45 321 LR LR 10 56 18.8
comp=Z,1μm,20.6s,baz=70,slow=38
ABPO Ambohimpanom 87.47 248 P **P 10 14 17.4 +1.1**
SFJD Kangerlussuaq 87.96 358 LR LR 10 54 40.8
comp=Z,320nm,18.5s,baz=7.5,slow=36
NEW Newport 88.12 36 IAmb IAmb 10 14 47.6
comp=Z,22nm,1.9s
VAE Valguarnera 89.76 312 LR LR 10 58 39.2
comp=Z,285nm,18.7s,baz=112,slow=38
FCC Fort Churchill 90.23 19 IAmb IAmb 10 14 29.1
comp=Z,14nm,1.0s
FRB Frobisher Bay 90.64 6 LR LR 10 58 47.6
comp=Z,360nm,18.0s,baz=340,slow=38
MSO Missoula 90.70 36 IAmb IAmb 10 14 41.5
comp=Z,9.0nm,1.1s
FFC Flin Flon 90.72 25 P **P 10 14 30.7 -0.1**
FFC Flin Flon 90.72 25 P **P 10 14 30.7 -0.1**
FFC pmax pmax
comp=Z,27nm,1.0s
MFID Camas Ranch 91.78 40 IAmb IAmb 10 14 38.7
comp=Z,7.9nm,1.1s
EGMT Eagleton 92.07 33 IAmb IAmb 10 14 38.6
comp=Z,12nm,1.1s
DLMT Dillon 92.36 37 IAmb IAmb 10 14 41.1
comp=Z,11nm,0.9s
HLID Hailey 92.49 39 IAmb IAmb 10 14 42.3
comp=Z,6.4nm,0.9s
NVAR Mina Array Bea 93.26 45 P **P 10 14 44.0 +0.8**
comp=Z,0.8nm,0.8s,baz=291,slow=3.4,SNR=5.1
NVAR LR LR 10 49 52.2
comp=Z,152nm,21.4s,baz=331,slow=31
comp=Z,0.8nm,0.8s
PPT Papeete 93.37 108 LR LR 10 48 12.5
comp=Z,213nm,21.9s,baz=346,slow=30
PPT2 Papeete2 93.38 108 *e*S **S 10 25 55.3 +5.5**
comp=Z,99nm,29.0s
PPT2 Papeete2 93.38 108 *e*LQ LQ 10 40 25.3
comp=Z,953nm,35.8s
PPT2 *e*LR LR 10 44 42.1
comp=Z,781nm,33.2s
PPT2 *e*LR LR 10 44 43.3
comp=Z,1μm,30.0s
YHL Hebgen Lake 93.45 36 IAmb IAmb 10 14 46.6
comp=Z,5.7nm,1.0s
YHB Horse Butte 93.51 36 IAmb IAmb 10 14 46.7
comp=Z,10nm,1.1s
H17A Grant Village 94.08 36 IAmb IAmb 10 15 11.7
comp=Z,7.0nm,1.2s
KEST Kesra 94.12 313 LR LR 11 01 32.1
comp=Z,418nm,19.7s,baz=48,slow=38
R11B Troy Canyon, C 95.02 43 P **P 10 14 51.1 -0.1**
baz=308
PDAR Pinedale Array 95.71 37 P **P 10 14 53.0 -1.5**
comp=Z,2.2nm,1.2s,baz=288,slow=1.4,SNR=4.9
comp=Z,2.2nm,1.2s
TBI Tubuai 95.90 113 *e*S **S 10 26 04.8 -6.6**
comp=Z,777nm,36.2s
TBI Tubuai 95.90 113 *e*LQ LQ 10 41 53.1
comp=Z,1μm,27.8s
TBI *e*LR LR 10 45 48.7
comp=Z,2μm,27.5s
ULM Lac du Bonnet 96.55 25 P **P 10 14 56.0 -1.7**
comp=Z,4.5nm,1.0s,baz=348,slow=2.5,SNR=6.3
ULM LR LR 11 00 22.5
comp=Z,282nm,20.3s,baz=334,slow=37
comp=Z,4.5nm,1.0s
PFO Pinyon Flats O 97.31 48 LR LR 10 51 20.3
comp=Z,209nm,21.9s,baz=261,slow=31
TAOE Nuku Hiva Isla 98.10 96 *e*LR LR 10 46 55.0
comp=Z,448nm,25.5s
SCHQ Schefferville 99.58 7 LR LR 11 03 57.5
comp=Z,435nm,18.9s,baz=0.5,slow=38
ESDC Sonseca Array 99.75 322 LR LR 11 04 57.0
comp=Z,629nm,18.3s,baz=24,slow=38
L61B Northampton 110.67 14 P **PKiKP 10 20 01.0 +0.2**
baz=343
435B Jarrell 110.95 39 P **PKiKP 10 20 01.7 0.0**
baz=319
SYO Syowa Base 111.71 203‖ *i*Pdiff **Pdif 10 16 07.0 +2.4**
833A Chaparral WMA, 111.72 42 P **PKiKP 10 20 03.3 +0.1**
baz=317

---

*IDC **16** 10:49:05.0±0.6, 51°.60N×176°.92W, h0km, mb3.9/20, mbtmp3.9/24, ML3.6/4, Error ellipse: s-maj=21.8km s-min=11.7km az=174.0*
*NEIC **16** 10:49:08.2±1.5, 51°.13N±0°.08×176°.75W±0°.07, h35km±2km, mb3.9/46, ML3.8(AEIC), Error ellipse: s-maj=14.2km s-min=7.5km az=184.0*
*AEIC **16** 10:49:13.8±2.7, 51°.42N±0°.05×176°.75W±0°.06, h12km±3km, Error ellipse: s-maj=7.3km s-min=5.7km az=199.0*
ISC 16 10:49:11.2±0.6, 51°.46N±0°.09×176°.82W±0°.04, h48km, n98, σ1§06/92, mb3.9/27, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.40**	**319**		**Pn**	**10 49 21.2**	**+0.1**
ADK	**Adak**	**0.43**	**11**		**Pn**	**10 49 21.2**	**-0.2**
ADK					**Sn**	**10 49 29.1**	**+0.2**
KIWB	**Kanaga Island**	**0.44**	**332**		**Pn**	**10 49 22.0**	**+0.4**
KIRH	**Kanaga Island**	**0.47**	**339**		**Pn**	**10 49 22.5**	**+0.6**
KINC	**Kanaga Island**	**0.51**	**338**		**Pn**	**10 49 22.9**	**+0.5**
KICM	**Kanaga Island**	**0.52**	**333**		**Pn**	**10 49 23.0**	**+0.6**
GSCK	**Great Sitkin C**	**0.69**	**36**		**Pn**	**10 49 24.9**	**+0.2**
TAFL	**Tanaga Flats**	**0.73**	**294**		**Pn**	**10 49 25.9**	**+0.6**
TAFL					**Sn**	**10 49 36.1**	**+0.6**
GSMY	**Great Sitkin M**	**0.75**	**39**		**Pn**	**10 49 25.9**	**+0.3**
GSTR	**Great Sitkin T**	**0.79**	**36**		**Pn**	**10 49 26.7**	**+0.7**
TASE	**Tanaga Southea**	**0.85**	**297**		**Pn**	**10 49 27.7**	**+0.8**
GALAA	**Gareloi Lava P**	**1.25**	**285**		**Pn**	**10 49 33.5**	**+1.2**
GANE	**Gareloi Northe**	**1.27**	**287**		**Pn**	**10 49 33.7**	**+1.1**
GANO	**Gareloi North**	**1.29**	**287**		**Pn**	**10 49 33.7**	**+1.0**
GANO					**Sn**	**10 49 51.3**	**+2.4**
GASW	**Gareloi Southw**	**1.31**	**285**		**Pn**	**10 49 34.0**	**+1.0**
ATKA	**Atka Island**	**1.79**	**64**	Pn	**Pn**	**10 49 39.5**	**0.0**
ATKA				Sn	**Sn**	**10 50 01.2**	**+0.2**
SHEM	**Shemya Is, Ala**	**5.74**	**286**	Pn	Pn	10 50 28.0	-5.7
	2.5nm,0.3s,baz=59,slow=23,SNR=1.6						
SHEM				Sn	**Sn**	**10 51 36.6**	**-1.6**
	3.9nm,0.3s,baz=283,slow=20,SNR=1.5						
	93nm,1.0s						
UNV	**Unalaska Valle**	**6.71**	**65**	Pn	**Pn**	**10 50 46.0**	**-1.0**
LVA	**Lava Point**	**7.07**	**63**	Pn	**Pn**	**10 50 50.9**	**-1.2**
FALS	**False Pass**	**8.74**	**62**	Pn	**Pn**	**10 51 13.9**	**-0.9**
N15K	**Kwethluk River**	**12.79**	**41**	Pn	**Pn**	**10 52 10.0**	**-0.1**
ACHA	**Angle Creek He**	**14.07**	**53**	Pn	**Pn**	**10 52 26.6**	**-1.0**
ANM	**Nome**	**14.43**	**20**	Pn	**Pn**	**10 52 33.5**	**+1.2**
J16K	**Anvik River**	**14.67**	**30**	Pn	**Pn**	**10 52 35.2**	**-0.2**
OHAK	**Old Harbor**	**14.84**	**58**	Pn	**Pn**	**10 52 34.6**	**-3.1**
KDAK	**Kodiak Island**	**15.34**	**56**	Pn	**Pn**	**10 52 42.5**	**-1.7**
KDAK	**Kodiak Island**	**15.34**	**56**	Pn	**Pn**	**10 52 40.9**	**-3.3**
	0.4nm,0.3s,baz=346,slow=2.2,SNR=24						
KDAK				Sn	**Sn**	**10 55 33.2**	**+0.4**
	0.5nm,0.3s,baz=253,slow=23,SNR=6.3						
	18nm,1.3s						
PETK	**Petropavlovsk-**	**15.66**	**286**	Pn	**Pn**	**10 52 44.7**	**-3.7**
	0.3nm,0.3s,baz=90,slow=16,SNR=6.4						
	1.4nm,0.8s						
CNPM	**China Poot**	**16.50**	**51**		**Pn**	**10 52 59.6**	**+0.6**
BRLK	**Bradley Lake**	**16.75**	**50**		**Pn**	**10 53 02.3**	**+0.2**
BRLK				IAmb	IAmb	10 53 22.6	
	comp=Z,13nm,1.2s						
STLK	**Strandline Lak**	**16.95**	**44**	P	**P**	**10 53 06.6**	**+0.5**
SKT	**Skwentna**	**17.29**	**43**	P	**P**	**10 53 11.2**	**+1.4**
SKT				IAmb	IAmb	10 53 37.5	
	comp=Z,8.5nm,1.0s						
SLKM	**Skilak Lake**	**17.30**	**48**		**Pn**	**10 53 09.5**	**+0.5**
O22K	**Cooper Landing**	**17.53**	**48**	P	**Pn**	**10 53 11.9**	**+0.1**
SEW	**Seward**	**17.54**	**50**	P	**Pn**	**10 53 11.4**	**-0.4**
SEW				IAmb	IAmb	10 53 28.8	
	comp=Z,14nm,1.2s						
CAST	**Castle Rocks**	**17.76**	**38**		**P**	**10 53 16.0**	**+1.1**
KTH	**Kantishna Hill**	**18.27**	**39**		**Pn**	**10 53 22.2**	**+1.3**
KTH				IAmb	IAmb	10 53 23.4	
	comp=Z,11nm,0.9s						
PWL	**Port Wells**	**18.30**	**48**	P	**Pn**	**10 53 21.3**	**+0.1**
PWL				IAmb	IAmb	10 53 44.8	
	comp=Z,14nm,1.2s						
TRF	**Thorofare Moun**	**18.47**	**39**		**Pn**	**10 53 23.6**	**+0.1**
TRF				IAmb	IAmb	10 53 45.3	
	comp=Z,8.0nm,1.1s						
BPAW	**Bear Paw Mtn.**	**18.53**	**37**	P	**Pn**	**10 53 24.9**	**+1.0**
BPAW				IAmb	IAmb	10 53 46.7	
	comp=Z,5.4nm,0.9s						
SML	**Sawmill**	**18.61**	**45**	P	**P**	**10 53 24.5**	**+0.1**
E19K	**Redstone River**	**18.72**	**24**	IAmb	IAmb	10 53 32.7	
	comp=Z,5.0nm,0.7s						
C18K	**Utukok River**	**18.81**	**18**	P	**Pn**	**10 53 28.9**	**+1.5**
RND	**Reindeer**	**19.03**	**40**		**P**	**10 53 29.1**	**+0.2**
SCM	**Sheep Creek Mo**	**19.07**	**46**	P	**P**	**10 53 29.9**	**+0.5**
SCM				IAmb	IAmb	10 53 48.7	
	comp=Z,6.6nm,0.8s						
MCK	**McKinley**	**19.14**	**39**		**Pn**	**10 53 31.4**	**+0.1**
MCK				IAmb	IAmb	10 53 33.2	
	comp=Z,7.3nm,1.0s						
F21K	**Alatna River**	**19.57**	**27**	P	**Pn**	**10 53 36.7**	**+0.3**
F21K				IAmb	IAmb	10 53 39.7	

comp=Z,6.4nm,1.1s
KLU Klutina 19.60 47 P **Pn 10 53 36.8 0.0**
KLU IAmb IAmb 10 53 51.7
comp=Z,8.5nm,1.2s
CCB Clear Creek Bu 20.00 38 P 10 53 39.1 -0.2
SEY Seymchan 20.02 317 P **P 10 53 38.8 -0.9**
comp=Z,0.3nm,0.3s,baz=69,slow=17,SNR=14
comp=Z,0.8nm,0.8s
PAX Paxson 20.27 43 P 10 53 43.9 +1.4
PAX IAmb IAmb 10 54 03.0
comp=Z,4.0nm,0.7s
IL31 20.41 38 P **P 10 53 44.1 +0.3**
ILAR Eielson Array 20.41 38 P **P 10 53 42.7 -1.1**
comp=Z,0.8nm,0.6s,baz=234,slow=8.2,SNR=18
ILAR PcP **PcP 10 57 54.5 +0.2**
comp=Z,0.3nm,0.4s,baz=276,slow=3.3,SNR=7.3
comp=Z,0.8nm,0.6s
E22K Anaktuvuk Pass 20.66 27 P **P 10 53 47.9 +1.4**
E22K IAmb IAmb 10 53 53.8
comp=Z,4.8nm,0.9s
D22K Ayikyak River 20.93 25 IAmb IAmb 10 53 51.6
comp=Z,3.8nm,0.5s
J25K Salcha River, 20.93 39 IAmb IAmb 10 54 16.3
comp=Z,4.4nm,0.8s
SCRK Sand Creek 21.25 41 P 10 53 52.3 -0.7
SCRK IAmb IAmb 10 54 03.3
comp=Z,8.5nm,1.2s
D23K Nanushuk River 21.52 26 IAmb IAmb 10 54 15.3
comp=Z,4.9nm,0.8s
J26L Joseph Creek 21.61 40 P **P 10 53 56.7 -0.1**
J26L IAmb IAmb 10 54 16.8
comp=Z,3.8nm,0.7s
TOLK Toolik Lake Re 21.62 27 P 10 53 57.9 +1.1
TOLK IAmb IAmb 10 54 05.0
comp=Z,5.6nm,1.1s
C23K Itkillik River 22.12 24 P **P 10 54 03.0 +0.9**
D24K Happy Valley 22.15 26 IAmb IAmb 10 54 06.3
comp=Z,3.7nm,0.9s
BMAR Burnt Mountain 22.49 33 P **P 10 54 06.4 +0.2**
DAWY Dawson 23.20 43 P **P 10 54 13.8 +0.3**
I28M Miner Creek 23.39 39 P **P 10 54 14.9 -0.4**
I28M IAmb IAmb 10 54 15.5
comp=Z,1.7nm,0.6s
L29M L29M 23.53 45 P **P 10 54 16.2 -0.5**
K29M Barlow Dome 23.95 44 IAmb IAmb 10 54 24.7
comp=Z,2.6nm,0.7s
J30M Hart River 24.62 42 IAmb IAmb 10 54 28.4
comp=Z,2.1nm,0.6s
G31M Satah River 26.02 37 P 10 54 39.3 +0.1
KLR Kul'dur 32.35 287 P **P 10 55 34.8 -0.9**
comp=Z,0.6nm,0.4s,baz=75,slow=8.0,SNR=4.3
comp=Z,0.6nm,0.4s
H11N2 WAKE ISLAND Hy 34.16 208 T T 11 32 16.2
baz=18,slow=76,SNR=764
H11N3 WAKE ISLAND Hy 34.17 208 T T 11 32 10.9
baz=18,slow=76,SNR=644
H11N1 WAKE ISLAND Hy 34.18 208 T T 11 32 15.7
baz=18,slow=76,SNR=682
YKA Yellowknife Ar 34.27 47 P **P 10 55 51.8 -0.4**
YKA comp=Z,0.2nm,0.4s,baz=283,slow=9.2,SNR=5.8 PcP **PcP 10 58 28.6 +1.2**
comp=Z,0.7nm,0.6s,baz=280,slow=3.2,SNR=14
comp=Z,0.2nm,0.4s
USRK Ussuriysk Ar. 34.51 278 P **P 10 55 54.3 -0.2**
comp=Z,1.9nm,0.5s,baz=56,slow=11,SNR=6.3
comp=Z,1.9nm,0.5s
MJAR Matsushiro Ar 35.02 263 P **P 10 55 57.8 -1.2**
comp=Z,1.1nm,0.7s,baz=40,slow=6.9,SNR=2.9
comp=Z,1.1nm,0.7s
H11S1 WAKE ISLAND Hy 35.37 208 T T 11 33 49.6
baz=17,slow=76,SNR=390
H11S2 WAKE ISLAND Hy 35.39 208 T T 11 33 50.5
baz=17,slow=76,SNR=331
H11S3 WAKE ISLAND Hy 35.39 208 T T 11 33 47.5
baz=17,slow=76,SNR=215
KSRS Korea Array 40.88 272 P **P 10 56 48.5 +0.3**
comp=Z,1.1nm,0.7s,baz=48,slow=7.7,SNR=2.7
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 42.31 84 P **P 10 57 01.3 +1.0**
comp=Z,0.8nm,0.8s,baz=280,slow=7.7,SNR=4.2
NVAR PcP **PcP 10 58 54.4 +1.3**
comp=Z,0.2nm,0.5s,baz=303,slow=4.5,SNR=2.4
comp=Z,0.8nm,0.8s
PDAR Pinedale Array 45.10 73 P **P 10 57 23.9 +1.2**
comp=Z,1.2nm,0.4s,baz=331,slow=3.0,SNR=32
PDAR PcP **PcP 10 59 03.4 +0.9**
comp=Z,0.2nm,0.5s,baz=189,slow=1.5,SNR=1.4
comp=Z,1.2nm,0.4s
SONM Songino Array 47.71 298 P **P 10 57 43.7 +0.7**
comp=Z,0.8nm,0.7s,baz=64,slow=7.5,SNR=6.6
SONM PcP **PcP 10 59 12.3 +0.8**
comp=Z,1.1nm,0.6s,baz=90,slow=2.0,SNR=7.1
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 57.41 83 P **P 10 58 55.0 +0.1**
comp=Z,0.7nm,0.6s,baz=332,slow=5.9,SNR=11
comp=Z,0.7nm,0.6s
ARCES ARCESS Array B 58.21 351 P **P 10 58 58.3 -1.5**
comp=Z,3.7nm,0.9s,baz=23,slow=6.8,SNR=1.6
comp=Z,3.7nm,0.9s
KURBB Kurchatov Arra 59.96 315 P **P 10 59 11.1 -1.0**
comp=Z,0.7nm,0.5s,baz=43,slow=6.5,SNR=6.5
comp=Z,0.7nm,0.5s
MKAR Makanchi Array 60.95 309 P **P 10 59 17.9 -1.0**
comp=Z,0.2nm,0.4s,baz=41,slow=6.2,SNR=4.2
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 61.62 321 P **P 10 59 22.4 -0.9**
comp=Z,1.9nm,0.5s,baz=45,slow=7.2,SNR=8.1
comp=Z,1.9nm,0.5s
HFS Hagfors 68.44 354 P **P 11 00 06.6 -0.8**
comp=Z,1.7nm,0.8s,baz=7.6,slow=4.4,SNR=1.7
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 72.23 277 P **P 11 00 32.5 +1.2**
comp=Z,1.3nm,0.4s,baz=28,slow=6.7,SNR=7.4
comp=Z,1.3nm,0.4s
WRA Warramunga Arr 82.94 226 P **P 11 01 30.1 -0.8**
comp=Z,1.0nm,0.7s,baz=33,slow=5.9,SNR=7.8
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 85.37 337 P **P 11 01 43.3 0.0**
comp=Z,0.6nm,0.6s,baz=20,slow=3.9,SNR=2.3
comp=Z,0.6nm,0.6s
FITZ Fitzroy Crossi 85.50 234 P **P 11 01 45.1 +1.3**
comp=Z,2.6nm,0.6s,baz=5.8,slow=5.3,SNR=3.3
comp=Z,2.6nm,0.6s
ASAR Alice Springs 86.40 224 P **P 11 01 49.6 +1.4**
comp=Z,1.3nm,0.8s,baz=28,slow=5.1,SNR=13
comp=Z,1.3nm,0.8s
H03N2 Juan Fernandez 119.98 107 T T 13 19 35.2
baz=317,slow=77,SNR=110
H03N1 Juan Fernandez 119.99 107 T T 13 19 36.4
baz=317,slow=77,SNR=144
H03N3 Juan Fernandez 119.99 107 T T 13 19 35.7
baz=317,slow=77,SNR=148
BOSA Boshof 151.81 316 PKPbc **PKPbc 11 09 00.5 +0.1**
comp=Z,2.6nm,0.6s,baz=83,slow=0.7,SNR=3.9

*KRNET **16** 10:51:42.9±0.1,39°.52N×73°.81E,h14km,mb3.4*
*SOME **16** 10:51:45.1,39°.73N×73°.72E,h5km*
*NNC **16** 10:51:47.1±2.6,39°.69N×73°.84E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=19.4km s-min=9.2km az=172.0
ISC 16 10:51:43.1±1.1,39°.53N±0°.04×73°.80E±0°.03,h10km,n46,
σ2°22/76,32C-17D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.54**	**335**	⇑*iP*	**Pg**	**10 51 53.4**	**-0.3**
SFK				⇑*iS*	**Sg**	**10 52 01.0**	**+0.2**
OHH	**Osh**	**1.27**	**322**	⇓*iP*	**Pn**	**10 52 06.8**	**-0.2**
OHH				⇓*iS*	**Sn**	**10 52 24.2**	**+0.1**
SALK	**Salom-Alik**	**1.36**	**1**	⇓*iP*	**Pn**	**10 52 08.3**	**0.0**
SALK				⇓*iS*	**Sg**	**10 52 26.7**	**-0.2**
DRK	**Karamyk**	**1.55**	**269**	⇑*iP*	**Pb**	**10 52 11.9**	**-0.2**
DRK				⇑*iS*	**Sg**	**10 52 33.0**	**+0.1**
ARSB	**Arslanbob**	**1.90**	**341**	⇑*iP*	**Pb**	**10 52 18.0**	**0.0**
ARSB				⇑*iS*	**Sg**	**10 52 43.6**	**-0.7**
BTK	**Batken**	**2.36**	**284**	⇓*iP*	**Pb**	**10 52 24.4**	**-1.3**
BTK				⇓*iS*	**Sb**	**10 52 54.7**	**-0.2**
ARLS	**Aral**	**2.37**	**10**	⇑*iP*	**Pb**	**10 52 24.3**	**-1.7**
ARLS				⇑*iS*	**Sb**	**10 52 54.6**	**-0.7**
AML	**Almayashu** SNR=31	**2.60**	**358**	P	**Pb**	**10 52 29.4**	**-0.7**
AML	**Almayashu**	**2.60**	**358**	⇓*iP*	**Pb**	**10 52 27.9**	**-2.3**
AML				⇓*iS*	**Sb**	**10 53 00.9**	**-1.5**
ARK	**Arkit**	**2.67**	**329**	⇑*iP*	**Pb**	**10 52 28.6**	**-2.4**
ARK				⇑*iS*	**Sb**	**10 53 02.1**	**-1.8**
GAR	**Garm**	**2.75**	**260**	⇑*iP*	**Pb**	**10 52 29.9**	**-2.6**
GAR				⇑*iS*	**Sb**	**10 53 04.2**	**-2.2**
UCH	**Uchtor** SNR=8.9	**2.75**	**11**	P	**Pg**	**10 52 35.0**	**-0.9**
UCH	**Uchtor**	**2.75**	**11**	⇑*iP*	**Pn**	**10 52 29.9**	**+2.1**
UCH				⇑*iS*	**Sb**	**10 53 04.2**	**-2.5**
TRKS	**Terek-Say**	**2.85**	**316**	⇑*iP*	**Pn**	**10 52 30.4**	**+1.6**
TRKS				⇑*iS*	**Sn**	**10 53 05.0**	**+1.7**
MNAS	**Manas**	**3.12**	**342**	⇑*eP*	**Pn**	**10 52 34.8**	**+2.3**
MNAS				⇑*iS*	**Sn**	**10 53 12.9**	**+3.0**
EKS2	**Erkin-Say** SNR=10	**3.13**	**360**	P	**Pb**	**10 52 37.6**	**-1.4**
EKS2	**Erkin-Say**	**3.13**	**360**	⇓*iP*	**Pn**	**10 52 35.1**	**+2.4**
EKS2				⇓*iS*	**Sn**	**10 53 13.3**	**+3.1**
AAK	**Ala-Archa** SNR=13	**3.15**	**9**	P	**Pb**	**10 52 38.2**	**-1.1**
AAK	**Ala-Archa**	**3.15**	**9**	⇑*iP*	**Pn**	**10 52 35.3**	**+2.3**
AAK				⇑*iS*	**Sn**	**10 53 13.6**	**+2.8**
MRKS	**Merke** 17nm,0.4s	**3.25**	**353**	Pg	**Pb**	**10 52 42.1**	**+1.2**
MRKS				Lg	Lg	10 53 22.4	
MRKS	**Merke** 27nm,0.4s	**3.25**	**353**	*e*P	**Pb**	**10 52 41.1**	**+0.2**
MRKS				*e*S	**Sb**	**10 53 20.9**	**+0.4**
KBK	**Karagaybulak** SNR=16	**3.25**	**15**	P	**Pb**	**10 52 40.8**	**-0.1**
ULHL	**Ulahol** SNR=9.3	**3.29**	**33**	P	**Pg**	**10 52 44.7**	**-1.5**
ULHL	**Ulahol**	**3.29**	**33**	⇓*iP*	**Pn**	**10 52 37.2**	**+2.3**
ULHL				⇓*iS*	**Sn**	**10 53 16.9**	**+2.7**
FRU1	**Bishkek**	**3.34**	**11**	⇑*iP*	**Pn**	**10 52 38.2**	**+2.7**
FRU1				⇑*iS*	**Sn**	**10 53 18.5**	**+3.2**
BOOM	**Boomskoye usch**	**3.38**	**28**	⇓*iP*	**Pn**	**10 52 38.5**	**+2.4**
BOOM				⇓*iS*	**Sn**	**10 53 18.9**	**+2.6**
TKM2	**Tokmak 2** SNR=5.8	**3.65**	**21**	P	Pn	10 52 34.0	-5.9
KDJ	**Kajisay**	**3.66**	**44**	⇑*iP*	**Pn**	**10 52 42.2**	**+2.3**
KDJ				⇑*iS*	**Sn**	**10 53 25.7**	**+2.5**
CHGR	**Chuyangaron**	**3.71**	**258**	⇑*iP*	**Pn**	**10 52 43.2**	**+2.6**
CHGR				⇑*iS*	**Sn**	**10 53 27.2**	**+2.7**
TARG	**Taragay, Kyrgy**	**3.76**	**53**	⇓*eP*	**Pn**	**10 52 43.7**	**+2.1**
TARG				⇓*iS*	**Sn**	**10 53 28.2**	**+2.1**
KST	**Kastek** 4.9nm,0.6s	**3.88**	**24**	Pg	**Pg**	**10 52 56.6**	**-0.8**
KST				Lg	Lg	10 53 46.9	
KST	**Kastek** 14nm,0.6s	**3.88**	**24**	*e*P	**Pg**	**10 52 55.7**	**-1.6**
KST				*e*S	**Sg**	**10 53 46.3**	**-1.2**
DGS	**Degeres** 11nm,0.5s	**4.00**	**21**	Pg	**Pb**	**10 52 56.3**	**+2.6**
DGS				Lg	Lg	10 53 47.3	
MTBS	**Maitube** 5.8nm,0.4s	**4.11**	**28**	Pg	**Pg**	**10 53 00.3**	**-1.5**
MTBS				Lg	Lg	10 53 53.3	
MTBS	**Maitube** 8.5nm,0.4s	**4.11**	**28**	*e*P	**Pg**	**10 53 00.1**	**-1.7**
MTBS				*e*S	**Sg**	**10 53 53.7**	**-1.4**
TNSS	**Tian-Shan** 3.4nm,0.6s	**4.24**	**33**	Pg	**Pg**	**10 53 01.4**	**-2.9**
TNSS				Lg	Lg	10 53 55.8	
TNSS	**Tian-Shan** 2.8nm,0.5s	**4.24**	**33**	*e*P	**Pg**	**10 53 01.4**	**-2.9**
TNSS				*e*S	**Sg**	**10 53 55.8**	**-3.4**
KK31	**Karatay Array** 3.4nm,0.6s	**4.35**	**326**	⇓Pn	**Pn**	**10 52 52.8**	**+3.5**
KK31				Pg	**Pg**	**10 53 02.9**	**-3.5**
KK31				⇑Sn	**Sb**	**10 53 46.4**	**-5.8**
KK31				⇑Lg	Lg	10 54 03.1	
KKAR	**Karatay Array** 2.1nm,0.5s,baz=133,slow=12,SNR=7.5	**4.35**	**326**	⇑*iP*	**Pn**	**10 52 52.0**	**+2.7**
KKAR				⇑*iS*	**Sn**	**10 53 42.4**	**+2.4**
ANVS	**Anan'yevo** 1.9nm,0.3s,baz=151,slow=17,SNR=9.7	**4.37**	**41**	⇑*iP*	**Pn**	**10 52 52.3**	**+2.5**
ANVS				⇑*iS*	**Sn**	**10 53 42.8**	**+1.9**
KRBS	**Karabastau** 2.6nm,0.4s	**4.40**	**18**	Pg	**Pg**	**10 53 04.6**	**-2.8**
KRBS				Lg	Lg	10 54 01.6	
KOTS	**Kotyrbulak** 6.0nm,0.4s	**4.47**	**33**	Pg	**Pg**	**10 53 05.9**	**-2.8**
KOTS				Lg	Lg	10 54 03.8	
KOTS	**Kotyrbulak** 27nm,0.6s	**4.47**	**33**	*e*P	**Pg**	**10 53 05.9**	**-2.8**
KOTS				*e*S	**Sg**	**10 54 03.4**	**-3.2**
BRLS	**Borolday** 2.3nm,0.5s	**4.60**	**321**	Pg	**Pb**	**10 53 05.4**	**+1.5**
BRLS				Lg	Lg	10 54 02.6	
BRLS	**Borolday** 5.7nm,0.8s	**4.60**	**321**	*e*P	**Pb**	**10 53 05.4**	**+1.5**
BRLS				*e*S	**Sb**	**10 54 02.7**	**+3.3**
KTBS	**Karatobe** 8.3nm,0.6s	**4.71**	**26**	Pg	**Pg**	**10 53 10.9**	**-2.4**
KTBS				Lg	Lg	10 54 13.2	

*GUC **16** 10:56:18.1±0.8,32°.60S×70°.83W,h74km±3km,ML2.7*
*SJA **16** 10:56:18.0,32°.57S×71°.08W,h39km,ML2.8*
ISC 16 10:56:19.2±1.4,32°.59S±0°.03×70°.93W±0°.05,h74km±8km,
n51,σ0°.78/66,2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.31**	**275**	*e*P	**Pn**	**10 56 31.1**	**+0.2**
VA06				*e*S	**Sn**	**10 56 40.8**	**+1.4**
VA06	comp=E,330nm,0.1s			IAML		10 56 42.4	
VA03	**San Esteban**	**0.36**	**119**	*i*P	**Pn**	**10 56 30.1**	**-1.3**
VA03	**San Esteban**	**0.36**	**119**	*e*P	**Pn**	**10 56 30.6**	**-0.8**
VA03				*e*S	**Sn**	**10 56 40.0**	**-0.4**
VA03	comp=E,1μm,0.1s			IAML		10 56 40.6	
ROCH	**El Roble**	**0.39**	**190**	*i*P	**Pn**	**10 56 31.6**	**-0.1**
ROCH				*e*S	**Sn**	**10 56 41.7**	**+0.8**
ROCH	comp=N,497nm,0.1s			IAML		10 56 42.4	
PEL	**Peldehue**	**0.59**	**160**	*e*P	**Pn**	**10 56 32.6**	**-0.8**
PEL				*e*S	**Sn**	**10 56 43.8**	**0.0**
PEL	comp=N,258nm,0.2s			IAML		10 56 44.7	
MT02	**Curacav**	**0.69**	**195**	*i*P	**Pn**	**10 56 33.5**	**-0.9**
MT02	**Curacav**	**0.69**	**195**	*e*P	**Pn**	**10 56 34.2**	**-0.2**
MT02				*e*S	**Sn**	**10 56 46.4**	**+0.9**
VA01	**Torpederas**	**0.74**	**234**	*e*P	**Pn**	**10 56 35.5**	**+0.6**
MT10	**Hacienda Santa**	**0.76**	**154**	⇓*i*P	**Pn**	**10 56 34.6**	**-0.7**
MT10				*e*S	**Sn**	**10 56 47.1**	**0.0**
MT10	comp=E,749nm,0.2s			IAML		10 56 48.8	
MT05	**Renca**	**0.82**	**169**	*i*P	**Pn**	**10 56 34.8**	**-1.0**
MT05	**Renca**	**0.82**	**169**	*i*P	**Pn**	**10 56 35.5**	**-0.4**
MT05				*e*S	**Sn**	**10 56 48.7**	**+0.5**
MT05	comp=E,584nm,0.3s			IAML		10 56 50.0	
MT14	**Cerro Calın**	**0.87**	**158**	*i*P	**Pn**	**10 56 36.0**	**-0.5**
MT14				*e*S	**Sn**	**10 56 49.6**	**+0.3**
MT14	comp=N,268nm,0.2s			IAML		10 56 51.0	
MT16	**CCHEN**	**0.91**	**158**	*e*P	**Pn**	**10 56 36.4**	**-0.5**
MT16				*e*S	**Sn**	**10 56 50.2**	**+0.3**
FCH	**Farellones**	**0.91**	**144**	*e*P	**Pn**	**10 56 36.8**	**-0.5**
FCH				*e*S	**Sn**	**10 56 50.7**	**+0.1**
FCH	comp=E,591nm,0.2s			IAML		10 56 51.6	
MT03	**Universidad Ad**	**0.97**	**159**	*i*P	**Pn**	**10 56 36.6**	**-1.1**
MT03	**Universidad Ad**	**0.97**	**159**	*e*P	**Pn**	**10 56 37.1**	**-0.6**
MT03				*e*S	**Sn**	**10 56 51.9**	**+0.4**
MT03	comp=N,468nm,0.2s			IAML		10 56 54.1	
MT04	**Ro Olivares**	**1.05**	**141**	*i*P	**Pn**	**10 56 38.0**	**-0.8**
MT04	**Ro Olivares**	**1.05**	**141**	*e*P	**Pn**	**10 56 38.5**	**-0.4**
MT04				*e*S	**Sn**	**10 56 53.9**	**+0.5**
MT04	comp=N,244nm,0.1s			IAML		10 56 55.1	
MT15	**Las Vizcachas**	**1.07**	**161**	*e*P	**Pn**	**10 56 38.2**	**-0.7**
MT15				*e*S	**Sn**	**10 56 53.7**	**+0.2**
MT15	comp=E,262nm,0.2s			IAML		10 56 54.7	
MT08	**Bocatoma Ro**	**1.15**	**138**	*i*P	**Pn**	**10 56 39.8**	**-0.3**
MT08	**Bocatoma Ro**	**1.15**	**138**	*e*P	**Pn**	**10 56 40.5**	**+0.5**
MT09	**Talagante**	**1.19**	**182**	⇓*i*P	**Pn**	**10 56 39.9**	**-0.5**
MT09	comp=N,446nm,0.1s			IAML		10 56 58.5	
VA05	**Santo Domingo**	**1.21**	**208**	*e*P	**Pn**	**10 56 41.0**	**+0.4**
VA05	comp=N,244nm,0.3s			IAML		10 57 06.3	
MT13	**San Alfonso**	**1.27**	**155**	*i*P	**Pn**	**10 56 40.9**	**-0.6**
MT13	**San Alfonso**	**1.27**	**155**	*e*P	**Pn**	**10 56 41.5**	**-0.1**
MT13	comp=E,205nm,0.2s			IAML		10 57 01.1	
MT01	**Popeta**	**1.30**	**192**	*i*P	**Pn**	**10 56 41.1**	**-0.7**
MT01	**Popeta**	**1.30**	**192**	*e*P	**Pn**	**10 56 41.7**	**-0.1**
MT01	comp=N,119nm,0.1s			IAML		10 57 04.5	
LMEL	**Las Melosas**	**1.40**	**154**	*i*P	**Pn**	**10 56 42.6**	**-0.6**
LMEL	**Las Melosas**	**1.40**	**154**	*i*P	**Pn**	**10 56 43.1**	**0.0**
LMEL				*e*S	**Sn**	**10 57 02.1**	**+1.0**
LMEL	comp=N,282nm,0.2s			IAML		10 57 03.6	
BO04	**La Punta**	**1.42**	**169**	*e*P	**Pn**	**10 56 42.7**	**-0.7**
BO04				*e*S	**Sn**	**10 57 01.7**	**+0.2**
BO04	comp=E,151nm,0.2s			IAML		10 57 02.5	
RTLS	**Leoncito**	**1.59**	**61**	*i*P	**Pn**	**10 56 45.8**	**-0.1**
ARCO	**CERRO ARCO**	**1.70**	**99**	*i*P	**Pn**	**10 56 47.7**	**+0.5**
CO03	**El Pedregal**	**1.76**	**7**	*i*P	**Pn**	**10 56 46.9**	**-0.9**
CO03	**El Pedregal**	**1.76**	**7**	*e*P	**Pn**	**10 56 47.3**	**-0.5**
CO03	comp=E,109nm,0.1s			IAML		10 57 10.2	
ASAL	**Salagasta**	**1.77**	**91**	*i*P	**Pn**	**10 56 48.5**	**+0.6**
BO01	**Tunca**	**1.80**	**184**	*i*P	**Pn**	**10 56 47.4**	**-0.9**
BO01	**Tunca**	**1.80**	**184**	*e*P	**Pn**	**10 56 48.0**	**-0.3**
AAGR	**Agrelo**	**1.84**	**106**	*i*P	**Pn**	**10 56 49.3**	**+0.4**
CO06	**Fray Jorge**	**2.00**	**342**	*e*P	**Pn**	**10 56 51.8**	**+0.8**
BO02	**Sierra Bellavi**	**2.20**	**177**	*i*P	**Pn**	**10 56 53.0**	**-0.8**
BO02	**Sierra Bellavi**	**2.20**	**177**	*i*P	**Pn**	**10 56 53.6**	**-0.2**
DOCA	**Reserva Natura**	**2.27**	**44**	*i*P	**Pn**	**10 56 54.0**	**-1.0**
GO04	**Tololo Observa**	**2.41**	**3**	*i*P	**Pn**	**10 56 55.2**	**-1.5**
GO04	**Tololo Observa**	**2.41**	**3**	*e*P	**Pn**	**10 56 55.8**	**-0.9**
ACCO	**Cerro Coronel**	**2.55**	**39**	*i*P	**Pn**	**10 56 59.4**	**+0.7**
AROD	**Rodeo**	**2.72**	**28**	*i*P	**Pn**	**10 57 02.7**	**+1.8**
ACDV	**Cuesta del Vie**	**2.87**	**33**	*i*P	**Pn**	**10 57 03.7**	**+0.9**
LCO	**Las Campanas**	**3.57**	**3**	*i*P	**Pn**	**10 57 10.5**	**-2.0**
AGUA	**GUANDACOL**	**3.73**	**35**	*i*P	**Pn**	**10 57 14.8**	**+0.2**
BI02	**San Fabin de**	**4.08**	**184**	*i*P	**Pn**	**10 57 18.8**	**-0.4**
AC04	**Llanos de Chal**	**4.37**	**358**	*i*P	**Pn**	**10 57 21.3**	**-1.9**

*IDC **16** 11:01:50.2±0.5,2°.52S×140°.11E,h0km,mb4.4/13,*
mbtmp4.5/15,ML4.9/1,MS3.8/25,Error ellipse:
s-maj=14.3km s-min=7.5km az=6.0
*NEIC **16** 11:01:52.6±1.2,2°.49S±0°.07×140°.19E±0°.04,h10km±4km,*
mb4.7/75,Error ellipse: s-maj=9.5km s-min=6.2km
az=180.0
*DJA **16** 11:01:52.3±0.4,2°S±5°×14°0E±°,h13km±4km,M4.8/17,*
mb4.9/17,mB5.2/5,MLv5.0/6,Mw(mB)4.6/5
ISC 16 11:01:54.7±0.8,2°48S±0°05×140°26E±0°04,h27km±5km,
n176,σ1°76/138,mb4.6/59,MS3.9/21,2C-2D,Near north
coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.14**	**218**	P	**Pb**	**11 01 59.2**	**-0.8**
GENI	**Genyem**	**0.14**	**218**	S	**Sb**	**11 02 03.9**	**+0.3**
GENI	**Genyem**	**0.14**	**218**	P	**Pb**	**11 01 59.1**	**-0.9**
JAY	**Jayapura** 3μm,0.3s,baz=250,slow=12	**0.45**	**94**	Pg	**Pb**	**11 02 02.7**	**-1.6**
JAY	9μm,0.3s,baz=133,slow=20,SNR=36			Lg	Lg	11 02 09.2	
JAY	**Jayapura**	**0.45**	**94**	P	**Pb**	**11 02 02.8**	**-1.4**
JAY				S	**Sb**	**11 02 09.1**	**-1.6**
SMPI	**Sarmi**	**1.62**	**288**	P	**Pn**	**11 02 20.2**	**-1.2**
WAMI	**Wamena**	**2.08**	**228**	P	**Pn**	**11 02 29.5**	**+1.8**
SRPI	**Serui, Papua**	**4.06**	**279**	P	**Pn**	**11 02 55.7**	**+0.7**
BAKI	**Biak**	**4.34**	**287**	P	**Pn**	**11 02 57.5**	**-1.4**
MMPI	**Merauke**	**5.95**	**179**	P	**Pn**	**11 03 23.5**	**+2.5**
MANU	**Manus Island**	**7.12**	**87**	Pn	**Pn**	**11 03 37.8**	**+0.6**
FAKI	**Fak Fak**	**8.01**	**267**	Pn	**Pn**	**11 03 48.0**	**-1.3**
FAKI	**Fak Fak**	**8.01**	**267**	P	**Pn**	**11 03 51.0**	**+1.7**
FAKI	**Fak Fak**	**8.01**	**267**	S	**Sn**	**11 05 20.6**	**+1.5**
FAKI	**Fak Fak** 48nm,0.8s	**8.01**	**267**	P	**Pn**	**11 03 49.1**	**-0.2**
SWI	**Sorong** 32nm,0.6s	**9.13**	**280**	P	**Pn**	**11 04 04.5**	**-0.3**
PMG	**Port Moresby** 14nm,0.6s,baz=299,slow=19,SNR=10	**9.72**	**135**	Pn	**Pn**	**11 04 14.2**	**+1.4**
PMG	comp=Z,573nm,19.5s,baz=315,slow=45			LR	LR	11 09 15.2	
MSAI	**Masohi** 41nm,0.6s	**11.34**	**265**	P	**Pn**	**11 04 35.6**	**+0.5**
COEN	**Coen**	**11.76**	**166**		**Pn**	**11 04 40.9**	**+0.1**
KRVT	**Keravat (AS076** comp=Z,372nm,20.9s,baz=9.1,slow=34	**11.89**	**99**	LR	LR	11 08 35.0	
KDU	**Kakadu**	**12.73**	**217**	P	**Pn**	**11 04 52.9**	**-1.2**
MTN	**Manton Dam**	**13.69**	**221**	Pn	**Pn**	**11 05 05.1**	**-2.1**
MTN	**Manton Dam**	**13.69**	**221**	P	**Pn**	**11 05 05.9**	**-1.3**
SANI	**Sanana**	**14.26**	**271**	P	**Pn**	**11 05 16.5**	**+1.5**
SANI	**Sanana** 34nm,0.8s	**14.26**	**271**	P	**Pn**	**11 05 14.8**	**-0.2**
MTSU	**Mount Surprise**	**16.06**	**166**	P	**P**	**11 05 41.0**	**-0.9**
GUMO	**Guam** comp=Z,310nm,18.6s,baz=175,slow=36	**16.61**	**16**	LR	LR	11 11 49.6	
KNRA	**Kununurra**	**17.32**	**220**		**Pn**	**11 05 53.3**	**-1.4**
KNRA	comp=Z,39nm,0.7s			IAmb	IAmb	11 05 57.5	
SOEI	**Soe**	**17.45**	**245**	P	**Pn**	**11 05 55.9**	**-0.6**
SOEI	**Soe**	**17.45**	**245**	P	**P**	**11 05 57.5**	**0.0**
SOEI	**Soe**	**17.45**	**245**	P	**P**	**11 05 57.7**	**+0.2**
QIS	**Mount Isa**	**17.98**	**182**	P	**Pn**	**11 06 02.9**	**+0.1**
WB0	**Warramunga Arr**	**18.11**	**198**		**Pn**	**11 06 01.5**	**-2.9**
WR0	**Warramunga Arr**	**18.25**	**197**	P	**Pn**	**11 06 03.5**	**-2.6**
WR0	comp=Z,27nm,0.7s			IAmb	IAmb	11 06 19.8	
WRAB	**Tennant Creek**	**18.28**	**198**	P	**P**	**11 06 04.1**	**-2.4**
WRAB	comp=Z,44nm,0.9s			IAmb	IAmb	11 06 10.5	
WB2	**Warramunga Arr**	**18.29**	**198**		**P**	**11 06 04.2**	**-2.3**
WB2	comp=Z,35nm,0.8s			IAmb	IAmb	11 06 11.6	
WRA	**Warramunga Arr**	**18.29**	**198**	P	**P**	**11 06 03.5**	**-3.1**
WRA	**Warramunga Arr**	**18.29**	**198**	P	**P**	**11 06 04.5**	**-2.2**
WRA	comp=Z,3.9nm,0.3s,baz=22,slow=12,SNR=68			S	Sn	11 09 20.1	-10
WRA	comp=Z,9.3nm,0.9s,baz=14,slow=23,SNR=6.7			LR	LR	11 13 45.3	
MRSI	**Marisa**	**18.54**	**279**	P	**P**	**11 06 09.7**	**+0.3**
APSI	**Ampana**	**18.66**	**274**	P	**P**	**11 06 10.2**	**-0.5**
KAPI	**Kappang** comp=Z,50nm,19.0s,ba

WRKA	Warakurna	25.21	206	P	P	11 07 19.8 +1.4
OOD	Oodnadatta	25.55	189	P	P	11 07 23.8 +2.5
MBWA	Marble Bar	27.28	226	P	P	11 07 36.2 -0.9
MBWA				IAmb	IAmb	11 07 43.4
	comp=Z,11nm,0.9s					
PSA00	Pilbara Seismi	27.47	225	P	P	11 07 38.1 -0.6
PSA00				IAmb	IAmb	11 07 49.0
	comp=Z,12nm,0.9s					
AULRC	Lightning Ridg	27.79	165	P	P	11 07 44.5 +3.0
LCRK	Leigh Creek	27.88	184	P	P	11 07 44.4 +2.1
STKA	Stephens Creek	29.27	178	P	P	11 07 55.6 +1.0
STKA	Stephens Creek	29.27	178	P	P	11 07 55.2 +0.6
	comp=Z,6.4nm,0.9s,baz=348,slow=10,SNR=13					
STKA				LR	LR	11 21 26.4
	comp=Z,602nm,18.3s,baz=2.7,slow=40					
	comp=Z,6.4nm,0.9s					
STKA	Stephens Creek	29.27	178	P	P	11 07 56.6 +2.0
CMSA	Cobar Meteorol	29.35	170	P	P	11 07 58.5 +3.1
FORT	Forrest	30.42	201	P	P	11 08 04.4 -0.4
BBOO	Buckleboo	30.43	187	P	P	11 08 05.3 +0.4
BBOO				IAmb	IAmb	11 08 07.1
	comp=Z,15nm,0.8s					
BBOO	Buckleboo	30.43	187	P	P	11 08 06.1 +1.2
HTT	Hallett	30.81	182	P	P	11 08 10.1 +1.7
GIRL	Giralia	32.23	229	P	P	11 08 20.7 -0.2
AUMBR	Murray Bridge	32.50	181	P	P	11 08 25.1 +2.0
YNG	Young	32.55	167	P	P	11 08 27.7 +4.1
H11S3	WAKE ISLAND Hy	33.34	50	T	T	11 43 31.7
	baz=231,slow=75,SNR=126					
H11S2	WAKE ISLAND Hy	33.35	50	T	T	11 43 34.7
	baz=231,slow=75,SNR=45					
H11S1	WAKE ISLAND Hy	33.36	50	T	T	11 43 40.1
	baz=231,slow=75,SNR=51					
CAN	Canberra	33.67	167	P	P	11 08 33.6 +0.2
CAN				IAmb	IAmb	11 08 38.2
	comp=Z,14nm,1.0s					
CNB	Canberra Magne	33.75	167	P	P	11 08 38.3 +4.2
ARPS	Mount Arapiles	34.15	178	P	P	11 08 40.2 +2.7
H11N1	WAKE ISLAND Hy	34.22	49	T	T	11 44 41.1
	baz=229,slow=76,SNR=87					
H11N2	WAKE ISLAND Hy	34.23	49	T	T	11 44 48.4
	baz=229,slow=76,SNR=98					
H11N3	WAKE ISLAND Hy	34.23	49	T	T	11 44 48.5
	baz=229,slow=76,SNR=48					
AUSMG	Snowy Mountain	34.64	168	P	P	11 08 45.3 +3.4
MORW	Morawa	35.07	219	P	P	11 08 44.9 -0.6
MORW	Morawa	35.07	219	P	P	11 08 49.5 +3.9
TOO	Toolangi	35.25	173	P	P	11 08 47.0 -0.1
JNU	Nakatsue	36.50	347	LR	LR	11 21 20.5
	comp=Z,129nm,20.9s,baz=163,slow=32					
MJAR	Matsushiro Arr	38.87	357	LR	LR	11 23 07.7
	comp=Z,71nm,18.9s,baz=169,slow=33					
NJ2	Nanjing	39.90	331	eP	P	11 09 27.8 +1.4
NJ2				pmax	pmax	
	comp=Z,5.0nm,0.5s					
MSVF	Nonsavu	40.05	115	LR	LR	11 25 28.2
	comp=Z,144nm,18.2s,baz=306,slow=35					
KSRS	Korea Array	41.35	345	P	P	11 09 36.2 -2.1
	comp=Z,1.6nm,0.8s,baz=162,slow=8.5,SNR=5.2					
KSRS				LR	LR	11 24 31.8
	comp=Z,110nm,21.0s,baz=145,slow=33					
	comp=Z,1.6nm,0.8s					
TIA	Tai'an	44.13	333	P	P	11 10 02.1 +1.2
TIA				pmax	pmax	
	comp=Z,4.0nm,0.4s					
PHRA	Phrae	44.57	300	P	P	11 10 03.9 -0.8
CM31	Chiang Mai Arr	45.67	299	P	P	11 10 13.1 -0.4
CM31				IAmb	IAmb	11 10 19.5
	comp=Z,8.3nm,0.9s					
CMAR	Chiang Mai Arr	45.67	299	P	P	11 10 13.1 -0.4
CMAR	Chiang Mai Arr	45.67	299	P	P	11 10 11.9 -1.5
	comp=Z,3.6nm,0.8s,baz=115,slow=7.9,SNR=26					
	comp=Z,3.6nm,0.8s					
CHTO	Chiang Mai	45.81	299	P	P	11 10 13.7 -0.9
CHTO				IAmb	IAmb	11 10 20.3
	comp=Z,8.3nm,1.1s					
HNS	HongShan	46.22	332	⇓P	P	11 10 16.9 -0.6
HNS				S	S	11 17 00.3 -2.1
HNS				pmax	pmax	
	comp=Z,6.0nm,0.8s					
XAN	Xi'an	46.79	324	P	P	11 10 25.0 +2.9
XAN				pmax	pmax	
	comp=Z,7.0nm,0.9s					
PZH	PanZhiHua	47.04	310	P	P	11 10 27.6 +3.3
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,100nm,3.9s					
USRK	Ussuriysk Ar.	47.06	352	LR	LR	11 26 46.3
	comp=Z,122nm,21.1s,baz=183,slow=32					
CD2	Chengdu	48.06	317	P	P	11 10 33.8 +1.7
CD2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
URZ	Urewera	49.02	141	LR	LR	11 32 17.4
	comp=Z,119nm,18.3s,baz=39,slow=37					
BNX	BinXian	49.35	348	⇑P	P	11 10 41.5 -0.1
BNX				pmax	pmax	
	comp=Z,5.0nm,1.1s					
HHC	Hu-ho-hao-te	50.45	332	eP	P	11 10 48.5 -1.7
HHC				pmax	pmax	
	comp=Z,18nm,0.6s					
HHC				pmax	pmax	
	comp=Z,110nm,5.0s					
LZH	Lanzhou	51.24	322	eP	P	11 10 57.3 +1.0
LZH				pP	pP	11 11 06.8 +2.1
LZH				sP	sP	11 11 11.0 +2.9
LZH				pmax	pmax	
	comp=Z,14nm,1.1s					
GTA	Gaotai	55.81	323	eP	P	11 11 32.4 +2.6
GTA				pmax	pmax	
	comp=Z,4.0nm,0.9s					
PETK	Petropavlovsk-	57.30	12	LR	LR	11 33 52.4
	comp=Z,20nm,21.6s,baz=227,slow=34					
SONM	Songino Array	58.19	334	P	P	11 11 46.3 -0.1
	comp=Z,0.3nm,0.5s,baz=159,slow=7.3,SNR=1.8					
SONM				LR	LR	11 36 37.0
	comp=Z,87nm,19.3s,baz=150,slow=36					
SHEM	Shemya Is, Ala	61.93	23	LR	LR	11 34 27.0
	comp=Z,94nm,20.8s,baz=162,slow=32					
YAK	Yakutsk	64.84	355	LR	LR	11 38 45.8
	comp=Z,78nm,18.5s,baz=275,slow=34					
CASY	Casey	67.02	193	P	P	11 12 44.5 -0.4
CASY				IAmb	IAmb	11 13 13.4
	comp=Z,6.6nm,0.9s					
PPT	Papeete	70.35	108	LR	LR	11 41 06.7
	comp=Z,54nm,19.6s,baz=330,slow=33					
MK31	Makanchi Array	70.56	322	P	P	11 13 07.2 -0.1
MK31				IAmb	IAmb	11 13 09.4
	comp=Z,7.8nm,1.1s					
MKAR	Makanchi Array	70.56	322	P	P	11 13 07.6 +0.3
MKAR	Makanchi Array	70.56	322	P	P	11 13 07.5 +0.1
	comp=Z,4.3nm,0.7s,baz=110,slow=6.9,SNR=47					
	comp=Z,4.3nm,0.7s					
MAKZ	Makanchi	70.76	322	P	P	11 13 08.6 0.0
MAKZ				IAmb	IAmb	11 13 10.5
	comp=Z,7.1nm,0.8s					
KSH	Kashi	72.06	313	P	P	11 13 18.6 +1.9
KSH				pmax	pmax	
	comp=Z,8.0nm,0.8s					
NIL	Nilore	72.43	306	P	P	11 13 18.9 -0.1
ZAA0	Zalesovo Array	72.52	329	P	P	11 13 18.5 -0.5
ZALV	Zalesovo Beam	72.52	329	P	P	11 13 18.1 -0.9
	comp=Z,2.2nm,0.7s,baz=120,slow=6.6,SNR=9.5					
	comp=Z,2.2nm,0.7s					
BOOM	Boomskoye usch	73.06	316	IAmb	IAmb	11 13 28.2
	comp=Z,6.2nm,0.9s					
AAK	Ala-Archa	74.12	316	P	P	11 13 29.6 +0.7
TIXI	Tiksi	74.37	356	LR	LR	11 45 06.9
	comp=Z,59nm,19.5s,baz=360,slow=35					
KURK	Kurchatov	74.42	324	P	P	11 13 29.9 -0.4
KURBB	Kurchatov Arra	74.44	324	P	P	11 13 30.1 -0.2
	comp=Z,2.3nm,0.8s,baz=112,slow=5.4,SNR=12					
	comp=Z,2.3nm,0.8s					
GAR	Garm	76.11	311	P	P	11 13 39.7 -0.7
CHGR	Chuyangaron	76.90	310	P	P	11 13 44.4 -0.5
SIMJ	Simiganj	77.01	310	P	P	11 13 44.6 -0.9
SIMJ				IAmb	IAmb	11 13 47.6
	comp=Z,9.7nm,0.9s					
KK31	Karatay Array	77.05	315	P	P	11 13 45.4 -0.1
KKAR	Karatay Array	77.05	315	P	P	11 13 44.6 -0.9
KKAR	Karatay Array	77.05	315	P	P	11 13 45.1 -0.4
KKAR				IAmb	IAmb	11 13 56.1
	comp=Z,1.6nm,0.8s					
NRIK	Noril'sk	79.94	343	P	P	11 14 00.3 -0.5
	comp=Z,0.9nm,0.3s,baz=140,slow=3.1,SNR=3.7					
	comp=Z,0.9nm,0.3s					
BVAR	Borovoye Array	80.01	325	P	P	11 14 01.6 -0.1
	comp=Z,4.8nm,0.7s,baz=113,slow=7.0,SNR=12					
	comp=Z,4.8nm,0.7s					
BRVK	Borovoye	80.08	325	P	P	11 14 01.8 -0.2
KDAK	Kodiak Island	80.13	30	LR	LR	11 43 21.0
	comp=Z,102nm,20.3s,baz=94,slow=31					
J20K	Nowinta River	81.83	24	IAmb	IAmb	11 14 12.4
	comp=Z,6.3nm,1.0s					
E19K	Redstone River	82.06	20	IAmb	IAmb	11 14 16.7
	comp=Z,6.0nm,0.9s					
D19K	Kuna River	82.24	19	IAmb	IAmb	11 14 28.3
	comp=Z,5.0nm,0.9s					
CAST	Castle Rocks	82.39	25	P	P	11 14 14.7 +0.7
RC01	Rabbit Creek A	82.62	27	IAmb	IAmb	11 14 20.7
	comp=Z,6.3nm,0.8s					
SML	Sawmill	83.49	27	P	P	11 14 20.1 +0.3
RND	Reindeer	83.75	25	P	P	11 14 21.0 -0.2
RND				IAmb	IAmb	11 14 40.7
	comp=Z,9.3nm,1.2s					
SCM	Sheep Creek Mo	83.95	27	P	P	11 14 23.0 +0.8
I23K	Minto, Yukon-K	84.10	24	P	P	11 14 23.3 +0.6
I23K				IAmb	IAmb	11 14 25.7
	comp=Z,5.8nm,0.8s					
E22K	Anaktuvuk Pass	84.22	20	P	P	11 14 23.9 +0.5
E22K				IAmb	IAmb	11 14 41.8
	comp=Z,3.1nm,0.8s					
CCB	Clear Creek Bu	84.58	24	IAmb	IAmb	11 14 26.8
	comp=Z,4.9nm,0.8s					
H24K	Noodor Dome	84.91	23	IAmb	IAmb	11 14 45.4
	comp=Z,5.3nm,1.1s					
D23K	Nanushuk River	84.91	20	IAmb	IAmb	11 14 36.4
	comp=Z,9.0nm,1.1s					
E23K	Chandalar	84.97	21	IAmb	IAmb	11 14 32.5
	comp=Z,4.4nm,1.0s					
IL31		84.99	24	IAmb	IAmb	11 14 33.9
	comp=Z,3.4nm,0.9s					
ILAR	Eielson Array	84.99	24	P	P	11 14 26.0 -1.3
	comp=Z,2.1nm,0.9s,baz=259,slow=4.3,SNR=23					
ILAR				LR	LR	11 54 48.8
	comp=Z,34nm,18.5s,baz=265,slow=37					
	comp=Z,2.1nm,0.9s					
G24K	Hadweenzic Riv	85.32	22	IAmb	IAmb	11 14 48.1
	comp=Z,5.1nm,1.1s					
GLB	Gilahina Butte	85.47	28	P	P	11 14 30.5 +0.6
ABKAR	Akbulak array	85.55	320	P	P	11 14 30.2 -0.2
J26L	Joseph Creek	86.30	25	IAmb	IAmb	11 14 35.5
	comp=Z,5.1nm,1.1s					
D25K	Kavik River	86.48	20	IAmb	IAmb	11 14 35.6
	comp=Z,5.5nm,1.1s					
BMAR	Burnt Mountain	86.61	22	P	P	11 14 36.6 +1.2
F26K	Sheenjek River	86.84	22	IAmb	IAmb	11 14 39.7
	comp=Z,6.8nm,0.9s					
QSPA	South Pole Qui	87.46	180	P	P	11 14 39.4 -0.2
QSPA	South Pole Qui	87.46	180	P	P	11 14 39.0 -0.6
	comp=Z,7.1nm,0.7s,baz=344,slow=1.6,SNR=30					
	comp=Z,7.1nm,0.7s					
DAWY	Dawson	88.00	26	P	P	11 14 43.3 +1.1
I28M	Miner Creek	88.01	24	P	P	11 14 42.5 +0.3
L29M	L29M	88.40	27	P	P	11 14 44.5 +0.5
L29M				IAmb	IAmb	11 14 46.4
	comp=Z,7.6nm,1.1s					
F28M	Old Crow	88.42	22	IAmb	IAmb	11 14 45.7
	comp=Z,5.3nm,1.1s					
I29M	Ogilvie Camp,	88.67	24	IAmb	IAmb	11 14 46.8
	comp=Z,9.0nm,1.1s					
K29M	Barlow Dome	88.78	26	IAmb	IAmb	11 14 48.5
	comp=Z,6.5nm,1.1s					
J30M	Hart River	89.39	25	IAmb	IAmb	11 14 53.1
	comp=Z,4.8nm,1.0s					
I30M	Mount Dempster	89.45	25	IAmb	IAmb	11 14 56.5
	comp=Z,3.9nm,1.1s					
SYO	Syowa Base	91.52	201⇑	eP	P	11 14 59.2 +0.8
BBB	Bella Bella	92.95	38	LR	LR	11 51 12.0
	comp=Z,47nm,19.1s,baz=252,slow=32					
ELIB	Princess Elisa	95.75	196	dP	P	11 15 19.1 +1.0
YBH	Yreka Blue Hor	96.90	48	LR	LR	11 50 14.3
	comp=Z,74nm,20.8s,baz=290,slow=30					
YKA	Yellowknife Ar	99.16	27	P	Pdif	11 15 31.6 -1.8
	comp=Z,0.3nm,0.8s,baz=270,slow=4.1,SNR=4.7					
YKA				LR	LR	11 54 57.2
	comp=Z,93nm,19.8s,baz=337,slow=32					
	comp=Z,0.3nm,0.8s					
TXAR	Lajitas Array	113.86	59	PKP	PKiKP	11 20 31.5 -0.3
	comp=Z,0.3nm,0.8s,baz=305,slow=2.7,SNR=2.6					
SCHQ	Schefferville	123.35	18	PKP	PKPdf	11 20 48.3 -0.9
	comp=Z,3.6nm,1.0s,baz=219,slow=6.5,SNR=4.0					
PLCA	Paso Flores	128.62	150	PKP	PKPdf	11 21 00.2 +0.4
	comp=Z,1.3nm,1.0s,baz=219,slow=6.5,SNR=4.0					
TORD	Torodi Ar. Bea	137.67	287	PKP	PKPdf	11 21 15.5 -1.9
	comp=Z,36nm,0.3s,baz=55,slow=1.6,SNR=1.2					
DBIC	Dimbokro	144.98	278	PKP	PKPbc	11 21 29.5 -0.4
	comp=Z,12nm,0.8s,baz=87,slow=3.8,SNR=17					
LPAZ	La Paz	146.32	125	PKPbc	PKPbc	11 21 35.0 +0.3
	comp=Z,4.4nm,0.6s,baz=227,slow=2.5,SNR=10					
CPUP	Villa Florida	146.69	150	PKPbc	PKPbc	11 21 35.0 +0.2
	comp=Z,2.9nm,0.7s,baz=238,slow=3.6,SNR=10					

*HEL **16** 11:08:24.0±0.4, 67°.55N×30°.72E, h0km, ML1.7, Explosion*
*KOLA **16** 11:08:25.7, 67°.41N×30°.47E, h0km, ML2.1, Error ellipse: s-maj=5.0km s-min=2.9km az=30.0, Murmansk region, Kovdor district*
ISC 16 11:08:23.7±0.8, **67°.51N**±0°.02×**30°.49E**±0°.03, **h0**km, **n19**, σ0°**96**/30, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	Varrio	0.41	306	PG	Pb	11 08 33.9	0.0
VRF				MSG		11 08 39.3	
	comp=Z,15nm,0.2s						
APA0	Apatity Array	0.97	83	P	Pg	11 08 42.0	-0.2
APA0				S	Sb	11 08 56.2	-0.4
APA	Apatity	1.12	86	S	Sn	11 09 02.4	-0.3
KVDA	Kovda	1.24	130	P	Pg	11 08 46.5	-1.0
OLKF	Oulanka, Finla	1.27	200	PG	Pb	11 08 48.0	-0.5
OLKF				MSG		11 09 04.4	
	comp=Z,9.5nm,0.2s						
OLKF				SN	Sn	11 09 08.8	+2.5
RAJF	Raja-Jooseppi	1.27	321	PG	Pg	11 08 46.7	-1.3
RAJF				SG	Sg	11 09 04.5	0.0
KU6	Riekki	1.51	189	PG	Pb	11 08 52.1	-0.5
KU6				MSG		11 09 11.2	
	comp=Z,4.0nm,0.2s						
KU6				SG	Sb	11 09 11.8	-0.4
LVZ	Lovozero	1.64	74	P	Pg	11 08 55.8	+0.7
LVZ				S	Sg	11 09 17.2	+1.1
LVZ	Lovozero	1.64	74	SN	Sn	11 09 13.6	-1.9
MSF	Maaselka	1.71	200	PG	Pg	11 08 56.0	-0.4
	baz=21						
MSF				SG	Sb	11 09 17.2	-0.7
RNF	Rovaniemi	1.97	245	PB	Pn	11 08 58.8	+0.5
	baz=58						
RNF				SN	Sb	11 09 25.2	-0.3
RANF	Ranua	2.10	226	PG	Pb	11 09 02.9	+0.3
RANF				SG	Sg	11 09 30.2	-0.8
PRVG	Vayda Guba	2.33	15	P	Pb	11 09 06.2	-0.4
PRVG				S	Sb	11 09 36.2	+0.4
KEV	Kevo	2.59	332	PN	Pn	11 09 07.5	+0.7
KEV				SN	Sn	11 09 40.6	+1.7
KEV				MSG		11 09 40.7	
	comp=Z,5.1nm,0.2s						
VADS	Vadso	2.66	352	S	Sn	11 09 40.9	+0.4
ARCES	ARCESS Array B	2.74	320	P	Pb	11 09 11.9	-1.6
ARCES				S	Sb	11 09 46.7	-0.9
TOF	Tornio	2.83	242	MSG		11 09 50.3	
	comp=Z,1.6nm,0.2s						
TOF				SG	Sg	11 09 55.4	+0.8
KTK1	Kautokeino	3.09	303	PG	Pb	11 09 20.1	+0.6
KALU	Kalix	3.29	243	PB	Pb	11 09 22.3	-0.5

*TIR **16** 11:25:18.7, 39°.77N×20°.63E, h26km, Md3.1/9, Ml3.1/9*
*ATH **16** 11:25:20.5, 39°.81N×20°.64E, h10km±2km, ML3.2/21, Manual Solution by A.Andreou First location: 2019/02/16 11:26:15, This location: 2020/10/12 16:13:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **16** 11:25:20.3, 39°.77N×20°.67E, h12km±1km, ML3.0/5, Error ellipse: s-maj=2.4km s-min=1.3km az=311.0*
ISC 16 11:25:20.2±0.9, **39°.77N**±0°.02×**20°.64E**±0°.02, **h13**km±7km, **n62**, σ0°**80**/83, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.20	126	P	Pg	11 25 24.4	-0.2
JAN				S	Sg	11 25 28.0	+0.4
	45μm,0.3s						
JAN	Janina	0.20	126	P	Pb	11 25 26.2	+0.5
IGT	Igoumenitsa	0.34	225	Pg	Pg	11 25 26.5	-0.5
IGT				Sg	Sg	11 25 32.4	+0.7
IGT				AMd		11 26 17.2	
IGT	Igoumenitsa	0.34	225	P	Pg	11 25 26.6	-0.5
IGT				S	Sg	11 25 32.4	+0.7
	5μm,0.4s						
IGT	Igoumenitsa	0.34	225	P	Pg	11 25 27.0	0.0
IGT				S	Sb	11 25 33.0	-0.5
LSK	Leskovik	0.38	355	Pg	Pg	11 25 27.3	-0.5
LSK				Sg	Sg	11 25 33.7	+0.7
LSK				AML	AML	11 25 40.5	
	16nm,0.5s						
LSK				AMd		11 26 28.6	
SRN	Sarande	0.51	283	Pg	Pg	11 25 29.7	-0.5
SRN				Sg	Sb	11 25 37.9	-0.4
SRN				AML	AML	11 25 41.9	
	6.1nm,0.4s						
SRN				AMd		11 26 26.7	
LFKM	Lefkimmi	0.56	234	P	Pg	11 25 30.9	-0.2
PENT	Pentalofos	0.57	42	P	Pg	11 25 31.1	-0.3
PENT	Pentalofos	0.57	42	P	Pg	11 25 31.2	-0.1
KEK	Kerkira	0.66	265	P	Pg	11 25 33.2	+0.3
KEK	Kerkira	0.66	265	P	Pb	11 25 33.3	-0.2
KEK				S	Sb	11 25 42.0	-0.5
NEST	Nestorio	0.71	26	Pg	Pg	11 25 33.2	-0.9
NEST				Sg	Sg	11 25 43.8	+0.3
NEST				AML	AML	11 25 52.5	
	2.0nm,0.4s						
NEST				AMd		11 26 37.6	
NEST	Nestorio	0.71	26	P	Pg	11 25 33.9	-0.2
NEST	Nestorio	0.71	26	P	Pg	11 25 34.0	-0.1
KBN	Korca	0.86	7	Pg	Pg	11 25 36.7	-0.2
KBN				Sg	Sg	11 25 47.6	-0.5
KBN				AML	AML	11 26 04.2	
	1.5nm,0.5s						
TSLK	Tsoukalades, L	0.94	179	P	Pg	11 25 36.6	-1.8
TSLK				S	Sn	11 25 52.8	+0.2
	972nm,0.6s						
TSLK	Tsoukalades, L	0.94	179	P	Pn	11 25 39.5	+0.3
TSLK				S	Sn	11 25 52.8	+0.2
LKD2	Lefkada island	0.98	179	Pg	Pg	11 25 37.7	-1.5
LKD2				Sg	Sg	11 25 51.8	-0.1
LKD2				AML	AML	11 25 56.1	
	3.5nm,0.3s						
LKD2				AMd		11 26 48.1	
LKD2	Lefkada island	0.98	179	P	Pg	11 25 38.1	-1.0
LKD2				S	Sb	11 25 52.6	+0.6
	888nm,0.4s						
LKD2	Lefkada island	0.98	179	P	Pn	11 25 40.0	+0.2
LKD2				S	Sn	11 25 53.2	-0.3
KZN	Kozani	1.02	58	P	Pb	11 25 39.1	-0.7
KZN	Kozani	1.02	58	P	Pb	11 25 39.6	-0.2
NYDR	Nydri-Lefkada	1.06	178	P	Pb	11 25 38.9	-1.5
THL	Klokotos Trika	1.08	101	P	Pb	11 25 38.8	-1.9
THL				S	Sb	11 25 53.0	-1.7
	468nm,0.5s						
THL	Klokotos Trika	1.08	101	P	Pn	11 25 41.6	+0.6
THL				S	Sn	11 25 56.5	+0.6
DRAG	Dragano-Lefkad	1.09	183	P	Pb	11 25 40.6	-0.3
DRAG	Dragano-Lefkad	1.09	183	P	Pn	11 25 42.1	+1.0
DRAG				S	Sn	11 25 55.9	-0.2
VLO	Vlora	1.12	309	Pn	Pb	11 25 39.4	-2.0
VLO				Sn	Sb	11 25 55.1	-0.9
VLO				AML	AML	11 26 08.5	
	6.8nm,0.6s						
VLO				AMd		11 26 47.8	
EVGI	Lefkada island	1.15	180	P	Pb	11 25 41.2	-0.7
EVGI	Lefkada island	1.15	180	P	Pg	11 25 43.3	+1.0
TYRN	Tyrnavos	1.23	92	P	Pn	11 25 41.5	-1.6
TYRN	Tyrnavos	1.23	92	P	Pn	11 25 42.5	-0.6
TYRN				S	Sg	11 26 00.6	+0.9
EVR	Evrytania	1.24	133	P	Pn	11 25 43.6	+0.2
EVR	Evrytania	1.24	133	P	Pb	11 25 43.7	+0.1
KTI	Kastanea	1.29	61	P	Pn	11 25 43.5	-0.6
FSK	Fiskardo	1.31	183	P	Pn	11 25 44.3	+0.1
FSK	Fiskardo	1.31	183	P	Pb	11 25 44.8	+0.1
PVO	Paravola	1.34	149	P	Pb	11 25 45.6	+0.4
OHR	Ohrid	1.34	5	*i* Pn	Pg	11 25 47.4	+1.3
MAKR	Makrakomi, Fth	1.38	123	P	Pn	11 25 44.9	-0.3
MAKR	Makrakomi, Fth	1.38	123	P	Pn	11 25 45.4	+0.2
LIT	Litokhoron	1.46	76	P	Pn	11 25 45.8	-0.5
LIT	Litokhoron	1.46	76	P	Pn	11 25 47.0	+0.7
ANX	Ano Chora	1.54	139	P	Pn	11 25 48.1	+0.6
ANX	Ano Chora	1.54	139	P	Pb	11 25 48.5	-0.1
DMLN	Damoulianata-K	1.54	188	P	Pb	11 25 48.9	+0.2
VLS	Valsamata	1.59	182	P	Pn	11 25 48.4	+0.3
VLS	Valsamata	1.59	182	P	Pb	11 25 49.7	+0.2
PSDA	Pessada-Kefalo	1.66	182	P	Pb	11 25 50.2	-0.3
EFP	Efpalio	1.66	143	P	Pb	11 25 50.9	+0.2
TIR	Tirane	1.68	340	Pn	Pn	11 25 49.8	+0.4
TIR				Sn	Sb	11 26 13.0	+0.9
TIR				AML	AML	11 26 22.8	
	0.5nm,0.5s						
TIR				AMd		11 27 10.7	
SCTE	Santa Cesarea	1.70	281	Pn	Pn	11 25 49.9	+0.3
SCTE				Sn	Sb	11 26 13.2	+0.6
SCTE				AML	AML	11 26 18.5	
	2.5nm,0.3s						
SCTE				AMd		11 27 06.8	
KALE	Kalithea	1.80	139	P	Pn	11 25 52.3	+1.2
RLS	Riolos of Patr	1.83	159	P	Pb	11 25 52.8	-0.7
THE	Thessaloniki	1.98	63	Pn	Pn	11 25 54.3	+0.9
THE				AML	AML	11 26 22.0	
	0.2nm,0.4s						
THE				AMd		11 26 55.6	
HORT	Hortiatis	2.05	66	P	Pn	11 25 55.3	+0.8
KLV	Kalavryta, Ach	2.09	145	P	Pb	11 25 56.8	-1.2
VAY	Valandovo	2.13	43	*i* Pn	Pn	11 25 57.3	+1.7
PLG	Polygyros	2.23	73	P	Pn	11 25 57.9	+1.0
GUR	Goura	2.26	144	P	Pn	11 25 58.8	+1.4
KOKK	Kokkinochori,	2.77	67	P	Pn	11 26 05.3	+1.0

*KRSC **16** 11:29:39.5±1.2, 51°.27N×158°.17E, h96km±11km, Ml4.3, Felt at HMS Vodopad

KRMR eS **Sn** **11 30 29.1 +0.9**
APC Apacha 1.79 340 PN **Pn** **11 30 10.5 +0.3**
APC S **Sn** **11 30 32.4 -0.4**
APC Apacha 1.79 340 eP **Pn** **11 30 10.5 +0.3**
APC eS **Sn** **11 30 32.5 -0.4**
PET Petropavlovsk 1.81 10 ePN **Pn** **11 30 11.2 +0.7**
PET eS **Sn** **11 30 33.1 -0.1**
PET smax smax
comp=N,233nm,0.3s
PET smax smax
comp=E,154nm,0.3s
PET Petropavlovsk 1.81 10 eP **Pn** **11 30 10.9 +0.4**
PET eS **Sn** **11 30 33.0 -0.1**
DALK Dalny 1.82 11 PN **Pn** **11 30 11.3 +0.6**
DALK S **Sn** **11 30 33.4 -0.2**
DALK Dalny 1.82 11 eP **Pn** **11 30 11.4 +0.6**
DALK eS **Sn** **11 30 33.4 -0.2**
PEA0B Petropavlovsk- 1.89 352 PN **Pn** **11 30 11.9 +0.4**
PETK Petropavlovsk- 1.89 352 P **Pn** **11 30 11.5 0.0**
comp=E,15nm,0.5s,baz=153,slow=13,SNR=65
PETK S **Sn** **11 30 33.3 -1.8**
comp=E,44nm,0.5s,baz=161,slow=19,SNR=15
UGLR Uglovaya 2.01 12 PN **Pn** **11 30 14.1 +0.9**
UGLR Uglovaya 2.01 12 eP **Pn** **11 30 14.1 +0.9**
AVH Avacha 2.05 10 PN **Pn** **11 30 15.0 +1.3**
AVH Avacha 2.05 10 eP **Pn** **11 30 15.1 +1.3**
NLC Nalytchevo 2.06 20 PN **Pn** **11 30 13.2 -0.5**
NLC S **Sn** **11 30 36.8 -2.2**
NLC Nalytchevo 2.06 20 eP **Pn** **11 30 13.3 -0.5**
NLC eS **Sn** **11 30 36.8 -2.2**
KOK Koryaka 2.07 8 PN **Pn** **11 30 15.5 +1.5**
KOK Koryaka 2.07 8 eP **Pn** **11 30 15.6 +1.5**
KRX Arik 2.14 8 PN **Pn** **11 30 15.7 +0.8**
KRX Arik 2.14 8 eP **Pn** **11 30 15.8 +0.8**
SPN Mys Shipunski 2.18 31 PN **Pn** **11 30 15.9 +0.6**
SPN S **Sn** **11 30 41.3 -0.6**
SPN Mys Shipunski 2.18 31 eP **Pn** **11 30 15.9 +0.6**
SPN eS **Sn** **11 30 41.4 -0.6**
GNL Ganaly 2.46 357 PN **Pn** **11 30 19.6 +0.5**
GNL Ganaly 2.46 357 eP **Pn** **11 30 19.6 +0.5**
TUMD Tumrok D 4.18 18 eP **Pn** **11 30 43.0 +0.8**
TUMD eS **Sn** **11 31 29.9 -0.1**
KMNR Kamenistaya 4.68 15 PN **Pn** **11 30 49.7 +0.7**
KMNR Kamenistaya 4.68 15 eP **Pn** **11 30 49.8 +0.7**
KBTR Krutoberegovo 5.69 27 PN **Pn** **11 31 03.0 +0.5**
KBTR Krutoberegovo 5.69 27 eP **Pn** **11 31 03.1 +0.5**
ASAJ Asahikawa 12.67 242 P Pn 11 32 36.5 -0.7
comp=E,2.6nm,0.6s,baz=54,slow=17,SNR=6.4
TIXI Tiksi 24.30 338 P **P** **11 34 45.5 -3.1**
comp=E,2.6nm,0.4s,baz=137,slow=8.8,SNR=4.9
comp=E,2.6nm,0.4s
KSRS Korea Array 25.43 249 P **P** **11 34 58.6 -0.6**
comp=E,0.4nm,0.5s,baz=50,slow=10.0,SNR=1.1
comp=E,0.4nm,0.5s
ILAR Eielson Array 30.97 43 P **P** **11 35 49.1 +0.8**
comp=E,0.3nm,0.9s,baz=276,slow=8.3,SNR=2.4
comp=E,0.3nm,0.9s
H11N2 WAKE ISLAND Hy 32.20 164 T T 12 10 15.0
baz=350,slow=76,SNR=48
H11N3 WAKE ISLAND Hy 32.21 164 T T 12 10 07.1
baz=350,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 32.21 164 T T 12 10 08.3
baz=350,slow=76,SNR=31
H11S1 WAKE ISLAND Hy 33.36 165 T T 12 11 23.3
baz=350,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 33.37 165 T T 12 11 36.9
baz=350,slow=76,SNR=20
H11S2 WAKE ISLAND Hy 33.38 165 T T 12 11 24.3
baz=350,slow=76,SNR=15
YKA Yellowknife Ar 45.34 41 P **P** **11 37 48.2 -0.4**
comp=E,0.1nm,0.5s,baz=294,slow=8.6,SNR=2.3
comp=E,0.1nm,0.5s
KURK Kurchatov 47.70 302 P P 11 38 05.0 -2.2
KURBB Kurchatov Arra 47.80 302 P P 11 38 05.0 -3.0
comp=E,1.0nm,0.6s,baz=60,slow=7.5,SNR=5.5
comp=E,1.0nm,0.6s
MKAR Makanchi Array 47.89 296 P P 11 38 04.8 -3.9
comp=E,0.3nm,0.5s,baz=55,slow=7.5,SNR=4.9
comp=E,0.3nm,0.5s
SPITS Spitsbergen Ar 48.76 350 P P 11 38 13.6 -1.5
comp=E,15nm,1.0s,baz=48,slow=6.4,SNR=7.3
BVAR Borovoye Array 50.61 309 P P 11 38 25.8 -3.5
comp=E,1.1nm,0.5s,baz=43,slow=8.2,SNR=4.6
comp=E,1.1nm,0.5s
FRB Frobisher Bay 59.67 22 LR LR 12 08 20.9
comp=E,69nm,18.3s,baz=302,slow=39
HFS Hagfors 65.33 341 P P 11 40 10.1 -1.9
comp=E,2.3nm,0.9s,baz=51,slow=11,SNR=1.5
comp=E,2.3nm,0.9s
TXAR Lajitas Array 72.48 65 P **P** **11 40 58.1 +1.2**
comp=E,0.3nm,0.5s,baz=319,slow=6.1,SNR=8.4
comp=E,0.3nm,0.5s
ASAR Alice Springs 77.59 203 P **P** **11 41 26.7 +0.7**
comp=E,0.2nm,0.6s,baz=19,slow=6.0,SNR=2.1
comp=E,0.2nm,0.6s
H03N2 Juan Fernandez 135.41 89 T T 14 19 25.5
baz=314,slow=77,SNR=42
H03N1 Juan Fernandez 135.42 89 T T 14 19 29.4
baz=314,slow=77,SNR=47
H03N3 Juan Fernandez 135.43 89 T T 14 19 25.0
baz=314,slow=77,SNR=53

---

*IDC **16** 11:48:40.4±0.8, 2°.51S×140°.13E, h0km, mb3.7/7, mbtmp3.8/8, ML4.1/1, MS3.4/2, Error ellipse: s-maj=20.1km s-min=8.4km az=179.0*
*DJA **16** 11:48:42.1±0.5, 2°S±4°×14°0E±°, h10km, M3.9/5, MLv3.9/5*
ISC 16 11:48:43.6±0.8, 2°41S±0°.08×140°.28E±0°.05, h24km, n22, σ1§30/18, mb3.7/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.21**	**212**	P	**Pb**	**11 48 48.9**	**-0.4**
GENI				S	**Sb**	**11 48 54.0**	**+0.9**
JAY	**Jayapura**	**0.44**	**103**	Pg	**Pb**	**11 48 52.0**	**-0.7**
JAY	277nm,0.3s,baz=276,slow=12,SNR=1857			Lg	Lg	11 48 59.2	
	883nm,0.3s,baz=150,slow=20,SNR=28						
JAY	**Jayapura**	**0.44**	**103**	P	**Pb**	**11 48 52.2**	**-0.5**
JAY				S	**Sb**	**11 48 59.1**	**+0.1**
SMPI	**Sarmi**	**1.62**	**285**	P	**Pn**	**11 49 10.2**	**-0.5**
WAMI	**Wamena**	**2.14**	**227**	P	**Pn**	**11 49 19.8**	**+2.0**
WAMI				S	**Sb**	**11 49 47.8**	**0.0**
BAKI	**Biak**	**4.34**	**286**	P	**Pn**	**11 49 47.4**	**-0.7**
WRA	**Warramunga Arr**	**18.36**	**198**	P	**P**	**11 52 54.1**	**-2.6**
	0.6nm,0.3s,baz=19,slow=12,SNR=32						
WRA				S	Sn	11 56 07.1	-14
	0.7nm,0.8s,baz=19,slow=22,SNR=3.5						
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.19**	**222**	P	**P**	**11 53 26.1**	**-1.5**
	1.7nm,0.6s,baz=43,slow=8.9,SNR=6.2						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**22.01**	**196**	P	**P**	**11 53 35.5**	**-0.8**
	1.2nm,0.5s,baz=28,slow=11,SNR=30						
ASAR				S	**S**	**11 57 36.7**	**-1.5**
	0.2nm,0.3s,baz=13,slow=26,SNR=4.3						
	1.2nm,0.5s						
STKA	**Stephens Creek**	**29.33**	**178**	LR	LR	12 07 43.7	
	comp=Z,66nm,19.3s,baz=19,slow=39						
H11S3	**WAKE ISLAND Hy 33.28**	**50**		T	T	12 30 28.1	
	baz=232,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy 33.29**	**50**		T	T	12 30 29.3	
	baz=232,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy 33.30**	**50**		T	T	12 30 29.3	
	baz=232,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy 34.15**	**49**		T	T	12 31 31.4	
	baz=234,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy 34.17**	**49**		T	T	12 31 35.6	
	baz=234,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy 34.17**	**49**		T	T	12 31 33.2	
	baz=234,slow=76,SNR=7.3						
NWAO	**Narrogin (SRO)**	**37.26**	**213**	LR	LR	12 12 29.1	
	comp=Z,50nm,19.5s,baz=284,slow=38						
MKAR	**Makanchi Array**	**70.52**	**322**	P	**P**	**11 59 57.6**	**+1.1**
	0.4nm,0.6s,baz=104,slow=7.4,SNR=7.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**74.39**	**324**	P	**P**	**12 00 18.8**	**-0.7**
	0.4nm,0.4s,baz=115,slow=4.4,SNR=1.9						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**79.97**	**325**	P	**P**	**12 00 51.7**	**+0.9**
	0.3nm,0.3s,baz=90,slow=7.8,SNR=2.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**84.92**	**24**	P	**P**	**12 01 18.3**	**+2.0**
	0.3nm,0.8s,baz=272,slow=5.1,SNR=4.6						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**87.53**	**180**	P	**P**	**12 01 28.9**	**-0.5**
	1.2nm,0.8s,baz=319,slow=2.4,SNR=7.3						
	1.2nm,0.8s						

---

*NEIC **16** 11:52:48.3±0.6, 19°.95N±0°.04×155°.44W±0°.04, h45km±7km, Error ellipse: s-maj=6.7km s-min=4.6km az=211.0*
HVO 16 11:52:50.6±0.6, 19°.93N±0°.06×155°.42W±0°.03, h33km±7km, ML0.7/1, ML2.5/31(NEIC), Error ellipse: s-maj=8.4km s-min=4.3km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.28**	**292**	Pg	Pb	11 52 56.7	-1.4
HPAH					Sb	11 53 01.5	-1.7
MLH	**Mauna Loa**	**0.43**	**176**		Pb	11 52 59.3	-1.0
MLH					Sb	11 53 05.6	-1.4
MLH				IAML		11 53 16.3	
	comp=N,342nm,3.9s						
ALEP	**Alea Permanent**	**0.44**	**209**		Pb	11 52 59.4	-1.1
ALEP					Sb	11 53 05.7	-1.6
HUH	**Hualalai**	**0.46**	**238**		Pb	11 52 59.6	-1.1
HUH				IAML		11 53 14.1	
	comp=N,249nm,3.4s						
HUH				IAML		11 53 16.7	
	comp=E,266nm,3.5s						
MWH	**Mokuaweoweo**	**0.47**	**201**		Pb	11 52 59.5	-1.6
MWH				IAML		11 53 08.5	
	comp=E,339nm,1.9s						
MWH				IAML		11 53 09.4	
	comp=N,290nm,4.1s						
RSD	**Rainshed**	**0.48**	**164**		Pb	11 52 59.7	-1.2
RSD					Sb	11 53 06.6	-1.5
UWB	**Uwekahuna Bluf**	**0.52**	**165**		Pb	11 52 59.9	-1.6
UWB					Sb	11 53 07.2	-1.9
UWE	**Uwekahuna**	**0.52**	**166**		Pb	11 52 59.9	-1.6
UWE				IAML		11 53 22.2	
	comp=N,340nm,2.7s						
SBLHI	**Steaming Bluff**	**0.52**	**164**		Pb	11 52 59.8	-1.7
HATHI	**Halema'uma'u T**	**0.52**	**163**		Pb	11 52 59.9	-1.7
HATHI				IAML		11 53 13.8	
	comp=N,243nm,4.0s						
HATHI				IAML		11 53 19.4	
	comp=E,335nm,3.9s						
OBL	**Observatory Le**	**0.52**	**166**		Pb	11 53 00.0	-1.6
OBL					Sb	11 53 07.7	-1.5
WRMHI	**West Rim**	**0.53**	**168**		Pb	11 53 00.0	-1.7
BYL	**Byron's Ledge**	**0.54**	**163**	Pn	Pb	11 52 59.9	-1.9
BYL				IAML		11 53 13.4	
	comp=N,275nm,4.1s						
BYL				IAML		11 53 21.6	
	comp=E,348nm,4.2s						
RIM	**Rim**	**0.55**	**165**		Pb	11 53 00.3	-1.7
SDHHI	**Sand Hill**	**0.55**	**167**		Pb	11 53 00.2	-1.8
PUH	**Pauahi**	**0.58**	**161**		Pb	11 53 00.8	-1.7
KNHH	**Kane Nui o Ham**	**0.59**	**156**		Pb	11 53 00.8	-1.9
NPOC	**North of Pu'u**	**0.61**	**151**		Pb	11 53 01.0	-1.9
STCH	**Steam Cracks**	**0.61**	**153**		Pb	11 53 00.9	-2.1
STCH				IAML		11 53 07.3	
	comp=N,344nm,4.3s						
STCH				IAML		11 53 12.2	
	comp=E,165nm,3.8s						
JCUZ	**Jacuzzi**	**0.62**	**151**		Sb	11 53 09.1	-2.6
HLP	**Hilina Pali**	**0.64**	**170**	Pn	Pb	11 53 01.4	-2.0
HLP					Sb	11 53 09.5	-2.7
HTC	**Hot Caves**	**0.69**	**178**		Pn	11 53 02.2	-1.9
KHU	**Kahuku**	**0.70**	**195**		Pn	11 53 02.5	-2.0
KHU				IAML		11 53 13.6	
	comp=N,298nm,4.1s						
KHU				IAML		11 53 20.6	
	comp=E,290nm,4.5s						

---

*NOU **16** 12:01:16.2, 37°.91S×178°.37E, h20km, MLv2.8/4, Off E. Coast of N. Island, N.Z.*
WEL 16 12:00:51.8±1.4, 36°S±22°×17°9E±2°5, h184km±26km, M3.1/12, ML3.4/12, MLv3.1/12, Error ellipse: s-maj=37.9km s-min=22.2km az=126.3, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.64**	**187**	P	Pn	12 01 25.0	-0.3
MXZ	**Matakaoa Point**	**1.64**	**187**	P	Pn	12 01 25.6	+0.3
WMGZ	**Waiomatatini S**	**1.89**	**183**	P	Pn	12 01 28.0	+0.2
WMGZ				S	Sn	12 01 56.6	+0.5
HAZ	**Te Kaha**	**1.92**	**198**	P	Pn	12 01 28.0	-0.2
HAZ				S	Sn	12 01 57.3	+0.6
PKGZ	**Pakihiroa**	**1.97**	**191**	P	Pn	12 01 29.0	+0.2
PKGZ				S	Sn	12 01 58.6	+0.9
RUGZ	**Raukumara Rang**	**2.15**	**199**	P	Pn	12 01 30.3	-0.5
PUZ	**Puketiti**	**2.15**	**186**	P	Pn	12 01 30.4	-0.3
PUZ				S	Sn	12 02 00.8	-0.4
TWGZ	**Tauwhareparae**	**2.29**	**191**	P	Pn	12 01 32.5	+0.3
MWZ	**Matawai**	**2.53**	**198**	P	Pn	12 01 35.1	0.0
MWZ				S	Sn	12 02 09.8	+0.9
CNGZ	**Carnagh Statio**	**2.56**	**186**	P	Pn	12 01 35.7	+0.4
TKGZ	**Te Karaka**	**2.57**	**192**	P	Pn	12 01 35.3	-0.1
TKGZ				S	Sn	12 02 10.5	+1.0
URZ	**Urewera**	**2.59**	**206**	P	Pn	12 01 35.6	-0.1
URZ	**Urewera**	**2.59**	**206**	P	Pn	12 01 35.1	-0.5
RIGZ	**Rimuhau**	**2.84**	**192**	P	Pn	12 01 38.3	-0.4
MUGZ	**Murupara**	**2.91**	**209**	P	Pn	12 01 39.3	-0.2
RAHZ	**Arahi**	**3.20**	**201**	P	Pn	12 01 42.7	-0.2
MTHZ	**Maungataniwha**	**3.22**	**204**	P	Pn	12 01 42.9	-0.3
MHGZ	**Mahia Peninsul**	**3.26**	**189**	P	Pn	12 01 43.5	-0.2
BKZ	**Black Stump Fm**	**3.62**	**206**	P	Pn	12 01 48.0	-0.2
BKZ	**Black Stump Fm**	**3.62**	**206**	P	Pn	12 01 47.6	-0.6
MCHZ	**McNeill Hill**	**3.80**	**202**	P	Pn	12 01 49.8	-0.6
NTVZ	**North Tongarir**	**3.90**	**215**	P	Pn	12 01 51.9	+0.1
ETVZ	**East Tongariro**	**3.91**	**214**	P	Pn	12 01 51.8	-0.1
OTVZ	**Oturere**	**3.96**	**214**	P	Pn	12 01 52.5	0.0
SNVZ	**South Ngauruho**	**3.99**	**214**	P	Pn	12 01 52.8	-0.1
PXZ	**Pawanui**	**4.30**	**197**	P	Pn	12 01 55.0	-1.7
PXZ				S	Sn	12 02 45.0	-2.8
BFZ	**Birch Farm**	**5.08**	**200**	P	Pn	12 02 05.7	-1.0
BFZ	**Birch Farm**	**5.08**	**200**	P	Pn	12 02 04.9	-1.8

---

*JMA **16** 12:08:56.3±0.3, 25°.4N±1°.0×124°.5E±0°.5, h10km±4km, MV3.6/11, NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 12:08:56.3, 25°.36N×124°.52E, h10km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.29; $M_{\theta\theta}$0.98; $M_{\phi\phi}$0.31; $M_{r\theta}$-0.91; $M_{\theta\phi}$0.06; $M_{r\phi}$0.49; Fault plane solution: $M_0$1.52000×10^{15} NP1: ϕ_s260.00000°, δ26.00000°, λ-114.00000°. NP2: ϕ_s106.00000°, δ66.00000°, λ-79.00000°.*
*IDC **16** 12:09:01.8±3.4, 25°.26N×124°.63E, h52km±32km, mb3.4/10, mbtmp3.7/12, ML3.1/2, MS3.2/12 Error ellipse: s-maj=26.1km s-min=16.7km az=68.0*
ISC 16 12:08:57.3±1.6, 25°29N±0°.06×124°53E±0°.04, h15km±10km, n29, σ0§66/32, mb3.6/10, MS3.1/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.66**	**166**	P	**Pg**	**12 09 10.0**	**-0.2**
JTJ				S	**Sb**	**12 09 20.5**	**+0.9**
JISG	**Ishigakijimahi**	**0.72**	**196**	P	**Pg**	**12 09 11.7**	**+0.3**
JISG				eS	**Sg**	**12 09 21.9**	**+0.9**
JIRB	**Irabujima**	**0.74**	**128**	P	**Pg**	**12 09 11.2**	**-0.5**
JIRB				S	**Sg**	**12 09 21.2**	**-0.4**
JIKM	**Ikemajima**	**0.75**	**119**	eP	**Pg**	**12 09 11.3**	**-0.6**
JIKM				S	**Sg**	**12 09 22.2**	**+0.5**
JMJ2	**Miyako jima3**	**0.91**	**127**	P	**Pg**	**12 09 14.4**	**-0.5**
JMJ2				S	**Sb**	**12 09 27.9**	**+1.2**
JOGS	**Gusukube**	**0.96**	**123**	P	**Pg**	**12 09 15.2**	**-0.6**
JOGS				eS	**Sb**	**12 09 29.0**	**+0.9**
JIJ	**Ishigaki jima**	**0.98**	**201**	P	**Pg**	**12 09 15.6**	**-0.7**
JIJ				S	**Sg**	**12 09 28.9**	**-0.3**
JKRS	**Kuro-shima**	**1.15**	**204**	P	**Pn**	**12 09 18.5**	**-0.3**
JKRS				S	**Sb**	**12 09 33.9**	**+0.3**
IRIF	**Iriomote-Funau**	**1.19**	**217**	P	**Pn**	**12 09 19.4**	**-0.1**
HATJ	**Hateruma jima**	**1.39**	**208**	P	**Pn**	**12 09 22.3**	**+0.1**
HATJ				S	**Sn**	**12 09 40.2**	**-0.1**
JOW	**Kunigami**	**3.71**	**65**	P	**Pn**	**12 09 54.6**	**+0.6**
	3.3nm,0.3s,baz=242,slow=15,SNR=3.6						
	27nm,0.7s						
JNU	**Nakatsue**	**9.57**	**34**	LR	LR	12 15 05.3	
	comp=Z,112nm,20.2s,baz=206,slow=38						
KSRS	**Korea Array**	**12.47**	**13**	P	Pn	12 11 57.8	+3.6
	0.1nm,0.3s,baz=210,slow=11,SNR=1.5						
KSRS				LR	LR	12 17 01.0	
	comp=Z,118nm,19.5s,baz=195,slow=38						
	1.2nm,0.9s						
MJAR	**Matsushiro Arr**	**16.22**	**43**	LR	LR	12 19 12.1	
	comp=Z,42nm,21.7s,baz=222,slow=38						
USRK	**Ussuriysk Ar.**	**19.82**	**16**	LR	LR	12 20 29.9	
	comp=Z,82nm,18.8s,baz=177,slow=35						
ASAJ	**Asahikawa**	**23.86**	**34**	LR	LR	12 23 00.8	
	comp=Z,54nm,19.7s,baz=112,slow=35						
KLR	**Kul'dur**	**24.56**	**11**	LR	LR	12 23 58.5	
	comp=Z,64nm,19.5s,baz=254,slow=36						
CMAR	**Chiang Mai Arr**	**24.67**	**259**	P	**P**	**12 14 18.4**	**+0.6**
	0.7nm,0.3s,baz=85,slow=8.0,SNR=1.9						
CMAR				LR	LR	12 24 31.9	
	comp=Z,23nm,18.0s,baz=50,slow=38						
	0.7nm,0.3s						
SONM	**Songino Array**	**26.67**	**332**	P	**P**	**12 14 36.8**	**+1.0**
	1.5nm,0.9s,baz=151,slow=9.2,SNR=7.6						
SONM				LR	LR	12 25 06.9	
	comp=Z,50nm,18.3s,baz=196,slow=36						
	1.5nm,0.9s						
KAPI	**Kappang**	**30.48**	**189**	LR	LR	12 27 32.0	
	comp=Z,42nm,19.5s,baz=20,slow=36						
YAK	**Yakutsk**	**36.90**	**4**	LR	LR	12 32 15.0	
	comp=Z,52nm,18.5s,baz=80,slow=38						
MKAR	**Makanchi Array**	**39.72**	**314**	P	**P**	**12 16 29.9**	**+0.7**
	0.6nm,0.6s,baz=94,slow=11,SNR=9.2						
MKAR				PcP	**PcP**	**12 18 35.3**	**-0.3**
	0.6nm,0.7s,baz=92,slow=3.4,SNR=6.3						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.03**	**325**	P	**P**	**12 16 40.2**	**+0.4**
	0.9nm,0.6s,baz=110,slow=7.6,SNR=4.8						
ZALV				LR	LR	12 35 17.0	
	comp=Z,50nm,19.6s,baz=338,slow=38						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**43.27**	**318**	P	**P**	**12 16 58.2**	**0.0**
	1.0nm,0.8s,baz=110,slow=8.6,SNR=6.5						
KURBB				PcP	**PcP**	**12 18 46.2**	**-0.9**
	0.5nm,0.8s,baz=119,slow=3.1,SNR=2.6						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**45.96**	**167**	P	**P**	**12 17 19.8**	**-0.2**
	0.6nm,0.7s,baz=350,slow=8.7,SNR=6.2						
	0.6nm,0.7s						
NRIK	**Noril'sk**	**49.17**	**344**	P	**P**	**12 17 44.7**	**+0.4**
	1.9nm,0.6s,baz=117,slow=6.9,SNR=4.2						
NRIK				LR	LR	12 42 33.6	
	comp=Z,66nm,18.6s,baz=322,slow=41						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**49.51**	**169**	P	**P**	**12 17 46.6**	**-0.8**
	0.4nm,0.7s,baz=348,slow=8.7,SNR=9.7						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**66.83**	**28**	P	**P**	**12 19 48.0**	**-0.3**
	0.3nm,0.9s,baz=263,slow=5.8,SNR=4.6						
	0.3nm,0.9s						
YKA	**Yellowknife Ar**	**80.76**	**24**	P	**P**	**12 21 08.6**	**-1.3**
	0.4nm,0.8s,baz=302,slow=5.0,SNR=4.3						
	0.4nm,0.8s						

---

*JMA **16** 12:12:27.9±0.1, 24°N±1°×122°.5E±0°.4, h49km±3km, MV2.4/14, NW OFF ISHIGAKIJIMA IS*
*TAP **16** 12:12:28.6, 24°.07N×122°.52E, h51km, ML3.1, C*
ISC 16 12:12:28.9±1.2, 24°02N±0°.03×122°55E±0°.02, h49km±8km, n122, σ1§16/210, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.23**	**295**	*i* P	**Pn**	**12 12 37.0**	**+0.1**
EOS4				S	**Sn**	**12 12 43.1**	**+0.6**
EOS3	**EOS3**	**0.33**	**322**	P	**Pn**	**12 12 38.3**	**+0.3**
EOS3				eS	**Sn**	**12 12 45.9**	**+1.3**
EOS2	**EOS2**	**0.49**	**324**	*i* P	**Pn**	**12 12 40.1**	**+0.3**
EOS2				S	**Sn**	**12 12 48.9**	**+1.3**
JYNG	**Yonagunijimaku**	**0.56**	**41**	eP	**Pn**	**12 12 40.7**	**-0.1**
JYNG				eS	**Sn**	**12 12 49.4**	**0.0**
YOJ	**Yonaguni jima**	**0.61**	**44**	P	**Pn**	**12 12 40.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.61**	**44**	*i* P	**Pn**	**12 12 41.2**	**-0.2**
YOJ				S	**Sn**	**12 12 50.5**	**0.0**
YOJ	**Yonaguni jima**	**0.61**	**44**	P	**Pn**	**12 12 41.2**	**-0.2**
YOJ				eS	**Sn**	**12 12 50.4**	**0.0**
EAHA	**Aohua**	**0.80**	**293**	P	**Pn**	**12 12 43.4**	**-0.4**
EAHA				S	**Sn**	**12 12 54.8**	**+0.1**
EWUT	**Wuta**	**0.82**	**301**	P	**Pn**	**12 12 43.4**	**-0.7**
EWUT				eS	**Sn**	**12 12 53.9**	**-1.3**
ENA	**Nanau**	**0.84**	**299**	P	**Pn**	**12 12 43.9**	**-0.5**
ENA				S	**Sn**	**12 12 54.7**	**-1.0**
ESAO	**Su ao**	**0.84**	**311**	P	**Pn**	**12 12 43.6**	**-0.8**
ETL	**Fush Village**	**0.85**	**279**	*i* P	**Pn**	**12 12 43.9**	**-0.7**
ETL				S	**Sn**	**12 12 55.5**	**-0.7**
HWA	**Hwalien**	**0.86**	**267**	P	**Pn**	**12 12 44.3**	**-0.4**
HWA				eS	**Sn**	**12 12 57.0**	**+0.8**
TWC	**Suao**	**0.86**	**313**	P	**Pn**	**12 12 43.9**	**-0.8**
TWC				eS	**Sn**	**12 12 53.9**	**-2.4**
TWD	**Chiawan**	**0.87**	**274**	*i* P	**Pn**	**12 12 43.9**	**-0.9**
TWD				S	**Sn**	**12 12 55.2**	**-1.2**
TEYL	**Yanliau Villag**	**0.88**	**260**	P	**Pn**	**12 12 44.6**	**-0.3**
TEYL				S	**Sn**	**12 12 56.6**	**-0.1**
NACB	**Ninganchiao**	**0.88**	**280**	P	**Pn**	**12 12 44.1**	**-0.8**
NACB	**Ninganchiao**	**0.88**	**280**	‖ *i* P	**Pn**	**12 12 44.1**	**-0.8**
NACB				S	**Sn**	**12 12 56.0**	**-0.7**
SHUL	**Shoufeng**	**0.93**	**256**	P	**Pn**	**12 12 45.1**	**-0.5**
SHUL				S	**Sn**	**12 12 58.0**	**+0.1**
ETM	**Tongmen**	**0.96**	**267**	*i* P	**Pn**	**12 12 45.2**	**-0.8**
ETM				S	**Sn**	**12 12 57.4**	**-1.3**
NDS	**Dongshan**	**0.97**	**309**	P	**Pn**	**12 12 46.0**	**-0.2**
NDS				eS	**Sn**	**12 12 59.0**	**+0.1**
ETLH	**Xiulin Townshi**	**0.99**	**281**	P	**Pn**	**12 12 45.9**	**-0.6**
ETLH				eS	**Sn**	**12 12 58.3**	**-1.2**
LXIB	**Xiulin Townshi**	**1.03**	**270**	eP	**Pn**	**12 12 46.4**	**-0.8**
LXIB				eS	**Sn**	**12 12 59.2**	**-1.5**
ESL	**Shilin**	**1.04**	**259**	*i* P	**Pn**	**12 12 45.9**	**-1.2**
ESL				S	**Sn**	**12 12 59.0**	**-1.5**
LATG	**Datong**	**1.06**	**299**	P	**Pn**	**12 12 47.1**	**-0.3**
LATG				eS	**Sn**	**12 13 00.3**	**-0.9**
TWE	**Neicheng**	**1.06**	**311**	*i* P	**P

YULB	**Yu-li**	**1.30 241**	S		**Sn**	**12 13 06.3**	**-0.7**
YULB	**Yu-li**	**1.30 241**	*i* P		**Pn**	**12 12 50.3**	**-0.5**
YULB			S		**Sn**	**12 13 05.8**	**-1.3**
WUSB	**Renai**	**1.31 269**	P		**Pn**	**12 12 50.7**	**-0.1**
WUSB			*e*S		**Sn**	**12 13 05.9**	**-1.3**
EYUL	**Yuli**	**1.31 239**	P		**Pn**	**12 12 50.4**	**-0.3**
EYUL			S		**Sn**	**12 13 07.0**	**-0.1**
VWDT	**VWDT**	**1.31 258**	P		**Pn**	**12 12 50.9**	**+0.1**
VWDT			S		**Sn**	**12 13 07.0**	**-0.2**
TWF1	**Yuli**	**1.32 240**	*i* P		**Pn**	**12 12 50.7**	**-0.3**
TWF1			S		**Sn**	**12 13 07.1**	**-0.4**
CHKH	**Chenggong**	**1.34 232**	*e*P		**Pn**	**12 12 49.0**	**-2.1**
CHKH			*e*S		**Sn**	**12 13 05.4**	**-2.5**
TATO	**Taipei**	**1.35 315**	P		**Pn**	**12 12 52.2**	**+0.9**
TATO	**Taipei**	**1.35 315**	S		**Sn**	**12 13 08.5**	**+0.4**
JKRS	**Kuro-shima**	**1.35 81**	P		**Pn**	**12 12 51.6**	**+0.3**
JKRS			*e*S		**Sn**	**12 13 09.5**	**+1.3**
FULB	**Fuli**	**1.41 235**	P		**Pn**	**12 12 51.2**	**-1.0**
FULB			*e*S		**Sn**	**12 13 08.1**	**-1.5**
CHKT	**Chengkung**	**1.42 230**	P		**Pn**	**12 12 51.2**	**-1.1**
CHKT			*e*S		**Sn**	**12 13 07.9**	**-1.9**
YM01	**YM01**	**1.43 322**	*e*P		**Pn**	**12 12 51.1**	**-1.3**
NFF	**Wufeng Townshi**	**1.44 295**	P		**Pn**	**12 12 52.9**	**+0.3**
NFF			*e*S		**Sn**	**12 13 10.1**	**-0.2**
ZUZH	**Zhuzihu**	**1.45 321**	*e*P		**Pn**	**12 12 51.0**	**-1.7**
KSHI	**Guanxi Townshi**	**1.46 301**	P		**Pn**	**12 12 53.6**	**+0.9**
KSHI			*e*S		**Sn**	**12 13 12.3**	**+1.6**
SSLB	**Suanglung**	**1.48 261**	P		**Pn**	**12 12 53.1**	**0.0**
SSLB	**Suanglung**	**1.48 261**	*i* P		**Pn**	**12 12 53.1**	**0.0**
WHP	**Taichung City**	**1.48 280**	*e*P		**Pn**	**12 12 53.8**	**+0.6**
TWS1	**Kuangyinshan**	**1.48 316**	*e*P		**Pn**	**12 12 51.6**	**-1.5**
TWS1			*e*S		**Sn**	**12 13 09.7**	**-1.7**
WCS	**Beigang Elemen**	**1.49 272**	P		**Pn**	**12 12 53.6**	**+0.3**
JIJ	**Ishigaki jima**	**1.50 77**	*i* P		**Pn**	**12 12 52.8**	**-0.5**
EHD	**Haiduan**	**1.51 235**	P		**Pn**	**12 12 52.8**	**-0.6**
EHD			*e*S		**Sn**	**12 13 11.2**	**-0.8**
SMLT	**Sun Moon Lake**	**1.51 265**	P		**Pn**	**12 12 52.8**	**-0.8**
LIOB	**Emei**	**1.53 294**	P		**Pn**	**12 12 54.5**	**+0.8**
LIOB			S		**Sn**	**12 13 13.4**	**+1.0**
ECS	**Chishang**	**1.53 233**	P		**Pn**	**12 12 54.1**	**+0.3**
ECS			*e*S		**Sn**	**12 13 12.2**	**-0.3**
NSTT	**Nanjuang**	**1.53 294**	P		**Pn**	**12 12 54.3**	**+0.5**
NSTT			S		**Sn**	**12 13 13.2**	**+0.6**
EDH	**Donghe**	**1.55 228**	P		**Pn**	**12 12 53.0**	**-1.0**
EDH			*e*S		**Sn**	**12 13 10.8**	**-2.2**
TYC	**Yuchr**	**1.55 266**	P		**Pn**	**12 12 54.3**	**+0.3**
WHYT	**Xinyi Township**	**1.58 258**	*e*P		**Pn**	**12 12 55.2**	**+0.7**
ELDTW	**Lidau**	**1.63 240**	P		**Pn**	**12 12 54.7**	**-0.6**
ELDTW			*e*S		**Sn**	**12 13 13.4**	**-1.7**
TWQ1	**Liyutan**	**1.65 282**	*e*P		**Pn**	**12 12 56.3**	**+0.8**
LDUT	**Ludao**	**1.67 217**	P		**Pn**	**12 12 54.9**	**-0.8**
LDUT			*e*S		**Sn**	**12 13 13.3**	**-2.6**
ALS	**Alishan**	**1.67 253**	P		**Pn**	**12 12 56.7**	**+0.7**
ALS			*e*S		**Sn**	**12 13 17.1**	**+0.7**
WJS	**Zhushan**	**1.68 263**	P		**Pn**	**12 12 57.4**	**+1.6**
NMLH	**Miaoli**	**1.68 288**	*e*P		**Pn**	**12 12 56.7**	**+0.8**
NMLH			*e*S		**Sn**	**12 13 16.7**	**+0.5**
JISG	**Ishigakijimahi**	**1.71 70**	P		**Pn**	**12 12 55.5**	**-0.7**
WNT	**Mingjian**	**1.71 266**	P		**Pn**	**12 12 57.8**	**+1.6**
WNT			*e*S		**Sn**	**12 13 18.9**	**+2.0**
LONT	**Longtian**	**1.71 230**	P		**Pn**	**12 12 55.6**	**-0.6**
LONT			S		**Sn**	**12 13 15.8**	**-1.2**
TCU	**Taichung**	**1.71 275**	*e*P		**Pn**	**12 12 57.4**	**+1.1**
TCU			*e*S		**Sn**	**12 13 19.3**	**+2.3**
CHN5	**Tsauling**	**1.76 256**	*e*P		**Pn**	**12 12 58.1**	**+1.1**
CHN5			*e*S		**Sn**	**12 13 19.8**	**+1.5**
TWGBT	**Beinan**	**1.80 229**	P		**Pn**	**12 12 56.9**	**-0.6**
TWGBT			*e*S		**Sn**	**12 13 17.8**	**-1.4**
TWG	**Pinlang**	**1.81 229**	*e*P		**Pn**	**12 12 57.3**	**-0.3**
TWG			*e*S		**Sn**	**12 13 18.4**	**-1.0**
STYH	**Taoyuan**	**1.83 243**	P		**Pn**	**12 12 58.3**	**+0.4**
STYH			S		**Sn**	**12 13 19.7**	**-0.2**
WDLH	**Douliu**	**1.87 260**	P		**Pn**	**12 12 59.9**	**+1.6**
WDLH			*e*S		**Sn**	**12 13 24.0**	**+3.2**
WCKO	**Fanlu**	**1.87 252**	P		**Pn**	**12 13 00.2**	**+1.7**
WCKO			S		**Sn**	**12 13 23.3**	**+2.4**
TPUB	**Ta-pu**	**1.90 248**	P		**Pn**	**12 13 00.1**	**+1.2**
TPUB	**Ta-pu**	**1.90 248**	P		**Pn**	**12 13 00.0**	**+1.2**
TPUB			*e*S		**Sn**	**12 13 23.6**	**+2.0**
CHN4	**Tsaushan**	**1.91 250**	P		**Pn**	**12 13 00.7**	**+1.7**
CHN4			*e*S		**Sn**	**12 13 24.7**	**+2.8**
WTP	**Ta-pu**	**1.93 247**	P		**Pn**	**12 13 00.7**	**+1.4**
WTP			*e*S		**Sn**	**12 13 24.6**	**+2.1**
WRL	**Guolierlin Hig**	**1.99 267**	P		**Pn**	**12 13 01.2**	**+1.2**
WRL			*e*S		**Sn**	**12 13 25.4**	**+1.7**
WTK	**Tuku**	**2.00 261**	P		**Pn**	**12 13 01.3**	**+1.1**
WTK			*e*S		**Sn**	**12 13 27.1**	**+3.0**
CHY	**Chiayi**	**2.01 255**	*e*P		**Pn**	**12 12 59.9**	**-0.5**
CHN1	**Nanshi**	**2.03 246**	P		**Pn**	**12 13 02.0**	**+1.4**
CHN1			*e*S		**Sn**	**12 13 27.1**	**+2.3**
SGST	**Jiashian**	**2.03 243**	P		**Pn**	**12 13 01.4**	**+0.8**
SGST			*e*S		**Sn**	**12 13 26.1**	**+1.3**
TWK	**Hsinying**	**2.03 249**	P		**Pn**	**12 13 02.4**	**+1.7**
ECL	**Taimali**	**2.04 226**	*e*P		**Pn**	**12 13 00.2**	**-0.6**
ECL			S		**Sn**	**12 13 22.9**	**-2.0**
SNST	**Tainan City**	**2.04 247**	P		**Pn**	**12 13 02.4**	**+1.6**
ICHU	**Yijhu**	**2.18 253**	P		**Pn**	**12 13 04.0**	**+1.3**
WSL	**Shuilin Townsh**	**2.18 257**	P		**Pn**	**12 13 03.6**	**+0.9**
WSL			*e*S		**Sn**	**12 13 30.0**	**+1.5**
TSMG	**Majia**	**2.18 233**	*e*P		**Pn**	**12 13 04.7**	**+2.0**
TSMG			*e*S		**Sn**	**12 13 30.4**	**+1.9**
SCST	**Cishan**	**2.20 239**	P		**Pn**	**12 13 05.4**	**+2.5**
SCST			S		**Sn**	**12 13 33.2**	**+4.3**
MASBT	**Mashibuluo**	**2.25 232**	P		**Pn**	**12 13 03.9**	**+0.3**
EAST	**Anshuo**	**2.26 224**	*e*P		**Pn**	**12 13 04.4**	**+0.6**
SLIU	**Shizi**	**2.41 222**	*e*P		**Pn**	**12 13 05.3**	**-0.6**
SCZT	**Fangliau**	**2.42 228**	*e*P		**Pn**	**12 13 07.0**	**+1.1**
TSCK	**Chigu Township**	**2.42 249**	P		**Pn**	**12 13 07.2**	**+1.3**
TSCK			*e*S		**Sn**	**12 13 35.8**	**+1.4**
WSSB	**Gushan**	**2.51 237**	*e*P		**Pn**	**12 13 07.9**	**+0.7**
PHUB	**P'eng-hu**	**2.77 260**	P		**Pn**	**12 13 10.6**	**-0.1**
PHUB			S		**Sn**	**12 13 42.6**	**-0.4**
PTMZ	**Houxiangcun**	**3.28 289**	*e*P		**Pn**	**12 13 16.6**	**-1.2**

*IDC **16** 12:20:22.3±0.6, 54.°83N×164.°52E, h0km, mb4.0/21, mbtmp4.1/24, ML3.9/3, MS2.8/1, Error ellipse: s-maj=18.1km s-min=12.8km az=149.0*
*KRSC **16** 12:20:23.4±0.9, 54.°72N×164.°51E, h50km±21km, Ml4.6*
*MOS **16** 12:20:23.4±0.8, 54.°71N×164.°58E, h48km, mb4.3/17, Error ellipse: s-maj=6.5km s-min=5.4km az=77.2*
*NEIC **16** 12:20:24.4±0.9, 54.°8N±0.°1×164.°52E±0.°08, h10km±1km, mb4.2/73, Error ellipse: s-maj=18.9km s-min=6.2km az=16.0*
ISC 16 12:20:25.0±0.4, 54.°75N±0.°05×164.°55E±0.°04, h17km, n200, σ1§18/196, mb4.2/68, 5C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.94**	**60**	PN	**Pb**	**12 20 42.3**	**-0.4**
BKI				S	**Sb**	**12 20 54.0**	**-0.9**
BKI	**Bering**	**0.94**	**60**	*i* P	**Pb**	**12 20 42.4**	**-0.4**
BKI				*e*S	**Sb**	**12 20 54.0**	**-0.9**
KBTR	**Krutoberegovo**	**1.76**	**327**	PN	**Pn**	**12 20 53.4**	**-1.3**
KBTR	**Krutoberegovo**	**1.76**	**327**	*e*P	**Pn**	**12 20 53.4**	**-1.3**
KBG	**Krutoberegovo**	**1.84**	**326**	PN	**Pn**	**12 20 54.4**	**-1.3**
KBG				S	**Sn**	**12 21 16.5**	**-2.0**
KBG	**Krutoberegovo**	**1.84**	**326**	*e*P	**Pn**	**12 20 54.5**	**-1.3**
KBG				*e*S	**Sn**	**12 21 16.6**	**-2.0**
TUMD	**Tumrok D**	**2.43**	**282**	*e*P	**Pn**	**12 21 04.0**	**+0.1**
TUMD				*e*S	**Sn**	**12 21 32.8**	**-0.4**
SMKR	**Semkarok**	**2.53**	**318**	PN	**Pn**	**12 21 05.9**	**+0.6**
SMKR	**Semkarok**	**2.53**	**318**	*e*P	**Pn**	**12 21 06.0**	**+0.6**
CIRR	**Tsirk**	**2.56**	**304**	PN	**Pn**	**12 21 05.9**	**+0.1**
CIRR	**Tsirk**	**2.56**	**304**	*e*P	**Pn**	**12 21 05.9**	**+0.1**
KMNR	**Kamenistaya**	**2.67**	**294**	PN	**Pn**	**12 21 08.0**	**+0.8**
KMNR	**Kamenistaya**	**2.67**	**294**	*e*P	**Pn**	**12 21 08.0**	**+0.8**
KIRR	**Kirishev**	**2.69**	**298**	PN	**Pn**	**12 21 08.3**	**+0.8**
KIRR	**Kirishev**	**2.69**	**298**	*e*P	**Pn**	**12 21 08.4**	**+0.8**
KLY	**Klyuchi**	**2.71**	**307**	PN	**Pn**	**12 21 06.6**	**-1.1**
KLY				S	**Sn**	**12 21 37.8**	**-2.3**
KLY	**Klyuchi**	**2.71**	**307**	*e*P	**Pn**	**12 21 06.7**	**-1.1**
KLY				*e*S	**Sn**	**12 21 37.8**	**-2.3**
KOZ	**Kozyrevsk**	**2.97**	**298**	PN	**Pn**	**12 21 12.3**	**+1.1**
KOZ	**Kozyrevsk**	**2.97**	**298**	*e*P	**Pn**	**12 21 12.4**	**+1.1**
KII	**Karymskiy**	**3.06**	**259**	PN	**Pn**	**12 21 12.8**	**+0.2**
KII	**Karymskiy**	**3.06**	**259**	*e*P	**Pn**	**12 21 12.8**	**+0.2**
SPN	**Mys Shipunski**	**3.14**	**240**	PN	**Pn**	**12 21 12.5**	**-1.1**
SPN	**Mys Shipunski**	**3.14**	**240**	*e*P	**Pn**	**12 21 12.6**	**-1.1**
SRDR	**Sredinnyy**	**3.16**	**302**	PN	**Pn**	**12 21 14.6**	**+0.7**
SRDR	**Sredinnyy**	**3.16**	**302**	*e*P	**Pn**	**12 21 14.7**	**+0.7**
ESO	**Esso**	**3.54**	**292**	PN	**Pn**	**12 21 19.3**	**+0.2**
ESO	**Esso**	**3.54**	**292**	*e*P	**Pn**	**12 21 19.3**	**+0.2**
UGLR	**Uglovaya**	**3.71**	**248**	PN	**Pn**	**12 21 21.9**	**+0.4**
UGLR	**Uglovaya**	**3.71**	**248**	*e*P	**Pn**	**12 21 22.0**	**+0.4**
AVH	**Avacha**	**3.73**	**249**	PN	**Pn**	**12 21 22.4**	**+0.6**
AVH	**Avacha**	**3.73**	**249**	*e*P	**Pn**	**12 21 22.4**	**+0.6**
AVH				*e*S	**Sn**	**12 22 03.8**	**-1.7**
KRX	**Arik**	**3.74**	**251**	PN	**Pn**	**12 21 22.0**	**0.0**
KRX	**Arik**	**3.74**	**251**	*e*P	**Pn**	**12 21 22.1**	**0.0**
KRX				*e*S	**Sn**	**12 22 03.5**	**-2.3**
KOK	**Koryaka**	**3.78**	**250**	PN	**Pn**	**12 21 22.8**	**+0.4**
KOK	**Koryaka**	**3.78**	**250**	*e*P	**Pn**	**12 21 22.8**	**+0.4**
DALK	**Dalny**	**3.83**	**246**	PN	**Pn**	**12 21 22.9**	**-0.2**
DALK	**Dalny**	**3.83**	**246**	*e*P	**Pn**	**12 21 22.9**	**-0.2**
PET	**Petropavlovsk**	**3.89**	**246**		**Pn**	**12 21 23.9**	**+0.1**
PET	**Petropavlovsk**	**3.89**	**246**	*e*PN	**Pn**	**12 21 24.3**	**+0.4**
PET				pmax	pmax		
	comp=Z,100nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**3.89**	**246**	*e*P	**Pn**	**12 21 24.1**	**+0.2**
PET				*e*S	**Sn**	**12 22 06.5**	**-2.6**
GNL	**Ganaly**	**4.02**	**257**	PN	**Pn**	**12 21 26.8**	**+1.1**
GNL	**Ganaly**	**4.02**	**257**	*e*P	**Pn**	**12 21 26.9**	**+1.1**
KRMR	**Karymshinskiy**	**4.26**	**246**	PN	**Pn**	**12 21 29.2**	**+0.2**
KRMR	**Karymshinskiy**	**4.26**	**246**	*e*P	**Pn**	**12 21 29.3**	**+0.2**
RUS	**Russkaya**	**4.28**	**240**	PN	**Pn**	**12 21 28.6**	**-0.6**
RUS	**Russkaya**	**4.28**	**240**	*e*P	**Pn**	**12 21 28.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.37**	**251**	Pn	**Pn**	**12 21 31.5**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.37**	**251**	*de*PN	**Pn**	**12 21 31.6**	**+1.1**
PETK	**Petropavlovsk-**	**4.37**	**251**	Pn	**Pn**	**12 21 30.9**	**+0.4**
	comp=Z,15nm,0.3s,baz=71,slow=18,SNR=367						
PETK				Sn	**Sn**	**12 22 19.2**	**-1.7**
	comp=Z,8.2nm,0.3s,baz=74,slow=21,SNR=10.0						
	comp=Z,47nm,0.5s						
PETK	**Petropavlovsk-**	**4.37**	**251**	PN	**Pn**	**12 21 30.8**	**+0.3**
GRL	**Gorelyy**	**4.43**	**243**	PN	**Pn**	**12 21 32.1**	**+0.6**
GRL	**Gorelyy**	**4.43**	**243**	*e*P	**Pn**	**12 21 32.1**	**+0.6**
OSSR	**Ossora**	**4.59**	**350**	PN	**Pn**	**12 21 33.8**	**+0.4**
OSSR	**Ossora**	**4.59**	**350**	*e*P	**Pn**	**12 21 33.9**	**+0.4**
APC	**Apacha**	**4.74**	**250**	PN	**Pn**	**12 21 37.0**	**+1.4**
APC	**Apacha**	**4.74**	**250**	*e*P	**Pn**	**12 21 37.0**	**+1.4**
APC				*e*S	**Sn**	**12 22 28.9**	**-1.2**
KDTR	**Khodutka, Kamc**	**4.87**	**235**	PN	**Pn**	**12 21 36.3**	**-1.0**
KDTR	**Khodutka, Kamc**	**4.87**	**235**	*e*P	**Pn**	**12 21 36.4**	**-1.0**
PALN	**Palana**	**5.02**	**332**	PN	**Pn**	**12 21 39.8**	**+0.4**
PALN	**Palana**	**5.02**	**332**	*e*P	**Pn**	**12 21 39.9**	**+0.4**
PAU	**Pauzhetka**	**5.70**	**238**	PN	**Pn**	**12 21 49.1**	**+0.4**
PAU	**Pauzhetka**	**5.70**	**238**	*e*P	**Pn**	**12 21 49.2**	**+0.4**
TILK	**Tilichiki**	**5.78**	**8**	PN	**Pn**	**12 21 52.1**	**+2.3**
TILK	**Tilichiki**	**5.78**	**8**	*e*P	**Pn**	**12 21 52.1**	**+2.3**
SHEM	**Shemya Is, Ala**	**6.02**	**106**	Pn	**Pn**	**12 21 53.1**	**0.0**
	comp=Z,14nm,0.3s,baz=270,slow=2.0,SNR=6.5						
SHEM				Sn	**Sn**	**12 22 55.5**	**-6.0**
	comp=Z,3.4nm,0.3s,baz=270,slow=20,SNR=1.8						
	comp=Z,32nm,0.4s						
SKR	**Severo-Kuril's**	**6.54**	**235**	*e*PN	Pb	12 22 12.8	-5.4
SKR				MLR	MLR		
	comp=Z,800nm,12.0s						
MA2	**Magadan**	**8.91**	**308**	LR	LR	12 25 46.8	
	comp=Z,59nm,21.5s,baz=146,slow=37						
MA2	**Magadan**	**8.91**	**308**	*i* PN	**Pn**	**12 22 36.1**	**+3.4**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIWB	**Kanaga Island**	**11.33**	**97**	Pn	**Pn**	**12 23 06.0**	**+0.2**
ADK	**Adak**	**11.58**	**97**	Pn	**Pn**	**12 23 09.4**	**+0.1**
ADK	**Adak**	**11.58**	**97**	PN	**Pn**	**12 23 10.4**	**+1.1**
GSTR	**Great Sitkin T**	**11.87**	**95**	Pn	**Pn**	**12 23 11.4**	**-1.9**
ATKA	**Atka Island**	**12.91**	**93**	Pn	**Pn**	**12 23 29.1**	**+1.7**
UNV	**Unalaska Valle**	**16.87**	**81**		**Pn**	**12 24 21.3**	**+1.3**
UNV				IAmb	IAmb	12 24 40.9	
	comp=Z,18nm,1.0s						
JKA	**Kamikawa-asahi**	**17.72**	**242**	P	**Pn**	**12 24 29.9**	**-0.9**
ASAJ	**Asahikawa**	**17.73**	**242**	P	**Pn**	**12 24 29.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=53,slow=3.8,SNR=8.6						
	comp=Z,10nm,0.8s						
FALS	**False Pass**	**18.39**	**76**	P	**P**	**12 24 38.8**	**+0.1**
M14K	**Bethel**	**18.70**	**58**	P	**Pn**	**12 24 43.0**	**+0.5**
S12K	**Black Hills**	**18.97**	**73**	P	**P**	**12 24 45.5**	**+0.3**
ERM	**Erimo**	**18.98**	**237**	P	**P**	**12 24 43.9**	**-1.5**
ERM				IAmb	IAmb	12 25 07.9	
	comp=Z,19nm,0.8s						
ERM	**Erimo**	**18.98**	**237**	P	**P**	**12 24 43.9**	**-1.5**
ERM				pmax	pmax		
	comp=Z,19nm,0.8s						
C16K	**Lisburne Hills**	**19.45**	**34**	P	**Pn**	**12 24 51.4**	**-0.1**
YAK	**Yakutsk**	**19.47**	**306**	*ce*P	**P**	**12 24 51.2**	**+0.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
O16K	**Kokwok River B**	**20.63**	**61**	P	**P**	**12 25 03.5**	**+0.4**
CHGN	**Chignik**	**20.86**	**71**	P	**P**	**12 25 06.7**	**+1.0**
M17K	**Holitna River**	**20.93**	**56**	P	**P**	**12 25 07.4**	**+1.0**
M17K				IAmb	IAmb	12 25 22.2	
	comp=Z,8.4nm,0.8s						
J19K	**Poorman**	**21.93**	**49**	P	**P**	**12 25 17.3**	**+0.1**
J19K				IAmb	IAmb	12 25 29.7	
	comp=Z,9.1nm,1.1s						
E19K	**Redstone River**	**21.97**	**40**	IAmb	IAmb	12 25 36.4	
	comp=Z,9.3nm,0.9s						
P18K	**Big Mountain,**	**22.10**	**61**	P	**P**	**12 25 19.6**	**+0.6**
ACHA	**Angle Creek He**	**22.19**	**65**	P	**P**	**12 25 20.3**	**+0.2**
N19K	**Bonanza Creek**	**22.37**	**58**	P	**P**	**12 25 21.4**	**-0.6**
J20K	**Nowinta River**	**22.60**	**49**	IAmb	IAmb	12 25 38.3	
	comp=Z,6.4nm,0.8s						
TIXI	**Tiksi**	**22.78**	**332**	P	**P**	**12 25 25.4**	**-0.7**
TIXI				IAmb	IAmb	12 25 40.3	
	comp=Z,6.7nm,1.1s						
TIXI	**Tiksi**	**22.78**	**332**	*ce*P	**P**	**12 25 27.5**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
PPLA	**Purkeypile**	**23.41**	**52**	P	**P**	**12 25 33.6**	**+0.7**
PPLA				IAmb	IAmb	12 25 47.1	
	comp=Z,6.6nm,1.2s						
USA0B	**Ussuriysk Arra**	**23.43**	**257**	P	**P**	**12 25 33.9**	**+0.9**
USA0B				IAmb	IAmb	12 25 38.2	
	comp=Z,8.5nm,1.1s						
USA0B	**Ussuriysk Arra**	**23.43**	**257**	P	**P**	**12 25 33.9**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,8.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**23.43**	**257**	P	**P**	**12 25 33.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**23.43**	**257**	P	**P**	**12 25 33.5**	**+0.5**
SPU	**Mount Spurr**	**23.53**	**57**	P	**P**	**12 25 35.0**	**+1.1**
B21K	**Ikpikpuk River**	**23.54**	**35**	IAmb	IAmb	12 25 46.4	
	comp=Z,11nm,1.0s						
SYI	**Shuyak Island**	**23.66**	**63**	P	**P**	**12 25 35.0**	**-0.1**
KDAK	**Kodiak Island**	**23.70**	**65**	P	**P**	**12 25 35.1**	**-0.5**
KDAK	**Kodiak Island**	**23.70**	**65**	P	**P**	**12 25 35.1**	**-0.5**
KDAK				pmax	pmax		
	comp=Z,15nm,1.2s						
SKT	**Skwentna**	**23.73**	**54**	P	**P**	**12 25 36.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**23.98**	**49**	P	**P**	**12 25 39.2**	**+1.1**
KTH	**Kantishna Hill**	**23.99**	**51**	P	**P**	**12 25 38.7**	**+0.4**
KTH				IAmb	IAmb	12 26 06.8	
	comp=Z,5.7nm,1.1s						
CNPM	**China Poot**	**24.11**	**60**	P	**P**	**12 25 39.2**	**-0.2**
E22K	**Anaktuvuk Pass**	**24.13**	**39**	P	**P**	**12 25 39.8**	**+0.3**
E22K				IAmb	IAmb	12 25 53.8	
	comp=Z,8.2nm,0.8s						
BRLK	**Bradley Lake**	**24.25**	**60**	P	**P**	**12 25 39.8**	**-0.9**
BRLK				IAmb	IAmb	12 25 53.2	
	comp=Z,9.0nm,1.1s						
TRF	**Thorofare Moun**	**24.28**	**51**	P	**P**	**12 25 41.5**	**+0.4**
SLKM	**Skilak Lake**	**24.48**	**58**	P	**P**	**12 25 44.1**	**+1.3**
SLKM				IAmb	IAmb	12 26 05.3	
	comp=Z,10nm,1.2s						
COLD	**Coldfoot**	**24.58**	**42**	P	**P**	**12 25 43.7**	**+0.1**
COLD				IAmb	IAmb	12 25 56.7	
	comp=Z,7.4nm,0.9s						
I23K	**Minto, Yukon-K**	**24.72**	**47**	P	**P**	**12 25 44.6**	**-0.2**
I23K				IAmb	IAmb	12 25 58.0	
	comp=Z,6.4nm,0.8s						
MCK	**McKinley**	**24.88**	**50**	P	**P**	**12 25 46.8**	**+0.4**
MCK				IAmb	IAmb	12 26 05.9	
	comp=Z,4.1nm,0.8s						
MCK	**McKinley**	**24.88**	**50**	P	**P**	**12 25 46.8**	**+0.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SEW	**Seward**	**24.92**	**59**	P	**P**	**12 25 46.8**	**+0.1**
SEW				IAmb	IAmb	12 25 59.7	
	comp=Z,6.1nm,1.0s						
E23K	**Chandalar**	**24.93**	**40**	IAmb	IAmb	12 26 00.2	
	comp=Z,6.7nm,0.9s						
GHO	**Glory Hole Cre**	**24.98**	**55**	P	**P**	**12 25 46.3**	**-1.1**
GHO				IAmb	IAmb	12 26 07.2	
	comp=Z,3.9nm,0.8s						
TOLK	**Toolik Lake Re**	**25.04**	**38**	P	**P**	**12 25 48.1**	**+0.3**
TOLK				IAmb	IAmb	12 26 01.4	
	comp=Z,4.7nm,0.8s						
KNK	**Knik Glacier**	**25.24**	**56**	P	**P**	**12 25 50.1**	**+0.4**
WRH	**Wood River Hil**	**25.25**	**48**	P	**P**	**12 25 50.4**	**+0.8**
WRH				IAmb	IAmb	12 26 03.1	
	comp=Z,5.7nm,0.8s						
SML	**Sawmill**	**25.26**	**55**	P	**P**	**12 25 49.6**	**-0.3**
SML				IAmb	IAmb	12 26 09.8	
	comp=Z,6.0nm,0.8s						
SML	**Sawmill**	**25.26**	**55**	P	**P**	**12 25 49.6**	**-0.3**
SML				pmax	pmax		
	comp=Z,6.0nm,0.8s						
E24K	**Your Creek**	**25.35**	**40**	IAmb	IAmb	12 26 04.6	
	comp=Z,7.9nm,0.8s						
COLA	**College**	**25.35**	**47**	*i* P	**P**	**12 25 52.5**	**+1.9**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PWL	**Port Wells**	**25.36**	**57**	P	**P**	**12 25 50.8**	**+0.1**
CCB	**Clear Creek Bu**	**25.37**	**48**	P	**P**	**12 25 51.3**	**+0.5**
D24K	**Happy Valley**	**25.40**	**37**	IAmb	IAmb	12 25 57.1	
	comp=Z,4.0nm,0.6s						
MJAR	**Matsushiro Arr**	**25.65**	**236**	P	**P**	**12 25 53.9**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=23,slow=9.7,SNR=16						
	comp=Z,1.7nm,0.9s						
SCM	**Sheep Creek Mo**	**25.73**	**54**	P	**P**	**12 25 54.3**	**+0.1**
SCM	**Sheep Creek Mo**	**25.73**	**54**	P	**P**	**12 25 54.3**	**+0.1**
SCM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
IL31		**25.76**	**48**	P	**P**	**12 25 54.3**	**0.0**
IL31				IAmb	IAmb	12 26 06.2	
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**25.76**	**48**	P	**P**	**12 25 55.0**	**+0.6**
ILAR	**Eielson Array**	**25.76**	**48**	P	**P**	**12 25 54.5**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=263,slow=8.5,SNR=21						
	comp=Z,3.1nm,0.8s						
M24K	**Tolsona, Glenn**	**26.24**	**54**	P	**P**	**12 25 59.7**	**+0.9**
D25K	**Kavik River**	**26.29**	**37**	IAmb	IAmb	12 26 12.2	
	comp=Z,5.8nm,0.8s						
BMAR	**Burnt Mountain**	**26.77**	**42**	P	**P**	**12 26 04.2**	**+0.7**
C27K	**Jago River**	**27.26**	**37**	IAmb	IAmb	12 26 20.2	
	comp=Z,4.9nm,1.0s						
L27K	**Beaver Creek,**	**28.12**	**51**	IAmb	IAmb	12 26 28.6	
	comp=Z,6.9nm,1.1s						

```
FINES                                   pmax    pmax
      comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr   61.07 261  P       P       12 30 37.9  0.0
      comp=Z,0.6nm,0.5s,baz=23,slow=7.0,SNR=6.2
      comp=Z,0.6nm,0.5s
OBN  Obninsk          62.49 329  i P     P       12 30 46.3 -0.6
OBN                              i                12 31 23.1
OBN                              e                12 33 05.1
OBN                              eS      S       12 39 25.2 +12
OBN                                     pmax    pmax
      comp=Z,4.0nm,0.9s
OBN                                     MLR     MLR
      comp=Z,79nm,9.0s
NOA  NORSAR Array B   62.64 346  P       P       12 30 46.5 -1.3
      comp=Z,0.5nm,0.4s,baz=10,slow=3.4,SNR=1.9
      comp=Z,0.5nm,0.4s
HFS  Hagfors          63.13 344  P       P       12 30 48.8 -2.2
      comp=Z,2.3nm,0.7s,baz=54,slow=7.3,SNR=6.9
      comp=Z,2.3nm,0.7s
TXAR Lajitas Array    67.58  71  P       P       12 31 21.1 +0.6
      comp=Z,1.5nm,0.7s,baz=304,slow=4.5,SNR=7.0
      comp=Z,1.5nm,0.7s
KIV  Kislovodsk       69.97 319  i P     P       12 31 32.4 -2.8
KIV                                     pmax    pmax
      comp=Z,6.0nm,1.0s
GERES GERESS Array B  73.91 340  P       P       12 31 58.2 -0.5
      comp=Z,0.5nm,0.5s,baz=9.3,slow=7.2,SNR=3.0
      comp=Z,0.5nm,0.5s
BRTR Keskin Array B   76.95 323  P       P       12 32 16.1 -0.3
      comp=Z,0.9nm,0.8s,baz=56,slow=7.1,SNR=3.6
      comp=Z,0.9nm,0.8s
WRA  Warramunga Arr   78.75 209  P       P       12 32 26.0 -0.3
      comp=Z,1.2nm,0.8s,baz=22,slow=6.0,SNR=7.7
      comp=Z,1.2nm,0.8s
WRA  Warramunga Arr   78.75 209  P       P       12 32 26.0 -0.3
ASAR Alice Springs    82.41 208  P       P       12 32 46.4 +0.5
      comp=Z,2.1nm,0.8s,baz=15,slow=5.6,SNR=28
      comp=Z,2.1nm,0.8s
ESDC Sonseca Array    85.43 351  P       P       12 33 01.7 +0.3
      comp=Z,1.5nm,0.8s,baz=359,slow=4.8,SNR=9.7
      comp=Z,1.5nm,0.8s
QSPA South Pole Qui  144.50 180  PKP     PKPab   12 39 56.1 -1.2
      comp=Z,4.5nm,0.7s,baz=74,slow=3.2,SNR=32
```

*IDC **16** 12:22:49.5±1.0, 34°.76N×85°.50E, h0km, mb3.3/7, mbtmp3.4/10, ML2.9/3, MS3.4/7, Error ellipse: s-maj=44.3km s-min=18.0km az=56.0*

ISC 16 12:22:54.7±1.0, 34°.9N±0°.2×85°.6E±0°.2, h35km, n16, σ0§44/10, mb3.3/6, MS3.5/6, Xizang

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
AAK  Ala-Archa          11.60 315  LR    LR              12 30 55.2
      comp=Z,70nm,20.1s,baz=161,slow=42
MKAR Makanchi Array     12.17 349  Pn    Pn              12 25 45.8 +0.2
      0.1nm,0.3s,baz=168,slow=14,SNR=17
      2.3nm,1.0s
KURBB Kurchatov Arra    16.56 344  Pn    Pn              12 26 44.0  0.0
      baz=160,slow=11,SNR=14
      0.9nm,0.8s
ZALV Zalesovo Beam      19.09 359  P     Pn              12 27 14.7 -0.5
      0.1nm,0.3s,baz=161,slow=14,SNR=4.4
      0.3nm,0.3s
CMAR Chiang Mai Arr     20.22 140  P     P               12 27 27.3 +0.5
      0.4nm,0.3s,baz=314,slow=10,SNR=7.7
      0.4nm,0.3s
SONM Songino Array      20.24  44  LR    LR              12 35 25.1
      comp=Z,46nm,20.2s,baz=171,slow=37
BVAR Borovoye Array     21.11 334  P     P               12 27 35.9 -0.2
      0.7nm,0.5s,baz=138,slow=13,SNR=1.9
      0.7nm,0.5s
KSRS Korea Array        34.10  73  LR    LR              12 43 24.0
      comp=Z,17nm,20.9s,baz=315,slow=36
BRTR Keskin Array B     41.11 293  P     P               12 30 35.6 +0.1
      0.3nm,0.6s,baz=105,slow=7.8,SNR=4.6
      0.3nm,0.6s
EIL  Elat               42.73 278  LR    LR              12 50 31.8
      comp=Z,71nm,18.7s,baz=73,slow=39
PETK Petropavlovsk-     52.70  46  LR    LR              12 55 32.9
      comp=Z,94nm,19.3s,baz=69,slow=37
NOA  NORSAR Array B     52.76 324  LR    LR              12 55 03.1
      comp=Z,41nm,19.1s,baz=0.0,slow=37
GERES GERESS Array B    53.39 309  P     P               12 32 10.6 -0.2
      0.2nm,0.2s,baz=96,slow=9.0,SNR=4.1
GERES                              LR    LR              12 59 46.9
      comp=Z,80nm,18.1s,baz=7.0,slow=42
      0.2nm,0.2s
WRA  Warramunga Arr     71.53 132  P     P               12 34 11.6 -0.7
      0.4nm,0.9s,baz=320,slow=6.0,SNR=4.8
      0.4nm,0.9s
ASAR Alice Springs      74.10 135  P     P               12 34 27.3 -0.2
      0.2nm,0.8s,baz=311,slow=7.1,SNR=2.3
      0.2nm,0.8s
YKA  Yellowknife Ar     81.63   9  P     P               12 35 09.2 +0.5
      0.1nm,0.6s,baz=346,slow=4.4,SNR=3.5
      0.1nm,0.6s
```

*IDC **16** 12:28:10.9±1.0, 19°.83N×120°.29E, h0km, mb3.5/8, mbtmp3.6/8, Error ellipse: s-maj=46.8km s-min=18.4km az=64.0*

ISC 16 12:28:12.2±1.1, 19°.8N±0°.2×120°.2E±0°.2, h10km, n8, σ1§19/8, mb3.5/7, Philippine Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
CMAR Chiang Mai Arr     20.16 270  P     P               12 32 45.9 -1.0
      0.3nm,0.3s,baz=82,slow=12,SNR=1.6
      0.3nm,0.3s
SONM Songino Array      30.14 341  P     P               12 34 22.7 +0.4
      0.3nm,0.5s,baz=148,slow=8.5,SNR=3.2
      0.3nm,0.5s
MKAR Makanchi Array     40.98 320  P     P               12 35 55.3  0.0
      0.3nm,0.8s,baz=106,slow=11,SNR=2.9
      0.3nm,0.8s
WRA  Warramunga Arr     41.85 160  P     P               12 36 02.6 +0.1
      1.6nm,0.8s,baz=346,slow=8.9,SNR=7.5
      1.6nm,0.8s
ZALV Zalesovo Beam      43.51 330  P     P               12 36 16.4 +0.7
      0.3nm,0.4s,baz=104,slow=6.3,SNR=4.4
      0.3nm,0.4s
KURBB Kurchatov Arra    44.98 323  P     P               12 36 29.1 +1.6
      0.5nm,0.4s,baz=123,slow=7.6,SNR=6.6
      0.5nm,0.4s
ASAR Alice Springs      45.22 162  P     P               12 36 30.5 +0.8
      1.3nm,0.8s,baz=341,slow=7.0,SNR=21
      1.3nm,0.8s
YKA  Yellowknife Ar     87.33  22  P     P               12 40 57.7 -1.5
      0.1nm,0.6s,baz=304,slow=5.4,SNR=3.6
      0.1nm,0.6s
```

*TIR **16** 12:40:03.9, 39°.79N×20°.62E, h22km±2km, Md2.5/5, Ml2.4/4*
*ATH **16** 12:40:04.7, 39°.80N×20°.67E, h8km±2km, ML2.3/6, Manual Solution by A.Andreou First location: 2019/02/16 12:40:28, This location: 2019/02/19 20:36:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*

ISC 16 12:40:04.3±1.0, 39°.80N±0°.02×20°.65E±0°.03, h13km±8km, n22, σ0§57/32, Greece-Albania border region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
JAN  Janina             0.21 132   P     Pg              12 40 08.8 -0.1
JAN                                S     Sg              12 40 12.3 +0.3
LSK  Leskovik           0.36 354   Pg    Pb              12 40 12.0 -0.5
LSK                                Sg    Sb              12 40 17.5 -0.6
LSK                                AML   AML             12 40 22.9
      3.0nm,0.6s
IGT  Igoumenitsa        0.36 223   Pg    Pg              12 40 11.6 +0.1
IGT                                Sg    Sb              12 40 17.3 -0.7
IGT                                AMd                   12 40 52.6
IGT  Igoumenitsa        0.36 223   P     Pb              12 40 12.3 -0.3
SRN  Sarande            0.51 280   Pg    Pg              12 40 14.5 +0.3
SRN                                Sg    Sb              12 40 22.4 +0.1
SRN                                AML   AML             12 40 25.7
      1.1nm,0.3s
SRN                                AMd                   12 40 53.4
PENT Pentalofos         0.55  43   P     Pg              12 40 15.1 +0.1
PENT                               S     Sb              12 40 23.5 -0.1
TETR Tetrakomo, Epi     0.66 133   P     Pb              12 40 17.8 +0.1
TETR                               S     Sb              12 40 27.2 +0.3
KEK  Kerkira            0.66 263   P     Pb              12 40 18.2 +0.6
NEST Nestorio           0.69  26   Pg    Pg              12 40 17.7 -0.1
NEST                               Sg    Sb              12 40 28.5 +0.8
NEST                               AMd                   12 40 32.7
NEST                               AML   AML             12 40 34.6
      0.4nm,0.4s
NEST Nestorio           0.69  26   P     Pb              12 40 18.0 -0.2
NEST                               S     Sb              12 40 27.6 -0.1
TSLK Tsoukalades, L     0.97 180   P     Pg              12 40 23.2 +0.2
KZN  Kozani             1.00  59   P     Pn              12 40 24.2 +0.1
LKD2 Lefkada island     1.00 180   Pn    Pb              12 40 23.1 -0.4
LKD2                               Sn    Sn              12 40 37.8 -0.4
LKD2                               AML   AML             12 40 42.8
      0.5nm,0.4s
LKD2                               AMd                   12 41 26.0
LKD2 Lefkada island     1.00 180   P     Pg              12 40 23.8 +0.1
LKD2                               S     Sn              12 40 38.8 +0.7
THL  Klokotos Trika     1.08 102   P     Pg              12 40 25.9 +0.9
EVGI Lefkada island     1.17 180   P     Pg              12 40 27.2 +0.4
TYRN Tyrnavos           1.22  93   P     Pg              12 40 27.7 -0.1
EVR  Evrytania          1.26 134   P     Pg              12 40 29.6 +1.1
FSK  Fiskardo           1.34 183   P     Pg              12 40 29.9  0.0
LIT  Litokhoron         1.45  77   P     Pb              12 40 30.9 -0.2
SCTE Santa Cesarea      1.70 280   Pn    Pb              12 40 35.1 -0.2
SCTE                               AMd                   12 41 28.4
GUR  Goura              2.28 144   P     Pb              12 40 43.5 -1.9
```

RSNC 16 12:45:31.0±0.0, 5°N±1°×7°4W±°, h146km±2km, M2.5, mb3.8, ML2.4, MLv2.8, Colombia

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
CHIC Chingaza           0.65 178   P     Pn              12 45 52.7 -0.6
CHIC                               S     Sn              12 46 09.5 -0.7
RUSC La Rusia           0.90  47   P     Pn              12 45 54.9 -0.2
RUSC                               S     Sn              12 46 13.1 -0.4
NORC Norcasia           1.15 284   P     Pn              12 45 56.4 -0.4
NORC                               S     Sn              12 46 15.8 -0.7
VILC Villavicencio,     1.16 177   P     Pn              12 45 56.0 -1.0
VILC                               S     Sn              12 46 16.3 -0.6
BARC Barichara          1.42  23   P     Pn              12 45 58.7 -1.0
BARC                               S     Sn              12 46 20.5 -1.2
PTBC PUERTO BERRIO,     1.44 331   P     Pn              12 45 58.3 -1.3
PTBC                               S     Sn              12 46 20.2 -1.3
GUY2C Guyana, Caldas    1.61 268   P     Pn              12 46 03.7 +1.8
GUY2C                              S     Sn              12 46 27.0 +1.5
BRJC Barrancabermej     1.68   0   P     Pn              12 46 01.7 -0.6
BRJC                               S     Sn              12 46 26.3  0.0
PRAC Prado              1.92 216   P     Pn              12 46 04.4 -0.7
PRAC                               S     Sn              12 46 30.2 -1.0
ORTC Ortega, Tolima     2.02 228   P     Pn              12 46 05.4 -0.8
ORTC                               S     Sn              12 46 32.1 -1.1
URMC La Uribe, Meta     2.12 197   P     Pn              12 46 06.9 -0.5
URMC                               S     Sn              12 46 35.1 -0.2
TAMC Tame, Arauca       2.26  59   P     Pn              12 46 09.1  0.0
TAMC                               S     Sn              12 46 37.4 -0.9
PAMC Pamplona, Colo     2.30  27   P     Pn              12 46 10.0 +0.1
PAMC                               S     Sn              12 46 39.7 -0.2
CBOC Ciudad Bolivar     2.33 285   P     Pn              12 46 09.9 -0.1
CBOC                               S     Sn              12 46 40.2 +0.3
ZARC Zaragoza, Cauc     2.46 333   P     Pn              12 46 09.5 -2.0
ZARC                               S     Sn              12 46 40.3 -2.3
OCAC Ocana              2.97   8   P     Pn              12 46 17.4 -0.6
OCAC                               S     Sn              12 46 53.9 -0.5
UREC San Jos de Ur      3.03 324   P     Pn              12 46 15.9 -2.7
UREC                               S     Sn              12 46 52.1 -3.3
SJCC San Jacinto, C     4.80 343   P     Pn              12 46 38.4 -3.4
SJCC                               S     Sn              12 47 30.8 -6.2
CRJC Cerrejon, Guaj     5.77   9   P     Pn              12 46 52.5 -2.2
      13nm,0.9s
CRJC                               S     Sn              12 47 54.8 -5.3
      13nm,0.9s
URIC Uribia, Colomb     6.61  15   P     Pn              12 47 03.6 -2.3
URIC                               S     Sn              12 48 15.9 -4.3
```

*NEIC **16** 12:47:58.4±1.4, 6°.96S±0°.10×155°.64E±0°.09, h35km±2km, mb4.7/98, Error ellipse: s-maj=18.6km s-min=12.0km az=217.0*
*IDC **16** 12:48:03.2±1.9, 6°.87S×155°.43E, h84km±17km, mb4.1/24, mbtmp4.4/27, MS3.5/18, Error ellipse: s-maj=12.4km s-min=10.9km az=41.0*

ISC 16 12:47:57.8±0.3, 6°.89S±0°.06×155°.62E±0°.06, h35km, n177, σ1§23/140, mb4.7/75, MS3.4/14, 1C-2D, Bougainville-Solomon Islands region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
RABL Rabaul             4.36 308   Pn    Pn              12 49 02.5 +0.8
KRVT Keravat (AS076     4.40 306   LR    LR              12 51 08.0
      comp=Z,551nm,18.9s,baz=209,slow=44
I40PG Keravat           4.42 305   I     I               13 14 50.0
      69nm,0.4s,baz=125,slow=306,SNR=0.7
HNR  Honiara            4.98 121   Pn    Pn              12 49 08.9 -1.1
HNR  Honiara            4.98 121   P     Pn              12 49 17.4 +7.3
      150nm,0.4s,baz=215,slow=5.4,SNR=7.8
HNR                                S     Sn              12 50 17.1 +11
      329nm,0.6s,baz=292,slow=19,SNR=2.0
HNR                                LR    LR              12 51 19.4
      comp=Z,640nm,20.9s,baz=318,slow=38
PMG  Port Moresby       8.74 253   P     Pn              12 50 03.9 +2.1
      18nm,0.6s,baz=59,slow=11,SNR=12
PMG                                S     Sn              12 51 41.2 +2.0
      30nm,0.8s,baz=87,slow=19,SNR=4.2
PMG                                LR    LR              12 53 20.0
      comp=Z,240nm,19.2s,baz=67,slow=37
COEN Coen              14.10 239   Pn    Pn              12 51 16.0 +0.8
DZM  Mont Dzumac       18.36 146   P     Pn              12 52 09.6 -0.3
DZM                                IAmb  IAmb            12 52 27.3
      comp=Z,60nm,1.4s
DZM  Mont Dzumac       18.36 146   P     Pn              12 52 12.4 +2.6
      comp=Z,6.6nm,0.6s,baz=330,slow=20,SNR=10
DZM                                LR    LR              12 57 46.2
      comp=Z,223nm,21.9s,baz=49,slow=32
EIDS Eidsvold          18.88 193   P     Pn              12 52 16.2 +0.2
GUMO Guam              22.98 332   LR    LR              13 00 56.4
      comp=Z,57nm,21.8s,baz=64,slow=34
FAKI Fak Fak           23.61 278   P     P               12 53 05.4 -0.4
ARMA Armidale          23.70 189   P     P               12 53 06.7 -0.1
WR0  Warramunga Arr    24.23 236   P     P               12 53 11.5 -0.1
WR0                                IAmb  IAmb            12 53 23.1
      comp=Z,19nm,1.1s
WB0  Warramunga Arr    24.25 236   P     P               12 53 11.9  0.0
WRAB Tennant Creek     24.37 236   P     P               12 53 12.4 -0.6
WB2  Warramunga Arr    24.37 236   P     P               12 53 12.3 -0.6
WRA  Warramunga Arr    24.38 236   P     P               12 53 12.4 -0.6
WRA  Warramunga Arr    24.38 236   P     P               12 53 12.5 -0.6
      comp=Z,4.1nm,0.5s,baz=59,slow=9.5,SNR=36
WRA                                PcP   PcP             12 56 51.0 -1.0
      comp=Z,0.6nm,0.4s,baz=62,slow=2.4,SNR=7.6
WRA                                LR    LR              13 01 53.5
      comp=Z,117nm,19.8s,baz=242,slow=34
      comp=Z,4.1nm,0.5s
MSVF Nonsavu           24.39 118   P     P               12 53 13.9 +0.7
MSVF                               IAmb  IAmb            12 53 16.7
      comp=Z,25nm,0.9s
MSVF Nonsavu           24.39 118   P     P               12 53 15.0 +1.8
      comp=Z,12nm,0.8s,baz=278,slow=10.0,SNR=12
MSVF                               LR    LR              13 01 43.9
      comp=Z,114nm,21.2s,baz=308,slow=33
      comp=Z,12nm,0.8s
MTN  Manton Dam        24.82 254   P     P               12 53 16.3 -0.8
AS31 Alice Springs     26.70 229   P     P               12 53 33.4 -0.7
ASAR Alice Springs     26.70 229   P     P               12 53 32.9 -1.2
ASAR Alice Springs     26.70 229   P     P               12 53 33.0 -1.0
      comp=Z,2.4nm,0.5s,baz=61,slow=9.2,SNR=67
ASAR                               PcP   PcP             12 56 56.4 -0.8
      comp=Z,0.7nm,0.6s,baz=64,slow=2.0,SNR=6.0
      comp=Z,2.4nm,0.5s
H11S3 WAKE ISLAND Hy 27.49  23     T     T               13 22 02.3
      baz=202,slow=75,SNR=199
H11S2 WAKE ISLAND Hy 27.49  23     T     T               13 21 59.7
      baz=202,slow=75,SNR=538
H11S1 WAKE ISLAND Hy 27.50  23     T     T               13 22 03.6
      baz=202,slow=75,SNR=191
KNRA Kununurra         27.71 249   P     P               12 53 42.0 -1.1
KNRA                               IAmb  IAmb            12 53 57.2
      comp=Z,16nm,0.8s
STKA Stephens Creek    28.09 206   P     P               12 53 47.2 +0.8
STKA Stephens Creek    28.09 206   P     P               12 53 46.6 +0.3
      comp=Z,2.2nm,0.6s,baz=28,slow=11,SNR=7.2
STKA                               PcP   PcP             12 56 59.0 -1.3
      comp=Z,1.1nm,0.4s,baz=41,slow=6.0,SNR=3.4
STKA                               LR    LR              13 04 55.9
      comp=Z,120nm,18.8s,baz=26,slow=36
      comp=Z,2.2nm,0.6s
H11N1 WAKE ISLAND Hy 28.67  23     T     T               13 23 43.6
      baz=202,slow=76,SNR=31
H11N3 WAKE ISLAND Hy 28.68  23     T     T               13 23 39.5
      baz=202,slow=76,SNR=22
H11N2 WAKE ISLAND Hy 28.69  23     T     T               13 23 39.3
      baz=202,slow=76,SNR=19
CAN  Canberra          28.94 191   P     P               12 53 53.0 -0.9
FITZ Fitzroy Crossi    31.26 246   P     P               12 54 14.0 -0.6
FITZ Fitzroy Crossi    31.26 246   LR    LR              13 06 42.1
      comp=Z,83nm,19.4s,baz=67,slow=36
BBOO Buckleboo         31.55 213   P     P               12 54 16.2 -0.8
BBOO                               IAmb  IAmb            12 54 32.4
      comp=Z,10nm,1.1s
TOO  Toolangi          31.90 195   P     P               12 54 19.5 -0.6
MMRI Maumere           33.11 265   P     P               12 54 30.2 -0.7
FORT Forrest           35.09 224   P     P               12 54 47.4 -0.5
HAZ  Te Kaha           36.73 150   P     P               12 55 04.6 +2.8
URZ  Urewera           36.80 151   P     P               12 55 04.5 +2.1
      comp=Z,13nm,1.0s,baz=285,slow=11,SNR=2.7
      comp=Z,13nm,1.0s
URZ  Urewera           36.80 151   P     P               12 55 04.5 +2.1
QRZ  Quartz Range      37.01 158   P     P               12 55 04.9 +0.7
MWZ  Matawai           37.06 151   P     P               12 55 06.3 +1.7
MTHZ Maungataniwha     37.14 152   P     P               12 55 09.2 +3.8
TWGZ Tauwhareparae     37.16 150   P     P               12 55 07.6 +2.1
PUZ  Puketiti          37.21 150   P     P               12 55 07.3 +1.4
BKZ  Black Stump Fm    37.24 153   P     P               12 55 07.7 +1.5
MBWA Marble Bar        37.48 244   P     P               12 55 06.0 -2.4
MBWA                               IAmb  IAmb            12 55 19.1
      comp=Z,6.8nm,0.8s
CNGZ Carnagh Statio    37.51 150   P     P               12 55 09.9 +1.5
PNHZ Pukenui           37.72 154   P     P               12 55 11.7 +1.5
THZ  Tophouse          37.97 159   P     P               12 55 12.5 +0.2
TCW  Tory Channel      38.01 157   P     P               12 55 14.4 +1.8
OGWZ Otaki Gorge       38.03 156   P     P               12 55 14.0 +1.2
MRZ  Mangatainoka R    38.07 155   P     P               12 55 13.8 +0.7
CAW  Cannon Point      38.23 156   P     P               12 55 15.6 +1.1
HOWZ Holdsworth Sta    38.24 155   P     P               12 55 15.2 +0.6
BFZ  Birch Farm        38.37 154   P     P               12 55 16.8 +1.1
MTW  Mount Morrison    38.45 156   P     P               12 55 16.6 +0.3
PAWZ Paruwai Farm      38.61 156   P     P               12 55 18.5 +0.8
LTZ  Lake Taylor       38.65 160   P     P               12 55 18.6 +0.6
KHZ  Kahutara          38.77 159   P     P               12 55 18.3 -0.7
KKM  Kota Kinabalu     41.36 287   P     P               12 55 40.5 -0.6
KKM                                IAmb  IAmb            12 55 57.1
      comp=Z,17nm,0.9s
NWAO Narrogin (SRO)    44.02 229   LR    LR              13 15 09.4
      comp=Z,56nm,18.1s,baz=330,slow=37
YULB Yu-li             45.06 313   P     P               12 56 11.0 +0.3
YULB                               IAmb  IAmb            12 56 20.8
      comp=Z,25nm,1.3s
RAR  Rarotonga         45.38 113   LR    LR              13 11 24.5
      comp=Z,86nm,21.3s,baz=250,slow=31
MJAR Matsushiro Arr    46.19 340   P     P               12 56 18.3 -1.1
      comp=Z,2.1nm,0.8s,baz=154,slow=6.4,SNR=3.6
MJAR                               PcP   PcP             12 57 53.9 -1.0
      comp=Z,1.8nm,0.7s,baz=142,slow=3.0,SNR=4.6
      comp=Z,2.1nm,0.8s
JTM  Tenmabayashi      49.29 345   P     P               12 56 45.3 +1.9
KSRS Korea Array       51.14 332   P     P               12 56 56.3 -1.0
      comp=Z,1.2nm,0.6s,baz=147,slow=7.3,SNR=7.6
      comp=Z,1.2nm,0.6s
ASAJ Asahikawa         52.12 348   LR    LR              13 18 04.5
      comp=Z,23nm,19.3s,baz=164,slow=35
NJ2  Nanjing           52.23 320   eP    P               12 57 08.5 +2.9
NJ2                                pmax  pmax            12 57 08.5 +2.9
      comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar.     55.15 339   P     P               12 57 26.3 -0.5
      comp=Z,3.4nm,0.8s,baz=148,slow=8.5,SNR=4.2
      comp=Z,3.4nm,0.8s
KLR  Kul'dur           59.66 342   P     P               12 57 58.0 -0.4
      comp=Z,1.7nm,0.5s,baz=139,slow=9.3,SNR=9.1
KLR                                LR    LR              13 22 28.2
      comp=Z,13nm,21.8s,baz=240,slow=35
      comp=Z,1.7nm,0.5s
PETK Petropavlovsk-     59.79   1   P     P               12 57 59.6 +0.2
      comp=Z,7.1nm,0.8s,baz=148,slow=5.2,SNR=6.0
PETK                               LR    LR              13 19 40.2
      comp=Z,17nm,21.5s,baz=163,slow=32
      comp=Z,7.1nm,0.8s
XAN  Xi'an             60.06 316   ⇓P    P               12 58 03.8 +2.1
XAN                                pP    pP              12 58 08.3 -4.0
XAN                                pmax  pmax            12 58 08.3 -4.0
      comp=Z,7.0nm,0.6s
PHRA Phrae             60.16 296   P     P               12 58 02.5  0.0
CM31 Chiang Mai Arr    61.30 295   P     P               12 58 10.6 +0.3
CMAR Chiang Mai Arr    61.30 295   P     P               12 58 10.3  0.0
CMAR Chiang Mai Arr    61.30 295   P     P               12 58 09.7 -0.7
      comp=Z,7.3nm,0.7s,baz=124,slow=5.4,SNR=47
CMAR                               LR    LR              13 24 17.4
      comp=Z,11nm,19.5s,baz=85,slow=36
      comp=Z,7.3nm,0.7s
CHTO Chiang Mai        61.41 296   P     P               12 58 11.1  0.0
PZH  PanZhiHua         61.86 305   P     P               12 58 16.4 +2.3
PZH                                pmax  pmax            12 58 16.4 +2.3
      comp=Z,10.0nm,0.5s
PZH                                pmax  pmax            12 58 16.4 +2.3
      comp=Z,120nm,5.0s
XLT  XiLinHaoTe        61.89 329   eP    P               12 58 13.6 -0.3
XLT                                pP    sP              12 58 29.1 +0.4
XLT                                pmax  pmax            12 58 29.1 +0.4
      comp=Z,7.0nm,0.8s
HHC  Hu-ho-hao-te      62.38 323   eP    P               12 58 21.3 +4.0
HHC                                pmax  pmax            12 58 21.3 +4.0
      comp=Z,7.0nm,0.5s
HHC                                pmax  pmax            12 58 21.3 +4.0
      comp=Z,99nm,5.1s
MA2  Magadan           66.36 357   P     P               12 58 44.1 +1.2
MA2                                IAmb  IAmb            12 58 47.1
      comp=Z,5.0nm,0.8s
MA2  Magadan           66.36 357   P     P               12 58 42.9  0.0
      comp=Z,3.5nm,0.5s,baz=162,slow=9.6,SNR=9.3
      comp=Z,3.5nm,0.5s
GTA  Gaotai            69.09 317   eP    P               12 59 00.6  0.0
GTA                                pmax  pmax            12 59 00.6  0.0
      comp=Z,1.0nm,1.0s
SONM Songino Array     69.58 327   IAmb  IAmb            12 59 13.7
      comp=Z,2.1nm,0.9s
SONM Songino Array     69.58 327   P     P               12 59 03.2 -0.3
      comp=Z,1.9nm,0.7s,baz=135,slow=6.2,SNR=8.1
      comp=Z,1.9nm,0.7s
SONM Songino Array     69.58 327   pmax  pmax            12 59 03.2 -0.3
      comp=Z,2.0nm,0.9s
SONM Songino Array     69.58 327   P     P               12 59 03.5  0.0
SONM Songino Array     69.58 327   P     P               12 59 03.5  0.0
SEY  Seymchan          69.67 358   P     P               12 59 04.2 +0.7
      comp=Z,1.3nm,0.4s,baz=163,slow=6.8,SNR=5.9
      comp=Z,1.3nm,0.4s
SHL  Shillong          69.77 300   P     P               12 59 04.8 -0.5
S12K Black Hills       71.50  24   P     P               12 59 14.3 -0.5
YAK  Yakutsk           71.59 347   P     P               12 59 16.5 +1.3
      comp=Z,8.0nm,0.5s,baz=157,slow=1.8,SNR=4.3
      comp=Z,8.0nm,0.5s
L16K Owhat River       76.69  20   P     P               12 59 45.9 +0.9
ANM  Nome              76.96  16   P     P               12 59 48.0 +1.5
ANM                                IAmb  IAmb            12 59 51.4
      comp=Z,6.5nm,1.1s
J16K Anvik River       77.43  19   P     P               12 59 50.6 +1.5
J16K                               IAmb  IAmb            12 59 52.2
      comp=Z,6.1nm,0.9s
J17K VABM Dome         78.00  19   IAmb  IAmb            12 59 56.6
      comp=Z,6.3nm,0.9s
G16K Koyuk River       78.43  17   P     P               12 59 55.9 +1.3
G16K                               IAmb  IAmb            12 59 56.7
      comp=Z,12nm,1.2s
M19K Big River Lodg    78.63  22   IAmb  IAmb            13 00 00.8
      comp=Z,10nm,0.9s
H17K Granite Mounta    78.82  18   IAmb  IAmb            13 00 00.8
      comp=Z,4.6nm,0.6s
WMQ  Urumqi            79.17 317   eP    P               13 00 02.1 +2.8
WMQ                                pmax  pmax            13 00 02.1 +2.8
      comp=Z,12nm,0.9s
SLKM Skilak Lake       79.39  24   P     P               13 00 00.8 +0.7
SLKM                               IAmb  IAmb            13 00 27.0
      comp=Z,16nm,1.2s
RC01 Rabbit Creek A    79.92  24   P     P               13 00 03.4 +0.5
RDOG Red Dog Mine      80.26  15   P     P               13 00 06.0 +1.4
RDOG                               IAmb  IAmb            13 00 07.0
      comp=Z,9.0nm,0.8s
H19K Roundabout Mou    80.28  18   P     P               13 00 06.0 +1.3
H19K                               IAmb  IAmb            13 00 08.6
      comp=Z,5.1nm,0.7s
PWL  Port Wells        80.36  24   P     P               13 00 06.4 +1.1
CAST Castle Rocks      80.40  21   P     P               13 00 05.7 +0.2
PMR  Palmer            80.45  23   P     P               13 00 06.1 +0.4
```

PMR				IAmb	IAmb	13 00 07.7		
	comp=Z,8.5nm,1.2s							
G19K	**Purcell Mounta**	**80.50**	**18**	IAmb	IAmb	13 00 08.1		
	comp=Z,7.4nm,0.9s							
F19K	**Shaleruckik Mo**	**80.77**	**17**	IAmb	IAmb	13 00 08.4		
	comp=Z,7.4nm,0.9s							
SML	**Sawmill**	**80.88**	**24**	IAmb	IAmb	13 00 11.9		
	comp=Z,7.6nm,0.8s							
C18K	**Utukok River**	**81.13**	**15**	IAmb	IAmb	13 00 19.2		
	comp=Z,11nm,1.4s							
RND	**Reindeer**	**81.58**	**22**	P	**P**	**13 00 11.9**	**0.0**	
MCK	**McKinley**	**81.73**	**22**	P	**P**	**13 00 12.6**	**0.0**	
MCK				IAmb	IAmb	13 00 15.2		
	comp=Z,7.0nm,0.7s							
D19K	**Kuna River**	**81.82**	**16**	IAmb	IAmb	13 00 17.0		
	comp=Z,7.0nm,0.7s							
IL31		**83.05**	**21**	P	**P**	**13 00 18.8**	**-0.5**	
ILAR	**Eielson Array**	**83.05**	**21**	P	**P**	**13 00 18.5**	**-0.9**	
	comp=Z,1.3nm,0.6s,baz=250,slow=5.4,SNR=26							
ILAR				LR	LR	13 32 20.8		
	comp=Z,48nm,20.8s,baz=240,slow=32							
	comp=Z,1.3nm,0.6s							
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**13 00 20.2**	**+0.4**	
QSPA				IAmb	IAmb	13 00 21.0		
	comp=Z,8.3nm,0.8s							
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**13 00 20.0**	**+0.2**	
	comp=Z,6.6nm,0.7s,baz=307,slow=0.4,SNR=51							
	comp=Z,6.6nm,0.7s							
H24K	**Noodor Dome**	**83.29**	**20**	P	**P**	**13 00 21.4**	**+0.7**	
M26K	**Nabesna, AK**	**83.34**	**24**	P	**P**	**13 00 21.6**	**+0.5**	
M26K				IAmb	IAmb	13 00 46.5		
	comp=Z,9.5nm,1.4s							
E22K	**Anaktuvuk Pass**	**83.36**	**17**	P	**P**	**13 00 21.9**	**+0.9**	
J25K	**Salcha River,**	**83.52**	**22**	IAmb	IAmb	13 00 24.6		
	comp=Z,4.3nm,0.6s							
MK31	**Makanchi Array**	**83.73**	**319**	P	**P**	**13 00 22.6**	**-0.8**	
MKAR	**Makanchi Array**	**83.73**	**319**	P	**P**	**13 00 22.8**	**-0.6**	
MKAR	**Makanchi Array**	**83.73**	**319**	P	**P**	**13 00 22.0**	**-1.4**	
	comp=Z,2.3nm,0.7s,baz=108,slow=4.9,SNR=20							
	comp=Z,2.3nm,0.7s							
M27K	**Edge Creek, AK**	**83.78**	**25**	P	**P**	**13 00 24.8**	**+1.3**	
M27K				IAmb	IAmb	13 00 25.9		
	comp=Z,6.3nm,0.8s							
MAKZ	**Makanchi**	**83.94**	**318**	P	**P**	**13 00 24.0**	**-0.4**	
E23K	**Chandalar**	**83.98**	**18**	P	**P**	**13 00 25.5**	**+1.2**	
E23K				IAmb	IAmb	13 00 29.4		
	comp=Z,4.7nm,0.7s							
J26L	**Joseph Creek**	**84.14**	**22**	IAmb	IAmb	13 00 27.4		
	comp=Z,2.8nm,0.6s							
TOLK	**Toolik Lake Re**	**84.33**	**18**	P	**P**	**13 00 27.0**	**+1.0**	
TOLK				IAmb	IAmb	13 00 28.8		
	comp=Z,4.9nm,0.8s							
ZAA0	**Zalesovo Array**	**84.44**	**326**	P	**P**	**13 00 26.8**	**0.0**	
ZALV	**Zalesovo Beam**	**84.44**	**326**	P	**P**	**13 00 25.4**	**-1.3**	
ZALV	**Zalesovo Beam**	**84.44**	**326**	P	**P**	**13 00 24.6**	**-2.1**	
	comp=Z,1.5nm,0.6s,baz=107,slow=6.4,SNR=7.9							
	comp=Z,1.5nm,0.6s							
C23K	**Itkillik River**	**84.74**	**16**	IAmb	IAmb	13 00 34.2		
	comp=Z,9.7nm,1.1s							
D24K	**Happy Valley**	**84.85**	**17**	IAmb	IAmb	13 00 30.6		
	comp=Z,4.7nm,0.7s							
HYT	**Haines Junctio**	**85.00**	**27**	P	**P**	**13 00 30.9**	**+1.3**	
HYT				IAmb	IAmb	13 00 33.0		
	comp=Z,5.8nm,0.9s							
C24K	**Franklin Bluff**	**85.21**	**17**	IAmb	IAmb	13 00 32.2		
	comp=Z,6.1nm,0.7s							
F26K	**Sheenjek River**	**85.53**	**19**	P	**P**	**13 00 32.7**	**+0.8**	
DAWY	**Dawson**	**85.55**	**24**		**P**	**13 00 33.3**	**+1.1**	
DAWY				IAmb	IAmb	13 00 37.7		
	comp=Z,5.5nm,1.3s							
D25K	**Kavik River**	**85.67**	**18**	IAmb	IAmb	13 00 35.1		
	comp=Z,3.4nm,0.8s							
I28M	**Miner Creek**	**85.95**	**22**	IAmb	IAmb	13 00 35.8		
	comp=Z,3.0nm,0.6s							
K29M	**Barlow Dome**	**86.21**	**24**	IAmb	IAmb	13 00 41.9		
	comp=Z,9.5nm,1.4s							
I29M	**Ogilvie Camp,**	**86.53**	**23**	IAmb	IAmb	13 00 41.5		
	comp=Z,3.0nm,0.5s							
F28M	**Old Crow**	**86.93**	**20**	IAmb	IAmb	13 00 41.0		
	comp=Z,4.0nm,0.8s							
J30M	**Hart River**	**86.98**	**24**	IAmb	IAmb	13 00 56.0		
	comp=Z,11nm,1.5s							
BBB	**Bella Bella**	**87.07**	**37**	LR	LR	13 34 02.2		
	comp=Z,41nm,19.1s,baz=247,slow=32							
KURK	**Kurchatov**	**87.13**	**322**	P	**P**	**13 00 39.1**	**-1.1**	
KURK				IAmb	IAmb	13 01 01.2		
	comp=Z,9.1nm,1.4s							
I30M	**Mount Dempster**	**87.21**	**23**	IAmb	IAmb	13 00 42.5		
	comp=Z,4.2nm,0.8s							
E29M	**Blow River**	**87.94**	**20**	IAmb	IAmb	13 00 45.1		
	comp=Z,3.7nm,0.6s							
G30M	**tAoh Zraii Nji**	**87.96**	**21**	IAmb	IAmb	13 00 55.2		
	comp=Z,10nm,1.4s							
NRIK	**Noril'sk**	**88.84**	**341**	P	**P**	**13 00 47.1**	**-0.8**	
	comp=Z,2.4nm,0.3s,baz=106,slow=6.4,SNR=4.2							
	comp=Z,2.4nm,0.3s							
INK	**Inuvik**	**89.40**	**21**	IAmb	IAmb	13 00 52.2		
	comp=Z,3.7nm,0.6s							
NVAR	**Mina Array Bea**	**91.17**	**52**	P	**P**	**13 00 59.2**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=256,slow=4.4,SNR=3.6							
	comp=Z,0.4nm,0.6s							
BVAR	**Borovoye Array**	**92.58**	**323**	P	**P**	**13 01 03.5**	**-2.2**	
	comp=Z,0.7nm,0.4s,baz=114,slow=6.5,SNR=4.7							
	comp=Z,0.7nm,0.4s							
SYO	**Syowa Base**	**92.62**	**199**	⇓eP	**P**	**13 01 05.2**	**-0.4**	
SYO	**Syowa Base**	**92.62**	**199**	⇓epP	pP	13 01 16.2	-0.5	
C36M	**Paulatuk**	**92.99**	**20**	P	**P**	**13 01 07.3**	**+0.1**	
NEW	**Newport**	**93.27**	**42**	LR	LR	13 35 42.0		
	comp=Z,49nm,19.7s,baz=278,slow=31							
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**13 01 21.0**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=264,slow=5.0,SNR=16							
	comp=Z,0.9nm,0.6s							
PDAR	**Pinedale Array**	**98.17**	**48**	P	**P**	**13 01 30.6**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=280,slow=3.3,SNR=5.0							
	comp=Z,0.5nm,0.7s							
ARCES	**ARCESS Array B**	**109.67**	**343**	PKiKP	**PKiKP**	**13 06 23.4**	**-1.2**	
	comp=Z,6.2nm,1.0s,baz=64,slow=2.1,SNR=8.9							
FINES	**FINESS Array B**	**114.09**	**336**	PKP	PKPdf	13 06 31.9	-1.2	
	comp=Z,3.5nm,1.0s,baz=74,slow=2.8,SNR=5.3							
PLCA	**Paso Flores**	**116.43**	**142**	PKP	**PKPdf**	**13 06 38.1**	**-0.3**	
	comp=Z,0.9nm,0.4s,baz=199,slow=3.2,SNR=8.6							
HFS	**Hagfors**	**119.63**	**339**	PKP	**PKPdf**	**13 06 42.3**	**-1.5**	
	comp=Z,1.2nm,0.5s,baz=28,slow=3.4,SNR=8.7							
NB2	**NORSAR Subarra**	**119.80**	**341**	PKP	**PKPdf**	**13 06 43.7**	**-0.5**	
	comp=Z,0.5nm,0.6s,baz=5.6,slow=3.6							
NOA	**NORSAR Array B**	**119.80**	**341**	PKP	**PKPdf**	**13 06 43.2**	**-1.0**	
	comp=Z,0.6nm,0.5s,baz=43,slow=1.8,SNR=4.3							
GERES	**GERESS Array B**	**127.28**	**329**	PKP	**PKPdf**	**13 06 58.9**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=90,slow=0.3,SNR=7.5							
EKA	**Eskdalemuir Ar**	**128.80**	**345**	PKP	**PKPdf**	**13 07 00.9**	**-0.6**	
	comp=Z,1.0nm,0.5s,baz=12,slow=3.0,SNR=6.9							
LPAZ	**La Paz**	**130.97**	**118**	PKP	**PKPdf**	**13 07 07.1**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=253,slow=5.6,SNR=3.7							
BDFB	**Brasilia**	**147.61**	**134**	PKPbc	**PKPdf**	**13 07 38.8**	**+1.7**	
	comp=Z,10nm,0.5s,baz=242,slow=2.0,SNR=19							
TORD	**Torodi Ar. Bea**	**153.59**	**286**	PKPbc	**PKPbc**	**13 07 52.2**	**-1.7**	
	comp=Z,1.7nm,0.7s,baz=81,slow=2.4,SNR=9.6							
TORD				PKPab	**pPKPbc**	**13 08 05.0**	**-0.5**	
	comp=Z,1.3nm,0.4s,baz=58,slow=4.5,SNR=9.0							
DBIC	**Dimbokro**	**160.61**	**271**	PKPab	**PKPab**	**13 08 35.6**	**-1.2**	
	comp=Z,4.5nm,0.7s,baz=98,slow=5.0,SNR=7.3							

*IDC **16** 12:52:01.7±0.7, 54.°96N×164.°60E, h0km, mb4.0/13, mbtmp4.0/15, ML3.6/2, MS3.3/2, Error ellipse: s-maj=24.3km s-min=15.0km az=139.0*
*KRSC **16** 12:52:02.9±0.9, 54.°79N×164.°65E, h48km±27km, Ml4.1*
*NEIC **16** 12:52:03.4±1.4, 54.°8N±0.°1×164.°5E±0.°2, h10km±1km, mb4.0/24, Error ellipse: s-maj=29.6km s-min=6.1km az=135.0*
*MOS **16** 12:52:04.8±0.8, 54.°82N×164.°68E, h37km, mb4.2/3, Error ellipse: s-maj=7.5km s-min=6.1km az=59.8*

ISC 16 12:52:04.2±1.6, 54.°84N±0.°05×164.°66E±0.°06, h17km±10km, n116, σ1§03/125, mb4.0/23, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**63**	PN	**Pg**	**12 52 20.4**	**-0.1**
BKI				S	**Sg**	**12 52 31.4**	**-0.2**
BKI	**Bering**	**0.84**	**63**	*e*P	**Pg**	**12 52 20.5**	**-0.1**
BKI				*e*S	**Sg**	**12 52 31.4**	**-0.2**
KBTR	**Krutoberegovo**	**1.73**	**323**	PN	**Pn**	**12 52 31.8**	**-1.7**
KBTR	**Krutoberegovo**	**1.73**	**323**	*e*P	**Pn**	**12 52 31.9**	**-1.7**
KBG	**Krutoberegovo**	**1.81**	**323**	PN	**Pn**	**12 52 32.8**	**-1.7**
KBG	**Krutoberegovo**	**1.81**	**323**	*e*P	**Pn**	**12 52 32.8**	**-1.7**
TUMD	**Tumrok D**	**2.48**	**280**	*e*P	**Pn**	**12 52 43.9**	**+0.1**
TUMD				*e*S	**Sn**	**12 53 11.5**	**-2.3**
SMKR	**Semkarok**	**2.52**	**315**	PN	**Pn**	**12 52 45.4**	**+1.0**
SMKR	**Semkarok**	**2.52**	**315**	*e*P	**Pn**	**12 52 45.5**	**+1.0**
CIRR	**Tsirk**	**2.57**	**302**	PN	**Pn**	**12 52 45.6**	**+0.4**
CIRR	**Tsirk**	**2.57**	**302**	*e*P	**Pn**	**12 52 45.7**	**+0.4**
KMNR	**Kamenistaya**	**2.69**	**292**	PN	**Pn**	**12 52 47.6**	**+0.8**
KMNR	**Kamenistaya**	**2.69**	**292**	*e*P	**Pn**	**12 52 47.7**	**+0.8**
KIRR	**Kirishev**	**2.71**	**296**	PN	**Pn**	**12 52 48.2**	**+1.1**
KIRR				S	**Sn**	**12 53 21.1**	**+1.6**
KIRR	**Kirishev**	**2.71**	**296**	*e*P	**Pn**	**12 52 48.2**	**+1.1**
KIRR				*e*S	**Sn**	**12 53 21.1**	**+1.6**
KRSR	**Krestovskiy**	**2.71**	**302**	PN	**Pn**	**12 52 47.4**	**+0.3**
KRSR				S	**Sn**	**12 53 19.8**	**+0.3**
KRSR	**Krestovskiy**	**2.71**	**302**	*e*P	**Pn**	**12 52 47.5**	**+0.3**
KRSR				*e*S	**Sn**	**12 53 19.9**	**+0.3**
KLY	**Klyuchi**	**2.72**	**305**	PN	**Pn**	**12 52 46.1**	**-1.0**
KLY				S	**Sn**	**12 53 17.6**	**-1.9**
KLY	**Klyuchi**	**2.72**	**305**	*e*P	**Pn**	**12 52 46.1**	**-1.0**
KLY				*e*S	**Sn**	**12 53 17.6**	**-1.9**
KOZ	**Kozyrevsk**	**2.99**	**296**	PN	**Pn**	**12 52 52.4**	**+1.6**
KOZ	**Kozyrevsk**	**2.99**	**296**	*e*P	**Pn**	**12 52 52.4**	**+1.6**
KII	**Karymskiy**	**3.15**	**257**	PN	**Pn**	**12 52 53.8**	**+0.7**
KII	**Karymskiy**	**3.15**	**257**	*e*P	**Pn**	**12 52 53.8**	**+0.7**
SRDR	**Sredinnyy**	**3.18**	**300**	PN	**Pn**	**12 52 55.0**	**+1.6**
SRDR	**Sredinnyy**	**3.18**	**300**	*e*P	**Pn**	**12 52 55.0**	**+1.6**
SPN	**Mys Shipunski**	**3.25**	**239**	PN	**Pn**	**12 52 53.8**	**-0.5**
SPN	**Mys Shipunski**	**3.25**	**239**	*e*P	**Pn**	**12 52 53.8**	**-0.5**
NLC	**Nalytchevo**	**3.55**	**244**	PN	**Pn**	**12 52 58.1**	**-0.4**
NLC	**Nalytchevo**	**3.55**	**244**	*e*P	**Pn**	**12 52 58.1**	**-0.4**
ESO	**Esso**	**3.57**	**290**	PN	**Pn**	**12 52 59.2**	**+0.3**
ESO				S	**Sn**	**12 53 40.2**	**-0.5**
ESO	**Esso**	**3.57**	**290**	*e*P	**Pn**	**12 52 59.2**	**+0.3**
ESO				*e*S	**Sn**	**12 53 40.2**	**-0.5**
UGLR	**Uglovaya**	**3.81**	**247**	PN	**Pn**	**12 53 02.5**	**+0.3**
UGLR	**Uglovaya**	**3.81**	**247**	*e*P	**Pn**	**12 53 02.6**	**+0.3**
AVH	**Avacha**	**3.83**	**248**	PN	**Pn**	**12 53 03.2**	**+0.8**
AVH	**Avacha**	**3.83**	**248**	*e*P	**Pn**	**12 53 03.2**	**+0.8**
KRX	**Arik**	**3.84**	**250**	PN	**Pn**	**12 53 02.8**	**+0.2**
KRX	**Arik**	**3.84**	**250**	*e*P	**Pn**	**12 53 02.9**	**+0.2**
KOK	**Koryaka**	**3.87**	**249**	PN	**Pn**	**12 53 03.5**	**+0.4**
KOK	**Koryaka**	**3.87**	**249**	*e*P	**Pn**	**12 53 03.5**	**+0.4**
DALK	**Dalny**	**3.93**	**245**	PN	**Pn**	**12 53 03.6**	**-0.1**
DALK	**Dalny**	**3.93**	**245**	*e*P	**Pn**	**12 53 03.6**	**-0.1**
PET	**Petropavlovsk**	**3.99**	**245**		**Pn**	**12 53 04.8**	**+0.3**
PET	**Petropavlovsk**	**3.99**	**245**	*e*PN	**Pn**	**12 53 04.9**	**+0.3**
PET				pmax	pmax		
	comp=Z,77nm,0.9s						
PET	**Petropavlovsk**	**3.99**	**245**	*e*P	**Pn**	**12 53 04.5**	**0.0**
PET				*e*S	**Sn**	**12 53 49.1**	**-1.8**
GNL	**Ganaly**	**4.10**	**257**	PN	**Pn**	**12 53 07.5**	**+1.3**
GNL	**Ganaly**	**4.10**	**257**	*e*P	**Pn**	**12 53 07.6**	**+1.3**
KRMR	**Karymshinskiy**	**4.36**	**245**	PN	**Pn**	**12 53 10.4**	**+0.8**
KRMR	**Karymshinskiy**	**4.36**	**245**	*e*P	**Pn**	**12 53 10.4**	**+0.8**
RUS	**Russkaya**	**4.38**	**239**	PN	**Pn**	**12 53 09.9**	**0.0**
RUS	**Russkaya**	**4.38**	**239**	*e*P	**Pn**	**12 53 10.0**	**0.0**
PEA0B	**Petropavlovsk-**	**4.46**	**250**		**Pn**	**12 53 12.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.46**	**250**	PN	**Pn**	**12 53 12.2**	**+1.1**
PETK	**Petropavlovsk-**	**4.46**	**250**		**Pn**	**12 53 11.7**	**+0.6**
PETK	**Petropavlovsk-**	**4.46**	**250**	Pn	**Pn**	**12 53 11.3**	**+0.3**
	comp=Z,6.6nm,0.3s,baz=67,slow=16,SNR=298						
PETK				Sn	**Sn**	**12 54 01.2**	**-1.3**
	baz=64,slow=43						
	comp=Z,12nm,0.3s						
OSSR	**Ossora**	**4.51**	**349**	PN	**Pn**	**12 53 11.7**	**0.0**
OSSR	**Ossora**	**4.51**	**349**	*e*P	**Pn**	**12 53 11.8**	**0.0**
GRL	**Gorelyy**	**4.54**	**242**	PN	**Pn**	**12 53 12.8**	**+0.6**
GRL	**Gorelyy**	**4.54**	**242**	*e*P	**Pn**	**12 53 12.8**	**+0.6**
APC	**Apacha**	**4.83**	**250**	PN	**Pn**	**12 53 17.8**	**+1.6**
APC	**Apacha**	**4.83**	**250**	*e*P	**Pn**	**12 53 17.8**	**+1.6**
KDTR	**Khodutka, Kamc**	**4.98**	**235**	PN	**Pn**	**12 53 17.4**	**-0.7**
KDTR	**Khodutka, Kamc**	**4.98**	**235**	*e*P	**Pn**	**12 53 17.5**	**-0.7**
PAU	**Pauzhetka**	**5.80**	**238**	PN	**Pn**	**12 53 31.5**	**+2.0**
PAU	**Pauzhetka**	**5.80**	**238**	*e*P	**Pn**	**12 53 31.5**	**+2.0**
SKR	**Severo-Kuril's**	**6.65**	**235**	PN	**Pn**	**12 53 41.7**	**+0.7**
SKR	**Severo-Kuril's**	**6.65**	**235**	*e*P	**Pn**	**12 53 41.7**	**+0.7**
JKA	**Kamikawa-asahi**	**17.82**	**242**	P	**P**	**12 56 10.7**	**-1.2**
JKA				IAmb	IAmb	12 56 15.4	
	comp=Z,9.6nm,1.0s						
ASAJ	**Asahikawa**	**17.83**	**242**	P	**P**	**12 56 10.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=62,slow=14,SNR=8.3						
	comp=Z,5.1nm,0.7s						
ASAJ	**Asahikawa**	**17.83**	**242**	P	**P**	**12 56 10.7**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
K15K	**Wolf Creek Mou**	**18.95**	**53**	P	**P**	**12 56 25.7**	**+1.4**
ERM	**Erimo**	**19.09**	**237**		**P**	**12 56 23.7**	**-2.1**
ERM	**Erimo**	**19.09**	**237**	P	**P**	**12 56 23.7**	**-2.1**
ERM				pmax	pmax		
	comp=Z,20nm,1.0s						
C16K	**Lisburne Hills**	**19.34**	**34**	P	**P**	**12 56 29.7**	**+1.4**
L16K	**Owhat River**	**19.86**	**55**	P	**Pn**	**12 56 36.3**	**+0.6**
M16K	**Timber Creek**	**20.07**	**57**	P	**P**	**12 56 37.7**	**+1.2**
K17K	**Iditarod**	**20.49**	**52**	P	**P**	**12 56 42.6**	**+1.6**
H18K	**Honhosa River**	**20.84**	**46**	P	**P**	**12 56 46.4**	**+1.6**
J20K	**Nowinta River**	**22.49**	**49**	P	**P**	**12 57 03.6**	**+1.2**
TIXI	**Tiksi**	**22.73**	**331**	P	**P**	**12 57 05.8**	**+0.8**
TIXI				IAmb	IAmb	12 57 19.4	
	comp=Z,3.8nm,0.8s						
TIXI	**Tiksi**	**22.73**	**331**	P	**P**	**12 57 05.8**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
B21K	**Ikpikpuk River**	**23.43**	**35**	P	**P**	**12 57 12.6**	**+0.5**
E22K	**Anaktuvuk Pass**	**24.02**	**39**	P	**P**	**12 57 18.3**	**+0.4**
E22K				IAmb	IAmb	12 57 32.7	
	comp=Z,6.6nm,1.1s						
COLD	**Coldfoot**	**24.47**	**42**	P	**P**	**12 57 22.6**	**+0.7**
E23K	**Chandalar**	**24.81**	**40**	P	**P**	**12 57 25.8**	**+0.7**
E23K				IAmb	IAmb	12 57 28.0	
	comp=Z,4.1nm,0.9s						
E24K	**Your Creek**	**25.24**	**40**	P	**P**	**12 57 29.1**	**+0.2**
E24K				IAmb	IAmb	12 57 30.3	
	comp=Z,4.0nm,1.0s						
CCB	**Clear Creek Bu**	**25.26**	**48**	P	**P**	**12 57 29.2**	**+0.1**
CCB				IAmb	IAmb	12 57 43.0	
	comp=Z,3.4nm,0.9s						
G24K	**Hadweenzic Riv**	**25.48**	**43**	P	**P**	**12 57 32.3**	**+1.2**
IL31		**25.66**	**48**	P	**P**	**12 57 33.3**	**+0.7**
IL31				IAmb	IAmb	12 57 33.4	
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**25.66**	**48**	P	**P**	**12 57 32.5**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=260,slow=8.5,SNR=24						
	comp=Z,2.2nm,0.8s						
MJAR	**Matsushiro Arr**	**25.75**	**236**	P	**P**	**12 57 34.8**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=24,slow=11,SNR=9.1						
	comp=Z,1.5nm,0.7s						
D25K	**Kavik River**	**26.18**	**37**	P	**P**	**12 57 37.9**	**+0.4**
D25K				IAmb	IAmb	12 57 38.6	
	comp=Z,3.4nm,0.9s						
DAWY	**Dawson**	**28.95**	**49**	P	**P**	**12 58 02.8**	**+0.5**
DAWY				IAmb	IAmb	12 58 22.0	
	comp=Z,1.8nm,1.2s						
INK	**Inuvik**	**30.82**	**40**	P	**P**	**12 58 19.5**	**+0.8**
INK				IAmb	IAmb	12 58 19.8	
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**30.82**	**40**	P	**P**	**12 58 19.5**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
JNU	**Nakatsue**	**32.10**	**241**	LR	LR	13 12 12.4	
	comp=Z,35nm,18.2s,baz=148,slow=38						
H11N2	**WAKE ISLAND Hy**	**35.09**	**176**	T	T	13 37 22.2	
	baz=359,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**35.10**	**176**	T	T	13 37 27.1	
	baz=359,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**35.10**	**176**	T	T	13 37 32.4	
	baz=359,slow=76,SNR=23						
EUNU	**Eureka**	**39.59**	**15**	P	**P**	**12 59 35.4**	**+1.4**
EUNU				IAmb	IAmb	12 59 47.5	
	comp=Z,1.7nm,1.1s						
YKA	**Yellowknife Ar**	**40.03**	**45**	P	**P**	**12 59 36.1**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=296,slow=8.4,SNR=7.9						
YKA				PcP	**PcP**	**13 01 42.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=264,slow=4.9,SNR=4.8						
	comp=Z,0.6nm,0.6s						
RES	**Resolute Bay**	**40.67**	**24**	P	**P**	**12 59 43.9**	**+1.0**
RES	**Resolute Bay**	**40.67**	**24**	P	**P**	**12 59 43.9**	**+1.0**
KURK	**Kurchatov**	**49.08**	**303**	P	**P**	**13 00 50.4**	**+0.2**
KURBB	**Kurchatov Arra**	**49.18**	**303**	P	**P**	**13 00 50.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=56,slow=7.7,SNR=7.5						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**52.44**	**343**	P	**P**	**13 01 13.8**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=32,slow=11,SNR=4.0						
	comp=Z,3.8nm,0.9s						
FINES	**FINESS Array B**	**59.54**	**338**	P	**P**	**13 02 04.8**	**-1.4**
	comp=Z,3.5nm,1.0s,baz=37,slow=10,SNR=4.7						
	comp=Z,3.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**61.15**	**261**	P	**P**	**13 02 18.2**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=33,slow=7.4,SNR=1.9						
	comp=Z,0.6nm,0.4s						
NB2	**NORSAR Subarra**	**62.57**	**346**	P	**P**	**13 02 27.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**62.57**	**346**	P	**P**	**13 02 26.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=18,slow=6.8,SNR=4.9						
	comp=Z,1.1nm,0.5s						
HFS	**Hagfors**	**63.06**	**344**	P	**P**	**13 02 29.5**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=27,slow=4.8,SNR=12						
	comp=Z,1.3nm,0.5s						
TXAR	**Lajitas Array**	**67.49**	**71**	P	**P**	**13 03 00.4**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=297,slow=5.0,SNR=33						
	comp=Z,1.4nm,0.5s						
WRA	**Warramunga Arr**	**78.86**	**209**	P	**P**	**13 04 06.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=20,slow=5.6,SNR=3.6						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**82.52**	**208**	P	**P**	**13 04 26.4**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=12,slow=5.4,SNR=13						
	comp=Z,0.9nm,0.7s						
ESDC	**Sonseca Array**	**85.36**	**351**	P	**P**	**13 04 40.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=349,slow=4.6,SNR=6.1						
	comp=Z,1.3nm,0.8s						
MDT	**Midelt**	**92.22**	**351**	LR	LR	13 48 31.8	
	comp=Z,19nm,18.4s,baz=330,slow=37						
QSPA	**South Pole Qui**	**144.59**	**180**	PKP	**PKPab**	**13 11 35.9**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=296,slow=4.8,SNR=5.2						

*IDC **16** 13:21:57.9±2.4, 17.°84S×178.°67W, h614km±21km, mb2.8/5, mbtmp3.7/6, Error ellipse: s-maj=91.7km s-min=22.5km az=149.0*

ISC 16 13:21:56.9±1.7, 17.°9S±0.°5×178.°6W±0.°3, h600km, n6, σ1§28/6, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.22**	**273**	P	**P**	**13 23 19.0**	**+1.6**
	11nm,0.6s,baz=169,slow=7.3,SNR=16						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**13 28 28.6**	**-0.6**
	0.8nm,0.5s,baz=81,slow=8.7,SNR=3.6						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.48**	**260**	P	**P**	**13 29 15.8**	**-0.7**
	0.5nm,0.5s,baz=97,slow=7.2,SNR=21						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**13 29 17.8**	**0.0**
	2.5nm,0.5s,baz=87,slow=8.8,SNR=48						
	2.

TPB04				S	Sg	13 59 31.9	+0.2
VHRN	**Van Horn**	**1.03**	**213**		**Pg**	**13 59 18.6**	**0.0**
VHRN	**Van Horn**	**1.03**	**213**	⇑P	**Pg**	**13 59 18.6**	**0.0**
VHRN				S	Sb	13 59 33.4	+0.3
NM01	**Eunice**	**1.06**	**48**	P	**Pg**	**13 59 19.3**	**0.0**
NM01				S	Sg	13 59 33.0	0.0
TPB16	**Coyonosa**	**1.06**	**119**	P	**Pg**	**13 59 19.4**	**+0.1**
TPB16				S	Sg	13 59 33.4	+0.3
TPB05	**Hovey Rd**	**1.13**	**130**	⇑P	**Pg**	**13 59 20.3**	**-0.3**
TPB05				S	Sg	13 59 35.4	+0.2
MNHN	**Monahans**	**1.38**	**103**		**Pn**	**13 59 24.2**	**-0.8**
MNHN	**Monahans**	**1.38**	**103**	P	**Pn**	**13 59 24.1**	**-0.8**
MNHN				S	Sg	13 59 43.4	+0.2
ALPN	**Alpine**	**1.41**	**155**	Pg	**Pn**	**13 59 24.5**	**-0.9**
ALPN	**Alpine**	**1.41**	**155**	⇑P	**Pn**	**13 59 24.5**	**-0.9**
ALPN				S	Sb	13 59 43.0	-1.1
CPRX	**Cap Rock**	**1.43**	**16**	Pg	**Pn**	**13 59 25.5**	**-0.3**
CPRX	**Cap Rock**	**1.43**	**16**	P	**Pn**	**13 59 25.5**	**-0.3**
TPB08	**Permian Basin**	**1.44**	**121**	P	**Pn**	**13 59 24.9**	**-0.9**
TPB08				S	Sb	13 59 44.8	-0.2
ODSA	**Odessa**	**1.59**	**72**		**Pn**	**13 59 27.7**	**-0.2**
ODSA	**Odessa**	**1.59**	**72**	P	**Pn**	**13 59 28.0**	**+0.1**
ODSA				S	Sn	13 59 48.4	-0.5
TMB04	**Seminole**	**1.84**	**58**	P	**Pb**	**13 59 32.3**	**-0.9**
TMB04				S	Sg	13 59 57.4	-0.8
EPT	**El Paso**	**1.85**	**274**		**Pn**	**13 59 29.7**	**-1.9**
EPT				IAML		14 00 01.5	
	comp=E,79nm,0.4s						
EPT	**El Paso**	**1.85**	**274**	S	**Sg**	**13 59 59.3**	**+0.8**
EPT	**El Paso**	**1.85**	**274**	P	**Pb**	**13 59 33.1**	**-0.3**
TMB02	**Rankin**	**2.01**	**102**	P	**Pb**	**13 59 35.1**	**-1.0**
TMB02				S	Sb	14 00 01.7	+0.1
TX31	**Lajitas Ar. Si**	**2.38**	**166**	Pn	**Pn**	**13 59 40.0**	**+1.2**
TX31	**Lajitas Ar. Si**	**2.38**	**166**	P	**Pn**	**13 59 40.1**	**+1.3**
TX31				Pg	**Pb**	**13 59 41.9**	**-0.5**
TXAR	**Lajitas Array**	**2.38**	**166**		**Pn**	**13 59 39.9**	**+1.1**
SAND	**Sanderson**	**2.54**	**131**		**Pn**	**13 59 42.8**	**+1.8**
SAND				IAmb_Lg		14 00 26.9	
	comp=Z,48nm,0.7s						
SAND	**Sanderson**	**2.54**	**131**	P	**Pn**	**13 59 42.8**	**+1.8**
SAND				Pg	**Pb**	**13 59 44.8**	**-0.4**
MSTX	**Muleshoe**	**2.66**	**29**	P	**Pn**	**13 59 44.1**	**+1.4**
MSTX				Pg	**Pb**	**13 59 45.5**	**-1.7**
MSTX	**Muleshoe**	**2.66**	**29**	S	**Sb**	**14 00 17.6**	**-2.6**
SGCY	**Sterling City**	**2.74**	**84**		**Pn**	**13 59 44.8**	**+1.1**
SGCY				IAmb_Lg		14 00 29.4	
	comp=Z,36nm,0.7s						
POST	**Post**	**2.78**	**59**		**Pn**	**13 59 45.5**	**+1.2**
POST				IAmb_Lg		14 00 24.9	
	comp=Z,44nm,0.8s						
OZNA	**Ozona**	**2.84**	**104**		**Pn**	**13 59 44.4**	**-0.7**
OZNA				IAmb_Lg		14 00 34.6	
	comp=Z,42nm,1.1s						
OZNA	**Ozona**	**2.84**	**104**	P	**Pb**	**13 59 48.2**	**-2.0**
OZNA				S	**Sn**	**14 00 22.1**	**+2.3**
121A	**Cookes Peak, D**	**3.06**	**288**		**Pn**	**13 59 48.6**	**+0.4**
121A				IAML		14 00 41.6	
	comp=N,37nm,0.5s						
121A				IAML		14 00 51.8	
	comp=E,40nm,0.6s						
CRNM	**Carthage**	**3.06**	**319**		**Pn**	**13 59 48.3**	**+0.1**
SN02	**Snyder 2**	**3.14**	**66**	P	**Pb**	**13 59 53.7**	**-1.6**
SN02				S	**Sb**	**14 00 34.6**	**+0.5**
SN01	**Snyder 1**	**3.16**	**67**	P	**Pn**	**13 59 50.6**	**+1.2**
SN01				S	**Sn**	**14 00 29.9**	**+2.3**
SN05	**Snyder 5**	**3.17**	**66**		**Pn**	**13 59 49.8**	**+0.2**
SN05				IAmb_Lg		14 00 47.8	
	comp=Z,31nm,0.8s						
SN05	**Snyder 5**	**3.17**	**66**	P	**Pn**	**13 59 52.1**	**+2.5**
SN07	**Snyder 07**	**3.25**	**63**	IAmb_Lg		14 00 41.0	
	comp=Z,39nm,0.7s						
SBM	**South Baldy**	**3.33**	**315**		**Pn**	**13 59 49.7**	**-2.4**
DKNS	**Dickens**	**3.51**	**54**		**Pn**	**13 59 54.1**	**-0.2**
DKNS				IAmb_Lg		14 00 52.4	
	comp=Z,28nm,0.7s						
DKNS	**Dickens**	**3.51**	**54**	P	**Pn**	**13 59 56.6**	**+2.3**
DKNS				S	**Sb**	**14 00 40.4**	**-4.2**
ANMO	**Albuquerque**	**3.74**	**332**		**Pn**	**13 59 56.3**	**-1.2**
ANMO				IAML		14 00 54.2	
	comp=Z,31nm,0.7s						
ANMO				IAML		14 00 57.7	
	comp=Z,33nm,0.6s						
DRIO	**Del Rio**	**3.90**	**124**	Pn	**Pn**	**14 00 00.4**	**+0.8**
DRIO				IAmb_Lg		14 01 09.0	
	comp=Z,24nm,0.7s						
AMTX	**Amarillo**	**3.92**	**34**		**Pn**	**14 00 01.1**	**+1.2**
AMTX	**Amarillo**	**3.92**	**34**	P	**Pn**	**14 00 01.7**	**+1.8**
AMTX				S	**Sb**	**14 00 59.1**	**+2.7**
APMT	**Aspermont**	**3.93**	**64**		**Pn**	**14 00 00.8**	**+0.7**
JCT	**Junction City**	**4.06**	**106**		**Pn**	**14 00 00.4**	**-1.5**
JCT				IAmb_Lg		14 01 16.9	
	comp=Z,36nm,0.8s						
PH02	**Texas Public H**	**4.23**	**27**	P	**Pn**	**14 00 05.0**	**+0.8**
PH02				S	**Sb**	**14 01 08.6**	**+3.2**
PH03	**Pantex**	**4.37**	**31**	P	**Pn**	**14 00 01.9**	**-4.2**
BRDY	**Brady**	**4.57**	**93**	Pn	**Pn**	**14 00 09.3**	**+0.4**
RTBA	**Rita Blanca**	**4.96**	**15**		**Pn**	**14 00 14.2**	**0.0**
RTBA				IAmb_Lg		14 01 49.5	
	comp=Z,19nm,0.9s						
RTBA	**Rita Blanca**	**4.96**	**15**	P	**Pn**	**14 00 16.3**	**+2.1**
RTBA				S	**Sb**	**14 01 30.9**	**+4.7**
PLPT	**Palo Pinto**	**5.23**	**76**	Pn	**Pn**	**14 00 18.3**	**+0.4**
PLPT				IAmb_Lg		14 01 55.8	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.47**	**359**	IAmb_Lg		14 01 56.0	
	comp=Z,15nm,0.8s						
FW03	**Perrin-Whitt E**	**5.48**	**74**	IAmb_Lg		14 02 03.7	
	comp=Z,17nm,0.8s						
435B	**Jarrell**	**5.85**	**97**	IAmb_Lg		14 02 12.7	
	comp=Z,17nm,0.8s						
WHTX	**Lake Whitney,**	**5.86**	**85**	P	**Pn**	**14 00 26.6**	**0.0**
WHTX				S	**Sn**	**14 01 31.7**	**-2.6**
ELIS	**Ellis County**	**6.01**	**42**	IAmb_Lg		14 02 20.6	
	comp=Z,17nm,0.7s						
FNO	**Franklin**	**6.82**	**56**	IAmb_Lg		14 02 42.4	
	comp=Z,15nm,0.8s						
W35A	**Tecumseh**	**7.15**	**59**	IAmb_Lg		14 02 48.6	
	comp=Z,11nm,0.7s						
KSCO	**Kaye Shedlock'**	**7.47**	**10**	IAmb_Lg		14 03 13.5	
	comp=Z,11nm,0.8s						
PV11	**David Mesa, Pa**	**7.61**	**332**	IAmb_Lg		14 03 13.8	
	comp=Z,13nm,1.0s						
R32A	**Long Quarter,**	**8.18**	**33**	IAmb_Lg		14 03 28.5	
	comp=Z,14nm,1.1s						

*IDC **16** 14:02:33.7±3.1, 37°.91N×21°.04E, h0km, mb3.6/5, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=65.4km s-min=32.2km az=4.0*
*ATH **16** 14:02:34.5, 37°.49N×20°.58E, h11km±2km, ML3.1/18, Manual Solution by N.Liadopoulou First location: 2019/02/16 14:03:12, This location: 2019/02/21 14:19:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

ISC 16 14:02:34.4±1.1, 37°.48N±0°.06×20°.59E±0°.06, h20km±3km, n40, σ1°23/45, mb3.7/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.30**	**41**	P	**Pb**	**14 02 40.4**	**-0.6**
LTHK				S	**Sb**	**14 02 45.8**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.38**	**13**	P	**Pb**	**14 02 41.7**	**-0.7**
ORTH				S	**Sb**	**14 02 47.7**	**0.0**
KYPS	**Kipseli, Zakin**	**0.38**	**29**	P	**Pb**	**14 02 42.9**	**+0.4**
KYPS				S	**Sb**	**14 02 47.5**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.59**	**46**	P	**Pb**	**14 02 46.2**	**0.0**
CLEM				S	**Sb**	**14 02 54.7**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.63**	**360**	P	**Pb**	**14 02 46.5**	**-0.3**
VLS	**Valsamata**	**0.69**	**360**	P	**Pb**	**14 02 47.5**	**-0.3**
LCHA	**Lechaina**	**0.70**	**49**	P	**Pb**	**14 02 48.7**	**+0.7**
SMHA	**Samh**	**0.77**	**3**	P	**Pb**	**14 02 49.8**	**+0.7**
DMLN	**Damoulianata-K**	**0.77**	**347**	P	**Pn**	**14 02 49.8**	**-0.4**
DMLN				S	**Sb**	**14 03 00.5**	**+1.2**
AMT	**Artemida-Makis**	**0.89**	**86**	P	**Pb**	**14 02 52.3**	**+1.1**
RLS	**Riolos of Patr**	**0.90**	**50**	P	**Pn**	**14 02 51.9**	**0.0**
AXS	**Araxos**	**0.95**	**41**	P	**Pn**	**14 02 52.4**	**-0.2**
FSK	**Fiskardo**	**0.98**	**359**	P	**Pn**	**14 02 52.4**	**-0.5**
DRO	**Drossia**	**1.00**	**62**	P	**Pn**	**14 02 53.4**	**+0.1**
ITM	**Ithomi**	**1.11**	**105**	P	**Pb**	**14 02 54.5**	**-0.3**
MTHA	**Methoni**	**1.11**	**126**	P	**Pb**	**14 02 56.0**	**+1.2**
EVGI	**Lefkada island**	**1.14**	**3**	P	**Pn**	**14 02 55.2**	**0.0**
DRAG	**Dragano-Lefkad**	**1.20**	**359**	P	**Pn**	**14 02 56.2**	**+0.2**
LKD2	**Lefkada island**	**1.31**	**2**	P	**Pb**	**14 02 59.3**	**+1.1**
TSLK	**Tsoukalades, L**	**1.34**	**2**	P	**Pb**	**14 02 59.2**	**+0.3**
PVO	**Paravola**	**1.35**	**33**	P	**Pb**	**14 03 00.1**	**+1.0**
KLV	**Kalavryta, Ach**	**1.36**	**65**	P	**Pb**	**14 02 59.7**	**+0.5**
GUR	**Goura**	**1.46**	**71**	P	**Pb**	**14 03 00.9**	**0.0**
KALE	**Kalithea**	**1.52**	**53**	P	**Pb**	**14 03 03.0**	**+1.0**
ANX	**Ano Chora**	**1.53**	**43**	P	**Pb**	**14 03 02.7**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.94**	**16**	P	**Pn**	**14 03 08.0**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.95**	**38**	P	**Pb**	**14 03 09.1**	**-0.2**
LTK	**Loutraki**	**1.96**	**73**	P	**Pn**	**14 03 07.6**	**+1.1**
VLI	**Veliai**	**2.02**	**111**	P	**Pb**	**14 03 09.4**	**-1.1**
IGT	**Igoumenitsa**	**2.06**	**354**	P	**Pn**	**14 03 08.9**	**+1.1**
AXAR	**Ágios Charalam**	**2.08**	**51**	P	**Pn**	**14 03 10.1**	**+2.1**
LKR	**Lokris**	**2.23**	**58**	P	**Pn**	**14 03 11.5**	**+1.3**
THL	**Klokotos Trika**	**2.36**	**28**	P	**Pn**	**14 03 13.5**	**+1.6**
TYRN	**Tyrnavos**	**2.57**	**30**	P	**Pn**	**14 03 16.5**	**+1.7**
ESDC	**Sonseca Array**	**19.31**	**284**	P	**Pn**	**14 07 03.1**	**+3.8**
	baz=92,slow=11,SNR=1.5						
	0.2nm,0.6s						
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**14 07 37.0**	**-1.6**
	1.6nm,0.7s,baz=150,slow=12,SNR=1.6						
	1.6nm,0.7s						
FINES	**FINESS Array B**	**24.23**	**6**	P	**P**	**14 07 47.5**	**-2.0**
	2.1nm,0.8s,baz=177,slow=9.7,SNR=3.4						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**42.60**	**53**	P	**P**	**14 10 26.8**	**-2.0**
	0.1nm,0.3s,baz=277,slow=8.2,SNR=2.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**14 10 51.2**	**-2.0**
	0.4nm,0.5s,baz=282,slow=6.2,SNR=3.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**14 10 55.3**	**-1.6**
	0.4nm,0.4s,baz=291,slow=9.1,SNR=2.7						
	0.4nm,0.4s						

*IDC **16** 14:09:34.5±10.0, 7°.88S×157°.22E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=342.7km s-min=34.1km az=115.0*

ISC 16 14:09:38.2±10.0, 8°.1S±0°.9×15°.8E±°, h35km, n9, σ0°26/6, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.36**	**240**	P	**P**	**14 15 02.4**	**+0.2**
	0.4nm,0.7s,baz=62,slow=10,SNR=2.5						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**27.43**	**233**	P	**P**	**14 15 20.8**	**-0.2**
	0.3nm,0.9s,baz=52,slow=10,SNR=1.5						
	0.3nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**27.91**	**19**	T	T	14 43 51.0	
	baz=198,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.92**	**19**	T	T	14 43 57.4	
	baz=198,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.93**	**19**	T	T	14 43 51.6	
	baz=198						
SONM	**Songino Array**	**71.62**	**326**	P	**P**	**14 20 56.1**	**-0.2**
	0.3nm,0.4s,baz=141,slow=7.4,SNR=3.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**85.89**	**318**	P	**P**	**14 22 14.5**	**0.0**
	0.9nm,0.7s,baz=100,slow=6.2,SNR=10.0						
	0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**86.49**	**326**	P	**P**	**14 22 17.3**	**0.0**
	0.7nm,0.5s,baz=113,slow=5.8,SNR=2.7						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**89.28**	**321**	P	**P**	**14 22 31.0**	**+0.3**
	0.2nm,0.4s,baz=95,slow=4.7,SNR=2.6						
	0.2nm,0.4s						

*NOU **16** 14:14:59.1, 34°.35S×179°.79E, h285km, ML4.2/7, South of Kermadec Islands*
*IDC **16** 14:15:09.0±5.7, 34°.63S×178°.86E, h158km±42km, mb3.7/3, mbtmp4.2/4, Error ellipse: s-maj=56.1km s-min=24.9km az=48.0*
*WEL **16** 14:15:13.7±1.2, 35°.S±12°×17°.9E±1°.2, h213km±19km, M4.0/18, ML4.4/15, MLv4.0/18, Error ellipse: s-maj=19.0km s-min=11.8km az=48.0, confirmed*

ISC 16 14:15:14.4±1.5, 35°.02S±0°.09×178°.8E±0°.1, h200km, n41, σ0°95/48, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.56**	**188**	P	**Pn**	**14 15 58.9**	**0.0**
MXZ	**Matakaoa Point**	**2.56**	**188**	P	**Pn**	**14 15 58.8**	**-0.1**
WMGZ	**Waiomatatini S**	**2.81**	**186**	P	**Pn**	**14 16 01.8**	**+0.1**
WMGZ				S	**Sn**	**14 16 38.6**	**-0.2**
HAZ	**Te Kaha**	**2.84**	**196**	P	**Pn**	**14 16 02.0**	**-0.1**
HAZ				S	**Sn**	**14 16 40.1**	**+0.6**
GRZ	**Great Barrier**	**2.96**	**245**	P	**Pn**	**14 16 02.9**	**-0.6**
KUZ	**Kuaotunu**	**3.01**	**234**	P	**Pn**	**14 16 04.3**	**+0.2**
KUZ	**Kuaotunu**	**3.01**	**234**	P	**Pn**	**14 16 04.4**	**+0.2**
PUZ	**Puketiti**	**3.07**	**188**	P	**Pn**	**14 16 04.0**	**-0.8**
TWGZ	**Tauwhareparae**	**3.21**	**191**	S	**Sn**	**14 16 47.7**	**+0.2**
OPRZ	**Ohinepanea**	**3.33**	**212**	P	**Pn**	**14 16 08.7**	**+0.7**
MWZ	**Matawai**	**3.45**	**196**	P	**Pn**	**14 16 09.2**	**-0.2**
MWZ				S	**Sn**	**14 16 52.3**	**-0.3**
CNGZ	**Carnagh Statio**	**3.48**	**187**	P	**Pn**	**14 16 09.2**	**-0.5**
TKGZ	**Te Karaka**	**3.49**	**192**	P	**Pn**	**14 16 09.0**	**-0.7**
TKGZ				S	**Sn**	**14 16 52.6**	**-0.8**
URZ	**Urewera**	**3.49**	**202**	P	**Pn**	**14 16 09.5**	**-0.4**
	22nm,0.4s,baz=348,slow=5.3,SNR=55						
URZ				S	**Sn**	**14 16 53.6**	**+0.1**
	41nm,0.5s,baz=182,slow=20,SNR=17						
URZ	**Urewera**	**3.49**	**202**	P	**Pn**	**14 16 09.6**	**-0.3**
URZ	**Urewera**	**3.49**	**202**	P	**Pn**	**14 16 09.3**	**-0.5**
URZ				S	**Sn**	**14 16 53.6**	**+0.1**
MKAZ	**Moumakai**	**3.59**	**234**	P	**Pn**	**14 16 11.4**	**+0.4**
WCZ	**Waipu Caves**	**3.73**	**255**	P	**Pn**	**14 16 11.8**	**-0.9**
TOZ	**Tahuroa Road**	**3.78**	**223**	P	**Pn**	**14 16 14.2**	**+0.9**
MUGZ	**Murupara**	**3.80**	**204**	P	**Pn**	**14 16 13.0**	**-0.7**
RTZ	**Ruatahuna**	**3.86**	**201**	P	**Pn**	**14 16 13.6**	**-0.9**
RTZ				S	**Sn**	**14 17 01.7**	**0.0**
SNGZ	**Shannon Statio**	**3.92**	**197**	P	**Pn**	**14 16 14.2**	**-0.9**
PRGZ	**Paritu Road**	**3.96**	**190**	P	**Pn**	**14 16 14.6**	**-1.0**
ALRZ	**Allen Road**	**4.03**	**208**	P	**Pn**	**14 16 16.5**	**0.0**
KNZ	**Kokohu**	**4.09**	**192**	P	**Pn**	**14 16 16.0**	**-1.1**
RAHZ	**Arahi**	**4.11**	**199**	P	**Pn**	**14 16 16.7**	**-0.8**
MTHZ	**Maungataniwha**	**4.12**	**201**	P	**Pn**	**14 16 17.0**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.18**	**189**	P	**Pn**	**14 16 17.3**	**-1.0**
OUZ	**Omahuta**	**4.25**	**266**	P	**Pn**	**14 16 18.2**	**-1.0**
OUZ	**Omahuta**	**4.25**	**266**	P	**Pn**	**14 16 17.9**	**-1.2**
ARHZ	**Aropaoanui**	**4.46**	**198**	P	**Pn**	**14 16 20.7**	**-1.2**
BKZ	**Black Stump Fm**	**4.52**	**203**	P	**Pn**	**14 16 21.3**	**-1.3**
HIZ	**Hauiti**	**4.69**	**221**	P	**Pn**	**14 16 26.7**	**+1.9**
NTVZ	**North Tongarir**	**4.76**	**210**	P	**Pn**	**14 16 25.2**	**-0.6**
TMVZ	**Te Maari**	**4.76**	**210**	P	**Pn**	**14 16 24.9**	**-0.9**
ETVZ	**East Tongariro**	**4.78**	**210**	P	**Pn**	**14 16 25.2**	**-0.8**
BFZ	**Birch Farm**	**5.99**	**199**	P	**Pn**	**14 16 38.5**	**-2.9**
ASAR	**Alice Springs**	**40.41**	**274**	P	**P**	**14 22 32.4**	**-0.9**
	3.8nm,0.4s,baz=114,slow=7.9,SNR=256						
	3.8nm,0.4s						
WRA	**Warramunga Arr**	**41.84**	**279**	P	**P**	**14 22 43.4**	**-1.4**
	2.8nm,0.5s,baz=118,slow=7.8,SNR=52						
	2.8nm,0.5s						
QSPA	**South Pole Qui**	**55.10**	**180**	P	**P**	**14 24 27.4**	**+1.9**
	0.3nm,0.5s,baz=21,slow=8.6,SNR=7.2						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**148.37**	**335**	PKPbc	**PKPdf**	**14 34 33.7**	**+1.3**
	2.4nm,0.9s,baz=29,slow=3.2,SNR=6.7						

*JMA **16** 14:21:51.8±0.4, 25°.N±1°×124°.9E±0°.7, h14km, MV3.3/9, NW OFF MIYAKOJIMA ISLAND*
*IDC **16** 14:21:56.3±1.5, 25°.80N×125°.17E, h0km, mb3.2/3, mbtmp3.2/4, ML2.8/1, Error ellipse: s-maj=31.6km s-min=31.1km az=160.0*

ISC 16 14:21:50.7±1.6, 25°.44N±0°.08×124°.84E±0°.06, h10km, n12, σ0°74/14, mb3.2/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.63**	**144**	P	**Pg**	**14 22 03.3**	**+0.3**
JIKM				S	**Sg**	**14 22 11.8**	**+0.5**
JIRB	**Irabujima**	**0.68**	**153**	P	**Pg**	**14 22 04.0**	**+0.1**
JIRB				S	**Sg**	**14 22 12.3**	**-0.5**
JTJ	**Tarama**	**0.80**	**189**	P	**Pg**	**14 22 06.8**	**+0.6**
JMJ2	**Miyako jima3**	**0.82**	**147**	P	**Pg**	**14 22 06.9**	**+0.3**
JMJ2				S	**Sg**	**14 22 17.3**	**-0.1**
JOGS	**Gusukube**	**0.85**	**143**	P	**Pg**	**14 22 07.4**	**+0.2**
JOGS				S	**Sg**	**14 22 18.0**	**-0.2**
JISG	**Ishigakijimahi**	**0.97**	**210**	P	**Pg**	**14 22 09.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.24**	**211**	P	**Pn**	**14 22 13.5**	**-0.7**
JKRS	**Kuro-shima**	**1.41**	**212**	*eP*	**Pn**	**14 22 17.3**	**+0.8**
JOW	**Kunigami**	**3.39**	**65**	Pn	**Pn**	**14 22 44.6**	**+0.9**
	2.6nm,0.3s,baz=243,slow=14,SNR=2.7						
JOW				Sn	**Sn**	**14 23 22.2**	**-1.7**
	2.5nm,0.3s,baz=120,slow=20,SNR=1.3						
	10.0nm,0.3s						
MKAR	**Makanchi Array**	**39.82**	**313**	P	P	14 29 31.0	+6.8
	0.2nm,0.7s,baz=93,slow=7.2,SNR=2.1						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**46.05**	**168**	P	P	14 30 23.7	+8.9
	0.5nm,0.9s,baz=348,slow=8.5,SNR=2.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**49.60**	**169**	P	P	14 30 52.1	+10
	0.2nm,0.8s,baz=357,slow=7.8,SNR=4.7						
	0.2nm,0.8s						

*JMA **16** 14:25:39.5±0.4, 35°.N±2°×13°.7E±°, h312km±3km, MV3.5/33, NE AICHI PREF*
*IDC **16** 14:25:40.9±0.8, 34°.98N×137°.63E, h307km±14km, mb2.9/4, mbtmp3.6/6, Error ellipse: s-maj=44.0km s-min=17.4km az=71.0*

ISC 16 14:25:40.8±0.8, 34°.97N±0°.08×137°.42E±0°.07, h303km±8km, n21, σ0°82/23, mb3.1/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	**Shinshiroyabe**	**0.09**	**127**	P	**Pn**	**14 26 19.1**	**-0.2**
JIE	**Ise**	**0.82**	**226**	P	**Pn**	**14 26 20.7**	**-0.1**
JYTA	**Yamagatataniai**	**0.83**	**318**	*i P*	**Pn**	**14 26 20.4**	**-0.3**
JYN	**Shimob**	**1.06**	**60**	P	**Pn**	**14 26 21.8**	**-0.1**
JOD2	**Odawara 2**	**1.40**	**78**	P	**Pn**	**14 26 23.5**	**-0.1**
JKG	**Kaga**	**1.57**	**326**	P	**Pn**	**14 26 24.6**	**0.0**
JRY	**Ryogami san**	**1.60**	**49**	*i P*	**Pn**	**14 26 25.1**	**+0.2**
JWT	**Wachi**	**1.68**	**281**	P	**Pn**	**14 26 25.5**	**0.0**
MAT	**Matsushiro**	**1.69**	**22**	P	**Pn**	**14 26 25.5**	**0.0**
MJAR	**Matsushiro Arr**	**1.69**	**22**	P	**Pn**	**14 26 25.3**	**-0.2**
	27nm,0.3s,baz=198,slow=8.1,SNR=108						
MJAR				S	**S**	**14 27 01.5**	**+0.3**
	8.7nm,0.8s,baz=188,slow=13,SNR=6.8						
JTNC	**Tanabenakahech**	**1.88**	**233**	P	**Pn**	**14 26 27.0**	**-0.1**
JTNC				S	**S**	**14 27 02.4**	**-1.4**
JAG	**Ashikaga**	**2.20**	**48**	*i P*	**Pn**	**14 26 28.3**	**-1.1**
JHJ	**Hachijo jima 2**	**2.70**	**133**	S	**S**	**14 27 18.2**	**+1.9**
	151nm,0.6s,baz=50,slow=17,SNR=1.8						
JAI	**Aioi**	**2.72**	**245**	P	**Pn**	**14 26 33.6**	**-0.5**
BSO1	**Boso 1**	**2.95**	**95**	P	**Pn**	**14 26 34.4**	**-1.3**
ASAJ	**Asahikawa**	**9.97**	**22**	P	**Pn**	**14 27 57.1**	**-1.3**
	2.1nm,0.3s,baz=212,slow=13,SNR=22						
KLR	**Kul'dur**	**14.85**	**345**	P	**P**	**14 28 56.0**	**+0.1**
	0.8nm,0.5s,baz=150,slow=9.3,SNR=2.8						
MKAR	**Makanchi Array**	**42.51**	**303**	P	**P**	**14 33 06.6**	**-0.4**
	0.1nm,0.4s,baz=85,slow=8.7,SNR=2.0						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**49.58**	**313**	P	**P**	**14 34 03.0**	**+1.3**
	0.3nm,0.4s,baz=101,slow=6.3,SNR=2.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**54.69**	**184**	P	**P**	**14 34 38.9**	**-0.4**
	0.7nm,0.3s,baz=0.4,slow=7.7,SNR=25						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**58.41**	**184**	P	**P**	**14 35 05.3**	**0.0**
	0.2nm,0.3s,baz=358,slow=5.8,SNR=17						
	0.2nm,0.3s						

*IDC **16** 14:48:57.6±15.0, 26°.97N×84°.14E, h0km, mb3.3/2, mbtmp3.2/3, ML2.8/1, MS2.8/1, Error ellipse: s-maj=739.0km s-min=35.7km az=70.0*
*DMN **16** 14:49:01.3±0.0, 27°.68N×85°.27E, h10km, Ml4.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 16 14:49:02.0±0.8, 27°.67N±0°.04×85°.28E±0°.03, h9km±6km, n21, σ0°73/30, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.12**	**359**	Pg	**Pg**	**14 49 04.6**	**-0.4**

SSV	**Crater Summit**	**2.39 269**	*e*P	Pn	14 50 24.5	+1.8
SSV	**Crater Summit**	**2.39 269**	*e*P	Pn	14 50 24.5	+1.8
SVV	**Soufriere Volc**	**2.41 269**	*e*P	Pn	14 50 25.0	+2.1
SVV	**Soufriere Volc**	**2.41 269**	*e*P	Pn	14 50 25.0	+2.1
SVOC	**Richmond Hill,**	**2.43 265**	*e*P	Pn	14 50 24.2	+1.1
SVOC			*e*S	Sn	14 50 52.3	+0.1
SVOC	**Richmond Hill,**	**2.43 265**	*e*P	Pn	14 50 24.2	+1.1
SVOC			*e*S	Sn	14 50 52.3	+0.1
SVT	**Saint Vincent**	**2.44 265**	*e*P	Pn	14 50 24.1	+0.8
SVT			*e*S	Sn	14 50 52.5	-0.1
SVT	**Saint Vincent**	**2.44 265**	*e*P	Pn	14 50 24.1	+0.8
SVT			*e*S	Sn	14 50 52.5	-0.1
SVB	**Belmont**	**2.45 268**	*e*P	Pn	14 50 24.4	+1.0
SVB			*e*S	Sn	14 50 54.4	+1.7
SVB	**Belmont**	**2.45 268**	*e*P	Pn	14 50 24.4	+1.0
SVB			*e*S	Sn	14 50 54.4	+1.7
BIM	**Bigot**	**2.53 297**	*e*P	Pn	14 50 24.9	+0.4
BIM			*e*S	Sn	14 50 55.4	+0.8
BIM	**Bigot**	**2.53 297**	*e*P	Pn	14 50 24.9	+0.4
BIM			*e*S	Sn	14 50 55.4	+0.8
GCMP	**Grenada, Carri**	**2.77 251**	*e*P	Pn	14 50 28.8	+1.1
GCMP			*e*S	Sn	14 51 01.9	+1.6
GCMP	**Grenada, Carri**	**2.77 251**	*e*P	Pn	14 50 28.8	+1.1
GCMP			*e*S	Sn	14 51 01.9	+1.6
GRGR	**Grenville**	**3.10 247**	*e*P	Pn	14 50 34.3	+2.1
GRGR			*e*S	Sn	14 51 08.6	+0.1
GRGR	**Grenville**	**3.10 247**	*e*P	Pn	14 50 34.3	+2.1
GRGR			*e*S	Sn	14 51 08.6	+0.1
DSLB	**Salisbury**	**3.30 308**	*e*P	Pn	14 50 35.9	+1.1
DSLB			*e*S	Sn	14 51 14.4	+1.2
DSLB	**Salisbury**	**3.30 308**	*e*P	Pn	14 50 35.9	+1.1
DSLB			*e*S	Sn	14 51 14.4	+1.2
TBG	**Guadaloupe-3**	**3.73 311**	*e*P	Pn	14 50 41.4	+0.8
TBG			*e*S	Sn	14 51 23.9	+0.3
TBG	**Guadaloupe-3**	**3.73 311**	*e*P	Pn	14 50 41.4	+0.8
TBG			*e*S	Sn	14 51 23.9	+0.3
ANBD	**Bethesda, Anti**	**4.67 322**	*e*P	Pn	14 50 55.8	+2.5
ANBD			*e*S	Sn	14 51 45.6	-0.7
ANBD	**Bethesda, Anti**	**4.67 322**	*e*P	Pn	14 50 55.8	+2.5

IDC 16 14:58:00.4±5.7,24°.49S×176°.09W,h0km,mb3.8/4, mbtmp3.8/5,ML4.9/1,MS3.1/2,Error ellipse: s-maj=113.0km s-min=53.9km az=94.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.67**	**320**	Pn	Pn	15 00 08.7	+1.5
	0.5nm,0.3s,baz=141,slow=18,SNR=4.9						
MSVF				LR	LR	15 03 16.0	
	comp=Z,132nm,20.0s,baz=111,slow=36 4.1nm,0.7s						
PPT	**Papeete**	**25.66**	**80**	LR	LR	15 11 29.3	
	comp=Z,32nm,19.0s,baz=348,slow=32						
STKA	**Stephens Creek**	**37.83**	**249**	P	P	15 05 18.7	-0.2
	0.5nm,0.5s,baz=86,slow=13,SNR=3.8 0.5nm,0.5s						
ASAR	**Alice Springs**	**45.46**	**260**	P	P	15 06 22.1	+0.5
	0.5nm,0.8s,baz=96,slow=7.8,SNR=8.6 0.5nm,0.8s						
WRA	**Warramunga Arr**	**45.93**	**265**	P	P	15 06 24.3	-1.0
	1.8nm,0.8s,baz=97,slow=8.0,SNR=29 1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.09**	**289**	P	P	15 11 16.7	-0.1
	1.1nm,0.9s,baz=113,slow=4.8,SNR=7.1 1.1nm,0.9s						

RSPR ***16*** *14:58:24.8, 19°.16N×66°.52W, h11km±3km, MD2.5/4*
SDD ***16*** *14:58:25.8±2.1, 17°.97N×67°.39W, h82km±20km, MD3.1, ML1.8, MW4.2*

ISC 16 14:58:24.1±3.7,19°.2N±0°.2×66°.53W±0°.07,h35km,n20, σ0°.75/22,13C-2D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.67**	**180**	⇑*e*P	**Pn**	**14 58 36.9**	**-0.2**
EMPR	**Esperanza - Ma**	**0.67**	**180**	*e*S	**Sn**	**14 58 47.0**	**+0.7**
AOPR	**Arecibo Observ**	**0.82**	**195**	⇑*e*Pg	**Pn**	**14 58 39.2**	**-0.1**
AOPR				⇑*e*Sg	**Sn**	**14 58 51.7**	**+1.4**
AOPR				IAML		14 58 56.5	
	comp=N,34nm,0.2s						
AOPR	**Arecibo Observ**	**0.82**	**195**	⇓*e*P	**Pn**	**14 58 39.2**	**-0.1**
AOPR	**Arecibo Observ**	**0.82**	**195**	*e*S	**Sn**	**14 58 50.4**	**+0.1**
ECPR	**Experimental S**	**0.84**	**169**	⇑*e*P	**Pn**	**14 58 39.1**	**-0.4**
ECPR	**Experimental S**	**0.84**	**169**	*e*S	**Sn**	**14 58 50.6**	**0.0**
AGPR	**Aguadilla, PR**	**0.87**	**219**	⇑*e*Pg	**Pn**	**14 58 39.8**	**-0.1**
AGPR				⇑*e*Sg	**Sn**	**14 58 50.3**	**-1.1**
AGPR				IAML		14 59 13.1	
	comp=N,69nm,2.4s						
UUPR	**Utuado, UPR, P**	**0.91**	**191**	*e*S	**Sn**	**14 58 52.4**	**+0.1**
GCPR	**Guaynabo City**	**0.94**	**153**	*e*S	**Sn**	**14 58 53.4**	**+0.4**
CELP	**Cerrillos**	**1.07**	**182**	⇑*e*Pg	**Pn**	**14 58 42.1**	**-0.6**
CELP				⇑*e*Sg	**Sn**	**14 58 54.1**	**-2.2**
CELP				IAML		14 59 00.0	
	comp=N,11nm,0.6s						
CELP	**Cerrillos**	**1.07**	**182**	⇓*e*P	**Pn**	**14 58 42.7**	**0.0**
CELP	**Cerrillos**	**1.07**	**182**	*e*S	**Sn**	**14 58 56.3**	**0.0**
LSP	**Las Mesas**	**1.10**	**209**	⇑*e*P	**Pn**	**14 58 43.5**	**+0.4**
LSP	**Las Mesas**	**1.10**	**209**	*e*S	**Sn**	**14 58 57.6**	**+0.5**
HUMP	**Col San Antoni**	**1.19**	**147**	⇑*e*P	**Pn**	**14 58 44.0**	**-0.3**
HUMP	**Col San Antoni**	**1.19**	**147**	*e*S	**Sn**	**14 58 59.9**	**+0.6**
PDPR	**Patillas Dam,**	**1.22**	**157**	*e*S	**Sn**	**14 59 00.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.26**	**206**	⇑*e*Pg	Pn	14 58 38.3	-7.0
CRPR				⇑*e*Sg	Sn	14 58 45.5	-16
CRPR				IAML		14 59 00.2	
	comp=N,33nm,2.6s						
CRPR	**Cabo Rojo, PR**	**1.26**	**206**	⇑*e*P	**Pn**	**14 58 45.9**	**+0.6**

NEIC ***16*** *14:59:43.0±1.3, 31°.36N±0°.02×103°.48W±0°.02, h5km±1km, mb_Lg2.5/17, ML2.5/38, Error ellipse: s-maj=3.1km s-min=2.6km az=227.0*
TXNET ***16*** *14:59:43.4, 31°.4N±0°.6×103°.5W±0°.8, h5km±1km, ML2.6/7, Error ellipse: s-maj=1.2km s-min=0.9km az=79.6, final*

ISC 16 14:59:43.6±0.7,31°.36N±0°.02×103°.49W±0°.02,h10km,n58, σ0°.89/79,6D,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.06**	**340**	P	**Pg**	**14 59 44.9**	**-0.8**
PCOS				S	**Sg**	**14 59 45.9**	**-1.4**
TPB10	**Southeast of T**	**0.24**	**253**	⇓P	**Pg**	**14 59 48.8**	**+0.2**
TPB10				S	**Sg**	**14 59 53.1**	**+1.2**
TPB04	**Verhalen**	**0.25**	**132**	P	**Pg**	**14 59 49.5**	**+0.8**
TPB04				S	**Sb**	**14 59 53.9**	**-0.8**
TPB07	**Mentone**	**0.27**	**325**	P	**Pb**	**14 59 50.1**	**-0.5**
TPB07				S	**Sb**	**14 59 54.5**	**-0.8**
TPB03	**Saragosa**	**0.27**	**185**	P	**Pg**	**14 59 49.4**	**+0.3**
TPB03				S	**Sg**	**14 59 54.0**	**+1.2**
TPB16	**Coyonosa**	**0.31**	**139**	S	**Sb**	**14 59 55.6**	**-0.7**
PECS	**Pecos**	**0.33**	**273**		**Pg**	**14 59 50.2**	**+0.1**
PECS				Sg	**Sg**	**14 59 55.8**	**+1.3**
PECS				IAML		14 59 57.8	
	871nm,0.5s						
PECS				IAML		15 00 00.4	
	873nm,0.5s						
PECS	**Pecos**	**0.33**	**273**	⇓P	**Pg**	**14 59 50.2**	**+0.1**
PECS				S	**Sg**	**14 59 55.4**	**+0.9**
TPB06	**Permian Basin**	**0.37**	**38**	P	**Pb**	**14 59 51.8**	**-0.5**
TPB06				S	**Sg**	**14 59 56.9**	**+1.0**
TPB12	**Southwest of T**	**0.43**	**251**	⇓P	**Pg**	**14 59 50.7**	**-1.3**
TPB12				S	**Sg**	**14 59 57.5**	**-0.2**
TPB05	**Hovey Rd**	**0.46**	**162**	⇓P	**Pg**	**14 59 52.8**	**+0.3**
TPB05				S	**Sg**	**14 59 59.5**	**+0.9**
TPB01	**Permian Basin**	**0.48**	**212**	⇓P	**Pg**	**14 59 52.7**	**-0.3**
TPB01				S	**Sg**	**14 59 59.5**	**+0.1**
MNHN	**Monahans**	**0.62**	**91**	Pg	**Pg**	**14 59 54.1**	**-1.5**
MNHN	**Monahans**	**0.62**	**91**	P	**Pg**	**14 59 55.9**	**+0.3**
MNHN				S	**Sb**	**15 00 04.8**	**-0.6**
TPB08	**Permian Basin**	**0.68**	**133**	P	**Pb**	**14 59 57.3**	**-0.2**
TPB08				S	**Sb**	**15 00 06.9**	**-0.2**
TPB11	**China Draw**	**0.74**	**321**	S	**Sb**	**15 00 08.5**	**-0.4**
ALPN	**Alpine**	**0.99**	**188**	Pg	**Pg**	**15 00 00.8**	**-1.8**
ALPN	**Alpine**	**0.99**	**188**	P	**Pg**	**15 00 01.4**	**-1.2**
ALPN				S	**Sg**	**15 00 15.8**	**+0.3**
NM01	**Eunice**	**1.00**	**4**	P	**Pg**	**15 00 02.9**	**+0.1**
NM01				S	**Sn**	**15 00 17.5**	**-0.5**
CLN7	**Carlsbad 7**	**1.09**	**346**		**Pg**	**15 00 04.4**	**-0.1**
CLN7	**Carlsbad 7**	**1.09**	**346**	P	**Pb**	**15 00 04.8**	**+0.2**
ODSA	**Odessa**	**1.10**	**46**		**Pg**	**15 00 03.8**	**-1.0**
ODSA	**Odessa**	**1.10**	**46**	P	**Pg**	**15 00 04.4**	**-0.4**
ODSA				S	**Sb**	**15 00 19.5**	**+0.2**
HTMS	**Hat Mesa**	**1.12**	**354**	S	**Sn**	**15 00 20.9**	**-0.1**
GDL2	**Guadalupe Moun**	**1.12**	**319**	Pg	**Pb**	**15 00 03.4**	**-1.8**
GDL2	**Guadalupe Moun**	**1.12**	**319**	P	**Pn**	**15 00 06.2**	**+0.6**
GDL2	**Guadalupe Moun**	**1.12**	**319**	P	**Pn**	**15 00 06.2**	**+0.6**
TMB02	**Rankin**	**1.25**	**97**	P	**Pn**	**15 00 07.0**	**-0.2**
TMB02				S	**Sn**	**15 00 24.3**	**+0.2**
VHRN	**Van Horn**	**1.41**	**247**	Pg	**Pn**	**15 00 09.1**	**-0.3**
VHRN				IAML		15 00 36.7	
	56nm,0.3s						
VHRN				IAML		15 00 38.8	
	56nm,0.8s						
VHRN	**Van Horn**	**1.41**	**247**	⇓P	**Pn**	**15 00 09.2**	**-0.1**
VHRN				S	**Sn**	**15 00 28.5**	**+0.5**
VHRN	**Van Horn**	**1.41**	**247**	P	**Pn**	**15 00 09.2**	**-0.1**
VHRN				S	**Sg**	**15 00 29.3**	**+0.5**
TMB04	**Seminole**	**1.52**	**34**	P	**Pb**	**15 00 11.8**	**-0.2**
TMB04				S	**Sg**	**15 00 33.1**	**+0.5**
MNTX	**Cornudas Mount**	**1.65**	**282**	P	**Pb**	**15 00 14.1**	**0.0**
MNTX				S	**Sg**	**15 00 37.1**	**+0.3**
MNTX	**Cornudas Mount**	**1.65**	**282**	P	**Pb**	**15 00 14.2**	**0.0**
MNTX				S	**Sg**	**15 00 37.2**	**+0.5**
CPRX	**Cap Rock**	**1.70**	**349**		**Pn**	**15 00 13.4**	**-0.1**
CPRX	**Cap Rock**	**1.70**	**349**	P	**Pn**	**15 00 14.1**	**+0.6**
SAND	**Sanderson**	**1.83**	**140**		**Pb**	**15 00 16.6**	**-0.5**
SAND				IAmb_Lg		15 00 44.4	
	comp=Z,19nm,0.8s						
SAND				IAML		15 00 45.9	
	comp=Z,48nm,0.5s						
SAND				IAML		15 00 46.5	
	comp=Z,46nm,0.4s						
SAND	**Sanderson**	**1.83**	**140**	P	**Pb**	**15 00 16.4**	**-0.7**
SAND				S	**Sg**	**15 00 41.5**	**-0.8**
TX31	**Lajitas Ar. Si**	**2.02**	**184**		**Pn**	**15 00 19.0**	**+1.2**
TX31	**Lajitas Ar. Si**	**2.02**	**184**	P	**Pn**	**15 00 19.2**	**+1.4**
TX31				S	**Sb**	**15 00 47.1**	**+1.3**
OZNA	**Ozona**	**2.07**	**101**		**Pb**	**15 00 20.7**	**-0.5**
OZNA	**Ozona**	**2.07**	**101**	P	**Pb**	**15 00 20.7**	**-0.5**
OZNA				S	**Sb**	**15 00 48.4**	**+1.3**
SGCY	**Sterling City**	**2.09**	**74**		**Pn**	**15 00 20.2**	**+1.5**
SGCY				IAmb_Lg		15 00 51.1	
	comp=Z,27nm,0.8s						
SGCY	**Sterling City**	**2.09**	**74**	Pg	**Pb**	**15 00 21.2**	**-0.4**
SGCY				S	**Sb**	**15 00 48.2**	**+0.5**
POST	**Post**	**2.40**	**44**		**Pn**	**15 00 24.3**	**+1.3**
SN05	**Snyder 5**	**2.68**	**55**		**Pn**	**15 00 28.9**	**+2.0**
SN05				IAmb_Lg		15 01 09.3	
	comp=Z,14nm,0.8s						
SN07	**Snyder 07**	**2.80**	**51**	IAmb_Lg		15 01 14.2	
	comp=Z,14nm,0.8s						
DRIO	**Del Rio**	**3.14**	**127**	Pn	**Pn**	**15 00 31.3**	**-1.8**
DKNS	**Dickens**	**3.16**	**43**		**Pn**	**15 00 33.5**	**0.0**
DKNS				IAmb_Lg		15 01 27.5	
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**3.29**	**104**	IAmb_Lg		15 01 35.3	
	comp=Z,16nm,0.8s						
APMT	**Aspermont**	**3.46**	**55**	Pn	**Pn**	**15 00 39.3**	**+1.8**
AMTX	**Amarillo**	**3.83**	**23**	IAmb_Lg		15 01 55.0	
	comp=Z,12nm,0.7s						
BRDY	**Brady**	**3.84**	**90**	IAmb_Lg		15 01 53.1	
	comp=Z,10nm,0.9s						
BNM	**Barren Site**	**3.84**	**317**	Pn	**Pn**	**15 00 44.5**	**+1.6**
LENM	**Lemitar**	**4.06**	**315**	Pn	**Pn**	**15 00 45.5**	**-0.4**
SMWD	**Samnorwood**	**4.62**	**35**	IAmb_Lg		15 02 14.9	
	comp=Z,13nm,0.9s						
WTFS	**Witchita Falls**	**4.87**	**59**	Pn	**Pn**	**15 00 55.6**	**-1.4**
WMOK	**Wichita Mounta**	**5.20**	**48**		**Pn**	**15 01 02.8**	**+1.4**

IDC ***16*** *15:01:37.2±2.0, 8°.10N×124°.28E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=138.0km s-min=25.0km az=65.0*
DJA ***16*** *15:02:29.1±0.6, 4°.N±5°.×12°.7E±°, h45km±20km, M4.1/10, mB4.8/2, mb4.5/3, MLv4.0/10, Mw(mB)4.0/2*

ISC 16 15:02:26.7±1.7,3°.6N±0°.1×126°.65E±0°.10,h35km,n10, σ1°.37/13,mb3.6/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.13**	**277**	P	**Pn**	**15 02 47.6**	**+1.6**
SGSI				S	**Sn**	**15 03 00.8**	**+0.5**
TNTI	**Ternate**	**2.85**	**165**	P	**Pn**	**15 03 11.1**	**+1.4**
TNTI				S	**Sn**	**15 03 45.4**	**+2.6**
KMSI	**Cibinong**	**3.98**	**222**	P	**Pn**	**15 03 25.6**	**+0.4**
KMSI				S	**Sn**	**15 04 10.4**	**-0.3**
SANI	**Sanana**	**5.60**	**187**	P	**Pn**	**15 03 47.7**	**+0.2**
	0.1nm703nm15nm,0.5s						
MRSI	**Marisa**	**5.61**	**237**	P	**Pn**	**15 03 48.7**	**+1.1**
	0.1nm1μm38nm,0.7s						
APSI	**Ampana**	**6.68**	**229**	P	**Pn**	**15 04 02.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.53**	**183**	P	**P**	**15 07 12.6**	**-0.4**
	1.7nm,0.6s,baz=11,slow=10,SNR=5.3 1.7nm,0.6s						
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**15 07 43.0**	**-0.2**
	1.2nm,0.6s,baz=340,slow=9.1,SNR=15 1.2nm,0.6s						
ASAR	**Alice Springs**	**27.96**	**166**	P	**P**	**15 08 14.5**	**+0.4**
	0.2nm,0.4s,baz=344,slow=10,SNR=9.7 0.2nm,0.4s						
STKA	**Stephens Creek**	**37.99**	**159**	P	**P**	**15 09 39.0**	**-2.3**
	1.1nm,0.7s,baz=329,slow=18,SNR=3.0 1.1nm,0.7s						

VIE ***16*** *15:27:56.0±0.4, 49°.86N×18°.54E, h0km, mb2.5/2, ml2.2/2, Error ellipse: s-maj=3.2km s-min=2.9km az=63.0, Suspected Mining induced.*
IPEC ***16*** *15:27:56.3±0.3, 49°.82N×18°.56E, h1km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.6km az=76.0*
PRU ***16*** *15:27:58.3, 49°.85N×18°.42E, h0km, Mining Induced Event Csm, E=2.3e+05*

ISC 16 15:27:55.6±0.8,49°.84N±0°.03×18°.48E±0°.02,h0km,n29, σ0°.70/53,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**270**	*e*PG	**Pg**	**15 28 01.8**	**+2.1**
OKC				*e*SG	**Sg**	**15 28 04.9**	**+2.4**
	comp=Z,199nm,1.7s						
STEB	**Steborice**	**0.47**	**282**	*e*PG	**Pb**	**15 28 06.3**	**-0.4**
STEB				*e*SG	**Sb**	**15 28 13.0**	**-1.2**
MORC	**Moravsky Berou**	**0.61**	**265**	*e*Pg	**Pb**	**15 28 09.1**	**-0.1**
	baz=86						
MORC				*e*Sg	**Sb**	**15 28 17.2**	**-1.1**
	45nm,0.4s,baz=86						
MORC	**Moravsky Berou**	**0.61**	**265**	*e*PG	**Pb**	**15 28 09.1**	**-0.1**
MORC				*e*SG	**Sb**	**15 28 17.3**	**-1.1**
MAUC	**Maruska**	**0.64**	**222**	*e*PG	**Pb**	**15 28 08.9**	**-0.7**
OJC	**Ojcow**	**0.93**	**65**	*e*Pg	**Pg**	**15 28 13.1**	**-0.3**
OJC				*e*Sg	**Sg**	**15 28 25.7**	**+0.2**
JAVC	**Velka Javorina**	**1.11**	**209**	*e*Pg	**Pb**	**15 28 18.0**	**+0.3**
	baz=31						
JAVC	**Velka Javorina**	**1.11**	**209**	*e*PG	**Pb**	**15 28 18.1**	**+0.3**
KRLC	**Kraliky**	**1.12**	**283**	*e*PG	**Pg**	**15 28 17.0**	**-0.1**
KRLC				*e*SG	**Sb**	**15 28 33.5**	**+0.4**
NIE	**Niedzica**	**1.25**	**109**	*e*Pg	**Pb**	**15 28 20.5**	**+0.3**
NIE				*e*Sg	**Sn**	**15 28 38.2**	**+0.2**
VRAC	**Vranov**	**1.34**	**247**	*e*Pg	**Pn**	**15 28 22.0**	**+0.5**
	baz=68						
VRAC				*e*Sg	**Sn**	**15 28 39.4**	**-0.6**
	20nm,0.2s,baz=68						
VRAC	**Vranov**	**1.34**	**247**	*e*PG	**Pn**	**15 28 22.0**	**+0.5**
VRAC				*e*SG	**Sn**	**15 28 39.5**	**-0.6**
VYHS	**Vyhne**	**1.37**	**170**	*e*PG	**Pg**	**15 28 21.3**	**-0.4**
VYHS				*e*SG	**Sg**	**15 28 39.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*PG	**Pb**	**15 28 24.0**	**0.0**
DPC				*e*SG	**Sn**	**15 28 44.5**	**+0.9**
	comp=Z,24nm,0.3s						
KRUC	**Moravsky**	**1.57**	**241**	*e*Pg	**Pb**	**15 28 25.4**	**0.0**
	baz=61						
KRUC				*e*Sg	**Sg**	**15 28 46.6**	**+0.7**
	17nm,0.2s,baz=61						
KRUC	**Moravsky**	**1.57**	**241**	*e*PG	**Pb**	**15 28 25.4**	**0.0**
KRUC				*e*SG	**Sg**	**15 28 46.6**	**+0.7**
OSTC	**Ostas**	**1.62**	**297**	*e*PG	**Pg**	**15 28 26.6**	**-0.1**
OSTC				*e*SG	**Sg**	**15 28 48.4**	**+0.7**
MODS	**Modra-Piesok**	**1.67**	**209**	*e*PG	**Pn**	**15 28 26.3**	**+0.3**
MODS				*e*SG	**Sb**	**15 28 48.7**	**+0.1**
UPC	**Upice**	**1.72**	**294**	*e*PG	**Pg**	**15 28 28.4**	**-0.2**
UPC				*e*SG	**Sg**	**15 28 51.4**	**+0.5**
CHVC	**Chvalec**	**1.73**	**297**	*e*PG	**Pg**	**15 28 28.5**	**-0.2**
CHVC				*e*SG	**Sg**	**15 28 51.1**	**0.0**
KECS	**Kecovo**	**1.89**	**135**	*e*SN	**Sn**	**15 28 53.1**	**-0.5**
KECS				*e*LG	Lg	15 28 58.4	
PRU	**Pruhonice**	**2.55**	**275**	*e*PG	**Pg**	**15 28 44.2**	**-0.2**
PRU				*e*SG	**Sg**	**15 29 17.0**	**-0.5**
CONA	**Conrad Observa**	**2.58**	**223**	*i* Pn	**Pn**	**15 28 38.4**	**-0.2**
	0.8nm,0.3s						
CONA				*e*Sn	**Sn**	**15 29 10.6**	**-0.1**
	1.8nm,0.2s						
RONA	**Rosalia, Austr**	**2.58**	**215**	*e*Pn	**Pn**	**15 28 39.3**	**+0.7**
	0.6nm,0.1s						
RONA				*e*Sn	**Sn**	**15 29 11.3**	**+0.5**
	1.7nm,0.2s						
KOLS	**Kolonicke sedl**	**2.64**	**109**	*e*PG	**Pg**	**15 28 46.3**	**+0.2**
KOLS				*e*SN	**Sn**	**15 29 12.1**	**0.0**
KOLS				*e*LG	Lg	15 29 31.3	
CKRC	**Cesky Krumlov**	**2.91**	**251**	*e*PG	**Pg**	**15 28 50.8**	**-0.6**
CKRC				*e*SG	**Sg**	**15 29 28.1**	**-1.0**
BRG	**Berggiesshubel**	**3.09**	**291**	Pg	**Pg**	**15 28 53.6**	**-1.1**
BRG				Sg	**Sg**	**15 29 34.9**	**+0.2**
BRG				Amp		15 29 39.3	
	comp=Z,5.9nm,0.5s						
KHC	**Kasperske Hory**	**3.27**	**259**	*e*PG	**Pg**	**15 28 57.1**	**-1.2**
KHC				*e*SG	**Sg**	**15 29 40.9**	**+0.2**
CLL	**Collm**	**3.79**	**295**	*e*Sg	**Sg**	**15 29 57.0**	**-0.2**

JMA ***16*** *15:40:38.4±0.4, 25°.N±1°.×124°.9E±0°.7, h12km, MD4.7/11, MV4.0/11, NW OFF MIYAKOJIMA ISLAND*
NIED ***16*** *15:40:38.4, 25°.46N×124°.87E, h12km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-1.34; Mθθ0.62; Mφφ0.72; Mrθ1.75; Mθφ1.95; Mφr0.96; Fault plane solution: M0 2.90000×10^15 NP1:φs11.00000°, δ31.00000°, λ-141.00000°. NP2:φs246.00000°, δ71.00000°, λ-65.00000°.*
IDC ***16*** *15:40:44.1±2.5, 25°.57N×125°.07E, h48km±26km, mb3.3/9, mbtmp3.6/12, ML3.1/3, MS3.6/19 Error ellipse: s-maj=19.6km s-min=16.6km az=51.0*

ISC 16 15:40:39.0±1.5,25°.44N±0°.06×124°.93E±0°.05,h11km±11km, n55,σ1°.22/38,mb3.5/9,MS3.6/17,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.58**	**151**	*i* P	**Pg**	**15 40 50.5**	**+0.1**
JIKM				S	**Sg**	**15 40 59.4**	**+1.2**
JIKM	**Ikemajima**	**0.58**	**151**	A	A	15 40 50.5	
	comp=N,86nm,4.1s,comp=E,98nm,2.4s						
JIRB	**Irabujima**	**0.64**	**160**	*i* P	**Pg**	**15 40 51.2**	**-0.3**
JIRB				S	**Sg**	**15 41 00.1**	**+0.1**
JIRB	**Irabujima**	**0.64**	**160**	A	A	15 40 51.2	
	comp=N,63nm,1.3s,comp=E,46nm,1.9s						
JMJ	**Miyako jima 2**	**0.70**	**152**	S	**Sn**	**15 41 05.7**	**+0.1**
JMJ2	**Miyako jima3**	**0.78**	**153**	*i* P	**Pg**	**15 40 54.2**	**+0.1**
JMJ2				S	**Sg**	**15 41 04.9**	**+0.6**
JMJ2	**Miyako jima3**	**0.78**	**153**	A	A	15 40 54.2	
	comp=N,62nm,1.1s,comp=E,76nm,4.4s						
JOGS	**Gusukube**	**0.80**	**147**	*i* P	**Pg**	**15 40 54.6**	**+0.1**
JOGS				S	**Sg**	**15 41 06.1**	**+1.2**
JOGS	**Gusukube**	**0.80**	**147**	A	A	15 40 54.6	
	comp=N,60nm,1.7s,comp=E,74nm,2.4s						
JTJ	**Tarama**	**0.82**	**195**	P	**Pg**	**15 40 54.4**	**-0.4**
JTJ				*e*S	**Sg**	**15 41 05.1**	**-0.4**
JTJ	**Tarama**	**0.82**	**195**	A	A	15 40 54.4	
	comp=N,30nm,3.1s,comp=E,30nm,1.9s						
JISG	**Ishigakijimahi**	**1.02**	**214**	P	**Pb**	**15 40 57.4**	**-1.2**
JIJ	**Ishigaki jima**	**1.29**	**214**	P	**Pn**	**15 41 01.1**	**-1.8**
JIJ	**Ishigaki jima**	**1.29**	**214**	A	A	15 41 01.1	
	comp=N,7.0nm,2.0s,comp=E,6.0nm,1.7s						
JKRS	**Kuro-shima**	**1.46**	**215**	P	**Pn**	**15 41 04.2**	**-1.0**
JKRS	**Kuro-shima**	**1.46**	**215**	A	A	15 41 04.2	
	comp=N,25nm,2.1s,comp=E,20nm,2.2s						
IRIF	**Iriomote-Funau**	**1.55**	**225**	*e*P	**Pn**	**15 41 05.0**	**-1.4**
HATJ	**Hateruma jima**	**1.71**	**217**	*e*P	**Pn**	**15 41 08.7**	**0.0**
HATJ	**Hateruma jima**	**1.71**	**217**	A	A	15 41 08.7	
	comp=N,13nm,2.3s,comp=E,15nm,2.7s						
YOJ	**Yonaguni jima**	**2.00**	**241**	P	**Pb**	**15 41 14.8**	**-0.5**
TATO	**Taipei**	**3.15**	**262**	P	**Pb**	**15 41 32.5**	**-2.5**
NACB	**Ninganchiao**	**3.28**	**248**	P	**Pn**	**15 41 32.3**	**+2.0**
JOW	**Kunigami**	**3.31**	**64**	P	**Pn**	**15 41 31.8**	**+1.0**

mbtmp3.3/7, MS3.5/6, Error ellipse: s-maj=63.1km s-min=19.6km az=58.0

ISC 16 15:52:03.0±1.4, 28°.5N±0°.2×99°.2E±0°.3, h35km, n12, σ0§87/7, mb3.4/6, MS3.4/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**20.15**	**14**	P	**P**	**15 56 34.1**	**-0.1**
	0.1nm,0.4s,baz=199,slow=12,SNR=1.7 0.1nm,0.4s						
MKAR	**Makanchi Array**	**22.59**	**329**	P	**P**	**15 56 59.1**	**-1.2**
	0.5nm,0.7s,baz=139,slow=11,SNR=7.6 0.5nm,0.7s						
AAK	**Ala-Archa**	**24.45**	**312**	P	**P**	**15 57 18.8**	**+0.1**
	0.3nm,0.4s,baz=153,slow=9.0,SNR=1.7 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**27.09**	**330**	P	**P**	**15 57 42.4**	**+0.1**
	0.8nm,0.9s,baz=142,slow=10,SNR=7.9						
KURBB				LR	LR	16 08 51.8	
	comp=Z,110nm,19.4s,baz=156,slow=37 0.8nm,0.9s						
PALK	**Pallekele**	**27.36**	**223**	LR	LR	16 10 43.0	
	comp=Z,21nm,19.2s,baz=37,slow=41						
ZALV	**Zalesovo Beam**	**27.56**	**342**	P	**P**	**15 57 47.3**	**+0.9**
	0.3nm,0.3s,baz=141,slow=9.3,SNR=1.8 0.3nm,0.3s						
KLR	**Kul'dur**	**32.40**	**41**	LR	LR	16 11 05.8	
	comp=Z,37nm,18.0s,baz=221,slow=35						
BELG	**Belogornoye**	**44.76**	**317**	LR	LR	16 23 00.3	
	comp=Z,124nm,18.4s,baz=46,slow=42						
GNI	**Garni**	**45.81**	**300**	LR	LR	16 24 45.5	
	comp=Z,45nm,19.1s,baz=71,slow=43						
KBZ	**Khabaz**	**47.09**	**305**	LR	LR	16 25 40.2	
	comp=Z,103nm,18.1s,baz=58,slow=43						
WRA	**Warramunga Arr**	**58.90**	**141**	P	**P**	**16 01 58.0**	**-0.7**
	0.4nm,0.6s,baz=323,slow=7.1,SNR=5.4 0.4nm,0.6s						
ASAR	**Alice Springs**	**61.68**	**144**	P	**P**	**16 02 18.1**	**+0.4**
	0.2nm,0.7s,baz=325,slow=7.0,SNR=1.6 0.2nm,0.7s						

IDC 16 15:57:33.7±2.2, 1°.51N×127°.09E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=185.2km s-min=26.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**162**	P	P	16 02 33.6	-1.2
	0.4nm,0.4s,baz=340,slow=11,SNR=6.8 0.4nm,0.4s						
ASAR	**Alice Springs**	**25.89**	**166**	P	P	16 03 08.7	+1.1
	0.1nm,0.6s,baz=344,slow=11,SNR=4.1 0.1nm,0.6s						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	16 07 39.2	-0.1
	0.2nm,0.4s,baz=117,slow=6.9,SNR=5.9 0.2nm,0.4s						

IDC 16 16:13:57.3±9.0, 28°.60N×143°.40E, h0km, mb3.4/2, mbtmp3.3/3, ML2.6/1, Error ellipse: s-maj=394.8km s-min=36.0km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.05**	**332**	Pn	Pn	16 16 08.8	-0.4
	0.1nm,0.3s,baz=147,slow=11,SNR=5.7 0.4nm,0.4s						
WRA	**Warramunga Arr**	**49.04**	**191**	P	P	16 22 46.3	0.0
	1.1nm,0.8s,baz=12,slow=8.4,SNR=5.9 1.1nm,0.8s						
ASAR	**Alice Springs**	**52.76**	**191**	P	P	16 23 13.9	-0.3
	0.1nm,0.7s,baz=352,slow=8.0,SNR=1.9 0.1nm,0.7s						

*TXNET **16** 16:15:14.5, 31°.4N±0°.9×103°.5W±0°.8, h4km, ML2.2/8, Error ellipse: s-maj=1.5km s-min=1.0km az=37.7, final*
*NEIC **16** 16:15:14.6±1.3, 31°.42N±0°.02×103°.51W±0°.03, h5km±2km, ML2.1/14, Error ellipse: s-maj=4.9km s-min=3.0km az=124.0*

ISC 16 16:15:15.0±0.8, 31°.40N±0°.02×103°.50W±0°.02, h10km±5km, n55, σ0§90/82, 3D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.01**	**312**	||P	**Pg**	**16 15 15.7**	**-1.2**
PCOS				S	**Sg**	**16 15 16.7**	**-1.5**
TPB07	**Mentone**	**0.23**	**321**	P	**Pg**	**16 15 20.9**	**+1.2**
TPB07				S	**Sg**	**16 15 25.0**	**+2.1**
TPB10	**Southeast of T**	**0.25**	**241**	P	**Pg**	**16 15 20.6**	**+0.5**
TPB10				S	**Sb**	**16 15 25.0**	**+1.6**
TPB04	**Verhalen**	**0.29**	**137**	P	**Pg**	**16 15 21.2**	**+0.3**
TPB04				S	**Sg**	**16 15 26.0**	**+1.2**
PECS	**Pecos**	**0.31**	**264**		**Pg**	**16 15 21.7**	**+0.4**
PECS	**Pecos**	**0.31**	**264**	||P	**Pg**	**16 15 21.7**	**+0.4**
PECS				S	**Sg**	**16 15 26.7**	**+1.1**
PECS	**Pecos**	**0.31**	**264**	P	**Pb**	**16 15 22.0**	**-0.7**
PECS				S	**Sb**	**16 15 28.0**	**+0.1**
TPB03	**Saragosa**	**0.32**	**182**	P	**Pg**	**16 15 21.6**	**+0.3**
TPB03				S	**Sb**	**16 15 27.0**	**-1.1**
TPB06	**Permian Basin**	**0.34**	**45**	P	**Pb**	**16 15 22.6**	**-0.7**
TPB06				S	**Sb**	**16 15 28.2**	**-0.6**
TPB16	**Coyonosa**	**0.35**	**142**	P	**Pg**	**16 15 21.7**	**-0.2**
TPB16				S	**Sg**	**16 15 27.7**	**+1.1**
TPB12	**Southwest of T**	**0.43**	**244**	P	**Pg**	**16 15 22.5**	**-1.0**
TPB12				S	**Sg**	**16 15 29.3**	**+0.1**
TPB05	**Hovey Rd**	**0.50**	**162**	P	**Pg**	**16 15 24.8**	**0.0**
TPB05				S	**Sg**	**16 15 32.4**	**+1.0**
TPB01	**Permian Basin**	**0.52**	**208**	P	**Pg**	**16 15 24.7**	**-0.3**
TPB01				S	**Sg**	**16 15 31.9**	**+0.1**
MNHN	**Monahans**	**0.64**	**95**		**Pg**	**16 15 27.2**	**-0.1**
MNHN	**Monahans**	**0.64**	**95**	P	**Pb**	**16 15 27.6**	**-0.7**
MNHN				S	**Sg**	**16 15 36.1**	**+0.4**
MNHN	**Monahans**	**0.64**	**95**	P	**Pb**	**16 15 27.6**	**-0.6**
TPB11	**China Draw**	**0.70**	**320**	S	**Sb**	**16 15 39.2**	**+0.2**
TPB08	**Permian Basin**	**0.72**	**135**	P	**Pb**	**16 15 29.2**	**-0.5**
TPB08				S	**Sg**	**16 15 39.0**	**+0.6**
NM01	**Eunice**	**0.95**	**5**	P	**Pn**	**16 15 34.1**	**-0.5**
NM01				S	**Sn**	**16 15 47.8**	**-0.5**
ALPN	**Alpine**	**1.03**	**187**		**Pg**	**16 15 33.8**	**-1.0**
ALPN				IAML		16 15 55.7	
	38nm,0.4s						
ALPN				IAML		16 15 57.5	
	36nm,0.3s						
ALPN	**Alpine**	**1.03**	**187**	P	**Pg**	**16 15 33.4**	**-1.4**
ALPN				S	**Sg**	**16 15 48.2**	**0.0**
ALPN	**Alpine**	**1.03**	**187**	P	**Pg**	**16 15 33.4**	**-1.4**
ALPN				S	**Sg**	**16 15 45.1**	**-3.1**
ALPN	**Alpine**	**1.03**	**187**	P	**Pg**	**16 15 33.9**	**-0.9**
CLN7	**Carlsbad 7**	**1.04**	**346**	Pg	**Pg**	**16 15 34.1**	**-0.9**
CLN7	**Carlsbad 7**	**1.04**	**346**	P	**Pn**	**16 15 35.5**	**-0.2**
HTMS	**Hat Mesa**	**1.07**	**354**		**Pg**	**16 15 35.2**	**-0.4**
HTMS	**Hat Mesa**	**1.07**	**354**	S	**Sb**	**16 15 49.8**	**0.0**
ODSA	**Odessa**	**1.08**	**48**	S	**Sb**	**16 15 50.2**	**+0.1**
GDL2	**Guadalupe Moun**	**1.08**	**318**	Pg	**Pn**	**16 15 36.8**	**+0.5**
GDL2	**Guadalupe Moun**	**1.08**	**318**	P	**Pn**	**16 15 37.5**	**+1.2**
TMB02	**Rankin**	**1.27**	**99**	P	**Pg**	**16 15 38.8**	**-0.5**
TMB02				S	**Sb**	**16 15 55.6**	**+0.2**
VHRN	**Van Horn**	**1.41**	**245**		**Pn**	**16 15 41.1**	**+0.2**
VHRN				IAML		16 16 08.0	
	30nm,0.6s						
VHRN	**Van Horn**	**1.41**	**245**	||P	**Pn**	**16 15 41.1**	**+0.2**
VHRN				S	**Sg**	**16 16 00.3**	**-0.2**
VHRN	**Van Horn**	**1.41**	**245**	P	**Pn**	**16 15 41.1**	**+0.2**
VHRN				S	**Sn**	**16 16 00.7**	**+1.0**
VHRN	**Van Horn**	**1.41**	**245**	P	**Pn**	**16 15 41.2**	**+0.2**
TMB04	**Seminole**	**1.49**	**35**	P	**Pb**	**16 15 42.8**	**0.0**
TMB04				S	**Sg**	**16 16 03.4**	**+0.4**
MNTX	**Cornudas Mount**	**1.63**	**281**	P	**Pg**	**16 15 45.6**	**-0.7**
MNTX				S	**Sg**	**16 16 07.7**	**+0.2**
MNTX	**Cornudas Mount**	**1.63**	**281**	P	**Pg**	**16 15 45.7**	**-0.6**
CPRX	**Cap Rock**	**1.65**	**349**		**Pn**	**16 15 44.3**	**+0.1**
CPRX	**Cap Rock**	**1.65**	**349**	P	**Pg**	**16 15 46.0**	**-0.8**
SAND	**Sanderson**	**1.87**	**140**	Pn	**Pn**	**16 15 48.0**	**+0.9**
SAND	**Sanderson**	**1.87**	**140**	P	**Pn**	**16 15 48.2**	**+1.2**
SAND				Pg	**Pg**	**16 15 50.2**	**-0.6**
SAND				S	**Sb**	**16 16 13.3**	**+0.7**
TX31	**Lajitas Ar. Si**	**2.07**	**184**		**Pn**	**16 15 50.9**	**+1.1**
TX31	**Lajitas Ar. Si**	**2.07**	**184**	P	**Pn**	**16 15 51.3**	**+1.4**
TX31				S	**Sb**	**16 16 19.3**	**+0.9**
TXAR	**Lajitas Array**	**2.07**	**184**		**Pb**	**16 15 51.6**	**-1.1**
SGCY	**Sterling City**	**2.09**	**75**	Pn	**Pb**	**16 15 52.1**	**-0.9**
SGCY	**Sterling City**	**2.09**	**75**	P	**Pb**	**16 15 52.2**	**-0.8**
SGCY				S	**Sb**	**16 16 18.8**	**-0.3**
OZNA	**Ozona**	**2.09**	**103**		**Pn**	**16 15 51.6**	**+1.4**
OZNA	**Ozona**	**2.09**	**103**	P	**Pb**	**16 15 52.0**	**-1.0**
OZNA				S	**Sb**	**16 16 19.8**	**+0.7**
POST	**Post**	**2.37**	**45**	Pn	**Pn**	**16 15 55.1**	**+1.1**
SN05	**Snyder 5**	**2.66**	**56**	Pn	**Pn**	**16 15 59.6**	**+1.6**
SN07	**Snyder 07**	**2.78**	**52**	Pn	**Pn**	**16 15 59.5**	**-0.1**
DKNS	**Dickens**	**3.14**	**43**	Pn	**Pn**	**16 16 04.9**	**+0.4**
DRIO	**Del Rio**	**3.18**	**128**	Pn	**Pn**	**16 16 05.8**	**+0.7**
APMT	**Aspermont**	**3.44**	**55**	Pn	**Pn**	**16 16 09.4**	**+0.7**

*IDC **16** 16:26:43.2±7.8, 51°.78N×167°.81W, h0km, mb3.9/5, mbtmp3.9/7, ML3.2/2, MS3.0/1, Error ellipse: s-maj=184.8km s-min=26.0km az=160.0*
*AEIC **16** 16:26:51.1±1.5, 52°.22N±0°.08×168°.2W±0°.1, h26km±9km, Error ellipse: s-maj=12.0km s-min=8.7km az=147.0*
*NEIC **16** 16:26:53.9±1.2, 52°.4N±0°.1×168°.3W±0°.1, h35km±18km, ML3.0(AEIC), Error ellipse: s-maj=16.2km s-min=8.1km az=161.0*

ISC 16 16:26:52.7±1.3, 52°.4N±0°.1×168°.35W±0°.10, h35km, n42, σ1§02/39, mb4.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**1.05**	**10**		**Pn**	**16 27 11.2**	**+0.2**
OKCE	**Okmok Cone E**	**1.09**	**6**		**Pn**	**16 27 12.0**	**+0.5**
OKFG	**Magazine Ridge**	**1.10**	**14**		**Pn**	**16 27 11.8**	**+0.3**
OKFG					**Sn**	**16 27 24.1**	**-1.4**
OKNC	**Okmok New Cone**	**1.12**	**7**		**Pn**	**16 27 12.7**	**+0.8**
OKNC					**Sn**	**16 27 24.9**	**-1.1**
OKER	**Okmok East Rim**	**1.12**	**9**		**Pn**	**16 27 12.5**	**+0.5**
OKWE	**Okmok W'ng Wal**	**1.13**	**3**		**Pn**	**16 27 12.7**	**+0.7**
OKRE	**Okmok R'deer P**	**1.18**	**5**		**Pn**	**16 27 13.6**	**+0.9**
MAPS	**Pakushin South**	**1.69**	**30**		**Pn**	**16 27 20.3**	**+0.6**
MAPS					**Sn**	**16 27 41.5**	**+1.4**
MREP	**Makushin Rep't**	**1.76**	**33**		**Pn**	**16 27 20.6**	**-0.1**
MSW	**Makushin Switc**	**1.83**	**30**		**Pn**	**16 27 21.6**	**0.0**
UNV	**Unalaska Valle**	**1.87**	**36**		**Pn**	**16 27 22.0**	**-0.1**
UNV	**Unalaska Valle**	**1.87**	**36**		**Sn**	**16 27 45.4**	**+0.9**
MTBL	**Makushin Table**	**1.91**	**31**		**Pn**	**16 27 22.8**	**0.0**
AKMO	**Akutan Morgan**	**2.24**	**38**		**Pn**	**16 27 27.5**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.25**	**37**		**Pn**	**16 27 27.8**	**+0.4**
ZRO	**Akutan Zero**	**2.25**	**38**		**Pn**	**16 27 27.7**	**+0.2**
ZRO					**Sn**	**16 27 52.8**	**-1.3**
AKBBA	**Akutan Broad B**	**2.28**	**39**		**Pn**	**16 27 28.4**	**+0.6**
AKV	**Akutan Volcano**	**2.29**	**38**		**Pn**	**16 27 28.4**	**+0.4**
AHB	**Akutan Harbor**	**2.34**	**40**		**Pn**	**16 27 28.6**	**0.0**
ATKA	**Atka Island**	**3.59**	**270**		**Pn**	**16 27 47.2**	**+1.4**
GSCK	**Great Sitkin C**	**4.82**	**269**		**Pn**	**16 28 03.7**	**+1.0**
ADK	**Adak**	**5.16**	**268**	Pn	**Pn**	**16 28 08.8**	**+1.6**
KIWB	**Kanaga Island**	**5.45**	**268**	Pn	**Pn**	**16 28 13.6**	**+2.3**
CHGN	**Chignik**	**7.03**	**52**	Pn	**Pn**	**16 28 34.9**	**+1.9**
M14K	**Bethel**	**9.13**	**20**	Pn	**Pn**	**16 29 03.5**	**+1.8**
ACHA	**Angle Creek He**	**9.46**	**47**	Pn	**Pn**	**16 29 07.5**	**+1.1**
OHAK	**Old Harbor**	**9.97**	**55**	Pn	**Pn**	**16 29 12.6**	**-0.7**
O18K	**Koktuh Hills**	**10.49**	**39**	Pn	**Pn**	**16 29 22.0**	**+1.6**
KDAK	**Kodiak Island**	**10.54**	**53**	Pn	**Pn**	**16 29 20.3**	**-0.8**
	0.3nm,0.3s,baz=299,slow=2.1,SNR=16 3.9nm,0.7s						
ILAR	**Eielson Array**	**16.62**	**33**	Pn	**Pn**	**16 30 41.0**	**-1.7**
	0.1nm,0.3s,baz=235,slow=12,SNR=5.4 0.3nm,0.6s						
PETK	**Petropavlovsk-**	**20.47**	**286**	P	**P**	**16 31 26.8**	**-0.3**
	2.4nm,0.5s,baz=82,slow=14,SNR=18 2.4nm,0.5s						
DLBC	**Dease Lake**	**22.36**	**59**	LR	LR	16 40 34.2	
	comp=Z,39nm,19.5s,baz=28,slow=37						
H11N2	**WAKE ISLAND Hy**	**37.83**	**220**	T	T	17 14 50.6	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.84**	**220**	T	T	17 14 19.9	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.85**	**220**	T	T	17 15 03.6	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**39.02**	**219**	T	T	17 15 52.8	
	baz=24,slow=74						
H11S2	**WAKE ISLAND Hy**	**39.03**	**219**	T	T	17 16 20.2	
	baz=24,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.03**	**219**	T	T	17 15 51.1	
	baz=24						
MKAR	**Makanchi Array**	**64.27**	**314**	P	**P**	**16 37 24.0**	**0.0**
	0.2nm,0.6s,baz=51,slow=7.6,SNR=2.5 0.2nm,0.6s						
FINES	**FINESS Array B**	**65.97**	**352**	P	**P**	**16 37 34.5**	**-0.2**
	2.7nm,0.8s,baz=22,slow=11,SNR=3.8 2.7nm,0.8s						
HFS	**Hagfors**	**67.86**	**359**	P	**P**	**16 37 46.8**	**0.0**
	4.0nm,1.1s,baz=7.6,slow=4.4,SNR=6.2 4.0nm,1.1s						
AKASG	**Malin Array Be**	**76.25**	**349**	P	**P**	**16 38 37.0**	**-0.1**
	0.8nm,0.5s,baz=16,slow=5.8,SNR=5.4 0.8nm,0.5s						

IDC 16 16:53:42.8±4.4, 17°.32S×178°.94W, h595km±21km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=125.6km s-min=79.1km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.91**	**261**	P	P	16 55 01.1	-0.1
	5.5nm,0.7s,baz=99,slow=4.5,SNR=5.8						
STKA	**Stephens Creek**	**38.48**	**240**	P	P	17 00 15.0	-0.5
	0.5nm,0.3s,baz=85,slow=11,SNR=1.7 0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.25**	**259**	P	P	17 01 01.0	-0.1
	0.5nm,0.4s,baz=93,slow=8.0,SNR=21 0.5nm,0.4s						
ASAR	**Alice Springs**	**44.47**	**254**	P	P	17 01 02.9	+0.1
	4.2nm,0.6s,baz=88,slow=8.4,SNR=101						
ASAR				PcP	PcP	17 02 32.5	-0.6
	0.7nm,1.2s,baz=90,slow=3.5,SNR=1.6 4.2nm,0.6s						

*NEIC **16** 17:08:50.0±0.3, 35°.56N±0°.01×97°.111W±0°.007, h6km±2km, mb_Lg2.6/28, ML2.5/49, Error ellipse: s-maj=2.2km s-min=0.7km az=188.0*

ISC 16 17:08:50.0±1.0, 35°.57N±0°.02×97°.10W±0°.03, h6km±10km, n71, σ1§43/77, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.24**	**292**		**Pg**	**17 08 55.2**	**+0.5**
ADOK				Sg	**Sg**	**17 08 58.6**	**+0.8**
OK004	**Okla Sci Mus**	**0.31**	**262**		**Sg**	**17 09 00.8**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.32**	**240**	Pg	**Pg**	**17 08 56.5**	**+0.3**
OKCSW				Sg	**Sg**	**17 09 01.2**	**+0.8**
OKCSW				IAML		17 09 03.9	
	comp=N,598nm,0.4s						
OK029	**Liberty Lake**	**0.37**	**309**	Pg	**Pg**	**17 08 57.7**	**+0.5**
OK029				IAML		17 09 03.3	
	comp=N,349nm,0.3s						
FNO	**Franklin**	**0.39**	**219**	Pg	**Pg**	**17 08 57.9**	**+0.3**
FNO				Sg	**Sg**	**17 09 03.3**	**+0.5**
OK031	**S. Brethren Rd**	**0.44**	**29**	Pg	**Pg**	**17 08 59.2**	**+0.6**
OK031				Sg	**Sg**	**17 09 05.4**	**+1.0**
OK031				IAML		17 09 05.8	
	comp=N,307nm,0.3s						
W35A	**Tecumseh**	**0.45**	**156**	Pg	**Pg**	**17 08 59.1**	**+0.4**
W35A				Sg	**Sg**	**17 09 05.5**	**+0.9**
W35A				IAML		17 09 05.8	
	comp=E,276nm,0.3s						
W35A				IAML		17 09 05.8	
	comp=N,224nm,0.3s						
OK052	**Battle Ridge R**	**0.49**	**29**	Pg	**Pg**	**17 09 00.1**	**+0.5**
OK052				Sg	**Sg**	**17 09 06.7**	**+0.7**
OK052				IAML		17 09 07.4	
	comp=N,239nm,0.3s						
OK052				IAML		17 09 07.5	
	comp=N,219nm,0.2s						
DEOK	**Depew**	**0.56**	**60**	Pg	**Pg**	**17 09 01.3**	**+0.4**
DEOK				IAML		17 09 09.8	
	comp=E,208nm,0.5s						
DEOK				IAML		17 09 11.8	
	comp=N,235nm,0.2s						
QUOK	**Quay**	**0.68**	**28**	Pg	**Pg**	**17 09 03.4**	**+0.2**
QUOK				IAML		17 09 13.4	
	comp=E,288nm,0.3s						
QUOK				IAML		17 09 13.4	
	comp=N,299nm,0.3s						
OK051	**E0350 and S346**	**0.96**	**13**	Pg	**Pg**	**17 09 07.9**	**-0.6**
X34A	**Smith Ranch, M**	**1.13**	**212**	Pg	**Pg**	**17 09 11.5**	**-0.3**
X34A				IAML		17 09 30.9	
	comp=E,55nm,0.3s						
CROK	**Carrier**	**1.18**	**323**	Pg	**Pg**	**17 09 12.1**	**-0.5**
BLOK	**Blackwell**	**1.20**	**356**	Pg	**Pg**	**17 09 12.2**	**-0.8**
CSTR	**Hydro, Custer**	**1.30**	**274**		**Pn**	**17 09 13.4**	**-1.3**
KAN13	**South Haven SW**	**1.48**	**348**		**Pn**	**17 09 16.6**	**-0.6**
KAN14	**Manchester OK**	**1.55**	**334**		**Pn**	**17 09 18.0**	**-0.3**
KAN17	**Caldwell West**	**1.57**	**340**		**Pn**	**17 09 18.3**	**-0.2**
WMOK	**Wichita Mounta**	**1.60**	**240**		**Pn**	**17 09 18.9**	**0.0**
WMOK	**Wichita Mounta**	**1.60**	**240**	P	**Pn**	**17 09 19.0**	**0.0**
WMOK				S	**Sb**	**17 09 40.7**	**0.0**
KAN09	**Caldwell North**	**1.62**	**345**		**Pn**	**17 09 19.5**	**+0.3**
KAN05	**Bluff City Nor**	**1.66**	**338**		**Pn**	**17 09 20.0**	**+0.3**
KAN01	**Argonia South**	**1.67**	**342**		**Pn**	**17 09 19.8**	**-0.1**
NOKA	**Waynoka**	**1.83**	**306**	Pn	**Pn**	**17 09 22.4**	**+0.4**
ELIS	**Ellis County**	**1.95**	**286**	Pn	**Pn**	**17 09 23.1**	**-0.6**
WTFS	**Witchita Falls**	**2.12**	**212**	Pn	**Pn**	**17 09 25.9**	**-0.1**
WTFS	**Witchita Falls**	**2.12**	**212**	P	**Pb**	**17 09 27.6**	**-1.2**
WTFS				S	**Sb**	**17 09 56.3**	**+1.0**
SMWD	**Samnorwood**	**2.61**	**261**	Pn	**Pn**	**17 09 32.8**	**0.0**
SMWD				IAmb_Lg		17 10 19.9	
	comp=Z,23nm,1.1s						
SMWD	**Samnorwood**	**2.61**	**261**	P	**Pb**	**17 09 37.2**	**0.0**
FW06	**Azle**	**2.61**	**188**	Pn	**Pn**	**17 09 32.0**	**-0.8**
FW03	**Perrin-Whitt E**	**2.64**	**198**	Pn	**Pn**	**17 09 33.0**	**-0.2**
HHAR	**Hobbs**	**2.66**	**73**	Pn	**Pn**	**17 09 32.6**	**-0.9**
FW07	**Weatherford**	**2.91**	**191**	Pn	**Pn**	**17 09 36.2**	**-0.7**
PLPT	**Palo Pinto**	**2.92**	**200**		**Pn**	**17 09 36.0**	**-1.1**
PLPT	**Palo Pinto**	**2.92**	**200**	P	**Pb**	**17 09 41.0**	**-1.6**
PLPT				S	**Sn**	**17 10 15.3**	**+2.8**
TREL	**Terrell**	**2.95**	**163**	Pn	**Pn**	**17 09 37.7**	**+0.3**
MIAR	**Mount Ida**	**3.06**	**108**		**Pn**	**17 09 39.1**	**+0.1**
MIAR	**Mount Ida**	**3.06**	**108**	P	**Pn**	**17 09 40.6**	**+1.6**
FW16	**Waxahatchie**	**3.08**	**177**	Pn	**Pn**	**17 09 39.2**	**0.0**
R32A	**Long Quarter,**	**3.13**	**336**	Pn	**Pn**	**17 09 40.5**	**+0.5**
APMT	**Aspermont**	**3.35**	**229**		**Pn**	**17 09 42.8**	**-0.1**
APMT	**Aspermont**	**3.35**	**229**	P	**Pb**	**17 09 48.4**	**-1.5**
APMT				S	**Sn**	**17 10 26.2**	**+3.1**
KSU1	**Kansas State U**	**3.55**	**6**		**Pn**	**17 09 45.5**	**-0.2**
ABTX	**Abilene, Hawle**	**3.61**	**216**	P	**Pn**	**17 09 50.2**	**+3.6**
X40A	**Basin Creek Fa**	**3.66**	**106**		**Pn**	**17 09 45.9**	**-1.3**
X40A				IAmb_Lg		17 10 52.6	
	comp=Z,11nm,0.7s						
DKNS	**Dickens**	**3.68**	**240**		**Pn**	**17 09 45.5**	**-2.1**
DKNS	**Dickens**	**3.68**	**240**	P	**Pb**	**17 09 54.2**	**-1.2**
WLAR	**White Oak Lake**	**3.78**	**119**	Pn	**Pn**	**17 09 47.4**	**-1.5**
AMTX	**Amarillo**	**3.81**	**261**	Pn	**Pn**	**17 09 47.5**	**-1.8**
AMTX				IAmb_Lg		17 10 57.1	
	comp=Z,14nm,0.7s						
CBKS	**Cedar Bluff**	**3.87**	**328**		**Pn**	**17 09 48.1**	**-2.0**
WHAR	**Wooly Hollow**	**3.94**	**93**		**Pn**	**17 09 49.2**	**-1.8**
WHAR				IAmb_Lg		17 11 03.9	
	comp=Z,17nm,1.1s						
UALR	**University of**	**3.98**	**100**		**Pn**	**17 09 50.3**	**-1.3**
SN07	**Snyder 07**	**3.99**	**233**		**Pn**	**17 09 49.9**	**-1.9**
FCAR	**Ozark Folk Cen**	**4.06**	**84**		**Pn**	**17 09 51.7**	**-1.0**
FCAR				IAmb_Lg		17 10 58.8	
	comp=Z,9.6nm,0.9s						
SN05	**Snyder 5**	**4.12**	**231**	IAmb_Lg		17 11 06.5	
	comp=Z,12nm,1.0s						
MGMO	**Mountain Grove**	**4.21**	**66**	Pn	**Pn**	**17 09 53.7**	**-1.0**
MGMO				IAmb_Lg		17 11 04.2	
	comp=Z,14nm,0.9s						
BRDY	**Brady**	**4.55**	**201**	Pn	**Pn**	**17 09 56.4**	**-3.1**
BRDY				IAmb_Lg		17 11 14.9	
	comp=Z,9.0nm,0.8s						
RTBA	**Rita Blanca**	**4.65**	**282**	Pn	**Pn**	**17 09 58.1**	**-2.8**
T42A	**Van Buren**	**5.07**	**71**	Pn	**Pn**	**17 10 04.7**	**-1.9**
CCM	**Cathedral Cave**	**5.32**	**60**	Pn	**Pn**	**17 10 08.2**	**-1.8**
PBMO	**Poplar Bluff**	**5.53**	**75**	Pn	**Pn**	**17 10 11.6**	**-1.3**
PBMO				IAmb_Lg		17 11 50.6	
	comp=Z,12nm,1.0s						
JCT	**Junction City**	**5.55**	**205**	Pn	**Pn**	**17 10 11.8**	**-1.5**
JCT				IAmb_Lg		17 11 56.9	
	comp=Z,8.8nm,0.8s						
ODSA	**Odessa**	**5.69**	**234**	Pn	**Pn**	**17 10 13.1**	**-2.1**
OZNA	**Ozona**	**5.73**	**217**	Pn	**Pn**	**17 10 12.9**	**-2.8**
EF64	**Waelder**	**5.81**	**182**	P	**Pb**	**17 10 29.3**	**-2.5**
FVM	**French Village**	**5.88**	**64**	Pn	**Pn**	**17 10 14.6**	**-3.0**
T25A	**Trinidad**	**6.11**	**287**	Pn	**Pn**	**17 10 17.7**	**-3.3**
CGM3	**Cape Girardeau**	**6.24**	**72**	IAmb_Lg		17 12 13.0	
	comp=Z,7.6nm,0.8s						
HNDO	**Hondo**	**6.29**	**198**	IAmb_Lg		17 12 12.9	
	comp=Z,6.8nm,0.8s						
SAND	**Sanderson**	**7.01**	**218**	P	**Pn**	**17 10 33.6**	**+0.3**
N23A	**Red Feather La**	**8.76**

ISC 16 17:20:36.5±2.0, 25°30N±0°.09×124°.62E±0°.04, h9km±13km, n14, σ0°88/24, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.66**	**173**	P		**Pb**	**17 20 50.3 +0.1**
JTJ				S		**Sb**	**17 20 58.8 -0.7**
JIKM	**Ikemajima**	**0.68**	**123**	*eP*		**Pb**	**17 20 51.2 +0.7**
JIKM				S		**Sb**	**17 21 00.6 +0.5**
JIRB	**Irabujima**	**0.68**	**133**	P		**Pn**	**17 20 51.5 -0.9**
JIRB				*i* S		**Sb**	**17 21 00.3 +0.1**
JISG	**Ishigakijimahi**	**0.76**	**202**	P		**Pb**	**17 20 52.4 +0.4**
JISG				*e*S		**Sb**	**17 21 02.2 -0.2**
JMJ2	**Miyako jima3**	**0.85**	**131**	*eP*		**Pn**	**17 20 54.7 0.0**
JMJ2				S		**Sn**	**17 21 06.5 -0.8**
JOGS	**Gusukube**	**0.89**	**127**	P		**Pn**	**17 20 55.5 +0.2**
JOGS				S		**Sn**	**17 21 07.9 -0.5**
JIJ	**Ishigaki jima**	**1.02**	**205**	P		**Pb**	**17 20 56.4 -0.1**
JIJ				*e*S		**Sg**	**17 21 09.5 0.0**
JKRS	**Kuro-shima**	**1.19**	**208**	P		**Pn**	**17 20 59.6 +0.2**
JKRS				S		**Sn**	**17 21 16.1 +0.3**
IRIF	**Iriomote-Funau**	**1.25**	**220**	*eP*		**Pn**	**17 20 60.0 -0.3**
IRIF				*e*S		**Sg**	**17 21 16.6 -0.3**
HATJ	**Hateruma jima**	**1.44**	**211**	*eP*		**Pg**	**17 21 04.2 0.0**
HATJ				*e*S		**Sg**	**17 21 22.7 -0.2**
NACB	**Ninganchiao**	**2.97**	**249**	P		**Pg**	**17 21 33.6 +0.1**
YULB	**Yu-li**	**3.57**	**239**	P		**Pn**	**17 21 34.5 +2.2**
SSLB	**Suanglung**	**3.66**	**247**	P		**Pb**	**17 21 39.0 -2.5**
TWGBT	**Beinan**	**4.07**	**233**	P		**Pb**	**17 21 49.3 +0.9**

*SOME **16** 17:28:32.7, 42°.25N×80°.58E, h10km*
*KRNET **16** 17:28:33.3±0.1, 42°.19N×80°.50E, h16km, mb3.3*
*NNC **16** 17:28:34.9±0.8, 42°.30N×80°.48E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=5.3km s-min=4.6km az=146.0
ISC 16 17:28:34.3±2.4, 42°25N±0°.07×80°39E±0°.07, h4km±12km, n38, σ1°90/60, 15C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.14**	**323**	P		**Pn**	**17 28 53.4 -3.7**
	26nm,0.2s						
SHLS				S		**Sb**	**17 29 08.5 -3.2**
	161nm,0.3s						
SHLS	**Shalkode**	**1.14**	**323**	*eP*		**Pn**	**17 28 53.4 -3.7**
SHLS				*e*S		**Sb**	**17 29 08.5 -3.2**
SHLS	**Shalkode**	**1.14**	**323**	*eP*		**Pn**	**17 28 53.4 -3.7**
	26nm,0.2s						
SHLS				*e*S		**Sb**	**17 29 08.5 -3.2**
	161nm,0.3s						
PDGK	**Podgornoye**	**1.26**	**329**	⇑P		**Pn**	**17 28 58.1 -0.8**
	8.7nm,0.4s						
PDGK				⇓S		**Sb**	**17 29 16.0 +0.5**
	23nm,0.2s						
UZB	**Uzynbulak**	**1.35**	**312**	P		**Pb**	**17 29 00.1 -0.1**
	14nm,0.2s						
UZB				S		**Sg**	**17 29 19.9 +2.3**
	40nm,0.2s						
UZB	**Uzynbulak**	**1.35**	**312**	*eP*		**Pb**	**17 29 00.1 -0.1**
UZB				*e*S		**Sg**	**17 29 19.9 +2.3**
UZB	**Uzynbulak**	**1.35**	**312**	*eP*		**Pb**	**17 29 00.1 -0.1**
	14nm,0.2s						
UZB				*e*S		**Sg**	**17 29 19.9 +2.3**
	40nm,0.2s						
PRZ	**Przheval'sk**	**1.49**	**280**	⇑*eP*		**Pg**	**17 29 03.3 +0.4**
PRZ				⇑*e*S		**Sg**	**17 29 23.9 +1.6**
ZHN	**Zhinishke**	**1.71**	**303**	*eP*		**Pb**	**17 29 07.1 +0.8**
	44nm,0.3s						
ZHN				*e*S		**Sg**	**17 29 32.2 +3.1**
	110nm,0.2s						
KPKS	**Kokpek**	**1.75**	**315**	*eP*		**Pb**	**17 29 07.3 +0.3**
KPKS				*e*S		**Sg**	**17 29 32.4 +2.0**
KPKS	**Kokpek**	**1.75**	**315**	*eP*		**Pb**	**17 29 07.3 +0.3**
	66nm,0.3s						
KPKS				*e*S		**Sg**	**17 29 32.4 +2.0**
	134nm,0.4s						
KURS	**Kuram**	**2.05**	**308**	Pg		**Pb**	**17 29 12.8 +0.7**
	43nm,0.5s						
KURS				Lg		Lg	17 29 42.6
	38nm,0.4s						
ANVS	**Anan'yevo**	**2.08**	**286**	⇓*eP*		**Pb**	**17 29 13.6 +0.8**
ANVS				⇓*e*S		**Sb**	**17 29 40.9 +1.8**
DJR	**Jarkent**	**2.12**	**348**	Pg		**Pb**	**17 29 12.9 -0.5**
	6.7nm,0.3s						
DJR				Lg		Lg	17 29 41.8
	126nm,0.5s						
DJR	**Jarkent**	**2.12**	**348**	*eP*		**Pb**	**17 29 12.9 -0.5**
	6.7nm,0.3s						
DJR				*e*S		**Sb**	**17 29 41.8 +1.6**
	126nm,0.5s						
KNOS	**Konyrlen**	**2.28**	**338**	Pg		**Pb**	**17 29 16.4 +0.2**
	12nm,0.3s						
KNOS				Lg		Lg	17 29 47.6
	119nm,0.3s						
BLB	**Baldybastay**	**2.31**	**323**	Pg		**Pb**	**17 29 16.9 +0.2**
	108nm,0.3s						
BLB				Lg		Lg	17 29 49.0
	147nm,0.4s						
KDJ	**Kajisay**	**2.39**	**268**	⇑*eP*		**Pb**	**17 29 18.3 +0.3**
KDJ				⇑*e*S		**Sb**	**17 29 49.6 +1.7**
KOTS	**Kotyrbulak**	**2.61**	**293**	Pg		**Pg**	**17 29 23.4 -0.8**
	30nm,0.5s						
KOTS				Lg		Lg	17 29 59.7
	137nm,0.4s						
KOTS	**Kotyrbulak**	**2.61**	**293**	*eP*		**Pg**	**17 29 23.4 -0.8**
	30nm,0.5s						
KOTS				*e*S		**Sg**	**17 29 59.7 +1.6**
	137nm,0.4s						
MDOK	**Medeo**	**2.63**	**291**	⇑Pn		**Pb**	**17 29 21.8 -0.2**
	23nm,0.5s						
MDOK				⇓Lg		Lg	17 29 59.5
	28nm,0.6s						
MDOK	**Medeo**	**2.63**	**291**	*eP*		**Pb**	**17 29 23.1 +1.1**
	34nm,0.4s						
MDOK				*e*S		**Sg**	**17 30 00.0 +1.3**
	36nm,0.5s						
TNSS	**Tian-Shan**	**2.66**	**288**	Pg		**Pb**	**17 29 24.2 +1.5**
	21nm,0.4s						
TNSS				Lg		Lg	17 30 02.0
	23nm,0.3s						
TNSS	**Tian-Shan**	**2.66**	**288**	*eP*		**Pb**	**17 29 24.2 +1.5**
	21nm,0.4s						
TNSS				*e*S		**Sg**	**17 30 01.7 +1.9**
	23nm,0.3s						
KNDC	**Almaty**	**2.70**	**292**	⇑Pg		**Pb**	**17 29 24.3 +1.1**
	52nm,0.6s						
KNDC				⇑Lg		Lg	17 30 04.0
	38nm,0.5s						
MTBS	**Maitube**	**3.05**	**288**	*eP*		**Pb**	**17 29 30.7 +1.5**
	7.7nm,0.3s						
MTBS				*e*S		**Sg**	**17 30 12.5 +0.2**
	24nm,0.3s						
KTBS	**Karatobe**	**3.09**	**299**	Pg		**Pb**	**17 29 30.8 +1.0**
	5.8nm,0.4s						
KTBS				Lg		Lg	17 30 12.3
	68nm,0.5s						
KAPS	**Kapalarasan**	**3.12**	**346**	Pg		**Pb**	**17 29 30.3 -0.1**
	2.9nm,0.2s						
KAPS				Lg		Lg	17 30 11.5
	100nm,0.2s						
BOOM	**Boomskoye usch**	**3.31**	**276**	⇑*eP*		**Pb**	**17 29 31.0 -2.6**
BOOM				⇑*e*S		**Sb**	**17 30 11.0 -3.3**
KST	**Kastek**	**3.36**	**285**	Pg		**Pg**	**17 29 37.1 -1.6**
	12nm,0.5s						
KST				Lg		Lg	17 30 23.5
	36nm,0.4s						
KST	**Kastek**	**3.36**	**285**	*eP*		**Pg**	**17 29 37.1 -1.6**
	12nm,0.5s						
KST				*e*S		**Sg**	**17 30 23.5 +1.3**
	36nm,0.4s						
DGS	**Degeres**	**3.54**	**288**	Pg		**Pb**	**17 29 39.1 +1.4**
	7.8nm,0.4s						
DGS				Lg		Lg	17 30 26.6
	16nm,0.6s						
KRBS	**Karabastau**	**3.75**	**294**	Pg		**Pb**	**17 29 43.4 +2.3**
	3.3nm,0.6s						
KRBS				Lg		Lg	17 30 33.9
	10.0nm,0.3s						
CHMS	**Chumysh**	**4.23**	**282**	Pg		**Pg**	**17 29 53.5 -1.8**
	4.7nm,1.0s						
CHMS				Lg		Lg	17 30 48.8
	5.1nm,0.6s						
ARLS	**Aral**	**4.54**	**267**	⇑*eP*		Pb	17 29 48.4 -6.1
ARLS				⇑*e*S		**Sn**	**17 30 40.7 +3.5**
MAKZ	**Makanchi**	**4.69**	**13**	⇑Pn		**Pn**	**17 29 46.6 +0.7**
	2.3nm,0.6s						
MAKZ				⇓Sn		**Sn**	**17 30 43.0 +2.2**
	2.3nm,0.6s						
MAKZ				⇑Lg		Lg	17 31 01.5
	1.6nm,0.4s						
MK31	**Makanchi Array**	**4.74**	**16**	Pn		**Pn**	**17 29 47.3 +0.8**
	0.3nm,0.2s,baz=201,slow=14,SNR=34						
MK31				⇓Sn		**Sn**	**17 30 42.5 +0.6**
	2.3nm,0.6s,baz=188,slow=22,SNR=4.9						
MK31				⇓Lg		Lg	17 31 02.5
	1.9nm,0.5s,baz=194,slow=29,SNR=4.2						
KK31	**Karatay Array**	**7.33**	**280**	⇓Pg		**Pg**	**17 30 51.9 -2.7**
	0.7nm,0.6s,baz=92,slow=16,SNR=7.6						
KK31				⇑Lg		Lg	17 32 29.6
	2.0nm,0.7s,baz=96,slow=26,SNR=5.3						

*SOME **16** 17:50:17.2, 39°.18N×69°.45E, h10km*
*NNC **16** 17:50:30.1±7.0, 39°.65N×69°.53E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=52.8km s-min=31.4km az=13.0
*KRNET **16** 17:50:33.2±0.1, 39°.70N×69°.37E, h17km, mb3.8*
*IDC **16** 17:50:36.1±1.9, 40°.04N×69°.25E, h0km, mb3.9/2,*
mbtmp3.7/6, ML3.0/4, MS2.4/1, Error ellipse: s-maj=30.3km
s-min=23.9km az=138.0
ISC 16 17:50:33.2±0.9, 39°73N±0°.03×69°33E±0°.05, h10km, n41, σ2°35/65, 28C-19D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.05**	**133**	⇓*iP*		**Pg**	**17 50 52.5 -1.0**
GAR				⇓*iS*		**Sb**	**17 51 06.6 -0.9**
CHGR	**Chuyangaron**	**1.08**	**187**	⇑*iP*		**Pg**	**17 50 53.2 -0.7**
CHGR				⇑*iS*		**Sb**	**17 51 07.6 -0.5**
BTK	**Batken**	**1.19**	**73**	⇓*iP*		**Pb**	**17 50 55.3 -0.7**
BTK				⇓*iS*		**Sn**	**17 51 11.6 -0.8**
DRK	**Karamyk**	**1.93**	**97**	⇓*iP*		**Pb**	**17 51 08.4 -0.2**
DRK				⇓*iS*		**Sg**	**17 51 33.8 -1.3**
TRKS	**Terek-Say**	**2.27**	**37**	⇓*iP*		**Pb**	**17 51 13.1 -1.2**
TRKS				⇓*iS*		**Sb**	**17 51 41.9 -0.6**
OHH	**Osh**	**2.77**	**72**	⇑*iP*		**Pb**	**17 51 20.1 -2.7**
OHH				⇑*iS*		**Sb**	**17 51 54.2 -2.6**
ARK	**Arkit**	**2.88**	**43**	⇑*iP*		**Pn**	**17 51 21.9 +2.7**
ARK				⇑*iS*		**Sb**	**17 51 57.5 -2.5**
ARSB	**Arslanbob**	**3.21**	**59**	⇓*eP*		**Pn**	**17 51 26.4 +2.6**
ARSB				⇓*iS*		**Sn**	**17 52 05.2 +3.0**
SFK	**Sufi-Kurgan**	**3.23**	**84**	⇑*iP*		**Pn**	**17 51 26.6 +2.5**
SFK				⇑*iS*		**Sn**	**17 52 05.4 +2.7**
BRLS	**Borolday**	**3.32**	**6**	Pg		**Pn**	**17 51 25.7 +0.4**
	17nm,0.5s						
BRLS				Lg		Lg	17 52 12.1
	47nm,0.4s						
BRLS	**Borolday**	**3.32**	**6**	*eP*		**Pn**	**17 51 24.2 -1.1**
	10.0nm,0.2s						
BRLS				*e*S		**Sb**	**17 52 12.1 -0.6**
	47nm,0.4s						
KK31	**Karatay Array**	**3.49**	**14**	Pn		**Pn**	**17 51 30.4 +2.9**
	3.3nm,0.2s,baz=201,slow=13,SNR=138						
KK31				⇓Lg		Lg	17 52 23.7
	25nm,0.5s,baz=198,slow=30,SNR=8.3						
KKAR	**Karatay Array**	**3.49**	**14**	⇑*iP*		**Pn**	**17 51 30.4 +2.9**
KKAR				⇑*iS*		**Sn**	**17 52 12.3 +3.4**
DZA	**Taraz**	**3.50**	**25**	*eP*		**Pn**	**17 51 31.1 +3.3**
	53nm,0.1s						
DZA				*e*S		**Sg**	**17 52 24.0 -1.7**
	48nm,0.2s						
SALK	**Salom-Alik**	**3.62**	**70**	⇑*iP*		**Pn**	**17 51 32.0 +2.5**
SALK				⇑*iS*		**Sn**	**17 52 15.1 +2.6**
MNAS	**Manas**	**3.66**	**40**	⇓*iP*		**Pn**	**17 51 32.8 +2.9**
MNAS				⇓*iS*		**Sn**	**17 52 16.2 +3.0**
AML	**Almayashu**	**4.09**	**53**	⇑*iP*		**Pn**	**17 51 38.8 +2.7**
AML				⇑*iS*		**Sn**	**17 52 26.7 +2.5**
MRKS	**Merke**	**4.21**	**43**	Pg		**Pb**	**17 51 43.7 -3.6**
	7.6nm,0.3s						
MRKS				Lg		Lg	17 52 43.6
	62nm,0.7s						
MRKS	**Merke**	**4.21**	**43**	*eP*		**Pn**	**17 51 41.7 +4.2**
	7.6nm,0.3s						
MRKS				*e*S		**Sb**	**17 52 42.5 +4.2**
	62nm,0.7s						
ARLS	**Aral**	**4.35**	**59**	⇑*eP*		**Pn**	**17 51 42.3 +2.8**
ARLS				⇑*iS*		**Sn**	**17 52 32.6 +2.3**
UCH	**Uchtor**	**4.65**	**56**	⇑*eP*		**Pn**	**17 51 46.7 +2.8**
UCH				⇑*iS*		**Sn**	**17 52 40.3 +2.1**
AAK	**Ala-Archa**	**4.86**	**52**	LR		LR	17 53 19.9
	comp=Z,37nm,18.1s,baz=316,slow=35						
AAK	**Ala-Archa**	**4.86**	**52**	⇑*iP*		**Pn**	**17 51 49.4 +2.9**
AAK				⇑*iS*		**Sn**	**17 52 45.0 +2.0**
FRU1	**Bishkek**	**5.04**	**51**	⇑*iP*		**Pn**	**17 51 51.9 +3.0**
FRU1				⇑*iS*		**Sn**	**17 52 49.4 +2.1**
KBK	**Karagaybulak**	**5.15**	**54**	⇑*iP*		**Pn**	**17 51 53.4 +2.9**
KBK				⇑*iS*		**Sn**	**17 52 51.8 +1.7**
BOOM	**Boomskoye usch**	**5.71**	**59**	⇓*eP*		**Pn**	**17 52 00.9 +2.8**
BOOM				⇓*iS*		**Sn**	**17 53 04.9 +1.1**
ULHL	**Ulahol**	**5.81**	**62**	⇓*iP*		**Pn**	**17 52 02.2 +2.7**
ULHL				⇓*iS*		**Sn**	**17 53 07.3 +1.0**
DGS	**Degeres**	**5.98**	**52**	Pg		**Pb**	**17 52 14.3 -3.2**
	2.8nm,0.5s						
DGS				Lg		Lg	17 53 33.4
	8.4nm,0.5s						
KST	**Kastek**	**5.99**	**54**	Pg		**Pb**	**17 52 15.1 -2.6**
	2.7nm,0.7s						
KST				Lg		Lg	17 53 36.3
	3.9nm,0.4s						
KRBS	**Karabastau**	**6.19**	**48**	Pg		**Pb**	**17 52 19.6 -1.4**
	2.2nm,0.4s						
KRBS				Lg		Lg	17 53 43.0
	3.3nm,0.6s						
KDJ	**Kajisay**	**6.41**	**65**	⇓*iP*		**Pn**	**17 52 10.6 +2.8**
KDJ				⇓*iS*		**Sn**	**17 53 21.8 +0.6**
TARG	**Taragay, Kyrgy**	**6.74**	**70**	⇑*iP*		**Pn**	**17 52 15.2 +2.6**
TARG				⇑*iS*		**Sn**	**17 53 29.7 +0.1**
KTBS	**Karatobe**	**6.79**	**52**	Pg		**Pb**	**17 52 29.7 -1.6**
	1.3nm,0.5s						
KTBS				Lg		Lg	17 54 00.8
	4.3nm,0.4s						
KOTS	**Kotyrbulak**	**6.81**	**57**	Pg		**Pb**	**17 52 29.7 -2.1**
	3.2nm,0.5s						
KOTS				Lg		Lg	17 54 00.7
	5.8nm,0.6s						
ANVS	**Anan'yevo**	**6.99**	**61**	⇑*eP*		**Pn**	**17 52 18.6 +2.9**
ANVS				⇑*iS*		**Sn**	**17 53 35.3 0.0**
MKAR	**Makanchi Array**	**11.79**	**49**	Pn		**Pn**	**17 53 21.8 +0.5**
	0.1nm,0.3s,baz=234,slow=15,SNR=6.5						
MKAR				Lg		Lg	17 56 44.4
	0.1nm,0.3s,baz=234,slow=19,SNR=2.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**12.67**	**28**	Pn		**Pn**	**17 53 32.0 -1.3**
	0.2nm,0.3s,baz=213,slow=17,SNR=4.6						
KURBB				Lg		Lg	17 57 10.3
	baz=222,slow=30,SNR=4.5						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**13.32**	**3**	Pn		**Pn**	**17 53 39.3 -2.9**
	baz=170,slow=15,SNR=4.0						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**17.68**	**31**	P		**P**	**17 54 40.8 +0.6**
	0.2nm,0.3s,baz=215,slow=11,SNR=5.9						
	0.6nm,0.3s						
HFS	**Hagfors**	**39.74**	**320**	P		**P**	**17 58 07.4 +1.8**
	2.3nm,0.9s,baz=94,slow=10,SNR=4.4						
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**84.80**	**121**	P		P	18 03 13.7 +5.7
	0.9nm,1.1s,baz=314,slow=5.0,SNR=2.2						
	0.9nm,1.1s						

*IDC **16** 17:52:01.2±0.7, 35°.71N×25°.94E, h0km, mb3.7/10,*
mbtmp3.7/15, ML3.5/5, MS3.0/2, Error ellipse:
s-maj=22.3km s-min=8.4km az=157.0
*THE **16** 17:52:03.7, 35°.72N×25°.83E, h4km±4km, ML4.0/3, Error*
ellipse: s-maj=4.8km s-min=1.6km az=290.0
*ATH **16** 17:52:03.8, 35°.72N×25°.92E, h21km±1km, ML3.7/13,*
Manual Solution by N.Liadopoulou First location:
2019/02/16 17:53:06, This location: 2020/07/15 11:45:28
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 0
km; Longitude uncertainty: 0 km
*ISK **16** 17:52:03.2, 35°.70N×25°.89E, h5km, ML3.7/15*
*AFAD **16** 17:52:04.2, 35°.51N×26°.27E, h11km±2km, MW4.1*
ISC 16 17:52:02.3±1.0, 35°67N±0°.02×25°98E±0°.02, h15km±7km, n111, σ1°73/136, mb3.8/11, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGNA	**Agios Nikolaos**	**0.52**	**204**	P		**Pn**	**17 52 14.5 -0.8**
AGNA				S		**Sb**	**17 52 22.7 +2.1**
ZKR	**Zakros**	**0.58**	**161**	Pg		**Pn**	**17 52 16.4 +0.3**
ZKR				Sg		**Sn**	**17 52 25.3 -0.2**
ZKR	**Zakros**	**0.58**	**161**	P		**Pn**	**17 52 16.8 +0.7**
ZKR	**Zakros**	**0.58**	**161**	P		**Pn**	**17 52 16.6 +0.5**
ZKR				S		**Sn**	**17 52 25.2 -0.2**
IACM	**Heraklion**	**0.82**	**244**	P		**Pb**	**17 52 18.6 +0.3**
IACM	**Heraklion**	**0.82**	**244**	P		**Pn**	**17 52 19.4 -0.1**
IACM				S		**Sb**	**17 52 29.6 +0.3**
THR6	**Thira Island,**	**0.83**	**326**	P		**Pg**	**17 52 17.7 -0.8**
THR8	**Santorini-Mono**	**0.84**	**331**	P		**Pg**	**17 52 17.9 -0.7**
THR9	**Santorini-Faro**	**0.85**	**324**	P		**Pb**	**17 52 18.6 -0.2**
THRA	**Thira**	**0.87**	**329**	P		**Pb**	**17 52 19.2 +0.1**
THRA				S		**Sg**	**17 52 29.9 -0.6**
THR3	**Thira Island,**	**0.88**	**328**	P		**Pg**	**17 52 18.7 -0.6**
THR2	**Thira island,**	**0.89**	**331**	P		**Pb**	**17 52 19.2 -0.3**
THR5	**Thira Island,**	**0.91**	**326**	P		**Pg**	**17 52 18.4 -1.4**
SAP3	**Santorini-Thir**	**0.92**	**326**	P		**Pb**	**17 52 20.2 +0.2**
SAP3				S		**Sg**	**17 52 30.4 -1.9**
	22μm,0.7s						
SAP3	**Santorini-Thir**	**0.92**	**326**	P		**Pb**	**17 52 19.9 -0.1**
ASTA	**Astypalaia**	**0.93**	**19**	P		**Pn**	**17 52 20.8 0.0**
IDI	**Anoyia**	**0.97**	**247**	Pg		**Pb**	**17 52 20.9 +0.1**
IDI	**Anoyia**	**0.97**	**247**	P		**Pg**	**17 52 20.3 -0.7**
IDI				S		**Sg**	**17 52 31.9 -1.8**
	9μm,0.6s						
IDI	**Anoyia**	**0.97**	**247**	Pg		**Pg**	**17 52 20.6 -0.4**
	144nm,0.3s,baz=53,slow=7.6,SNR=243						
IDI				Lg		Lg	17 52 32.6
	698nm,0.3s,baz=156,slow=19,SNR=43						
IDI	**Anoyia**	**0.97**	**247**	P		**Pb**	**17 52 21.1 +0.3**
IDI				S		**Sg**	**17 52 32.9 -0.7**
KARP	**Karpathos**	**0.97**	**97**	Pg		**Pn**	**17 52 23.4 +1.9**
KARP	**Karpathos**	**0.97**	**97**	P		**Pn**	**17 52 22.6 +1.1**
KARP	**Karpathos**	**0.97**	**97**	P		**Pn**	**17 52 22.8 +1.4**
TMBK	**Timbaki Herakl**	**1.16**	**239**	P		**Pg**	**17 52 24.4 -0.2**
TMBK	**Timbaki Herakl**	**1.16**	**239**	P		**Pg**	**17 52 24.4 -0.2**
TMBK				S		**Sg**	**17 52 39.7 +0.1**
AMGA	**Amorgos Island**	**1.16**	**357**	P		**Pn**	**17 52 24.3 +0.2**
PRNS	**Prines Rethymn**	**1.24**	**256**	P		**Pg**	**17 52 27.3 +1.1**
PRNS				S		**Sb**	**17 52 41.8 +0.5**
PRNS	**Prines Rethymn**	**1.24**	**256**	P		**Pg**	**17 52 26.2 0.0**
PRNS				S		**Sn**	**17 52 42.9 +1.3**
NISR	**Nisiros**	**1.32**	**44**	P		**Pg**	**17 52 29.1 +1.3**
NISR				S		**Sg**	**17 52 47.5 +2.5**
	4μm,0.6s						
APE	**Apeiranthos**	**1.44**	**346**	Pn		**Pg**	**17 52 29.3 -0.8**
APE	**Apeiranthos**	**1.44**	**346**	P		**Pn**	**17 52 27.4 -0.6**
APE	**Apeiranthos**	**1.44**	**346**	P		**Pn**	**17 52 27.9 -0.1**
YAZI	**Mula-Dat§a-**	**1.56**	**49**	P		**Pn**	**17 52 29.4 -0.1**
YAZI				S		**Sg**	**17 52 53.5 +0.8**
CHNB	**Souda**	**1.57**	**264**	P		**Pn**	**17 52 30.1 +0.5**
CHAN	**Chania**	**1.59**	**265**	P		**Pn**	**17 52 30.0 +0.1**
CHAN				S		**Sn**	**17 52 48.9 -1.2**
MHLO	**Agia Marina, M**	**1.63**	**309**	P		**Pb**	**17 52 31.9 -0.2**
MHLO	**Agia Marina, M**	**1.63**	**309**	P		**Pn**	**17 52 30.4 -0.2**
DATC	**Datca-Mugla**	**1.74**	**51**	Pn		**Pg**	**17 52 35.5 -0.2**
GVD	**Gavdhos**	**1.75**	**242**	Pn		**Pb**	**17 52 34.5 +0.3**
GVD	**Gavdhos**	**1.75**	**242**	P		**Pb**	**17 52 34.8 +0.6**
GVD	**Gavdhos**	**1.75**	**242**	P		**Pn**	**17 52 33.2 +1.0**
BODT	**Bodrum**	**1.76**	**37**	Pn		**Pg**	**17 52 35.8 -0.2**
ARG	**Arkhangelos**	**1.83**	**72**	Pn		**Pg**	**17 52 36.4 -0.9**
ARG	**Arkhangelos**	**1.83**	**72**	P		**Pb**	**17 52 35.2 -0.2**
ARG	**Arkhangelos**	**1.83**	**72**	P		**Pb**	**17 52 34.8 -0.6**
BDRM	**Kayabasi**	**1.83**	**40**	P		**Pg**	**17 52 37.7 +0.4**
TNSA	**Tinos**	**1.98**	**341**	P		**Pn**	**17 52 35.2 -0.1**
DDIM	**Aydin, Didim**	**2.05**	**29**	P		**Pg**	**17 52 42.0 +0.3**
DDIM				S		**Sg**	**17 53 11.4 +3.0**
SMG	**Samos**	**2.15**	**18**	P		**Pn**	**17 52 38.0 +0.3**
MLSB	**Milas**	**2.18**	**41**	Pn		**Pb**	**17 52 41.7 +0.3**
ANKY	**Antikythira Is**	**2.19**	**276**	P		**Pn**	**17 52 38.4 +0.2**
GCAM	**G?zelcaml?**	**2.27**	**26**	Pn		**Pb**	**17 52 42.8 -0.1**
GCAM	**G?zelcaml?**	**2.27**	**26**	P		**Pg**	**17 52 45.9 +0.2**
GCAM				S		**Sg**	**17 53 17.2 +2.1**
YER	**Yerkesik**	**2.37**	**51**	Pn		**Pb**	**17 52 44.7 0.0**
DALY	**Dalyan (Mula)**	**2.45**	**61**	Pn		**Pb**	**17 52 45.5 -0.5**
MULA	**Mugla, Merkez-**	**2.46**	**49**	P		**Pb**	**17 52 46.2 -0.2**
DGB	**zmir**	**2.49**	**17**	P		**Pg**	**17 52 48.0 -1.9**
DGB				S		**Sg**	**17 53 21.3 -1.0**
AYDN	**Tasoluk**	**2.51**	**37**	P		**Pg**	**17 52 49.8 -0.6**
AYDN				S		**Sg**	**17 53 26.5 +3.6**
ZEYE	**Izmir, Urla-Ze**	**2.60**	**9**	P		**Pg**	**17 52 50.6 -1.5**
ZEYE				S		**Sg**	**17 53 23.7 -2.2**
VLI	**Veliai**	**2.67**	**294**	P		**Pn**	**17 52 44.7 -0.2**
VLI	**Veliai**	**2.67**	**294**	P		**Pn**	**17 52 45.0 +0.1**
SABU	**Mula-Dalaman**	**2.68**	**64**	P		**Pb**	**17 52 48.7 -1.3**
SABU				S		**Sn**	**17 53 18.0 +0.8**
FETY	**Fethiye**	**2.69**	**68**	Pn		**Pb**	**17 52 49.5 -0.7**
FETY	**Fethiye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**39.39**	**69**	P	P	17 59 38.1	+6.5
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**40.28**	**51**	P	**P**	**17 59 39.6**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=277,slow=8.6,SNR=5.2						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**42.94**	**57**	P	**P**	**18 00 02.0**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=276,slow=7.7,SNR=19						
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**44.17**	**47**	P	**P**	**18 00 10.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=265,slow=7.5,SNR=5.5						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**58.65**	**51**	P	**P**	**18 02 01.7**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=292,slow=8.4,SNR=2.8						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**65.85**	**84**	P	**P**	**18 02 48.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=304,slow=6.2,SNR=1.6						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**77.17**	**342**	P	**P**	**18 03 54.9**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=24,slow=4.3,SNR=2.7						
	comp=Z,0.1nm,0.6s						
KSRS	**Korea Array**	**77.44**	**53**	P	**P**	**18 03 57.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=306,slow=3.4,SNR=4.5						
	comp=Z,0.6nm,0.6s						

*IDC **16** 17:53:19.3±1.1, 42°.47N×104°.48E, h0km, mb3.8/7, mbtmp3.7/11, ML2.9/4, Error ellipse: s-maj=25.5km s-min=20.3km az=68.0*

ISC 16 17:53:24.6±1.2, 42°.5N±0°.2×104°.4E±0°.2, h35km, n11, σ0°37/11, mb3.9/7, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**5.54**	**14**	Pn	**Pn**	**17 54 44.5**	**-0.2**
	2.6nm,0.3s,baz=194,slow=15,SNR=44						
SONM				Lg	Lg	17 56 13.9	
	9.9nm,0.3s,baz=204,slow=31,SNR=12						
	5.3nm,0.4s						
MKAR	**Makanchi Array**	**16.30**	**293**	Pn	**Pn**	**17 57 10.7**	**+0.1**
	0.1nm,0.3s,baz=96,slow=14,SNR=6.3						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**17.31**	**318**	P	**Pn**	**17 57 23.3**	**+0.1**
	0.1nm,0.3s,baz=123,slow=10,SNR=2.1						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**19.49**	**304**	P	**Pn**	**17 57 49.2**	**-0.6**
	baz=107,slow=10,SNR=3.3						
	1.5nm,0.7s						
BVAR	**Borovoye Array**	**24.95**	**307**	P	**P**	**17 58 44.9**	**+0.4**
	1.5nm,0.4s,baz=104,slow=9.7,SNR=5.9						
	1.5nm,0.4s						
FINES	**FINESS Array B**	**48.54**	**321**	P	**P**	**18 02 04.1**	**+0.3**
	2.3nm,0.9s,baz=54,slow=5.7,SNR=5.5						
	2.3nm,0.9s						
HFS	**Hagfors**	**54.69**	**322**	P	**P**	**18 02 49.2**	**-0.6**
	1.7nm,0.6s,baz=86,slow=9.7,SNR=6.6						
	1.7nm,0.6s						
NOA	**NORSAR Array B**	**55.40**	**324**	P	**P**	**18 02 54.8**	**-0.2**
	0.5nm,0.5s,baz=64,slow=7.1,SNR=3.4						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**59.60**	**28**	P	**P**	**18 03 24.5**	**+0.1**
	0.6nm,0.6s,baz=296,slow=5.9,SNR=10						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**70.80**	**18**	P	**P**	**18 04 37.2**	**+0.2**
	0.2nm,0.5s,baz=326,slow=7.0,SNR=4.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**71.23**	**152**	P	**P**	**18 04 40.0**	**-0.1**
	0.2nm,0.5s,baz=337,slow=5.8,SNR=10						
	0.2nm,0.5s						

*IDC **16** 18:04:42.4±2.3, 35°.34N×26°.21E, h0km, mb3.3/3, mbtmp3.3/6, ML3.5/3, Error ellipse: s-maj=47.0km s-min=25.4km az=9.0*

*ISK **16** 18:04:43.9, 35°.69N×25°.90E, h5km, ML3.2/15*

*ATH **16** 18:04:44.5, 35°.73N×25°.91E, h16km±4km, ML3.5/8, Manual Solution by N.Liadopoulou First location: 2019/02/16 18:05:47, This location: 2020/07/01 09:22:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

*AFAD **16** 18:04:46.5±1.1, 35°.62N×25°.88E, h12km±2km, ML2.7*

ISC 16 18:04:46.0±1.1, 35°.62N±0°.04×25°.88E±0°.02, h28km±11km, n56, σ1°53/76, mb3.3/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.57**	**152**	Pg	**Pb**	**18 04 57.3**	**-0.3**
ZKR				Sg	**Sb**	**18 05 05.9**	**+0.4**
ZKR	**Zakros**	**0.57**	**152**	P	**Pb**	**18 04 57.6**	**0.0**
IACM	**Heraklion**	**0.73**	**245**	P	**Pn**	**18 05 00.0**	**-0.4**
IACM				S	**Sn**	**18 05 10.7**	**0.0**
IDI	**Anoyia**	**0.88**	**248**	Pg	**Pb**	**18 05 01.9**	**-0.8**
IDI				Sg	**Sn**	**18 05 14.9**	**+0.6**
IDI	**Anoyia**	**0.88**	**248**	P	**Pb**	**18 05 01.9**	**-0.8**
IDI				S	**Sn**	**18 05 14.3**	**-0.1**
KARP	**Karpathos**	**1.04**	**94**	Pg	**Pn**	**18 05 03.8**	**-0.9**
KARP				Sg	**Sn**	**18 05 19.1**	**+0.7**
KARP	**Karpathos**	**1.04**	**94**	P	**Pn**	**18 05 03.5**	**-1.3**
KARP				S	**Sn**	**18 05 17.6**	**-0.8**
TMBK	**Timbaki Herakl**	**1.07**	**239**	P	**Pb**	**18 05 05.8**	**0.0**
TMBK				S	**Sb**	**18 05 20.5**	**+1.1**
PRNS	**Prines Rethymn**	**1.16**	**258**	P	**Pb**	**18 05 06.8**	**-0.6**
PRNS				S	**Sb**	**18 05 24.1**	**+2.1**
APE	**Apeiranthos**	**1.47**	**349**	P	**Pn**	**18 05 08.4**	**-2.3**
CHAN	**Chania**	**1.50**	**267**	P	**Pb**	**18 05 11.0**	**-2.3**
MHLO	**Agia Marina, M**	**1.60**	**312**	P	**Pn**	**18 05 11.5**	**-0.9**
YAZI	**Mula-Dat§a-**	**1.65**	**50**	P	**Pn**	**18 05 13.3**	**+0.2**
YAZI				S	**Sb**	**18 05 34.9**	**-1.3**
YAZI				*i* AML	AML	18 05 38.0	
	comp=E,113nm,0.6s						
YAZI				*i* AML	AML	18 05 41.0	
	comp=N,101nm,0.7s						
GVD	**Gavdhos**	**1.67**	**243**	Pn	**Pb**	**18 05 15.1**	**-0.9**
GVD	**Gavdhos**	**1.67**	**243**	P	**Pb**	**18 05 14.5**	**-1.5**
DATC	**Datca-Mugla**	**1.83**	**51**	Pn	**Pn**	**18 05 16.1**	**+0.6**
BODT	**Bodrum**	**1.84**	**38**	Pn	**Pn**	**18 05 16.4**	**+0.7**
BDRM	**Kayabasi**	**1.91**	**41**	P	**Pn**	**18 05 17.1**	**+0.4**
BDRM				S	**Sn**	**18 05 35.4**	**-4.4**
ARG	**Arkhangelos**	**1.91**	**71**	Pn	**Pn**	**18 05 17.3**	**+0.6**
ARG	**Arkhangelos**	**1.91**	**71**	P	**Pn**	**18 05 15.8**	**-0.9**
ANKY	**Antikythira Is**	**2.12**	**277**	P	**Pn**	**18 05 19.3**	**-0.2**
SMG	**Samos**	**2.22**	**20**	P	**Pn**	**18 05 18.6**	**-2.3**
MLSB	**Milas**	**2.26**	**42**	Pn	**Pn**	**18 05 22.2**	**+0.7**
GCAM	**G?zelcaml?**	**2.34**	**27**	Pn	**Pn**	**18 05 23.2**	**+0.7**
GCAM	**G?zelcaml?**	**2.34**	**27**	P	**Pb**	**18 05 27.8**	**+0.3**
GCAM				*i* AML	AML	18 06 06.0	
	comp=N,95nm,0.5s						
GCAM				*i* AML	AML	18 06 06.0	
	comp=E,80nm,0.5s						
YER	**Yerkesik**	**2.45**	**51**	Pn	**Pn**	**18 05 25.1**	**+0.9**
DALY	**Dalyan (Mula)**	**2.54**	**61**	Pn	**Pn**	**18 05 26.5**	**+1.3**
AYDN	**Tasoluk**	**2.59**	**38**	P	**Pb**	**18 05 30.5**	**-1.3**
AYDN				*i* AML	AML	18 06 16.0	
	comp=E,45nm,0.6s						
AYDN				*i* AML	AML	18 06 20.0	
	comp=N,36nm,1.4s						
VLI	**Veliai**	**2.62**	**296**	P	**Pn**	**18 05 25.7**	**-0.8**
SABU	**Mula-Dalaman**	**2.77**	**63**	P	**Pn**	**18 05 28.6**	**+0.2**
SABU				S	**Sn**	**18 06 00.0**	**-0.9**
SABU				*i* AML	AML	18 06 08.0	
	comp=N,44nm,0.6s						
FETY	**Fethiye**	**2.78**	**68**	Pn	**Pn**	**18 05 29.9**	**+1.3**
FETY	**Fethiye**	**2.78**	**68**	P	**Pn**	**18 05 29.4**	**+0.8**
VLY	**Voula,Athens**	**2.79**	**324**	P	**Pn**	**18 05 27.6**	**-1.1**
KRND	**KRANIDI**	**2.82**	**309**	P	**Pn**	**18 05 28.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**34**	Pn	**Pn**	**18 05 30.3**	**+1.0**
IZZE	**Mula-Seydike**	**2.83**	**72**	P	**Pn**	**18 05 29.4**	**+0.1**
IZZE				S	**Sn**	**18 06 01.1**	**-1.3**
IZZE				*i* AML	AML	18 06 11.0	
	comp=E,42nm,0.4s						
IZZE				*i* AML	AML	18 06 15.0	
	comp=N,91nm,0.5s						
MET6	**Megalochori,Me**	**2.83**	**315**	P	**Pn**	**18 05 28.6**	**-0.7**
ATHU	**Athens Univers**	**2.88**	**325**	P	**Pn**	**18 05 28.8**	**-1.2**
DION	**Dionisos Attik**	**2.91**	**328**	P	**Pn**	**18 05 29.5**	**-0.9**
PTL	**Penteli**	**2.91**	**327**	P	**Pn**	**18 05 29.6**	**-0.8**
ESEN	**Aydn-Nazilli**	**2.94**	**42**	P	**Pn**	**18 05 33.4**	**+2.6**
DNZT	**Denizli-Tavas-**	**3.02**	**56**	P	**Pn**	**18 05 33.6**	**+1.6**
DNZT				S	**Sn**	**18 06 09.3**	**+1.9**
TAVA	**DENIZLI_Tavas**	**3.06**	**52**	P	**Pn**	**18 05 34.1**	**+1.6**
TAVA				S	**Sn**	**18 06 09.6**	**+1.5**
CAME	**Cameli-Denizli**	**3.06**	**63**	Pn	**Pn**	**18 05 33.6**	**+1.0**
AKAS	**Kas**	**3.08**	**78**	Pn	**Pn**	**18 05 33.9**	**+1.0**
AKAS	**Kas**	**3.08**	**78**	P	**Pn**	**18 05 32.9**	**0.0**
AKAS				S	**Sn**	**18 06 08.3**	**-0.5**
AKAS				*i* AML	AML	18 06 13.0	
	comp=E,34nm,0.5s						
AKAS				*i* AML	AML	18 06 44.0	
	comp=N,73nm,1.1s						
CAEL	**Denizli, Camel**	**3.15**	**61**	P	**Pn**	**18 05 35.2**	**+1.3**
CAEL				S	**Sn**	**18 06 13.3**	**+2.7**
CAEL				*i* AML	AML	18 06 27.0	
	comp=N,65nm,0.6s						
CAEL				*i* AML	AML	18 06 37.0	
	comp=E,81nm,1.2s						
KNIK	**Mula-Seydike**	**3.22**	**67**	P	**Pn**	**18 05 35.7**	**+0.9**
KNIK				S	**Sn**	**18 06 11.2**	**-1.1**
KNIK				*i* AML	AML	18 06 16.0	
	comp=E,31nm,0.5s						
DNIZ	**Denizli-Tavas-**	**3.23**	**51**	P	**Pn**	**18 05 36.2**	**+1.3**
DNIZ				S	**Sn**	**18 06 14.5**	**+2.0**
DNIZ				*i* AML	AML	18 06 29.0	
	comp=E,35nm,0.5s						
DNIZ				*i* AML	AML	18 06 46.0	
	comp=N,30nm,0.7s						
GOLH	**Golhisar**	**3.37**	**60**	P	**Pn**	**18 05 37.8**	**+1.0**
GOLH				S	**Sn**	**18 06 19.3**	**+3.3**
GOLH				*i* AML	AML	18 06 38.0	
	comp=E,26nm,0.9s						
GOLH				*i* AML	AML	18 06 55.0	
	comp=N,20nm,0.8s						
BRTR	**Keskin Array B**	**7.39**	**54**	Pn	**Pn**	**18 06 33.8**	**+1.7**
	0.2nm,0.3s,baz=230,slow=15,SNR=8.0						
	0.5nm,0.4s						
MMAI	**Mount Meron Ar**	**8.29**	**106**	Pn	**Pn**	**18 06 41.5**	**-2.9**
	1.1nm,0.3s,baz=300,slow=13,SNR=8.9						
MMAI				Sn	**Sn**	**18 08 12.9**	**-4.2**
	1.8nm,0.3s,baz=310,slow=20,SNR=4.5						
	6.0nm,0.8s						
AKASG	**Malin Array Be**	**15.27**	**8**	Pn	**P**	**18 08 23.0**	**-0.9**
	0.3nm,0.3s,baz=200,slow=11,SNR=2.0						
	0.1nm,0.2s						
ESDC	**Sonseca Array**	**23.92**	**289**	P	**P**	**18 10 01.5**	**+4.0**
	0.2nm,0.5s,baz=90,slow=9.0,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**40.37**	**51**	P	**P**	**18 12 19.8**	**-1.3**
	0.2nm,0.3s,baz=276,slow=8.5,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**43.03**	**57**	P	**P**	**18 12 42.7**	**-0.3**
	0.3nm,0.3s,baz=267,slow=8.4,SNR=6.7						
	0.3nm,0.3s						

*IDC **16** 18:26:18.4±1.1, 41°.86N×29°.53W, h0km, mb3.9/15, mbtmp3.8/16, ML3.7/1, MS3.5/29, Error ellipse: s-maj=33.2km s-min=16.4km az=10.0*

*NEIC **16** 18:26:18.4±1.3, 41°.41N±0°.03×29°.1W±0°.1, h10km±1km, mb4.5/30, Error ellipse: s-maj=15.7km s-min=4.5km az=105.0*

ISC 16 18:26:17.7±0.4, 41°.34N±0°.07×29°.25W±0°.07, h10km, n78, σ1°14/58, mb4.4/29, MS3.5/28, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**4.58**	**140**	Pn	**Pn**	**18 27 25.8**	**-1.3**
CMLA				Sn	**Sn**	**18 28 17.5**	**-3.0**
ESDC	**Sonseca Array**	**19.28**	**87**	P	**Pn**	**18 30 47.5**	**+3.9**
	0.1nm,0.3s,baz=290,slow=11,SNR=4.1						
ESDC				LR	LR	18 36 46.0	
	comp=Z,168nm,19.8s,baz=298,slow=32						
	0.7nm,0.7s						
MDT	**Midelt**	**21.37**	**106**	LR	LR	18 37 37.1	
	comp=Z,88nm,20.3s,baz=340,slow=31						
NRS	**Narsarsuaq**	**22.16**	**339**	P	**P**	**18 31 11.6**	**-1.8**
NRS				IAmb	IAmb	18 31 51.0	
	comp=Z,42nm,1.4s						
ECH	**Echery**	**26.55**	**63**	P	**P**	**18 31 54.4**	**-1.2**
ECH				IAmb	IAmb	18 32 09.1	
	comp=Z,11nm,1.5s						
SCHQ	**Schefferville**	**28.12**	**312**	LR	LR	18 40 55.7	
	comp=Z,68nm,21.0s,baz=39,slow=32						
SFJD	**Kangerlussuaq**	**28.28**	**342**	LR	LR	18 40 29.5	
	comp=Z,59nm,18.0s,baz=163,slow=31						
DAVOX	**Davos/Dischmat**	**28.42**	**66**	LR	LR	18 43 50.9	
	comp=Z,67nm,18.7s,baz=270,slow=37						
D62A	**Allapoint, All**	**28.87**	**295**	P	**P**	**18 32 16.4**	**0.0**
D62A				IAmb	IAmb	18 32 52.3	
	comp=Z,12nm,1.3s						
KEST	**Kesra**	**30.52**	**88**	LR	LR	18 44 32.6	
	comp=Z,103nm,19.7s,baz=278,slow=36						
GERES	**GERESS Array B**	**30.90**	**61**	LR	LR	18 44 38.1	
	comp=Z,82nm,18.2s,baz=262,slow=36						
NOA	**NORSAR Array B**	**31.39**	**37**	LR	LR	18 42 56.7	
	comp=Z,32nm,21.7s,baz=345,slow=32						
JMIC	**Jan Mayen**	**31.52**	**13**	LR	LR	18 41 56.9	
	comp=Z,55nm,18.3s,baz=128,slow=30						
NC405	**NORSAR Array S**	**31.64**	**37**	P	**P**	**18 32 40.7**	**-0.1**
FRB	**Frobisher Bay**	**31.95**	**328**	P	**P**	**18 32 42.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=121,slow=4.8,SNR=3.9						
FRB				LR	LR	18 42 04.6	
	comp=Z,63nm,18.1s,baz=114,slow=30						
	comp=Z,0.6nm,0.3s						
HFS	**Hagfors**	**32.27**	**40**	LR	LR	18 43 10.7	
	comp=Z,79nm,18.5s,baz=306,slow=32						
VRAC	**Vranov**	**32.77**	**60**	LR	LR	18 45 13.4	
	comp=Z,61nm,18.4s,baz=301,slow=35						
VAE	**Valguarnera**	**33.69**	**82**	LR	LR	18 45 13.8	
	comp=Z,103nm,21.6s,baz=278,slow=34						
SDMD	**Soldier's Deli**	**35.95**	**283**	P	**P**	**18 33 18.2**	**-0.2**
SDMD				IAmb	IAmb	18 33 27.2	
	comp=Z,5.4nm,0.8s						
SADO	**Sadowa**	**36.16**	**293**	LR	LR	18 47 26.6	
	comp=Z,113nm,19.2s,baz=74,slow=36						
SSPA	**Standing Stone**	**36.34**	**285**	P	**P**	**18 33 21.7**	**0.0**
BURAR	**Bucovina Array**	**38.68**	**62**	P	**P**	**18 33 41.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**38.93**	**127**	P	P	18 33 50.5	+6.6
	comp=Z,211nm,0.4s,baz=319,slow=7.9,SNR=4.2						
MLR	**Muntele Rosu**	**39.64**	**65**	LR	LR	18 50 34.9	
	comp=Z,46nm,20.3s,baz=256,slow=37						
AKASG	**Malin Array Be**	**40.69**	**56**	P	**P**	**18 33 58.6**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=286,slow=8.4,SNR=4.9						
AKASG				LR	LR	18 49 04.3	
	comp=Z,68nm,20.9s,baz=262,slow=34						
	comp=Z,0.9nm,0.7s						
DBIC	**Dimbokro**	**40.78**	**141**	P	**P**	**18 33 59.5**	**+0.3**
DBIC				IAmb	IAmb	18 34 14.3	
	comp=Z,13nm,1.4s						
DBIC	**Dimbokro**	**40.78**	**141**	LR	LR	18 49 57.6	
	comp=Z,50nm,19.6s,baz=325,slow=34						
TKL	**Tuckaleechee C**	**42.46**	**281**	LR	LR	18 50 50.8	
	comp=Z,104nm,18.8s,baz=100,slow=35						
PCRV	**Puerto La Cruz**	**43.96**	**235**	LR	LR	18 50 34.0	
	comp=Z,60nm,20.3s,slow=33						
RES	**Resolute Bay**	**44.21**	**340**	P	**P**	**18 34 26.7**	**+0.3**
RES				IAmb	IAmb	18 34 34.5	
	comp=Z,8.0nm,1.4s						
RES	**Resolute Bay**	**44.21**	**340**	P	**P**	**18 34 25.6**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=109,slow=5.8,SNR=8.4						
	comp=Z,2.0nm,0.9s						
ULM	**Lac du Bonnet**	**45.87**	**305**	LR	LR	18 52 33.3	
	comp=Z,60nm,18.8s,baz=118,slow=35						
BRTR	**Keskin Array B**	**46.88**	**70**	P	**P**	**18 34 48.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=308,slow=7.2,SNR=2.2						
BAUV	**El Baul**	**47.04**	**238**	P	**P**	**18 34 49.8**	**+0.3**
RCBR	**Riachuelo**	**47.33**	**189**	P	**P**	**18 34 52.9**	**+1.1**
BOAV	**Boa Vista**	**47.91**	**224**	P	**P**	**18 34 57.3**	**+1.1**
FFC	**Flin Flon**	**48.27**	**312**	P	**P**	**18 34 60.0**	**+1.3**
YKA	**Yellowknife Ar**	**52.33**	**324**	P	**P**	**18 35 29.4**	**+0.2**
YKA	**Yellowknife Ar**	**52.33**	**324**	P	**P**	**18 35 25.8**	**-3.5**
	comp=Z,0.3nm,0.7s,baz=73,slow=7.2,SNR=5.5						
YKA				PcP	**PcP**	**18 36 40.0**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=100,slow=3.6,SNR=4.3						
	comp=Z,0.3nm,0.7s						
YKAB2	**New Yellowknif**	**52.36**	**324**	P	**P**	**18 35 29.5**	**0.0**
ARTI	**Arti**	**55.66**	**42**	P	**P**	**18 35 53.9**	**+0.2**
ARTI				IAmb	IAmb	18 35 57.0	
	comp=Z,8.8nm,1.2s						
ARTI	**Arti**	**55.66**	**42**	P	**P**	**18 35 53.1**	**-0.6**
	comp=Z,6.2nm,1.1s,baz=306,slow=2.8,SNR=4.2						
	comp=Z,6.2nm,1.1s						
BRDY	**Brady**	**55.73**	**284**	P	**P**	**18 35 55.1**	**+0.5**
PDAR	**Pinedale Array**	**57.42**	**301**	P	**P**	**18 36 05.3**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=14,slow=9.1,SNR=2.2						
PDAR				LR	LR	18 59 34.3	
	comp=Z,32nm,18.2s,baz=59,slow=35						
	comp=Z,0.4nm,0.8s						
JTS	**Las Juntas de**	**57.70**	**254**	LR	LR	18 58 25.5	
	comp=Z,38nm,20.3s,baz=82,slow=33						
AKTO	**Aktyubinsk**	**58.07**	**49**	P	**P**	**18 36 12.1**	**+1.2**
	comp=Z,4.1nm,1.1s,baz=288,slow=7.9,SNR=5.4						
AKTO				LR	LR	19 02 51.3	
	comp=Z,32nm,18.6s,baz=80,slow=38						
	comp=Z,4.1nm,1.1s						
ANMO	**Albuquerque**	**59.19**	**291**	LR	LR	19 01 11.8	
	comp=Z,69nm,18.6s,baz=231,slow=36						
NEW	**Newport**	**59.46**	**309**	P	**P**	**18 36 21.4**	**+0.8**
NEW				IAmb	IAmb	18 36 31.0	
	comp=Z,3.8nm,0.9s						
NEW	**Newport**	**59.46**	**309**	P	**P**	**18 36 18.9**	**-1.7**
	comp=Z,2.7nm,0.8s,baz=69,slow=5.6,SNR=4.4						
NEW				LR	LR	19 00 26.8	
	comp=Z,84nm,18.1s,baz=28,slow=35						
	comp=Z,2.7nm,0.8s						
C27K	**Jago River**	**59.53**	**338**	P	**P**	**18 36 20.6**	**-0.1**
C27K				IAmb	IAmb	18 36 34.1	
	comp=Z,6.1nm,1.5s						
TX31	**Lajitas Ar. Si**	**60.18**	**284**	P	**P**	**18 36 26.4**	**+0.5**
TXAR	**Lajitas Array**	**60.18**	**284**	P	**P**	**18 36 26.2**	**+0.2**
TXAR	**Lajitas Array**	**60.18**	**284**	P	**P**	**18 36 26.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=72,slow=6.7,SNR=6.9						
TXAR				LR	LR	19 03 07.2	
	comp=Z,30nm,18.1s,baz=48,slow=37						
	comp=Z,0.6nm,0.6s						
G27K	**Doyon Strip**	**60.63**	**335**	P	**P**	**18 36 29.2**	**+0.8**
CMIG	**Matias Romero**	**60.71**	**267**	LR	LR	19 01 38.6	
	comp=Z,55nm,19.6s,baz=7.5,slow=35						
I28M	**Miner Creek**	**60.88**	**333**	P	**P**	**18 36 30.9**	**+0.8**
BMAR	**Burnt Mountain**	**61.15**	**337**	P	**P**	**18 36 31.8**	**-0.1**
BRVK	**Borovoye**	**63.30**	**42**	P	**P**	**18 36 46.6**	**+0.1**
BRVK				IAmb	IAmb	18 36 49.6	
	comp=Z,5.5nm,1.1s						
BVAR	**Borovoye Array**	**63.37**	**42**	P	**P**	**18 36 47.5**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=308,slow=7.3,SNR=9.4						
	comp=Z,2.7nm,1.0s						
ILAR	**Eielson Array**	**63.59**	**335**	P	**P**	**18 36 45.7**	**-2.5**
	comp=Z,0.2nm,0.8s,baz=44,slow=6.2,SNR=2.0						
	comp=Z,0.2nm,0.8s						
TUC	**Tucson**	**63.65**	**291**	P	**P**	**18 36 49.8**	**+0.5**
TUC				IAmb	IAmb	18 36 51.7	
	comp=Z,3.0nm,1.1s						
C16K	**Lisburne Hills**	**65.88**	**344**	P	**P**	**18 37 03.2**	**+0.2**
C16K				IAmb	IAmb	18 37 27.8	
	comp=Z,7.8nm,1.4s						
SKT	**Skwentna**	**67.04**	**334**	P	**P**	**18 37 10.4**	**-0.2**
LPIG	**La Paz**	**68.03**	**283**	LR	LR	19 06 19.8	
	comp=Z,44nm,19.0s,baz=33,slow=36						
KURK	**Kurchatov**	**68.84**	**40**	P	**P**	**18 37 22.0**	**0.0**
KURK				IAmb	IAmb	18 37 24.7	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**68.85**	**41**	P	**P**	**18 37 23.6**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=314,slow=6.5,SNR=17						
	comp=Z,1.9nm,0.9s						
KKAR	**Karatay Array**	**69.24**	**51**	P	**P**	**18 37 25.1**	**+0.4**
KKAR	**Karatay Array**	**69.24**	**51**	P	**P**	**18 37 26.0**	**+1.3**
KKAR				IAmb	IAmb	18 37 27.3	
	comp=Z,2.3nm,1.4s						
ZALV	**Zalesovo Beam**	**69.56**	**35**	P	**P**	**18 37 27.5**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=297,slow=6.5,SNR=4.7						
	comp=Z,0.3nm,0.3s						
CHGR	**Chuyangaron**	**71.15**	**55**	P	**P**	**18 37 36.0**	**-0.6**
CHGR				IAmb	IAmb	18 37 46.7	
	comp=Z,6.6nm,1.0s						
GAR	**Garm**	**71.64**	**54**	P	**P**	**18 37 40.1**	**+0.4**
ARSB	**Arslanbob**	**71.78**	**51**	P	**P**	**18 37 40.9**	**+0.4**
ARSB				IAmb	IAmb	18 37 43.9	
	comp=Z,5.2nm,1.2s						
MK31	**Makanchi Array**	**73.25**	**42**	P	**P**	**18 37 49.1**	**+0.1**
MKAR	**Makanchi Array**	**73.25**	**42**	P	**P**	**18 37 48.7**	**-0.3**
MKAR	**Makanchi Array**	**73.25**	**42**	P	**P**	**18 37 49.5**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=320,slow=5.5,SNR=11						
	comp=Z,1.1nm,0.8s						
GO02	**Mina Guanaco**	**76.00**	**217**	P	**P**	**18 38 05.8**	**+0.5**
SONM	**Songino Array**	**82.91**	**28**	P	**P**	**18 38 42.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=20,slow=4.7,SNR=4.1						
SONM				LR	LR	19 15 34.7	
	comp=Z,16nm,19.9s,baz=236,slow=36						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**157.43**	**44**	PKPab	**PKPab**	**18 46 46.5**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=316,slow=4.0,SNR=5.0						

*NEIC **16** 18:27:30.8±1.5, 60°.55N±0°.03×151°.66W±0°.05, h78km±5km, Error ellipse: s-maj=4.1km s-min=3.5km az=162.0*

AEIC 16 18:27:31.8±1.4, 60°.54N±0°.03×151°.64W±0°.05, h69km±5km, ML2.3, ML2.6/167(NEIC), Error ellipse: s-maj=3.9km s-min=3.7km az=221.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.33**	**45**		Pn	18 27 43.7	+0.7
RDT	**Redoubt**	**0.38**	**276**		Pn	18 27 42.6	-0.9
RDT					Sn	18 27 51.8	-0.4
DFR	**Drift River**	**0.52**	**277**	

AU22	Augustine Moun	1.46	217		Pn	18 27 56.1	0.0
AUL	Augustine Lava	1.47	219		Pn	18 27 56.2	-0.1
AUCH	Augustine Cone	1.49	219		Pn	18 27 56.5	-0.1
M20K	Styx River	1.53	332		Pn	18 27 57.1	-0.2
PMR	Palmer	1.61	48		Pn	18 27 57.8	-0.4
PMR	Palmer	1.61	48		Sn	18 28 16.9	-1.3
PMR	Palmer	1.61	48	IAML		18 28 17.9	
PMR	comp=N,38nm,0.2s			IAML		18 28 22.8	
PWL	comp=E,33nm,0.4s Port Wells	1.66	77	Pn	Pn	18 27 57.5	-1.3
PWL				IAML		18 28 18.6	
KNK	comp=E,89nm,0.3s Knik Glacier	1.78	59		Pn	18 27 59.5	-1.0
KNK				IAML		18 28 22.6	
KNK	comp=N,67nm,0.3s			IAML		18 28 23.0	
GHO	comp=E,72nm,0.3s Glory Hole Cre	1.81	45		Pn	18 28 00.4	-0.4
GHO	Glory Hole Cre	1.81	45		Sn	18 28 21.6	-1.4
GHO	Glory Hole Cre	1.81	45	IAML		18 28 25.9	
GHO	comp=N,46nm,0.6s			IAML		18 28 26.5	
Q19K	comp=E,58nm,0.5s Cape Douglas,	1.91	213		Pn	18 28 01.9	-0.3
O18K	Koktuh Hills	1.91	251	Pn	Pn	18 28 01.0	-1.2
O18K				IAML		18 28 24.4	
O18K	comp=N,59nm,0.7s			IAML		18 28 24.4	
O18K	comp=E,28nm,0.4s Koktuh Hills	1.91	251		Sn	18 28 23.9	-1.4
M19K	Big River Lodg	1.91	317		Pn	18 28 01.7	-0.5
SYI	Shuyak Island	1.97	192	Pn	Pn	18 28 03.1	+0.2
SYI				IAML		18 28 31.6	
SYI	comp=E,67nm,0.9s			IAML		18 28 32.7	
CUT	comp=N,70nm,0.6s Chulitna	1.99	19		Pn	18 28 03.0	-0.2
CUT				IAML		18 28 41.6	
SML	comp=N,69nm,0.4s Sawmill	2.05	50	Pn	Pn	18 28 02.8	-1.3
SML	Sawmill	2.05	50		Sn	18 28 26.9	-1.7
SML	Sawmill	2.05	50	IAML		18 28 34.8	
SML	comp=N,44nm,0.7s			IAML		18 28 36.5	
N18K	comp=E,42nm,0.6s Kilae Creek	2.10	276		Pn	18 28 03.6	-1.2
P18K	Big Mountain,	2.14	239	Pn	Pn	18 28 04.2	-1.1
P23K	Montague Islan	2.18	103		Pn	18 28 04.5	-1.3
P23K					Sn	18 28 29.6	-2.1
L20K	Farewell, AK	2.23	332		Pn	18 28 06.2	-0.3
M18K	Stony River	2.25	297		Pn	18 28 05.7	-1.1
GLI	Glacier Island	2.26	79	Pn	Pn	18 28 04.3	-2.6
GLI				IAML		18 28 34.5	
GLI	comp=N,42nm,0.4s Glacier Island	2.26	79		Sn	18 28 30.8	-2.9
L19K	White Mountain	2.27	318	Pn	Pn	18 28 06.6	-0.4
PPLA	Purkeypile	2.38	354		Pn	18 28 08.6	-0.1
SCM	Sheep Creek Mo	2.46	56	Pn	Pn	18 28 08.4	-1.2
SCM				IAML		18 28 38.3	
SCM	comp=E,33nm,0.6s			IAML		18 28 45.6	
HIN	comp=N,24nm,0.9s Hinchinbrook I	2.55	91	Pn	Pn	18 28 08.5	-2.3
HIN				IAML		18 29 31.9	
HIN	comp=E,37nm,1.5s			IAML		18 29 45.6	
N17K	comp=N,37nm,1.4s Nushagak Hills	2.74	272	Pn	Pn	18 28 12.4	-1.0
N17K				IAML		18 28 43.9	
N17K	comp=E,10.0nm,0.8s			IAML		18 28 44.2	
N17K	comp=N,12nm,0.8s Nushagak Hills	2.74	272		Sn	18 28 43.4	-2.1
KDAK	Kodiak Island	2.81	190	Pn	Pn	18 28 12.7	-1.5
KDAK				IAML		18 28 57.8	
KDAK	comp=N,27nm,1.1s			IAML		18 28 58.9	
O17K	comp=N,26nm,1.4s Koliganek Bris	2.83	257		Pn	18 28 14.0	-0.6
CAST	Castle Rocks	2.90	356		Pn	18 28 14.8	-0.8
EYAK	Cordova Ski Ar	2.91	87	Pn	Pn	18 28 14.6	-1.1
DIV	Divide	2.93	76		Pn	18 28 14.1	-2.0
KLU	Klutina	2.94	68		Pn	18 28 14.7	-1.5
M17K	Holitna River	2.96	290	Pn	Pn	18 28 15.5	-0.9
M17K				IAML		18 28 50.6	
M17K	comp=E,16nm,0.5s			IAML		18 28 51.2	
L18K	comp=N,20nm,1.2s Granite Mounta	2.96	307		Pn	18 28 15.9	-0.5
TRF	Thorofare Moun	2.99	12	Pn	Pn	18 28 16.6	-0.4
TRF				IAML		18 28 59.1	
TRF	comp=N,20nm,0.5s			IAML		18 29 11.0	
ACHA	comp=E,15nm,1.1s Angle Creek He	3.00	221	Pn	Pn	18 28 16.9	-0.2
KTH	Kantishna Hill	3.05	6		Pn	18 28 17.5	-0.2
KTH				IAML		18 28 58.7	
KTH	comp=E,13nm,0.5s			IAML		18 29 15.1	
K20K	comp=N,12nm,0.9s Telida	3.06	339		Pn	18 28 17.1	-0.6
ANCK	Angle Creek	3.06	222		Pn	18 28 17.6	-0.3
M24K	Tolsona, Glenn	3.07	57	Pn	Pn	18 28 17.1	-0.8
M24K				IAML		18 29 06.4	
M24K	comp=N,17nm,0.8s			IAML		18 29 08.4	
RND	comp=E,24nm,0.6s Reindeer	3.17	23	Pn	Pn	18 28 17.9	-1.3
RND				IAML		18 29 10.6	
TTA	comp=E,8.7nm,1.1s Tatalina	3.18	321	Pn	Pn	18 28 18.8	-0.6
O16K	Kokwok River B	3.37	257	Pn	Pn	18 28 20.9	-1.0
O16K				IAML		18 29 09.3	
CHUM	comp=N,7.8nm,1.2s Lake Minchumin	3.38	355		Pn	18 28 22.1	+0.1
OHAK	Old Harbor	3.43	195	Pn	Pn	18 28 21.7	-1.1
OHAK				IAML		18 29 17.6	
OHAK	comp=N,18nm,0.8s			IAML		18 29 18.1	
MCK	comp=E,17nm,1.4s McKinley	3.45	20	Pn	Pn	18 28 23.5	+0.5
RAGM	Ragged Mountai	3.45	89		Pn	18 28 21.9	-1.2
BMRM	Bremner River	3.48	80	Pn	Pn	18 28 20.7	-2.8
P16K	Nushagak River	3.55	248		Pn	18 28 24.0	-0.4
N25K	Chitina, Valde	3.58	70		Pn	18 28 23.4	-1.5
N25K				IAML		18 29 04.7	
N25K	comp=N,17nm,0.3s			IAML		18 29 05.9	
L17K	comp=E,10nm,0.4s Donlin	3.59	299		Pn	18 28 24.1	-0.8
BPAW	Bear Paw Mtn.	3.59	5	Pn	Pn	18 28 24.4	-0.6
BPAW				IAML		18 29 10.4	
M16K	comp=E,7.2nm,1.4s Timber Creek	3.62	281	Pn	Pn	18 28 24.9	-0.5
M16K				IAML		18 28 54.5	
M16K	comp=E,5.3nm,1.5s			IAML		18 28 54.5	
HARP	comp=N,5.9nm,1.3s HAARP	3.63	56		Pn	18 28 24.9	-0.6
KAIM	Kayak Island	3.65	96	Pn	Pn	18 28 25.9	+0.1
BWN	Browne	3.79	15	Pn	Pn	18 28 27.7	+0.1
BWN				IAML		18 29 22.0	
J18K	comp=E,9.1nm,1.0s Innoko River	3.79	323	Pn	Pn	18 28 27.7	0.0
PAX	Paxson	3.81	48	Pn	Pn	18 28 27.9	-0.2
WACK	Wrangell Chich	3.82	64		Pn	18 28 26.9	-1.4
J20K	Nowinta River	3.84	343		Pn	18 28 27.9	-0.5
J20K				IAML		18 29 52.4	
J20K	comp=E,4.3nm,1.4s			IAML		18 29 52.4	
K17K	Iditarod	3.86	307	Pn	Pn	18 28 27.9	-0.7
K17K				IAML		18 29 06.7	
K17K	comp=E,10nm,1.4s			IAML		18 30 58.5	
WASW	comp=N,6.3nm,1.4s Wrangell South	3.87	66		Pn	18 28 27.2	-1.8
GLB	Gilahina Butte	3.92	73	Pn	Pn	18 28 27.4	-2.1
GLB				IAML		18 29 12.2	
GLB	comp=E,6.2nm,1.3s			IAML		18 29 12.6	
J19K	comp=N,6.4nm,0.3s Poorman	3.94	334	Pn	Pn	18 28 29.1	-0.6
L16K	Owhat River	3.98	291	Pn	Pn	18 28 28.9	-1.4
L16K				IAML		18 30 28.1	
L16K	comp=N,4.3nm,1.4s			IAML		18 31 05.7	
VRDI	comp=E,7.1nm,1.3s Verde Repeater	4.06	77	Pn	Pn	18 28 29.1	-2.5
VRDI				IAML		18 29 16.4	
N15K	comp=N,7.9nm,0.9s Kwethluk River	4.22	269	Pn	Pn	18 28 32.4	-1.2
NEA2	Nenana	4.24	15	Pn	Pn	18 28 33.3	-0.6
WRH	Wood River Hil	4.28	21	Pn	Pn	18 28 33.9	-0.5
WRH				IAML		18 29 47.9	
HDA	comp=E,3.5nm,1.4s Harding Lake	4.45	27	Pn	Pn	18 28 36.8	0.0
HDA				IAML		18 29 25.0	
HDA	comp=E,7.4nm,1.4s			IAML		18 30 02.3	
MENT	comp=N,5.9nm,1.5s Mentasta	4.47	54	Pn	Pn	18 28 35.3	-1.6
MENT				IAML		18 29 43.6	
I20K	comp=E,9.4nm,1.5s Naaghedeneel	4.47	344	Pn	Pn	18 28 36.2	-0.8
CCB	Clear Creek Bu	4.49	22	Pn	Pn	18 28 36.0	-1.2
CCB				IAML		18 29 47.7	
RIDG	comp=E,3.0nm,1.4s Independent Ri	4.53	42	Pn	Pn	18 28 36.3	-1.4
RIDG				IAML		18 29 45.1	
I21K	comp=N,8.8nm,1.5s Tanana	4.67	358	Pn	Pn	18 28 38.0	-1.6
I21K				IAML		18 30 41.1	
I21K	comp=N,3.6nm,1.4s			IAML		18 31 17.4	
I23K	comp=E,4.8nm,1.4s Minto, Yukon-K	4.75	12		Pn	18 28 38.6	-2.0
IL31		4.78	25		Pn	18 28 39.7	-1.5
ILAR	Eielson Array	4.78	25	Pn	Pn	18 28 40.1	-1.1
SCRK	Sand Creek	4.97	43	Pn	Pn	18 28 42.3	-1.6
SCRK				IAML		18 29 53.4	
SCRK	comp=N,2.2nm,1.1s			IAML		18 30 19.6	
POKR	comp=E,2.0nm,1.1s Poker Plat Res	4.99	21	Pn	Pn	18 28 43.6	-0.4
POKR				IAML		18 29 28.3	
POKR	comp=N,2.8nm,1.1s			IAML		18 29 51.7	
J25K	comp=E,2.6nm,1.4s Salcha River,	5.01	33		Pn	18 28 44.3	-0.1
J25K				IAML		18 29 52.2	
J25K	comp=N,3.3nm,1.1s			IAML		18 29 55.7	
M27K	comp=E,3.9nm,0.9s Edge Creek, AK	5.03	64	Pn	Pn	18 28 43.6	-1.1
M27K				IAML		18 30 07.3	
M27K	comp=N,3.4nm,1.1s			IAML		18 31 07.2	
J16K	comp=E,2.9nm,1.4s Anvik River	5.05	307	Pn	Pn	18 28 44.5	-0.5
J16K				IAML		18 29 44.5	
J16K	comp=N,5.1nm,1.4s			IAML		18 30 57.6	
K15K	comp=E,3.1nm,1.4s Wolf Creek Mou	5.07	295	Pn	Pn	18 28 44.8	-0.3
K15K				IAML		18 30 15.5	
K15K	comp=N,4.3nm,1.4s			IAML		18 32 01.9	
H21K	comp=E,3.1nm,1.1s Melozitna Rive	5.17	355	Pn	Pn	18 28 45.5	-1.0
L27K	Beaver Creek,	5.30	57	Pn	Pn	18 28 46.8	-1.5
BCAR	Beaver Creek A	5.32	57	Pn	Pn	18 28 47.0	-1.5
J26L	Joseph Creek	5.46	40		Pn	18 28 49.6	-0.9
H18K	Honhosa River	5.56	329	Pn	Pn	18 28 51.6	-0.3
H24K	Noodor Dome	5.59	16	Pn	Pn	18 28 52.1	-0.1
H17K	Granite Mounta	5.83	323	Pn	Pn	18 28 56.1	+0.6
I26K	Coal Creek Min	6.15	35	Pn	Pn	18 28 59.2	-0.7
G23K	Bananza Creek	6.24	6	Pn	Pn	18 29 01.2	0.0
M29M	Somme Creek	6.59	67	Pn	Pn	18 29 05.0	-1.0
DAWY	Dawson	6.71	53	Pn	Pn	18 29 06.7	-1.0
COLD	Coldfoot	6.75	5	Pn	Pn	18 29 08.3	+0.2
I28M	Miner Creek	7.25	42	Pn	Pn	18 29 13.6	-1.4
F17K	Baldwin Pennin	7.32	328	Pn	Pn	18 29 14.6	-1.1
E19K	Redstone River	7.37	343	Pn	Pn	18 29 15.4	-1.1
BMAR	Burnt Mountain	7.58	21	Pn	Pn	18 29 17.9	-1.5
F26K	Sheenjek River	7.89	21	Pn	Pn	18 29 22.2	-1.5

*IDC **16** 18:28:33.0±1.3, 40.72N×29.38W, h0km, mb3.7/12, mbtmp3.6/13, ML3.7/1, MS3.5/2, Error ellipse: s-maj=39.8km s-min=19.9km az=9.0*

ISC 16 18:28:35.1±1.1, 40.7N±0.2×29.4W±0.1, h14km, n14, σ0.9/94/14, mb3.9/13, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	19.43	85	P	P	18 32 59.9	-1.1
	baz=232,slow=6.3,SNR=1.6 0.2nm,0.5s						
TORD	Torodi Ar. Bea	38.63	126	P	P	18 35 58.5	+0.3
	84nm,0.3s,baz=323,slow=7.6,SNR=1.0						
YKA	Yellowknife Ar	52.79	324	P	P	18 37 48.8	-0.6
	0.1nm,0.6s,baz=65,slow=7.6,SNR=4.4 0.1nm,0.6s						
YKA				LR	LR	18 57 05.7	
	comp=Z,44nm,19.9s,baz=278,slow=32						
ARTI	Arti	56.19	42	P	P	18 38 13.5	-0.8
	0.7nm,0.4s,baz=298,slow=18,SNR=2.2 0.7nm,0.4s						
PDAR	Pinedale Array	57.66	301	P	P	18 38 24.5	-0.6
	0.2nm,0.6s,baz=62,slow=11,SNR=2.1 0.2nm,0.6s						
INK	Inuvik	57.73	335	P	P	18 38 25.3	+0.4
	1.0nm,0.8s,baz=117,slow=2.3,SNR=3.5 1.0nm,0.8s						
AKTO	Aktyubinsk	58.57	48	P	P	18 38 31.6	+0.5
	1.6nm,0.8s,baz=326,slow=11,SNR=4.3 1.6nm,0.8s						
NEW	Newport	59.78	309	P	P	18 38 40.0	+0.4
	0.9nm,0.3s,baz=335,slow=14,SNR=3.1 0.9nm,0.3s						
TXAR	Lajitas Array	60.24	284	P	P	18 38 42.8	-0.3
	0.4nm,0.7s,baz=41,slow=6.4,SNR=1.5 0.4nm,0.7s						
BVAR	Borovoye Array	63.91	42	P	P	18 39 05.6	-1.7
	1.1nm,0.8s,baz=301,slow=3.1,SNR=4.1 1.1nm,0.8s						
KURBB	Kurchatov Arra	69.40	40	P	P	18 39 43.0	+0.7
	0.9nm,0.8s,baz=314,slow=6.7,SNR=7.5						
KURBB				LR	LR	19 07 40.6	
	comp=Z,27nm,19.1s,baz=160,slow=34 0.9nm,0.8s						
ZALV	Zalesovo Beam	70.14	35	P	P	18 39 48.0	+1.2
	0.2nm,0.4s,baz=319,slow=4.2,SNR=1.5 0.2nm,0.4s						
MKAR	Makanchi Array	73.79	42	P	P	18 40 08.6	-0.3
	0.6nm,0.8s,baz=302,slow=5.5,SNR=6.9 0.6nm,0.8s						
SONM	Songino Array	83.51	28	P	P	18 41 03.8	+1.2
	0.4nm,0.7s,baz=350,slow=1.8,SNR=2.4 0.4nm,0.7s						

KRSC 16 18:55:07.3±2.0, 53.91N×168.93E, h61km±25km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.15	308	eP	Pn	18 55 42.3	+1.5
BKI				eS	Sn	18 56 09.6	+3.3
KBTR	Krutoberegovo	4.20	306	eP	Pn	18 56 11.5	+2.8
TUMD	Tumrok D	5.13	288	eP	Pn	18 56 24.7	+3.2
TUMD				eS	Sn	18 57 24.5	+5.2
KMNR	Kamenistaya	5.35	294	eP	Pn	18 56 28.4	+3.8
UGLR	Uglovaya	6.06	267	eP	Pn	18 56 38.4	+4.0
AVH	Avacha	6.10	268	eP	Pn	18 56 39.1	+4.2
KRX	Arik	6.14	269	eP	Pn	18 56 39.4	+4.0
KOK	Koryaka	6.16	268	eP	Pn	18 56 39.5	+3.9
RUS	Russkaya	6.43	261	eP	Pn	18 56 43.5	+4.2
RUS				eS	Sn	18 57 52.2	+0.9
GNL	Ganaly	6.51	273	eP	Pn	18 56 45.0	+4.5
KRMR	Karymshinskiy	6.55	265	eP	Pn	18 56 45.1	+4.2
KRMR				eS	Sn	18 57 57.1	+2.9
GRL	Gorelyy	6.66	263	eP	Pn	18 56 47.8	+5.2
KDTR	Khodutka, Kamc	6.90	257	eP	Pn	18 56 49.8	+4.2
KDTR				eS	Sn	18 58 05.1	+2.4

IDC 16 19:04:55.7±34.0, 21.14S×179.08W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=637.0km s-min=154.4km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.60	245	P	P	19 12 02.1	-1.6
	0.8nm,0.5s,baz=95,slow=11,SNR=3.0 0.8nm,0.5s						
ASAR	Alice Springs	43.39	258	P	P	19 13 00.0	-0.4
	1.1nm,0.4s,baz=94,slow=7.3,SNR=43 1.1nm,0.4s						
WRA	Warramunga Arr	43.52	263	P	P	19 13 02.4	+1.0
	2.0nm,0.6s,baz=93,slow=8.5,SNR=44 2.0nm,0.6s						
FITZ	Fitzroy Crossi	51.95	263	P	P	19 14 06.8	-0.1
	2.8nm,1.0s,baz=90,slow=6.1,SNR=1.7 2.8nm,1.0s						

*IDC **16** 19:16:56.6±2.5, 13.36S×167.00E, h209km±23km, mb3.6/13, mbtmp4.1/14, Error ellipse: s-maj=22.7km s-min=14.2km az=105.0*

ISC 16 19:16:55.7±0.5, 13.33S±0.08×167.0E±0.1, h200km, n22, σ0.72/25, mb3.9/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	8.71	183	P	Pn	19 18 59.7	+1.4
	5.4nm,0.8s,baz=15,slow=23,SNR=1.4						
DZM				S	Sn	19 20 34.6	-1.5
	6.6nm,0.9s,baz=358,slow=18,SNR=1.4						
MSVF	Nonsavu	11.53	114	P	P	19 19 40.1	0.0
	6.4nm,0.9s,baz=323,slow=17,SNR=4.1						
STKA	Stephens Creek	29.71	227	P	P	19 22 43.7	+0.6
	5.9nm,0.5s,baz=52,slow=8.7,SNR=28 5.9nm,0.5s						
WRA	Warramunga Arr	31.92	254	ScP	ScP	19 29 12.4	-0.5
	0.8nm,1.0s,baz=68,slow=4.4,SNR=4.0						
ASAR	Alice Springs	32.93	247	P	P	19 23 11.1	-0.5
	2.9nm,0.5s,baz=76,slow=9.1,SNR=50						
ASAR				ScP	ScP	19 29 16.7	+0.4
	0.5nm,0.8s,baz=82,slow=3.1,SNR=4.6 2.9nm,0.5s						
FITZ	Fitzroy Crossi	40.02	258	P	P	19 24 11.0	-0.4
	4.2nm,1.0s,baz=96,slow=10,SNR=2.1 4.2nm,1.0s						
MJAR	Matsushiro Arr	56.54	332	P	P	19 26 16.6	-0.8
	1.0nm,0.7s,baz=173,slow=7.2,SNR=2.0 1.0nm,0.7s						
PETK	Petropavlovsk-	66.65	354	P	P	19 27 25.1	+0.6
	4.0nm,1.0s,baz=114,slow=9.4,SNR=6.2 4.0nm,1.0s						
CMAR	Chiang Mai Arr	74.13	294	P	P	19 28 11.3	+0.6
	0.4nm,0.6s,baz=116,slow=6.5,SNR=4.1 0.4nm,0.6s						
QSPA	South Pole Qui	76.69	180	P	P	19 28 24.3	-0.2
	1.3nm,0.5s,baz=349,slow=19,SNR=17 1.3nm,0.5s						
SEY	Seymchan	76.87	353	P	P	19 28 25.2	0.0
	1.9nm,0.6s,baz=141,slow=6.5,SNR=17 1.9nm,0.6s						
YAK	Yakutsk	80.62	343	P	P	19 28 45.6	0.0
	3.6nm,0.5s,baz=124,slow=1.9,SNR=2.7 3.6nm,0.5s						
SONM	Songino Array	81.21	324	P	P	19 28 50.2	+0.9
	0.1nm,0.4s,baz=153,slow=7.6,SNR=1.9 0.1nm,0.4s						
ILAR	Eielson Array	85.29	18	P	P	19 29 08.7	-0.9
	0.9nm,0.5s,baz=244,slow=5.0,SNR=36 0.9nm,0.5s						
NVAR	Mina Array Bea	86.58	49	P	P	19 29 17.2	+0.4
	0.3nm,0.4s,baz=298,slow=3.1,SNR=2.1 0.3nm,0.4s						
MKAR	Makanchi Array	96.00	317	P	P	19 30 00.2	+0.1
	0.3nm,0.5s,baz=88,slow=6.3,SNR=6.1 0.3nm,0.5s						
ARCES	ARCESS Array B	118.84	346	PKP	PKPdf	19 35 19.1	-0.5
	1.2nm,0.4s,baz=54,slow=2.7,SNR=12						
FINES	FINESS Array B	124.33	338	PKP	PKPdf	19 35 30.1	-0.3
	3.3nm,0.9s,baz=60,slow=5.5,SNR=6.6						
NOA	NORSAR Array B	129.21	345	PKP	PKPdf	19 35 40.0	+0.2
	0.9nm,0.9s,baz=49,slow=15,SNR=2.2						
HFS	Hagfors	129.31	343	PKP	PKPdf	19 35 38.5	-1.4
	3.8nm,0.9s,baz=44,slow=8.6,SNR=2.2						
KEST	Kesra	149.95	322	PKPbc	PKPbc	19 36 22.4	-0.5
	1.4nm,0.8s,baz=327,slow=13,SNR=4.2						
ESDC	Sonseca Array	152.57	345	PKPbc	PKPbc	19 36 28.5	-0.2
	0.7nm,0.8s,baz=0.2,slow=2.6,SNR=5.7						
ESDC				PKPab	PKPab	19 36 40.2	+0.4
	0.7nm,0.8s,baz=5.6,slow=4.7,SNR=5.0						

*IDC **16** 19:16:58.2±9.7, 9.21S×124.17E, h109km±108km, mb3.5/2, mbtmp3.8/5, ML3.9/3, MS3.3/1, Error ellipse: s-maj=94.5km s-min=55.1km az=47.0*

ISC 16 19:16:58.4±0.8, 9.23S±0.07×124.32E±0.08, h100km, n18, σ2.9/27/20, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.52	186	P	Pn	19 17 17.3	+2.7
MMRI	Maumere	2.14	286	P	Pn	19 17 31.7	-1.2
PLAI	Plampang	6.48	273	P	Pn	19 18 32.2	+0.9
DRS	Darwin Rock St	7.20	117	P	Pn	19 18 42.7	+1.6
SANI	Sanana	7.33	13	P	Pn	19 18 42.6	-0.2
MTN	Manton Dam	7.59	119	P	Pn	19 18 48.2	+1.8
LUWI	Luwuk	8.28	349	P	Pn	19 18 55.3	-0.5
KDU	Kakadu	8.71	114	P	Pn	19 19 02.4	+0.8
FITZ	Fitzroy Crossi	8.91	172	P	Pn	19 19 05.8	+1.6
	1.4nm,0.3s,baz=351,slow=8.5,SNR=43						
FITZ				S	Sn	19 20 42.6	-0.3
	25nm,0.7s,baz=288,slow=20,SNR=16 3.5nm,0.4s						
TOLI2	Tolitoli	10.86	341	P	Pn	19 19 32.6	+1.6
WRA	Warramunga Arr	14.39	139	P	Pn	19 20 16.9	-0.6
	0.7nm,0.3s,baz=314,slow=13,SNR=29						
WRA				S	Sn	19 22 52.6	-3.6
	1.0nm,0.4s,baz=319,slow=25,SNR=9.6 0.9nm,0.3s						
WRKA	Warakurna	16.17	167	P	P	19 20 42.6	+1.4
ASAR	Alice Springs	17.03	149	P	P	19 20 52.3	+1.5
	0.2nm,0.3s,baz=327,slow=13,SNR=20						
ASAR				S	Sn	19 23 54.2	-5.7
	1.0nm,0.7s,baz=315,slow=21,SNR=5.1 1.3nm,0.8s						
QIS	Mount Isa	18.55	129	P	Pn	19 21 11.2	+2.3
COEN	Coen	19.05	106	P	Pn	19 21 16.6	+1.8
KRVT	Keravat (AS076	27.93	82	LR	LR	19 36 51.6	
	comp=Z,55nm,18.9s,baz=184,slow=42						
MKAR	Makanchi Array	67.17	330	P	P	19 27 39.9	-1.8
	0.2nm,0.5s,baz=134,slow=7.0,SNR=7.3 0.2nm,0.5s						
KURBB	Kurchatov Arra	71.60	331	P	P	19 28 06.8	-2.1
	0.4nm,0.2s,baz=138,slow=5.9,SNR=4.4 0.4nm,0.2s						

TAP 16 19:22:04.5, 23.76N×120.79E, h6km, ML2.7, 6C-4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHYT	Xinyi Township	0.09	138	⇓iP	Pg	19 22 07.1	+0.7
WHYT				S	Sg	19 22 09.0	+1.2
WJS	Zhushan	0.09	317	P	Pg	19 22 07.0	+0.5
WJS				S	Sg	19 22 09.0	+1.3
SSLB	Suanglung	0.15	79	⇓iP	Pg	19 22 08.3	+0.7
WNT	Mingjian	0.15	320	⇓iP	Pg	19 22 08.9	+1.4
WNT				S	Sg	19 22 12.3	+2.6
TYC	Yuchr	0.16	23	⇑iP	Pg	19 22 08.7	+1.1
SMLT	Sun Moon Lake	0.16	39	⇑eP	Pg	19 22 07.8	+0.1
SMLT				eS	Sg	19 22 10.4	+0.5
WNT1	Nantou City	0.18	325	P	Pg	19 22 09.8	+1.7
WNT1				S	Sg	19 22 13.6	+3.1
CHN5	Tsauling	0.19	213	⇑iP	Pg	19 22 09.3	+1.0
CHN5				S	Sg	19 22 12.4	+1.6
WGK	Gukeng	0.22	251	⇓iP	Pg	19 22 10.3	+1.5
WGK				S	Sg	19 22 15.3	+3.5
WDL	Douliou City	0.23	259	P	Pg	19 22 10.8	+1.7
WDL				S	Sg	19 22 16.2	+4.0
WDLH	Douliu	0.24

WCKO	**Fanlu**	**0.36 208**	P	Pb	19 22 13.1	-0.2
WCKO			S	Sb	19 22 19.6	+0.4
CHN2	**Minshiung**	**0.37 232**	*eP*	Pb	19 22 13.2	-0.1
CHN2			S	Sb	19 22 20.3	+0.9
WTK	**Tuku**	**0.38 259**	P	Pb	19 22 13.4	-0.1
WTK			S	Sb	19 22 20.6	+1.0
WUSB	**Renai**	**0.38 52**	P	Pg	19 22 12.7	+0.9
WUSB			S	Sg	19 22 18.2	+1.3
WCH1	**Changhua City**	**0.38 324**	*eP*	Pb	19 22 13.7	+0.1
WCH1			*eS*	Sb	19 22 19.9	+0.1
WCHH	**Zhanghua**	**0.38 326**	*eP*	Pb	19 22 13.8	+0.1
WCHH			*eS*	Sb	19 22 20.9	+1.1
TCU	**Taichung**	**0.40 345**	*eP*	Pb	19 22 14.7	+0.7
OWD	**Renai**	**0.40 61**	P	Pb	19 22 13.4	-0.7
OWD			S	Sg	19 22 18.8	+1.2
WRL	**Guolierlin Hig**	**0.41 291**	*eP*	Pb	19 22 14.1	+0.1
WRL			*eS*	Sb	19 22 20.7	+0.2
RLNB	**Erlin**	**0.42 288**	P	Pb	19 22 14.0	-0.2
RLNB			*eS*	Sb	19 22 20.1	-0.7
CHY	**Chiayi**	**0.42 232**	P	Pb	19 22 14.1	-0.3
CHY			*eS*	Sb	19 22 22.2	+1.2
CHN4	**Tsaushan**	**0.45 204**	P	Pb	19 22 14.9	+0.1
TPUB	**Ta-pu**	**0.48 198**	⇑*iP*	Pb	19 22 15.2	-0.1
TPUB			*eS*	Sb	19 22 23.5	+0.9
WHP	**Taichung City**	**0.54 15**	*eP*	Pb	19 22 16.3	0.0
WHP			*eS*	Sb	19 22 26.1	+1.7
WSF	**Szhu**	**0.54 257**	*eP*	Pb	19 22 15.8	-0.4
WSF			*eS*	Sb	19 22 24.9	+0.7
WTP	**Ta-pu**	**0.54 198**	P	Pb	19 22 16.4	+0.1
WARBT	**Fenglin Townsh**	**0.55 94**	P	Pb	19 22 16.1	-0.4
WARBT			S	Sb	19 22 23.8	-0.8
EHY	**Hungye**	**0.55 117**	P	Pb	19 22 16.5	0.0
EHY			*eS*	Sb	19 22 25.1	+0.4
TWK	**Hsinying**	**0.56 210**	P	Pb	19 22 17.3	+0.5
TWK			*eS*	Sb	19 22 26.0	+0.9
WSL	**Shuilin Townsh**	**0.57 246**	P	Pb	19 22 16.7	-0.1
WSL			*eS*	Sb	19 22 26.7	+1.5
EHYH	**Wanrong**	**0.57 117**	*eP*	Pb	19 22 16.6	-0.2
WHF	**Hehuan Shan**	**0.58 48**	P	Pb	19 22 18.0	+0.7
WHF			*eS*	Sb	19 22 26.6	+0.6
STYH	**Taoyuan**	**0.59 181**	P	Pb	19 22 16.4	-0.7
STYH			*eS*	Sb	19 22 26.6	+1.0
TWQ1	**Liyutan**	**0.59 358**	P	Pb	19 22 17.9	+0.7
TWQ1			S	Sn	19 22 27.6	-1.7
EGFH	**Guangfu**	**0.59 99**	*eP*	Pb	19 22 17.1	-0.1
EGFH			*eS*	Sb	19 22 25.7	-0.1
ESL	**Shilin**	**0.59 85**	*eP*	Pb	19 22 17.2	0.0
YULB	**Yu-li**	**0.59 128**	P	Pb	19 22 16.9	-0.3
YULB			*eS*	Sb	19 22 25.5	-0.3
STYT	**Tauyuan**	**0.59 183**	*eP*	Pg	19 22 16.0	+0.1
TDCB	**Techi**	**0.60 34**	P	Pb	19 22 16.8	-0.6
SNST	**Tainan City**	**0.60 207**	P	Pb	19 22 18.0	+0.7
SNST			*eS*	Sn	19 22 28.1	-1.5
WDJ	**Dajia District**	**0.60 347**	*eP*	Pb	19 22 18.4	+1.0
WDJ			*eS*	Sn	19 22 28.4	-1.2
ELDTW	**Lidau**	**0.60 160**	P	Pb	19 22 17.1	-0.5
ELDTW			*eS*	Sg	19 22 25.1	+1.1
TWT	**Tachien**	**0.60 35**	*eP*	Pg	19 22 16.8	+0.7
TWT			*eS*	Sb	19 22 26.4	-0.1
ICHU	**Yijhu**	**0.61 230**	P	Pb	19 22 18.0	+0.4
ICHU			S	Sn	19 22 28.6	-1.3
TWF1	**Yuli**	**0.62 131**	P	Pb	19 22 17.7	0.0
TWF1			*eS*	Sb	19 22 26.5	0.0
CHN1	**Nanshi**	**0.62 203**	*eP*	Pb	19 22 18.1	+0.4
CHN1			*eS*	Sb	19 22 27.7	+1.0
LXIB	**Xiulin Townshi**	**0.63 65**	*eP*	Pb	19 22 17.5	-0.4
LXIB			*eS*	Sb	19 22 27.2	+0.2
EYUL	**Yuli**	**0.64 130**	P	Pb	19 22 17.9	-0.1
EYUL			*eS*	Sb	19 22 26.9	-0.2
HGSD	**Ruisui**	**0.64 114**	*eP*	Pb	19 22 18.6	+0.6
FUSS	**Fushou**	**0.64 40**	P	Pb	19 22 17.5	-0.7
NSY	**Sanyi**	**0.66 358**	P	Pn	19 22 19.4	-1.0
NSY			S	Sn	19 22 29.8	-1.2
CHN8	**Yiju**	**0.67 232**	P	Pb	19 22 18.9	+0.3
CHN8			S	Sn	19 22 30.0	-1.3
ETM	**Tongmen**	**0.68 72**	*eP*	Pb	19 22 19.0	+0.4
ETM			*eS*	Sb	19 22 28.4	+0.2
SGST	**Jiashian**	**0.70 196**	*eP*	Pg	19 22 18.5	+0.6
SGST			S	Sb	19 22 29.9	+0.8
SHUL	**Shoufeng**	**0.71 88**	*eP*	Pb	19 22 19.8	+0.6
EHD	**Haiduan**	**0.72 148**	P	Pb	19 22 20.0	+0.6
EHD			*eS*	Sb	19 22 29.9	+0.4
FULB	**Fuli**	**0.72 140**	*eP*	Pb	19 22 20.1	+0.6
ETLH	**Xiulin Townshi**	**0.77 55**	*eP*	Pb	19 22 20.0	-0.4
ETLH			*eS*	Sb	19 22 30.7	-0.5
NMLH	**Miaoli**	**0.78 0**	*eP*	Pb	19 22 20.7	+0.3
NMLH			*eS*	Sn	19 22 33.4	-0.5
HWA	**Hwalien**	**0.78 74**	*eP*	Pn	19 22 21.9	-0.1
CHKH	**Chenggong**	**0.79 135**	*eP*	Pn	19 22 21.8	-0.4
SCLT	**Jiali**	**0.80 223**	*eP*	Pb	19 22 20.4	-0.3
SCLT			*eS*	Sn	19 22 33.6	-0.9
TWD	**Chiawan**	**0.80 66**	*eS*	Sb	19 22 33.2	+1.2
SHHT	**Tainan City**	**0.84 209**	P	Pn	19 22 22.8	0.0
SHHT			*eS*	Sn	19 22 37.0	+1.6
CHKT	**Chengkung**	**0.84 141**	*eP*	Pn	19 22 23.1	+0.3
CHKT			*eS*	Sn	19 22 36.7	+1.2
NACB	**Ninganchiao**	**0.84 61**	*eP*	Pb	19 22 21.3	-0.2
NACB			*eS*	Sb	19 22 33.3	+0.2
NNSB	**Datong**	**0.86 39**	P	Pg	19 22 21.4	+0.4
NSTT	**Nanjuang**	**0.89 12**	P	Pn	19 22 23.0	-0.5
NSTT			*eS*	Sn	19 22 36.0	-0.7
TSCK	**Chigu Township**	**0.89 227**	P	Pb	19 22 22.0	-0.2
TSCK			*eS*	Sn	19 22 36.0	-0.7
LONT	**Longtian**	**0.90 160**	P	Pb	19 22 22.1	+0.5
LONT			*eS*	Sn	19 22 36.4	-0.7
LIOB	**Emei**	**0.91 13**	P	Pn	19 22 23.6	-0.2
LIOB			*eS*	Sn	19 22 37.5	+0.3
SCST	**Cishan**	**0.91 198**	P	Pn	19 22 23.9	+0.1
SCST			*eS*	Sn	19 22 38.1	+0.9
EDH	**Donghe**	**0.91 149**	P	Pn	19 22 24.4	+0.5
NFF	**Wufeng Townshi**	**0.92 19**	P	Pn	19 22 23.6	-0.4
NFF			*eS*	Sn	19 22 36.5	-1.1
TWG	**Pinlang**	**0.97 164**	P	Pn	19 22 24.5	-0.1
TWG			*eS*	Sn	19 22 38.9	+0.2
TWGBT	**Beinan**	**0.97 164**	P	Pn	19 22 24.5	-0.2
TWGBT			*eS*	Sn	19 22 38.7	-0.1
TWM1	**Shoushan**	**0.99 200**	*eP*	Pn	19 22 26.2	+1.3
SSD	**Sandimen**	**1.02 188**	P	Pn	19 22 25.2	-0.1
SSD			*eS*	Sn	19 22 40.1	+0.2
LATG	**Datong**	**1.02 41**	P	Pb	19 22 24.6	-0.1
NSK	**Sanguang**	**1.05 29**	P	Pb	19 22 25.4	+0.3
YHNB	**Yeheng**	**1.05 30**	P	Pg	19 22 24.8	+0.1
TSMG	**Majia**	**1.06 187**	P	Pn	19 22 25.8	0.0
TSMG			S	Sn	19 22 42.5	+1.6
KSHI	**Guanxi Townshi**	**1.07 19**	*eP*	Pn	19 22 26.1	0.0
KSHI			*eS*	Sn	19 22 42.3	+1.0
ENA	**Nanau**	**1.09 52**	P	Pn	19 22 26.9	+0.6
ENA			*eS*	Sn	19 22 43.3	+1.5
ENTT	**Nioudou**	**1.13 39**	*eP*	Pb	19 22 26.6	+0.2
EWUT	**Wuta**	**1.13 53**	P	Pn	19 22 27.2	+0.4
PHUB	**P'eng-hu**	**1.14 258**	P	Pg	19 22 25.4	-1.1
PHUB			*eS*	Sg	19 22 41.1	-0.2
PNG	**Penghu**	**1.15 261**	P	Pg	19 22 25.5	-1.0
MASBT	**Mashibuluo**	**1.15 187**	P	Pn	19 22 27.6	+0.4
MASBT			S	Sn	19 22 45.5	+2.3
ECL	**Taimali**	**1.17 173**	P	Pn	19 22 28.1	+0.8
NWLT	**Wulai**	**1.20 32**	P	Pn	19 22 28.1	+0.2
FUSB	**Fushanzhiwuyua**	**1.23 36**	P	Pn	19 22 28.9	+0.5
TWE	**Neicheng**	**1.25 40**	P	Pn	19 22 29.1	+0.7
VCHM	**Qimei**	**1.36 247**	*eP*	Pn	19 22 29.6	-0.4
VCHM			*eS*	Sb	19 22 47.8	-0.3
EAST	**Anshuo**	**1.37 178**	*eP*	Pg	19 22 31.9	+1.1
SCZT	**Fangliau**	**1.39 187**	*eP*	Pg	19 22 32.9	+1.8
TIPB	**Shuangxi**	**1.53 38**	*eP*	Pg	19 22 35.0	+1.2
SLIU	**Shizi**	**1.54 180**	*eP*	Pg	19 22 34.4	+0.5
ZUZH	**Zhuzihu**	**1.56 26**	*eP*	Pg	19 22 35.5	+1.2
ANP	**Anpu**	**1.57 25**	*eP*	Pg	19 22 35.8	+1.2
SXI1	**Grass Mountain**	**1.66 36**	*eP*	Pg	19 22 37.7	+1.5
PTMZ	**Houxiangcun**	**1.99 310**	*eP*	Pb	19 22 41.2	+0.2
KNMB	**Chin-men Tao**	**2.31 288**	*eP*	Pn	19 22 43.7	+0.7

*IDC **16** 19:25:16.9±1.0, 16°.34N×119°.24E, h0km, mb3.6/6, mbtmp3.5/7, ML3.8/1, MS3.0/3, Error ellipse: s-maj=35.6km s-min=19.3km az=71.0*

ISC 16 19:25:21.1±1.1, 16°.3N±0°.2×119°.2E±0°.2, h29km, n9, σ0°53/7, mb3.5/6, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.47 279**		P	**P**	**19 29 45.6**	**-0.2**
	0.1nm,0.3s,baz=103,slow=9.8,SNR=5.3						
CMAR				LR	LR	19 36 40.5	
	comp=Z,16nm,19.9s,baz=140,slow=35						
	0.2nm,0.3s						
KSRS	**Korea Array**	**22.39 18**		P	**P**	**19 30 16.6**	**-0.4**
	1.4nm,0.5s,baz=200,slow=12,SNR=8.0						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**39.00 157**		P	**P**	**19 32 44.7**	**-0.5**
	0.4nm,0.5s,baz=339,slow=9.1,SNR=5.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**42.27 160**		P	**P**	**19 33 12.6**	**+0.4**
	0.4nm,0.4s,baz=338,slow=6.7,SNR=28						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.08 323**		P	**P**	**19 33 18.9**	**+0.4**
	0.2nm,0.6s,baz=132,slow=8.4,SNR=2.5						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.22 326**		P	**P**	**19 33 50.9**	**-0.4**
	0.5nm,0.2s,baz=117,slow=9.7,SNR=4.8						
	0.5nm,0.2s						
SEY	**Seymchan**	**51.95 19**		P	**P**	**19 34 27.5**	**+0.4**
	0.2nm,0.4s,baz=146,slow=11,SNR=1.7						
	0.2nm,0.4s						
NRIK	**Noril'sk**	**56.53 347**		LR	LR	19 59 33.9	
	comp=Z,29nm,18.4s,baz=319,slow=36						
NOA	**NORSAR Array B**	**84.27 332**		LR	LR	20 19 11.5	
	comp=Z,7.4nm,18.3s,baz=0.0,slow=38						

*SOME **16** 19:29:15.4, 39°.93N×75°.22E, h15km*
*NNC **16** 19:29:17.8±1.3, 40°.03N×75°.25E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=10.2km s-min=5.6km az=162.0*
*KRNET **16** 19:29:17.5±0.1, 40°.04N×75°.25E, h20km, mb3.3*

ISC 16 19:29:19.0±1.0, 40°.09N±0°.04×75°.18E±0°.03, h10km, n56, σ1°99/92, 25C-30D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.29 267**		⇑*iP*	**Pn**	**19 29 42.6**	**-0.6**
SFK				⇑*iS*	**Sg**	**19 30 00.9**	**+0.5**
SALK	**Salom-Alik**	**1.30 308**		⇓*iP*	**Pb**	**19 29 43.3**	**-0.3**
SALK				⇓*iS*	**Sg**	**19 30 02.1**	**+1.2**
OHH	**Osh**	**1.88 284**		⇓*iP*	**Pb**	**19 29 53.1**	**-0.3**
OHH				⇓*iS*	**Sg**	**19 30 19.3**	**-0.1**
ARLS	**Aral**	**1.88 340**		⇑*iP*	**Pb**	**19 29 53.2**	**-0.4**
ARLS				⇑*iS*	**Sg**	**19 30 19.2**	**-0.3**
ARSB	**Arslanbob**	**2.07 307**		⇑*iP*	**Pb**	**19 29 56.1**	**-0.7**
ARSB				⇑*iS*	**Sb**	**19 30 24.3**	**+1.6**
UCH	**Uchtor**	**2.19 347**		P	**Pg**	**19 30 01.2**	**+0.2**
	SNR=7.2						
UCH	**Uchtor**	**2.19 347**		⇑*iP*	**Pb**	**19 29 57.8**	**-1.2**
UCH				⇑*iS*	**Sb**	**19 30 27.3**	**+0.9**
ULHL	**Ulahol**	**2.30 20**		P	**Pg**	**19 30 01.1**	**-2.0**
	SNR=16						
ULHL	**Ulahol**	**2.30 20**		⇑*iP*	**Pb**	**19 29 58.8**	**-1.9**
ULHL				⇑*iS*	**Sb**	**19 30 28.8**	**-0.4**
AML	**Almayashu**	**2.33 332**		P	**Pg**	**19 30 02.5**	**-1.1**
	SNR=56						
AML	**Almayashu**	**2.33 332**		⇓*iP*	**Pb**	**19 29 59.7**	**-1.5**
AML				⇓*iS*	**Sb**	**19 30 30.7**	**+0.5**
BOOM	**Boomskoye usch**	**2.46 13**		⇓*iP*	**Pb**	**19 30 01.0**	**-2.5**
BOOM				⇓*iS*	**Sb**	**19 30 33.0**	**-1.0**
KDJ	**Kajisay**	**2.54 36**		⇓*iP*	**Pb**	**19 30 01.8**	**-2.9**
KDJ				⇓*iS*	**Sb**	**19 30 34.2**	**-1.9**
KBK	**Karagaybulak**	**2.57 356**		P	**Pg**	**19 30 06.5**	**-1.8**
	SNR=19						
KBK	**Karagaybulak**	**2.57 356**		⇓*iP*	**Pb**	**19 30 02.7**	**-2.6**
KBK				⇓*iS*	**Sb**	**19 30 35.8**	**-1.2**
AAK	**Ala-Archa**	**2.59 349**		P	**Pb**	**19 30 06.6**	**+0.9**
	SNR=31						
AAK	**Ala-Archa**	**2.59 349**		⇓*iP*	**Pb**	**19 30 03.2**	**-2.5**
AAK				⇓*iS*	**Sb**	**19 30 36.5**	**-1.2**
DRK	**Karamyk**	**2.67 258**		⇑*iP*	**Pb**	**19 30 04.2**	**-2.9**
DRK				⇑*iS*	**Sb**	**19 30 38.2**	**-1.8**
FRU1	**Bishkek**	**2.75 352**		⇑*iP*	**Pb**	**19 30 05.6**	**-2.6**
FRU1				⇑*iS*	**Sb**	**19 30 40.5**	**-1.5**
ARK	**Arkit**	**2.97 306**		⇓*iP*	**Pn**	**19 30 08.6**	**+2.3**
ARK				⇓*iS*	**Sb**	**19 30 46.0**	**-2.5**
KST	**Kastek**	**3.01 11**		Pg	**Pb**	**19 30 13.3**	**+0.6**
	4.1nm,0.2s						
KST				Lg	Lg	19 30 55.7	
	22nm,0.6s						
KST	**Kastek**	**3.01 11**		*eP*	**Pb**	**19 30 13.6**	**+0.8**
	4.1nm,0.2s						
KST				*eS*	**Sg**	**19 30 55.7**	**+0.1**
	22nm,0.6s						
MRKS	**Merke**	**3.03 332**		Pg	**Pb**	**19 30 12.7**	**-0.4**
	7.4nm,0.4s						
MRKS				Lg	Lg	19 30 54.8	
	9.3nm,0.3s						
MRKS	**Merke**	**3.03 332**		*eP*	**Pb**	**19 30 12.7**	**-0.4**
	7.4nm,0.4s						
MRKS				*eS*	**Sg**	**19 30 54.2**	**-2.1**
	9.3nm,0.3s						
MNAS	**Manas**	**3.13 321**		⇑*iP*	**Pn**	**19 30 10.9**	**+2.4**
MNAS				⇑*iS*	**Sn**	**19 30 49.7**	**+3.7**
MTBS	**Maitube**	**3.18 17**		Pg	**Pb**	**19 30 16.5**	**+0.9**
	4.7nm,0.4s						
MTBS				Lg	Lg	19 31 00.9	
	14nm,0.3s						
MTBS	**Maitube**	**3.18 17**		*eP*	**Pb**	**19 30 16.5**	**+0.9**
	4.7nm,0.4s						
MTBS				*eS*	**Sg**	**19 31 00.9**	**-0.2**
	14nm,0.3s						
USP	**Ospenovka**	**3.21 351**		P	**Pb**	**19 30 15.1**	**-1.1**
	SNR=14						
USP	**Ospenovka**	**3.21 351**		⇓*iP*	**Pn**	**19 30 11.5**	**+1.9**
USP				⇓*iS*	**Sn**	**19 30 51.2**	**+3.3**
TNSS	**Tian-Shan**	**3.23 24**		Pg	**Pb**	**19 30 17.3**	**+0.6**
	7.9nm,0.2s						
TNSS				Lg	Lg	19 31 02.0	
	18nm,0.5s						
TNSS	**Tian-Shan**	**3.23 24**		*eP*	**Pb**	**19 30 17.3**	**+0.6**
	7.9nm,0.2s						
TNSS				*eS*	**Sg**	**19 31 02.0**	**-0.8**
	18nm,0.5s						
ANVS	**Anan'yevo**	**3.28 34**		⇑*eP*	**Pn**	**19 30 12.0**	**+1.4**
ANVS				⇑*eS*	**Sn**	**19 30 51.4**	**+1.7**
BTK	**Batken**	**3.34 271**		⇓*iP*	**Pn**	**19 30 13.5**	**+2.1**
BTK				⇓*iS*	**Sn**	**19 30 54.5**	**+3.3**
MDOK	**Medeo**	**3.38 24**		Pg	**Pb**	**19 30 19.1**	**+0.1**
	5.7nm,0.3s						
MDOK				Pg	**Pg**	**19 30 19.6**	**-4.0**
	4.4nm,0.5s						
MDOK				Lg	Lg	19 31 05.4	
	36nm,0.8s						
MDOK				Lg	Lg	19 31 05.5	
	28nm,0.6s						
MDOK	**Medeo**	**3.38 24**		*eP*	**Pb**	**19 30 19.1**	**+0.1**
	5.7nm,0.3s						
MDOK				*eS*	**Sg**	**19 31 05.5**	**-1.9**
	28nm,0.6s						
TRKS	**Terek-Say**	**3.38 296**		⇑*iP*	**Pn**	**19 30 13.7**	**+1.7**
TRKS				⇑*iS*	**Sn**	**19 30 54.6**	**+2.3**
KNDC	**Almaty**	**3.40 23**		⇑Pg	**Pg**	**19 30 22.8**	**-1.3**
	15nm,0.5s						
KNDC				⇓Lg	Lg	19 31 07.5	
	52nm,0.8s						
PRZ	**Przheval'sk**	**3.41 44**		⇓*eP*	**Pn**	**19 30 14.1**	**+1.7**
PRZ				⇓*eS*	**Sn**	**19 30 54.7**	**+1.8**
KOTS	**Kotyrbulak**	**3.46 24**		Pg	**Pb**	**19 30 21.2**	**+0.8**
	6.4nm,0.3s						
KOTS				Lg	Lg	19 31 08.7	
	44nm,0.8s						
KOTS	**Kotyrbulak**	**3.46 24**		*eP*	**Pb**	**19 30 21.1**	**+0.8**
	6.4nm,0.3s						
KOTS				*eS*	**Sg**	**19 31 08.7**	**-1.4**
	44nm,0.8s						
KRBS	**Karabastau**	**3.62 6**		Pg	**Pg**	**19 30 25.3**	**-3.1**
	6.6nm,0.4s						
KRBS				Lg	Lg	19 31 16.8	
	20nm,0.5s						
KTBS	**Karatobe**	**3.79 17**		Pg	**Pg**	**19 30 28.1**	**-3.5**
	2.8nm,0.3s						
KTBS				Lg	Lg	19 31 19.6	
	6.9nm,0.3s						
SATY	**Saty**	**3.83 38**		Pg	**Pb**	**19 30 27.8**	**+1.1**
	4.5nm,0.6s						
SATY				Lg	Lg	19 31 20.0	
	18nm,0.6s						
GAR	**Garm**	**3.91 255**		⇓*iP*	**Pn**	**19 30 21.1**	**+1.9**
GAR				⇓*iS*	**Sn**	**19 31 07.8**	**+2.5**
KPKS	**Kokpek**	**4.27 37**		Pg	**Pb**	**19 30 35.4**	**+1.1**
	2.2nm,0.3s						
KPKS				Lg	Lg	19 31 32.8	
	15nm,0.4s						
KPKS	**Kokpek**	**4.27 37**		*eP*	**Pb**	**19 30 35.3**	**+1.0**
	2.2nm,0.3s						
KPKS				*eS*	**Sg**	**19 31 33.0**	**-3.1**
	15nm,0.4s						
SHLS	**Shalkode**	**4.44 45**		Pg	**Pg**	**19 30 42.3**	**-1.7**
	7.4nm,0.5s						
SHLS				Lg	Lg	19 31 45.1	
	8.9nm,0.4s						
SHLS	**Shalkode**	**4.44 45**		*eP*	**Pg**	**19 30 42.3**	**-1.7**
	7.4nm,0.5s						
SHLS				*eS*	**Sg**	**19 31 45.1**	**+3.6**
	8.9nm,0.4s						
PDGK	**Podgornoye**	**4.57 44**		⇑Pg	**Pb**	**19 30 40.2**	**+0.8**
	5.7nm,0.7s						
PDGK				⇓Lg	Lg	19 31 39.7	
	10nm,0.6s						
KK31	**Karatay Array**	**4.61 312**		⇑Pn	**Pn**	**19 30 31.5**	**+2.7**
	0.4nm,0.3s,baz=131,slow=13,SNR=10.0						
KK31				⇓Pg	**Pg**	**19 30 44.1**	**-3.2**
	0.9nm,0.3s,baz=138,slow=17,SNR=9.2						
KK31				⇓Lg	Lg	19 31 48.7	
	4.3nm,0.6s,baz=135,slow=27,SNR=3.5						
KKAR	**Karatay Array**	**4.61 312**		⇓*iP*	**Pn**	**19 30 31.2**	**+2.4**
KKAR				⇓*iS*	**Sn**	**19 31 25.1**	**+2.7**
CHGR	**Chuyangaron**	**4.88 255**		⇑*iP*	**Pn**	**19 30 34.5**	**+2.0**
CHGR				⇑*iS*	**Sn**	**19 31 30.7**	**+1.6**
BRLS	**Borolday**	**4.97 308**		Pg	**Pb**	**19 30 47.6**	**+1.6**
	2.5nm,0.6s						
BRLS				Lg	Lg	19 31 53.9	
	2.7nm,0.5s						
BRLS	**Borolday**	**4.97 308**		*eP*	**Pb**	**19 30 47.2**	**+1.2**
	2.5nm,0.3s						
BRLS				*eS*	**Sg**	**19 31 53.9**	**-4.5**
	2.7nm,0.5s						
BTLS	**Baital**	**5.02 351**		Pg	**Pg**	**19 30 51.1**	**-4.0**
	5.1nm,1.4s						
BTLS				Lg	Lg	19 31 59.5	
	3.5nm,0.6s						
BTLS	**Baital**	**5.02 351**		*eP*	**Pg**	**19 30 50.9**	**-4.1**
	5.1nm,1.4s						
BTLS				*eS*	**Sg**	**19 31 59.7**	**-0.3**

IDC 16 19:43:21.8±1.7, 1°.21N×125°.59E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=192.2km s-min=20.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.70 158**		P	P	19 48 24.9	-0.3
	0.7nm,0.5s,baz=336,slow=11,SNR=14						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**26.01 162**		P	P	19 48 56.9	+0.2
	0.3nm,0.4s,baz=342,slow=9.2,SNR=18						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.99 327**		P	P	19 53 23.9	+0.6
	0.4nm,0.5s,baz=114,slow=8.0,SNR=9.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.26 329**		P	P	19 53 51.4	-0.8
	0.4nm,0.6s,baz=127,slow=6.1,SNR=5.2						
	0.4nm,0.6s						

*JMA **16** 19:56:10.5±0.2, 25°.2N±0°.7×124°.5E±0°.4, h0km, MV3.7/11, NW OFF MIYAKOJIMA ISLAND*
*IDC **16** 19:56:10.4±1.0, 25°.25N×124°.57E, h0km, mb3.5/8, mbtmp3.5/9, ML2.8/1, MS2.9/4, Error ellipse: s-maj=29.2km s-min=19.9km az=65.0*

ISC 16 19:56:11.4±1.9, 25°.21N±0°.08×124°.56E±0°.04, h7km±13km, n22, σ0°85/25, mb3.5/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.58 167**		*eP*	**Pg**	**19 56 22.7**	**+0.1**
JTJ				*eS*	**Sg**	**19 56 31.2**	**+0.9**
JISG	**Ishigakijimahi**	**0.66 200**		*eP*	**Pg**	**19 56 24.1**	**0.0**
JISG				*eS*	**Sg**	**19 56 33.6**	**+0.8**
JIRB	**Irabujima**	**0.68 124**		*eP*	**Pg**	**19 56 24.2**	**-0.2**
JIRB				*eS*	**Sg**	**19 56 33.9**	**+0.7**
JIKM	**Ikemajima**	**0.69 115**		*eP*	**Pb**	**19 56 24.9**	**-0.8**
JIKM				*eS*	**Sb**	**19 56 34.7**	**-0.6**
JMJ2	**Miyako jima3**	**0.84 124**		*eP*	**Pb**	**19 56 27.9**	**-0.4**
JMJ2				*eS*	**Sb**	**19 56 39.6**	**-0.1**
JOGS	**Gusukube**	**0.89 120**		*eP*	**Pg**	**19 56 28.2**	**-0.3**
JOGS				*eS*	**Sb**	**19 56 40.9**	**-0.3**
JIJ	**Ishigaki jima**	**0.93 204**		*eP*	**Pg**	**19 56 28.5**	**-0.7**
JKRS	**Kuro-shima**	**1.09 207**		*eP*	**Pg**	**19 56 31.5**	**-0.8**
IRIF	**Iriomote-Funau**	**1.15 221**		*eP*	**Pb**	**19 56 33.1**	**-0.5**
HATJ	**Hateruma jima

```
UREC                                    S    Sn      19 59 07.5 -1.1
GUY2C Guyana, Caldas      2.78 235      P    Pn      19 58 39.8 +1.1
GUY2C                                   S    Sn      19 59 13.4 -0.2
VILC  Villavicencio,      2.78 192      P    Pn      19 58 39.1 +0.6
VILC                                    S    Sn      19 59 12.9 -0.4
CBOC  Ciudad Bolivar      3.06 252      P    Pn      19 58 43.3 +1.3
CBOC                                    S    Sn      19 59 19.6 +0.1
DBBC  Dabeiba             3.10 273      P    Pn      19 58 43.1 +0.7
DBBC                                    S    Sn      19 59 20.1 -0.1
SDV   Santo Domingo       3.17  50      P    Pn      19 58 45.0 +1.6
      23nm,0.3s,baz=243,slow=11,SNR=61
SDV                                     S    Sn      19 59 22.2 +0.2
      180nm,0.5s,baz=266,slow=19,SNR=25
SDV   Santo Domingo       3.17  50      P    Pn      19 58 45.0 +1.6
SDV                                     S    Sn      19 59 21.8 -0.2
ARGC  Ariguani, Magd      3.20 339      P    Pn      19 58 46.6 +2.9
ARGC                                    S    Sn      19 59 24.5 +1.9
PRAC  Prado               3.59 210      P    Pn      19 58 48.9 +0.3
PRAC                                    S    Sn      19 59 31.2 -0.2
APAC  Apartado, Choc      3.61 287      P    Pn      19 58 49.7 +0.8
APAC                                    S    Sn      19 59 32.7 +0.8
ORTC  Ortega, Tolima      3.62 216      P    Pn      19 58 50.1 +1.0
ORTC                                    S    Sn      19 59 32.2  0.0
SJCC  San Jacinto, C      3.67 326      P    Pn      19 58 49.8 +0.1
SJCC                                    S    Sn      19 59 30.9 -2.4
PLMC  San Jos del P       3.71 239      P    Pn      19 58 51.5 +1.2
PLMC                                    S    Sn      19 59 34.5 +0.2
URMC  La Uribe, Meta      3.80 200      P    Pn      19 58 52.0 +0.6
URMC                                    S    Sn      19 59 35.9 -0.5
CRJC  Cerrejon, Guaj      4.15   3      P    Pn      19 58 56.0  0.0
CRJC                                    S    Sn      19 59 42.8 -1.8
GUVC  San Jose del G      4.30 174      P    Pn      19 58 59.5 +1.7
GUVC                                    S    Sn      19 59 46.8 -1.2
YOTC  Yotoco, Valle       4.31 229      P    Pn      19 58 58.5 +0.4
SMRC  Santa Marta, M      4.43 345      P    Pn      19 59 00.3 +0.7
SMRC                                    S    Sn      19 59 49.6 -1.5
PIZC  Pizarro, Choco      4.64 246      P    Pn      19 59 04.1 +1.8
PTAC  Punta Ardita,       4.69 274      P    Pn      19 59 03.7 +0.7
MACC  Macarena, Meta      4.73 189      P    Pn      19 59 02.6 -0.9
MACC                                    S    Sn      19 59 55.6 -2.5
URIC  Uribia, Colomb      4.95  13      P    Pn      19 59 06.0 -0.3
      748nm37nm,0.7s
MALC  Bahia Malaga        5.08 237      P    Pn      19 59 10.0 +2.0
MALC                                    S    Sn      20 00 07.6 +1.4
POPC  Popayan, Colom      5.57 220      P    Pn      19 59 16.1 +1.2
      6.8nm,0.6s
POPC                                    S    Sn      20 00 18.7 +0.3
      6.8nm,0.6s
BBAC  Balboa, Cauca       6.33 221      P    Pn      19 59 27.1 +2.1
GR1C  Gorgona, Isla       6.33 233      P    Pn      19 59 25.4 +0.6
BCIP  Isla Barro Col      7.07 289      P    Pn      19 59 33.7 -0.8
PCRV  Puerto La Cruz      8.99  68      P    Pn      20 00 01.2 +1.0
      5.5nm,0.8s,baz=270,slow=8.1,SNR=1.6
PCRV                                    S    Sn      20 01 38.0 -2.2
      9.1nm,0.6s,baz=248,slow=19,SNR=3.2
JTS   Las Juntas de      12.22 287      P    P       20 00 47.0 -1.7
      1.4nm,0.4s,baz=90,slow=19,SNR=4.0
ASAR  Alice Springs     149.15 234      PKPbc PKPbc  20 17 24.4 -0.2
      0.7nm,0.5s,baz=119,slow=3.5,SNR=14
WRA   Warramunga Arr    150.37 241      PKPbc PKPbc  20 17 27.7 +0.1
      0.6nm,0.4s,baz=108,slow=2.7,SNR=10
```

*IDC **16** 20:04:56.7±1.1, 10°.30S×118°.92E, h0km, mb3.8/6, mbtmp3.7/10, ML3.6/4, MS3.1/2, Error ellipse: s-maj=53.4km s-min=16.7km az=58.0*
*DJA **16** 20:05:03.2±0.4, 10°S±3°×11°.9E±°, h10km, M4.3/12, mB4.2/1, mb4.3/6, MLv4.2/12, Mw(mB)3.3/1*
*NEIC **16** 20:05:03.4±1.9, 10°.25S±0°.07×119°.13E±0°.07, h35km±2km, mb4.1/6, Error ellipse: s-maj=12.5km s-min=12.1km az=197.0*

ISC 16 20:05:02.3±0.6, 10°.26S±0°.05×119°.19E±0°.04, h35km, n41, σ2s71/51, mb3.9/8, Sumba region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
WBSI  Waikabubak, Su      0.65  18   P     Pn                20 05 13.4 -1.6
WBSI                                 S     Sn                20 05 20.2 -3.9
WSI   Waingapu            1.24  62   P     Pn                20 05 23.6 +0.5
WSI                                  S     Sn                20 05 42.0 +3.4
BASI  Baing, Sumba        1.36  88   P     Pn                20 05 27.9 +3.1
BASI                                 S     Sn                20 05 46.8 +5.1
PLAI  Plampang            2.00 315   P     Pn                20 05 35.0 +1.5
PLAI                                 S     Sn                20 06 00.2 +2.9
MMRI  Maumere             3.41  62   Pn    Pn                20 05 55.0 +2.0
MMRI  Maumere             3.41  62   P     Pn                20 05 55.6 +2.6
BSSI  Bau Bau, Buton      4.29  18   P     Pn                20 06 07.0 +1.9
BSSI                                 S     Sn                20 06 56.9 +2.9
SRBI  Singaraja           4.49 299   P     Pn                20 06 10.8 +3.0
SRBI                                 S     Sn                20 07 02.5 +3.7
BKSI  Bulukumba           4.99  11   P     Pn                20 06 16.8 +2.0
BKSI                                 S     Sn                20 07 15.2 +3.9
SOEI  Soe                 5.02  85   Pn    Pn                20 06 16.5 +1.3
SOEI  Soe                 5.02  85   P     Pn                20 06 17.8 +2.5
      0.2nm29nm,0.7s
SOEI                                 S     Sn                20 07 17.1 +4.9
      0.2nm29nm,0.7s
KAPI  Kappang             5.24   6   Pn    Pn                20 06 19.0 +0.7
KAPI  Kappang             5.24   6   Pn    Pn                20 06 19.4 +1.2
      4.9nm,0.3s,baz=195,slow=7.0,SNR=14
KAPI                                 Sn    Sn                20 07 18.9 +1.4
      7.8nm,0.3s,baz=246,slow=20,SNR=5.9
KAPI                                 LR    LR                20 08 34.9
      comp=Z,151nm,20.3s,baz=164,slow=41
      11nm,0.3s
JAGI  Jajag, Banyuwa      5.28 289          Pn                20 06 19.0 +0.3
BBSI  Bau Bau             5.80  35   P     Pn                20 06 29.3 +3.4
      0.1nm25nm,0.8s
SPSI  Sidrap Palu         6.28   5   P     Pn                20 06 33.7 +1.2
UGM   Wanagama            8.88 285   Pn    Pn                20 07 08.3 +0.2
FITZ  Fitzroy Crossi      9.98 142   Pn    Pn                20 07 24.1 +0.8
      0.4nm,0.3s,baz=333,slow=6.4,SNR=15
FITZ                                 Sn    Sn                20 09 09.9 -4.3
      1.0nm,0.3s,baz=315,slow=16,SNR=9.5
      1.7nm,0.5s
KNRA  Kununurra          10.77 121   Pn    Pn                20 07 33.9 -0.1
MBWA  Marble Bar         10.85 177   Pn    Pn                20 07 34.3 -0.8
PSA00 Pilbara Seismi     11.26 177   Pn    Pn                20 07 41.8 +1.0
GIRL  Giralia            13.20 200   Pn    Pn                20 08 08.4 +1.2
WB0   Warramunga Arr     17.45 125   Pn    Pn                20 09 03.0  0.0
WB0                                  IAmb  IAmb              20 09 11.0
      comp=Z,8.3nm,1.4s
WRA   Warramunga Arr     17.49 125   P     Pn                20 09 03.5 -0.1
      comp=Z,0.2nm,0.3s,baz=295,slow=14,SNR=7.7
WRA                                  S     Sn                20 12 07.3 -10
      comp=Z,0.3nm,0.6s,baz=292,slow=29,SNR=1.7
      comp=Z,0.5nm,0.5s
AS31  Alice Springs      19.36 135          P                 20 09 27.2 +2.2
ASAR  Alice Springs      19.36 135   P     P                 20 09 27.1 +2.1
      comp=Z,0.1nm,0.3s,baz=312,slow=10,SNR=14
ASAR                                 S     S                 20 12 53.7 -8.5
      comp=Z,0.5nm,0.7s,baz=306,slow=22,SNR=1.4
      comp=Z,0.8nm,0.5s
NWAO  Narrogin (SRO)     22.63 184   LR    LR                20 19 32.8
      comp=Z,48nm,18.1s,baz=248,slow=39
COEN  Coen               23.73 101   P     P                 20 10 09.8 -1.6
COEN                                 IAmb  IAmb              20 10 45.5
      comp=Z,13nm,1.4s
KULM  Kulim              24.08 309   P     P                 20 10 15.8 +1.1
STKA  Stephens Creek     29.87 139   P     P                 20 11 08.2 +1.6
STKA                                 IAmb  IAmb              20 11 50.3
      comp=Z,7.4nm,1.5s
STKA  Stephens Creek     29.87 139   P     P                 20 11 06.9 +0.3
      comp=Z,0.7nm,0.6s,baz=309,slow=8.0,SNR=3.5
      comp=Z,0.7nm,0.6s
CMAR  Chiang Mai Arr     34.84 325   P     P                 20 11 48.3 -1.9
      comp=Z,0.2nm,0.5s,baz=133,slow=7.6,SNR=2.3
      comp=Z,0.2nm,0.5s
SONM  Songino Array      58.95 350   P     P                 20 14 56.8 -1.3
      comp=Z,0.2nm,0.4s,baz=170,slow=10.0,SNR=5.3
      comp=Z,0.2nm,0.4s
MK31  Makanchi Array     65.66 333   P     P                 20 15 43.4 +0.4
MK31                                 IAmb  IAmb              20 15 53.5
      comp=Z,0.9nm,0.8s
MKAR  Makanchi Array     65.66 333   P     P                 20 15 43.2 +0.1
MKAR  Makanchi Array     65.66 333   P     P                 20 15 42.9 -0.1
      comp=Z,0.5nm,0.5s,baz=144,slow=6.4,SNR=8.8
      comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra     70.18 334   P     P                 20 16 11.3  0.0
      comp=Z,0.5nm,0.2s,baz=142,slow=5.6,SNR=2.8
      comp=Z,0.5nm,0.2s
ZALV  Zalesovo Beam      70.28 339   P     P                 20 16 10.8 -1.1
ZALV  Zalesovo Beam      70.28 339   P     P                 20 16 11.0 -0.9
      comp=Z,0.7nm,0.5s,baz=150,slow=4.8,SNR=5.7
      comp=Z,0.7nm,0.5s
ABKAR Akbulak array      78.70 325   P     P                 20 17 01.0 +0.1
NOR   Nord              106.20 354   i P   Pdif              20 19 04.0 -6.8
```

IDC 16 20:07:26.4±15.0, 6°.63S×129°.69E, h139km±167km, mb2.8/1, mbtmp3.4/4, ML3.5/2, MS2.9/1, Error ellipse: s-maj=115.0km s-min=61.0km az=38.0, Banda Sea

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
FITZ  Fitzroy Crossi     12.07 199   P     Pn                20 10 15.8 +1.8
      1.5nm,0.4s,baz=27,slow=16,SNR=1.0
FITZ                                 S     Sn                20 12 21.2 -6.0
      2.4nm,0.9s,baz=7.6,slow=15,SNR=1.7
WRA   Warramunga Arr     13.98 162   P     Pn                20 10 37.3 -1.4
      0.3nm,0.3s,baz=337,slow=13,SNR=14
WRA                                  S     Sn                20 13 05.0 -8.4
      0.2nm,0.4s,baz=343,slow=22,SNR=1.6
      0.2nm,0.4s
ASAR  Alice Springs      17.42 167   P     P                 20 11 20.1 -0.1
      0.1nm,0.3s,baz=344,slow=9.6,SNR=5.7
      0.5nm,0.5s
KRVT  Keravat (AS076     22.35  85   LR    LR                20 22 50.6
      comp=Z,28nm,19.1s,baz=117,slow=41
MKAR  Makanchi Array     67.75 327   P     P                 20 18 09.0 -0.1
      0.1nm,0.5s,baz=118,slow=6.6,SNR=1.7
      0.1nm,0.5s
```

*IDC **16** 20:08:36.9±2.9, 43°.16N×105°.02W, h0km, mb2.4/1, mbtmp2.9/3, ML2.9/2, MS2.9/3, Error ellipse: s-maj=54.4km s-min=10.4km az=156.0*
*NEIC **16** 20:08:37.7±1.9, 43°.57N±0°.05×105°.29W±0°.07, h0km±1km, ML3.1/42, Error ellipse: s-maj=9.4km s-min=7.3km az=144.0*

ISC 16 20:08:39.2±1.1, 43°.58N±0°.05×105°.25W±0°.05, h0km, n29, σ1s07/25, Wyoming

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
RSSD  Black Hills         1.03  58          Pg                20 08 58.0 -1.0
RSSD                                 IAML                    20 09 23.4
      325nm,0.6s
K22A  Casper              1.31 226          Pg                20 09 03.6 -0.8
N23A  Red Feather La      2.73 191          Pn                20 09 25.3 +0.8
N23A                                 IAML                    20 10 09.7
      comp=N,86nm,0.4s
N23A                                 IAML                    20 10 11.0
      comp=E,88nm,0.4s
LAO   LASA Array          3.19 348   Pn    Pn                20 09 30.6 -0.1
PD31  Pinedale Array      3.25 257   Pn    Pn                20 09 31.1 -0.6
PDAR  Pinedale Array      3.25 257          Pn                20 09 31.9 +0.2
PDAR  Pinedale Array      3.25 257   Pn    Pn                20 09 33.5 +1.8
      comp=E,1.3nm,0.3s,baz=78,slow=12,SNR=33
PDAR                                 Lg    Lg                20 10 21.7
      comp=E,14nm,0.3s,baz=73,slow=32,SNR=17
      comp=E,1.4nm,0.3s
RLMT  Red Lodge           3.27 300   Pn    Pn                20 09 33.2 +1.3
RLMT                                 IAML                    20 10 37.2
      comp=E,33nm,1.0s
OGNE  Ogallala            3.55 137   Pn    Pn                20 09 35.6 -0.1
YNE   Yellowstone No      3.71 294   Pn    Pn                20 09 36.0 -1.9
YNE                                  IAML                    20 10 44.7
      comp=E,31nm,0.4s
YNE                                  IAML                    20 10 51.2
      comp=N,31nm,0.7s
ISCO  Idaho Springs       3.78 184          Pn                20 09 40.1 +1.0
ISCO                                 IAML                    20 11 31.0
      comp=N,39nm,4.5s
ISCO                                 IAML                    20 11 52.0
      comp=N,32nm,4.1s
LOHW  Long Hollow         3.89 272   Pn    Pn                20 09 41.0 +0.5
LOHW                                 IAML                    20 10 58.2
      comp=N,18nm,1.3s
O20A  White River Ci      4.10 214   Pn    Pn                20 09 42.6 -0.7
TPAW  Teton Pass          4.15 271          Pn                20 09 45.1 +1.1
TPAW                                 IAML                    20 11 08.2
      comp=N,20nm,2.5s
TPAW                                 IAML                    20 11 17.5
      comp=N,29nm,1.7s
FXWY  Fox Creek           4.20 273          Pn                20 09 44.6 -0.1
K30B  Basset              4.22 100   Pn    Pn                20 09 46.0 +1.2
AHID  Auburn Hatcher      4.36 261          Pn                20 09 46.0 -0.9
AHID                                 IAML                    20 11 11.2
      comp=N,24nm,1.6s
AHID                                 IAML                    20 11 29.5
      comp=N,20nm,3.2s
YHL   Hebgen Lake         4.45 289   Pn    Pn                20 09 49.0 +0.8
YHL                                  IAML                    20 12 05.6
      comp=N,20nm,4.8s
DGMT  Dagmar              4.95   8   Pn    Pn                20 09 55.2 +0.4
KSCO  Kaye Shedlock'      4.97 156          Pn                20 09 55.6 +0.4
TCUT  Toone Canyon        5.18 244          Pn                20 09 58.2  0.0
SRU   San Rafael Swe      5.97 223          Pn                20 10 08.0 -1.0
ECSD  EROS Data Cent      6.27  86   Pn    Pn                20 10 14.5 +1.6
ELK   Elko                7.94 253   LR    LR                20 14 04.7
      comp=N,134nm,19.6s,baz=70,slow=41
ANMO  Albuquerque         8.67 187   LR    LR                20 14 06.7
      comp=N,50nm,21.1s,baz=222,slow=40
I10CA LAC DU BONNET       9.15  40   I     I                 21 04 20.0
      comp=N,0.1nm,1.4s,baz=224,slow=331,SNR=2.5
ULM   Lac du Bonnet       9.25  41   Pn    Pn                20 10 52.8 -1.1
      comp=N,0.2nm,0.3s,baz=232,slow=12,SNR=1.7
ULM                                  Lg    Lg                20 13 24.7
      comp=N,0.1nm,0.3s,baz=159,slow=19,SNR=1.8
      comp=N,0.6nm,0.3s
NVAR  Mina Array Bea     11.12 247   LR    LR                20 16 26.6
      comp=N,85nm,19.9s,baz=156,slow=43
YKA   Yellowknife Ar     19.73 347   P     Pn                20 13 13.3 +1.8
      comp=N,0.2nm,0.8s,baz=162,slow=11,SNR=4.4
      comp=N,0.2nm,0.8s
```

*JMA **16** 20:17:52.5±0.3, 25°.3N±1°.0×124°.6E±0°.5, h8km, MD4.3/11, MV3.9/11, NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 20:17:52.5, 25°.29N×124°.55E, h8km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=1.60; Mθθ=1.34; Mφφ=0.26; Mrθ=-0.27; Mθφ=0.16; Mrφ=0.11; Fault plane solution: M0=1.51000×10^15 NP1: φs=258.00000°, δ=40.00000°, λ=-97.00000°. NP2: φs=86.00000°, δ=50.00000°, λ=-84.00000°.*
*IDC **16** 20:17:52.2±0.7, 25°.28N×124°.47E, h0km, mb3.7/12, mbtmp3.7/14, ML2.9/2, MS3.2/18 Error ellipse: s-maj=24.6km s-min=15.9km az=66.0*

ISC 16 20:17:53.6±1.5, 25°.22N±0°.05×124°.54E±0°.04, h8km±10km, n53, σ1s02/40, mb3.8/12, MS3.3/12, Northeast of Taiwan

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
JTJ   Tarama              0.60 166   P     Pg                20 18 05.1  0.0
JTJ                                  S     Sg                20 18 13.9 +0.9
JTJ   Tarama              0.60 166   A     A                 20 18 05.1
      comp=N,15nm,0.8s,comp=E,15nm,5.1s
JISG  Ishigakijimahi      0.67 198   P     Pb                20 18 06.8 -0.6
JISG                                 eS    Sb                20 18 17.1 +0.3
JISG  Ishigakijimahi      0.67 198   A     A                 20 18 06.8
      comp=N,8.0nm,1.5s,comp=E,17nm,0.6s
JIRB  Irabujima           0.69 124   eP    Pg                20 18 06.2 -0.8
JIRB                                 eS    Sg                20 18 15.7 -0.4
JIRB  Irabujima           0.69 124   A     A                 20 18 06.2
      comp=N,17nm,2.2s,comp=E,17nm,3.6s
JIKM  Ikemajima           0.71 115   eP    Pg                20 18 06.7 -0.5
JIKM                                 S     Sg                20 18 17.1 +0.6
JIKM  Ikemajima           0.71 115   A     A                 20 18 06.7
      comp=N,21nm,2.7s,comp=E,29nm,3.5s
JMJ   Miyako jima 2       0.80 121   P     Pb                20 18 09.5 -0.1
JMJ   Miyako jima 2       0.80 121   S     Sb                20 18 21.5 +1.0
JMJ2  Miyako jima3        0.86 124   P     Pg                20 18 09.6 -0.5
JMJ2                                 S     Sg                20 18 20.9 -0.4
JMJ2  Miyako jima3        0.86 124   A     A                 20 18 09.6
      comp=N,22nm,1.9s,comp=E,23nm,7.5s
JOGS  Gusukube            0.91 120   P     Pg                20 18 10.6 -0.5
JOGS                                 eS    Sg                20 18 23.7 +0.7
JOGS  Gusukube            0.91 120   A     A                 20 18 10.6
      comp=N,25nm,2.3s,comp=E,20nm,5.5s
JIJ   Ishigaki jima       0.93 203   P     Pg                20 18 11.0 -0.4
JIJ                                  S     Sb                20 18 24.8 +0.4
JIJ   Ishigaki jima       0.93 203   A     A                 20 18 11.0
      comp=N,5.0nm,1.7s,comp=E,12nm,0.9s
JKRS  Kuro-shima          1.09 206   P     Pg                20 18 14.1 -0.5
JKRS                                 S     Sn                20 18 30.5 +0.1
JKRS  Kuro-shima          1.09 206   A     A                 20 18 14.1
      comp=N,21nm,3.2s,comp=E,19nm,2.3s
IRIF  Iriomote-Funau      1.15 220   P     Pg                20 18 14.7 -1.0
HATJ  Hateruma jima       1.34 210   eP    Pn                20 18 17.0 -1.5
HATJ  Hateruma jima       1.34 210   A     A                 20 18 17.0
      comp=N,12nm,3.0s,comp=E,10.0nm,5.9s
NACB  Ninganchiao         2.88 249   P     Pn                20 18 41.1 +1.4
YHNB  Yeheng              2.92 260   P     Pn                20 18 42.0 +1.6
SSLB  Suanglung           3.56 247   P     Pn                20 18 50.9 +1.7
JOW   Kunigami            3.72  64   Pn    Pn                20 18 52.2 +0.9
      comp=E,1.3nm,0.3s,baz=280,slow=15,SNR=2.4
JOW                                  LR    LR                20 20 16.0
      comp=E,79nm,19.8s,baz=320,slow=38
      comp=E,16nm,0.6s
TPUB  Ta-pu               4.05 243   P     Pn                20 18 58.1 +2.2
JNU   Nakatsue            9.62  34   LR    LR                20 24 00.4
      comp=E,138nm,18.4s,baz=207,slow=38
TGY   Tagaytay City      11.57 198   LR    LR                20 24 54.1
      comp=E,107nm,21.9s,baz=286,slow=36
KSRS  Korea Array        12.53  13   Pn    Pn                20 20 52.9 +0.7
      comp=E,0.1nm,0.3s,baz=192,slow=13,SNR=1.4
KSRS                                 LR    LR                20 26 06.9
      comp=E,155nm,18.1s,baz=195,slow=40
      comp=E,0.8nm,0.8s
MJAR  Matsushiro Arr     16.26  43   LR    LR                20 28 07.8
      comp=E,55nm,20.8s,baz=234,slow=38
DAV   Davao City (W)     18.08 177   LR    LR                20 28 45.6
      comp=E,70nm,21.6s,baz=349,slow=36
ASAJ  Asahikawa          23.90  33   LR    LR                20 32 50.1
      comp=E,51nm,19.6s,baz=1.5,slow=38
KLR   Kul'dur            24.62  11   LR    LR                20 32 21.4
      comp=E,72nm,21.6s,baz=211,slow=35
CMAR  Chiang Mai Arr     24.67 259   P     P                 20 23 15.4 +0.4
      comp=E,0.7nm,0.8s,baz=51,slow=8.4,SNR=8.6
CMAR                                 LR    LR                20 34 00.6
      comp=E,15nm,22.0s,baz=165,slow=39
      comp=E,0.7nm,0.8s
SONM  Songino Array      26.74 332   P     P                 20 23 32.8 -0.8
      comp=E,0.7nm,0.9s,baz=162,slow=9.4,SNR=5.1
      comp=E,0.7nm,0.9s
JAY   Jayapura           31.72 148   LR    LR                20 33 52.5
      comp=E,97nm,22.0s,baz=213,slow=30
YAK   Yakutsk            36.96   4   LR    LR                20 41 30.8
      comp=E,32nm,19.6s,baz=118,slow=38
PETK  Petropavlovsk-     37.32  33   LR    LR                20 38 49.0
      comp=E,20nm,21.8s,baz=278,slow=34
MA2   Magadan            38.89  21   LR    LR                20 42 02.3
      comp=E,40nm,18.1s,baz=220,slow=37
MKAR  Makanchi Array     39.77 314   P     P                 20 25 25.8 -1.1
      comp=E,0.6nm,0.8s,baz=98,slow=9.1,SNR=7.5
MKAR                                 PcP   PcP               20 27 32.5 -0.6
      comp=E,0.6nm,0.8s,baz=89,slow=6.6,SNR=4.0
      comp=E,0.6nm,0.8s
ZALV  Zalesovo Beam      41.09 325   P     P                 20 25 37.0 -0.7
      comp=E,0.9nm,0.5s,baz=110,slow=8.9,SNR=5.4
ZALV                                 LR    LR                20 44 02.2
      comp=E,42nm,19.1s,baz=74,slow=38
      comp=E,0.9nm,0.5s
KURBB Kurchatov Arra     43.33 318   P     P                 20 25 55.0 -0.9
      comp=E,0.5nm,0.5s,baz=110,slow=9.3,SNR=7.8
      comp=E,0.5nm,0.5s
AAK   Ala-Archa          44.34 306   LR    LR                20 47 46.9
      comp=E,67nm,18.4s,baz=54,slow=41
WRA   Warramunga Arr     45.89 167   P     P                 20 26 16.1 -0.6
      comp=E,1.8nm,0.8s,baz=350,slow=8.1,SNR=9.4
      comp=E,1.8nm,0.8s
TIXI  Tiksi              46.52   2   LR    LR                20 47 49.0
      comp=E,64nm,18.9s,baz=192,slow=39
BVAR  Borovoye Array     48.84 319   P     P                 20 26 37.1 -2.3
      comp=E,0.3nm,0.6s,baz=108,slow=14,SNR=1.1
BVAR                                 PcP   PcP               20 28 03.1 -0.8
      comp=E,0.8nm,0.5s,baz=42,slow=4.5,SNR=3.8
      comp=E,0.3nm,0.6s
NRIK  Noril'sk           49.23 344   LR    LR                20 49 38.8
      comp=E,48nm,22.0s,baz=158,slow=39
ASAR  Alice Springs      49.44 169   P     P                 20 26 43.9 -0.3
      comp=E,1.3nm,0.9s,baz=352,slow=13,SNR=10
      comp=E,1.3nm,0.9s
ARTI  Arti               56.23 322   LR    LR                20 52 19.6
      comp=E,56nm,20.2s,baz=79,slow=37
STKA  Stephens Creek     59.07 163   P     P                 20 27 56.3 +2.1
      comp=E,0.7nm,0.6s,baz=345,slow=6.4,SNR=4.0
      comp=E,0.7nm,0.6s
BRTR  Keskin Array B     75.00 307   P     P                 20 29 36.1 +0.2
      comp=E,0.9nm,1.0s,baz=64,slow=5.0,SNR=3.9
      comp=E,0.9nm,1.0s
YKA   Yellowknife Ar     80.81  24   P     P                 20 30 07.2 -0.3
      comp=E,0.8nm,0.8s,baz=306,slow=5.2,SNR=12
      comp=E,0.8nm,0.8s
PDAR  Pinedale Array     95.99  37   P     P                 20 31 21.7  0.0
      comp=E,0.1nm,0.2s,baz=313,slow=8.0,SNR=2.5
      comp=E,0.1nm,0.2s
```

*IDC **16** 20:22:08.0±1.0, 25°.18N×124°.43E, h0km, mb3.5/6, mbtmp3.5/7, ML2.8/1, Error ellipse: s-maj=36.7km s-min=21.5km az=66.0*
*JMA **16** 20:22:09.3±0.3, 25°N±1°×124°.6E±0°.6, h7km, MD4.0/11, MV3.6/11, NW OFF MIYAKOJIMA ISLAND*

ISC 16 20:22:09.4±1.9, 25°.21N±0°.06×124°.51E±0°.06, h9km±12km, n21, σ0s51/22, mb3.5/6, Northeast of Taiwan

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
JTJ   Tarama              0.59 163   P     Pb                20 22 21.6 -0.4
JTJ                                  S     Sb                20 22 30.5  0.0
JISG  Ishigakijimahi      0.65 197   P     Pb                20 22 23.7 +0.8
JISG  Ishigakijimahi      0.65 197   A     A                 20 22 23.7
      comp=N,5.0nm,4.4s,comp=E,9.0nm,0.6s
JIRB  Irabujima           0.71 122   eS    Sg                20 22 32.6 +0.3
JIRB  Irabujima           0.71 122   A     A                 20 22 32.6
      comp=N,13nm,4.5s,comp=E,10.0nm,3.5s
JIKM  Ikemajima           0.72 113   eP    Pg                20 22 23.2 -0.2
JMJ2  Miyako jima3        0.87 122   P     Pg                20 22 26.1 -0.2
JMJ2                                 eS    Sb                20 22 38.5 -0.1
JIJ   Ishigaki jima       0.91 202   P     Pb                20 22 27.7 +0.3
JIJ                                  eS    Sn                20 22 41.5 -0.2
JIJ   Ishigaki jima       0.91 202   A     A                 20 22 27.7
      comp=N,3.0nm,4.5s,comp=E,6.0nm,0.9s
JOGS  Gusukube            0.93 119   P     Pg                20 22 27.2 -0.1
JOGS                                 eS    Sb                20 22 40.2 +0.1
JKRS  Kuro-shima          1.07 205   P     Pn                20 22 30.7  0.0
JKRS                                 eS    Sn                20 22 46.7 +1.0
JKRS  Kuro-shima          1.07 205   A     A                 20 22 30.7
      comp=N,10.0nm,3.2s,comp=E,11nm,2.8s
IRIF  Iriomote-Funau      1.13 219   P     Pn                20 22 31.2 -0.3
HATJ  Hateruma jima       1.32 209   P     Pb                20 22 34.6 +0.2
JOW   Kunigami            3.75  64   Pn    Pn                20 23 08.1 +0.5
      comp=E,1.4nm,0.3s,baz=248,slow=6.8,SNR=2.0
      comp=E,27nm,0.9s
MKAR  Makanchi Array     39.76 314   P     P                 20 29 42.6  0.0
      comp=E,0.4nm,0.8s,baz=101,slow=7.5,SNR=3.0
      comp=E,0.4nm,0.8s
ZALV  Zalesovo Beam      41.09 325   P     P                 20 29 52.4 -1.1
      comp=E,0.3nm,0.4s,baz=120,slow=8.5,SNR=2.2
      comp=E,0.3nm,0.4s
KURBB Kurchatov Arra     43.32 318   P     P                 20 30 11.2 -0.5
      comp=E,0.1nm,0.2s,baz=110,slow=9.4,SNR=4.1
      comp=E,0.1nm,0.2s
WRA   Warramunga Arr     45.89 167   P     P                 20 30 31.8 -0.7
      comp=E,0.9nm,0.8s,baz=348,slow=7.8,SNR=6.6
      comp=E,0.9nm,0.8s
ASAR  Alice Springs      49.43 169   P     P                 20 30 59.9 -0.1
      comp=E,0.4nm,0.7s,baz=348,slow=8.7,SNR=5.3
      comp=E,0.4nm,0.7s
YKA   Yellowknife Ar     80.83  24   P     P                 20 34 24.0 +0.6
      comp=E,0.5nm,0.9s,baz=311,slow=5.1,SNR=6.1
      comp=E,0.5nm,0.9s
```

*IDC **16** 20:31:03.3±1.0, 31°.81S×178°.00W, h0km, mb4.1/5, mbtmp4.0/6, ML3.6/1, MS3.4/1, Error ellipse: s-maj=33.3km s-min=29.5km az=114.0*
*NEIC **16** 20:31:06.6±1.0, 32°.1S±0°.1×178°.2W±0°.2, h10km±1km, mb4.3/9, Error ellipse: s-maj=30.0km s-min=9.4km az=122.0*

ISC 16 20:31:07.3±0.9, 31°.9S±0°.1×178°.2W±0°.2, h24km, n30, σ0s84/30, mb4.2/8, Kermadec Islands region

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC               h m s     ISC
URZ   Urewera             7.41 210   Pn    Pn                20 32 53.3 -0.6
      0.9nm,0.3s,baz=345,slow=2.3,SNR=6.8
URZ                                  Sn    Sn                20 34 17.4 +0.2
      3.1nm,0.3s,baz=330,slow=5.3,SNR=12
      6.6nm,1.0s
RTZ   Ruatahuna           7.76 210   Pn    Pn                20 32 57.3 -1.6
BFZ   Birch Farm          9.83 206   Pn    Pn                20 33 26.2 -0.9
```

DZM	Mont Dzumac	16.86 302	LR	LR	20 39 21.3	
	comp=Z,139nm,19.9s,baz=104,slow=30					
BBOO	Buckleboo	38.45 256	P	P	20 38 26.9	-0.4
BBOO			IAmb	IAmb	20 38 52.5	
	comp=Z,15nm,1.4s					
COEN	Coen	39.59 288	P	P	20 38 37.8	+0.7
COEN			IAmb	IAmb	20 38 57.9	
	comp=Z,11nm,1.4s					
AS31	Alice Springs	42.92 269	P	P	20 39 04.3	-0.1
ASAR	Alice Springs	42.92 269	P	P	20 39 05.0	+0.7
ASAR	Alice Springs	42.92 269	P	P	20 39 05.2	+0.8
	comp=Z,0.8nm,0.4s,baz=106,slow=7.5,SNR=27					
	comp=Z,0.8nm,0.4s					
WR0	Warramunga Arr	43.87 274	P	P	20 39 12.7	+0.7
WR0			IAmb	IAmb	20 39 31.4	
	comp=Z,2.4nm,0.9s					
WRA	Warramunga Arr	44.05 274	P	P	20 39 13.7	+0.2
WRA	Warramunga Arr	44.05 274	P	P	20 39 14.4	+1.0
	comp=Z,1.1nm,0.4s,baz=112,slow=8.0,SNR=16					
	comp=Z,1.1nm,0.4s					
MTN	Manton Dam	50.11 280	P	P	20 40 01.1	+0.3
KNRA	Kununurra	50.71 276	P	P	20 40 05.3	0.0
FITZ	Fitzroy Crossi	52.24 271	P	P	20 40 17.5	+0.7
FITZ			IAmb	IAmb	20 40 44.9	
	comp=Z,1.5nm,1.2s					
FITZ	Fitzroy Crossi	52.24 271	P	P	20 40 16.4	-0.3
	comp=Z,2.4nm,0.9s,baz=90,slow=3.0,SNR=2.4					
	comp=Z,2.4nm,0.9s					
QSPA	South Pole Qui	58.18 180	P	P	20 41 01.3	+2.1
QSPA			IAmb	IAmb	20 41 16.1	
	comp=Z,6.0nm,1.1s					
QSPA	South Pole Qui	58.18 180	P	P	20 41 00.3	+1.2
	comp=Z,1.4nm,0.9s,baz=46,slow=2.0,SNR=6.9					
	comp=Z,1.4nm,0.9s					
PETK	Petropavlovsk-	87.26 346	P	P	20 43 51.4	0.0
	comp=Z,1.9nm,0.9s,baz=188,slow=14,SNR=1.1					
	comp=Z,1.9nm,0.9s					
MKAR	Makanchi Array	118.65 309	PKPdf	PKPdf	20 49 52.4	-0.6
MKAR	Makanchi Array	118.65 309	PKP	PKiKP	20 49 53.0	0.0
	comp=Z,0.2nm,0.7s,baz=48,slow=2.1,SNR=1.9					
KURBB	Kurchatov Arra	122.05 313	PKP	PKPdf	20 49 58.5	-0.8
	comp=Z,0.4nm,0.5s,baz=115,slow=2.0,SNR=6.4					
KKAR	Karatay Array	125.80 303	PKPdf	PKiKP	20 50 07.1	-0.1
BVAR	Borovoye Array	127.40 315	PKP	PKPdf	20 50 08.9	-0.6
	comp=Z,0.4nm,0.4s,baz=144,slow=2.0,SNR=4.6					
FINES	FINESS Array B	146.53 339	PKPdf	PKPbc	20 50 44.9	-0.9
FINES	FINESS Array B	146.53 339	PKPbc	PKPdf	20 50 44.8	+0.5
	comp=Z,2.2nm,0.6s,baz=54,slow=3.7,SNR=10					
HFS	Hagfors	150.72 348	PKPbc	PKPbc	20 50 55.1	-1.6
	comp=Z,1.8nm,0.7s,baz=64,slow=9.8,SNR=4.8					
MMAI	Mount Meron Ar	151.74 281	PKPbc	PKiKP	20 51 01.1	+0.6
	comp=Z,1.8nm,0.7s,baz=88,slow=6.8,SNR=5.0					
ILGA	Ilgaz	152.94 299	PKPbc	PKiKP	20 51 03.1	+0.2
BRTR	Keskin Array B	153.18 296	PKPbc	PKiKP	20 51 03.1	-0.2
	comp=Z,0.5nm,0.5s,baz=137,slow=4.6,SNR=6.5					

NIED ***16*** *20:44:15.6, 25°.34N×124°.53E, h0km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.60; $M_{\theta\theta}$2.50; $M_{\phi\phi}$0.10; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.84; Fault plane solution: $M_0$2.82000×10^{15} NP1: ϕ_s276.00000°, δ36.00000°, λ-68.00000°. NP2:ϕ_s69.00000°, δ57.00000°, λ-105.00000°.*

JMA ***16*** *20:44:15.6±0.5, 25°.N±2°.×124°.5E±0°.8, h0km, MD4.6/10, MV4.3/10, NW OFF MIYAKOJIMA ISLAND*

IDC ***16*** *20:44:16.2±0.7, 25°.18N×124°.45E, h0km, mb3.7/12, mbtmp3.7/17, ML3.0/4, MS3.6/36, Error ellipse: s-maj=20.8km s-min=14.9km az=79.0*

ISC 16 20:44:16.4±1.5, 25°.29N±0°.05×124°.52E±0°.03, h2km±10km, n66, σ1§72/41, mb3.7/12, MS3.6/29, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.67	166	P	Pb	20 44 29.6	-1.2
JTJ	Tarama	0.67	166	A	A	20 44 29.6	
	comp=N,39nm,4.1s,comp=E,33nm,4.3s						
JISG	Ishigakijimahi	0.73	195	P	Pb	20 44 31.4	-0.5
JISG				eS	Sb	20 44 42.4	+0.2
JISG	Ishigakijimahi	0.73	195	A	A	20 44 31.4	
	comp=N,13nm,0.6s,comp=E,17nm,0.6s						
JIRB	Irabujima	0.75	128	P	Pg	20 44 30.6	-0.2
JIRB	Irabujima	0.75	128	A	A	20 44 30.6	
	comp=N,44nm,2.2s,comp=E,41nm,3.6s						
JIKM	Ikemajima	0.75	119	eP	Pg	20 44 31.2	+0.3
JIKM				eS	Sb	20 44 42.0	-1.0
JIKM	Ikemajima	0.75	119	A	A	20 44 31.2	
	comp=N,54nm,2.2s,comp=E,64nm,3.6s						
JMJ2	Miyako jima3	0.91	127	P	Pg	20 44 33.8	-0.2
JMJ2				eS	Sb	20 44 47.3	-0.3
JMJ2	Miyako jima3	0.91	127	A	A	20 44 33.8	
	comp=N,55nm,1.9s,comp=E,60nm,6.8s						
JOGS	Gusukube	0.96	123	P	Pb	20 44 35.0	-0.8
JOGS				eS	Sg	20 44 47.7	+0.4
JOGS	Gusukube	0.96	123	A	A	20 44 35.0	
	comp=N,54nm,3.0s,comp=E,44nm,5.5s						
JIJ	Ishigaki jima	0.99	201	P	Pb	20 44 35.3	-0.9
JIJ				eS	Sb	20 44 49.2	-0.5
JIJ	Ishigaki jima	0.99	201	A	A	20 44 35.3	
	comp=N,8.0nm,1.3s,comp=E,14nm,1.0s						
JKRS	Kuro-shima	1.15	204	P	Pn	20 44 38.5	-1.0
JKRS				eS	Sn	20 44 55.1	-0.8
JKRS	Kuro-shima	1.15	204	A	A	20 44 38.5	
	comp=N,29nm,1.7s,comp=E,27nm,2.2s						
IRIF	Iriomote-Funau	1.19	217	A	A	20 44 39.3	
	comp=N,9.0nm,1.5s,comp=E,8.0nm,4.7s						
HATJ	Hateruma jima	1.39	208	eP	Pb	20 44 42.9	-0.2
HATJ				eS	Sn	20 45 03.6	+1.7
NACB	Ninganchiao	2.89	248	P	Pg	20 45 10.9	-0.9
YHNB	Yeheng	2.92	258	P	Pg	20 45 11.7	-0.8
YULB	Yu-li	3.50	238	P	Pn	20 45 12.5	+0.6
SSLB	Suanglung	3.58	246	P	Pb	20 45 16.3	-4.2
JOW	Kunigami	3.71	65	Pn	Pn	20 45 16.1	+1.3
	comp=E,2.2nm,0.3s,baz=262,slow=15,SNR=5.1						
JOW				Sn	Sn	20 45 52.4	-6.7
	comp=E,5.7nm,0.3s,baz=257,slow=18,SNR=5.3						
JOW				LR	LR	20 46 27.3	
	comp=E,87nm,19.2s,baz=299,slow=34						
	comp=E,8.2nm,0.4s						
TPUB	Ta-pu	4.07	242	P	Pn	20 45 22.5	+2.8
JNU	Nakatsue	9.57	34	Pn	Pn	20 46 38.4	+3.1
	comp=E,0.1nm,0.3s,baz=216,slow=18,SNR=1.7						
JNU				LR	LR	20 50 25.8	
	comp=E,259nm,19.7s,baz=210,slow=38						
	comp=E,5.1nm,1.1s						
TGY	Tagaytay City	11.63	198	LR	LR	20 51 37.8	
	comp=E,153nm,18.8s,baz=107,slow=38						
KSRS	Korea Array	12.47	13	Pn	Pn	20 47 18.1	+3.3
	baz=179,slow=12,SNR=4.2						
KSRS				LR	LR	20 52 22.4	
	comp=E,275nm,18.8s,baz=195,slow=39						
	comp=E,0.5nm,0.6s						
MJAR	Matsushiro Ar	16.22	43	Pn	P	20 48 08.7	0.0
	comp=E,0.5nm,0.5s,baz=220,slow=12,SNR=1.3						
MJAR				LR	LR	20 54 30.5	
	comp=E,124nm,18.5s,baz=222,slow=38						
DAV	Davao City (W)	18.15	177	LR	LR	20 56 47.3	
	comp=E,105nm,18.4s,baz=326,slow=42						
USRK	Ussuriysk Ar.	19.82	16	P	P	20 48 48.4	+0.1
	comp=E,0.1nm,0.3s,baz=186,slow=5.7,SNR=1.9						
USRK				LR	LR	20 56 42.3	
	comp=E,102nm,20.2s,baz=216,slow=37						
	comp=E,0.9nm,0.6s						
ASAJ	Asahikawa	23.85	34	LR	LR	20 58 33.0	
	comp=E,74nm,18.2s,baz=54,slow=36						
KLR	Kul'dur	24.55	11	LR	LR	20 59 08.1	
	comp=E,110nm,21.0s,baz=193,slow=36						
CMAR	Chiang Mai Arr	24.67	259	P	P	20 49 38.2	-0.7
	comp=E,0.9nm,0.8s,baz=62,slow=8.2,SNR=7.0						
CMAR				LR	LR	20 58 57.7	
	comp=E,28nm,19.2s,baz=225,slow=36						
	comp=E,0.9nm,0.8s						
SONM	Songino Array	26.67	332	P	P	20 49 57.7	+0.8
	comp=E,1.9nm,1.1s,baz=151,slow=8.0,SNR=8.3						
SONM				LR	LR	21 01 40.8	
	comp=E,117nm,20.0s,baz=172,slow=39						
	comp=E,1.9nm,1.1s						
KAPI	Kappang	30.48	189	LR	LR	21 02 30.0	
	comp=E,73nm,21.0s,baz=34,slow=36						
YAK	Yakutsk	36.89	4	LR	LR	21 07 54.8	
	comp=E,75nm,18.4s,baz=144,slow=38						
PETK	Petropavlovsk-	37.27	33	LR	LR	21 06 43.0	
	comp=E,34nm,19.8s,baz=240,slow=36						
MA2	Magadan	38.84	21	LR	LR	21 07 26.9	
	comp=E,59nm,20.9s,baz=226,slow=36						
MKAR	Makanchi Array	39.72	314	P	P	20 51 50.5	+0.3
	comp=E,0.9nm,0.9s,baz=102,slow=11,SNR=8.2						
MKAR				PcP	PcP	20 53 56.5	-0.4
	comp=E,0.8nm,0.9s,baz=91,slow=6.1,SNR=3.9						
MKAR				LR	LR	21 10 46.8	
	comp=E,37nm,18.4s,baz=151,slow=40						
	comp=E,0.9nm,0.9s						
PMG	Port Moresby	40.94	145	LR	LR	21 11 02.2	
	comp=E,51nm,18.1s,baz=52,slow=39						
ZALV	Zalesovo Beam	41.03	325	P	P	20 52 01.6	+0.6
	comp=E,0.4nm,0.4s,baz=99,slow=8.9,SNR=3.9						
ZALV				LR	LR	21 10 26.7	
	comp=E,82nm,19.7s,baz=87,slow=38						
	comp=E,0.4nm,0.4s						
KURBB	Kurchatov Arra	43.27	318	P	P	20 52 18.6	-0.7
	comp=E,0.7nm,0.8s,baz=111,slow=8.2,SNR=4.3						
	comp=E,0.7nm,0.8s						
AAK	Ala-Archa	44.29	306	LR	LR	21 11 34.3	
	comp=E,47nm,19.2s,baz=76,slow=37						
WRA	Warramunga Arr	45.96	167	P	P	20 52 40.3	-0.8
	comp=E,2.4nm,0.8s,baz=350,slow=8.1,SNR=13						
	comp=E,2.4nm,0.8s						
TIXI	Tiksi	46.46	2	LR	LR	21 14 22.2	
	comp=E,130nm,18.8s,baz=186,slow=39						
BVAR	Borovoye Array	48.78	319	P	P	20 53 04.2	+1.4
	comp=E,0.4nm,0.5s,baz=72,slow=4.7,SNR=2.3						
BVAR				PcP	PcP	20 54 26.7	-0.9
	comp=E,1.1nm,0.8s,baz=111,slow=8.1,SNR=4.3						
	comp=E,0.4nm,0.5s						
NRIK	Noril'sk	49.16	344	P	P	20 53 06.2	+0.7
	comp=E,1.3nm,0.6s,baz=166,slow=2.9,SNR=3.6						
NRIK				LR	LR	21 15 47.8	
	comp=E,65nm,18.6s,baz=152,slow=38						
	comp=E,1.3nm,0.6s						
ASAR	Alice Springs	49.51	169	P	P	20 53 08.3	-0.3
	comp=E,1.1nm,0.8s,baz=353,slow=13,SNR=14						
	comp=E,1.1nm,0.8s						
ARTI	Arti	56.17	322	LR	LR	21 20 02.5	
	comp=E,84nm,18.1s,baz=102,slow=38						
NWAO	Narrogin (SRO)	58.31	187	LR	LR	21 22 44.5	
	comp=E,42nm,18.1s,baz=38,slow=40						
STKA	Stephens Creek	59.14	163	P	P	20 54 18.0	-0.6
	comp=E,2.1nm,0.9s,baz=342,slow=5.9,SNR=4.3						
	comp=E,2.1nm,0.9s						
KIRV	Kirov	61.07	325	LR	LR	21 23 20.2	
	comp=E,170nm,18.7s,baz=79,slow=38						
ILAR	Eielson Array	66.83	28	P	P	20 55 10.1	+0.7
	comp=E,0.2nm,0.8s,baz=317,slow=6.3,SNR=1.6						
	comp=E,0.2nm,0.8s						
OBN	Obninsk	68.51	322	LR	LR	21 27 43.9	
	comp=E,82nm,19.0s,baz=248,slow=38						
ARCES	ARCESS Array B	69.64	338	LR	LR	21 32 42.8	
	comp=E,48nm,18.1s,baz=17,slow=42						
INK	Inuvik	71.05	23	LR	LR	21 30 39.0	
	comp=E,26nm,18.1s,baz=238,slow=39						
FINES	FINESS Array B	72.02	330	LR	LR	21 30 36.8	
	comp=E,146nm,19.0s,baz=80,slow=39						
RES	Resolute Bay	77.07	10	LR	LR	21 31 01.6	
	comp=E,24nm,21.4s,baz=41,slow=36						
MLR	Muntele Rosu	78.05	315	LR	LR	21 36 13.5	
	comp=E,70nm,18.4s,baz=28,slow=40						
JMIC	Jan Mayen	78.52	346	LR	LR	21 35 27.3	
	comp=E,36nm,18.5s,baz=120,slow=39						
NOA	NORSAR Array B	78.65	333	LR	LR	21 35 38.4	
	comp=E,63nm,18.2s,baz=10.0,slow=39						
YKA	Yellowknife Ar	80.76	24	P	P	20 56 31.3	+0.1
	comp=E,1.1nm,0.8s,baz=305,slow=5.0,SNR=18						
	comp=E,1.1nm,0.8s						
BORG	Borgarnes	86.42	346	LR	LR	21 39 26.1	
	comp=E,35nm,18.2s,baz=354,slow=38						
FRB	Frobisher Bay	90.67	6	LR	LR	21 40 45.1	
	comp=E,20nm,18.4s,baz=320,slow=37						
ULM	Lac du Bonnet	96.71	25	LR	LR	21 46 27.7	
	comp=E,38nm,18.2s,baz=308,slow=38						
SCHQ	Schefferville	99.61	7	LR	LR	21 47 28.8	
	comp=E,54nm,18.2s,baz=29,slow=38						

IDC 16 20:51:13.5±1.2, 39°.79S×44°.81E, h0km, mb3.9/4, mbtmp3.9/4, MS3.2/3, Error ellipse: s-maj=42.0km s-min=34.7km az=55.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	8.16	144	T	T	21 01 38.3	
	baz=317,slow=76,SNR=22						
H04N2	CROZET ISLANDS	8.17	143	T	T	21 01 38.8	
	baz=317,slow=76,SNR=45						
H04N3	CROZET ISLANDS	8.17	144	T	T	21 01 34.8	
	baz=317,slow=76,SNR=87						
BOSA	Boshof	19.60	299	LR	LR	21 01 13.2	
	comp=Z,53nm,20.9s,baz=183,slow=31						
SUR	Sutherland	20.72	283	LR	LR	21 02 42.2	
	comp=Z,75nm,18.2s,baz=154,slow=33						
LBTB	Lobatse	21.85	307	LR	LR	21 02 55.5	
	comp=Z,71nm,18.9s,baz=164,slow=32						
H08S1	Diego Carcia H	40.48	45	T	T	21 42 02.3	
	baz=213						
H08S2	Diego Garcia H	40.49	45	T	T	21 42 03.0	
	baz=213						
H08S3	Diego Garcia H	40.50	45	T	T	21 42 04.0	
	baz=213						
QSPA	South Pole Qui	50.41	180	P	P	21 00 12.6	+0.1
	2.7nm,1.0s,baz=262,slow=9.2,SNR=4.5						
	2.7nm,1.0s						
H01W2	Cape Leeuwin H	54.08	108	T	T	21 59 05.2	
	baz=243,slow=75,SNR=11						
H01W3	Cape Leeuwin H	54.09	108	T	T	21 59 05.5	
	baz=243,slow=75,SNR=12						
H01W1	Cape Leeuwin H	54.10	108	T	T	21 59 06.1	
	baz=243,slow=75,SNR=9.7						
TORD	Torodi Ar. Bea	66.18	313	P	P	21 02 02.9	-0.2
	30nm,0.3s,baz=130,slow=5.3,SNR=2.0						
ASAR	Alice Springs	74.60	108	P	P	21 02 54.3	-0.4
	0.5nm,0.8s,baz=232,slow=6.1,SNR=6.7						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	76.83	52	P	P	21 03 07.7	+0.4
	0.6nm,0.6s,baz=221,slow=6.4,SNR=6.2						
	0.6nm,0.6s						
WRA	Warramunga Arr	77.17	105	P	P	21 03 09.7	+0.3
	0.7nm,0.3s,baz=242,slow=5.4,SNR=5.4						
	0.7nm,0.3s						

IDC ***16*** *20:53:10.6±0.8, 37°.51N×20°.94E, h0km, mb3.9/14, mbtmp3.8/25, ML3.5/9, MS2.8/2, Error ellipse: s-maj=16.8km s-min=14.0km az=6.0*

ATH ***16*** *20:53:12.3, 37°.34N×20°.88E, h8km±2km, ML3.6/30, Manual Solution by A.Papageorgiou First location: 2019/02/16 20:54:09, This location: 2021/03/25 14:20:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

THE ***16*** *20:53:12.1, 37°.36N×20°.90E, h0km±4km, ML3.4/6, Error ellipse: s-maj=4.5km s-min=1.1km az=199.0*

NEIC ***16*** *20:53:12.9±2.2, 37°.34N±0°.07×20°.98E±0°.05, h10km±2km, mb4.1/10, Error ellipse: s-maj=12.0km s-min=5.8km az=191.0*

NAO ***16*** *20:53:13.3, 37°.61N×20°.66E, h10km, mb3.8*

MCSM ***16*** *20:53:15.7±0.8, 38°.N±8°.×2°.1E±°., h10km, mb3.9, MLv3.9*

ISC 16 20:53:13.1±0.9, 37°.39N±0°.03×20°.92E±0°.03, h20km±3km, n262, σ1§51/291, mb3.9/18, 9C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.33	348	P	Pg	20 53 20.0	-0.3
LTHK				S	Sg	20 53 23.6	-1.5
	15μm,0.3s						
LTHK	Lithakia	0.33	348	P	Pg	20 53 20.0	-0.3
LTHK				S	Sb	20 53 25.2	0.0
KYPS	Kipseli, Zakin	0.44	350	P	Pb	20 53 22.5	+0.3
KYPS				S	Sb	20 53 28.8	+0.4
ORTH	Orthonies,Zaky	0.50	339	P	Pb	20 53 23.5	+0.2
ORTH				S	Sb	20 53 30.4	+0.3
CLEM	Kyllini,Ilia,G	0.53	18	P	Pg	20 53 23.6	-0.2
CLEM				S	Sb	20 53 31.4	+0.5
AMT	Artemida-Makis	0.64	77	P	Pb	20 53 25.7	+0.1
AMT				S	Sb	20 53 35.7	+1.5
RTZL	Ratzakli, Kefa	0.70	350	P	Pg	20 53 26.1	-0.8
RTZL				S	Sg	20 53 35.8	-0.5
PSDA	Pessada-Kefalo	0.77	340	P	Pb	20 53 27.4	-0.5
PSDA				S	Sb	20 53 38.5	+0.5
	4μm,0.6s						
PSDA	Pessada-Kefalo	0.77	340	P	Pb	20 53 27.7	-0.2
PSDA				S	Sb	20 53 38.7	+0.6
RLS	Riolos of Patr	0.80	33	P	Pb	20 53 27.8	-0.5
RLS				S	Sg	20 53 39.5	+0.2
	2μm,0.8s						
RLS	Riolos of Patr	0.80	33	P	Pb	20 53 28.3	0.0
RLS				S	Sg	20 53 40.2	+0.9
ITM	Ithomi	0.83	104	Pg	Pb	20 53 27.5	-1.3
ITM				Sg	Sb	20 53 38.8	-0.8
ITM	Ithomi	0.83	104	P	Pb	20 53 27.3	-1.6
ITM	Ithomi	0.83	104	P	Pb	20 53 28.7	-0.2
ITM				S	Sn	20 53 41.7	+0.3
VLS	Valsamata	0.83	342	P	Pb	20 53 28.0	-0.9
VLS				S	Sg	20 53 40.8	+0.3
	2μm,0.4s						
VLS	Valsamata	0.83	342	P	Pb	20 53 28.1	-0.8
VLS				S	Sg	20 53 40.6	+0.1
DRO	Drossia	0.84	48	P	Pb	20 53 28.6	-0.5
DRO	Drossia	0.84	48	P	Pb	20 53 29.0	-0.1
DRO				S	Sg	20 53 41.5	+0.7
AXS	Araxos	0.88	24	P	Pg	20 53 30.1	-0.3
AXS				S	Sn	20 53 43.4	+0.7
DMLN	Damoulianata-K	0.95	333	P	Pb	20 53 29.5	-1.5
DMLN				S	Sn	20 53 45.9	+1.3
	8μm,0.5s						
DMLN	Damoulianata-K	0.95	333	P	Pg	20 53 31.2	-0.6
DMLN				S	Sn	20 53 45.0	+0.4
FSK	Fiskardo	1.11	345	P	Pb	20 53 32.5	-1.1
FSK				S	Sg	20 53 51.3	+2.1
	2μm,0.7s						
FSK	Fiskardo	1.11	345	P	Pb	20 53 32.9	-0.7
FSK				S	Sg	20 53 50.1	+1.0
UPR	University Cam	1.12	37	P	Pn	20 53 33.5	-0.3
KLV	Kalavryta, Ach	1.17	56	P	Pn	20 53 34.2	-0.3
KLV	Kalavryta, Ach	1.17	56	P	Pn	20 53 34.6	+0.1
EVGI	Lefkada island	1.25	350	P	Pn	20 53 34.3	-1.2
EVGI	Lefkada island	1.25	350	P	Pb	20 53 36.4	+0.3
GUR	Goura	1.25	64	P	Pn	20 53 35.0	-0.7
GUR	Goura	1.25	64	P	Pn	20 53 35.9	+0.2
ALIK	Aliki, Aigiali	1.28	47	P	Pn	20 53 36.2	+0.2
EFP	Efpalio	1.30	37	P	Pn	20 53 36.3	+0.1
EFP	Efpalio	1.30	37	P	Pb	20 53 37.2	+0.4
PVO	Paravola	1.32	21	P	Pb	20 53 37.8	+0.6
DRAG	Dragano-Lefkad	1.32	348	P	Pn	20 53 36.6	0.0
DRAG	Dragano-Lefkad	1.32	348	P	Pb	20 53 37.7	+0.4
NYDR	Nydri-Lefkada	1.33	352	P	Pn	20 53 36.3	-0.4
KALE	Kalithea	1.39	43	P	Pb	20 53 38.4	-0.1
KALE	Kalithea	1.39	43	P	Pb	20 53 38.8	+0.3
LKD2	Lefkada island	1.41	352	P	Pn	20 53 37.7	-0.1
LKD2	Lefkada island	1.41	352	P	Pb	20 53 38.9	0.0
ANX	Ano Chora	1.44	33	P	Pn	20 53 38.9	+0.7
ANX	Ano Chora	1.44	33	P	Pg	20 53 40.3	-0.6
TSLK	Tsoukalades, L	1.45	352	P	Pb	20 53 39.1	-0.4
TSLK	Tsoukalades, L	1.45	352	P	Pb	20 53 39.4	-0.1
EVR	Evrytania	1.68	24	P	Pg	20 53 44.7	-0.8
LTK	Loutraki	1.74	68	P	Pb	20 53 44.6	+0.2
VLI	Veliai	1.74	112	P	Pb	20 53 44.6	+0.1
VLI	Veliai	1.74	112	P	Pb	20 53 44.9	+0.4
KRND	KRANIDI	1.77	89	P	Pb	20 53 44.5	-0.5
KRND	KRANIDI	1.77	89	P	Pb	20 53 44.7	-0.3
MAKR	Makrakomi, Fth	1.88	30	P	Pb	20 53 47.8	+0.9
AXAR	Agios Charalam	1.94	44	P	Pb	20 53 48.2	+0.3
MET6	Megalochori,Me	1.94	83	P	Pn	20 53 47.0	-0.9
MET5	Makryloggos,Me	1.95	82	P	Pb	20 53 47.0	-1.0
MET4	Agioi Theodoro	1.98	82	P	Pb	20 53 47.1	-1.4
VIL2	Platees	2.03	65	P	Pb	20 53 48.3	-1.1
VILL	Villia	2.04	67	P	Pb	20 53 48.6	-1.1
LKR	Lokris	2.07	52	P	Pb	20 53 48.9	-1.2
IGT	Igoumenitsa	2.19	348	P	Pb	20 53 50.5	-1.6
IGT	Igoumenitsa	2.19	348	P	Pn	20 53 49.8	+1.3
AIDA	Aïdipsos	2.23	48	P	Pn	20 53 50.7	+1.8
JAN	Janina	2.27	359	P	Pb	20 53 52.2	-1.2
JAN	Janina	2.27	359	P	Pb	20 53 51.6	-1.8
ATH	Athens Observa	2.29	74	P	Pb	20 53 52.0	-1.8
VLY	Voula,Athens	2.33	78	P	Pn	20 53 51.4	+1.1
VLY	Voula,Athens	2.33	78	P	Pn	20 53 51.5	+1.1
THL	Klokotos Trika	2.34	21	P	Pb	20 53 53.0	-1.6
THL	Klokotos Trika	2.34	21	P	Pb	20 53 52.6	-1.9
ATHU	Athens Univers	2.34	75	P	Pn	20 53 51.4	+0.9
PTL	Penteli	2.42	73	P	Pb	20 53 54.0	-2.1
PTL	Penteli	2.42	73	P	Pb	20 53 54.0	-2.1
DION	Dionisos Attik	2.48	73	P	Pn	20 53 54.3	+1.8
DION	Dionisos Attik	2.48	73	P	Pn	20 53 54.2	+1.8
KEK	Kerkira	2.48	340	Pn	Pn	20 53 54.1	+1.6
KEK	Kerkira	2.48	340	P	Pn	20 53 54.6	+2.1
KEK	Kerkira	2.48	340	P	Pn	20 53 54.2	+1.6
TYRN	Tyrnavos	2.54	23	P	Pn	20 53 55.7	+2.5
TYRN	Tyrnavos	2.54	23	P	Pn	20 53 55.3	+2.1
KPRO	Kipourio	2.59	8	P	Pb	20 53 57.1	-1.8
KPRO	Kipourio	2.59	8	P	Pn	20 53 56.1	+2.2
NEO	Neokhori	2.63	43	P	Pb	20 53 57.4	-2.3
NEO	Neokhori	2.63	43	P	Pn	20 53 56.4	+1.8
XOR	Xorichti	2.66	41	P	Pn	20 53

STON	Ston	6.01	337	*e*Pn		Pn	20 54 40.1 -0.8
PAOL	Paolisi	6.13	308	Pn		Pn	20 54 44.7 +2.0
BOVS	Bovan	6.27	5	⇑P		Pn	20 54 45.2 +0.7
RUDO	Rudo	6.33	350	*e*Pn		Pn	20 54 46.4 +1.0
BBLS	Lazi&#263i	6.57	350	*e*Pn		Pn	20 54 48.9 +0.2
HAPS	Han Pijesak,BI	6.86	348	*e*Pn		Pn	20 54 53.6 +0.9
INTR	Introdacqua	7.11	313	Pn		Pn	20 54 58.3 +2.1
ELL	Elmali	7.21	92	Pn		Pn	20 54 57.6 +0.1
TEKS	Tekeris	7.23	352	*e*Pn		Pn	20 54 54.9 -2.8
CAMP	Campotosto	7.73	314	Pn		Pn	20 55 06.5 +1.9
FRGS	Fruska Gora	7.81	354	*e*Pn		Pn	20 55 03.1 -2.5
A050A	Klekovaca	7.83	336	*e*Pn		Pn	20 55 06.6 +0.7
BLY	Banja Luka	7.88	340	*e*Pn		Pn	20 55 07.6 +1.0
GZR	Gura Zlata	8.12	9	⇓P		Pn	20 55 11.8 +1.9
A051A	Mrakovica	8.20	340	*e*Pn		Pn	20 55 09.6 -1.4
FDMO	Fiordimonte	8.23	316	Pn		Pn	20 55 13.8 +2.4
BZS	Buzias	8.24	3	⇑P		Pn	20 55 11.9 +0.4
LOT	Lotru	8.33	14	⇑P		Pn	20 55 13.8 +0.9
ARR	Arges	8.45	18	⇓P		Pn	20 55 16.9 +2.4
VOIR		8.62	20	⇓P		Pn	20 55 19.8 +3.0
VOIR		8.62	20	P		Pn	20 55 18.6 +1.8
	6.9nm,1.0s						
ISR	Istrita	8.80	27	⇓P		Pn	20 55 22.6 +3.2
SIRR	Siria	8.89	3	⇓P		Pn	20 55 21.2 +0.8
MLR	Muntele Rosu	8.93	23			Pn	20 55 23.1 +2.0
MLR	Muntele Rosu	8.93	23	Pn		Pn	20 55 22.4 +1.3
	0.2nm,0.3s,baz=211,slow=11,SNR=5.2						
	3.1nm,0.9s						
MLR	Muntele Rosu	8.93	23	P		Pn	20 55 24.6 +3.5
	9.9nm,0.7s						
MORH	Mrgy, Hungar	8.98	350	⇑P		Pn	20 55 22.6 +0.9
BOJS	Bojanci	9.16	334	*i* Pn		Pn	20 55 24.7 +0.6
BOJS	Bojanci	9.16	334	*e*Pn		Pn	20 55 22.3 -1.8
COVR	Voineasa-Covas	9.33	23	⇑P		Pn	20 55 29.5 +3.0
GBRS	Gornja Briga	9.34	333	*e*Pn		Pn	20 55 28.2 +1.6
CRES	Cresnjevec Ost	9.37	336	*i* Pn		Pn	20 55 27.4 +0.4
CRES	Cresnjevec Ost	9.37	336	*e*Pn		Pn	20 55 26.7 -0.3
MARR	Marisel-Cluj	9.42	9	⇑P		Pn	20 55 28.4 +0.6
KEST	Kesra	9.46	263	Pn		Pn	20 55 30.2 +1.8
KEST	Kesra	9.46	263	Pn		Pn	20 55 30.0 +1.6
	0.2nm,0.3s,baz=83,slow=8.1,SNR=3.9						
KEST				LR		LR	20 58 59.2
	comp=Z,59nm,19.0s,baz=249,slow=37						
	3.0nm,0.7s						
PLOR	Plostina	9.48	25	⇓P		Pn	20 55 30.9 +2.4
PLOR3	Plostina Array	9.48	25	P		Pn	20 55 31.8 +3.2
	21nm,2.6s						
VRI	Vrincioaia	9.52	25	⇓P		Pn	20 55 31.8 +2.8
VRI	Vrincioaia	9.52	25	P		Pn	20 55 32.7 +3.6
CEY	Cerknica	9.66	332	*e*Pn		Pn	20 55 28.5 -2.5
MPLH	Magyarpolny	10.09	347	P		Pn	20 55 37.2 +0.3
	17nm,2.8s						
SABO	M.te Sabotino	10.18	330	Pn		Pn	20 55 39.5 +1.4
BR106	Keskin Array S	10.21	73	P		Pn	20 55 44.1 +5.3
	2.3nm,0.7s						
BR104	Keskin Array S	10.23	73	P		Pn	20 55 43.3 +4.4
BRTR	Keskin Array B	10.23	73	Pn		Pn	20 55 40.8 +1.9
BRTR	Keskin Array B	10.23	73	Pn		Pn	20 55 41.8 +2.8
	0.1nm,0.3s,baz=256,slow=13,SNR=6.4						
	0.7nm,0.6s						
SOKA	Soboth	10.26	337	*i* Pn		Pn	20 55 38.6 -0.7
	2.1nm,0.4s,SNR=6.3						
SOKA				*i* Sn		Sn	20 57 30.0 -3.8
	1.0nm,0.6s						
OBKA	Obir	10.27	335	*i* Pn		Pn	20 55 40.1 +0.6
	4.4nm,0.7s						
OBKA				*i* Sn		Sn	20 57 34.8 +0.7
	1.4nm,0.4s						
OBKA	Obir	10.27	335	*e*Pn		Pn	20 55 40.7 +1.2
PSZ	Piszkesteto	10.55	356	Pn		Pn	20 55 43.5 +0.2
ARSA	Arzberg	10.63	340	*i* Pn		Pn	20 55 45.0 +0.7
	1.6nm,0.5s						
BURAR	Bucovina Array	10.70	16	Pn		Pn	20 55 47.1 +1.8
BUR08	Bucovina Ar. S	10.72	16	Pn		Pn	20 55 47.9 +2.2
CTI	Castel Tesino	11.08	324	Pn		Pn	20 55 50.7 +0.2
ABTA	Abfaltersbach	11.24	329	*i* Pn		Pn	20 55 52.9 +0.2
	0.5nm,0.3s						
ABTA				*e*Sn		Sn	20 57 55.4 -2.4
	1.9nm,0.7s						
MODS	Modra-Piesok	11.30	348	*e*PN		Pn	20 55 52.4 -1.0
MOA	Molln	11.54	337	*i* Pn		Pn	20 55 57.0 +0.2
	1.9nm,0.6s						
MOA				*i* Sn		Sn	20 58 04.3 -0.8
	0.6nm,0.5s						
KOLS	Kolonicke sedl	11.58	4	*e*PN		Pn	20 55 56.9 -0.4
BIOA	Bad Ischl, Aus	11.61	335	*e*Pn		Pn	20 55 58.5 +0.8
	1.1nm,0.5s						
LESA	Schwarzleotal	11.73	331	*e*Pn		Pn	20 56 01.0 +1.6
	2.8nm,0.5s,SNR=4.3						
NDNU	Novodnistrovsk	12.15	21	P		Pn	20 56 07.6 +2.6
SQTA	Sankt Quirin	12.16	327	*i* Pn		Pn	20 56 07.4 +2.0
	1.0nm,0.3s						
SQTA				*i* Sn		Sn	20 58 20.8 +0.4
	1.3nm,0.4s						
FETA	Feichten	12.23	325	*i* Pn		Pn	20 56 08.4 +2.2
	0.3nm,0.3s						
FETA				*i* Sn		Sn	20 58 21.6 -0.5
	0.3nm,0.3s						
MOTA	Moosalm	12.31	327	*e*Pn		Pn	20 56 08.9 +1.5
	1.1nm,0.5s						
MOTA				*i* Sn		Sn	20 58 24.5 +0.5
	1.3nm,0.6s						
VRAC	Vranov	12.32	347	LR		LR	21 01 25.4
	comp=Z,40nm,20.7s,baz=160,slow=40						
DAVOX	Davos/Dischmat	12.45	322	Pn		Pn	20 56 06.5 -2.8
	0.2nm,0.3s,baz=148,slow=14,SNR=1.9						
	0.6nm,0.4s						
TUE	Stuetta	12.51	320	Pn		Pn	20 56 10.8 +0.6
GERES	GERESS Array B	12.60	338	Pn		Pn	20 56 09.1 -2.2
	0.1nm,0.3s,baz=160,slow=14,SNR=5.6						
	1.0nm,0.6s						
MMAI	Mount Meron Ar	12.62	106	Pn		Pn	20 56 07.7 -3.9
	0.2nm,0.3s,baz=322,slow=11,SNR=3.7						
LUBAR	Lubar, Ukraine	13.46	19	P		Pn	20 56 24.7 +1.8
SENIN	Lac Senin/Sane	13.53	316	Pn		Pn	20 56 25.0 +0.9
EIL	Elat	13.99	119	Pn		Pn	20 56 32.0 +1.6
	0.2nm,0.3s,baz=320,slow=18,SNR=1.6						
	1.9nm,0.7s						
RNPP5	Staryi Chortor	14.28	13	P		Pn	20 56 37.8 +3.7
KIEV	Kiev	14.56	21	Pn		Pn	20 56 39.4 +1.4
AKASG	Malin Array Be	14.57	21	Pn		Pn	20 56 37.5 -0.6
	1.0nm,0.3s,baz=208,slow=8.9,SNR=8.6						
	0.1nm,0.2s						
AKBB	Malin Array Si	14.57	21	Pn		Pn	20 56 39.4 +1.3
CLL	Collm	15.01	340	*i* sP		P	20 56 51.1 +1.8
	comp=Z,6.0nm,0.9s						
CLL				*i* PP		PnPn	20 56 54.9 +2.8
SUW	Suwalki	16.70	5			P	20 57 08.6 +0.6
KVAR	Kislovodsk Arr	17.75	62	P		Pn	20 57 18.5 -0.6
	baz=226,slow=17						
	comp=Z,1.8nm,0.5s						
NACGM	Naroch	17.97	11	*e*P		P	20 57 23.1 +1.1
	comp=Z,1µm,0.9s,baz=195						
ESDC	Sonseca Array	19.59	284	P		Pn	20 57 41.7 +0.2
	baz=78,slow=12,SNR=6.5						
	comp=Z,1.1nm,1.0s						
PAB	San Pablo	19.89	284	P		Pn	20 57 45.4 +0.4
PAB				IAmb		IAmb	20 57 46.2
	comp=Z,14nm,1.5s						
OBN	Obninsk	20.68	26	P		P	20 57 51.5 -0.2
OBN				IAmb		IAmb	20 58 00.7
	comp=Z,12nm,0.9s						
OBN	Obninsk	20.68	26	P		P	20 57 51.0 -0.7
	comp=Z,10nm,0.6s,baz=190,slow=18,SNR=4.3						
	comp=Z,10nm,0.6s						
HFS	Hagfors	23.23	351	P		P	20 58 17.6 -1.2
	comp=Z,4.4nm,0.8s,baz=153,slow=11,SNR=11						
	comp=Z,4.4nm,0.8s						
EKA	Eskdalemuir Ar	24.26	325	P		P	20 58 29.7 +1.0
	comp=Z,4.1nm,0.7s,baz=123,slow=9.5,SNR=12						
	comp=Z,4.1nm,0.7s						
ESK	Eskdalemuir	24.27	325	P		P	20 58 29.0 +0.2
FINES	FINESS Array B	24.30	6	P		P	20 58 28.6 -0.4
FINES	FINESS Array B	24.30	6	P		P	20 58 28.2 -0.7
	comp=Z,1.2nm,0.5s,baz=183,slow=12,SNR=5.7						
	comp=Z,1.2nm,0.5s						
NB2	NORSAR Subarra	24.45	349	P		P	20 58 30.1 -0.4
	comp=Z,2.4nm,1.2s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.45	349	P		P	20 58 28.5 -2.0
	comp=Z,1.0nm,0.9s,baz=153,slow=12,SNR=4.7						
	comp=Z,1.0nm,0.9s						
TORD	Torodi Ar. Bea	29.63	220	P		P	20 59 18.1 +0.8
	comp=Z,39nm,0.3s,baz=23,slow=9.1,SNR=1.8						
ABKAR	Akbulak array	30.43	55	P		P	20 59 23.9 -0.2
ABKAR	Akbulak array	30.43	55	P		P	20 59 24.0 -0.1
ABKAR				IAmb		IAmb	20 59 49.2
	comp=Z,0.6nm,0.6s						
ARTI	Arti	31.34	41	P		P	20 59 30.6 -1.5
ARTI				IAmb		IAmb	20 59 50.1
	comp=Z,5.0nm,1.3s						
ARCES	ARCESS Array B	32.30	3	P		P	20 59 40.1 -0.3
	comp=Z,4.5nm,1.0s,baz=214,slow=13,SNR=1.2						
	comp=Z,4.5nm,1.0s						
BRVK	Borovoye	37.33	49	P		P	21 00 23.6 -0.3
BVAR	Borovoye Array	37.39	49	P		P	21 00 24.2 -0.3
	comp=Z,0.8nm,0.5s,baz=274,slow=7.0,SNR=7.1						
	comp=Z,0.8nm,0.5s						
KK31	Karatay Array	37.83	65	P		P	21 00 26.9 -1.4
KK31				IAmb		IAmb	21 00 40.1
	comp=Z,1.6nm,0.7s						
KKAR	Karatay Array	37.83	65	P		P	21 00 27.7 -0.6
SPITS	Spitsbergen Ar	40.94	359	P		P	21 00 54.5 +0.6
	comp=Z,5.7nm,0.8s,baz=197,slow=2.6,SNR=1.6						
	comp=Z,5.7nm,0.8s						
KURBB	Kurchatov Arra	42.45	53	P		P	21 01 05.5 -0.9
	comp=Z,0.8nm,0.5s,baz=278,slow=8.7,SNR=12						
	comp=Z,0.8nm,0.5s						
MK31	Makanchi Array	45.45	58	P		P	21 01 28.8 -1.9
MK31				IAmb		IAmb	21 01 39.0
	comp=Z,1.8nm,1.4s						
MKAR	Makanchi Array	45.45	58	P		P	21 01 29.6 -1.1
	comp=Z,0.5nm,0.5s,baz=269,slow=7.4,SNR=13						
	comp=Z,0.5nm,0.5s						
ZAA0	Zalesovo Array	45.98	48	P		P	21 01 33.6 -1.2
ZAA0				IAmb		IAmb	21 01 49.3
	comp=Z,1.7nm,0.8s						
ZALV	Zalesovo Beam	45.98	48	P		P	21 01 34.0 -0.7
ZALV	Zalesovo Beam	45.98	48	P		P	21 01 33.8 -0.9
	comp=Z,1.1nm,0.5s,baz=274,slow=9.6,SNR=6.3						
	comp=Z,1.1nm,0.5s						
SONM	Songino Array	60.71	50	P		P	21 03 22.8 -0.5
	comp=Z,0.2nm,0.5s,baz=280,slow=6.5,SNR=2.5						
	comp=Z,0.2nm,0.5s						
CMAR	Chiang Mai Arr	69.68	82	P		P	21 04 22.8 +1.1
	comp=Z,0.2nm,0.3s,baz=300,slow=6.4,SNR=4.2						
	comp=Z,0.2nm,0.3s						
YKA	Yellowknife Ar	74.24	340	P		P	21 04 47.0 -1.3
	comp=Z,0.3nm,0.8s,baz=33,slow=5.3,SNR=4.0						
	comp=Z,0.3nm,0.8s						
WRA	Warramunga Arr	120.18	93	PKP		PKPdf	21 12 03.0 0.0
	comp=Z,0.2nm,0.7s,baz=306,slow=2.8,SNR=1.1						
ASAR	Alice Springs	121.77	97	PKP		PKPdf	21 12 05.7 -0.3
	comp=Z,0.2nm,0.7s,baz=293,slow=2.4,SNR=1.9						

NIED ***16*** *21:02:42.9, 25°.27N×124°.54E, h0km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=6.54; Mθθ7.02; Mφφ-0.47; Mrθ-3.26; Mθφ1.12; Mφr-2.52; Fault plane solution: Mo8.02000×10¹⁴ NP1: φs277.00000°, δ33.00000°, λ-64.00000°. NP2:φs67.00000°, δ61.00000°, λ-106.00000°.*

JMA 16 21:02:42.9±0.2, 25°.3N±0°.6×124°.5E±0°.3, h0km, MD4.3/11, MV3.5/11, NW OFF MIYAKOJIMA ISLAND, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.65	166	P	Pg	21 02 55.8	+0.5
JTJ				S	Sg	21 03 04.7	+1.0
JTJ	Tarama	0.65	166	A	A	21 02 55.8	
	comp=N,9.0nm,4.1s,comp=E,11nm,5.3s						
JISG	Ishigakijimahi	0.71	197	P	Pg	21 02 57.1	+0.6
JISG				*e*S	Sb	21 03 07.4	-1.1
JIRB	Irabujima	0.73	127	P	Pg	21 02 57.2	+0.4
JIRB				*e*S	Sg	21 03 07.1	+0.9
JIRB	Irabujima	0.73	127	A	A	21 02 57.2	
	comp=N,18nm,0.6s,comp=E,16nm,4.3s						
JIKM	Ikemajima	0.73	118	*e*P	Pg	21 02 57.6	+0.7
JIKM				*e*S	Sb	21 03 07.8	-1.3
JIKM	Ikemajima	0.73	118	A	A	21 02 57.6	
	comp=N,18nm,2.6s,comp=E,17nm,1.9s						
JMJ2	Miyako jima3	0.89	126	*e*P	Pg	21 03 00.3	+0.3
JMJ2	Miyako jima3	0.89	126	A	A	21 03 00.3	
	comp=N,18nm,2.1s,comp=E,23nm,2.7s						
JOGS	Gusukube	0.94	123	*e*P	Pg	21 03 01.4	+0.5
JOGS				*e*S	Sb	21 03 14.2	-0.8
JIJ	Ishigaki jima	0.97	202	P	Pg	21 03 01.6	+0.1
JIJ				S	Sb	21 03 15.2	-0.7
JKRS	Kuro-shima	1.14	205	*e*P	Pg	21 03 04.9	+0.3
JKRS				*e*S	Sb	21 03 20.0	-0.6
IRIF	Iriomote-Funau	1.19	218	*e*P	Pg	21 03 05.3	-0.3
HATJ	Hateruma jima	1.38	209	*e*P	Pg	21 03 08.5	-0.8

NEIC ***16*** *21:08:47.7±0.4, 36°.002N±0°.009×96°.774W±0°.007, h6km±1km, Error ellipse: s-maj=1.3km s-min=0.8km az=184.0*

NEIC 16 21:08:47.6±0.2, 35°.997N±0°.010×96°.77W±0°.01, h6km±1km, ML2.4/32, ML2.1/39, Error ellipse: s-maj=1.5km s-min=1.2km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	Battle Ridge R	0.02	261		Pg	21 08 49.0	+0.3
OK052				Sg	Sg	21 08 49.7	+0.2
OK031	S. Brethren Rd	0.07	230	Pg	Pg	21 08 49.8	+0.5
OK031					Sg	21 08 51.0	+0.6
QUOK	Quay	0.18	17	Pg	Pg	21 08 51.8	+0.6
QUOK				Sg	Sg	21 08 54.5	+0.8
QUOK				IAML		21 08 54.7	
	comp=E,704nm,0.2s						
QUOK				IAML		21 08 54.7	
	comp=N,479nm,0.3s						
DEOK	Depew	0.27	125	Pg	Pg	21 08 53.5	+0.6
DEOK				Sg	Sg	21 08 57.5	+1.0
DEOK				IAML		21 08 57.8	
	comp=E,341nm,0.2s						
DEOK				IAML		21 08 57.8	
	comp=N,378nm,0.2s						
OK051	E0350 and S346	0.51	354		Pg	21 08 57.7	+0.3
BCOK	Bluff Creek, N	0.76	244		Pg	21 09 02.5	+0.4
BCOK					Sb	21 09 13.1	-0.7
BLOK	Blackwell	0.84	335	Pg	Pg	21 09 03.7	0.0
W35A	Tecumseh	0.85	186		Pg	21 09 03.7	-0.1
W35A					Sb	21 09 15.6	-0.8
W35A				IAML		21 09 15.9	
	comp=N,67nm,0.4s						
FNO	Franklin	0.90	215	Pg	Pg	21 09 04.3	-0.5
FNO				IAML		21 09 20.6	
	comp=E,58nm,0.1s						
CROK	Carrier	1.10	298	Pg	Pg	21 09 08.2	-0.5
KAN13	South Haven SW	1.16	331	Pg	Pg	21 09 09.6	-0.3
KAN17	Caldwell West	1.31	323		Pn	21 09 12.2	-0.4
KAN09	Caldwell North	1.32	329		Pn	21 09 12.1	-0.6
KAN14	Manchester OK	1.35	315		Pn	21 09 12.7	-0.4
KAN01	Argonia South	1.40	326		Pn	21 09 13.6	-0.1
KAN05	Bluff City Nor	1.42	322		Pn	21 09 13.8	-0.1
X34A	Smith Ranch, M	1.64	212		Pn	21 09 17.1	+0.1
U38A	Gravette	1.98	76		Pn	21 09 22.4	+0.7
WMOK	Wichita Mounta	2.07	233	Pn	Pn	21 09 23.6	+0.7

DJA ***16*** *21:09:03.5±0.6, 4°.N±4°×12°.7E±°, h15km±2km, M4.3/12, mB4.9/6, mb4.4/9, MLv4.4/12, Mw(mB)4.2/6*
NEIC ***16*** *21:09:04.8±2.1, 4°.11N±0°.04×127°.0E±0°.1, h35km±2km, mb4.3/17, Error ellipse: s-maj=18.1km s-min=3.6km az=73.0*
IDC ***16*** *21:09:12.7±1.9, 4°.07N×126°.65E, h109km±17km, mb3.5/11, mbtmp3.9/12, MS3.3/2, Error ellipse: s-maj=41.8km s-min=11.3km az=69.0*

ISC 16 21:09:06.1±0.5, 4°.02N±0°.05×126°.71E±0°.07, h45km, n53, σ1§75/55, mb4.1/20, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.22	254	P	Pn	21 09 25.5	-1.2
SGSI				S	Sn	21 09 41.4	-0.6
DAV	Davao City (W)	3.23	340	Pn	Pn	21 09 54.5	+0.2
DAV	Davao City (W)	3.23	340	P	Pn	21 10 01.2	+6.8
	152nm,0.4s,baz=233,slow=21,SNR=4.0						
DAV				S	Sn	21 10 38.2	+6.5
	163nm,0.5s,baz=192,slow=20,SNR=1.8						
DAV				LR	LR	21 11 31.5	
	comp=Z,481nm,18.4s,baz=116,slow=44						
TNTI	Ternate	3.29	168	Pn	Pn	21 09 55.6	+0.4
TNTI				Sn	Sn	21 10 32.7	-0.4
TNTI	Ternate	3.29	168	P	Pn	21 09 57.3	+2.1
TNTI				S	Sn	21 10 38.6	+5.5
KMSI	Cibinong	4.37	219	P	Pn	21 10 13.5	+3.5
MRSI	Marisa	5.92	234	P	Pn	21 10 32.5	+1.3
SANI	Sanana	6.07	187	P	Pn	21 10 33.3	0.0
	0.1nm688nm16nm,0.8s						
LUWI	Luwuk	6.38	218		Pn	21 10 40.0	+2.4
LUWI	Luwuk	6.38	218	P	Pn	21 10 39.3	+1.7
	0.3nm1µm94nm,1.2s						
TOLI2	Tolitoli	6.58	244	Pn	Pn	21 10 40.1	-0.3
SWI	Sorong	6.65	137	P	Pn	21 10 42.3	+1.0
	0.1nm18nm,0.9s						
APSI	Ampana	7.04	226	P	Pn	21 10 47.6	+1.0
	0.2nm755nm59nm,1.1s						
MPSI	Mapaga	7.72	242	P	Pn	21 10 57.4	+1.4
MYLDM	Lahad Datu	8.26	278	Pn	Pn	21 11 05.3	+1.9
FAKI	Fak Fak	8.84	141	Pn	Pn	21 11 10.7	-0.7
FAKI	Fak Fak	8.84	141	P	Pn	21 11 12.8	+1.4
	32nm,1.3s						
KDI	Kendari	8.91	207	P	Pn	21 11 13.8	+1.5
KKM	Kota Kinabalu	10.64	281	Pn	Pn	21 11 37.4	+1.3
MTN	Manton Dam	17.32	165	Pn	Pn	21 13 02.9	-1.8
MTN				IAmb	IAmb	21 13 11.8	
	comp=Z,12nm,0.9s						
KNRA	Kununurra	19.67	174	P	P	21 13 31.7	+0.2
KNRA				IAmb	IAmb	21 13 38.6	
	comp=Z,8.8nm,0.6s						
TPUB	Ta-pu	20.05	344	P	P	21 13 33.9	-1.7
UBPT	Khong Chiam	23.71	300	P	P	21 14 15.9	+1.8
UBPT				IAmb	IAmb	21 14 24.2	
	comp=Z,11nm,1.2s						
WB0	Warramunga Arr	24.81	163	P	P	21 14 24.9	+0.7
WB0				IAmb	IAmb	21 14 37.1	
	comp=Z,8.0nm,0.9s						
WRA	Warramunga Arr	24.96	163	P	P	21 14 25.2	-0.4
WRA	Warramunga Arr	24.96	163	P	P	21 14 26.4	+0.8
	comp=Z,2.0nm,0.5s,baz=343,slow=10.0,SNR=27						
	comp=Z,2.0nm,0.5s						
MBWA	Marble Bar	25.94	195	P	P	21 14 35.0	+0.7
PSA00	Pilbara Seismi	26.30	195	P	P	21 14 37.4	-0.3
KRVT	Keravat (AS076	26.62	108	LR	LR	21 23 25.5	
	comp=Z,63nm,18.6s,baz=296,slow=32						
AS31	Alice Springs	28.40	166	P	P	21 14 55.1	-1.4
ASAR	Alice Springs	28.40	166	P	P	21 14 56.5	+0.1
ASAR	Alice Springs	28.40	166	P	P	21 14 57.5	+1.0
	comp=Z,0.8nm,0.5s,baz=338,slow=6.7,SNR=16						
	comp=Z,0.8nm,0.5s						
CMAR	Chiang Mai Arr	30.71	300	P	P	21 15 17.5	+0.5
	comp=Z,0.4nm,0.3s,baz=123,slow=8.1,SNR=4.8						
	comp=Z,0.4nm,0.3s						
PZH	PanZhiHua	32.72	316	P	P	21 15 36.3	+1.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
KSRS	Korea Array	33.30	2	P	P	21 15 39.9	+0.4
	comp=Z,0.6nm,0.7s,baz=179,slow=11,SNR=2.2						
	comp=Z,0.6nm,0.7s						
BBOO	Buckleboo	37.69	167	P	P	21 16 14.9	-2.3
LZH	Lanzhou	38.24	329	*e*P	P	21 16 22.4	+0.3
LZH				pP	pP	21 16 28.4	-5.8
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
STKA	Stephens Creek	38.41	159	P	P	21 16 21.4	-1.9
STKA				IAmb	IAmb	21 16 25.9	
	comp=Z,8.4nm,0.9s						
STKA	Stephens Creek	38.41	159	P	P	21 16 24.6	+1.3
	comp=Z,5.5nm,0.9s,baz=317,slow=8.1,SNR=12						
	comp=Z,5.5nm,0.9s						
HHC	Hu-ho-hao-te	39.12	342	*e*P	P	21 16 30.4	+1.1
HHC				pmax	pmax		
	comp=Z,4.0nm,1.5s						
HHC				pmax	pmax		
	comp=Z,99nm,7.6s						
SONM	Songino Array	47.02	341		P	21 17 32.9	-0.2
SONM	Songino Array	47.02	341	P	P	21 17 32.9	-0.2
	comp=Z,0.3nm,0.5s,baz=163,slow=7.7,SNR=4.9						
	comp=Z,0.3nm,0.5s						
MK31	Makanchi Array	57.31	325	P	P	21 18 48.5	-1.0
MK31				IAmb	IAmb	21 19 07.5	
	comp=Z,1.9nm,1.2s						
MKAR	Makanchi Array	57.31	325	P	P	21 18 48.4	-1.0
	comp=Z,0.4nm,0.3s,baz=118,slow=7.2,SNR=11						
	comp=Z,0.4nm,0.3s						
KURBB	Kurchatov Arra	61.48	327	P	P	21 19 16.8	-1.3
	comp=Z,0.5nm,0.3s,baz=128,slow=5.7,SNR=15						
	comp=Z,0.5nm,0.3s						
KURK	Kurchatov	61.49	327	P	P	21 19 17.4	-0.8
KURK				IAmb	IAmb	21 19 18.4	
	comp=Z,5.9nm,1.4s						
BVAR	Borovoye Array	67.07	327	P	P	21 19 53.2	-1.5
	comp=Z,0.6nm,0.8s,baz=128,slow=9.3,SNR=2.5						
	comp=Z,0.6nm,0.8s						
BRVK	Borovoye	67.14	327	P	P	21 19 54.9	-0.3
BRVK				IAmb	IAmb	21 20 20.2	
	comp=Z,2.2nm,0.9s						
TIXI	Tiksi	67.56	1	P	P	21 19 56.3	-1.1
TIXI				IAmb	IAmb	21 20 13.5

JMJ2 S **Sn** **21 18 11.5 -1.5**
JOGS Gusukube 0.81 116 eS **Sb** **21 18 12.5 +0.9**
JIJ Ishigaki jima 0.86 209 P **Pb** **21 18 01.2 +0.1**
JIJ S **Sn** **21 18 14.6 -0.9**
JKRS Kuro-shima 1.03 212 P **Pn** **21 18 04.3 -0.5**
JKRS eS **Sn** **21 18 19.5 -0.1**
IRIF Iriomote-Funau 1.11 226 eP **Pg** **21 18 04.4 -0.7**
HATJ Hateruma jima 1.28 215 eP **Pb** **21 18 08.1 -0.3**
HATJ eS **Sn** **21 18 26.4 +0.5**
JOW Kunigami 3.72 62 Pn **Pn** **21 18 43.7 +1.7**
0.8nm,0.3s,baz=31,slow=12,SNR=1.5
26nm,1.1s
SONM Songino Array 26.86 332 P **P** **21 23 26.7 +1.2**
0.5nm,0.9s,baz=140,slow=7.6,SNR=3.5
0.5nm,0.9s
MKAR Makanchi Array 39.89 314 P **P** **21 25 18.5 -0.1**
0.5nm,0.9s,baz=99,slow=8.9,SNR=2.1
0.5nm,0.9s
ZALV Zalesovo Beam 41.21 325 P **P** **21 25 29.5 +0.1**
0.4nm,0.4s,baz=126,slow=7.3,SNR=2.2
0.4nm,0.4s
WRA Warramunga Arr 45.78 167 P **P** **21 26 06.0 -0.5**
0.6nm,0.9s,baz=346,slow=8.1,SNR=3.4
0.6nm,0.9s
ASAR Alice Springs 49.32 169 P **P** **21 26 34.0 -0.1**
0.3nm,0.6s,baz=1.8,slow=7.0,SNR=4.7
0.3nm,0.6s
ILAR Eielson Array 66.95 28 P **P** **21 28 37.4 +0.2**
0.2nm,0.6s,baz=261,slow=6.0,SNR=1.2
0.2nm,0.6s
YKA Yellowknife Ar 80.89 24 P **P** **21 29 57.1 -1.6**
0.2nm,0.7s,baz=300,slow=4.9,SNR=4.4
0.2nm,0.7s

---

*NEIC **16** 21:22:51.5±0.9, 44.°46N±0.°01×111.°03W±0.°03, h5km±2km, Error ellipse: s-maj=3.2km s-min=3.0km az=109.0*
UUSS 16 21:22:50.8±1.1, 44.°47N±0.°01×111.°01W±0.°02, h8km±8km, ML3.1/8, ML2.8/42(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=135.0, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YFT	**Old Faithful**	**0.12**	**96**	Pg	Pg	21 22 54.6	+0.8
YFT				Sg	Sg	21 22 56.3	+0.5
YMR	**Madison River**	**0.21**	**8**	Pg	Pg	21 22 56.7	+1.6
YMR				Sg	Sg	21 22 59.4	+1.3
YPM	**Purple Mountai**	**0.22**	**27**		Pg	21 22 57.3	+1.9
YMC	**Maple Creek**	**0.29**	**0**		Pb	21 22 58.2	-0.3
YML	**Mary Lake**	**0.30**	**62**		Pb	21 22 58.5	-0.1
YPDC	**Denny Creek**	**0.30**	**326**		Pb	21 22 58.3	-0.2
MCID	**Moose Creek**	**0.30**	**205**		Pb	21 22 58.6	0.0
YLT	**Little Thumb C**	**0.30**	**95**		Pb	21 22 58.4	-0.2
YHB	**Horse Butte**	**0.32**	**335**		Pb	21 22 58.4	-0.5
YHB					Sb	21 23 02.9	-1.3
YHB				IAML		21 23 03.7	
	comp=E,1μm,0.3s						
H17A	**Grant Village**	**0.32**	**103**	Pg	Pb	21 22 58.5	-0.4
H17A				IAML		21 23 04.0	
	comp=N,2μm,0.3s						
H17A				IAML		21 23 05.6	
	comp=E,3μm,0.3s						
YNM	**Yellowstone No**	**0.34**	**40**		Pb	21 22 58.8	-0.5
YNM				IAML		21 23 03.9	
	comp=N,1μm,0.2s						
YNM				IAML		21 23 04.8	
	comp=E,2μm,0.1s						
YHH	**Holmes Hill**	**0.34**	**19**	Pg	Pb	21 22 59.2	-0.2
YNR	**Norris Junctio**	**0.34**	**43**		Pb	21 22 59.0	-0.3
YNR				IAML		21 23 05.2	
	comp=N,1μm,0.2s						
YNR				IAML		21 23 08.4	
	comp=E,984nm,0.4s						
YHL	**Hebgen Lake**	**0.41**	**342**	Pg	Pb	21 23 00.2	-0.3
YHL					Sg	21 23 05.4	+1.1
YHL				IAML		21 23 07.9	
	comp=E,2μm,0.4s						
YHL				IAML		21 23 09.2	
	comp=N,1μm,0.5s						
YUF	**Upper Falls**	**0.43**	**55**		Pb	21 23 01.0	+0.1
FLWY	**Flagg Ranch**	**0.44**	**150**	Pg	Pb	21 23 00.9	-0.1
FLWY				IAML		21 23 12.2	
	comp=N,775nm,0.9s						
FLWY				IAML		21 23 14.1	
	comp=N,601nm,1.4s						
YTP	**The Promontory**	**0.52**	**98**		Pb	21 23 02.8	+0.4
YPLA	**Lake Butte**	**0.53**	**85**		Pb	21 23 03.1	+0.5
YMP	**Mirror Lake Pl**	**0.67**	**65**		Pb	21 23 05.4	+0.5
YMP				IAML		21 23 24.9	
	comp=N,226nm,1.4s						
YMP				IAML		21 23 25.9	
	comp=E,258nm,1.4s						
MOOW	**Moose Ponds**	**0.74**	**165**		Pb	21 23 05.9	-0.2
FXWY	**Fox Creek**	**0.83**	**181**	Pg	Pb	21 23 07.8	+0.3
YNE	**Yellowstone No**	**0.90**	**52**		Pb	21 23 09.2	+0.4
LOHW	**Long Hollow**	**0.90**	**161**		Pb	21 23 09.0	+0.2
TPAW	**Teton Pass**	**0.97**	**178**	Pg	Pb	21 23 09.9	-0.2
TPAW				IAML		21 23 18.1	
	comp=E,138nm,0.5s						
TPAW				IAML		21 23 34.5	
	comp=E,176nm,0.8s						
SNOW	**Snow King Moun**	**1.02**	**170**	Pg	Pn	21 23 11.3	-0.3
SNOW				IAML		21 23 17.1	
	comp=E,161nm,0.5s						
SNOW				IAML		21 23 31.8	
	comp=E,140nm,0.7s						
BOZ	**Bozeman (W)**	**1.22**	**339**		Pn	21 23 14.3	0.0
BOZ				IAML		21 23 31.5	
	comp=E,408nm,0.3s						
MCMT	**McKenzie Canyo**	**1.36**	**286**		Pg	21 23 17.7	+0.7
RLMT	**Red Lodge**	**1.40**	**61**		Pb	21 23 17.5	+0.1
DLMT	**Dillon**	**1.44**	**309**		Pg	21 23 18.8	+0.3
LRM	**Limekiln Ridge**	**1.70**	**324**		Pb	21 23 22.9	+0.4
AHID	**Auburn Hatcher**	**1.70**	**182**		Pb	21 23 22.6	+0.2
AHID				IAML		21 23 29.2	
	comp=E,72nm,0.5s						
AHID				IAML		21 23 55.3	
	comp=E,53nm,1.4s						
PD31	**Pinedale Array**	**2.00**	**148**		Pb	21 23 27.0	-0.5
PDAR	**Pinedale Array**	**2.00**	**148**		Pb	21 23 27.2	-0.3
BPMT	**Black Pine Rid**	**2.62**	**320**		Pn	21 23 35.4	+1.8
HLID	**Hailey**	**2.62**	**251**		Pn	21 23 35.8	+2.2
HLID				IAML		21 24 18.6	
	comp=E,33nm,0.4s						
HLID				IAML		21 24 23.5	
	comp=E,36nm,0.6s						
LYMT	**Lyon Mountain**	**2.66**	**341**		Pn	21 23 34.5	+0.3
OVMT	**Ovando**	**2.95**	**333**		Pn	21 23 38.9	+0.8
HVU	**Hansel Valley**	**2.98**	**206**		Pn	21 23 38.1	-0.4
MSO	**Missoula**	**3.13**	**320**	Pn	Pn	21 23 42.8	+2.2
TCUT	**Toone Canyon**	**3.36**	**185**		Pn	21 23 45.6	+1.8
PLID	**Pearl Lake**	**3.61**	**282**	Pn	Pn	21 23 48.8	+1.6
MFID	**Camas Ranch**	**3.64**	**255**	Pn	Pn	21 23 47.8	+0.3
EGMT	**Eagleton**	**3.66**	**13**		Pn	21 23 48.9	+1.1
BGU	**Big Grassy Mou**	**3.84**	**204**		Pn	21 23 53.2	+2.9
BSUT	**Blindstream Ca**	**3.93**	**177**		Pn	21 23 54.1	+2.4
BMO	**Blue Mountains**	**4.51**	**277**		Pn	21 24 01.9	+2.5
O20A	**White River Ci**	**4.79**	**154**		Pn	21 24 05.7	+2.2
P18A	**Preston Nutter**	**4.87**	**173**		Pn	21 24 06.2	+1.6
NEW	**Newport**	**5.69**	**314**	Pn	Pn	21 24 16.4	+0.8

IDC 16 21:34:26.9±1.9, 31.°30N×90.°90E, h0km, mb3.3/5, mbtmp3.4/6, ML2.8/1, MS2.8/1, Error ellipse: s-maj=72.1km s-min=22.8km az=68.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.83**	**339**	Pn	Pn	21 38 22.6	-1.3
	baz=151,slow=13,SNR=3.5						
	0.7nm,0.9s						
AAK	**Ala-Archa**	**17.28**	**315**	LR	LR	21 45 06.9	
	comp=Z,31nm,18.4s,baz=158,slow=37						
SONM	**Songino Array**	**20.32**	**31**	P	P	21 39 04.9	+0.3
	0.5nm,0.6s,baz=216,slow=11,SNR=5.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**21.39**	**338**	P	P	21 39 16.1	+0.2
	0.6nm,0.2s,baz=163,slow=9.6,SNR=4.7						
	0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**23.05**	**351**	P	P	21 39 32.6	-1.0
	0.6nm,0.5s,baz=165,slow=12,SNR=3.5						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**65.83**	**135**	P	P	21 45 14.4	+0.1
	0.2nm,0.6s,baz=322,slow=5.9,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**68.44**	**138**	P	P	21 45 30.8	0.0
	0.3nm,0.6s,baz=328,slow=6.4,SNR=4.4						
	0.3nm,0.6s						

---

*NEIC **16** 21:37:41.9±1.2, 13.°7N±0.°1×144.°7E±0.°2, h99km±13km, mb4.0/9, Error ellipse: s-maj=38.4km s-min=6.1km az=115.0*
*IDC **16** 21:37:42.8±0.7, 13.°64N×144.°85E, h114km±6km, mb3.4/8, mbtmp3.7/8, Error ellipse: s-maj=50.8km s-min=15.6km az=83.0*
ISC 16 21:37:42.7±1.1, 13.°7N±0.°1×145.°0E±0.°3, h119km±7km, n27, σ0°43/22, mb3.9/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.11**	**233**	P	**Pn**	**21 37 59.4**	**+0.4**
	1μm,0.3s,baz=297,slow=9.0,SNR=99						
GUMO				LR	LR	21 38 04.0	
	comp=Z,41nm,21.0s,baz=310,slow=418						
GUMO				S	**Sn**	**21 38 10.8**	**-0.5**
	3μm,0.3s,baz=345,slow=20,SNR=23						
H11S3	**WAKE ISLAND Hy 21.42**	**74**		T	T	22 04 33.5	
	baz=261,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 21.44**	**74**		T	T	22 04 32.1	
	baz=261,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 21.44**	**74**		T	T	22 04 34.2	
	baz=261,slow=75,SNR=9.3						
H11N1	**WAKE ISLAND Hy 21.85**	**71**		T	T	22 05 33.1	
	baz=257,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy 21.86**	**71**		T	T	22 05 36.1	
	baz=257,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy 21.87**	**71**		T	T	22 05 33.5	
	baz=257,slow=75,SNR=6.8						
WB0	**Warramunga Arr**	**34.80**	**198**	P	**P**	**21 44 21.8**	**-0.4**
WRA	**Warramunga Arr**	**34.98**	**198**	P	**P**	**21 44 23.2**	**-0.5**
WRA	**Warramunga Arr**	**34.98**	**198**	P	**P**	**21 44 23.9**	**+0.1**
	0.8nm,0.5s,baz=22,slow=9.5,SNR=14						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**36.86**	**212**	P	**P**	**21 44 39.7**	**-0.1**
FITZ				IAmb	IAmb	21 44 41.5	
	comp=Z,1.1nm,1.0s						
AS31	**Alice Springs**	**38.63**	**196**	P	**P**	**21 44 54.9**	**+0.2**
ASAR	**Alice Springs**	**38.63**	**196**	P	**P**	**21 44 55.6**	**+0.9**
ASAR	**Alice Springs**	**38.63**	**196**	P	**P**	**21 44 54.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=21,slow=12,SNR=12						
	comp=Z,0.3nm,0.6s						
STKA	**Stephens Creek**	**45.39**	**184**	P	**P**	**21 45 49.3**	**0.0**
STKA				IAmb	IAmb	21 46 13.2	
	comp=Z,7.1nm,1.4s						
STKA	**Stephens Creek**	**45.39**	**184**	P	**P**	**21 45 49.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=355,slow=11,SNR=4.5						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**46.73**	**325**	P	**P**	**21 45 60.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.6,SNR=2.5						
	comp=Z,0.3nm,0.7s						
BBOO	**Buckleboo**	**46.98**	**190**	P	**P**	**21 46 02.0**	**+0.1**
MK31	**Makanchi Array**	**61.50**	**316**	P	**P**	**21 47 47.7**	**+0.6**
MK31				IAmb	IAmb	21 48 18.3	
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**61.50**	**316**	P	**P**	**21 47 47.3**	**+0.2**
MKAR	**Makanchi Array**	**61.50**	**316**	P	**P**	**21 47 47.8**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=92,slow=8.0,SNR=21						
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**64.59**	**320**	P	**P**	**21 48 07.4**	**+0.1**
KURK				IAmb	IAmb	21 48 39.2	
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**64.63**	**320**	P	**P**	**21 48 07.7**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=100,slow=6.5,SNR=7.0						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**69.93**	**322**	P	**P**	**21 48 40.5**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=107,slow=7.6,SNR=11						
	comp=Z,1.2nm,0.4s						
ABKAR	**Akbulak array**	**76.55**	**318**	P	**P**	**21 49 19.5**	**-0.4**
ABKAR	**Akbulak array**	**76.55**	**318**	P	**P**	**21 49 19.4**	**-0.4**
ABKAR				IAmb	IAmb	21 49 52.2	
	comp=Z,1.9nm,0.9s						
YKA	**Yellowknife Ar**	**82.76**	**27**	P	**P**	**21 49 53.1**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=293,slow=6.2,SNR=2.4						
	comp=Z,0.1nm,0.5s						

---

*BKK **16** 21:41:23.1±0.6, 14.°N±3.°×9.°6E±.°, h10km, M3.9/18, mB4.3/8, mb4.0/12, Mjma3.8/18, ML4.3/10, MLv4.2/17, Mw(mB)3.4/8*
*IDC **16** 21:41:24.3±1.1, 14.°43N×96.°06E, h0km, mb3.7/7, mbtmp3.7/8, ML3.8/1, MS3.0/2, Error ellipse: s-maj=34.8km s-min=21.9km az=59.0*
ISC 16 21:41:25.4±1.0, 14.°37N±0.°09×95.°92E±0.°07, h10km, n24, σ1°70/25, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**2.62**	**80**	P	**Pn**	**21 42 06.1**	**-1.8**
KHLT				Sg	**Sb**	**21 42 46.2**	**+1.3**
SRDT	**SRDT**	**3.11**	**90**	P	**Pn**	**21 42 12.6**	**-1.9**
UTHA	**Uthaitani**	**3.61**	**70**	P	**Pn**	**21 42 19.2**	**-2.3**
UTHA				Sg	**Sg**	**21 43 24.2**	**+2.8**
MHMT	**Maesarieng**	**4.25**	**27**	P	**Pn**	**21 42 29.5**	**-0.8**
MHMT				Sg	Sg	21 43 55.0	+13
CM13	**Chiang Mai Arr**	**4.94**	**35**	P	**Pn**	**21 42 38.0**	**-1.8**
CM05	**Chiang Mai Arr**	**4.95**	**36**	P	**Pn**	**21 42 38.1**	**-1.8**
	0.2nm0.2nm183nm12nm,0.6s						
CM04	**Chiang Mai Arr**	**4.97**	**36**	P	**Pn**	**21 42 38.5**	**-1.7**
	0.2nm0.2nm165nm16nm,0.8s						
CM01	**Chiang Mai Arr**	**4.97**	**36**	P	**Pn**	**21 42 38.4**	**-1.8**
	0.2nm0.2nm148nm14nm,0.6s						
CM02	**Chiang Mai Arr**	**4.98**	**35**	P	**Pn**	**21 42 38.2**	**-2.1**
	0.2nm0.2nm127nm9.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**4.99**	**35**	Pn	**Pn**	**21 42 38.7**	**-1.8**
	1.0nm,0.3s,baz=224,slow=15,SNR=31						
CMAR				Sn	**Sn**	**21 43 36.4**	**-2.0**
	0.5nm,0.3s,baz=222,slow=21,SNR=5.2						
	4.4nm,0.6s						
CM09	**Chiang Mai Arr**	**5.01**	**36**	P	**Pn**	**21 42 39.0**	**-1.7**
	0.3nm0.3nm124nm12nm,0.7s						
NAYO	**Nakonayok**	**5.24**	**90**	P	**Pn**	**21 42 41.6**	**-2.3**
PHRA	**Phrae**	**5.83**	**45**	P	**Pn**	**21 42 50.2**	**-1.8**
	49nm,1.2s						
CHAI	**Chaiyaphum**	**6.06**	**75**	P	**Pn**	**21 42 54.5**	**-0.6**
	0.1nm3.1nm,0.6s						
PAYA	**Payao**	**6.24**	**37**	P	**Pn**	**21 42 55.8**	**-1.8**
	0.1nm3.8nm,0.5s						
PALK	**Pallekele**	**16.52**	**246**	LR	LR	21 51 23.8	
	comp=Z,66nm,19.0s,baz=32,slow=36						
AAK	**Ala-Archa**	**33.68**	**331**	LR	LR	22 03 33.4	
	comp=Z,24nm,21.8s,baz=113,slow=39						
MKAR	**Makanchi Array**	**34.28**	**343**	P	**P**	**21 48 12.6**	**+0.8**
	1.1nm,0.9s,baz=168,slow=7.1,SNR=3.7						
	1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**38.81**	**342**	P	**P**	**21 48 50.7**	**+0.4**
	0.8nm,0.2s,baz=152,slow=8.2,SNR=6.3						
	0.8nm,0.2s						
ZALV	**Zalesovo Beam**	**40.44**	**350**	P	**P**	**21 49 03.6**	**-0.3**
	0.4nm,0.3s,baz=163,slow=10,SNR=3.9						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**50.90**	**131**	P	**P**	**21 50 27.0**	**-0.1**
	0.4nm,0.9s,baz=309,slow=8.2,SNR=2.9						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**53.00**	**135**	P	**P**	**21 50 42.6**	**-0.1**
	0.2nm,0.6s,baz=319,slow=7.1,SNR=2.1						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**59.69**	**308**	P	**P**	**21 51 31.1**	**+0.6**
	0.9nm,0.8s,baz=117,slow=7.2,SNR=6.2						
	0.9nm,0.8s						
GERES	**GERESS Array B**	**74.22**	**317**	P	**P**	**21 53 03.8**	**+1.1**
	0.7nm,0.8s,baz=46,slow=9.5,SNR=4.5						
	0.7nm,0.8s						

---

*PRE **16** 21:45:30.8±0.7, 17.°06S×28.°29E, h5km, ML3.0*
*BGSI **16** 21:45:32.7±2.3, 16.°82S×28.°77E, h12km±114km, ML3.5*
ISC 16 21:45:32.7±1.3, 17.°14S±0.°06×28.°49E±0.°07, h14km, n28, σ2°60/49, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**1.87**	**351**	*eP*	**Pn**	**21 46 03.5**	**-1.0**
LSZ				*eS*	**Sn**	**21 46 26.1**	**-1.9**
KSANE	**Kasane**	**3.25**	**258**	*i P*	**Pn**	**21 46 26.2**	**+2.9**
KSANE				*i S*	**Sn**	**21 47 04.7**	**+2.8**
KSANE				IAML		21 47 18.1	
	comp=N,850nm,0.2s						
BROLN	**Tlhalogang**	**4.09**	**195**	*i P*	**Pn**	**21 46 39.1**	**+4.2**
BROLN				IAML		21 47 57.4	
	comp=N,90nm,0.4s						
MUSN	**Musina, Limpop**	**5.28**	**166**	*eP*	**Pn**	**21 46 53.8**	**+2.5**
MUSN				*eS*	**Sn**	**21 47 52.8**	**+0.7**
MUSN				IAML		21 48 24.1	
	comp=Z,88nm,0.3s						
KHWEE	**KHWEE**	**5.58**	**211**	*i P*	**Pn**	**21 46 59.5**	**+4.1**
KHWEE				IAML		21 48 35.0	
	comp=N,241nm,0.2s						
LPHEP	**Lephephe**	**6.67**	**201**	*i P*	**Pn**	**21 47 12.7**	**+2.3**
LPHEP				*i S*	**Sn**	**21 48 26.2**	**-0.1**
LPHEP				IAML		21 49 12.6	
	comp=N,26nm,0.7s						
KDWAN	**Kaudwane**	**7.18**	**209**	*i P*	**Pn**	**21 47 20.1**	**+2.7**
KDWAN				*i S*	**Sn**	**21 48 38.6**	**-0.1**
KDWAN				IAML		21 49 33.9	
	comp=N,42nm,0.7s						
QNGWA	**Qangwa**	**7.35**	**250**	*i P*	**Pn**	**21 47 21.7**	**+2.0**
QNGWA				*i S*	**Sn**	**21 48 43.4**	**+0.4**
QNGWA				IAML		21 49 33.3	
	comp=N,33nm,0.6s						
PILG	**Pilgrimsrest,**	**8.03**	**165**	*eP*	**Pn**	**21 47 31.9**	**+2.7**
PILG				*eS*	**Sn**	**21 48 59.4**	**-0.5**
PILG				IAML		21 49 46.3	
	comp=Z,24nm,0.5s						
KGCAE	**Kacgae**	**8.20**	**225**	*i P*	**Pn**	**21 47 34.6**	**+3.2**
KGCAE				*i S*	**Sn**	**21 49 03.9**	**-0.1**
KGCAE				IAML		21 50 09.7	
	comp=N,46nm,1.0s						
LBTB	**Lobatse**	**8.29**	**199**	*eP*	**Pn**	**21 47 34.0**	**+1.4**
LBTB				*eS*	**Sn**	**21 49 01.9**	**-4.2**
LBTB				IAML		21 49 39.4	
	comp=Z,7.6nm,0.5s						
SKOMA	**Sekoma**	**8.49**	**209**	*i P*	**Pn**	**21 47 35.7**	**+0.4**
SKOMA				*i S*	**Sn**	**21 49 10.5**	**-0.6**
SKOMA				IAML		21 50 18.1	
	comp=N,18nm,0.8s						
HRAO	**HartRAO**	**8.74**	**185**	*eP*	**Pn**	**21 47 41.1**	**+2.3**
HRAO				*eS*	**Sn**	**21 49 14.3**	**-3.1**
HRAO				IAML		21 49 44.8	
	comp=Z,9.3nm,0.4s						
MAKGR	**Makgori**	**9.29**	**201**	*i P*	**Pn**	**21 47 47.8**	**+1.4**
MAKGR				*i S*	**Sn**	**21 49 27.5**	**-3.3**
MAKGR				IAML		21 50 35.8	
	comp=N,55nm,0.5s						
KOOLE	**Kule**	**9.73**	**232**	*i P*	**Pn**	**21 47 53.6**	**+1.2**
KOOLE				*i S*	**Sn**	**21 49 38.0**	**-3.7**
KOOLE				IAML		21 50 51.0	
	comp=N,33nm,1.0s						
PRYS	**Parys**	**9.80**	**186**	*eP*	**Pn**	**21 47 55.7**	**+2.3**
PRYS				*eS*	**Sn**	**21 49 39.9**	**-3.4**
PRYS				IAML		21 49 47.5	
	comp=Z,3.4nm,0.6s						
SWZ	**Schweizer**	**10.41**	**196**	*eP*	**Pn**	**21 48 02.9**	**+1.1**
SWZ				*eS*	**Sn**	**21 49 54.7**	**-3.8**
SWZ				IAML		21 50 36.7	
	comp=Z,2.9nm,0.3s						
TEMBE	**Tembe Elephant**	**10.51**	**160**	*eP*	**Pn**	**21 48 05.8**	**+2.9**
TEMBE				*eS*	**Sn**	**21 49 58.5**	**-2.0**
TEMBE				IAML		21 50 27.3	
	comp=Z,7.8nm,0.8s						
POGA	**Pongola**	**10.59**	**164**	*eP*	**Pn**	**21 48 06.7**	**+2.7**
POGA				*eS*	**Sn**	**21 49 59.8**	**-2.7**
POGA				IAML		21 50 35.8	
	comp=Z,8.9nm,0.4s						
NWCL	**Newcastle**	**10.63**	**173**	*eP*	**Pn**	**21 48 07.7**	**+3.0**
NWCL				*eS*	**Sn**	**21 50 00.6**	**-3.0**
NWCL				IAML		21 50 27.6	
	comp=Z,5.2nm,0.4s						
SNKL	**Senekal, Frees**	**11.11**	**183**	*eP*	**Pn**	**21 48 13.3**	**+2.1**
SNKL				*eS*	**Sn**	**21 50 11.1**	**-4.3**
SNKL				IAML		21 50 29.4	
	comp=Z,5.9nm,0.4s						
BOSA	**Boshof**	**11.80**	**194**	*eP*	**Pn**	**21 48 22.0**	**+1.2**
BOSA				*eS*	**Sn**	**21 50 27.5**	**-4.9**
BOSA				IAML		21 50 45.1	
	comp=Z,2.1nm,0.5s						
PMBG	**Pietermaritzbu**	**12.46**	**172**	*eP*	**Pn**	**21 48 31.5**	**+1.9**
PMBG				*eS*	**Sn**	**21 50 45.5**	**-2.8**
PMBG				IAML		21 50 52.8	
	comp=Z,5.7nm,0.5s						
KSTD	**Kokstad**	**13.44**	**177**	*eP*	**Pn**	**21 48 45.0**	**+1.8**
BRAK	**Brakfontein**	**15.44**	**198**	*eP*	**Pn**	**21 49 11.6**	**+1.4**
GRAF	**Camdeboo Natio**	**15.51**	**193**	*eP*	**Pn**	**21 49 13.2**	**+2.2**
GRAF				IAML		21 51 03.5	
	comp=Z,1.2nm,0.6s						
FRAZ	**Fraserburg**	**16.07**	**202**	*eP*	**Pn**	**21 49 20.3**	**+1.9**
FRAZ				IAML		21 51 09.0	
	comp=Z,0.6nm,1.0s						
CVNA	**Calvinia**	**16.34**	**207**	*eP*	**P**	**21 49 24.2**	**-0.5**

---

*IDC **16** 21:49:16.9±0.7, 53.°55N×161.°62E, h0km, mb4.1/26, mbtmp4.1/33, ML4.2/7, MS3.4/8, Error ellipse: s-maj=15.4km s-min=12.3km az=121.0*
*KRSC **16** 21:49:18.0±1.1, 53.°35N×161.°90E, h47km±20km, Ml4.5*
*NEIC **16** 21:49:19.6±2.5, 53.°49N±0.°06×161.°4E±0.°1, h10km±1km, mb4.6/40, Error ellipse: s-maj=15.1km s-min=7.9km az=126.0*
*MOS **16** 21:49:21.6±1.0, 53.°44N×161.°60E, h48km, mb4.7/24, Error ellipse: s-maj=6.7km s-min=4.4km az=93.4*
ISC 16 21:49:21.3±1.2, 53.°46N±0.°04×161.°68E±0.°04, h31km±8km, n254, σ1°43/287, mb4.4/82, MS4.2/9, 23C-10D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**251**	PN	**Pn**	**21 49 39.2**	**-0.7**
SPN				S	**Sn**	**21 49 53.7**	**+0.1**
SPN	**Mys Shipunski**	**1.06**	**251**	*eP*	**Pn**	**21 49 39.2**	**-0.7**
SPN				*eS*	**Sn**	**21 49 53.7**	**+0.1**
NLC	**Nalytchevo**	**1.43**	**259**	PN	**Pn**	**21 49 44.6**	**-0.4**
NLC				S	**Sn**	**21 50 03.8**	**+1.1**
NLC	**Nalytchevo**	**1.43**	**259**	*eP*	**Pn**	**21 49 44.6**	**-0.4**
NLC				*eS*	**Sn**	**21 50 03.9**	**+1.1**
KII	**Karymskiy**	**1.44**	**294**	PN	**Pn**	**21 49 45.8**	**+0.5**
KII	**Karymskiy**	**1.44**

GNL **Ganaly** 2.24 277 *e*P Pn 21 49 57.9 +1.6
GNL *e*S Sb 21 50 26.7 -1.7
GRL **Gorelyy** 2.36 249 PN Pn 21 49 58.9 +0.9
GRL **Gorelyy** 2.36 249 *e*P Pn 21 49 58.9 +0.9
PEA0B **Petropavlovsk-** 2.41 263 Pn Pn 21 49 59.7 +1.1
PEA0B **Petropavlovsk-** 2.41 263 PN Pn 21 49 59.7 +1.1
PEA0B S Sn 21 50 29.6 +2.5
PETK **Petropavlovsk-** 2.41 263 Pn Pn 21 49 59.3 +0.7
PETK **Petropavlovsk-** 2.41 263 Pn Pn 21 49 59.1 +0.5
comp=N,63nm,0.3s,baz=97,slow=18,SNR=187
PETK Sn Sn 21 50 29.3 +2.2
comp=N,25nm,0.3s,baz=72,slow=19,SNR=4.6
PETK LR LR 21 50 34.0
comp=N,145nm,20.2s,baz=87,slow=32
comp=N,141nm,0.4s
PETK **Petropavlovsk-** 2.41 263 PN Pn 21 49 59.3 +0.7
KMNR **Kamenistaya** 2.45 341 PN Pn 21 50 01.4 +2.2
KMNR S Sb 21 50 32.5 -1.9
KMNR **Kamenistaya** 2.45 341 *e*P Pn 21 50 01.4 +2.2
KMNR *e*S Sb 21 50 32.5 -1.9
BZWR **Bezymyannyi-We** 2.60 345 PN Pn 21 50 03.6 +2.3
BZWR **Bezymyannyi-We** 2.60 345 *e*P Pn 21 50 03.6 +2.3
KIRR **Kirishev** 2.61 343 PN Pn 21 50 03.4 +1.9
KIRR **Kirishev** 2.61 343 *e*P Pn 21 50 03.4 +1.9
KPT **Kopyto** 2.65 342 PN Pn 21 50 03.7 +1.8
KPT **Kopyto** 2.65 342 *e*P Pn 21 50 03.7 +1.8
CIRR **Tsirk** 2.71 349 PN Pn 21 50 04.7 +1.8
CIRR **Tsirk** 2.71 349 *e*P Pn 21 50 04.7 +1.8
APC **Apacha** 2.77 261 PN Pn 21 50 05.7 +2.3
APC S Sn 21 50 39.2 +3.4
APC **Apacha** 2.77 261 *e*P Pn 21 50 05.8 +2.3
APC *e*S Sn 21 50 39.2 +3.4
KOZ **Kozyrevsk** 2.80 339 PN Pn 21 50 06.1 +2.1
KOZ **Kozyrevsk** 2.80 339 *e*P Pn 21 50 06.2 +2.1
KBTR **Krutoberegovo** 2.83 13 PN Pn 21 50 05.0 +0.7
KBTR **Krutoberegovo** 2.83 13 *e*P Pn 21 50 05.0 +0.7
KRSR **Krestovskiy** 2.83 347 PN Pn 21 50 05.9 +1.4
KRSR **Krestovskiy** 2.83 347 *e*P Pn 21 50 05.9 +1.4
KBG **Krutoberegovo** 2.86 12 PN Pn 21 50 05.9 +1.2
KBG **Krutoberegovo** 2.86 12 *e*P Pn 21 50 06.0 +1.2
KLY **Klyuchi** 2.92 349 PN Pn 21 50 06.6 +1.1
KLY **Klyuchi** 2.92 349 *e*P Pn 21 50 06.7 +1.1
ESO **Esso** 3.01 326 PN Pn 21 50 08.7 +1.9
ESO **Esso** 3.01 326 *e*P Pn 21 50 08.7 +1.9
BKI **Bering** 3.06 54 PN Pn 21 50 06.9 -0.6
BKI **Bering** 3.06 54 *e*P Pn 21 50 06.9 -0.6
BKI *e*S Sn 21 50 39.3 -3.7
SRDR **Sredinnyy** 3.08 339 PN Pn 21 50 09.2 +1.4
SRDR **Sredinnyy** 3.08 339 *e*P Pn 21 50 09.2 +1.4
SKR **Severo-Kuril's** 4.42 233 *e*PN Pb 21 50 40.3 +2.2
SKR *e*S Sn 21 51 15.5 -0.9
SKR pmax pmax
comp=Z,79nm,0.5s
SKR smax smax
comp=N,152nm,0.7s
SKR smax smax
comp=E,150nm,0.5s
SHEM **Shemya Is, Ala** 7.52 91 Pn Pn 21 51 08.3 -0.3
comp=E,4.2nm,0.3s,baz=293,slow=16,SNR=2.4
SHEM Sn Sn 21 52 28.4 -4.4
comp=E,2.7nm,0.3s,baz=131,slow=20,SNR=1.4
comp=E,26nm,0.3s
MA2 **Magadan** 8.59 320 Pn Pn 21 51 23.8 +0.5
MA2 **Magadan** 8.59 320 Pn Pn 21 51 25.2 +1.9
comp=E,0.6nm,0.3s,baz=124,slow=9.4,SNR=12
MA2 LR LR 21 55 23.8
comp=E,272nm,18.0s,baz=150,slow=43
comp=E,6.4nm,0.7s
MA2 **Magadan** 8.59 320 *i* PN Pn 21 51 22.1 -1.2
MA2 pmax pmax
comp=Z,8.0nm,0.8s
MA2 MLR MLR
comp=Z,378nm,15.0s
SEY **Seymchan** 10.67 336 Pn Pn 21 51 52.5 +0.7
comp=Z,0.2nm,0.3s,baz=160,slow=15,SNR=2.3
comp=Z,0.4nm,0.3s
TYV **Tymovskoe** 11.96 265 *e*PN Pn 21 52 04.0 -5.5
TYV pmax pmax
comp=Z,4.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.3s
BILL **Bilibino** 14.79 7 *e*P Pn 21 52 49.0 +1.0
BILL pmax pmax
comp=Z,3.0nm,1.0s
JKA **Kamikawa-asahi** 15.62 241 Pn Pn 21 52 57.1 -1.9
JKA IAmb IAmb 21 53 00.3
comp=Z,26nm,1.0s
ASAJ **Asahikawa** 15.62 241 Pn Pn 21 52 58.5 -0.6
comp=Z,0.8nm,0.3s,baz=108,slow=16,SNR=7.1
comp=Z,16nm,0.9s
ASAJ **Asahikawa** 15.62 241 P Pn 21 52 57.2 -1.9
ASAJ pmax pmax
comp=Z,27nm,1.0s
ERM **Erimo** 16.86 235 Pn Pn 21 53 12.5 -2.3
ERM IAmb IAmb 21 53 26.8
comp=Z,33nm,0.8s
ERM **Erimo** 16.86 235 P Pn 21 53 12.5 -2.3
ERM pmax pmax
comp=Z,33nm,0.8s
YAK **Yakutsk** 18.92 310 P P 21 53 36.9 -2.3
YAK IAmb IAmb 21 53 38.0
comp=Z,22nm,0.6s
YAK **Yakutsk** 18.92 310 P P 21 53 37.5 -1.7
comp=Z,3.5nm,0.3s,baz=72,slow=1.5,SNR=9.4
YAK LR LR 22 01 45.1
comp=Z,103nm,20.4s,baz=113,slow=40
comp=Z,14nm,0.4s
YAK **Yakutsk** 18.92 310 *e*P P 21 53 36.6 -2.6
YAK *e*S Sn 21 57 05.2 -5.4
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,10.0nm,2.0s
YAK smax smax
comp=N,83nm,4.2s
YAK smax smax
comp=E,59nm,5.1s
KLR **Kul'dur** 19.09 269 P P 21 53 41.0 -0.1
comp=E,0.6nm,0.3s,baz=73,slow=8.8,SNR=15
KLR LR LR 22 01 56.7
comp=E,95nm,18.8s,baz=22,slow=40
comp=E,4.2nm,0.7s
KLR **Kul'dur** 19.09 269 *e*P P 21 53 40.8 -0.4
KLR pmax pmax
comp=Z,6.0nm,1.0s
ZEA **Zeya** 20.32 285 *e*P P 21 53 53.6 -0.9
ZEA *e* 21 54 17.4
HEH **HeiHe** 21.28 275 *e*P P 21 54 03.8 -1.1
HEH pmax pmax
comp=Z,14nm,1.0s
USA0B **Ussuriysk Arra** 21.49 257 P P 21 54 07.0 -0.2
USA0B **Ussuriysk Arra** 21.49 257 P P 21 54 07.0 -0.2
USA0B pmax pmax
comp=Z,17nm,1.4s
USRK **Ussuriysk Ar.** 21.49 257 P P 21 54 07.0 -0.2
USRK **Ussuriysk Ar.** 21.49 257 P P 21 54 07.5 +0.3
comp=Z,2.9nm,0.5s,baz=60,slow=13,SNR=8.0
comp=Z,2.9nm,0.5s
USRK **Ussuriysk Ar.** 21.49 257 P P 21 54 07.0 -0.2
VLA **Vladivostok** 22.20 254 *i* P P 21 54 15.0 +0.2
VLA pmax pmax
comp=Z,7.0nm,1.1s
JSD **Sado** 22.32 236 P P 21 54 17.5 +1.4
TIXI **Tiksi** 23.15 334 P P 21 54 22.8 -1.8
TIXI **Tiksi** 23.15 334 LR LR 22 04 55.3
comp=Z,137nm,18.1s,baz=183,slow=41
TIXI **Tiksi** 23.15 334 *ce*P P 21 54 24.2 -0.4
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI MLR MLR
comp=Z,210nm,18.0s
BNX **BinXian** 23.33 265 ⇑P P 21 54 24.3 -2.3
BNX pmax pmax
comp=Z,7.0nm,0.9s
MJAR **Matsushiro Arr** 23.52 233 P P 21 54 29.4 +0.9
comp=Z,10.0nm,1.0s,baz=21,slow=10,SNR=18
comp=Z,10.0nm,1.0s
MJB9 **Matsu-Tunnel** 23.52 233 P P 21 54 28.1 -0.5
MJB9 IAmb IAmb 21 54 36.7
comp=Z,19nm,0.9s
MAJO **Matsushiro** 23.52 233 P P 21 54 28.1 -0.5
MAJO IAmb IAmb 21 54 36.8
comp=Z,20nm,0.9s
MAJO **Matsushiro** 23.52 233 *i* P P 21 54 29.4 +0.8
MAJO pmax pmax
comp=Z,22nm,1.0s
TTA **Tatalina** 23.79 50 P P 21 54 33.0 +2.0
TTA **Tatalina** 23.79 50 P P 21 54 33.0 +2.0
TTA pmax pmax
comp=Z,8.0nm,1.4s
N18K **Kilae Creek** 23.80 55 P P 21 54 32.8 +1.7
JGF **Kuroka** 24.69 233 P P 21 54 39.5 +0.1
JGF IAmb IAmb 21 54 51.7
comp=Z,10nm,0.8s
INU **Inuyama** 25.06 234 P P 21 54 42.5 -0.2
PPLA **Purkeypile** 25.54 50 P P 21 54 50.5 +3.5
PPLA IAmb IAmb 21 55 22.5
comp=Z,17nm,1.4s
E22K **Anaktuvuk Pass** 26.19 38 P P 21 54 55.1 +2.4
HIA **Hailar** 26.23 278 P P 21 54 50.5 -2.8
HIA IAmb IAmb 21 54 55.1
comp=Z,6.7nm,0.7s
HIA **Hailar** 26.23 278 *i* P P 21 54 53.0 -0.3
HIA pmax pmax
comp=Z,7.0nm,0.7s
TRF **Thorofare Moun** 26.40 49 P P 21 54 57.9 +3.1
SML **Sawmill** 27.39 52 P P 21 55 06.7 +3.2
SML IAmb IAmb 21 55 18.5
comp=Z,14nm,1.2s
SML **Sawmill** 27.39 52 P P 21 55 08.4 +4.9
SML pmax pmax
comp=Z,14nm,1.2s
ILAR **Eielson Array** 27.88 46 P P 21 55 09.9 +2.0
ILAR **Eielson Array** 27.88 46 P P 21 55 08.5 +0.6
comp=Z,0.8nm,1.0s,baz=275,slow=8.0,SNR=4.9
comp=Z,0.8nm,1.0s
KSRS **Korea Array** 28.23 249 P P 21 55 12.2 +0.9
comp=Z,1.1nm,0.8s,baz=36,slow=8.6,SNR=2.4
comp=Z,1.1nm,0.8s
FYU **Fort Yukon** 28.57 42 P P 21 55 17.3 +3.3
FYU IAmb IAmb 21 55 34.7
comp=Z,11nm,1.2s
H11N2 **WAKE ISLAND Hy** 33.91 171 T T 22 33 23.0
baz=354
H11N3 **WAKE ISLAND Hy** 33.92 171 T T 22 32 36.4
baz=354,slow=74
H11N1 **WAKE ISLAND Hy** 33.93 171 T T 22 32 57.6
baz=354,slow=74
SONM **Songino Array** 34.74 284 P P 21 56 07.2 -1.3
comp=Z,0.5nm,0.7s,baz=55,slow=8.5,SNR=6.0
SONM PcP PcP 21 58 42.1 +0.6
comp=Z,0.5nm,0.6s,baz=72,slow=2.1,SNR=4.5
comp=Z,0.5nm,0.7s
TIA **Tai'an** 35.31 259 P P 21 56 09.3 -4.0
TIA pmax pmax
comp=Z,6.0nm,1.4s
HNS **HongShan** 35.93 263 ⇓P P 21 56 18.3 -0.3
HNS *e*S S 22 01 55.8 +1.1
HNS pmax pmax
comp=Z,7.0nm,0.9s
HNS LR LR
comp=N,840nm,13.6s
HNS LR LR
comp=E,470nm,12.4s
HNS LR LR
comp=Z,640nm,14.0s
NRIK **Noril'sk** 36.16 325 *i* P P 21 56 20.2 0.0
NRIK pmax pmax
comp=Z,9.0nm,3.0s
NRIK MLR MLR
comp=Z,383nm,18.0s
NJ2 **Nanjing** 37.27 252 *e*P P 21 56 30.5 +0.4
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=N,580nm,11.8s
NJ2 LR LR
comp=E,2μm,11.4s
NJ2 LR LR
comp=Z,710nm,9.5s
EUNU **Eureka** 41.36 14 P P 21 57 05.2 +1.4
YKA **Yellowknife Ar** 42.24 43 P P 21 57 11.0 -0.1
comp=Z,0.5nm,1.0s,baz=296,slow=8.3,SNR=3.9
comp=Z,0.5nm,1.0s
YKA **Yellowknife Ar** 42.24 43 *ce*P P 21 57 13.1 +2.0
LZH **Lanzhou** 43.29 270 *e*P P 21 57 20.4 +0.3
LZH pP pwP 21 57 42.4 +9.3
LZH pmax pmax
comp=Z,18nm,1.3s
ZALV **Zalesovo Beam** 43.37 303 P P 21 57 19.5 -0.9
comp=Z,0.4nm,0.5s,baz=95,slow=14,SNR=3.7
comp=Z,0.4nm,0.5s
GTA **Gaotai** 43.51 277 *e*P P 21 57 21.6 -0.2
GTA pmax pmax
comp=Z,2.0nm,0.5s
GTA LR LR
comp=N,240nm,14.2s
GTA LR LR
comp=E,310nm,13.1s
GTA LR LR
comp=Z,230nm,14.9s
SPITS **Spitsbergen Ar** 46.93 351 P P 21 57 48.3 0.0
comp=Z,14nm,0.8s,baz=18,slow=6.1,SNR=13
comp=Z,14nm,0.8s
KURK **Kurchatov** 48.34 302 *ce*P P 21 57 57.9 -1.7
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURBB **Kurchatov Arra** 48.44 302 P P 21 57 58.1 -2.2
comp=Z,1.6nm,0.5s,baz=55,slow=7.8,SNR=6.6
KURBB LR LR 22 19 49.8
comp=Z,67nm,21.2s,baz=176,slow=38
comp=Z,1.6nm,0.5s
MK31 **Makanchi Array** 48.85 296 P P 21 58 01.7 -1.8
MK31 **Makanchi Array** 48.85 296 *i* P P 21 58 03.4 -0.2
MKAR **Makanchi Array** 48.85 296 P P 21 58 01.6 -2.0
MKAR **Makanchi Array** 48.85 296 P P 21 58 01.3 -2.3
comp=Z,0.9nm,0.5s,baz=58,slow=7.7,SNR=25
comp=Z,0.9nm,0.5s
MKAR **Makanchi Array** 48.85 296 P P 21 58 01.6 -2.0
DAG **Danmarks Havn** 50.04 0 P P 21 58 12.1 -0.1
BVAR **Borovoye Array** 50.90 309 P P 21 58 17.2 -1.8
comp=Z,1.7nm,0.6s,baz=55,slow=7.4,SNR=8.9
comp=Z,1.7nm,0.6s
BRVK **Borovoye** 50.93 309 *ce*P P 21 58 19.5 +0.3
BRVK pmax pmax
comp=Z,11nm,2.5s
PZH **PanZhiHua** 51.38 263 P P 21 58 24.4 +1.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
QIZ **Qiongzhong** 52.46 250 P P 21 58 31.1 +0.1
QIZ S S 22 05 54.8 -0.5
QIZ LR LR
comp=N,140nm,11.3s
QIZ LR LR
comp=E,200nm,9.2s
QIZ LR LR
comp=Z,190nm,11.6s
ARCES **ARCESS Array B** 53.23 342 P P 21 58 34.8 -1.3
comp=Z,5.5nm,0.9s,baz=28,slow=7.9,SNR=1.7
comp=Z,5.5nm,0.9s
SUMG **Summit** 53.48 7 P P 21 58 40.1 +1.7
SUMG **Summit** 53.48 7 P P 21 58 40.1 +1.7
SUMG pmax pmax
comp=Z,13nm,1.2s
ARTI **Arti** 53.86 318 *d* P P 21 58 40.4 -0.5
ARTI S S 22 06 13.6 +0.1
ARTI SS SKiKP 22 09 49.4 -1.9
ARTI pmax pmax
comp=Z,34nm,4.0s
AAK **Ala-Archa** 55.76 297 *i* P P 21 58 55.1 0.0
PHRA **Phrae** 58.40 258 P P 21 59 13.6 -0.2
CHTO **Chiang Mai** 58.91 259 P P 21 59 17.5 +0.2
CHTO **Chiang Mai** 58.91 259 P P 21 59 17.5 +0.2
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CM31 **Chiang Mai Arr** 59.19 259 P P 21 59 19.9 +0.6
CMAR **Chiang Mai Arr** 59.19 259 P P 21 59 19.7 +0.4
CMAR **Chiang Mai Arr** 59.19 259 P P 21 59 20.6 +1.3
comp=Z,5.0nm,0.8s,baz=22,slow=7.1,SNR=31
comp=Z,5.0nm,0.8s
CMAR **Chiang Mai Arr** 59.19 259 P P 21 59 19.7 +0.4
BTK **Batken** 59.54 297 P P 21 59 21.0 -0.6
N23A **Red Feather La** 59.74 61 P P 21 59 27.4 +4.2
FINES **FINESS Array B** 60.15 337 P P 21 59 25.3 0.0
comp=Z,3.6nm,0.6s,baz=34,slow=9.0,SNR=24
comp=Z,3.6nm,0.6s
FINES **FINESS Array B** 60.15 337 *ce*P P 21 59 25.7 +0.4
FINES pmax pmax
comp=Z,4.0nm,0.6s
GAR **Garm** 60.57 297 P 21 59 28.3 -0.4
GAR IAmb IAmb 21 59 29.9
comp=Z,4.3nm,0.9s
BELG **Belogornoye** 61.05 320 *i* P P 21 59 32.0 +0.4
BELG pmax pmax
comp=Z,2.0nm,1.0s
BORG **Borgarnes** 62.10 1 LR LR 22 26 07.4
comp=Z,22nm,21.1s,baz=328,slow=36
OBN **Obninsk** 62.71 328 ⇑*e*P P 21 59 43.1 +0.4
OBN *e* 22 00 25.5
OBN *e* 22 01 59.2
OBN *e*S S 22 08 24.8 +16
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,41nm,6.0s
NIL **Nilore** 62.88 290 P P 21 59 44.2 -0.1
NIL **Nilore** 62.88 290 P P 21 59 44.2 -0.1
NIL pmax pmax
comp=Z,14nm,1.2s
NB2 **NORSAR Subarra** 63.45 344 P P 21 59 47.6 0.0
comp=Z,1.3nm,0.6s,baz=21,slow=6.9
NB2 **NORSAR Subarra** 63.45 344 P P 21 59 47.5 0.0
NOA **NORSAR Array B** 63.45 344 P P 21 59 47.3 -0.3
comp=Z,1.4nm,0.6s,baz=23,slow=6.0,SNR=9.8
comp=Z,1.4nm,0.6s
HFS **Hagfors** 63.88 343 P P 21 59 50.0 -0.4
comp=Z,1.6nm,0.5s,baz=57,slow=5.3,SNR=10
comp=Z,1.6nm,0.5s
KBL **Kabul** 64.55 294 P P 21 59 54.2 -1.3
KBL IAmb IAmb 21 59 55.2
comp=Z,5.5nm,0.9s
KBL **Kabul** 64.55 294 P P 21 59 54.2 -1.3
KBL pmax pmax
comp=Z,6.0nm,1.0s
HRA **Herat** 68.31 299 P P 22 00 17.4 -2.2
AKASG **Malin Array Be** 68.78 330 P P 22 00 21.6 -0.2
AKASG IAmb IAmb 22 00 22.7
comp=Z,5.6nm,1.4s
AKASG **Malin Array Be** 68.78 330 P P 22 00 21.4 -0.5
comp=Z,1.3nm,0.5s,baz=30,slow=5.8,SNR=11
comp=Z,1.3nm,0.5s
AKASG **Malin Array Be** 68.78 330 *ce*P P 22 00 21.7 -0.2
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB **Malin Array Si** 68.78 330 *ce*P P 22 00 22.3 +0.4
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB **Malin Array Si** 68.78 330 P P 22 00 20.5 -1.4
KIEV **Kiev** 68.79 330 P P 22 00 21.5 -0.5
KIEV IAmb IAmb 22 00 59.7
comp=Z,8.7nm,1.4s
KIEV **Kiev** 68.79 330 P P 22 00 21.5 -0.5
KIEV pmax pmax
comp=Z,9.0nm,1.5s
KIV **Kislovodsk** 69.81 318 *e*P P 22 00 28.3 -0.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
LUBAR **Lubar, Ukraine** 69.91 330 P P 22 00 27.9 -1.0
KBZ **Khabaz** 69.91 317 P P 22 00 29.2 +0.2
comp=Z,6.0nm,1.1s,baz=52,slow=4.8,SNR=4.9
comp=Z,6.0nm,1.1s
KBZ **Khabaz** 69.91 317 *i* P P 22 00 30.0 +1.0
KBZ pmax pmax
comp=Z,5.0nm,1.0s
EKA **Eskdalemuir Ar** 70.85 351 P P 22 00 33.1 -1.4
comp=Z,1.2nm,0.6s,baz=6.9,slow=4.8,SNR=2.1
comp=Z,1.2nm,0.6s
HORU **Horodok** 70.93 331 P P 22 00 35.0 -0.2
HORU **Horodok** 70.93 331 P P 22 00 35.0 -0.2
NDNU **Novodnistrovsk** 71.21 330 P P 22 00 35.7 -1.1
SORM **Soroca** 71.32 329 ⇓P P 22 00 37.9 +0.4
SORM **Soroca** 71.32 329 ⇓P P 22 00 37.9 +0.4
SORM **Soroca** 71.32 329 P P 22 00 36.3 -1.2
comp=Z,16nm,1.1s
KMPD **K-Podol'skiy** 71.51 330 P P 22 00 37.3 -1.3
KSP **Ksiaz** 72.07 338 P P 22 00 42.4 +0.4
KSP **Ksiaz** 72.07 338 P P 22 00 42.4 +0.4
comp=Z,9.1nm,1.8s
CLL **Collm** 72.34 340 *i* P P 22 00 44.7 +1.1
CLL pmax pmax
comp=Z,7.0nm,1.0s
CLL **Collm** 72.34 340 P P 22 00 42.9 -0.7
comp=Z,9.2nm,1.0s
CLL **Collm** 72.34 340 *i* P P 22 00 44.7 +1.1
comp=Z,7.0nm,1.0s
DPC **Dobruska-Polom** 72.52 338 *e*P P 22 00 46.5 +1.7
DPC **Dobruska-Polom** 72.52 338 *e*P P 22 00 46.5 +1.7
BUR08 **Bucovina Ar. S** 72.70 331 P P 22 00 46.4 +0.4
BURAR **Bucovina Array** 72.72 331 ⇑P P 22 00 46.6 +0.5
BURAR **Bucovina Array** 72.72 331 ⇑P P 22 00 46.6 +0.5
TESR **Tescani** 73.29 329 ⇑P P 22 00 49.2 -0.1
ZVC **Zvikov** 73.86 339 *e*P P 22 00 54.4 +1.8
TGMR **Targu Mures** 73.91 331 ⇓P P 22 00 50.0 -2.9
CFR **Carcaliu** 74.02 328 ⇑P P 22 00 54.0 +0.4
CFR **Carcaliu** 74.02 328 ⇑P P 22 00 54.0 +0.4
COVR **Voineasa-Covas** 74.02 329 ⇓P P 22 00 55.6 +2.0
MODS **Modra-Piesok** 74.14 336 *e*P P 22 00 53.8 -0.5
MODS **Modra-Piesok** 74.14 336 *e*P P 22 00 53.8 -0.5
DRGR 74.19 332 ⇑P P 22 00 55.6 +1.0
TPGR **Topolog** 74.22 327 ⇑P P 22 00 55.6 +0.8
KHC **Kasperske Hory** 74.28 339 *e*P P 22 00 56.4 +1.3
KHC **Kasperske Hory** 74.28 339 *ce*P P 22 00 54.8 -0.3
KHC pmax pmax
comp=Z,20nm,2.5s
MEM **Membach** 74.30 344 *d*P P 22 00 56.0 +0.8
comp=Z,9.1nm,1.0s
MEM *d*PcP PcP 22 01 10.9 +1.0
MLR **Muntele Rosu** 74.42 329 P P 22 00 57.2 +1.1
MLR IAmb IAmb 22 00 58.5
comp=Z,4.3nm,0.6s
MLR **Muntele Rosu** 74.42 329 ⇑P P 22 00 57.2 +1.1
MLR **Muntele Rosu** 74.42 329 P P 22 00 57.2 +1.1
MLR pmax pmax
comp=Z,4.0nm,0.6s
GERES **GERESS Array B** 74.52 339 P P 22 00 57.2 +0.6
comp=Z,2.0nm,0.6s,baz=38,slow=5.0,SNR=12
comp=Z,2.0nm,0.6s
TIRR **Tirgusor** 74.57 327 ⇑P P 22 00 58.0 +1.2
TIRR **Tirgusor** 74.57 327 ⇑P P 22 00 58.0 +1.2
VOIR 74.74 330 ⇑P P 22 00 59.1 +1.2
VOIR 74.74 330 ⇑P P 22 00 59.1 +1.2
CONA **Conrad Observa** 74.90 337 *i* P P 22 01 00.7 +1.9
comp=Z,2.6nm,1.1s
GZR **Gura Zlata** 75.45 331 ⇓P P 22 01 00.5 -1.5
GZR **Gura Zlata** 75.45 331 ⇓P P 22 01 00.5 -1.5
ARSA **Arzberg** 75.61 337 *e*P P 22 01 04.7 +1.9
comp=Z,2.0nm,0.7s
BIOA **Bad Ischl, Aus** 75.63 338 *e*P P 22 01 04.6 +1.7
comp=Z,1.4nm,0.7s
LESA **Schwarzleotal** 76.09 339 *i* P P 22 01 06.5 +0.9
comp=Z,3.7nm,0.8s
SOKA **Soboth** 76.27 337 *i* P P 22 01 07.2 +0.6
comp=Z,2.2nm,0.6s
KBA **Koelnbreinsper** 76.27 338 *e*P P 22 01 08.3 +1.5
comp=Z,8.3nm,0.7s
KBA **Koelnbreinsper** 76.27 338 P P 22 01 07.3 +0.5
WATA **Walderalm** 76.41 340 *i* P P 22 01 08.4 +0.9
comp=Z,2.4nm,0.7s
RETA **Reutte** 76.43 340 *i* P P 22 01 09.0 +1.4
comp=Z,2.7nm,1.1s
WTTA **Wattenberg** 76.46 340 *i* P P 22 01 08.5 +0.6
comp=Z,2.3nm,0.6s
MOTA **Moosalm** 76.50 340 *i* P P 22 01 08.0 0.0
comp=Z,8.6nm,1.3s
OBKA **Obir** 76.54 337 *i* P P 22 01 09.0 +0.8
comp=Z,5.0nm,0.7s
SQTA **Sankt Quirin** 76.59 340 *i* P P 22 01 09.6 +1.1
comp=Z,5.8nm,0.9s
WB0 **Warramunga Arr** 76.64 206 P P 22 01 08.7 -0.1
WB0 IAmb IAmb 22 01 28.6
comp=Z,7.1nm,1.3s
ABTA **Abfaltersbach** 76.77 339 *i* P P 22 01 10.0 +0.5
comp=Z,5.1nm,0.9s
DAVA **Damuels** 76.80 341 *i* P P 22 01 11.4 +1.7
comp=Z,4.4nm,1.1s
WB2 **Warramunga Arr** 76.82 206 P P 22 01 10.1 +0.3
WB2 IAmb IAmb 22 01 34.5
comp=Z,7.4nm,1.4s
WRA **Warramunga Arr** 76.82 206 P P 22 01 09.6 -0.2
comp=Z,0.7nm,0.8s,baz=20,slow=5.9,SNR=5.8
comp=Z,0.7nm,0.8s
FETA **Feichten** 76.88 340 *i* P P 22 01 11.3 +1.1

comp=Z,4.2nm,0.9s
BRTR Keskin Array B 76.93 321 P **P 22 01 10.7 +0.1**
comp=Z,1.2nm,0.8s,baz=57,slow=4.6,SNR=5.8
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 76.93 321 *ce*P **P 22 01 11.1 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR104 Keskin Array S 76.95 321 P **P 22 01 09.8 -0.9**
FUORN Ofenpass-Fuorn 77.36 340 P **P 22 01 14.2 +1.1**
FUORN IAmb IAmb 22 01 15.8
comp=Z,5.9nm,1.4s
TUE Stuetta 77.68 341 P **P 22 01 15.2 +0.4**
TUE IAmb IAmb 22 01 17.9
comp=Z,3.4nm,0.7s
FITZ Fitzroy Crossi 77.74 215 P **P 22 01 15.5 +0.5**
comp=Z,3.1nm,0.9s,baz=27,slow=6.8,SNR=3.0
comp=Z,3.1nm,0.9s
TEOL Teolo 78.27 339 P **P 22 01 17.8 +0.1**
ASAR Alice Springs 80.49 206 P **P 22 01 30.8 +0.7**
comp=Z,0.6nm,0.5s,baz=16,slow=5.1,SNR=10
comp=Z,0.6nm,0.5s
MMAI Mount Meron Ar 82.10 317 P **P 22 01 39.5 +0.8**
comp=Z,1.9nm,0.5s,baz=39,slow=9.3,SNR=2.3
comp=Z,1.9nm,0.5s
ESDC Sonseca Array 86.41 349 P **P 22 02 00.4 0.0**
comp=Z,0.6nm,0.8s,baz=353,slow=5.6,SNR=4.6
comp=Z,0.6nm,0.8s
NWAO Narrogin (SRO) 94.28 216 LR LR 22 44 33.2
comp=Z,27nm,20.0s,baz=74,slow=35
MBAR Mbarara 113.59 304 *i* PKIKP **PKiKP 22 07 56.2 -0.5**

---

*JMA **16** 22:03:57.9±0.3, 25°.3N±0°.9×124°.6E±0°.5, h6km±5km, MD4.7/11, MV4.3/11, NW OFF MIYAKOJIMA ISLAND*
*NIED **16** 22:03:57.9, 25°.27N×124°.55E, h6km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=4.57; $M_{\theta\theta}$=4.09; $M_{\phi\phi}$=0.48; $M_{r\theta}$=1.40; $M_{\theta\phi}$=0.49; $M_{\phi r}$=1.69; Fault plane solution: M_0=4.85000×10^{15} NP1: ϕ_s=275.00000°, δ36.00000°, λ=-67.00000°. NP2:ϕ_s=67.00000°, δ57.00000°, λ=-106.00000°.*
*IDC **16** 22:03:57.4±0.6, 25°.20N×124°.57E, h0km, mb4.0/14, mbtmp3.9/16, ML3.3/2, MS3.7/41 Error ellipse: s-maj=22.4km s-min=13.3km az=71.0*
*NEIC **16** 22:03:58.7±1.6, 25°.20N±0°.09×124°.67E±0°.07, h10km±1km, mb4.4/31, Error ellipse: s-maj=16.1km s-min=8.5km az=152.0*
ISC 16 22:03:58.4±1.5, **25°.18N**±0°.05×**124°.60E**±0°.03, **h9**km±10km, **n114**, σ0°**82**/83, **mb4.2**/28, **MS3.7**/35, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.55**	**170**	*e*P	**Pb**	**22 04 10.4**	**+0.2**
JTJ				*e*S	**Sb**	**22 04 19.3**	**+1.1**
JTJ	**Tarama**	**0.55**	**170**	A	A	22 04 10.4	
comp=N,56nm,4.9s,comp=E,44nm,4.9s							
JIRB	**Irabujima**	**0.63**	**124**	*e*P	**Pb**	**22 04 11.6**	**0.0**
JIRB				*e*S	**Sb**	**22 04 21.0**	**+0.5**
JIRB	**Irabujima**	**0.63**	**124**	A	A	22 04 11.6	
comp=N,50nm,2.3s,comp=E,62nm,3.7s							
JIKM	**Ikemajima**	**0.65**	**114**	*e*P	**Pb**	**22 04 12.1**	**+0.2**
JIKM				*e*S	**Sb**	**22 04 22.2**	**+1.3**
JIKM	**Ikemajima**	**0.65**	**114**	A	A	22 04 12.1	
comp=N,78nm,4.7s,comp=E,89nm,3.7s							
JISG	**Ishigakijimahi**	**0.65**	**204**	*e*P	**Pb**	**22 04 11.8**	**-0.1**
JISG	**Ishigakijimahi**	**0.65**	**204**	A	A	22 04 11.8	
comp=N,20nm,0.5s,comp=E,26nm,0.6s							
JMJ2	**Miyako jima3**	**0.80**	**123**	*e*P	**Pb**	**22 04 15.1**	**+0.6**
JMJ2				*e*S	**Sb**	**22 04 26.8**	**+1.5**
JOGS	**Gusukube**	**0.85**	**120**	*e*P	**Pb**	**22 04 15.9**	**+0.6**
JOGS				*e*S	**Sb**	**22 04 27.5**	**+0.7**
JOGS	**Gusukube**	**0.85**	**120**	A	A	22 04 15.9	
comp=N,72nm,3.0s,comp=E,74nm,4.7s							
JIJ	**Ishigaki jima**	**0.92**	**207**	*e*P	**Pb**	**22 04 16.3**	**-0.1**
JIJ				*e*S	**Sn**	**22 04 30.3**	**-0.4**
JIJ	**Ishigaki jima**	**0.92**	**207**	A	A	22 04 16.3	
comp=N,13nm,1.1s,comp=E,23nm,0.9s							
JKRS	**Kuro-shima**	**1.08**	**210**	*e*P	**Pb**	**22 04 19.1**	**-0.2**
JKRS	**Kuro-shima**	**1.08**	**210**	A	A	22 04 19.1	
comp=N,42nm,2.1s,comp=E,45nm,1.9s							
IRIF	**Iriomote-Funau**	**1.16**	**223**	*e*P	**Pg**	**22 04 19.7**	**-0.9**
IRIF	**Iriomote-Funau**	**1.16**	**223**	A	A	22 04 19.7	
comp=N,14nm,1.6s,comp=E,12nm,3.7s							
HATJ	**Hateruma jima**	**1.33**	**213**	*e*P	**Pg**	**22 04 23.6**	**-0.5**
HATJ	**Hateruma jima**	**1.33**	**213**	A	A	22 04 23.6	
comp=N,28nm,2.6s,comp=E,18nm,3.4s							
YOJ	**Yonaguni jima**	**1.61**	**244**	Pn	**Pg**	**22 04 28.4**	**-0.9**
YOJ				Sn	**Sg**	**22 04 51.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.61**	**244**	P	Pg	22 04 37.9	+8.6
TATO	**Taipei**	**2.83**	**266**	Pn	**Pn**	**22 04 43.9**	**+0.2**
NACB	**Ninganchiao**	**2.91**	**250**		**Pn**	**22 04 46.4**	**+1.5**
NACB	**Ninganchiao**	**2.91**	**250**	P	**Pn**	**22 04 46.9**	**+2.0**
YHNB	**Yeheng**	**2.97**	**261**		**Pn**	**22 04 47.7**	**+2.0**
YHNB	**Yeheng**	**2.97**	**261**	P	**Pn**	**22 04 48.0**	**+2.3**
YULB	**Yu-li**	**3.50**	**240**		**Pn**	**22 04 52.5**	**-0.5**
YULB	**Yu-li**	**3.50**	**240**	P	**Pn**	**22 04 53.1**	**+0.1**
SSLB	**Suanglung**	**3.60**	**248**		**Pn**	**22 04 55.4**	**+1.1**
JOW	**Kunigami**	**3.69**	**63**	Pn	**Pn**	**22 04 55.2**	**-0.5**
JOW	**Kunigami**	**3.69**	**63**	Pn	**Pn**	**22 04 56.6**	**+0.9**
comp=E,4.3nm,0.3s,baz=229,slow=16,SNR=6.2							
JOW				Sn	**Sn**	**22 05 38.4**	**-1.0**
comp=E,5.3nm,0.3s,baz=256,slow=24,SNR=4.4							
JOW				LR	LR	22 06 09.4	
comp=E,90nm,21.2s,baz=300,slow=36							
comp=E,18nm,0.6s							
TWGBT	**Beinan**	**3.98**	**234**	P	**Pn**	**22 05 00.0**	**+0.3**
TWG	**Pinlang**	**3.99**	**235**		**Pn**	**22 04 58.9**	**-0.9**
TPUB	**Ta-pu**	**4.08**	**243**		**Pn**	**22 05 02.8**	**+1.8**
JNU	**Nakatsue**	**9.63**	**33**	LR	LR	22 10 06.7	
comp=E,413nm,18.9s,baz=204,slow=38							
TGY	**Tagaytay City**	**11.55**	**198**	LR	LR	22 11 09.9	
comp=E,322nm,21.0s,baz=322,slow=37							
KSRS	**Korea Array**	**12.56**	**12**	Pn	Pn	22 07 03.0	+5.8
comp=E,0.1nm,0.3s,baz=188,slow=14,SNR=1.8							
KSRS				LR	LR	22 12 03.8	
comp=E,462nm,18.7s,baz=190,slow=39							
MJAR	**Matsushiro Arr**	**16.25**	**43**	LR	LR	22 14 12.8	
comp=E,193nm,19.1s,baz=220,slow=38							
DAV	**Davao City (W)**	**18.04**	**177**	LR	LR	22 16 37.4	
comp=E,166nm,18.5s,baz=340,slow=42							
USRK	**Ussuriysk Ar.**	**19.90**	**16**	P	**Pn**	**22 08 31.1**	**-0.7**
comp=E,0.1nm,0.3s,baz=184,slow=14,SNR=1.7							
USRK				LR	LR	22 16 31.3	
comp=E,181nm,18.2s,baz=204,slow=38							
comp=E,1.9nm,0.8s							
KKM	**Kota Kinabalu**	**20.66**	**204**	P	Pn	22 08 40.6	-0.3
KKM				IAmb	IAmb	22 09 01.0	
comp=Z,29nm,1.1s							
GUMO	**Guam**	**22.30**	**117**	LR	LR	22 16 19.2	
comp=Z,54nm,20.9s,baz=26,slow=33							
ASAJ	**Asahikawa**	**23.91**	**33**	LR	LR	22 19 06.6	
comp=Z,157nm,19.6s,baz=14,slow=38							
TOLI2	**Tolitoli**	**24.21**	**189**	P	**P**	**22 09 15.8**	**+0.2**
TOLI2				IAmb	IAmb	22 09 40.0	
comp=Z,16nm,1.2s							
HIA	**Hailar**	**24.34**	**352**	P	**P**	**22 09 16.7**	**+0.2**
HIA				IAmb	IAmb	22 09 24.0	
comp=Z,17nm,1.2s							
CHTO	**Chiang Mai**	**24.59**	**260**	P	**P**	**22 09 18.2**	**-0.8**
CHTO				IAmb	IAmb	22 09 38.8	
comp=Z,8.0nm,1.2s							
KLR	**Kul'dur**	**24.65**	**11**	LR	LR	22 18 49.3	
comp=Z,175nm,21.8s,baz=205,slow=36							
CMAR	**Chiang Mai Arr**	**24.71**	**259**	P	**P**	**22 09 21.1**	**+1.0**
comp=Z,1.7nm,1.0s,baz=66,slow=8.0,SNR=12							
CMAR				LR	LR	22 20 05.1	
comp=Z,46nm,21.4s,baz=75,slow=39							
comp=Z,1.7nm,1.0s							
SBUM	**Sibu**	**25.56**	**210**	P	**P**	**22 09 27.6**	**-0.2**
SBUM				IAmb	IAmb	22 09 46.2	
comp=Z,6.1nm,1.2s							
ULN	**Ulaanbaatar**	**26.55**	**333**	P	**P**	**22 09 36.5**	**-0.1**
ULN				IAmb	IAmb	22 09 50.3	
comp=Z,10.0nm,1.4s							
SONM	**Songino Array**	**26.80**	**332**	P	**P**	**22 09 38.6**	**-0.3**
SONM				IAmb	IAmb	22 09 48.7	
comp=Z,5.5nm,1.3s							
SONM	**Songino Array**	**26.80**	**332**	P	**P**	**22 09 39.4**	**+0.5**
comp=Z,1.1nm,0.7s,baz=156,slow=9.3,SNR=8.8							
SONM				PcP	**PcP**	**22 13 01.9**	**+0.3**
comp=Z,0.3nm,0.6s,baz=163,slow=5.4,SNR=2.5							
SONM				LR	LR	22 21 21.4	
comp=Z,199nm,19.4s,baz=96,slow=39							
comp=Z,1.1nm,0.7s							
KAPI	**Kappang**	**30.38**	**190**	LR	LR	22 22 01.6	
comp=Z,100nm,21.2s,baz=18,slow=36							
PSI	**Prapat**	**33.26**	**232**	LR	LR	22 23 38.3	
comp=Z,57nm,20.0s,baz=62,slow=35							
RPSI	**Rantau Prapat**	**33.33**	**232**	P	**P**	**22 10 36.3**	**-0.6**
RPSI				IAmb	IAmb	22 10 52.8	
comp=Z,5.4nm,0.9s							
SMRI	**Semarang**	**34.88**	**205**	P	**P**	**22 10 49.2**	**-1.0**
LEM	**Lembang**	**35.85**	**210**	LR	LR	22 26 29.4	
comp=Z,59nm,20.1s,baz=47,slow=38							
YAK	**Yakutsk**	**37.00**	**4**	LR	LR	22 27 35.0	
comp=Z,89nm,18.7s,baz=156,slow=38							
PETK	**Petropavlovsk-**	**37.33**	**33**	LR	LR	22 26 25.4	
comp=Z,71nm,18.7s,baz=238,slow=36							
MA2	**Magadan**	**38.91**	**21**	LR	LR	22 27 58.4	
comp=Z,83nm,18.8s,baz=210,slow=37							
KRVT	**Keravat (AS076**	**39.61**	**134**	LR	LR	22 24 13.2	
comp=Z,67nm,21.1s,baz=24,slow=31							
MK31	**Makanchi Array**	**39.84**	**314**	P	**P**	**22 11 31.7**	**-0.4**
MKAR	**Makanchi Array**	**39.84**	**314**	P	**P**	**22 11 31.8**	**-0.3**
MKAR	**Makanchi Array**	**39.84**	**314**	P	**P**	**22 11 32.5**	**+0.4**
comp=Z,1.0nm,0.8s,baz=97,slow=11,SNR=13							
MKAR				PcP	**PcP**	**22 13 37.5**	**-0.5**
comp=Z,0.9nm,0.7s,baz=93,slow=5.7,SNR=5.4							
MKAR				LR	LR	22 28 47.2	
comp=Z,68nm,19.1s,baz=98,slow=37							
comp=Z,1.0nm,0.8s							
PMG	**Port Moresby**	**40.81**	**145**	LR	LR	22 27 34.2	
comp=Z,54nm,18.3s,baz=310,slow=35							
KNRA	**Kununurra**	**40.82**	**174**	P	**P**	**22 11 39.0**	**-1.4**
KNRA				IAmb	IAmb	22 11 45.0	
comp=Z,9.9nm,1.1s							
ZAA0	**Zalesovo Array**	**41.15**	**325**	P	**P**	**22 11 42.0**	**-0.8**
ZALV	**Zalesovo Beam**	**41.15**	**325**	P	**P**	**22 11 42.6**	**-0.3**
comp=Z,1.7nm,0.5s,baz=116,slow=8.5,SNR=12							
ZALV				LR	LR	22 30 17.0	
comp=Z,142nm,18.1s,baz=102,slow=38							
comp=Z,1.7nm,0.5s							
COEN	**Coen**	**42.92**	**153**	P	**P**	**22 11 57.6**	**0.0**
COEN				IAmb	IAmb	22 12 13.8	
comp=Z,11nm,1.2s							
FITZ	**Fitzroy Crossi**	**43.03**	**179**	P	**P**	**22 11 58.8**	**+0.3**
comp=Z,3.5nm,0.9s,baz=357,slow=10,SNR=7.2							
FITZ				LR	LR	22 30 39.2	
comp=Z,40nm,18.8s,baz=308,slow=37							
comp=Z,3.5nm,0.9s							
KURK	**Kurchatov**	**43.37**	**318**	P	**P**	**22 12 01.9**	**+1.0**
KURK				IAmb	IAmb	22 12 24.8	
comp=Z,5.9nm,1.3s							
KURBB	**Kurchatov Arra**	**43.39**	**318**	P	**P**	**22 12 00.4**	**-0.7**
comp=Z,1.7nm,0.2s,baz=111,slow=8.5,SNR=6.2							
comp=Z,1.7nm,0.2s							
AAK	**Ala-Archa**	**44.40**	**306**	LR	LR	22 32 44.6	
comp=Z,77nm,19.0s,baz=67,slow=39							
PALK	**Pallekele**	**45.50**	**255**	LR	LR	22 34 23.3	
comp=Z,27nm,18.0s,baz=66,slow=40							
WB0	**Warramunga Arr**	**45.69**	**167**	P	**P**	**22 12 18.0**	**-1.7**
WRA	**Warramunga Arr**	**45.85**	**167**	P	**P**	**22 12 20.8**	**-0.2**
WRA	**Warramunga Arr**	**45.85**	**167**	P	**P**	**22 12 21.4**	**+0.4**
comp=Z,2.5nm,0.7s,baz=349,slow=8.4,SNR=23							
WRA				PcP	**PcP**	**22 13 58.7**	**+0.4**
comp=Z,0.3nm,0.6s,baz=349,slow=3.4,SNR=1.0							
comp=Z,2.5nm,0.7s							
TIXI	**Tiksi**	**46.56**	**2**	LR	LR	22 34 03.3	
comp=Z,212nm,18.0s,baz=190,slow=39							
KBL	**Kabul**	**48.55**	**295**	P	**P**	**22 12 42.6**	**+0.2**
KBL				IAmb	IAmb	22 12 49.6	
comp=Z,2.7nm,0.7s							
BVAR	**Borovoye Array**	**48.90**	**319**	P	**P**	**22 12 44.7**	**+0.2**
comp=Z,0.5nm,0.6s,baz=90,slow=8.9,SNR=4.1							
BVAR				PcP	**PcP**	**22 14 09.1**	**+0.3**
comp=Z,1.2nm,0.6s,baz=105,slow=4.7,SNR=5.9							
comp=Z,0.5nm,0.6s							
BRVK	**Borovoye**	**48.97**	**319**	P	**P**	**22 12 44.5**	**-0.6**
NRIK	**Noril'sk**	**49.28**	**344**	P	**P**	**22 12 47.8**	**+0.6**
comp=Z,1.2nm,0.4s,baz=108,slow=6.9,SNR=3.7							
NRIK				LR	LR	22 35 53.1	
comp=Z,148nm,20.5s,baz=147,slow=39							
comp=Z,1.2nm,0.4s							
AS31	**Alice Springs**	**49.39**	**169**	P	**P**	**22 12 47.6**	**-1.0**
ASAR	**Alice Springs**	**49.39**	**169**	P	**P**	**22 12 47.9**	**-0.7**
ASAR	**Alice Springs**	**49.39**	**169**	P	**P**	**22 12 49.5**	**+1.0**
comp=Z,1.7nm,0.7s,baz=353,slow=13,SNR=22							
ASAR				PcP	**PcP**	**22 14 10.0**	**-0.9**
comp=Z,0.8nm,0.9s,baz=330,slow=3.6,SNR=2.5							
comp=Z,1.7nm,0.7s							
ABKAR	**Akbulak array**	**54.98**	**314**	P	**P**	**22 13 30.2**	**+0.4**
ABKAR	**Akbulak array**	**54.98**	**314**	P	**P**	**22 13 29.8**	**-0.1**
ABKAR				IAmb	IAmb	22 13 31.1	
comp=Z,1.3nm,0.8s							
ARTI	**Arti**	**56.29**	**322**	P	**P**	**22 13 39.1**	**0.0**
ARTI				IAmb	IAmb	22 13 54.9	
comp=Z,2.4nm,0.9s							
ARTI	**Arti**	**56.29**	**322**	LR	LR	22 38 10.3	
comp=Z,91nm,18.8s,baz=94,slow=36							
STKA	**Stephens Creek**	**59.02**	**163**	P	**P**	**22 13 59.2**	**+0.7**
comp=Z,1.4nm,0.8s,baz=1.4,slow=6.9,SNR=3.1							
comp=Z,1.4nm,0.8s							
KIRV	**Kirov**	**61.19**	**325**	LR	LR	22 43 10.7	
comp=Z,273nm,18.1s,baz=87,slow=38							
J17K	**VABM Dome**	**61.69**	**30**	P	**P**	**22 14 16.9**	**+0.4**
K17K	**Iditarod**	**62.05**	**31**	P	**P**	**22 14 19.3**	**+0.3**
E19K	**Redstone River**	**62.48**	**25**	P	**P**	**22 14 21.0**	**-0.8**
E19K				IAmb	IAmb	22 14 48.2	
comp=Z,5.4nm,1.3s							
H19K	**Roundabout Mou**	**62.80**	**27**	P	**P**	**22 14 23.8**	**-0.2**
TTA	**Tatalina**	**63.09**	**30**	P	**P**	**22 14 25.9**	**-0.1**
TTA				IAmb	IAmb	22 14 30.9	
comp=Z,4.4nm,1.4s							
J20K	**Nowinta River**	**63.85**	**29**	P	**P**	**22 14 30.1**	**-0.8**
K20K	**Telida**	**63.94**	**30**	P	**P**	**22 14 31.9**	**+0.4**
H21K	**Melozitna Rive**	**64.31**	**27**	P	**P**	**22 14 32.9**	**-1.1**
H21K				IAmb	IAmb	22 14 52.7	
comp=Z,5.1nm,1.1s							
ILAR	**Eielson Array**	**66.90**	**28**	P	**P**	**22 14 51.6**	**+0.9**
comp=Z,0.3nm,0.8s,baz=275,slow=6.2,SNR=2.6							
comp=Z,0.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**69.17**	**348**	LR	LR	22 49 46.9	
comp=Z,56nm,18.3s,baz=34,slow=40							
ARCES	**ARCESS Array B**	**69.77**	**338**	LR	LR	22 50 20.7	
comp=Z,76nm,18.6s,baz=64,slow=40							
INK	**Inuvik**	**71.12**	**23**	LR	LR	22 48 48.6	
comp=Z,38nm,18.1s,baz=242,slow=38							
FINES	**FINESS Array B**	**72.14**	**330**	LR	LR	22 50 51.6	
comp=Z,173nm,18.8s,baz=85,slow=39							
BRTR	**Keskin Array B**	**75.06**	**307**	P	**P**	**22 15 41.3**	**+0.4**
comp=Z,2.0nm,1.0s,baz=84,slow=5.1,SNR=5.6							
comp=Z,2.0nm,1.0s							
DLBC	**Dease Lake**	**76.49**	**31**	LR	LR	22 51 57.4	
comp=Z,35nm,18.7s,baz=274,slow=38							
RES	**Resolute Bay**	**77.16**	**10**	LR	LR	22 53 42.7	
comp=Z,37nm,18.2s,baz=1.5,slow=39							
HFS	**Hagfors**	**78.19**	**331**	LR	LR	22 55 04.2	
comp=Z,132nm,19.3s,baz=35,slow=39							
JMIC	**Jan Mayen**	**78.64**	**346**	LR	LR	22 55 08.8	
comp=Z,54nm,18.6s,baz=156,slow=39							
NOA	**NORSAR Array B**	**78.77**	**333**	LR	LR	22 55 01.6	
comp=Z,58nm,20.6s,baz=40,slow=39							
YKA	**Yellowknife Ar**	**80.83**	**24**	P	**P**	**22 16 12.4**	**+0.1**
comp=Z,1.3nm,0.9s,baz=304,slow=5.2,SNR=19							
YKA				LR	LR	22 55 12.1	
comp=Z,43nm,19.4s,baz=326,slow=38							
comp=Z,1.3nm,0.9s							
VRAC	**Vranov**	**82.14**	**321**	LR	LR	22 55 59.3	
comp=Z,70nm,18.4s,baz=48,slow=38							
BORG	**Borgarnes**	**86.54**	**346**	LR	LR	22 59 38.8	
comp=Z,38nm,18.8s,baz=341,slow=39							
SCHQ	**Schefferville**	**99.71**	**7**	LR	LR	23 05 08.0	
comp=Z,44nm,20.3s,baz=33,slow=37							

---

*NEIC **16** 22:05:30.3±1.2, 38°.77N±0°.01×112°.52W±0°.01, h5km±6km, Error ellipse: s-maj=2.3km s-min=0.7km az=142.0*
UUSS 16 22:05:30.7±1.3, **38°.73N**±0°.01×**112°.49W**±0°.02, **h8**km±8km, **ML3.3**/19, **ML3.3**/64(NEIC), **Error ellipse: s-maj=2.3km s-min=1.6km az=144.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	**Three Creeks R**	**0.13**	**163**	Pg	Pg	22 05 34.1	+0.4
TCRU				Sg	Sg	22 05 36.1	+0.3
TCRU				IAML		22 05 36.8	
comp=N,19μm,0.4s							
MSU	**Marysvale**	**0.33**	**131**	Pg	Pg	22 05 37.4	+0.1
NMUT	**North Mineral**	**0.35**	**232**		Pg	22 05 37.8	+0.1
NMUT					Sg	22 05 42.8	+0.4
WCU	**Willow Creek**	**0.39**	**53**		Pg	22 05 38.5	0.0
IMU	**Iron Mountain**	**0.53**	**259**		Pg	22 05 41.2	+0.2
FLU	**Fool Peak**	**0.69**	**21**		Pg	22 05 43.6	-0.5
MTPU	**Mount Pierson**	**0.73**	**160**		Pg	22 05 45.3	+0.5
DWU	**Dry Willow Pea**	**0.74**	**212**		Pg	22 05 45.3	+0.3
SGU	**Sterling**	**0.80**	**56**		Pb	22 05 46.9	-0.2
OWUT	**Old Woman Plat**	**0.84**	**86**		Pb	22 05 47.4	-0.3
LEVU	**Levan**	**0.94**	**34**		Pg	22 05 48.8	0.0
Q16A	**Castle Valley**	**1.05**	**79**	Pg	Pg	22 05 50.8	-0.1
Q16A				IAML		22 06 08.0	
comp=N,1μm,0.6s							
Q16A				IAML		22 06 08.3	
comp=E,1μm,0.4s							
PSUT	**Pine Spring**	**1.08**	**260**	Pg	Pg	22 05 51.6	0.0
PSUT				IAML		22 06 06.2	
comp=N,432nm,0.5s							
PSUT				IAML		22 06 09.9	
comp=E,454nm,0.7s							
BTU	**Barney Top**	**1.09**	**153**		Pb	22 05 52.3	+0.2
TMUT	**Trail Mountain**	**1.15**	**60**		Pg	22 05 52.6	-0.2
ARUT	**Antelope Range**	**1.20**	**219**		Pn	22 05 54.0	0.0
FSU	**Fish Springs**	**1.21**	**325**		Pg	22 05 53.6	-0.4
DBD	**Des Bee Dove**	**1.24**	**62**		Pg	22 05 54.0	-0.4
PKCU	**Pink Cliffs**	**1.29**	**174**		Pg	22 05 55.9	+0.3
PKCU				IAML		22 06 17.8	
comp=E,478nm,0.4s							
PKCU				IAML		22 06 19.9	
comp=N,332nm,0.4s							
ELU	**Electric Lake**	**1.35**	**47**		Pg	22 05 56.7	0.0
WMUT	**West Mountain**	**1.44**	**21**		Pg	22 05 58.6	+0.2
MPU	**Maple Canyon**	**1.45**	**27**	Pg	Pn	22 05 57.6	+0.2
MPU				IAML		22 06 19.3	
comp=E,369nm,0.5s							
MPU				IAML		22 06 19.7	
comp=N,251nm,0.5s							
SPR3	**Spring Creek 3**	**1.46**	**281**		Pn	22 05 57.3	-0.4
DUG	**Dugway, Tooele**	**1.48**	**350**		Pn	22 05 57.2	-0.7
DUG				IAML		22 06 20.5	
comp=N,602nm,0.9s							
DUG				IAML		22 06 21.8	
comp=N,616nm,0.8s							
SRU	**San Rafael Swe**	**1.58**	**76**		Pb	22 06 00.2	-0.2
KNB	**Kanab**	**1.73**	**189**	Pn	Pb	22 06 02.5	-0.4
LCMT	**Little Creek M**	**1.82**	**199**		Pb	22 06 03.9	-0.4
ICU	**Indian Springs**	**1.94**	**216**		Pb	22 06 07.0	+0.5
P18A	**Preston Nutter**	**1.96**	**62**		Pb	22 06 06.5	-0.4
P18A				IAML		22 06 34.5	
comp=E,434nm,0.6s							
P18A				IAML		22 06 36.4	
comp=N,304nm,0.6s							
JLU	**Jordanelle**	**2.03**	**23**		Pn	22 06 05.9	+0.4
JLU				IAML		22 06 37.5	
comp=N,222nm,0.4s							
JLU				IAML		22 06 38.1	
comp=E,328nm,0.5s							
SNUT	**Stansbury Nort**	**2.15**	**360**		Pn	22 06 07.2	+0.1
BGU	**Big Grassy Mou**	**2.23**	**349**	Pn	Pn	22 06 07.4	-0.8
BGU				IAML		22 06 51.2	
comp=E,121nm,0.7s							
NAIU	**Northern Antel**	**2.29**	**5**		Pn	22 06 09.0	+0.1
U15A	**North Rim**	**2.31**	**176**		Pb	22 06 11.3	-1.4
PRN	**Pahroc Range**	**2.41**	**238**		Pn	22 06 11.8	+1.1
PRN				IAML		22 06 51.2	
comp=N,334nm,0.5s							
R11B	**Troy Canyon, C**	**2.45**	**262**		Pn	22 06 11.3	+0.1
R11B				IAML		22 06 50.3	
comp=E,132nm,0.6s							
SPUT	**South Promonto**	**2.57**	**1**		Pn	22 06 13.0	+0.2
SPUT				IAML		22 06 57.2	
comp=N,88nm,0.6s							
SPUT				IAML		22 06 57.8	
comp=E,100nm,0.6s							
PV10	**Paradox Valley**	**2.73**	**96**		Pn	22 06 17.2	+2.1
PV23	**Carpenter Ridg**	**2.74**	**95**		Pn	22 06 17.0	+1.7
S11A	**Rachel**	**2.78**	**248**		Pn	22 06 16.7	+0.9
PV11	**David Mesa, Pa**	**2.87**	**98**		Pn	22 06 18.6	+1.6
HVU	**Hansel Valley**	**3.05**	**356**		Pn	22 06 19.2	-0.3
SHPR	**Sheep Range**	**3.07**	**224**	Pn	Pn	22 06 19.4	-0.3
PV15	**Paradox Valley**	**3.17**	**96**		Pn	22 06 22.5	+1.3
WUAZ	**Wupatki**	**3.33**	**164**		Pn	22 06 23.3	0.0
WUAZ				IAML		22 07 15.3	
comp=E,156nm,0.5s							
TPNV	**Topopah Spring**	**3.46**	**240**		Pn	22 06 25.9	+0.8
TPNV				IAML		22 07 22.7	
comp=E,50nm,0.5s							
TPNV				IAML		22 07 26.2	
comp=E,76nm,0.4s							
WCT	**Wildcat Mounta**	**3.80**	**241**	Pn	Pn	22 06 30.2

baz=24,slow=74,SNR=449
H04N3 CROZET ISLANDS 16.55 199 T T 22 49 22.0
baz=24,slow=74,SNR=484
POGA Pongola 24.43 271 P **P** **22 33 55.5 -0.4**
POGA IAmb IAmb 22 34 05.2
comp=Z,49nm,1.5s
H08S1 Diego Carcia H 26.00 31 T T 23 01 11.9
baz=207,slow=76,SNR=22
H08S2 Diego Garcia H 26.00 31 T T 23 01 27.0
baz=207,slow=76,SNR=10
H08S3 Diego Garcia H 26.02 31 T T 23 01 16.4
baz=207,slow=76,SNR=26
BOSA Boshof 29.69 265 P **P** **22 34 42.0 -1.2**
BOSA IAmb IAmb 22 35 18.6
comp=Z,43nm,2.0s
BOSA Boshof 29.69 265 P **P** **22 34 42.3 -0.9**
comp=Z,1.2nm,0.5s,baz=17,slow=18,SNR=7.6
BOSA LR LR 22 44 15.8
comp=Z,85nm,22.0s,baz=140,slow=32
comp=Z,1.2nm,0.5s
LBTB Lobatse 30.35 272 P **P** **22 34 48.7 -0.4**
LBTB IAmb IAmb 22 34 49.4
comp=Z,18nm,1.5s
LBTB Lobatse 30.35 272 LR LR 22 45 43.1
comp=Z,81nm,18.6s,baz=119,slow=34
LSZ Lusaka 32.45 291 **P** **22 35 07.6 0.0**
LSZ Lusaka 32.45 291 LR LR 22 47 59.8
comp=Z,101nm,18.2s,baz=115,slow=36
SUR Sutherland 32.82 257 LR LR 22 47 10.3
comp=Z,126nm,18.2s,baz=118,slow=34
TSUM Tsumeb 39.41 277 P **P** **22 36 07.4 +0.1**
TSUM Tsumeb 39.41 277 LR LR 22 50 40.3
comp=Z,65nm,20.4s,baz=149,slow=34
SYO Syowa Base 40.01 191⇓*eP* **P** **22 36 11.2 -0.3**
LODK Lodwar 40.97 322 P **P** **22 36 20.4 +0.2**
H01W2 Cape Leeuwin H 45.71 110 T T 23 26 18.7
baz=259,slow=75,SNR=18
H01W3 Cape Leeuwin H 45.72 110 T T 23 26 19.1
baz=259,slow=75,SNR=13
H01W1 Cape Leeuwin H 45.73 110 T T 23 26 08.2
baz=259,slow=75,SNR=11
SNAA Sanae 52.49 201 P **P** **22 37 50.1 +0.4**
SNAA Sanae 52.49 201 P **P** **22 37 49.7 0.0**
SNAA IAmb IAmb 22 38 59.5
comp=Z,26nm,1.9s
SNAA Sanae 52.49 201 ⇑P **P** **22 37 50.1 +0.4**
comp=Z,80nm,0.7s
SNAA Sanae 52.49 201 P **P** **22 37 49.7 0.0**
comp=Z,2.8nm,0.6s,baz=85,slow=7.2,SNR=10
SNAA LR LR 22 55 45.1
comp=Z,64nm,20.6s,baz=29,slow=31
comp=Z,2.8nm,0.6s
IPM Ipoh 52.94 56 P **P** **22 37 54.8 +1.1**
IPM IAmb IAmb 22 37 56.4
comp=Z,14nm,0.8s
KULM Kulim 53.24 55 P **P** **22 37 56.0 +0.1**
KULM IAmb IAmb 22 37 58.3
comp=Z,17nm,1.2s
PSA00 Pilbara Seismi 54.46 96 P **P** **22 38 03.8 -1.0**
PSA00 IAmb IAmb 22 40 06.0
comp=Z,37nm,1.8s
MBWA Marble Bar 54.52 95 P **P** **22 38 04.5 -0.7**
VNA3 Neumayer Olymp 54.53 202 P **P** **22 38 04.9 +0.3**
VNA3 Neumayer Olymp 54.53 202 ⇑P **P** **22 38 04.9 +0.3**
comp=Z,5.7nm,0.7s
JAGI Jajag, Banyuwa 55.51 79 P **P** **22 38 12.4 -0.1**
JAGI IAmb IAmb 22 38 13.8
comp=Z,18nm,0.9s
RAYN Ar Rayn 55.54 344 P **P** **22 38 12.6 +0.1**
RAYN IAmb IAmb 22 38 29.2
comp=Z,27nm,1.9s
QSPA South Pole Qui 59.46 180 P **P** **22 38 39.3 -0.4**
QSPA South Pole Qui 59.46 180 P **P** **22 38 39.6 -0.1**
comp=Z,9.4nm,0.9s,baz=265,slow=5.5,SNR=37
comp=Z,9.4nm,0.9s
FITZ Fitzroy Crossi 60.85 95 P **P** **22 38 49.7 -0.2**
FITZ IAmb IAmb 22 40 29.3
comp=Z,11nm,1.8s
CM31 Chiang Mai Arr 61.92 43 P **P** **22 38 56.9 0.0**
CM31 IAmb IAmb 22 38 58.3
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 61.92 43 P **P** **22 38 56.6 -0.4**
CMAR Chiang Mai Arr 61.92 43 P **P** **22 38 57.5 +0.5**
comp=Z,6.8nm,0.7s,baz=230,slow=7.2,SNR=52
CMAR LR LR 23 03 39.7
comp=Z,14nm,18.1s,baz=200,slow=34
comp=Z,6.8nm,0.7s
SOEI Soe 63.49 86 P **P** **22 39 08.3 +0.5**
BBOO Buckleboo 63.80 114 P **P** **22 39 09.6 +0.1**
BBOO IAmb IAmb 22 41 10.1
comp=Z,19nm,1.4s
SHL Shillong 64.01 33 P **P** **22 39 11.1 +0.2**
SHL IAmb IAmb 22 39 12.2
comp=Z,7.2nm,0.6s
EIL Elat 64.40 336 LR LR 23 03 31.3
comp=Z,37nm,19.7s,baz=232,slow=32
KNRA Kununurra 64.60 94 P **P** **22 39 14.4 -0.4**
ASAR Alice Springs 65.55 104 P **P** **22 39 20.5 -0.5**
ASAR Alice Springs 65.55 104 P **P** **22 39 20.8 -0.3**
comp=Z,7.2nm,0.8s,baz=239,slow=6.1,SNR=76
comp=Z,7.2nm,0.8s
AS31 Alice Springs 65.55 104 P **P** **22 39 20.0 -1.0**
TOLI2 Tolitoli 66.25 73 P **P** **22 39 25.0 -0.6**
SLVN Son La 67.11 45 P **P** **22 39 31.4 +0.6**
SLVN IAmb IAmb 22 39 32.8
comp=Z,4.9nm,0.8s
LSA Lhasa 67.24 30 P **P** **22 39 32.1 0.0**
LSA IAmb IAmb 22 39 34.2
comp=Z,5.7nm,1.2s
MMAI Mount Meron Ar 67.32 338 LR LR 23 05 57.0
comp=Z,21nm,18.3s,baz=164,slow=33
WRA Warramunga Arr 67.48 100 P **P** **22 39 33.0 -0.4**
WRA Warramunga Arr 67.48 100 P **P** **22 39 33.0 -0.4**
comp=Z,12nm,0.9s,baz=243,slow=5.5,SNR=57
comp=Z,12nm,0.9s
WRAB Tennant Creek 67.50 100 P **P** **22 39 33.2 -0.3**
WB0 Warramunga Arr 67.61 100 P **P** **22 39 33.7 -0.5**
WR0 Warramunga Arr 67.65 101 P **P** **22 39 33.9 -0.6**
WR0 IAmb IAmb 22 39 35.3
comp=Z,11nm,0.9s
STKA Stephens Creek 68.49 115 P **P** **22 39 39.7 +0.1**
STKA Stephens Creek 68.49 115 P **P** **22 39 39.5 -0.1**
comp=Z,3.6nm,0.7s,baz=262,slow=7.1,SNR=9.4
comp=Z,3.6nm,0.7s
PZH PanZhiHua 69.81 40 P **P** **22 39 47.8 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.3s
TORD Torodi Ar. Bea 70.53 299 P **P** **22 39 52.7 +0.4**
TORD IAmb IAmb 22 40 00.5
comp=Z,6.1nm,1.6s
DRK Karamyk 70.77 10 P **P** **22 39 53.4 -0.3**
KSH Kashi 71.54 13 P **P** **22 39 55.3 -2.8**
KSH pP pwP 22 40 03.3 -1.9
KSH pmax pmax
comp=Z,5.0nm,0.7s
DBIC Dimbokro 71.77 290 P **P** **22 39 59.4 -0.5**
comp=Z,2.9nm,0.8s,baz=126,slow=11,SNR=3.4
DBIC LR LR 23 09 35.4
comp=Z,41nm,19.7s,baz=114,slow=34
comp=Z,2.9nm,0.8s
GNI Garni 71.80 348 LR LR 23 09 44.8
comp=Z,26nm,19.6s,baz=196,slow=34
ARSB Arslanbob 72.76 11 P **P** **22 40 05.7 +0.4**
BRTR Keskin Array B 74.05 340 P **P** **22 40 13.0 0.0**
comp=Z,0.6nm,0.8s,baz=168,slow=7.6,SNR=3.9
comp=Z,0.6nm,0.8s
KK31 Karatay Array 74.15 8 P **P** **22 40 13.9 +0.6**
KKAR Karatay Array 74.15 8 P **P** **22 40 13.9 +0.6**
AAK Ala-Archa 74.29 12 LR LR 23 10 30.5
comp=Z,15nm,18.6s,baz=214,slow=34
CD2 Chengdu 74.35 39 P **P** **22 40 16.6 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 75.60 348 P **P** **22 40 22.0 +0.3**
comp=Z,2.5nm,0.9s,baz=192,slow=7.2,SNR=2.3
KBZ LR LR 23 12 32.1
comp=Z,33nm,19.9s,baz=138,slow=35
comp=Z,2.5nm,0.9s
LZH Lanzhou 78.45 35 *eP* **P** **22 40 37.5 -0.6**
LZH pP pwP 22 40 43.3 -2.0
LZH pmax pmax
comp=Z,4.0nm,1.1s
WMQ Urumqi 78.55 20 *eP* **P** **22 40 39.3 +0.9**
WMQ pmax pmax
comp=Z,9.0nm,1.1s
GTA Gaotai 79.23 31 *eP* **P** **22 40 43.3 +1.0**
GTA pmax pmax
comp=Z,4.0nm,1.2s
XAN Xi'an 79.55 40 ⇓P **P** **22 40 43.8 -0.3**
XAN pP sP 22 40 47.5 +0.7
XAN pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 79.60 0 P **P** **22 40 44.1 +0.2**
ABKAR Akbulak array 79.60 0 P **P** **22 40 44.2 +0.4**
MKAR Makanchi Array 79.86 16 P **P** **22 40 45.4 0.0**
comp=Z,0.6nm,0.8s,baz=186,slow=5.7,SNR=5.6
comp=Z,0.6nm,0.8s
CFR Carcaliu 80.70 338 ⇓P **P** **22 40 50.3 +0.4**
KEST Kesra 81.11 321 LR LR 23 17 00.4
comp=Z,64nm,18.6s,baz=305,slow=36
MLR Muntele Rosu 81.70 337 ⇓P **P** **22 40 56.3 +0.9**
VRI Vrincioaia 81.77 338 ⇓P **P** **22 40 55.4 -0.3**
PLOR Plostina 81.78 338 ⇑P **P** **22 40 56.3 +0.5**
VOIR 81.96 336 ⇓P **P** **22 40 56.7 0.0**
ARR Arges 82.05 336 ⇑P **P** **22 40 56.9 -0.3**
LOT Lotru 82.42 336 ⇑P P 22 40 51.9 -7.2
KURBB Kurchatov Arra 82.72 12 P **P** **22 41 00.1 -0.3**
comp=Z,1.0nm,0.7s,baz=211,slow=6.0,SNR=12
comp=Z,1.0nm,0.7s
GZR Gura Zlata 82.73 335 ⇑P **P** **22 41 02.5 +1.8**
PMG Port Moresby 83.34 97 LR LR 23 15 27.5
comp=Z,56nm,18.2s,baz=250,slow=34
BZS Buzias 83.35 334 ⇑P **P** **22 41 04.0 +0.2**
MARR Marisel-Cluj 83.71 336 ⇑P **P** **22 41 06.2 +0.4**
BVAR Borovoye Array 83.92 7 P **P** **22 41 06.8 +0.2**
comp=Z,0.9nm,0.6s,baz=201,slow=4.9,SNR=5.1
BVAR LR LR 23 15 04.7
comp=Z,30nm,21.6s,baz=164,slow=33
comp=Z,0.9nm,0.6s
DRGR 83.95 336 ⇑P **P** **22 41 07.3 +0.3**
NJ2 Nanjing 84.06 47 *eP* **P** **22 41 09.6 +1.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
HNS HongShan 85.22 41 ⇑P **P** **22 41 14.5 +1.0**
HNS pmax pmax
comp=Z,11nm,1.1s
AKASG Malin Array Be 85.33 341 P **P** **22 41 13.1 -0.7**
comp=Z,0.8nm,0.4s,baz=160,slow=4.8,SNR=4.9
comp=Z,0.8nm,0.4s
TIA Tai'an 85.80 43 P **P** **22 41 16.9 +0.4**
TIA pmax pmax
comp=Z,9.0nm,0.8s
HHC Hu-ho-hao-te 85.99 37 *eP* **P** **22 41 19.3 +1.8**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,47nm,6.1s
ARTI Arti 86.75 359 LR LR 23 16 40.3
comp=Z,20nm,20.7s,baz=212,slow=33
ZALV Zalesovo Beam 87.13 15 P **P** **22 41 22.0 -0.6**
comp=Z,1.2nm,0.7s,baz=214,slow=3.7,SNR=5.9
comp=Z,1.2nm,0.7s
KBA Koelnbreinsper 87.85 330 *eP*cP **PcP** **22 41 29.6 +1.4**
comp=Z,3.5nm,1.2s
ABTA Abfaltersbach 87.95 330 *i* P **P** **22 41 27.4 +0.6**
comp=Z,4.9nm,1.2s
MOA Molln 88.07 331 *eP* **P** **22 41 28.6 +1.3**
comp=Z,5.4nm,1.1s
BIOA Bad Ischl, Aus 88.21 331 *i* P **P** **22 41 28.0 +0.1**
comp=Z,4.9nm,1.1s
LESA Schwarzleotal 88.40 330 *i* P **P** **22 41 29.1 +0.1**
comp=Z,5.5nm,1.1s
WTTA Wattenberg 88.72 330 *i* P **P** **22 41 31.1 +0.5**
comp=Z,3.1nm,0.5s
WATA Waderaim 88.81 330 *i* P **P** **22 41 31.2 +0.2**
comp=Z,3.2nm,1.0s
SONM Songino Array 88.83 30 P **P** **22 41 31.0 0.0**
comp=Z,0.4nm,0.7s,baz=204,slow=3.2,SNR=2.7
comp=Z,0.4nm,0.7s
SQTA Sankt Quirin 88.88 329 *i* P **P** **22 41 31.7 +0.5**
comp=Z,6.5nm,1.0s
FETA Feichten 88.94 329 *i* P **P** **22 41 32.2 +0.7**
comp=Z,5.1nm,1.2s
MOTA Moosalm 89.02 329 *i* P **P** **22 41 32.3 +0.4**
comp=Z,4.9nm,1.2s
GERES GERESS Array B 89.09 332 P **P** **22 41 31.9 -0.2**
comp=Z,0.5nm,0.5s,baz=133,slow=4.2,SNR=3.6
comp=Z,0.5nm,0.5s
RETA Reutte 89.28 329 *i* P **P** **22 41 33.6 +0.6**
comp=Z,6.1nm,1.5s
KIRV Kirov 89.34 355 LR LR 23 20 22.9
comp=Z,27nm,21.3s,baz=305,slow=35
DAVA Damuels 89.52 329 *i* P **P** **22 41 34.7 +0.5**
comp=Z,4.7nm,0.8s
URZ Urewera 90.11 136 LR LR 23 14 02.5
comp=Z,83nm,19.1s,baz=314,slow=30
ESDC Sonseca Array 91.44 316 P **P** **22 41 43.3 0.0**
comp=Z,0.6nm,0.8s,baz=141,slow=3.8,SNR=2.1
comp=Z,0.6nm,0.8s
DZM Mont Dzumac 92.53 117 *e*LR LR 23 11 24.0
comp=Z,58nm,26.9s
TBI Tubuai 119.54 149 *e*LR LR 23 23 55.8
comp=Z,2μm,37.5s
PPT2 Papeete2 124.47 146 *e*LR LR 23 26 18.1
comp=Z,62nm,28.5s
ILAR Eielson Array 142.18 18 PKP **PKPdf** **22 48 08.4 -0.2**
comp=Z,0.2nm,0.7s,baz=298,slow=3.0,SNR=2.0
DAWY Dawson 144.57 14 PKPdf PKPbc 22 48 11.9 +0.2
PWL Port Wells 144.70 23 PKPdf PKPbc 22 48 12.5 +0.4
BCAR Beaver Creek A 144.89 17 PKPdf **PKPdf** **22 48 13.1 -0.4**
M30M Minto, Yukon 146.44 14 PKPdf **PKPdf** **22 48 16.6 +0.4**
FCC Fort Churchill 146.65 335 PKPdf **PKPbc** **22 48 17.4 -0.8**
YKA Yellowknife Ar 147.96 355 PKPbc **PKPbc** **22 48 20.6 -1.1**
comp=Z,1.1nm,0.6s,baz=357,slow=3.7,SNR=18

IDC 16 22:31:44.4±2.9, 18°.11S×165°.86E, h0km, mb3.8/3, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=58.2km s-min=31.4km az=69.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.98**	**172**	Pn	Pn	22 32 46.9	+0.2
	0.8nm,0.3s,baz=312,slow=24,SNR=7.3						
DZM				Sn	Sn	22 33 33.9	-0.3
	0.4nm,0.3s,baz=145,slow=12,SNR=1.6						
	9.3nm,0.8s						
WRA	**Warramunga Arr**	**29.84**	**261**	P	P	22 37 53.8	+0.2
	0.3nm,0.3s,baz=86,slow=8.2,SNR=9.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**30.33**	**254**	P	P	22 37 57.6	-0.3
	1.9nm,0.4s,baz=82,slow=8.8,SNR=48						
	1.9nm,0.4s						
SONM	**Songino Array**	**84.42**	**324**	P	P	22 44 19.1	+0.2
	0.3nm,0.7s,baz=130,slow=5.8,SNR=1.7						
	0.3nm,0.7s						

---

*AEIC **16** 22:35:07.3±1.2, 69°.49N±0°.06×144°.07W±0°.08, h14km±4km, ML4.0, mb4.0/4(NEIC), ML4.0/106(NEIC), Mwr3.8/41(NEIC), Error ellipse: s-maj=8.7km s-min=3.5km az=196.0*
*NEIC **16** 22:35:08.4±1.4, 69°.53N±0°.05×144°.01W±0°.06, h7km±2km, Error ellipse: s-maj=6.8km s-min=2.9km az=191.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.88; $M_{\theta\theta}$-5.58; $M_{\phi\phi}$6.46; $M_{r\theta}$0.92; $M_{\theta\phi}$-3.53; $M_{\phi r}$-0.75; Fault plane solution: $M_0$7.12000×10^{14} NP1: ϕ_s299.91000°, δ89.74000°, λ-170.43000°. NP2: ϕ_s209.86000°, δ80.43000°, λ-0.26000°. Principal axes: T 7.5306, Plg7.0000°, Azm74.0000°; N -0.9077, Plg80.0000°, Azm301.0000°; P -6.6229, Plg7.0000°, Azm165.0000°;*
*IDC **16** 22:35:08.8±0.7, 69°.58N×143°.88W, h0km, mb3.8/11, mbtmp3.9/16, ML3.8/5, MS3.2/2 Error ellipse: s-maj=18.3km s-min=12.6km az=50.0*
*NEIC **16** 22:35:08.5, 69°.63N×144°.06W, h13km*

ISC 16 22:35:07.4±1.2, 69°.48N±0°.03×144°.07W±0°.02, h1km±8km, n187, σ1°.24/199, mb3.8/12, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.19**	**41**		**Pg**	**22 35 12.0**	**+0.9**
C27K					**Sg**	**22 35 14.6**	**+1.1**
C27K				IAML		22 35 15.6	
	comp=N,29μm,0.3s						
C27K	**Jago River**	**0.19**	**41**	P	**Pg**	**22 35 12.2**	**+1.1**
	baz=220						
C27K				S	**Sg**	**22 35 14.8**	**+1.2**
	baz=220						
C26K	**Camden Bay**	**0.53**	**326**		**Pg**	**22 35 18.7**	**+1.2**
C26K					**Sb**	**22 35 26.2**	**-1.3**
D25K	**Kavik River**	**0.83**	**260**		**Pg**	**22 35 22.7**	**-0.6**
D25K					**Sg**	**22 35 34.2**	**+0.1**
D25K	**Kavik River**	**0.83**	**260**	P	**Pg**	**22 35 23.1**	**-0.2**
	baz=79						
D25K				S	**Sg**	**22 35 34.7**	**+0.7**
	baz=79						
D27M	**Malcolm River**	**1.13**	**101**		**Pg**	**22 35 28.1**	**-0.9**
D27M					**Sg**	**22 35 43.4**	**-0.2**
D27M				IAML		22 35 54.6	
	comp=N,3μm,0.7s						
C24K	**Franklin Bluff**	**1.64**	**281**		**Pn**	**22 35 37.3**	**-0.1**
C24K					**Sb**	**22 36 00.1**	**+0.5**
C24K				IAML		22 36 05.5	
	comp=E,2μm,1.2s						
D24K	**Happy Valley**	**1.72**	**261**		**Pn**	**22 35 38.7**	**+0.2**
D24K				IAML		22 36 05.8	
	comp=N,2μm,0.7s						
D24K				IAML		22 36 06.2	
	comp=E,2μm,0.6s						
F26K	**Sheenjek River**	**1.80**	**181**		**Pn**	**22 35 40.5**	**+0.9**
F26K				IAML		22 36 08.8	
	comp=E,2μm,0.5s						
F26K	**Sheenjek River**	**1.80**	**181**		**Sn**	**22 36 04.5**	**+1.5**
E28M	**Babbage River**	**1.85**	**116**		**Pn**	**22 35 39.8**	**-0.5**
D28M	**Stokes Point**	**1.89**	**92**		**Pn**	**22 35 41.1**	**+0.3**
D28M				IAML		22 36 12.7	
	comp=N,2μm,0.8s						
D28M				IAML		22 36 18.0	
	comp=E,2μm,0.6s						
F25K	**Christian Rive**	**1.98**	**198**		**Pn**	**22 35 43.0**	**+0.8**
BMAR	**Burnt Mountain**	**2.07**	**185**	Pn	**Pn**	**22 35 44.2**	**+0.8**
E24K	**Your Creek**	**2.14**	**231**		**Pn**	**22 35 45.0**	**+0.7**
E24K				IAML		22 36 18.4	
	comp=E,1μm,0.9s						
TOLK	**Toolik Lake Re**	**2.15**	**249**	Pn	**Pn**	**22 35 44.5**	**0.0**
TOLK				IAML		22 36 22.8	
	comp=N,936nm,0.8s						
TOLK				IAML		22 36 24.0	
	comp=E,1μm,0.9s						
TOLK	**Toolik Lake Re**	**2.15**	**249**	P	**Pn**	**22 35 44.8**	**+0.4**
	baz=65						
TOLK				S	**Sb**	**22 36 16.1**	**+1.8**
	baz=65						
TOLK				S	**Sb**	**22 36 16.1**	**+1.8**
	baz=65						
C23K	**Itkillik River**	**2.31**	**282**		**Pn**	**22 35 46.8**	**+0.2**
D23K	**Nanushuk River**	**2.41**	**261**		**Pn**	**22 35 48.3**	**+0.3**
D23K				IAML		22 36 38.9	
	comp=E,649nm,0.7s						
D23K	**Nanushuk River**	**2.41**	**261**	P	**Pn**	**22 35 48.9**	**+0.9**
	baz=75						
F28M	**Old Crow**	**2.43**	**139**	Pn	**Pn**	**22 35 48.7**	**+0.4**
F28M					**Sn**	**22 36 19.0**	**+0.4**
F28M				IAML		22 36 32.4	
	comp=E,672nm,0.9s						
F28M	**Old Crow**	**2.43**	**139**	P	**Pn**	**22 35 48.8**	**+0.6**
	baz=322						
F28M				S	**Sb**	**22 36 24.4**	**+2.1**
	baz=322						
E23K	**Chandalar**	**2.48**	**237**		**Pn**	**22 35 49.2**	**+0.3**
E23K				IAML		22 36 31.6	
	comp=E,572nm,0.7s						
E29M	**Blow River**	**2.49**	**113**		**Pn**	**22 35 49.5**	**+0.5**
E29M				IAML		22 36 29.8	
	comp=N,748nm,1.0s						
E29M				IAML		22 36 35.6	
	comp=E,814nm,0.8s						
G26K	**Porcupine Rive**	**2.55**	**177**		**Pn**	**22 35 50.5**	**+0.7**
G25K	**Bearman Lake**	**2.83**	**197**		**Pn**	**22 35 54.7**	**+1.0**
G27K	**Doyon Strip**	**2.83**	**160**		**Pn**	**22 35 53.6**	**-0.2**
FYU	**Fort Yukon**	**2.96**	**189**	Pn	**Pn**	**22 35 56.8**	**+1.3**
G24K	**Hadweenzic Riv**	**3.07**	**206**		**Pn**	**22 35 57.3**	**+0.3**
E22K	**Anaktuvuk Pass**	**3.12**	**248**	Pn	**Pn**	**22 35 57.9**	**+0.1**
E22K	**Anaktuvuk Pass**	**3.12**	**248**	P	**Pn**	**22 35 58.0**	**+0.3**
	baz=61						
D22K	**Ayikyak River**	**3.13**	**263**		**Pn**	**22 35 58.5**	**+0.6**
D22K				IAML		22 36 55.6	
	comp=N,413nm,0.8s						
D22K				IAML		22 36 57.9	
	comp=E,421nm,1.1s						
COLD	**Coldfoot**	**3.21**	**228**		**Pn**	**22 35 59.9**	**+1.0**
COLD	**Coldfoot**	**3.21**	**228**	P	**Pn**	**22 35 59.9**	**+1.0**
	baz=42						
H25L	**Birch Creek**	**3.30**	**192**		**Pn**	**22 36 01.0**	**+0.9**
H27K	**Steamboat Moun**	**3.41**	**162**		**Pn**	**22 36 02.5**	**+0.8**
G29M	**Pine Creek**	**3.43**	**136**		**Pn**	**22 36 02.8**	**+0.9**
G29M				IAML		22 37 11.4	
	comp=N,362nm,1.0s						
G23K	**Bananza Creek**	**3.57**	**222**		**Pn**	**22 36 04.2**	**+0.3**
G23K				IAML		22 37 05.3	
	comp=E,318nm,0.9s						
G23K				IAML		22 37 08.0	
	comp=N,299nm,1.2s						
F30M	**Barrier River**	**3.58**	**118**		**Pn**	**22 36 05.8**	**+1.8**
F30M	**Barrier River**	**3.58**	**118**	P	**Pn**	**22 36 06.5**	**+2.6**
	baz=305						
B21K	**Ikpikpuk River**	**3.70**	**277**		**Pn**	**22 36 06.1**	**+0.4**
B21K				IAML		22 37 20.9	
	comp=N,297nm,1.2s						
B21K				IAML		22 37 22.8	
	comp=E,323nm,1.0s						
E21K	**Killik River**	**3.72**	**258**		**Pn**	**22 36 06.6**	**+0.7**
E21K				IAML		22 37 18.5	
	comp=E,320nm,1.2s						
E21K				IAML		22 37 20.9	
	comp=N,297nm,0.8s						
C21K	**Knifeblade Rid**	**3.81**	**270**		**Pn**	**22 36 07.8**	**+0.6**
C21K	**Knifeblade Rid**	**3.81**	**270**	P	**Pn**	**22 36 08.0**	**+0.7**
	baz=80						
G30M	**tAoh Zraii Nji**	**3.85**	**127**		**Pn**	**22 36 08.7**	**+0.9**
G30M				IAML		22 37 22.1	
	comp=N,250nm,1.0s						
H24K	**Noodor Dome**	**3.94**	**203**		**Pn**	**22 36 09.4**	**+0.4**
H24K				IAML		22 37 20.5	
	comp=E,230nm,1.3s						
INK	**Inuvik**	**3.99**	**102**	Pn	**Pn**	**22 36 10.2**	**+0.5**
INK	**Inuvik**	**3.99**	**102**	Pn	**Pn**	**22 36 10.3**	**+0.7**
	comp=E,3.6nm,0.3s,baz=316,slow=15,SNR=72						
INK				Sn	**Sn**	**22 36 58.1**	**+1.2**
	comp=E,11nm,0.3s,baz=57,slow=28,SNR=6.5						
INK				Lg	Lg	22 37 12.7	
	comp=E,6.6nm,0.3s,baz=183,slow=26,SNR=5.8						
	comp=E,13nm,0.4s						
INK	**Inuvik**	**3.99**	**102**	P	**Pn**	**22 36 10.9**	**+1.2**
	baz=292						
I27K	**Kandik River**	**4.01**	**165**		**Pn**	**22 36 11.2**	**+1.2**
PRP	**Porcupine Dome**	**4.02**	**189**	Pn	**Pn**	**22 36 11.3**	**+1.1**
PRP				IAML		22 37 18.0	
	comp=E,202nm,1.4s						
PRP				IAML		22 37 20.4	
	comp=N,187nm,1.0s						
PRP	**Porcupine Dome**	**4.02**	**189**	P	**Pn**	**22 36 11.6**	**+1.4**
	baz=7.2						
F21K	**Alatna River**	**4.16**	**241**		**Pn**	**22 36 12.4**	**+0.4**
F21K				IAML		22 37 25.3	
	comp=N,207nm,0.9s						
F21K				IAML		22 37 29.2	
	comp=E,211nm,0.9s						
EPYK	**Eagle Plains**	**4.18**	**135**	Pn	**Pn**	**22 36 12.5**	**+0.3**
EPYK	**Eagle Plains**	**4.18**	**135**	P	**Pn**	**22 36 13.6**	**+1.3**
	baz=322						
I26K	**Coal Creek Min**	**4.21**	**175**		**Pn**	**22 36 13.7**	**+1.1**
I26K				IAML		22 37 30.3	
	comp=E,219nm,0.8s						
F31M	**Tsiigehtchic**	**4.32**	**113**		**Pn**	**22 36 14.7**	**+0.5**
F31M				IAML		22 37 31.2	
	comp=E,176nm,1.1s						
F31M				IAML		22 37 37.9	
	comp=N,156nm,1.5s						
I28M	**Miner Creek**	**4.35**	**157**		**Pn**	**22 36 15.4**	**+0.7**
I28M				IAML		22 37 39.0	
	comp=E,181nm,1.0s						
G31M	**Satah River**	**4.46**	**120**		**Pn**	**22 36 16.4**	**+0.3**
G31M				IAML		22 37 37.6	
	comp=N,178nm,0.9s						
G31M	**Satah River**	**4.46**	**120**	P	**Pn**	**22 36 17.4**	**+1.3**
	baz=309						
H22K	**Ishtalitna Cre**	**4.55**	**221**		**Pn**	**22 36 17.8**	**+0.4**
E20K	**Nigu River**	**4.55**	**260**		**Pn**	**22 36 17.8**	**+0.4**
D20K	**Etivluk River**	**4.56**	**266**		**Pn**	**22 36 18.6**	**+1.2**
POKR	**Poker Plat Res**	**4.58**	**198**		**Pn**	**22 36 19.0**	**+1.3**
POKR				IAML		22 37 13.0	
	comp=N,134nm,0.7s						
POKR	**Poker Plat Res**	**4.58**	**198**	P	**Pn**	**22 36 19.2**	**+1.6**

baz=15
A21K Barrow 4.61 299 Pn 22 36 19.0 +0.9
I29M Ogilvie Camp, 4.70 149 Pn **Pn 22 36 20.3 +0.9**
I29M IAML 22 37 39.0
comp=E,120nm,0.9s
I23K Minto, Yukon-K 4.81 208 Pn 22 36 21.9 +1.1
I23K Minto, Yukon-K 4.81 208 P **Pn 22 36 22.2 +1.3**
baz=23
COLA College 4.86 199 Pn 22 36 22.6 +1.1
IL31 4.86 194 Pn 22 36 22.2 +0.7
ILAR Eielson Array 4.86 194 Pn **Pn 22 36 22.4 +0.8**
ILAR Eielson Array 4.86 194 Pn **Pn 22 36 22.7 +1.1**
comp=E,5.3nm,0.3s,baz=6.3,slow=13,SNR=294
ILAR Sn **Sn 22 37 15.7 -2.7**
comp=E,5.5nm,0.3s,baz=6.6,slow=24,SNR=9.5
ILAR Lg Lg 22 37 37.2
comp=E,12nm,0.3s,baz=5.9,slow=32,SNR=9.0
comp=E,12nm,0.5s
J25K Salcha River, 4.92 187 Pn 22 36 23.5 +1.0
J25K IAML 22 37 54.2
comp=E,120nm,1.2s
J25K IAML 22 37 55.3
comp=N,89nm,1.1s
F20K Avaraart Lake 4.97 246 Pn 22 36 23.7 +0.7
F20K IAML 22 37 55.0
comp=N,82nm,0.9s
J26L Joseph Creek 5.01 177 Pn 22 36 24.7 +1.0
J26L IAML 22 37 50.2
comp=E,104nm,0.8s
CCB Clear Creek Bu 5.07 198 Pn **Pn 22 36 25.2 +0.7**
CCB IAML 22 37 25.9
comp=N,92nm,0.8s
CCB IAML 22 37 26.2
comp=E,99nm,0.7s
H21K Melozitna Rive 5.09 225 Pn 22 36 25.3 +0.5
H21K IAML 22 37 57.3
comp=E,116nm,0.9s
H21K IAML 22 38 03.4
comp=N,90nm,1.2s
D19K Kuna River 5.15 266 Pn 22 36 26.4 +0.8
D19K IAML 22 38 02.8
comp=N,104nm,1.2s
D19K IAML 22 38 10.2
comp=E,115nm,0.8s
I30M Mount Dempster 5.21 142 Pn **Pn 22 36 26.8 +0.3**
I30M IAML 22 37 53.9
comp=E,82nm,1.4s
I30M IAML 22 38 19.9
comp=N,76nm,1.1s
HDA Harding Lake 5.22 194 Pn 22 36 27.5 +0.9
HDA Harding Lake 5.22 194 P **Pn 22 36 29.2 +2.7**
baz=11
H31M Peel River 5.23 130 Pn **Pn 22 36 26.5 -0.2**
H31M IAML 22 38 08.9
comp=N,108nm,1.2s
E19K Redstone River 5.25 253 Pn 22 36 26.4 -0.6
E19K IAML 22 38 16.2
comp=E,96nm,0.7s
WRH Wood River Hil 5.28 199 Pn **Pn 22 36 27.6 +0.4**
WRH IAML 22 38 06.4
comp=E,104nm,1.8s
WRH IAML 22 38 09.2
comp=N,85nm,1.0s
NEA2 Nenana 5.29 204 Pn 22 36 28.3 +0.8
NEA2 Nenana 5.29 204 P **Pn 22 36 28.9 +1.4**
baz=20
I21K Tanana 5.29 219 Pn 22 36 28.0 +0.5
SCRK Sand Creek 5.53 180 Pn **Pn 22 36 32.3 +1.4**
SCRK Sand Creek 5.53 180 P **Pn 22 36 32.5 +1.6**
baz=360
J29N Klondike Camp 5.55 153 Pn **Pn 22 36 31.9 +0.8**
BWN Browne 5.74 204 Pn 22 36 34.0 +0.3
K24K Donnelly Dome 5.75 188 P **Pn 22 36 35.4 +1.6**
baz=6.0
DAWY Dawson 5.75 159 Pn **Pn 22 36 35.2 +1.4**
DAWY Dawson 5.75 159 P **Pn 22 36 34.9 +1.1**
baz=343
F19K Shaleruckih Mo 5.76 249 Pn 22 36 33.9 0.0
RIDG Independent Ri 5.78 183 Pn 22 36 35.7 +1.5
RIDG Independent Ri 5.78 183 P **Pn 22 36 35.8 +1.6**
baz=2.6
J30M Hart River 5.78 145 Pn 22 36 34.6 +0.3
A19K Wainwright 5.92 285 Pn 22 36 36.5 +0.4
G19K Purcell Mounta 5.96 242 Pn 22 36 33.4 -3.3
BPAW Bear Paw Mtn. 6.05 210 P **Pn 22 36 39.6 +1.6**
baz=24
C18K Utukok River 6.19 270 Pn 22 36 39.1 -0.8
I20K Naaghedeneel 6.21 226 Pn 22 36 37.8 -2.2
K29M Barlow Dome 6.23 152 Pn **Pn 22 36 40.4 -0.1**
RND Reindeer 6.39 200 Pn 22 36 42.9 +0.1
E18K Tukpahlearik C 6.43 259 Pn 22 36 43.2 +0.2
BCAR Beaver Creek A 6.51 171 Pn 22 36 44.1 -0.2
L27K Beaver Creek, 6.51 171 Pn 22 36 45.3 +1.0
TRF Thorofare Moun 6.55 205 Pn 22 36 45.0 +0.1
KTH Kantishna Hill 6.55 208 Pn **Pn 22 36 44.8 0.0**
PAX Paxson 6.57 186 Pn 22 36 45.4 +0.3
MENT Mentasta 6.58 179 Pn 22 36 46.3 +1.2
G18K Tagagawik 6.61 244 Pn 22 36 45.3 -0.3
J20K Nowinta River 6.64 222 Pn 22 36 46.0 0.0
A36M Sachs Harbour 6.70 59 Pn 22 36 45.6 -1.2
L29M 29M 6.83 157 Pn **Pn 22 36 48.9 +0.2**
CAST Castle Rocks 6.88 212 Pn 22 36 49.3 0.0
C17K DeLong Mountai 6.94 271 Pn 22 36 48.9 -1.2
RDOG Red Dog Mine 6.98 267 Pn 22 36 49.3 -1.4
E17K Hotham Inlet 7.00 258 Pn 22 36 50.3 -0.7
H18K Honhosa River 7.02 239 Pn 22 36 51.2 0.0
C36M Paulatuk 7.04 82 Pn 22 36 49.8 -1.6
M26K Nabesna, AK 7.13 176 Pn 22 36 53.3 +0.6
F17K Baldwin Pennin 7.14 253 Pn **Pn 22 36 52.0 -0.8**
J19K Poorman 7.15 225 Pn 22 36 52.7 -0.3
D17K Noatak River 7.17 265 Pn 22 36 52.0 -1.3
M27K Edge Creek, AK 7.21 172 Pn 22 36 53.9 0.0
BVCY Beaver Creek 7.22 168 Pn 22 36 55.4 +1.4
PPLA Purkeypile 7.38 210 Pn 22 36 56.8 +0.6
M24K Tolsona, Glenn 7.46 188 Pn 22 36 58.7 +1.4
WACK Wrangell Chich 7.53 181 Pn 22 37 00.2 +1.8
M30M Minto, Yukon 7.54 153 Pn 22 36 56.0 -2.3
H17K Granite Mounta 7.64 241 Pn **Pn 22 36 59.3 -0.4**
C16K Lisburne Hills 7.76 271 Pn **Pn 22 36 59.7 -1.7**
YUK2 White River 7.84 169 Pn 22 37 04.2 +1.7
YUK3 Moose Creek 7.88 167 Pn 22 37 04.8 +1.5
L20K Farewell, AK 8.08 214 Pn 22 37 06.3 +0.5
TTA Tatalina 8.14 222 Pn **Pn 22 37 06.9 +0.2**
PMR Palmer 8.19 197 Pn 22 37 08.8 +1.6
VRDI Verde Repeater 8.29 178 Pn 22 37 11.1 +2.2
KNK Knik Glacier 8.30 195 Pn 22 37 11.4 +2.6
DIV Divide 8.42 186 Pn 22 37 08.8 -1.7
J17K VABM Dome 8.55 232 Pn 22 37 11.4 -0.7
BMRM Bremner River 8.55 182 Pn 22 37 13.1 +0.8
N30M Aishikik Lake 8.56 157 Pn 22 37 13.1 +0.7
H16K Elim 8.57 244 Pn 22 37 12.8 +0.3
MMPY Sheldon Lake, 8.62 137 Pn 22 37 14.2 +1.0
I17K Unalakleet 8.63 238 Pn **Pn 22 37 13.9 +0.6**
RC01 Rabbit Creek A 8.75 198 Pn 22 37 17.3 +2.4
PWL Port Wells 8.84 194 Pn **Pn 22 37 18.6 +2.4**
SPNN North Nagishla 8.89 208 Pn 22 37 18.0 +0.9
L18K Granite Mounta 8.92 221 Pn 22 37 17.7 +0.5
HYT Haines Junctio 9.12 159 Pn 22 37 21.7 +1.6
RAGM Ragged Mountai 9.14 182 Pn 22 37 22.9 +2.6
O30N Mendenhall 9.36 155 Pn 22 37 24.1 +0.8
L17K Donlin 9.38 225 Pn 22 37 23.8 +0.3
F14K Arctic Creek 9.40 255 Pn 22 37 22.6 -1.2
N32M Quiet Lake 9.52 146 Pn 22 37 25.1 -0.4
PCA Pinnacle 9.56 168 Pn 22 37 28.0 +1.9
WHY Whitehorse 9.65 152 Pn **Pn 22 37 27.2 -0.2**
L16K Owhat River 10.04 227 Pn 22 37 33.6 +1.1
P33M Teslin, Yukon 10.44 147 Pn **Pn 22 37 37.5 -0.6**
P32M Atlin 10.86 151 Pn **Pn 22 37 44.7 +0.8**
KDAK Kodiak Island 12.32 202 Pn **Pn 22 38 01.5 -2.2**
comp=N,0.1nm,0.3s,baz=348,slow=14,SNR=2.8
comp=N,29nm,1.2s
DLBC Dease Lake 12.64 144 Pn **Pn 22 38 07.7 -0.4**
DLBC Dease Lake 12.64 144 Pn **Pn 22 38 05.8 -2.4**
comp=N,0.4nm,0.3s,baz=309,slow=4.8,SNR=4.9
comp=N,2.4nm,0.7s
YKA Yellowknife Ar 13.75 106 Pn **Pn 22 38 19.9 -3.4**
comp=N,0.6nm,0.3s,baz=312,slow=13,SNR=22
comp=N,2.4nm,0.5s
RES Resolute Bay 15.55 49 Pn **Pn 22 38 43.5 -4.0**
RES IAmb IAmb 22 39 01.0
comp=Z,4.3nm,0.7s
RES Resolute Bay 15.55 49 Pn **Pn 22 38 43.1 -4.3**
comp=Z,0.5nm,0.3s,baz=264,slow=11,SNR=22

EUNU Eureka 17.38 29 Pn 22 39 08.8 -2.1
FCC Fort Churchill 23.54 92 P **P 22 40 17.7 -0.9**
FCC IAmb IAmb 22 40 27.4
comp=Z,9.3nm,1.4s
PDAR Pinedale Array 32.11 128 P **P 22 41 37.4 +1.3**
comp=Z,0.2nm,0.4s,baz=325,slow=8.7,SNR=1.8
PDAR LR LR 22 55 51.8
comp=Z,43nm,19.1s,baz=348,slow=39
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 34.04 142 P **P 22 41 54.8 +1.8**
comp=Z,1.0nm,0.8s,baz=350,slow=5.4,SNR=1.9
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 41.06 6 P **P 22 42 53.1 +1.4**
comp=Z,7.5nm,1.1s,baz=357,slow=7.2,SNR=4.5
comp=Z,7.5nm,1.1s
USRK Ussuriysk Ar. 47.40 284 P **P 22 43 44.7 +1.9**
comp=Z,0.9nm,0.6s,baz=16,slow=11,SNR=2.3
comp=Z,0.9nm,0.6s
FINES FINESS Array B 49.17 6 P **P 22 43 57.5 +1.3**
comp=Z,2.4nm,0.9s,baz=5.2,slow=6.3,SNR=3.8
comp=Z,2.4nm,0.9s
HFS Hagfors 49.70 14 P **P 22 44 02.0 +1.7**
comp=Z,0.6nm,0.5s,baz=355,slow=6.3,SNR=8.1
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 51.85 326 P **P 22 44 17.5 +1.0**
comp=Z,0.3nm,0.3s,baz=14,slow=8.6,SNR=5.4
comp=Z,0.3nm,0.3s
SONM Songino Array 52.26 307 LR LR 23 10 20.5
comp=Z,20nm,20.6s,baz=290,slow=40
KURK Kurchatov 56.11 329 P **P 22 44 47.7 0.0**
KURBB Kurchatov Arra 56.21 329 P **P 22 44 48.9 +0.4**
comp=Z,1.2nm,0.8s,baz=13,slow=7.1,SNR=9.9
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 59.15 325 P **P 22 45 08.9 -0.3**
MKAR Makanchi Array 59.15 325 P **P 22 45 09.2 -0.1**
comp=Z,0.3nm,0.4s,baz=33,slow=8.0,SNR=6.2
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 60.03 5 P **P 22 45 15.0 -0.1**
comp=Z,0.2nm,0.3s,baz=356,slow=7.1,SNR=1.5
comp=Z,0.2nm,0.3s
ABKAR Akbulak array 60.27 342 P **P 22 45 15.2 -1.6**
ESDC Sonseca Array 67.28 32 P **P 22 46 03.9 +0.6**
comp=Z,0.5nm,0.9s,baz=338,slow=5.1,SNR=2.6
comp=Z,0.5nm,0.9s

*INMG **16** 22:38:27.9±1.4, 42°.82N×7°.19W, h15km±3km, ML2.5, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Lugo (ESP)*
*LDG **16** 22:38:27.5±0.2, 42°.82N×7°.27W, h10km, Ml2.7/17, Error ellipse: s-maj=4.8km s-min=3.8km az=127.0*
*MDD **16** 22:38:28.4±0.3, 42°.84N×7°.27W, h23km, mb_Lg3.0/34, Error ellipse: s-maj=2.2km s-min=1.6km az=145.0*
ISC 16 22:38:25.7±1.1, 42°.86N±0°.02×7°.20W±0°.03, h16km±9km, n54, σ2°33/117, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPON	**Pontenova**	**0.47**	**5**	Pg	**Pb**	**22 38 37.4**	**+1.7**
EPON				Sg	**Sb**	**22 38 44.3**	**+1.9**
EPON				*i* Vmb_Lg		22 38 45.5	
EAGO	**Agolada(Pontev**	**0.66**	**266**	*e*Pg	**Pn**	**22 38 40.1**	**-0.2**
EAGO				Sg	**Sb**	**22 38 48.7**	**+1.0**
EAGO				*i* Vmb_Lg		22 38 51.7	
PBRG	**Braganca**	**1.11**	**162**	*e*P	**Pn**	**22 38 47.5**	**+1.0**
PBRG				*e*S	**Sg**	**22 39 00.7**	**-0.8**
PBRG				*i* AML	AML	22 39 01.8	
PBRG				*i* AML	AML	22 39 03.2	
PBRG				*i* AML	AML	22 39 03.7	
ELOB	**Lobios**	**1.18**	**213**	Pg	**Pn**	**22 38 47.9**	**+0.3**
ELOB				Sg	**Sg**	**22 39 03.1**	**-0.7**
ELOB				*i* Vmb_Lg		22 39 05.0	
PGAV	**Gavieira, Arco**	**1.19**	**222**	*e*P	**Pg**	**22 38 48.2**	**-0.5**
PGAV				*e*S	**Sg**	**22 39 03.5**	**-0.8**
PGAV				*i* AML	AML	22 39 05.9	
PGAV				*i* AML	AML	22 39 06.2	
PGAV				*i* AML	AML	22 39 06.9	
PCAB	**Cabril**	**1.30**	**208**	*e*Pn	**Pb**	**22 38 49.8**	**+0.1**
PCAB				*e*Pg	**Pg**	**22 38 51.1**	**+0.4**
PCAB				*e*Sn	**Sg**	**22 39 06.8**	**-0.9**
PCAB				*e*Sg	**Sn**	**22 39 07.4**	**+1.1**
PCAB				*i* AML	AML	22 39 08.7	
PCAB				*i* AML	AML	22 39 08.9	
PCAB				*i* AML	AML	22 39 09.9	
EMAZ	**Mazaricos**	**1.31**	**275**	Pg	**Pg**	**22 38 50.6**	**-0.3**
EMAZ				Sg	**Sn**	**22 39 07.1**	**+0.7**
EMAZ				*i* Vmb_Lg		22 39 10.1	
EZAM	**Zamans**	**1.31**	**238**	Pg	**Pn**	**22 38 49.9**	**+0.5**
EZAM				Sg	**Sn**	**22 39 06.9**	**+0.4**
EZAM				*i* Vmb_Lg		22 39 10.0	
POLO	**Lamas de Olo**	**1.55**	**197**	*e*Pn	**Pn**	**22 38 53.0**	**+0.3**
POLO				*e*Pg	**Pg**	**22 38 55.4**	**0.0**
POLO				*e*Sn	**Sn**	**22 39 12.0**	**-0.5**
POLO				*e*Sg	**Sg**	**22 39 14.6**	**-1.0**
POLO				*i* AML	AML	22 39 15.5	
POLO				*i* AML	AML	22 39 15.6	
POLO				*i* AML	AML	22 39 16.0	
PVRL	**Vila Real**	**1.63**	**194**	*e*Pn	**Pn**	**22 38 54.4**	**+0.7**
PVRL				*e*Pg	**Pg**	**22 38 56.9**	**-0.1**
PVRL				*e*Sg	**Sg**	**22 39 17.5**	**-0.6**
PVRL				*i* AML	AML	22 39 18.4	
PVRL				*i* AML	AML	22 39 18.4	
PVRL				*i* AML	AML	22 39 18.7	
MVO	**Moncorvo**	**1.70**	**176**	*e*Pg	**Pg**	**22 38 57.5**	**-0.8**
MVO				*e*Sg	**Sg**	**22 39 18.8**	**-1.6**
MVO				*i* AML	AML	22 39 20.0	
MVO				*i* AML	AML	22 39 21.2	
MVO				*i* AML	AML	22 39 21.8	
EJUZ	**Juzbado, Salam**	**2.02**	**151**	Pg	**Pg**	**22 39 03.8**	**-0.7**
EJUZ				Sg	**Sg**	**22 39 29.6**	**-1.1**
PVIS	**Viseu**	**2.20**	**194**	*e*Pn	**Pn**	**22 39 02.4**	**+0.8**
PVIS				*e*Sn	**Sn**	**22 39 27.9**	**-0.6**
PVIS				*e*Sg	**Sg**	**22 39 34.4**	**-2.1**
MTE	**Manteigas**	**2.47**	**186**	*e*Pn	**Pn**	**22 39 06.5**	**+1.2**
MTE				*e*Sn	**Sn**	**22 39 35.1**	**-0.1**
MTE				*e*Sg	**Sg**	**22 39 42.5**	**-2.5**
MTE				*i* AML	AML	22 39 45.3	
MTE				*i* AML	AML	22 39 45.4	
MTE				*i* AML	AML	22 39 45.5	
ELAN	**Lanestosa**	**2.79**	**81**	Pn	**Pn**	**22 39 11.1**	**+1.5**
ELAN				Pg	**Pb**	**22 39 16.1**	**+1.0**
ELAN				Sn	**Sn**	**22 39 43.1**	**+0.1**
ELAN				Sg	**Sg**	**22 39 53.3**	**-1.9**
ELAN				*i* Vmb_Lg		22 39 55.9	
COI	**Coimbra**	**2.80**	**199**	*e*Sg	**Sg**	**22 39 53.6**	**-2.0**
COI				*i* AML	AML	22 39 59.2	
EPLA	**Plasencia**	**2.92**	**163**	Pn	**Pn**	**22 39 12.3**	**+0.9**
EPLA				Sn	**Sn**	**22 39 45.0**	**-1.1**
EPLA				Sg	**Sb**	**22 39 54.7**	**+2.0**
EPLA				*i* Vmb_Lg		22 40 01.1	
PCAS	**Casmilo, Conde**	**2.97**	**200**	*e*Pn	**Pn**	**22 39 13.3**	**+1.2**
PCAS				*e*Sg	**Sg**	**22 39 59.4**	**-1.6**
PCAS				*i* AML	AML	22 40 02.1	
PCAS				*i* AML	AML	22 40 04.1	
PCAS				*i* AML	AML	22 40 06.0	
PCBR	**Castelo Branco**	**3.02**	**184**	*e*Pn	**Pn**	**22 39 14.0**	**+1.2**
PCBR				*e*Sn	**Sn**	**22 39 48.0**	**-0.7**
PCBR				*i* AML	AML	22 40 03.1	
PCBR				*i* AML	AML	22 40 03.2	
PCBR				*i* AML	AML	22 40 04.8	
GUD	**Guadarrama**	**3.18**	**133**	Pn	**Pn**	**22 39 16.0**	**+0.9**
GUD				Pg	**Pb**	**22 39 22.8**	**+0.9**
GUD				Sn	**Sn**	**22 39 51.4**	**-1.3**
GUD				Sg	**Sb**	**22 40 03.7**	**+3.4**
GUD				*i* Vmb_Lg		22 40 09.0	
PMRV	**Marv??o**	**3.43**	**182**	*e*Pn	**Pn**	**22 39 20.7**	**+2.2**
PMRV				*e*Sg	**Sg**	**22 40 12.5**	**-3.3**
PMRV				*i* AML	AML	22 40 17.7	
PMRV				*i* AML	AML	22 40 19.2	
PMRV				*i* AML	AML	22 40 24.1	
PMTG	**Montargil**	**3.86**	**192**	*e*Pn	**Pn**	**22 39 25.6**	**+1.2**
PMTG				*e*Sn	**Sn**	**22 40 08.8**	**-0.7**
PMTG				*e*Sg	**Sg**	**22 40 26.4**	**-3.3**
PMTG				*i* AML	AML	22 40 29.1	
PMTG				*i* AML	AML	22 40 29.4	
PMTG				*i* AML	AML	22 40 32.1	
PAB	**San Pablo**	**3.95**	**146**	Pn	**Pn**	**22 39 27.1**	**+1.4**
PAB				Sn	**Sn**	**22 40 09.5**	**-2.2**
PAB				Sg	**Sb**	**22 40 25.7**	**+3.2**
PAB				*i* Vmb_Lg		22 40 35.2	
PESTR	**Estremoz**	**4.00**	**184**	*e*Pn	**Pn**	**22 39 27.8**	**+1.5**
PESTR				*e*Sn	**Sn**	**22 40 12.6**	**-0.2**
PESTR				*e*Sg	**Sg**	**22 40 30.8**	**-3.2**
PESTR				*i* AML	AML	22 40 33.8	
PESTR				*i* AML	AML	22 40 34.9	
PESTR				*i* AML	AML	22 40 35.6	
EBAD	**Badajoz**	**4.10**	**178**	Sn	**Sn**	**22 40 12.8**	**-2.5**
EBAD				Sg	**Sb**	**22 40 29.6**	**+2.8**
PMAFR	**Mafra**	**4.21**	**203**	*e*Pn	**Pn**	**22 39 30.5**	**+1.4**
PMAFR				*e*Sg	**Sg**	**22 40 40.1**	**-0.6**
PMAFR				*i* AML	AML	22 40 41.4	
PMAFR				*i* AML	AML	22 40 41.9	
ETOR	**Torete**	**4.35**	**116**	Pn	**Pn**	**22 39 32.4**	**+1.2**
ETOR				Pg	**Pb**	**22 39 42.5**	**+0.7**
ETOR				Sg	**Sb**	**22 40 37.2**	**+3.1**
ETOR				*i* Vmb_Lg		22 40 46.6	
EVO	**Evora**	**4.37**	**188**	*e*Sg	**Sg**	**22 40 41.8**	**-4.0**
EVO				*i* AML	AML	22 40 45.4	
EVO				*i* AML	AML	22 40 47.7	
EVO				*i* AML	AML	22 40 51.1	
PBAR	**Barrancos**	**4.68**	**178**	*e*Sn	**Sn**	**22 40 28.5**	**-1.0**
PBAR				*e*Sg	**Sg**	**22 40 50.9**	**-5.0**
PBAR				*i* AML	AML	22 40 57.5	
PBAR				*i* AML	AML	22 40 58.0	
PBAR				*i* AML	AML	22 41 02.4	
PSIM	**Granatula de C**	**4.80**	**146**	Sn	**Sn**	**22 40 30.4**	**-2.4**
PSIM				Sg	**Sb**	**22 40 50.7**	**+3.6**
ETSF	**Etsaut**	**4.88**	**87**	*e*Pn	**Pn**	**22 39 41.6**	**+3.1**
ETSF				*e*Sn	**Sn**	**22 40 34.3**	**-0.4**
1.0nm,0.2s							
ECAB	**El Cabril**	**4.97**	**164**	Pn	**Pn**	**22 39 40.9**	**+1.3**
ECAB				Sn	**Sn**	**22 40 33.7**	**-3.1**
ECAB				Sg	**Sb**	**22 40 54.9**	**+3.2**
ECAB				*i* Vmb_Lg		22 40 56.9	
MESJ	**Messejana**	**5.07**	**189**	*e*Pn	**Pn**	**22 39 42.0**	**+1.0**
MESJ				*e*Sn	**Sn**	**22 40 37.8**	**-1.5**
MESJ				*i* AML	AML	22 41 09.3	
MESJ				*i* AML	AML	22 41 12.0	
EADA	**Adamuz**	**5.09**	**156**	Pn	**Pn**	**22 39 42.8**	**+1.4**
EADA				Sn	**Sn**	**22 40 36.2**	**-3.6**
EADA				Sg	**Sb**	**22 40 58.3**	**+2.9**
EADA				*i* Vmb_Lg		22 41 16.1	
EMIN	**Mina Concepcio**	**5.10**	**175**	Sg	**Sb**	**22 40 58.1**	**+2.5**
ECHI	**Chisagues Biel**	**5.45**	**90**	Pn	**Pn**	**22 39 48.2**	**+1.8**
ECHI				*i* Vmb_Lg		22 41 06.1	
EPF	**Esparros**	**5.54**	**86**	*e*Pn	**Pn**	**22 39 51.4**	**+3.9**
EPF				*e*Sn	**Sn**	**22 40 50.1**	**-0.7**
1.0nm,0.3s							
EMOS	**Mosqueruela**	**5.62**	**114**	Pn	**Pn**	**22 39 50.2**	**+1.4**
EMOS				Sn	**Sn**	**22 40 55.1**	**+1.9**
EMOS				*i* Vmb_Lg		22 41 04.1	
MORF	**Marmelete**	**5.66**	**192**	*e*Pn	**Pn**	**22 39 50.4**	**+1.3**
MORF				*e*Sn	**Sn**	**22 40 52.3**	**-1.4**
QUIF	**Quistinic**	**5.80**	**28**	*e*Pn	**Pn**	**22 39 51.2**	**+0.2**
QUIF				*e*Sn	**Sn**	**22 40 52.8**	**-4.4**
1.2nm,0.2s							
ROSF	**Rostrenen**	**6.13**	**25**	*e*Pn	**Pn**	**22 39 56.4**	**+0.8**
ROSF				*e*Sn	**Sn**	**22 41 02.2**	**-3.1**
0.9nm,0.2s							
MFF	**Saint Martin d**	**6.27**	**51**	*e*Pn	**Pn**	**22 39 59.0**	**+1.6**
MFF				*e*Sn	**Sn**	**22 41 04.9**	**-3.7**
1.2nm,0.2s							
RJF	**Les Rejaudoux**	**6.74**	**66**	*e*Pn	**Pn**	**22 40 05.8**	**+1.9**
RJF				*e*Sn	**Sn**	**22 41 16.3**	**-4.0**
0.7nm,0.2s							
CAF	**Calviac**	**7.01**	**70**	*e*Pn	**Pn**	**22 40 08.0**	**+0.4**
CAF				*e*Sn	**Sn**	**22 41 22.8**	**-4.1**
0.7nm,0.2s							
GRR	**Gorron**	**7.09**	**37**	*e*Pn	**Pn**	**22 40 09.7**	**+0.9**
GRR				*e*Sn	**Sn**	**22 41 24.0**	**-5.0**
0.8nm,0.2s							
FLN	**La Foliniere**	**7.54**	**36**	*e*Pn	**Pn**	**22 40 14.9**	**0.0**
FLN				*e*Sn	**Sn**	**22 41 34.0**	**-6.0**
0.7nm,0.3s							
TCF	**Toulx Ste Croi**	**7.54**	**60**	*e*Sn	**Sn**	**22 41 33.7**	**-6.4**
1.5nm,0.3s							
LDF	**La Druitiere**	**7.58**	**38**	*e*Sn	Sn	22 41 33.6	-7.3
1.1nm,0.3s							
BGF	**Bois d'Agland**	**8.05**	**59**	*e*P	**Pn**	**22 40 26.2**	**+4.2**
BGF				*e*Sn	**Sn**	**22 41 49.2**	**-3.5**
2.5nm,0.5s							
LASF	**Ste Croix**	**8.14**	**78**	*e*Pn	**Pn**	**22 40 25.0**	**+1.9**
LASF				*e*Sn	**Sn**	**22 41 50.8**	**-3.9**
0.5nm,0.2s							
AVF	**Avril sur Loir**	**8.47**	**59**	*e*Pn	**Pn**	**22 40 27.9**	**+0.3**
AVF				*e*Sn	**Sn**	**22 41 58.0**	**-4.8**
0.2nm,0.2s							
SSF	**Saint Saulge**	**8.68**	**57**	*e*Sn	**Sn**	**22 42 03.1**	**-4.8**
1.2nm,0.5s							
SMF	**Signal de Mont**	**8.72**	**60**	*e*Pn	**Pn**	**22 40 33.0**	**+1.9**
LOR	**Lormes**	**8.98**	**57**	*e*Pn	**Pn**	**22 40 35.6**	**+0.9**
LOR				*e*Sn	**Sn**	**22 42 11.5**	**-4.0**
0.3nm,0.3s							

IDC 16 22:43:45.5±11.0, 6°.69S×129°.48E, h250km±130km, mb2.8/1, mbtmp3.4/4, Error ellipse: s-maj=80.0km s-min=50.0km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.94**	**198**	P	Pn	22 46 29.0	+0.6
4.3nm,1.2s,baz=22,slow=14,SNR=2.4							
FITZ				S	S	22 48 42.2	+0.6
1.5nm,0.7s,baz=102,slow=14,SNR=2.1							
WRA	**Warramunga Arr**	**13.99**	**161**	P	Pn	22 46 53.3	-0.3
0.1nm,0.3s,baz=331,slow=13,SNR=12							
WRA				S	S	22 49 14.1	-15
0.2nm,0.4s,baz=332,slow=23,SNR=6.7							
ASAR	**Alice Springs**	**17.41**	**166**	P	P	22 47 31.7	-0.1
0.3nm,0.4s,baz=347,slow=12,SNR=8.4							
MKAR	**Makanchi Array**	**67.68**	**327**	P	P	22 54 15.9	0.0
0.1nm,0.4s,baz=134,slow=8.2,SNR=2.4							
0.1nm,0.4s							

*SJA **16** 22:44:26.1±0.7, 27°.93S×66°.67W, h183km±3km, ML3.7, MW3.7*
*NEIC **16** 22:44:27.8±1.6, 27°.96S±0°.06×66°.9W±0°.1, h180km±10km, mb4.2/7, Error ellipse: s-maj=16.3km s-min=8.5km az=84.0*
*IDC **16** 22:44:28.2±1.7, 27°.83S×67°.42W, h166km±15km, mb3.1/3, mbtmp4.0/6, Error ellipse: s-maj=31.2km s-min=16.1km az=101.0*
ISC 16 22:44:27.1±0.6, 27°.89S±0°.03×66°.77W±0°.04, h174km±5km, n87, σ1°53/115, mb3.8/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.02**	**123**	*e*P	**Pn**	**22 44 54.4**	**-0.1**
CYA				*e*S	**Sn**	**22 45 14.3**	**-1.3**
CYA				IAML		22 45 15.9	
comp=Z,401nm,0.5s							
VCA	**Vinchina**	**1.52**	**236**	*e*P	**Pn**	**22 44 59.9**	**+0.9**
VCA				*e*S	**Sn**	**22 45 24.6**	**+0.9**
VCA				IAML		22 45 26.4	
comp=Z,1μm,0.6s							
ACLC	**CERRO LA CRUZ**	**1.54**	**186**	*e*P	**Pn**	**22 44 59.2**	**0.0**
ACLC				*e*S	**Sn**	**22 45 22.6**	**-1.5**
AHML	**Horco Molle**	**1.69**	**50**	*e*P	**Pn**	**22 45 00.6**	**0.0**
AHML				*e*S	**Sn**	**22 45 25.3**	**-1.1**
AHML				IAML		22 45 26.1	
comp=Z,188nm,0.5s							
FSA	**Cafayete**	**1.91**	**22**	*e*P	**Pn**	**22 45 04.1**	**+1.1**
FSA				*e*S	**Sn**	**22 45 25.7**	**-5.1**
AGUA	**GUANDACOL**	**2.19**	**223**	*e*P	**Pn**	**22 45 06.5**	**+0

ACHE	**Chepes**	**3.26**	**178**	*eP*	**Pn**	**22 45 18.3**	**-0.6**
ACHE				*eS*	**Sn**	**22 45 58.0**	**-1.3**
AROD	**Rodeo**	**3.28**	**226**	*eP*	**Pn**	**22 45 20.0**	**+0.8**
AROD				*eS*	**Sn**	**22 46 00.4**	**+0.6**
ACCO	**Cerro Coronel**	**3.35**	**216**	*eP*	**Pn**	**22 45 20.5**	**+0.3**
ACCO				*eS*	**Sn**	**22 46 01.8**	**+0.2**
SLA	**San Lorenzo**	**3.35**	**20**	*eP*	**Pn**	**22 45 17.3**	**-2.8**
CO01	**Juntas del Tor**	**3.58**	**234**		**Pn**	**22 45 23.8**	**+0.9**
CO01				Sn	**Sn**	**22 46 06.8**	**+0.4**
CO01	**Juntas del Tor**	**3.58**	**234**	*eP*	**Pn**	**22 45 24.1**	**+1.1**
CO01				*eS*	**Sn**	**22 46 07.8**	**+1.4**
CO01				IAML		22 46 08.7	
	comp=Z,72nm,0.4s						
LCO	**Las Campanas**	**3.63**	**251**	Pn	**Pn**	**22 45 23.6**	**0.0**
LCO	**Las Campanas**	**3.63**	**251**	*eP*	**Pn**	**22 45 23.7**	**0.0**
LCO				*eS*	**Sn**	**22 46 06.7**	**-1.1**
GO02	**Mina Guanaco**	**3.71**	**316**	Pn	**Pn**	**22 45 26.0**	**+1.4**
GO02	**Mina Guanaco**	**3.71**	**316**	*eP*	**Pn**	**22 45 26.5**	**+1.8**
AC04	**Llanos de Chal**	**3.81**	**264**	Pn	**Pn**	**22 45 25.0**	**-0.7**
AC04	**Llanos de Chal**	**3.81**	**264**	*eP*	**Pn**	**22 45 25.3**	**-0.3**
AC04				*eS*	**Sn**	**22 46 03.4**	**-8.0**
AC04				IAML		22 46 13.1	
	comp=Z,119nm,0.5s						
AC01	**Pan de Azucar**	**3.83**	**296**	Pn	**Pn**	**22 45 26.1**	**+0.3**
AC01	**Pan de Azucar**	**3.83**	**296**	*eP*	**Pn**	**22 45 25.8**	**-0.1**
AC01				*eS*	**Sn**	**22 46 10.3**	**-1.4**
AC01				IAML		22 46 19.7	
	comp=Z,50nm,0.3s						
CFA	**Coronel Fontan**	**3.92**	**199**	P	**Pn**	**22 45 26.8**	**-0.2**
	comp=Z,188nm,0.3s,baz=90,slow=24,SNR=14						
CFA				S	**Sn**	**22 46 12.4**	**-1.5**
	comp=Z,59nm,0.3s,baz=90,slow=24,SNR=3.9						
SJA	**San Juan**	**3.95**	**203**	*eP*	**Pn**	**22 45 27.5**	**+0.1**
SJA				*eS*	**Sn**	**22 46 14.2**	**-0.3**
SJA				IAML		22 46 53.2	
	comp=Z,109nm,0.1s						
AZAP	**Zapla**	**3.96**	**23**	*eP*	**Pn**	**22 45 29.4**	**+1.6**
AZAP				IAML		22 46 46.8	
	comp=Z,54nm,0.8s						
ZON	**Zonda**	**4.00**	**204**		**Pn**	**22 45 27.8**	**-0.4**
ZON	**Zonda**	**4.00**	**204**	*eP*	**Pn**	**22 45 28.1**	**-0.1**
ZON				*eS*	**Sn**	**22 46 14.3**	**-1.6**
ZON				IAML		22 46 16.9	
	comp=Z,55nm,0.2s						
GO04	**Tololo Observa**	**4.20**	**236**		**Pn**	**22 45 30.4**	**-0.4**
GO04	**Tololo Observa**	**4.20**	**236**	*eP*	**Pn**	**22 45 30.4**	**-0.4**
GO04				*eS*	**Sn**	**22 46 19.8**	**-0.7**
CO05	**La Serena**	**4.41**	**242**	Pn	**Pn**	**22 45 32.1**	**-1.1**
RTLS	**Leoncito**	**4.47**	**209**	*eP*	**Pn**	**22 45 34.4**	**0.0**
RTLS				*eS*	**Sn**	**22 46 25.9**	**-1.2**
RTLS				IAML		22 46 28.5	
	comp=Z,196nm,0.5s						
CO03	**El Pedregal**	**4.51**	**228**	Pn	**Pn**	**22 45 34.4**	**-0.3**
CO03	**El Pedregal**	**4.51**	**228**	*eP*	**Pn**	**22 45 34.7**	**+0.1**
CO03				*eS*	**Sn**	**22 46 27.6**	**+0.1**
CO03				IAML		22 46 29.2	
	comp=Z,98nm,0.2s						
PB14	**IPOC Station P**	**4.60**	**314**	Pn	**Pn**	**22 45 37.1**	**+1.0**
PB14	**IPOC Station P**	**4.60**	**314**	*eP*	**Pn**	**22 45 37.1**	**+1.0**
PB14				*eS*	**Sn**	**22 46 29.9**	**-0.2**
PB14				IAML		22 46 30.9	
	comp=Z,35nm,0.8s						
ASAL	**Salagasta**	**5.01**	**200**	*eP*	**Pn**	**22 45 40.8**	**-0.5**
ASAL				*eS*	**Sn**	**22 46 39.2**	**-0.2**
CO06	**Fray Jorge**	**5.07**	**236**	Pn	**Pn**	**22 45 39.6**	**-2.3**
AF01	**San Pedro de A**	**5.08**	**345**	Pn	**Pn**	**22 45 43.2**	**+0.9**
ARCO	**CERRO ARCO**	**5.28**	**200**	*eP*	**Pn**	**22 45 44.6**	**-0.1**
ARCO				*eS*	**Sn**	**22 46 44.4**	**-1.2**
VA03	**San Esteban**	**5.85**	**213**		**Pn**	**22 45 51.5**	**-0.7**
VA06	**Catapilco**	**6.08**	**219**	Pn	**Pn**	**22 45 52.4**	**-2.6**
MT08	**Bocatoma Ro**	**6.20**	**206**		**Pn**	**22 45 56.6**	**-0.3**
PEL	**Peldehue**	**6.23**	**212**	Pn	**Pn**	**22 45 55.3**	**-1.8**
MT16	**CCHEN**	**6.40**	**209**	Pn	**Pn**	**22 45 58.4**	**-0.9**
MT03	**Universidad Ad**	**6.45**	**209**		**Pn**	**22 45 59.2**	**-0.7**
MT05	**Renca**	**6.46**	**211**		**Pn**	**22 45 59.1**	**-1.1**
PB09	**IPOC Station P**	**6.47**	**339**		**Pn**	**22 46 00.4**	**0.0**
MT02	**Curacav**	**6.54**	**214**		**Pn**	**22 45 59.8**	**-1.4**
MT13	**San Alfonso**	**6.57**	**206**		**Pn**	**22 46 01.7**	**0.0**
LMEL	**Las Melosas**	**6.63**	**206**		**Pn**	**22 46 00.3**	**-2.1**
MT09	**Talagante**	**6.90**	**211**		**Pn**	**22 46 03.7**	**-2.2**
BO04	**La Punta**	**6.92**	**207**		**Pn**	**22 46 04.7**	**-1.4**
MT01	**Popeta**	**7.09**	**212**	Pn	**Pn**	**22 46 05.5**	**-2.9**
PB01	**IPOC Station P**	**7.25**	**339**		**Pn**	**22 46 10.2**	**-0.5**
BO01	**Tunca**	**7.46**	**209**		**Pn**	**22 46 10.3**	**-3.0**
TA01	**Diego Aracena**	**7.92**	**336**	Pn	**Pn**	**22 46 17.7**	**-1.7**
PB08	**IPOC Station P**	**8.01**	**344**		**Pn**	**22 46 20.1**	**-0.9**
TA02	**Huaiquique**	**8.18**	**337**	Pn	**Pn**	**22 46 20.9**	**-2.0**
CPUP	**Villa Florida**	**8.56**	**82**	Pn	**Pn**	**22 46 31.4**	**+3.6**
CPUP	**Villa Florida**	**8.56**	**82**	P	Pn	22 46 37.1	+9.3
	comp=Z,3.2nm,0.5s,baz=252,slow=12,SNR=6.9						
BI02	**San Fabin de**	**9.54**	**202**		**Pn**	**22 46 37.9**	**-2.8**
PB12	**IPOC Station P**	**9.79**	**340**	Pn	**Pn**	**22 46 41.8**	**-2.4**
TRQA	**Tornquist**	**10.91**	**160**		**Pn**	**22 46 56.7**	**-1.8**
LPAZ	**La Paz**	**11.61**	**354**		**Pn**	**22 47 08.0**	**-0.4**
LPAZ	**La Paz**	**11.61**	**354**	P	**Pn**	**22 47 07.7**	**-0.7**
	comp=Z,5.4nm,0.3s,baz=176,slow=5.8,SNR=21						
AQDB	**Aquidauana**	**12.51**	**56**		**P**	**22 47 23.6**	**-0.5**
SIV	**San Ignacio**	**12.96**	**25**	P	**Pn**	**22 47 25.0**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=198,slow=13,SNR=15						
ITAB	**Concordia**	**13.01**	**91**		**P**	**22 47 29.0**	**-0.6**
PTLB	**Pontes e Lacer**	**14.26**	**31**		**Pn**	**22 47 43.4**	**+2.0**
VILB	**Vilhena**	**16.08**	**24**	P	**P**	**22 48 03.3**	**-0.5**
VAO	**Valinhos**	**18.53**	**79**	P	**P**	**22 48 31.4**	**+0.7**
VAO				IAmb	IAmb	22 48 32.4	
	comp=Z,44nm,1.4s						
BDFB	**Brasilia**	**21.23**	**59**	P	**P**	**22 48 59.5**	**-0.1**
BDFB				IAmb	IAmb	22 49 06.3	
	comp=Z,4.4nm,1.1s						
BOAV	**Boa Vista**	**30.70**	**12**	P	**P**	**22 50 26.5**	**+0.8**
BOAV				IAmb	IAmb	22 50 30.6	
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**62.33**	**180**	P	**P**	**22 54 30.3**	**-0.5**
QSPA				IAmb	IAmb	22 54 49.3	
	comp=Z,2.7nm,1.4s						
QSPA	**South Pole Qui**	**62.33**	**180**	P	**P**	**22 54 33.2**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=143,slow=1.3,SNR=5.7						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**66.96**	**325**	P	**P**	**22 55 01.4**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=153,slow=13,SNR=2.3						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.80**	**68**	P	**P**	**22 56 05.8**	**+0.3**
BOSA	**Boshof**	**78.81**	**116**	P	**P**	**22 56 11.4**	**+0.4**
BOSA				IAmb	IAmb	22 56 18.1	
	comp=Z,9.8nm,1.4s						
PDAR	**Pinedale Array**	**80.58**	**330**	P	**P**	**22 56 20.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=134,slow=1.8,SNR=2.6						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**125.00**	**203**	PKP	**PKiKP**	**23 03 08.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=142,slow=1.6,SNR=5.2						
WRA	**Warramunga Arr**	**128.25**	**206**	PKP	**PKiKP**	**23 03 15.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=154,slow=2.0,SNR=13						
KURBB	**Kurchatov Arra**	**145.31**	**40**	PKPbc	**PKiKP**	**23 03 46.6**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=310,slow=3.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**146.67**	**31**	PKPbc	**PKPab**	**23 03 49.4**	**0.0**
	comp=Z,0.9nm,0.4s,baz=304,slow=3.7,SNR=3.2						
ZALV				pPKPbc	**pPKPdf**	**23 04 33.7**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=288,slow=4.1,SNR=3.7						
MKAR	**Makanchi Array**	**149.29**	**44**	PKPbc	**PKiKP**	**23 03 56.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=299,slow=2.6,SNR=8.2						
MKAR				pPKPbc	**pPKPbc**	**23 04 41.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=286,slow=3.1,SNR=3.9						

IDC 16 22:46:59.9±1.6, 5°.84S×151°.72E, h0km, mb3.8/4, mbtmp3.8/5, ML2.1/1, MS2.8/1, Error ellipse: s-maj=83.5km s-min=26.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.74**	**232**	Pn	Pn	22 48 28.0	+1.5
	3.8nm,0.3s,baz=135,slow=5.5,SNR=8.5						
PMG				Sn	Sn	22 49 27.9	-5.2
	5.4nm,0.3s,baz=116,slow=18,SNR=7.2						
PMG				LR	LR	22 50 42.5	
	comp=Z,91nm,20.1s,baz=38,slow=39 7.7nm,0.3s						
WRA	**Warramunga Arr**	**21.95**	**229**	P	P	22 51 54.4	-1.1
	1.9nm,0.9s,baz=54,slow=11,SNR=9.7 1.9nm,0.9s						
ASAR	**Alice Springs**	**24.66**	**222**	P	P	22 52 22.6	0.0
	2.0nm,0.8s,baz=58,slow=8.8,SNR=15 2.0nm,0.8s						
STKA	**Stephens Creek**	**27.58**	**199**	P	P	22 52 49.1	+0.3
	1.6nm,0.7s,baz=354,slow=15,SNR=3.4 1.6nm,0.7s						
ILAR	**Eielson Array**	**83.52**	**22**	P	P	22 59 29.5	0.0
	0.5nm,0.8s,baz=252,slow=5.0,SNR=6.4 0.5nm,0.8s						

DJA 16 22:47:32.8±0.7, 3°.S±5°.×14°.0E±°, h10km, M4.0/6, mb4.2/2, MLv3.9/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.58**	**4**	P	Pg	22 47 43.6	-0.6
GENI				S	Sb	22 47 53.9	+0.4
JAY	**Jayapura**	**0.88**	**41**	P	Pn	22 47 50.9	-0.3
JAY				S	Sg	22 48 01.4	+0.3
SMPI	**Sarmi**	**1.85**	**310**	P	Pn	22 48 04.6	0.0
FAKI	**Fak Fak**	**7.87**	**272**	P	Pn	22 49 27.9	+0.4

IDC 16 23:00:17.0±1.6, 2°.26N×128°.33E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=139.3km s-min=21.8km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**165**	P	P	23 05 21.9	-0.1
	0.4nm,1.0s,baz=344,slow=11,SNR=8.3 0.4nm,1.0s						
ASAR	**Alice Springs**	**26.34**	**168**	P	P	23 05 54.6	-0.3
	0.2nm,0.5s,baz=350,slow=8.4,SNR=4.8 0.2nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.89**	**64**	T	T	23 51 20.5	
	baz=251,slow=75,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**40.91**	**64**	T	T	23 51 18.4	
	baz=251,slow=75,SNR=4.2						
H11S1	**WAKE ISLAND Hy**	**40.91**	**64**	T	T	23 51 16.5	
	baz=251,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**41.47**	**62**	T	T	23 51 58.9	
	baz=250,slow=75,SNR=35						
H11N2	**WAKE ISLAND Hy**	**41.48**	**62**	T	T	23 52 01.8	
	baz=250,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**41.49**	**62**	T	T	23 52 00.7	
	baz=250,slow=75,SNR=36						
SONM	**Songino Array**	**49.20**	**341**	P	P	23 09 06.0	-1.1
	0.5nm,0.7s,baz=148,slow=6.8,SNR=3.5 0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.66**	**325**	P	P	23 10 23.9	+0.7
	0.3nm,0.4s,baz=114,slow=8.7,SNR=10 0.3nm,0.4s						

*IDC **16** 23:04:00.1±1.3, 32°.98N×90°.29E, h0km, mb3.6/5, mbtmp3.4/8, ML2.8/2, Error ellipse: s-maj=57.5km s-min=20.3km az=61.0*

ISC 16 23:04:01.6±0.9, 33°.06N±0°.08×90°.3E±0°.2, h10km, n9, σ1§06/10, mb3.8/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.43**	**168**	Pn	**Pb**	**23 05 02.1**	**-0.7**
LSA				Sn	**Sg**	**23 05 52.6**	**+0.7**
LSA				smax	smax		
	comp=N,15nm,0.8s						
MKAR	**Makanchi Array**	**15.02**	**338**	Pn	**Pn**	**23 07 32.9**	**-1.1**
	baz=150,slow=12,SNR=3.5 comp=N,0.2nm,0.5s						
SONM	**Songino Array**	**19.11**	**35**	P	**Pn**	**23 08 26.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=106,slow=24,SNR=4.0 comp=N,0.8nm,1.1s						
KURBB	**Kurchatov Arra**	**19.57**	**337**	P	**Pn**	**23 08 29.8**	**-1.1**
	comp=N,0.3nm,0.3s,baz=149,slow=11,SNR=1.2						
ZALV	**Zalesovo Beam**	**21.24**	**351**	P	**P**	**23 08 47.7**	**+0.1**
	comp=N,0.8nm,0.7s,baz=163,slow=12,SNR=4.3 comp=N,0.8nm,0.7s						
BVAR	**Borovoye Array**	**24.55**	**330**	P	**P**	**23 09 20.7**	**-0.7**
	comp=N,0.4nm,0.8s,baz=123,slow=12,SNR=1.7 comp=N,0.4nm,0.8s						
FINES	**FINESS Array B**	**49.34**	**325**	P	**P**	**23 12 52.5**	**+1.8**
	comp=N,4.6nm,1.1s,baz=65,slow=4.7,SNR=1.6 comp=N,4.6nm,1.1s						
WRA	**Warramunga Arr**	**67.43**	**135**	P	**P**	**23 14 56.9**	**-0.7**
	comp=N,0.6nm,0.8s,baz=310,slow=6.0,SNR=2.4 comp=N,0.6nm,0.8s						
ASAR	**Alice Springs**	**70.07**	**138**	P	**P**	**23 15 14.2**	**+0.1**
	comp=N,0.7nm,0.8s,baz=327,slow=6.4,SNR=6.9 comp=N,0.7nm,0.8s						

*AEIC **16** 23:09:50.6±2.2, 54°.31N±0°.04×161°.61W±0°.05, h2km±5km, Error ellipse: s-maj=5.9km s-min=4.0km az=187.0*
*NEIC **16** 23:09:51.9±1.9, 54°.31N±0°.03×161°.68W±0°.07, h49km±9km, mb3.6/9, ML3.6/14, ML3.4(AEIC), Error ellipse: s-maj=6.3km s-min=3.9km az=116.0*
*IDC **16** 23:09:54.1±1.6, 55°.78N×162°.32W, h0km, mb3.8/9, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=40.5km s-min=22.3km az=170.0*

ISC 16 23:09:51.5±1.4, 54°.29N±0°.09×161°.60W±0°.04, h46km±12km, n92, σ1§11/90, mb3.8/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**1.04**	**350**		**Pn**	**23 10 09.4**	**-0.3**
HAG					**Sn**	**23 10 22.4**	**-0.7**
PS4A	**Pavlof South-4**	**1.06**	**352**		**Pn**	**23 10 09.5**	**-0.5**
PS4A					**Sn**	**23 10 23.7**	**0.0**
PVV	**Pavlof Volcano**	**1.09**	**354**		**Pn**	**23 10 09.8**	**-0.5**
PVV					**Sn**	**23 10 24.1**	**-0.2**
PS1A	**Pavlof South-1**	**1.13**	**356**		**Pn**	**23 10 10.6**	**-0.3**
FALS	**False Pass**	**1.20**	**299**	Pn	**Pn**	**23 10 11.3**	**-0.5**
FALS				Sn	**Sn**	**23 10 25.9**	**-1.1**
CNBA	**Chernabura Isl**	**1.28**	**65**	Pn	**Pn**	**23 10 13.4**	**+0.4**
CNBA	**Chernabura Isl**	**1.28**	**65**		**Sn**	**23 10 30.6**	**+1.6**
ISLZ	**Isanotski Laza**	**1.31**	**290**		**Pn**	**23 10 13.3**	**0.0**
ISNN	**Isanotski Nort**	**1.38**	**294**		**Pn**	**23 10 14.5**	**+0.2**
ISNN					**Sn**	**23 10 33.3**	**+1.9**
S12K	**Black Hills**	**1.44**	**349**	Pn	**Pn**	**23 10 15.6**	**+0.4**
S12K				Sn	**Sn**	**23 10 33.4**	**+0.6**
S12K				IAML		23 10 38.1	
	comp=E,929nm,0.4s						
S12K				IAML		23 10 46.7	
	comp=N,878nm,0.4s						
WESE	**West Dahl East**	**1.76**	**277**		**Pn**	**23 10 20.1**	**+0.6**
WECS	**Westdahl Cape**	**1.87**	**279**		**Pn**	**23 10 21.8**	**+0.7**
VNHG	**Veniaminof 1**	**2.38**	**35**		**Pn**	**23 10 29.4**	**+1.3**
AKSA	**Akutan Strait**	**2.41**	**268**		**Pn**	**23 10 29.5**	**+1.0**
LVA	**Lava Point**	**2.61**	**269**	Pn	**Pn**	**23 10 29.7**	**-1.4**
LVA				IAML		23 12 00.9	
	comp=E,304nm,3.5s						
CHGN	**Chignik**	**2.71**	**41**	Pn	**Pn**	**23 10 33.5**	**+1.0**
CHGN				Sn	**Sn**	**23 11 04.6**	**+0.5**
CHGN				IAML		23 11 17.8	
	comp=N,139nm,0.6s						
CHGN				IAML		23 11 18.1	
	comp=E,221nm,0.7s						
UNV	**Unalaska Valle**	**2.93**	**263**	Pn	**Pn**	**23 10 35.2**	**-0.2**
MTBL	**Makushin Table**	**3.01**	**266**		**Pn**	**23 10 37.6**	**+1.0**
ANPB	**Aniakchak Plen**	**3.14**	**36**		**Pn**	**23 10 40.1**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**3.92**	**259**		**Pn**	**23 10 50.3**	**+1.1**
PLBL	**Peulik Blue Cr**	**4.34**	**36**		**Pn**	**23 10 56.5**	**+1.6**
SII	**Sitkinak Islan**	**4.79**	**59**	Pn	**Pn**	**23 11 01.2**	**+0.1**
SII				IAML		23 13 58.2	
	comp=N,57nm,3.0s						
O14K	**Tigyukauivet M**	**4.98**	**2**		**Pn**	**23 11 04.3**	**+0.8**
O14K				IAML		23 14 19.9	
	comp=E,47nm,3.0s						
O15K	**Ungalikthiuk R**	**4.99**	**11**		**Pn**	**23 11 04.3**	**+0.5**
ANCK	**Angle Creek**	**5.19**	**39**		**Pn**	**23 11 08.0**	**+1.5**
ACHA	**Angle Creek He**	**5.26**	**39**	Pn	**Pn**	**23 11 08.4**	**+0.9**
ACHA				IAML		23 14 41.7	
	comp=E,22nm,3.0s						
OHAK	**Old Harbor**	**5.53**	**55**	Pn	**Pn**	**23 11 11.2**	**0.0**
N14K	**Kuskokwak Cree**	**5.65**	**360**		**Pn**	**23 11 13.9**	**+1.1**
N15K	**Kwethluk River**	**5.95**	**7**		**Pn**	**23 11 17.8**	**+0.9**
KDAK	**Kodiak Island**	**6.14**	**52**	Pn	**Pn**	**23 11 19.3**	**-0.3**
KDAK	**Kodiak Island**	**6.14**	**52**	Pn	**Pn**	**23 11 19.0**	**-0.6**
	comp=E,0.6nm,0.3s,baz=35,slow=6.2,SNR=6.6						
KDAK				Sn	**Sn**	**23 12 26.3**	**-2.1**
	comp=E,0.5nm,0.3s,baz=210,slow=12,SNR=1.7 comp=E,3.1nm,0.6s						
M13K	**Dall Lake**	**6.21**	**352**		**Pn**	**23 11 22.1**	**+1.6**
M15K	**Kasigluk River**	**6.44**	**4**		**Pn**	**23 11 24.1**	**+0.5**
M14K	**Bethel**	**6.48**	**358**		**Pn**	**23 11 24.5**	**+0.4**
O18K	**Koktuh Hills**	**6.57**	**29**	Pn	**Pn**	**23 11 27.6**	**+2.1**
M11K	**Mekoryuk**	**6.59**	**340**	Pn	**Pn**	**23 11 26.9**	**+1.2**
L14K	**Kuka Creek**	**7.09**	**356**		**Pn**	**23 11 33.2**	**+0.7**
ILSW	**Iliamna Southw**	**7.32**	**35**	Pn	**Pn**	**23 11 37.0**	**+1.1**
L16K	**Owhat River**	**7.52**	**8**	Pn	**Pn**	**23 11 38.9**	**+0.4**
CNPM	**China Poot**	**7.72**	**43**	Pn	**Pn**	**23 11 41.7**	**+0.5**
K13K	**Kusilvak Mount**	**7.83**	**349**	Pn	**Pn**	**23 11 43.6**	**+1.0**
SPU	**Mount Spurr**	**8.58**	**33**	Pn	**Pn**	**23 11 54.6**	**+1.6**
K17K	**Iditarod**	**8.62**	**10**	Pn	**Pn**	**23 11 53.8**	**+0.3**
M20K	**Styx River**	**8.82**	**27**		**Pn**	**23 11 58.6**	**+2.2**
STLK	**Strandline Lak**	**8.89**	**32**	Pn	**Pn**	**23 11 58.6**	**+1.3**
J16K	**Anvik River**	**9.03**	**3**	Pn	**Pn**	**23 11 59.7**	**+0.6**
TTA	**Tatalina**	**9.13**	**16**	Pn	**Pn**	**23 12 01.1**	**+0.5**
RC01	**Rabbit Creek A**	**9.30**	**38**	Pn	**Pn**	**23 12 02.8**	**0.0**
J18K	**Innoko River**	**9.54**	**13**	Pn	**Pn**	**23 12 06.5**	**+0.5**
PWL	**Port Wells**	**9.68**	**42**	Pn	**Pn**	**23 12 07.9**	**-0.2**
PPLA	**Purkeypile**	**9.91**	**26**	Pn	**Pn**	**23 12 13.2**	**+1.9**
HIN	**Hinchinbrook I**	**10.18**	**47**	Pn	**Pn**	**23 12 14.8**	**-0.1**
J20K	**Nowinta River**	**10.61**	**18**	Pn	**Pn**	**23 12 20.7**	**0.0**
TRF	**Thorofare Moun**	**10.87**	**28**	Pn	**Pn**	**23 12 24.7**	**+0.3**
RND	**Reindeer**	**11.24**	**31**	Pn	**Pn**	**23 12 28.4**	**-1.1**
BERG	**Berg Lake**	**11.41**	**50**	Pn	**Pn**	**23 12 30.2**	**-1.5**
N25K	**Chitina, Valde**	**11.60**	**44**	Pn	**Pn**	**23 12 33.7**	**-0.6**
RIDG	**Independent Ri**	**12.76**	**35**	Pn	**Pn**	**23 12 48.1**	**-2.0**
ILAR	**Eielson Array**	**12.84**	**29**	Pn	**Pn**	**23 12 47.5**	**-3.7**
	comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=5.2						
S31K	**Pelican**	**14.58**	**65**	Pn	**Pn**	**23 13 14.3**	**-0.3**
B21K	**Ikpikpuk River**	**15.71**	**9**		**P**	**23 13 32.3**	**-0.3**
Q32M	**Nakina River**	**16.72**	**62**	Pn	**Pn**	**23 13 41.6**	**-0.8**
Q32M				IAmb	IAmb	23 14 21.6	
	comp=Z,6.7nm,1.2s						
EPYK	**Eagle Plains**	**17.10**	**35**		**Pn**	**23 13 47.2**	**+0.3**
EPYK				IAmb	IAmb	23 13 53.8	
	comp=Z,5.9nm,1.1s						
MMPY	**Sheldon Lake,**	**17.77**	**50**		**P**	**23 13 56.0**	**+0.4**
MMPY				IAmb	IAmb	23 14 06.4	
	comp=Z,6.2nm,1.4s						
G31M	**Satah River**	**18.22**	**35**	P	**P**	**23 13 59.7**	**-0.7**
G31M				IAmb	IAmb	23 14 18.1	
	comp=Z,2.1nm,0.7s						
INK	**Inuvik**	**19.20**	**32**	P	**P**	**23 14 10.6**	**-0.5**
INK	**Inuvik**	**19.20**	**32**	P	**P**	**23 14 08.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=246,slow=10.0,SNR=2.3 comp=Z,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**25.42**	**52**	P	**P**	**23 15 17.3**	**+3.0**
	comp=Z,0.2nm,0.6s,baz=277,slow=9.2,SNR=5.4 comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**35.55**	**87**	P	**P**	**23 16 43.4**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**42.04**	**227**	T	T	00 02 25.1	
	baz=27,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy**	**42.04**	**227**	T	T	00 02 25.5	
	baz=27,slow=76,SNR=62						
H11N1	**WAKE ISLAND Hy**	**42.06**	**227**	T	T	00 02 26.8	
	baz=27,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy**	**43.22**	**227**	T	T	00 03 58.7	
	baz=26,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**43.22**	**227**	T	T	00 03 58.5	
	baz=26,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**43.22**	**227**	T	T	00 03 53.0	
	baz=26,slow=76,SNR=27						
SONM	**Songino Array**	**54.21**	**304**	P	**P**	**23 19 11.2**	**-1.1**
SONM				IAmb	IAmb	23 19 23.4	
	comp=Z,1.1nm,1.2s						
SONM	**Songino Array**	**54.21**	**304**	P	**P**	**23 19 12.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=46,slow=6.1,SNR=4.6 comp=Z,0.6nm,0.7s						
FIA1	**FINESS Array S**	**64.45**	**356**	P	**P**	**23 20 22.1**	**-0.4**
FINES	**FINESS Array B**	**64.45**	**356**	P	**P**	**23 20 22.4**	**-0.1**
FINES	**FINESS Array B**	**64.45**	**356**	P	**P**	**23 20 22.2**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=19,slow=8.1,SNR=7.1 comp=Z,4.3nm,0.8s						
BVAR	**Borovoye Array**	**64.69**	**328**	P	**P**	**23 20 23.5**	**-0.7

SDV	Santo Domingo	21.15	10	eP	P	23 15 07.3	+1.4
MT02	Curacav	21.23	173	P	P	23 15 08.1	+1.6
MT02				IAmb	IAmb	23 15 11.7	
	comp=Z,16nm,1.1s						
CPUP	Villa Florida	21.25	134	P	P	23 15 07.2	+0.5
	comp=Z,3.9nm,0.9s,baz=302,slow=12,SNR=4.6						
	comp=Z,3.9nm,0.9s						
MT16	CCHEN	21.48	172	P	P	23 15 10.6	+1.3
MT08	Bocatoma Ro	21.57	171	P	P	23 15 11.1	+0.7
MT08				IAmb	IAmb	23 15 15.9	
	comp=Z,13nm,0.8s						
MT09	Talagante	21.76	173	P	P	23 15 13.8	+1.5
BAUV	El Baul	21.79	17	P	P	23 15 12.7	+0.1
BAUV				IAmb	IAmb	23 15 42.5	
	comp=Z,15nm,1.0s						
MT13	San Alfonso	21.83	171	P	P	23 15 12.1	-0.9
MT13				IAmb	IAmb	23 15 17.7	
	comp=Z,13nm,0.8s						
BO04	La Punta	22.02	172	P	P	23 15 16.8	+1.7
BO04				IAmb	IAmb	23 15 18.7	
	comp=Z,8.7nm,0.9s						
BO02	Sierra Bellavi	22.79	173	P	P	23 15 24.6	+1.4
BO02				IAmb	IAmb	23 15 55.8	
	comp=Z,14nm,1.4s						
ITAB	Concordia	25.57	129	P	P	23 15 48.6	-0.8
BDFB	Brasilia	25.63	101	LR	LR	23 26 59.4	
	comp=Z,96nm,18.2s,baz=146,slow=39						
TRQA	Tornquist	28.04	159	P	P	23 16 10.8	-0.7
TRQA				IAmb	IAmb	23 16 11.5	
	comp=Z,4.6nm,1.3s						
PLCA	Paso Flores	28.69	174	P	P	23 16 16.8	-0.6
PLCA				IAmb	IAmb	23 16 58.4	
	comp=Z,4.9nm,1.1s						
PLCA	Paso Flores	28.69	174	P	P	23 16 17.0	-0.3
	comp=Z,1.8nm,0.9s,baz=340,slow=8.4,SNR=3.9						
	comp=Z,1.8nm,0.9s						
CMIG	Matias Romero	35.51	324	LR	LR	23 29 41.3	
	comp=Z,43nm,18.8s,baz=163,slow=33						
RCBR	Riachuelo	38.28	84	LR	LR	23 34 17.1	
	comp=Z,45nm,20.0s,baz=241,slow=38						
TXAR	Lajitas Array	50.08	326	P	P	23 19 14.9	-0.4
	comp=Z,0.3nm,0.5s,baz=122,slow=8.3,SNR=2.0						
	comp=Z,0.3nm,0.5s						
PMSA	Palmer Station	53.06	175	LR	LR	23 39 45.7	
	comp=Z,135nm,19.6s,baz=336,slow=33						
ULM	Lac du Bonnet	64.94	345	P	P	23 20 57.9	-1.5
	comp=Z,3.4nm,0.7s,baz=158,slow=5.5,SNR=9.6						
	comp=Z,3.4nm,0.7s						
SNAA	Sanae	72.74	162	P	P	23 21 47.8	-0.1
SNAA	Sanae	72.74	162	P	P	23 21 47.9	0.0
	comp=Z,1.8nm,0.5s,baz=266,slow=7.5,SNR=22						
	comp=Z,1.8nm,0.5s						
QSPA	South Pole Qui	78.03	180	P	P	23 22 18.8	+0.4
QSPA	South Pole Qui	78.03	180	P	P	23 22 18.2	-0.2
	comp=Z,2.2nm,0.9s,baz=161,slow=1.9,SNR=8.8						
	comp=Z,2.2nm,0.9s						
TORD	Torodi Ar. Bea	79.31	74	P	P	23 22 25.4	-0.9
TORD				IAmb	IAmb	23 22 33.8	
	comp=Z,2.3nm,1.0s						
YKA	Yellowknife Ar	80.73	342	P	P	23 22 32.4	-0.4
	comp=Z,1.9nm,0.9s,baz=144,slow=6.0,SNR=23						
	comp=Z,1.9nm,0.9s						
DY2G	Dye2	81.02	11	*i* P	P	23 22 33.2	-1.5
DY2G				IAmb	IAmb	23 22 35.5	
	comp=Z,8.2nm,0.9s						
SUMG	Summit	87.68	10	*i* P	P	23 23 08.0	-0.5
SUMG				IAmb	IAmb	23 23 09.9	
	comp=Z,3.6nm,0.6s						
NEEM	North Greenlan	90.38	5	*i* P	P	23 23 19.4	-1.6
ZALV	Zalesovo Beam	135.06	17	PKP	PKPdf	23 29 39.1	+0.1
	comp=Z,0.8nm,0.6s,baz=318,slow=1.9,SNR=5.6						
ASAR	Alice Springs	135.07	218	PKP	PKPdf	23 29 39.1	-1.0
	comp=Z,0.5nm,0.8s,baz=125,slow=1.9,SNR=5.2						
KURBB	Kurchatov Arra	135.59	25	PKP	PKPdf	23 29 40.3	+0.2
	comp=Z,0.4nm,0.8s,baz=315,slow=2.8,SNR=4.2						
WRA	Warramunga Arr	137.55	222	PKP	PKPdf	23 29 44.1	-0.6
	comp=Z,0.6nm,0.5s,baz=130,slow=2.0,SNR=9.6						
SONM	Songino Array	144.38	359	PKP	PKPbc	23 29 55.2	+0.5
	comp=Z,1.4nm,0.5s,baz=330,slow=2.1,SNR=13						
KSRS	Korea Array	147.93	326	PKPbc	PKPbc	23 30 05.7	+0.2
	comp=Z,2.1nm,1.0s,baz=48,slow=3.7,SNR=5.0						

*KRSC **16** 23:22:21.5±1.5, 54°.46N×163°.58E, h40km±24km, Ml4.1*
*MOS **16** 23:22:22.0±0.8, 54°.52N×163°.60E, h65km, mb4.3/4, Error ellipse: s-maj=9.1km s-min=6.9km az=97.5*
*NEIC **16** 23:22:23.8±1.1, 54°.8N±0°.2×163°.3E±0°.2, h10km±2km, mb4.1/27, Error ellipse: s-maj=30.0km s-min=18.9km az=163.0*
*IDC **16** 23:22:26.2±3.1, 54°.05N×163°.54E, h68km±26km, mb3.3/11, mbtmp3.5/12, MS3.0/9, Error ellipse: s-maj=28.4km s-min=17.3km az=145.0*

ISC 16 23:22:24.0±1.2, 54°.49N±0°.05×163°.64E±0°.05, h44km±14km, n105, σ1°60/88, mb4.0/25, MS3.1/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.52	61	PN	Pn	23 22 48.0	-0.7
BKI				S	Sn	23 23 06.7	-0.6
KBTR	Krutoberegovo	1.78	345	PN	Pn	23 22 50.9	-1.4
KBTR				S	Sn	23 23 11.6	-2.0
KBTR	Krutoberegovo	1.78	345	eP	Pn	23 22 50.9	-1.4
KBG	Krutoberegovo	1.84	344	PN	Pn	23 22 51.8	-1.3
KBG				S	Sn	23 23 12.8	-2.4
TUMD	Tumrok D	2.00	292	eP	Pn	23 22 55.5	+0.2
CIRR	Tsirk	2.32	316	PN	Pn	23 22 59.5	-0.2
CIRR	Tsirk	2.32	316	eP	Pn	23 23 00.6	+0.9
LGNR	Loginova	2.32	315	eP	Pn	23 23 00.7	+0.8
KMNR	Kamenistaya	2.33	304	PN	Pn	23 23 00.1	+0.3
KMNR	Kamenistaya	2.33	304	eP	Pn	23 23 00.1	+0.3
KIRR	Kirishev	2.39	309	PN	Pn	23 23 00.8	+0.1
KIRR	Kirishev	2.39	309	eP	Pn	23 23 00.9	+0.1
SMKR	Semkarok	2.43	330	PN	Pn	23 23 01.0	-0.2
SMKR	Semkarok	2.43	330	eP	Pn	23 23 01.2	0.0
SMKR				eS	Sn	23 23 30.5	+0.8
KPT	Kopyto	2.45	308	PN	Pn	23 23 01.9	+0.4
KPT	Kopyto	2.45	308	eP	Pn	23 23 02.1	+0.6
KRSR	Krestovskiy	2.46	316	eP	Pn	23 23 01.8	+0.1
KRSR				eS	Sn	23 23 31.4	+0.8
KLY	Klyuchi	2.50	318	PN	Pn	23 23 00.9	-1.1
KLY				S	Sn	23 23 29.4	-1.8
KLY	Klyuchi	2.50	318	eP	Pn	23 23 00.9	-1.1
KLY				eS	Sn	23 23 30.4	-0.8
BDR	Baidarnaya	2.50	327	eS	Sn	23 23 33.1	+1.7
SPN	Mys Shipunski	2.56	238	eS	Sn	23 23 30.9	-1.9
KOZ	Kozyrevsk	2.67	308	PN	Pn	23 23 04.6	+0.2
KOZ	Kozyrevsk	2.67	308	eP	Pn	23 23 05.0	+0.6
NLC	Nalytchevo	2.87	244	eS	Sn	23 23 39.8	-0.5
SRDR	Sredinnyy	2.89	311	PN	Pn	23 23 07.5	0.0
UGLR	Uglovaya	3.13	248	PN	Pn	23 23 10.8	0.0
UGLR	Uglovaya	3.13	248	eP	Pn	23 23 11.4	+0.6
AVH	Avacha	3.15	249	PN	Pn	23 23 11.7	+0.6
AVH	Avacha	3.15	249	eP	Pn	23 23 11.7	+0.6
KRX	Arik	3.16	251	PN	Pn	23 23 11.2	-0.1
KRX	Arik	3.16	251	eP	Pn	23 23 11.4	+0.1
ESO	Esso	3.17	299	PN	Pn	23 23 10.4	-0.9
ESO	Esso	3.17	299	eP	Pn	23 23 11.4	+0.1
KOK	Koryaka	3.20	250	PN	Pn	23 23 12.2	+0.5
KOK	Koryaka	3.20	250	eP	Pn	23 23 12.0	+0.2
DALK	Dalny	3.25	245	PN	Pn	23 23 12.4	+0.1
PET	Petropavlovsk	3.31	246		Pn	23 23 15.2	+2.1
PET	Petropavlovsk	3.31	246	PN	Pn	23 23 15.5	+2.4
PET	Petropavlovsk	3.31	246	eP	Pn	23 23 15.1	+2.0
GNL	Ganaly	3.45	259	PN	Pn	23 23 16.2	+1.0
GNL	Ganaly	3.45	259	eP	Pn	23 23 16.0	+0.8
KRMR	Karymshinskiy	3.68	245	eP	Pn	23 23 19.5	+1.3
RUS	Russkaya	3.69	238	PN	Pn	23 23 17.5	-1.0
RUS	Russkaya	3.69	238	eP	Pn	23 23 18.7	+0.3
PEA0B	Petropavlovsk-	3.79	251	Pn	Pn	23 23 20.9	+1.2
PEA0B	Petropavlovsk-	3.79	251	PN	Pn	23 23 20.9	+1.2
PETK	Petropavlovsk-	3.79	251	Pn	Pn	23 23 21.5	+1.7
PETK	Petropavlovsk-	3.79	251	P	Pn	23 23 20.6	+0.8
	2.3nm,0.5s,baz=89,slow=18,SNR=11						
PETK				S	Sn	23 24 01.2	-1.8
	6.7nm,0.5s,baz=79,slow=20,SNR=6.0						
PETK				LR	LR	23 24 30.6	
	comp=Z,45nm,19.2s,baz=69,slow=34						
GRL	Gorelyy	3.85	242	PN	Pn	23 23 22.0	+1.3
SHEM	Shemya Is, Ala	6.47	102	LR	LR	23 26 20.8	
	comp=Z,89nm,18.4s,baz=64,slow=36						
J14K	Nanvaranak Lak	18.78	51	P	Pn	23 26 40.7	+0.7
J14K				IAmb	IAmb	23 26 54.8	
	comp=Z,14nm,1.4s						
F15K	North Star Dit	19.14	42	P	Pn	23 26 45.6	+1.4
YAK	Yakutsk	19.20	307	LR	LR	23 34 50.4	
	comp=Z,41nm,18.4s,baz=90,slow=38						
K15K	Wolf Creek Mou	19.64	53	P	Pn	23 26 52.0	+1.9
K15K				IAmb	IAmb	23 27 26.1	
	comp=Z,12nm,1.4s						
C16K	Lisburne Hills	19.96	34	P	Pn	23 26 54.4	+0.6
M16K	Timber Creek	20.76	57	P	Pn	23 27 04.5	+1.0
H17K	Granite Mounta	20.82	45	P	Pn	23 27 04.4	+0.3
H17K				IAmb	IAmb	23 27 18.3	
	comp=Z,6.6nm,0.8s						
E18K	Tukpahlearik C	21.25	39	P	P	23 27 09.1	+3.2
C18K	Utukok River	21.50	35	P	P	23 27 10.9	+2.3
G19K	Purcell Mounta	22.23	43	P	P	23 27 20.3	+3.9
E19K	Redstone River	22.50	39	P	P	23 27 21.9	+2.6
E19K				IAmb	IAmb	23 27 24.3	
	comp=Z,4.6nm,0.9s						
TIXI	Tiksi	22.76	332	P	P	23 27 22.2	+0.3
TIXI				IAmb	IAmb	23 27 35.8	
	comp=Z,6.1nm,1.1s						
TIXI	Tiksi	22.76	332	P	P	23 27 22.2	+0.3
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
J20K	Nowinta River	23.16	48	P	P	23 27 27.6	+1.5
J20K				IAmb	IAmb	23 27 42.5	
	comp=Z,5.2nm,0.7s						
F21K	Alatna River	23.86	41	P	P	23 27 34.8	+2.0
B21K	Ikpikpuk River	24.05	35	P	P	23 27 36.8	+2.3
D22K	Ayikyak River	24.51	37	P	P	23 27 41.3	+2.5
E22K	Anaktuvuk Pass	24.66	39	P	P	23 27 42.6	+2.5
E22K				IAmb	IAmb	23 27 44.5	
	comp=Z,4.6nm,0.8s						
TRF	Thorofare Moun	24.84	50	P	P	23 27 45.5	+3.5
MJAR	Matsushiro Arr	25.07	235	P	P	23 27 41.5	-2.5
	comp=Z,1.1nm,1.0s,baz=34,slow=8.1,SNR=2.7						
MJAR				LR	LR	23 37 53.3	
	comp=Z,45nm,20.6s,baz=64,slow=37						
	comp=Z,1.1nm,1.0s						
COLD	Coldfoot	25.12	41	P	P	23 27 46.9	+2.6
COLD				IAmb	IAmb	23 28 01.1	
	comp=Z,3.2nm,0.7s						
C23K	Itkillik River	25.45	35	P	P	23 27 49.9	+2.7
C23K				IAmb	IAmb	23 28 14.2	
	comp=Z,2.8nm,0.7s						
RND	Reindeer	25.49	50	P	P	23 27 50.7	+3.0
RND	Reindeer	25.49	50	P	P	23 27 50.7	+3.0
RND				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRH	Wood River Hil	25.81	48	P	P	23 27 53.7	+3.2
WRH				IAmb	IAmb	23 28 05.8	
	comp=Z,5.5nm,1.1s						
G24K	Hadweenzic Riv	26.13	43	P	P	23 27 56.1	+2.7
G24K				IAmb	IAmb	23 28 09.7	
	comp=Z,4.5nm,0.8s						
IL31		26.32	47	P	P	23 27 59.2	+4.1
IL31				IAmb	IAmb	23 28 12.9	
	comp=Z,2.7nm,0.8s						
ILAR	Eielson Array	26.32	47	P	P	23 27 57.9	+2.7
	comp=Z,0.8nm,0.8s,baz=251,slow=8.1,SNR=6.9						
ILAR				LR	LR	23 38 18.6	
	comp=Z,26nm,19.7s,baz=121,slow=36						
	comp=Z,0.8nm,0.8s						
D25K	Kavik River	26.81	37	P	P	23 28 01.9	+2.3
D25K				IAmb	IAmb	23 28 14.8	
	comp=Z,2.8nm,0.7s						
BMAR	Burnt Mountain	27.30	41	P	P	23 28 06.5	+2.5
H11N2	WAKE ISLAND Hy	34.79	175	T	T	00 06 18.0	
	baz=358,slow=74						
H11N3	WAKE ISLAND Hy	34.80	175	T	T	00 06 21.7	
	baz=358						
H11N1	WAKE ISLAND Hy	34.81	175	T	T	00 06 24.0	
	baz=358,slow=74						
YKA	Yellowknife Ar	40.70	45	P	P	23 30 02.7	+3.1
	comp=Z,0.2nm,0.6s,baz=295,slow=8.5,SNR=3.9						
	comp=Z,0.2nm,0.6s						
ZALV	Zalesovo Beam	43.78	303	LR	LR	23 51 31.3	
	comp=Z,21nm,19.2s,baz=0.5,slow=40						
KURK	Kurchatov	48.77	303	P	P	23 31 04.3	+0.3
KURK				IAmb	IAmb	23 31 23.7	
	comp=Z,2.8nm,1.2s						
KURK	Kurchatov	48.77	303	P	P	23 31 04.3	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURBB	Kurchatov Arra	48.87	303	P	P	23 31 04.9	+0.2
	comp=Z,0.5nm,0.7s,baz=55,slow=7.7,SNR=5.7						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	49.43	297	P	P	23 31 09.2	+0.1
	comp=Z,0.2nm,0.8s,baz=44,slow=6.7,SNR=2.2						
MKAR				LR	LR	23 54 12.0	
	comp=Z,22nm,18.5s,baz=334,slow=38						
	comp=Z,0.2nm,0.8s						
BVAR	Borovoye Array	51.15	309	P	P	23 31 23.3	+1.3
	comp=Z,2.2nm,0.7s,baz=56,slow=9.5,SNR=10						
	comp=Z,2.2nm,0.7s						
BRVK	Borovoye	51.17	309	P	P	23 31 23.4	+1.2
BRVK	Borovoye	51.17	309	P	P	23 31 23.4	+1.2
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ULM	Lac du Bonnet	56.32	49	LR	LR	23 59 32.7	
	comp=Z,29nm,18.1s,baz=344,slow=39						
KKAR	Karatay Array	58.02	300	P	P	23 32 13.1	+1.1
KKAR	Karatay Array	58.02	300	P	P	23 32 13.1	+1.1
ABKAR	Abkulak array	58.46	312	P	P	23 32 16.4	+1.4
ABKAR	Abkulak array	58.46	312	P	P	23 32 16.6	+1.7
ABKAR				IAmb	IAmb	23 32 27.5	
	comp=Z,1.5nm,0.7s						
FINES	FINESS Array B	59.64	338	P	P	23 32 25.4	+2.5
	comp=Z,2.1nm,0.9s,baz=43,slow=6.2,SNR=1.4						
	comp=Z,2.1nm,0.9s						
FINES	FINESS Array B	59.64	338	P	P	23 32 25.3	+2.4
CMAR	Chiang Mai Arr	60.51	260	P	P	23 32 29.9	+0.5
	comp=Z,0.6nm,0.3s,baz=27,slow=7.7,SNR=4.6						
CMAR				LR	LR	00 00 36.6	
	comp=Z,13nm,18.4s,baz=95,slow=38						
	comp=Z,0.6nm,0.3s						
GERES	GERESS Array B	73.97	340	P	P	23 33 57.3	+2.9
GERES	GERESS Array B	73.97	340	P	P	23 33 57.3	+2.9
BRTR	Keskin Array B	76.83	323	P	P	23 34 13.3	+2.3
	comp=Z,0.3nm,0.6s,baz=23,slow=7.8,SNR=1.5						
	comp=Z,0.3nm,0.6s						
WRA	Warramunga Arr	78.27	208	P	P	23 34 15.7	-3.2
	comp=Z,0.3nm,0.8s,baz=21,slow=5.8,SNR=1.6						
	comp=Z,0.3nm,0.8s						
ASAR	Alice Springs	81.94	207	P	P	23 34 35.3	-3.3
	comp=Z,0.1nm,0.7s,baz=22,slow=4.6,SNR=2.9						
	comp=Z,0.1nm,0.7s						

*NNC **16** 23:37:21.9±0.9, 42°.23N×80°.50E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=5.4km s-min=4.4km az=127.0*
*SOME **16** 23:37:21.2, 42°.17N×80°.63E, h25km*
*KRNET **16** 23:37:22.7±0.1, 42°.43N×80°.54E, mb3.4*

ISC 16 23:37:24.2±1.9, 42°.34N±0°.07×80°.48E±0°.07, h10km, n46, σ2°44/74, 24C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.11	318	P	Pg	23 37 42.3	-3.3
	67nm,0.1s						
SHLS				S	Sg	23 37 57.4	-2.5
	279nm,0.2s						
SHLS	Shalkode	1.11	318	eP	Pg	23 37 42.2	-3.3
	61nm,0.1s						
SHLS				eS	Sg	23 37 57.4	-2.5
	279nm,0.2s						
PDGK	Podgornoye	1.23	324	⇑P	Pg	23 37 46.6	-1.1
	14nm,0.3s						
PDGK				⇓S	Sn	23 38 05.1	+0.8
	28nm,0.4s						
UZB	Uzynbulak	1.34	308	P	Pg	23 37 48.9	-1.1
	17nm,0.2s						
UZB				S	Sg	23 38 08.9	+1.5
	0.3nm,0.2s						
UZB	Uzynbulak	1.34	308	eP	Pg	23 37 48.9	-1.1
	26nm,0.3s						
UZB				eS	Sg	23 38 08.9	+1.5
	0.3nm,0.2s						
PRZ	Przheval'sk	1.54	276	⇓eP	Pb	23 37 52.4	-0.6
PRZ				⇓eS	Sg	23 38 14.6	+0.8
ZHN	Zhinishke	1.72	300	eP	Pg	23 37 55.9	-1.2
	69nm,0.3s						
ZHN				eS	Sg	23 38 20.9	+1.5
	94nm,0.2s						
KPKS	Kokpek	1.73	311	eP	Pg	23 37 56.0	-1.4
	129nm,0.3s						
KPKS				eS	Sg	23 38 21.2	+1.3
	150nm,0.3s						
KURS	Kuram	2.05	305	Pg	Pg	23 38 01.9	-1.5
	67nm,0.4s						
KURS				Lg	Lg	23 38 31.1	
	52nm,0.3s						
DJR	Jarkent	2.05	346	Pg	Pg	23 38 01.4	-2.1
	9.4nm,0.2s						
DJR				Lg	Lg	23 38 30.4	
	85nm,0.2s						
DJR	Jarkent	2.05	346	eP	Pg	23 38 01.4	-2.1
	9.4nm,0.2s						
DJR				eS	Sg	23 38 30.4	+0.2
	85nm,0.2s						
ANVS	Anan'yevo	2.12	283	⇓*i*P	Pb	23 38 02.3	-0.5
ANVS				⇓*i*S	Sg	23 38 30.9	-1.5
KNOS	Konyrlen	2.23	335	Pg	Pg	23 38 04.5	-2.4
	45nm,0.2s						
KNOS				Pg	Pb	23 38 04.7	0.0
	46nm,0.3s						
KNOS				Lg	Lg	23 38 35.0	
	100nm,0.3s						
KNOS				Lg	Lg	23 38 35.9	
	159nm,0.3s						
BLB	Baldybastay	2.29	321	Pg	Pg	23 38 05.4	-2.6
	213nm,0.3s						
BLB				Lg	Lg	23 38 37.3	
	188nm,0.4s						
KDJ	Kajisay	2.46	266	⇑*i*P	Pb	23 38 07.1	-1.4
KDJ				⇑*i*S	Sb	23 38 39.3	+0.4
KOTS	Kotyrbulak	2.63	291	Pg	Pb	23 38 11.3	-0.2
	48nm,0.2s						
KOTS				Pg	Pg	23 38 11.6	-3.1
	48nm,0.2s						
KOTS				Lg	Lg	23 38 47.2	
	90nm,0.6s						
KOTS				Lg	Lg	23 38 47.9	
	85nm,0.6s						
KOTS	Kotyrbulak	2.63	291	eP	Pb	23 38 11.3	-0.2
	48nm,0.2s						
KOTS				eS	Sg	23 38 47.2	-1.5
	90nm,0.6s						
MDOK	Medeo	2.66	289	Pg	Pb	23 38 11.0	-0.9
	33nm,0.5s						
MDOK				Pg	Pb	23 38 11.7	-0.2
	50nm,0.5s						
MDOK				Lg	Lg	23 38 47.9	
	67nm,0.4s						
MDOK				Lg	Lg	23 38 48.1	
	43nm,0.5s						
MDOK	Medeo	2.66	289	eP	Pb	23 38 11.7	-0.2
	50nm,0.5s						
MDOK				eS	Sg	23 38 47.9	-1.6
	67nm,0.4s						
ARXS	Arharly	2.69	315	Pg	Pg	23 38 13.1	-2.6
	3.8nm,0.1s						
ARXS				Lg	Lg	23 38 50.0	
	61nm,0.5s						
TNSS	Tian-Shan	2.69	286	Pg	Pb	23 38 11.7	-1.0
	35nm,0.3s						
TNSS				Lg	Lg	23 38 48.7	
	18nm,0.3s						
TNSS	Tian-Shan	2.69	286	eP	Pb	23 38 11.8	-0.9
	35nm,0.3s						
TNSS				eS	Sg	23 38 48.4	-2.3
	18nm,0.3s						
KNDC	Almaty	2.73	290	⇓Pg	Pb	23 38 13.2	+0.1
	35nm,0.3s						
KNDC				⇓Lg	Lg	23 38 52.0	
	30nm,0.6s						
AAA	Alma-Ata	2.76	290	Pg	Pb	23 38 14.2	+0.6
	65nm,0.3s						
AAA				Lg	Lg	23 38 53.2	
	17nm,0.3s						
AAA	Alma-Ata	2.76	290	eP	Pb	23 38 14.2	+0.6
	65nm,0.3s						
AAA				eS	Sg	23 38 52.4	-0.5
	17nm,0.3s						
KAPS	Kapalarasan	3.06	345	Pg	Pg	23 38 18.8	-3.9
	2.9nm,0.1s						
KAPS				Lg	Lg	23 39 00.2	
	80nm,0.2s						
MTBS	Maitube	3.08	286	Pg	Pb	23 38 18.6	-0.6
	16nm,0.3s						
MTBS				Lg	Lg	23 38 59.7	
	46nm,0.2s						
MTBS	Maitube	3.08	286	eP	Pb	23 38 18.6	-0.6
	16nm,0.3s						
MTBS				eS	Sg	23 38 59.7	-3.5
	46nm,0.2s						
KTBS	Karatobe	3.10	298	Pg	Pb	23 38 19.7	+0.3
	7.7nm,0.2s						
KTBS				Lg	Lg	23 39 01.5	
	104nm,0.4s						
ULHL	Ulahol	3.14	270	⇑*i*P	Pb	23 38 16.7	-3.5
ULHL				⇑*i*S	Sb	23 38 57.7	-1.0
BOOM	Boomskoye usch	3.36	274	⇑*i*P	Pb	23 38 19.8	-4.2
BOOM				⇑*i*S	Sb	23 39 01.2	-3.8
KST	Kastek	3.40	283	Pg	Pb	23 38 22.3	-2.3
	14nm,0.7s						
KST				Lg	Lg	23 39 07.6	
	19nm,0.4s						
KST	Kastek	3.40	283	eP	Pb	23 38 22.9	-1.7
	16nm,0.4s						
KST				eS	Sb	23 39 07.2	+1.2
	19nm,0.4s						
DGS	Degeres	3.58	286	Pg	Pb	23 38 26.8	-0.8
	9.9nm,0.3s						
DGS				Lg	Lg	23 39 14.3	
	28nm,0.4s						
TKM2	Tokmak 2	3.65	281	⇓Pg	Pb	23 38 27.4	-1.4
	2.9nm,0.4s						
TKM2				⇑Lg	Lg	23 39 19.6	
	18nm,0.6s						
TKM2	Tokmak 2	3.65	281	⇑*i*P	Pn	23 38 23.5	+2.6
TKM2				⇑*i*S	Sb	23 39 09.5	-3.7
KRBS	Karabastau	3.77	293	Pg	Pb	23 38 31.2	+0.3
	7.4nm,0.3s						
KRBS				Lg	Lg	23 39 21.6	
	18nm,0.2s						
KBK	Karagaybulak	4.10	276	⇑*i*P	Pn	23 38 30.0	+2.9
KBK				⇑*i*S	Sb	23 39 20.4	-5.8
CHMS	Chumysh	4.27	281	⇓Pg	Pg	23 38 42.7	-3.3
	6.

PDGK	**Podgornoye**	**1.16 325**	⇑P		**Pn**	**23 44 55.8**	**-1.5**
	50nm,0.4s						
PDGK			⇓S		**Sn**	**23 45 13.4**	**+0.1**
	165nm,0.8s						
UZB	**Uzynbulak**	**1.27 308**	*e*P		**Pb**	**23 44 57.9**	**-1.0**
UZB			*e*S		**Sg**	**23 45 18.8**	**+3.0**
UZB	**Uzynbulak**	**1.27 308**	*e*P		**Pb**	**23 44 57.9**	**-1.0**
	72nm,0.2s						
UZB			*e*S		**Sg**	**23 45 18.8**	**+3.0**
	0.3nm,0.2s						
PRZ	**Przheval'sk**	**1.48 275**	⇑*e*P		**Pb**	**23 45 01.2**	**-1.4**
PRZ			⇑*e*S		**Sg**	**23 45 22.9**	**+0.3**
ZHN	**Zhinishke**	**1.65 299**	*e*P		**Pb**	**23 45 04.9**	**-0.4**
ZHN			*e*S		**Sg**	**23 45 29.9**	**+2.1**
ZHN	**Zhinishke**	**1.65 299**	*e*P		**Pb**	**23 45 04.9**	**-0.4**
	113nm,0.4s						
ZHN			*e*S		**Sg**	**23 45 29.9**	**+2.1**
	145nm,0.2s						
KPKS	**Kokpek**	**1.67 311**	Pg		**Pb**	**23 45 05.1**	**-0.5**
	233nm,0.2s						
KPKS			Lg		Lg	23 45 31.4	
	328nm,0.4s						
KPKS	**Kokpek**	**1.67 311**	*e*P		**Pb**	**23 45 05.1**	**-0.5**
KPKS			*e*S		**Sg**	**23 45 31.4**	**+3.0**
KPKS	**Kokpek**	**1.67 311**	*e*P		**Pb**	**23 45 05.1**	**-0.5**
	233nm,0.2s						
KPKS			*e*S		**Sg**	**23 45 31.4**	**+3.0**
	328nm,0.4s						
KURS	**Kuram**	**1.98 305**	Pg		**Pb**	**23 45 10.8**	**-0.1**
	209nm,0.5s						
KURS			Lg		Lg	23 45 40.9	
	153nm,0.5s						
DJR	**Jarkent**	**2.00 347**	*e*P		**Pb**	**23 45 10.3**	**-1.1**
	22nm,0.1s						
DJR			*e*S		**Sb**	**23 45 39.6**	**+3.3**
	494nm,0.3s						
ANVS	**Anan'yevo**	**2.06 282**	⇑*i*P		**Pb**	**23 45 11.3**	**-1.1**
ANVS			⇑*i*S		**Sb**	**23 45 39.9**	**+1.8**
KDJ	**Kajisay**	**2.40 265**	⇑*i*P		**Pb**	**23 45 17.0**	**-1.2**
KDJ			⇑*i*S		**Sb**	**23 45 49.1**	**+1.1**
KOTS	**Kotyrbulak**	**2.57 291**	*e*P		**Pb**	**23 45 20.8**	**-0.2**
	93nm,0.3s						
KOTS			*e*S		**Sg**	**23 45 58.4**	**+1.2**
	302nm,0.4s						
MDOK	**Medeo**	**2.59 289**	Pg		**Pb**	**23 45 20.1**	**-1.3**
	126nm,0.5s						
MDOK			⇑Pg		**Pb**	**23 45 20.1**	**-1.3**
	85nm,0.5s						
MDOK			Lg		Lg	23 45 57.2	
	175nm,0.6s						
MDOK			⇑Lg		Lg	23 45 57.7	
	142nm,0.8s						
MDOK	**Medeo**	**2.59 289**	*e*P		**Pb**	**23 45 20.1**	**-1.3**
	126nm,0.5s						
MDOK			*e*S		**Sg**	**23 45 57.2**	**-0.8**
	175nm,0.6s						
TNSS	**Tian-Shan**	**2.63 286**	Pg		**Pb**	**23 45 21.0**	**-1.3**
	65nm,0.2s						
TNSS			Lg		Lg	23 45 58.3	
	109nm,0.4s						
TNSS	**Tian-Shan**	**2.63 286**	*e*P		**Pb**	**23 45 20.9**	**-1.3**
	65nm,0.2s						
TNSS			*e*S		**Sg**	**23 45 58.3**	**-1.0**
	109nm,0.4s						
KNDC	**Almaty**	**2.66 290**	⇓Pg		**Pb**	**23 45 21.5**	**-1.1**
	267nm,0.7s						
KNDC			⇓Lg		Lg	23 45 58.7	
	173nm,0.9s						
AAA	**Alma-Ata**	**2.70 289**	*e*P		**Pb**	**23 45 22.9**	**-0.3**
	166nm,0.2s						
AAA			*e*S		**Sg**	**23 46 02.7**	**+1.3**
	72nm,0.5s						
KASK	**Kaskelen**	**2.89 288**	⇓Pg		**Pb**	**23 45 25.0**	**-1.4**
	76nm,0.7s						
KASK			⇑Lg		Lg	23 46 06.3	
	119nm,0.5s						
MTBS	**Maitube**	**3.02 286**	Pg		**Pb**	**23 45 27.2**	**-1.5**
	23nm,0.5s						
MTBS			Lg		Lg	23 46 09.5	
	117nm,0.3s						
MTBS	**Maitube**	**3.02 286**	*e*P		**Pb**	**23 45 27.2**	**-1.5**
	23nm,0.5s						
MTBS			*e*S		**Sb**	**23 46 09.5**	**+3.9**
	117nm,0.3s						
ULHL	**Ulahol**	**3.09 269**	⇑*i*P		**Pb**	**23 45 26.5**	**-3.4**
ULHL			⇑*i*S		**Sb**	**23 46 06.5**	**-1.2**
BOOM	**Boomskoye usch**	**3.30 273**	⇑*i*P		**Pb**	**23 45 29.1**	**-4.5**
BOOM			⇑*i*S		**Sb**	**23 46 10.3**	**-3.6**
KST	**Kastek**	**3.34 283**	Pg		**Pb**	**23 45 30.9**	**-3.2**
	50nm,0.6s						
KST			Lg		Lg	23 46 16.7	
	116nm,0.8s						
KST	**Kastek**	**3.34 283**	*e*P		**Pb**	**23 45 30.9**	**-3.2**
	50nm,0.6s						
KST			*e*S		**Sb**	**23 46 16.6**	**+1.8**
	116nm,0.8s						
DGS	**Degeres**	**3.51 286**	Pg		**Pb**	**23 45 35.9**	**-1.2**
	29nm,0.3s						
DGS			Lg		Lg	23 46 23.9	
	75nm,0.5s						
TKM2	**Tokmak 2**	**3.59 280**	P		**Pb**	**23 45 35.6**	**-2.8**
	SNR=17						
TKM2	**Tokmak 2**	**3.59 280**	⇑Pg		**Pb**	**23 45 35.8**	**-2.5**
	17nm,0.8s						
TKM2			⇑Lg		Lg	23 46 24.6	
	102nm,0.7s						
TKM2	**Tokmak 2**	**3.59 280**	⇑*i*P		**Pn**	**23 45 32.6**	**+2.0**
TKM2			⇑*i*S		**Sn**	**23 46 16.9**	**+3.8**
KRBS	**Karabastau**	**3.71 292**	Pg		**Pb**	**23 45 39.0**	**-1.4**
	12nm,0.6s						
KRBS			Lg		Lg	23 46 30.5	
	50nm,0.2s						
KBK	**Karagaybulak**	**4.04 276**	P		Pn	23 45 39.7	+2.9
	SNR=11						
KBK	**Karagaybulak**	**4.04 276**	⇑*i*P		**Pn**	**23 45 39.2**	**+2.4**
KBK			⇑*i*S		**Sn**	**23 46 28.3**	**+4.0**
CHMS	**Chumysh**	**4.21 280**	⇑Pg		**Pb**	**23 45 50.5**	**+1.6**
	15nm,0.8s						
CHMS			⇑Lg		Lg	23 46 44.3	
	96nm,1.1s						
CHMS	**Chumysh**	**4.21 280**	⇓*i*P		**Pn**	**23 45 41.0**	**+2.0**
CHMS			⇓*i*S		**Sn**	**23 46 31.5**	**+3.2**
FRU1	**Bishkek**	**4.28 278**	⇑*e*P		**Pn**	**23 45 42.3**	**+2.2**
FRU1			⇑*e*S		**Sn**	**23 46 33.4**	**+3.3**
UCH	**Uchtor**	**4.37 270**	P		**Pg**	**23 45 55.9**	**-2.6**
	SNR=5.6						
UCH	**Uchtor**	**4.37 270**	⇑*e*P		Pn	23 45 44.2	+2.6
UCH			⇑*e*S		**Sn**	**23 46 37.2**	**+4.4**
AAK	**Ala-Archa**	**4.38 275**	Pn		Pn	23 45 43.8	+2.4
	1.1nm,0.3s,baz=119,slow=8.1,SNR=20						
AAK			Lg		Lg	23 46 49.4	
	2.1nm,0.3s,baz=35,slow=21,SNR=12						
	2.3nm,0.3s						
AAK	**Ala-Archa**	**4.38 275**	P		**Pg**	**23 45 55.3**	**-3.3**
	SNR=9.7						
AAK	**Ala-Archa**	**4.38 275**	⇑*i*P		**Pn**	**23 45 43.7**	**+2.3**
AAK			⇑*i*S		**Sn**	**23 46 36.2**	**+3.7**
USP	**Ospenovka**	**4.43 284**	P		**Pb**	**23 45 54.3**	**+1.6**
	SNR=13						
ARLS	**Aral**	**4.55 266**	⇑*i*P		Pn	23 45 46.7	+2.9
ARLS			⇑*i*S		**Sn**	**23 46 40.6**	**+3.7**
MAKZ	**Makanchi**	**4.57 14**	⇑Pn		**Pn**	**23 45 45.5**	**+1.5**
	17nm,0.6s						
MAKZ			⇓Sn		**Sn**	**23 46 42.7**	**+5.6**
	27nm,0.9s						
MAKZ			⇑Lg		Lg	23 47 00.1	
	39nm,1.1s						
MK31	**Makanchi Array**	**4.62 16**	⇓Pn		**Pn**	**23 45 45.5**	**+0.9**
	7.7nm,0.6s,baz=201,slow=13,SNR=149						
MK31			⇑Sn		**Sn**	**23 46 39.0**	**+0.8**
	8.0nm,0.6s,baz=197,slow=20,SNR=8.6						
MK31			⇑Lg		Lg	23 47 01.1	
	30nm,0.7s,baz=196,slow=29,SNR=8.1						
MKAR	**Makanchi Array**	**4.62 16**	Pn		Pn	23 45 48.8	+4.2
	2.3nm,0.3s,baz=194,slow=13,SNR=78						
MKAR			Sn		**Sn**	**23 46 42.0**	**+3.7**
	1.6nm,0.3s,baz=201,slow=26,SNR=9.8						
MKAR			Lg		Lg	23 47 00.6	
	2.0nm,0.3s,baz=195,slow=29,SNR=4.8						
	10.0nm,0.6s						
EKS2	**Erkin-Say**	**4.90 276**	P		**Pg**	**23 46 04.6**	**-4.0**
	SNR=11						
EKS2	**Erkin-Say**	**4.90 276**	⇑*e*P		**Pn**	**23 45 50.9**	**+2.2**
EKS2			⇑*e*S		**Sn**	**23 46 48.7**	**+3.2**
AML	**Almayashu**	**4.98 269**	P		Pb	23 46 05.0	+2.7
	SNR=14						
AML	**Almayashu**	**4.98 269**	⇓*e*P		Pn	23 45 52.6	+2.6
AML			⇓*e*S		**Sn**	**23 46 51.8**	**+3.9**
MRKS	**Merke**	**5.31 276**	Pg		**Pb**	**23 46 08.4**	**+0.7**
	4.3nm,0.6s						
MRKS			Lg		Lg	23 47 19.7	
	42nm,0.5s						
MRKS	**Merke**	**5.31 276**	*e*P		**Pb**	**23 46 08.4**	**+0.7**
	4.3nm,0.6s						
MRKS			*e*S		**Sg**	**23 47 19.6**	**-5.6**
	42nm,0.5s						
BTLS	**Baital**	**5.32 302**	Pg		**Pg**	**23 46 12.5**	**-4.1**
	11nm,0.5s						
BTLS			Lg		Lg	23 47 25.8	
	9.2nm,0.5s						
BTLS	**Baital**	**5.32 302**	*e*P		**Pg**	**23 46 12.5**	**-4.1**
	11nm,0.5s						
BTLS			*e*S		**Sg**	**23 47 25.9**	**+0.4**
	9.2nm,0.5s						
ZSN	**Zaisan**	**5.98 30**	Pg		**Pb**	**23 46 20.6**	**+1.6**
	7.6nm,0.5s						
ZSN			Lg		Lg	23 47 38.9	
	38nm,0.8s						
ZSN	**Zaisan**	**5.98 30**	*e*P		**Pb**	**23 46 20.6**	**+1.6**
	7.6nm,0.5s						
ZSN			*e*S		**Sg**	**23 47 38.9**	**-7.7**
	38nm,0.8s						
DZA	**Taraz**	**6.71 277**	*e*P		Pb	23 46 35.2	+3.7
	11nm,0.1s						
DZA			*e*S		**Sg**	**23 48 06.5**	**-3.6**
	28nm,0.2s						
KK31	**Karatay Array**	**7.32 279**	⇓Pg		Pb	23 46 47.9	+6.1
	5.5nm,0.8s,baz=89,slow=16,SNR=6.0						
KK31			⇑Lg		Lg	23 48 22.8	
	13nm,0.8s,baz=91,slow=27,SNR=8.2						
BRLS	**Borolday**	**7.81 278**	*e*P		Pg	23 46 58.2	-6.1
	0.7nm,0.2s						
BRLS			*e*S		**Sg**	**23 48 44.9**	**-0.4**
	5.3nm,0.5s						
OTUK	**Ortayu**	**8.16 319**	⇑Pn		**Pn**	**23 46 33.0**	**-0.3**
	4.1nm,1.0s						
OTUK			⇑Lg		Lg	23 48 52.3	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**8.35 352**	Pn		**Pn**	**23 46 36.3**	**+0.6**
	baz=167,slow=13,SNR=1.7						
KURBB			Lg		Lg	23 48 58.6	
	0.1nm,0.3s,baz=172,slow=29,SNR=5.4						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**8.35 352**	⇑Lg		Lg	23 49 02.4	
	28nm,0.6s						
KURK	**Kurchatov**	**8.43 352**	⇑Lg		Lg	23 49 04.4	
	48nm,1.1s						
ZALV	**Zalesovo Beam**	**11.94 13**	Pn		**Pn**	**23 47 25.4**	**+0.5**
	0.1nm,0.3s,baz=191,slow=14,SNR=3.6						
ZALV			Sn		**Sn**	**23 49 39.8**	**+1.6**
	0.1nm,0.3s,baz=203,slow=22,SNR=3.6						
ZALV			Lg		Lg	23 50 54.3	
	0.1nm,0.3s,baz=193,slow=25,SNR=1.9						
	0.4nm,0.4s						
SONM	**Songino Array**	**19.10 64**	P		**Pn**	**23 48 57.0**	**-1.4**
	0.6nm,0.8s,baz=264,slow=12,SNR=4.7						

MDD ***16*** *23:45:07.7±0.8, 39°.21N×10°.90W, h35km±3km, mb_Lg3.2/10, Error ellipse: s-maj=6.9km s-min=3.3km az=78.0*

INMG ***16*** *23:45:10.4±1.1, 39°.19N×10°.93W, h28km, ML2.4, Error ellipse: s-maj=4.2km s-min=1.8km az=85.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Canho da Nazar*

IGIL ***16*** *23:45:10.1, 39°.21N×10°.72W, h31km, ML2.7*

CNRM ***16*** *23:45:16.2, 38°.40N×10°.71W, h47km*

ISC 16 23:45:05.6±1.7, 39°.20N±0°.03×10°.90W×0°.08, h35km, n70, σ1s73/117, 5C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.28**	**100**	⇑*i*P	**Pn**	**23 45 29.1**	**+2.0**
PMAFR				*e*S	**Sn**	**23 45 43.7**	**+0.7**
PMAFR				*i* AML	AML	23 45 44.8	
PMAFR				*i* AML	AML	23 45 45.4	
PMAFR				*i* AML	AML	23 45 46.1	
LIS	**Lisbon**	**1.45**	**109**	*e*S	**Sn**	**23 45 45.2**	**-1.8**
LIS				IAML		23 45 49.3	
	comp=N,162nm,0.2s						
LIS	**Lisbon**	**1.45**	**109**	*e*S	**Sn**	**23 45 48.4**	**+1.4**
LIS				*i* AML	AML	23 45 49.5	
LIS				*i* AML	AML	23 45 49.5	
LIS				*i* AML	AML	23 45 49.5	
PSBE	**So Bento**	**1.66**	**78**	*e*P	**Pn**	**23 45 34.2**	**+1.9**
PSBE				*e*S	**Sn**	**23 45 53.0**	**+0.6**
PSBE				*i* AML	AML	23 45 53.3	
PSBE				*i* AML	AML	23 45 53.8	
PSBE				*i* AML	AML	23 45 53.9	
PCAS	**Casmilo, Conde**	**2.04**	**65**	⇑*i*P	**Pn**	**23 45 39.3**	**+1.8**
PCAS				*e*S	**Sn**	**23 46 01.2**	**-0.5**
PCAS				*i* AML	AML	23 46 02.1	
PCAS				*i* AML	AML	23 46 15.2	
PCAS				*i* AML	AML	23 46 19.0	
PMTG	**Montargil**	**2.08**	**93**	⇑*e*P	**Pn**	**23 45 39.7**	**+1.6**
PMTG				*e*S	**Sn**	**23 46 01.9**	**-0.9**
PMTG				*i* AML	AML	23 46 03.0	
PMTG				*i* AML	AML	23 46 03.2	
PMTG				*i* AML	AML	23 46 15.8	
COI	**Coimbra**	**2.17**	**62**	*e*P	**Pn**	**23 45 41.4**	**+2.2**
COI				*e*S	**Sn**	**23 46 05.6**	**+0.8**
EVO	**Evora**	**2.35**	**106**	*e*P	**Pn**	**23 45 43.4**	**+1.6**
EVO				*e*S	**Sn**	**23 46 08.8**	**-0.6**
EVO				*i* AML	AML	23 46 09.5	
EVO				*i* AML	AML	23 46 09.8	
EVO				*i* AML	AML	23 46 10.4	
PTEO	**Sao Teotonio**	**2.38**	**133**	*e*P	**Pn**	**23 45 43.7**	**+1.6**
PTEO				*e*S	**Sn**	**23 46 08.8**	**-1.2**
PTEO				*i* AML	AML	23 46 11.0	
PTEO				*i* AML	AML	23 46 11.1	
PTEO				*i* AML	AML	23 46 11.2	
MESJ	**Messejana**	**2.50**	**122**	*e*P	**Pn**	**23 45 45.2**	**+1.4**
MESJ				*e*S	**Sn**	**23 46 10.7**	**-2.4**
MESJ				IAML		23 46 14.4	
	comp=N,10nm,0.2s						
MESJ	**Messejana**	**2.50**	**122**	*e*P	**Pn**	**23 45 45.6**	**+1.8**
MESJ				*e*S	**Sn**	**23 46 12.2**	**-1.0**
MESJ				*i* AML	AML	23 46 14.5	
MESJ				*i* AML	AML	23 46 14.8	
MESJ				*i* AML	AML	23 46 14.9	
MORF	**Marmelete**	**2.59**	**136**	*e*P	**Pn**	**23 45 46.6**	**+1.6**
MORF				*e*S	**Sn**	**23 46 13.2**	**-2.2**
MORF				IAML		23 46 15.8	
	comp=E,113nm,0.1s						
MORF	**Marmelete**	**2.59**	**136**	⇑*i*P	**Pn**	**23 45 46.6**	**+1.6**
MORF				*e*S	**Sn**	**23 46 13.8**	**-1.6**
MORF				*i* AML	AML	23 46 15.8	
MORF				*i* AML	AML	23 46 16.4	
MORF				*i* AML	AML	23 46 16.9	
PESTR	**Estremoz**	**2.60**	**96**	*e*P	**Pn**	**23 45 46.7**	**+1.5**
PESTR				*e*S	**Sn**	**23 46 14.3**	**-1.2**
PESTR				*i* AML	AML	23 46 15.7	
PESTR				*i* AML	AML	23 46 16.4	
PESTR				*i* AML	AML	23 46 17.0	
PESTR	**Estremoz**	**2.60**	**96**	P	**Pn**	**23 45 46.8**	**+1.5**
PESTR				S	**Sn**	**23 46 14.4**	**-1.1**
PFVI	**Vila Bisbo**	**2.63**	**141**	*e*P	**Pn**	**23 45 47.7**	**+2.1**
PFVI				*e*S	**Sn**	**23 46 13.7**	**-2.6**
PFVI				*i* AML	AML	23 46 16.5	
PFVI				*i* AML	AML	23 46 17.1	
PFVI				*i* AML	AML	23 46 17.6	
PFVI	**Vila Bisbo**	**2.63**	**141**	P	**Pn**	**23 45 46.8**	**+1.2**
PFVI				S	**Sn**	**23 46 13.2**	**-3.1**
PBEJ	**Beja**	**2.65**	**115**	*e*P	**Pn**	**23 45 48.0**	**+2.1**
PBEJ				*e*S	**Sn**	**23 46 15.3**	**-1.5**
PBEJ				*i* AML	AML	23 46 17.6	
PBEJ				*i* AML	AML	23 46 18.2	
PBEJ				*i* AML	AML	23 46 19.2	
PCBR	**Castelo Branco**	**2.72**	**75**	⇑*i*P	**Pn**	**23 45 48.4**	**+1.5**
PCBR				*e*S	**Sn**	**23 46 17.2**	**-1.4**
PCBR				*i* AML	AML	23 46 18.1	
PCBR				*i* AML	AML	23 46 19.0	
PCBR				*i* AML	AML	23 46 19.3	
PMRV	**Marv??o**	**2.73**	**84**	⇓*e*P	**Pn**	**23 45 48.4**	**+1.4**
PMRV				*e*S	**Sn**	**23 46 17.2**	**-1.6**
PMRV				*i* AML	AML	23 46 18.0	
PMRV				*i* AML	AML	23 46 20.3	
PMRV				*i* AML	AML	23 46 20.6	
PCVE	**Castro Verde**	**2.74**	**124**	*e*P	**Pn**	**23 45 49.3**	**+2.2**
PCVE				*e*S	**Sn**	**23 46 18.1**	**-0.8**
PCVE				*i* AML	AML	23 46 20.3	
PCVE				*i* AML	AML	23 46 20.6	
PCVE				*i* AML	AML	23 46 20.9	
PCVE	**Castro Verde**	**2.74**	**124**	P	**Pn**	**23 45 48.9**	**+1.8**
PCVE				S	**Sn**	**23 46 16.9**	**-2.0**
PVIS	**Viseu**	**2.76**	**56**	*e*P	**Pn**	**23 45 49.2**	**+1.8**
PVIS				*e*S	**Sn**	**23 46 18.2**	**-1.4**
MTE	**Manteigas**	**2.85**	**64**	*e*P	**Pn**	**23 45 50.1**	**+1.5**
MTE				*e*S	**Sn**	**23 46 21.0**	**-0.8**
MTE				*i* AML	AML	23 46 22.2	
MTE				*i* AML	AML	23 46 22.3	
MTE				*i* AML	AML	23 46 23.8	
PBDV	**Barranco-do-Ve**	**3.05**	**129**	*e*P	**Pn**	**23 45 53.6**	**+2.3**
PBDV				*e*S	**Sn**	**23 46 26.1**	**-0.4**
PBDV				*i* AML	AML	23 46 27.5	
EBAD	**Badajoz**	**3.06**	**97**	P	**Pn**	**23 45 52.6**	**+1.1**
EBAD				S	**Sn**	**23 46 25.0**	**-1.9**
EBAD	**Badajoz**	**3.06**	**97**	Pn	**Pn**	**23 45 52.8**	**+1.3**
EBAD				Sn	**Sn**	**23 46 25.9**	**-1.0**
EBAD				*i* Vmb_Lg		23 46 26.4	
PVAQ	**Vaqueiros**	**3.08**	**125**	*e*P	**Pn**	**23 45 53.3**	**+1.6**
PVAQ				*e*S	**Sn**	**23 46 26.4**	**-1.0**
PVAQ				*i* AML	AML	23 46 28.6	
PVAQ				*i* AML	AML	23 46 28.9	
PVAQ				*i* AML	AML	23 46 28.9	
PVAQ	**Vaqueiros**	**3.08**	**125**	P	**Pn**	**23 45 53.1**	**+1.4**
EGRO	**El Granado**	**3.16**	**121**	P	**Pn**	**23 45 54.3**	**+1.4**
EGRO				S	**Sn**	**23 46 28.2**	**-1.1**
EGRO	**El Granado**	**3.16**	**121**	Pn	**Pn**	**23 45 54.4**	**+1.6**
EGRO				Sn	**Sn**	**23 46 29.0**	**-0.3**
EGRO				*i* Vmb_Lg		23 46 30.3	
PBAR	**Barrancos**	**3.19**	**107**	*e*P	**Pn**	**23 45 55.2**	**+2.0**
PBAR				*e*S	**Sn**	**23 46 29.0**	**-1.0**
PBAR				*i* AML	AML	23 46 29.2	
PBAR				*i* AML	AML	23 46 29.3	
PBAR				*i* AML	AML	23 46 30.4	
PBAR	**Barrancos**	**3.19**	**107**	P	**Pn**	**23 45 55.3**	**+2.1**
PBAR				S	**Sn**	**23 46 28.8**	**-1.3**
PVRL	**Vila Real**	**3.20**	**49**	*e*P	**Pn**	**23 45 55.1**	**+1.6**
PVRL				*e*S	**Sn**	**23 46 28.9**	**-1.5**
PVRL				*i* AML	AML	23 46 30.9	
PVRL				*i* AML	AML	23 46 31.2	
PVRL				*i* AML	AML	23 46 32.8	
POLO	**Lamas de Olo**	**3.22**	**47**	*e*P	**Pn**	**23 45 55.5**	**+1.7**
POLO				*e*S	**Sn**	**23 46 29.5**	**-1.5**
POLO				*i* AML	AML	23 46 30.5	
POLO				*i* AML	AML	23 46 30.7	
POLO				*i* AML	AML	23 46 30.9	
PCAB	**Cabril**	**3.33**	**40**	*e*P	**Pn**	**23 45 57.2**	**+1.9**
PCAB				*e*S	**Sn**	**23 46 31.9**	**-1.7**
PCAB				*i* AML	AML	23 46 34.3	
PCAB				*i* AML	AML	23 46 34.4	
PCAB				*i* AML	AML	23 46 35.5	
EZAM	**Zamans**	**3.39**	**29**	Pn	**Pn**	**23 45 57.5**	**+1.5**
EZAM				Sn	**Sn**	**23 46 33.3**	**-1.7**
EZAM				*i* Vmb_Lg		23 46 36.4	
PGAV	**Gavieira, Arco**	**3.41**	**35**	*e*P	**Pn**	**23 45 58.6**	**+2.1**
PGAV				*e*S	**Sn**	**23 46 34.5**	**-1.2**
PGAV				*i* AML	AML	23 46 36.2	
PGAV				*i* AML	AML	23 46 37.2	
PGAV				*i* AML	AML	23 46 37.7	
ELOB	**Lobios**	**3.43**	**38**	Pn	**Pn**	**23 45 58.8**	**+2.0**
ELOB				Sn	**Sn**	**23 46 34.9**	**-1.3**
ELOB				*i* Vmb_Lg		23 46 35.5	
MVO	**Moncorvo**	**3.56**	**55**	*e*P	**Pn**	**23 45 59.7**	**+1.3**
MVO				*e*S	**Sn**	**23 46 37.0**	**-2.2**
MVO				*i* AML	AML	23 46 38.7	
MVO				*i* AML	AML	23 46 39.1	
MVO				*i* AML	AML	23 46 39.4	
EMIN	**Mina Concepcio**	**3.61**	**112**	P	**Pn**	**23 46 00.6**	**+1.5**
EMIN				S	**Sn**	**23 46 37.7**	**-2.8**
EMIN	**Mina Concepcio**	**3.61**	**112**	Pn	**Pn**	**23 46 00.4**	**+1.4**
EMIN				Sn	**Sn**	**23 46 39.1**	**-1.4**
EPLA	**Plasencia**	**3.82**	**75**	Pn	**Pn**	**23 46 03.6**	**+1.6**
EPLA				Sn	**Sn**	**23 46 44.3**	**-1.4**
EPLA				*i* Vmb_Lg		23 46 58.8	
EMAZ	**Mazaricos**	**4.02**	**21**	Sn	**Sn**	**23 46 48.4**	**-2.1**
PBRG	**Braganca**	**4.10**	**49**	*e*P	**Pn**	**23 46 07.8**	**+1.9**
PBRG				*e*S	**Sn**	**23 46 50.9**	**-1.8**
PBRG				*i* AML	AML	23 46 52.4	
PBRG				*i* AML	AML	23 46 53.0	
PBRG				*i* AML	AML	23 46 54.6	
EAGO	**Agolada(Pontev**	**4.18**	**30**	Pn	**Pn**	**23 46 08.5**	**+1.6**
EAGO				Sn	**Sn**	**23 46 51.7**	**-2.8**
ECAB	**El Cabril**	**4.44**	**103**	P	**Pn**	**23 46 11.6**	**+1.2**
ECAB				S	**Sn**	**23 46 58.8**	**-2.0**
ECAB	**El Cabril**	**4.44**	**103**	Pn	**Pn**	**23 46 12.0**	**+1.6**
ECAB				Sn	**Sn**	**23 46 58.8**	**-2.0**
ECAB				*i* Vmb_Lg		23 47 20.8	
ESPR	**Espera**	**4.61**	**119**	P	**Pn**	**23 46 13.7**	**+0.9**
ESPR				S	**Sn**	**23 47 02.1**	**-3.0**
ESPR	**Espera**	**4.61**	**119**	Sn	**Sn**	**23 47 04.6**	**-0.5**
EPON	**Pontenova**	**5.00**	**33**	Pn	**Pn**	**23 46 19.7**	**+1.6**
EPON				Sn	**Sn**	**23 47 13.4**	**-1.3**
EPON				*i* Vmb_Lg		23 48 36.7	
EADA	**Adamuz**	**5.05**	**100**	P	**Pn**	**23 46 20.3**	**+1.4**
EADA				S	**Sn**	**23 47 12.5**	**-3.6**
EADA	**Adamuz**	**5.05**	**100**	Pn	**Pn**	**23 46 20.4**	**+1.4**
EADA				Sn	**Sn**	**23 47 13.3**	**-2.8**
EADA				*i* Vmb_Lg		23 47 16.1	
PAB	**San Pablo**	**5.09**	**84**	Pn	**Pn**	**23 46 20.7**	**+1.3**
PAB				Sn	**Sn**	**23 47 14.3**	**-2.8**
PAB				*i* Vmb_Lg		23 47 15.8	
GUD	**Guadarrama**	**5.38**	**72**	Pn	**Pn**	**23 46 24.4**	**+0.8**
GUD				Sn	**Sn**	**23 47 20.9**	**-3.4**
PSIM	**Granat

MDP Montagnes des 26.10 203 LR LR 00 17 40.8
comp=Z,92nm,20.1s,baz=352,slow=31
LMQ La Malbaie 27.74 318 P **P** **00 10 04.5 +0.1**
LMQ IAmb IAmb 00 10 27.7
comp=Z,17nm,1.4s
BBTS Babate 28.47 116 LR LR 00 18 37.6
comp=Z,410nm,21.6s,baz=166,slow=30
SCHQ Schefferville 30.52 332 LR LR 00 21 23.8
comp=Z,196nm,21.6s,baz=160,slow=34
SADO Sadowa 32.32 308 LR LR 00 21 43.7
comp=Z,350nm,20.9s,baz=70,slow=32
MDT Midelt 32.73 75 LR LR 00 20 56.8
comp=Z,311nm,20.8s,baz=314,slow=31
SDV Santo Domingo 33.22 237 LR LR 00 22 36.4
comp=Z,90nm,20.8s,baz=74,slow=33
ESDC Sonseca Array 33.29 62 P **P** **00 10 55.1 +1.4**
comp=Z,0.7nm,0.9s,baz=270,slow=11,SNR=2.9
ESDC LR LR 00 20 47.5
comp=Z,187nm,21.6s,baz=266,slow=30
comp=Z,0.7nm,0.9s
TKL Tuckaleechee C 34.80 291 LR LR 00 22 25.3
comp=Z,253nm,21.9s,baz=92,slow=31
RCBR Riachuelo 35.88 168 LR LR 00 22 15.3
comp=Z,33nm,19.8s,baz=45,slow=30
BORG Borgarnes 37.65 15 LR LR 00 21 18.5
comp=Z,80nm,19.7s,baz=72,slow=27
SFJD Kangerlussuaq 37.69 355 LR LR 00 23 06.7
comp=Z,116nm,20.0s,baz=176,slow=30
FRB Frobisher Bay 37.86 342 LR LR 00 25 32.2
comp=Z,54nm,21.3s,baz=119,slow=34
ROSC El Rosal 38.63 236 LR LR 00 26 48.9
comp=Z,141nm,21.1s,baz=58,slow=35
DBIC Dimbokro 42.41 115 LR LR 00 27 53.5
comp=Z,408nm,18.9s,baz=271,slow=33
JTS Las Juntas de 43.70 253 LR LR 00 29 13.8
comp=Z,113nm,19.5s,baz=46,slow=34
KEST Kesra 43.92 68 LR LR 00 27 41.5
comp=Z,114nm,20.8s,baz=67,slow=32
DAVOX Davos/Dischmat 43.97 52 LR LR 00 27 22.2
comp=Z,140nm,19.3s,baz=253,slow=32
TORD Torodi Ar. Bea 44.30 102 P **P** **00 12 25.3 -0.8**
TORD Torodi Ar. Bea 44.30 102 P **P** **00 12 24.9 -1.2**
comp=Z,76nm,0.5s,baz=313,slow=7.7,SNR=2.4
ULM Lac du Bonnet 44.50 313 P **P** **00 12 25.8 -1.5**
comp=Z,1.0nm,0.6s,baz=74,slow=8.2,SNR=3.5
ULM LR LR 00 29 23.9
comp=Z,131nm,20.3s,baz=110,slow=34
comp=Z,1.0nm,0.6s
FETA Feichten 44.56 52 *eP* **P** **00 12 27.9 -0.2**
comp=Z,2.7nm,1.1s
RETA Reutte 44.62 51 *eP* **P** **00 12 28.6 +0.2**
comp=Z,2.8nm,1.0s
OSSC Osservatorio P 44.85 57 P **P** **00 12 29.6 -0.6**
WATA Walderalm 45.16 51 *eP* **P** **00 12 31.2 -1.6**
comp=Z,5.8nm,1.4s
WTTA Wattenberg 45.20 51 *eP* **P** **00 12 33.0 -0.1**
comp=Z,3.8nm,1.1s
FCC Fort Churchill 45.26 325 P **P** **00 12 33.4 +0.2**
FCC IAmb IAmb 00 12 39.5
comp=Z,9.8nm,1.4s
BDFB Brasilia 45.28 187 LR LR 00 29 49.1
comp=Z,91nm,20.1s,baz=316,slow=34
JMIC Jan Mayen 45.54 15 LR LR 00 26 22.0
comp=Z,114nm,21.3s,baz=242,slow=29
ABTA Abfaltersbach 45.77 52 *eP* **P** **00 12 36.9 -0.7**
comp=Z,4.0nm,1.0s
LESA Schwarzleotal 45.91 51 *eP* **P** **00 12 39.3 +0.7**
comp=Z,3.6nm,0.9s
H10N2 ASCENSION HYDR 46.17 139 T T 01 01 54.4
baz=325,slow=75
H10N3 ASCENSION HYDR 46.17 139 T T 01 01 53.9
baz=325,slow=75
H10N1 ASCENSION HYDR 46.18 139 T T 01 01 54.1
baz=325,slow=75
BIOA Bad Ischl, Aus 46.57 51 *eP* **P** **00 12 42.7 -1.1**
comp=Z,4.7nm,1.5s
GERES GERESS Array B 46.66 49 LR LR 00 28 56.0
comp=Z,86nm,18.4s,baz=245,slow=32
H10S3 ASCENSION HYDR 46.99 140 T T 01 02 46.5
baz=325,slow=74,SNR=76
H10S2 ASCENSION HYDR 47.00 140 T T 01 02 48.4
baz=255,slow=74,SNR=50
OBKA Obir 47.17 52 *eP* **P** **00 12 48.4 -0.2**
comp=Z,6.5nm,1.2s
NOA NORSAR Array B 47.28 32 LR LR 00 29 18.4
comp=Z,12nm,21.3s,baz=255,slow=32
VAE Valguarnera 47.73 65 LR LR 00 29 50.9
comp=Z,185nm,21.6s,baz=306,slow=32
ARSA Arzberg 47.84 51 *eP* **P** **00 12 52.0 -1.7**
comp=Z,5.8nm,1.2s
CONA Conrad Observa 48.07 51 *eP* **P** **00 12 53.7 -1.9**
comp=Z,6.7nm,1.7s
HFS Hagfors 48.23 34 LR LR 00 29 54.6
comp=Z,58nm,19.7s,baz=258,slow=32
RONA Rosalia, Austr 48.36 51 *eP* **P** **00 12 56.0 -1.7**
comp=Z,3.1nm,0.8s
VRAC Vranov 48.57 49 LR LR 00 30 44.2
comp=Z,70nm,19.1s,baz=266,slow=33
SIV San Ignacio 48.65 204 LR LR 00 31 51.4
comp=Z,74nm,18.8s,baz=98,slow=34
CMIG Matias Romero 49.02 267 LR LR 00 31 18.0
comp=Z,135nm,21.8s,baz=357,slow=33
ATAH Atahualpa 50.04 229 LR LR 00 35 42.3
comp=Z,76nm,19.1s,baz=346,slow=38
LPAZ La Paz 51.76 211 P **P** **00 13 25.1 +0.6**
comp=Z,1.3nm,0.7s,baz=8.7,slow=5.6,SNR=3.8
LPAZ LR LR 00 34 58.8
comp=Z,83nm,18.1s,baz=40,slow=36
comp=Z,1.3nm,0.7s
RES Resolute Bay 51.94 345 LR LR 00 32 33.8
comp=Z,60nm,21.8s,baz=75,slow=33
TXAR Lajitas Array 52.38 286 P **P** **00 13 28.3 -0.2**
comp=Z,0.6nm,0.9s,baz=126,slow=6.4,SNR=4.5
TXAR PcP **PcP** **00 14 39.2 -0.2**
comp=Z,0.2nm,0.7s,baz=47,slow=4.4,SNR=3.7
TXAR LR LR 00 34 57.5
comp=Z,43nm,19.4s,baz=78,slow=35
comp=Z,0.6nm,0.9s
ANMO Albuquerque 53.25 293 LR LR 00 33 59.5
comp=Z,200nm,21.6s,baz=250,slow=34
YNE Yellowstone No 54.10 306 P **P** **00 13 40.8 -0.3**
YNE IAmb IAmb 00 13 54.0
comp=Z,5.9nm,1.0s
PD31 Pinedale Array 54.11 303 P **P** **00 13 41.0 -0.2**
PD31 IAmb IAmb 00 13 44.1
comp=Z,8.1nm,1.2s
PDAR Pinedale Array 54.11 303 **P** **00 13 41.1 -0.2**
PDAR Pinedale Array 54.11 303 P **P** **00 13 40.1 -1.1**
comp=Z,5.0nm,1.2s,baz=84,slow=5.1,SNR=14
PDAR LR LR 00 35 41.9
comp=Z,273nm,19.0s,baz=97,slow=35
comp=Z,5.0nm,1.2s
BURAR Bucovina Array 54.39 51 P **P** **00 13 42.9 -0.1**
FINES FINESS Array B 54.42 33 P **P** **00 13 42.3 -0.5**
FINES FINESS Array B 54.42 33 P **P** **00 13 43.3 +0.5**
comp=Z,8.0nm,1.0s,baz=247,slow=7.1,SNR=6.3
FINES LR LR 00 34 06.6
comp=Z,102nm,18.3s,baz=250,slow=33
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 55.01 24 LR LR 00 33 09.6
comp=Z,23nm,21.1s,baz=18,slow=32
MLR Muntele Rosu 55.16 53 LR LR 00 35 49.4
comp=Z,94nm,19.8s,baz=265,slow=34
P18A Preston Nutter 55.19 300 P **P** **00 13 49.9 +0.7**
P18A IAmb IAmb 00 13 57.6
comp=Z,11nm,1.3s
YKA Yellowknife Ar 55.79 328 P **P** **00 13 51.5 -1.2**
comp=Z,0.6nm,1.0s,baz=95,slow=7.1,SNR=7.1
YKA LR LR 00 37 12.2
comp=Z,221nm,19.1s,baz=2.0,slow=36
comp=Z,0.6nm,1.0s
IDI Anoyia 56.44 65 LR LR 00 36 12.6
comp=Z,71nm,21.5s,baz=299,slow=34
AKASG Malin Array Be 56.63 46 P **P** **00 13 58.1 -0.8**
comp=Z,1.7nm,0.7s,baz=279,slow=6.0,SNR=14
AKASG LR LR 00 36 26.1
comp=Z,127nm,18.8s,baz=250,slow=34
comp=Z,1.7nm,0.7s
DUG Dugway, Tooele 57.00 301 P **P** **00 14 02.4 +0.5**
CPUP Villa Florida 57.35 195 LR LR 00 39 58.6
comp=Z,33nm,18.2s,baz=359,slow=37
SPR3 Spring Creek 3 58.42 300 P **P** **00 14 12.6 +0.4**
SPR3 IAmb IAmb 00 14 16.4
comp=Z,8.0nm,1.3s
NEW Newport 58.43 311 LR LR 00 37 34.1
comp=Z,148nm,21.1s,baz=84,slow=34
ELK Elko 58.67 302 LR LR 00 38 32.4
comp=Z,240nm,19.5s,baz=80,slow=35

OBN Obninsk 60.36 41 LR LR 00 38 34.0
comp=Z,37nm,20.1s,baz=180,slow=34
NVAR Mina Array Bea 61.56 300 P **P** **00 14 32.7 -0.9**
comp=Z,0.3nm,0.3s,baz=67,slow=7.1,SNR=1.9
NVAR LR LR 00 39 35.4
comp=Z,173nm,20.8s,baz=21,slow=35
comp=Z,0.3nm,0.3s
PFO Pinyon Flats O 61.58 294 LR LR 00 39 35.7
comp=Z,182nm,20.1s,baz=55,slow=34
BRTR Keskin Array B 61.96 58 P **P** **00 14 35.4 -0.7**
comp=Z,1.7nm,0.8s,baz=275,slow=3.6,SNR=9.6
BRTR LR LR 00 39 50.6
comp=Z,74nm,19.2s,baz=312,slow=34
comp=Z,1.7nm,0.8s
INK Inuvik 63.08 335 LR LR 00 41 43.3
comp=Z,141nm,19.1s,baz=268,slow=36
DLBC Dease Lake 63.84 324 LR LR 00 42 11.9
comp=Z,309nm,19.7s,baz=102,slow=36
YBH Yreka Blue Hor 63.84 305 LR LR 00 41 39.6
comp=Z,160nm,19.3s,baz=77,slow=35
BBB Bella Bella 64.42 317 LR LR 00 42 29.6
comp=Z,158nm,18.9s,baz=56,slow=36
MMAI Mount Meron Ar 65.43 65 LR LR 00 42 21.5
comp=Z,36nm,20.9s,baz=254,slow=35
EIL Elat 66.27 68 LR LR 00 43 43.7
comp=Z,54nm,20.8s,baz=246,slow=36
KBZ Khabaz 67.31 52 P **P** **00 15 11.2 +0.3**
comp=Z,2.9nm,0.9s,baz=254,slow=7.4,SNR=4.0
comp=Z,2.9nm,0.9s
BMAR Burnt Mountain 67.33 336 P **P** **00 15 11.6 +0.9**
VA03 San Esteban 67.39 205 P **P** **00 15 12.0 +0.6**
BELG Belogornoye 67.39 42 LR LR 00 42 58.6
comp=Z,75nm,19.3s,baz=306,slow=34
F25K Christian Rive 67.64 336 P **P** **00 15 14.0 +1.4**
F25K IAmb IAmb 00 15 41.4
comp=Z,7.3nm,1.4s
MARD Mardin 68.04 59 P **P** **00 15 16.1 +0.4**
MARD IAmb IAmb 00 15 24.7
comp=Z,5.7nm,1.0s
C23K Itkillik River 68.33 339 P **P** **00 15 18.0 +1.2**
ILAR Eielson Array 69.27 334 P **P** **00 15 22.8 0.0**
comp=Z,0.2nm,0.8s,baz=63,slow=5.2,SNR=1.5
ILAR LR LR 00 46 22.5
comp=Z,124nm,18.0s,baz=66,slow=36
comp=Z,0.2nm,0.8s
GNI Garni 69.88 55 LR LR 00 46 24.3
comp=Z,29nm,18.7s,baz=272,slow=36
ARTI Arti 71.67 35 LR LR 00 43 41.8
comp=Z,61nm,21.8s,baz=304,slow=33
AKTO Aktyubinsk 74.14 41 LR LR 00 46 58.4
comp=Z,49nm,19.0s,baz=146,slow=35
PLCA Paso Flores 74.57 202 P **P** **00 15 54.8 -0.1**
comp=Z,2.2nm,0.9s,baz=24,slow=4.5,SNR=3.9
comp=Z,2.2nm,0.9s
NRIK Noril'sk 74.95 16 P **P** **00 15 57.3 +0.6**
comp=Z,1.9nm,0.9s,baz=341,slow=8.0,SNR=4.5
comp=Z,1.9nm,0.9s
KDAK Kodiak Island 75.06 329 LR LR 00 50 04.6
comp=Z,288nm,18.0s,baz=277,slow=37
TSUM Tsumeb 75.80 122 LR LR 00 46 40.6
comp=Z,74nm,18.0s,baz=324,slow=34
BVAR Borovoye Array 79.36 34 P **P** **00 16 22.7 +0.9**
comp=Z,1.4nm,0.8s,baz=300,slow=3.3,SNR=5.7
BVAR LR LR 00 50 18.6
comp=Z,33nm,18.8s,baz=290,slow=35
comp=Z,1.4nm,0.8s
ATD Arta Tunnel 80.69 82 LR LR 00 51 53.2
comp=Z,6.1nm,18.7s,baz=333,slow=35
LSZ Lusaka 81.70 113 LR LR 00 51 49.0
comp=Z,91nm,19.2s,baz=290,slow=35
KURBB Kurchatov Arra 84.81 33 P **P** **00 16 50.1 -0.3**
comp=Z,0.5nm,0.6s,baz=311,slow=5.4,SNR=7.2
comp=Z,0.5nm,0.6s
LBTB Lobatse 85.22 122 LR LR 00 48 17.3
comp=Z,77nm,21.1s,baz=296,slow=31
ZALV Zalesovo Beam 85.28 28 LR LR 00 53 56.4
comp=Z,34nm,19.6s,baz=44,slow=35
SUR Sutherland 86.29 131 LR LR 00 48 16.8
comp=Z,71nm,18.4s,baz=317,slow=31
BOSA Boshof 87.07 125 LR LR 00 52 49.3
comp=Z,52nm,18.6s,baz=338,slow=34
AAK Ala-Archa 87.88 41 LR LR 00 55 54.4
comp=Z,57nm,19.9s,baz=314,slow=35
MKAR Makanchi Array 89.25 34 LR LR 00 55 42.9
comp=Z,85nm,18.9s,baz=325,slow=35
SHEM Shemya Is, Ala 91.87 339 LR LR 01 00 26.7
comp=Z,54nm,18.7s,baz=253,slow=37
PETK Petropavlovsk- 95.69 348 LR LR 01 02 48.9
comp=Z,35nm,18.9s,baz=61,slow=37
BKZ Black Stump Fm 146.40 243 PKPdf **PKPdf** **00 23 56.1 +0.3**

*NNC **17** 00:07:24.1±0.7, 42°.83N×72°.55E, h0km, mb2.9, mpv2.7,*
Error ellipse: s-maj=15.6km s-min=3.9km az=2.0
*KRNET **17** 00:07:24.2±0.1, 42°.72N×72°.60E, h15km, mb2.2*
*KNET **17** 00:07:24.9±1.4, 42°.78N×72°.72E, h0km, ml1.9, Error*
ellipse: s-maj=9.1km s-min=6.5km az=115.0
*SOME **17** 00:07:25.0, 42°.73N×72°.53E, h15km*
ISC 17 00:07:24.0±1.0, 42°.71N±0°.03×72°.59E±0°.02, h15km±8km,
n42, σ1=40/75, 31C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.23**	**196**	⇑*eP*	**Pg**	**00 07 29.1**	**-0.2**
MNAS				⇑*eS*	**Sg**	**00 07 32.5**	**-0.3**
MRKS	**Merke**	**0.47**	**85**	P	**Pb**	**00 07 33.9**	**-0.1**
MRKS	7.1nm,0.0s			S	**Sb**	**00 07 40.8**	**0.0**
MRKS	**Merke**	**0.47**	**85**	*eP*	**Pb**	**00 07 34.4**	**+0.3**
MRKS	7.9nm,0.1s			*eS*	**Sb**	**00 07 41.1**	**+0.2**
EKS2	**Erkin-Say**	**0.88**	**93**	⇑P	**Pb**	**00 07 41.1**	**+0.1**
EKS2	3.1nm,0.1s			⇑S	**Sn**	**00 07 53.8**	**-0.6**
EKS2	**Erkin-Say**	**0.88**	**93**	⇓*eP*	**Pb**	**00 07 40.9**	**-0.1**
EKS2				⇓*eS*	**Sb**	**00 07 53.0**	**+0.4**
AML	**Almayashu**	**1.00**	**125**	⇓P	**Pb**	**00 07 43.3**	**0.0**
AML	6.8nm,0.2s			⇓S	**Sg**	**00 07 57.4**	**+0.8**
AML	**Almayashu**	**1.00**	**125**	⇑*eP*	**Pb**	**00 07 43.4**	**+0.1**
AML				⇑*eS*	**Sg**	**00 07 57.2**	**+0.6**
ARK	**Arkit**	**1.02**	**207**	⇑*eP*	**Pb**	**00 07 43.8**	**+0.3**
ARK				⇑*eS*	**Sg**	**00 07 57.9**	**+0.7**
AAK	**Ala-Archa**	**1.41**	**92**	⇑P	**Pb**	**00 07 50.7**	**+0.6**
AAK	3.5nm,0.1s			⇑S	**Sg**	**00 08 09.6**	**+0.2**
AAK	**Ala-Archa**	**1.41**	**92**	⇑*eP*	**Pb**	**00 07 50.4**	**+0.3**
AAK	4.6nm,0.1s			⇑*eS*	**Sg**	**00 08 09.4**	**0.0**
FRU1	**Bishkek**	**1.50**	**85**	⇑*eP*	**Pb**	**00 07 51.8**	**+0.1**
FRU1				⇑*eS*	**Sg**	**00 08 12.1**	**-0.5**
USP	**Ospenovka**	**1.51**	**68**	⇓P	**Pb**	**00 07 51.9**	**+0.1**
USP	6.5nm,0.2s			⇓S	**Sg**	**00 08 11.9**	**-0.7**
USP	**Ospenovka**	**1.51**	**68**	⇓*eP*	**Pb**	**00 07 52.0**	**+0.3**
USP	25nm,0.2s			⇓*eS*	**Sg**	**00 08 12.3**	**-0.3**
ARLS	**Aral**	**1.54**	**123**	⇑*eP*	**Pb**	**00 07 53.0**	**+0.7**
ARLS				⇑*eS*	**Sg**	**00 08 13.7**	**0.0**
KK31	**Karatay Array**	**1.58**	**285**	P	**Pn**	**00 07 52.4**	**+0.9**
KK31	0.8nm,0.3s,baz=105,slow=16,SNR=34			⇓S	**Sn**	**00 08 12.2**	**+0.6**
TRKS	**Terek-Say**	**1.60**	**223**	⇑*eP*	**Pg**	**00 07 54.6**	**-0.2**
TRKS	17nm,0.5s,baz=101,slow=30,SNR=42			⇑*eS*	**Sg**	**00 08 16.6**	**+1.0**
CHMS	**Chumysh**	**1.61**	**79**	⇑P	**Pb**	**00 07 53.3**	**-0.2**
CHMS	3.4nm,0.2s			⇑S	**Sg**	**00 08 15.7**	**-0.4**
CHMS	**Chumysh**	**1.61**	**79**	⇑P	**Pg**	**00 07 56.8**	**+1.7**
CHMS	0.9nm,0.3s			⇓S	**Sb**	**00 08 14.4**	**+0.6**
CHMS	**Chumysh**	**1.61**	**79**	⇑*eP*	**Pb**	**00 07 54.1**	**+0.5**
CHMS	3.9nm,0.4s			⇑*eS*	**Sg**	**00 08 15.6**	**-0.4**
KBK	**Karagaybulak**	**1.74**	**91**	⇑P	**Pb**	**00 07 55.2**	**-0.6**
KBK	4.1nm,0.1s			⇑S	**Sg**	**00 08 20.1**	**+0.1**
KBK	**Karagaybulak**	**1.74**	**91**	⇓*eP*	**Pb**	**00 07 56.4**	**+0.7**
KBK	36nm,0.3s			⇓*eS*	**Sg**	**00 08 19.5**	**-0.5**
SALK	**Salom-Alik**	**2.04**	**153**	⇑*eP*	**Pb**	**00 08 01.2**	**+0.3**
SALK				⇑*eS*	**Sb**	**00 08 28.0**	**+1.8**
BRLS	**Borolday**	**2.05**	**280**	Pg	**Pg**	**00 08 02.4**	**-1.0**
BRLS	2.3nm,0.3s			Lg	Lg	00 08 29.7	
BRLS	**Borolday**	**2.05**	**280**	*eP*	**Pg**	**00 08 03.2**	**-0.2**
BRLS	0.8nm,0.1s			*eS*	**Sg**	**00 08 30.5**	**+0.5**
TKM2	**Tokmak 2**	**2.22**	**83**	⇓Pn	**Pg**	**00 08 05.6**	**-1.1**
TKM2	1.1nm,0.3s			⇓Sn	**Sb**	**00 08 33.0**	**+1.6**
DGS	**Degeres**	**2.39**	**76**	Pg	**Pb**	**00 08 07.8**	**+0.9**
DGS	3.5nm,0.4s			Lg	Lg	00 08 38.7	
KRBS	**Karabastau**	**2.46**	**65**	Pg	**Pb**	**00 08 07.7**	**-0.3**
KRBS	0.9nm,0.1s			Lg	Lg	00 08 38.4	
BOOM	**Boomskoye usch**	**2.48**	**94**	⇓*eP*	**Pb**	**00 08 06.9**	**-1.5**
BOOM				⇓*eS*	**Sb**	**00 08 38.4**	**-0.4**
KST	**Kastek**	**2.50**	**81**	Pg	**Pb**	**00 08 10.2**	**+1.5**
KST	1.4nm,0.3s			Lg	Lg	00 08 42.6	
KST	**Kastek**	**2.50**	**81**	*eP*	**Pb**	**00 08 10.2**	**+1.5**
KST	1.4nm,0.3s			*eS*	**Sg**	**00 08 42.6**	**-1.8**
SFK	**Sufi-Kurgan**	**2.78**	**165**	⇑*eP*	**Pn**	**00 08 10.2**	**+2.0**
SFK				⇑*eS*	**Sb**	**00 08 45.2**	**-2.3**
MTBS	**Maitube**	**2.85**	**80**	Pg	**Pb**	**00 08 16.5**	**+1.8**
MTBS	0.9nm,0.2s			Lg	Lg	00 08 53.3	
MTBS	**Maitube**	**2.85**	**80**	*eP*	**Pb**	**00 08 16.4**	**+1.8**
MTBS	0.5nm,0.1s			*eS*	**Sg**	**00 08 53.1**	**-2.5**
BTK	**Batken**	**2.96**	**207**	⇑*eP*	**Pb**	**00 08 14.0**	**-2.6**
BTK				⇑*eS*	**Sb**	**00 08 50.0**	**-2.7**
KTBS	**Karatobe**	**3.15**	**70**	Pg	**Pb**	**00 08 21.1**	**+1.3**
KTBS	0.9nm,0.5s			Lg	Lg	00 09 01.4	
TNSS	**Tian-Shan**	**3.22**	**83**	Pg	**Pb**	**00 08 23.5**	**+2.4**
TNSS	1.4nm,0.6s			Lg	Lg	00 09 05.4	
TNSS	**Tian-Shan**	**3.22**	**83**	*eP*	**Pb**	**00 08 23.5**	**+2.4**
TNSS	1.4nm,0.6s			*eS*	**Sg**	**00 09 05.4**	**-2.0**
MDOK	**Medeo**	**3.30**	**81**	Pg	**Pb**	**00 08 24.5**	**+2.1**
MDOK	0.9nm,0.3s			Lg	Lg	00 09 07.2	
MDOK	**Medeo**	**3.30**	**81**	*eP*	**Pb**	**00 08 24.5**	**+2.1**
MDOK	0.9nm,0.3s			*eS*	**Sg**	**00 09 07.2**	**-3.0**
KOTS	**Kotyrbulak**	**3.36**	**79**	Pg	**Pb**	**00 08 25.6**	**+2.2**
KOTS	1.2nm,0.3s			Lg	Lg	00 09 09.2	
KOTS	**Kotyrbulak**	**3.36**	**79**	*eP*	**Pb**	**00 08 25.6**	**+2.2**
KOTS	1.2nm,0.3s			*eS*	**Sg**	**00 09 09.2**	**-2.7**
KPKS	**Kokpek**	**4.53**	**78**	*eP*	**Pg**	**00 08 47.6**	**-3.1**
KPKS	0.8nm,0.1s			*eS*	**Sg**	**00 09 46.4**	**-3.0**
	4.7nm,0.3s						

IDC 17 00:15:54.6±3.2, 3°.71N×127°.76E, h0km, mb3.1/3,
mbtmp3.1/3, Error ellipse: s-maj=266.0km
s-min=29.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**165**	P	P	00 21 14.7	0.0
	0.1nm,0.3s,baz=344,slow=9.3,SNR=1.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**27.86**	**168**	P	P	00 21 46.0	-0.3
	0.2nm,0.7s,baz=351,slow=7.3,SNR=4.8						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.17**	**325**	P	P	00 25 50.6	+0.1
	0.3nm,0.7s,baz=120,slow=7.2,SNR=3.6						
	0.3nm,0.7s						

*AFAD **17** 00:24:02.8, 35°.18N×34°.28E, h16km±2km, ML2.2*
*ISK **17** 00:24:02.0, 35°.02N×34°.43E, h54km±1km, ML2.9/30*
*GRAL **17** 00:24:03.7±0.6, 34°.92N×34°.50E, h16km±7km, MD3.0*
*NIC **17** 00:24:03.5, 35°.05N×34°.43E, h34km±3km, Ml2.3/8*
*GII **17** 00:24:05.1±0.0, 34°.934N±0°.003×34°.522E±0°.001, h30km,*
Mws2.4, confirmed
ISC 17 00:24:03.1±1.1, 35°.03N±0°.02×34°.46E±0°.03, h33km±8km,
n92, σ1=07/114, 1C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.35**	**264**	⇑*iP*	**Pb**	**00 24 11.6**	**+0.2**
PARAL				S	**Sn**	**00 24 18.1**	**+0.4**
PARAL	2.5nm,0.3s			AML	AML	00 24 18.8	
PARAL	1.7nm,0.3s			AML	AML	00 24 19.7	
PAR1C	**Paralimni Civi**	**0.40**	**271**	P	**Pb**	**00 24 12.2**	**0.0**
PAR1C				S	**Sn**	**00 24 19.6**	**+0.6**
EREN	**Erenkoy**	**0.55**	**335**	Pg	**Pb**	**00 24 14.7**	**+0.1**
EREN				Sg	**Sn**	**00 24 23.7**	**+0.9**
LAR1C	**Larnaka City C**	**0.70**	**262**	P	**Pb**	**00 24 16.6**	**-0.4**
LAR1C				S	**Sn**	**00 24 26.6**	**+0.1**
LFK	**Lefkose**	**0.80**	**288**	Pg	**Pn**	**00 24 17.9**	**-0.3**
LFK				Sg	**Sb**	**00 24 29.1**	**-0.2**
AKIN	**Akıncılar- Kıb**	**0.82**	**269**	Pg	**Pn**	**00 24 17.7**	**-0.7**
AKIN				Sg	**Sb**	**00 24 29.0**	**-0.7**
ATHAL	**Athalassa**	**0.88**	**278**	⇓*iP*	**Pn**	**00 24 19.2**	**0.0**
ATHAL				S	**Sn**	**00 24 31.5**	**+0.6**
ATHAL	0.8nm,0.6s			AML	AML	00 24 37.4	
ATHAL	0.7nm,0.3s			AML	AML	00 24 39.9	
CSS	**Mathiatis**	**0.93**	**266**	Pg	**Pn**	**00 24 19.4**	**-0.6**
CSS				Sg	**Sn**	**00 24 31.7**	**-0.5**
CSS	**Mathiatis**	**0.93**	**266**	P	**Pn**	**00 24 19.5**	**-0.4**
CSS				S	**Sn**	**00 24 32.2**	**0.0**
CSS	0.3nm,0.6s			AML	AML	00 24 38.2	
CSS	0.2nm,0.7s			AML	AML	00 24 39.1	
ASGA	**Asgata**	**1.03**	**257**	P	**Pn**	**00 24 21.5**	**+0.3**
ASGA				S	**Sb**	**00 24 35.6**	**0.0**
ASGA	0.2nm,0.5s			AML	AML	00 24 44.1	
ASGA	0.2nm,0.4s			AML	AML	00 24 45.0	
AKDN	**Akdeniz- Kıbrı**	**1.25**	**283**	Pn	**Pn**	**00 24 23.8**	**-0.6**
LEF	**Lefka**	**1.29**	**274**	Pn	**Pn**	**00 24 24.9**	**0.0**
LEF	**Lefka**	**1.29**	**274**	P	**Pn**	**00 24 24.9**	**0.0**
TISA	**Tisan-Mersin**	**1.30**	**331**	Pn	**Pn**	**00 24 24.3**	**-0.7**
KARG	**Kargicak-Mersi**	**1.32**	**333**	Pn	**Pn**	**00 24 25.0**	**-0.3**
AKK1	**Akkuyu-Mersin**	**1.34**	**326**	Pn	**Pn**	**00 24 25.2**	**-0.4**
YESI	**Yesilovacik-Me**	**1.34**	**330**	Pn	**Pn**	**00 24 24.9**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.35**	**327**	Pn	**Pn**	**00 24 25.3**	**-0.4**
APOL	**The Sanctuary**	**1.36**	**255**	P	**Pn**	**00 24 26.4**	**+0.6**
APOL				S	**Sn**	**00 24 42.8**	**0.0**
APOL	0.2nm,0.4s			AML	AML	00 24 50.4	
APOL	0.1nm,0.2s			AML	AML	00 24 52.5	
IKL	**Isikli**	**1.36**	**333**	Pn	**Pn**	**00 24 25.3**	**-0.6**
GULN	**MERSIN_Gulnar**	**1.37**	**327**	P	**Pn**	**00 24 25.4**	**-0.6**
GULN				S	**Sn**	**00 24 42.1**	**-1.0**
GULN	comp=N,59nm,0.8s			*i* AML	AML	00 24 43.0	
GULN	comp=E,62nm,0.4s			*i* AML	AML	00 24 43.0	
SILI	**Silifke-Mersin**	**1.41**	**342**	Pn	**Pn**	**00 24 26.2**	**-0.3**
TEPK	**Tepekoy-MERSIN**	**1.41**	**328**	Pn	**Pn**	**00 24 25.8**	**-0.7**
YORU	**Yoruktepe-Mers**	**1.41**	**323**	Pn	**Pn**	**00 24 26.4**	**-0.2**

OREN	**Orenkoy-Mersin**	**1.43 326**	Pn	**Pn**	**00 24 26.6**	**-0.2**
HWQ	**Hawqa**	**1.44 121**	*e*P	**Pn**	**00 24 27.0**	**0.0**
HWQ			*e*S	**Sn**	**00 24 44.0**	**-0.7**
KIZK	**Mersin**	**1.47 350**	Pn	**Pn**	**00 24 27.1**	**-0.3**
KIZK	**Mersin**	**1.47 350**	P	**Pn**	**00 24 27.8**	**+0.5**
KIZK			S	**Sn**	**00 24 44.3**	**-1.2**
KIZK			*i* AML	AML	00 24 47.0	
	comp=E,37nm,0.4s					
KIZK			*i* AML	AML	00 24 48.0	
	comp=N,38nm,0.5s					
BHL	**Bhannes**	**1.49 138**	*e*P	**Pn**	**00 24 27.2**	**-0.6**
BHL			*e*S	**Sn**	**00 24 44.6**	**-1.6**
BEIL	**Beino**	**1.50 108**	*e*P	**Pn**	**00 24 27.6**	**-0.2**
ALFC	**Alefka**	**1.53 275**	P	**Pn**	**00 24 27.7**	**-0.6**
ALFC			S	**Sn**	**00 24 46.2**	**-0.9**
ALFC			AML	AML	00 24 55.4	
	0.1nm,0.4s					
ALFC			AML	AML	00 24 55.5	
	0.1nm,0.3s					
NATA	**Nata**	**1.57 261**	P	**Pb**	**00 24 30.6**	**-1.0**
NATA			S	**Sb**	**00 24 51.7**	**+0.5**
NATA			AML	AML	00 25 07.2	
	0.3nm,1.0s					
NATA			AML	AML	00 25 07.4	
	0.2nm,0.7s					
TEVE	**Tevekalti-Mers**	**1.63 330**	Pn	**Pn**	**00 24 29.5**	**-0.1**
BERE	**Bereket-Mersin**	**1.66 323**	Pn	**Pn**	**00 24 30.1**	**0.0**
ZAHL	**Zahle**	**1.66 134**	*e*P	**Pn**	**00 24 29.9**	**-0.2**
AKMS	**Akamas**	**1.75 270**	P	**Pn**	**00 24 32.5**	**+1.4**
AKMS			S	**Sb**	**00 24 55.3**	**-0.8**
AKMS			AML	AML	00 25 09.1	
	0.1nm,0.6s					
AKMS			AML	AML	00 25 09.1	
	0.1nm,0.6s					
QRWL	**Qaraoun**	**1.79 145**	*e*P	**Pn**	**00 24 31.6**	**-0.3**
RCY	**Rachaya**	**1.91 143**	*e*P	**Pn**	**00 24 33.1**	**-0.4**
SHBL	**Chebaa**	**1.98 147**	*e*P	**Pn**	**00 24 34.1**	**-0.5**
HNTI	**Hanita**	**2.03 163**	P		00 24 36.9	
NATI	**Neve Ativ**	**2.06 149**	P	**Pn**	**00 24 35.9**	**+0.5**
NATI	**Neve Ativ**	**2.06 149**	S	**Sn**	**00 24 59.4**	**-0.4**
NATI	**Neve Ativ**	**2.06 149**	P		00 24 36.9	
NATI			S		00 24 59.7	
GEM	**Giv'at Ha'Em**	**2.07 151**	P	**Pn**	**00 24 36.3**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.07 151**	S	**Sn**	**00 25 00.2**	**-0.1**
GEM	**Giv'at Ha'Em**	**2.07 151**	P		00 24 38.1	
GAZI	**Gazipasa**	**2.12 305**	Pn	**Pn**	**00 24 36.2**	**-0.1**
GAZI	**Gazipasa**	**2.12 305**	P	**Pn**	**00 24 35.3**	**-1.0**
GAZI			S	**Sn**	**00 24 54.0**	**-7.6**
GAZI			*i* AML	AML	00 25 03.0	
	comp=N,36nm,1.0s					
GAZI			*i* AML	AML	00 25 13.0	
	comp=E,24nm,0.7s					
MMC1	**Mount Meron ar**	**2.14 158**	P		00 24 39.0	
MMC7	**Mount Meron ar**	**2.15 159**	P	**Pn**	**00 24 37.0**	**+0.2**
MMA0B	**Mount Meron ar**	**2.16 158**	P	**Pn**	**00 24 37.0**	**+0.1**
MMA0B	**Mount Meron ar**	**2.16 158**	S	**Sn**	**00 25 01.7**	**-0.9**
MMB1	**Mount Meron ar**	**2.16 158**	P		00 24 37.9	
CEYT	**Ceyhan**	**2.23 27**	Pn	**Pn**	**00 24 38.0**	**+0.1**
KARA	**Karaisali**	**2.28 12**	Pn	**Pn**	**00 24 38.6**	**+0.1**
KSHT	**Keshet**	**2.33 151**	P	**Pn**	**00 24 39.9**	**+0.6**
KSHT	**Keshet**	**2.33 151**	S	**Sn**	**00 25 06.7**	**-0.1**
BLGI	**Bet Lehem HaGe**	**2.37 165**	P	**Pn**	**00 24 40.2**	**+0.4**
BLGI	**Bet Lehem HaGe**	**2.37 165**	S	**Sn**	**00 25 07.3**	**-0.3**
BLGI	**Bet Lehem HaGe**	**2.37 165**	P		00 24 40.8	
OFRI	**`Ofer**	**2.44 170**	P	**Pn**	**00 24 41.1**	**+0.4**
OFRI	**`Ofer**	**2.44 170**	S	**Sn**	**00 25 07.4**	**-2.1**
OFRI	**`Ofer**	**2.44 170**	P		00 24 41.7	
HDMB	**Hadim**	**2.51 321**	Pn	**Pn**	**00 24 41.9**	**+0.1**
KKBE	**Karaman, Kazim**	**2.51 331**	P	**Pn**	**00 24 42.9**	**+1.1**
KKBE			*i* AML	AML	00 25 12.0	
	comp=E,13nm,1.0s					
KKBE			S	**Sn**	**00 25 13.6**	**+2.4**
KKBE			*i* AML	AML	00 25 17.0	
	comp=N,14nm,0.4s					
SHMJ	**Saham**	**2.54 154**	P		00 24 43.7	
CMRD	**Camardi-Nigde**	**2.66 9**	Pn	**Pn**	**00 24 44.6**	**+0.7**
KOZT	**Kozan**	**2.68 24**	Pn	**Pn**	**00 24 44.3**	**+0.2**
MMLI	**Mount Malkishu**	**2.71 163**	Pn	**Pn**	**00 24 44.5**	**+0.1**
MMLI	**Mount Malkishu**	**2.71 163**	P	**Pn**	**00 24 44.9**	**+0.5**
MMLI	**Mount Malkishu**	**2.71 163**	S	**Sn**	**00 25 15.8**	**-0.2**
MMLI	**Mount Malkishu**	**2.71 163**	P		00 24 45.5	
YESY	**Yesilyurt**	**2.81 348**	Pn	**Pn**	**00 24 46.0**	**+0.1**
SLTI	**Sal'it**	**2.82 170**	P	**Pn**	**00 24 46.6**	**+0.6**
SLTI	**Sal'it**	**2.82 170**	S	**Sn**	**00 25 18.4**	**-0.5**
SLTI	**Sal'it**	**2.82 170**	P		00 24 47.7	
QRNJ	**Al-Qirein**	**2.84 161**	P		00 24 47.8	
HMDT	**Nahal Hemdat**	**2.91 162**	P	**Pn**	**00 24 48.4**	**+1.3**
HMDT	**Nahal Hemdat**	**2.91 162**	S	**Sn**	**00 25 20.9**	**-0.1**
HMDT	**Nahal Hemdat**	**2.91 162**	P		00 24 48.7	
KEPZ	**Antalya-Kepez**	**2.98 310**	P	**Pn**	**00 24 49.8**	**+1.7**
KEPZ			S	**Sn**	**00 25 23.6**	**+0.8**
KEPZ			*i* AML	AML	00 25 46.0	
	comp=N,10nm,0.9s					
KEPZ			*i* AML	AML	00 26 26.0	
	comp=E,11nm,2.5s					
SALP	**Salfit**	**3.02 168**	P		00 24 49.8	
GAZ	**Gaziantep**	**3.09 45**	Pn	**Pn**	**00 24 50.6**	**+0.9**
UJAP	**Al Uja**	**3.18 164**	P		00 24 52.4	
SEYD	**Seydisehir-KON**	**3.18 319**	Pn	**Pn**	**00 24 51.3**	**+0.3**
HSUJ	**Al Zarqa**	**3.25 153**	P		00 24 53.6	
SEDI	**Konya, Seydise**	**3.26 319**	P	**Pn**	**00 24 54.2**	**+2.1**
SEDI			S	**Sn**	**00 25 33.5**	**+3.7**
SEDI			*i* AML	AML	00 25 40.0	
	comp=N,9.9nm,0.5s					
SEDI			*i* AML	AML	00 25 43.0	
	comp=E,7.9nm,0.8s					
KONT	**Konya--Tatoy**	**3.37 330**	Pn	**Pn**	**00 24 54.2**	**+0.7**
ASF	**Jabal al Asfar**	**3.50 144**	P		00 24 58.8	
AMAZ	**Amatzia**	**3.51 174**	P	**Pn**	**00 24 56.1**	**+0.7**
AMAZ	**Amatzia**	**3.51 174**	S	**Sn**	**00 25 36.1**	**+0.3**
AMAZ	**Amatzia**	**3.51 174**	P		00 24 56.8	
DSI	**Dead Sea**	**3.54 167**	P	**Pn**	**00 24 56.2**	**+0.4**
DSI	**Dead Sea**	**3.54 167**	S	**Sn**	**00 25 36.1**	**-0.3**
DSI	**Dead Sea**	**3.54 167**	P		00 24 57.4	
LADK	**Ladik-KONYA**	**3.59 333**	Pn	**Pn**	**00 24 56.9**	**+0.3**
YTIR	**Yattir**	**3.70 171**	P	**Pn**	**00 24 59.1**	**+1.1**
YTIR	**Yattir**	**3.70 171**	S	**Sn**	**00 25 40.9**	**+0.3**
YTIR	**Yattir**	**3.70 171**	P		00 24 59.2	
KORT	**Korkueli**	**3.87 302**	Pn	**Pn**	**00 25 00.9**	**+0.4**
LISJ	**El Lisan**	**3.87 167**	P		00 25 01.4	
KARJ	**KARJ**	**4.03 165**	P		00 24 51.5	
ELL	**Elmali**	**4.08 296**	Pn	**Pn**	**00 25 03.9**	**+0.6**
KZIT	**Kziot**	**4.11 181**	P	**Pn**	**00 25 04.7**	**+1.0**
KZIT	**Kziot**	**4.11 181**	S	**Sn**	**00 25 50.7**	**0.0**
KZIT	**Kziot**	**4.11 181**	P		00 25 04.6	
ZFRI	**Zfri**	**4.50 172**	P	**Pn**	**00 25 09.8**	**+0.7**
ZFRI	**Zfri**	**4.50 172**	S	**Sn**	**00 26 00.3**	**0.0**
ZFRI	**Zfri**	**4.50 172**	P		00 25 09.7	
PRNI	**Paran**	**4.69 174**	P	**Pn**	**00 25 12.6**	**+1.0**
PRNI	**Paran**	**4.69 174**	S	**Sn**	**00 26 05.0**	**+0.1**
PRNI	**Paran**	**4.69 174**	P		00 25 11.9	
MBRI	**Mt Berech**	**5.23 176**	P	**Pn**	**00 25 20.1**	**+0.9**
MBRI	**Mt Berech**	**5.23 176**	S	**Sn**	**00 26 19.0**	**+0.6**
MBRI	**Mt Berech**	**5.23 176**	P		00 25 20.9	
EIL	**Elat**	**5.36 175**	P	**Pn**	**00 25 21.9**	**+1.0**
EIL	**Elat**	**5.36 175**	S	**Sn**	**00 26 22.0**	**+0.5**
EIL	**Elat**	**5.36 175**	P		00 25 21.2	

*IDC **17** 00:44:08.6±2.4, 36°.18N×142°.25E, h0km, mb3.5/5, mbtmp3.5/7, ML2.9/2, Error ellipse: s-maj=59.0km s-min=24.7km az=69.0*

*JMA **17** 00:44:12.5±0.3, 36°.3N±0°.6×14°.2E±°, h76km, MV3.1/31, FAR E OFF IBARAKI PREF*

ISC 17 00:44:13.6±1.3, 36°.26N±0°.05×142°.2E±0°.1, h35km, n25, σ1$50/25, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.28**	**274**	P	**Pn**	**00 44 34.3**	**-0.6**
JHYU				*e*S	**Sn**	**00 44 50.7**	**0.0**
JHO	**Hitachi**	**1.33**	**286**	P	**Pn**	**00 44 34.6**	**-1.1**
JHO				*e*S	**Sn**	**00 44 51.6**	**-0.6**
JIHU	**Itakohorinouch**	**1.36**	**258**	*e*P	**Pn**	**00 44 36.1**	**+0.1**
JFK	**Kawauchi**	**1.52**	**317**	*e*P	**Pn**	**00 44 37.9**	**-0.4**
BSO1	**Boso 1**	**1.87**	**212**	*e*P	**Pn**	**00 44 43.1**	**+0.5**
BSO1				*e*S	**Sn**	**00 45 07.6**	**+3.0**
JMM	**Marumori**	**1.95**	**326**	*e*P	**Pn**	**00 44 42.7**	**-1.4**
JOTO	**OTAMA OYAMA**	**1.96**	**312**	P	**Pn**	**00 44 44.5**	**+0.1**
JOTO				*e*S	**Sn**	**00 45 07.6**	**-0.2**
BSO3	**Boso 3**	**1.98**	**223**	*e*P	**Pn**	**00 44 44.8**	**+0.5**
JAG	**Ashikaga**	**2.19**	**275**	P	**Pn**	**00 44 47.1**	**-0.5**
JRY	**Ryogami san**	**2.65**	**266**	P	**Pn**	**00 44 53.6**	**-0.2**
JOD2	**Odawara 2**	**2.69**	**249**	*e*P	**Pn**	**00 44 54.8**	**+0.4**
MJAR	**Matsushiro Arr**	**3.20**	**276**	Pn	**Pn**	**00 45 01.1**	**-0.4**
	0.4nm,0.3s,baz=111,slow=8.9,SNR=18						
MJAR				Sn	**Sn**	**00 45 37.4**	**-1.0**
	0.4nm,0.3s,baz=28,slow=33,SNR=5.4 1.9nm,0.3s						
MAT	**Matsushiro**	**3.20**	**276**	*e*P	**Pn**	**00 45 02.4**	**+0.9**
JHJ	**Hachijo jima 2**	**3.69**	**213**	Pn	**Pn**	**00 45 06.5**	**-1.6**
	6.8nm,0.3s,baz=66,slow=20,SNR=1.8						
JHJ				Sn	**Sn**	**00 45 45.3**	**-5.1**
	51nm,0.3s,baz=86,slow=23,SNR=5.5 115nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.23**	**121**	T	T	01 18 25.3	
	baz=313,slow=75,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**27.24**	**121**	T	T	01 18 31.4	
	baz=313,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**27.25**	**121**	T	T	01 18 28.6	
	baz=313,slow=75,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	01 19 17.9	
	baz=315,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	01 19 21.3	
	baz=315,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	01 19 20.9	
	baz=315						
SONM	**Songino Array**	**28.72**	**305**	P	**P**	**00 50 07.7**	**+0.1**
	0.2nm,0.4s,baz=108,slow=9.3,SNR=2.8 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.88**	**313**	P	**P**	**00 52 09.1**	**+0.7**
	0.2nm,0.3s,baz=90,slow=8.6,SNR=1.6 0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.05**	**303**	P	**P**	**00 52 26.9**	**+1.1**
	0.2nm,0.6s,baz=77,slow=7.6,SNR=4.9 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**46.96**	**309**	P	**P**	**00 52 42.6**	**+1.8**
	0.5nm,0.3s,baz=74,slow=8.1,SNR=1.3 0.5nm,0.3s						
WRA	**Warramunga Arr**	**56.38**	**189**	P	**P**	**00 53 51.0**	**-0.4**
	0.3nm,0.4s,baz=5.0,slow=6.7,SNR=11 0.3nm,0.4s						

*NEIC **17** 01:07:50.7±1.2, 61°.51N±0°.03×150°.23W±0°.05, h45km±7km, Error ellipse: s-maj=4.0km s-min=3.2km az=191.0*

AEIC 17 01:07:51.2±1.1, 61°.51N±0°.02×150°.19W±0°.05, h48km±3km, ML2.8, ML3.0/164(NEIC), **Error ellipse: s-maj=3.6km s-min=3.0km az=89.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.25**	**8**		Pn	01 07 58.8	-1.0
M22K					Sn	01 08 05.7	-0.1
M22K	**Willow**	**0.25**	**8**	IAML		01 08 06.1	
	comp=E,3μm,0.3s						
M22K				IAML		01 08 06.2	
	comp=N,2μm,0.3s						
FIS	**Fire Island**	**0.36**	**182**		Pn	01 08 01.1	+0.3
RC01	**Rabbit Creek A**	**0.47**	**152**		Pn	01 08 01.1	-1.0
RC01					Sn	01 08 09.7	-0.1
PMR	**Palmer**	**0.52**	**80**		Pn	01 08 01.5	-1.0
PMR					Sn	01 08 10.3	-0.3
PMR				IAML		01 08 11.0	
	comp=N,1μm,0.2s						
GHO	**Glory Hole Cre**	**0.66**	**66**		Pn	01 08 03.6	-0.9
GHO				Sn	Sn	01 08 14.3	+0.3
GHO				IAML		01 08 15.3	
	comp=E,596nm,0.4s						
STLK	**Strandline Lak**	**0.79**	**270**		Pn	01 08 05.2	-1.0
STLK					Sn	01 08 16.3	-0.6
STLK				IAML		01 08 16.8	
	comp=N,750nm,0.4s						
STLK				IAML		01 08 17.3	
	comp=E,447nm,0.3s						
SKT	**Skwentna**	**0.80**	**307**		Pn	01 08 04.8	-1.4
SKT					Sn	01 08 16.1	-1.0
SKT				IAML		01 08 16.3	
	comp=E,681nm,0.6s						
SKT				IAML		01 08 16.6	
	comp=N,750nm,0.2s						
KNK	**Knik Glacier**	**0.84**	**96**		Pn	01 08 06.4	-0.3
KNK				Sn	Sn	01 08 18.6	+0.6
KNK				IAML		01 08 21.7	
	comp=E,734nm,0.4s						
KNK				IAML		01 08 21.9	
	comp=N,550nm,0.6s						
CAPN	**Captain Cook N**	**0.88**	**213**		Pn	01 08 07.5	+0.3
CUT	**Chulitna**	**0.90**	**358**		Pn	01 08 06.5	-1.0
CUT	**Chulitna**	**0.90**	**358**		Sn	01 08 19.0	-0.5
SPCG	**Spurr Capps Gl**	**0.91**	**257**		Sn	01 08 19.9	0.0
SML	**Sawmill**	**0.94**	**70**	Pn	Pn	01 08 07.4	-0.7
SML				IAML		01 08 22.0	
	comp=E,571nm,0.7s						
SML				IAML		01 08 22.5	
	comp=N,386nm,0.3s						
SPU	**Mount Spurr**	**0.96**	**251**		Pn	01 08 07.4	-1.0
SPU				IAML		01 08 21.5	
	comp=N,289nm,0.4s						
SPU				IAML		01 08 23.5	
	comp=E,240nm,0.3s						
SLKM	**Skilak Lake**	**1.00**	**181**	Pn	Pn	01 08 07.8	-1.2
SLKM				IAML		01 08 24.6	
	comp=N,516nm,0.3s						
O22K	**Cooper Landing**	**1.05**	**167**		Pn	01 08 08.9	-0.7
SPBG	**Spurr Blockage**	**1.08**	**258**		Pn	01 08 09.1	-0.9
SPBG					Sn	01 08 23.8	-0.1
PWL	**Port Wells**	**1.11**	**125**	Pn	Pn	01 08 09.9	-0.5
PWL				IAML		01 08 26.3	
	comp=N,322nm,0.7s						
PWL				IAML		01 08 30.3	
	comp=E,324nm,0.4s						
PWL	**Port Wells**	**1.11**	**125**		Sn	01 08 25.2	+0.6
SCM	**Sheep Creek Mo**	**1.40**	**75**		Pn	01 08 14.2	-0.2
SCM				IAML		01 08 34.9	
	comp=E,291nm,0.6s						
SCM				IAML		01 08 34.9	
	comp=N,246nm,1.0s						
RDT	**Redoubt**	**1.43**	**230**		Sn	01 08 32.5	0.0
M20K	**Styx River**	**1.45**	**286**		Pn	01 08 14.3	-0.8
M20K	**Styx River**	**1.45**	**286**	IAML		01 08 35.3	
	comp=N,275nm,0.7s						
M20K				IAML		01 08 36.0	
	comp=E,174nm,1.1s						
SEW	**Seward**	**1.45**	**165**		Pn	01 08 13.8	-1.3
GLI	**Glacier Island**	**1.63**	**111**		Pn	01 08 16.3	-1.1
GLI				IAML		01 08 43.1	
	comp=N,130nm,0.2s						
GLI				IAML		01 08 50.1	
	comp=E,171nm,0.4s						
PPLA	**Purkeypile**	**1.68**	**327**		Pn	01 08 17.8	-0.5
BRLK	**Bradley Lake**	**1.78**	**191**		Pn	01 08 18.7	-0.9
BRLK				IAML		01 08 45.7	
	comp=N,139nm,0.1s						
BRSE	**Bradley Lake S**	**1.79**	**189**		Pn	01 08 18.4	-1.3
O20K	**Slope Mountain**	**1.86**	**221**		Pn	01 08 20.8	0.0
TRF	**Thorofare Moun**	**1.95**	**359**		Pn	01 08 21.6	-0.4
TRF				IAML		01 08 49.5	
	comp=N,154nm,0.9s						
TRF				IAML		01 08 50.5	
	comp=E,89nm,0.4s						
L20K	**Farewell, AK**	**2.00**	**301**		Pn	01 08 21.8	-0.7
M24K	**Tolsona, Glenn**	**2.00**	**71**		Pn	01 08 23.0	+0.5
M24K				IAML		01 08 55.9	
	comp=N,152nm,0.4s						
RND	**Reindeer**	**2.00**	**17**		Pn	01 08 22.5	-0.2
RND				IAML		01 08 50.5	
	comp=N,92nm,0.7s						
RND				IAML		01 08 59.0	
	comp=E,116nm,1.0s						
M19K	**Big River Lodg**	**2.04**	**283**		Pn	01 08 22.4	-0.7
P23K	**Montague Islan**	**2.04**	**137**		Pn	01 08 21.2	-1.8
KLU	**Klutina**	**2.05**	**89**		Pn	01 08 22.5	-0.7
KLU				IAML		01 08 54.5	
	comp=E,86nm,0.3s						
KLU				IAML		01 08 56.1	
	comp=N,158nm,0.6s						
CNPM	**China Poot**	**2.05**	**195**		Pn	01 08 22.3	-1.0
CNPM				IAML		01 08 55.0	
	comp=E,146nm,0.5s						
KTH	**Kantishna Hill**	**2.08**	**351**		Pn	01 08 23.5	-0.2
KTH				IAML		01 08 51.9	
	comp=E,90nm,0.6s						
KTH				IAML		01 08 52.0	
	comp=N,119nm,0.7s						
ILS	**Iliamna Low So**	**2.10**	**224**		Pn	01 08 23.8	-0.2
ILSW	**Iliamna Southw**	**2.11**	**225**		Pn	01 08 24.2	+0.1
ILSW				IAML		01 08 54.5	
	comp=E,73nm,0.7s						
CAST	**Castle Rocks**	**2.11**	**336**		Pn	01 08 23.7	-0.3
CAST				IAML		01 08 52.3	
	comp=N,63nm,0.5s						
CAST				IAML		01 09 06.0	
	comp=E,78nm,1.0s						
HIN	**Hinchinbrook I**	**2.12**	**120**		Pn	01 08 22.8	-1.4
HIN				IAML		01 09 03.5	
	comp=N,62nm,1.0s						
HIN				IAML		01 09 03.5	
	comp=E,87nm,1.0s						
DIV	**Divide**	**2.17**	**98**	Pn	Pn	01 08 23.9	-1.0
N19K	**Bonanza Creek**	**2.19**	**253**		Pn	01 08 24.7	-0.6
MCK	**McKinley**	**2.31**	**14**		Pn	01 08 27.0	+0.2
L19K	**White Mountain**	**2.31**	**289**		Pn	01 08 26.4	-0.4
EYAK	**Cordova Ski Ar**	**2.37**	**112**		Pn	01 08 26.5	-1.0
O19K	**Port Alsworth**	**2.41**	**239**		Pn	01 08 27.4	-0.7
HARP	**HAARP**	**2.54**	**67**		Pn	01 08 30.2	+0.3
CHUM	**Lake Minchumin**	**2.58**	**339**		Pn	01 08 30.1	-0.3
K20K	**Telida**	**2.59**	**318**		Pn	01 08 29.8	-0.8
BPAW	**Bear Paw Mtn.**	**2.63**	**352**	Pn	Pn	01 08 30.1	-1.1
PAX	**Paxson**	**2.65**	**54**		Pn	01 08 32.5	+0.9
N25K	**Chitina, Valde**	**2.68**	**85**		Pn	01 08 30.6	-1.3
N25K	**Chitina, Valde**	**2.68**	**85**	IAML		01 09 12.6	
	comp=N,65nm,0.6s						
N25K				IAML		01 09 14.5	
	comp=E,44nm,0.6s						
BWN	**Browne**	**2.69**	**7**		Pn	01 08 31.9	-0.1
M18K	**Stony River**	**2.70**	**272**		Pn	01 08 31.3	-0.8
BMRM	**Bremner River**	**2.75**	**99**		Pn	01 08 31.2	-1.7
GOAT	**Goat Mountain**	**2.82**	**107**		Pn	01 08 32.3	-1.4
WACK	**Wrangell Chich**	**2.83**	**78**		Pn	01 08 33.8	-0.3
N18K	**Kilae Creek**	**2.89**	**256**		Pn	01 08 33.8	-1.0
O18K	**Koktuh Hills**	**2.97**	**238**		Pn	01 08 34.9	-1.0
O18K				IAML		01 09 24.3	
	comp=E,35nm,1.2s						
O18K				IAML		01 09 24.3	
	comp=N,37nm,0.9s						
GLB	**Gilahina Butte**	**3.06**	**88**		Pn	01 08 36.1	-1.1
GLB	**Gilahina Butte**	**3.06**	**88**	IAML		01 09 29.8	
	comp=E,27nm,0.6s						
GLB				IAML		01 09 31.4	
	comp=N,41nm,0.6s						
TTA	**Tatalina**	**3.08**	**300**		Pn	01 08 36.4	-0.9
Q19K	**Cape Douglas,**	**3.11**	**215**		Pn	01 08 37.1	-0.6
SYI	**Shuyak Island**	**3.11**	**202**		Pn	01 08 37.1	-0.6
SYI	**Shuyak Island**	**3.11**	**202**	IAML		01 09 22.1	
	comp=E,59nm,1.3s						
WRH	**Wood River Hil**	**3.13**	**17**		Pn	01 08 37.2	-0.8
WRH	**Wood River Hil**	**3.13**	**17**	IAML		01 09 31.2	
	comp=N,26nm,1.1s						
WRH				IAML		01 09 37.0	
	comp=E,28nm,1.4s						
NEA2	**Nenana**	**3.14**	**9**		Pn	01 08 37.1	-1.1
L18K	**Granite Mounta**	**3.16**	**286**		Pn	01 08 37.6	-0.8
J20K	**Nowinta River**	**3.23**	**328**		Pn	01 08 38.9	-0.6
J20K	**Nowinta River**	**3.23**	**328**	IAML		01 09 16.6	
	comp=E,44nm,0.5s						
J20K				IAML		01 09 17.4	
	comp=N,44nm,0.5s						
VRDI	**Verde Repeater**	**3.26**	**92**		Pn	01 08 38.4	-1.5
HDA	**Harding Lake**	**3.27**	**26**	IAML		01 09 36.2	
	comp=E,44nm,0.9s						
CCB	**Clear Creek Bu**	**3.33**	**18**		Pn	01 08 39.9	-0.8
CCB	**Clear Creek Bu**	**3.33**	**18**	IAML		01 09 36.2	
	comp=E,25nm,1.1s						
RIDG	**Independent Ri**	**3.33**	**45**	IAML		01 09 31.2	
	comp=N,52nm,0.7s						
MENT	**Mentasta**	**3.35**	**62**	IAML		01 09 38.4	
	comp=N,54nm,0.9s						
M17K	**Holitna River**	**3.48**	**271**		Pn	01 08 41.9	-0.9
M17K	**Holitna River**	**3.48**	**271**	IAML		01 09 22.7	
	comp=N,40nm,1.4s						
M17K				IAML		01 09 22.8	
	comp=E,38nm,0.7s						
M26K	**Nabesna, AK**	**3.52**	**72**	IAML		01 09 44.8	
	comp=N,33nm,0.5s						
M26K				IAML		01 09 45.9	
	comp=E,23nm,0.4s						
J19K	**Poorman**	**3.53**	**317**		Pn	01 08 42.6	-0.8
J19K	**Poorman**	**3.53**	**317**	IAML		01 09 42.4	
	comp=N,22nm,1.2s						
L26K	**Log Cabin Wild**	**3.54**	**62**	IAML		01 09 46.0	
	comp=E,41nm,0.5s						
L26K				IAML		01 09 48.0	
	comp=N,47nm,0.4s						
N17K	**Nushagak Hills**	**3.54**	**257**		Pn	01 08 42.6	-1.1
IL31		**3.60**	**23**		Pn	01 08 43.7	-0.8
J18K	**Innoko River**	**3.61**	**306**		Pn	01 08 44.0	-0.6
I23K	**Minto, Yukon-K**	**3.67**	**5**	IAML		01 09 55.6	
	comp=E,20nm,1.3s						
I23K				IAML		01 09 55.6	
	comp=N,28nm,0.9s						
I21K	**Tanana**	**3.77**	**348**		Pn	01 08 46.7	-0.1
SCRK	**Sand Creek**	**3.78**	**46**	IAML		01 09 47.5	
	comp=E,21nm,0.7s						
SCRK				IAML		01 09 51.8	
	comp=N,20nm,1.0s						
J25K	**Salcha River,**	**3.81**	**33**	IAML		01 09 38.8	
	comp=E,28nm,0.3s						
J25K				IAML		01 09 42.0	
	comp=N,31nm,0.5s						
BALM	**Baldy**	**3.82**	**94**

E19K	**Redstone River**	**6.70 336**	Pn		01 09 27.1 +0.2
F26K	**Sheenjek River**	**6.73 20**	Pn		01 09 27.7 +0.3

*JMA **17** 01:08:00.8±0.4, 25°.N±1°.×124°.6E±0°.6, h12km±4km, MV3.6/11, NW OFF MIYAKOJIMA ISLAND*
*IDC **17** 01:08:00.7±1.1, 25°.24N×124°.68E, h0km, mb3.4/7, mbtmp3.4/7, MS2.9/3, Error ellipse: s-maj=61.6km s-min=19.8km az=67.0*
ISC 17 01:08:01.3±2.3, 25°.24N±0°.08×124°.63E±0°.05, h4km±15km, n20, σ0°76/22, mb3.2/7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.60**	**173**	*eP*	**Pb**	**01 08 14.4**	**+0.1**
JIRB	**Irabujima**	**0.64**	**129**	*eP*	**Pb**	**01 08 15.1**	**+0.1**
JIRB				*eS*	**Sb**	**01 08 24.7**	**+0.4**
JIKM	**Ikemajima**	**0.64**	**119**	*eP*	**Pb**	**01 08 14.8**	**-0.3**
JIKM				*eS*	**Sb**	**01 08 25.0**	**+0.6**
JISG	**Ishigakijimahi**	**0.71**	**204**	*eP*	**Pb**	**01 08 15.8**	**-0.4**
JMJ2	**Miyako jima3**	**0.81**	**128**	*eP*	**Pn**	**01 08 18.5**	**-0.8**
JMJ2				*eS*	**Sn**	**01 08 30.9**	**-0.9**
JOGS	**Gusukube**	**0.85**	**124**	*eS*	**Sb**	**01 08 31.8**	**+1.4**
JIJ	**Ishigaki jima**	**0.97**	**207**	P	**Pg**	**01 08 19.8**	**-0.3**
JIJ				*eS*	**Sg**	**01 08 33.3**	**+0.6**
JKRS	**Kuro-shima**	**1.14**	**210**	*eP*	**Pg**	**01 08 23.1**	**-0.2**
JKRS				*eS*	**Sg**	**01 08 38.7**	**+0.6**
IRIF	**Iriomote-Funau**	**1.21**	**222**	*eP*	**Pg**	**01 08 24.0**	**-0.6**
HATJ	**Hateruma jima**	**1.39**	**213**	*eP*	**Pn**	**01 08 27.0**	**-0.5**
JNU	**Nakatsue**	**9.57**	**33**	LR	LR	01 13 35.7	
	comp=Z,64nm,19.9s,baz=246,slow=35						
KSRS	**Korea Array**	**12.50**	**12**	LR	LR	01 15 34.2	
	comp=Z,42nm,21.9s,baz=250,slow=36						
KLR	**Kul'dur**	**24.59**	**11**	LR	LR	01 22 41.0	
	comp=Z,48nm,20.1s,baz=266,slow=36						
SONM	**Songino Array**	**26.76**	**332**	P	**P**	**01 13 43.4**	**+1.2**
	0.2nm,0.6s,baz=148,slow=8.5,SNR=4.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**39.82**	**314**	P	**P**	**01 15 36.9**	**+1.2**
	0.2nm,0.5s,baz=99,slow=10,SNR=2.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.13**	**325**	P	**P**	**01 15 45.3**	**-1.0**
	0.2nm,0.4s,baz=113,slow=9.6,SNR=4.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**43.37**	**318**	P	**P**	**01 16 04.1**	**-0.5**
	0.3nm,0.6s,baz=110,slow=9.0,SNR=2.6						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**45.89**	**167**	P	**P**	**01 16 24.5**	**-0.5**
	0.7nm,0.7s,baz=348,slow=8.0,SNR=7.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**49.44**	**169**	P	**P**	**01 16 53.0**	**+0.5**
	0.6nm,0.8s,baz=354,slow=7.7,SNR=5.8						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**80.77**	**24**	P	**P**	**01 20 15.7**	**0.0**
	0.2nm,0.6s,baz=303,slow=5.9,SNR=4.5						
	0.2nm,0.6s						

*IDC **17** 01:14:21.5±2.6, 40°.22N×62°.88E, h0km, mb3.6/2, mbtmp3.6/7, ML3.3/5, Error ellipse: s-maj=37.7km s-min=19.4km az=160.0*
*ISU **17** 01:14:24, 40°.34N×63°.18E, h14km*
*NNC **17** 01:14:25.6±12.0, 40°.42N×63°.12E, h164km±389km, mb2.3, mpv2.8, Error ellipse: s-maj=147.8km s-min=46.6km az=39.0*
ISC 17 01:14:21.4±0.9, 40°.35N±0°.06×63°.05E±0°.04, h15km, n17, σ2°26/26, 4C-2D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZLY	**Gazly**	**0.38**	**125**	P	**Pb**	**01 14 31.2**	**+1.4**
GZLY				S	**Sb**	**01 14 36.0**	**+0.5**
TMD	**Tamdy-Bulak**	**1.85**	**40**	P	**Pg**	**01 14 57.5**	**+0.6**
TMD				S	**Sg**	**01 15 21.6**	**+0.7**
MNGT	**Mangit**	**2.86**	**309**	P	**Pb**	**01 15 14.8**	**+2.7**
MNGT				S	**Sg**	**01 15 54.0**	**+0.7**
AGL	**Agalyk**	**3.06**	**105**	P	**Pb**	**01 15 15.0**	**-0.7**
AGL				S	**Sb**	**01 15 54.4**	**+1.5**
PKMR	**Pachkamar**	**3.16**	**124**	P	**Pb**	**01 15 16.5**	**-0.7**
PKMR				S	**Sb**	**01 15 57.4**	**+1.9**
CHRV	**Charvak**	**5.38**	**74**	P	Pn	01 15 48.2	+7.0
CHRV				S	**Sb**	**01 17 01.4**	**+1.8**
KK31	**Karatay Array**	**6.23**	**61**	⇑P	**Pn**	**01 15 54.6**	**+1.8**
	0.3nm,0.3s,baz=299,slow=6.2,SNR=6.1						
KK31				⇑S	**Sn**	**01 17 01.9**	**-1.8**
	1.5nm,0.5s						
AB31	**Akbulak array**	**9.17**	**347**	⇓P	**Pn**	**01 16 33.4**	**+0.3**
	0.1nm,0.3s,baz=162,slow=12,SNR=17						
AB31				⇓S	**Sn**	**01 18 14.4**	**-1.6**
	1.8nm,0.8s,baz=168,slow=30,SNR=5.2						
AKTO	**Aktyubinsk**	**10.68**	**342**	Lg	Lg	01 20 07.2	
	baz=93,slow=22,SNR=1.5						
AKTO	**Aktyubinsk**	**10.68**	**342**	⇑P	**Pn**	**01 16 54.7**	**+0.8**
	0.7nm,0.4s						
AKTO				⇑S	**Sn**	**01 18 51.1**	**-2.0**
	1.7nm,0.7s						
BVAR	**Borovoye Array**	**13.63**	**19**	Pn	**Pn**	**01 17 35.9**	**+1.7**
	0.1nm,0.3s,baz=200,slow=12,SNR=9.0						
BVAR				Sn	**Sn**	**01 20 00.5**	**-4.7**
	baz=204,slow=28,SNR=3.9						
BVAR				Lg	Lg	01 21 40.4	
	baz=186,slow=26						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**14.92**	**41**	Pn	**Pn**	**01 17 49.1**	**-2.5**
	0.1nm,0.3s,baz=241,slow=13,SNR=7.1						
	0.2nm,0.3s						
KBZ	**Khabaz**	**15.34**	**289**	Pn	**Pn**	**01 17 54.9**	**-2.4**
	0.1nm,0.3s,baz=96,slow=10,SNR=2.3						
KBZ				Sn	**Sn**	**01 20 40.6**	**-6.3**
	0.1nm,0.3s,baz=244,slow=14,SNR=1.3						
	3.6nm,1.0s						
MKAR	**Makanchi Array**	**15.35**	**59**	Pn	**Pn**	**01 17 57.3**	**-0.1**
	0.1nm,0.3s,baz=249,slow=14,SNR=6.4						
	0.4nm,0.6s						
ARTI	**Arti**	**16.34**	**351**	Pn	**Pn**	**01 18 12.0**	**+1.9**
	0.6nm,0.3s,baz=172,slow=18,SNR=4.2						
ARTI				Lg	Lg	01 23 01.1	
	0.1nm,0.3s,baz=76,slow=17,SNR=1.6						
	2.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.00**	**40**	P	**Pn**	**01 18 56.0**	**+1.0**
	0.4nm,0.4s,baz=232,slow=12,SNR=2.2						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**30.80**	**326**	P	**P**	**01 20 37.4**	**+1.2**
	2.2nm,0.9s,baz=125,slow=12,SNR=3.8						
	2.2nm,0.9s						

IDC 17 01:20:21.5±4.5, 16°.89S×178°.04W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=190.7km s-min=37.8km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.44**	**240**	P	P	01 27 53.2	-0.3
	1.0nm,0.5s,baz=67,slow=11,SNR=2.5						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**45.17**	**258**	P	P	01 28 40.4	-0.1
	0.6nm,0.7s,baz=91,slow=8.4,SNR=11						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**45.41**	**253**	P	P	01 28 42.5	0.0
	3.8nm,0.6s,baz=88,slow=8.6,SNR=40						
	3.8nm,0.6s						
ILAR	**Eielson Array**	**84.82**	**13**	P	P	01 32 57.5	0.0
	0.2nm,0.5s,baz=203,slow=5.9,SNR=2.0						
	0.2nm,0.5s						

NEIC 17 01:33:34.9±1.7, 29°.05N±0°.02×97°.97W±0°.02, h5km±2km, mb_Lg2.4/13, Error ellipse: s-maj=3.9km s-min=3.1km az=150.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLDN	**Muldoon**	**1.08**	**47**		Pg	01 33 54.7	-0.9
HNDO	**Hondo**	**1.24**	**293**	Pg	Pg	01 33 56.7	-2.0
HNDO				Sg	Sg	01 34 14.4	-0.4
833A	**Chaparral WMA,**	**1.44**	**240**		Pn	01 33 59.3	-2.4
KVTX	**Kingsville**	**1.50**	**177**		Pn	01 34 01.6	-0.9
435B	**Jarrell**	**1.76**	**11**	Pn	Pn	01 34 05.9	-0.2
435B				IAmb_Lg		01 34 35.6	
	comp=Z,22nm,0.9s						
HKT	**Hockley**	**2.07**	**64**	Pn	Pn	01 34 08.8	-1.5
JCT	**Junction City**	**2.14**	**312**	Pn	Pn	01 34 11.1	-0.2
DRIO	**Del Rio**	**2.34**	**280**	Pn	Pn	01 34 12.8	-1.3
BRDY	**Brady**	**2.40**	**339**	Pn	Pn	01 34 15.1	+0.2
BRDY				IAmb_Lg		01 34 50.4	
	comp=Z,16nm,0.8s						
OZNA	**Ozona**	**3.31**	**305**	Pn	Pn	01 34 27.7	+0.2
OZNA				IAmb_Lg		01 35 23.4	
	comp=Z,13nm,1.1s						
FW14	**Alvarado**	**3.41**	**11**	IAmb_Lg		01 35 30.7	
	comp=Z,10nm,0.7s						
SAND	**Sanderson**	**3.73**	**285**	Pn	Pn	01 34 31.3	-1.9
PLPT	**Palo Pinto**	**3.76**	**356**	Pn	Pn	01 34 33.8	+0.1
FW06	**Azle**	**3.93**	**5**	Pn	Pn	01 34 36.3	+0.3
FW03	**Perrin-Whitt E**	**3.98**	**359**	IAmb_Lg		01 35 50.1	
	comp=Z,12nm,1.2s						
APMT	**Aspermont**	**4.64**	**337**	Pn	Pn	01 34 47.4	+1.6
MNHN	**Monahans**	**4.73**	**300**	Pn	Pn	01 34 49.6	+2.5
SN07	**Snyder 07**	**4.75**	**329**	Pn	Pn	01 34 47.7	+0.5
TXAR	**Lajitas Array**	**4.99**	**275**	Pn	Pn	01 34 50.8	+0.2
TX31	**Lajitas Ar. Si**	**4.99**	**275**	Pn	Pn	01 34 49.0	-1.6
ODSA	**Odessa**	**5.00**	**309**	IAmb_Lg		01 36 18.5	
	comp=Z,8.6nm,1.1s						
ALPN	**Alpine**	**5.10**	**286**	Pn	Pn	01 34 52.9	+0.6
WMOK	**Wichita Mounta**	**5.71**	**353**	Pn	Pn	01 35 01.1	+0.6

*NEIC **17** 02:00:52.8±0.8, 40°.48N±0°.01×111°.92W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=31.0*
UUSS 17 02:00:52.9±1.0, 40°.47N±0°.01×111°.94W±0°.01, h6km±3km, ML2.4/12, ML2.4/66(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=185.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.01**	**223**		Pg	02 00 54.5	+0.3
CWU	**Camp Williams**	**0.12**	**261**		Pg	02 00 55.9	+0.3
GMU	**Granite Mounta**	**0.17**	**51**		Pg	02 00 56.7	+0.2
MHD	**Mile High Driv**	**0.22**	**29**		Sg	02 01 00.4	0.0
MHD	**Mile High Driv**	**0.22**	**29**		Pg	02 00 57.5	+0.2
NOQ	**North Ogquirrh**	**0.23**	**324**		Pg	02 00 58.0	+0.4
NOQ					Sg	02 01 01.3	+0.7
AAU	**Alta**	**0.26**	**61**		Pg	02 00 58.3	+0.1
DCU	**Deer Creek Res**	**0.32**	**99**		Pg	02 00 59.5	+0.2
RBU	**Red Butte Cany**	**0.33**	**18**		Sg	02 01 04.0	+0.1
RBU	**Red Butte Cany**	**0.33**	**18**		Pg	02 00 59.4	0.0
WMUT	**West Mountain**	**0.40**	**168**		Pg	02 01 01.4	+0.7
JLU	**Jordanelle**	**0.40**	**70**		Pg	02 01 00.8	+0.1
JLU					Sg	02 01 06.3	+0.3
JLU				IAML		02 01 06.5	
	comp=N,431nm,0.4s						
JLU				IAML		02 01 07.8	
	comp=E,247nm,0.3s						
LDJ	**Lady**	**0.42**	**74**		Pg	02 01 01.7	+0.6
RCJ	**Ross Creek**	**0.43**	**63**		Pg	02 01 01.5	+0.2
SAIU	**Southern Antel**	**0.43**	**335**		Pg	02 01 01.4	+0.1
HLJ	**Hailstone**	**0.44**	**70**		Pg	02 01 01.7	+0.3
MPU	**Maple Canyon**	**0.51**	**152**	Pg	Pg	02 01 02.9	+0.2
MPU				Sg	Sg	02 01 10.2	+0.9
DAU	**Daniels Canyon**	**0.53**	**96**		Pg	02 01 03.6	+0.6
FPU	**Francis Peak**	**0.57**	**8**		Pg	02 01 04.0	+0.1
N16A	**Rees Ranch, Co**	**0.57**	**42**		Pg	02 01 04.6	+0.7
HTU	**Hoyt Peak**	**0.59**	**69**		Pg	02 01 04.8	+0.6
NAIU	**Northern Antel**	**0.59**	**338**		Pg	02 01 04.3	-0.1
SNUT	**Stansbury Nort**	**0.60**	**314**		Pg	02 01 04.9	+0.3
DUG	**Dugway, Tooele**	**0.72**	**248**		Sb	02 01 19.3	+1.2
LHUT	**Little Humpy P**	**0.83**	**59**		Pb	02 01 09.8	-0.2
BSUT	**Blindstream Ca**	**0.90**	**85**	Sg	Sg	02 01 22.6	+0.6
SPUT	**South Promonto**	**0.93**	**336**		Pg	02 01 10.6	-0.1
SPUT				IAML		02 01 25.0	
	comp=E,145nm,0.4s						
SPUT				IAML		02 01 25.3	
	comp=N,197nm,0.5s						
BGU	**Big Grassy Mou**	**0.95**	**299**		Pg	02 01 10.9	-0.2
BGU				IAML		02 01 24.9	
	comp=N,79nm,0.4s						
BGU				IAML		02 01 25.9	
	comp=E,197nm,0.6s						
LEVU	**Levan**	**0.96**	**174**		Pg	02 01 11.7	+0.3
EMUT	**Emma Park**	**1.08**	**127**		Pg	02 01 13.8	+0.2
FLU	**Fool Peak**	**1.10**	**189**		Pg	02 01 14.0	0.0
HWUT	**Hardware Ranch**	**1.18**	**14**		Pg	02 01 15.2	-0.3
HWUT				IAML		02 01 32.7	
	comp=E,86nm,0.5s						
HWUT				IAML		02 01 34.6	
	comp=E,67nm,0.5s						
SNO	**Snow College**	**1.19**	**165**		Pb	02 01 16.0	0.0
ARGU	**Argyle Ridge**	**1.25**	**120**		Pb	02 01 17.1	0.0
DCM	**Dugout Coal Mi**	**1.29**	**126**		Pg	02 01 17.6	-0.2
TMUT	**Trail Mountain**	**1.30**	**154**		Pg	02 01 17.3	-0.5
TMUT				IAML		02 01 37.1	
	comp=E,66nm,0.5s						
TMUT				IAML		02 01 42.3	
	comp=N,49nm,0.6s						
FSU	**Fish Springs**	**1.34**	**237**		Pn	02 01 17.9	-0.3
ROA	**Roan Cliffs**	**1.45**	**123**		Pb	02 01 20.4	-0.1
HVU	**Hansel Valley**	**1.46**	**335**		Pn	02 01 18.7	-1.2
HVU				IAML		02 01 41.7	
	comp=E,57nm,0.3s						
HVU				IAML		02 01 43.5	
	comp=N,63nm,0.6s						
P18A	**Preston Nutter**	**1.55**	**122**		Pb	02 01 22.0	-0.1
P18A				IAML		02 01 45.1	
	comp=N,35nm,0.5s						
P18A				IAML		02 01 46.4	
	comp=E,34nm,0.4s						
BMUT	**Black Mountain**	**1.58**	**19**		Pn	02 01 22.2	+0.5
Q16A	**Castle Valley**	**1.66**	**159**		Pb	02 01 23.6	-0.2
SRU	**San Rafael Swe**	**1.74**	**141**	IAML		02 01 49.7	
	comp=N,30nm,0.6s						
SRU				IAML		02 01 51.2	
	comp=E,30nm,0.4s						
RDMU	**Red Mountain**	**1.81**	**86**		Pb	02 01 25.9	-0.6
MSU	**Marysvale**	**1.96**	**185**		Pb	02 01 29.3	+0.2
SPR3	**Spring Creek 3**	**2.35**	**232**		Pn	02 01 33.5	+1.2
SPR3				IAML		02 02 17.6	
	comp=N,14nm,0.7s						
AHID	**Auburn Hatcher**	**2.38**	**15**		Pn	02 01 32.4	-0.2
MTPU	**Mount Pierson**	**2.43**	**185**	Pg	Pb	02 01 37.6	+0.5
PSUT	**Pine Spring**	**2.43**	**218**		Pn	02 01 33.8	+0.5
ELK	**Elko**	**2.53**	**277**		Pb	02 01 37.2	-1.6
O20A	**White River Ci**	**2.85**	**95**	Pg	Pb	02 01 43.5	-0.7
O20A				IAML		02 02 27.7	
	comp=N,27nm,0.6s						
PD31	**Pinedale Array**	**2.91**	**37**		Pn	02 01 40.5	+0.5
PDAR	**Pinedale Array**	**2.91**	**37**		Pn	02 01 40.7	+0.8
PV23	**Carpenter Ridg**	**3.03**	**131**		Pn	02 01 42.5	+0.9
PV10	**Paradox Valley**	**3.07**	**132**		Pn	02 01 44.0	+1.9
TPAW	**Teton Pass**	**3.11**	**13**	IAML		02 02 39.1	
	comp=N,16nm,1.8s						
TPAW				IAML		02 02 47.4	
	comp=N,10nm,2.8s						
FXWY	**Fox Creek**	**3.24**	**12**	IAML		02 02 06.4	
	comp=N,7.0nm,5.0s						
FXWY				IAML		02 02 43.6	
	comp=N,6.2nm,3.5s						
PV07	**Paradox Valley**	**3.26**	**127**		Pn	02 01 45.1	+0.5
LOHW	**Long Hollow**	**3.30**	**17**	IAML		02 02 37.9	
	comp=N,14nm,0.5s						
LOHW				IAML		02 02 44.7	
	comp=N,11nm,4.8s						
PV13	**Radium Mtn., P**	**3.34**	**133**	IAML		02 02 38.8	
	comp=N,15nm,1.7s						
MOOW	**Moose Ponds**	**3.40**	**15**	IAML		02 02 38.3	
	comp=N,6.4nm,4.2s						
FLWY	**Flagg Ranch**	**3.73**	**14**		Pn	02 01 52.4	+1.2
FLWY				IAML		02 03 22.7	
	comp=N,14nm,4.0s						
FLWY				IAML		02 03 53.1	
	comp=N,12nm,4.7s						
H17A	**Grant Village**	**4.05**	**14**	IAML		02 03 31.1	
	comp=E,7.6nm,3.5s						

*MOS **17** 02:13:37.7±1.0, 25°.23N×124°.55E, h11km, mb4.7/23, MS4.2/4, Error ellipse: s-maj=11.7km s-min=7.0km az=107.0*
*JMA **17** 02:13:37.6±0.3, 25°.3N±0°.9×124°.6E±0°.5, h0km, MD5.1/11, MW4.8/11, NW OFF MIYAKOJIMA ISLAND*
*IDC **17** 02:13:37.6±0.6, 25°.24N×124°.50E, h0km, mb4.0/18, mbtmp3.9/23, ML3.3/5, MS4.0/67, Error ellipse: s-maj=17.2km s-min=14.3km az=76.0*
*NIED **17** 02:13:37.6, 25°.29N×124°.55E, h0km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.28; $M_{\theta\theta}$1.19; $M_{\phi\phi}$0.09; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.15; $M_{\phi r}$-0.27; Fault plane solution: $M_0$1.28000×10^{16} NP1: ϕ_s272.00000°, δ41.00000°, λ-75.00000°. NP2: ϕ_s72.00000°, δ51.00000°, λ-103.00000°.*
*NEIC **17** 02:13:39.9, 25°.25N×124°.62E, h16km*
*GCMT **17** 02:13:39.9±0.3, 25°.15N±0°.02×124°.60E±0°.04, h18km±1km, MW4.8/93, Moment Tensor Solution. s22,c22; s93,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22±.14; $M_{\theta\theta}$1.90±.09; $M_{\phi\phi}$0.31±.08; $M_{r\theta}$0.21±.17; $M_{\theta\phi}$0.02±.05; $M_{\phi r}$-0.29±.24; Best double couple: $M_0$2.08700×10^{16} NP1: ϕ_s83.00000°, δ42.00000°, λ-99.00000°. NP2: ϕ_s276.00000°, δ48.00000°, λ-81.00000°. Principal axes: T 1.9110, Plg3.0000°, Azm360.0000°; N 0.3470, Plg6.0000°, Azm90.0000°; P -2.2630, Plg83.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **17** 02:13:39.9±1.9, 25°.25N±0°.09×124°.63E±0°.07, h10km±1km, mb5.1/68, Mww4.8/16 Error ellipse: s-maj=15.6km s-min=9.3km az=151.0*
*BJI **17** 02:13:39.1, 25°.17N×124°.70E, h19km, mB4.9/36, mb4.3/61, ML4.7/3, Ms4.7/71, Ms7 4.5/68*
*NEIC **17** 02:13:39.9, 25°.15N×125°.00E, h16km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19; $M_{\theta\theta}$1.50; $M_{\phi\phi}$-0.31; $M_{r\theta}$1.44; $M_{\theta\phi}$0.21; $M_{\phi r}$-1.01; Fault plane solution: $M_0$2.24000×10^{16} NP1: ϕ_s57.98000°, δ28.19000°, λ-142.44000°. NP2: ϕ_s293.85000°, δ73.26000°, λ-66.98000°. Principal axes: T 2.1520, Plg25.0000°, Azm6.0000°; N 0.1779, Plg22.0000°, Azm107.0000°; P -2.3299, Plg56.0000°, Azm233.0000°;*
ISC 17 02:13:41.5±0.6, 25°.15N±0°.03×124°.63E±0°.02, h25km±4km, n257, σ2°20/205, mb4.9/80, MS4.1/69, 8C-3D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.51**	**172**	P	**Pb**	**02 13 50.8**	**-1.2**
JTJ				*eS*	**Sb**	**02 13 59.9**	**+0.9**
JTJ	**Tarama**	**0.51**	**172**	A	A	02 13 50.8	
	comp=N,148nm,4.6s,comp=E,112nm,2.4s						
JIRB	**Irabujima**	**0.59**	**123**	P	**Pb**	**02 13 52.0**	**-1.3**
JIRB				*eS*	**Sb**	**02 14 01.8**	**+0.6**
JIRB	**Irabujima**	**0.59**	**123**	A	A	02 13 52.0	
	comp=N,129nm,2.9s,comp=E,150nm,3.9s						
JIKM	**Ikemajima**	**0.61**	**112**	P	**Pb**	**02 13 52.3**	**-1.2**
JIKM				*eS*	**Sn**	**02 14 02.9**	**-0.7**
JIKM	**Ikemajima**	**0.61**	**112**	A	A	02 13 52.3	
	comp=N,194nm,4.3s,comp=E,224nm,3.7s						
JISG	**Ishigakijimahi**	**0.63**	**207**	P	**Pb**	**02 13 52.6**	**-1.3**
JISG				*eS*	**Sb**	**02 14 02.9**	**+0.5**
JISG	**Ishigakijimahi**	**0.63**	**207**	A	A	02 13 52.6	
	comp=N,40nm,4.6s,comp=E,51nm,0.6s						
JMJ	**Miyako jima 2**	**0.69**	**119**	P	**Pn**	**02 13 55.4**	**-0.3**
JMJ2	**Miyako jima3**	**0.76**	**123**	P	**Pb**	**02 13 55.1**	**-0.9**
JMJ2				S	**Sn**	**02 14 07.9**	**+0.6**
JMJ2	**Miyako jima3**	**0.76**	**123**	A	A	02 13 55.1	
	comp=N,159nm,2.0s,comp=E,197nm,6.6s						
JOGS	**Gusukube**	**0.81**	**119**	P	**Pb**	**02 13 56.3**	**-0.6**
JOGS	**Gusukube**	**0.81**	**119**	A	A	02 13 56.3	
	comp=N,199nm,3.1s,comp=E,184nm,5.3s						
JIJ	**Ishigaki jima**	**0.90**	**209**	P	**Pb**	**02 13 56.9**	**-1.6**
JIJ				*eS*	**Sn**	**02 14 11.0**	**+0.2**
JIJ	**Ishigaki jima**	**0.90**	**209**	A	A	02 13 56.9	
	comp=N,32nm,2.0s,comp=E,49nm,1.8s						
JKRS	**Kuro-shima**	**1.07**	**212**	P	**Pn**	**02 13 59.9**	**-1.1**
JKRS				*eS*	**Sn**	**02 14 15.7**	**+0.7**
JKRS	**Kuro-shima**	**1.07**	**212**	A	A	02 13 59.9	
	comp=N,133nm,3.1s,comp=E,141nm,2.1s						
IRIF	**Iriomote-Funau**	**1.15**	**225**	P	**Pn**	**02 14 00.1**	**-2.0**
IRIF	**Iriomote-Funau**	**1.15**	**225**	A	A	02 14 00.1	
	comp=N,32nm,1.9s,comp=E,29nm,4.8s						
HATJ	**Hateruma jima**	**1.32**	**215**	*eP*	**Pn**	**02 14 03.5**	**-0.9**
HATJ				*eS*	**Sb**	**02 14 22.3**	**+0.1**
HATJ	**Hateruma jima**	**1.32**	**215**	A	A	02 14 03.5	
	comp=N,77nm,2.6s,comp=E,52nm,3.4s						
YOJ	**Yonaguni jima**	**1.62**	**245**		**Pb**	**02 14 10.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.62**	**245**	P	**Pb**	**02 14 13.0**	**+2.3**
YOJ	**Yonaguni jima**	**1.62**	**245**	P	**Pb**	**02 14 14.4**	**+3.7**
YOJ	**Yonaguni jima**	**1.62**	**245**	P	**Pb**	**02 14 10.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.62**	**245**	A	A	02 14 07.6	
	comp=N,21nm,6.3s,comp=E,16nm,5.1s						
JYNG	**Yonagunijimaku**	**1.68**	**246**	A	A	02 14 08.6	
	comp=N,21nm,5.6s,comp=E,14nm,2.5s						
TATO	**Taipei**	**2.85**	**267**		**Pn**	**02 14 26.3**	**+0.8**
TATO	**Taipei**	**2.85**	**267**	P	**Pn**	**02 14 26.4**	**+1.0**
TATO	**Taipei**	**2.85**	**267**	P	**Pb**	**02 14 29.8**	**-1.9**
NACB	**Ninganchiao**	**2.92**	**251**		**Pn**	**02 14 26.7**	**+0.2**
NACB	**Ninganchiao**	**2.92**	**251**	P	**Pn**	**02 14 27.0**	**+0.6**
NACB	**Ninganchiao**	**2.92**	**251**	P	**Pn**	**02 14 27.1**	**+0.6**
YHNB	**Yeheng**	**2.99**	**261**	Pn	**Pn**	**02 14 28.1**	**+0.7**
YHNB	**Yeheng**	**2.99**	**261**	P	**Pn**	**02 14 28.3**	**+0.9**
YULB	**Yu-li**	**3.51**	**241**		**Pn**	**02 14 33.7**	**-0.8**
YULB	**Yu-li**	**3.51**	**241**	P	**Pn**	**02 14 33.7**	**-0.8**
YULB	**Yu-li**	**3.51**	**241**	P	**Pn**	**02 14 33.7**	**-0.8**
SSLB	**Suanglung**	**3.61**	**249**		**Pn**	**02 14 36.9**	**+0.9**
SSLB	**

KSRS Korea Array 12.58 12 Pn **Pn 02 16 34.7 -4.2**
comp=Z,0.1nm,0.3s,baz=193,slow=13,SNR=1.4
KSRS LR LR 02 21 44.0
comp=Z,1μm,18.9s,baz=200,slow=39
comp=Z,0.3nm,0.4s
DL2 Dalian 13.95 350 P **Pn 02 16 53.9 -3.6**
DL2 S **Sn 02 19 27.8 -3.7**
DL2 pmax pmax
comp=Z,35nm,1.3s
DL2 pmax pmax
comp=Z,500nm,5.1s
DL2 LR LR
comp=Z,2μm,13.4s
DL2 LR LR
comp=Z,1μm,11.7s
DL2 LR LR
comp=Z,3μm,11.8s
LYN LuoYang 14.10 314 P **P 02 17 10.3 +3.2**
LYN S **S 02 19 50.6 -5.4**
LYN SS SnSn 02 20 04.8 +17
LYN pmax pmax
comp=Z,28nm,1.1s
LYN pmax pmax
comp=Z,330nm,4.6s
LYN LR LR
comp=N,2μm,10.1s
LYN LR LR
comp=E,2μm,14.4s
LYN LR LR
comp=Z,3μm,14.8s
HNS HongShan 14.85 328 ⇑P **P 02 17 13.9 -1.5**
HNS S **Sn 02 20 00.0 +6.4**
HNS pmax pmax
comp=Z,12nm,1.7s
HNS LR LR
comp=Z,2μm,13.6s
HNS LR LR
comp=Z,2μm,12.7s
HNS LR LR
comp=Z,2μm,14.2s
QIZ Qiongzhong 14.99 249 P **Pn 02 17 12.1 +0.2**
QIZ S **Sn 02 19 57.3 +0.1**
QIZ pmax pmax
comp=Z,210nm,5.5s
QIZ LR LR
comp=Z,400nm,9.8s
QIZ LR LR
comp=Z,240nm,9.8s
QIZ LR LR
comp=Z,380nm,13.7s
GYA Guiyang 16.23 278 ⇓P **P 02 17 32.8 +1.8**
GYA S **Sn 02 20 27.6 +0.1**
GYA pmax pmax
comp=Z,19nm,1.2s
GYA pmax pmax
comp=Z,190nm,3.1s
GYA LR LR
comp=Z,810nm,11.4s
GYA LR LR
comp=Z,590nm,5.3s
GYA LR LR
comp=Z,600nm,7.3s
MJAR Matsushiro Arr 16.26 43 Pn **Pn 02 17 28.2 0.0**
baz=226,slow=9.8,SNR=2.1
MJAR LR LR 02 24 02.8
comp=Z,442nm,18.3s,baz=218,slow=38
comp=Z,1.4nm,1.0s
XAN Xi'an 16.26 307 ⇓P **P 02 17 32.0 +0.8**
XAN sP pP 02 17 36.6 -0.8
XAN S **S 02 20 35.8 -4.7**
XAN pmax pmax
comp=Z,32nm,1.5s
XAN pmax pmax
comp=Z,390nm,6.0s
XAN LR LR
comp=Z,1μm,9.6s
XAN LR LR
comp=Z,1μm,10.3s
XAN LR LR
comp=Z,2μm,9.4s
BJI Beijing 16.45 337 P **Pn 02 17 28.4 -2.2**
BJI pP **P 02 17 31.8 -1.4**
BJI PP **pwP 02 17 41.3 -0.9**
BJI S **Sn 02 20 29.5 -3.0**
BJI PcP **PcP 02 22 21.3 -0.6**
BJI pmax pmax
comp=Z,2.0nm,0.6s
BJI pmax pmax
comp=Z,60nm,4.2s
BJI LR LR
comp=Z,840nm,12.9s
BJI LR LR
comp=Z,510nm,12.5s
BJI LR LR
comp=Z,1μm,13.8s
SNY Shenyang 16.66 357 ⇑P **P 02 17 38.0 +2.6**
SNY pmax pmax
comp=Z,12nm,1.5s
SNY pmax pmax
comp=Z,270nm,9.9s
SNY LR LR
comp=Z,3μm,12.8s
SNY LR LR
comp=Z,460nm,9.5s
SNY LR LR
comp=Z,3μm,12.3s
DAV Davao City (W) 18.00 177 LR LR 02 26 17.5
comp=Z,519nm,18.4s,baz=334,slow=42
CN2 Changchun 18.62 2 P **Pn 02 17 59.3 +1.8**
CN2 S **Sn 02 21 23.0 -1.9**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,1μm,13.0s
CN2 LR LR
comp=Z,2μm,12.0s
HHC Hu-ho-hao-te 19.07 328 *e*P **Pn 02 18 05.6 +2.5**
HHC sP pwP 02 18 12.6 +1.3
HHC S **Sn 02 21 35.0 -1.1**
HHC sS S 02 21 41.1 +4.0
HHC SS **SnSn 02 21 57.3 +7.0**
HHC pmax pmax
comp=Z,28nm,1.2s
HHC LR LR
comp=Z,1μm,12.2s
HHC LR LR
comp=Z,1μm,10.3s
HHC LR LR
comp=Z,1μm,12.6s
SLVN Son La 19.41 263 P **Pn 02 18 08.5 +1.2**
BTO Baotou 19.65 325 *e*P **Pn 02 18 12.8 +2.7**
BTO pP **sP 02 18 16.0 -1.7**
BTO sP **pwP 02 18 20.5 +2.8**
BTO PP **PnPn 02 18 24.4 +0.5**
BTO pmax pmax
comp=Z,29nm,0.6s
BTO pmax pmax
comp=Z,390nm,4.4s
BTO LR LR
comp=Z,2μm,12.2s
BTO LR LR
comp=Z,1μm,10.4s
BTO LR LR
comp=Z,3μm,12.9s
KMI Kunming 19.82 275 ⇑P **Pn 02 18 14.5 +2.2**
KMI pmax pmax
comp=Z,250nm,5.5s
KMI LR LR
comp=Z,600nm,10.1s
KMI LR LR
comp=Z,340nm,10.3s
KMI LR LR
comp=Z,590nm,10.5s
MDJ Mudanjiang 19.83 10 P **P 02 18 09.3 -1.1**
MDJ S **Sn 02 21 53.8 -0.4**
MDJ pmax pmax
comp=Z,7.0nm,0.5s
MDJ pmax pmax
comp=Z,210nm,4.8s
MDJ LR LR
comp=Z,910nm,21.6s
MDJ LR LR
comp=Z,1μm,12.4s
MDJ LR LR
comp=Z,2μm,13.1s
USRK Ussuriysk Ar. 19.93 16 P **P 02 18 10.9 -0.5**
comp=Z,0.4nm,0.3s,baz=193,slow=8.5,SNR=6.1
USRK LR LR 02 25 24.5
comp=Z,522nm,21.4s,baz=195,slow=36
comp=Z,1.5nm,0.7s
XLT XiLinHaoTe 19.96 342 *e*P **P 02 18 12.3 +0.4**
XLT pP pP 02 18 15.3 -2.8
XLT sP sP 02 18 19.4 -1.6
XLT PP **PnPn 02 18 29.0 +0.9**
XLT S **Sn 02 21 57.4 -0.1**
XLT SS **SnSn 02 22 20.8 +8.6**
XLT pmax pmax
comp=Z,12nm,1.1s
XLT pmax pmax
comp=Z,150nm,6.2s
XLT LR LR
comp=Z,1μm,13.2s
XLT LR LR
comp=Z,2μm,14.9s
UBPT Khong Chiam 20.46 245 Pn 02 18 18.6 -1.0
PZH PanZhiHua 20.64 279 P Pn 02 18 20.8 -1.1
PZH S **S 02 22 06.3 -2.9**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,110nm,4.8s
PZH LR LR
comp=Z,540nm,12.1s
PZH LR LR
comp=Z,1μm,8.5s
PZH LR LR
comp=Z,990nm,8.9s
BNX BinXian 20.66 6 ⇓P Pn 02 18 20.8 -1.0
BNX sS Sn 02 22 21.1 +6.9
BNX pmax pmax
comp=Z,16nm,1.3s
BNX pmax pmax
comp=Z,310nm,4.3s
BNX LR LR
comp=Z,1μm,15.2s
BNX LR LR
comp=Z,610nm,10.8s
BNX LR LR
comp=Z,2μm,14.1s
MYLDM Lahad Datu 20.71 197 P Pn 02 18 22.0 -0.6
LZH Lanzhou 20.90 306 *e*P Pn 02 18 23.6 -1.3
LZH sP sP 02 18 29.0 -2.4
LZH S Sn 02 22 18.4 -1.9
LZH pmax pmax
comp=Z,61nm,1.4s
LZH LR LR
comp=Z,970nm,16.8s
LZH LR LR
comp=Z,990nm,14.1s
LZH LR LR
comp=Z,1μm,15.1s
GUMO Guam 22.26 117 LR LR 02 25 28.7
comp=Z,196nm,21.1s,baz=346,slow=32
PHRA Phrae 23.58 259 P **P 02 18 50.8 +0.4**
TNCH TengChong 23.64 275 *e*P **P 02 18 50.6 -0.5**
TNCH pP pP 02 18 55.9 -1.8
TNCH S **S 02 23 00.3 -4.3**
TNCH pmax pmax
comp=Z,19nm,0.6s
TNCH pmax pmax
comp=Z,160nm,4.7s
TNCH LR LR
comp=Z,550nm,8.7s
TNCH LR LR
comp=Z,600nm,8.5s
TNCH LR LR
comp=Z,380nm,9.0s
ASAJ Asahikawa 23.92 33 LR LR 02 27 45.3
comp=Z,423nm,20.4s,baz=192,slow=35
TOLI2 Tolitoli 24.19 189 P **P 02 18 57.2 +1.0**
TOLI2 IAmb IAmb 02 19 10.9
comp=Z,95nm,1.9s
HIA Hailar 24.37 352 P **P 02 18 57.2 -0.5**
HIA IAmb IAmb 02 19 03.5
comp=Z,39nm,1.2s
HIA Hailar 24.37 352 *i* P **P 02 18 57.1 -0.5**
HIA pmax pmax
comp=Z,34nm,1.3s
TNTI Ternate 24.38 173 P **P 02 19 03.5 +5.6**
comp=Z,1μmcomp=Z,40nm,1.5s
CHTO Chiang Mai 24.61 260 P **P 02 18 59.8 -0.3**
CHTO Chiang Mai 24.61 260 P **P 02 18 59.8 -0.3**
CHTO pmax pmax
comp=Z,36nm,1.6s
MRSI Marisa 24.67 186 P **P 02 19 03.0 +2.5**
comp=Z,2μmcomp=Z,60nm,1.7s
KLR Kul'dur 24.67 11 LR LR 02 28 29.8
comp=Z,505nm,21.7s,baz=208,slow=36
KLR Kul'dur 24.67 11 *e*P **P 02 19 00.7 +0.4**
KLR pmax pmax
comp=Z,25nm,1.6s
CMAR Chiang Mai Arr 24.73 259 P **P 02 19 01.2 +0.1**
CMAR Chiang Mai Arr 24.73 259 P **P 02 19 00.1 -1.0**
comp=Z,1.2nm,0.3s,baz=61,slow=8.1,SNR=16
CMAR LR LR 02 28 43.2
comp=Z,131nm,18.6s,baz=85,slow=37
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 24.73 259 *i* P **P 02 19 01.7 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MPSI Mapaga 25.09 191 P **P 02 19 05.7 +1.4**
comp=Z,525nmcomp=Z,20nm,1.9s
HEH HeiHe 25.15 4 *e*P **P 02 19 09.4 +4.8**
HEH pmax pmax
comp=Z,6.0nm,0.9s
GTA Gaotai 25.24 310 *e*P **P 02 19 06.5 +0.8**
GTA S **S 02 23 35.8 +5.9**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA LR LR
comp=Z,350nm,14.2s
GTA LR LR
comp=Z,740nm,14.2s
GTA LR LR
comp=Z,740nm,15.6s
SBUM Sibu 25.54 210 P **P 02 19 06.8 -1.6**
LUWI Luwuk 26.10 184 P **P 02 19 18.0 +4.5**
LUWI Luwuk 26.10 184 P P 02 19 22.2 +8.7
PCI Palu 26.32 191 P **P 02 19 20.5 +5.0**
ULN Ulaanbaatar 26.59 333 P **P 02 19 17.0 -0.8**
ULN IAmb IAmb 02 19 26.7
comp=Z,65nm,1.7s
ULN Ulaanbaatar 26.59 333 *i* P **P 02 19 17.3 -0.5**
ULN pmax pmax
comp=Z,19nm,1.5s
SONM Songino Array 26.84 332 P **P 02 19 19.3 -0.7**
SONM Songino Array 26.84 332 P **P 02 19 19.7 -0.4**
comp=Z,6.4nm,1.1s,baz=155,slow=7.9,SNR=18
SONM PcP **PcP 02 22 42.5 +0.2**
comp=Z,0.3nm,0.3s,baz=142,slow=3.5,SNR=2.6
SONM LR LR 02 31 01.7
comp=Z,618nm,18.9s,baz=156,slow=39
comp=Z,6.4nm,1.1s
SANI Sanana 27.07 177 P **P 02 19 23.8 +1.5**
GOMU GeErMu 27.80 300 P **P 02 19 28.9 -0.2**
GOMU sP sP 02 19 36.0 -2.7
GOMU S **S 02 24 17.8 +6.9**
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU LR LR
comp=Z,290nm,8.4s
GOMU LR LR
comp=Z,630nm,8.2s
GOMU LR LR
comp=Z,770nm,8.2s
ZEA Zeya 28.62 3 *e*P P 02 19 39.9 +4.2
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
ZAK Zakamensk 30.10 332 *e*P **P 02 19 47.1 -2.0**
BRDH Bariadhala 30.21 272 LR LR 02 34 21.0
comp=Z,117nm,19.4s,baz=163,slow=41
KAPI Kappang 30.36 190 LR LR 02 31 52.0
comp=Z,312nm,21.2s,baz=2.5,slow=36
JAY Jayapura 31.62 148 LR LR 02 29 50.7
comp=Z,343nm,21.9s,baz=340,slow=31
MOY Mondy 32.03 332 *e*P **P 02 20 05.4 -0.7**
MOY pmax pmax
comp=Z,48nm,2.0s
PSI Prapat 33.26 232 LR LR 02 33 19.4
comp=Z,134nm,19.4s,baz=58,slow=36
PSI Prapat 33.26 232 P **P 02 20 17.1 -0.1**
PSI pmax pmax
comp=Z,19nm,1.2s
RPSI Rantau Prapat 33.34 232 P **P 02 20 17.1 -0.7**
RPSI IAmb IAmb 02 20 30.6
comp=Z,19nm,1.2s
WMQ Urumqi 35.31 311 *e*P **P 02 20 38.1 +3.4**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ LR LR
comp=Z,680nm,15.1s
WMQ LR LR
comp=Z,700nm,20.5s
WMQ LR LR
comp=Z,220nm,18.3s
LEM Lembang 35.84 210 LR LR 02 36 32.4
comp=Z,102nm,19.5s,baz=83,slow=38
YAK Yakutsk 37.02 4 LR LR 02 36 58.2
comp=Z,260nm,18.4s,baz=156,slow=38
YAK Yakutsk 37.02 4 *i* P **P 02 20 48.6 -0.4**
YAK pmax pmax
comp=Z,5.0nm,0.7s
PETK Petropavlovsk- 37.34 33 LR LR 02 36 15.4
comp=Z,198nm,18.7s,baz=231,slow=36
MTN Manton Dam 38.30 170 P **P 02 20 59.9 -0.3**
MTN IAmb IAmb 02 21 16.9
comp=Z,28nm,1.2s
MA2 Magadan 38.93 21 LR LR 02 36 48.4
comp=Z,277nm,21.2s,baz=222,slow=36
KRVT Keravat (AS076 39.57 134 LR LR 02 33 55.8
comp=Z,215nm,21.5s,baz=22,slow=31
MK31 Makanchi Array 39.88 314 P **P 02 21 11.7 -1.5**
MK31 Makanchi Array 39.88 314 *ce*P **P 02 21 13.1 -0.1**
MKAR Makanchi Array 39.88 314 P **P 02 21 11.6 -1.7**
MKAR Makanchi Array 39.88 314 P **P 02 21 12.1 -1.1**
comp=Z,0.6nm,0.5s,baz=102,slow=9.7,SNR=8.6
MKAR PP **PP 02 22 41.9 -3.1**
comp=Z,0.8nm,0.8s,baz=106,slow=11,SNR=1.4
MKAR PcP **PcP 02 23 17.8 -0.9**
comp=Z,1.0nm,0.8s,baz=102,slow=5.2,SNR=4.1
MKAR LR LR 02 38 53.4
comp=Z,233nm,18.5s,baz=97,slow=38
comp=Z,0.6nm,0.5s
PMG Port Moresby 40.77 145 LR LR 02 35 18.6
comp=Z,204nm,19.7s,baz=332,slow=32
ZAA0 Zalesovo Array 41.20 325 P **P 02 21 22.5 -1.4**
ZALV Zalesovo Beam 41.20 325 P **P 02 21 22.8 -1.2**
ZALV Zalesovo Beam 41.20 325 P **P 02 21 22.4 -1.6**
comp=Z,1.6nm,0.5s,baz=112,slow=9.3,SNR=9.1
ZALV LR LR 02 39 48.0
comp=Z,396nm,18.6s,baz=111,slow=38
comp=Z,1.6nm,0.5s
COEN Coen 42.88 153 P **P 02 21 39.0 +0.9**
COEN IAmb IAmb 02 21 54.9
comp=Z,38nm,1.6s
FITZ Fitzroy Crossi 43.00 179 LR LR 02 40 19.0
comp=Z,49nm,21.1s,baz=5.5,slow=37
KSH Kashi 43.03 302 P P 02 21 43.8 +4.5
KSH pmax pmax
comp=Z,2.0nm,0.6s
KSH LR LR
comp=Z,320nm,13.4s
KSH LR LR
comp=Z,340nm,11.7s
KSH LR LR
comp=Z,340nm,15.8s
KURK Kurchatov 43.41 318 P **P 02 21 41.2 -0.8**
KURK Kurchatov 43.41 318 *ce*P **P 02 21 41.4 -0.6**
KURK pmax pmax
comp=Z,11nm,1.7s
KURBB Kurchatov Arra 43.44 318 P **P 02 21 40.9 -1.3**
comp=Z,0.5nm,0.3s,baz=108,slow=8.7,SNR=9.3
KURBB PP **PP 02 23 23.0 -0.3**
comp=Z,1.0nm,0.5s,baz=109,slow=9.2,SNR=5.3
KURBB LR LR 02 43 21.6
comp=Z,64nm,18.9s,baz=170,slow=41
comp=Z,0.5nm,0.3s
AAK Ala-Archa 44.44 306 LR LR 02 42 46.0
comp=Z,193nm,18.3s,baz=86,slow=40
AAK Ala-Archa 44.44 306 *i* P **P 02 21 50.5 -0.2**
AAK pmax pmax
comp=Z,7.0nm,2.1s
PALK Pallekele 45.52 255 LR LR 02 44 03.2
comp=Z,39nm,18.6s,baz=66,slow=40
WRAB Tennant Creek 45.80 167 *i* P **P 02 22 02.2 +0.8**
WRAB pmax pmax
comp=Z,19nm,1.1s
WRA Warramunga Arr 45.81 167 P **P 02 22 01.5 +0.1**
WRA Warramunga Arr 45.81 167 P **P 02 22 01.9 +0.4**
comp=Z,5.7nm,0.8s,baz=349,slow=8.7,SNR=32
WRA LR LR 02 39 44.0
comp=Z,146nm,21.5s,baz=2.0,slow=34
comp=Z,5.7nm,0.8s
WR0 Warramunga Arr 45.87 167 P **P 02 22 00.7 -1.2**
WR0 IAmb IAmb 02 22 23.0
comp=Z,26nm,1.4s
TIXI Tiksi 46.59 2 P **P 02 22 06.0 -1.0**
TIXI Tiksi 46.59 2 LR LR 02 43 44.2
comp=Z,649nm,18.4s,baz=190,slow=39
TIXI Tiksi 46.59 2 *ce*P **P 02 22 07.8 +0.8**
TIXI pmax pmax
comp=Z,12nm,1.3s
KBL Kabul 48.59 295 P **P 02 22 22.8 -0.6**
KBL IAmb IAmb 02 22 32.5
comp=Z,26nm,1.6s
KBL Kabul 48.59 295 P **P 02 22 22.8 -0.6**
KBL pmax pmax
comp=Z,26nm,1.6s
BVAR Borovoye Array 48.94 319 P **P 02 22 24.3 -1.3**
comp=Z,0.5nm,0.7s,baz=74,slow=11,SNR=1.9
BVAR PcP **PcP 02 23 48.6 -0.9**
comp=Z,1.2nm,0.7s,baz=85,slow=3.2,SNR=2.3
comp=Z,0.5nm,0.7s
BRVK Borovoye 49.01 319 *i* P **P 02 22 26.1 0.0**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
NRIK Noril'sk 49.32 344 P **P 02 22 26.6 -1.5**
NRIK IAmb IAmb 02 22 33.0
comp=Z,17nm,1.4s
NRIK Noril'sk 49.32 344 P **P 02 22 27.4 -0.8**
comp=Z,4.2nm,0.9s,baz=133,slow=5.8,SNR=4.6
NRIK LR LR 02 45 33.3
comp=Z,434nm,20.8s,baz=136,slow=39
comp=Z,4.2nm,0.9s
NRIK Noril'sk 49.32 344 *ce*P **P 02 22 26.7 -1.5**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
AS31 Alice Springs 49.35 169 P **P 02 22 29.8 +0.8**
ASAR Alice Springs 49.36 169 P **P 02 22 29.9 +0.8**
comp=Z,1.6nm,0.5s,baz=353,slow=6.8,SNR=46
ASAR LR LR 02 42 11.6
comp=Z,70nm,21.7s,baz=338,slow=35
comp=Z,1.6nm,0.5s
BILL Bilibino 49.73 19 *i* P **P 02 22 31.3 0.0**
BILL pmax pmax
comp=Z,9.0nm,2.1s
ABKAR Akbulak array 55.02 314 P **P 02 23 10.2 -0.7**
ABKAR Akbulak array 55.02 314 P **P 02 23 10.4 -0.5**
SVE Sverdlovsk 55.14 323 *e*P **P 02 23 11.4 -0.2**
AKTO Aktyubinsk 56.29 315 LR LR 02 48 41.4
comp=Z,176nm,18.1s,baz=135,slow=38
ARTI Arti 56.33 322 P **P 02 23 19.1 -1.1**
ARTI IAmb IAmb 02 23 27.8
comp=Z,41nm,1.9s
ARTI Arti 56.33 322 LR LR 02 49 16.4
comp=Z,292nm,19.1s,baz=96,slow=38
ARTI Arti 56.33 322 *c i* P **P 02 23 17.8 -2.4**
ARTI 02 25 20.5
ARTI S **S 02 31 08.8 -0.1**
ARTI SS **SS 02 34 55.2 -0.4**
ARTI pmax pmax
comp=Z,46nm,4.0s
STKA Stephens Creek 58.98 163 P **P 02 23 39.5 +0.5**
comp=Z,2.5nm,0.8s,baz=327,slow=13,SNR=4.3
STKA LR LR 02 49 57.9
comp=Z,57nm,19.9s,baz=22,slow=37
comp=Z,2.5nm,0.8s
STKA Stephens Creek 58.98 163 *i* P **P 02 23 40.4 +1.4**
KIRV Kirov 61.23 325 LR LR 02 52 34.6
comp=Z,304nm,18.7s,baz=95,slow=38
DZM Mont Dzumac 62.06 136 *e*LR LR 02 42 25.5
comp=Z,317nm,24.8s

DZM	Mont Dzumac	62.06	136	LR	LR	02 46 39.0			
	comp=Z,104nm,21.6s,baz=236,slow=32								
BELG	Belogornoye	62.68	318	LR	LR	02 54 19.9			
	comp=Z,117nm,18.4s,baz=68,slow=39								
MAK	Makhachkala	64.19	307	*e*P	P	02 24 08.9	-5.3		
MAK				*e*S	**S**	**02 32 43.2**	**-6.9**		
MAK				pmax	pmax				
	comp=Z,171nm,1.1s								
MAK				MLR	MLR				
	comp=Z,201nm,15.0s								
CAST	Castle Rocks	64.84	30	P	**P**	**02 24 18.8**	**+0.7**		
KDAK	Kodiak Island	65.30	36	LR	LR	02 52 38.7			
	comp=Z,52nm,21.6s,baz=73,slow=36								
NEA2	Nenana	66.01	28	IAmb	IAmb	02 24 45.8			
	comp=Z,19nm,1.4s								
RND	Reindeer	66.28	29	P	**P**	**02 24 26.5**	**-1.0**		
RND				IAmb	IAmb	02 24 44.1			
	comp=Z,11nm,0.8s								
RND	Reindeer	66.28	29	P	**P**	**02 24 26.5**	**-1.0**		
RND				pmax	pmax				
	comp=Z,11nm,0.8s								
GNI	Garni	66.83	305	LR	LR	02 56 05.5			
	comp=Z,46nm,20.7s,baz=82,slow=38								
ILAR	Eielson Array	66.91	28	P	**P**	**02 24 31.6**	**+0.1**		
	comp=Z,0.3nm,0.8s,baz=255,slow=4.5,SNR=5.4								
ILAR				LR	LR	02 55 53.1			
	comp=Z,85nm,18.1s,baz=281,slow=38								
	comp=Z,0.3nm,0.8s								
HDA	Harding Lake	66.95	28	IAmb	IAmb	02 25 01.9			
	comp=Z,32nm,1.7s								
KBZ	Khabaz	67.31	309	LR	LR	02 58 37.2			
	comp=Z,91nm,19.4s,baz=70,slow=40								
KBZ	Khabaz	67.31	309	*i* P	**P**	**02 24 34.0**	**-0.3**		
KBZ				pmax	pmax				
	comp=Z,4.0nm,1.1s								
KIV	Kislovodsk	67.41	309	P	**P**	**02 24 34.5**	**-0.6**		
KIV	Kislovodsk	67.41	309	*e*P	**P**	**02 24 34.5**	**-0.6**		
KIV				pmax	pmax				
	comp=Z,20nm,1.0s								
KIV				MLR	MLR				
	comp=Z,72nm,17.0s								
MOS	Moscow	67.95	322	*e*P	**P**	**02 24 41.5**	**+3.4**		
MOS				*e*		02 33 36.7			
MOS				pmax	pmax				
	comp=Z,32nm,1.5s								
SCRK	Sand Creek	68.31	28	P	**P**	**02 24 42.0**	**+1.6**		
J26L	Joseph Creek	68.37	28	IAmb	IAmb	02 25 10.0			
	comp=Z,28nm,1.7s								
OBN	Obninsk	68.68	322	LR	LR	02 56 40.5			
	comp=Z,199nm,19.4s,baz=353,slow=38								
OBN	Obninsk	68.68	322	*i* P	**P**	**02 24 42.1**	**-0.5**		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.9s								
OBN				MLR	MLR				
	comp=Z,209nm,18.0s								
M26K	Nabesna, AK	69.11	30	IAmb	IAmb	02 24 48.5			
	comp=Z,26nm,1.5s								
SPITS	Spitsbergen Ar	69.20	348	LR	LR	03 01 05.9			
	comp=Z,173nm,19.0s,baz=22,slow=41								
L27K	Beaver Creek,	69.47	29	IAmb	IAmb	02 25 22.0			
	comp=Z,25nm,1.9s								
BCAR	Beaver Creek A	69.48	29	P	**P**	**02 24 47.7**	**+0.1**		
I28M	Miner Creek	69.63	26	IAmb	IAmb	02 25 11.8			
	comp=Z,11nm,1.1s								
ARCES	ARCESS Array B	69.81	338	LR	LR	02 59 49.0			
	comp=Z,186nm,18.8s,baz=79,slow=40								
K29M	Barlow Dome	71.09	28	IAmb	IAmb	02 25 01.4			
	comp=Z,26nm,1.9s								
INK	Inuvik	71.14	23	LR	LR	03 00 06.1			
	comp=Z,54nm,19.6s,baz=238,slow=39								
M30M	Minto, Yukon	71.82	29	IAmb	IAmb	02 25 18.9			
	comp=Z,28nm,1.7s								
FINES	FINESS Array B	72.18	330	P	**P**	**02 25 02.1**	**-1.9**		
	comp=Z,2.4nm,0.9s,baz=338,slow=4.1,SNR=4.0								
FINES				LR	LR	03 00 32.5			
	comp=Z,407nm,18.1s,baz=64,slow=39								
	comp=Z,2.4nm,0.9s								
FARO	Faro, Yukon	73.44	29	IAmb	IAmb	02 25 35.9			
	comp=Z,18nm,1.3s								
AKASG	Malin Array Be	74.22	319	P	**P**	**02 25 14.3**	**-1.9**		
	comp=Z,0.2nm,0.4s,baz=62,slow=4.9,SNR=4.7								
AKASG				LR	LR	03 00 37.1			
	comp=Z,84nm,18.4s,baz=62,slow=38								
	comp=Z,0.2nm,0.4s								
AKASG	Malin Array Be	74.22	319	*i* P	**P**	**02 25 14.8**	**-1.4**		
P33M	Teslin, Yukon	74.46	30	IAmb	IAmb	02 25 34.2			
	comp=Z,32nm,1.6s								
BR131	Keskin Array S	75.11	307	P	**P**	**02 25 21.0**	**-0.8**		
BR131	Keskin Array S	75.11	307	*i* P	**P**	**02 25 21.3**	**-0.5**		
BRTR	Keskin Array B	75.11	307	P	**P**	**02 25 21.0**	**-0.8**		
BRTR	Keskin Array B	75.11	307	P	**P**	**02 25 21.0**	**-0.8**		
	comp=Z,2.7nm,1.1s,baz=73,slow=4.3,SNR=8.1								
	comp=Z,2.7nm,1.1s								
BRTR	Keskin Array B	75.11	307	P	**P**	**02 25 21.0**	**-0.8**		
R33M	Jennings River	75.65	31	IAmb	IAmb	02 25 34.0			
	comp=Z,37nm,1.9s								
MMAI	Mount Meron Ar	76.14	300	LR	LR	03 04 29.7			
	comp=Z,62nm,19.5s,baz=64,slow=40								
WTLY	Watson Lake, Y	76.33	30	IAmb	IAmb	02 25 44.7			
	comp=Z,26nm,1.4s								
DLBC	Dease Lake	76.51	31	IAmb	IAmb	02 25 46.5			
	comp=Z,35nm,1.6s								
RES	Resolute Bay	77.19	10	LR	LR	03 03 31.1			
	comp=Z,101nm,18.9s,baz=307,slow=39								
EIL	Elat	77.72	297	LR	LR	03 03 29.5			
	comp=Z,29nm,18.8s,baz=40,slow=39								
MLR	Muntele Rosu	78.22	315	LR	LR	03 04 09.4			
	comp=Z,204nm,19.7s,baz=58,slow=39								
HFS	Hagfors	78.23	331	LR	LR	03 03 31.0			
	comp=Z,247nm,18.9s,baz=62,slow=38								
JMIC	Jan Mayen	78.68	346	LR	LR	03 04 59.7			
	comp=Z,112nm,19.8s,baz=190,slow=39								
NOA	NORSAR Array B	78.81	333	LR	LR	03 04 51.0			
	comp=Z,226nm,18.2s,baz=65,slow=39								
KOLS	Kolonicke sedl	79.05	319	*e*P	**P**	**02 25 46.8**	**+3.2**		
KOLS	Kolonicke sedl	79.05	319	*e*P	**P**	**02 25 46.8**	**+3.2**		
KECS	Kecovo	80.31	319	*e*P	**P**	**02 25 54.2**	**+3.7**		
KECS	Kecovo	80.31	319	*e*P	**P**	**02 25 54.2**	**+3.7**		
BBB	Bella Bella	80.36	37	LR	LR	02 59 03.1			
	comp=Z,37nm,21.9s,baz=326,slow=34								
YKA	Yellowknife Ar	80.84	24	P	**P**	**02 25 52.2**	**-0.8**		
YKA	Yellowknife Ar	80.84	24	P	**P**	**02 25 52.8**	**-0.2**		
	comp=Z,1.5nm,0.8s,baz=307,slow=5.1,SNR=19								
YKA				LR	LR	03 05 33.0			
	comp=Z,96nm,18.8s,baz=312,slow=38								
	comp=Z,1.5nm,0.8s								
YKA	Yellowknife Ar	80.84	24	*i* P	**P**	**02 25 52.2**	**-0.8**		
YKA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
VRAC	Vranov	82.19	321	LR	LR	03 04 55.9			
	comp=Z,176nm,20.4s,baz=52,slow=38								
KHC	Kasperske Hory	83.98	322	*i* P	**P**	**02 26 10.0**	**+0.3**		
KHC				pmax	pmax				
	comp=Z,2.0nm,1.3s								
GERES	GERESS Array B	84.06	322	P	**P**	**02 26 10.9**	**+0.7**		
	comp=Z,0.6nm,0.8s,baz=64,slow=5.1,SNR=3.6								
GERES				LR	LR	03 06 01.8			
	comp=Z,196nm,18.4s,baz=64,slow=38								
	comp=Z,0.6nm,0.8s								
BORG	Borgarnes	86.58	346	LR	LR	03 08 27.5			
	comp=Z,121nm,19.6s,baz=337,slow=38								
DAVOX	Davos/Dischmat	87.34	321	LR	LR	03 11 01.3			
	comp=Z,172nm,18.9s,baz=44,slow=40								
C09A	Chrisman Ranch	88.06	37	IAmb	IAmb	02 26 39.8			
	comp=Z,18nm,1.4s								
SFJD	Kangerlussuaq	88.07	358	LR	LR	03 08 04.5			
	comp=Z,70nm,19.8s,baz=344,slow=37								
KMBO	Kilima Mbogo	88.09	268	P	**P**	**02 26 30.5**	**-0.4**		
KMBO				IAmb	IAmb	02 26 32.6			
	comp=Z,12nm,1.6s								
KMBO	Kilima Mbogo	88.09	268	P	**P**	**02 26 30.5**	**-0.4**		
KMBO				pmax	pmax				
	comp=Z,12nm,1.6s								
NEW	Newport	88.40	36	IAmb	IAmb	02 26 38.5			
	comp=Z,13nm,1.3s								
NEW	Newport	88.40	36	LR	LR	03 05 51.4			
	comp=Z,26nm,20.1s,baz=304,slow=35								
BMO	Blue Mountains	90.36	39	IAmb	IAmb	02 26 47.9			
	comp=Z,19nm,1.6s								
FRB	Frobisher Bay	90.79	6	LR	LR	03 08 45.8			
	comp=Z,94nm,21.7s,baz=338,slow=36								
FFC	Flin Flon	90.97	25	P	**P**	**02 26 42.6**	**-0.7**		
FFC	Flin Flon	90.97	25	P	**P**	**02 26 42.6**	**-0.7**		
FFC				pmax	pmax				
	comp=Z,38nm,1.7s								
MSO	Missoula	90.99	36	IAmb	IAmb	02 26 51.2			
	comp=Z,18nm,1.3s								
WVOR	Wild Horse Val	91.01	41	P	**P**	**02 26 45.4**	**+1.5**		
WVOR	Wild Horse Val	91.01	41	P	**P**	**02 26 45.4**	**+1.5**		
WVOR				pmax	pmax				
	comp=Z,29nm,1.9s								
MFID	Camas Ranch	92.07	39	IAmb	IAmb	02 26 56.3			
	comp=Z,14nm,1.4s								
HLID	Hailey	92.79	39	IAmb	IAmb	02 27 00.1			
	comp=Z,15nm,1.6s								
BOZ	Bozeman (W)	93.01	36	IAmb	IAmb	02 27 00.2			
	comp=Z,12nm,1.6s								
NVAR	Mina Array Bea	93.57	44	P	**P**	**02 26 56.1**	**+0.1**		
	comp=Z,0.5nm,0.7s,baz=289,slow=4.5,SNR=4.1								
	comp=Z,0.5nm,0.7s								
PPT2	Papeete2	93.65	108	*e*LR	LR	02 57 02.6			
	comp=Z,79nm,24.8s								
YHL	Hebgen Lake	93.74	36	IAmb	IAmb	02 27 04.9			
	comp=Z,8.1nm,1.3s								
KEST	Kesra	93.96	312	LR	LR	03 15 37.2			
	comp=Z,42nm,18.1s,baz=329,slow=40								
RLMT	Red Lodge	94.56	35	IAmb	IAmb	02 27 06.8			
	comp=Z,18nm,1.8s								
PDAR	Pinedale Array	96.00	37	P	**P**	**02 27 08.2**	**+1.1**		
	comp=Z,0.4nm,0.9s,baz=318,slow=3.2,SNR=2.9								
	comp=Z,0.4nm,0.9s								
ULM	Lac du Bonnet	96.80	25	LR	LR	03 15 49.2			
	comp=Z,82nm,18.2s,baz=336,slow=39								
SCHQ	Schefferville	99.74	7	LR	LR	03 16 42.5			
	comp=Z,119nm,18.1s,baz=20,slow=38								
RUSC	La Rusia	144.66	32		**PKPab**	**02 33 16.1**	**-0.1**		
GO07	Milladeo Hill,	156.63	145		**PKPab**	**02 34 03.5**	**-0.1**		

GUC ***17*** *02:14:01.9±0.5,23°.10S×69°.26W,h113km±5km,ML3.6*
SJA ***17*** *02:14:02.0,23°.05S×69°.40W,h107km,ML3.4*
ISC 17 02:14:02.1±1.6,23°.08S±0°.03×69°.33W±0°.06,
h109km±16km,n21,σ0s94/28,1C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.07**	**83**	*i* P	**Pn**	**02 14 22.9**	**-1.3**
AF01	**San Pedro de A**	**1.07**	**83**	⇓*e*P	**Pn**	**02 14 23.6**	**-0.7**
AF01				*e*S	**Sn**	**02 14 39.7**	**-1.2**
PB09	**IPOC Station P**	**1.28**	**4**	*i* P	**Pn**	**02 14 26.7**	**+0.2**
PB09	**IPOC Station P**	**1.28**	**4**	*e*P	**Pn**	**02 14 26.7**	**+0.2**
PB09				*e*S	**Sn**	**02 14 46.0**	**+1.1**
PB09				IAML		02 14 46.9	
	comp=E,628nm,0.6s						
PB14	**IPOC Station P**	**1.83**	**212**	*i* P	**Pn**	**02 14 33.5**	**+0.3**
PB14	**IPOC Station P**	**1.83**	**212**	*e*P	**Pn**	**02 14 34.0**	**+0.9**
PB14				*e*S	**Sn**	**02 14 57.8**	**+1.0**
PB01	**IPOC Station P**	**2.03**	**356**	*i* P	**Pn**	**02 14 35.4**	**-0.1**
PB01	**IPOC Station P**	**2.03**	**356**	*e*P	**Pn**	**02 14 35.9**	**+0.3**
PB01				*e*S	**Sn**	**02 15 01.6**	**+0.5**
PB01				IAML		02 15 03.4	
	comp=E,454nm,0.5s						
GO02	**Mina Guanaco**	**2.09**	**187**	*i* P	**Pn**	**02 14 36.4**	**-0.1**
GO02	**Mina Guanaco**	**2.09**	**187**	*e*P	**Pn**	**02 14 37.0**	**+0.5**
GO02				*e*S	**Sn**	**02 15 03.5**	**+0.8**
GO02				IAML		02 15 06.2	
	comp=N,430nm,0.2s						
TA01	**Diego Aracena**	**2.62**	**342**	*i* P	**Pn**	**02 14 42.3**	**-0.9**
TA01	**Diego Aracena**	**2.62**	**342**	*e*P	**Pn**	**02 14 42.8**	**-0.4**
TA01				IAML		02 15 34.4	
	comp=N,182nm,0.7s						
TA02	**Huaiquique**	**2.89**	**345**	*e*P	**Pn**	**02 14 47.2**	**+0.5**
TA02				*e*S	**Sn**	**02 15 21.9**	**+0.9**
PB08	**IPOC Station P**	**2.93**	**3**	*i* P	**Pn**	**02 14 47.0**	**-0.5**
PB08	**IPOC Station P**	**2.93**	**3**	⇓*e*P	**Pn**	**02 14 47.5**	**0.0**
AC01	**Pan de Azucar**	**3.27**	**200**	*i* P	**Pn**	**02 14 50.5**	**-1.2**
AC01	**Pan de Azucar**	**3.27**	**200**	⇑*e*P	**Pn**	**02 14 51.0**	**-0.6**
AC01				*e*S	**Sn**	**02 15 28.1**	**-1.8**
AC01				IAML		02 15 29.2	
	comp=E,110nm,0.2s						
YJA	**Yavi**	**3.64**	**76**	*i* P	**Pn**	**02 14 58.3**	**+1.3**
AC02	**Maricunga**	**3.74**	**177**	*i* P	**Pn**	**02 14 58.8**	**+0.3**
AZAP	**Zapla**	**4.07**	**107**	*i* P	**Pn**	**02 15 03.0**	**+0.4**
PB12	**IPOC Station P**	**4.54**	**348**	*i* P	**Pn**	**02 15 06.8**	**-2.0**

BEO ***17*** *02:31:39.3±0.7,39°.35N×23°.78E,h0km±4km,ML3.8/9*
IDC ***17*** *02:31:43.8±1.0,39°.59N×23°.28E,h0km,mb3.6/11,*
mbtmp3.6/21,ML3.5/8,MS3.4/10,Error ellipse:
s-maj=14.7km s-min=14.0km az=7.0
ISK ***17*** *02:31:43.5,39°.60N×23°.23E,h6km,ML3.9/42*
THE ***17*** *02:31:44.7,39°.59N×23°.30E,h13km,ML3.7/6,Error*
ellipse: s-maj=0.7km s-min=0.3km az=188.0
ATH ***17*** *02:31:44.7,39°.60N×23°.31E,h9km±3km,ML3.7/7,Manual*
Solution by F.Xalaris First location: 2019/02/17 02:32:06,
This location: 2019/02/17 09:06:04 ML Amplitudes are
expressed in micrometers, All distances are expressed in
degrees Latitude uncertainty: 2 km; Longitude uncertainty:
2 km
NEIC ***17*** *02:31:45.3±1.2,39°.72N±0°.05×23°.36E±0°.05,h10km±1km,*
mb4.3/14,Error ellipse: s-maj=8.7km s-min=6.8km
az=196.0
PDG ***17*** *02:31:45.0±0.9,39°.62N×23°.33E,h8km±1km,ML3.9/12,*
Error ellipse: s-maj=0.9km s-min=1.0km az=0.0
AFAD ***17*** *02:31:52.0,39°.31N×24°.17E,h7km±6km,MW4.2*
NAO ***17*** *02:32:05.1,41°.42N×22°.86E,h10km,mb3.9*
ISC 17 02:31:44.7±1.0,39°.61N±0°.02×23°.31E±0°.02,h7km±7km,
n334,σ1s49/359,mb3.9/16,MS3.6/5,28C-32D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.26**	**201**	P	**Pg**	**02 31 49.8**	**+0.1**
XOR				S	**Sg**	**02 31 53.8**	**+0.6**
	78μm,0.8s						
XOR	**Xorichti**	**0.26**	**201**	P	**Pg**	**02 31 49.9**	**+0.1**
XOR				S	**Sg**	**02 31 53.5**	**+0.3**
NEO	**Neokhori**	**0.30**	**193**	P	**Pg**	**02 31 50.7**	**0.0**
NEO				S	**Sg**	**02 31 54.8**	**0.0**
	34μm,0.8s						
NEO	**Neokhori**	**0.30**	**193**	P	**Pg**	**02 31 50.7**	**0.0**
NEO				S	**Sg**	**02 31 54.6**	**-0.1**
PAIG	**Paliouri**	**0.43**	**41**	Pg	**Pg**	**02 31 53.6**	**+0.5**
PAIG				Sg	**Sb**	**02 32 00.3**	**-1.1**
PAIG	**Paliouri**	**0.43**	**41**	P	**Pg**	**02 31 53.6**	**+0.5**
PAIG	**Paliouri**	**0.43**	**41**	P	**Pg**	**02 31 53.8**	**+0.6**
PAIG				S	**Sg**	**02 31 59.6**	**+0.9**
AOS	**Alonnisos**	**0.62**	**134**	P	**Pg**	**02 31 56.3**	**-0.4**
AOS				S	**Sb**	**02 32 05.3**	**-1.5**
	5μm,0.9s						
LRSO	**Larissa Observ**	**0.71**	**276**	P	**Pg**	**02 31 58.2**	**-0.2**
LRSO				S	**Sg**	**02 32 07.3**	**-0.3**
GINA	**Giannouli**	**0.71**	**275**	P	**Pg**	**02 31 58.4**	**-0.1**
GINA				S	**Sg**	**02 32 07.9**	**+0.2**
AIDA	**Aidipsos**	**0.78**	**195**	P	**Pg**	**02 31 59.5**	**-0.1**
AIDA				S	**Sg**	**02 32 09.5**	**-0.2**
PLG	**Polygyros**	**0.78**	**8**	P	**Pg**	**02 31 59.5**	**-0.1**
PLG	**Polygyros**	**0.78**	**8**	P	**Pg**	**02 31 59.5**	**-0.1**
PLG				S	**Sg**	**02 32 09.8**	**0.0**
LIT	**Litokhoron**	**0.80**	**308**	Pg	**Pg**	**02 31 59.8**	**-0.3**
LIT	**Litokhoron**	**0.80**	**308**	P	**Pg**	**02 31 59.9**	**-0.3**
LIT	**Litokhoron**	**0.80**	**308**	P	**Pg**	**02 32 00.6**	**+0.5**
LIT				S	**Sg**	**02 32 11.1**	**+0.5**
TYRN	**Tyrnavos**	**0.84**	**278**	P	**Pg**	**02 32 00.4**	**-0.4**
TYRN				S	**Sg**	**02 32 12.5**	**+0.8**
	7μm,0.5s						
TYRN	**Tyrnavos**	**0.84**	**278**	P	**Pg**	**02 32 00.5**	**-0.4**
TYRN				S	**Sg**	**02 32 11.7**	**-0.1**
OUR	**Ouranopolis**	**0.89**	**35**	Pg	**Pg**	**02 32 01.9**	**0.0**
OUR				Sg	**Sb**	**02 32 15.4**	**+0.7**
OUR	**Ouranopolis**	**0.89**	**35**	P	**Pg**	**02 32 02.0**	**0.0**
OUR				S	**Sb**	**02 32 15.0**	**+0.3**
	4μm,0.9s						
OUR	**Ouranopolis**	**0.89**	**35**	P	**Pg**	**02 32 02.0**	**+0.1**
OUR				S	**Sg**	**02 32 13.2**	**-0.3**
AXAR	**Agios Charalam**	**0.98**	**211**	P	**Pg**	**02 32 03.0**	**-0.5**
LKR	**Lokris**	**0.98**	**194**	P	**Pg**	**02 32 03.4**	**-0.2**
THL	**Klokotos Trika**	**1.00**	**268**	P	**Pg**	**02 32 02.8**	**-1.2**
THL				S	**Sg**	**02 32 17.6**	**+0.6**
	3μm,0.7s						
THL	**Klokotos Trika**	**1.00**	**268**	P	**Pg**	**02 32 03.4**	**-0.6**
HORT	**Hortiatis**	**1.00**	**351**	Pg	**Pg**	**02 32 02.9**	**-1.2**
HORT	**Hortiatis**	**1.00**	**351**	P	**Pg**	**02 32 04.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.09**	**237**	P	**Pb**	**02 32 05.8**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.15**	**147**	P	**Pg**	**02 32 05.3**	**-1.5**
KYMI	**Kymi, Euboea I**	**1.15**	**147**	P	**Pg**	**02 32 06.0**	**-0.8**
KTI	**Kastanea**	**1.21**	**311**	P	**Pb**	**02 32 07.0**	**-1.0**
SOH	**Sokhos**	**1.22**	**2**	P	**Pb**	**02 32 07.5**	**-0.6**
EFSA	**Agios Efstrati**	**1.30**	**92**	P	**Pg**	**02 32 09.7**	**+0.1**
KOKK	**Kokkinochori,**	**1.32**	**23**	P	**Pn**	**02 32 08.4**	**-1.3**
EVR	**Evrytania**	**1.35**	**240**	P	**Pb**	**02 32 10.3**	**-0.1**
EVR	**Evrytania**	**1.35**	**240**	P	**Pb**	**02 32 10.3**	**-0.1**
KZN	**Kozani**	**1.38**	**301**	P	**Pn**	**02 32 10.5**	**0.0**
KZN	**Kozani**	**1.38**	**301**	P	**Pn**	**02 32 10.7**	**+0.3**
VIL2	**Platees**	**1.39**	**181**	P	**Pn**	**02 32 10.3**	**-0.3**
LIA	**Limnos Island**	**1.47**	**78**	P	**Pn**	**02 32 10.1**	**-1.6**
LIA	**Limnos Island**	**1.47**	**78**	P	**Pn**	**02 32 11.1**	**-0.7**
THAS	**Thassos island**	**1.47**	**47**	P	**Pn**	**02 32 10.1**	**-1.6**
THAS	**Thassos island**	**1.47**	**47**	P	**Pn**	**02 32 10.1**	**-1.6**
ANX	**Ano Chora**	**1.48**	**227**	P	**Pn**	**02 32 12.0**	**+0.1**
KALE	**Kalithea**	**1.52**	**217**	P	**Pn**	**02 32 11.9**	**-0.5**
GRG	**Griva**	**1.52**	**333**	Pn	**Pn**	**02 32 11.6**	**-0.8**
GRG	**Griva**	**1.52**	**333**	P	**Pn**	**02 32 11.1**	**-1.3**
SRS	**Serrai**	**1.53**	**8**	P	**Pn**	**02 32 11.5**	**-1.0**
SRS	**Serrai**	**1.53**	**8**	*e*Pg	**Pn**	**02 32 11.3**	**-1.2**
SRS				*e*Sg	**Sg**	**02 32 35.3**	**+1.5**
KPRO	**Kipourio**	**1.54**	**284**	P	**Pn**	**02 32 12.1**	**-0.6**
KPRO	**Kipourio**	**1.54**	**284**	P	**Pn**	**02 32 12.4**	**-0.3**
KNT	**Kendrikon**	**1.59**	**349**	P	**Pn**	**02 32 13.0**	**-0.3**
DION	**Dionisos Attik**	**1.60**	**162**	P	**Pn**	**02 32 12.1**	**-1.4**
DION	**Dionisos Attik**	**1.60**	**162**	P	**Pn**	**02 32 13.4**	**-0.1**
EFP	**Efpalio**	**1.61**	**223**	P	**Pn**	**02 32 13.2**	**-0.3**
PTL	**Penteli**	**1.61**	**164**	P	**Pn**	**02 32 12.3**	**-1.4**
ATH	**Athens Observa**	**1.66**	**169**	P	**Pn**	**02 32 12.8**	**-1.5**
KAVA	**Kavala**	**1.67**	**33**	P	**Pn**	**02 32 12.7**	**-1.7**
VLY	**Voula,Athens**	**1.79**	**168**	P	**Pn**	**02 32 14.7**	**-1.4**
NVR	**Nevrokopi**	**1.79**	**13**	P	**Pn**	**02 32 16.0**	**-0.2**
KLV	**Kalavryta, Ach**	**1.80**	**211**	P	**Pn**	**02 32 15.5**	**-0.8**
VAY	**Valandovo**	**1.81**	**342**	*e*Pn	**Pn**	**02 32 12.9**	**-3.4**
VAY	**Valandovo**	**1.81**	**342**	*e*Pn	**Pn**	**02 32 16.4**	**+0.1**
VAY				*e*Sn	**Sg**	**02 32 44.5**	**+1.7**
JAN	**Janina**	**1.90**	**272**	P	**Pn**	**02 32 18.0**	**+0.4**
SMTH	**Samothraki Isl**	**1.91**	**62**	P	**Pn**	**02 32 15.4**	**-2.4**
MMB	**Musomishta**	**1.97**	**10**	P	**Pn**	**02 32 18.0**	**-0.6**
SIGR	**SIGRI**	**2.01**	**100**	Pn	**Pb**	**02 32 20.0**	**-1.6**
DRO	**Drossia**	**2.07**	**218**	P	**Pn**	**02 32 18.9**	**-1.0**
GADA	**Gvkgeada**	**2.08**	**73**	Pn	**Pn**	**02 32 20.9**	**+0.9**
BOZC	**Bozcaada**	**2.13**	**83**	Pn	**Pn**	**02 32 21.7**	**+1.0**
TSLK	**Tsoukalades, L**	**2.20**	**250**	P	**Pb**	**02 32 23.9**	**-1.0**
LKD2	**Lefkada island**	**2.21**	**249**	P	**Pn**	**02 32 23.4**	**+1.4**
KKB	**Krupnik**	**2.24**	**357**	P	**Pn**	**02 32 22.0**	**-0.3**
EVGI	**Lefkada island**	**2.29**	**245**	P	**Pb**	**02 32 24.6**	**-1.7**
RDO	**Rodhopi**	**2.29**	**47**	Pn	**Pn**	**02 32 23.7**	**+0.7**
RDO	**Rodhopi**	**2.29**	**47**	Pn	**Pn**	**02 32 21.8**	**-1.2**
RDO	**Rodhopi**	**2.29**	**47**	P	**Pn**	**02 32 21.5**	**-1.5**
IGT	**Igoumenitsa**	**2.30**	**269**	P	**Pn**	**02 32 24.9**	**+1.8**
RZN	**Rozhen**	**2.35**	**27**	P	**Pn**	**02 32 23.1**	**-0.9**
OHR	**Ohrid**	**2.44**	**309**	*i* Pn	**Pn**	**02 32 26.6**	**+1.5**
OHR	**Ohrid**	**2.44**	**309**	*e*Pn	**Pn**	**02 32 26.4**	**+1.4**
OHR				*e*Sn	**Sg**	**02 33 02.0**	**-1.1**
CAVK	**Edirne/Enez-Ca**	**2.44**	**63**	⇑P	**Pg**	**02 32 30.3**	**-1.3**
ENEZ	**Enez**	**2.46**	**62**	Pn	**Pn**	**02 32 26.2**	**+1.0**
ALN	**Alexandroupoli**	**2.46**	**57**	Pn	**Pn**	**02 32 25.8**	**+0.5**
ALN	**Alexandroupoli**	**2.46**	**57**		**Pn**	**02 32 24.3**	**-1.0**
ALN	**Alexandroupoli**	**2.46**	**57**	P	**Pn**	**02 32 23.5**	**-1.8**
COMU	**Canakkale**	**2.49**	**78**	Pn	**Pn**	**02 32 26.9**	**+1.2**
KDZ	**Kurdzhali**	**2.55**	**37**	Pn	**Pn**	**02 32 27.3**	**+0.8**
KDZ	**Kurdzhali**	**2.55**	**37**	P	**Pn**	**02 32 25.3**	**-1.2**
GELI	**Tayfur-Gelibol**	**2.56**	**71**	Pn	**Pn**	**02 32 27.7**	**+

ZAGS	Zajecar	4.28	350	*e*Pn	Pn	02 32 49.6	-0.7
BUM	Brajici-Budva	4.29	310	⇑*i*Pn	Pn	02 32 51.2	+0.6
BUM				*i* Sn	Sn	02 33 43.9	+3.0
KULA	Kula-Manisa	4.31	103	Pn	Pn	02 32 52.9	+2.2
KOME	Kolasin	4.32	320	⇑*i*Pn	Pn	02 32 52.0	+1.0
KOME				*i* Sn	Sn	02 33 44.2	+2.5
MDNY	Mudanya-Bursa	4.35	78	Pn	Pn	02 32 53.3	+2.0
GOCS	Kraljevo Serbi	4.36	336	*e*Pn	Pn	02 32 51.2	-0.2
SIMA	Simav-Kutahya	4.43	95	Pn	Pn	02 32 54.6	+2.1
SJES	Sjenica	4.43	327	*e*Pn	Pn	02 32 52.1	-0.4
SJES	Sjenica	4.43	327	*e*Pn	Pn	02 32 52.8	+0.3
CEME	Cevo	4.43	313	⇓*i*Pn	Pn	02 32 53.4	+0.9
CEME				*i* Sn	Sn	02 33 46.3	+1.9
BGKT	Bogazkoy	4.46	68	Pn	Pn	02 32 55.0	+2.2
IDI	Anoyia	4.49	163	Pn	Pn	02 32 54.9	+1.7
IDI	Anoyia	4.49	163	Pn	Pn	02 32 54.4	+1.2
	17nm,0.6s,baz=348,slow=14,SNR=12						
IDI				Sn	Sn	02 33 49.7	+4.0
	baz=253,slow=18						
USAK	Uak-Merkez	4.53	100	P	Pn	02 32 54.2	+0.5
USAK				*i* AML	AML	02 33 40.0	
	comp=E,66nm,4.2s						
USAK				*i* AML	AML	02 35 09.0	
	comp=N,40nm,5.3s						
NKME	Niksic	4.56	315	⇑*i*Pn	Pn	02 32 55.7	+1.5
NKME				*i* Sn	Sn	02 33 50.4	+3.0
BORS2	Bor- Borsko je	4.58	348	*e*Pn	Pn	02 32 53.5	-1.0
HCY	Herceg Novi	4.62	309	*e*Pn	Pn	02 32 57.0	+2.0
HCY	Herceg Novi	4.62	309	⇑*i*Pn	Pn	02 32 56.6	+1.6
HCY				*i* Sn	Sn	02 33 51.5	+2.7
IVAS	Ivanjica	4.62	330	*e*Pn	Pn	02 32 54.7	-0.3
ISK	Istanbul-Kandi	4.63	70	Pn	Pn	02 32 57.3	+2.2
KAVV	Kandilli-Istan	4.63	70	Pn	Pn	02 32 57.3	+2.2
KLYT	Kilyos	4.67	68	Pn	Pn	02 32 58.3	+2.6
GRUS	Gruza	4.70	336	*e*Pn	Pn	02 32 56.0	-0.1
PLE	Pljevlja	4.75	323	⇑*i*Pn	Pn	02 32 58.0	+1.2
PLE				*i* Sn	Sn	02 33 54.2	+2.0
YLV	Yalova	4.75	76	Pn	Pn	02 32 59.1	+2.3
TVSB	Tavsanli	4.76	90	Pn	Pn	02 32 59.2	+2.2
GDZ	Gediz	4.81	94	P	Pn	02 32 58.2	+0.5
GDZ				*i* AML	AML	02 34 58.0	
	comp=N,40nm,1.4s						
GDZ				*i* AML	AML	02 35 22.0	
	comp=E,29nm,1.6s						
BRY	Bratogost	4.88	314	*e*Pn	Pn	02 32 59.3	+0.7
BRY	Bratogost	4.88	314	⇑*i*Pn	Pn	02 32 59.6	+1.0
BRY				*i* Sn	Sn	02 33 57.0	+1.6
TAVA	DENIZLI_Tavas	4.88	114	P	Pn	02 32 58.2	-0.5
TAVA				*i* AML	AML	02 34 39.0	
	comp=E,24nm,1.8s						
TAVA				*i* AML	AML	02 35 19.0	
	comp=N,20nm,3.3s						
DOMA	Ktahya-Doman	4.93	86	P	Pn	02 33 00.7	+1.4
DOMA				*i* AML	AML	02 34 37.0	
	comp=E,37nm,1.1s						
DOMA				*i* AML	AML	02 34 41.0	
	comp=N,54nm,1.5s						
KUBS	Kucevo	4.96	346	*e*Pn	Pn	02 32 57.7	-1.9
RUDO	Rudo	4.98	325	*e*Pn	Pn	02 33 01.2	+1.3
SGRR	Singureni	5.03	22	⇑P	Pn	02 33 06.1	+5.6
DNZT	Denizli-Tavas-	5.05	116	P	Pn	02 33 02.6	+1.6
DNZT				*i* AML	AML	02 34 46.0	
	comp=E,16nm,1.4s						
DNZT				*i* AML	AML	02 35 21.0	
	comp=N,18nm,2.6s						
SRE	Strehaia	5.05	359	⇓P	Pn	02 33 07.1	+6.1
HUMR	Humele	5.08	14	⇓P	Pn	02 33 01.5	+0.3
KARP	Karpathos	5.08	142	Pn	Pn	02 33 01.2	-0.1
TIP	Timpagrande	5.09	267	Pn	Pn	02 33 02.1	+0.6
TIP	Timpagrande	5.09	267	⇓P	Pn	02 33 01.4	-0.2
TRUS	Trudelj	5.10	336	*e*Pn	Pn	02 33 01.3	-0.2
DIVS	Divibare	5.13	332	*e*Pn	Pn	02 33 01.9	-0.1
BBLS	Lazi&#263i	5.16	327	*e*Pn	Pn	02 33 02.0	-0.5
BBLS	Lazi&#263i	5.16	327	*e*Pn	Pn	02 33 03.8	+1.3
MATE	Matera	5.17	284	⇓P	Pn	02 33 02.4	-0.1
BNAZ	Uak-Banaz	5.19	98	P	Pn	02 33 04.5	+1.6
BNAZ				*i* AML	AML	02 34 47.0	
	comp=N,48nm,0.8s						
BNAZ				*i* AML	AML	02 35 14.0	
	comp=E,38nm,0.9s						
INCR	INCERC-Sediu C	5.28	23	⇓P	Pb	02 33 16.6	-0.7
MDVR	Moldovita	5.31	348	⇓P	Pn	02 33 07.3	+2.8
HERR	Herculane	5.31	353	⇑P	Pn	02 33 03.2	-1.4
STON	Ston	5.34	309	*e*Pn	Pn	02 33 06.0	+1.1
STFAR	Stefanesti-Arg	5.40	13	⇓P	Pb	02 33 13.6	-5.7
AVAS	Avala Beograd	5.50	339	*e*Pn	Pn	02 33 06.8	-0.2
BORA	Eskisehir	5.51	85	Pn	Pn	02 33 07.5	+0.2
LEHL	Lehliu	5.52	27	⇑P	Pb	02 33 18.0	-3.4
SULR		5.52	22	⇑P	Pn	02 33 12.3	+4.9
HAPS	Han Pijesak,BI	5.54	325	*e*Pn	Pn	02 33 07.5	-0.2
ICOR	Ion Corvin	5.62	35	⇓P	Pn	02 33 13.8	+5.1
KNIK	Mula-Seydike	5.65	117	P	Pn	02 33 14.3	+5.1
KNIK				*i* AML	AML	02 35 21.0	
	comp=N,20nm,2.2s						
KNIK				*i* AML	AML	02 35 28.0	
	comp=E,14nm,1.8s						
TEKS	Tekeris	5.69	332	*e*Pn	Pn	02 33 09.4	-0.2
TEKS	Tekeris	5.69	332	*e*Pn	Pn	02 33 09.6	0.0
VRSS	Vrsac	5.71	346	*e*Pn	Pn	02 33 08.7	-1.2
MTUR	Matau	5.77	12	⇑P	Pn	02 33 12.5	+1.7
CUC	Castrocucco	5.78	276	Pn	Pn	02 33 12.5	+1.5
GZR	Gura Zlata	5.80	356	⇑P	Pn	02 33 10.3	-1.0
ARR	Arges	5.84	9	⇑P	Pn	02 33 12.0	+0.1
LOT	Lotru	5.85	3	⇓P	Pn	02 33 11.3	-0.7
CEL	Celeste	5.94	259		Pn	02 33 13.8	+0.6
MFTR	Murfatlar	5.95	38	⇓P	Pn	02 33 15.8	+2.6
VOIR		5.97	12	⇓P	Pn	02 33 13.6	0.0
ISR	Istrita	6.01	22	⇓P	Pn	02 33 15.5	+1.4
TLBR	Topalu	6.07	34	⇓P	Pn	02 33 16.0	+1.2
TNR	Turnu Rosu	6.09	6	⇑P	Pn	02 33 18.7	+3.6
FRGS	Fruska Gora	6.12	336	*e*Pn	Pn	02 33 18.1	+2.4
FRGS	Fruska Gora	6.12	336	*e*Pn	Pn	02 33 14.9	-0.8
BZS	Buzias	6.14	349	⇑P	Pn	02 33 15.4	-0.4
SGRT	San Giovanni R	6.14	293	Pn	Pn	02 33 15.5	-0.4
TIRR	Tirgusor	6.16	36	Pn	Pn	02 33 17.4	+1.3
MLR	Muntele Rosu	6.20	17	Pn	Pn	02 33 14.7	-2.1
MLR	Muntele Rosu	6.20	17	Pn	Pn	02 33 17.8	+1.1
	1.2nm,0.3s,baz=194,slow=12,SNR=16						
MLR				Lg	Lg	02 35 02.7	
	baz=246,slow=23						
MLR				LR	LR	02 36 10.7	
	comp=Z,231nm,20.5s,baz=196,slow=43						
	4.6nm,0.5s						
MLR	Muntele Rosu	6.20	17	⇓P	Pn	02 33 16.5	-0.3
SURR	Surduc	6.21	352	⇑P	Pn	02 33 20.0	+3.3
DEV	Deva	6.28	357	⇑P	Pn	02 33 18.9	+1.1
BISRR	Bisoca	6.45	22	⇓P	Pn	02 33 24.3	+4.1
TPGR	Topolog	6.47	34	⇑P	Pn	02 33 19.3	-1.2
DOPR	Dopca	6.54	13	⇓P	Pn	02 33 21.8	+0.4
COVR	Voineasa-Covas	6.59	18	⇓P	Pn	02 33 23.2	+1.1
CFR	Carcaliu	6.62	31	⇓P	Pn	02 33 25.1	+2.7
PLOR	Plostina	6.71	20	⇑P	Pn	02 33 25.1	+1.4
OZUR		6.74	15	⇑P	Pn	02 33 25.2	+1.1
VRI	Vrincioaia	6.74	21	⇓P	Pn	02 33 26.0	+1.9
ODBI	Odobesti	6.75	23	⇓P	Pn	02 33 30.6	+6.4
SIRR	Siria	6.77	350	⇓P	Pn	02 33 24.7	+0.2
PAOL	Paolisi	6.83	285	Pn	Pn	02 33 25.3	-0.1
BLY	Banja Luka	6.86	320	*e*Pn	Pn	02 33 27.8	+2.0
PANC	Panciu	6.87	23	⇓P	Pn	02 33 27.7	+1.8
SCTR	Scanteiesti	6.98	28	⇑P	Pn	02 33 35.4	+8.1
A050A	Klekovaca	7.01	316	*e*Pn	Pn	02 33 28.4	+0.5
MARR	Marisel-Cluj	7.07	359	⇓P	Pn	02 33 30.5	+1.7
VARL	Varlezi	7.12	26	⇓P	Pn	02 33 30.7	+1.4
A051A	Mrakovica	7.19	321	*e*Pn	Pn	02 33 30.3	0.0
VAE	Valguarnera	7.29	256	Pn	Pn	02 33 33.5	+1.8
	3.7nm,0.6s,baz=12,slow=8.0,SNR=7.6						
VAE				Sn	Sn	02 34 48.0	-6.7
	0.4nm,0.3s,baz=159,slow=18,SNR=1.4						
TESR	Tescani	7.32	18	⇑P	Pn	02 33 33.0	+0.9
MORH	Mrgy, Hungar	7.44	334	⇑P	Pn	02 33 34.0	+0.3
ARCR	ARCALIA	7.52	5	⇓P	Pn	02 33 38.5	+3.7
BR131	Keskin Array S	7.97	86	Pn	Pn	02 33 40.4	-0.7
BRTR	Keskin Array B	7.97	86	Pn	Pn	02 33 42.4	+1.2
	0.1nm,0.3s,baz=264,slow=12,SNR=7.0						
	0.6nm,0.6s						
CAMP	Campotosto	8.03	295		Pn	02 33 41.1	-0.8
PRAR	RASCA	8.04	14	⇓P	Pn	02 33 44.8	+2.9
BURAR	Bucovina Array	8.13	9	⇑P	Pn	02 33 46.5	+3.3
BUR08	Bucovina Ar. S	8.15	9	Pn	Pn	02 33 41.5	-2.0
NRCA	Norcia	8.33	296		Pn	02 33 45.6	-0.4
BOJS	Bojanci	8.37	317	*e*Pn	Pn	02 33 45.1	-1.4
FDMO	Fiordimonte	8.42	297	Pn	Pn	02 33 46.8	-0.4
CRES	Cresnjevec Ost	8.49	320	*e*Pn	Pn	02 33 47.8	-0.3
CESX	Cesi	8.64	294	Pn	Pn	02 33 51.8	+1.6
PSZ	Piszkesteto	8.67	345	⇓P	Pn	02 33 55.2	+4.6
CEY	Cerknica	8.96	316	*e*Pn	Pn	02 33 57.9	+3.3
KECS	Kecovo	9.11	348	*e*PN	Pn	02 34 02.1	+5.6
SORM	Soroca	9.27	21	⇑P	Pn	02 33 57.6	-1.1
SOKA	Soboth	9.30	322	*i* Pn	Pn	02 33 59.3	0.0
	1.1nm,0.2s,SNR=6.0						
KOLS	Kolonicke sedl	9.36	356	*e*PN	Pn	02 34 07.6	+7.6
OBKA	Obir	9.41	320	*e*Pn	Pn	02 34 01.0	+0.2
	1.6nm,0.6s						
OBKA	Obir	9.41	320	*e*Pn	Pn	02 33 52.8	-8.1
VYHS	Vyhne	9.45	342	*e*PN	Pn	02 34 06.8	+5.5
ARSA	Arzberg	9.51	326	*e*Pn	Pn	02 34 02.8	+0.7
	2.9nm,0.5s						
ARSA	Arzberg	9.51	326	Pn	Pn	02 34 05.3	+3.2
RONA	Rosalia, Austr	9.55	330	*e*Pn	Pn	02 34 04.5	+1.9
	1.4nm,0.4s						
MODS	Modra-Piesok	9.78	336	*e*PN	Pn	02 34 13.0	+7.2
MODS				*e*SN	Sn	02 35 56.9	+1.1
CONA	Conrad Observa	9.91	330	*e*Pn	Pn	02 34 09.5	+1.9
	2.9nm,0.8s						
TEOL	Teolo	10.34	308		Pn	02 34 11.5	-2.0
MAUC	Maruska	10.51	340	*e*P	Pn	02 34 34.5	+19
MOA	Molln	10.52	325	*e*Pn	Pn	02 34 15.6	-0.3
	3.6nm,0.7s,SNR=4.2						
ABTA	Abfaltersbach	10.63	316	*e*Pn	Pn	02 34 16.9	-0.5
	1.5nm,0.4s,SNR=4.5						
BIOA	Bad Ischl, Aus	10.69	322	*e*Pn	Pn	02 34 17.9	-0.3
	1.2nm,0.3s						
CTI	Castel Tesino	10.71	311	Pn	Pn	02 34 19.2	+0.6
VRAC	Vranov	10.82	336	Pn	Pn	02 34 21.3	+1.3
	0.1nm,0.3s,baz=115,slow=17,SNR=3.8						
VRAC				LR	LR	02 38 43.4	
	comp=Z,127nm,18.3s,baz=154,slow=39						
	0.5nm,0.4s						
LESA	Schwarzleotal	10.98	319	*e*Pn	Pn	02 34 21.8	-0.4
	1.9nm,0.5s						
CKRC	Cesky Krumlov	11.24	328	*e*P	Pn	02 34 31.5	+5.7
WTTA	Wattenberg	11.42	316	*e*Pn	Pn	02 34 28.3	-0.1
	0.5nm,0.2s						
WATA	Walderalm	11.50	316	*e*Pn	Pn	02 34 29.1	-0.3
	1.2nm,0.6s						
GERES	GERESS Array B	11.52	326	Pn	Pn	02 34 30.7	+1.1
	0.1nm,0.3s,baz=143,slow=13,SNR=5.8						
GERES				LR	LR	02 39 29.1	
	comp=Z,138nm,18.3s,baz=154,slow=40						
	0.4nm,0.6s						
SQTA	Sankt Quirin	11.63	315	*e*Pn	Pn	02 34 30.2	-0.9
	2.1nm,0.5s,SNR=4.5						
KEST	Kesra	11.72	255	Pn	Pn	02 34 31.9	-0.5
	0.4nm,0.3s,baz=71,slow=7.3,SNR=14						
	2.6nm,0.9s						
MOTA	Moosalm	11.76	315	*e*Pn	Pn	02 34 35.4	+2.4
	1.6nm,0.5s						
MMAI	Mount Meron Ar	11.76	120	Pn	Pn	02 34 35.0	+2.0
	0.3nm,0.3s,baz=302,slow=14,SNR=1.1						
	1.4nm,0.7s						
FETA	Feichten	11.78	313	*e*Pn	Pn	02 34 31.9	-1.4
	0.7nm,0.5s						
KHC	Kasperske Hory	11.79	327	*e*P	Pn	02 34 32.5	-0.8
AKASG	Malin Array Be	11.85	19	Pn	Pn	02 34 34.7	+0.7
	0.5nm,0.3s,baz=202,slow=13,SNR=4.3						
	0.1nm,0.4s						
RETA	Reutte	12.03	315	*e*Pn	Pn	02 34 36.4	-0.2
	0.3nm,0.3s						
DAVOX	Davos/Dischmat	12.13	311	Pn	Pn	02 34 39.4	+1.2
	0.2nm,0.3s,baz=102,slow=14,SNR=3.1						
DAVOX				LR	LR	02 40 04.9	
	comp=Z,107nm,19.0s,baz=124,slow=41						
	1.4nm,0.6s						
NACGM	Naroch	15.48	8	*e*P	P	02 35 32.4	+4.5
	baz=190						
GNI	Garni	16.46	81	LR	LR	02 42 18.7	
	comp=Z,52nm,21.5s,baz=272,slow=38						
ESBB	Sonseca Array	20.98	279	P	Pn	02 36 30.8	-0.2
ESDC	Sonseca Array	20.98	279	P	P	02 36 29.1	+0.6
ESDC	Sonseca Array	20.98	279	P	P	02 36 28.0	-0.5
	1.7nm,0.7s,baz=72,slow=11,SNR=17						
	1.7nm,0.7s						
BELG	Belogornoye	21.06	45	P	P	02 36 28.4	-0.9
	5.1nm,0.8s,baz=288,slow=9.6,SNR=2.5						
	5.1nm,0.8s						
PAB	San Pablo	21.29	279	P	P	02 36 30.1	-1.9
PAB				IAmb	IAmb	02 36 39.0	
	comp=Z,19nm,1.4s						
HFS	Hagfors	21.42	347	P	P	02 36 31.8	-1.3
	comp=Z,2.4nm,0.8s,baz=170,slow=11,SNR=1.6						
HFS				LR	LR	02 46 20.5	
	comp=Z,164nm,19.4s,baz=158,slow=41						
	comp=Z,2.4nm,0.8s						
FINES	FINESS Array B	21.93	4	P	P	02 36 36.4	-2.1
FINES	FINESS Array B	21.93	4	P	P	02 36 36.9	-1.6
	comp=Z,3.0nm,0.8s,baz=187,slow=9.7,SNR=2.3						
	comp=Z,3.0nm,0.8s						
FIA1	FINESS Array S	21.93	4	P	P	02 36 37.2	-1.3
NC602	NORSAR Array S	22.39	345	P	P	02 36 41.4	-2.0
NC602				IAmb	IAmb	02 36 54.4	
	comp=Z,14nm,0.9s						
NAO01	NORSAR Array S	22.62	344	P	P	02 36 44.5	-1.5
NAO01				IAmb	IAmb	02 37 23.4	
	comp=Z,9.7nm,1.1s						
NC405	NORSAR Array S	22.70	345	P	P	02 36 45.8	-0.9
NC405				IAmb	IAmb	02 37 22.1	
	comp=Z,23nm,1.4s						
NB2	NORSAR Subarra	22.73	345	P	P	02 36 47.0	-0.1
	comp=Z,6.8nm,1.0s,baz=155,slow=11						
NOA	NORSAR Array B	22.73	345	P	P	02 36 46.3	-0.8
	comp=Z,2.8nm,0.9s,baz=154,slow=11,SNR=7.4						
NOA				LR	LR	02 47 39.3	
	comp=Z,49nm,18.7s,baz=160,slow=42						
	comp=Z,2.8nm,0.9s						
EKA	Eskdalemuir Ar	23.62	321	P	P	02 36 56.5	+0.3
	comp=Z,0.5nm,0.5s,baz=121,slow=9.9,SNR=2.2						
	comp=Z,0.5nm,0.5s						
TORD	Torodi Ar. Bea	32.52	222	P	P	02 38 17.0	+0.6
KURBB	Kurchatov Arra	39.63	55	P	P	02 39 16.9	0.0
	comp=Z,0.1nm,0.3s,baz=286,slow=9.0,SNR=1.8						
	comp=Z,0.1nm,0.3s						
DBIC	Dimbokro	41.43	225	P	P	02 39 33.5	+1.4
MK31	Makanchi Array	42.70	60	P	P	02 39 40.6	-1.6
MKAR	Makanchi Array	42.70	60	P	P	02 39 41.8	-0.5
	comp=Z,0.6nm,0.8s,baz=292,slow=6.4,SNR=4.9						
	comp=Z,0.6nm,0.8s						
ZALV	Zalesovo Beam	43.12	49	P	P	02 39 44.4	-1.0
ZALV	Zalesovo Beam	43.12	49	P	P	02 39 45.5	+0.1
	comp=Z,0.2nm,0.3s,baz=289,slow=9.0,SNR=1.8						
	comp=Z,0.2nm,0.3s						
TIXI	Tiksi	57.55	21	LR	LR	03 09 44.1	
	comp=Z,45nm,19.3s,baz=4.5,slow=40						
ILON	Igloolik, Nuna	58.52	336	P	P	02 41 40.7	-0.5
ILON				IAmb	IAmb	02 41 47.0	
	comp=Z,3.3nm,1.2s						
SCHQ	Schefferville	58.88	317	P	P	02 41 43.3	-0.7
SCHQ	Schefferville	58.88	317	P	P	02 41 42.9	-1.1
	comp=Z,2.6nm,0.9s,baz=52,slow=4.1,SNR=3.9						
	comp=Z,2.6nm,0.9s						
SHEL	Horse Pasture	61.57	212	P	P	02 42 03.4	+0.6
BOSA	Boshof	67.89	178	LR	LR	03 13 37.9	
	comp=Z,53nm,18.2s,baz=132,slow=37						
SUR	Sutherland	71.66	182	LR	LR	03 16 26.9	
	comp=Z,95nm,18.7s,baz=134,slow=38						
YKA	Yellowknife Ar	72.77	341	P	P	02 43 12.5	-0.9
	comp=Z,0.1nm,0.6s,baz=35,slow=5.5,SNR=6.8						
	comp=Z,0.1nm,0.6s						
J30M	Hart River	74.93	351	P	P	02 43 25.5	-0.6
J30M				IAmb	IAmb	02 43 35.7	
	comp=Z,3.2nm,1.2s						
M19K	Big River Lodg	78.82	359	P	P	02 43 43.6	-4.4

BJI ***17*** *02:58:30.6,22°.48N×92°.93E,h12km,mB4.8/22,mb4.5/65, ML4.3/1,Ms4.1/30,Ms7 3.8/32*
BKK ***17*** *02:58:32.4±0.7,22°.6N±6°×9°.3E±°,h10km,M4.4/22, mb4.8/22,mB4.9/18,Mjma4.5/8,ML4.8/5,MLv4.8/12, Mw(mB)4.1/20,MwMwp3.2/2,Mwp3.9/2*
NEIC ***17*** *02:58:32.5±2.4,22°.41N±0°.05×92°.85E±0°.06,h10km±1km, mb4.8/82,Error ellipse: s-maj=10.5km s-min=7.6km az=232.0*
NDI ***17*** *02:58:34.1,22°.41N×92°.84E,h14km,mb4.7,ML4.6, mb4.8(NEIC)*
IDC ***17*** *02:58:35.1±0.5,22°.45N×93°.02E,h34km±3km,mb4.1/28, mbtmp4.3/30,ML4.5/2,MS3.7/41,Error ellipse: s-maj=13.0km s-min=10.0km az=34.0*
ISC 17 02:58:34.2±0.4,**22°.39N**±0°.03×**92°.89E**±0°.03,**h29**km±2km,
h29km**:pP-P,n255,**σ1s**96/247,mb4.7**/98,**MS3.7**/46,**2C-7D,**
India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	SAIHA	0.14	44	*e*P	Pb	02 58 41.1	+1.1
SAIH				*e*S	Sb	02 58 43.6	-0.2
SAIH				IAML		02 58 50.3	
	comp=E,53μm,0.7s						
BRDH	Bariadhala	1.18	284	Pn	Pb	02 58 57.0	+0.9
	comp=E,10μm,0.3s,baz=79,slow=11,SNR=1483						
BRDH				Sn	Sb	02 59 15.0	+4.0
	comp=E,11μm,0.3s,baz=238,slow=20,SNR=106						
BRDH				LR	LR	02 59 44.5	
	comp=E,4μm,19.7s,baz=100,slow=54						
AZL	Aizawl	1.35	352	*e*P	Pn	02 58 56.9	-0.4
AZL				*e*S	Sb	02 59 16.2	+0.2
AZL				IAML		02 59 20.7	
	comp=N,12μm,0.7s						
AZL				IAML		02 59 22.0	
	comp=E,14μm,0.3s						
IMP	Imphal	2.62	22	*e*P	Pn	02 59 16.2	+1.6
IMP				*e*S	Sb	02 59 48.6	-3.6
IMP				IAML		02 59 49.5	
	comp=N,3μm,0.4s						
IMP				IAML		02 59 50.5	
	comp=E,3μm,0.5s						
SHL	Shillong	3.29	344	*e*P	Pn	02 59 23.4	-0.6
SHL				*e*S	Sn	03 00 00.9	-1.3
KOHI	KOHIMA	3.50	18	*e*P	Pn	02 59 27.4	+0.6
KOHI				*e*S	Sn	03 00 06.9	-0.4
KOHI				IAML		03 00 14.6	
	comp=E,3μm,0.5s						
CAL	Calcutta	4.21	273	*e*S	Sn	03 00 24.4	-0.4
JORH	JORHAT	4.51	16	*e*S	Sn	03 00 29.2	-2.7
JORH				IAML		03 00 33.8	
	comp=N,2μm,0.3s						
JORH				IAML		03 00 35.6	
	comp=E,2μm,0.3s						
ITAN	ITANAGAR	4.79	9	*e*P	Pn	02 59 45.5	+1.1
ITAN				*e*S	Sn	03 00 38.6	-0.4
ITAN				IAML		03 00 42.6	
	comp=N,2μm,0.7s						
ITAN				IAML		03 00 48.2	
	comp=E,2μm,0.7s						
ZIRO	ZIRO	5.19	10	*e*P	Pn	02 59 50.8	+0.7
ZIRO				*e*S	Sn	03 00 47.5	-1.5
ZIRO				IAML		03 00 53.8	
	comp=E,6μm,0.5s						
ZIRO				IAML		03 00 55.2	
	comp=N,5μm,0.5s						
SHBG	Sahibganj	5.54	301	*e*P	Pn	02 59 55.0	+0.2
SHBG				*e*S	Sn	03 00 56.1	-1.4
JPG	JALPAIGURI	5.62	318	*e*P	Pn	02 59 57.0	+1.3
JPG				*e*S	Sn	03 00 58.1	-1.2
TNCH	TengChong	5.79	62	Pn	Pn	02 59 59.8	+1.4
TNCH				Sg	Sb	03 01 39.6	+16
TNCH				LR	LR		
	comp=N,740nm,10.0s						
GTK	Tadong	6.26	322	*e*P	Pn	03 00 06.9	+2.1
GTK				*e*S	Sn	03 01 13.9	-1.5
GTK				IAML		03 01 16.2	
	comp=N,532nm,0.4s						
GTK				IAML		03 01 20.8	
	comp=E,507nm,0.4s						
MHMT	Maesarieng	6.33	131	P	Pn	03 00 09.1	+3.5
	comp=E,0.7nmcomp=E,1μmcomp=E,111nm,0.7s						
BOK	Bokaro	6.59	284	*e*P	Pn	03 00 10.1	+0.9
BOK				*e*S	Sn	03 01 20.1	-3.3
BOK				IAML		03 01 25.9	
	comp=N,857nm,0.5s						
BOK				IAML		03 01 27.8	
	comp=E,334nm,0.7s						
CHTO	Chiang Mai	6.70	121	Pn	Pn	03 00 12.8	+2.1
CM13	Chiang Mai Arr	6.89	124	P	Pn	03 00 15.4	+2.1
	comp=E,0.2nmcomp=E,570nmcomp=E,71nm,0.7s						
CM31	Chiang Mai Arr	6.90	123		Pn	03 00 15.9	+2.4
CMAR	Chiang Mai Arr	6.90	123	Pn	Pn	03 00 15.6	+2.2
CMAR	Chiang Mai Arr	6.90	123	Pn	Pn	03 00 14.0	+0.5
	comp=E,2.9nm,0.3s,baz=300,slow=13,SNR=130						
CMAR				Sn	Sn	03 01 28.8	-2.

comp=N,364nm,0.6s
PBA IAML 03 03 06.2
comp=E,184nm,0.5s
CHAI Chaiyaphum 10.75 125 P **Pn 03 01 09.7 +3.4**
comp=E,20nm,1.0s
NGP Nagpur 12.91 267 *eP* **Pn 03 01 34.8 -1.1**
NGP IAmb IAmb 03 01 37.8
comp=Z,67nm,0.6s
NGP IAML 03 03 51.3
comp=E,102nm,0.5s
NGP IAML 03 03 53.4
comp=N,171nm,0.6s
GYA Guiyang 13.19 69 ⇓P **Pn 03 01 42.4 +2.7**
GYA S **Sn 03 04 06.1 +0.6**
GYA pmax pmax
comp=N,6.0nm,0.6s
GYA pmax pmax
comp=N,120nm,3.1s
GYA LR LR
comp=N,180nm,4.6s
GYA LR LR
comp=N,340nm,8.3s
GYA LR LR
comp=N,420nm,9.1s
LGTI Lohaghat 13.36 304 *eP* **Pn 03 01 41.8 -0.1**
LGTI IAmb IAmb 03 01 52.0
comp=Z,167nm,0.6s
LGTI *eS* **Sn 03 04 02.9 -6.6**
JHNI Jhansi 13.47 286 *eP* **Pn 03 01 39.9 -3.6**
JHNI *eS* Sn 03 04 00.8 -11
UBPT Khong Chiam 13.85 119 Pn **Pn 03 01 47.8 -0.9**
UBPT Khong Chiam 13.85 119 P **Pn 03 01 46.7 -2.0**
GOMU GeErMu 13.86 7 P **Pn 03 01 47.0 -2.0**
GOMU pP P 03 01 49.8 -7.2
GOMU sP 03 01 54.6
GOMU S Sn 03 04 11.9 -10
GOMU pmax pmax
comp=Z,61nm,0.7s
GOMU LR LR
comp=Z,140nm,10.2s
GOMU LR LR
comp=Z,580nm,10.6s
GOMU LR LR
comp=Z,130nm,10.3s
BHPL Bhopal 14.28 276 *eP* **Pn 03 01 51.8 -2.8**
BHPL IAmb IAmb 03 02 02.9
comp=Z,50nm,0.7s
BHPL *eS* Sn 03 04 20.9 -11
HYB Hyderabad 14.36 252 *eP* **Pn 03 01 54.8 -0.8**
JOSI Joshimath 14.43 307 *eP* **Pn 03 01 55.5 -1.2**
JOSI IAmb IAmb 03 02 03.7
comp=Z,46nm,0.6s
JOSI *eS* Sn 03 04 25.9 -10
GUNA GUNA 14.44 282 *eP* **Pn 03 01 55.0 -1.8**
GUNA *eS* Sn 03 04 26.0 -10
NRDN NARMADA NAGAR 14.53 274 *eP* **P 03 02 05.0 +0.8**
AKL Akola 14.86 266 *eP* **Pn 03 01 59.7 -2.8**
AKL IAmb IAmb 03 02 16.0
comp=Z,37nm,0.3s
AKL *eS* Sn 03 04 35.6 -11
MDRS Chennai 15.19 234 *eS* Sn 03 04 42.4 -12
SONA Sohna 15.43 295 *eP* **Pn 03 02 08.5 -1.3**
SONA *eS* Sn 03 04 47.9 -12
DDI Dehra Dun 15.45 304 *eP* **Pn 03 02 08.4 -1.8**
DDI IAmb IAmb 03 02 30.0
comp=Z,67nm,0.9s
NDI New Delhi 15.46 297 *eP* **Pn 03 02 06.5 -3.8**
NDI *eS* Sn 03 04 45.8 -15
NDI IAML 03 04 53.6
comp=E,79nm,0.5s
NDI IAML 03 04 53.9
comp=N,50nm,0.3s
NPLP NPLP New Delhi 15.48 297 *eS* Sn 03 04 48.3 -13
KUDL Kundal 15.89 294 *eP* **Pn 03 02 12.6 -3.3**
KUDL IAmb IAmb 03 02 14.0
comp=Z,24nm,0.6s
KUDL *eS* Sn 03 04 56.0 -15
HNLY HANLEY 16.08 313 *eP* **Pn 03 02 17.6 -1.2**
HNLY IAmb IAmb 03 02 50.5
comp=Z,10nm,0.4s
QIZ Qiongzhong 16.21 99 P **Pn 03 02 21.8 +1.8**
QIZ S **Sn 03 05 20.9 +1.8**
QIZ pmax pmax
comp=Z,200nm,8.8s
QIZ LR LR
comp=Z,250nm,5.9s
QIZ LR LR
comp=Z,250nm,9.6s
QIZ LR LR
comp=Z,280nm,11.1s
SMLA Simla 16.50 305 *eP* **Pn 03 02 21.2 -2.4**
SMLA IAmb IAmb 03 02 36.2
comp=Z,38nm,0.8s
SMLA *eS* Sn 03 05 12.4 -14
SMLA IAML 03 05 20.7
comp=N,99nm,0.7s
SMLA IAML 03 05 24.0
comp=E,116nm,0.8s
LZH Lanzhou 16.64 33 *eP* **P 03 02 27.5 -0.3**
LZH sP pP 03 02 36.3 +0.6
LZH S **Sn 03 05 33.3 +3.7**
LZH pmax pmax
comp=E,23nm,1.3s
LZH LR LR
comp=E,400nm,17.5s
LZH LR LR
comp=E,470nm,14.1s
LZH LR LR
comp=E,560nm,16.5s
ENH Enshi 16.81 59 Pn **Pn 03 02 26.3 -1.3**
AJM Ajmer 17.10 287 *eP* **Pn 03 02 28.9 -2.3**
AJM IAmb IAmb 03 02 37.7
comp=Z,39nm,0.7s
AJM *eS* Sn 03 05 26.7 -14
BHK Bhakra 17.20 305 *eP* **Pn 03 02 26.9 -5.6**
BHK IAmb IAmb 03 06 02.9
comp=Z,105nm,1.3s
SALM Salem 17.63 235⇓*eP* **P 03 02 39.1 +0.6**
SALM *eS* Sn 03 05 38.9 -14
DHRM DHARAMSHALA 17.69 307 *eP* **Pn 03 02 37.1 -1.5**
DHRM *eS* Sn 03 05 40.8 -14
GTA Gaotai 17.96 18 *eP* **P 03 02 42.9 +0.6**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA LR LR
comp=Z,130nm,14.2s
GTA LR LR
comp=Z,320nm,15.3s
GTA LR LR
comp=Z,200nm,14.5s
POO Poona 18.24 261 *eP* **P 03 02 45.9 +0.5**
POO IAmb IAmb 03 03 08.7
comp=Z,28nm,1.1s
POO *eS* Sn 03 05 53.9 -15
XAN Xi'an 18.26 47 ⇓P **Pn 03 02 43.8 -1.7**
XAN pP P 03 02 47.4 +1.9
XAN pmax pmax
comp=Z,13nm,0.6s
XAN pmax pmax
comp=Z,350nm,6.6s
XAN LR LR
comp=Z,810nm,13.1s
XAN LR LR
comp=Z,400nm,12.7s
XAN LR LR
comp=Z,560nm,16.8s
KAD Karad 18.30 257 *eS* Sn 03 05 53.2 -17
MLSI Meulaboh, Aceh 18.34 169 P **Pn 03 02 48.9 +2.4**
comp=Z,62nm,1.0s
CNSH ChangSha 19.01 68 P **Pn 03 02 58.9 +4.3**
CNSH pmax pmax
comp=Z,20nm,1.0s
PALK Pallekele 19.07 220 P **P 03 02 55.7 +1.2**
PALK Pallekele 19.07 220 P **P 03 02 56.1 +1.5**
comp=Z,1.1nm,0.3s,baz=24,slow=13,SNR=8.8
PALK S Sn 03 06 11.6 -17
comp=Z,7.6nm,0.6s,baz=308,slow=20,SNR=6.9
PALK LR LR 03 10 26.5
comp=Z,183nm,21.5s,baz=32,slow=37
comp=Z,11nm,0.8s
KOD Kodaikanal 19.09 233 *eP* **Pn 03 02 57.6 +1.7**
KOD IAmb IAmb 03 02 59.0
comp=Z,12nm,1.1s
KOD *eS* Sn 03 06 13.6 -16
TSI Tuntungan 19.57 163 P **Pn 03 03 03.0 +1.6**
comp=Z,10μmcomp=Z,250nm,0.8s
PSI Prapat 20.34 162 P **P 03 03 09.9 +1.5**
comp=Z,27nm,0.9s,baz=340,slow=11,SNR=21
PSI LR LR 03 12 09.1
comp=Z,226nm,21.3s,baz=336,slow=40
comp=Z,27nm,0.9s
RPSI Rantau Prapat 20.44 162 P **P 03 03 09.9 +0.5**
RPSI Rantau Prapat 20.44 162 P **P 03 03 09.5 +0.1**
RPSI IAmb IAmb 03 03 14.9
comp=Z,32nm,0.9s
NIL Nilore 20.61 307 P **P 03 03 11.2 +0.1**
WHN Wuhan 20.84 63 ⇓P Pn 03 03 16.1 -0.1
WHN pmax pmax
comp=Z,86nm,1.1s
LYN LuoYang 21.00 51 P **P 03 03 15.6 +0.2**
LYN pmax pmax
comp=Z,47nm,0.7s
LYN pmax pmax
comp=Z,180nm,5.2s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,560nm,15.1s
LYN LR LR
comp=Z,620nm,17.0s
GSI Gunungsitoli 21.45 167 P **P 03 03 20.1 -0.1**
GSI IAmb IAmb 03 03 21.2
comp=Z,24nm,0.7s
GSI Gunungsitoli 21.45 167 P **P 03 03 20.2 -0.1**
comp=Z,38nm,0.9s
WMQ Urumqi 21.80 350 *eP* **P 03 03 28.0 +4.1**
WMQ pmax pmax
comp=Z,20nm,0.7s
KSH Kashi 22.33 324 P **P 03 03 33.8 +4.0**
KSH pP pP 03 03 38.1 +0.2
KSH sP sP 03 03 41.8 +0.1
KSH pmax pmax
comp=Z,11nm,0.7s
KSH LR LR
comp=Z,270nm,15.1s
KSH LR LR
comp=Z,400nm,18.5s
KSH LR LR
comp=Z,250nm,12.7s
MNSI Mandailing Nat 22.43 162 P **P 03 03 33.2 +2.4**
comp=Z,22nm,0.5s
TARG Taragay, Kyrgy 23.07 330 IAmb IAmb 03 03 59.1
comp=Z,26nm,1.0s
BTO Baotou 23.23 35 *eP* **P 03 03 38.8 -0.3**
BTO pP **pP 03 03 42.9 -4.5**
BTO sP **sP 03 03 46.3 -4.9**
BTO PP **PnPn 03 04 10.5 +5.3**
BTO S **S 03 07 51.4 +2.1**
BTO SS **SnSn 03 08 25.8 +1.4**
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,200nm,4.3s
BTO LR LR
comp=Z,440nm,9.8s
BTO LR LR
comp=Z,420nm,5.3s
BTO LR LR
comp=Z,600nm,13.1s
KDJ Kajisay 23.67 330 P **P 03 03 43.2 -0.2**
KDJ IAmb IAmb 03 04 00.6
comp=Z,24nm,0.8s
HNS HongShan 24.03 47 ⇑P **P 03 03 45.3 -1.4**
HNS S **S 03 07 55.6 -6.5**
HNS pmax pmax
comp=Z,21nm,0.9s
HNS LR LR
comp=Z,410nm,17.4s
HNS LR LR
comp=Z,370nm,16.1s
HNS LR LR
comp=Z,260nm,16.7s
HHC Hu-ho-hao-te 24.23 36 *eP* **P 03 03 49.3 +0.6**
HHC S **S 03 08 03.3 -2.2**
HHC sS pS 03 08 09.8 -5.1
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,99nm,5.2s
HHC LR LR
comp=Z,280nm,12.6s
HHC LR LR
comp=Z,180nm,12.6s
HHC LR LR
comp=Z,320nm,11.8s
BOOM Boomskoye usch 24.53 329 P **P 03 03 52.2 +0.8**
DRK Karamyk 24.75 318 P **P 03 03 55.0 +1.5**
NJ2 Nanjing 24.96 62 ⇓P **P 03 03 54.6 -0.6**
NJ2 sP **pP 03 04 01.9 -2.1**
NJ2 pmax pmax
comp=Z,20nm,0.9s
TIA Tai'an 25.14 51 P **P 03 03 55.4 -1.4**
TIA pmax pmax
comp=Z,46nm,0.8s
AAK Ala-Archa 25.35 327 P **P 03 03 59.7 +0.8**
AAK IAmb IAmb 03 04 16.2
comp=Z,29nm,1.1s
AAK Ala-Archa 25.35 327 LR LR 03 14 28.4
comp=Z,166nm,19.0s,baz=137,slow=38
MK31 Makanchi Array 25.81 343 P **P 03 04 03.0 +0.2**
MK31 IAmb IAmb 03 04 17.0
comp=Z,14nm,0.8s
MKAR Makanchi Array 25.81 343 P **P 03 04 03.1 +0.3**
MKAR Makanchi Array 25.81 343 P **P 03 04 03.3 +0.5**
comp=Z,11nm,0.6s,baz=158,slow=9.3,SNR=144
MKAR LR LR 03 15 52.3
comp=Z,82nm,19.3s,baz=180,slow=40
comp=Z,11nm,0.6s
MAKZ Makanchi 25.91 343 P **P 03 04 03.9 +0.2**
MAKZ IAmb IAmb 03 04 17.5
comp=Z,14nm,0.8s
CHGR Chuyangaron 25.98 314 P **P 03 04 05.8 +1.3**
BJI Beijing 26.45 43 P **P 03 04 09.4 +0.8**
BJI S **S 03 08 39.4 -1.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI LR LR
comp=Z,100nm,23.3s
BJI LR LR
comp=Z,130nm,21.8s
BJI LR LR
comp=Z,99nm,23.0s
SBUM Sibu 27.30 134 P **P 03 04 14.2 -2.3**
SONM Songino Array 27.60 20 **P 03 04 19.0 -0.1**
SONM Songino Array 27.60 20 P **P 03 04 18.7 -0.3**
comp=Z,1.5nm,0.5s,baz=194,slow=10.0,SNR=15
SONM pP **pP 03 04 29.0 +1.1**
comp=Z,3.1nm,0.7s,baz=196,slow=9.6,SNR=13
SONM LR LR 03 17 10.3
comp=Z,136nm,21.1s,baz=323,slow=40
comp=Z,1.5nm,0.5s
XLT XiLinHaoTe 28.76 36 *eP* **P 03 04 28.8 -0.6**
XLT sP pP 03 04 38.0 -0.2
XLT PP **PnPn 03 05 19.8 -0.8**
XLT S **S 03 09 14.9 -2.2**
XLT pmax pmax
comp=Z,4.0nm,1.0s
XLT LR LR
comp=Z,300nm,19.1s
XLT LR LR
comp=Z,320nm,13.6s
DL2 Dalian 29.54 50 P **P 03 04 35.6 -0.6**
DL2 pmax pmax
comp=Z,23nm,0.7s
KURBB Kurchatov Arra 30.33 342 P **P 03 04 43.5 +0.4**
comp=Z,2.3nm,0.6s,baz=157,slow=8.4,SNR=22
KURBB ScP **ScP 03 11 22.5 -0.7**
comp=Z,0.2nm,0.3s,baz=180,slow=3.7,SNR=2.0
KURBB LR LR 03 19 39.3
comp=Z,69nm,18.5s,baz=162,slow=42
comp=Z,2.3nm,0.6s
KURK Kurchatov 30.39 342 P **P 03 04 44.0 +0.4**
WSAR Wadi Sarin 31.55 278 LR LR 03 18 16.7
comp=Z,138nm,21.3s,baz=74,slow=37
ZAA0 Zalesovo Array 32.10 351 P **P 03 04 58.8 +0.2**
ZALV Zalesovo Beam 32.10 351 P **P 03 04 58.9 +0.3**
ZALV Zalesovo Beam 32.10 351 P **P 03 04 58.6 +0.1**
comp=Z,4.7nm,0.4s,baz=173,slow=8.6,SNR=25
ZALV pP **pP 03 05 09.2 +1.8**
comp=Z,3.2nm,0.5s,baz=171,slow=8.7,SNR=5.5
ZALV LR LR 03 20 08.2
comp=Z,75nm,20.4s,baz=96,slow=40
comp=Z,4.7nm,0.4s
JOW Kunigami 32.41 75 P **P 03 05 00.6 -1.2**
comp=Z,18nm,0.8s,baz=264,slow=10,SNR=1.7
JOW LR LR 03 19 24.8
comp=Z,122nm,19.8s,baz=172,slow=39
comp=Z,18nm,0.8s
KSRS Korea Array 33.65 56 P **P 03 05 09.7 -2.7**
comp=Z,1.4nm,0.5s,baz=251,slow=8.5,SNR=6.5
KSRS LR LR 03 19 17.9
comp=Z,87nm,18.9s,baz=240,slow=37
comp=Z,1.4nm,0.5s
CN2 Changchun 34.31 44 P **P 03 05 18.4 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 35.08 336 P **P 03 05 24.8 +0.1**
comp=Z,1.6nm,0.6s,baz=138,slow=11,SNR=6.3
BVAR PcP **PcP 03 07 55.6 -0.3**
comp=Z,1.0nm,0.7s,baz=158,slow=4.7,SNR=1.8
BVAR LR LR 03 21 48.8
comp=Z,88nm,19.8s,baz=148,slow=40
comp=Z,1.6nm,0.6s
JNU Nakatsue 35.11 64 P **P 03 05 23.9 -1.3**
comp=Z,11nm,0.9s,baz=252,slow=3.2,SNR=3.7
JNU LR LR 03 19 29.5
comp=Z,116nm,21.8s,baz=257,slow=36
comp=Z,11nm,0.9s
BNX BinXian 36.45 42 ⇑P **P 03 05 35.1 -1.3**
BNX pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 37.34 324 P **P 03 05 44.8 +0.8**
ABKAR Akbulak array 37.34 324 P **P 03 05 44.8 +0.8**
HEH HeiHe 38.75 36 *eP* **P 03 05 55.1 -0.7**
HEH pmax pmax
comp=Z,5.0nm,0.7s
USRK Ussuriysk Ar. 38.77 46 P **P 03 05 55.0 -1.1**
USRK Ussuriysk Ar. 38.77 46 P **P 03 05 54.8 -1.2**
comp=Z,3.7nm,0.6s,baz=241,slow=8.8,SNR=9.4
USRK LR LR 03 24 48.7
comp=Z,91nm,19.1s,baz=246,slow=41
comp=Z,3.7nm,0.6s
AKTO Aktyubinsk 39.03 325 LR LR 03 24 14.2
comp=Z,200nm,21.4s,baz=259,slow=39
KLR Kul'dur 40.67 39 LR LR 03 25 29.1
comp=Z,108nm,20.0s,baz=320,slow=40
MJB9 Matsu-Tunnel 41.53 60 P **P 03 06 19.0 -0.2**
MJB9 IAmb IAmb 03 06 19.5
comp=Z,22nm,1.0s
MAJO Matsushiro 41.53 60 P **P 03 06 18.1 -1.1**
MAJO IAmb IAmb 03 06 18.5
comp=Z,23nm,1.0s
MJAR Matsushiro Arr 41.53 60 P **P 03 06 18.2 -1.0**
comp=Z,7.8nm,0.9s,baz=273,slow=9.7,SNR=19
MJAR LR LR 03 26 16.4
comp=Z,128nm,18.7s,baz=261,slow=40
comp=Z,7.8nm,0.9s
ARTI Arti 42.36 332 P **P 03 06 25.6 +0.1**
RAYN Ar Rayn 43.49 281 P **P 03 06 35.4 +0.2**
GNI Garni 44.23 305 LR LR 03 31 26.9
comp=Z,38nm,18.7s,baz=122,slow=44
SOEI Soe 44.35 133 P **P 03 06 43.6 +1.3**
BELG Belogornoye 45.69 323 LR LR 03 28 39.0
comp=Z,140nm,21.2s,baz=76,slow=40
YAK Yakutsk 46.89 23 LR LR 03 28 20.9
comp=Z,84nm,18.8s,baz=267,slow=38
NRIK Noril'sk 47.07 357 LR LR 03 29 15.1
comp=Z,56nm,19.6s,baz=185,slow=39
KIRV Kirov 47.59 331 LR LR 03 31 03.9
comp=Z,80nm,18.4s,baz=129,slow=41
ASF Jabal al Asfar 50.23 294 LR LR 03 32 32.2
comp=Z,54nm,19.6s,baz=155,slow=40
KNRA Kununurra 51.64 134 P **P 03 07 38.8 +0.3**
KNRA IAmb IAmb 03 08 11.8
comp=Z,11nm,0.9s
EIL Elat 52.11 291 LR LR 03 32 07.5
comp=Z,52nm,21.0s,baz=126,slow=38
BRTR Keskin Array B 52.69 304 P **P 03 07 47.2 +0.9**
comp=Z,0.5nm,0.8s,baz=109,slow=7.4,SNR=2.2
comp=Z,0.5nm,0.8s
TIXI Tiksi 53.38 13 P **P 03 07 50.1 -0.5**
TIXI Tiksi 53.38 13 LR LR 03 33 59.2
comp=Z,47nm,18.1s,baz=200,slow=40
MA2 Magadan 54.80 32 LR LR 03 34 13.3
comp=Z,115nm,18.5s,baz=252,slow=39
MA2 Magadan 54.80 32 P **P 03 08 00.0 -1.2**
ELL Elmali 55.71 300 **P 03 08 08.5 +0.2**
AK09 Malin Array Si 56.35 317 P **P 03 08 12.1 -0.4**
AKASG Malin Array Be 56.40 317 P **P 03 08 12.0 -0.9**
comp=Z,0.7nm,0.6s,baz=87,slow=6.2,SNR=7.5
AKASG pP **pP 03 08 22.2 +0.2**
comp=Z,1.0nm,0.5s,baz=83,slow=6.3,SNR=6.2
AKASG LR LR 03 36 20.5
comp=Z,64nm,20.4s,baz=74,slow=40
comp=Z,0.7nm,0.6s
AKBB Malin Array Si 56.40 317 P **P 03 08 15.0 +2.2**
AKBB IAmb IAmb 03 08 28.8
comp=Z,11nm,1.1s
AKBB Malin Array Si 56.40 317 P **P 03 08 14.8 +2.0**
KIEV Kiev 56.41 317 P **P 03 08 15.0 +2.1**
KIEV IAmb IAmb 03 08 28.8
comp=Z,9.9nm,1.1s
LUBAR Lubar, Ukraine 57.27 316 P **P 03 08 18.3 -0.8**
PLOR3 Plostina Array 57.89 311 P **P 03 08 24.7 +1.1**
comp=Z,20nm,1.2s
MLR Muntele Rosu 58.38 311 P **P 03 08 29.1 +1.9**
MLR IAmb IAmb 03 08 40.6
comp=Z,12nm,0.9s
MLR Muntele Rosu 58.38 311 LR LR 03 38 40.6
comp=Z,69nm,19.8s,baz=68,slow=41
WRA Warramunga Arr 58.39 133 P **P 03 08 27.1 -0.2**
WRA Warramunga Arr 58.39 133 P **P 03 08 27.4 +0.2**
comp=Z,6.8nm,0.6s,baz=320,slow=7.5,SNR=110
comp=Z,6.8nm,0.6s
WR0 Warramunga Arr 58.54 133 P **P 03 08 28.4 +0.1**
BURAR Bucovina Array 58.88 313 P **P 03 08 30.1 -0.4**
BUR08 Bucovina Ar. S 58.89 313 P **P 03 08 31.9 +1.3**
BUR08 IAmb IAmb 03 10 00.6
comp=Z,17nm,2.0s
FIA1 FINESS Array S 59.52 329 P **P 03 08 34.5 0.0**
FINES FINESS Array B 59.52 329 P **P 03 08 35.0 +0.5**
FINES FINESS Array B 59.52 329 P **P 03 08 34.7 +0.2**
comp=Z,1.9nm,0.7s,baz=116,slow=8.7,SNR=5.1
FINES pP **sP 03 08 46.5 -0.7**
comp=Z,3.0nm,0.6s,baz=104,slow=7.5,SNR=3.6
FINES LR LR 03 38 24.6
comp=Z,121nm,18.4s,baz=88,slow=40
comp=Z,1.9nm,0.7s
BRIU Brid 60.35 314 P **P 03 08 42.9 +2.4**
AS31 Alice Springs 60.72 136 P **P 03 08 43.9 +0.5**
AS31 IAmb IAmb 03 08 44.7
comp=Z,4.5nm,0.6s
ASAR Alice Springs 60.72 136 P **P 03 08 44.0 +0.7**
comp=Z,11nm,0.5s,baz=317,slow=6.8,SNR=247
comp=Z,11nm,0.5s
ARCES ARCESS Array B 61.33 338 P **P 03 08 47.5 +0.7**
comp=Z,8.8nm,1.0s,baz=64,slow=2.8,SNR=4.2
ARCES LR LR 03 36 58.5
comp=Z,76nm,18.9s,baz=62,slow=38
comp=Z,8.8nm,1.0s
VYHS Vyhne 63.13 314 *eP* P 03 09 07.6 +8.4
STEB Steborice 63.72 316 *eP* **P 03 09 05.0 +1.9**
MAUC Maruska 63.73 315 *eP* P 03 09 10.2 +7.0
KRLC Kraliky 64.35 316 *eP* P 03 09 17.6 +10
VRAC Vranov 64.54 315 LR LR 03 41 38.1
comp=Z,56nm,19.2s,baz=110,slow=40
VRAC Vranov 64.54 315 *eP* P 03 09 18.9 +10
CONA Conrad Observa 65.16 314 *eP* **P 03 09 14.0 +1.3**
comp=Z,0.6nm,0.3s
SPITS Spitsbergen Ar 65.47 347 P **P 03 09 13.4 -0.7**
comp=Z,15nm,1.0s,baz=97,slow=8.0,SNR=6.1
comp=Z,15nm,1.0s
HFS Hagfors 65.49 327 P **P 03 09 14.4 -0.1**
comp=Z,2.8nm,0.6s,baz=96,slow=6.0,SNR=11
HFS pP **sP 03 09 26.2 -1.1**
comp=Z,7.3nm,0.5s,baz=104,slow=6.3,SNR=8.1
comp=Z,2.8nm,0.6s
SOKA Soboth 65.87 312 *eP* **P 03 09 17.8 +0.6**
comp=Z,0.9nm,0.5s
BRG Berggiesshubel 66.08 317 *eP* P 03 09 28.8 +10
BRG Amp 03 09 29.7
comp=Z,2.9nm,0.8s
ZVC Zvikov 66.08 316 *eP* **P 03 09 20.3 +1.8**
ZVC *ex* x 03 09 29.4
OBKA Obir 66.22 312 *eP* **P 03 09 20.7 +1.2**
comp=Z,2.5nm,0.7s
MOA Molln 66.24 314 *eP* **P 03 09 19.7 +0.1**
comp=Z,2.8nm,0.6s

GEC2	GERESS Array S	66.48	315	P		P		03 09 23.1 +1.9
GERES	GERESS Array B	66.48	315	P		P		03 09 21.6 +0.5
	comp=Z,0.6nm,0.5s,baz=61,slow=6.3,SNR=5.3							
GERES				pP		pP		03 09 31.4 +0.9
	comp=Z,4.0nm,0.8s,baz=74,slow=7.1,SNR=12							
GERES				LR		LR		03 42 28.5
	comp=Z,42nm,20.0s,baz=98,slow=40							
	comp=Z,0.6nm,0.5s							
KHC	Kasperske Hory	66.52	315	*e*P		P		03 09 24.0 +2.6
KHC				*ex*		x		03 09 32.1
CLL	Collm	66.61	318	*e*P		P		03 09 21.0 -0.8
CLL				*ex*		x		03 09 31.0
NB2	NORSAR Subarra	66.66	328	P		P		03 09 22.7 +0.7
	comp=Z,2.8nm,0.7s,baz=86,slow=6.9							
NOA	NORSAR Array B	66.66	328	P		P		03 09 21.6 -0.4
	comp=Z,0.8nm,0.6s,baz=86,slow=6.4,SNR=6.1							
NOA				pP		pP		03 09 33.0 +1.6
	comp=Z,2.8nm,0.7s,baz=86,slow=6.4,SNR=8.6							
NOA				LR		LR		03 40 25.8
	comp=Z,40nm,18.4s,baz=75,slow=38							
	comp=Z,0.8nm,0.6s							
BIOA	Bad Ischl, Aus	66.68	314	*e*P		P		03 09 23.2 +0.8
	comp=Z,1.4nm,0.5s							
SHEM	Shemya Is, Ala	67.25	41	LR		LR		03 41 46.6
	comp=Z,69nm,21.9s,baz=136,slow=39							
LESA	Schwarzleotal	67.36	314	*e*P		P		03 09 26.8 0.0
	comp=Z,0.8nm,0.3s							
ABTA	Abfaltersbach	67.58	313	*e*P		P		03 09 28.0 -0.2
	comp=Z,2.2nm,0.8s							
WTTA	Wattenberg	68.08	313	*e*P		P		03 09 31.8 +0.3
	comp=Z,2.5nm,0.6s							
WATA	Walderalm	68.11	314	*e*P		P		03 09 32.5 +0.9
	comp=Z,1.6nm,0.5s							
SQTA	Sankt Quirin	68.38	313	*e*P		P		03 09 33.4 +0.2
	comp=Z,1.0nm,0.4s							
MOTA	Moosalm	68.43	314	*e*P		P		03 09 32.5 -1.1
	comp=Z,1.5nm,0.6s							
RETA	Reutte	68.63	314	*e*P		P		03 09 34.6 -0.2
	comp=Z,2.2nm,0.6s							
BBOO	Buckleboo	68.65	142	P		P		03 09 34.7 -0.1
FETA	Feichten	68.74	313	*e*P		P		03 09 34.9 -0.6
	comp=Z,2.0nm,0.6s							
DAVA	Damuels	69.26	314	*e*P		P		03 09 38.6 -0.2
	comp=Z,0.6nm,0.3s							
STKA	Stephens Creek	71.31	138	P		P		03 09 50.4 -0.8
	comp=Z,1.8nm,0.7s,baz=350,slow=9.1,SNR=4.3							
	comp=Z,1.8nm,0.7s							
KEST	Kesra	72.25	302	P		P		03 09 56.1 -0.9
	comp=Z,1.7nm,0.9s,baz=104,slow=4.2,SNR=1.4							
	comp=Z,1.7nm,0.9s							
LSZ	Lusaka	73.58	245	P		P		03 10 06.5 +1.2
LSZ				IAmb		IAmb		03 10 18.5
	comp=Z,8.7nm,0.9s							
LSZ	Lusaka	73.58	245	LR		LR		03 40 44.8
	comp=Z,61nm,21.0s,baz=73,slow=34							
EKA	Eskdalemuir Ar	75.22	324	P		P		03 10 16.0 +2.0
	comp=Z,1.3nm,0.7s,baz=69,slow=3.9,SNR=2.0							
EKA				pP		pP		03 10 25.0 +1.6
	comp=Z,0.8nm,0.5s,baz=72,slow=5.5,SNR=2.1							
	comp=Z,1.3nm,0.7s							
E18K	Tukpahlearik C	75.65	22	IAmb		IAmb		03 10 17.4
	comp=Z,6.8nm,0.8s							
F17K	Baldwin Pennin	75.81	24	IAmb		IAmb		03 10 18.4
	comp=Z,9.9nm,0.8s							
D19K	Kuna River	76.06	21	IAmb		IAmb		03 10 19.7
	comp=Z,8.2nm,0.9s							
B21K	Ikpikpuk River	76.66	19	IAmb		IAmb		03 10 24.6
	comp=Z,8.8nm,1.1s							
D22K	Ayikyak River	77.63	20	IAmb		IAmb		03 10 29.0
	comp=Z,7.5nm,0.8s							
C23K	Itkillik River	77.76	19	IAmb		IAmb		03 10 29.6
	comp=Z,10.0nm,0.8s							
F21K	Alatna River	78.20	21	IAmb		IAmb		03 10 32.5
	comp=Z,5.6nm,0.8s							
E22K	Anaktuvuk Pass	78.29	20	IAmb		IAmb		03 10 51.0
	comp=Z,18nm,1.6s							
TOLK	Toolik Lake Re	78.72	19	IAmb		IAmb		03 10 53.2
	comp=Z,18nm,1.4s							
E23K	Chandalar	79.02	20	IAmb		IAmb		03 12 30.7
	comp=Z,18nm,1.8s							
H21K	Melozitna Rive	79.23	23	IAmb		IAmb		03 10 37.3
	comp=Z,7.9nm,0.8s							
D25K	Kavik River	79.28	18	IAmb		IAmb		03 10 52.4
	comp=Z,5.9nm,0.8s							
E24K	Your Creek	79.37	20	IAmb		IAmb		03 10 38.6
	comp=Z,9.1nm,0.8s							
G23K	Bananza Creek	79.63	21	IAmb		IAmb		03 10 39.4
	comp=Z,14nm,1.6s							
BORG	Borgarnes	79.67	337	LR		LR		03 47 58.0
	comp=Z,40nm,18.3s,baz=63,slow=37							
C27K	Jago River	79.84	17	IAmb		IAmb		03 11 23.4
	comp=Z,24nm,1.8s							
LBTB	Lobatse	80.51	238	LR		LR		03 46 14.4
	comp=Z,52nm,18.6s,baz=84,slow=36							
CAST	Castle Rocks	80.67	24	P		P		03 10 44.7 +0.5
CAST				IAmb		IAmb		03 10 45.3
	comp=Z,7.6nm,0.6s							
BPAW	Bear Paw Mtn.	80.72	24	IAmb		IAmb		03 10 57.6
	comp=Z,6.5nm,0.8s							
D27M	Malcolm River	80.84	17	IAmb		IAmb		03 11 01.1
	comp=Z,16nm,1.6s							
BMAR	Burnt Mountain	80.95	19	P		P		03 10 46.9 +1.3
ESDC	Sonseca Array	81.04	309	P		P		03 10 48.4 +1.7
	comp=Z,0.3nm,0.7s,baz=76,slow=5.2,SNR=1.9							
ESDC				pP		pP		03 10 57.1 +0.9
	comp=Z,1.5nm,0.8s,baz=56,slow=5.4,SNR=7.9							
ESDC				LR		LR		03 52 45.0
	comp=Z,23nm,20.1s,baz=336,slow=40							
	comp=Z,0.3nm,0.7s							
SKT	Skwentna	81.66	25	IAmb		IAmb		03 10 50.0
	comp=Z,10nm,1.0s							
ILAR	Eielson Array	81.81	22	P		P		03 10 49.0 -1.2
	comp=Z,1.7nm,0.9s,baz=293,slow=5.0,SNR=17							
	comp=Z,1.7nm,0.9s							
PRP	Porcupine Dome	81.82	21	IAmb		IAmb		03 11 05.7
	comp=Z,12nm,1.3s							
F28M	Old Crow	82.22	18			P		03 10 51.9 -0.4
BOSA	Boshof	82.57	235	P		P		03 10 55.2 +0.3
	comp=Z,2.5nm,0.7s,baz=70,slow=2.9,SNR=6.9							
BOSA				LR		LR		03 44 25.4
	comp=Z,40nm,19.8s,baz=60,slow=33							
	comp=Z,2.5nm,0.7s							
J26L	Joseph Creek	83.11	21	IAmb		IAmb		03 11 09.0
	comp=Z,6.0nm,0.9s							
SCRK	Sand Creek	83.29	22	P		P		03 10 58.0 -0.1
SCRK				IAmb		IAmb		03 11 13.3
	comp=Z,5.2nm,0.6s							
INK	Inuvik	83.43	16	IAmb		IAmb		03 11 10.7
	comp=Z,6.6nm,0.8s							
I28M	Miner Creek	83.66	20	IAmb		IAmb		03 11 11.4
	comp=Z,6.2nm,1.2s							
TSUM	Tsumeb	84.37	247	LR		LR		03 47 52.6
	comp=Z,37nm,20.6s,baz=34,slow=35							
C36M	Paulatuk	84.74	12	IAmb		IAmb		03 11 17.1
	comp=Z,7.0nm,0.8s							
I30M	Mount Dempster	84.90	19	IAmb		IAmb		03 11 28.7
	comp=Z,10nm,1.4s							
SUR	Sutherland	87.76	234	LR		LR		03 45 37.6
	comp=Z,76nm,20.2s,baz=87,slow=32							
YKA	Yellowknife Ar	92.62	12	P		P		03 11 42.3 -0.6
	comp=Z,0.4nm,0.6s,baz=329,slow=4.1,SNR=8.6							
YKA				pP		pP		03 11 53.8 +1.3
	comp=Z,1.3nm,0.8s,baz=329,slow=4.3,SNR=7.8							
	comp=Z,0.4nm,0.6s							
TXAR	Lajitas Array	126.16	18	PKP		PKPdf		03 17 34.9 +0.4
	comp=Z,0.3nm,0.7s,baz=340,slow=1.8,SNR=3.3							
ROSC	El Rosal	150.18	334	PKPbc		PKiKP		03 18 24.4 -0.2
	comp=Z,8.8nm,0.7s,baz=142,slow=8.9,SNR=4.7							
CPUP	Villa Florida	152.62	256	PKPbc		PKPbc		03 18 28.2 -0.3
	comp=Z,2.1nm,1.1s,baz=14,slow=4.2,SNR=2.7							

*NOU **17** 03:07:46.8, 46°.18S×165°.82E, h9km, ML4.4/10, Off W. Coast of S. Island, N.Z.*
*WEL **17** 03:07:50.7±1.4, 46°.5±4°.×16°.6E±°., h12km, M4.0/8, ML4.1/8, MLv4.0/8, Error ellipse: s-maj=8.2km s-min=5.7km az=82.7, confirmed*

ISC 17 03:07:49.2±3.2, 46°.03S±0°.05×166°.0E±0°.1, h12km±14km, n41, σ1°.04/58, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.48	106	P	Pb	03 07 59.8	+0.2
PYZ	Puysegur Point	0.48	106	P	Pb	03 07 59.9	+0.2
PYZ				S	Sb	03 08 07.0	+0.4
RLNS	Resolution Isl	0.58	54	P	Pb	03 08 02.0	+0.6
RLNS				S	Sb	03 08 10.9	+1.2
DCZ	Deep Cove	0.98	55	P	Pb	03 08 07.4	-0.7
DCZ				S	Sb	03 08 20.8	-0.1
RRKS	Rarakau	1.02	97	P	Pb	03 08 08.5	-0.3
RRKS				S	Sg	03 08 22.2	+0.1
TAFS	Te Anau Fire S	1.34	63	S	Sg	03 08 32.4	0.0
WHZ	Wether Hill Ro	1.35	85	P	Pn	03 08 13.8	-0.1
WHZ				S	Sb	03 08 31.2	-0.6
APZ	The Paps	1.58	121	P	Pn	03 08 16.2	-0.9
APZ				S	Sn	03 08 36.2	-1.2
MOSS	Mossburn Schoo	1.59	78	P	Pb	03 08 18.6	0.0
MLZ	Mavora Lakes	1.61	66	P	Pb	03 08 18.5	-0.5
MLZ				S	Sb	03 08 40.4	+1.0
MSZ	Milford Sound	1.91	45	P	Pn	03 08 22.9	+1.3
SYZ	Scrubby Hill	2.22	104	P	Pn	03 08 26.5	+0.6
SYZ	Scrubby Hill	2.22	104	P	Pn	03 08 26.8	+0.9
SYZ				S	Sn	03 08 54.5	+1.3
WKZ	Wanaka	2.43	61	P	Pb	03 08 31.0	-1.9
WKZ				S	Sn	03 09 00.6	+2.1
EAZ	Earnscleugh	2.44	72	P	Pn	03 08 30.5	+1.5
EAZ				S	Sn	03 08 59.8	+1.1
TUZ	Tuapeka	2.52	90	P	Pn	03 08 31.0	+1.0
TUZ				S	Sn	03 09 01.4	+0.9
JCZ	Jackson Bay	2.77	46	P	Pn	03 08 35.0	+1.4
JCZ	Jackson Bay	2.77	46	P	Sb	03 09 11.9	-0.8
JCZ	Jackson Bay	2.77	46	P	Pn	03 08 34.9	+1.3
HHSZ	Highcliff Hill	3.20	89	P	Pn	03 08 41.1	+1.7
LBZ	Lake Benmore	3.37	62	P	Pn	03 08 42.1	+0.3
LBZ				S	Sn	03 09 22.9	+1.2
ODZ	Otahua Downs	3.40	75	P	Pn	03 08 41.5	-0.5
ODZ	Otahua Downs	3.40	75	P	Pn	03 08 41.6	-0.5
TMZ	Timaru	3.89	67	P	Pn	03 08 49.1	+0.2
TMZ				S	Sn	03 09 33.9	-0.5
GCSZ	Gaunt Creek Bo	4.10	50	P	Pn	03 08 52.0	+0.3
ARCZ	Arundel	4.21	62	P	Pn	03 08 52.6	-0.7
ARCZ				S	Sn	03 09 41.1	-1.3
RPZ	Rata Peaks	4.26	59	P	Pn	03 08 53.6	-0.4
RPZ	Rata Peaks	4.26	59	P	Pn	03 08 53.6	-0.4
RPZ				S	Sn	03 09 43.0	-0.7
MHCZ	Mount Hutt	4.67	60	P	Pn	03 08 59.0	-0.7
MHCZ				S	Sn	03 09 51.9	-2.0
OXZ	Oxford	5.07	60	P	Pn	03 09 03.9	-1.2
INZ	Inchbonnie	5.10	52	P	Pn	03 09 05.4	-0.1
MQZ	McQueen's Vall	5.26	66	P	Pn	03 09 06.8	-0.8
LTZ	Lake Taylor	5.53	56	P	Pn	03 09 10.4	-1.1
LTZ				S	Sn	03 10 12.4	-2.6
DSZ	Denniston Nort	5.99	46	P	Pn	03 09 17.7	+0.1
KHZ	Kahutara	6.50	59	P	Pn	03 09 24.0	-0.6
THZ	Tophouse	6.55	52	P	Pn	03 09 25.5	0.0
MRNZ	Matariki Terra	6.73	49	P	Pn	03 09 27.9	+0.1
QRZ	Quartz Range	7.04	45	P	Pn	03 09 32.7	+0.6
QRZ	Quartz Range	7.04	45	P	Pn	03 09 32.1	0.0
TKNZ	Takaka Hill	7.10	48	P	Pn	03 09 33.6	+0.6
DUWZ	D'Urville Isla	7.77	51	P	Pn	03 09 44.4	+2.3

*NOU **17** 03:08:05.6, 16°.01S×178°.46E, h0km, MLv4.7/7, Fiji Islands*
*NEIC **17** 03:08:08.7±1.6, 16°.3S±0°.2×178°.8E±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=38.5km s-min=9.9km az=129.0*
*IDC **17** 03:08:09.0±0.9, 16°.25S×178°.50E, h0km, mb4.0/8, mbtmp4.0/8, MS3.7/33, Error ellipse: s-maj=33.2km s-min=19.3km az=130.0*

ISC 17 03:08:09.6±0.6, 16°.28S±0°.07×178°.68E±0°.06, h10km, n71, σ1°.19/41, mb4.2/11, MS3.7/31, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	Dogotuki	1.02	91	P	Pn	03 08 28.7	-1.2
DGTI	Dogotuki	1.02	91	S	Sn	03 08 45.2	+0.9
YSA	Yasawairara	1.14	248	P	Pn	03 08 26.2	-5.3
YSA	Yasawairara	1.14	248	S	Sb	03 08 39.8	-6.3
TAVE	Taveuni	1.43	108	P	Pg	03 08 36.7	-0.2
MSVF	Nonsavu	1.57	202		Pn	03 08 36.9	-0.6
MSVF	Nonsavu	1.57	202	Pn	Pb	03 08 38.0	-0.8
	83nm,0.3s,baz=281,slow=23,SNR=115						
MSVF				Sn	Sn	03 08 56.2	-1.8
	212nm,0.3s,baz=149,slow=22,SNR=6.7						
MSVF				LR	LR	03 09 21.2	
	comp=Z,2μm,19.5s,baz=100,slow=47						
MSVF	Nonsavu	1.57	202	P	Pn	03 08 37.0	-0.6
FUTU	Fugatoga	3.66	58	Pn	Pn	03 09 03.4	-2.9
DZM	Mont Dzumac	12.91	242	LR	LR	03 15 13.7	
	comp=Z,434nm,20.7s,baz=84,slow=33						
HNR	Honiara	19.48	288	LR	LR	03 18 55.2	
	comp=Z,360nm,18.9s,baz=240,slow=34						
RAR	Rarotonga	20.98	107	LR	LR	03 19 28.2	
	comp=Z,130nm,20.4s,baz=272,slow=32						
URZ	Urewera	21.94	183	LR	LR	03 20 21.7	
	comp=Z,239nm,19.4s,baz=190,slow=33						
KRVT	Keravat (AS076	28.75	292	LR	LR	03 24 49.6	
	comp=Z,259nm,18.5s,baz=198,slow=35						
PPT	Papeete	30.38	97	LR	LR	03 25 41.2	
	comp=Z,42nm,18.6s,baz=214,slow=34						
PMG	Port Moresby	31.45	279	LR	LR	03 25 57.7	
	comp=Z,158nm,18.4s,baz=108,slow=34						
STKA	Stephens Creek	37.04	238	P	P	03 15 21.8	+2.0
STKA				IAmb	IAmb	03 15 27.9	
	comp=Z,7.2nm,1.1s						
STKA	Stephens Creek	37.04	238	P	P	03 15 20.2	+0.4
	comp=Z,1.7nm,0.8s,baz=61,slow=7.8,SNR=4.0						
STKA				LR	LR	03 29 35.5	
	comp=Z,133nm,18.3s,baz=37,slow=35						
	comp=Z,1.7nm,0.8s						
JAY	Jayapura	39.78	286	LR	LR	03 30 31.5	
	comp=Z,90nm,21.9s,baz=340,slow=34						
BBOO	Buckleboo	41.81	239	P	P	03 15 59.9	+0.2
BBOO				IAmb	IAmb	03 16 31.2	
	comp=Z,19nm,1.4s						
WB2	Warramunga Arr	42.20	258	P	P	03 16 02.3	-0.7
WB2				IAmb	IAmb	03 16 44.8	
	comp=Z,2.9nm,0.6s						
WRA	Warramunga Arr	42.21	258	P	P	03 16 02.8	-0.3
	comp=Z,1.2nm,0.8s,baz=89,slow=8.6,SNR=6.5						
WRA				LR	LR	03 31 53.4	
	comp=Z,104nm,20.1s,baz=80,slow=34						
	comp=Z,1.2nm,0.8s						
AS31	Alice Springs	42.58	253	P	P	03 16 05.0	-1.1
ASAR	Alice Springs	42.58	253	P	P	03 16 05.1	-1.0
ASAR	Alice Springs	42.58	253	P	P	03 16 05.3	-0.8
	comp=Z,2.3nm,0.8s,baz=84,slow=8.8,SNR=16						
ASAR				LR	LR	03 32 12.2	
	comp=Z,151nm,20.9s,baz=93,slow=34						
	comp=Z,2.3nm,0.8s						
FITZ	Fitzroy Crossi	50.56	260	LR	LR	03 36 34.3	
	comp=Z,190nm,21.0s,baz=98,slow=34						
JCJ	Chichijima	55.80	320	LR	LR	03 36 28.6	
	comp=Z,104nm,21.8s,baz=158,slow=30						
DAV	Davao City (W)	57.43	290	LR	LR	03 41 55.8	
	comp=Z,44nm,18.9s,baz=358,slow=35						
MJAR	Matsushiro Arr	64.96	325	LR	LR	03 41 28.2	
	comp=Z,55nm,21.3s,baz=137,slow=31						
JOW	Kunigami	65.04	311	LR	LR	03 42 01.9	
	comp=Z,39nm,20.8s,baz=32,slow=31						
JNU	Nakatsue	67.05	318	LR	LR	03 43 15.0	
	comp=Z,49nm,20.5s,baz=161,slow=32						
ASAJ	Asahikawa	68.54	333	LR	LR	03 45 58.1	
	comp=Z,66nm,19.1s,baz=126,slow=33						
PETK	Petropavlovsk-	71.43	347	LR	LR	03 46 17.9	
	comp=Z,37nm,21.3s,baz=162,slow=32						
KSRS	Korea Array	71.65	320	LR	LR	03 45 29.8	
	comp=Z,39nm,21.3s,baz=120,slow=31						
USRK	Ussuriysk Ar.	73.72	327	LR	LR	03 47 26.5	
	comp=Z,36nm,20.1s,baz=123,slow=32						
QSPA	South Pole Qui	73.77	180	P	P	03 19 44.8	+0.9
QSPA				IAmb	IAmb	03 19 51.1	
	comp=Z,5.2nm,1.2s						
QSPA	South Pole Qui	73.77	180	P	P	03 19 44.5	+0.5
	comp=Z,3.2nm,1.1s,baz=41,slow=5.1,SNR=3.8						
	comp=Z,3.2nm,1.1s						
KLR	Kul'dur	77.31	331	LR	LR	03 49 59.8	
	comp=Z,50nm,18.9s,baz=272,slow=32						
KDAK	Kodiak Island	77.53	15	LR	LR	03 46 28.6	
	comp=Z,50nm,21.4s,baz=28,slow=30						
MA2	Magadan	78.92	346	LR	LR	03 52 00.2	
	comp=Z,32nm,18.9s,baz=145,slow=33						
YBH	Yreka Blue Hor	79.07	41	LR	LR	03 49 45.6	
	comp=Z,29nm,18.9s,baz=224,slow=32						
LPIG	La Paz	80.07	61	LR	LR	03 50 28.3	
	comp=Z,50nm,18.0s,baz=274,slow=32						
NVAR	Mina Array Bea	80.22	45	P	P	03 20 22.9	+2.1
	comp=Z,0.9nm,0.7s,baz=220,slow=6.9,SNR=5.1						
	comp=Z,0.9nm,0.7s						
PSI	Prapat	80.96	276	LR	LR	03 58 01.4	
	comp=Z,40nm,18.2s,baz=168,slow=37						
RND	Reindeer	83.34	14	P	P	03 20 37.2	+0.7
DOT	Dot Lake	84.73	16	P	P	03 20 41.2	-2.3
DOT				IAmb	IAmb	03 20 55.4	
	comp=Z,8.2nm,1.3s						
ILAR	Eielson Array	84.96	14	P	P	03 20 44.5	-0.1
ILAR	Eielson Array	84.96	14	P	P	03 20 44.8	+0.2
	comp=Z,2.3nm,0.9s,baz=233,slow=6.4,SNR=14						
	comp=Z,2.3nm,0.9s						
CMAR	Chiang Mai Arr	85.71	291	P	P	03 20 50.0	+0.6
	comp=Z,0.6nm,0.3s,baz=116,slow=3.3,SNR=6.8						
CMAR				LR	LR	03 56 14.1	
	comp=Z,17nm,20.8s,baz=155,slow=34						
	comp=Z,0.6nm,0.3s						
TXAR	Lajitas Array	87.51	59	P	P	03 21 01.0	+2.9
	comp=Z,0.3nm,0.9s,baz=281,slow=3.0,SNR=3.4						
	comp=Z,0.3nm,0.9s						
SONM	Songino Array	90.51	320	LR	LR	03 58 17.1	
	comp=Z,16nm,20.4s,baz=162,slow=33						
CMIG	Matias Romero	91.39	73	LR	LR	03 55 07.6	
	comp=Z,41nm,18.4s,baz=0.0,slow=31						
TIXI	Tiksi	93.89	346	LR	LR	03 55 44.0	
	comp=Z,25nm,21.8s,baz=194,slow=30						
PLCA	Paso Flores	94.46	135	LR	LR	03 55 11.3	
	comp=Z,69nm,21.8s,baz=206,slow=30						
JTS	Las Juntas de	98.88	82	LR	LR	03 56 27.6	
	comp=Z,26nm,19.3s,baz=314,slow=29						
GERES	GERESS Array B	145.27	343	PKPbc		PKPdf		03 27 47.2 -0.6
	comp=Z,1.9nm,0.9s,baz=22,slow=1.4,SNR=8.8						
CONA	Conrad Observa	145.41	340	*e*PKP		PKPab		03 27 48.8 +0.7
	comp=Z,6.1nm,1.1s						
RONA	Rosalia, Austr	145.46	339	*i* PKP		PKPab		03 27 49.1 +0.9
	comp=Z,6.3nm,1.2s						
ARSA	Arzberg	146.11	339	*i* PKP		PKPbc		03 27 49.8 -0.3
	comp=Z,5.1nm,1.4s						
BIOA	Bad Ischl, Aus	146.33	342	*e*PKP		PKPab		03 27 50.6 -0.8
	comp=Z,6.3nm,1.5s						
SOKA	Soboth	146.78	339	*e*PKP		PKPbc		03 27 52.1 0.0
	comp=Z,3.9nm,1.2s						
LESA	Schwarzleotal	146.85	343	*e*PKP		PKPbc		03 27 52.4 +0.1
	comp=Z,6.2nm,1.4s						
WATA	Walderalm	147.24	344	*e*PKP		PKPbc		03 27 53.4 -0.1
	comp=Z,3.8nm,1.0s						
WTTA	Wattenberg	147.29	344	*e*PKP		PKPbc		03 27 53.9 +0.3
	comp=Z,4.6nm,0.9s						
RETA	Reutte	147.31	345	*e*PKP		PKPab		03 27 54.0 -1.3
	comp=Z,5.4nm,1.1s						
MOTA	Moosalm	147.36	344	*e*PKP		PKPbc		03 27 54.0 +0.2
	comp=Z,5.6nm,1.0s						
SQTA	Sankt Quirin	147.44	344	*e*PKP		PKPbc		03 27 54.4 +0.4
	comp=Z,2.6nm,0.7s						
ABTA	Abfaltersbach	147.51	342	*e*PKP		PKPbc		03 27 53.6 -0.5
	comp=Z,3.5nm,0.9s						
DAVA	Damuels	147.72	346	*e*PKP		PKiKP		03 27 55.4 -1.4
	comp=Z,4.4nm,1.1s						
FETA	Feichten	147.75	344	*e*PKP		PKiKP		03 27 55.3 -1.6
	comp=Z,2.7nm,0.9s						
FUORN	Ofenpass-Fuorn	148.25	345			PKiKP		03 27 56.8 -1.3

*RSPR **17** 03:51:28.1, 19°.40N×67°.71W, h33km±26km, MD2.9/7*
*SDD **17** 03:51:42.7±0.3, 18°.29N×67°.08W, h22km±17km, MD3.0, ML1.1, MW2.0*

NEIC 17 03:51:26.3±1.8, 19°.16N±0°.04×67°.77W±0°.03, h10km±1km, ML2.0/14, Md2.9/7(RSPR), 3C-4D, Error ellipse: s-maj=7.6km s-min=4.1km az=28.0, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.87	222		Pg	03 51 42.0	-1.0
PCDR				Sn	Sn	03 51 56.7	-0.5
PCDR				IAML		03 51 59.9	
	comp=E,92nm,1.9s						
AGPR	Aguadilla, PR	0.93	138		Pg	03 51 43.2	-1.0
AGPR				IAML		03 51 49.0	
	comp=N,61nm,2.5s						
AGPR					Sg	03 51 56.3	0.0
AGPR				IAML		03 52 12.9	
	comp=E,52nm,2.1s						
AGPR	Aguadilla, PR	0.93	138	*e*Pg	Pn	03 51 47.5	+2.0
AGPR				IAML		03 52 03.3	
	comp=N,34nm,1.1s						
AGPR	Aguadilla, PR	0.93	138‖	*e*P	Pn	03 51 46.3	+0.9
AGPR	Aguadilla, PR	0.93	138	*e*S	Sn	03 51 58.9	+0.1
LSP	Las Mesas	1.17	146		Pn	03 51 48.8	0.0
LSP					Sn	03 52 05.7	+0.8
LSP	Las Mesas	1.17	146↑	*e*P	Pn	03 51 48.8	0.0
LSP	Las Mesas	1.17	146	*e*S	Sn	03 52 05.7	+0.8
AOPR	Arecibo Observ	1.26	130		Pn	03 51 48.7	-1.2
AOPR				IAML		03 52 22.4	
	comp=E,21nm,0.5s						
AOPR	Arecibo Observ	1.26	130		Sg	03 52 06.6	-0.2
AOPR	Arecibo Observ	1.26	130	IAML		03 51

MESJ				*i* AML	AML	03 54 23.0		
MESJ				*i* AML	AML	03 54 23.6		
PCVE	**Castro Verde**	**4.17**	**80**	*eP*	**Pn**	**03 53 32.5**	**+2.1**	
PCVE				*eS*	**Sn**	**03 54 18.6**	**-0.6**	
PCVE				*i* AML	AML	03 54 23.2		
PCVE				*i* AML	AML	03 54 27.2		
PCVE	**Castro Verde**	**4.17**	**80**	P	**Pn**	**03 53 32.1**	**+1.6**	
PCVE				S	**Sn**	**03 54 17.8**	**-1.4**	
PBDV	**Barranco-do-Ve**	**4.22**	**85**	*eP*	**Pn**	**03 53 33.7**	**+2.4**	
PBDV				*eS*	**Sn**	**03 54 22.3**	**+1.6**	
PBDV				*i* AML	AML	03 54 27.6		
PBDV				*i* AML	AML	03 54 28.3		
PBDV				*i* AML	AML	03 54 31.7		
PSBE	**So Bento**	**4.28**	**53**	*eP*	**Pn**	**03 53 33.9**	**+1.9**	
PBEJ	**Beja**	**4.37**	**75**	*eS*	**Sn**	**03 54 24.1**	**0.0**	
EVO	**Evora**	**4.39**	**68**	*eP*	**Pn**	**03 53 35.1**	**+1.6**	
EVO				*eS*	**Sn**	**03 54 22.9**	**-1.8**	
EVO				*i* AML	AML	03 54 27.6		
EVO				*i* AML	AML	03 54 34.5		
EVO				*i* AML	AML	03 54 36.7		
EVO	**Evora**	**4.39**	**68**	P	**Pn**	**03 53 34.8**	**+1.4**	
EVO				S	**Sn**	**03 54 23.3**	**-1.3**	
PVAQ	**Vaqueiros**	**4.40**	**83**	*eP*	**Pn**	**03 53 36.7**	**+3.0**	
PVAQ				*eS*	**Sn**	**03 54 26.0**	**+1.0**	
PVAQ				*i* AML	AML	03 54 35.1		
PVAQ	**Vaqueiros**	**4.40**	**83**	P	**Pn**	**03 53 35.8**	**+2.1**	
PMTG	**Montargil**	**4.44**	**61**	*eP*	**Pn**	**03 53 36.0**	**+1.8**	
PMTG				*eS*	**Sn**	**03 54 24.2**	**-1.7**	
PMTG				*i* AML	AML	03 54 28.7		
PMTG				*i* AML	AML	03 54 37.2		
PMTG				*i* AML	AML	03 54 42.4		
EGRO	**El Granado**	**4.60**	**82**	P	**Pn**	**03 53 38.4**	**+2.1**	
EGRO				S	**Sn**	**03 54 28.9**	**-0.9**	
EGRO	**El Granado**	**4.60**	**82**	Pn	**Pn**	**03 53 38.1**	**+1.8**	
EGRO				⇑*i*Vmb_V		03 53 45.0		
	208nm,SNR=1.0							
EGRO				Sn	**Sn**	**03 54 29.6**	**-0.2**	
PESTR	**Estremoz**	**4.81**	**66**	*eP*	**Pn**	**03 53 41.4**	**+2.1**	
PESTR				*eS*	**Sn**	**03 54 34.7**	**-0.4**	
PESTR	**Estremoz**	**4.81**	**66**	P	**Pn**	**03 53 40.6**	**+1.3**	
PESTR				S	**Sn**	**03 54 34.2**	**-0.9**	
PBAR	**Barrancos**	**5.04**	**75**	*eP*	**Pn**	**03 53 45.5**	**+3.1**	
PBAR				*eS*	**Sn**	**03 54 40.9**	**+0.3**	
PBAR				*i* AML	AML	03 54 57.8		
PBAR				*i* AML	AML	03 55 00.9		
PBAR				*i* AML	AML	03 55 06.2		
PBAR	**Barrancos**	**5.04**	**75**	P	**Pn**	**03 53 44.2**	**+1.8**	
PBAR				S	**Sn**	**03 54 39.7**	**-0.9**	
PMRV	**Marv??o**	**5.17**	**61**	*eP*	**Pn**	**03 53 45.8**	**+1.5**	
PMRV				*eS*	**Sn**	**03 54 41.6**	**-2.5**	
PMRV				*i* AML	AML	03 54 46.7		
PMRV				*i* AML	AML	03 54 49.2		
PMRV				*i* AML	AML	03 55 05.2		
EBAD	**Badajoz**	**5.20**	**69**	P	**Pn**	**03 53 46.5**	**+1.8**	
EBAD				S	**Sn**	**03 54 43.8**	**-0.9**	
EBAD	**Badajoz**	**5.20**	**69**	Pn	**Pn**	**03 53 45.7**	**+1.1**	
EBAD				⇑*i*Vmb_V		03 53 48.2		
	133nm,SNR=1.4							
EBAD				Sn	**Sn**	**03 54 44.0**	**-0.7**	
EMIN	**Mina Concepcio**	**5.26**	**80**	S	**Sn**	**03 54 45.1**	**-1.1**	
EMIN	**Mina Concepcio**	**5.26**	**80**	⇑*i*Vmb_V		03 53 54.9		
	95nm,SNR=1.1							
EMIN				Sn	**Sn**	**03 54 45.5**	**-0.7**	
PCBR	**Castelo Branco**	**5.31**	**56**	*eP*	**Pn**	**03 53 47.7**	**+1.5**	
ESPR	**Espera**	**5.89**	**89**	P	**Pn**	**03 53 56.1**	**+2.0**	
ESPR				S	**Sn**	**03 55 00.8**	**-0.9**	
AVE	**Averroes**	**6.03**	**126**	S	**Sn**	**03 55 04.1**	**-1.0**	
EZAM	**Zamans**	**6.20**	**33**	Pn	**Pn**	**03 53 55.1**	**-3.3**	
EZAM				⇑*i*Vmb_V		03 53 58.9		
	236nm,SNR=1.4							
EZAM				Sn	**Sn**	**03 55 04.4**	**-4.8**	
ELOB	**Lobios**	**6.27**	**38**	Pn	**Pn**	**03 53 59.3**	**-0.1**	
ELOB				⇑*i*Vmb_V		03 54 03.4		
	193nm,SNR=1.6							
ELOB				Sn	**Sn**	**03 55 06.8**	**-4.4**	
ECAB	**El Cabril**	**6.28**	**78**	P	**Pn**	**03 54 02.1**	**+2.5**	
ECAB				S	**Sn**	**03 55 10.0**	**-1.4**	
ECAB	**El Cabril**	**6.28**	**78**	Pn	**Pn**	**03 54 00.9**	**+1.4**	
ECAB				⇑*i*Vmb_V		03 54 08.2		
	86nm,SNR=1.5							
ECAB				Sn	**Sn**	**03 55 09.7**	**-1.6**	
EADA	**Adamuz**	**6.95**	**78**	Pn	**Pn**	**03 54 10.1**	**+1.4**	
EADA				⇑*i*Vmb_V		03 54 16.1		
	89nm,SNR=1.0							
EADA				Sn	**Sn**	**03 55 26.0**	**-1.8**	
PAB	**San Pablo**	**7.41**	**67**	Pn	**Pn**	**03 54 16.3**	**+1.2**	
PAB				⇑*i*Vmb_V		03 54 17.1		
	86nm,SNR=1.5							
IFR	**Ifrane**	**7.48**	**115**	S	**Sn**	**03 55 36.5**	**-4.5**	
PSIM	**Granatula de C**	**7.69**	**74**	Pn	**Pn**	**03 54 20.5**	**+1.7**	
PSIM				Sn	**Sn**	**03 55 43.6**	**-2.4**	
TIO	**Tiouine**	**7.83**	**139**	P	**Pn**	**03 54 21.3**	**+0.4**	
TIO				S	**Sn**	**03 55 45.4**	**-4.3**	
TIO	**Tiouine**	**7.83**	**139**	P	**Pn**	**03 54 19.2**	**-1.7**	
TIO	**Tiouine**	**7.83**	**139**	S	Sn	03 55 38.5	-11	
AKLM	**AKL**	**8.00**	**105**	P	**Pn**	**03 54 26.5**	**+3.4**	
AKLM	**AKL**	**8.00**	**105**	S	**Sn**	**03 55 50.7**	**-3.0**	
MD31	**MD31**	**8.08**	**118**	P	**Pn**	**03 54 26.5**	**+2.3**	
MD31	**MD31**	**8.08**	**118**	S	**Sn**	**03 55 49.8**	**-5.9**	
MDT	**Midelt**	**8.22**	**118**	P	**Pn**	**03 54 29.3**	**+3.1**	
MDT	**Midelt**	**8.22**	**118**	S	**Sn**	**03 55 53.8**	**-5.3**	
UCM	**Universidad Co**	**8.46**	**64**	P	**Pn**	**03 54 30.8**	**+1.4**	
TZRR	**Tazzarine**	**8.88**	**132**	P	**Pn**	**03 54 35.6**	**+0.2**	
TZRR	**Tazzarine**	**8.88**	**132**	S	Sn	03 56 06.3	-9.3	

---

*IDC **17** 04:03:31.7±0.9,3.°27S×146.°59E,h0km,mb4.2/15, mbtmp4.1/17,ML2.5/2,MS3.8/46,Error ellipse: s-maj=31.1km s-min=15.3km az=94.0*

*NEIC **17** 04:03:32.7±2.5,3.°21S±0.°09×146.°66E±0.°10,h10km±2km, mb4.6/17,Error ellipse: s-maj=19.8km s-min=11.1km az=130.0*

*GCMT **17** 04:03:35.7±0.3,3.°32S±0.°02×146.°29E±0.°02,h30km±1km, MW5.0/101,Moment Tensor Solution. s16,c18; s101,c128; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.16±.21; Mθθ-0.37±.17; Mφφ0.52±.17; Mrθ0.07±.19; Mφθ3.56±.12; Mφr-1.44±.21; Best double couple: M0 3.86700×1016 NP1:φs266.00000°,δ68.00000°, λ-1.00000°. NP2:φs357.00000°,δ89.00000°, λ-158.00000°. Principal axes: T 3.9400, Plg15.0000°, Azm129.0000°; N -0.1450, Plg68.0000°, Azm359.0000°; P -3.7950, Plg16.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 04:03:33.8±0.6,3.°24S±0.°06×146.°62E±0.°09,h10km,n90, σ1§93/60,mb4.4/28,MS3.9/44,1C-2D,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.40**	**32**	Pn	**Pb**	**04 03 58.2**	**-1.9**
JAY	**Jayapura**	**5.95**	**277**	Pn	**Pn**	**04 05 02.0**	**-0.1**
	0.6nm,0.3s,baz=149,slow=12,SNR=2.0						
	16nm,0.8s						
PMG	**Port Moresby**	**6.15**	**175**	Pn	**Pn**	**04 05 05.5**	**+0.7**
	2.2nm,0.3s,baz=338,slow=4.5,SNR=7.0						
PMG				Sn	**Sn**	**04 06 17.6**	**+2.3**
	baz=336,slow=20						
PMG				LR	LR	04 07 15.8	
	comp=Z,458nm,18.5s,baz=347,slow=37						
	8.4nm,0.5s						
GENI	**Genyem**	**6.47**	**276**	P	Pb	04 05 18.0	-8.6
COEN	**Coen**	**11.18**	**198**	Pn	**Pn**	**04 06 14.6**	**+0.7**
COEN	**Coen**	**11.18**	**198**	P	**Pn**	**04 06 15.6**	**+1.8**
HNR	**Honiara**	**14.60**	**116**	LR	LR	04 12 45.4	
	comp=Z,318nm,19.9s,baz=342,slow=38						
GUMO	**Guam**	**16.81**	**354**	LR	LR	04 13 38.3	
	comp=Z,186nm,19.0s,baz=146,slow=36						
KDU	**Kakadu**	**16.85**	**235**	P	**Pn**	**04 07 28.3**	**-1.7**
MTN	**Manton Dam**	**18.05**	**237**		**Pn**	**04 07 42.3**	**-2.6**
MTN	**Manton Dam**	**18.05**	**237**	P	**Pn**	**04 07 42.6**	**-2.3**
WR0	**Warramunga Arr**	**20.37**	**214**	P	**P**	**04 08 09.4**	**-1.4**
WR0				IAmb	IAmb	04 08 10.6	
	comp=Z,26nm,1.1s						
WRA	**Warramunga Arr**	**20.47**	**215**	P	**P**	**04 08 10.7**	**-1.2**
WRA	**Warramunga Arr**	**20.47**	**215**	P	**P**	**04 08 09.8**	**-2.1**
	comp=Z,16nm,1.1s,baz=38,slow=11,SNR=29						
WRA				LR	LR	04 17 01.5	
	comp=Z,280nm,18.9s,baz=38,slow=40						
	comp=Z,16nm,1.1s						
KNRA	**Kununurra**	**21.49**	**234**	P	**P**	**04 08 19.1**	**-3.8**
KNRA				IAmb	IAmb	04 08 24.4	
	comp=Z,26nm,0.8s						
SOEI	**Soe**	**23.12**	**253**	P	**P**	**04 08 38.3**	**-2.2**
SOEI	**Soe**	**23.12**	**253**	P	**P**	**04 08 40.5**	**0.0**
QLP	**Quilpie**	**23.32**	**185**	P	**P**	**04 08 46.4**	**+4.2**
DAV	**Davao City (W)**	**23.36**	**296**	LR	LR	04 17 35.9	
	comp=Z,160nm,19.6s,baz=114,slow=36						
AS01	**Alice Springs**	**23.71**	**210**	P	**P**	**04 08 45.7**	**-0.5**
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**23.73**	**210**	P	**P**	**04 08 44.5**	**-1.9**
ASAR	**Alice Springs**	**23.74**	**210**	P	**P**	**04 08 44.1**	**-2.4**
ASAR	**Alice Springs**	**23.74**	**210**	P	**P**	**04 08 44.5**	**-2.0**
	comp=Z,12nm,1.0s,baz=39,slow=8.5,SNR=55						
ASAR				LR	LR	04 17 50.4	
	comp=Z,404nm,21.6s,baz=40,slow=36						
	comp=Z,12nm,1.0s						
LUWI	**Luwuk**	**23.93**	**275**	P	**P**	**04 08 46.1**	**-2.2**
INKA	**Innaminka**	**25.00**	**192**	P	**P**	**04 08 59.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**25.31**	**233**	P	**P**	**04 08 58.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**25.31**	**233**	LR	LR	04 19 06.8	
	comp=Z,430nm,21.5s,baz=55,slow=37						
OOD	**Oodnadatta**	**26.55**	**202**	P	**P**	**04 09 14.8**	**+2.8**
DZM	**Mont Dzumac**	**26.85**	**136**	LR	LR	04 18 43.7	
	comp=Z,537nm,20.0s,baz=2.0,slow=34						
KAPI	**Kappang**	**26.85**	**265**	LR	LR	04 20 37.8	
	comp=Z,58nm,19.2s,baz=94,slow=38						
STKA	**Stephens Creek**	**28.88**	**189**	P	**P**	**04 09 32.7**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=1.0,slow=11,SNR=1.9						
STKA				LR	LR	04 21 56.9	
	comp=Z,403nm,18.6s,baz=9.2,slow=38						
	comp=Z,1.2nm,1.0s						
JCJ	**Chichijima**	**30.46**	**352**	LR	LR	04 20 12.3	
	comp=Z,70nm,21.8s,baz=146,slow=33						
TGY	**Tagaytay City**	**30.75**	**305**	LR	LR	04 19 59.3	
	comp=Z,164nm,21.6s,baz=108,slow=32						
MSVF	**Nonsavu**	**34.01**	**117**	LR	LR	04 24 24.5	
	comp=Z,94nm,18.9s,baz=37,slow=37						
JOW	**Kunigami**	**34.76**	**330**	LR	LR	04 21 24.9	
	comp=Z,293nm,21.4s,baz=253,slow=31						
JNU	**Nakatsue**	**39.11**	**339**	LR	LR	04 24 16.5	
	comp=Z,87nm,18.6s,baz=164,slow=32						
NWAO	**Narrogin (SRO)**	**40.35**	**220**	LR	LR	04 29 00.4	
	comp=Z,489nm,19.1s,baz=3.5,slow=38						
QIZ	**Qiongzhong**	**42.41**	**303**	P	**P**	**04 11 27.9**	**-1.1**
QIZ				S	**S**	**04 17 49.8**	**-1.0**
QIZ				SS	**SS**	**04 21 05.3**	**+5.3**
QIZ				LR	LR		
	comp=N,190nm,11.7s						
QIZ				LR	LR		
	comp=E,220nm,14.4s						
QIZ				LR	LR		
	comp=Z,270nm,19.2s						
NJ2	**Nanjing**	**43.90**	**325**	*eP*	**P**	**04 11 40.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSRS	**Korea Array**	**44.06**	**338**	P	**P**	**04 11 39.7**	**-2.3**
	comp=Z,0.8nm,0.8s,baz=155,slow=8.6,SNR=4.1						
KSRS				LR	LR	04 28 34.8	
	comp=Z,112nm,18.6s,baz=150,slow=34						
	comp=Z,0.8nm,0.8s						
URZ	**Urewera**	**44.61**	**145**	LR	LR	04 27 58.9	
	comp=Z,229nm,21.2s,baz=33,slow=33						
RPZ	**Rata Peaks**	**45.75**	**155**	LR	LR	04 29 07.6	
	comp=Z,160nm,18.5s,baz=322,slow=34						
RPSI	**Rantau Prapat**	**48.03**	**277**	P	**P**	**04 12 10.8**	**-2.9**
RPSI				IAmb	IAmb	04 12 22.1	
	comp=Z,5.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**49.02**	**346**	P	**P**	**04 12 20.2**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=172,slow=5.7,SNR=5.7						
USRK				LR	LR	04 31 08.6	
	comp=Z,42nm,18.4s,baz=167,slow=34						
	comp=Z,5.3nm,0.8s						
MDJ	**Mudanjiang**	**50.02**	**344**	P	**P**	**04 12 30.5**	**+2.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.5s						
PHRA	**Phrae**	**50.52**	**297**	P	**P**	**04 12 35.6**	**+2.9**
XAN	**Xi'an**	**51.34**	**319**	⇓P	**P**	**04 12 42.0**	**+3.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**51.65**	**297**	P	**P**	**04 12 40.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**51.65**	**297**	P	**P**	**04 12 40.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=112,slow=4.9,SNR=21						
CMAR				LR	LR	04 35 43.1	
	comp=Z,43nm,18.6s,baz=90,slow=37						
	comp=Z,0.9nm,0.4s						
BNX	**BinXian**	**51.67**	**343**	⇓P	**P**	**04 12 41.8**	**+0.9**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PZH	**PanZhiHua**	**52.48**	**307**	P	**P**	**04 12 48.3**	**+0.9**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
KLR	**Kul'dur**	**53.83**	**348**	P	**P**	**04 12 57.6**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=146,slow=5.7,SNR=8.5						
KLR				LR	LR	04 32 03.9	
	comp=Z,57nm,21.0s,baz=302,slow=32						
	comp=Z,2.3nm,0.7s						
RAR	**Rarotonga**	**55.05**	**114**	LR	LR	04 36 05.4	
	comp=Z,30nm,19.2s,baz=270,slow=36						
PETK	**Petropavlovsk-**	**56.91**	**8**	LR	LR	04 33 43.8	
	comp=Z,46nm,21.9s,baz=186,slow=32						
BRDH	**Bariadhala**	**59.49**	**299**	LR	LR	04 41 11.6	
	comp=Z,25nm,18.1s,baz=107,slow=38						
SHEM	**Shemya Is, Ala**	**60.39**	**19**	LR	LR	04 35 17.6	
	comp=Z,95nm,19.8s,baz=145,slow=32						
GTA	**Gaotai**	**60.40**	**319**	*eP*	**P**	**04 13 45.9**	**+2.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**61.83**	**330**	P	**P**	**04 13 53.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=154,slow=7.6,SNR=4.6						
SONM				LR	LR	04 39 54.3	
	comp=Z,181nm,19.9s,baz=138,slow=35						
	comp=Z,0.8nm,0.8s						
MA2	**Magadan**	**62.71**	**2**	LR	LR	04 40 28.7	
	comp=Z,21nm,19.5s,baz=166,slow=35						
PALK	**Pallekele**	**66.60**	**279**	LR	LR	04 48 42.6	
	comp=Z,12nm,18.6s,baz=104,slow=41						
MK31	**Makanchi Array**	**75.14**	**320**	P	**P**	**04 15 15.7**	**-0.8**
MK31				IAmb	IAmb	04 15 24.5	
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**75.14**	**320**	P	**P**	**04 15 15.4**	**-1.0**
	comp=Z,2.9nm,0.8s,baz=108,slow=7.2,SNR=22						
MKAR				LR	LR	04 47 51.7	
	comp=Z,58nm,19.9s,baz=151,slow=35						
	comp=Z,2.9nm,0.8s						
MAKZ	**Makanchi**	**75.35**	**320**	P	**P**	**04 15 18.7**	**+1.1**
MAKZ				IAmb	IAmb	04 15 35.5	
	comp=Z,8.4nm,1.1s						
ZAA0	**Zalesovo Array**	**76.49**	**328**	P	**P**	**04 15 25.5**	**+1.6**
ZAA0				IAmb	IAmb	04 15 37.7	
	comp=Z,3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**76.49**	**328**	P	**P**	**04 15 24.0**	**+0.1**
ZALV	**Zalesovo Beam**	**76.49**	**328**	P	**P**	**04 15 24.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=101,slow=7.9,SNR=7.0						
ZALV				LR	LR	04 47 41.4	
	comp=Z,97nm,21.6s,baz=114,slow=35						
	comp=Z,1.4nm,0.7s						
KDAK	**Kodiak Island**	**77.67**	**29**	LR	LR	04 47 02.3	
	comp=Z,22nm,20.5s,baz=87,slow=34						
NIL	**Nilore**	**78.03**	**305**	P	**P**	**04 15 35.5**	**+2.4**
BOOM	**Boomskoye usch**	**78.08**	**314**	P	**P**	**04 15 36.7**	**+3.3**
BOOM				IAmb	IAmb	04 15 37.1	
	comp=Z,3.9nm,0.7s						
KURBB	**Kurchatov Arra**	**78.81**	**323**	P	**P**	**04 15 37.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=105,slow=5.5,SNR=7.3						
	comp=Z,1.1nm,0.8s						
AAK	**Ala-Archa**	**79.15**	**314**	LR	LR	04 50 10.6	
	comp=Z,132nm,21.4s,baz=93,slow=35						
NRIK	**Noril'sk**	**82.55**	**342**	P	**P**	**04 15 55.9**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=129,slow=2.9,SNR=1.9						
NRIK				LR	LR	04 50 43.2	
	comp=Z,53nm,21.8s,baz=131,slow=34						
	comp=Z,1.6nm,0.5s						
ILAR	**Eielson Array**	**83.11**	**23**	P	**P**	**04 15 58.6**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=252,slow=4.5,SNR=13						
ILAR				LR	LR	04 50 39.7	
	comp=Z,62nm,19.6s,baz=242,slow=34						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**84.33**	**324**	P	**P**	**04 16 05.4**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=111,slow=6.8,SNR=20						
	comp=Z,4.9nm,0.8s						
BRVK	**Borovoye**	**84.40**	**324**	P	**P**	**04 16 06.8**	**+0.3**
QSPA	**South Pole Qui**	**86.71**	**180**	LR	LR	04 54 32.1	
	comp=Z,66nm,18.3s,baz=337,slow=35						
DLBC	**Dease Lake**	**89.25**	**32**	LR	LR	04 52 27.7	
	comp=Z,79nm,18.3s,baz=276,slow=33						
BBB	**Bella Bella**	**89.63**	**38**	LR	LR	04 49 47.2	
	comp=Z,68nm,19.6s,baz=224,slow=31						
ABKAR	**Abkulak array**	**90.26**	**319**	P	**P**	**04 16 35.4**	**+0.5**
ABKAR				IAmb	IAmb	04 16 46.7	
	comp=Z,5.9nm,1.5s						
ABKAR	**Abkulak array**	**90.26**	**319**	P	**P**	**04 16 35.1**	**+0.2**
ARTI	**Arti**	**91.69**	**326**	LR	LR	04 57 27.0	
	comp=Z,53nm,21.5s,baz=96,slow=35						
YBH	**Yreka Blue Hor**	**92.64**	**49**	LR	LR	04 50 29.9	
	comp=Z,134nm,20.4s,baz=295,slow=30						
SYO	**Syowa Base**	**93.04**	**200**	⇑*e*PcP	**PcP**	**04 16 48.6**	**+0.6**
NVAR	**Mina Array Bea**	**95.98**	**52**	LR	LR	04 52 41.7	
	comp=Z,95nm,21.0s,baz=229,slow=31						
KIRV	**Kirov**	**96.51**	**328**	LR	LR	05 01 13.1	
	comp=Z,235nm,20.4s,baz=83,slow=36						
NEW	**Newport**	**96.58**	**42**	LR	LR	04 54 24.5	
	comp=Z,46nm,18.9s,baz=300,slow=32						
YKA	**Yellowknife Ar**	**96.92**	**28**	P	**P**	**04 17 05.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=273,slow=5.1,SNR=4.9						
YKA				LR	LR	04 55 06.9	
	comp=Z,50nm,22.0s,baz=308,slow=32						
	comp=Z,0.3nm,0.7s						
PFO	**Pinyon Flats O**	**97.55**	**57**	LR	LR	04 53 22.1	
	comp=Z,98nm,19.9s,baz=234,slow=31						
BELG	**Belogornoye**	**98.05**	**322**	LR	LR	05 03 23.4	
	comp=Z,40nm,19.2s,baz=69,slow=37						
DBIC	**Dimbokro**	**151.38**	**278**	PKPbc	**PKPbc**	**04 23 28.1**	**-1.0**
	comp=Z,4.3nm,1.0s,baz=29,slow=2.9,SNR=3.3						

---

*NEIC **17** 04:34:26.2±1.6,61.°41N±0.°03×150.°07W±0.°05,h43km±5km, Error ellipse: s-maj=4.0km s-min=3.5km az=189.0*

AEIC 17 04:34:26.7±1.1,61.°37N±0.°03×150.°02W±0.°06,h42km±4km, ML2.4,ML2.6/100(NEIC),Error ellipse: s-maj=4.6km s-min=4.0km az=121.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.25**	**202**		Pn	04 34 35.0	+0.4
FIS				IAML		04 34 43.5	
	comp=N,754nm,0.6s						
FIS				IAML		04 34 44.1	
	comp=E,502nm,0.4s						
RC01	**Rabbit Creek A**	**0.32**	**154**	Pn	Pn	04 34 34.6	-0.7
RC01					Sn	04 34 41.5	+0.2
RC01				IAML		04 34 41.9	
	comp=E,806nm,0.1s						
RC01				IAML		04 34 43.0	
	comp=N,701nm,0.2s						
M22K	**Willow**	**0.39**	**353**		Pn	04 34 35.0	-1.1
M22K					Sn	04 34 42.4	-0.2
PMR	**Palmer**	**0.48**	**62**		Pn	04 34 36.3	-0.9
PMR					Sn	04 34 44.4	-0.2
PMR				IAML		04 34 45.0	
	comp=E,214nm,0.5s						
PMR				IAML		04 34 47.9	
	comp=N,230nm,0.2s						
GHO	**Glory Hole Cre**	**0.66**	**52**		Pn	04 34 38.9	-0.8
GHO					Sn	04 34 48.9	-0.1
GHO				IAML		04 34 50.4	
	comp=E,260nm,0.4s						
GHO				IAML		04 34 50.4	
	comp=N,250nm,0.2s						
KNK	**Knik Glacier**	**0.75**	**86**		Pn	04 34 40.4	-0.5
KNK					Sn	04 34 52.0	+0.8
KNK				IAML		04 34 53.9	
	comp=N,150nm,0.5s						
KNK				IAML		04 34 54.0	
	comp=E,164nm,0.2s						
CAPN	**Captain Cook N**	**0.82**	**223**		Pn	04 34 42.4	+0.7
SLKM	**Skilak Lake**	**0.87**	**186**	Pn	Pn	04 34 41.4	-1.2
SLKM				IAML		04 34 55.7	
	comp=E,218nm,0.3s						
SLKM				IAML		04 34 57.0	
	comp=N,174nm,0.3s						
STLK	**Strandline Lak**	**0.88**	**279**		Sn	04 34 54.1	-0.2
STLK	**Strandline Lak**	**0.88**	**279**		Pn	04 34 42.0	-0.6
STLK				IAML		04 34 55.0	
	comp=E,214nm,0.2s						
O22K	**Cooper Landing**	**0.91**	**171**		Pn	04 34 42.3	-0.6
SML	**Sawmill**	**0.92**	**61**	Pn	Pn	04 34 42.5	-0.7
SML				IAML		04 34 56.8	
	comp=E,138nm,0.6s						
SML				IAML		04 34 57.0	
	comp=N,126nm,0.3s						
SKT	**Skwentna**	**0.94**	**311**		Pn	04 34 42.4	-1.1
SKT				IAML		04 34 55.7	
	comp=N,261nm,0.6s						
SKT	**Skwentna**	**0.94**	**311**		Sn	04 34 55.5	-0.3
SPCG	**Spurr Capps Gl**	**0.97**	**266**		Sn	04 34 56.6	+0.1
PWL	**Port Wells**	**0.97**	**121**		Pn	04 34 43.5	-0.4
PWL	**Port Wells**	**0.97**	**121**		Sn	04 34 57.1	+0.7
PWL	**Port Wells**	**0.97**	**121**	IAML		04 34 58.7	
	comp=N,630nm,0.3s						
PWL

MCK	**McKinley**	**2.42**	**12**	Pn	Pn	04 35 04.6	+0.8
L19K	**White Mountain**	**2.44**	**292**		Pn	04 35 04.1	+0.1
L19K	**White Mountain**	**2.44**	**292**	IAML		04 35 49.4	
comp=N,22nm,1.5s							
HARP	**HAARP**	**2.52**	**64**		Pn	04 35 05.6	+0.4
N25K	**Chitina, Valde**	**2.61**	**82**		Pn	04 35 07.8	+1.3
N25K				IAML		04 35 44.8	
comp=E,15nm,0.6s							
N25K				IAML		04 35 46.3	
comp=N,19nm,0.7s							
BMRM	**Bremner River**	**2.66**	**96**		Pn	04 35 06.1	-1.0
PAX	**Paxson**	**2.67**	**51**		Pn	04 35 09.1	+1.9
GOAT	**Goat Mountain**	**2.70**	**105**		Pn	04 35 06.7	-0.9
K20K	**Telida**	**2.74**	**318**		Pn	04 35 07.9	-0.3
BPAW	**Bear Paw Mtn.**	**2.77**	**351**		Pn	04 35 08.0	-0.6
M18K	**Stony River**	**2.79**	**275**		Pn	04 35 08.3	-0.4
N18K	**Kilae Creek**	**2.94**	**259**		Pn	04 35 10.2	-0.7
O18K	**Koktuh Hills**	**2.98**	**241**	Pn	Pn	04 35 10.5	-0.8
O18K				IAML		04 35 46.9	
comp=N,12nm,1.5s							
O18K				IAML		04 36 18.7	
comp=E,13nm,1.4s							
GLB	**Gilahina Butte**	**2.99**	**86**		Pn	04 35 12.8	+1.2
GLB				IAML		04 35 59.9	
comp=N,13nm,0.9s							
TTA	**Tatalina**	**3.22**	**302**		Pn	04 35 14.0	-0.7
L18K	**Granite Mounta**	**3.28**	**288**		Pn	04 35 15.1	-0.4
L18K	**Granite Mounta**	**3.28**	**288**	IAML		04 36 12.4	
comp=E,8.5nm,1.4s							
J20K	**Nowinta River**	**3.39**	**328**		Pn	04 35 16.9	-0.2
J20K	**Nowinta River**	**3.39**	**328**	IAML		04 35 57.0	
comp=E,19nm,0.4s							
J20K				IAML		04 35 57.3	
comp=N,19nm,0.5s							
M17K	**Holitna River**	**3.57**	**274**		Pn	04 35 19.0	-0.4
M17K	**Holitna River**	**3.57**	**274**	IAML		04 36 02.3	
comp=E,16nm,1.3s							
M17K				IAML		04 36 39.6	
comp=N,17nm,1.4s							
N17K	**Nushagak Hills**	**3.60**	**259**		Pn	04 35 19.3	-0.5
N17K	**Nushagak Hills**	**3.60**	**259**	IAML		04 36 40.4	
comp=N,9.4nm,1.4s							
I23K	**Minto, Yukon-K**	**3.80**	**4**	IAML		04 36 29.0	
comp=N,8.7nm,1.4s							
J25K	**Salcha River,**	**3.88**	**31**	IAML		04 36 19.3	
comp=E,12nm,0.6s							
J25K				IAML		04 36 21.9	
comp=N,5.9nm,1.4s							
L17K	**Donlin**	**4.01**	**285**		Pn	04 35 25.2	-0.3
K17K	**Iditarod**	**4.12**	**293**		Pn	04 35 26.9	-0.2
K17K	**Iditarod**	**4.12**	**293**	IAML		04 36 45.6	
comp=E,9.8nm,1.3s							
K17K				IAML		04 37 08.1	
comp=N,5.5nm,1.4s							
M16K	**Timber Creek**	**4.34**	**269**		Pn	04 35 29.8	-0.2
M16K	**Timber Creek**	**4.34**	**269**	IAML		04 36 08.8	
comp=N,5.1nm,1.4s							
H21K	**Melozitna Rive**	**4.48**	**345**		Pn	04 35 32.0	+0.1
L16K	**Owhat River**	**4.54**	**278**		Pn	04 35 32.1	-0.6
L16K	**Owhat River**	**4.54**	**278**	IAML		04 37 03.4	
comp=E,3.9nm,1.5s							

*IDC **17** 04:43:26.0±2.2, 24°.60S×179°.78E, h487km±26km, mb3.2/5, mbtmp4.1/7, Error ellipse: s-maj=22.3km s-min=21.7km az=97.0*

ISC 17 04:43:27.0±1.0, 24°.6S±0°.1×179°.8E±0°.2, h517km, n9, σ0°.98/9, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.98**	**346**	P	**P**	**04 45 12.9**	**-1.0**
3.7nm,0.4s,baz=124,slow=18,SNR=10.0							
URZ	**Urewera**	**13.86**	**189**	P	**P**	**04 46 23.9**	**-0.9**
6.0nm,0.5s,baz=359,slow=4.7,SNR=8.6							
URZ				S	**S**	**04 48 50.4**	**-1.0**
6.7nm,0.8s,baz=143,slow=22,SNR=8.6							
STKA	**Stephens Creek**	**34.32**	**249**	P	**P**	**04 49 31.2**	**+1.0**
0.9nm,0.4s,baz=102,slow=10,SNR=3.8							
0.9nm,0.4s							
ASAR	**Alice Springs**	**41.76**	**261**	P	**P**	**04 50 31.2**	**+0.2**
0.5nm,0.4s,baz=92,slow=6.6,SNR=13							
0.5nm,0.4s							
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**04 50 34.5**	**0.0**
2.2nm,0.4s,baz=98,slow=8.3,SNR=70							
2.2nm,0.4s							
QSPA	**South Pole Qui**	**65.53**	**180**	P	**P**	**04 53 20.0**	**+1.1**
1.9nm,0.7s,baz=9.0,slow=1.1,SNR=11							
1.9nm,0.7s							
TXAR	**Lajitas Array**	**90.92**	**58**	P	**P**	**04 55 36.4**	**+0.6**
0.5nm,0.8s,baz=249,slow=4.4,SNR=5.8							
0.5nm,0.8s							
HFS	**Hagfors**	**143.15**	**348**	PKhKP	PKPpre	05 01 58.5	
0.9nm,0.4s,baz=42,slow=2.4,SNR=13							
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	**PKPab**	**05 02 17.7**	**-0.6**
0.5nm,0.6s,baz=99,slow=5.7,SNR=4.1							

*SOME **17** 04:44:16.8, 41°.75N×73°.02E, h5km*
*MOS **17** 04:44:16.6±1.4, 41°.71N×72°.89E, h18km, mb4.1/3, Error ellipse: s-maj=7.5km s-min=6.2km az=65.3*
*KRNET **17** 04:44:16.4±0.1, 41°.69N×72°.96E, h26km, mb4.1*
*ISU **17** 04:44:17, 41°.71N×73°.03E, h13km*
*NNC **17** 04:44:17.6±1.2, 41°.81N×72°.95E, h8km±10km, mb4.4, mpv4.2, Error ellipse: s-maj=10.1km s-min=5.7km az=3.0*
*KNET **17** 04:44:19.0±0.6, 41°.81N×73°.07E, h26km±3km, ml3.5, Error ellipse: s-maj=8.1km s-min=4.4km az=133.0*

ISC 17 04:44:16.8±1.0, 41°.68N±0°.02×72°.99E±0°.01, h10km±8km, n127, σ1°.82/191, mb4.0/3, 45C-35D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.69**	**49**	P	**Pg**	**04 44 30.2**	**-0.1**
576nm,0.2s,SNR=1374							
AML				⇑S	**Sg**	**04 44 39.3**	**0.0**
2μm,0.2s							
AML	**Almayashu**	**0.69**	**49**	⇑*i*P	**Pg**	**04 44 30.1**	**-0.1**
AML				⇑*i*S	**Sg**	**04 44 39.8**	**+0.4**
AML	**Almayashu**	**0.69**	**49**	*i* PG	**Pg**	**04 44 30.1**	**-0.1**
AML				*i* S	**Sg**	**04 44 39.8**	**+0.4**
ARK	**Arkit**	**0.78**	**279**	⇑*i*P	**Pg**	**04 44 30.7**	**-1.1**
ARK				⇑*i*S	**Sg**	**04 44 41.4**	**-0.6**
ARK	**Arkit**	**0.78**	**279**	*i* PG	**Pg**	**04 44 30.7**	**-1.1**
ARK				*i* S	**Sg**	**04 44 41.4**	**-0.6**
MNAS	**Manas**	**0.89**	**336**	⇑*i*P	**Pg**	**04 44 32.8**	**-1.1**
MNAS				⇑*i*S	**Sg**	**04 44 44.9**	**-0.5**
MNAS	**Manas**	**0.89**	**336**	*e*PG	**Pg**	**04 44 32.8**	**-1.1**
SALK	**Salom-Alik**	**1.01**	**142**	*e*P	**Pg**	**04 44 35.6**	**-0.7**
SALK				⇑*i*S	**Sg**	**04 44 49.3**	**-0.1**
SALK	**Salom-Alik**	**1.01**	**142**	*e*PG	**Pg**	**04 44 35.6**	**-0.7**
SALK				*i* S	**Sg**	**04 44 49.3**	**-0.1**
ARLS	**Aral**	**1.01**	**79**	⇑*i*P	**Pg**	**04 44 35.7**	**-0.6**
ARLS				⇑*i*S	**Sg**	**04 44 49.4**	**-0.1**
ARLS	**Aral**	**1.01**	**79**	*i* PG	**Pg**	**04 44 35.7**	**-0.6**
ARLS				*i* S	**Sg**	**04 44 49.4**	**-0.1**
MRKS	**Merke**	**1.08**	**9**	P	**Pg**	**04 44 36.9**	**-0.6**
326nm,0.2s							
MRKS				S	**Sg**	**04 44 51.2**	**-0.4**
1μm,0.3s							
MRKS	**Merke**	**1.08**	**9**	*e*P	**Pg**	**04 44 36.9**	**-0.6**
148nm,0.1s							
MRKS				*e*S	**Sg**	**04 44 51.2**	**-0.4**
1μm,0.3s							
OHH	**Osh**	**1.17**	**188**	⇑*i*P	**Pg**	**04 44 38.0**	**-1.2**
OHH				⇑*i*S	**Sg**	**04 44 53.5**	**-0.8**
OHH	**Osh**	**1.17**	**188**	*i* PG	**Pg**	**04 44 38.0**	**-1.2**
OHH				*i* S	**Sg**	**04 44 53.5**	**-0.8**
KSNS	**Kasansay**	**1.22**	**245**	P	**Pb**	**04 44 40.5**	**+0.4**
KSNS				S	**Sn**	**04 44 58.1**	**+1.4**
UCH	**Uchtor**	**1.26**	**64**	⇓P	**Pg**	**04 44 40.4**	**-0.7**
53nm,0.2s,SNR=70							
UCH				⇓S	**Sb**	**04 44 57.9**	**+0.4**
196nm,0.3s							
UCH	**Uchtor**	**1.26**	**64**	⇓*i*P	**Pg**	**04 44 40.1**	**-0.9**
UCH				⇓*i*S	**Sg**	**04 44 57.0**	**-0.5**
UCH	**Uchtor**	**1.26**	**64**	*e*PG	**Pg**	**04 44 40.1**	**-0.9**
TRKS	**Terek-Say**	**1.40**	**264**	⇓*i*P	**Pn**	**04 44 41.6**	**-0.9**
TRKS				⇓*i*S	**Sb**	**04 44 59.4**	**-1.6**
TRKS	**Terek-Say**	**1.40**	**264**	⇓*i*PG	**Pn**	**04 44 41.6**	**-0.9**
TRKS				*i* S	**Sb**	**04 44 59.4**	**-1.6**
AAK	**Ala-Archa**	**1.47**	**49**	⇑P	**Pn**	**04 44 43.9**	**+0.3**
214nm,0.3s,SNR=269							
AAK				⇓S	**Sb**	**04 45 03.4**	**+0.2**
102nm,0.2s							
AAK	**Ala-Archa**	**1.47**	**49**	⇑*i*P	**Pn**	**04 44 43.5**	**-0.1**
AAK				⇑*i*S	**Sn**	**04 45 02.8**	**-0.2**
AAK	**Ala-Archa**	**1.47**	**49**	*ce*PG	**Pn**	**04 44 43.7**	**+0.1**
FRG	**Fergana**	**1.59**	**215**	P	**Pb**	**04 44 46.9**	**+0.6**
FRG				S	**Sg**	**04 45 09.2**	**+1.2**
FRU1	**Bishkek**	**1.66**	**47**	⇑*i*P	**Pn**	**04 44 46.5**	**+0.4**
FRU1				⇑*i*S	**Sb**	**04 45 08.8**	**+0.2**
FRU1	**Bishkek**	**1.66**	**47**	*i* PN	**Pn**	**04 44 46.5**	**+0.4**
FRU1				*i* S	**Sb**	**04 45 08.8**	**+0.2**
SFK	**Sufi-Kurgan**	**1.71**	**167**	⇑*i*P	**Pn**	**04 44 47.5**	**+0.6**
SFK				⇑*i*S	**Sb**	**04 45 09.9**	**-0.2**
SFK	**Sufi-Kurgan**	**1.71**	**167**	*i* PN	**Pn**	**04 44 47.5**	**+0.6**
SFK				*i* S	**Sb**	**04 45 09.9**	**-0.2**
DZA	**Taraz**	**1.73**	**315**	P	**Pn**	**04 44 48.2**	**+1.2**
262nm,0.4s							
DZA				S	**Sn**	**04 45 10.3**	**+1.1**
964nm,0.3s							
DZA	**Taraz**	**1.73**	**315**	*e*P	**Pn**	**04 44 48.2**	**+1.2**
262nm,0.4s							
DZA				*e*S	**Sn**	**04 45 10.3**	**+1.1**
964nm,0.3s							
KBK	**Karagaybulak**	**1.75**	**55**	⇑P	**Pb**	**04 44 49.2**	**0.0**
135nm,0.2s,SNR=128							
KBK				⇓S	**Sb**	**04 45 11.8**	**+0.4**
502nm,0.3s							
KBK	**Karagaybulak**	**1.75**	**55**	⇓*i*P	**Pn**	**04 44 48.0**	**+0.5**
KBK				⇓*i*S	**Sb**	**04 45 10.9**	**-0.4**
KBK	**Karagaybulak**	**1.75**	**55**	⇓*i*PN	**Pn**	**04 44 48.0**	**+0.5**
KBK				*i* S	**Sb**	**04 45 10.9**	**-0.4**
CHMI	**Chimion**	**1.79**	**219**	P	**Pb**	**04 44 50.5**	**+0.7**
CHMI				S	**Sg**	**04 45 15.3**	**+0.8**
CHDK	**Chadak**	**1.83**	**248**	P	**Pb**	**04 44 50.9**	**+0.5**
CHDK				S	**Sg**	**04 45 16.0**	**+0.5**
CHMS	**Chumysh**	**1.85**	**44**	Pg	**Sn**	**04 45 07.1**	**-5.2**
213nm,0.4s							
CHMS				Lg	Lg	04 45 42.7	
1μm,0.6s							
USP	**Ospenovka**	**1.94**	**35**	⇑P	**Pb**	**04 44 51.7**	**-0.6**
156nm,0.2s,SNR=229							
USP				⇑S	**Sn**	**04 45 15.5**	**+1.1**
1μm,0.4s							
USP	**Ospenovka**	**1.94**	**35**	⇓*i*P	**Pn**	**04 44 50.4**	**+0.5**
USP				⇓*i*S	**Sn**	**04 45 15.0**	**+0.6**
USP	**Ospenovka**	**1.94**	**35**	*e*PN	**Pn**	**04 44 50.4**	**+0.5**
MINT	**Mingtut**	**1.95**	**232**	P	**Pb**	**04 44 53.0**	**+0.6**
MINT				S	**Sg**	**04 45 19.8**	**+0.4**
SHAK	**Shakhimardan**	**1.97**	**209**	P	**Pb**	**04 44 53.4**	**+0.5**
SHAK				S	**Sg**	**04 45 20.4**	**+0.3**
CHRV	**Charvak**	**2.28**	**270**	P	**Pb**	**04 44 57.8**	**-0.3**
CHRV				S	**Sg**	**04 45 29.0**	**-1.0**
BTK	**Batken**	**2.31**	**226**	⇓*e*P	**Pn**	**04 44 55.1**	**+0.1**
BTK				⇓*e*S	**Sn**	**04 45 23.4**	**-0.2**
KK31	**Karatay Array**	**2.32**	**309**	⇓Pn	**Pn**	**04 44 56.5**	**+1.3**
16nm,0.2s,baz=122,slow=17,SNR=656							
KK31				⇓Lg	Lg	04 45 29.8	
70nm,0.3s,baz=121,slow=31,SNR=17							
KK31	**Karatay Array**	**2.32**	**309**	*e*PN	**Pn**	**04 44 56.4**	**+1.3**
KK31						04 45 29.8	
KKAR	**Karatay Array**	**2.32**	**309**	⇑*i*P	**Pn**	**04 44 55.4**	**+0.2**
KKAR				⇑*i*S	**Sn**	**04 45 23.6**	**-0.2**
KKAR	**Karatay Array**	**2.32**	**309**	*e*PN	**Pn**	**04 44 55.4**	**+0.2**
BOOM	**Boomskoye usch**	**2.34**	**69**	⇓*i*P	**Pn**	**04 44 56.2**	**+0.7**
BOOM				⇓*i*S	**Sn**	**04 45 25.0**	**+0.5**
BOOM	**Boomskoye usch**	**2.34**	**69**	⇓*i*PN	**Pn**	**04 44 56.2**	**+0.7**
BOOM				*i* S	**Sn**	**04 45 25.0**	**+0.5**
DRK	**Karamyk**	**2.38**	**203**	⇑*i*P	**Pn**	**04 44 56.5**	**+0.3**
DRK				⇑*i*S	**Sn**	**04 45 25.5**	**0.0**
DRK	**Karamyk**	**2.38**	**203**	*i* PN	**Pn**	**04 44 56.5**	**+0.3**
DRK				*i* S	**Sn**	**04 45 25.5**	**0.0**
ULHL	**Ulahol**	**2.49**	**76**	⇓P	**Pn**	**04 44 59.7**	**+2.0**
54nm,0.2s,SNR=47							
ULHL	**Ulahol**	**2.49**	**76**	⇓*i*P	**Pn**	**04 44 58.1**	**+0.5**
ULHL				⇓*i*S	**Sn**	**04 45 28.6**	**+0.4**
ULHL	**Ulahol**	**2.49**	**76**	⇓*i*PN	**Pn**	**04 44 58.1**	**+0.5**
ULHL				*i* S	**Sn**	**04 45 28.6**	**+0.4**
DGS	**Degeres**	**2.58**	**52**	Pg	**Pb**	**04 45 04.1**	**+0.7**
121nm,0.4s							
DGS				Lg	Lg	04 45 37.4	
320nm,0.4s							
KST	**Kastek**	**2.59**	**57**	Pg	**Pb**	**04 45 04.2**	**+0.7**
123nm,0.5s							
KST				Lg	Lg	04 45 37.5	
401nm,0.6s							
KST	**Kastek**	**2.59**	**57**	*e*P	**Pb**	**04 45 04.2**	**+0.7**
123nm,0.5s							
KST				*e*S	**Sb**	**04 45 37.5**	**+2.1**
401nm,0.6s							
CHM	**Chimkent**	**2.60**	**285**	*e*P	**Pg**	**04 45 07.1**	**+0.4**
213nm,0.4s							
CHM				*e*S	**Sg**	**04 45 42.7**	**+2.3**
1μm,0.6s							
TGS	**TashGRES**	**2.62**	**266**	P	**Pb**	**04 45 04.6**	**+0.8**
TGS				S	**Sg**	**04 45 41.5**	**+0.6**
BRLS	**Borolday**	**2.70**	**301**	Pg	**Pb**	**04 45 05.5**	**+0.3**
30nm,0.4s							
BRLS				Lg	Lg	04 45 40.0	
271nm,0.5s							
BRLS	**Borolday**	**2.70**	**301**	*e*P	**Pb**	**04 45 07.0**	**+1.7**
30nm,0.3s							
BRLS				*e*S	**Sg**	**04 45 42.3**	**-1.2**
182nm,0.5s							
KRBS	**Karabastau**	**2.83**	**44**	Pg	**Pb**	**04 45 08.6**	**+1.2**
43nm,0.3s							
KRBS				Lg	Lg	04 45 45.1	
163nm,0.6s							
MTBS	**Maitube**	**2.93**	**59**	Pg	**Pb**	**04 45 10.1**	**+0.9**
75nm,0.3s							
MTBS				Lg	Lg	04 45 48.4	
102nm,0.6s							
MTBS	**Maitube**	**2.93**	**59**	*e*P	**Pb**	**04 45 10.1**	**+0.9**
75nm,0.3s							
MTBS				*e*S	**Sg**	**04 45 48.4**	**-2.5**
102nm,0.6s							
NZBK	**Nazarbek**	**2.95**	**262**	P	**Pb**	**04 45 07.5**	**-1.9**
NZBK				S	**Sb**	**04 45 47.2**	**+1.7**
KASK	**Kaskelen**	**3.11**	**59**	⇑Pg	**Pb**	**04 45 13.2**	**+0.9**
40nm,0.3s							
KASK				⇑Lg	Lg	04 45 55.2	
180nm,0.7s							
KSH	**Kashi**	**3.13**	**133**	Pn	**Pn**	**04 45 09.6**	**+3.2**
KSH				Sn	**Sb**	**04 45 50.6**	**-0.4**
KSH				smax	smax		
comp=N,58nm,0.7s							
KSH				smax	smax		
comp=E,56nm,0.8s							
KDJ	**Kajisay**	**3.16**	**80**	⇑*i*P	**Pn**	**04 45 07.8**	**+1.0**
KDJ				⇑*i*S	**Sn**	**04 45 45.2**	**+0.5**
KDJ	**Kajisay**	**3.16**	**80**	*i* PN	**Pn**	**04 45 07.8**	**+1.0**
KDJ				*i* S	**Sn**	**04 45 45.2**	**+0.5**
TNSS	**Tian-Shan**	**3.23**	**64**	Pg	**Pb**	**04 45 15.9**	**+1.4**
comp=E,92nm,0.4s							
TNSS				Lg	Lg	04 45 57.9	
comp=E,66nm,0.5s							
TNSS	**Tian-Shan**	**3.23**	**64**	*e*P	**Pb**	**04 45 15.9**	**+1.4**
comp=E,92nm,0.4s							
TNSS				*e*S	**Sg**	**04 45 58.0**	**-2.6**
comp=E,66nm,0.5s							
AAA	**Alma-Ata**	**3.28**	**61**	Pg	**Pb**	**04 45 17.2**	**+2.0**
comp=E,164nm,0.3s							
AAA				Lg	Lg	04 46 00.5	
comp=E,32nm,0.5s							
AAA	**Alma-Ata**	**3.28**	**61**	*e*P	**Pb**	**04 45 17.2**	**+2.0**
comp=E,164nm,0.3s							
AAA				*e*S	**Sg**	**04 46 00.5**	**-1.7**
comp=E,32nm,0.5s							
KNDC	**Almaty**	**3.32**	**61**	⇑Pg	**Pb**	**04 45 17.3**	**+1.5**
comp=E,79nm,0.4s							
KNDC				⇓Lg	Lg	04 46 00.7	
comp=E,80nm,0.7s							
KNDC	**Almaty**	**3.32**	**61**	PN	**Pb**	**04 45 17.3**	**+1.5**
KNDC						04 46 00.7	
MDOK	**Medeo**	**3.35**	**62**	⇓Pn	**Pb**	**04 45 14.5**	**-1.9**
comp=E,69nm,0.4s							
MDOK				Pg	**Pb**	**04 45 17.7**	**+1.3**
comp=E,112nm,0.4s							
MDOK				Lg	Lg	04 46 00.7	
comp=E,96nm,0.8s							
MDOK				⇑Lg	Lg	04 46 02.3	
comp=E,94nm,0.8s							
MDOK	**Medeo**	**3.35**	**62**	PN	**Pb**	**04 45 14.5**	**-1.9**
MDOK	**Medeo**	**3.35**	**62**	*e*P	**Pb**	**04 45 17.7**	**+1.3**
comp=E,112nm,0.4s							
MDOK				*e*S	**Sb**	**04 46 00.7**	**+3.4**
comp=E,96nm,0.8s							
KTBS	**Karatobe**	**3.40**	**52**	Pg	**Pb**	**04 45 17.8**	**+0.7**
comp=E,39nm,0.5s							
KTBS				Lg	Lg	04 46 01.9	
comp=E,218nm,0.4s							
KOTS	**Kotyrbulak**	**3.42**	**62**	Pg	**Pb**	**04 45 19.4**	**+1.7**
comp=E,70nm,0.4s							
KOTS				Lg	Lg	04 46 03.8	
comp=E,146nm,0.4s							
KOTS	**Kotyrbulak**	**3.42**	**62**	*e*P	**Pb**	**04 45 19.4**	**+1.7**
comp=E,70nm,0.4s							
KOTS				*e*S	**Sg**	**04 46 03.8**	**-2.9**
comp=E,146nm,0.4s							
BTLS	**Baital**	**3.45**	**13**	Pg	**Pb**	**04 45 18.6**	**+0.6**
comp=E,28nm,0.4s							
BTLS				Lg	Lg	04 46 02.4	
comp=E,73nm,0.3s							
BTLS	**Baital**	**3.45**	**13**	*e*P	**Pb**	**04 45 18.6**	**+0.6**
comp=E,28nm,0.4s							
BTLS				*e*S	**Sb**	**04 46 02.4**	**+2.5**
comp=E,73nm,0.3s							
ANVS	**Anan'yevo**	**3.64**	**71**	⇑*i*P	**Pn**	**04 45 14.1**	**+0.6**
ANVS				⇑*i*S	**Sn**	**04 45 56.2**	**-0.4**
ANVS	**Anan'yevo**	**3.64**	**71**	*i* PN	**Pn**	**04 45 14.1**	**+0.6**
ANVS				*i* S	**Sn**	**04 45 56.2**	**-0.4**
KURS	**Kuram**	**4.23**	**63**	Pg	**Pb**	**04 45 33.6**	**+2.2**
comp=E,32nm,0.9s							
KURS				Lg	Lg	04 46 28.6	
comp=E,18nm,0.6s							
SATY	**Saty**	**4.24**	**69**	Pg	**Pb**	**04 45 34.2**	**+2.6**
comp=E,17nm,0.5s							
SATY				Lg	Lg	04 46 30.0	
comp=E,77nm,0.6s							
SATY	**Saty**	**4.24**	**69**	*e*P	**Pg**	**04 45 35.9**	**-2.2**
comp=E,2.5nm,0.3s							
SATY				*e*S	**Sg**	**04 46 32.2**	**-0.8**
comp=E,70nm,0.4s							
ZHN	**Zhinishke**	**4.30**	**68**	Pg	**Pb**	**04 45 34.6**	**+2.1**
comp=E,23nm,0.9s							
ZHN				Lg	Lg	04 46 30.2	
comp=E,40nm,0.4s							
ZHN	**Zhinishke**	**4.30**	**68**	*e*P	**Pb**	**04 45 34.6**	**+2.1**
comp=E,23nm,0.9s							
ZHN				*e*S	**Sg**	**04 46 30.2**	**-4.5**
comp=E,40nm,0.4s							
ARXS	**Arharly**	**4.36**	**53**	Pg	**Pb**	**04 45 35.9**	**+2.3**
comp=E,2.5nm,0.3s							
ARXS				Lg	Lg	04 46 32.2	
comp=E,70nm,0.4s							
BLB	**Baldybastay**	**4.70**	**57**	Pg	**Pb**	**04 45 40.3**	**+0.9**
comp=E,56nm,0.5s							
BLB				Lg	Lg	04 46 40.4	
comp=E,55nm,0.3s							
UZB	**Uzynbulak**	**4.70**	**70**	Pg	**Pb**	**04 45 41.0**	**+1.6**
comp=E,18nm,0.6s							
UZB				Lg	Lg	04 46 41.1	
comp=E,26nm,0.6s							
UZB	**Uzynbulak**	**4.70**	**70**	*e*P	**Pb**	**04 45 41.6**	**+2.2**
comp=E,18nm,0.5s							
UZB				*e*S	**Sg**	**04 46 42.1**	**-5.5**
comp=E,19nm,0.4s							
SHLS	**Shalkode**	**5.01**	**71**	Pg	**Pg**	**04 45 53.7**	**+0.9**
comp=E,21nm,0.5s							
SHLS				Lg	Lg	04 47 02.9	
comp=E,15nm,0.5s							
SHLS	**Shalkode**	**5.01**	**71**	*e*P	**Pg**	**04 45 53.7**	**+0.9**
comp=E,21nm,0.5s							
SHLS				*e*S	**Sg**	**04 47 02.9**	**+5.2**
comp=E,15nm,0.5s							
PDGK	**Podgornoye**	**5.08**	**69**	⇑Pg	**Pb**	**04 45 47.1**	**+1.3**
comp=E,16nm,0.8s							
PDGK				⇓Lg	Lg	04 46 54.7	
comp=E,50nm,1.0s							
PDGK	**Podgornoye**	**5.08**	**69**	PN	**Pb**	**04 45 47.1**	**+1.3**
KNOS	**Konyrlen**	**5.27**	**57**	Pg	**Pb**	**04 45 52.3**	**+3.2**
comp=E,17nm,0.7s							
KNOS				Lg	Lg	04 47 00.2	
comp=E,36nm,0.8s							
DJR	**Jarkent**	**5.65**	**60**	Pg	**Pb**	**04 45 59.3**	**+3.8**
comp=E,7.3nm,0.4s							
DJR				Lg	Lg	04 47 12.5	
comp=E,23nm,0.6s							
DJR	**Jarkent**	**5.65**	**60**	*e*P	**Pb**	**04 45 59.3**	**+3.8**
comp=E,7.3nm,0.4s							
DJR				*e*S	**Sg**	**04 47 12.5**	**-5.5**
comp=E,23nm,0.6s							
KTMS	**Ketmen**	**5.72**	**70**	Pg	**Pb**	**04 46 00.1**	**+3.4**
comp=E,3.6nm,0.6s							
KTMS				Lg	Lg	04 47 13.4	
comp=E,8.5nm,0.6s							
KTMS	**Ketmen**	**5.72**	**70**	*e*P	**Pb**	**04 46 00.1**	**+3.4**
comp=E,3.6nm,0.6s							
KTMS				*e*S	**Sg**	**04 47 13.4**	**-6.9**
comp=E,8.5nm,0.6s							
KAPS	**Kapalarasan**	**5.87**	**50**	Pg	**Pb**	**04 46 03.1**	**+3.8**
comp=E,7.7nm,0.7s							
KAPS				Lg	Lg	04 47 19.0	
comp=E,48nm,0.9s							
OTUK	**Ortayu**	**6.58**	**356**	Pg	**Pb**	**04 46 15.8**	**+4.5**
comp=E,1.1nm,0.3s							
OTUK				Lg	Lg	04 47 41.6	
comp=E,27nm,0.5s							
OTUK	**Ortayu**	**6.58**	**356**	⇓Pn	**Pn**	**04 45 54.5**	**+0.9**
comp=E,3.4nm,0.7s							
OTUK				⇑Lg	Lg

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.96**	**42**	Pn	**Pn**	**04 46 14.4**	**-0.2**
GUMO				Sn	**Sn**	**04 46 39.5**	**+1.2**
GUMO	**Guam**	**1.96**	**42**	Pn	**Pb**	**04 46 16.1**	**-1.9**
	78nm,0.3s,baz=184,slow=8.1,SNR=15						
GUMO				Sn	**Sn**	**04 46 39.6**	**+1.2**
	135nm,0.3s,baz=171,slow=23,SNR=26						
H11S3	**WAKE ISLAND Hy**	**23.20**	**71**	T	T	05 15 07.0	
	baz=257,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**23.22**	**71**	T	T	05 15 09.7	
	baz=257,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**23.22**	**71**	T	T	05 15 07.9	
	baz=257,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**23.68**	**68**	T	T	05 15 45.6	
	baz=255,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**23.69**	**68**	T	T	05 15 37.5	
	baz=255,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**23.70**	**68**	T	T	05 15 49.2	
	baz=255,slow=75,SNR=22						
LUWI	**Luwuk**	**24.41**	**239**	P	**P**	**04 50 59.6**	**-0.2**
COEN	**Coen**	**25.91**	**181**	P	**P**	**04 51 12.9**	**-0.5**
WR0	**Warramunga Arr**	**33.09**	**196**	P	**P**	**04 52 16.3**	**-0.7**
WR0				IAmb	IAmb	04 52 54.8	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**33.12**	**196**	P	**P**	**04 52 17.2**	**-0.1**
WRA	**Warramunga Arr**	**33.12**	**196**	P	**P**	**04 52 17.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=20,slow=9.7,SNR=14						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**36.80**	**195**	P	**P**	**04 52 49.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=19,slow=11,SNR=10.0						
	comp=Z,0.4nm,0.6s						
DZM	**Mont Dzumac**	**40.74**	**146**	P	**P**	**04 53 23.1**	**+0.8**
DZM				IAmb	IAmb	04 53 60.0	
	comp=Z,27nm,1.5s						
DZM	**Mont Dzumac**	**40.74**	**146**	P	**P**	**04 53 23.7**	**+1.5**
	comp=Z,6.9nm,0.8s,baz=231,slow=8.4,SNR=7.3						
	comp=Z,6.9nm,0.8s						
KULM	**Kulim**	**42.88**	**265**	P	**P**	**04 53 40.4**	**+0.6**
KULM				IAmb	IAmb	04 53 41.5	
	comp=Z,4.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.38**	**284**	P	**P**	**04 53 43.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=89,slow=9.0,SNR=1.2						
	comp=Z,0.4nm,0.3s						
STKA	**Stephens Creek**	**43.79**	**182**	P	**P**	**04 53 46.0**	**-0.8**
STKA				IAmb	IAmb	04 53 52.9	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**43.79**	**182**	P	**P**	**04 53 46.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=349,slow=8.7,SNR=4.3						
	comp=Z,1.2nm,0.5s						
BBOO	**Buckleboo**	**45.25**	**189**	P	**P**	**04 53 58.3**	**-0.1**
SONM	**Songino Array**	**47.20**	**326**	P	**P**	**04 54 14.8**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=153,slow=8.2,SNR=2.0						
	comp=Z,0.3nm,0.4s						
TOO	**Toolangi**	**49.47**	**178**	P	**P**	**04 54 32.5**	**+1.3**
MK31	**Makanchi Array**	**61.65**	**317**	P	**P**	**04 55 59.1**	**+0.3**
MKAR	**Makanchi Array**	**61.65**	**317**	P	**P**	**04 55 58.8**	**0.0**
MKAR	**Makanchi Array**	**61.65**	**317**	P	**P**	**04 55 59.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=90,slow=10,SNR=5.9						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**62.06**	**325**	P	**P**	**04 56 01.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=120,slow=6.8,SNR=3.9						
	comp=Z,0.8nm,0.5s						
N15K	**Kwethluk River**	**63.16**	**28**	P	**P**	**04 56 10.6**	**+1.9**
KURK	**Kurchatov**	**64.87**	**321**	P	**P**	**04 56 20.1**	**+0.1**
KURK				IAmb	IAmb	04 56 20.6	
	comp=Z,4.1nm,0.7s						
KURBB	**Kurchatov Arra**	**64.90**	**320**	P	**P**	**04 56 20.4**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=105,slow=6.7,SNR=29						
	comp=Z,3.3nm,0.6s						
BOOM	**Boomskoye usch**	**65.40**	**311**	P	**P**	**04 56 24.4**	**+0.5**
BOOM				IAmb	IAmb	04 56 39.9	
	comp=Z,3.1nm,1.2s						
ARSB	**Arslanbob**	**67.51**	**310**	P	**P**	**04 56 37.8**	**+0.4**
ARSB				IAmb	IAmb	04 57 12.7	
	comp=Z,2.0nm,0.8s						
KKAR	**Karatay Array**	**69.43**	**312**	P	**P**	**04 56 49.8**	**+0.6**
GAR	**Garm**	**69.46**	**307**	P	**P**	**04 56 48.4**	**-1.2**
GAR				IAmb	IAmb	04 57 01.6	
	comp=Z,8.0nm,1.2s						
E22K	**Anaktuvuk Pass**	**69.49**	**21**	P	**P**	**04 56 50.3**	**+1.2**
E22K				IAmb	IAmb	04 57 32.8	
	comp=Z,3.4nm,1.4s						
BVAR	**Borovoye Array**	**70.27**	**322**	P	**P**	**04 56 54.3**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=107,slow=7.9,SNR=12						
	comp=Z,2.1nm,0.5s						
ILAR	**Eielson Array**	**70.44**	**25**	P	**P**	**04 56 54.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=255,slow=5.6,SNR=8.2						
	comp=Z,0.5nm,0.6s						
D24K	**Happy Valley**	**70.85**	**21**	P	**P**	**04 56 59.5**	**+2.1**
D24K				IAmb	IAmb	04 57 09.7	
	comp=Z,6.8nm,1.2s						
VRDI	**Verde Repeater**	**71.29**	**29**	P	**P**	**04 57 00.9**	**+0.5**
ABKAR	**Akbulak array**	**76.75**	**318**	P	**P**	**04 57 32.1**	**-0.2**
ABKAR				IAmb	IAmb	04 58 06.0	
	comp=Z,4.4nm,1.4s						
ABKAR	**Akbulak array**	**76.75**	**318**	P	**P**	**04 57 32.0**	**-0.3**
YKA	**Yellowknife Ar**	**84.75**	**27**	P	**P**	**04 58 13.6**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=289,slow=5.5,SNR=4.8						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**88.07**	**342**	P	**P**	**04 58 31.2**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=70,slow=7.9,SNR=7.0						
	comp=Z,5.3nm,1.0s						
NVAR	**Mina Array Bea**	**88.85**	**51**	P	**P**	**04 58 36.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=270,slow=4.4,SNR=4.8						
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**91.93**	**335**	P	**P**	**04 58 47.8**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=62,slow=5.3,SNR=16						
	comp=Z,1.8nm,0.5s						
PB14	**IPOC Station P**	**145.58**	**116**		**PKiKP**	**05 05 22.3**	**-2.0**

*IDC **17** 05:00:59.8±0.7,53.°59N×161.°35E, h0km, mb3.9/26, mbtmp3.9/30, ML4.0/4, MS3.1/9, Error ellipse: s-maj=16.6km s-min=14.0km az=170.0*
*KRSC **17** 05:01:00.2±1.1,53.°30N×161.°90E, h60km±21km, Ml4.3*
*MOS **17** 05:01:05.3±0.9,53.°49N×161.°41E, h58km, mb4.5/8, Error ellipse: s-maj=7.9km s-min=5.1km az=89.6*
ISC 17 05:01:04.0±0.6,53.°39N±0.°05×161.°70E±0.°05, h38km±2km, n136, σ1§42/136, mb3.9/46, MS3.4/7, 4C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.05**	**255**	PN	**Pn**	**05 01 21.2**	**-0.8**
SPN				S	**Sn**	**05 01 35.7**	**+0.3**
SPN	**Mys Shipunski**	**1.05**	**255**	*e*P	**Pn**	**05 01 21.2**	**-0.8**
SPN				*e*S	**Sn**	**05 01 35.8**	**+0.3**
NLC	**Nalytchevo**	**1.43**	**262**	PN	**Pn**	**05 01 26.8**	**-0.5**
NLC				S	**Sn**	**05 01 45.8**	**+1.0**
NLC	**Nalytchevo**	**1.43**	**262**	*e*P	**Pn**	**05 01 26.9**	**-0.5**
NLC				*e*S	**Sn**	**05 01 45.8**	**+1.0**
KII	**Karymskiy**	**1.49**	**297**	PN	**Pn**	**05 01 28.6**	**+0.4**
KII	**Karymskiy**	**1.49**	**297**	*e*P	**Pn**	**05 01 28.7**	**+0.4**
UGLR	**Uglovaya**	**1.74**	**265**	PN	**Pn**	**05 01 32.1**	**+0.5**
UGLR	**Uglovaya**	**1.74**	**265**	*e*P	**Pn**	**05 01 32.1**	**+0.5**
AVH	**Avacha**	**1.78**	**267**	PN	**Pn**	**05 01 32.7**	**+0.5**
AVH	**Avacha**	**1.78**	**267**	*e*P	**Pn**	**05 01 32.8**	**+0.5**
DALK	**Dalny**	**1.81**	**260**	PN	**Pn**	**05 01 32.1**	**-0.4**
DALK	**Dalny**	**1.81**	**260**	*e*P	**Pn**	**05 01 32.1**	**-0.4**
KRX	**Arik**	**1.83**	**270**	PN	**Pn**	**05 01 33.1**	**+0.2**
KRX	**Arik**	**1.83**	**270**	*e*P	**Pn**	**05 01 33.1**	**+0.2**
KOK	**Koryaka**	**1.84**	**268**	PN	**Pn**	**05 01 33.4**	**+0.4**
KOK	**Koryaka**	**1.84**	**268**	*e*P	**Pn**	**05 01 33.4**	**+0.4**
PET	**Petropavlovsk**	**1.87**	**260**	*e*PN	**Pn**	**05 01 33.0**	**-0.3**
PET				*e*S	**Sn**	**05 01 57.5**	**+1.8**
PET				pmax	pmax		
	comp=Z,123nm,0.3s						
PET				smax	smax		
	comp=N,434nm,0.6s						
PET				smax	smax		
	comp=E,717nm,0.5s						
PET	**Petropavlovsk**	**1.87**	**260**	*e*P	**Pn**	**05 01 33.0**	**-0.3**
PET				*e*S	**Sn**	**05 01 57.4**	**+1.8**
INSR	**Institute**	**1.89**	**261**	PN	**Pn**	**05 01 34.7**	**+1.1**
INSR	**Institute**	**1.89**	**261**	*e*P	**Pn**	**05 01 34.8**	**+1.1**
TUMD	**Tumrok D**	**1.97**	**338**	*e*P	**Pn**	**05 01 34.7**	**-0.1**
TUMD				*e*S	**Sn**	**05 02 00.1**	**+1.8**
RUS	**Russkaya**	**2.15**	**245**	PN	**Pn**	**05 01 37.1**	**-0.1**
RUS	**Russkaya**	**2.15**	**245**	*e*P	**Pn**	**05 01 37.2**	**-0.1**
KRMR	**Karymshinskiy**	**2.22**	**257**	PN	**Pn**	**05 01 38.2**	**0.0**
KRMR				S	**Sn**	**05 02 08.2**	**+3.9**
KRMR	**Karymshinskiy**	**2.22**	**257**	*e*P	**Pn**	**05 01 38.2**	**0.0**
KRMR				*e*S	**Sn**	**05 02 08.3**	**+3.9**
GNL	**Ganaly**	**2.26**	**279**	PN	**Pn**	**05 01 40.2**	**+1.3**
GNL	**Ganaly**	**2.26**	**279**	*e*P	**Pn**	**05 01 40.2**	**+1.3**
GRL	**Gorelyy**	**2.35**	**251**	PN	**Pn**	**05 01 41.1**	**+1.1**
GRL	**Gorelyy**	**2.35**	**251**	*e*P	**Pn**	**05 01 41.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.42**	**265**	*ce*PN	**Pn**	**05 01 42.0**	**+1.1**
PETK	**Petropavlovsk-**	**2.42**	**265**	Pn	**Pn**	**05 01 41.3**	**+0.4**
	comp=E,25nm,0.3s,baz=84,slow=18,SNR=112						
PETK				Sn	**Sn**	**05 02 12.5**	**+3.2**
	comp=E,20nm,0.3s,baz=93,slow=19,SNR=7.3						
PETK				LR	LR	05 02 16.6	
	comp=E,69nm,20.1s,baz=87,slow=34						
KMNR	**Kamenistaya**	**2.52**	**341**	PN	**Pn**	**05 01 44.1**	**+1.7**
KMNR	**Kamenistaya**	**2.52**	**341**	*e*P	**Pn**	**05 01 44.1**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.68**	**345**	PN	**Pn**	**05 01 46.0**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.68**	**345**	*e*P	**Pn**	**05 01 46.1**	**+1.4**
KIRR	**Kirishev**	**2.69**	**343**	PN	**Pn**	**05 01 46.0**	**+1.2**
KIRR	**Kirishev**	**2.69**	**343**	*e*P	**Pn**	**05 01 46.0**	**+1.2**
KPT	**Kopyto**	**2.73**	**342**	PN	**Pn**	**05 01 46.3**	**+1.1**
KPT	**Kopyto**	**2.73**	**342**	*e*P	**Pn**	**05 01 46.3**	**+1.1**
APC	**Apacha**	**2.77**	**262**	PN	**Pn**	**05 01 46.9**	**+1.2**
APC	**Apacha**	**2.77**	**262**	*e*P	**Pn**	**05 01 47.0**	**+1.2**
CIRR	**Tsirk**	**2.79**	**349**	PN	**Pn**	**05 01 47.3**	**+1.2**
CIRR	**Tsirk**	**2.79**	**349**	*e*P	**Pn**	**05 01 47.4**	**+1.2**
KOZ	**Kozyrevsk**	**2.88**	**339**	PN	**Pn**	**05 01 48.4**	**+1.2**
KOZ	**Kozyrevsk**	**2.88**	**339**	*e*P	**Pn**	**05 01 48.4**	**+1.2**
KBTR	**Krutoberegovo**	**2.90**	**12**	PN	**Pn**	**05 01 47.7**	**+0.2**
KBTR	**Krutoberegovo**	**2.90**	**12**	*e*P	**Pn**	**05 01 47.7**	**+0.2**
KLY	**Klyuchi**	**3.00**	**349**	PN	**Pn**	**05 01 48.8**	**0.0**
KLY	**Klyuchi**	**3.00**	**349**	*e*P	**Pn**	**05 01 48.9**	**0.0**
ESO	**Esso**	**3.08**	**327**	PN	**Pn**	**05 01 51.3**	**+1.3**
ESO	**Esso**	**3.08**	**327**	*e*P	**Pn**	**05 01 51.4**	**+1.3**
BKI	**Bering**	**3.10**	**52**	PN	**Pn**	**05 01 49.1**	**-1.0**
BKI	**Bering**	**3.10**	**52**	*e*P	**Pn**	**05 01 49.1**	**-1.0**
BKI				*e*S	**Sn**	**05 02 22.7**	**-3.2**
SRDR	**Sredinnyy**	**3.15**	**339**	PN	**Pn**	**05 01 51.2**	**+0.2**
SRDR	**Sredinnyy**	**3.15**	**339**	*e*P	**Pn**	**05 01 51.2**	**+0.2**
SMKR	**Semkarok**	**3.21**	**358**	PN	**Pn**	**05 01 52.9**	**+1.1**
SMKR	**Semkarok**	**3.21**	**358**	*e*P	**Pn**	**05 01 52.9**	**+1.1**
PAU	**Pauzhetka**	**3.56**	**239**	PN	**Pn**	**05 01 56.7**	**+0.2**
PAU	**Pauzhetka**	**3.56**	**239**	*e*P	**Pn**	**05 01 56.8**	**+0.2**
SKR	**Severo-Kuril's**	**4.38**	**234**	*e*PN	Pn	05 02 13.1	+5.2
SKR				*e*S	**Sn**	**05 02 56.1**	**-1.5**
SKR				smax	smax		
	comp=N,62nm,0.6s						
SKR				smax	smax		
	comp=E,58nm,0.4s						
SKR	**Severo-Kuril's**	**4.38**	**234**	*e*S	**Sn**	**05 02 57.2**	**-0.4**
SHEM	**Shemya Is, Ala**	**7.50**	**90**	Pn	**Pn**	**05 02 51.5**	**+0.8**
	comp=E,7.5nm,0.3s,baz=164,slow=2.7,SNR=4.8						
SHEM				Sn	Sn	05 04 09.9	-4.4
	comp=E,2.1nm,0.3s,baz=296,slow=18,SNR=1.2						
	comp=E,48nm,0.6s						
MA2	**Magadan**	**8.66**	**320**	Pn	**Pn**	**05 03 04.1**	**-2.3**
	comp=E,0.5nm,0.3s,baz=139,slow=13,SNR=6.5						
MA2				LR	LR	05 06 57.9	
	comp=E,96nm,18.4s,baz=173,slow=43						
	comp=E,1.6nm,0.3s						
MA2	**Magadan**	**8.66**	**320**	*i* PN	**Pn**	**05 03 05.2**	**-1.3**
BILL	**Biiibino**	**14.86**	**7**	*i* P	**P**	**05 04 37.4**	**+1.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAJ	**Asahikawa**	**15.60**	**241**	Pn	**Pn**	**05 04 40.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=38,slow=15,SNR=1.3						
	comp=Z,6.8nm,0.8s						
YAK	**Yakutsk**	**18.98**	**310**	*i* P	**P**	**05 05 16.9**	**-4.9**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KLR	**Kul'dur**	**19.10**	**270**	P	**Pn**	**05 05 22.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=66,slow=9.4,SNR=7.1						
	comp=Z,2.7nm,0.8s						
KLR	**Kul'dur**	**19.10**	**270**	*e*P	**Pn**	**05 05 22.9**	**-1.4**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
HEH	**HeiHe**	**21.30**	**275**	*e*P	**P**	**05 05 43.8**	**-3.2**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIXI	**Tiksi**	**23.23**	**334**	*i* P	**P**	**05 06 05.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BNX	**BinXian**	**23.34**	**265**	⇓P	**P**	**05 06 06.8**	**-1.8**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJA0	**Matsu Arr-Jizo**	**23.47**	**234**	*e*P	**P**	**05 06 14.4**	**+4.5**
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MJAR	**Matsushiro Arr**	**23.49**	**234**	P	**P**	**05 06 10.7**	**+0.6**
	comp=Z,5.4nm,0.9s,baz=22,slow=11,SNR=10						
	comp=Z,5.4nm,0.9s						
ILAR	**Eielson Array**	**27.92**	**46**	P	**P**	**05 06 51.2**	**+1.1**
	comp=Z,0.3nm,1.0s,baz=259,slow=5.3,SNR=1.7						
	comp=Z,0.3nm,1.0s						
KSRS	**Korea Array**	**28.22**	**249**	LR	LR	05 19 33.9	
	comp=Z,29nm,18.3s,baz=50,slow=40						
H11N2	**WAKE ISLAND Hy**	**33.83**	**171**	T	T	05 44 48.1	
	baz=354,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**33.85**	**171**	T	T	05 44 27.1	
	baz=354,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**33.85**	**171**	T	T	05 44 38.6	
	baz=354,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**35.02**	**172**	T	T	05 45 51.4	
	baz=1.2						
H11S3	**WAKE ISLAND Hy**	**35.04**	**172**	T	T	05 45 44.3	
	baz=1.2						
H11S2	**WAKE ISLAND Hy**	**35.04**	**172**	T	T	05 45 58.9	
	baz=1.2						
NRIK	**Noril'sk**	**36.23**	**325**	LR	LR	05 24 05.8	
	comp=Z,45nm,19.4s,baz=94,slow=39						
NRIK	**Noril'sk**	**36.23**	**325**	*ce*P	**P**	**05 07 58.0**	**-4.6**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**42.29**	**43**	P	**P**	**05 08 54.1**	**+0.9**
	comp=Z,0.2nm,0.8s,baz=283,slow=8.5,SNR=5.8						
	comp=Z,0.2nm,0.8s						
GTA	**Gaotai**	**43.53**	**277**	*e*P	**P**	**05 09 04.9**	**+1.1**
GTA				pP	pP	05 09 09.9	-3.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**47.00**	**351**	P	**P**	**05 09 30.9**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=31,slow=6.7,SNR=10						
	comp=Z,3.4nm,0.6s						
KURK	**Kurchatov**	**48.40**	**302**	P	**P**	**05 09 40.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=53,slow=7.2,SNR=3.4						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**48.50**	**302**	P	**P**	**05 09 40.4**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=57,slow=7.6,SNR=11						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**48.89**	**296**	P	**P**	**05 09 44.7**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=52,slow=7.7,SNR=9.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**50.96**	**309**	P	**P**	**05 10 00.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=53,slow=7.2,SNR=3.4						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**53.30**	**342**	P	**P**	**05 10 18.2**	**-0.3**
	comp=Z,10nm,1.2s,baz=37,slow=11,SNR=1.2						
	comp=Z,10nm,1.2s						
ARTI	**Arti**	**53.93**	**318**	*c i* P	**P**	**05 10 21.5**	**-1.7**
ARTI						05 12 25.3	
ARTI				S	S	05 17 42.7	-13
ARTI				pmax	pmax		
	comp=Z,13nm,2.4s						
NVAR	**Mina Array Bea**	**54.73**	**71**	P	**P**	**05 10 31.9**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=309,slow=8.2,SNR=1.9						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**56.53**	**62**	P	**P**	**05 10 44.8**	**+2.3**
	comp=Z,0.1nm,0.5s,baz=293,slow=7.4,SNR=1.7						
	comp=Z,0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.19**	**259**	P	**P**	**05 11 02.3**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=20,slow=7.1,SNR=9.4						
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.19**	**259**	*e*P	**P**	**05 11 02.6**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**60.23**	**337**	P	**P**	**05 11 08.0**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=44,slow=7.9,SNR=12						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**60.23**	**337**	*e*P	**P**	**05 11 07.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BELG	**Belogornoye**	**61.12**	**320**	P	**P**	**05 11 13.5**	**-0.2**
	comp=Z,8.6nm,0.8s,baz=91,slow=2.6,SNR=3.7						
	comp=Z,8.6nm,0.8s						
OBN	**Obninsk**	**62.78**	**328**	*i* P	**P**	**05 11 24.9**	**0.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	**NORSAR Subarra**	**63.52**	**344**	P	**P**	**05 11 30.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**63.52**	**344**	P	**P**	**05 11 29.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=21,slow=6.6,SNR=9.2						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**63.52**	**344**	*e*P	**P**	**05 11 30.1**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PMG	**Port Moresby**	**63.76**	**196**	LR	LR	05 41 23.6	
	comp=Z,7.5nm,18.2s,baz=132,slow=38						
HFS	**Hagfors**	**63.96**	**343**	P	**P**	**05 11 32.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=90,slow=4.4,SNR=12						
	comp=Z,1.4nm,0.5s						
AKASG	**Malin Array Be**	**68.85**	**330**	P	**P**	**05 12 04.0**	**0.0**
	comp=Z,1.3nm,0.6s,baz=33,slow=6.4,SNR=5.1						
AKASG				LR	LR	05 44 13.6	
	comp=Z,24nm,19.3s,baz=39,slow=38						
	comp=Z,1.3nm,0.6s						
AKASG	**Malin Array Be**	**68.85**	**330**	*e*P	**P**	**05 12 03.8**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**69.63**	**68**	P	**P**	**05 12 11.1**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=297,slow=5.8,SNR=4.5						
	comp=Z,0.3nm,0.7s						
KIV	**Kislovodsk**	**69.88**	**318**	*e*P	**P**	**05 12 09.5**	**-1.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**69.98**	**317**	P	**P**	**05 12 10.4**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=40,slow=12,SNR=2.5						
	comp=Z,2.7nm,0.9s						
EKA	**Eskdalemuir Ar**	**70.93**	**351**	P	**P**	**05 12 17.9**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=14,slow=6.1,SNR=1.3						
	comp=Z,0.6nm,0.6s						
PSI	**Prapat**	**71.79**	**249**	LR	LR	05 48 40.0	
	comp=Z,23nm,18.8s,baz=204,slow=40						
CLL	**Collm**	**72.42**	**340**	*e*P	**P**	**05 12 27.0**	**+1.3**
CLL	**Collm**	**72.42**	**340**	*e*P	**P**	**05 12 27.0**	**+1.3**
KHC	**Kasperske Hory**	**74.36**	**339**	*ce*P	**P**	**05 12 38.3**	**+1.0**
KHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MLR	**Muntele Rosu**	**74.50**	**329**	P	**P**	**05 12 38.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=297,slow=4.3,SNR=11						
	comp=Z,2.1nm,0.6s						
GERES	**GERESS Array B**	**74.60**	**339**	P	**P**	**05 12 39.4**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=52,slow=5.2,SNR=5.0						
	comp=Z,0.6nm,0.4s						
GERES	**GERESS Array B**	**74.60**	**339**	*e*P	**P**	**05 12 39.8**	**+1.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CONA	**Conrad Observa**	**74.97**	**337**	*i* P	**P**	**05 12 42.1**	**+1.1**
	comp=Z,0.2nm,0.2s						
RONA	**Rosalia, Austr**	**75.09**	**337**	*e*P	**P**	**05 12 40.8**	**-0.7**
	comp=Z,0.2nm,0.2s						
MOA	**Molln**	**75.41**	**338**	*i* P	**P**	**05 12 44.4**	**+1.1**
	comp=Z,0.2nm,0.3s						
SOKA	**Soboth**	**76.34**	**337**	*i* P	**P**	**05 12 49.3**	**+0.6**
	comp=Z,0.3nm,0.3s						
KBA	**Koelnbreinsper**	**76.35**	**338**	*e*P	**P**	**05 12 50.2**	**+1.3**
	comp=Z,2.2nm,0.6s						
WATA	**Walderalm**	**76.48**	**340**	*i* P	**P**	**05 12 50.5**	**+0.9**
	comp=Z,0.3nm,0.2s						
WTTA	**Wattenberg**	**76.54**	**340**	*e*P	**P**	**05 12 51.2**	**+1.2**
	comp=Z,0.3nm,0.3s						
MOTA	**Moosalm**	**76.57**	**340**	*e*P	**P**	**05 12 51.6**	**+1.5**
	comp=Z,0.6nm,0.4s						
OBKA	**Obir**	**76.61**	**337**	*e*P	**P**	**05 12 51.6**	**+1.3**
	comp=Z,0.9nm,0.4s						
WRA	**Warramunga Arr**	**76.76**	**206**	P	**P**	**05 12 52.4**	**+1.2**

PETK Sn **Sn** **05 08 27.3 +0.3**
comp=N,21nm,0.3s,baz=88,slow=19,SNR=7.2
comp=N,67nm,0.5s
PETK Petropavlovsk- 2.47 266 PN **Pn** **05 07 57.9 +1.2**
APC Apacha 2.82 263 PN **Pn** **05 08 03.6 +2.2**
APC S **Sn** **05 08 36.8 +1.2**
APC Apacha 2.82 263 *e*P **Pn** **05 08 03.7 +2.2**
APC *e*S **Sn** **05 08 36.9 +1.2**
KBTR Krutoberegovo 2.92 11 PN **Pn** **05 08 05.2 +2.4**
KBTR S **Sn** **05 08 39.1 +1.1**
KBTR Krutoberegovo 2.92 11 *e*P **Pn** **05 08 05.3 +2.4**
KBTR *e*S **Sn** **05 08 39.1 +1.1**
KBG Krutoberegovo 2.95 10 PN **Pb** **05 08 08.2 -0.7**
KBG Krutoberegovo 2.95 10 *e*P **Pb** **05 08 08.2 -0.7**
BKI Bering 3.07 51 PN **Pn** **05 08 05.7 +0.9**
BKI Bering 3.07 51 *e*P **Pn** **05 08 05.8 +0.9**
BKI *e*S **Sn** **05 08 38.6 -3.1**
ESO Esso 3.14 326 PN **Pn** **05 08 07.9 +2.1**
ESO Esso 3.14 326 *e*P **Pn** **05 08 07.9 +2.1**
SKR Severo-Kuril's 4.41 235 *e*PN Pb 05 08 28.8 -5.0
SHEM Shemya Is, Ala 7.45 90 Pn **Pn** **05 09 07.3 +2.4**
comp=N,4.9nm,0.3s,baz=276,slow=19,SNR=2.0
SHEM Sn **Sn** **05 10 27.1 -2.4**
comp=N,2.5nm,0.3s,baz=288,slow=21,SNR=1.2
comp=N,36nm,0.5s
MA2 Magadan 8.71 320 **Pn** **05 09 20.9 -1.4**
MA2 Magadan 8.71 320 Pn **Pn** **05 09 23.9 +1.7**
comp=N,0.4nm,0.3s,baz=121,slow=9.7,SNR=6.2
comp=N,2.5nm,0.5s
MA2 Magadan 8.71 320⇑ *i*PN **Pn** **05 09 24.0 +1.7**
MA2 pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 10.80 336 Pn **Pn** **05 09 49.9 -0.9**
comp=Z,0.1nm,0.3s,baz=161,slow=23,SNR=1.4
comp=Z,0.3nm,0.4s
YSS Yuzhno-Sakhali 13.76 250⇑ *e*P **Pn** **05 10 29.2 -2.1**
JKA Kamikawa-asahi 15.63 241 Pn **Pn** **05 10 57.1 +0.5**
JKA IAmb IAmb 05 11 05.8
comp=Z,8.0nm,0.9s
ASAJ Asahikawa 15.63 241 Pn **Pn** **05 10 56.8 +0.2**
comp=Z,0.3nm,0.3s,baz=31,slow=19,SNR=2.3
comp=Z,8.7nm,1.0s
SPIA Saint Paul Isl 16.33 65 Pn **Pn** **05 11 04.5 -1.0**
ERM Erimo 16.86 235 Pn **Pn** **05 11 12.3 +0.1**
ERM IAmb IAmb 05 11 13.0
comp=Z,70nm,1.1s
ERM Erimo 16.86 235 P **Pn** **05 11 12.3 +0.1**
ERM pmax pmax
comp=Z,70nm,1.1s
YAK Yakutsk 19.04 310⇑ *e*P **P** **05 11 36.2 -2.1**
YAK pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 19.16 270 P **P** **05 11 39.4 -0.3**
comp=Z,0.1nm,0.3s,baz=85,slow=6.9,SNR=6.7
comp=Z,1.9nm,0.7s
KLR Kul'dur 19.16 270 *e*P **P** **05 11 40.2 +0.5**
KLR pmax pmax
comp=Z,4.0nm,1.6s
C18K Utukok River 23.06 34 P **P** **05 12 20.0 -1.6**
TIXI Tiksi 23.28 334⇑ *i*P **P** **05 12 23.1 -0.6**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
BNX BinXian 23.39 265 ⇑P **P** **05 12 23.8 -1.3**
BNX pmax pmax
comp=Z,5.0nm,0.8s
MJB9 Matsu-Tunnel 23.52 234 P **P** **05 12 25.5 -0.9**
MJB9 IAmb IAmb 05 12 29.3
comp=Z,11nm,1.1s
MAJO Matsushiro 23.52 234 P **P** **05 12 24.7 -1.7**
MAJO IAmb IAmb 05 12 28.3
comp=Z,11nm,1.1s
MAJO Matsushiro 23.52 234⇑ *e*P **P** **05 12 25.7 -0.7**
MAJO pmax pmax
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 23.52 234 P **P** **05 12 28.4 +1.9**
comp=Z,4.0nm,0.9s,baz=19,slow=12,SNR=9.8
comp=Z,4.0nm,0.9s
JGF Kuroka 24.68 234 P **P** **05 12 35.6 -1.8**
JGF IAmb IAmb 05 13 00.1
comp=Z,13nm,1.0s
STLK Strandline Lak 25.75 53 P **P** **05 12 45.3 -1.6**
HIA Hailar 26.32 278⇑ *e*P **P** **05 12 50.6 -1.5**
HIA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 27.90 46 P **P** **05 13 08.8 +2.7**
comp=Z,0.6nm,1.1s,baz=264,slow=8.6,SNR=2.5
comp=Z,0.6nm,1.1s
SONM Songino Array 34.83 284 P **P** **05 14 06.8 -0.6**
SONM Songino Array 34.83 284 P **P** **05 14 06.6 -0.8**
comp=Z,0.5nm,0.8s,baz=74,slow=12,SNR=3.2
comp=Z,0.5nm,0.8s
SONM Songino Array 34.83 284 P **P** **05 14 06.8 -0.6**
SONM pmax pmax
comp=Z,2.0nm,1.2s
NRIK Noril'sk 36.28 325⇓ *e*P **P** **05 14 19.1 -0.3**
NRIK pmax pmax
comp=Z,2.0nm,1.1s
YKA Yellowknife Ar 42.27 43 P **P** **05 15 10.2 +0.8**
baz=296,slow=8.1,SNR=1.4
ZAA0 Zalesovo Array 43.49 303 P **P** **05 15 17.9 -1.6**
ZALV Zalesovo Beam 43.49 303 P **P** **05 15 18.4 -1.0**
ZALV Zalesovo Beam 43.49 303 P **P** **05 15 16.8 -2.6**
comp=Z,0.2nm,0.3s,baz=58,slow=8.7,SNR=1.6
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 43.49 303 P **P** **05 15 18.4 -1.0**
GTA Gaotai 43.59 277 *e*P **P** **05 15 20.4 -0.2**
GTA pP pwP 05 15 26.8 -0.7
GTA pmax pmax
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 47.04 351 P **P** **05 15 46.0 -1.4**
comp=Z,15nm,1.1s,baz=52,slow=9.6,SNR=7.3
SPITS Spitsbergen Ar 47.04 351 P **P** **05 15 46.0 -1.4**
SPB2 Spitsbergen Ar 47.04 351 P **P** **05 15 46.7 -0.6**
KURK Kurchatov 48.46 303 P **P** **05 15 57.2 -1.4**
KURK IAmb IAmb 05 15 58.0
comp=Z,1.6nm,0.9s
KURK Kurchatov 48.46 303⇑ *e*P **P** **05 15 56.9 -1.7**
KURK pmax pmax
comp=Z,2.0nm,1.4s
KURBB Kurchatov Arra 48.56 302 P **P** **05 15 57.7 -1.7**
comp=Z,0.8nm,0.5s,baz=57,slow=7.6,SNR=8.6
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 48.95 296 P **P** **05 16 01.5 -1.0**
MKAR Makanchi Array 48.95 296 P **P** **05 16 01.2 -1.4**
comp=Z,0.3nm,0.4s,baz=54,slow=7.3,SNR=7.8
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 48.95 296 *e*P **P** **05 16 01.6 -1.0**
BVAR Borovoye Array 51.02 309 P **P** **05 16 16.4 -1.7**
comp=Z,0.5nm,0.4s,baz=71,slow=6.2,SNR=2.2
comp=Z,0.5nm,0.4s
BRVK Borovoye 51.05 309⇓ *e*P **P** **05 16 17.7 -0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 53.35 342 P **P** **05 16 34.6 -0.7**
comp=Z,8.9nm,1.1s,baz=26,slow=3.5,SNR=1.7
comp=Z,8.9nm,1.1s
SFJD Kangerlussuaq 57.51 14 LR LR 05 42 52.9
comp=Z,24nm,20.4s,baz=357,slow=37
CMAR Chiang Mai Arr 59.23 259 P **P** **05 17 19.2 +1.3**
comp=Z,0.9nm,0.3s,baz=19,slow=8.0,SNR=8.6
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 59.23 259 *e*P **P** **05 17 19.4 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 60.28 337 P **P** **05 17 24.2 -0.3**
comp=Z,2.6nm,0.7s,baz=39,slow=7.3,SNR=8.1
comp=Z,2.6nm,0.7s
NB2 NORSAR Subarra 63.57 345 P **P** **05 17 46.5 -0.1**
comp=Z,0.6nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 63.57 345 P **P** **05 17 46.4 -0.3**
comp=Z,1.0nm,0.7s,baz=20,slow=6.9,SNR=6.3
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 63.57 345 *e*P **P** **05 17 46.6 -0.1**
NOA pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 64.00 343 P **P** **05 17 48.8 -0.6**
comp=Z,1.0nm,0.5s,baz=39,slow=5.7,SNR=8.4
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.91 330 P **P** **05 18 20.4 -0.6**
comp=Z,0.7nm,0.6s,baz=28,slow=7.1,SNR=3.8
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 69.59 68 P **P** **05 18 27.8 +2.1**
comp=Z,0.2nm,0.4s,baz=321,slow=4.1,SNR=3.8
comp=Z,0.2nm,0.4s
KIV Kislovodsk 69.94 318 *e*P **P** **05 18 29.9 +2.3**
KIV pmax pmax
comp=Z,8.0nm,1.1s

CLL Collm 72.46 340 *e*P **P** **05 18 43.0 +0.4**
CLL Collm 72.46 340 *e*P **P** **05 18 43.0 +0.4**
GERES GERESS Array B 74.64 339 P **P** **05 18 56.6 +0.9**
comp=Z,0.5nm,0.5s,baz=27,slow=6.7,SNR=4.5
comp=Z,0.5nm,0.5s
GERES GERESS Array B 74.64 339 *e*P **P** **05 18 57.7 +2.0**
GERES pmax pmax
comp=Z,1.0nm,0.7s
CONA Conrad Observa 75.02 337 *e*P **P** **05 18 57.8 0.0**
comp=Z,4.9nm,1.6s
KBA Koelnbreinsper 76.39 338 *e*P **P** **05 19 07.1 +1.3**
comp=Z,0.6nm,0.3s
WATA Walderalm 76.53 340 *i*P **P** **05 19 07.8 +1.3**
comp=Z,0.5nm,0.3s
OBKA Obir 76.66 337 *e*P **P** **05 19 09.5 +2.3**
comp=Z,0.9nm,0.4s
WRA Warramunga Arr 76.76 206 P **P** **05 19 08.8 +0.9**
comp=Z,0.2nm,0.5s,baz=24,slow=6.3,SNR=1.5
comp=Z,0.2nm,0.5s
FETA Feichten 77.00 340 *e*P **P** **05 19 09.1 -0.1**
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 77.06 322 P **P** **05 19 09.7 0.0**
comp=Z,0.6nm,0.8s,baz=23,slow=8.0,SNR=2.2
comp=Z,0.6nm,0.8s
ASAR Alice Springs 80.43 206 P **P** **05 19 29.6 +1.6**
comp=Z,0.3nm,0.5s,baz=21,slow=4.8,SNR=4.2
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 86.53 349 P **P** **05 20 00.4 +0.9**
comp=Z,0.2nm,0.6s,baz=25,slow=4.7,SNR=1.5
comp=Z,0.2nm,0.6s

---

*IDC **17** 05:21:54.0± 1.2, 52.°76N× 159.°27E, h0km, mb3.5/9, mbtmp3.6/10, ML3.6/1, Error ellipse: s-maj=38.1km s-min=19.8km az=159.0*
*KRSC **17** 05:21:57.4± 1.9, 52.°37N× 159.°58E, h45km± 19km, Ml4.1*
*MOS **17** 05:21:58.9± 0.8, 52.°34N× 159.°50E, h43km, mb3.7/1, Error ellipse: s-maj=12.7km s-min=5.0km az=90.9*
ISC 17 05:21:57.9± 1.4, **52.°35N**± 0.°05× **159.°54E**± 0.°04, **h26**km± 11km, **n79**, σ **1.°79**/81, **mb3.5**/9, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.64**	**278**	PN	**Pn**	**05 22 11.6**	**+0.4**
RUS				S	**Sn**	**05 22 20.4**	**0.0**
RUS	**Russkaya**	**0.64**	**278**	*e*P	**Pn**	**05 22 11.7**	**+0.4**
RUS				*e*S	**Sn**	**05 22 20.5**	**0.0**
SPN	**Mys Shipunski**	**0.81**	**21**	PN	**Pn**	**05 22 13.8**	**+0.2**
SPN				S	**Sn**	**05 22 24.7**	**0.0**
SPN	**Mys Shipunski**	**0.81**	**21**	*e*P	**Pn**	**05 22 13.9**	**+0.2**
SPN				*e*S	**Sn**	**05 22 24.8**	**0.0**
NLC	**Nalytchevo**	**0.84**	**352**	PN	**Pb**	**05 22 13.6**	**-0.2**
NLC				S	**Sb**	**05 22 24.2**	**-0.4**
NLC	**Nalytchevo**	**0.84**	**352**	*e*P	**Pb**	**05 22 13.6**	**-0.2**
NLC				*e*S	**Sb**	**05 22 24.3**	**-0.4**
DALK	**Dalny**	**0.84**	**325**	PN	**Pb**	**05 22 13.6**	**-0.2**
DALK				S	**Sb**	**05 22 23.8**	**-0.9**
DALK	**Dalny**	**0.84**	**325**	*e*P	**Pb**	**05 22 13.7**	**-0.2**
DALK				*e*S	**Sb**	**05 22 23.9**	**-0.9**
PET	**Petropavlovsk**	**0.87**	**322**	PN	**Pb**	**05 22 14.2**	**-0.1**
PET				S	**Sb**	**05 22 25.0**	**-0.6**
PET	**Petropavlovsk**	**0.87**	**322**	*e*P	**Pb**	**05 22 14.2**	**-0.1**
PET				*e*S	**Sb**	**05 22 25.0**	**-0.6**
GRL	**Gorelyy**	**0.92**	**284**	PN	**Pn**	**05 22 16.1**	**+0.9**
GRL	**Gorelyy**	**0.92**	**284**	*e*P	**Pn**	**05 22 16.2**	**+0.9**
UGLR	**Uglovaya**	**0.97**	**334**	PN	**Pn**	**05 22 16.0**	**+0.1**
UGLR	**Uglovaya**	**0.97**	**334**	*e*P	**Pn**	**05 22 16.0**	**+0.1**
KRMR	**Karymshinskiy**	**0.99**	**300**	PN	**Pb**	**05 22 16.1**	**-0.3**
KRMR				S	**Sb**	**05 22 28.5**	**-0.5**
KRMR	**Karymshinskiy**	**0.99**	**300**	*e*P	**Pb**	**05 22 16.1**	**-0.3**
KRMR				*e*S	**Sb**	**05 22 28.5**	**-0.5**
AVH	**Avacha**	**1.04**	**332**	PN	**Pn**	**05 22 17.0**	**+0.1**
AVH	**Avacha**	**1.04**	**332**	*e*P	**Pn**	**05 22 17.0**	**+0.1**
KOK	**Koryaka**	**1.10**	**330**	PN	**Pn**	**05 22 17.8**	**+0.2**
KOK	**Koryaka**	**1.10**	**330**	*e*P	**Pn**	**05 22 17.8**	**+0.2**
KRX	**Arik**	**1.15**	**332**	PN	**Pn**	**05 22 18.3**	**-0.1**
KRX	**Arik**	**1.15**	**332**	*e*P	**Pn**	**05 22 18.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.36**	**305**	PN	**Pn**	**05 22 21.5**	**+0.4**
PEA0B				S	**Sn**	**05 22 38.2**	**-0.1**
PETK	**Petropavlovsk-**	**1.36**	**305**	Pn	**Pn**	**05 22 21.1**	**-0.1**
	30nm,0.3s,baz=104,slow=20,SNR=155						
PETK				Sn	**Sn**	**05 22 38.5**	**+0.3**
	45nm,0.3s,baz=159,slow=11,SNR=6.5						
APC	**Apacha**	**1.56**	**293**	PN	**Pb**	**05 22 25.3**	**-0.8**
APC	**Apacha**	**1.56**	**293**	*e*P	**Pb**	**05 22 25.3**	**-0.8**
GNL	**Ganaly**	**1.66**	**325**	PN	**Pn**	**05 22 26.2**	**+0.8**
GNL	**Ganaly**	**1.66**	**325**	*e*P	**Pn**	**05 22 26.2**	**+0.8**
KII	**Karymskiy**	**1.69**	**358**	PN	**Pn**	**05 22 25.8**	**-0.1**
KII	**Karymskiy**	**1.69**	**358**	*e*P	**Pn**	**05 22 25.8**	**-0.1**
PAU	**Pauzhetka**	**1.91**	**244**	PN	**Pb**	**05 22 30.9**	**-1.1**
PAU	**Pauzhetka**	**1.91**	**244**	*e*P	**Pb**	**05 22 30.9**	**-1.1**
SKR	**Severo-Kuril's**	**2.71**	**233**	*e*PN	**Pn**	**05 22 42.0**	**+2.3**
SKR				*e*S	**Sn**	**05 23 11.8**	**+0.2**
SKR				smax	smax		
	comp=E,356nm,0.6s						
SKR				smax	smax		
	comp=N,274nm,0.4s						
SKR				MLR	MLR		
	comp=Z,400nm,11.0s						
SKR	**Severo-Kuril's**	**2.71**	**233**	*e*P	**Pn**	**05 22 41.4**	**+1.6**
TUMD	**Tumrok D**	**2.91**	**10**	*e*P	**Pn**	**05 22 44.2**	**+1.7**
TUMD				*e*S	**Sn**	**05 23 19.9**	**+3.4**
KMNR	**Kamenistaya**	**3.44**	**7**	PN	**Pn**	**05 22 53.3**	**+3.4**
KMNR	**Kamenistaya**	**3.44**	**7**	*e*P	**Pn**	**05 22 53.3**	**+3.4**
ESO	**Esso**	**3.62**	**352**	PN	**Pn**	**05 22 54.2**	**+1.9**
ESO	**Esso**	**3.62**	**352**	*e*P	**Pn**	**05 22 54.2**	**+1.9**
KIRR	**Kirishev**	**3.65**	**7**	PN	**Pn**	**05 22 55.8**	**+3.1**
KIRR	**Kirishev**	**3.65**	**7**	*e*P	**Pn**	**05 22 55.9**	**+3.1**
KPT	**Kopyto**	**3.65**	**6**	PN	**Pn**	**05 22 55.4**	**+2.7**
KPT	**Kopyto**	**3.65**	**6**	*e*P	**Pn**	**05 22 55.5**	**+2.7**
BZWR	**Bezymyannyi-We**	**3.67**	**8**	PN	**Pn**	**05 22 56.0**	**+2.9**
BZWR	**Bezymyannyi-We**	**3.67**	**8**	*e*P	**Pn**	**05 22 56.0**	**+2.9**
KOZ	**Kozyrevsk**	**3.73**	**3**	PN	**Pn**	**05 22 56.9**	**+3.2**
KOZ	**Kozyrevsk**	**3.73**	**3**	*e*P	**Pn**	**05 22 57.0**	**+3.2**
KRSR	**Krestovskiy**	**3.93**	**8**	PN	**Pn**	**05 22 59.4**	**+2.9**
KRSR	**Krestovskiy**	**3.93**	**8**	*e*P	**Pn**	**05 22 59.4**	**+2.9**
SRDR	**Sredinnyy**	**3.98**	**1**	PN	**Pn**	**05 22 59.2**	**+2.0**
SRDR	**Sredinnyy**	**3.98**	**1**	*e*P	**Pn**	**05 22 59.3**	**+2.0**
KLY	**Klyuchi**	**4.03**	**9**	PN	**Pn**	**05 23 00.7**	**+2.9**
KLY	**Klyuchi**	**4.03**	**9**	*e*P	**Pn**	**05 23 00.8**	**+2.9**
KBTR	**Krutoberegovo**	**4.32**	**25**	PN	**Pn**	**05 23 03.5**	**+1.7**
KBTR	**Krutoberegovo**	**4.32**	**25**	*e*P	**Pn**	**05 23 03.5**	**+1.7**
KBG	**Krutoberegovo**	**4.33**	**24**	PN	**Pn**	**05 23 05.8**	**+3.8**
KBG	**Krutoberegovo**	**4.33**	**24**	*e*P	**Pn**	**05 23 05.8**	**+3.8**
BKI	**Bering**	**4.77**	**51**	*e*S	**Sn**	**05 23 57.3**	**-5.1**
ASAJ	**Asahikawa**	**13.95**	**241**	Pn	**Pn**	**05 25 14.9**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=66,slow=17,SNR=5.1						
	comp=Z,5.6nm,0.7s						
ASAJ	**Asahikawa**	**13.95**	**241**	P	**Pn**	**05 25 15.0**	**+1.3**
MJAR	**Matsushiro Arr**	**21.82**	**232**	P	**P**	**05 26 49.3**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=25,slow=8.8,SNR=4.6						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**29.58**	**44**	P	**P**	**05 27 58.4**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=268,slow=8.6,SNR=6.9						
	comp=Z,0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.05**	**167**	T	T	06 04 10.5	
	baz=352,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**33.07**	**167**	T	T	06 04 17.6	
	baz=352,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**33.07**	**167**	T	T	06 04 15.2	
	baz=352,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**34.23**	**168**	T	T	06 05 09.5	
	baz=351,slow=76						
H11S3	**WAKE ISLAND Hy**	**34.24**	**168**	T	T	06 05 09.7	
	baz=351						
H11S2	**WAKE ISLAND Hy**	**34.25**	**168**	T	T	06 05 11.0	
	baz=351,slow=76						
YKA	**Yellowknife Ar**	**43.94**	**42**	P	**P**	**05 30 00.9**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=298,slow=8.1,SNR=4.1						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**47.84**	**302**	P	P	05 30 30.4	-2.6
KURBB	**Kurchatov Arra**	**47.95**	**302**	P	P	05 30 30.4	-3.4
	comp=Z,0.1nm,0.3s,baz=58,slow=7.3,SNR=3.5						
	comp=Z,0.1nm,0.3s						
MKAR	**Makanchi Array**	**48.18**	**296**	P	P	05 30 32.5	-3.2
	comp=Z,0.2nm,0.6s,baz=69,slow=5.3,SNR=2.0						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**58.19**	**60**	P	**P**	**05 31 50.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=306,slow=8.6,SNR=5.4						
	comp=Z,0.5nm,0.6s						
NOA	**NORSAR Array B**	**64.17**	**344**	P	P	05 32 27.3	-2.3
	comp=Z,0.6nm,0.8s,baz=20,slow=6.7,SNR=4.3						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**64.56**	**342**	P	P	05 32 29.8	-2.3
	comp=Z,1.3nm,0.6s,baz=41,slow=4.6,SNR=7.1						
	comp=Z,1.3nm,0.6s						
TXAR	**Lajitas Array**	**71.24**	**66**	P	**P**	**05 33 14.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=318,slow=6.6,SNR=5.7						
	comp=Z,0.3nm,0.5s						
H03N2	**Juan Fernandez**	**134.54**	**89**	T	T	08 11 26.4	
	baz=314,slow=77,SNR=21						
H03N1	**Juan Fernandez**	**134.55**	**89**	T	T	08 11 30.5	
	baz=314,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**134.55**	**89**	T	T	08 11 38.3	
	baz=314,slow=77,SNR=24						

---

*NEIC **17** 05:22:36.9± 1.0, 9.°84N± 0.°07× 126.°67E± 0.°10, h10km± 1km, mb4.2/17, Error ellipse: s-maj=17.0km s-min=10.9km az=113.0*
*IDC **17** 05:22:44.3± 2.3, 9.°62N× 126.°22E, h70km± 22km, mb3.7/22, mbtmp4.0/23, MS3.2/8, Error ellipse: s-maj=25.6km s-min=12.5km az=79.0*
ISC 17 05:22:41.3± 0.4, **9.°71N**± 0.°05× **126.°4E**± 0.°1, **h43**km, **n61**, σ **0.°97**/56, **mb4.0**/30, **MS3.1**/7, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.73**	**197**	Pn	**Pn**	**05 23 22.1**	**-0.6**
DAV	**Davao City (W)**	**2.73**	**197**	P	**Pn**	**05 23 25.3**	**+2.6**
	119nm,0.4s,baz=77,slow=19,SNR=1.9						
DAV				S	**Sn**	**05 23 55.7**	**+1.2**
	360nm,0.6s,baz=280,slow=17,SNR=5.1						
LUWI	**Luwuk**	**11.26**	**199**	Pn	**Pn**	**05 25 20.8**	**+1.1**
FAKI	**Fak Fak**	**13.85**	**155**	Pn	**Pn**	**05 25 53.4**	**-1.7**
TWG	**Pinlang**	**13.99**	**339**	Pn	**Pn**	**05 25 55.1**	**-1.9**
SBUM	**Sibu**	**15.79**	**244**		**P**	**05 26 23.3**	**-0.8**
KAPI	**Kappang**	**16.04**	**205**	LR	LR	05 33 14.2	
	comp=Z,9nm,19.4s,baz=16,slow=40						
MTN	**Manton Dam**	**22.90**	**168**	P	**P**	**05 27 41.1**	**-0.4**
KNRA	**Kununurra**	**25.33**	**175**	P	**P**	**05 28 02.6**	**-1.7**
KNRA				IAmb	IAmb	05 28 18.2	
	comp=Z,9.2nm,1.1s						
IPM	**Ipoh**	**25.66**	**260**	P	**P**	**05 28 08.8**	**+1.3**
ENH	**Enshi**	**25.82**	**325**	P	**P**	**05 28 08.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.64**	**181**	P	**P**	**05 28 25.5**	**+0.5**
FITZ				IAmb	IAmb	05 28 28.8	
	comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**27.66**	**3**	LR	LR	05 41 51.0	
	comp=Z,41nm,18.0s,baz=210,slow=41						
MJAR	**Matsushiro Arr**	**28.80**	**20**	LR	LR	05 40 20.4	
	comp=Z,40nm,18.1s,baz=212,slow=36						
COEN	**Coen**	**28.83**	**144**	P	**P**	**05 28 35.5**	**-0.3**
COEN				IAmb	IAmb	05 28 39.6	
	comp=Z,4.2nm,1.0s						
WB0	**Warramunga Arr**	**30.34**	**165**	P	**P**	**05 28 47.9**	**-1.2**
WB0				IAmb	IAmb	05 29 12.8	
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**30.49**	**165**	P	**P**	**05 28 49.0**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=351,slow=9.2,SNR=1.4						
WRA				PcP	**PcP**	**05 31 48.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=299,slow=6.0,SNR=1.6						
	comp=Z,0.4nm,0.7s						
WB2	**Warramunga Arr**	**30.49**	**165**	P	**P**	**05 28 49.1**	**-1.3**
WB2				IAmb	IAmb	05 28 59.2	
	comp=Z,1.9nm,0.9s						
WR0	**Warramunga Arr**	**30.56**	**165**	P	**P**	**05 28 51.2**	**+0.1**
AS31	**Alice Springs**	**33.98**	**168**	P	**P**	**05 29 20.5**	**-0.5**
ASAR	**Alice Springs**	**33.98**	**168**	P	**P**	**05 29 20.4**	**-0.6**
ASAR	**Alice Springs**	**33.98**	**168**	P	**P**	**05 29 19.9**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=357,slow=7.5,SNR=11						
ASAR				PcP	**PcP**	**05 31 58.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=0.1,slow=1.7,SNR=4.3						
	comp=Z,0.4nm,0.4s						
ASAJ	**Asahikawa**	**37.06**	**20**	P	**P**	**05 29 48.8**	**+1.5**
	comp=Z,1.6nm,0.3s,baz=186,slow=18,SNR=1.4						
ASAJ				LR	LR	05 45 11.0	
	comp=Z,44nm,19.3s,baz=119,slow=36						
	comp=Z,1.6nm,0.3s						
KLR	**Kul'dur**	**39.66**	**6**	P	**P**	**05 30 10.2**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=138,slow=8.3,SNR=3.9						
KLR				LR	LR	05 46 10.0	
	comp=Z,22nm,21.0s,baz=318,slow=35						
	comp=Z,1.3nm,0.7s						
MORW	**Morawa**	**39.81**	**194**	P	**P**	**05 30 11.1**	**+0.6**
MORW				IAmb	IAmb	05 30 15.5	
	comp=Z,7.8nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.00**	**73**	T	T	06 13 09.9	
	baz=262,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**40.01**	**73**	T	T	06 13 11.0	
	baz=262,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.02**	**73**	T	T	06 13 12.0	
	baz=262,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**40.35**	**71**	T	T	06 13 39.6	
	baz=263,slow=74,SNR=22						
H11N2	**WAKE ISLAND Hy**	**40.36**	**71**	T	T	06 13 36.2	
	baz=263,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**40.37**	**71**	T	T	06 13 39.7	
	baz=263,slow=74,SNR=19						
SONM	**Songino Array**	**41.58**	**340**	P	**P**	**05 30 24.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=150,slow=9.7,SNR=4.4						
SONM				PcP	**PcP**	**05 32 20.4**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=66,slow=3.5,SNR=2.9						
SONM				LR	LR	05 47 52.3	
	comp=Z,25nm,18.5s,baz=268,slow=36						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**43.28**	**168**	P	**P**	**05 30 38.8**	**-0.1**
BBOO				IAmb	IAmb	05 30 39.1	
	comp=Z,7.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.28**	**191**	P	**P**	**05 30 39.5**	**+0.7**
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**05 30 42.9**	**-0.5**
STKA				IAmb	IAmb	05 30 48.1	
	comp=Z,3.6nm,1.1s						
STKA	**Stephens Creek**	**43.84**	**161**	P	**P**	**05 30 42.6**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=352,slow=8.4,SNR=5.7						
	comp=Z,1.1nm,0.5s						
PETK	**Petropavlovsk-**	**50.11**	**24**	P	**P**	**05 31 33.0**	**+0.9**
	comp=Z,1.4nm,0.8

comp=Z,1.6nm,0.6s,baz=108,slow=3.9,SNR=8.5
comp=Z,1.6nm,0.6s
NOA NORSAR Array B 93.30 334 P P 05 35 50.7 -0.7
comp=Z,0.6nm,0.8s,baz=73,slow=5.4,SNR=2.1
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 94.23 24 P P 05 35 56.6 +0.9
comp=Z,0.8nm,0.7s,baz=295,slow=4.7,SNR=12
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 118.12 49 PKP **PKiKP 05 41 25.6 +1.1**
comp=Z,0.1nm,0.5s,baz=192,slow=1.8,SNR=1.7
PLCA Paso Flores 145.66 157 PKPbc **PKPab 05 42 16.1 0.0**
comp=Z,1.4nm,0.7s,baz=268,slow=2.8,SNR=8.5

---

*MOS **17** 05:35:37.7±0.8, 52°.39N×159°.49E, h47km, mb3.8/1, Error ellipse: s-maj=13.6km s-min=6.1km az=97.8*
*IDC **17** 05:35:37.1±0.9, 53°.46N×159°.62E, h0km, mb3.6/7, mbtmp3.6/7, MS3.4/2, Error ellipse: s-maj=36.3km s-min=11.6km az=158.0*
*KRSC **17** 05:35:37.1±0.8, 52°.41N×159°.48E, h49km±10km, Ml4.1*
ISC 17 05:35:38.7±1.2, 52°.42N±0°.05×159°.43E±0°.05, h43km±12km, n61, σ1°.30/64, mb3.6/7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.56**	**272**	PN	**Pn**	**05 35 50.3**	**0.0**
RUS				S	**Sn**	**05 35 59.2**	**+0.6**
RUS	**Russkaya**	**0.56**	**272**	*e*P	**Pn**	**05 35 50.3**	**0.0**
RUS				*e*S	**Sn**	**05 35 59.2**	**+0.6**
DALK	**Dalny**	**0.74**	**326**	PN	**Pn**	**05 35 52.4**	**-0.3**
DALK	**Dalny**	**0.74**	**326**	*e*P	**Pn**	**05 35 52.5**	**-0.3**
NLC	**Nalytchevo**	**0.75**	**356**	PN	**Pn**	**05 35 52.4**	**-0.5**
NLC				S	**Sn**	**05 36 02.8**	**-0.3**
NLC	**Nalytchevo**	**0.75**	**356**	*e*P	**Pn**	**05 35 52.4**	**-0.5**
NLC				*e*S	**Sn**	**05 36 02.8**	**-0.3**
SPN	**Mys Shipunski**	**0.77**	**28**	PN	**Pn**	**05 35 52.5**	**-0.6**
SPN				S	**Sn**	**05 36 03.9**	**+0.4**
SPN	**Mys Shipunski**	**0.77**	**28**	*e*P	**Pn**	**05 35 52.6**	**-0.6**
SPN				*e*S	**Sn**	**05 36 03.9**	**+0.4**
PET	**Petropavlovsk**	**0.77**	**322**	*e*PN	**Pn**	**05 35 53.0**	**-0.1**
PET				*e*S	**Sn**	**05 36 03.2**	**-0.3**
PET				pmax	pmax		
	comp=Z,462nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,770nm,0.5s						
PET	**Petropavlovsk**	**0.77**	**322**	*e*P	**Pn**	**05 35 53.0**	**-0.1**
PET				*e*S	**Sn**	**05 36 03.4**	**-0.1**
GRL	**Gorelyy**	**0.84**	**280**	PN	**Pn**	**05 35 54.7**	**+0.5**
GRL	**Gorelyy**	**0.84**	**280**	*e*P	**Pn**	**05 35 54.8**	**+0.5**
UGLR	**Uglovaya**	**0.87**	**335**	PN	**Pn**	**05 35 54.7**	**+0.1**
UGLR	**Uglovaya**	**0.87**	**335**	*e*P	**Pn**	**05 35 54.8**	**+0.1**
KRMR	**Karymshinskiy**	**0.89**	**298**	PN	**Pn**	**05 35 54.9**	**+0.1**
KRMR				S	**Sn**	**05 36 07.3**	**+0.7**
KRMR	**Karymshinskiy**	**0.89**	**298**	*e*P	**Pn**	**05 35 54.9**	**+0.1**
KRMR				*e*S	**Sn**	**05 36 07.4**	**+0.7**
AVH	**Avacha**	**0.94**	**334**	PN	**Pn**	**05 35 55.8**	**+0.2**
AVH	**Avacha**	**0.94**	**334**	*e*P	**Pn**	**05 35 55.9**	**+0.2**
KOK	**Koryaka**	**1.00**	**331**	PN	**Pn**	**05 35 56.5**	**+0.2**
KOK	**Koryaka**	**1.00**	**331**	*e*P	**Pn**	**05 35 56.5**	**+0.2**
KRX	**Arik**	**1.05**	**333**	PN	**Pn**	**05 35 57.0**	**-0.1**
KRX	**Arik**	**1.05**	**333**	*e*P	**Pn**	**05 35 57.1**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.26**	**304**	PN	**Pn**	**05 36 00.4**	**+0.6**
PEA0B				S	**Sn**	**05 36 17.1**	**+1.5**
PETK	**Petropavlovsk-**	**1.26**	**304**	Pg	**Pn**	**05 35 59.6**	**-0.3**
	comp=E,30nm,0.3s,baz=104,slow=20,SNR=74						
PETK				Lg	Lg	05 36 17.3	
	comp=E,48nm,0.3s,baz=60,slow=35,SNR=8.5						
PETK				LR	LR	05 36 42.7	
	comp=E,44nm,19.1s,baz=120,slow=54						
APC	**Apacha**	**1.48**	**291**	PN	**Pn**	**05 36 04.0**	**+1.3**
APC	**Apacha**	**1.48**	**291**	*e*P	**Pn**	**05 36 04.0**	**+1.3**
GNL	**Ganaly**	**1.56**	**325**	PN	**Pn**	**05 36 04.9**	**+0.8**
GNL	**Ganaly**	**1.56**	**325**	*e*P	**Pn**	**05 36 04.9**	**+0.8**
KII	**Karymskiy**	**1.62**	**0**	*e*S	**Sn**	**05 36 27.1**	**+2.6**
PAU	**Pauzhetka**	**1.88**	**241**	PN	**Pn**	**05 36 09.1**	**+0.8**
PAU	**Pauzhetka**	**1.88**	**241**	*e*P	**Pn**	**05 36 09.2**	**+0.8**
SKR	**Severo-Kuril's**	**2.70**	**231**	*e*PN	**Pn**	**05 36 22.3**	**+2.7**
SKR				*e*S	**Sn**	**05 36 50.6**	**-0.5**
SKR				pmax	pmax		
	comp=Z,27nm,0.6s						
SKR				smax	smax		
	comp=N,88nm,0.5s						
SKR				smax	smax		
	comp=E,213nm,0.5s						
SKR	**Severo-Kuril's**	**2.70**	**231**	*e*P	**Pn**	**05 36 20.8**	**+1.2**
TUMD	**Tumrok D**	**2.85**	**11**	*e*P	**Pn**	**05 36 22.6**	**+1.0**
TUMD				*e*S	**Sn**	**05 36 56.8**	**+2.1**
KMNR	**Kamenistaya**	**3.38**	**8**	PN	**Pn**	**05 36 32.1**	**+3.2**
KMNR	**Kamenistaya**	**3.38**	**8**	*e*P	**Pn**	**05 36 32.2**	**+3.2**
ESO	**Esso**	**3.54**	**353**	PN	**Pn**	**05 36 33.0**	**+1.9**
ESO	**Esso**	**3.54**	**353**	*e*P	**Pn**	**05 36 33.1**	**+1.9**
KIRR	**Kirishev**	**3.58**	**8**	PN	**Pn**	**05 36 33.9**	**+2.2**
KIRR	**Kirishev**	**3.58**	**8**	*e*P	**Pn**	**05 36 34.0**	**+2.2**
KOZ	**Kozyrevsk**	**3.65**	**4**	PN	**Pn**	**05 36 35.3**	**+2.6**
KOZ	**Kozyrevsk**	**3.65**	**4**	*e*P	**Pn**	**05 36 35.4**	**+2.6**
SRDR	**Sredinnyy**	**3.91**	**2**	PN	**Pn**	**05 36 37.8**	**+1.6**
SRDR	**Sredinnyy**	**3.91**	**2**	*e*P	**Pn**	**05 36 37.9**	**+1.6**
KBTR	**Krutoberegovo**	**4.28**	**26**	PN	**Pn**	**05 36 42.7**	**+1.4**
KBTR	**Krutoberegovo**	**4.28**	**26**	*e*P	**Pn**	**05 36 42.7**	**+1.4**
ILAR	**Eielson Array**	**29.58**	**44**	P	**P**	**05 41 37.6**	**-1.4**
	comp=E,0.4nm,0.9s,baz=272,slow=7.8,SNR=5.9						
	comp=E,0.4nm,0.9s						
H11N2	**WAKE ISLAND Hy 33.14**		**167**	T	T	06 17 57.5	
	baz=352,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy 33.16**		**167**	T	T	06 17 55.4	
	baz=352,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy 33.16**		**167**	T	T	06 17 56.6	
	baz=352,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy 34.32**		**168**	T	T	06 19 18.1	
	baz=353,slow=74						
H11S3	**WAKE ISLAND Hy 34.33**		**168**	T	T	06 19 35.2	
	baz=353,slow=74						
H11S2	**WAKE ISLAND Hy 34.34**		**168**	T	T	06 19 29.1	
	baz=353						
BVAR	**Borovoye Array**	**50.49**	**308**	P	**P**	**05 44 31.5**	**-0.6**
	comp=E,0.5nm,0.6s,baz=59,slow=5.6,SNR=2.2						
	comp=E,0.5nm,0.6s						
JAY	**Jayapura**	**56.98**	**202**	LR	LR	06 07 32.3	
	comp=E,22nm,21.2s,baz=346,slow=33						
PDAR	**Pinedale Array**	**58.20**	**60**	P	**P**	**05 45 29.0**	**+0.5**
	comp=E,0.3nm,0.6s,baz=318,slow=7.9,SNR=4.7						
	comp=E,0.3nm,0.6s						
SCHQ	**Schefferville**	**66.43**	**27**	P	**P**	**05 46 21.2**	**-1.9**
	comp=E,2.1nm,0.8s,baz=49,slow=9.3,SNR=2.1						
	comp=E,2.1nm,0.8s						
TXAR	**Lajitas Array**	**71.27**	**66**	P	**P**	**05 46 53.8**	**+0.1**
	comp=E,0.4nm,0.6s,baz=315,slow=7.2,SNR=5.3						
	comp=E,0.4nm,0.6s						
LPIG	**La Paz**	**71.43**	**75**	LR	LR	06 15 25.3	
	comp=E,42nm,18.1s,baz=352,slow=34						
WRA	**Warramunga Arr**	**75.30**	**204**	P	P	05 47 27.9	+11
	comp=E,0.4nm,0.9s,baz=18,slow=5.7,SNR=2.4						
	comp=E,0.4nm,0.9s						
ASAR	**Alice Springs**	**78.98**	**204**	P	P	05 47 48.0	+10
	comp=E,0.3nm,0.8s,baz=21,slow=6.2,SNR=6.4						
	comp=E,0.3nm,0.8s						

---

*SDD **17** 05:36:06.6±2.0, 19°.36N×68°.08W, h12km±128km, MD3.5, ML2.8, MW3.0*
*RSPR **17** 05:36:08.2, 19°.00N×68°.44W, h110km±2km, MD3.0/20*
*OSPL **17** 05:36:09.4±3.0, 19°.26N×68°.07W, h0km±17km, ML2.7, Hypocentre not reviewed by the ISC*
*NEIC **17** 05:36:10.2±2.6, 19°.24N±0°.06×68°.19W±0°.04, h35km±2km, ML2.9/38, Md3.0/20(RSPR), Error ellipse: s-maj=11.0km s-min=4.1km az=202.0*
ISC 17 05:36:07.0±1.4, 19°.30N±0°.06×68°.15W±0°.02, h6km±10km, n60, σ0°.87/73, 22C-10D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.81**	**196**	*i* P		05 36 22.4	
PCDR				*e*S		05 36 34.2	
PCDR				IAML		05 36 41.7	
	comp=Z,240nm,0.4s						
PCDR	**Punta Cana, DR**	**0.81**	**196**		**Pg**	**05 36 21.9**	**-0.7**
PCDR					**Sg**	**05 36 33.4**	**+0.3**
PCDR				IAML		05 36 39.2	
	comp=N,432nm,0.7s						
PCDR	**Punta Cana, DR**	**0.81**	**196**	⇑*e*Pg	**Pg**	**05 36 22.4**	**-0.2**
PCDR				⇑*e*Sg	**Sg**	**05 36 33.6**	**+0.5**
PCDR				IAML		05 36 39.1	
	comp=N,392nm,0.6s						
PCDR	**Punta Cana, DR**	**0.81**	**196**	⇑*e*P	**Pn**	**05 36 24.3**	**-0.7**
HIDR	**Higuey Centro**	**0.89**	**218**	⇑*e*P	**Pg**	**05 36 24.3**	**+0.3**
HIDR	**Higuey Centro**	**0.89**	**218**	*e*S	**Sb**	**05 36 36.7**	**-0.2**
MIDR	**Miches**	**0.91**	**250**	⇑*e*Pg	**Pg**	**05 36 24.6**	**+0.1**
MIDR				⇑*e*Sg	**Sb**	**05 36 38.2**	**+0.6**
MIDR				IAML		05 36 40.2	
	comp=N,178nm,0.3s						
SMDR	**Samana, DR**	**0.98**	**270**	⇓*e*P	**Pb**	**05 36 26.2**	**-0.3**
SMDR	**Samana, DR**	**0.98**	**270**	*e*S	**Sn**	**05 36 42.0**	**+0.4**
IDE	**Isla Desecheo**	**1.11**	**145**		**Pn**	**05 36 30.9**	**+1.8**
IDE	**Isla Desecheo**	**1.11**	**145**	⇓*e*P	**Pn**	**05 36 30.9**	**+1.8**
SADR	**Isla Saona**	**1.25**	**209**	⇑*e*Pg	**Pn**	**05 36 30.3**	**-0.8**
SADR				⇑*e*Sg	**Sn**	**05 36 48.9**	**+0.7**
SADR				IAML		05 37 01.5	
	comp=N,191nm,2.0s						
DR12	**Loma Pena Alta**	**1.27**	**247**		**Pn**	**05 36 30.8**	**-0.6**
DR12				Sn	**Sg**	**05 36 48.1**	**+0.1**
DR12				IAML		05 36 49.9	
	comp=N,192nm,0.6s						
HATOM	**Hato Mayor del**	**1.27**	**247**	⇑*e*Pg	**Pn**	**05 36 30.9**	**-0.5**
HATOM				⇑*e*Sg	**Sn**	**05 36 49.6**	**+0.7**
HATOM				IAML		05 36 49.7	
	comp=N,168nm,0.6s						
AGPR	**Aguadilla, PR**	**1.28**	**130**		**Pn**	**05 36 30.1**	**-1.3**
AGPR				Sn	**Sn**	**05 36 49.5**	**+0.6**
AGPR				IAML		05 36 50.9	
	comp=E,209nm,0.3s						
AGPR				IAML		05 36 56.8	
	comp=N,153nm,0.4s						
AGPR	**Aguadilla, PR**	**1.28**	**130**	⇑*e*Pg	**Pn**	**05 36 30.1**	**-1.3**
AGPR				⇓*e*Sg	**Sn**	**05 36 48.6**	**-0.4**
AGPR				IAML		05 36 54.1	
	comp=N,138nm,0.4s						
AGPR	**Aguadilla, PR**	**1.28**	**130**	⇓*e*P	**Pg**	**05 36 33.0**	**+1.4**
AGPR	**Aguadilla, PR**	**1.28**	**130**	*e*S	**Sn**	**05 36 52.0**	**+3.0**
AGPR	**Aguadilla, PR**	**1.28**	**130**	*i* P		05 36 29.3	
AGPR				*e*S		05 36 46.8	
AGPR				IAML		05 36 50.5	
	comp=Z,73nm,0.1s						
LSP	**Las Mesas**	**1.50**	**138**		**Pb**	**05 36 35.1**	**-0.2**
LSP					**Sg**	**05 36 55.9**	**+0.6**
LSP	**Las Mesas**	**1.50**	**138**	⇑*e*P	**Pb**	**05 36 35.1**	**-0.2**
LSP	**Las Mesas**	**1.50**	**138**	*e*S	**Sg**	**05 36 55.9**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.62**	**142**		**Pn**	**05 36 35.1**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.62**	**142**	⇓*e*P	**Pb**	**05 36 36.7**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.62**	**142**	*e*S	**Sb**	**05 36 58.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.62**	**142**	*i* P		05 36 35.4	
CRPR				*e*S		05 36 58.2	
CRPR				IAML		05 37 02.5	
	comp=Z,110nm,0.9s						
AOPR	**Arecibo Observ**	**1.62**	**125**		**Pn**	**05 36 35.0**	**-1.2**
AOPR				IAML		05 37 00.7	
	comp=N,150nm,0.3s						
AOPR	**Arecibo Observ**	**1.62**	**125**	⇑*e*Pg	**Pn**	**05 36 35.3**	**-0.9**
AOPR				⇑*e*Sg	**Sn**	**05 36 56.1**	**-1.3**
AOPR				IAML		05 37 00.6	
	comp=N,148nm,0.3s						
AOPR	**Arecibo Observ**	**1.62**	**125**	⇑*e*P	**Pn**	**05 36 36.5**	**+0.3**
AOPR	**Arecibo Observ**	**1.62**	**125**	*e*S	**Sg**	**05 36 59.5**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.70**	**127**		**Pn**	**05 36 36.9**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.70**	**127**	⇓*e*P	**Pb**	**05 36 38.1**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.70**	**127**	*e*S	**Sg**	**05 37 02.2**	**+0.4**
EMPR	**Esperanza - Ma**	**1.73**	**118**		**Pn**	**05 36 37.5**	**-0.2**
EMPR				IAML		05 37 06.2	
	comp=N,118nm,0.9s						
EMPR	**Esperanza - Ma**	**1.73**	**118**	⇑*e*P	**Pb**	**05 36 38.5**	**-0.8**
EMPR	**Esperanza - Ma**	**1.73**	**118**	*e*S	**Sg**	**05 37 03.0**	**+0.2**
SDD	**Santo Domingo**	**1.87**	**244**	Pn	**Pn**	**05 36 39.2**	**-0.4**
CELP	**Cerrillos**	**1.92**	**129**		**Pn**	**05 36 39.9**	**-0.3**
CELP					**Sb**	**05 37 06.2**	**-0.4**
CELP				IAML		05 37 09.1	
	comp=E,57nm,0.3s						
CELP				IAML		05 37 09.2	
	comp=N,85nm,0.4s						
CELP	**Cerrillos**	**1.92**	**129**	⇑*e*Pg	**Pn**	**05 36 40.1**	**-0.2**
CELP				⇑*e*Sg	**Sb**	**05 37 06.2**	**-0.4**
CELP				IAML		05 37 09.1	
	comp=N,87nm,0.2s						
CELP	**Cerrillos**	**1.92**	**129**	⇑*e*P	**Pn**	**05 36 41.2**	**+0.9**
CELP	**Cerrillos**	**1.92**	**129**	*e*S	**Sb**	**05 37 07.0**	**+0.3**
OBIP	**Obispado Ponce**	**1.92**	**130**		**Pn**	**05 36 39.5**	**-0.7**
OBIP					**Sn**	**05 37 04.7**	**-0.1**
OBIP				IAML		05 37 06.7	
	comp=N,70nm,0.6s						
OBIP				IAML		05 37 06.9	
	comp=E,61nm,0.6s						
OBIP	**Obispado Ponce**	**1.92**	**130**	⇓*e*P	**Pn**	**05 36 39.9**	**-0.4**
OBIP	**Obispado Ponce**	**1.92**	**130**	*e*S	**Sn**	**05 37 05.2**	**+0.5**
ECPR	**Experimental S**	**1.95**	**120**	⇓*e*P	**Pb**	**05 36 42.0**	**-0.9**
ECPR	**Experimental S**	**1.95**	**120**	*e*S	**Sg**	**05 37 08.7**	**-1.0**
GCPR	**Guaynabo City**	**2.19**	**116**	Pn	**Pn**	**05 36 42.7**	**-1.2**
GCPR	**Guaynabo City**	**2.19**	**116**	⇑*e*P	**Pb**	**05 36 46.0**	**-1.0**
GCPR	**Guaynabo City**	**2.19**	**116**	*e*S	**Sb**	**05 37 15.0**	**+0.6**
SJG	**San Juan**	**2.23**	**122**		**Pn**	**05 36 44.9**	**+0.4**
SJG				IAML		05 37 18.6	
	comp=E,55nm,0.6s						
SJG				IAML		05 37 19.6	
	comp=E,52nm,0.4s						
SJG	**San Juan**	**2.23**	**122**	⇑*e*P	**Pn**	**05 36 44.9**	**+0.4**
SJG	**San Juan**	**2.23**	**122**	*i* P		05 36 45.0	
SJG				IAML		05 37 18.5	
	comp=Z,45nm,0.3s						
BANI	**BANI**	**2.28**	**247**	Pn	**Pn**	**05 36 44.5**	**-0.8**
BANI				IAML		05 37 22.9	
	comp=N,85nm,0.5s						
BANI				IAML		05 37 25.1	
	comp=E,94nm,1.1s						
IGPR	**InterUniversit**	**2.34**	**124**		**Pn**	**05 36 45.3**	**-0.8**
IGPR				IAML		05 37 25.0	
	comp=N,71nm,0.2s						
IGPR	**InterUniversit**	**2.34**	**124**	⇓*e*P	**Pn**	**05 36 46.5**	**+0.4**
IGPR	**InterUniversit**	**2.34**	**124**	*e*S	**Sb**	**05 37 16.9**	**-2.0**
PDPR	**Patillas Dam,**	**2.38**	**122**	Pn	**Pn**	**05 36 46.2**	**-0.4**
PDPR	**Patillas Dam,**	**2.38**	**122**	⇓*e*P	**Pn**	**05 36 47.2**	**+0.6**
PDPR	**Patillas Dam,**	**2.38**	**122**	*e*S	**Sn**	**05 37 17.2**	**+1.1**
SC01	**Santiago de lo**	**2.44**	**273**	Pn	**Pn**	**05 36 47.1**	**-0.3**
SC01				IAML		05 37 40.9	
	comp=N,65nm,0.7s						
SC01				IAML		05 37 41.9	
	comp=E,62nm,1.0s						
HUMP	**Col San Antoni**	**2.46**	**117**		**Pn**	**05 36 47.5**	**-0.2**
HUMP				IAML		05 37 25.4	
	comp=E,39nm,0.2s						
HUMP	**Col San Antoni**	**2.46**	**117**	⇑*e*P	**Pn**	**05 36 48.9**	**+1.2**
HUMP	**Col San Antoni**	**2.46**	**117**	*e*S	**Sb**	**05 37 21.3**	**-1.0**
SDDR	**Presa de Saban**	**2.99**	**264**		**Pn**	**05 36 56.3**	**+1.3**
SDDR				IAML		05 37 49.9	
	comp=E,38nm,0.9s						
SDDR				IAML		05 37 53.6	
	comp=E,31nm,0.6s						
SDDR	**Presa de Saban**	**2.99**	**264**	*i* P		05 36 56.7	
SDDR				IAML		05 37 47.5	
	comp=Z,24nm,1.2s						
LONE3	**El Aguacate, B**	**3.21**	**258**	*i* P		05 36 59.8	
LOBH	**Bahia de las A**	**3.61**	**247**	*i* P		05 37 07.4	

---

*NEIC **17** 06:05:21.1±1.3, 60°.30N±0°.03×152°.24W±0°.07, h99km±4km, Error ellipse: s-maj=5.5km s-min=4.6km az=60.0*
AEIC 17 06:05:21.9±1.0, 60°.30N±0°.03×152°.24W±0°.07, h92km±4km, ML2.5, ML2.7/151(NEIC), Error ellipse: s-maj=5.2km s-min=4.6km az=65.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDT	**Redoubt**	**0.29**	**344**		Pn	06 05 35.0	-0.6
RDT					Sn	06 05 45.1	-0.6
RED	**Redoubt Volcan**	**0.29**	**295**		Pn	06 05 35.0	-0.6
RED					Sn	06 05 45.1	-0.7
O20K	**Slope Mountain**	**0.29**	**221**		Pn	06 05 35.5	-0.1
O20K					Sn	06 05 46.3	+0.6
RDWB	**Redoubt West**	**0.35**	**303**		Pn	06 05 35.4	-0.6
RDWB					Sn	06 05 45.6	-0.8
RDJH	**Redoubt Jeurge**	**0.40**	**317**		Pn	06 05 35.6	-0.7
NCT	**North Crescent**	**0.43**	**308**		Pn	06 05 35.7	-0.7
ILS	**Iliamna Low So**	**0.54**	**231**		Pn	06 05 36.7	-0.5
ILS					Sn	06 05 48.8	+0.1
ILSW	**Iliamna Southw**	**0.55**	**235**		Pn	06 05 36.7	-0.7
ILSW				IAML		06 05 49.6	
	comp=N,118nm,0.3s						
ILSW				IAML		06 05 49.9	
	comp=E,118nm,0.7s						
HOM	**Homer**	**0.71**	**155**		Pn	06 05 39.0	+0.4
CAPN	**Captain Cook N**	**0.71**	**48**		Pn	06 05 40.2	+1.5
P19K	**Oil Pt**	**0.82**	**218**		Pn	06 05 39.5	-0.2
BRLK	**Bradley Lake**	**0.87**	**128**		Pn	06 05 40.0	-0.3
SPU	**Mount Spurr**	**0.89**	**6**	Pn	Pn	06 05 40.2	-0.3
SPU				IAML		06 05 54.7	
	comp=N,138nm,0.3s						
SPU				IAML		06 05 55.0	
	comp=E,201nm,0.4s						
CKL	**Chakachamna La**	**0.90**	**357**		Pn	06 05 40.1	-0.6
CNPM	**China Poot**	**0.93**	**146**	Pn	Pn	06 05 40.9	0.0
CNPM					Sn	06 05 55.5	+0.3
SPCN	**Chakachatna No**	**0.93**	**2**		Pn	06 05 40.6	-0.4
BRSE	**Bradley Lake S**	**0.94**	**126**		Pn	06 05 40.7	-0.3
BRSE					Sn	06 05 55.2	-0.2
SPBG	**Spurr Blockage**	**0.96**	**356**		Pn	06 05 41.0	-0.4
SPBG					Sn	06 05 55.4	-0.7
SPCG	**Spurr Capps Gl**	**1.00**	**6**		Pn	06 05 41.5	-0.4
SLKM	**Skilak Lake**	**1.02**	**77**		Pn	06 05 42.0	0.0
SLKM				IAML		06 06 00.2	
	comp=N,130nm,0.2s						
SLKM				IAML		06 06 02.1	
	comp=E,112nm,0.2s						
O19K	**Port Alsworth**	**1.04**	**265**		Pn	06 05 41.0	-1.1
O19K				IAML		06 05 56.7	
	comp=N,97nm,0.5s						
O19K				IAML		06 05 57.8	
	comp=E,154nm,0.4s						
SPNN	**North Nagishla**	**1.09**	**348**		Pn	06 05 42.3	-0.7
STLK	**Strandline Lak**	**1.22**	**9**		Pn	06 05 43.9	-0.5
STLK				IAML		06 06 03.4	
	comp=E,102nm,0.4s						
STLK				IAML		06 06 03.6	
	comp=N,87nm,0.4s						
N19K	**Bonanza Creek**	**1.22**	**296**		Pn	06 05 43.3	-1.0
N19K				IAML		06 06 00.1	
	comp=N,57nm,0.7s						
O22K	**Cooper Landing**	**1.26**	**81**		Pn	06 05 44.5	-0.2
O22K				IAML		06 06 07.9	
	comp=N,206nm,0.4s						
O22K				IAML		06 06 12.6	
	comp=E,204nm,0.5s						
SEW	**Seward**	**1.41**	**97**		Pn	06 05 45.9	-0.6
RC01	**Rabbit Creek A**	**1.47**	**56**		Pn	06 05 47.5	+0.3
RC01				IAML		06 06 07.2	
	comp=N,122nm,0.3s						
Q19K	**Cape Douglas,**	**1.55**	**208**		Pn	06 05 47.5	-0.8
Q19K				IAML		06 06 36.9	
	comp=N,110nm,1.1s						
O18K	**Koktuh Hills**	**1.55**	**255**		Pn	06 05 47.4	-0.9
M20K	**Styx River**	**1.65**	**345**		Pn	06 05 49.2	-0.5
M20K				IAML		06 06 10.4	
	comp=E,29nm,0.5s						
M20K				IAML		06 06 11.2	
	comp=N,34nm,0.9s						
SYI	**Shuyak Island**	**1.70**	**183**		Pn	06 05 50.2	0.0
SYI				IAML		06 06 12.9	
	comp=N,63nm,0.8s						
SYI				IAML		06 06 15.8	
	comp=E,58nm,0.6s						
SKT	**Skwentna**	**1.72**	**11**		Pn	06 05 49.9	-0.7
SKT				IAML		06 06 14.0	
	comp=E,64nm,0.4s						
SKT				IAML		06 06 14.6	
	comp=N,60nm,0.5s						
P18K	**Big Mountain,**	**1.76**	**240**	Pn	Pn	06 05 50.1	-1.0
P18K				IAML		06 06 12.2	
	comp=N,33nm,1.1s						
M22K	**Willow**	**1.79**	**34**		Pn	06 05 51.7	+0.3
N18K	**Kilae Creek**	**1.84**	**284**		Pn	06 05 50.9	-1.2
M19K	**Big River Lodg**	**1.92**	**328**		Pn	06 05 52.3	-0.8
PMR	**Palmer**	**2.00**	**48**	Pn	Pn	06 05 53.2	-0.9
PMR				IAML		06 06 17.9	
	comp=E,68nm,0.3s						
PMR				IAML		06 06 18.0	
	comp=N,49nm,0.2s						
PWL	**Port Wells**	**2.01**	**72**		Pn	06 05 53.2	-1.1
PWL				IAML		06 06 20.5	
	comp=N,66nm,0.4s						
PWL				IAML		06 06 21.3	
	comp=E,51nm,0.4s						
M18K	**Stony River**	**2.12**	**306**		Pn	06 05 54.3	-1.4
KAHG	**Katmai Hook Gl**	**2.16**	**214**		Pn	06 05 55.9	-0.4
KNK	**Knik Glacier**	**2.16**	**57**		Pn	06 05 55.6	-0.7
KNK				IAML		06 06 22.0	
	comp=N,77nm,0.5s						
KNK				IAML		06 06 22.6	
	comp=E,86nm,0.4s						
GHO	**Glory Hole Cre**	**2.19**	**46**		Pn	06 05 55.9	-0.7
GHO				IAML		06 06 22.7	
	comp=N,64nm,0.3s						
GHO				IAML		06 06 23.1	

GOAT	Goat Mountain	3.73	82			Pn	06 06 15.2	-2.2
RAGM	Ragged Mountai	3.76	85	Pn		Pn	06 06 17.2	-0.5
MCK	McKinley	3.78	23	Pn		Pn	06 06 18.4	+0.4
K17K	Iditarod	3.78	312	Pn		Pn	06 06 17.0	-0.9
K17K				IAML			06 07 12.6	
	comp=E,5.7nm,1.0s							
L16K	Owhat River	3.79	295			Pn	06 06 16.7	-1.4
J18K	Innoko River	3.82	328			Pn	06 06 17.4	-1.0
BMRM	Bremner River	3.82	77			Pn	06 06 16.5	-2.0
BPAW	Bear Paw Mtn.	3.86	8	Pn		Pn	06 06 18.2	-0.8
N15K	Kwethluk River	3.92	271	Pn		Pn	06 06 19.5	-0.2
N15K				IAML			06 07 28.9	
	comp=E,3.9nm,0.5s							
KAIM	Kayak Island	3.93	92	Pn		Pn	06 06 19.4	-0.6
N25K	Chitina, Valde	3.95	67			Pn	06 06 19.1	-1.2
N25K				IAML			06 07 04.7	
	comp=E,11nm,0.7s							
N25K				IAML			06 07 04.7	
	comp=N,17nm,0.7s							
J20K	Nowinta River	3.99	348			Pn	06 06 20.2	-0.6
HARP	HAARP	4.01	55			Pn	06 06 20.4	-0.6
J19K	Poorman	4.03	338			Pn	06 06 21.0	-0.3
BERG	Berg Lake	4.25	85	Pn		Pn	06 06 23.3	-0.9
GLB	Gilahina Butte	4.28	71			Pn	06 06 23.2	-1.5
GLB				IAML			06 07 12.7	
	comp=N,8.6nm,0.5s							
GLB				IAML			06 07 12.8	
	comp=E,6.9nm,0.4s							
VRDI	Verde Repeater	4.41	74	Pn		Pn	06 06 25.0	-1.6
VRDI				IAML			06 07 15.8	
	comp=N,5.5nm,0.5s							
VRDI				IAML			06 07 30.4	
	comp=E,3.1nm,1.2s							
WRH	Wood River Hil	4.61	23	Pn		Pn	06 06 28.3	-0.8
WRH				IAML			06 07 44.6	
	comp=E,3.9nm,0.5s							
WRH				IAML			06 07 47.9	
	comp=N,2.5nm,0.5s							
HDA	Harding Lake	4.80	29	Pn		Pn	06 06 31.2	-0.6
CCB	Clear Creek Bu	4.82	23	Pn		Pn	06 06 31.1	-0.8
CCB				IAML			06 07 27.1	
	comp=N,2.5nm,0.2s							
CCB				IAML			06 07 28.7	
	comp=E,2.6nm,0.2s							
M26K	Nabesna, AK	4.92	61	Pn		Pn	06 06 32.8	-0.6
M26K				IAML			06 07 27.8	
	comp=N,8.2nm,0.9s							
M26K				IAML			06 07 29.3	
	comp=E,5.1nm,0.5s							
J16K	Anvik River	4.97	311	Pn		Pn	06 06 33.0	-1.0
COLA	College	5.02	22	Pn		Pn	06 06 33.9	-0.7
I23K	Minto, Yukon-K	5.04	14	Pn		Pn	06 06 34.6	-0.4
I23K				IAML			06 08 02.1	
	comp=N,2.6nm,0.8s							
IL31		5.13	27			Pn	06 06 35.3	-0.8
ILAR	Eielson Array	5.13	27	Pn		Pn	06 06 35.0	-1.1
MESA	MESA	5.13	87	Pn		Pn	06 06 36.6	+0.2
L14K	Kuka Creek	5.22	286	Pn		Pn	06 06 36.8	-0.5
L14K				IAML			06 10 12.0	
	comp=E,5.6nm,1.2s							
POKR	Poker Plat Res	5.32	23	Pn		Pn	06 06 37.9	-0.9
POKR				IAML			06 07 37.9	
	comp=E,2.2nm,1.1s							
POKR				IAML			06 09 51.3	
	comp=N,3.6nm,0.8s							
SCRK	Sand Creek	5.35	43	Pn		Pn	06 06 38.5	-0.7
SCRK				IAML			06 07 56.2	
	comp=N,1.5nm,0.3s							
J25K	Salcha River,	5.38	33			Pn	06 06 39.2	-0.4
J25K				IAML			06 07 38.6	
	comp=E,5.6nm,0.8s							
J25K				IAML			06 07 58.3	
	comp=N,2.6nm,0.9s							
H21K	Melozitna Rive	5.38	358	Pn		Pn	06 06 38.3	-1.4
H21K				IAML			06 08 50.8	
	comp=E,2.9nm,0.2s							
H21K				IAML			06 08 51.4	
	comp=N,6.6nm,0.2s							
H19K	Roundabout Mou	5.59	342	Pn		Pn	06 06 41.8	-0.5
H18K	Honhosa River	5.62	333	Pn		Pn	06 06 42.3	-0.6
L27K	Beaver Creek,	5.68	56	Pn		Pn	06 06 42.7	-1.0
BCAR	Beaver Creek A	5.70	56	Pn		Pn	06 06 42.9	-1.0
J26L	Joseph Creek	5.83	40	Pn		Pn	06 06 45.6	-0.3
H17K	Granite Mounta	5.84	326	Pn		Pn	06 06 45.3	-0.6
H24K	Noodor Dome	5.90	18	Pn		Pn	06 06 46.6	-0.1
PRP	Porcupine Dome	6.07	27			Pn	06 06 48.9	-0.1
G18K	Tagagawik	6.32	335	Pn		Pn	06 06 52.4	0.0
G23K	Bananza Creek	6.51	8	Pn		Pn	06 06 54.6	-0.4
I26K	Coal Creek Min	6.52	36	Pn		Pn	06 06 54.7	-0.4
F20K	Avaraart Lake	6.95	349	Pn		Pn	06 07 01.1	+0.2
M29M	Somme Creek	6.96	66	Pn		Pn	06 07 01.1	-0.1
FYU	Fort Yukon	7.03	24	Pn		Pn	06 07 01.6	-0.4
E19K	Redstone River	7.51	345	Pn		Pn	06 07 09.1	+0.6
F25K	Christian Rive	7.87	19	Pn		Pn	06 07 12.4	-1.1
BMAR	Burnt Mountain	7.91	22	Pn		Pn	06 07 12.6	-1.4
I30M	Mount Dempster	8.78	49	Pn		Pn	06 07 24.8	-1.2

*IDC **17** 06:14:00.8±2.9, 36°.28N×78°.24E, h96km±26km, mb3.5/13, mbtmp3.9/18, MS3.1/1, Error ellipse: s-maj=18.8km s-min=13.5km az=44.0*
*NNC **17** 06:14:09.2±2.9, 36°.94N×77°.75E, h13km±22km, mb5.0, mpv4.7, Error ellipse: s-maj=26.5km s-min=16.5km az=159.0*

ISC 17 06:13:59.9±0.6, 36°.16N±0°.06×78°.18E±0°.08, h100km, n46, σ2°08/53, mb3.5/12, 8C-2D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	6.89	1	Pg	Pn	06 15 39.9	+1.6
	15nm,0.7s						
SATY				Lg	Lg	06 16 54.0	
	24nm,0.5s						
MDOK	Medeo	7.04	353	Pn	Pn	06 15 42.7	+2.2
	33nm,0.4s						
MDOK				Lg	Lg	06 17 28.0	
	15nm,0.6s						
AAK	Ala-Archa	7.07	337	P	Pn	06 15 41.7	+1.0
	5.6nm,0.4s,baz=154,slow=7.4,SNR=18						
AAK				S	Sn	06 16 57.2	-2.4
	5.2nm,0.4s,baz=162,slow=20,SNR=4.1						
KST	Kastek	7.08	347	P	Pn	06 15 42.6	+1.6
KNDC	Almaty	7.11	353	⇑Pn	Pn	06 15 43.2	+1.9
	23nm,0.3s						
KNDC				⇑Lg	Lg	06 17 25.3	
	43nm,0.5s						
KOTS	Kotyrbulak	7.11	354	P	Pn	06 15 43.9	+2.6
PDGK	Podgornoye	7.23	8	⇑Pn	Pn	06 15 44.3	+1.3
	86nm,0.4s						
PDGK				⇑Sn	Sn	06 17 01.9	-1.6
	134nm,0.8s						
KPKS	Kokpek	7.30	3	Pg	Pn	06 15 45.7	+1.8
	48nm,0.3s						
KPKS				Lg	Lg	06 17 04.9	
	56nm,0.4s						
KURS	Kuram	7.32	360	P	Pn	06 15 46.2	+2.1
KTMS	Ketmen	7.46	12	P	Pn	06 15 47.6	+1.4
MRKS	Merke	7.61	331	P	Pn	06 15 49.8	+1.8
KTBS	Karatobe	7.63	352	P	Pn	06 15 50.3	+2.0
BLB	Baldybastay	7.93	2	P	Pn	06 15 53.6	+1.1
ARXS	Arharly	8.04	358	P	Pn	06 15 55.9	+1.9
KNOS	Konyrlen	8.22	5	P	Pn	06 15 57.4	+0.9
DJR	Jarkent	8.25	8	Pg	Pn	06 15 57.5	+0.7
	50nm,0.3s						
DJR				Lg	Lg	06 17 26.3	
	47nm,0.4s						
PYUN	Piuthan	9.01	152	Pn	Pn	06 16 06.9	-0.5
	baz=152,slow=0.0						
PYUN				Sn	Sn	06 17 40.6	-6.7
	80nm,0.5s,baz=152,slow=0.0						
KK31	Karatay Array	9.11	322	⇑Pn	Pn	06 16 07.5	-0.9
	0.6nm,0.2s,baz=127,slow=12,SNR=30						
KK31				⇑Sn	Sn	06 17 42.4	-6.6
	4.8nm,0.7s,baz=136,slow=23,SNR=6.2						
DANN	Dangsing	9.11	147	Pn	Pn	06 16 08.1	-0.7
	baz=147,slow=0.0						
DANN				Sn	Sn	06 17 42.7	-7.0
	baz=147,slow=0.0						
KAPS	Kapalarasan	9.16	5	P	Pn	06 16 10.6	+1.5
BRLS	Borolday	9.40	319	P	Pn	06 16 10.1	-2.3
KOLN	Koldanda	9.55	150	Pn	Pn	06 16 13.9	-0.8
	baz=150,slow=0.0						
KOLN				Sn	Sn	06 17 54.1	-6.2
	183nm,0.8s,baz=150,slow=0.0						
GUN	Gumba	10.50	139	Pn	Pn	06 16 27.2	-0.6
	baz=139,slow=0.0						
PKI	Pulchoki	10.54	142	Pn	Pn	06 16 28.3	0.0
	baz=142,slow=0.0						
PKI				Sn	Sn	06 18 16.4	-8.1
	baz=142,slow=0.0						
MAKZ	Makanchi	11.01	14	⇓Pn	Pn	06 16 35.5	+1.3
	15nm,0.3s						
MAKZ				⇑Sn	Sn	06 18 33.0	-2.2
	8.5nm,0.5s						
MK31	Makanchi Array	11.06	15	⇓Pn	Pn	06 16 36.6	+1.7
	3.4nm,0.3s,baz=199,slow=12,SNR=228						
MK31				⇑Sn	Sn	06 18 34.1	-2.4
	9.6nm,0.5s,baz=195,slow=22,SNR=16						
MKAR	Makanchi Array	11.06	15	P	Pn	06 16 34.5	-0.4
	9.8nm,0.3s,baz=203,slow=13,SNR=128						
MKAR				S	Sn	06 18 30.8	-5.7
	14nm,0.5s,baz=198,slow=23,SNR=16						
RAMN	Ramite	11.65	140	Pn	Pn	06 16 42.9	-0.3
	baz=140,slow=0.0						
RAMN				Sn	Sn	06 18 43.8	-7.7
	44nm,0.7s,baz=140,slow=0.0						
KURBB	Kurchatov Arra	14.46	1	P	Pn	06 17 20.2	+0.7
	1.5nm,0.2s,baz=184,slow=11,SNR=2.7						
BVAR	Borovoye Array	17.73	344	P	Pn	06 18 01.2	+1.1
	0.7nm,0.3s,baz=149,slow=13,SNR=7.8						
ZALV	Zalesovo Beam	18.38	13	P	Pn	06 18 07.4	-0.5
	1.0nm,0.4s,baz=203,slow=9.4,SNR=5.4						
ZALV				S	S	06 21 29.3	-1.9
	0.9nm,0.6s,baz=195,slow=23,SNR=3.0						
AKTO	Aktyubinsk	20.37	321	P	P	06 18 29.9	+1.6
	1.3nm,0.5s,baz=124,slow=8.0,SNR=4.3						
	1.3nm,0.5s						
WSAR	Wadi Sarin	21.26	238	LR	LR	06 29 18.2	
	comp=Z,48nm,18.8s,baz=172,slow=43						
SONM	Songino Array	23.86	52	P	P	06 19 06.1	+2.0
	1.5nm,0.7s,baz=247,slow=10,SNR=9.8						
	1.5nm,0.7s						
CMAR	Chiang Mai Arr	25.43	128	P	P	06 19 19.6	+1.1
	2.4nm,0.3s,baz=315,slow=8.0,SNR=5.4						
	2.4nm,0.3s						
BRTR	Keskin Array B	35.03	290	P	P	06 20 44.2	+1.1
	0.3nm,0.5s,baz=52,slow=10.0,SNR=3.7						
	0.3nm,0.5s						
AKASG	Malin Array Be	37.69	308	P	P	06 21 05.2	-0.1
	0.2nm,0.4s,baz=81,slow=7.6,SNR=8.3						
	0.2nm,0.4s						
FINES	FINESS Array B	41.05	325	P	P	06 21 34.0	+0.8
	1.0nm,0.5s,baz=105,slow=9.3,SNR=9.4						
	1.0nm,0.5s						
ARCES	ARCESS Array B	43.73	336	P	P	06 21 56.2	+1.4
	0.7nm,0.3s,baz=98,slow=8.7,SNR=8.3						
	0.7nm,0.3s						
HFS	Hagfors	46.91	322	P	P	06 22 20.6	+0.6
	3.5nm,0.9s,baz=99,slow=9.3,SNR=8.5						
	3.5nm,0.9s						
NB2	NORSAR Subarra	48.14	323	P	P	06 22 29.9	+0.4
	comp=Z,0.3nm,0.5s,baz=90,slow=7.9						
NOA	NORSAR Array B	48.14	323	P	P	06 22 30.0	+0.4
	comp=Z,0.4nm,0.5s,baz=98,slow=6.9,SNR=4.5						
	comp=Z,0.4nm,0.5s						
ILAR	Eielson Array	73.39	18	P	P	06 25 21.8	+1.2
	comp=Z,0.3nm,0.4s,baz=325,slow=5.5,SNR=6.3						
	comp=Z,0.3nm,0.4s						
WRA	Warramunga Arr	77.01	127	P	P	06 25 43.3	+1.3
	comp=Z,0.5nm,0.6s,baz=301,slow=7.9,SNR=11						
	comp=Z,0.5nm,0.6s						
ASAR	Alice Springs	79.44	130	P	P	06 25 56.2	+0.9
	comp=Z,0.6nm,0.7s,baz=317,slow=5.6,SNR=7.8						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	81.14	6	P	P	06 26 04.8	+0.8
	comp=Z,0.5nm,0.7s,baz=339,slow=5.7,SNR=8.1						
	comp=Z,0.5nm,0.7s						

*KRSC **17** 06:47:13.0±1.4, 52°.37N×159°.58E, h50km±16km, Ml4.2*
*MOS **17** 06:47:14.6±0.9, 52°.39N×159°.52E, h49km, mb3.9/1, Error ellipse: s-maj=12.3km s-min=5.4km az=94.8*
*IDC **17** 06:47:17.7±0.7, 52°.52N×159°.33E, h64km±7km, mb3.3/10, mbtmp3.8/13, Error ellipse: s-maj=17.1km s-min=9.2km az=29.0*

ISC 17 06:47:15.9±0.8, 52°.41N±0°.04×159°.50E±0°.04, h46km±7km, n73, σ1°29/88, mb3.5/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.61	273	PN	Pn	06 47 27.2	-1.0
RUS				S	Sn	06 47 36.3	-0.7
RUS	Russkaya	0.61	273	eP	Pn	06 47 27.3	-1.0
RUS				eS	Sn	06 47 36.3	-0.7
SPN	Mys Shipunski	0.76	24	PN	Pn	06 47 29.6	-0.6
SPN				S	Sn	06 47 40.9	+0.3
SPN	Mys Shipunski	0.76	24	eP	Pn	06 47 29.7	-0.6
SPN				eS	Sn	06 47 40.9	+0.3
NLC	Nalytchevo	0.77	353	PN	Pn	06 47 29.4	-0.9
NLC				S	Sn	06 47 40.1	-0.7
NLC	Nalytchevo	0.77	353	eP	Pn	06 47 29.5	-0.9
NLC				eS	Sn	06 47 40.1	-0.7
DALK	Dalny	0.77	324	PN	Pn	06 47 29.3	-1.0
DALK				S	Sn	06 47 40.0	-0.8
DALK	Dalny	0.77	324	eP	Pn	06 47 29.3	-1.0
DALK				eS	Sn	06 47 40.1	-0.8
PET	Petropavlovsk	0.80	320	ePN	Pn	06 47 30.0	-0.8
PET				eS	Sn	06 47 40.6	-1.0
PET				smax	smax		
	comp=Z,722nm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PET				smax	smax		
	comp=E,865nm,0.5s						
PET	Petropavlovsk	0.80	320	eP	Pn	06 47 29.9	-0.8
PET				eS	Sn	06 47 40.4	-1.3
INSR	Institute	0.85	321	PN	Pn	06 47 30.7	-0.8
INSR				S	Sn	06 47 42.1	-0.8
INSR	Institute	0.85	321	eP	Pn	06 47 30.8	-0.8
INSR				eS	Sn	06 47 42.1	-0.8
GRL	Gorelyy	0.89	280	PN	Pn	06 47 32.0	0.0
GRL	Gorelyy	0.89	280	eP	Pn	06 47 32.0	0.0
UGLR	Uglovaya	0.90	333	PN	Pn	06 47 31.8	-0.4
UGLR	Uglovaya	0.90	333	eP	Pn	06 47 31.8	-0.4
KRMR	Karymshinskiy	0.94	297	PN	Pn	06 47 31.9	-0.7
KRMR				S	Sn	06 47 44.5	-0.3
KRMR	Karymshinskiy	0.94	297	i P	Pn	06 47 32.0	-0.7
KRMR				eS	Sn	06 47 44.6	-0.3
AVH	Avacha	0.97	332	PN	Pn	06 47 32.9	-0.2
AVH	Avacha	0.97	332	eP	Pn	06 47 33.0	-0.2
KOK	Koryaka	1.03	330	PN	Pn	06 47 33.4	-0.5
KOK	Koryaka	1.03	330	eP	Pn	06 47 33.5	-0.5
KRX	Arik	1.08	332	PN	Pn	06 47 34.0	-0.7
KRX	Arik	1.08	332	eP	Pn	06 47 34.1	-0.7
PETK	Petropavlovsk-	1.30	303	P	Pn	06 47 37.0	-0.5
	comp=E,125nm,0.4s,baz=102,slow=20,SNR=326						
PETK				S	Sn	06 47 53.1	-0.7
	comp=E,124nm,0.3s,baz=105,slow=18,SNR=8.5						
APC	Apacha	1.52	291	PN	Pn	06 47 41.1	+0.6
APC	Apacha	1.52	291	eP	Pn	06 47 41.1	+0.6
GNL	Ganaly	1.59	324	PN	Pn	06 47 41.7	0.0
GNL	Ganaly	1.59	324	eP	Pn	06 47 41.8	0.0
KII	Karymskiy	1.63	359	PN	Pn	06 47 41.3	-0.8
KII				S	Sn	06 48 02.6	+0.7
KII	Karymskiy	1.63	359	eP	Pn	06 47 41.3	-0.8
KII				eS	Sn	06 48 02.6	+0.7
SKR	Severo-Kuril's	2.73	232	ePN	Pn	06 47 58.8	+1.7
SKR				eS	Sn	06 48 27.6	-1.3
SKR				smax	smax		
	comp=N,224nm,0.6s						
SKR				smax	smax		
	comp=E,393nm,0.6s						
SKR	Severo-Kuril's	2.73	232	eP	Pn	06 47 57.9	+0.8
SKR				eS	Sn	06 48 28.8	-0.1
TUMD	Tumrok D	2.85	10	eP	Pn	06 48 00.0	+1.3
TUMD				eS	Sn	06 48 34.8	+3.0
KMNR	Kamenistaya	3.38	7	PN	Pn	06 48 08.6	+2.5
KMNR	Kamenistaya	3.38	7	eP	Pn	06 48 08.7	+2.5
ESO	Esso	3.55	353	PN	Pn	06 48 10.2	+1.8
ESO	Esso	3.55	353	eP	Pn	06 48 10.2	+1.8
KIRR	Kirishev	3.58	8	PN	Pn	06 48 11.0	+2.0
KIRR	Kirishev	3.58	8	eP	Pn	06 48 11.1	+2.0
KOZ	Kozyrevsk	3.66	3	PN	Pn	06 48 12.4	+2.5
KOZ	Kozyrevsk	3.66	3	eP	Pn	06 48 12.4	+2.5
CIRR	Tsirk	3.78	11	PN	Pn	06 48 13.8	+2.1
CIRR	Tsirk	3.78	11	eP	Pn	06 48 13.8	+2.1
SRDR	Sredinnyy	3.92	2	PN	Pn	06 48 15.1	+1.7
SRDR	Sredinnyy	3.92	2	eP	Pn	06 48 15.2	+1.7
KLY	Klyuchi	3.97	9	PN	Pn	06 48 16.8	+2.8
KLY	Klyuchi	3.97	9	eP	Pn	06 48 16.9	+2.8
BKI	Bering	4.75	51	PN	Pn	06 48 24.0	-0.7
BKI	Bering	4.75	51	eP	Pn	06 48 24.1	-0.7
BKI				eS	Sn	06 49 14.8	-3.6
ASAJ	Asahikawa	13.96	240	P	Pn	06 50 33.4	+2.6
	comp=E,11nm,0.8s,baz=50,slow=13,SNR=6.5						
KLR	Kul'dur	17.77	21	P	P	06 51 20.6	+0.6
	comp=E,0.8nm,0.5s,baz=109,slow=12,SNR=1.6						
YAK	Yakutsk	18.63	313	P	P	06 51 29.3	+0.1
	comp=E,15nm,0.6s,baz=146,slow=2.8,SNR=1.7						
ILAR	Eielson Array	29.55	44	P	P	06 53 15.4	-0.4
	comp=E,0.5nm,0.7s,baz=261,slow=6.3,SNR=9.4						
	comp=E,0.5nm,0.7s						
H11N2	WAKE ISLAND Hy	33.12	167	T	T	07 29 33.7	
	baz=352,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	33.14	167	T	T	07 29 36.6	
	baz=352,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	33.14	167	T	T	07 29 37.5	
	baz=352,slow=76,SNR=32						
H11S1	WAKE ISLAND Hy	34.30	168	T	T	07 31 02.0	
	baz=352,slow=76,SNR=9.0						
H11S3	WAKE ISLAND Hy	34.31	168	T	T	07 31 09.1	
	baz=352,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy	34.32	168	T	T	07 31 15.9	
	baz=352,slow=76,SNR=5.0						
YKA	Yellowknife Ar	43.91	42	P	P	06 55 17.4	-0.1
	comp=E,0.5nm,0.6s,baz=297,slow=8.0,SNR=8.0						
	comp=E,0.5nm,0.6s						
NVAR	Mina Array Bea	56.32	69	P	P	06 56 51.5	-0.6
	comp=E,0.3nm,0.7s,baz=306,slow=6.7,SNR=2.0						
	comp=E,0.3nm,0.7s						
PDAR	Pinedale Array	58.17	60	P	P	06 57 06.0	+0.9
	comp=E,0.5nm,0.6s,baz=282,slow=3.8,SNR=7.2						
	comp=E,0.5nm,0.6s						
NB2	NORSAR Subarra	64.10	343	P	P	06 57 43.5	-1.2
	comp=Z,0.9nm,0.8s,baz=20,slow=6.9						
NOA	NORSAR Array B	64.10	343	P	P	06 57 43.4	-1.2
	comp=Z,1.0nm,0.8s,baz=20,slow=6.8,SNR=4.7						
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	64.49	342	P	P	06 57 45.7	-1.5
	comp=Z,1.7nm,0.6s,baz=60,slow=3.6,SNR=6.6						
	comp=Z,1.7nm,0.6s						
TXAR	Lajitas Array	71.24	66	P	P	06 58 30.9	+0.6
	comp=Z,0.5nm,0.6s,baz=296,slow=5.2,SNR=12						
TXAR				pP	PcP	06 58 48.5	-1.5
	comp=Z,0.4nm,0.7s,baz=305,slow=4.6,SNR=3.9						
	comp=Z,0.5nm,0.6s						
GERES	GERESS Array B	75.01	337	P	P	06 58 50.7	-1.5
	comp=Z,0.4nm,0.6s,baz=40,slow=3.8,SNR=2.7						
	comp=Z,0.4nm,0.6s						
WRA	Warramunga Arr	75.31	204	P	P	06 58 53.6	-0.5
	comp=Z,0.4nm,0.8s,baz=21,slow=5.9,SNR=2.4						
WRA				pP	pwP	06 59 10.8	+0.3
	comp=Z,0.7nm,0.8s,baz=16,slow=6.0,SNR=4.2						
	comp=Z,0.4nm,0.8s						
ASAR	Alice Springs	78.99	204	P	P	06 59 15.2	+0.6
	comp=Z,0.2nm,0.7s,baz=5.0,slow=5.2,SNR=4.9						
ASAR				pP	pwP	06 59 32.0	+0.8
	comp=Z,0.4nm,0.6s,baz=12,slow=5.1,SNR=3.7						
	comp=Z,0.2nm,0.7s						
H03N2	Juan Fernandez	134.56	89	T	T	09 36 40.8	
	baz=314,slow=77,SNR=25						
H03N1	Juan Fernandez	134.57	89	T	T	09 36 46.3	
	baz=314,slow=77,SNR=23						
H03N3	Juan Fernandez	134.57	89	T	T	09 36 41.4	
	baz=314,slow=77,SNR=20						

*IDC **17** 06:48:58.2±2.3, 21°.62N×143°.55E, h224km±21km, mb3.1/14, mbtmp3.8/15, Error ellipse: s-maj=23.1km s-min=13.6km az=91.0*

ISC 17 06:48:55.6±0.9, 21°.5N±0°.1×143°.6E±0°.2, h200km, n15, σ1°19/16, mb3.4/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.70	347	P	Pn	06 50 20.1	+1.2
	107nm,0.9s,baz=267,slow=20,SNR=1.4						
JCJ				S	Sn	06 51 25.0	+0.1
	92nm,0.9s,baz=294,slow=21,SNR=1.1						
KSRS	Korea Array	20.89	323	P	P	06 53 23.9	+1.6
	1.5nm,0.7s,baz=147,slow=9.1,SNR=7.3						
	1.5nm,0.7s						
KLR	Kul'dur	29.22	344	P	P	06 54 38.8	+0.3
	1.5nm,0.5s,baz=219,slow=9.4,SNR=5.2						
	1.5nm,0.5s						
SONM	Songino Array	39.72	320	P	P	06 56 08.3	-0.3
	0.2nm,0.3s,baz=120,slow=7.6,SNR=2.2						
	0.2nm,0.3s						
SEY	Seymchan	41.82	6	P	P	06 56 26.4	+1.1
	0.7nm,0.5s,baz=185,slow=6.4,SNR=3.7						
	0.7nm,0.5s						
WRA	Warramunga Arr	42.19	193	P	P	06 56 30.1	+1.2
	0.5nm,0.7s,baz=14,slow=7.5,SNR=8.0						
	0.5nm,0.7s						
ASAR	Alice Springs	45.89	192	P	P	06 56 59.0	+0.8
	0.2nm,0.7s,baz=14,slow=7.3,SNR=6.2						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	54.59	322	P	P	06 58 01.8	-1.3
	0.7nm,0.4s,baz=101,slow=7.5,SNR=3.7						
	0.7nm,0.4s						
MKAR	Makanchi Array	55.10	313	P	P	06 58 06.4	-0.5
	0.2nm,0.6s,baz=92,slow=9.8,SNR=2.7						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	57.92	317	P	P	06 58 25.2	-1.4
	0.3nm,0.4s,baz=95,slow=7.6,SNR=1.9						
	0.3nm,0.4s						
ILAR	Eielson Array	62.02

KSRS	**Korea Array**	**9.60**	**272**	Pn	**Pn**	**06 52 10.3**	**+2.4**
	0.6nm,0.3s,baz=79,slow=14,SNR=6.1						
KSRS				LR	LR	06 55 31.8	
	comp=Z,50nm,18.1s,baz=90,slow=36						
	1.5nm,0.4s						
KLR	**Kul'dur**	**12.98**	**335**	Pn	**Pn**	**06 52 55.4**	**+1.3**
	0.1nm,0.3s,baz=155,slow=14,SNR=5.1						
KLR				LR	LR	06 57 47.9	
	comp=Z,53nm,18.6s,baz=251,slow=37						
	2.5nm,1.0s						
MA2	**Magadan**	**22.96**	**14**	P	**P**	**06 54 54.1**	**0.0**
	2.8nm,0.5s,baz=207,slow=9.0,SNR=7.6						
	2.8nm,0.5s						
SONM	**Songino Array**	**26.48**	**303**	P	**P**	**06 55 28.9**	**+1.6**
	0.3nm,0.6s,baz=104,slow=11,SNR=1.8						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**40.64**	**312**	LR	LR	07 12 46.6	
	comp=Z,13nm,21.2s,baz=317,slow=34						
MKAR	**Makanchi Array**	**42.81**	**301**	P	**P**	**06 57 46.9**	**-0.9**
	0.3nm,0.7s,baz=80,slow=8.1,SNR=2.5						
MKAR				LR	LR	07 14 27.1	
	comp=Z,24nm,19.6s,baz=92,slow=34						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.71**	**307**	P	**P**	**06 58 01.9**	**-1.0**
	0.7nm,0.7s,baz=83,slow=8.0,SNR=4.1						
	0.7nm,0.7s						
AAK	**Ala-Archa**	**49.19**	**297**	LR	LR	07 20 26.1	
	comp=Z,42nm,18.6s,baz=47,slow=37						
BVAR	**Borovoye Array**	**49.29**	**312**	P	**P**	**06 58 38.5**	**-0.3**
	0.4nm,0.5s,baz=87,slow=9.4,SNR=2.2						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**49.53**	**33**	P	**P**	**06 58 40.5**	**+0.2**
	0.6nm,0.8s,baz=272,slow=6.6,SNR=6.3						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**57.59**	**186**	P	**P**	**06 59 39.3**	**-0.6**
	0.6nm,0.4s,baz=1.6,slow=7.6,SNR=11						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**61.31**	**186**	P	**P**	**07 00 05.9**	**+0.3**
	0.4nm,0.8s,baz=0.4,slow=4.6,SNR=3.1						
	0.4nm,0.8s						
AKASG	**Malin Array Be**	**73.08**	**322**	P	**P**	**07 01 19.4**	**-0.6**
	0.6nm,0.7s,baz=45,slow=7.6,SNR=2.8						
	0.6nm,0.7s						
NOA	**NORSAR Array B**	**73.13**	**337**	P	**P**	**07 01 19.3**	**-0.9**
	0.8nm,0.8s,baz=39,slow=5.8,SNR=3.4						
NOA				LR	LR	07 36 10.9	
	comp=Z,16nm,18.2s,baz=350,slow=38						
	0.8nm,0.8s						
BRTR	**Keskin Array B**	**77.57**	**311**	P	**P**	**07 01 46.6**	**+0.3**
	0.5nm,0.8s,baz=46,slow=6.8,SNR=2.2						
	0.5nm,0.8s						

IDC 17 07:12:13.8±2.5, 6°.66S×127°.95E, h0km, mb3.9/1, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=303.4km s-min=30.1km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.59**	**155**	Pn	Pn	07 15 40.4	-1.3
	0.3nm,0.3s,baz=332,slow=14,SNR=11						
WRA				Sn	Sn	07 18 10.9	-13
	0.4nm,0.3s,baz=337,slow=22,SNR=8.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**17.85**	**162**	P	P	07 16 24.6	0.0
	0.2nm,0.3s,baz=344,slow=8.9,SNR=14						
ASAR				S	Sn	07 19 34.6	-8.9
	0.3nm,0.6s,baz=355,slow=26,SNR=2.4						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**66.84**	**328**	P	P	07 23 07.6	0.0
	0.5nm,0.4s,baz=114,slow=6.5,SNR=12						
	0.5nm,0.4s						

SJA 17 07:12:47.0, 22°.60S×67°.51W, h214km, ML3.0
SCB 17 07:12:48.7±1.3, 22°.52S×67°.47W, h189km±19km, ML3.2/3, Error ellipse: s-maj=14.7km s-min=8.5km az=0.0
GUC 17 07:12:51.1±0.7, 22°.57S×67°.50W, h174km±5km, ML3.5
ISC 17 07:12:48.4±1.7, 22°.58S±0°.04×67°.51W±0°.04, h189km±13km, n28, σ1°.06/40, 3C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.72**	**239**	*e*P	**Pn**	**07 13 16.4**	**+0.7**
AF01				*e*S	**Sn**	**07 13 35.8**	**-1.0**
PB09	**IPOC Station P**	**1.79**	**296**	*i* P	**Pn**	**07 13 24.8**	**+0.6**
PB09	**IPOC Station P**	**1.79**	**296**	⇑*e*P	**Pn**	**07 13 25.3**	**+1.1**
PB09				*e*S	**Sn**	**07 13 51.7**	**-0.1**
PB09	**IPOC Station P**	**1.79**	**296**	Pg	**Pn**	**07 13 25.1**	**+0.9**
YJA	**Yavi**	**1.89**	**78**	*i* P	**Pn**	**07 13 26.3**	**+0.8**
YJA	**Yavi**	**1.89**	**78**	⇓*e*P	**Pn**	**07 13 26.2**	**+0.7**
YJA				*e*S	**Sn**	**07 13 52.8**	**-1.4**
MOCB	**Mochara**	**2.18**	**53**	Pg	**Pn**	**07 13 29.4**	**+0.8**
MOCB				Sg	**Sn**	**07 13 58.1**	**-1.7**
MOCB				IAML		07 14 00.0	
	46nm,0.4s						
PB01	**IPOC Station P**	**2.39**	**309**	*i* P	**Pn**	**07 13 31.0**	**+0.4**
PB01	**IPOC Station P**	**2.39**	**309**	⇑*e*P	**Pn**	**07 13 31.5**	**+0.9**
PB01				*e*S	**Sn**	**07 14 02.6**	**-0.8**
PB01				IAML		07 14 04.7	
	comp=E,254nm,0.2s						
PB01	**IPOC Station P**	**2.39**	**309**	Pg	**Pn**	**07 13 31.6**	**+1.0**
PB01				Sg	**Sn**	**07 14 03.0**	**-0.4**
PB01				IAML		07 14 04.8	
	comp=E,227nm,0.2s						
AZAP	**Zapla**	**2.77**	**127**	*i* P	**Pn**	**07 13 35.6**	**+0.5**
SLA	**San Lorenzo**	**2.81**	**140**	*e*P	**Pn**	**07 13 37.1**	**+1.7**
PB08	**IPOC Station P**	**2.87**	**327**	*i* P	**Pn**	**07 13 38.0**	**+1.5**
PB08	**IPOC Station P**	**2.87**	**327**	⇓*e*P	**Pn**	**07 13 38.6**	**+2.1**
PB08				*e*S	**Sn**	**07 14 14.6**	**+0.8**
PB08				IAML		07 14 17.2	
	comp=E,55nm,0.5s						
PB08	**IPOC Station P**	**2.87**	**327**	Pg	**Pn**	**07 13 37.5**	**+1.0**
PB08				Sg	**Sn**	**07 14 13.6**	**-0.2**
PB08				IAML		07 14 17.2	
	comp=E,39nm,0.5s						
PX03	**IPOC Station P**	**2.93**	**317**	*e*P	**Pn**	**07 13 37.6**	**+0.7**
PX03				*e*S	**Sn**	**07 14 13.6**	**-1.1**
TA01	**Diego Aracena**	**3.20**	**308**	*i* P	**Pn**	**07 13 40.3**	**+0.4**
TA01	**Diego Aracena**	**3.20**	**308**	*e*P	**Pn**	**07 13 40.4**	**+0.4**
TA01				*e*S	**Sn**	**07 14 18.8**	**-1.4**
TA01				IAML		07 14 21.8	
	comp=N,71nm,0.2s						
TA01	**Diego Aracena**	**3.20**	**308**	Pg	**Pn**	**07 13 40.3**	**+0.4**
GO02	**Mina Guanaco**	**3.20**	**216**	*i* P	**Pn**	**07 13 40.8**	**+0.6**
GO02	**Mina Guanaco**	**3.20**	**216**	⇑*e*P	**Pn**	**07 13 41.5**	**+1.3**
GO02				*e*S	**Sn**	**07 14 20.5**	**-0.3**
PB14	**IPOC Station P**	**3.35**	**232**	*i* P	**Pn**	**07 13 42.8**	**+0.8**
PB14	**IPOC Station P**	**3.35**	**232**	*e*P	**Pn**	**07 13 43.4**	**+1.4**
PB14				*e*S	**Sn**	**07 14 22.0**	**-2.0**
TA02	**Huaiquique**	**3.36**	**313**	*e*S	**Sn**	**07 14 22.4**	**-1.2**
AC02	**Maricunga**	**4.48**	**199**	*i* P	**Pn**	**07 13 57.5**	**+1.0**
AC01	**Pan de Azucar**	**4.53**	**218**	*i* P	**Pn**	**07 13 56.2**	**-0.4**
PB12	**IPOC Station P**	**4.75**	**326**	*i* P	**Pn**	**07 14 00.2**	**+0.6**
PB12	**IPOC Station P**	**4.75**	**326**	Pg	**Pn**	**07 13 59.1**	**-0.4**

NNC 17 07:14:08.9±0.7, 49°.92N×78°.83E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=13.7km s-min=3.6km az=74.0, Suspected Mining explosion.
IDC 17 07:14:12.3±1.0, 50°.06N×78°.81E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=13.3km s-min=6.3km az=64.0
ISC 17 07:14:06.3±1.0, 49°.79N±0°.04×78°.46E±0°.07, h0km, n17, σ0°.41/28, 20C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.80**	**3**	⇑P	**Pb**	**07 14 22.7**	**-0.4**
KUR07				⇑S	**Sg**	**07 14 32.4**	**+0.4**
KUR06	**Kurchatov Arra**	**0.82**	**3**	⇑P	**Pb**	**07 14 23.1**	**-0.3**
KUR06				⇓S	**Sg**	**07 14 33.0**	**+0.4**
KUR14	**Kurchatov Arra**	**0.83**	**6**	⇑P	**Pb**	**07 14 23.2**	**-0.5**
KUR14				⇑S	**Sg**	**07 14 32.8**	**-0.3**
KUR15	**Kurchatov Arra**	**0.84**	**5**	⇑P	**Pb**	**07 14 23.4**	**-0.3**
KUR15				⇑S	**Sg**	**07 14 33.5**	**+0.3**
KURBB	**Kurchatov Arra**	**0.84**	**3**	Pg	**Pb**	**07 14 23.6**	**-0.1**
	0.8nm,0.3s,baz=164,slow=19,SNR=18						
KURBB				Lg	Lg	07 14 33.0	
	1.0nm,0.3s,baz=164,slow=31,SNR=9.6						
KURBB	**Kurchatov Arra**	**0.84**	**3**	⇓P	**Pb**	**07 14 23.5**	**-0.3**
	7.9nm,0.3s						
KURBB				⇓S	**Sg**	**07 14 33.3**	**+0.1**
	62nm,0.6s						
KUR16	**Kurchatov Arra**	**0.84**	**2**	⇑P	**Pb**	**07 14 23.6**	**-0.3**
KUR16				⇑S	**Sg**	**07 14 33.5**	**+0.1**
KUR17	**Kurchatov Arra**	**0.85**	**1**	⇓P	**Pb**	**07 14 24.0**	**+0.1**
KUR17				⇑S	**Sg**	**07 14 33.9**	**+0.4**
KUR05	**Kurchatov Arra**	**0.86**	**3**	⇓P	**Pb**	**07 14 23.7**	**-0.4**
KUR05				⇑S	**Sg**	**07 14 33.9**	**-0.1**
KUR04	**Kurchatov Arra**	**0.88**	**4**	⇑P	**Pb**	**07 14 24.1**	**-0.3**
KUR04				⇑S	**Sg**	**07 14 34.4**	**-0.2**
KURK	**Kurchatov**	**0.94**	**6**	⇑P	**Pb**	**07 14 25.1**	**-0.4**
	2.6nm,0.4s						
KURK				⇑S	**Sg**	**07 14 35.6**	**-0.8**
	71nm,1.0s						
MAKZ	**Makanchi**	**3.79**	**140**	⇑Pg	**Pb**	**07 15 14.6**	**+0.5**
	0.9nm,0.6s						
MAKZ				⇑Lg	Lg	07 16 11.2	
	3.8nm,0.8s						
MK31	**Makanchi Array**	**3.94**	**138**	⇑Pg	**Pb**	**07 15 16.1**	**-0.4**
	0.1nm,0.3s,baz=330,slow=14,SNR=7.5						
MK31				⇓Lg	Lg	07 16 15.2	
	4.2nm,0.6s,baz=332,slow=28,SNR=19						
MKAR	**Makanchi Array**	**3.94**	**138**	Pn	**Pb**	**07 15 15.7**	**-0.9**
	0.1nm,0.3s,baz=324,slow=10,SNR=6.2						
MKAR				Pg	**Pg**	**07 15 21.8**	**0.0**
	0.3nm,0.3s,baz=326,slow=15,SNR=8.7						
MKAR				Sn	**Sb**	**07 16 04.7**	**0.0**
	0.2nm,0.3s,baz=347,slow=19,SNR=3.8						
MKAR				Lg	Lg	07 16 17.0	
	0.8nm,0.3s,baz=327,slow=29,SNR=14						
	0.1nm,0.3s						
OTUK	**Ortayu**	**4.31**	**251**	⇑Pg	**Pg**	**07 15 28.8**	**0.0**
	1.1nm,0.3s						
OTUK				⇑Lg	Lg	07 16 34.2	
	3.4nm,0.8s						
ZALV	**Zalesovo Beam**	**5.74**	**41**	Pn	**Pn**	**07 15 33.1**	**+0.5**
	0.2nm,0.3s,baz=230,slow=15,SNR=2.1						
ZALV				Lg	Lg	07 17 00.1	
	0.1nm,0.3s,baz=219,slow=25,SNR=1.9						
	0.6nm,0.2s						
I46RU	**ZALESOVO INFRA**	**5.74**	**41**	I	I	07 46 50.0	
	baz=225,slow=327,SNR=1.5						

IGQ 17 07:14:22.3±0.8, 1°.S×4°.8±1W±°, h4km±2km, MLv3.8/19
RSNC 17 07:14:23.1±0.0, 1°.S×4°.8±1W±°, h58km±15km, M3.2, ML2.9
ISC 17 07:14:18.8±1.9, 0°.52S±0°.05×81°.08W±0°.08, h9km±11km, n75, σ1°.83/91, 28C-20D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAB1	**Cabo Pasado-Ma**	**0.67**	**79**	⇑P	**Pn**	**07 14 34.0**	**-0.5**
CAB1				S	**Sb**	**07 14 42.9**	**+0.9**
ISPT	**Isla de la Pla**	**0.74**	**179**	⇓P	**Pn**	**07 14 37.0**	**+1.6**
ISPT				S	**Sn**	**07 14 47.0**	**+0.2**
JAMA	**Jama**	**0.91**	**74**	⇑P	**Pn**	**07 14 37.4**	**-0.5**
JAMA				S	**Sb**	**07 14 49.3**	**+0.1**
ACHN	**Ecuador-Chone-**	**1.01**	**100**	⇑P	**Pn**	**07 14 38.5**	**-0.7**
ACHN				S	**Sn**	**07 14 53.8**	**+0.2**
PPLP	**Puerto Lpez**	**1.06**	**163**	P	**Pn**	**07 14 41.4**	**+1.5**
PPLP				S	**Sn**	**07 14 56.1**	**+1.2**
PPLP	**Puerto Lpez**	**1.06**	**163**	S	**Sn**	**07 14 54.7**	**-0.2**
PPLP	**Puerto Lpez**	**1.06**	**163**	⇑P	**Pn**	**07 14 41.3**	**+1.3**
PPLP				S	**Sn**	**07 14 56.3**	**+1.4**
PPLP	**Puerto Lpez**	**1.06**	**163**	P		07 14 41.4	
PPLP				S		07 14 56.1	
PECV	**Mancha de Ca P**	**1.07**	**104**	⇓P	**Pb**	**07 14 35.1**	**-4.3**
FLF1	**Flavio Alfaro-**	**1.25**	**83**	⇑P	**Pg**	**07 14 44.1**	**+1.3**
FLF1				S	**Sg**	**07 15 00.9**	**+1.8**
SALI	**Salinas**	**1.66**	**177**	P	**Pg**	**07 14 51.6**	**+1.0**
AQUE	**Quevedo**	**1.68**	**108**	⇓P	**Pb**	**07 14 49.2**	**-0.7**
AQUE				S	**Sn**	**07 15 08.8**	**-1.2**
AV18	**Acelerografo,**	**1.81**	**63**	P	**Pg**	**07 14 54.2**	**+0.8**
AGUAY	**Guayaquil**	**1.90**	**143**	P	**Pb**	**07 14 51.9**	**-1.8**
ASDO	**Santo Domingo**	**1.98**	**83**	P	**Pn**	**07 14 53.4**	**+0.8**
ASDO				S	**Sn**	**07 15 16.3**	**-1.2**
ABAB	**Ecuador-Univer**	**2.02**	**129**	P	**Pn**	**07 14 53.4**	**+0.4**
MILO	**Milagro-Astudi**	**2.32**	**139**	⇑P	**Pn**	**07 14 57.8**	**+0.6**
MILO				S	**Sn**	**07 15 25.0**	**-1.0**
ILLI	**Illinizas Sur**	**2.36**	**95**	⇑P	**Pn**	**07 14 59.4**	**+1.1**
JSCH	**Cashca Tororas**	**2.42**	**120**	⇑P	**Pb**	**07 15 00.9**	**-1.8**
PAC1	**Pacto, Paraso**	**2.42**	**71**	P	**Pn**	**07 14 59.2**	**+0.5**
PAC1				S	**Sn**	**07 15 28.4**	**-0.2**
PAC1	**Pacto, Paraso**	**2.42**	**71**	P	**Pn**	**07 14 59.5**	**+0.8**
PAC1	**Pacto, Paraso**	**2.42**	**71**	P		07 14 59.2	
PAC1				S		07 15 28.4	
PAST	**Pastocalle**	**2.45**	**94**	P	**Pb**	**07 15 01.2**	**-2.0**
GGPT	**Toaza - Volcan**	**2.48**	**83**	⇑P	**Pn**	**07 15 00.7**	**+0.9**
PORT	**Chimborazo Vol**	**2.49**	**112**	⇑P	**Pb**	**07 15 02.0**	**-2.1**
JUA2	**San Juan 2**	**2.50**	**83**	⇑P	**Pn**	**07 15 01.4**	**+1.4**
AMAC	**Ecuador-Machac**	**2.50**	**91**	⇓P	**Pb**	**07 15 02.0**	**-2.1**
PINO	**Pino**	**2.50**	**82**	⇑P	**Pn**	**07 15 01.3**	**+1.0**
GGPC	**Guagua Pichinc**	**2.51**	**82**	P	**Pn**	**07 15 01.7**	**+1.4**
TAMH	**Tambohuasha Ch**	**2.52**	**114**	⇑P	**Pb**	**07 15 02.4**	**-2.0**
YANA	**Yana**	**2.54**	**81**	⇑P	**Pn**	**07 15 02.0**	**+1.3**
CAMI	**Rancho Maria**	**2.58**	**93**	⇑P	**Pb**	**07 15 04.0**	**-1.6**
SUCR	**Mariscal Sucre**	**2.59**	**93**	⇑P	**Pb**	**07 15 03.7**	**-2.0**
SLOR	**San Lorenzo -**	**2.59**	**95**	⇑P	**Pb**	**07 15 03.9**	**-1.9**
ISPG	**Isla Puna-Puer**	**2.60**	**159**	P	**Pg**	**07 15 06.7**	**-1.9**
BNAS	**Cotopaxi Volca**	**2.61**	**93**	⇑P	**Pb**	**07 15 05.2**	**-0.8**
BRRN	**Barrancas-Volc**	**2.62**	**96**	⇑P	**Pb**	**07 15 04.0**	**-2.2**
IGUA	**Igualata**	**2.63**	**112**	P	**Pb**	**07 15 04.6**	**-1.8**
BMOR	**Cotopaxi Volca**	**2.63**	**95**	⇑P	**Pb**	**07 15 04.3**	**-2.2**
BREF	**Cotopaxi Volca**	**2.65**	**93**	⇑P	**Pb**	**07 15 05.2**	**-1.5**
PITA	**Cotopaxi Volc**	**2.65**	**91**	⇑P	**Pb**	**07 15 05.1**	**-1.6**
COHC	**Cochancay**	**2.66**	**137**	P	**Pb**	**07 15 03.5**	**-3.1**
COHC				S	**Sn**	**07 15 35.3**	**+1.0**
COHC	**Cochancay**	**2.66**	**137**	⇑P	**Pb**	**07 15 03.7**	**-2.9**
COHC	**Cochancay**	**2.66**	**137**	P		07 15 03.5	
COHC				S		07 15 35.3	
BVC2	**Cotopaxi Volca**	**2.67**	**93**	⇑P	**Pb**	**07 15 05.5**	**-1.7**
BTAM	**Cotopaxi Volca**	**2.69**	**93**	⇑P	**Pb**	**07 15 05.5**	**-1.9**
VCES	**Cotopaxi**	**2.70**	**96**	⇑P	**Pb**	**07 15 05.5**	**-2.2**
TAMB	**Tambo**	**2.72**	**94**	P	**Pb**	**07 15 06.1**	**-1.9**
OTAV	**Otavalo**	**2.74**	**74**	P	**Pn**	**07 15 04.7**	**+1.4**
OTAV				S	**Sn**	**07 15 35.3**	**-1.5**
OTAV	**Otavalo**	**2.74**	**74**	⇓P	**Pn**	**07 15 04.8**	**+1.5**
OTAV	**Otavalo**	**2.74**	**74**	P		07 15 04.7	
OTAV				S		07 15 35.3	
PUEM	**Granja Avicola**	**2.74**	**82**	⇓P	**Pb**	**07 15 07.0**	**-1.1**
BBIL	**Ulba Tungurahu**	**2.75**	**110**	⇑P	**Pb**	**07 15 07.8**	**-0.7**
JUI6	**Juive**	**2.77**	**109**	⇓P	**Pb**	**07 15 06.6**	**-1.9**
POND	**Pondoa**	**2.78**	**109**	⇓P	**Pb**	**07 15 06.9**	**-2.0**
BMAS	**Trigal station**	**2.78**	**111**	⇑P	**Pn**	**07 15 05.7**	**+1.8**
CUSE	**Cuicocha Este**	**2.81**	**73**	P	**Pn**	**07 15 06.0**	**+1.7**
CUSE				S	**Sn**	**07 15 37.6**	**-0.9**
CUSE	**Cuicocha Este**	**2.81**	**73**	P	**Pn**	**07 15 05.6**	**+1.4**
CUSE	**Cuicocha Este**	**2.81**	**73**	P		07 15 06.0	
CUSE				S		07 15 37.6	
BPAT	**Tungurahua Vol**	**2.82**	**110**	⇓P	**Pb**	**07 15 07.8**	**-1.9**
BULB	**Ulba Tungurahu**	**2.82**	**109**	⇓P	**Pn**	**07 15 05.7**	**+1.2**
ANTG	**Antisana-Guama**	**2.83**	**90**	⇓P	**Pb**	**07 15 07.4**	**-2.4**
CUIC	**Cuicocha-Domo**	**2.84**	**73**	⇓P	**Pn**	**07 15 06.7**	**+1.9**
CUSW	**Cuicocha Oeste**	**2.85**	**74**	⇓P	**Pn**	**07 15 06.8**	**+2.0**
ANTM	**Antisana-La Mi**	**2.86**	**90**	⇓P	**Pb**	**07 15 08.1**	**-2.2**
PIAT	**Ana Tenorio**	**2.86**	**100**	P	**Pb**	**07 15 07.9**	**-2.4**
PIAT				S	**Sn**	**07 15 42.3**	**+2.5**
PIAT	**Ana Tenorio**	**2.86**	**100**	P	**Pb**	**07 15 09.0**	**-1.3**
PIAT	**Ana Tenorio**	**2.86**	**100**	P		07 15 07.9	
PIAT				S		07 15 42.3	
ANTI	**Antisana**	**2.92**	**89**	⇓P	**Pb**	**07 15 09.0**	**-2.5**
URCU	**Urcuqui**	**2.98**	**71**	⇓P	**Pb**	**07 15 10.1**	**-2.3**
LITE1	**Lita**	**3.02**	**64**	P	**Pn**	**07 15 08.2**	**+1.2**
CAYR	**Refugio Cayamb**	**3.12**	**80**	⇓P	**Pb**	**07 15 12.5**	**-2.4**
ANGU	**Angureal**	**3.13**	**80**	⇓P	**Pb**	**07 15 12.7**	**-2.2**
YAHU	**Yahuarcocha**	**3.14**	**74**	⇓P	**Pb**	**07 15 12.7**	**-2.4**
ARDO	**Archidona, Ten**	**3.32**	**98**	⇓P	**Pb**	**07 15 16.1**	**-1.7**
CHMA	**Chilma**	**3.32**	**66**	P	**Pn**	**07 15 13.3**	**+2.1**
ECEN	**Cerro Negro**	**3.39**	**67**	P	**Pb**	**07 15 15.5**	**-3.8**
CHL1	**Volc¡n Chiles**	**3.40**	**67**	P	**Pb**	**07 15 16.0**	**-3.5**
BOSC	**San Juan Bosco**	**3.68**	**135**	P	**Pb**	**07 15 21.8**	**-2.3**
BONI	**La Bonita**	**3.68**	**75**	P	**Pb**	**07 15 21.9**	**-2.3**
BONI				S	**Sn**	**07 16 03.6**	**+3.7**
BONI	**La Bonita**	**3.68**	**75**	P		07 15 21.9	
BONI				S		07 16 03.6	
BBAC	**Balboa, Cauca**	**4.59**	**57**	P	**Pn**	**07 15 29.9**	**+1.3**

BKK 17 07:21:58.4±1.5, 21°.N±9°.×10°.2E±°, h10km, M3.5/5, Mjma3.3/5, ML3.7/5, MLv3.4/4
PLV 17 07:21:58.4±0.9, 21°.31N×101°.79E, h5km±7km, ML3.3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**1.15**	**86**	*e*Pn	Pn	07 22 21.2	-0.1
SLVN	**Son La**	**1.97**	**89**	*e*Pg	Pb	07 22 35.3	+0.5
MLVB	**It Ong**	**2.10**	**84**	*e*Pn	Pn	07 22 24.7	-9.5
MLVB				*e*Sg	Sn	07 22 44.8	-16
MLVB				IAML		07 22 48.9	
	comp=N,387nm,0.4s						
MLVB				IAML		07 22 49.2	
	comp=E,415nm,0.4s						
MCVV	**Moc Chau**	**2.72**	**100**	*e*Pn	Pn	07 22 42.3	-0.5

TXNET 17 07:30:26.6, 31°.6N±0°.7×103°.8W±0°.8, h6km±2km, ML1.6/7, Error ellipse: s-maj=1.3km s-min=1.0km az=118.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.15**	**83**	P	Pg	07 30 30.1	+0.4
TPB07				S	Sg	07 30 32.9	+1.2
PECS	**Pecos**	**0.19**	**187**	P	Pg	07 30 31.0	+0.6
PECS				S	Sg	07 30 34.3	+1.3
PECS	**Pecos**	**0.19**	**187**	P	Pg	07 30 31.0	+0.6
PECS				S	Sg	07 30 34.7	+1.7
TPB10	**Southeast of T**	**0.29**	**165**	P	Pg	07 30 32.8	+0.6
TPB10				S	Sg	07 30 37.0	+1.0
PCOS	**Crockett Middl**	**0.32**	**118**	S	Sg	07 30 37.7	+0.6
TPB12	**Southwest of T**	**0.36**	**196**	P	Pg	07 30 32.5	-1.1
TPB12				S	Sg	07 30 38.5	+0.1
TPB11	**China Draw**	**0.41**	**336**	S	Sg	07 30 41.3	+1.4
TPB06	**Permian Basin**	**0.54**	**81**	S	Sb	07 30 45.5	-1.0
TPB03	**Saragosa**	**0.55**	**149**	S	Sg	07 30 45.0	+0.6
TPB04	**Verhalen**	**0.61**	**127**	S	Sb	07 30 47.6	-1.1
TPB01	**Permian Basin**	**0.62**	**175**	P	Pg	07 30 38.5	+0.1
TPB01				S	Sg	07 30 47.6	+1.1
CLNB	**Carlsbad**	**0.70**	**357**	S	Sn	07 30 53.3	-1.1
TPB05	**Hovey Rd**	**0.78**	**145**	P	Pb	07 30 42.2	-0.3
TPB05				S	Sb	07 30 52.6	-0.8
HTMS	**Hat Mesa**	**0.93**	**11**	S	Sn	07 30 59.3	-0.6
MNHN	**Monahans**	**0.95**	**103**	P	Pg	07 30 45.0	+0.2
MNHN				S	Sg	07 30 57.2	+0.1
TPB08	**Permian Basin**	**1.04**	**130**	S	Sg	07 31 00.5	+0.4
ALPN	**Alpine**	**1.20**	**172**	P	Pg	07 30 48.6	-0.9
ALPN				S	Sb	07 31 05.3	-0.2
ALPN	**Alpine**	**1.20**	**172**	P	Pg	07 30 48.7	-0.8
ALPN				S	Sb	07 31 05.5	0.0
ODSA	**Odessa**	**1.23**	**63**	P	Pg	07 30 49.8	-0.4
ODSA				S	Sn	07 31 07.4	0.0
VHRN	**Van Horn**	**1.25**	**232**	P	Pb	07 30 50.6	0.0
VHRN				S	Sn	07 31 07.7	-0.1
VHRN	**Van Horn**	**1.25**	**232**	P	Pn	07 30 50.6	0.0
VHRN				S	Sn	07 31 08.2	+0.3
MNTX	**Cornudas Mount**	**1.32**	**276**	P	Pg	07 30 52.2	+0.3
MNTX				S	Sn	07 31 10.1	+0.6
MNTX	**Cornudas Mount**	**1.32**	**276**	P	Pg	07 30 52.6	+0.7
MNTX				S	Sn	07 31 10.2	+0.7
TMB04	**Seminole**	**1.56**	**47**	P	Pg	07 30 56.4	-0.2
TMB02	**Rankin**	**1.58**	**103**	P	Pb	07 30 56.2	0.0
TMB02				S	Sb	07 31 16.8	+0.2
SAND	**Sanderson**	**2.18**	**137**	P	Pb	07 31 05.7	-0.7
SAND				S	Sb	07 31 34.9	+1.2
TX31	**Lajitas Ar. Si**	**2.22**	**176**	P	Pb	07 31 06.1	-1.1
TX31				S	Sb	07 31 35.1	0.0

*TAP 17 07:33:09.5, 24°.70N×121°.85E, h83km

ETLH	Xiulin Townshi	0.64 213	P	Pn	07 33 24.7	-0.2
ETLH			eS	Sn	07 33 35.9	-1.0
NCU	National Centr	0.66 291	eP	Pn	07 33 25.4	+0.4
NCU			eS	Sn	07 33 37.2	+0.2
NCUH	Zhongli	0.66 290	eP	Pn	07 33 25.3	+0.4
NCUH			eS	Sn	07 33 37.3	+0.2
NFF	Wufeng Townshi	0.69 261	i P	Pn	07 33 25.4	+0.1
NFF			i S	Sn	07 33 36.1	-1.6
TWD	Chiawan	0.70 200	eP	Pn	07 33 24.8	-0.6
TWD			eS	Sn	07 33 36.8	-1.0
NJD	Zhudong	0.71 270	i P	Pn	07 33 25.7	+0.3
NJD			eS	Sn	07 33 38.0	+0.2
EOS4	EOS4	0.74 146	eP	Pn	07 33 26.4	+1.0
EOS4			eS	Sn	07 33 37.4	-0.4
FUSS	Fushou	0.75 229	i P	Pn	07 33 26.7	+0.6
FUSS			i S	Sn	07 33 39.0	-0.1
HSN1	Hsinchu	0.77 273	eP	Pn	07 33 27.4	+1.4
HSN1			eS	Sn	07 33 39.0	0.0
LIOB	Emei	0.78 263	P	Pn	07 33 26.5	+0.4
LIOB			S	Sn	07 33 38.2	-1.0
NHW	Xinwu Township	0.79 290	eP	Pn	07 33 27.1	+0.9
NHW			eS	Sn	07 33 39.5	+0.2
NSTT	Nanjuang	0.79 262	P	Pn	07 33 26.5	+0.3
NSTT			i S	Sn	07 33 38.7	-0.7
TWT	Tachien	0.79 232	eP	Pn	07 33 27.1	+0.6
TWT			i S	Sn	07 33 40.0	+0.2
HWA	Hwalien	0.80 197	i P	Pn	07 33 26.2	-0.1
HWA			eS	Sn	07 33 39.2	-0.2
SBCB	Hsinchu	0.80 274	eP	Pn	07 33 26.8	+0.5
SBCB			eS	Sn	07 33 39.5	0.0
TDCB	Techi	0.81 233	P	Pn	07 33 27.5	+0.9
TDCB			S	Sn	07 33 40.1	+0.1
WHF	Hehuan Shan	0.81 223	i P	Pn	07 33 27.2	+0.3
WHF			S	Sn	07 33 40.2	-0.3
HSN	Hsinchu	0.81 275	eP	Pn	07 33 26.4	0.0
HSN			i S	Sn	07 33 38.5	-1.3
LXIB	Xiulin Townshi	0.83 210	P	Pn	07 33 26.3	-0.5
LXIB			S	Sn	07 33 39.8	-0.5
ETM	Tongmen	0.84 204	⇓P	Pn	07 33 26.0	-0.8
ETM			eS	Sn	07 33 39.3	-1.0
TEYL	Yanliau Villag	0.90 196	eP	Pn	07 33 27.6	+0.2
TEYL			eS	Sn	07 33 40.3	-1.1
PCYT	Pengchaiyu	0.91 12	eP	Pn	07 33 28.4	+0.9
NJN	Zhunan	0.91 267	eP	Pn	07 33 27.8	+0.4
NJN			i S	Sn	07 33 41.6	+0.1
WHP	Taichung City	0.95 241	P	Pn	07 33 29.0	+0.9
WHP			i S	Sn	07 33 42.9	+0.2
SHUL	Shoufeng	0.99 196	i P	Pn	07 33 28.7	+0.3
SHUL			eS	Sn	07 33 42.6	-0.5
NMLH	Miaoli	1.00 259	eP	Pn	07 33 29.3	+0.8
NMLH			eS	Sn	07 33 43.0	-0.3
ESL	Shilin	1.00 203	i P	Pn	07 33 27.6	-1.0
ESL			eS	Sn	07 33 41.9	-1.5
OWD	Renai	1.00 219	P	Pn	07 33 29.2	+0.5
OWD			S	Sn	07 33 43.5	-0.2
WUSB	Renai	1.01 223	P	Pn	07 33 29.7	+0.9
WUSB			eS	Sn	07 33 44.4	+0.6
JYNG	Yonagunijimaku	1.02 106	P	Pn	07 33 28.7	-0.1
JYNG			S	Sn	07 33 43.2	-0.6
NSY	Sanyi	1.05 252	eP	Pn	07 33 30.1	+1.0
NSY			eS	Sn	07 33 44.8	+0.3
TEGC	Jichi Village	1.07 196	i P	Pn	07 33 29.5	+0.2
TEGC			eS	Sn	07 33 44.7	-0.1
TWQ1	Liyutan	1.07 249	eP	Pn	07 33 30.2	+0.9
TWQ1			eS	Sn	07 33 44.5	-0.3
YOJ	Yonaguni jima	1.08 105	i P	Pn	07 33 29.8	+0.3
YOJ			eS	Sn	07 33 42.3	-2.7
YOJ	Yonaguni jima	1.08 105	P	Pn	07 33 29.8	+0.2
WPL	Puli Township	1.10 229	eP	Pn	07 33 29.2	-0.5
WPL			eS	Sn	07 33 44.4	-1.0
WCS	Beigang Elemen	1.10 232	eP	Pn	07 33 30.7	+1.0
WCS			S	Sn	07 33 46.0	+0.6
DPDB	Guoxing	1.11 231	eP	Pn	07 33 30.7	+0.9
DPDB			i S	Sn	07 33 45.7	0.0
WARBT	Fenglin Townsh	1.11 203	eP	Pn	07 33 28.7	-1.1
WARBT			S	Sn	07 33 43.7	-1.9
EGFH	Guangfu	1.14 201	eP	Pn	07 33 31.3	+1.1
EGFH			eS	Sn	07 33 45.5	-0.7
WDJ	Dajia District	1.18 251	eP	Pn	07 33 31.8	+1.2
WDJ			eS	Sn	07 33 47.2	+0.1
VWDT	VWDT	1.18 214	P	Pn	07 33 31.6	+1.0
VWDT			eS	Sn	07 33 48.0	+0.9
SMLT	Sun Moon Lake	1.23 226	eP	Pn	07 33 31.3	0.0
SMLT			eS	Sn	07 33 48.4	+0.2
TCU	Taichung	1.23 242	P	Pn	07 33 32.0	+0.8
TCU			eS	Sn	07 33 48.5	+0.3
TYC	Yuchr	1.24 228	P	Pn	07 33 32.3	+1.0
TYC			S	Sn	07 33 48.6	+0.3
SSLB	Suanglung	1.26 221	P	Pn	07 33 32.2	+0.6
SSLB	Suanglung	1.26 221	S	Sn	07 33 50.0	+1.1
SSLB	Suanglung	1.26 221	eP	Pn	07 33 32.6	+1.0
SSLB			i S	Sn	07 33 49.6	+0.8
WWF	Wufeng	1.27 237	eP	Pn	07 33 32.5	+0.8
WWF			eS	Sn	07 33 50.0	+1.0
HGSD	Ruisui	1.31 198	eP	Pn	07 33 32.9	+0.8
HGSD			eS	Sn	07 33 50.8	+1.0
EHY	Hungye	1.32 202	eP	Pn	07 33 31.4	-1.0
EHY			eS	Sn	07 33 49.3	-1.0
EHYH	Wanrong	1.33 201	eP	Pn	07 33 33.7	+1.2
EHYH			eS	Sn	07 33 50.5	+0.2
WCHH	Zhanghua	1.36 241	i P	Pn	07 33 33.1	+0.3
WCHH			eS	Sn	07 33 51.5	+0.5
WNT1	Nantou City	1.36 233	i P	Pn	07 33 33.5	+0.7
WNT1			eS	Sn	07 33 51.5	+0.5
WCH1	Changhua City	1.37 241	i P	Pn	07 33 33.2	+0.3
WCH1			eS	Sn	07 33 52.0	+0.7
WNT	Mingjian	1.38 232	eP	Pn	07 33 34.2	+1.2
WNT			eS	Sn	07 33 52.3	+1.0
WJS	Zhushan	1.38 229	i P	Pn	07 33 34.0	+0.9
WJS			eS	Sn	07 33 52.4	+0.9
WHYT	Xinyi Township	1.39 222	eP	Pn	07 33 34.6	+1.3
WHYT			i S	Sn	07 33 52.8	+1.1
YULB	Yu-li	1.44 201	P	Pn	07 33 33.2	-0.6
YULB	Yu-li	1.44 201	eP	Pn	07 33 34.0	+0.2
YULB			eS	Sn	07 33 52.4	-0.4
ECBN	Changbin	1.47 195	eP	Pn	07 33 34.2	0.0
ECBN			eS	Sn	07 33 52.9	-0.5
EYUL	Yuli	1.47 200	eP	Pn	07 33 35.9	+1.7
EYUL			eS	Sn	07 33 50.0	-3.5
TWF1	Yuli	1.48 201	eP	Pn	07 33 34.5	+0.3
TWF1			eS	Sn	07 33 53.1	-0.4
YUS	Yu-Shan	1.50 214	eP	Pn	07 33 34.5	-0.5
YUS			eS	Sn	07 33 53.8	-1.0
ALS	Alishan	1.56 219	eP	Pn	07 33 37.0	+1.4
ALS			i S	Sn	07 33 57.0	+1.1
CHN5	Tsauling	1.57 224	eP	Pn	07 33 36.9	+1.4
CHN5			S	Sn	07 33 56.2	+0.4
WDL	Douliou City	1.58 230	eS	Sn	07 33 54.9	-1.0
WGK	Gukeng	1.59 229	P	Pn	07 33 36.9	+1.2
WGK			eS	Sn	07 33 57.2	+1.2
WRL	Guolierlin Hig	1.59 239	i P	Pn	07 33 36.3	+0.6
WRL			i S	Sn	07 33 55.2	-1.0
CHKH	Chenggong	1.60 196	eP	Pn	07 33 34.8	-1.0
CHKH			eS	Sn	07 33 56.5	+0.2
WDLH	Douliu	1.60 229	eP	Pn	07 33 37.0	+1.2
WDLH			i S	Sn	07 33 56.9	+0.6
RLNB	Erlin	1.61 239	eP	Pn	07 33 36.7	+0.7
RLNB			i S	Sn	07 33 56.4	-0.2
FULB	Fuli	1.62 199	eP	Pn	07 33 37.1	+1.0
FULB			eS	Sn	07 33 57.8	+0.9
WTCT	Ta-ch'eng	1.69 239	eP	Pn	07 33 36.4	-0.5
WTCT			eS	Sn	07 33 58.4	+0.1
EHD	Haiduan	1.69 201	eP	Pn	07 33 37.6	+0.6
EHD			eS	Sn	07 33 55.8	-2.8
CHKT	Chengkung	1.70 196	eP	Pn	07 33 36.0	-1.1
CHKT			eS	Sn	07 33 57.4	-1.1
WTK	Tuku	1.71 232	i P	Pn	07 33 37.9	+0.8
WTK			eS	Sn	07 33 58.2	-0.6
ELDTW	Lidau	1.73 207	eP	Pn	07 33 38.3	+0.7
ELDTW			eS	Sn	07 33 59.4	0.0
WCKO	Fanlu	1.73 222	eP	Pn	07 33 39.0	+1.4
WCKO			S	Sn	07 34 00.4	+1.0
IRIF	Iriomote-Funau	1.75 103	P	Pn	07 33 37.9	+0.3
IRIF			S	Sn	07 33 59.6	-0.1
CHN4	Tsaushan	1.81 220	eP	Pn	07 33 40.3	+1.9
CHN4			eS	Sn	07 34 01.5	+0.4
CHY	Chiayi	1.81 227	eP	Pn	07 33 39.5	+1.0
CHY			i S	Sn	07 34 01.5	+0.5
TPUB	Ta-pu	1.82 218	P	Pn	07 33 40.0	+1.3
TPUB	Ta-pu	1.82 218	eP	Pn	07 33 40.2	+1.5
TPUB			eS	Sn	07 34 02.9	+1.3
EDH	Donghe	1.83 196	i P	Pn	07 33 38.9	+0.1
EDH			eS	Sn	07 34 00.3	-1.4
STYH	Taoyuan	1.85 213	eP	Pn	07 33 41.3	+2.3
STYH			eS	Sn	07 34 03.5	+1.3
WSF	Szhu	1.86 234	eP	Pn	07 33 40.3	+1.2
WSF			eS	Sn	07 34 03.2	+0.9
STYT	Tauyuan	1.87 213	eP	Pn	07 33 39.9	+0.6
STYT			eS	Sn	07 34 02.9	+0.2
WTP	Ta-pu	1.88 218	eP	Pn	07 33 40.7	+1.3
WTP			eS	Sn	07 34 04.2	+1.4
HATJ	Hateruma jima	1.90 111	eS	Sn	07 34 04.0	+0.8
WSL	Shuilin Townsh	1.93 231	eP	Pn	07 33 40.7	+0.7
WSL			eS	Sn	07 34 04.1	+0.3
TWK	Hsinying	1.93 221	eP	Pn	07 33 41.3	+1.2
TWK			eS	Sn	07 34 05.4	+1.3
LONT	Longtian	1.94 200	eP	Pn	07 33 42.5	+2.2
LONT			eS	Sn	07 34 05.4	+1.0
SNST	Tainan City	1.96 220	i P	Pn	07 33 42.0	+1.5
SNST			eS	Sn	07 34 06.4	+1.7
CHN1	Nanshi	1.97 219	eP	Pn	07 33 41.9	+1.3
CHN1			eS	Sn	07 34 06.4	+1.4
ICHU	Yijhu	2.00 227	eP	Pn	07 33 41.7	+0.8
ICHU			eS	Sn	07 34 06.0	+0.6
JKRS	Kuro-shima	2.02 104	eP	Pn	07 33 42.1	+0.9
JKRS			eS	Sn	07 34 06.7	+0.7
SGST	Jiashian	2.02 216	eP	Pn	07 33 41.9	+0.6
SGST			eS	Sn	07 34 06.6	+0.4
TWG	Pinlang	2.04 201	eP	Pn	07 33 41.0	-0.5
TWG			eS	Sn	07 34 06.5	-0.2
TWGBT	Beinan	2.04 201	eP	Pn	07 33 41.5	-0.1
TWGBT			eS	Sn	07 34 05.7	-1.0
CHN8	Yiju	2.05 228	P	Pn	07 33 42.1	+0.5
CHN8			eS	Sn	07 34 06.8	0.0
SLGT	Liugui	2.07 213	eS	Sn	07 34 08.1	+1.0
TTN	Taitung	2.08 199	eP	Pn	07 33 41.6	-0.5
TTN			eS	Sn	07 34 05.9	-1.6
LDUT	Ludao	2.09 190	eP	Pn	07 33 42.4	+0.3
LDUT			eS	Sn	07 34 07.1	-0.5
JIJ	Ishigaki jima	2.11 100	P	Pn	07 33 42.7	+0.4
JIJ			eS	Sn	07 34 08.2	0.0
VWUC	VWUC	2.21 277	eP	Pn	07 33 44.0	+0.3
VWUC			eS	Sn	07 34 08.5	-1.9
JISG	Ishigakijimahi	2.23 93	eP	Pn	07 33 45.1	+1.1
MATB	Ma-tsu	2.23 309	eP	Pn	07 33 44.2	+0.2
MATB			eS	Sn	07 34 10.1	-0.9
TSCK	Chigu Township	2.27 226	eP	Pn	07 33 44.0	-0.5
TSCK			eS	Sn	07 34 11.8	-0.2
SSD	Sandimen	2.28 210	eP	Pn	07 33 45.8	+1.1
SSD			eS	Sn	07 34 11.3	-1.0
ECL	Taimali	2.29 202	eP	Pn	07 33 46.0	+1.2
ECL			eS	Sn	07 34 11.7	-0.7
TSMG	Majia	2.31 209	eP	Pn	07 33 46.7	+1.6
TSMG			eS	Sn	07 34 14.6	+1.6
MASBT	Mashibuluo	2.40 208	eP	Pn	07 33 48.8	+2.6
MASBT			eS	Sn	07 34 17.3	+2.2
PHUB	P'eng-hu	2.42 240	eP	Pn	07 33 45.9	-0.7
PHUB			eS	Sn	07 34 13.7	-1.9
PTMZ	Houxiangcun	2.51 277	P	Pn	07 33 48.0	+0.4
PTMZ			eS	Sn	07 34 15.9	-1.7
EAST	Anshuo	2.52 202	eP	Pn	07 33 50.5	+2.5
EAST			eS	Sn	07 34 16.5	-1.6
SCZT	Fangliau	2.62 206	eP	Pn	07 33 50.2	+1.0
SCZT			eS	Sn	07 34 19.7	-0.6
XPSS	Dashiqiu	2.65 326	eP	Pn	07 33 50.1	+0.5
XPSS			eS	Sn	07 34 21.1	+0.2
SLIU	Shizi	2.70 201	eP	Pn	07 33 51.0	+0.7
SLIU			eS	Sn	07 34 21.5	-0.6
VCHM	Qimei	2.70 236	eP	Pn	07 33 50.6	+0.3
VCHM			eS	Sn	07 34 21.2	-0.9
LYUB	Lan-yu	2.74 185	eP	Pn	07 33 49.6	-1.2
LYUB			eS	Sn	07 34 20.0	-3.1
MHZQ	Yeshan	2.90 298	eP	Pn	07 33 53.0	+0.2
MHZQ			eS	Sn	07 34 25.7	-1.2
TWKBT	Hengchun	2.95 199	eP	Pn	07 33 54.1	+0.5
TWKBT			eS	Sn	07 34 26.9	-1.3
KNMB	Chin-men Tao	3.18 266	eP	Pn	07 33 55.7	-0.9
KNMB			eS	Sn	07 34 32.0	-1.6
AXDP	Jialang	3.54 273	eP	Pn	07 34 01.7	+0.1
ZPLA	Ao Xicun	3.84 259	eP	Pn	07 34 05.7	+0.1
ZPLA			eS	Sn	07 34 48.4	-1.3
DSXP	Dongshan	4.18 257	eP	Pn	07 34 10.7	+0.5

ISC 17 08:16:46.9±1.4, 26°48N±0°03×111°52W±0°06, h8km±12km, n7, σ1°39/13, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UAGRB	Rancho Ultima	0.95	166	eP	Pg	08 17 04.5	-0.6
UAGRB				eS	Sg	08 17 17.5	+0.1
SRIG	Santa Rosalia	1.05	322	eP	Pb	08 17 07.1	-0.4
SRIG				eS	Sb	08 17 21.3	-0.1
SRIG				IAML		08 17 27.8	
	comp=E,299nm,0.7s						
CDOB	Cd. Obregon	1.54	53	eP	Pg	08 17 16.3	-0.3
CDOB				eS	Sg	08 17 39.1	+2.5
EVAR0	San Evaristo	1.73	155	eP	Pb	08 17 18.6	-0.3
EVAR0				eS	Sb	08 17 40.2	-0.5
EVAR0				⇑e		08 17 43.9	
EVAR0				IAML		08 17 43.9	
	comp=E,253nm,0.6s						
EVAR0				⇑e		08 17 44.1	
EVAR0				IAML		08 17 44.1	
	comp=N,179nm,0.8s						
LPIG	La Paz	2.61	155	eP	Pn	08 17 31.2	+1.7
NOVRB	El Novillo Son	2.96	34	eP	Pb	08 17 37.4	-2.5
NOVRB				eS	Sn	08 18 10.3	+0.3
SLBS	Sierra La Lagu	3.13	153	eP	Pn	08 17 37.3	+0.6
SLBS				eS	Sn	08 18 13.6	-0.6
SLBS				e		08 18 26.8	
SLBS				IAML		08 18 26.8	
	comp=N,39nm,0.7s						

SJA 17 08:22:13.3±1.1, 31°17S×70°12W, h6km±6km, ML2.1, MW2.4
GUC 17 08:22:14.0±0.8, 31°23S×70°26W, h18km±4km, ML2.7
ISC 17 08:22:13.3±1.2, 31°22S±0°02×70°22W±0°03, h12km±11km, n37, σ1°09/53, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	El Pedregal	0.55	313	⇑iP	Pg	08 22 24.0	-0.1
CO03				eS	Sg	08 22 31.5	+0.1
RTLS	Leoncito	0.98	126	i P	Pb	08 22 31.8	-0.6
RTLS				eS	Sb	08 22 44.5	-0.8
RTLS				IAML		08 22 44.9	
	comp=Z,158nm,0.2s						
DOCA	Reserva Natura	1.01	75	i P	Pb	08 22 31.5	-1.5
DOCA				i S	Sb	08 22 45.6	-0.8
DOCA				IAML		08 22 46.9	
	comp=Z,55nm,0.1s						
GO04	Tololo Observa	1.16	334	i P	Pn	08 22 34.9	-0.6
GO04	Tololo Observa	1.16	334	eP	Pn	08 22 34.7	-0.8
GO04				eS	Sn	08 22 50.7	-0.7
ACCO	Cerro Coronel	1.18	58	i P	Pn	08 22 35.5	-0.4
ACCO				i S	Sb	08 22 50.9	-0.1
ACCO				IAML		08 22 52.2	
	comp=Z,0.1nm,0.3s						
AROD	Rodeo	1.23	32	i P	Pn	08 22 36.2	-0.4
AROD				i S	Sb	08 22 52.5	-0.1
AROD				IAML		08 22 53.2	
	comp=Z,31nm,0.1s						
CO01	Juntas del Tor	1.24	5	i P	Pn	08 22 36.9	+0.2
CO01				IAML		08 22 57.3	
	comp=Z,19nm,0.1s						
CO01	Juntas del Tor	1.24	5	eP	Pn	08 22 36.9	+0.2
CO01				eS	Sn	08 22 53.4	-0.1
CO01				IAML		08 22 56.6	
	comp=E,308nm,0.1s						
CO06	Fray Jorge	1.33	294	eP	Pn	08 22 37.5	-0.2
CO06				eS	Sb	08 22 55.3	+0.1
CO06				IAML		08 22 56.9	
	comp=N,259nm,0.1s						
VA03	San Esteban	1.56	190	i P	Pb	08 22 42.2	0.0
VA03				eS	Sg	08 23 03.2	-0.5
VA03				IAML		08 23 04.0	
	comp=E,257nm,0.2s						
CO05	La Serena	1.57	326	eP	Pn	08 22 41.4	+0.5
CO05				IAML		08 23 07.2	
	comp=N,237nm,0.4s						
VA06	Catapilco	1.62	214	eP	Pb	08 22 42.3	-0.8
VA06				eS	Sb	08 23 03.9	+0.4
VA06				IAML		08 23 07.7	
	comp=E,138nm,0.3s						
ASAL	Salagasta	1.81	140	i P	Pb	08 22 47.3	+0.9
ASAL				i S	Sg	08 23 12.1	+0.7
ASAL				IAML		08 23 21.7	
	comp=Z,9.7nm,0.3s						
ROCH	El Roble	1.87	201	eP	Pb	08 22 46.7	-0.8
ROCH				eS	Sb	08 23 11.8	+0.8
ROCH				IAML		08 23 12.8	
	comp=E,72nm,0.3s						
ARCO	CERRO ARCO	1.95	146	i P	Pb	08 22 49.7	+0.8
ARCO				IAML		08 23 24.3	
	comp=Z,24nm,0.3s						
PEL	Peldehue	1.96	191	eP	Pb	08 22 49.6	+0.7
PEL				IAML		08 23 19.0	
	comp=E,44nm,0.5s						
MT10	Hacienda Santa	2.06	187	eP	Pb	08 22 51.5	+0.8
MT10				IAML		08 23 24.5	
	comp=N,99nm,0.4s						
MT02	Curacav	2.18	201	i P	Pb	08 22 51.7	-0.9
MT02				i S	Sb	08 23 19.8	+0.2
MT02				IAML		08 23 21.2	
	comp=Z,30nm,0.2s						
MT02	Curacav	2.18	201	eP	Pb	08 22 51.6	-1.0
MT02				eS	Sb	08 23 19.9	+0.3
MT02				IAML		08 23 22.2	
	comp=E,38nm,0.4s						
MT04	Ro Olivares	2.18	178	i P	Pb	08 22 53.8	+1.0
MT04				IAML		08 23 31.3	
	comp=Z,16nm,0.3s						
MT04	Ro Olivares	2.18	178	eP	Pb	08 22 53.9	+1.0
MT14	Cerro Calıın	2.19	187	IAML		08 23 27.5	
	comp=N,64nm,0.2s						
AAGR	Agrelo	2.20	148	i P	Pb	08 22 54.5	+1.4
AAGR				eS	Sg	08 23 25.4	+1.2
AAGR				IAML		08 23 30.3	
	comp=Z,20nm,4.0s						
MT05	Renca	2.21	191	i P	Pb	08 22 53.0	-0.2
MT05				eS	Sg	08 23 23.9	-0.4
MT05				IAML		08 23 26.7	
	comp=Z,42nm,0.2s						
MT16	CCHEN	2.22	187	eP	Pb	08 22 54.4	+1.0
MT16				IAML		08 23 28.1	
	comp=E,31nm,0.5s						
LCO	Las Campanas	2.24	349	eP	Pb	08 22 53.3	-0.5
LCO				eS	Sb	08 23 23.3	+1.7
MT03	Universidad Ad	2.28	186	i P	Pb	08 22 55.0	+0.5
MT03				IAML		08 23 33.3	
	comp=Z,32nm,0.1s						
MT03	Universidad Ad	2.28	186	eP	Pb	08 22 55.6	+1.1
MT03				IAML		08 23 31.1	
	comp=E,110nm,0.2s						
AGUA	GUANDACOL	2.28	41	eP	Pb	08 22 54.9	+0.4
AGUA				IAML		08 23 32.1	
	comp=Z,8.4nm,0.4s						
AVFE	Valle Fertil	2.44	77	i P	Pb	08 22 57.1	0.0
AVFE				eS	Sb	08 23 27.6	+0.4
AVFE				IAML		08 23 31.6	
	comp=Z,22nm,0.5s						
MT13	San Alfonso	2.52	181	IAML		08 23 37.3	
	comp=N,44nm,0.2s						
LMEL	Las Melosas	2.62	180	eP	Pb	08 23 02.0	+1.7
LMEL				IAML		08 23 42.5	
	comp=N,43nm,0.2s						
MT09	Talagante	2.63	194	eP	Pb	08 22 58.9	-1.5
MT09				IAML		08 23 35.5	
	comp=E,49nm,0.3s						
MT01	Popeta	2.78	198	eP	Pb	08 23 00.6	-2.2
MT01				IAML		08 23 39.4	
	comp=E,35nm,0.5s						
AC04	Llanos de Chal	3.10	346	eP	Pn	08 23 05.0	+3.0
AC04				IAML		08 23 49.1	
	comp=Z,19nm,0.3s						
RFA	San Rafael	3.84	158	i P	Pb	08 23 17.2	-3.7
RFA				IAML		08 24 27.4	
	comp=Z,4.8nm,0.8s						

FUNV 17 08:22:54.0, 9°27N×73°53W, h10km, MW3.0
RSNC 17 08:22:55.2±0.0, 9°N±1°×7°3W±°, h0km±2km, M2.0, ML1.8, MLv2.5
ISC 17 08:22:53.3±1.1, 9°22N±0°02×73°44W±0°03, h13km±10km, n14, σ1°01/28, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	Ocana	0.99	173	P	Pg	08 23 12.5	+0.1
OCAC				S	Sb	08 23 25.7	+0.4
ARGC	Ariguani, Magd	1.01	309	P	Pn	08 23 13.2	0.0
ARGC				S	Sn	08 23 27.4	+0.1
MCQV	Machiques	1.22	47	eP	Pg	08 23 16.7	+0.1
MCQV				eS	Sg	08 23 33.7	+1.2
CAPV	Capacho	1.75	140	eP	Pb	08 23 25.7	+0.3
CAPV				eS	Sg	08 23 48.6	-1.1
SJCC	San Jacinto, C	1.84	291	P	Pb	08 23 27.1	+0.3
SJCC				S	Sg	08 23 51.8	-0.7
CRJC	Cerrejon, Guaj	1.87	17	P	Pb	08 23 27.0	-0.3
CRJC				S	Sb	08 23 51.0	+0.4
PAMC	Pamplona, Colo	2.01	158	P	Pb	08 23 29.7	-0.3
PAMC				S	Sg	08 23 57.7	-0.4
ZARC	Zaragoza, Cauc	2.22	219	P	Pb	08 23 32.7	-0.5
ZARC				S	Sg	08 24 03.7	-0.9
BRJC	Barrancabermej	2.26	188	P	Pg	08 23 36.1	-0.5
BRJC				S	Sb	08 24 03.1	+1.4
URIC	Uribia, Colomb	2.85	30	P	Pn	08 23 39.7	+1.3
URIC				S	Sb	08 24 18.0	-0.7
PTBC	PUERTO BERRIO,	2.85	201	P	Pn	08 23 39.3	+0.8
PTBC				S	Sb	08 24 19.1	+0.3
TAMC	Tame, Arauca	3.22	149	P	Pn	08 23 45.8	+2.3
TAMC				S	Sg	08 24 36.3	-0.4
TEPV	Terepaima	4.26	80	eP	Pn	08 23 58.6	+0.8
TEPV				eS	Sn	08 24 46.9	-0.5
BAUV	El Baul	5.34	93	eP	Pn	08 24 12.6	-0.2
BAUV				eS	Sn	08 25 11.4	-2.8

IDC 17 08:22:49.1±1.1, 18°29N×94°89E, h0km, mb3.6/10, mbtmp3.6/11, ML3.9/1, MS3.6/1, Error ellipse: s-maj=37.8km s-min=19.0km az=47.0
NEIC 17 08:22:55.8±1.5, 18°30N±0°03×94°88E±0°07, h35km±2km, mb4.1/12, Error ellipse: s-maj=11.9km s-min=3.1km az=108.0
NDI 17 08:22:57.1±3.6, 18°30N×94°80E, h21km±29km, ML4.0, MW4.0, mb4.1(NEIC)
*BKK 17 08:23:07.7±0.6, 18°N±4°×9°6E±°, h10km, M4.0/18, Mjma3.9/

AZL			IAML		08 25 28.4	
	comp=N,93nm,0.2s					
AZL			IAML		08 25 28.6	
	comp=E,124nm,0.3s					
SRDT	**SRDT**	**5.74 133**	P	**Pn**	**08 24 17.9**	**+0.4**
IMP	**Imphal**	**6.52 353**	*e*P	**Pn**	**08 24 32.9**	**+4.7**
IMP			*e*S	**Sn**	**08 25 42.1**	**+0.7**
PBA	**Port Blair**	**6.92 197**	Pn	**Pn**	**08 24 36.4**	**+2.7**
KOHI	**KOHIMA**	**7.38 355**	*e*P	**Pn**	**08 24 43.3**	**+3.1**
KOHI			*e*S	**Sn**	**08 26 03.5**	**+0.7**
KOHI			IAML		08 26 06.9	
	comp=E,111nm,0.8s					
KOHI			IAML		08 26 06.9	
	comp=N,109nm,0.8s					
SHL	**Shillong**	**7.69 340**		**Pn**	**08 24 44.9**	**+0.5**
SHL	**Shillong**	**7.69 340**	*e*P	**Pn**	**08 24 46.9**	**+2.5**
SHL			IAML		08 24 51.8	
	comp=E,132nm,0.2s					
SHL			IAML		08 24 52.0	
	comp=N,180nm,0.2s					
SHL			*e*S	**Sn**	**08 26 05.8**	**-4.7**
TEZP	**TEZPUR**	**8.45 348**⇑	*e*P	**Pn**	**08 24 57.0**	**+2.3**
TEZP			*e*S	**Sn**	**08 26 23.9**	**-5.0**
ITAN	**ITANAGAR**	**8.83 354**	*e*P	**Pn**	**08 25 03.5**	**+3.7**
ITAN			*e*S	**Sn**	**08 26 34.0**	**-4.2**
ITAN			IAML		08 26 40.7	
	comp=E,163nm,0.2s					
ITAN			IAML		08 26 41.2	
	comp=N,144nm,0.3s					
TAWA	**Tawang**	**9.61 344**	*e*S	**Sn**	**08 26 54.9**	**-2.9**
JPG	**JALPAIGURI**	**9.92 327**	*e*P	**Pn**	**08 25 18.1**	**+3.3**
JPG			IAML		08 25 28.6	
	comp=N,216nm,0.2s					
JPG			IAML		08 25 28.9	
	comp=E,260nm,0.2s					
JPG			*e*S	**Sn**	**08 27 02.6**	**-2.3**
RAGD	**RAYAGADA**	**10.77 277**	*e*P	**Pn**	**08 25 31.1**	**+4.6**
RAGD			*e*S	**Sn**	**08 27 19.6**	**-6.2**
RAGD			IAML		08 27 27.2	
	comp=N,8.2nm,0.2s					
RAGD			IAML		08 27 28.5	
	comp=E,9.6nm,0.2s					
RPSI	**Rantau Prapat**	**16.06 165**	Pn	**Pn**	**08 26 37.7**	**-0.3**
RPSI			IAmb	IAmb	08 26 59.9	
	comp=Z,14nm,1.2s					
NIL	**Nilore**	**24.57 313**	P	**P**	**08 28 13.1**	**+1.6**
NIL			IAmb	IAmb	08 28 13.9	
	comp=Z,5.9nm,0.8s					
MK31	**Makanchi Array**	**30.20 343**	P	**P**	**08 29 02.9**	**+1.1**
MKAR	**Makanchi Array**	**30.20 343**	P	**P**	**08 29 03.0**	**+1.3**
MKAR	**Makanchi Array**	**30.20 343**	P	**P**	**08 29 02.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=151,slow=9.2,SNR=3.3					
	comp=Z,0.1nm,0.3s					
MAKZ	**Makanchi**	**30.30 342**	P	**P**	**08 29 02.7**	**+0.1**
MAKZ			IAmb	IAmb	08 29 31.1	
	comp=Z,2.1nm,0.7s					
SONM	**Songino Array**	**30.92 15**	P	**P**	**08 29 08.9**	**+0.6**
SONM	**Songino Array**	**30.92 15**	P	**P**	**08 29 07.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=189,slow=10,SNR=3.5					
	comp=Z,0.4nm,0.4s					
KURBB	**Kurchatov Arra**	**34.73 342**	P	**P**	**08 29 41.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=146,slow=8.7,SNR=4.7					
	comp=Z,0.2nm,0.4s					
KURK	**Kurchatov**	**34.79 342**	P	**P**	**08 29 42.6**	**+0.8**
KURK			IAmb	IAmb	08 29 46.4	
	comp=Z,2.3nm,1.1s					
JNU	**Nakatsue**	**35.50 58**	P	**P**	**08 29 47.2**	**-1.0**
ZAA0	**Zalesovo Array**	**36.38 350**	P	**P**	**08 29 56.0**	**+0.6**
ZALV	**Zalesovo Beam**	**36.38 350**	P	**P**	**08 29 55.9**	**+0.5**
ZALV	**Zalesovo Beam**	**36.38 350**	P	**P**	**08 29 55.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=178,slow=8.8,SNR=5.4					
	comp=Z,0.5nm,0.3s					
MMRI	**Maumere**	**38.10 132**	P	**P**	**08 30 09.7**	**-0.9**
KBZ	**Khabaz**	**50.19 312**	P	**P**	**08 31 48.5**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=117,slow=2.3,SNR=3.9					
	comp=Z,2.9nm,0.9s					
KIRV	**Kirov**	**51.99 332**	LR	LR	08 55 38.7	
	comp=Z,58nm,18.5s,baz=346,slow=38					
WB0	**Warramunga Arr**	**54.26 132**	P	**P**	**08 32 16.1**	**-1.4**
WB0			IAmb	IAmb	08 32 55.2	
	comp=Z,3.9nm,1.1s					
WRA	**Warramunga Arr**	**54.34 132**	P	**P**	**08 32 16.9**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=318,slow=7.3,SNR=1.7					
	comp=Z,0.3nm,0.8s					
WB2	**Warramunga Arr**	**54.34 132**	P	**P**	**08 32 17.2**	**-1.0**
WB2			IAmb	IAmb	08 32 36.7	
	comp=Z,4.3nm,1.2s					
WR0	**Warramunga Arr**	**54.49 132**	P	**P**	**08 32 18.6**	**-0.6**
BRTR	**Keskin Array B**	**56.46 306**	P	**P**	**08 32 33.4**	**0.0**
	comp=Z,0.5nm,0.8s,baz=7.5,slow=10,SNR=1.7					
	comp=Z,0.5nm,0.8s					
ASAR	**Alice Springs**	**56.57 136**	P	**P**	**08 32 33.1**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=314,slow=7.1,SNR=6.1					
	comp=Z,0.2nm,0.4s					
GERES	**GERESS Array B**	**70.62 316**	P	**P**	**08 34 07.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=96,slow=4.7,SNR=2.3					
	comp=Z,0.4nm,0.6s					
ILAR	**Eielson Array**	**84.88 22**	P	**P**	**08 35 23.9**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=286,slow=4.0,SNR=3.1					
	comp=Z,0.3nm,0.8s					

NEIC ***17*** *08:22:59.9±0.9, 18°.82N±0°.05×67°.43W±0°.02, h28km±10km, ML2.2/28, Md2.7/17(RSPR), Error ellipse: s-maj=7.8km s-min=1.8km az=192.0*
SDD ***17*** *08:23:00.4±2.1, 18°.82N×67°.48W, h24km±63km, MD3.5, ML2.2, MW2.6*
RSPR ***17*** *08:23:01.8, 18°.80N×67°.44W, h10km±1km, MD2.7/17*
OSPL ***17*** *08:23:01.4±0.9, 18°.77N×67°.47W, h19km±5km, ML2.1, Hypocentre not reviewed by the ISC*

ISC 17 08:22:56.2±1.4, 18°.98N±0°.06×67°.40W±0°.02, h10km±10km, n57, σ0°.76/72, 14C-14D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.58 152**			**Pb**	**08 23 09.5**	**+1.0**
AGPR					**Sg**	**08 23 16.2**	**+1.2**
AGPR				IAML		08 23 17.4	
	comp=N,190nm,0.1s						
AGPR	**Aguadilla, PR**	**0.58 152**⇑		*e*Pg	**Pb**	**08 23 09.6**	**+1.2**
AGPR				⇑*e*Sg	**Sb**	**08 23 16.4**	**-0.4**
AGPR				IAML		08 23 22.0	
	comp=N,140nm,0.6s						
AGPR	**Aguadilla, PR**	**0.58 152**⇑		*i*P	**Pb**	**08 23 09.6**	**+1.2**
AGPR	**Aguadilla, PR**	**0.58 152**		*e*S	**Sb**	**08 23 16.4**	**-0.4**
AGPR	**Aguadilla, PR**	**0.58 152**		*i*P		08 23 09.6	
AGPR				*e*S		08 23 16.3	
AGPR				IAML		08 23 18.6	
	comp=Z,97nm,0.2s						
IDE	**Isla Desecheo**	**0.60 187**			**Pb**	**08 23 09.2**	**+0.4**
IDE					**Sg**	**08 23 15.5**	**-0.1**
IDE	**Isla Desecheo**	**0.60 187**⇑		*e*P	**Pb**	**08 23 09.2**	**+0.4**
IDE	**Isla Desecheo**	**0.60 187**		*e*S	**Sg**	**08 23 15.5**	**-0.1**
LSP	**Las Mesas**	**0.86 160**			**Pb**	**08 23 13.9**	**+0.7**
LSP					**Sg**	**08 23 24.2**	**+0.3**
LSP	**Las Mesas**	**0.86 160**⇑		*e*P	**Pb**	**08 23 13.9**	**+0.7**
LSP	**Las Mesas**	**0.86 160**		*e*S	**Sg**	**08 23 24.2**	**+0.3**
AOPR	**Arecibo Observ**	**0.88 136**			**Pn**	**08 23 14.9**	**+0.2**
AOPR					**Sb**	**08 23 25.5**	**0.0**
AOPR				IAML		08 23 26.0	
	comp=N,92nm,0.5s						
AOPR	**Arecibo Observ**	**0.88 136**⇑		*e*Pg	**Pn**	**08 23 14.9**	**+0.2**
AOPR				⇓*e*Sg	**Sb**	**08 23 25.5**	**0.0**
AOPR				IAML		08 23 27.1	
	comp=N,74nm,0.1s						
AOPR	**Arecibo Observ**	**0.88 136**⇓		*e*P	**Pn**	**08 23 15.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.88 136**		*e*S	**Sb**	**08 23 25.4**	**0.0**
EMPR	**Esperanza - Ma**	**0.97 121**			**Pn**	**08 23 17.4**	**+1.5**
EMPR					**Sn**	**08 23 29.6**	**0.0**
EMPR				IAML		08 23 35.2	
	comp=E,82nm,0.8s						
EMPR				IAML		08 23 43.5	
	comp=N,72nm,2.4s						
EMPR	**Esperanza - Ma**	**0.97 121**⇓		*e*P	**Pn**	**08 23 17.3**	**+1.5**
EMPR	**Esperanza - Ma**	**0.97 121**		*e*S	**Sn**	**08 23 29.7**	**0.0**
UUPR	**Utuado, UPR, P**	**0.97 138**			**Pn**	**08 23 16.3**	**+0.4**
UUPR					**Sb**	**08 23 27.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.97 138**⇓		*e*P	**Pn**	**08 23 16.4**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.97 138**		*e*S	**Sg**	**08 23 27.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.01 164**			**Pb**	**08 23 16.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.01 164**⇑		*e*P	**Pb**	**08 23 16.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.01 164**		*e*S	**Sg**	**08 23 27.5**	**-1.2**
CRPR	**Cabo Rojo, PR**	**1.01 164**		*i*P		08 23 16.1	
CRPR				*e*S		08 23 27.4	
CRPR				IAML		08 23 27.6	
	comp=Z,191nm,0.3s						
PCDR	**Punta Cana, DR**	**1.04 244**			**Pn**	**08 23 17.4**	**+0.5**
PCDR					**Sg**	**08 23 29.5**	**-0.2**
PCDR	**Punta Cana, DR**	**1.04 244**⇑		*e*Pg	**Pg**	**08 23 16.6**	**+0.4**
PCDR				⇑*e*Sg	**Sg**	**08 23 28.1**	**-1.7**
PCDR				IAML		08 23 56.2	
	comp=N,128nm,2.9s						
PCDR	**Punta Cana, DR**	**1.04 244**⇑		*e*P	**Pn**	**08 23 17.3**	**+0.4**
PCDR	**Punta Cana, DR**	**1.04 244**		*e*S	**Sg**	**08 23 30.0**	**+0.2**
PCDR	**Punta Cana, DR**	**1.04 244**		*i*P		08 23 18.0	
PCDR				*e*S		08 23 28.7	
PCDR				IAML		08 23 32.0	
	comp=Z,100nm,1.1s						
GBPR	**Guanica, Bosqu**	**1.12 154**			**Pb**	**08 23 17.9**	**+0.3**
GBPR					**Sg**	**08 23 31.5**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.12 154**⇓		*e*P	**Pb**	**08 23 17.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.12 154**		*e*S	**Sg**	**08 23 31.5**	**-0.7**
ECPR	**Experimental S**	**1.18 124**⇓		*e*P	**Pn**	**08 23 20.0**	**+1.1**
ECPR	**Experimental S**	**1.18 124**		*e*S	**Sb**	**08 23 34.3**	**+0.2**
CELP	**Cerrillos**	**1.19 139**			**Pn**	**08 23 20.0**	**+1.0**
CELP				IAML		08 23 35.8	
	comp=E,48nm,0.4s						
CELP				IAML		08 23 36.3	
	comp=N,50nm,0.2s						
CELP	**Cerrillos**	**1.19 139**⇑		*e*Pg	**Pn**	**08 23 19.9**	**+1.0**
CELP				⇑*e*Sg	**Sg**	**08 23 34.3**	**-0.3**
CELP				IAML		08 23 35.4	
	comp=N,49nm,0.3s						
CELP	**Cerrillos**	**1.19 139**⇓		*e*P	**Pn**	**08 23 19.8**	**+0.8**
CELP	**Cerrillos**	**1.19 139**		*e*S	**Sg**	**08 23 34.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.20 141**			**Pg**	**08 23 18.8**	**-0.5**
OBIP					**Sg**	**08 23 33.0**	**-1.9**
OBIP				IAML		08 23 33.6	
	comp=E,48nm,0.4s						
OBIP				IAML		08 23 35.6	
	comp=N,39nm,0.6s						
OBIP	**Obispado Ponce**	**1.20 141**⇓		*e*P	**Pg**	**08 23 18.8**	**-0.5**
OBIP	**Obispado Ponce**	**1.20 141**		*e*S	**Sg**	**08 23 32.9**	**-1.9**
GCPR	**Guaynabo City**	**1.42 118**			**Pg**	**08 23 22.7**	**-0.7**
GCPR	**Guaynabo City**	**1.42 118**⇓		*e*P	**Pg**	**08 23 22.7**	**-0.7**
GCPR	**Guaynabo City**	**1.42 118**		*e*S	**Sg**	**08 23 42.0**	**+0.3**
SJG	**San Juan**	**1.47 126**			**Pb**	**08 23 23.5**	**-0.1**
SJG				IAML		08 23 46.1	
	comp=N,29nm,0.3s						
SJG				IAML		08 23 48.1	
	comp=N,27nm,0.2s						
SJG	**San Juan**	**1.47 126**⇓		*e*P	**Pg**	**08 23 24.4**	**0.0**
SJG	**San Juan**	**1.47 126**		*e*S	**Sn**	**08 23 42.1**	**+0.1**
SJG	**San Juan**	**1.47 126**		*i*P		08 23 24.6	
SJG				*e*S		08 23 41.8	
SJG				IAML		08 23 44.0	
	comp=Z,13nm,0.9s						
MIDR	**Miches**	**1.56 270**⇑		*e*Pg	**Pg**	**08 23 27.3**	**+1.1**
MIDR				⇓*e*Sg	**Sn**	**08 23 42.9**	**-1.5**
MIDR				IAML		08 23 52.0	
	comp=N,26nm,1.8s						
IGPR	**InterUniversit**	**1.59 129**			**Pn**	**08 23 24.8**	**+0.4**
IGPR				IAML		08 23 55.2	
	comp=E,38nm,0.3s						
IGPR	**InterUniversit**	**1.59 129**⇓		*e*P	**Pg**	**08 23 26.2**	**-0.5**
IGPR	**InterUniversit**	**1.59 129**		*e*S	**Sn**	**08 23 44.5**	**-0.5**
PDPR	**Patillas Dam,**	**1.62 126**	Pn		**Pb**	**08 23 26.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.62 126**⇓		*e*P	**Pg**	**08 23 26.5**	**-0.8**
PDPR	**Patillas Dam,**	**1.62 126**		*e*S	**Sn**	**08 23 45.3**	**-0.5**
HUMP	**Col San Antoni**	**1.69 119**			**Pg**	**08 23 27.8**	**-0.9**
HUMP				IAML		08 23 56.8	
	comp=E,22nm,0.2s						
HUMP	**Col San Antoni**	**1.69 119**⇓		*e*P	**Pg**	**08 23 27.9**	**-0.7**
HUMP	**Col San Antoni**	**1.69 119**		*e*S	**Sb**	**08 23 48.8**	**0.0**
DR12	**Loma Pena Alta**	**1.89 264**	Pn		**Pb**	**08 23 30.3**	**-0.5**
DR12				IAML		08 24 01.9	
	comp=E,20nm,2.5s						
DR12				IAML		08 24 02.1	
	comp=N,20nm,2.6s						
HATOM	**Hato Mayor del**	**1.89 264**⇑		*e*Pg	**Pn**	**08 23 29.0**	**+0.5**
HATOM				⇑*e*Sg	**Sn**	**08 23 51.4**	**-1.0**
HATOM				IAML		08 23 56.7	
	comp=N,18nm,1.9s						

PLV ***17*** *08:37:28.1±1.3, 21°.31N×101°.67E, h2km±9km, ML3.5*
BKK ***17*** *08:37:29.3±0.8, 21°.N±4°.×10°.2E±°, h10km, M3.9/13, Mjma3.6/9, ML4.2/8, MLv3.9/13*

ISC 17 08:37:27.6±3.2, 21°.4N±0°.3×101°.6E±0°.1, h10km, n13, σ0°.56/14, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**1.30**	**91**	*e*Pg	**Pg**	**08 37 52.4**	**-0.1**
DBV				*e*Pg	**Pg**	**08 37 52.5**	**-0.1**
DBV				*e*Sg	**Sb**	**08 38 08.4**	**-0.5**
DBV				IAML		08 38 11.4	
	comp=E,964nm,0.4s						
DBV				IAML		08 38 11.5	
	comp=E,944nm,0.4s						
DBV				IAML		08 38 12.3	
	comp=N,1μm,0.4s						
DBV				IAML		08 38 12.4	
	comp=N,1μm,0.4s						
SLVN	**Son La**	**2.12**	**92**	*e*Pg	**Pb**	**08 38 06.5**	**+0.4**
MLVB	**It Ong**	**2.23**	**88**	*e*Pg	Pn	08 37 57.1	-7.6
MLVB				IAML		08 38 20.2	
	comp=N,630nm,0.4s						
MLVB				IAML		08 38 20.5	
	comp=E,623nm,0.4s						
MCVV	**Moc Chau**	**2.88**	**102**	*e*Pn	**Pn**	**08 38 13.8**	**+0.1**
PHRA	**Phrae**	**3.20**	**205**	Pg	**Pg**	**08 38 28.6**	**-0.3**
LAMP	**Lampang**	**3.45**	**213**	Pg	**Pg**	**08 38 34.5**	**+0.8**
CM09	**Chiang Mai Arr**	**3.87**	**220**	Pg	**Pg**	**08 38 42.3**	**+0.5**
CM31	**Chiang Mai Arr**	**3.89**	**221**	Pg	**Pg**	**08 38 42.5**	**+0.3**
CM02	**Chiang Mai Arr**	**3.91**	**221**	Pg	**Pg**	**08 38 42.2**	**-0.3**
CM01	**Chiang Mai Arr**	**3.91**	**221**	Pg	**Pg**	**08 38 42.3**	**-0.2**
CM04	**Chiang Mai Arr**	**3.91**	**220**	Pg	**Pg**	**08 38 41.8**	**-0.8**
CM05	**Chiang Mai Arr**	**3.93**	**220**	Pg	**Pg**	**08 38 42.3**	**-0.7**
CM13	**Chiang Mai Arr**	**3.94**	**221**	Pg	**Pg**	**08 38 42.3**	**-0.8**

IDC ***17*** *08:41:19.4±0.8, 25°.36N×143°.26E, h0km, mb3.9/18, mbtmp3.8/19, ML3.4/1, MS2.9/5, Error ellipse: s-maj=24.8km s-min=16.5km az=93.0*
NEIC ***17*** *08:41:20.2±1.1, 25°.3N±0°.1×143°.5E±0°.2, h10km±1km, mb4.0/4, Error ellipse: s-maj=30.7km s-min=13.7km az=67.0*

ISC 17 08:41:24.1±0.8, 25°.29N±0°.08×143°.3E±0°.1, h35km, n34, σ1°.09/29, mb3.9/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.06 331**			**Pn**	**08 41 57.0**	**+0.7**
JCJ				Sn	**Sn**	**08 42 23.3**	**+2.5**
JCJ	**Chichijima**	**2.06 331**		Pn	Pn	08 41 50.9	-5.4
	76nm,0.3s,baz=107,slow=17,SNR=16						
JCJ				Sn	**Sn**	**08 42 17.4**	**-3.5**
	217nm,0.3s,baz=302,slow=23,SNR=26						
MJAR	**Matsushiro Arr**	**12.04 340**		LR	LR	08 48 21.0	
	comp=Z,52nm,19.3s,baz=176,slow=35						
JMM	**Marumori**	**12.72 351**		Pn	**Pn**	**08 44 22.3**	**-0.1**
JNU	**Nakatsue**	**13.37 309**		LR	LR	08 48 56.0	
	comp=Z,45nm,18.6s,baz=114,slow=34						
KSRS	**Korea Array**	**17.85 316**		P	**Pn**	**08 45 29.8**	**+0.1**
	0.1nm,0.3s,baz=103,slow=14,SNR=1.7						
KSRS				LR	LR	08 52 14.8	
	comp=Z,28nm,19.0s,baz=145,slow=37						
	0.4nm,0.4s						
KS19	**Wonju Array Si**	**17.92 316**			**P**	**08 45 31.1**	**+0.2**
KS19				IAmb	IAmb	08 45 42.0	
	comp=Z,8.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**21.00 337**		P	**P**	**08 46 02.6**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=82,slow=12,SNR=1.2						
	comp=Z,1.8nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**22.70 103**		T	T	09 10 01.5	
	baz=292,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**22.70 103**		T	T	09 10 01.5	
	baz=292,slow=75,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**22.71 103**		T	T	09 10 02.3	
	baz=292,slow=75,SNR=8.5						
DAV	**Davao City (W)**	**24.81 226**		LR	LR	08 54 41.1	
	comp=Z,32nm,21.4s,baz=6.0,slow=32						
KLR	**Kul'dur**	**25.55 342**		P	**P**	**08 46 48.5**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=171,slow=9.7,SNR=5.1						
KLR				LR	LR	08 56 14.1	
	comp=Z,29nm,18.6s,baz=282,slow=35						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**36.72 317**		P	**P**	**08 48 28.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=160,slow=4.6,SNR=3.3						
	comp=Z,0.3nm,0.4s						
SEY	**Seymchan**	**38.12 7**		P	**P**	**08 48 38.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=270,slow=12,SNR=2.0						
	comp=Z,0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**41.59 270**		P	**P**	**08 49 08.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=70,slow=8.1,SNR=5.6						
	comp=Z,0.8nm,0.4s						
WB0	**Warramunga Arr**	**45.62 192**		P	**P**	**08 49 41.1**	**0.0**
WB0				IAmb	IAmb	08 49 49.3	
	comp=Z,2.3nm,1.0s						
WB2	**Warramunga Arr**	**45.80 192**		P	**P**	**08 49 41.4**	**-1.2**
WRA	**Warramunga Arr**	**45.80 192**		P	**P**	**08 49 41.6**	**-1.0**
WRA	**Warramunga Arr**	**45.80 192**		P	**P**	**08 49 43.5**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=10,slow=8.7,SNR=14						
	comp=Z,1.1nm,0.5s						
PSI	**Prapat**	**48.19 250**		P	**P**	**08 50 01.6**	**0.0**
	comp=Z,2.0nm,0.4s,baz=108,slow=15,SNR=6.2						
	comp=Z,2.0nm,0.4s						
RPSI	**Rantau Prapat**	**48.24 250**		P	**P**	**08 50 01.6**	**-0.3**
ASAR	**Alice Springs**	**49.52 191**		P	**P**	**08 50 11.9**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=16,slow=12,SNR=5.4						
	comp=Z,0.3nm,0.7s						
MKAR	**Makanchi Array**	**52.41 311**		P	**P**	**08 50 32.0**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=85,slow=11,SNR=2.0						
	comp=Z,0.7nm,0.9s						
NRIK	**Noril'sk**	**54.69 339**		P	**P**	**08 50 50.8**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=113,slow=12,SNR=3.8						
	comp=Z,1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**55.03 315**		P	**P**	**08 50 52.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=91,slow=8.1,SNR=17						
	comp=Z,1.4nm,0.5s						
ILAR	**Eielson Array**	**58.81 28**		P	**P**	**08 51 18.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=249,slow=6.2,SNR=6.5						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**60.06 318**		P	**P**	**08 51 28.0**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=100,slow=7.3,SNR=14						
	comp=Z,2.4nm,0.5s						
YKA	**Yellowknife Ar**	**73.24 28**		P	**P**	**08 52 51.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=286,slow=8.6,SNR=5.8						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**80.01 334**		P	**P**	**08 53 29.7**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=54,slow=4.9,SNR=8.7						
	comp=Z,0.9nm,0.4s						
AKASG	**Malin Array Be**	**84.67 324**		P	**P**	**08 53 54.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=54,slow=5.3,SNR=2.5						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**85.47 337**		P	**P**	**08 53 58.1**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=68,slow=5.0,SNR=1.8						
	comp=Z,3.1nm,0.9s						
NOA	**NORSAR Array B**	**85.65 339**		P	**P**	**08 53 58.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=50,slow=4.8,SNR=1.9						
	comp=Z,0.6nm,0.7s						
PLCA	**Paso Flores**	**147.93 127**		PKPbc	**PKPab**	**09 01 08.1**	**-0.3**
	comp=Z,1.7nm,1.0s,baz=153,slow=2.3,SNR=2.4						

NNC ***17*** *08:42:21.5±1.8, 43°.13N×78°.14E, h11km±16km, mpv2.9, Error ellipse: s-maj=26.4km s-min=11.5km az=162.0*
SOME ***17*** *08:42:22.9, 43°.18N×78°.07E, h10km*

ISC 17 08:42:21.4±1.0, 43°.10N±0°.07×78°.15E±0°.03, h30km±8km, n12, σ1°.18/24, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.19**	**101**	P	**Pn**	**08 42 28.6**	**+0.3**
	13nm,0.1s						
SATY				S	**Sn**	**08 42 32.8**	**+0.2**
	224nm,0.1s						
ZHN	**Zhinishke**	**0.22**	**70**	P	**Pn**	**08 42 28.1**	**-0.7**
	8.1nm,0.1s						
ZHN				S	**Sb**	**08 42 32.0**	**-0.5**
	100nm,0.1s						
ZHN	**Zhinishke**	**0.22**	**70**	*e*P	**Pn**	**08 42 28.1**	**-0.7**
	8.1nm,0.1s						
ZHN				*e*S	**Sb**	**08 42 32.0**	**-0.5**
	100nm,0.1s						
KPKS	**Kokpek**	**0.54**	**46**	P	**Pn**	**08 42 32.5**	**-0.6**
	2.9nm,0.1s						
KPKS				S	**Sn**	**08 42 39.6**	**-1.6**
	31nm,0.2s						
KPKS	**Kokpek**	**0.54**	**46**	*e*P	**Pn**	**08 42 32.5**	**-0.6**
	2.9nm,0.1s						
KPKS				*e*S	**Sn**	**08 42 39.6**	**-1.6**
	31nm,0.2s						
UZB	**Uzynbulak**	**0.64**	**85**	P	**Pn**	**08 42 33.1**	**-1.4**
	5.2nm,0.1s						
UZB				S	**Sb**	**08 42 40.7**	**-2.3**
	16nm,0.1s						
UZB	**Uzynbulak**	**0.64**	**85**	*e*P	**Pb**	**08 42 35.6**	**+1.4**
	3.1nm,0.2s						
UZB				*e*S	**Sn**	**08 42 44.5**	**+0.7**
	5.8

IDC 17 08:50:41.7±1.6,60.°04N×153.°53W,h92km±24km,mb3.4/6, mbtmp3.8/12,MS2.5/2,Error ellipse: s-maj=24.9km s-min=11.1km az=112.0
NEIC 17 08:50:43.4±1.3,59.°95N±0.°03×153.°17W±0.°07, h136km±4km,Error ellipse: s-maj=6.5km s-min=0.5km az=130.0
AEIC 17 08:50:45.2±0.7,59.°97N±0.°03×153.°22W±0.°08, h122km±2km,ML3.1,ML3.2/136(NEIC),Error ellipse: s-maj=6.4km s-min=4.0km az=126.0
ISC 17 08:50:44.2±0.7,59.°96N±0.°04×153.°19W±0.°04, h129km±5km,n265,σ0.°89/289,mb3.7/6,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILSW	**Iliamna Southw**	**0.03**	**49**		**Pn**	**08 51 01.1**	**-0.7**
ILSW				IAML		08 51 14.9	
	comp=E,286nm,1.0s						
ILSW				IAML		08 51 15.4	
	comp=N,195nm,0.4s						
ILSW				Sn	**Sn**	**08 51 15.5**	**+0.3**
ILS	**Iliamna Low So**	**0.06**	**96**		**Pn**	**08 51 01.1**	**-0.8**
ILS					**Sn**	**08 51 14.4**	**-0.8**
O20K	**Slope Mountain**	**0.31**	**67**		**Pn**	**08 51 02.1**	**-0.3**
O20K					**Sn**	**08 51 15.8**	**-0.3**
O20K	**Slope Mountain**	**0.31**	**67**	P	**Pn**	**08 51 02.1**	**-0.3**
	baz=249						
O20K				S	**Sn**	**08 51 15.8**	**-0.3**
	baz=249						
O20K				S	**Sn**	**08 51 15.8**	**-0.3**
	baz=249						
OPT	**Oil Point**	**0.31**	**184**		**Pn**	**08 51 02.0**	**-0.3**
OPT	**Oil Point**	**0.31**	**184**	P	**Pn**	**08 51 02.1**	**-0.3**
	baz=1.4						
P19K	**Oil Pt**	**0.31**	**184**		**Pn**	**08 51 02.0**	**-0.3**
P19K				Sn	**Sn**	**08 51 15.8**	**-0.1**
P19K				IAML		08 51 17.0	
	comp=E,1μm,0.8s						
P19K				IAML		08 51 17.0	
	comp=N,949nm,0.5s						
P19K	**Oil Pt**	**0.31**	**184**	P	**Pn**	**08 51 02.0**	**-0.3**
	baz=1.4						
P19K				S	**Sn**	**08 51 15.6**	**-0.4**
	baz=1.4						
RED	**Redoubt Volcan**	**0.50**	**24**		**Pn**	**08 51 02.8**	**-0.5**
RDWB	**Redoubt West**	**0.55**	**18**		**Pn**	**08 51 03.2**	**-0.5**
RDWB					**Sn**	**08 51 16.9**	**-1.5**
NCT	**North Crescent**	**0.61**	**12**		**Pn**	**08 51 03.7**	**-0.3**
NCT					**Sn**	**08 51 18.2**	**-0.8**
O19K	**Port Alsworth**	**0.61**	**293**		**Pn**	**08 51 03.1**	**-0.7**
O19K					**Sn**	**08 51 17.4**	**-1.3**
O19K				IAML		08 51 19.2	
	comp=E,990nm,0.4s						
O19K	**Port Alsworth**	**0.61**	**293**	P	**Pn**	**08 51 03.2**	**-0.6**
	baz=112						
O19K				S	**Sn**	**08 51 17.4**	**-1.3**
	baz=112						
O19K				S	**Sn**	**08 51 17.4**	**-1.3**
	baz=112						
AUCH	**Augustine Cone**	**0.62**	**192**		**Pn**	**08 51 03.8**	**-0.2**
RDJH	**Redoubt Jeurge**	**0.66**	**17**		**Pn**	**08 51 04.0**	**-0.3**
RDT	**Redoubt**	**0.72**	**32**		**Pn**	**08 51 04.4**	**-0.3**
RDT					**Sn**	**08 51 18.9**	**-1.4**
HOM	**Homer**	**0.84**	**111**		**Pn**	**08 51 05.5**	**0.0**
HOM				IAML		08 51 23.5	
	comp=E,829nm,0.3s						
HOM				IAML		08 51 25.1	
	comp=N,850nm,0.3s						
HOM	**Homer**	**0.84**	**111**	P	**Pn**	**08 51 05.5**	**0.0**
	baz=292						
O18K	**Koktuh Hills**	**1.02**	**265**		**Pn**	**08 51 06.7**	**-0.6**
O18K					**Sn**	**08 51 23.3**	**-1.4**
O18K				IAML		08 51 24.0	
	comp=E,211nm,0.6s						
O18K				IAML		08 51 25.1	
	comp=N,86nm,0.9s						
O18K	**Koktuh Hills**	**1.02**	**265**	P	**Pn**	**08 51 06.5**	**-0.7**
	baz=83						
O18K				S	**Sn**	**08 51 23.4**	**-1.4**
	baz=83						
O18K				S	**Sn**	**08 51 23.4**	**-1.4**
	baz=83						
Q19K	**Cape Douglas,**	**1.06**	**193**		**Pn**	**08 51 07.4**	**-0.3**
Q19K					**Sn**	**08 51 24.5**	**-1.0**
Q19K				IAML		08 51 31.8	
	comp=E,582nm,1.2s						
Q19K	**Cape Douglas,**	**1.06**	**193**	P	**Pn**	**08 51 07.3**	**-0.4**
	baz=12						
Q19K				S	**Sn**	**08 51 24.4**	**-1.0**
	baz=12						
Q19K				S	**Sn**	**08 51 24.4**	**-1.0**
	baz=12						
N19K	**Bonanza Creek**	**1.07**	**323**		**Pn**	**08 51 07.3**	**-0.4**
N19K				IAML		08 51 25.3	
	comp=N,230nm,0.7s						
N19K				IAML		08 51 25.6	
	comp=E,279nm,0.8s						
N19K	**Bonanza Creek**	**1.07**	**323**	P	**Pn**	**08 51 07.3**	**-0.4**
	baz=143						
CNPM	**China Poot**	**1.08**	**113**		**Pn**	**08 51 07.8**	**0.0**
CNPM				IAML		08 51 25.6	
	comp=N,828nm,0.6s						
BRLK	**Bradley Lake**	**1.18**	**99**	Pn	**Pn**	**08 51 08.4**	**-0.3**
P18K	**Big Mountain,**	**1.18**	**242**	Pn	**Pn**	**08 51 07.9**	**-1.0**
P18K					**Sn**	**08 51 26.3**	**-1.2**
P18K				IAML		08 51 26.4	
	comp=E,74nm,0.5s						
P18K	**Big Mountain,**	**1.18**	**242**	P	**Pn**	**08 51 08.0**	**-0.8**
	baz=60						
P18K				S	**Sn**	**08 51 25.9**	**-1.7**
	baz=60						
BRSE	**Bradley Lake S**	**1.25**	**99**		**Pn**	**08 51 09.3**	**-0.2**
BRSE	**Bradley Lake S**	**1.25**	**99**	P	**Pn**	**08 51 09.3**	**-0.2**
	baz=281						
CAPN	**Captain Cook N**	**1.29**	**51**		**Pn**	**08 51 11.8**	**+1.9**
CAPN	**Captain Cook N**	**1.29**	**51**	P	**Pn**	**08 51 11.6**	**+1.7**
	baz=233						
CKL	**Chakachamna La**	**1.31**	**18**		**Pn**	**08 51 10.3**	**+0.1**
SPU	**Mount Spurr**	**1.34**	**24**	Pn	**Pn**	**08 51 10.5**	**0.0**
SPU				IAML		08 51 31.1	
	comp=E,182nm,0.6s						
SPU				IAML		08 51 31.9	
	comp=N,98nm,0.7s						
SPCN	**Chakachatna No**	**1.36**	**21**		**Pn**	**08 51 10.9**	**+0.2**
SPBG	**Spurr Blockage**	**1.36**	**17**		**Pn**	**08 51 11.0**	**+0.3**
Q20K	**Shuyak Island**	**1.42**	**163**	P	**Pn**	**08 51 11.1**	**-0.2**
	baz=343						
SYI	**Shuyak Island**	**1.42**	**163**	Pn	**Pn**	**08 51 11.1**	**-0.2**
SPNN	**North Nagishla**	**1.43**	**9**		**Pn**	**08 51 11.5**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.45**	**23**		**Pn**	**08 51 11.9**	**+0.1**
N18K	**Kilae Creek**	**1.52**	**299**		**Pn**	**08 51 12.2**	**-0.2**
N18K	**Kilae Creek**	**1.52**	**299**	P	**Pn**	**08 51 11.9**	**-0.5**
	baz=117						
SLKM	**Skilak Lake**	**1.58**	**68**	Pn	**Pn**	**08 51 13.1**	**0.0**
KAHC	**Katmai Hardscr**	**1.62**	**216**		**Pn**	**08 51 13.3**	**-0.4**
KAHC	**Katmai Hardscr**	**1.62**	**216**	P	**Pn**	**08 51 13.3**	**-0.4**
	baz=34						
KAHG	**Katmai Hook Gl**	**1.63**	**206**		**Pn**	**08 51 13.6**	**-0.2**
STLK	**Strandline Lak**	**1.68**	**23**		**Pn**	**08 51 14.5**	**+0.2**
STLK				IAML		08 51 40.5	
	comp=N,104nm,0.5s						
STLK				IAML		08 51 42.0	
	comp=E,63nm,0.4s						
O22K	**Cooper Landing**	**1.81**	**72**		**Pn**	**08 51 15.9**	**+0.2**
O22K	**Cooper Landing**	**1.81**	**72**	P	**Pn**	**08 51 15.6**	**-0.1**
	baz=255						
P17K	**Kvichak River**	**1.83**	**246**		**Pn**	**08 51 16.1**	**+0.1**
P17K	**Kvichak River**	**1.83**	**246**	P	**Pn**	**08 51 16.1**	**+0.1**
	baz=63						
SEW	**Seward**	**1.88**	**84**	Pn	**Pn**	**08 51 16.7**	**+0.1**
SEW	**Seward**	**1.88**	**84**	P	**Pn**	**08 51 16.4**	**-0.2**
	baz=267						
M20K	**Styx River**	**1.93**	**1**		**Pn**	**08 51 17.3**	**+0.1**
M20K	**Styx River**	**1.93**	**1**	P	**Pn**	**08 51 17.4**	**+0.2**
	baz=181						
O17K	**Koliganek Bris**	**1.98**	**266**		**Pn**	**08 51 17.8**	**0.0**
O17K	**Koliganek Bris**	**1.98**	**266**	P	**Pn**	**08 51 17.8**	**0.0**
	baz=83						
M18K	**Stony River**	**2.01**	**321**		**Pn**	**08 51 17.5**	**-0.6**
M18K	**Stony River**	**2.01**	**321**	P	**Pn**	**08 51 17.5**	**-0.6**
	baz=139						
M19K	**Big River Lodg**	**2.03**	**344**		**Pn**	**08 51 18.2**	**-0.3**
M19K	**Big River Lodg**	**2.03**	**344**	P	**Pn**	**08 51 18.2**	**-0.3**
	baz=163						
RC01	**Rabbit Creek A**	**2.05**	**55**	Pn	**Pn**	**08 51 18.3**	**-0.4**
RC01	**Rabbit Creek A**	**2.05**	**55**	P	**Pn**	**08 51 18.2**	**-0.4**
	baz=238						
N17K	**Nushagak Hills**	**2.07**	**288**		**Pn**	**08 51 19.0**	**0.0**
N17K	**Nushagak Hills**	**2.07**	**288**	P	**Pn**	**08 51 18.9**	**0.0**
	baz=104						
ACHA	**Angle Creek He**	**2.08**	**213**	Pn	**Pn**	**08 51 19.0**	**-0.1**
ACHA				IAML		08 51 45.7	
	comp=E,33nm,0.8s						
ACHA				IAML		08 51 46.0	
	comp=N,42nm,1.1s						
ANCK	**Angle Creek**	**2.13**	**215**		**Pn**	**08 51 19.8**	**0.0**
ANCK					**Sn**	**08 51 46.5**	**-0.6**
SKT	**Skwentna**	**2.18**	**21**		**Pn**	**08 51 20.3**	**+0.1**
SKT				IAML		08 51 51.9	
	comp=N,71nm,0.4s						
SKT				IAML		08 51 53.3	
	comp=E,66nm,0.6s						
SKT	**Skwentna**	**2.18**	**21**	P	**Pn**	**08 51 20.2**	**-0.1**
	baz=203						
Q16K	**King Salmon**	**2.20**	**236**		**Pn**	**08 51 20.7**	**+0.2**
Q16K	**King Salmon**	**2.20**	**236**	P	**Pn**	**08 51 20.7**	**+0.2**
	baz=52						
KDAK	**Kodiak Island**	**2.21**	**172**		**Pn**	**08 51 19.3**	**-1.3**
KDAK					**Sn**	**08 51 46.4**	**-2.2**
KDAK	**Kodiak Island**	**2.21**	**172**	IAML		08 51 48.2	
	comp=E,249nm,0.3s						
KDAK				IAML		08 51 48.3	
	comp=E,247nm,0.5s						
KDAK	**Kodiak Island**	**2.21**	**172**	P	**Pn**	**08 51 19.2**	**-1.4**
	comp=E,18nm,0.3s,baz=279,slow=3.8,SNR=134						
KDAK				S	**Sn**	**08 51 46.2**	**-2.4**
	comp=E,72nm,0.4s,baz=336,slow=19,SNR=8.7						
KDAK				LR	LR	08 52 06.0	
	comp=E,37nm,21.7s,baz=343,slow=36						
KJL	**Kejulik**	**2.28**	**214**		**Pn**	**08 51 21.8**	**+0.2**
M22K	**Willow**	**2.34**	**39**	Pn	**Pn**	**08 51 22.3**	**+0.1**
L19K	**White Mountain**	**2.37**	**341**		**Pn**	**08 51 22.2**	**-0.4**
L19K	**White Mountain**	**2.37**	**341**	P	**Pn**	**08 51 22.2**	**-0.4**
	baz=160						
R18K	**Karluk**	**2.49**	**196**		**Pn**	**08 51 22.8**	**-1.3**
R18K	**Karluk**	**2.49**	**196**	P	**Pn**	**08 51 22.9**	**-1.3**
	baz=14						
O16K	**Kokwok River B**	**2.51**	**264**		**Pn**	**08 51 24.6**	**+0.2**
O16K	**Kokwok River B**	**2.51**	**264**	P	**Pn**	**08 51 24.6**	**+0.2**
	baz=79						
M17K	**Holitna River**	**2.54**	**306**		**Pn**	**08 51 24.8**	**0.0**
M17K				IAML		08 52 29.6	
	comp=E,21nm,1.1s						
M17K				IAML		08 52 40.0	
	comp=N,26nm,0.9s						
M17K	**Holitna River**	**2.54**	**306**	P	**Pn**	**08 51 24.6**	**-0.2**
	baz=123						
L20K	**Farewell, AK**	**2.55**	**353**		**Pn**	**08 51 25.0**	**+0.1**
L20K	**Farewell, AK**	**2.55**	**353**	P	**Pn**	**08 51 25.0**	**+0.1**
	baz=172						
PWL	**Port Wells**	**2.57**	**67**		**Pn**	**08 51 24.0**	**-1.3**
PWL				IAML		08 52 03.1	
	comp=E,249nm,0.5s						
PWL	**Port Wells**	**2.57**	**67**	P	**Pn**	**08 51 23.9**	**-1.3**
	baz=252						
PMR	**Palmer**	**2.57**	**49**		**Pn**	**08 51 24.2**	**-1.0**
PMR				IAML		08 51 55.3	
	comp=N,92nm,0.2s						
PMR				IAML		08 51 55.4	
	comp=E,135nm,0.4s						
PMR	**Palmer**	**2.57**	**49**	P	**Pn**	**08 51 23.9**	**-1.4**
	baz=233						
PMR	**Palmer**	**2.57**	**49**	P	**Pn**	**08 51 23.8**	**-1.4**
PMR	**Palmer**	**2.57**	**49**	S	**Sn**	**08 51 53.9**	**-2.8**
P16K	**Nushagak River**	**2.62**	**251**		**Pn**	**08 51 26.5**	**+0.7**
P16K	**Nushagak River**	**2.62**	**251**	P	**Pn**	**08 51 26.5**	**+0.7**
	baz=67						
KNK	**Knik Glacier**	**2.74**	**56**		**Pn**	**08 51 26.3**	**-1.2**
KNK				IAML		08 51 59.6	
	comp=N,226nm,0.3s						
KNK	**Knik Glacier**	**2.74**	**56**	P	**Pn**	**08 51 26.2**	**-1.2**
	baz=240						
OHAK	**Old Harbor**	**2.75**	**181**	Pn	**Pn**	**08 51 25.6**	**-1.9**
OHAK				IAML		08 51 58.7	
	comp=N,136nm,0.2s						
OHAK				IAML		08 52 00.1	
	comp=E,135nm,0.3s						
OHAK	**Old Harbor**	**2.75**	**181**	P	**Pn**	**08 51 25.7**	**-1.8**
	baz=0.8						
GHO	**Glory Hole Cre**	**2.76**	**47**		**Pn**	**08 51 26.7**	**-1.0**
GHO				IAML		08 52 02.3	
	comp=N,120nm,0.4s						
GHO				IAML		08 52 06.2	
	comp=E,131nm,0.4s						
CUT	**Chulitna**	**2.83**	**29**		**Pn**	**08 51 28.0**	**-0.4**
CUT				IAML		08 52 03.8	
	comp=E,131nm,0.3s						
CUT				IAML		08 52 04.2	
	comp=N,113nm,0.5s						
CUT	**Chulitna**	**2.83**	**29**	P	**Pn**	**08 51 28.3**	**-0.1**
	baz=212						
L18K	**Granite Mounta**	**2.83**	**325**		**Pn**	**08 51 27.9**	**-0.6**
L18K	**Granite Mounta**	**2.83**	**325**	P	**Pn**	**08 51 27.9**	**-0.6**
	baz=142						
P23K	**Montague Islan**	**2.91**	**87**		**Pn**	**08 51 29.3**	**-0.2**
P23K	**Montague Islan**	**2.91**	**87**	P	**Pn**	**08 51 29.3**	**-0.2**
	baz=272						
PPLA	**Purkeypile**	**2.98**	**9**	Pn	**Pn**	**08 51 31.7**	**+1.1**
PPLA	**Purkeypile**	**2.98**	**9**	P	**Pn**	**08 51 31.5**	**+0.9**
	baz=190						
SML	**Sawmill**	**3.01**	**50**	Pn	**Pn**	**08 51 29.7**	**-1.2**
SML				IAML		08 52 06.7	
	comp=N,69nm,0.5s						
SML				IAML		08 52 12.6	
	comp=E,86nm,0.6s						
SML	**Sawmill**	**3.01**	**50**	P	**Pn**	**08 51 29.6**	**-1.2**
	baz=234						
M16K	**Timber Creek**	**3.05**	**293**		**Pn**	**08 51 31.5**	**+0.2**
M16K	**Timber Creek**	**3.05**	**293**	P	**Pn**	**08 51 31.6**	**+0.3**
	baz=108						
GLI	**Glacier Island**	**3.16**	**70**		**Pn**	**08 51 32.5**	**-0.3**
GLI				IAML		08 52 08.3	
	comp=N,146nm,0.7s						
GLI				IAML		08 52 09.8	
	comp=E,146nm,0.4s						
GLI	**Glacier Island**	**3.16**	**70**	P	**Pn**	**08 51 30.6**	**-2.2**
	baz=256						
M23K	**Glacier View**	**3.24**	**53**	P	**Pn**	**08 51 32.9**	**-0.9**
	baz=238						
TTA	**Tatalina**	**3.27**	**337**	Pn	**Pn**	**08 51 33.7**	**-0.6**
TTA	**Tatalina**	**3.27**	**337**	P	**Pn**	**08 51 33.6**	**-0.6**
	baz=154						
TTA	**Tatalina**	**3.27**	**337**	P	**Pn**	**08 51 33.4**	**-0.9**
L17K	**Donlin**	**3.30**	**313**		**Pn**	**08 51 34.3**	**-0.4**
L17K	**Donlin**	**3.30**	**313**	P	**Pn**	**08 51 34.3**	**-0.4**
	baz=129						
HIN	**Hinchinbrook I**	**3.37**	**80**	Pn	**Pn**	**08 51 35.5**	**-0.1**
SCM	**Sheep Creek Mo**	**3.42**	**54**		**Pn**	**08 51 35.3**	**-1.0**
SCM	**Sheep Creek Mo**	**3.42**	**54**	P	**Pn**	**08 51 35.1**	**-1.2**
	baz=240						
K20K	**Telida**	**3.43**	**353**		**Pn**	**08 51 36.8**	**+0.5**
K20K	**Telida**	**3.43**	**353**	P	**Pn**	**08 51 36.4**	**0.0**
	baz=173						
O15K	**Ungalikthiuk R**	**3.47**	**260**		**Pn**	**08 51 37.6**	**+0.8**
O15K	**Ungalikthiuk R**	**3.47**	**260**	P	**Pn**	**08 51 37.6**	**+0.8**
	baz=74						
CAST	**Castle Rocks**	**3.51**	**8**	Pn	**Pn**	**08 51 37.4**	**0.0**
CAST	**Castle Rocks**	**3.51**	**8**	P	**Pn**	**08 51 37.5**	**+0.2**
	baz=189						
L16K	**Owhat River**	**3.54**	**302**	Pn	**Pn**	**08 51 38.0**	**+0.2**
K17K	**Iditarod**	**3.70**	**320**		**Pn**	**08 51 39.6**	**-0.3**
K17K				IAML		08 52 40.4	
	comp=E,9.8nm,1.1s						
K17K	**Iditarod**	**3.70**	**320**	P	**Pn**	**08 51 39.4**	**-0.4**
	baz=136						
EYAK	**Cordova Ski Ar**	**3.75**	**78**	Pn	**Pn**	**08 51 40.2**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.75**	**78**	P	**Pn**	**08 51 40.5**	**0.0**
KTH	**Kantishna Hill**	**3.76**	**16**	Pn	**Pn**	**08 51 40.2**	**-0.5**
KTH				IAML		08 52 26.0	
	comp=E,15nm,1.1s						
KTH				IAML		08 53 07.5	
	comp=N,16nm,0.9s						
TRF	**Thorofare Moun**	**3.76**	**20**	Pn	**Pn**	**08 51 40.5**	**-0.3**
TRF				IAML		08 52 27.7	
	comp=N,26nm,1.1s						
TRF				IAML		08 52 35.7	
	comp=E,16nm,1.2s						
TRF	**Thorofare Moun**	**3.76**	**20**	P	**Pn**	**08 51 40.4**	**-0.4**
	baz=203						
DIV	**Divide**	**3.84**	**69**	Pn	**Pn**	**08 51 41.7**	**-0.2**
KLU	**Klutina**	**3.88**	**64**		**Pn**	**08 51 41.2**	**-1.1**
KLU	**Klutina**	**3.88**	**64**	P	**Pn**	**08 51 41.2**	**-1.1**
	baz=250						
J18K	**Innoko River**	**3.89**	**336**	Pn	**Pn**	**08 51 42.3**	**-0.1**
J18K	**Innoko River**	**3.89**	**336**	P	**Pn**	**08 51 42.1**	**-0.3**
	baz=153						
CHUM	**Lake Minchumin**	**3.96**	**6**		**Pn**	**08 51 43.2**	**+0.1**
CHUM	**Lake Minchumin**	**3.96**	**6**	P	**Pn**	**08 51 43.2**	**+0.1**
	baz=187						
RND	**Reindeer**	**4.02**	**29**	Pn	**Pn**	**08 51 43.7**	**-0.5**
RND				IAML		08 52 35.6	
	comp=E,15nm,1.0s						
RND				IAML		08 53 13.1	
	comp=N,12nm,1.0s						
M24K	**Tolsona, Glenn**	**4.03**	**55**	Pn	**Pn**	**08 51 44.0**	**-0.3**
M24K	**Tolsona, Glenn**	**4.03**	**55**	P	**Pn**	**08 51 43.7**	**-0.6**
	baz=241						
J20K	**Nowinta River**	**4.25**	**354**		**Pn**	**08 51 47.5**	**+0.3**
J20K				IAML		08 52 25.4	
	comp=E,7.7nm,0.8s						
J20K				IAML		08 53 45.2	
	comp=N,5.8nm,0.8s						
J20K	**Nowinta River**	**4.25**	**354**	P	**Pn**	**08 51 47.3**	**+0.1**
	baz=174						
MCK	**McKinley**	**4.28**	**26**	Pn	**Pn**	**08 51 47.8**	**+0.2**
MCK	**McKinley**	**4.28**	**26**	P	**Pn**	**08 51 47.0**	**-0.6**
	baz=210						
BMRM	**Bremner River**	**4.37**	**73**	Pn	**Pn**	**08 51 48.6**	**-0.2**
BMRM	**Bremner River**	**4.37**	**73**	P	**Pn**	**08 51 48.5**	**-0.2**
	baz=260						
J17K	**VABM Dome**	**4.44**	**323**		**Pn**	**08 51 49.4**	**-0.3**
J17K	**VABM Dome**	**4.44**	**323**	P	**Pn**	**08 51 49.1**	**-0.5**
	baz=138						
N25K	**Chitina, Valde**	**4.52**	**65**	Pn	**Pn**	**08 51 51.2**	**+0.4**
N25K				IAML		08 52 45.1	
	comp=E,45nm,0.6s						
N25K				IAML		08 52 46.5	
	comp=N,41nm,0.3s						
N25K	**Chitina, Valde**	**4.52**	**65**	P	**Pn**	**08 51 49.8**	**-1.0**
	baz=252						
BWN	**Browne**	**4.57**	**21**		**Pn**	**08 51 51.7**	**+0.3**
BWN				IAML		08 52 50.2	
	comp=N,19nm,1.2s						
BWN				IAML		08 52 52.4	
	comp=E,19nm,1.1s						
HARP	**HAARP**	**4.59**	**54**	P	**Pn**	**08 51 51.2**	**-0.5**
	baz=242						
CHGN	**Chignik**	**4.60**	**219**		**Pn**	**08 51 51.1**	**-0.7**
CHGN				IAML		08 54 15.6	
	comp=N,29nm,1.1s						
CHGN				IAML		08 54 51.1	
	comp=E,45nm,1.1s						
CHGN	**Chignik**	**4.60**	**219**	P	**Pn**	**08 51 51.3**	**-0.5**
	baz=35						
WACK	**Wrangell Chich**	**4.77**	**61**		**Pn**	**08 51 53.4**	**-0.9**
PAX	**Paxson**	**4.77**	**48**		**Pn**	**08 51 54.1**	**-0.1**
PAX	**Paxson**	**4.77**	**48**	P	**Pn**	**08 51 53.7**	**-0.5**
	baz=234						
GLB	**Gilahina Butte**	**4.84**	**68**		**Pn**	**08 51 54.3**	**-0.7**
GLB				IAML		08 52 49.6	
	comp=N,29nm,0.9s						
GLB				IAML		08 53 00.5	
	comp=E,25nm,1.0s						
J16K	**Anvik River**	**4.86**	**316**	Pn	**Pn**	**08 51 55.1**	**-0.2**
VRDI	**Verde Repeater**	**4.96**	**71**		**Pn**	**08 51 56.7**	**-0.2**
VRDI				IAML		08 52 52.9	
	comp=E,18nm,0.7s						
VRDI				IAML		08 52 54.1	
	comp=N,30nm,0.5s						
NEA2	**Nenana**	**5.03**	**21**		**Pn**	**08 51 57.0**	**-0.5**
NEA2				IAML		08 53 14.5	
	comp=E,4.0nm,1.2s						
NEA2				IAML		08 53 48.5	
	comp=N,3.5nm,0.7s						
NEA2	**Nenana**	**5.03**	**21**	P	**Pn**	**08 51 56.9**	**-0.5**
	baz=204						
WRH	**Wood River Hil**	**5.11**	**26**		**Pn**	**08 51 57.9**	**-0.7**
WRH				IAML		08 52 56.6	
	comp=E,3.9nm,1.2s						
WRH				IAML		08 53 01.5	
	comp=N,4.7nm,1.1s						
K24K	**Donnelly Dome**	**5.21**	**39**	P	**Pn**	**08 52 00.7**	**+0.8**
	baz=226						
I21K	**Tanana**	**5.26**	**6**		**Pn**	**08 52 00.7**	**0.0**
CCB	**Clear Creek Bu**	**5.33**	**26**	Pn	**Pn**	**08 52 00.5**	**-1.0**
CCB				IAML		08 53 04.0	
	comp=E,5.4nm,0.5s						
CCB				IAML		08 53 06.7	
	comp=N,4.7nm,1.2s						
HDA	**Harding Lake**	**5.33**	**31**		**Pn**	**08 52 01.0**	**-0.6**
HDA				IAML		08 53 01.2	
	comp=N,29nm,0.6s						
HDA				IAML		08 53 01.6	
	comp=E,20nm,0.7s						
HDA	**Harding Lake**	**5.33**	**31**	P	**Pn**	**08 52 00.8**	**-0.7**
	baz=216						
MENT	**Mentasta**	**5.43**	**53**		**Pn**	**08 52 01.9**	**-1.1**
MENT	**Mentasta**	**5.43**	**53**	P	**Pn**	**08 52 03.4**	**+0.4**
KIAG	**Kiagna River**	**5.45**	**75**		**Pn**	**08 52 03.3**	**0.0**
BALM	**Baldy**	**5.47**	**74**		**Pn**	**08 52 03.2**	**-0.3**
RIDG	**Independent Ri**	**5.47**	**43**	Pn	**Pn**	**08 52 03.2**	**-0.3**
I23K	**Minto, Yukon-K**	**5.50**	**17**		**Pn**	**08 52 03.1**	**-0.6**
I23K	**Minto, Yukon-K**	**5.50**	**17**	P	**Pn**	**08 52 03.0**	**-0.8**
	baz=201						
COLA	**College**	**5.51**	**24**		**Pn**	**08 52 03.5**	**-0.4**
COLA	**College**	**5.51**	**24**	P	**Pn**	**08 52 03.4**	**-0.6**
MESA	**MESA**	**5.63**	**83**		**Pn**	**08 52 06.9**	**+1.1**
MESA	**MESA**	**5.63**	**83**	P	**Pn**	**08 52 06.1**	**+0.3**
	baz=273						
ILAR	**Eielson Array**	**5.64**	**29**	Pn	**Pn**	**08 52 05.0**	**-0.7**
ILAR	**Eielson Array**	**5.64**	**29**	P	**Pn**	**08 52 04.6**	**-1.1**
	comp=E,21nm,0.4s,baz=216,slow=14,SNR=446						
ILAR				S	**Sn**	**08 53 05.3**	**-4.0**
	comp=E,1.2nm,0.5s,baz=205,slow=25,SNR=4.3						
H21K	**Melozitna Rive**	**5.72**	**2**		**Pn**	**08 52 06.6**	**-0.1**
H21K	**Melozitna Rive**	**5.72**	**2**	P	**Pn**	**08 52 06.5**	**-0.3**
	baz=182						
H18K	**Honhosa River**	**5.73**	**338**		**Pn**	**08 52 06.8**	**-0.1**
H18K	**Honhosa River**	**5.73**	**338**	P	**Pn**	**08 52 06.6**	**-0.3**
	baz=153						
POKR	**Poker Plat Res**	**5.81**	**25**	P	**Pn**	**08 52 07.3**	**-0.7**

COLD	Coldfoot	7.41	9	P	Pn	08 52 28.3	-1.2
	baz=192						
G25K	Bearman Lake	7.53	22		Pn	08 52 29.9	-1.2
G25K	Bearman Lake	7.53	22	P	Pn	08 52 29.8	-1.2
	baz=208						
FYU	Fort Yukon	7.53	25	Pn	Pn	08 52 30.5	-0.5
M29M	Somme Creek	7.53	64	Pn	Pn	08 52 32.0	+0.8
DAWY	Dawson	7.68	52		Pn	08 52 33.0	-0.2
DAWY	Dawson	7.68	52	P	Pn	08 52 32.9	-0.3
	baz=244						
I27K	Kandik River	7.75	38		Pn	08 52 33.3	-0.8
I27K	Kandik River	7.75	38	P	Pn	08 52 33.3	-0.8
	baz=228						
L29M	L29M	7.85	60	Pn	Pn	08 52 35.8	+0.3
G26K	Porcupine Rive	8.17	27		Pn	08 52 38.4	-1.3
G26K	Porcupine Rive	8.17	27	P	Pn	08 52 38.4	-1.3
	baz=215						
I28M	Miner Creek	8.19	42		Pn	08 52 39.5	-0.7
I28M	Miner Creek	8.19	42	P	Pn	08 52 39.1	-1.1
	baz=234						
H27K	Steamboat Moun	8.20	35		Pn	08 52 38.8	-1.4
H27K	Steamboat Moun	8.20	35	P	Pn	08 52 38.8	-1.4
	baz=226						
E22K	Anaktuvuk Pass	8.23	4		Pn	08 52 41.6	+1.1
E22K	Anaktuvuk Pass	8.23	4	P	Pn	08 52 41.6	+1.1
	baz=185						
F26K	Sheenjek River	8.72	23	Pn	Pn	08 52 45.5	-1.6
TOLK	Toolik Lake Re	8.85	9	Pn	Pn	08 52 49.6	+0.7
D22K	Ayikyak River	8.96	1	Pn	Pn	08 52 51.2	+1.0
SKAG	Skagway	9.04	85	P	Pn	08 52 53.9	+2.5
M31M	Drury Creek, Y	9.37	68	Pn	Pn	08 52 56.8	+0.9
D24K	Happy Valley	9.41	10	Pn	Pn	08 52 57.2	+0.8
SIT	Sitka	9.78	100	Pn	Pn	08 53 03.0	+1.6
EPYK	Eagle Plains	9.81	42	Pn	Pn	08 53 03.6	+1.9
JIS	Juneau Island	9.81	92	P	Pn	08 53 05.2	+3.4
D25K	Kavik River	9.83	14		Pn	08 53 01.5	-0.5
FARO	Faro, Yukon	9.86	68	Pn	Pn	08 53 03.2	+0.7
C24K	Franklin Bluff	9.98	9	Pn	Pn	08 53 03.8	-0.1
P33M	Teslin, Yukon	10.17	80	Pn	Pn	08 53 08.0	+1.2
INK	Inuvik	11.92	37	P	Pn	08 53 29.9	+0.1
	comp=E,0.7nm,0.6s,baz=238,slow=15,SNR=6.3						
DLBC	Dease Lake	11.95	87	P	Sn	08 53 31.4	+1.1
	comp=E,0.6nm,0.3s,baz=293,slow=8.4,SNR=18						
DLBC				S	Sn	08 55 42.8	+0.9
	comp=E,1.2nm,0.6s,baz=328,slow=19,SNR=2.1						
BBB	Bella Bella	15.94	108	P	P	08 54 24.2	+2.3
	comp=E,28nm,1.0s,baz=356,slow=4.1,SNR=3.3						
YKA	Yellowknife Ar	18.55	66	P	Pn	08 54 51.9	-0.4
	comp=E,0.5nm,0.5s,baz=279,slow=11,SNR=7.7						
PETK	Petropavlovsk-	27.37	278	P	P	08 56 15.0	-1.9
	comp=E,0.7nm,0.7s,baz=58,slow=8.9,SNR=6.4						
	comp=E,0.7nm,0.7s						
NRIK	Noril'sk	43.89	333	P	P	08 58 37.7	+0.6
	comp=E,1.7nm,0.4s,baz=41,slow=6.7,SNR=4.0						
	comp=E,1.7nm,0.4s						
USRK	Ussuriysk Ar.	45.96	285	LR	LR	09 19 11.1	
	comp=E,16nm,18.8s,baz=337,slow=37						
SONM	Songino Array	54.73	306	P	P	09 00 01.8	+1.8
	comp=E,0.6nm,0.4s,baz=42,slow=6.5,SNR=4.6						
	comp=E,0.6nm,0.4s						
ZALV	Zalesovo Beam	57.35	323	P	P	09 00 18.9	+0.7
	comp=E,1.1nm,0.5s,baz=28,slow=6.6,SNR=5.9						
	comp=E,1.1nm,0.5s						
KURBB	Kurchatov Arra	62.11	326	P	P	09 00 50.6	-0.2
	comp=E,0.3nm,0.5s,baz=28,slow=6.6,SNR=5.2						
	comp=E,0.3nm,0.5s						
MKAR	Makanchi Array	64.40	321	P	P	09 01 05.1	-1.0
	comp=E,0.1nm,0.4s,baz=31,slow=5.9,SNR=1.9						
	comp=E,0.1nm,0.4s						

*IDC **17** 08:53:43.0±0.9, 2°.34S×140°.19E, h0km, mb3.8/7, mbtmp3.8/8, ML4.0/1, MS2.9/1, Error ellipse: s-maj=14.2km s-min=8.2km az=9.0*

ISC 17 08:53:46.0±0.9, **2°.3S**±0°.1×**140°.3E**±0°.1, **h24**km, **n13**, σ**1**§**07**/10, **mb3.6/6, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	0.40	116	Pg	Pb	08 53 54.0	-0.7
	311nm,0.3s,baz=284,slow=12,SNR=1099						
JAY				Lg	Lg	08 54 00.7	
	337nm,0.3s,baz=158,slow=19,SNR=18						
KRVT	Keravat (AS076	11.83	100	LR	LR	09 00 14.7	
	comp=Z,60nm,19.6s,baz=10,slow=33						
WRA	Warramunga Arr	18.46	198	P	P	08 57 60.0	-0.2
	0.5nm,0.3s,baz=18,slow=12,SNR=21						
WRA				S	Sn	09 01 27.5	+1.4
	0.3nm,0.6s,baz=21,slow=22,SNR=1.9						
	1.5nm,0.4s						
KAPI	Kappang	20.72	262	P	P	08 58 23.0	-1.9
	6.4nm,0.3s,baz=34,slow=15,SNR=1.1						
	6.4nm,0.3s						
FITZ	Fitzroy Crossi	21.29	222	P	P	08 58 30.7	-0.3
	3.1nm,1.0s,baz=51,slow=9.3,SNR=3.7						
	3.1nm,1.0s						
ASAR	Alice Springs	22.10	196	P	P	08 58 39.6	-0.2
	1.9nm,0.8s,baz=24,slow=9.7,SNR=20						
	1.9nm,0.8s						
H11N1	WAKE ISLAND Hy	34.05	49	T	T	09 36 34.3	
	baz=233,slow=75,SNR=7.7						
H11N2	WAKE ISLAND Hy	34.07	49	T	T	09 36 37.8	
	baz=233,slow=75,SNR=8.5						
H11N3	WAKE ISLAND Hy	34.07	49	T	T	09 36 38.4	
	baz=233,slow=75,SNR=5.0						
MKAR	Makanchi Array	70.50	322	P	P	09 04 59.0	+0.2
	0.3nm,0.6s,baz=114,slow=8.1,SNR=5.0						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	74.37	324	P	P	09 05 23.0	+1.2
	0.4nm,0.8s,baz=130,slow=6.1,SNR=1.4						
	0.4nm,0.8s						
ILAR	Eielson Array	84.82	24	P	P	09 06 18.6	+0.3
	0.4nm,1.0s,baz=266,slow=5.3,SNR=2.0						
	0.4nm,1.0s						
QSPA	South Pole Qui	87.61	180	P	P	09 06 32.8	+0.6
	1.4nm,1.0s,baz=37,slow=5.1,SNR=2.4						
	1.4nm,1.0s						

*GCG **17** 09:02:47.8±2.9, 15°.91N×87°.20W, h1km±39km, MD4.7, Hypocentre not reviewed by the ISC*
*CATAC **17** 09:02:51.2±2.7, 16°.N±23°×8°.7W±°, h10km, M4.7/12, MLv4.7/12, rejected*
*IDC **17** 09:02:51.9±1.2, 15°.88N×87°.62W, h0km, mb3.7/4, mbtmp3.5/8, ML3.6/4, MS3.0/2, Error ellipse: s-maj=20.6km s-min=17.7km az=81.0*
*SNET **17** 09:02:52.0±1.2, 15°.82N×86°.94W, h22km±171km, ML4.4*
*NEIC **17** 09:02:55.0±2.0, 15°.90N±0°.02×87°.56W±0°.06, h10km±2km, mb3.8/19, Error ellipse: s-maj=9.8km s-min=3.1km az=91.0*

ISC 17 09:02:52.8±1.5, **15°.86N**±0°.04×**87°.59W**±0°.04, **h4**km±10km, **n100**, σ1§**53**/110, **mb3.9**/7, **1D, Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISHN	Nisperales Com	0.29	254	P	Pb	09 03 00.8	+0.3
NISHN	Nisperales Com	0.29	254	*i* P		09 03 00.8	
NISHN				*i* S		09 03 10.3	
COMHN	El Horno	1.41	179	P	Pg	09 03 17.2	-2.6
INTHN	La Esperanza I	1.61	198	P	Pn	09 03 21.5	-0.7
TGUH	Tegucigalpa,Un	1.81	170	Pn	Pn	09 03 25.0	+0.1
TGUH				Sn	Sn	09 03 47.9	-0.5
YUSH	Yuscaran	2.03	159	P	Pn	09 03 26.3	-1.5
YUSH	Yuscaran	2.03	159	P	Pn	09 03 26.6	-1.2
MTO3	Montecristo	2.24	230		Pn	09 03 30.4	-0.4
MTO3				Sn	Sb	09 04 03.9	+1.8
MTO3	Montecristo	2.24	230	P	Pb	09 03 33.5	-0.4
MTO3	Montecristo	2.24	230	P	Pn	09 03 30.7	-0.2
MTO3	Montecristo	2.24	230	*e*P		09 03 30.8	
CHOHN	Orocuina	2.40	170	P	Pn	09 03 34.6	+1.6
CHOHN	Orocuina	2.40	170	P	Pn	09 03 32.4	-0.5
SCLA	Alcaldia de Sa	2.41	207	*e*P	Pn	09 03 34.6	+1.6
SCLA	Alcaldia de Sa	2.41	207	P	Pb	09 03 37.4	+0.7
SCLA	Alcaldia de Sa	2.41	207	P	Pb	09 03 36.7	0.0
PQSS	Presa 15 de Se	2.41	203	P	Pg	09 03 38.2	-0.8
PACA	Pacayal	2.48	197	*e*P	Pn	09 03 33.8	-0.2
PACA	Pacayal	2.48	197	P	Pg	09 03 39.5	-0.8
PACA	Pacayal	2.48	197	P	Pb	09 03 37.5	-0.5
PAVA	Las Pavas	2.50	212	*e*P	Pb	09 03 37.0	-1.2
PAVA	Las Pavas	2.50	212	P	Pb	09 03 39.6	+1.3
COEG	Centro de Oper	2.55	209	*e*P	Pn	09 03 37.4	+2.5
COEG	Centro de Oper	2.55	209	P	Pb	09 03 38.6	-0.5
LCND	La Caada	2.55	187	*e*P	Pn	09 03 34.0	-0.9
LCND				*e*S	Sn	09 04 05.9	-0.4
LCND				IAML		09 04 18.9	
	comp=Z,887nm,0.3s						
LCND	La Caada	2.55	187	P	Pb	09 03 39.8	+0.7
LCND	La Caada	2.55	187	P	Pb	09 03 37.7	-1.4
CNCH	Conchagua	2.58	185	*e*P	Pn	09 03 34.5	-0.9
CNCH				IAML		09 04 14.7	
	comp=Z,3μm,0.3s						
CNCH	Conchagua	2.58	185	P	Pb	09 03 38.4	-1.2
CNCH	Conchagua	2.58	185	P	Pb	09 03 38.0	-1.6
RCVN	Varillal2	2.63	149	P	Pn	09 03 37.3	+1.1
UNIC	Universidad Ca	2.66	226	*e*P	Pb	09 03 39.9	-1.1
UNIC	Universidad Ca	2.66	226	P	Pg	09 03 43.2	-0.5
UEES	Universidad Ev	2.66	217	P	Pb	09 03 42.1	+1.1
LOMA	Loma Larga	2.68	215	*e*P	Pb	09 03 39.9	-1.4
LOMA	Loma Larga	2.68	215	P	Pg	09 03 43.5	-0.7
ALJI	Alcalda de J	2.69	201	*e*P	Pn	09 03 36.7	-0.1
PMON	Piamonte	2.71	218	*e*P	Pb	09 03 40.4	-1.4
PMON	Piamonte	2.71	218	P	Pg	09 03 44.8	+0.1
PMON	Piamonte	2.71	218	P	Pb	09 03 43.5	+1.7
RCPN	Sur Rio San Ju	2.73	148	P	Pn	09 03 39.8	+2.3
SNJE	San Jose	2.77	225	*e*P	Pb	09 03 42.4	-0.7
SNJE				*e*P	Pg	09 03 43.9	-2.2
RTR	El Retiro	2.78	226	*e*P	Pb	09 03 42.4	-0.8
SLOZ	Alcaldia de Sa	2.79	230	*e*P	Pb	09 03 43.1	-0.2
SLOZ				*e*S	Sb	09 04 20.6	+2.7
SBLS	San Blas	2.81	225	*e*P	Pb	09 03 42.4	-1.2
CEVE	Cerro Verde	2.81	225	*e*P	Pb	09 03 42.2	-1.5
CEVE				IAML		09 04 30.8	
	comp=Z,1μm,0.4s						
CEVE	Cerro Verde	2.81	225	P	Pg	09 03 45.9	-0.9
JAYA	Jayaque - finc	2.83	220	*e*P	Pn	09 03 41.9	+3.0
JAYA				*e*S	Sb	09 04 20.8	+1.7
JAYA	Jayaque - finc	2.83	220	P	Pg	09 03 46.1	-1.0
JAYA	Jayaque - finc	2.83	220	P	Pb	09 03 45.1	+1.1
JAYA	Jayaque - finc	2.83	220	*e*P		09 03 38.7	
JAYA				*i* S		09 04 22.4	
NUBE	Las Nubes	2.87	228	*e*P	Pb	09 03 42.9	-1.8
NUBE				*e*S	Sg	09 04 23.6	-1.6
NUBE	Las Nubes	2.87	228	P	Pb	09 03 44.7	0.0
NUBE	Las Nubes	2.87	228	P	Pb	09 03 45.1	+0.4
NUBE	Las Nubes	2.87	228	*e*P		09 03 43.6	
NUBE				*e*S		09 04 23.4	
LALI	Alcalda de L	2.89	216	P	Pg	09 03 47.8	-0.4
LALI	Alcalda de L	2.89	216	*i j*/S		09 04 23.9	
GUMI	Mixco	3.16	248	*e*P		09 03 44.1	
CRIN	San Cristobal	3.18	170		Pn	09 03 46.2	+2.5
CNGN	Cerro Negro	3.45	165		Pn	09 03 50.5	+3.2
HUEH	Huehuetenango	3.81	262	Pn	Pn	09 03 53.2	+0.8
APQ2	Apoyeque	3.84	161	P	Pn	09 03 41.1	-12
CCIG	Comitan	4.39	276		Pn	09 04 01.9	+1.6
TEIG	Tepich	4.39	352	Pn	Pn	09 04 01.0	+0.7
TEIG	Tepich	4.39	352	Pn	Pn	09 04 01.1	+0.7
	comp=Z,0.1nm,0.3s,baz=351,slow=24,SNR=122						
TEIG				Sn	Sn	09 04 51.3	-0.6
	comp=Z,0.1nm,0.3s,baz=75,slow=24,SNR=19						
ACON	Acoyapa	4.52	148		Pn	09 04 03.3	+1.3
ESPN	Las Esperanzas	4.84	138		Pn	09 04 06.7	+0.2
JTS	Las Juntas de	6.10	155		Pn	09 04 25.9	+2.1
JTS	Las Juntas de	6.10	155	Pn	Pn	09 04 25.6	+1.9
	comp=Z,0.6nm,0.3s,baz=331,slow=13,SNR=7.5						
JTS				Sn	Sn	09 05 36.1	+2.0
	comp=Z,1.3nm,0.3s,baz=247,slow=19,SNR=3.6						
JTS				Lg	Lg	09 05 59.2	
	comp=Z,3.9nm,0.3s,baz=267,slow=18,SNR=3.9						
JTS				LR	LR	09 07 19.1	
	comp=Z,38nm,19.6s,baz=326,slow=44						
	comp=Z,1.2nm,0.3s						
SOCE	Pocosol	6.16	152		Pn	09 04 26.8	+2.1
PRVC	Isla de Provid	6.51	111	Pn	Pn	09 04 30.4	+1.0
CMIG	Matias Romero	7.10	281	Pn	Pn	09 04 36.0	-1.5
	comp=Z,0.7nm,0.3s,baz=103,slow=12,SNR=5.9						
CMIG				Sn	Sn	09 05 53.8	-4.9
	comp=Z,1.4nm,0.3s,baz=18,slow=19,SNR=6.3						
CMIG				Lg	Lg	09 06 33.6	
	comp=Z,0.7nm,0.3s,baz=44,slow=19,SNR=1.4						
	comp=Z,0.8nm,0.3s						
SOR	Soroa	8.14	31	Pn	Pn	09 04 52.4	+0.6
MTDJ	Mount Denham	9.90	75	Pn	Pn	09 05 16.9	+0.9
TLIG	Tlapa	10.65	281	Pn	Pn	09 05 28.5	+2.1
061Z	Ochoppi	11.75	31	Pn	Pn	09 05 41.4	+0.1
656A	Willston	14.23	18	Pn	Pn	09 06 14.8	-0.3
553A	Crawfordville	14.56	11	Pn	Pn	09 06 20.0	+0.4
HKT	Hockley	15.94	333		P	09 06 42.0	+0.4
HNVL	Huntsville, TX	16.49	335	P	Pn	09 06 47.2	+2.2
833A	Chaparral WMA,	16.52	321		P	09 06 48.5	+0.3
833A				IAmb	IAmb	09 07 07.8	
	comp=Z,4.6nm,0.7s						
NATX	Nacogdoches	17.09	339	P	Pn	09 06 54.5	+1.8
LRAL	Lakeview Retre	17.11	2	P	Pn	09 06 54.2	+1.4
LRAL				IAmb	IAmb	09 07 03.4	
	comp=Z,10nm,1.4s						
HNDO	Hondo	17.34	324		Pn	09 06 56.4	+0.6
HNDO				IAmb	IAmb	09 07 10.7	
	comp=Z,6.2nm,0.9s						
DRIO	Del Rio	18.06	321	P	Pn	09 07 05.3	+0.6
BRDY	Brady	18.56	328	P	Pn	09 07 13.0	+2.2
SAND	Sanderson	19.36	319	P	P	09 07 21.5	+1.9
MIAR	Mount Ida	19.37	345	P	P	09 07 19.5	0.0
MIAR				IAmb	IAmb	09 07 59.2	
	comp=Z,6.4nm,1.2s						
OZNA	Ozona	19.44	323	P	P	09 07 20.4	0.0
OZNA				IAmb	IAmb	09 07 28.9	
	comp=Z,6.8nm,0.8s						
TXAR	Lajitas Array	19.97	315	P	P	09 07 25.6	-0.7
TXAR	Lajitas Array	19.97	315	P	P	09 07 27.0	+0.8
	comp=Z,0.1nm,0.3s,baz=143,slow=10.0,SNR=12						
TXAR				S	S	09 11 05.2	-6.3
	comp=Z,0.2nm,0.8s,baz=118,slow=11,SNR=1.4						
	comp=Z,0.4nm,0.9s						
TX31	Lajitas Ar. Si	19.97	315		P	09 07 27.3	+1.1
TX31				IAmb	IAmb	09 07 35.7	
	comp=Z,4.8nm,1.1s						
TKL	Tuckaleechee C	20.01	9	P	P	09 07 24.5	-2.0
	comp=Z,0.1nm,0.3s,baz=267,slow=19,SNR=1.0						
TKL				S	S	09 11 13.2	+1.2
	comp=Z,5.2nm,0.9s,baz=146,slow=3.6,SNR=4.9						
	comp=Z,0.6nm,0.4s						
SJG	San Juan	20.63	81	P	P	09 07 32.1	-1.3
	comp=Z,1.7nm,0.3s,baz=264,slow=11,SNR=1.4						
SJG				S	Sn	09 11 29.4	+0.6
	comp=Z,2.6nm,0.6s,baz=179,slow=23,SNR=1.4						
	comp=Z,1.7nm,0.3s						
PBMO	Poplar Bluff	20.99	354	P	P	09 07 38.6	+1.4
HHAR	Hobbs	21.11	346	P	P	09 07 40.0	+1.6
HHAR				IAmb	IAmb	09 07 46.0	
	comp=Z,4.5nm,0.8s						
POST	Post	21.26	326	P	P	09 07 41.2	+1.0
MGMO	Mountain Grove	21.61	350	P	P	09 07 45.2	+1.4
MGMO				IAmb	IAmb	09 07 51.5	
	comp=Z,5.0nm,0.9s						
S39A	Bolivar	22.33	348	P	P	09 07 53.0	+1.5
S39A				IAmb	IAmb	09 07 59.0	
	comp=Z,4.7nm,0.9s						
CCM	Cathedral Cave	22.35	352	P	P	09 07 52.6	+0.9
CCM				IAmb	IAmb	09 07 54.9	
	comp=Z,5.5nm,0.9s						
YKA	Yellowknife Ar	50.31	344	P	P	09 11 49.9	-0.4
	comp=Z,0.2nm,0.5s,baz=180,slow=6.0,SNR=4.8						
	comp=Z,0.2nm,0.5s						
ILAR	Eielson Array	62.87	336	P	P	09 13 19.4	-0.3
	comp=Z,1.0nm,1.0s,baz=106,slow=5.5,SNR=7.8						
	comp=Z,1.0nm,1.0s						
ESDC	Sonseca Array	75.22	52	P	P	09 14 36.5	-0.4
	comp=Z,0.7nm,0.7s,baz=276,slow=6.0,SNR=4.4						
	comp=Z,0.7nm,0.7s						
TIXI	Tiksi	89.29	349	LR	LR	10 00 35.7	
	comp=Z,24nm,18.0s,baz=7.0,slow=39						
WRA	Warramunga Arr	139.96	258	PKP	PKPdf	09 22 23.4	+0.1
	comp=Z,1.0nm,1.0s,baz=91,slow=2.0,SNR=4.6						
CMAR	Chiang Mai Arr	145.30	349	PKPbc	PKPbc	09 22 30.9	-1.6
	comp=Z,2.2nm,0.3s,baz=344,slow=2.6,SNR=7.9						

*IDC **17** 09:06:47.0±1.2, 17°.52S×176°.16E, h0km, mb3.5/3, mbtmp3.5/3, MS3.3/7, Error ellipse: s-maj=60.4km s-min=19.7km az=177.0*

ISC 17 09:06:51.9±1.1, **17°.5S**±0°.4×**176°.1E**±0°.1, **h35**km, **n13**, σ1§**11**/6, **mb3.5**/3, **MS3.1**/4, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.84	99	Pn	Pn	09 07 20.0	-1.1
	2.9nm,0.3s,baz=277,slow=19,SNR=13						
MSVF				Sn	Sn	09 07 44.5	+1.2
	34nm,0.3s,baz=324,slow=19,SNR=19						
DZM	Mont Dzumac	10.22	242	LR	LR	09 12 41.5	
	comp=Z,97nm,19.3s,baz=334,slow=35						
RAO	Raoul Island	12.94	156	LR	LR	09 13 38.6	
	comp=Z,135nm,19.9s,baz=60,slow=32						
HNR	Honiara	17.64	295	LR	LR	09 16 34.6	
	comp=Z,135nm,18.4s,baz=80,slow=33						
RAR	Rarotonga	23.03	103	LR	LR	09 18 54.3	
	comp=Z,68nm,21.5s,baz=260,slow=32						
KRVT	Keravat (AS076	27.00	296	LR	LR	09 23 02.7	
	comp=Z,72nm,19.9s,baz=193,slow=36						
PMG	Port Moresby	29.27	282	LR	LR	09 22 50.6	
	comp=Z,98nm,18.9s,baz=145,slow=33						
PPT	Papeete	32.67	95	LR	LR	09 24 21.6	
	comp=Z,28nm,18.1s,baz=358,slow=32						
WRA	Warramunga Arr	39.60	260	P	P	09 14 19.8	-0.6
	0.5nm,0.7s,baz=96,slow=8.9,SNR=4.6						
	0.5nm,0.7s						
ASAR	Alice Springs	39.92	254	P	P	09 14 23.8	+0.8
	0.7nm,0.8s,baz=89,slow=8.0,SNR=5.6						
	0.7nm,0.8s						
NVAR	Mina Array Bea	82.78	46	P	P	09 19 13.2	+0.3
	0.3nm,0.7s,baz=248,slow=10,SNR=1.9						
	0.3nm,0.7s						
AKASG	Malin Array Be	137.62	329	PKhKP	PKPpre	09 26 06.6	
	0.2nm,0.3s,baz=72,slow=0.6,SNR=2.5						
GERES	GERESS Array B	145.59	339	PKPbc	PKPab	09 26 27.2	+0.1
	1.0nm,0.9s,baz=31,slow=3.6,SNR=4.7						

*IDC **17** 09:08:50.7±1.0, 36°.42N×27°.47E, h0km, mb3.7/10, mbtmp3.6/19, ML3.6/6, MS2.7/1, Error ellipse: s-maj=18.5km s-min=13.3km az=1.0*
*AFAD **17** 09:08:52.7, 36°.19N×27°.41E, h11km±1km, MW3.6*
*ISK **17** 09:08:53.2, 36°.25N×27°.58E, h3km, ML3.6/24*
*GII **17** 09:08:53.4±0.0, 35°.943N±0°.003×27°.499E±0°.001, h19km, Mws3.5, confirmed*
*THE **17** 09:08:53.9, 36°.33N×27°.60E, h7km±7km, ML3.4/1, Error ellipse: s-maj=8.1km s-min=0.8km az=54.0*
*NIC **17** 09:08:54.6, 36°.15N×27°.60E, h19km, Ml3.4/9*
*ATH **17** 09:08:54.0, 36°.24N×27°.57E, h17km±4km, ML3.6/11, Manual Solution by A.Moschou First location: 2019/02/17 09:10:13, This location: 2019/02/18 10:20:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*

ISC 17 09:08:52.1±0.9, **36°.19N**±0°.02×**27°.49E**±0°.02, **h17**km±6km, **n131**, σ1§**57**/168, **mb3.7**/10, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	Mula-Dat§a-	0.50	357	P	Pg	09 09 02.0	-0.1
YAZI				S	Sg	09 09 08.6	-0.2
YAZI				*i* AML	AML	09 09 11.0	
	comp=N,2μm,0.3s						
YAZI				*i* AML	AML	09 09 11.0	
	comp=E,2μm,0.4s						
ARG	Arkhangelos	0.52	86	Pg	Pg	09 09 02.7	+0.3
ARG				Sg	Sg	09 09 09.6	+0.2
ARG	Arkhangelos	0.52	86	P	Pg	09 09 02.6	+0.2
ARG				S	Sg	09 09 08.2	-1.2
ARG	Arkhangelos	0.52	86	P	Pg	09 09 02.5	0.0
ARG				S	Sg	09 09 10.4	+1.0
ARG				AML	AML	09 09 10.4	
	45nm,0.6s						
ARG				AML	AML	09 09 10.4	
	17nm,0.4s						
ARG	Arkhangelos	0.52	86	P	Pg	09 09 02.8	+0.3
ARG				S	Sg	09 09 09.4	0.0
DATC	Datca-Mugla	0.59	13	Pg	Pg	09 09 03.9	+0.1
DATC				Sg	Sg	09 09 11.8	+0.1
RODB	Rodos	0.65	66	P	Pg	09 09 05.6	+0.7
RODB				S	Sg	09 09 13.2	-0.3
KARP	Karpathos	0.69	203	Pg	Pn	09 09 08.9	+1.7
KARP				Sg	Sn	09 09 20.3	+2.7
KARP	Karpathos	0.69	203	P	Pn	09 09 08.4	+1.1
KARP				S	Sn	09 09 18.7	+1.1
KARP				AML	AML	09 09 21.5	
	19nm,0.5s						
KARP				AML	AML	09 09 21.6	
	12nm,0.4s						
KARP	Karpathos	0.69	203	P	Pn	09 09 09.9	+2.6
KARP				S	Sn	09 09 18.5	+0.9
MRSB	Marmaris-Mugla	0.78	47	Pg	Pg	09 09 07.3	0.0
MRSB				Sg	Sg	09 09 17.4	-0.3
KLNA	Kalymnos	0.88	332	P	Pn	09 09 10.2	+0.5
KLNA				S	Sn	09 09 22.0	-0.1
BDRM	Kayabasi	0.88	358	P	Pg	09 09 09.3	+0.1
BDRM				S	Sb	09 09 22.0	+1.5
BDRM				*i* AML	AML	09 09 25.0	
	comp=E,2μm,0.3s						
BODT	Bodrum	0.89	351	Pg	Pb	09 09 10.2	+1.1
BODT				Sg	Sb	09 09 22.5	+1.8
YKAV	Yalikavak-Bodr	0.95	350	Pg	Pb	09 09 11.1	+0.9
YKAV				Sg	Sn	09 09 24.3	+0.3
ASTA	Astypalaia	0.98	292	P

TAVA *i* AML AML 09 09 49.0
comp=N,225nm,0.3s
TAVA *i* AML AML 09 09 49.0
comp=E,331nm,0.3s
THR9 Santorini-Faro 1.73 276 P **Pb 09 09 23.9 +0.4**
THR9 Santorini-Faro 1.73 276 P **Pb 09 09 23.9 +0.4**
THR5 Thira Island, 1.75 278 P **Pb 09 09 24.2 +0.4**
ESEN Aydn-Nazilli 1.75 23 P **Pn 09 09 22.2 +0.4**
ESEN S **Sn 09 09 43.6 -0.1**
ESEN *i* AML AML 09 09 55.0
comp=N,168nm,0.4s
ESEN *i* AML AML 09 09 57.0
comp=E,207nm,0.6s
AYDB Zeytinkoy-Aydi 1.79 10 Pn **Pn 09 09 24.6 +2.2**
APE Apeiranthos 1.81 300 P **Pb 09 09 24.4 -0.4**
APE Apeiranthos 1.81 300 P **Pb 09 09 24.4 -0.4**
APE Apeiranthos 1.81 300 P **Pb 09 09 24.1 -0.7**
NAZL Nazilli-Aydin 1.89 20 Pn **Pn 09 09 26.2 +2.5**
APMY Acipayam-Deniz 1.94 48 Pn **Pn 09 09 26.8 +2.3**
ELL Elmali 2.03 73 Pn **Pn 09 09 28.3 +2.6**
ELL Elmali 2.03 73 P **Pn 09 09 27.7 +1.9**
ELL S **Sn 09 09 50.2 -0.6**
ODEM Odemis-Izmir 2.14 12 Pn **Pb 09 09 30.2 -0.3**
BLCB Balcova 2.23 351 Pn **Pb 09 09 31.0 -0.9**
IDI Anoyia 2.30 248 Pn **Pb 09 09 32.3 -0.9**
28nm,0.4s,baz=64,slow=11,SNR=47
IDI Sn **Sb 09 10 00.8 -0.6**
28nm,0.3s,baz=356,slow=14,SNR=14
IDI Anoyia 2.30 248 P **Pb 09 09 32.0 -1.1**
KORT Korkueli 2.44 70 Pn **Pn 09 09 34.4 +3.0**
KULA Kula-Manisa 2.50 22 Pn **Pn 09 09 34.5 +2.3**
BASM Basmaki-Afyon 2.68 49 Pn **Pn 09 09 36.9 +2.2**
GORD Gordes-Manisa 2.77 11 Pn **Pn 09 09 38.8 +2.9**
BCK Bucak 2.79 62 Pn **Pn 09 09 39.1 +2.9**
ISP Isparta 2.93 55 Pn **Pn 09 09 40.9 +2.9**
ISP Isparta 2.93 55 P **Pn 09 09 41.2 +3.2**
IMMV Iera Moni Meta 2.94 257 P **Pb 09 09 41.5 -2.6**
SIGR SIGRI 3.29 337 P **Pn 09 09 43.7 +0.8**
DION Dionisos Attik 3.41 305 P **Pn 09 09 47.4 +2.7**
VLI Veliai 3.71 280 P **Pn 09 09 52.0 +3.3**
AKMS Akamas 4.12 105 P **Pn 09 09 55.9 +1.6**
AKMS S **Sn 09 10 43.6 +1.4**
AKMS AML AML 09 10 43.9
0.4nm,0.4s
AKMS AML AML 09 10 44.4
0.4nm,0.7s
AKMS Akamas 4.12 105 P **Pn 09 09 55.9 +1.6**
ALFC Alefka 4.29 102 P **Pn 09 09 58.0 +1.3**
ALFC S **Sn 09 10 47.7 +1.4**
ALFC AML AML 09 10 48.2
0.2nm,0.7s
ALFC AML AML 09 10 48.7
0.3nm,0.6s
ALFC Alefka 4.29 102 P **Pn 09 09 58.0 +1.3**
NATA Nata 4.38 107 P **Pn 09 09 59.7 +1.8**
NATA S **Sn 09 10 50.0 +1.4**
NATA AML AML 09 10 55.0
0.6nm,0.7s
NATA AML AML 09 10 59.2
0.7nm,0.6s
NATA Nata 4.38 107 P **Pn 09 09 59.7 +1.8**
GUR Goura 4.47 295 P **Pn 09 10 02.5 +3.2**
SMTH Samothraki Isl 4.55 341 P **Pn 09 10 01.3 +1.1**
KLV Kalavryta, Ach 4.65 295 P **Pn 09 10 04.4 +2.6**
ASGA Asgata 4.90 105 P **Pn 09 10 06.6 +1.5**
ASGA S **Sn 09 11 04.0 +2.5**
ASGA AML AML 09 11 07.0
0.1nm,1.0s
ASGA AML AML 09 11 08.3
0.2nm,1.1s
CSS Mathiatis 4.92 103 P **Pn 09 10 07.1 +1.8**
CSS S **Sn 09 11 03.4 +1.6**
CSS AML AML 09 11 05.7
0.1nm,1.0s
CSS AML AML 09 11 07.2
0.1nm,0.5s
CSS Mathiatis 4.92 103 P **Pn 09 10 05.9 +0.6**
CSS Mathiatis 4.92 103 S **Sn 09 11 01.7 -0.1**
CSS Mathiatis 4.92 103 P **Pn 09 10 06.9 +1.6**
MVOU Mavrovouni 5.14 101 P **Pn 09 10 10.0 +1.6**
MVOU S **Sn 09 11 09.5 +2.2**
MVOU AML AML 09 11 13.0
0.1nm,0.4s
MVOU AML AML 09 11 18.0
0.1nm,0.8s
MVOU Mavrovouni 5.14 101 P **Pn 09 10 09.3 +0.9**
RDO Rodhopi 5.18 343 P **Pn 09 10 10.5 +1.6**
BRTR Keskin Array B 6.01 52 Pn **Pn 09 10 20.4 0.0**
0.4nm,0.3s,baz=240,slow=17,SNR=12
BRTR Sn **Sn 09 11 28.1 -0.8**
0.1nm,0.3s,baz=207,slow=19,SNR=1.7
0.6nm,0.5s
MMAI Mount Meron Ar 7.25 114 Pn **Pn 09 10 38.1 +0.6**
6.3nm,0.4s,baz=303,slow=13,SNR=12
MMAI Sn **Sn 09 11 59.3 -0.2**
5.3nm,0.3s,baz=306,slow=24,SNR=4.7
GEM Giv'at Ha'Em 7.36 111 P **Pn 09 10 39.3 +0.5**
GEM Giv'at Ha'Em 7.36 111 S **Sn 09 12 01.1 -0.9**
NATI Neve Ativ 7.39 111 P **Pn 09 10 39.8 +0.5**
NATI Neve Ativ 7.39 111 S **Sn 09 12 01.9 -0.8**
MMLI Mount Malkishu 7.55 117 P **Pn 09 10 41.6 0.0**
MMLI Mount Malkishu 7.55 117 S **Sn 09 12 04.9 -1.9**
KSHT Keshet 7.57 113 P **Pn 09 10 42.2 +0.4**
KSHT Keshet 7.57 113 S **Sn 09 12 06.4 -0.9**
HMDT Nahal Hemdat 7.72 118 P **Pn 09 10 44.0 +0.1**
HMDT Nahal Hemdat 7.72 118 S **Sn 09 12 09.4 -1.6**
YTIR Yattir 7.96 125 P **Pn 09 10 47.3 0.0**
YTIR Yattir 7.96 125 S **Sn 09 12 15.2 -1.9**
DSI Dead Sea 8.01 123 P **Pn 09 10 47.8 -0.1**
DSI Dead Sea 8.01 123 S **Sn 09 12 16.3 -1.8**
PRNI Paran 8.57 131 P **Pn 09 10 55.0 -0.5**
PRNI Paran 8.57 131 S **Sn 09 12 28.5 -3.2**
ASF Jabal al Asfar 8.76 114 Pn **Pn 09 10 59.7 +1.5**
0.8nm,0.3s,baz=333,slow=15,SNR=3.8
ASF Sn **Sn 09 12 40.5 +3.9**
0.5nm,0.3s,baz=348,slow=5.2,SNR=3.0
ASF Lg Lg 09 13 37.7
0.7nm,0.3s,baz=282,slow=17,SNR=6.7
1.5nm,0.3s
HRFI Mount Harif 8.81 132 P **Pn 09 10 58.3 -0.5**
HRFI Mount Harif 8.81 132 S **Sn 09 12 35.1 -2.6**
MBRI Mt Berech 8.91 134 P **Pn 09 10 59.9 -0.4**
MBRI Mt Berech 8.91 134 S **Sn 09 12 37.6 -2.7**
EIL Elat 9.03 134 Pn **Pn 09 11 03.5 +1.7**
0.8nm,0.3s,baz=311,slow=11,SNR=6.6
EIL Sn **Sn 09 12 41.1 -1.9**
2.1nm,0.3s,baz=52,slow=16,SNR=8.6
2.5nm,0.4s
EIL Elat 9.03 134 P **Pn 09 11 01.2 -0.5**
EIL Elat 9.03 134 S **Sn 09 12 39.6 -3.5**
MLR Muntele Rosu 9.37 353 Pn **Pn 09 11 04.1 -2.4**
0.1nm,0.3s,baz=188,slow=16,SNR=3.2
0.6nm,0.3s
VAE Valguarnera 10.56 281 Pn **Pn 09 11 21.2 -1.7**
3.1nm,0.6s,baz=196,slow=23,SNR=1.8
VAE Sn **Sn 09 13 23.6 +2.9**
0.8nm,0.3s,baz=68,slow=13,SNR=3.9
KVAR Kislovodsk Arr 13.98 52 Pn **Pn 09 12 07.1 -2.4**
baz=252,slow=8.2
GNI Garni 14.14 69 Pn **Pn 09 12 12.5 +0.7**
0.5nm,0.3s,baz=225,slow=6.3,SNR=3.2
GNI LR LR 09 19 09.1
comp=Z,27nm,19.3s,baz=326,slow=44
AKASG Malin Array Be 14.56 4 Pn **Pn 09 12 15.7 -1.7**
0.5nm,0.3s,baz=191,slow=10,SNR=4.4
0.1nm,0.3s
GERES GERESS Array B 16.20 326 Pn **Pn 09 12 36.9 -2.0**
0.1nm,0.3s,baz=166,slow=21,SNR=1.2
0.1nm,0.3s
BELG Belogornoye 21.57 35 P **P 09 13 38.8 -1.9**
8.2nm,0.7s,baz=239,slow=12,SNR=4.7
8.2nm,0.7s
ESDC Sonseca Array 24.98 288 P **P 09 14 15.4 +0.4**
0.3nm,0.6s,baz=83,slow=9.6,SNR=4.2
0.3nm,0.6s
FINES FINESS Array B 25.30 358 P **P 09 14 15.6 -1.9**
4.9nm,1.1s,baz=175,slow=16,SNR=2.0
4.9nm,1.1s
HFS Hagfors 25.56 344 P **P 09 14 17.7 -2.2**
2.4nm,0.9s,baz=153,slow=10.0,SNR=5.2
2.4nm,0.9s
EKA Eskdalemuir Ar 28.35 322 P **P 09 14 46.2 +1.2**
1.8nm,1.0s,baz=37,slow=6.2,SNR=1.7
1.8nm,1.0s
KURBB Kurchatov Arra 39.00 52 P **P 09 16 18.9 +1.3**
0.8nm,0.5s,baz=275,slow=8.8,SNR=8.2
0.8nm,0.5s
MKAR Makanchi Array 41.63 58 P **P 09 16 40.3 +0.9**
0.2nm,0.4s,baz=266,slow=9.1,SNR=5.1
0.2nm,0.4s
ZALV Zalesovo Beam 42.92 47 P **P 09 16 50.2 +0.4**
0.8nm,0.5s,baz=260,slow=10,SNR=4.3
0.8nm,0.5s
SONM Songino Array 57.37 52 P **P 09 18 40.2 +0.6**
0.2nm,0.5s,baz=294,slow=7.7,SNR=1.7
0.2nm,0.5s
YKA Yellowknife Ar 77.04 343 P **P 09 20 43.7 -0.2**
0.1nm,0.4s,baz=30,slow=6.2,SNR=3.6
0.1nm,0.4s

*IDC **17** 09:26:34.2±1.0, 11°.54S×118°.87E, h0km, mb4.3/9, mbtmp4.4/14, ML4.4/5, MS3.0/5, Error ellipse: s-maj=42.2km s-min=16.5km az=51.0*
*NEIC **17** 09:26:36.7±1.2, 11°.54S±0°.07×118°.85E±0°.07, h10km±1km, mb4.6/29, Error ellipse: s-maj=11.1km s-min=11.1km az=142.0*
*DJA **17** 09:26:36.9±0.3, 12°.5±3°×11°.9E±°, h10km, M4.8/17, mb4.9/17, mB5.3/7, MLv4.8/17, Mw(mB)4.7/7, MwMwp5.4/1, Mwp5.6/1*

ISC 17 09:26:39.1±0.4, 11°.58S±0°.05×118°.92E±0°.05, h35km, n103, σ1§53/104, mb4.5/25, 1D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.98**	**14**	P	**Pn**	**09 27 10.4**	**+0.2**
BASI	**Baing, Sumba**	**2.11**	**51**	P	**Pn**	**09 27 12.9**	**+0.9**
BASI				S	**Sn**	**09 27 38.1**	**+1.1**
WSI	**Waingapu**	**2.33**	**36**	P	**Pn**	**09 27 16.0**	**+1.1**
PLAI	**Plampang**	**2.95**	**337**	P	**Pn**	**09 27 23.7**	**+0.1**
PLAI	**Plampang**	**2.95**	**337**	P	**Pn**	**09 27 24.1**	**+0.5**
TWSI	**Taliwang, Sumb**	**3.46**	**324**	P	**Pn**	**09 27 30.3**	**-0.2**
MMRI	**Maumere**	**4.38**	**48**	Pn	**Pn**	**09 27 43.7**	**+0.5**
MMRI	**Maumere**	**4.38**	**48**	P	**Pn**	**09 27 43.9**	**+0.7**
MMRI	**Maumere**	**4.38**	**48**	P	**Pn**	**09 27 43.5**	**+0.3**
MMRI				S	**Sn**	**09 28 30.4**	**-2.7**
SRBI	**Singaraja**	**5.04**	**313**	P	**Pn**	**09 27 51.9**	**-0.3**
0.9nm2μm38nm,0.5s							
SOEI	**Soe**	**5.56**	**72**		**Pn**	**09 28 00.4**	**+0.9**
SOEI	**Soe**	**5.56**	**72**	P	**Pn**	**09 28 02.2**	**+2.7**
SOEI	**Soe**	**5.56**	**72**	P	**Pn**	**09 28 02.6**	**+3.1**
0.3nm1μm90nm,0.7s							
BSSI	**Bau Bau, Buton**	**5.62**	**16**	P	**Pn**	**09 28 01.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.62**	**303**		**Pn**	**09 27 58.3**	**-1.9**
JAGI	**Jajag, Banyuwa**	**5.62**	**303**	P	**Pn**	**09 27 59.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**5.62**	**303**	P	**Pn**	**09 27 59.8**	**-0.4**
GMJI	**Gumukmas**	**6.32**	**301**	P	**Pn**	**09 28 08.8**	**-1.0**
0.7nm2μm43nm,0.4s							
BKSI	**Bulukumba**	**6.33**	**11**	P	**Pn**	**09 28 11.4**	**+1.5**
2μm78nm,0.5s							
KAPI	**Kappang**	**6.57**	**7**	Pn	**Pn**	**09 28 13.4**	**+0.1**
5.9nm,0.3s,baz=216,slow=5.6,SNR=16							
KAPI				Sn	**Sn**	**09 29 24.0**	**-3.0**
20nm,0.3s,baz=51,slow=23,SNR=17							
KAPI				LR	LR	09 31 03.2	
comp=Z,103nm,19.6s,baz=182,slow=41							
14nm,0.3s							
KMMI	**Kalianget**	**6.64**	**312**	P	**Pn**	**09 28 14.3**	**0.0**
BBSI	**Bau Bau**	**7.04**	**31**	P	**Pn**	**09 28 20.8**	**+1.0**
0.4nm97nm,0.8s							
PCJI	**Pacitan**	**8.34**	**293**	P	**Pn**	**09 28 36.4**	**-1.1**
61nm,0.9s							
UGM	**Wanagama**	**9.04**	**293**		**Pn**	**09 28 46.2**	**-1.1**
UGM	**Wanagama**	**9.04**	**293**	P	**Pn**	**09 28 47.0**	**-0.3**
UGM	**Wanagama**	**9.04**	**293**	P	**Pn**	**09 28 46.6**	**-0.7**
60nm,0.6s							
FITZ	**Fitzroy Crossi**	**9.18**	**136**	Pn	**Pn**	**09 28 49.0**	**0.0**
FITZ	**Fitzroy Crossi**	**9.18**	**136**	Pn	**Pn**	**09 28 48.8**	**-0.3**
4.1nm,0.3s,baz=323,slow=7.9,SNR=65							
FITZ				Sn	**Sn**	**09 30 26.5**	**-4.7**
4.7nm,0.3s,baz=170,slow=15,SNR=14							
FITZ				LR	LR	09 32 48.9	
comp=Z,193nm,19.9s,baz=27,slow=41							
26nm,0.5s							
FITZ	**Fitzroy Crossi**	**9.18**	**136**	P	**Pn**	**09 28 48.9**	**-0.2**
SMRI	**Semarang**	**9.50**	**298**	Pn	**Pn**	**09 28 51.8**	**-1.8**
PSA00	**Pilbara Seismi**	**9.98**	**175**	Pn	**Pn**	**09 29 00.4**	**+0.3**
PSA00	**Pilbara Seismi**	**9.98**	**175**	P	**Pn**	**09 28 59.9**	**-0.2**
KNRA	**Kununurra**	**10.40**	**114**	Pn	**Pn**	**09 29 06.5**	**+0.7**
KPJI	**Karang Pucung**	**10.72**	**292**	P	**Pn**	**09 29 09.4**	**-0.8**
APSI	**Ampana**	**10.94**	**15**	P	**Pn**	**09 29 15.1**	**+1.9**
CMJI	**Cimerak**	**10.99**	**289**	P	**Pn**	**09 29 13.3**	**-0.6**
BBJI	**Bungbulang**	**11.84**	**289**	P	**Pn**	**09 29 25.3**	**-0.4**
GIRL	**Giralia**	**11.88**	**202**	Pn	**Pn**	**09 29 25.5**	**-0.6**
GIRL	**Giralia**	**11.88**	**202**	P	**Pn**	**09 29 27.5**	**+1.4**
MTN	**Manton Dam**	**12.00**	**97**		**Pn**	**09 29 28.4**	**+0.6**
LEM	**Lembang**	**12.11**	**292**	Pn	**Pn**	**09 29 28.5**	**-1.0**
8.7nm,0.3s,baz=159,slow=23,SNR=4.9							
22nm,0.4s							
KMSI	**Cibinong**	**13.07**	**23**	P	**Pn**	**09 29 43.9**	**+1.4**
MEEK	**Meekatharra**	**14.99**	**181**	P	**Pn**	**09 30 07.7**	**-0.8**
SBUM	**Sibu**	**15.45**	**334**	Pn	**Pn**	**09 30 12.4**	**-2.1**
FAKI	**Fak Fak**	**15.76**	**58**	Pn	**Pn**	**09 30 18.6**	**-0.1**
FAKI	**Fak Fak**	**15.76**	**58**	P	**Pn**	**09 30 20.1**	**+1.5**
WRKA	**Warakurna**	**16.07**	**148**	P	**Pn**	**09 30 21.8**	**-0.7**
WRA	**Warramunga Arr**	**17.00**	**121**	Pn	**Pn**	**09 30 33.4**	**-0.9**
WRA	**Warramunga Arr**	**17.00**	**121**	P	**Pn**	**09 30 33.0**	**-1.3**
0.5nm,0.3s,baz=297,slow=14,SNR=29							
WRA				S	Sn	09 33 32.2	-10
4.0nm,0.9s,baz=291,slow=25,SNR=8.0							
WRA				LR	LR	09 38 27.0	
comp=Z,22nm,19.6s,baz=234,slow=42							
2.0nm,0.6s							
WB2	**Warramunga Arr**	**17.01**	**121**	Pn	**Pn**	**09 30 33.2**	**-1.2**
MORW	**Morawa**	**17.61**	**188**		**Pn**	**09 30 41.0**	**-0.9**
MORW				IAmb	IAmb	09 30 43.0	
comp=Z,32nm,0.6s							
MORW	**Morawa**	**17.61**	**188**	P	**P**	**09 30 42.4**	**-0.2**
AS31	**Alice Springs**	**18.65**	**132**	P	**P**	**09 30 54.7**	**+0.6**
ASAR	**Alice Springs**	**18.65**	**132**	P	**Pn**	**09 30 56.0**	**+1.4**
comp=Z,1.1nm,0.3s,baz=315,slow=14,SNR=72							
ASAR				S	**Sn**	**09 34 14.4**	**-7.8**
comp=Z,1.8nm,0.5s,baz=302,slow=22,SNR=7.4							
comp=Z,8.5nm,0.8s							
AS01	**Alice Springs**	**18.68**	**132**	P	**Pn**	**09 30 56.5**	**+1.5**
BLDU	**Ballidu**	**19.06**	**186**	P	**P**	**09 30 58.7**	**+0.2**
KMBL	**Kambalda**	**19.89**	**173**	P	**Pn**	**09 31 08.9**	**-0.4**
KLBR	**Kellerberrin**	**19.95**	**183**	P	**Pn**	**09 31 09.8**	**-0.3**
MUN	**Mundaring**	**20.46**	**187**	P	Pn	09 31 15.1	-0.9
FORT	**Forrest**	**20.90**	**157**	P	Pn	09 31 20.4	-0.8
FORT	**Forrest**	**20.90**	**157**	P	**P**	**09 31 20.1**	**+1.6**
NWAO	**Narrogin (SRO)**	**21.31**	**184**	P	**P**	**09 31 23.8**	**+0.9**
NWAO	**Narrogin (SRO)**	**21.31**	**184**	P	**P**	**09 31 25.3**	**+2.4**
QIS	**Mount Isa**	**21.77**	**117**	P	**P**	**09 31 31.2**	**+3.2**
OOD	**Oodnadatta**	**22.53**	**138**	P	**P**	**09 31 39.4**	**+3.4**
COEN	**Coen**	**23.77**	**98**	P	**P**	**09 31 49.7**	**+1.0**
IPM	**Ipoh**	**23.90**	**311**	P	**P**	**09 31 48.8**	**-1.1**
IPM				IAmb	IAmb	09 31 51.7	
comp=Z,13nm,0.8s							
KULM	**Kulim**	**24.72**	**312**	P	**P**	**09 31 57.0**	**-0.3**
KULM				IAmb	IAmb	09 31 59.1	
comp=Z,7.4nm,0.7s							
LCRK	**Leigh Creek**	**25.94**	**139**	P	**P**	**09 32 10.3**	**+2.0**
BBOO	**Buckleboo**	**26.35**	**146**	P	**P**	**09 32 14.1**	**+2.1**
BBOO				IAmb	IAmb	09 32 15.9	
comp=Z,13nm,1.1s							
BBOO	**Buckleboo**	**26.35**	**146**	P	**P**	**09 32 14.3**	**+2.3**
STKA	**Stephens Creek**	**29.07**	**138**	P	**P**	**09 32 38.0**	**+1.7**
STKA				IAmb	IAmb	09 33 20.6	
comp=Z,10nm,1.4s							
STKA	**Stephens Creek**	**29.07**	**138**	P	**P**	**09 32 36.8**	**+0.4**
comp=Z,1.0nm,0.4s,baz=319,slow=11,SNR=4.2							
comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**35.77**	**326**	P	**P**	**09 33 34.0**	**-1.1**
comp=Z,0.9nm,0.2s,baz=119,slow=5.2,SNR=1.6							
CMAR				LR	LR	09 48 47.1	
comp=Z,25nm,19.2s,baz=190,slow=37							
comp=Z,0.9nm,0.2s							
YHNB	**Yeheng**	**36.10**	**4**	P	**P**	**09 33 37.2**	**-0.7**
PZH	**PanZhiHua**	**41.37**	**336**	P	**P**	**09 34 25.1**	**+3.0**
PZH				pmax	pmax		
comp=Z,8.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,100nm,4.7s							
SHL	**Shillong**	**45.35**	**325**	P	**P**	**09 34 54.1**	**-0.3**
SHL				IAmb	IAmb	09 34 55.0	
comp=Z,5.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**56.77**	**11**	P	**P**	**09 36 18.9**	**-0.6**
comp=Z,1.6nm,0.7s,baz=119,slow=5.3,SNR=2.1							
comp=Z,1.6nm,0.7s							
SONM	**Songino Array**	**60.19**	**350**	P	**P**	**09 36 43.6**	**0.0**
comp=Z,1.5nm,0.7s,baz=170,slow=7.6,SNR=10							
comp=Z,1.5nm,0.7s							
KLR	**Kul'dur**	**61.59**	**10**	LR	LR	10 04 50.3	
comp=Z,18nm,19.3s,baz=268,slow=37							
WMQ	**Urumqi**	**62.03**	**335**	*e*P	P	09 37 01.8	+5.7
WMQ				sP	pP	09 37 06.3	+1.1
WMQ				pmax	pmax		
comp=Z,13nm,0.9s							
WUS	**Wushi**	**64.02**	**328**	P	**P**	**09 37 09.4**	**0.0**
KSH	**Kashi**	**64.63**	**324**	P	**P**	**09 37 14.1**	**+0.7**
KSH				pmax	pmax		
comp=Z,8.0nm,0.8s							
TARG	**Taragay, Kyrgy**	**65.14**	**327**	P	**P**	**09 37 17.8**	**+0.7**
TARG				IAmb	IAmb	09 37 20.4	
comp=Z,5.5nm,0.9s							
KDJ	**Kajisay**	**65.75**	**327**	P	**P**	**09 37 21.7**	**+0.9**
KDJ				IAmb	IAmb	09 37 22.9	
comp=Z,7.4nm,1.2s							
KBL	**Kabul**	**65.87**	**316**	P	**P**	**09 37 21.1**	**-0.6**
KBL				IAmb	IAmb	09 37 22.7	
comp=Z,4.6nm,0.9s							
BOOM	**Boomskoye usch**	**66.67**	**327**	P	**P**	**09 37 27.2**	**+0.6**
BOOM				IAmb	IAmb	09 37 27.9	
comp=Z,4.0nm,0.6s							
MK31	**Makanchi Array**	**66.71**	**333**	P	**P**	**09 37 27.1**	**+0.5**
MK31				IAmb	IAmb	09 37 28.1	
comp=Z,5.2nm,0.8s							
MKAR	**Makanchi Array**	**66.71**	**333**	P	**P**	**09 37 27.5**	**+0.9**
MKAR	**Makanchi Array**	**66.71**	**333**	P	**P**	**09 37 27.3**	**+0.7**
comp=Z,6.9nm,0.6s,baz=154,slow=7.4,SNR=96							
comp=Z,6.9nm,0.6s							
ARSB	**Arslanbob**	**67.53**	**324**	P	**P**	**09 37 32.6**	**+0.5**
AAK	**Ala-Archa**	**67.55**	**326**	P	**P**	**09 37 32.8**	**+0.6**
AAK				IAmb	IAmb	09 37 34.1	
comp=Z,4.9nm,1.1s							
GAR	**Garm**	**67.67**	**321**	P	**P**	**09 37 33.2**	**+0.2**
SIMJ	**Simiganj**	**68.28**	**320**	P	**P**	**09 37 36.6**	**-0.3**
SIMJ				IAmb	IAmb	09 37 37.9	
comp=Z,5.8nm,1.0s							
KURBB	**Kurchatov Arra**	**71.23**	**334**	P	**P**	**09 37 55.1**	**+0.6**
comp=Z,1.7nm,0.5s,baz=147,slow=5.0,SNR=25							
comp=Z,1.7nm,0.5s							
KURK	**Kurchatov**	**71.26**	**334**	P	**P**	**09 37 55.3**	**+0.6**
KURK				IAmb	IAmb	09 37 56.3	
comp=Z,3.6nm,0.9s							
ZAA0	**Zalesovo Array**	**71.41**	**340**	P	**P**	**09 37 55.4**	**-0.1**
ZALV	**Zalesovo Beam**	**71.41**	**340**	P	**P**	**09 37 55.0**	**-0.5**
ZALV	**Zalesovo Beam**	**71.41**	**340**	P	**P**	**09 37 55.5**	**-0.1**
comp=Z,5.1nm,0.5s,baz=146,slow=5.3,SNR=29							
comp=Z,5.1nm,0.5s							
PETK	**Petropavlovsk-**	**72.45**	**23**	P	**P**	**09 38 02.4**	**+0.5**
comp=Z,2.9nm,0.8s,baz=241,slow=0.5,SNR=5.6							
comp=Z,2.9nm,0.8s							
SYO	**Syowa Base**	**75.44**	**201**	‖*e*P	**P**	**09 38 20.5**	**+1.4**
BVAR	**Borovoye Array**	**76.52**	**332**	P	**P**	**09 38 25.2**	**-0.3**
comp=Z,1.7nm,0.6s,baz=141,slow=5.1,SNR=9.7							
comp=Z,1.7nm,0.6s							
ABKAR	**Akbulak array**	**79.61**	**325**	P	**P**	**09 38 43.9**	**+1.1**
ABKAR				IAmb	IAmb	09 38 44.6	
comp=Z,3.5nm,0.8s							

TAP 17 09:26:55.0, 24°.52N×121°.61E, h3km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.07**	**282**	P	Pg	09 26 57.4	+0.9
LATG				S	Sg	09 26 58.6	+1.0
ENTT	**Nioudou**	**0.12**	**343**	*e*P	Pg	09 26 58.3	+0.8
ENTT				*e*S	Sg	09 27 00.2	+1.0
ENA	**Nanau**	**0.15**	**126**	*e*P	Pg	09 26 59.1	+1.1
EWUT	**Wuta**	**0.17**	**115**	*e*P	Pg	09 26 59.1	+0.7
ESAO	**Su ao**	**0.23**	**76**	*e*P	Pg	09 26 59.6	+0.3
NNS	**Nan Shan**	**0.23**	**249**	*e*P	Pg	09 26 59.8	+0.4
FUSB	**Fushanzhiwuyua**	**0.24**	**356**	*e*P	Pg	09 27 00.6	+0.9
TWC	**Suao**	**0.24**	**68**	*e*P	Pg	09 27 00.3	+0.7
TWC				*e*S	Sg	09 27 03.9	+1.1
YHNB	**Yeheng**	**0.26**	**306**	*e*P	Pg	09 27 00.8	+0.9
NWLT	**Wulai**	**0.27**	**340**	*e*P	Pg	09 27 01.1	+0.8
ETLH	**Xiulin Townshi**	**0.33**	**200**	*e*P	Pg	09 27 02.0	+0.6
NACB	**Ninganchiao**	**0.34**	**182**	*e*P	Pg	09 27 02.2	+0.6
NACB				*e*S	Sg	09 27 07.2	+1.0
NFF	**Wufeng Townshi**	**0.46**	**284**	*e*P	Pg	09 27 04.7	+0.9

*NEIC **17** 09:55:24.2±2.1, 38°.338N±0°.009×122°.43W±0°.01, h13km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=222.0*
*IDC **17** 09:55:26.6±1.9, 38°.74N×121°.99W, h0km, mb3.4/2, mbtmp3.2/7, ML3.1/5, MS2.9/4, Error ellipse: s-maj=24.1km s-min=8.5km az=40.0*

ISC 17 09:55:24.7±0.8, 38°.36N±0°.02×122°.41W±0°.02, h12km±5km, n231, σ1§46/222, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVS	**Carmenet Viney**	**0.04**	**252**		**Pg**	**09 55 27.3**	**+0.4**
CVS	**Carmenet Viney**	**0.04**	**252**	IAML		09 55 27.7	
comp=N,157μm,0.5s							
CVS				IAML		09 55 27.8	
comp=E,91μm,0.3s							
OAKV	**Oakville Exper**	**0.07**	**0**		**Pg**	**09 55 26.4**	**-0.8**
OAKV					**Sg**	**09 55 28.4**	**-0.7**
NGVM		**0.17**	**116**		**Pg**	**09 55 27.5**	**-1.1**
SNT	**Sears Point**	**0.18**	**191**		**Pg**	**09 55 27.9**	**-0.8**
QRDG	**Quail Ridge Na**	**0.24**	**60**		**Pg**	**09 55 29.1**	**-0.7**
NHSM	**Mount Saint He**	**0.34**	**332**		**Pb**	**09 55 31.4**	**-1.4**
NHSM					**Sb**	**09 55 37.1**	**-1.2**
PINL	**Point Pinole R**	**0.35**	**174**		**Pg**	**09 55 31.4**	**-0.3**
NADM	**Allendale**	**0.36**	**73**		**Pb**	**09 55 32.3**	**-0.8**
C067	**Fleetwood El S**	**0.39**	**166**		**Pg**	**09 55 32.4**	**-0.1**
CPIM	**Pinole Ridge**	**0.40**	**157**		**Pg**	**09 55 32.4**	**-0.2**
CSPM	**San Pablo Ridg**	**0.41**	**169**		**Pg**	**09 55 32.7**	**-0.1**
C024	**33rd St Richmo**	**0.42**	**172**		**Pg**	**09 55 32.6**	**-0.4**
MCCM	**Marconi Confer**	**0.43**	**240**	Pg	**Pb**	**09 55 33.0**	**-1.2**
MCCM				IAML		09 55 44.2	
comp=N,6μm,0.4s							
NOLM	**Olema**	**0.44**	**224**		**Pb**	**09 55 33.2**	**-1.2**
C018	**

BDM	Black Diamond	0.59	133		Pg	09 55 35.8	-0.4
CRPB	Russellman Par	0.60	138		Pg	09 55 35.4	-0.9
NPRM	Point Reyes	0.60	233		Pb	09 55 36.1	-1.0
CMCM	Mills College	0.60	162		Pg	09 55 35.6	-0.9
BGC	Bolinger Road	0.61	153		Pg	09 55 35.9	-0.6
C047	Rutherford Dri	0.61	150		Pb	09 55 36.6	-0.8
GRTM	Round Top Moun	0.61	341		Pb	09 55 36.5	-0.9
C058	Eastshore Driv	0.62	166		Pg	09 55 36.5	-0.2
J061	Lakeshore Driv	0.63	186		Pg	09 55 36.6	-0.4
GPMM	Pine Mountain	0.64	320		Pn	09 55 37.3	-2.5
GHCM	House Creek	0.67	292		Pn	09 55 37.7	-2.3
CSLM	San Leandro Hi	0.67	160		Pb	09 55 36.8	-1.6
CLCB	Lake Chabot	0.68	156		Pb	09 55 37.3	-1.2
JSBM	San Bruno Moun	0.68	179		Pb	09 55 37.2	-1.2
C057	Hedge Avenue B	0.69	125		Pb	09 55 37.9	-0.8
C045	Hawkins Drive	0.70	150		Pg	09 55 38.5	+0.2
JMGM	Milagra Ridge	0.72	184		Pb	09 55 38.1	-1.1
CMOB	Morgan Territo	0.73	138		Pb	09 55 37.6	-1.8
C055	Cottonwood Ave	0.74	161		Pb	09 55 38.6	-0.9
JCPM	Coyote Point	0.77	175		Pb	09 55 38.7	-1.4
SAC	San Andreas	0.77	180		Pb	09 55 38.9	-1.2
C062	Calle Reynoso	0.80	150		Pn	09 55 40.4	-1.4
FARB	Farallon Islan	0.81	215		Pg	09 55 39.7	-0.6
CBSNC	Byron Hot Spri	0.81	131		Pb	09 55 39.1	-1.7
C069	Rotal Creek Pl	0.82	150		Pg	09 55 40.6	+0.1
HOPS	Hopland Field	0.82	321		Pn	09 55 39.9	-2.3
CVLM	Vallecito	0.86	148		Pb	09 55 40.8	-0.8
CBZL	Buffer Zone	0.86	140		Pb	09 55 40.1	-1.6
CBZL	Buffer Zone	0.86	140		Pb	09 55 40.4	-1.3
C015	Bright Common	0.86	157		Pb	09 55 40.6	-1.0
CSAM	Sandia	0.88	140		Pb	09 55 40.9	-1.1
WENL	Wente Vineyard	0.90	145		Pb	09 55 41.3	-0.9
C001	Firth Court Fr	0.92	156		Pg	09 55 42.0	-0.4
JRSC	Jasper Ridge	0.96	172		Pb	09 55 41.8	-1.6
JSFB	Stanford Teles	0.97	169		Pb	09 55 42.2	-1.3
GFC	Funks Creek	0.97	6		Pg	09 55 42.7	-0.7
SUTB	Sutter Butte	1.00	29		Pb	09 55 41.1	-2.8
SUTB	Sutter Butte	1.00	29	IAML		09 55 55.7	
	comp=N,2µm,0.4s						
SUTB				IAML		09 56 04.8	
	comp=E,1µm,0.5s						
JFP	Foothills Park	1.01	170		Pb	09 55 42.6	-1.6
OSUM	Sutter Buttes	1.01	25		Pb	09 55 42.1	-2.0
CSTL	Corral Hollow	1.02	135		Pb	09 55 42.3	-2.0
CSTL	Corral Hollow	1.02	135		Pb	09 55 42.7	-1.6
CALM	Calaveras Res.	1.03	152		Pb	09 55 42.8	-1.6
C016	Longford Drive	1.05	156		Pb	09 55 44.3	-1.0
JSJM	St Joseph	1.05	166		Pb	09 55 43.8	-1.1
JBMM	Black Mountain	1.06	169		Pb	09 55 43.2	-1.8
CMLM	Mount Lewis	1.06	145		Pb	09 55 43.4	-1.8
C041	El Campo Drive	1.08	155		Pn	09 55 44.9	-0.9
GWRM	Wonder Ranch	1.10	321		Pg	09 55 45.9	0.0
SCCB	Santa Clara Co	1.15	158		Pn	09 55 44.9	-1.8
CMMM	Mount Mocho	1.16	141		Pn	09 55 44.6	-2.3
JPSM		1.16	178		Pn	09 55 44.8	-2.0
MHC	Mount Hamilton	1.18	149		Pn	09 55 45.0	-2.2
GCK	Clark Valley	1.19	359		Pg	09 55 46.2	-1.3
OSTM	Stimpson Lane	1.19	32		Pn	09 55 44.1	-3.1
JJOM	Saint Joseph's	1.20	163		Pn	09 55 45.4	-1.9
MTOS	Mt Oso, Westle	1.21	134		Pn	09 55 45.0	-2.4
MTOS	Mt Oso, Westle	1.21	134	IAML		09 56 07.3	
	comp=E,712nm,0.9s						
MTOS				IAML		09 56 10.5	
	comp=N,680nm,0.6s						
ARN	Arnold Ranch	1.22	145		Pn	09 55 45.5	-2.2
SFRE	Sierra Foothil	1.24	43		Pn	09 55 45.0	-2.8
CCOB	Coe Ranch Numb	1.24	152		Pn	09 55 46.4	-1.5
AFDM	Forest Hills D	1.27	62	Pg	Pn	09 55 45.7	-2.7
AFDM				IAML		09 56 03.5	
	comp=E,548nm,0.2s						
AFDM				IAML		09 56 03.7	
	comp=N,823nm,0.5s						
JLAB	Laurel Hill	1.32	156		Pn	09 55 47.5	-1.5
CMPM	Mikes Peak	1.32	139		Pn	09 55 47.5	-1.6
ORV	Oroville	1.39	30		Pn	09 55 47.2	-2.8
GVV	Valley View	1.43	352		Pb	09 55 49.5	-2.0
HLPM	Lions Peak	1.45	155		Pn	09 55 48.9	-1.9
GHS	Gilroy Hot Spr	1.47	148		Pn	09 55 49.2	-2.0
JELB	Ellicott, Sant	1.50	162		Pn	09 55 49.5	-1.9
CDC	Canada Road	1.52	151		Pn	09 55 50.0	-1.7
HCBM	Chamberlain	1.54	157		Pn	09 55 50.4	-1.6
HCOM	Corn Cob Canyo	1.57	159		Pn	09 55 50.5	-2.0
HPCM	Pacheco Lake	1.58	145		Pn	09 55 50.9	-1.7
SCKWR	San Luis Creek	1.58	137		Pn	09 55 51.2	-1.4
HFEM	San Felipe	1.59	149		Pn	09 55 50.9	-1.8
SLD	San Luis Dam	1.59	143		Pn	09 55 51.0	-1.7
ANZ	Anzar Road	1.61	156		Pn	09 55 50.7	-2.3
KCPM	Cahto Peak	1.61	326		Pg	09 55 54.9	-0.7
PACP	Pacheco Peak	1.62	146		Pn	09 55 51.7	-1.5
CMB	Columbia Colle	1.63	101		Pn	09 55 51.4	-1.9
CMB				IAML		09 56 19.6	
	comp=N,390nm,0.5s						
HTUM	Tustin Road	1.65	158		Pn	09 55 51.2	-2.3
HERM	Elkhorn Road	1.65	160		Pn	09 55 51.5	-2.1
FRP	Fremont Peak	1.76	155		Pn	09 55 52.7	-2.5
SAO	San Andreas Ge	1.77	154	Pn	Pn	09 55 52.8	-2.3
BSRM	Salinas Radio	1.83	157		Pn	09 55 53.9	-2.1
O02D	Mt. Diablo Mer	1.84	351	Pn	Pn	09 55 55.2	-1.1
LTCM	Tuscan Springs	1.86	7		Pn	09 55 54.7	-1.7
BPCNC	Pine Canyon	1.89	160		Pn	09 55 54.8	-2.0
SCZ	Santa Cruz	1.93	155		Pn	09 55 54.9	-2.5
BJOM	Mount Johnson	1.94	153		Pn	09 55 55.5	-2.0
BJCM	Johnson Can.	1.98	156		Pn	09 55 55.8	-2.3
O03E	Paynes Creek	1.99	14		Pn	09 55 56.0	-2.3
O03E	Paynes Creek	1.99	14	IAML		09 56 23.0	
	comp=E,504nm,0.7s						
O03E				IAML		09 56 41.3	
	comp=N,214nm,0.7s						
BPRM	Ponciano Ridge	2.02	164		Pn	09 55 56.6	-2.1
BBGB	Big Mountain B	2.08	148	Pn	Pn	09 55 58.0	-1.6
BPIM	Pinnacles	2.11	152		Pn	09 55 58.0	-1.9
KMRM	Mail Ridge	2.12	332		Pn	09 55 59.7	-0.3
BSMM	Soledad Missio	2.12	158		Pn	09 55 58.7	-1.4
LEGD	La Grand CA	2.12	122		Pn	09 55 58.5	-1.5
BMSM	Mercy Hot Spri	2.13	142		Pn	09 55 59.1	-1.1
BSGM	Shirttail Gulc	2.15	154		Pn	09 55 58.4	-2.0
BEKR	Beckworth	2.19	46		Pn	09 56 01.1	-0.2
LRV	Little Rabbit	2.23	150		Pn	09 56 00.3	-1.2
LMEM	Manzanita Entr	2.27	16		Pn	09 56 00.5	-1.8
PEAR	Peavine Mounta	2.28	56		Pn	09 56 02.7	+0.2
MMIM	Miami Mountain	2.31	113		Pn	09 56 01.7	-1.0
PNTR	Pine Nut	2.32	71		Pn	09 56 02.1	0.0
WAKR	Walker	2.34	85		Pn	09 56 03.7	+0.5
WAKR	Walker	2.34	85	IAML		09 56 41.2	
	comp=N,325nm,1.1s						
MHDM	Hidden Dam	2.35	121		Pn	09 56 01.9	-1.3
WEAV	Weaverville	2.43	350		Pn	09 56 04.1	-0.2
KMPM	Mount Pierce	2.45	328	Pn	Pn	09 56 03.7	-0.9
KMPM				IAML		09 56 30.1	
	comp=N,143nm,4.0s						
LSHM	Sage Hen Hill	2.45	7		Pn	09 56 02.3	-2.3
PMPB	Monarch Peak	2.49	149		Pn	09 56 03.9	-1.3
HULI	Fort Hunter Li	2.51	158		Pn	09 56 03.4	-2.0
HULI	Fort Hunter Li	2.51	158	IAML		09 56 48.5	
	comp=N,284nm,1.2s						
HULI				IAML		09 56 59.2	
	comp=E,224nm,1.1s						
YERR	Yerington	2.56	75		Pn	09 56 05.3	-1.0
HATC	Hat Creek Radi	2.56	16	Pn	Pn	09 56 06.4	+0.2
HATC				IAML		09 57 20.0	
	comp=N,179nm,1.4s						
PDRM	Domengine Ranc	2.59	140		Pn	09 56 05.5	-1.0
PWMM	Westland Maint	2.60	137		Pn	09 56 05.8	-0.8
LBCM	Butte Creek Ri	2.61	18		Pn	09 56 07.2	+0.3
N02D	Trinity Center	2.62	355		Pn	09 56 05.1	-1.9
N02D	Trinity Center	2.62	355	IAML		09 56 50.4	
	comp=N,124nm,0.6s						
N02D				IAML		09 56 54.2	
	comp=E,142nm,0.8s						
PSAM	San Ardo	2.63	152		Pn	09 56 05.4	-1.5
KCC	Kaiser Creek	2.66	112		Pn	09 56 07.0	-0.4
PSMM	Smith Mountain	2.71	147		Pn	09 56 07.7	-0.4
KHMM	Horse Mountain	2.71	338		Pn	09 56 07.2	-1.1
PAHR	Pah Rah Range	2.71	59		Pn	09 56 07.8	-0.5
PAHR	Pah Rah Range	2.71	59	IAML		09 56 59.4	
	comp=E,141nm,1.0s						
PAHR				IAML		09 56 59.5	
	comp=N,154nm,1.6s						
MDPB	Devils Postpil	2.73	104		Pn	09 56 08.9	+0.2
MDPB	Devils Postpil	2.73	104	IAML		09 56 50.0	
	comp=E,253nm,0.9s						
MDPB				IAML		09 56 57.5	
	comp=N,222nm,0.7s						
MDCM	Deadman Creek	2.74	103		Pn	09 56 09.0	+0.2
PHSB	Hesperia Broad	2.75	156		Pn	09 56 07.2	-1.5
PHPM	Hope Ranch	2.78	148		Pn	09 56 06.5	-2.6
LMCR	Lookout Mounta	2.81	102		Pn	09 56 10.4	+0.7
MEMM	East Mammoth H	2.83	103		Pn	09 56 10.4	+0.4
PKD	Bear Valley Ra	2.83	148		Pn	09 56 08.2	-1.7
PANM	San Antonio Re	2.84	154		Pn	09 56 08.1	-1.8
PVCM	Vineyard Canyo	2.86	148		Pn	09 56 09.0	-1.2
PSTM	Stockdale Moun	2.86	147		Pn	09 56 09.0	-1.3
PPO	Portuguese Can	2.87	149		Pn	09 56 09.3	-1.0
KARE	Kearney REC, C	2.90	126		Pn	09 56 09.9	-0.8
MLAC	Mammoth, Mammo	2.92	103		Pn	09 56 12.7	+1.5
MCVM	Convict Lake	2.93	104		Pn	09 56 11.9	+0.4
PKEM	Kettleman Hill	2.94	141		Pn	09 56 09.8	-1.5
PHFM	Heflinger Ranc	2.95	146		Pn	09 56 09.3	-2.1
RAMR	Ramage Ranch	2.98	155		Pn	09 56 10.2	-1.7
LBFM	Black Fox Moun	3.01	7		Pn	09 56 12.6	+0.1
RYN	Ryan	3.06	84		Pn	09 56 12.3	-0.8
RYN				IAML		09 57 01.3	
	comp=N,158nm,1.0s						
RYN				IAML		09 57 02.0	
	comp=E,148nm,0.6s						
LHV	Little Huntoon	3.08	91		Pn	09 56 12.9	-0.2
LHV				IAML		09 57 15.1	
	comp=E,191nm,0.9s						
NVAR	Mina Array Bea	3.23	87	Pn	Pn	09 56 14.3	-1.2
NVAR	Mina Array Bea	3.23	87	Pn	Pn	09 56 14.5	-0.9
	comp=E,0.7nm,0.3s,baz=269,slow=14,SNR=19						
NVAR				Lg	Lg	09 56 59.6	
	comp=E,14nm,0.3s,baz=265,slow=34,SNR=6.8						
	comp=E,1.5nm,0.5s						
NV11	Mina Array Sit	3.34	87		Pn	09 56 15.6	-1.4
NV11				IAML		09 57 14.4	
	comp=N,90nm,1.1s						
NV11				IAML		09 57 14.7	
	comp=E,62nm,1.2s						
KRMB	Red Mountain	3.36	340	Pn	Pn	09 56 17.1	-0.1
KRMB				IAML		09 56 47.0	
	comp=N,65nm,3.6s						
YBH	Yreka Blue Hor	3.38	356	Pn	Pn	09 56 16.2	-1.2
YBH	Yreka Blue Hor	3.38	356	Pn	Pn	09 56 17.1	-0.3
	comp=N,1.5nm,0.3s,baz=176,slow=4.3,SNR=30						
YBH				Lg	Lg	09 57 03.1	
	comp=N,1.6nm,0.3s,baz=75,slow=19,SNR=8.6						
YBH				LR	LR	09 57 46.3	
	comp=N,147nm,21.9s,baz=190,slow=46						
	comp=N,7.4nm,0.5s						
DSP	Deep Springs	3.65	104		Pn	09 56 20.5	-0.5
DSP				IAML		09 57 36.2	
	comp=E,67nm,1.1s						
L04D	Klamath Falls	3.86	1	Pn	Pn	09 56 24.7	+0.6
L04D				IAML		09 57 23.3	
	comp=N,44nm,4.3s						
L04D				IAML		09 57 59.6	
	comp=E,45nm,3.9s						
MZP	Montezuma Peak	4.02	98		Pn	09 56 26.2	-0.3
Q09A	Carvers	4.12	82	Pn	Pn	09 56 26.4	-1.4
ISA	Isabella, Lake	4.14	129	Pn	Pn	09 56 26.9	-1.0
ISA				IAML		09 57 31.0	
	comp=E,39nm,1.2s						
BCW	Bitter Crk WRg	4.18	144		Pn	09 56 26.8	-1.6
BCW				IAML		09 58 22.2	
	comp=N,67nm,2.4s						
GMN	Gold Mountain	4.21	103		Pn	09 56 28.5	-0.5
GMN				IAML		09 57 48.5	
	comp=N,35nm,1.0s						
K04D	Chiloquin, OR	4.29	7	Pn	Pn	09 56 30.1	+0.1
K04D				IAML		09 58 01.2	
	comp=N,67nm,1.2s						
K04D				IAML		09 58 35.4	
	comp=E,65nm,2.9s						
K02D	Willamette Mer	4.44	348	Pn	Pn	09 56 33.1	+1.1
K02D				IAML		09 57 19.3	
	comp=N,42nm,4.0s						
K02D				IAML		09 58 16.2	
	comp=E,46nm,2.7s						
CCAC	Calif City Air	4.76	131		Pn	09 56 34.3	-2.1
CCCA	Chr Cany lake	4.93	123		Pb	09 56 47.8	-3.3
J05D	Fort Rock, OR	5.00	10	Pn	Pn	09 56 41.8	+2.0
J05D				IAML		09 57 29.2	
	comp=N,33nm,4.9s						
J05D				IAML		09 58 21.6	
	comp=E,32nm,3.7s						
GWY	Greenwater Val	5.07	114	Pn	Pn	09 56 40.1	-0.6
GWY				IAML		09 58 20.7	
	comp=E,33nm,1.1s						
GWY				IAML		09 58 32.1	
	comp=N,26nm,1.9s						
PASC	Pasadena Art C	5.39	139	Pn	Pn	09 56 44.2	-0.8
PASC				IAML		09 58 33.6	
	comp=E,30nm,4.1s						
PASC				IAML		09 59 00.7	
	comp=N,31nm,4.2s						
GSC	Goldstone, Bar	5.43	122		Pn	09 56 45.2	-0.4
PINE	Pine Mountain	5.54	11	Pn	Pn	09 56 49.3	+2.1
ELK	Elko	6.03	64	Pn	Pn	09 56 53.3	-0.7
ELK	Elko	6.03	64	Pn	Pn	09 56 50.5	-3.5
	comp=N,0.7nm,0.3s,baz=257,slow=11,SNR=11						
ELK				LR	LR	09 59 47.3	
	comp=N,108nm,19.7s,baz=284,slow=47						
	comp=N,0.8nm,0.3s						
SHPR	Sheep Range	6.06	106		Pn	09 56 54.7	+0.4
I07A	Izee	6.12	20	Pn	Pn	09 56 57.0	+1.9
NEW	Newport	10.62	20	LR	LR	10 02 30.2	
	comp=N,64nm,18.8s,baz=238,slow=42						
PDAR	Pinedale Array	10.72	62	Pn	Pn	09 57 57.0	-1.3
	baz=238,slow=9.0,SNR=2.1						
	comp=N,0.2nm,0.6s						
BBB	Bella Bella	14.39	346	LR	LR	10 03 59.1	
	comp=N,77nm,18.1s,baz=206,slow=36						
TXAR	Lajitas Array	17.96	114	P	P	09 59 37.8	+2.8
	baz=302,slow=12,SNR=15						
	comp=N,2.1nm,1.0s						
DLBC	Dease Lake	20.70	349	P	Pn	10 00 06.2	-0.8
	comp=N,1.4nm,0.5s,baz=180,slow=8.1,SNR=7.4						
	comp=N,1.4nm,0.5s						
ILAR	Eielson Array	30.11	339	P	P	10 01 36.2	+2.3
	comp=N,0.2nm,0.7s,baz=131,slow=8.4,SNR=4.4						
	comp=N,0.2nm,0.7s						

*NEIC **17** 10:04:22.0±2.7, 20°.12N±0°.01×155°.78W±0°.01, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.4km az=264.0*

HVO 17 10:04:23.0±2.5, 20°.18N±0°.01×155°.80W±0°.02, h12km±2km, ML3.0/39, ML3.1/42(NEIC), Error ellipse: s-maj=2.4km s-min=2.0km az=57.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	Mahukona	0.09	277	Pg	Pg	10 04 26.2	+0.4
MHA				Sg	Sg	10 04 28.6	+0.8
HPAH	Hawaii Prepara	0.18	145		Pg	10 04 26.4	-0.7
HPAH				Sg	Sg	10 04 28.9	-1.0
POHA	Pohakuloa	0.49	148	Pg	Pg	10 04 31.0	-1.7
POHA					Sg	10 04 36.8	-2.5
POHA				IAML		10 04 38.2	
	1µm,0.4s						
POHA				IAML		10 04 43.2	
	1µm,0.3s						
HUH	Hualalai	0.49	183		Pg	10 04 31.9	-0.8
HUH	Hualalai	0.49	183		Sg	10 04 38.7	-0.6
ALEP	Alea Permanent	0.65	167		Pg	10 04 34.3	-1.4
ALEP					Sg	10 04 42.9	-1.5
MLOA	Mauna Loa Obse	0.67	161		Pg	10 04 34.6	-1.6
MLOA					Sg	10 04 43.4	-1.8
CPH	Captain Cook	0.69	189		Pg	10 04 34.5	-2.0
HLK	Haleakala	0.71	324	Pg	Pg	10 04 34.9	-2.0
HLK				Sg	Sg	10 04 44.2	-2.2
MLH	Mauna Loa	0.79	150		Pg	10 04 35.6	-2.7
MLH	Mauna Loa	0.79	150		Sg	10 04 45.6	-3.0
MLH	Mauna Loa	0.79	150	IAML		10 04 48.4	
	comp=N,576nm,0.1s						
MLH				IAML		10 05 02.8	
	comp=E,485nm,0.5s						
RSD	Rainshed	0.87	145		Pg	10 04 36.7	-3.1
RSD				IAML		10 04 50.6	
	comp=E,530nm,0.5s						
RSD				IAML		10 04 50.8	
	comp=N,659nm,0.6s						
UWE	Uwekahuna	0.89	147		Pg	10 04 36.9	-3.4
UWE				IAML		10 05 04.0	
	comp=N,776nm,0.6s						
UWE				IAML		10 05 08.3	
	comp=E,785nm,0.5s						
UWB	Uwekahuna Bluf	0.90	146		Pg	10 04 37.3	-3.1
OBL	Observatory Le	0.90	147		Pg	10 04 37.4	-3.1
SBLHI	Steaming Bluff	0.90	146		Pg	10 04 37.5	-3.0
WRMHI	West Rim	0.90	148		Pg	10 04 37.4	-3.1
HATHI	Halema'uma'u T	0.91	146	Pg	Pg	10 04 37.0	-3.6
HATHI				IAML		10 05 04.3	
	comp=E,537nm,1.1s						
HATHI				IAML		10 05 11.9	
	comp=N,524nm,0.7s						
BYL	Byron's Ledge	0.92	146	Pg	Pg	10 04 37.1	-3.7
BYL				IAML		10 05 11.1	
	comp=E,400nm,0.9s						
SDHHI	Sand Hill	0.92	148		Pg	10 04 37.8	-3.0
RIM	Rim	0.92	147		Pg	10 04 37.7	-3.2
KHU	Kahuku	0.94	169	Pg	Pg	10 04 37.7	-3.6
KHU				IAML		10 05 09.2	
	comp=E,430nm,0.5s						
PUH	Pauahi	0.97	145	Pg	Pg	10 04 37.9	-4.0
PUH				IAML		10 05 02.8	
	comp=N,448nm,0.7s						
HLP	Hilina Pali	0.99	152	Pg	Pg	10 04 38.4	-3.8
HLP				IAML		10 04 58.3	
	comp=N,561nm,0.6s						
KNHH	Kane Nui o Ham	0.99	143		Pg	10 04 38.2	-4.0
STCH	Steam Cracks	1.01	141	Pg	Pb	10 04 38.4	-4.1
STCH				IAML		10 05 09.2	
	comp=E,361nm,0.9s						
JOKA	Jonika Flow	1.05	134	Pg	Pb	10 04 39.1	-4.2
JOKA				IAML		10 05 03.3	
	comp=E,552nm,0.6s						
DHH	Diamond Head	2.16	300	Pn	Pn	10 04 55.2	-3.6
HON	Honolulu	2.35	299	Pn	Pn	10 04 58.0	-3.5

*NOU **17** 10:07:30.0, 26°.40S×178°.94E, h657km, mb4.5/46, South of Fiji Islands*

*IDC **17** 10:07:31.0±1.1, 26°.36S×178°.34E, h601km±12km, mb3.6/16, mbtmp4.5/20, Error ellipse: s-maj=11.8km s-min=11.0km az=97.0*

*NEIC **17** 10:07:31.4±1.4, 26°.4S±0°.1×178°.4E±0°.1, h613km±8km, mb4.6/42, Error ellipse: s-maj=20.2km s-min=13.5km az=111.0*

ISC 17 10:07:31.2±0.4, 26°.44S±0°.05×178°.48E±0°.07, h612km, n150, σ1§53/157, mb4.5/38, 4C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.25	132	P	P	10 09 00.1	+1.0
LKBA	Tubou, Lakemba	8.54	18	P	P	10 09 35.8	-0.3
MSVF	Nonsavu	8.67	357	P	P	10 09 35.3	-2.3
MSVF	Nonsavu	8.67	357	P	P	10 09 35.7	-1.9
	6.6nm,0.4s,baz=265,slow=24,SNR=16						
MSVF				S	S	10 11 16.7	-4.3
	4.3nm,0.7s,baz=258,slow=18,SNR=1.2						
MSVF	Nonsavu	8.67	357	P	P	10 09 36.2	-1.3
OUZ	Omahuta	9.71	204	P	P	10 09 49.1	+2.0
OUZ	Omahuta	9.71	204	P	P	10 09 49.3	+2.2
WCZ	Waipu Caves	10.11	199	P	P	10 09 53.5	+2.4
GRZ	Great Barrier	10.12	194	P	P	10 09 52.7	+1.6
DGTI	Dogotuki	10.15	7	P	P	10 09 50.9	-1.0
WIAZ	Waiheke Island	10.71	195	P	P	10 09 58.8	+1.8
MBAZ	Motutapu North	10.74	196	P	P	10 09 59.3	+2.0
ETAZ	East Tamaki Re	10.91	195	P	P	10 10 00.9	+1.9
MKAZ	Moumakai	11.00	194	P	P	10 10 01.5	+1.7
HAZ	Te Kaha	11.30	183	P	P	10 10 00.9	-1.9
HAZ				S	S	10 11 60.0	-7.3
WMGZ	Waiomatatini S	11.35	180	P	P	10 10 01.8	-1.4
WMGZ				S	S	10 12 02.1	-6.1
PKGZ	Pakihiroa	11.40	182	P	P	10 10 01.4	-2.5
PKGZ				S	S	10 12 04.3	-4.9
RUGZ	Raukumara Rang	11.52	183	P	P	10 10 03.4	-1.7
TOZ	Tahuroa Road	11.54	192	P	P	10 10 04.9	-0.2
TOZ	Tahuroa Road	11.54	192	P	P	10 10 06.7	+1.6
DZM	Mont Dzumac	11.81	289	P	P	10 10 05.6	-2.6
	4.1nm,0.6s,baz=149,slow=22,SNR=6.5						
URZ	Urewera	11.85	185	P	P	10 10 07.1	-1.1
	6.7nm,0.3s,baz=345,slow=3.5,SNR=19						
URZ				S	S	10 12 10.4	-6.7
	6.6nm,0.4s,baz=271,slow=23,SNR=16						
URZ	Urewera	11.85	185	P	P	10 10 06.9	-1.3
MWZ	Matawai	11.89	184	P	P	10 10 06.2	-2.4
HIZ	Hauiti	12.42	193	P	P	10 10 15.0	+1.1
HIZ	Hauiti	12.42	193	P	P	10 10 14.4	+0.5
KHEZ	Kahui Hut	13.36	195	P	P	10 10 23.8	+0.6
BFZ	Birch Farm	14.33	187	P	P	10 10 31.7	-0.8
BFZ	Birch Farm	14.33	187	S	S	10 12 59.2	-1.4
MRZ	Mangatainoka R	14.39	189	P	P	10 10 32.1	-1.0
SNZO	South Karori	15.16	191	P	P	10 10 40.5	+0.4
SNZO	South Karori	15.16	191	S	S	10 13 14.1	0.0
QRZ	Quartz Range	15.18	197	P	P	10 10 41.4	+1.1
TKNZ	Takaka Hill	15.26	196	P	P	10 10 41.4	+0.3
NNZ	Nelson	15.34	195	P	P	10 10 41.6	0.0
NNZ				IAmb	IAmb	10 10 43.0	
	comp=Z,43nm,0.8s						
AFI	Afiamalu	15.45	38	P	P	10 10 42.8	-0.3
AFI				IAmb	IAmb	10 10 45.2	

WRKA	**Warakurna**	**45.00**	**260**	P		**P**	**10 14 53.3 -0.7**
KNRA	**Kununurra**	**47.37**	**273**	P		**P**	**10 15 11.7 -0.1**
FITZ	**Fitzroy Crossi**	**49.32**	**268**	P		**P**	**10 15 25.8 -0.5**
FITZ	**Fitzroy Crossi**	**49.32**	**268**	P		**P**	**10 15 26.4 +0.1**
	comp=Z,4.4nm,0.5s,baz=104,slow=7.0,SNR=11						
	comp=Z,4.4nm,0.5s						
VNDA	**Vanda**	**51.75**	**185**	P		**P**	**10 15 43.9 +0.9**
VNDA				IAmb		IAmb	10 16 08.6
	comp=Z,24nm,1.5s						
VNDA	**Vanda**	**51.75**	**185**	P		**P**	**10 15 44.4 +1.5**
	comp=Z,2.2nm,0.5s,baz=26,slow=8.6,SNR=1.7						
	comp=Z,2.2nm,0.5s						
SBA	**Scott Base**	**51.78**	**183**	P		**P**	**10 15 45.5 +2.4**
SBA				IAmb		IAmb	10 15 46.9
	comp=Z,39nm,1.1s						
DHH	**Diamond Head**	**52.70**	**28**	P		**P**	**10 15 50.9 +0.5**
KLBR	**Kellerberrin**	**52.77**	**249**	P		**P**	**10 15 50.4 -0.6**
MEEK	**Meekatharra**	**53.11**	**255**	P		**P**	**10 15 52.4 -1.1**
PSA00	**Pilbara Seismi**	**53.40**	**262**	P		**P**	**10 15 54.6 -0.9**
BLDU	**Ballidu**	**53.84**	**250**	P		**P**	**10 15 57.6 -1.0**
MUN	**Mundaring**	**53.99**	**248**	P		**P**	**10 15 59.3 -0.3**
MORW	**Morawa**	**54.75**	**252**	P		**P**	**10 16 03.6 -1.3**
MORW	**Morawa**	**54.75**	**252**	P		**P**	**10 16 04.4 -0.5**
CASY	**Casey**	**57.24**	**206**	P		**P**	**10 16 21.2 0.0**
CASY				IAmb		IAmb	10 16 22.2
	comp=Z,28nm,1.0s						
QSPA	**South Pole Qui**	**63.66**	**180**	P		**P**	**10 17 04.8 +1.2**
	comp=Z,15nm,0.5s,baz=25,slow=2.2,SNR=146						
	comp=Z,15nm,0.5s						
JGF	**Kuroka**	**72.92**	**326**	P		**P**	**10 17 58.7 -1.0**
JGF				IAmb		IAmb	10 18 35.3
	comp=Z,19nm,1.3s						
MJAR	**Matsushiro Arr**	**73.24**	**327**	P		**P**	**10 18 01.1 -0.3**
	comp=Z,2.8nm,0.8s,baz=165,slow=4.7,SNR=7.2						
	comp=Z,2.8nm,0.8s						
BELA	**Belgrano 2**	**74.10**	**173**	P		**P**	**10 18 06.5 +0.8**
BELA				IAmb		IAmb	10 18 07.3
	comp=Z,12nm,0.7s						
JNU	**Nakatsue**	**74.54**	**320**	P		**P**	**10 18 08.4 -0.5**
JNU				IAmb		IAmb	10 18 10.5
	comp=Z,14nm,1.1s						
MAW	**Mawson**	**74.90**	**201**	P		**P**	**10 18 11.0 +0.7**
	comp=Z,14nm,0.7s,baz=244,slow=3.5,SNR=1.7						
	comp=Z,14nm,0.7s						
JKA	**Kamikawa-asahi**	**77.52**	**334**	P		**P**	**10 18 27.3 +2.4**
JKA				IAmb		IAmb	10 18 37.0
	comp=Z,37nm,1.4s						
ADK	**Adak**	**78.10**	**3**	P		**P**	**10 18 27.9 +0.2**
KSRS	**Korea Array**	**79.33**	**321**	P		**P**	**10 18 35.2 +0.5**
	comp=Z,1.3nm,0.7s,baz=132,slow=6.5,SNR=5.9						
	comp=Z,1.3nm,0.7s						
ELIB	**Princess Elisa**	**80.38**	**188**	*d*P		**P**	**10 18 40.5 +0.6**
	comp=Z,16nm,0.7s						
UNV	**Unalaska Valle**	**81.00**	**9**	P		**P**	**10 18 42.8 -0.1**
PEA0B	**Petropavlovsk-**	**81.25**	**348**	P		**P**	**10 18 44.5 +0.2**
PEA0B				IAmb		IAmb	10 19 00.9
	comp=Z,28nm,1.5s						
PETK	**Petropavlovsk-**	**81.25**	**348**	P		**P**	**10 18 44.2 -0.1**
PETK	**Petropavlovsk-**	**81.25**	**348**	P		**P**	**10 18 44.1 -0.2**
	comp=Z,3.1nm,0.6s,baz=122,slow=7.4,SNR=18						
	comp=Z,3.1nm,0.6s						
NJ2	**Nanjing**	**81.31**	**312**	*e*P		**P**	**10 18 46.1 +1.0**
NJ2				pmax		pmax	
	comp=Z,4.0nm,0.6s						
TROLL	**Troll, Antarti**	**81.78**	**181**	P		**P**	**10 18 47.9 +0.8**
TROLL	**Troll, Antarti**	**81.78**	**181**	⇑P		**P**	**10 18 47.9 +0.8**
	comp=Z,1μm,0.5s						
SNAA	**Sanae**	**82.16**	**180**	P		**P**	**10 18 49.4 +0.6**
SNAA	**Sanae**	**82.16**	**180**	P		**P**	**10 18 49.2 +0.4**
SNAA				IAmb		IAmb	10 18 49.7
	comp=Z,8.6nm,0.6s						
SNAA	**Sanae**	**82.16**	**180**	⇑P		**P**	**10 18 49.4 +0.6**
	comp=Z,198nm,0.5s						
SNAA	**Sanae**	**82.16**	**180**	P		**P**	**10 18 49.6 +0.7**
	comp=Z,8.5nm,0.6s,baz=207,slow=8.4,SNR=23						
	comp=Z,8.5nm,0.6s						
USA0B	**Ussuriysk Arra**	**82.16**	**328**	P		**P**	**10 18 49.0 -0.1**
USRK	**Ussuriysk Ar.**	**82.16**	**328**	P		**P**	**10 18 49.8 +0.6**
	comp=Z,3.3nm,0.8s,baz=141,slow=5.3,SNR=6.9						
	comp=Z,3.3nm,0.8s						
VNA3	**Neumayer Olymp**	**82.42**	**177**	P		**P**	**10 18 50.2 0.0**
VNA3	**Neumayer Olymp**	**82.42**	**177**	⇑P		**P**	**10 18 50.2 0.0**
	comp=Z,2.1nm,0.7s						
VNA2	**Neumayer--Watz**	**82.82**	**178**	P		**P**	**10 18 52.5 +0.3**
	baz=186,slow=6.1						
VNA2	**Neumayer--Watz**	**82.82**	**178**	⇑P		**P**	**10 18 52.5 +0.3**
	comp=Z,14nm,0.6s,baz=186,slow=6.1						
MDJ	**Mudanjiang**	**83.62**	**327**	P		**P**	**10 18 57.4 +1.0**
MDJ				pmax		pmax	
	comp=Z,9.0nm,1.3s						
MDJ				pmax		pmax	
	comp=Z,170nm,3.8s						
ELS	**Elsinore Mount**	**85.26**	**49**	P		**P**	**10 19 04.1 -0.6**
ELS				IAmb		IAmb	10 19 12.9
	comp=Z,16nm,1.1s						
O02D	**Mt. Diablo Mer**	**85.87**	**41**	P		**P**	**10 19 09.2 +1.7**
O02D				IAmb		IAmb	10 19 19.7
	comp=Z,13nm,1.2s						
L04D	**Klamath Falls**	**87.45**	**40**	P		**P**	**10 19 16.0 +1.0**
PLCA	**Paso Flores**	**87.48**	**135**	P		**P**	**10 19 17.2 +2.0**
	comp=Z,1.5nm,0.9s,baz=234,slow=5.4,SNR=4.0						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**87.52**	**45**	P		**P**	**10 19 17.3 +1.9**
	comp=Z,0.4nm,0.7s,baz=225,slow=6.8,SNR=4.6						
	comp=Z,0.4nm,0.7s						
O18K	**Koktuh Hills**	**88.66**	**13**	P		**P**	**10 19 19.8 -0.2**
PINE	**Pine Mountain**	**89.22**	**39**	P		**P**	**10 19 23.9 +0.7**
PINE				IAmb		IAmb	10 19 36.8
	comp=Z,16nm,1.5s						
M17K	**Holitna River**	**89.67**	**11**	P		**P**	**10 19 25.3 +0.7**
U15A	**North Rim**	**90.31**	**49**	P		**P**	**10 19 29.7 +1.2**
U15A				IAmb		IAmb	10 19 31.6
	comp=Z,3.5nm,0.8s						
STLK	**Strandline Lak**	**90.86**	**14**	P		**P**	**10 19 29.7 -0.5**
STLK				IAmb		IAmb	10 19 35.0
	comp=Z,7.4nm,1.4s						
GHO	**Glory Hole Cre**	**91.74**	**15**	P		**P**	**10 19 33.7 -0.5**
GHO				IAmb		IAmb	10 19 35.4
	comp=Z,7.1nm,0.8s						
CUT	**Chulitna**	**92.00**	**14**	P		**P**	**10 19 34.9 -0.4**
SCM	**Sheep Creek Mo**	**92.17**	**15**	P		**P**	**10 19 36.4 +0.2**
TRF	**Thorofare Moun**	**92.93**	**13**	P		**P**	**10 19 39.4 -0.3**
TRF				IAmb		IAmb	10 20 08.4
	comp=Z,12nm,1.4s						
MCK	**McKinley**	**93.46**	**14**	P		**P**	**10 19 42.2 +0.1**
MCK				IAmb		IAmb	10 20 05.5
	comp=Z,9.1nm,1.4s						
ILAR	**Eielson Array**	**94.81**	**14**	P		**P**	**10 19 47.7 -0.4**
	comp=Z,0.3nm,0.6s,baz=220,slow=4.9,SNR=9.4						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**95.46**	**45**	P		**P**	**10 19 53.2 +1.3**
	comp=Z,0.2nm,0.5s,baz=240,slow=4.7,SNR=1.9						
	comp=Z,0.2nm,0.5s						
WMQ	**Urumqi**	**108.33**	**310**	Pdif		**Pdif**	**10 20 50.3 +1.4**
FINES	**FINESS Array B**	**140.37**	**340**	PKhKP		PKPpre	10 25 44.5
	comp=Z,0.8nm,0.5s,baz=46,slow=5.5,SNR=8.0						
FINES				PKP		**PKiKP**	**10 25 52.8 -1.0**
	comp=Z,4.6nm,1.0s,baz=52,slow=2.5,SNR=2.6						
FINES				SKPbc		**SKPbc**	**10 28 29.2 -1.3**
	comp=Z,1.8nm,0.5s,baz=21,slow=2.7,SNR=7.9						
NB2	**NORSAR Subarra144.34**	**349**		PKP		PKPbc	10 25 58.1 -0.1
	comp=Z,5.2nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B144.34**	**349**		PKP		**PKPdf**	**10 25 57.8 -0.4**
	comp=Z,1.9nm,0.7s,baz=25,slow=3.4,SNR=11						
HFS	**Hagfors**	**144.72**	**347**	PKP		PKPbc	10 25 59.1 -0.3
	comp=Z,5.6nm,0.5s,baz=64,slow=3.4,SNR=51						
AKASG	**Malin Array Be**	**146.28**	**324**	PKPbc		**PKPbc**	**10 26 03.7 -0.4**
	comp=Z,1.9nm,0.7s,baz=45,slow=4.0,SNR=11						
BRTR	**Keskin Array B**	**147.91**	**303**	PKPbc		**PKiKP**	**10 26 10.2 0.0**
	comp=Z,0.6nm,0.6s,baz=157,slow=2.7,SNR=4.0						
EKA	**Eskdalemuir Ar**	**151.10**	**2**	PKPbc		**PKPbc**	**10 26 15.6 -0.2**
	comp=Z,1.7nm,0.8s,baz=318,slow=2.4,SNR=3.4						

*NEIC **17** 10:14:23.3±2.8, 18°.8N±0°.4×68°.72W±0°.08, h99km±24km, ML2.3/18, Md2.8/4(RSPR), Error ellipse: s-maj=60.9km s-min=4.5km az=188.0*

*RSPR **17** 10:14:25.7, 18°.83N×68°.63W, h96km±2km, MD2.8/4*

ISC 17 10:14:23.9±1.7, 18°.9N±0°.2×68°.67W±0°.07, h100km, n31, σ0°.91/28, 4C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.43**	**141**		**Sn**	**10 14 50.6**	**-0.1**
PCDR	**Punta Cana, DR**	**0.43**	**141**		**Pn**	**10 14 37.4**	**-1.9**
PCDR	**Punta Cana, DR**	**0.43**	**141**	IAML		10 15 07.9	
	comp=N,136nm,1.2s						
PCDR				IAML		10 15 17.7	
	comp=E,71nm,1.8s						
PCDR	**Punta Cana, DR**	**0.43**	**141**	*e*P	**Pn**	**10 14 40.0**	**+0.8**
PCDR	**Punta Cana, DR**	**0.43**	**141**	*e*S	**Sn**	**10 14 50.6**	**-0.1**
DR12	**Loma Pena Alta**	**0.68**	**265**	Pn	Pn	10 14 37.9	-3.3
IDE	**Isla Desecheo**	**1.22**	**112**		**Pn**	**10 14 48.1**	**+1.3**
IDE					**Sn**	**10 15 05.3**	**+1.1**
IDE	**Isla Desecheo**	**1.22**	**112**	⇑*e*P	**Pn**	**10 14 48.1**	**+1.3**
IDE	**Isla Desecheo**	**1.22**	**112**	*e*S	**Sn**	**10 15 05.3**	**+1.1**
AGPR	**Aguadilla, PR**	**1.52**	**104**		**Pn**	**10 14 50.9**	**+0.4**
AGPR					**Sn**	**10 15 10.8**	**+0.2**
AGPR	**Aguadilla, PR**	**1.52**	**104**	IAML		10 15 46.5	
	comp=E,39nm,2.1s						
AGPR	**Aguadilla, PR**	**1.52**	**104**	⇓*e*P	**Pn**	**10 14 50.9**	**+0.4**
AGPR	**Aguadilla, PR**	**1.52**	**104**	*e*S	**Sn**	**10 15 10.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.70**	**119**		**Pn**	**10 14 53.4**	**+0.7**
CRPR					**Sn**	**10 15 14.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.70**	**119**	IAML		10 15 57.5	
	comp=N,21nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.70**	**119**	⇑*e*P	**Pn**	**10 14 53.4**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.70**	**119**	*e*S	**Sn**	**10 15 14.6**	**+0.1**
AOPR	**Arecibo Observ**	**1.88**	**105**	Pn	**Pn**	**10 14 53.6**	**-1.4**
AOPR				IAML		10 15 22.1	
	comp=N,24nm,0.5s						
UUPR	**Utuado, UPR, P**	**1.94**	**108**		**Sn**	**10 15 19.5**	**-0.5**
UUPR	**Utuado, UPR, P**	**1.94**	**108**		**Pn**	**10 14 54.8**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.94**	**108**	IAML		10 15 22.4	
	comp=E,67nm,0.3s						
UUPR				IAML		10 15 24.1	
	comp=N,56nm,0.4s						
UUPR	**Utuado, UPR, P**	**1.94**	**108**	⇓*e*P	**Pn**	**10 14 56.3**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.94**	**108**	*e*S	**Sn**	**10 15 19.5**	**-0.5**
OBIP	**Obispado Ponce**	**2.11**	**112**	Pn	**Pn**	**10 14 56.7**	**-1.3**
OBIP				IAML		10 15 35.0	
	comp=N,16nm,4.0s						
OBIP				IAML		10 15 39.2	
	comp=E,16nm,2.9s						
CELP	**Cerrillos**	**2.12**	**111**		**Sn**	**10 15 23.5**	**-0.8**
CELP	**Cerrillos**	**2.12**	**111**		**Pn**	**10 14 56.8**	**-1.4**
CELP	**Cerrillos**	**2.12**	**111**	IAML		10 15 35.8	
	comp=N,14nm,3.1s						
CELP	**Cerrillos**	**2.12**	**111**	⇑*e*P	**Pn**	**10 14 58.4**	**+0.3**
CELP	**Cerrillos**	**2.12**	**111**	*e*S	**Sn**	**10 15 23.5**	**-0.8**
ECPR	**Experimental S**	**2.25**	**103**	*e*S	**Sn**	**10 15 27.9**	**+0.7**
SDDR	**Presa de Saban**	**2.49**	**273**	Pn	**Pn**	**10 15 03.1**	**+0.2**
SDDR				IAML		10 16 11.4	
	comp=N,13nm,2.8s						
SDDR				IAML		10 16 28.5	
	comp=N,18nm,3.4s						

*IDC **17** 10:22:26.9±0.9, 23°.11N×120°.66E, h0km, mb3.6/8, mbtmp3.6/8, MS2.5/1, Error ellipse: s-maj=40.5km s-min=18.1km az=65.0*

*TAP **17** 10:22:29.2, 23°.12N×120°.45E, h15km, ML4.2, B*

*ASIES **17** 10:22:29.2, 23°.12N×120°.45E, h15km, ML4.2, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}4.46; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-3.96; $M_{r\theta}$-0.06; $M_{\theta\phi}$0.20; $M_{\phi r}$-3.73; Fault plane solution: $M_0$5.64665×10^{21} NP1: ϕ_s354.55000°, δ24.33000°, λ85.58000°. NP2: ϕ_s179.39000°, δ65.74000°, λ91.99000°. Principal axes: T Plg69.1900°, Azm93.3730°; N Plg1.8200°, Azm358.5790°; P Plg20.7230°, Azm267.8900°;*

*JMA **17** 10:22:29.2±0.2, 23°.2N±0°.3×120°.4E±0°.5, h7km±2km, MV4.1/14, TAIWAN REGION*

ISC 17 10:22:29.8±0.7, 23°.14N±0°.01×120°.44E±0°.01, h18km±4km, n174, σ0°.98/294, mb3.8/7, 27C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN3	**Shinhua**	**0.09**	**228**	↑*i*P	**Pg**	**10 22 33.2**	**-0.1**
CHN3				*i* S	**Sg**	**10 22 36.9**	**+1.2**
CHN1	**Nanshi**	**0.10**	**59**	↓*i*P	**Pg**	**10 22 33.0**	**-0.4**
CHN1				*i* S	**Sg**	**10 22 35.8**	**0.0**
SNST	**Tainan City**	**0.10**	**33**	↓*i*P	**Pb**	**10 22 33.2**	**+0.3**
SNST				S	**Sb**	**10 22 36.1**	**+1.2**
SSHA	**Shanhua**	**0.14**	**270**	↓*i*P	**Pb**	**10 22 34.1**	**+0.5**
SSHA				*e*S	**Sb**	**10 22 38.0**	**+1.9**
TWK	**Hsinying**	**0.14**	**20**	↓*i*P	**Pb**	**10 22 33.9**	**+0.2**
TWK				*i* S	**Sb**	**10 22 37.4**	**+1.1**
SHHT	**Tainan City**	**0.14**	**216**	↑*i*P	**Pb**	**10 22 34.0**	**+0.3**
SHHT				S	**Sb**	**10 22 37.9**	**+1.7**
SGST	**Jiashian**	**0.14**	**111**	↓*i*P	**Pg**	**10 22 32.9**	**-1.0**
SGST				*e*S	**Sb**	**10 22 36.4**	**0.0**
WTP	**Ta-pu**	**0.20**	**56**	↓*i*P	**Pb**	**10 22 34.7**	**-0.1**
WTP				S	**Sb**	**10 22 38.8**	**+0.7**
TAI1	**Yung-k'ang**	**0.21**	**244**	↓*i*P	**Pb**	**10 22 35.3**	**+0.2**
TAI1				S	**Sb**	**10 22 39.8**	**+1.2**
SCLT	**Jiali**	**0.23**	**280**	↓*i*P	**Pb**	**10 22 35.3**	**0.0**
SCLT				S	**Sb**	**10 22 40.8**	**+1.8**
TPUB	**Ta-pu**	**0.24**	**47**	P	**Pg**	**10 22 34.9**	**-0.5**
TPUB	**Ta-pu**	**0.24**	**47**	P	**Pb**	**10 22 39.8**	**+4.2**
TPUB	**Ta-pu**	**0.24**	**47**	↓*i*P	**Pb**	**10 22 35.2**	**-0.5**
TPUB				S	**Sb**	**10 22 39.6**	**+0.1**
SCST	**Cishan**	**0.25**	**168**	↓P	**Pb**	**10 22 36.3**	**+0.4**
SCST				*e*S	**Sb**	**10 22 41.8**	**+2.0**
CHN4	**Tsaushan**	**0.26**	**34**	↑*i*P	**Pb**	**10 22 35.7**	**-0.3**
CHN4				S	**Sb**	**10 22 39.8**	**-0.2**
ICHU	**Yijhu**	**0.27**	**327**	↓*i*P	**Pb**	**10 22 36.2**	**+0.1**
ICHU				*e*S	**Sb**	**10 22 42.2**	**+1.9**
CHN8	**Yiju**	**0.29**	**315**	*i* P	**Pb**	**10 22 36.5**	**-0.1**
CHN8				S	**Sb**	**10 22 42.7**	**+1.6**
TWM1	**Shoushan**	**0.31**	**182**	*e*P	**Pn**	**10 22 38.1**	**-1.4**
TWM1				*e*S	**Sb**	**10 22 43.0**	**+1.4**
STYH	**Taoyuan**	**0.31**	**84**	*e*P	**Pb**	**10 22 36.9**	**0.0**
STYH				*i* S	**Sb**	**10 22 42.3**	**+0.6**
TSCK	**Chigu Township**	**0.32**	**272**	↓*e*P	**Pb**	**10 22 37.1**	**0.0**
TSCK				*e*S	**Sb**	**10 22 44.0**	**+2.1**
WCKO	**Fanlu**	**0.34**	**27**	↑*e*P	**Pb**	**10 22 37.1**	**-0.3**
WCKO				S	**Sb**	**10 22 43.5**	**+1.0**
CHY	**Chiayi**	**0.36**	**358**	*e*P	**Pb**	**10 22 38.0**	**+0.3**
CHY				*i* S	**Sb**	**10 22 44.9**	**+1.8**
SNJT	**Kaohsiung City**	**0.39**	**194**	*e*P	**Pn**	**10 22 39.3**	**-1.3**
SNJT				*e*S	**Sn**	**10 22 46.9**	**-0.6**
SGLT	**Jiouru**	**0.41**	**173**	*e*P	**Pn**	**10 22 39.8**	**-1.0**
WSL	**Shuilin Townsh**	**0.43**	**334**	*e*P	**Pb**	**10 22 38.9**	**0.0**
WSL				*e*S	**Sn**	**10 22 47.3**	**-1.3**
TSMG	**Majia**	**0.47**	**156**	*e*P	**Pb**	**10 22 39.5**	**-0.1**
TSMG				*e*S	**Sn**	**10 22 47.7**	**-1.8**
ALS	**Alishan**	**0.50**	**42**	P	**Pb**	**10 22 40.1**	**-0.2**
ALS				S	**Sb**	**10 22 48.6**	**+1.2**
CHN5	**Tsauling**	**0.51**	**26**	*i* P	**Pb**	**10 22 40.2**	**-0.1**
CHN5				*i* S	**Sb**	**10 22 48.7**	**+1.3**
WSSB	**Gushan**	**0.52**	**198**	*e*P	**Pb**	**10 22 40.5**	**+0.2**
WSSB				*e*S	**Sn**	**10 22 49.6**	**-1.1**
ELDTW	**Lidau**	**0.54**	**84**	↑*i*P	**Pb**	**10 22 40.7**	**0.0**
ELDTW				*e*S	**Sb**	**10 22 48.6**	**+0.3**
WSF	**Szhu**	**0.54**	**339**	↓P	**Pb**	**10 22 40.8**	**+0.1**
WSF				*i* S	**Sb**	**10 22 49.8**	**+1.7**
MASBT	**Mashibuluo**	**0.55**	**161**	↑*i*P	**Pb**	**10 22 40.9**	**-0.1**
MASBT				S	**Sn**	**10 22 49.7**	**-1.8**
WTK	**Tuku**	**0.55**	**355**	↑P	**Pb**	**10 22 41.4**	**+0.5**
WTK				*i* S	**Sn**	**10 22 50.8**	**-0.8**
WDLH	**Douliu**	**0.56**	**10**	↑*e*P	**Pb**	**10 22 41.7**	**+0.6**
WDLH				*e*S	**Sn**	**10 22 50.7**	**-1.0**
WGK	**Gukeng**	**0.56**	**12**	↑*i*P	**Pb**	**10 22 41.6**	**+0.5**
WGK				*e*S	**Sn**	**10 22 51.3**	**-0.4**
KAU	**Kaohsiung**	**0.58**	**192**	*e*P	**Pn**	**10 22 42.8**	**-0.3**
KAU				*e*S	**Sn**	**10 22 52.2**	**+0.1**
WDL	**Douliou City**	**0.58**	**9**	*e*P	**Pb**	**10 22 42.2**	**+0.6**
WDL				*e*S	**Sn**	**10 22 51.8**	**-0.6**
TWG	**Pinlang**	**0.66**	**118**	*i* P	**Pn**	**10 22 43.2**	**-1.1**
TWG				*e*S	**Sn**	**10 22 53.3**	**-1.0**
TWGBT	**Beinan**	**0.67**	**118**	P	**Pb**	**10 22 43.2**	**+0.2**
TWGBT	**Beinan**	**0.67**	**118**	↑*i*P	**Pb**	**10 22 43.2**	**+0.2**
TWGBT				*e*S	**Sn**	**10 22 53.0**	**-1.5**
WHYT	**Xinyi Township**	**0.68**	**34**	↑*i*P	**Pb**	**10 22 43.3**	**+0.2**
WHYT				S	**Sn**	**10 22 54.1**	**-0.7**
LONT	**Longtian**	**0.68**	**109**	↑*i*P	**Pn**	**10 22 43.4**	**-1.1**
LONT				S	**Sb**	**10 22 52.8**	**+0.6**
EHD	**Haiduan**	**0.71**	**89**	↑P	**Pb**	**10 22 43.7**	**0.0**
EHD				*e*S	**Sb**	**10 22 53.6**	**+0.5**
ECL	**Taimali**	**0.72**	**138**	*e*P	**Pn**	**10 22 43.9**	**-1.1**
ECL				S	**Sn**	**10 22 54.6**	**-1.1**
ECS	**Chishang**	**0.72**	**93**	*e*P	**Pn**	**10 22 44.2**	**-1.0**
ECS				*e*S	**Sn**	**10 22 55.3**	**-0.5**
WDGT	**Dungji**	**0.72**	**280**	↓*i*P	**Pg**	**10 22 43.4**	**-0.6**
WDGT				*e*S	**Sb**	**10 22 53.9**	**+0.4**
WJS	**Zhushan**	**0.73**	**21**	⇑P	**Pb**	**10 22 44.4**	**+0.3**
WJS				*i* S	**Sn**	**10 22 56.0**	**-0.1**
WTCT	**Ta-ch'eng**	**0.74**	**349**	P	**Pg**	**10 22 44.0**	**-0.3**
WTCT				*i* S	**Sn**	**10 22 55.5**	**-0.7**
TTN	**Taitung**	**0.76**	**120**	⇑P	**Pn**	**10 22 45.7**	**+0.1**
TTN				*e*S	**Sn**	**10 22 57.1**	**+0.6**
WRL	**Guolierlin Hig**	**0.77**	**356**	*e*P	**Pb**	**10 22 44.7**	**+0.1**
WRL				S	**Sn**	**10 22 56.7**	**-0.2**
WNT	**Mingjian**	**0.77**	**17**	⇑*i*P	**Pb**	**10 22 45.0**	**+0.2**
WNT				S	**Sn**	**10 22 56.9**	**-0.1**
SCZT	**Fangliau**	**0.78**	**167**	⇓P	**Pn**	**10 22 45.1**	**-0.8**
SCZT				*e*S	**Sn**	**10 22 56.9**	**-0.2**
WLCH	**Liuqiu**	**0.78**	**184**	*e*P	**Pn**	**10 22 46.5**	**+0.6**
WLCH				*e*S	**Sn**	**10 23 00.1**	**+2.9**
TWP	**Hsiaoliuchiu**	**0.79**	**185**	*e*P	**Pn**	**10 22 47.3**	**+1.2**
FULB	**Fuli**	**0.79**	**85**	⇑*i*P	**Pn**	**10 22 45.8**	**-0.3**
FULB				*i* S	**Sn**	**10 22 57.6**	**+0.1**
SSLB	**Suanglung**	**0.81**	**36**	P	**Pb**	**10 22 45.3**	**0.0**
SSLB	**Suanglung**	**0.81**	**36**	⇑*i*P	**Pb**	**10 22 45.2**	**-0.1**
SSLB				*i* S	**Sn**	**10 22 57.5**	**-0.4**
EDH	**Donghe**	**0.81**	**101**	⇓P	**Pn**	**10 22 46.2**	**-0.2**
EDH				*e*S	**Sn**	**10 22 58.3**	**+0.3**
TWF1	**Yuli**	**0.82**	**75**	⇑*i*P	**Pb**	**10 22 45.6**	**+0.1**
TWF1				*i* S	**Sb**	**10 22 57.0**	**+0.7**
YULB	**Yu-li**	**0.83**	**72**	P	**Pb**	**10 22 45.7**	**0.0**
YULB	**Yu-li**	**0.83**	**72**	S	**Sb**	**10 22 57.1**	**+0.5**
YULB	**Yu-li**	**0.83**	**72**	⇑*i*P	**Pb**	**10 22 45.6**	**-0.2**
YULB				S	**Sb**	**10 22 56.9**	**+0.3**
EAST	**Anshuo**	**0.84**	**153**	*e*P	**Pn**	**10 22 46.4**	**-0.4**
EAST				*e*S	**Sn**	**10 22 58.2**	**-0.5**
EYUL	**Yuli**	**0.84**	**75**	*e*P	**Pn**	**10 22 46.0**	**-0.7**
EYUL				*e*S	**Sb**	**10 22 57.4**	**+0.6**
SMLT	**Sun Moon Lake**	**0.86**	**30**	⇑*i*P	**Pg**	**10 22 45.4**	**-1.2**
SMLT				S	**Sn**	**10 22 58.6**	**-0.7**
TYC	**Yuchr**	**0.86**	**27**	⇑*i*P	**Pg**	**10 22 46.3**	**-0.2**
TYC				S	**Sn**	**10 22 59.5**	**+0.4**
PHUB	**P'eng-hu**	**0.88**	**296**	P	**Pb**	**10 22 45.5**	**-1.1**
PHUB				S	**Sb**	**10 22 57.3**	**-0.7**
TAW	**Tawu**	**0.88**	**151**	⇑*e*P	**Pn**	**10 22 47.5**	**+0.1**
TAW				*e*S	**Sn**	**10 22 59.5**	**-0.2**
CHKH	**Chenggong**	**0.88**	**86**	*i* P	**Pn**	**10 22 47.3**	**0.0**
CHKH				*e*S	**Sn**	**10 23 00.6**	**+0.8**
VWDT	**VWDT**	**0.89**	**46**	⇑*i*P	**Pn**	**10 22 47.1**	**-0.4**
VWDT				S	**Sg**	**10 22 58.7**	**-0.3**
EHY	**Hungye**	**0.89**	**65**	P	**Pn**	**10 22 47.0**	**-0.6**
EHY				*e*S	**Sn**	**10 22 59.3**	**-0.7**
TAWH	**Dawu Township**	**0.89**	**152**	*e*P	**Pb**	**10 22 46.1**	**-0.7**
TAWH				*e*S	**Sn**	**10 22 59.0**	**-1.0**
EHYH	**Wanrong**	**0.91**	**67**	*e*P	**Pn**	**10 22 47.2**	**-0.5**
EHYH				*e*S	**Sn**	**10 22 59.5**	**-0.8**
PNG	**Penghu**	**0.92**	**298**	*

EOS4	EOS4	1.98	60	eP		Pn	10 23 03.1	+0.9
EOS4				eS		Sb	10 23 28.7	-0.8
VWUC	VWUC	2.06	334	eP		Pn	10 23 03.2	-0.3
EOS3	EOS3	2.07	56	eP		Pn	10 23 04.4	+0.8
EOS2	EOS2	2.08	52	eP		Pb	10 23 05.7	-1.3
TWS1	Kuangyinshan	2.15	24	eP		Pn	10 23 04.5	-0.4
TIPB	Shuangxi	2.23	34	eP		Pn	10 23 07.1	+1.3
KNM	Kinmen	2.23	305	eP		Pn	10 23 06.9	+1.0
PTMZ	Houxiangcun	2.25	328	eP		Pn	10 23 06.2	+0.1
YM01	YM01	2.25	27	eP		Pn	10 23 07.4	+1.1
ZUZH	Zhuzihu	2.26	26	P		Pn	10 23 06.7	+0.4
ZUZH				eS		Sn	10 23 34.4	+0.7
ANP	Anpu	2.27	26	eP		Pn	10 23 07.2	+0.7
NWF	Wu-fen Shan	2.29	32	eP		Pb	10 23 08.5	-2.1
WFSB	Wu-fen Shan	2.29	32	eP		Pn	10 23 07.3	+0.6
KNMB	Chin-men Tao	2.29	306	eP		Pn	10 23 05.8	-1.0
TWB1	Santiao Chiao	2.34	37	eP		Pn	10 23 08.9	+1.5
TNOU	National Taiwa	2.35	31	eP		Pn	10 23 08.2	+0.7
SXI1	Grass Mountain	2.35	34	eP		Pn	10 23 08.3	+0.7
ZPLA	Ao Xicun	2.59	288	eP		Pn	10 23 09.7	-1.2
JYNG	Yonagunijimaku	2.65	60	eP		Pn	10 23 13.3	+1.7
JYNG				eS		Sb	10 23 47.1	-1.7
YOJ	Yonaguni jima	2.70	60	eP		Pn	10 23 14.1	+1.7
YOJ	Yonaguni jima	2.70	60	eP		Pn	10 23 14.1	+1.7
YOJ				eS		Sb	10 23 47.5	-3.0
DSXP	Dongshan	2.82	282	eP		Pn	10 23 13.8	-0.2
AXDP	Jialang	2.86	308	eP		Pn	10 23 13.6	-0.9
MATB	Ma-tsu	3.04	352	eP		Pn	10 23 16.0	-1.0
MHZQ	Yeshan	3.22	337	eP		Pn	10 23 19.1	-0.4
HATJ	Hateruma jima	3.22	73	eP		Pn	10 23 20.8	+1.2
IRIF	Iriomote-Funau	3.25	68	P		Pn	10 23 21.5	+1.7
IRIF				eS		Sn	10 24 00.8	+2.7
JKRS	Kuro-shima	3.45	71	eP		Pn	10 23 24.7	+2.0
JKRS				eS		Sn	10 24 05.9	+2.7
JIJ	Ishigaki jima	3.61	69	eP		Pn	10 23 26.2	+1.3
JIJ				eS		Sn	10 24 10.5	+3.5
XPSS	Dashiqiu	3.79	357	eP		Pn	10 23 26.1	-1.2
SXFK	Yanhouchang	4.12	323	eP		Pn	10 23 31.2	-0.7
JTJ	Tarama	4.18	68	eP		Pn	10 23 35.7	+3.0
JTJ				eS		Sn	10 24 23.7	+2.5
KSRS	Korea Array	15.66	23	LR		LR	10 33 24.0	
	comp=Z,16nm,20.5s,baz=220,slow=42							
CMAR	Chiang Mai Arr	20.62	261	P		Pn	10 27 10.8	+0.1
	0.2nm,0.2s,baz=56,slow=9.6,SNR=4.8							
	0.2nm,0.2s							
SONM	Songino Array	27.08	339	P		P	10 28 11.7	+0.1
	0.3nm,0.5s,baz=149,slow=6.1,SNR=2.4							
	0.3nm,0.5s							
MKAR	Makanchi Array	38.62	317	P		P	10 29 52.0	-0.1
	0.4nm,0.7s,baz=113,slow=9.3,SNR=4.7							
	0.4nm,0.7s							
ZALV	Zalesovo Beam	40.76	328	P		P	10 30 11.9	+2.2
	0.3nm,0.5s,baz=184,slow=7.1,SNR=1.9							
	0.3nm,0.5s							
WRA	Warramunga Arr	44.91	161	P		P	10 30 42.2	-1.5
	1.7nm,0.6s,baz=343,slow=8.7,SNR=19							
	1.7nm,0.6s							
ASAR	Alice Springs	48.33	163	P		P	10 31 09.8	-0.6
	0.4nm,0.5s,baz=342,slow=7.8,SNR=11							
	0.4nm,0.5s							
STKA	Stephens Creek	58.33	159	P		P	10 32 23.4	-0.4
	1.1nm,0.5s,baz=360,slow=8.6,SNR=3.5							
	1.1nm,0.5s							
YKA	Yellowknife Ar	84.20	22	P		P	10 35 00.1	+0.2
	0.3nm,0.5s,baz=307,slow=4.8,SNR=6.4							
	0.3nm,0.5s							

*IDC **17** 10:26:49.2±1.5,50°.87S×74°.04W,h0km,mb4.2/7,*
mbtmp4.2/8,ML4.4/2,MS3.8/27,Error ellipse:
s-maj=60.2km s-min=17.8km az=94.0
*GUC **17** 10:26:50.5±0.3,50°.95S×75°.05W,h20km±3km,ML4.6*
*NEIC **17** 10:26:53.0±2.0,50°.88S±0°.07×74°.6W±0°.3,h13km±6km,*
mb4.3/30,Error ellipse: s-maj=25.5km s-min=2.0km
az=66.0

ISC 17 10:26:51.4±4.5,50°.93S±0°.05×74°.92W±0°.08,h15km±29km,
n97,σ1§23/83,mb4.4/12,MS3.9/25,2C,Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO09	Cerro Castillo	1.66	103	eP	Pn	10 27 19.9	-0.1
GO09				eS	Sb	10 27 42.6	+0.2
GO09				IAML		10 27 47.9	
	comp=E,9μm,0.3s						
GO09	Cerro Castillo	1.66	103	eP	Pn	10 27 19.8	-0.1
GO09				eS	Sb	10 27 42.6	+0.2
GO09				IAML		10 27 47.9	
	comp=E,9μm,0.3s						
MG05	Puerto Natales	1.69	117	Pn	Pn	10 27 20.8	+0.4
MG05	Puerto Natales	1.69	117	eP	Pn	10 27 20.2	-0.2
MG05				eS	Sn	10 27 42.8	+1.1
MG05				IAML		10 27 46.3	
	comp=N,12μm,0.4s						
MG05				IAML		10 27 46.3	
	comp=N,12μm,0.5s						
MG05	Puerto Natales	1.69	117	eP	Pn	10 27 20.2	-0.2
MG05				eS	Sn	10 27 42.4	+0.6
MG05				IAML		10 27 46.3	
	comp=N,12μm,0.5s						
MG05				IAML		10 27 47.0	
	comp=E,11μm,0.4s						
MG04	Isla Riesco	2.84	134		Pn	10 27 36.5	+0.4
MG04	Isla Riesco	2.84	134	eP	Pn	10 27 36.5	+0.4
MG04				eS	Sn	10 28 11.7	+1.7
MG04				IAML		10 28 29.6	
	comp=E,3μm,0.5s						
MG04	Isla Riesco	2.84	134	eP	Pn	10 27 36.5	+0.4
MG04				eS	Sn	10 28 11.7	+1.7
MG04				IAML		10 28 29.6	
	comp=E,3μm,0.5s						
GO08	Villa O'Higgin	2.90	33	eP	Pn	10 27 36.0	-1.1
GO08				eS	Sn	10 28 14.0	+2.4
GO08				IAML		10 28 21.4	
	comp=N,1μm,0.3s						
GO08	Villa O'Higgin	2.90	33	eP	Pn	10 27 36.0	-1.1
GO08				eS	Sn	10 28 14.0	+2.4
GO08				IAML		10 28 21.4	
	comp=N,1μm,0.3s						
GO10	Punta Arenas	3.27	135		Pn	10 27 42.8	+0.8
GO10	Punta Arenas	3.27	135	eP	Pn	10 27 42.7	+0.6
GO10	Punta Arenas	3.27	135	eP	Pn	10 27 42.7	+0.6
AY03	Cochrane	3.98	23		Pn	10 27 51.3	-0.5
AY03	Cochrane	3.98	23	eP	Pn	10 27 51.6	-0.2
AY03	Cochrane	3.98	23	eP	Pn	10 27 51.6	-0.2
MG02	Cerro Sombrero	3.99	120		Pn	10 27 52.4	+0.5
MG02	Cerro Sombrero	3.99	120	eP	Pn	10 27 51.7	-0.2
MG02	Cerro Sombrero	3.99	120	eP	Pn	10 27 51.7	-0.2
MG03	Isla Dawson	4.00	139	Pn	Pn	10 27 52.1	0.0
MG03	Isla Dawson	4.00	139	eP	Pn	10 27 51.7	-0.4
MG03	Isla Dawson	4.00	139	eP	Pn	10 27 51.7	-0.4
COYC	Coyhaique	5.68	21	Pn	Pn	10 28 14.7	-0.5
MG01	Puerto William	5.96	135		Pn	10 28 20.5	+1.5
MG01	Puerto William	5.96	135	eP	Pn	10 28 19.1	+0.1
MG01	Puerto William	5.96	135	eP	Pn	10 28 19.1	+0.1
AY01	Puyuhuapi	6.69	14	Pn	Pn	10 28 29.8	+0.8
GO07	Milladeo Hill,	7.86	7		Pn	10 28 46.8	+1.6
LL02	Futaleuf	8.02	16		Pn	10 28 49.0	+1.7
LL07	Hotel Espejo d	8.16	7		Pn	10 28 49.9	+0.8
LL06	Loncomilla	8.76	6	Pn	Pn	10 28 59.8	+2.3
LL04	Puerto Octay	10.17	11		Pn	10 29 17.6	+0.8
EFI	East Falkland	10.58	101	Pn	Pn	10 29 22.3	0.0
PLCA	Paso Flores	10.64	18	Pn	Pn	10 29 25.3	+2.1
PLCA	Paso Flores	10.64	18	Pn	Pn	10 29 20.9	-2.4
	comp=N,0.3nm,0.3s,baz=192,slow=14,SNR=20						
PLCA				Lg	Lg	10 32 12.8	
	comp=N,0.1nm,0.3s,baz=275,slow=16,SNR=5.2						
PLCA				LR	LR	10 33 55.7	
	comp=N,220nm,19.9s,baz=194,slow=41						
	comp=N,2.1nm,1.2s						
LR05	Currie	10.89	12	Pn	Pn	10 29 28.0	+1.4
LR04	Corral	11.10	6	Pn	Pn	10 29 30.0	+0.6
BI02	San Fabin de	14.50	12	Pn	Pn	10 30 15.7	-0.3
PMSA	Palmer Station	15.01	162	LR	LR	10 35 07.8	
	comp=N,337nm,19.3s,baz=302,slow=34						
ML02	Panimavida	15.37	11	P	P	10 30 31.2	-1.0
ESPZ	Base Esperanza	15.75	149	P	P	10 30 36.7	+0.4
TRQA	Tornquist	15.80	40		P	10 30 35.4	-1.7
BO02	Sierra Bellavi	16.40	12	P	P	10 30 44.2	+0.4
BO01	Tunca	16.76	11		P	10 30 46.8	-0.8
BO01				IAmb	IAmb	10 30 53.8	
	comp=Z,30nm,1.4s						
BO04	La Punta	17.22	12	P	Pn	10 30 51.6	+0.3
MT01	Popeta	17.26	10	P	P	10 30 53.1	-0.1
MT01				IAmb	IAmb	10 30 59.5	
	comp=Z,24nm,1.3s						
H03S1	Juan Fernandez	17.32	349	T	T	10 48 17.8	
	baz=171,slow=74,SNR=30						
H03S2	Juan Fernandez	17.33	349	T	T	10 48 13.6	
	baz=171,slow=74,SNR=24						
H03S3	Juan Fernandez	17.34	349	T	T	10 48 10.1	
	baz=171,slow=74,SNR=23						
MT09	Talagante	17.38	11	P	P	10 30 53.8	-0.8
MT09				IAmb	IAmb	10 31 00.7	
	comp=Z,16nm,0.8s						
LMEL	Las Melosas	17.41	13	P	P	10 30 55.6	+0.5
LMEL				IAmb	IAmb	10 30 58.2	
	comp=Z,33nm,1.4s						
MT13	San Alfonso	17.50	13	P	P	10 30 55.2	-0.8
MT13				IAmb	IAmb	10 31 06.0	
	comp=Z,25nm,1.3s						
MT05	Renca	17.79	12		P	10 30 58.5	-0.6
MT05				IAmb	IAmb	10 31 20.0	
	comp=Z,43nm,1.4s						
MT08	Bocatoma Ro	17.84	13	P	Pn	10 30 58.5	-0.6
MT02	Curacav	17.87	10	P	P	10 30 59.6	-0.4
VA03	San Esteban	18.43	12	P	P	10 31 08.0	+1.8
ZON	Zonda	19.91	16	P	P	10 31 22.5	+0.1
ZON				IAmb	IAmb	10 31 33.3	
	comp=Z,14nm,1.0s						
CFA	Coronel Fontan	19.93	17	P	P	10 31 20.2	-2.4
	comp=Z,6.8nm,0.3s,baz=90,slow=24,SNR=1.7						
CO03	El Pedregal	20.31	11	P	P	10 31 26.5	-0.3
CO03				IAmb	IAmb	10 31 35.8	
	comp=Z,28nm,1.1s						
GO04	Tololo Observa	20.96	10	P	P	10 31 33.7	-0.3
GO04				IAmb	IAmb	10 31 38.6	
	comp=Z,18nm,0.9s						
CO01	Juntas del Tor	21.24	12	P	P	10 31 37.5	+0.6
CO01				IAmb	IAmb	10 31 45.1	
	comp=Z,22nm,1.1s						
LCO	Las Campanas	22.12	10	P	P	10 31 47.0	+0.5
LCO				IAmb	IAmb	10 31 57.1	
	comp=Z,31nm,1.4s						
HOPE	Hope Point	23.38	113	P	P	10 31 59.4	+0.3
AC02	Maricunga	24.46	13	P	P	10 32 11.0	+0.8
AC02				IAmb	IAmb	10 32 32.5	
	comp=Z,13nm,1.3s						
GO02	Mina Guanaco	26.05	11	P	P	10 32 26.2	+1.8
CPUP	Villa Florida	28.00	35	P	P	10 32 42.6	+1.1
CPUP				IAmb	IAmb	10 32 51.9	
	comp=Z,7.4nm,1.3s						
CPUP	Villa Florida	28.00	35	P	P	10 32 38.6	-2.9
	comp=Z,1.8nm,0.7s,baz=198,slow=7.2,SNR=5.0						
CPUP				LR	LR	10 45 09.3	
	comp=Z,345nm,19.2s,baz=206,slow=40						
	comp=Z,1.8nm,0.7s						
LPAZ	La Paz	34.98	11	P	P	10 33 44.5	+0.8
LPAZ	La Paz	34.98	11	P	P	10 33 41.8	-1.9
	comp=Z,1.1nm,0.8s,baz=170,slow=7.5,SNR=3.7						
LPAZ				LR	LR	10 49 29.8	
	comp=Z,153nm,18.1s,baz=160,slow=39						
	comp=Z,1.1nm,0.8s						
SNAA	Sanae	37.24	150	P	P	10 34 03.8	+1.9
SNAA	Sanae	37.24	150	P	P	10 33 60.0	-1.9
	comp=Z,2.1nm,0.8s,baz=258,slow=7.3,SNR=6.3						
SNAA				LR	LR	10 46 50.9	
	comp=Z,121nm,18.9s,baz=214,slow=32						
	comp=Z,2.1nm,0.8s						
PTLB	Pontes e Lacer	37.60	25	P	P	10 34 05.4	+0.1
PTLB				IAmb	IAmb	10 34 10.6	
	comp=Z,7.7nm,1.0s						
QSPA	South Pole Qui	39.32	180	P	P	10 34 20.3	+0.7
	comp=Z,2.2nm,0.7s,baz=144,slow=2.2,SNR=14						
QSPA				LR	LR	10 48 24.1	
	comp=Z,98nm,19.8s,baz=132,slow=33						
	comp=Z,2.2nm,0.7s						
BDFB	Brasilia	41.31	41	P	P	10 34 36.0	-0.4
BDFB				IAmb	IAmb	10 34 53.6	
	comp=Z,8.5nm,1.0s						
BDFB	Brasilia	41.31	41	P	P	10 34 32.9	-3.5
	comp=Z,2.6nm,0.5s,baz=177,slow=6.1,SNR=6.3						
BDFB				LR	LR	10 53 30.7	
	comp=Z,470nm,18.6s,baz=157,slow=39						
	comp=Z,2.6nm,0.5s						
ATAH	Atahualpa	43.75	355	LR	LR	10 49 34.9	
	comp=Z,99nm,19.6s,baz=205,slow=31						
VNDA	Vanda	47.13	194	LR	LR	10 51 40.7	
	comp=Z,85nm,20.7s,baz=142,slow=32						
OTAV	Otavalo	51.06	355	P	P	10 35 55.1	+1.6
OTAV				IAmb	IAmb	10 35 59.3	
	comp=Z,3.5nm,0.9s						
RCBR	Riachuelo	55.44	50	LR	LR	11 00 06.1	
	comp=Z,62nm,18.1s,baz=231,slow=36						
ROSC	El Rosal	55.55	1	P	P	10 36 28.4	+1.9
ROSC	El Rosal	55.55	1	P	P	10 36 26.3	-0.2
	comp=Z,4.2nm,0.4s,baz=166,slow=7.8,SNR=3.9						
ROSC				LR	LR	10 58 30.6	
	comp=Z,101nm,18.1s,baz=355,slow=34						
	comp=Z,4.2nm,0.4s						
MAW	Mawson	57.62	162	LR	LR	11 01 09.7	
	comp=Z,155nm,19.6s,baz=210,slow=36						
MDP	Montagnes des	59.01	26	LR	LR	11 04 25.0	
	comp=Z,247nm,19.4s,baz=153,slow=38						
JTS	Las Juntas de	61.58	349	LR	LR	10 57 48.8	
	comp=Z,41nm,20.0s,baz=140,slow=30						
PPT	Papeete	66.92	270	LR	LR	10 58 24.7	
	comp=Z,82nm,18.4s,baz=164,slow=28						
SUR	Sutherland	68.95	116	LR	LR	11 04 50.4	
	comp=Z,62nm,19.2s,baz=196,slow=33						
SJG	San Juan	69.17	9	LR	LR	11 11 36.8	
	comp=Z,71nm,19.1s,baz=174,slow=39						
CMIG	Matias Romero	69.96	340	LR	LR	11 02 07.2	
	comp=Z,46nm,19.8s,baz=28,slow=30						
URZ	Urewera	71.11	232	LR	LR	11 01 40.9	
	comp=Z,116nm,20.8s,baz=250,slow=29						
BOSA	Boshof	74.30	116	LR	LR	11 07 46.2	
	comp=Z,43nm,20.4s,baz=198,slow=33						
LBTB	Lobatse	77.24	114	LR	LR	11 09 22.8	
	comp=Z,47nm,19.0s,baz=184,slow=33						
BBTS	Babate	82.74	56	LR	LR	11 17 12.3	
	comp=Z,75nm,18.5s,baz=32,slow=37						
DBIC	Dimbokro	82.82	70	P	P	10 39 12.6	-2.5
	comp=Z,2.1nm,0.6s,baz=168,slow=4.5,SNR=5.1						
DBIC				LR	LR	11 10 18.8	
	comp=Z,47nm,19.6s,baz=247,slow=32						
	comp=Z,2.1nm,0.6s						
LSZ	Lusaka	86.32	110	LR	LR	11 12 15.5	
	comp=Z,60nm,21.8s,baz=195,slow=32						
MSVF	Nonsavu	86.69	246	LR	LR	11 14 04.8	
	comp=Z,66nm,18.1s,baz=336,slow=32						
ANMO	Albuquerque	89.91	335	LR	LR	11 13 52.8	
	comp=Z,62nm,18.2s,baz=272,slow=31						
PDAR	Pinedale Array	98.07	335	LR	LR	11 19 50.6	
	comp=Z,34nm,18.6s,baz=248,slow=32						

*IDC **17** 10:33:00.2±3.7,21°.50S×178°.59E,h653km±30km,mb2.8/4,*
mbtmp3.8/6,Error ellipse: s-maj=117.2km s-min=20.8km
az=154.0

ISC 17 10:32:59.7±1.8,21°.6S±0°.4×178°.6E±0°.2,h650km,n7,
σ0§78/7,mb3.4/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.89	352	P	P	10 34 28.4	0.0
	5.3nm,0.5s,baz=172,slow=15,SNR=14						
DZM	Mont Dzumac	11.30	265	P	P	10 35 31.6	-0.4
	5.9nm,0.7s,baz=88,slow=18,SNR=1.9						
ASAR	Alice Springs	41.18	258	P	P	10 39 50.1	-0.5
	0.6nm,0.8s,baz=96,slow=6.9,SNR=8.5						
	0.6nm,0.8s						
WRA	Warramunga Arr	41.31	264	P	P	10 39 53.0	+1.2
	0.7nm,0.3s,baz=98,slow=8.3,SNR=29						
	0.7nm,0.3s						
ILAR	Eielson Array	90.12	14	P	P	10 44 51.6	-0.4
	0.4nm,0.9s,baz=206,slow=5.0,SNR=2.1						
	0.4nm,0.9s						
TXAR	Lajitas Array	90.33	59	P	P	10 44 53.9	0.0
	0.5nm,0.8s,baz=207,slow=7.0,SNR=6.3						
	0.5nm,0.8s						
HFS	Hagfors	140.05	348	PKP	PKPdf	10 51 16.0	+0.5
	1.4nm,0.5s,baz=49,slow=4.4,SNR=14						

IDC 17 11:00:57.1±8.1,6°.71S×154°.01E,h85km±59km,mb3.2/4,
mbtmp3.6/5,ML2.2/1,Error ellipse: s-maj=71.8km
s-min=33.2km az=108.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.30	248	P	Pn	11 02 40.8	-0.3
	2.3nm,0.3s,baz=42,slow=6.7,SNR=10.0						
PMG				S	Sn	11 04 04.3	+1.9
	3.5nm,0.6s,baz=345,slow=8.7,SNR=1.4						
	11nm,0.5s						
WRA	Warramunga Arr	23.19	234	P	P	11 05 56.8	-0.1
	1.1nm,0.9s,baz=55,slow=9.1,SNR=7.6						
	1.1nm,0.9s						
ASAR	Alice Springs	25.64	227	P	P	11 06 18.4	-0.6
	0.3nm,0.4s,baz=56,slow=9.4,SNR=12						
	0.3nm,0.4s						
SONM	Songino Array	68.57	328	P	P	11 11 50.9	-0.1
	0.3nm,0.4s,baz=132,slow=6.5,SNR=2.6						
	0.3nm,0.4s						
MKAR	Makanchi Array	82.55	319	P	P	11 13 11.6	+0.9
	0.5nm,0.9s,baz=108,slow=4.7,SNR=2.4						
	0.5nm,0.9s						

*IDC **17** 11:02:28.3±14.0,11°.30N×140°.94E,h175km±137km,*
mb3.2/11,mbtmp3.7/11,MS3.1/2,Error ellipse:
s-maj=39.5km s-min=23.6km az=66.0

ISC 17 11:02:25.6±1.0,11°.3N±0°.2×140°.9E±0°.3,h150km,n12,
σ0§95/11,mb3.4/11,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	28.50	338	LR	LR	11 18 03.9	
	comp=Z,23nm,20.6s,baz=155,slow=33						
WRA	Warramunga Arr	31.73	192	P	P	11 08 35.2	-0.3
	0.2nm,0.8s,baz=9.0,slow=8.8,SNR=2.0						
WRA				LR	LR	11 21 08.1	
	comp=Z,59nm,18.1s,baz=172,slow=35						
	0.2nm,0.8s						
ASAR	Alice Springs	35.43	191	P	P	11 09 08.2	+0.6
	0.2nm,0.6s,baz=21,slow=11,SNR=5.8						
	0.2nm,0.6s						
SONM	Songino Array	46.45	328	P	P	11 10 38.3	+0.8
	0.3nm,0.4s,baz=135,slow=6.4,SNR=4.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	60.46	318	P	P	11 12 19.5	-0.1
	0.2nm,0.5s,baz=97,slow=7.4,SNR=2.2						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	61.24	326	P	P	11 12 24.6	0.0
	0.7nm,0.5s,baz=101,slow=7.5,SNR=2.2						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	63.87	321	P	P	11 12 43.2	+1.1
	1.3nm,0.7s,baz=103,slow=6.7,SNR=8.9						
	1.3nm,0.7s						
BVAR	Borovoye Array	69.30	323	P	P	11 13 17.2	+0.6
	0.9nm,0.5s,baz=107,slow=7.4,SNR=6.4						
	0.9nm,0.5s						
ILAR	Eielson Array	72.28	25	P	P	11 13 33.6	-0.8
	0.3nm,0.5s,baz=253,slow=5.7,SNR=8.3						
	0.3nm,0.5s						
YKA	Yellowknife Ar	86.65	27	P	P	11 14 53.0	+1.0
	0.2nm,0.4s,baz=274,slow=5.4,SNR=5.3						
	0.2nm,0.4s						
FINES	FINESS Array B	91.52	334	P	P	11 15 14.6	-0.4
	0.9nm,0.5s,baz=60,slow=6.5,SNR=8.2						
	0.9nm,0.5s						
BRTR	Keskin Array B	95.73	312	P	P	11 15 33.3	-1.7
	0.2nm,0.4s,baz=86,slow=7.4,SNR=1.6						
	0.2nm,0.4s						

*JMA **17** 11:12:19.3±0.2,36°.3N±0°.7×137°.2E±0°.9,h267km±1km,*
MV2.9/34,TOYAMA GIFU BORDER REG
*IDC **17** 11:12:19.3±0.5,36°.33N×137°.12E,h266km±4km,mb3.1/11,*
mbtmp3.8/15,Error ellipse: s-maj=17.0km s-min=11.8km
az=94.0

ISC 17 11:12:19.3±0.7,36°.38N±0°.07×137°.20E±0°.07,h265km±6km,
n41,σ1§12/51,mb3.4/11,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.18	150	eP	Pn	11 12 53.6	+0.2
JGN				S	S	11 13 20.1	-0.2
JKG	Kaga	0.71	262	P	Pn	11 12 55.2	+0.6
JKG				S	S	11 13 22.8	+0.5
JGF	Kuroka	0.79	171	P	Pn	11 12 54.5	-0.5
MAJO	Matsushiro	0.83	78	P	Pn	11 12 55.5	+0.5
MAT	Matsushiro	0.83	78	P	Pn	11 12 55.5	+0.5
MAT				eS	S	11 13 23.4	+0.1
MJAR	Matsushiro Arr	0.83	78	P	Pn	11 12 55.7	+0.7
	23nm,0.3s,baz=249,slow=6.6,SNR=161						
MJAR				S	S	11 13 24.9	+1.6
	12nm,0.7s,baz=280,slow=15,SNR=13						
JYTA	Yamagatataniai	0.87	206	P	Pn	11 12 55.1	-0.1
JYTA				S	S	11 13 22.3	-1.4
INU	Inuyama	1.04	188	P	Pn	11 12 55.6	-0.5
JSZ	Suzu	1.08	7	eP	Pn	11 12 57.0	+0.9
JSZ				eS	S	11 13 26.2	+0.8
JYN	Shimob	1.40	129	P	Pn	11 12 58.0	-0.4
JRY	Ryogami san	1.42	104	P	Pn	11 12 59.4	+0.9
JRY				eS	S	11 13 28.7	-0.8
JHG	Hegura jima	1.48	351	eP	Pn	11 12 60.0	+1.2
JAG	Ashikaga	1.82	88	P	Pn	11 13 01.3	-0.1
JWT	Wachi	1.83	234	i P	Pn	11 13 01.4	-0.2
JSD	Sado	1.86	27	P	Pn	11 13 02.6	+1.0
JSD	Sado	1.86	27	P	Pn	11 13 02.7	+1.0
JOD2	Odawara 2	1.89	125	P	Pn	11 13 02.2	+0.1
JOD2				eS	S	11 13 36.1	+0.1
JIE	Ise	2.02	192	P	Pn	11 13 03.3	0.0
JIE				S	S	11 13 37.6	-0.5
JNS	Sasagawa	2.22	49	P	Pn	11 13 05.8	+0.9
JWY	Kouya	2.53	212	P	Pn	11 13 08.0	0.0
TTO1	TONANKAI O.B.S	2.77	187

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.23**	**59**	T	T	11 25 10.2	
	baz=237,slow=76,SNR=72						
H08S2	**Diego Garcia H**	**7.25**	**59**	T	T	11 25 11.4	
	baz=237,slow=76,SNR=92						
H08S3	**Diego Garcia H**	**7.25**	**59**	T	T	11 25 07.3	
	baz=237,slow=76,SNR=161						
PALK	**Pallekele**	**23.54**	**38**	LR	LR	11 27 07.1	
	comp=Z,25nm,21.7s,baz=213,slow=28						
H04N2	**CROZET ISLANDS**	**36.69**	**197**	T	T	12 02 08.8	
	baz=24						
H04N1	**CROZET ISLANDS**	**36.69**	**197**	T	T	12 02 08.6	
	baz=24						
H04N3	**CROZET ISLANDS**	**36.70**	**197**	T	T	12 02 05.1	
	baz=24						
CMAR	**Chiang Mai Arr**	**43.88**	**48**	P	**P**	**11 24 08.5**	**+1.5**
	0.3nm,0.3s,baz=220,slow=6.4,SNR=1.4						
CMAR				LR	LR	11 40 04.2	
	comp=Z,12nm,19.5s,baz=195,slow=33						
	0.3nm,0.3s						
H01W3	**Cape Leeuwin H**	**49.24**	**126**	T	T	12 17 27.7	
	baz=287,slow=75,SNR=7.5						
H01W2	**Cape Leeuwin H**	**49.24**	**126**	T	T	12 17 28.3	
	baz=287,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**49.26**	**126**	T	T	12 17 29.3	
	baz=287,slow=75,SNR=8.8						
MKAR	**Makanchi Array**	**59.76**	**13**	P	**P**	**11 26 03.8**	**-1.4**
	0.4nm,0.7s,baz=202,slow=7.3,SNR=4.3						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**62.76**	**9**	P	**P**	**11 26 24.1**	**-1.2**
	0.5nm,0.8s,baz=207,slow=6.6,SNR=5.5						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**64.34**	**3**	LR	LR	11 52 42.5	
	comp=Z,90nm,20.4s,baz=303,slow=34						
ASAR	**Alice Springs**	**65.13**	**111**	P	**P**	**11 26 41.1**	**-0.5**
	0.8nm,0.6s,baz=274,slow=5.9,SNR=21						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**65.73**	**107**	P	**P**	**11 26 45.3**	**-0.2**
	1.5nm,0.8s,baz=273,slow=5.6,SNR=14						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**67.06**	**12**	P	**P**	**11 26 53.7**	**+0.5**
	0.4nm,0.3s,baz=249,slow=6.2,SNR=4.0						
	0.4nm,0.3s						
SONM	**Songino Array**	**68.98**	**28**	P	**P**	**11 27 05.6**	**-0.1**
	1.0nm,0.8s,baz=210,slow=6.6,SNR=4.6						
	1.0nm,0.8s						
RONA	**Rosalia, Austr**	**73.72**	**327**	*e*P	**P**	**11 27 35.0**	**+0.8**
	1.0nm,0.7s						
CONA	**Conrad Observa**	**74.09**	**327**	*e*P	**P**	**11 27 35.8**	**-0.6**
	0.2nm,0.2s						
MOA	**MoIn**	**74.90**	**327**	*i* P	**P**	**11 27 41.1**	**+0.1**
	0.6nm,0.5s						
ABTA	**Abfaltersbach**	**75.21**	**325**	*e*P	**P**	**11 27 43.3**	**+0.4**
	0.7nm,0.5s						
QSPA	**South Pole Qui**	**78.58**	**180**	P	**P**	**11 28 02.2**	**+0.4**
	2.0nm,1.1s,baz=315,slow=1.4,SNR=2.6						
	2.0nm,1.1s						
ESDC	**Sonseca Array**	**82.50**	**313**	P	**P**	**11 28 23.9**	**+0.8**
	1.0nm,1.0s,baz=117,slow=4.9,SNR=5.3						
	1.0nm,1.0s						
JHJ	**Hachijo jima 2**	**82.79**	**54**	LR	LR	12 06 02.9	
	comp=Z,27nm,18.8s,baz=80,slow=36						
PDAR	**Pinedale Array**	**148.61**	**354**	PKPbc	**PKPbc**	**11 35 47.5**	**-0.4**
	0.6nm,0.7s,baz=90,slow=1.4,SNR=6.8						
NVAR	**Mina Array Bea**	**152.85**	**8**	PKPbc	**PKPbc**	**11 35 55.8**	**-2.3**
	0.4nm,0.5s,baz=330,slow=7.2,SNR=3.6						

IDC 17 11:23:11.2±57.0, 17°.20S×177°.77W, h581km±37km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=1021.0km s-min=134.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.03**	**262**	P	P	11 24 35.6	0.0
	7.5nm,0.6s,baz=120,slow=16,SNR=7.9						
STKA	**Stephens Creek**	**39.51**	**241**	P	P	11 29 52.5	-0.5
	1.0nm,0.6s,baz=69,slow=8.6,SNR=3.7						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**45.37**	**259**	P	P	11 30 38.8	-0.1
	0.3nm,0.5s,baz=92,slow=7.0,SNR=5.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**45.57**	**254**	P	P	11 30 40.5	0.0
	2.7nm,0.6s,baz=93,slow=7.6,SNR=71						
	2.7nm,0.6s						

*IDC **17** 11:29:14.5±0.5, 55°.05S×31°.56W, h0km, mb4.7/14, mbtmp4.7/14, MS4.5/33, Error ellipse: s-maj=21.6km s-min=14.4km az=57.0*

*NEIC **17** 11:29:17.3±1.5, 55°.1S±0°.1×31°.7W±0°.2, h10km±1km, mb5.1/73, Error ellipse: s-maj=19.5km s-min=14.3km az=202.0*

*RSNC **17** 11:29:17.9±1.6, 55°S±10°×3°2W±1°0, h10km±17km, M4.5, mB5.2, mb4.5, mBc6.2, Mw(mB)5.0, Hypocentre not reviewed by the ISC*

*GCMT **17** 11:29:21.3±0.1, 55°.04S±0°.01×31°.44W±0°.02, h12km, MW5.2/130, Moment Tensor Solution. s68,c89; s130,c208; Duration: 1ꝑ0 Moment tensor: Scale 10^17 Nm; Mrr0.48±.01; Mθθ-0.42±.01; Mφφ-0.06±.01; Mrθ-0.44±.03; Mφθ0.45±.01; Mφr0.53±.03; Best double couple: M0:0.92500×10^17 NP1:ϕs102.00000°, δ24.00000°, λ55.00000°. NP2:ϕs319.00000°, δ70.00000°, λ104.00000°. Principal axes: T 0.8260, Plg62.0000°, Azm251.0000°; N 0.1990, Plg14.0000°, Azm134.0000°; P -1.0250, Plg24.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 11:29:16.8±0.3, 55°.08S±0°.05×31°.68W±0°.06, h10km, n394, σ1ꝑ29/370, mb5.0/43, MS4.5/34, 11C-3D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.91**	**284**		**Pn**	**11 30 02.5**	**-0.5**
ESPZ	**Base Esperanza**	**15.30**	**227**	Pn	**Pn**	**11 32 50.3**	**-2.1**
ESPZ				IAmb	IAmb	11 32 59.0	
	comp=Z,184nm,1.8s						
EFI	**East Falkland**	**16.07**	**271**		**Pn**	**11 33 02.5**	**-0.1**
PMSA	**Palmer Station**	**18.68**	**226**	LR	LR	11 39 57.7	
	comp=Z,2μm,18.5s,baz=136,slow=34						
VNA1	**Neumayer--Stat**	**18.69**	**156**	P	**Pn**	**11 33 38.9**	**+3.8**
VNA1	**Neumayer--Stat**	**18.69**	**156**	⇑P	**Pn**	**11 33 38.9**	**+3.8**
	comp=Z,24nm,1.1s						
VNA3	**Neumayer Olymp**	**18.80**	**158**	P	**Pn**	**11 33 40.2**	**+3.7**
VNA3				S	**S**	**11 37 09.8**	**+0.2**
VNA3				x	x	11 37 10.9	
VNA3	**Neumayer Olymp**	**18.80**	**158**	⇑P	**Pn**	**11 33 40.2**	**+3.7**
	comp=Z,19nm,1.0s						
VNA3				⇑S	**S**	**11 37 09.8**	**+0.2**
VNA3				⇑x	x	11 37 10.9	
VNA2	**Neumayer--Watz**	**19.09**	**156**	P	**Pn**	**11 33 44.5**	**+4.6**
	baz=314,slow=12						
VNA2				S	**S**	**11 37 16.7**	**+1.3**
	baz=343,slow=14						
VNA2	**Neumayer--Watz**	**19.09**	**156**	⇑P	**Pn**	**11 33 44.5**	**+4.6**
	comp=Z,20nm,0.6s,baz=314,slow=12						
VNA2				⇑S	**S**	**11 37 16.7**	**+1.3**
	comp=E,1.3nm,0.1s,baz=343,slow=14						
MG01	**Puerto William**	**20.48**	**256**	P	**P**	**11 33 55.2**	**+0.8**
MG01				IAmb	IAmb	11 34 01.5	
	comp=Z,115nm,1.2s						
SNAA	**Sanae**	**20.69**	**154**	P	**P**	**11 33 57.5**	**+0.8**
SNAA				S	Sn	11 37 54.3	+2.2
SNAA				x	x	11 37 54.7	
SNAA	**Sanae**	**20.69**	**154**		**P**	**11 33 56.5**	**-0.1**
SNAA				IAmb	IAmb	11 34 12.6	
	comp=Z,84nm,1.4s						
SNAA	**Sanae**	**20.69**	**154**	⇑P	**P**	**11 33 57.5**	**+0.8**
	comp=Z,282nm,0.6s						
SNAA				⇑S	Sn	11 37 54.3	+2.2
SNAA				⇑x	x	11 37 54.7	
SNAA	**Sanae**	**20.69**	**154**	P	**P**	**11 33 56.4**	**-0.3**
	comp=Z,12nm,0.9s,baz=311,slow=10,SNR=16						
SNAA				LR	LR	11 40 57.9	
	comp=Z,743nm,18.9s,baz=316,slow=34						
	comp=Z,12nm,0.9s						
TROLL	**Troll, Antarti**	**22.27**	**153**	P	**P**	**11 34 14.3**	**+0.7**
TROLL				S	**S**	**11 38 17.2**	**-1.1**
TROLL				x	x	11 38 18.0	
TROLL	**Troll, Antarti**	**22.27**	**153**	⇑P	**P**	**11 34 14.3**	**+0.7**
	comp=Z,680nm,0.6s						
TROLL				⇑S	**S**	**11 38 17.2**	**-1.1**
TROLL				⇓x	x	11 38 18.0	
BELA	**Belgrano 2**	**22.92**	**182**	P	**P**	**11 34 20.8**	**+0.5**
BELA				IAmb	IAmb	11 34 31.5	
	comp=Z,57nm,1.4s						
GO10	**Punta Arenas**	**22.95**	**258**	P	**P**	**11 34 21.6**	**+0.6**
TRQA	**Tornquist**	**26.60**	**297**	P	**P**	**11 34 55.9**	**+0.9**
COYC	**Coyhaique**	**27.14**	**274**	P	**P**	**11 35 00.9**	**+1.2**
COYC				IAmb	IAmb	11 35 22.9	
	comp=Z,33nm,1.0s						
PLTB	**Pedras Altas**	**28.00**	**317**	P	**P**	**11 35 08.1**	**+0.5**
AY01	**Puyuhuapi**	**28.14**	**275**	P	**P**	**11 35 09.0**	**+0.2**
AY01				IAmb	IAmb	11 35 10.5	
	comp=Z,28nm,0.8s						
LL02	**Futaleuf**	**28.44**	**278**	P	**P**	**11 35 12.3**	**+0.9**
TBOT	**Tacuaremb**	**29.01**	**314**	*e*P	**P**	**11 35 16.8**	**+0.3**
CPSB	**Cacapava Do Su**	**29.15**	**319**	*e*P	**P**	**11 35 19.0**	**+1.1**
PLCA	**Paso Flores**	**29.31**	**283**	P	**P**	**11 35 19.4**	**+0.1**
PLCA	**Paso Flores**	**29.31**	**283**	P	**P**	**11 35 18.9**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=139,slow=9.9,SNR=9.6						
PLCA				LR	LR	11 47 02.2	
	comp=Z,1μm,20.6s,baz=131,slow=36						
	comp=Z,4.5nm,0.9s						
PLCA	**Paso Flores**	**29.31**	**283**	*e*P	**P**	**11 35 20.9**	**+1.6**
LR05	**Currie**	**30.47**	**282**	P	**P**	**11 35 29.4**	**0.0**
LR04	**Corral**	**31.50**	**281**	P	**P**	**11 35 37.9**	**-0.6**
BI02	**San Fabin de**	**32.58**	**288**	P	**P**	**11 35 47.5**	**-0.6**
MAN01	**Angra dos Reis**	**33.46**	**339**	*e*P	**P**	**11 35 56.9**	**+1.1**
PTGB	**Pitanga**	**33.87**	**325**	*e*P	**P**	**11 35 60.0**	**+0.5**
CAM01	**Campos-RJ**	**34.05**	**343**	*e*P	**P**	**11 36 01.8**	**+1.0**
LMEL	**Las Melosas**	**34.11**	**292**	P	**P**	**11 36 02.4**	**+0.8**
LMEL				IAmb	IAmb	11 36 07.9	
	comp=Z,18nm,1.1s						
BO01	**Tunca**	**34.17**	**291**	P	**P**	**11 36 01.9**	**0.0**
BO04	**La Punta**	**34.22**	**292**	P	**P**	**11 36 02.4**	**-0.1**
BO04				IAmb	IAmb	11 36 09.8	
	comp=Z,16nm,0.8s						
CPUP	**Villa Florida**	**34.30**	**316**	P	**P**	**11 36 02.9**	**-0.2**
CPUP				IAmb	IAmb	11 36 16.9	
	comp=Z,18nm,0.9s						
CPUP	**Villa Florida**	**34.30**	**316**	P	**P**	**11 36 02.6**	**-0.5**
	comp=Z,13nm,0.9s,baz=160,slow=8.0,SNR=25						
CPUP				LR	LR	11 51 51.4	
	comp=Z,789nm,18.2s,baz=164,slow=40						
	comp=Z,13nm,0.9s						
CPUP	**Villa Florida**	**34.30**	**316**	*e*P	**P**	**11 36 02.5**	**-0.7**
MT08	**Bocatoma Ro**	**34.32**	**293**	P	**P**	**11 36 04.3**	**+0.8**
MT08				IAmb	IAmb	11 36 09.4	
	comp=Z,28nm,0.9s						
MT09	**Talagante**	**34.59**	**292**	P	**P**	**11 36 05.5**	**-0.2**
MT09				IAmb	IAmb	11 36 10.9	
	comp=Z,27nm,0.8s						
MT16	**CCHEN**	**34.60**	**293**	P	**P**	**11 36 06.9**	**+1.1**
MT01	**Popeta**	**34.66**	**291**	P	**P**	**11 36 05.9**	**-0.3**
MT01				IAmb	IAmb	11 36 09.5	
	comp=Z,29nm,0.9s						
MT05	**Renca**	**34.75**	**292**	P	**P**	**11 36 08.2**	**+1.2**
MT05				IAmb	IAmb	11 36 14.5	
	comp=Z,38nm,1.1s						
PEL	**Peldehue**	**34.91**	**293**	P	**P**	**11 36 08.7**	**+0.3**
ZON	**Zonda**	**35.12**	**297**	P	**P**	**11 36 09.7**	**-0.5**
ZON				IAmb	IAmb	11 36 33.0	
	comp=Z,18nm,0.8s						
VA03	**San Esteban**	**35.13**	**293**	P	**P**	**11 36 11.1**	**+0.7**
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**11 36 11.2**	**+0.7**
QSPA				IAmb	IAmb	11 36 18.6	
	comp=Z,41nm,1.2s						
QSPA	**South Pole Qui**	**35.17**	**180**	P	**P**	**11 36 10.5**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=198,slow=2.9,SNR=20						
QSPA				LR	LR	11 49 53.4	
	comp=Z,1μm,18.6s,baz=186,slow=35						
	comp=Z,4.1nm,0.6s						
VA01	**Torpederas**	**35.52**	**292**	P	**P**	**11 36 14.3**	**+0.8**
VA06	**Catapilco**	**35.69**	**293**	P	**P**	**11 36 15.6**	**+0.6**
RIB01	**Linhares ES**	**36.32**	**346**	*e*P	**P**	**11 36 20.7**	**+0.2**
CO01	**Juntas del Tor**	**37.10**	**297**	P	**P**	**11 36 28.8**	**+1.4**
CO01				IAmb	IAmb	11 36 42.2	
	comp=Z,25nm,1.0s						
GO04	**Tololo Observa**	**37.30**	**296**	P	**P**	**11 36 29.3**	**+0.2**
GO04				IAmb	IAmb	11 36 46.3	
	comp=Z,17nm,0.8s						
CO06	**Fray Jorge**	**37.34**	**294**	P	**P**	**11 36 31.2**	**+2.0**
CO06				IAmb	IAmb	11 36 32.5	
	comp=Z,41nm,1.6s						
CO05	**La Serena**	**37.73**	**295**	P	**P**	**11 36 31.8**	**-0.7**
CO05				IAmb	IAmb	11 36 37.5	
	comp=Z,37nm,0.8s						
DIAM	**Diamantina, MG**	**37.85**	**341**	*e*P	**P**	**11 36 34.9**	**+1.2**
PMNB	**Patos De Minas**	**38.18**	**337**	*e*P	**P**	**11 36 36.4**	**0.0**
LCO	**Las Campanas**	**38.19**	**297**	P	**P**	**11 36 37.0**	**+0.3**
RPRD	**Ribas do Rio P**	**38.34**	**325**	*e*P	**P**	**11 36 39.1**	**+1.4**
MURT	**Porto Murtinho**	**38.63**	**319**	*e*P	**P**	**11 36 39.7**	**-0.3**
GUA01	**Guaratinga, BA**	**38.93**	**348**	*e*P	**P**	**11 36 43.4**	**+0.7**
AQDB	**Aquidauana**	**39.02**	**323**	P	**P**	**11 36 43.5**	**+0.1**
AQDB	**Aquidauana**	**39.02**	**323**	*e*P	**P**	**11 36 43.7**	**+0.3**
AC04	**Llanos de Chal**	**39.03**	**297**	P	**P**	**11 36 43.6**	**+0.2**
AC04				IAmb	IAmb	11 36 50.5	
	comp=Z,51nm,1.2s						
IPMB	**Ipameri, GO**	**39.13**	**335**	*e*P	**P**	**11 36 44.9**	**+0.5**
AC02	**Maricunga**	**39.17**	**301**	P	**P**	**11 36 45.7**	**+0.5**
BDQN	**Bodoquena, MS**	**39.42**	**321**	*e*P	**P**	**11 36 45.9**	**-0.8**
AC01	**Pan de Azucar**	**40.48**	**300**	P	**P**	**11 36 56.0**	**+0.6**
AC01				IAmb	IAmb	11 37 00.1	
	comp=Z,26nm,0.9s						
GO02	**Mina Guanaco**	**40.80**	**302**	P	**P**	**11 36 59.2**	**+0.8**
GO02				IAmb	IAmb	11 37 03.6	
	comp=Z,27nm,0.7s						
JANB	**Januaria**	**41.13**	**341**	*e*P	**P**	**11 37 02.0**	**+1.1**
BDFB	**Brasilia**	**41.34**	**336**	P	**P**	**11 37 03.7**	**+1.0**
BDFB	**Brasilia**	**41.34**	**336**	P	**P**	**11 37 02.4**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=142,slow=3.4,SNR=7.9						
BDFB				LR	LR	11 52 34.9	
	comp=Z,293nm,18.4s,baz=158,slow=34						
	comp=Z,3.1nm,0.6s						
PB14	**IPOC Station P**	**41.65**	**301**	P	**P**	**11 37 05.1**	**-0.3**
ARAG	**Araguaiana, MT**	**42.27**	**330**	*e*P	**P**	**11 37 11.3**	**+1.1**
MAW	**Mawson**	**42.42**	**146**	P	**P**	**11 37 09.8**	**-1.1**
	comp=Z,6.2nm,0.5s,baz=301,slow=5.9,SNR=1.3						
MAW				LR	LR	11 52 18.9	
	comp=Z,464nm,20.0s,baz=257,slow=33						
	comp=Z,6.2nm,0.5s						
SUR	**Sutherland**	**42.92**	**80**	LR	LR	11 51 10.1	
	comp=Z,556nm,20.6s,baz=223,slow=31						
SALV	**Santo Antonio**	**43.27**	**325**	*e*P	**P**	**11 37 19.5**	**+1.2**
PB09	**IPOC Station P**	**43.48**	**305**	P	**P**	**11 37 21.3**	**+1.0**
SDBA	**SAO DESIDERIO**	**43.82**	**341**	*e*P	**P**	**11 37 23.6**	**+0.8**
PB01	**IPOC Station P**	**44.24**	**305**	P	**P**	**11 37 26.6**	**+0.3**
NBLA	**Lagarto - SE**	**44.24**	**351**	*e*P	**P**	**11 37 26.8**	**+0.6**
PB08	**IPOC Station P**	**44.86**	**306**	P	**P**	**11 37 32.8**	**+1.2**
PB08				IAmb	IAmb	11 37 35.9	
	comp=Z,15nm,0.8s						
PTLB	**Pontes e Lacer**	**44.88**	**321**	P	**P**	**11 37 31.3**	**0.0**
PTLB				IAmb	IAmb	11 37 33.0	
	comp=Z,19nm,0.9s						
PTLB	**Pontes e Lacer**	**44.88**	**321**	*e*P	**P**	**11 37 31.4**	**+0.2**
NBAN	**Anadia - AL**	**45.44**	**354**	*e*P	**P**	**11 37 36.0**	**+0.3**
SNDB	**Serra Nova Dou**	**45.68**	**333**	*e*P	**P**	**11 37 38.2**	**+0.5**
NBCA	**Caruaru-PE**	**46.86**	**354**	*e*P	**P**	**11 37 46.4**	**-0.5**
VNDA	**Vanda**	**47.39**	**184**	P	**P**	**11 37 50.4**	**0.0**
	comp=Z,4.4nm,0.8s,baz=186,slow=5.5,SNR=4.6						
VNDA				LR	LR	11 58 18.2	
	comp=Z,395nm,18.6s,baz=168,slow=37						
	comp=Z,4.4nm,0.8s						
VILB	**Vilhena**	**47.57**	**321**	*e*P	**P**	**11 37 53.5**	**+1.0**
PDRB	**Porto dos Gac**	**47.62**	**326**	*e*P	**P**	**11 37 52.7**	**-0.2**
LPAZ	**La Paz**	**47.76**	**310**	P	**P**	**11 37 55.0**	**+0.3**
LPAZ	**La Paz**	**47.76**	**310**	P	**P**	**11 37 55.0**	**+0.3**
	comp=Z,23nm,0.7s,baz=140,slow=4.1,SNR=52						
LPAZ				LR	LR	12 00 17.4	
	comp=Z,320nm,18.6s,baz=174,slow=39						
	comp=Z,23nm,0.7s						
LPAZ	**La Paz**	**47.76**	**310**	*e*P	**P**	**11 37 55.5**	**+0.9**
NBLV	**Livramento - P**	**47.78**	**353**	*e*P	**P**	**11 37 55.6**	**+1.5**
SMTB	**Santa Maria do**	**47.81**	**339**	*e*P	**P**	**11 37 55.6**	**+1.3**
H10S2	**ASCENSION HYDR**	**47.95**	**23**	T	T	12 29 31.5	
	baz=193,slow=74						
H10S3	**ASCENSION HYDR**	**47.96**	**23**	T	T	12 29 31.3	
	baz=27,slow=74						
BOSA	**Boshof**	**48.27**	**81**	P	**P**	**11 37 57.5**	**-0.4**
BOSA				IAmb	IAmb	11 37 58.4	
	comp=Z,24nm,1.1s						
BOSA	**Boshof**	**48.27**	**81**	P	**P**	**11 37 56.9**	**-1.0**
	comp=Z,9.0nm,0.8s,baz=223,slow=8.2,SNR=8.7						
BOSA				LR	LR	11 54 35.6	
	comp=Z,573nm,18.7s,baz=222,slow=32						
	comp=Z,9.0nm,0.8s						
WIN	**Windhoek**	**48.51**	**68**	P	**P**	**11 37 59.6**	**-0.4**
H10N1	**ASCENSION HYDR**	**49.07**	**23**	T	T	12 30 47.8	
	baz=193,slow=75						
H10N3	**ASCENSION HYDR**	**49.07**	**23**	T	T	12 30 47.7	
	baz=193,slow=75						
H10N2	**ASCENSION HYDR**	**49.08**	**23**	T	T	12 30 48.9	
	baz=193,slow=75						
RCBR	**Riachuelo**	**49.23**	**354**	LR	LR	11 56 52.2	
	comp=Z,175nm,18.3s,baz=193,slow=34						
LBTB	**Lobatse**	**51.24**	**78**	P	**P**	**11 38 20.1**	**-0.4**
LBTB				IAmb	IAmb	11 38 21.1	
	comp=Z,31nm,1.1s						
LBTB	**Lobatse**	**51.24**	**78**	LR	LR	11 57 58.9	
	comp=Z,299nm,18.1s,baz=214,slow=34						
NPGB	**Novo Progresso**	**51.51**	**329**	*e*P	**P**	**11 38 23.8**	**+1.3**
TSUM	**Tsumeb**	**51.53**	**66**	P	**P**	**11 38 22.1**	**-0.7**
TSUM	**Tsumeb**	**51.53**	**66**	LR	LR	11 55 04.3	
	comp=Z,435nm,21.2s,baz=162,slow=30						
ITTB	**Itaituba**	**54.17**	**330**	*e*P	**P**	**11 38 42.5**	**+0.4**
NNA	**Nana**	**55.56**	**303**	P	**P**	**11 38 52.5**	**+0.1**
NNA	**Nana**	**55.56**	**303**	LR	LR	12 02 34.9	
	comp=Z,252nm,21.0s,baz=148,slow=36						
MACA	**Manacapuru-AM**	**56.84**	**325**	P	**P**	**11 39 00.7**	**-0.8**
MACA	**Manacapuru-AM**	**56.84**	**325**	*e*P	**P**	**11 39 00.6**	**-0.8**
CZSB	**Cruzeiro do Su**	**57.37**	**309**	P	**P**	**11 39 05.2**	**+0.1**
CZSB				IAmb	IAmb	11 39 08.8	
	comp=Z,15nm,0.8s						
CZSB	**Cruzeiro do Su**	**57.37**	**309**	*e*P	**P**	**11 39 04.7**	**-0.4**
TEFE	**Tefe**	**57.91**	**320**	*e*P	**P**	**11 39 08.4**	**-0.5**
LSZ	**Lusaka**	**60.47**	**74**	P	**P**	**11 39 26.1**	**-0.7**
LSZ				IAmb	IAmb	11 39 33.0	
	comp=Z,30nm,1.5s						
LSZ	**Lusaka**	**60.47**	**74**	LR	LR	12 03 28.0	
	comp=Z,1μm,18.3s,baz=212,slow=34						
ATAH	**Atahualpa**	**60.52**	**304**	LR	LR	12 05 22.8	
	comp=Z,256nm,21.4s,baz=148,slow=36						
BOAV	**Boa Vista**	**62.02**	**327**	P	**P**	**11 39 36.4**	**-0.7**
BOAV				IAmb	IAmb	11 39 37.8	
	comp=Z,12nm,0.9s						
BOAV	**Boa Vista**	**62.02**	**327**	*e*P	**P**	**11 39 36.6**	**-0.5**
MDP	**Montagnes des**	**62.45**	**336**	LR	LR	12 04 56.4	
	comp=Z,354nm,22.0s,baz=132,slow=34						
COHC	**Cochancay**	**65.01**	**306**	P	**P**	**11 39 57.8**	**+0.9**
DBIC	**Dimbokro**	**65.46**	**30**	P	**P**	**11 39 59.4**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=176,slow=5.8,SNR=5.6						
DBIC				LR	LR	12 02 30.2	
	comp=Z,439nm,18.8s,baz=179,slow=30						
	comp=Z,5.3nm,0.8s						
FLOC	**Florencia**	**66.97**	**311**	P	**P**	**11 40 08.7**	**-0.9**
FLOC				IAmb	IAmb	11 40 36.5	
	comp=Z,16nm,1.1s						
OTAV	**Otavalo**	**67.02**	**308**	P	**P**	**11 40 11.7**	**+1.3**
OTAV	**Otavalo**	**67.02**	**308**	*e*P	**P**	**11 40 10.8**	**+0.4**
ROSC	**El Rosal**	**69.34**	**314**	P	**P**	**11 40 24.6**	**-0.2**
ROSC	**El Rosal**	**69.34**	**314**	P	**P**	**11 40 24.8**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=298,slow=18,SNR=5.4						
ROSC				LR	LR	12 12 14.4	
	comp=Z,294nm,18.9s,baz=250,slow=37						
	comp=Z,5.7nm,0.3s						
RUSC	**La Rusia**	**69.78**	**315**	P	**P**	**11 40 27.2**	**-0.5**
RUSC				IAmb	IAmb	11 40 35.2	
	comp=Z,18nm,1.0s						
BBTS	**Babate**	**70.65**	**16**	LR	LR	12 06 45.6	
	comp=Z,363nm,18.4s,baz=79,slow=32						
PCRV	**Puerto La Cruz**	**70.65**	**325**	LR	LR	12 11 09.0	
	comp=Z,474nm,21.5s,slow=36						
BAUV	**El Baul**	**70.67**	**322**	P	**P**	**11 40 32.3**	**-0.1**
SDV	**Santo Domingo**	**71.56**	**319**	P	**P**	**11 40 37.8**	**-0.4**
SDV				IAmb	IAmb	11 40 46.5	
	comp=Z,17nm,1.0s						
SDV	**Santo Domingo**	**71.56**	**319**	LR	LR	12 16 01.9	
	comp=Z,430nm,18.2s,baz=128,slow=39						
SDV	**Santo Domingo**	**71.56**	**319**	*e*P	**P**	**11 40 38.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.57**	**34**	P	**P**	**11 40 49.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.57**	**34**	P	**P**	**11 40 49.1**	**-0.7**
	comp=Z,18nm,0.3s,baz=204,slow=6.1,SNR=1.4						
	comp=Z,18nm,0.3s						
KIBK	**Kibwezi**	**76.57**	**74**	P	**P**	**11 41 08.6**	**+1.2**
HDC	**Heredia**	**78.22**	**307**	P	**P**	**11 41 18.1**	**+1.5**
HDC	**Heredia**	**78.22**	**307**	*e*P	**P**	**11 41 18.8**	**+2.2**
SJG	**San Juan**	**78.58**	**327**	LR	LR	12 18 20.9	
	comp=Z,146nm,19.7s,baz=156,slow=38						
JTS	**Las Juntas de**	**78.86**	**306**	P	**P**	**11 41

YKA	Yellowknife Ar	133.77	320	PKP	PKPdf	11 48 29.9	-2.3
	comp=Z,1.4nm,0.7s,baz=138,slow=2.1,SNR=12						
YKA				PP	PP	11 51 03.2	+0.6
	comp=Z,0.6nm,0.9s,baz=128,slow=6.7,SNR=5.4						
PZH	PanZhiHua	135.83	111	PKP	PKPdf	11 48 38.5	+1.0
BVAR	Borovoye Array	136.44	59	PKP	PKPdf	11 48 36.6	-1.0
	comp=Z,1.6nm,0.6s,baz=323,slow=2.2,SNR=6.9						
MKAR	Makanchi Array	139.02	73	PKhKP	PKPpre	11 48 34.6	
	comp=Z,1.0nm,0.9s,baz=221,slow=1.7,SNR=6.8						
MKAR				PKP	PKPdf	11 48 40.2	-2.4
	comp=Z,0.3nm,0.6s,baz=246,slow=2.5,SNR=2.7						
KURBB	Kurchatov Arra	139.22	66	PKP	PKPdf	11 48 39.1	-3.7
	comp=Z,1.0nm,0.6s,baz=238,slow=3.6,SNR=5.6						
KURBB				PP	PP	11 51 35.2	-1.9
	comp=Z,0.2nm,0.3s,baz=256,slow=3.7,SNR=4.6						
WMQ	Urumqi	140.23	80	ePKP	PKPdf	11 48 46.3	+1.4
M29M	Somme Creek	143.28	312	P	PKPdf	11 48 51.0	+1.2
	baz=113						
O28M	Mount Upton	143.37	309	P	PKPdf	11 48 51.0	+0.7
	baz=114						
YUK8	Steele Glacier	143.38	310	P	PKPdf	11 48 49.9	-0.4
	baz=114						
L29M	L29M	143.39	313	P	PKPdf	11 48 50.1	+0.2
	baz=112						
K29M	Barlow Dome	143.42	314	P	PKPdf	11 48 50.0	0.0
	baz=112						
INK	Inuvik	143.46	322	P	PKPdf	11 48 50.5	+0.7
	baz=109						
I30M	Mount Dempster	143.46	317	P	PKPdf	11 48 49.9	-0.2
	baz=111						
J29N	Klondike Camp	143.92	315	P	PKPdf	11 48 51.4	+0.5
	baz=111						
MESA	MESA	143.92	307	P	PKPdf	11 48 51.7	+0.5
	baz=114						
EPYK	Eagle Plains	143.99	319	P	PKPdf	11 48 51.8	+0.9
	baz=109						
G30M	tAoh Zraii Nji	144.00	320		PKPbc	11 48 50.5	+1.6
G30M	tAoh Zraii Nji	144.00	320	P	PKPdf	11 48 52.3	+1.4
	baz=109						
F30M	Barrier River	144.04	321	P	PKPdf	11 48 51.2	+0.3
	baz=108						
ZALV	Zalesovo Beam	144.25	65	PKP	PKPab	11 48 49.3	-0.2
	comp=Z,2.7nm,0.5s,baz=227,slow=3.9,SNR=13						
DAWY	Dawson	144.27	314	P	PKPdf	11 48 51.7	+0.3
	baz=110						
I29M	Ogilvie Camp,	144.27	317	P	PKPdf	11 48 51.7	+0.4
	baz=109						
LZH	Lanzhou	144.30	103	ePKP	PKPdf	11 48 54.1	+1.5
GTA	Gaotai	144.34	96	ePKP	PKPab	11 48 51.0	+0.4
BGLC	Bering Glacier	144.51	307	P	PKPbc	11 48 51.5	+1.0
	baz=113						
G29M	Pine Creek	144.65	319		PKPbc	11 48 51.4	+0.5
G29M	Pine Creek	144.65	319	P	PKPbc	11 48 51.5	+0.6
	baz=108						
M27K	Edge Creek, AK	144.72	311	P	PKPbc	11 48 52.3	+0.9
	baz=111						
I28M	Miner Creek	144.94	316	P	PKPbc	11 48 52.7	+0.8
	baz=108						
L27K	Beaver Creek,	144.94	312	P	PKPab	11 48 52.7	+0.7
	baz=110						
KAIM	Kayak Island	144.96	306	P	PKPab	11 48 52.9	+0.8
	baz=113						
VRDI	Verde Repeater	145.01	308		PKPbc	11 48 52.3	-0.1
E29M	Blow River	145.03	322		PKPab	11 48 52.7	+0.6
E29M	Blow River	145.03	322	P	PKPdf	11 48 53.3	+0.7
	baz=106						
M26K	Nabesna, AK	145.22	310	P	PKPdf	11 48 53.8	+0.7
	baz=110						
BMRM	Bremner River	145.44	308	P	PKPdf	11 48 53.9	+0.4
	baz=111						
F28M	Old Crow	145.54	320	P	PKPab	11 48 54.7	+0.7
	baz=105						
D28M	Stokes Point	145.56	323	P	PKPab	11 48 55.1	+1.1
	baz=104						
XAN	Xi'an	145.57	111	⇓PKPbc	PKPdf	11 48 54.4	-0.3
L26K	Log Cabin Wild	145.59	311	P	PKPab	11 48 55.1	+0.8
	baz=109						
WHN	Wuhan	145.60	121	PKPbc	PKPdf	11 48 54.8	+0.1
I27K	Kandik River	145.66	316	P	PKPbc	11 48 54.8	+0.6
	baz=107						
N25K	Chitina, Valde	145.66	309	P	PKPab	11 48 55.4	+0.7
	baz=110						
Q23K	Middleton Isla	145.68	305	P	PKPdf	11 48 54.7	+0.8
	baz=112						
H27K	Steamboat Moun	145.80	317	P	PKPdf	11 48 54.8	+0.7
	baz=106						
EYAK	Cordova Ski Ar	145.81	307	P	PKPbc	11 48 55.2	+0.5
	baz=111						
G27K	Doyon Strip	146.00	318	P	PKPbc	11 48 55.6	+0.4
	baz=105						
J26L	Joseph Creek	146.13	314	P	PKPdf	11 48 55.3	+0.6
	baz=107						
SCRK	Sand Creek	146.16	313	P	PKPdf	11 48 55.1	+0.3
	baz=107						
HARP	HAARP	146.17	310	P	PKPdf	11 48 55.8	+1.1
	baz=109						
I26K	Coal Creek Min	146.19	315	P	PKPbc	11 48 56.2	+0.5
	baz=106						
KLU	Klutina	146.22	308	P	PKPbc	11 48 56.6	+0.5
	baz=110						
D27M	Malcolm River	146.32	323	P	PKPbc	11 48 57.1	+1.0
	baz=102						
P23K	Montague Islan	146.38	305	P	PKPbc	11 48 56.8	+0.3
	baz=111						
RIDG	Independent Ri	146.45	312	P	PKPbc	11 48 57.4	+0.7
	baz=107						
PAX	Paxson	146.49	311		PKPdf	11 48 56.5	+1.1
PAX	Paxson	146.49	311	P	PKPbc	11 48 56.9	+0.1
	baz=108						
M24K	Tolsona, Glenn	146.53	309	P	PKPdf	11 48 56.7	+1.3
	baz=108						
GLI	Glacier Island	146.55	307	P	PKPbc	11 48 57.0	+0.1
	baz=110						
G26K	Porcupine Rive	146.85	318	P	PKPbc	11 48 58.5	+0.8
	baz=103						
K24K	Donnelly Dome	146.87	312	P	PKPbc	11 48 58.2	+0.4
	baz=106						
J25K	Salcha River,	146.91	314	P	PKPbc	11 48 58.1	+0.1
	baz=105						
SCM	Sheep Creek Mo	146.96	308	P	PKPbc	11 48 58.3	+0.1
	baz=108						
PWL	Port Wells	147.11	306	P	PKPbc	11 48 59.3	+0.8
	baz=109						
M23K	Glacier View	147.13	308	P	PKPbc	11 48 59.4	+0.8
	baz=108						
F26K	Sheenjek River	147.15	319	P	PKPbc	11 48 59.1	+0.5
	baz=102						
PRP	Porcupine Dome	147.21	315	P	PKPbc	11 48 59.8	+1.0
	baz=104						
C27K	Jago River	147.34	323	P	PKPbc	11 48 59.8	+0.9
	baz=99						
KNK	Knik Glacier	147.34	307	P	PKPbc	11 49 00.0	+0.8
	baz=108						
SEW	Seward	147.39	305	P	PKPbc	11 49 00.3	+1.1
	baz=109						
SML	Sawmill	147.41	308	P	PKPbc	11 49 00.3	+0.9
	baz=108						
H25L	Birch Creek	147.50	317	P	PKPbc	11 49 00.2	+0.8
	baz=102						
HDA	Harding Lake	147.52	313	P	PKPbc	11 49 00.7	+1.1
	baz=104						
ILAR	Eielson Array	147.59	314	PKPbc	PKPbc	11 48 59.2	-0.5
	comp=Z,11nm,0.9s,baz=124,slow=1.6,SNR=58						
O22K	Cooper Landing	147.64	305	P	PKPbc	11 49 00.9	+0.9
	baz=109						
F25K	Christian River	147.69	319	P	PKPbc	11 49 00.8	+0.8
	baz=101						
PMR	Palmer	147.71	307	P	PKPbc	11 49 01.4	+1.3
	baz=107						
G25K	Bearman Lake	147.71	317	P	PKPbc	11 49 00.9	+0.9
	baz=102						
C26K	Camden Bay	147.80	323	P	PKPbc	11 49 01.2	+1.1
	baz=98						
RC01	Rabbit Creek A	147.83	306	P	PKPbc	11 49 01.6	+1.1
	baz=108						
LYN	LuoYang	147.84	115	PKPbc	PKPbc	11 49 01.8	+0.5
LYN				PKPab	sPKPab	11 49 09.3	+2.4
BRSE	Bradley Lake S	147.88	304	P	PKPbc	11 49 01.7	+1.0
	baz=109						
POKR	Poker Plat Res	147.89	314	P	PKPbc	11 49 02.0	+1.4
	baz=103						
COLA	College	148.01	314	P	PKiKP	11 49 02.4	-0.2
	baz=103						
KDAK	Kodiak Island	148.11	300	P	PKPbc	11 49 01.7	+0.4
	baz=111						
MCK	McKinley	148.20	311	P	PKPbc	11 49 02.3	+0.9
	baz=104,SNR=8.4						
M22K	Willow	148.21	307	P	PKPbc	11 49 02.6	+1.2
	baz=106						
H24K	Noodor Dome	148.23	315	P	PKPbc	11 49 02.4	+0.9
	baz=102						
D25K	Kavik River	148.23	322	P	PKPbc	11 49 02.1	+0.7
	baz=97						
G24K	Hadweenzic Riv	148.23	317	P	PKPbc	11 49 01.4	0.0
	baz=100						
OHAK	Old Harbor	148.26	298	P	PKPbc	11 49 01.9	+0.2
	baz=112						
HOM	Homer	148.29	303	P	PKPbc	11 49 02.3	+0.5
	baz=109						
Q20K	Shuyak Island	148.31	301	P	PKPbc	11 49 02.7	+0.9
	baz=110						
CAPN	Captain Cook N	148.40	305	P	PKPbc	11 49 02.5	+0.6
	baz=107						
CUT	Chulitna	148.45	309	P	PKPbc	11 49 03.0	+0.9
	baz=105						
NEA2	Nenana	148.46	313	P	PKPbc	11 49 03.0	+0.9
	baz=103						
SII	Sitkinak Islan	148.47	297	P	PKPbc	11 49 03.2	+0.9
	baz=112						
I23K	Minto, Yukon-K	148.69	314	P	PKPbc	11 49 03.7	+1.1
	baz=102						
TRF	Thorofare Moun	148.72	311	P	PKPbc	11 49 03.6	+0.7
	baz=104						
E24K	Your Creek	148.83	320	P	PKPbc	11 49 03.7	+0.7
	baz=97						
SKT	Skwentna	148.91	308	P	PKPbc	11 49 03.7	+0.4
	baz=105,SNR=5.6						
NJ2	Nanjing	149.00	126	ePKPbc	PKPdf	11 49 01.1	+0.7
SPCR	Spurr Chakacha	149.01	306	P	PKPbc	11 49 03.6	0.0
	baz=106						
Q19K	Cape Douglas,	149.03	301	P	PKPbc	11 49 04.2	+0.5
	baz=109						
D24K	Happy Valley	149.08	322	P	PKPbc	11 49 04.4	+0.9
	baz=98						
C24K	Franklin Bluff	149.08	323	P	PKPbc	11 49 04.2	+0.8
	baz=94						
BPAW	Bear Paw Mtn.	149.17	312	P	PKPbc	11 49 04.9	+1.0
	baz=102,SNR=5.3						
G23K	Bananza Creek	149.23	317	P	PKiKP	11 49 05.2	+0.1
	baz=98,SNR=11						
E23K	Chandalar	149.25	320	P	PKPbc	11 49 04.8	+0.7
	baz=96						
TOLK	Toolik Lake Re	149.30	321	P	PKPbc	11 49 04.7	+0.5
	baz=96,SNR=28						
COLD	Coldfoot	149.38	318	P	PKPbc	11 49 05.4	+1.1
	baz=97,SNR=12						
PPLA	Purkeypile	149.43	309	P	PKPbc	11 49 05.6	+0.8
	baz=103,SNR=5.1						
CAST	Castle Rocks	149.50	310	P	PKPbc	11 49 05.4	+0.7
	baz=102						
M20K	Styx River	149.62	307	P	PKPbc	11 49 06.0	+0.8
	baz=104						
H22K	Ishalitna Cre	149.65	315	P	PKiKP	11 49 06.2	+0.2
	baz=99						
CHUM	Lake Minchumin	149.70	311	P	PKPbc	11 49 06.1	+0.9
	baz=101						
D23K	Nanushuk River	149.73	321	P	PKPbc	11 49 05.8	+0.7
	baz=94						
O19K	Port Alsworth	149.74	303	P	PKPbc	11 49 06.4	+1.0
	baz=106						
C23K	Itkillik River	149.75	323	P	PKiKP	11 49 07.0	+0.9
	baz=93						
I21K	Tanana	149.79	314	P	PKiKP	11 49 06.7	+0.4
	baz=99						
NRIK	Noril'sk	149.83	38	PKPbc	PKPbc	11 49 05.3	0.0
	comp=Z,1.9nm,0.7s,baz=172,slow=1.3,SNR=5.1						
G22K	Bettles	149.84	317	P	PKiKP	11 49 06.8	+0.4
	baz=97						
P18K	Big Mountain,	149.95	302	P	PKPbc	11 49 06.8	+0.9
	baz=107						
N19K	Bonanza Creek	149.98	305	P	PKPbc	11 49 06.6	+0.6
	baz=105						
O18K	Koktuh Hills	150.07	303	P	PKPbc	11 49 06.9	+0.7
	baz=106						
E22K	Anaktuvuk Pass	150.08	319	P	PKPbc	11 49 06.7	+0.6
	baz=94,SNR=13						
L20K	Farewell, AK	150.10	308	P	PKPbc	11 49 06.6	+0.4
	baz=103						
H21K	Melozitna Rive	150.20	314	P	PKiKP	11 49 07.8	+0.6
	baz=98						
M19K	Big River Lodg	150.20	307	P	PKiKP	11 49 07.7	+0.4
	baz=103						
K20K	Telida	150.36	310	P	PKPbc	11 49 07.5	+0.6
	baz=101						
Q16K	King Salmon	150.44	300	P	PKiKP	11 49 08.1	+0.3
	baz=107						
D22K	Ayikyak River	150.45	321	P	PKiKP	11 49 08.3	+0.7
	baz=92						
L19K	White Mountain	150.48	307	P	PKiKP	11 49 08.4	+0.6
	baz=102						
P17K	Kvichak River	150.49	301	P	PKiKP	11 49 08.3	+0.4
	baz=107						
J20K	Nowinta River	150.54	311	P	PKiKP	11 49 08.2	+0.3
	baz=100						
R16K	Pilot Point	150.56	297	P	PKPbc	11 49 07.8	+0.4
	baz=109						
CHGN	Chignik	150.57	295	P	PKPbc	11 49 08.2	+0.8
	baz=110						
N18K	Kilae Creek	150.61	304	P	PKPbc	11 49 08.1	+0.6
	baz=104						
F21K	Alatna River	150.65	318	P	PKiKP	11 49 08.7	+0.6
	baz=95						
CHNA	Chernabura Isl	150.66	291	P	PKiKP	11 49 09.4	+1.0
	baz=112						
M18K	Stony River	150.78	306	P	PKiKP	11 49 09.6	+1.1
	baz=103						
I20K	Naaghedeneel	150.78	313	P	PKiKP	11 49 09.0	+0.7
	baz=98						
E21K	Killik River	150.90	320	P	PKiKP	11 49 09.8	+1.2
	baz=92						
BTO	Baotou	150.92	104	ePKPbc	PKPdf	11 49 04.3	+1.0
BTO				pPKP	sPKPbc	11 49 12.1	+0.1
BTO				PKPab	PKPab	11 49 17.1	+0.7
O17K	Koliganek Bris	150.97	302	P	PKiKP	11 49 09.7	+0.9
	baz=105						
H20K	Anotleneega Mo	151.04	314	P	PKiKP	11 49 09.9	+0.9
	baz=96						
B21K	Ikpikpuk River	151.14	322	P	PKiKP	11 49 09.8	+0.8
	baz=89						
TTA	Tatalina	151.15	308	P	PKiKP	11 49 10.4	+1.1
	baz=100						
J19K	Poorman	151.15	311	P	PKiKP	11 49 10.4	+1.2
	baz=99						
HNS	HongShan	151.18	114	⇓PKPbc	PKPdf	11 49 04.8	+1.2
N17K	Nushagak Hills	151.20	303	P	PKiKP	11 49 10.7	+1.3
	baz=104						
C21K	Knifeblade Rid	151.21	322	P	PKiKP	11 49 09.8	+0.6
	baz=90						
P16K	Nushagak River	151.21	300	P	PKiKP	11 49 10.7	+1.3
	baz=106						
L18K	Granite Mounta	151.33	307	P	PKiKP	11 49 11.0	+1.4
	baz=101						
O16K	Kokwok River B	151.41	301	P	PKiKP	11 49 10.7	+1.0
	baz=105						
F20K	Avaraart Lake	151.51	317	P	PKiKP	11 49 10.9	+1.1
	baz=93						
M17K	Holitna River	151.51	305	P	PKiKP	11 49 11.5	+1.5
	baz=102						
TIA	Tai'an	151.52	119	P	PKPbc	11 49 10.6	+0.2
TIA				pmax	pmax		
	comp=Z,21nm,0.9s						
J18K	Innoko River	151.56	309	P	PKiKP	11 49 11.3	+1.3
	baz=99						
H19K	Roundabout Mou	151.69	314	P	PKiKP	11 49 11.4	+1.2
	baz=95						
E20K	Nigu River	151.72	320	P	PKiKP	11 49 11.0	+0.7
	baz=90						
A21K	Barrow	151.72	326	P	PKiKP	11 49 10.8	+0.7
	baz=84						
GCSA	Galena City Sc	151.79	312	P	PKiKP	11 49 12.2	+1.8
	baz=96						
D20K	Etivluk River	151.87	321	P	PKiKP	11 49 12.5	+1.9
	baz=89						
G19K	Purcell Mounta	152.00	315	P	PKiKP	11 49 12.1	+1.2
	baz=94						
L17K	Donlin	152.05	306	P	PKiKP	11 49 12.1	+1.0
	baz=100						
E19K	Redstone River	152.11	318	P	PKiKP	11 49 12.9	+1.9
	baz=91						
K17K	Iditarod	152.15	308	P	PKiKP	11 49 12.4	+1.2
	baz=99						
M16K	Timber Creek	152.16	304	P	PKiKP	11 49 13.3	+2.0
	baz=102						
O15K	Ungalikthiuk R	152.16	300	P	PKiKP	11 49 12.9	+1.5
	baz=104						
S12K	Black Hills	152.29	292	P	PKiKP	11 49 13.6	+1.9
	baz=110						
F19K	Shaleruckik Mo	152.31	317	P	PKiKP	11 49 13.0	+1.6
	baz=92						
D19K	Kuna River	152.43	320	P	PKiKP	11 49 13.3	+1.6
	baz=88						
H18K	Honhosa River	152.46	313	P	PKiKP	11 49 13.9	+2.1
	baz=94						
N15K	Kwethluk River	152.52	302	P	PKiKP	11 49 14.2	+2.1
	baz=102						
L16K	Owhat River	152.53	305	P	PKiKP	11 49 14.3	+2.3
	baz=100						
J17K	VABM Dome	152.60	309	P	PKiKP	11 49 13.8	+1.6
	baz=97						
G18K	Tagagawik	152.63	314	P	PKiKP	11 49 13.7	+1.5
	baz=93						
FALS	False Pass	152.73	290	P	PKiKP	11 49 14.2	+1.5
	baz=111						
O14K	Tigyukauivet M	152.90	300	P	PKiKP	11 49 14.2	+1.3
	baz=104						
M15K	Kasigluk River	152.92	303	P	PKiKP	11 49 14.3	+1.5
	baz=101						
F18K	Selawik	153.05	316	P	PKiKP	11 49 14.3	+1.4
	baz=90						
H17K	Granite Mounta	153.10	312	P	PKiKP	11 49 14.6	+1.4
	baz=93						
SONM	Songino Array	153.23	88	PKPbc	PKPbc	11 49 13.1	-0.9
	comp=Z,1.8nm,0.7s,baz=226,slow=1.2,SNR=5.6						
N14K	Kuskokwak Cree	153.25	301	P	PKiKP	11 49 15.2	+1.6
	baz=102						
J16K	Anvik River	153.27	309	P	PKiKP	11 49 15.6	+2.1
	baz=96						
I17K	Unalakleet	153.37	310	P	PKiKP	11 49 15.2	+1.5
	baz=95						
E18K	Tukpahlearik C	153.41	318	P	PKiKP	11 49 14.5	+0.8
	baz=88						
L15K	Ungalak Mounta	153.47	305	P	PKiKP	11 49 15.4	+1.4
	baz=99						
M14K	Bethel	153.54	303	P	PKiKP	11 49 15.6	+1.4
	baz=100						
C18K	Utukok River	153.55	321	P	PKiKP	11 49 16.2	+2.1
	baz=85						
K15K	Wolf Creek Mou	153.58	306	P	PKiKP	11 49 16.6	+2.4
	baz=97						
B18K	Kokolik River	153.69	322	P	PKiKP	11 49 16.4	+2.1
	baz=83						
F17K	Baldwin Pennin	153.69	316	P	PKiKP	11 49 16.5	+2.2
	baz=89						
E17K	Hotham Inlet	153.90	317	P	PKiKP	11 49 17.1	+2.4
	baz=87						
L14K	Kuka Creek	153.99	304	P	PKiKP	11 49 17.5	+2.4
	baz=98						
UNV	Unalaska Valle	154.06	286	P	PKiKP	11 49 17.0	+1.5
	baz=111						
H16K	Elim	154.08	312	P	PKiKP	11 49 17.9	+2.8
	baz=92						
G16K	Koyuk River	154.15	313	P	PKiKP	11 49 17.3	+2.1
	baz=90						
M13K	Dall Lake	154.16	302	P	PKiKP	11 49 17.6	+2.2
	baz=100						
RDOG	Red Dog Mine	154.24	319	P	PKiKP	11 49 17.9	+2.5
	baz=84						
C17K	DeLong Mountai	154.29	320	P	PKiKP	11 49 18.1	+2.6
	baz=83						
D17K	Noatak River	154.34	319	P	PKiKP	11 49 18.2	+2.6
	baz=85						
J14K	Nanvaranak Lak	154.56	307	P	PKiKP	11 49 19.2	+3.0
	baz=95						
G15K	Niukluk	154.86	312	P	PKiKP	11 49 19.0	+2.2
	baz=90						
F15K	North Star Dit	155.10	314	P	PKPdf	11 49 20.0	+12
	baz=88						
C16K	Lisburne Hills	155.12	320	P	PKPdf	11 49 20.3	+12
	baz=81						
ANM	Nome	155.43	311	P	PKPab	11 49 36.6	+1.9
	baz=89						
M11K	Mekoryuk	155.56	301	P	PKPab	11 49 36.7	+1.4
	baz=98						
F14K	Arctic Creek	155.81	314	P	PKPab	11 49 39.3	+3.0
	baz=86						
P08K	Saint George I	156.56	291	P	PKPab	11 49 43.0	+3.3
	baz=104						
SPIA	Saint Paul Isl	157.07	292	P	PKPab	11 49 44.9	+3.0
	baz=102						
KSRS	Korea Array	157.56	133	PKPab	PKPab	11 49 44.8	+0.2
	comp=Z,0.8nm,0.5s,baz=207,slow=4.4,SNR=4.9						
BNX	BinXian	163.77	117	PKP	PKPdf	11 49 20.1	+1.1
MDJ	Mudanjiang	164.06	123	PKP	PKPdf	11 49 18.3	-1.0
PETK	Petropavlovsk-	174.14	254	PKP	PKPdf	11 49 24.1	-1.3
	comp=Z,2.2nm,0.9s,baz=212,slow=7.8,SNR=2.8						
PETK				PKPab	pPKPab	11 50 59.7	+0.3
	comp=Z,3.8nm,1.0s,baz=176,slow=6.3,SNR=3.3						

JMA ***17*** *11:29:42.8±0.1,24°.7N±1°.0×122°.4E±0°.3,h100km±1km,*
MV2.6/17,TAIWAN REGION
TAP ***17*** *11:29:42.9,24°.73N×122°.36E,h102km,ML3.7,C*
ISC 17 11:29:42.2±1.3,24°.71N±0°.03×122°.40E±0°.02,h105km±5km,
n135,σ1°.04/265,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.33	208	eP	Pn	11 29 58.2	+0.8
EOS2				eS	Sn	11 30 09.9	+1.2
EOS3	EOS3	0.43	190	i P	Pn	11 29 58.7	+0.7
EOS3				i S	Sn	11 30 10.9	+1.2
EGS		0.45	287	eP	Pn	11 29 58.4	+0.2
EGS				eS	Sn	11 30 10.2	0.0
TWB1	Santiao Chiao	0.47	308	i P	Pn	11 29 58.6	+0.2
TWB1				eS	Sn	11 30 08.4	-2.1
TWC	Suao	0.51	258	i P	Pn	11 29 58.6	-0.1
TWC				eS	Sn	11 30 09.1	-1.8
ESAO	Su ao	0.52	255	i P	Pn	11 29 58.9	+0.2
ESAO				i S	Sn	11 30 09.4	-1.7
JYNG	Yonagunijimaku	0.56	118	P	Pn	11 29 59.2	+0.2
JYNG				S	Sn	11 30 11.0	-0.5
TIPB	Shuangxi	0.58	296	i P	Pn	11 29 59.5	+0.3
TIPB				S	Sn	11 30 11.6	-0.4
EOS4	EOS4	0.59	187	eP	Pn	11 29 59.0	+0.2
EOS4				i S	Sn	11 30 11.4	+0.1
ILA	Ilan	0.59	275	i P	Pn	11 29 59.5	+0.3
ILA				i S	Sn	11 30 11.7	-0.3
SXI1	Grass Mountain	0.61	309	i P	Pn	11 29 59.6	+0.2
SXI1				S	Sn	11 30 14.1	+1.7
YOJ	Yonaguni jima	0.61	114	eP	Pn	11 29 59.6	+0.3
YOJ				eS	Sn	11 30 11.8	-0.4
EWUT	Wuta	0.62	245	i P	Pn	11 29 60.0	+0.4
EWUT				eS	Sn	11 30 12.6	+0.1
NDS	Dongshan	0.63	263	i P	Pn	11 29 60.0	+0.5
NDS				S	Sn	11 30 12.1	-0.4
ENA	Nanau	0.66	245	i P	Pn	11 30 00.2	+0.4
ENA				S	Sn	11 30 12.8	-0.2
NWF	Wu-fen Shan	0.67	303	i P	Pn	11 30 00.3	+0.4
NWF				i S	Sn	11 30 12.3	-0.9
WFSB	Wu-fen Shan	0.67	303	P	Pn	11 30 00.5	+0.6
WFSB				S	Sn	11 30 13.2	+0.2
TWE	Neicheng	0.67	271	i P	Pn	11 30 00.2	+0.4
TWE				i S	Sn	11 30 13.0	-0.1
EAHA	Aohua	0.71	238	i P	Pn	11 30 00.6	+0.4
EAHA				eS	Sn	11 30 13.6	-0.1
FUSB	Fushanzhiwuyua	0.74

YHNB			S	Sn	11 30 17.5	-0.2
NSK	**Sanguang**	**0.95 268**	*i* P	Pn	11 30 03.2	+0.7
NSK			S	Sn	11 30 17.3	-0.7
TWD	**Chiawan**	**0.97 229**	P	Pn	11 30 02.6	0.0
TWD			*i* S	Sn	11 30 17.5	-0.6
NNSB	**Datong**	**0.97 253**	*i* P	Pn	11 30 03.5	+0.6
NNSB			*e*S	Sn	11 30 18.4	0.0
TWS1	**Kuangyinshan**	**0.97 294**	*i* P	Pn	11 30 02.3	-0.4
TWS1			*i* S	Sn	11 30 17.4	-0.8
NNS	**Nan Shan**	**0.97 254**	*i* P	Pn	11 30 03.5	+0.6
NNS			S	Sn	11 30 18.5	0.0
NTST	**Danshui**	**0.97 298**	P	Pn	11 30 03.4	+0.7
NTST			*i* S	Sn	11 30 18.3	+0.1
ETLH	**Xiulin Townshi**	**0.98 239**	*i* P	Pn	11 30 03.0	+0.1
ETLH			S	Sn	11 30 17.6	-0.8
HWA	**Hwalien**	**1.03 225**	P	Pn	11 30 02.5	-0.8
HWA			*e*S	Sn	11 30 19.1	-0.1
ETM	**Tongmen**	**1.11 228**	*i* P	Pn	11 30 04.3	0.0
ETM			*e*S	Sn	11 30 19.7	-1.3
KSHI	**Guanxi Townshi**	**1.11 274**	*i* P	Pn	11 30 05.3	+1.0
KSHI			*i* S	Sn	11 30 21.3	+0.3
TEYL	**Yanliau Villag**	**1.11 221**	*e*P	Pn	11 30 04.4	+0.1
TEYL			*i* S	Sn	11 30 20.1	-0.8
LXIB	**Xiulin Townshi**	**1.13 233**	*i* P	Pn	11 30 04.5	-0.2
LXIB			*e*S	Sn	11 30 21.0	-0.6
NCUH	**Zhongli**	**1.13 283**	*e*P	Pn	11 30 05.5	+1.0
NCUH			*i* S	Sn	11 30 21.6	+0.3
FUSS	**Fushou**	**1.15 246**	*i* P	Pn	11 30 05.8	+0.8
FUSS			S	Sn	11 30 22.0	-0.1
NFF	**Wufeng Townshi**	**1.17 266**	*e*P	Pn	11 30 05.8	+0.9
NFF			*i* S	Sn	11 30 21.6	-0.5
WHF	**Hehuan Shan**	**1.18 242**	*i* P	Pn	11 30 05.9	+0.4
WHF			S	Sn	11 30 22.8	-0.2
NJD	**Zhudong**	**1.19 271**	P	Pn	11 30 06.3	+1.1
NJD			*i* S	Sn	11 30 22.8	+0.3
SHUL	**Shoufeng**	**1.20 220**	*e*P	Pn	11 30 06.0	+0.8
SHUL			*e*S	Sn	11 30 22.9	+0.3
TWT	**Tachien**	**1.21 248**	*e*P	Pn	11 30 06.8	+1.4
TWT			S	Sn	11 30 23.4	+0.3
TDCB	**Techi**	**1.22 248**	*i* P	Pn	11 30 06.8	+1.2
TDCB			*i* S	Sn	11 30 23.4	+0.1
ESL	**Shilin**	**1.26 225**	P	Pn	11 30 05.6	-0.3
ESL			S	Sn	11 30 22.2	-1.6
LIOB	**Emei**	**1.26 267**	P	Pn	11 30 06.8	+0.8
LIOB			S	Sn	11 30 23.9	0.0
IRIF	**Iriomote-Funau**	**1.27 107**	P	Pn	11 30 06.2	+0.2
IRIF			S	Sn	11 30 23.8	-0.3
NSTT	**Nanjuang**	**1.27 267**	P	Pn	11 30 06.9	+0.8
NSTT			*i* S	Sn	11 30 23.5	-0.7
SBCB	**Hsinchu**	**1.29 274**	*e*P	Pn	11 30 06.6	+0.4
SBCB			S	Sn	11 30 24.4	0.0
HSN	**Hsinchu**	**1.30 274**	*e*P	Pn	11 30 06.9	+0.5
HSN			*i* S	Sn	11 30 23.5	-1.2
OWD	**Renai**	**1.35 236**	*i* P	Pn	11 30 07.6	+0.5
OWD			*e*S	Sn	11 30 25.1	-0.8
WARBT	**Fenglin Townsh**	**1.35 223**	P	Pn	11 30 06.6	-0.5
WARBT			S	Sn	11 30 24.3	-1.6
EGFH	**Guangfu**	**1.37 221**	*e*P	Pn	11 30 07.0	-0.2
EGFH			*e*S	Sn	11 30 25.2	-0.8
WUSB	**Renai**	**1.37 239**	*i* P	Pn	11 30 08.4	+1.0
WUSB			*i* S	Sn	11 30 26.5	+0.1
WHP	**Taichung City**	**1.39 252**	*i* P	Pn	11 30 09.0	+1.4
WHP			*i* S	Sn	11 30 27.5	+0.8
NMLH	**Miaoli**	**1.47 264**	*e*P	Pn	11 30 09.6	+1.1
NMLH			*i* S	Sn	11 30 28.4	0.0
VWDT	**VWDT**	**1.49 231**	P	Pn	11 30 09.5	+0.8
VWDT			S	Sn	11 30 28.6	-0.1
WCS	**Beigang Elemen**	**1.50 245**	*e*P	Pn	11 30 10.5	+1.7
WCS			S	Sn	11 30 30.4	+1.3
HGSD	**Ruisui**	**1.51 216**	*e*P	Pn	11 30 09.0	+0.1
HGSD			*i* S	Sn	11 30 28.6	-0.5
TWQ1	**Liyutan**	**1.52 257**	*e*P	Pn	11 30 10.3	+1.2
TWQ1			S	Sn	11 30 30.1	+0.6
JKRS	**Kuro-shima**	**1.54 108**	P	Pn	11 30 10.1	+0.8
JKRS			S	Sn	11 30 30.1	+0.3
EHYH	**Wanrong**	**1.55 219**	*i* P	Pn	11 30 08.7	-0.7
EHYH			*i* S	Sn	11 30 27.6	-2.4
EHY	**Hungye**	**1.55 220**	*e*P	Pn	11 30 09.3	-0.1
EHY			S	Sn	11 30 28.0	-2.1
SMLT	**Sun Moon Lake**	**1.60 239**	P	Pn	11 30 10.9	+0.8
SMLT			*i* S	Sn	11 30 32.4	+1.2
SSLB	**Suanglung**	**1.61 235**	*i* P	Pn	11 30 11.5	+1.4
SSLB			*i* S	Sn	11 30 32.7	+1.3
TYC	**Yuchr**	**1.62 241**	*e*P	Pn	11 30 12.0	+1.7
TYC			S	Sn	11 30 33.0	+1.4
JIJ	**Ishigaki jima**	**1.63 102**	*i* P	Pn	11 30 10.6	+0.3
JIJ			S	Sn	11 30 31.2	-0.5
ECBN	**Changbin**	**1.64 212**	*e*P	Pn	11 30 09.4	-1.1
ECBN			*e*S	Sn	11 30 31.1	-0.8
WDJ	**Dajia District**	**1.64 258**	*e*P	Pn	11 30 10.5	0.0
WDJ			*e*S	Sn	11 30 33.2	+1.2
YULB	**Yu-li**	**1.66 218**	*e*P	Pn	11 30 10.5	-0.3
YULB			*e*S	Sn	11 30 30.5	-1.9
TCU	**Taichung**	**1.67 251**	P	Pn	11 30 11.3	+0.5
TCU			*i* S	Sn	11 30 31.5	-1.1
EYUL	**Yuli**	**1.68 216**	*i* P	Pn	11 30 11.4	+0.4
EYUL			*e*S	Sn	11 30 33.2	+0.3
TWF1	**Yuli**	**1.69 217**	*e*P	Pn	11 30 10.9	-0.3
TWF1			*e*S	Sn	11 30 31.5	-1.6
WHYT	**Xinyi Township**	**1.74 235**	*i* P	Pn	11 30 13.8	+2.0
WHYT			S	Sn	11 30 35.7	+1.5
JISG	**Ishigakijimahi**	**1.74 94**	P	Pn	11 30 12.4	+0.6
JISG			S	Sn	11 30 34.5	+0.2
WJS	**Zhushan**	**1.76 240**	*i* P	Pn	11 30 13.3	+1.3
WJS			*e*S	Sn	11 30 36.8	+2.0
CHKH	**Chenggong**	**1.77 211**	*e*P	Pn	11 30 12.1	-0.1
CHKH			*e*S	Sn	11 30 33.2	-1.7
WNT	**Mingjian**	**1.77 242**	*i* P	Pn	11 30 12.9	+0.7
WNT			*e*S	Sn	11 30 37.0	+2.1
WCHH	**Zhanghua**	**1.79 250**	*e*P	Pn	11 30 11.8	-0.5
WCHH			*e*S	Sn	11 30 35.4	+0.1
WCH1	**Changhua City**	**1.81 250**	*e*S	Sn	11 30 36.2	+0.5
FULB	**Fuli**	**1.81 214**	*e*P	Pn	11 30 13.0	+0.3
FULB			*i* S	Sn	11 30 36.2	+0.2
CHKT	**Chengkung**	**1.86 211**	*e*P	Pn	11 30 12.8	-0.5
CHKT			*e*S	Sn	11 30 34.7	-2.3
ALS	**Alishan**	**1.89 231**	*e*P	Pn	11 30 15.5	+1.6
ALS			*i* S	Sn	11 30 39.8	+1.9
CHN5	**Tsauling**	**1.93 235**	*e*P	Pn	11 30 15.8	+1.6
CHN5			*i* S	Sn	11 30 40.3	+1.8
ECS	**Chishang**	**1.94 214**	*e*P	Pn	11 30 15.4	+1.1
ECS			S	Sn	11 30 38.6	-0.1
WGK	**Gukeng**	**1.96 239**	*e*P	Pn	11 30 15.3	+0.7
WGK			*i* S	Sn	11 30 41.1	+1.9
ELDTW	**Lidau**	**1.98 220**	*e*P	Pn	11 30 15.3	+0.5
ELDTW			S	Sn	11 30 39.0	-0.7
WDLH	**Douliu**	**1.98 239**	*i* P	Pn	11 30 15.4	+0.6
WDLH			S	Sn	11 30 40.3	+0.7
EDH	**Donghe**	**2.00 210**	P	Pn	11 30 14.3	-0.7
EDH			*e*S	Sn	11 30 38.3	-1.8
WRL	**Guolierlin Hig**	**2.01 247**	*e*P	Pn	11 30 15.9	+0.7
WRL			*i* S	Sn	11 30 40.1	-0.3
WCKO	**Fanlu**	**2.07 233**	*e*P	Pn	11 30 17.7	+1.7
WCKO			S	Sn	11 30 43.2	+1.5
JTJ	**Tarama**	**2.10 91**	P	Pn	11 30 17.2	+0.9
WTK	**Tuku**	**2.10 241**	P	Pn	11 30 17.6	+1.2
WTK			*i* S	Sn	11 30 42.0	-0.4
CHN2	**Minshiung**	**2.12 237**	*i* S	Sn	11 30 45.2	+2.5
CHN4	**Tsaushan**	**2.14 231**	*e*P	Pn	11 30 18.3	+1.5
CHN4			*i* S	Sn	11 30 44.9	+1.7
STYH	**Taoyuan**	**2.14 224**	*e*P	Pn	11 30 18.6	+1.8
STYH			*i* S	Sn	11 30 44.2	+1.0
LONT	**Longtian**	**2.14 213**	P	Pn	11 30 16.7	-0.1
LONT			*e*S	Sn	11 30 42.1	-1.3
TPUB	**Ta-pu**	**2.14 229**	*e*P	Pn	11 30 18.6	+1.7
TPUB			*e*S	Sn	11 30 45.3	+1.9
CHY	**Chiayi**	**2.17 237**	P	Pn	11 30 18.4	+1.2
CHY			*i* S	Sn	11 30 44.8	+0.8
WTP	**Ta-pu**	**2.19 229**	*i* P	Pn	11 30 19.0	+1.4
WTP			*i* S	Sn	11 30 46.5	+2.0
LDUT	**Ludao**	**2.20 203**	P	Pn	11 30 16.6	-1.0
LDUT			*e*S	Sn	11 30 42.7	-2.0
TWGBT	**Beinan**	**2.24 213**	*i* P	Pn	11 30 17.5	-0.6
TWGBT			*e*S	Sn	11 30 44.2	-1.4
TWG	**Pinlang**	**2.24 213**	*i* P	Pn	11 30 18.0	-0.2
TWG			*e*S	Sn	11 30 44.2	-1.4
TWK	**Hsinying**	**2.26 231**	*i* P	Pn	11 30 19.1	+0.6
TWK			*i* S	Sn	11 30 47.7	+1.4
SNST	**Tainan City**	**2.29 230**	P	Pn	11 30 20.1	+1.4
SNST			S	Sn	11 30 47.7	+1.0
CHN1	**Nanshi**	**2.29 229**	*i* P	Pn	11 30 20.1	+1.3
CHN1			S	Sn	11 30 48.6	+1.8
WSL	**Shuilin Townsh**	**2.31 240**	*e*P	Pn	11 30 20.1	+1.1
WSL			S	Sn	11 30 47.8	+0.5
SGST	**Jiashian**	**2.32 226**	*e*P	Pn	11 30 20.0	+0.7
SGST			*e*S	Sn	11 30 48.7	+1.1
ICHU	**Yijhu**	**2.36 236**	*e*P	Pn	11 30 20.8	+1.1
ICHU			S	Sn	11 30 48.6	+0.2
ECL	**Taimali**	**2.49 212**	P	Pn	11 30 20.7	-0.7
ECL			*i* S	Sn	11 30 48.9	-2.5
SCST	**Cishan**	**2.52 224**	P	Pn	11 30 23.3	+1.5
SCST			*e*S	Sn	11 30 55.5	+3.4
JIRB	**Irabujima**	**2.52 87**	P	Pn	11 30 23.1	+1.3
TSMG	**Majia**	**2.56 219**	*i* P	Pn	11 30 24.0	+1.6
TSMG			*i* S	Sn	11 30 54.6	+1.4
JIKM	**Ikemajima**	**2.60 85**	P	Pn	11 30 23.4	+0.7
MATB	**Ma-tsu**	**2.64 303**	P	Pn	11 30 22.9	-0.5
MATB			*e*S	Sn	11 30 55.4	+0.5
MASBT	**Mashibuluo**	**2.65 218**	*i* P	Pn	11 30 24.2	+0.8
MASBT			S	Sn	11 30 56.0	+0.9
JMJ2	**Miyako jima3**	**2.66 89**	P	Pn	11 30 24.9	+1.2
JMJ2			S	Sn	11 30 55.1	-0.4
VWUC	**VWUC**	**2.69 277**	*e*P	Pn	11 30 24.1	+0.1
VWUC			S	Sn	11 30 54.3	-1.9
EAST	**Anshuo**	**2.72 212**	P	Pn	11 30 24.3	-0.2
EAST			*e*S	Sn	11 30 56.1	-0.8
LYUB	**Lan-yu**	**2.80 196**	*e*P	Pn	11 30 24.6	-0.9
LYUB			S	Sn	11 30 56.6	-2.2
SCZT	**Fangliau**	**2.84 215**	P	Pn	11 30 26.4	+0.3
SCZT			*e*S	Sn	11 31 00.1	+0.3
PHUB	**P'eng-hu**	**2.85 246**	*e*P	Pn	11 30 26.0	0.0
PHUB			S	Sn	11 30 57.2	-2.6
SLIU	**Shizi**	**2.89 211**	P	Pn	11 30 27.9	+1.2
SLIU			*e*S	Sn	11 31 01.2	+0.4
PTMZ	**Houxiangcun**	**3.00 277**	*e*P	Pn	11 30 28.3	+0.3
PTMZ			S	Sn	11 31 01.2	-2.2
MHZQ	**Yeshan**	**3.34 295**	*e*P	Pn	11 30 32.5	-0.2
MHZQ			*e*S	Sn	11 31 10.9	-0.8
KNMB	**Chin-men Tao**	**3.66 267**	P	Pn	11 30 36.8	-0.2
KNMB			*e*S	Sn	11 31 17.0	-2.2
AXDP	**Jialang**	**4.03 274**	P	Pn	11 30 42.3	+0.4
AXDP			*i* S	Sn	11 31 25.4	-2.7

NEIC ***17*** *11:36:47.1±1.3, 35°.289N±0°.010×118°.528W±0°.002, h14km±5km, Error ellipse: s-maj=1.5km s-min=0.3km az=184.0*

PAS 17 11:36:47.6±1.3, 35°.286N±0°.009×118°.54W±0°.01, h7km±4km, ML3.4/3/13, ML3.1/95(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=138.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEJ	**El Tejon**	**0.14**	**246**		Pg	11 36 50.5	0.0
TEJ					Sg	11 36 52.6	+0.1
ARVC	**Arvin**	**0.29**	**237**		Pg	11 36 53.5	+0.2
ARVC					Sg	11 36 57.8	+0.6
TJR	**Tejon Ranch**	**0.31**	**214**		Pg	11 36 53.6	-0.1
TJR					Sg	11 36 57.9	+0.1
MAGC	**SCE Magundon P**	**0.33**	**283**		Pg	11 36 54.4	+0.4
MAGC					Sg	11 36 59.7	+1.4
ISA	**Isabella, Lake**	**0.38**	**7**		Pg	11 36 54.8	-0.3
ISA					Sg	11 36 59.8	-0.3
ISA	**Isabella, Lake**	**0.38**	**7**	IAML		11 37 01.0	
	comp=N,1μm,0.1s						
ISA				IAML		11 37 01.1	
	comp=E,1μm,0.2s						
THC	**Tehachapi Micr**	**0.39**	**196**		Pg	11 36 55.0	-0.3
THC					Sg	11 37 00.4	-0.1
WBSM	**Bird Springs**	**0.41**	**52**		Pg	11 36 55.5	-0.2
WBSM					Sg	11 37 00.6	-0.4
WHFM	**Hanning Flat**	**0.44**	**20**		Pg	11 36 55.8	-0.3
WHFM					Sg	11 37 01.6	-0.2
CCAC	**Calif City Air**	**0.45**	**107**		Pg	11 36 55.9	-0.4
CCAC	**Calif City Air**	**0.45**	**107**		Sg	11 37 02.5	+0.4
CCAC	**Calif City Air**	**0.45**	**107**	IAML		11 37 02.9	
	comp=E,6μm,0.2s						
CCAC				IAML		11 37 03.0	
	comp=N,7μm,0.5s						
BAKC	**Calstate**	**0.47**	**277**		Pg	11 36 57.2	+0.5
BAKC					Sb	11 37 04.4	-1.0
WORM	**Onyx Ranch**	**0.47**	**30**		Pg	11 36 56.5	-0.3
WORM					Sg	11 37 02.9	-0.1
TPO	**Tropico Hills**	**0.48**	**148**		Pg	11 36 56.7	-0.2
TPO					Sg	11 37 03.1	0.0
DTP	**Desert Tortois**	**0.56**	**92**		Pg	11 36 58.2	-0.3
DTP					Sg	11 37 06.1	+0.1
EDW2	**Edwards Air Fo**	**0.60**	**132**		Pg	11 36 58.6	-0.6
EDW2					Sg	11 37 06.5	-0.5
BTPC	**Burnt Peak**	**0.60**	**183**		Pg	11 36 59.0	-0.3
BTPC					Sg	11 37 07.2	0.0
ALPC	**Antelope**	**0.63**	**162**		Pg	11 36 59.4	-0.3
ALPC					Sg	11 37 07.8	-0.2
LEOC	**Leona Valley**	**0.68**	**164**		Pg	11 37 00.3	-0.5
LEOC					Sg	11 37 09.1	-0.5
MPI	**Mount Pinos, F**	**0.69**	**227**		Pg	11 37 00.6	-0.4
MPI					Sg	11 37 09.9	0.0
VES	**Vestal, Richgr**	**0.71**	**321**		Pg	11 37 00.7	-0.6
VES					Sg	11 37 09.6	-1.0
LRMC	**Laurel Mtn Rad**	**0.72**	**74**		Pg	11 37 01.0	-0.6
LRMC					Sg	11 37 10.6	-0.4
WNMM	**Nine Mile Cany**	**0.76**	**43**		Pg	11 37 01.6	-0.6
WNMM					Sg	11 37 11.6	-0.4
SRTC	**Snort**	**0.76**	**58**		Pg	11 37 02.1	-0.1
SRTC					Sg	11 37 12.9	+0.8
BCW	**Bitter Crk WRg**	**0.80**	**245**		Pg	11 37 02.1	-0.9
BCW	**Bitter Crk WRg**	**0.80**	**245**		Sg	11 37 13.6	+0.3
BCW	**Bitter Crk WRg**	**0.80**	**245**	IAML		11 37 19.5	
	comp=E,1μm,0.5s						
BCW				IAML		11 37 24.8	
	comp=N,867nm,0.6s						
TOW	**Tower One**	**0.82**	**50**		Pg	11 37 03.1	-0.3
TOW					Sb	11 37 14.8	-0.6
CJV	**Casa Juvan**	**0.82**	**157**		Pg	11 37 02.7	-0.7
CJV					Sb	11 37 16.1	+0.5
SBB	**Saddle Back Bu**	**0.83**	**135**		Pg	11 37 02.9	-0.8
SBB					Sg	11 37 13.5	-1.0
PDE	**Pardee, Santa**	**0.84**	**183**		Pg	11 37 03.5	-0.3
PDE					Sg	11 37 14.3	-0.4
LRRC	**Littlerock Res**	**0.86**	**151**		Pg	11 37 03.5	-0.8
LRRC					Sg	11 37 15.3	-0.2
WVPM	**Volcano Peak E**	**0.88**	**41**		Pg	11 37 04.0	-0.6
WVPM					Sg	11 37 16.0	-0.1
WRVM	**Rose V. Centra**	**0.89**	**36**		Pg	11 37 04.1	-0.6
WRVM					Sg	11 37 15.9	-0.4
HYS	**Haystack Butte**	**0.90**	**118**		Pg	11 37 03.9	-1.0
HYS					Sg	11 37 15.8	-0.7
CLC	**China Lake**	**0.93**	**55**		Pg	11 37 04.6	-0.9
CLC					Sg	11 37 16.7	-0.9
SPG2	**Springville 2**	**0.93**	**348**		Pg	11 37 04.6	-0.9
SPG2					Sg	11 37 16.5	-1.1
OAT	**Oat Mountain**	**0.94**	**184**		Pg	11 37 05.9	+0.2
JNH	**Juniper Hills**	**0.96**	**150**		Pg	11 37 05.4	-0.8
WCSM	**Coso Springs S**	**0.97**	**40**		Pg	11 37 05.6	-0.6
CRGC	**Crocker Grade**	**0.97**	**268**		Sb	11 37 19.7	-0.4
CCCA	**Chr Cany lake**	**0.98**	**76**		Pg	11 37 05.9	-0.6
MFS	**McCloud Flat S**	**1.00**	**34**		Pg	11 37 06.1	-0.7
MFS					Sg	11 37 19.6	-0.1
HOLC	**Holcomb Ridge**	**1.00**	**145**		Pg	11 37 06.2	-0.6
HOLC					Sg	11 37 19.6	-0.3
CHFC	**Chilao Flat St**	**1.04**	**156**		Pg	11 37 06.6	-1.0
CHFC					Sg	11 37 20.7	-0.4
DECC	**Green Verdugo**	**1.04**	**171**		Pg	11 37 06.9	-0.8
BLCC	**Black Canyon**	**1.05**	**186**		Pb	11 37 08.0	-0.1
CARC	**Carrizo Plain**	**1.07**	**272**		Pg	11 37 07.3	-0.9
CARC					Sg	11 37 22.4	+0.3
PKM	**Mcpherson Peak**	**1.12**	**250**		Pg	11 37 08.4	-0.8
PKM					Sg	11 37 23.8	+0.1
MWC	**Mount Wilson**	**1.13**	**160**		Pg	11 37 08.3	-1.0
MPMC	**Manual Prospec**	**1.15**	**48**		Pg	11 37 08.8	-0.9
PASC	**Pasadena Art C**	**1.15**	**165**		Pg	11 37 08.3	-1.3
PASC				IAML		11 37 27.1	
	comp=N,580nm,0.7s						
PASC				IAML		11 37 29.0	
	comp=E,584nm,0.6s						
DJJ	**Donna J Jenkin**	**1.18**	**177**		Pg	11 37 09.8	-0.5
GR2C	**Griffith Obs.**	**1.18**	**171**		Pg	11 37 10.1	-0.2
SMMC	**Simmler**	**1.20**	**272**		Pg	11 37 08.9	-1.6
CWC	**Cottonwood Cre**	**1.21**	**18**		Pg	11 37 09.7	-1.1
CWC					Sg	11 37 25.5	-1.0
VOG	**Valley Oaks Go**	**1.24**	**327**		Pb	11 37 09.8	-1.6
BFSC	**Mount Baldy Ra**	**1.27**	**145**		Pn	11 37 10.9	-1.0
SSK	**Sunset Peak**	**1.28**	**147**		Pn	11 37 11.2	-0.8
GVRC	**Garvey Reservo**	**1.28**	**164**		Pg	11 37 12.1	0.0
RRX	**Edison Barstow**	**1.33**	**108**		Pn	11 37 11.4	-1.2
PSRC	**Puddingstone R**	**1.33**	**153**		Pg	11 37 13.7	+0.5
SS2	**San Sevaine**	**1.37**	**141**		Pn	11 37 13.0	-0.2
CSP	**Cedar Springs**	**1.38**	**135**		Pn	11 37 12.3	-1.1
CGO	**Cerro Gordo**	**1.39**	**25**		Pn	11 37 13.7	-0.2
GSC	**Goldstone, Bar**	**1.41**	**89**		Pn	11 37 12.2	-1.7
GSC				IAML		11 37 35.0	
	comp=N,457nm,0.8s						
PKEM	**Kettleman Hill**	**1.50**	**302**		Pn	11 37 14.7	-0.2
TSCN	**Private Proper**	**1.50**	**280**		Pn	11 37 13.9	-1.1
RPV	**Rancho Palos V**	**1.54**	**176**		Pb	11 37 16.6	0.0
NJQ	**Nojoqui County**	**1.54**	**241**		Pb	11 37 16.3	-0.3
RVR	**Riverside**	**1.61**	**143**		Pn	11 37 15.6	-0.8
SVD	**Seven Oaks Dam**	**1.67**	**134**		Pn	11 37 16.6	-0.7
PKD	**Bear Valley Ra**	**1.76**	**292**		Pn	11 37 18.0	-0.6
GWY	**Greenwater Val**	**1.76**	**59**	Pn	Pn	11 37 17.3	-1.5
GWY				IAML		11 37 50.6	
	comp=N,184nm,0.7s						
GWY				IAML		11 37 54.8	
	comp=E,195nm,0.6s						
PWMM	**Westland Maint**	**1.78**	**311**		Pn	11 37 19.3	+0.5
TIN	**Tinemaha, Big**	**1.78**	**8**		Pb	11 37 20.3	-0.4
EFD	**Emergency Oper**	**1.79**	**272**		Pn	11 37 18.2	-0.8
PEC	**Perris**	**1.79**	**140**		Pn	11 37 18.3	-0.8
PSMM	**Smith Mountain**	**1.85**	**296**		Pn	11 37 19.3	-0.6
ELS	**Elsinore Mount**	**1.87**	**150**		Pn	11 37 19.3	-0.8
ELS				IAML		11 37 47.9	
	comp=N,124nm,0.8s						
ELS				IAML		11 37 49.6	
	comp=E,110nm,0.7s						
RAMR	**Ramage Ranch**	**1.94**	**281**		Pn	11 37 20.8	-0.3
SHOC	**Shoshone, Teco**	**1.94**	**71**		Pn	11 37 19.9	-1.2
PSAM	**San Ardo**	**2.05**	**292**		Pn	11 37 21.6	-0.9
DGR	**Domenigoni Val**	**2.06**	**142**		Pn	11 37 22.1	-0.7
PMPB	**Monarch Peak**	**2.06**	**297**		Pn	11 37 21.6	-1.2
BACC	**Bachelor Mtn.**	**2.08**	**143**		Pn	11 37 22.1	-0.8
POB	**Polly Butte**	**2.08**	**140**		Pn	11 37 22.2	-0.8
PHSB	**Hesperia Broad**	**2.12**	**285**		Pn	11 37 22.3	-1.3
DSP	**Deep Springs**	**2.13**	**12**	Pn	Pn	11 37 24.2	+0.6
TUQ	**Turquoise Moun**	**2.14**	**85**		Pn	11 37 22.6	-1.3
BLAC	**Blackrock camp**	**2.15**	**124**		Pn	11 37 23.6	-0.4
WCT	**Wildcat Mounta**	**2.16**	**45**		Pn	11 37 23.8	-0.3
GMN	**Gold Mountain**	**2.26**	**27**		Pn	11 37 25.6	0.0
PCCM	**Crazy Canyon**	**2.29**	**291**		Pn	11 37 24.5	-1.3
PFO	**Pinyon Flats O**	**2.39**	**134**	Pn	Pn	11 37 26.6	-0.9
PFO				IAML		11 38 03.0	
	comp=E,81nm,0.6s						
PFO				IAML		11 38 05.3	
	comp=E,115nm,0.8s						
BBGB	**Big Mountain B**	**2.41**	**303**	Pn	Pn	11 37 26.8	-0.8
TPNV	**Topopah Spring**	**2.48**	**47**		Pn	11 37 28.1	-0.6
TPNV				IAML		11 38 10.0	
	comp=E,96nm,0.8s						
TPNV				IAML		11 38 13.8	
	comp=E,75nm,0.6s						
MZP	**Montezuma Peak**	**2.58**	**21**		Pn	11 37 29.9	-0.2
SAO	**San Andreas Ge**	**2.78**	**303**	Pn	Pn	11 37 32.5	-0.2
LHV	**Little Huntoon**	**2.96**	**0**		Pn	11 37 35.0	0.0
SHPR	**Sheep Range**	**3.00**	**65**	Pn	Pn	11 37 35.2	-0.5
V12A	**Nelson**	**3.04**	**81**	Pn	Pn	11 37 34.8	-1.4
V12A				IAML		11 38 31.8	
	comp=E,35nm,0.6s						
CMB	**Columbia Colle**	**3.12**	**332**		Pn	11 37 38.8	+1.4
CMB				IAML		11 38 25.8	
	comp=N,52nm,0.7s						
CMB				IAML		11 38 28.9	
	comp=E,54nm,0.7s						
NVAR	**Mina Array Bea**	**3.14**	**3**		Pn	11 37 38.6	+0.8
TKX	**Tecate**	**3.15**	**149**	Pn	Pn	11 37 37.3	-0.4
TKX				IAML		11 38 26.2	
	comp=E,78nm,0.5s						
TKX				IAML		11 38 27.0	

SFJD			SN	Sn	11 42 09.1	-5.2
SCHQ	**Schefferville**	**7.74 203**	PN	Pn	11 41 08.7	-0.5
SCHQ			SN	Sn	11 42 30.6	-5.7
SCHQ			Trac		11 42 50.0	
	comp=Z,187nm,2.5s					
SAKN	**Sanikiluaq**	**10.55 246**	SN	Sn	11 43 37.1	-8.0
LG4Q	**La Grande 4**	**10.73 224**	PN	Pn	11 41 47.5	-2.6
LG4Q			SN	Sn	11 43 40.0	-10
LG4Q			Trac		11 43 55.2	
	comp=Z,0.1nm,0.0s					
ILON	**Igloolik, Nuna**	**11.04 320**	PN	Pn	11 41 53.4	-0.9
ILON			SN	Sn	11 43 49.0	-8.0
ILON			Trac		11 44 17.0	
	comp=Z,4.3nm,0.3s					
POIN	**Pond Inlet**	**12.33 337**	PN	Pn	11 42 10.0	-1.9
POIN			SN	Sn	11 44 19.7	-8.9
POIN			Trac		11 44 58.1	
	comp=Z,1.9nm,0.3s					

*IDC **17** 12:05:57.7±0.8, 15°.90S×172°.87W, h0km, mb4.1/11, mbtmp4.1/12, ML3.2/1, MS3.8/4, Error ellipse: s-maj=38.5km s-min=16.9km az=145.0*
*NEIC **17** 12:05:58.6±2.8, 15°.90S±0°.07×172°.6W±0°.1, h10km±1km, mb4.7/20, Error ellipse: s-maj=22.7km s-min=11.7km az=91.0*
ISC 17 12:06:01.7±0.5, **15°.97S**±0°.10×**172°.81W**±0°.09, **h26**km, **n52**, σ1§**01**/46, **mb4.4**/19, **MS4.0**/3, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**26**		**Pn**	12 06 31.9	-5.9
NIUE	**Niue**	**4.13**	**139**		**Pn**	12 06 57.9	-5.3
FUTU	**Fugatoga**	**5.39**	**287**	Pn	**Pn**	**12 07 23.3**	**+2.9**
MSVF	**Nonsavu**	**8.92**	**257**	Pn	Pn	12 08 15.1	+6.0
	0.4nm,0.3s,baz=106,slow=15,SNR=4.6						
MSVF				LR	LR	12 11 13.1	
	comp=Z,728nm,18.2s,baz=99,slow=36						
RAR	**Rarotonga**	**13.41**	**115**	Pn	**Pn**	**12 09 12.3**	**+1.9**
	1.2nm,0.3s,baz=337,slow=7.7,SNR=2.4						
	8.0nm,0.4s						
RAO	**Raoul Island**	**14.03**	**199**	Pn	**Pn**	**12 09 19.1**	**+0.3**
	157nm,0.3s,baz=310,slow=22,SNR=2.3						
DZM	**Mont Dzumac**	**20.52**	**250**	P	**P**	**12 10 38.2**	**0.0**
	13nm,1.1s,baz=94,slow=17,SNR=3.7						
	13nm,1.1s						
TOZ	**Tahuroa Road**	**24.01**	**203**	P	**P**	**12 11 13.6**	**-0.8**
TOZ				IAmb	IAmb	12 11 35.4	
	comp=Z,15nm,1.3s						
RTZ	**Ruatahuna**	**24.28**	**200**	P	**P**	**12 11 18.3**	**+1.3**
RTZ				IAmb	IAmb	12 11 19.4	
	comp=Z,22nm,1.2s						
HNR	**Honiara**	**27.34**	**280**	LR	LR	12 21 44.6	
	comp=Z,37nm,18.8s,baz=166,slow=35						
COEN	**Coen**	**42.51**	**267**	P	**P**	**12 13 55.1**	**-0.3**
COEN				IAmb	IAmb	12 14 06.3	
	comp=Z,7.7nm,1.1s						
TOO	**Toolangi**	**42.55**	**231**	P	**P**	**12 13 54.5**	**-1.0**
STKA	**Stephens Creek**	**44.25**	**241**	P	**P**	**12 14 08.7**	**-0.4**
STKA				IAmb	IAmb	12 14 09.6	
	comp=Z,6.4nm,0.8s						
STKA	**Stephens Creek**	**44.25**	**241**	P	**P**	**12 14 08.6**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=95,slow=11,SNR=10						
	comp=Z,4.4nm,0.7s						
WB0	**Warramunga Arr**	**50.23**	**257**	P	**P**	**12 14 54.7**	**-1.3**
WB0				IAmb	IAmb	12 14 55.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**50.27**	**257**	P	**P**	**12 14 54.8**	**-1.5**
WRA	**Warramunga Arr**	**50.27**	**257**	P	**P**	**12 14 54.9**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=92,slow=6.6,SNR=26						
WRA				PcP	**PcP**	**12 16 15.8**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=87,slow=3.8,SNR=4.2						
	comp=Z,2.3nm,0.8s						
AS31	**Alice Springs**	**50.48**	**252**	P	**P**	**12 14 56.5**	**-1.3**
ASAR	**Alice Springs**	**50.48**	**252**	P	**P**	**12 14 55.9**	**-1.9**
ASAR	**Alice Springs**	**50.48**	**252**	P	**P**	**12 14 56.7**	**-1.1**
	comp=Z,7.5nm,0.8s,baz=90,slow=7.2,SNR=88						
ASAR				PcP	**PcP**	**12 16 16.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=86,slow=6.5,SNR=1.1						
	comp=Z,7.5nm,0.8s						
KNRA	**Kununurra**	**56.04**	**262**	P	**P**	**12 15 38.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**58.65**	**258**	P	**P**	**12 15 56.8**	**-0.5**
PSA00	**Pilbara Seismi**	**63.59**	**254**	P	**P**	**12 16 29.7**	**-1.0**
PETK	**Petropavlovsk-**	**73.35**	**342**	P	**P**	**12 17 31.1**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=165,slow=6.3,SNR=3.6						
	comp=Z,2.6nm,0.9s						
KKM	**Kota Kinabalu**	**73.55**	**281**	P	**P**	**12 17 33.9**	**+0.7**
QSPA	**South Pole Qui**	**74.08**	**180**	P	**P**	**12 17 35.3**	**-0.1**
QSPA				IAmb	IAmb	12 17 59.5	
	comp=Z,15nm,1.4s						
NVAR	**Mina Array Bea**	**74.38**	**42**	P	**P**	**12 17 36.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=236,slow=5.1,SNR=2.5						
	comp=Z,0.4nm,0.7s						
PINE	**Pine Mountain**	**76.03**	**36**	P	**P**	**12 17 45.5**	**-1.5**
L14K	**Kuka Creek**	**77.47**	**5**	P	**P**	**12 17 55.1**	**+0.7**
L14K				IAmb	IAmb	12 18 31.2	
	comp=Z,13nm,1.4s						
L18K	**Granite Mounta**	**78.97**	**8**	P	**P**	**12 18 03.2**	**+0.4**
F10A	**Beach Ranch, E**	**79.45**	**36**	P	**P**	**12 18 05.0**	**-0.9**
TXAR	**Lajitas Array**	**80.46**	**56**	P	**P**	**12 18 10.2**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=244,slow=3.3,SNR=3.4						
	comp=Z,0.5nm,0.9s						
PDAR	**Pinedale Array**	**82.31**	**42**	P	**P**	**12 18 21.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=227,slow=3.7,SNR=6.7						
	comp=Z,0.5nm,0.7s						
CCB	**Clear Creek Bu**	**82.62**	**11**	P	**P**	**12 18 21.6**	**-0.6**
CCB				IAmb	IAmb	12 18 23.1	
	comp=Z,5.8nm,0.9s						
ILAR	**Eielson Array**	**82.90**	**11**	P	**P**	**12 18 23.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=228,slow=6.5,SNR=30						
	comp=Z,1.1nm,0.7s						
L29M	**L29M**	**83.33**	**15**	P	**P**	**12 18 25.7**	**-0.3**
L29M				IAmb	IAmb	12 18 28.0	
	comp=Z,7.6nm,1.1s						
CMIG	**Matias Romero**	**83.54**	**70**	LR	LR	12 49 06.9	
	comp=Z,53nm,18.2s,baz=8.5,slow=31						
DAWY	**Dawson**	**83.83**	**14**	P	**P**	**12 18 28.4**	**-0.2**
DAWY				IAmb	IAmb	12 18 30.3	
	comp=Z,5.4nm,1.0s						
YKA	**Yellowknife Ar**	**90.40**	**23**	P	**P**	**12 19 00.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=233,slow=4.6,SNR=4.5						
	comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**93.33**	**288**	P	**P**	**12 19 15.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=103,slow=4.7,SNR=4.4						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**95.65**	**318**	LR	LR	13 01 43.8	
	comp=Z,106nm,18.9s,baz=174,slow=35						
DPC	**Dobruska-Polom**	**144.92**	**350**	*e*PKP	**PKPdf**	**12 25 36.8**	**+0.2**
STEB	**Steborice**	**145.06**	**348**	*e*PKP	**PKPdf**	**12 25 37.1**	**+0.4**
ZVC	**Zvikov**	**146.14**	**352**	*e*PKP	PKiKP	12 25 52.2	+9.4
KHC	**Kasperske Hory**	**146.52**	**352**	*e*PKP	**PKiKP**	**12 25 42.9**	**-0.8**
CKRC	**Cesky Krumlov**	**146.73**	**351**	*e*PKP	PKiKP	12 25 53.2	+9.1
GERES	**GERESS Array B**	**146.79**	**352**	PKPbc	**PKPbc**	**12 25 41.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=294,slow=9.7,SNR=7.5						
BRTR	**Keskin Array B**	**146.96**	**321**	PKPbc	**PKPbc**	**12 25 43.0**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=137,slow=3.1,SNR=12						
CONA	**Conrad Observa**	**147.34**	**349**	PKP	**PKPdf**	**12 25 41.0**	**+0.3**
	comp=Z,4.5nm,2.0s						
RONA	**Rosalia, Austr**	**147.48**	**349**	PKP	**PKPdf**	**12 25 41.3**	**+0.4**
	comp=Z,1.8nm,0.9s						
ARSA	**Arzberg**	**148.06**	**349**	PKP	**PKPdf**	**12 25 43.0**	**+1.1**
	comp=Z,2.4nm,1.2s						
ABTA	**Abfaltersbach**	**149.00**	**353**	PKP	**PKPdf**	**12 25 44.8**	**+1.2**
	comp=Z,4.0nm,1.0s						

*IDC **17** 12:09:55.2±0.6, 55°.02S×31°.51W, h0km, mb4.2/9, mbtmp4.3/9, MS3.8/10, Error ellipse: s-maj=24.5km s-min=17.1km az=61.0*
*NEIC **17** 12:09:56.7±1.4, 54°.98S±0°.04×31°.4W±0°.2, h10km±1km, mb4.7/24, Error ellipse: s-maj=16.5km s-min=7.6km az=86.0*
ISC 17 12:09:56.9±0.5, **54°.92S**±0°.09×**31°.44W**±0°.08, **h10**km, **n65**, σ1§**11**/53, **mb4.6**/17, **MS3.9**/9, **4C**, **South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.01**	**280**		**Pn**	**12 10 44.0**	**-0.4**
EFI	**East Falkland**	**16.20**	**271**		**Pn**	**12 13 45.8**	**+1.5**
EFI				IAmb	IAmb	12 13 53.3	
	comp=Z,100nm,1.3s						
PMSA	**Palmer Station**	**18.89**	**226**	LR	LR	12 19 50.5	
	comp=Z,272nm,18.9s,baz=136,slow=32						
VNA3	**Neumayer Olymp**	**18.91**	**158**	P	**Pn**	**12 14 20.9**	**+3.0**
VNA3	**Neumayer Olymp**	**18.91**	**158**	⇑P	**Pn**	**12 14 20.9**	**+3.0**
	comp=Z,10nm,0.8s						
VNA2	**Neumayer--Watz**	**19.18**	**156**	P	**Pn**	**12 14 22.9**	**+1.7**
	baz=309,slow=13						
VNA2	**Neumayer--Watz**	**19.18**	**156**	⇑P	**Pn**	**12 14 22.9**	**+1.7**
	comp=Z,5.8nm,0.7s,baz=309,slow=13						
SNAA	**Sanae**	**20.78**	**155**	P	**P**	**12 14 38.8**	**+1.1**
SNAA	**Sanae**	**20.78**	**155**	P	**P**	**12 14 37.3**	**-0.4**
SNAA	**Sanae**	**20.78**	**155**	⇑P	**P**	**12 14 38.8**	**+1.1**
	comp=Z,156nm,0.6s						
SNAA	**Sanae**	**20.78**	**155**	P	**P**	**12 14 38.3**	**+0.6**
	comp=Z,8.0nm,0.8s,baz=316,slow=13,SNR=7.5						
	comp=Z,8.0nm,0.8s						
MG02	**Cerro Sombrero**	**22.22**	**260**	P	**P**	**12 14 53.5**	**+0.3**
TROLL	**Troll, Antarti**	**22.35**	**153**	P	**P**	**12 14 54.4**	**-0.2**
TROLL	**Troll, Antarti**	**22.35**	**153**	⇑P	**P**	**12 14 54.4**	**-0.2**
	comp=Z,374nm,0.8s						
MG03	**Isla Dawson**	**22.56**	**257**	P	**P**	**12 14 56.3**	**-0.5**
TRQA	**Tornquist**	**26.65**	**297**	P	**P**	**12 15 35.5**	**-0.1**
AY01	**Puyuhuapi**	**28.27**	**275**	P	**P**	**12 15 49.1**	**-0.8**
AY01				IAmb	IAmb	12 15 49.6	
	comp=Z,9.6nm,0.8s						
PLCA	**Paso Flores**	**29.41**	**282**	P	**P**	**12 15 59.7**	**-0.5**
PLCA				IAmb	IAmb	12 16 07.4	
	comp=Z,14nm,1.4s						
PLCA	**Paso Flores**	**29.41**	**282**	P	**P**	**12 15 58.5**	**-1.8**
	comp=Z,1.3nm,0.9s,baz=132,slow=11,SNR=3.0						
PLCA				LR	LR	12 27 51.5	
	comp=Z,159nm,18.6s,baz=150,slow=37						
	comp=Z,1.3nm,0.9s						
CPUP	**Villa Florida**	**34.28**	**316**	P	**P**	**12 16 43.2**	**+0.2**
CPUP	**Villa Florida**	**34.28**	**316**	P	**P**	**12 16 42.7**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=157,slow=7.7,SNR=8.4						
CPUP				LR	LR	12 30 41.3	
	comp=Z,71nm,19.0s,baz=198,slow=36						
	comp=Z,3.7nm,0.8s						
BO04	**La Punta**	**34.29**	**291**	P	**P**	**12 16 43.7**	**+0.6**
BO04				IAmb	IAmb	12 17 04.3	
	comp=Z,5.3nm,0.8s						
MT09	**Talagante**	**34.65**	**291**	P	**P**	**12 16 45.0**	**-1.4**
MT01	**Popeta**	**34.73**	**291**	P	**P**	**12 16 46.0**	**-0.8**
MT01				IAmb	IAmb	12 17 01.7	
	comp=Z,7.1nm,0.8s						
ZON	**Zonda**	**35.16**	**296**	P	**P**	**12 16 49.8**	**-1.0**
ZON				IAmb	IAmb	12 16 52.9	
	comp=Z,7.0nm,0.6s						
QSPA	**South Pole Qui**	**35.34**	**180**	P	**P**	**12 16 50.9**	**-1.1**
QSPA				IAmb	IAmb	12 17 01.5	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**35.34**	**180**	P	**P**	**12 16 51.1**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=186,slow=0.6,SNR=14						
QSPA				LR	LR	12 29 41.2	
	comp=Z,121nm,19.8s,baz=192,slow=34						
	comp=Z,2.8nm,0.8s						
VA06	**Catapilco**	**35.75**	**292**	P	**P**	**12 16 55.8**	**+0.1**
AC04	**Llanos de Chal**	**39.08**	**297**	P	**P**	**12 17 24.6**	**+0.7**
AC04				IAmb	IAmb	12 17 33.6	
	comp=Z,10.0nm,0.8s						
BDFB	**Brasilia**	**41.25**	**335**	P	**P**	**12 17 43.9**	**+1.8**
	comp=Z,2.1nm,0.6s,baz=185,slow=10,SNR=3.7						
	comp=Z,2.1nm,0.6s						
PB14	**IPOC Station P**	**41.68**	**301**	P	**P**	**12 17 45.7**	**-0.2**
MAW	**Mawson**	**42.48**	**146**	P	**P**	**12 17 51.9**	**+0.4**
MAW				IAmb	IAmb	12 18 09.3	
	comp=Z,22nm,1.4s						
VNDA	**Vanda**	**47.57**	**184**	P	**P**	**12 18 30.5**	**-1.3**
	comp=Z,6.9nm,1.1s,baz=210,slow=1.1,SNR=3.5						
	comp=Z,6.9nm,1.1s						
H10S2	**ASCENSION HYDR**	**47.75**	**23**	T	T	13 10 26.7	
	baz=192,slow=74						
H10S3	**ASCENSION HYDR**	**47.75**	**23**	T	T	13 10 31.6	
	baz=28,slow=74						
LPAZ	**La Paz**	**47.77**	**309**	P	**P**	**12 18 35.3**	**+0.5**
LPAZ	**La Paz**	**47.77**	**309**	P	**P**	**12 18 35.5**	**+0.7**
	comp=Z,6.8nm,0.7s,baz=182,slow=5.2,SNR=22						
	comp=Z,6.8nm,0.7s						
BOSA	**Boshof**	**48.11**	**81**	P	**P**	**12 18 35.9**	**-1.0**
BOSA				IAmb	IAmb	12 18 44.5	
	comp=Z,12nm,1.5s						
BOSA	**Boshof**	**48.11**	**81**	P	**P**	**12 18 36.3**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=217,slow=7.2,SNR=4.5						
	comp=Z,2.3nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.86**	**23**	T	T	13 11 38.2	
	baz=194,slow=76						
H10N3	**ASCENSION HYDR**	**48.86**	**23**	T	T	13 11 40.5	
	baz=194,slow=76						
H10N2	**ASCENSION HYDR**	**48.88**	**23**	T	T	13 11 42.2	
	baz=194,slow=76						
LBTB	**Lobatse**	**51.07**	**78**	P	**P**	**12 18 58.2**	**-1.2**
LBTB				IAmb	IAmb	12 19 09.6	
	comp=Z,17nm,1.4s						
TSUM	**Tsumeb**	**51.34**	**66**	LR	LR	12 35 32.7	
	comp=Z,46nm,21.7s,baz=330,slow=30						
ETMB	**Extrema**	**52.72**	**315**	P	**P**	**12 19 11.2**	**-0.5**
LSZ	**Lusaka**	**60.30**	**73**	LR	LR	12 44 17.7	
	comp=Z,134nm,18.2s,baz=222,slow=34						
COHC	**Cochancay**	**65.03**	**305**	P	**P**	**12 20 38.5**	**+1.3**
DBIC	**Dimbokro**	**65.25**	**29**	P	**P**	**12 20 39.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=171,slow=8.5,SNR=3.8						
DBIC				LR	LR	12 42 18.5	
	comp=Z,70nm,20.1s,baz=115,slow=30						
	comp=Z,2.3nm,0.7s						
SDV	**Santo Domingo**	**71.53**	**319**	P	**P**	**12 21 18.2**	**+0.2**
SDV				IAmb	IAmb	12 21 20.2	
	comp=Z,4.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.36**	**34**	P	**P**	**12 21 29.4**	**+0.7**
	comp=Z,21nm,0.3s,baz=208,slow=5.1,SNR=1.2						
MDT	**Midelt**	**90.38**	**22**	LR	LR	12 56 54.9	
	comp=Z,89nm,20.4s,baz=168,slow=31						
KEST	**Kesra**	**96.84**	**32**	LR	LR	13 01 59.8	
	comp=Z,94nm,19.9s,baz=317,slow=32						
ESDC	**Sonseca Array**	**97.12**	**21**	LR	LR	13 02 56.0	
	comp=Z,99nm,20.0s,baz=170,slow=33						
ASAR	**Alice Springs**	**100.73**	**166**	P	**Pdif**	**12 23 43.1**	**-2.3**
	comp=Z,0.5nm,1.1s,baz=189,slow=5.2,SNR=1.7						
FINES	**FINESS Array B**	**124.55**	**29**	PKP	**PKPdf**	**12 28 54.7**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=146,slow=3.7,SNR=5.9						
CMAR	**Chiang Mai Arr**	**127.73**	**114**	PKP	**PKiKP**	**12 29 02.7**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=215,slow=2.3,SNR=9.3						
YKA	**Yellowknife Ar**	**133.73**	**320**	PKP	**PKPdf**	**12 29 11.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=129,slow=2.5,SNR=11						
BVAR	**Borovoye Array**	**136.24**	**59**	PKP	**PKiKP**	**12 29 19.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=286,slow=5.4,SNR=2.5						
MKAR	**Makanchi Array**	**138.84**	**73**	PKP	**PKiKP**	**12 29 23.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=349,slow=1.5,SNR=2.0						
INK	**Inuvik**	**143.41**	**322**	PKP	PKPbc	12 29 27.4	+0.3
	comp=Z,0.7nm,0.5s,baz=69,slow=0.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**144.05**	**65**	PKP	**PKPdf**	**12 29 30.3**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=235,slow=3.7,SNR=8.9						
ILAR	**Eielson Array**	**147.57**	**314**	PKPbc	**PKPbc**	**12 29 39.3**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=112,slow=1.5,SNR=15						
KDAK	**Kodiak Island**	**148.15**	**300**	PKPbc	**PKPbc**	**12 29 41.4**	**-0.1**
	comp=Z,15nm,0.9s,baz=42,slow=2.0,SNR=7.1						
NRIK	**Noril'sk**	**149.62**	**38**	PKPbc	**PKiKP**	**12 29 45.2**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=180,slow=2.5,SNR=4.0						
SONM	**Songino Array**	**153.09**	**88**	PKPbc	**PKPbc**	**12 29 52.6**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=223,slow=3.1,SNR=13						

*IDC **17** 12:25:19.3±0.7, 55°.05S×31°.63W, h0km, mb4.1/7, mbtmp4.1/7, MS3.6/12, Error ellipse: s-maj=32.0km s-min=18.5km az=50.0*
*NEIC **17** 12:25:21.6±2.1, 55°.0S±0°.1×31°.8W±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=20.8km s-min=9.8km az=171.0*
ISC 17 12:25:21.0±0.5, **54°.85S**±0°.09×**31°.67W**±0°.09, **h10**km, **n57**, σ1§**64**/46, **mb4.4**/12, **MS3.5**/11, **2C-1D**, **South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.86**	**280**	Pn	**Pn**	**12 26 06.3**	**-0.4**
ESPZ	**Base Esperanza**	**15.46**	**226**		**P**	**12 29 01.5**	**-1.9**
ESPZ				IAmb	IAmb	12 29 27.5	
	comp=Z,63nm,1.4s						
PMSA	**Palmer Station**	**18.84**	**225**	LR	LR	12 35 11.5	
	comp=Z,244nm,20.5s,baz=108,slow=32						
VNA3	**Neumayer Olymp**	**19.02**	**158**	P	**Pn**	**12 29 48.5**	**+5.1**
VNA3	**Neumayer Olymp**	**19.02**	**158**	⇑P	**Pn**	**12 29 48.5**	**+5.1**
	comp=Z,4.0nm,0.6s						
SNAA	**Sanae**	**20.90**	**155**	P	**P**	**12 30 01.6**	**-1.6**
SNAA	**Sanae**	**20.90**	**155**	P	**P**	**12 30 03.2**	**+0.1**
SNAA	**Sanae**	**20.90**	**155**	⇓P	**P**	**12 30 01.6**	**-1.6**
	comp=Z,105nm,0.6s						
SNAA	**Sanae**	**20.90**	**155**	P	**P**	**12 30 02.5**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=314,slow=8.5,SNR=8.8						
SNAA				LR	LR	12 36 01.0	
	comp=Z,131nm,21.4s,baz=357,slow=31						
	comp=Z,5.1nm,0.7s						
MG03	**Isla Dawson**	**22.44**	**257**	P	**P**	**12 30 20.2**	**+0.5**
MG03				IAmb	IAmb	12 30 36.4	
	comp=Z,44nm,1.2s						
TROLL	**Troll, Antarti**	**22.47**	**153**	P	**P**	**12 30 18.7**	**-1.4**
TROLL	**Troll, Antarti**	**22.47**	**153**	⇑P	**P**	**12 30 18.7**	**-1.4**
	comp=Z,227nm,0.6s						
PLCA	**Paso Flores**	**29.26**	**283**	P	**P**	**12 31 23.0**	**-0.2**
PLCA	**Paso Flores**	**29.26**	**283**	P	**P**	**12 31 23.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=119,slow=7.5,SNR=4.8						
	comp=Z,1.1nm,0.8s						
CPUP	**Villa Florida**	**34.14**	**316**	P	**P**	**12 32 06.8**	**+0.8**
CPUP	**Villa Florida**	**34.14**	**316**	P	**P**	**12 32 06.5**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=142,slow=9.0,SNR=6.4						
CPUP				LR	LR	12 47 08.8	
	comp=Z,50nm,18.3s,baz=202,slow=38						
	comp=Z,3.2nm,0.7s						
MT09	**Talagante**	**34.50**	**291**	P	**P**	**12 32 09.1**	**-0.2**
MT09				IAmb	IAmb	12 32 09.9	
	comp=Z,4.1nm,0.7s						
MT02	**Curacav**	**34.98**	**292**	P	**P**	**12 32 13.8**	**+0.5**
MT02				IAmb	IAmb	12 32 36.6	
	comp=Z,19nm,1.4s						
QSPA	**South Pole Qui**	**35.40**	**180**	P	**P**	**12 32 15.3**	**-1.4**
QSPA				IAmb	IAmb	12 32 26.5	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**35.40**	**180**	P	**P**	**12 32 15.4**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=222,slow=2.1,SNR=9.9						
	comp=Z,1.4nm,0.7s						
VA06	**Catapilco**	**35.60**	**292**	P	**P**	**12 32 18.4**	**-0.2**
AC04	**Llanos de Chal**	**38.93**	**297**	P	**P**	**12 32 47.0**	**+0.1**
AC04				IAmb	IAmb	12 33 15.1	
	comp=Z,16nm,1.2s						
BDFB	**Brasilia**	**41.13**	**336**	P	**P**	**12 33 08.2**	**+2.8**
	comp=Z,1.4nm,0.6s,baz=171,slow=12,SNR=3.4						
BDFB				LR	LR	12 46 50.6	
	comp=Z,66nm,20.6s,baz=193,slow=31						
	comp=Z,1.4nm,0.6s						
SIV	**San Ignacio**	**44.94**	**318**	LR	LR	12 52 01.4	
	comp=Z,55nm,19.1s,baz=285,slow=36						
LPAZ	**La Paz**	**47.62**	**309**	P	**P**	**12 33 58.5**	**+0.6**
LPAZ				IAmb	IAmb	12 34 12.4	
	comp=Z,4.1nm,0.9s						
LPAZ	**La Paz**	**47.62**	**309**	P	**P**	**12 33 59.4**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=138,slow=2.6,SNR=8.3						
	comp=Z,1.8nm,0.5s						
BOSA	**Boshof**	**48.23**	**81**	P	**P**	**12 34 00.7**	**-1.3**
BOSA				IAmb	IAmb	12 34 08.9	
	comp=Z,2.9nm,0.9s						
BOSA	**Boshof**	**48.23**	**81**	P	**P**	**12 34 02.3**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=221,slow=5.9,SNR=3.7						
	comp=Z,2.2nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.85**	**23**	T	T	13 26 59.0	
	baz=192						
H10N3	**ASCENSION HYDR**	**48.85**	**23**	T	T	13 26 56.7	
	baz=192,slow=74						
H10N2	**ASCENSION HYDR**	**48.87**	**23**	T	T	13 26 58.9	
	baz=192,slow=74						
RCBR	**Riachuelo**	**49.00**	**354**	LR	LR	12 50 43.4	
	comp=Z,21nm,20.3s,baz=156,slow=31						
TSUM	**Tsumeb**	**51.43**	**66**	LR	LR	12 50 57.0	
	comp=Z,42nm,19.4s,baz=312,slow=30						
LSZ	**Lusaka**	**60.41**	**74**	LR	LR	12 59 13.4	
	comp=Z,82nm,18.6s,baz=251,slow=34						
BOAV	**Boa Vista**	**61.83**	**327**	P	**P**	**12 35 39.6**	**-0.5**
DBIC	**Dimbokro**	**65.26**	**30**	P	**P**	**12 35 59.8**	**-3.0**
	comp=Z,2.2nm,0.9s,baz=221,slow=8.3,SNR=3.1						
DBIC				LR	LR	12 57 24.3	
	comp=Z,58nm,20.6s,baz=306,slow=29						
ABPO	**Ambohimpanom**	**68.31**	**92**	P	**P**	**12 36 24.7**	**+2.2**
ABPO				IAmb	IAmb	12 36 53.3	
	comp=Z,7.1nm,1.1s						
SDV	**Santo Domingo**	**71.39**	**319**	LR	LR	13 08 28.7	
	comp=Z,49nm,20.6s,baz=80,slow=36						
PDPR	**Patillas Dam,**	**78.26**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.71**	**133**	*eP*	**Pn**	**12 51 43.4**	**-0.8**
AF01				*eS*	**Sn**	**12 51 59.8**	**+0.7**
AF01				IAML		12 52 12.3	
	comp=Z,2μm,0.7s						
AF01	**San Pedro de A**	**0.71**	**133⇓**	*eP*	**Pn**	**12 51 43.3**	**-0.9**
AF01				*eS*	**Sn**	**12 51 57.7**	**-1.5**
AF01				IAML		12 51 58.6	
	comp=E,4μm,0.7s						
PB09	**IPOC Station P**	**0.81**	**325**	*eP*	**Pn**	**12 51 45.3**	**+0.3**
PB09				*eS*	**Sn**	**12 52 01.4**	**+1.0**
PB09				IAML		12 52 01.4	
	comp=Z,1μm,0.5s						
PB09	**IPOC Station P**	**0.81**	**325⇑**	*eP*	**Pn**	**12 51 45.3**	**+0.3**
PB09				*eS*	**Sn**	**12 52 00.6**	**+0.2**
PB09				IAML		12 52 01.6	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.58**	**334**	*eP*	**Pn**	**12 51 52.5**	**-0.3**
PB01				*eS*	**Sn**	**12 52 15.1**	**+0.6**
PB01				IAML		12 52 15.9	
	comp=Z,402nm,0.2s						
PB01	**IPOC Station P**	**1.58**	**334⇑**	*eP*	**Pn**	**12 51 53.0**	**+0.1**
PB01				*eS*	**Sn**	**12 52 14.7**	**+0.2**
PB01				IAML		12 52 15.1	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**2.32**	**324**	*eP*	**Pn**	**12 52 01.4**	**-0.4**
TA01				*eS*	**Sn**	**12 52 30.6**	**0.0**
TA01				IAML		12 52 38.2	
	comp=Z,112nm,0.2s						
TA01	**Diego Aracena**	**2.32**	**324**	*eP*	**Pn**	**12 52 01.6**	**-0.3**
TA01				*eS*	**Sn**	**12 52 30.9**	**+0.4**
TA01				IAML		12 52 32.5	
	comp=N,247nm,0.4s						
PB08	**IPOC Station P**	**2.34**	**351**	*eP*	**Pn**	**12 52 03.0**	**+0.3**
PB08				*eS*	**Sn**	**12 52 31.6**	**-0.3**
PB08				IAML		12 52 35.0	
	comp=Z,92nm,0.3s						
PB08	**IPOC Station P**	**2.34**	**351⇑**	*eP*	**Pn**	**12 52 03.5**	**+0.8**
PB08				*eS*	**Sn**	**12 52 33.0**	**+1.1**
PB08				IAML		12 52 38.8	
	comp=N,122nm,0.5s						
TA02	**Huaiquique**	**2.54**	**329**	*eP*	**Pn**	**12 52 04.9**	**+0.1**
TA02				*eS*	Sn	12 52 22.6	-13
TA02				IAML		12 52 41.0	
	comp=Z,127nm,0.1s						
PB14	**IPOC Station P**	**2.63**	**215**	*eP*	**Pn**	**12 52 06.3**	**+0.1**
PB14				*eS*	**Sn**	**12 52 38.5**	**+0.2**
PB14				IAML		12 52 50.3	
	comp=Z,276nm,0.8s						
PB14	**IPOC Station P**	**2.63**	**215**	*eP*	**Pn**	**12 52 07.0**	**+0.7**
PB14				IAML		12 52 50.4	
	comp=E,170nm,0.3s						
GO02	**Mina Guanaco**	**2.79**	**196⇑**	*eP*	**Pn**	**12 52 08.9**	**+0.6**
GO02				*eS*	**Sn**	**12 52 43.3**	**+1.2**
YJA	**Yavi**	**3.00**	**85**	*eP*	**Pn**	**12 52 11.7**	**+0.5**
YJA				*eS*	**Sn**	**12 52 47.1**	**-0.1**
YJA	**Yavi**	**3.00**	**85**	*eP*	**Pn**	**12 52 11.8**	**+0.6**
AZAP	**Zapla**	**3.81**	**118**	*eP*	**Pn**	**12 52 21.7**	**+0.1**
AC01	**Pan de Azucar**	**4.04**	**204**	*eP*	**Pn**	**12 52 23.7**	**-0.8**
AC01				*eS*	**Sn**	**12 53 09.4**	**-1.6**
AC01				IAML		12 53 25.5	
	comp=Z,50nm,0.5s						
PB12	**IPOC Station P**	**4.11**	**339**	*eP*	**Pn**	**12 52 25.1**	**-0.5**
PB12				*eS*	**Sn**	**12 53 10.3**	**-2.7**
PB12				IAML		12 53 41.5	
	comp=Z,47nm,0.8s						
AC02	**Maricunga**	**4.36**	**185**	*eP*	**Pn**	**12 52 30.3**	**+1.0**
AC02				*eS*	Sn	12 53 00.6	-19
AC02				IAML		12 53 13.9	
	comp=Z,39nm,0.5s						

*IDC **17** 13:18:24.1±9.3, 1°.22N×127°.50E, h152^{km}±86^{km}, mb3.8/6, mbtmp4.2/8, Error ellipse: s-maj=86.2km s-min=14.7km az=59.0*

*NEIC **17** 13:18:25.4±1.7, 1°.15N±0°.09×127°.39E±0°.03, h160^{km}±5^{km}, mb4.5/30, Error ellipse: s-maj=13.1km s-min=3.7km az=178.0*

*DJA **17** 13:18:26.9±0.4, 1°.N±3°×12°.7E±°, h150^{km}±5^{km}, M4.4/19, mB4.8/6, mb4.5/8, MLv4.5/19, Mw(mB)4.1/6*

ISC 17 13:18:24.3±0.5, **1°.21N**±0°.06×**127°.36E**±0°.06, **h150**^{km}, **n73, σ1§44/76, mb4.4/20, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.43**	**180**	Pn	**Pn**	**13 18 48.0**	**+2.6**
TNTI				Sn	**Sn**	**13 19 03.7**	**+2.2**
TNTI	**Ternate**	**0.43**	**180**	P	**Pn**	**13 18 49.2**	**+3.8**
TNTI	**Ternate**	**0.43**	**180**	P	**Pn**	**13 18 49.1**	**+3.7**
LBMI	**Labuha**	**1.84**	**176**	P	**Pn**	**13 18 59.6**	**+1.9**
KMSI	**Cibinong**	**3.44**	**259**	P	**Pn**	**13 19 17.6**	**+0.3**
KMSI				S	**Sn**	**13 19 59.1**	**+0.7**
SANI	**Sanana**	**3.52**	**203**	P	**Pn**	**13 19 18.9**	**+0.6**
SWI	**Sorong**	**4.41**	**118**	P	**Pn**	**13 19 33.8**	**+3.9**
NLAI	**Namlea**	**4.43**	**183**	P	**Pn**	**13 19 31.4**	**+1.2**
AAI	**Ambon**	**4.93**	**170**	P	**Pn**	**13 19 39.1**	**+2.2**
LUWI	**Luwuk**	**5.11**	**244**	Pn	**Pn**	**13 19 39.3**	**+0.1**
LUWI	**Luwuk**	**5.11**	**244**	P	**Pn**	**13 19 39.5**	**+0.3**
LUWI	**Luwuk**	**5.11**	**244**	P	**Pn**	**13 19 40.8**	**+1.6**
MRSI	**Marisa**	**5.47**	**262**	P	**Pn**	**13 19 44.3**	**+0.3**
APSI	**Ampana**	**6.09**	**250**	P	**Pn**	**13 19 52.3**	**0.0**
	0.7nm117nm,0.5s						
TOLI2	**Tolitoli**	**6.58**	**269**	Pn	**Pn**	**13 20 00.0**	**+1.2**
TOLI2	**Tolitoli**	**6.58**	**269**	P	**Pn**	**13 19 59.5**	**+0.7**
KDI	**Kendari**	**6.99**	**223**	P	**Pn**	**13 20 05.0**	**+0.7**
	0.1nm2μm5.1nm,0.8s						
MPSI	**Mapaga**	**7.51**	**263**	P	**Pn**	**13 20 12.7**	**+1.4**
	0.1nm23nm,0.6s						
TTSI	**Tana Toraja**	**8.64**	**241**	P	**Pn**	**13 20 26.7**	**+0.3**
	48nm,0.5s						
SPSI	**Sidrap Palu**	**9.17**	**236**	P	**Pn**	**13 20 34.6**	**+1.3**
	596nm21nm,0.5s						
MYLDM	**Lahad Datu**	**9.69**	**294**	P	Pn	13 20 45.5	+5.2
KAPI	**Kappang**	**9.80**	**231**	Pn	**Pn**	**13 20 44.5**	**+2.7**
KAPI	**Kappang**	**9.80**	**231**	P	**Pn**	**13 20 44.8**	**+3.0**
	4.6nm,0.3s,baz=360,slow=8.0,SNR=4.9						
KAPI				S	**Sn**	**13 22 30.1**	**-0.2**
	6.3nm,0.3s,baz=33,slow=17,SNR=10						
KKM	**Kota Kinabalu**	**12.12**	**294**	Pn	**Pn**	**13 21 14.5**	**+2.2**
PLAI	**Plampang**	**13.81**	**224**	P	**Pn**	**13 21 32.0**	**-1.9**
DRS	**Darwin Rock St**	**14.00**	**166**	P	**Pn**	**13 21 35.6**	**-0.7**
MTN	**Manton Dam**	**14.45**	**165**	Pn	**Pn**	**13 21 40.5**	**-1.5**
SBUM	**Sibu**	**15.19**	**275**	Pn	**Pn**	**13 21 50.8**	**-0.4**
KNRA	**Kununurra**	**16.84**	**175**	P	**P**	**13 22 10.7**	**-0.3**
KNRA				IAmb	IAmb	13 22 12.2	
	comp=Z,19nm,0.6s						
KSM	**Kuching**	**17.05**	**271**	P	**P**	**13 22 14.3**	**+0.9**
KSM				IAmb	IAmb	13 22 44.9	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.26**	**185**	P	**P**	**13 22 36.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.26**	**185**	P	**P**	**13 22 36.2**	**-1.2**
	comp=Z,6.3nm,0.6s,baz=19,slow=7.0,SNR=23						
FITZ	**Fitzroy Crossi**	**19.26**	**185**	P	**P**	**13 22 35.8**	**-1.6**
DLV	**Lat**	**21.55**	**300**	P	**P**	**13 23 01.6**	**-0.7**
DLV				IAmb	IAmb	13 23 06.5	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**21.74**	**134**	P	**P**	**13 23 04.8**	**+0.8**
WB0	**Warramunga Arr**	**21.96**	**162**	P	**P**	**13 23 05.1**	**-1.1**
WB0				IAmb	IAmb	13 23 13.1	
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**22.10**	**162**	P	**P**	**13 23 06.8**	**-0.9**
WRAB				IAmb	IAmb	13 23 14.4	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**22.11**	**162**	P	**P**	**13 23 05.3**	**-2.5**
WRA	**Warramunga Arr**	**22.11**	**162**	P	**P**	**13 23 06.9**	**-0.9**
	comp=Z,10.0nm,0.4s,baz=340,slow=11,SNR=128						
	comp=Z,10.0nm,0.4s						
WB2	**Warramunga Arr**	**22.11**	**162**	P	**P**	**13 23 06.8**	**-1.0**
WB2				IAmb	IAmb	13 23 14.9	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**22.18**	**162**	P	**P**	**13 23 07.4**	**-1.1**
WR0				IAmb	IAmb	13 23 08.1	
	comp=Z,7.6nm,0.5s						
TWG	**Pinlang**	**22.34**	**345**	P	**P**	**13 23 09.4**	**-0.5**
TWG				IAmb	IAmb	13 23 47.5	
	comp=Z,56nm,1.3s						
YOJ	**Yonaguni jima**	**23.50**	**350**	P	**P**	**13 23 21.2**	**+0.5**
NACB	**Ninganchiao**	**23.50**	**347**	P	**P**	**13 23 20.7**	**0.0**
NACB				IAmb	IAmb	13 23 35.0	
	comp=Z,46nm,1.4s						
MYKOM	**Kota Tinggi**	**23.51**	**272**	P	**P**	**13 23 24.2**	**+3.2**
QIS	**Mount Isa**	**24.73**	**152**	P	**P**	**13 23 32.8**	**+0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AS31	**Alice Springs**	**25.53**	**166**	P	**P**	**13 23 38.5**	**-0.7**
ASAR	**Alice Springs**	**25.53**	**166**	P	**P**	**13 23 38.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=347,slow=7.7,SNR=137						
ASAR				PcP	**PcP**	**13 27 06.0**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=356,slow=3.1,SNR=1.8						
	comp=Z,3.2nm,0.5s						
AS01	**Alice Springs**	**25.54**	**166**	P	**P**	**13 23 38.9**	**-0.4**
UBPT	**Khong Chiam**	**25.74**	**304**	P	**P**	**13 23 42.2**	**+1.1**
UBPT				IAmb	IAmb	13 23 45.1	
	comp=Z,7.9nm,0.9s						
WRKA	**Warakurna**	**26.11**	**178**	P	**P**	**13 23 43.9**	**-0.5**
MEEK	**Meekatharra**	**28.94**	**196**	P	**P**	**13 24 08.7**	**-1.0**
OOD	**Oodnadatta**	**29.93**	**165**	P	**P**	**13 24 17.9**	**-0.4**
FORT	**Forrest**	**31.82**	**179**	P	**P**	**13 24 34.2**	**-0.7**
BBOO	**Buckleboo**	**34.82**	**167**	P	**P**	**13 25 00.3**	**-0.6**
BBOO				IAmb	IAmb	13 25 24.7	
	comp=Z,21nm,1.2s						
NWAO	**Narrogin (SRO)**	**35.27**	**195**	P	**P**	**13 25 04.3**	**-0.5**
STKA	**Stephens Creek**	**35.56**	**159**	P	**P**	**13 25 07.1**	**-0.2**
STKA	**Stephens Creek**	**35.56**	**159**	P	**P**	**13 25 07.2**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=331,slow=6.9,SNR=14						
	comp=Z,4.6nm,0.6s						
ARMA	**Armidale**	**39.03**	**146**	P	**P**	**13 25 36.0**	**-0.7**
ARMA				IAmb	IAmb	13 25 38.5	
	comp=Z,5.6nm,0.7s						
SHL	**Shillong**	**41.90**	**308**	P	**P**	**13 26 01.0**	**+0.6**
SHL				IAmb	IAmb	13 26 02.2	
	comp=Z,6.8nm,0.8s						
LHI	**Lord Howe Isla**	**44.31**	**140**	P	**P**	**13 26 18.9**	**-0.6**
LBZ	**Lake Benmore**	**59.26**	**145**	P	**P**	**13 28 10.2**	**+0.1**
MK31	**Makanchi Array**	**59.98**	**326**	P	**P**	**13 28 15.3**	**+0.4**
MKAR	**Makanchi Array**	**59.98**	**326**	P	**P**	**13 28 15.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=115,slow=7.5,SNR=14						
	comp=Z,0.6nm,0.3s						
MAKZ	**Makanchi**	**60.16**	**326**	P	**P**	**13 28 15.1**	**-1.1**
MAKZ				IAmb	IAmb	13 28 18.4	
	comp=Z,2.3nm,1.1s						
RAO	**Raoul Island**	**60.37**	**125**	P	**P**	**13 28 15.3**	**-2.6**
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**13 28 42.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=128,slow=6.1,SNR=11						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**64.19**	**328**	P	**P**	**13 28 43.0**	**+0.1**
KURK				IAmb	IAmb	13 29 09.8	
	comp=Z,4.7nm,1.5s						
BVAR	**Borovoye Array**	**69.77**	**327**	P	**P**	**13 29 17.3**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=125,slow=7.6,SNR=1.9						
	comp=Z,0.6nm,0.6s						
M17K	**Holitna River**	**81.88**	**28**	P	**P**	**13 30 25.5**	**-1.2**
SKT	**Skwentna**	**84.75**	**28**	P	**P**	**13 30 41.0**	**-0.4**
SKT				IAmb	IAmb	13 31 16.7	
	comp=Z,12nm,1.4s						
COLD	**Coldfoot**	**85.95**	**23**	P	**P**	**13 30 46.0**	**-1.3**
SYO	**Syowa Base**	**90.32**	**201⇓**	*eP*	**P**	**13 31 08.7**	**+0.8**

*KRSC **17** 13:22:00.7±1.4, 54°.94N×164°.74E, h53^{km}±26^{km}, Ml3.7*

*IDC **17** 13:22:05.0±3.1, 54°.77N×164°.27E, h0^{km}, mb3.2/2, mbtmp3.1/3, ML2.3/1, Error ellipse: s-maj=106.4km s-min=25.2km az=155.0*

ISC 17 13:22:02.3±3.9, **54°.99N**±0°.05×**164°.68E**±0°.06, **h13**^{km}±28^{km}, **n29, σ1§83/42, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.78**	**74**	*eP*	**Pb**	**13 22 16.7**	**-0.9**
BKI				*eS*	**Sb**	**13 22 27.2**	**-0.7**
KBTR	**Krutoberegovo**	**1.61**	**320**	*eP*	**Pn**	**13 22 28.5**	**-1.9**
KBTR				*eS*	**Sn**	**13 22 48.1**	**-2.8**
KBG	**Krutoberegovo**	**1.69**	**319**	*eP*	**Pn**	**13 22 30.6**	**-0.8**
KBG				*eS*	**Sn**	**13 22 50.7**	**-2.1**
SMKR	**Semkarok**	**2.41**	**313**	*eP*	**Pn**	**13 22 41.9**	**+0.5**
TUMD	**Tumrok D**	**2.47**	**277**	*eP*	**Pn**	**13 22 42.7**	**+0.6**
TUMD				*eS*	**Sn**	**13 23 12.7**	**+0.6**
KRSR	**Krestovskiy**	**2.63**	**299**	*eP*	**Pn**	**13 22 44.8**	**+0.3**
KLY	**Klyuchi**	**2.64**	**302**	*eP*	**Pn**	**13 22 43.7**	**-0.7**
KLY				*eS*	**Sn**	**13 23 16.1**	**-0.1**
KMNR	**Kamenistaya**	**2.65**	**289**	*eP*	**Pn**	**13 22 45.7**	**+1.1**
KIRR	**Kirishev**	**2.65**	**293**	*eP*	**Pn**	**13 22 46.2**	**+1.5**
KIRR				*eS*	**Sb**	**13 23 19.2**	**-2.8**
KOZ	**Kozyrevsk**	**2.93**	**293**	*eP*	**Pn**	**13 22 50.2**	**+1.8**
SRDR	**Sredinnyy**	**3.11**	**297**	*eP*	**Pn**	**13 22 52.9**	**+2.0**
SRDR				*eS*	**Sn**	**13 23 30.4**	**+2.5**
SPN	**Mys Shipunski**	**3.33**	**237**	*eS*	**Sn**	**13 23 29.6**	**-3.8**
ESO	**Esso**	**3.53**	**288**	*eP*	**Pn**	**13 22 57.6**	**+0.9**
NLC	**Nalytchevo**	**3.63**	**242**	*eS*	**Sn**	**13 23 38.2**	**-2.5**
UGLR	**Uglovaya**	**3.88**	**245**	*eP*	**Pn**	**13 23 02.3**	**+0.7**
UGLR				*eS*	**Sn**	**13 23 45.3**	**-1.7**
AVH	**Avacha**	**3.90**	**246**	*eP*	**Pn**	**13 23 02.8**	**+0.9**
AVH				*eS*	**Sn**	**13 23 46.4**	**-1.0**
KRX	**Arik**	**3.90**	**248**	*eP*	**Pn**	**13 23 02.7**	**+0.8**
KRX				*eS*	**Sn**	**13 23 45.1**	**-2.4**
KOK	**Koryaka**	**3.94**	**247**	*eP*	**Pn**	**13 23 03.2**	**+0.8**
KOK				*eS*	**Sn**	**13 23 47.4**	**-1.0**
DALK	**Dalny**	**4.01**	**243**	*eS*	**Sn**	**13 23 46.9**	**-3.1**
PET	**Petropavlovsk**	**4.06**	**243**	*eS*	**Sn**	**13 23 49.1**	**-2.2**
GNL	**Ganaly**	**4.15**	**255**	*eP*	**Pn**	**13 23 07.4**	**+2.1**
OSSR	**Ossora**	**4.36**	**349**	*eP*	**Pn**	**13 23 08.8**	**+0.8**
OSSR				*eS*	**Sn**	**13 23 56.1**	**-2.5**
KRMR	**Karymshinskiy**	**4.43**	**243**	*eP*	**Pn**	**13 23 10.0**	**+0.9**
KRMR				*eS*	**Sn**	**13 23 58.5**	**-2.0**
RUS	**Russkaya**	**4.47**	**238**	*eP*	**Pn**	**13 23 09.2**	**-0.3**
PETK	**Petropavlovsk-**	**4.52**	**248**	Pn	**Pn**	**13 23 11.1**	**+0.7**
	0.8nm,0.3s,baz=70,slow=18,SNR=49						
PETK				Sn	**Sn**	**13 24 01.7**	**-1.0**
	0.9nm,0.3s,baz=86,slow=23,SNR=9.7						
	1.4nm,0.4s						
GRL	**Gorelyy**	**4.62**	**241**	*eP*	**Pn**	**13 23 12.1**	**+0.4**
TILK	**Tilichíki**	**5.53**	**8**	*eP*	**Pn**	**13 23 25.8**	**+1.8**
ILAR	**Eielson Array**	**25.55**	**48**	P	P	13 27 38.1	+7.9
	0.5nm,0.7s,baz=271,slow=9.4,SNR=7.1						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**49.74**	**297**	P	**P**	**13 30 57.5**	**+3.6**
	0.1nm,0.5s,baz=35,slow=5.3,SNR=1.7						
	0.1nm,0.5s						

*IDC **17** 13:22:05.9±0.5, 23°.54S×64°.76W, h0^{km}, mb4.7/13, mbtmp4.6/19, ML4.3/6, MS4.0/41, Error ellipse: s-maj=18.3km s-min=12.5km az=53.0*

*VAO **17** 13:22:06.4±0.3, 23°.47S×64°.81W, h0^{km}, mb4.7*

*NEIC **17** 13:22:08, 23°.37S×64°.81W, h22^{km}, Moment Tensor Solution. Duration: 1±5 Moment tensor: Scale 10^{16}Nm; M_{rr}3.72; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-3.75; $M_{r\theta}$-1.10; $M_{\theta\phi}$-0.44; $M_{\phi r}$-1.33; Fault plane solution: $M_0$4.13000×10^{16} NP1: ϕ_s354.19000°, δ35.79000°, λ69.10000°. NP2: ϕ_s199.40000°, δ56.88000°, λ104.43000°. Principal axes: T 4.1946, Plg74.0000°, Azm148.0000°; N -0.1212, Plg12.0000°, Azm11.0000°; P -4.0734, Plg11.0000°, Azm279.0000°;*

*RSNC **17** 13:22:08.5±4.0, 24°S±10°×6°5W±1°, h10^{km}±55^{km}, M3.2, mB4.2, mb3.9, mBc5.5, Mw(mB)5.0, Hypocentre not reviewed by the ISC*

*NEIC **17** 13:22:08, 23°.47S×64°.70W, h22^{km}*

*NEIC **17** 13:22:08.0±1.9, 23°.47S±0°.07×64°.69W±0°.08, h10^{km}±1^{km}, mb5.2/318, Mww5.0/20, Error ellipse: s-maj=13.2km s-min=11.4km az=222.0*

*SJA **17** 13:22:08.7±1.2, 23°.50S×64°.78W, h16^{km}±5^{km}, ML4.8, MW4.7*

*GCMT **17** 13:22:16.0±0.2, 23°.66S±0°.02×64°.45W±0°.02, h23^{km}, MW5.1/92, Moment Tensor Solution. s46,c52; s92,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.55±.20; $M_{\theta\theta}$-0.35±.12; $M_{\phi\phi}$-4.20±.13; $M_{r\theta}$0.58±.20; $M_{\theta\phi}$-0.69±.09; $M_{\phi r}$1.80±.18; Best double couple: $M_0$4.82100×10^{16} NP1:ϕ_s187.00000°, δ34.00000°, λ85.00000°. NP2: ϕ_s13.00000°, δ57.00000°, λ93.00000°. Principal axes: T 4.9410, Plg78.0000°, Azm294.0000°; N -0.2410, Plg3.0000°, Azm191.0000°; P -4.7010, Plg11.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 13:22:07.6±1.0, **23°.46S**±0°.03×**64°.75W**±0°.04, **h10**^{km}±6^{km}, **n377, σ1§40/229, mb5.2/158, MS4.2/38, 14C-7D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTB	**Santa Barbara**	**0.56**	**151⇓**	*eP*	**Pb**	**13 22 19.9**	**+0.3**
ALOL	**LOMAS DE OLMED**	**0.79**	**117⇓**	*eP*	**Pn**	**13 22 24.6**	**-0.2**
AZAP	**Zapla**	**0.81**	**200⇓**	*eP*	**Pb**	**13 22 23.9**	**-0.2**
AZAP				*i* S	**Sb**	**13 22 35.4**	**+0.2**
AZAP				IAML		13 22 42.5	
	comp=Z,48μm,0.7s						
SLA	**San Lorenzo**	**1.43**	**208⇑**	*eP*	**Pg**	**13 22 35.5**	**+0.4**
SLA				*eS*	**Sg**	**13 22 54.8**	**+1.1**
SLA				IAML		13 22 56.9	
	comp=Z,23μm,0.6s						
YJA	**Yavi**	**1.46**	**331**	*i P*	**Pg**	**13 22 36.6**	**+1.0**
YJA				⇓*eP*	**Pg**	**13 22 36.6**	**+1.0**
YJA				*eS*	**Sg**	**13 22 56.8**	**+2.3**
SALTA		**1.64**	**242⇓**	*i P*	**Pg**	**13 22 39.2**	**+0.2**
SALTA				*eS*	**Sb**	**13 22 59.1**	**-0.1**
SALTA				IAML		13 23 04.7	
	comp=Z,4μm,0.8s						
FSA	**Cafayete**	**2.87**	**203⇑**	*iP*	**Pn**	**13 22 55.1**	**+1.5**
FSA				*i* S	**Sn**	**13 23 30.7**	**+2.4**
AF01	**San Pedro de A**	**3.19**	**278**		**Pn**	**13 22 59.0**	**+0.9**
AF01	**San Pedro de A**	**3.19**	**278⇑**	*eP*	**Pb**	**13 23 03.1**	**-1.5**
AHML	**Horco Molle**	**3.35**	**189⇑**	*eP*	**Pn**	**13 23 00.7**	**+0.5**
AHML				*i* S	**Sn**	**13 23 40.1**	**0.0**
AHML				IAML		13 23 55.9	
	comp=Z,3μm,0.7s						
PB09	**IPOC Station P**	**4.46**	**291**		**Pn**	**13 23 15.7**	**+0.1**
PB09	**IPOC Station P**	**4.46**	**291⇑**	*iP*	Pb	13 23 21.0	-5.2
GO02	**Mina Guanaco**	**4.73**	**248**	Pn	**Pn**	**13 23 20.4**	**+1.2**
GO02	**Mina Guanaco**	**4.73**	**248⇑**	*iP*	**Pn**	**13 23 23.3**	**+4.1**
PB01	**IPOC Station P**	**5.00**	**298⇑**	*iP*	**Pn**	**13 23 27.5**	**+4.7**
CYA	**Choya**	**5.05**	**191⇑**	*iP*	**Pn**	**13 23 23.7**	**+0.2**
CYA				*eS*	**Sn**	**13 24 27.4**	**+5.5**
CYA				IAML		13 24 58.1	
	comp=Z,434nm,0.7s						
AC02	**Maricunga**	**5.20**	**229**	Pn	**Pn**	**13 23 26.8**	**+0.9**
PB08	**IPOC Station P**	**5.25**	**308**	Pn	**Pn**	**13 23 29.5**	**+2.9**
PB14	**IPOC Station P**	**5.29**	**256**	Pn	**Pn**	**13 23 29.2**	**+2.1**
TA01	**Diego Aracena**	**5.80**	**299**	Pn	**Pn**	**13 23 36.5**	**+2.8**
TA02	**Huaiquique**	**5.92**	**301**		**Pn**	**13 23 36.9**	**+1.6**
AC01	**Pan de Azucar**	**5.95**	**242**	Pn	**Pn**	**13 23 37.4**	**+1.6**
PAPY	**Pozo Azul**	**6.01**	**97**	*eP*	**Pn**	**13 23 37.9**	**+1.3**
MURT	**Porto Murtinho**	**6.84**	**76**	*eP*	**Pn**	**13 23 48.7**	**+0.6**
PB12	**IPOC Station P**	**7.09**	**312**	Pn	**Pn**	**13 23 52.4**	**+0.8**
CPUP	**Villa Florida**	**7.32**	**115**	Pn	**Pn**	**13 23 53.3**	**-1.3**
CPUP	**Villa Florida**	**7.32**	**115**	Pn	**Pn**	**13 23 53.0**	**-1.7**
	comp=Z,7.9nm,0.3s,baz=297,slow=12,SNR=106						
CPUP				Lg	Lg	13 25 59.8	
	comp=Z,28nm,0.3s,baz=206,slow=11,SNR=3.1						
CPUP				LR	LR	13 26 47.3	
	comp=Z,552nm,18.3s,baz=16,slow=39						
	comp=Z,39nm,0.5s						
CPUP	**Villa Florida**	**7.32**	**115**	*eP*	**Pn**	**13 23 54.4**	**-0.2**
PB18	**Visviri**	**7.33**	**322**		**Pn**	**13 23 56.5**	**+1.3**
AC04	**Llanos de Chal**	**7.40**	**229**	Pn	**Pn**	**13 23 56.4**	**+0.7**
LCO	**Las Campanas**	**7.69**	**223**	Pn	**Pn**	**13 24 00.3**	**+0.4**
LPAZ	**La Paz**	**7.81**	**335**	Pn	**Pn**	**13 24 02.6**	**+0.7**
LPAZ	**La Paz**	**7.81**	**335**	Pn	**Pn**	**13 24 04.0**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=150,slow=9.9,SNR=28						
LPAZ				Sn	**Sn**	**13 25 27.6**	**-3.1**
	comp=Z,2.3nm,0.3s,baz=184,slow=16,SNR=3.6						
	comp=Z,6.5nm,0.6s						
LPAZ	**La Paz**	**7.81**	**335**	*eP*	**Pn**	**13 24 03.9**	**+2.0**
BDQN	**Bodoquena, MS**	**8.01**	**70**	*eP*	**Pn**	**13 24 05.2**	**+1.1**
CO01	**Juntas del Tor**	**8.06**	**215**		**Pn**	**13 24 05.2**	**+0.2**
SIV	**San Ignacio**	**8.20**	**26**	Pn	**Pn**	**13 24 06.7**	**0.0**
SIV				Sn	**Sn**	**13 25 34.4**	**-5.1**
	baz=222,slow=14						
GO04	**Tololo Observa**	**8.59**	**218**		**Pn**	**13 24 12.6**	**+0.3**
CFA	**Coronel Fontan**	**8.68**	**200**	Pn	**Pn**	**13 24 10.4**	**-2.9**
	comp=Z,7.7nm,0.3s,baz=90,slow=24,SNR=3.9						
	comp=Z,62nm,0.3s						
**

FLOC Florencia 27.06 335 IAmb IAmb 13 27 56.1
comp=Z,39nm,1.0s
NBLA Lagarto - SE 28.52 69 *e*P **P 13 28 04.0 +0.4**
ROSC El Rosal 29.64 340 P **P 13 28 14.8 +1.0**
comp=Z,6.5nm,0.4s,baz=162,slow=19,SNR=1.9
ROSC LR LR 13 39 44.8
comp=Z,659nm,19.4s,baz=240,slow=36
comp=Z,6.5nm,0.4s
NBAN Anadia - AL 30.47 68 *e*P **P 13 28 20.8 0.0**
MDP Montagnes des 30.75 24 LR LR 13 41 34.9
comp=Z,214nm,19.8s,baz=210,slow=38
SDV Santo Domingo 32.66 349 LR LR 13 43 04.2
comp=Z,389nm,18.3s,baz=242,slow=38
RCBR Riachuelo 32.84 62 LR LR 13 40 56.3
comp=Z,83nm,21.1s,baz=262,slow=34
RCBR Riachuelo 32.84 62 *e*P **P 13 28 43.6 +1.8**
PCRV Puerto La Cruz 33.43 0 LR LR 13 43 33.6
comp=Z,920nm,21.0s,slow=38
SOCE Pocosol 38.84 328 P **P 13 29 34.0 +0.9**
SOCE IAmb IAmb 13 29 36.6
comp=Z,113nm,1.6s
JTS Las Juntas de 38.93 327 P **P 13 29 33.9 0.0**
JTS Las Juntas de 38.93 327 LR LR 13 47 41.4
comp=Z,248nm,18.0s,baz=148,slow=39
PMSA Palmer Station 41.31 180 LR LR 13 48 57.6
comp=Z,290nm,18.2s,baz=318,slow=39
SJG San Juan 41.34 358 LR LR 13 49 32.6
comp=Z,267nm,18.1s,baz=178,slow=40
MTO3 Montecristo 44.66 325 P **P 13 30 21.0 0.0**
CCIG Comitan 47.71 323 IAmb IAmb 13 30 46.1
comp=Z,18nm,1.0s
TEIG Tepich 49.10 330 P **P 13 30 54.7 -0.7**
TEIG IAmb IAmb 13 30 55.7
comp=Z,36nm,1.0s
CMIG Matias Romero 49.91 321 LR LR 13 51 26.5
comp=Z,68nm,20.0s,baz=179,slow=35
VNA3 Neumayer Olymp 57.00 162 P **P 13 31 52.0 -1.1**
VNA3 Neumayer Olymp 57.00 162 ⇑P **P 13 31 52.0 -1.1**
comp=Z,11nm,0.8s
250A Grady 58.84 339 P **P 13 32 05.3 -1.1**
250A IAmb IAmb 13 32 06.7
comp=Z,24nm,1.1s
SNAA Sanae 59.19 161 P **P 13 32 08.0 -0.5**
SNAA Sanae 59.19 161 ⇑P **P 13 32 08.0 -0.5**
comp=Z,110nm,0.8s
SNAA Sanae 59.19 161 P **P 13 32 07.3 -1.2**
comp=Z,5.0nm,0.8s,baz=294,slow=10,SNR=7.5
comp=Z,5.0nm,0.8s
BIRD Birdtown, Kers 59.68 345 P **P 13 32 11.9 -0.3**
BIRD IAmb IAmb 13 32 12.5
comp=Z,17nm,0.9s
Y52A Lilburn 59.89 341 P **P 13 32 12.7 -1.0**
Y52A IAmb IAmb 13 32 13.5
comp=Z,13nm,0.9s
LRAL Lakeview Retre 60.05 338 P **P 13 32 13.1 -1.7**
W57A Gilead 60.05 346 IAmb IAmb 13 32 15.4
comp=Z,27nm,1.2s
KMSC Kings Mountain 60.36 344 P **P 13 32 16.1 -0.8**
KMSC IAmb IAmb 13 32 17.8
comp=Z,40nm,1.4s
BBTS Babate 60.49 56 LR LR 13 59 41.8
comp=Z,122nm,18.3s,baz=120,slow=37
Z47A Carrollton 60.57 338 P **P 13 32 17.2 -1.1**
Z47A IAmb IAmb 13 32 18.5
comp=Z,22nm,1.0s
Y49A Blount Mountai 60.61 339 P **P 13 32 17.5 -1.1**
Y49A IAmb IAmb 13 32 18.2
comp=Z,16nm,0.9s
BG3 Lake Jocassee 60.63 343 IAmb IAmb 13 32 19.2
comp=Z,14nm,0.8s
X51A Calhoun 60.78 341 P **P 13 32 19.0 -0.7**
TROLL Troll, Antarti 60.89 161 P **P 13 32 20.2 -0.1**
TROLL Troll, Antarti 60.89 161 ⇑P **P 13 32 20.2 -0.1**
comp=Z,352nm,0.6s
HKT Hockley 60.92 329 P **P 13 32 20.8 +0.1**
HKT IAmb IAmb 13 32 22.1
comp=Z,16nm,1.2s
FPAL Fort Paine 60.99 340 P **P 13 32 19.9 -1.3**
FPAL IAmb IAmb 13 32 21.3
comp=Z,11nm,0.8s
W52A Murphy 61.01 342 P **P 13 32 20.7 -0.6**
W52A IAmb IAmb 13 32 21.4
comp=Z,16nm,1.0s
V53A Saluda 61.24 343 IAmb IAmb 13 32 23.6
comp=Z,20nm,1.0s
X48A Hartselle 61.36 339 P **P 13 32 23.0 -0.7**
TKL Tuckaleechee C 61.49 342 IAmb IAmb 13 32 24.8
comp=Z,24nm,0.9s
TKL Tuckaleechee C 61.49 342 LR LR 14 01 44.4
comp=Z,138nm,18.8s,baz=164,slow=39
CPCT Cooper Cave 61.51 342 P **P 13 32 23.9 -0.7**
CPCT IAmb IAmb 13 32 25.1
comp=Z,13nm,0.9s
W50A Signal Mountai 61.51 341 IAmb IAmb 13 32 24.7
comp=Z,18nm,0.9s
Y45A Yeager Farm, C 61.70 337 P **P 13 32 25.3 -0.6**
U54A Nelsons Funny 61.79 344 IAmb IAmb 13 32 27.0
comp=Z,17nm,0.7s
PLAL Pickwick Lake 62.19 338 P **P 13 32 28.1 -1.2**
PLAL IAmb IAmb 13 32 29.3
comp=Z,26nm,1.0s
HNDO Hondo 62.27 326 IAmb IAmb 13 32 33.7
comp=Z,16nm,0.7s
V48A Smith Brothers 62.47 340 IAmb IAmb 13 32 30.8
comp=Z,16nm,0.9s
DRIO Del Rio 62.88 325 P **P 13 32 33.5 -0.6**
DRIO IAmb IAmb 13 32 34.9
comp=Z,14nm,1.1s
WVT Waverly 63.15 339 P **P 13 32 34.2 -1.5**
JCT Junction City 63.30 326 P **P 13 32 36.4 -0.5**
JCT IAmb IAmb 13 32 37.9
comp=Z,12nm,0.8s
BRDY Brady 63.55 327 P **P 13 32 38.0 -0.5**
UALR University of 63.56 335 IAmb IAmb 13 32 39.6
comp=Z,16nm,1.0s
T47A Sharon Grove 63.71 340 P **P 13 32 38.1 -1.3**
MIAR Mount Ida 63.85 334 P **P 13 32 39.5 -0.8**
MIAR IAmb IAmb 13 32 41.2
comp=Z,39nm,1.5s
WHAR Wooly Hollow 63.99 335 IAmb IAmb 13 32 41.3
comp=Z,14nm,1.2s
SAND Sanderson 64.10 324 P **P 13 32 42.2 +0.1**
SAND IAmb IAmb 13 32 43.0
comp=Z,14nm,0.9s
R50A Paris 64.10 343 IAmb IAmb 13 32 41.7
comp=Z,13nm,1.1s
LCAR Lake Charles 64.25 336 IAmb IAmb 13 32 43.4
comp=Z,17nm,1.1s
OZNA Ozona 64.34 326 IAmb IAmb 13 32 44.5
comp=Z,12nm,0.9s
FCAR Ozark Folk Cen 64.46 336 IAmb IAmb 13 32 44.6
comp=Z,24nm,1.4s
TXAR Lajitas Array 64.47 323 P **P 13 32 44.1 -0.5**
comp=Z,2.3nm,0.7s,baz=152,slow=8.4,SNR=17
TXAR LR LR 14 01 25.7
comp=Z,36nm,18.8s,baz=46,slow=37
comp=Z,2.3nm,0.7s
PLPT Palo Pinto 64.47 329 IAmb IAmb 13 32 45.7
comp=Z,20nm,1.0s
P53A Whipple 64.52 346 IAmb IAmb 13 32 45.0
comp=Z,25nm,1.0s
WCI Wyandotte Cave 64.61 341 P **P 13 32 43.6 -1.6**
WCI IAmb IAmb 13 32 44.9
comp=Z,13nm,0.8s
CGM3 Cape Girardeau 64.83 338 IAmb IAmb 13 32 46.8
comp=Z,26nm,1.4s
ABTX Abilene, Hawle 64.96 328 IAmb IAmb 13 32 48.8
comp=Z,30nm,1.5s
T42A Van Buren 65.09 337 IAmb IAmb 13 32 48.6
comp=Z,17nm,1.2s
SGCY Sterling City 65.13 326 IAmb IAmb 13 32 49.1
comp=Z,10nm,0.9s
HHAR Hobbs 65.51 334 IAmb IAmb 13 32 51.7
comp=Z,14nm,1.0s
MNHN Monahans 65.53 325 IAmb IAmb 13 32 52.2
comp=Z,16nm,0.8s
BLO Bloomington 65.55 342 IAmb IAmb 13 32 51.2
comp=Z,19nm,0.8s
ACSO Alum Creek Sta 65.60 345 IAmb IAmb 13 32 51.8
comp=Z,15nm,0.8s
DBIC Dimbokro 65.68 71 P **P 13 32 52.9 +0.2**
DBIC Dimbokro 65.68 71 P **P 13 32 53.1 +0.4**
comp=Z,18nm,0.8s,baz=223,slow=6.9,SNR=21
DBIC LR LR 13 58 37.5
comp=Z,163nm,21.9s,baz=242,slow=33
comp=Z,18nm,0.8s
FVM French Village 65.71 338 IAmb IAmb 13 32 52.7
comp=Z,27nm,1.2s
APMT Aspermont 65.76 328 IAmb IAmb 13 32 53.5
comp=Z,18nm,0.8s
W35A Tecumseh 65.77 331 IAmb IAmb 13 32 52.8
comp=Z,19nm,1.2s
SN05 Snyder 5 65.78 327 IAmb IAmb 13 32 53.9
comp=Z,15nm,0.7s
U38A Cravette 65.82 334 IAmb IAmb 13 32 58.4
comp=Z,43nm,1.9s
O49A Covington 65.90 344 IAmb IAmb 13 32 53.5
comp=Z,20nm,1.1s
TUL3 Leonard 65.94 333 IAmb IAmb 13 32 54.4
comp=Z,8.7nm,0.7s
SN07 Snyder 07 65.95 327 IAmb IAmb 13 32 54.4
comp=Z,13nm,0.8s
ODSA Odessa 66.03 325 IAmb IAmb 13 32 56.6
comp=Z,16nm,0.8s
CCM Cathedral Cave 66.06 337 P **P 13 32 53.5 -1.1**
CCM IAmb IAmb 13 32 54.9
comp=Z,21nm,0.8s
Q44A Meyer Farm, Va 66.07 339 IAmb IAmb 13 32 54.0
comp=Z,16nm,0.9s
O48B Farmland 66.18 343 P **P 13 32 54.3 -1.0**
O48B IAmb IAmb 13 32 55.2
comp=Z,20nm,0.9s
VHRN Van Horn 66.31 323 IAmb IAmb 13 32 57.3
comp=Z,14nm,0.8s
L56A Grenwood 66.33 350 IAmb IAmb 13 32 56.9
comp=Z,19nm,0.9s
R40A Maddies Statio 66.63 337 IAmb IAmb 13 33 02.2
comp=Z,12nm,1.0s
QSPA South Pole Qui 66.75 180 P **P 13 32 59.3 +0.3**
QSPA IAmb IAmb 13 33 00.1
comp=Z,18nm,0.8s
QSPA South Pole Qui 66.75 180 P **P 13 32 59.0 +0.1**
comp=Z,14nm,0.8s,baz=157,slow=1.9,SNR=64
QSPA LR LR 14 04 56.1
comp=Z,178nm,18.3s,baz=168,slow=39
comp=Z,14nm,0.8s
SFIN Lafayette 66.83 342 IAmb IAmb 13 32 58.9
comp=Z,16nm,0.8s
ELIB Princess Elisa 67.32 160 *d*P **P 13 33 02.5 0.0**
KAN13 South Haven SW 67.60 332 IAmb IAmb 13 33 05.2
comp=Z,18nm,0.8s
P40A Paris 67.65 337 IAmb IAmb 13 33 05.1
comp=Z,25nm,1.1s
KAN17 Caldwell West 67.75 332 IAmb IAmb 13 33 06.1
comp=Z,20nm,1.0s
KAN14 Manchester OK 67.76 332 IAmb IAmb 13 33 06.7
comp=Z,24nm,1.1s
AMTX Amarillo 67.78 328 IAmb IAmb 13 33 08.4
comp=Z,21nm,1.1s
KAN01 Argonia South 67.83 332 IAmb IAmb 13 33 07.3
comp=Z,23nm,0.9s
P38A Dawn 68.27 336 IAmb IAmb 13 33 09.1
comp=Z,25nm,1.0s
N41A Harden Midland 68.30 339 IAmb IAmb 13 33 08.6
comp=Z,22nm,0.9s
SADO Sadowa 69.16 349 LR LR 14 06 25.2
comp=Z,148nm,19.7s,baz=262,slow=38
121A Cookes Peak, D 69.19 322 IAmb IAmb 13 33 17.4
comp=Z,20nm,0.9s
319A Douglas 69.21 320 IAmb IAmb 13 33 17.0
comp=Z,14nm,0.8s
RTBA Rita Blanca 69.54 328 IAmb IAmb 13 33 18.3
comp=Z,19nm,1.3s
JFWS Jewell Farm 70.10 340 IAmb IAmb 13 33 20.4
comp=Z,27nm,1.1s
SCIA State Center 70.17 338 IAmb IAmb 13 33 20.9
comp=Z,27nm,1.1s
ANMO Albuquerque 70.27 325 P **P 13 33 22.1 +0.6**
ANMO IAmb IAmb 13 33 23.7
comp=Z,18nm,1.2s
ANMO Albuquerque 70.27 325 LR LR 14 05 10.3
comp=Z,37nm,19.8s,baz=284,slow=37
TUC Tucson 70.77 320 P **P 13 33 24.4 0.0**
T25A Trinidad 70.91 327 IAmb IAmb 13 33 27.6
comp=Z,14nm,1.0s
E46A Sault Ste Mari 71.72 346 IAmb IAmb 13 33 30.0
comp=Z,23nm,0.9s
SDCO Great Sand Dun 71.93 327 IAmb IAmb 13 33 33.9
comp=Z,23nm,1.1s
I37A Lemond, Waseca 72.10 339 IAmb IAmb 13 33 32.1
comp=Z,14nm,0.6s
G40A Rib Lake 72.22 341 IAmb IAmb 13 33 33.5
comp=Z,25nm,1.5s
Q24A Divide 72.70 328 IAmb IAmb 13 33 38.5
comp=Z,26nm,1.1s
SPMN Marine on St. 72.98 340 IAmb IAmb 13 33 38.1
comp=Z,35nm,1.4s
MVCO Mesa Verde 73.06 325 IAmb IAmb 13 33 40.7
comp=Z,38nm,1.2s
K30B Basset 73.24 334 IAmb IAmb 13 33 47.8
comp=Z,24nm,1.1s
SYO Syowa Base 73.31 159 ⇑*i*P **P 13 33 36.9 -2.1**
SYO Syowa Base 73.31 159 ⇓*i*pP **P 13 33 39.0 0.0**
WUAZ Wupatki 73.40 322 IAmb IAmb 13 33 43.0
comp=Z,20nm,1.1s
BRIGG Briggsdale 73.58 330 IAmb IAmb 13 33 43.9
comp=Z,30nm,0.9s
PV15 Paradox Valley 73.90 326 IAmb IAmb 13 33 46.0
comp=Z,33nm,1.1s
PV13 Radium Mtn., P 73.94 325 IAmb IAmb 13 33 45.8
comp=Z,18nm,1.0s
PV11 David Mesa, Pa 74.07 325 IAmb IAmb 13 33 46.6
comp=Z,36nm,1.7s
PV10 Paradox Valley 74.22 325 IAmb IAmb 13 33 47.0
comp=Z,19nm,1.0s
PV23 Carpenter Ridg 74.26 325 IAmb IAmb 13 33 47.6
comp=Z,18nm,1.0s
SUR Sutherland 74.27 119 LR LR 14 04 18.4
comp=Z,89nm,18.1s,baz=216,slow=34
TORD Torodi Ar. Bea 74.46 68 **P 13 33 46.5 -0.1**
TORD Torodi Ar. Bea 74.46 68 P **P 13 33 46.9 +0.3**
comp=Z,68nm,0.3s,baz=262,slow=5.3,SNR=2.1
U15A North Rim 74.58 322 IAmb IAmb 13 33 50.2
comp=Z,18nm,1.1s
O20A White River Ci 75.13 327 IAmb IAmb 13 33 52.7
comp=Z,30nm,1.0s
PKCU Pink Cliffs 75.31 323 IAmb IAmb 13 33 52.9
comp=Z,46nm,1.9s
SRU San Rafael Swe 75.54 325 IAmb IAmb 13 33 54.9
comp=Z,22nm,0.9s
V12A Nelson 75.57 320 P **P 13 33 53.5 +0.7**
VNDA Vanda 75.58 189 LR LR 14 05 27.5
comp=Z,190nm,20.4s,baz=144,slow=34
Q16A Castle Valley 75.75 324 IAmb IAmb 13 33 56.6
comp=Z,27nm,1.4s
P18A Preston Nutter 75.78 325 IAmb IAmb 13 33 56.7
comp=Z,22nm,1.0s
TSUM Tsumeb 75.81 105 P **P 13 33 54.0 -0.6**
TSUM IAmb IAmb 13 33 56.1
comp=Z,16nm,1.0s
TSUM Tsumeb 75.81 105 LR LR 14 05 59.7
comp=Z,135nm,18.0s,baz=166,slow=35
K22A Casper 76.23 330 IAmb IAmb 13 33 58.8
comp=Z,24nm,1.2s
RSSD Black Hills 76.27 332 P **P 13 33 56.8 +0.1**
TBI Tubuai 76.48 250 *e*LR LR 13 57 34.2
comp=Z,313nm,23.5s
AGMN Agassiz Nation 76.68 339 IAmb IAmb 13 33 59.4
comp=Z,18nm,0.8s
BSUT Blindstream Ca 76.71 326 IAmb IAmb 13 34 02.1
comp=Z,21nm,0.9s
MPU Maple Canyon 76.79 325 IAmb IAmb 13 34 02.2
comp=Z,18nm,1.1s
PRN Pahroc Range 76.84 321 IAmb IAmb 13 34 03.0
comp=Z,24nm,1.3s
E28A Huff 76.92 335 IAmb IAmb 13 34 01.2
comp=Z,29nm,0.9s
GWY Greenwater Val 76.96 319 IAmb IAmb 13 34 03.0
comp=Z,20nm,1.2s
SDH Striped Hills 77.07 320 P **P 13 34 03.4 +2.1**
JLU Jordanelle 77.12 325 IAmb IAmb 13 34 04.2
comp=Z,34nm,1.3s
TPNV Topopah Spring 77.23 320 IAmb IAmb 13 34 05.3
comp=Z,22nm,1.2s
WCT Wildcat Mounta 77.34 320 IAmb IAmb 13 34 05.8
comp=Z,19nm,1.2s
TCUT Toone Canyon 77.47 326 IAmb IAmb 13 34 06.0
comp=Z,35nm,1.6s
SPR3 Spring Creek 3 77.53 323 IAmb IAmb 13 34 06.4
comp=Z,18nm,1.2s
DUG Dugway, Tooele 77.55 324 IAmb IAmb 13 34 06.5
comp=Z,17nm,1.1s
PDAR Pinedale Array 77.76 328 P **P 13 34 05.5 +0.4**
PDAR Pinedale Array 77.76 328 P **P 13 34 05.7 +0.6**
comp=Z,2.5nm,0.7s,baz=129,slow=7.9,SNR=30
PDAR LR LR 14 12 44.6
comp=Z,41nm,18.9s,baz=113,slow=39
comp=Z,2.5nm,0.7s
HWUT Hardware Ranch 77.91 326 IAmb IAmb 13 34 12.3
comp=Z,51nm,1.8s
SCHQ Schefferville 77.99 359 LR LR 14 10 57.4
comp=Z,70nm,19.4s,baz=104,slow=38
BGU Big Grassy Mou 78.18 325 IAmb IAmb 13 34 09.7
comp=Z,22nm,1.2s
ULM Lac du Bonnet 78.39 340 P **P 13 34 07.3 -0.8**
comp=Z,9.0nm,0.7s,baz=154,slow=5.6,SNR=24
ULM LR LR 14 12 35.1
comp=Z,105nm,18.6s,baz=154,slow=39
comp=Z,9.0nm,0.7s
AHID Auburn Hatcher 78.52 327 IAmb IAmb 13 34 11.4
comp=Z,34nm,1.1s
DSP Deep Springs 78.53 319 P **P 13 34 11.0 +1.8**
DSP Deep Springs 78.53 319 IAmb IAmb 13 34 12.6
comp=Z,12nm,1.3s
PPT2 Papeete2 78.58 256 *e*LR LR 13 58 32.0
comp=Z,229nm,38.8s
PPT2 *e*LR LR 13 58 35.1
comp=Z,319nm,31.5s
PPT Papeete 78.59 256 LR LR 14 02 07.8
comp=Z,81nm,19.2s,baz=12,slow=31
BOSA Boshof 79.14 116 P **P 13 34 12.5 -0.6**
BOSA Boshof 79.14 116 P **P 13 34 12.6 -0.5**
comp=Z,7.3nm,0.8s,baz=272,slow=5.2,SNR=8.8
BOSA LR LR 14 06 23.6
comp=Z,88nm,19.1s,baz=212,slow=34
comp=Z,7.3nm,0.8s
ELK Elko 79.25 323 LR LR 14 11 05.7
comp=Z,60nm,19.1s,baz=142,slow=37
FLWY Flagg Ranch 79.29 328 IAmb IAmb 13 34 15.7
comp=Z,18nm,0.8s
NV11 Mina Array Sit 79.34 320 P **P 13 34 12.7 -1.1**
NV11 Mina Array Sit 79.34 320 IAmb IAmb 13 34 16.4
comp=Z,13nm,1.4s
RLMT Red Lodge 79.39 330 IAmb IAmb 13 34 16.4
comp=Z,52nm,1.6s
NVAR Mina Array Bea 79.43 320 P **P 13 34 15.1 +0.7**
comp=Z,7.0nm,1.1s,baz=151,slow=6.2,SNR=20
NVAR LR LR 14 09 22.1
comp=Z,88nm,18.0s,baz=48,slow=36
comp=Z,7.0nm,1.1s
LHV Little Huntoon 79.43 320 P **P 13 34 16.1 +2.1**
LHV Little Huntoon 79.43 320 IAmb IAmb 13 34 17.1
comp=Z,34nm,1.7s
YNE Yellowstone No 79.65 329 IAmb IAmb 13 34 17.6
comp=Z,21nm,0.9s
DGMT Dagmar 79.83 335 IAmb IAmb 13 34 17.8
comp=Z,27nm,0.8s
YMR Madison River 79.86 328 IAmb IAmb 13 34 19.5
comp=Z,21nm,0.8s
YHB Horse Butte 80.03 328 IAmb IAmb 13 34 20.2
comp=Z,16nm,0.9s
YHL Hebgen Lake 80.09 328 IAmb IAmb 13 34 20.7
comp=Z,59nm,1.6s
MDT Midelt 80.13 48 LR LR 14 08 27.0
comp=Z,102nm,20.2s,baz=220,slow=35
YERR Yerington 80.34 320 IAmb IAmb 13 34 22.0
comp=Z,34nm,1.5s
PNTR Pine Nut 80.62 320 P **P 13 34 22.1 +1.3**
PNTR IAmb IAmb 13 34 23.5
comp=Z,15nm,0.8s
LBTB Lobatse 80.72 113 P **P 13 34 20.9 -0.8**
LBTB Lobatse 80.72 113 LR LR 14 06 40.3
comp=Z,67nm,18.8s,baz=238,slow=33
HLID Hailey 80.78 326 IAmb IAmb 13 34 24.4
comp=Z,32nm,0.9s
PAHR Pah Rah Range 80.90 320 IAmb IAmb 13 34 24.9
comp=Z,28nm,1.1s
DLMT Dillon 81.15 328 IAmb IAmb 13 34 25.9
comp=Z,42nm,1.5s
EGMT Eagleton 81.81 331 IAmb IAmb 13 34 28.2
comp=Z,19nm,0.9s
ORV Oroville 82.05 319 IAmb IAmb 13 34 30.6
comp=Z,20nm,1.2s
TAM Tamanrasset 82.33 61 P **P 13 34 29.8 -0.3**
TAM IAmb IAmb 13 34 32.4
comp=Z,32nm,1.3s
PLID Pearl Lake 82.66 326 IAmb IAmb 13 34 33.6
comp=Z,21nm,1.1s
MSO Missoula 82.86 328 IAmb IAmb 13 34 34.6
comp=Z,22nm,1.6s
F10A Beach Ranch, E 83.89 326 IAmb IAmb 13 34 44.7
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 84.14 320 LR LR 14 14 31.6
comp=Z,59nm,18.0s,baz=132,slow=37
J05D Fort Rock, OR 84.27 322 IAmb IAmb 13 34 43.3
comp=Z,14nm,1.2s
PAB San Pablo 84.28 43 P **P 13 34 39.8 0.0**
PAB IAmb IAmb 13 34 41.4
comp=Z,23nm,1.5s
PINE Pine Mountain 84.43 323 IAmb IAmb 13 34 43.2
comp=Z,17nm,1.3s
ESDC Sonseca Array 84.60 43 P **P 13 34 41.4 +0.1**
ESDC IAmb IAmb 13 36 46.0
comp=Z,20nm,1.8s
ESDC Sonseca Array 84.60 43 P **P 13 34 41.0 -0.3**
comp=Z,7.0nm,1.1s,baz=240,slow=4.7,SNR=19
ESDC LR LR 14 13 30.5
comp=Z,141nm,18.0s,baz=232,slow=36
comp=Z,7.0nm,1.1s
ESBB Sonseca Array 84.60 43 IAmb IAmb 13 34 43.1
comp=Z,19nm,1.3s
F07A Phinny Hill Vi 85.24 325 IAmb IAmb 13 34 46.9
comp=Z,24nm,1.5s
HAWA Hanford 85.36 325 IAmb IAmb 13 34 47.0
comp=Z,20nm,1.1s
NEW Newport 85.40 328 LR LR 14 17 57.2
comp=Z,92nm,19.3s,baz=137,slow=39
FCC Fort Churchill 85.45 345 IAmb IAmb 13 34 46.2
comp=Z,9.9nm,0.8s
D08A Wollman Farm, 85.48 326 IAmb IAmb 13 34 47.6
comp=Z,22nm,1.3s
C09A Chrisman Ranch 85.66 327 IAmb IAmb 13 34 48.1
comp=Z,16nm,0.9s
B08A Colville Reser 86.56 327 IAmb IAmb 13 34 56.6
comp=Z,16nm,1.4s
LSZ Lusaka 86.67 105 LR LR 14 12 10.0
comp=Z,124nm,18.1s,baz=245,slow=35
FRB Frobisher Bay 86.96 358 LR LR 14 17 06.6
comp=Z,119nm,18.7s,baz=134,slow=38
LLLB Lillooet 89.28 328 IAmb IAmb 13 35 05.0
comp=Z,15nm,1.1s
SFJD Kangerlussuaq 90.80 6 LR LR 14 15 52.8
comp=Z,88nm,20.7s,baz=178,slow=36
KEST Kesra 91.46 52 P **P 13 35 14.5 +0.1**
comp=Z,6.3nm,0.9s,baz=264,slow=3.0,SNR=4.4
comp=Z,6.3nm,0.9s
BORG Borgarnes 94.10 17 LR LR 14 13 37.5
comp=Z,108nm,19.9s,baz=241,slow=33
YKA Yellowknife Ar 94.34 339 P **P 13 35 26.9 0.0**
comp=Z,1.9nm,0.6s,baz=138,slow=4.7,SNR=41
comp=Z,1.9nm,0.6s
DAVOX Davos/Dischmat 96.91 42 LR LR 14 19 58.7
comp=Z,115nm,18.0s,baz=261,slow=36
DZM Mont Dzumac 112.70 232 *e*LR LR 14 14 21.3
comp=Z,78nm,28.2s
KBZ Khabaz 118.33 52 PKP **PKiKP 13 40 55.7 +0.4**
comp=Z,3.5nm,0.9s,baz=180,slow=7.1,SNR=3.6
ARTI Arti 127.46 36 PKPdf **PKPdf 13 41 12.7 +0.3**
ASAR Alice Springs 129.77 202 **PKPdf 13 41 17.1 -0.9**
ASAR Alice Springs 129.77 202 PKP **PKPdf 13 41 17.6 -0.5**
comp=Z,2.7nm,0.9s,baz=133,slow=1.7,SNR=22
ABKAR Akbulak array 129.91 45 **PKPdf 13 41 17.6 +0.4**
TIXI Tiksi 131.16 354 **PKPdf 13 41 19.4 +0.4**
NRIK Noril'sk 131.20 13 PKP **PKiKP 13 41 19.9 -0.2**
comp=Z,0.8nm,0.3s,baz=57,slow=4.5,SNR=2.1
WRA Warramunga Arr 133.01 205 **PKPdf 13 41 23.4 -0.7**
WRA Warramunga Arr 133.01 205 PKP **PKPdf 13 41 23.7 -0.5**
comp=Z,1.4nm,0.6s,baz=168,slow=1.8,SNR=17
BVAR Borovoye Array 135.13 37 PKP **PKPdf 13 41 27.4 +0.3**
comp=Z,3.0nm,0.7s,baz=298,slow=3.7,SNR=11
PETK Petropavlovsk- 136.41 324 PKP **PKPdf 13 41 29.9 +0.5**
comp=Z,1.7nm,0.8s,baz=95,slow=8.7,SNR=3.7
SIMJ Simiganj 138.03 58 **PKPdf 13 41 32.6 -0.5**
KURBB Kurchatov Arra 140.72 37 PKhKP PKPpre 13 41 31.1
comp=Z,0.3nm,0.5s,baz=307,slow=3.0,SNR=2.8
KURBB PKP **PKPdf 13 41 37.3 -0.1**
comp=Z,2.1nm,0.8s,baz=310,slow=2.7,SNR=6.5
KURK Kurchatov 140.72 37 PKPdf **PKPdf 13 41 38.0 +0.6**
ZAA0 Zalesovo Array 141.94 29 PKPdf **PKPdf 13 41 40.0 +0.6**
ZALV Zalesovo Beam 141.94 29 PKPdf **PKPdf 13 41 40.0 +0.5**
ZALV Zalesovo Beam 141.94 29 PKhKP PKPpre 13 41 32.3
comp=Z,1.1nm,0.6s,baz=287,slow=3.4,SNR=5.1
ZALV PKP **PKPdf 13 41 40.2 +0.7**

comp=E,9.5nm,0.7s,baz=270,slow=2.7,SNR=33
KSH Kashi 143.20 55 PKP **PKPdf 13 41 42.8 +0.4**
TARG Taragay, Kyrgy 143.93 51 PKPbc 13 41 42.1 +0.3
MAKZ Makanchi 144.59 41 PKPdf PKPbc 13 41 43.2 0.0
MKAR Makanchi Array 144.79 40 PKPdf PKPbc 13 41 44.0 +0.2
MKAR Makanchi Array 144.79 40 PKP PKPbc 13 41 44.0 +0.2
comp=Z,8.1nm,0.7s,baz=306,slow=4.0,SNR=94
HYB Hyderabad 145.16 93 *e*PKPdf **PKPbc 13 41 45.2 -0.6**
YSS Yuzhno-Sakhali 147.81 324 PKPbc **PKPbc 13 41 53.0 +0.3**
ASAJ Asahikawa 149.55 319 PKPbc **PKPbc 13 41 57.8 +0.5**
comp=Z,10nm,0.8s,baz=78,slow=9.3,SNR=7.6
WMQ Urumqi 149.59 41 PKPbc **PKPbc 13 41 57.8 +0.3**
WMQ PP **PP 13 45 36.3 +6.0**
KLR Kul'dur 151.18 337 PKP **PKPdf 13 41 53.1 -2.0**
comp=Z,1.6nm,0.8s,baz=333,slow=2.3,SNR=4.1
KLR PKPbc **PKPbc 13 42 00.9 -0.1**
comp=Z,8.8nm,0.8s,baz=54,slow=3.5,SNR=23
HEH HeiHe 151.61 343 *e*P **PKPbc 13 42 01.8 -0.2**
HEH pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 154.67 14 PKP **PKPdf 13 42 00.3 -0.1**
comp=Z,4.0nm,0.9s,baz=285,slow=1.5,SNR=15
SONM PKPbc **PKiKP 13 42 09.1 +0.1**
comp=Z,4.3nm,0.7s,baz=288,slow=1.3,SNR=7.1
BNX BinXian 155.68 339 PKP **PKPdf 13 42 04.0 +2.3**
MJAR Matsushiro Arr 156.29 309 PKPbc PKPbc 13 42 13.2
comp=Z,1.3nm,0.8s,baz=53,slow=1.9,SNR=4.2
MJAR PKPab **PKPab 13 42 30.6 -0.4**
comp=Z,2.1nm,0.8s,baz=65,slow=4.0,SNR=4.9
GTA Gaotai 159.40 36 sP PKPdf 13 42 07.3 +0.5
GTA Gaotai 159.40 36 *e*PKP **PKPdf 13 42 07.3 +0.5**
GTA Gaotai 159.40 36 LR LR
comp=Z,200nm,12.0s
GTA Gaotai 159.40 36 LR LR
comp=E,170nm,12.7s
GTA Gaotai 159.40 36 LR LR
comp=N,560nm,13.4s
GTA Gaotai 159.40 36 pmax pmax
comp=Z,3.0nm,1.2s
KSRS Korea Array 162.31 325 PKPab **PKPab 13 42 56.7 -0.2**
comp=Z,2.8nm,1.0s,baz=32,slow=4.7,SNR=6.0
BTO Baotou 162.34 13 *e*PKP **PKPdf 13 42 04.8 -5.1**
BTO pPKP **pPKPdf 13 42 11.4 -2.6**
BTO sPKP 13 42 15.9
CMAR Chiang Mai Arr 163.98 105 PKP **PKPdf 13 42 12.1 +0.1**
comp=Z,0.8nm,0.8s,baz=219,slow=1.4,SNR=7.7
CMAR PKPab **PKPab 13 43 04.8 -0.2**
comp=Z,3.5nm,0.6s,baz=238,slow=4.3,SNR=25
HNS HongShan 166.10 2 ⇓PKP **PKPdf 13 42 14.8 +1.6**
PZH PanZhiHua 167.38 73 PKP **PKPdf 13 42 13.9 -0.8**
XAN Xi'an 168.09 26 ⇑PKP **PKPdf 13 42 15.4 +0.6**
NJ2 Nanjing 170.86 340 *e*PKP **PKPdf 13 42 16.6 +0.1**

WEL 17 13:25:50.5±1.0, 38°S±8°×18°0E±°, h12km, M3.5/19, ML3.8/21, MLv3.5/19, Error ellipse: s-maj=11.1km s-min=7.8km az=178.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.11**	**262**	P	Pb	13 26 11.6	0.0
MXZ	**Matakaoa Point**	**1.19**	**275**	P	Pn	13 26 12.2	-0.8
MXZ				S	Sb	13 26 28.5	+0.2
PUZ	**Puketiti**	**1.28**	**251**	P	Pn	13 26 14.2	-0.1
PUZ				S	Sg	13 26 31.7	-0.2
PKGZ	**Pakihiroa**	**1.38**	**261**	P	Pn	13 26 15.2	-0.3
PKGZ				S	Sb	13 26 33.8	+0.1
CNGZ	**Carnagh Statio**	**1.50**	**236**	P	Pn	13 26 17.3	+0.1
HAZ	**Te Kaha**	**1.60**	**266**	P	Pn	13 26 18.4	-0.2
HAZ				S	Sn	13 26 39.3	+0.2
RUGZ	**Raukumara Rang**	**1.71**	**259**	P	Pn	13 26 19.8	-0.4
TKGZ	**Te Karaka**	**1.72**	**243**	P	Pn	13 26 20.4	+0.2
TKGZ				S	Sb	13 26 42.9	-0.7
RIGZ	**Rimuhau**	**1.91**	**236**	P	Pn	13 26 22.9	0.0
MWZ	**Matawai**	**1.91**	**249**	P	Pn	13 26 22.8	-0.1
RAGZ	**Rawiri**	**2.05**	**245**	S	Sn	13 26 51.0	+0.5
KNZ	**Kokohu**	**2.15**	**230**	P	Pn	13 26 25.8	-0.3
URZ	**Urewera**	**2.20**	**254**	P	Pn	13 26 26.7	-0.2
URZ				S	Sn	13 26 54.5	+0.4
SNGZ	**Shannon Statio**	**2.23**	**239**	P	Pn	13 26 27.3	0.0
SNGZ				S	Sn	13 26 55.4	+0.6
RTZ	**Ruatahuna**	**2.41**	**246**	P	Pn	13 26 29.8	-0.1
RTZ				S	Sn	13 26 59.6	+0.2
RAHZ	**Arahi**	**2.47**	**239**	P	Pn	13 26 30.6	0.0
RAHZ				S	Sn	13 27 01.3	+0.6
MUGZ	**Murupara**	**2.52**	**250**	P	Pn	13 26 31.2	0.0
MUGZ				S	Sn	13 27 01.8	-0.2
MTHZ	**Maungataniwha**	**2.61**	**242**	P	Pn	13 26 32.3	-0.3
MTHZ				S	Sn	13 27 04.0	-0.2
TARZ	**Mount Tarawera**	**2.66**	**257**	P	Pn	13 26 33.1	-0.2
RRRZ	**Republican Roa**	**2.68**	**254**	P	Pn	13 26 33.2	-0.3
ARHZ	**Aropaoanui**	**2.72**	**233**	P	Pn	13 26 34.0	+0.1
NMHZ	**Naumai**	**2.75**	**238**	P	Pn	13 26 34.3	-0.2
TGRZ	**Tauranga**	**2.81**	**268**	P	Pn	13 26 35.1	0.0
PRRZ	**Plateau Road**	**2.81**	**252**	P	Pn	13 26 34.9	-0.4
KARZ	**Kaharoa**	**2.83**	**262**	P	Pn	13 26 35.6	0.0
CKHZ	**Cape Kidnapper**	**2.91**	**226**	P	Pn	13 26 36.7	0.0
BKZ	**Black Stump Fm**	**3.00**	**239**	P	Pn	13 26 37.6	-0.3
MCHZ	**McNeill Hill**	**3.01**	**233**	P	Pn	13 26 37.9	-0.1
PWZ	**Pawanui**	**3.29**	**223**	P	Pn	13 26 40.7	-1.1
CTZ	**Chatham Island**	**6.65**	**157**	P	Pn	13 27 27.8	-0.1
CTZ				S	Sn	13 28 37.3	-6.3

AEIC 17 13:32:40.0±1.1, 56°1N±0°2×149°3W±0°1, h6km±9km, Error ellipse: s-maj=22.6km s-min=10.7km az=174.0
NEIC 17 13:32:39.0±0.8, 56°3N±0°1×149°3W±0°1, h20km±11km, ML3.0/28, ML2.8(AEIC), Error ellipse: s-maj=16.2km s-min=9.5km az=186.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.35**	**311**		Pn	13 33 16.1	-0.3
KDAK					Sn	13 33 44.5	-0.1
OHAK	**Old Harbor**	**2.40**	**295**		Pn	13 33 16.0	-1.0
OHAK					Sn	13 33 44.0	-1.8
SYI	**Shuyak Island**	**2.88**	**326**		Pn	13 33 23.6	-0.1
SYI	**Shuyak Island**	**2.88**	**326**	IAML		13 34 36.9	
	comp=E,34nm,1.0s						
SYI				IAML		13 35 10.0	
	comp=N,40nm,1.2s						
CNPM	**China Poot**	**3.42**	**343**		Pn	13 33 31.5	+0.4
CNPM	**China Poot**	**3.42**	**343**	IAML		13 34 17.8	
	comp=E,14nm,0.9s						
Q19K	**Cape Douglas,**	**3.55**	**320**	Pn	Pn	13 33 32.5	-0.3
BRSE	**Bradley Lake S**	**3.56**	**348**		Pn	13 33 33.0	0.0
BRLK	**Bradley Lake**	**3.60**	**347**	Pn	Pn	13 33 33.3	-0.2
KAHG	**Katmai Hook Gl**	**3.61**	**310**		Pn	13 33 34.1	+0.4
ACHA	**Angle Creek He**	**3.81**	**303**	Pn	Pn	13 33 36.5	0.0
SEW	**Seward**	**3.84**	**359**		Pn	13 33 37.0	+0.2
KJL	**Kejulik**	**3.86**	**300**		Pn	13 33 37.9	+0.8
ANCK	**Angle Creek**	**3.89**	**302**		Pn	13 33 38.8	+1.3
ILSW	**Iliamna Southw**	**4.24**	**333**		Pn	13 33 42.2	-0.3
ILSW	**Iliamna Southw**	**4.24**	**333**	IAML		13 34 41.8	
	comp=N,22nm,1.2s						
PLK1	**Peulik 1**	**4.28**	**294**		Pn	13 33 43.1	+0.2
HIN	**Hinchinbrook I**	**4.39**	**18**		Pn	13 33 44.2	-0.1
KAIM	**Kayak Island**	**4.48**	**33**	Pn	Pn	13 33 46.0	+0.4
PWL	**Port Wells**	**4.62**	**6**	Pn	Pn	13 33 47.5	-0.1
EYAK	**Cordova Ski Ar**	**4.67**	**22**	Pn	Pn	13 33 47.8	-0.4
O18K	**Koktuh Hills**	**4.77**	**321**	Pn	Pn	13 33 48.8	-0.8
O18K				IAML		13 35 56.5	
	comp=E,13nm,1.1s						
P17K	**Kvichak River**	**4.82**	**310**		Pn	13 33 50.6	+0.3
SPU	**Mount Spurr**	**5.13**	**345**	Pn	Pn	13 33 54.1	-0.4
SPU				IAML		13 35 01.0	
	comp=N,8.7nm,1.1s						
SPU				IAML		13 35 32.2	
	comp=E,10nm,0.9s						
BMRM	**Bremner River**	**5.30**	**26**		Pn	13 33 57.0	+0.1
N19K	**Bonanza Creek**	**5.30**	**331**	Pn	Pn	13 33 56.5	-0.5
N19K				IAML		13 35 59.5	
	comp=N,4.8nm,0.8s						
STLK	**Strandline Lak**	**5.40**	**347**	Pn	Pn	13 33 58.0	-0.4
MESA	**MESA**	**5.51**	**42**	Pn	Pn	13 33 60.0	+0.1
KLU	**Klutina**	**5.51**	**17**		Pn	13 34 00.0	+0.2
GHO	**Glory Hole Cre**	**5.52**	**2**		Pn	13 34 00.1	+0.2
N18K	**Kilae Creek**	**5.61**	**325**	Pn	Pn	13 34 01.1	-0.1
VRDI	**Verde Repeater**	**5.82**	**29**	Pn	Pn	13 34 03.9	-0.3
KIAG	**Kiagna River**	**5.90**	**35**		Pn	13 34 04.8	-0.4
GLB	**Gilahina Butte**	**5.91**	**26**	Pn	Pn	13 34 05.4	+0.2
BALM	**Baldy**	**5.99**	**34**		Pn	13 34 06.1	-0.3
PCA	**Pinnacle**	**6.12**	**48**		Pn	13 34 07.4	-0.7
M18K	**Stony River**	**6.23**	**330**		Pn	13 34 09.6	0.0
PNL	**Peninsula**	**6.26**	**53**		Pn	13 34 09.5	-0.6
BCPM	**Bancas Point**	**6.30**	**50**		Pn	13 34 10.2	-0.4
O15K	**Ungalikthiuk R**	**6.35**	**302**		Pn	13 34 11.4	+0.2
L19K	**White Mountain**	**6.58**	**337**	Pn	Pn	13 34 14.1	-0.3
M16K	**Timber Creek**	**6.94**	**317**	Pn	Pn	13 34 19.4	+0.1
O29M	**Mount Kennedy**	**6.94**	**50**		Pn	13 34 19.4	-0.1
O14K	**Tigyukauivet M**	**7.07**	**300**	Pn	Pn	13 34 21.0	-0.1
L16K	**Owhat River**	**7.57**	**320**	Pn	Pn	13 34 28.2	+0.3
HYT	**Haines Junctio**	**7.66**	**49**	Pn	Pn	13 34 29.1	-0.2
BPAW	**Bear Paw Mtn.**	**7.90**	**355**	Pn	Pn	13 34 32.5	+0.1
K17K	**Iditarod**	**7.92**	**328**	Pn	Pn	13 34 32.5	-0.2
M29M	**Somme Creek**	**8.29**	**37**	Pn	Pn	13 34 38.1	+0.2
N31M	**Braeburn, Yuko**	**8.72**	**48**	Pn	Pn	13 34 43.2	-0.6

JMA 17 13:35:55.6±0.2, 28°1N±0°5×128°0E±0°6, h15km±2km, MV3.3/12, NW OFF OKINAWAJIMA IS
IDC 17 13:35:55.1±1.0, 27°80N×127°59E, h0km, mb3.4/5, mbtmp3.5/6, ML3.3/1, MS3.5/2, Error ellipse: s-maj=46.3km s-min=15.4km az=64.0
ISC 17 13:35:56.9±1.7, 27°93N±0°05×128°18E±0°06, h13km±12km, n18, σ1°61/22, mb3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.66**	**148**	P	**Pn**	**13 36 12.1**	**0.0**
JOKE				*e*S	**Sn**	**13 36 23.6**	**+1.3**
JTK	**Tokunoshima**	**0.70**	**101**	P	**Pn**	**13 36 12.2**	**-0.4**
JTK				S	**Sn**	**13 36 24.1**	**+0.8**
JIH	**Iheya**	**0.91**	**192**	*i* P	**Pb**	**13 36 15.0**	**+0.5**
JIH				S	**Sn**	**13 36 29.2**	**+0.9**
JYRO	**Yoronjima**	**0.93**	**165**	*i* P	**Pn**	**13 36 16.4**	**+0.6**
JYRO				S	**Sn**	**13 36 31.5**	**+2.6**
JAMN	**Amaminishikomi**	**0.94**	**70**	*i* P	**Pg**	**13 36 14.9**	**-0.2**
JOW	**Kunigami**	**1.09**	**175**	Pn	**Pn**	**13 36 18.5**	**+0.6**
	179nm,0.3s,baz=117,slow=18,SNR=313						
JOW				Sn	**Sn**	**13 36 35.2**	**+2.2**
	64nm,0.3s,baz=152,slow=24,SNR=9.8						
JOW	**Kunigami**	**1.09**	**175**	*i* P	**Pn**	**13 36 18.6**	**+0.6**
JAM	**Amami Oshima**	**1.35**	**69**	P	**Pn**	**13 36 21.2**	**-0.3**
JAM				*e*S	**Sg**	**13 36 40.4**	**-0.1**
JNTH	**Nagotoyohara**	**1.41**	**186**	P	**Pn**	**13 36 22.9**	**+0.6**
JAGN	**Aguni-jima**	**1.57**	**212**	P	**Pn**	**13 36 25.1**	**+0.6**
JNU	**Nakatsue**	**5.68**	**24**	Pn	**Pn**	**13 37 25.1**	**+4.0**
	0.9nm,0.3s,baz=202,slow=7.7,SNR=12						
	24nm,0.9s						
KSRS	**Korea Array**	**9.50**	**359**	LR	LR	13 41 59.7	
	comp=Z,99nm,18.2s,baz=180,slow=38						
SONM	**Songino Array**	**26.12**	**325**	P	**P**	**13 41 29.5**	**-1.3**
	0.5nm,0.7s,baz=134,slow=8.3,SNR=2.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**43.61**	**315**	P	**P**	**13 43 57.5**	**-3.3**
	0.2nm,0.6s,baz=102,slow=8.5,SNR=2.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**47.96**	**172**	P	**P**	**13 44 34.5**	**-1.0**
	1.0nm,1.2s,baz=354,slow=7.9,SNR=6.4						
	1.0nm,1.2s						
ASAR	**Alice Springs**	**51.59**	**173**	P	**P**	**13 45 03.4**	**+0.3**
	0.2nm,0.7s,baz=358,slow=8.3,SNR=4.9						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**71.37**	**330**	LR	LR	14 21 39.3	
	comp=Z,70nm,18.7s,baz=342,slow=38						
NOA	**NORSAR Array B**	**77.78**	**334**	P	**P**	**13 47 54.3**	**+0.7**
	0.7nm,0.9s,baz=74,slow=5.5,SNR=2.5						
	0.7nm,0.9s						

NEIC 17 13:46:57.2±0.8, 61°41N±0°02×150°05W±0°04, h48km±5km, Error ellipse: s-maj=4.1km s-min=1.5km az=217.0
AEIC 17 13:46:58.0±0.9, 61°39N±0°02×150°02W±0°07, h46km±2km, ML2.7, ML2.8/127(NEIC), Error ellipse: s-maj=4.9km s-min=3.4km az=71.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.26**	**202**		Pn	13 47 04.5	-1.8
FIS				IAML		13 47 14.6	
	comp=E,996nm,0.4s						
RC01	**Rabbit Creek A**	**0.33**	**155**		Sn	13 47 13.2	-0.2
RC01	**Rabbit Creek A**	**0.33**	**155**		Pn	13 47 06.0	-1.1
RC01	**Rabbit Creek A**	**0.33**	**155**	IAML		13 47 13.4	
	comp=N,1μm,0.3s						
RC01				IAML		13 47 18.0	
	comp=E,775nm,0.2s						
M22K	**Willow**	**0.37**	**353**		Sn	13 47 13.2	-1.0
M22K	**Willow**	**0.37**	**353**		Pn	13 47 06.0	-1.5
M22K	**Willow**	**0.37**	**353**	IAML		13 47 17.5	
	comp=N,729nm,0.3s						
M22K				IAML		13 47 18.4	
	comp=E,639nm,0.5s						
PMR	**Palmer**	**0.47**	**64**		Sn	13 47 15.7	-0.5
PMR	**Palmer**	**0.47**	**64**		Pn	13 47 07.6	-1.1
PMR	**Palmer**	**0.47**	**64**	IAML		13 47 16.5	
	comp=E,716nm,0.2s						
PMR				IAML		13 47 16.5	
	comp=N,1μm,0.5s						
GHO	**Glory Hole Cre**	**0.65**	**53**		Pn	13 47 10.2	-0.8
GHO				IAML		13 47 22.3	
	comp=N,571nm,0.2s						
GHO	**Glory Hole Cre**	**0.65**	**53**		Sn	13 47 20.4	0.0
KNK	**Knik Glacier**	**0.75**	**87**		Pn	13 47 11.7	-0.6
KNK	**Knik Glacier**	**0.75**	**87**		Sn	13 47 24.0	+1.3
KNK	**Knik Glacier**	**0.75**	**87**	IAML		13 47 24.8	
	comp=N,428nm,0.5s						
KNK				IAML		13 47 27.1	
	comp=E,390nm,0.2s						
CAPN	**Captain Cook N**	**0.83**	**222**		Pn	13 47 13.6	+0.2
STLK	**Strandline Lak**	**0.88**	**278**		Sn	13 47 24.9	-0.9
STLK	**Strandline Lak**	**0.88**	**278**		Pn	13 47 13.1	-1.0
STLK	**Strandline Lak**	**0.88**	**278**	IAML		13 47 25.6	
	comp=N,618nm,0.3s						
STLK				IAML		13 47 27.9	
	comp=E,270nm,0.3s						
SLKM	**Skilak Lake**	**0.89**	**186**		Pn	13 47 12.8	-1.4
SLKM				IAML		13 47 27.4	
	comp=N,369nm,0.2s						
SML	**Sawmill**	**0.91**	**62**		Pn	13 47 13.8	-0.7
SML				IAML		13 47 30.2	
	comp=N,414nm,0.7s						
O22K	**Cooper Landing**	**0.92**	**171**		Sn	13 47 26.9	+0.3
O22K	**Cooper Landing**	**0.92**	**171**		Pn	13 47 13.6	-0.9
O22K	**Cooper Landing**	**0.92**	**171**	IAML		13 47 28.5	
	comp=N,870nm,0.3s						
O22K				IAML		13 47 34.8	
	comp=E,534nm,0.3s						
SKT	**Skwentna**	**0.94**	**310**		Sn	13 47 25.9	-1.3
SKT	**Skwentna**	**0.94**	**310**		Pn	13 47 13.5	-1.3
SKT	**Skwentna**	**0.94**	**310**	IAML		13 47 26.9	
	comp=E,702nm,0.5s						
SKT				IAML		13 47 27.9	
	comp=N,603nm,0.6s						
SPCG	**Spurr Capps Gl**	**0.97**	**265**		Pn	13 47 14.4	-0.9
PWL	**Port Wells**	**0.97**	**122**		Sn	13 47 29.0	+1.0
PWL	**Port Wells**	**0.97**	**122**		Pn	13 47 14.9	-0.4
PWL	**Port Wells**	**0.97**	**122**	IAML		13 47 30.3	
	comp=N,983nm,0.4s						
PWL				IAML		13 47 30.7	
	comp=E,784nm,0.2s						
SPU	**Mount Spurr**	**1.00**	**259**		Pn	13 47 14.2	-1.5
SPU				IAML		13 47 28.5	
	comp=N,155nm,0.3s						
SPU				IAML		13 47 34.7	
	comp=E,146nm,0.4s						
CUT	**Chulitna**	**1.03**	**354**		Pn	13 47 15.2	-0.9
CUT	**Chulitna**	**1.03**	**354**		Sn	13 47 29.0	-0.3
SEW	**Seward**	**1.31**	**168**	Pn	Pn	13 47 19.2	-0.7
SCM	**Sheep Creek Mo**	**1.36**	**70**		Pn	13 47 20.6	0.0
SCM				IAML		13 47 40.7	
	comp=N,182nm,0.9s						
SCM				IAML		13 47 41.0	
	comp=E,149nm,0.5s						
RDT	**Redoubt**	**1.42**	**236**		Pn	13 47 20.5	-1.0
GLI	**Glacier Island**	**1.51**	**108**		Pn	13 47 21.9	-0.7
GLI				IAML		13 47 42.3	
	comp=N,162nm,0.5s						
GLI				IAML		13 47 46.5	
	comp=E,169nm,0.6s						
M20K	**Styx River**	**1.57**	**290**		Pn	13 47 22.9	-0.6
M20K				IAML		13 47 45.4	
	comp=N,103nm,1.0s						
M20K				IAML		13 47 46.0	
	comp=E,116nm,0.7s						
BRLK	**Bradley Lake**	**1.68**	**195**		Pn	13 47 24.2	-0.8
BRLK				IAML		13 47 48.9	
	comp=E,154nm,0.6s						
BRLK				IAML		13 47 50.5	
	comp=N,136nm,0.5s						
PPLA	**Purkeypile**	**1.83**	**327**		Pn	13 47 26.7	-0.3
O20K	**Slope Mountain**	**1.83**	**226**		Pn	13 47 26.7	-0.4
HOM	**Homer**	**1.91**	**206**	Pn	Pn	13 47 27.6	-0.5
CNPM	**China Poot**	**1.96**	**198**	Pn	Pn	13 47 28.1	-0.7
CNPM				IAML		13 47 56.9	
	comp=E,100nm,0.7s						
CNPM				IAML		13 47 58.2	
	comp=N,119nm,0.8s						
M24K	**Tolsona, Glenn**	**1.97**	**67**		Pn	13 47 29.3	+0.3
M24K				IAML		13 48 01.3	
	comp=E,119nm,0.9s						
M24K				IAML		13 48 01.3	
	comp=N,110nm,0.9s						
KLU	**Klutina**	**1.97**	**85**		Pn	13 47 28.6	-0.4
KLU				IAML		13 48 02.7	
	comp=E,64nm,0.5s						
KLU				IAML		13 48 04.0	
	comp=N,69nm,0.5s						
HIN	**Hinchinbrook I**	**1.98**	**118**	Pn	Pn	13 47 28.7	-0.4
HIN				IAML		13 48 01.1	
	comp=N,123nm,0.8s						
HIN				IAML		13 48 08.4	
	comp=E,122nm,1.0s						
TRF	**Thorofare Moun**	**2.08**	**357**		Pn	13 47 30.3	-0.2
TRF	**Thorofare Moun**	**2.08**	**357**	IAML		13 48 03.5	
	comp=N,45nm,0.3s						
RND	**Reindeer**	**2.10**	**14**	IAML		13 48 08.7	
	comp=E,39nm,1.1s						
L20K	**Farewell, AK**	**2.13**	**303**		Pn	13 47 30.7	-0.4
M19K	**Big River Lodg**	**2.15**	**286**	IAML		13 48 14.1	
	comp=N,42nm,1.2s						
KTH	**Kantishna Hill**	**2.22**	**349**		Pn	13 47 32.9	+0.5
KTH	**Kantishna Hill**	**2.22**	**349**	IAML		13 48 00.9	
	comp=E,41nm,0.8s						
KTH				IAML		13 48 13.1	
	comp=N,38nm,0.9s						
N19K	**Bonanza Creek**	**2.24**	**257**		Pn	13 47 32.3	-0.4
N19K	**Bonanza Creek**	**2.24**	**257**	IAML		13 48 02.2	
	comp=N,36nm,1.1s						
EYAK	**Cordova Ski Ar**	**2.25**	**110**		Pn	13 47 31.8	-0.8
CAST	**Castle Rocks**	**2.26**	**336**		Pn	13 47 32.7	-0.2
CAST	**Castle Rocks**	**2.26**	**336**	IAML		13 48 18.9	
	comp=E,37nm,0.7s						
L19K	**White Mountain**	**2.43**	**291**		Pn	13 47 35.1	-0.2
N25K	**Chitina, Valde**	**2.61**	**83**		Pn	13 47 37.1	-0.6
N25K	**Chitina, Valde**	**2.61**	**83**	IAML		13 48 17.0	
	comp=E,30nm,0.5s						
N25K				IAML		13 48 19.4	
	comp=N,38nm,0.5s						
BMRM	**Bremner River**	**2.66**	**97**		Pn	13 47 37.2	-1.2
GOAT	**Goat Mountain**	**2.70**	**105**		Pn	13 47 38.1	-0.9
CHUM	**Lake Minchumin**	**2.72**	**338**		Pn	13 47 38.8	-0.4
K20K	**Telida**	**2.73**	**318**		Pn	13 47 38.9	-0.5
BPAW	**Bear Paw Mtn.**	**2.76**	**351**		Pn	13 47 39.0	-0.8
WACK	**Wrangell Chich**	**2.78**	**75**		Pn	13 47 40.1	-0.1
N18K	**Kilae Creek**	**2.94**	**259**		Pn	13 47 41.6	-0.7
N18K	**Kilae Creek**	**2.94**	**259**	IAML		13 48 15.8	
	comp=N,23nm,0.5s						
O18K	**Koktuh Hills**	**2.98**	**241**		Pn	13 47 41.8	-1.0
O18K	**Koktuh Hills**	**2.98**	**241**	IAML		13 48 17.3	
	comp=E,27nm,1.1s						
O18K				IAML		13 48 31.6	
	comp=N,26nm,1.1s						
GLB	**Gilahina Butte**	**2.99**	**86**		Pn	13 47 42.5	-0.4
GLB	**Gilahina Butte**	**2.99**	**86**	IAML		13 48 33.0	
	comp=N,30nm,0.8s						
SYI	**Shuyak Island**	**3.03**	**204**		Pn	13 47 42.7	-0.7
SYI	**Shuyak Island**	**3.03**	**204**	IAML		13 48 30.9	
	comp=N,39nm,0.8s						
SYI				IAML		13 48 39.8	
	comp=E,16nm,1.0s						
VRDI	**Verde Repeater**	**3.17**	**90**		Pn	13 47 44.5	-1.1
TTA	**Tatalina**	**3.21**	**301**		Pn	13 47 45.0	-0.9
L18K	**Granite Mounta**	**3.27**	**288**		Pn	13 47 46.2	-0.6
HDA	**Harding Lake**	**3.34**	**24**	IAML		13 48 47.5	
	comp=N,29nm,1.0s						
HDA				IAML		13 48 51.0	
	comp=E,20nm,1.0s						
J20K	**Nowinta River**	**3.38**	**328**		Pn	13 47 48.0	-0.3
J20K	**Nowinta River**	**3.38**	**328**	IAML		13 48 28.2	
	comp=E,20nm,0.4s						
J20K				IAML		13 48 51.8	
	comp=N,19nm,0.6s						
CCB	**Clear Creek Bu**	**3.43**	**16**	IAML		13 48 45.6	
	comp=E,16nm,0.8s						
M26K	**Nabesna, AK**	**3.48**	**70**	IAML		13 48 49.9	
	comp=N,19nm,0.9s						
M26K				IAML		13 48 50.5	
	comp=E,18nm,1.0s						
L26K	**Log Cabin Wild**	**3.53**	**59**	IAML		13 48 51.3	
	comp=N,29nm,0.4s						
L26K				IAML		13 48 51.4	
	comp=E,29nm,0.6s						
M17K	**Holitna River**	**3.57**	**274**		Pn	13 47 50.3	-0.5
M17K	**Holitna River**	**3.57**	**274**	IAML		13 48 59.6	
	comp=N,23nm,1.1s						
M17K				IAML		13 49 13.9	
	comp=E,12nm,1.1s						
COLA	**College**	**3.64**	**15**	IAML		13 48 54.9	
	comp=E,30nm,0.5s						
J19K	**Poorman**	**3.68**	**318**		Pn	13 47 52.0	-0.3
J19K	**Poorman**	**3.68**	**318**	IAML		13 48 51.2	
	comp=N,13nm,1.2s					

2.4nm,0.5s
MAKZ ⇑Lg Lg 14 09 00.2
11nm,0.8s
KPKS Kokpek 4.32 280 *e*P **Pn 14 07 56.9 +0.9**
2.2nm,0.2s
KPKS *e*S **Sb 14 08 59.0 +0.3**
23nm,0.4s
KPKS Kokpek 4.32 280 *e*P Pb 14 08 36.2 +29
1.2nm,0.4s
KPKS *e*S 14 10 05.5
6.7nm,0.7s
TNSS Tian-Shan 5.57 274 *e*P Pb 14 08 21.1 -7.5
0.5nm,0.1s
TNSS *e*S **Sb 14 09 39.5 +4.4**
2.5nm,0.4s
KURBB Kurchatov Arra 8.76 334 ⇓Pn **Pn 14 08 54.3 -2.6**
0.6nm,0.8s
KURBB ⇓Lg Lg 14 11 19.3
6.9nm,0.7s
KURK Kurchatov 8.81 335 ⇑Pn **Pn 14 08 56.3 -1.2**
0.4nm,0.5s
KURK ⇑Lg Lg 14 11 20.3
5.7nm,1.0s

SVSA 17 14:24:38.9±1.1, 37°.76N×25°.44W, h5km, ML1.2(INMG), **Error ellipse: s-maj=3.4km s-min=2.8km az=80.0, #DIST_RANGE: LOCAL #IPMA_REGION: Macio do Fogo, Açores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRON	**Lagoa das Cont**	**0.05**	**80**	*e*P	Pg	14 24 40.9	+0.6
PGRON				*e*S	Sg	14 24 42.8	+1.6
PGRON	160nm,0.1s			*i* AML	AML	14 24 44.0	
PGRON	89nm,0.1s			*i* AML	AML	14 24 44.1	
PGRON	189nm,0.2s			*i* AML	AML	14 24 44.2	
CMLA	**Cha da Macela**	**0.07**	**271**	*e*S	Sg	14 24 43.1	+1.4
CMLA	94nm,0.2s			*i* AML	AML	14 24 43.8	
CMLA	80nm,0.3s			*i* AML	AML	14 24 44.0	
CMLA	114nm,0.4s			*i* AML	AML	14 24 45.9	

SVSA 17 14:25:29.7±0.9, 37°.76N×25°.44W, h5km, ML1.5(INMG), **Error ellipse: s-maj=2.5km s-min=2.4km az=64.0, #DIST_RANGE: LOCAL #IPMA_REGION: Macio do Fogo, Açores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRON	**Lagoa das Cont**	**0.06**	**80**	*e*P	Pg	14 25 31.9	+0.7
PGRON				*e*S	Sg	14 25 33.6	+1.4
PGRON	485nm,0.3s			*i* AML	AML	14 25 34.1	
PGRON	252nm,0.2s			*i* AML	AML	14 25 34.9	
PGRON	351nm,0.2s			*i* AML	AML	14 25 35.0	
CMLA	**Cha da Macela**	**0.06**	**272**	*e*P	Pg	14 25 31.9	+0.7
CMLA				*e*S	Sg	14 25 33.4	+1.1
CMLA	165nm,0.3s			*i* AML	AML	14 25 33.7	
CMLA	142nm,0.3s			*i* AML	AML	14 25 33.9	
CMLA	64nm,0.3s			*i* AML	AML	14 25 35.1	

*IDC **17** 14:27:13.5±1.2, 54°.81N×164°.77E, h0km, mb3.6/6, mbtmp3.5/7, ML2.5/1, Error ellipse: s-maj=43.9km s-min=19.1km az=160.0*
*KRSC **17** 14:27:14.1±1.3, 54°.81N×164°.85E, h62km±25km, Ml3.7*
ISC 17 14:27:14.3±1.7, 54°.91N±0°.05×164°.61E±0°.05, h5km±12km, n37, σ1°51/53, mb3.6/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.84**	**69**	*e*P	**Pg**	**14 27 30.8**	**+0.5**
BKI				*e*S	**Sg**	**14 27 41.7**	**+0.5**
KBTR	**Krutoberegovo**	**1.65**	**323**	*e*P	**Pn**	**14 27 43.6**	**-0.4**
KBTR				*e*S	**Sn**	**14 28 04.8**	**-0.8**
KBG	**Krutoberegovo**	**1.73**	**322**	*e*P	**Pn**	**14 27 44.8**	**-0.2**
TUMD	**Tumrok D**	**2.44**	**279**	*e*P	**Pn**	**14 27 56.8**	**+1.9**
TUMD				*e*S	**Sn**	**14 28 26.9**	**+1.8**
KMNR	**Kamenistaya**	**2.64**	**291**	*e*P	**Pn**	**14 27 59.6**	**+1.9**
KMNR				*e*S	**Sb**	**14 28 33.7**	**-1.2**
KRSR	**Krestovskiy**	**2.65**	**301**	*e*P	**Pn**	**14 27 59.4**	**+1.7**
KRSR				*e*S	**Sn**	**14 28 32.8**	**+2.6**
KIRR	**Kirishev**	**2.65**	**295**	*e*P	**Pn**	**14 27 59.3**	**+1.4**
KIRR				*e*S	**Sb**	**14 28 34.0**	**-1.2**
KLY	**Klyuchi**	**2.65**	**304**	*e*P	**Pn**	**14 27 58.4**	**+0.8**
KLY				*e*S	**Sn**	**14 28 31.3**	**+1.1**
KOZ	**Kozyrevsk**	**2.93**	**295**	*e*P	**Pn**	**14 28 04.9**	**+3.3**
KOZ				*e*S	**Sb**	**14 28 41.7**	**-1.5**
SRDR	**Sredinnyy**	**3.12**	**299**	*e*P	**Pb**	**14 28 07.9**	**-2.3**
SRDR				*e*S	**Sb**	**14 28 46.4**	**-2.1**
ESO	**Esso**	**3.52**	**289**	*e*P	**Pn**	**14 28 11.7**	**+2.1**
ESO				*e*S	**Sn**	**14 28 53.6**	**+1.9**
NLC	**Nalytchevo**	**3.56**	**243**	*e*S	**Sn**	**14 28 51.7**	**-0.9**
UGLR	**Uglovaya**	**3.81**	**246**	*e*P	**Pn**	**14 28 14.8**	**+1.0**
UGLR				*e*S	**Sn**	**14 28 59.0**	**+0.1**
AVH	**Avacha**	**3.83**	**247**	*e*P	**Pn**	**14 28 15.3**	**+1.3**
AVH				*e*S	**Sn**	**14 28 59.7**	**+0.3**
KRX	**Arik**	**3.83**	**249**	*e*P	**Pn**	**14 28 15.1**	**+1.0**
KRX				*e*S	**Sn**	**14 29 00.2**	**+0.6**
KOK	**Koryaka**	**3.87**	**248**	*e*P	**Pn**	**14 28 16.2**	**+1.6**
KOK				*e*S	**Sn**	**14 29 00.2**	**-0.2**
DALK	**Dalny**	**3.94**	**244**	*e*P	**Pn**	**14 28 16.5**	**+1.1**
DALK				*e*S	**Sn**	**14 29 00.5**	**-1.3**
PET	**Petropavlovsk**	**3.99**	**244**	*e*S	**Sn**	**14 29 02.7**	**-0.6**
INSR	**Institute**	**4.00**	**245**	*e*S	**Sn**	**14 29 02.9**	**-0.5**
GNL	**Ganaly**	**4.09**	**255**	*e*P	**Pn**	**14 28 19.9**	**+2.3**
KRMR	**Karymshinskiy**	**4.36**	**244**	*e*P	**Pn**	**14 28 22.5**	**+1.2**
KRMR				*e*S	**Sn**	**14 29 11.2**	**-1.3**
RUS	**Russkaya**	**4.39**	**238**	*e*P	**Pn**	**14 28 22.0**	**+0.4**
RUS				*e*S	**Sn**	**14 29 11.8**	**-1.3**
OSSR	**Ossora**	**4.44**	**350**	*e*P	**Pn**	**14 28 23.2**	**+1.0**
OSSR				*e*S	**Sn**	**14 29 12.6**	**-1.5**
PETK	**Petropavlovsk-**	**4.46**	**249**	Pn	**Pn**	**14 28 23.5**	**+0.9**
	1.1nm,0.3s,baz=64,slow=14,SNR=53						
PETK				Sn	**Sn**	**14 29 15.9**	**+1.1**
	1.5nm,0.3s,baz=93,slow=27,SNR=7.4						
	1.6nm,0.3s						
GRL	**Gorelyy**	**4.54**	**241**	*e*P	**Pn**	**14 28 25.4**	**+1.6**
APC	**Apacha**	**4.83**	**249**	*e*P	**Pn**	**14 28 30.6**	**+3.0**
TILK	**Tilichiki**	**5.62**	**8**	*e*P	**Pn**	**14 28 40.6**	**+2.3**
KMSK	**Kamenskaya**	**7.63**	**6**	*e*P	**Pn**	**14 29 08.5**	**+2.6**
ILAR	**Eielson Array**	**25.63**	**48**	P	**P**	**14 32 43.5**	**-0.8**
	1.2nm,0.7s,baz=259,slow=8.6,SNR=13						
	1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.16**	**176**	T	T	15 12 31.8	
	baz=359,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.17**	**176**	T	T	15 12 33.3	
	baz=359,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.18**	**176**	T	T	15 12 32.0	
	baz=359,slow=76						
YKA	**Yellowknife Ar**	**40.00**	**45**	P	**P**	**14 34 49.5**	**0.0**
	0.4nm,0.6s,baz=295,slow=8.1,SNR=5.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**49.12**	**303**	P	**P**	**14 36 03.4**	**+1.0**
	0.8nm,0.5s,baz=55,slow=7.8,SNR=8.5						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**49.74**	**297**	P	**P**	**14 36 08.0**	**+0.7**
	0.3nm,0.6s,baz=50,slow=7.6,SNR=4.7						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**67.50**	**71**	P	**P**	**14 38 11.6**	**+0.3**
	0.4nm,0.6s,baz=322,slow=5.8,SNR=3.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**82.57**	**208**	P	**P**	**14 39 37.5**	**-0.6**
	0.3nm,0.8s,baz=22,slow=5.1,SNR=2.3						
	0.3nm,0.8s						

*BGR **17** 14:35:54.4, 1°.94S×150°.46E, h33km, Ms5.8*
*MOS **17** 14:35:54.9±1.0, 3°.39S×152°.10E, h376km, mb6.4/46, Error ellipse: s-maj=7.0km s-min=4.7km az=108.7*
*BJI **17** 14:35:54.4, 3°.39S×152°.19E, h370km, mB5.9/74, mb5.6/86*
*NEIC **17** 14:35:55.6, 3°.34S×152°.13E, h368km*
*NEIC **17** 14:35:55.8, 3°.34S×152°.14E, h370km*
*NEIC **17** 14:35:55.8, 3°.34S×152°.14E, h370km, Moment Tensor Solution. Duration: 7s9 Moment tensor: Scale 1018Nm; Mrr=4.37; Mθθ3.70; Mφφ0.67; Mrθ1.26; Mrφ0.71; Mθφ-0.33; Fault plane solution: M0=4.31000×1018 NP1:φs71.37000°, δ37.46000°, λ-100.40000°. NP2:φs264.39000°, δ53.26000°, λ-82.12000°. Principal axes: T 4.0164, Plg8.0000°, Azm349.0000°; N 0.5792, Plg6.0000°, Azm80.0000°; P -4.5956, Plg80.0000°, Azm208.0000°;*
*NEIC **17** 14:35:55.8±2.8, 3°.34S±0°.09×152°.13E±0°.07, h368km±3km, mb6.4/610, Mwb6.4/57, Mww6.4/60 Error ellipse: s-maj=12.5km s-min=10.6km az=199.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=4.53; Mθθ3.87; Mφφ0.66; Mrθ1.32; Mθφ0.07; Mφr-0.52; Fault plane solution: M0=4.47000×1018 NP1:φs83.79000°, δ36.54000°, λ-99.02000°. NP2:φs274.96000°, δ53.98000°, λ-83.38000°. Principal axes: T 4.0740, Plg9.0000°, Azm0.0000°; N 0.7090, Plg5.0000°, Azm91.0000°; P -4.7830, Plg80.0000°, Azm212.0000°;*
*RSNC **17** 14:35:56.7±0.0, 3°.5±10°×15°.2E±1°.0, h368km±29km, M4.9, mb5.2, mB5.5, mBc5.9, ML4.2, MLv6.4, Mw(mB)4.9, MwMwp5.9, Mwp6.0, Hypocentre not reviewed by the ISC*
*IDC **17** 14:35:56.5±0.5, 3°.40S×152°.04E, h375km±3km, mb5.7/29, mbtmp6.4/33, Error ellipse: s-maj=7.2km s-min=5.0km az=82.0*
*IPGP **17** 14:35:56.0, 3°.39S×152°.11E, h376km, Mw6.5, Fault plane solution: NP1:φs70.00000°, δ37.00000°, λ-97.00000°. NP2:φs259.00000°, δ53.00000°, λ-85.00000°.*
*GCMT **17** 14:35:57.8±0.1, 3°.33S×152°.13E, h372km, MW6.4/177, Moment Tensor Solution. s177, c446; s168, c273; Duration: 3s8 Moment tensor: Scale 1018Nm; Mrr=4.72±.02; Mθθ3.88±.03; Mφφ0.83±.03; Mrθ1.65±.03; Mθφ0.76±.03; Mφr-0.22±.03; Best double couple: M0=4.68800×1018 NP1:φs72.00000°, δ35.00000°, λ-100.00000°. NP2:φs263.00000°, δ55.00000°, λ-83.00000°. Principal axes: T 4.3280, Plg10.0000°, Azm348.0000°; N 0.7160, Plg6.0000°, Azm79.0000°; P -5.0480, Plg79.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*DJA **17** 14:35:57.3±0.2, 3°.5S±3°×15°.2E±°, h387km, M6.2/147, mB6.5/144, mb6.3/147, Mw6.3/71, Mw(mB)6.3/144, MwMwp5.9/117, Mwp6.0/117*
*PPT **17** 14:35:57.3±0.6, 3°.40S×152°.10E, h376km±6km, mb6.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 17 14:35:55.8±0.2, 3°.44S±0°.02×152°.18E±0°.02, h375km±1km, h376km:pP-P, n2386, σ1°74/3014, mb6.3/531, 127C-230D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.75**	**181**		**Pn**	**14 36 43.9**	**+0.3**
BULU	**Kimbe**	**2.79**	**222**	P	**Pn**	**14 36 55.6**	**+0.2**
BULU	**Kimbe**	**2.79**	**222**	S	**S**	**14 37 46.9**	**+3.5**
MANU	**Manus Island**	**5.00**	**286**	Pn	**Pn**	**14 37 17.0**	**+0.2**
PMG	**Port Moresby**	**7.75**	**220**	P	**P**	**14 37 48.2**	**-0.2**
	762nm,0.4s,baz=67,slow=6.0,SNR=378						
PMG				S	**S**	**14 39 18.8**	**0.0**
	1μm,1.2s,baz=12,slow=7.4,SNR=4.4						
TATA	**Tatamba Isabel**	**9.04**	**123**	P	**P**	**14 38 04.6**	**+1.0**
SAVO	**Savo Central**	**9.47**	**127**	P	**P**	**14 38 10.2**	**+1.7**
HNR	**Honiara**	**9.75**	**128**		**Pn**	**14 38 11.0**	**+0.1**
HNR	**Honiara**	**9.75**	**128**	P	**P**	**14 38 12.9**	**+1.4**
	3μm,0.4s,baz=227,slow=2.8,SNR=109						
HNR				S	**S**	**14 40 04.7**	**+3.1**
	5μm,1.1s,baz=356,slow=18,SNR=6.1						
HNR	**Honiara**	**9.75**	**128**	P	**P**	**14 38 13.3**	**+1.8**
HNR	**Honiara**	**9.75**	**128**	⇑P	**P**	**14 38 11.7**	**+0.2**
ALEG	**Aligegeo Malai**	**9.98**	**122**	P	**P**	**14 38 15.8**	**+1.7**
NGOA	**Tingoa Renbel**	**11.23**	**136**	P	**Pn**	**14 38 30.4**	**+2.1**
JAY	**Jayapura**	**11.50**	**274**	P	**Pn**	**14 38 31.6**	**0.0**
	580nm,0.8s,baz=111,slow=5.0,SNR=74						
JAY				S	**S**	**14 40 37.8**	**-1.3**
	218nm,1.0s,baz=192,slow=16,SNR=1.3						
JAY	**Jayapura**	**11.50**	**274**	P	**Pn**	**14 38 32.4**	**+0.8**
HURO	**Huro Makira**	**11.91**	**126**	P	**Pn**	**14 38 36.5**	**+0.2**
GENI	**Genyem**	**12.03**	**274**	P	**Pn**	**14 38 39.7**	**+2.0**
GENI	**Genyem**	**12.03**	**274**	P	**Pn**	**14 38 38.8**	**+1.1**
	32μm2μm,1.0s						
GENI	**Genyem**	**12.03**	**274**	⇑P	**Pn**	**14 38 37.4**	**-0.4**
MMPI	**Merauke**	**12.75**	**246**	P	**Pn**	**14 38 47.5**	**+1.3**
	59μm42μm5μm,0.6s						
SMPI	**Sarmi**	**13.53**	**276**	P	**Pn**	**14 38 55.3**	**0.0**
	32μm3μm,1.2s						
COEN	**Coen**	**13.73**	**220**		**P**	**14 38 55.9**	**+0.4**
COEN	**Coen**	**13.73**	**220**	P	**Pn**	**14 38 57.7**	**+0.2**
	comp=Z,0.0nmcomp=Z,1μm,1.1s						
COEN	**Coen**	**13.73**	**220**	P	**Pn**	**14 38 58.6**	**+1.1**
COEN	**Coen**	**13.73**	**220**	⇓P	**Pn**	**14 38 57.4**	**-0.2**
LUES	**Luesalemba Tem**	**15.40**	**118**	P	**Pn**	**14 39 15.7**	**-0.9**
SRPI	**Serui, Papua**	**16.00**	**275**	P	**Pn**	**14 39 22.2**	**-1.5**
BAKI	**Biak**	**16.21**	**278**	P	**Pn**	**14 39 24.7**	**-1.5**
	comp=Z,40μmcomp=Z,3μm,1.0s						
MTSU	**Mount Surprise**	**16.52**	**207**	P	**Pn**	**14 39 28.7**	**-0.9**
MTSU	**Mount Surprise**	**16.52**	**207**	P	**Pn**	**14 39 29.0**	**-0.6**
AUAYR	**Ayr State High**	**16.71**	**196**	P	**Pn**	**14 39 30.4**	**-1.4**
GUMO	**Guam**	**18.41**	**337**	P	**P**	**14 39 46.4**	**+0.4**
	comp=Z,5μm,1.0s,baz=168,slow=5.5,SNR=86						
GUMO				S	**S**	**14 42 57.1**	**+0.6**
	comp=Z,698nm,1.2s,baz=270,slow=24,SNR=410						
KMPI	**Kaimana, Papua**	**18.44**	**269**	P	**P**	**14 39 48.6**	**+2.1**
	comp=Z,26μmcomp=Z,79μmcomp=Z,8μm,1.1s						
FAKI	**Fak Fak**	**19.91**	**271**	P	**P**	**14 40 00.7**	**-0.8**
FAKI	**Fak Fak**	**19.91**	**271**	P	**P**	**14 40 02.4**	**+1.0**
FAKI	**Fak Fak**	**19.91**	**271**	P	**P**	**14 40 01.5**	**+0.1**
	comp=Z,32μmcomp=Z,69μmcomp=Z,5μm,0.8s						
FAKI	**Fak Fak**	**19.91**	**271**	⇓P	**P**	**14 40 01.0**	**-0.5**
GD1S	**Gladstone Soft**	**20.31**	**183**	P	**P**	**14 40 05.9**	**+0.9**
	comp=Z,2μm,1.1s						
KOUNC	**Koumac, New Ca**	**20.70**	**146**	P	**P**	**14 40 10.3**	**+1.7**
KOUNC	**Koumac, New Ca**	**20.70**	**146**	⇓P	**P**	**14 40 09.6**	**+1.0**
QIS	**Mount Isa**	**20.97**	**215**	P	**P**	**14 40 10.6**	**-0.5**
	comp=Z,0.0nmcomp=Z,4μm,0.7s						
QIS	**Mount Isa**	**20.97**	**215**	P	**P**	**14 40 12.0**	**+0.9**
SWI	**Sorong**	**21.06**	**276**	P	**P**	**14 40 12.9**	**+1.0**
	comp=Z,18μmcomp=Z,31μmcomp=Z,2μm,0.8s						
DVP	**Devils Point**	**21.16**	**133**	P	**P**	**14 40 16.3**	**+3.6**
SAUI	**Saumlaki**	**21.26**	**257**	P	**P**	**14 40 14.5**	**+0.8**
SAUI	**Saumlaki**	**21.26**	**257**	P	**P**	**14 40 16.6**	**+2.9**
SAUI	**Saumlaki**	**21.26**	**257**	P	**P**	**14 40 15.2**	**+1.5**
SAUI	**Saumlaki**	**21.26**	**257**	⇓P	**P**	**14 40 14.3**	**+0.6**
KDU	**Kakadu**	**21.55**	**244**	P	**P**	**14 40 14.4**	**-1.9**
KDU	**Kakadu**	**21.55**	**244**	P	**P**	**14 40 15.9**	**-0.4**
EIDS	**Eidsvold**	**21.83**	**183**	P	**P**	**14 40 18.6**	**-0.2**
EIDS	**Eidsvold**	**21.83**	**183**	P	**P**	**14 40 18.5**	**-0.3**
	comp=Z,0.0nmcomp=Z,916nm,1.2s						
EIDS	**Eidsvold**	**21.83**	**183**	P	**P**	**14 40 20.3**	**+1.5**
EIDS	**Eidsvold**	**21.83**	**183**	⇑P	**P**	**14 40 18.9**	**+0.1**
MTN	**Manton Dam**	**22.82**	**245**	P	**P**	**14 40 27.1**	**-0.7**
MTN	**Manton Dam**	**22.82**	**245**	P	**P**	**14 40 27.5**	**-0.3**
	comp=Z,0.0nmcomp=Z,868nm,1.3s						
MTN	**Manton Dam**	**22.82**	**245**	P	**P**	**14 40 28.0**	**+0.1**
MTN	**Manton Dam**	**22.82**	**245**	⇓P	**P**	**14 40 27.4**	**-0.5**
DRS	**Darwin Rock St**	**22.88**	**246**	P	**P**	**14 40 28.8**	**+0.4**
	comp=Z,700nm,0.9s						
DZM	**Mont Dzumac**	**23.13**	**144**	P	**P**	**14 40 31.1**	**+0.5**
DZM	**Mont Dzumac**	**23.13**	**144**	*e*P	**P**	**14 40 29.8**	**-0.9**
	comp=Z,11μm,1.1s						
DZM				*e*pP	PP	14 41 32.1	-0.7
	comp=Z,16μm,27.4s						
DZM				*e*S	**S**	**14 44 17.5**	**+3.6**
	comp=Z,45μm,26.9s						
DZM				*e*LQ	LQ	14 45 39.0	
	comp=Z,26μm,25.6s						
DZM	**Mont Dzumac**	**23.13**	**144**	P	**P**	**14 40 31.6**	**+0.9**
	comp=Z,4μm,0.9s,baz=356,slow=9.3,SNR=449						
DZM				S	**S**	**14 44 06.1**	**-7.9**
	baz=126,slow=19						
DZM				ScP	**ScP**	**14 47 12.5**	**+3.5**
	comp=Z,66nm,1.1s,baz=128,slow=4.0,SNR=4.1						
DZM				PKiKP	**PKiKP**	**14 51 51.4**	**+0.3**
	comp=Z,24nm,1.0s,baz=58,slow=16,SNR=4.0						
	comp=Z,4μm,0.9s						
DZM	**Mont Dzumac**	**23.13**	**144**	P	**P**	**14 40 31.8**	**+1.1**
RMQ	**Roma**	**23.16**	**188**	P	**P**	**14 40 30.6**	**-0.2**
	comp=Z,145nm,1.4s						
RMQ	**Roma**	**23.16**	**188**	P	**P**	**14 40 32.1**	**+1.3**
MSAI	**Masohi**	**23.21**	**270**	P	**P**	**14 40 32.4**	**+0.9**
	comp=Z,15μmcomp=Z,20μmcomp=Z,2μm,0.9s						
ONTNC	**Ouen Toro**	**23.32**	**145**	P	**P**	**14 40 32.1**	**-0.1**
ONTNC				IAmb	IAmb	14 40 34.8	
	comp=Z,2μm,1.1s						
ONTNC	**Ouen Toro**	**23.32**	**145**	P	**P**	**14 40 33.4**	**+1.1**
ONTNC	**Ouen Toro**	**23.32**	**145**	⇑P	**P**	**14 40 32.9**	**+0.7**
YATNC	**Mamie plateau,**	**23.38**	**144**	P	**P**	**14 40 34.5**	**+1.6**
OUENC	**Ouen Island, N**	**23.63**	**144**	P	**P**	**14 40 36.4**	**+1.3**
MARNC	**Mare, Loyalty**	**23.64**	**141**	P	**P**	**14 40 36.8**	**+1.6**
MARNC	**Mare, Loyalty**	**23.64**	**141**	⇓P	**P**	**14 40 36.2**	**+1.0**
WB0	**Warramunga Arr**	**23.77**	**226**	P	**P**	**14 40 35.2**	**-1.2**
WR0	**Warramunga Arr**	**23.79**	**225**	P	**P**	**14 40 35.5**	**-1.1**
WR0				IAmb	IAmb	14 40 39.2	
	comp=Z,2μm,0.8s						
AUWSH	**Wavell State H**	**23.84**	**178**	P	**P**	**14 40 38.1**	**+1.1**
WRAB	**Tennant Creek**	**23.91**	**225**	P	**P**	**14 40 36.5**	**-1.2**
WRAB	**Tennant Creek**	**23.91**	**225**	*d* P	**P**	**14 40 36.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,1μm,0.8s						
WB2	**Warramunga Arr**	**23.91**	**225**	P	**P**	**14 40 36.7**	**-1.0**
WRA	**Warramunga Arr**	**23.92**	**225**	P	**P**	**14 40 37.9**	**+0.1**
	comp=Z,2μm,0.7s,baz=49,slow=9.0,SNR=722						
WRA				PcP	**PcP**	**14 44 10.3**	**+1.6**
	comp=Z,392nm,0.8s,baz=40,slow=2.1,SNR=17						
WRA				S	**S**	**14 44 25.8**	**-0.7**
	comp=Z,306nm,0.9s,baz=45,slow=14,SNR=9.2						
WRA				PKiKP	**PKiKP**	**14 51 51.3**	**-0.3**
	comp=Z,21nm,1.0s,baz=56,slow=0.7,SNR=13						
WRA				P3KPbc		15 13 39.8	
	comp=Z,5.1nm,1.2s,baz=234,slow=2.9,SNR=8.0						
WRA				P3KP		15 14 39.4	
	comp=Z,7.3nm,1.0s,baz=149,slow=2.1,SNR=6.5						
	comp=Z,2μm,0.7s						
WRA	**Warramunga Arr**	**23.92**	**225**	*i* P	**P**	**14 40 36.9**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2μm,0.7s						
I07AU	**WARRAMUNGA INE**	**23.92**	**225**	P	**P**	**14 40 39.6**	**+1.8**
	baz=52,slow=9.4,SNR=2.9						
AAI	**Ambon**	**23.94**	**269**	P	**P**	**14 40 38.7**	**+0.6**
	comp=Z,15μmcomp=Z,38μmcomp=Z,3μm,1.1s						
TW1H	**Toowoomba 1 Ha**	**23.98**	**180**	P	**P**	**14 40 39.5**	**+1.3**
	comp=Z,518nm,0.8s						
PINNC	**Pines Island,**	**24.13**	**143**	P	**P**	**14 40 40.5**	**+0.9**
PINNC				IAmb	IAmb	14 40 43.0	
	comp=Z,3μm,1.1s						
PINNC	**Pines Island,**	**24.13**	**143**	P	**P**	**14 40 41.6**	**+2.0**
QLP	**Quilpie**	**24.24**	**198**	P	**P**	**14 40 40.7**	**+0.2**
	comp=Z,0.0nmcomp=Z,5μm,1.3s						
QLP	**Quilpie**	**24.24**	**198**	P	**P**	**14 40 41.7**	**+1.1**
QLP	**Quilpie**	**24.24**	**198**	⇓P	**P**	**14 40 40.8**	**+0.2**
GC1S	**Gold Coast 1 S**	**24.62**	**177**	P	**P**	**14 40 45.7**	**+1.8**
	comp=Z,382nm,0.8s						
LBMI	**Labuha**	**24.82**	**276**	P	**P**	**14 40 48.1**	**+2.2**
	comp=Z,23μmcomp=Z,2μm,1.0s						
NLAI	**Namlea**	**25.04**	**270**	P	**P**	**14 40 48.9**	**+1.0**
	comp=Z,16μmcomp=Z,25μmcomp=Z,3μm,0.8s						
TNTI	**Ternate**	**25.15**	**279**	P	**P**	**14 40 49.2**	**+0.3**
TNTI	**Ternate**	**25.15**	**279**	P	**P**	**14 40 49.7**	**+0.8**
TNTI	**Ternate**	**25.15**	**279**	P	**P**	**14 40 49.8**	**+0.8**
TNTI	**Ternate**	**25.15**	**279**	⇓P	**P**	**14 40 49.6**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**26.06**	**33**	P	**P**	**14 40 56.9**	**+0.2**
	baz=231,slow=7.0,SNR=15						
KNRA	**Kununurra**	**26.06**	**241**	P	**P**	**14 40 55.8**	**-1.2**
KNRA	**Kununurra**	**26.06**	**241**	P	**P**	**14 40 55.2**	**-1.7**
	comp=Z,0.0nmcomp=Z,832nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**26.06**	**33**	P	**P**	**14 40 55.9**	**-0.8**
	baz=231,slow=7.0,SNR=18						
H11S1	**WAKE ISLAND Hy**	**26.08**	**33**	P	**P**	**14 40 57.0**	**+0.2**
	baz=231,slow=7.0,SNR=19						
AULRC	**Lightning Ridg**	**26.16**	**188**	P	**P**	**14 40 58.5**	**+0.9**
SANI	**Sanana**	**26.20**	**272**	S	**S**	**14 45 02.0**	**-0.5**
SANI				P	**P**	**14 40 56.0**	**-2.2**
SANI	**Sanana**	**26.20**	**272**	P	**P**	**14 40 59.0**	**+0.8**
SANI	**Sanana**	**26.20**	**272**	P	**P**	**14 40 59.0**	**+0.8**
	comp=Z,14μmcomp=Z,13μmcomp=Z,1μm,0.9s						
SANI	**Sanana**	**26.20**	**272**	⇓P	**P**	**14 40 58.2**	**-0.1**
INKA	**Innaminka**	**26.52**	**203**	P	**P**	**14 41 01.4**	**+0.5**
WAKE	**Wake Island**	**26.69**	**32**	P	**P**	**14 41 02.0**	**-0.4**
WAKE	**Wake Island**	**26.69**	**32**	P	**P**	**14 41 03.5**	**+1.1**
	comp=Z,466nm,1.1s						
AS01	**Alice Springs**	**26.74**	**220**	P	**P**	**14 41 02.3**	**-0.6**
	comp=Z,3μm,0.9s						
AS31	**Alice Springs**	**26.77**	**220**	P	**P**	**14 41 01.5**	**-1.7**
	comp=Z,0.0nmcomp=Z,760nm,0.8s						
ASAR	**Alice Springs**	**26.77**	**220**	P	**P**	**14 41 03.0**	**-0.2**
	comp=Z,2μm,0.8s,baz=53,slow=7.1,SNR=952						
ASAR				PcP	**PcP**	**14 44 16.9**	**+1.6**
	comp=Z,302nm,0.9s,baz=58,slow=3.0,SNR=10						
ASAR				S	**S**	**14 45 09.4**	**-1.9**
	comp=Z,310nm,0.9s,baz=49,slow=14,SNR=12						
ASAR				PKiKP	**PKiKP**	**14 51 52.8**	**-0.3**
	comp=Z,21nm,1.0s,baz=28,slow=1.1,SNR=7.7						
ASAR				P3KPbc		15 13 29.6	
	comp=Z,4.7nm,0.9s,baz=218,slow=2.6,SNR=16						
ASAR				P3KP		15 14 27.9	
	comp=Z,3.9nm,0.9s,baz=125,slow=2.3,SNR=5.0						
	comp=Z,2μ

comp=Z,2μm,0.8s
LCRK Leigh Creek 29.94 205 P P 14 41 30.7 -0.2
DGTI Dogotuki 29.95 117 P P 14 41 31.9 +0.7
STKA Stephens Creek 29.99 198 P P 14 41 29.5 -1.9
STKA Stephens Creek 29.99 198 P P 14 41 31.1 -0.3
comp=Z,170nm,0.5s,baz=8.0,slow=9.5,SNR=252
STKA PcP PcP 14 44 24.6 +1.5
comp=Z,330nm,1.0s,baz=36,slow=4.3,SNR=6.6
STKA PKiKP PKiKP 14 51 55.0 +0.2
comp=Z,18nm,0.7s,baz=72,slow=6.0,SNR=7.7
STKA P3KPbc 15 13 19.6
comp=Z,19nm,1.2s,baz=173,slow=4.6,SNR=8.5
STKA P3KP 15 14 29.1
comp=Z,13nm,1.0s,baz=297,slow=6.2,SNR=7.6
comp=Z,170nm,0.5s
STKA Stephens Creek 29.99 198 P P 14 41 31.2 -0.3
STKA Stephens Creek 29.99 198 *d* P P 14 41 31.4 0.0
SYDH Sydney Hard Ro 30.20 182 P P 14 41 34.8 +1.6
comp=Z,223nm,1.0s
MMRI Maumere 30.21 259 IAmb IAmb 14 41 36.3
comp=Z,4μm,1.3s
MMRI Maumere 30.21 259 P P 14 41 33.5 -0.1
MMRI Maumere 30.21 259 P P 14 41 33.3 -0.3
comp=Z,12μmcomp=Z,26μmcomp=Z,2μm,1.1s
MMRI Maumere 30.21 259 ⇓P P 14 41 31.8 -1.8
RIV Riverview 30.25 182 P P 14 41 34.4 +0.8
comp=Z,0.0nmcomp=Z,689nm,1.4s
RIV Riverview 30.25 182 P P 14 41 35.3 +1.7
RIV Riverview 30.25 182 P P 14 41 35.4 +1.8
RIV pmax pmax
comp=Z,691nm,1.4s
RIV Riverview 30.25 182 ⇓P P 14 41 34.6 +1.0
TAVE Taveuni 30.42 118 P P 14 41 36.9 +1.6
MRSI Marisa 30.48 277 P P 14 41 35.6 -0.3
comp=Z,8μmcomp=Z,448nm,0.9s
APSI Ampana 30.61 274 P P 14 41 38.3 +1.2
comp=Z,15μmcomp=Z,2μm,1.1s
WOLH Wollongong Har 30.84 182 P P 14 41 40.7 +2.0
comp=Z,150nm,0.8s
YNG Young 30.91 186 P P 14 41 37.8 -1.6
comp=Z,2μm,1.4s
YNG Young 30.91 186 P P 14 41 40.0 +0.6
comp=Z,732nm,1.4s
FUTU Fugatoga 31.22 112 P P 14 41 43.6 +1.3
FUTU IAmb IAmb 14 41 45.5
comp=Z,1μm,1.1s
FUTU Fugatoga 31.22 112 P P 14 41 44.5 +2.2
FUTU Fugatoga 31.22 112 P P 14 41 43.8 +1.5
FUTU ScP ScP 14 47 39.5 +6.0
WRKA Warakurna 31.46 225 P P 14 41 41.9 -2.5
WRKA Warakurna 31.46 225 P P 14 41 43.7 -0.7
BSSI Bau Bau, Buton 31.69 264 P P 14 41 47.7 +1.2
comp=Z,17μmcomp=Z,3μm,1.3s
TOLI2 Tolitoli 31.71 278 P P 14 41 47.4 +0.8
AUUHS Ulladulla High 31.81 183 P P 14 41 49.4 +2.3
CNB Canberra Magne 31.83 184 P P 14 41 47.5 +0.1
comp=Z,0.0nmcomp=Z,890nm,1.2s
CNB Canberra Magne 31.83 184 P P 14 41 48.6 +1.2
JCJ Chichijima 31.85 343 P P 14 41 43.9 -3.7
JCJ Chichijima 31.85 343 P P 14 41 39.1 -8.5
comp=Z,608nm,0.6s,baz=238,slow=3.5,SNR=27
JCJ PcP PcP 14 44 22.2 -6.0
comp=Z,286nm,0.7s,baz=272,slow=12,SNR=5.2
JCJ S S 14 46 30.6 +0.3
comp=Z,534nm,1.1s,baz=294,slow=22,SNR=5.9
JCJ Chichijima 31.85 343 ⇑P P 14 41 45.0 -2.6
CAN Canberra 31.86 185 P P 14 41 48.7 +1.0
CAN Canberra 31.86 185 P P 14 41 48.6 +0.9
CAN pmax pmax
comp=Z,1μm,1.2s
CAN Canberra 31.86 185 P P 14 41 48.6 +0.9
CAN PcP PcP 14 44 29.5 +1.3
CAN ScP ScP 14 47 40.1 +4.7
LKBA Tubou, Lakemba 31.98 120 P P 14 41 50.0 +1.2
BKSI Bulukumba 32.02 265 P P 14 41 49.7 +0.4
comp=Z,11μmcomp=Z,10μmcomp=Z,1μm,1.1s
BASI Baing, Sumba 32.08 256 P P 14 41 50.9 +1.1
WSI Waingapu 32.26 257 P P 14 41 51.8 +0.5
HTT Hallett 32.31 201 P P 14 41 51.8 +0.2
comp=Z,0.0nmcomp=Z,856nm,1.2s
HTT Hallett 32.31 201 P P 14 41 52.4 +0.8
HTT Hallett 32.31 201 P P 14 41 51.8 +0.2
HTT Hallett 32.31 201 ⇑P P 14 41 51.3 -0.3
TTSI Tana Toraja 32.31 270 P P 14 41 53.3 +1.5
comp=Z,12μmcomp=Z,11μmcomp=Z,680nm,1.4s
SPSI Sidrap Palu 32.35 268 P P 14 41 52.7 +0.6
comp=Z,10μmcomp=Z,15μmcomp=Z,1μm,1.3s
KAPI Kappang 32.38 266 P P 14 41 52.0 -0.4
KAPI IAmb IAmb 14 41 56.1
comp=Z,2μm,1.0s
KAPI PcP PcP 14 44 31.1 +1.1
KAPI Kappang 32.38 266 P P 14 41 53.8 +1.4
KAPI S S 14 46 40.3 +1.5
KAPI Kappang 32.38 266 P P 14 41 54.9 +2.5
KAPI Kappang 32.38 266 *d* P P 14 41 53.6 +1.2
KAPI pmax pmax
comp=Z,2μm,1.0s
KAPI Kappang 32.38 266 P P 14 41 53.8 +1.4
KAPI PcP PcP 14 44 31.7 +1.7
PCI Palu 32.42 274 P P 14 41 54.8 +2.1
comp=Z,15μmcomp=Z,25μmcomp=Z,2μm,0.9s
PTPS Port Pirie 32.43 203 P P 14 41 55.4 +2.9
comp=Z,366nm,0.6s
WHYH Whyalla 32.47 203 P P 14 41 53.4 +0.6
comp=Z,574nm,1.0s
MPSI Mapaga 32.48 276 P P 14 41 52.9 -0.4
comp=Z,16μmcomp=Z,1μm,0.8s
BBOO Buckleboo 32.90 206 P P 14 41 55.6 -1.0
comp=Z,0.0nmcomp=Z,830nm,1.4s
BBOO Buckleboo 32.90 206 P P 14 41 56.6 0.0
WBSI Waikabubak, Su 33.14 258 P P 14 41 59.2 +0.2
AUMAG Moama Anglican 33.22 191 P P 14 42 00.5 +1.2
MILA Mila 33.57 184 P P 14 42 02.8 +0.4
comp=Z,144nm,1.0s
AUMBR Murray Bridge 33.73 199 P P 14 42 03.9 +0.2
GHSS Government Hou 33.77 200 P P 14 42 05.3 +1.3
comp=Z,672nm,1.2s
ARPS Mount Arapiles 34.51 195 P P 14 42 10.0 -0.3
comp=Z,1μm,1.0s
ARPS Mount Arapiles 34.51 195 P P 14 42 11.3 +1.0
TOO Toolangi 34.52 189 P P 14 42 10.3 -0.1
comp=Z,0.0nmcomp=Z,157nm,1.4s
PLAI Plampang 34.61 259 P P 14 42 10.7 -0.8
PLAI Plampang 34.61 259 P P 14 42 10.0 -1.5
comp=Z,9μmcomp=Z,28μmcomp=Z,3μm,0.9s
MYLDM Lahad Datu 34.72 284 P P 14 42 13.9 +1.5
MYLDM Lahad Datu 34.72 284 P P 14 42 15.2 +2.8
MYLDM Lahad Datu 34.72 284 ⇓P P 14 42 14.3 +1.9
BRAT Ballarat 34.79 192 P P 14 42 14.0 +1.4
comp=Z,228nm,0.8s
AUSSC Sale College, 34.82 187 P P 14 42 15.5 +2.7
MLBS Spotswood, Mel 34.88 190 P P 14 42 15.7 +2.4
comp=Z,262nm,1.2s
SMKI Samarinda 35.08 274 P P 14 42 17.3 +1.9
comp=Z,15μmcomp=Z,17μmcomp=Z,1μm,1.0s
BKB Balikpapan 35.32 273 P P 14 42 20.0 +2.5
BKB Balikpapan 35.32 273 P P 14 42 19.3 +1.8
comp=Z,16μmcomp=Z,21μmcomp=Z,1μm,2.2s
BKB Balikpapan 35.32 273 ⇑P P 14 42 20.5 +3.0
GEXS Deakin Univers 35.35 191 P P 14 42 19.9 +2.6
comp=Z,882nm,1.0s
JMZ Minamidaito 2 35.47 326 P P 14 42 18.2 -0.4
JMZ IAmb IAmb 14 42 43.8
comp=Z,1μm,0.9s
JMZ Minamidaito 2 35.47 326 P P 14 42 19.8 +1.3
FORT Forrest 35.47 217 P P 14 42 16.6 -1.9
comp=Z,0.0nmcomp=Z,7μm,0.8s
FORT Forrest 35.47 217 P P 14 42 18.8 +0.3
TWSI Taliwang, Sumb 35.48 260 P P 14 42 17.4 -1.4
comp=Z,10μmcomp=Z,21μmcomp=Z,3μm,0.9s
TGY Tagaytay City 35.55 300 P P 14 42 19.5 +0.1
comp=Z,152nm,0.4s,baz=59,slow=3.0,SNR=8.0
TGY PcP PcP 14 44 40.8 +1.6
comp=Z,3μm,1.1s,baz=284,slow=1.8,SNR=18
TGY ScP ScP 14 47 49.0 +0.1
comp=Z,266nm,0.4s,baz=358,slow=5.6,SNR=9.5
comp=Z,152nm,0.4s
AUHPC Hawkesdale P12 35.67 193 P P 14 42 22.7 +2.7
PSA00 Pilbara Seismi 36.22 237 P P 14 42 23.5 -1.4
PSA00 Pilbara Seismi 36.22 237 IAmb IAmb 14 42 27.6
comp=Z,1μm,1.2s
PSA00 Pilbara Seismi 36.22 237 P P 14 42 23.0 -1.9
comp=Z,1μm,1.1s
PSA00 Pilbara Seismi 36.22 237 P P 14 42 24.7 -0.2
PSAC1 Pilbara Seismi 36.23 238 P P 14 42 23.2 -1.8
comp=Z,1μm,1.1s
SRBI Singaraja 37.06 261 P P 14 42 31.6 -0.4
comp=Z,13μmcomp=Z,18μmcomp=Z,1μm,0.9s
AFI Afiamalu 37.06 109 P P 14 42 32.5 +0.4
AFI PcP 14 44 44.9 +1.1
AFI Afiamalu 37.06 109 P P 14 42 33.3 +1.2
AFI Afiamalu 37.06 109 P P 14 42 32.5 +0.4
AFI PCP PcP 14 44 46.2 +2.4
AFI pmax pmax
comp=Z,360nm,0.9s
AFI Afiamalu 37.06 109 P P 14 42 32.5 +0.4
AFI PcP PcP 14 44 45.4 +1.6
DNP Denpasar 37.12 260 P P 14 42 32.3 -0.2
comp=Z,4μm,1.0s
KKM Kota Kinabalu 37.13 285 P P 14 42 33.6 +0.8
OUZ Omahuta 37.34 150 P P 14 42 37.1 +3.1
OUZ Omahuta 37.34 150 ⇑P P 14 42 36.2 +2.1
SZP Santa 37.61 305 P P 14 42 38.2 +1.7
JOW Kunigami 37.94 324 P P 14 42 39.6 +0.5
comp=Z,512nm,0.7s,baz=144,slow=12,SNR=129
JOW PcP PcP 14 44 47.8 +1.6
comp=Z,210nm,1.0s,baz=213,slow=0.8,SNR=4.3
JOW ScP ScP 14 47 59.3 +1.7
comp=Z,262nm,1.2s,baz=172,slow=2.4,SNR=9.6
comp=Z,512nm,0.7s
JOW Kunigami 37.94 324 P P 14 42 40.2 +1.1
CORO Coronation Par 38.12 186 P P 14 42 42.8 +2.4
comp=Z,354nm,1.0s
JAGI Jajag, Banyuwa 38.14 261 IAmb IAmb 14 42 41.9
comp=Z,2μm,1.1s
JAGI Jajag, Banyuwa 38.14 261 P P 14 42 41.5 +0.5
JAGI Jajag, Banyuwa 38.14 261 P P 14 42 39.4 -1.6
comp=Z,21μmcomp=Z,2μm,1.2s
JAGI Jajag, Banyuwa 38.14 261 ⇓P P 14 42 39.3 -1.6
JHJ2 Mitsune 38.19 343 P P 14 42 38.4 -2.7
JHJ Hachijo jima 2 38.20 343 P P 14 42 38.8 -2.4
comp=Z,519nm,0.7s,baz=234,slow=24,SNR=10
JHJ PcP PcP 14 44 47.9 +1.0
comp=Z,341nm,0.9s,baz=208,slow=8.8,SNR=3.6
JHJ ScP ScP 14 47 56.8 -1.7
comp=Z,376nm,0.9s,baz=71,slow=23,SNR=6.8
KMMI Kalianget 38.22 263 P P 14 42 42.7 +1.1
comp=Z,19μmcomp=Z,18μmcomp=Z,1μm,1.3s
RAO Raoul Island 38.27 135 P P 14 42 40.9 -0.9
RAO Raoul Island 38.27 135 P P 14 42 43.6 +1.8
RAO Raoul Island 38.27 135 P P 14 42 40.9 -0.9
RAO pmax pmax
comp=Z,985nm,0.9s
JMJ Miyako jima 2 38.35 319 P P 14 42 45.7 +3.2
GMJI Gumukmas 38.82 261 P P 14 42 45.9 -0.7
comp=Z,823nm,1.1s
MOO Moorlands 39.09 186 P P 14 42 50.3 +1.9
TAU Tasmania Unive 39.54 186 P P 14 42 52.1 0.0
TAU Tasmania Unive 39.54 186 P P 14 42 54.3 +2.3
TAU Tasmania Unive 39.54 186 P P 14 42 52.1 0.0
TAU pmax pmax
comp=Z,216nm,0.8s
TAU Tasmania Unive 39.54 186 ⇑P P 14 42 52.8 +0.7
TAU Tasmania Unive 39.54 186 P P 14 42 53.6 +1.6
TAU PcP PcP 14 44 52.4 +1.4
MEEK Meekatharra 39.56 231 P P 14 42 50.8 -1.7
comp=Z,0.0nmcomp=Z,1μm,1.2s
MEEK Meekatharra 39.56 231 P P 14 42 52.5 0.0
AUTAR Taroona High S 39.57 186 P P 14 42 54.8 +2.6
YOJ Yonaguni jima 39.67 316 P P 14 42 52.4 -0.9
YOJ Yonaguni jima 39.67 316 P P 14 42 54.2 +0.9
YOJ Yonaguni jima 39.67 316 P P 14 42 52.4 -0.9
YOJ pmax pmax
comp=Z,597nm,0.8s
GRJI Gresik 39.68 263 P P 14 42 53.6 0.0
comp=Z,14μmcomp=Z,13μmcomp=Z,1μm,1.4s
KMBL Kambalda 39.82 222 P P 14 42 52.2 -2.3
KMBL Kambalda 39.82 222 P P 14 42 54.0 -0.5
TWGBT Beinan 40.03 312 P P 14 42 57.2 +0.8
TWG Pinlang 40.04 312 P P 14 42 55.3 -1.2
JSG Sagara 40.13 342 P P 14 42 57.9 +1.0
JSG Sagara 40.13 342 ⇑P P 14 42 56.2 -0.7
NIUE Niue 40.15 116 P P 14 42 59.9 +2.6
NIUE Niue 40.15 116 ⇑P P 14 42 55.1 -2.2
YULB Yu-li 40.22 313 P P 14 42 59.6 +1.7
TOZ Tahuroa Road 40.26 151 P P 14 42 59.2 +1.3
TBJI Tambak Boyo 40.30 264 P P 14 42 58.8 +0.1
comp=Z,13μmcomp=Z,13μmcomp=Z,646nm,1.0s
SBUM Sibu 40.37 278 P P 14 42 59.1 -0.2
SBUM Sibu 40.37 278 P P 14 43 02.1 +2.9
SBUM Sibu 40.37 278 ⇓P P 14 42 59.8 +0.6
NACB Ninganchiao 40.48 314 P P 14 43 02.2 +2.2
HIZ Hauiti 40.58 152 IAmb IAmb 14 43 04.8
comp=Z,2μm,1.2s
HIZ Hauiti 40.58 152 P P 14 43 03.6 +3.0
TPUB Ta-pu 40.65 312 P P 14 43 02.9 +1.5
SSLB Suanglong 40.71 313 P P 14 43 01.8 -0.1
SSLB Suanglong 40.71 313 P P 14 43 02.9 +1.1
NGJI Ngawi 40.72 263 P P 14 43 02.6 +0.6
comp=Z,17μmcomp=Z,12μmcomp=Z,899nm,1.2s
JMN Monobe 40.80 336 P P 14 43 03.1 +0.6
STKI Sintang 40.83 274 P P 14 43 04.1 +1.1
comp=Z,19μmcomp=Z,27μmcomp=Z,2μm,1.1s
KHEZ Kahui Hut 40.84 154 P P 14 43 06.0 +3.3
YHNB Yeheng 40.95 315 P P 14 43 06.0 +2.2
PCJI Pacitan 41.05 262 P P 14 43 05.2 +0.5
TATO Taipei 41.06 315 P P 14 43 05.9 +1.2
TATO Taipei 41.06 315 P P 14 43 06.7 +2.1
TATO S S 14 48 49.2 +0.3
TATO Taipei 41.06 315 P P 14 43 05.8 +1.2
TATO Taipei 41.06 315 P P 14 43 06.0 +1.4
TATO pP pwP 14 44 19.4 -0.2
TATO PcP PcP 14 44 56.3 +0.1
TATO ScP ScP 14 48 10.1 +0.4
INU Inuyama 41.12 341 P P 14 43 03.0 -1.9
INU Inuyama 41.12 341 P P 14 43 04.4 -0.5
INU Inuyama 41.12 341 P P 14 43 04.0 -0.9
INU ScP ScP 14 48 11.5 +1.7
JGF Kuroka 41.24 342 P P 14 43 04.4 -1.5
JGF Kuroka 41.24 342 P P 14 43 05.7 -0.3
GIRL Giralia 41.41 239 P P 14 43 07.9 +0.4
GIRL IAmb IAmb 14 43 11.4
comp=Z,3μm,1.1s
GIRL Giralia 41.41 239 P P 14 43 09.0 +1.5
GIRL Giralia 41.41 239 ⇓P P 14 43 08.5 +1.0
URZ Urewera 41.47 150 S S 14 48 56.1 +1.6
comp=Z,72nm,0.8s,baz=247,slow=22,SNR=10
URZ PKiKP PKiKP 14 52 02.2 -1.4
comp=Z,17nm,1.0s,baz=30,slow=2.3,SNR=2.6
URZ ScS ScS 14 52 25.3 -3.5
comp=Z,34nm,1.0s,baz=202,slow=21,SNR=7.4
URZ Urewera 41.47 150 ⇓P P 14 43 08.7 +1.0
QRZ Quartz Range 41.49 157 P P 14 43 08.9 +1.1
QRZ IAmb IAmb 14 43 11.8
comp=Z,1μm,0.9s
QRZ Quartz Range 41.49 157 P P 14 43 10.2 +2.3
MXZ Matakaoa Point 41.55 148 P P 14 43 09.7 +1.3
JNU Nakatsue 41.58 333 P P 14 43 08.1 -0.6
comp=Z,703nm,0.9s,baz=118,slow=3.1,SNR=225
JNU PcP PcP 14 44 58.7 +0.8
comp=Z,456nm,1.0s,baz=114,slow=4.5,SNR=7.2
JNU ScP ScP 14 48 11.7 0.0
comp=Z,118nm,1.2s,baz=94,slow=2.9,SNR=7.5
JNU S S 14 48 56.0 -0.2
comp=Z,106nm,1.0s,baz=297,slow=21,SNR=7.1
comp=Z,703nm,0.9s
JNU Nakatsue 41.58 333 P P 14 43 09.6 +0.9
JNU Nakatsue 41.58 333 ⇑P P 14 43 08.1 -0.6
UGM Wanagama 41.68 262 P P 14 43 09.1 -0.8
UGM IAmb IAmb 14 43 19.9
comp=Z,3μm,1.1s
UGM Wanagama 41.68 262 P P 14 43 11.2 +1.4
UGM Wanagama 41.68 262 P P 14 43 09.8 0.0
comp=Z,20μmcomp=Z,31μmcomp=Z,3μm,1.1s
RTZ Ruatahuna 41.68 150 IAmb IAmb 14 43 12.3
comp=Z,4μm,1.8s
SMRI Semarang 41.71 263 P P 14 43 10.8 +0.8
SMRI Semarang 41.71 263 P P 14 43 12.6 +2.5
SMRI Semarang 41.71 263 P P 14 43 10.6 +0.5
comp=Z,12μmcomp=Z,1μm,1.2s
SMRI Semarang 41.71 263 ⇓P P 14 43 11.3 +1.3
MJAR Matsushiro Arr 41.85 343 P P 14 43 09.8 -1.0
comp=Z,226nm,0.9s,baz=167,slow=8.4,SNR=261
MJAR PcP PcP 14 44 59.2 +0.5
comp=Z,52nm,0.7s,baz=162,slow=3.7,SNR=16
MJAR ScP ScP 14 48 13.3 +0.6
comp=Z,66nm,1.1s,baz=166,slow=4.5,SNR=5.7
MJAR P3KP 15 14 04.9
comp=Z,1.4nm,0.7s,baz=35,slow=3.0,SNR=4.5
MJAR PKPPKP P'P'df 15 15 02.8 -10
comp=Z,9.9nm,1.1s,baz=359,slow=2.0,SNR=4.4
comp=Z,226nm,0.9s
MAJO Matsushiro 41.86 343 P P 14 43 08.6 -2.3
MAJO Matsushiro 41.86 343 P P 14 43 09.8 -1.1
MAJO Matsushiro 41.86 343 *c* *i* P P 14 43 09.5 -1.4
MAJO pmax pmax
comp=Z,336nm,1.0s
MAJO Matsushiro 41.86 343 ⇓P P 14 43 08.7 -2.2
MAJO Matsushiro 41.86 343 P P 14 43 09.4 -1.5
MAJO PcP PcP 14 44 59.3 +0.6
MAJO ScP ScP 14 48 14.0 +1.3
BKZ Black Stump Fm 41.87 151 P P 14 43 12.4 +1.4
YOGI Yogyakarta 41.90 262 P P 14 43 12.4 +0.9
comp=Z,4μm,1.3s
DSZ Denniston Nort 42.00 158 IAmb IAmb 14 43 15.3
comp=Z,1μm,1.0s
KSM Kuching 42.14 276 IAmb IAmb 14 43 16.6
comp=Z,2μm,0.9s
KSM Kuching 42.14 276 P P 14 43 15.5 +2.0
KSM Kuching 42.14 276 ⇑P P 14 43 13.0 -0.5
JMM Marumori 42.43 347 P P 14 43 15.5 +0.1
JMM Marumori 42.43 347 ⇓P P 14 43 14.2 -1.2
INZ Inchbonnie 42.72 159 P P 14 43 17.1 -0.5
MORW Morawa 42.74 230 P P 14 43 18.3 +0.3
SNZO South Karori 42.80 155 P P 14 43 18.5 +0.2
SNZO South Karori 42.80 155 P P 14 43 19.8 +1.6
SNZO South Karori 42.80 155 P P 14 43 18.9 +0.7
SNZO PcP PcP 14 45 01.2 -0.6
JOHN Johnston Islan 42.80 61 P P 14 43 18.6 -0.1
JOHN IAmb IAmb 14 45 05.8
comp=Z,2μm,1.4s
JOHN Johnston Islan 42.80 61 P P 14 43 20.3 +1.7
KLBR Kellerberrin 42.80 225 P P 14 43 18.3 -0.2
BFZ Birch Farm 42.96 153 IAmb IAmb 14 43 21.8
comp=Z,1μm,1.1s
BFZ Birch Farm 42.96 153 P P 14 43 20.1 +0.5
MIDW Midway 42.99 41 P P 14 43 19.0 -1.0
MIDW Midway 42.99 41 P P 14 43 20.7 +0.7
MIDW PcP PcP 14 45 03.5 +0.9
BLDU Ballidu 43.03 227 P P 14 43 20.2 -0.1
JCZ Jackson Bay 43.05 162 P P 14 43 21.8 +1.5
QZH Quanzhou 43.12 313 P P 14 43 22.4 +1.3
QZH pP pP 14 44 35.3 +0.8
QZH sP sP 14 45 19.0 +2.2
QZH ScP ScP 14 48 19.1 +1.0
QZH S S 14 49 17.4 -1.4
QZH ScS ScS 14 52 41.8 +2.2
QZH pmax pmax
comp=Z,320nm,1.2s
QZH pmax pmax
comp=Z,2μm,6.6s
KPJI Karang Pucung 43.22 263 P P 14 43 22.6 +0.6
comp=Z,18μmcomp=Z,29μmcomp=Z,3μm,1.2s
JSD Sado 43.23 344 P P 14 43 22.2 +0.4
JSD Sado 43.23 344 ⇑P P 14 43 21.6 -0.2
JTU Tsushima 43.42 332 P P 14 43 24.2 +0.9
RPZ Rata Peaks 43.46 160 P P 14 43 24.7 +1.2
GVZ Greta Valley S 43.52 158 IAmb IAmb 14 43 27.2
comp=Z,2μm,0.6s
CMJI Cimerak 43.72 262 P P 14 43 25.6 -0.4
WKZ Wanaka 43.80 163 P P 14 43 25.9 -0.3
JCJI Jatiwangi 43.84 264 P P 14 43 27.7 +0.7
comp=Z,5μm,1.6s
NWAO Narrogin (SRO) 43.92 224 P P 14 43 25.3 -2.0
NWAO Narrogin (SRO) 43.92 224 P P 14 43 26.5 -0.8
NWAO S S 14 49 30.7 +0.6
NWAO Narrogin (SRO) 43.92 224 P P 14 43 26.9 -0.4
NWAO Narrogin (SRO) 43.92 224 P P 14 43 25.3 -2.0
NWAO pmax pmax
comp=Z,986nm,1.3s
NWAO Narrogin (SRO) 43.92 224 P P 14 43 26.9 -0.4
NWAO PcP PcP 14 45 06.6 +0.8
MQZ McQueen's Vall 44.01 159 IAmb IAmb 14 43 30.1
comp=Z,3μm,1.7s
MLZ Mavora Lakes 44.04 164 IAmb IAmb 14 43 30.6
comp=Z,1μm,0.9s
MUN Mundaring 44.12 226 P P 14 43 28.8 -0.1
PYZ Puysegur Point 44.40 166 P P 14 43 31.0 +0.2
PYZ Puysegur Point 44.40 166 P P 14 43 32.0 +1.2
MTKN Mount Kenneth 44.41 226 P P 14 43 33.7 +2.6
comp=Z,785nm,1.1s
TPI Tanjungpandan 44.47 270 P P 14 43 33.2 +1.3
comp=Z,15μmcomp=Z,19μmcomp=Z,1μm,1.1s
BBJI Bungbulang 44.49 263 P P 14 43 32.2 0.0
ODZ Otahua Downs 44.50 161 P P 14 43 31.8 +0.2
ODZ Otahua Downs 44.50 161 P P 14 43 33.2 +1.6
ODZ Otahua Downs 44.50 161 ⇓P P 14 43 31.9 +0.3
AUALB St Joseph's Co 44.67 221 P P 14 43 33.9 +0.8
CNJI Cibinong 45.00 263 P P 14 43 35.8 -0.2
comp=Z,37μmcomp=Z,4μm,1.2s
HKC Hong Kong Obse 45.09 306 ⇑P P 14 43 40.0 +3.4
HKPS Hong Kong Po S 45.11 306 P P 14 43 37.3 +0.5
HKPS Hong Kong Po S 45.11 306 P P 14 43 39.5 +2.8
JTM Tenmabayashi 45.17 348 P P 14 43 37.5 +0.7
JTM Tenmabayashi 45.17 348 ⇑P P 14 43 35.9 -0.9
SSE Sheshan 45.30 322 P P 14 43 38.0 0.0
SSE sP sP 14 45 33.8 +0.5
SSE pmax pmax
comp=Z,200nm,1.2s
SSE pmax pmax
comp=Z,2μm,7.6s
SYZ Scrubby Hill 45.40 164 P P 14 43 39.9 +1.4
TNG Tangerang 45.45 265 P P 14 43 39.8 +0.3
comp=Z,19μmcomp=Z,1μm,1.2s
TNG P P 14 43 39.8 +0.3
comp=Z,32μmcomp=Z,2μm,1.2s
SKJI Sukabumi 45.56 264 P P 14 43 40.3 -0.1
comp=Z,18μmcomp=Z,35μmcomp=Z,3μm,1.0s
TJN Taejon 45.89 332 IAmb IAmb 14 43 44.9
comp=Z,2μm,1.0s
TJN Taejon 45.89 332 P P 14 43 43.1 +0.6
TJN Taejon 45.89 332 *d* *i* P P 14 43 42.6 +0.1
SBJI Serang 45.96 265 P P 14 43 43.4 -0.1
comp=Z,10μmcomp=Z,15μmcomp=Z,893nm,1.6s
ERM Erimo 45.97 351 P P 14 43 42.7 -0.3
ERM Erimo 45.97 351 P P 14 43 44.5 +1.5
ERM Erimo 45.97 351 *c* *i* P P 14 43 43.6 +0.6
ERM pmax pmax
comp=Z,172nm,1.5s
JEM Erimo 45.98 351 P P 14 43 44.0 +0.9
PPBI Pangkal Pinang 46.01 270 P P 14 43 44.9 +1.1
DLV Lat 46.05 290 IAmb IAmb 14 43 47.8
comp=Z,2μm,1.0s
DLV Lat 46.05 290 P P 14 43 46.1 +1.8
DLV Lat 46.05 290 ⇓P P 14 43 45.7 +1.3
GZH Guangzhou 46.15 307 P P 14 43 45.9 +1.2
GZH pP pP 14 45 00.8 +1.4
GZH PcP PcP 14 45 15.3 +1.6
GZH PP PP 14 45 42.0 +3.6
GZH ScP ScP 14 48 31.9 +1.3
GZH S S 14 50 02.4 +0.3
GZH SS SS 14 53 29.0 -4.1
GZH pmax pmax
comp=Z,170nm,1.2s
GZH pmax pmax
comp=Z,3μm,4.1s
CGJI Cibinong 46.41 264 P P 14 43 45.9 -1.0
comp=Z,26μmcomp=Z,3μm,1.1s
KSRS Korea Array 46.51 333 P P 14 43 46.8 -0.5
comp=Z,101nm,0.8s,baz=149,slow=7.8,SNR=187
KSRS PcP PcP 14 45 16.4 +1.7
comp=Z,377nm,1.4s,baz=150,slow=3.6,SNR=15
KSRS ScP ScP 14 48 31.9 +0.1
comp=Z,63nm,1.2s,baz=139,slow=4.6,SNR=6.9
KSRS S S 14 50 06.9 +0.2
comp=Z,13nm,1.1s,baz=148,slow=12,SNR=6.6
KSRS PKiKP PKiKP 14 52 08.3 0.0
comp=Z,8.6nm,1.0s,baz=163,slow=0.7,SNR=8.2
KSRS P3KP 15 13 56.5
comp=Z,1.0nm,0.7s,baz=14,slow=2.6,SNR=4.3
comp=Z,101nm,0.8s
KSAR Wonju Array Be 46.52 333 P P 14 43 45.2 -2.2
KSAR Wonju Array Be 46.52 333 P P 14 43 45.2 -2.2
XMI Christmas Isla 46.63 259 P P 14 43 49.5 +0.8
XMI Christmas Isla 46.63 259 ⇑P P 14 43 49.4 +0.8
XMIS Christmas Isla 46.67 259 IAmb IAmb 14 43 51.7
comp=Z,4μm,1.1s
XMIS Christmas Isla 46.67 259 P P 14 43 50.5 +1.6
INCN Inchon 47.13 332 P P 14 43 51.4 -0.7
INCN Inchon 47.13 332 P P 14 43 53.4 +1.3
INCN S S 14 50 15.1 -0.3
INCN Inchon 47.13 332 P P 14 43 52.2 +0.1

INCN	**Inchon**	**47.13 332**	P	**P**	**14 43 51.4 -0.7**
INCN			pmax	pmax	
comp=Z,1μm,1.1s					
INCN	**Inchon**	**47.13 332**	⇑P	**P**	**14 43 52.1 +0.1**
INCN	**Inchon**	**47.13 332**	P	**P**	**14 43 52.1 +0.1**
INCN			pP	**pP**	**14 45 06.8 +1.2**
INCN			PcP	**PcP**	**14 45 18.2 +1.2**
INCN			ScP	**ScP**	**14 48 35.5 +1.1**
H01W1	**Cape Leeuwin H**	**47.14 224**	P	**P**	**14 43 52.5 +0.6**
H01W3	**Cape Leeuwin H**	**47.14 224**	P	**P**	**14 43 52.6 +0.6**
H01W2	**Cape Leeuwin H**	**47.15 224**	P	**P**	**14 43 52.6 +0.6**
QIZ	**Qiongzhong**	**47.26 300**	P	**P**	**14 43 55.9 +2.6**
QIZ			pP	**pP**	**14 45 08.9 +0.5**
QIZ			sP	**PP**	**14 45 49.4 +0.8**
QIZ			S	**S**	**14 50 21.8 +4.0**
QIZ			SS	**SS**	**14 53 50.9 -0.1**
QIZ			pmax	pmax	
comp=Z,3μm,2.9s					
QIZ	**Qiongzhong**	**47.26 300**	P	**P**	**14 43 55.7 +2.4**
QIZ	**Qiongzhong**	**47.26 300**	P	**P**	**14 43 55.6 +2.3**
QIZ			pP	**pP**	**14 45 10.5 +2.1**
QIZ			PcP	**PcP**	**14 45 16.8 -1.0**
QIZ			sP	**sP**	**14 45 52.0 +1.7**
PMBI	**Palembang**	**47.34 269**	IAmb	IAmb	14 45 22.0
comp=Z,4μm,1.0s					
PMBI	**Palembang**	**47.34 269**	P	**P**	**14 43 57.5 +3.5**
PMBI	**Palembang**	**47.34 269**	P	**P**	**14 43 54.5 +0.5**
comp=Z,13μmcomp=Z,21μmcomp=Z,1μm,1.6s					
NJ2	**Nanjing**	**47.40 321**	⇑P	**P**	**14 43 55.9 +1.7**
NJ2			pP	**pP**	**14 45 10.3 +1.6**
NJ2			PcP	**PcP**	**14 45 19.5 +1.5**
NJ2			PP	**PP**	**14 45 53.5 +3.8**
NJ2			ScP	**ScP**	**14 48 36.8 +1.1**
NJ2			S	**S**	**14 50 15.8 -3.6**
NJ2			sS	**sS**	**14 52 36.8 +1.9**
NJ2			ScS	**ScS**	**14 53 08.9 +1.7**
NJ2			pmax	pmax	
comp=Z,2μm,3.5s					
YUK	**Yuzh-Kuril'sk**	**47.59 354**	*e*P	**P**	**14 43 55.7 +0.3**
YUK			*i*		14 45 15.6
YUK			*i*		14 45 46.2
YUK			*i* S	**S**	**14 50 20.8 -0.9**
YUK			*i*		14 53 11.7
YUK			pmax	pmax	
comp=Z,626nm,1.4s					
YUK			pmax	pmax	
comp=Z,601nm,1.4s					
YUK			pmax	pmax	
comp=N,354nm,1.1s					
YUK			pmax	pmax	
comp=E,347nm,1.0s					
YUK			MLR	MLR	
comp=N,3μm,19.0s					
YUK			MLR	MLR	
comp=Z,3μm,19.0s					
MDSI	**Maura Dua**	**47.90 267**	P	**P**	**14 43 58.2 -0.1**
comp=Z,12μmcomp=Z,23μmcomp=Z,2μm,1.5s					
ASAJ	**Asahikawa**	**48.11 351**	P	**P**	**14 43 59.9 +0.5**
comp=Z,248nm,1.0s,baz=221,slow=10,SNR=94					
ASAJ			PcP	**pwP**	**14 45 22.6 +1.5**
comp=Z,123nm,0.8s,baz=265,slow=10,SNR=5.9					
comp=Z,248nm,1.0s					
MYKOM	**Kota Tinggi**	**48.59 275**	IAmb	IAmb	14 44 06.7
comp=Z,2μm,1.2s					
MYKOM	**Kota Tinggi**	**48.59 275**	P	**P**	**14 44 05.4 +1.9**
MYKOM	**Kota Tinggi**	**48.59 275**	⇑P	**P**	**14 44 04.2 +0.7**
KUR	**Kuril'sk**	**48.61 356**	*ce*P	**P**	**14 44 03.5 +0.5**
KUR			pmax	pmax	
comp=Z,689nm,1.2s					
CTZ	**Chatham Island**	**48.71 150**	IAmb	IAmb	14 44 07.1
comp=Z,1μm,1.0s					
CTZ	**Chatham Island**	**48.71 150**	P	**P**	**14 44 05.6 +1.7**
MNAI	**Manna**	**49.12 267**	P	**P**	**14 44 08.0 +0.5**
MNAI	**Manna**	**49.12 267**	P	**P**	**14 44 06.9 -0.6**
comp=Z,17μmcomp=Z,1μm,1.6s					
MNAI	**Manna**	**49.12 267**	⇓P	**P**	**14 44 06.4 -1.1**
CNSH	**ChangSha**	**49.12 312**	P	**P**	**14 44 07.8 +0.5**
CNSH			pP	**PcP**	**14 45 24.3 -0.1**
CNSH			sP	**PP**	**14 46 07.4 +2.0**
CNSH			PcS	**PcS**	**14 49 25.0 +3.4**
CNSH			S	**S**	**14 50 41.4 -2.1**
CNSH			sS	**sS**	**14 52 54.8 -5.0**
CNSH			pmax	pmax	
comp=Z,140nm,1.1s					
CNSH			pmax	pmax	
comp=Z,3μm,3.7s					
CNSH			LR	LR	
comp=Z,13μm,17.5s					
CNSH			LR	LR	
comp=Z,5μm,12.0s					
CNSH			LR	LR	
comp=Z,8μm,23.1s					
WHN	**Wuhan**	**49.45 316**	⇓P	**P**	**14 44 10.9 +1.2**
WHN			pP	**PcP**	**14 45 26.6 +1.1**
WHN			PP	**PP**	**14 46 10.3 +2.0**
WHN			ScP	**ScP**	**14 48 46.0 +1.5**
WHN			S	**S**	**14 50 49.8 +1.9**
WHN			ScS	**ScS**	**14 53 22.8 +1.7**
WHN			pmax	pmax	
comp=Z,550nm,1.0s					
WHN			pmax	pmax	
comp=Z,6μm,6.4s					
KSI	**Kapahiang**	**49.49 268**	P	**P**	**14 44 09.9 -0.5**
MSHR	**Mys Shultsa**	**49.60 340**	*ce*P	**P**	**14 44 11.2 +0.6**
MSHR			pmax	pmax	
comp=Z,258nm,2.5s					
PSTR	**Posyet**	**49.79 339**	*d i*P	**P**	**14 44 11.7 -0.2**
VLA	**Vladivostok**	**49.83 341**	*d i*P	**P**	**14 44 13.3 +1.0**
VLA			pmax	pmax	
comp=Z,211nm,1.5s					
UBPT	**Khong Chiam**	**49.84 293**	P	**P**	**14 44 15.0 +2.2**
UBPT	**Khong Chiam**	**49.84 293**	⇓P	**P**	**14 44 14.7 +1.9**
RAR	**Rarotonga**	**49.90 115**	P	**P**	**14 44 13.2 0.0**
RAR	**Rarotonga**	**49.90 115**	ScP	**ScP**	**14 48 48.2 +1.5**
comp=Z,37nm,0.9s,baz=304,slow=8.7,SNR=6.2					
RAR	**Rarotonga**	**49.90 115**	P	**P**	**14 44 14.6 +1.4**
RAR	**Rarotonga**	**49.90 115**	P	**P**	**14 44 13.2 0.0**
RAR			pmax	pmax	
comp=Z,388nm,1.3s					
RAR	**Rarotonga**	**49.90 115**	P	**P**	**14 44 14.2 +1.0**
RAR			PcP	**pP**	**14 45 28.7 -0.2**
RAR			ScP	**ScP**	**14 48 50.7 +4.1**
TEY	**Ternei**	**50.22 346**	⇑*e*P	**P**	**14 44 14.9 -0.2**
TEY			*e*		14 45 28.7
TEY			*e*		14 50 51.2
TEY			pmax	pmax	
comp=Z,70nm,0.7s					
TEY			pmax	pmax	
comp=Z,70nm,1.4s					
TEY			pmax	pmax	
comp=N,20nm,1.2s					
TEY			pmax	pmax	
comp=E,20nm,1.2s					
TEY			pmax	pmax	
comp=Z,400nm,7.9s					
TEY			pmax	pmax	
comp=E,900nm,5.7s					
TEY			pmax	pmax	
comp=N,500nm,12.1s					
XMAS	**Kiritimati**	**50.64 85**	P	**P**	**14 44 19.1 +0.3**
XMAS			IAmb	IAmb	14 44 21.6
comp=Z,1μm,1.0s					
XMAS	**Kiritimati**	**50.64 85**	P	**P**	**14 44 21.1 +2.3**
XMAS	**Kiritimati**	**50.64 85**	⇓P	**P**	**14 44 20.2 +1.3**
XMAS	**Kiritimati**	**50.64 85**	P	**P**	**14 44 20.1 +1.3**
XMAS			PcP	**PcP**	**14 45 32.1 +1.7**
XMAS			ScP	**ScP**	**14 48 55.0 +4.9**
DL2	**Dalian**	**50.69 329**	P	**P**	**14 44 19.3 +0.6**
DL2			pP	**PcP**	**14 45 31.3 +1.4**
DL2			ScP	**ScP**	**14 48 51.3 +1.7**
DL2			PcS	**PcS**	**14 49 27.4 -0.5**
DL2			S	**S**	**14 51 03.4 -1.2**
DL2			pmax	pmax	
comp=Z,190nm,1.2s					
DL2			pmax	pmax	
comp=Z,1μm,4.7s					
USA0B	**Ussuriysk Arra**	**50.77 341**	*c i*P	**P**	**14 44 19.3 +0.1**
USRK	**Ussuriysk Ar.**	**50.77 341**	P	**P**	**14 44 18.4 -0.8**
USRK	**Ussuriysk Ar.**	**50.77 341**	P	**P**	**14 44 19.3 +0.1**
comp=Z,117nm,0.7s,baz=154,slow=3.3,SNR=143					
USRK			PcP	**PcP**	**14 45 30.9 +0.8**
comp=Z,108nm,0.9s,baz=164,slow=3.3,SNR=9.7					
USRK			ScP	**ScP**	**14 48 50.4 +0.5**
comp=Z,27nm,0.9s,baz=151,slow=4.4,SNR=6.0					
USRK			S	**S**	**14 51 05.7 +0.3**
comp=Z,17nm,1.1s,baz=149,slow=12,SNR=4.0					
USRK			PKP2bc		15 15 18.9
comp=Z,24nm,1.1s,baz=340,slow=5.1,SNR=10					
comp=Z,117nm,0.7s					
YSS	**Yuzhno-Sakhali**	**50.86 352**	P	**P**	**14 44 18.4 -1.4**
YSS	**Yuzhno-Sakhali**	**50.86 352**	P	**P**	**14 44 20.7 +0.9**
YSS	**Yuzhno-Sakhali**	**50.86 352**	*ce*P	**P**	**14 44 20.3 +0.5**
YSS			*e**PP	**PcP**	**14 45 31.8 +1.5**
YSS			*e**SP	**sP**	**14 46 15.1 -0.6**
YSS			*e*S	**S**	**14 51 02.0 -4.6**
YSS			*e*		14 53 29.8
YSS			pmax	pmax	
comp=Z,180nm,1.3s					
YSS			pmax	pmax	
comp=Z,900nm,2.1s					
YSS	**Yuzhno-Sakhali**	**50.86 352**	P	**P**	**14 44 20.1 +0.4**
YSS			PcP	**PcP**	**14 45 31.9 +1.5**
YSS			ScP	**ScP**	**14 48 52.4 +2.3**
MCQ	**Macquarie Isla**	**51.20 175**	P	**P**	**14 44 24.0 +1.8**
MCQ	**Macquarie Isla**	**51.20 175**	⇓P	**P**	**14 44 23.4 +1.1**
BKNI	**Bangkinang**	**51.25 273**	IAmb	IAmb	14 44 25.7
comp=Z,2μm,1.0s					
BKNI	**Bangkinang**	**51.25 273**	P	**P**	**14 44 20.0 -3.3**
BKNI			S	**S**	**14 51 09.2 -3.8**
BKNI	**Bangkinang**	**51.25 273**	P	**P**	**14 44 24.5 +1.2**
BKNI	**Bangkinang**	**51.25 273**	P	**P**	**14 44 23.8 +0.5**
comp=Z,14μmcomp=Z,29μmcomp=Z,3μm,1.2s					
BKNI	**Bangkinang**	**51.25 273**	⇓P	**P**	**14 44 23.4 0.0**
TIA	**Tai'an**	**51.26 323**	P	**P**	**14 44 23.8 +0.8**
TIA			PcP	**PcP**	**14 45 33.0 +0.8**
TIA			PP	**PP**	**14 46 23.9 -0.6**
TIA			LR	LR	
comp=Z,3μm,15.3s					
TIA			LR	LR	
comp=Z,9μm,14.7s					
TIA			LR	LR	
comp=Z,9μm,21.0s					
IPM	**Ipoh**	**51.72 278**	IAmb	IAmb	14 44 29.0
comp=Z,1μm,0.8s					
IPM	**Ipoh**	**51.72 278**	P	**P**	**14 44 27.7 +0.9**
IPM	**Ipoh**	**51.72 278**	⇑P	**P**	**14 44 25.4 -1.3**
PPI	**Padang Panjang**	**51.83 272**	P	**P**	**14 44 27.1 -0.5**
comp=Z,14μmcomp=Z,21μmcomp=Z,2μm,1.1s					
MDJ	**Mudanjiang**	**51.94 340**	P	**P**	**14 44 27.8 0.0**
MDJ			PcP	**PcP**	**14 45 35.1 +0.6**
MDJ			pP	pP	14 45 43.5 +0.5
MDJ			PP	**PP**	**14 46 29.8 -0.6**
MDJ			ScP	**ScP**	**14 48 56.6 +1.7**
MDJ			PcS	**PcS**	**14 49 33.1 0.0**
MDJ			S	**S**	**14 51 22.1 +0.8**
MDJ			sS	ScS	14 53 38.0 +0.3
MDJ			SS	**SKiKP**	**14 55 07.6 -2.6**
MDJ			pmax	pmax	
comp=Z,240nm,1.0s					
MDJ			pmax	pmax	
comp=Z,1μm,3.5s					
MDJ	**Mudanjiang**	**51.94 340**	P	**P**	**14 44 28.7 +0.9**
MDJ	**Mudanjiang**	**51.94 340**	P	**P**	**14 44 27.0 -0.8**
MDJ			PcP	**PcP**	**14 45 35.1 +0.6**
MDJ			ScP	**ScP**	**14 48 56.0 +1.1**
SNY	**Shenyang**	**52.02 333**	⇓P	**P**	**14 44 29.3 +0.9**
SNY			sP	**PP**	**14 46 28.5 -2.7**
SNY			sS	**sS**	**14 53 33.8 -6.6**
SNY			SS	**SS**	**14 55 02.8 -2.8**
SNY			pmax	pmax	
comp=Z,43nm,1.0s					
SNY			pmax	pmax	
comp=Z,480nm,4.7s					
SNY			LR	LR	
comp=Z,1μm,12.8s					
SNY			LR	LR	
comp=Z,2μm,16.1s					
SNY			LR	LR	
comp=Z,3μm,13.3s					
PPSI	**Pulau Pagai**	**52.10 269**	P	**P**	**14 44 29.1 -0.4**
comp=Z,17μmcomp=Z,550nm,0.8s					
KULM	**Kulim**	**52.20 279**	P	**P**	**14 44 31.3 +1.0**
KULM	**Kulim**	**52.20 279**	⇑P	**P**	**14 44 28.8 -1.4**
MNSI	**Mandailing Nat**	**52.74 274**	P	**P**	**14 44 33.7 -0.5**
comp=Z,12μmcomp=Z,16μmcomp=Z,2μm,1.0s					
ENH	**Enshi**	**52.78 313**	P	**P**	**14 44 35.2 +1.0**
ENH	**Enshi**	**52.78 313**	P	**P**	**14 44 34.3 +0.1**
ENH			PcP	**PcP**	**14 45 38.8 +0.7**
ENH			ScP	**ScP**	**14 48 60.0 +1.0**
CN2	**Changchun**	**52.81 336**	P	**P**	**14 44 33.9 -0.2**
CN2			PcP	**PcP**	**14 45 36.4 -1.4**
CN2			pP	pP	14 45 50.3 +0.6
CN2			ScP	**ScP**	**14 48 58.9 +0.2**
CN2			S	**S**	**14 51 31.9 -1.2**
CN2			ScS	**ScS**	**14 53 42.3 -1.6**
CN2			SS	**SS**	**14 55 17.3 -0.8**
CN2			pmax	pmax	
comp=Z,120nm,1.3s					
CN2			pmax	pmax	
comp=Z,600nm,3.0s					
NONG	**Nongkai**	**52.83 296**	P	**P**	**14 44 35.7 +1.0**
comp=Z,2μm,1.0s					
UGL	**Uglegorsk**	**53.03 352**	⇑*i*P	**P**	**14 44 36.4 +0.8**
UGL			*e*		14 45 39.4
UGL			*e*S	**S**	**14 51 30.0 -5.8**
UGL			*e*SS	**ScS**	**14 53 42.3 -2.9**
UGL			pmax	pmax	
comp=Z,1μm,2.0s					
UGL			pmax	pmax	
comp=Z,200nm,1.4s					
UGL			smax	smax	
comp=E,4μm,5.1s					
UGL			smax	smax	
comp=N,17μm,7.6s					
SISI	**Saibi**	**53.08 271**	P	**P**	**14 44 36.4 -0.3**
comp=N,27μmcomp=N,2μm,1.4s					
GYA	**Guiyang**	**53.09 307**	⇓P	**P**	**14 44 38.9 +2.3**
GYA			PcP	**PcP**	**14 45 41.4 +2.0**
GYA			pP	pP	14 45 56.5 +2.8
GYA			ScP	**ScP**	**14 49 01.9 +1.4**
GYA			S	**S**	**14 51 39.9 +2.3**
GYA			sS	sS	14 53 57.9 +1.8
GYA			SS	**SS**	**14 55 23.8 +0.5**
GYA			pmax	pmax	
comp=N,330nm,0.9s					
GYA			pmax	pmax	
comp=N,4μm,5.8s					
GYA			LR	LR	
comp=N,2μm,14.8s					
GYA			LR	LR	
comp=N,2μm,17.8s					
GYA			LR	LR	
comp=N,5μm,18.6s					
LYN	**LuoYang**	**53.12 319**	P	**P**	**14 44 37.1 +0.6**
LYN			PcP	**PcP**	**14 45 40.8 +1.6**
LYN			pP	pP	14 45 52.6 -1.1
LYN			sP	sP	14 46 30.5 -4.5
LYN			ScP	**ScP**	**14 49 01.6 +1.3**
LYN			PcS	**PcS**	**14 49 39.4 +0.7**
LYN			pmax	pmax	
comp=N,140nm,0.9s					
LYN			pmax	pmax	
comp=N,3μm,6.0s					
SLVN	**Son La**	**53.28 300**	P	**P**	**14 44 40.5 +2.4**
KEKH	**Kekaha**	**53.38 59**	P	**P**	**14 44 38.8 +0.2**
NAYO	**Nakonayok**	**53.41 291**	P	**P**	**14 44 41.2 +2.3**
HNS	**HongShan**	**53.49 323**	⇑P	**P**	**14 44 39.3 +0.1**
HNS			PcP	**PcP**	**14 45 42.3 +1.7**
HNS			pP	**pP**	**14 45 57.0 +1.0**
HNS			sP	**sP**	**14 46 38.0 +1.0**
HNS			ScP	**ScP**	**14 49 02.9 +1.1**
HNS			ScS	**ScS**	**14 53 49.6 +0.6**
HNS			sS	**sS**	**14 53 57.3 -3.8**
HNS			SS	**SS**	**14 55 31.8 +2.7**
HNS			pmax	pmax	
comp=N,180nm,1.2s					
HNS			pmax	pmax	
comp=N,2μm,4.6s					
HNS			LR	LR	
comp=N,7μm,20.4s					
HNS			LR	LR	
comp=N,8μm,20.4s					
PSI	**Prapat**	**53.59 276**	P	**P**	**14 44 40.6 +0.1**
BNX	**BinXian**	**53.68 339**	⇑P	**P**	**14 44 39.5 -0.9**
BNX			PcP	**PcP**	**14 45 42.8 +1.7**
BNX			pP	**pwP**	**14 46 00.8 -3.0**
BNX			PP	**PP**	**14 46 47.4 +1.4**
BNX			S	**S**	**14 51 41.4 -3.3**
BNX			pmax	pmax	
comp=N,330nm,1.0s					
BNX			pmax	pmax	
comp=N,1μm,4.6s					
SRIT	**Nakonsritamara**	**53.77 283**	P	**P**	**14 44 42.9 +1.3**
PBSI	**Pulau Batu**	**53.97 272**	P	**P**	**14 44 42.7 -0.4**
comp=N,15μmcomp=N,20μmcomp=N,932nm,2.0s					
SKR	**Severo-Kuril's**	**54.01 3**	*i* P	**P**	**14 44 43.3 +0.7**
SKR			*i* *PP	**PcP**	**14 45 42.0 -0.2**
SKR			*e*		14 45 58.7
SKR			*i* S	**S**	**14 51 49.8 +1.0**
SKR			*i* *SS	**sS**	**14 54 06.3 -1.5**
SKR			pmax	pmax	
comp=Z,357nm,0.9s					
SKR			MLR	MLR	
comp=Z,2μm,19.0s					
TSI	**Tuntungan**	**54.03 277**	P	**P**	**14 44 43.4 0.0**
comp=Z,15μmcomp=Z,21μmcomp=Z,2μm,1.2s					
BJT	**Baijiatuau**	**54.41 326**	P	**P**	**14 44 47.0 +1.3**
BJT	**Baijiatuau**	**54.41 326**	P	**P**	**14 44 46.6 +0.9**
BJT			PcP	**PcP**	**14 45 45.4 +1.3**
BJI	**Beijing**	**54.42 326**	P	**P**	**14 44 46.5 +0.7**
BJI			PcP	**PcP**	**14 45 45.0 +0.9**
BJI			PP	**PP**	**14 46 50.8 -1.9**
BJI			ScP	**ScP**	**14 49 05.8 0.0**
BJI			PcS	**PcS**	**14 49 42.5 -1.6**
BJI			pmax	pmax	
comp=Z,650nm,6.2s					
BJI			LR	LR	
comp=Z,2μm,16.7s					
BJI			LR	LR	
comp=Z,3μm,14.3s					
BJI			LR	LR	
comp=Z,3μm,21.8s					
HON	**Honolulu**	**54.62 61**	IAmb	IAmb	14 44 51.1
comp=Z,2μm,1.0s					
KIP	**Kipapa**	**54.64 61**	P	**P**	**14 44 48.1 +0.4**
KIP			IAmb	IAmb	14 44 50.4
comp=Z,1μm,1.1s					
KIP	**Kipapa**	**54.64 61**	P	**P**	**14 44 49.7 +2.0**
KIP	**Kipapa**	**54.64 61**	P	**P**	**14 44 49.4 +1.7**
KIP	**Kipapa**	**54.64 61**	⇓*e*P	**P**	**14 44 49.2 +1.5**
KIP			pmax	pmax	
comp=Z,576nm,1.3s					
KIP	**Kipapa**	**54.64 61**	P	**P**	**14 44 48.8 +1.2**
KIP			PcP	**PcP**	**14 45 47.7 +2.4**
TYV	**Tymovskoe**	**54.70 353**	*e*P	**P**	**14 44 48.7 +1.2**
TYV			*e*S	**S**	**14 51 57.2 -0.8**
TYV			pmax	pmax	
comp=Z,153nm,0.8s					
TYV			pmax	pmax	
comp=Z,700nm,4.6s					
TYV			smax	smax	
comp=N,307nm,2.7s					
TYV			smax	smax	
comp=E,108nm,2.7s					
TYV			smax	smax	
comp=N,10μm,4.7s					
TYV			smax	smax	
comp=E,4μm,4.7s					
GSI	**Gunungsitoli**	**54.78 274**	IAmb	IAmb	14 44 50.3
comp=Z,3μm,1.0s					
GSI	**Gunungsitoli**	**54.78 274**	P	**P**	**14 44 49.2 +0.3**
GSI	**Gunungsitoli**	**54.78 274**	P	**P**	**14 44 48.4 -0.5**
comp=Z,14μmcomp=Z,32μmcomp=Z,3μm,1.1s					
GSI	**Gunungsitoli**	**54.78 274**	⇑P	**P**	**14 44 47.0 -1.9**
KCSI	**Kotacane, Aceh**	**54.81 277**	P	**P**	**14 44 48.6 -0.5**
comp=Z,14μmcomp=Z,924nm,1.3s					
TIY	**Taiyuan**	**55.08 322**	*e*P	**P**	**14 44 51.8 +1.2**
TIY			PcP	**PcP**	**14 45 48.3 +1.5**
TIY			pP	**pP**	**14 46 08.8 +0.7**
TIY			sP	**sP**	**14 46 50.6 +1.0**
TIY			PP	**PP**	**14 47 06.4 +7.7**
TIY			ScP	**ScP**	**14 49 10.5 +1.6**
TIY			S	**S**	**14 52 05.8 +2.1**
TIY			SS	**SS**	**14 55 55.3 +1.0**
TIY			pmax	pmax	
comp=Z,86nm,0.8s					
TIY			pmax	pmax	
comp=Z,2μm,5.7s					
XAN	**Xi'an**	**55.22 316**	⇓P	**P**	**14 44 49.8 -1.8**
XAN			PcP	**PcP**	**14 45 48.3 +0.9**
XAN			pP	pP	14 46 15.3 +5.8
XAN			S	**S**	**14 52 01.4 -4.1**
XAN			ScS	**ScS**	**14 54 03.4 +1.7**
XAN			SS	**SS**	**14 55 57.1 +0.6**
XAN			pmax	pmax	
comp=Z,420nm,1.2s					
XAN			pmax	pmax	
comp=Z,4μm,6.6s					
XAN			LR	LR	
comp=Z,10μm,22.1s					
XAN			LR	LR	
comp=Z,8μm,17.5s					
XAN			LR	LR	
comp=Z,13μm,22.5s					
XAN	**Xi'an**	**55.22 316**	P	**P**	**14 44 52.4 +0.8**
XAN			PcP	**PcP**	**14 45 48.2 +0.9**
KLR	**Kul'dur**	**55.37 344**	P	**P**	**14 44 52.1 -0.2**
comp=Z,97nm,0.9s,baz=169,slow=4.3,SNR=130					
comp=Z,97nm,0.9s					
KLR	**Kul'dur**	**55.37 344**	*ce*P	**P**	**14 44 51.9 -0.4**
KLR			pmax	pmax	
comp=Z,224nm,1.3s					
COCO	**West Island**	**55.43 258**	P	**P**	**14 44 54.1 +0.8**
COCO	**West Island**	**55.43 258**	P	**P**	**14 44 55.6 +2.2**
COCO			S	**S**	**14 52 12.2 +3.4**
COCO	**West Island**	**55.43 258**	P	**P**	**14 44 55.5 +2.2**
COCO	**West Island**	**55.43 258**	P	**P**	**14 44 54.1 +0.8**
COCO			pmax	pmax	
comp=Z,4μm,1.2s					
COCO	**West Island**	**55.43 258**	P	**P**	**14 44 55.5 +2.2**
COCO			PcP	**PcP**	**14 45 50.3 +1.8**
SRDT	**SRDT**	**55.48 290**	P	**P**	**14 44 56.0 +2.3**
GRNR	**Gornyy**	**55.66 348**	⇑*i*P	**P**	**14 44 53.9 -0.5**
GRNR			*e*S	**S**	**14 52 09.6 -1.1**
GRNR			smax	smax	
comp=E,10.0nm,1.3s					
KMI	**Kunming**	**55.72 304**	⇓P	**P**	**14 44 56.9 +1.4**
KMI			PcP	**PcP**	**14 45 51.8 +2.0**
KMI			pP	pP	14 46 17.3 +3.7
KMI			sP	sP	14 46 58.3 +3.7
KMI			ScP	**ScP**	**14 49 13.8 +1.6**
KMI			S	**S**	**14 52 11.8 -1.0**
KMI			ScS	**ScS**	**14 54 07.8 +1.7**
KMI			SS	**SS**	**14 56 04.8 -0.2**
KMI			pmax	pmax	
comp=E,500nm,1.3s					
KMI			pmax	pmax	
comp=E,4μm,5.1s					
KMI			LR	LR	
comp=E,4μm,16.6s					
KMI			LR	LR	
comp=E,4μm,18.8s					
KMI			LR	LR	
comp=E,5μm,19.1s					
KMI	**Kunming**	**55.72 304**	P	**P**	**14 44 58.0 +2.4**
KMI			PcP	**PcP**	**14 45 51.0 +1.2**
KMI			pP	**pP**	**14 46 16.8 +3.2**
LHMI	**Lhok Sumawe**	**55.84 279**	P	**P**	**14 44 58.7 +2.4**
LHMI	**Lhok Sumawe**	**55.84 279**	P	**P**	**14 44 56.5 +0.2**
LHMI	**Lhok Sumawe**	**55.84 279**	⇓P	**P**	**14 44 57.1 +0.8**
KHLH	**Kahului Airpor**	**55.85 62**	IAmb	IAmb	14 44 59.6
comp=Z,2μm,1.0s					
HLK	**Haleakala**	**55.97 62**	IAmb	IAmb	14 45 00.2
comp=Z,2μm,0.9s					
HUH	**Hualalai**	**55.98 64**	IAmb	IAmb	14 45 00.1
comp=Z,2μm,1.2s					
KHU	**Kahuku**	**56.05 64**	IAmb	IAmb	14 45 00.3
comp=Z,2μm,1.0s					
SNSI	**Sinabang, Aceh**	**56.13 275**	P	**P**	**14 44 58.2 -0.1**
comp=Z,20μmcomp=Z,1μm,1.4s					
HPAH	**Hawaii Prepara**	**56.22 63**	IAmb	IAmb	14 45 01.2
comp=Z,2μm,0.8s					
MLSI	**Meulaboh, Aceh**	**56.26 277**	P	**P**	**14 44 58.7 -0.5**
comp=Z,12μmcomp=Z,29μmcomp=Z,3μm,1.0s					
POHA	**Pohakuloa**	**56.28 64**	P	**P**	**14 45 00.2 +0.6**
POHA	**Pohakuloa**	**56.28 64**	P	**P**	**14 45 01.5 +2.0**
POHA	**Pohakuloa**	**56.28 64**	P	**P**	**14 45 00.7 +1.2**
POHA			pP	**pwP**	**14 46 19.8 -1.2**
MLH	**Mauna Loa**	**56.33 64**	IAmb	IAmb	14 45 02.6
comp=Z,3μm,1.6s					
HLP	**Hilina Pali**	**56.34 64**	IAmb	IAmb	14 45 02.5
comp=Z,2μm,1.6s					

PET	**Petropavlovsk**	**56.52 5**	P	**P**	**14 44 58.7 -1.6**
PET	**Petropavlovsk**	**56.52 5**	P	**P**	**14 45 00.9 +0.7**
	comp=Z,715nm,0.7s				
PET	**Petropavlovsk**	**56.52 5**	*e*P	**P**	**14 44 59.4 -0.8**
PET			*e*		14 45 51.7
PET			*e**PP	**pP**	**14 46 13.8 -3.7**
PET			*e*		14 47 18.5
PET			*i* S	**S**	**14 52 22.9 +1.3**
PET			*e*SS	**SS**	**14 56 13.1 -2.9**
PET			pmax	pmax	
	comp=Z,138nm,0.6s				
PET			pmax	pmax	
	comp=Z,600nm,5.4s				
PET			pmax	pmax	
	comp=Z,300nm,9.9s				
PET			pmax	pmax	
	comp=Z,1μm,10.3s				
PET	**Petropavlovsk**	**56.52 5**	P	**P**	**14 45 00.4 +0.2**
	comp=Z,5μmcomp=Z,177nm,0.7s				
PET	**Petropavlovsk**	**56.52 5**	P	**P**	**14 44 59.8 -0.5**
PET			PcP	**PcP**	**14 45 52.3 +0.3**
PET			pP	**pP**	**14 46 18.1 +0.7**
PET			ScP	**ScP**	**14 49 16.2 +1.5**
PEA0B	**Petropavlovsk-**	**56.53 4***c i*P		**P**	**14 45 00.9 +0.6**
PETK	**Petropavlovsk-**	**56.53 4**	P	**P**	**14 44 58.8 -1.5**
PETK	**Petropavlovsk-**	**56.53 4**	P	**P**	**14 45 00.2 -0.2**
	comp=Z,81nm,0.4s,baz=186,slow=7.5,SNR=535				
PETK			PcP	**PcP**	**14 45 52.9 +0.9**
	comp=Z,254nm,1.0s,baz=185,slow=4.5,SNR=13				
PETK			PKiKP	**PKiKP**	**14 52 19.8 +0.9**
	comp=Z,5.5nm,0.9s,baz=210,slow=1.6,SNR=6.0				
PETK			PKKP	**PKKPdf**	**15 06 33.0 +1.0**
	comp=Z,3.9nm,0.9s,baz=304,slow=3.4,SNR=4.2				
PETK			PKPPKP	**P'P'df**	**15 14 49.2 -4.0**
	comp=Z,9.2nm,1.2s,baz=93,slow=25,SNR=7.4				
PETK			PKP2ab		15 15 20.9
	comp=Z,30nm,1.2s,baz=72,slow=9.5,SNR=6.0				
	comp=Z,81nm,0.4s				
CMAR	**Chiang Mai Arr**	**56.75 295**	P	**P**	**14 45 01.7 -0.8**
CMAR	**Chiang Mai Arr**	**56.75 295**	P	**P**	**14 45 02.9 +0.3**
	comp=Z,444nm,0.9s,baz=114,slow=4.8,SNR=813				
CMAR			PcP	**PcP**	**14 45 54.5 +0.8**
	comp=Z,95nm,0.9s,baz=145,slow=2.6,SNR=13				
CMAR			PKiKP	**PKiKP**	**14 52 19.9 -0.2**
	comp=Z,4.5nm,0.9s,baz=144,slow=1.4,SNR=2.7				
CMAR			P3KP		15 13 41.0
	comp=Z,0.2nm,0.3s,baz=268,slow=0.7,SNR=4.1				
CMAR			PKP2bc		15 15 02.7
	comp=Z,109nm,1.1s,baz=285,slow=3.7,SNR=17				
CMAR			P4KPbc		15 22 16.5
	comp=Z,7.1nm,1.0s,baz=90,slow=2.9,SNR=33				
	comp=Z,444nm,0.9s				
CHTO	**Chiang Mai**	**56.85 295**	P	**P**	**14 45 04.2 +0.9**
CHTO	**Chiang Mai**	**56.85 295**	P	**P**	**14 45 04.2 +0.9**
CHTO			pmax	pmax	
	comp=Z,654nm,1.3s				
PZH	**PanZhiHua**	**57.09 305**	⇓P	**P**	**14 45 06.8 +1.8**
PZH			ScP	**ScP**	**14 49 17.4 -0.7**
PZH			S	**S**	**14 52 31.5 +1.1**
PZH			ScS	**ScS**	**14 54 15.8 0.0**
PZH			sS	**sS**	**14 54 52.9 +1.9**
PZH			SS	**SS**	**14 56 28.0 +1.6**
PZH			pmax	pmax	
	comp=Z,710nm,1.2s				
PZH			pmax	pmax	
	comp=Z,3μm,5.1s				
XLT	**XiLinHaoTe**	**57.19 330**	*e*P	**P**	**14 45 04.1 -1.1**
XLT			PcP	**PcP**	**14 45 56.0 +1.0**
XLT			pP	pP	14 46 24.8 +1.8
XLT			sP	sP	14 47 01.9 -1.8
XLT			ScP	**ScP**	**14 49 19.0 +0.9**
XLT			PcS	**PcS**	**14 49 52.8 -3.7**
XLT			ScS	**ScS**	**14 54 14.1 -1.6**
XLT			sS	sS	14 54 47.1 -4.5
XLT			SS	**SS**	**14 56 26.3 -0.9**
XLT			pmax	pmax	
	comp=Z,220nm,0.8s				
XLT			pmax	pmax	
	comp=Z,1μm,6.0s				
NKL	**Nikolayevsk**	**57.20 352**	*e*P	**P**	**14 45 04.4 -0.6**
NKL			*e*S	**S**	**14 52 29.8 -0.8**
NKL			pmax	pmax	
	comp=N,56nm,1.3s				
NKL			pmax	pmax	
	comp=E,143nm,1.3s				
NKL			pmax	pmax	
	comp=Z,351nm,1.3s				
NKL			smax	smax	
	comp=E,4μm,3.7s				
NKL			smax	smax	
	comp=N,2μm,2.6s				
CD2	**Chengdu**	**57.39 310**	P	**P**	**14 45 07.3 +0.5**
CD2			PcP	**PcP**	**14 45 57.5 +1.5**
CD2			pP	pP	14 46 23.0 -2.3
CD2			ScS	**ScS**	**14 54 17.8 +0.1**
CD2			sS	sS	14 54 52.3 -2.4
CD2			pmax	pmax	
	comp=N,810nm,0.9s				
CD2			LR	LR	
	comp=N,2μm,17.5s				
CD2			LR	LR	
	comp=N,4μm,14.2s				
CD2			LR	LR	
	comp=N,3μm,12.2s				
BSI	**Banda Aceh**	**57.51 279**	P	**P**	**14 45 06.7 -1.2**
	comp=N,10μmcomp=N,11μmcomp=N,1μm,1.0s				
HEH	**HeiHe**	**57.57 341**	*e*P	**P**	**14 45 06.6 -1.0**
HEH			PcP	**PcP**	**14 45 54.3 -1.9**
HEH			sP	**sP**	**14 47 03.9 -1.3**
HEH			ScS	ScS	14 54 14.9 -3.2
HEH			sS	**sS**	**14 54 50.9 -5.4**
HEH			pmax	pmax	
	comp=N,100nm,1.0s				
HEH			pmax	pmax	
	comp=N,940nm,5.3s				
HHC	**Hu-ho-hao-te**	**57.59 324**	*e*P	**P**	**14 45 08.8 +0.7**
HHC			pP	pP	14 46 25.4 -0.6
HHC			sP	sP	14 47 07.6 +0.4
HHC			S	**S**	**14 52 33.1 -3.2**
HHC			ScS	**ScS**	**14 54 19.8 +0.9**
HHC			sS	sS	14 54 56.1 -1.0
HHC			pmax	pmax	
	comp=N,120nm,1.2s				
HHC			pmax	pmax	
	comp=N,2μm,6.0s				
BTO	**Baotou**	**58.35 323**	*e*P	**P**	**14 45 15.1 +1.8**
BTO			pP	**pP**	**14 46 35.6 +3.5**
BTO			sP	**sP**	**14 47 16.9 +4.5**
BTO			PP	**PP**	**14 47 33.9 +6.3**
BTO			S	**S**	**14 52 47.0 +0.9**
BTO			pmax	pmax	
	comp=N,360nm,0.9s				
BTO			pmax	pmax	
	comp=N,1μm,3.6s				
BTO			LR	LR	
	comp=N,5μm,13.9s				
BTO			LR	LR	
	comp=N,9μm,16.8s				
BTO			LR	LR	
	comp=N,9μm,17.5s				
PPT	**Papeete**	**58.73 108**	P	**P**	**14 45 18.4 +2.2**
	comp=N,144nm,1.0s,baz=270,slow=6.6,SNR=4.7				
	comp=N,144nm,1.0s				
PPT2	**Papeete2**	**58.73 108**	*e*P	**P**	**14 45 16.9 +0.6**
	comp=N,236nm,1.3s				
PPT2			*e*pP	**pP**	**14 46 28.5 -6.4**
	comp=N,2μm,26.0s				
PPT2			*e*S	**S**	**14 52 49.6 -2.1**
	comp=N,9μm,26.8s				
PPT2			*e*sS	**sS**	**14 55 11.4 -1.6**
	comp=N,9μm,27.2s				
PPT2			*e*LQ	LQ	15 00 38.6
	comp=N,9μm,26.2s				
PAE	**Paea**	**58.74 108**	*e*P	**P**	**14 45 14.0 -2.2**
	comp=N,160nm,1.5s				
PAE			*e*S	**S**	**14 52 47.7 -3.9**
	comp=N,1μm,25.0s				
PAE	**Paea**	**58.74 108**	*e*PKIKP	**P**	**14 45 17.8 +1.6**
	comp=N,160nm,1.5s				
PPTF	**Pamatai, Papee**	**58.74 108**	P	**P**	**14 45 16.8 +0.4**
CMBY	**CAMPBELL BAY**	**59.06 280**	*e*P	**P**	**14 45 18.0 -0.5**
CMBY			IAmb	IAmb	14 45 19.7
	comp=Z,975nm,1.0s				
CMBY			*e*S	**S**	**14 52 56.3 +0.4**
TVO	**Taravao**	**59.06 109**	*e*P	**P**	**14 45 18.6 0.0**
	comp=Z,210nm,1.4s				
TVO			*e*S	**S**	**14 52 56.2 +0.3**
	comp=Z,1μm,24.6s				
TVO	**Taravao**	**59.06 109**	*e*PKIKP	**P**	**14 45 20.3 +1.7**
	comp=Z,210nm,1.4s				
TNCH	**TengChong**	**59.23 302**	⇓P	**P**	**14 45 21.8 +2.1**
TNCH			PcP	**PcP**	**14 46 05.8 +2.1**
TNCH			pP	pP	14 46 40.3 +1.1
TNCH			sP	sP	14 47 19.4 -0.7
TNCH			ScP	**ScP**	**14 49 29.4 +1.7**
TNCH			S	**S**	**14 52 59.0 +0.9**
TNCH			sS	sS	14 55 16.8 -2.9
TNCH			pmax	pmax	
	comp=Z,1μm,1.1s				
TNCH			pmax	pmax	
	comp=Z,4μm,2.8s				
TNCH			LR	LR	
	comp=Z,1μm,11.8s				
TNCH			LR	LR	
	comp=Z,2μm,14.7s				
TNCH			LR	LR	
	comp=Z,4μm,16.3s				
HIA	**Hailar**	**59.54 336**	P	**P**	**14 45 22.1 +0.9**
HIA	**Hailar**	**59.54 336**	P	**P**	**14 45 21.6 +0.4**
HIA			PcP	**PcP**	**14 46 04.8 +0.7**
HIA			pP	**pP**	**14 46 39.7 +0.4**
TBI	**Tubuai**	**59.68 115**	*e*P	**P**	**14 45 21.8 -0.8**
	comp=Z,544nm,1.2s				
TBI	**Tubuai**	**59.68 115**	*e*PcP	**PcP**	**14 46 04.2 -1.1**
	comp=Z,588nm,1.3s				
TBI			*e*pP	pP	14 46 32.2 -10
	comp=Z,10μm,30.8s				
TBI			*e*S	**S**	**14 53 06.2 +2.7**
	comp=Z,23μm,30.0s				
TBI			*e*sS	**sS**	**14 55 24.8 -0.5**
	comp=Z,30μm,30.2s				
TBI			*e*LQ	LQ	15 00 39.5
	comp=Z,27μm,25.5s				
TBI	**Tubuai**	**59.68 115**	*e*P	**P**	**14 45 23.8 +1.2**
	comp=Z,544nm,1.2s				
LZH	**Lanzhou**	**59.83 316**	*e*P	**P**	**14 45 25.0 +1.5**
LZH			PcP	**PcP**	**14 46 08.3 +2.5**
LZH			pP	pP	14 46 43.0 +0.2
LZH			sP	sP	14 47 26.0 +2.5
LZH			pmax	pmax	
	comp=Z,960nm,1.1s				
LZH			pmax	pmax	
	comp=Z,5μm,6.8s				
LZH			LR	LR	
	comp=Z,4μm,15.7s				
LZH			LR	LR	
	comp=Z,3μm,15.8s				
LZH			LR	LR	
	comp=Z,4μm,19.2s				
PMOR	**Pomariorio Ree**	**60.08 105**	*e*P	**P**	**14 45 25.0 -0.4**
	comp=Z,2μm,1.4s				
PMOR			*e*pP	**PcP**	**14 46 03.2 -3.8**
	comp=Z,477nm,1.3s				
PMOR			*e*S	**S**	**14 53 10.7 +2.0**
	comp=Z,3μm,22.9s				
PMOR	**Pomariorio Ree**	**60.08 105**	*e*P	**P**	**14 45 26.6 +1.2**
	comp=Z,2μm,1.4s				
VAH	**Vaihoa**	**60.36 105**	*e*P	**P**	**14 45 25.1 -2.1**
	comp=Z,853nm,1.5s				
VAH			*e*pP	**PcP**	**14 46 07.2 -0.9**
	comp=Z,366nm,1.2s				
VAH			*e*S	**S**	**14 53 13.2 +1.0**
	comp=Z,4μm,23.1s				
VAH	**Vaihoa**	**60.36 105**	*e*P	**P**	**14 45 28.2 +1.0**
	comp=Z,853nm,1.5s				
ZEA	**Zeya**	**60.67 343**	*e*P	**P**	**14 45 28.1 -0.5**
ZEA			*e*		14 46 10.0
ZEA			*e**PP	**pP**	**14 46 48.2 +1.0**
ZEA			*e*S	**S**	**14 53 16.1 +1.3**
ZEA			*e*SS	**SS**	**14 57 24.5 +3.4**
ZEA			pmax	pmax	
	comp=N,300nm,4.6s				
ZEA			pmax	pmax	
	comp=Z,500nm,4.4s				
ZEA			pmax	pmax	
	comp=N,90nm,0.9s				
ZEA			pmax	pmax	
	comp=Z,140nm,1.0s				
ZEA			smax	smax	
	comp=N,6μm,11.7s				
KIWB	**Kanaga Island**	**60.93 21**	P	**P**	**14 45 30.2 -0.1**
PBA	**Port Blair**	**60.97 285**	P	**P**	**14 45 30.9 -0.4**
PBA	**Port Blair**	**60.97 285**	P	**P**	**14 45 32.5 +1.1**
	SNR=19				
PBA	**Port Blair**	**60.97 285**	*e*P	**P**	**14 45 31.3 -0.1**
PBA			IAmb	IAmb	14 45 34.5
	comp=Z,362nm,1.0s				
PBA			*e*S	**S**	**14 53 21.4 +1.5**
PBA	**Port Blair**	**60.97 285**	⇓P	**P**	**14 45 31.2 -0.1**
DGPR	**DIGLIPUR**	**61.08 287**	*e*P	**P**	**14 45 31.6 -0.4**
DGPR			IAmb	IAmb	14 45 36.3
	comp=Z,406nm,0.7s				
DGPR			*e*S	**S**	**14 53 21.4 +0.2**
ADK	**Adak**	**61.12 21**	P	**P**	**14 45 31.5 -0.1**
ADK	**Adak**	**61.12 21**	P	**P**	**14 45 33.0 +1.4**
ADK	**Adak**	**61.12 21**	P	**P**	**14 45 31.5 -0.1**
ADK			pmax	pmax	
	comp=Z,915nm,1.4s				
ADK	**Adak**	**61.12 21**	P	**P**	**14 45 32.9 +1.2**
ADK			PcP	**PcP**	**14 46 10.9 +0.5**
ADK			pP	**pwP**	**14 46 53.1 -2.6**
GSTR	**Great Sitkin T**	**61.52 22**	P	**P**	**14 45 31.4 -2.9**
LKP	**Lekhapani**	**62.28 303**	*e*P	**P**	**14 45 41.1 +1.2**
LKP			IAmb	IAmb	14 45 42.5
	comp=Z,984nm,0.9s				
LKP			*e*S	**S**	**14 53 35.1 -0.9**
ATKA	**Atka Island**	**62.31 23**	P	**P**	**14 45 42.4 +3.0**
MA2	**Magadan**	**62.83 359**	P	**P**	**14 45 40.1 -2.6**
MA2	**Magadan**	**62.83 359**	P	**P**	**14 45 42.3 -0.4**
MA2	**Magadan**	**62.83 359***d i*P		**P**	**14 45 42.1 -0.6**
MA2			pmax	pmax	
	comp=Z,89nm,0.7s				
MA2	**Magadan**	**62.83 359**	P	**P**	**14 45 43.1 +0.4**
	comp=Z,3μmcomp=Z,144nm,0.9s				
MA2	**Magadan**	**62.83 359**	⇑P	**P**	**14 45 41.6 -1.1**
MA2	**Magadan**	**62.83 359**	P	**P**	**14 45 41.9 -0.8**
MA2			PcP	**PcP**	**14 46 17.2 0.0**
MA2			pP	**pP**	**14 47 04.5 +3.1**
MA2			sP	**sP**	**14 47 43.2 +2.0**
IMP	**Imphal**	**63.09 300**	*e*P	**P**	**14 45 45.8 +0.6**
IMP			IAmb	IAmb	14 45 47.5
	comp=Z,1μm,1.3s				
IMP			*e*S	**S**	**14 53 47.2 +1.2**
KOHI	**KOHIMA**	**63.23 301**	*e*P	**P**	**14 45 46.4 +0.2**
KOHI			IAmb	IAmb	14 45 48.6
	comp=Z,2μm,1.2s				
KOHI			*e*S	**S**	**14 53 47.2 -0.6**
DRV	**Dumont d'Urvil**	**63.69 185**	P	**P**	**14 45 49.2 +1.0**
DRV			PcP	**PcP**	**14 46 21.9 +1.3**
AZL	**Aizawl**	**63.86 298**	*e*P	**P**	**14 45 51.2 +0.9**
AZL			IAmb	IAmb	14 45 53.4
	comp=Z,2μm,1.4s				
AZL			*e*S	**S**	**14 53 57.4 +1.8**
ZIRO	**ZIRO**	**64.02 303**	*e*P	**P**	**14 45 53.5 +2.1**
ZIRO			IAmb	IAmb	14 45 54.8
	comp=Z,1μm,0.8s				
ZIRO			*e*S	**S**	**14 53 59.4 +1.8**
CIT	**Chita**	**64.21 335**	*e*P	**P**	**14 45 52.0 +0.1**
CIT			pmax	pmax	
	comp=Z,615nm,2.7s				
GTA	**Gaotai**	**64.24 317**	*e*P	**P**	**14 45 52.8 +0.3**
GTA			PcP	**PcP**	**14 46 23.6 -0.1**
GTA			S	**S**	**14 53 56.6 -3.2**
GTA			ScS	**ScS**	**14 55 10.0 +0.8**
GTA			pmax	pmax	
	comp=Z,250nm,1.1s				
GTA			pmax	pmax	
	comp=Z,4μm,8.0s				
GTA			LR	LR	
	comp=Z,2μm,17.5s				
GTA			LR	LR	
	comp=Z,2μm,17.1s				
GTA			LR	LR	
	comp=Z,3μm,17.8s				
ULN	**Ulaanbaatar**	**64.52 328**	P	**P**	**14 45 53.1 -1.0**
ULN	**Ulaanbaatar**	**64.52 328**	P	**P**	**14 45 56.1 +2.0**
ULN			S	**S**	**14 54 03.9 +1.0**
ULN	**Ulaanbaatar**	**64.52 328***d i*P		**P**	**14 45 53.7 -0.4**
ULN			pmax	pmax	
	comp=Z,190nm,1.0s				
ULN	**Ulaanbaatar**	**64.52 328**	⇑P	**P**	**14 45 54.7 +0.6**
ULN	**Ulaanbaatar**	**64.52 328**	P	**P**	**14 45 54.5 +0.4**
ULN			PcP	**PcP**	**14 46 25.3 +0.6**
ULN			pP	**pP**	**14 47 14.5 0.0**
ULN			sP	**sP**	**14 47 54.8 +0.3**
SONM	**Songino Array**	**64.85 328**	P	**P**	**14 45 55.6 -0.6**
SONM	**Songino Array**	**64.85 328**	P	**P**	**14 45 55.5 -0.7**
	comp=Z,85nm,0.7s,baz=144,slow=6.4,SNR=289				
SONM			PKiKP	**PKiKP**	**14 52 29.6 0.0**
	comp=Z,8.5nm,1.1s,baz=120,slow=1.6,SNR=1.5				
SONM			S	**S**	**14 54 04.8 -2.0**
	comp=Z,6.6nm,1.1s,baz=127,slow=12,SNR=2.0				
SONM			PKPPKP	P'P'df	15 14 30.9 -8.8
	comp=Z,21nm,1.2s,baz=280,slow=1.8,SNR=12				
SONM			PKP2bc		15 14 43.4
	comp=Z,49nm,1.1s,baz=262,slow=2.0,SNR=18				
SONM			P4KPbc		15 22 49.8
	comp=Z,4.0nm,1.1s,baz=0.0,slow=0.4,SNR=11				
	comp=Z,85nm,0.7s				
SHL	**Shillong**	**65.09 300**	P	**P**	**14 45 58.4 +0.2**
SHL	**Shillong**	**65.09 300**	P	**P**	**14 45 59.6 +1.3**
	SNR=570				
SHL	**Shillong**	**65.09 300**	*e*P	**P**	**14 45 59.5 +1.3**
SHL			IAmb	IAmb	14 46 01.3
	comp=Z,1μm,1.0s				
SHL			*e*S	**S**	**14 54 10.1 -0.6**
SHL	**Shillong**	**65.09 300**	P	**P**	**14 45 58.4 +0.2**
SHL			pmax	pmax	
	comp=Z,2μm,1.1s				
TAWA	**Tawang**	**65.71 302**	*e*P	**P**	**14 46 04.7 +2.3**
TAWA			IAmb	IAmb	14 46 06.6
	comp=Z,988nm,0.9s				
TAWA			*e*S	**S**	**14 54 19.7 +1.3**
SEY	**Seymchan**	**66.19 0**	⇑*e*P	**P**	**14 46 03.5 -0.7**
SEY			pmax	pmax	
	comp=Z,110nm,1.2s				
GOMU	**GeErMu**	**66.40 312**	P	**P**	**14 46 08.4 +1.9**
GOMU			PcP	**PcP**	**14 46 34.4 +1.3**
GOMU			S	**S**	**14 54 29.5 +3.1**
GOMU			pmax	pmax	
	comp=Z,310nm,0.9s				
GOMU			LR	LR	
	comp=Z,3μm,17.3s				
GOMU			LR	LR	
	comp=Z,4μm,17.3s				
GOMU			LR	LR	
	comp=Z,4μm,17.7s				
UNV	**Unalaska Valle**	**66.65 25**	P	**P**	**14 46 07.8 +0.7**
	baz=226				
UNV			S	**S**	**14 54 28.1 +0.2**
	baz=226				
UNV	**Unalaska Valle**	**66.65 25**	P	**P**	**14 46 07.9 +0.7**
LSA	**Lhasa**	**66.97 304**	IAmb	IAmb	14 46 14.0
	comp=Z,805nm,1.0s				
LSA	**Lhasa**	**66.97 304**	P	**P**	**14 46 10.4 +0.1**
LSA			pmax	pmax	
	comp=Z,790nm,1.0s				
LSA			LR	LR	
	comp=Z,4μm,9.5s				
LSA			LR	LR	
	comp=Z,5μm,9.2s				
LSA	**Lhasa**	**66.97 304**	P	**P**	**14 46 12.6 +2.2**
LSA	**Lhasa**	**66.97 304**	P	**P**	**14 46 12.5 +2.2**
LSA	**Lhasa**	**66.97 304**	P	**P**	**14 46 12.5 +2.1**
LVA	**Lava Point**	**67.07 25**	IAmb	IAmb	14 46 11.9
	comp=Z,1μm,1.4s				
CAL	**Calcutta**	**67.42 296**	*e*P	**P**	**14 46 14.4 +1.7**
CAL			*e*S	**S**	**14 54 38.8 +0.7**
TAOE	**Nuku Hiva Isla**	**67.42 98**	P	**P**	**14 46 12.8 -0.2**
TAOE	**Nuku Hiva Isla**	**67.42 98**	*e*P	**P**	**14 46 11.2 -1.8**
	comp=Z,1μm,1.3s				
TAOE			*e*S	**S**	**14 54 31.6 -7.1**
	comp=Z,3μm,24.1s				
TAOE			*e*LQ	LQ	15 04 17.9
	comp=Z,9μm,31.3s				
TAOE	**Nuku Hiva Isla**	**67.42 98**	⇑*i*PKIKP	**P**	**14 46 13.8 +0.8**
	comp=Z,1μm,1.3s				
TAOE	**Nuku Hiva Isla**	**67.42 98**	P	**P**	**14 46 15.2 +2.2**
P08K	**Saint George I**	**67.43 22**	IAmb	IAmb	14 46 14.6
	comp=Z,1μm,1.4s				
P08K	**Saint George I**	**67.43 22**	P	**P**	**14 46 13.4 +1.4**
	baz=222				
YAK	**Yakutsk**	**67.52 349**	P	**P**	**14 46 09.9 -2.6**
YAK	**Yakutsk**	**67.52 349***d i*P		**P**	**14 46 13.3 +0.8**
YAK			*e*		14 46 36.2
YAK			*e**PP	**pP**	**14 47 33.9 +0.6**
YAK			*e*		14 48 48.7
YAK			*e*S	**S**	**14 54 39.2 +1.3**
YAK			*e*		14 55 29.8
YAK			pmax	pmax	
	comp=Z,497nm,1.1s				
YAK			pmax	pmax	
	comp=E,44nm,1.4s				
YAK			pmax	pmax	
	comp=N,159nm,1.3s				
YAK			pmax	pmax	
	comp=Z,414nm,1.9s				
YAK			pmax	pmax	
	comp=N,272nm,2.0s				
YAK			pmax	pmax	
	comp=E,65nm,2.2s				
YAK			smax	smax	
	comp=N,9μm,3.2s				
YAK			smax	smax	
	comp=E,2μm,2.3s				
YAK	**Yakutsk**	**67.52 349**	⇓P	**P**	**14 46 11.6 -0.9**
YAK	**Yakutsk**	**67.52 349**	P	**P**	**14 46 13.1 +0.6**
YAK			pP	**pP**	**14 47 33.9 +0.6**
YAK			sP	**sP**	**14 48 14.4 +1.4**
SPIA	**Saint Paul Isl**	**67.60 21**	IAmb	IAmb	14 46 15.5
	comp=Z,1μm,1.2s				
SPIA	**Saint Paul Isl**	**67.60 21**	P	**P**	**14 46 14.5 +1.4**
	baz=221				
SPIA	**Saint Paul Isl**	**67.60 21**	P	**P**	**14 46 14.7 +1.6**
ZAK	**Zakamensk**	**68.01 329**	*e*P	**P**	**14 46 16.4 +0.5**
ZAK			*e*		14 47 37.5
ZAK			*e*		14 54 44.7
ZAK			pmax	pmax	
	comp=Z,362nm,1.0s				
JPG	**JALPAIGURI**	**68.10 300**	*e*P	**P**	**14 46 19.2 +2.4**
JPG			*e*S	**S**	**14 54 47.5 +1.5**
JPG			*e*S	**S**	**14 54 48.7 +2.7**
GTK	**Tadong**	**68.41 301**	*e*P	**P**	**14 46 20.4 +1.5**
GTK			IAmb	IAmb	14 46 22.5
	comp=Z,890nm,0.9s				
GTK			*e*S	**S**	**14 54 52.2 +2.3**
IRK	**Irkutsk**	**68.62 331**	*e*P	**P**	**14 46 19.0 -0.5**
IRK			*e*		14 47 41.4
IRK			*e*S	**S**	**14 54 49.8 -1.5**
IRK			pmax	pmax	
	comp=Z,520nm,1.0s				
FALS	**False Pass**	**68.66 26**	IAmb	IAmb	14 46 21.5
	comp=Z,2μm,1.4s				
FALS	**False Pass**	**68.66 26**	P	**P**	**14 46 20.3 +0.6**
	baz=229				
FALS			S	**S**	**14 54 51.5 0.0**
	baz=229				
FALS	**False Pass**	**68.66 26**	P	**P**	**14 46 20.1 +0.5**
SHBG	**Sahibganj**	**68.67 299**	*e*P	**P**	**14 46 21.8 +1.5**
SHBG			*e*S	**S**	**14 54 50.5 -2.2**
SHBG			*e*S	**S**	**14 54 54.9 +2.2**
CASY	**Casey**	**69.13 197**	P	**P**	**14 46 22.0 -0.4**
CASY	**Casey**	**69.13 197**	⇑P	**P**	**14 46 22.1 -0.2**
CASY	**Casey**	**69.13 197**	P	**P**	**14 46 22.8 +0.5**
CASY			PcP	**PcP**	**14 46 44.6 +1.2**
S12K	**Black Hills**	**69.81 26**	IAmb	IAmb	14 46 28.6
	comp=Z,2μm,1.6s				
S12K	**Black Hills**	**69.81 26**	P	**P**	**14 46 27.5 +0.9**
	baz=230				
S12K			S	**S**	**14 55 05.0 +0.2**
	baz=230				
BOK	**Bokaro**	**69.90 297**	*e*P	**P**	**14 46 29.6 +1.7**
BOK			IAmb	IAmb	14 46 31.6
	comp=Z,784nm,1.1s				
BOK			*e*S	**S**	**14 55 05.5 -1.6**
MOY	**Mondy**	**69.94 329**	*e*P	**P**	**14 46 28.1 +0.5**
MOY			*e*		14 47 50.2
MOY			pmax	pmax	
	comp=Z,517nm,1.7s				
KNTI	**KHUNTI**	**70.27 296**	*e*P	**P**	**14 46 31.2 +1.0**
KNTI			IAmb	IAmb	14 46 33.3
	comp=Z,879nm,1.1s				
KNTI			*e*S	**S**	**14 55 10.0 -1.5**
CNBA	**Chernabura Isl**	**70.35 27**	IAmb	IAmb	14 46 31.9
	comp=Z,1μm,1.2s				

CHNA	**Chernabura Isl**	**70.35**	**27**	P	**P**	**14 46 30.7**	**+0.8**
	baz=232,SNR=18						
CHNA				S	**S**	**14 55 11.0**	**-0.1**
	baz=232						
CHNA	**Chernabura Isl**	**70.35**	**27**	P	**P**	**14 46 31.3**	**+1.4**
VIS	**Vishakhapatnam**	**71.02**	**290**	*e*P	**P**	**14 46 36.6**	**+2.0**
VIS				IAmb	IAmb	14 46 38.0	
	comp=Z,639nm,0.9s						
VIS				*e*S	**S**	**14 55 22.7**	**+2.6**
RAGD	**RAYAGADA**	**71.17**	**292**	*e*P	**P**	**14 46 36.9**	**+1.4**
RAGD				*e*S	**S**	**14 55 19.8**	**-2.0**
JHSG	**JHARSUGUGA**	**71.37**	**294**	*e*P	**P**	**14 46 38.1**	**+1.5**
JHSG				IAmb	IAmb	14 46 39.8	
	comp=Z,2μm,1.1s						
JHSG				*e*S	**S**	**14 55 23.9**	**0.0**
M11K	**Mekoryuk**	**71.40**	**20**	P	**P**	**14 46 38.0**	**+2.0**
	baz=224,SNR=11						
M11K				S	**S**	**14 55 26.4**	**+3.7**
	baz=224						
CHGN	**Chignik**	**71.78**	**26**	IAmb	IAmb	14 46 40.0	
	comp=Z,510nm,1.0s						
CHGN	**Chignik**	**71.78**	**26**	P	**P**	**14 46 38.9**	**+0.5**
	baz=233,SNR=25						
CHGN				S	**S**	**14 55 26.6**	**-0.7**
	baz=233						
BILL	**Bilibino**	**72.00**	**6**	P	**P**	**14 46 37.7**	**-1.7**
BILL	**Bilibino**	**72.00**	**6***d*	*i*P	**P**	**14 46 39.5**	**+0.1**
BILL				pmax	pmax		
	comp=Z,499nm,1.1s						
BILL	**Bilibino**	**72.00**	**6**	P	**P**	**14 46 39.7**	**+0.3**
BILL				PcP	**PcP**	**14 46 56.4**	**+0.8**
BILL				sP	**sP**	**14 48 41.8**	**+1.9**
HALK	**Hakmana**	**72.02**	**277**	⇓P	**P**	**14 46 42.0**	**+1.3**
PALK	**Pallekele**	**72.12**	**279**	P	**P**	**14 46 41.8**	**+0.5**
PALK				IAmb	IAmb	14 46 44.6	
	comp=Z,1μm,1.1s						
PALK	**Pallekele**	**72.12**	**279**	P	**P**	**14 46 43.1**	**+1.8**
PALK				S	**S**	**14 55 32.9**	**+0.1**
PALK	**Pallekele**	**72.12**	**279***d*	*i*P	**P**	**14 46 42.5**	**+1.2**
PALK				pmax	pmax		
	comp=Z,1μm,1.1s						
PALK	**Pallekele**	**72.12**	**279**	⇑P	**P**	**14 46 42.6**	**+1.3**
GAMB	**Gambell**	**72.24**	**16**	IAmb	IAmb	14 46 43.8	
	comp=Z,766nm,1.2s						
GAMB	**Gambell**	**72.24**	**16**	P	**P**	**14 46 42.6**	**+1.8**
	baz=218						
GAMB				S	**SKiKP**	**14 55 34.6**	**-1.9**
	baz=218						
MALK	**Mahakanadarawa**	**72.39**	**280**	P	**P**	**14 46 40.9**	**-1.9**
MALK	**Mahakanadarawa**	**72.39**	**280**	⇑P	**P**	**14 46 44.1**	**+1.2**
M13K	**Dall Lake**	**72.43**	**21**	IAmb	IAmb	14 46 45.5	
	comp=Z,1μm,1.1s						
M13K	**Dall Lake**	**72.43**	**21**	P	**P**	**14 46 44.3**	**+2.2**
	baz=227						
M13K				S	**SKiKP**	**14 55 38.6**	**+1.7**
	baz=227						
O14K	**Tigyukauivet M**	**72.44**	**23**	IAmb	IAmb	14 46 45.0	
	comp=Z,2μm,1.6s						
O14K	**Tigyukauivet M**	**72.44**	**23**	P	**P**	**14 46 43.9**	**+1.8**
	baz=230						
O14K				S	**SKiKP**	**14 55 37.0**	**0.0**
	baz=230						
N14K	**Kuskokwak Cree**	**72.72**	**22**	P	**P**	**14 46 45.3**	**+1.6**
	baz=229,SNR=40						
N14K				S	**S**	**14 55 40.3**	**+2.6**
	baz=229						
CHIR	**Chirikof Islan**	**72.77**	**28**	IAmb	IAmb	14 46 46.5	
	comp=Z,1μm,0.9s						
CHIR	**Chirikof Islan**	**72.77**	**28**	P	**P**	**14 46 45.5**	**+1.3**
	baz=236,SNR=17						
CHIR				S	**S**	**14 55 38.3**	**-0.2**
	baz=236						
CHIR	**Chirikof Islan**	**72.77**	**28**	P	**P**	**14 46 45.9**	**+1.7**
VAR	**Varanasi**	**72.78**	**298**	*e*P	**P**	**14 46 46.0**	**+1.2**
R16K	**Pilot Point**	**72.91**	**26**	P	**P**	**14 46 46.3**	**+1.4**
	baz=233,SNR=11						
R16K				S	**S**	**14 55 41.5**	**+1.6**
	baz=233						
R16K				S	**S**	**14 55 41.5**	**+1.6**
	baz=233						
BLSP	**Bilaspur**	**72.93**	**294**	*e*P	**P**	**14 46 46.3**	**+0.4**
BLSP				IAmb	IAmb	14 46 48.2	
	comp=Z,1μm,1.1s						
BLSP				⇑*e*S	**SKiKP**	**14 55 37.4**	**-1.5**
BLSP				*e*S	**S**	**14 55 39.8**	**-1.8**
O15K	**Ungalikthiuk R**	**72.96**	**24**	P	**P**	**14 46 46.9**	**+1.7**
	baz=231						
O15K				S	**S**	**14 55 42.4**	**+1.9**
	baz=231						
K13K	**Kusilvak Mount**	**73.03**	**20**	IAmb	IAmb	14 46 48.8	
	comp=Z,525nm,0.9s						
K13K	**Kusilvak Mount**	**73.03**	**20**	P	**P**	**14 46 47.5**	**+2.0**
	baz=226						
K13K				S	**S**	**14 55 44.1**	**+3.0**
	baz=226						
M14K	**Bethel**	**73.17**	**22**	P	**P**	**14 46 48.3**	**+2.0**
	baz=228,SNR=123						
M14K				S	**S**	**14 55 45.5**	**+2.9**
	baz=228						
MDRS	**Chennai**	**73.25**	**285**	*e*P	**P**	**14 46 49.1**	**+1.3**
MDRS				*e*S	**S**	**14 55 46.9**	**+1.6**
L14K	**Kuka Creek**	**73.30**	**21**	IAmb	IAmb	14 46 50.3	
	comp=Z,1μm,1.1s						
L14K	**Kuka Creek**	**73.30**	**21**	P	**P**	**14 46 49.2**	**+2.1**
	baz=228						
L14K				S	**S**	**14 55 47.2**	**+3.1**
	baz=228						
N15K	**Kwethluk River**	**73.49**	**23**	IAmb	IAmb	14 46 51.4	
	comp=Z,967nm,1.1s						
N15K	**Kwethluk River**	**73.49**	**23**	P	**P**	**14 46 50.2**	**+1.9**
	baz=230						
N15K				S	**S**	**14 55 49.2**	**+2.8**
	baz=230						
M15K	**Kasigluk River**	**73.60**	**22**	P	**P**	**14 46 50.4**	**+1.5**
	baz=230,SNR=97						
M15K				S	**S**	**14 55 49.4**	**+1.8**
	baz=230						
P16K	**Nushagak River**	**73.62**	**24**	P	**P**	**14 46 49.9**	**+0.9**
	baz=233,SNR=18						
P16K				S	**S**	**14 55 48.7**	**+1.0**
	baz=233						
P16K				S	**S**	**14 55 48.7**	**+1.0**
	baz=233						
ALBI	**Allahabad**	**73.85**	**297**	*e*P	**P**	**14 46 53.3**	**+2.3**
ALBI				IAmb	IAmb	14 46 55.0	
	comp=Z,574nm,0.9s						
ALBI				*e*S	**S**	**14 55 50.6**	**-1.1**
SII	**Sitkinak Islan**	**73.85**	**28**	P	**P**	**14 46 51.9**	**+1.5**
	baz=237,SNR=11						
SII				S	**S**	**14 55 50.9**	**+0.4**
	baz=237						
SII	**Sitkinak Islan**	**73.85**	**28**	P	**P**	**14 46 51.9**	**+1.5**
O16K	**Kokwok River B**	**73.92**	**24**	P	**P**	**14 46 51.8**	**+1.1**
	baz=232						
O16K				S	**S**	**14 55 51.5**	**+0.4**
	baz=232						
L15K	**Ungalak Mounta**	**73.95**	**21**	P	**P**	**14 46 52.3**	**+1.5**
	baz=229,SNR=91						
L15K				S	**S**	**14 55 53.9**	**+2.5**
	baz=229						
Q16K	**King Salmon**	**73.96**	**25**	P	**P**	**14 46 51.2**	**+0.3**
	baz=234,SNR=16						
Q16K				S	**S**	**14 55 51.1**	**-0.4**
	baz=234						
J14K	**Nanvaranak Lak**	**73.96**	**20**	IAmb	IAmb	14 46 54.5	
	comp=Z,1μm,1.0s						
J14K	**Nanvaranak Lak**	**73.96**	**20**	P	**P**	**14 46 53.1**	**+2.3**
	baz=226						
J14K				S	**S**	**14 55 55.3**	**+3.9**
	baz=226						
VNDA	**Vanda**	**74.21**	**178**	P	**P**	**14 46 53.5**	**+1.3**
	comp=Z,330nm,1.0s,baz=328,slow=6.4,SNR=179						
	comp=Z,330nm,1.0s						
ACHA	**Angle Creek He**	**74.26**	**26**	IAmb	IAmb	14 46 56.3	
	comp=Z,983nm,1.4s						
R18K	**Karluk**	**74.28**	**27**	P	**P**	**14 46 54.0**	**+1.2**
	baz=236						
R18K				S	**S**	**14 55 55.6**	**+0.5**
	baz=236						
R18K				S	**S**	**14 55 55.6**	**+0.5**
	baz=236						
WMQ	**Urumqi**	**74.33**	**317**	⇓P	**P**	**14 46 55.6**	**+2.1**
WMQ				pP	pP	14 48 15.5	-1.2
WMQ				sP	sP	14 49 00.4	+4.3
WMQ				S	**S**	**14 55 56.4**	**0.0**
WMQ				ScS	**SKKSac**	**14 56 26.6**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,800nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,6μm,5.5s						
WMQ				LR	LR		
	comp=Z,5μm,24.2s						
WMQ				LR	LR		
	comp=Z,6μm,21.3s						
WMQ				LR	LR		
	comp=Z,6μm,24.0s						
K15K	**Wolf Creek Mou**	**74.35**	**21**	P	**P**	**14 46 55.2**	**+2.1**
	baz=229						
K15K				S	**S**	**14 55 58.5**	**+2.8**
	baz=229						
P17K	**Kvichak River**	**74.36**	**25**	P	**P**	**14 46 53.5**	**+0.2**
	baz=234,SNR=18						
P17K				S	**S**	**14 55 55.0**	**-0.9**
	baz=234						
P17K				S	**S**	**14 55 55.0**	**-0.9**
	baz=234						
O17K	**Koliganek Bris**	**74.43**	**24**	P	**P**	**14 46 55.0**	**+1.4**
	baz=233,SNR=68						
O17K				S	**S**	**14 55 57.5**	**+0.8**
	baz=233						
M16K	**Timber Creek**	**74.46**	**22**	IAmb	IAmb	14 46 57.1	
	comp=Z,1μm,1.0s						
M16K	**Timber Creek**	**74.46**	**22**	P	**P**	**14 46 56.0**	**+2.2**
	baz=231						
M16K				S	**S**	**14 56 00.8**	**+3.8**
	baz=231						
OHAK	**Old Harbor**	**74.62**	**27**	IAmb	IAmb	14 46 56.7	
	comp=Z,474nm,0.8s						
OHAK	**Old Harbor**	**74.62**	**27**	P	**P**	**14 46 56.1**	**+1.4**
	baz=238,SNR=56						
OHAK				S	**S**	**14 55 59.5**	**+0.6**
	baz=238						
OHAK	**Old Harbor**	**74.62**	**27**	P	**P**	**14 46 56.2**	**+1.4**
ANM	**Nome**	**74.67**	**18**	P	**P**	**14 46 56.8**	**+1.9**
	baz=224,SNR=316						
ANM				S	**S**	**14 56 02.4**	**+3.3**
	baz=224						
L16K	**Owhat River**	**74.71**	**22**	IAmb	IAmb	14 46 58.1	
	comp=Z,2μm,1.6s						
L16K	**Owhat River**	**74.71**	**22**	P	**P**	**14 46 56.9**	**+1.7**
	baz=231,SNR=116						
L16K				S	**S**	**14 56 02.1**	**+2.4**
	baz=231						
SBA	**Scott Base**	**74.76**	**177**	P	**P**	**14 46 56.8**	**+1.5**
SBA				IAmb	IAmb	14 46 58.8	
	comp=Z,731nm,1.3s						
SBA	**Scott Base**	**74.76**	**177**	P	**P**	**14 46 56.8**	**+1.5**
SBA				pmax	pmax		
	comp=Z,731nm,1.3s						
N17K	**Nushagak Hills**	**74.85**	**23**	IAmb	IAmb	14 46 58.9	
	comp=Z,396nm,0.8s						
N17K	**Nushagak Hills**	**74.85**	**23**	P	**P**	**14 46 58.2**	**+2.2**
	baz=233						
N17K				S	**S**	**14 56 04.8**	**+3.5**
	baz=233						
LKN	**LUCKNOW**	**74.96**	**299**	*e*P	**P**	**14 46 58.6**	**+1.2**
LKN				*e*S	**S**	**14 56 06.4**	**+2.6**
P18K	**Big Mountain,**	**74.98**	**25**	P	**P**	**14 46 57.1**	**+0.3**
	baz=235,SNR=23						
P18K				S	**S**	**14 56 01.4**	**-1.5**
	baz=235						
F14K	**Arctic Creek**	**75.05**	**17**	P	**P**	**14 46 58.8**	**+1.8**
	baz=223						
F14K				S	**S**	**14 56 05.9**	**+2.6**
	baz=223						
SALM	**Salem**	**75.06**	**283**	*e*P	**P**	**14 47 00.4**	**+2.3**
SALM				IAmb	IAmb	14 47 02.1	
	comp=Z,1μm,0.9s						
SALM				*e*S	**S**	**14 56 04.9**	**-0.3**
BNDA	**BANDA**	**75.19**	**297**	*e*P	**P**	**14 46 59.1**	**+0.4**
BNDA				IAmb	IAmb	14 47 00.7	
	comp=Z,976nm,0.9s						
BNDA				*e*S	**S**	**14 56 05.2**	**-1.2**
BNDA				*e*S	**S**	**14 56 06.4**	**0.0**
KDAK	**Kodiak Island**	**75.25**	**27**	P	**P**	**14 46 58.8**	**+0.5**
KDAK				IAmb	IAmb	14 47 00.9	
	comp=Z,917nm,1.2s						
KDAK	**Kodiak Island**	**75.25**	**27**	P	**P**	**14 46 59.7**	**+1.4**
	baz=238						
KDAK				S	**S**	**14 56 06.6**	**+0.9**
	baz=238						
KDAK	**Kodiak Island**	**75.25**	**27***d*	*i*P	**P**	**14 46 59.3**	**+1.0**
KDAK				pmax	pmax		
	comp=Z,786nm,1.1s						
KDAK	**Kodiak Island**	**75.25**	**27**	⇓P	**P**	**14 46 59.5**	**+1.2**
O18K	**Koktuh Hills**	**75.25**	**24**	P	**P**	**14 46 59.1**	**+0.8**
	baz=235,SNR=30						
O18K				S	**S**	**14 56 05.1**	**-0.7**
	baz=235						
O18K				S	**S**	**14 56 05.1**	**-0.7**
	baz=235						
M17K	**Holitna River**	**75.28**	**23**	IAmb	IAmb	14 47 02.1	
	comp=Z,931nm,1.1s						
M17K	**Holitna River**	**75.28**	**23**	P	**P**	**14 47 01.0**	**+2.5**
	baz=233						
M17K				S	**S**	**14 56 11.1**	**+5.1**
	baz=233						
J16K	**Anvik River**	**75.32**	**20**	P	**P**	**14 47 01.1**	**+2.4**
	baz=229						
J16K				S	**S**	**14 56 11.7**	**+5.3**
	baz=229						
G15K	**Niukluk**	**75.38**	**18**	P	**P**	**14 47 00.5**	**+1.6**
	baz=226						
G15K				S	**S**	**14 56 08.8**	**+1.9**
	baz=226						
Q19K	**Cape Douglas,**	**75.39**	**26**	P	**P**	**14 47 00.1**	**+0.9**
	baz=237,SNR=51						
Q19K				S	**S**	**14 56 06.1**	**-1.3**
	baz=237						
Q19K				S	**S**	**14 56 06.1**	**-1.3**
	baz=237						
L17K	**Donlin**	**75.41**	**22**	P	**P**	**14 47 01.5**	**+2.4**
	baz=232						
L17K				S	**S**	**14 56 11.4**	**+4.0**
	baz=232						
N18K	**Kilae Creek**	**75.45**	**24**	P	**P**	**14 47 01.8**	**+2.3**
	baz=234						
N18K				S	**S**	**14 56 11.9**	**+4.0**
	baz=234						
N18K				S	**S**	**14 56 11.9**	**+4.0**
	baz=234						
HYB	**Hyderabad**	**75.47**	**289**	⇓*e*P	**P**	**14 47 01.3**	**+0.8**
HYB				IVmB_BB		14 47 01.8	
	comp=Z,10μm,2.4s						
HYB				*e*S	**S**	**14 56 08.1**	**-1.7**
NGP	**Nagpur**	**75.58**	**293**	*e*P	**P**	**14 47 02.0**	**+1.0**
NGP				IAmb	IAmb	14 47 03.5	
	comp=Z,516nm,0.9s						
NGP				*e*S	**S**	**14 56 06.6**	**-4.2**
NGP				*e*S	**S**	**14 56 08.4**	**-2.4**
KOD	**Kodaikanal**	**75.61**	**281**	*e*P	**P**	**14 47 03.6**	**+1.9**
KOD				*e*S	**S**	**14 56 11.1**	**-0.9**
H16K	**Elim**	**75.69**	**19**	P	**P**	**14 47 02.2**	**+1.6**
	baz=227,SNR=200						
H16K				S	**S**	**14 56 12.9**	**+2.7**
	baz=227						
I17K	**Unalakleet**	**75.69**	**20**	P	**P**	**14 47 03.0**	**+2.4**
	baz=229,SNR=187						
I17K				S	**S**	**14 56 14.3**	**+4.0**
	baz=229						
F15K	**North Star Dit**	**75.70**	**17**	IAmb	IAmb	14 47 03.9	
	comp=Z,963nm,1.2s						
F15K	**North Star Dit**	**75.70**	**17**	P	**P**	**14 47 02.6**	**+1.8**
	baz=225						
F15K				S	**S**	**14 56 13.2**	**+2.7**
	baz=225						
AIS	**Amsterdam Isla**	**75.75**	**232**	P	**P**	**14 47 02.3**	**+0.7**
K17K	**Iditarod**	**75.77**	**21**	P	**P**	**14 47 03.3**	**+2.2**
	baz=232,SNR=380						
K17K				S	**S**	**14 56 15.8**	**+4.5**
	baz=232						
Q20K	**Shuyak Island**	**75.77**	**26**	P	**P**	**14 47 02.7**	**+1.5**
	baz=238,SNR=17						
Q20K				S	**S**	**14 56 12.8**	**+1.4**
	baz=238						
O19K	**Port Alsworth**	**75.81**	**24**	P	**P**	**14 47 02.2**	**+0.8**
	baz=236,SNR=39						
O19K				S	**S**	**14 56 11.4**	**-0.4**
	baz=236						
O19K				S	**S**	**14 56 11.4**	**-0.4**
	baz=236						
J17K	**VABM Dome**	**75.92**	**20**	P	**P**	**14 47 04.4**	**+2.4**
	baz=231						
J17K				S	**S**	**14 56 16.6**	**+3.7**
	baz=231						
J17K				S	**S**	**14 56 16.6**	**+3.7**
	baz=231						
TRD	**Trivandrum**	**75.93**	**280**	*e*P	**P**	**14 47 05.0**	**+1.9**
TRD				IAmb	IAmb	14 47 07.2	
	comp=Z,3μm,1.3s						
TRD				*e*S	**S**	**14 56 17.2**	**+2.4**
M18K	**Stony River**	**75.95**	**23**	P	**P**	**14 47 04.5**	**+2.2**
	baz=234,SNR=130						
M18K				S	**S**	**14 56 17.3**	**+4.0**
	baz=234						
P19K	**Oil Pt**	**75.97**	**25**	P	**P**	**14 47 03.4**	**+1.0**
	baz=237,SNR=78						
P19K				S	**S**	**14 56 12.3**	**-1.3**
	baz=237						
L18K	**Granite Mounta**	**76.06**	**22**	P	**P**	**14 47 05.3**	**+2.5**
	baz=233						
L18K				S	**S**	**14 56 18.1**	**+3.7**
	baz=233						
L18K				S	**S**	**14 56 18.1**	**+3.7**
	baz=233						
LGTI	**Lohaghat**	**76.06**	**301**	*e*P	**P**	**14 47 05.3**	**+1.8**
LGTI				IAmb	IAmb	14 47 07.2	
	comp=Z,1μm,1.1s						
LGTI				*e*S	**S**	**14 56 15.2**	**-0.5**
N19K	**Bonanza Creek**	**76.09**	**24**	IAmb	IAmb	14 47 05.9	
	comp=Z,1μm,1.6s						
N19K	**Bonanza Creek**	**76.09**	**24**	P	**P**	**14 47 04.6**	**+1.5**
	baz=236						
N19K				S	**S**	**14 56 16.4**	**+1.3**
	baz=236						
N19K				S	**S**	**14 56 16.4**	**+1.3**
	baz=236						
PTH	**Pithoragarh**	**76.11**	**301**	*e*P	**P**	**14 47 05.2**	**+1.2**
PTH				*e*S	**S**	**14 56 15.2**	**-1.5**
G16K	**Koyuk River**	**76.17**	**18**	IAmb	IAmb	14 47 06.5	
	comp=Z,1μm,1.2s						
G16K	**Koyuk River**	**76.17**	**18**	P	**P**	**14 47 05.2**	**+1.9**
	baz=227,SNR=463						
G16K				S	**S**	**14 56 18.7**	**+3.3**
	baz=227						
ILSW	**Iliamna Southw**	**76.19**	**25**	IAmb	IAmb	14 47 05.3	
	comp=Z,1μm,1.2s						
FRKB	**FARRUKHABAD**	**76.23**	**299**	*e*P	**P**	**14 47 05.2**	**+0.7**
FRKB				*e*S	**S**	**14 56 18.7**	**+1.0**
FRKB				IAmb	IAmb	14 56 19.7	
	comp=Z,2μm,1.2s						
KRAR	**Krasnoyarsk**	**76.30**	**330**	⇓*e*P	**P**	**14 47 04.5**	**+0.3**
O20K	**Slope Mountain**	**76.46**	**25**	P	**P**	**14 47 05.9**	**+0.7**
	baz=238,SNR=39						
O20K				S	**S**	**14 56 18.7**	**-0.3**
	baz=238						
O20K				S	**S**	**14 56 18.7**	**-0.3**
	baz=238						
TIXI	**Tiksi**	**76.47**	**353**	P	**P**	**14 47 02.8**	**-2.1**
TIXI	**Tiksi**	**76.47**	**353***d*	*i*P	**P**	**14 47 04.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,221nm,1.1s						
TIXI	**Tiksi**	**76.47**	**353**	⇑P	**P**	**14 47 03.9**	**-1.0**
H17K	**Granite Mounta**	**76.63**	**19**	P	**P**	**14 47 08.1**	**+2.2**
	baz=230,SNR=274						
H17K				S	**S**	**14 56 23.4**	**+2.9**
	baz=230						
HOM	**Homer**	**76.65**	**26**	P	**P**	**14 47 07.7**	**+1.5**
	baz=238,SNR=56						
HOM				S	**S**	**14 56 22.2**	**+1.3**
	baz=238						
L19K	**White Mountain**	**76.73**	**23**	P	**P**	**14 47 08.8**	**+2.2**
	baz=235						
L19K				S	**S**	**14 56 24.9**	**+3.1**
	baz=235						
L19K				S	**S**	**14 56 24.9**	**+3.1**
	baz=235						
TTA	**Tatalina**	**76.73**	**22**	IAmb	IAmb	14 47 09.6	
	comp=Z,2μm,1.3s						
TTA	**Tatalina**	**76.73**	**22**	P	**P**	**14 47 08.5**	**+1.8**
	baz=234,SNR=303						
TTA				S	**S**	**14 56 25.0**	**+3.2**
	baz=234						
TTA	**Tatalina**	**76.73**	**22**	P	**P**	**14 47 08.4**	**+1.8**
TTA	**Tatalina**	**76.73**	**22**	⇓P	**P**	**14 47 06.9**	**+0.2**
M19K	**Big River Lodg**	**76.75**	**23**	P	**P**	**14 47 08.9**	**+2.2**
	baz=236						
M19K				S	**S**	**14 56 25.6**	**+3.6**
	baz=236						
M19K				S	**S**	**14 56 25.6**	**+3.6**
	baz=236						
JHNI	**Jhansi**	**76.78**	**297**	*e*P	**P**	**14 47 07.7**	**+0.1**
JHNI				IAmb	IAmb	14 47 09.1	
	comp=Z,1μm,1.3s						
JHNI				*e*S	**S**	**14 56 23.4**	**-0.3**
J18K	**Innoko River**	**76.80**	**21**	IAmb	IAmb	14 47 09.7	
	comp=Z,1μm,1.0s						
J18K	**Innoko River**	**76.80**	**21**	P	**P**	**14 47 08.5**	**+1.6**
	baz=233,SNR=368						
J18K				S	**S**	**14 56 24.9**	**+2.5**
	baz=233						
BRLK	**Bradley Lake**	**77.04**	**26**	IAmb	IAmb	14 47 10.4	
	comp=Z,801nm,0.8s						
BRSE	**Bradley Lake S**	**77.09**	**26**	P	**P**	**14 47 09.8**	**+1.2**
	baz=239,SNR=51						
BRSE				S	**S**	**14 56 27.3**	**+1.6**
	baz=239						
TKRD	**Thakurdwara**	**77.19**	**301**	*e*P	**P**	**14 47 10.8**	**+1.0**
TKRD				*e*S	**S**	**14 56 26.9**	**-1.0**
F17K	**Baldwin Pennin**	**77.21**	**17**	P	**P**	**14 47 11.1**	**+2.1**
	baz=228						
F17K				S	**S**	**14 56 29.6**	**+3.0**
	baz=228						
M20K	**Styx River**	**77.23**	**23**	P	**P**	**14 47 11.2**	**+1.8**
	baz=237						
M20K				S	**S**	**14 56 29.6**	**+2.3**
	baz=237						
M20K				S	**S**	**14 56 29.6**	**+2.3**
	baz=237						
SPCR	**Spurr Chakacha**	**77.23**	**24**	P	**P**	**14 47 09.7**	**+0.3**
	baz=238,SNR=62						
SPCR				S	**S**	**14 56 24.6**	**-2.6**
	baz=238						
L20K	**Farewell, AK**	**77.28**	**23**	P	**P**	**14 47 11.5**	**+1.9**
	baz=236,SNR=88						
L20K				S	**S**	**14 56 31.1**	**+3.5**
	baz=236						
L20K				S	**S**	**14 56 31.1**	**+3.5**
	baz=236						
H18K	**Honhosa River**	**77.28**	**19**	IAmb	IAmb	14 47 12.0	
	comp=Z,718nm,1.4s						
H18K	**Honhosa River**	**77.28**	**19**	P	**P**	**14 47 10.8**	**+1.3**
	baz=231,SNR=166						
H18K				S	**S**	**14 56 28.9**	**+1.4**
	baz=231						
C16K	**Lisburne Hills**	**77.36**	**15**	IAmb	IAmb	14 47 12.5	
	comp=Z,868nm,1.2s						
C16K	**Lisburne Hills**	**77.36**	**15**	P	**P**	**14 47 11.3**	**+1.4**
	baz=224						
C16K				S	**S**	**14 56 29.8**	**+1.7**
	baz=224						
AKL	**Akola**	**77.39**	**292**	*e*P	**P**	**14 47 11.7**	**+0.6**
AKL				IAmb	IAmb	14 47 13.4	
	comp=Z,1μm,1.0s						
AKL				*e*S	**S**	**14 56 27.5**	**-2.9**
BHPL	**Bhopal**	**77.41**	**295**	*e*P	**P**	**14 47 11.8**	**+0.6**
BHPL				IAmb	IAmb	14 47 13.5	
	comp=Z,831nm,1.2s						
BHPL				*e*S	**S**	**14 56 29.4**	**-1.1**
ZSN	**Zaisan**	**77.43**	**320**	*e*P	**P**	**14 47 11.8**	**+1.0**
ZSN				*e*S	**S**	**14 56 31.1**	**+1.3**
ZSN				pmax	pmax		
	comp=Z,295nm,1.1s						
ZSN	**Zaisan**	**77.43**	**320**	*e*P	**P**	**14 47 11.8**	**+1.0**
	comp=Z,295nm,1.1s						
ZSN				*e*S	**S**	**14 56 31.2**	**+1.3**
CAPN	**Captain Cook N**	**77.44**	**25**	P	**P**	**14 47 12.4**	**+2.0**
	baz=239,SNR=46						
CAPN				S	**S**	**14 56 30.8**	**+1.6**
	baz=239						
E17K	**Hotham Inlet**	**77.47**	**17**	P	**P**	**14 47 12.7**	**+2.2**
	baz=227						
E17K				S	**S**	**14 56 32.9**	**+3.5**
	baz=227						
J19K	**Poorman**	**77.51**	**21**	P	**P**	**14 47 12.8**	**+2.0**
	baz=234						
J19K				S	**S**	**14 56 33.4**	**+3.5**
	baz=234						
J19K				S	**S**	**14 56 33.4**	**+3.5**
	baz=234						

GCSA	**Galena City Sc**	**77.52**	**20**	P		**P**	**14 47 12.4 +1.7**
	baz=233,SNR=427						
GCSA				S		**S**	**14 56 32.9 +3.0**
	baz=233						
D17K	**Noatak River**	**77.55**	**16**	P		**P**	**14 47 12.9 +2.0**
	baz=226						
D17K				S		**S**	**14 56 33.3 +3.2**
	baz=226						
NRDN	**NARMADA NAGAR**	**77.56**	**294**	*e*P		**P**	**14 47 15.7 +3.7**
NRDN				*e*S		**S**	**14 56 32.7 +0.7**
NRDN				*e*S		**S**	**14 56 33.0 +0.9**
G18K	**Tagagawik**	**77.65**	**19**	IAmb		IAmb	14 47 14.3
	comp=Z,1μm,1.2s						
G18K	**Tagagawik**	**77.65**	**19**	P		**P**	**14 47 13.1 +1.6**
	baz=231						
G18K				S		**S**	**14 56 33.8 +2.3**
	baz=231						
K20K	**Telida**	**77.70**	**22**	P		**P**	**14 47 13.9 +2.0**
	baz=236						
K20K				S		**S**	**14 56 34.3 +2.3**
	baz=236						
K20K				S		**S**	**14 56 34.3 +2.3**
	baz=236						
GUNA	**GUNA**	**77.72**	**296**	*e*P		**P**	**14 47 12.9 +0.1**
GUNA				*e*S		**S**	**14 56 31.3 -2.5**
GUNA				*e*S		**S**	**14 56 33.0 -0.8**
F18K	**Selawik**	**77.80**	**18**	P		**P**	**14 47 13.9 +1.6**
	baz=230						
F18K				S		**S**	**14 56 35.3 +2.5**
	baz=230						
SEW	**Seward**	**77.83**	**26**	P		**P**	**14 47 13.9 +1.4**
	baz=240,SNR=90						
SEW				S		**S**	**14 56 35.0 +1.6**
	baz=240						
RDOG	**Red Dog Mine**	**77.84**	**16**	P		**P**	**14 47 14.5 +1.9**
	baz=226						
RDOG				S		**S**	**14 56 35.2 +1.9**
	baz=226						
UGON	**Onchagaon**	**77.85**	**300**	*e*P		**P**	**14 47 14.9 +1.5**
UGON				*e*S		**S**	**14 56 33.1 -1.9**
UGON				*e*S		**S**	**14 56 37.1 +2.1**
O22K	**Cooper Landing**	**77.90**	**25**	P		**P**	**14 47 14.3 +1.3**
	baz=240,SNR=62						
O22K				S		**S**	**14 56 35.9 +1.7**
	baz=240						
SKT	**Skwentna**	**77.92**	**24**	P		**P**	**14 47 12.8 -0.3**
	baz=238,SNR=46						
SKT				S		**S**	**14 56 33.3 -1.2**
	baz=238						
ASOR	**Ausora**	**78.05**	**300**	*e*P		**P**	**14 47 15.9 +1.4**
ASOR				*e*S		**S**	**14 56 37.7 +0.7**
E18K	**Tukpahlearik C**	**78.06**	**17**	IAmb		IAmb	14 47 16.8
	comp=Z,1μm,1.2s						
E18K	**Tukpahlearik C**	**78.06**	**17**	P		**P**	**14 47 15.7 +2.0**
	baz=228						
E18K				S		**S**	**14 56 37.9 +2.3**
	baz=228						
C17K	**DeLong Mountai**	**78.06**	**15**	P		**P**	**14 47 15.6 +1.8**
	baz=226,SNR=732						
C17K				S		**S**	**14 56 37.8 +2.1**
	baz=226						
DDI	**Dehra Dun**	**78.10**	**302**	*e*P		**P**	**14 47 16.1 +1.3**
DDI				IAmb		IAmb	14 47 17.9
	comp=Z,872nm,0.9s						
DDI				*e*S		**S**	**14 56 37.4 -0.2**
MERT	**Meerut**	**78.12**	**300**	*e*P		**P**	**14 47 15.9 +1.0**
MERT				*e*S		**S**	**14 56 37.7 0.0**
H19K	**Roundabout Mou**	**78.14**	**19**	P		**P**	**14 47 16.1 +2.0**
	baz=233						
H19K				S		**S**	**14 56 39.7 +3.2**
	baz=233						
J20K	**Nowinta River**	**78.14**	**21**	P		**P**	**14 47 16.4 +2.1**
	baz=235						
J20K				S		**S**	**14 56 39.7 +3.1**
	baz=235						
J20K				S		**S**	**14 56 39.7 +3.1**
	baz=235						
PPLA	**Purkeypile**	**78.16**	**23**	IAmb		IAmb	14 47 16.6
	comp=Z,1μm,1.6s						
PPLA	**Purkeypile**	**78.16**	**23**	P		**P**	**14 47 15.1 +0.5**
	baz=237,SNR=81						
PPLA				S		**S**	**14 56 36.5 -0.6**
	baz=237						
KLP	**Kalpa**	**78.17**	**303**	⇓*e*P		**P**	**14 47 17.0 +1.4**
KLP				⇑*e*S		**S**	**14 56 35.1 -3.9**
KLP				*e*S		**S**	**14 56 39.1 +0.2**
RC01	**Rabbit Creek A**	**78.20**	**25**	P		**P**	**14 47 15.7 +1.1**
	baz=240,SNR=160						
RC01				S		**S**	**14 56 37.8 +0.4**
	baz=240						
G19K	**Purcell Mounta**	**78.31**	**19**	P		**P**	**14 47 17.0 +1.9**
	baz=232						
G19K				S		**S**	**14 56 41.3 +3.0**
	baz=232						
M22K	**Willow**	**78.38**	**24**	P		**P**	**14 47 15.9 +0.4**
	baz=240,SNR=130						
M22K				S		**S**	**14 56 38.1 -1.0**
	baz=240						
I20K	**Naaghedeneel**	**78.38**	**21**	P		**P**	**14 47 17.7 +2.2**
	baz=235						
I20K				S		**S**	**14 56 42.9 +3.9**
	baz=235						
JMIU	**JAMIA UNIVERSI**	**78.43**	**300**	*e*P		**P**	**14 47 16.8 +0.2**
JMIU				*e*S		**S**	**14 56 38.7 -2.4**
JMIU				*e*S		**S**	**14 56 39.1 -2.0**
CAST	**Castle Rocks**	**78.48**	**22**	IAmb		IAmb	14 47 18.1
	comp=Z,933nm,1.0s						
CAST	**Castle Rocks**	**78.48**	**22**	P		**P**	**14 47 16.9 +0.8**
	baz=237,SNR=329						
CAST				S		**S**	**14 56 39.3 -1.0**
	baz=237						
MNGI	**Mangalore**	**78.48**	**284**	*e*P		**P**	**14 47 17.9 +0.9**
MNGI				IAmb		IAmb	14 47 21.1
	comp=Z,150nm,1.0s						
MNGI				*e*S		**S**	**14 56 39.8 -2.2**
LDR	**Lodi Road**	**78.50**	**300**	*e*P		**P**	**14 47 17.3 +0.4**
LDR				IAmb		IAmb	14 47 18.7
	comp=Z,756nm,0.7s						
LDR				*e*S		**S**	**14 56 39.1 -2.6**
NDI	**New Delhi**	**78.52**	**300**	*e*P		**P**	**14 47 17.2 +0.2**
NDI				*e*S		**S**	**14 56 41.8 -0.1**
F19K	**Shaleruckik Mo**	**78.52**	**18**	IAmb		IAmb	14 47 18.8
	comp=Z,1μm,1.1s						
F19K	**Shaleruckik Mo**	**78.52**	**18**	P		**P**	**14 47 17.7 +1.5**
	baz=231,SNR=680						
F19K				S		**S**	**14 56 42.3 +1.8**
	baz=231						
NPLP	**NPLP New Delhi**	**78.55**	**300**	*e*P		**P**	**14 47 17.4 +0.2**
NPLP				IAmb		IAmb	14 47 19.1
	comp=Z,1μm,1.2s						
NPLP				*e*S		**S**	**14 56 41.2 -1.2**
SONA	**Sohna**	**78.56**	**300**	*e*P		**P**	**14 47 17.6 +0.4**
SONA				IAmb		IAmb	14 47 19.5
	comp=Z,2μm,1.4s						
SONA				*e*S		**S**	**14 56 41.8 -0.5**
CHUM	**Lake Minchumin**	**78.65**	**22**	P		**P**	**14 47 18.7 +1.7**
	baz=237,SNR=633						
CHUM				S		**S**	**14 56 42.9 +1.0**
	baz=237						
H20K	**Anotleneega Mo**	**78.65**	**20**	P		**P**	**14 47 18.8 +1.8**
	baz=234						
H20K				S		**S**	**14 56 44.2 +2.3**
	baz=234						
CUT	**Chulitna**	**78.65**	**24**	P		**P**	**14 47 17.2 +0.2**
	baz=239,SNR=114						
CUT				S		**S**	**14 56 40.4 -1.6**
	baz=239						
P23K	**Montague Islan**	**78.68**	**26**	P		**P**	**14 47 18.6 +1.3**
	baz=242,SNR=14						
P23K				S		**S**	**14 56 44.1 +1.7**
	baz=242						
P23K				S		**S**	**14 56 44.1 +1.7**
	baz=242						
PWL	**Port Wells**	**78.69**	**25**	P		**P**	**14 47 18.5 +1.2**
	baz=241,SNR=245						
PWL				S		**S**	**14 56 43.1 +0.6**
	baz=241						
PMR	**Palmer**	**78.71**	**25**	IAmb		IAmb	14 47 20.0
	comp=Z,1μm,1.3s						
PMR	**Palmer**	**78.71**	**25**	P		**P**	**14 47 18.1 +0.8**
	baz=240,SNR=233						
PMR				S		**S**	**14 56 42.7 +0.1**
	baz=240						
PMR	**Palmer**	**78.71**	**25**	P		**P**	**14 47 18.1 +0.8**
PMR	**Palmer**	**78.71**	**25**	P		**P**	**14 47 17.2 -0.1**
C18K	**Utukok River**	**78.72**	**16**	IAmb		IAmb	14 47 20.0
	comp=Z,1μm,1.3s						
C18K	**Utukok River**	**78.72**	**16**	P		**P**	**14 47 18.7 +1.4**
	baz=228,SNR=351						
C18K				S		**S**	**14 56 43.4 +0.7**
	baz=228						
BHGR	**Bahadurgarh**	**78.76**	**300**	*e*P		**P**	**14 47 18.2 -0.1**
BHGR				IAmb		IAmb	14 47 21.2
	comp=Z,2μm,1.3s						
BHGR				*e*S		**S**	**14 56 43.9 -0.6**
GNR	**GANAUR**	**78.77**	**300**	*e*S		**S**	**14 56 45.2 +0.6**
Q23K	**Middleton Isla**	**78.90**	**27**	P		**P**	**14 47 20.1 +1.7**
	baz=243						
Q23K				S		**S**	**14 56 46.5 +1.8**
	baz=243						
Q23K				S		**S**	**14 56 46.5 +1.8**
	baz=243						
MK31	**Makanchi Array**	**78.90**	**319**	IAmb		IAmb	14 47 21.5
	comp=Z,605nm,0.9s						
MK31	**Makanchi Array**	**78.90**	**319**	*i*P		**P**	**14 47 19.7 +0.9**
MK31				pmax		pmax	
	comp=Z,1μm,1.1s						
MKAR	**Makanchi Array**	**78.90**	**319**	P		**P**	**14 47 17.0 -1.7**
MKAR	**Makanchi Array**	**78.90**	**319**	P		**P**	**14 47 18.8 0.0**
	comp=Z,442nm,0.8s,baz=95,slow=5.6,SNR=1331						
MKAR				PKiKP		**PKiKP**	**14 52 49.2 -0.5**
	comp=Z,6.7nm,0.5s,baz=117,slow=2.3,SNR=15						
MKAR				S		**S**	**14 56 44.5 -0.9**
	comp=Z,3.7nm,1.0s,baz=99,slow=11,SNR=1.8						
MKAR				PKKPbc		**PKKPbc**	**15 06 10.2 -1.1**
	comp=Z,16nm,0.8s,baz=299,slow=2.4,SNR=20						
MKAR				PKPPKP		**P'P'df**	**15 14 10.6 -4.3**
	comp=Z,9.3nm,0.9s,baz=279,slow=1.7,SNR=7.8						
	comp=Z,442nm,0.8s						
MKAR	**Makanchi Array**	**78.90**	**319**	*i*P		**P**	**14 47 17.7 -1.1**
MKAR				pmax		pmax	
	comp=Z,442nm,0.8s						
KNK	**Knik Glacier**	**78.90**	**25**	IAmb		IAmb	14 47 21.0
	comp=Z,1μm,1.1s						
KNK	**Knik Glacier**	**78.90**	**25**	P		**P**	**14 47 19.7 +1.3**
	baz=241,SNR=144						
KNK				S		**S**	**14 56 45.6 +0.8**
	baz=241						
KTH	**Kantishna Hill**	**78.99**	**22**	IAmb		IAmb	14 47 20.4
	comp=Z,1μm,1.2s						
SMLA	**Simla**	**79.01**	**302**	*e*P		**P**	**14 47 20.7 +1.1**
SMLA				IAmb		IAmb	14 47 22.5
	comp=Z,2μm,1.2s						
SMLA				*e*S		**S**	**14 56 47.5 +0.6**
B18K	**Kokolik River**	**79.04**	**15**	P		**P**	**14 47 20.8 +1.8**
	baz=227,SNR=333						
B18K				S		**S**	**14 56 47.6 +1.8**
	baz=227						
KUDL	**Kundal**	**79.05**	**299**	*e*P		**P**	**14 47 19.9 0.0**
KUDL				IAmb		IAmb	14 47 22.0
	comp=Z,875nm,1.2s						
KUDL				*e*S		**S**	**14 56 45.9 -1.6**
E19K	**Redstone River**	**79.08**	**18**	P		**P**	**14 47 21.3 +2.0**
	baz=232						
E19K				S		**S**	**14 56 48.0 +1.6**
	baz=232						
MAKZ	**Makanchi**	**79.11**	**319**	P		**P**	**14 47 17.8 -2.1**
MAKZ	**Makanchi**	**79.11**	**319**	⇓P		**P**	**14 47 21.2 +1.3**
SML	**Sawmill**	**79.14**	**25**	P		**P**	**14 47 21.0 +1.3**
	baz=241,SNR=336						
SML				S		**S**	**14 56 47.9 +0.5**
	baz=241						
TRF	**Thorofare Moun**	**79.18**	**23**	IAmb		IAmb	14 47 21.4
	comp=Z,735nm,1.2s						
TRF	**Thorofare Moun**	**79.18**	**23**	P		**P**	**14 47 20.2 +0.1**
	baz=239,SNR=197						
TRF				S		**S**	**14 56 45.7 -2.2**
	baz=239						
GLI	**Glacier Island**	**79.23**	**26**	P		**P**	**14 47 21.3 +1.1**
	baz=242,SNR=88						
GLI				S		**S**	**14 56 49.3 +1.1**
	baz=242						
BPAW	**Bear Paw Mtn.**	**79.26**	**22**	IAmb		IAmb	14 47 22.0
	comp=Z,802nm,1.2s						
BPAW	**Bear Paw Mtn.**	**79.26**	**22**	P		**P**	**14 47 20.8 +0.6**
	baz=238,SNR=173						
BPAW				S		**S**	**14 56 47.0 -1.4**
	baz=238						
RTK	**Rohtak**	**79.27**	**300**	*e*P		**P**	**14 47 21.5 +0.4**
RTK				*e*S		**S**	**14 56 51.4 +1.6**
F20K	**Avaraart Lake**	**79.29**	**18**	IAmb		IAmb	14 47 23.7
	comp=Z,2μm,1.4s						
F20K	**Avaraart Lake**	**79.29**	**18**	P		**P**	**14 47 22.3 +2.0**
	baz=233						
F20K				S		**S**	**14 56 51.2 +2.7**
	baz=233						
H08S2	**Diego Garcia H**	**79.34**	**263**	P		**P**	**14 47 23.3 +1.9**
	baz=28,slow=6.1,SNR=190						
H08S3	**Diego Garcia H**	**79.35**	**263**	P		**P**	**14 47 23.2 +1.7**
	baz=28,slow=6.1,SNR=149						
H08S1	**Diego Garcia H**	**79.36**	**263**	P		**P**	**14 47 23.3 +1.8**
	baz=28,slow=6.1,SNR=167						
DGAR	**Diego Garcia**	**79.39**	**263**	P		**P**	**14 47 23.2 +1.2**
DGAR	**Diego Garcia**	**79.39**	**263**	P		**P**	**14 47 23.7 +1.6**
DGAR				S		**S**	**14 56 50.2 -1.4**
DGAR	**Diego Garcia**	**79.39**	**263**	*d i*P		**P**	**14 47 23.4 +1.4**
DGAR				pmax		pmax	
	comp=Z,2μm,1.1s						
DGAR	**Diego Garcia**	**79.39**	**263**	⇓P		**P**	**14 47 23.6 +1.6**
M23K	**Glacier View**	**79.39**	**25**	P		**P**	**14 47 22.1 +1.0**
	baz=242,SNR=63						
M23K				S		**S**	**14 56 51.0 +1.1**
	baz=242						
H21K	**Melozitna Rive**	**79.45**	**20**	IAmb		IAmb	14 47 24.2
	comp=Z,798nm,1.4s						
H21K	**Melozitna Rive**	**79.45**	**20**	P		**P**	**14 47 23.0 +1.7**
	baz=236						
H21K				S		**S**	**14 56 52.2 +1.9**
	baz=236						
H21K				S		**S**	**14 56 52.2 +1.9**
	baz=236						
D19K	**Kuna River**	**79.47**	**17**	IAmb		IAmb	14 47 24.0
	comp=Z,2μm,1.3s						
D19K	**Kuna River**	**79.47**	**17**	P		**P**	**14 47 22.9 +1.6**
	baz=231						
D19K				S		**S**	**14 56 51.7 +1.2**
	baz=231						
I21K	**Tanana**	**79.47**	**21**	P		**P**	**14 47 23.2 +1.8**
	baz=237,SNR=428						
I21K				S		**S**	**14 56 52.5 +2.0**
	baz=237						
I21K				S		**S**	**14 56 52.5 +2.0**
	baz=237						
HMDM	**Hanimaadhoo**	**79.50**	**277**	P		**P**	**14 47 25.4 +2.8**
	SNR=25						
WUS	**Wushi**	**79.53**	**313**	IAmb		IAmb	14 47 25.8
	comp=Z,718nm,1.1s						
SCM	**Sheep Creek Mo**	**79.58**	**25**	IAmb		IAmb	14 47 24.6
	comp=Z,1μm,1.0s						
SCM	**Sheep Creek Mo**	**79.58**	**25**	P		**P**	**14 47 23.5 +1.4**
	baz=242,SNR=105						
SCM				S		**S**	**14 56 53.2 +1.3**
	baz=242						
KAD	**Karad**	**79.59**	**288**	*e*P		**P**	**14 47 24.1 +1.0**
KAD				IAmb		IAmb	14 47 25.3
	comp=Z,865nm,0.9s						
KAD				*e*S		**S**	**14 56 51.0 -2.7**
EYAK	**Cordova Ski Ar**	**79.67**	**26**	IAmb		IAmb	14 47 25.2
	comp=Z,928nm,1.2s						
EYAK	**Cordova Ski Ar**	**79.67**	**26**	P		**P**	**14 47 23.9 +1.4**
	baz=244,SNR=39						
EYAK				S		**S**	**14 56 54.0 +1.3**
	baz=244						
EYAK	**Cordova Ski Ar**	**79.67**	**26**	P		**P**	**14 47 24.2 +1.7**
ZALV	**Zalesovo Beam**	**79.68**	**326**	P		**P**	**14 47 20.1 -2.6**
ZALV	**Zalesovo Beam**	**79.68**	**326**	P		**P**	**14 47 22.5 -0.2**
	comp=Z,235nm,0.8s,baz=110,slow=5.7,SNR=669						
ZALV				PKiKP		**PKiKP**	**14 52 50.2 -0.4**
	comp=Z,7.4nm,0.8s,baz=113,slow=1.5,SNR=2.4						
ZALV				S		**S**	**14 56 51.4 -1.7**
	comp=Z,39nm,1.2s,baz=116,slow=6.8,SNR=9.6						
ZALV				PKKPbc		**PKKPbc**	**15 06 07.9 -1.9**
	comp=Z,6.7nm,0.5s,baz=290,slow=1.7,SNR=12						
ZALV				PKPPKP		**P'P'df**	**15 14 10.0 -3.5**
	comp=Z,18nm,1.1s,baz=295,slow=2.7,SNR=6.4						
	comp=Z,235nm,0.8s						
ZALV	**Zalesovo Beam**	**79.68**	**326**	*i*P		**P**	**14 47 21.7 -1.0**
ZALV				pmax		pmax	
	comp=Z,235nm,0.8s						
BHK	**Bhakra**	**79.69**	**303**	*e*P		**P**	**14 47 23.8 +0.5**
BHK				IAmb		IAmb	14 47 26.0
	comp=Z,704nm,0.8s						
BHK				*e*S		**S**	**14 56 48.0 -6.2**
GOA	**Goa**	**79.72**	**286**	*e*P		**P**	**14 47 24.9 +1.2**
GOA				*e*S		**S**	**14 56 57.6 +2.7**
MNCY	**Minicoy**	**79.78**	**279**	*e*P		**P**	**14 47 28.6 +4.5**
MNCY				*e*S		**S**	**14 56 54.1 -1.5**
SHLS	**Shalkode**	**79.84**	**315**	*e*P		**P**	**14 47 23.1 -0.9**
SHLS				*e*S		**S**	**14 56 53.3 -2.2**
SHLS				pmax		pmax	
	comp=Z,449nm,1.0s						
SHLS	**Shalkode**	**79.84**	**315**	*e*P		**P**	**14 47 23.2 -0.8**
	comp=Z,449nm,1.0s						
SHLS				*e*S		**S**	**14 56 53.3 -2.2**
MCK	**McKinley**	**79.85**	**23**	P		**P**	**14 47 23.9 +0.5**
	baz=240,SNR=726						
MCK				S		**S**	**14 56 52.1 -2.5**
	baz=240						
PDGK	**Podgornoye**	**79.86**	**315**	P		**P**	**14 47 24.8 +0.7**
E20K	**Nigu River**	**79.88**	**17**	P		**P**	**14 47 25.5 +1.9**
	baz=233						
E20K				S		**S**	**14 56 56.6 +1.7**
	baz=233						
DHRM	**DHARAMSHALA**	**79.94**	**303**	*e*P		**P**	**14 47 25.5 +0.6**
DHRM				IAmb		IAmb	14 47 27.3
	comp=Z,2μm,1.0s						
DHRM				*e*S		**S**	**14 56 55.6 -1.6**
KAIM	**Kayak Island**	**80.00**	**27**	P		**P**	**14 47 26.2 +1.9**
	baz=245,SNR=18						
KAIM				S		**S**	**14 56 58.0 +1.8**
	baz=245						
KLU	**Klutina**	**80.02**	**25**	P		**P**	**14 47 26.1 +1.7**
	baz=243,SNR=296						
KLU				S		**S**	**14 56 57.7 +1.3**
	baz=243						
D20K	**Etivluk River**	**80.04**	**17**	P		**P**	**14 47 25.8 +1.4**
	baz=232,SNR=377						
D20K				S		**S**	**14 56 57.6 +1.2**
	baz=232						
POO	**Poona**	**80.05**	**289**	*e*P		**P**	**14 47 25.8 +0.3**
POO				IAmb		IAmb	14 47 27.6
	comp=Z,731nm,1.0s						
POO				*e*S		**S**	**14 56 57.6 -0.8**
H22K	**Ishtalitna Cre**	**80.07**	**20**	P		**P**	**14 47 26.2 +1.6**
	baz=238						
H22K				S		**S**	**14 56 58.8 +2.0**
	baz=238						
H22K				S		**S**	**14 56 58.8 +2.0**
	baz=238						
F21K	**Alatna River**	**80.11**	**19**	IAmb		IAmb	14 47 27.4
	comp=Z,819nm,1.5s						
F21K	**Alatna River**	**80.11**	**19**	P		**P**	**14 47 26.1 +1.4**
	baz=236						
F21K				S		**S**	**14 56 58.7 +1.5**
	baz=236						
UZB	**Uzynbulak**	**80.15**	**315**	*e*P		**P**	**14 47 26.4 +0.7**
UZB				pmax		pmax	
	comp=Z,560nm,1.2s						
UZB	**Uzynbulak**	**80.15**	**315**	*e*P		**P**	**14 47 26.4 +0.7**
	comp=Z,560nm,1.2s						
M24K	**Tolsona, Glenn**	**80.19**	**25**	P		**P**	**14 47 27.1 +1.8**
	baz=243,SNR=157						
M24K				S		**S**	**14 57 00.1 +1.9**
	baz=243						
NEA2	**Nenana**	**80.23**	**22**	P		**P**	**14 47 25.8 +0.4**
	baz=240,SNR=86						
NEA2				S		**S**	**14 56 56.2 -2.2**
	baz=240						
SUCK	**Suckling Hills**	**80.35**	**27**	IAmb		IAmb	14 47 29.3
	comp=Z,1μm,1.3s						
BMRM	**Bremner River**	**80.36**	**26**	P		**P**	**14 47 27.5 +1.2**
	baz=245,SNR=121						
BMRM				S		**S**	**14 57 01.8 +1.8**
	baz=245						
I23K	**Minto, Yukon-K**	**80.40**	**21**	P		**P**	**14 47 26.9 +0.6**
	baz=240,SNR=154						
I23K				S		**S**	**14 56 59.3 -0.8**
	baz=240						
I23K				S		**S**	**14 56 59.3 -0.8**
	baz=240						
AJM	**Ajmer**	**80.41**	**297**	*e*P		**P**	**14 47 28.2 +0.9**
AJM				IAmb		IAmb	14 47 29.8
	comp=Z,1μm,1.3s						
AJM				*e*S		**S**	**14 57 02.3 +0.5**
THN	**Thein Dam**	**80.46**	**304**	*e*P		**P**	**14 47 28.3 +1.0**
THN				IAmb		IAmb	14 47 30.1
	comp=Z,3μm,1.1s						
THN				⇑*e*S		**S**	**14 56 59.1 -2.9**
THN				*e*S		**SKSac**	**14 57 01.6 -7.5**
KPKS	**Kokpek**	**80.47**	**315**	*e*P		**P**	**14 47 28.1 +0.9**
KPKS				*e*S		**S**	**14 57 02.7 +0.8**
KPKS				pmax		pmax	
	comp=Z,355nm,1.2s						
KPKS	**Kokpek**	**80.47**	**315**	*e*P		**P**	**14 47 28.2 +0.9**
	comp=Z,355nm,1.2s						
KPKS				*e*S		**S**	**14 57 02.8 +0.8**
SATY	**Saty**	**80.56**	**314**	*e*P		**P**	**14 47 28.4 +0.6**
SATY				pmax		pmax	
	comp=Z,292nm,1.1s						
SATY	**Saty**	**80.56**	**314**	*e*P		**P**	**14 47 28.4 +0.6**
	comp=Z,292nm,1.1s						
ZHN	**Zhinishke**	**80.57**	**315**	*e*P		**P**	**14 47 28.6 +0.8**
ZHN				*e*S		**S**	**14 57 03.8 +0.8**
ZHN	**Zhinishke**	**80.57**	**315**	*e*P		**P**	**14 47 28.6 +0.8**
ZHN				*e*S		**S**	**14 57 03.9 +0.8**
G22K	**Bettles**	**80.58**	**19**	P		**P**	**14 47 28.6 +1.4**
	baz=237						
BGLC	**Bering Glacier**	**80.60**	**27**	P		**P**	**14 47 29.8 +2.4**
	baz=246,SNR=5.3						
BGLC				S		**S**	**14 57 04.4 +2.1**
	baz=246						
N25K	**Chitina, Valde**	**80.64**	**26**	IAmb		IAmb	14 47 30.6
	comp=Z,2μm,1.6s						
N25K	**Chitina, Valde**	**80.64**	**26**	P		**P**	**14 47 29.3 +1.6**
	baz=245,SNR=133						
N25K				S		**S**	**14 57 04.4 +1.5**
	baz=245						
E21K	**Killik River**	**80.66**	**18**	P		**P**	**14 47 29.2 +1.6**
	baz=235						
E21K				S		**S**	**14 57 04.4 +1.6**
	baz=235						
TARG	**Taragay, Kyrgy**	**80.69**	**313**	IAmb		IAmb	14 47 32.4
	comp=Z,464nm,1.2s						
CCB	**Clear Creek Bu**	**80.73**	**22**	IAmb		IAmb	14 47 29.3
	comp=Z,2μm,1.3s						
HARP	**HAARP**	**80.74**	**25**	P		**P**	**14 47 29.6 +1.4**
	baz=244,SNR=76						
HARP				S		**S**	**14 57 04.7 +0.9**
	baz=244						
HARP				S		**S**	**14 57 04.7 +0.9**
	baz=244						
COLA	**College**	**80.82**	**22**	P		**P**	**14 47 27.3 -1.2**
COLA				IAmb		IAmb	14 47 29.7
	comp=Z,915nm,0.8s						
COLA	**College**	**80.82**	**22**	P		**P**	**14 47 28.8 +0.3**
	baz=241						
COLA	**College**	**80.82**	**22**	P		**P**	**14 47 28.4 -0.1**
COLA	**College**	**80.82**	**22**	*d i*P		**P**	**14 47 28.3 -0.2**
COLA				pmax		pmax	
	comp=Z,1μm,1.0s						
COLA	**College**	**80.82**	**22**	⇑P		**P**	**14 47 27.5 -1.0**
C21K	**Knifeblade Rid**	**80.83**	**17**	P		**P**	**14 47 30.4 +1.9**
	baz=234						
PAX	**Paxson**	**80.87**	**24**	IAmb		IAmb	14 47 31.1
	comp=Z,904nm,1.5s						
PAX	**Paxson**	**80.87**	**24**	P		**P**	**14 47 29.6 +0.7**
	baz=244,SNR=147						
HDA	**Harding Lake**	**80.94**	**23**	IAmb		IAmb	14 47 30.7
	comp=Z,1μm,1.6s						
HDA	**Harding Lake**	**80.94**	**23**	P		**P**	**14 47 29.3 +0.1**
	baz=242,SNR=80						
G23K	**Bananza Creek**	**80.97**	**20**	IAmb		IAmb	14 47 32.1
	comp=Z,812nm,1.1s						
G23K	**Bananza Creek**	**80.97**	**20**	P		**P**	**14 47 31.0 +1.7**

ILAR	**Eielson Array**	**81.14**	**22**	P	**P**	**14 47 30.1**	**-0.1**
	comp=Z,400nm,0.8s,baz=235,slow=3.6,SNR=2670						
ILAR				PKiKP	**PKiKP**	**14 52 52.4**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=257,slow=2.6,SNR=4.4						
ILAR				S	**S**	**14 57 03.9**	**-3.8**
	comp=Z,14nm,1.1s,baz=247,slow=8.1,SNR=11						
ILAR				PKKPbc	**PKKPbc**	**15 06 04.3**	**-2.9**
	comp=Z,18nm,0.8s,baz=355,slow=1.7,SNR=35						
ILAR				PKPPKP	**P'P'df**	**15 14 06.8**	**-4.2**
	comp=Z,11nm,1.1s,baz=7.9,slow=1.4,SNR=11						
	comp=Z,400nm,0.8s						
ILAR	**Eielson Array**	**81.14**	**22**	P	**P**	**14 47 27.0**	**-3.2**
E22K	**Anaktuvuk Pass**	**81.15**	**18**	IAmb	IAmb	14 47 33.0	
	comp=Z,1μm,1.4s						
E22K	**Anaktuvuk Pass**	**81.15**	**18**	P	**P**	**14 47 31.8**	**+1.6**
	baz=237,SNR=482						
B21K	**Ikpikpuk River**	**81.16**	**16**	IAmb	IAmb	14 47 32.2	
	comp=Z,341nm,0.8s						
B21K	**Ikpikpuk River**	**81.16**	**16**	P	**P**	**14 47 31.7**	**+1.5**
	baz=234						
COLD	**Coldfoot**	**81.18**	**19**	IAmb	IAmb	14 47 33.4	
	comp=Z,1μm,1.2s						
COLD	**Coldfoot**	**81.18**	**19**	P	**P**	**14 47 32.3**	**+1.9**
	baz=239,SNR=438						
JMU	**Jammu**	**81.19**	**304**	*e*P	**P**	**14 47 33.3**	**+2.2**
JMU				*e*S	**S**	**14 57 10.6**	**+1.1**
MESA	**MESA**	**81.23**	**27**	IAmb	IAmb	14 47 33.9	
	comp=Z,1μm,1.2s						
MESA	**MESA**	**81.23**	**27**	P	**P**	**14 47 32.7**	**+1.7**
	baz=247,SNR=54						
KDJ	**Kajisay**	**81.23**	**313**	IAmb	IAmb	14 47 34.8	
	comp=Z,1μm,1.1s						
H24K	**Noodor Dome**	**81.28**	**21**	IAmb	IAmb	14 47 33.4	
	comp=Z,791nm,1.6s						
H24K	**Noodor Dome**	**81.28**	**21**	P	**P**	**14 47 31.3**	**+0.4**
	baz=241						
D22K	**Ayikyak River**	**81.30**	**18**	IAmb	IAmb	14 47 34.2	
	comp=Z,1μm,1.2s						
D22K	**Ayikyak River**	**81.30**	**18**	P	**P**	**14 47 33.0**	**+2.1**
	baz=236						
RIDG	**Independent Ri**	**81.46**	**24**	P	**P**	**14 47 32.9**	**+1.0**
	baz=244,SNR=219						
SRNI	**Srinagar**	**81.46**	**305**	*e*P	**P**	**14 47 35.4**	**+2.9**
SRNI				*e*S	**S**	**14 57 11.8**	**-0.4**
MDOK	**Medeo**	**81.56**	**314**	*e*P	**P**	**14 47 33.8**	**+0.8**
MDOK				*e*S	**S**	**14 57 14.1**	**+0.9**
MDOK	**Medeo**	**81.56**	**314**	*e*P	**P**	**14 47 33.9**	**+0.8**
MDOK				*e*S	**S**	**14 57 14.1**	**+0.9**
MENT	**Mentasta**	**81.57**	**25**	IAmb	IAmb	14 47 35.1	
	comp=Z,568nm,1.1s						
MENT	**Mentasta**	**81.57**	**25**	P	**P**	**14 47 33.9**	**+1.4**
KSH	**Kashi**	**81.58**	**311**	P	**P**	**14 47 36.1**	**+2.9**
KSH				pP	pP	14 49 02.9	+4.6
KSH				S	**SKSac**	**14 57 18.0**	**+1.2**
KSH				pmax	pmax		
	comp=Z,690nm,1.5s						
KSH				pmax	pmax		
	comp=Z,10μm,5.6s						
SRGN	**SRI GANGA NAGA**	**81.59**	**301**	*e*P	**P**	**14 47 33.3**	**0.0**
SRGN				*e*S	**S**	**14 57 11.8**	**-1.9**
SRGN				*e*S	**SKSac**	**14 57 12.2**	**-4.7**
TNSS	**Tian-Shan**	**81.60**	**314**	*e*P	**P**	**14 47 34.0**	**+0.4**
TNSS	**Tian-Shan**	**81.60**	**314**	*e*P	**P**	**14 47 34.0**	**+0.4**
KNDC	**Almaty**	**81.63**	**314**	P	**P**	**14 47 34.4**	**+1.1**
J25K	**Salcha River,**	**81.64**	**23**	P	**P**	**14 47 33.8**	**+0.9**
	baz=244,SNR=1000						
A21K	**Barrow**	**81.65**	**15**	P	**P**	**14 47 33.8**	**+1.1**
	baz=232,SNR=23						
M26K	**Nabesna, AK**	**81.66**	**25**	IAmb	IAmb	14 47 35.6	
	comp=Z,517nm,1.2s						
M26K	**Nabesna, AK**	**81.66**	**25**	P	**P**	**14 47 34.2**	**+1.2**
	baz=246						
AAA	**Alma-Ata**	**81.66**	**314**	*e*P	**P**	**14 47 34.2**	**+0.7**
AAA				pmax	pmax		
	comp=Z,455nm,1.1s						
AAA	**Alma-Ata**	**81.66**	**314**	*e*P	**P**	**14 47 34.2**	**+0.7**
	comp=Z,455nm,1.1s						
L26K	**Log Cabin Wild**	**81.77**	**25**	P	**P**	**14 47 35.0**	**+1.5**
	baz=246,SNR=209						
E23K	**Chandalar**	**81.81**	**19**	P	**P**	**14 47 35.5**	**+1.8**
	baz=239,SNR=722						
BKNR	**BIKANER**	**81.83**	**299**	*e*P	**P**	**14 47 34.8**	**+0.2**
BKNR				*e*S	**S**	**14 57 13.9**	**-2.4**
G24K	**Hadweenzic Riv**	**81.84**	**20**	IAmb	IAmb	14 47 36.5	
	comp=Z,1μm,1.2s						
G24K	**Hadweenzic Riv**	**81.84**	**20**	P	**P**	**14 47 35.3**	**+1.5**
	baz=241						
SCRK	**Sand Creek**	**81.91**	**24**	IAmb	IAmb	14 47 36.6	
	comp=Z,1μm,1.4s						
SCRK	**Sand Creek**	**81.91**	**24**	P	**P**	**14 47 35.4**	**+1.1**
	baz=245,SNR=350						
ULHL	**Ulahol**	**81.94**	**313**	P	**P**	**14 47 36.7**	**+1.5**
	SNR=263						
D23K	**Nanushuk River**	**81.95**	**18**	P	**P**	**14 47 36.8**	**+2.5**
	baz=238						
D23K				S	**SKSac**	**14 57 18.4**	**+0.8**
	baz=238						
PCA	**Pinnacle**	**81.99**	**28**	IAmb	IAmb	14 47 37.4	
	comp=Z,1μm,1.2s						
PINM	**Pinnacle**	**81.99**	**28**	P	**P**	**14 47 36.4**	**+1.6**
	baz=249,SNR=86						
PINM				S	**SKSac**	**14 57 18.4**	**0.0**
	baz=249						
PRP	**Porcupine Dome**	**81.99**	**22**	P	**P**	**14 47 33.8**	**-1.0**
	baz=243,SNR=27						
PRP				S	**S**	**14 57 13.6**	**-3.1**
	baz=243						
YKU2	**Yakutat**	**82.05**	**29**	IAmb	IAmb	14 47 38.4	
	comp=Z,2μm,1.3s						
YKU2	**Yakutat**	**82.05**	**29**	P	**P**	**14 47 37.5**	**+2.6**
	comp=Z,1μm,1.1s						
M27K	**Edge Creek, AK**	**82.12**	**25**	P	**P**	**14 47 37.4**	**+1.9**
	baz=247						
M27K				S	**SKSac**	**14 57 19.8**	**+0.5**
	baz=247						
M27K				S	**SKSac**	**14 57 19.8**	**+0.5**
	baz=247						
TOLK	**Toolik Lake Re**	**82.12**	**18**	IAmb	IAmb	14 47 38.0	
	comp=Z,1μm,1.2s						
TOLK	**Toolik Lake Re**	**82.12**	**18**	P	**P**	**14 47 36.9**	**+1.7**
	baz=239,SNR=439						
TOLK				S	**SKSac**	**14 57 19.2**	**+0.3**
	baz=239						
TOLK				S	**SKSac**	**14 57 19.2**	**+0.3**
	baz=239						
PAF	**Port-aux-Franc**	**82.17**	**221**	P	**P**	**14 47 34.7**	**-1.1**
PAF	**Port-aux-Franc**	**82.17**	**221**	P	**P**	**14 47 34.7**	**-1.1**
PAF				pmax	pmax		
	comp=Z,2μm,1.4s						
E24K	**Your Creek**	**82.18**	**19**	P	**P**	**14 47 37.0**	**+1.4**
	baz=240						
E24K				S	**SKSac**	**14 57 20.1**	**+0.8**
	baz=240						
BOOM	**Boomskoye usch**	**82.21**	**314**	IAmb	IAmb	14 47 39.2	
	comp=Z,550nm,1.0s						
BCPM	**Bancas Point**	**82.23**	**28**	IAmb	IAmb	14 47 38.9	
	comp=Z,1μm,1.2s						
H25L	**Birch Creek**	**82.23**	**21**	P	**P**	**14 47 37.3**	**+1.5**
	baz=243						
H25L				S	**SKSac**	**14 57 21.2**	**+1.6**
	baz=243						
PNL	**Peninsula**	**82.24**	**28**	P	**P**	**14 47 37.7**	**+1.7**
	baz=250,SNR=134						
PNL				S	**SKSac**	**14 57 21.5**	**+1.5**
	baz=250						
PNL	**Peninsula**	**82.24**	**28**	P	**P**	**14 47 37.5**	**+1.5**
O28M	**Mount Upton**	**82.26**	**27**	P	**P**	**14 47 38.1**	**+1.6**
	baz=249						
O28M				S	**SKSac**	**14 57 21.5**	**+0.8**
	baz=249						
J26L	**Joseph Creek**	**82.30**	**23**	IAmb	IAmb	14 47 38.7	
	comp=Z,1μm,1.4s						
J26L	**Joseph Creek**	**82.30**	**23**	P	**P**	**14 47 37.6**	**+1.3**
	baz=245						
KURK	**Kurchatov**	**82.32**	**322**	P	**P**	**14 47 36.4**	**-0.2**
KURK				IAmb	IAmb	14 47 38.9	
	comp=Z,1μm,1.2s						
KURK	**Kurchatov**	**82.32**	**322**	P	**P**	**14 47 37.1**	**+0.5**
KURK	**Kurchatov**	**82.32**	**322**	*i* P	**P**	**14 47 36.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,1μm,1.3s						
KURBB	**Kurchatov Arra**	**82.35**	**322**	P	**P**	**14 47 36.5**	**-0.3**
	comp=Z,275nm,1.0s,baz=109,slow=4.4,SNR=1058						
KURBB				pP	**pP**	**14 49 02.0**	**+0.3**
	comp=Z,46nm,1.0s,baz=110,slow=4.8,SNR=3.2						
KURBB				PKiKP	**PKiKP**	**14 52 55.0**	**+0.2**
	comp=Z,26nm,0.9s,baz=116,slow=1.4,SNR=8.6						
KURBB				S	**S**	**14 57 17.9**	**-2.7**
	comp=Z,9.0nm,1.1s,baz=101,slow=6.8,SNR=8.1						
KURBB				PKKPbc	**PKKPbc**	**15 06 03.0**	**-0.6**
	comp=Z,57nm,1.0s,baz=290,slow=2.9,SNR=47						
KURBB				PKPPKP	**P'P'df**	**15 14 05.9**	**-2.6**
	comp=Z,13nm,1.0s,baz=283,slow=2.7,SNR=24						
	comp=Z,275nm,1.0s						
G25K	**Bearman Lake**	**82.36**	**21**	P	**P**	**14 47 38.0**	**+1.7**
	baz=242						
G25K				S	**SKSac**	**14 57 23.1**	**+2.8**
	baz=242						
L27K	**Beaver Creek,**	**82.41**	**25**	IAmb	IAmb	14 47 39.8	
	comp=Z,832nm,1.1s						
L27K	**Beaver Creek,**	**82.41**	**25**	P	**P**	**14 47 38.4**	**+1.5**
	baz=247						
L27K				S	**SKSac**	**14 57 22.4**	**+1.3**
	baz=247						
BCAR	**Beaver Creek A**	**82.43**	**25**	P	**P**	**14 47 37.1**	**+0.2**
C23K	**Itkillik River**	**82.43**	**17**	P	**P**	**14 47 38.6**	**+1.9**
	baz=238,SNR=594						
C23K				S	**SKSac**	**14 57 22.6**	**+1.8**
	baz=238						
D24K	**Happy Valley**	**82.62**	**18**	P	**P**	**14 47 39.7**	**+2.0**
	baz=240						
YUK8	**Steele Glacier**	**82.64**	**27**	P	**P**	**14 47 40.3**	**+1.9**
	baz=249,SNR=276						
NIL	**Nilore**	**82.70**	**304**	P	**P**	**14 47 37.4**	**-1.6**
NIL	**Nilore**	**82.70**	**304**	P	**P**	**14 47 37.4**	**-1.6**
NIL				pmax	pmax		
	comp=Z,2μm,1.2s						
I26K	**Coal Creek Min**	**82.79**	**23**	IAmb	IAmb	14 47 40.8	
	comp=Z,1μm,1.4s						
I26K	**Coal Creek Min**	**82.79**	**23**	P	**P**	**14 47 39.6**	**+0.9**
	baz=246						
O29M	**Mount Kennedy**	**82.84**	**28**	IAmb	IAmb	14 47 42.5	
	comp=Z,795nm,1.1s						
O29M	**Mount Kennedy**	**82.84**	**28**	P	**P**	**14 47 41.2**	**+2.0**
	baz=250						
F25K	**Christian Rive**	**82.90**	**20**	IAmb	IAmb	14 47 42.4	
	comp=Z,598nm,1.2s						
F25K	**Christian Rive**	**82.90**	**20**	P	**P**	**14 47 41.2**	**+1.9**
	baz=243						
C24K	**Franklin Bluff**	**82.94**	**18**	P	**P**	**14 47 41.2**	**+1.8**
	baz=240						
KBK	**Karagaybulak**	**82.96**	**314**	P	**P**	**14 47 41.8**	**+1.5**
	SNR=425						
YUK6	**Outpost Mounta**	**83.16**	**27**	P	**P**	**14 47 42.6**	**+1.7**
	baz=250,SNR=102						
YUK4	**Talbot Arm**	**83.17**	**27**	P	**P**	**14 47 43.4**	**+2.5**
	baz=250,SNR=360						
BMAR	**Burnt Mountain**	**83.19**	**20**	P	**P**	**14 47 40.9**	**+0.2**
UCH	**Uchtor**	**83.19**	**313**	P	**P**	**14 47 44.0**	**+2.1**
	SNR=183						
FRU1	**Bishkek**	**83.22**	**314**	IAmb	IAmb	14 47 44.7	
	comp=Z,1μm,1.1s						
S31K	**Pelican**	**83.24**	**31**	IAmb	IAmb	14 47 44.2	
	comp=Z,1μm,1.4s						
S31K	**Pelican**	**83.24**	**31**	P	**P**	**14 47 42.9**	**+1.8**
	baz=253,SNR=130						
G26K	**Porcupine Rive**	**83.26**	**21**	P	**P**	**14 47 43.2**	**+2.2**
	baz=245						
AAK	**Ala-Archa**	**83.29**	**313**	P	**P**	**14 47 40.1**	**-1.8**
AAK				IAmb	IAmb	14 47 45.1	
	comp=Z,1μm,1.1s						
AAK	**Ala-Archa**	**83.29**	**313**	P	**P**	**14 47 43.4**	**+1.5**
AAK	**Ala-Archa**	**83.29**	**313**	P	**P**	**14 47 43.9**	**+2.0**
	SNR=41						
AAK	**Ala-Archa**	**83.29**	**313**	*de*P	**P**	**14 47 41.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2μm,1.7s						
AAK	**Ala-Archa**	**83.29**	**313**	*i* P	**P**	**14 47 43.7**	**+1.8**
	SNR=1351						
SGDS	**Sogindy**	**83.34**	**314**	*e*P	**P**	**14 47 42.7**	**+0.7**
SGDS				*e*S	**SKSac**	**14 57 27.6**	**-0.4**
SGDS				pmax	pmax		
	comp=Z,451nm,1.3s						
SGDS	**Sogindy**	**83.34**	**314**	*e*P	**P**	**14 47 42.8**	**+0.7**
	comp=Z,450nm,1.3s						
SGDS				*e*S	**SKSac**	**14 57 27.6**	**-0.4**
USP	**Ospenovka**	**83.40**	**314**	P	**P**	**14 47 43.7**	**+1.4**
	SNR=1019						
SIT	**Sitka**	**83.44**	**32**	IAmb	IAmb	14 47 45.2	
	comp=Z,890nm,1.2s						
SIT	**Sitka**	**83.44**	**32**	P	**P**	**14 47 43.9**	**+1.8**
	baz=253,SNR=82						
SIT	**Sitka**	**83.44**	**32**	P	**P**	**14 47 43.9**	**+1.8**
SIT	**Sitka**	**83.44**	**32**	P	**P**	**14 47 43.6**	**+1.5**
F26K	**Sheenjek River**	**83.45**	**20**	IAmb	IAmb	14 47 45.4	
	comp=Z,901nm,1.1s						
F26K	**Sheenjek River**	**83.45**	**20**	P	**P**	**14 47 44.1**	**+2.0**
	baz=244,SNR=632						
D25K	**Kavik River**	**83.46**	**18**	IAmb	IAmb	14 47 44.5	
	comp=Z,1μm,1.2s						
D25K	**Kavik River**	**83.46**	**18**	P	**P**	**14 47 43.4**	**+1.3**
	baz=242						
I27K	**Kandik River**	**83.50**	**22**	P	**P**	**14 47 43.9**	**+1.6**
	baz=247						
HYT	**Haines Junctio**	**83.52**	**28**	IAmb	IAmb	14 47 45.8	
	comp=Z,1μm,1.0s						
HYT	**Haines Junctio**	**83.52**	**28**	P	**P**	**14 47 44.7**	**+2.1**
	baz=251,SNR=677						
HYT				S	**S**	**14 57 34.1**	**+2.0**
	baz=251						
P30M	**Million Dollar**	**83.55**	**28**	P	**P**	**14 47 44.8**	**+2.1**
	baz=252						
P30M				S	**S**	**14 57 34.9**	**+2.6**
	baz=252						
R31K	**City Hall, Gus**	**83.62**	**30**	P	**P**	**14 47 44.6**	**+1.6**
	baz=253,SNR=14						
M29M	**Somme Creek**	**83.63**	**26**	IAmb	IAmb	14 47 46.1	
	comp=Z,774nm,1.1s						
M29M	**Somme Creek**	**83.63**	**26**	P	**P**	**14 47 44.9**	**+1.8**
	baz=250						
PLBC	**Pleasant Camp**	**83.63**	**29**	P	**P**	**14 47 44.6**	**+1.6**
	baz=252,SNR=17						
AML	**Almayashu**	**83.78**	**313**	P	**P**	**14 47 47.1**	**+2.4**
	SNR=58						
JASL	**Jaisalmer**	**83.78**	**297**	*e*P	**P**	**14 47 44.8**	**+0.2**
JASL				IAmb	IAmb	14 47 46.9	
	comp=Z,2μm,1.1s						
JASL				*e*S	**SKSac**	**14 57 29.0**	**-2.3**
H27K	**Steamboat Moun**	**83.78**	**22**	P	**P**	**14 47 45.5**	**+1.8**
	baz=247,SNR=1000						
DAWY	**Dawson**	**83.80**	**24**	P	**P**	**14 47 45.6**	**+1.7**
	baz=249,SNR=548						
S32K	**Killisnoo**	**83.95**	**31**	IAmb	IAmb	14 47 47.8	
	comp=Z,762nm,1.1s						
S32K	**Killisnoo**	**83.95**	**31**	P	**P**	**14 47 46.5**	**+1.9**
	baz=254,SNR=95						
S32K				S	**S**	**14 57 39.4**	**+3.3**
	baz=254						
S32K				S	**S**	**14 57 39.4**	**+3.3**
	baz=254						
G27K	**Doyon Strip**	**83.97**	**21**	IAmb	IAmb	14 47 47.7	
	comp=Z,587nm,1.2s						
G27K	**Doyon Strip**	**83.97**	**21**	P	**P**	**14 47 46.5**	**+1.9**
	baz=247						
L29M	**L29M**	**84.00**	**25**	IAmb	IAmb	14 47 48.1	
	comp=Z,681nm,0.8s						
L29M	**L29M**	**84.00**	**25**	P	**P**	**14 47 46.8**	**+1.9**
	baz=250,SNR=677						
DIB	**Dawson Inlet,**	**84.01**	**36**	IAmb	IAmb	14 47 48.0	
	comp=Z,485nm,1.2s						
H02S1	**DAWSON INLET T**	**84.01**	**36**	P	**P**	**14 47 47.4**	**+2.4**
	SNR=166						
H02S1				S	**SKSac**	**14 57 31.4**	**-0.1**
BTLS	**Baital**	**84.06**	**316**	*e*P	**P**	**14 47 46.5**	**+1.0**
BTLS				pmax	pmax		
	comp=Z,354nm,1.0s						
BTLS	**Baital**	**84.06**	**316**	*e*P	**P**	**14 47 46.5**	**+1.0**
	comp=Z,354nm,1.0s						
I28M	**Miner Creek**	**84.09**	**23**	P	**P**	**14 47 46.8**	**+1.5**
	baz=248						
I28M				S	**S**	**14 57 39.4**	**+1.9**
	baz=248						
BESE	**Bessie Mountai**	**84.12**	**30**	IAmb	IAmb	14 47 48.8	
	comp=Z,2μm,1.3s						
SKAG	**Skagway**	**84.13**	**29**	IAmb	IAmb	14 47 48.9	
	comp=Z,1μm,1.5s						
SKAG	**Skagway**	**84.13**	**29**	P	**P**	**14 47 47.3**	**+1.8**
	baz=253,SNR=164						
SKAG				S	**S**	**14 57 40.8**	**+2.9**
	baz=253						
SKAG	**Skagway**	**84.13**	**29**	P	**P**	**14 47 47.3**	**+1.8**
O30N	**Mendenhall**	**84.16**	**28**	IAmb	IAmb	14 47 48.9	
	comp=Z,2μm,1.7s						
O30N	**Mendenhall**	**84.16**	**28**	P	**P**	**14 47 47.5**	**+1.7**
	baz=252,SNR=295						
O30N				S	**S**	**14 57 41.3**	**+3.1**
	baz=252						
ARSB	**Arslanbob**	**84.16**	**312**	IAmb	IAmb	14 47 49.8	
	comp=Z,777nm,1.2s						
C26K	**Camden Bay**	**84.19**	**18**	P	**P**	**14 47 48.0**	**+2.4**
	baz=243						
C26K				S	**S**	**14 57 39.9**	**+1.8**
	baz=243						
CRAG	**Craig**	**84.20**	**34**	IAmb	IAmb	14 47 49.2	
	comp=Z,899nm,1.3s						
CRAG	**Craig**	**84.20**	**34**	P	**P**	**14 47 47.9**	**+1.9**
	baz=256,SNR=62						
CRAG				S	**S**	**14 57 41.1**	**+2.4**
	baz=256						
CRAG	**Craig**	**84.20**	**34**	P	**P**	**14 47 47.8**	**+1.9**
R32K	**Eaglecrest**	**84.20**	**31**	IAmb	IAmb	14 47 49.2	
	comp=Z,768nm,1.4s						
R32K	**Eaglecrest**	**84.20**	**31**	P	**P**	**14 47 47.8**	**+1.9**
	baz=254,SNR=66						
R32K				S	**S**	**14 57 41.3**	**+2.7**
	baz=254						
R32K				S	**S**	**14 57 41.3**	**+2.7**
	baz=254						
JIS	**Juneau Island**	**84.27**	**31**	P	**P**	**14 47 48.0**	**+1.8**
MOBC	**Moresby Island**	**84.29**	**36**	IAmb	IAmb	14 47 49.7	
	comp=Z,1μm,1.4s						
U33K	**Whale Pass**	**84.36**	**33**	P	**P**	**14 47 48.6**	**+1.9**
	baz=255,SNR=119						
U33K				S	**S**	**14 57 42.3**	**+2.1**
	baz=255						
U33K				S	**S**	**14 57 42.3**	**+2.1**
	baz=255						
M30M	**Minto, Yukon**	**84.40**	**26**	IAmb	IAmb	14 47 49.9	
	comp=Z,1μm,1.2s						
M30M	**Minto, Yukon**	**84.40**	**26**	P	**P**	**14 47 48.6**	**+1.7**
	baz=252,SNR=430						
M30M				S	**S**	**14 57 42.3**	**+1.7**
	baz=252						
J29N	**Klondike Camp**	**84.42**	**24**	P	**P**	**14 47 49.2**	**+2.2**
	baz=250,SNR=514						
J29N				S	**S**	**14 57 41.0**	**+0.3**
	baz=250						
C27K	**Jago River**	**84.44**	**18**	IAmb	IAmb	14 47 49.9	
	comp=Z,953nm,1.1s						
C27K	**Jago River**	**84.44**	**18**	P	**P**	**14 47 48.8**	**+1.9**
	baz=244						
C27K				S	**S**	**14 57 41.8**	**+1.2**
	baz=244						
NRIK	**Noril'sk**	**84.48**	**341**	IAmb	IAmb	14 47 49.1	
	comp=Z,1μm,1.4s						
NRIK	**Noril'sk**	**84.48**	**341**	P	**P**	**14 47 47.5**	**+0.4**
	comp=Z,156nm,0.5s,baz=106,slow=4.7,SNR=318						
NRIK				pP	**pP**	**14 49 12.1**	**-0.5**
	comp=Z,82nm,1.1s,baz=107,slow=5.9,SNR=1.5						
NRIK				S	**SKSac**	**14 57 32.3**	**-1.7**
	comp=Z,18nm,1.1s,baz=354,slow=5.0,SNR=31						
NRIK				PKKPbc	**PKKPbc**	**15 05 55.4**	**-4.1**
	comp=Z,4.8nm,0.8s,baz=286,slow=3.0,SNR=5.3						
NRIK				PKPPKP	**P'P'df**	**15 14 00.6**	**-4.1**
	comp=Z,6.7nm,0.9s,baz=286,slow=2.6,SNR=5.6						
	comp=Z,156nm,0.5s						
NRIK	**Noril'sk**	**84.48**	**341**	*d i* P	**P**	**14 47 47.3**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,1μm,1.5s						
BHUJ	**Bhuj**	**84.49**	**294**	*e*P	**P**	**14 47 50.0**	**+1.9**
BHUJ				IAmb	IAmb	14 47 51.1	
	comp=Z,2μm,1.2s						
BHUJ				*e*S	**SKSac**	**14 57 34.0**	**-1.9**
K29M	**Barlow Dome**	**84.50**	**25**	P	**P**	**14 47 49.4**	**+2.0**
	baz=251						
K29M				S	**S**	**14 57 42.8**	**+1.1**
	baz=251						
N31M	**Braeburn, Yuko**	**84.52**	**27**	P	**P**	**14 47 49.5**	**+2.0**
	baz=253						
N31M				S	**S**	**14 57 44.5**	**+2.7**
	baz=253						
HG4B	**Hotspring**	**84.55**	**37**	IAmb	IAmb	14 47 51.0	
	comp=Z,978nm,1.0s						
T33K	**Petersburg**	**84.63**	**32**	P	**P**	**14 47 50.0**	**+2.0**
	baz=256,SNR=62						
T33K				S	**S**	**14 57 45.2**	**+2.4**
	baz=256						
WHY	**Whitehorse**	**84.69**	**28**	IAmb	IAmb	14 47 51.5	
	comp=Z,769nm,1.1s						
WHY	**Whitehorse**	**84.69**	**28**	P	**P**	**14 47 50.0**	**+1.6**
	baz=254,SNR=299						
WHY				S	**S**	**14 57 45.8**	**+2.1**
	baz=254						
I29M	**Ogilvie Camp,**	**84.70**	**23**	P	**P**	**14 47 49.6**	**+1.3**
	baz=250,SNR=225						
I29M				S	**S**	**14 57 43.7**	**+0.4**
	baz=250						
WRAK	**Wrangell Islan**	**84.86**	**33**	P	**P**	**14 47 51.1**	**+1.9**
	baz=256,SNR=177						
WRAK				S	**S**	**14 57 48.4**	**+3.4**
	baz=256						
WRAK	**Wrangell Islan**	**84.86**	**33**	⇑P	**P**	**14 47 50.6**	**+1.5**
F28M	**Old Crow**	**84.92**	**21**	IAmb	IAmb	14 47 52.2	
	comp=Z,754nm,1.0s						
F28M	**Old Crow**	**84.92**	**21**	P	**P**	**14 47 51.1**	**+1.8**
	baz=248,SNR=622						
F28M				S	**S**	**14 57 47.5**	**+2.2**
	baz=248						
P32M	**Atlin**	**84.96**	**29**	IAmb	IAmb	14 47 52.8	
	comp=Z,778nm,1.2s						
P32M	**Atlin**	**84.96**	**29**	P	**P**	**14 47 51.5**	**+1.8**
	baz=255,SNR=224						
P32M				S	**S**	**14 57 48.7**	**+2.5**
	baz=255						
V35K	**Ketchikan**	**85.00**	**34**	IAmb	IAmb	14 47 52.9	
	comp=Z,1μm,1.1s						
V35K	**Ketchikan**	**85.00**	**34**	P	**P**	**14 47 51.6**	**+1.8**
	baz=257,SNR=155						
V35K				S	**S**	**14 57 49.6**	**+3.1**
	baz=257						
V35K				S	**S**	**14 57 49.6**	**+3.1**
	baz=257						
MAYO	**Mayo, Yukon**	**85.11**	**25**	P	**P**	**14 47 52.4**	**+2.1**
	baz=252,SNR=70						
MAYO				S	**S**	**14 57 48.3**	**+0.9**
	baz=252						
D27M	**Malcolm River**	**85.17**	**19**	IAmb	IAmb	14 47 53.7	
	comp=Z,963nm,1.0s						
D27M	**Malcolm River**	**85.17**	**19**	P	**P**	**14 47 52.6**	**+2.1**
	baz=247						
D27M				S	**S**	**14 57 48.5**	**+0.7**
	baz=247						
J30M	**Hart River**	**85.23**	**24**	P	**P**	**14 47 52.9**	**+1.9**
	baz=252						
J30

N32M S **S** **14 57 54.4 +1.4**
baz=255
OTUK Ortayu 85.79 319 P **P** **14 47 54.4 +0.4**
FARO Faro, Yukon 85.84 27 IAmb IAmb 14 47 56.5
comp=Z,1μm,1.0s
FARO Faro, Yukon 85.84 27 P **P** **14 47 55.3 +1.4**
baz=255,SNR=898
FARO S **S** **14 57 56.1 +1.6**
baz=255
S34M Telegraph Cree 85.85 31 P **P** **14 47 56.3 +2.3**
baz=257,SNR=561
S34M S **S** **14 57 57.5 +2.9**
baz=257
E29M Blow River 85.89 20 P **P** **14 47 55.1 +1.1**
baz=250
E29M S **S** **14 57 55.4 +0.7**
baz=250
D28M Stokes Point 85.93 19 P **P** **14 47 55.9 +1.7**
baz=249
D28M S **S** **14 57 56.3 +1.3**
baz=249
U35K Hyder 86.00 33 IAmb IAmb 14 47 57.8
comp=Z,959nm,1.3s
U35K Hyder 86.00 33 P **P** **14 47 56.5 +1.7**
baz=258,SNR=16
U35K S **S** **14 57 59.0 +2.8**
baz=258
G30M tAoh Zraii Nji 86.03 22 P **P** **14 47 55.7 +0.9**
baz=252
G30M S **S** **14 57 56.3 +0.1**
baz=252
T35M Bob Quinn 86.11 32 IAmb IAmb 14 47 58.8
comp=Z,1μm,1.2s
T35M Bob Quinn 86.11 32 P **P** **14 47 57.5 +2.1**
baz=258,SNR=253
T35M S **S** **14 58 00.8 +3.5**
baz=258
KBU Kabul Universi 86.20 305 P **P** **14 47 55.5 -1.0**
KK31 Karatay Array 86.25 313 IAmb IAmb 14 48 00.1
comp=Z,443nm,1.1s
KK31 Karatay Array 86.25 313 *i* P **P** **14 47 56.6 +0.2**
KKAR Karatay Array 86.25 313 P **P** **14 47 55.1 -1.3**
KKAR Karatay Array 86.25 313 IAmb IAmb 14 48 00.0
comp=Z,283nm,1.1s
KKAR Karatay Array 86.25 313 P **P** **14 47 55.1 -1.3**
KKAR Karatay Array 86.25 313 ⇑P **P** **14 47 56.8 +0.5**
R33M Jennings River 86.27 30 P **P** **14 47 58.3 +2.1**
baz=257
R33M S **S** **14 58 01.6 +2.6**
baz=257
KBL Kabul 86.28 305 P **P** **14 47 55.6 -1.3**
KBL IAmb IAmb 14 48 00.7
comp=Z,503nm,1.4s
KBL Kabul 86.28 305 P **P** **14 47 57.3 +0.3**
SNR=192
KBL Kabul 86.28 305 P **P** **14 47 55.7 -1.3**
KBL pmax pmax
comp=Z,503nm,1.4s
F30M Barrier River 86.39 21 P **P** **14 47 57.7 +1.2**
baz=252
F30M S **S** **14 58 00.5 +1.0**
baz=252
BBB Bella Bella 86.39 37 IAmb IAmb 14 47 59.5
comp=Z,1μm,1.3s
BBB Bella Bella 86.39 37 ⇓P **P** **14 47 57.9 +1.2**
H31M Peel River 86.40 23 P **P** **14 47 57.7 +1.2**
baz=254
H31M S **S** **14 58 00.6 +0.8**
baz=254
QSPA South Pole Qui 86.52 180 P **P** **14 47 55.7 -1.6**
QSPA South Pole Qui 86.52 180 P **P** **14 47 57.3 +0.1**
comp=Z,957nm,0.8s,baz=356,slow=1.5,SNR=706
QSPA PKiKP **PKiKP** **14 53 01.3 0.0**
comp=Z,35nm,1.0s,baz=46,slow=8.3,SNR=3.0
QSPA S **SKSac** **14 57 44.6 -2.4**
comp=Z,18nm,1.1s,baz=264,slow=20,SNR=17
QSPA PKKPbc **PKKPbc** **15 05 51.7 -3.5**
comp=Z,48nm,1.0s,baz=157,slow=0.2,SNR=36
QSPA PKPPKP **P'P'df** **15 13 56.6 -5.9**
comp=Z,10nm,1.0s,baz=204,slow=4.9,SNR=6.0
comp=Z,957nm,0.8s
QSPA South Pole Qui 86.52 180 ⇑P **P** **14 47 56.6 -0.6**
DLBC Dease Lake 86.54 31 PKKPbc PKKPbc 15 05 52.3 -2.0
comp=Z,19nm,0.9s,baz=103,slow=1.1,SNR=13
DLBC PKPPKP **P'P'df** **15 13 58.3 -2.7**
comp=Z,6.1nm,1.0s,baz=55,slow=5.1,SNR=4.7
DLBC Dease Lake 86.54 31 P **P** **14 47 59.4 +2.0**
baz=258,SNR=483
DLBC S **S** **14 58 04.7 +3.2**
baz=258
DLBC Dease Lake 86.54 31 ⇑P **P** **14 47 58.6 +1.2**
MAW Mawson 86.58 203 P **P** **14 47 58.2 +0.8**
comp=Z,282nm,1.0s,baz=77,slow=5.2,SNR=16
comp=Z,282nm,1.0s
CHGR Chuyangaron 86.68 309 P **P** **14 47 59.8 +1.2**
BRLS Borolday 86.73 313 *e*P **P** **14 47 59.7 +1.1**
BRLS Borolday 86.73 313 *e*P **P** **14 47 59.8 +1.1**
G31M Satah River 86.75 22 P **P** **14 47 59.3 +1.2**
baz=254,SNR=687
G31M S **S** **14 58 02.7 -0.2**
baz=254
SIMJ Simiganj 86.80 309 P **P** **14 47 58.0 -1.2**
CHM Chimkent 86.81 313 *e*P **P** **14 47 59.7 +0.7**
CHM pmax pmax
comp=Z,241nm,1.0s
CHM Chimkent 86.81 313 *e*P **P** **14 47 59.8 +0.7**
comp=Z,241nm,1.0s
F31M Tsiigehtchic 87.09 22 P **P** **14 48 00.5 +0.8**
baz=254
F31M S **S** **14 58 05.6 -0.5**
baz=254
INK Inuvik 87.41 21 IAmb IAmb 14 48 03.2
comp=Z,1μm,1.1s
INK Inuvik 87.41 21 P **P** **14 48 01.9 +0.7**
baz=254
INK S **S** **14 58 08.3 -0.8**
baz=254
INK Inuvik 87.41 21 P **P** **14 48 01.6 +0.4**
INK Inuvik 87.41 21 ⇑P **P** **14 48 01.1 -0.1**
KMPM Mount Pierce 87.41 49 IAmb IAmb 14 48 05.0
comp=Z,560nm,0.9s
WTLY Watson Lake, Y 87.50 29 P **P** **14 48 03.8 +1.9**
baz=259,SNR=196
WTLY S **S** **14 58 12.3 +2.0**
baz=259
JCC Jacoby Creek, 87.52 49 IAmb IAmb 14 48 05.5
comp=Z,803nm,1.6s
OZB Mount Ozzard 87.53 41 IAmb IAmb 14 48 06.2
comp=Z,367nm,1.1s
KBO Bosley Butte 87.54 48 IAmb IAmb 14 48 05.8
comp=Z,1μm,1.1s
KRPM Rodgers 87.57 49 IAmb IAmb 14 48 06.1
comp=Z,895nm,1.3s
KRMB Red Mountain 87.69 48 IAmb IAmb 14 48 06.5
comp=Z,691nm,1.2s
KMRM Mail Ridge 87.70 50 IAmb IAmb 14 48 08.2
comp=Z,973nm,1.4s
KCPM Cahto Peak 87.73 50 IAmb IAmb 14 48 06.2
comp=Z,706nm,1.1s
KSXB Camp Six Broad 87.75 48 IAmb IAmb 14 48 06.6
comp=Z,501nm,1.1s
KHMM Horse Mountain 87.75 49 IAmb IAmb 14 48 08.7
comp=Z,717nm,1.2s
CBB Campbell River 87.76 40 IAmb IAmb 14 48 06.2
comp=Z,452nm,1.2s
BVA0 Borovoye Array 87.79 323 *i* P **P** **14 48 03.3 -0.1**
BVAR Borovoye Array 87.79 323 P **P** **14 48 03.2 -0.1**
comp=Z,999nm,0.8s,baz=77,slow=3.2,SNR=1490
BVAR PKiKP **PKiKP** **14 53 03.9 +0.2**
comp=Z,7.5nm,0.5s,baz=137,slow=2.2,SNR=10.0
BVAR S **SKSac** **14 57 51.0 -4.0**
comp=Z,33nm,1.1s,baz=130,slow=2.3,SNR=12
BVAR PKKPbc **PKKPbc** **15 05 50.2 -0.7**
comp=Z,11nm,0.9s,baz=280,slow=4.4,SNR=10
BVAR PKPPKP P'P'df 15 13 49.8 -8.7
comp=Z,5.4nm,1.0s,baz=248,slow=1.6,SNR=7.7
comp=Z,999nm,0.8s
BRVK Borovoye 87.85 323 P **P** **14 48 02.5 -1.2**
BRVK IAmb IAmb 14 48 05.1
comp=Z,994nm,1.1s
BRVK Borovoye 87.85 323 P **P** **14 48 03.8 +0.2**
BRVK Borovoye 87.85 323 *i* P **P** **14 48 03.5 -0.2**
BRVK pmax pmax
comp=Z,1μm,1.1s
J01E Myrtle Point 87.87 47 IAmb IAmb 14 48 06.8
comp=Z,914nm,1.0s
C03A Quillayute Air 88.00 42 IAmb IAmb 14 48 07.7
comp=Z,858nm,1.1s
K02D Willamette Mer 88.01 47 IAmb IAmb 14 48 07.4
comp=Z,810nm,1.1s
L02F Cave Junction 88.01 48 IAmb IAmb 14 48 07.6
comp=Z,370nm,1.0s
I02E Swisshome, OR 88.04 46 IAmb IAmb 14 48 07.7
comp=Z,1μm,1.4s
HOPS Hopland Field 88.05 51 IAmb IAmb 14 48 09.3
comp=Z,617nm,1.4s
HEBO Mount Hebo 88.23 45 IAmb IAmb 14 48 08.4
comp=Z,534nm,1.1s
DBO Dodson Butte 88.36 47 IAmb IAmb 14 48 09.2
comp=Z,572nm,1.2s
O02D Mt. Diablo Mer 88.39 50 IAmb IAmb 14 48 09.7
comp=Z,373nm,0.8s
CLRS Cowichan Lake 88.40 41 IAmb IAmb 14 48 08.8
comp=Z,366nm,1.0s
NLWA Neilton Lookou 88.41 43 IAmb IAmb 14 48 09.2
comp=Z,604nm,1.1s
NLWA Neilton Lookou 88.41 43 ⇑P **P** **14 48 07.8 +1.4**
WISH Wishkah 88.44 43 IAmb IAmb 14 48 09.5
comp=Z,700nm,1.0s
COR Corvallis 88.48 45 P **P** **14 48 04.6 -2.2**
COR IAmb IAmb 14 48 10.0
comp=Z,2μm,1.8s
COR Corvallis 88.48 45 P **P** **14 48 04.6 -2.2**
COR pmax pmax
comp=Z,2μm,1.8s
COR Corvallis 88.48 45 ⇓P **P** **14 48 08.3 +1.6**
G03D McMinnville, O 88.57 45 IAmb IAmb 14 48 09.8
comp=Z,469nm,1.0s
YBH Yreka Blue Hor 88.61 48 IAmb IAmb 14 48 10.6
comp=Z,886nm,1.1s
YBH Yreka Blue Hor 88.61 48 PKKPbc PKKPbc 15 05 48.4 0.0
comp=Z,7.7nm,1.1s,baz=3.5,slow=3.9,SNR=6.4
PGC Sidney 88.83 41 IAmb IAmb 14 48 10.7
comp=Z,470nm,1.1s
H04D Lebanon 88.87 45 IAmb IAmb 14 48 12.2
comp=Z,1μm,1.3s
I04A Tendick Farm, 89.03 46 IAmb IAmb 14 48 11.8
comp=Z,856nm,1.2s
TOAD Toad River Com 89.08 31 P **P** **14 48 10.3 +1.0**
baz=262,SNR=123
TOAD S **S** **14 58 25.6 +0.5**
baz=262
SAO San Andreas Ge 89.12 53 P **P** **14 48 10.5 +0.5**
SAO IAmb IAmb 14 48 13.7
comp=Z,465nm,1.5s
SAO San Andreas Ge 89.12 53 P **P** **14 48 10.5 +0.5**
SAO pmax pmax
comp=Z,465nm,1.5s
GNW Green Mountain 89.13 42 IAmb IAmb 14 48 12.3
comp=Z,414nm,0.8s
H04A Detroit Lake 89.28 45 IAmb IAmb 14 48 13.5
comp=Z,799nm,1.4s
ORV Oroville 89.32 50 IAmb IAmb 14 48 13.2
comp=Z,1μm,1.9s
BBGB Big Mountain B 89.44 53 IAmb IAmb 14 48 15.8
comp=Z,1μm,1.3s
HATC Hat Creek Radi 89.46 49 IAmb IAmb 14 48 14.3
comp=Z,1μm,1.1s
PMPB Monarch Peak 89.60 54 IAmb IAmb 14 48 16.3
comp=Z,830nm,1.4s
AFDM Forest Hills D 89.68 51 IAmb IAmb 14 48 15.2
comp=Z,797nm,1.5s
HOOD Mount Hood Mea 89.72 45 IAmb IAmb 14 48 15.1
comp=Z,644nm,1.3s
KOTAN Kotaneelee Air 89.84 30 P **P** **14 48 14.1 +1.3**
baz=263,SNR=88
KOTAN S **S** **14 58 33.0 +1.0**
baz=263
I05D Terrebonne, OR 89.85 46 IAmb IAmb 14 48 15.9
comp=Z,1μm,1.4s
CMB Columbia Colle 90.07 52 IAmb IAmb 14 48 16.9
comp=Z,425nm,1.1s
CMB Columbia Colle 90.07 52 P **P** **14 48 14.6 +0.2**
G06A Carlson Farm, 90.43 45 IAmb IAmb 14 48 18.2
comp=Z,703nm,1.8s
WRGLY Wrigley 90.49 27 IAmb IAmb 14 48 18.2
comp=Z,506nm,1.1s
WRGLY Wrigley 90.49 27 P **P** **14 48 17.1 +1.4**
baz=264
WRGLY S **S** **14 58 38.5 +0.8**
baz=264
LTY Liberty 90.56 43 IAmb IAmb 14 48 18.4
comp=Z,633nm,1.5s
PNTR Pine Nut 90.76 51 P **P** **14 48 17.7 -0.1**
PNTR IAmb IAmb 14 48 20.7
comp=Z,844nm,1.2s
WAKR Walker 90.85 52 IAmb IAmb 14 48 21.2
comp=Z,492nm,1.2s
A36M Sachs Harbour 90.94 18 IAmb IAmb 14 48 19.3
comp=Z,408nm,0.9s
A36M Sachs Harbour 90.94 18 P **P** **14 48 18.3 +0.7**
baz=262
PAHR Pah Rah Range 90.96 50 IAmb IAmb 14 48 21.3
comp=Z,826nm,1.3s
F07A Phinny Hill Vi 90.97 44 IAmb IAmb 14 48 20.9
comp=Z,367nm,1.1s
C36M Paulatuk 90.98 21 IAmb IAmb 14 48 19.4
comp=Z,753nm,1.2s
C36M Paulatuk 90.98 21 P **P** **14 48 18.2 +0.4**
baz=263
C36M S **S** **14 58 39.3 -2.5**
baz=263
E07A Sunnyside 91.06 44 IAmb IAmb 14 48 21.3
comp=Z,517nm,1.1s
I07A Izee 91.15 46 IAmb IAmb 14 48 22.1
comp=Z,992nm,1.3s
HAWA Hanford 91.28 44 IAmb IAmb 14 48 22.2
comp=Z,427nm,1.0s
HAWA Hanford 91.28 44 ⇓P **P** **14 48 20.7 +1.0**
PNT Penticton 91.40 41 P **P** **14 48 17.7 -2.6**
PNT pmax pmax
comp=Z,844nm,1.2s
ISA Isabella, Lake 91.45 55 IAmb IAmb 14 48 23.2
comp=Z,485nm,1.1s
B08A Colville Reser 91.53 42 IAmb IAmb 14 48 23.0
comp=Z,454nm,1.2s
RYN Ryan 91.57 52 IAmb IAmb 14 48 24.2
comp=Z,661nm,1.2s
E08A Dider Farm, El 91.61 44 IAmb IAmb 14 48 23.8
comp=Z,549nm,1.1s
G08A Pilot Rock 91.61 45 IAmb IAmb 14 48 23.9
comp=Z,595nm,1.3s
WVOR Wild Horse Val 91.69 48 IAmb IAmb 14 48 24.5
comp=Z,683nm,1.1s
WVOR Wild Horse Val 91.69 48 ⇓P **P** **14 48 22.9 +1.0**
WVOR Wild Horse Val 91.69 48 ⇓P **P** **14 48 22.9 +1.0**
NVAR Mina Array Bea 91.73 52 P **P** **14 48 22.2 -0.1**
NVAR Mina Array Bea 91.73 52 P **P** **14 48 23.4 +1.1**
comp=Z,313nm,0.9s,baz=257,slow=6.1,SNR=755
NVAR pP **pP** **14 49 49.3 +0.5**
comp=Z,15nm,0.9s,baz=265,slow=4.0,SNR=3.3
NVAR PKiKP **PKiKP** **14 53 11.9 +0.8**
comp=Z,14nm,1.1s,baz=264,slow=1.6,SNR=3.6
NVAR PKKPbc **PKKPbc** **15 05 40.2 -0.4**
comp=Z,6.0nm,0.8s,baz=92,slow=2.9,SNR=5.1
NVAR PKPPKP **P'P'df** **15 13 45.8 -5.5**
comp=Z,6.7nm,1.0s,baz=109,slow=2.0,SNR=9.8
comp=Z,313nm,0.9s
D08A Wollman Farm, 91.73 43 IAmb IAmb 14 48 24.3
comp=Z,350nm,1.1s
CCAC Calif City Air 91.79 55 IAmb IAmb 14 48 25.5
comp=Z,847nm,1.4s
NV11 Mina Array Sit 91.85 52 IAmb IAmb 14 48 25.4
comp=Z,888nm,1.2s
J08A Circle Bar Ran 91.86 47 IAmb IAmb 14 48 25.1
comp=Z,507nm,1.0s
HRA Herat 91.87 304 IAmb IAmb 14 48 24.9
comp=Z,363nm,1.2s
DSP Deep Springs 91.94 53 IAmb IAmb 14 48 26.1
comp=Z,853nm,1.1s
ELS Elsinore Mount 92.21 57 IAmb IAmb 14 48 27.1
comp=Z,461nm,1.1s
E09A Wood Farm, Sta 92.24 44 IAmb IAmb 14 48 26.6
comp=Z,702nm,1.1s
NGCH Negor - Chabah 92.40 295 P **P** **14 48 27.0 +1.7**
SNR=16
MZP Montezuma Peak 92.42 53 IAmb IAmb 14 48 28.1
comp=Z,604nm,1.2s
BMO Blue Mountains 92.76 45 IAmb IAmb 14 48 29.0
comp=Z,794nm,1.4s
BMO Blue Mountains 92.76 45 ⇑P **P** **14 48 26.8 0.0**
BMO Blue Mountains 92.76 45 ⇑P **P** **14 48 26.8 0.0**
GSC Goldstone, Bar 92.79 55 IAmb IAmb 14 48 29.8
comp=Z,654nm,1.2s
CBX Cerro Bola 92.79 58 IAmb IAmb 14 48 30.6
comp=Z,593nm,1.1s
F10A Beach Ranch, E 92.86 44 IAmb IAmb 14 48 29.2
comp=Z,328nm,0.9s
GWY Greenwater Val 92.93 54 IAmb IAmb 14 48 30.2
comp=Z,454nm,1.0s
NEW Newport 93.00 42 IAmb IAmb 14 48 29.9
comp=Z,495nm,1.1s
NEW Newport 93.00 42 P **P** **14 48 28.5 +0.8**
NEW Newport 93.00 42 ⇑P **P** **14 48 27.9 +0.2**
PFO Pinyon Flats O 93.01 57 P **P** **14 48 28.5 +0.2**
PFO Pinyon Flats O 93.01 57 PKPPKP 15 13 43.2
comp=Z,6.9nm,0.9s,baz=152,slow=2.7,SNR=3.8
PFO Pinyon Flats O 93.01 57*c* *i*P **P** **14 48 28.8 +0.6**
PFO pmax pmax
comp=Z,972nm,0.9s
SVE Sverdlovsk 93.70 327*c* *i*P **P** **14 48 30.1 -0.5**
SVE *i* S **SKSac** **14 58 26.8 -1.5**
SVE *e* 14 59 01.1
SVE *e* 15 09 14.9
SVE pmax pmax
comp=Z,403nm,1.5s
S11A Rachel 93.72 53 IAmb IAmb 14 48 33.7
comp=Z,525nm,1.3s
MFID Camas Ranch 93.78 47 IAmb IAmb 14 48 34.1
comp=Z,635nm,1.4s
JLN Jalan Bani Buh 93.84 292 P **P** **14 48 32.3 +0.2**
SNR=57
R11B Troy Canyon, C 93.86 52 IAmb IAmb 14 48 34.8
comp=Z,396nm,1.3s
R11B Troy Canyon, C 93.86 52 P **P** **14 48 33.3 +1.2**
baz=269
R11B S **S** **14 59 09.4 +0.5**
baz=269
AB31 Akbulak array 94.04 319 *i* P **P** **14 48 31.0 -1.4**
ABKAR Akbulak array 94.04 319 P **P** **14 48 30.6 -1.8**
ABKAR Akbulak array 94.04 319 IAmb IAmb 14 48 32.8
comp=Z,236nm,0.9s
SHPR Sheep Range 94.16 54 IAmb IAmb 14 48 36.5
comp=Z,379nm,1.1s
ELK Elko 94.17 50 IAmb IAmb 14 48 37.0
comp=Z,407nm,1.4s
ELK Elko 94.17 50 PKKPbc PKKPbc 15 05 33.1 -1.4
comp=Z,7.1nm,1.0s,baz=85,slow=4.1,SNR=7.1
ELK PKPPKP **P'P'df** **15 13 40.6 -6.1**
comp=Z,7.5nm,0.9s,baz=3.1,slow=4.4,SNR=5.1
ELK Elko 94.17 50 ⇓P **P** **14 48 34.3 +0.8**
WBK Wadi Bani Khal 94.27 292 P **P** **14 48 35.0 +0.9**
SNR=61
SFX San Felipe 94.30 59 IAmb IAmb 14 48 36.9
comp=Z,242nm,1.0s
YKA Yellowknife Ar 94.51 28 P **P** **14 48 34.9 +0.6**
comp=Z,85nm,0.7s,baz=269,slow=4.9,SNR=1163
YKA pP **pP** **14 50 01.1 +0.1**
comp=Z,15nm,1.1s,baz=269,slow=4.6,SNR=2.2
YKA PKiKP **PKiKP** **14 53 15.5 +0.7**
comp=Z,7.4nm,0.7s,baz=266,slow=1.6,SNR=11
YKA ScS **S** **14 59 14.0 +0.9**
comp=Z,5.7nm,1.2s,baz=273,slow=11,SNR=5.0
YKA PKKPbc **PKKPdf** **15 05 31.9 -0.6**
comp=Z,35nm,0.9s,baz=100,slow=2.5,SNR=16
YKA PKPPKP **P'P'df** **15 13 41.6 -4.3**
comp=Z,2.6nm,0.9s,baz=88,slow=2.3,SNR=8.2
comp=Z,85nm,0.7s
BLYC Blythe 94.63 57 IAmb IAmb 14 48 38.6
comp=Z,421nm,0.8s
SYO Syowa Base 94.74 200 ⇓*i*P **P** **14 48 35.0 -0.1**
SYO Syowa Base 94.74 200 ⇓*i*PcP **PcP** **14 48 37.1 +1.8**
SYO Syowa Base 94.74 200 ⇑*i*PP **PP** **14 52 32.1 +3.1**
RER Riviere de l'E 94.77 249 IAmb IAmb 14 48 38.5
comp=Z,462nm,1.0s
HLID Hailey 94.82 47 IAmb IAmb 14 48 39.0
comp=Z,520nm,1.8s
SPR3 Spring Creek 3 94.85 51 IAmb IAmb 14 48 39.4
comp=Z,452nm,1.1s
ARTI Arti 94.95 326 P **P** **14 48 33.2 -3.1**
ARTI IAmb IAmb 14 48 36.6
comp=Z,413nm,1.1s
ARTI Arti 94.95 326 PKKPbc PKKPbc 15 05 31.3 -1.6
comp=Z,16nm,0.7s,baz=294,slow=2.6,SNR=6.9
ARTI PKPPKP **P'P'df** **15 13 41.5 -3.5**
comp=Z,22nm,1.2s,baz=259,slow=2.4,SNR=13
ARTI Arti 94.95 326*d* *i*P **P** **14 48 35.3 -1.1**
ARTI *PP **pP** **14 50 02.1 -1.1**
ARTI 14 52 28.6
ARTI S **SKSac** **14 58 33.3 -1.7**
ARTI SP **SP** **15 00 34.9 -1.6**
ARTI pmax pmax
comp=Z,120nm,1.1s
JMDO Jabal Madar 95.06 292 P **P** **14 48 38.0 +0.3**
SNR=27
BIDO Bidbid 95.07 293 P **P** **14 48 38.1 +0.4**
SNR=76
SMDO Samad 95.13 293 P **P** **14 48 38.3 +0.2**
SNR=30
W13A Hualapai Mount 95.17 55 IAmb IAmb 14 48 41.1
comp=Z,561nm,1.1s
PSUT Pine Spring 95.22 52 IAmb IAmb 14 48 40.9
comp=Z,255nm,1.1s
113A Mohawk Valley, 95.25 58 IAmb IAmb 14 48 41.6
comp=Z,336nm,1.3s
AKTO Aktyubinsk 95.29 320 PKKPbc PKKPbc 15 05 30.4 -1.3
comp=Z,17nm,1.0s,baz=297,slow=3.7,SNR=7.8
AKTO PKPPKP **P'P'df** **15 13 39.0 -5.3**
comp=Z,4.0nm,1.1s,baz=298,slow=5.6,SNR=3.7
AKTO Aktyubinsk 95.29 320 P **P** **14 48 35.9 -2.1**
JASK Jask - Hormozg 95.37 296 P **P** **14 48 40.7 +1.7**
SNR=30
PIX Pinacate 95.49 59 IAmb IAmb 14 48 44.0
comp=Z,301nm,1.8s
DQM DQM 95.52 290 P **P** **14 48 41.0 +1.2**
SNR=15
LCMT Little Creek M 95.70 53 IAmb IAmb 14 48 43.4
comp=Z,434nm,1.2s
HOQ Hoqain 95.82 293 P **P** **14 48 41.2 +0.1**
SNR=70
Y14A Wickenburg 95.89 56 IAmb IAmb 14 48 44.4
comp=Z,375nm,1.2s
BSY Bisya 95.91 292 P **P** **14 48 42.0 +0.4**
SNR=40
DUG Dugway, Tooele 96.02 50 ⇓P **P** **14 48 42.5 +0.7**
HVU Hansel Valley 96.03 49 IAmb IAmb 14 48 44.1
comp=Z,262nm,1.0s
MSEY Mahe Island 96.39 265 P **P** **14 48 41.8 -2.1**
MSEY IAmb IAmb 14 48 45.4
comp=Z,189nm,1.0s
MSEY Mahe Island 96.39 265 P **P** **14 48 44.0 0.0**
MSEY Mahe Island 96.39 265 P **P** **14 48 41.8 -2.1**
MSEY pmax pmax
comp=Z,189nm,1.0s
MSEY Mahe Island 96.39 265 *i* P **P** **14 48 44.1 +0.2**
SNR=19
U15A North Rim 96.47 54 IAmb IAmb 14 48 47.2
comp=Z,262nm,1.0s
SRIG Santa Rosalia 96.52 63 IAmb IAmb 14 48 49.2
comp=Z,212nm,1.2s
MTPU Mount Pierson 96.54 52 IAmb IAmb 14 48 47.9
comp=Z,287nm,1.1s
ARQ Araqi 96.54 293 P **P** **14 48 44.5 +0.1**
SNR=46
SOHO SOHO 96.54 294 P **P** **14 48 43.9 -0.4**
SOHO SOHO 96.54 294 *i* P **P** **14 48 44.0 -0.4**
SNR=60
BOZ Bozeman (W) 96.77 45 ⇓P **P** **14 48 45.8 +0.7**
MDH Madha 96.77 295 P **P** **14 48 46.0 +0.6**
SNR=5.2
MDH Madha 96.77 295 *i* P **P** **14 48 44.2 -1.1**
SNR=9.1
UOSS Minazif 96.85 295 P **P** **14 48 43.9 -1.9**
UOSS IAmb IAmb 14 48 46.4
comp=Z,149nm,1.1s
UOSS Minazif 96.85 295 P **P** **14 48 45.0 -0.7**
UOSS Minazif 96.85 295 *i* P **P** **14 48 45.1 -0.6**
SNR=26
MASF Masafi 96.90 295 P **P** **14 48 46.5 +0.5**
SNR=28
MSFE Esma-Masafi 96.90 295 *i* P **P** **14 48 45.8 -0.2**
SNR=22
HATD Hatta, Dubai 96.92 294 P **P** **14 48 46.1 +0.1**
SNR=21
HATD Hatta, Dubai 96.92 294 *i* P **P** **14 48 46.0 -0.1**
SNR=30
SHME Shamm 96.92 296 P **P** **14 48 46.5 +0.5**
SNR=16
SHME Shamm 96.92 296 *i* P **P** **14 48 46.1 +0.2**
SNR=39
ASHO Ashiyiah 96.98 294 P **P** **14 48 47.0 +0.6**
SNR=18

ASHO	**Ashiyiah**	96.98	294	*i* P		**P**	14 48 47.0	+0.6
	SNR=14							
JLU	**Jordanelle**	97.06	50	IAmb		IAmb	14 48 48.7	
	comp=Z,193nm,1.2s							
TCUT	**Toone Canyon**	97.08	49	IAmb		IAmb	14 48 48.5	
	comp=Z,278nm,1.5s							
YHL	**Hebgen Lake**	97.11	45	IAmb		IAmb	14 48 49.8	
	comp=Z,337nm,1.5s							
X16A	**Lo Mia Camp, P**	97.19	56	IAmb		IAmb	14 48 50.7	
	comp=Z,156nm,1.1s							
WUAZ	**Wupatki**	97.23	55	IAmb		IAmb	14 48 50.6	
	comp=Z,374nm,1.1s							
AHID	**Auburn Hatcher**	97.25	47	IAmb		IAmb	14 48 49.2	
	comp=Z,162nm,1.1s							
ALNE	**Al Ain**	97.26	294	P		Pdif	14 48 47.7	+0.1
	SNR=29							
ALNE	**Al Ain**	97.26	294	*i* P		Pdif	14 48 47.7	+0.1
	SNR=22							
TMUT	**Trail Mountain**	97.28	51	IAmb		IAmb	14 48 50.2	
	comp=Z,222nm,1.0s							
YMR	**Madison River**	97.28	46	IAmb		IAmb	14 48 50.5	
	comp=Z,192nm,1.2s							
Q16A	**Castle Valley**	97.32	51	IAmb		IAmb	14 48 50.5	
	comp=Z,404nm,1.5s							
NAZ	**Nazwa, Dubai**	97.35	295	P		Pdif	14 48 48.0	0.0
	SNR=12							
NAZ	**Nazwa, Dubai**	97.35	295	*i* P		**P**	14 48 47.5	-0.4
	SNR=15							
YFT	**Old Faithful**	97.38	46	IAmb		IAmb	14 48 51.6	
	comp=Z,132nm,1.0s							
FAQ	**Al Faqa, Dubai**	97.41	294	P		**P**	14 48 48.1	-0.1
	SNR=12							
FAQ	**Al Faqa, Dubai**	97.41	294	*i* P		**P**	14 48 47.6	-0.6
	SNR=11							
YNM	**Yellowstone No**	97.46	46	IAmb		IAmb	14 48 51.8	
	comp=Z,215nm,1.2s							
YNR	**Norris Junctio**	97.48	46	IAmb		IAmb	14 48 52.0	
	comp=Z,212nm,1.3s							
ASUD	**Al Ashush, Dub**	97.65	294	P		Pdif	14 48 50.0	+0.7
	SNR=13							
ASUD	**Al Ashush, Dub**	97.65	294	*i* P		Pdif	14 48 49.4	+0.1
	SNR=11							
HSIG		97.66	61	IAmb		IAmb	14 48 53.1	
	comp=Z,154nm,0.9s							
TUC	**Tucson**	97.77	58	P		**P**	14 48 49.3	-0.4
TUC				IAmb		IAmb	14 48 53.7	
	comp=Z,194nm,1.4s							
TUC	**Tucson**	97.77	58	P		**P**	14 48 49.3	-0.4
TUC				pmax		pmax		
	comp=Z,194nm,1.5s							
SRU	**San Rafael Swe**	97.81	51	IAmb		IAmb	14 48 51.9	
	comp=Z,229nm,1.4s							
YMP	**Mirror Lake Pl**	97.85	45	IAmb		IAmb	14 48 53.5	
	comp=Z,317nm,1.6s							
EGMT	**Eagleton**	97.94	42	IAmb		IAmb	14 48 52.5	
	comp=Z,462nm,1.4s							
AJN	**Ajban**	97.96	294	P		Pdif	14 48 51.8	+1.2
	SNR=7.7							
AJN	**Ajban**	97.96	294	*i* P		**P**	14 48 50.1	-0.5
	SNR=7.3							
ELIB	**Princess Elisa**	97.97	194	*d*P		**P**	14 48 49.4	-0.5
	comp=Z,115nm,1.3s							
P18A	**Preston Nutter**	98.01	51	IAmb		IAmb	14 48 53.2	
	comp=Z,115nm,1.0s							
PD31	**Pinedale Array**	98.39	47	IAmb		IAmb	14 48 53.8	
	comp=Z,193nm,1.1s							
PDAR	**Pinedale Array**	98.39	47	P		Pdif	14 48 50.1	-2.4
PDAR	**Pinedale Array**	98.39	47	P		Pdif	14 48 52.4	-0.1
	comp=Z,114nm,0.9s,baz=241,slow=2.2,SNR=662							
PDAR				PKiKP		**PKiKP**	**14 53 23.1**	**+0.5**
	comp=Z,7.5nm,0.8s,baz=216,slow=2.3,SNR=6.0							
PDAR				PKKPbc		**PKKPbc**	**15 05 21.9**	**-1.4**
	comp=Z,24nm,1.0s,baz=96,slow=3.1,SNR=12							
	comp=Z,114nm,0.9s							
RBK	**Rabkut**	98.63	287	P		**P**	**14 48 54.0**	**+0.1**
	SNR=20							
DOK	**Doka**	98.71	288	P		Pdif	14 48 54.0	-0.2
	SNR=20							
WHFO	**Wadi Hawf**	99.05	288	P		**Pdif**	**14 48 56.0**	**+0.3**
	SNR=13							
RES	**Resolute Bay**	99.25	14	P		**Pdif**	**14 48 54.5**	**-0.7**
MZR	**Muzera**	99.34	293	P		**Pdif**	**14 48 57.6**	**+0.7**
	SNR=14							
MZR	**Muzera**	99.34	293	*i* P		**Pdif**	**14 48 57.1**	**+0.2**
	SNR=8.1							
ABTO	**Aybut**	99.49	287	P		**Pdif**	**14 48 58.0**	**+0.3**
	SNR=27							
KIRV	**Kirov**	99.57	329	PKKPbc		PKKPbc	15 05 18.1	-2.2
	comp=Z,27nm,0.8s,baz=102,slow=1.2,SNR=8.2							
KIRV	**Kirov**	99.57	329	*d* *i* P		**Pdif**	**14 48 56.0**	**-1.0**
GHWR	**Ruwais**	99.89	294	P		**Pdif**	**14 48 59.1**	**-0.1**
JRN	**Qarnain Island**	99.90	295	P		**Pdif**	**14 48 58.5**	**-0.8**
121A	**Cookes Peak, D**	100.30	58	Pdiff		**Pdif**	**14 49 03.8**	**+2.7**
	baz=273							
S22A	**4UR Ranch, Cre**	100.78	52	Pdiff		**Pdif**	**14 49 05.1**	**+1.8**
	baz=274							
Y22D	**IRIS PASSCAL I**	100.94	56	Pdiff		**Pdif**	**14 49 06.5**	**+2.6**
	baz=273							
SLWR	**Sila**	100.97	294	P		**Pdif**	**14 49 03.9**	**-0.1**
SBV	**Sambava**	101.10	256	P		**Pdif**	**14 49 05.5**	**+0.8**
	SNR=22							
N23A	**Red Feather La**	101.22	49	Pdiff		**Pdif**	**14 49 06.4**	**+1.2**
	baz=275							
ANMO	**Albuquerque**	101.27	55	PKKPbc		PKKPbc	15 05 14.5	-0.2
	comp=Z,10.0nm,1.1s,baz=277,slow=5.3,SNR=6.2							
ANMO				PKKPab		PKKPab	15 05 39.6	
	comp=Z,27nm,1.1s,baz=285,slow=5.1,SNR=14							
ANMO				PKPPKP		**P'P'df**	**15 13 31.6**	**-1.6**
	comp=Z,11nm,1.1s,baz=312,slow=2.3,SNR=14							
ANMO	**Albuquerque**	101.27	55	*d* *i* P		**Pdif**	**14 49 06.8**	**+1.4**
ANMO				pmax		pmax		
	comp=Z,51nm,1.1s							
TRNA	**Turayna**	101.39	294	P		**Pdif**	**14 49 05.8**	**-0.1**
NVL	**N'lazarevskaya**	101.45	192	*e*P		**Pdif**	**14 49 03.8**	**-1.4**
NVL				*e*S		**SKSac**	**14 59 01.8**	**-5.3**
NVL				*e*SS		**SS**	**15 07 29.4**	**+8.0**
NVL				pmax		pmax		
	comp=Z,101nm,1.1s							
HOPEN	**Hopen**	101.50	349	*e*Pdif		**Pdif**	**14 49 07.0**	**+1.7**
HOPEN				*e*SKSac		**SKSac**	**14 59 08.5**	**+1.4**
HOPEN				*e*SP		**SP**	**15 01 46.2**	**+0.4**
HOPEN				*e*SS		**SS**	**15 07 25.1**	**+2.8**
HOPEN				IVMs_BB		IVMs_BB	15 36 36.0	
	comp=Z,4μm,4.2s							
ISCO	**Idaho Springs**	101.57	50	P		**Pdif**	**14 49 07.9**	**+1.1**
BELG	**Belogornoye**	101.58	323	PKKPbc		PKKPbc	15 05 13.0	-1.3
	comp=Z,70nm,0.9s,baz=294,slow=1.6,SNR=11							
BELG	**Belogornoye**	101.58	323	*d* *i* P		**Pdif**	**14 49 04.8**	**-1.3**
BELG				pmax		pmax		
	comp=Z,63nm,1.1s							
SHMA	**Al-Shehemyia**	101.58	296	P		**Pdif**	**14 49 06.5**	**-0.2**
NOR	**Nord**	101.71	358	*i* P		**Pdif**	**14 49 05.3**	**-0.9**
NOR				IAmb		IAmb	14 49 06.5	
	comp=Z,49nm,1.2s							
SMRA	**Abu-Samra**	101.74	294	P		**Pdif**	**14 49 07.2**	**-0.3**
SPA0	**Spitsbergen Ar**	101.88	352	*e*P		**Pdif**	**14 49 06.1**	**-0.9**
SPA0				*e*PP		**PKiKP**	**14 53 27.8**	**+0.2**
SPA0				*e*SKSac		**SKSac**	**14 59 09.4**	**+0.5**
SPA0				*e*SP		**SP**	**15 01 52.8**	**+3.0**
SPA0				*e*SS		**SS**	**15 07 32.6**	**+5.1**
SPITS	**Spitsbergen Ar**	101.88	352	P		**Pdif**	**14 49 06.2**	**-0.8**
	comp=Z,6.3nm,0.5s,baz=96,slow=5.1,SNR=14							
SPITS				PKiKP		**PKiKP**	**14 53 28.7**	**+1.1**
	comp=Z,41nm,1.0s,baz=96,slow=4.3,SNR=10							
SPITS				PKKPbc		**PKKPbc**	**15 05 11.4**	**-2.9**
	comp=Z,12nm,0.6s,baz=153,slow=5.6,SNR=15							
FFC	**Flin Flon**	101.92	35	P		**Pdif**	**14 49 07.6**	**0.0**
KBS	**Kingsbay**	101.93	353	*e*P		**Pdif**	**14 49 08.5**	**+1.4**
KBS				IVmB_BB			14 49 22.0	
	comp=Z,1μm,4.2s							
KBS				*e*SKSac		**SKSac**	**14 59 09.9**	**+0.8**
KBS				*e*SP		**SP**	**15 01 49.7**	**-0.6**
KBS				*e*SS		**SS**	**15 07 31.3**	**+3.2**
SAKB	**Bahrain**	101.97	296	P		**Pdif**	**14 49 08.4**	**-0.1**
Q24A	**Divide**	102.00	51	Pdiff		**Pdif**	**14 49 10.0**	**+1.3**
	baz=275							
TROLL	**Troll, Antarti**	102.19	189	P		**Pdif**	**14 49 08.2**	**-0.4**
TROLL	**Troll, Antarti**	102.19	189	SP		SP	15 01 49.2	-4.0
TROLL	**Troll, Antarti**	102.19	189	⇑P		**Pdif**	**14 49 08.2**	**-0.4**
	comp=Z,3μm,0.9s							
TROLL				⇑PKiKP		**PP**	**14 53 26.8**	**+1.4**
TROLL				⇓SKSac		**SKSac**	**14 59 13.7**	**+2.8**
TROLL	**Troll, Antarti**	102.19	189	⇓SP		SP	15 01 49.2	-4.0
	comp=Z,118μm,4.1s							
RSSD	**Black Hills**	102.27	46	P		**Pdif**	**14 49 09.9**	**+0.2**
RSSD				pmax		pmax		
	comp=Z,163nm,1.6s							
T25A	**Trinidad**	102.75	53	Pdiff		**Pdif**	**14 49 13.8**	**+1.8**
	baz=276							
MAK	**Makhachkala**	103.07	313	*i* P		**Pdif**	**14 49 11.2**	**-1.7**
MAK				*e*			14 53 30.6	
MAK				*e*PPP		PPP	14 55 43.8	
MAK				*e*			14 59 11.4	
MAK				*e*PS		**PS**	**15 02 48.3**	**-3.0**
MAK				*e*SS		SS	15 07 46.4	+0.8
MAK				*e*SSS		SSS	15 11 43.3	
MAK				pmax		pmax		
	comp=Z,38nm,0.5s							
SNAA	**Sanae**	103.29	188	P		**Pdif**	**14 49 13.1**	**-0.4**
SNAA	**Sanae**	103.29	188	SP		SP	15 02 04.5	-0.1
SNAA	**Sanae**	103.29	188	⇑P		**Pdif**	**14 49 13.1**	**-0.4**
	comp=Z,405nm,0.8s							
SNAA				⇑PKiKP		**PKiKP**	**14 53 31.1**	**+0.7**
SNAA				⇑SKSac		**SKSac**	**14 59 17.8**	**+1.9**
SNAA	**Sanae**	103.29	188	⇓SP		SP	15 02 04.5	-0.1
SNAA	**Sanae**	103.29	188	Pdiff		**Pdif**	**14 49 12.9**	**-0.6**
	comp=Z,19nm,0.8s,baz=177,slow=5.7,SNR=17							
SNAA				PKiKP		**PKiKP**	**14 53 30.8**	**+0.4**
	comp=Z,44nm,1.1s,baz=217,slow=9.0,SNR=6.1							
SNAA				PKKPbc		**PKKPbc**	**15 05 06.5**	**-3.6**
	comp=Z,18nm,1.0s,baz=301,slow=0.8,SNR=5.6							
SNAA				PKPPKP		**P'P'df**	**15 13 27.7**	**-2.4**
	comp=Z,29nm,1.4s,baz=331,slow=4.8,SNR=6.2							
SNAA	**Sanae**	103.29	188	P		**Pdif**	**14 49 13.8**	**+0.3**
SNAA				pmax		pmax		
	comp=Z,74nm,1.8s							
TULEG	**Thule**	103.55	9	*i* P		**Pdif**	**14 49 14.4**	**0.0**
TULEG				IAmb		IAmb	14 49 15.1	
	comp=Z,58nm,1.0s							
PECS	**Pecos**	103.69	59	P		**PKiKP**	**14 53 31.8**	**-0.5**
TPB01	**Permian Basin**	103.80	59	P		**PKiKP**	**14 53 26.0**	**-6.5**
TPB07	**Mentone**	103.84	58	P		**PKiKP**	**14 53 26.8**	**-5.8**
APA	**Apatity**	103.85	340	⇓*i*P		**Pdif**	**14 49 12.7**	**-3.2**
APA				*i*			14 59 18.0	
APA				*i* PS		**PS**	**15 02 50.0**	**-8.3**
APA				*i* SS		SS	15 07 52.0	-2.7
APA				pmax		pmax		
	comp=Z,48nm,0.9s							
KLMR	**Klimovskoe**	103.90	332	*e*P		**Pdif**	**14 49 13.7**	**-2.5**
KLMR				S		**SKSac**	**14 59 17.8**	**-1.0**
KLMR				pmax		pmax		
	comp=Z,279nm,1.3s							
BJO1	**Bjornoya**	103.94	348	*e*P		**Pdif**	**14 49 18.0**	**+1.8**
BJO1				IVmB_BB			14 49 32.0	
	comp=Z,6μm,3.4s							
BJO1				*e*SKSac		**SKSac**	**14 59 19.7**	**+1.2**
BJO1				*e*SP		**SP**	**15 02 09.7**	**-1.7**
BJO1				*e*SS		**SS**	**15 07 57.4**	**+1.7**
BJO1				IVMs_BB		IVMs_BB	15 29 38.1	
	comp=Z,6μm,4.2s							
VADS	**Vadso**	103.95	343	*e*P		**Pdif**	**14 49 15.4**	**-0.8**
VADS				IVmB_BB			14 49 18.1	
	comp=Z,3μm,3.9s							
VADS				*e*SKSac		**SKSac**	**14 59 18.4**	**-0.3**
VADS				*e*SP		**SP**	**15 02 07.2**	**-4.3**
VADS				*e*SS		**SS**	**15 07 57.6**	**+1.7**
VADS				IVMs_BB		IVMs_BB	15 36 02.1	
	comp=Z,5μm,4.1s							
TXAR	**Lajitas Array**	104.01	61	Pdiff		**Pdif**	**14 49 19.9**	**+2.2**
	comp=Z,4.9nm,0.8s,baz=261,slow=4.2,SNR=20							
TXAR				PKiKP		**PKiKP**	**14 53 33.9**	**+0.9**
	comp=Z,20nm,1.0s,baz=253,slow=1.4,SNR=17							
TXAR				PKKPbc		**PKKPbc**	**15 04 59.2**	**-7.2**
	comp=Z,5.8nm,0.9s,baz=104,slow=3.9,SNR=7.6							
TXAR				PKPPKP		**P'P'df**	**15 13 28.1**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=132,slow=3.5,SNR=9.6							
TPB03	**Saragosa**	104.01	59	P		**PKiKP**	**14 53 35.1**	**+2.2**
TPB05	**Hovey Rd**	104.19	59	P		**PKiKP**	**14 53 35.2**	**+1.9**
TPB06	**Permian Basin**	104.22	58	P		**PKiKP**	**14 53 36.4**	**+3.1**
VNA3	**Neumayer Olymp**	104.51	186	P		**Pdif**	**14 49 19.1**	**+0.2**
VNA3	**Neumayer Olymp**	104.51	186	SP		SP	15 02 14.1	-3.1
VNA3	**Neumayer Olymp**	104.51	186	⇑P		**Pdif**	**14 49 19.1**	**+0.2**
	comp=Z,17nm,0.9s							
VNA3				⇑PKiKP		**PKiKP**	**14 53 33.1**	**+0.5**
	comp=E,14nm,1.3s							
VNA3				⇓SKSac		**SKSac**	**14 59 23.0**	**+1.6**
VNA3	**Neumayer Olymp**	104.51	186	⇓SP		SP	15 02 14.1	-3.1
VNA2	**Neumayer--Watz**	104.56	187	P		**Pdif**	**14 49 19.4**	**+0.4**
	baz=154,slow=7.7							
VNA2	**Neumayer--Watz**	104.56	187	SP		SP	15 02 13.8	-3.8
	baz=340,slow=5.8							
VNA2	**Neumayer--Watz**	104.56	187	⇑P		**Pdif**	**14 49 19.4**	**+0.4**
	comp=Z,14nm,0.7s,baz=154,slow=7.7							
VNA2	**Neumayer--Watz**	104.56	187	⇓SP		SP	15 02 13.8	-3.8
	baz=340,slow=5.8							
ODSA	**Odessa**	104.75	58	P		**PKiKP**	**14 53 41.8**	**+7.6**
NEEM	**North Greenlan**	104.99	5	*i* P		**Pdif**	**14 49 21.5**	**+0.3**
NEEM				IAmb		IAmb	14 49 22.6	
	comp=Z,102nm,1.4s							
NEEM	**North Greenlan**	104.99	5	*i* P		**PKiKP**	**14 53 34.0**	**+0.3**
HAMF	**Hammerfest**	105.27	344	*e*SKSac		**SKSac**	**14 59 23.3**	**-1.2**
HAMF				*e*SP		**SP**	**15 02 28.8**	**+3.6**
HAMF				*e*SS		**SS**	**15 08 17.1**	**+3.3**
ARA0	**ARCESS Array S**	105.39	343	*e*P		**Pdif**	**14 49 22.9**	**+0.2**
ARA0				*e*PP		**PP**	**14 53 43.8**	**-5.2**
ARA0				*e*SKSac		**SKSac**	**14 59 27.1**	**+1.9**
ARA0				*e*SKSdf		**SKKSac**	**15 00 12.8**	**-0.8**
ARA0				*e*SP		**SP**	**15 02 28.2**	**+1.6**
ARA0				*e*SS		**SS**	**15 08 18.7**	**+3.1**
ARCES	**ARCESS Array B**	105.39	343	Pdiff		**Pdif**	**14 49 22.4**	**-0.4**
	comp=Z,24nm,0.9s,baz=64,slow=6.2,SNR=14							
ARCES				PKiKP		**PKiKP**	**14 53 34.7**	**+0.5**
	comp=Z,34nm,0.8s,baz=90,slow=1.7,SNR=65							
ARCES				PKKPbc		**PKKPbc**	**15 04 58.9**	**-4.8**
	comp=Z,7.9nm,1.0s,baz=227,slow=2.8,SNR=7.1							
VRH	**Novokhopyorsk**	105.41	322	*e*P		**Pdif**	**14 49 21.6**	**-1.6**
VRH				pmax		pmax		
	comp=Z,74nm,1.0s							
KBZ	**Khabaz**	106.26	315	Pdiff		**Pdif**	**14 49 26.4**	**-0.7**
	comp=Z,12nm,1.0s,baz=107,slow=3.2,SNR=14							
KBZ				PKiKP		**PKiKP**	**14 53 37.1**	**+0.6**
	comp=Z,18nm,1.0s,baz=194,slow=4.8,SNR=4.8							
KBZ				PKKPbc		**PKKPbc**	**15 04 59.9**	**-0.2**
	comp=Z,11nm,0.8s,baz=317,slow=4.1,SNR=9.9							
KTK1	**Kautokeino**	106.35	343	*e*P		**Pdif**	**14 49 24.2**	**-2.8**
KTK1				IVmB_BB			14 49 58.6	
	comp=Z,4μm,4.1s							
KTK1				*e*			14 53 37.5	
KTK1				*e*SKSac		**SKSac**	**14 59 28.9**	**-0.6**
KTK1				*e*SKSdf		**SKSdf**	**15 00 12.9**	**+1.7**
KTK1				*e*SP		**SP**	**15 02 38.2**	**+1.8**
KTK1				*e*SS		**SS**	**15 08 31.0**	**+2.4**
KIV	**Kislovodsk**	106.37	315	⇑P		**Pdif**	**14 49 28.2**	**+0.5**
KIV	**Kislovodsk**	106.37	315	*e*P		**Pdif**	**14 49 24.9**	**-2.8**
KIV				*e*			14 53 54.0	
KIV				*e*			14 59 28.2	
KIV				*e*SS		SS	15 08 26.5	-4.0
MOS	**Moscow**	106.48	328	*e*P		**Pdif**	**14 49 25.6**	**-2.2**
MOS				*e*			14 53 58.4	
MOS				*e*PPP		PPP	14 56 13.8	
MOS				*e*			14 59 28.8	
MOS				*e*PS		**PS**	**15 03 21.9**	**-3.3**
MOS				*e*SS		SS	15 08 31.4	+0.4
MOS				*e*SSS		SSS	15 12 37.2	
MOS				pmax		pmax		
	comp=Z,213nm,1.1s							
DAG	**Danmarks Havn**	106.55	358	P		**Pdif**	**14 49 26.4**	**-1.3**
DAG	**Danmarks Havn**	106.55	358	*i* P		**Pdif**	**14 49 26.0**	**-1.7**
DAG	**Danmarks Havn**	106.55	358	*i* P		**PKiKP**	**14 53 35.0**	**-1.2**
ULM	**Lac du Bonnet**	106.56	38	Pdiff		**Pdif**	**14 49 28.8**	**+0.4**
	comp=Z,19nm,0.8s,baz=296,slow=6.0,SNR=34							
ULM				PKiKP		**PKiKP**	**14 53 36.8**	**-0.1**
	comp=Z,22nm,0.9s,baz=226,slow=2.3,SNR=12							
ULM				PKKPbc		**PKKPbc**	**15 04 58.4**	**-1.0**
	comp=Z,12nm,0.6s,baz=99,slow=3.4,SNR=13							
ULM				PKKPab		**PKKPab**	**15 05 13.7**	**-1.2**
	comp=Z,25nm,1.1s,baz=89,slow=2.8,SNR=8.8							
RAYN	**Ar Rayn**	106.65	293	⇑P		**Pdif**	**14 49 29.9**	**+0.5**
LPSR	**Galich'ya Gora**	106.71	324	*e*P		**Pdif**	**14 49 27.9**	**-1.0**
LPSR				pmax		pmax		
	comp=Z,105nm,1.0s							
VORR	**Voronezh**	106.81	323	*e*P		**Pdif**	**14 49 27.8**	**-1.6**
VORR				pmax		pmax		
	comp=Z,92nm,1.3s							
JETT	**Jettan, Norway**	106.82	344	*e*P		**Pdif**	**14 49 28.6**	**-0.5**
JETT				IVmBBB			14 49 29.4	
	comp=Z,4μm,4.8s							
JETT				*e*PP		**PP**	**14 54 02.5**	**+3.0**
JETT				*e*SKSac		**SKSac**	**14 59 31.7**	**+0.1**
JETT				*e*SP		**SP**	**15 02 45.4**	**+4.3**
JETT				*e*SS		**SS**	**15 08 32.3**	**-2.6**
KULLO	**Kullorsuaq**	106.86	8	*i* P		**PKiKP**	**14 53 37.2**	**+0.4**
VORD	**Divnogorie**	106.95	322	*e*P		**Pdif**	**14 49 26.7**	**-3.3**
VORD				pmax		pmax		
	comp=Z,20nm,1.0s							
VSR	**Storozhevoye**	106.96	323	*e*P		**Pdif**	**14 49 26.9**	**-3.2**
VSR				pmax		pmax		
	comp=Z,30nm,1.0s							
TRO	**Tromso**	107.17	345	*e*P		**Pdif**	**14 49 29.8**	**-0.8**
TRO				IVmB_BB			14 49 56.8	
	comp=Z,3μm,3.6s							
TRO				*e*PP		**PP**	**14 53 55.5**	**-6.3**
TRO				*e*SKSac		**SKSac**	**14 59 33.1**	**+0.2**
TRO				*e*SP		**SP**	**15 02 49.2**	**+4.6**
TRO				*e*SS		**SS**	**15 08 42.1**	**+2.7**
OBN	**Obninsk**	107.26	327	PKKPbc		PKKPbc	15 04 55.8	-1.6
	comp=Z,12nm,0.4s,baz=245,slow=3.5,SNR=6.9							
OBN	**Obninsk**	107.26	327	*i* P		**Pdif**	**14 49 29.9**	**-1.4**
OBN				pmax		pmax		
	comp=Z,142nm,1.1s							
ERBR	**Yeremizino-Bor**	107.52	317	*e*P		**Pdif**	**14 49 33.0**	**+0.3**
ERBR				*e*			14 54 06.3	
ERBR				*e*			14 59 36.5	
ERBR				*e*SP		SP	15 02 48.6	-1.0
ERBR				*e*PS		**PS**	**15 03 36.9**	**+1.6**
ERBR				*e*			15 08 41.6	
ERBR				*e*SSS		SSS	15 12 57.6	
ERBR				pmax		pmax		
	comp=Z,100nm,1.3s							
LABN	**Labinsk**	107.60	316	*e*P		**Pdif**	**14 49 32.9**	**-0.2**
LABN				*e*			14 54 06.1	
LABN				*e*			14 56 35.1	
LABN				*e*			14 59 35.7	
LABN				*e*SP		SP	15 02 51.1	+0.6
LABN				*e*PS		**PS**	**15 03 33.2**	**-2.9**
LABN				pmax		pmax		
	comp=Z,88nm,1.4s							
BCA	**Borcka**	107.63	312	⇑P		**PKiKP**	**14 53 40.3**	**+1.1**
833A	**Chaparral WMA,**	107.83	61	PKiKP		**PKiKP**	**14 53 41.5**	**+1.6**
	baz=276							
SOC	**Sochi**	108.55	315	*e*P		**Pdif**	**14 49 36.0**	**-1.3**
SOC				*e*			14 54 10.8	
SOC				*e*			14 59 37.2	
SOC				*e*PS		**SP**	**15 02 55.3**	**-4.6**
SOC				*e*SS		**SS**	**15 08 55.4**	**-4.2**
SOC				*e*SSS		SSS	15 13 03.1	
SOC				pmax		pmax		
	comp=Z,24nm,0.7s							
UPNV	**Upernavik**	108.57	9	*i* P		**Pdif**	**14 49 36.4**	**-0.3**
435B	**Jarrell**	109.11	59	PKiKP		**PKiKP**	**14 53 43.2**	**+0.9**
	baz=278							
STEI	**Steigen**	109.31	344	*e*P		**Pdif**	**14 49 39.4**	**-0.7**
STEI				*e*SKPdf		**SKiKP**	**14 56 41.1**	**+0.4**
STEI				*e*SKSac		**SKSac**	**14 59 43.7**	**+1.6**
STEI				*e*SP		**SP**	**15 03 07.7**	**+2.0**
FINES	**FINESS Array B**	109.56	336	Pdiff		**Pdif**	**14 49 40.5**	**-0.9**
	comp=Z,12nm,0.5s,baz=66,slow=5.0,SNR=103							
FINES				PKiKP		**PKiKP**	**14 53 42.6**	**+0.4**
	comp=Z,65nm,0.9s,baz=89,slow=2.3,SNR=41							
FINES				PKKPbc		**PKKPbc**	**15 04 48.0**	**-2.5**
	comp=Z,11nm,0.8s,baz=226,slow=2.3,SNR=16							
LOF	**Lofoten**	109.63	345	*e*P		**Pdif**	**14 49 42.7**	**+1.1**
LOF				*e*			14 53 43.1	
LOF				*e*SKSac		**SKSac**	**14 59 44.5**	**+1.1**
LOF				*e*SP		**SP**	**15 03 09.3**	**+0.8**
FAUS	**Fauske**	109.68	344	*e*P		**Pdif**	**14 49 41.0**	**-0.8**
FAUS				*e*			14 53 45.1	
FAUS				*e*SKSac		**SKSac**	**14 59 42.6**	**-1.1**
FAUS				*e*SP		**SP**	**15 03 09.8**	**+0.7**
FAUS				*e*SS		**SS**	**15 09 12.7**	**-0.3**
ANN	**Anapa**	109.83	317	*e*P		**Pdif**	**14 49 42.2**	**-0.8**
ANN

comp=Z,12nm,1.0s,baz=80,slow=2.3,SNR=3.7
BRTR PKKPbc **PKKPbc 15 04 35.5 0.0**
comp=Z,17nm,0.9s,baz=220,slow=3.2,SNR=16
BRTR SKKPbc SKKPbc 15 07 47.5 +3.3
comp=Z,7.3nm,1.1s,baz=248,slow=2.7,SNR=5.4
ICESG Greenland Ices 113.97 5 *i P* **PKiKP 14 53 50.7 -0.1**
ICESG IAmb IAmb 14 53 52.3
comp=Z,84nm,1.0s
L44A Lake County Fo 114.19 45 PKiKP **PKiKP 14 53 51.9 +0.3**
baz=289
MMAI Mount Meron Ar 114.22 305 Pdiff **Pdif 14 50 02.3 -0.6**
comp=Z,0.7nm,0.3s,baz=58,slow=2.1,SNR=5.5
MMAI PKiKP **PKiKP 14 53 53.1 +1.1**
comp=Z,104nm,1.0s,baz=85,slow=2.4,SNR=53
MMAI PKKPbc **PKKPbc 15 04 34.4 +0.2**
comp=Z,19nm,0.8s,baz=284,slow=0.3,SNR=15
ANTO Ankara 114.52 313 P **PKiKP 14 53 52.8 +0.4**
ANTO Ankara 114.52 313 ⇓P **PKiKP 14 53 53.2 +0.8**
ANTO Ankara 114.52 313 ⇓PKIKP **PKiKP 14 53 53.2 +0.8**
SFJD Kangerlussuaq 114.61 10 *i P* **PKiKP 14 53 51.8 +0.1**
SORM Soroca 114.61 322 ⇑P **Pdif 14 50 03.5 -0.6**
SORM Soroca 114.61 322 ⇓P **PKiKP 14 53 52.3 +0.1**
SORM Soroca 114.61 322 ⇓PKIKP **PKiKP 14 53 52.3 +0.1**
SUW Suwalki 114.76 330 *e*Pdif **Pdif 14 50 03.6 -1.0**
SUW *e*PKPdf **PKiKP 14 53 53.0 +0.7**
SUW *e*SKSac **SKSac 15 00 05.5 +1.2**
KIS Kishinev 114.78 321 *i* PKP **PKiKP 14 53 52.7 +0.1**
KIS Kishinev 114.78 321 PM 14 53 53.0
comp=Z,140nm,0.8s
KIS *e*SKS **SKSac 15 00 05.0 +0.2**
KIS *e*SKKS **SKKSac 15 01 14.0 -5.0**
KIS Kishinev 114.78 321 *e*PS **SP 15 03 52.0 -4.9**
KIS LRM MLR 15 38 35.0
comp=Z,800nm,18.0s
KIS Kishinev 114.78 321 *i* PKIKP **PKiKP 14 53 52.7 +0.1**
KIS *e* 15 00 05.0
KIS *e*PS **SP 15 03 52.0 -4.9**
KIS pmax pmax
comp=Z,140nm,0.8s
KMBO Kilima Mbogo 114.81 267 P PKPdf 14 53 54.5 +0.6
KMBO Kilima Mbogo 114.81 267 *i* P PKPdf 14 53 55.2 +1.3
SNR=79
MILM Milestii Mici 114.82 321 ⇓*i* PKP PKPdf 14 53 52.7 +0.1
comp=Z,300nm,0.9s
MILM Milestii Mici 114.82 321 *e*PP PP 14 54 54.0 -3.0
MILM ⇓*i* SKS **SKSac 15 00 03.0 -1.9**
MILM *i* SKKS **SKKSac 15 01 17.0 -2.2**
MILM Milestii Mici 114.82 321 *e*PS **SP 15 03 55.0 -2.3**
MILM *e*L L 15 36 37.0
MILM LRM MLR 15 38 30.0
comp=Z,2μm,16.0s
MILM Milestii Mici 114.82 321 ⇓P PKPdf 14 53 53.0 +0.4
MILM Milestii Mici 114.82 321 *d i* PKIKP PKPdf 14 53 52.7 +0.1
MILM *e* 14 54 54.0
MILM *i* 15 00 03.0
MILM *e*PS **SP 15 03 55.0 -2.3**
MILM pmax pmax
comp=Z,300nm,0.9s
KDZE Karadeniz Ereo 115.06 314 ⇑P **PKiKP 14 53 52.9 -0.4**
HFS Hagfors 115.19 338 Pdiff **Pdif 14 50 06.1 -0.4**
comp=Z,1.9nm,0.5s,baz=98,slow=4.5,SNR=18
HFS PKP **PKiKP 14 53 52.8 -0.2**
comp=Z,38nm,0.7s,baz=111,slow=3.3,SNR=62
HFS PKKPbc **PKKPbc 15 04 28.4 -3.5**
comp=Z,3.6nm,0.7s,baz=209,slow=2.7,SNR=7.5
HFS PKKPab **PKKPab 15 04 36.5 -0.1**
comp=Z,13nm,0.9s,baz=151,slow=3.4,SNR=7.1
EIL Elat 115.27 301 PKKPbc PKKPbc 15 04 30.9 +0.5
comp=Z,28nm,0.8s,baz=328,slow=1.7,SNR=16
DOMB Dombas 115.39 342 *e*PKPdf **PKiKP 14 53 54.1 +0.7**
DOMB *e*SKSac **SKSac 15 00 08.0 +1.4**
DOMB *e*SP **SP 15 04 02.8 +1.3**
NB2 NORSAR Subarra115.43 340 P **Pdif 14 50 06.4 -1.2**
comp=Z,10nm,1.2s,baz=50,slow=4.4
NB2 NORSAR Subarra115.43 340 PKPdf **PKiKP 14 53 53.5 0.0**
comp=Z,113nm,0.9s,baz=44,slow=1.8
NB2 PKKP **PKKPab 15 04 38.9 +3.4**
comp=Z,1.0nm,1.2s,baz=11,slow=3.0
NB2 NORSAR Subarra115.43 340 P **Pdif 14 50 06.4 -1.2**
baz=50,slow=4.4
NB2 NORSAR Subarra115.43 340 PKIKP **PKPdf 14 53 50.5 -3.0**
NB2 pmax pmax
comp=Z,49nm,1.0s
NOA NORSAR Array B 115.43 340 Pdiff **Pdif 14 50 06.8 -0.8**
comp=Z,5.2nm,1.1s,baz=46,slow=5.5,SNR=6.8
NOA PKP **PKiKP 14 53 53.5 0.0**
comp=Z,75nm,0.9s,baz=46,slow=1.9,SNR=118
NOA SKP 14 56 53.8
comp=Z,5.0nm,0.8s,baz=48,slow=2.0,SNR=4.0
NOA PKKPbc **PKKPbc 15 04 29.1 -2.0**
comp=Z,22nm,1.1s,baz=43,slow=3.6,SNR=18
NOA PKKP **PKKPdf 15 04 52.4 -1.4**
comp=Z,2.1nm,0.9s,baz=221,slow=2.1,SNR=3.7
NOA SKKPbc SKKPbc 15 07 40.8 +0.4
comp=Z,3.1nm,1.0s,baz=51,slow=3.8,SNR=4.1
CSS Mathiatis 115.44 307 **PKPdf 14 53 53.5 -0.8**
MOL Molde 115.45 343 *e*PKPdf **PKiKP 14 53 53.9 +0.5**
MOL *e*SP SP 15 04 03.7 +1.9
TLCR 115.49 319 ⇑P **PKiKP 14 53 54.8 +0.9**
TLCR 115.49 319 ⇑PKIKP **PKiKP 14 53 54.8 +0.9**
NC602 NORSAR Array S 115.53 340 *e*PKPdf **PKiKP 14 53 54.1 +0.5**
NC602 *e*SKSac **SKSac 15 00 06.5 -0.6**
NC602 *i* 15 01 19.4
NC602 *e*SP **SP 15 04 04.1 +1.3**
NC602 *e*SS **SS 15 10 30.0 -0.1**
NORES NORESS Array B 115.53 340 PKIKP **PKiKP 14 53 53.8 +0.2**
NORES pmax pmax
comp=Z,2.0nm,0.5s
JURR Jurilovca 115.61 319 ⇓P **PKiKP 14 53 55.0 +0.8**
VLDR Vladesti 115.71 320 ⇓P **PKiKP 14 53 55.6 +1.2**
DY2G Dye2 115.76 8 *i* P **PKiKP 14 53 54.7 +0.5**
DY2G IAmb IAmb 14 53 55.7
comp=Z,187nm,1.2s
GIUM Giurgiulesti 115.77 320 ⇓P **PKiKP 14 53 55.7 +1.2**
TATR Tatarca 115.83 320 ⇑P **PKiKP 14 53 55.4 +0.8**
BIR Birlad 115.83 321 ⇑P **PKiKP 14 53 55.9 +1.3**
BIR Birlad 115.83 321 ⇑PKIKP **PKiKP 14 53 55.9 +1.3**
SCTR Scanteiesti 115.83 320 ⇑P **PKiKP 14 53 56.0 +1.4**
TPGR Topolog 115.88 319 ⇓P **Pdif 14 50 10.1 +0.2**
TPGR Topolog 115.88 319 ⇑P **PKiKP 14 53 55.9 +1.1**
AKN Aaknes 115.92 343 *e*PKPdf **PKiKP 14 53 55.4 +1.1**
AKN *e*SP SP 15 04 08.2 +2.0
AKN *e*SS **SS 15 10 35.6 +0.6**
CFR Carcaliu 115.94 319 ⇓P **Pdif 14 50 10.1 0.0**
CFR Carcaliu 115.94 319 ⇓P **PKiKP 14 53 55.6 +0.8**
CFR Carcaliu 115.94 319 ⇓PKIKP **PKiKP 14 53 55.6 +0.8**
NEGRR Negrea 115.96 320 ⇑P **PKiKP 14 53 56.2 +1.4**
SCHL Schela 116.00 320 ⇓P **PKiKP 14 53 56.2 +1.2**
SLCR Slobozia Conac 116.01 320 ⇓P **PKiKP 14 53 55.9 +1.0**
IZVR Izvoarele 116.03 320 ⇓P **PKiKP 14 53 55.9 +0.9**
WVT Waverly 116.03 51 **PKPdf 14 53 53.6 -1.7**
WVT Waverly 116.03 51 PKIKP **PKPdf 14 53 53.6 -1.7**
EFOR EFORIE 116.03 318 ⇓P **PKiKP 14 53 56.3 +1.2**
TIRR Tirgusor 116.03 319 ⇓P **PKiKP 14 53 55.8 +0.8**
TIRR Tirgusor 116.03 319 ⇓P **PKiKP 14 53 55.8 +0.8**
TIRR Tirgusor 116.03 319 ⇓PKIKP **PKiKP 14 53 55.8 +0.8**
GHRR 116.05 320 ⇑P **PKiKP 14 53 56.8 +1.7**
TUDR 116.07 320 ⇑P **PKiKP 14 53 56.6 +1.5**
MFTR Murfatlar 116.13 318 ⇑P **PKiKP 14 53 56.3 +1.1**
MANR Mangalia 116.16 318 ⇓P **PKiKP 14 53 56.6 +1.3**
COSR Cosmesti PH 116.19 320 ⇓P **PKiKP 14 53 56.7 +1.4**
PRAR RASCA 116.24 322 ⇑P **PKiKP 14 53 56.3 +0.9**
TLBR Topalu 116.24 319 ⇑P **PKiKP 14 53 56.7 +1.2**
HARR Harsova 116.26 319 ⇓P **PKiKP 14 53 56.6 +1.1**
HARR Harsova 116.26 319 ⇓PKIKP **PKiKP 14 53 56.6 +1.1**
PANC Panciu 116.29 320 ⇓P **PKiKP 14 53 56.6 +1.1**
TESR Tescani 116.34 321 ⇓P **PKiKP 14 53 56.2 +0.6**
ODBI Odobesti 116.40 320 ⇓P **PKiKP 14 53 57.3 +1.6**
PSN Preselentsi 116.53 318 P **PKiKP 14 53 57.3 +1.3**
VRI Vrincioaia 116.56 320 ⇓P **Pdif 14 50 14.3 +1.4**
VRI Vrincioaia 116.56 320 ⇑P **PKiKP 14 53 56.7 +0.6**
VRI Vrincioaia 116.56 320 ⇑PKIKP **PKiKP 14 53 56.7 +0.6**
ICOR Ion Corvin 116.57 318 ⇓P **PKiKP 14 53 57.4 +1.3**
ONER Baraj Valea Uz 116.58 321 ⇓P **PKiKP 14 53 57.2 +1.1**
WCI Wyandotte Cave 116.60 49 **PKPdf 14 53 56.0 -0.4**
WCI Wyandotte Cave 116.60 49 PKIKP **PKPdf 14 53 56.0 -0.4**
PLOR Plostina 116.62 320 ⇓P **PKiKP 14 53 56.3 +0.1**
PLOR Plostina 116.62 320 ⇓PKIKP **PKiKP 14 53 56.3 +0.1**
SKAR Skarslia 116.66 341 *e*PKPdf **PKiKP 14 53 56.9 +1.1**
SKAR *e*SKSac **SKSac 15 00 14.5 +3.1**
SKAR *e*SP **SP 15 04 18.2 +5.2**
SKAR *e*SS **SS 15 10 46.6 +1.9**
AMRR Amara 116.68 319 ⇓PKIKP **PKiKP 14 53 57.9 +1.6**
AMRR Amara 116.68 319 ⇓P **PKiKP 14 53 57.9 +1.6**
BISRR Bisoca 116.71 320 ⇑P **Pdif 14 50 15.0 +1.3**
BISRR Bisoca 116.71 320 ⇑P **PKiKP 14 53 57.9 +1.4**
BURAR Bucovina Array 116.74 323 ⇑P **Pdif 14 50 14.5 +0.7**
BURAR Bucovina Array 116.74 323 ⇑P **PKiKP 14 53 57.8 +1.3**
BURAR Bucovina Array 116.74 323 ⇑PKIKP **PKiKP 14 53 57.8 +1.3**
R9F13 Warsaw-Wawer 116.75 329 *e*PKPdf **PKiKP 14 53 57.1 +0.9**
R9F13 *e*SKS **SKSac 15 00 14.8 +2.9**
PGOR Pogoanele 116.79 319 ⇓P **PKiKP 14 53 58.5 +2.0**
ISK Istanbul-Kandi 116.83 315 P **PKPdf 14 53 56.7 0.0**
STRU Stroemstad 116.88 339 ⇓*i* P **PKiKP 14 53 56.3 +0.1**
COVR Voineasa-Covas 116.90 321 ⇑P **PKiKP 14 53 57.2 +0.4**
NUUK Nuuk 116.94 11 *i* P **PKiKP 14 53 57.3 +1.1**
LODK Lodwar 116.94 272 **PKPdf 14 53 57.5 -0.2**
LODK Lodwar 116.94 272 P **PKiKP 14 53 58.2 +0.4**
FOO Floro 116.95 343 *e*PKPdf **PKiKP 14 53 57.1 +0.9**
FOO *e*SKSac **SKSac 15 00 11.2 -1.0**
FOO *e*SP **SP 15 04 18.9 +3.4**
HYA Hoyanger 116.95 342 *e*PKPdf **PKiKP 14 53 57.4 +1.1**
HYA *e*SKSac **SKSac 15 00 12.1 -0.1**
HYA *i* 15 01 30.8
HYA *e*SP **SP 15 04 18.3 +2.8**
ISR Istrita 116.99 320 ⇑P **PKiKP 14 53 58.1 +1.1**
ISR Istrita 116.99 320 ⇑PKIKP **PKiKP 14 53 58.1 +1.1**
KONO Kongsberg 116.99 340 **PKiKP 14 53 56.5 +0.1**
KONO Kongsberg 116.99 340 *e*PKPdf **PKiKP 14 53 56.8 +0.4**
KONO *e*SKSac **SKSac 15 00 10.9 -1.6**
KONO *i* 15 01 32.5
KONO *e*SP **SP 15 04 17.4 +1.4**
KONO Kongsberg 116.99 340 PKIKP **PKiKP 14 53 56.5 +0.1**
NEHR Nehoiu 117.02 320 ⇑P **PKiKP 14 53 57.8 +0.8**
OZUR 117.06 321 ⇑P **PKiKP 14 53 58.2 +1.2**
LEHL Lehliu 117.08 319 ⇓P **PKiKP 14 53 58.4 +1.3**
PRD Provadia 117.20 317 P **PKiKP 14 53 58.8 +1.4**
MLR Muntele Rosu 117.22 320 PKP **PKiKP 14 53 57.8 +0.3**
comp=Z,121nm,1.0s,baz=312,slow=1.1,SNR=34
MLR SKP 14 56 58.1
comp=Z,37nm,1.1s,baz=309,slow=5.6,SNR=3.8
MLR PKKPbc **PKKPbc 15 04 23.2 -1.2**
comp=Z,118nm,1.3s,baz=230,slow=7.2,SNR=12
MLR Muntele Rosu 117.22 320 ⇓P **PKiKP 14 53 58.0 +0.5**
KWP Kalwaria Pacla 117.25 326 *e*Pdif **Pdif 14 50 16.7 +0.8**
KWP *e*PKPdf **PKiKP 14 53 57.9 +0.6**
KWP *e*SKSac **SKSac 15 00 14.8 +0.9**
BORU Boraas 117.25 337 *i* P **PKiKP 14 53 57.0 0.0**
NEF NEVSHA 117.25 318 P **PKiKP 14 53 58.6 +1.1**
SULR 117.36 319 ⇑P **PKiKP 14 53 58.6 +1.0**
DOPR Dopca 117.36 321 ⇓P **Pdif 14 50 17.3 +0.8**
DOPR Dopca 117.36 321 ⇑P **PKiKP 14 53 58.9 +1.3**
TJOU Tjoern 117.42 338 *i* P **PKPdf 14 53 57.3 0.0**
SUE Sulen 117.46 343 *e*PKPdf **PKiKP 14 53 57.8 +0.5**
SUE *e*SKSac **SKSac 15 00 15.7 +1.6**
SUE *i* 15 01 36.1
SUE *e*SP **SP 15 04 22.4 +2.3**
ISOG Isortoq, Green 117.50 5 *i* P **PKiKP 14 53 57.3 +0.1**
ARCR ARCALIA 117.50 323 ⇓P **PKiKP 14 53 58.9 +1.0**
ANGG Ammassalik, Gr 117.55 5 *i* P **PKPdf 14 53 56.5 -0.8**
DEL Delary 117.59 335 *i* P **PKiKP 14 53 58.4 +0.7**
TGMR Targu Mures 117.65 322 ⇑P **PKiKP 14 53 59.8 +1.6**
FABU Falkenberg 117.71 336 *i* P **PKiKP 14 53 58.0 +0.1**
SGRR Singureni 117.73 319 ⇑P **PKiKP 14 53 59.1 +0.8**
BMR Baia Mare 117.75 323 ⇓P **Pdif 14 50 19.4 +1.3**
BMR Baia Mare 117.75 323 ⇓P **PKiKP 14 53 59.2 +0.9**
BMR Baia Mare 117.75 323 ⇓PKIKP **PKiKP 14 53 59.2 +0.9**
ONAU Onsala 117.75 337 *i* P **PKiKP 14 53 58.0 +0.1**
BAND Balkesir-Ban 117.77 314 ⇓P **PKiKP 14 53 59.0 +0.4**
ODD1 Odda 117.79 341 *e*PKPdf **PKiKP 14 53 58.7 +0.7**
ODD1 *e*PP **PP 14 55 16.3 -0.7**
ODD1 *e*SP SP 15 04 24.0 +0.9
ODD1 *e*SS **SS 15 10 56.7 -2.5**
ASK Askoy 117.79 342 *e*PKPdf **PKiKP 14 53 59.0 +1.1**
ASK *e*SP SP 15 04 23.3 +0.3
VOIR 117.81 321 ⇓P **PKiKP 14 53 59.1 +0.5**
VOIR 117.81 321 ⇓PKIKP **PKiKP 14 53 59.1 +0.5**
BER Bergen 117.82 342 *e*PKPdf **PKiKP 14 53 58.8 +0.8**
BER *e*SKSac **SKSac 15 00 17.0 +1.6**
BER *i* 15 01 33.9
BER *e*SP **SP 15 04 26.0 +2.6**
KOLS Kolonicke sedl 117.84 325 *e*P **Pdif 14 50 20.3 +1.7**
KOLS *e* 14 53 59.9
KOLS Kolonicke sedl 117.84 325 *e*PDIFF **Pdif 14 50 20.3 +1.7**
KOLS Kolonicke sedl 117.84 325 *e*PKP **PKiKP 14 53 59.9 +1.4**
KOLS *e* 14 57 00.7
KOLS *e* 15 04 21.5
MTUR Matau 117.89 320 ⇑P **PKiKP 14 53 59.9 +1.1**
MTUR Matau 117.89 320 ⇑PKIKP **PKiKP 14 53 59.9 +1.1**
MDB Medias 117.92 322 ⇓P **PKiKP 14 54 00.1 +1.4**
MDB Medias 117.92 322 ⇓PKIKP **PKiKP 14 54 00.1 +1.4**
BSD Bornholm Skovb 118.03 334 *i* P **PKiKP 14 53 59.2 +0.7**
BSD IAmb IAmb 14 54 00.4
comp=Z,123nm,1.1s
JMB Yambol 118.06 317 P **PKiKP 14 54 00.1 +1.0**
ARR Arges 118.10 321 ⇓P **Pdif 14 50 20.5 +0.6**
ARR Arges 118.10 321 ⇑P **PKiKP 14 54 00.8 +1.6**
GKP Gorka Klasztor 118.11 331 *e*PKPdf **PKiKP 14 53 59.8 +1.0**
GKP *e*SKSac **SKSac 15 00 18.4 +1.5**
STFAR Stefanesti-Arg 118.12 320 ⇑P **PKiKP 14 54 00.8 +1.6**
SZH Strazhitsa 118.12 318 P **PKiKP 14 54 00.4 +1.2**
CJR Cluj-Napoca 118.14 322 ⇓P **PKiKP 14 54 00.1 +0.9**
CJR Cluj-Napoca 118.14 322 ⇓PKIKP **PKiKP 14 54 00.1 +0.9**
CBBR Cluj-Babes-Bol 118.14 322 ⇑P **PKiKP 14 53 59.9 +0.8**
EDRB Edirne 118.17 316 P **PKiKP 14 53 59.3 0.0**
TNR Turnu Rosu 118.20 321 ⇑P **PKiKP 14 54 00.6 +1.3**
TNR Turnu Rosu 118.20 321 ⇑PKIKP **PKiKP 14 54 00.6 +1.3**
BJUU Bjuv 118.21 335 *i* P **PKiKP 14 53 59.7 +0.8**
BLS5 Blasjo 118.22 341 *e*SP SP 15 04 29.7 +2.7
BLS5 *e*SS **SS 15 11 05.9 +1.1**
HUMR Humele 118.25 320 ⇑P **PKiKP 14 53 59.7 +0.3**
MESR Meseseni 118.32 323 ⇓P **PKiKP 14 54 00.5 +1.0**
LUNU Lund 118.33 335 *i* P **PKiKP 14 53 59.5 +0.3**
HOMB Hombersund 118.39 339 *e*PKPdf **PKiKP 14 53 59.9 +0.7**
HOMB *e*SKSac **SKSac 15 00 19.4 +1.9**
HOMB *i* 15 01 39.7
HOMB *e*SP **SP 15 04 30.0 +1.4**
HOMB *e*SS **SS 15 11 09.8 +2.9**
HOMB Hombersund 118.39 339 *i* P **PKiKP 14 53 59.6 +0.4**
MARR Marisel-Cluj 118.44 323 ⇓P **Pdif 14 50 22.0 +0.5**
MARR Marisel-Cluj 118.44 323 ⇓P **PKiKP 14 54 00.3 +0.5**
OJC Ojcow 118.55 327 *e*PKPdf **PKiKP 14 54 00.4 +0.6**
OJC *e*SKSac **SKSac 15 00 19.5 +1.0**
LOT Lotru 118.61 321 ⇓P **PKiKP 14 54 00.4 +0.2**
DRGR 118.64 323 ⇑P **Pdif 14 50 22.9 +0.7**
DRGR 118.64 323 ⇓P **PKiKP 14 54 00.7 +0.5**
DRGR 118.64 323 ⇓PKIKP **PKiKP 14 54 00.7 +0.5**
NIE Niedzica 118.70 326 *e*Pdif **Pdif 14 50 23.5 +1.1**
NIE *e*PKPdf **PKiKP 14 54 01.8 +1.6**
NIE *e*SKSac **SKSac 15 00 22.2 +3.0**
PVL Pavlikeni 118.72 318 P **PKiKP 14 54 01.6 +1.3**
COP Copenhagen 118.72 335 *i* P **PKiKP 14 54 00.9 +1.0**
COP IAmb IAmb 14 54 02.4
comp=Z,297nm,0.9s
KMY Karmoy 118.78 341 *e*PKPdf **PKiKP 14 54 00.5 +0.6**
KMY *e*PP **PP 14 55 24.4 +0.7**
KMY *e*SKSac **SKSac 15 00 20.4 +1.5**
KMY *i* 15 01 46.6
KMY *e*SP **SP 15 04 33.5 +1.6**
KMY *e*SS **SS 15 11 13.1 +1.4**
KMY ⇓*i* 17 11 39.5
SNART Snartemo 118.80 340 *e*PKPdf **PKiKP 14 54 00.8 +0.8**
SNART *e*SKSac **SKSac 15 00 20.3 +1.3**
SNART Snartemo 118.80 340 *i* P **PKiKP 14 54 00.3 +0.3**
VLAD Vladila 118.85 319 ⇑P **PKiKP 14 54 01.8 +1.3**
TEIG Tepich 118.86 69 **PKPdf 14 54 01.0 -0.1**
DIM Dimitrovgrad 118.89 317 P **PKiKP 14 54 01.6 +0.9**
CAVK Edirne/Enez-Ca 119.01 315 ⇓P **PKPdf 14 54 00.9 0.0**
ALN Alexandroupoli 119.02 316 P **PKPdf 14 54 00.7 -0.2**
GOET G??ttrup 119.04 338 *i* P **PKiKP 14 54 00.9 +0.4**
GOET IAmb IAmb 14 54 03.2
comp=Z,132nm,1.2s
BORR Bors 119.05 323 ⇓P **PKiKP 14 54 02.4 +1.5**
SADO Sadowa 119.08 40 PKKPbc PKKPbc 15 04 14.2 -3.4
comp=Z,26nm,0.8s,baz=159,slow=3.2,SNR=16
SADO SKKPbc SKKPbc 15 07 29.8 +1.5
comp=Z,9.1nm,1.0s,baz=81,slow=4.7,SNR=3.3
KECS Kecovo 119.09 325 *e*PKIKP **PKiKP 14 54 01.5 +0.6**
KECS Kecovo 119.09 325 *e*PKP **PKiKP 14 54 01.5 +0.6**
KECS *e* 15 04 17.5
RGN Rugen 119.10 334 *e*PKPdf **PKiKP 14 54 02.0 +1.3**
baz=49,slow=1.9
RGN *e*PPP PPP 14 57 28.2
baz=45,slow=7.3
ARG Arkhangelos 119.15 310 P **PKiKP 14 54 01.8 +0.4**
KDZ Kurdzhali 119.22 317 P **PKiKP 14 54 01.9 +0.5**
GZR Gura Zlata 119.26 321 ⇓P **PKiKP 14 54 01.8 +0.4**
GZR Gura Zlata 119.26 321 ⇓PKIKP **PKiKP 14 54 01.8 +0.4**
RDO Rodhopi 119.27 316 P **PKiKP 14 54 01.5 0.0**
LANS Liptovska Anna 119.31 326 *e*P **Pdif 14 50 28.2 +3.1**
LANS *e* 14 54 03.1
LANS Liptovska Anna 119.31 326 *e*PDIFF **Pdif 14 50 28.2 +3.1**
LANS Liptovska Anna 119.31 326 *e*PKP **PKiKP 14 54 03.1 +1.7**
LANS *e* 14 57 04.1
LANS *e* 15 04 17.5
SRE Strehaia 119.33 320 ⇑P **PKiKP 14 54 03.0 +1.5**
SRE Strehaia 119.33 320 ⇑PKIKP **PKiKP 14 54 03.0 +1.5**
EFI East Falkland 119.37 159 **PKiKP 14 54 01.3 0.0**
EFI East Falkland 119.37 159 PKIKP **PKiKP 14 54 01.3 0.0**
PLD Plovdiv 119.41 317 P **PKiKP 14 54 02.4 +0.7**
H03N2 Juan Fernandez 119.43 132 PKP **PKiKP 14 54 03.1 +1.5**
baz=50,slow=74,SNR=4.3
H03N3 Juan Fernandez 119.43 132 PKP **PKiKP 14 54 03.2 +1.4**
H03N1 Juan Fernandez 119.44 132 PKP **PKiKP 14 54 03.2 +1.5**
baz=212,slow=74,SNR=1.8
PRK Paraskevi 119.48 314 P **PKiKP 14 54 02.1 +0.2**
MUD Monsted U'grnd 119.48 337 *i* P **PKiKP 14 54 01.7 +0.3**
MUD IAmb IAmb 14 54 03.8
comp=Z,80nm,1.1s
SURR Surduc 119.49 322 ⇓P **PKiKP 14 54 02.1 +0.3**
SIRR Siria 119.53 323 ⇓P **PKiKP 14 54 02.8 +0.9**
SMTH Samothraki Isl 119.54 315 P **PKPdf 14 54 01.8 -0.2**
MPEP Malo Peshtene 119.56 319 P **PKiKP 14 54 03.2 +1.2**
RZN Rozhen 119.60 317 P **PKiKP 14 54 02.9 +0.5**
VALD Valchedram 119.61 319 P **PKiKP 14 54 03.2 +1.2**
SMG Samos 119.62 312 P **PKPdf 14 54 02.2 0.0**
PGB Panagyurishte 119.64 318 P **PKiKP 14 54 02.9 +0.7**
OKC Ostrava-Krasne 119.64 328 *e*PKPDF **PKiKP 14 54 03.1 +1.2**
OKC Ostrava-Krasne 119.64 328 *e*PKIKP **PKiKP 14 54 03.1 +1.2**
PUNG Punghina 119.67 320 ⇑P **PKiKP 14 54 02.9 +0.8**
HERR Herculane 119.72 321 ⇓P **PKiKP 14 54 02.6 +0.3**
PSZ Piszkesteto 119.72 325 ⇑P **Pdif 14 50 28.0 +0.9**
PSZ Piszkesteto 119.72 325 ⇓P **PKiKP 14 54 03.1 +0.9**
PSZ Piszkesteto 119.72 325 ⇓PKIKP **PKiKP 14 54 03.1 +0.9**
DJES Djerdap 119.76 321 ⇓P **PKPdf 14 54 02.3 0.0**
STEB Steborice 119.79 328 *e*PKPDF **PKiKP 14 54 03.4 +1.2**
STEB *e*PKKP **PKKPbc 15 04 13.5 -1.8**
SIGR SIGRI 119.79 314 P **PKiKP 14 54 02.6 +0.1**
SCHQ Schefferville 119.82 25 PKP **PKiKP 14 54 02.5 +0.4**
comp=Z,91nm,1.0s,baz=346,slow=2.2,SNR=41
SCHQ PKKPbc **PKKPbc 15 04 13.6 -1.8**
comp=Z,62nm,1.1s,baz=122,slow=3.9,SNR=17
BZS Buzias 119.87 322 ⇓P **PKiKP 14 54 03.1 +0.6**
BZS Buzias 119.87 322 ⇓PKIKP **PKiKP 14 54 03.1 +0.6**
LRW Lerwick 119.87 345 *e*P **PKiKP 14 54 02.4 +0.3**
MATP Matopo 119.91 244 PKKPbc PKKPbc 15 04 14.2 +0.2
comp=Z,55nm,0.9s,baz=296,slow=5.0,SNR=18
MATP SKKPbc SKKPbc 15 07 24.4 -0.2
comp=Z,5.4nm,0.9s,baz=67,slow=3.4,SNR=2.4
BOSA Boshof 119.93 234 **PKPdf 14 54 02.7 -0.5**
BOSA Boshof 119.93 234 PKP **PKiKP 14 54 04.0 +0.7**
comp=Z,74nm,0.6s,baz=145,slow=1.2,SNR=118
BOSA PKKPbc **PKKPbc 15 04 14.3 +0.1**
comp=Z,26nm,1.0s,baz=293,slow=3.8,SNR=11
MORC Moravsky Berou 120.00 328 *e*PDIFF **Pdif 14 50 28.9 +0.7**
MORC Moravsky Berou 120.00 328 *e*PKP **PKiKP 14 54 03.7 +1.0**
MORC *e*SKS **SKSac 15 00 24.6 +0.8**
MORC *e*SKKS **SKKSac 15 01 57.4 +3.9**
MORC *e*PKKP **PKKPbc 15 04 13.9 -0.7**
MORC Moravsky Berou 120.00 328 ⇓P **Pdif 14 50 28.7 +0.5**
MORC Moravsky Berou 120.00 328 ⇓P **PKiKP 14 54 04.0 +1.3**
MORC Moravsky Berou 120.00 328 ⇓PKIKP **PKiKP 14 54 04.0 +1.3**
SSRD Sdr. Stenderup 120.00 336 *i* P **PKiKP 14 54 03.1 +0.7**
LIA Limnos Island 120.01 315 P **PKPdf 14 54 02.9 +0.1**
VYHS Vyhne 120.02 326 *e*P **Pdif 14 50 29.5 +1.3**
VYHS *e* 14 54 03.5
VYHS *e*SS SS 15 11 27.6 -1.0
VYHS Vyhne 120.02 326 *e*PDIFF **Pdif 14 50 29.5 +1.3**
VYHS Vyhne 120.02 326 *e*PKP **PKiKP 14 54 03.5 +0.8**
VYHS *e* 15 01 52.3
VYHS *e*SS SS 15 11 27.6 -1.0
KAVA Kavala 120.04 316 P **PKiKP 14 54 03.0 0.0**
TIM Timisoara 120.05 322 ⇓P **PKiKP 14 54 04.8 +2.0**
TIM Timisoara 120.05 322 ⇓PKIKP **PKiKP 14 54 04.8 +2.0**
THAS Thassos island 120.06 316 P **PKPdf 14 54 02.7 -0.2**
MAUC Maruska 120.08 327 *e*PDIFF Pdif 14 50 59.3 +31
MAUC *e*PKPDF **PKiKP 14 54 04.4 +1.5**
PLNA Plana 120.16 318 P **PKiKP 14 54 04.7 +1.4**
MREMI Moremi 120.20 242 *i* P **PKiKP 14 54 04.3 +0.4**
MDVR Moldovita 120.21 321 ⇓P **Pdif 14 50 29.2 -0.1**
MDVR Moldovita 120.21 321 ⇓P **PKiKP 14 54 03.9 +0.6**
VTS Vitosha 120.22 318 P **PKiKP 14 54 04.7 +1.2**
KRLC Kraliky 120.23 328 *e*PDIFF **Pdif 14 50 29.7 +0.5**
KRLC *e*PKPDF **PKiKP 14 54 04.3 +1.1**
KRLC Kraliky 120.23 328 *e*PKIKP **PKiKP 14 54 04.3 +1.1**
OSTC Ostas 120.24 329 *e*PKPDF **PKiKP 14 54 04.4 +1.3**
OSTC Ostas 120.24 329 *e*PKIKP **PKiKP 14 54 04.4 +1.3**
RUE Ruedersdorf 120.24 332 *e*PKPdf **PKiKP 14 54 04.1 +1.1**
baz=49,slow=1.9
RUE *e*PPP PPP 14 57 36.3
baz=45,slow=7.3
RUE *e*SS SS 15 11 30.7 -0.3
baz=48,slow=13
BANR Banloc 120.28 322 ⇓P **PKiKP 14 54 04.6 +1.3**
CHVC Chvalec 120.30 329 *e*PKPDF **PKiKP 14 54 04.2 +0.9**
CHVC *e*PKKP **PKKPbc 15 04 09.9 -3.6**
CHVC Chvalec 120.30 329 *e*PKIKP **PKiKP 14 54 04.2 +0.9**
DPC Dobruska-Polom 120.31 329 *e*PDIFF **Pdif 14 50 30.2 +0.7**
DPC *e*PKPDF **PKiKP 14 54 04.6 +1.3**
DPC *e*PKKP PKKPbc 15 04 03.8 -10
DPC Dobruska-Polom 120.31 329 *e*PKIKP **PKiKP 14 54 04.6 +1.3**
MMB Musomishta 120.34 317 P **PKiKP 14 54 03.9 +0.3**
NVR Nevrokopi 120.34 317 P **PKiKP 14 54 04.5 +0.9**
UPC Upice 120.37 329 *e*PDIFF **Pdif 14 50 30.3 +0.5**
UPC *e*PKPDF **PKiKP 14 54 04.4 +1.0**
UPC Upice 120.37 329 *e*PKIKP **PKiKP 14 54 04.4 +1.0**
JAVC Velka Javorina 120.45 327 *e*PDIFF **Pdif 14 50 32.6 +2.3**
JAVC Velka Javorina 120.45 327 *e*PKP **PKiKP 14 54 05.4 +1.8**
JAVC *e*SKS **SKSac 15 00 29.2 +3.8**
JAVC *e*SKKS **SKKSac 15 01 59.7 +3.2**
JAVC *e*PKKP **PKKPbc 15 04 13.1 +0.2**
KOKK Kokkinochori, 120.47 316 P **PKPdf 14 54 03.5 -0.2**
CHOHN Orocuina 120.59 76 P **PKiKP 14 54 05.6 +0.7**
SRS Serrai 120.62 317 P **PKPdf 14 54 03.3 -0.7**
KKB Krupnik 120.63 318 P **PK

GORT1	**Trebel**	**121.03 334**	*e*PKPdf	**PKiKP**	**14 54 05.8**	**+1.3**
	baz=49,slow=1.9					
GORT1			*e*PPP	PPP	14 57 42.5	
	baz=45,slow=7.3					
GORT1			*e*SS	SS	15 11 44.8	+4.0
	baz=48,slow=13					
PLG	**Polygyros**	**121.04 316**	P	**PKPdf**	**14 54 04.2**	**-0.7**
PAIG	**Paliouri**	**121.06 315**	P	**PKPdf**	**14 54 04.3**	**-0.6**
KNT	**Kendrikon**	**121.08 317**	P	**PKPdf**	**14 54 04.3**	**-0.6**
PVCC	**Panska Ves**	**121.09 330**	*e*PKPDF	**PKiKP**	**14 54 06.1**	**+1.3**
PVCC	**Panska Ves**	**121.09 330**	*e*PKIKP	**PKiKP**	**14 54 06.1**	**+1.3**
MACN	**El Madrono**	**121.13 78**	P	**PKiKP**	**14 54 06.5**	**+0.6**
THR3	**Thira Island,**	**121.15 311**	P	**PKPdf**	**14 54 04.8**	**-0.3**
THR6	**Thira Island,**	**121.17 311**	P	**PKPdf**	**14 54 05.1**	**-0.1**
BRG	**Berggiesshubel**	**121.19 330**	P	PKiKP	14 54 12.8	+7.8
BRG			Amp		14 54 13.9	
	comp=Z,59nm,0.9s					
BRG	**Berggiesshubel**	**121.19 330**	SP	SP	15 04 57.0	+3.1
BRG	**Berggiesshubel**	**121.19 330**	P	**PKKSbc**	**15 08 07.1**	**+7.0**
BRG			Amp		15 08 10.2	
	comp=Z,55nm,1.7s					
BRG	**Berggiesshubel**	**121.19 330**	SS	SS	15 11 47.0	+3.9
BRG	**Berggiesshubel**	**121.19 330**	*e*PKPdf	**PKiKP**	**14 54 06.0**	**+1.0**
	baz=49,slow=1.9					
BRG			*e*PPP	PPP	14 57 46.4	
	baz=45,slow=7.3					
BRG			*e*SS	SS	15 11 54.0	+11
	baz=48,slow=13					
FRGS	**Fruska Gora**	**121.20 322** ‖	*i* P	**PKiKP**	**14 54 05.5**	**+0.3**
AOS	**Alonnisos**	**121.22 314**	P	**PKPdf**	**14 54 04.8**	**-0.4**
COPN	**Copaltepe**	**121.23 78**	P	**PKiKP**	**14 54 06.4**	**+0.4**
PLCA	**Paso Flores**	**121.23 143**	PKhKP	PKPpre	14 53 52.7	
	comp=Z,14nm,1.0s,baz=334,slow=2.6,SNR=3.8					
PLCA			PKP	**PKiKP**	**14 54 05.5**	**+0.1**
	comp=Z,116nm,0.7s,baz=246,slow=2.7,SNR=258					
PLCA			SKP		14 57 08.7	
	comp=Z,25nm,1.0s,baz=198,slow=3.4,SNR=5.0					
PLCA			PKKPbc	**PKKPbc**	**15 04 09.4**	**-0.4**
	comp=Z,36nm,0.9s,baz=54,slow=3.7,SNR=33					
PLCA			SKKPbc	SKKPbc	15 07 21.7	+0.8
	comp=Z,7.7nm,1.1s,baz=49,slow=3.4,SNR=3.9					
PLCA	**Paso Flores**	**121.23 143**	PKP	**PKiKP**	**14 54 06.2**	**+0.7**
PLCA			PKP	**PKPdf**	**14 54 06.9**	**+1.5**
PLCA	**Paso Flores**	**121.23 143**	*e*P	**PKPdf**	**14 54 03.6**	**-1.7**
VAY	**Valandovo**	**121.23 317**	*i* P	**PKPdf**	**14 54 04.6**	**-0.5**
MOMN	**Momotombo**	**121.27 78**	P	**PKiKP**	**14 54 06.7**	**+0.6**
KYMI	**Kymi, Euboea I**	**121.28 314**	P	**PKPdf**	**14 54 04.8**	**-0.5**
LPHEP	**Lephephe**	**121.33 240**	*i* P	**PKiKP**	**14 54 06.6**	**+0.4**
MBAR	**Mbarara**	**121.34 267**	P	**PKiKP**	**14 54 07.0**	**+0.5**
MORH	**Mrgy, Hungar**	**121.35 324**	⇑P	**Pdif**	**14 50 35.3**	**+1.1**
MORH	**Mrgy, Hungar**	**121.35 324**	P	**PKiKP**	**14 54 06.0**	**+0.6**
GOPC	**GO Pecny, Ondr**	**121.36 329**	*e*PKPDF	**PKiKP**	**14 54 06.3**	**+1.0**
GOPC	**GO Pecny, Ondr**	**121.36 329**	*e*PKIKP	**PKiKP**	**14 54 06.3**	**+1.0**
CLL	**Collm**	**121.37 331** ‖	*i* P	**Pdif**	**14 50 33.6**	**-0.6**
CLL			*i*		14 54 05.8	
CLL			*i*		15 00 28.0	
CLL			pmax	pmax		
	comp=Z,23nm,1.2s					
CLL			pmax	pmax		
	comp=Z,504nm,1.1s					
CLL	**Collm**	**121.37 331**	*e*PKPdf	**PKiKP**	**14 54 06.1**	**+0.8**
	baz=49,slow=1.9					
CLL			*e*PPP	PPP	14 57 47.5	
	baz=45,slow=7.3					
CLL			*e*SS	SS	15 11 50.1	+4.8
	baz=48,slow=13					
MAKGR	**Makgori**	**121.37 237**	*i* P	**PKiKP**	**14 54 06.5**	**+0.3**
TREC	**Trest**	**121.37 328**	*e*PKPDF	**PKPdf**	**14 54 03.4**	**-1.8**
TREC			*e*PKKP	**PKKPdf**	**15 04 39.4**	**-2.9**
TREC	**Trest**	**121.37 328**	*e*PKIKP	**PKPdf**	**14 54 03.4**	**-1.8**
PRU	**Pruhonice**	**121.44 329**	*e*PKPDF	**PKiKP**	**14 54 06.2**	**+0.7**
PRU			AMS	AMS	15 44 40.0	
	comp=Z,2μm,17.6s					
PRU	**Pruhonice**	**121.44 329**	*e*PKIKP	**PKiKP**	**14 54 06.2**	**+0.7**
PRU			MLR	MLR		
	comp=Z,2μm,17.6s					
PRA	**Prague**	**121.44 329**	*e*PKPDF	**PKiKP**	**14 54 06.5**	**+1.1**
PRA	**Prague**	**121.44 329**	*e*PKIKP	**PKiKP**	**14 54 06.5**	**+1.1**
GRG	**Griva**	**121.51 317**	P	**PKPdf**	**14 54 05.5**	**-0.3**
FLTG	**Flechtingen**	**121.51 333**	*e*PKPdf	**PKiKP**	**14 54 06.4**	**+0.9**
	baz=49,slow=1.9					
FLTG			*e*PPP	PPP	14 57 48.4	
	baz=45,slow=7.3					
FLTG			*e*SS	SS	15 11 46.8	-0.2
	baz=48,slow=13					
RCVN	**Varillal2**	**121.52 76**	P	**PKiKP**	**14 54 06.9**	**+0.1**
LSZ	**Lusaka**	**121.54 250**		**PKiKP**	**14 54 06.7**	**-0.1**
LSZ	**Lusaka**	**121.54 250**	PKKPbc	PKKPbc	15 04 09.9	+2.0
	comp=Z,48nm,0.8s,baz=312,slow=2.0,SNR=23					
LSZ	**Lusaka**	**121.54 250**	P	**PKiKP**	**14 54 07.4**	**+0.6**
LSZ	**Lusaka**	**121.54 250**	PKIKP	**PKiKP**	**14 54 06.7**	**-0.1**
HSKC	**Hora Svate Kat**	**121.61 330**	*e*PKPDF	**PKiKP**	**14 54 06.7**	**+0.9**
HSKC			*e*PKKP	**PKKPab**	**15 04 07.0**	**-1.4**
DION	**Dionisos Attik**	**121.62 313**	P	**PKPdf**	**14 54 05.6**	**-0.5**
XOR	**Xorichti**	**121.63 315**	P	**PKPdf**	**14 54 05.5**	**-0.5**
NEO	**Neokhori**	**121.64 315**	P	**PKPdf**	**14 54 05.6**	**-0.5**
HLG	**Helgoland**	**121.64 336**	*e*PKPdf	**PKiKP**	**14 54 07.0**	**+1.3**
	baz=49,slow=1.9					
HLG			*e*PPP	PPP	14 57 49.1	
	baz=45,slow=7.3					
HLG			*e*SS	SS	15 11 50.7	+2.3
	baz=48,slow=13					
PTL	**Penteli**	**121.68 313**	P	**PKPdf**	**14 54 05.8**	**-0.4**
TEKS	**Tekeris**	**121.68 322** ‖	*i* P	**PKiKP**	**14 54 06.1**	**0.0**
SUR	**Sutherland**	**121.77 228**		**PKiKP**	**14 54 08.4**	**+1.5**
SUR	**Sutherland**	**121.77 228**	PKKPbc	PKKPbc	15 04 08.5	+0.9
	comp=Z,80nm,0.8s,baz=298,slow=4.4,SNR=31					
VLY	**Voula,Athens**	**121.81 313**	P	**PKPdf**	**14 54 05.6**	**-0.8**
LIT	**Litokhoron**	**121.82 316**	P	**PKPdf**	**14 54 06.1**	**-0.3**
ATH	**Athens Observa**	**121.82 313**	P	**PKPdf**	**14 54 06.0**	**-0.4**
RONA	**Rosalia, Austr**	**121.87 326**	*e*Pdiff	**Pdif**	**14 50 37.7**	**+1.1**
	comp=Z,13nm,1.2s,SNR=8.1					
RONA			*i* PKiKP	**PKiKP**	**14 54 07.0**	**+0.5**
	comp=Z,193nm,1.1s,SNR=121					
RONA			*e*PKKP	**PKKPab**	**15 04 05.5**	**-1.9**
	comp=Z,24nm,1.0s					
RONA			*e*SKKP		15 07 39.2	
	comp=Z,27nm,1.7s					
ASSE	**Asse, Remlinge**	**121.90 333**	*e*PKPdf	PKPdf	14 53 35.2	-31
	baz=49,slow=1.9					
NRDL	**Niedersach Rie**	**121.91 334**	*e*PKPdf	**PKiKP**	**14 54 07.5**	**+1.3**
	baz=49,slow=1.9					
NRDL			*e*PPP	PPP	14 57 48.8	
	baz=45,slow=7.3					
IDI	**Anoyia**	**121.94 310**	PKP	**PKPdf**	**14 54 06.4**	**-0.4**
IDI	**Anoyia**	**121.94 310**	PKP	**PKiKP**	**14 54 07.4**	**+0.4**
	comp=Z,259nm,0.9s,baz=356,slow=14,SNR=40					
IDI			SKP		14 57 07.1	
	comp=Z,59nm,1.0s,baz=269,slow=11,SNR=3.2					
IDI			PKKPbc	**PKKPab**	**15 04 08.2**	**+1.0**
	comp=Z,71nm,0.8s,baz=251,slow=6.1,SNR=12					
IDI			SKKPbc	SKKPbc	15 07 19.5	+0.7
	comp=Z,41nm,0.9s,baz=325,slow=7.6,SNR=3.9					
KTI	**Kastanea**	**121.95 316**	P	**PKPdf**	**14 54 06.7**	**-0.1**
ZVC	**Zvikov**	**121.95 329**	*e*PDIFF	**Pdif**	**14 50 37.5**	**+0.7**
ZVC			*e*PKP	**PKiKP**	**14 54 07.6**	**+1.1**
CONA	**Conrad Observa**	**121.98 327**	*e*Pdiff	**Pdif**	**14 50 38.3**	**+1.2**
	comp=Z,23nm,1.1s,SNR=15					
CONA			*e*PKiKP	**PKiKP**	**14 54 07.2**	**+0.5**
	comp=Z,96nm,0.6s,SNR=65					
CONA			*e*PKKP	**PKKPab**	**15 04 04.9**	**-2.0**
	comp=Z,65nm,1.8s					
NEUB	**Neuenburg**	**122.02 332**	*e*PKPdf	**PKiKP**	**14 54 07.4**	**+0.9**
	baz=49,slow=1.9					
NEUB			*e*PPP	PPP	14 57 52.3	
	baz=45,slow=7.3					
HOPE	**Hope Point**	**122.03 174**		**PKiKP**	**14 54 06.5**	**0.0**
HOPE	**Hope Point**	**122.03 174**	PKIKP	**PKiKP**	**14 54 06.5**	**0.0**
SJES	**Sjenica**	**122.04 320** ‖	*i* P	**PKiKP**	**14 54 07.7**	**+0.7**
RETH	**Rethem/Aller,**	**122.06 334**	*e*PKPdf	**PKiKP**	**14 54 07.7**	**+1.1**
	baz=49,slow=1.9					
RETH			*e*PPP	PPP	14 57 52.2	
	baz=45,slow=7.3					
BBLS	**Lazi&#263i**	**122.10 321** ‖	*i* P	**PKiKP**	**14 54 07.8**	**+0.7**
KHWEE	**KHWEE**	**122.15 242**	*i* P	**PKiKP**	**14 54 07.9**	**+0.1**
TYRN	**Tyrnavos**	**122.16 316**	P	**PKPdf**	**14 54 06.2**	**-0.8**
TANN	**Tannenbergstha**	**122.20 331**	*e*PKPdf	**PKiKP**	**14 54 07.9**	**+0.9**
	baz=49,slow=1.9					
TANN			*e*PPP	PPP	14 57 53.6	
	baz=45,slow=7.3					
CONN	**Concepcion**	**122.21 79**	P	**PKPdf**	**14 54 06.2**	**-1.6**
KZN	**Kozani**	**122.22 317**	P	**PKiKP**	**14 54 07.8**	**+0.4**
CLZ	**Clausthal**	**122.24 333**	*e*PKPdf	**PKiKP**	**14 54 08.3**	**+1.3**
	baz=49,slow=1.9					
CLZ			*e*PPP	PPP	14 57 53.6	
	baz=45,slow=7.3					
RUDO	**Rudo**	**122.25 321** ⇑	*i* P	**PKPdf**	**14 54 06.6**	**-0.5**
CKRC	**Cesky Krumlov**	**122.28 328**	*e*PDIFF	**Pdif**	**14 50 38.9**	**+0.6**
CKRC			*e*PKPDF	**PKiKP**	**14 54 08.3**	**+1.1**
CKRC			*e*SKS	**SKSac**	**15 00 31.8**	**+0.4**
CKRC	**Cesky Krumlov**	**122.28 328**	*e*PKIKP	**PKiKP**	**14 54 08.3**	**+1.1**
CKRC			*e*		15 00 31.8	
IVA	**Berane**	**122.28 320** ‖	*i* PKP	**PKiKP**	**14 54 07.7**	**+0.2**
PLN	**Plauen**	**122.31 331**	*e*PKPdf	**PKiKP**	**14 54 07.9**	**+0.8**
	baz=49,slow=1.9					
PLN			*e*PPP	PPP	14 57 55.6	
	baz=45,slow=7.3					
NKC	**Novy Kostel**	**122.33 331**	*e*PKPDF	**PKiKP**	**14 54 08.3**	**+1.0**
NKC			*e*PKKP	**PKKPdf**	**15 04 45.9**	**+5.4**
NKC	**Novy Kostel**	**122.33 331**	*e*PKIKP	**PKiKP**	**14 54 08.3**	**+1.0**
ALIBA	**Liberia Airpor**	**122.34 80**	*e*P	**PKiKP**	**14 54 09.4**	**+1.2**
KDWAN	**Kaudwane**	**122.36 240**	*i* P	**PKiKP**	**14 54 08.5**	**+0.3**
PVY	**Plav**	**122.38 320** ‖	*i* PKP	**PKiKP**	**14 54 07.8**	**+0.1**
THL	**Klokotos Trika**	**122.38 316**	P	**PKPdf**	**14 54 06.8**	**-0.6**
PLE	**Pljevlja**	**122.38 321** ‖	*i* PKP	**PKiKP**	**14 54 07.9**	**+0.2**
INDI	**Punta indio, G**	**122.41 81**	P	**PKiKP**	**14 54 10.2**	**+1.9**
KHC	**Kasperske Hory**	**122.46 329**	*e*PDIFF	**Pdif**	**14 50 39.7**	**+0.5**
KHC			*e*PKPDF	**PKiKP**	**14 54 08.6**	**+1.0**
KHC			*e*SKP		14 57 06.5	
KHC			*e*SKS	**SKSac**	**15 00 25.6**	**-6.5**
KHC			*e*PKKP	**PKKPab**	**15 04 00.7**	**-4.1**
KHC			*e*x	x	15 04 43.5	
KHC			AMS	AMS	15 45 40.0	
	comp=Z,3μm,18.2s					
MOX	**Moxa**	**122.46 331**	*e*PKPdf	**PKiKP**	**14 54 08.3**	**+0.8**
	baz=49,slow=1.9					
MOX			*e*PPP	PPP	14 57 54.3	
	baz=45,slow=7.3					
MOX			*e*SS	SS	15 12 04.1	+4.9
	baz=48,slow=13					
MOX			*e*L	L	15 46 12.6	
	comp=Z,2μm,20.3s					
PHP	**Peshkopia**	**122.50 318**	P	**PKiKP**	**14 54 08.0**	**+0.1**
GPS2	**Hotel Rincn d**	**122.52 80**	*e*P	**PKiKP**	**14 54 09.1**	**+0.4**
OHR	**Ohrid**	**122.52 318**	*i* P	**PKiKP**	**14 54 08.4**	**+0.4**
KOME	**Kolasin**	**122.54 320** ‖	*i* PKP	**PKiKP**	**14 54 08.3**	**+0.3**
PLVR	**Palo Verde**	**122.54 80**	*e*P	**PKiKP**	**14 54 09.9**	**+1.0**
ARSA	**Arzberg**	**122.56 326**	*i* Pdiff	**Pdif**	**14 50 40.6**	**+1.0**
	comp=Z,16nm,1.1s,SNR=10					
ARSA			*e*PKP	**PKiKP**	**14 54 07.8**	**0.0**
	comp=Z,77nm,1.1s,SNR=37					
ARSA			*e*PKKP	**PKKPab**	**15 04 02.5**	**-1.9**
	comp=Z,34nm,1.4s,SNR=7.7					
ARSA			*e*SKKP		15 07 41.5	
	comp=Z,26nm,1.4s					
IMMV	**Iera Moni Meta**	**122.57 310**	P	**PKiKP**	**14 54 08.8**	**+0.7**
SKOMA	**Sekoma**	**122.57 238**	*i* P	**PKiKP**	**14 54 09.2**	**+0.6**
GEC2	**GERESS Array S**	**122.58 329**	*e*PKPdf	**PKiKP**	**14 54 08.8**	**+0.9**
	baz=49,slow=1.9					
GEC2			*e*PPP	PPP	14 57 57.1	
	baz=45,slow=7.3					
GEC2			*e*SS	SS	15 12 04.3	+3.3
	baz=48,slow=13					
GERES	**GERESS Array B**	**122.58 329**	Pdiff	**Pdif**	**14 50 39.1**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=46,slow=3.9,SNR=16					
GERES			PKP	**PKiKP**	**14 54 07.8**	**0.0**
	comp=Z,205nm,0.8s,baz=225,slow=0.4,SNR=359					
GERES			SKP		14 57 07.8	
	comp=Z,14nm,1.0s,baz=56,slow=2.1,SNR=3.7					
GERES			PKKPbc	**PKKPab**	**15 04 03.8**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=212,slow=2.4,SNR=14					
KOGS	**Kog**	**122.61 325**	*i* Pdiff	**Pdif**	**14 50 40.8**	**+0.9**
KOGS			*i* PKPdf	**PKiKP**	**14 54 08.1**	**+0.2**
KOGS			*e*SKKSac	SKKSac	15 02 08.4	-2.0
KOGS			*i* PKKPab	**PKKPbc**	**15 04 04.5**	**-0.2**
LINV	**Loch Inver, As**	**122.62 346**	*e*P	**PKPdf**	**14 54 07.3**	**0.0**
GTTG	**Gottingen**	**122.62 333**	*e*PKPdf	**PKiKP**	**14 54 09.0**	**+1.2**
	baz=49,slow=1.9					
GTTG			*e*PPP	PPP	14 57 55.8	
	baz=45,slow=7.3					
GTTG			*e*SS	SS	15 12 04.8	+3.6
	baz=48,slow=13					
ACON	**Acoyapa**	**122.63 78**	*e*P	**PKiKP**	**14 54 09.2**	**+0.4**
MCD	**Coleburn Disti**	**122.63 345**	*e*P	**PKPdf**	**14 54 07.1**	**-0.3**
MANZ	**Manzenberg**	**122.66 331**	*e*PKPdf	**PKiKP**	**14 54 08.9**	**+1.0**
	baz=49,slow=1.9					
MANZ			*e*PPP	PPP	14 57 58.7	
	baz=45,slow=7.3					
MANZ			*e*SS	SS	15 12 04.3	+2.6
	baz=48,slow=13					
KPRO	**Kipourio**	**122.66 316**	P	**PKiKP**	**14 54 08.2**	**-0.1**
CUI	**Cuipilapa**	**122.71 80**	*e*P	**PKPdf**	**14 54 08.9**	**+0.1**
ROTZ	**Rotzenmuhle**	**122.75 330**	*e*PKPdf	**PKiKP**	**14 54 08.8**	**+0.7**
	baz=49,slow=1.9					
ROTZ			*e*PPP	PPP	14 57 59.5	
	baz=45,slow=7.3					
ROTZ			*e*SS	SS	15 12 05.5	+2.6
	baz=48,slow=13					
UPM	**Unac-Piva**	**122.75 321** ‖	*i* P	**PKPdf**	**14 54 08.0**	**-0.3**
UPM	**Unac-Piva**	**122.75 321** ‖	*i* PKP	**PKPdf**	**14 54 08.2**	**-0.1**
EVR	**Evrytania**	**122.80 315**	P	**PKiKP**	**14 54 09.9**	**+1.3**
CBL1	**Cabuya**	**122.82 81**	*e*P	**PKiKP**	**14 54 10.4**	**+1.2**
ALIK	**Aliki, Aigiali**	**122.86 314**	P	**PKiKP**	**14 54 10.0**	**+1.4**
VLI	**Veliai**	**122.88 312**	P	**PKPdf**	**14 54 07.8**	**-0.7**
MOA	**Molln**	**122.89 327**	*e*Pdiff	**Pdif**	**14 50 41.9**	**+0.8**
	comp=Z,8.3nm,1.3s					
MOA			*i* PKP	**PKiKP**	**14 54 08.6**	**+0.2**
	comp=Z,49nm,0.6s,SNR=38					
MOA			*e*PKKP	**PKKPab**	**15 04 02.9**	**0.0**
	comp=Z,50nm,1.4s,SNR=10					
MOA			*e*SKKP		15 07 38.5	
	comp=Z,36nm,1.4s					
TENO	**El Achiote**	**122.89 80**	*e*P	**PKiKP**	**14 54 09.8**	**+0.4**
PDG	**Podgorica**	**122.91 320** ‖	*i* P	**PKiKP**	**14 54 08.5**	**-0.1**
PDG	**Podgorica**	**122.91 320** ‖	P	**PKiKP**	**14 54 09.0**	**+0.4**
PDG	**Podgorica**	**122.91 320** ‖	*i* PKP	**PKiKP**	**14 54 08.7**	**+0.1**
KLV	**Kalavryta, Ach**	**122.92 314**	P	**PKiKP**	**14 54 08.8**	**0.0**
ANKY	**Antikythira Is**	**122.93 311**	P	**PKiKP**	**14 54 09.0**	**+0.2**
JTS	**Las Juntas de**	**122.93 80**		**PKPdf**	**14 54 09.2**	**0.0**
JTS	**Las Juntas de**	**122.93 80**	PKP	**PKiKP**	**14 54 10.0**	**+0.6**
	comp=Z,248nm,0.8s,baz=326,slow=2.3,SNR=146					
JTS	**Las Juntas de**	**122.93 80**	PKIKP	**PKiKP**	**14 54 10.0**	**+0.6**
JTS	**Las Juntas de**	**122.93 80**	*e*P	**PKiKP**	**14 54 09.8**	**+0.3**
NKME	**Niksic**	**122.94 320** ‖	*i* PKP	**PKiKP**	**14 54 08.8**	**+0.1**
BLY	**Banja Luka**	**123.00 323** ‖	*i* P	**PKiKP**	**14 54 09.1**	**+0.4**
LEWI	**Lewis, Hebride**	**123.02 347**	*e*P	**PKPdf**	**14 54 08.1**	**+0.1**
A051A	**Mrakovica**	**123.03 323** ‖	*i* P	**PKiKP**	**14 54 09.0**	**+0.2**
TIR	**Tirane**	**123.03 318**	P	**PKiKP**	**14 54 09.8**	**+0.9**
TIR	**Tirane**	**123.03 318**	PKIKP	**PKiKP**	**14 54 09.8**	**+0.9**
IBBN	**Ibbenburen**	**123.06 335**	*e*PKPdf	**PKiKP**	**14 54 09.6**	**+1.0**
	baz=49,slow=1.9					
IBBN			*e*PPP	PPP	14 57 58.2	
	baz=45,slow=7.3					
IBBN			*e*SS	SS	15 12 08.5	+2.0
	baz=48,slow=13					
CEME	**Cevo**	**123.07 320** ‖	*i* PKP	**PKPdf**	**14 54 08.8**	**0.0**
DRME	**Dracevica, Mon**	**123.08 320** ‖	*i* P	**PKiKP**	**14 54 09.0**	**+0.1**
DRME	**Dracevica, Mon**	**123.08 320** ‖	*i* PKP	**PKiKP**	**14 54 09.2**	**+0.3**
LSK	**Leskovik**	**123.10 317**	P	**PKiKP**	**14 54 09.6**	**+0.4**
UBBA	**Unterbreizbach**	**123.11 332**	*e*PKPdf	**PKiKP**	**14 54 09.3**	**+0.7**
	baz=49,slow=1.9					
UBBA			*e*PPP	PPP	14 58 00.2	
	baz=45,slow=7.3					
UBBA			*e*SS	SS	15 12 09.5	+2.5
	baz=48,slow=13					
PHPEN	**Phepeng**	**123.12 237**	*i* P	**PKiKP**	**14 54 10.1**	**+0.4**
BRY	**Bratogost**	**123.13 321** ‖	*i* P	**PKPdf**	**14 54 08.8**	**-0.2**
BRY	**Bratogost**	**123.13 321** ‖	*i* PKP	**PKiKP**	**14 54 09.2**	**0.0**
PERS	**Pernice**	**123.14 326**	*i* Pdiff	**Pdif**	**14 50 42.9**	**+0.7**
PERS			*i* SKPdf	**SKiKP**	**14 57 09.0**	**+0.3**
PERS			*e*SKSac	**SKSac**	**15 00 32.5**	**-2.0**
PERS			*e*SKKSac	**SKKSac**	**15 02 10.9**	**-3.1**
JAN	**Janina**	**123.14 316**	P	**PKiKP**	**14 54 09.8**	**+0.6**
ULC	**Ulcinj**	**123.15 319** ‖	*i* PKP	**PKPdf**	**14 54 09.0**	**+0.1**
SOKA	**Soboth**	**123.17 326**	*e*Pdiff	**Pdif**	**14 50 42.9**	**+0.5**
	comp=Z,22nm,1.3s,SNR=11					
SOKA			*i* PKP	**PKiKP**	**14 54 09.1**	**0.0**
	comp=Z,284nm,1.1s,SNR=90					
SOKA			*e*PKKP	**PKKPab**	**15 04 00.6**	**-1.2**
	comp=Z,31nm,1.2s,SNR=6.3					
CEDE	**Laguna Cedeo**	**123.17 80**	*e*P	**PKiKP**	**14 54 10.1**	**+0.1**
VACR	**Volcan Arenal**	**123.19 80**	*e*P	**PKiKP**	**14 54 09.9**	**-0.1**
BUM	**Brajici-Budva**	**123.21 320** ‖	*i* PKP	**PKPdf**	**14 54 09.1**	**+0.1**
SOCE	**Pocosol**	**123.26 80**	*e*P	**PKiKP**	**14 54 10.3**	**+0.2**
SOCE	**Pocosol**	**123.26 80**	P	**PKiKP**	**14 54 10.7**	**+0.6**
DRO	**Drossia**	**123.27 314**	P	**PKiKP**	**14 54 10.0**	**+0.5**
GRF	**Grafenberg Arr**	**123.28 331**	*e*PKPdf	**PKiKP**	**14 54 10.2**	**+1.0**
	baz=49,slow=1.9					
GRF			*e*PPP	PPP	14 58 01.8	
	baz=45,slow=7.3					
GRF			*e*SS	SS	15 12 11.8	+2.2
	baz=48,slow=13					
GRF			*e*L	L	15 44 34.4	
	comp=Z,2μm,21.0s					
GRFO	**Grafenberg**	**123.28 331**		**PKiKP**	**14 54 09.4**	**+0.3**
GRFO	**Grafenberg**	**123.28 331**	PKIKP	**PKiKP**	**14 54 09.4**	**+0.3**
BIOA	**Bad Ischl, Aus**	**123.32 328**	*e*Pdiff	**Pdif**	**14 50 43.8**	**+0.8**
	comp=Z,4.0nm,0.8s					
BIOA			*i* PKP	**PKPdf**	**14 54 09.1**	**+0.1**
	comp=Z,49nm,0.7s,SNR=80					
BIOA			*e*PKKP	**PKKPab**	**15 04 00.5**	**-0.6**
	comp=Z,25nm,0.9s					
BIOA			*e*SKKP		15 07 36.3	
	comp=Z,31nm,1.2s					
HCY	**Herceg Novi**	**123.39 320** ‖	*i* P	**PKPdf**	**14 54 09.1**	**-0.2**
HCY	**Herceg Novi**	**123.39 320** ‖	*i* PKP	**PKPdf**	**14 54 09.4**	**+0.1**
RLS	**Riolos of Patr**	**123.41 314**	P	**PKiKP**	**14 54 10.3**	**+0.6**
AXS	**Araxos**	**123.41 314**	P	**PKiKP**	**14 54 09.9**	**+0.2**
CRES	**Cresnjevec Ost**	**123.42 325** ‖	*i* P	**PKiKP**	**14 54 09.9**	**+0.4**
DWPF	**Disney Wildern**	**123.43 58**		**PKPdf**	**14 54 09.6**	**-0.1**
ITM	**Ithomi**	**123.44 313**	P	**PKPdf**	**14 54 09.6**	**0.0**
ESPN	**Las Esperanzas**	**123.47 78**	*e*P	**PKiKP**	**14 54 11.0**	**+0.6**
PHDHD	**Phuduhudu**	**123.52 243**	*i* P	**PKiKP**	**14 54 11.2**	**+0.6**
OBKA	**Obir**	**123.53 326**	*i* Pdiff	**Pdif**	**14 50 44.4**	**+0.3**
	comp=Z,10nm,1.1s					
OBKA			*e*PKP	**PKPdf**	**14 54 09.7**	**+0.1**
	comp=Z,148nm,1.0s,SNR=50					
OBKA			*e*PKKP	**PKKPab**	**15 03 59.4**	**-0.9**
	comp=Z,28nm,1.4s,SNR=8.2					
OBKA			*e*SKKP		15 07 35.5	
	comp=Z,23nm,1.1s					
OBKA	**Obir**	**123.53 326** ‖	*i* P	**PKPdf**	**14 54 09.5**	**-0.1**
A050A	**Klekovaca**	**123.54 323** ‖	*i* P	**PKPdf**	**14 54 09.7**	**+0.1**
IGT	**Igoumenitsa**	**123.56 316**	P	**PKiKP**	**14 54 10.0**	**0.0**
KASTN	**Kahler Asten**	**123.56 333**	*e*PKPdf	**PKiKP**	**14 54 10.5**	**+0.9**
	baz=49,slow=1.9					
KASTN			*e*PPP	PPP	14 58 02.1	
	baz=45,slow=7.3					
KASTN			*e*SS	SS	15 12 16.1	+3.2
	baz=48,slow=13					
TSLK	**Tsoukalades, L**	**123.65 315**	P	**PKiKP**	**14 54 10.4**	**+0.2**
LKD2	**Lefkada island**	**123.66 315**	P	**PKiKP**	**14 54 10.5**	**+0.3**
NYDR	**Nydri-Lefkada**	**123.67 315**	P	**PKiKP**	**14 54 10.2**	**0.0**
KSANE	**Kasane**	**123.68 246**	*i* P	**PKiKP**	**14 54 11.3**	**+0.4**
STON	**Ston**	**123.68 321** ‖	*i* P	**PKPdf**	**14 54 09.6**	**-0.2**
BELE	**Belen**	**123.70 80**	*e*P	**PKiKP**	**14 54 12.4**	**+1.3**
PICV	**PH. Pirrs**	**123.71 81**	*e*P	**PKiKP**	**14 54 12.3**	**+1.3**
BOJS	**Bojanci**	**123.72 325** ‖	*i* P	**PKiKP**	**14 54 10.7**	**+0.6**

comp=Z,196nm,0.6s
MOTA *e*PKKP **PKKPab 15 03 54.8 +0.2**
comp=Z,29nm,1.1s
STU Stuttgart 124.89 331 *e*PKPdf **PKiK 14 54 13.4 +1.0**
baz=49,slow=1.9
STU *e*PPP PPP 14 58 13.5
baz=45,slow=7.3
STU *e*SS SS 15 12 32.1 +2.5
baz=48,slow=13
SQTA Sankt Quirin 124.90 328 *i* PKiK **PKiK 14 54 12.7 +0.1**
comp=Z,391nm,0.8s,SNR=86
SQTA *e*PKKP **PKKPab 15 03 55.0 +0.6**
comp=Z,26nm,1.0s,SNR=5.3
RETA Reutte 124.96 329 *i* PKP **PKPdf 14 54 12.4 +0.2**
comp=Z,264nm,1.2s,SNR=69
RETA *e*PKKP **PKKPab 15 03 53.4 -0.7**
comp=Z,32nm,1.2s,SNR=6.4
RETA *e*SKKP 15 07 27.5
comp=Z,32nm,1.4s
HRV Adam Dziewonsk 124.98 39 **PKiK 14 54 12.8 +0.1**
HRV Adam Dziewonsk 124.98 39 PKIKP **PKiK 14 54 12.8 +0.1**
BTNL Ternell 125.01 334 *d*PKP **PKiK 14 54 13.0 +0.4**
LKGWB **Lokgwabe 125.02 237** *i* P **PKPdf 14 54 13.2 +0.1**
MEM Membach 125.05 334 *d*PKP **PKiK 14 54 12.9 +0.3**
NEWG New Galloway 125.05 344 *e*P **PKPdf 14 54 12.1 +0.1**
CDITO Canoas 125.05 82 P **PKiK 14 54 15.9 +2.2**
BEBN Eben Emael 125.05 335 *d*PKPdf **PKiK 14 54 12.8 +0.2**
UBR Ueberruh 125.17 329 *e*PKPdf **PKiK 14 54 13.7 +0.6**
baz=49,slow=1.9
UBR *e*PPP PPP 14 58 14.1
baz=45,slow=7.3
UBR *e*SS SS 15 12 34.9 +1.6
baz=48,slow=13
BRU2 Volcan 125.22 82 *e*P **PKiK 14 54 15.5 +1.3**
BHOU Houvegnez 125.23 334 *d*PKP **PKiK 14 54 13.9 +0.9**
BSTI Sart Tilman 125.25 335 *d*PKP **PKiK 14 54 13.6 +0.6**
LMK Market Rasen 125.26 340 *e*P **PKiK 14 54 13.3 +0.4**
FETA Feichten 125.28 329 *e*Pdiff **Pdif 14 50 51.9 0.0**
comp=Z,0.6nm,0.6s
FETA *i* PKiKP **PKiK 14 54 13.5 +0.2**
comp=Z,772nm,1.1s,SNR=89
FETA *e*PKKP **PKKPab 15 03 53.5 +0.6**
comp=Z,37nm,1.1s,SNR=8.2
GAL1 Galloway 125.40 344 *e*P **PKPdf 14 54 12.8 +0.1**
MATE Matera 125.46 319 ⇑P **PKiK 14 54 14.1 +0.4**
BCLA Clavier 125.49 335 *d*PKP **PKiK 14 54 13.8 +0.3**
WACR West Acre 125.53 339 *e*P **PKiK 14 54 13.5 +0.1**
DAVA Damuels 125.54 329 *i* PKiKP **PKiK 14 54 14.1 +0.2**
comp=Z,262nm,0.7s,SNR=51
DAVA *i* PKKP **PKKPbc 15 03 52.8 -0.7**
comp=Z,35nm,1.1s,SNR=5.4
CLGH Cloghs, Cushen 125.59 345 *e*P **PKPdf 14 54 13.0 -0.1**
UCC Uccle 125.60 335 *d*PKP **PKiK 14 54 14.2 +0.6**
BFO Black Forest 125.61 331 PKPdf **PKiK 14 54 14.0 +0.2**
BFO Black Forest 125.61 331 PKIKP **PKiK 14 54 14.0 +0.2**
BFO Black Forest 125.61 331 *e*PKPdf **PKiK 14 54 14.0 +0.2**
baz=49,slow=1.9
BFO *e*PPP PPP 14 58 18.6
baz=45,slow=7.3
BFO *e*SS SS 15 12 44.0 +5.4
baz=48,slow=13
BGES Gesves 125.61 335 *d*PKP **PKiK 14 54 13.9 +0.2**
WLF Walferdange 125.67 333 PKP **PKiK 14 54 14.0 +0.1**
WLF Walferdange 125.67 333 *d*PKP **PKiK 14 54 14.2 +0.3**
WLF Walferdange 125.67 333 *e*PKPdf **PKiK 14 54 15.3 +1.4**
baz=49,slow=1.9
WLF *e*PPP PPP 14 58 16.6
baz=45,slow=7.3
WLF *e*SS SS 15 12 45.6 +6.4
baz=48,slow=13
RCHB Rochefort 125.72 334 *d*PKP **PKiK 14 54 14.4 +0.5**
LBWR Ladybower, Pea 125.77 341 *e*P **PKPdf 14 54 13.6 +0.1**
BMRD Maredsous 125.81 335 *d*PKP **PKiK 14 54 14.6 +0.5**
DAVOX **Davos/Dischmat 125.88 329** PKP **PKPdf 14 54 14.1 -0.1**
comp=Z,317nm,0.7s,baz=69,slow=0.6,SNR=92
DAVOX SKP 14 57 14.6
comp=Z,26nm,0.9s,baz=190,slow=4.5,SNR=4.1
DAVOX PKKPab **PKKPbc 15 03 52.1 -0.1**
comp=Z,18nm,0.9s,baz=220,slow=4.2,SNR=11
IOMK Kirk Michael 125.89 343 *e*P **PKPdf 14 54 13.8 +0.1**
GMARE **Gumare 125.90 243** *i* P **PKiK 14 54 16.1 +0.8**
ELMS Elmsett, Ipswi 125.91 338 *e*P **PKiK 14 54 14.7 +0.5**
IDGL Inch Island, C 125.95 346 *e*P **PKiK 14 54 14.2 0.0**
IDGL Inch Island, C 125.95 346 PKP **PKiK 14 54 14.4 +0.2**
WIM Isle of Man 126.02 343 *e*P **PKiK 14 54 14.8 +0.4**
DOU Dourbes 126.03 335 *d*PKP **PKiK 14 54 15.1 +0.6**
GRTLG **Ghanzi 126.05 241** *i* P **PKiK 14 54 16.4 +0.7**
M65A Busby, Falmout 126.07 39 PKiKP **PKiK 14 54 15.2 +0.4**
baz=303
TIP Timpagrande 126.17 317 ⇑P **PKiK 14 54 16.2 +0.9**
STNC Stoke 126.18 341 *e*P **PKiK 14 54 15.4 +0.6**
CWF Charnwood Fore 126.18 340 *e*P **PKiK 14 54 14.6 -0.1**
KOOLE **Kule 126.32 238** *i* P **PKiK 14 54 16.9 +0.8**
CAIB Caibarien 126.54 65 *e*P **PKiK 14 54 16.8 +0.4**
WME Myndd Eilian 126.57 343 *e*P **PKPdf 14 54 15.1 +0.1**
ILTH Belurgan, Co L 126.59 344 PKP **PKiK 14 54 15.6 +0.1**
ELSH Elham, Standar 126.61 338 *e*P **PKiK 14 54 16.5 +0.9**
WPS Cemaes, Angles 126.62 343 *e*P **PKiK 14 54 15.4 -0.2**
FOEL Foel Wylfa 126.67 342 *e*P **PKiK 14 54 16.6 +0.9**
WLF1 Llynfaes 126.69 343 *e*P **PKPdf 14 54 15.4 +0.2**
QNGWA **Qangwa 126.73 243** *i* P **PKiK 14 54 18.1 +1.2**
LLW Llanuwychllyn 126.85 342 *e*P **PKiK 14 54 16.4 +0.3**
HLM1 Long Mynd 126.89 341 *e*P **PKiK 14 54 16.1 -0.1**
XAUDM **Khaudum 126.91 244** *i* P **PKiK 14 54 18.7 +1.3**
STRD Stroud 127.28 340 *e*P **PKiK 14 54 17.0 +0.1**
VLC Villacollemand 127.29 326 PKP **PKPdf 14 54 14.5 -2.2**
DSB Dublin 127.30 344 PKP **PKPdf 14 54 16.6 +0.2**
WOL Wolverton 127.34 339 *e*P **PKiK 14 54 17.6 +0.4**
MCH1 Michaelchurch 127.37 341 *e*P **PKiK 14 54 16.9 -0.2**
SWN1 Swindon 127.38 340 *e*P **PKiK 14 54 17.7 +0.6**
MONM Monmouth 127.44 341 *e*P **PKPdf 14 54 16.9 +0.2**
OLDB Oldbury-Upon-S 127.51 340 *e*P **PKiK 14 54 17.3 -0.1**
IGLA Glengowla, Co 127.91 346 *e*P **PKiK 14 54 18.2 0.0**
IGLA Glengowla, Co 127.91 346 PKP **PKPdf 14 54 17.6 +0.1**
RSBS Rosebush, Pemb 127.96 342 *e*P **PKiK 14 54 18.6 +0.2**
TRQA Tornquist 127.99 146 PKP **PKiK 14 54 18.7 -0.2**
BCIP Isla Barro Col 128.02 81 *e*P **PKPdf 14 54 19.1 +0.2**
CFA Coronel Fontan 128.13 135 PKP **PKiK 14 54 19.2 -0.2**
comp=Z,160nm,0.7s,baz=90,slow=24,SNR=5.4
IWEX Carrickbyrne, 128.18 344 *e*P **PKiK 14 54 19.0 +0.2**
IWEX Carrickbyrne, 128.18 344 PKP **PKiK 14 54 18.8 0.0**
ATAH Atahualpa 128.44 102 PKhKP PKPpre 14 54 09.7
comp=Z,11nm,0.9s,baz=215,slow=8.2,SNR=6.0
ATAH PKP **PKiK 14 54 23.0 +2.1**
comp=Z,540nm,0.9s,baz=250,slow=0.5,SNR=193
ATAH SKP 14 57 10.5
comp=Z,110nm,0.8s,baz=281,slow=2.7,SNR=10
ATAH SKKPbc SKKPbc 15 07 03.8 +7.5
comp=Z,18nm,1.1s,baz=96,slow=11,SNR=4.4
VAE Valguarnera 128.62 317 PKhKP PKPpre 14 54 08.3
comp=Z,67nm,1.1s,baz=88,slow=7.0,SNR=6.9
NNA Nana 128.92 108 PKhKP PKPpre 14 54 12.1
comp=Z,23nm,0.9s,baz=287,slow=1.6,SNR=11
NNA PKP **PKiK 14 54 22.1 +0.7**
comp=Z,488nm,1.0s,baz=278,slow=3.3,SNR=97
NNA SKP 14 57 10.3
comp=Z,19nm,0.8s,baz=254,slow=5.2,SNR=6.9
NNA SKKPbc SKKPbc 15 07 08.2 +14
comp=Z,30nm,1.0s,baz=292,slow=3.1,SNR=6.0
NNA Nana 128.92 108 *d*PKIKP **PKiK 14 54 21.4 0.0**
DYA Yadsworthy 129.01 341 *e*P **PKiK 14 54 20.5 0.0**
MTDJ Mount Denham 129.19 69 *e*P **PKPdf 14 54 21.4 +0.3**
OTAV Otavalo 129.30 92 PKPdf **PKPdf 14 54 19.4 -2.6**
OTAV Otavalo 129.30 92 ⇑PKIKP **PKiK 14 54 23.8 +1.1**
OTAV Otavalo 129.30 92 PKP **PKiK 14 54 22.9 +0.1**
LMGC Las Mercedes 129.32 67 *e*P **PKPdf 14 54 21.3 +0.1**
JSA Saint Aubin 129.44 338 *e*P **PKiK 14 54 21.2 -0.2**
VAL Valentia 129.48 346 PKP **PKiK 14 54 21.5 +0.2**
VAL Valentia 129.48 346 PKP **PKiK 14 54 21.8 +0.4**
CHIV Chivirico 129.88 67 *e*P **PKiK 14 54 22.8 -0.3**
HLGC Holguin 130.00 66 *e*P **PKiK 14 54 23.2 -0.2**
TSUM Tsumeb 130.01 241 SKKPbc SKKPbc 15 06 51.4 +0.7
comp=Z,5.6nm,0.8s,baz=300,slow=8.2,SNR=2.5
PINC Pinares de May 130.33 66 *e*P **PKiK 14 54 23.9 -0.1**
MARVS **Santiago de Cu 130.34 67** *e*P **PKPdf 14 54 23.4 +0.2**
RCC Rio Carpintero 130.53 67 *e*P **PKPdf 14 54 23.6 +0.1**
MOAC Moa 131.05 66 *e*P **PKiK 14 54 25.1 -0.3**
NMDO Nuevo Mundo 131.05 66 *e*P **PKiK 14 54 25.3 -0.2**
GTBY Guantanamo Bay 131.08 67 *e*P **PKPdf 14 54 25.1 +0.5**
QMBU Quimbuelo 131.29 66 *e*P **PKPdf 14 54 25.5 +0.5**
MASC Masc 131.83 66 *e*P **PKiK 14 54 26.6 -0.4**
EJON La Jonquera 132.47 329 PKP **PKPdf 14 54 24.3 -2.3**
KEST Kesra 132.99 318 PKhKP PKPpre 14 54 13.9
comp=Z,13nm,0.9s,baz=14,slow=3.0,SNR=9.4
KEST PKP **PKPdf 14 54 27.7 -0.2**
comp=Z,203nm,0.9s,baz=319,slow=2.4,SNR=34
KEST SKPbc **SKPbc 14 57 20.5 +0.6**
comp=Z,200nm,1.0s,baz=8.6,slow=0.5,SNR=16
PB08 IPOC Station P 133.15 122 PKP **PKPdf 14 54 28.2 -0.7**
MAHO Mahon 133.53 326 PKP **PKiK 14 54 29.4 -0.6**
ROSC El Rosal 133.60 87 PKhKP PKPpre 14 54 14.6
comp=Z,22nm,0.7s,baz=288,slow=1.5,SNR=8.6
ROSC PKP **PKPdf 14 54 30.2 +0.2**
comp=Z,472nm,0.6s,baz=211,slow=3.1,SNR=39
ROSC SKP 14 57 27.9
comp=Z,52nm,0.7s,baz=190,slow=9.0,SNR=4.2
CZSB Cruzeiro do Su 133.86 104 PKP **PKPdf 14 54 29.9 -0.1**
CZSB PKP **PKiK 14 54 30.9 -0.5**
ABSA Djebel Ababsia 133.90 320 P **PKiK 14 54 30.7 -0.3**
CAEH 'Ain El Ouahch 134.00 321 P **PKiK 14 54 30.5 -0.5**
GRTK Grand Turk 134.27 63 *e*P **PKiK 14 54 31.6 -0.3**
ETOS Mallorca 134.42 327 PKP **PKPdf 14 54 31.0 +0.7**
CASM Ain Smara 134.55 320 P **PKiK 14 54 31.8 -0.4**
CTEI Djebel Teioual 134.72 320 P **PKPdf 14 54 31.9 +0.7**
DFRA Djebel Bou Aff 134.76 321 P **PKiK 14 54 33.2 +0.5**
SDDR Presa de Saban 134.81 67 *e*P **PKiK 14 54 32.8 -0.4**
BBSR BB Station 135.02 46 **PKPdf 14 54 31.3 -0.3**
SET Getif 135.27 321 P PKPpre 14 54 23.0
LPAZ La Paz 135.59 117 PKhKP PKPpre 14 54 22.4
comp=Z,14nm,0.4s,baz=262,slow=3.6,SNR=33
LPAZ PKP **PKPdf 14 54 34.0 +0.1**
comp=Z,314nm,0.9s,baz=212,slow=1.0,SNR=50
LPAZ SKP 14 57 34.1
comp=Z,144nm,1.0s,baz=305,slow=2.1,SNR=13
LPAZ SKKPbc SKKPbc 15 06 30.3 -0.8
comp=Z,11nm,1.1s,baz=46,slow=7.9,SNR=3.6
ECHE Chera 136.55 330 PKP **PKPdf 14 54 33.8 -0.5**
UCM Universidad Co 137.10 332 PKP **PKPdf 14 54 35.5 +0.1**
SDV Santo Domingo 137.11 81 PKPdf **PKPdf 14 54 34.8 -1.4**
SDV Santo Domingo 137.11 81 PKhKP PKPpre 14 54 25.7
comp=Z,144nm,0.9s,baz=276,slow=3.5,SNR=34
SDV PKP **PKPdf 14 54 36.6 +0.3**
comp=Z,1μm,0.9s,baz=277,slow=1.5,SNR=88
SDV SKP 14 57 36.2
comp=Z,53nm,1.0s,baz=120,slow=4.3,SNR=3.7
SDV Santo Domingo 137.11 81 PKP PKPpre 14 54 25.7
H09N1 TRISTAN DA CUNI 137.20 198 PKP **PKiK 14 54 37.4 -0.1**
SNR=8.2
GUD Guadarrama 137.25 333 PKIKP **PKiK 14 54 37.0 -0.7**
PBRG Braganca 137.38 337 *e*tx tx 14 54 26.0
PBRG *e*PKPdf **PKPdf 14 54 36.3 +0.5**
PBRG *e*PP PP 14 57 34.4 +9.5
PGAV Gavieira, Arco 137.83 338 *e*tx tx 14 54 28.9
PGAV *e*PKPdf **PKPdf 14 54 37.2 +0.5**
PGAV *e*PP PP 14 57 35.8 +8.2
ESDC Sonseca Array 137.94 332 PKPpre 14 54 26.6
ESDC Sonseca Array 137.94 332 PKhKP PKPpre 14 54 27.2
comp=Z,18nm,1.0s,baz=20,slow=3.6,SNR=24
ESDC PKP **PKPdf 14 54 37.1 +0.2**
comp=Z,62nm,0.9s,baz=29,slow=1.6,SNR=26
ESDC SKPbc **SKPbc 14 57 36.1 +1.1**
comp=Z,87nm,1.3s,baz=42,slow=2.9,SNR=5.6
ESDC PKKP **PKKPdf 15 04 10.2 -0.2**
comp=Z,5.1nm,1.0s,baz=249,slow=2.1,SNR=7.9
ESDC SKKPbc **SKKPbc 15 06 23.8 +1.2**
comp=Z,21nm,1.1s,baz=234,slow=6.0,SNR=4.1
PCAB Cabril 137.96 338 *e*tx tx 14 54 29.3
PCAB *e*PKPdf **PKPdf 14 54 37.5 +0.6**
PCAB *e*PP **PP 14 57 35.7 +7.3**
MVO Moncorvo 138.04 336 *e*tx tx 14 54 28.3
MVO *e*PKPdf **PKiK 14 54 38.4 -0.9**
MVO *e*PP **PP 14 57 36.6 +7.7**
POLO Lamas de Olo 138.16 337 *e*tx tx 14 54 28.4
POLO *e*PKPdf **PKiK 14 54 38.5 -1.0**
POLO *e*PP **PP 14 57 37.3 +7.6**
PVRL Vila Real 138.22 337 *e*tx tx 14 54 26.9
PVRL *e*PKPdf **PKiK 14 54 38.6 -0.9**
PVRL *e*PP **PP 14 57 37.2 +7.2**
PAB San Pablo 138.22 332 PKPpre 14 54 27.8
PAB San Pablo 138.22 332 ⇑PKIKP **PKiK 14 54 39.4 -0.2**
OKGL Djebel Kef Gue 138.26 325 P **PKiK 14 54 44.0 +4.2**
HATO Hato, Curacao 138.38 76 PKPpre 14 54 28.1
CPSB Cacapava Do Su 138.39 146 PKP PKPdf 14 54 29.2 -8.8
CPSB PKP PKiKP 14 54 29.2 -11
OJGS Djebel Guires 138.57 324 P **PKiK 14 54 43.0 +2.5**
PTO Porto 138.67 338 *e*PKPdf **PKiK 14 54 39.7 -0.7**
PTO *e*PP **PP 14 57 38.0 +5.4**
OJBR Djebel Berber 138.75 324 P **PKiK 14 54 45.0 +4.2**
PVIS Viseu 138.77 337 *e*tx tx 14 54 28.8
PVIS *e*PKPdf **PKPdf 14 54 39.4 +1.0**
PVIS *e*PP **PP 14 57 39.1 +5.8**
CPUP Villa Florida 138.88 138 PKhKP PKPpre 14 54 30.1
comp=Z,30nm,0.7s,baz=247,slow=3.9,SNR=44
CPUP PKP **PKPdf 14 54 39.1 +0.1**
comp=Z,181nm,0.8s,baz=275,slow=1.2,SNR=26
CPUP SKPbc **SKPbc 14 57 37.8 -0.2**
comp=Z,59nm,1.1s,baz=197,slow=2.5,SNR=4.7
CPUP Villa Florida 138.88 138 PKP PKPdf 14 54 30.0 -9.0
CPUP PKP PKiKP 14 54 30.3 -11
MTE Manteigas 138.90 336 *e*tx tx 14 54 32.1
MTE *e*PKPdf **PKiK 14 54 40.0 -1.0**
MTE *e*PP **PP 14 57 39.1 +4.9**
ODJA Bouhanifia 139.21 324 P **PKPdf 14 54 39.0 -0.4**
PCBR Castelo Branco 139.34 336 *e*tx tx 14 54 32.0
PCBR *e*PKPdf **PKiK 14 54 40.7 -1.1**
PCBR *e*PP **PP 14 57 40.1 +3.2**
COI Coimbra 139.40 337 *e*tx tx 14 54 33.4
COI *e*PKPdf **PKiK 14 54 40.9 -1.0**
COI *e*PP **PP 14 57 40.5 +3.4**
ETMB Extrema 139.55 109 PKP PKPdf 14 54 32.2 -8.3
ETMB PKP PKPdf 14 54 32.2 -8.3
PCAS Casmilo, Conde 139.57 337 *e*tx tx 14 54 33.3
PCAS *e*PKPdf **PKPdf 14 54 40.7 +0.9**
PCAS *e*PP **PP 14 57 40.5 +2.2**
PMRV Marv??o 139.66 335 *e*tx tx 14 54 32.7
PMRV *e*PKPdf **PKPdf 14 54 40.9 +0.9**
PMRV *e*PP **PP 14 57 41.2 +2.4**
SJG San Juan 139.74 66 PKPpre 14 54 31.6
SJG San Juan 139.74 66 PKhKP PKPpre 14 54 31.9
comp=Z,58nm,0.7s,baz=36,slow=1.6,SNR=22
SJG SKPbc **SKPbc 14 57 39.2 -1.3**
comp=Z,171nm,1.2s,baz=233,slow=7.3,SNR=3.9
SJG San Juan 139.74 66 PKHKP PKPpre 14 54 31.6
PSBE So Bento 140.15 337 *e*tx tx 14 54 34.1
PSBE *e*PKPdf **PKPdf 14 54 42.0 +1.1**
PSBE *e*PP **PP 14 57 42.9 +1.1**
PESTR Estremoz 140.21 335 *e*tx tx 14 54 34.2
PESTR *e*PKPdf **PKPdf 14 54 42.0 +0.9**
PESTR *e*PP **PP 14 57 42.6 +0.4**
PMTG Montargil 140.30 336 *e*tx tx 14 54 34.5
PMTG *e*PKPdf **PKPdf 14 54 41.8 +0.7**
PMTG *e*PP **PP 14 57 42.8 +0.1**
PBAR Barrancos 140.55 334 *e*tx tx 14 54 35.7
PBAR *e*PKPdf **PKPdf 14 54 42.9 +1.2**
PBAR *e*PP **PP 14 57 43.5 -0.7**
CNLB Canela 140.65 147 PKP **PKPdf 14 54 36.2 -6.0**
CNLB PKP PKiKP 14 54 37.1 -7.8
EVO Evora 140.67 335 *e*tx tx 14 54 35.8
EVO *e*PKPdf **PKPdf 14 54 43.2 +1.4**
EVO *e*PP **PP 14 57 43.9 -1.0**
LIS Lisbon 140.98 337 *e*PKP **PKPdf 14 54 38.0 -4.4**
PBEJ Beja 141.03 335 *e*tx tx 14 54 37.4
PBEJ *e*PKPdf **PKPdf 14 54 43.5 +1.0**
PBEJ *e*PP **PP 14 57 44.8 -2.4**
MESJ Messejana 141.34 335 *e*PKP **PKPdf 14 54 38.7 -4.4**
MESJ Messejana 141.34 335 *e*tx tx 14 54 38.5
MESJ *e*PKPdf **PKPdf 14 54 44.0 +0.9**
MESJ *e*PP **PP 14 57 45.5 -3.5**
PCVE Castro Verde 141.44 334 *e*tx tx 14 54 38.9
PCVE *e*PKPdf **PKPdf 14 54 44.6 +1.4**
PCVE *e*PP **PP 14 57 46.1 -3.5**
PVAQ Vaqueiros 141.49 334 *e*tx tx 14 54 39.6
PVAQ *e*PKPdf **PKPdf 14 54 44.4 +1.0**
PVAQ *e*PP **PP 14 57 46.5 -3.4**
ITAB Concordia 141.53 144 PKP **PKPdf 14 54 37.3 -6.4**
ITAB PKP **PKiK 14 54 39.7 -6.9**
MURT Porto Murtinho 141.63 132 PKP **PKPdf 14 54 37.3 -6.7**
PBDV Barranco-do-Ve 141.72 334 *e*tx tx 14 54 40.4
PBDV *e*PKPdf **PKiK 14 54 45.5 -1.3**
PBDV *e*PP **PP 14 57 47.2 -4.2**
PTEO Sao Teotonio 141.80 335 *e*tx tx 14 54 40.4
PTEO *e*PKPdf **PKPdf 14 54 45.0 +1.1**
PTEO *e*PP **PP 14 57 46.9 -4.8**
SIV San Ignacio 141.87 121 PKhKP PKPpre 14 54 40.6
comp=Z,222nm,1.0s,baz=237,slow=3.2,SNR=210
MORF Marmelete 141.98 335 *e*PKP **PKPdf 14 54 40.0 -4.3**
MORF Marmelete 141.98 335 *e*tx tx 14 54 41.4
MORF *e*PKPdf **PKPdf 14 54 45.5 +1.2**
MORF *e*PP **PP 14 57 47.1 -5.8**
TER01 Tubaro-SC 142.19 149 PKP **PKPdf 14 54 39.6 -5.3**
TER01 PKP **PKiK 14 54 41.8 -6.2**
PFVI Vila Bisbo 142.20 335 *e*tx tx 14 54 41.2
PFVI *e*PKPdf **PKPdf 14 54 45.8 +1.1**
PFVI *e*PP **PP 14 57 47.0 -7.2**
TAM Tamanrasset 142.42 304 **PKPdf 14 54 43.3 -2.3**
TAM Tamanrasset 142.42 304 PKIKP **PKPdf 14 54 43.3 -2.3**
TEFE Tefe 142.56 100 PKP **PKPdf 14 54 40.7 -5.2**
TEFE PKP **PKiK 14 54 42.8 -6.4**
PCRV Puerto La Cruz 142.86 78 PKhKP PKPpre 14 54 42.2
comp=Z,956nm,0.7s,baz=281,slow=0.2,SNR=408
PCRV Puerto La Cruz 142.86 78 *e*P **PKPdf 14 54 41.5 -4.9**
BDQN Bodoquena, MS 143.00 131 PKP **PKPdf 14 54 42.5 -4.0**
SKI Saint Kitts 143.07 66 ||*i*P PKPab 14 54 43.6 +0.2
PTGB Pitanga 143.42 141 PKP PKPab 14 54 42.2 -2.4
PTGB PKP PKPbc 14 54 45.6 +0.2
MDT Midelt 143.58 326 PKP **PKPdf 14 54 46.7 -0.6**
comp=Z,680nm,1.2s,baz=61,slow=4.4,SNR=278
MDT SKPbc **SKPbc 14 57 50.2 +0.3**
comp=Z,85nm,1.0s,baz=107,slow=1.0,SNR=5.7
MDT SKKPbc **SKKPbc 15 06 03.5 +3.4**
comp=Z,23nm,1.1s,baz=203,slow=5.7,SNR=5.6
MBFL Flemmings, Mon 143.73 66 *e*P PKPab 14 54 45.9 0.0
AQDB Aquidauana 143.76 132 PKP PKPbc 14 54 46.3 0.0
PTLB Pontes e Lacer 143.76 122 PKPab 14 54 46.2 +0.2
PTLB Pontes e Lacer 143.76 122 PKP PKPab 14 54 44.4 -1.6
ANWB Willy Bob 143.83 65 ||*i*P PKPab 14 54 45.9 -0.4
PANT Pantanal (Braz 143.95 129 PKP PKPab 14 54 45.5 -1.2
VILB Vilhena 143.96 117 PKP PKPab 14 54 44.9 -2.0
VILB PKP PKPbc 14 54 47.1 -0.1
ANBD Bethesda, Anti 144.05 65 ||*i*P **PKPab 14 54 46.6 -0.5**
H07S1 FLORES T-PHASB 144.09 4 PKPbc **PKPdf 14 54 49.2 +1.2**
SNR=137
TBG Guadaloupe-3 144.51 67 *e*P PKPbc 14 54 48.2 -0.6
PGRA Graciosa 144.57 0 *e*PKP PKiKP 14 55 02.2 +10
PAGU Agualva, Azore 144.83 359 *e*PKP **PKPab 14 54 49.8 +0.4**
PSBA Serra de Santa 144.83 359 *e*PKP **PKPab 14 54 50.9 +1.4**
DSLB Salisbury 144.84 68 ||*i*P **PKPab 14 54 50.4 +0.2**
ROSA Rosais 144.88 1 *e*PKP **PKPab 14 54 50.7 +1.1**
PSCM Serra do Cume 144.89 359 *e*PKP **PKPab 14 54 51.1 +1.4**
MDN Morne-Daniel 144.90 68 ||*i*P PKPbc 14 54 50.0 0.0
H05N1 Guadeloupe/Mar 144.92 66 PKPbc PKPbc 14 54 50.1 +0.1
SNR=461
ADH Angra Heroismo 144.94 359 *e*PKP **PKPdf 14 54 48.8 -0.6**
PCED Cedros 144.96 1 *e*PKP **PKPab 14 54 50.9 +0.9**
PMAN Manadas 144.97 0 *e*PKP **PKPab 14 54 51.1 +1.1**
CALA Caldeira 145.01 1 *e*PKP **PKPab 14 54 51.1 +0.9**
HOR Horta 145.06 1 *e*PKP **PKPab 14 54 50.9 +0.6**
PFCBR **Castelo Branco 145.07 1** *e*PKP **PKPab 14 54 51.3 +1.0**
PICO Pico 145.09 1 *e*PKP **PKPab 14 54 50.7 +0.1**
PPNO Prainha do Nor 145.12 1 *e*PKP **PKiKP 14 54 52.3 -1.5**
PCAN Candelaria 145.13 1 *e*PKP **PKPab 14 54 50.7 +0.1**
PID Ribeirinha 145.16 0 *e*PKP **PKPab 14 54 51.7 +1.0**
BPRD **Ribas do Rio P 145.22 134** PKP **PKPbc 14 54 51.0 +0.1**
SVN Savane Anatole 145.24 69 ||*i*P **PKPbc 14 54 51.4 +0.3**
FDF Fort de France 145.28 69 PKPbc **PKPbc 14 54 51.0 -0.2**
FDF Fort de France 145.28 69 PKP2 **PKPbc 14 54 51.0 -0.2**
GRFF Grenada Fort F 145.35 74 *e*P **PKPdf 14 54 48.8 -1.9**
GRHS Sauteurs 145.41 73 ||*i*P **PKPdf 14 54 49.1 -1.7**
BIM Bigot 145.41 69 PKPab **PKPab 14 54 52.2 -0.2**
BIM Bigot 145.41 69 ||*i*P **PKPbc 14 54 52.0 +0.4**
GRGR Grenville 145.42 74 ||*i*P **PKPdf 14 54 49.5 -1.3**
ILAM Ilet Lapin Mar 145.53 69 ||*i*P **PKPbc 14 54 51.6 -0.3**
SVB Belmont 145.55 72 *e*P **PKPdf 14 54 51.1 +0.1**
GCMP Grenada, Carri 145.56 73 ||*i*P **PKPdf 14 54 50.2 -0.8**
SVT Saint Vincent 145.59 72 *e*P **PKPdf 14 54 50.5 -0.5**
SLDE Delcer 145.61 71 *e*P **PKPab 14 54 54.0 +0.9**
SVOC Richmond Hill, 145.61 72 *e*P **PKPdf 14 54 50.5 -0.6**
SLB Belfond 145.62 70 *e*P **PKPbc 14 54 52.7 +0.4**
MPOM Morne Pois Mar 145.63 69 PKPbc **PKPdf 14 54 51.5 +0.4**
SLBI Saint Lucia, B 145.63 70 ||*i*P **PKPdf 14 54 51.2 0.0**
SLW Petit Monier 145.67 70 *e*P **PKPab 14 54 53.0 -0.4**
PSET Sete Cidades 145.72 357 *e*PKP **PKPab 14 54 53.2 +0.3**
SLAC Saint Lucia, A 145.74 70 *e*P **PKPbc 14 54 52.1 -0.5**
SLAC Saint Lucia, A 145.74 70 *e*P **PKPbc 14 54 52.1 -0.5**
PGRON **Lagoa das Cont 145.75 357** *e*PKP **PKiKP 14 54 54.2 -0.9**
CMLA Cha da Macela 145.77 357 *e*PKP **PKPbc 14 54 52.1 0.0**
TRN Trinidad (W) 145.93 76 *e*P **PKPbc 14 54 52.9 -0.3**
FRTB Fartura 145.97 143 PKP **PKPbc 14 54 52.8 -0.3**
FRTB PKP **PKPab 14 54 53.5 -0.8**
SALV Santo Antonio 146.39 126 PKP **PKPbc 14 54 53.6 -0.8**
SALV PKP **PKPab 14 54 54.6 -1.5**
TPR Prospect 146.44 75 *e*P **PKPbc 14 54 55.1 +0.5**
PSMN Pico do Norte, 146.50 356 *e*PKP **PKPbc 14 54 53.6 -0.6**
MACA Manacapuru-AM 146.50 101 PKP **PKPdf 14 54 53.1 +0.4**
MACA PKP **PKPbc 14 54 53.9 -0.9**
PSMA Santa Maria 146.51 356 *e*PKP **PKPbc 14 54 53.9 -0.3**
TOSP Speyside 146.65 75 *e*P **PKPdf 14 54 53.6 +0.7**
SPB Sao Paulo 147.03 146 *e*P **PKPdf 14 54 50.5 -2.9**
BBGH Gun Hill 147.18 71 *e*P **PKPdf 14 54 51.5 -2.2**
BOAV Boa Vista 147.32 91 **PKPdf 14 54 55.4 +1.3**
BOAV Boa Vista 147.32 91 PKP **PKPdf 14 54 52.5 -1.6**
BOAV PKP **PKPbc 14 54 55.2 -1.9**
PDRB Porto dos Gac 147.59 118 PKP **PKPdf 14 54 56.0 +1.5**
VABB Valinhos 147.75 145 PKP **PKPdf 14 54 55.6 +0.9**
ITRB Iturama 148.07 137 PKP **PKPdf 14 54 56.9 +1.7**
ITRB PKP **PKPbc 14 54 57.3 -1.6**
PARB Paraibuna 148.23 148 PKP **PKPdf 14 54 56.5 +1.1**
PARB PKP **PKPbc 14 54 57.1 -2.1**
PMPST Porto Santo, M 148.61 341 *e*PKP **PKPdf 14 54 57.0 +1.3**
PMPST *e*PKPab **PKiKP 14 55 01.1 +0.1**
PMPST *ep*PKPab **pPKPbc 14 56 32.0 +0.8**
CLDB Colider 148.74 117 PKP **PKPdf 14 54 57.8 +1.4**
CLDB PKP **PKPbc 14 54 58.0 -2.6**
PMOZ Porto Moniz, M 149.12 342 *e*PKP **PKPdf 14 54 58.2 +1.6**
PMOZ *e*PKPab **PKiKP 14 55 02.8 +0.6**
PMOZ *ep*PKPab **pPKPab 14 56 34.3 -0.8**
PMAR Madeira 149.12 342 *e*PKP **PKPdf 14 54 58.2 +1.5**
PMAR *e*PKPab **PKiKP 14 55 02.9 +0.6**
PMAR *ep*PKPab **pPKPab 14 56 34.5 -0.7**
TORD Torodi Ar. Bea 149.28 290 PKP **PKPdf 14 54 57.3 +0.1**
comp=Z,283nm,0.9s,baz=90,slow=1.8,SNR=2.5
TORD PKPbc **PKPbc 14 55 01.6 -0.3**
comp=Z,2μm,1.0s,baz=77,slow=2.7,SNR=28
MAN01 Angra dos Reis 149.47 150 PKP **PKPdf 14 54 58.8 +1.4**
MAN01 PKP **PKPbc 14 54 59.1 -3.2**
ARAG Araguaiana, MT 149.58 129 PKP **PKPdf 14 54 59.1 +1.5**
ARAG PKP **PKPbc 14 54 59.4 -3.3**
ITU3 Corumbazu 150.11 137 PKP **PKPdf 14 54 59.6 +1.1**
VAS01 Vassouras-RJ 150.23 150 PKP **PKPdf 14 55 00.2 +1.6**
BSCB Bom Sucesso 150.57 146 PKP **PKPdf 14 55 00.3 +1.1**
NPGB Novo Progresso 150.61 111 PKP **PKPdf 14 55 00.

SJMB PKP **PKPbc** **14 55 05.6 -7.7**
MC01 Montes Claros 154.42 142 PKP **PKPdf** **14 55 05.6 +0.7**
MC01 PKP **PKPbc** **14 55 06.3 -7.3**
BMO2 UHE Belo Monte 154.92 105 PKP **PKPdf** **14 55 06.9 +1.3**
BMO2 PKP **PKiKP** **14 55 07.1 -7.6**
MDP Montagnes des 155.19 85 PKP **PKPdf** **14 55 07.5 +1.6**
comp=Z,234nm,1.0s,baz=318,slow=1.4,SNR=24
MDP PKPab **PKPab** **14 55 33.7 +0.7**
comp=Z,355nm,1.0s,baz=286,slow=5.6,SNR=14
JANB Januaria 155.41 139 PKP **PKPdf** **14 55 06.9 +0.7**
JANB PKP **PKPdf** **14 55 07.0 +0.7**
LAJE UHE Lajeado 155.62 123 PKP **PKPdf** **14 55 07.8 +1.3**
LAJE PKP **PKPdf** **14 55 08.2 +1.7**
NAN01 Guarapari, ES 155.62 151 PKP **PKPdf** **14 55 07.6 +1.2**
CAR01 Carai MG 155.64 147 PKP **PKPdf** **14 55 07.2 +0.7**
ABR01 Abrolhos, BA 156.18 154 PKP **PKPdf** **14 55 07.9 +0.8**
ABR01 Abrolhos, BA 156.18 154 *eP* **PKPdf** **14 55 06.2 -0.9**
CN01 Coaracy Nunes 156.45 96 PKP **PKPdf** **14 55 07.3 -0.3**
CN01 PKP **PKPdf** **14 55 07.5 -0.2**
SMTB Santa Maria do 156.81 122 PKP **PKPdf** **14 55 09.3 +1.2**
SMTB PKP **PKPdf** **14 55 09.4 +1.2**
SDBA SAO DESIDERIO 156.85 133 PKP **PKPdf** **14 55 09.2 +1.0**
GUA01 Guaratinga, BA 156.85 150 PKP **PKPdf** **14 55 08.0 0.0**
GUA01 PKP **PKPdf** **14 55 08.7 +0.7**
DBIC Dimbokro 156.91 279 PKP **PKPdf** **14 55 07.7 -0.4**
DBIC Dimbokro 156.91 279 PKP **PKPdf** **14 55 08.3 +0.2**
comp=Z,319nm,1.2s,baz=78,slow=1.4,SNR=108
DBIC PKPab **PKPab** **14 55 40.6 +0.3**
comp=Z,932nm,1.1s,baz=79,slow=4.9,SNR=30
DBIC Dimbokro 156.91 279 PKP **PKPdf** **14 55 08.0 -0.1**
DBIC PKP **PKPdf** **14 55 08.3 +0.2**
TUC4 UHE Tucurui 156.99 109 PKP **PKPdf** **14 55 09.2 +0.9**
PAL01 Palmeiras do T 157.90 117 PKP **PKPdf** **14 55 10.8 +1.3**
PAL01 PKP **PKPdf** **14 55 11.2 +1.8**
CMC01 Camacan, BA 158.02 148 PKP **PKPdf** **14 55 10.5 +1.0**
CMC01 PKP **PKPdf** **14 55 10.7 +1.2**
PAL2 UHE Estreito - 158.05 117 PKP **PKPdf** **14 55 11.2 +1.6**
PAL2 PKP **PKPdf** **14 55 11.4 +1.7**
TMAB Tom-Au,PA,Br 158.93 106 PKP **PKPdf** **14 55 12.2 +1.5**
TMAB PKP **PKPdf** **14 55 12.4 +1.7**
H10S2 ASCENSION HYDR 162.00 227 PKP **PKPdf** **14 55 14.4 +0.8**
baz=32,slow=74,SNR=46
H10S3 ASCENSION HYDR 162.02 227 PKP **PKPdf** **14 55 14.9 +1.2**
baz=188,slow=74,SNR=38
NBLA Lagarto - SE 162.57 145 PKP **PKPdf** **14 55 14.6 +0.1**
NBLA PKP **PKPdf** **14 55 14.6 +0.1**
H10N1 ASCENSION HYDR 162.60 230 PKP **PKPdf** **14 55 14.0 -0.2**
H10N2 ASCENSION HYDR 162.62 230 PKP **PKPdf** **14 55 14.0 -0.2**
H10N3 ASCENSION HYDR 162.62 230 PKP **PKPdf** **14 55 14.0 -0.2**
NBPS Pedro II - PI 164.32 120 PKP **PKPdf** **14 55 16.3 0.0**
NBAN Anadia - AL 164.49 147 PKP **PKPdf** **14 55 16.5 +0.2**
NBAN PKP **PKPdf** **14 55 16.5 +0.2**
NBMA Muriti-CE 164.69 134 PKP **PKPdf** **14 55 17.3 +0.7**
NBPB Pedra_Branca-C 165.25 127 PKP **PKPdf** **14 55 17.5 +0.5**
NBPB PKP **PKPdf** **14 55 17.5 +0.5**
SBBR Sobral 165.66 120 PKP **PKPdf** **14 55 17.6 +0.3**
NBCA Caruaru-PE 165.82 145 PKP **PKPdf** **14 55 17.8 +0.3**
NBLV Livramento - P 165.95 140 PKP **PKPdf** **14 55 17.6 0.0**
NBLV PKP 14 55 18.0
NBMO Morrinhos-CE 166.07 119 PKP **PKPdf** **14 55 17.8 +0.2**
NBPA Parau_RN 166.98 134 PKP **PKPdf** **14 55 18.8 +0.5**
NBCL Cascavel-CE 167.06 126 PKP **PKPdf** **14 55 18.7 +0.3**
NBPV Pedro Velho 167.69 143 PKP **PKPdf** **14 55 19.4 +0.6**
RCBR Riachuelo 167.76 139 PKP **PKPdf** **14 55 19.2 +0.2**
RCBR PKP 14 55 19.3
RCBR Riachuelo 167.76 139 *eP* **PKPdf** **14 55 18.3 -0.7**

*IDC **17** 15:20:17.5±1.0, 0.°97S×127.°74E, h0km, mb3.9/6, mbtmp4.0/8, ML4.1/2, Error ellipse: s-maj=49.6km s-min=17.3km az=69.0*
*NEIC **17** 15:20:18.7±1.4, 0.°95S±0.°06×127.°70E±0.°04, h10km±1km, mb4.1/13, Error ellipse: s-maj=11.8km s-min=5.8km az=151.0*
*DJA **17** 15:20:20.1±0.2, 1.°S±2.°×12.°7E±.°, h10km, M4.0/14, mB5.3/1, mb4.3/2, MLv3.8/14, Mw(mB)4.7/1*
ISC 17 15:20:21.6±0.6, **1.°02S**±0.°04×**127.°52E**±0.°06, **h31**km, **n41**, σ1**9**37/46, **mb4.2**/9, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.38**	**358**	P	**Pb**	**15 20 29.1**	**-1.2**
LBMI				S	**Sb**	**15 20 35.3**	**-0.9**
TNTI	**Ternate**	**1.79**	**355**	Pn	**Pn**	**15 20 48.3**	**-2.0**
SANI	**Sanana**	**1.84**	**236**	P	**Pn**	**15 20 49.1**	**-2.0**
NLAI	**Namlea**	**2.24**	**191**	P	**Pn**	**15 20 56.0**	**-0.7**
NLAI				S	**Sn**	**15 21 23.8**	**+0.5**
MSAI	**Masohi**	**2.71**	**149**	P	**Pn**	**15 21 05.0**	**+1.9**
AAI	**Ambon**	**2.73**	**166**	P	**Pn**	**15 21 04.8**	**+1.4**
AAI				S	**Sb**	**15 21 39.0**	**-4.0**
SWI	**Sorong**	**3.75**	**88**	P	**Pn**	**15 21 19.6**	**+2.3**
KMSI	**Cibinong**	**3.87**	**294**	P	**Pn**	**15 21 18.9**	**-0.2**
KMSI				S	**Sn**	**15 22 04.5**	**+0.9**
LUWI	**Luwuk**	**4.74**	**270**	Pn	**Pn**	**15 21 31.6**	**+0.5**
LUWI	**Luwuk**	**4.74**	**270**	P	**Pn**	**15 21 30.8**	**-0.3**
FAKI	**Fak Fak**	**5.09**	**112**	Pn	**Pn**	**15 21 35.6**	**-0.3**
KDI	**Kendari**	**5.70**	**239**	P	**Pn**	**15 21 43.0**	**-1.2**
	0.1nm2μm9.4nm,0.8s						
TOLI2	**Tolitoli**	**7.06**	**287**	Pn	**Pn**	**15 22 04.9**	**+2.0**
PCI	**Palu**	**7.68**	**271**	P	**Pn**	**15 22 11.0**	**-0.5**
KAPI	**Kappang**	**8.71**	**243**	Pn	**Pn**	**15 22 27.1**	**+1.6**
KAPI	**Kappang**	**8.71**	**243**	Pn	**Pn**	**15 22 28.1**	**+2.5**
	2.2nm,0.3s,baz=115,slow=23,SNR=5.9						
KAPI				Sn	**Sn**	**15 24 04.1**	**+1.3**
	0.5nm,0.3s,baz=257,slow=6.8,SNR=4.0						
	7.3nm,0.4s						
MMRI	**Maumere**	**9.21**	**215**	Pn	**Pn**	**15 22 34.0**	**+1.5**
MTN	**Manton Dam**	**12.28**	**163**	Pn	**Pn**	**15 23 13.7**	**-0.8**
WB0	**Warramunga Arr**	**19.81**	**161**	P	**P**	**15 24 48.5**	**-1.3**
WB0				IAmb	IAmb	15 24 51.4	
	comp=Z,5.8nm,0.8s						
WRAB	**Tennant Creek**	**19.95**	**161**	P	**P**	**15 24 50.4**	**-1.0**
WRA	**Warramunga Arr**	**19.96**	**161**	P	**P**	**15 24 49.9**	**-1.5**
WRA	**Warramunga Arr**	**19.96**	**161**	P	**P**	**15 24 50.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=340,slow=12,SNR=26						
	comp=Z,2.3nm,0.6s						
WB2	**Warramunga Arr**	**19.96**	**161**	P	**P**	**15 24 50.3**	**-1.2**
WB2				IAmb	IAmb	15 25 00.8	
	comp=Z,9.6nm,1.3s						
WR0	**Warramunga Arr**	**20.04**	**160**	P	**P**	**15 24 51.2**	**-1.1**
WR0				IAmb	IAmb	15 25 19.1	
	comp=Z,6.6nm,1.2s						
AS31	**Alice Springs**	**23.35**	**165**		**P**	**15 25 26.7**	**-0.9**
ASAR	**Alice Springs**	**23.35**	**165**	P	**P**	**15 25 26.8**	**-0.8**
ASAR	**Alice Springs**	**23.35**	**165**	P	**P**	**15 25 27.0**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=347,slow=12,SNR=50						
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**33.45**	**158**	P	**P**	**15 26 58.9**	**+1.0**
STKA				IAmb	IAmb	15 27 00.1	
	comp=Z,5.5nm,1.0s						
STKA	**Stephens Creek**	**33.45**	**158**	P	**P**	**15 26 59.3**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=355,slow=9.4,SNR=3.6						
	comp=Z,2.2nm,0.8s						
JMN	**Monobe**	**35.08**	**9**	P	**P**	**15 27 11.6**	**-0.5**
SONM	**Songino Array**	**52.02**	**342**	P	**P**	**15 29 29.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=152,slow=6.4,SNR=2.1						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**61.90**	**326**	P	**P**	**15 30 39.0**	**+0.7**
MK31				IAmb	IAmb	15 30 40.4	
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**61.90**	**326**	P	**P**	**15 30 39.2**	**+0.9**
MKAR	**Makanchi Array**	**61.90**	**326**	P	**P**	**15 30 39.9**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=115,slow=7.9,SNR=20						
	comp=Z,0.6nm,0.3s						
MAKZ	**Makanchi**	**62.08**	**326**	P	**P**	**15 30 40.4**	**+0.9**
MAKZ				IAmb	IAmb	15 30 43.5	
	comp=Z,4.2nm,1.4s						
KURBB	**Kurchatov Arra**	**66.15**	**328**	P	**P**	**15 31 06.7**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=130,slow=5.7,SNR=12						
	comp=Z,1.3nm,0.7s						
CASY	**Casey**	**66.23**	**187**	P	**P**	**15 31 06.9**	**+0.6**
BVAR	**Borovoye Array**	**71.72**	**328**	P	**P**	**15 31 41.7**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=115,slow=6.3,SNR=5.7						
	comp=Z,0.9nm,0.7s						
TIXI	**Tiksi**	**72.55**	**0**	P	**P**	**15 31 45.6**	**+0.4**
TIXI				IAmb	IAmb	15 32 13.0	
	comp=Z,4.3nm,1.4s						
ABKAR	**Akbulak array**	**76.32**	**321**	P	**P**	**15 32 08.1**	**+0.5**
N15K	**Kwethluk River**	**82.19**	**29**	P	**P**	**15 32 38.3**	**-1.2**

*IDC **17** 15:26:40.2±3.7, 17.°75N×147.°81E, h0km, mb3.6/5, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=126.3km s-min=24.2km az=87.0*
ISC 17 15:26:44.2±2.3, **17.°7N**±0.°1×**147.°2E**±0.°5, **h10**km, **n6**, σ1**9**67/7, **mb3.5**/5, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.67**	**209**	Pn	**Pn**	**15 27 57.3**	**+2.4**
	5.5nm,0.3s,baz=178,slow=20,SNR=1.1						
GUMO				Sn	**Sn**	**15 28 47.2**	**-1.9**
	5.8nm,0.3s,baz=172,slow=22,SNR=1.5						
	21nm,0.4s						
WRA	**Warramunga Arr**	**39.49**	**199**	P	**P**	**15 34 14.5**	**-0.7**
	1.1nm,0.9s,baz=20,slow=8.8,SNR=4.6						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**43.12**	**198**	P	**P**	**15 34 44.0**	**-1.0**
	0.4nm,1.0s,baz=25,slow=7.6,SNR=2.3						
	0.4nm,1.0s						
MKAR	**Makanchi Array**	**60.18**	**314**	P	**P**	**15 36 52.3**	**-0.1**
	0.2nm,0.6s,baz=93,slow=6.3,SNR=2.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.01**	**318**	P	**P**	**15 37 11.6**	**+0.2**
	0.4nm,0.3s,baz=99,slow=7.3,SNR=6.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**68.15**	**321**	P	**P**	**15 37 44.3**	**-0.3**
	0.6nm,0.5s,baz=92,slow=7.2,SNR=3.8						
	0.6nm,0.5s						

*IDC **17** 15:36:30.9±1.4, 53.°77N×161.°67E, h0km, mb3.7/8, mbtmp3.8/13, ML3.9/5, Error ellipse: s-maj=25.3km s-min=21.0km az=136.0*
*KRSC **17** 15:36:31.1±1.0, 53.°33N×161.°89E, h42km±15km, Ml4.0*
*NEIC **17** 15:36:32.1±1.3, 53.°6N±0.°2×161.°7E±0.°1, h10km±2km, mb4.1/4, Error ellipse: s-maj=33.9km s-min=14.6km az=174.0*
ISC 17 15:36:30.3±1.8, **53.°58N**±0.°06×**161.°69E**±0.°05, **h1**km±11km, **n49**, σ1**9**01/61, **mb3.9**/9, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.11**	**245**	*eP*	**Pb**	**15 36 52.1**	**-0.2**
SPN				*eS*	**Sb**	**15 37 06.5**	**-0.6**
KII	**Karymskiy**	**1.41**	**290**	*eP*	**Pg**	**15 36 58.1**	**+0.8**
NLC	**Nalytchevo**	**1.46**	**255**	*eP*	**Pn**	**15 36 57.7**	**-0.1**
NLC				*eS*	**Sn**	**15 37 16.6**	**-1.0**
UGLR	**Uglovaya**	**1.76**	**259**	*eP*	**Pb**	**15 37 02.8**	**-0.5**
UGLR				*eS*	**Sb**	**15 37 25.5**	**-0.4**
AVH	**Avacha**	**1.80**	**261**	*eP*	**Pb**	**15 37 03.5**	**-0.5**
AVH				*eS*	**Sb**	**15 37 26.6**	**-0.4**
TUMD	**Tumrok D**	**1.80**	**336**	*eP*	**Pg**	**15 37 05.5**	**+0.8**
KRX	**Arik**	**1.83**	**264**	*eP*	**Pb**	**15 37 03.8**	**-0.8**
KRX				*eS*	**Sn**	**15 37 26.5**	**-0.4**
DALK	**Dalny**	**1.85**	**254**	*eP*	**Pn**	**15 37 03.0**	**-0.1**
KOK	**Koryaka**	**1.85**	**262**	*eP*	**Pb**	**15 37 04.1**	**-0.8**
KOK				*eS*	**Sn**	**15 37 27.0**	**-0.2**
PET	**Petropavlovsk**	**1.91**	**254**		**Pn**	**15 37 03.8**	**-0.1**
PET	**Petropavlovsk**	**1.91**	**254**	*eP*	**Pn**	**15 37 04.1**	**+0.2**
PET				*eS*	**Sb**	**15 37 29.1**	**-1.0**
INSR	**Institute**	**1.92**	**256**	*eP*	**Pn**	**15 37 04.3**	**+0.2**
INSR				*eS*	**Sn**	**15 37 28.8**	**0.0**
GNL	**Ganaly**	**2.24**	**275**	*eP*	**Pb**	**15 37 11.0**	**-0.5**
RUS	**Russkaya**	**2.24**	**240**	*eP*	**Pn**	**15 37 08.2**	**-0.2**
RUS				*eS*	**Sn**	**15 37 33.9**	**-2.7**
KRMR	**Karymshinskiy**	**2.27**	**252**	*eP*	**Pn**	**15 37 09.1**	**+0.3**
KRMR				*eS*	**Sn**	**15 37 37.1**	**-0.3**
KMNR	**Kamenistaya**	**2.34**	**339**	*eP*	**Pg**	**15 37 14.8**	**-0.4**
GRL	**Gorelyy**	**2.41**	**246**	*eP*	**Pn**	**15 37 11.6**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.44**	**260**		**Pn**	**15 37 12.6**	**+1.3**
PETK	**Petropavlovsk-**	**2.44**	**260**		**Pn**	**15 37 12.1**	**+0.8**
PETK	**Petropavlovsk-**	**2.44**	**260**	Pn	**Pn**	**15 37 12.8**	**+1.6**
	14nm,0.3s,baz=89,slow=18,SNR=43						
PETK				Sn	**Sb**	**15 37 44.7**	**-0.7**
	11nm,0.3s,baz=93,slow=13,SNR=7.8						
	23nm,0.4s						
KIRR	**Kirishev**	**2.51**	**342**	*eP*	**Pg**	**15 37 16.9**	**-1.4**
KOZ	**Kozyrevsk**	**2.70**	**338**	*eP*	**Pb**	**15 37 19.4**	**+0.1**
KBTR	**Krutoberegovo**	**2.71**	**13**	*eP*	**Pb**	**15 37 18.8**	**-0.9**
KRSR	**Krestovskiy**	**2.72**	**347**	*eP*	**Pb**	**15 37 19.3**	**-0.5**
APC	**Apacha**	**2.80**	**258**	*eP*	**Pb**	**15 37 18.7**	**-2.3**
APC				*eS*	**Sn**	**15 37 52.1**	**+1.6**
KLY	**Klyuchi**	**2.81**	**348**	*eP*	**Pb**	**15 37 20.1**	**-1.0**
ESO	**Esso**	**2.92**	**325**	*eP*	**Pb**	**15 37 21.7**	**-1.4**
SRDR	**Sredinnyy**	**2.97**	**338**	*eP*	**Pb**	**15 37 22.7**	**-1.3**
BKI	**Bering**	**2.99**	**55**	*eS*	**Sn**	**15 37 53.8**	**-1.3**
SMKR	**Semkarok**	**3.01**	**358**	*eP*	**Pb**	**15 37 24.2**	**-0.5**
SHEM	**Shemya Is, Ala**	**7.51**	**92**	Pn	**Pn**	**15 38 21.6**	**+0.8**
	3.5nm,0.3s,baz=240,slow=3.9,SNR=5.4						
	24nm,0.5s						
MA2	**Magadan**	**8.51**	**319**	Pn	**Pn**	**15 38 36.8**	**+2.4**
	0.3nm,0.3s,baz=128,slow=8.3,SNR=5.5						
	1.2nm,0.2s						
KIWB	**Kanaga Island**	**12.94**	**89**	Pn	**Pn**	**15 39 35.9**	**+0.8**
ASAJ	**Asahikawa**	**15.69**	**241**	Pn	**Pn**	**15 40 13.2**	**+0.8**
	0.2nm,0.3s,baz=29,slow=19,SNR=1.5						
	7.0nm,1.1s						
YAK	**Yakutsk**	**18.86**	**309**	P	**P**	**15 40 49.9**	**-1.6**
YAK				IAmb	IAmb	15 40 51.1	
	comp=Z,6.9nm,0.6s						
YAK	**Yakutsk**	**18.86**	**309**	P	**P**	**15 40 50.7**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=286,slow=1.4,SNR=4.1						
	comp=Z,5.6nm,0.5s						
H17K	**Granite Mounta**	**22.28**	**44**	P	**P**	**15 41 28.3**	**-0.2**
H17K				IAmb	IAmb	15 41 32.3	
	comp=Z,7.7nm,0.8s						
MJAR	**Matsushiro Arr**	**23.60**	**233**	P	**P**	**15 41 44.7**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=28,slow=11,SNR=4.6						
	comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.39**	**302**	P	**P**	**15 45 12.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=59,slow=7.4,SNR=2.0						
	comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**48.80**	**296**	P	**P**	**15 45 16.3**	**-0.4**
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**15 45 16.2**	**-0.5**
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**15 45 16.4**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=58,slow=6.5,SNR=5.8						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**50.84**	**309**	P	**P**	**15 45 31.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=45,slow=8.6,SNR=2.7						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**59.22**	**259**	P	**P**	**15 46 33.8**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=19,slow=8.1,SNR=5.8						
	comp=Z,0.8nm,0.7s						
FIA1	**FINESS Array S**	**60.05**	**337**	P	**P**	**15 46 39.1**	**+0.9**
FINES	**FINESS Array B**	**60.05**	**337**	P	**P**	**15 46 39.0**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=40,slow=7.4,SNR=6.5						
	comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B**	**63.34**	**344**	P	**P**	**15 46 59.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=24,slow=6.5,SNR=1.4						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**63.78**	**343**	P	**P**	**15 47 02.5**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=19,slow=8.9,SNR=4.9						
	comp=Z,1.4nm,0.9s						
BURAR	**Bucovina Array**	**72.63**	**331**	P	**P**	**15 47 59.2**	**+0.1**

*KRSC **17** 15:39:02.9±1.0, 53.°32N×161.°89E, h41km±17km, Ml4.2*
*IDC **17** 15:39:02.1±1.4, 53.°63N×161.°66E, h0km, mb3.9/11, mbtmp4.0/17, ML3.8/6, Error ellipse: s-maj=25.0km s-min=18.8km az=133.0*
*NEIC **17** 15:39:03.9±0.9, 53.°6N±0.°2×161.°6E±0.°1, h10km±2km, mb4.4/11, Error ellipse: s-maj=26.0km s-min=11.1km az=173.0*
*MOS **17** 15:39:04.9±0.8, 53.°31N×161.°82E, h46km, mb4.3/4, Error ellipse: s-maj=7.8km s-min=6.4km az=101.2*
ISC 17 15:39:00.9±1.7, **53.°28N**±0.°06×**161.°78E**±0.°04, **h3**km±10km, **n92**, σ1**9**43/111, **mb4.1**/16, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.08**	**261**	PN	**Pn**	**15 39 23.9**	**+1.1**
SPN				S	**Sn**	**15 39 37.9**	**-0.3**
SPN	**Mys Shipunski**	**1.08**	**261**	*eP*	**Pn**	**15 39 23.9**	**+1.1**
SPN				*eS*	**Sn**	**15 39 37.9**	**-0.3**
NLC	**Nalytchevo**	**1.47**	**267**	PN	**Pg**	**15 39 29.4**	**+0.3**
NLC				S	**Sg**	**15 39 48.4**	**+0.3**
NLC	**Nalytchevo**	**1.47**	**267**	*eP*	**Pg**	**15 39 29.4**	**+0.3**
NLC				*eS*	**Sg**	**15 39 48.4**	**+0.3**
KII	**Karymskiy**	**1.58**	**299**	PN	**Pn**	**15 39 30.0**	**+0.2**
KII	**Karymskiy**	**1.58**	**299**	*eP*	**Pn**	**15 39 30.1**	**+0.2**
UGLR	**Uglovaya**	**1.78**	**269**	PN	**Pb**	**15 39 34.6**	**+0.4**
UGLR				S	**Sb**	**15 39 57.1**	**+0.2**
UGLR	**Uglovaya**	**1.78**	**269**	*eP*	**Pb**	**15 39 34.7**	**+0.4**
UGLR				*eS*	**Sb**	**15 39 57.2**	**+0.2**
AVH	**Avacha**	**1.83**	**271**	PN	**Pb**	**15 39 35.3**	**+0.3**
AVH				S	**Sb**	**15 39 58.2**	**-0.1**
AVH	**Avacha**	**1.83**	**271**	*eP*	**Pb**	**15 39 35.3**	**+0.3**
AVH				*eS*	**Sb**	**15 39 58.2**	**-0.1**
DALK	**Dalny**	**1.84**	**263**	PN	**Pb**	**15 39 34.7**	**-0.5**
DALK				S	**Sb**	**15 39 58.5**	**-0.1**
DALK	**Dalny**	**1.84**	**263**	*eP*	**Pb**	**15 39 34.7**	**-0.5**
DALK				*eS*	**Sb**	**15 39 58.6**	**-0.1**
KRX	**Arik**	**1.88**	**274**	PN	**Pb**	**15 39 35.6**	**-0.3**
KRX				S	**Sn**	**15 39 58.5**	**+0.2**
KRX	**Arik**	**1.88**	**274**	*eP*	**Pb**	**15 39 35.7**	**-0.3**
KRX				*eS*	**Sn**	**15 39 58.5**	**+0.2**
KOK	**Koryaka**	**1.89**	**271**	PN	**Pb**	**15 39 36.0**	**-0.1**
KOK	**Koryaka**	**1.89**	**271**	*eP*	**Pb**	**15 39 36.0**	**-0.1**
PET	**Petropavlovsk**	**1.90**	**263**		**Pb**	**15 39 35.5**	**-0.7**
PET	**Petropavlovsk**	**1.90**	**263**	*e*PN	**Pb**	**15 39 35.9**	**-0.4**
PET				*eS*	**Sn**	**15 39 57.4**	**-1.2**
PET				smax	smax		
	comp=N,490nm,0.6s						
PET				smax	smax		
	comp=E,337nm,0.6s						
PET	**Petropavlovsk**	**1.90**	**263**	*eP*	**Pb**	**15 39 35.8**	**-0.4**
INSR	**Institute**	**1.93**	**265**	PN	**Pb**	**15 39 36.6**	**0.0**
INSR				S	**Sg**	**15 40 01.5**	**-1.2**
INSR	**Institute**	**1.93**	**265**	*eP*	**Pb**	**15 39 36.6**	**0.0**
INSR				*eS*	**Sg**	**15 40 01.6**	**-1.2**
TUMD	**Tumrok D**	**2.09**	**338**	*eP*	**Pn**	**15 39 37.6**	**+0.8**
RUS	**Russkaya**	**2.16**	**248**	PN	**Pb**	**15 39 39.9**	**-0.7**
RUS				S	**Sb**	**15 40 06.0**	**-1.7**
RUS	**Russkaya**	**2.16**	**248**	*eP*	**Pb**	**15 39 39.9**	**-0.7**
RUS				*eS*	**Sb**	**15 40 06.0**	**-1.7**
KRMR	**Karymshinskiy**	**2.25**	**260**	PN	**Pb**	**15 39 40.8**	**-1.3**
KRMR	**Karymshinskiy**	**2.25**	**260**	*eP*	**Pb**	**15 39 40.9**	**-1.3**
GNL	**Ganaly**	**2.33**	**282**	PN	**Pb**	**15 39 42.8**	**-0.8**
GNL	**Ganaly**	**2.33**	**282**	*eP*	**Pb**	**15 39 42.9**	**-0.8**
GRL	**Gorelyy**	**2.36**	**253**	PN	**Pb**	**15 39 43.5**	**-0.6**
GRL	**Gorelyy**	**2.36**	**253**	*eP*	**Pb**	**15 39 43.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**2.46**	**268**		**Pb**	**15 39 44.5**	**-1.2**
PEA0B	**Petropavlovsk-**	**2.46**	**268**	PN	**Pb**	**15 39 44.6**	**-1.2**
PETK	**Petropavlovsk-**	**2.46**	**268**		**Pb**	**15 39 43.8**	**-2.0**
PETK	**Petropavlovsk-**	**2.46**	**268**	Pn	**Pb**	**15 39 43.9**	**-1.9**
	comp=E,19nm,0.3s,baz=84,slow=20,SNR=23						
PETK				Sn	**Sn**	**15 40 13.4**	**+1.0**
	comp=E,12nm,0.3s,baz=86,slow=17,SNR=6.1						
	comp=E,30nm,0.4s						
KMNR	**Kamenistaya**	**2.64**	**341**	PN	**Pn**	**15 39 46.9**	**+2.5**
KMNR	**Kamenistaya**	**2.64**	**341**	*eP*	**Pn**	**15 39 46.9**	**+2.5**
KIRR	**Kirishev**	**2.80**	**343**	PN	**Pn**	**15 39 49.0**	**+2.3**
KIRR	**Kirishev**	**2.80**	**343**	*eP*	**Pn**	**15 39 49.0**	**+2.3**
APC	**Apacha**	**2.81**	**264**	PN	**Pb**	**15 39 50.4**	**-1.3**
APC	**Apacha**	**2.81**	**264**	*eP*	**Pb**	**15 39 50.4**	**-1.3**
KBTR	**Krutoberegovo**	**2.99**	**11**	PN	**Pn**	**15 39 50.7**	**+1.6**
KBTR	**Krutoberegovo**	**2.99**	**11**	*eP*	**Pn**	**15 39 50.8**	**+1.6**
KOZ	**Kozyrevsk**	**2.99**	**339**	PN	**Pn**	**15 39 51.4**	**+2.2**
KOZ	**Kozyrevsk**	**2.99**	**339**	*eP*	**Pn**	**15 39 51.4**	**+2.2**
KRSR	**Krestovskiy**	**3.02**	**347**	PN	**Pn**	**15 39 52.7**	**+3.0**
KRSR	**Krestovskiy**	**3.02**	**347**	*eP*	**Pn**	**15 39 52.7**	**+3.0**
KLY	**Klyuchi**	**3.10**	**348**	PN	**Pn**	**15 39 52.0**	**+1.3**
KLY	**Klyuchi**	**3.10**	**348**	*eP*	**Pn**	**15 39 52.0**	**+1.3**
BKI	**Bering**	**3.12**	**50**	PN	**Pn**	**15 39 52.4**	**+1.5**
BKI				S	**Sn**	**15 40 25.7**	**-2.9**
BKI	**Bering**	**3.12**	**50**	*eP*	**Pn**	**15 39 52.5**	**+1.5**
BKI				*eS*	**Sn**	**15 40 25.8**	**-2.9**
ESO	**Esso**	**3.20**	**327**	PN	**Pn**	**15 39 53.8**	**+1.8**
ESO	**Esso**	**3.20**	**327**	*e

*IDC **17** 15:40:14.6±0.8, 53°.54N×161°.74E, h0km, mb3.9/20, mbtmp4.0/26, ML3.7/5, Error ellipse: s-maj=17.1km s-min=14.8km az=143.0*
*NEIC **17** 15:40:16.4±1.7, 53°.5N±0°.1×161°.64E±0°.06, h10km±1km, mb4.5/22, Error ellipse: s-maj=20.7km s-min=5.8km az=175.0*
*MOS **17** 15:40:18.9±1.1, 53°.49N×161°.66E, h44km, mb4.5/6, Error ellipse: s-maj=9.2km s-min=8.8km az=172.8*

ISC 17 15:40:17.4±0.5, 53°.39N±0°.05×161°.77E±0°.05, h21km±4km, n113, σ1$02/128, mb4.2/40, 6C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**255**	PN	**Pn**	**15 40 36.5**	**-0.9**
SPN				S	**Sb**	**15 40 51.0**	**-0.3**
SPN	**Mys Shipunski**	**1.09**	**255**	*e*P	**Pn**	**15 40 36.5**	**-0.9**
SPN				*e*S	**Sb**	**15 40 51.1**	**-0.3**
NLC	**Nalytchevo**	**1.47**	**262**	PN	**Pn**	**15 40 42.1**	**-0.6**
NLC				S	**Sn**	**15 41 00.8**	**-0.5**
NLC	**Nalytchevo**	**1.47**	**262**	*e*P	**Pn**	**15 40 42.1**	**-0.6**
NLC				*e*S	**Sn**	**15 41 00.8**	**-0.5**
KII	**Karymskiy**	**1.52**	**296**	PN	**Pn**	**15 40 43.7**	**+0.3**
KII				S	**Sb**	**15 41 03.9**	**+0.1**
KII	**Karymskiy**	**1.52**	**296**	*e*P	**Pn**	**15 40 43.7**	**+0.3**
KII				*e*S	**Sb**	**15 41 03.9**	**+0.1**
UGLR	**Uglovaya**	**1.78**	**265**	PN	**Pn**	**15 40 47.6**	**+0.6**
UGLR	**Uglovaya**	**1.78**	**265**	*e*P	**Pn**	**15 40 47.7**	**+0.6**
AVH	**Avacha**	**1.82**	**267**	PN	**Pn**	**15 40 48.3**	**+0.7**
AVH				S	**Sn**	**15 41 11.1**	**+1.0**
AVH	**Avacha**	**1.82**	**267**	*e*P	**Pn**	**15 40 48.4**	**+0.7**
AVH				*e*S	**Sn**	**15 41 11.1**	**+1.0**
DALK	**Dalny**	**1.85**	**260**	PN	**Pn**	**15 40 48.0**	**+0.2**
DALK				S	**Sn**	**15 41 10.3**	**-0.3**
DALK	**Dalny**	**1.85**	**260**	*e*P	**Pn**	**15 40 48.0**	**+0.2**
DALK				*e*S	**Sn**	**15 41 10.3**	**-0.3**
KRX	**Arik**	**1.87**	**270**	PN	**Pn**	**15 40 48.3**	**0.0**
KRX				S	**Sn**	**15 41 10.5**	**-0.8**
KRX	**Arik**	**1.87**	**270**	*e*P	**Pn**	**15 40 48.4**	**0.0**
KRX				*e*S	**Sn**	**15 41 10.5**	**-0.8**
KOK	**Koryaka**	**1.88**	**268**	PN	**Pn**	**15 40 49.2**	**+0.8**
KOK	**Koryaka**	**1.88**	**268**	*e*P	**Pn**	**15 40 49.2**	**+0.8**
PET	**Petropavlovsk**	**1.91**	**260**	Pn	**Pn**	**15 40 48.2**	**-0.5**
PET	**Petropavlovsk**	**1.91**	**260**	*e*PN	**Pn**	**15 40 49.2**	**+0.5**
PET				*e*S	**Sn**	**15 41 11.7**	**-0.4**
PET				smax	smax		
	comp=E,574nm,0.7s						
PET				smax	smax		
	comp=N,433nm,0.6s						
PET	**Petropavlovsk**	**1.91**	**260**	*e*P	**Pn**	**15 40 49.3**	**+0.6**
PET				*e*S	**Sn**	**15 41 13.1**	**+1.0**
INSR	**Institute**	**1.93**	**262**	*e*S	**Sb**	**15 41 14.8**	**-0.7**
TUMD	**Tumrok D**	**1.98**	**337**	*e*P	**Pn**	**15 40 50.9**	**+1.2**
RUS	**Russkaya**	**2.19**	**245**	*e*S	**Sn**	**15 41 19.9**	**+0.8**
KRMR	**Karymshinskiy**	**2.27**	**257**	*e*S	**Sn**	**15 41 22.1**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.46**	**265**	Pn	**Pn**	**15 40 56.5**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.46**	**265**	‖*e*PN	**Pn**	**15 40 57.4**	**+1.1**
PETK	**Petropavlovsk-**	**2.46**	**265**	Pn	**Pn**	**15 40 56.0**	**-0.3**
PETK	**Petropavlovsk-**	**2.46**	**265**	Pn	**Pn**	**15 40 57.6**	**+1.3**
	comp=N,14nm,0.3s,baz=72,slow=14,SNR=4.9						
PETK				Sn	**Sn**	**15 41 27.5**	**+1.8**
	comp=N,8.5nm,0.3s,baz=77,slow=19,SNR=6.0						
	comp=N,57nm,0.5s						
PETK	**Petropavlovsk-**	**2.46**	**265**	*e*PN	**Pn**	**15 40 58.5**	**+2.2**
PETK				pmax	pmax		
	comp=Z,14nm,0.3s						
KIRR	**Kirishev**	**2.70**	**343**	*e*S	**Sb**	**15 41 36.1**	**-1.5**
APC	**Apacha**	**2.82**	**262**	*e*S	**Sn**	**15 41 37.6**	**+3.2**
BKI	**Bering**	**3.06**	**52**	*e*S	**Sn**	**15 41 37.6**	**-2.7**
ESO	**Esso**	**3.10**	**326**	PN	**Pn**	**15 41 06.5**	**+1.5**
ESO	**Esso**	**3.10**	**326**	*e*P	**Pn**	**15 41 06.6**	**+1.5**
SHEM	**Shemya Is, Ala**	**7.46**	**90**	Pn	**Pn**	**15 42 06.6**	**+1.7**
	comp=Z,2.9nm,0.3s,baz=256,slow=19,SNR=1.6						
	comp=Z,46nm,0.8s						
MA2	**Magadan**	**8.68**	**320**		**Pn**	**15 42 23.0**	**+1.4**
MA2	**Magadan**	**8.68**	**320**	Pn	**Pn**	**15 42 24.4**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=129,slow=9.7,SNR=6.9						
	comp=Z,6.1nm,0.8s						
MA2	**Magadan**	**8.68**	**320**	‖*e*PN	**Pn**	**15 42 23.5**	**+1.9**
GSTR	**Great Sitkin T**	**13.48**	**87**	Pn	**Pn**	**15 43 28.7**	**+1.4**
BILL	**Bilibino**	**14.85**	**7**	P	**P**	**15 43 52.0**	**+0.5**
ASAJ	**Asahikawa**	**15.64**	**241**	Pn	**Pn**	**15 43 56.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=79,slow=16,SNR=4.6						
	comp=Z,7.4nm,0.8s						
UNV	**Unalaska Valle**	**18.75**	**76**	P	**P**	**15 44 34.8**	**+0.2**
UNV				IAmb	IAmb	15 44 41.8	
	comp=Z,46nm,1.3s						
YAK	**Yakutsk**	**19.01**	**310**	P	**P**	**15 44 35.2**	**-2.3**
	comp=Z,8.8nm,0.3s,baz=268,slow=2.5,SNR=6.6						
YAK	**Yakutsk**	**19.01**	**310**	*de*P	**P**	**15 44 34.9**	**-2.5**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
KLR	**Kul'dur**	**19.15**	**270**	P	**Pn**	**15 44 40.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=12,SNR=6.5						
	comp=Z,2.3nm,0.7s						
KLR	**Kul'dur**	**19.15**	**270**	*e*P	**P**	**15 44 38.7**	**-0.3**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ZEA	**Zeya**	**20.39**	**285**	‖*e*P	**P**	**15 44 50.8**	**-1.8**
C16K	**Lisburne Hills**	**21.49**	**33**	P	**P**	**15 45 04.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**21.53**	**257**	P	**P**	**15 45 05.2**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=58,slow=11,SNR=2.0						
	comp=Z,1.3nm,0.6s						
TIXI	**Tiksi**	**23.24**	**334**	P	**P**	**15 45 21.8**	**-0.9**
TIXI				IAmb	IAmb	15 45 22.8	
	comp=Z,8.4nm,1.4s						
TIXI	**Tiksi**	**23.24**	**334**	P	**P**	**15 45 21.9**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=124,slow=12,SNR=7.4						
	comp=Z,1.6nm,0.5s						
TIXI	**Tiksi**	**23.24**	**334**	*ce*P	**P**	**15 45 21.3**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJB9	**Matsu-Tunnel**	**23.53**	**234**	P	**P**	**15 45 27.1**	**+1.2**
MJB9				IAmb	IAmb	15 45 28.1	
	comp=Z,16nm,1.2s						
MAJO	**Matsushiro**	**23.53**	**234**	P	**P**	**15 45 27.1**	**+1.1**
MAJO				IAmb	IAmb	15 45 28.2	
	comp=Z,18nm,1.2s						
MAJO	**Matsushiro**	**23.53**	**234**	P	**P**	**15 45 27.1**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,18nm,1.3s						
MJAR	**Matsushiro Arr**	**23.53**	**234**	P	**P**	**15 45 27.5**	**+1.5**
	comp=Z,4.1nm,1.0s,baz=15,slow=10,SNR=5.7						
	comp=Z,4.1nm,1.0s						
I20K	**Naaghedeneel**	**24.64**	**45**	P	**P**	**15 45 35.2**	**-0.8**
I20K				IAmb	IAmb	15 45 37.5	
	comp=Z,46nm,1.4s						
D23K	**Nanushuk River**	**26.78**	**36**	P	**P**	**15 45 56.2**	**+0.9**
I23K	**Minto, Yukon-K**	**26.84**	**45**	P	**P**	**15 45 57.0**	**+1.1**
ILAR	**Eielson Array**	**27.89**	**46**	P	**P**	**15 46 03.5**	**-1.8**
	comp=Z,0.7nm,1.1s,baz=270,slow=7.7,SNR=2.7						
	comp=Z,0.7nm,1.1s						
EUNU	**Eureka**	**41.41**	**14**	P	**P**	**15 48 02.5**	**+0.9**
EUNU				IAmb	IAmb	15 48 03.7	
	comp=Z,6.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**47.00**	**351**	P	**P**	**15 48 45.1**	**-1.3**
	comp=Z,8.5nm,0.8s,baz=3.3,slow=7.5,SNR=7.1						
	comp=Z,8.5nm,0.8s						
SPB2	**Spitsbergen Ar**	**47.01**	**351**	P	**P**	**15 48 45.6**	**-0.7**
KURK	**Kurchatov**	**48.43**	**302**	P	**P**	**15 48 56.9**	**-0.8**
KURBB	**Kurchatov Arra**	**48.53**	**302**	P	**P**	**15 48 56.9**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=56,slow=7.6,SNR=4.8						
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**48.93**	**296**	P	**P**	**15 49 00.6**	**-1.1**
MK31	**Makanchi Array**	**48.93**	**296**	P	**P**	**15 49 00.6**	**-1.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MKAR	**Makanchi Array**	**48.93**	**296**	P	**P**	**15 49 00.6**	**-1.1**
MKAR	**Makanchi Array**	**48.93**	**296**	P	**P**	**15 49 00.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=55,slow=6.5,SNR=7.6						
	comp=Z,0.4nm,0.5s						
BVAR	**Borovoye Array**	**50.99**	**309**	P	**P**	**15 49 15.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=52,slow=7.9,SNR=5.0						
	comp=Z,1.0nm,0.7s						
CHTO	**Chiang Mai**	**58.95**	**260**	P	**P**	**15 50 15.1**	**-0.1**
CHTO				IAmb	IAmb	15 50 16.5	
	comp=Z,4.2nm,0.8s						
CHTO	**Chiang Mai**	**58.95**	**260**	P	**P**	**15 50 15.1**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**59.23**	**259**	P	**P**	**15 50 18.2**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=26,slow=7.3,SNR=12						
	comp=Z,2.6nm,0.8s						
FIA1	**FINESS Array S**	**60.24**	**337**	P	**P**	**15 50 23.2**	**-0.2**
FINES	**FINESS Array B**	**60.24**	**337**	P	**P**	**15 50 22.7**	**-0.7**
FINES	**FINESS Array B**	**60.24**	**337**	P	**P**	**15 50 23.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=46,slow=8.2,SNR=6.2						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**60.24**	**337**	*ce*P	**P**	**15 50 23.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NC303	**NORSAR Array S**	**63.33**	**344**	P	**P**	**15 50 43.9**	**-0.3**
NC204	**NORSAR Array S**	**63.38**	**345**	P	**P**	**15 50 44.5**	**-0.2**
NC204				IAmb	IAmb	15 50 55.1	
	comp=Z,20nm,1.4s						
NB201	**NORSAR Array S**	**63.51**	**344**	P	**P**	**15 50 45.2**	**-0.2**
NB2	**NORSAR Subarra**	**63.53**	**344**	P	**P**	**15 50 45.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=21,slow=6.9						
NOA	**NORSAR Array B**	**63.53**	**344**	P	**P**	**15 50 45.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=20,slow=6.6,SNR=5.8						
	comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**63.97**	**343**	P	**P**	**15 50 47.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=22,slow=5.6,SNR=6.9						
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**68.87**	**330**	P	**P**	**15 51 19.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=30,slow=6.5,SNR=6.3						
	comp=Z,0.9nm,0.5s						
AKBB	**Malin Array Si**	**68.87**	**330**	*ce*P	**P**	**15 51 20.3**	**+0.4**
TXAR	**Lajitas Array**	**69.59**	**68**	P	**P**	**15 51 26.8**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=325,slow=7.0,SNR=3.6						
	comp=Z,0.4nm,0.7s						
KBZ	**Khabaz**	**70.00**	**318**	P	**P**	**15 51 27.2**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=92,slow=2.3,SNR=3.7						
	comp=Z,3.1nm,0.9s						
KBZ	**Khabaz**	**70.00**	**318**	‖*e*P	**P**	**15 51 27.3**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	**Collm**	**72.42**	**340**	*e*P	**P**	**15 51 41.0**	**-0.6**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**72.42**	**340**	*e*P	**P**	**15 51 41.0**	**-0.6**
	comp=Z,4.0nm,0.9s						
BUR08	**Bucovina Ar. S**	**72.79**	**331**	P	**P**	**15 51 44.2**	**+0.2**
BUR08				IAmb	IAmb	15 51 58.9	
	comp=Z,9.6nm,1.5s						
BURAR	**Bucovina Array**	**72.81**	**331**	P	**P**	**15 51 44.5**	**+0.4**
GERES	**GERESS Array B**	**74.61**	**339**	P	**P**	**15 51 54.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=42,slow=4.2,SNR=5.6						
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**74.61**	**339**	*e*P	**P**	**15 51 55.8**	**+1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SOKA	**Soboth**	**76.35**	**337**	*e*P	**P**	**15 52 04.8**	**+0.2**
	comp=Z,1.3nm,0.5s						
KBA	**Koelnbreinsper**	**76.36**	**338**	*e*P	**P**	**15 52 05.4**	**+0.7**
	comp=Z,3.5nm,0.9s						
WATA	**Walderalm**	**76.49**	**340**	*e*P	**P**	**15 52 06.2**	**+0.7**
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**76.55**	**340**	*e*P	**P**	**15 52 06.3**	**+0.4**
	comp=Z,0.3nm,0.3s						
MOTA	**Moosalm**	**76.58**	**340**	*i* P	**P**	**15 52 05.8**	**-0.2**
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**76.61**	**206**	P	**P**	**15 52 06.3**	**+0.1**
WB0				IAmb	IAmb	15 52 28.6	
	comp=Z,7.1nm,1.4s						
OBKA	**Obir**	**76.62**	**337**	*e*P	**P**	**15 52 06.1**	**-0.1**
	comp=Z,0.7nm,0.4s						
WRA	**Warramunga Arr**	**76.79**	**206**	P	**P**	**15 52 07.5**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=20,slow=5.8,SNR=1.9						
	comp=Z,0.5nm,0.7s						
ABTA	**Abfaltersbach**	**76.85**	**339**	*e*P	**P**	**15 52 07.3**	**-0.2**
	comp=Z,3.0nm,1.0s						
FETA	**Feichten**	**76.97**	**340**	*e*P	**P**	**15 52 09.0**	**+0.7**
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**77.02**	**321**	P	**P**	**15 52 08.9**	**+0.2**
BRTR	**Keskin Array B**	**77.02**	**321**	P	**P**	**15 52 09.0**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=39,slow=3.7,SNR=2.5						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**77.02**	**321**	P	**P**	**15 52 08.9**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**77.44**	**340**	P	**P**	**15 52 11.0**	**0.0**
FUORN				IAmb	IAmb	15 52 12.7	
	comp=Z,3.5nm,1.2s						
FITZ	**Fitzroy Crossi**	**77.71**	**215**	P	**P**	**15 52 12.4**	**+0.1**
ASAR	**Alice Springs**	**80.46**	**206**	P	**P**	**15 52 28.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=11,slow=7.0,SNR=4.2						
	comp=Z,0.4nm,0.7s						
RAYN	**Ar Rayn**	**85.73**	**304**	P	**P**	**15 52 54.3**	**-0.6**
RAYN				IAmb	IAmb	15 53 20.6	
	comp=Z,5.2nm,1.4s						
RAYN	**Ar Rayn**	**85.73**	**304**	P	**P**	**15 52 54.3**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
ESDC	**Sonseca Array**	**86.49**	**349**	P	**P**	**15 52 58.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=12,slow=4.5,SNR=2.9						
	comp=Z,0.6nm,0.7s						
DGAR	**Diego Garcia**	**95.48**	**265**	‖*e*P	**P**	**15 53 38.8**	**-1.8**

*KRSC **17** 15:43:02.1±1.0, 53°.30N×161°.96E, h40km±19km, Ml4.0*
*IDC **17** 15:43:02.2±1.0, 53°.67N×161°.60E, h0km, mb3.7/11, mbtmp3.8/14, ML4.5/2, MS4.0/1, Error ellipse: s-maj=24.4km s-min=19.1km az=153.0*
*NEIC **17** 15:43:03.5±1.2, 53°.6N±0°.2×161°.6E±0°.1, h10km±2km, mb4.1/8, Error ellipse: s-maj=26.8km s-min=11.5km az=169.0*

ISC 17 15:43:02.5±1.6, 53°.57N±0°.05×161°.68E±0°.05, h6km±9km, n45, σ1$01/59, mb4.0/15, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.10**	**245**	*e*P	**Pg**	**15 43 23.7**	**+0.1**
SPN				*e*S	**Sg**	**15 43 38.0**	**+0.2**
KII	**Karymskiy**	**1.40**	**290**	*e*P	**Pg**	**15 43 29.7**	**+0.4**
NLC	**Nalytchevo**	**1.46**	**255**	*e*P	**Pn**	**15 43 29.3**	**0.0**
NLC				*e*S	**Sn**	**15 43 48.2**	**-0.5**
UGLR	**Uglovaya**	**1.75**	**259**	*e*P	**Pn**	**15 43 34.4**	**+1.0**
UGLR				*e*S	**Sb**	**15 43 57.1**	**-0.2**
AVH	**Avacha**	**1.79**	**261**	*e*P	**Pn**	**15 43 35.1**	**+1.2**
AVH				*e*S	**Sb**	**15 43 58.1**	**-0.3**
TUMD	**Tumrok D**	**1.80**	**336**	*e*P	**Pg**	**15 43 37.3**	**+0.4**
KRX	**Arik**	**1.82**	**264**	*e*P	**Pn**	**15 43 35.5**	**+0.9**
KRX				*e*S	**Sn**	**15 43 58.2**	**+0.2**
DALK	**Dalny**	**1.84**	**254**	*e*P	**Pn**	**15 43 34.6**	**+0.1**
DALK				*e*S	**Sn**	**15 43 58.2**	**+0.1**
KOK	**Koryaka**	**1.84**	**262**	*e*P	**Pn**	**15 43 35.7**	**+1.0**
PET	**Petropavlovsk**	**1.90**	**254**		**Pn**	**15 43 35.3**	**-0.1**
PET	**Petropavlovsk**	**1.90**	**254**	*e*P	**Pn**	**15 43 35.4**	**+0.1**
INSR	**Institute**	**1.91**	**256**	*e*P	**Pn**	**15 43 36.1**	**+0.5**
INSR				*e*S	**Sb**	**15 44 01.3**	**-0.5**
RUS	**Russkaya**	**2.23**	**240**	*e*P	**Pn**	**15 43 39.8**	**-0.1**
RUS				*e*S	**Sn**	**15 44 06.1**	**-1.6**
KRMR	**Karymshinskiy**	**2.26**	**252**	*e*P	**Pn**	**15 43 41.2**	**+0.8**
KRMR				*e*S	**Sb**	**15 44 10.8**	**-1.1**
PEA0B	**Petropavlovsk-**	**2.43**	**261**		**Pn**	**15 43 44.1**	**+1.4**
PETK	**Petropavlovsk-**	**2.43**	**261**	Pn	**Pn**	**15 43 43.8**	**+1.0**
	26nm,0.5s,baz=75,slow=14,SNR=14						
PETK				Sn	**Sn**	**15 44 14.9**	**+2.1**
	9.6nm,0.3s,baz=266,slow=24,SNR=5.2						
KIRR	**Kirishev**	**2.51**	**343**	*e*P	**Pb**	**15 43 48.8**	**+0.8**
KIRR				*e*S	**Sg**	**15 44 22.8**	**-0.2**
KOZ	**Kozyrevsk**	**2.70**	**338**	*e*P	**Pb**	**15 43 51.3**	**+0.1**
KBTR	**Krutoberegovo**	**2.72**	**14**	*e*P	**Pb**	**15 43 50.6**	**-1.0**
KRSR	**Krestovskiy**	**2.73**	**347**	*e*P	**Pb**	**15 43 51.4**	**-0.3**
APC	**Apacha**	**2.79**	**258**	*e*P	**Pn**	**15 43 50.3**	**+2.7**
APC				*e*S	**Sn**	**15 44 24.5**	**+2.9**
KLY	**Klyuchi**	**2.81**	**348**	*e*P	**Pb**	**15 43 51.7**	**-1.3**
KLY				*e*S	**Sb**	**15 44 27.8**	**+0.1**
ESO	**Esso**	**2.92**	**325**	*e*P	**Pb**	**15 43 53.5**	**-1.5**
SRDR	**Sredinnyy**	**2.97**	**338**	*e*P	**Pb**	**15 43 54.3**	**-1.6**
BKI	**Bering**	**3.00**	**55**	*e*P	**Pn**	**15 43 52.1**	**+1.6**
BKI				*e*S	**Sn**	**15 44 25.3**	**-1.3**
SHEM	**Shemya Is, Ala**	**7.52**	**91**	Pn	**Pn**	**15 44 53.7**	**+1.1**
	5.5nm,0.3s,baz=208,slow=5.9,SNR=5.5						
	15nm,0.3s						
YAK	**Yakutsk**	**18.85**	**309**	P	**P**	**15 47 21.5**	**-1.4**
YAK				IAmb	IAmb	15 47 22.8	
	comp=Z,7.3nm,0.6s						
YAK	**Yakutsk**	**18.85**	**309**	P	**P**	**15 47 21.7**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=202,slow=0.5,SNR=2.8						
	comp=Z,5.2nm,0.4s						
TIXI	**Tiksi**	**23.05**	**334**	P	**P**	**15 48 08.7**	**+0.6**
TIXI	**Tiksi**	**23.05**	**334**	P	**P**	**15 48 08.2**	**+0.1**
	comp=Z,2.3nm,0.2s,baz=127,slow=11,SNR=5.0						
	comp=Z,2.3nm,0.2s						
MJB9	**Matsu-Tunnel**	**23.59**	**233**	P	**P**	**15 48 13.9**	**+0.1**
MJB9				IAmb	IAmb	15 48 15.3	
	comp=Z,16nm,1.1s						
MAJO	**Matsushiro**	**23.59**	**233**	P	**P**	**15 48 13.9**	**+0.1**
MJAR	**Matsushiro Arr**	**23.59**	**233**	P	**P**	**15 48 15.0**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=49,slow=8.1,SNR=4.5						
MJAR				LR	LR	15 57 34.4	
	comp=Z,334nm,20.4s,baz=254,slow=37						
	comp=Z,1.1nm,0.8s						
BPAW	**Bear Paw Mtn.**	**26.02**	**47**	P	**P**	**15 48 35.5**	**-0.4**
BPAW				IAmb	IAmb	15 48 49.5	
	comp=Z,5.5nm,1.2s						
HIA	**Hailar**	**26.22**	**278**	P	**P**	**15 48 37.8**	**-0.1**
HIA				IAmb	IAmb	15 48 39.4	
	comp=Z,2.8nm,0.6s						
EUNU	**Eureka**	**41.25**	**14**	P	**P**	**15 50 47.0**	**-0.8**
EUNU				IAmb	IAmb	15 51 08.0	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**48.80**	**296**	P	**P**	**15 51 47.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=56,slow=6.3,SNR=6.5						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**50.83**	**309**	P	**P**	**15 52 02.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=53,slow=8.1,SNR=2.4						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.21**	**259**	P	**P**	**15 53 05.0**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=23,slow=7.3,SNR=6.9						
	comp=Z,1.2nm,0.8s						
FINES	**FINESS Array B**	**60.05**	**337**	P	**P**	**15 53 09.2**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=42,slow=8.8,SNR=5.4						
	comp=Z,1.9nm,0.9s						
NOA	**NORSAR Array B**	**63.34**	**344**	P	**P**	**15 53 32.1**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=21,slow=6.7,SNR=2.2						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**63.78**	**343**	P	**P**	**15 53 34.8**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=11,slow=2.9,SNR=5.4						
	comp=Z,1.2nm,0.9s						
AKASG	**Malin Array Be**	**68.68**	**330**	P	**P**	**15 54 06.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=25,slow=6.8,SNR=4.0						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**69.58**	**68**	P	**P**	**15 54 13.7**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=339,slow=6.1,SNR=2.5						
	comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**80.59**	**206**	P	**P**	**15 55 15.9**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=17,slow=4.7,SNR=2.0						
	comp=Z,0.2nm,0.7s						

TRN 17 15:44:07.2, 17°.01N×62°.03W, h23km, MD3.5, 2D, West of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.26**	**82**	‖*i* P	Pn	15 44 15.7	+0.2
ANBD				*e*S	Sn	15 44 19.6	-1.2
ANBD	**Bethesda, Anti**	**0.26**	**82**	‖*i* P	Pn	15 44 15.7	+0.2
ANBD				*e*S	Sn	15 44 19.6	-1.2
MBWH		**0.31**	**210**	*e*P	Pn	15 44 16.7	+0.3
MBWH				*e*S	Sn	15 44 21.4	-0.8
MBWH		**0.31**	**210**	*e*P	Pn	15 44 16.7	+0.3
MBWH				*e*S	Sn	15 44 21.4	-0.8
MBFL	**Flemmings, Mon**	**0.32**	**214**	*i* P	Pn	15 44 16.9	+0.5
MBFL				*e*S	Sn	15 44 21.2	-1.1
MBFL	**Flemmings, Mon**	**0.32**	**214**	*i* P	Pn	15 44 16.9	+0.5
MBFL				*e*S	Sn	15 44 21.2	-1.1
ANWB	**Willy Bob**	**0.69**	**20**	*e*P	Pn	15 44 23.0	+1.4
ANWB				*e*S	Sn	15 44 33.7	+2.1
ANWB	**Willy Bob**	**0.69**	**20**	*e*P	Pn	15 44 23.0	+1.4
ANWB				*e*S	Sn	15 44 33.7	+2.1
SKOC	**St. Kitts, UWI**	**0.73**	**293**	*e*

comp=Z,8.3nm,0.9s
KBL Kabul 66.92 10 P **P 15 58 39.0 0.0**
KBL IAmb IAmb 15 58 42.2
comp=Z,6.4nm,0.8s
MMAI Mount Meron Ar 67.84 340 P **P 15 58 45.4 +0.7**
comp=Z,2.4nm,0.5s,baz=159,slow=7.9,SNR=6.2
comp=Z,2.4nm,0.5s
WRA Warramunga Arr 68.80 101 P **P 15 58 48.8 -2.3**
WRA Warramunga Arr 68.80 101 P **P 15 58 51.0 0.0**
comp=Z,2.3nm,0.8s,baz=241,slow=5.5,SNR=12
comp=Z,2.3nm,0.8s
WB2 Warramunga Arr 68.81 101 P **P 15 58 49.5 -1.7**
WB2 IAmb IAmb 15 59 01.0
comp=Z,10nm,1.1s
WRAB Tennant Creek 68.81 101 P **P 15 58 49.2 -1.9**
WRAB IAmb IAmb 15 59 00.4
comp=Z,8.3nm,1.1s
LSA Lhasa 69.02 31 P **P 15 58 52.3 -0.4**
LSA IAmb IAmb 15 58 56.1
comp=Z,7.7nm,0.7s
STKA Stephens Creek 69.41 115 P **P 15 58 54.9 +0.2**
comp=Z,2.3nm,0.9s,baz=196,slow=7.4,SNR=3.8
comp=Z,2.3nm,0.9s
TORD Torodi Ar. Bea 69.75 301 P **P 15 58 55.8 -1.1**
DBIC Dimbokro 70.71 291 PKIKP **PKPdf 15 59 04.3 -0.4**
DBIC Dimbokro 70.71 291 P **P 15 59 04.3 +1.5**
comp=Z,2.4nm,0.7s,baz=101,slow=8.4,SNR=3.7
comp=Z,2.4nm,0.7s
SIMJ Simiganj 70.96 9 P **P 15 59 03.6 -0.3**
SIMJ IAmb IAmb 15 59 13.2
comp=Z,13nm,1.1s
CHGR Chuyangaron 70.98 10 P **P 15 59 03.9 0.0**
PZH PanZhiHua 71.70 41 P **P 15 59 11.9 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
BTK Batken 72.60 11 P **P 15 59 13.4 -0.2**
BTK IAmb IAmb 15 59 15.5
comp=Z,5.8nm,0.8s
KARP Karpathos 72.88 334 P **P 15 59 15.4 0.0**
KSH Kashi 73.04 15 P **P 15 59 13.8 -2.6**
KSH sP pwP 15 59 21.3 -2.8
KSH pmax pmax
comp=Z,13nm,0.7s
BNN Bunyan 73.20 342 P **P 15 59 17.4 0.0**
BNN IAmb IAmb 15 59 26.6
comp=Z,14nm,0.9s
KIRS Kirsehir-Merke 73.98 341 ⇓P **P 15 59 22.6 +0.7**
ARSB Arslanbob 74.19 12 P **P 15 59 23.4 +0.3**
BR131 Keskin Array S 74.61 341 P **P 15 59 25.3 -0.3**
BRTR Keskin Array B 74.61 341 P **P 15 59 24.9 -0.7**
BRTR Keskin Array B 74.61 341 P **P 15 59 25.6 -0.1**
comp=Z,2.3nm,0.8s,baz=169,slow=7.1,SNR=15
comp=Z,2.3nm,0.8s
WUS Wushi 75.39 17 P **P 15 59 30.6 +0.5**
KK31 Karatay Array 75.53 10 P **P 15 59 31.4 +0.7**
KK31 IAmb IAmb 15 59 34.8
comp=Z,9.4nm,0.8s
KKAR Karatay Array 75.53 10 P **P 15 59 31.0 +0.3**
AAK Ala-Archa 75.74 13 P **P 15 59 32.5 +0.4**
AAK IAmb IAmb 15 59 36.8
comp=Z,12nm,1.5s
KDJ Kajisay 75.80 15 P **P 15 59 32.6 +0.2**
KDJ IAmb IAmb 15 59 35.7
comp=Z,8.3nm,0.8s
BOOM Boomskoye usch 75.88 14 P **P 15 59 32.8 -0.1**
GOMU GeErMu 76.16 30 P **P 15 59 37.3 +2.4**
GOMU pP pwP 15 59 40.1 -0.9
GOMU sP PcP 15 59 44.3 -2.7
GOMU pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 80.29 36 *eP* P 16 00 07.0 +9.4
LZH pP PcP 16 00 12.9 +8.2
LZH pmax pmax
comp=Z,16nm,1.4s
ABKAR Akbulak array 80.78 2 P **P 15 59 59.5 -0.1**
GTA Gaotai 81.02 32 *eP* **P 16 00 01.8 +0.5**
GTA pmax pmax
comp=Z,3.0nm,0.7s
CFR Carcaliu 81.21 339 ⇑P **P 16 00 02.4 +0.4**
MAKZ Makanchi 81.34 17 P **P 16 00 02.3 -0.4**
MK31 Makanchi Array 81.40 17 P **P 16 00 02.7 -0.3**
MKAR Makanchi Array 81.40 17 P **P 16 00 02.4 -0.6**
MKAR Makanchi Array 81.40 17 P **P 16 00 03.0 0.0**
comp=Z,3.5nm,0.7s,baz=197,slow=3.8,SNR=19
comp=Z,3.5nm,0.7s
MLR Muntele Rosu 82.17 338 ⇑P **P 16 00 07.2 0.0**
VRI Vrincioaia 82.26 339 ⇑P **P 16 00 08.3 +0.7**
PLOR Plostina 82.27 339 ⇓P **P 16 00 07.1 -0.6**
VOIR 82.41 338 ⇓P **P 16 00 07.8 -0.6**
ARR Arges 82.48 337 ⇓P **P 16 00 07.8 -1.0**
KURBB Kurchatov Arra 84.19 13 P **P 16 00 17.9 +0.5**
comp=Z,8.6nm,0.9s,baz=207,slow=5.8,SNR=34
comp=Z,8.6nm,0.9s
KURK Kurchatov 84.29 13 P **P 16 00 17.7 -0.1**
BVAR Borovoye Array 85.26 8 P **P 16 00 23.3 +0.6**
comp=Z,15nm,0.8s,baz=181,slow=5.4,SNR=39
comp=Z,15nm,0.8s
BRVK Borovoye 85.28 8 P **P 16 00 22.9 +0.1**
BRVK IAmb IAmb 16 00 26.2
comp=Z,11nm,0.8s
AKASG Malin Array Be 85.94 342 P **P 16 00 26.1 -0.1**
comp=Z,0.3nm,0.5s,baz=153,slow=5.6,SNR=4.5
comp=Z,0.3nm,0.5s
ARTI Arti 87.90 0 P **P 16 00 35.6 0.0**
ARTI IAmb IAmb 16 00 38.7
comp=Z,6.6nm,1.0s
ABTA Abfaltersbach 88.18 331 *eP* **P 16 00 38.5 +1.2**
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 88.65 16 P **P 16 00 38.1 -1.0**
ZALV Zalesovo Beam 88.65 16 P **P 16 00 38.4 -0.8**
comp=Z,3.7nm,1.0s,baz=202,slow=6.5,SNR=9.5
comp=Z,3.7nm,1.0s
WTTA Wattenberg 88.95 331 *eP* **P 16 00 41.3 +0.3**
comp=Z,1.4nm,0.5s
SONM Songino Array 90.60 30 P **P 16 00 49.0 +0.3**
comp=Z,1.6nm,0.9s,baz=213,slow=5.0,SNR=8.6
comp=Z,1.6nm,0.9s
ESDC Sonseca Array 91.21 317 P **P 16 00 51.9 +0.3**
comp=Z,0.8nm,0.9s,baz=129,slow=4.9,SNR=3.0
comp=Z,0.8nm,0.9s
ILAR Eielson Array 143.75 17 PKP **PKPdf 16 07 20.1 -0.7**
comp=Z,0.7nm,0.8s,baz=307,slow=3.3,SNR=7.2
YKA Yellowknife Ar 148.94 353 PKPbc **PKPbc 16 07 33.5 -0.1**
comp=Z,4.3nm,0.8s,baz=360,slow=2.1,SNR=39
ULM Lac du Bonnet 153.06 321 PKPbc **PKPbc 16 07 43.4 -0.3**
comp=Z,3.3nm,0.8s,baz=32,slow=3.6,SNR=7.7

TXNET 17 16:07:56.4, 31°.2N±0°.7×103°.5W±0°.6, h4km±1km, ML2.1/8, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.9km az=162.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.07**	**203**	⇑P	Pg	16 07 58.3	+0.3
TPB03				S	Sg	16 07 59.7	+0.7
TPB03	**Saragosa**	**0.07**	**203**	P	Pg	16 07 58.4	+0.4
TPB03				S	Sg	16 07 59.9	+0.8
TPB04	**Verhalen**	**0.19**	**79**	P	Pg	16 08 00.7	+0.6
TPB04				S	Sg	16 08 03.8	+1.3
TPB04	**Verhalen**	**0.19**	**79**	P	Pg	16 08 00.7	+0.6
TPB04				S	Sg	16 08 04.7	+2.1
TPB16	**Coyonosa**	**0.20**	**97**	P	Pg	16 08 01.2	+0.9
TPB16				S	Sg	16 08 04.7	+1.8
TPB16	**Coyonosa**	**0.20**	**97**	P	Pg	16 08 01.2	+0.9
TPB16				S	Sg	16 08 02.9	0.0
PCOS	**Crockett Middl**	**0.26**	**355**	S	Sb	16 08 08.1	-0.5
PCOS	**Crockett Middl**	**0.26**	**355**	P	Pb	16 08 03.9	+0.2
PCOS				S	Sb	16 08 08.2	-0.3
TPB05	**Hovey Rd**	**0.27**	**150**	P	Pg	16 08 02.6	+1.1
TPB05				S	Sg	16 08 06.7	+1.6
TPB05	**Hovey Rd**	**0.27**	**150**	P	Pb	16 08 02.7	-1.1
TPB05				S	Sg	16 08 06.9	+1.8
TPB10	**Southeast of T**	**0.27**	**300**	P	Pb	16 08 03.3	-0.6
TPB10				S	Sb	16 08 09.0	+0.1
TPB10	**Southeast of T**	**0.27**	**300**	P	Pb	16 08 04.0	+0.1
TPB01	**Permian Basin**	**0.33**	**231**	P	Pg	16 08 03.8	+1.0
TPB01				S	Sb	16 08 09.2	-1.4
TPB01	**Permian Basin**	**0.33**	**231**	P	Pb	16 08 03.9	-1.0
TPB01				S	Sg	16 08 05.2	-1.9
PECS	**Pecos**	**0.40**	**304**	P	Pb	16 08 05.4	-0.7
PECS				S	Sb	16 08 12.1	-0.5
PECS	**Pecos**	**0.40**	**304**	P	Pb	16 08 05.5	-0.6
TPB12	**Southwest of T**	**0.41**	**279**	P	Pb	16 08 05.9	-0.5
TPB12				S	Sb	16 08 12.6	-0.4
TPB12	**Southwest of T**	**0.41**	**279**	P	Pg	16 08 04.8	+0.4
TPB12				S	Sg	16 08 08.5	-1.3
TPB06	**Permian Basin**	**0.54**	**24**	S	Sb	16 08 15.7	-1.1
TPB08	**Permian Basin**	**0.56**	**117**	S	Sb	16 08 16.3	-0.8
MNHN	**Monahans**	**0.65**	**73**	P	Pg	16 08 08.8	0.0
MNHN				S	Sg	16 08 17.5	+0.3
ALPN	**Alpine**	**0.79**	**190**	⇓P	Pg	16 08 11.6	+0.1
ALPN				S	Sg	16 08 22.1	+0.5
TPB11	**China Draw**	**0.91**	**329**	S	Sb	16 08 27.8	+0.3
CLNB	**Carlsbad**	**1.16**	**343**	S	Sn	16 08 35.9	0.0
NM01	**Eunice**	**1.20**	**3**	S	Sn	16 08 37.4	+0.4
TMB02	**Rankin**	**1.24**	**87**	P	Pg	16 08 19.9	-0.3
TMB02				S	Sb	16 08 36.8	+0.1
ODSA	**Odessa**	**1.25**	**39**	P	Pg	16 08 19.7	-0.7
ODSA				S	Sb	16 08 37.2	0.0
HTMS	**Hat Mesa**	**1.32**	**354**	S	Sn	16 08 44.8	+4.8
VHRN	**Van Horn**	**1.34**	**255**	P	Pb	16 08 22.3	+0.1
VHRN				S	Sn	16 08 41.0	+0.6
SAND	**Sanderson**	**1.67**	**135**	P	Pb	16 08 27.6	-0.1
SAND				S	Sg	16 08 50.3	+0.2
TMB04	**Seminole**	**1.70**	**30**	P	Pb	16 08 27.7	-0.5
TMB04				S	Sg	16 08 50.7	-0.2
MNTX	**Cornudas Mount**	**1.71**	**289**	P	Pb	16 08 28.8	+0.3
MNTX				S	Sg	16 08 52.4	+0.9
TX31	**Lajitas Ar. Si**	**1.82**	**185**	P	Pb	16 08 30.0	-0.3
TX31				S	Sg	16 08 54.3	-0.5
OZNA	**Ozona**	**2.03**	**96**	Pg	Pb	16 08 33.4	-0.6
OZNA				Sg	Sb	16 09 00.6	+0.9

TRN 17 16:29:41.2, 17°.04N×61°.78W, h38km, MD3.6, 2C-2D, Near South coast of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**0.01**	**59**	⇓*i*P	Pn	16 29 48.4	+1.0
ANBD				*e*S	Sn	16 29 53.8	+2.1
ANBD	**Bethesda, Anti**	**0.01**	**59**	⇓*i*P	Pn	16 29 48.4	+1.0
MBWH		**0.49**	**233**	*e*P	Pn	16 29 53.1	+1.3
MBWH				*e*S	Sn	16 30 02.1	+2.8
MBWH		**0.49**	**233**	*e*P	Pn	16 29 53.1	+1.3
MBFL	**Flemmings, Mon**	**0.51**	**235**	*e*P	Pn	16 29 53.3	+1.3
MBFL				*e*S	Sn	16 30 01.9	+2.3
MBFL	**Flemmings, Mon**	**0.51**	**235**	*e*P	Pn	16 29 53.3	+1.3
ANWB	**Willy Bob**	**0.62**	**359**	⇑*i*P	Pn	16 29 54.9	+1.1
ANWB				*e*S	Sn	16 30 05.4	+2.9
ANWB	**Willy Bob**	**0.62**	**359**	⇑*i*P	Pn	16 29 54.9	+1.1
SKOC	**St. Kitts, UWI**	**0.95**	**286**	*e*P	Pn	16 29 59.3	+1.3
SKOC				*e*S	Sn	16 30 12.7	+2.4
SKOC	**St. Kitts, UWI**	**0.95**	**286**	*e*P	Pn	16 29 59.3	+1.3
SKOC				*e*S	Sn	16 30 12.7	+2.4
SKI	**Saint Kitts**	**0.96**	**288**	*e*P	Pn	16 30 00.6	+2.3
SKI				*e*S	Sn	16 30 13.3	+2.5
SKI	**Saint Kitts**	**0.96**	**288**	*e*P	Pn	16 30 00.6	+2.3
TBG	**Guadaloupe-3**	**1.19**	**174**	*e*P	Pn	16 30 03.0	+1.7
TBG				*e*S	Sn	16 30 19.7	+3.4
TBG	**Guadaloupe-3**	**1.19**	**174**	*e*P	Pn	16 30 03.0	+1.7
DSLB	**Salisbury**	**1.63**	**168**	*e*P	Pn	16 30 09.4	+2.0
DSLB				*e*S	Sn	16 30 29.4	+2.2
DSLB	**Salisbury**	**1.63**	**168**	*e*P	Pn	16 30 09.4	+2.0
DSLB				*e*S	Sn	16 30 29.4	+2.2
MDN	**Morne-Daniel**	**1.75**	**168**	*e*P	Pn	16 30 11.2	+2.1
MDN				*e*S	Sn	16 30 33.2	+3.0
MDN	**Morne-Daniel**	**1.75**	**168**	*e*P	Pn	16 30 11.2	+2.1
MDN				*e*S	Sn	16 30 33.2	+3.0
ILAM	**Ilet Lapin Mar**	**2.42**	**159**	*e*S	Sn	16 30 47.9	+1.3
ILAM	**Ilet Lapin Mar**	**2.42**	**159**	*e*S	Sn	16 30 47.9	+1.3
BIM	**Bigot**	**2.60**	**165**	*e*P	Pn	16 30 22.7	+1.9
BIM				*e*S	Sn	16 30 52.3	+1.1
BIM	**Bigot**	**2.60**	**165**	*e*P	Pn	16 30 22.7	+1.9
BIM				*e*S	Sn	16 30 52.3	+1.1
SLBI	**Saint Lucia, B**	**3.10**	**165**	*e*P	Pn	16 30 30.3	+2.7
SLBI				*e*S	Sn	16 31 04.7	+1.3
SLBI	**Saint Lucia, B**	**3.10**	**165**	*e*P	Pn	16 30 30.3	+2.7
SLBI				*e*S	Sn	16 31 04.7	+1.3

IDC 17 16:31:52.4±1.5, 13°.39N×119°.91E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=30.4km s-min=25.7km az=129.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.23**	**55**	Pn	Pb	16 32 16.8	+0.1
292nm,0.3s,baz=241,slow=2.2,SNR=17							
TGY				Sn	Sg	16 32 29.3	-2.7
153nm,0.3s,baz=235,slow=22,SNR=5.8							
CMAR	**Chiang Mai Arr**	**20.77**	**287**	P	P	16 36 35.5	+0.3
0.4nm,0.5s,baz=96,slow=9.8,SNR=7.3							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**36.04**	**157**	P	P	16 38 55.4	-0.3
0.5nm,0.8s,baz=327,slow=10,SNR=5.2							
0.5nm,0.8s							
ASAR	**Alice Springs**	**39.29**	**159**	P	P	16 39 23.4	+0.1
0.5nm,0.6s,baz=337,slow=6.7,SNR=11							
0.5nm,0.6s							

NOU 17 16:49:20.2, 10°.92S×163°.94E, h189km, MLv4.7/10, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**2.05**	**283**	P	Pn	16 49 57.3	-1.2
ALEG	**Aligegeo Malai**	**3.85**	**304**	P	Pn	16 50 19.3	-0.5
ALEG	**Aligegeo Malai**	**3.85**	**304**	S	Sn	16 51 06.5	0.0
NGOA	**Tingoa Renbel**	**3.86**	**260**	P	Pn	16 50 20.4	+0.6
TATA	**Tatamba Isabel**	**4.79**	**301**	P	Pn	16 50 32.5	+0.8
TATA	**Tatamba Isabel**	**4.79**	**301**	S	Sn	16 51 29.6	+1.7
KOUNC	**Koumac, New Ca**	**9.58**	**178**	P	Pn	16 51 34.5	+0.3
DZM	**Mont Dzumac**	**11.35**	**168**	P	Pn	16 51 57.0	-0.1
ALOT	**Alotau**	**13.26**	**271**	P	Pn	16 52 20.6	-0.9
ALOT	**Alotau**	**13.26**	**271**	S	Sn	16 54 49.7	+0.4

IDC ***17*** *17:01:29.0±0.6, 53°.59N×161°.43E, h0km, mb3.9/26, mbtmp3.9/32, ML4.3/5, Error ellipse: s-maj=14.4km s-min=13.0km az=171.0*
KRSC ***17*** *17:01:30.0±1.1, 53°.31N×161°.88E, h60km±20km, Ml4.3*
NEIC ***17*** *17:01:31.6±2.1, 53°.62N±0°.10×161°.3E±0°.2, h10km±1km, mb4.4/18, Error ellipse: s-maj=20.4km s-min=12.3km az=135.0*
MOS ***17*** *17:01:34.6±1.2, 53°.48N×161°.50E, h56km, mb4.4/15, Error ellipse: s-maj=7.1km s-min=4.6km az=86.4*
ISC 17 17:01:31.4±1.6, 53°.45N±0°.05×161°.68E±0°.04, h19km±6km, n182, σ1971/192, mb4.1/54, 13C-13D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.06**	**251**	PN	**Pb**	**17 01 51.0**	**0.0**
SPN				S	**Sn**	**17 02 05.5**	**+0.3**
SPN	**Mys Shipunski**	**1.06**	**251**	*e*P	**Pb**	**17 01 51.1**	**0.0**
SPN				*e*S	**Sn**	**17 02 05.5**	**+0.3**
NLC	**Nalytchevo**	**1.43**	**260**	PN	**Pn**	**17 01 56.7**	**+0.5**
NLC				S	**Sb**	**17 02 15.5**	**+0.4**
NLC	**Nalytchevo**	**1.43**	**260**	*e*P	**Pn**	**17 01 56.8**	**+0.5**
NLC				*e*S	**Sb**	**17 02 15.6**	**+0.4**
KII	**Karymskiy**	**1.45**	**295**	PN	**Pn**	**17 01 57.2**	**+0.6**
KII	**Karymskiy**	**1.45**	**295**	*e*P	**Pn**	**17 01 57.2**	**+0.6**
UGLR	**Uglovaya**	**1.73**	**263**	PN	**Pb**	**17 02 01.9**	**-0.7**
UGLR	**Uglovaya**	**1.73**	**263**	*i* P	**Pb**	**17 02 01.9**	**-0.7**
AVH	**Avacha**	**1.77**	**265**	PN	**Pn**	**17 02 02.4**	**+1.4**
AVH	**Avacha**	**1.77**	**265**	*e*P	**Pn**	**17 02 02.5**	**+1.4**
DALK	**Dalny**	**1.81**	**258**	PN	**Pn**	**17 02 01.5**	**+0.1**
DALK	**Dalny**	**1.81**	**258**	*e*P	**Pn**	**17 02 01.6**	**+0.1**
KRX	**Arik**	**1.82**	**268**	PN	**Pn**	**17 02 02.6**	**+0.9**
KRX	**Arik**	**1.82**	**268**	*i* P	**Pn**	**17 02 02.7**	**+0.9**
KOK	**Koryaka**	**1.83**	**266**	PN	**Pn**	**17 02 03.2**	**+1.4**
KOK	**Koryaka**	**1.83**	**266**	*i* P	**Pn**	**17 02 03.3**	**+1.4**
PET	**Petropavlovsk**	**1.87**	**258**		**Pn**	**17 02 03.0**	**+0.7**
PET	**Petropavlovsk**	**1.87**	**258**	*c i*PN	**Pn**	**17 02 02.8**	**+0.5**
PET	**Petropavlovsk**	**1.87**	**258**	*e*P	**Pn**	**17 02 02.9**	**+0.7**
PET				*e*S	**Sn**	**17 02 26.4**	**+1.1**
TUMD	**Tumrok D**	**1.91**	**337**	*e*P	**Pn**	**17 02 04.7**	**+1.7**
TUMD				*e*S	**Sn**	**17 02 28.9**	**+2.5**
RUS	**Russkaya**	**2.17**	**243**	PN	**Pn**	**17 02 07.0**	**+0.6**
RUS				S	**Sn**	**17 02 33.5**	**+0.8**
RUS	**Russkaya**	**2.17**	**243**	*e*P	**Pn**	**17 02 07.0**	**+0.6**
RUS				*e*S	**Sn**	**17 02 33.6**	**+0.8**
KRMR	**Karymshinskiy**	**2.23**	**255**	PN	**Pn**	**17 02 08.0**	**+0.8**
KRMR				S	**Sn**	**17 02 35.2**	**+1.1**
KRMR	**Karymshinskiy**	**2.23**	**255**	*e*P	**Pn**	**17 02 08.1**	**+0.8**
KRMR				*e*S	**Sn**	**17 02 35.3**	**+1.1**
GNL	**Ganaly**	**2.25**	**278**	PN	**Pb**	**17 02 10.0**	**-1.3**
GNL	**Ganaly**	**2.25**	**278**	*e*P	**Pb**	**17 02 10.1**	**-1.3**
GRL	**Gorelyy**	**2.36**	**249**	PN	**Pn**	**17 02 10.7**	**+1.6**
GRL	**Gorelyy**	**2.36**	**249**	*e*P	**Pn**	**17 02 10.8**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.42**	**264**	Pn	**Pn**	**17 02 11.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.42**	**264**	*c i*PN	**Pn**	**17 02 11.8**	**+2.0**
PETK	**Petropavlovsk-**	**2.42**	**264**	Pn	**Pn**	**17 02 10.0**	**+0.2**
PETK	**Petropavlovsk-**	**2.42**	**264**	Pn	**Pn**	**17 02 12.1**	**+2.3**
29nm,0.3s,baz=86,slow=20,SNR=94							
PETK				Sn	**Sn**	**17 02 40.8**	**+1.9**
16nm,0.3s,baz=83,slow=18,SNR=8.9							
PETK	**Petropavlovsk-**	**2.42**	**264**	PN	**Pn**	**17 02 10.0**	**+0.2**
KMNR	**Kamenistaya**	**2.46**	**341**	PN	**Pb**	**17 02 13.9**	**-1.1**
KMNR	**Kamenistaya**	**2.46**	**341**	*e*P	**Pb**	**17 02 14.0**	**-1.1**
KIRR	**Kirishev**	**2.63**	**343**	PN	**Pn**	**17 02 15.8**	**+3.0**
KIRR	**Kirishev**	**2.63**	**343**	*e*P	**Pn**	**17 02 15.9**	**+3.0**
CIRR	**Tsirk**	**2.73**	**349**	PN	**Pn**	**17 02 17.2**	**+3.0**
CIRR	**Tsirk**	**2.73**	**349**	*e*P	**Pn**	**17 02 17.2**	**+3.0**
APC	**Apacha**	**2.77**	**261**	PN	**Pn**	**17 02 17.1**	**+2.4**
APC	**Apacha**	**2.77**	**261**	*e*P	**Pn**	**17 02 17.1**	**+2.4**
KOZ	**Kozyrevsk**	**2.82**	**339**	PN	**Pn**	**17 02 18.4**	**+3.1**
KOZ	**Kozyrevsk**	**2.82**	**339**	*e*P	**Pn**	**17 02 18.5**	**+3.1**
KBTR	**Krutoberegovo**	**2.84**	**13**	PN	**Pn**	**17 02 17.2**	**+1.6**
KBTR	**Krutoberegovo**	**2.84**	**13**	*e*P	**Pn**	**17 02 17.3**	**+1.6**
KRSR	**Krestovskiy**	**2.85**	**347**	PN	**Pn**	**17 02 18.4**	**+2.6**
KRSR	**Krestovskiy**	**2.85**	**347**	*e*P	**Pn**	**17 02 18.4**	**+2.6**
KBG	**Krutoberegovo**	**2.88**	**11**	PN	**Pn**	**17 02 18.2**	**+2.2**
KBG	**Krutoberegovo**	**2.88**	**11**	*e*P	**Pn**	**17 02 18.3**	**+2.2**
KLY	**Klyuchi**	**2.93**	**349**	PN	**Pn**	**17 02 19.0**	**+2.1**
KLY	**Klyuchi**	**2.93**	**349**	*e*P	**Pn**	**17 02 19.0**	**+2.1**
ESO	**Esso**	**3.03**	**326**	PN	**Pn**	**17 02 20.7**	**+2.5**
ESO	**Esso**	**3.03**	**326**	*e*P	**Pn**	**17 02 20.7**	**+2.5**
BKI	**Bering**	**3.07**	**53**	PN	**Pn**	**17 02 19.2**	**+0.5**
BKI	**Bering**	**3.07**	**53**	*e*P	**Pn**	**17 02 19.2**	**+0.5**
BKI				*e*S	**Sn**	**17 02 52.5**	**-2.2**
SRDR	**Sredinnyy**	**3.09**	**339**	PN	**Pn**	**17 02 21.7**	**+2.6**
SRDR	**Sredinnyy**	**3.09**	**339**	*e*P	**Pn**	**17 02 21.8**	**+2.6**
SMKR	**Semkarok**	**3.14**	**358**	PN	**Pn**	**17 02 22.6**	**+2.8**
SMKR	**Semkarok**	**3.14**	**358**	*e*P	**Pn**	**17 02 22.7**	**+2.8**
PAU	**Pauzhetka**	**3.58**	**238**	PN	**Pn**	**17 02 27.1**	**+1.3**
PAU	**Pauzhetka**	**3.58**	**238**	*e*P	**Pn**	**17 02 27.1**	**+1.3**
SKR	**Severo-Kuril's**	**4.41**	**233**	*e*PN	**Pn**	**17 02 40.5**	**+3.3**
SKR				pmax	pmax		
comp=Z,23nm,0.6s							
SKR				MLR	MLR		
comp=Z,200nm,12.0s							
SKR	**Severo-Kuril's**	**4.41**	**233**	*e*P	**Pn**	**17 02 37.4**	**+0.2**
SKR				*e*S	**Sn**	**17 03 26.6**	**-1.4**
OSSR	**Ossora**	**5.87**	**7**	PN	**Pn**	**17 02 58.9**	**+1.8**
OSSR	**Ossora**	**5.87**	**7**	*e*P	**Pn**	**17 02 58.9**	**+1.8**
SHEM	**Shemya Is, Ala**	**7.51**	**91**	Pn	**Pn**	**17 03 21.1**	**+1.4**
comp=Z,9.2nm,0.3s,baz=269,slow=18,SNR=6.9							
SHEM				Sn	**Sn**	**17 04 39.1**	**-5.2**
comp=Z,1.9nm,0.3s,baz=319,slow=20,SNR=6.2							
comp=Z,20nm,0.3s							
MA2	**Magadan**	**8.60**	**320**	Pn	**Pn**	**17 03 35.9**	**+1.2**
comp=Z,0.3nm,0.3s,baz=126,slow=10,SNR=14							
comp=Z,3.5nm,0.7s							
MA2	**Magadan**	**8.60**	**320**	⇑*e*PN	**Pn**	**17 03 31.5**	**-3.2**
MA2				pmax	pmax		
comp=Z,6.0nm,1.7s							
SEY	**Seymchan**	**10.69**	**337**	Pn	**Pn**	**17 04 03.0**	**-0.2**
comp=Z,0.2nm,0.2s,baz=162,slow=23,SNR=2.2							
SEY	**Seymchan**	**10.69**	**337**	PN	**Pn**	**17 04 03.0**	**-0.2**
BILL	**Bilibino**	**14.80**	**7**	Pn	**Pn**	**17 04 59.5**	**+0.1**
BILL	**Bilibino**	**14.80**	**7**	⇑*e*P	**P**	**17 05 02.9**	**-2.2**
BILL				pmax	pmax		
comp=Z,3.0nm,0.9s							
JKA	**Kamikawa-asahi**	**15.62**	**241**	Pn	**Pn**	**17 05 05.8**	**-4.5**
JKA				IAmb	IAmb	17 05 41.5	
comp=Z,36nm,1.2s							
ASAJ	**Asahikawa**	**15.62**	**241**	Pn	**Pn**	**17 05 10.2**	**-0.1**
comp=Z,0.5nm,0.3s,baz=43,slow=19,SNR=1.5							
comp=Z,7.5nm,0.7s							
YAK	**Yakutsk**	**18.94**	**310**	P	**P**	**17 05 47.4**	**-3.4**
YAK				IAmb	IAmb	17 05 50.3	
comp=Z,20nm,0.5s							
YAK	**Yakutsk**	**18.94**	**310**	P	**P**	**17 05 49.6**	**-1.2**
comp=Z,3.5nm,0.3s,baz=26,slow=3.3,SNR=11							
comp=Z,14nm,0.4s							
YAK	**Yakutsk**	**18.94**	**310**	*de*P	**P**	**17 05 49.5**	**-1.2**
YAK				pmax	pmax		
comp=Z,16nm,1.0s							
KLR	**Kul'dur**	**19.09**	**269**	P	**P**	**17 05 51.5**	**-1.2**
comp=Z,0.2nm,0.3s,baz=61,slow=10,SNR=9.1							
comp=Z,2.8nm,0.8s							
KLR	**Kul'dur**	**19.09**	**269**	*e*P	**Pn**	**17 05 53.8**	**+0.3**
KLR				pmax	pmax		
comp=Z,4.0nm,1.0s							
ZEA	**Zeya**	**20.33**	**285**	*e*P	Pn	17 06 09.8	+1.7
J14K	**Nanvaranak Lak**	**20.34**	**49**	P	Pn	17 06 08.8	+0.6
USA0B	**Ussuriysk Arra**	**21.49**	**257**	P	**P**	**17 06 14.1**	**-4.5**
USA0B				IAmb	IAmb	17 06 40.6	

GTA	Gaotai	43.51	277	eP	P	17 09 33.5	0.0
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SPITS	Spitsbergen Ar	46.94	351	P	P	17 09 58.7	-1.4
	comp=Z,3.4nm,0.5s,baz=67,slow=7.3,SNR=11						
	comp=Z,3.4nm,0.5s						
KURK	Kurchatov	48.35	302	P	P	17 10 09.4	-2.0
KURK	Kurchatov	48.35	302⇑	eP	P	17 10 10.7	-0.6
KURK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KURBB	Kurchatov Arra	48.45	302	P	P	17 10 09.6	-2.5
	comp=Z,1.2nm,0.4s,baz=58,slow=7.6,SNR=9.6						
KURBB				PcP	PcP	17 11 37.6	-0.5
	comp=Z,0.4nm,0.3s,baz=55,slow=3.2,SNR=1.8						
	comp=Z,1.2nm,0.4s						
MK31	Makanchi Array	48.86	296	P	P	17 10 13.3	-2.0
MK31				IAmb	IAmb	17 10 24.1	
	comp=Z,3.0nm,1.5s						
MK31	Makanchi Array	48.86	296	P	P	17 10 13.3	-2.0
MK31				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MKAR	Makanchi Array	48.86	296	P	P	17 10 13.9	-1.5
MKAR	Makanchi Array	48.86	296	P	P	17 10 13.2	-2.1
	comp=Z,0.5nm,0.5s,baz=56,slow=6.6,SNR=17						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	48.86	296	eP	P	17 10 14.2	-1.1
MAKZ	Makanchi	49.02	296	P	P	17 10 15.0	-1.5
MAKZ				IAmb	IAmb	17 10 16.6	
	comp=Z,3.3nm,1.3s						
MAKZ	Makanchi	49.02	296	P	P	17 10 15.0	-1.5
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
BVAR	Borovoye Array	50.91	309	P	P	17 10 29.0	-1.8
	comp=Z,1.1nm,0.5s,baz=58,slow=8.2,SNR=7.0						
	comp=Z,1.1nm,0.5s						
PZH	PanZhiHua	51.38	263	P	P	17 10 34.9	+0.1
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
ARCES	ARCESS Array B	53.24	342	P	P	17 10 46.6	-1.3
	comp=Z,8.3nm,1.0s,baz=28,slow=7.9,SNR=2.5						
	comp=Z,8.3nm,1.0s						
NVAR	Mina Array Bea	54.72	71	P	P	17 11 00.2	+0.8
	comp=Z,0.4nm,0.7s,baz=314,slow=8.0,SNR=1.7						
	comp=Z,0.4nm,0.7s						
AAK	Ala-Archa	55.77	297⇓	eP	P	17 11 06.4	-0.5
PDAR	Pinedale Array	56.51	62	P	P	17 11 13.3	+1.0
	comp=Z,0.3nm,0.7s,baz=268,slow=8.6,SNR=2.3						
	comp=Z,0.3nm,0.7s						
PHRA	Phrae	58.40	258	P	P	17 11 25.1	-0.4
CHTO	Chiang Mai	58.91	260	P	P	17 11 29.6	+0.5
CHTO	Chiang Mai	58.91	260	P	P	17 11 29.6	+0.5
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	Chiang Mai Arr	59.19	259	P	P	17 11 32.2	+1.2
	comp=Z,2.9nm,0.8s,baz=22,slow=6.7,SNR=21						
	comp=Z,2.9nm,0.8s						
CMAR	Chiang Mai Arr	59.19	259	eP	P	17 11 32.6	+1.6
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	60.17	337	P	P	17 11 37.5	+0.3
	comp=Z,2.7nm,0.7s,baz=38,slow=8.1,SNR=12						
	comp=Z,2.7nm,0.7s						
FINES	FINESS Array B	60.17	337	eP	P	17 11 37.9	+0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BELG	Belogornoye	61.06	320de	P	P	17 11 43.6	+0.2
BELG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	NORSAR Subarra	63.46	344	P	P	17 12 00.0	+0.6
	comp=Z,0.9nm,0.6s,baz=20,slow=6.9						
NB2	NORSAR Subarra	63.46	344	P	P	17 12 00.0	+0.6
NOA	NORSAR Array B	63.46	344	P	P	17 11 59.7	+0.3
	comp=Z,1.1nm,0.6s,baz=23,slow=6.0,SNR=8.1						
	comp=Z,1.1nm,0.6s						
NOA	NORSAR Array B	63.46	344	eP	P	17 12 00.0	+0.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	Hagfors	63.90	343	P	P	17 12 02.1	-0.1
	comp=Z,1.4nm,0.5s,baz=33,slow=3.5,SNR=13						
	comp=Z,1.4nm,0.5s						
AKASG	Malin Array Be	68.79	330	P	P	17 12 33.1	-0.6
	comp=Z,0.7nm,0.4s,baz=32,slow=6.2,SNR=5.4						
	comp=Z,0.7nm,0.4s						
AKASG	Malin Array Be	68.79	330	eP	P	17 12 33.7	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	Malin Array Si	68.79	330	i P	P	17 12 32.7	-1.0
TXAR	Lajitas Array	69.62	68	P	P	17 12 40.3	+1.0
	comp=Z,0.5nm,0.5s,baz=289,slow=3.4,SNR=5.8						
	comp=Z,0.5nm,0.5s						
KBZ	Khabaz	69.93	317	P	P	17 12 40.4	-0.4
	comp=Z,2.0nm,0.9s,baz=56,slow=11,SNR=2.2						
	comp=Z,2.0nm,0.9s						
EKA	Eskdalemuir Ar	70.86	351	P	P	17 12 46.5	+0.1
	comp=Z,2.0nm,0.8s,baz=64,slow=12,SNR=1.7						
	comp=Z,2.0nm,0.8s						
SORM	Soroca	71.33	329	⇑P	P	17 12 50.1	+0.8
SORM	Soroca	71.33	329	⇑P	P	17 12 50.1	+0.8
CLL	Collm	72.36	340	eP	P	17 12 56.0	+0.6
CLL	Collm	72.36	340	eP	P	17 12 56.0	+0.6
BUR08	Bucovina Ar. S	72.72	331	P	P	17 12 56.9	-0.9
BUR08				IAmb	IAmb	17 13 01.9	
	comp=Z,4.3nm,1.4s						
BURAR	Bucovina Array	72.74	331	⇓P	P	17 12 58.9	+1.0
BURAR	Bucovina Array	72.74	331	⇓P	P	17 12 58.9	+1.0
LANS	Liptovska Anna	72.90	335	eP	P	17 13 01.2	+2.4
LANS	Liptovska Anna	72.90	335	eP	P	17 13 01.2	+2.4
DRGR		74.20	332	⇑P	P	17 13 07.4	+0.9
DRGR		74.20	332	⇑P	P	17 13 07.4	+0.9
KHC	Kasperske Hory	74.29	339⇑	eP	P	17 13 08.9	+1.9
KHC				pmax	pmax		
	comp=Z,20nm,2.5s						
MLR	Muntele Rosu	74.44	329	⇓P	P	17 13 09.8	+1.8
MLR	Muntele Rosu	74.44	329	⇓P	P	17 13 09.8	+1.8
GERES	GERESS Array B	74.54	339	P	P	17 13 08.3	-0.2
	comp=Z,1.2nm,0.6s,baz=40,slow=5.2,SNR=7.5						
	comp=Z,1.2nm,0.6s						
VOIR		74.76	330	⇓P	P	17 13 12.0	+2.2
VOIR		74.76	330	⇓P	P	17 13 12.0	+2.2
CONA	Conrad Observa	74.91	337	eP	P	17 13 12.3	+1.7
	comp=Z,0.3nm,0.3s						
ARR	Arges	74.94	330	⇑P	P	17 13 13.7	+2.8
RONA	Rosalia, Austr	75.03	337	eP	P	17 13 13.5	+2.3
	comp=Z,0.6nm,0.3s						
GZR	Gura Zlata	75.46	331	⇓P	P	17 13 15.2	+1.4
GZR	Gura Zlata	75.46	331	⇓P	P	17 13 15.2	+1.4
BZS	Buzias	75.58	332	⇓P	P	17 13 16.1	+1.7
BZS	Buzias	75.58	332	⇓P	P	17 13 16.1	+1.7
ARSA	Arzberg	75.63	337	eP	P	17 13 15.6	+0.9
	comp=Z,0.3nm,0.3s						
LESA	Schwarzleotal	76.10	339	i P	P	17 13 20.2	+2.8
	comp=Z,0.5nm,0.2s						
SOKA	Soboth	76.28	337	i P	P	17 13 20.1	+1.6
	comp=Z,1.2nm,0.5s						
KBA	Koelnbreinsper	76.29	338	i P	P	17 13 20.5	+1.9
	comp=Z,0.5nm,0.2s						
WTTA	Wattenberg	76.48	340	eP	P	17 13 21.0	+1.3
	comp=Z,1.2nm,0.5s						
OBKA	Obir	76.55	337	i P	P	17 13 22.5	+2.4
	comp=Z,1.1nm,0.5s						
ABTA	Abfaltersbach	76.78	339	eP	P	17 13 23.0	+1.7
	comp=Z,2.4nm,0.8s						
WRA	Warramunga Arr	76.81	206	P	P	17 13 22.3	+0.8
	comp=Z,0.4nm,0.7s,baz=20,slow=6.2,SNR=2.0						
	comp=Z,0.4nm,0.7s						
FETA	Feichten	76.90	340	eP	P	17 13 23.9	+1.9
	comp=Z,0.5nm,0.5s						
BRTR	Keskin Array B	76.95	321	P	P	17 13 22.1	-0.4
	comp=Z,0.5nm,0.7s,baz=35,slow=3.8,SNR=4.0						
	comp=Z,0.5nm,0.7s						
ASAR	Alice Springs	80.48	206	P	P	17 13 42.9	+1.1
	comp=Z,0.5nm,0.6s,baz=17,slow=4.8,SNR=8.8						
	comp=Z,0.5nm,0.6s						
MMAI	Mount Meron Ar	82.11	317	P	P	17 13 51.3	+0.7
	comp=Z,0.3nm,0.3s,baz=19,slow=14,SNR=1.8						
	comp=Z,0.3nm,0.3s						

BER ***17*** *17:15:17.2±0.6, 71°.12N×7°.38W, h0km±473km, ML3.0, Confirmed Earthquake*

ISC 17 17:15:17.3±2.4, 71°.30N±0°.06×7°.9W±0°.2, h10km, n6, σ1§14/13, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.33	214⇑	iP	Pb	17 15 25.2	0.0
JNW				eS	Sb	17 15 31.1	+0.6
JNW				IAML		17 15 32.8	
	comp=Z,950nm,0.2s						
JNE	Jan Mayen East	0.34	205⇑	iP	Pb	17 15 24.9	-0.5
JNE				eS	Sb	17 15 30.4	-0.5
JNE				IAML		17 15 31.7	
	comp=Z,2μm,0.3s						
JMIC	Jan Mayen	0.38	214⇑	iP	Pb	17 15 25.6	-0.5
JMIC				eS	Sb	17 15 31.8	-0.2
JMIC				IAML		17 15 32.4	
	comp=Z,709nm,0.3s						
JMI	Jan Mayen	0.47	218⇑	iP	Pb	17 15 27.4	-0.2
JMI				eS	Sb	17 15 34.8	+0.2
JMI				IAML		17 15 36.1	
	comp=Z,1μm,0.2s						
DBG	Daneborg	4.75	315	eP	Pn	17 16 29.5	+0.8
DBG				eS	Sn	17 17 23.6	-0.1
DAG	Danmarks Havn	6.24	337	e	Pn	17 16 49.9	+0.7
	baz=142,slow=18						
DAG				i P	Pn	17 16 51.0	+1.9
DAG				i S	Sn	17 17 57.7	-2.7
DAG				IAmb	IAmb	17 18 02.7	
	comp=Z,1.2nm,0.3s						

IDC 17 17:16:02.3±1.2, 55°.07S×31°.18W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=51.2km s-min=34.8km az=75.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	35.18	180	P	P	17 22 57.9	+0.2
	0.6nm,0.7s,baz=166,slow=5.7,SNR=1.4						
	0.6nm,0.7s						
H10S2	ASCENSION HYDR	47.83	22	T	T	18 16 51.5	
	baz=195						
H10S3	ASCENSION HYDR	47.84	22	T	T	18 16 55.4	
	baz=25						
LPAZ	La Paz	47.98	309	P	P	17 24 43.0	-0.5
	2.0nm,0.8s,baz=166,slow=4.2,SNR=5.5						
	2.0nm,0.8s						
H10N1	ASCENSION HYDR	48.95	22	T	T	18 18 09.1	
	baz=192,slow=74						
H10N3	ASCENSION HYDR	48.95	22	T	T	18 18 09.4	
	baz=192						
H10N2	ASCENSION HYDR	48.96	22	T	T	18 18 19.2	
	baz=192,slow=74						
TORD	Torodi Ar. Bea	73.40	33	P	P	17 27 36.5	+0.4
	37nm,0.3s,baz=211,slow=6.0,SNR=1.4						
ILAR	Eielson Array	147.78	314	PKPbc	PKPbc	17 35 47.4	-0.1
	0.3nm,0.5s,baz=96,slow=1.7,SNR=6.5						
SONM	Songino Array	152.94	88	PKPbc	PKPbc	17 35 59.6	-1.1
	0.3nm,0.5s,baz=250,slow=2.9,SNR=2.1						

IDC ***17*** *17:34:04.4±0.9, 24°.29N×125°.09E, h0km, mb3.7/13, mbtmp3.7/15, ML2.7/2, Error ellipse: s-maj=27.2km s-min=20.1km az=69.0*

JMA ***17*** *17:34:08.2±0.2, 24°.2N±0°.8×125°.2E±0°.6, h0km, MV3.8/10, NEAR MIYAKOJIMA ISLAND*

NIED ***17*** *17:34:08.2, 24°.22N×125°.23E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=3.36; $M_{\theta\theta}$6.63; $M_{\phi\phi}$-3.27; $M_{r\theta}$4.41; $M_{\theta\phi}$-5.71; $M_{\phi r}$2.82; Fault plane solution: $M_0$9.63000×10^14^ NP1: ϕ_s154.00000°, δ53.00000°, λ-20.00000°. NP2: ϕ_s256.00000°, δ74.00000°, λ-141.00000°.*

ISC 17 17:34:08.6±0.8, 24°.25N±0°.06×125°.25E±0°.05, h29km, n30, σ1§01/38, mb3.5/13, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	Miyako jima3	0.49	8	P	Pb	17 34 19.0	+0.1
JMJ2				eS	Sb	17 34 26.7	+0.9
JOGS	Gusukube	0.52	16	P	Pb	17 34 19.5	+0.1
JOGS				S	Sb	17 34 28.1	+1.4
JIRB	Irabujima	0.58	353	P	Pb	17 34 20.2	-0.1
JIRB				eS	Sb	17 34 28.3	+0.1
JTJ	Tarama	0.63	308	P	Pn	17 34 21.2	-0.4
JTJ				eS	Sn	17 34 30.2	-0.5
JIKM	Ikemajima	0.67	360	P	Pb	17 34 22.2	+0.4
JIKM				eS	Sb	17 34 31.4	+0.6
JISG	Ishigakijimahi	0.92	291	eP	Pb	17 34 26.1	+0.1
JISG				eS	Sn	17 34 38.2	+0.4
JIJ	Ishigaki jima	1.01	276	P	Pb	17 34 28.0	+0.4
JKRS	Kuro-shima	1.13	269	P	Pb	17 34 29.8	+0.3
IRIF	Iriomote-Funau	1.39	274	P	Pb	17 34 34.8	+0.8
IRIF				eS	Sb	17 34 54.6	+3.3
YOJ	Yonaguni jima	2.05	276	P	Pb	17 34 45.5	+0.3
NACB	Ninganchiao	3.34	269	P	Pn	17 34 59.0	+0.1
YHNB	Yeheng	3.55	277	P	Pn	17 35 04.0	+2.1
YULB	Yu-li	3.72	257	P	Pn	17 35 03.5	-0.6
JOW	Kunigami	3.75	46	Pn	Pn	17 35 05.7	+1.2
	1.7nm,0.3s,baz=262,slow=16,SNR=6.0						
JOW				Sn	Sn	17 35 48.0	+0.3
	3.4nm,0.3s,baz=280,slow=19,SNR=1.9						
	8.0nm,0.8s						
SSLB	Suanglung	3.95	264	P	Pn	17 35 07.7	+0.3
TWGBT	Beinan	4.08	250	P	Pn	17 35 07.9	-1.2
MJAR	Matsushiro Arr	16.56	39	Pn	Pn	17 38 00.4	+1.7
	baz=226,slow=11,SNR=2.6						
	0.9nm,0.7s						
CMAR	Chiang Mai Arr	25.15	262	P	P	17 39 30.5	-0.9
	0.3nm,0.2s,baz=69,slow=10,SNR=2.3						
	0.3nm,0.2s						
SONM	Songino Array	27.89	332	P	P	17 39 54.4	-1.7
	0.3nm,0.4s,baz=140,slow=9.1,SNR=2.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	40.91	314	P	P	17 41 48.0	-0.3
	1.2nm,0.5s,baz=99,slow=10,SNR=29						
	1.2nm,0.5s						
ZALV	Zalesovo Beam	42.25	325	P	P	17 41 57.5	-1.6
	0.7nm,0.5s,baz=109,slow=7.8,SNR=5.0						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	44.48	319	P	P	17 42 16.6	-0.6
	0.8nm,0.7s,baz=110,slow=8.2,SNR=6.2						
	0.8nm,0.7s						
WRA	Warramunga Arr	44.81	168	P	P	17 42 20.4	+0.3
	0.5nm,0.7s,baz=346,slow=7.7,SNR=2.5						
	0.5nm,0.7s						
ASAR	Alice Springs	48.37	169	P	P	17 42 48.8	+0.8
	0.2nm,0.7s,baz=353,slow=7.3,SNR=4.3						
	0.2nm,0.7s						
BVAR	Borovoye Array	49.99	320	P	P	17 42 59.2	-0.9
	0.9nm,0.5s,baz=108,slow=8.0,SNR=4.7						
	0.9nm,0.5s						
FINES	FINESS Array B	73.24	330	P	P	17 45 36.7	-0.1
	2.4nm,0.7s,baz=88,slow=4.4,SNR=4.6						
	2.4nm,0.7s						
BRTR	Keskin Array B	76.10	307	P	P	17 45 53.3	-0.7
	0.2nm,0.4s,baz=67,slow=3.7,SNR=2.1						
	0.2nm,0.4s						
HFS	Hagfors	79.29	332	P	P	17 46 11.5	+0.3
	1.2nm,0.8s,baz=46,slow=4.2,SNR=1.8						
	1.2nm,0.8s						
NOA	NORSAR Array B	79.87	333	P	P	17 46 14.3	-0.1
	0.4nm,0.7s,baz=56,slow=6.0,SNR=1.1						
	0.4nm,0.7s						
YKA	Yellowknife Ar	81.43	24	P	P	17 46 22.1	-0.5
	0.1nm,0.4s,baz=302,slow=5.3,SNR=1.6						
	0.1nm,0.4s						

IDC ***17*** *17:34:56.3±2.0, 30°.54N×86°.67E, h0km, mb3.4/5, mbtmp3.3/7, ML2.6/1, Error ellipse: s-maj=109.9km s-min=21.6km az=62.0*

ISC 17 17:35:01.7±1.7, 30°.7N±0°.3×86°.9E±0°.5, h35km, n7, σ1§86/7, mb3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.39	135	Pn	Pn	17 38 49.0	-0.2
	0.7nm,0.8s,baz=314,slow=12,SNR=4.4						
MKAR	Makanchi Array	16.43	349	Pn	P	17 38 49.9	-2.0
	baz=171,slow=12,SNR=1.9						
	0.2nm,0.9s						
KURBB	Kurchatov Arra	20.83	345	P	P	17 39 39.0	-1.1
	0.4nm,0.6s,baz=165,slow=10,SNR=5.1						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	23.24	357	P	P	17 40 07.8	+2.1
	0.5nm,0.7s,baz=196,slow=10,SNR=1.6						
	0.5nm,0.7s						
FINES	FINESS Array B	49.63	327	P	P	17 43 50.1	+0.6
	2.9nm,1.1s,baz=95,slow=7.3,SNR=1.6						
	2.9nm,1.1s						
WRA	Warramunga Arr	67.94	132	P	P	17 45 55.8	-1.4
	0.6nm,1.0s,baz=318,slow=5.9,SNR=1.9						
	0.6nm,1.0s						
ASAR	Alice Springs	70.40	135	P	P	17 46 13.8	+1.3
	0.2nm,0.7s,baz=312,slow=5.3,SNR=2.1						
	0.2nm,0.7s						

NEIC ***17*** *17:49:28.1±1.0, 35°.116N±0°.007×97°.88W±0°.01, h5km±1km, mb_Lg2.3/15, ML2.6/19, ML2.2/38, Error ellipse: s-maj=2.9km s-min=1.9km az=277.0*

NEIC ***17*** *17:49:28.6±1.0, 35°.128N±0°.006×97°.87W±0°.01, h7km±5km, Error ellipse: s-maj=1.7km s-min=0.9km az=80.0*

ISC 17 17:49:27.8±1.2, 35°.12N±0°.03×97°.87W±0°.03, h6km±11km, n34, σ0§85/38, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.41	70		Pb	17 49 36.8	-0.7
FNO					Sg	17 49 41.5	+0.3
X34A	Smith Ranch, M	0.51	177		Pb	17 49 39.2	-0.1
X34A				IAML		17 49 57.4	
	comp=E,182nm,0.9s						
OK029	Liberty Lake	0.76	26		Pg	17 49 42.7	+0.3
OK029					Sg	17 49 53.2	+0.9
OK029				IAML		17 49 53.8	
	comp=E,53nm,0.4s						
OK029				IAML		17 50 00.0	
	comp=E,60nm,0.5s						
W35A	Tecumseh	0.81	87		Pb	17 49 44.3	-0.2
W35A					Sb	17 49 55.1	-0.6
W35A				IAML		17 50 08.5	
	comp=N,63nm,0.3s						
W35A				IAML		17 50 08.6	
	comp=E,58nm,0.3s						
WMOK	Wichita Mounta	0.84	244		Pg	17 49 43.8	-0.2
WMOK					Sg	17 49 55.0	+0.1
CSTR	Hydro, Custer	0.85	308		Pb	17 49 44.8	-0.4
OK052	Battle Ridge R	1.23	44		Pn	17 49 51.2	-0.5
OK052					Sg	17 50 07.8	+0.3
DEOK	Depew	1.33	57		Pb	17 49 53.1	-0.2
DEOK					Sg	17 50 10.8	+0.1
DEOK				IAML		17 50 15.8	
	comp=E,53nm,0.1s						
DEOK				IAML		17 50 15.9	
	comp=N,47nm,0.1s						
CROK	Carrier	1.39	356		Pn	17 49 53.7	-0.1
QUOK	Quay	1.42	42		Pn	17 49 52.5	-1.6
WTFS	Witchita Falls	1.43	200		Pb	17 49 54.8	-0.2
WTFS	Witchita Falls	1.43	200	P	Pg	17 49 55.9	+0.5
WTFS				S	Sg	17 50 14.0	+0.1
OK038	West end E0370	1.54	333		Pn	17 49 54.8	-1.1
BLOK	Blackwell	1.73	18		Pn	17 49 57.9	-0.5
KAN13	South Haven SW	1.92	9	IAmb_Lg		17 50 29.9	
	comp=Z,13nm,0.8s						
KAN17	Caldwell West	1.93	2	Pn	Pn	17 50 01.7	+0.5
SMWD	Samnorwood	1.95	270	P	Pb	17 50 02.8	-1.0
SMWD				S	Sb	17 50 29.1	+0.7
KAN09	Caldwell North	2.03	6	IAmb_Lg		17 50 33.5	
	comp=Z,53nm,1.3s						
FW03	Perrin-Whitt E	2.08	185	Pn	Pn	17 50 03.1	-0.2
FW03				IAmb_Lg		17 50 33.1	
	comp=Z,9.5nm,0.8s						
FW06	Azle	2.15	173		Pn	17 50 04.1	-0.2
FW06				IAmb_Lg		17 50 39.2	
	comp=Z,9.1nm,0.7s						
FW02	City of Haslet	2.20	168	P	Pb	17 50 07.1	-1.1
FW02				S	Sb	17 50 36.6	+1.0
PLPT	Palo Pinto	2.33	189		Pn	17 50 05.3	-1.4
PLPT				IAmb_Lg		17 50 40.4	
	comp=Z,8.7nm,0.7s						
PLPT	Palo Pinto	2.33	189	P	Pb	17 50 08.9	-1.4
PLPT				P	Sb	17 50 39.5	+0.2
APMT	Aspermont	2.58	227	Pn	Pn	17 50 09.0	-1.3
APMT	Aspermont	2.58	227	S	Sb	17 50 46.8	+0.1
ABTX	Abilene, Hawle	2.89	211	S	Sn	17 50 52.0	+2.4
DKNS	Dickens	2.91	241	IAmb_Lg		17 51 00.2	
	comp=Z,6.5nm,0.8s						
WHTX	Lake Whitney,	3.13	174	S	Sb	17 51 02.7	+0.2
BRDY	Brady	3.94	194	IAmb_Lg		17 51 33.6	
	comp=Z,5.9nm,0.7s						
SGCY	Sterling City	4.20	221	IAmb_Lg		17 51 45.6	
	comp=Z,7.5nm,1.0s						
JCT	Junction City	4.90	200	IAmb_Lg		17 52 17.3	
	comp=Z,8.1nm,0.7s						
HNDO	Hondo	5.70	193	S	Sn	17 51 59.5	+0.6
DRIO	Del Rio	6.13	203	S	Sn	17 52 08.7	-0.9
SAND	Sanderson	6.28	216	P	Pn	17 51 02.1	+1.0

NEIC ***17*** *18:03:34±1.8, 17°.9S±0°.1×177°.8W±0°.2, h602km±8km, mb4.7/37, Error ellipse: s-maj=22.2km s-min=16.8km az=93.0*

IDC ***17*** *18:03:36.1±1.1, 18°.00S×178°.14W, h596km±10km, mb3.5/10, mbtmp4.5/12, Error ellipse: s-maj=19.6km s-min=14.7km az=147.0*

ISC 17 18:03:34.2±0.5, 17°.95S±0°.10×178°.02W±0°.08, h590km, n64, σ1§24/64, mb4.7/32, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	3.62	358	P	P	18 04 56.3	-0.2
MSVF	Nonsavu	3.75	273	P	P	18 04 58.1	+0.7
MSVF	Nonsavu	3.75	273	P	P	18 04 57.9	+0.5
	180nm,0.7s,baz=127,slow=5.1,SNR=196						
MSVF				S	S	18 06 07.5	+2.4
	33nm,1.0s,baz=90,slow=20,SNR=9.9						
AFI	Afiamalu	7.22	57	P	P	18 05 23.6	-2.4
NIUE	Niue	7.76	100	P	P	18 05 29.2	-1.7
PINNC	Pines Island,	14.40	249	P	P	18 06 36.4	-0.8
DZM	Mont Dzumac	15.17	252	P	P	18 06 44.5	+0.1
DZM				IAmb	IAmb	18 06 50.9	
	comp=Z,25nm,0.8s						
DZM	Mont Dzumac	15.17	252	P	P	18 06 44.9	+0.5
	comp=Z,17nm,0.5s,baz=87,slow=19,SNR=22						
ONTNC	Ouen Toro	15.21	251	P	P	18 06 44.8	+0.1
ONTNC				IAmb	IAmb	18 06 47.2	
	comp=Z,28nm,0.6s						
THZ	Tophouse	24.98	196	P	P	18 08 12.0	-0.7
THZ				IAmb	IAmb	18 08 39.4	
	comp=Z,36nm,1.4s						
EIDS	Eidsvold	29.60	250	P	P	18 08 53

FORT				IAmb	IAmb	18 12 06.5	
	comp=Z,32nm,1.0s						
KNRA	**Kununurra**	**50.85 264**		P	**P**	**18 11 42.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.39 260**		P	**P**	**18 12 01.1**	**+0.8**
SOEI	**Soe**	**56.44 270**		P	**P**	**18 12 22.7**	**+1.0**
SOEI				IAmb	IAmb	18 12 24.7	
	comp=Z,28nm,0.7s						
PSA00	**Pilbara Seismi**	**58.26 255**		P	**P**	**18 12 33.4**	**-0.4**
PSA00	**Pilbara Seismi**	**58.26 255**		P	**P**	**18 12 31.6**	**-2.2**
PSA00				IAmb	IAmb	18 12 52.9	
	comp=Z,23nm,1.2s						
MMRI	**Maumere**	**58.67 271**		P	**P**	**18 12 35.1**	**-1.5**
NWAO	**Narrogin (SRO)**	**59.52 242**		P	**P**	**18 12 41.5**	**-0.5**
MORW	**Morawa**	**60.81 246**		P	**P**	**18 12 48.6**	**-2.0**
GIRL	**Giralia**	**63.24 253**		P	**P**	**18 13 07.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**66.41 268**		P	**P**	**18 13 24.2**	**-2.2**
JAGI				IAmb	IAmb	18 13 26.8	
	comp=Z,22nm,0.8s						
MJAR	**Matsushiro Arr**	**68.16 323**		P	**P**	**18 13 37.3**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=155,slow=5.8,SNR=4.2						
	comp=Z,0.9nm,0.6s						
MAJO	**Matsushiro**	**68.16 323**		P	**P**	**18 13 36.6**	**-0.1**
MAJO				IAmb	IAmb	18 14 14.7	
	comp=Z,25nm,1.4s						
KKM	**Kota Kinabalu**	**69.11 284**		P	**P**	**18 13 40.6**	**-2.4**
KKM				IAmb	IAmb	18 14 05.4	
	comp=Z,40nm,1.1s						
JTM	**Tenmabayashi**	**69.70 328**		P	**P**	**18 13 43.6**	**-2.1**
UGM	**Wanagama**	**70.02 268**		P	**P**	**18 13 45.6**	**-2.7**
TWG	**Pinlang**	**72.00 302**		P	**P**	**18 13 57.8**	**-1.9**
TWG				IAmb	IAmb	18 14 02.8	
	comp=Z,21nm,0.9s						
QSPA	**South Pole Qui**	**72.11 180**		P	**P**	**18 13 59.1**	**-0.6**
QSPA	**South Pole Qui**	**72.11 180**		P	**P**	**18 14 00.7**	**+1.0**
	comp=Z,4.3nm,0.7s,baz=33,slow=0.3,SNR=31						
	comp=Z,4.3nm,0.7s						
SSLB	**Suanglung**	**72.57 303**		P	**P**	**18 14 02.5**	**-0.4**
SSLB				IAmb	IAmb	18 14 31.3	
	comp=Z,32nm,1.1s						
TPUB	**Ta-pu**	**72.59 302**		P	**P**	**18 14 02.4**	**-0.6**
TPUB				IAmb	IAmb	18 14 21.4	
	comp=Z,31nm,1.1s						
PETK	**Petropavlovsk-**	**73.81 345**		P	**P**	**18 14 10.9**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=150,slow=5.4,SNR=2.0						
	comp=Z,1.5nm,0.8s						
NJ2	**Nanjing**	**78.25 309**	*e*P	P	**P**	**18 14 36.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDJ	**Mudanjiang**	**78.43 325**		P	**P**	**18 14 33.1**	**-1.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,170nm,3.8s						
TXAR	**Lajitas Array**	**85.70 57**		P	**P**	**18 15 13.1**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=224,slow=5.2,SNR=5.8						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**85.84 13**		P	**P**	**18 15 12.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=223,slow=5.5,SNR=9.1						
	comp=Z,0.5nm,0.7s						
XAN	**Xi'an**	**86.58 307**	⇑	P	**P**	**18 15 18.9**	**+2.8**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**87.56 314**	*e*P		**P**	**18 15 21.5**	**+0.9**
ELIB	**Princess Elisa**	**89.17 187**	*d*P		**P**	**18 15 28.3**	**+0.7**
	comp=Z,3.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.25 290**		P	**P**	**18 15 30.9**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=92,slow=1.9,SNR=7.4						
	comp=Z,1.1nm,0.8s						
PZH	**PanZhiHua**	**89.50 298**		P	P	18 15 20.8	-9.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
PLCA	**Paso Flores**	**91.04 134**		P	**P**	**18 15 38.8**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=269,slow=7.0,SNR=5.1						
	comp=Z,1.3nm,0.7s						
BRTR	**Keskin Array B**	**145.07 315**		PKPbc	**PKPab**	**18 22 07.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=47,slow=2.6,SNR=6.8						
MMAI	**Mount Meron Ar**	**146.47 303**		PKPbc	**PKiKP**	**18 22 12.4**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=64,slow=6.6,SNR=4.6						
GERES	**GERESS Array B**	**147.74 345**		PKPbc	**PKPbc**	**18 22 14.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=76,slow=4.7,SNR=2.9						

*MDD **17** 18:08:48.9±0.7, 36°.27N×4°.09W, h0km±3km, mb_Lg2.2/10, Error ellipse: s-maj=4.9km s-min=2.4km az=168.0*
*SFS **17** 18:08:49.8, 36°.29N×4°.09W, h1km, ML2.6/11, ML2.7/12, MLv2.8/12*
*INMG **17** 18:08:49.9±1.4, 36°.29N×4°.05W, h0km±4km, ML1.9, Error ellipse: s-maj=3.0km s-min=2.9km az=133.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
*CNRM **17** 18:08:50.7, 36°.23N×4°.08W, h69km, ML2.2*

ISC 17 18:08:48.1±1.2, 36°.23N±0°.02×4°.07W±0°.02, h8km±9km, n54, σ1°14/85, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.61**	**332**	Sg	**Sg**	**18 09 07.2**	**-0.6**
EMAL				Pg	**Pg**	18 08 59.6	-0.2
ELGU	**Los Guajares,**	**0.73**	**29**	Pg	**Pg**	**18 09 03.0**	**+0.8**
ELGU				Sg	**Sg**	18 09 12.2	+0.4
ELGU	**Los Guajares,**	**0.73**	**29**	Pg	**Pg**	**18 09 02.6**	**+0.4**
ELGU				Sg	**Sg**	18 09 12.1	+0.4
EGOR	**Sierra Gorda,**	**0.88**	**358**	Pg	**Pg**	**18 09 04.7**	**-0.4**
EGOR				Sg	**Sg**	**18 09 14.8**	**-1.7**
EGOR				*i* Vmb_Lg		18 09 18.8	
PALE	**Palemas**	**1.01**	**174**	P	**Pn**	**18 09 09.5**	**+0.8**
PALE	**Palemas**	**1.01**	**174**	S	**Sn**	**18 09 24.2**	**+1.0**
EQUE	**Quentar**	**1.10**	**27**	Pg	**Pg**	**18 09 09.1**	**-0.1**
EQUE				Sg	**Sg**	**18 09 22.6**	**-0.8**
EQUE				*i* Vmb_Lg		18 09 25.4	
EQTA	**Presa de Quent**	**1.10**	**27**	Pg	**Pg**	**18 09 09.4**	**+0.2**
EQTA				Sg	**Sg**	**18 09 23.1**	**-0.4**
EJIF	**Jimena Fronter**	**1.15**	**282**	Pg	**Pb**	**18 09 10.3**	**-0.1**
EJIF				Sg	**Sg**	**18 09 23.8**	**-1.4**
EBER	**Berja**	**1.16**	**54**	Pg	**Pg**	**18 09 09.8**	**-0.6**
EBER				Sg	**Sg**	**18 09 27.3**	**+1.9**
EBER	**Berja**	**1.16**	**54**	Pg	**Pg**	**18 09 09.9**	**-0.6**
EBER				*i* Vmb_Lg		18 09 22.2	
EBER				Sg	**Sg**	**18 09 24.7**	**-0.8**
LIJA	**Lijar**	**1.27**	**303**	Pg	**Pn**	**18 09 13.1**	**+0.7**
GOG	**Mont Gurugu**	**1.33**	**139**	P	**Pn**	**18 09 13.6**	**+0.5**
GOG	**Mont Gurugu**	**1.33**	**139**	S	**Sb**	**18 09 31.3**	**+0.7**
CHEFC	**Chefchaouen**	**1.52**	**223**	P	**Pn**	**18 09 15.7**	**0.0**
CHEFC	**Chefchaouen**	**1.52**	**223**	S	**Sn**	**18 09 35.5**	**-0.3**
ENIJ	**Nijar**	**1.67**	**63**	Pn	**Pn**	**18 09 17.9**	**+0.1**
ENIJ	**Nijar**	**1.67**	**63**	Pn	**Pn**	**18 09 17.2**	**-0.6**
ENIJ				Sn	**Sn**	**18 09 38.1**	**-1.3**
AKLM	**AKL**	**1.72**	**174**	P	**Pn**	**18 09 17.8**	**-0.7**
AKLM	**AKL**	**1.72**	**174**	S	**Sn**	**18 09 37.7**	**-3.0**
EADA	**Adamuz**	**1.98**	**348**	Pn	**Pn**	**18 09 22.6**	**+0.6**
EADA				Sn	**Sn**	**18 09 47.4**	**+0.3**
EADA	**Adamuz**	**1.98**	**348**	Pn	**Pn**	**18 09 23.0**	**+1.0**
EADA				Pg	**Pb**	**18 09 24.4**	**-0.1**
EADA				Sn	**Sn**	**18 09 46.7**	**-0.4**
EADA				Sg	**Sb**	**18 09 49.8**	**+0.5**
EADA				*i* Vmb_Lg		18 09 54.6	
ECAB	**El Cabril**	**2.14**	**330**	Sn	**Sn**	**18 09 49.7**	**-1.2**
ECAB				Pn	**Pn**	**18 09 25.3**	**+1.2**
ECAB	**El Cabril**	**2.14**	**330**	Pn	**Pn**	**18 09 25.0**	**+0.8**
ECAB				Sn	**Sn**	**18 09 50.9**	**0.0**
ECAB				Sg	**Sb**	**18 09 55.1**	**+1.3**
ECAB				*i* Vmb_Lg		18 09 56.8	
JBK	**JBK**	**2.25**	**147**	P	**Pn**	**18 09 25.8**	**0.0**
JBK	**JBK**	**2.25**	**147**	S	**Sn**	**18 09 53.6**	**-0.4**
EMIN	**Mina Concepcio**	**2.59**	**307**	Pn	**Pn**	**18 09 30.7**	**+0.4**
EMIN	**Mina Concepcio**	**2.59**	**307**	Pn	**Pn**	**18 09 29.6**	**-0.7**
EMIN				Sn	**Sn**	**18 09 59.5**	**-2.6**
EMIN				*i* Vmb_Lg		18 10 02.9	
PSIM	**Granatula de C**	**2.60**	**5**	Sn	**Sn**	**18 10 01.5**	**-0.9**
EMUR	**La Murta**	**2.78**	**54**	Pn	**Pn**	**18 09 33.7**	**+0.8**
EMUR				Sn	**Sn**	**18 10 06.2**	**-0.5**
EMUR	**La Murta**	**2.78**	**54**	Sn	**Sn**	**18 10 05.4**	**-1.4**
EMUR				*i* Vmb_Lg		18 10 10.2	
EGRO	**El Granado**	**3.03**	**296**	Pn	**Pn**	**18 09 36.6**	**+0.2**
EGRO				Sn	**Sn**	**18 10 12.4**	**-0.5**
EGRO	**El Granado**	**3.03**	**296**	Pn	**Pn**	**18 09 36.3**	**-0.2**
EGRO				Sn	**Sn**	**18 10 09.8**	**-3.1**
EGRO				*i* Vmb_Lg		18 10 12.1	
PBAR	**Barrancos**	**3.07**	**310**	*e*Pn	**Pn**	**18 09 38.2**	**+1.3**
PBAR				*e*Sn	**Sn**	**18 10 12.6**	**-1.2**
PBAR				*i* AML	AML	18 10 15.4	
PBAR				*i* AML	AML	18 10 29.4	
PVAQ	**Vaqueiros**	**3.15**	**293**	Pn	**Pn**	**18 09 38.8**	**+0.6**
PVAQ				Sn	**Sn**	**18 10 14.3**	**-1.7**
PBDV	**Barranco-do-Ve**	**3.27**	**289**	*e*Pn	**Pn**	**18 09 40.6**	**+1.0**
PBDV				*e*Sn	**Sn**	**18 10 17.9**	**-0.9**
MD31	**MD31**	**3.40**	**190**	P	**Pn**	**18 09 41.8**	**+0.3**
MD31	**MD31**	**3.40**	**190**	S	**Sn**	**18 10 21.9**	**-0.2**
MDT	**Midelt**	**3.43**	**188**	P	**Pn**	**18 09 42.0**	**-0.1**
MDT	**Midelt**	**3.43**	**188**	S	**Sn**	**18 10 22.4**	**-0.6**
EBAD	**Badajoz**	**3.44**	**318**	Pn	**Pn**	**18 09 42.7**	**+0.6**
EBAD				Sn	**Sn**	**18 10 22.5**	**-0.6**
EBAD	**Badajoz**	**3.44**	**318**	Pn	**Pn**	**18 09 42.6**	**+0.6**
EBAD				Sn	**Sn**	**18 10 21.6**	**-1.5**
PCVE	**Castro Verde**	**3.48**	**295**	*e*Pn	**Pn**	**18 09 44.1**	**+1.5**
ZHG	**ZHG**	**3.49**	**218**	P	**Pn**	**18 09 44.6**	**+1.8**
ZHG	**ZHG**	**3.49**	**218**	S	**Sn**	**18 10 26.1**	**+1.8**
MESJ	**Messejana**	**3.69**	**297**	*e*Pn	**Pn**	**18 09 48.0**	**+2.5**
MESJ				*e*Sn	**Sn**	**18 10 29.9**	**+0.7**
MORF	**Marmelete**	**3.83**	**288**	*e*Pn	**Pn**	**18 09 48.8**	**+1.3**
MORF				*e*Sn	**Sn**	**18 10 32.2**	**-0.7**
PESTR	**Estremoz**	**3.84**	**314**	*e*Pn	**Pn**	**18 09 48.9**	**+1.3**
PESTR				*e*Sn	**Sn**	**18 10 31.0**	**-2.1**
PFVI	**Vila Bisbo**	**3.93**	**285**	*e*Pn	**Pn**	**18 09 50.1**	**+1.3**
PFVI				*e*Sn	**Sn**	**18 10 33.4**	**-1.8**
PFVI				*i* AML	AML	18 10 38.0	
PFVI				*i* AML	AML	18 10 51.3	
PFVI				*i* AML	AML	18 10 56.3	
PMRV	**Marv??o**	**4.14**	**322**	*e*Pn	**Pn**	**18 09 52.9**	**+1.3**
PMTG	**Montargil**	**4.35**	**312**	*e*Pn	**Pn**	**18 09 55.9**	**+1.3**
PMTG				*e*Sn	**Sn**	**18 10 44.7**	**-0.8**
PCBR	**Castelo Branco**	**4.50**	**324**	*e*Pn	**Pn**	**18 09 58.0**	**+1.4**
PSBE	**So Bento**	**4.97**	**313**	*e*Pn	**Pn**	**18 10 04.3**	**+1.1**
MVO	**Moncorvo**	**5.45**	**336**	*e*Pn	**Pn**	**18 10 10.9**	**+1.3**

*NEIC **17** 18:17:28.9±2.4, 53°.4N±0°.1×161°.62E±0°.06, h10km±1km, mb4.4/12, Error ellipse: s-maj=19.3km s-min=5.9km az=171.0*
*KRSC **17** 18:17:30.9±1.0, 53°.33N×161°.83E, h48km±19km, Ml4.2*
*MOS **17** 18:17:34.1±1.0, 53°.43N×161°.62E, h46km, mb3.9/2, Error ellipse: s-maj=7.9km s-min=5.7km az=82.5*
*IDC **17** 18:17:39.7±2.3, 53°.63N×161°.30E, h74km±19km, mb3.5/18, mbtmp3.9/23, MS3.1/3, Error ellipse: s-maj=20.1km s-min=15.1km az=142.0*

ISC 17 18:17:33.0±1.2, 53°.35N±0°.05×161°.80E±0°.05, h42km±12km, n109, σ1°43/108, mb3.9/23, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.10**	**258**	PN	**Pn**	**18 17 51.5**	**-0.2**
SPN				S	**Sn**	**18 18 06.1**	**+0.4**
SPN	**Mys Shipunski**	**1.10**	**258**	*e*P	**Pn**	**18 17 51.6**	**-0.2**
SPN				*e*S	**Sn**	**18 18 06.1**	**+0.4**
KII	**Karymskiy**	**1.56**	**297**	PN	**Pn**	**18 17 57.7**	**-0.5**
KII				S	**Sn**	**18 18 16.5**	**-0.7**
KII	**Karymskiy**	**1.56**	**297**	*e*P	**Pn**	**18 17 57.7**	**-0.5**
KII				*e*S	**Sn**	**18 18 16.5**	**-0.7**
UGLR	**Uglovaya**	**1.79**	**267**	PN	**Pn**	**18 18 02.2**	**+0.8**
UGLR	**Uglovaya**	**1.79**	**267**	*e*P	**Pn**	**18 18 02.3**	**+0.8**
AVH	**Avacha**	**1.84**	**269**	PN	**Pn**	**18 18 03.0**	**+1.0**
AVH	**Avacha**	**1.84**	**269**	*e*P	**Pn**	**18 18 03.1**	**+1.0**
DALK	**Dalny**	**1.86**	**261**	PN	**Pn**	**18 18 02.3**	**+0.1**
DALK	**Dalny**	**1.86**	**261**	*e*P	**Pn**	**18 18 02.3**	**+0.1**
KRX	**Arik**	**1.89**	**272**	PN	**Pn**	**18 18 03.4**	**+0.6**
KRX	**Arik**	**1.89**	**272**	*e*P	**Pn**	**18 18 03.4**	**+0.6**
KOK	**Koryaka**	**1.90**	**270**	PN	**Pn**	**18 18 03.6**	**+0.7**
KOK	**Koryaka**	**1.90**	**270**	*e*P	**Pn**	**18 18 03.7**	**+0.7**
PET	**Petropavlovsk**	**1.92**	**262**		**Pn**	**18 18 02.8**	**-0.3**
PET	**Petropavlovsk**	**1.92**	**262**	*e*PN	**Pn**	**18 18 02.7**	**-0.3**
PET				*e*S	**Sn**	**18 18 26.3**	**+0.3**
PET				pmax	pmax		
	comp=Z,156nm,0.4s						
PET				smax	smax		
	comp=E,761nm,0.7s						
PET				smax	smax		
	comp=N,429nm,0.7s						
PET	**Petropavlovsk**	**1.92**	**262**	*e*P	**Pn**	**18 18 03.4**	**+0.4**
PET				*e*S	**Sn**	**18 18 27.0**	**+1.1**
TUMD	**Tumrok D**	**2.03**	**337**	*e*P	**Pn**	**18 18 05.2**	**+0.5**
TUMD				*e*S	**Sn**	**18 18 29.7**	**+0.9**
RUS	**Russkaya**	**2.19**	**247**	PN	**Pn**	**18 18 07.8**	**+1.0**
RUS				S	**Sn**	**18 18 33.6**	**+1.0**
RUS	**Russkaya**	**2.19**	**247**	*e*P	**Pn**	**18 18 07.8**	**+1.0**
RUS				*e*S	**Sn**	**18 18 33.6**	**+1.0**
KRMR	**Karymshinskiy**	**2.27**	**258**	PN	**Pn**	**18 18 08.6**	**+0.7**
KRMR				S	**Sn**	**18 18 35.0**	**+0.4**
KRMR	**Karymshinskiy**	**2.27**	**258**	*e*P	**Pn**	**18 18 08.7**	**+0.7**
KRMR				*e*S	**Sn**	**18 18 35.0**	**+0.4**
GNL	**Ganaly**	**2.33**	**280**	PN	**Pn**	**18 18 10.2**	**+1.4**
GNL	**Ganaly**	**2.33**	**280**	*e*P	**Pn**	**18 18 10.3**	**+1.4**
GRL	**Gorelyy**	**2.39**	**252**	PN	**Pn**	**18 18 11.4**	**+1.7**
GRL	**Gorelyy**	**2.39**	**252**	*e*P	**Pn**	**18 18 11.4**	**+1.7**
PEA0B	**Petropavlovsk-**	**2.48**	**266**		**Pn**	**18 18 09.0**	**-1.7**
PEA0B	**Petropavlovsk-**	**2.48**	**266**	PN	**Pn**	**18 18 12.3**	**+1.6**
PEA0B				S	**Sn**	**18 18 41.3**	**+1.6**
PETK	**Petropavlovsk-**	**2.48**	**266**		**Pn**	**18 18 07.5**	**-3.2**
PETK	**Petropavlovsk-**	**2.48**	**266**	P	**Pn**	**18 18 12.5**	**+1.8**
	comp=N,53nm,0.5s,baz=89,slow=20,SNR=194						
PETK				S	**Sn**	**18 18 42.5**	**+2.8**
	comp=N,74nm,0.5s,baz=88,slow=15,SNR=4.1						
PETK				LR	LR	18 19 18.5	
	comp=N,256nm,18.1s,baz=111,slow=44						
KMNR	**Kamenistaya**	**2.58**	**340**	PN	**Pn**	**18 18 14.3**	**+2.1**
KMNR	**Kamenistaya**	**2.58**	**340**	*e*P	**Pn**	**18 18 14.3**	**+2.1**
KIRR	**Kirishev**	**2.74**	**343**	PN	**Pn**	**18 18 16.2**	**+1.6**
KIRR	**Kirishev**	**2.74**	**343**	*e*P	**Pn**	**18 18 16.2**	**+1.6**
APC	**Apacha**	**2.83**	**263**	PN	**Pn**	**18 18 18.3**	**+2.8**
APC				S	**Sn**	**18 18 51.8**	**+3.5**
APC	**Apacha**	**2.83**	**263**	*e*P	**Pn**	**18 18 18.4**	**+2.8**
APC				*e*S	**Sn**	**18 18 51.9**	**+3.5**
CIRR	**Tsirk**	**2.84**	**348**	PN	**Pn**	**18 18 17.9**	**+2.1**
CIRR	**Tsirk**	**2.84**	**348**	*e*P	**Pn**	**18 18 18.0**	**+2.1**
KBTR	**Krutoberegovo**	**2.93**	**11**	PN	**Pn**	**18 18 18.4**	**+1.5**
KBTR	**Krutoberegovo**	**2.93**	**11**	*e*P	**Pn**	**18 18 18.4**	**+1.5**
KBG	**Krutoberegovo**	**2.96**	**10**	PN	**Pn**	**18 18 18.8**	**+1.5**
KBG	**Krutoberegovo**	**2.96**	**10**	*e*P	**Pn**	**18 18 18.9**	**+1.5**
KLY	**Klyuchi**	**3.04**	**348**	PN	**Pn**	**18 18 19.5**	**+1.0**
KLY	**Klyuchi**	**3.04**	**348**	*e*P	**Pn**	**18 18 19.6**	**+1.0**
BKI	**Bering**	**3.07**	**51**	PN	**Pn**	**18 18 20.1**	**+1.2**
BKI	**Bering**	**3.07**	**51**	*e*P	**Pn**	**18 18 20.1**	**+1.2**
BKI				*e*S	**Sn**	**18 18 53.5**	**-0.9**
ESO	**Esso**	**3.15**	**326**	PN	**Pn**	**18 18 21.5**	**+1.5**
ESO	**Esso**	**3.15**	**326**	*e*P	**Pn**	**18 18 21.6**	**+1.5**
SRDR	**Sredinnyy**	**3.21**	**339**	PN	**Pn**	**18 18 22.1**	**+1.3**
SRDR	**Sredinnyy**	**3.21**	**339**	*e*P	**Pn**	**18 18 22.2**	**+1.3**
SMKR	**Semkarok**	**3.25**	**357**	PN	Pn	18 18 24.9	+3.5
SMKR	**Semkarok**	**3.25**	**357**	*e*P	Pn	18 18 25.0	+3.6
PAU	**Pauzhetka**	**3.59**	**240**	PN	**Pn**	**18 18 27.3**	**+1.4**
PAU	**Pauzhetka**	**3.59**	**240**	*e*P	**Pn**	**18 18 27.4**	**+1.4**
SKR	**Severo-Kuril's**	**4.41**	**235**	*e*PN	**Pn**	**18 18 38.6**	**+1.3**
SKR				pmax	pmax		
	comp=Z,40nm,1.0s						
SKR	**Severo-Kuril's**	**4.41**	**235**	*e*P	**Pn**	**18 18 38.5**	**+1.3**
SHEM	**Shemya Is, Ala**	**7.45**	**90**	P	Pn	18 19 22.1	+3.2
	comp=Z,82nm,1.0s,baz=245,slow=8.1,SNR=7.2						
MA2	**Magadan**	**8.72**	**320**		**Pn**	**18 19 36.3**	**0.0**
MA2	**Magadan**	**8.72**	**320**	P	**Pn**	**18 19 36.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=131,slow=10,SNR=9.5						
BILL	**Bilibino**	**14.90**	**7**	Pn	**Pn**	**18 20 59.2**	**-1.1**
ASAJ	**Asahikawa**	**15.63**	**242**	P	**P**	**18 21 13.9**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=18,slow=16,SNR=1.6						
ASAJ	**Asahikawa**	**15.63**	**242**	P	**P**	**18 21 14.0**	**+0.3**
UNV	**Unalaska Valle**	**18.74**	**76**	P	**Pn**	**18 21 47.6**	**-1.0**
UNV				IAmb	IAmb	18 22 23.6	
	comp=Z,59nm,1.3s						
YAK	**Yakutsk**	**19.05**	**310**	P	**P**	**18 21 49.4**	**-1.9**
YAK				IAmb	IAmb	18 21 50.8	
	comp=Z,14nm,0.6s						
YAK	**Yakutsk**	**19.05**	**310**	P	**Pn**	**18 21 50.0**	**-2.3**
	comp=Z,10nm,0.5s,baz=100,slow=0.5,SNR=10						
YAK	**Yakutsk**	**19.05**	**310**	*e*P	**Pn**	**18 21 50.1**	**-2.3**
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
KLR	**Kul'dur**	**19.16**	**270**	P	**Pn**	**18 21 53.3**	**-0.5**
	comp=E,1.9nm,0.7s,baz=60,slow=7.2,SNR=7.3						
KLR				LR	LR	18 30 27.5	
	comp=E,54nm,19.6s,baz=235,slow=41						
KLR	**Kul'dur**	**19.16**	**270**	*e*P	**Pn**	**18 21 54.4**	**+0.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.7s						
J14K	**Nanvaranak Lak**	**20.36**	**49**	P	Pn	18 22 04.2	-3.6
J14K				IAmb	IAmb	18 22 18.1	
	comp=Z,14nm,1.4s						
USRK	**Ussuriysk Ar.**	**21.53**	**257**	P	**P**	**18 22 19.8**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=49,slow=11,SNR=4.2						
USRK				LR	LR	18 31 41.6	
	comp=Z,62nm,18.5s,baz=27,slow=40						
	comp=Z,1.2nm,0.6s						
TIXI	**Tiksi**	**23.29**	**334**	P	**P**	**18 22 36.5**	**0.0**
TIXI	**Tiksi**	**23.29**	**334**	P	**P**	**18 22 36.5**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MJAR	**Matsushiro Arr**	**23.52**	**234**	P	**P**	**18 22 42.6**	**+3.6**
	comp=Z,2.6nm,0.7s,baz=30,slow=8.8,SNR=3.1						
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**27.91**	**46**	P	P	18 23 23.2	+4.7
	comp=Z,0.3nm,0.9s,baz=279,slow=7.1,SNR=1.6						
	comp=Z,0.3nm,0.9s						
JNU	**Nakatsue**	**29.90**	**240**	P	**P**	**18 23 33.7**	**-3.0**
JNU				IAmb	IAmb	18 23 40.5	
	comp=Z,14nm,1.2s						
F31M	**Tsiigehtchic**	**33.06**	**40**	P	P	18 24 06.6	+2.6
H11N2	**WAKE ISLAND Hy**	**33.78**	**171**	T	T	19 00 45.5	
	baz=354,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**33.80**	**171**	T	T	19 00 38.0	
	baz=354,slow=76,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**33.80**	**171**	T	T	19 01 08.8	
	baz=354,slow=76,SNR=12						
S32K	**Killisnoo**	**35.18**	**57**	P	**P**	**18 24 22.5**	**+0.1**
EUNU	**Eureka**	**41.45**	**14**	P	P	18 25 17.3	+2.3
NACB	**Ninganchiao**	**41.91**	**242**	P	**P**	**18 25 17.6**	**-1.6**
ZALV	**Zalesovo Beam**	**43.50**	**303**	P	**P**	**18 25 31.3**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=2.2						
	comp=Z,0.3nm,0.3s						
SPITS	**Spitsbergen Ar**	**47.05**	**351**	P	**P**	**18 26 00.8**	**+1.1**
	comp=Z,5.4nm,0.8s,baz=63,slow=9.9,SNR=16						
	comp=Z,5.4nm,0.8s						
KURK	**Kurchatov**	**48.46**	**303**	P	**P**	**18 26 09.5**	**-1.4**
KURK				IAmb	IAmb	18 26 11.5	
	comp=Z,2.2nm,0.5s						
KURK	**Kurchatov**	**48.46**	**303**	P	**P**	**18 26 11.2**	**+0.3**
KURBB	**Kurchatov Arra**	**48.57**	**302**	P	**P**	**18 26 11.2**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=57,slow=7.6,SNR=8.6						
	comp=Z,1.0nm,0.4s						
MK31	**Makanchi Array**	**48.96**	**296**	P	**P**	**18 26 14.4**	**-0.5**
MK31	**Makanchi Array**	**48.96**	**296**	P	**P**	**18 26 14.4**	**-0.5**
MK31				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**48.96**	**296**	P	**P**	**18 26 14.2**	**-0.6**
MKAR	**Makanchi Array**	**48.96**	**296**	P	**P**	**18 26 13.9**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=56,slow=7.8,SNR=16						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**48.96**	**296**	P	**P**	**18 26 14.2**	**-0.6**
BVAR	**Borovoye Array**	**51.03**	**309**	P	**P**	**18 26 29.3**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=54,slow=7.4,SNR=6.7						
	comp=Z,0.8nm,0.5s						
NVAR	**Mina Array Bea**	**54.69**	**71**

KWHZ				S	Sb	18 46 30.7	+0.3
CKHZ	Cape Kidnapper	0.85	48	P	Pn	18 46 18.6	-1.0
MCHZ	McNeill Hill	0.85	24	P	Pn	18 46 19.3	-0.3
HOWZ	Holdsworth Sta	0.88	220	P	Pn	18 46 19.3	-0.7
MOVZ	Moawhango	0.91	334	P	Pn	18 46 20.7	+0.3
TMWZ	Te Maipa	0.92	198	P	Pn	18 46 19.7	-1.0
OGWZ	Otaki Gorge	1.02	234	P	Pn	18 46 21.3	-0.6
BKZ	Black Stump Fm	1.07	10	P	Pn	18 46 22.2	-0.5
BKZ	Black Stump Fm	1.07	10	S	Sn	18 46 36.6	+0.1
BKZ	Black Stump Fm	1.07	10	P	Pn	18 46 22.3	-0.5
SNZO	South Karori	1.60	227	P	Pn	18 46 29.0	-0.9
SNZO	South Karori	1.60	227	S	Sn	18 46 48.4	-1.0
URZ	Urewera	2.07	19	P	Pn	18 46 34.4	-2.0
URZ	Urewera	2.07	19	S	Sn	18 46 59.9	-1.1
QRZ	Quartz Range	2.91	257	P	Pn	18 46 46.6	-1.3
QRZ	Quartz Range	2.91	257	S	Sn	18 47 20.0	-1.6

IDC 17 18:47:18.9±5.9, 6°71S×147°25E, h99km±67km, mb2.8/3, mbtmp3.3/5, ML2.6/2, Error ellipse: s-maj=80.3km s-min=37.1km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.69**	**182**	P	Pn	18 48 02.0	+1.5
	18nm,0.3s,baz=338,slow=6.6,SNR=75						
PMG				S	Sn	18 48 32.7	+0.3
	30nm,0.3s,baz=313,slow=19,SNR=10						
	42nm,0.3s						
WRA	**Warramunga Arr**	**18.17**	**222**	P	P	18 51 23.7	-0.1
	baz=52,slow=13,SNR=0.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**21.19**	**216**	P	P	18 51 57.0	+0.5
	0.2nm,0.5s,baz=36,slow=10.0,SNR=5.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**78.19**	**321**	P	P	18 59 07.1	-0.5
	0.2nm,0.7s,baz=95,slow=6.9,SNR=1.7						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**86.03**	**23**	P	P	18 59 48.2	+0.1
	0.2nm,0.5s,baz=256,slow=5.7,SNR=4.2						
	0.2nm,0.5s						

IDC 17 19:06:00.3±4.7, 11°71S×166°44E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=239.7km s-min=31.1km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.91**	**251**	P	P	19 12 28.6	+0.7
	0.2nm,0.3s,baz=80,slow=8.1,SNR=4.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**33.12**	**245**	P	P	19 12 37.8	-0.7
	0.5nm,0.5s,baz=78,slow=8.7,SNR=14						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**83.92**	**18**	P	P	19 18 31.9	+0.1
	0.4nm,0.5s,baz=232,slow=5.2,SNR=12						
	0.4nm,0.5s						

HLW ***17*** *19:07:37.6, 36°.92N×23°.13E, h16km±11km, Md4.5, Ml4.3*
IDC ***17*** *19:07:39.4±0.5, 36°.55N×23°.10E, h0km, mb4.4/31, mbtmp4.4/40, ML4.0/8, MS4.0/39, Error ellipse: s-maj=11.7km s-min=10.2km az=40.0*
MOS ***17*** *19:07:40.6±1.5, 36°.42N×23°.03E, h8km, mb4.9/43, MS4.2/7, Error ellipse: s-maj=4.1km s-min=2.3km az=99.4*
AFAD ***17*** *19:07:40.0, 36°.40N×22°.58E, h19km±21km, MW4.8*
PDG ***17*** *19:07:41.9±0.8, 36°.64N×23°.16E, h8km±2km, ML4.8/11, Error ellipse: s-maj=1.4km s-min=1.7km az=0.0*
NEIC ***17*** *19:07:41.7±2.1, 36°.57N±0°.06×22°.90E±0°.08, h10km±1km, mb5.0/86, Mww4.9/11, Error ellipse: s-maj=13.1km s-min=7.2km az=46.0*
ATH ***17*** *19:07:41.8, 36°.57N×22°.98E, h16km, Mw4.7, Moment Tensor Solution. s12 Moment tensor: Mrr~1.01; Mθθ~0.15; Mφφ 1.16; Mrθ~0.35; Mφθ~0.40; Mφr~0.19; Fault plane solution: NP1:φs323.00000°, δ47.00000°, λ~122.00000°. NP2:φs186.00000°, δ52.00000°, λ~60.00000°.*
BJI ***17*** *19:07:41.0, 36°.50N×22°.90E, h10km, mB5.2/8, mb4.6/49, Ms5.2/10, Ms7 5.1/9*
NEIC ***17*** *19:07:42, 36°.59N×22°.97E, h26km*
THE ***17*** *19:07:42.3, 36°.61N×23°.13E, h1km±2km, ML4.5/7, Error ellipse: s-maj=2.3km s-min=0.8km az=218.0*
MCSM ***17*** *19:07:42.8±0.2, 37°.N±2°×2°.3E±°.7, h7km, mb4.8, mB5.0, MLv5.0, Mw(mB)4.3*
NAO ***17*** *19:07:42.6, 36°.45N×22°.95E, h10km, mb5.0*
NEIC ***17*** *19:07:42, 36°.59N×23°.00E, h26km, Moment Tensor Solution. Duration: 1ŝ2 Moment tensor: Scale 10^16 Nm; Mrr~2.07; Mθθ 0.21; Mφφ 1.86; Mrθ 2.09; Mθφ~0.09; Mφr 0.54; Fault plane solution: M0 2.68000×10^16 NP1: φs342.99000°, δ38.28000°, λ~136.35000°. NP2: φs216.17000°, δ64.69000°, λ~60.27000°. Principal axes: T 1.9855, Plg15.0000°, Azm285.0000°; N 1.3803, Plg27.0000°, Azm22.0000°; P -3.3658, Plg59.0000°, Azm169.0000°;*
MED_RC ***17*** *19:07:43.0±0.3, 36°.33N×22°.93E, h20km, MW4.8/33, Moment Tensor Solution. Mantle waves: s33,c54; Duration: 1ŝ1 Moment tensor: Scale 10^16 Nm; Mrr~1.35±.16; Mθθ~0.54±.09; Mφφ 1.89±.09; Mrθ~0.07±.15; Mφθ 0.01±.05; Mφr~0.41±.09; Best double couple: M0 1.67000×10^16 NP1:φs175.00000°, δ38.00000°, λ~97.00000°. NP2:φs4.00000°, δ52.00000°, λ~84.00000°. Principal axes: T 1.9400, Plg7.0000°, Azm90.0000°; N -0.5300, Plg4.0000°, Azm181.0000°; P -1.4100, Plg82.0000°, Azm303.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GCMT ***17*** *19:07:45.0±0.5, 36°.64N±0°.05×22°.83E±0°.03, h22km±1km, MW5.0/65, Moment Tensor Solution. s19,c22; s65,c91; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~2.69±.32; Mθθ~0.27±.19; Mφφ 2.97±.19; Mrθ 2.72±.39; Mθφ 0.12±.12; Mφr~0.67±.21; Best double couple: M0 3.78800×10^16 NP1:φs206.00000°, δ45.00000°, λ~43.00000°. NP2: φs329.00000°, δ61.00000°, λ~127.00000°. Principal axes: T 3.0660, Plg9.0000°, Azm85.0000°; N 1.4510, Plg32.0000°, Azm349.0000°; P -4.5110, Plg57.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GII ***17*** *19:07:48.9±0.0, 36°.194N±0°.003×23°.603E±0°.001, h10km, Mws4.9, confirmed*
TIR ***17*** *19:08:01.5, 38°.01N×22°.60E, h8km±31km, Md4.3/4, Ml4.5/11*
ISC 17 19:07:43.3±0.7, **36°.57N**±0°.02×**23°.00E**±0°.02, **h17**km±4km, **n1056**, σ2≥14/1053, **mb4.8**/119, **MS4.2**/38, **37C-44D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVA	**Monemvasia**	**0.12**	**13**	P	Pg	19 07 46.6	-0.5
VLI	**Veliai**	**0.16**	**341**	P	Pg	19 07 45.7	-1.9
VLI				S	Sg	19 07 48.4	-2.1
	468μm,0.7s						
VLI	**Veliai**	**0.16**	**341**	P	Pg	19 07 45.8	-1.9
VLI				S	Sg	19 07 48.6	-1.9
ANKY	**Antikythira Is**	**0.74**	**161**	P	Pg	19 07 55.8	-1.9
ANKY				S	Sb	19 08 07.2	-0.3
	67μm,1.0s						
ANKY	**Antikythira Is**	**0.74**	**161**	P	Pb	19 07 57.0	-0.7
ANKY				S	Sb	19 08 06.7	-0.7
KRND	**KRANIDI**	**0.82**	**8**	P	Pb	19 07 58.0	-1.1
KRND				S	Sb	19 08 09.1	-0.9
YDRA	**Hydra**	**0.86**	**25**	P	Pb	19 07 59.2	-0.7
ITM	**Ithomi**	**1.06**	**306**		Pg	19 08 00.1	-3.7
ITM	**Ithomi**	**1.06**	**306**	P	Pg	19 07 59.3	-4.5
ITM	**Ithomi**	**1.06**	**306**	P	Pg	19 08 01.4	-2.4
ITM				S	Sg	19 08 15.5	-2.2
MET6	**Megalochori,Me**	**1.06**	**15**	P	Pb	19 08 02.4	-0.8
MET6				S	Sb	19 08 16.5	-0.3
MTHA	**Methoni**	**1.07**	**284**	P	Pg	19 08 01.7	-2.3
MET5	**Makryloggos,Me**	**1.09**	**15**	P	Pn	19 08 03.3	-0.6
MET4	**Agioí Theodoro**	**1.10**	**17**	P	Pb	19 08 02.8	-1.0
MET4				S	Sb	19 08 17.6	-0.3
MHLO	**Agia Marina, M**	**1.13**	**83**	P	Pb	19 08 03.4	-1.0
IMMV	**Iera Moni Meta**	**1.36**	**144**	P	Pn	19 08 05.9	-1.6
IMMV	**Iera Moni Meta**	**1.36**	**144**	P	Pn	19 08 06.2	-1.2
IMMV				S	Sb	19 08 23.8	-1.6
CHNB	**Souda**	**1.38**	**141**	P	Pn	19 08 06.7	-1.1
CHNB				S	Sn	19 08 25.1	-0.5
AMT	**Artemida-Makis**	**1.42**	**313**	P	Pn	19 08 06.6	-1.7
LVRA	**Laurium**	**1.42**	**36**	P	Pn	19 08 07.1	-1.2
ZARO	**Zacharo**	**1.42**	**311**	P	Pn	19 08 06.8	-1.5
VLY	**Voula,Athens**	**1.43**	**26**	P	Pn	19 08 07.0	-1.5
VLY				S	Sn	19 08 25.9	-1.0
	17μm,0.7s						
VLY	**Voula,Athens**	**1.43**	**26**	P	Pn	19 08 07.5	-1.0
LTK	**Loutraki**	**1.45**	**359**	P	Pn	19 08 08.4	-0.4
GUR	**Goura**	**1.47**	**339**	P	Pn	19 08 08.1	-1.0
ATH	**Athens Observa**	**1.51**	**22**	P	Pn	19 08 08.4	-1.2
ATH				S	Sb	19 08 29.9	+0.1
	7μm,0.2s						
ATH	**Athens Observa**	**1.51**	**22**	P	Pn	19 08 09.2	-0.4
NOAC	**Athens-Thissio**	**1.52**	**22**	P	Pn	19 08 09.3	-0.3
ATHU	**Athens Univers**	**1.53**	**24**	P	Pn	19 08 08.0	-1.8
ATHP	**Athens-Neo Psi**	**1.56**	**23**	P	Pn	19 08 09.3	-0.9
ACHAR	**Athens-Acharne**	**1.62**	**21**	P	Pn	19 08 09.8	-1.3
KLV	**Kalavryta, Ach**	**1.62**	**336**	P	Pn	19 08 10.5	-0.7
KLV				S	Sg	19 08 34.5	-1.2
	12μm,0.7s						
KLV	**Kalavryta, Ach**	**1.62**	**336**	P	Pn	19 08 10.4	-0.8
PTL	**Pentelí**	**1.63**	**25**	P	Pn	19 08 10.2	-1.1
PTL				S	Sn	19 08 32.2	+0.3
	9μm,0.7s						
PTL	**Penteli**	**1.63**	**25**	P	Pn	19 08 10.0	-1.2
DION	**Dionisos Attik**	**1.68**	**26**	P	Pn	19 08 11.1	-0.8
DION				S	Sn	19 08 31.8	-1.3
	8μm,0.8s						
DION	**Dionisos Attik**	**1.68**	**26**	P	Pn	19 08 10.6	-1.3
DRO	**Drossia**	**1.73**	**324**	P	Pb	19 08 13.8	-0.8
ALIK	**Aliki, Aigiali**	**1.83**	**337**	P	Pb	19 08 14.4	-2.0
KARY	**Karystos**	**1.86**	**38**	P	Pn	19 08 13.5	-0.8
SAP3	**Santorini-Thir**	**1.89**	**93**	P	Pn	19 08 14.2	-0.6
SAP3	**Santorini-Thir**	**1.89**	**93**	P	Pn	19 08 14.1	-0.7
RLS	**Riolos of Patr**	**1.93**	**321**	P	Pb	19 08 16.4	-1.6
RLS	**Riolos of Patr**	**1.93**	**321**	P	Pn	19 08 14.8	-0.5
THR3	**Thira Island,**	**1.94**	**94**	P	Pn	19 08 14.8	-0.6
THR6	**Thira Island,**	**1.94**	**95**	P	Pn	19 08 15.1	-0.4
KALE	**Kalithea**	**1.95**	**340**	P	Pn	19 08 15.3	-0.4
DLFA	**Delphi**	**1.95**	**348**	P	Pn	19 08 15.3	-0.4
TNSA	**Tinos**	**1.98**	**60**	P	Pn	19 08 14.9	-1.1
IDI	**Anoyia**	**1.99**	**129**	Pn	Pn	19 08 15.6	-0.7
IDI	**Anoyia**	**1.99**	**129**	Pn	Pn	19 08 14.3	-2.0
	17nm,0.3s,baz=272,slow=8.3,SNR=50						
IDI				Sn	Sn	19 08 40.7	-0.2
	177nm,0.3s,baz=36,slow=20,SNR=7.7						
IDI	**Anoyia**	**1.99**	**129**	P	Pn	19 08 15.7	-0.5
EFP	**Efpalio**	**2.05**	**335**	P	Pn	19 08 16.6	-0.4
LKR	**Lokris**	**2.08**	**360**	P	Pn	19 08 16.5	-0.9
APE	**Apeiranthos**	**2.09**	**75**	⇑P	Pb	19 08 19.3	-1.4
APE	**Apeiranthos**	**2.09**	**75**	*d iP*	Pn	19 08 16.7	-0.9
APE	**Apeiranthos**	**2.09**	**75**	P	Pn	19 08 16.6	-0.9
APE	**Apeiranthos**	**2.09**	**75**	P	Pn	19 08 16.5	-1.1
ANX	**Ano Chora**	**2.20**	**337**	P	Pn	19 08 18.3	-0.8
AXAR	**Agios Charalampos**	**2.21**	**353**	P	Pn	19 08 19.1	-0.2
KYMI	**Kymi, Euboea I**	**2.24**	**23**	P	Pn	19 08 18.7	-0.9
KYMI	**Kymi, Euboea I**	**2.24**	**23**	P	Pn	19 08 18.6	-0.9
AMGA	**Amorgos Island**	**2.34**	**83**	P	Pn	19 08 20.7	-0.3
PSDA	**Pessada-Kefalo**	**2.47**	**309**	P	Pb	19 08 24.8	-2.4
EVR	**Evrytania**	**2.53**	**338**	P	Pn	19 08 25.0	+1.3
MAKR	**Makrakomi, Fth**	**2.54**	**344**	P	Pn	19 08 23.0	-0.8
SKY	**Skiros Island**	**2.61**	**28**	P	Pn	19 08 23.7	-1.0
DMLN	**Damoulianata-K**	**2.68**	**309**	P	Pn	19 08 24.4	-1.3
AOS	**Alonnisos**	**2.69**	**15**	P	Pn	19 08 24.4	-1.4
FSK	**Fiskardo**	**2.71**	**315**	P	Pb	19 08 29.6	-1.7
NEO	**Neokhori**	**2.74**	**4**	P	Pn	19 08 25.4	-1.1
EVGI	**Lefkada island**	**2.77**	**318**	P	Pb	19 08 29.8	-2.6
XOR	**Xorichti**	**2.80**	**3**	P	Pn	19 08 26.6	-0.7
XOR	**Xorichti**	**2.80**	**3**	P	Pn	19 08 26.8	-0.5
NYDR	**Nydri-Lefkada**	**2.82**	**320**	P	Pb	19 08 32.2	-0.9
DRAG	**Dragano-Lefkad**	**2.86**	**318**	P	Pb	19 08 32.6	-1.3
LKD2	**Lefkada island**	**2.90**	**321**	Pn	Pb	19 08 33.4	-1.1
LKD2				Sn	Sn	19 09 01.5	-1.6
LKD2				AML	AML	19 09 32.7	
	18nm,0.7s						
LKD2	**Lefkada island**	**2.90**	**321**	P	Pn	19 08 29.9	+1.3
LKD2	**Lefkada island**	**2.90**	**321**	P	Pn	19 08 28.0	-0.7
ZKR	**Zakros**	**2.99**	**118**	P	Pn	19 08 30.0	+0.1
ZKR	**Zakros**	**2.99**	**118**	P	Pn	19 08 29.4	-0.5
THL	**Klokotos Trika**	**3.09**	**346**	P	Pn	19 08 30.8	-0.5
THL	**Klokotos Trika**	**3.09**	**346**	P	Pn	19 08 30.0	-1.3
TYRN	**Tyrnavos**	**3.20**	**349**	P	Pn	19 08 32.0	-0.8
TYRN	**Tyrnavos**	**3.20**	**349**	P	Pn	19 08 31.6	-1.2
ZEYE	**Izmir, Urla-Ze**	**3.25**	**58**	P	Pn	19 08 32.3	-1.1
ZEYE				S	Sb	19 09 21.2	+1.5
SMG	**Samos**	**3.27**	**68**	P	Pn	19 08 32.3	-1.5
SMG	**Samos**	**3.27**	**68**	P	Pn	19 08 32.6	-1.1
URLA	**Izmir**	**3.37**	**57**	P	Pn	19 08 33.4	-1.8
URLA				S	Sn	19 09 15.4	+0.6
PAIG	**Paliouri**	**3.40**	**9**	P	Pn	19 08 34.3	-1.2
PAIG	**Paliouri**	**3.40**	**9**	P	Pn	19 08 35.8	+0.3
DGB	**zmir**	**3.43**	**63**	P	Pn	19 08 36.5	+0.5
SIGR	**SIGRI**	**3.47**	**40**	P	Pn	19 08 35.3	-1.2
SIGR	**SIGRI**	**3.47**	**40**	P	Pn	19 08 35.4	-1.2
DDIM	**Aydin, Didim**	**3.51**	**74**	P	Pn	19 08 39.2	+2.2
DDIM				S	Sb	19 09 31.1	+3.9
KARP	**Karpathos**	**3.52**	**106**	Pn	Pn	19 08 37.2	-0.1
KARP	**Karpathos**	**3.52**	**106**	Pn	Pn	19 08 38.1	+0.9
KARP	**Karpathos**	**3.52**	**106**	P	Pn	19 08 37.0	-0.2
JAN	**Janina**	**3.52**	**332**	P	Pb	19 08 42.1	-3.1
LIT	**Litokhoron**	**3.55**	**354**	Pn	Pn	19 08 36.7	-1.0
LIT	**Litokhoron**	**3.55**	**354**	P	Pn	19 08 37.2	-0.5
LIT	**Litokhoron**	**3.55**	**354**	P	Pn	19 08 36.7	-1.0
LIT	**Litokhoron**	**3.55**	**354**	P	Pn	19 08 37.5	-0.2
GCAM	**G?zelcaml?**	**3.56**	**70**	P	Pn	19 08 37.0	-0.8
GCAM				S	Sg	19 09 33.8	-4.0
YAZI	**Mula-Dat§a-**	**3.58**	**87**	P	Pn	19 08 37.3	-0.7
YAZI				S	Sb	19 09 29.1	-0.2
BDRM	**Kayabasi**	**3.60**	**81**	P	Pn	19 08 37.8	-0.4
BDRM				S	Sb	19 09 28.3	-1.5
KPRO	**Kipourio**	**3.62**	**340**	P	Pn	19 08 41.2	+2.5
IGT	**Igoumenitsa**	**3.63**	**325**	Pn	Pb	19 08 42.8	-4.3
IGT				Sn	Sn	19 09 18.3	-3.0
IGT				AML	AML	19 10 02.9	
	3.1nm,1.5s						
IGT	**Igoumenitsa**	**3.63**	**325**	P	Pn	19 08 38.5	-0.3
IGT	**Igoumenitsa**	**3.63**	**325**	P	Pn	19 08 40.5	+1.7
IGT	**Igoumenitsa**	**3.63**	**325**	P	Pn	19 08 38.4	-0.4
PRK	**Paraskevi**	**3.72**	**43**	P	Pn	19 08 39.2	-0.7
PRK	**Paraskevi**	**3.72**	**43**	P	Pn	19 08 38.4	-1.6
LIA	**Limnos Island**	**3.74**	**27**	P	Pn	19 08 38.9	-1.3
LIA	**Limnos Island**	**3.74**	**27**	P	Pn	19 08 38.8	-1.4
PLG	**Polygyros**	**3.82**	**5**	P	Pn	19 08 40.2	-1.1
PLG	**Polygyros**	**3.82**	**5**	P	Pn	19 08 40.5	-0.8
OUR	**Ouranopolis**	**3.84**	**11**	P	Pn	19 08 40.7	-0.9
OUR	**Ouranopolis**	**3.84**	**11**	P	Pn	19 08 41.1	-0.5
OUR	**Ouranopolis**	**3.84**	**11**	P	Pn	19 08 40.0	-1.5
KZN	**Kozani**	**3.86**	**346**	P	Pn	19 08 44.6	+2.7
KZN	**Kozani**	**3.86**	**346**	P	Pn	19 08 40.0	-1.9
KTI	**Kastanea**	**3.88**	**350**	P	Pn	19 08 42.9	+0.6
HORT	**Hortiatis**	**4.03**	**1**	P	Pn	19 08 43.1	-1.1
KEK	**Kerkira**	**4.03**	**322**	Pn	Pn	19 08 45.6	+1.3
KEK	**Kerkira**	**4.03**	**322**	P	Pn	19 08 45.5	+1.3
LSK	**Leskovik**	**4.05**	**333**	P	Pb	19 08 49.3	-4.8
LSK				Sn	Sn	19 09 24.6	-6.9
LSK				AML	AML	19 10 20.1	
	9.4nm,1.5s						
LSK				AMd		19 12 06.4	
LSK	**Leskovik**	**4.05**	**333**	P	Pn	19 08 46.3	+1.8
AYDN	**Tasoluk**	**4.05**	**73**	P	Pn	19 08 45.9	+1.4
AYDN				S	Sn	19 09 32.5	+1.0
THE	**Thessaloniki**	**4.06**	**360**	P	Pn	19 08 47.2	+2.6
THE				Sn	Sn	19 09 21.2	-11
THE				AML	AML	19 09 48.5	
	1.0nm,1.0s						
THE	**Thessaloniki**	**4.06**	**360**	P	Pn	19 08 47.2	+2.6
SRN	**Sarande**	**4.07**	**325**	Pn	Pn	19 08 45.8	+1.1
SRN				Sn	Sn	19 09 28.2	-3.6
SRN				AML	AML	19 09 42.8	
	1.6nm,0.8s						
SRN				AMd		19 11 52.3	
ARG	**Arkhangelos**	**4.15**	**93**		Pn	19 08 46.9	+1.1
ARG	**Arkhangelos**	**4.15**	**93**	P	Pn	19 08 46.6	+0.8
ARG	**Arkhangelos**	**4.15**	**93**	P	Pn	19 08 46.9	+1.1
EZN	**Ezine**	**4.18**	**38**	P	Pn	19 08 46.0	-0.2
IZMR	**zmir-demi**	**4.24**	**67**	P	Pn	19 08 51.7	+4.5
THAS	**Thassos island**	**4.25**	**18**	P	Pn	19 08 45.8	-1.4
THAS	**Thassos island**	**4.25**	**18**	P	Pn	19 08 45.4	-1.8
SOH	**Sokhos**	**4.26**	**4**	P	Pn	19 08 46.9	-0.5
SOH	**Sokhos**	**4.26**	**4**	P	Pn	19 08 50.7	+3.3
YER	**Yerkesik**	**4.27**	**81**	P	Pn	19 08 51.4	+3.8
KOKK	**Kokkinochori,**	**4.32**	**10**	P	Pn	19 08 47.2	-0.9
KOKK	**Kokkinochori,**	**4.32**	**10**	P	Pn	19 08 47.3	-0.9
MULA	**Mugla, Merkez-**	**4.32**	**79**	P	Pn	19 08 50.3	+2.1
MULA				S	Sn	19 09 42.2	+4.0
SMTH	**Samothraki Isl**	**4.37**	**26**	P	Pn	19 08 47.0	-1.9
SMTH	**Samothraki Isl**	**4.37**	**26**	P	Pn	19 08 47.0	-1.9
KBN	**Korca**	**4.41**	**337**	Pn	Pn	19 08 53.9	+4.5
KBN				Sn	Sn	19 09 32.0	-8.5
KBN				AML	AML	19 09 49.5	
	4.1nm,1.0s						
KBN				AMd		19 11 41.3	
GRG	**Griva**	**4.41**	**354**	P	Pn	19 08 51.0	+1.6
ESEN	**Aydn-Nazilli**	**4.44**	**72**	P	Pn	19 08 43.9	-5.9
SRS	**Serrai**	**4.57**	**6**	P	Pn	19 08 51.1	-0.5
SRS	**Serrai**	**4.57**	**6**	P	Pn	19 08 50.4	-1.2
KAVA	**Kavala**	**4.58**	**14**	P	Pn	19 08 50.6	-1.1
KAVA	**Kavala**	**4.58**	**14**	P	Pn	19 08 50.3	-1.4
KNT	**Kendrikon**	**4.59**	**359**	P	Pn	19 08 51.9	0.0
KIRA	**zmir-Kiraz**	**4.60**	**68**	P	Pn	19 08 54.1	+2.1
VAY	**Valandovo**	**4.76**	**356**	*i* Pn	Pn	19 08 56.9	+2.7
VAY	**Valandovo**	**4.76**	**356**	P	Pn	19 08 57.4	+3.2
VAY				pmax	pmax		
	comp=Z,244nm,1.0s						
VLO	**Vlora**	**4.77**	**326**	Pn	Pb	19 09 00.3	-6.1
VLO				S	Sn	19 09 43.1	-6.1
VLO				AML	AML	19 10 05.2	
	comp=Z,4.2nm,0.7s						
SABU	**Mula-Dalaman**	**4.80**	**85**	P	Pn	19 08 55.8	+1.0
SABU				S	Sn	19 09 49.4	-0.7
TAVA	**DENIZLI_Tavas**	**4.81**	**77**	P	Pn	19 08 58.3	+3.2
TAVA				S	Sn	19 09 53.0	+2.5
NVR	**Nevrokopi**	**4.82**	**8**	P	Pn	19 08 55.5	+0.4
NVR	**Nevrokopi**	**4.82**	**8**	P	Pn	19 08 54.8	-0.4
OHR	**Ohrid**	**4.85**	**340**	*i* Pn	Pb	19 09 01.9	-6.0
OHR	**Ohrid**	**4.85**	**340**	P	Pb	19 09 02.0	-5.9
OHR				pmax	pmax		
	comp=Z,104nm,0.9s						
DNZT	**Denizli-Tavas-**	**4.88**	**80**	P	Pn	19 08 59.1	+3.2
DNZT				S	Sn	19 09 51.9	-0.2
ALN	**Alexandroupoli**	**4.94**	**28**	Pn	Pn	19 08 55.5	-1.0
ALN	**Alexandroupoli**	**4.94**	**28**	P	Pn	19 08 55.8	-0.8
ALN	**Alexandroupoli**	**4.94**	**28**	P	Pn	19 08 55.6	-1.0
DNIZ	**Denizli-Tavas-**	**4.94**	**76**	P	Pn	19 08 58.8	+2.1
RDO	**Rodhopi**	**4.98**	**23**	Pn	Pn	19 08 57.6	+0.3
RDO	**Rodhopi**	**4.98**	**23**	P	Pn	19 08 58.0	+0.7
RDO	**Rodhopi**	**4.98**	**23**	P	Pn	19 08 56.2	-1.0
SCTE	**Santa Cesarea**	**5.00**	**316**	Pn	Pn	19 08 57.1	-0.3
SCTE	**Santa Cesarea**	**5.00**	**316**	P	Pn	19 08 56.6	-0.9
MMB	**Musomishta**	**5.01**	**6**	*eP*	Pn	19 08 59.1	+1.4
MMB	**Musomishta**	**5.01**	**6**	P	Pn	19 08 59.7	+2.0
IZZE	**Mula-Seydike**	**5.01**	**90**	P	Pn	19 08 59.7	+1.9
IZZE				S	Sn	19 09 54.1	-1.2
CAEL	**Denizli, Camel**	**5.10**	**82**	P	Pn	19 09 04.9	+5.9
CAEL				S	Sn	19 10 02.4	+4.9
KKB	**Krupnik**	**5.27**	**1**	*eP*	Pn	19 09 02.3	+1.1
RZN	**Rozhen**	**5.29**	**14**	*eP*	Pn	19 09 01.5	-0.3
GOLH	**Golhisar**	**5.30**	**81**	P	Pn	19 09 05.2	+3.5
GOLH				S	Sn	19 10 08.2	+5.7
AKAS	**Kas**	**5.34**	**92**		Pn	19 09 04.0	+1.7
AKAS	**Kas**	**5.34**	**92**	P	Pn	19 09 03.3	+1.0
TIR	**Tirane**	**5.36**	**334**	Pn	Pb	19 09 09.6	-7.0
TIR				Sn	Sn	19 09 57.5	-6.4
TIR				AML	AML	19 11 18.4	
	comp=Z,1.2nm,1.3s						
TIR	**Tirane**	**5.36**	**334**	P	Pn	19 09 02.6	+0.1
TIR	**Tirane**	**5.36**	**334**	P	Pn	19 09 02.6	+0.1
	comp=Z,2.1nmcomp=Z,4μmcomp=Z,316nm,0.9s						
TIR				Sn	Sn	19 10 05.8	+1.9
	comp=Z,2.1nmcomp=Z,4μmcomp=Z,316nm,0.9s						
INCE	**Denizli-Bozkur**	**5.37**	**76**	P	Pn	19 09 08.0	+5.2
INCE				S	Sb	19 10 14.8	-6.2
KDZ	**Kurdzhali**	**5.37**	**19**	*eP*	Pb	19 09 09.4	-7.3
SLUM	**Salum**	**5.38**	**159**	P	Pn	19 09 01.4	-1.4
SLUM				S	Sn	19 10 02.5	-1.9
PHP	**Peshkopia**	**5.49**	**339**	Pn	Pn	19 09 09.0	+4.7
PHP				Sn	Sn	19 09 58.1	-8.9
PHP				AML	AML	19 10 22.4	
	comp=Z,1.4nm,1.1s						
PHP	**Peshkopia**	**5.49**	**339**	P	Pn	19 09 07.8	+3.5
BAND	**Balkesir-Ban**	**5.50**	**45**	⇑P	Pn	19 09 06.5	+2.0
ELL	**Elmali**	**5.55**	**86**	Pn	Pn	19 09 08.6	+3.3
ELL	**Elmali**	**5.55**	**86**	P	Pn	19 09 08.6	+3.3
TIP	**Timpagrande**	**5.59**	**300**

VALD	Valchedram	7.12	3	eP	Pn	19 09 32.9 +6.2
BOVS	Bovan	7.13	352	⇑P	Pn	19 09 30.1 +3.3
DB3	El Dabaa	7.19	138	P	Pn	19 09 24.9 -2.7
DB3				S	Sn	19 10 43.0 -5.8
BRY	Bratogost	7.20	333	ePn	Pn	19 09 29.9 +2.0
BRY	Bratogost	7.20	333	ePn	Pn	19 09 29.4 +1.5
BRY				i Sn	Sn	19 10 49.4 +0.1
PLE	Pljevlja	7.30	339	⇓iPn	Pn	19 09 32.0 +2.7
PLE				i Sn	Sn	19 10 51.5 -0.3
PRD	Provadia	7.41	26	eP	Pn	19 09 32.7 +2.2
NEF	NEVSHA	7.45	25	eP	Pn	19 09 34.0 +2.8
STON	Ston	7.50	329	ePn	Pn	19 09 29.5 -2.4
RUDO	Rudo	7.57	340	ePn	Pn	19 09 33.9 +1.0
SWA2		7.59	164	P	Pn	19 09 32.0 -1.1
SGRT	San Giovanni R	7.66	315	Pn	Pn	19 09 32.5 -1.6
BBLS	Lazi&#263i	7.79	340	ePn	Pn	19 09 35.2 -0.7
PSN	Preselentsi	8.08	28	eP	Pn	19 09 44.7 +4.9
HUMR	Humele	8.09	10	⇑P	Pn	19 09 43.0 +3.0
MDVR	Moldovita	8.27	354	⇑P	Pn	19 09 45.7 +3.3
HERR	Herculane	8.32	357	⇑P	Pn	19 09 46.1 +3.1
ANTO	Ankara	8.38	64	P	Pn	19 09 45.9 +1.9
	comp=Z,427nmcomp=Z,27nm,1.4s					
TEKS	Tekeris	8.40	343	ePn	Pn	19 09 42.9 -1.3
CSS	Mathiatis	8.55	98	P	Pn	19 09 48.0 +1.8
	comp=Z,41nm,0.8s					
CSS	Mathiatis	8.55	98	P	Pn	19 09 46.1 -0.2
CSS	Mathiatis	8.55	98	S	Sn	19 11 17.2 -5.1
GZR	Gura Zlata	8.82	359	⇑P	Pn	19 09 53.9 +3.8
GZR	Gura Zlata	8.82	359	P	Pn	19 09 53.8 +3.8
ARR	Arges	8.88	7	⇑P	Pn	19 09 53.5 +2.7
LOT	Lotru	8.89	3	⇑P	Pn	19 09 54.1 +3.1
TIRR	Tirgusor	8.89	26	P	Pn	19 09 52.5 +1.6
	comp=Z,607nmcomp=Z,34nm,1.2s					
FRGS	Fruska Gora	8.92	345	ePn	Pn	19 09 51.7 +0.4
BR105	Keskin Array S	8.93	66	P	Pn	19 09 53.5 +1.8
	comp=Z,293nmcomp=Z,40nm,0.9s					
HARR	Harsova	8.94	23	⇓P	Pn	19 09 55.0 +3.4
HARR	Harsova	8.94	23	P	Pn	19 09 54.9 +3.4
BR106	Keskin Array S	8.94	66	P	Pn	19 09 53.5 +1.8
	comp=Z,255nmcomp=Z,35nm,0.8s					
BR104	Keskin Array S	8.95	66	P	Pn	19 09 53.4 +1.5
	comp=Z,205nmcomp=Z,31nm,0.9s					
BR131	Keskin Array S	8.95	66	⇑eP	Pn	19 09 55.2 +3.3
BRTR	Keskin Array B	8.95	66	Pn	Pn	19 09 53.6 +1.7
	comp=Z,0.5nm,0.3s,baz=249,slow=13,SNR=52					
BRTR				LR	LR	19 14 16.2
	comp=Z,264nm,19.7s,baz=258,slow=45					
BRTR	Keskin Array B	8.95	66	P	Pn	19 09 53.8 +1.9
ISR	Istrita	8.95	16	⇑P	Pn	19 09 54.7 +2.9
ISR	Istrita	8.95	16	P	Pn	19 09 54.7 +2.9
ISR	Istrita	8.95	16	P	Pn	19 09 53.0 +1.2
	comp=Z,90nm,0.9s					
VOIR		9.00	9	⇓P	Pn	19 09 55.6 +3.2
VOIR		9.00	9	P	Pn	19 09 55.6 +3.2
VOIR		9.00	9	P	Pn	19 09 53.4 +1.0
	comp=Z,34nm,0.9s					
BZS	Buzias	9.10	354	⇑P	Pn	19 09 56.5 +2.7
BZS	Buzias	9.10	354	P	Pn	19 09 56.5 +2.7
MLR	Muntele Rosu	9.19	13	Pn	Pn	19 09 56.5 +1.4
MLR	Muntele Rosu	9.19	13	Pn	Pn	19 09 56.3 +1.2
	comp=Z,0.2nm,0.3s,baz=179,slow=9.6,SNR=21					
	comp=Z,16nm,0.8s					
MLR	Muntele Rosu	9.19	13	⇑P	Pn	19 09 58.5 +3.3
MLR	Muntele Rosu	9.19	13	P	Pn	19 09 56.5 +1.4
MLR	Muntele Rosu	9.19	13	P	Pn	19 09 56.1 +1.0
	comp=Z,45nm,0.8s					
NEHR	Nehoiu	9.19	15	⇑P	Pn	19 09 58.6 +3.5
SURR	Surduc	9.20	356	⇑P	Pn	19 09 59.1 +3.9
TPGR	Topolog	9.24	25	⇓P	Pn	19 10 00.1 +4.3
BLY	Banja Luka	9.29	333	ePn	Pn	19 09 55.9 -0.5
DEV	Deva	9.31	360	P	Pn	19 10 02.8 +6.2
DEV				pmax	pmax	
	comp=Z,36nm,1.1s					
A050A	Klekovaca	9.31	330	ePn	Pn	19 09 54.9 -1.9
JURR	Jurilovca	9.32	27	⇑P	Pn	19 10 00.2 +3.4
CFR	Carcaliu	9.44	23	⇑P	Pn	19 10 01.0 +2.6
CFR	Carcaliu	9.44	23	P	Pn	19 10 00.9 +2.6
ILGA	Ilgaz	9.48	59	Pn	Pn	19 10 00.8 +1.5
DOPR	Dopca	9.56	10	⇑P	Pn	19 10 03.7 +3.6
COVR	Voineasa-Covas	9.58	14	⇑P	Pn	19 10 04.5 +4.1
A051A	Mrakovica	9.62	333	ePn	Pn	19 09 58.1 -2.8
RYAN	Fayoum	9.65	139	P	Pn	19 09 59.4 -2.0
PLOR5	Plostina Array	9.67	15	P	Pn	19 10 03.0 +1.4
	comp=Z,58nm,0.9s					
PLOR	Plostina	9.67	15	⇓P	Pn	19 10 05.9 +4.2
PLOR	Plostina	9.67	15	P	Pn	19 10 05.9 +4.2
PLOR3	Plostina Array	9.68	15	P	Pn	19 10 03.0 +1.3
	comp=Z,81nm,1.0s					
VRI	Vrincioaia	9.70	16	⇓P	Pn	19 10 06.4 +4.3
VRI	Vrincioaia	9.70	16	P	Pn	19 10 06.3 +4.2
VRI	Vrincioaia	9.70	16	P	Pn	19 10 03.9 +1.8
	comp=Z,54nm,1.1s					
OZUR		9.75	12	⇑P	Pn	19 10 07.1 +4.4
MARR	Marisel-Cluj	10.10	0	⇓P	Pn	19 10 11.8 +4.2
MORH	Mrgy, Hungar	10.18	343	⇑P	Pn	19 10 10.7 +2.1
MORH	Mrgy, Hungar	10.18	343	P	Pn	19 10 09.7 +1.2
	comp=Z,16nm,0.9s					
DRGR		10.22	359	⇑P	Pn	19 10 13.2 +4.0
DRGR		10.22	359	P	Pn	19 10 13.2 +4.0
TESR	Tescani	10.30	14	⇑P	Pn	19 10 14.3 +4.0
TESR	Tescani	10.30	14	P	Pn	19 10 12.1 +1.8
	comp=Z,21nm,1.0s					
TESR				Pn	Pn	19 10 13.6 +3.3
	comp=Z,21nm,1.0s					
OFRI	`Ofer	10.63	108	P	Pn	19 10 13.8 -1.0
OFRI	`Ofer	10.63	108	S	Sn	19 12 07.0 -6.5
BOJS	Bojanci	10.67	329	ePn	Pn	19 10 13.4 -1.9
DQRL	Deir Qamar	10.68	102	eP	Pn	19 10 15.8 +0.3
PTJ	Puntijarka	10.72	333	P	Pn	19 10 17.6 +1.5
MMC7	Mount Meron ar	10.78	106	P	Pn	19 10 16.4 -0.6
MMC7	Mount Meron ar	10.78	106	S	Sn	19 12 10.7 -6.6
MMAI	Mount Meron Ar	10.79	106	Pn	Pn	19 10 13.3 -3.8
	comp=Z,3.0nm,0.3s,baz=316,slow=12,SNR=13					
MMAI				Sn	Sn	19 12 10.2 -7.3
	comp=Z,6.6nm,0.3s,baz=303,slow=29,SNR=7.9					
MMAI				LR	LR	19 15 15.2
	comp=Z,136nm,19.0s,baz=268,slow=43					
	comp=Z,1.8nm,0.3s					
HWQ	Hawqa	10.81	98	eP	Pn	19 10 16.5 -0.8
QRWL	Qaraoun	10.82	102	eP	Pn	19 10 15.1 -2.3
SLTI	Sal'it	10.84	110	P	Pn	19 10 16.6 -1.0
SLTI	Sal'it	10.84	110	S	Sn	19 12 11.7 -6.8
CRES	Cresnjevec Ost	10.85	331	ePn	Pn	19 10 17.8 0.0
ZAHL	Zahle	10.88	101	eP	Pn	19 10 16.4 -2.0
GEM	Giv'at Ha'Em	10.92	104	P	Pn	19 10 17.7 -1.1
GEM	Giv'at Ha'Em	10.92	104	S	Sn	19 12 13.7 -6.9
BEIL	Beino	10.93	97	eP	Pn	19 10 17.9 -1.1
SHBL	Chebaa	10.94	103	eP	Pn	19 10 17.2 -1.9
RCY	Rachaya	10.96	102	eP	Pn	19 10 16.5 -2.9
NATI	Neve Ativ	10.96	104	P	Pn	19 10 18.2 -0.5
NATI	Neve Ativ	10.96	104	S	Sn	19 12 16.0 -5.5
SALP	Salfit	11.03	110	P	Pn	19 10 19.2 -1.1
SALP	Salfit	11.03	110	S	Sn	19 12 16.7 -6.6
KZIT	Kziot	11.03	117	P	Pn	19 10 18.4 -2.0
KZIT	Kziot	11.03	117	S	Sn	19 12 16.0 -7.4
MMLI	Mount Malkishu	11.04	108	P	Pn	19 10 19.4 -1.1
MMLI	Mount Malkishu	11.04	108	S	Sn	19 12 16.7 -6.9
KEST	Kesra	11.08	270	Pn	Pn	19 10 21.2 +0.2
KEST	Kesra	11.08	270	Pn	Pn	19 10 21.0 0.0
	comp=Z,0.6nm,0.3s,baz=88,slow=18,SNR=10					
	comp=Z,9.5nm,0.9s					
VSL	Villasalto	11.14	289		Pn	19 10 21.0 -0.7
BURAR	Bucovina Array	11.16	8	⇓P	Pn	19 10 27.2 +5.1
BURAR	Bucovina Array	11.16	8	P	Pn	19 10 27.2 +5.1
PURM	Purcari	11.20	25	P	Pn	19 10 24.5 +2.0
	comp=Z,51nm,0.9s					
HMDT	Nahal Hemdat	11.20	109	P	Pn	19 10 21.5 -1.1
HMDT	Nahal Hemdat	11.20	109	S	Sn	19 12 20.7 -6.7
CEY	Cerknica	11.21	327	i Pn	Pn	19 10 22.9 +0.2
CEY	Cerknica	11.21	327	ePn	Pn	19 10 21.7 -1.0
MILM	Milestii Mici	11.21	21	eP	Pn	19 10 26.7 +4.0
	comp=Z,50nm,1.1s					
MILM				eS	Sn	19 12 36.0 +8.4
MILM				eL	L	19 14 04.0
MILM				LqM		19 14 22.0
	comp=Z,1μm,13.5s					
MILM				LRM	MLR	19 15 23.0
	comp=Z,1μm,10.0s					
MILM	Milestii Mici	11.21	21	eP	Pn	19 10 26.7 +4.0
MILM				eS	Sn	19 12 36.0 +8.4
MILM				pmax	pmax	
	comp=Z,50nm,1.1s					
MILM				MLR	MLR	
	comp=Z,1μm,10.0s					
SKDS	Skadanscina	11.24	326	ePn	Pn	19 10 21.7 -1.4
YTIR	Yattir	11.31	114	P	Pn	19 10 22.9 -1.4
YTIR	Yattir	11.31	114	S	Sn	19 12 23.2 -7.1
MPLH	Magyarpolny	11.35	341	P	Pn	19 10 25.6 +1.1
	comp=Z,141nm,0.9s					
OSSC	Osservatorio P	11.37	311		Pn	19 10 25.2 +0.3
LJU	Ljubljana	11.41	329	P	Pn	19 10 28.9 +3.5
LJU				pmax	pmax	
	comp=Z,141nm,0.8s					
DSI	Dead Sea	11.41	112	P	Pn	19 10 24.1 -1.3
DSI	Dead Sea	11.41	112	S	Sn	19 12 25.0 -7.5
PSZ	Piszkesteto	11.57	350		Pn	19 10 31.9 +4.1
PSZ	Piszkesteto	11.57	350	⇑P	Pn	19 10 31.9 +4.2
PSZ	Piszkesteto	11.57	350	P	Pn	19 10 31.9 +4.2
PERS	Pernice	11.66	332	i Pn	Pn	19 10 30.0 +1.1
GHAJ	Ghor Haditha	11.68	113		Pn	19 10 29.3 +0.2
GHAJ	Ghor Haditha	11.68	113	P	Pn	19 10 27.7 -1.4
GHAJ	Ghor Haditha	11.68	113	S	Sn	19 12 31.5 -7.6
SOKA	Soboth	11.72	332	ePn	Pn	19 10 29.9 +0.1
	comp=Z,4.3nm,0.5s,SNR=9.1					
SOKA				eSn	Sn	19 12 36.5 -3.8
	comp=Z,11nm,0.8s					
OBKA	Obir	11.77	330	ePn	Pn	19 10 29.9 -0.6
	comp=Z,2.6nm,0.5s					
OBKA				eSn	Sn	19 12 38.0 -3.5
	comp=Z,33nm,0.8s					
OBKA	Obir	11.77	330	ePn	Pn	19 10 27.9 -2.6
PRNI	Paran	11.78	118	P	Pn	19 10 29.0 -1.6
PRNI	Paran	11.78	118	S	Sn	19 12 33.7 -7.9
ZFRI	Zfri	11.79	117	P	Pn	19 10 29.1 -1.5
ZFRI	Zfri	11.79	117	S	Sn	19 12 33.7 -8.1
SIM	Simferopol'	11.87	42	eP	Pn	19 10 34.6 +2.9
SIM				pmax	pmax	
	comp=Z,42nm,1.0s					
SIM				MLR	MLR	
	comp=Z,337nm,16.0s					
PII	Pisa	11.92	311	P	Pn	19 10 36.7 +4.3
PII				pmax	pmax	
	comp=Z,17nm,1.0s					
HRFI	Mount Harif	11.98	119	P	Pn	19 10 31.7 -1.6
HRFI	Mount Harif	11.98	119	S	Sn	19 12 38.7 -7.9
ARSA	Arzberg	12.03	335	ePn	Pn	19 10 33.7 -0.3
	comp=Z,3.5nm,0.5s					
MBRI	Mt Berech	12.04	121	P	Pn	19 10 32.6 -1.6
MBRI	Mt Berech	12.04	121	S	Sn	19 12 40.2 -7.9
EIL	Elat	12.14	121	Pn	Pn	19 10 34.1 -1.4
	comp=Z,0.9nm,0.3s,baz=340,slow=8.1,SNR=16					
EIL				Sn	Sn	19 12 38.7 -12
	comp=Z,1.4nm,0.3s,baz=346,slow=17,SNR=3.7					
	comp=Z,10nm,0.6s					
EIL	Elat	12.14	121	P	Pn	19 10 33.8 -1.7
EIL	Elat	12.14	121	S	Sn	19 12 42.5 -8.0
RONA	Rosalia, Austr	12.18	338	ePn	Pn	19 10 35.6 -0.4
	comp=Z,2.8nm,0.6s					
SORM	Soroca	12.21	17	P	Pn	19 10 37.4 +1.0
	comp=Z,20nm,1.1s					
MYKA	Terra Mystica	12.24	328	ePn	Pn	19 10 37.1 +0.2
	comp=Z,13nm,1.0s					
MYKA				Sn	Sn	19 12 50.0 -3.0
	comp=Z,3.6nm,0.4s					
KMPD	K-Podol'skiy	12.26	11	P	Pn	19 10 37.8 +0.9
ASF	Jabal al Asfar	12.29	107	Pn	Pn	19 10 36.7 -0.9
	comp=Z,0.5nm,0.3s,baz=322,slow=8.8,SNR=10					
	comp=Z,6.4nm,0.7s					
VYHS	Vyhne	12.31	347	eP	Pn	19 10 42.8 +5.1
VYHS				e		19 12 59.8
VYHS	Vyhne	12.31	347	ePN	Pn	19 10 42.8 +5.1
VYHS	Vyhne	12.31	347	eSN	Sn	19 12 59.8 +5.4
PGF	Pioggiola	12.34	303	P	Pn	19 10 40.2 +1.9
PGF				pmax	pmax	
	comp=Z,64nm,1.0s					
KOLS	Kolonicke sedl	12.37	358	eP	Pn	19 10 45.1 +6.5
KOLS	Kolonicke sedl	12.37	358	ePN	Pn	19 10 45.0 +6.4
CONA	Conrad Observa	12.52	337	ePn	Pn	19 10 41.3 +0.7
	comp=Z,3.6nm,0.8s					
MODS	Modra-Piesok	12.53	342	eP	Pn	19 10 48.8 +8.1
MODS	Modra-Piesok	12.53	342	ePN	Pn	19 10 48.8 +8.1
KBA	Koelnbreinsper	12.72	329	ePn	Pn	19 10 44.1 +0.5
	comp=Z,2.1nm,0.4s					
KBA				eSn	Sn	19 13 01.2 -3.6
	comp=Z,6.6nm,0.8s					
KBA	Koelnbreinsper	12.72	329	P	Pn	19 10 47.6 +4.1
KBA				pmax	pmax	
	comp=Z,41nm,0.8s					
CTI	Castel Tesino	12.74	322	Pn	Pn	19 10 44.1 +0.4
CTI	Castel Tesino	12.74	322	P	Pn	19 10 44.1 +0.4
AKRG	Al Kharijah	12.76	148	P	Pn	19 10 43.6 -0.3
ABTA	Abfaltersbach	12.83	326	ePn	Pn	19 10 45.2 +0.3
	comp=Z,1.7nm,0.4s					
ABTA				Sn	Sn	19 13 04.9 -2.4
	comp=Z,22nm,0.8s					
JAVC	Velka Javorina	12.89	344	ePN	Pn	19 10 52.4 +6.7
MOA	Molln	12.99	333	ePn	Pn	19 10 46.3 -0.7
	comp=Z,2.1nm,0.6s					
MOA				eSn	Sn	19 13 09.2 -1.9
	comp=Z,4.3nm,0.7s					
KWP	Kalwaria Pacla	13.06	359	P	Pn	19 10 50.3 +2.3
	comp=Z,29nm,1.2s					
BIOA	Bad Ischl, Aus	13.10	331	ePn	Pn	19 10 48.5 0.0
	comp=Z,3.9nm,0.4s					
LESA	Schwarzleotal	13.28	328	ePn	Pn	19 10 50.8 -0.2
	comp=Z,3.1nm,0.5s,SNR=6.6					
LESA				eSn	Sn	19 13 16.0 -2.2
	comp=Z,27nm,0.8s					
MAUC	Maruska	13.34	345	eP	P	19 10 58.3 -3.0
KRUC	Moravsky	13.39	341	ePN	P	19 10 59.9 -2.0
VRAC	Vranov	13.56	342	Pn	P	19 10 58.9 -4.9
	comp=Z,0.5nm,0.3s,baz=160,slow=10,SNR=10.0					
VRAC				LR	LR	19 17 40.9
	comp=Z,855nm,21.7s,baz=170,slow=44					
VRAC	Vranov	13.56	342	ePN	P	19 11 00.7 -3.1
WTTA	Wattenberg	13.62	325	ePn	Pn	19 10 57.4 +1.7
	comp=Z,5.3nm,0.6s					
WTTA	Wattenberg	13.62	325	P	P	19 11 00.2 -4.4
WTTA				pmax	pmax	
	comp=Z,56nm,1.2s					
WATA	Walderalm	13.70	325	ePn	Pn	19 10 57.6 +0.8
	comp=Z,20nm,0.8s,SNR=13					
WATA				eSn	Sn	19 13 25.0 -3.5
	comp=Z,17nm,0.9s					
SQTA	Sankt Quirin	13.78	324	ePn	Pn	19 10 58.6 +0.6
	comp=Z,4.3nm,0.4s,SNR=7.7					
SQTA				eSn	Sn	19 13 27.6 -3.1
	comp=Z,13nm,0.8s					
LUBAR	Lubar, Ukraine	13.79	13	P	Pn	19 10 59.4 +1.6
MORC	Moravsky Berou	13.79	345	ePN	P	19 11 04.4 -1.9
CKRC	Cesky Krumlov	13.80	335	eP	Pn	19 10 59.6 +1.5
CKRC				AMS	AMS	19 17 30.0
	comp=Z,2μm,11.5s					
CKRC	Cesky Krumlov	13.80	335	eP	Pn	19 10 59.6 +1.5
CKRC				MLR	MLR	
	comp=Z,2μm,11.5s					
OJC	Ojcow	13.84	351	eP	P	19 11 09.2 +2.3
OJC	Ojcow	13.84	351	P	Pn	19 10 59.7 +1.1
OJC	Ojcow	13.84	351	P	Pn	19 10 59.7 +1.1
	comp=Z,20nm,0.7s					
TREC	Trest	13.85	339	eP	P	19 11 03.8 -3.2
TREC	Trest	13.85	339	eP	P	19 11 03.8 -3.2
FETA	Feichten	13.87	323	ePn	Pn	19 11 01.4 +2.2
	comp=Z,8.3nm,0.9s					
FETA				Sn	Sn	19 13 29.8 -3.0
	comp=Z,11nm,0.9s					
STEB	Steborice	13.89	346	eP	P	19 11 03.7 -3.7
MOTA	Moosalm	13.92	324	ePn	Pn	19 10 59.6 -0.3
	comp=Z,15nm,0.9s					
MOTA				eSn	Sn	19 13 33.4 -0.6
	comp=Z,22nm,1.0s					
SBF	Sospel	13.94	306	eP	Pn	19 11 02.5 +2.5
SBF				pmax	pmax	
	comp=Z,35nm,1.2s					
GERES	GERESS Array B	14.03	334		Pn	19 11 04.3 +3.0
GERES	GERESS Array B	14.03	334	Pn	Pn	19 11 01.7 +0.4
	comp=Z,0.4nm,0.3s,baz=148,slow=11,SNR=14					
GERES				Sn	Sn	19 13 33.1 -3.6
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=1.7					
GERES				LR	LR	19 17 28.1
	comp=Z,702nm,18.9s,baz=150,slow=42					
GERES				ScP	ScP	19 19 54.6 +0.6
	comp=Z,0.8nm,0.8s,baz=228,slow=5.2,SNR=4.2					
	comp=Z,4.0nm,0.9s					
DAVOX	Davos/Dischmat	14.13	320	Pn	Pn	19 11 03.7 +0.9
	comp=Z,0.6nm,0.3s,baz=148,slow=12,SNR=30					
DAVOX				Sn	Sn	19 13 34.6 -4.6
	comp=Z,0.9nm,0.3s,baz=143,slow=20,SNR=5.3					
DAVOX				LR	LR	19 18 25.6
	comp=Z,590nm,18.3s,baz=122,slow=46					
	comp=Z,2.1nm,0.8s					
RETA	Reutte	14.19	324	ePn	Pn	19 11 04.6 +1.2
	comp=Z,16nm,0.5s					
TUE	Stuetta	14.21	318	P	Pn	19 11 04.7 +0.8
	comp=Z,112nm,1.1s					
KRLC	Kraliky	14.23	344	eP	P	19 11 10.7 -0.6
KRLC				AMS	AMS	19 18 30.0
	comp=Z,1μm,15.3s					
KRLC	Kraliky	14.23	344	eP	P	19 11 10.7 -0.6
KRLC				MLR	MLR	
	comp=Z,1μm,15.3s					
KHC	Kasperske Hory	14.32	334	eP	Pn	19 11 06.1 +0.9
KHC				ex	x	19 11 14.5
KHC				AMS	AMS	19 17 40.0
	comp=Z,2μm,13.0s					
KHC	Kasperske Hory	14.32	334	⇓eP	Pn	19 11 05.5 +0.3
KHC				pmax	pmax	
	comp=Z,9.0nm,1.0s					
KHC	Kasperske Hory	14.32	334	P	Pn	19 11 06.5 +1.3
	comp=Z,94nm,0.8s					
ISO	Isola	14.33	307	P	P	19 11 09.9 -2.5
ISO				pmax	pmax	
	comp=Z,25nm,1.1s					
ZVC	Zvikov	14.38	336	eP	P	19 11 12.0 -0.8
ZVC				AMS	AMS	19 17 50.0
	comp=Z,2μm,11.2s					
DAVA	Damuels	14.47	322	ePn	Pn	19 11 08.5 +1.1
	comp=Z,45nm,0.8s,SNR=10					
DAVA				Sn	Sn	19 13 42.9 -4.7
	comp=Z,26nm,1.0s					
SOC	Sochi	14.58	56	eP	P	19 11 16.5 +1.4
SOC				MLR	MLR	
	comp=Z,180nm,14.0s					
DPC	Dobruska-Polom	14.60	343	eP	P	19 11 13.6 -1.7
DPC	Dobruska-Polom	14.60	343	eP	P	19 11 13.6 -1.7
DPC	Dobruska-Polom	14.60	343	P	Pn	19 11 10.5 +1.5
	comp=Z,26nm,1.1s					
GOPC	GO Pecny, Ondr	14.61	339	eP	P	19 11 13.0 -2.4
GOPC				AMS	AMS	19 18 00.0
	comp=Z,2μm,15.9s					
GOPC	GO Pecny, Ondr	14.61	339	eP	P	19 11 13.0 -2.4
GOPC				MLR	MLR	
	comp=Z,2μm,15.9s					
AK07	Malin Array Si	14.68	16	P	Pn	19 11 12.2 +2.2
AK13	Malin Array Si	14.70	15	P	Pn	19 11 12.6 +2.3
AK06	Malin Array Si	14.71	16	P	Pn	19 11 12.7 +2.3
AK14	Malin Array Si	14.73	15	P	Pn	19 11 13.0 +2.3
MI28	Mi28,Pidlybu	14.74	12	P	Pn	19 11 13.1 +2.2
PRU	Pruhonice	14.75	338	eP	P	19 11 14.8 -2.2
PRU				AMS	AMS	19 18 10.0
	comp=Z,2μm,14.1s					
PRU	Pruhonice	14.75	338	eP	P	19 11 14.8 -2.2
PRU				MLR	MLR	
	comp=Z,2μm,14.1s					
RNPP5	Staryi Chortor	14.80	7	P	Pn	19 11 13.8 +2.1
KIEV	Kiev	14.81	16	Pn	Pn	19 11 13.7 +1.9
KIEV	Kiev	14.81	16	P	Pn	19 11 13.7 +1.9
KIEV	Kiev	14.81	16	P	Pn	19 11 14.2 +2.4
	comp=Z,92nm,0.8s					
OSTC	Ostas	14.81	343	eP	P	19 11 18.8 +1.1
OSTC	Ostas	14.81	343	eP	P	19 11 18.8 +1.1
AKASG	Malin Array Be	14.82	16		P	19 11 15.2 -2.6
AKASG	Malin Array Be	14.82	16	Pn	Pn	19 11 11.3 -0.7
	comp=Z,1.1nm,0.3s,baz=207,slow=12,SNR=33					
AKASG				PcP	PcP	19 16 22.8 +0.6
	comp=Z,0.8nm,0.5s,baz=245,slow=0.6,SNR=6.3					
AKASG				ScP	ScP	19 19 56.0 +0.8
	comp=Z,1.9nm,0.8s,baz=248,slow=0.9,SNR=7.5					
	comp=Z,3.4nm,0.8s					
AKBB	Malin Array Si	14.82	16	⇓eP	Pn	19 11 13.9 +1.9
AKBB	Malin Array Si	14.82	16	P	Pn	19 11 14.2 +2.2
RRL	Rocca Remolon	14.84	309	P	P	19 11 16.7 -1.5
RRL				pmax	pmax	
	comp=Z,32nm,1.0s					
AK03	Malin Array Si	14.84	16	P	Pn	19 11 14.5 +2.2
PRA	Prague	14.85	338	eP	P	19 11 18.9 +0.8
PRA				AMS	AMS	19 18 10.0
	comp=Z,2μm,14.0s					
PRA	Prague	14.85	338	eP	P	19 11 18.9 +0.8
PRA				MLR	MLR	
	comp=Z,2μm,14.0s					
CHVC	Chvalec	14.88	343	eP	P	19 11 17.3 -1.2
CHVC	Chvalec	14.88	343	eP	P	19 11 17.3 -1.2
KSP	Ksiaz	15.06	343	eP	P	19 11 22.8 +2.3
KSP	Ksiaz	15.06	343	P	P	19 11 22.7 +2.3
KSP				pmax	pmax	
	comp=Z,46nm,1.1s					
KSP	Ksiaz	15.06	343	P	Pn	19 11 16.8 +1.6
	comp=Z,47nm,1.1s					
LPL	La Plagne	15.16	311	eP	P	19 11 21.4 -0.5
LPL				pmax	pmax	
	comp=Z,7.0nm,0.7s					
GRB1	Grafenberg Arr	15.25	331	P	P	19 11 23.1 +0.5
GRB1				pmax	pmax	
	comp=Z,401nm,0.9s					
SENIN	Lac Senin

ECH Echery 16.47 320 P **P 19 11 39.9 +3.8**
ECH pmax pmax
comp=Z,166nm,1.2s
CDF Champ du Feu 16.54 321 *e*P **P 19 11 36.4 -0.5**
CDF pmax pmax
comp=Z,14nm,0.7s
SHA1 Shidzhatmaz 16.62 58⇑ *e*P **Pn 19 11 36.0 +0.3**
KIV Kislovodsk 16.72 58 P **P 19 11 38.6 -0.3**
KIV Kislovodsk 16.72 58 *e*P **P 19 11 40.4 +1.5**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,106nm,14.0s
KIV Kislovodsk 16.72 58 P **P 19 11 39.3 +0.4**
comp=Z,423nmcomp=Z,37nm,1.3s
HAU Haudompre 16.77 318 *e*P **P 19 11 37.9 -1.5**
HAU pmax pmax
comp=Z,52nm,1.2s
KBZ Khabaz 16.79 59 Pn **P 19 11 41.0 +1.4**
comp=Z,0.5nm,0.3s,baz=242,slow=8.9,SNR=25
KBZ Khabaz 16.79 59⇑ *e*P **P 19 11 40.0 +0.4**
KBZ pmax pmax
comp=Z,26nm,0.8s
GKP Gorka Klasztor 17.18 348 *e*P **P 19 11 47.4 +3.5**
RUE Ruedersdorf 17.19 341 *e*P **P 19 11 45.6 +1.6**
NCK Nalchik 17.20 60⇓ *e*P **P 19 11 43.5 -0.7**
NCK pmax pmax
comp=Z,7.0nm,1.2s
GOF Gofitskoye 17.35 55 *ce*P P 19 11 54.8 +9.0
GNI Garni 17.41 72 Pn **P 19 11 49.3 +2.6**
comp=Z,1.2nm,0.3s,baz=320,slow=3.1,SNR=5.5
GNI LR LR 19 19 00.2
comp=Z,249nm,22.0s,baz=281,slow=39
SUW Suwalki 17.45 0 *e*P **P 19 11 48.9 +2.1**
SUW Suwalki 17.45 0 P **P 19 11 48.4 +1.6**
SUW IAmb IAmb 19 11 52.4
comp=Z,148nm,1.1s
SUW Suwalki 17.45 0 P **P 19 11 48.4 +1.6**
SUW pmax pmax
comp=Z,148nm,1.1s
SUW Suwalki 17.45 0 *e*P **P 19 11 50.2 +3.4**
LOR Lormes 17.77 313 *e*P **P 19 11 51.1 +0.7**
LOR pmax pmax
comp=Z,28nm,1.2s
SSF Saint Saulge 17.87 312 *e*P **Pn 19 11 50.0 -1.0**
SSF pmax pmax
comp=Z,10.0nm,0.7s
CAF Calviac 17.89 304 *e*P **P 19 11 51.5 -0.4**
CAF pmax pmax
comp=Z,15nm,0.9s
WLF Walferdange 17.91 322 *d*P **P 19 11 53.4 +1.4**
comp=Z,38nm,1.1s
WLF *d*S S 19 15 33.1 +16
BGF Bois d'Agland 18.04 310 *e*P **P 19 11 56.0 +2.5**
BGF pmax pmax
comp=Z,19nm,0.9s
MNK Minsk 18.25 9 *i* P **P 19 11 56.7 +1.0**
comp=E,46nm,0.9s
MNK *i* P **P 19 11 56.7 +1.0**
comp=N,6.0nm,0.7s
MNK *i* P **P 19 11 56.7 +1.0**
comp=Z,44nm,0.9s,baz=193
MNK *i* PP **PnPn 19 12 09.7 +2.8**
MNK *i* PPP PPP 19 12 16.9
MNK *i* S **S 19 15 22.1 -1.6**
MNK *i* SS **SnSn 19 15 42.8 +10**
MNK *i* LQ LQ 19 17 32.1
MNK *i* LR LR 19 18 47.7
MNK *i* LRM MLR 19 20 08.2
MNK *i* LRM MLR 19 20 08.2
MNK *i* LRM MLR 19 20 08.2
MNK Minsk 18.25 9 *i* P **P 19 11 56.7 +1.0**
MNK *i* S **S 19 15 22.1 -1.6**
MNK pmax pmax
comp=Z,44nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=E,46nm,0.9s
RJF Les Rejaudoux 18.39 305 *e*P **P 19 11 59.4 +2.1**
RJF pmax pmax
comp=Z,20nm,1.1s
NACGM Naroch 18.52 7 *e*P **P 19 11 57.8 -0.9**
baz=190
BTNL Ternell 18.53 324 *d*P **Pn 19 12 01.6 +2.5**
comp=Z,19nm,1.0s
MEM Membach 18.61 324 *d*P **Pn 19 12 02.9 +3.0**
comp=Z,19nm,0.9s
MEM Membach 18.61 324 P **Pn 19 12 03.3 +3.4**
MEM pmax pmax
comp=Z,27nm,1.0s
BUG Bochum--Univer 18.62 328 P **Pn 19 12 03.0 +2.9**
BUG pmax pmax
comp=Z,70nm,1.0s
VSR Storozhevoye 18.65 33 *e*P **Pn 19 12 03.5 +3.1**
VSR pmax pmax
comp=Z,20nm,0.9s
RCHB Rochefort 18.68 322 *d*P **Pn 19 12 03.5 +2.7**
comp=Z,22nm,1.1s
LFF La Frestale 18.78 303 *e*P **Pn 19 12 02.9 +0.8**
LFF pmax pmax
comp=Z,29nm,1.1s
BSTI Sart Tilman 18.80 324 *d*P **Pn 19 12 05.7 +3.4**
comp=Z,5.3nm,1.6s
BCLA Clavier 18.82 323 *d*P **Pn 19 12 04.7 +2.2**
comp=Z,13nm,1.0s
BGES Gesves 18.90 323 *d*P **Pn 19 12 04.2 +0.7**
IIGN Ignalina 18.92 6 *e*P **Pn 19 12 05.1 +1.5**
DOU Dourbes 18.96 321 *d*P **Pn 19 12 05.5 +1.2**
comp=Z,24nm,1.0s
DOU Dourbes 18.96 321 P **Pn 19 12 08.8 +4.6**
DOU pmax pmax
comp=Z,41nm,1.1s
VORR Voronezh 19.00 32 *e*P **Pn 19 12 06.5 +1.9**
VORR pmax pmax
comp=Z,25nm,1.6s
BMRD Maredsous 19.00 322 *d*P **Pn 19 12 04.4 -0.3**
comp=Z,14nm,1.0s
BAIF Baives 19.14 321 *e*P **Pn 19 12 07.8 +1.5**
BAIF pmax pmax
comp=Z,62nm,1.2s
ETSF Etsaut 19.16 297 *e*P **Pn 19 12 08.3 +1.5**
ETSF pmax pmax
comp=Z,40nm,1.1s
BSD Bornholm Skovb 19.36 346 P **Pn 19 12 08.4 -0.6**
BSD pmax pmax
comp=Z,52nm,1.2s
BSD Bornholm Skovb 19.36 346 *e*P **Pn 19 12 09.8 +0.8**
BSD Bornholm Skovb 19.36 346 *i* P **P 19 12 05.0 -2.9**
VSVD Vaisvydziai 19.43 2 *e*P **Pn 19 12 11.2 +1.4**
PBUR Paburge 19.48 358 *e*P **Pn 19 12 11.8 +1.4**
BSEG Bad Segeberg 19.48 337 P **Pn 19 12 11.0 +0.6**
BSEG pmax pmax
comp=Z,62nm,1.2s
UCC Uccle 19.52 323 *d*P **Pn 19 12 13.4 +2.5**
comp=Z,17nm,0.9s
UCC Uccle 19.52 323 P **Pn 19 12 13.6 +2.7**
UCC pmax pmax
comp=Z,5.0nm,1.7s
LPSR Galich'ya Gora 19.57 30 *e*P **Pn 19 12 12.8 +1.3**
LPSR pmax pmax
comp=Z,117nm,2.1s
VRH Novokhopyorsk 19.82 37 *e*P **Pn 19 12 14.5 0.0**
VRH pmax pmax
comp=Z,82nm,1.6s
MAK Makhachkala 19.85 64 *e*P **P 19 12 10.6 -2.7**
MAK *e*S **S 19 15 54.7 -1.5**
MAK pmax pmax
comp=Z,385nm,1.6s
MAK MLR MLR
comp=Z,248nm,20.0s
MFF Saint Martin d 19.94 307 *e*P **Pn 19 12 16.4 +0.4**
MFF pmax pmax
comp=Z,32nm,1.0s
TAM Tamanrasset 20.43 233 P Pn 19 12 21.5 -0.5
TAM Tamanrasset 20.43 233 P Pn 19 12 21.5 -0.5
TAM pmax pmax
comp=Z,22nm,1.1s
COP Copenhagen 20.43 343 P Pn 19 12 21.8 +0.1
COP Copenhagen 20.43 343 *i* P Pn 19 12 21.4 -0.3
OBN Obninsk 20.75 22 P Pn 19 12 23.9 -1.5
OBN IAmb IAmb 19 12 39.4
comp=Z,73nm,1.2s
OBN Obninsk 20.75 22 P Pn 19 12 24.5 -0.9
comp=Z,22nm,0.4s,baz=173,slow=20,SNR=6.0
OBN Obninsk 20.75 22 *i* P **P 19 12 22.6 -0.3**
OBN pmax pmax
comp=Z,50nm,1.3s
OBN MLR MLR
comp=Z,277nm,17.0s
LDF La Druitiere 20.75 313 *e*P **P 19 12 23.6 +0.5**
LDF pmax pmax
comp=Z,30nm,0.9s
DEL Delary 20.84 346 *i* P Pn 19 12 25.0 -1.4
FLN La Foliniere 21.04 313 *e*P **P 19 12 26.5 +0.3**
FLN pmax pmax
comp=Z,81nm,1.1s
SLIT Slitere, Latvi 21.08 359 *e*P **P 19 12 28.4 +2.0**
GRR Gorron 21.10 311 *e*P **P 19 12 28.2 +1.4**
GRR pmax pmax
comp=Z,41nm,1.0s
ESBB Sonseca Array 21.41 287 P **P 19 12 28.7 -1.6**
ESBB IAmb IAmb 19 12 40.7
comp=Z,49nm,0.9s
ESDC Sonseca Array 21.41 287 P **P 19 12 28.7 -1.6**
ESDC Sonseca Array 21.41 287 P **P 19 12 29.2 -1.2**
comp=Z,20nm,0.9s,baz=81,slow=8.5,SNR=62
comp=Z,20nm,0.9s
FABU Falkenberg 21.57 345 *e*P **P 19 12 33.1 +1.3**
GUD Guadarrama 21.57 289 P **P 19 12 33.1 +0.9**
MOS Moscow 21.60 23 *e*P **P 19 12 29.4 -2.7**
MOS *e*S **S 19 16 24.5 -6.1**
MOS pmax pmax
comp=Z,62nm,0.7s
PAB San Pablo 21.71 286 P **P 19 12 33.9 +0.3**
PAB IAmb IAmb 19 12 39.8
comp=Z,85nm,1.4s
PAB San Pablo 21.71 286 P **P 19 12 33.9 +0.3**
PAB pmax pmax
comp=Z,85nm,1.4s
MUD Monsted U'grnd 21.97 339 P **P 19 12 40.7 +4.6**
MUD pmax pmax
comp=Z,64nm,2.3s
MUD Monsted U'grnd 21.97 339 *i* P **P 19 12 36.0 -0.1**
VSU Vasula 22.05 5⇓ *e*P **P 19 12 37.5 +0.7**
VSU pmax pmax
comp=Z,45nm,1.0s
VSU Vasula 22.05 5 *e*P **P 19 12 39.0 +2.2**
SGMF Saint Gilles 22.08 310 *e*P **P 19 12 38.5 +1.1**
SGMF pmax pmax
comp=Z,53nm,1.2s
ONAU Onsala 22.11 344 *e*P **P 19 12 38.2 +0.7**
BORU Boraas 22.15 345 *e*P **P 19 12 37.9 -0.1**
MTSE Matsula 22.17 1 *e*P **P 19 12 39.4 +1.3**
QUIF Quistinic 22.34 309 *e*P **P 19 12 41.7 +1.6**
QUIF pmax pmax
comp=Z,26nm,0.7s
ROSF Rostrenen 22.56 310 *e*P **P 19 12 42.4 -0.1**
ROSF pmax pmax
comp=Z,89nm,1.3s
ARBE Arbavere 22.97 4 *e*P **P 19 12 51.8 +5.1**
RAYN Ar Rayn 23.35 118 P **P 19 12 51.9 +1.0**
RAYN Ar Rayn 23.35 118 P **P 19 12 51.9 +1.0**
RAYN pmax pmax
comp=Z,18nm,1.1s
BELG Belogornoye 23.47 40 LR LR 19 22 13.6
comp=Z,125nm,19.6s,baz=275,slow=37
BELG Belogornoye 23.47 40⇑ *e*P **P 19 12 53.9 +2.1**
BELG pmax pmax
comp=Z,8.0nm,1.3s
PBRG Braganca 23.58 292 *e*P **P 19 12 54.0 +1.0**
PBRG *i* Amb 19 12 55.4
comp=Z,76nm,1.3s
MEF Metsahovi 23.69 2 *e*P **P 19 12 55.5 +1.7**
PUL Pulkovo 23.70 9⇓ *e*P **P 19 12 54.2 +0.3**
PUL pmax pmax
comp=Z,30nm,0.7s
HOMB Homborsund 23.73 341 *e*P **P 19 12 56.5 +2.3**
HOMB Homborsund 23.73 341 *i* P **P 19 12 57.2 +3.0**
MVO Moncorvo 23.77 290 *e*P **P 19 12 55.0 +0.1**
MVO *i* Amb 19 12 58.6
comp=Z,101nm,1.4s
STRU Stroemstad 23.77 345 *e*P **P 19 12 55.1 +0.5**
PBAR Barrancos 23.88 283 *e*P **P 19 12 56.5 +0.5**
PBAR *i* Amb 19 13 03.5
comp=Z,95nm,1.4s
PMRV Marv??o 24.07 286 *e*P **P 19 12 57.7 0.0**
PMRV *i* Amb 19 13 02.4
comp=Z,58nm,1.2s
PCBR Castelo Branco 24.12 287 *e*P **P 19 12 58.5 +0.3**
PCBR *i* Amb 19 13 04.5
comp=Z,36nm,1.2s
SNART Snartemo 24.14 339 *e*P **P 19 13 00.3 +2.2**
MTE Manteigas 24.16 288 P **P 19 12 57.5 -1.1**
MTE Manteigas 24.16 288 *e*P **P 19 12 59.2 +0.6**
MTE Manteigas 24.16 288 *e*P **P 19 12 59.1 +0.6**
PESTR Estremoz 24.26 285 IAmb IAmb 19 13 01.6
comp=Z,52nm,1.0s
PESTR Estremoz 24.26 285 *e*P **P 19 12 59.5 0.0**
PESTR *i* Amb 19 13 01.4
comp=Z,50nm,1.0s
PVRL Vila Real 24.29 291 *e*P **P 19 13 00.8 +1.0**
PVRL *i* Amb 19 13 03.2
comp=Z,57nm,1.5s
HFS Hagfors 24.33 349 P **P 19 12 57.1 -2.8**
comp=Z,23nm,0.9s,baz=153,slow=10.0,SNR=27
HFS LR LR 19 25 03.9
comp=Z,442nm,20.0s,baz=172,slow=43
comp=Z,23nm,0.9s
POLO Lamas de Olo 24.35 291 *e*P **P 19 13 01.5 +1.1**
POLO *i* Amb 19 13 03.9
comp=Z,42nm,1.3s
PVIS Viseu 24.42 289 *e*P **P 19 13 02.7 +1.8**
RAF Rauma 24.49 359 *e*P **P 19 13 03.2 +1.9**
PVAQ Vaqueiros 24.50 281 IAmb IAmb 19 13 04.7
comp=Z,45nm,1.0s
PVAQ Vaqueiros 24.50 281 *e*P **P 19 13 02.7 +1.0**
PVAQ *i* Amb 19 13 15.6
comp=Z,106nm,1.4s
PCAB Cabril 24.53 292 *e*P **P 19 13 02.9 +0.9**
PCAB *i* Amb 19 13 06.0
comp=Z,113nm,1.4s
PBEJ Beja 24.55 283 *e*P **P 19 13 03.1 +1.0**
PBEJ *i* Amb 19 13 06.4
comp=Z,98nm,1.5s
EVO Evora 24.61 284 *e*P **P 19 13 03.9 +1.2**
EVO *i* Amb 19 13 19.8
comp=Z,36nm,1.5s
KONO Kongsberg 24.68 344 P **P 19 13 03.6 +0.6**
KONO IAmb IAmb 19 13 14.5
comp=Z,71nm,1.4s
KONO Kongsberg 24.68 344 *e*P **P 19 13 04.4 +1.4**
KONO Kongsberg 24.68 344 P **P 19 13 03.6 +0.6**
KONO pmax pmax
comp=Z,71nm,1.4s
OSL Oslo 24.69 345 *e*P **P 19 13 03.9 +0.8**
PBDV Barranco-do-Ve 24.70 281 *e*P **P 19 13 04.2 +0.8**
PBDV *i* Amb 19 13 17.8
comp=Z,116nm,1.4s
PCVE Castro Verde 24.73 282 *e*P **P 19 13 04.7 +1.0**
PCVE *i* Amb 19 13 18.6
comp=Z,43nm,1.3s
PMTG Montargil 24.74 285 *e*P **P 19 13 04.2 +0.4**
PMTG *i* Amb 19 13 11.1
comp=Z,54nm,1.6s
COI Coimbra 24.82 288 *e*P **P 19 13 06.1 +1.6**
COI *i* Amb 19 13 08.1
comp=Z,89nm,1.4s
MESJ Messejana 24.85 282 *e*P **P 19 13 05.4 +0.6**
MESJ IAmb IAmb 19 13 07.9
comp=Z,58nm,1.0s
MESJ Messejana 24.85 282 *e*P **P 19 13 05.3 +0.6**
MESJ *i* Amb 19 13 08.3
comp=Z,78nm,1.2s
MESJ Messejana 24.85 282 *e*P **P 19 13 05.4 +0.6**
PCAS Casmilo, Conde 24.89 288 *e*P **P 19 13 05.8 +0.6**
PCAS *i* Amb 19 13 07.2
comp=Z,57nm,1.5s
FINES FINESS Array B 24.98 3 P **P 19 13 03.5 -2.1**
FINES FINESS Array B 24.98 3 P **P 19 13 03.7 -2.0**
comp=Z,8.2nm,0.8s,baz=146,slow=12,SNR=14
FINES PcP **PcP 19 16 37.5 -2.9**
comp=Z,1.1nm,0.3s,baz=205,slow=1.6,SNR=5.2
FINES LR LR 19 24 07.0
comp=Z,697nm,18.4s,baz=186,slow=40
comp=Z,8.2nm,0.8s
FIA1 FINESS Array S 24.98 4 P **P 19 13 06.9 +1.3**
AVE Averroes 25.10 272 P **P 19 13 05.3 -1.8**
PSBE So Bento 25.15 286 *e*P **P 19 13 08.8 +1.3**
PSBE *i* Amb 19 13 14.9
comp=Z,67nm,1.4s
BLS5 Blasjo 25.27 340 *e*P **P 19 13 10.0 +1.6**
NC602 NORSAR Array S 25.27 347 P **P 19 13 07.0 -1.4**
NC602 NORSAR Array S 25.27 347 *e*P **P 19 13 08.9 +0.6**
NORES NORESS Array B 25.27 347 P **P 19 13 09.9 +1.6**
NORES pmax pmax
comp=Z,3.0nm,0.3s
PTEO Sao Teotonio 25.28 282 *e*P **P 19 13 10.7 +2.0**
PTEO *i* Amb 19 13 22.2
comp=Z,113nm,1.8s
KMY Karmoy 25.43 339 *e*P **P 19 13 11.0 +1.1**
NAO01 NORSAR Array S 25.49 346 IAmb IAmb 19 13 17.4
comp=Z,34nm,0.9s
NC405 NORSAR Array S 25.59 347 IAmb IAmb 19 13 28.6
comp=Z,40nm,1.1s
NB2 NORSAR Subarra 25.61 347 P **P 19 13 11.9 +0.4**
comp=Z,27nm,1.0s,baz=158,slow=9.3
NB2 NORSAR Subarra 25.61 347 P **P 19 13 11.9 +0.4**
baz=158,slow=9.3
NB2 NORSAR Subarra 25.61 347 P **P 19 13 13.9 +2.4**
NB2 pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 25.61 347 P **P 19 13 09.5 -2.1**
comp=Z,11nm,1.0s,baz=158,slow=10,SNR=39
NOA LR LR 19 25 03.4
comp=Z,331nm,19.9s,baz=165,slow=41
comp=Z,11nm,1.0s
ODD1 Odda 25.64 341 *e*P **P 19 13 12.9 +1.2**
KEF Keuruu 25.65 2 *e*P **P 19 13 14.0 +2.2**
NBO00 NORSAR Array S 25.69 346 IAmb IAmb 19 13 14.6
comp=Z,65nm,1.4s
EKA Eskdalemuir Ar 25.88 325 P **P 19 13 13.9 -0.1**
comp=Z,38nm,0.8s,baz=122,slow=9.0,SNR=27
comp=Z,38nm,0.8s
SKAR Skarslia 25.89 343 *e*P **P 19 13 17.3 +3.2**
ESK Eskdalemuir 25.89 325 P **P 19 13 11.3 -2.8**
ESK Eskdalemuir 25.89 325 P **P 19 13 15.5 +1.4**
ESK pmax pmax
comp=Z,108nm,0.7s
NC204 NORSAR Array S 25.91 346 IAmb IAmb 19 13 20.5
comp=Z,43nm,0.9s
KLMR Klimovskoe 26.48 18 *e*P **P 19 13 20.4 +1.1**
KLMR pmax pmax
comp=Z,40nm,1.2s
ASK Askoy 26.50 340 *e*P **P 19 13 21.9 +2.4**
VAF Ylistaro 26.50 360 *e*P **P 19 13 22.4 +2.9**
JOF Joensuu 26.87 8 *e*P **P 19 13 25.2 +2.4**
DOMB Dombas 26.95 345 *e*P **P 19 13 25.5 +1.9**
SUE Sulen 27.10 340 *e*P **P 19 13 26.0 +1.1**
KIRV Kirov 28.00 30 LR LR 19 25 24.6
comp=Z,268nm,20.1s,baz=232,slow=38
KIRV Kirov 28.00 30⇓ *e*P **P 19 13 34.2 +1.3**
AKTO Aktyubinsk 28.64 50 LR LR 19 26 24.3
comp=Z,83nm,18.8s,baz=134,slow=39
NSS Namsos 28.77 350 *e*P **P 19 13 42.7 +2.9**
ABKAR Akbulak array 29.57 53 P **P 19 13 46.5 -0.6**
MOR8 Moi Rana 30.07 353 *e*P **P 19 13 54.4 +3.1**
LEIR Leirfjorden 30.15 352 *e*P **P 19 13 54.4 +2.5**
TORD Torodi Ar. Bea 30.15 225 P **P 19 13 50.3 -2.1**
comp=Z,28nm,0.4s,baz=29,slow=9.1,SNR=1.4
TORD LR LR 19 28 10.8
comp=Z,200nm,18.2s,baz=3.0,slow=41
STOK Stokkvaagen 30.37 352 *e*P **P 19 13 56.3 +2.4**
ARTI Arti 30.91 39 LR LR 19 28 21.4
comp=Z,43nm,20.5s,baz=251,slow=40
ARTI Arti 30.91 39 *d i*P **P 19 13 58.4 -0.4**
ARTI 19 14 55.5
ARTI 19 16 53.9
ARTI S **S 19 19 05.3 +3.3**
ARTI SS **SnSn 19 20 41.3 -0.5**
ARTI pmax pmax
comp=Z,6.0nm,0.8s
FAUS Fauske 31.18 354 *e*P **P 19 14 04.4 +3.4**
STEI Steigen 31.72 354 *e*P **P 19 14 07.4 +1.6**
SVE Sverdlovsk 32.22 39 *e*P **P 19 14 13.0 +2.7**
SVE pmax pmax
comp=Z,16nm,1.0s
KTK1 Kautokeino 32.50 0 *e*P **P 19 14 15.2 +2.5**
ARCES ARCESS Array B 33.05 2 P **P 19 14 16.1 -1.4**
comp=Z,9.8nm,1.0s,baz=180,slow=9.9,SNR=10
ARCES LR LR 19 28 57.4
comp=Z,493nm,18.4s,baz=178,slow=39
comp=Z,9.8nm,1.0s
JETT Jettan, Norway 33.08 358 *e*P **P 19 14 19.9 +2.2**
CHGR Chuyangaron 36.33 72 P **P 19 14 45.2 -1.1**
CHGR Chuyangaron 36.33 72 P **P 19 14 45.2 -1.1**
CHGR pmax pmax
comp=Z,35nm,0.7s
BRVK Borovoye 36.62 48⇑ *e*P **P 19 14 48.7 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 36.66 65 P **P 19 14 47.6 -1.4**
KKAR Karatay Array 36.66 65 P **P 19 14 47.6 -1.4**
BVAR Borovoye Array 36.68 48 P **P 19 14 47.8 -1.2**
comp=Z,0.9nm,0.5s,baz=278,slow=6.1,SNR=13
comp=Z,0.9nm,0.5s
KBL Kabul 37.24 79 P P 19 14 58.9 +4.7
KBL pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 37.33 70 P **P 19 14 57.1 +2.3**
MBAR Mbarara 37.67 167 *de*P **P 19 14 59.3 +1.4**
MBAR pmax pmax
comp=Z,14nm,1.1s
DRK Karamyk 38.18 70 P **P 19 15 04.3 +2.1**
JMIC Jan Mayen 38.24 344 LR LR 19 32 22.2
comp=Z,77nm,19.1s,baz=110,slow=39
BORG Borgarnes 38.48 331 LR LR 19 34 21.3
comp=Z,323nm,20.4s,baz=129,slow=42
ARSB Arslanbob 38.73 67 P **P 19 15 05.5 -1.2**
ARSB Arslanbob 38.73 67 P **P 19 15 05.5 -1.2**
ARSB pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 39.15 227 P **P 19 15 07.5 -2.7**
DBIC Dimbokro 39.15 227 P **P 19 15 09.7 -0.5**
comp=Z,10nm,0.9s,baz=25,slow=9.2,SNR=9.3
DBIC LR LR 19 33 05.4
comp=Z,107nm,20.3s,baz=62,slow=39
comp=Z,10nm,0.9s
AAK Ala-Archa 39.63 65 LR LR 19 34 54.5
comp=Z,89nm,19.8s,baz=281,slow=41
AAK Ala-Archa 39.63 65⇓ *e*P **P 19 15 15.5 +1.3**
AAK pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 39.77 157 P **P 19 15 19.6 +3.9**
BOOM Boomskoye usch 40.70 65 P **P 19 15 22.4 -0.7**
BOOM Boomskoye usch 40.70 65 P **P 19 15 23.6 +0.5**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
NIL Nilore 40.84 79 P **P 19 15 26.6 +2.5**
KSH Kashi 41.33 69 P **P 19 15 27.6 -0.6**
KSH sP sP 19 15 36.0 +0.4
KSH pmax pmax
comp=Z,2.0nm,0.6s
BBTS Babate 41.40 249 LR LR 19 34 42.5
comp=Z,378nm,19.4s,baz=300,slow=39
KURBB Kurchatov Arra 41.62 52 P **P 19 15 27.6 -2.8**
comp=Z,2.4nm,0.5s,baz=278,slow=8.7,SNR=22
KURBB PcP **PcP 19 17 25.4 -1.6**
comp=Z,3.9nm,1.0s,baz=282,slow=4.5,SNR=4.8
KURBB ScP **ScP 19 21 18.2 +1.8**
comp=Z,0.6nm,0.9s,baz=282,slow=5.1,SNR=4.4
comp=Z,2.4nm,0.5s
KDJ Kajisay 41.67 65 P **P 19 15 33.3 +2.2**
KURK Kurchatov 41.68 52 P **P 19 15 27.3 -3.4**
KURK Kurchatov 41.68 52 *de*P **P 19 15 30.4 -0.3**
KURK pmax pmax
comp=Z,6.0nm,0.8s
SPA0 Spitsbergen Ar 41.81 358 *e*P **P 19 15 33.6 +2.0**
SPITS Spitsbergen Ar 41.81 358 P **P 19 15 30.2 -1.3**
comp=Z,7.8nm,0.9s,baz=149,slow=12,SNR=17
SPITS LR LR 19 36 42.2
comp=Z,203nm,18.5s,baz=152,slow=42
comp=Z,7.8nm,0.9s
DAG Danmarks Havn 44.30 347 P **P 19 15 53.7 +2.1**
DAG pmax pmax
comp=Z,15nm,0.8s
DAG Danmarks Havn 44.30 347 *i* P **P 19 15 51.0 -0.6**
DAG IAmb IAmb 19 15 54.2
comp=Z,4.7nm,0.9s
MK31 Makanchi Array 44.48 57 P **P 19 15 51.2 -2.4**
MK31 Makanchi Array 44.48 57 *i* P **P 19 15 51.4 -2.1**
MKAR Makanchi Array 44.48 57 P **P 19 15 50.2 -3.4**
MKAR Makanchi Array 44.48 57 P **P 19 15 51.2 -2.3**
comp=Z,4.1nm,0.6s,baz=268,slow=7.8,SNR=54
MKAR PcP **PcP 19 17 35.2 -1.6**

comp=Z,2.9nm,0.8s,baz=261,slow=4.7,SNR=1.7
MKAR ScP **ScP** 19 21 27.9 -0.2
comp=Z,0.8nm,0.9s,baz=318,slow=1.9,SNR=3.6
comp=Z,4.1nm,0.6s
ZAA0 Zalesovo Array 45.31 47 P **P** 19 15 56.3 -3.7
ZAA0 IAmb IAmb 19 16 04.7
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 45.31 47 P **P** 19 15 56.9 -3.1
ZALV Zalesovo Beam 45.31 47 P **P** 19 15 57.2 -2.8
comp=Z,2.5nm,0.4s,baz=267,slow=8.1,SNR=15
comp=Z,2.5nm,0.4s
ICESG Greenland Ices 46.65 334 *i* P **P** 19 16 12.7 +1.9
SUMG Summit 47.04 339 P **P** 19 16 16.5 +2.7
SUMG pmax pmax
comp=Z,25nm,1.8s
SUMG Summit 47.04 339 *i* P **P** 19 16 16.0 +2.2
SUMG IAmb IAmb 19 16 17.5
comp=Z,11nm,1.1s
NOR Nord 47.33 353 *i* P **P** 19 16 16.7 +1.2
NOR IAmb IAmb 19 16 22.0
comp=Z,9.1nm,1.1s
NRIK Noril'sk 47.36 26⇑ *e*P **P** 19 16 19.2 +3.3
NRIK pmax pmax
comp=Z,12nm,2.2s
WMQ Urumqi 48.82 60 *e*P **P** 19 16 28.6 +0.9
WMQ pP sP 19 16 33.4 -1.8
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ LR LR
comp=Z,1µm,15.1s
WMQ LR LR
comp=Z,850nm,14.5s
WMQ LR LR
comp=Z,470nm,20.1s
DY2G Dye2 48.88 330 *i* P **P** 19 16 28.7 +0.8
MSEY Mahe Island 51.03 136 P **P** 19 16 43.9 -0.8
MSEY IAmb IAmb 19 17 05.3
comp=Z,27nm,1.3s
MSEY Mahe Island 51.03 136 P **P** 19 16 43.9 -0.8
MSEY pmax pmax
comp=Z,27nm,1.3s
NEEM North Greenlan 51.16 344 *i* P **P** 19 16 44.8 -0.5
TSUM Tsumeb 55.70 186 LR LR 19 44 09.2
comp=Z,238nm,18.2s,baz=0.0,slow=39
GOMU GeErMu 56.49 67 P **P** 19 17 24.6 -0.3
GOMU pP pP 19 17 28.4 -2.0
GOMU sP sP 19 17 31.9 -0.6
GOMU pmax pmax
comp=Z,3.0nm,1.4s
ZAK Zakamensk 57.13 49 *e*P **P** 19 17 28.6 -0.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
EUNU Eureka 57.48 349 P **P** 19 17 30.1 -0.7
EUNU IAmb IAmb 19 17 37.3
comp=Z,13nm,1.1s
GTA Gaotai 58.84 62 *e*P **P** 19 17 40.8 -0.3
GTA S **S** 19 25 44.5 -1.6
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,620nm,16.7s
GTA LR LR
comp=Z,580nm,16.7s
GTA LR LR
comp=Z,620nm,17.1s
WIN Windhoek 59.08 186 P **P** 19 17 45.5 +2.7
WIN pmax pmax
comp=Z,13nm,1.5s
SONM Songino Array 59.95 51 P **P** 19 17 46.5 -2.1
comp=Z,0.8nm,0.6s,baz=292,slow=7.8,SNR=8.4
comp=Z,0.8nm,0.6s
ULN Ulaanbaatar 60.35 50⇑ *i* P **P** 19 17 52.1 +0.7
ULN pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 60.47 20⇓ *e*P **P** 19 17 52.3 +0.7
TIXI pmax pmax
comp=Z,6.0nm,1.8s
SCHQ Schefferville 60.98 319 P **P** 19 17 54.3 -1.1
SCHQ Schefferville 60.98 319 P **P** 19 17 54.3 -1.1
comp=Z,9.4nm,0.8s,baz=67,slow=5.4,SNR=13
SCHQ LR LR 19 44 09.9
comp=Z,165nm,18.7s,baz=74,slow=36
comp=Z,9.4nm,0.8s
RES Resolute Bay 61.85 345 P **P** 19 18 01.9 +1.0
comp=Z,4.6nm,0.9s,baz=26,slow=9.3,SNR=15
comp=Z,4.6nm,0.9s
RES Resolute Bay 61.85 345 P **P** 19 18 02.0 +1.0
LZH Lanzhou 63.15 64 *e*P **P** 19 18 12.1 +1.6
LZH sP sP 19 18 19.3 +1.2
LZH pmax pmax
comp=Z,10.0nm,1.3s
LZH LR LR
comp=Z,1µm,13.1s
LZH LR LR
comp=Z,2µm,18.2s
LZH LR LR
comp=Z,3µm,17.2s
TNCH TengChong 64.39 77 *e*P **P** 19 18 20.3 +1.5
TNCH pP sP 19 18 23.4 -3.0
TNCH pmax pmax
comp=Z,7.0nm,1.2s
BOSA Boshof 64.87 178 P **P** 19 18 20.1 -1.4
comp=Z,9.4nm,1.0s,baz=356,slow=7.1,SNR=6.6
BOSA LR LR 19 51 04.9
comp=Z,110nm,18.3s,baz=359,slow=40
comp=Z,9.4nm,1.0s
PZH PanZhiHua 66.16 74 P **P** 19 18 31.6 +1.4
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.5s
HHC Hu-ho-hao-te 66.31 56 *e*P **P** 19 18 31.0 +0.1
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,52nm,3.8s
KMI Kunming 67.64 75 ⇑P **P** 19 18 40.8 +1.0
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,600nm,18.7s
KMI LR LR
comp=Z,1µm,15.5s
KMI LR LR
comp=Z,970nm,15.7s
CMAR Chiang Mai Arr 68.14 83 P **P** 19 18 42.7 0.0
CMAR Chiang Mai Arr 68.14 83 P **P** 19 18 39.9 -2.9
comp=Z,2.4nm,1.1s,baz=303,slow=8.0,SNR=14
comp=Z,2.4nm,1.1s
CMAR Chiang Mai Arr 68.14 83 P **P** 19 18 42.7 0.0
SUR Sutherland 68.62 182 LR LR 19 53 03.4
comp=Z,158nm,18.8s,baz=354,slow=40
RCBR Riachuelo 69.28 246 LR LR 19 48 54.8
comp=Z,64nm,20.1s,baz=66,slow=36
RCBR Riachuelo 69.28 246 *e*P **P** 19 18 54.2 +4.4
M65A Busby, Falmout 69.29 307 P **P** 19 18 47.2 -2.3
baz=59
A36M Sachs Harbour 69.47 350 P **P** 19 18 48.4 -1.7
baz=27
VLDQ Val d'Or 69.98 315 IAmb IAmb 19 18 57.3
comp=Z,16nm,1.2s
L61B Northampton 70.13 308 P **P** 19 18 53.4 -1.3
baz=58
HEH HeiHe 70.96 41 *e*P P 19 19 06.0 +6.4
HEH pmax pmax
comp=Z,6.0nm,0.8s
NBCA Caruaru-PE 70.98 244 *e*P **P** 19 19 03.5 +3.2
NBLV Livramento - P 71.05 245 *e*P **P** 19 19 04.8 +4.0
FCC Fort Churchill 71.63 331 IAmb IAmb 19 19 06.0
comp=Z,18nm,1.4s
C36M Paulatuk 71.65 348 IAmb IAmb 19 19 05.6
comp=Z,24nm,1.4s
C36M Paulatuk 71.65 348 P **P** 19 19 03.0 -0.4
baz=28
BILL Bilibino 72.13 14⇑ *e*P **P** 19 19 07.9 +1.5
BILL pmax pmax
comp=Z,18nm,2.5s
NBAN Anadia - AL 72.15 243 *e*P **P** 19 19 11.0 +3.7
A21K Barrow 72.41 360 P **P** 19 19 07.5 -0.4
baz=0.4
SEY Seymchan 72.91 22 P **P** 19 19 11.3 +0.2
comp=Z,0.4nm,0.4s,baz=282,slow=3.8,SNR=8.6
comp=Z,0.4nm,0.4s
SEY Seymchan 72.91 22⇑ *e*P **P** 19 19 12.9 +1.8
SEY pmax pmax
comp=Z,18nm,4.0s
C26K Camden Bay 73.46 356 P **P** 19 19 13.4 -0.8
baz=10
BNX BinXian 73.55 45 ⇓P **P** 19 19 17.3 +2.1
BNX pmax pmax
comp=Z,7.0nm,1.6s
D28M Stokes Point 73.56 353 P **P** 19 19 14.7 -0.1
baz=15
C27K Jago River 73.67 355 P **P** 19 19 15.7 +0.2
baz=11
C23K Itkillik River 73.80 358 P **P** 19 19 16.2 -0.1
baz=5.4
D27M Malcolm River 73.84 354 P **P** 19 19 15.1 -1.4
baz=13
KLR Kul'dur 73.84 40 LR LR 19 53 53.8
comp=Z,92nm,18.0s,baz=333,slow=38
KLR Kul'dur 73.84 40 *e*P **P** 19 19 18.0 +1.2
KLR pmax pmax
comp=Z,3.0nm,0.8s
C24K Franklin Bluff 73.85 357 P **P** 19 19 15.3 -1.2
baz=7.0
INK Inuvik 73.97 351 P **P** 19 19 15.4 -1.8
comp=Z,3.3nm,0.9s,baz=22,slow=7.9,SNR=8.7
comp=Z,3.3nm,0.9s
INK Inuvik 73.97 351 P **P** 19 19 15.9 -1.3
baz=20
B21K Ikpikpuk River 74.11 359 P **P** 19 19 17.5 -0.5
baz=2.1
D25K Kavik River 74.13 356 P **P** 19 19 17.5 -0.7
baz=8.9
NBLA Lagarto - SE 74.14 243 *e*P **P** 19 19 22.2 +3.2
B18K Kokolik River 74.32 2 P **P** 19 19 17.7 -1.6
baz=356
E28M Babbage River 74.34 353 P **P** 19 19 18.0 -1.4
baz=15
E29M Blow River 74.39 353 P **P** 19 19 19.0 -0.7
baz=16
D24K Happy Valley 74.42 357 P **P** 19 19 19.4 -0.4
baz=5.9
C21K Knifeblade Rid 74.58 359 P **P** 19 19 20.3 -0.5
baz=1.9
D23K Nanushuk River 74.68 358 P **P** 19 19 20.8 -0.6
baz=5.3
D22K Ayikyak River 74.82 358 P **P** 19 19 21.7 -0.6
baz=3.7
F31M Tsiigehtchic 74.82 351 P **P** 19 19 22.0 -0.2
baz=19,SNR=16
F30M Barrier River 74.91 352 P **P** 19 19 22.4 -0.4
baz=18
MA2 Magadan 74.95 25 P **P** 19 19 23.6 +0.5
comp=Z,5.3nm,0.8s,baz=333,slow=4.6,SNR=12
comp=Z,5.3nm,0.8s
MA2 Magadan 74.95 25⇓ *e*P **P** 19 19 25.4 +2.3
MA2 pmax pmax
comp=Z,16nm,1.7s
MA2 Magadan 74.95 25 P **P** 19 19 24.4 +1.3
comp=Z,23nm,0.8s
TOLK Toolik Lake Re 74.96 357 P **P** 19 19 22.5 -0.6
baz=6.2
D20K Etivluk River 75.03 360 P **P** 19 19 22.8 -0.7
baz=0.4
C18K Utukok River 75.05 2 P **P** 19 19 23.3 -0.4
baz=357
C17K DeLong Mountai 75.17 2 P **P** 19 19 23.8 -0.4
baz=355
D19K Kuna River 75.25 0 P **P** 19 19 23.1 -1.6
D19K IAmb IAmb 19 19 32.3
comp=Z,16nm,0.9s
D19K Kuna River 75.25 0 P **P** 19 19 24.5 -0.2
baz=359,SNR=14
E21K Killik River 75.28 359 P **P** 19 19 24.9 0.0
baz=2.6
C16K Lisburne Hills 75.29 3 P **P** 19 19 23.4 -1.5
C16K IAmb IAmb 19 19 31.9
comp=Z,17nm,0.9s
C16K Lisburne Hills 75.29 3 P **P** 19 19 25.9 +1.0
baz=353
F28M Old Crow 75.33 353 IAmb IAmb 19 19 32.9
comp=Z,10nm,0.9s
F28M Old Crow 75.33 353 P **P** 19 19 25.4 +0.2
baz=14,SNR=11
G31M Satah River 75.38 351 IAmb IAmb 19 19 27.5
comp=Z,20nm,1.3s
G31M Satah River 75.38 351 P **P** 19 19 25.2 -0.2
baz=19
E24K Your Creek 75.48 357 P **P** 19 19 26.2 +0.1
baz=7.1
E20K Nigu River 75.49 360 P **P** 19 19 26.3 +0.2
baz=0.7
E22K Anaktuvuk Pass 75.54 358 IAmb IAmb 19 19 33.8
comp=Z,8.4nm,0.8s
E22K Anaktuvuk Pass 75.54 358 P **P** 19 19 27.0 +0.5
baz=4.4,SNR=8.6
E23K Chandalar 75.55 357 P **P** 19 19 26.8 +0.3
baz=6.2
G30M tAoh Zraii Nji 75.56 352 P **P** 19 19 26.3 -0.2
baz=17
YKA Yellowknife Ar 75.56 341 P **P** 19 19 25.1 -1.4
comp=Z,2.9nm,1.0s,baz=34,slow=5.3,SNR=27
YKA LR LR 19 52 52.1
comp=Z,87nm,21.9s,baz=316,slow=36
comp=Z,2.9nm,1.0s
RDOG Red Dog Mine 75.60 2 IAmb IAmb 19 19 33.7
comp=Z,14nm,0.9s
RDOG Red Dog Mine 75.60 2 P **P** 19 19 27.0 +0.3
baz=355
F26K Sheenjek River 75.60 355 P **P** 19 19 27.3 +0.5
baz=11
F25K Christian Rive 75.80 356 P **P** 19 19 27.6 -0.3
baz=9.5
G29M Pine Creek 75.83 352 P **P** 19 19 28.0 -0.1
baz=16
BMAR Butt Mountain 75.90 355 P **P** 19 19 27.9 -0.6
NJ2 Nanjing 75.90 61 *e*P **P** 19 19 29.1 +0.1
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
D17K Noatak River 75.95 2 P **P** 19 19 29.1 +0.4
baz=355,SNR=20
EPYK Eagle Plains 76.21 352 P **P** 19 19 30.5 +0.2
baz=17
G27K Doyon Strip 76.28 354 P **P** 19 19 31.1 +0.5
baz=13
E18K Tukpahlearik C 76.30 1 P **P** 19 19 30.6 -0.1
baz=357
E19K Redstone River 76.30 0 P **P** 19 19 30.1 -0.6
baz=360
G26K Porcupine Rive 76.31 355 P **P** 19 19 30.6 -0.1
baz=11
TMAB Tom-Au,PA,Br 76.34 257 *e*P **P** 19 19 35.9 +4.2
COLD Coldfoot 76.40 357 IAmb IAmb 19 19 41.2
comp=Z,12nm,1.0s
COLD Coldfoot 76.40 357 P **P** 19 19 31.4 +0.1
baz=5.7
H31M Peel River 76.45 351 IAmb IAmb 19 19 38.4
comp=Z,10nm,0.9s
H31M Peel River 76.45 351 P **P** 19 19 31.9 +0.2
baz=19
F21K Alatna River 76.50 359 P **P** 19 19 31.4 -0.5
baz=3.0
H29M Whitestone 76.53 352 P **P** 19 19 32.0 -0.1
baz=15
G25K Bearman Lake 76.65 356 P **P** 19 19 32.7 0.0
baz=9.1
F20K Avaraart Lake 76.70 359 P **P** 19 19 33.1 +0.1
baz=1.1
G24K Hadweenzic Riv 76.80 356 P **P** 19 19 33.5 -0.1
baz=7.9
H27K Steamboat Moun 76.83 354 P **P** 19 19 33.9 +0.1
baz=13
G23K Bananza Creek 76.91 357 P **P** 19 19 34.6 +0.4
baz=5.8
F19K Shaleruckik Mo 76.92 0 P **P** 19 19 33.8 -0.4
baz=359
USRK Ussuriysk Ar. 77.07 44 P **P** 19 19 34.6 -0.8
comp=Z,1.6nm,0.7s,baz=277,slow=3.9,SNR=5.1
comp=Z,1.6nm,0.7s
H25L Birch Creek 77.13 355 P **P** 19 19 35.5 +0.1
baz=9.3
F18K Selawik 77.14 1 P **P** 19 19 35.9 +0.5
baz=358,SNR=10
F17K Baldwin Pennin 77.27 2 P **P** 19 19 36.3 +0.2
baz=357
I30M Mount Dempster 77.27 351 P **P** 19 19 36.6 +0.2
baz=17
I29M Ogilvie Camp, 77.36 352 P **P** 19 19 36.5 -0.2
baz=15,SNR=9.4
I28M Miner Creek 77.45 353 P **P** 19 19 37.6 +0.3
baz=14
I27K Kandik River 77.46 354 P **P** 19 19 37.2 -0.1
baz=13
EYMN Ely 77.60 321 IAmb IAmb 19 19 41.0
comp=Z,20nm,1.4s
G19K Purcell Mounta 77.62 0 IAmb IAmb 19 19 51.8
comp=Z,12nm,0.9s
G19K Purcell Mounta 77.62 0 P **P** 19 19 38.9 +0.8
baz=360,SNR=7.8
H24K Noodor Dome 77.68 356 P **P** 19 19 38.7 +0.1
baz=7.6
H22K Ishtalitna Cre 77.78 358 P **P** 19 19 39.4 +0.4
baz=4.7
PRP Porcupine Dome 77.85 355 P **P** 19 19 39.5 -0.1
baz=9.5
G18K Tagagawik 77.86 1 P **P** 19 19 38.9 -0.6
G18K IAmb IAmb 19 19 53.3
comp=Z,18nm,1.2s
G18K Tagagawik 77.86 1 P **P** 19 19 40.3 +0.8
baz=359,SNR=10
F15K North Star Dit 77.88 3 P **P** 19 19 40.2 +0.6
baz=354
I26K Coal Creek Min 77.88 354 P **P** 19 19 40.1 +0.5
baz=11
J30M Hart River 77.88 351 P **P** 19 19 40.1 +0.3
baz=17
F14K Arctic Creek 78.03 4 P **P** 19 19 41.0 +0.6
baz=352
H21K Melozitna Rive 78.05 358 P **P** 19 19 41.0 +0.4
baz=3.5
ULM Lac du Bonnet 78.16 325 IAmb IAmb 19 19 43.6
comp=Z,19nm,1.1s
ULM Lac du Bonnet 78.16 325 P **P** 19 19 40.1 -1.3
comp=Z,11nm,1.0s,baz=35,slow=4.8,SNR=15
comp=Z,11nm,1.0s
ULM Lac du Bonnet 78.16 325 *de*P **P** 19 19 42.2 +0.8
J29N Klondike Camp 78.23 352 P **P** 19 19 42.1 +0.4
baz=15
H19K Roundabout Mou 78.23 360 P **P** 19 19 42.0 +0.5
baz=0.5
H20K Anotleneega Mo 78.26 359 P **P** 19 19 42.2 +0.5
baz=1.8
G16K Koyuk River 78.28 2 P **P** 19 19 42.6 +0.8
baz=356
CMC01 Camacan, BA 78.33 241 *e*P **P** 19 19 46.3 +3.5
POKR Poker Plat Res 78.37 356 P **P** 19 19 42.7 +0.4
baz=7.9
I23K Minto, Yukon-K 78.44 357 P **P** 19 19 43.1 +0.4
baz=6.3
I21K Tanana 78.51 358 P **P** 19 19 43.5 +0.4
baz=4.2
H18K Honhosa River 78.61 1 P **P** 19 19 43.7 +0.1
baz=359
G15K Niukluk 78.62 3 P **P** 19 19 44.8 +1.1
baz=354
COLA College 78.64 356 P **P** 19 19 44.8 +1.0
baz=7.5
ILAR Eielson Array 78.68 356 P **P** 19 19 43.0 -1.1
comp=Z,1.7nm,0.9s,baz=356,slow=4.5,SNR=13
comp=Z,1.7nm,0.9s
ILAR Eielson Array 78.68 356 P **P** 19 19 43.0 -1.1
J26L Joseph Creek 78.71 354 P **P** 19 19 43.8 -0.5
J26L IAmb IAmb 19 19 53.4
comp=Z,9.7nm,0.7s
J26L Joseph Creek 78.71 354 P **P** 19 19 44.9 +0.6
baz=11
K29M Barlow Dome 78.74 351 P **P** 19 19 45.5 +1.0
baz=16
DAWY Dawson 78.74 352 IAmb IAmb 19 19 54.3
comp=Z,11nm,0.9s
DAWY Dawson 78.74 352 P **P** 19 19 45.1 +0.6
baz=14,SNR=8.4
J25K Salcha River, 78.74 355 P **P** 19 19 45.4 +1.0
baz=9.6
KSAR Wonju Array Be 78.78 52 P **P** 19 19 45.4 +0.3
KSAR Wonju Array Be 78.78 52 P **P** 19 19 45.4 +0.3
KSRS Korea Array 78.80 52 P **P** 19 19 43.7 -1.5
comp=Z,1.2nm,0.6s,baz=307,slow=4.7,SNR=9.4
KSRS LR LR 19 57 54.0
comp=Z,48nm,18.5s,baz=325,slow=38
comp=Z,1.2nm,0.6s
I20K Naaghedeneel 78.95 359 P **P** 19 19 46.9 +1.4
baz=2.1
NEA2 Nenana 78.98 357 P **P** 19 19 46.8 +1.1
baz=6.6
ANM Nome 78.99 4 P **P** 19 19 46.5 +0.8
baz=353,SNR=7.1
MMPY Sheldon Lake, 79.01 348 P **P** 19 19 47.0 +1.0
baz=21,SNR=10
GCSA Galena City Sc 79.02 360 P **P** 19 19 46.8 +0.9
baz=0.2
H16K Elim 79.04 2 P **P** 19 19 47.7 +1.6
baz=356,SNR=7.4
HDA Harding Lake 79.05 356 P **P** 19 19 47.4 +1.3
baz=8.3
WRH Wood River Hil 79.05 356 IAmb IAmb 19 19 53.3
comp=Z,17nm,0.9s
SCRK Sand Creek 79.26 354 IAmb IAmb 19 19 57.0
comp=Z,15nm,1.2s
SCRK Sand Creek 79.26 354 P **P** 19 19 48.0 +0.5
baz=11
GAMB Gambell 79.31 7 P **P** 19 19 48.5 +1.1
baz=348
TGTN Hyland Airport 79.50 346 P **P** 19 19 49.1 +0.4
baz=23
L29M L29M 79.52 351 P **P** 19 19 49.7 +0.9
baz=15
BPAW Bear Paw Mtn. 79.56 357 P **P** 19 19 49.4 +0.5
baz=5.0
RIDG Independent Ri 79.56 355 IAmb IAmb 19 19 56.8
comp=Z,14nm,1.0s
RIDG Independent Ri 79.56 355 P **P** 19 19 50.2 +1.2
baz=10.0
J20K Nowinta River 79.57 359 P **P** 19 19 50.0 +1.1
baz=2.4
K24K Donnelly Dome 79.57 355 P **P** 19 19 49.8 +0.8
baz=9.2
FARO Faro, Yukon 79.71 349 pP 19 19 52.7 -2.8
FARO Faro, Yukon 79.71 349 P **P** 19 19 50.5 +0.7
baz=19,SNR=9.3
J19K Poorman 79.77 359 P **P** 19 19 51.1 +1.1
baz=1.2
CHUM Lake Minchumin 79.82 358 P **P** 19 19 51.1 +0.9
baz=3.9
MCK McKinley 79.83 356 IAmb IAmb 19 19 57.5
comp=Z,11nm,0.9s
MCK McKinley 79.83 356 P **P** 19 19 51.2 +0.8
baz=6.6
I17K Unalakleet 79.84 2 P **P** 19 19 50.9 +0.6
baz=357
M30M Minto, Yukon 79.87 351 P **P** 19 19 51.0 +0.4
baz=16
M31M Drury Creek, Y 79.89 349 P **P** 19 19 51.6 +0.8
baz=18,SNR=8.1
KOTAN Kotaneelee Air 79.90 344 P **P** 19 19 51.4 +0.6
baz=26
BCAR Beaver Creek A 79.96 353 P **P** 19 19 50.9 -0.3
L27K Beaver Creek, 79.97 353 P **P** 19 19 52.1 +1.0
baz=12
L26K Log Cabin Wild 80.15 354 P **P** 19 19 52.8 +0.6
baz=11
TRF Thorofare Moun 80.18 357 P **P** 19 19 53.3 +0.8
baz=5.5
M29M Somme Creek 80.20 351 P **P** 19 19 53.0 +0.4
baz=15
SDBA SAO DESIDERIO 80.26 247 *e*P **P** 19 19 57.5 +4.0
CAST Castle Rocks 80.28 358 P **P** 19 19 53.0 +0.2
baz=4.1
J18K Innoko River 80.31 360 P **P** 19 19 54.0 +1.0
baz=0.3
J17K VABM Dome 80.36 1 P **P** 19 19 53.6 +0.4
baz=358
PAX Paxson 80.37 355 P **P** 19 19 53.5 +0.1
baz=9.4
K20K Telida 80.39 359 P **P** 19 19 54.4 +1.0
baz=2.5,SNR=7.5
J16K Anvik River 80.45 2 P **P** 19 19 54.9 +1.2
baz=357
M27K Edge Creek, AK 80.66 353 P **P** 19 19 55.8 +0.7
baz=12
N32M Quiet Lake 80.69 349 P **P** 19 19 55.9 +0.8
baz=19
M26K Nabesna, AK 80.73 353 P **P** 19 19 56.3 +1.0
baz=11
N31M Braeburn, Yuko 80.78 350 P **P** 19 19 56.4 +0.8
baz=17
PPLA Purkeypile 80.80 358 P **P** 19 19 58.7 +2.9
PPLA IAmb IAmb 19 20 05.4
comp=Z,16nm,0.7s
PPLA Purkeypile 80.80 358 P **P** 19 19 56.3 +0.5
baz=4.0

TTA	Tatalina	80.84	360	P	P	19 19 56.4 +0.5
	baz=0.9					
YSS	Yuzhno-Sakhali	80.88	37	eP	P	19 19 53.2 -3.1
YSS				pmax	pmax	
	comp=Z,20nm,1.4s					
J14K	Nanvaranak Lak	80.89	3	P	P	19 19 56.7 +0.7
	baz=355					
HARP	HAARP	80.92	354	P	P	19 19 56.9 +0.6
	baz=9.7					
K17K	Iditarod	81.05	1	P	P	19 19 57.9 +0.9
	baz=359					
CUT	Chulitna	81.22	357	P	P	19 19 58.2 +0.4
	baz=5.5					
L20K	Farewell, AK	81.27	359	P	P	19 19 58.8 +0.6
	baz=2.6					
M24K	Tolsona, Glenn	81.28	355	P	P	19 19 58.7 +0.5
	baz=8.8					
YUK4	Talbot Arm	81.29	351	P	P	19 19 58.5 0.0
	baz=15					
K15K	Wolf Creek Mou	81.41	2	P	P	19 19 59.7 +0.8
	baz=356					
WHY	Whitehorse	81.44	349	P	P	19 19 59.8 +0.6
	baz=18					
YUK8	Steele Glacier	81.49	352	P	P	19 20 00.5 +0.9
	baz=14					
O30N	Mendenhall	81.51	350	P	P	19 20 00.0 +0.6
	baz=17					
P33M	Teslin, Yukon	81.53	348	P	P	19 20 00.6 +1.0
	baz=20					
JANB	Januaria	81.56	244	eP	P	19 20 02.0 +1.7
L18K	Granite Mounta	81.56	360	P	P	19 20 00.4 +0.8
	baz=0.3					
L19K	White Mountain	81.58	359	P	P	19 20 00.1 +0.3
	baz=1.8					
BSFB	Barra de Sao F	81.62	239	eP	P	19 20 02.2 +1.6
SCM	Sheep Creek Mo	81.63	355	P	P	19 20 01.4 +1.2
	baz=7.9					
L17K	Donlin	81.64	1	P	P	19 20 00.6 +0.6
	baz=359					
YUK6	Outpost Mounta	81.65	351	P	P	19 20 00.5 +0.1
	baz=15					
K13K	Kusilvak Mount	81.65	4	P	P	19 20 00.7 +0.6
	baz=354					
HYT	Haines Junctio	81.65	350		pP	19 20 03.2 -2.8
HYT	Haines Junctio	81.65	350	P	P	19 20 00.8 +0.5
	baz=16					
N25K	Chitina, Valde	81.65	354	P	P	19 20 00.7 +0.4
	baz=10					
M23K	Glacier View	81.70	356	P	P	19 20 00.4 -0.1
	baz=7.6					
SKT	Skwentna	81.70	357		pP	19 20 03.7 -2.3
SKT	Skwentna	81.70	357	P	P	19 20 00.6 +0.2
	baz=4.5					
SML	Sawmill	81.72	356	P	P	19 20 01.4 +0.8
	baz=7.1					
M20K	Styx River	81.84	358	P	P	19 20 00.9 -0.4
	baz=3.2					
M19K	Big River Lodg	81.85	359	P	P	19 20 01.5 +0.3
	baz=2.2					
KLU	Klutina	81.87	355	P	P	19 20 01.6 +0.2
	baz=9.0					
PMR	Palmer	81.98	356	P	P	19 20 02.6 +0.7
	baz=6.5					
R33M	Jennings River	81.98	347	P	P	19 20 01.9 -0.1
	baz=21,SNR=16					
L15K	Ungalak Mounta	82.03	2	P	P	19 20 04.2 +2.1
	baz=356					
O28M	Mount Upton	82.03	352	P	P	19 20 03.1 +0.6
	baz=14					
L16K	Owhat River	82.05	1	P	P	19 20 03.5 +1.3
	baz=358					
KNK	Knik Glacier	82.12	356	P	P	19 20 04.1 +1.4
	baz=7.0					
TPUB	Ta-pu	82.24	67	S	S	19 30 15.4 -3.4
P30M	Million Dollar	82.25	350	P	P	19 20 04.3 +0.9
	baz=16					
P32M	Atlin	82.27	348	IAmb	IAmb	19 20 06.4
	comp=Z,16nm,1.1s					
P32M	Atlin	82.27	348	P	P	19 20 04.7 +1.2
	baz=19					
M18K	Stony River	82.28	359	P	P	19 20 05.2 +1.7
	baz=1.0					
BMRM	Bremner River	82.28	354	P	P	19 20 04.7 +1.1
	baz=10					
O29M	Mount Kennedy	82.30	351	P	P	19 20 04.7 +1.0
	baz=15					
M17K	Holitna River	82.38	0	P	P	19 20 05.4 +1.5
	baz=360					
SPCR	Spurr Chakacha	82.50	358	P	P	19 20 06.5 +1.8
	baz=4.0					
RC01	Rabbit Creek A	82.51	356	P	P	19 20 05.8 +1.1
	baz=6.0					
SPU	Mount Spurr	82.52	358	IAmb	IAmb	19 20 14.1
	comp=Z,14nm,1.0s					
GLI	Glacier Island	82.56	355	P	P	19 20 05.9 +1.0
	baz=8.1					
Q32M	Nakina River	82.62	347	P	P	19 20 06.6 +1.0
	baz=20					
SKAG	Skagway	82.65	349	P	P	19 20 06.0 +0.6
	baz=18					
DLBC	Dease Lake	82.70	346	P	P	19 20 04.5 -1.2
	comp=Z,3.0nm,1.0s,baz=171,slow=0.7,SNR=4.8					
DLBC				LR	LR	19 59 49.3
	comp=Z,199nm,18.9s,baz=310,slow=38					
	comp=Z,3.0nm,1.0s					
DLBC	Dease Lake	82.70	346	P	P	19 20 06.5 +0.7
	baz=22					
PINM	Pinnacle	82.70	352	P	P	19 20 06.7 +1.0
	baz=14					
PLBC	Pleasant Camp	82.81	350	P	P	19 20 07.6 +1.4
	baz=17					
M14K	Bethel	82.94	2	P	P	19 20 07.6 +0.7
	baz=356					
BGLC	Bering Glacier	83.00	353	P	P	19 20 08.4 +1.3
	baz=11					
PNL	Peninsula	83.01	351	P	P	19 20 08.3 +0.9
	baz=14					
M15K	Kasigluk River	83.04	2	P	P	19 20 08.4 +1.0
	baz=357					
ECSD	EROS Data Cent	83.09	321	IAmb	IAmb	19 20 14.5
	comp=Z,12nm,1.1s					
N18K	Kilae Creek	83.10	359	P	P	19 20 09.2 +1.4
	baz=1.0					
O22K	Cooper Landing	83.12	356	P	P	19 20 09.0 +1.2
	baz=6.0					
N17K	Nushagak Hills	83.26	0	P	P	19 20 09.8 +1.2
	baz=360					
JNU	Nakatsue	83.38	54	LR	LR	20 01 10.2
	comp=Z,83nm,20.1s,baz=346,slow=38					
S34M	Telegraph Cree	83.40	346		pP	19 20 12.4 -2.6
S34M	Telegraph Cree	83.40	346	P	P	19 20 10.9 +1.6
	baz=21					
P23K	Montague Islan	83.46	355	P	P	19 20 10.7 +1.1
	baz=7.8					
O19K	Port Alsworth	83.56	359	P	P	19 20 11.6 +1.5
	baz=2.2					
ITTB	Itaituba	83.57	260	eP	P	19 20 13.9 +3.0
N15K	Kwethluk River	83.58	2	P	P	19 20 11.3 +1.1
	baz=358					
O20K	Slope Mountain	83.64	358	P	P	19 20 11.8 +1.2
	baz=3.6					
FVM	French Village	83.65	313	P	P	19 20 13.3 +2.3
FVM				IAmb	IAmb	19 20 18.6
	comp=Z,6.6nm,0.7s					
FVM	French Village	83.65	313	P	P	19 20 13.3 +2.3
FVM				pmax	pmax	
	comp=Z,7.0nm,0.7s					
T35M	Bob Quinn	84.10	346	P	P	19 20 13.9 +1.0
	baz=21					
O16K	Kokwok River B	84.19	1	P	P	19 20 14.1 +0.8
	baz=359					
S31K	Pelican	84.23	349	P	P	19 20 14.3 +0.9
	baz=17					
S32K	Killisnoo	84.43	348	P	P	19 20 15.7 +1.2
	baz=18					
BDFB	Brasilia	84.64	246	IAmb	IAmb	19 20 23.9
	comp=Z,8.0nm,0.9s					
BDFB	Brasilia	84.64	246	P	P	19 20 15.7 -0.7
	comp=Z,5.8nm,0.8s,baz=63,slow=6.2,SNR=6.6					
BDFB				LR	LR	19 57 32.6
	comp=Z,179nm,20.1s,baz=353,slow=35					
	comp=Z,5.8nm,0.8s					
SNDB	Serra Nova Dou	84.78	251	eP	P	19 20 19.9 +2.9
LRAL	Lakeview Retre	84.81	308	IAmb	IAmb	19 20 27.5
	comp=Z,13nm,1.1s					
DUB01	Friburgo-RJ	84.87	238	eP	P	19 20 18.5 +1.1
NPGB	Novo Progresso	84.90	257	eP	P	19 20 20.9 +3.3
SIT	Sitka	84.95	348	P	P	19 20 17.9 +0.7
	baz=17					
WRAK	Wrangell Islan	85.03	347	P	P	19 20 18.1 +0.5
	baz=20					
PMNB	Patos De Minas	85.37	243	eP	P	19 20 22.1 +2.1
U33K	Whale Pass	85.47	347	P	P	19 20 21.7 +2.0
	baz=19					
MDSI	Maura Dua	85.58	99	P	P	19 20 21.1 +0.1
MJAR	Matsushiro Arr	85.67	47	P	P	19 20 20.6 -0.7
	comp=Z,2.7nm,0.8s,baz=306,slow=3.8,SNR=7.1					
	comp=Z,2.7nm,0.8s					
SPIA	Saint Paul Isl	85.95	7	P	P	19 20 24.1 +1.9
	baz=349					
CRAG	Craig	86.08	347	P	P	19 20 23.9 +1.0
	baz=19					
IPMB	Ipameri, GO	86.29	245	eP	P	19 20 26.4 +1.9
RSSD	Black Hills	86.43	325	P	P	19 20 27.8 +2.7
RSSD				pmax	pmax	
	comp=Z,9.0nm,2.2s					
MACA	Manacapuru-AM	86.80	264	eP	P	19 20 30.5 +3.5
ARAG	Araguaiana, MT	87.50	248	eP	P	19 20 33.2 +2.9
SDV	Santo Domingo	87.67	279	eP	P	19 20 33.3 +1.7
MIAR	Mount Ida	87.85	312	P	P	19 20 31.4 -0.5
MIAR				IAmb	IAmb	19 20 42.5
	comp=Z,16nm,1.4s					
MIAR	Mount Ida	87.85	312	P	P	19 20 31.4 -0.5
MIAR				pmax	pmax	
	comp=Z,16nm,1.4s					
NEW	Newport	88.37	335	LR	LR	20 04 29.6
	comp=Z,89nm,21.0s,baz=324,slow=39					
PDRB	Porto dos Gac	88.74	255	eP	P	19 20 38.5 +2.2
N23A	Red Feather La	89.82	324	P	P	19 20 42.5 +1.1
	baz=39					
PDAR	Pinedale Array	89.98	327	P	P	19 20 40.8 -1.3
	comp=Z,2.6nm,1.0s,baz=46,slow=4.3,SNR=10					
PDAR				PP	PP	19 24 15.4 +1.2
	comp=Z,0.9nm,1.0s,baz=21,slow=7.0,SNR=3.9					
PDAR				LR	LR	20 03 37.3
	comp=Z,88nm,18.1s,baz=2.5,slow=37					
	comp=Z,2.6nm,1.0s					
SALV	Santo Antonio	90.55	251	eP	P	19 20 47.6 +2.9
Q24A	Divide	90.93	322	P	P	19 20 48.2 +1.5
	baz=39					
T25A	Trinidad	91.97	321	P	P	19 20 52.9 +1.5
	baz=40					
S22A	4UR Ranch, Cre	92.71	322	P	P	19 20 55.8 +0.9
	baz=38					
BDQN	Bodoquena, MS	94.11	248	eP	P	19 21 01.8 +0.7
ANMO	Albuquerque	94.71	320	LR	LR	20 04 45.2
	comp=Z,116nm,18.8s,baz=168,slow=36					
SIV	San Ignacio	94.73	254	LR	LR	20 04 09.1
	comp=Z,88nm,19.3s,baz=106,slow=36					
YBH	Yreka Blue Hor	96.00	335	LR	LR	20 08 01.9
	comp=Z,106nm,20.8s,baz=348,slow=38					
R11B	Troy Canyon, C	96.21	328	P	P	19 21 12.1 +1.3
	baz=32					
NVAR	Mina Array Bea	97.26	330	P	P	19 21 14.6 -1.0
	comp=Z,0.6nm,0.8s,baz=90,slow=3.0,SNR=3.8					
NVAR				LR	LR	20 07 20.4
	comp=Z,152nm,18.1s,baz=357,slow=37					
	comp=Z,0.6nm,0.8s					
TXAR	Lajitas Array	97.51	315	P	Pdif	19 21 17.3 +0.5
	comp=Z,0.4nm,0.8s,baz=51,slow=3.9,SNR=5.0					
TXAR				PP	PP	19 25 11.6 -1.7
	comp=Z,0.2nm,0.6s,baz=65,slow=6.2,SNR=3.8					
	comp=Z,0.4nm,0.8s					
CPUP	Villa Florida	98.07	243	LR	LR	20 06 55.0
	comp=Z,125nm,19.3s,baz=147,slow=36					
WRA	Warramunga Arr	118.47	95	PKP	PKPdf	19 26 27.7 -2.7
	comp=Z,0.4nm,0.6s,baz=314,slow=1.3,SNR=5.4					
ASAR	Alice Springs	120.01	98	PKP	PKPdf	19 26 31.1 -2.2
	comp=Z,1.2nm,0.7s,baz=307,slow=1.3,SNR=13					
QSPA	South Pole Qui	126.42	180	PKP	PKiKP	19 26 44.8 +0.1
	comp=Z,6.9nm,1.2s,baz=323,slow=7.4,SNR=3.1					

*IDC **17** 19:21:19.6±0.5,36°.28N×142°.13E,h0km,mb4.6/35, mbtmp4.6/41,ML4.0/6,MS4.3/62,Error ellipse: s-maj=14.0km s-min=11.0km az=152.0*

*BJI **17** 19:21:21.2,36°.39N×141°.65E,h5km,mB5.1/49,mb5.1/86, Ms4.8/80,Ms7 4.7/78*

*JMA **17** 19:21:22.3±0.3,36°.3N±0°.5×14°.2E±°,h67km,MD5.0/39, MW4.8/39,FAR E OFF IBARAKI PREF*

JMA Felt I J1 at FAR E OFF IBARAKI PREF .

*MOS **17** 19:21:22.2±1.0,36°.58N×142°.07E,h19km,mb5.3/62, MS4.6/10,Error ellipse: s-maj=6.1km s-min=3.7km az=115.1*

*NIED **17** 19:21:22.3,36°.31N×142°.15E,h67km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr1.13; Mθθ0.09; Mφφ-1.22; Mrθ0.37; Mθφ-0.27; Mφr1.02; Fault plane solution: M0 1.62000×10^16^ NP1: φs184.00000°,δ24.00000°,λ77.00000°. NP2:φs18.00000°, δ66.00000°,λ96.00000°.*

*NEIC **17** 19:21:23.4±2.5,36°.39N±0°.04×142°.0E±0°.1,h20km±4km, mb5.1/221,Mww4.8/12 Error ellipse: s-maj=12.6km s-min=2.6km az=113.0*

*NEIC **17** 19:21:23.8,36°.40N×142°.00E,h20km,Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16^Nm; Mrr0.92; Mθθ0.23; Mφφ-1.15; Mrθ0.19; Mθφ-0.63; Mφr2.02; Fault plane solution: M0 2.35000×10^16^ NP1: φs225.71000°,δ18.06000°,λ128.53000°. NP2:φs5.76000°, δ75.97000°,λ78.52000°. Principal axes: T 2.1666, Plg58.0000°, Azm261.0000°; N 0.3614, Plg11.0000°, Azm9.0000°; P -2.5280, Plg30.0000°, Azm105.0000°;*

*NEIC **17** 19:21:23.8,36°.40N×142°.00E,h20km*

*GCMT **17** 19:21:25.8±0.6,36°.16N±0°.04×142°.16E±0°.05,h21km±1km, MW4.9/70,Moment Tensor Solution. s9,c10; s70,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.30±.27; Mθθ-0.60±.16; Mφφ-1.70±.15; Mrθ0.83±.27; Mθφ-0.77±.07; Mφr1.38±.22; Best double couple: M0 2.72200×10^16^ NP1:φs205.00000°,δ27.00000°,λ87.00000°. NP2: φs29.00000°,δ63.00000°,λ92.00000°. Principal axes: T 2.8270, Plg72.0000°, Azm303.0000°; N -0.2080, Plg2.0000°, Azm208.0000°; P -2.6160, Plg18.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 19:21:23.1±0.5,36°.34N±0°.03×142°.16E±0°.04,h24km±2km, h24km:pP-P,n681,σ1§64/547,mb5.0/249,MS4.5/85, 50C-31D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHYU	Hitachinakayam	1.27	271	eP		Pn	19 21 44.2	-1.0
JHYU				S		Sn	19 22 00.7	-0.8
JHYU	Hitachinakayam	1.27	271	A		A	19 21 44.2	
	comp=N,49nm,0.9s,comp=E,89nm,2.8s							
JHO	Hitachi	1.31	283	P		Pn	19 21 44.7	-1.2
JHO				S		Sn	19 22 01.5	-1.0
JHO	Hitachi	1.31	283	A		A	19 21 44.7	
	comp=N,16nm,2.3s,comp=E,16nm,1.2s							
ONAJ	Iwakimizuishiy	1.33	305	P		Pn	19 21 45.2	-1.0
ONAJ	Iwakimizuishiy	1.33	305	A		A	19 21 45.2	
	comp=N,23nm,4.2s,comp=E,34nm,2.5s							
JIHU	Itakohorinouch	1.37	255	eP		Pn	19 21 46.5	-0.1
JIHU	Itakohorinouch	1.37	255	A		A	19 21 46.5	
	comp=N,163nm,2.1s,comp=E,186nm,1.6s							
JFK	Kawauchi	1.45	315	P		Pn	19 21 47.0	-0.9
JFK				eS		Sn	19 22 06.3	0.0
JFK	Kawauchi	1.45	315	A		A	19 21 47.0	
	comp=N,22nm,3.6s,comp=E,19nm,1.4s							
JFFD	Fukushimafurud	1.49	301	A		A	19 21 47.5	
	comp=N,17nm,1.8s,comp=E,16nm,1.9s							
JSMT	Sammumatsuo	1.55	244	A		A	19 21 48.0	
	comp=N,109nm,2.8s,comp=E,108nm,1.7s							
JYT	Yasato	1.59	267	A		A	19 21 48.7	
	comp=N,53nm,1.7s,comp=E,20nm,7.1s							
JMST	Minamisoumatoc	1.72	324	A		A	19 21 50.8	
	comp=N,20nm,0.9s,comp=E,17nm,1.3s							
JCN	Nagara	1.83	241	A		A	19 21 51.9	
	comp=N,75nm,1.5s,comp=E,88nm,1.7s							
JMM	Marumori	1.88	325			Pn	19 21 51.6	-2.1
JMM	Marumori	1.88	325	P		Pn	19 21 53.3	-0.4
JMM	Marumori	1.88	325	P		Pn	19 21 52.9	-0.8
JMM				S		Sn	19 22 16.7	+0.1
JMM	Marumori	1.88	325	A		A	19 21 52.9	
	comp=N,16nm,3.6s,comp=E,14nm,2.2s							
JOTO	OTAMA OYAMA	1.90	310	eP		Pn	19 21 54.2	+0.2
JOTO	OTAMA OYAMA	1.90	310	A		A	19 21 54.2	
	comp=N,71nm,1.0s,comp=E,56nm,0.9s							
JSB	Shiboa	1.91	290	A		A	19 21 53.3	
	comp=N,46nm,1.2s,comp=E,44nm,1.2s							
BSO1	Boso 1	1.93	210	P		Pn	19 21 53.0	-0.9
BSO1				eS		Sn	19 22 15.7	-1.5
JKUC	kamogawauchiur	1.98	234	A		A	19 21 53.9	
	comp=N,27nm,5.0s,comp=E,26nm,2.8s							
BSO3	Boso 3	2.03	222	eP		Pn	19 21 54.6	-1.0
JIKH	Ishinomakikobu	2.05	345	A		A	19 21 55.5	
	comp=N,10.0nm,4.6s,comp=E,17nm,3.1s							
TOK	Tokyo	2.05	252	A		A	19 21 55.0	
	comp=N,58nm,2.0s,comp=E,46nm,2.9s							
JAG	Ashikaga	2.18	273	P		Pn	19 21 57.2	-0.6
JAG	Ashikaga	2.18	273	A		A	19 21 57.2	
	comp=N,11nm,1.5s,comp=E,10.0nm,3.1s							
JIO	Ouri	2.21	343	A		A	19 21 57.8	
	comp=N,8.0nm,6.9s,comp=E,11nm,7.0s							
JFY	Yanaizu	2.24	299	A		A	19 21 58.0	
	comp=N,9.0nm,5.3s,comp=E,10.0nm,3.0s							
JYAR	Yonezawaarcadi	2.25	315	A		A	19 21 58.2	
	comp=N,54nm,1.0s,comp=E,83nm,1.0s							
TATJ	Tateyama 2	2.26	235	A		A	19 21 57.8	
	comp=N,40nm,5.1s,comp=E,31nm,2.8s							
JYO	Yokosk	2.31	242	A		A	19 21 58.6	
	comp=N,27nm,2.5s,comp=E,36nm,2.1s							
JOU	Okura	2.35	330	A		A	19 21 59.7	
	comp=N,38nm,1.9s,comp=E,45nm,1.1s							
JKT	Katashina	2.38	281	A		A	19 21 59.9	
	comp=N,12nm,1.1s,comp=E,12nm,3.7s							
JOFO	Osakifurukawao	2.47	337	A		A	19 22 01.4	
	comp=N,99nm,2.4s,comp=E,88nm,2.2s							
JSGW	Sagamiharawaka	2.50	254	A		A	19 22 01.3	
	comp=N,11nm,2.6s,comp=E,10.0nm,2.0s							
JYS	Shirataka	2.51	319	A		A	19 22 02.0	
	comp=N,35nm,1.2s,comp=E,34nm,1.6s							
JKMT	Kesennumamotoy	2.53	348	A		A	19 22 02.3	
	comp=N,5.0nm,3.9s,comp=E,12nm,4.6s							
JUON	Uonuma	2.64	290	A		A	19 22 03.5	
	comp=N,6.0nm,4.6s,comp=E,7.0nm,5.4s							
JRY	Ryogami san	2.65	264	eP		Pn	19 22 03.7	-0.6
JRY	Ryogami san	2.65	264	A		A	19 22 03.7	
	comp=N,9.0nm,4.8s,comp=E,10.0nm,1.2s							
JNS	Sasagawa	2.71	304	P		Pn	19 22 06.3	+1.2
JNS	Sasagawa	2.71	304	A		A	19 22 06.3	
	comp=N,9.0nm,1.7s,comp=E,8.0nm,4.2s							
JOD2	Odawara 2	2.71	248	P		Pn	19 22 04.8	-0.4
JOD2	Odawara 2	2.71	248	A		A	19 22 04.8	
	comp=N,16nm,1.9s,comp=E,14nm,2.0s							
JMK	Ichinoseki	2.71	344	P		Pn	19 22 04.7	-0.5
JMK	Ichinoseki	2.71	344	A		A	19 22 04.7	
	comp=N,7.0nm,3.6s,comp=E,12nm,1.9s							
JIM2	Oshima 3	2.75	235	A		A	19 22 04.7	
	comp=N,22nm,3.3s,comp=E,16nm,1.4s							
JGK	Kuni	2.84	276	A		A	19 22 06.3	
	comp=N,23nm,3.2s,comp=E,12nm,5.7s							
JHTM	Izuhatsuma	2.91	243	A		A	19 22 07.0	
	comp=N,19nm,3.6s,comp=E,18nm,2.9s							
JYK	Kaneyama	2.95	332	eP		Pn	19 22 08.3	-0.1
JYK	Kaneyama	2.95	332	A		A	19 22 08.3	
	comp=N,10.0nm,3.3s,comp=E,9.0nm,1.8s							
JTHY	Toshimahigashi	2.96	233	A		A	19 22 07.6	
	comp=N,11nm,4.8s,comp=E,15nm,3.1s							
JYA	Atsumi	2.98	320	A		A	19 22 08.5	
	comp=N,20nm,1.3s,comp=E,17nm,1.5s							
JIZZ	Izumozaki	3.01	294	A		A	19 22 08.8	
	comp=N,28nm,2.9s,comp=E,37nm,4.0s							
JFNN	Fujinakano	3.04	249	A		A	19 22 08.9	
	comp=N,16nm,4.0s,comp=E,16nm,2.8s							
JYN	Shimob	3.05	255	eP		Pn	19 22 10.3	+0.5
JIZS	Izushimoda	3.12	245	A		A	19 22 10.0	
	comp=N,6.0nm,2.2s,comp=E,5.0nm,1.6s							
MJAR	Matsushiro Arr	3.19	275	Pn		Pn	19 22 11.4	-0.4
	comp=E,6.3nm,0.3s,baz=102,slow=8.1,SNR=442							
MJAR				Sn		Sn	19 22 49.0	0.0
	comp=E,5.7nm,0.3s,baz=70,slow=20,SNR=6.1							
MJAR				LR		LR	19 23 20.5	
	comp=E,2μm,21.5s,baz=162,slow=38							
	comp=E,266nm,0.9s							
MAJO	Matsushiro	3.19	275	Pn		Pn	19 22 12.1	+0.4
MAJO	Matsushiro	3.19	275	P		Pn	19 22 12.6	+0.8
MAJO	Matsushiro	3.19	275	c iP		Pn	19 22 12.4	+0.6
MJB9	Matsu-Tunnel	3.19	275	Pn		Pn	19 22 12.4	+0.6
JOM	Ohasama	3.21	348	A		A	19 22 11.8	
	comp=N,7.0nm,1.9s,comp=E,11nm,5.7s							
JNG	Nsakai	3.27	272	A		A	19 22 12.3	
	comp=N,8.0nm,3.8s,comp=E,7.0nm,2.3s							
JRG	Rokugo	3.28	339	A		A	19 22 12.9	
	comp=N,15nm,1.4s,comp=E,14nm,4.4s							
JJN	Nakama	3.30	285	A		A	19 22 12.8	
	comp=N,11nm,4.8s,comp=E,13nm,6.2s							
SHZ3	Shizuoka 3	3.45	250	A		A	19 22 14.7	
	comp=N,9.0nm,1.0s,comp=E,7.0nm,2.3s							
JSZI	Iwateshizukuis	3.53	345	A		A	19 22 16.3	
	comp=N,27nm,2.7s,comp=E,23nm,3.2s							
JSD	Sado	3.54	300	Pn		Pn	19 22 16.1	-0.5
JSD	Sado	3.54	300	P		Pn	19 22 16.9	+0.3
JYW	Yuwa	3.55	335	A		A	19 22 16.6	
	comp=N,26nm,2.3s,comp=E,20nm,2.3s							
JNY	Yasuok	3.62	256	A		A	19 22 17.1	
	comp=N,7.0nm,3.7s,comp=E,6.0nm,1.4s							
JSG	Sagara	3.64	244			Pn	19 22 19.2	+1.3
JSG	Sagara	3.64	244	P		Pn	19 22 21.2	+3.3
JHJ2	Mitsune	3.75	212			Pn	19 22 17.1	-2.3
JHJ2	Mitsune	3.75	212	P		Pn	19 22 21.2	+1.8
JHJ	Hachijo jima 2	3.76	212	Pn		Pn	19 22 17.6	-1.9
	comp=E,195nm,0.3s,baz=315,slow=20,SNR=37							
JHJ				Sn		Sn	19 22 58.6	-4.4
	comp=E,150nm,0.3s,baz=89,slow=23,SNR=11							
	comp=E,359nm,0.3s							
JKEN	Kujiedanarisaw	3.88	355	A		A	19 22 21.2	
	comp=N,10.0nm,1.2s,comp=E,18nm,1.5s							
JTT	Ttatey	3.90	275	A		A	19 22 21.1	
	comp=N,6.0nm,4.0s,comp=E,8.0nm,4.6s							
JGF	Kuroka	3.96	261	Pn		Pn	19 22 23.1	+0.7
JGF	Kuroka	3.96	261	P		Pn	19 22 24.6	+2.2
JAH	Hinai	4.03	343	A		A	19 22 23.3	
	comp=N,6.0nm,6.4s,comp=E,10.0nm,2.0s							
JAO	Obara	4.12	256	A		A	19 22 24.1	
	comp=N,6.0nm,3.2s,comp=E,6.0nm,2.5s							
INU	Inuyama	4.29	258	Pn		Pn	19 22 26.9	0.0
INU	Inuyama	4.29	258	P		Pn	19 22 28.0	+1.2
JTM	Tenmabayashi	4.53	349	Pn		Pn	19 22 31.1	+1.1
JTM	Tenmabayashi	4.53	349	P		Pn	19 22 29.9	-0.2
JTM	Tenmabayashi	4.53	349	S		Sn	19 23 22.2	+0.3
JTM	Tenmabayashi	4.53	349	A		A	19 22 30.2	
	comp=N,4.0nm,4.3s,comp=E,5.0nm,4.8s							
JIW	Iwasaki	4.57	339	A		A	19 22 30.9	

SHO pmax pmax
comp=Z,13nm,0.3s
SHO pmax pmax
comp=E,33nm,0.5s
SHO pmax pmax
comp=Z,105nm,1.2s
JCJ Chichijima 9.21 180 Pn Pn 19 23 25.2 -9.2
comp=Z,25nm,0.3s,baz=322,slow=18,SNR=7.5
JCJ Sn Sn 19 24 59.4 -18
comp=Z,36nm,0.3s,baz=286,slow=22,SNR=6.1
TEY Ternei 9.66 336⇑ *e*P Pn 19 23 51.3 +11
TEY pmax pmax
comp=Z,70nm,0.8s
TEY pmax pmax
comp=N,70nm,0.9s
TEY pmax pmax
comp=E,40nm,0.9s
JNU Nakatsue 9.82 254 **Pn** **19 23 42.7 -0.1**
JNU Nakatsue 9.82 254 Pn **Pn** **19 23 40.2 -2.6**
comp=E,1.6nm,0.3s,baz=150,slow=20,SNR=41
JNU LR LR 19 27 45.7
comp=E,2μm,19.2s,baz=71,slow=40
comp=E,20nm,1.0s
JNU Nakatsue 9.82 254 P **Pn** **19 23 43.7 +0.9**
KUR Kuril'sk 9.88 24 P **Pn** **19 23 43.9 +0.3**
KUR *e*S **Sn** **19 25 27.7 -6.0**
KUR pmax pmax
comp=Z,63nm,0.6s
KUR smax smax
comp=E,72nm,0.5s
KUR smax smax
comp=N,30nm,0.3s
VLA Vladivostok 10.41 314 *d i*P **Pn** **19 23 51.7 +0.9**
VLA pmax pmax
comp=Z,12nm,1.0s
MSHR Mys Shultsa 10.54 310 *ce*P **Pn** **19 23 53.7 +1.1**
MSHR pmax pmax
comp=Z,106nm,1.7s
YSS Yuzhno-Sakhali 10.62 2 **Pn** **19 23 52.5 -1.2**
YSS Yuzhno-Sakhali 10.62 2 P **Pn** **19 23 52.9 -0.7**
YSS Yuzhno-Sakhali 10.62 2 S **Sn** **19 25 49.8 -1.9**
YSS Yuzhno-Sakhali 10.62 2 *e*P **Pn** **19 23 52.2 -1.4**
YSS *e*S **Sn** **19 25 46.4 -5.3**
YSS pmax pmax
comp=Z,200nm,3.3s
YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=E,20nm,0.9s
YSS pmax pmax
comp=Z,70nm,0.9s
YSS smax smax
comp=N,50nm,1.1s
YSS MLR MLR
comp=N,2μm,16.0s
PSTR Posyet 10.80 309 *de*P **Pn** **19 23 57.6 +1.5**
USA0B Ussuriysk Arra 11.04 318 Pn **Pn** **19 24 00.4 +1.0**
USA0B Ussuriysk Arra 11.04 318⇓ *e*P **Pn** **19 23 59.6 +0.2**
USRK Ussuriysk Ar. 11.04 318 Pn **Pn** **19 23 59.9 +0.5**
USRK Ussuriysk Ar. 11.04 318 Pn **Pn** **19 24 00.7 +1.3**
comp=N,0.3nm,0.3s,baz=131,slow=13,SNR=13
USRK LR LR 19 28 16.7
comp=N,2μm,18.4s,baz=129,slow=38
comp=N,19nm,1.0s
USRK Ussuriysk Ar. 11.04 318 P **Pn** **19 23 59.9 +0.5**
KSRS Korea Array 11.45 280 Pn **Pn** **19 24 08.3 +3.2**
comp=N,0.5nm,0.3s,baz=96,slow=13,SNR=42
KSRS LR LR 19 28 32.6
comp=N,2μm,18.1s,baz=90,slow=38
KSAR Wonju Array Be 11.48 280 Pn **Pn** **19 24 06.4 +0.9**
KSAR Wonju Array Be 11.48 280 P **Pn** **19 24 06.4 +0.9**
KS19 Wonju Array Si 11.50 280 Pn **Pn** **19 24 05.2 -0.5**
TJN Taejon 11.93 275 Pn **Pn** **19 24 11.0 -0.6**
TJN Taejon 11.93 275 P **Pn** **19 24 12.8 +1.2**
TJN Taejon 11.93 275 *c i*P **Pn** **19 24 13.4 +1.8**
MDJ Mudanjiang 12.63 315 Pn **Pn** **19 24 21.2 0.0**
MDJ Mudanjiang 12.63 315 P **Pn** **19 24 22.3 +1.1**
MDJ PP **PnPn** **19 24 29.4 +0.4**
MDJ S **Sn** **19 26 43.8 +2.7**
MDJ pmax pmax
comp=N,12nm,1.0s
MDJ pmax pmax
comp=N,430nm,7.6s
MDJ LR LR
comp=N,2μm,13.7s
MDJ LR LR
comp=N,1μm,15.5s
MDJ LR LR
comp=N,3μm,11.7s
TYV Tymovskoe 14.53 1 *e*P **Pn** **19 24 46.3 -0.7**
TYV pmax pmax
comp=Z,200nm,5.0s
TYV pmax pmax
comp=Z,19nm,0.9s
BNX BinXian 14.54 315 ⇓P **Pn** **19 24 45.3 -2.0**
BNX S **Sn** **19 27 22.6 -5.1**
BNX pmax pmax
comp=Z,21nm,1.1s
BNX pmax pmax
comp=Z,330nm,5.4s
BNX LR LR
comp=Z,2μm,13.0s
BNX LR LR
comp=Z,520nm,15.2s
BNX LR LR
comp=Z,2μm,13.6s
CN2 Changchun 14.79 305 P **Pn** **19 24 49.0 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
CN2 LR LR
comp=Z,2μm,13.0s
KLR Kul'dur 14.96 333 Pn **Pn** **19 24 50.5 -2.4**
comp=Z,0.3nm,0.3s,baz=136,slow=14,SNR=9.6
KLR LR LR 19 30 43.9
comp=Z,1μm,18.0s,baz=146,slow=38
KLR Kul'dur 14.96 333 *e*P **Pn** **19 24 50.7 -2.2**
KLR pmax pmax
comp=Z,33nm,1.3s
GRNR Gornyy 15.01 346 ⇓*i*P **Pn** **19 24 51.6 -1.9**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,940nm,14.0s
GRNR MLR MLR
comp=Z,1μm,14.0s
GRNR MLR MLR
comp=N,830nm,13.0s
JOW Kunigami 15.14 235 **Pn** **19 24 51.9 -3.4**
JOW Kunigami 15.14 235 Pn **Pn** **19 24 52.0 -3.4**
comp=N,0.8nm,0.3s,baz=65,slow=17,SNR=4.4
JOW LR LR 19 30 54.6
comp=N,494nm,18.1s,baz=94,slow=38
comp=N,16nm,0.9s
JOW Kunigami 15.14 235 P **Pn** **19 24 57.0 +1.6**
DL2 Dalian 16.46 285 P **Pn** **19 25 12.3 -0.1**
DL2 pmax pmax
comp=N,53nm,1.2s
DL2 pmax pmax
comp=N,470nm,7.7s
DL2 LR LR
comp=N,2μm,12.5s
DL2 LR LR
comp=N,3μm,14.3s
DL2 LR LR
comp=N,4μm,14.9s
OKH Okha 17.22 2 *de*P **P** **19 25 29.6 +6.4**
OKH *e*S **Sn** **19 28 25.1 -7.5**
OKH pmax pmax
comp=Z,100nm,5.2s
OKH smax smax
comp=N,100nm,14.3s
OKH MLR MLR
comp=N,2μm,16.0s
OKH MLR MLR
comp=Z,1μm,16.0s
OKH MLR MLR
comp=E,3μm,16.0s
SKR Severo-Kuril's 17.51 31⇑ *e*P **Pn** **19 25 24.7 -0.8**
HEH HeiHe 17.52 327 *e*P **Pn** **19 25 21.9 -3.7**
HEH pmax pmax
comp=E,10.0nm,1.1s
HEH LR LR
comp=E,2μm,13.1s
HEH LR LR
comp=E,2μm,13.0s
HEH LR LR
comp=E,2μm,14.4s
SSE Sheshan 18.20 259 P **Pn** **19 25 30.9 -3.2**
SSE pmax pmax
comp=E,9.0nm,1.1s
SSE pmax pmax
comp=E,200nm,3.1s
SSE LR LR
comp=E,780nm,15.3s
SSE LR LR
comp=E,920nm,13.3s
NJ2 Nanjing 19.73 264 *e*P **P** **19 25 48.8 -2.2**
NJ2 pmax pmax
comp=E,10.0nm,0.8s
NJ2 pmax pmax
comp=E,370nm,4.0s
NJ2 LR LR
comp=E,2μm,17.1s
NJ2 LR LR
comp=E,1μm,20.8s
NJ2 LR LR
comp=E,2μm,16.1s
PEA0B Petropavlovsk- 20.01 28 **P** **19 25 52.9 -1.0**
PEA0B Petropavlovsk- 20.01 28⇑ *e*P **P** **19 25 51.6 -2.2**
PETK Petropavlovsk- 20.01 28 P **P** **19 25 53.0 -0.8**
PETK Petropavlovsk- 20.01 28 P **P** **19 25 53.9 +0.1**
comp=E,7.8nm,0.9s,baz=195,slow=11,SNR=8.3
comp=E,7.8nm,0.9s
TIA Tai'an 20.17 277 P **P** **19 25 53.5 -2.3**
TIA pmax pmax
comp=E,37nm,1.2s
TIA LR LR
comp=E,700nm,12.9s
TIA LR LR
comp=E,1μm,16.1s
TIA LR LR
comp=E,2μm,14.7s
ZEA Zeya 20.27 334 *e*P **P** **19 25 54.8 -1.9**
ZEA *e*S S 19 29 27.8 -15
ZEA pmax pmax
comp=Z,100nm,3.4s
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA smax smax
comp=E,200nm,6.0s
ZEA smax smax
comp=N,300nm,12.0s
ZEA MLR MLR
comp=N,1μm,15.0s
ZEA MLR MLR
comp=E,900nm,15.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 20.31 30 P Pn 19 25 58.5 -0.7
PET Petropavlovsk 20.31 30⇑ *e*P **P** **19 25 56.4 -0.7**
PET pmax pmax
comp=Z,23nm,1.3s
BJI Beijing 20.73 288 P **P** **19 25 59.4 -2.4**
BJI pP **pP** **19 26 08.5 +1.0**
BJI sP **sP** **19 26 12.1 +2.2**
BJI PP **PnPn** **19 26 18.5 -1.5**
BJI S S 19 29 40.6 -11
BJI pmax pmax
comp=Z,12nm,1.3s
BJI pmax pmax
comp=Z,78nm,4.6s
BJI LR LR
comp=Z,360nm,14.7s
BJI LR LR
comp=Z,470nm,13.4s
BJI LR LR
comp=Z,710nm,13.3s
BJT Baijiatuau 20.73 288 P **P** **19 25 58.6 -3.2**
BJT Baijiatuau 20.73 288 P **P** **19 25 58.6 -3.2**
BJT pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 20.82 315 P **P** **19 26 00.0 -2.7**
HIA Hailar 20.82 315 P **P** **19 26 00.0 -2.7**
HIA pmax pmax
comp=Z,25nm,1.0s
XLT XiLinHaoTe 21.27 299⇑ *i*P **P** **19 26 04.9 -2.8**
XLT pP pP 19 26 14.8 +1.3
XLT sP sP 19 26 18.1 +2.3
XLT PP **PnPn** **19 26 25.9 -1.5**
XLT SS Sn 19 30 28.5 +18
XLT pmax pmax
comp=Z,140nm,1.0s
XLT pmax pmax
comp=Z,120nm,5.7s
XLT LR LR
comp=Z,2μm,13.0s
XLT LR LR
comp=Z,3μm,16.2s
HNS HongShan 21.96 281 ⇓P **P** **19 26 11.9 -3.1**
HNS pP **pP** **19 26 23.6 +2.8**
HNS pmax pmax
comp=Z,51nm,0.9s
HNS LR LR
comp=Z,2μm,13.7s
HNS LR LR
comp=Z,2μm,12.8s
HNS LR LR
comp=Z,2μm,14.7s
TPUB Ta-pu 22.69 241 IAmb IAmb 19 26 33.1
comp=Z,146nm,1.5s
TIY Taiyuan 23.73 282 *e*P **P** **19 26 35.9 +2.5**
TIY S **S** **19 30 43.1 -4.2**
TIY pmax pmax
comp=Z,39nm,0.8s
TIY LR LR
comp=Z,2μm,15.8s
TIY LR LR
comp=Z,2μm,15.8s
TIY LR LR
comp=Z,3μm,17.2s
WHN Wuhan 23.87 264 P **P** **19 26 33.8 -0.9**
WHN pP **pP** **19 26 36.1 -4.5**
WHN pmax pmax
comp=Z,96nm,0.9s
WHN LR LR
comp=Z,4μm,11.3s
WHN LR LR
comp=Z,4μm,13.9s
WHN LR LR
comp=Z,6μm,13.9s
MA2 Magadan 23.92 11 P **P** **19 26 34.5 -0.4**
MA2 IAmb IAmb 19 26 47.2
comp=Z,54nm,1.2s
MA2 Magadan 23.92 11 P **P** **19 26 34.3 -0.6**
comp=Z,10.0nm,0.7s,baz=188,slow=8.9,SNR=25
MA2 LR LR 19 36 59.9
comp=Z,376nm,18.7s,baz=180,slow=39
comp=Z,10.0nm,0.7s
MA2 Magadan 23.92 11 P **P** **19 26 35.3 +0.4**
MA2 Magadan 23.92 11 *de*P **P** **19 26 34.2 -0.7**
MA2 pmax pmax
comp=Z,21nm,1.0s
LYN LuoYang 24.21 275 P **P** **19 26 35.1 -2.8**
LYN sP sP 19 26 48.4 +2.0
LYN S **S** **19 30 53.1 -1.8**
LYN sS pS 19 31 01.9 0.0
LYN pmax pmax
comp=Z,89nm,1.1s
LYN pmax pmax
comp=Z,470nm,4.9s
LYN LR LR
comp=Z,1μm,12.4s
LYN LR LR
comp=Z,2μm,14.1s
LYN LR LR
comp=Z,3μm,14.8s
HHC Hu-ho-hao-te 24.27 290 *e*P **P** **19 26 38.8 +0.3**
HHC S **S** **19 30 51.4 -4.5**
HHC pmax pmax
comp=Z,52nm,1.0s
HHC pmax pmax
comp=Z,210nm,3.7s
HHC LR LR
comp=Z,1μm,13.0s
HHC LR LR
comp=Z,900nm,14.5s
HHC LR LR
comp=Z,1μm,13.0s
BTO Baotou 25.44 289 *e*P **P** **19 26 47.5 -1.6**
BTO pP **pP** **19 26 56.8 +1.8**
BTO sP **pwP** **19 27 00.1 +0.4**
BTO PP **PnPn** **19 27 24.8 +0.3**
BTO S **S** **19 31 10.6 -4.1**
BTO pmax pmax
comp=Z,21nm,0.9s
BTO pmax pmax
comp=Z,180nm,5.2s
BTO LR LR
comp=Z,2μm,13.4s
BTO LR LR
comp=Z,3μm,14.8s
BTO LR LR
comp=Z,3μm,15.9s
CNSH ChangSha 25.94 260 P **P** **19 26 53.8 +0.2**
CNSH S **S** **19 31 18.3 -4.4**
CNSH pmax pmax
comp=Z,54nm,1.4s
CNSH pmax pmax
comp=Z,330nm,2.7s
CNSH LR LR
comp=Z,1μm,18.3s
CNSH LR LR
comp=Z,670nm,14.2s
CNSH LR LR
comp=Z,1μm,12.1s
YAK Yakutsk 26.88 347 P **P** **19 27 01.1 -0.6**
YAK Yakutsk 26.88 347 LR LR 19 38 15.1
comp=Z,902nm,18.1s,baz=149,slow=38
YAK Yakutsk 26.88 347 *c i*P **P** **19 27 01.7 0.0**
YAK *e* 19 27 42.4
YAK *e* 19 30 24.0
YAK *e*S **S** **19 31 39.3 +2.5**
YAK *e*SS **pS** **19 31 44.7 +1.4**
YAK *e*SS **SnSn** **19 32 48.6 +6.2**
YAK *e* 19 37 49.1
YAK pmax pmax
comp=Z,129nm,1.2s
YAK pmax pmax
comp=N,71nm,1.3s
YAK pmax pmax
comp=E,17nm,1.4s
YAK pmax pmax
comp=Z,89nm,1.3s
YAK pmax pmax
comp=N,87nm,1.5s
YAK pmax pmax
comp=E,27nm,1.6s
YAK smax smax
comp=E,90nm,2.2s
YAK smax smax
comp=N,61nm,2.7s
YAK MLR MLR
comp=Z,2μm,12.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,424nm,14.0s
XAN Xi'an 27.18 275 ⇑P **P** **19 27 04.3 -0.6**
XAN pP pP 19 27 10.1 -0.7
XAN PP **PnPn** **19 27 46.3 -2.1**
XAN S **S** **19 31 38.3 -4.0**
XAN pmax pmax
comp=E,93nm,1.4s
XAN pmax pmax
comp=E,350nm,3.8s
XAN LR LR
comp=E,1μm,14.4s
XAN LR LR
comp=E,910nm,15.8s
XAN LR LR
comp=E,1μm,16.5s
H11N2 WAKE ISLAND Hy 27.28 121 T T 19 55 38.6
baz=312,slow=75,SNR=35
H11N1 WAKE ISLAND Hy 27.29 121 T T 19 55 38.5
baz=312,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 27.30 121 T T 19 55 40.8
baz=312,slow=75,SNR=31
SEY Seymchan 27.37 10 P **P** **19 27 07.2 +1.1**
comp=E,7.1nm,0.9s,baz=197,slow=7.6,SNR=26
comp=E,7.1nm,0.9s
SEY Seymchan 27.37 10 *e*P **P** **19 27 06.4 +0.3**
SEY pmax pmax
comp=Z,32nm,1.1s
SHEM Shemya Is, Ala 27.75 44 LR LR 19 36 36.6
comp=Z,260nm,18.9s,baz=240,slow=33
H11S1 WAKE ISLAND Hy 27.98 123 T T 19 56 39.3
baz=314,slow=75,SNR=31
H11S3 WAKE ISLAND Hy 27.98 123 T T 19 56 32.1
baz=314,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 28.00 123 T T 19 56 31.8
baz=314,slow=75,SNR=19
ULN Ulaanbaatar 28.24 305 P **P** **19 27 13.7 -0.6**
ULN IAmb IAmb 19 27 16.4
comp=Z,56nm,0.9s
ULN Ulaanbaatar 28.24 305 *c i*P **P** **19 27 14.7 +0.4**
ULN pmax pmax
comp=Z,55nm,1.0s
SONM Songino Array 28.67 305 P **P** **19 27 17.7 -0.4**
SONM Songino Array 28.67 305 P **P** **19 27 18.6 +0.5**
comp=Z,48nm,0.9s,baz=106,slow=8.2,SNR=211
SONM LR LR 19 38 56.5
comp=Z,415nm,20.1s,baz=92,slow=37
comp=Z,48nm,0.9s
SONM Songino Array 28.67 305 P **P** **19 27 17.7 -0.4**
SONM pmax pmax
comp=Z,66nm,1.0s
LZH Lanzhou 30.78 281 ⇑P **P** **19 27 37.0 +0.1**
LZH pP sP 19 27 47.4 +1.9
LZH S **S** **19 32 41.0 +2.0**
LZH pmax pmax
comp=Z,58nm,1.2s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,2μm,16.1s
LZH LR LR
comp=Z,3μm,17.5s
IRK Irkutsk 31.01 313 *e*P **P** **19 27 36.7 -1.9**
IRK pmax pmax
comp=Z,48nm,1.3s
ZAK Zakamensk 31.17 309 *e*P **P** **19 27 40.2 0.0**
ZAK pmax pmax
comp=Z,48nm,1.1s
GYA Guiyang 31.70 262 ⇓P **P** **19 27 44.6 -0.5**
GYA S **S** **19 32 47.8 -5.7**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,300nm,3.1s
GYA LR LR
comp=Z,930nm,18.0s
GYA LR LR
comp=Z,520nm,18.1s
GYA LR LR
comp=Z,390nm,22.8s
CD2 Chengdu 32.28 272 P **P** **19 27 49.5 -0.6**
CD2 S **S** **19 33 03.8 +1.5**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,160nm,5.1s
CD2 LR LR
comp=Z,730nm,17.7s
CD2 LR LR
comp=Z,1μm,16.5s
CD2 LR LR
comp=Z,1μm,18.3s
DAV Davao City (W) 32.84 211 LR LR 19 40 05.4
comp=Z,214nm,20.5s,baz=55,slow=34
MOY Mondy 32.84 311 *e*P **P** **19 27 55.6 +0.7**
MOY pmax pmax
comp=Z,35nm,2.3s
QIZ Qiongzhong 33.20 247 P **P** **19 27 56.9 -1.2**
QIZ pP **sP** **19 28 08.0 +1.2**
QIZ S **S** **19 33 18.9 +2.3**
QIZ LR LR
comp=Z,580nm,15.8s
QIZ LR LR

comp=Z,430nm,9.6s
QIZ LR LR
GTA Gaotai 33.34 288 *e*P **P 19 28 00.0 +0.6**
GTA pP pwP 19 28 10.3 +0.3
GTA S **S 19 33 20.0 +1.1**
GTA pmax pmax
comp=Z,58nm,0.9s
GTA LR LR
comp=Z,560nm,14.5s
GTA LR LR
comp=Z,550nm,14.5s
GTA LR LR
comp=Z,610nm,14.5s
BILL Biiibino 34.53 16 P **P 19 28 09.6 +0.4**
BILL IAmb IAmb 19 28 21.1
comp=Z,27nm,1.2s
BILL Biiibino 34.53 16⇓ *e*P **P 19 28 09.5 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.0s
KMI Kunming 35.45 263 ⇑P **P 19 28 17.3 -0.6**
KMI S **S 19 33 53.9 +2.0**
KMI pmax pmax
comp=Z,52nm,1.4s
KMI LR LR
comp=Z,600nm,15.5s
KMI LR LR
comp=Z,960nm,19.0s
KMI LR LR
comp=Z,970nm,14.7s
PZH PanZhiHua 35.63 266 P **P 19 28 20.4 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,5.1s
TIXI Tiksi 36.05 353 P **P 19 28 22.1 -0.1**
TIXI IAmb IAmb 19 28 33.8
comp=Z,24nm,1.4s
TIXI Tiksi 36.05 353 P **P 19 28 21.9 -0.3**
comp=Z,2.0nm,0.5s,baz=162,slow=6.4,SNR=10
comp=Z,2.0nm,0.5s
TIXI Tiksi 36.05 353⇓ *e*P **P 19 28 22.4 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
SLVN Son La 36.43 256 P **P 19 28 26.1 0.0**
SLVN IAmb IAmb 19 28 27.6
comp=Z,30nm,1.0s
SLVN Son La 36.43 256 P **P 19 28 27.2 +1.1**
SPIA Saint Paul Isl 37.69 41 P **P 19 28 39.1 +2.8**
MYLDM Lahad Datu 37.86 221 P **P 19 28 36.2 -1.9**
MYLDM IAmb IAmb 19 28 41.3
comp=Z,33nm,1.1s
MYLDM Lahad Datu 37.86 221 P **P 19 28 41.8 +3.7**
GOMU GeErMu 37.87 284 P **P 19 28 38.8 +0.3**
GOMU pP pP 19 28 44.0 -0.6
GOMU sP pwP 19 28 49.8 +0.7
GOMU S **S 19 34 31.1 +2.3**
GOMU pmax pmax
comp=Z,200nm,1.2s
GOMU LR LR
comp=Z,900nm,15.9s
GOMU LR LR
comp=Z,1μm,16.0s
GOMU LR LR
comp=Z,2μm,15.7s
KRAR Krasnoyarsk 38.38 317⇓ *e*P **P 19 28 42.7 +0.6**
UBPT Khong Chiam 38.79 247 P **P 19 28 44.9 -1.1**
UBPT IAmb IAmb 19 28 47.7
comp=Z,42nm,1.1s
UBPT Khong Chiam 38.79 247 P **P 19 28 46.9 +0.9**
DLV Lat 38.84 240 P **P 19 28 44.5 -2.1**
DLV IAmb IAmb 19 28 58.6
comp=Z,53nm,1.2s
DLV Lat 38.84 240 P **P 19 28 47.8 +1.2**
NONG Nongkai 38.86 253 P **P 19 28 47.5 +0.9**
TNCH TengChong 38.89 266 ⇑P **P 19 28 47.0 0.0**
TNCH sP pP 19 28 55.1 +1.9
TNCH PP **PnPn 19 30 19.5 +0.9**
TNCH S **S 19 34 46.4 +2.3**
TNCH pmax pmax
comp=Z,35nm,1.1s
TNCH pmax pmax
comp=Z,220nm,4.1s
TNCH LR LR
comp=Z,380nm,12.5s
TNCH LR LR
comp=Z,590nm,14.5s
TNCH LR LR
comp=Z,750nm,15.3s
KMSI Cibinong 39.38 209 P **P 19 28 53.0 +2.1**
TOLI2 Tolitoli 40.26 214 IAmb IAmb 19 28 58.8
comp=Z,26nm,1.0s
TOLI2 Tolitoli 40.26 214 P **P 19 28 58.9 +0.7**
MRSI Marisa 40.31 212 P **P 19 28 59.2 +0.6**
comp=Z,1μmcomp=Z,110nm,1.3s
SANI Sanana 41.05 205 P **P 19 29 05.1 +0.3**
SANI Sanana 41.05 205 P **P 19 29 04.4 -0.4**
comp=Z,35nm,1.0s
MPSI Mapaga 41.35 215 P **P 19 29 07.1 -0.1**
comp=Z,1μmcomp=Z,20nm,1.2s
WMQ Urumqi 41.69 298 *e*P **P 19 29 11.5 +1.6**
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,410nm,3.7s
WMQ LR LR
comp=Z,1μm,17.9s
WMQ LR LR
comp=Z,900nm,17.9s
WMQ LR LR
comp=Z,480nm,19.5s
CHTO Chiang Mai 41.71 257 P **P 19 29 09.7 -0.5**
CHTO IAmb IAmb 19 29 11.5
comp=Z,29nm,1.0s
CHTO Chiang Mai 41.71 257 P **P 19 29 09.7 -0.5**
CHTO pmax pmax
comp=Z,29nm,1.0s
AAI Ambon 41.90 201 P **P 19 29 13.3 +1.6**
comp=Z,41nm,0.8s
CMAR Chiang Mai Arr 41.91 257 P **P 19 29 11.1 -0.7**
CMAR Chiang Mai Arr 41.91 257 P **P 19 29 11.7 -0.1**
comp=Z,6.2nm,0.8s,baz=47,slow=6.4,SNR=51
CMAR LR LR 19 47 19.6
comp=Z,273nm,20.4s,baz=40,slow=37
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 41.91 257 *i* P **P 19 29 12.3 +0.5**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
PCI Palu 42.47 214 P **P 19 29 16.3 -0.1**
comp=Z,827nmcomp=Z,65nm,1.5s
NAYO Nakonayok 42.51 250 P **P 19 29 17.9 +1.2**
ZAA0 Zalesovo Array 42.83 313 IAmb IAmb 19 29 32.0
comp=Z,40nm,1.1s
ZALV Zalesovo Beam 42.83 313 P **P 19 29 18.4 -0.4**
ZALV Zalesovo Beam 42.83 313 P **P 19 29 19.5 +0.6**
comp=Z,16nm,0.8s,baz=91,slow=6.5,SNR=77
ZALV LR LR 19 48 05.4
comp=Z,592nm,18.9s,baz=78,slow=38
comp=Z,16nm,0.8s
LSA Lhasa 42.87 276 IAmb IAmb 19 29 24.4
comp=Z,30nm,1.0s
LSA Lhasa 42.87 276 P **P 19 29 20.9 +0.8**
LSA pmax pmax
comp=Z,30nm,1.2s
ZSN Zaisan 43.16 303 *e*P **P 19 29 21.8 +0.1**
ZSN pmax pmax
comp=Z,38nm,1.0s
ZSN Zaisan 43.16 303 *e*P **P 19 29 21.8 +0.1**
comp=Z,38nm,1.0s
SBUM Sibu 43.60 226 P **P 19 29 25.5 0.0**
SBUM Sibu 43.60 226 P **P 19 29 28.5 +2.9**
SHL Shillong 44.00 270 P **P 19 29 28.3 -0.7**
SHL pmax pmax
comp=Z,12nm,0.6s
F17K Baldwin Pennin 44.04 29 P **P 19 29 28.6 +0.1**
F17K IAmb IAmb 19 31 01.3
comp=Z,40nm,1.8s
NRIK Noril'sk 44.15 335 P **P 19 29 28.3 -1.1**
NRIK Noril'sk 44.15 335 P **P 19 29 29.4 +0.1**
comp=Z,6.8nm,0.9s,baz=147,slow=4.4,SNR=8.4
NRIK LR LR 19 49 25.9
comp=Z,586nm,18.6s,baz=102,slow=38
comp=Z,6.8nm,0.9s
NRIK Noril'sk 44.15 335 *ce*P **P 19 29 30.4 +1.1**
NRIK pmax pmax
comp=Z,16nm,1.4s

SRDT SRDT 44.17 252 P **P 19 29 30.0 -0.1**
C18K Utukok River 44.64 26 IAmb IAmb 19 30 05.0
comp=Z,19nm,1.2s
H18K Honhosa River 44.93 31 IAmb IAmb 19 29 50.1
comp=Z,28nm,1.1s
G18K Tagagawik 44.95 30 IAmb IAmb 19 29 49.5
comp=Z,31nm,1.3s
MK31 Makanchi Array 45.00 303 *c i* P **P 19 29 36.8 +0.3**
MKAR Makanchi Array 45.00 303 P **P 19 29 36.5 0.0**
MKAR Makanchi Array 45.00 303 P **P 19 29 36.8 +0.3**
comp=Z,39nm,0.9s,baz=89,slow=8.9,SNR=94
MKAR LR LR 19 48 53.3
comp=Z,396nm,20.2s,baz=78,slow=37
comp=Z,39nm,0.9s
MAKZ Makanchi 45.21 303 P **P 19 29 37.9 -0.3**
MAKZ Makanchi 45.21 303 P **P 19 29 37.9 -0.3**
MAKZ pmax pmax
comp=Z,54nm,1.0s
SPSI Sidrap Palu 45.23 212 P **P 19 29 39.6 +1.1**
comp=Z,18nm,0.9s
BRDH Bariadhala 45.54 267 LR LR 19 51 52.0
comp=Z,519nm,18.6s,baz=137,slow=40
PMG Port Moresby 45.74 173 LR LR 19 53 43.9
comp=Z,38nm,18.2s,baz=338,slow=43
E19K Redstone River 45.81 28 IAmb IAmb 19 30 10.2
comp=Z,19nm,1.1s
SEM Semipalatinsk 45.84 308 *e*P **P 19 29 43.1 -0.2**
SEM pmax pmax
comp=Z,23nm,1.0s
SEM Semipalatinsk 45.84 308 *e*P **P 19 29 43.2 -0.2**
comp=Z,23nm,1.0s
J19K Poorman 45.94 33 IAmb IAmb 19 29 58.3
comp=Z,16nm,1.1s
STKI Sintang 45.96 225 P **P 19 29 45.3 +0.9**
KAPI Kappang 46.17 212 P **P 19 29 45.0 -1.0**
KAPI Kappang 46.17 212 P **P 19 29 48.1 +2.1**
KAPI Kappang 46.17 212 *d i* P **P 19 29 46.7 +0.7**
KAPI pmax pmax
comp=Z,33nm,1.4s
BKSI Bulukumba 46.29 211 P **P 19 29 47.9 +1.0**
comp=Z,16nm,0.9s
J20K Nowinta River 46.60 33 IAmb IAmb 19 30 03.5
comp=Z,18nm,1.1s
KURK Kurchatov 46.83 309 P **P 19 29 50.8 -0.1**
KURK Kurchatov 46.83 309 *c i* P **P 19 29 50.9 +0.1**
KURK pmax pmax
comp=Z,92nm,1.3s
BSSI Bau Bau, Buton 46.88 210 P **P 19 29 51.9 +0.3**
KURBB Kurchatov Arra 46.90 309 P **P 19 29 51.4 0.0**
comp=Z,34nm,0.9s,baz=84,slow=8.3,SNR=142
KURBB LR LR 19 50 06.2
comp=Z,503nm,18.4s,baz=169,slow=37
comp=Z,34nm,0.9s
B21K Ikpikpuk River 47.16 25 IAmb IAmb 19 30 18.5
comp=Z,19nm,1.1s
KDAK Kodiak Island 47.22 42 P **P 19 29 53.4 -0.4**
comp=Z,12nm,0.9s,baz=319,slow=19,SNR=2.2
comp=Z,12nm,0.9s
H21K Melozitna Rive 47.30 31 IAmb IAmb 19 30 08.3
comp=Z,20nm,1.2s
SRIT Nakonsritamara 47.48 245 P **P 19 29 57.8 +1.5**
PDGK Podgornoye 47.63 299 P **P 19 29 56.9 -0.4**
SHLS Shalkode 47.69 298 *e*P **P 19 29 55.5 -2.3**
SHLS pmax pmax
comp=Z,22nm,1.0s
SHLS Shalkode 47.69 298 *e*P **P 19 29 55.6 -2.3**
comp=Z,22nm,1.0s
D22K Ayikyak River 47.72 26 IAmb IAmb 19 30 25.4
comp=Z,23nm,1.1s
E22K Anaktuvuk Pass 47.95 27 IAmb IAmb 19 30 27.2
comp=Z,19nm,1.1s
TDK Taldyqorghan 48.00 301 *e*P **P 19 30 00.2 +0.2**
TDK pmax pmax
comp=Z,16nm,1.2s
TDK Taldyqorghan 48.00 301 *e*P **P 19 30 00.2 +0.2**
comp=Z,16nm,1.2s
UZB Uzynbulak 48.01 299 *e*P **P 19 30 00.3 0.0**
UZB pmax pmax
comp=Z,17nm,1.1s
UZB Uzynbulak 48.01 299 *e*P **P 19 30 00.3 0.0**
comp=Z,17nm,1.1s
KPKS Kokpek 48.17 299 *e*P **P 19 30 01.6 +0.2**
KPKS pmax pmax
comp=Z,12nm,0.9s
KPKS Kokpek 48.17 299 *e*P **P 19 30 01.7 +0.2**
comp=Z,12nm,0.9s
ZHN Zhinishke 48.42 299 *e*P **P 19 30 03.2 -0.2**
ZHN pmax pmax
comp=Z,9.0nm,1.1s
ZHN Zhinishke 48.42 299 *e*P **P 19 30 03.2 -0.2**
comp=Z,8.7nm,1.1s
SATY Saty 48.46 299 *e*P **P 19 30 03.8 0.0**
SATY pmax pmax
comp=Z,19nm,1.1s
SATY Saty 48.46 299 *e*P **P 19 30 03.9 0.0**
comp=Z,18nm,1.1s
MMRI Maumere 48.50 207 P **P 19 30 05.7 +1.6**
comp=Z,35nm,0.8s
HNR Honiara 48.51 156 LR LR 19 47 55.4
comp=Z,194nm,21.6s,baz=349,slow=33
E23K Chindalar 48.76 28 IAmb IAmb 19 30 33.7
comp=Z,26nm,1.1s
SOEI Soe 48.84 204 P **P 19 30 10.9 +4.0**
SOEI Soe 48.84 204 P **P 19 30 08.5 +1.6**
comp=Z,88nm,1.0s
D24K Happy Valley 49.13 26 IAmb IAmb 19 30 26.0
comp=Z,18nm,1.2s
E24K Your Creek 49.18 28 IAmb IAmb 19 30 22.3
comp=Z,18nm,1.4s
C24K Franklin Bluff 49.22 25 IAmb IAmb 19 30 22.9
comp=Z,24nm,1.1s
IPM Ipoh 49.30 240 P **P 19 30 08.9 -1.4**
IPM Ipoh 49.30 240 P **P 19 30 11.3 +1.0**
COLA College 49.35 32 P **P 19 30 13.0 +2.9**
COLA College 49.35 32 P **P 19 30 11.9 +1.8**
COLA pmax pmax
comp=Z,10.0nm,1.0s
MDOK Medeo 49.40 299 *e*P **P 19 30 11.0 0.0**
MDOK Medeo 49.40 299 *e*P **P 19 30 11.1 0.0**
AAA Alma-Ata 49.48 299 *e*P **P 19 30 11.5 0.0**
AAA pmax pmax
comp=Z,16nm,0.9s
AAA Alma-Ata 49.48 299 *e*P **P 19 30 11.5 0.0**
comp=Z,16nm,0.9s
TNSS Tian-Shan 49.50 299 *e*P **P 19 30 11.8 -0.3**
TNSS Tian-Shan 49.50 299 *e*P **P 19 30 11.9 -0.2**
POKR Poker Plat Res 49.53 32 IAmb IAmb 19 30 26.1
comp=Z,31nm,1.1s
KDJ Kajisay 49.58 298 IAmb IAmb 19 30 17.3
comp=Z,21nm,1.0s
KDJ Kajisay 49.58 298 P **P 19 30 12.6 +0.1**
KDU Kakadu 49.61 192 P **P 19 30 12.2 -0.3**
comp=Z,37nm,0.8s
KDU Kakadu 49.61 192 P **P 19 30 13.0 +0.5**
IL31 49.77 32 IAmb IAmb 19 30 26.7
comp=Z,14nm,1.1s
ILAR Eielson Array 49.77 32 P **P 19 30 13.3 0.0**
comp=Z,1.9nm,0.7s,baz=263,slow=6.5,SNR=26
comp=Z,1.9nm,0.7s
MTN Manton Dam 50.01 194 P **P 19 30 13.3 -2.2**
MTN Manton Dam 50.01 194 P **P 19 30 15.6 +0.1**
comp=Z,41nm,0.8s
D25K Kavik River 50.01 26 IAmb IAmb 19 30 28.3
comp=Z,46nm,1.8s
COEN Coen 50.03 179 P **P 19 30 16.4 +0.6**
COEN IAmb IAmb 19 30 36.7
comp=Z,19nm,1.2s
ULHL Ulahol 50.22 298 P **P 19 30 18.1 +0.7**
SNR=7.5
F25K Christian Rive 50.25 28 IAmb IAmb 19 30 31.0
comp=Z,27nm,1.6s
BOOM Boomskoye usch 50.37 298 IAmb IAmb 19 30 24.1
comp=Z,28nm,1.0s
BOOM Boomskoye usch 50.37 298 P **P 19 30 19.3 +0.9**
PLAI Plampang 50.44 212 P **P 19 30 19.9 +1.0**
comp=Z,31nm,1.1s
TPI Tanjungpandan 50.47 227 P **P 19 30 20.1 +0.9**
comp=Z,36nm,1.0s
WBSI Waikabubak, Su 50.50 210 P **P 19 30 20.8 +1.4**
comp=Z,37nm,1.0s
KMMI Kalianget 50.62 217 P **P 19 30 21.8 +1.5**
comp=Z,41nm,1.1s
BRZS Berezniki 50.71 309 *e*P **P 19 30 20.7 +0.1**
BRZS Berezniki 50.71 309 *e*P **P 19 30 20.8 +0.1**
F26K Sheenjek River 50.82 28 IAmb IAmb 19 30 36.1
comp=Z,24nm,1.2s

SRBI Singaraja 50.92 215 P **P 19 30 22.9 +0.3**
comp=Z,40nm,0.9s
C27K Jago River 50.96 26 IAmb IAmb 19 30 44.5
comp=Z,43nm,1.9s
BTLS Baital 50.99 302 *e*P **P 19 30 22.9 +0.1**
BTLS pmax pmax
comp=Z,9.0nm,0.7s
BTLS Baital 50.99 302 *e*P **P 19 30 23.0 +0.1**
comp=Z,8.8nm,0.7s
SGDS Sogindy 51.02 300 *e*P **P 19 30 23.2 +0.1**
SGDS Sogindy 51.02 300 *e*P **P 19 30 23.3 +0.1**
KBK Karagaybulak 51.02 299 P **P 19 30 24.5 +1.2**
SNR=20
CHMS Chumysh 51.06 299 P **P 19 30 24.3 +0.9**
SNR=7.9
KSH Kashi 51.24 295 P P 19 30 29.8 +4.9
KSH S **S 19 37 49.6 +7.3**
KSH pmax pmax
comp=Z,10.0nm,1.8s
KSH LR LR
comp=Z,990nm,17.2s
KSH LR LR
comp=Z,750nm,17.5s
KSH LR LR
comp=Z,1μm,15.8s
OTUK Ortayu 51.32 307 P **P 19 30 25.2 -0.1**
AAK Ala-Archa 51.35 299 P **P 19 30 24.8 -0.9**
AAK IAmb IAmb 19 30 31.4
comp=Z,24nm,1.0s
AAK Ala-Archa 51.35 299 LR LR 19 53 34.8
comp=Z,2μm,18.6s,baz=75,slow=38
AAK Ala-Archa 51.35 299 P **P 19 30 26.5 +0.7**
SNR=13
AAK Ala-Archa 51.35 299 *c i* P **P 19 30 26.2 +0.4**
AAK pmax pmax
comp=Z,22nm,0.8s
BVA0 Borovoye Array 51.48 313 *i* P **P 19 30 25.6 -0.8**
BVAR Borovoye Array 51.48 313 P **P 19 30 26.8 +0.4**
comp=Z,15nm,0.9s,baz=79,slow=7.7,SNR=40
BVAR LR LR 19 53 33.8
comp=Z,673nm,18.3s,baz=86,slow=38
comp=Z,15nm,0.9s
BRVK Borovoye 51.54 313 P **P 19 30 26.8 0.0**
BRVK IAmb IAmb 19 30 41.2
comp=Z,21nm,1.1s
BRVK Borovoye 51.54 313 *ce*P **P 19 30 27.3 +0.5**
BRVK pmax pmax
comp=Z,21nm,1.0s
EKS2 Erkin-Say 51.84 299 P **P 19 30 30.1 +0.7**
SNR=11
PSI Prapat 51.96 240 LR LR 19 54 17.9
comp=Z,178nm,18.5s,baz=56,slow=38
AML Almayashu 52.06 299 P **P 19 30 32.9 +1.5**
SNR=43
BKNI Bangkinang 52.29 236 P **P 19 30 33.5 +0.6**
SMRI Semarang 52.42 221 P **P 19 30 34.7 +0.9**
I28M Miner Creek 52.65 31 IAmb IAmb 19 31 12.5
comp=Z,49nm,2.0s
I28M PcP **PcP 19 31 40.9 -3.8**
E29M Blow River 53.12 27 IAmb IAmb 19 31 15.0
comp=Z,18nm,1.1s
G29M Pine Creek 53.25 29 IAmb IAmb 19 30 53.3
comp=Z,42nm,1.3s
I29M Ogilvie Camp, 53.34 31 IAmb IAmb 19 30 52.6
comp=Z,22nm,1.1s
KPJI Karang Pucung 53.47 223 P **P 19 30 41.2 -0.3**
comp=Z,692nmcomp=Z,37nm,1.0s
DZA Taraz 53.49 300 *e*P **P 19 30 41.6 +0.2**
DZA pmax pmax
comp=Z,14nm,1.1s
DZA Taraz 53.49 300 *e*P **P 19 30 41.7 +0.2**
comp=Z,14nm,1.1s
M29M Somme Creek 53.74 35 P **P 19 30 44.9 +1.8**
L29M L29M 53.77 34 IAmb IAmb 19 30 57.9
comp=Z,35nm,1.4s
LEM Lembang 53.78 224 LR LR 19 53 31.8
comp=Z,117nm,20.2s,baz=44,slow=36
LEM Lembang 53.78 224 P **P 19 30 43.4 -0.6**
comp=Z,842nmcomp=Z,60nm,1.2s
MDSI Maura Dua 53.93 229 P **P 19 30 44.1 -0.8**
comp=Z,49nm,1.1s
GSI Gunungsitoli 53.96 240 P **P 19 30 44.9 -0.3**
comp=Z,72nm,1.1s
KK31 Karatay Array 53.99 301 *i* P **P 19 30 45.1 0.0**
KKAR Karatay Array 53.99 301 P **P 19 30 45.2 +0.1**
KKAR Karatay Array 53.99 301 IAmb IAmb 19 30 52.0
comp=Z,25nm,1.1s
KKAR Karatay Array 53.99 301 P **P 19 30 45.2 +0.1**
I30M Mount Dempster 54.16 31 IAmb IAmb 19 31 22.4
comp=Z,21nm,1.1s
BRLS Borolday 54.48 301 *e*P **P 19 30 50.3 +1.6**
BRLS pmax pmax
comp=Z,14nm,1.0s
BRLS Borolday 54.48 301 *e*P **P 19 30 50.3 +1.6**
comp=Z,14nm,1.0s
HYT Haines Junctio 54.51 36 P **P 19 30 51.2 +2.5**
HYT IAmb IAmb 19 31 02.9
comp=Z,27nm,1.2s
G31M Satah River 54.71 29 IAmb IAmb 19 31 24.3
comp=Z,16nm,1.1s
INK Inuvik 54.74 27 P **P 19 30 51.6 +1.6**
INK Inuvik 54.74 27 P **P 19 30 51.7 +1.6**
INK pmax pmax
comp=Z,11nm,1.1s
BTK Batken 54.80 297 IAmb IAmb 19 31 22.3
comp=Z,36nm,1.4s
BTK Batken 54.80 297 P **P 19 30 51.2 +0.1**
F31M Tsiigehtchic 54.81 28 IAmb IAmb 19 31 03.6
comp=Z,22nm,1.2s
H31M Peel River 54.89 30 IAmb IAmb 19 31 27.0
comp=Z,28nm,1.0s
NIL Nilore 55.40 289 P **P 19 30 53.3 -2.2**
NIL IAmb IAmb 19 31 12.0
comp=Z,34nm,1.2s
NIL Nilore 55.40 289 P **P 19 30 53.3 -2.2**
NIL pmax pmax
comp=Z,34nm,1.2s
M31M Drury Creek, Y 55.65 34 IAmb IAmb 19 31 23.6
comp=Z,39nm,1.9s
WHY Whitehorse 55.80 36 IAmb IAmb 19 31 11.0
comp=Z,17nm,1.2s
SVE Sverdlovsk 56.06 319 *e*P **P 19 31 00.7 +0.9**
SVE pmax pmax
comp=Z,47nm,1.3s
SVE MLR MLR
comp=Z,667nm,16.0s
WRAB Tennant Creek 56.45 189 *ce*P **P 19 31 02.9 0.0**
WRAB pmax pmax
comp=Z,16nm,1.2s
WRA Warramunga Arr 56.46 189 P **P 19 31 02.4 -0.6**
comp=Z,7.5nm,1.0s,baz=5.5,slow=6.9,SNR=13
WRA LR LR 19 54 34.6
comp=Z,99nm,20.1s,baz=56,slow=35
comp=Z,7.5nm,1.0s
SIMJ Simiganj 56.61 296 P **P 19 31 03.8 -0.4**
A36M Sachs Harbour 56.68 22 IAmb IAmb 19 31 47.4
comp=Z,14nm,0.9s
P33M Teslin, Yukon 56.90 36 IAmb IAmb 19 31 19.5
comp=Z,25nm,1.2s
MMPY Sheldon Lake, 56.95 33 IAmb IAmb 19 31 12.6
comp=Z,25nm,1.8s
ARTI Arti 57.38 319 P **P 19 31 08.4 -0.8**
ARTI Arti 57.38 319 LR LR 19 57 57.5
comp=Z,534nm,18.9s,baz=70,slow=38
ARTI Arti 57.38 319 *c i* P **P 19 31 09.6 +0.4**
ARTI 19 32 05.1
ARTI 19 33 11.5
ARTI PPP PPP 19 34 34.1
ARTI S **S 19 39 08.6 +4.2**
ARTI SS **SS 19 42 54.7 +1.3**
ARTI pmax pmax
comp=Z,45nm,1.1s
ARTI MLR MLR
comp=Z,538nm,18.0s
KBL Kabul 58.22 292 P **P 19 31 14.6 -1.1**
KBL IAmb IAmb 19 31 36.9
comp=Z,14nm,0.9s
KBL Kabul 58.22 292 P **P 19 31 14.6 -1.1**
KBL pmax pmax
comp=Z,14nm,0.9s
HYB Hyderabad 58.78 269⇑ *e*P **P 19 31 19.4 -0.3**
DLBC Dease Lake 58.81 38 P **P 19 31 20.8 +1.6**
comp=Z,1.5nm,0.8s,baz=0.3,slow=6.7,SNR=3.9
comp=Z,1.5nm,0.8s
AB31 Akbulak array 58.84 311 P **P 19 31 18.7 -0.9**
ABKAR Akbulak array 58.84 311 P **P 19 31 19.4 -0.2**

ABKAR **Akbulak array** 58.84 311 IAmb IAmb 19 31 20.8
comp=Z,21nm,0.8s
AKTO **Aktyubinsk** 59.59 312 LR LR 19 58 02.5
comp=Z,481nm,18.7s,baz=71,slow=37
AKTO **Aktyubinsk** 59.59 312 P **P** **19 31 23.9 -0.8**
ASAR **Alice Springs** 60.18 189 P **P** **19 31 28.9 -0.1**
comp=Z,2.8nm,0.7s,baz=10,slow=7.1,SNR=6.1
ASAR LR LR 19 56 40.6
comp=Z,106nm,20.5s,baz=91,slow=35
comp=Z,2.8nm,0.7s
EUNU **Eureka** 60.79 9 IAmb IAmb 19 31 59.8
comp=Z,39nm,1.8s
KIRV **Kirov** 61.16 323 LR LR 20 00 58.7
comp=Z,214nm,18.6s,baz=61,slow=39
SPITS **Spitsbergen Ar** 61.32 349 LR LR 20 01 19.4
comp=Z,399nm,18.7s,baz=12,slow=39
NOR **Nord** 61.78 357 *i* P **P** **19 31 38.9 -0.3**
DZM **Mont Dzumac** 62.46 155 *e*LR LR 19 50 25.0
comp=Z,337nm,20.9s
DZM **Mont Dzumac** 62.46 155 LR LR 19 57 02.0
comp=Z,243nm,20.3s,baz=230,slow=34
PALK **Pallekele** 62.81 258 LR LR 20 00 15.3
comp=Z,129nm,21.5s,baz=58,slow=37
RES **Resolute Bay** 63.13 14 IAmb IAmb 19 32 01.2
comp=Z,15nm,1.1s
RES **Resolute Bay** 63.13 14 P **P** **19 31 48.9 +0.7**
comp=Z,8.2nm,0.9s,baz=313,slow=6.2,SNR=28
RES LR LR 20 00 21.0
comp=Z,105nm,21.1s,baz=7.0,slow=37
comp=Z,8.2nm,0.9s
MSVF **Nonsavu** 63.59 141 LR LR 19 55 18.2
comp=Z,147nm,19.7s,baz=322,slow=32
YKA **Yellowknife Ar** 64.11 30 P **P** **19 31 55.0 +0.1**
YKA **Yellowknife Ar** 64.11 30 P **P** **19 31 55.6 +0.7**
comp=Z,2.2nm,0.7s,baz=301,slow=6.8,SNR=32
comp=Z,2.2nm,0.7s
YKA **Yellowknife Ar** 64.11 30 *i* P **P** **19 31 55.9 +1.0**
YKA pmax pmax
comp=Z,2.0nm,0.7s
KLMR **Klimovskoe** 64.66 328 *e*P **P** **19 31 56.6 -1.9**
KLMR *e* 19 34 18.2
KLMR pmax pmax
comp=Z,56nm,1.4s
BELG **Belogornoye** 64.72 317 LR LR 20 02 24.3
comp=Z,434nm,19.0s,baz=61,slow=38
BELG **Belogornoye** 64.72 317*c* *i*P **P** **19 31 59.1 +0.1**
BELG pmax pmax
comp=Z,10.0nm,1.0s
ARCES **ARCESS Array B** 64.86 340 P **P** **19 32 00.6 +0.8**
comp=Z,5.5nm,0.9s,baz=41,slow=6.6,SNR=2.2
ARCES LR LR 20 02 55.6
comp=Z,188nm,21.5s,baz=28,slow=38
comp=Z,5.5nm,0.9s
NEEM **North Greenlan** 66.19 3 *i* P **P** **19 32 08.2 -0.3**
NEEM IAmb IAmb 19 32 10.6
comp=Z,24nm,1.0s
DAG **Danmarks Havn** 66.52 355 P **P** **19 32 11.1 +0.8**
DAG pmax pmax
comp=Z,13nm,1.5s
DAG **Danmarks Havn** 66.52 355 *i* P **P** **19 32 10.0 -0.3**
DAG IAmb IAmb 19 32 12.0
comp=Z,10nm,1.0s
JOF **Joensuu** 66.86 332 *e*P **P** **19 32 13.2 +0.5**
OUL **Oulu** 67.48 336 P **P** **19 32 18.1 +1.6**
MOS **Moscow** 68.16 324 *e*P **P** **19 32 20.9 -0.1**
MOS *e* 19 32 42.9
MOS *e* 19 34 54.5
MOS pmax pmax
comp=Z,48nm,0.8s
VRH **Novokhopyorsk** 68.50 318 *e*P **P** **19 32 22.3 -0.9**
VRH pmax pmax
comp=Z,33nm,1.0s
OBN **Obninsk** 69.01 324*c* *i*P **P** **19 32 26.4 +0.1**
OBN *i* 19 32 37.4
OBN *i* 19 32 49.6
OBN pmax pmax
comp=Z,30nm,1.2s
OBN MLR MLR
comp=Z,539nm,16.0s
PUL **Pulkovo** 69.09 330⇓ *e*P **P** **19 32 27.8 +1.1**
PUL pmax pmax
comp=Z,28nm,0.8s
LPSR **Galich'ya Gora** 69.22 321 *e*P **P** **19 32 27.0 -0.6**
LPSR pmax pmax
comp=Z,44nm,1.0s
MAK **Makhachkala** 69.36 309*d* *i*P P 19 32 22.4 -6.3
MAK *e*S S 19 41 24.2 -10
MAK *e*SS **SS** **19 45 56.3 -4.2**
MAK *e*SSS SSS 19 49 10.5
MAK pmax pmax
comp=Z,172nm,1.3s
MAK MLR MLR
comp=Z,608nm,13.0s
VORR **Voronezh** 69.58 320 *e*P **P** **19 32 28.3 -1.6**
VORR pmax pmax
comp=Z,30nm,1.0s
KEF **Keuruu** 69.69 334 *e*P **P** **19 32 30.1 -0.2**
FINES **FINESS Array B** 69.71 333 P **P** **19 32 30.3 -0.2**
FINES **FINESS Array B** 69.71 333 P **P** **19 32 31.3 +0.8**
comp=Z,16nm,0.9s,baz=51,slow=10.0,SNR=21
FINES LR LR 20 08 28.4
comp=Z,250nm,18.4s,baz=25,slow=41
comp=Z,16nm,0.9s
FINES **FINESS Array B** 69.71 333 P **P** **19 32 30.3 -0.2**
VSR **Storozhevoye** 69.85 319 *e*P **P** **19 32 29.2 -2.4**
VSR pmax pmax
comp=Z,20nm,1.0s
VAF **Ylistaro** 69.88 335 *e*P **P** **19 32 32.3 +0.8**
NEW **Newport** 70.21 44 P **P** **19 32 34.1 +0.1**
comp=Z,2.3nm,0.8s,baz=171,slow=3.8,SNR=4.4
comp=Z,2.3nm,0.8s
YBH **Yreka Blue Hor** 70.30 52 P **P** **19 32 36.4 +1.7**
comp=Z,1.2nm,0.8s,baz=0.0,slow=9.1,SNR=1.6
comp=Z,1.2nm,0.8s
PINE **Pine Mountain** 70.33 50 IAmb IAmb 19 32 56.9
comp=Z,17nm,1.0s
E09A **Wood Farm, Sta** 70.57 46 IAmb IAmb 19 32 49.9
comp=Z,14nm,1.3s
JMIC **Jan Mayen** 70.94 350 LR LR 20 06 18.5
comp=Z,62nm,18.9s,baz=59,slow=38
ARBE **Arbavere** 71.03 331 *e*P **P** **19 32 38.4 -0.2**
MEF **Metsahovi** 71.13 332 *e*P **P** **19 32 39.7 +0.5**
VSU **Vasula** 71.36 330⇑ *e*P **P** **19 32 40.3 -0.3**
VSU pmax pmax
comp=Z,35nm,1.1s
VSU **Vasula** 71.36 330 *e*P **P** **19 32 40.6 0.0**
SUMG **Summit** 71.38 0 P **P** **19 32 41.4 +0.4**
SUMG IAmb IAmb 19 32 54.8
comp=Z,23nm,0.9s
SUMG **Summit** 71.38 0 P **P** **19 32 41.4 +0.4**
SUMG pmax pmax
comp=Z,23nm,0.9s
SUMG **Summit** 71.38 0 *i* P **P** **19 32 41.0 -0.1**
SUMG IAmb IAmb 19 32 43.9
comp=Z,19nm,1.0s
RAF **Rauma** 71.56 334 *e*P **P** **19 32 42.5 +0.7**
WSAR **Wadi Sarin** 71.63 286 LR LR 20 07 10.6
comp=Z,136nm,19.2s,baz=60,slow=38
KBZ **Khabaz** 71.81 311 P **P** **19 32 44.6 +1.0**
comp=Z,19nm,0.9s,baz=49,slow=4.6,SNR=28
KBZ LR LR 20 08 49.2
comp=Z,260nm,19.2s,baz=42,slow=40
comp=Z,19nm,0.9s
KBZ **Khabaz** 71.81 311*c* *i*P **P** **19 32 44.0 +0.4**
KBZ pmax pmax
comp=Z,25nm,1.0s
KIV **Kislovodsk** 71.81 311 P **P** **19 32 42.8 -1.0**
KIV **Kislovodsk** 71.81 311 ⇓P **P** **19 32 45.1 +1.3**
KIV **Kislovodsk** 71.81 311 *e*P **P** **19 32 44.2 +0.4**
KIV pmax pmax
comp=Z,48nm,1.0s
KIV **Kislovodsk** 71.81 311 P **P** **19 32 45.3 +1.5**
comp=Z,47nm,1.2s
MTSE **Matsula** 72.35 331 *e*P **P** **19 32 46.9 +0.3**
GNI **Garni** 72.60 307 LR LR 20 07 30.5
comp=Z,230nm,18.3s,baz=64,slow=38
MNK **Minsk** 73.41 326 *i* P **P** **19 32 54.1 +1.2**
MNK *i* 19 33 09.8
MNK *i* 19 35 37.7
MNK *i* PPP PPP 19 37 22.5
MNK *i* S **SKiKP** **19 42 24.7 +2.5**
MNK pmax pmax
comp=Z,29nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=E,324nm,15.0s
MNK MLR MLR
comp=N,336nm,16.0s
MNK MLR MLR
comp=Z,286nm,13.0s
IIGN **Ignalina** 73.59 328 *e*P **P** **19 32 56.2 +2.2**
SOC **Sochi** 73.81 312 *e*P **P** **19 32 53.8 -1.7**
SOC *e* 19 35 39.7
SOC *e*PPP PPP 19 37 23.9
SOC *e*S **S** **19 42 25.5 +0.1**
SOC *e*SS **SS** **19 47 12.9 +4.3**
SOC *e*SSS SSS 19 50 26.5
SOC MLR MLR
comp=Z,358nm,20.0s
FFC **Flin Flon** 73.97 33 P **P** **19 32 56.7 +0.4**
FFC IAmb IAmb 19 33 08.1
comp=Z,13nm,1.0s
FFC **Flin Flon** 73.97 33 P **P** **19 32 56.7 +0.4**
FFC pmax pmax
comp=Z,13nm,1.0s
FCC **Fort Churchill** 74.36 27 IAmb IAmb 19 33 11.3
comp=Z,19nm,1.1s
DLMT **Dillon** 74.42 45 IAmb IAmb 19 33 21.6
comp=Z,20nm,1.2s
NC405 **NORSAR Array S** 74.85 337 IAmb IAmb 19 33 14.3
comp=Z,27nm,0.9s
ICESG **Greenland Ices** 74.88 1 *i* P **P** **19 33 02.3 +0.6**
ICESG IAmb IAmb 19 33 04.4
comp=Z,26nm,1.1s
LHV **Little Huntoon** 74.90 54 IAmb IAmb 19 33 21.1
comp=Z,14nm,1.0s
NVAR **Mina Array Bea** 74.93 53 P **P** **19 33 01.9 -0.5**
NVAR **Mina Array Bea** 74.93 53 P **P** **19 33 04.0 +1.5**
comp=Z,2.7nm,0.7s,baz=288,slow=5.7,SNR=19
comp=Z,2.7nm,0.7s
HFS **Hagfors** 74.97 336 P **P** **19 33 02.6 +0.7**
comp=Z,12nm,0.9s,baz=64,slow=6.8,SNR=15
HFS LR LR 20 09 07.4
comp=Z,580nm,18.6s,baz=30,slow=38
comp=Z,12nm,0.9s
NB201 **NORSAR Array S** 75.03 338 IAmb IAmb 19 33 15.3
comp=Z,28nm,0.9s
NB2 **NORSAR Subarra** 75.06 338 P **P** **19 33 02.8 +0.3**
comp=Z,5.0nm,0.8s,baz=38,slow=5.9
NB2 **NORSAR Subarra** 75.06 338 P **P** **19 33 03.4 +0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA **NORSAR Array B** 75.06 338 P **P** **19 33 03.1 +0.6**
comp=Z,10nm,0.8s,baz=39,slow=5.7,SNR=31
NOA LR LR 20 09 51.3
comp=Z,313nm,19.2s,baz=45,slow=39
comp=Z,10nm,0.8s
AKASG **Malin Array Be** 75.21 323 P **P** **19 33 03.4 -0.1**
AKASG IAmb IAmb 19 33 05.1
comp=Z,14nm,1.2s
AKASG **Malin Array Be** 75.21 323 P **P** **19 33 03.6 +0.1**
comp=Z,14nm,0.9s,baz=48,slow=6.0,SNR=48
AKASG LR LR 20 09 18.2
comp=Z,605nm,18.2s,baz=54,slow=38
comp=Z,14nm,0.9s
AKASG **Malin Array Be** 75.21 323 P **P** **19 33 03.4 -0.1**
AKASG pmax pmax
comp=Z,14nm,1.3s
AKBB **Malin Array Si** 75.21 323 IAmb IAmb 19 33 18.2
comp=Z,22nm,0.9s
AKBB **Malin Array Si** 75.21 323⇑ *i*P **P** **19 33 03.6 +0.1**
KIEV **Kiev** 75.22 323 P **P** **19 33 03.0 -0.6**
KIEV IAmb IAmb 19 33 17.7
comp=Z,19nm,0.9s
KIEV **Kiev** 75.22 323 ⇑P **P** **19 33 03.7 +0.1**
KIEV **Kiev** 75.22 323 ⇑P **P** **19 33 03.7 +0.1**
KIEV **Kiev** 75.22 323 P **P** **19 33 03.7 +0.1**
comp=Z,98nm,1.0s
GURO **Guroymak-BITLI** 75.23 307 IAmb IAmb 19 33 06.5
comp=Z,17nm,1.2s
ELK **Elko** 75.54 50 P **P** **19 33 06.4 +0.4**
comp=Z,0.8nm,0.6s,baz=291,slow=11,SNR=5.1
comp=Z,0.8nm,0.6s
SUW **Suwalki** 75.80 328 *e*P **P** **19 33 07.4 +0.6**
H17A **Grant Village** 76.14 45 IAmb IAmb 19 33 24.2
comp=Z,14nm,1.1s
SIM **Simferopol'** 76.24 316 *e*P **P** **19 33 09.0 -0.5**
SIM pmax pmax
comp=Z,45nm,1.2s
FLWY **Flagg Ranch** 76.27 45 IAmb IAmb 19 33 24.2
comp=Z,17nm,1.3s
SFJD **Kangerlussuaq** 76.53 5 LR LR 20 06 34.7
comp=Z,122nm,21.9s,baz=344,slow=36
HWUT **Hardware Ranch** 77.26 48 IAmb IAmb 19 33 29.0
comp=Z,30nm,1.7s
SORM **Soroca** 77.31 321 ⇑P **P** **19 33 15.7 +0.2**
SORM **Soroca** 77.31 321 ⇑P **P** **19 33 15.7 +0.2**
TCUT **Toone Canyon** 77.65 48 IAmb IAmb 19 33 32.0
comp=Z,8.6nm,0.7s
TOKA **Tokat** 77.68 311 IAmb IAmb 19 33 20.1
comp=Z,34nm,1.4s
PDAR **Pinedale Array** 77.73 46 P **P** **19 33 17.4 -0.8**
PDAR **Pinedale Array** 77.73 46 P **P** **19 33 19.0 +0.7**
comp=Z,1.4nm,0.7s,baz=255,slow=1.9,SNR=21
comp=Z,1.4nm,0.7s
BSD **Bornholm Skovb** 78.34 332 *e*P **P** **19 33 21.4 +0.3**
PFO **Pinyon Flats O** 78.93 56 LR LR 20 03 35.1
comp=Z,163nm,18.8s,baz=250,slow=32
RDMU **Red Mountain** 79.09 47 IAmb IAmb 19 33 44.3
comp=Z,19nm,1.0s
GAZ **Gaziantep** 79.13 308 IAmb IAmb 19 33 28.4
comp=Z,23nm,1.0s
Q16A **Castle Valley** 79.14 50 P **P** **19 33 25.9 -0.2**
Q16A IAmb IAmb 19 33 45.0
comp=Z,14nm,1.2s
BUR08 **Bucovina Ar. S** 79.22 322 IAmb IAmb 19 33 41.7
comp=Z,11nm,1.0s
BURAR **Bucovina Array** 79.23 322 ⇑P **P** **19 33 27.1 +0.8**
BURAR **Bucovina Array** 79.23 322 ⇑P **P** **19 33 27.1 +0.8**
TESR **Tescani** 79.25 321 ⇓P **P** **19 33 26.7 +0.4**
RAR **Rarotonga** 79.27 126 LR LR 20 02 18.9
comp=Z,196nm,19.7s,baz=296,slow=31
P18A **Preston Nutter** 79.27 49 P **P** **19 33 26.8 -0.2**
KNB **Kanab** 79.27 52 P **P** **19 33 29.2 +2.4**
KNB pmax pmax
comp=Z,17nm,1.2s
SRU **San Rafael Swe** 79.42 49 IAmb IAmb 19 33 45.9
comp=Z,12nm,0.9s
PETR **Petresti** 79.48 320 ⇓P P 19 33 18.4 -9.1
VRI **Vrincioaia** 79.64 320 ⇑P **P** **19 33 30.3 +1.8**
VRI **Vrincioaia** 79.64 320 ⇑P **P** **19 33 30.3 +1.8**
KOLS **Kolonicke sedl** 79.73 324 *e*P **P** **19 33 30.1 +1.2**
KOLS *e* 19 33 41.2
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS **Kolonicke sedl** 79.73 324 *e*P **P** **19 33 30.1 +1.2**
KOLS *e* 19 33 41.1
ULM **Lac du Bonnet** 79.76 34 P **P** **19 33 29.4 +0.5**
comp=Z,2.3nm,0.8s,baz=308,slow=3.1,SNR=5.0
comp=Z,2.3nm,0.8s
BR131 **Keskin Array S** 79.76 312 IAmb IAmb 19 33 31.8
comp=Z,14nm,1.1s
BRTR **Keskin Array B** 79.76 312 P **P** **19 33 29.0 -0.4**
BRTR **Keskin Array B** 79.76 312 P **P** **19 33 30.1 +0.8**
comp=Z,7.3nm,1.0s,baz=104,slow=4.0,SNR=35
BRTR LR LR 20 14 23.3
comp=Z,130nm,18.3s,baz=38,slow=40
comp=Z,7.3nm,1.0s
BRTR **Keskin Array B** 79.76 312 P **P** **19 33 29.0 -0.4**
BR106 **Keskin Array S** 79.77 312 P **P** **19 33 30.2 +0.8**
comp=Z,70nmcomp=Z,8.8nm,1.1s
OJC **Ojcow** 79.95 327 IAmb IAmb 19 33 45.8
comp=Z,26nm,1.1s
OJC **Ojcow** 79.95 327 P **P** **19 33 30.7 +0.7**
OJC **Ojcow** 79.95 327 P **P** **19 33 30.7 +0.7**
comp=Z,24nm,1.1s
OZUR 79.97 321 ⇓P **P** **19 33 32.3 +2.0**
ARCR **ARCALIA** 80.02 322 ⇓P **P** **19 33 32.1 +1.6**
ANTO **Ankara** 80.17 313 P **P** **19 33 30.3 -1.2**
ANTO IAmb IAmb 19 33 33.6
comp=Z,27nm,1.2s
ANTO **Ankara** 80.17 313 P **P** **19 33 30.3 -1.2**
ANTO pmax pmax
comp=Z,27nm,1.3s
ANTO **Ankara** 80.17 313 P **P** **19 33 32.4 +0.9**
comp=Z,8.7nm,1.3s
DOPR **Dopca** 80.26 321 ⇓P **P** **19 33 33.1 +1.2**
MLR **Muntele Rosu** 80.30 320 LR LR 20 12 27.5
comp=Z,463nm,18.4s,baz=45,slow=38
NIE **Niedzica** 80.30 326 P **P** **19 33 33.4 +1.4**
NIE **Niedzica** 80.30 326 P **P** **19 33 33.4 +1.4**
comp=Z,8.0nm,1.6s
MESR **Meseseni** 80.66 323 ⇓P **P** **19 33 35.1 +1.2**
VOIR 80.80 321 ⇓P **P** **19 33 36.1 +1.3**
VOIR 80.80 321 ⇓P **P** **19 33 36.1 +1.3**
LANS **Liptovska Anna** 80.87 326 *e*P **P** **19 33 36.6 +1.6**
LANS pmax pmax
comp=Z,6.0nm,1.4s
LANS **Liptovska Anna** 80.87 326 *e*P **P** **19 33 36.6 +1.6**
LANS *e* 19 33 50.7
MARR **Marisel-Cluj** 80.91 322 ⇓P **P** **19 33 36.5 +1.1**
URZ **Urewera** 80.96 153 LR LR 20 04 41.3
comp=Z,139nm,19.7s,baz=52,slow=32
KSP **Ksiaz** 81.01 329 P **P** **19 33 36.7 +1.0**
KSP **Ksiaz** 81.01 329 P **P** **19 33 36.7 +1.0**
comp=Z,16nm,1.3s
DRGR 81.03 323 ⇑P **P** **19 33 36.6 +0.6**
DRGR 81.03 323 ⇑P **P** **19 33 36.6 +0.6**
STEB **Steborice** 81.05 327 *e*P **P** **19 33 36.9 +1.0**
PV13 **Radium Mtn., P** 81.06 49 IAmb IAmb 19 33 54.8
comp=Z,30nm,1.1s
ARR **Arges** 81.06 321 ⇓P **P** **19 33 38.2 +2.1**
WUAZ **Wupatki** 81.12 52 IAmb IAmb 19 33 55.3
comp=Z,16nm,1.2s
MORC **Moravsky Berou** 81.27 327 *e*P **P** **19 33 37.9 +0.8**
MORC *e* 19 33 48.8
MORC **Moravsky Berou** 81.27 327 ⇑P **P** **19 33 37.8 +0.7**
MORC **Moravsky Berou** 81.27 327 ⇑P **P** **19 33 37.8 +0.7**
DPC **Dobruska-Polom** 81.36 328 *e*P **P** **19 33 38.4 +0.8**
DPC **Dobruska-Polom** 81.36 328 *e*P **P** **19 33 38.4 +0.8**
DPC **Dobruska-Polom** 81.36 328 P **P** **19 33 38.8 +1.2**
comp=Z,13nm,1.2s
KRLC **Kraliky** 81.37 328 AMS AMS 20 13 10.0
comp=Z,600nm,19.0s
RAYN **Ar Rayn** 81.47 293 P **P** **19 33 38.2 -0.5**
RAYN IAmb IAmb 19 33 40.2
comp=Z,14nm,1.0s
RAYN **Ar Rayn** 81.47 293 P **P** **19 33 38.2 -0.5**
RAYN pmax pmax
comp=Z,14nm,1.0s
BORA **Eskisehir** 81.55 314 IAmb IAmb 19 33 40.4
comp=Z,12nm,1.1s
PSZ **Piszkesteto** 81.57 325 IAmb IAmb 19 33 52.3
comp=Z,17nm,1.1s
PSZ **Piszkesteto** 81.57 325 ⇑P **P** **19 33 39.7 +0.9**
PSZ **Piszkesteto** 81.57 325 ⇑P **P** **19 33 39.7 +0.9**
PSZ **Piszkesteto** 81.57 325 *e*P **P** **19 33 39.4 +0.6**
VYHS **Vyhne** 81.64 326 *e*P **P** **19 33 40.0 +0.9**
VYHS *e* 19 33 51.7
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS **Vyhne** 81.64 326 *e*P **P** **19 33 40.0 +0.9**
VYHS *e* 19 33 51.7
JAVC **Velka Javorina** 81.89 327 *e*P **P** **19 33 42.1 +1.6**
SIRR **Siria** 81.92 323 ⇑P **P** **19 33 41.5 +0.9**
BRG **Berggiesshubel** 81.95 330 *e*P **P** **19 33 41.2 +0.5**
BRG Amp 19 33 42.5
comp=Z,6.3nm,1.1s
GZR **Gura Zlata** 81.98 322 ⇓P **P** **19 33 42.0 +1.0**
GZR **Gura Zlata** 81.98 322 ⇓P **P** **19 33 42.0 +1.0**
CLL **Collm** 82.00 331 IAmb IAmb 19 33 56.9
comp=Z,22nm,1.2s
CLL **Collm** 82.00 331 *i* P **P** **19 33 41.1 +0.2**
CLL *i* *PP **sP** **19 33 50.5 +0.8**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL **Collm** 82.00 331 P **P** **19 33 41.2 +0.3**
comp=Z,20nm,1.2s
CLL **Collm** 82.00 331 *i* P **P** **19 33 41.1 +0.2**
comp=Z,12nm,1.0s
CLL *i* sP **sP** **19 33 50.5 +0.8**
CLL *i* x x 19 33 52.8
CLL *i* x x 19 33 54.5
VRAC **Vranov** 82.03 327 LR LR 20 14 25.3
comp=Z,339nm,18.4s,baz=36,slow=39
VRAC **Vranov** 82.03 327 *e*P **P** **19 33 41.9 +0.8**
VRAC *e* 19 33 56.0
SURR **Surduc** 82.05 322 ⇑P **P** **19 33 42.2 +0.9**
SMOL **Smolenice** 82.25 327 *e*P **P** **19 33 43.7 +1.4**
KRUC **Moravsky** 82.30 327 *e*P **P** **19 33 43.2 +0.7**
KRUC *e* 19 33 56.5
SRO **Srobarova** 82.38 326 *e*P **P** **19 33 44.2 +1.3**
SRO **Srobarova** 82.38 326 *e*P **P** **19 33 44.2 +1.3**
PRU **Pruhonice** 82.39 329 *e*P **P** **19 33 43.7 +0.7**
PRU AMS AMS 20 15 00.0
comp=Z,600nm,14.1s
PRU **Pruhonice** 82.39 329 *e*P **P** **19 33 43.7 +0.7**
PRU MLR MLR
comp=Z,600nm,14.1s
BZS **Buzias** 82.40 322 ⇑P **P** **19 33 43.4 +0.3**
BZS **Buzias** 82.40 322 ⇑P **P** **19 33 43.4 +0.3**
MODS **Modra-Piesok** 82.43 327 *e*P **P** **19 33 44.4 +1.2**
MODS *e* 19 33 56.2
MODS pmax pmax
comp=Z,18nm,1.3s
MODS **Modra-Piesok** 82.43 327 *e*P **P** **19 33 44.4 +1.2**
MODS *e* 19 33 56.2
TREC **Trest** 82.52 328 *e*P **P** **19 33 41.4 -2.3**
TREC **Trest** 82.52 328 *e*P **P** **19 33 41.4 -2.3**
BAND **Balkesir-Ban** 82.59 315 ⇑P **P** **19 33 44.9 +0.7**
F33A **5 Mile Ranch,** 82.73 37 IAmb IAmb 19 33 57.3
comp=Z,45nm,1.7s
MMAI **Mount Meron Ar** 82.86 306 P **P** **19 33 46.8 +1.0**
comp=Z,7.9nm,1.0s,baz=104,slow=1.7,SNR=6.4
MMAI LR LR 20 13 20.0
comp=Z,159nm,21.1s,baz=36,slow=38
comp=Z,7.9nm,1.0s
MDVR **Moldovita** 82.95 322 ⇑P **P** **19 33 46.3 +0.2**
ZVC **Zvikov** 82.95 329 *e*P **P** **19 33 46.7 +0.8**
MPLH **Magyarpolny** 83.20 326 P **P** **19 33 48.1 +0.8**
comp=Z,24nm,1.4s
RONA **Rosalia, Austr** 83.37 327 *e*P **P** **19 33 49.4 +1.2**
comp=Z,12nm,1.1s,SNR=7.5
ALN **Alexandroupoli** 83.38 317 IAmb IAmb 19 34 02.3
comp=Z,28nm,1.6s
CKRC **Cesky Krumlov** 83.38 328 *e*P **P** **19 33 48.9 +0.7**
CKRC *ex* x 19 33 58.6
CKRC **Cesky Krumlov** 83.38 328 *e*P **P** **19 33 48.9 +0.7**
CKRC *e* 19 33 58.6
CONA **Conrad Observa** 83.39 327 *e*P **P** **19 33 49.5 +1.1**
comp=Z,8.7nm,1.1s
MORH **Mrgy, Hungar** 83.40 324 ⇑P **P** **19 33 48.0 -0.2**
MORH **Mrgy, Hungar** 83.40 324 P **P** **19 33 48.3 0.0**
comp=Z,5.7nm,1.1s
KHC **Kasperske Hory** 83.45 329 *e*P **P** **19 33 49.4 +0.9**
KHC *ex* x 19 33 59.2
KHC AMS AMS 20 15 30.0
comp=Z,700nm,13.6s
KHC **Kasperske Hory** 83.45 329 *e*P **P** **19 33 49.4 +0.9**
KHC *e* 19 33 59.2
KHC MLR MLR
comp=Z,700nm,13.6s
KHC **Kasperske Hory** 83.45 329 P **P** **19 33 48.2 -0.3**
comp=Z,12nm,1.3s
RDO **Rodhopi** 83.48 317 IAmb IAmb 19 33 50.8
comp=Z,22nm,1.1s
GEC2 **GERESS Array S** 83.62 329 P **P** **19 33 49.5 0.0**
GERES **GERESS Array B** 83.62 329 P **P** **19 33 49.2 -0.3**
GERES **GERESS Array B** 83.62 329 P **P** **19 33 49.7 +0.2**
comp=Z,2.7nm,0.8s,baz=25,slow=3.5,SNR=14
GERES LR LR 20 13 27.3
comp=Z,248nm,20.5s,baz=18,slow=37
comp=Z,2.7nm,0.8s
GERES **GERESS Array B** 83.62 329 P **P** **19 33 49.2 -0.3**
BOVS **Bovan** 83.77 321 ⇑P **P** **19 33 49.3 -0.9**
PPT **Papeete** 83.79 117 LR LR 20 05 47.2
comp=Z,196nm,19.2s,baz=5.0,slow=32
PPT2 **Papeete2** 83.80 117 *e*LR LR 20 00 15.2
comp=Z,229nm,22.5s
PPT2 *e*LR LR 20 00 24.9
comp=Z,261nm,24.5s
ELL **Elmali** 83.92 312 P **P** **19 33 52.3 +1.0**
ELL pmax pmax
comp=Z,23nm,1.1s
GRF **Grafenberg Arr** 83.97 330 *e*P **P** **19 33 51.8 +0.6**
comp=Z,17nm,1.1s,baz=38,slow=4.5
GRFO **Grafenberg** 83.97 330 P **P** **19 33 49.5 -1.7**
GRFO **Grafenberg** 83.97 330 P **P** **19 33 49.5 -1.7**
GRFO pmax pmax
comp=Z,47nm,1.5s
ARSA **Arzberg** 84.05 327 *e*P **P** **19 33 53.0 +1.3**
comp=Z,6.7nm,1.3s
MOA **Molln** 84.14 328 *e*P **P** **19 33 52.6 +0.5**

comp=Z,7.4nm,1.4s
T25A Trinidad 84.37 47 IAmb IAmb 19 34 12.0
comp=Z,9.0nm,1.0s
BIOA Bad Ischl, Aus 84.54 328 eP P 19 33 53.4 -0.7
comp=Z,9.9nm,1.3s
ANMO Albuquerque 84.58 50 P P 19 33 56.1 +1.3
comp=Z,1.6nm,0.9s,baz=357,slow=15,SNR=5.0
comp=Z,1.6nm,0.9s
PERS Pernice 84.70 326 iP P 19 33 55.1 +0.1
SOKA Soboth 84.70 327 eP P 19 33 55.4 +0.4
comp=Z,7.0nm,1.0s,SNR=6.8
OBKA Obir 85.05 327 eP P 19 33 56.1 -0.7
comp=Z,4.5nm,1.3s
KBA Koelnbreinsper 85.14 328 ePcP P 19 33 58.5 +1.1
comp=Z,2.3nm,0.8s
LESA Schwarzleotal 85.15 328 eP P 19 33 57.7 +0.4
comp=Z,4.2nm,1.0s
CRES Cresnjevec Ost 85.16 326 eP P 19 33 57.1 -0.1
EIL Elat 85.26 303 LR LR 20 18 02.9
comp=Z,84nm,18.1s,baz=60,slow=40
TAOE Nuku Hiva Isla 85.42 104 eLR LR 20 00 51.7
comp=Z,322nm,23.9s
STU Stuttgart 85.51 331 P P 19 34 00.3 +1.4
STU pmax pmax
comp=Z,22nm,1.2s
WATA Walderalm 85.69 329 ePcP P 19 34 01.1 +1.1
comp=Z,2.9nm,1.1s
WTTA Wattenberg 85.72 329 eP P 19 34 00.5 +0.3
comp=Z,2.2nm,0.9s
ABTA Abfaltersbach 85.75 328 eP P 19 33 59.4 -0.9
comp=Z,2.3nm,1.0s
SCHQ Schefferville 85.84 16 LR LR 20 15 33.5
comp=Z,131nm,19.5s,baz=64,slow=38
MOTA Moosalm 85.88 329 eP P 19 34 01.3 +0.4
comp=Z,5.9nm,1.2s
PDG Podgorica 85.88 321 ⇑P P 19 34 01.0 +0.1
BMRD Maredsous 85.89 334 dP P 19 34 01.2 +0.4
comp=Z,8.9nm,1.1s
BMRD dPP PP 19 37 18.4 -1.3
RETA Reutte 85.91 329 eP P 19 34 01.5 +0.5
comp=Z,8.1nm,1.0s
SQTA Sankt Quirin 85.93 329 ePcP P 19 34 02.0 +0.8
comp=Z,1.1nm,0.5s
BFO Black Forest 86.20 331 P P 19 34 01.1 -1.3
BFO IAmb IAmb 19 34 18.7
comp=Z,17nm,1.1s
BFO Black Forest 86.20 331 P P 19 34 03.1 +0.7
BFO pmax pmax
comp=Z,16nm,1.3s
FETA Feichten 86.29 329 eP P 19 34 02.9 -0.1
comp=Z,4.0nm,1.0s
DAVA Damuels 86.43 330 eP P 19 34 04.0 +0.3
comp=Z,11nm,1.1s
FUORN Ofenpass-Fuorn 86.80 329 IAmb IAmb 19 34 21.5
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 86.83 329 LR LR 20 16 06.5
comp=Z,182nm,19.6s,baz=22,slow=38
TUE Stuetta 87.30 329 IAmb IAmb 19 34 26.8
comp=Z,24nm,1.6s
TBI Tubuai 87.66 121 eLR LR 20 02 10.1
comp=Z,1μm,24.8s
FDMO Fiordimonte 88.39 325 IAmb IAmb 19 34 29.4
comp=Z,16nm,1.0s
CAMP Campotosto 88.63 325 IAmb IAmb 19 34 51.7
comp=Z,10nm,1.1s
INTR Introdacqua 88.81 324 IAmb IAmb 19 34 27.7
comp=Z,12nm,1.2s
LPIG La Paz 89.01 61 LR LR 20 16 05.8
comp=Z,80nm,18.3s,baz=13,slow=37
SAND Sanderson 90.63 51 IAmb IAmb 19 36 56.4
comp=Z,23nm,2.0s
SADO Sadowa 91.03 28 LR LR 20 16 35.7
comp=Z,59nm,21.6s,baz=74,slow=36
DRIO Del Rio 91.95 51 IAmb IAmb 19 34 30.1
comp=Z,6.1nm,0.7s
HNDO Hondo 92.71 50 IAmb IAmb 19 34 35.6
comp=Z,8.2nm,0.7s
KEST Kesra 95.94 323 LR LR 20 24 07.4
comp=Z,251nm,18.9s,baz=11,slow=39
TKL Tuckaleechee C 96.60 36 LR LR 20 23 31.1
comp=Z,38nm,19.4s,baz=344,slow=39
ESDC Sonseca Array 98.18 334 P P 19 34 58.0 -0.3
comp=Z,0.9nm,0.9s,baz=352,slow=5.3,SNR=4.8
ESDC LR LR 20 25 13.6
comp=Z,285nm,19.1s,baz=13,slow=39
comp=Z,0.9nm,0.9s
QSPA South Pole Qui 126.08 180 PKP PKPdf 19 40 21.9 -0.4
comp=Z,1.5nm,0.8s,baz=63,slow=1.6,SNR=5.6
LPAZ La Paz 146.52 61 PKPbc PKPbc 19 41 03.9 +0.3
LPAZ La Paz 146.52 61 PKPbc PKPbc 19 41 03.6 0.0
comp=Z,1.6nm,0.7s,baz=332,slow=2.0,SNR=6.9
LPAZ La Paz 146.52 61 eP PKiKP 19 41 07.7 +1.2
NPGB Novo Progresso 146.74 33 eP PKiKP 19 41 09.6 +3.3
VILB Vilhena 149.25 46 eP PKPab 19 41 13.2 -1.5
SMTB Santa Maria do 151.25 20 eP PKiKP 19 41 15.9 +0.3
PTLB Pontes e Lacer 151.84 48 eP PKiKP 19 41 17.0 +0.3

JMA 17 19:22:18.1±0.3,35°.9N±0°.6×14°.1E±°,h35km±2km, MV3.0/14,NEAR CHOSHI CITY,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	Itakohorinouch	0.27	284	eP	Pn	19 22 25.8	0.0
JSMT	Sammumatsuo	0.41	232	eP	Pn	19 22 27.4	0.0
JSMT				eS	Sn	19 22 33.8	-0.2
JHYU	Hitachinakayam	0.49	334	eP	Pn	19 22 28.3	-0.2
JHYU				eS	Sn	19 22 36.5	+0.7
JHO	Hitachi	0.74	342	eP	Pn	19 22 31.8	-0.3

*NEIC **17** 19:22:27.5±1.7,20°.33S±0°.09×177°.79W±0°.09, h535km±6km,mb4.8/103,Error ellipse: s-maj=16.1km s-min=7.5km az=221.0*
*NOU **17** 19:22:28.6,20°.28S×177°.84W,h549km,mb4.8/76,Fiji Islands Region*
*IDC **17** 19:22:29.1±0.8,20°.21S×177°.98W,h539km±7km,mb4.2/28, mbtmp5.1/31,Error ellipse: s-maj=11.8km s-min=9.4km az=77.0*
*GCMT **17** 19:22:32.5±0.7,20°.47S±0°.08×177°.93W±0°.07, h557km±3km,MW5.4/43,Moment Tensor Solution. s43,c50; Duration: 1§3 Moment tensor: Scale 10^17^Nm; M_{rr}0.94±.10; $M_{\theta\theta}$-0.18±.16; $M_{\phi\phi}$-0.75±.14; $M_{r\theta}$-1.12±.15; $M_{\theta\phi}$-0.61±.16; $M_{\phi r}$-0.75±.14; Best double couple: $M_0$1.70800×10^17^ NP1:ϕ_s11.00000°,δ23.00000°, λ52.00000°. NP2:ϕ_s232.00000°,δ72.00000°,λ105.00000°. Principal axes: T 1.6760, Plg60.0000°, Azm162.0000°; N 0.0640, Plg14.0000°, Azm47.0000°; P -1.7400, Plg26.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 17 19:22:29.1±0.4,20°.31S±0°.05×178°.01W±0°.05, h545km±4km,h545km:pP-P,n625,σ1§14/651,mb4.8/106, 36C-19D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.20	340	P	P	19 23 40.0	+0.6
LKBA	Tubou, Lakemba	2.20	340	P	P	19 23 39.9	+0.6
MSVF	Nonsavu	4.52	304	P	P	19 23 56.1	+1.2
MSVF	Nonsavu	4.52	304	P	P	19 23 55.8	+0.9
	132nm,0.6s,baz=168,slow=5.1,SNR=78						
MSVF				S	S	19 25 05.6	+1.0
	58nm,1.0s,baz=328,slow=23,SNR=9.5						
MSVF	Nonsavu	4.52	304	P	P	19 23 56.4	+1.6
MSVF	Nonsavu	4.52	304	P	P	19 23 56.2	+1.4
DGTI	Dogotuki	4.53	331	P	P	19 23 55.1	+0.3
DGTI	Dogotuki	4.53	331	P	P	19 23 55.2	+0.4
YSA	Yasawairara	5.52	310	P	P	19 24 04.1	+0.9
YSA	Yasawairara	5.52	310	P	P	19 24 04.0	+0.9
FUTU	Fugatoga	5.97	359	P	P	19 24 06.1	-1.2
FUTU	Fugatoga	5.97	359	P	P	19 24 07.8	+0.5
FUTU	Fugatoga	5.97	359	P	P	19 24 07.9	+0.6
NIUE	Niue	7.71	82	P	P	19 24 23.3	-0.6
NIUE	Niue	7.71	82	P	P	19 24 23.4	-0.5
AFI	Afiamalu	8.72	44	P	P	19 24 30.4	-3.6
AFI	Afiamalu	8.72	44	P	P	19 24 30.8	-3.3
AFI	Afiamalu	8.72	44	P	P	19 24 30.7	-3.3
GLKZ	Green Lake	8.91	179	P	P	19 24 31.7	-4.0
GLKZ				S	S	19 26 16.7	-2.9
PINNC	Pines Island,	13.73	258	P	P	19 25 25.6	0.0
PINNC	Pines Island,	13.73	258	P	P	19 25 26.3	+0.8
YATNC	Mamie plateau,	14.19	260	P	P	19 25 30.6	+0.3
DZM	Mont Dzumac	14.61	260	P	P	19 25 37.2	+2.5
DZM	Mont Dzumac	14.61	260	eP	P	19 25 31.6	-3.1
	99nm,27.2s						
DZM				eS	S	19 28 04.1	-3.6
	161nm,25.8s						
DZM	Mont Dzumac	14.61	260	P	P	19 25 35.2	+0.5
	20nm,0.5s,baz=90,slow=19,SNR=25						
DZM	Mont Dzumac	14.61	260	P	P	19 25 35.5	+0.8
OUZ	Omahuta	16.59	205	P	P	19 25 54.4	+0.2
OUZ	Omahuta	16.59	205	P	P	19 25 53.6	-0.6
KOUNC	Koumac, New Ca	16.60	266	P	P	19 25 53.3	-1.1
KOUNC	Koumac, New Ca	16.60	266	P	P	19 25 55.0	+0.6
GRZ	Great Barrier	16.88	198	P	P	19 25 57.4	+0.6
WCZ	Waipu Caves	16.95	202	P	P	19 25 59.0	+1.5
RAR	Rarotonga	17.08	96	P	P	19 25 58.5	-0.3
	34nm,0.7s,baz=268,slow=7.6,SNR=11						
ABAZ	Army Bay	17.39	200	P	P	19 26 02.7	+1.2
WIAZ	Waiheke Island	17.48	199	P	P	19 26 02.7	+0.5
MXZ	Matakaoa Point	17.49	190	P	P	19 26 01.3	-1.0
MXZ	Matakaoa Point	17.49	190	P	P	19 26 00.0	-2.3
MBAZ	Motutapu North	17.53	199	P	P	19 26 03.8	+1.1
EPAZ	Eden Park BICE	17.68	199	P	P	19 26 05.4	+1.4
ETAZ	East Tamaki Re	17.69	199	P	P	19 26 06.0	+1.8
MKAZ	Moumakai	17.76	198	P	P	19 26 06.0	+1.1
HAZ	Te Kaha	17.76	191	P	P	19 26 02.7	-2.1
WTAZ	Waiatarua	17.78	200	P	P	19 26 07.1	+2.0
PKGZ	Pakihiroa	17.82	190	P	P	19 26 02.7	-2.7
AWAZ	Awhitu Peninsu	17.88	199	P	P	19 26 06.5	+0.6
RUGZ	Raukumara Rang	17.98	191	P	P	19 26 04.9	-2.2
TWGZ	Tauwhareparae	18.14	190	P	P	19 26 08.1	-0.2
TOZ	Tahuroa Road	18.25	197	P	P	19 26 10.4	+1.1
MWZ	Matawai	18.37	191	P	P	19 26 07.6	-2.9
URZ	Urewera	18.38	192	P	P	19 26 07.6	-2.9
	57nm,0.3s,baz=23,slow=2.8,SNR=64						
URZ				S	S	19 29 05.4	-5.2
	12nm,0.5s,baz=141,slow=22,SNR=6.5						
URZ				ScP	ScP	19 32 57.3	+0.2
	12nm,0.9s,baz=58,slow=5.3,SNR=4.4						
URZ				ScS	ScS	19 36 36.9	-1.6
	8.3nm,0.9s,baz=82,slow=19,SNR=3.4						
URZ	Urewera	18.38	192	P	P	19 26 08.1	-2.4
URZ	Urewera	18.38	192	P	P	19 26 09.6	-0.9
URZ	Urewera	18.38	192	P	P	19 26 04.9	-5.6
CNGZ	Carnagh Statio	18.40	189	P	P	19 26 10.8	+0.1
TKGZ	Te Karaka	18.42	190	P	P	19 26 09.7	-1.1
RTZ	Ruatahuna	18.75	192	P	P	19 26 11.6	-2.3
HIZ	Hauiti	19.16	197	P	P	19 26 18.7	+1.1
BKZ	Black Stump Fm	19.38	193	P	P	19 26 17.7	-2.0
BKZ	Black Stump Fm	19.38	193	P	P	19 26 17.7	-2.0
BKZ	Black Stump Fm	19.38	193	P	P	19 26 18.0	-1.7
KHEZ	Kahui Hut	20.13	198	P	P	19 26 27.4	+0.9
BFZ	Birch Farm	20.89	192	P	P	19 26 31.8	-1.5
MRZ	Mangatainoka R	21.01	194	P	P	19 26 32.1	-2.3
HOWZ	Holdsworth Sta	21.25	194	P	P	19 26 34.7	-1.9
HOWZ				S	S	19 30 02.8	+6.3
OGWZ	Otaki Gorge	21.25	194	P	P	19 26 34.8	-1.8
OGWZ				S	S	19 29 59.0	+2.5
MTW	Mount Morrison	21.50	193	P	P	19 26 37.5	-1.3
CAW	Cannon Point	21.55	194	P	P	19 26 38.8	-0.5
DUWZ	D'Urville Isla	21.55	197	P	P	19 26 38.2	-1.1
DUWZ				S	S	19 30 06.7	+5.3
TRWZ	Traveller	21.69	193	P	P	19 26 39.4	-1.1
PAWZ	Paruwai Farm	21.73	193	P	P	19 26 39.5	-1.4
PAWZ				S	S	19 29 59.4	-4.8
MSWZ	Moikau Station	21.80	194	P	P	19 26 39.9	-1.6
MSWZ	Moikau Station	21.80	194	P	P	19 26 40.1	-1.5
SNZO	South Karori	21.83	195	P	P	19 26 40.4	-1.3
SNZO	South Karori	21.83	195	P	P	19 26 40.8	-0.9
TCW	Tory Channel	21.84	196	P	P	19 26 40.4	-1.5
TCW	Tory Channel	21.84	196	P	P	19 26 39.8	-2.1
BHW	Baring Head	21.88	194	P	P	19 26 41.0	-1.2
BHW	Baring Head	21.88	194	P	P	19 26 41.3	-0.9
PLWZ	Palliser	21.95	194	P	P	19 26 41.6	-1.2
QRZ	Quartz Range	21.98	199	P	P	19 26 42.2	-0.9
QRZ	Quartz Range	21.98	199	P	P	19 26 42.9	-0.2
QRZ	Quartz Range	21.98	199	P	P	19 26 43.2	+0.1
QRZ	Quartz Range	21.98	199	P	P	19 26 43.3	+0.2
TKNZ	Takaka Hill	22.04	198	P	P	19 26 43.5	-0.2
NNZ	Nelson	22.09	197	P	P	19 26 43.5	-0.6
TUWZ	Tuamarina	22.13	196	P	P	19 26 43.2	-1.3
CMWZ	Cape Campbell	22.36	195	P	P	19 26 45.9	-0.6
BSWZ	Blackbirch Sta	22.42	196	P	P	19 26 46.8	-0.2
MRNZ	Matariki Terra	22.44	198	P	P	19 26 46.5	-0.7
MRNZ	Matariki Terra	22.44	198	P	P	19 26 46.4	-0.7
THZ	Tophouse	22.73	198	P	P	19 26 49.6	-0.3
THZ	Tophouse	22.73	198	P	P	19 26 49.4	-0.4
THZ				S	S	19 30 17.4	-2.5
DSZ	Denniston Nort	23.05	200	P	P	19 26 52.2	-0.5
KHZ	Kahutara	23.16	196	P	P	19 26 52.4	-1.1
KHZ	Kahutara	23.16	196	P	P	19 26 52.5	-1.1
KHZ	Kahutara	23.16	196	P	P	19 26 52.4	-1.1
CTZ	Chatham Island	23.39	177	P	P	19 26 55.2	-0.4
ALEG	Aligegeo Malai	23.56	296	P	P	19 26 57.7	+0.1
GVZ	Greta Valley S	23.81	196	P	P	19 26 57.9	-1.5
GVZ	Greta Valley S	23.81	196	P	P	19 26 58.1	-1.3
INZ	Inchbonnie	24.05	199	P	P	19 26 58.9	-2.5
TATA	Tatamba Isabel	24.51	296	P	P	19 27 05.0	-0.9
RPZ	Rata Peaks	25.06	199	P	P	19 27 08.9	-1.6
RPZ	Rata Peaks	25.06	199	P	P	19 27 08.6	-1.9
	11nm,0.4s,baz=44,slow=3.3,SNR=14						
RPZ	Rata Peaks	25.06	199	P	P	19 27 09.8	-0.7
FOZ	Fox Glacier	25.30	201	P	P	19 27 11.1	-1.4
JCZ	Jackson Bay	26.13	202	P	P	19 27 19.9	-0.1
ODZ	Otahua Downs	26.39	198	P	P	19 27 22.7	+0.5
TBI	Tubuai	26.66	102	eS	sS	19 33 57.4	-9.4
	398nm,24.8s						
PPT2	Papeete2	27.02	89	eS	sS	19 34 02.0	-11
	189nm,37.5s						
WHZ	Wether Hill Ro	28.01	201	P	P	19 27 35.9	-0.4
EIDS	Eidsvold	28.89	254	P	P	19 27 44.1	-0.2
EIDS	Eidsvold	28.89	254	P	P	19 27 44.7	+0.4
ARMA	Armidale	29.14	244	P	P	19 27 46.8	+0.3
ARMA	Armidale	29.14	244	P	P	19 27 48.0	+1.4
CNB	Canberra Magne	32.32	236	P	P	19 28 15.0	+1.2
CAN	Canberra	32.61	236	P	P	19 28 14.2	-2.0
CAN	Canberra	32.61	236	P	P	19 28 16.8	+0.7
CMSA	Cobar Meteorol	34.36	244	P	P	19 28 31.2	+0.3
QLP	Quilpie	35.10	252	P	P	19 28 37.6	+0.4
PMG	Port Moresby	35.29	283	P	P	19 28 38.8	0.0
MTSU	Mount Surprise	35.59	267	P	P	19 28 41.6	+0.3
TAU	Tasmania Unive	36.75	224	P	P	19 28 49.7	-0.8
TAU				IAmb	IAmb	19 28 51.8	
	comp=Z,29nm,0.9s						
TAU				PcP	PcP	19 30 56.0	-2.1
TAU	Tasmania Unive	36.75	224	P	P	19 28 51.1	+0.5
COEN	Coen	37.56	273	P	P	19 28 57.9	+0.3
COEN	Coen	37.56	273	P	P	19 28 57.9	+0.3
STKA	Stephens Creek	37.86	244	P	P	19 29 00.7	+0.8
STKA				PcP	PcP	19 31 03.3	+1.4
STKA	Stephens Creek	37.86	244	P	P	19 28 59.9	+0.1
	comp=Z,30nm,1.0s,baz=91,slow=10.0,SNR=24						
STKA				PcP	PcP	19 31 02.5	+0.7
	comp=Z,4.8nm,0.8s,baz=105,slow=5.1,SNR=3.6						
	comp=Z,30nm,1.0s						
STKA	Stephens Creek	37.86	244	P	P	19 29 00.6	+0.8
INKA	Innaminka	38.25	251	P	P	19 29 04.4	+1.4
ARPS	Mount Arapiles	38.58	236	P	P	19 29 06.0	+0.4
QIS	Mount Isa	39.63	262	P	P	19 29 14.2	-0.1
HTT	Hallett	40.30	242	P	P	19 29 20.2	+0.6
LCRK	Leigh Creek	40.60	247	P	P	19 29 22.4	+0.5
BBOO	Buckleboo	42.62	243	P	P	19 29 38.1	+0.2
BBOO	Buckleboo	42.62	243	P	P	19 29 38.0	+0.2
OOD	Oodnadatta	42.73	251	P	P	19 29 39.9	+1.1
JAY	Jayapura	43.97	288	P	P	19 29 48.2	-0.4
	comp=Z,2μmcomp=Z,159nm,1.1s						
GENI	Genyem	44.42	288	P	P	19 29 51.7	-0.3
	comp=Z,165nm,1.6s						
WR0	Warramunga Arr	44.43	262	P	P	19 29 51.7	-0.4
WR0				IAmb	IAmb	19 29 52.8	
	comp=Z,62nm,1.8s						
AS01	Alice Springs	44.51	257	P	P	19 29 52.8	+0.1
ASAR	Alice Springs	44.55	257	P	P	19 29 53.2	+0.2
	comp=Z,19nm,0.5s,baz=88,slow=8.2,SNR=459						
ASAR				PcP	PcP	19 31 24.8	+0.4
	comp=Z,4.7nm,0.7s,baz=102,slow=4.3,SNR=9.1						
ASAR				ScP	ScP	19 34 27.8	+2.9
	comp=Z,3.0nm,0.7s,baz=97,slow=4.4,SNR=5.6						
ASAR				S	S	19 35 47.0	-2.4
	comp=Z,5.5nm,0.8s,baz=96,slow=14,SNR=16						
ASAR				ScS	ScS	19 38 51.8	+1.0
	comp=Z,1.5nm,0.8s,baz=102,slow=7.5,SNR=7.9						
	comp=Z,19nm,0.5s						
WB2	Warramunga Arr	44.60	262	P	P	19 29 52.9	-0.5
WB2				IAmb	IAmb	19 29 54.1	
	comp=Z,22nm,0.5s						
WB1	Warramunga Ar.	44.61	262	P	P	19 29 52.9	-0.5
WRAB	Tennant Creek	44.61	262	P	P	19 29 53.0	-0.4
WRA	Warramunga Arr	44.62	262	P	P	19 29 52.0	-1.5
WRA	Warramunga Arr	44.62	262	P	P	19 29 53.0	-0.5
	comp=Z,19nm,0.3s,baz=96,slow=7.7,SNR=384						
WRA				ScP	ScP	19 34 27.6	+2.5
	comp=Z,3.0nm,0.9s,baz=94,slow=4.0,SNR=4.9						
WRA				S	S	19 35 45.9	-4.4
	comp=Z,4.9nm,1.0s,baz=90,slow=14,SNR=8.2						
WRA				ScS	ScS	19 38 52.4	+1.2
	comp=Z,0.9nm,1.0s,baz=107,slow=4.8,SNR=5.0						
	comp=Z,19nm,0.3s						
SMPI	Sarmi	45.99	288	P	P	19 30 03.7	-0.3
	comp=Z,124nm,1.8s						
KDU	Kakadu	47.94	271	P	P	19 30 18.4	-0.3
SRPI	Serui, Papua	48.26	286	P	P	19 30 20.7	-0.4
	comp=Z,48nm,1.0s						
BAKI	Biak	48.67	287	P	P	19 30 24.5	+0.3
	comp=Z,131nm,1.7s						
MTN	Manton Dam	49.15	270	P	P	19 30 27.4	-0.3
FORT	Forrest	49.36	246	P	P	19 30 28.8	-0.2
FORT	Forrest	49.36	246	P	P	19 30 28.9	-0.2
DRS	Darwin Rock St	49.48	271	P	P	19 30 30.1	0.0
WRKA	Warakurna	49.51	254	P	P	19 30 30.5	+0.2
GUMO	Guam	49.67	310	P	P	19 30 31.5	0.0
	comp=Z,130nm,0.8s,baz=171,slow=11,SNR=3.9						
	comp=Z,130nm,0.8s						
GUMO	Guam	49.67	310	P	P	19 30 31.4	0.0
KNRA	Kununurra	50.66	266	P	P	19 30 38.5	-0.3
FAKI	Fak Fak	51.45	283	P	P	19 30 44.1	-0.5
FAKI				IAmb	IAmb	19 30 45.5	
	comp=Z,58nm,1.3s						
FAKI	Fak Fak	51.45	283	P	P	19 30 44.4	-0.1
SWI	Sorong	53.19	285	P	P	19 30 57.1	+0.1
DRV	Dumont d'Urvil	53.53	199	P	P	19 30 59.4	+0.9
KMBL	Kambalda	54.63	245	P	P	19 31 07.0	+0.1
AAI	Ambon	54.88	280	P	P	19 31 08.5	-0.4
	comp=Z,47nm,1.3s						
NLAI	Namlea	56.06	280	P	P	19 31 16.5	-0.6
	comp=Z,827nmcomp=Z,53nm,1.4s						
SOEI	Soe	56.48 272		P	P	19 31 21.3	+1.1
SOEI				IAmb	IAmb	19 31 31.6	
	comp=Z,63nm,0.9s						
SOEI	Soe	56.48 272		P	P	19 31 21.8	+1.6
SANI	Sanana	57.54 281		P	P	19 31 26.9	-0.3
	comp=Z,47nm,1.2s						
PSA00	Pilbara Seismi	57.70 257		P	P	19 31 27.1	-1.2
PSA00	Pilbara Seismi	57.70 257		P	P	19 31 28.1	-0.2
MEEK	Meekatharra	57.97 251		P	P	19 31 29.7	-0.4
SBA	Scott Base	58.06 184		P	P	19 31 32.9	+3.2
VNDA	Vanda	58.09 185		P	P	19 31 31.5	+1.6
VNDA				IAmb	IAmb	19 31 33.3	
	comp=Z,53nm,1.4s						
VNDA	Vanda	58.09 185		P	P	19 31 31.9	+1.9
	comp=Z,15nm,0.8s,baz=359,slow=7.6,SNR=16						
	comp=Z,15nm,0.8s						
VNDA	Vanda	58.09 185		P	P	19 31 32.0	+2.0
KLBR	Kellerberrin	58.13 245		P	P	19 31 31.1	+0.1
NWAO	Narrogin (SRO)	58.44 243		P	P	19 31 33.1	-0.1
NWAO				IAmb	IAmb	19 31 34.5	
	comp=Z,56nm,1.4s						
NWAO	Narrogin (SRO)	58.44 243		P	P	19 31 33.2	+0.1
NWAO	Narrogin (SRO)	58.44 243		P	P	19 31 33.1	-0.1
BLDU	Ballidu	59.12 246		P	P	19 31 37.5	-0.2
MUN	Mundaring	59.40 244		P	P	19 31 39.8	+0.3
MORW	Morawa	59.89 248		P	P	19 31 42.5	-0.4
MORW	Morawa	59.89 248		P	P	19 31 42.9	0.0
GIRL	Giralia	62.59 254		P	P	19 32 01.2	+0.5
GIRL	Giralia	62.59 254		P	P	19 32 01.8	+1.2
CCD	Concordia, Ant	62.64 194		P	P	19 32 01.7	+1.1
CCD				PcP	PcP	19 32 33.4	+0.1
PLAI	Plampang	62.86 270		P	P	19 32 02.4	-0.1
TOLI2	Tolitoli	63.56 282		P	P	19 32 08.0	+1.0
TOLI2	Tolitoli	63.56 282		P	P	19 32 07.3	+0.3
PCI	Palu	63.65 279		P	P	19 32 08.8	+1.2
MPSI	Mapaga	64.07 281		P	P	19 32 10.6	+0.4
CASY	Casey	64.13 205		P	P	19 32 10.0	+0.3
CASY	Casey	64.13 205		P	P	19 32 10.2	+0.5
JHJ	Hachijo jima 2	66.69 322		P	P	19 32 25.8	-0.3
	comp=Z,157nm,0.8s,baz=82,slow=19,SNR=2.3						
	comp=Z,157nm,0.8s						
MYLDM	Lahad Datu	67.28 285		P	P	19 32 30.5	+0.3
KKM	Kota Kinabalu	69.70 285		P	P	19 32 45.5	+0.5
QSPA	South Pole Qui	69.75 180		P	P	19 32 46.1	+1.6
QSPA	South Pole Qui	69.75 180		P	P	19 32 45.9	+1.4
	comp=Z,81nm,0.8s,baz=27,slow=1.4,SNR=162						
	comp=Z,81nm,0.8s						
QSPA	South Pole Qui	69.75 180		P	P	19 32 45.7	+1.2
QSPA				PcP	PcP	19 33 05.4	+2.5
JGF	Kuroka	69.86 322		P	P	19 32 44.6	-0.8
UGM	Wanagama	69.96 269		P	P	19 32 46.0	-0.5
UGM	Wanagama	69.96 269		P	P	19 32 46.6	+0.1
JOW	Kunigami	70.04 310		P	P	19 32 46.4	-0.3
	comp=Z,7.4nm,0.3s,baz=129,slow=24,SNR=6.0						
	comp=Z,7.4nm,0.3s						
JOW	Kunigami	70.04 310		P	P	19 32 46.5	-0.1
MJAR	Matsushiro Arr	70.05 324		P	P	19 32 46.0	-0.5
	comp=Z,9.7nm,0.8s,baz=164,slow=5.8,SNR=27						
	comp=Z,9.7nm,0.8s						
MAJO	Matsushiro	70.05 324		P	P	19 32 45.9	-0.7
MAJO	Matsushiro	70.05 324		P	P	19 32 46.2	-0.3
MAJO	Matsushiro	70.05 324		P	P	19 32 46.0	-0.5
JNU	Nakatsue	72.13 317		P	P	19 32 58.4	-0.5
	comp=Z,13nm,1.0s,baz=66,slow=8.7,SNR=5.1						
	comp=Z,13nm,1.0s						
SHEM	Shemya Is, Ala	73.06 355		P	P	19 33 02.2	-1.4
	comp=Z,83nm,0.9s,baz=85,slow=11,SNR=3.5						
	comp=Z,83nm,0.9s						
YULB	Yu-li	73.39 303		P	P	19 33 05.0	-1.2
ASAJ	Asahikawa	73.

NVAR	Mina Array Bea	80.90	43	PKKPbc	PKKPbc	19 52 22.2	+0.6	
	comp=Z,0.4nm,0.6s,baz=134,slow=6.4,SNR=4.1							
NVAR				PKPPKP	P'P'df	20 00 27.1	+3.3	
	comp=Z,1.0nm,1.0s,baz=30,slow=0.7,SNR=3.6							
M11K	Mekoryuk	80.98	6	P	P	19 33 47.8	+1.2	
	baz=191							
N14K	Kuskokwak Cree	81.05	8	P	P	19 33 47.6	+0.7	
	baz=195							
P17K	Kvichak River	81.18	11	P	P	19 33 47.3	-0.3	
	baz=200							
O16K	Kokwok River B	81.27	10	P	P	19 33 48.3	+0.2	
	baz=199							
M13K	Dall Lake	81.31	7	P	P	19 33 48.9	+0.6	
	baz=194							
Q20K	Shuyak Island	81.44	13	P	P	19 33 49.4	+0.5	
	baz=204							
Q19K	Cape Douglas,	81.47	12	P	P	19 33 49.7	+0.5	
	baz=203							
N15K	Kwethluk River	81.51	9	P	P	19 33 50.4	+1.0	
	baz=197							
P18K	Big Mountain,	81.59	12	P	P	19 33 50.2	+0.4	
	baz=201							
O17K	Koliganek Bris	81.61	11	P	P	19 33 50.8	+1.0	
	baz=200							
M14K	Bethel	81.82	8	IAmb	IAmb	19 33 53.0		
	comp=Z,52nm,1.1s							
M14K	Bethel	81.82	8	P	P	19 33 52.1	+1.3	
	baz=195							
M15K	Kasigluk River	81.93	9	P	P	19 33 52.4	+1.0	
	baz=196							
O18K	Koktuh Hills	82.02	11	P	P	19 33 51.9	-0.1	
	baz=201							
CN2	Changchun	82.14	322	P	P	19 33 53.6	+0.7	
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
BNX	BinXian	82.27	325	⇓P	P	19 33 53.4	-0.1	
BNX				pmax	pmax			
	comp=Z,30nm,0.8s							
L14K	Kuka Creek	82.30	7	IAmb	IAmb	19 33 55.0		
	comp=Z,38nm,1.1s							
L14K	Kuka Creek	82.30	7	P	P	19 33 54.5	+1.3	
	baz=194,SNR=8.1							
N17K	Nushagak Hills	82.31	10	P	P	19 33 53.7	+0.3	
	baz=199							
WHN	Wuhan	82.33	306	⇑P	P	19 33 55.3	+1.1	
KLR	Kul'dur	82.36	329	P	P	19 33 54.2	+0.3	
	comp=Z,9.7nm,0.9s,baz=102,slow=4.2,SNR=20							
	comp=Z,9.7nm,0.9s							
M16K	Timber Creek	82.50	9	P	P	19 33 54.9	+0.6	
	baz=198							
O19K	Port Alsworth	82.51	12	P	P	19 33 54.1	-0.2	
	baz=202,SNR=6.6							
K13K	Kusilvak Mount	82.65	6	IAmb	IAmb	19 33 56.9		
	comp=Z,36nm,1.1s							
K13K	Kusilvak Mount	82.65	6	P	P	19 33 54.8	-0.2	
	baz=192							
O20K	Slope Mountain	82.73	13	P	P	19 33 55.5	-0.1	
	baz=204							
L15K	Ungalak Mounta	82.77	8	P	P	19 33 56.5	+0.9	
	baz=195							
BRSE	Bradley Lake S	82.82	14	P	P	19 33 56.6	+0.6	
	baz=205							
N19K	Bonanza Creek	83.05	11	P	P	19 33 57.6	+0.3	
	baz=202							
L16K	Owhat River	83.08	9	IAmb	IAmb	19 33 59.0		
	comp=Z,24nm,1.1s							
L16K	Owhat River	83.08	9	P	P	19 33 57.9	+0.7	
	baz=197							
M17K	Holitna River	83.09	10	IAmb	IAmb	19 33 60.0		
	comp=Z,45nm,1.1s							
M17K	Holitna River	83.09	10	P	P	19 33 58.4	+1.1	
	baz=199							
IPM	Ipoh	83.10	277	P	P	19 33 59.4	+0.9	
K15K	Wolf Creek Mou	83.36	8	P	P	19 33 59.3	+0.7	
	baz=195							
SEW	Seward	83.44	14	P	P	19 33 59.5	+0.5	
	baz=206							
M18K	Stony River	83.44	11	P	P	19 33 59.7	+0.6	
	baz=201							
J14K	Nanvaranak Lak	83.57	7	P	P	19 34 00.2	+0.6	
	baz=193							
MA2	Magadan	83.60	345	P	P	19 33 59.7	-0.2	
MA2				IAmb	IAmb	19 34 00.3		
	comp=Z,23nm,0.9s							
MA2	Magadan	83.60	345	P	P	19 33 59.1	-0.8	
	comp=Z,16nm,0.8s,baz=140,slow=5.6,SNR=36							
	comp=Z,16nm,0.8s							
MA2	Magadan	83.60	345	P	P	19 33 59.1	-0.8	
	comp=Z,33nm,1.2s							
L17K	Donlin	83.65	9	P	P	19 34 00.8	+0.8	
	baz=198							
P23K	Montague Islan	83.82	15	P	P	19 34 01.9	+1.0	
	baz=208							
SPCR	Spurr Chakacha	83.84	12	P	P	19 34 00.8	-0.4	
	baz=204							
GAMB	Gambell	83.95	3	IAmb	IAmb	19 34 03.2		
	comp=Z,26nm,0.9s							
GAMB	Gambell	83.95	3	P	P	19 34 01.7	+0.2	
	baz=186							
L18K	Granite Mounta	83.98	10	IAmb	IAmb	19 34 05.0		
	comp=Z,56nm,1.6s							
L18K	Granite Mounta	83.98	10	P	P	19 34 01.8	+0.1	
	baz=200							
M19K	Big River Lodg	84.08	11	P	P	19 34 01.6	-0.6	
	baz=202							
K17K	Iditarod	84.21	9	P	P	19 34 02.9	+0.1	
	baz=198							
L19K	White Mountain	84.26	11	IAmb	IAmb	19 34 05.0		
	comp=Z,20nm,1.0s							
L19K	White Mountain	84.26	11	P	P	19 34 03.1	0.0	
	baz=201							
RC01	Rabbit Creek A	84.26	13	P	P	19 34 02.8	-0.3	
	baz=206							
M20K	Styx River	84.29	12	P	P	19 34 03.5	+0.2	
	baz=203							
PWL	Port Wells	84.36	14	P	P	19 34 03.8	+0.2	
	baz=208							
J16K	Anvik River	84.44	8	IAmb	IAmb	19 36 07.6		
	comp=Z,39nm,1.6s							
J16K	Anvik River	84.44	8	P	P	19 34 04.1	+0.2	
	baz=196							
KAIM	Kayak Island	84.51	16	P	P	19 34 04.6	+0.2	
	baz=211							
GLI	Glacier Island	84.67	15	P	P	19 34 05.4	+0.3	
	baz=209							
SKT	Skwentna	84.69	12	P	P	19 34 05.0	-0.2	
	baz=204							
EYAK	Cordova Ski Ar	84.71	15	P	P	19 34 05.6	+0.3	
	baz=210							
J17K	VABM Dome	84.75	8	IAmb	IAmb	19 34 14.2		
	comp=Z,54nm,1.9s							
J17K	VABM Dome	84.75	8	P	P	19 34 06.2	+0.8	
	baz=198							
TTA	Tatalina	84.76	10	IAmb	IAmb	19 34 07.0		
	comp=Z,24nm,1.2s							
TTA	Tatalina	84.76	10	P	P	19 34 05.9	+0.3	
	baz=200							
M22K	Willow	84.77	13	P	P	19 34 06.0	+0.4	
	baz=206							
KNK	Knik Glacier	84.83	14	P	P	19 34 06.2	+0.3	
	baz=207							
PMR	Palmer	84.84	13	P	P	19 34 05.7	-0.2	
	baz=207							
SIT	Sitka	84.95	22	P	P	19 34 06.7	+0.1	
	baz=219							
I17K	Unalakleet	85.00	8	P	P	19 34 06.8	+0.1	
	baz=196							
V35K	Ketchikan	85.03	25	P	P	19 34 06.7	-0.2	
	baz=223							
U33K	Whale Pass	85.03	23	P	P	19 34 06.9	-0.1	
	baz=221							
GHO	Glory Hole Cre	85.05	13	IAmb	IAmb	19 34 08.2		
	comp=Z,30nm,0.9s							
HEH	HeiHe	85.15	328	eP	P	19 34 07.8	+0.1	
HEH				pmax	pmax			
	comp=Z,20nm,1.2s							
J18K	Innoko River	85.16	9	IAmb	IAmb	19 34 08.7		
	comp=Z,23nm,1.1s							
J18K	Innoko River	85.16	9	P	P	19 34 07.0	-0.5	
	baz=200							
ANM	Nome	85.17	5	P	P	19 34 07.9	+0.5	
	baz=192							
SML	Sawmill	85.21	14	P	P	19 34 07.8	0.0	
	baz=208							
GSI	Gunungsitoli	85.21	273	P	P	19 34 10.2	+1.3	
CUT	Chulitna	85.33	13	P	P	19 34 08.4	+0.2	
	baz=206							
M23K	Glacier View	85.33	14	P	P	19 34 08.1	-0.2	
	baz=208							
S31K	Pelican	85.35	21	P	P	19 34 08.1	-0.3	
	baz=218							
BMRM	Bremner River	85.36	16	P	P	19 34 08.1	-0.4	
	baz=211							
PPLA	Purkeypile	85.40	12	P	P	19 34 08.4	-0.4	
	baz=204							
HNS	HongShan	85.41	313	⇓P	P	19 34 09.9	+0.7	
HNS				pmax	pmax			
	comp=Z,20nm,0.9s							
SCM	Sheep Creek Mo	85.45	14	P	P	19 34 08.5	-0.5	
	baz=208							
K20K	Telida	85.48	11	P	P	19 34 08.9	-0.2	
	baz=202							
KLU	Klutina	85.48	15	P	P	19 34 08.8	-0.3	
	baz=210							
H16K	Elim	85.55	7	P	P	19 34 09.5	+0.2	
	baz=194,SNR=5.6							
LYN	LuoYang	85.63	309	⇓P	P	19 34 11.4	+1.0	
LYN				pmax	pmax			
	comp=Z,54nm,0.8s							
PNL	Peninsula	85.71	19	P	P	19 34 10.3	+0.2	
	baz=216							
G15K	Niukluk	85.71	6	P	P	19 34 09.9	-0.1	
	baz=193							
BJT	Baijiatuau	85.75	315	P	P	19 34 09.4	-1.4	
BJI	Beijing	85.75	315	P	P	19 34 11.4	+0.6	
BJI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PINM	Pinnacle	85.80	18	P	P	19 34 10.1	-0.6	
	baz=215							
J19K	Poorman	85.82	10	P	P	19 34 11.0	+0.4	
	baz=201							
CAST	Castle Rocks	85.90	11	IAmb	IAmb	19 34 10.5		
	comp=Z,19nm,1.0s							
CAST	Castle Rocks	85.90	11	P	P	19 34 10.7	-0.3	
	baz=204,SNR=9.7							
N25K	Chitina, Valde	85.91	15	P	P	19 34 10.8	-0.4	
	baz=211							
F14K	Arctic Creek	85.98	5	P	P	19 34 11.5	+0.1	
	baz=191							
SEY	Seymchan	86.19	347	P	P	19 34 12.1	-0.2	
	comp=Z,29nm,0.9s,baz=147,slow=5.6,SNR=94							
	comp=Z,29nm,0.9s							
J20K	Nowinta River	86.23	10	P	P	19 34 11.5	-1.1	
J20K				IAmb	IAmb	19 36 16.0		
	comp=Z,30nm,1.5s							
J20K	Nowinta River	86.23	10	P	P	19 34 13.0	+0.4	
	baz=202							
TRF	Thorofare Moun	86.27	12	IAmb	IAmb	19 34 13.1		
	comp=Z,26nm,1.0s							
TRF	Thorofare Moun	86.27	12	P	P	19 34 11.9	-1.0	
	baz=206,SNR=6.3							
G16K	Koyuk River	86.27	7	IAmb	IAmb	19 37 11.1		
	comp=Z,34nm,1.9s							
G16K	Koyuk River	86.27	7	P	P	19 34 12.8	+0.1	
	baz=194							
GCSA	Galena City Sc	86.34	9	P	P	19 34 13.2	+0.2	
	baz=200							
F15K	North Star Dit	86.35	5	P	P	19 34 13.2	+0.1	
	baz=192							
O28M	Mount Upton	86.38	18	P	P	19 34 12.8	-0.8	
	baz=215							
HARP	HAARP	86.45	15	P	P	19 34 14.0	+0.3	
	baz=210							
O29M	Mount Kennedy	86.46	18	P	P	19 34 13.4	-0.4	
	baz=216							
PLBC	Pleasant Camp	86.47	20	P	P	19 34 13.0	-0.8	
	baz=218							
H18K	Honhosa River	86.52	8	P	P	19 34 14.2	+0.3	
	baz=198							
VHRN	Van Horn	86.56	56	P	P	19 34 14.7	-0.4	
MCK	McKinley	86.79	13	IAmb	IAmb	19 34 16.7		
	comp=Z,22nm,1.0s							
MCK	McKinley	86.79	13	P	P	19 34 15.1	-0.2	
	baz=207,SNR=9.6							
P30M	Million Dollar	86.81	19	P	P	19 34 15.5	+0.1	
	baz=218							
SKAG	Skagway	86.81	20	P	P	19 34 15.7	+0.4	
	baz=219							
ELIB	Princess Elisa	86.83	187	dP	P	19 34 15.8	+0.2	
	comp=Z,52nm,0.8s							
PAX	Paxson	86.87	14	P	P	19 34 15.6	-0.1	
	baz=210							
SYO	Syowa Base	86.91	193	⇑eP	P	19 34 15.7	-0.1	
YUK8	Steele Glacier	86.92	17	P	P	19 34 15.8	-0.4	
	baz=215							
TXAR	Lajitas Array	86.96	57	P	P	19 34 18.6	+1.6	
	comp=Z,3.2nm,0.7s,baz=216,slow=6.9,SNR=33							
	comp=Z,3.2nm,0.7s							
M26K	Nabesna, AK	86.98	16	P	P	19 34 16.0	-0.2	
	baz=212							
YUK6	Outpost Mounta	87.04	18	P	P	19 34 16.3	-0.5	
	baz=216							
S34M	Telegraph Cree	87.10	23	P	P	19 34 16.7	0.0	
	baz=223							
H19K	Roundabout Mou	87.14	9	P	P	19 34 17.2	+0.5	
	baz=200							
G18K	Tagagawik	87.19	8	P	P	19 34 17.7	+0.7	
	baz=198							
HYT	Haines Junctio	87.20	19	P	P	19 34 17.3	0.0	
	baz=217							
M27K	Edge Creek, AK	87.23	16	P	P	19 34 18.1	+0.7	
	baz=213							
YUK4	Talbot Arm	87.28	18	P	P	19 34 18.0	+0.2	
	baz=216							
H20K	Anotleneega Mo	87.34	9	P	P	19 34 18.3	+0.5	
	baz=201							
F17K	Baldwin Pennin	87.41	7	P	P	19 34 18.4	+0.4	
	baz=195							
L26K	Log Cabin Wild	87.42	15	P	P	19 34 18.3	0.0	
	baz=212							
P32M	Atlin	87.44	21	P	P	19 34 18.5	+0.1	
	baz=221							
Q32M	Nakina River	87.46	22	P	P	19 34 17.7	-1.0	
	baz=222							
I21K	Tanana	87.53	11	IAmb	IAmb	19 34 19.8		
	comp=Z,15nm,0.9s							
I21K	Tanana	87.53	11	P	P	19 34 18.9	+0.3	
	baz=204							
K24K	Donnelly Dome	87.53	14	P	P	19 34 18.9	+0.2	
	baz=210							
NEA2	Nenana	87.53	12	P	P	19 34 18.8	+0.1	
	baz=207							
O30N	Mendenhall	87.59	19	P	P	19 34 18.8	-0.3	
	baz=218							
G19K	Purcell Mounta	87.63	8	P	P	19 34 19.2	+0.1	
	baz=199							
RIDG	Independent Ri	87.68	14	P	P	19 34 19.5	0.0	
	baz=211							
F18K	Selawik	87.74	7	P	P	19 34 19.6	+0.1	
	baz=197							
XLT	XiLinHaoTe	87.79	319	eP	P	19 34 20.6	+0.1	
XLT				pP	pP	19 36 19.6	+0.5	
XLT				sP	sP	19 37 07.4	-6.9	
XLT				PP	PP	19 37 53.8	-2.9	
XLT				pmax	pmax			
	comp=Z,13nm,0.9s							
HDA	Harding Lake	87.80	13	IAmb	IAmb	19 34 21.4		
	comp=Z,16nm,0.9s							
HDA	Harding Lake	87.80	13	P	P	19 34 20.2	+0.3	
	baz=209,SNR=7.2							
H21K	Melozitna Rive	87.83	10	P	P	19 34 20.3	+0.2	
	baz=203							
L27K	Beaver Creek,	87.83	16	P	P	19 34 20.6	+0.4	
	baz=213							
CCB	Clear Creek Bu	87.83	13	IAmb	IAmb	19 34 20.3		
	comp=Z,22nm,1.1s							
WHY	Whitehorse	87.88	20	P	P	19 34 20.1	-0.4	
	baz=220							
DLBC	Dease Lake	87.88	23	P	P	19 34 20.0	-0.5	
	comp=Z,2.6nm,0.9s,baz=260,slow=6.1,SNR=3.1							
	comp=Z,2.6nm,0.9s							
DLBC	Dease Lake	87.88	23	P	P	19 34 20.6	+0.1	
	baz=224							
TROLL	Troll, Antarti	87.92	180	P	P	19 34 20.8	0.0	
TROLL	Troll, Antarti	87.92	180	⇑P	P	19 34 20.8	0.0	
	comp=Z,951nm,0.6s							
I23K	Minto, Yukon-K	87.98	12	P	P	19 34 20.4	-0.3	
	baz=206							
XAN	Xi'an	88.01	307	⇓P	P	19 34 22.6	+0.9	
XAN				pmax	pmax			
	comp=Z,54nm,0.8s							
XAN				pmax	pmax			
	comp=Z,370nm,7.3s							
COLA	College	88.03	12	P	P	19 34 20.3	-0.6	
	baz=208							
SCRK	Sand Creek	88.08	14	P	P	19 34 21.0	-0.4	
	baz=211							
IL31		88.13	13	IAmb	IAmb	19 34 22.4		
	comp=Z,16nm,1.2s							
ILAR	Eielson Array	88.13	13	P	P	19 34 20.0	-1.5	
ILAR	Eielson Array	88.13	13	P	P	19 34 20.6	-0.8	
	comp=Z,7.2nm,1.0s,baz=215,slow=4.8,SNR=32							
ILAR				pP	pP	19 36 19.9	0.0	
	comp=Z,4.3nm,1.0s,baz=225,slow=5.1,SNR=9.9							
ILAR				PKKPbc	PKKPdf	19 52 02.2	+2.3	
	comp=Z,0.2nm,0.6s,baz=341,slow=2.7,SNR=4.6							
	comp=Z,7.2nm,1.0s							
F19K	Shaleruckik Mo	88.19	8	P	P	19 34 21.8	+0.1	
	baz=199							
SNAA	Sanae	88.20	178	P	P	19 34 21.7	-0.3	
SNAA	Sanae	88.20	178	P	P	19 34 19.7	-2.2	
SNAA				IAmb	IAmb	19 34 22.9		
	comp=Z,19nm,1.2s							
SNAA	Sanae	88.20	178	⇑P	P	19 34 21.7	-0.3	
	comp=Z,251nm,1.2s							
SNAA	Sanae	88.20	178	P	P	19 34 21.3	-0.7	
	comp=Z,8.9nm,0.9s,baz=201,slow=13,SNR=8.3							
	comp=Z,8.9nm,0.9s							
P33M	Teslin, Yukon	88.21	21	P	P	19 34 21.6	-0.4	
	baz=221							
M29M	Somme Creek	88.22	17	IAmb	IAmb	19 34 23.5		
	comp=Z,12nm,1.0s							
M29M	Somme Creek	88.22	17	P	P	19 34 21.9	-0.2	
	baz=216,SNR=5.5							
R33M	Jennings River	88.24	22	P	P	19 34 21.7	-0.5	
	baz=223							
N31M	Braeburn, Yuko	88.24	19	P	P	19 34 22.0	0.0	
	baz=219							
H22K	Ishtalitna Cre	88.28	11	P	P	19 34 21.8	-0.4	
	baz=205							
J25K	Salcha River,	88.32	13	IAmb	IAmb	19 34 23.1		
	comp=Z,12nm,1.1s							
POKR	Poker Plat Res	88.33	12	P	P	19 34 22.2	-0.2	
	baz=208							
VNA3	Neumayer Olymp	88.33	176	P	P	19 34 22.7	+0.2	
VNA3	Neumayer Olymp	88.33	176	⇑P	P	19 34 22.7	+0.2	
	comp=Z,98nm,0.8s							
SRDT	SRDT	88.40	286	P	P	19 34 23.8	0.0	
E18K	Tukpahlearik C	88.42	7	IAmb	IAmb	19 34 23.8		
	comp=Z,13nm,1.1s							
E18K	Tukpahlearik C	88.42	7	P	P	19 34 22.6	-0.2	
	baz=196							
D17K	Noatak River	88.44	6	P	P	19 34 22.9	+0.1	
	baz=194							
J26L	Joseph Creek	88.63	14	P	P	19 34 23.6	-0.3	
	baz=212							
F20K	Avaraart Lake	88.67	9	IAmb	IAmb	19 34 25.0		
	comp=Z,12nm,1.0s							
F20K	Avaraart Lake	88.67	9	P	P	19 34 23.9	0.0	
	baz=200							
VNA2	Neumayer--Watz	88.77	177	P	P	19 34 24.9	+0.3	
	baz=184,slow=4.7							
VNA2	Neumayer--Watz	88.77	177	⇑P	P	19 34 24.9	+0.3	
	comp=Z,54nm,0.6s,baz=184,slow=4.7							
M30M	Minto, Yukon	88.80	18	P	P	19 34 24.3	-0.3	
M30M				IAmb	IAmb	19 34 26.5		
	comp=Z,11nm,0.9s							
M30M	Minto, Yukon	88.80	18	P	P	19 34 24.5	-0.1	
	baz=218,SNR=9.8							
RDOG	Red Dog Mine	88.81	6	P	P	19 34 25.4	+0.8	
	baz=194							
C16K	Lisburne Hills	88.82	5	IAmb	IAmb	19 34 25.6		
	comp=Z,13nm,1.2s							
C16K	Lisburne Hills	88.82	5	P	P	19 34 24.7	+0.1	
	baz=192							
PDAR	Pinedale Array	88.83	43	P	P	19 34 25.7	+0.1	
	comp=Z,1.3nm,0.6s,baz=207,slow=4.2,SNR=6.5							
PDAR				PKKPbc	PKKPbc	19 52 01.9	-1.3	
	comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=5.3							
	comp=Z,1.3nm,0.6s							
L29M	L29M	88.84	17	P	P	19 34 24.6	-0.3	
	baz=217							
E19K	Redstone River	88.86	8	IAmb	IAmb	19 34 25.9		
	comp=Z,19nm,0.9s							
E19K	Redstone River	88.86	8	P	P	19 34 24.9	+0.1	
	baz=199							
VNA1	Neumayer--Stat	89.00	177	P	P	19 34 26.1	+0.5	
VNA1	Neumayer--Stat	89.00	177	⇑P	P	19 34 26.1	+0.5	
	comp=Z,66nm,0.8s							
PRP	Porcupine Dome	89.07	13	IAmb	IAmb	19 34 27.3		
	comp=Z,16nm,1.2s							
PRP	Porcupine Dome	89.07	13	P	P	19 34 25.5	-0.5	
	baz=210,SNR=7.6							
F21K	Alatna River	89.16	9	P	P	19 34 26.1	-0.1	
	baz=203							
C17K	DeLong Mountai	89.19	5	P	P	19 34 26.6	+0.3	
	baz=194							
M31M	Drury Creek, Y	89.21	19	P	P	19 34 26.2	-0.4	
	baz=220							
KMI	Kunming	89.25	297	⇑P	P	19 34 29.8	+1.9	
KMI				pmax	pmax			
	comp=Z,16nm,0.9s							
KMI				LR	LR			
	comp=N,600nm,16.3s							
KMI				LR	LR			
	comp=E,1μm,18.5s							
KMI				LR	LR			
	comp=Z,970nm,15.7s							
KMI	Kunming	89.25	297	ScP		19 34 29.8		
G23K	Bananza Creek	89.26	11	P	P	19 34 27.0	+0.3	
	baz=206							
DAWY	Dawson	89.28	16	IAmb	IAmb	19 34 28.2		
	comp=Z,12nm,1.0s							
DAWY	Dawson	89.28	16	P	P	19 34 26.9	+0.1	
	baz=216,SNR=8.2							
I26K	Coal Creek Min	89.41	14	P	P	19 34 27.2	-0.1	
	baz=212							
PLCA	Paso Flores	89.41	134	P	P	19 34 28.8	+0.5	
	comp=Z,3.6nm,0.9s,baz=250,slow=6.7,SNR=7.5							
	comp=Z,3.6nm,0.9s							
C18K	Utukok River	89.55	6	P	P	19 34 28.5	+0.5	
	baz=195							
FARO	Faro, Yukon	89.55	19	P	P	19 34 28.4	+0.3	
	baz=221							
K29M	Barlow Dome	89.60	17	IAmb	IAmb	19 34 30.0		
	comp=Z,13nm,1.0s							
K29M	Barlow Dome	89.60	17	P	P	19 34 28.1	-0.3	
	baz=217,SNR=8.8							
COLD	Coldfoot	89.70	10	P	P	19 34 28.9	+0.2	
	baz=206,SNR=8.1							
D19K	Kuna River	89.73	7	IAmb	IAmb	19 34 29.9		
	comp=Z,14nm,1.0s							
D19K	Kuna River	89.73	7	P	P	19 34 29.4	+0.5	
	baz=198							
E20K	Nigu River	89.75	8	P	P	19 34 29.1	+0.1	
	baz=200							
J29N	Klondike Camp	89.90	16	P	P	19 34 29.6	-0.2	
	baz=217							
TOAD	Toad River Com	89.98	24	P	P	19 34 29.9	-0.3	
	baz=228							
I27K	Kandik River	90.01	14	P	P	19 34 30.7	+0.4	
	baz=214							
G25K	Bearman Lake	90.04	12	P	P	19 34 30.8	+0.5	
	baz=209							
CMAR	Chiang Mai Arr	90.04	290	P	P	19 34 33.0	+1.6	
	comp=Z,9.2nm,0.9s,baz=123,slow=2.8,SNR=46							
CMAR				pP	pP	19 36 32.2	+2.1	
	comp=Z,1.3nm,0.9s,baz=117,slow=3.2,SNR=1.7							
CMAR				PP	PP	19 38 15.6	+0.8	
	comp=Z,1.1nm,0.9s,baz=120,slow=6.0,SNR=5.0							
CMAR				PKKPbc	PKKPbc	19 51 59.9	+1.1	
	comp=Z,0.7nm,0.6s,baz=277,slow=3.7,SNR=5.3							
	comp=Z,9.2nm,0.9s							
D20K	Etivluk River	90.12	8	P	P	19 34 30.9	+0.3	
	baz=200							
CHTO	Chiang Mai	90.17	290	P	P	19 34 33.1	+1.1	
CHTO

I29M	Ogilvie Camp,	90.61	16	P	P	19 34 33.2	+0.2
	baz=216						
PZH	PanZhiHua	90.61	298	P	P	19 34 34.8	+0.8
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
G26K	Porcupine Rive	90.67	13	P	P	19 34 33.3	+0.1
	baz=212,SNR=9.9						
TGTN	Hyland Airport	90.70	21	P	P	19 34 32.9	-0.6
	baz=225						
E24K	Your Creek	90.75	11	P	P	19 34 34.3	+0.7
	baz=207						
C21K	Knifeblade Rid	90.78	8	P	P	19 34 34.6	+0.9
	baz=201						
D22K	Ayikyak River	90.81	9	IAmb	IAmb	19 34 35.3	
	comp=Z,14nm,1.0s						
D22K	Ayikyak River	90.81	9	P	P	19 34 33.8	0.0
	baz=203						
F25K	Christian Rive	90.85	12	P	P	19 34 34.4	+0.3
	baz=210						
BMAR	Burnt Mountain	90.92	12	P	P	19 34 34.4	+0.1
I30M	Mount Dempster	90.99	16	IAmb	IAmb	19 34 36.0	
	comp=Z,8.9nm,1.0s						
I30M	Mount Dempster	90.99	16	P	P	19 34 34.8	-0.1
	baz=218						
G27K	Doyon Strip	91.00	14	P	P	19 34 35.4	+0.6
	baz=214						
TOLK	Toolik Lake Re	91.07	10	P	P	19 34 35.6	+0.5
	baz=206						
D23K	Nanushuk River	91.19	10	IAmb	IAmb	19 34 37.1	
	comp=Z,16nm,1.1s						
D23K	Nanushuk River	91.19	10	P	P	19 34 36.4	+0.9
	baz=205						
F26K	Sheenjek River	91.23	12	P	P	19 34 35.9	+0.1
	baz=211						
B21K	Ikpikpuk River	91.23	8	P	P	19 34 35.5	-0.2
	baz=202						
H29M	Whitestone	91.28	15	IAmb	IAmb	19 34 37.1	
	comp=Z,14nm,1.1s						
H29M	Whitestone	91.28	15	P	P	19 34 36.5	+0.4
	baz=216						
D24K	Happy Valley	91.66	10	P	P	19 34 38.5	+0.9
	baz=207						
EPYK	Eagle Plains	91.81	15	P	P	19 34 38.9	+0.4
	baz=218						
G29M	Pine Creek	91.92	15	P	P	19 34 39.2	+0.2
	baz=217						
YAK	Yakutsk	91.94	338	P	P	19 34 38.9	-0.2
YAK	Yakutsk	91.94	338	P	P	19 34 38.2	-0.8
	comp=Z,19nm,0.8s,baz=32,slow=0.8,SNR=13						
	comp=Z,19nm,0.8s						
H31M	Peel River	91.98	17	P	P	19 34 39.2	-0.1
	baz=220						
C23K	Itkillik River	91.99	9	P	P	19 34 39.5	+0.3
	baz=205						
F28M	Old Crow	92.06	14	P	P	19 34 39.7	+0.1
	baz=215						
C24K	Franklin Bluff	92.18	10	IAmb	IAmb	19 34 41.6	
	comp=Z,18nm,1.2s						
C24K	Franklin Bluff	92.18	10	P	P	19 34 40.3	+0.2
	baz=207						
D25K	Kavik River	92.22	11	P	P	19 34 40.4	+0.1
	baz=209						
G30M	tAoh Zraii Nji	92.41	15	IAmb	IAmb	19 34 42.6	
	comp=Z,12nm,1.0s						
G30M	tAoh Zraii Nji	92.41	15	P	P	19 34 40.9	-0.3
	baz=218						
LZH	Lanzhou	92.65	307	eP	P	19 34 44.3	+1.1
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
G31M	Satah River	92.86	16	P	P	19 34 43.4	+0.2
	baz=220,SNR=6.0						
E28M	Babbage River	92.95	13	IAmb	IAmb	19 34 44.8	
	comp=Z,8.3nm,1.2s						
E28M	Babbage River	92.95	13	P	P	19 34 43.4	-0.2
	baz=216						
C27K	Jago River	92.96	11	P	P	19 34 43.5	-0.2
	baz=212						
C26K	Camden Bay	93.00	11	P	P	19 34 44.3	+0.5
	baz=211						
F30M	Barrier River	93.01	15	P	P	19 34 44.8	+0.8
	baz=219						
E29M	Blow River	93.13	14	P	P	19 34 45.0	+0.6
	baz=217						
D27M	Malcolm River	93.17	12	P	P	19 34 44.9	+0.2
	baz=214						
F31M	Tsiigehtchic	93.39	16	P	P	19 34 45.3	-0.3
	baz=221,SNR=6.6						
D28M	Stokes Point	93.70	13	P	P	19 34 47.2	+0.2
	baz=216						
INK	Inuvik	94.09	15	P	P	19 34 49.0	+0.2
	baz=221						
SONM	Songino Array	95.61	319	P	P	19 34 56.1	-0.3
	comp=Z,1.0nm,0.8s,baz=141,slow=4.0,SNR=4.3						
SONM				PP	PP	19 38 54.0	-3.3
	comp=Z,2.4nm,1.0s,baz=124,slow=6.3,SNR=7.3						
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	96.35	25	P	P	19 34 58.8	-0.4
	comp=Z,0.5nm,0.9s,baz=89,slow=34,SNR=3.1						
	comp=Z,0.5nm,0.9s						
GTA	Gaotai	96.85	309	eP	P	19 35 02.6	+0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZALV	Zalesovo Beam	110.34	321	PKiKP	PKiKP	19 39 57.7	-1.4
	comp=Z,0.9nm,0.6s,baz=174,slow=1.5,SNR=5.9						
ZALV				PP	PP	19 40 43.8	-1.4
	comp=Z,1.5nm,0.9s,baz=86,slow=6.2,SNR=3.5						
ZALV				SKP		19 42 43.1	
	comp=Z,0.9nm,0.6s,baz=149,slow=3.0,SNR=4.8						
MKAR	Makanchi Array	111.06	313	PKiKP	PKiKP	19 39 59.7	-1.1
	comp=Z,1.0nm,0.6s,baz=190,slow=0.6,SNR=16						
MKAR				SKP		19 42 44.9	
	comp=Z,0.9nm,0.8s,baz=75,slow=1.9,SNR=6.1						
KURBB	Kurchatov Arra	113.90	317	PKiKP	PKiKP	19 40 04.8	-1.2
	comp=Z,1.3nm,0.3s,baz=90,slow=1.7,SNR=4.5						
KURBB				PP	PP	19 41 08.2	-2.1
	comp=Z,2.1nm,0.3s,baz=98,slow=6.1,SNR=6.2						
KURBB				SKP		19 42 50.5	
	comp=Z,2.6nm,0.2s,baz=90,slow=1.8,SNR=7.1						
KURBB				PKKPbc	PKKPbc	19 50 50.2	-0.6
	comp=Z,0.5nm,0.2s,baz=271,slow=3.9,SNR=7.4						
BVAR	Borovoye Array	118.93	320	PKP	PKPdf	19 40 14.9	-0.7
	comp=Z,3.0nm,0.4s,baz=120,slow=2.1,SNR=37						
BVAR				PP	PP	19 41 44.6	-0.2
	comp=Z,1.7nm,0.9s,baz=73,slow=5.1,SNR=3.8						
BVAR				SKP		19 43 00.7	
	comp=Z,3.6nm,0.9s,baz=90,slow=3.0,SNR=8.4						
SPITS	Spitsbergen Ar	121.68	357	PKP	PKPdf	19 40 19.9	-0.4
	comp=Z,8.8nm,1.0s,baz=57,slow=10,SNR=1.4						
BOSA	Boshof	126.42	206	PKP	PKiKP	19 40 31.9	+0.3
	comp=Z,2.8nm,1.0s,baz=148,slow=4.0,SNR=7.7						
ARCES	ARCESS Array B	128.74	350	PKP	PKPdf	19 40 33.4	-0.6
	comp=Z,3.3nm,0.8s,baz=302,slow=7.0,SNR=11						
FINES	FINESS Array B	135.59	344	PKhKP	PKPpre	19 40 34.0	
	comp=Z,2.0nm,1.0s,baz=64,slow=3.2,SNR=3.8						
FINES				PKP	PKPdf	19 40 45.0	-2.0
	comp=Z,0.9nm,0.4s,baz=96,slow=4.2,SNR=1.9						
FINES				SKPbc	SKPbc	19 43 27.8	+0.4
	comp=Z,4.2nm,0.7s,baz=64,slow=2.5,SNR=11						
NB2	NORSAR Subarra	138.79	353	PKP		19 43 38.8	
	comp=Z,0.5nm,0.6s,baz=13,slow=2.6						
NOA	NORSAR Array B	138.79	353	PKhKP	PKPpre	19 40 45.5	
	comp=Z,0.2nm,0.4s,baz=30,slow=4.2,SNR=1.6						
NOA				SKPbc	SKPbc	19 43 37.9	+1.1
	comp=Z,3.5nm,0.8s,baz=14,slow=4.4,SNR=8.7						
HFS	Hagfors	139.35	351	PKhKP	PKPpre	19 40 45.0	
	comp=Z,1.6nm,0.5s,baz=64,slow=3.4,SNR=16						
HFS				SKPbc	SKPbc	19 43 39.2	+1.0
	comp=Z,9.0nm,0.8s,baz=350,slow=1.7,SNR=10						
SUW	Suwalki	142.66	339	ePKP	PKPdf	19 40 57.5	-2.6
AKASG	Malin Array Be	142.84	331	PKPdf	PKPdf	19 40 57.4	-3.2
AKASG	Malin Array Be	142.84	331	PKhKP	PKPpre	19 40 57.1	
	comp=Z,13nm,0.6s,baz=44,slow=4.5,SNR=108						
AKASG				SKPbc	SKiKP	19 43 48.2	-0.3
	comp=Z,3.5nm,0.7s,baz=38,slow=2.2,SNR=15						
AKBB	Malin Array Si	142.84	331	PKPdf	PKPdf	19 40 57.1	-3.5
KIEV	Kiev	142.86	331	PKPdf	PKPdf	19 40 57.4	-3.1
LODK	Lodwar	143.41	247	PKPdf	PKPdf	19 41 02.5	-0.3
EKA	Eskdalemuir Ar	144.82	5	PKP	PKPdf	19 41 03.9	+0.1
	comp=Z,4.3nm,0.9s,baz=329,slow=2.7,SNR=5.7						
EKA				SKPbc	SKiKP	19 43 53.1	+0.6
	comp=Z,1.7nm,0.7s,baz=356,slow=2.2,SNR=4.1						
SORM	Soroca	145.04	329	⇑P	PKPbc	19 41 05.1	-0.1
BEL	Belsk	145.28	339	ePKP	PKPbc	19 41 05.7	-0.1
KWP	Kalwaria Pacla	146.41	335	ePKP	PKPab	19 41 12.0	+0.4
BRTR	Keskin Array B	146.71	313		PKPbc	19 41 10.2	-0.3
BRTR	Keskin Array B	146.71	313	PKPbc	PKPbc	19 41 10.0	-0.4
	comp=Z,3.4nm,0.5s,baz=129,slow=3.0,SNR=28						
BRTR				pPKPbc	pPKPab	19 43 16.4	+0.9
	comp=Z,3.4nm,1.1s,baz=98,slow=2.5,SNR=4.9						
BRTR				SKPbc	SKiKP	19 43 57.4	+0.3
	comp=Z,1.7nm,0.8s,baz=121,slow=2.6,SNR=4.7						
BRTR				SKPab	SKPbc	19 44 23.4	+26
	comp=Z,1.5nm,0.8s,baz=102,slow=3.3,SNR=5.2						
VLDR	Vladesti	146.72	326	⇓P	PKPbc	19 41 10.6	+0.5
BURAR	Bucovina Array	146.89	331	⇑P	PKPbc	19 41 11.2	+0.6
OJC	Ojcow	146.98	339	ePKP	PKPbc	19 41 10.8	+0.2
TESR	Tescani	147.00	328	⇓P	PKPbc	19 41 10.9	+0.1
NEGRR	Negrea	147.03	326	P	PKiKP	19 41 11.8	-0.9
CFR	Carcaliu	147.12	325	⇓P	PKPbc	19 41 11.9	+0.8
KOLS	Kolonicke sedl	147.14	335	ePKP	PKiKP	19 41 12.5	-0.4
KOLS				e		19 41 15.5	
TPGR	Topolog	147.18	324	⇓P	PKiKP	19 41 12.6	-0.5
PANC	Panciu	147.19	327	P	PKiKP	19 41 12.1	-0.9
ANTO	Ankara	147.22	313	⇑P	PKPbc	19 41 12.3	+0.6
ONER	Baraj Valea Uz	147.25	328	P	PKiKP	19 41 13.0	-0.1
VRI	Vrincioaia	147.41	327	⇑P	PKiKP	19 41 13.1	-0.4
PLOR	Plostina	147.46	327	⇑P	PKPbc	19 41 12.5	+0.5
SPBR	Spulber	147.47	327	⇑P	PKPbc	19 41 12.5	+0.4
NIE	Niedzica	147.48	338	ePKP	PKiKP	19 41 13.2	-0.4
KSP	Ksiaz	147.51	343	ePKP	PKPbc	19 41 12.3	+0.3
COVR	Voineasa-Covas	147.68	328	⇓P	PKPbc	19 41 12.8	+0.1
MMAI	Mount Meron Ar	147.71	300	PKPbc	PKiKP	19 41 14.1	-0.6
	comp=Z,6.6nm,0.4s,baz=66,slow=5.6,SNR=32						
MANR	Mangalia	147.74	323	⇑P	PKPbc	19 41 13.3	+0.6
OSTC	Ostas	147.79	343	⇑ePKP	PKiKP	19 41 13.5	-0.7
CHVC	Chvalec	147.80	343	⇑ePKP	PKiKP	19 41 14.1	-0.1
CLL	Collm	147.88	347	*i* PKPbc	PKPbc	19 41 13.1	+0.2
	comp=Z,20nm,1.1s						
CLL				*i* PKPab	PKPab	19 41 17.0	-0.4
	comp=Z,22nm,0.9s						
CLL				*i* pPKiKP	pPKiKP	19 43 22.7	+1.3
CLL				*i* SKPbc	SKiKP	19 44 00.8	+1.9
	comp=Z,6.0nm,1.0s						
CLL				*es*PKPbc	sPKPdf	19 44 07.0	-2.5
STEB	Steborice	147.89	341	⇑ePKP	PKPbc	19 41 13.2	+0.2
STEB				ePKPAB	PKPab	19 41 18.1	+0.6
UPC	Upice	147.89	343	⇑ePKP	PKPbc	19 41 13.3	+0.3
DPC	Dobruska-Polom	147.94	343	⇑ePKPAB	PKPab	19 41 18.3	+0.5
LANS	Liptovska Anna	148.00	338	ePKP	PKiKP	19 41 14.6	-0.1
LANS				e		19 41 19.2	
DOPR	Dopca	148.00	328	⇑P	PKiKP	19 41 14.4	-0.4
KRLC	Kraliky	148.06	342	⇑ePKP	PKPbc	19 41 13.5	0.0
KRLC				ePKPAB	PKPab	19 41 18.9	+0.6
MLR	Muntele Rosu	148.06	327	⇓P	PKiKP	19 41 14.6	-0.5
BRG	Berggiesshubel	148.08	346	*i* PKP	PKPbc	19 41 13.7	+0.3
BRG				Amp		19 41 15.5	
	comp=Z,5.0nm,0.6s						
BRG	Berggiesshubel	148.08	346	P	PKPab	19 41 18.2	0.0
BRG				Amp		19 41 19.5	
	comp=Z,13nm,0.9s						
BRG				pPKP	pPKPab	19 43 24.1	+3.6
BRG				Amp		19 43 25.1	
	comp=Z,6.7nm,1.3s						
BRG				SKP		19 44 01.3	
BRG				Amp		19 44 02.6	
	comp=Z,3.2nm,1.0s						
MORC	Moravsky Berou	148.10	341	ePKP	PKPbc	19 41 14.0	+0.4
MORC				e		19 41 18.8	
MORC				epPKP	pPKPab	19 43 23.4	+2.7
MORC	Moravsky Berou	148.10	341	⇓P	PKiKP	19 41 14.6	-0.2
KECS	Kecovo	148.19	336	ePKP	PKPab	19 41 19.6	+0.8
RICC	Richard	148.35	345	⇑ePKP	PKPbc	19 41 14.4	+0.3
MAUC	Maruska	148.37	340	⇑ePKP	PKiKP	19 41 15.1	-0.3
HSKC	Hora Svate Kat	148.44	346	⇑ePKP	PKPbc	19 41 14.7	+0.3
MARR	Marisel-Cluj	148.55	332	⇓P	PKiKP	19 41 15.7	-0.2
VOIR		148.55	328	⇑P	PKiKP	19 41 15.5	-0.5
DRGR		148.64	332	⇓P	PKiKP	19 41 15.9	-0.2
PRU	Pruhonice	148.75	344	⇑ePKP	PKPbc	19 41 15.0	-0.1
PRU				ePKPAB	PKPab	19 41 21.2	+0.2
VYHS	Vyhne	148.78	338	ePKP	PKiKP	19 41 15.7	-0.6
VYHS				e		19 41 22.0	
VRAC	Vranov	148.80	341	ePKP	PKiKP	19 41 16.1	-0.1
VRAC				e		19 41 21.8	
VRAC				epPKP	pPKPab	19 43 30.0	+6.7
VRAC	Vranov	148.80	341	⇓P	PKiKP	19 41 16.2	-0.1
ARR	Arges	148.80	328	⇑P	PKiKP	19 41 16.6	+0.1
JAVC	Velka Javorina	148.86	340	ePKP	PKiKP	19 41 17.3	+0.8
JAVC				e		19 41 23.2	
PSZ	Piszkesteto	148.88	336	⇓P	PKiKP	19 41 16.7	+0.1
KRUC	Moravsky	149.08	341	ePKP	PKiKP	19 41 16.4	-0.4
KRUC				e		19 41 22.8	
DEV	Deva	149.25	331	⇓P	PKiKP	19 41 17.4	+0.1
ZVC	Zvikov	149.34	344	⇑ePKP	PKiKP	19 41 17.1	-0.3
ZVC				ePKPAB	PKPab	19 41 24.0	+0.5
MODS	Modra-Piesok	149.41	340	ePKP	PKiKP	19 41 17.4	-0.2
MODS				e		19 41 24.7	
SIRR	Siria	149.50	333	⇑P	PKiKP	19 41 17.4	-0.4
SRO	Srobarova	149.55	338	ePKP	PKPab	19 41 25.4	+1.0
GZR	Gura Zlata	149.67	330	⇓P	PKiKP	19 41 18.0	-0.3
SURR	Surduc	149.70	331	⇑P	PKPbc	19 41 16.9	-0.6
GRF	Grafenberg Arr	149.77	348	ePKPab	PKPab	19 41 25.6	+0.3
	baz=17,slow=3.8						
KHC	Kasperske Hory	149.78	345	⇑ePKP	PKiKP	19 41 18.1	-0.3
KHC				ePKPAB	PKPab	19 41 25.9	+0.5
CKRC	Cesky Krumlov	149.88	344	⇑ePKP	PKPbc	19 41 18.1	+0.2
GERES	GERESS Array B	150.02	344	PKPbc	PKPbc	19 41 18.2	-0.1
	comp=Z,4.1nm,0.9s,baz=25,slow=3.5,SNR=15						
GERES				PKPab	PKPab	19 41 26.4	-0.1
	comp=Z,3.7nm,0.9s,baz=358,slow=4.0,SNR=9.7						
GERES				pPKPbc	pPKPbc	19 43 26.5	+1.7
	comp=Z,2.1nm,1.0s,baz=15,slow=5.5,SNR=4.1						
BZS	Buzias	150.03	332	⇑P	PKPbc	19 41 18.5	+0.2
BAND	Balkesir-Ban	150.07	318	⇑P	PKPbc	19 41 18.6	0.0
HERR	Herculane	150.23	330	⇑P	PKPbc	19 41 18.1	-0.7
CONA	Conrad Observa	150.25	341	ePKiKP	PKPbc	19 41 19.0	+0.1
	comp=Z,1.4nm,0.4s						
CONA				*i* PKP	PKPab	19 41 27.7	+0.2
	comp=Z,3.8nm,0.9s						
RONA	Rosalia, Austr	150.32	340	ePKiKP	PKPbc	19 41 19.1	+0.1
	comp=Z,3.7nm,0.4s						
RONA				*i* PKP	PKPab	19 41 28.5	+0.8
	comp=Z,4.6nm,0.8s						
MORH	Mrgy, Hungar	150.78	336	⇓P	PKPbc	19 41 19.7	-0.3
MOA	Molin	150.78	343	*i* PKiKP	PKPbc	19 41 19.7	-0.4
	comp=Z,1.4nm,0.5s						
MOA				ePKP	PKPab	19 41 29.6	0.0
	comp=Z,6.6nm,1.0s						
ARSA	Arzberg	150.96	341	ePKP	PKPab	19 41 30.5	+0.1
	comp=Z,1.2nm,0.5s						
BIOA	Bad Ischl, Aus	151.10	344	*i* PKiKP	PKPbc	19 41 19.9	-0.9
	comp=Z,1.2nm,0.3s						
BIOA				*i* PKP	PKPab	19 41 31.4	+0.4
	comp=Z,14nm,1.2s,SNR=8.1						
BOVS	Bovan	151.50	329	⇑P	PKPbc	19 41 21.0	-0.7
LESA	Schwarzleotal	151.59	345	*i* PKiKP	PKPbc	19 41 21.8	-0.2
	comp=Z,2.0nm,0.4s						
LESA				*i* PKP	PKPab	19 41 33.3	+0.2
	comp=Z,20nm,1.1s,SNR=7.4						
SOKA	Soboth	151.62	341	*i* PKiKP	PKPbc	19 41 21.2	-0.9
	comp=Z,0.7nm,0.4s						
SOKA				ePKP	PKPab	19 41 33.2	-0.1
	comp=Z,11nm,1.1s,SNR=5.3						
KBA	Koelnbreinsper	151.74	343	*i* PKP	PKPab	19 41 33.8	-0.1
	comp=Z,4.8nm,0.6s						
OBKA	Obir	151.92	341	*i* PKP	PKPab	19 41 34.2	-0.4
	comp=Z,8.5nm,1.0s						
WATA	Walderalm	151.94	346	*i* PKiKP	PKPbc	19 41 22.3	-0.5
	comp=Z,1.0nm,0.3s						
WATA				ePKP	PKPab	19 41 34.7	+0.1
	comp=Z,14nm,1.2s						
RETA	Reutte	151.97	347	*i* PKiKP	PKiKP	19 41 23.2	+0.2
	comp=Z,0.9nm,0.2s						
RETA				*i* PKP	PKPab	19 41 34.4	-0.3
	comp=Z,11nm,1.1s						
WTTA	Wattenberg	151.99	346	*i* PKiKP	PKPbc	19 41 22.7	-0.3
	comp=Z,2.9nm,0.3s						
WTTA				*i* PKP	PKPab	19 41 35.1	+0.2
	comp=Z,8.4nm,0.8s						
MOTA	Moosalm	152.03	347	*i* PKiKP	PKPbc	19 41 22.9	-0.1
	comp=Z,0.4nm,0.2s						
MOTA				ePKP	PKPab	19 41 34.9	-0.2
	comp=Z,9.2nm,1.0s						
MYKA	Terra Mystica	152.07	343	*i* PKiKP	PKPbc	19 41 22.1	-0.9
	comp=Z,1.2nm,0.5s						
MYKA				*i* PKP	PKPab	19 41 34.2	-1.0
	comp=Z,8.2nm,0.9s						
SQTA	Sankt Quirin	152.13	346	*i* PKiKP	PKPbc	19 41 23.1	-0.1
	comp=Z,2.9nm,0.7s						
SQTA				ePKP	PKPab	19 41 35.3	-0.2
	comp=Z,5.6nm,1.1s						
ABTA	Abfaltersbach	152.26	344	*i* PKiKP	PKPbc	19 41 22.6	-0.8
	comp=Z,2.4nm,0.5s						
ABTA				ePKP	PKPab	19 41 35.3	-0.7
	comp=Z,14nm,0.9s						
FETA	Feichten	152.42	347	*i* PKiKP	PKPbc	19 41 23.5	-0.3
	comp=Z,0.8nm,0.4s						
FETA				ePKP	PKPab	19 41 36.9	+0.2
	comp=Z,7.8nm,1.1s						
ESDC	Sonseca Array	160.04	14	PKPab	PKPab	19 42 09.4	-0.2
	comp=Z,2.5nm,1.0s,baz=339,slow=5.2,SNR=7.5						
DBIC	Dimbokro	164.90	153	PKP	PKPdf	19 41 30.8	-1.0
	comp=Z,5.4nm,0.9s,baz=146,slow=1.7,SNR=4.9						
DBIC				PKPab	PKPab	19 42 32.4	+0.8
	comp=Z,12nm,0.9s,baz=222,slow=4.1,SNR=11						
TORD	Torodi Ar. Bea	172.87	178	PKP	PKPdf	19 41 35.2	-1.5
	comp=Z,23nm,0.4s,baz=186,slow=2.8,SNR=1.2						
TORD				PKPab	PKPab	19 43 06.9	+0.2
	comp=Z,24nm,0.3s,baz=166,slow=2.0,SNR=1.2						
TORD				PP	PP	19 46 57.5	0.0
	comp=Z,25nm,0.3s,baz=220,slow=3.8,SNR=1.7						

SKHL ***17*** *19:29:08.6±0.5, 45°.80N×149°.70E, h157km±7km, mb4.4/3, msha5.3/3*
IDC ***17*** *19:29:09.5±4.3, 46°.32N×149°.84E, h176km±60km, mb3.0/1, mbtmp3.4/4, Error ellipse: s-maj=92.6km s-min=29.2km az=143.0*
JMA ***17*** *19:29:10.7±0.6, 45°N×3°×15°0E±°, h172km, MV3.4/12, KURILE ISLANDS REGION*

ISC 17 19:29:07.5±1.1, 45°.8N±0°.1×150°.1E±0°.1, h152km, n26, σ1§80/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.64	252	eP	Pn	19 29 39.8	+1.2
KUR				AMB	AMB	19 29 42.1	
	30nm,0.3s						
KUR				*i* S	Sn	19 30 04.7	+2.2
KUR				A	A	19 30 10.8	
	190nm,0.3s						
KUR				A	A	19 30 10.8	
	210nm,0.3s						
SHO	Shikotan	2.98	232	*i* P	Pn	19 29 55.3	+0.6
SHO				AMB	AMB	19 29 56.0	
	20nm,0.2s						
SHO				*i* S	Sn	19 30 31.4	+0.2
SHO				A	A	19 30 37.3	
	130nm,0.2s						
SHO				A	A	19 30 37.3	
	60nm,0.2s						
YUK	Yuzh-Kuril'sk	3.46	242	eP	Pn	19 30 01.6	+0.9
YUK				AMB	AMB	19 30 02.9	
	70nm,0.2s						
YUK				eS	Sn	19 30 42.9	+1.0
YUK				A	A	19 30 46.3	
	50nm,0.2s						
YUK				A	A	19 30 46.3	
	100nm,0.2s						
NEM2	Nemuro 2	3.92	234	eP	Pn	19 30 06.6	0.0
NEM2				eS	Sn	19 30 50.0	-2.5
NMR	Nemuro--Hokkai	3.92	234	eP	Pn	19 30 06.3	-0.4
NMR				*i* S	Sn	19 30 51.1	-1.6
JNK	Nakash	4.40	242	eP	Pn	19 30 13.7	+0.8
AKK	Akkeshi	4.65	236	eP	Pn	19 30 16.8	+0.6
JTKR	Abashiri--Toko	4.74	250	eP	Pn	19 30 18.2	+0.9
JAK	Akkeshi	4.74	236	eP	Pn	19 30 17.4	0.0
JAK				eS	Sn	19 31 08.8	-3.2
JAR	Ashorobuto	5.14	244	eP	Pn	19 30 23.6	+0.9
JOB	Onbets	5.31	240	eP	Pn	19 30 25.1	+0.1
JKK2	Kamakawa 2	5.54	253	eP	Pn	19 30 28.9	+0.8
JCH	Churui	5.76	239	eP	Pn	19 30 30.3	-0.6
JCH				eS	Sn	19 31 32.3	-3.9
SKR	Severo-Kuril's	6.37	37	eP	Pn	19 30 37.8	-1.1
TYV	Tymovskoe	7.11	319	eP	Pn	19 30 48.1	-0.7
PAU	Pauzhetka	7.25	36	eP	Pn	19 30 54.1	+3.5
PETK	Petropavlovsk-	8.87	31	P	Pn	19 31 09.1	-3.2
	0.8nm,0.6s,baz=205,slow=14,SNR=1.6						
MJAR	Matsushiro Arr	12.82	228	P	P	19 32 09.3	0.0
	0.7nm,0.6s,baz=44,slow=11,SNR=4.8						
KSRS	Korea Array	18.49	251	P	P	19 33 12.4	+0.6
	1.2nm,0.8s,baz=57,slow=10,SNR=4.8						
H11N2	WAKE ISLAND Hy	29.43	146	T	T	20 06 16.7	
	baz=335,slow=76,SNR=9.7						
H11N1	WAKE ISLAND Hy	29.45	146	T	T	20 06 15.2	
	baz=335,slow=76,SNR=7.2						
H11N3	WAKE ISLAND Hy	29.45	146	T	T	20 06 15.5	
	baz=335,slow=76,SNR=6.

16nm,0.1s
UZB S Sg 19 48 59.1 -0.3
86nm,0.1s
UZB Uzynbulak 0.61 89 *e*P Pg 19 48 51.1 -0.4
16nm,0.1s
UZB *e*S Sg 19 48 59.1 -0.3
86nm,0.1s
PRZ Przheval'sk 0.68 167⇓*e*P Pg 19 48 53.5 +0.7
PRZ ⇓*e*S Sg 19 49 02.7 +1.1
KOTS Kotyrbulak 0.80 277 P Pg 19 48 55.1 0.0
23nm,0.1s
KOTS S Sg 19 49 06.2 +0.7
193nm,0.2s
KOTS Kotyrbulak 0.80 277 *e*P Pg 19 48 55.1 0.0
23nm,0.1s
KOTS *e*S Sg 19 49 06.2 +0.7
193nm,0.2s
MDOK Medeo 0.84 272 P Pg 19 48 55.2 -0.7
1.7nm,0.3s
MDOK Pg Pg 19 48 55.4 -0.5
6.2nm,0.2s
MDOK Lg Lg 19 49 06.7
70nm,0.4s
MDOK S Sg 19 49 06.8 0.0
46nm,0.5s
MDOK Medeo 0.84 272 *e*P Pg 19 48 55.4 -0.5
6.2nm,0.2s
MDOK *e*S Sg 19 49 06.7 -0.1
70nm,0.4s
KNDC Almaty 0.90 275 ⇑P Pb 19 48 56.8 -1.5
3.4nm,0.2s
KNDC ⇑S Sb 19 49 09.7 -1.2
67nm,0.8s
TNSS Tian-Shan 0.92 264 P Pb 19 48 57.1 -1.8
13nm,0.1s
TNSS S Sg 19 49 09.5 +0.1
28nm,0.2s
TNSS Tian-Shan 0.92 264 *e*P Pb 19 48 57.1 -1.8
13nm,0.1s
TNSS *e*S Sg 19 49 09.5 +0.1
28nm,0.2s
SHLS Shalkode 0.93 89 P Pn 19 49 02.4 +2.3
8.7nm,0.1s
SHLS S Sn 19 49 18.6 +4.5
27nm,0.1s
SHLS Shalkode 0.93 89 *e*P Pn 19 49 02.4 +2.3
8.7nm,0.1s
SHLS *e*S Sn 19 49 18.6 +4.5
27nm,0.1s
PDGK Podgornoye 0.96 78 ⇑P Pb 19 48 57.4 -2.1
4.6nm,0.4s
PDGK ⇓S Sb 19 49 09.9 -2.8
22nm,0.4s
BLB Baldybastay 0.97 12 P Pb 19 48 58.2 -1.5
69nm,0.1s
BLB S Sb 19 49 11.1 -2.0
503nm,0.2s
ARXS Arharly 1.10 346 P Pb 19 49 00.6 -1.1
11nm,0.1s
ARXS S Sb 19 49 14.9 -1.7
91nm,0.1s
KTBS Karatobe 1.24 298 P Pn 19 49 03.0 -1.3
14nm,0.2s
KTBS S Sb 19 49 19.4 -1.2
84nm,0.2s
KDJ Kajisay 1.26 217⇑*i*P Pn 19 49 02.9 -1.8
KDJ ⇑*i*S Sb 19 49 18.9 -2.3
MTBS Maitube 1.29 270 P Pn 19 49 04.1 -1.0
8.7nm,0.2s
MTBS S Sb 19 49 21.8 -0.3
86nm,0.2s
MTBS Maitube 1.29 270 *e*P Pn 19 49 04.2 -1.0
8.7nm,0.2s
MTBS *e*S Sb 19 49 21.8 -0.3
86nm,0.2s
KNOS Konyrlen 1.41 30 P Pn 19 49 06.0 -0.8
33nm,0.2s
KNOS S Sn 19 49 24.9 -1.2
129nm,0.3s
TARG Taragay, Kyrgy 1.44 192⇓*i*P Pn 19 49 06.5 -1.0
TARG ⇓*i*S Sn 19 49 25.3 -1.9
KST Kastek 1.64 267 P Pn 19 49 10.3 +0.4
4.1nm,0.1s
KST S Sn 19 49 32.1 +0.5
21nm,0.3s
KST Kastek 1.64 267 *e*P Pn 19 49 10.3 +0.4
4.1nm,0.1s
KST *e*S Sn 19 49 32.1 +0.5
21nm,0.3s
DJR Jarkent 1.66 44 P Pn 19 49 09.9 -0.2
34nm,0.2s
DJR S Sn 19 49 31.3 -0.8
99nm,0.2s
DJR Jarkent 1.66 44 *e*P Pn 19 49 09.9 -0.2
34nm,0.2s
DJR *e*S Sn 19 49 31.3 -0.8
99nm,0.2s
ULHL Ulahol 1.70 239 ⇑P Pn 19 49 10.7 -0.1
10nm,0.2s
ULHL ⇓S Sn 19 49 32.9 -0.3
19nm,0.1s
ULHL Ulahol 1.70 239⇓*i*P Pn 19 49 10.6 -0.2
ULHL ⇓*i*S Sn 19 49 32.3 -0.9
DGS Degeres 1.77 274 P Pn 19 49 12.1 +0.4
9.9nm,0.3s
DGS S Sn 19 49 35.1 +0.1
77nm,0.2s
BOOM Boomskoye usch 1.78 249⇑*i*P Pn 19 49 12.2 +0.3
BOOM ⇑*i*S Sn 19 49 34.7 -0.6
KRBS Karabastau 1.92 288 P Pn 19 49 14.7 +1.0
14nm,0.2s
KRBS S Sn 19 49 40.0 +1.5
82nm,0.3s
TKM2 Tokmak 2 1.92 264 ⇑P Pn 19 49 15.2 +1.4
4.5nm,0.1s
TKM2 ⇓S Sb 19 49 41.5 +1.3
38nm,0.1s
TKM2 Tokmak 2 1.92 264 Pn Pn 19 49 15.5 +1.7
4.3nm,0.5s
TKM2 Sn Sb 19 49 41.9 +1.7
19nm,0.6s
TKM2 Tokmak 2 1.92 264⇑*i*P Pn 19 49 14.4 +0.6
TKM2 ⇑*i*S Sn 19 49 38.6 -0.1
KAPS Kapalarasan 2.30 21 Pg Pn 19 49 21.7 +2.8
7.4nm,0.2s
KAPS Lg Lg 19 49 51.9
300nm,0.2s
KBK Karagaybulak 2.43 260 ⇑P Pn 19 49 23.7 +2.8
7.4nm,0.2s
KBK ⇑S Sb 19 49 55.4 +0.3
34nm,0.2s
KBK Karagaybulak 2.43 260⇓*i*P Pn 19 49 21.4 +0.5
KBK ⇓*i*S Sn 19 49 51.1 -0.3
CHMS Chumysh 2.53 268 ⇓P Pn 19 49 24.7 +2.7
3.0nm,0.1s
CHMS ⇓S Sb 19 49 57.7 +0.2
26nm,0.2s
CHMS Chumysh 2.53 268 Pg Pb 19 49 26.4 +0.3
1.4nm,0.4s
CHMS Lg Lg 19 49 59.0
10nm,0.5s
CHMS Chumysh 2.53 268⇑*i*P Pn 19 49 22.5 +0.5
CHMS ⇑*i*S Sn 19 49 53.1 -0.3
SGDS Sogindy 2.62 278 Pg Pn 19 49 26.7 +3.4
2.0nm,0.1s
SGDS Lg Lg 19 50 00.4
18nm,0.6s
FRU1 Bishkek 2.64 264⇑*i*P Pn 19 49 24.1 +0.5
FRU1 ⇑*i*S Sn 19 49 56.0 -0.2
AAK Ala-Archa 2.77 261 ⇓P Pn 19 49 28.0 +2.6
5.5nm,0.3s
AAK Ala-Archa 2.77 261⇑*i*P Pn 19 49 26.0 +0.6
AAK ⇑*i*S Sn 19 49 58.9 -0.6
UCH Uchtor 2.86 253⇓*i*P Pn 19 49 27.6 +0.6
UCH ⇓*i*S Sn 19 50 01.7 -0.7
ARLS Aral 3.14 247⇑*i*P Pn 19 49 31.2 +0.7
ARLS ⇑*i*S Sn 19 50 07.7 -1.0
EKS2 Erkin-Say 3.28 263⇑*i*P Pn 19 49 33.0 +0.5
EKS2 ⇑*i*S Sn 19 50 11.3 -0.9
MRKS Merke 3.67 265 Pg Pb 19 49 46.1 +0.6
0.8nm,0.2s
MRKS Lg Lg 19 50 33.8
5.9nm,0.3s
MRKS Merke 3.67 265 *e*P Pb 19 49 46.1 +0.6
0.8nm,0.2s
MRKS *e*S Sb 19 50 33.8 +3.3
5.9nm,0.3s

MAKZ Makanchi 4.54 35⇓Pn Pn 19 49 49.9 +0.2
0.1nm,0.3s
MAKZ ⇑Lg Lg 19 51 00.4
5.2nm,0.8s
MK31 Makanchi Array 4.67 37⇑Pn Pn 19 49 52.7 +1.3
0.2nm,0.2s,baz=218,slow=15,SNR=28
MK31 ⇑Lg Lg 19 51 02.7
2.0nm,0.5s,baz=217,slow=28,SNR=7.0
KK31 Karatay Array 5.62 272⇓Pg Pb 19 50 20.2 +1.4
0.4nm,0.3s
KK31 ⇓Lg Lg 19 51 34.3
1.8nm,0.7s,baz=78,slow=29,SNR=6.8

*IDC **17** 19:56:35.6±1.8, 60°.11S×26°.56W, h0km, mbtmp4.1/1, ML3.6/1, Error ellipse: s-maj=88.9km s-min=54.7km az=76.0*
ISC 17 19:56:37.0±1.5, **60°.0S**±0°.2×**26°.5W**±0°.5, **h10**km, **n10, σ0°77/10, 3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.01**	**152**	P	**Pn**	**19 59 41.9**	**+0.2**
VNA1	**Neumayer--Stat**	**13.01**	**152**	⇓P	**Pn**	**19 59 41.9**	**+0.2**
comp=Z,1.1nm,0.2s							
VNA3	**Neumayer Olymp**	**13.15**	**156**	P	**Pn**	**19 59 44.3**	**+0.8**
VNA3	**Neumayer Olymp**	**13.15**	**156**	⇓P	**Pn**	**19 59 44.3**	**+0.8**
comp=Z,0.8nm,0.2s							
SNAA	**Sanae**	**15.01**	**151**	P	**Pn**	**20 00 08.4**	**-0.5**
SNAA	**Sanae**	**15.01**	**151**	⇓P	**Pn**	**20 00 08.4**	**-0.5**
comp=Z,9.1nm,0.2s							
SNAA	**Sanae**	**15.01**	**151**	Pn	**Pn**	**20 00 07.8**	**-1.1**
comp=Z,0.3nm,0.3s,baz=317,slow=16,SNR=6.6							
comp=Z,3.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.39**	**28**	P	**P**	**20 08 26.9**	**+0.6**
comp=Z,15nm,0.3s,baz=197,slow=5.3,SNR=1.1							
YKA	**Yellowknife Ar**	**139.31**	**315**	PKP	**PKiKP**	**20 16 04.2**	**-0.8**
comp=Z,0.3nm,0.7s,baz=146,slow=1.8,SNR=4.9							
ILAR	**Eielson Array**	**152.89**	**306**	PKPbc	**PKiKP**	**20 16 32.7**	**-0.2**
comp=Z,0.1nm,0.4s,baz=137,slow=3.1,SNR=6.0							

*NEIC **17** 19:57:02.9±1.5, 59°.7S±0°.1×25°.3W±0°.4, h21km±6km, mb4.5/20, Error ellipse: s-maj=29.1km s-min=8.9km az=60.0*
*IDC **17** 19:57:02.2±0.9, 59°.85S×25°.66W, h0km, mb4.2/3, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=46.9km s-min=25.6km az=69.0*
ISC 17 19:57:02.1±0.7, **59°.8S**±0°.1×**25°.7W**±0°.1, **h10**km, **n40, σ1s32/40, mb4.5**/12, **7C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.00**	**154**	P	**Pn**	**20 00 06.0**	**-0.6**
VNA1				S	Sn	20 02 18.9	-12
VNA1	**Neumayer--Stat**	**13.00**	**154**	⇑P	**Pn**	**20 00 06.0**	**-0.6**
comp=Z,4.6nm,0.2s							
VNA1				⇑S	Sn	20 02 18.9	-12
comp=N,0.5nm,0.2s							
VNA3	**Neumayer Olymp**	**13.16**	**157**	P	**Pn**	**20 00 07.8**	**-1.0**
VNA3				S	Sn	20 02 19.8	-15
VNA3				x	x	20 02 19.9	
VNA3	**Neumayer Olymp**	**13.16**	**157**	⇑P	**Pn**	**20 00 07.8**	**-1.0**
comp=Z,5.7nm,0.2s							
VNA3				⇓S	Sn	20 02 19.8	-15
comp=N,0.7nm,0.2s							
VNA3				⇑x	x	20 02 19.9	
comp=E,0.9nm,0.3s							
SNAA	**Sanae**	**14.98**	**152**	P	**Pn**	**20 00 32.8**	**-0.9**
SNAA				S	Sn	20 03 03.3	-16
SNAA	**Sanae**	**14.98**	**152**		**Pn**	**20 00 32.6**	**-1.0**
SNAA	**Sanae**	**14.98**	**152**	⇑P	**Pn**	**20 00 32.8**	**-0.9**
comp=Z,67nm,0.2s							
SNAA				⇓S	Sn	20 03 03.3	-16
comp=N,18nm,0.3s							
SNAA	**Sanae**	**14.98**	**152**	Pn	**Pn**	**20 00 32.9**	**-0.8**
comp=N,2.2nm,0.3s,baz=322,slow=16,SNR=21							
comp=N,4.6nm,0.3s							
TROLL	**Troll, Antarti**	**16.53**	**149**	P	**Pn**	**20 00 54.4**	**+0.5**
TROLL	**Troll, Antarti**	**16.53**	**149**	⇑P	**Pn**	**20 00 54.4**	**+0.5**
comp=Z,54nm,0.2s							
EFI	**East Falkland**	**19.79**	**280**	P	**P**	**20 01 33.4**	**+1.1**
MG02	**Cerro Sombrero**	**24.77**	**267**	P	**P**	**20 02 22.5**	**-1.1**
SYO	**Syowa Base**	**28.21**	**136**⇑*e*P		**P**	**20 02 51.3**	**-3.1**
SYO	**Syowa Base**	**28.21**	**136**⇓*e*P		**P**	**20 02 54.4**	**0.0**
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**20 03 14.4**	**+0.2**
QSPA				IAmb	IAmb	20 03 41.3	
comp=Z,7.7nm,1.4s							
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**20 03 16.7**	**+2.5**
comp=Z,1.5nm,0.8s,baz=203,slow=3.7,SNR=10							
comp=Z,1.5nm,0.8s							
TRQA	**Tornquist**	**31.66**	**297**	P	**P**	**20 03 25.4**	**+0.1**
TRQA				IAmb	IAmb	20 03 38.9	
comp=Z,4.0nm,0.8s							
PLTB	**Pedras Altas**	**33.67**	**314**	P	**P**	**20 03 40.3**	**-2.6**
PLTB				IAmb	IAmb	20 04 04.2	
comp=Z,11nm,1.2s							
BO04	**La Punta**	**38.98**	**291**	P	**P**	**20 04 27.8**	**-0.6**
MT09	**Talagante**	**39.33**	**291**	P	**P**	**20 04 30.1**	**-1.3**
MT09				IAmb	IAmb	20 04 33.6	
comp=Z,12nm,0.9s							
MT01	**Popeta**	**39.38**	**291**	P	**P**	**20 04 30.9**	**-0.7**
MT01				IAmb	IAmb	20 04 33.3	
comp=Z,6.9nm,0.6s							
MT02	**Curacav**	**39.83**	**291**	P	**P**	**20 04 33.7**	**-1.7**
MT02				IAmb	IAmb	20 04 57.7	
comp=Z,24nm,1.4s							
VA03	**San Esteban**	**39.96**	**292**	P	**P**	**20 04 36.4**	**-0.2**
VA03				IAmb	IAmb	20 05 14.3	
comp=Z,16nm,1.2s							
ZON	**Zonda**	**40.12**	**295**	P	**P**	**20 04 36.1**	**-1.7**
VA06	**Catapilco**	**40.48**	**292**	P	**P**	**20 04 40.6**	**-0.1**
CO01	**Juntas del Tor**	**42.09**	**295**	P	**P**	**20 04 54.1**	**-0.1**
CO06	**Fray Jorge**	**42.21**	**293**	P	**P**	**20 04 54.7**	**-0.3**
CO06				IAmb	IAmb	20 04 56.6	
comp=Z,6.9nm,0.8s							
GO02	**Mina Guanaco**	**46.00**	**299**	P	**P**	**20 05 25.7**	**0.0**
GO02				IAmb	IAmb	20 05 38.7	
comp=Z,4.9nm,0.6s							
PB09	**IPOC Station P**	**48.80**	**302**	P	**P**	**20 05 48.0**	**+0.6**
PB01	**IPOC Station P**	**49.57**	**302**	P	**P**	**20 05 53.4**	**+0.2**
LPAZ	**La Paz**	**53.24**	**306**	P	**P**	**20 06 21.8**	**+0.4**
LPAZ	**La Paz**	**53.24**	**306**	P	**P**	**20 06 23.2**	**+1.8**
comp=Z,1.5nm,0.3s,baz=131,slow=3.7,SNR=9.6							
comp=Z,1.5nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.01**	**27**	P	**P**	**20 08 46.7**	**-2.5**
TORD	**Torodi Ar. Bea**	**76.01**	**27**	P	**P**	**20 08 51.8**	**+2.6**
comp=Z,27nm,0.3s,baz=195,slow=5.1,SNR=1.7							
ASAR	**Alice Springs**	**95.14**	**161**	P	**P**	**20 10 26.4**	**+0.9**
comp=Z,0.4nm,0.5s,baz=186,slow=4.6,SNR=6.8							
comp=Z,0.4nm,0.5s							
ULM	**Lac du Bonnet**	**123.50**	**314**	PKP	**PKPdf**	**20 15 59.0**	**+0.7**
comp=Z,1.1nm,0.5s,baz=88,slow=1.9,SNR=4.6							
KURBB	**Kurchatov Arra**	**138.10**	**68**	PKP	**PKPdf**	**20 16 26.5**	**+0.6**
comp=Z,0.2nm,0.6s,baz=212,slow=3.3,SNR=1.8							
YKA	**Yellowknife Ar**	**139.47**	**314**	PKP	**PKPdf**	**20 16 29.8**	**+1.7**
comp=Z,1.5nm,0.7s,baz=140,slow=2.2,SNR=19							
SONM	**Songino Array**	**149.98**	**92**	PKPbc	**PKiKP**	**20 16 53.2**	**+0.5**
comp=Z,1.2nm,0.7s,baz=233,slow=3.3,SNR=8.6							
ILAR	**Eielson Array**	**153.12**	**306**	PKPbc	**PKiKP**	**20 16 59.7**	**+1.3**
comp=Z,0.6nm,0.4s,baz=146,slow=2.6,SNR=16							

*IDC **17** 20:00:16.7±2.2, 36°.04N×142°.21E, h0km, mb3.6/4, mbtmp3.6/6, ML3.0/2, Error ellipse: s-maj=42.4km s-min=25.9km az=75.0*
*JMA **17** 20:00:19.8±0.3, 36°.3N±0°.6×14°.2E±°, h73km, MV2.8/25, FAR E OFF IBARAKI PREF*
ISC 17 20:00:17.8±1.4, **36°.22N**±0°.06×**142°.3E**±0°.1, **h18**km, **n21, σ1s15/16, mb3.6/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.36**	**276**	P	**Pb**	**20 00 41.6**	**-1.1**
JHO	**Hitachi**	**1.42**	**287**	P	**Pn**	**20 00 41.9**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.47**	**307**	P	**Pn**	**20 00 42.2**	**-1.2**
BSO3	**Boso 3**	**2.01**	**226**	*e*P	**Pb**	**20 00 51.8**	**-1.8**
JOTO	**OTAMA OYAMA**	**2.05**	**312**	*e*P	**Pn**	**20 00 50.7**	**-0.7**
JAG	**Ashikaga**	**2.28**	**276**	*e*P	**Pn**	**20 00 53.8**	**-0.7**
JRY	**Ryogami san**	**2.73**	**267**	P	**Pn**	**20 01 00.9**	**+0.2**
JOD2	**Odawara 2**	**2.75**	**251**	*e*P	**Pn**	**20 01 00.8**	**-0.2**
JMK	**Ichinoseki**	**2.85**	**343**	*e*P	**Pn**	**20 01 01.3**	**-1.2**
MJAR	**Matsushiro Arr**	**3.29**	**277**	Pn	**Pn**	**20 01 08.9**	**+0.5**
0.5nm,0.3s,baz=112,slow=9.3,SNR=28							
MJAR				Sn	**Sn**	**20 01 47.4**	**+0.3**
0.1nm,0.3s,baz=81,slow=18,SNR=4.3							
3.3nm,0.4s							
JHJ	**Hachijo jima 2**	**3.70**	**214**	Pn	**Pn**	**20 01 14.5**	**+0.4**
9.9nm,0.3s,baz=90,slow=20,SNR=1.5							
JHJ				Sn	**Sn**	**20 01 56.2**	**-1.1**
12nm,0.3s,baz=84,slow=23,SNR=1.2							
138nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**27.14**	**121**	T	T	20 34 31.1	
baz=309,slow=74							
H11N1	**WAKE ISLAND Hy**	**27.15**	**121**	T	T	20 34 36.2	
baz=309,slow=74							
H11N3	**WAKE ISLAND Hy**	**27.16**	**121**	T	T	20 34 39.5	
baz=309							
H11S1	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	20 35 23.4	
baz=314							
H11S3	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	20 35 21.6	
baz=314							
H11S2	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	20 35 33.8	
baz=314							
SONM	**Songino Array**	**28.81**	**305**	P	**P**	**20 06 15.7**	**+0.9**
0.6nm,0.7s,baz=99,slow=7.3,SNR=5.1							
0.6nm,0.7s							
MKAR	**Makanchi Array**	**45.13**	**303**	P	**P**	**20 08 35.5**	**+2.4**
0.5nm,0.6s,baz=90,slow=9.3,SNR=9.8							
0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**47.04**	**309**	P	P	20 08 51.7	+3.7
0.5nm,0.3s,baz=77,slow=8.8,SNR=1.6							
0.5nm,0.3s							
WRA	**Warramunga Arr**	**56.35**	**189**	P	**P**	**20 09 57.4**	**-0.4**
0.2nm,0.7s,baz=7.7,slow=8.0,SNR=1.0							
0.2nm,0.7s							

*KRSC **17** 20:13:52.9±1.6, 55°.03N×164°.83E, h51km±21km, Ml4.0*
*IDC **17** 20:13:52.5±2.0, 55°.15N×164°.93E, h0km, mb3.4/5, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=65.8km s-min=22.7km az=167.0*
ISC 17 20:13:55.0±1.7, **55°.04N**±0°.04×**164°.92E**±0°.06, **h23**km±15km, **n39, σ1s71/56, mb3.4/5, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.63**	**74**	*e*P	**Pb**	**20 14 07.1**	**-0.2**
BKI				*e*S	**Sb**	**20 14 16.0**	**+0.3**
KBTR	**Krutoberegovo**	**1.67**	**315**	*e*P	**Pn**	**20 14 21.1**	**-1.6**
KBTR				*e*S	**Sn**	**20 14 40.1**	**-3.3**
KBG	**Krutoberegovo**	**1.75**	**315**	*e*P	**Pn**	**20 14 22.3**	**-1.6**
KBG				*e*S	**Sn**	**20 14 42.1**	**-3.3**
SMKR	**Semkarok**	**2.48**	**310**	*e*P	**Pn**	**20 14 34.1**	**+0.1**
SMKR				*e*S	**Sn**	**20 15 03.1**	**-0.5**
TUMD	**Tumrok D**	**2.60**	**275**	*e*P	**Pn**	**20 14 35.9**	**+0.3**
TUMD				*e*S	**Sn**	**20 15 05.2**	**-1.2**
KLY	**Klyuchi**	**2.73**	**300**	*e*P	**Pn**	**20 14 36.2**	**-1.1**
KLY				*e*S	**Sn**	**20 15 05.9**	**-3.7**
KIRR	**Kirishev**	**2.76**	**291**	*e*P	**Pn**	**20 14 38.9**	**+1.1**
KIRR				*e*S	**Sn**	**20 15 11.5**	**+1.0**
KMNR	**Kamenistaya**	**2.76**	**287**	*e*P	**Pn**	**20 14 38.9**	**+1.0**
KMNR				*e*S	**Sn**	**20 15 11.0**	**+0.5**
KOZ	**Kozyrevsk**	**3.04**	**292**	*e*P	**Pn**	**20 14 43.4**	**+1.8**
KOZ				*e*S	**Sn**	**20 15 19.1**	**+1.8**
SRDR	**Sredinnyy**	**3.21**	**296**	*e*P	**Pn**	**20 14 45.3**	**+1.3**
SRDR				*e*S	**Sn**	**20 15 21.5**	**0.0**
SPN	**Mys Shipunski**	**3.48**	**238**	*e*P	**Pn**	**20 14 46.9**	**-0.7**
SPN				*e*S	**Sn**	**20 15 23.8**	**-4.2**
ESO	**Esso**	**3.65**	**287**	*e*P	**Pn**	**20 14 50.6**	**+0.6**
ESO				*e*S	**Sn**	**20 15 31.4**	**-0.8**
NLC	**Nalytchevo**	**3.77**	**243**	*e*P	**Pn**	**20 14 51.7**	**0.0**
NLC				*e*S	**Sn**	**20 15 33.0**	**-2.3**
UGLR	**Uglovaya**	**4.03**	**245**	*e*P	**Pn**	**20 14 56.0**	**+0.8**
UGLR				*e*S	**Sn**	**20 15 40.6**	**-1.1**
AVH	**Avacha**	**4.04**	**246**	*e*P	**Pn**	**20 14 56.7**	**+1.3**
AVH				*e*S	**Sn**	**20 15 41.2**	**-0.9**
KRX	**Arik**	**4.05**	**248**	*e*P	**Pn**	**20 14 56.3**	**+0.7**
KRX				*e*S	**Sn**	**20 15 40.6**	**-1.7**
KOK	**Koryaka**	**4.08**	**247**	*e*P	**Pn**	**20 14 57.1**	**+1.1**
DALK	**Dalny**	**4.15**	**244**	*e*P	**Pn**	**20 14 57.2**	**+0.3**
DALK				*e*S	**Sn**	**20 15 41.6**	**-3.0**
PET	**Petropavlovsk**	**4.21**	**244**	*e*P	**Pn**	**20 14 58.5**	**+0.9**
PET				*e*S	**Sn**	**20 15 43.3**	**-2.7**
GNL	**Ganaly**	**4.29**	**255**	*e*P	**Pn**	**20 15 00.3**	**+1.3**
OSSR	**Ossora**	**4.34**	**347**	*e*P	**Pn**	**20 14 59.5**	**+0.1**
OSSR				*e*S	**Sn**	**20 15 46.5**	**-2.7**
KRMR	**Karymshinskiy**	**4.58**	**244**	*e*P	**Pn**	**20 15 03.7**	**+1.0**
KRMR				*e*S	**Sn**	**20 15 53.2**	**-1.9**
RUS	**Russkaya**	**4.61**	**238**	*e*P	**Pn**	**20 15 03.0**	**-0.2**
RUS				*e*S	**Sn**	**20 15 51.7**	**-4.2**
PETK	**Petropavlovsk-**	**4.67**	**248**	Pn	**Pn**	**20 15 04.2**	**+0.3**
7.8nm,0.3s,baz=75,slow=17,SNR=125							
PETK				Sn	**Sn**	**20 15 56.4**	**-1.0**
1.4nm,0.3s,baz=46,slow=25,SNR=1.8							
19nm,0.5s							
GRL	**Gorelyy**	**4.76**	**241**	*e*P	**Pn**	**20 15 06.4**	**+1.1**
GRL				*e*S	**Sn**	**20 15 57.8**	**-2.0**
APC	**Apacha**	**5.04**	**248**	*e*P	**Pn**	**20 15 10.9**	**+1.8**
TILK	**Tilichiki**	**5.46**	**6**	*e*P	**Pn**	**20 15 16.0**	**+1.2**
PAU	**Pauzhetka**	**6.04**	**237**	*e*P	**Pn**	**20 15 23.6**	**+0.9**
ILAR	**Eielson Array**	**25.41**	**48**	P	**P**	**20 19 19.9**	**-0.5**
0.7nm,0.5s,baz=252,slow=6.1,SNR=16							
0.7nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**35.28**	**177**	T	T	20 58 26.9	
baz=359,slow=76,SNR=42							
H11N3	**WAKE ISLAND Hy**	**35.30**	**177**	T	T	20 58 40.6	
baz=359,slow=76,SNR=39							
H11N1	**WAKE ISLAND Hy**	**35.30**	**177**	T	T	20 58 35.8	
baz=359,slow=76,SNR=36							
H11S1	**WAKE ISLAND Hy**	**36.49**	**177**	T	T	21 00 13.8	
baz=352							
H11S3	**WAKE ISLAND Hy**	**36.50**	**177**	T	T	21 00 15.4	
baz=352							
H11S2	**WAKE ISLAND Hy**	**36.51**	**177**	T	T	21 00 04.2	
baz=352							
YKA	**Yellowknife Ar**	**39.78**	**46**	P	**P**	**20 21 25.8**	**+0.2**
0.2nm,0.5s,baz=295,slow=8.5,SNR=3.7							
0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**49.19**	**303**	P	**P**	**20 22 41.1**	**+0.3**
0.4nm,0.7s,baz=52,slow=8.0,SNR=5.3							
0.4nm,0.7s							
BVAR	**Borovoye Array**	**51.37**	**310**	P	**P**	**20 22 58.2**	**+0.9**
0.2nm,0.4s,baz=58,slow=7.2,SNR=1.8							
0.2nm,0.4s							
TXAR	**Lajitas Array**	**67.29**	**71**	P	**P**	**20 24 49.4**	**+1.7**
0.2nm,0.6s,baz=289,slow=5.0,SNR=1.8							
0.2nm,0.6s							

*NEIC **17** 20:36:56.9±2.2, 20°.67N±0°.08×122°.12E±0°.07, h169km±6km, mb5.0/251, Error ellipse: s-maj=11.8km s-min=9.2km az=166.0*
*BJI **17** 20:36:56.7, 20°.71N×122°.31E, h184km, mB4.9/23, mb4.9/72*
*RSNC **17** 20:36:57.5±0.0, 21°N±10°×12°2E±1°0, h171km±34km, M4.7, ML2.3, Hypocentre not reviewed by the ISC*
*MOS **17** 20:36:57.2±0.9, 20°.67N×122°.17E, h190km, mb5.0/58, Error ellipse: s-maj=7.1km s-min=3.9km az=114.2*
*NIED **17** 20:36:58.2, 20°.72N×122°.10E, h136km, MW4.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.60; $M_{\theta\theta}$0.63; $M_{\phi\phi}$-0.03; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.24; Fault plane solution: $M_0$1.02000×10^{16} NP1: ϕ_s335.00000°, δ51.00000°, λ-36.00000°. NP2:ϕ_s90.00000°, δ63.00000°, λ-135.00000°.*
*IDC **17** 20:36:58.0±0.8, 20°.62N×122°.18E, h188km±6km, mb4.5/33, mbtmp5.0/37, MS3.2/5 Error ellipse: s-maj=10.0km s-min=7.8km az=84.0*
*JMA **17** 20:36:58.2±0.4, 21°N±2°×12°2E±°, h136km, MV4.5/21, PHILIPPINE ISL REGION*
ISC 17 20:36:57.2±0.4, **20°.63N**±0°.03×**122°.15E**±0°.04, **h178**km±3km, **h177**km:**pP-P, n1038, σ1s09/993, mb4.9/253, 40C-60D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.39**	**336**	P	**Pn**	**20 37 36.9**	**-1.5**
TWG	**Pinlang**	**2.40**	**336**		**Pn**	**20 37 36.6**	**-2.0**
YULB	**Yu-li**	**2.86**	**344**	Pn	**Pn**	**20 37 42.4**	**-1.5**
YULB	**Yu-li**	**2.86**	**

SSLB Suanglung 3.33 341 P **Pn 20 37 48.3 -1.5**
SSLB Suanglung 3.33 341 S **Sn 20 38 27.5 -3.4**
NACB Ninganchiao 3.56 352 Pn **Pn 20 37 51.4 -1.2**
NACB Ninganchiao 3.56 352 P **Pn 20 37 51.6 -1.0**
NACB Ninganchiao 3.56 352 S **Sn 20 38 33.6 -2.5**
HATJ Hateruma jima 3.74 24 P **Pn 20 37 54.9 0.0**
JYNG Yonagunijimaku 3.87 11 *e*P **Pn 20 37 56.5 0.0**
JYNG *e*S **Sn 20 38 41.6 -1.5**
YOJ Yonaguni jima 3.89 12 Pn 20 37 57.1 +0.2
YOJ Yonaguni jima 3.89 12 P **Pn 20 37 57.2 +0.4**
YOJ Yonaguni jima 3.89 12 P **Pn 20 37 57.1 +0.2**
YOJ Yonaguni jima 3.89 12 *e*P **Pn 20 37 57.0 +0.2**
IRIF Iriomote-Funau 3.96 21 *e*P **Pn 20 37 57.6 -0.1**
JKRS Kuro-shima 3.98 25 P **Pn 20 37 58.2 +0.3**
YHNB Yeheng 4.08 350 Pn **Pn 20 37 58.9 -0.4**
YHNB Yeheng 4.08 350 P **Pn 20 37 59.0 -0.3**
YHNB Yeheng 4.08 350 S **Sn 20 38 46.2 -1.8**
JIJ Ishigaki jima 4.15 26 *i* P **Pn 20 37 59.7 -0.4**
TATO Taipei 4.36 352 P **Pn 20 38 02.0 -0.8**
JISG Ishigakijimahi 4.41 27 *i* P **Pn 20 38 03.0 -0.5**
JTJ Tarama 4.63 30 P **Pn 20 38 06.3 0.0**
JIRB Irabujima 5.02 33 P **Pn 20 38 11.4 0.0**
JMJ Miyako jima 2 5.08 34 P **Pn 20 38 12.0 0.0**
7μm,0.8s
JOGS Gusukube 5.09 36 P **Pn 20 38 12.8 +0.5**
KNMB Chin-men Tao 5.16 318 Pn **Pn 20 38 11.8 -1.3**
QZH Quanzhou 5.40 323 P **Pn 20 38 14.8 -1.5**
QZH smax smax
comp=N,330nm,0.7s
QZH smax smax
comp=E,440nm,0.6s
TGY Tagaytay City 6.60 190 P **Pn 20 38 33.6 +1.4**
312nm,0.5s,baz=358,slow=4.1,SNR=11
TGY S **Sn 20 39 43.4 -3.6**
226nm,0.5s,baz=61,slow=19,SNR=1.2
JKE Kume jima 2 7.09 36 *e*P **Pn 20 38 37.8 -0.7**
HKPS Hong Kong Po S 7.63 284 Pn **Pn 20 38 46.1 +0.4**
HKPS Hong Kong Po S 7.63 284 P **Pn 20 38 45.0 -0.7**
JIH Iheya 8.30 39 P **Pn 20 38 53.8 -0.7**
JOW Kunigami 8.34 41 Pn **Pn 20 38 55.1 +0.1**
JOW Kunigami 8.34 41 P **Pn 20 38 54.8 -0.2**
75nm,0.5s,baz=213,slow=12,SNR=29
JOW Kunigami 8.34 41 P **Pn 20 38 55.4 +0.4**
JOW Kunigami 8.34 41 P **Pn 20 38 54.5 -0.5**
GZH Guangzhou 8.53 288 P **Pn 20 38 57.3 -0.2**
GZH S **Sn 20 40 32.1 -0.8**
GZH pmax pmax
comp=Z,66nm,1.1s
GZH smax smax
comp=N,110nm,0.9s
GZH smax smax
comp=E,130nm,0.8s
JTK Tokunoshima 9.45 40 P **Pn 20 39 08.4 -1.1**
JMZ Minamidaito 2 9.81 57 P **Pn 20 39 15.4 +1.1**
CNSH ChangSha 11.26 314 P **P 20 39 36.3 -3.7**
CNSH S **Sn 20 41 37.3 -1.0**
CNSH pmax pmax
comp=Z,18nm,1.1s
QIZ Qiongzhong 11.69 264 P **Pn 20 39 39.0 +0.2**
QIZ S **Sn 20 41 45.9 -2.8**
QIZ pmax pmax
comp=Z,26nm,1.2s
QIZ LR LR
comp=N,280nm,10.1s
QIZ LR LR
comp=E,340nm,9.1s
QIZ LR LR
comp=Z,280nm,7.8s
NJ2 Nanjing 11.75 346 *e*P **Pn 20 39 40.8 +1.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
WHN Wuhan 12.11 326 ⇑P **Pn 20 39 45.8 +1.7**
WHN pmax pmax
comp=Z,110nm,0.7s
DAV Davao City (W) 13.89 166 LR LR 20 45 46.0
comp=Z,99nm,19.7s,baz=343,slow=38
JNU Nakatsue 14.67 30 P **P 20 40 17.4 -0.5**
JNU Nakatsue 14.67 30 P **Pn 20 40 16.8 +0.5**
66nm,0.9s,baz=212,slow=6.2,SNR=14
JNU Nakatsue 14.67 30 P **Pn 20 40 17.0 +0.7**
JTU Tsushima 15.25 23 P **P 20 40 24.3 +0.1**
GYA Guiyang 15.33 295 ⇓P **P 20 40 26.9 +1.5**
GYA pmax pmax
comp=Z,9.0nm,1.7s
KKM Kota Kinabalu 15.60 202 P **P 20 40 29.7 +1.3**
KKM IAmb IAmb 20 40 31.9
comp=Z,99nm,1.1s
KKM Kota Kinabalu 15.60 202 P **Pn 20 40 28.5 +0.5**
DLV Lat 15.69 239 P **P 20 40 32.1 +2.6**
DLV IAmb IAmb 20 40 33.1
comp=Z,46nm,0.7s
MYLDM Lahad Datu 15.76 193 P **P 20 40 32.8 +2.7**
MYLDM IAmb IAmb 20 40 44.6
comp=Z,39nm,0.8s
MYLDM Lahad Datu 15.76 193 P **Pn 20 40 30.0 +0.2**
TIA Tai'an 16.13 345 P **P 20 40 34.5 +0.5**
TIA pmax pmax
comp=Z,11nm,1.1s
LYN LuoYang 16.29 330 P **Pn 20 40 37.8 +1.8**
LYN pmax pmax
comp=Z,180nm,0.8s
LYN pmax pmax
comp=Z,320nm,3.7s
TJN Taejon 16.34 15 *ce*P **Pn 20 40 37.7 +1.1**
JMN Monobe 16.69 36 P **P 20 40 38.8 -1.4**
JMN Monobe 16.69 36 P **Pn 20 40 42.5 +1.6**
UBPT Khong Chiam 16.73 254 P **P 20 40 40.8 +0.1**
UBPT IAmb IAmb 20 40 45.9
comp=Z,30nm,0.7s
UBPT Khong Chiam 16.73 254 P **P 20 40 41.1 +0.4**
KSRS Korea Array 17.50 15 P **P 20 40 49.4 +0.5**
comp=Z,4.4nm,0.4s,baz=199,slow=11,SNR=30
KSRS PcP **PcP 20 45 20.0 -0.2**
comp=Z,1.8nm,0.7s,baz=193,slow=2.9,SNR=6.9
KSRS LR LR 20 47 32.7
comp=Z,56nm,20.8s,baz=205,slow=36
KS19 Wonju Array Si 17.53 15 P **P 20 40 48.9 -0.4**
XAN Xi'an 17.76 321 ⇑P **P 20 40 52.3 +0.3**
XAN pmax pmax
comp=Z,51nm,0.8s
XAN pmax pmax
comp=Z,270nm,5.1s
HNS HongShan 17.92 340 ⇓P **Pn 20 40 54.4 -0.9**
HNS S **S 20 44 10.8 +0.8**
HNS pmax pmax
comp=Z,270nm,0.7s
DL2 Dalian 18.22 359 P **Pn 20 40 57.8 -1.0**
DL2 pmax pmax
comp=Z,52nm,0.8s
KMI Kunming 18.43 288 ⇓P **Pn 20 41 06.8 +5.1**
KMI sP sP 20 41 50.8 +0.1
KMI pmax pmax
comp=Z,19nm,1.0s
TIY Taiyuan 18.99 336 *e*P **Pn 20 41 07.1 -1.0**
TIY pmax pmax
comp=Z,100nm,0.7s
TOLI2 Tolitoli 19.45 184 P **P 20 41 10.3 0.0**
TOLI2 Tolitoli 19.45 184 P **P 20 41 11.1 +0.8**
PZH PanZhiHua 19.59 291 P **Pn 20 41 14.4 -0.9**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,90nm,4.7s
INU Inuyama 19.64 39 P **P 20 41 13.9 +1.6**
INU IAmb IAmb 20 41 16.1
comp=Z,52nm,0.9s
INU Inuyama 19.64 39 P **Pn 20 41 14.6 -1.1**
BJI Beijing 20.01 347 P **P 20 41 15.4 -0.7**
BJI pmax pmax
comp=Z,9.0nm,0.8s
JHJ Hachijo jima 2 20.02 48 P **P 20 41 17.5 +1.2**
comp=Z,216nm,0.8s,baz=231,slow=11,SNR=4.0
comp=Z,216nm,0.8s
JGF Kuroka 20.02 39 P **P 20 41 15.9 -0.4**
JGF IAmb IAmb 20 41 18.9
comp=Z,71nm,0.9s
JGF Kuroka 20.02 39 P **P 20 41 18.0 +1.6**
MRSI Marisa 20.03 181 P Pn 20 41 19.6 -1.0
comp=Z,1μmcomp=Z,109nm,0.6s
JHJ2 Mitsune 20.04 48 P Pn 20 41 18.8 -1.7
MPSI Mapaga 20.29 186 P **P 20 41 21.5 +2.1**
comp=Z,72nm,0.8s
TNTI Ternate 20.39 165 P **P 20 41 22.8 +2.4**
SBUM Sibu 20.50 209 P **P 20 41 21.9 +0.3**

PHRA Phrae 20.76 268 P **P 20 41 24.4 0.0**
MAJO Matsushiro 21.17 38 *de*P **P 20 41 28.3 -0.3**
MAJO pmax pmax
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 21.17 38 P **P 20 41 28.6 +0.1**
comp=Z,10nm,0.8s,baz=227,slow=8.8,SNR=25
comp=Z,10nm,0.8s
PCI Palu 21.52 186 P **P 20 41 35.3 +2.8**
comp=Z,851nmcomp=Z,97nm,0.8s
LUWI Luwuk 21.55 178 P **P 20 41 34.9 +2.1**
comp=Z,1μmcomp=Z,109nm,0.9s
CHTO Chiang Mai 21.91 269 P **P 20 41 36.6 +0.1**
CHTO Chiang Mai 21.91 269 P **P 20 41 36.7 +0.1**
CHTO pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 21.97 268 P **P 20 41 38.5 +1.4**
comp=Z,5.3nm,0.7s,baz=76,slow=8.4,SNR=45
CMAR PcP **PcP 20 45 29.3 +0.6**
comp=Z,3.1nm,0.6s,baz=47,slow=0.5,SNR=19
comp=Z,5.3nm,0.7s
CMAR Chiang Mai Arr 21.97 268 *i* P **P 20 41 38.5 +1.4**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
TNCH TengChong 22.20 286 *i* P **P 20 41 41.8 +2.3**
TNCH pP pwP 20 42 13.3 -0.6
TNCH pmax pmax
comp=Z,25nm,0.9s
TNCH pmax pmax
comp=Z,84nm,3.5s
LZH Lanzhou 22.22 318 *e*P **P 20 41 40.3 +0.8**
LZH PcP **PcP 20 45 30.1 +1.0**
LZH SS Sn 20 46 27.9 +28
LZH pmax pmax
comp=Z,45nm,1.2s
LZH pmax pmax
comp=Z,210nm,4.1s
KSM Kuching 22.28 213 IAmb IAmb 20 41 41.5
comp=Z,33nm,0.8s
BKB Balikpapan 22.36 194 P **P 20 41 42.1 +1.3**
BTO Baotou 22.43 335 *e*P **P 20 41 42.3 +0.9**
BTO pP **pwP 20 42 15.5 +2.7**
BTO PP **PnPn 20 42 21.3 +4.8**
BTO sP **sP 20 42 34.1 -0.5**
BTO SS Sn 20 46 33.3 +29
BTO pmax pmax
comp=Z,27nm,0.6s
BTO pmax pmax
comp=Z,250nm,4.3s
BTO LR LR
comp=Z,310nm,7.0s
BTO LR LR
comp=Z,240nm,5.5s
BTO LR LR
comp=Z,220nm,4.8s
SRDT SRDT 22.82 258 P **P 20 41 45.8 +0.8**
SANI Sanana 22.86 170 P **P 20 41 45.1 -0.2**
SANI Sanana 22.86 170 P **P 20 41 45.4 +0.1**
comp=Z,742nmcomp=Z,37nm,0.5s
STKI Sintang 22.95 208 P **P 20 41 47.6 +1.4**
PSTR Posyet 23.13 16 ⇓*e*P **P 20 41 47.2 -0.3**
MSHR Mys Shultsa 23.16 17 ⇓*e*P **P 20 41 48.9 +1.1**
MSHR pmax pmax
comp=Z,18nm,0.9s
CN2 Changchun 23.27 6 P **P 20 41 48.8 0.0**
CN2 pmax pmax
comp=Z,40nm,0.6s
JMM Marumori 23.58 39 P **P 20 41 49.7 -2.0**
JMM IAmb IAmb 20 41 52.8
comp=Z,51nm,0.8s
JMM Marumori 23.58 39 P **P 20 41 52.3 +0.6**
TTSI Tana Toraja 23.64 186 P **P 20 41 54.1 +1.7**
comp=Z,753nmcomp=Z,41nm,0.8s
XLT XiLinHaoTe 23.75 349 ⇓*i*P **P 20 41 52.9 -0.4**
XLT pP pwP 20 42 32.5 +0.7
XLT sP sP 20 42 46.5 -1.0
XLT S **S 20 45 52.3 -3.1**
XLT SS **SnSn 20 47 00.4 +3.2**
XLT pmax pmax
comp=Z,30nm,1.1s
XLT pmax pmax
comp=Z,120nm,5.0s
NLAI Namlea 24.22 168 P **P 20 41 58.9 +1.2**
comp=Z,1μmcomp=Z,91nm,0.8s
KDI Kendari 24.44 179 P **P 20 42 02.5 +2.8**
comp=Z,13nm,0.9s
SPSI Sidrap Palu 24.56 186 P **P 20 42 01.1 +0.4**
comp=Z,20nm,0.7s
MDJ Mudanjiang 24.70 13 P **P 20 42 02.5 +0.7**
MDJ PP **PnPn 20 42 45.4 -0.8**
MDJ sP PP 20 42 58.4 -3.1
MDJ PcP **PcP 20 45 34.1 +0.1**
MDJ sS sS 20 47 13.6 +0.1
MDJ pmax pmax
comp=Z,24nm,0.8s
MDJ pmax pmax
comp=Z,180nm,4.1s
AAI Ambon 24.89 166 P **P 20 42 03.5 -0.3**
comp=Z,47nm,0.5s
USA0B Ussuriysk Arra 24.89 17 P **P 20 42 01.0 -2.5**
USA0B Ussuriysk Arra 24.89 17 ⇑*e*P **P 20 42 02.6 -0.9**
USRK Ussuriysk Ar. 24.89 17 P **P 20 42 00.6 -2.9**
USRK Ussuriysk Ar. 24.89 17 P **P 20 42 04.2 +0.8**
comp=Z,13nm,0.8s,baz=191,slow=4.9,SNR=17
comp=Z,13nm,0.8s
BNX BinXian 25.41 9 ⇑P **P 20 42 07.9 -0.3**
BNX pmax pmax
comp=Z,18nm,0.9s
FAKI Fak Fak 25.42 156 P **P 20 42 09.8 +1.2**
KAPI Kappang 25.60 186 ⇑*e*P **P 20 42 10.9 +0.7**
KAPI pmax pmax
comp=Z,8.0nm,0.9s
BAKI Biak 25.64 146 P **P 20 42 12.9 +2.3**
comp=Z,102nm,1.2s
JTM Tenmabayashi 25.75 35 P **P 20 42 11.7 +0.4**
KULM Kulim 25.86 237 P **P 20 42 12.9 +0.4**
KULM IAmb IAmb 20 42 17.4
comp=Z,21nm,0.7s
KULM Kulim 25.86 237 P **P 20 42 13.3 +0.8**
MYKOM Kota Tinggi 25.88 226 IAmb IAmb 20 42 16.7
comp=Z,19nm,0.8s
IPM Ipoh 26.07 235 P **P 20 42 14.3 -0.3**
IPM IAmb IAmb 20 42 15.7
comp=Z,25nm,0.8s
IPM Ipoh 26.07 235 P **P 20 42 14.8 +0.3**
GTA Gaotai 26.79 319 *e*P **P 20 42 22.3 +1.5**
GTA PcP **PcP 20 45 39.5 +0.4**
GTA S **S 20 46 44.8 +1.1**
GTA PcS **PcS 20 49 19.9 -0.8**
GTA pmax pmax
comp=Z,24nm,0.9s
ERM Erimo 27.73 35 P **P 20 42 30.8 +1.8**
JEM Erimo 27.73 35 P **P 20 42 30.7 +1.7**
SHL Shillong 28.23 286 P **P 20 42 34.5 +0.6**
SHL pmax pmax
comp=Z,20nm,0.8s
GOMU GeErMu 28.48 309 P **P 20 42 37.4 +1.2**
GOMU pmax pmax
comp=Z,11nm,0.9s
ASAJ Asahikawa 28.94 31 P **P 20 42 40.4 +0.7**
comp=Z,5.2nm,0.4s,baz=214,slow=10,SNR=4.1
comp=Z,5.2nm,0.4s
LSA Lhasa 29.40 294 P **P 20 42 46.8 +2.3**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 29.40 294 *i* P **P 20 42 46.8 +2.3**
SNR=10
KLR Kul'dur 29.55 13 P **P 20 42 45.4 +0.4**
comp=Z,12nm,0.8s,baz=232,slow=6.6,SNR=38
KLR PcP **PcP 20 45 45.1 -0.4**
comp=Z,5.9nm,0.6s,baz=204,slow=3.7,SNR=14
comp=Z,12nm,0.8s
KLR Kul'dur 29.55 13 *de*P **P 20 42 45.3 +0.3**
KLR pmax pmax
comp=Z,14nm,0.8s
PLAI Plampang 29.59 189 P **P 20 42 45.9 +0.2**
ULN Ulaanbaatar 29.78 339 P **P 20 42 47.3 0.0**
ULN IAmb IAmb 20 42 48.4
comp=Z,22nm,0.7s
ULN **PcP 20 45 46.4 0.0**
ULN Ulaanbaatar 29.78 339 *d i* P **P 20 42 47.3 0.0**
ULN pmax pmax
comp=Z,21nm,0.9s
HEH HeiHe 29.85 7 *e*P **P 20 42 47.3 -0.4**
HEH pmax pmax
comp=Z,8.0nm,0.6s

SONM Songino Array 29.98 339 P **P 20 42 48.9 -0.1**
SONM Songino Array 29.98 339 P **P 20 42 49.0 -0.1**
comp=Z,14nm,0.7s,baz=159,slow=10,SNR=124
SONM PcP **PcP 20 45 46.0 -0.9**
comp=Z,1.7nm,0.3s,baz=172,slow=3.8,SNR=27
SONM ScP **ScP 20 49 10.6 -1.8**
comp=Z,0.8nm,0.7s,baz=162,slow=3.7,SNR=4.9
comp=Z,14nm,0.7s
SOEI Soe 30.27 176 P **P 20 42 52.1 +0.3**
UGM Wanagama 30.58 203 P **P 20 42 56.5 +2.0**
GSI Gunungsitoli 30.74 234 P **P 20 42 55.6 -0.3**
YSS Yuzhno-Sakhali 31.16 28 *e*P **P 20 43 00.4 +1.2**
YSS *e* 20 43 36.6
YSS *e* 20 43 56.9
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzhno-Sakhali 31.16 28 P **P 20 43 00.2 +1.1**
MNAI Manna 31.17 219 P **P 20 43 00.0 +0.3**
BBJI Bungbulang 31.35 209 P **P 20 43 01.6 +0.3**
ZAK Zakamensk 33.22 338 *e*P **P 20 43 15.9 -1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
ZEA Zeya 33.28 6 *e*P **P 20 43 17.7 +0.1**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
TYV Tymovskoe 34.22 23 *e*P **P 20 43 27.2 +1.5**
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.2s
MTN Manton Dam 34.42 164 P **P 20 43 25.8 -2.1**
MTN IAmb IAmb 20 43 26.4
comp=Z,15nm,0.6s
IRK Irkutsk 34.47 341 *e*P **P 20 43 25.9 -2.1**
IRK pmax pmax
comp=Z,23nm,1.4s
MOY Mondy 35.10 337 *e*P **P 20 43 33.4 -0.1**
MOY pmax pmax
comp=Z,17nm,1.4s
KNRA Kununurra 36.66 169 P **P 20 43 45.6 -1.3**
KNRA IAmb IAmb 20 43 47.2
comp=Z,18nm,0.9s
WMQ Urumqi 36.80 317 *e*P **P 20 43 49.8 +1.9**
WMQ sP sP 20 44 48.8 +3.6
WMQ PcP **PcP 20 46 05.8 -0.4**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ Urumqi 36.80 317 P **P 20 43 49.9 +1.9**
COEN Coen 40.11 147 P **P 20 44 15.3 -0.5**
COEN Coen 40.11 147 P **P 20 44 16.0 +0.2**
SKR Severo-Kuril's 40.14 33 ⇓*e*P **P 20 44 16.3 +0.7**
ZSN Zaisan 40.26 320 *e*P **P 20 44 16.4 -0.3**
ZSN Zaisan 40.26 320 *e*P **P 20 44 16.5 -0.3**
HYB Hyderabad 41.25 273 *e*P **P 20 44 25.8 +0.6**
MK31 Makanchi Array 41.54 318 IAmb IAmb 20 44 29.0
comp=Z,25nm,0.8s
MK31 Makanchi Array 41.54 318 *d i*P **P 20 44 28.1 +1.0**
MKAR Makanchi Array 41.54 318 P **P 20 44 28.0 +0.9**
MKAR Makanchi Array 41.54 318 P **P 20 44 28.2 +1.1**
comp=Z,24nm,0.4s,baz=110,slow=8.9,SNR=584
MKAR PcP **PcP 20 46 20.6 -0.5**
comp=Z,7.0nm,0.7s,baz=90,slow=4.9,SNR=7.9
MKAR ScP **ScP 20 49 52.4 -2.0**
comp=Z,0.7nm,0.6s,baz=95,slow=6.0,SNR=3.9
comp=Z,24nm,0.4s
WUS Wushi 41.64 309 P **P 20 44 29.8 +1.7**
WUS PcP **PcP 20 46 21.4 -0.3**
YAK Yakutsk 41.69 5 P **P 20 44 26.4 -1.7**
comp=Z,18nm,0.6s,baz=173,slow=0.3,SNR=19
YAK LR LR 21 03 22.8
comp=Z,39nm,18.5s,baz=288,slow=38
comp=Z,18nm,0.6s
YAK Yakutsk 41.69 5 *e*P **P 20 44 26.8 -1.3**
YAK *e**PP **pP 20 45 04.7 -0.3**
YAK *e* 20 46 07.0
YAK *e* 20 46 19.9
YAK *e*S **S 20 50 30.3 -0.9**
YAK *e**SS **sS 20 51 38.2 +0.8**
YAK *e*SS **SS 20 53 44.0 +0.1**
YAK *e* 20 54 10.5
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,131nm,4.1s
YAK pmax pmax
comp=N,52nm,4.4s
YAK pmax pmax
comp=E,79nm,4.2s
YAK smax smax
comp=E,91nm,4.6s
YAK smax smax
comp=N,80nm,4.6s
YAK Yakutsk 41.69 5 P **P 20 44 26.9 -1.3**
YAK PcP **PcP 20 46 20.8 -0.4**
MAKZ Makanchi 41.74 318 P **P 20 44 27.8 -0.9**
MAKZ IAmb IAmb 20 44 30.3
comp=Z,24nm,0.6s
MAKZ Makanchi 41.74 318 P **P 20 44 29.4 +0.6**
MAKZ Makanchi 41.74 318 P **P 20 44 29.6 +0.9**
MAKZ PcP **PcP 20 46 21.2 -0.6**
H11N1 WAKE ISLAND Hy 41.91 83 T T 21 30 49.4
baz=277
H11N2 WAKE ISLAND Hy 41.91 83 T T 21 30 51.6
baz=277
H11N3 WAKE ISLAND Hy 41.93 83 T T 21 30 50.5
baz=277
H11S3 WAKE ISLAND Hy 41.93 85 T T 21 30 20.5
baz=281,slow=74,SNR=8.8
H11S1 WAKE ISLAND Hy 41.94 85 T T 21 30 02.8
baz=281,slow=74,SNR=7.9
H11S2 WAKE ISLAND Hy 41.95 85 T T 21 30 03.9
baz=281,slow=74,SNR=5.5
SHLS Shalkode 42.05 312 *e*P **P 20 44 28.9 -2.5**
SHLS pmax pmax
comp=Z,17nm,1.1s
SHLS Shalkode 42.05 312 *e*P **P 20 44 29.0 -2.5**
comp=Z,17nm,1.1s
WRAB Tennant Creek 42.05 163 P **P 20 44 30.2 -1.4**
WRAB Tennant Creek 42.05 163 *ce*P **P 20 44 30.4 -1.1**
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 42.05 163 P **P 20 44 29.3 -2.3**
WRA Warramunga Arr 42.05 163 P **P 20 44 30.0 -1.5**
comp=Z,4.9nm,0.4s,baz=346,slow=8.7,SNR=174
WRA ScP **ScP 20 49 56.0 -0.8**
comp=Z,1.0nm,0.6s,baz=353,slow=4.1,SNR=4.6
WRA S **S 20 50 30.6 -6.9**
comp=Z,3.9nm,0.9s,baz=342,slow=15,SNR=9.2
comp=Z,4.9nm,0.4s
UZB Uzynbulak 42.35 312 *e*P **P 20 44 33.9 0.0**
UZB pmax pmax
comp=Z,15nm,0.6s
UZB Uzynbulak 42.35 312 *e*P **P 20 44 34.0 0.0**
comp=Z,15nm,0.6s
PEA0B Petropavlovsk- 42.36 31 IAmb IAmb 20 44 35.2
comp=Z,51nm,1.0s
PEA0B Petropavlovsk- 42.36 31 *de*P **P 20 44 33.8 +0.1**
PETK Petropavlovsk- 42.36 31 P **P 20 44 33.0 -0.7**
PETK Petropavlovsk- 42.36 31 P **P 20 44 33.3 -0.4**
comp=Z,22nm,0.8s,baz=217,slow=4.6,SNR=35
comp=Z,22nm,0.8s
KPKS Kokpek 42.68 312 *e*P **P 20 44 36.6 0.0**
KPKS pmax pmax
comp=Z,15nm,0.8s
KPKS Kokpek 42.68 312 *e*P **P 20 44 36.6 0.0**
comp=Z,15nm,0.8s
SATY Saty 42.75 312 *e*P **P 20 44 37.1 -0.1**
SATY pmax pmax
comp=Z,14nm,0.9s
SATY Saty 42.75 312 *e*P **P 20 44 37.1 -0.1**
comp=Z,14nm,0.9s
ZHN Zhinishke 42.77 312 *e*P **P 20 44 37.2 0.0**
ZHN Zhinishke 42.77 312 *e*P **P 20 44 37.3 0.0**
PET Petropavlovsk 42.78 32 *e*P **P 20 44 37.6 +0.6**
PET pmax pmax
comp=Z,36nm,0.8s
PET Petropavlovsk 42.78 32 P **P 20 44 37.3 +0.3**

comp=Z,37nm,1.1s
KDJ Kajisay 43.36 310 IAmb IAmb 20 44 44.8
comp=Z,31nm,0.6s
TDK Taldyqorghan 43.37 314 *e*P **P** **20 44 42.1 +0.2**
TDK pmax pmax
comp=Z,24nm,0.5s
TDK Taldyqorghan 43.37 314 *e*P **P** **20 44 42.1 +0.2**
comp=Z,24nm,0.5s
KSH Kashi 43.64 306 P **P** **20 44 48.4 +4.1**
KSH pmax pmax
comp=Z,45nm,0.6s
GIRL Giralia 43.70 191 P **P** **20 44 44.8 +0.1**
ZAA0 Zalesovo Array 43.71 329 IAmb IAmb 20 44 45.2
comp=Z,29nm,0.6s
ZALV Zalesovo Beam 43.71 329 P **P** **20 44 44.4 -0.1**
comp=Z,27nm,0.5s,baz=115,slow=8.1,SNR=158
ZALV pP **pP** **20 45 24.5 +1.5**
comp=Z,5.1nm,0.7s,baz=120,slow=7.4,SNR=2.0
ZALV PcP **PcP** **20 46 26.6 -1.5**
comp=Z,3.4nm,0.5s,baz=108,slow=4.2,SNR=5.2
ZALV ScP **ScP** **20 50 00.2 -2.8**
comp=Z,1.5nm,0.7s,baz=132,slow=4.2,SNR=5.3
comp=Z,27nm,0.5s
MDOK Medeo 43.73 311 *e*P **P** **20 44 44.9 -0.1**
MDOK Medeo 43.73 311 *e*P **P** **20 44 45.0 -0.1**
TNSS Tian-Shan 43.77 311 *e*P **P** **20 44 45.3 -0.3**
TNSS Tian-Shan 43.77 311 *e*P **P** **20 44 45.4 -0.2**
AAA Alma-Ata 43.84 311 *e*P **P** **20 44 45.7 -0.1**
AAA pmax pmax
comp=Z,25nm,1.1s
AAA Alma-Ata 43.84 311 *e*P **P** **20 44 45.8 -0.1**
comp=Z,25nm,1.1s
MA2 Magadan 43.95 21 P **P** **20 44 46.4 +0.1**
comp=Z,18nm,0.9s,baz=202,slow=7.6,SNR=27
MA2 PcP **PcP** **20 46 28.7 -0.2**
comp=Z,4.0nm,0.6s,baz=214,slow=1.5,SNR=5.1
MA2 LR LR 21 03 33.7
comp=Z,19nm,20.3s,baz=263,slow=36
comp=Z,18nm,0.9s
MA2 Magadan 43.95 21*ce*P **P** **20 44 46.6 +0.3**
MA2 pmax pmax
comp=Z,16nm,0.8s
MA2 Magadan 43.95 21 P **P** **20 44 46.2 0.0**
comp=Z,23nm,0.9s
MA2 Magadan 43.95 21 P **P** **20 44 46.3 0.0**
MA2 PcP **PcP** **20 46 28.7 -0.2**
ULHL Ulahol 44.06 310 P **P** **20 44 49.6 +1.8**
SNR=24
MTSU Mount Surprise 44.24 149 P **P** **20 44 50.0 +0.9**
SEM Semipalatinsk 44.33 322 *e*P **P** **20 44 49.5 -0.2**
SEM Semipalatinsk 44.33 322 *e*P **P** **20 44 49.6 -0.2**
BOOM Boomskoye usch 44.34 310 P **P** **20 44 51.0 +1.1**
QIS Mount Isa 44.36 156 P **P** **20 44 49.6 -0.4**
TKM2 Tokmak 2 44.70 311 P **P** **20 44 57.0 +4.2**
SNR=8.1
NIL Nilore 45.02 297 P **P** **20 44 56.0 +0.8**
NIL Nilore 45.02 297 P **P** **20 44 56.0 +0.8**
NIL pmax pmax
comp=Z,80nm,0.8s
NIL Nilore 45.02 297 P **P** **20 44 56.4 +1.2**
KBK Karagaybulak 45.09 310 P **P** **20 44 57.0 +1.1**
SNR=26
UCH Uchtor 45.30 309 P **P** **20 45 00.3 +2.4**
SNR=6.1
CHMS Chumysh 45.31 311 P **P** **20 44 58.8 +1.4**
SNR=16
KURK Kurchatov 45.40 322 P **P** **20 44 58.8 +0.8**
KURK Kurchatov 45.40 322*de*P **P** **20 44 58.4 +0.5**
KURK pmax pmax
comp=Z,29nm,1.3s
AAK Ala-Archa 45.41 310 P **P** **20 44 59.4 +1.1**
AAK Ala-Archa 45.41 310 P **P** **20 45 00.0 +1.6**
SNR=17
AAK Ala-Archa 45.41 310*de*P **P** **20 44 59.8 +1.4**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 45.41 310 *i* P **P** **20 44 59.7 +1.4**
SNR=22
AAK Ala-Archa 45.41 310 P **P** **20 44 59.8 +1.4**
AAK PcP **PcP** **20 46 34.5 0.0**
KURBB Kurchatov Arra 45.41 322 P **P** **20 44 58.3 +0.3**
comp=Z,8.9nm,0.5s,baz=115,slow=7.8,SNR=104
KURBB pP **pwP** **20 45 38.9 -0.8**
comp=Z,3.7nm,0.6s,baz=116,slow=8.3,SNR=2.5
KURBB PcP **PcP** **20 46 33.1 -1.0**
comp=Z,5.9nm,0.5s,baz=112,slow=3.4,SNR=13
KURBB ScP **ScP** **20 50 07.8 -2.3**
comp=Z,0.9nm,0.8s,baz=96,slow=3.1,SNR=5.6
comp=Z,8.9nm,0.5s
AS31 Alice Springs 45.50 165 IAmb IAmb 20 44 59.3
comp=Z,9.8nm,0.2s
ASAR Alice Springs 45.50 165 P **P** **20 44 58.5 -0.4**
comp=Z,6.0nm,0.3s,baz=344,slow=7.8,SNR=70
ASAR ScP **ScP** **20 50 09.7 -1.1**
comp=Z,0.9nm,0.6s,baz=345,slow=4.1,SNR=7.7
ASAR S **S** **20 51 22.1 -5.3**
comp=Z,1.8nm,0.9s,baz=354,slow=18,SNR=7.3
comp=Z,6.0nm,0.3s
AS01 Alice Springs 45.51 165 P **P** **20 44 59.2 +0.1**
SGDS Sogindy 45.51 311 *e*P **P** **20 44 59.0 0.0**
SGDS Sogindy 45.51 311 *e*P **P** **20 44 59.1 0.0**
USP Ospenovka 45.56 311 P **P** **20 45 00.5 +1.1**
SNR=6.3
WRKA Warakurna 45.79 172 P **P** **20 45 01.0 -0.3**
AML Almayashu 45.88 309 P **P** **20 45 04.2 +2.0**
SNR=44
EKS2 Erkin-Say 45.93 310 P **P** **20 45 04.1 +1.7**
SNR=14
BTLS Baital 46.33 313 *e*P **P** **20 45 05.2 -0.1**
BTLS Baital 46.33 313 *e*P **P** **20 45 05.2 -0.1**
DRK Karamyk 46.81 305 IAmb IAmb 20 45 12.2
comp=Z,43nm,1.1s
DRK Karamyk 46.81 305 P **P** **20 45 10.3 +0.8**
TATA Tatamba Isabel 46.93 124 P **P** **20 45 11.8 +1.5**
SEY Seymchan 47.02 18 P **P** **20 45 10.9 +0.6**
comp=Z,12nm,0.7s,baz=227,slow=6.4,SNR=86
SEY PcP **PcP** **20 46 39.2 -0.3**
comp=Z,3.9nm,0.4s,baz=221,slow=2.4,SNR=9.9
comp=Z,12nm,0.7s
SEY Seymchan 47.02 18⇓*e*P **P** **20 45 11.1 +0.7**
SEY pmax pmax
comp=Z,14nm,0.8s
MEEK Meekatharra 47.12 184 P **P** **20 45 10.6 -0.9**
BTK Batken 47.64 306 IAmb IAmb 20 45 18.5
comp=Z,22nm,0.5s
BTK Batken 47.64 306 P **P** **20 45 16.7 +1.0**
DZA Taraz 47.74 310 *e*P **P** **20 45 16.2 -0.1**
DZA Taraz 47.74 310 *e*P **P** **20 45 16.3 -0.1**
ALEG Aligegeo Malai 47.84 124 P **P** **20 45 18.5 +1.1**
KK31 Karatay Array 48.37 310 IAmb IAmb 20 45 23.1
comp=Z,18nm,0.7s
KKAR Karatay Array 48.37 310 P **P** **20 45 21.5 +0.4**
KKAR PcP **PcP** **20 46 43.8 -1.1**
KKAR Karatay Array 48.37 310 IAmb IAmb 20 45 23.0
comp=Z,12nm,0.8s
KKAR Karatay Array 48.37 310 P **P** **20 45 21.5 +0.4**
KBL Kabul 48.55 298 P **P** **20 45 23.9 +1.0**
KBL Kabul 48.55 298 P **P** **20 45 23.9 +1.0**
KBL pmax pmax
comp=Z,43nm,0.7s
BRZS Berezniki 48.66 319 *e*P **P** **20 45 23.1 -0.1**
BRZS Berezniki 48.66 319 *e*P **P** **20 45 23.2 -0.1**
SIMJ Simiganj 48.87 304 P **P** **20 45 25.9 +0.8**
SIMJ Simiganj 48.87 304 P **P** **20 45 25.7 +0.6**
SIMJ PcP **PcP** **20 46 46.3 -0.6**
MORW Morawa 49.76 187 P **P** **20 45 30.9 -0.8**
OOD Oodnadatta 49.89 164 P **P** **20 45 32.3 -0.4**
BVAR Borovoye Array 50.99 322 P **P** **20 45 41.2 +0.5**
comp=Z,7.2nm,0.5s,baz=108,slow=8.7,SNR=52
BVAR PcP **PcP** **20 46 53.5 -0.7**
comp=Z,23nm,0.7s,baz=111,slow=4.3,SNR=24
BVAR ScP **ScP** **20 50 31.7 -2.1**
comp=Z,1.7nm,0.6s,baz=106,slow=5.4,SNR=6.1
comp=Z,7.2nm,0.5s
BRVK Borovoye 51.07 322 P **P** **20 45 41.5 +0.3**
BRVK IAmb IAmb 20 45 43.0
comp=Z,25nm,1.1s
BRVK PcP **PcP** **20 46 53.9 -0.6**
BRVK Borovoye 51.07 322*d i*P **P** **20 45 41.7 +0.5**
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK Borovoye 51.07 322 P **P** **20 45 41.7 +0.5**
BRVK PcP **PcP** **20 46 53.6 -0.9**
TIXI Tiksi 51.18 3 P **P** **20 45 40.7 -1.0**
TIXI IAmb IAmb 20 45 41.5
comp=Z,36nm,0.8s
TIXI Tiksi 51.18 3*de*P **P** **20 45 40.4 -1.3**
TIXI pmax pmax
comp=Z,37nm,0.7s
TIXI Tiksi 51.18 3 P **P** **20 45 40.4 -1.3**
BLDU Ballidu 51.22 186 P **P** **20 45 42.2 -0.4**
INKA Innaminka 51.35 159 P **P** **20 45 44.2 +0.7**
FORT Forrest 51.43 173 P **P** **20 45 44.0 -0.1**
KMBL Kambalda 51.70 180 P **P** **20 45 45.8 -0.4**
KLBR Kellerberrin 52.10 185 P **P** **20 45 48.3 -0.8**
NRIK Noril'sk 53.05 345 IAmb IAmb 20 45 56.1
comp=Z,32nm,0.9s
NRIK Noril'sk 53.05 345 P **P** **20 45 54.6 -1.0**
comp=Z,26nm,0.8s,baz=130,slow=7.5,SNR=36
NRIK PcP **PcP** **20 47 01.2 -0.4**
comp=Z,8.5nm,0.8s,baz=141,slow=2.9,SNR=4.7
NRIK LR LR 21 12 04.1
comp=Z,56nm,18.9s,baz=149,slow=40
comp=Z,26nm,0.8s
NRIK Noril'sk 53.05 345*d i*P **P** **20 45 54.9 -0.7**
NRIK pmax pmax
comp=Z,30nm,0.9s
LCRK Leigh Creek 53.09 163 P **P** **20 45 56.4 +0.1**
NWAO Narrogin (SRO) 53.47 185 P **P** **20 45 58.5 -0.6**
BILL Biilibino 54.73 19 P **P** **20 46 07.9 +0.1**
BILL Biilibino 54.73 19*d i*P **P** **20 46 07.9 +0.1**
BILL pmax pmax
comp=Z,63nm,1.0s
BILL Biilibino 54.73 19 P **P** **20 46 08.0 +0.2**
BILL PcP **PcP** **20 47 07.7 -0.4**
BBOO Buckleboo 54.78 166 P **P** **20 46 08.3 -0.2**
BBOO IAmb IAmb 20 46 09.3
comp=Z,27nm,0.8s
BBOO Buckleboo 54.78 166 P **P** **20 46 08.4 -0.2**
STKA Stephens Creek 55.44 160 P **P** **20 46 13.1 -0.2**
STKA IAmb IAmb 20 46 13.8
comp=Z,10nm,0.6s
STKA Stephens Creek 55.44 160 P **P** **20 46 12.8 -0.5**
comp=Z,9.2nm,0.5s,baz=344,slow=6.6,SNR=35
comp=Z,9.2nm,0.5s
STKA Stephens Creek 55.44 160 P **P** **20 46 13.2 -0.1**
STKA Stephens Creek 55.44 160 P **P** **20 46 13.1 -0.2**
STKA pmax pmax
comp=Z,11nm,0.6s
HTT Hallett 56.09 163 P **P** **20 46 18.2 +0.2**
ABKAR Akbulak array 56.58 316 P **P** **20 46 21.7 +0.5**
ABKAR Akbulak array 56.58 316 IAmb IAmb 20 46 22.9
comp=Z,23nm,0.5s
CMSA Cobar Meteorol 56.58 156 P **P** **20 46 22.2 +0.8**
SVE Sverdlovsk 57.44 325 *e*P **P** **20 46 27.6 +0.4**
SVE pmax pmax
comp=Z,37nm,0.8s
ARTI Arti 58.57 324 P **P** **20 46 34.6 -0.5**
ARTI IAmb IAmb 20 46 35.6
comp=Z,20nm,0.7s
ARTI Arti 58.57 324*d i*P **P** **20 46 34.8 -0.3**
ARTI 20 48 43.5
ARTI S **S** **20 54 27.0 +2.2**
ARTI SS **SS** **20 58 21.5 +1.4**
ARTI pmax pmax
comp=Z,19nm,0.7s
ARTI Arti 58.57 324 P **P** **20 46 34.7 -0.3**
ARTI PcP **PcP** **20 47 21.7 -1.7**
ARPS Mount Arapiles 60.05 162 P **P** **20 46 45.2 -0.1**
SOHO SOHO 60.28 287 P **P** **20 46 47.5 +0.2**
SHME Shamm 60.29 289 P **P** **20 46 48.1 +0.8**
UOSS Minazif 60.43 288 P **P** **20 46 48.5 +0.2**
HATD Hatta, Dubai 60.51 287 P **P** **20 46 49.4 +0.5**
ASHO Ashiyiah 60.60 287 P **P** **20 46 49.8 +0.2**
SPIA Saint Paul Isl 60.78 35 P **P** **20 46 50.4 +0.3**
baz=263
NAZ Nazwa, Dubai 60.90 288 P **P** **20 46 52.0 +0.5**
ALNE Al Ain 61.00 287 *i* P **P** **20 46 52.5 +0.3**
SNR=9.2
FAQ Al Faqa, Dubai 61.01 288 P **P** **20 46 52.4 +0.2**
P08K Saint George I 61.09 36 P **P** **20 46 53.0 +0.7**
baz=264
GAMB Gambell 61.18 28 P **P** **20 46 53.7 +1.0**
baz=258
ASUD Al Ashush, Dub 61.27 287 P **P** **20 46 54.4 +0.4**
M11K Mekoryuk 63.23 32 P **P** **20 47 07.6 +1.3**
baz=265
MZR Muzera 63.25 286 P **P** **20 47 06.9 -0.3**
KIRV Kirov 63.64 326*d i*P **P** **20 47 08.5 -0.5**
F14K Arctic Creek 63.75 26 P **P** **20 47 11.2 +1.5**
baz=262,SNR=26
ANM Nome 64.04 27 IAmb IAmb 20 47 13.5
comp=Z,17nm,0.7s
ANM Nome 64.04 27 P **P** **20 47 12.9 +1.3**
baz=263,SNR=13
K13K Kusilvak Mount 64.11 30 P **P** **20 47 13.0 +0.9**
baz=265
F15K North Star Dit 64.48 26 P **P** **20 47 15.6 +1.2**
baz=264
BELG Belogornoye 64.53 319*d i*P **P** **20 47 14.5 -0.5**
BELG pmax pmax
comp=Z,11nm,0.9s
C16K Lisburne Hills 64.54 23 P **P** **20 47 15.8 +1.1**
baz=262,SNR=39
M13K Dall Lake 64.64 32 P **P** **20 47 16.6 +1.1**
baz=267
G15K Niululuk 64.66 27 P **P** **20 47 16.7 +1.1**
baz=264
J14K Nanvaranak Lak 64.68 29 P **P** **20 47 16.9 +1.1**
baz=266
L14K Kuka Creek 65.01 31 P **P** **20 47 19.4 +1.5**
baz=267
S12K Black Hills 65.23 37 P **P** **20 47 19.7 +0.2**
baz=271
D17K Noatak River 65.31 24 P **P** **20 47 21.2 +1.4**
baz=264
M14K Bethel 65.34 32 P **P** **20 47 21.1 +1.0**
baz=268,SNR=8.9
C17K DeLong Mountai 65.36 23 P **P** **20 47 21.4 +1.3**
baz=264,SNR=25
H16K Elim 65.39 27 P **P** **20 47 21.4 +1.1**
baz=266,SNR=32
G16K Koyuk River 65.40 26 P **P** **20 47 21.6 +1.2**
baz=266,SNR=15
RDOG Red Dog Mine 65.41 24 P **P** **20 47 21.5 +1.1**
baz=264,SNR=16
N14K Kuskokwak Cree 65.45 33 P **P** **20 47 21.7 +0.9**
baz=269
K15K Wolf Creek Mou 65.59 30 P **P** **20 47 22.9 +1.2**
baz=268
L15K Ungalak Mounta 65.59 31 P **P** **20 47 22.5 +0.8**
baz=268
O14K Tigyukauivet M 65.66 33 P **P** **20 47 22.7 +0.6**
baz=270
F17K Baldwin Pennin 65.92 25 P **P** **20 47 25.1 +1.4**
baz=266
B18K Kokolik River 65.95 22 P **P** **20 47 25.6 +1.8**
baz=265
M15K Kasigluk River 65.96 32 P **P** **20 47 24.7 +0.7**
baz=270
I17K Unalakleet 66.03 28 P **P** **20 47 26.0 +1.6**
baz=268,SNR=12
J16K Anvik River 66.05 29 P **P** **20 47 25.9 +1.3**
baz=268
C18K Utukok River 66.10 23 P **P** **20 47 26.1 +1.2**
baz=265
E18K Tukpahlearik C 66.24 24 P **P** **20 47 27.1 +1.4**
baz=267
N15K Kwethluk River 66.26 32 P **P** **20 47 27.1 +1.2**
baz=270
A19K Wainwright 66.28 21 P **P** **20 47 27.8 +1.9**
baz=265,SNR=49
O15K Ungalikthiuk R 66.40 33 P **P** **20 47 27.4 +0.5**
baz=271
H17K Granite Mounta 66.40 27 P **P** **20 47 28.2 +1.3**
baz=268,SNR=9.3
L16K Owhat River 66.55 31 IAmb IAmb 20 47 29.2
comp=Z,19nm,0.7s
L16K Owhat River 66.55 31 P **P** **20 47 28.7 +0.8**
baz=270
F18K Selawik 66.57 25 P **P** **20 47 29.2 +1.4**
baz=268,SNR=52
J17K VABM Dome 66.74 29 P **P** **20 47 30.3 +1.3**
baz=270
M16K Timber Creek 66.81 31 P **P** **20 47 30.2 +0.8**
baz=271
G18K Tagagawik 66.95 26 P **P** **20 47 31.0 +0.7**
baz=269
H18K Honhosa River 67.06 27 IAmb IAmb 20 47 32.9
comp=Z,23nm,0.9s
H18K Honhosa River 67.06 27 P **P** **20 47 32.0 +1.0**
baz=270,SNR=13
K17K Iditarod 67.10 29 P **P** **20 47 32.7 +1.5**
baz=271,SNR=12
L17K Donlin 67.11 30 P **P** **20 47 33.0 +1.6**
baz=271
D19K Kuna River 67.22 23 P **P** **20 47 33.1 +1.1**
baz=268
O16K Kokwok River B 67.28 33 IAmb IAmb 20 47 34.1
comp=Z,32nm,1.0s
O16K Kokwok River B 67.28 33 P **P** **20 47 32.8 +0.4**
baz=272
F19K Shaleruckik Mo 67.32 25 P **P** **20 47 33.1 +0.5**
baz=269
TAU Tasmania Unive 67.35 160 P **P** **20 47 34.4 +1.4**
DGTI Dogotuki 67.39 119 P **P** **20 47 35.5 +1.7**
M17K Holitna River 67.53 31 P **P** **20 47 35.2 +1.2**
baz=272
E19K Redstone River 67.54 24 P **P** **20 47 35.0 +1.0**
baz=270
G19K Purcell Mounta 67.59 26 P **P** **20 47 35.2 +0.9**
baz=270
R16K Pilot Point 67.65 35 P **P** **20 47 35.6 +0.8**
baz=274
N17K Nushagak Hills 67.69 32 P **P** **20 47 36.0 +1.0**
baz=273
GCSA Galena City Sc 67.70 27 P **P** **20 47 35.8 +0.9**
baz=271,SNR=13
O17K Koliganek Bris 67.77 33 P **P** **20 47 36.4 +0.9**
baz=273
D20K Etivluk River 67.78 23 P **P** **20 47 36.8 +1.4**
baz=270
J18K Innoko River 67.80 29 IAmb IAmb 20 47 37.5
comp=Z,26nm,1.1s
J18K Innoko River 67.80 29 P **P** **20 47 36.3 +0.7**
baz=272
A21K Barrow 67.81 20 P **P** **20 47 36.5 +1.0**
baz=269
L18K Granite Mounta 67.86 30 P **P** **20 47 37.3 +1.3**
baz=272
H19K Roundabout Mou 67.86 26 P **P** **20 47 37.3 +1.4**
baz=271
E20K Nigu River 67.93 23 P **P** **20 47 37.7 +1.2**
baz=270
F20K Avaraart Lake 68.13 25 P **P** **20 47 38.7 +1.1**
baz=271
P17K Kvichak River 68.14 33 P **P** **20 47 38.7 +0.9**
baz=274
TTA Tatalina 68.14 29 P **P** **20 47 38.9 +1.1**
baz=273,SNR=14
TTA Tatalina 68.14 29 P **P** **20 47 38.6 +0.7**
VRH Novokhopyorsk 68.27 318 *e*P **P** **20 47 37.7 -1.0**
VRH pmax pmax
comp=Z,62nm,0.8s
M18K Stony River 68.30 31 P **P** **20 47 40.1 +1.3**
baz=273
N18K Kilae Creek 68.32 32 P **P** **20 47 40.5 +1.5**
baz=274
KBZ Khabaz 68.41 310 P **P** **20 47 40.2 +0.4**
comp=Z,20nm,0.9s,baz=89,slow=4.8,SNR=27
comp=Z,20nm,0.9s
KBZ Khabaz 68.41 310*d i*P **P** **20 47 40.1 +0.3**
KBZ pmax pmax
comp=Z,24nm,0.9s
C21K Knifeblade Rid 68.44 22 P **P** **20 47 41.0 +1.5**
baz=271,SNR=31
B21K Ikpikpuk River 68.49 22 P **P** **20 47 41.2 +1.4**
baz=271
H20K Anotleneega Mo 68.52 26 P **P** **20 47 41.3 +1.1**
baz=273
KIV Kislovodsk 68.53 310 P **P** **20 47 41.5 +0.8**
KIV Kislovodsk 68.53 310 ⇑P **P** **20 47 41.0 +0.3**
KIV Kislovodsk 68.53 310 *e*P **P** **20 47 40.8 +0.1**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV MLR MLR
comp=Z,45nm,17.0s
KIV Kislovodsk 68.53 310 *i* P **P** **20 47 41.3 +0.7**
SNR=14
KIV Kislovodsk 68.53 310 P **P** **20 47 41.5 +0.8**
comp=Z,53nm,1.0s
KIV Kislovodsk 68.53 310 P **P** **20 47 41.2 +0.5**
KIV PcP **PcP** **20 48 04.1 -0.5**
O18K Koktuh Hills 68.72 32 P **P** **20 47 42.6 +1.2**
baz=275,SNR=6.9
L19K White Mountain 68.72 30 P **P** **20 47 42.6 +1.2**
baz=274
I20K Naaghedeneel 68.72 27 P **P** **20 47 43.0 +1.7**
baz=273
P18K Big Mountain, 68.75 33 P **P** **20 47 42.1 +0.4**
baz=275
KARS Kars 68.75 307 P **P** **20 47 44.4 +2.2**
KARS pmax pmax
comp=Z,27nm,1.1s
E21K Killik River 68.75 23 P **P** **20 47 42.3 +0.8**
baz=272
J20K Nowinta River 68.91 28 P **P** **20 47 44.0 +1.5**
baz=274
M19K Big River Lodg 68.96 30 P **P** **20 47 44.2 +1.3**
baz=274
F21K Alatna River 69.00 25 P **P** **20 47 43.8 +0.7**
baz=273
K20K Telida 69.00 29 P **P** **20 47 44.5 +1.4**
baz=274
N19K Bonanza Creek 69.00 31 P **P** **20 47 44.0 +0.7**
baz=275
O19K Port Alsworth 69.14 32 P **P** **20 47 44.8 +0.9**
baz=275,SNR=6.8
L20K Farewell, AK 69.15 30 P **P** **20 47 45.0 +0.9**
baz=275
D22K Ayikyak River 69.20 23 P **P** **20 47 45.3 +1.0**
baz=273
R18K Karluk 69.32 35 P **P** **20 47 46.1 +1.0**
baz=276
H21K Melozitna Rive 69.37 26 P **P** **20 47 46.6 +1.2**
baz=274
M20K Styx River 69.55 30 IAmb IAmb 20 47 48.4
comp=Z,15nm,0.8s
M20K Styx River 69.55 30 P **P** **20 47 48.0 +1.3**
baz=276
E22K Anaktuvuk Pass 69.57 24 P **P** **20 47 47.6 +1.0**
baz=274,SNR=33
CHUM Lake Minchumin 69.73 28 P **P** **20 47 48.8 +1.2**
baz=276
P19K Oil Pt 69.73 33 P **P** **20 47 48.7 +1.0**
baz=276
I21K Tanana 69.75 27 P **P** **20 47 49.0 +1.3**
baz=275
VORR Voronezh 69.77 319 *e*P **P** **20 47 47.5 -0.5**
VORR pmax pmax
comp=Z,47nm,0.8s
LPSR Galich'ya Gora 69.81 320 *e*P **P** **20 47 47.5 -0.8**
LPSR pmax pmax
comp=Z,68nm,0.8s
VORD Divnogorie 69.81 318 *e*P **P** **20 47 44.9 -3.4**
VORD pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 69.86 318 *e*P **P** **20 47 44.9 -3.7**
VSR pmax pmax
comp=Z,20nm,0.8s
C23K Itkillik River 69.87 22 P **P** **20 47 49.3 +1.0**
baz=275
CAST Castle Rocks 69.88 29 P **P** **20 47 49.5 +1.0**
baz=276,SNR=38
PPLA Purkeypile 69.89 29 IAmb IAmb 20 47 50.5
comp=Z,28nm,0.9s
PPLA Purkeypile 69.89 29 P **P** **20 47 49.5 +0.8**
baz=276,SNR=5.1
D23K Nanushuk River 69.92 23 P **P** **20 47 50.1 +1.5**
baz=275
H22K Ishtalitna Cre 69.94 26 P **P** **20 47 50.3 +1.5**
baz=276
OHAK Old Harbor 69.99 35 P **P** **20 47 49.3 +0.1**
baz=277
OHAK Old Harbor 69.99 35 P **P** **20 47 49.3 +0.1**
O20K Slope Mountain 69.99 32 P **P** **20 47 50.8 +1.5**
baz=277
SPCR Spurr Chakacha 70.06 31 P **P** **20 47 50.2 +0.4**
baz=277,SNR=7.8
SPU Mount Spurr 70.14 31 IAmb IAmb 20 47 51.7
comp=Z,23nm,1.0s
MOS Moscow 70.16 323 *e*P **P** **20 47 48.9 -1.4**
MOS pmax pmax
comp=Z,56nm,0.6s
COLD Coldfoot 70.27 24 IAmb IAmb 20 47 52.8
comp=Z,18nm,0.8s
COLD Coldfoot 70.27 24 P **P** **20 47 51.8 +1.0**
baz=276,SNR=14
RAYN Ar Rayn 70.27 288 P **P** **20 47 51.3 -0.4**

RAYN IAmb IAmb 20 47 52.4
comp=Z,20nm,0.6s
RAYN Ar Rayn 70.27 288 P **P 20 47 51.6 -0.1**
RAYN Ar Rayn 70.27 288 *i* P **P 20 47 51.4 -0.2**
SNR=30
RAYN Ar Rayn 70.27 288 P **P 20 47 51.5 -0.1**
RAYN pP **pP 20 48 32.9 0.0**
Q20K Shuyak Island 70.29 34 P **P 20 47 51.8 +0.8**
baz=277
BPAW Bear Paw Mtn. 70.29 28 P **P 20 47 51.8 +0.7**
baz=277,SNR=10
KDAK Kodiak Island 70.29 35 P **P 20 47 51.3 +0.1**
baz=278
KDAK Kodiak Island 70.29 35 P **P 20 47 51.2 +0.1**
SKT Skwentna 70.30 30 IAmb IAmb 20 47 51.8
comp=Z,20nm,0.9s
SKT Skwentna 70.30 30 P **P 20 47 50.8 -0.3**
baz=277,SNR=7.8
TOLK Toolik Lake Re 70.35 23 IAmb IAmb 20 47 53.6
comp=Z,30nm,0.8s
TOLK Toolik Lake Re 70.35 23 P **P 20 47 52.3 +1.0**
baz=276,SNR=24
KTH Kantishna Hill 70.39 28 IAmb IAmb 20 47 53.5
comp=Z,23nm,0.8s
G23K Bananza Creek 70.39 25 IAmb IAmb 20 47 53.8
comp=Z,30nm,0.9s
G23K Bananza Creek 70.39 25 P **P 20 47 52.9 +1.3**
baz=276,SNR=22
E23K Chandalar 70.40 24 P **P 20 47 52.8 +1.1**
baz=276
HOM Homer 70.53 32 P **P 20 47 53.4 +0.9**
baz=278
C24K Franklin Bluff 70.54 22 P **P 20 47 53.1 +0.7**
baz=277
D24K Happy Valley 70.56 22 P **P 20 47 53.5 +1.0**
baz=277
TRF Thorofare Moun 70.68 28 IAmb IAmb 20 47 57.0
comp=Z,19nm,0.8s
TRF Thorofare Moun 70.68 28 P **P 20 47 54.2 +0.7**
baz=278,SNR=7.6
E24K Your Creek 70.82 23 P **P 20 47 55.1 +0.9**
baz=277
CUT Chulitna 70.83 30 P **P 20 47 54.1 -0.1**
baz=278,SNR=8.0
OBN Obninsk 70.84 323 P **P 20 47 53.4 -1.0**
OBN Obninsk 70.84 323 ⇑P **P 20 47 53.9 -0.5**
OBN Obninsk 70.84 323 *eP* **P 20 47 53.4 -1.0**
OBN *i* 20 48 07.9
OBN pmax pmax
comp=Z,84nm,1.9s
OBN Obninsk 70.84 323 P **P 20 47 53.6 -0.8**
comp=Z,56nm,1.2s
OBN Obninsk 70.84 323 P **P 20 47 53.6 -0.8**
I23K Minto, Yukon-K 70.86 27 IAmb IAmb 20 47 57.5
comp=Z,21nm,0.8s
I23K Minto, Yukon-K 70.86 27 P **P 20 47 55.2 +0.9**
baz=278,SNR=14
BRSE Bradley Lake S 70.98 32 P **P 20 47 56.0 +0.7**
baz=278
M22K Willow 70.99 30 P **P 20 47 55.6 +0.4**
baz=278
NEA2 Nenana 71.06 27 P **P 20 47 56.4 +0.8**
baz=278,SNR=7.9
F24K Squaw Lake 71.12 24 P **P 20 47 56.9 +0.9**
baz=278
MARD Mardin 71.12 304 IAmb IAmb 20 47 58.1
comp=Z,35nm,1.2s
MCK McKinley 71.24 28 P **P 20 47 56.8 0.0**
baz=278,SNR=21
RND Reindeer 71.33 28 P **P 20 47 57.0 -0.3**
H24K Noodor Dome 71.37 26 P **P 20 47 58.7 +1.1**
baz=279
G24K Hadweenzic Riv 71.40 25 P **P 20 47 58.8 +1.1**
baz=279
D25K Kavik River 71.40 22 P **P 20 47 58.5 +0.9**
baz=279
PMR Palmer 71.48 30 P **P 20 47 57.8 -0.3**
baz=279,SNR=8.9
WRH Wood River Hil 71.50 27 IAmb IAmb 20 48 00.2
comp=Z,33nm,0.8s
COLA College 71.53 27 P **P 20 47 58.7 +0.2**
baz=279
COLA College 71.53 27 ⇑*i* P **P 20 47 58.6 +0.2**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA College 71.53 27 P **P 20 47 58.4 0.0**
GHO Glory Hole Cre 71.55 30 IAmb IAmb 20 48 00.0
comp=Z,41nm,1.1s
SEW Seward 71.56 32 P **P 20 47 58.1 -0.5**
baz=279
POKR Poker Plat Res 71.67 26 IAmb IAmb 20 48 01.1
comp=Z,24nm,0.8s
POKR Poker Plat Res 71.67 26 P **P 20 47 59.8 +0.6**
baz=279,SNR=12
VADS Vadso 71.72 339 *eP* **P 20 47 59.7 +0.2**
C26K Camden Bay 71.81 21 P **P 20 48 01.0 +1.1**
baz=280,SNR=13
SML Sawmill 71.82 30 IAmb IAmb 20 48 01.3
comp=Z,34nm,0.8s
SML Sawmill 71.82 30 P **P 20 48 00.0 -0.3**
baz=280,SNR=5.5
KNK Knik Glacier 71.83 30 P **P 20 48 00.3 0.0**
baz=280,SNR=6.2
KHAM Kharkiv 71.89 317 P **P 20 48 01.0 +0.1**
G25K Bearman Lake 71.93 25 P **P 20 48 02.0 +1.3**
baz=280
ILAR Eielson Array 71.96 27 P **P 20 47 59.9 -1.1**
comp=Z,8.3nm,0.8s,baz=268,slow=4.9,SNR=74
comp=Z,8.3nm,0.8s
F25K Christian Rive 71.96 24 P **P 20 48 02.4 +1.3**
baz=280
PWL Port Wells 71.98 31 P **P 20 48 01.2 -0.1**
baz=280,SNR=6.9
HDA Harding Lake 71.99 27 IAmb IAmb 20 48 01.4
comp=Z,24nm,0.8s
HDA Harding Lake 71.99 27 P **P 20 48 00.3 -0.9**
baz=280,SNR=9.7
M23K Glacier View 72.11 30 P **P 20 48 01.8 -0.1**
baz=280,SNR=9.4
H25L Birch Creek 72.13 25 P **P 20 48 03.2 +1.2**
baz=280
JOF Joensuu 72.23 331 *eP* **P 20 48 02.4 -0.2**
C27K Jago River 72.28 22 IAmb IAmb 20 48 04.8
comp=Z,23nm,0.8s
C27K Jago River 72.28 22 P **P 20 48 03.7 +1.0**
baz=281,SNR=22
SCM Sheep Creek Mo 72.28 30 P **P 20 48 03.4 +0.3**
baz=281,SNR=9.6
FYU Fort Yukon 72.31 25 IAmb IAmb 20 48 05.1
comp=Z,24nm,0.8s
PRP Porcupine Dome 72.39 26 P **P 20 48 04.3 +0.6**
baz=281,SNR=8.3
BMAR Burnt Mountain 72.39 24 P **P 20 48 04.8 +1.2**
F26K Sheenjek River 72.50 24 IAmb IAmb 20 48 06.5
comp=Z,17nm,0.8s
F26K Sheenjek River 72.50 24 P **P 20 48 05.4 +1.2**
baz=282
GLI Glacier Island 72.57 31 P **P 20 48 04.7 -0.1**
baz=281
P23K Montague Islan 72.59 32 P **P 20 48 04.9 +0.1**
baz=281
K24K Donnelly Dome 72.61 28 P **P 20 48 05.0 +0.1**
baz=281,SNR=8.9
J25K Salcha River, 72.63 27 P **P 20 48 03.7 -1.3**
baz=281,SNR=7.5
M24K Tolsona, Glenn 72.77 29 P **P 20 48 06.5 +0.6**
baz=281,SNR=7.1
G26K Porcupine Rive 72.79 24 P **P 20 48 07.0 +1.2**
baz=282,SNR=27
PAX Paxson 72.91 29 IAmb IAmb 20 48 08.1
comp=Z,18nm,0.9s
PAX Paxson 72.91 29 P **P 20 48 07.0 +0.2**
baz=282
KLU Klutina 73.01 30 IAmb IAmb 20 48 08.2
comp=Z,24nm,0.6s
KLU Klutina 73.01 30 P **P 20 48 07.6 +0.2**
baz=282,SNR=8.2
RIDG Independent Ri 73.03 28 IAmb IAmb 20 48 08.6
comp=Z,42nm,1.0s
RIDG Independent Ri 73.03 28 P **P 20 48 07.0 -0.4**
baz=282,SNR=12
SPB2 Spitsbergen Ar 73.12 348 IAmb IAmb 20 48 20.9
comp=Z,30nm,1.0s
SPA0 Spitsbergen Ar 73.13 348 *eP* **P 20 48 07.4 -0.3**
SPITS Spitsbergen Ar 73.13 348 P **P 20 48 07.3 -0.4**
comp=Z,24nm,0.9s,baz=88,slow=7.6,SNR=20
comp=Z,24nm,0.9s
SPITS Spitsbergen Ar 73.13 348 P **P 20 48 07.8 +0.1**

SPITS pmax pmax
comp=Z,35nm,1.0s
ARA0 ARCESS Array S 73.15 339 *eP* **P 20 48 07.6 -0.4**
ARCES ARCESS Array B 73.15 339 P **P 20 48 07.9 -0.1**
ARCES IAmb IAmb 20 48 08.4
comp=Z,18nm,0.7s
ARCES ARCESS Array B 73.15 339 P **P 20 48 07.6 -0.4**
comp=Z,18nm,0.6s,baz=70,slow=9.0,SNR=78
comp=Z,18nm,0.6s
ARCES ARCESS Array B 73.15 339 P **P 20 48 07.9 -0.1**
ARCES pmax pmax
comp=Z,18nm,0.7s
DIV Divide 73.16 30 IAmb IAmb 20 48 09.6
comp=Z,37nm,0.8s
HARP HAARP 73.17 29 P **P 20 48 08.9 +0.6**
baz=282
EYAK Cordova Ski Ar 73.29 31 P **P 20 48 09.2 +0.3**
baz=282
EYAK Cordova Ski Ar 73.29 31 P **P 20 48 09.4 +0.5**
D27M Malcolm River 73.31 22 P **P 20 48 09.8 +0.8**
baz=284
SCRK Sand Creek 73.35 27 IAmb IAmb 20 48 10.7
comp=Z,14nm,0.6s
SCRK Sand Creek 73.35 27 P **P 20 48 09.2 -0.1**
baz=283,SNR=12
I26K Coal Creek Min 73.40 26 P **P 20 48 09.6 +0.1**
baz=283
J26L Joseph Creek 73.41 27 P **P 20 48 09.5 -0.2**
baz=283
HAMF Hammerfest 73.48 340 *eP* **P 20 48 09.7 -0.2**
N25K Chitina, Valde 73.60 30 IAmb IAmb 20 48 14.0
comp=Z,17nm,0.7s
N25K Chitina, Valde 73.60 30 P **P 20 48 11.5 +0.6**
baz=283
G27K Doyon Strip 73.64 24 P **P 20 48 11.9 +1.0**
baz=284
KBS Kingsbay 73.67 349 *eP* **P 20 48 10.4 -0.4**
MENT Mentasta 73.70 28 IAmb IAmb 20 48 15.8
comp=Z,22nm,0.9s
BMRM Bremner River 73.74 30 IAmb IAmb 20 48 13.4
comp=Z,32nm,0.8s
BMRM Bremner River 73.74 30 P **P 20 48 12.1 +0.4**
baz=283,SNR=5.3
L26K Log Cabin Wild 73.85 28 IAmb IAmb 20 48 13.8
comp=Z,19nm,0.7s
L26K Log Cabin Wild 73.85 28 P **P 20 48 12.8 +0.6**
baz=284,SNR=11
I27K Kandik River 73.95 25 P **P 20 48 13.6 +0.8**
baz=284
GLB Gilahina Butte 74.01 30 IAmb IAmb 20 48 14.6
comp=Z,40nm,1.0s
D28M Stokes Point 74.05 21 P **P 20 48 14.0 +0.9**
baz=286
KTK1 Kautokeino 74.07 338 *eP* **P 20 48 13.1 -0.2**
KAIM Kayak Island 74.08 32 P **P 20 48 13.8 +0.3**
baz=284
OUL Oulu 74.09 334 P **P 20 48 13.5 +0.1**
OUL pmax pmax
comp=Z,34nm,1.1s
F28M Old Crow 74.11 23 IAmb IAmb 20 48 15.2
comp=Z,32nm,0.8s
F28M Old Crow 74.11 23 P **P 20 48 14.3 +0.8**
baz=285,SNR=41
M26K Nabesna, AK 74.15 29 P **P 20 48 14.6 +0.6**
baz=284
VRDI Verde Repeater 74.23 30 IAmb IAmb 20 48 15.8
comp=Z,23nm,0.8s
SIM Simferopol' 74.36 313 *eP* **P 20 48 14.8 -0.7**
SIM pmax pmax
comp=Z,38nm,0.7s
L27K Beaver Creek, 74.51 28 P **P 20 48 17.1 +1.1**
baz=285
BCAR Beaver Creek A 74.53 28 P **P 20 48 17.0 +0.9**
BNN Bunyan 74.57 306 IAmb IAmb 20 48 18.1
comp=Z,30nm,0.9s
E29M Blow River 74.61 22 P **P 20 48 16.9 +0.4**
baz=287
M27K Edge Creek, AK 74.67 29 P **P 20 48 17.7 +0.6**
baz=285
I28M Miner Creek 74.67 25 P **P 20 48 18.0 +1.1**
baz=286
JETT Jettan, Norway 74.87 339 *eP* **P 20 48 18.0 +0.1**
FINES FINESS Array B 74.95 330 P **P 20 48 17.7 -0.8**
FINES FINESS Array B 74.95 330 P **P 20 48 18.1 -0.4**
comp=Z,29nm,0.7s,baz=46,slow=5.7,SNR=122
comp=Z,29nm,0.7s
G29M Pine Creek 75.00 24 P **P 20 48 19.2 +0.5**
G29M Pine Creek 75.00 24 P **P 20 48 19.1 +0.4**
baz=287
H29M Whitestone 75.07 24 P **P 20 48 19.4 +0.2**
H29M Whitestone 75.07 24 P **P 20 48 19.7 +0.5**
baz=287
BVCY Beaver Creek 75.11 29 P **P 20 48 20.2 +0.8**
baz=286
MESA MESA 75.21 31 P **P 20 48 20.7 +0.5**
baz=286
DAWY Dawson 75.28 27 P **P 20 48 20.8 +0.4**
baz=287,SNR=43
KEF Keuruu 75.31 331 *eP* **P 20 48 19.9 -0.6**
TRO Tromso 75.33 339 *eP* **P 20 48 20.0 -0.5**
I29M Ogilvie Camp, 75.35 25 IAmb IAmb 20 48 22.1
comp=Z,19nm,0.8s
I29M Ogilvie Camp, 75.35 25 P **P 20 48 21.1 +0.3**
baz=287,SNR=13
VSU Vasula 75.43 327 *d i* P **P 20 48 20.0 -1.2**
VSU pmax pmax
comp=Z,63nm,1.0s
VSU Vasula 75.43 327 *eP* **P 20 48 20.4 -0.9**
ARBE Arbavere 75.54 328 *eP* **P 20 48 22.0 +0.1**
F30M Barrier River 75.61 23 P **P 20 48 22.7 +0.6**
baz=289
G30M tAoh Zraii Nji 75.65 23 IAmb IAmb 20 48 23.0
comp=Z,31nm,0.8s
G30M tAoh Zraii Nji 75.65 23 P **P 20 48 22.2 -0.3**
baz=289,SNR=26
EPYK Eagle Plains 75.66 24 P **P 20 48 22.6 0.0**
baz=288,SNR=27
J29N Klondike Camp 75.66 26 P **P 20 48 23.7 +1.1**
baz=288,SNR=42
MNK Minsk 75.88 323 *i* P **P 20 48 24.2 +0.3**
MNK *i* 20 48 35.5
MNK *i* 20 51 16.6
MNK *i* PPP PPP 20 53 03.6
MNK *i* S **S 20 57 54.5 +2.9**
MNK pmax pmax
comp=N,31nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,75nm,0.8s
O28M Mount Upton 75.88 30 P **P 20 48 25.2 +1.1**
baz=287
YUK8 Steele Glacier 75.93 30 P **P 20 48 25.2 +0.8**
baz=287,SNR=6.2
KIRS Kirsehir-Merke 75.95 307 ⇓P **P 20 48 24.6 -0.2**
BR131 Keskin Array S 76.01 307 *d i* P **P 20 48 24.4 -0.7**
BRTR Keskin Array B 76.01 307 P **P 20 48 24.4 -0.7**
BRTR Keskin Array B 76.01 307 P **P 20 48 24.8 -0.4**
comp=Z,2.8nm,0.4s,baz=127,slow=3.1,SNR=61
BRTR PP **PP 20 51 20.8 +2.9**
comp=Z,2.0nm,0.9s,baz=82,slow=8.9,SNR=9.3
comp=Z,2.8nm,0.4s
BRTR Keskin Array B 76.01 307 *i* P **P 20 48 24.7 -0.4**
BRTR pmax pmax
comp=Z,4.0nm,0.4s
BR104 Keskin Array S 76.01 307 P **P 20 48 24.6 -0.6**
comp=Z,60nmcomp=Z,4.0nm,0.9s
VAF Ylistaro 76.02 332 *eP* **P 20 48 24.7 +0.2**
BR105 Keskin Array S 76.03 307 P **P 20 48 24.6 -0.6**
comp=Z,106nmcomp=Z,6.7nm,1.0s
PCA Pinnacle 76.05 31 IAmb IAmb 20 48 26.7
comp=Z,50nm,1.0s
PINM Pinnacle 76.05 31 P **P 20 48 26.0 +1.1**
baz=287
MEF Metsahovi 76.09 329 *eP* **P 20 48 24.7 -0.2**
AK09 Malin Array Si 76.10 319 P **P 20 48 24.2 -1.0**
AK03 Malin Array Si 76.11 319 P **P 20 48 24.2 -1.1**
L29M L29M 76.11 27 P **P 20 48 26.6 +1.5**
baz=288
AK08 Malin Array Si 76.11 319 P **P 20 48 24.3 -1.0**
AKASG Malin Array Be 76.11 319 P **P 20 48 23.5 -1.8**
AKASG Malin Array Be 76.11 319 P **P 20 48 24.3 -1.0**
comp=Z,15nm,0.7s,baz=63,slow=5.8,SNR=52
comp=Z,15nm,0.7s
AKASG Malin Array Be 76.11 319 *i* P **P 20 48 24.2 -1.1**
AKASG pmax pmax
comp=Z,22nm,0.7s

AKBB Malin Array Si 76.11 319 IAmb IAmb 20 48 25.3
comp=Z,27nm,0.8s
AKBB Malin Array Si 76.11 319 *deP* **P 20 48 24.4 -0.9**
AKBB Malin Array Si 76.11 319 P **P 20 48 24.3 -1.0**
AK01 Malin Array Si 76.12 319 P **P 20 48 24.3 -1.1**
KIEV Kiev 76.13 319 P **P 20 48 24.4 -0.9**
KIEV IAmb IAmb 20 48 25.3
comp=Z,23nm,0.7s
KIEV Kiev 76.13 319 ⇓P **P 20 48 24.6 -0.8**
KIEV Kiev 76.13 319 P **P 20 48 24.5 -0.9**
KIEV Kiev 76.13 319 *i* P **P 20 48 24.3 -1.1**
SNR=17
KIEV Kiev 76.13 319 P **P 20 48 24.3 -1.1**
comp=Z,151nm,1.3s
K29M Barlow Dome 76.14 27 P **P 20 48 26.1 +0.7**
baz=288
I30M Mount Dempster 76.16 25 IAmb IAmb 20 48 26.7
comp=Z,23nm,0.7s
I30M Mount Dempster 76.16 25 P **P 20 48 25.8 +0.3**
baz=289
M29M Somme Creek 76.17 28 P **P 20 48 27.1 +1.5**
baz=288
INK Inuvik 76.17 22 IAmb IAmb 20 48 26.0
comp=Z,24nm,1.0s
INK Inuvik 76.17 22 P **P 20 48 24.9 -0.3**
baz=291,SNR=23
G31M Satah River 76.39 23 IAmb IAmb 20 48 26.9
comp=Z,23nm,0.7s
G31M Satah River 76.39 23 P **P 20 48 25.9 -0.6**
baz=290,SNR=15
J30M Hart River 76.39 26 P **P 20 48 27.4 +0.5**
baz=289
F31M Tsiigehtchic 76.40 23 P **P 20 48 26.4 -0.3**
baz=291,SNR=31
YUK4 Talbot Arm 76.43 29 P **P 20 48 27.9 +0.7**
baz=288,SNR=9.8
MMAI Mount Meron Ar 76.43 300 P **P 20 48 28.3 +0.7**
comp=Z,4.1nm,0.6s,baz=50,slow=7.0,SNR=12
comp=Z,4.1nm,0.6s
IIGN Ignalina 76.56 324 *eP* **P 20 48 28.3 +0.6**
PNL Peninsula 76.59 31 P **P 20 48 28.7 +0.9**
baz=288
PNL Peninsula 76.59 31 P **P 20 48 28.8 +0.9**
ANTO Ankara 76.60 308 ⇑P **P 20 48 28.6 +0.2**
ANTO Ankara 76.60 308 P **P 20 48 28.6 +0.2**
ANTO Ankara 76.60 308 P **P 20 48 28.1 -0.3**
comp=Z,11nm,0.8s
YUK6 Outpost Mounta 76.68 30 P **P 20 48 29.7 +1.1**
baz=288,SNR=6.2
H31M Peel River 76.76 24 P **P 20 48 28.6 -0.2**
baz=291
O29M Mount Kennedy 76.78 30 P **P 20 48 29.9 +0.8**
baz=288
MTSE Matsula 76.82 328 *eP* **P 20 48 29.5 +0.4**
PURM Purcari 76.83 315 P **P 20 48 29.2 -0.2**
comp=Z,41nm,1.0s
M30M Minto, Yukon 76.86 28 IAmb IAmb 20 48 31.4
comp=Z,31nm,0.8s
M30M Minto, Yukon 76.86 28 P **P 20 48 30.4 +1.0**
baz=289,SNR=34
MAYO Mayo, Yukon 76.91 27 P **P 20 48 30.5 +0.9**
baz=290
MI28 Mi28,Pidlybu 77.00 320 P **P 20 48 29.2 -1.1**
RAF Rauma 77.07 331 *eP* **P 20 48 30.2 -0.3**
HYT Haines Junctio 77.12 30 IAmb IAmb 20 48 33.0
comp=Z,35nm,1.0s
HYT Haines Junctio 77.12 30 P **P 20 48 31.9 +0.9**
baz=289,SNR=15
STEI Steigen 77.21 338 *eP* **P 20 48 30.6 -0.5**
LUBAR Lubar, Ukraine 77.23 319 P **P 20 48 30.1 -1.5**
A36M Sachs Harbour 77.24 17 IAmb IAmb 20 48 31.8
comp=Z,31nm,0.9s
A36M Sachs Harbour 77.24 17 P **P 20 48 30.9 -0.3**
baz=298,SNR=17
SORM Soroca 77.38 317 ⇓P **P 20 48 31.6 -0.8**
SORM Soroca 77.38 317 P **P 20 48 31.6 -0.8**
SORM Soroca 77.38 317 P **P 20 48 31.3 -1.1**
comp=Z,26nm,1.0s
FAUS Fauske 77.41 338 *eP* **P 20 48 31.8 -0.4**
CSS Mathiatis 77.54 303 IAmb IAmb 20 48 34.4
comp=Z,31nm,0.7s
CSS Mathiatis 77.54 303 P **P 20 48 33.3 -0.4**
comp=Z,46nm,0.8s
P30M Million Dollar 77.61 30 P **P 20 48 34.6 +1.0**
baz=290
VSVD Vaisvydziai 77.61 325 *eP* **P 20 48 33.6 0.0**
N31M Braeburn, Yuko 77.68 29 IAmb IAmb 20 48 36.0
comp=Z,34nm,0.9s
N31M Braeburn, Yuko 77.68 29 P **P 20 48 35.1 +1.2**
baz=290,SNR=14
LOF Lofoten 77.71 339 *eP* **P 20 48 34.7 +0.8**
O30N Mendenhall 77.79 29 IAmb IAmb 20 48 36.4
comp=Z,27nm,0.8s
O30N Mendenhall 77.79 29 P **P 20 48 35.6 +1.1**
baz=290,SNR=18
NDNU Novodnistrovsk 77.87 317 P **P 20 48 34.1 -1.1**
TLCR 77.92 314 ⇓P **P 20 48 35.4 -0.1**
TLCR 77.92 314 P **P 20 48 35.4 -0.1**
RNPP9 Sopachiv 77.93 320 P **P 20 48 34.5 -0.9**
RNPP8 Varash 77.97 320 P **P 20 48 34.7 -1.0**
RNPP5 Staryi Chortor 77.98 320 P **P 20 48 34.8 -0.9**
JURR Jurilovca 78.01 313 ⇑P **P 20 48 36.0 0.0**
M31M Drury Creek, Y 78.04 28 IAmb IAmb 20 48 37.2
comp=Z,28nm,0.7s
M31M Drury Creek, Y 78.04 28 P **P 20 48 36.4 +0.5**
baz=291,SNR=23
PLBC Pleasant Camp 78.12 31 P **P 20 48 37.0 +0.7**
baz=290
RPZ Rata Peaks 78.16 146 P **P 20 48 37.3 +0.6**
MOR8 Moi Rana 78.21 337 *eP* **P 20 48 35.1 -1.7**
VLDR Vladesti 78.22 315 ⇑P **P 20 48 37.2 0.0**
BKZ Black Stump Fm 78.22 140 P **P 20 48 37.8 +0.6**
HORU Horodok 78.27 318 P **P 20 48 36.4 -1.0**
HORU Horodok 78.27 318 P **P 20 48 36.4 -1.0**
TPGR Topolog 78.29 314 ⇓P **P 20 48 37.5 -0.1**
BORA Eskisehir 78.32 308 IAmb IAmb 20 48 38.2
comp=Z,14nm,0.8s
WHY Whitehorse 78.39 29 IAmb IAmb 20 48 39.8
comp=Z,28nm,0.7s
WHY Whitehorse 78.39 29 P **P 20 48 39.0 +1.1**
baz=291,SNR=18
CFR Carcaliu 78.39 314 ⇓P **P 20 48 37.6 -0.5**
CFR Carcaliu 78.39 314 P **P 20 48 37.6 -0.5**
TIRR Tirgusor 78.41 313 ⇓P **P 20 48 38.0 -0.3**
TIRR Tirgusor 78.41 313 P **P 20 48 37.9 -0.3**
TIRR Tirgusor 78.41 313 P **P 20 48 37.3 -0.9**
comp=Z,15nm,0.9s
KMPD K-Podol'skiy 78.45 318 P **P 20 48 37.1 -1.2**
KMPD P **P 20 48 37.1 -1.2**
FARO Faro, Yukon 78.48 28 IAmb IAmb 20 48 39.9
comp=Z,36nm,0.9s
FARO Faro, Yukon 78.48 28 P **P 20 48 39.0 +0.6**
baz=292,SNR=37
KONS Konsvik 78.55 337 *eP* **P 20 48 38.4 -0.1**
SKAG Skagway 78.61 31 IAmb IAmb 20 48 41.0
comp=Z,26nm,0.9s
SKAG Skagway 78.61 31 P **P 20 48 40.2 +1.2**
baz=291,SNR=12
TLBR Topalu 78.64 313 ⇓P **P 20 48 39.1 -0.4**
SUW Suwalki 78.66 324 *eP* **P 20 48 38.8 -0.6**
SUW Suwalki 78.66 324 *eP* **P 20 48 39.3 -0.1**
PBUR Paburge 78.66 326 *eP* **P 20 48 39.3 -0.1**
STOK Stokkvaagen 78.66 337 *eP* **P 20 48 38.3 -0.8**
HARR Harsova 78.67 313 ⇓P **P 20 48 39.5 -0.2**
HARR Harsova 78.67 313 P **P 20 48 39.4 -0.2**
S31K Pelican 78.71 32 IAmb IAmb 20 48 41.4
comp=Z,27nm,0.9s
S31K Pelican 78.71 32 P **P 20 48 40.4 +0.8**
baz=291,SNR=5.3
LEIR Leirfjorden 78.72 337 *eP* **P 20 48 38.8 -0.7**
PANC Pancius 78.84 315 ⇓P **P 20 48 41.2 +0.7**
C36M Paulatuk 78.84 19 IAmb IAmb 20 48 39.9
comp=Z,18nm,0.6s
C36M Paulatuk 78.84 19 P **P 20 48 39.5 -0.5**
baz=299,SNR=14
PSN Preselentsi 78.85 312 *eP* **P 20 48 40.7 0.0**
ISP Isparta 78.88 306 IAmb IAmb 20 48 40.8
comp=Z,20nm,0.6s
ISP Isparta 78.88 306 P **P 20 48 40.1 -1.0**
ISP pmax pmax
comp=Z,30nm,0.7s
YLV Yalova 78.91 309 P **P 20 48 40.3 -0.8**
comp=Z,341nmcomp=Z,24nm,0.9s
ODBI Odobesti 78.93 315 ⇓P **P 20 48 41.3 +0.3**
ODBI Odobesti 78.93 315 P **P 20 48 42.0 +1.0**

comp=Z,1μmcomp=Z,25nm,0.8s
ICOR Ion Corvin 78.94 313 ⇓P P 20 48 41.7 +0.6
KLYT Kilyos 78.94 310 P P 20 48 40.5 -0.7
comp=Z,25nm,0.8s
TESR Tescani 78.97 316 ⇓P P 20 48 40.7 -0.6
TESR Tescani 78.97 316 P P 20 48 40.7 -0.6
comp=Z,32nm,0.9s
PRAR RASCA 78.97 316 ⇓P P 20 48 40.8 -0.5
N32M Quiet Lake 79.02 29 P P 20 48 41.9 +0.6
baz=293
VRI Vrincioaia 79.12 315 ⇑P P 20 48 42.7 +0.6
VRI Vrincioaia 79.12 315 P P 20 48 42.7 +0.6
VRI Vrincioaia 79.12 315 P P 20 48 42.5 +0.4
comp=Z,29nm,0.9s
BESE Bessie Mountai 79.16 31 IAmb IAmb 20 48 44.1
comp=Z,24nm,1.0s
PLOR5 Plostina Array 79.17 315 P P 20 48 43.2 +0.8
comp=Z,24nm,0.9s
PLOR Plostina 79.17 315 ⇓P P 20 48 43.2 +0.7
PLOR Plostina 79.17 315 P P 20 48 43.1 +0.7
PLOR3 Plostina Array 79.18 315 P P 20 48 42.6 +0.1
comp=Z,16nm,0.9s
MMPY Sheldon Lake, 79.22 27 P P 20 48 43.0 +0.6
baz=294,SNR=11
P32M Atlin 79.33 30 P P 20 48 43.9 +0.9
baz=292,SNR=8.6
CTYL Yalikoy Yolu 79.41 310 P P 20 48 43.1 -0.6
comp=Z,1μmcomp=Z,46nm,0.7s
R32K Eaglecrest 79.44 32 P P 20 48 44.6 +1.0
baz=292
COVR Voineasa-Covas 79.47 315 ⇑P P 20 48 44.0 -0.1
SIT Sitka 79.49 33 P P 20 48 45.0 +1.2
baz=292,SNR=7.7
SIT Sitka 79.49 33 P P 20 48 44.7 +0.9
P33M Teslin, Yukon 79.50 29 P P 20 48 44.6 +0.6
baz=293,SNR=15
PRD Provadia 79.50 312 eP P 20 48 44.5 +0.3
JIS Juneau Island 79.51 32 P P 20 48 45.1 +1.2
BURAR Bucovina Array 79.54 317 ⇓P P 20 48 44.3 -0.2
BURAR Bucovina Array 79.54 317 P P 20 48 44.3 -0.2
NEHR Nehoiu 79.54 315 ⇓P P 20 48 44.4 0.0
NEF NEVSHA 79.56 312 eP P 20 48 44.7 +0.1
STNU Starunia 79.64 318 P P 20 48 44.1 -0.7
OZUR 79.67 315 ⇓P P 20 48 45.3 +0.2
ELL Elmali 79.67 305 P P 20 48 44.9 -0.5
ELL pmax pmax
comp=Z,32nm,0.8s
S32K Killisnoo 79.72 32 P P 20 48 45.9 +0.9
baz=292,SNR=5.2
MLR Muntele Rosu 79.76 315 IAmb IAmb 20 48 47.0
comp=Z,14nm,0.7s
MLR Muntele Rosu 79.76 315 ⇑P P 20 48 46.3 +0.5
MLR Muntele Rosu 79.76 315 P P 20 48 46.2 +0.5
MLR Muntele Rosu 79.76 315 P P 20 48 45.5 -0.2
comp=Z,23nm,0.8s
SULR 79.81 314 ⇓P P 20 48 46.5 +0.7
NSS Namsos 79.85 336 eP P 20 48 44.5 -1.1
MORS Morshin 79.87 319 P P 20 48 46.1 0.0
MORS Morshin 79.87 319 P P 20 48 46.1 0.0
BAND Balkesir-Ban 79.90 309 ⇓P P 20 48 46.2 -0.2
DOPR Dopca 79.97 315 ⇓P P 20 48 46.8 +0.1
DAG Danmarks Havn 80.00 352 P P 20 48 45.3 -0.9
DAG pmax pmax
comp=Z,23nm,1.1s
DAG Danmarks Havn 80.00 352 i P P 20 48 44.0 -2.2
DAG IAmb IAmb 20 48 46.2
comp=Z,9.9nm,0.9s
RAKU Rahkiv 80.08 318 P P 20 48 46.4 -0.8
Q32M Nakina River 80.26 30 P P 20 48 48.9 +0.7
baz=294
ARCR ARCALIA 80.27 317 ⇓P P 20 48 48.9 +0.7
VOIR 80.37 315 ⇑P P 20 48 48.6 -0.4
VOIR 80.37 315 P P 20 48 48.5 -0.4
VOIR 80.37 315 P P 20 48 48.4 -0.5
comp=Z,5.6nm,0.7s
KWP Kalwaria Pacla 80.43 319 eP P 20 48 49.1 0.0
KWP Kalwaria Pacla 80.43 319 P P 20 48 48.9 -0.2
KWP Kalwaria Pacla 80.43 319 P P 20 48 48.9 -0.2
SZH Strazhitsa 80.46 313 eP P 20 48 49.3 -0.1
BMR Baia Mare 80.62 317 ⇑P P 20 48 50.3 +0.2
BMR Baia Mare 80.62 317 P P 20 48 50.3 +0.2
ARR Arges 80.67 315 ⇓P P 20 48 50.5 0.0
KORU Korolevo 80.68 318 P P 20 48 50.4 0.0
BRIU Brid 80.69 318 P P 20 48 49.0 -1.4
R33M Jennings River 80.69 30 P P 20 48 51.5 +1.1
baz=295
HUMR Humele 80.72 314 ⇓P P 20 48 50.3 -0.4
BEL Belsk 80.78 322 eP P 20 48 50.7 -0.1
MUKU Mukachevo 80.86 318 P P 20 48 51.1 -0.2
CJR Cluj-Napoca 80.89 316 ⇑P P 20 48 52.4 +0.8
CJR Cluj-Napoca 80.89 316 P P 20 48 52.4 +0.8
KOLS Kolonicke sedl 80.94 319 eP P 20 48 51.8 0.0
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 80.94 319 eP P 20 48 51.8 0.0
BERU Beregovo 80.96 318 P P 20 48 51.6 -0.3
TGTN Hyland Airport 80.97 27 P P 20 48 52.4 +0.7
baz=297,SNR=12
U33K Whale Pass 80.98 33 IAmb IAmb 20 48 53.4
comp=Z,19nm,0.9s
U33K Whale Pass 80.98 33 P P 20 48 52.6 +0.8
baz=294,SNR=5.2
HOLU Holmets 81.02 318 P P 20 48 51.9 -0.3
HFS Hagfors 81.09 331 P P 20 48 51.4 -1.0
comp=Z,12nm,0.5s,baz=94,slow=3.2,SNR=75
comp=Z,12nm,0.5s
DIM Dimitrovgrad 81.14 312 eP P 20 48 53.1 +0.1
MARR Marisel-Cluj 81.21 317 ⇓P P 20 48 53.5 +0.1
LOT Lotru 81.21 315 ⇑P P 20 48 53.7 +0.3
S34M Telegraph Cree 81.23 31 IAmb IAmb 20 48 55.2
comp=Z,19nm,0.8s
S34M Telegraph Cree 81.23 31 P P 20 48 54.2 +1.1
baz=295,SNR=11
CRAG Craig 81.24 34 P P 20 48 54.0 +0.9
baz=294
CRAG Craig 81.24 34 P P 20 48 53.9 +0.7
WRAK Wrangell Islan 81.25 33 IAmb IAmb 20 48 54.8
comp=Z,20nm,0.8s
WRAK Wrangell Islan 81.25 33 P P 20 48 53.8 +0.5
baz=294
VLAD Vladila 81.29 314 ⇑P P 20 48 53.7 0.0
WTLY Watson Lake, Y 81.37 29 IAmb IAmb 20 48 55.4
comp=Z,26nm,0.9s
WTLY Watson Lake, Y 81.37 29 P P 20 48 54.6 +0.7
baz=296,SNR=7.7
DRGR 81.43 317 ⇓P P 20 48 54.5 0.0
DRGR 81.43 317 P P 20 48 54.5 0.0
DLBC Dease Lake 81.54 30 P P 20 48 56.0 +1.2
baz=296,SNR=11
NC303 NORSAR Array S 81.62 333 IAmb IAmb 20 48 54.9
comp=Z,19nm,0.8s
NB201 NORSAR Array S 81.73 333 IAmb IAmb 20 48 59.1
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 81.77 333 P P 20 48 54.6 -1.3
comp=Z,13nm,0.7s,baz=64,slow=4.8
NB2 NORSAR Subarra 81.77 333 P P 20 48 54.6 -1.3
baz=64,slow=4.8
NOA NORSAR Array B 81.77 333 P P 20 48 54.7 -1.3
comp=Z,10nm,0.7s,baz=62,slow=4.8,SNR=62
comp=Z,10nm,0.7s
NC602 NORSAR Array S 81.77 332 eP P 20 48 55.1 -0.8
NC204 NORSAR Array S 81.85 333 IAmb IAmb 20 48 57.6
comp=Z,19nm,0.8s
RZN Rozhen 81.85 311 eP P 20 48 56.6 -0.4
SRE Strehaia 81.86 315 ⇑P P 20 48 57.0 +0.3
SRE Strehaia 81.86 315 P P 20 48 57.0 +0.3
GZR Gura Zlata 81.89 315 ⇓P P 20 48 56.7 -0.2
GZR Gura Zlata 81.89 315 P P 20 48 56.7 -0.2
BORR Bors 81.91 317 ⇑P P 20 48 57.5 +0.6
PGB Panagyurishte 81.96 312 eP P 20 48 57.3 0.0
OJC Ojcow 81.96 321 eP P 20 48 57.0 -0.1
MPEP Malo Peshtene 81.97 313 eP P 20 48 57.4 +0.1
NIE Niedzica 81.97 320 eP P 20 48 57.8 +0.6
NEEM North Greenlan 82.05 359 i P P 20 48 57.0 -0.5
VALD Valchedram 82.06 314 eP P 20 48 57.8 +0.1
T35M Bob Quinn 82.06 32 P P 20 48 58.3 +0.7
baz=296,SNR=5.8
V35K Ketchikan 82.08 34 P P 20 48 57.8 +0.2
baz=295
WRGLY Wrigley 82.12 25 IAmb IAmb 20 48 58.8
comp=Z,14nm,0.7s
WRGLY Wrigley 82.12 25 P P 20 48 58.0 +0.4
baz=301,SNR=5.4
SURR Surduc 82.18 316 ⇑P P 20 48 58.1 -0.3

DOMB Dombas 82.19 334 eP P 20 48 57.4 -0.7
KECS Kecovo 82.21 319 eP P 20 48 59.1 +0.7
KECS pmax pmax
comp=Z,14nm,0.9s
KECS Kecovo 82.21 319 eP P 20 48 59.1 +0.7
GKP Gorka Klasztor 82.22 324 eP P 20 48 58.9 +0.5
SIRR Siria 82.30 317 ⇑P P 20 48 58.9 -0.1
HERR Herculane 82.31 315 ⇑P P 20 48 59.1 +0.1
PLNA Plana 82.49 312 eP P 20 49 00.4 +0.2
OSL Oslo 82.51 332 eP P 20 48 59.4 -0.3
MOL Molde 82.53 335 eP P 20 48 59.6 -0.2
BZS Buzias 82.56 316 ⇓P P 20 48 59.6 -0.7
BZS Buzias 82.56 316 P P 20 48 59.6 -0.7
LANS Liptovska Anna 82.57 320 eP P 20 49 01.3 +0.9
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 82.57 320 eP P 20 49 01.3 +0.9
VTS Vitosha 82.58 313 eP P 20 49 00.9 +0.2
MMB Musomishta 82.60 312 eP P 20 49 00.5 -0.2
DEL Delary 82.62 328 i P P 20 48 58.7 -1.6
BORU Boraas 82.64 329 i P P 20 48 58.6 -1.8
BSD Bornholm Skovb 82.69 326 eP P 20 49 00.7 0.0
BSD Bornholm Skovb 82.69 326 i P P 20 48 58.7 -2.0
BSD IAmb IAmb 20 49 01.9
comp=Z,20nm,0.8s
STRU Stroemstad 82.73 331 i P P 20 48 59.5 -1.3
PSZ Piszkesteto 82.79 319 ⇑P P 20 49 01.6 0.0
PSZ Piszkesteto 82.79 319 P P 20 49 01.6 0.0
PSZ Piszkesteto 82.79 319 eP P 20 49 01.6 0.0
MDVR Moldovita 82.81 315 ⇓P P 20 49 01.5 -0.2
KKB Krupnik 82.93 312 eP P 20 49 01.9 -0.4
FABU Falkenberg 82.95 329 i P P 20 49 01.1 -1.0
AKN Aaknes 82.96 335 eP P 20 49 02.0 0.0
TJOU Tjoern 83.00 330 i P P 20 49 00.7 -1.6
OKC Ostrava-Krasne 83.09 321 eP P 20 49 03.0 0.0
OKC Ostrava-Krasne 83.09 321 eP P 20 49 03.0 0.0
KONO Kongsberg 83.14 332 eP P 20 49 02.2 -0.8
ONAU Onsala 83.15 329 i P P 20 49 01.6 -1.5
SKAR Skarslia 83.19 333 eP P 20 49 03.2 -0.1
LUNU Lund 83.21 327 i P P 20 49 01.9 -1.5
VYHS Vyhne 83.22 319 eP P 20 49 04.1 +0.4
VYHS pmax pmax
comp=Z,26nm,0.9s
VYHS Vyhne 83.22 319 eP P 20 49 04.1 +0.4
BJUU Bjuv 83.22 328 i P P 20 49 02.9 -0.6
BOVS Bovan 83.24 314 ⇓P P 20 49 03.2 -0.6
STEB Steborice 83.28 321 eP P 20 49 04.0 +0.1
MAUC Maruska 83.47 320 eP P 20 49 05.0 0.0
MORC Moravsky Berou 83.48 321 P P 20 49 04.6 -0.4
MORC IAmb IAmb 20 49 05.5
comp=Z,11nm,0.7s
MORC Moravsky Berou 83.48 321 eP P 20 49 04.9 -0.1
MORC Moravsky Berou 83.48 321 ⇓P P 20 49 05.1 +0.1
MORC Moravsky Berou 83.48 321 P P 20 49 05.3 +0.3
VAY Valandovo 83.51 312 i P P 20 49 04.2 -1.0
TOAD Toad River Com 83.57 29 P P 20 49 05.5 +0.2
baz=300,SNR=16
KSP Ksiaz 83.76 322 eP P 20 49 06.4 +0.1
JAVC Velka Javorina 83.78 320 eP P 20 49 07.9 +1.3
KRLC Kraliky 83.80 321 eP P 20 49 06.6 0.0
KRLC Kraliky 83.80 321 eP P 20 49 06.6 0.0
SRO Srobarova 83.81 319 eP P 20 49 06.9 +0.3
SRO pmax pmax
comp=Z,19nm,0.8s
SRO Srobarova 83.81 319 eP P 20 49 06.8 +0.2
HYA Hoyanger 83.82 334 eP P 20 49 06.0 -0.3
FRGS Fruska Gora 83.92 316 ⇑i P P 20 49 06.3 -1.0
OSTC Ostas 83.93 322 eP P 20 49 07.4 +0.2
OSTC Ostas 83.93 322 eP P 20 49 07.4 +0.2
DPC Dobruska-Polom 83.95 322 eP P 20 49 07.7 +0.3
DPC Dobruska-Polom 83.95 322 eP P 20 49 07.7 +0.3
CHVC Chvalec 84.01 322 eP P 20 49 07.8 +0.1
CHVC Chvalec 84.01 322 eP P 20 49 07.8 +0.1
LIT Litokhoron 84.02 311 IAmb IAmb 20 49 07.7
comp=Z,16nm,0.6s
SMOL Smolenice 84.06 320 eP P 20 49 08.8 +0.8
UPC Upice 84.06 322 eP P 20 49 07.9 0.0
UPC Upice 84.06 322 eP P 20 49 07.9 0.0
MODS Modra-Piesok 84.21 320 eP P 20 49 08.8 +0.1
MODS pmax pmax
comp=Z,32nm,1.4s
MODS Modra-Piesok 84.21 320 eP P 20 49 08.8 +0.1
VRAC Vranov 84.23 321 eP P 20 49 08.9 +0.1
VRAC Vranov 84.23 321 ⇓P P 20 49 09.4 +0.6
VRAC Vranov 84.23 321 P P 20 49 09.4 +0.6
MORH Mrgy, Hungar 84.25 317 ⇓P P 20 49 08.7 -0.2
ODD1 Odda 84.30 333 eP P 20 49 08.6 -0.3
HOMB Homborsund 84.32 331 eP P 20 49 08.4 -0.6
HOMB Homborsund 84.32 331 i P P 20 49 07.5 -1.5
TEKS Tekeris 84.34 315 eP P 20 49 08.8 -0.7
RUE Ruedersdorf 84.45 324 eP P 20 49 10.3 +0.5
KRUC Moravsky 84.45 321 eP P 20 49 09.9 0.0
SUE Sulen 84.46 334 eP P 20 49 09.5 -0.1
SJES Sjenica 84.55 314 ⇑i P P 20 49 10.1 -0.6
BER Bergen 84.59 334 eP P 20 49 09.9 -0.4
GOET G??ttrup 84.61 330 i P P 20 49 09.9 -0.6
BLS5 Blasjo 84.64 332 eP P 20 49 10.5 -0.1
BBLS Lazi&#263i 84.69 315 eP P 20 49 10.6 -0.7
RUDO Rudo 84.81 315 ⇑i P P 20 49 10.9 -0.9
OHR Ohrid 84.83 312 i P P 20 49 10.9 -1.1
SNART Snartemo 84.88 331 eP P 20 49 11.1 -0.7
SNART Snartemo 84.88 331 i P P 20 49 10.7 -1.1
TREC Trest 84.89 321 eP P 20 49 09.3 -2.8
TREC Trest 84.89 321 eP P 20 49 09.3 -2.8
MUD Monsted U'grnd 84.93 329 i P P 20 49 10.8 -1.2
GOPC GO Pecny, Ondr 85.03 322 eP P 20 49 12.6 -0.2
GOPC GO Pecny, Ondr 85.03 322 eP P 20 49 12.6 -0.2
BRG Berggiesshubel 85.09 323 eP P 20 49 12.9 -0.1
BRG Amp 20 49 14.6
comp=Z,11nm,0.8s
RONA Rosalia, Austr 85.09 319 eP P 20 49 12.7 -0.4
comp=Z,2.6nm,0.7s
PRU Pruhonice 85.14 322 eP P 20 49 12.9 -0.4
PRU Pruhonice 85.14 322 eP P 20 49 12.9 -0.4
SSRD Sdr. Stenderup 85.19 328 i P P 20 49 11.8 -1.6
CONA Conrad Observa 85.26 320 eP P 20 49 14.0 -0.1
comp=Z,1.6nm,0.3s,SNR=7.7
KMY Karmoy 85.27 333 eP P 20 49 13.9 +0.2
PDG Podgorica 85.37 314 IAmb IAmb 20 49 14.9
comp=Z,17nm,0.7s
PDG Podgorica 85.37 314 eP P 20 49 13.8 -0.8
PDG Podgorica 85.37 314 ⇓P P 20 49 14.0 -0.6
CLL Collm 85.42 323 IAmb IAmb 20 49 15.1
comp=Z,17nm,1.1s
CLL Collm 85.42 323 i P P 20 49 14.0 -0.6
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 85.42 323 i P P 20 49 14.0 -0.6
comp=Z,18nm,1.1s
HSKC Hora Svate Kat 85.50 323 eP P 20 49 13.8 -1.3
DRME Dracevica, Mon 85.51 313 ⇑i P P 20 49 14.0 -1.3
ZVC Zvikov 85.59 321 eP P 20 49 15.3 -0.2
KMBO Kilima Mbogo 85.61 267 i P P 20 49 17.2 +0.6
SNR=7.9
BRY Bratogost 85.66 314 ⇑i P P 20 49 15.8 -0.4
ARSA Arzberg 85.76 319 i P P 20 49 15.8 -0.7
comp=Z,2.2nm,0.4s
BLY Banja Luka 85.79 316 ⇑i P P 20 49 16.7 +0.1
CKRC Cesky Krumlov 85.80 321 eP P 20 49 16.4 -0.2
CKRC Cesky Krumlov 85.80 321 eP P 20 49 16.4 -0.2
LODK Lodwar 85.80 272 P P 20 49 15.6 -1.7
A051A Mrakovica 85.85 317 ⇑i P P 20 49 15.8 -1.2
HCY Herceg Novi 85.88 314 ⇑i P P 20 49 15.8 -1.3
YKA Yellowknife Ar 85.88 23 P P 20 49 16.6 -0.1
comp=Z,25nm,0.9s,baz=309,slow=4.8,SNR=211
YKA pP pwP 20 50 03.0 -2.3
comp=Z,2.1nm,0.8s,baz=312,slow=4.5,SNR=2.6
YKA PKKP PKKPdf 21 07 12.2 +2.7
comp=Z,0.3nm,0.6s,baz=125,slow=2.6,SNR=5.1
comp=Z,25nm,0.9s
PRIJ Prijedor 85.99 317 ⇑i P P 20 49 14.2 -3.4
KHC Kasperske Hory 86.09 321 eP P 20 49 17.4 -0.7
KHC Kasperske Hory 86.09 321 eP P 20 49 17.4 -0.7
SUMG Summit 86.11 354 P P 20 49 18.5 +0.4
SUMG pmax pmax
comp=Z,20nm,2.8s
SUMG Summit 86.11 354 i P P 20 49 16.8 -1.3
GERES GERESS Array B 86.14 321 P P 20 49 17.0 -1.4
GERES GERESS Array B 86.14 321 P P 20 49 17.8 -0.6
comp=Z,7.0nm,0.7s,baz=60,slow=5.4,SNR=44
comp=Z,7.0nm,0.7s
NKC Novy Kostel 86.23 323 eP P 20 49 18.3 -0.4

NKC Novy Kostel 86.23 323 eP P 20 49 18.3 -0.4
STON Ston 86.23 314 ⇑i P P 20 49 16.3 -2.5
MOA Molln 86.26 320 eP P 20 49 18.7 -0.2
comp=Z,8.6nm,0.6s,SNR=6.9
SOKA Soboth 86.31 319 i P P 20 49 18.5 -0.8
comp=Z,3.8nm,0.5s,SNR=8.1
A050A Klekovaca 86.32 316 eP P 20 49 17.3 -2.1
CRES Cresnjevec Ost 86.43 318 i P P 20 49 19.4 -0.3
CRES Cresnjevec Ost 86.43 318 eP P 20 49 18.2 -1.5
PDKS Podkum 86.61 318 i P P 20 49 20.1 -0.6
OBKA Obir 86.69 319 i P P 20 49 20.3 -0.8
comp=Z,6.0nm,0.6s
OBKA Obir 86.69 319 ⇑i P P 20 49 20.3 -0.8
BOJS Bojanci 86.70 318 eP P 20 49 20.0 -1.0
BIOA Bad Ischl, Aus 86.71 320 i P P 20 49 20.5 -0.7
comp=Z,4.2nm,0.5s
LJU Ljubljana 86.91 318 i P P 20 49 21.4 -0.7
CEY Cerknica 87.11 318 eP P 20 49 21.2 -1.9
KBA Koelnbreinsper 87.17 320 i P P 20 49 22.4 -1.1
comp=Z,4.6nm,0.5s
GRF Grafenberg Arr 87.18 323 eP P 20 49 23.0 -0.3
comp=Z,5.3nm,0.7s,baz=61,slow=4.4
GRFO Grafenberg 87.18 323 P P 20 49 22.1 -1.2
GRFO Grafenberg 87.18 323 P P 20 49 22.1 -1.2
GRFO pmax pmax
comp=Z,6.0nm,0.6s
LESA Schwarzleotal 87.41 320 i P P 20 49 23.5 -1.1
comp=Z,3.5nm,0.6s
SKDS Skadanscina 87.45 318 eP P 20 49 22.6 -2.1
ABTA Abfaltersbach 87.83 320 i P P 20 49 24.9 -1.6
comp=Z,7.2nm,0.7s,SNR=5.2
CBB Campbell River 87.90 37 IAmb IAmb 20 49 28.4
comp=Z,22nm,0.8s
WTTA Wattenberg 88.11 320 i P P 20 49 26.8 -1.2
comp=Z,13nm,0.9s
WATA Walderalm 88.11 320 i P P 20 49 26.7 -1.3
comp=Z,3.4nm,0.5s
SQTA Sankt Quirin 88.39 320 i P P 20 49 28.0 -1.2
comp=Z,2.5nm,0.5s
MOTA Moosalm 88.39 321 i P P 20 49 28.0 -1.3
comp=Z,2.2nm,0.4s
RETA Reutte 88.52 321 i P P 20 49 28.5 -1.3
comp=Z,1.5nm,0.6s
FETA Feichten 88.77 320 i P P 20 49 30.0 -1.1
comp=Z,5.2nm,1.1s
DAVA Damuels 89.14 321 eP P 20 49 31.8 -1.0
comp=Z,3.7nm,0.5s
CAMP Campotosto 89.22 316 IAmb IAmb 20 49 33.7
comp=Z,15nm,0.9s
NRCA Norcia 89.28 316 IAmb IAmb 20 49 34.2
comp=Z,18nm,0.9s
GMB Gambarie 89.53 311 P P 20 49 34.6 -0.2
GMB pmax pmax
comp=Z,146nm,0.9s
CESX Cesi 89.73 316 IAmb IAmb 20 49 35.2
comp=Z,9.8nm,0.8s
WLF Walferdange 90.03 324 P P 20 49 36.8 +0.1
WLF pmax pmax
comp=Z,42nm,1.0s
OSSC Osservatorio P 90.15 317 IAmb IAmb 20 49 37.2
comp=Z,16nm,0.7s
GNW Green Mountain 90.61 38 IAmb IAmb 20 49 41.6
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 91.25 332 P P 20 49 41.7 -0.5
comp=Z,4.4nm,0.5s,baz=35,slow=2.9,SNR=30
comp=Z,4.4nm,0.5s
D05A Enumclaw 91.29 38 IAmb IAmb 20 49 44.8
comp=Z,17nm,0.8s
B08A Colville Reser 92.14 36 IAmb IAmb 20 49 48.0
comp=Z,8.3nm,0.8s
BNI Bardonecchia 92.20 320 IAmb IAmb 20 49 47.1
comp=Z,6.8nm,0.7s
BNI Bardonecchia 92.20 320 P P 20 49 46.8 -0.2
MXC Moxie City 92.60 38 IAmb IAmb 20 49 50.4
comp=Z,11nm,0.9s
E07A Sunnyside 92.86 38 IAmb IAmb 20 49 51.7
comp=Z,6.1nm,0.8s
D08A Wollman Farm, 93.11 37 IAmb IAmb 20 49 52.4
comp=Z,8.2nm,0.7s
HAWA Hanford 93.14 38 IAmb IAmb 20 49 52.8
comp=Z,7.1nm,1.1s
NEW Newport 93.39 35 IAmb IAmb 20 49 53.7
comp=Z,8.2nm,0.8s
PINE Pine Mountain 93.75 40 P P 20 49 55.5 +1.2
L04D Klamath Falls 93.76 42 P P 20 49 54.6 +0.3
J05D Fort Rock, OR 93.85 41 P P 20 49 55.6 +0.9
J08A Circle Bar Ran 95.48 40 IAmb IAmb 20 50 04.1
comp=Z,7.6nm,0.7s
PAHR Pah Rah Range 96.98 43 IAmb IAmb 20 50 10.4
comp=Z,7.4nm,0.9s
HLID Hailey 97.74 38 IAmb IAmb 20 50 14.0
comp=Z,2.8nm,0.7s
RYN Ryan 98.14 44 IAmb IAmb 20 50 15.6
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 98.39 44 P P 20 50 16.0 +0.6
comp=Z,3.6nm,0.7s,baz=286,slow=5.3,SNR=22
comp=Z,3.6nm,0.7s
R11B Troy Canyon, C 100.18 42 P Pdif 20 50 23.2 -0.2
baz=307
PDAR Pinedale Array 100.98 36 P Pdif 20 50 24.7 -2.2
comp=Z,0.2nm,0.5s,baz=321,slow=2.3,SNR=3.5
SYO Syowa Base 106.44 202 ⇓ ePdiff Pdif 20 50 53.0 +3.0
QSPA South Pole Qui 110.44 180 PKiKP PKiKP 20 55 06.6 -1.1
comp=Z,1.4nm,0.8s,baz=260,slow=0.9,SNR=6.6
TXAR Lajitas Array 113.53 43 PKiKP PKiKP 20 55 14.7 -0.3
comp=Z,1.0nm,0.4s,baz=187,slow=1.3,SNR=12
833A Chaparral WMA, 116.92 41 P PKPdf 20 55 21.5 +0.2
baz=316
TKL Tuckaleechee C 118.86 24 PKP PKPdf 20 55 24.0 -0.9
comp=Z,3.8nm,0.6s,baz=306,slow=8.7,SNR=5.8
SNAA Sanae 120.15 197 PKP PKPdf 20 55 25.3 -1.0
comp=Z,3.6nm,1.0s,baz=192,slow=5.0,SNR=5.7
DBIC Dimbokro 121.30 292 PKP PKPdf 20 55 29.0 -1.0
comp=Z,3.1nm,0.8s,baz=39,slow=5.4,SNR=3.9
SDV Santo Domingo 148.09 24 eP PKPdf 20 56 20.6 +0.9
BAUV El Baul 148.95 20 PKPdf 20 56 23.6 +2.8
ROSC El Rosal 149.96 34 PKPbc PKPbc 20 56 28.1 +0.1
comp=Z,16nm,0.4s,baz=57,slow=3.4,SNR=12
OTAV Otavalo 151.08 47 eP PKPdf 20 56 25.3 +0.6
CZSB Cruzeiro do Su 160.74 50 eP PKPdf 20 56 37.7 +0.9
TRQA Tornquist 162.27 169 eP PKPdf 20 56 38.4 +0.6
ITTB Itaituba 163.70 352 eP PKPdf 20 56 41.1 +1.2
LPAZ La Paz 169.33 68 PKP PKPdf 20 56 44.4 -0.4
comp=Z,2.3nm,0.8s,baz=348,slow=3.0,SNR=5.5
LPAZ PKPab PKPab 20 57 58.0 -0.4
comp=Z,1.4nm,0.5s,baz=321,slow=0.6,SNR=5.3
BDFB Brasilia 169.41 296 PKP PKPdf 20 56 43.1 -1.1
comp=Z,4.6nm,0.9s,baz=148,slow=3.7,SNR=3.9
CPUP Villa Florida 174.31 185 PKP PKPdf 20 56 46.0 -0.1
comp=Z,0.8nm,0.4s,baz=162,slow=3.2,SNR=5.7
CPUP PKPab PKPab 20 58 18.7 -0.3
comp=Z,0.6nm,0.4s,baz=175,slow=10,SNR=3.3

IDC ***17*** *20:43:44.2±2.1,44°.25N×148°.19E,h0km,mb3.9/17, mbtmp3.9/17,Error ellipse: s-maj=58.2km s-min=19.3km az=0.0*
JMA ***17*** *20:43:51.5±0.4,44°N±2°×14°8E±°,h11km,MV3.7/22,SE OFF ETOROFU*
MOS ***17*** *20:43:51.0±1.2,44°.10N×148°.16E,h75km,mb4.1/1,Error ellipse: s-maj=16.8km s-min=11.9km az=112.1*
SKHL ***17*** *20:43:52.0±0.3,44°.00N×148°.20E,h83km±7km,mb4.5/3, msha5.5/3*
ISC 17 20:43:49.5±1.7,**43°.88N**±0°.06×**148°.36E**±0°.09,**h53**km±14km, **n50**,σ1**9**75/57,**mb3.9**/17,**1D**,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.10**	**270**	*e*PN	**Pn**	**20 44 09.4**	**+0.7**
SHO				*i* S	**Sn**	**20 44 22.2**	**-0.7**
SHO				pmax	pmax		
	comp=Z,57nm,0.3s						
SHO				pmax	pmax		
	comp=N,16nm,0.1s						
SHO				pmax	pmax		
	comp=E,13nm,0.1s						
SHO				smax	smax		
	comp=N,752nm,0.2s						
SHO				smax	smax		
	comp=E,824nm,0.4s						
SHO	**Shikotan**	**1.10**	**270**	*e*P	**Pn**	**20 44 09.4**	**+0.7**
SHO				AMB	AMB	20 44 10.9	
	comp=E,60nm,0.3s						
SHO				*i* S	**Sn**	**20 44 22.2**	**-0.7**
SHO				A	A	20 44 24.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,750nm,0.3s						
SHO				A	A	20 44 24.4	
	comp=E,820nm,0.3s						
KUR	**Kuril'sk**	**1.40**	**346**	*d iPN*	**Pn**	**20 44 12.8**	**+0.1**
KUR				*i* S	**Sn**	**20 44 28.9**	**-1.1**
KUR				pmax	pmax		
	comp=N,144nm,0.2s						
KUR				pmax	pmax		
	comp=Z,129nm,0.2s						
KUR				pmax	pmax		
	comp=E,59nm,0.1s						
KUR				smax	smax		
	comp=N,602nm,0.2s						
KUR				smax	smax		
	comp=E,301nm,0.2s						
KUR	**Kuril'sk**	**1.40**	**346**	*i* P	**Pn**	**20 44 13.2**	**+0.6**
KUR				AMB	AMB	20 44 13.3	
	comp=E,640nm,0.4s						
KUR				*e*S	**Sn**	**20 44 29.3**	**-0.7**
KUR				A	A	20 44 31.1	
	comp=E,600nm,0.2s						
KUR				A	A	20 44 31.1	
	comp=E,300nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**276**	PN	**Pn**	**20 44 20.3**	**+2.1**
YUK				*i* S	**Sn**	**20 44 39.2**	**-0.8**
YUK				pmax	pmax		
	comp=Z,95nm,0.4s						
YUK				pmax	pmax		
	comp=E,38nm,0.3s						
YUK				smax	smax		
	comp=N,418nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**276**	*e*P	**Pn**	**20 44 20.5**	**+2.3**
YUK				AMB	AMB	20 44 24.2	
	comp=N,100nm,0.4s						
YUK				*i* S	**Sn**	**20 44 38.9**	**-1.1**
YUK				A	A	20 44 41.7	
	comp=N,420nm,0.3s						
YUK				A	A	20 44 41.7	
	comp=N,550nm,0.3s						
NEM2	**Nemuro 2**	**1.97**	**256**	P	**Pn**	**20 44 21.8**	**+1.4**
NEM2				S	**Sn**	**20 44 43.0**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.98**	**256**	*e*PN	**Pn**	**20 44 21.3**	**+0.8**
NMR				*i* S	**Sn**	**20 44 43.2**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.98**	**256**	*e*P	**Pn**	**20 44 21.3**	**+0.8**
NMR				*i* S	**Sn**	**20 44 42.8**	**-1.3**
JRA	**Rausu**	**2.34**	**273**	P	**Pn**	**20 44 27.6**	**+2.2**
JRA				S	**Sn**	**20 44 53.8**	**+0.9**
JNSB	**Nemuroshibetsu**	**2.43**	**269**	*e*P	**Pn**	**20 44 28.6**	**+2.0**
JNSB				*e*S	**Sn**	**20 44 54.6**	**-0.5**
AKK	**Akkeshi**	**2.70**	**253**	*e*P	**Pn**	**20 44 33.0**	**+2.6**
JAK	**Akkeshi**	**2.81**	**253**	*e*P	**Pn**	**20 44 33.3**	**+1.5**
JAK				*e*S	**Sn**	**20 45 04.7**	**+0.2**
JTKR	**Abashiri--Toko**	**3.21**	**273**	P	**Pn**	**20 44 39.5**	**+2.1**
JAR	**Ashorobuto**	**3.38**	**262**	P	**Pn**	**20 44 42.1**	**+2.4**
JAR				*e*S	**Sn**	**20 45 20.4**	**+1.8**
JCH	**Churui**	**3.86**	**253**	*e*P	**Pn**	**20 44 48.3**	**+2.0**
JCH				*e*S	**Sn**	**20 45 31.0**	**+0.6**
YSS	**Yuzhno-Sakhali**	**5.00**	**310**	*e*PN	**Pn**	**20 45 03.4**	**+1.5**
YSS				*e*S	**Sn**	**20 45 55.8**	**-2.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YSS				smax	smax		
	comp=N,20nm,0.5s						
YSS				smax	smax		
	comp=E,20nm,0.7s						
YSS	**Yuzhno-Sakhali**	**5.00**	**310**	*e*P	**Pn**	**20 45 03.4**	**+1.5**
YSS				*e*S	**Sn**	**20 45 55.8**	**-2.5**
JANG	**Nango**	**6.17**	**238**	*e*S	**Sn**	**20 46 22.8**	**-4.5**
JOM	**Ohasama**	**6.88**	**233**	*e*S	**Sn**	**20 46 39.9**	**-4.7**
JMK	**Ichinoseki**	**7.28**	**230**	*e*S	**Sn**	**20 46 49.6**	**-4.7**
YAK	**Yakutsk**	**21.23**	**335**	P	**P**	**20 48 27.3**	**-3.3**
	comp=E,13nm,0.7s,baz=105,slow=1.1,SNR=8.7						
	comp=E,13nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.64**	**141**	T	T	21 20 36.4	
	baz=332,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**28.65**	**141**	T	T	21 20 37.5	
	baz=332,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.66**	**141**	T	T	21 20 34.9	
	baz=332,slow=76,SNR=21						
SONM	**Songino Array**	**29.23**	**293**	P	**P**	**20 49 45.5**	**-0.6**
	comp=E,0.8nm,0.6s,baz=86,slow=8.4,SNR=5.4						
	comp=E,0.8nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**29.63**	**143**	T	T	21 21 50.1	
	baz=333,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**29.63**	**143**	T	T	21 21 47.5	
	baz=333,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**29.64**	**143**	T	T	21 21 43.9	
	baz=333,slow=76,SNR=26						
ILAR	**Eielson Array**	**40.87**	**36**	P	**P**	**20 51 26.9**	**+1.1**
	comp=E,0.4nm,0.5s,baz=276,slow=10,SNR=6.1						
	comp=E,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.30**	**298**	P	**P**	**20 52 01.6**	**-0.2**
	comp=E,0.8nm,0.6s,baz=74,slow=8.1,SNR=9.0						
	comp=E,0.8nm,0.6s						
KURK	**Kurchatov**	**46.18**	**304**	P	**P**	**20 52 08.8**	**+0.2**
KURK	**Kurchatov**	**46.18**	**304**	*e*P	**P**	**20 52 08.8**	**+0.2**
KURBB	**Kurchatov Arra**	**46.27**	**304**	P	**P**	**20 52 08.8**	**-0.5**
	comp=E,0.8nm,0.5s,baz=76,slow=8.8,SNR=6.5						
	comp=E,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**55.21**	**34**	P	**P**	**20 53 16.6**	**+0.2**
	comp=E,0.1nm,0.5s,baz=304,slow=8.4,SNR=2.5						
	comp=E,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**59.43**	**340**	P	**P**	**20 53 45.4**	**-0.7**
	comp=E,4.8nm,1.1s,baz=35,slow=7.6,SNR=3.8						
	comp=E,4.8nm,1.1s						
FINES	**FINESS Array B**	**65.15**	**333**	P	**P**	**20 54 23.4**	**-1.0**
	comp=E,1.5nm,0.6s,baz=46,slow=4.5,SNR=7.0						
	comp=E,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**66.77**	**59**	P	**P**	**20 54 37.0**	**+1.5**
	comp=E,0.6nm,0.5s,baz=306,slow=6.7,SNR=5.0						
	comp=E,0.6nm,0.5s						
FRB	**Frobisher Bay**	**68.81**	**17**	P	**P**	**20 54 46.9**	**-0.6**
	comp=E,2.3nm,0.9s,baz=2.6,slow=8.3,SNR=1.6						
	comp=E,2.3nm,0.9s						
PDAR	**Pinedale Array**	**69.16**	**50**	P	**P**	**20 54 51.7**	**+1.3**
	comp=E,0.3nm,0.5s,baz=280,slow=3.3,SNR=2.4						
	comp=E,0.3nm,0.5s						
NB2	**NORSAR Subarra**	**69.80**	**339**	P	**P**	**20 54 53.4**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.80**	**339**	P	**P**	**20 54 53.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=31,slow=6.7,SNR=5.9						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**69.91**	**338**	P	**P**	**20 54 53.7**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=29,slow=5.5,SNR=8.7						
	comp=Z,1.1nm,0.4s						
KBZ	**Khabaz**	**70.36**	**312**	P	**P**	**20 54 58.4**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=279,slow=6.5,SNR=4.3						
	comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**	**71.99**	**324**	P	**P**	**20 55 07.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=40,slow=6.3,SNR=6.9						
	comp=Z,0.8nm,0.5s						
GERES	**GERESS Array B**	**79.47**	**331**	P	**P**	**20 55 49.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=29,slow=9.0,SNR=2.6						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**81.85**	**57**	P	**P**	**20 56 04.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=296,slow=5.4,SNR=3.4						
	comp=Z,0.4nm,0.5s						
H03N2	**Juan Fernandez**	**142.09**	**90**	T	T	23 42 27.5	
	baz=304,slow=77,SNR=6.5						
H03N3	**Juan Fernandez**	**142.10**	**90**	T	T	23 42 29.5	
	baz=304,slow=77,SNR=5.0						
H03N1	**Juan Fernandez**	**142.11**	**90**	T	T	23 42 24.9	
	baz=304,slow=77,SNR=5.1						

IDC 17 20:50:48.6±2.0, 6°.72S×129°.00E, h0km, mb3.4/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=122.4km s-min=31.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**159**	Pn	Pn	20 54 08.8	-1.5
	0.3nm,0.3s,baz=338,slow=13,SNR=16						
WRA				Sn	Sn	20 56 34.0	-14
	0.5nm,0.3s,baz=339,slow=21,SNR=9.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.50**	**165**	P	P	20 54 55.3	-0.2
	0.1nm,0.3s,baz=341,slow=11,SNR=6.6						
ASAR				S	Sn	20 57 57.0	-13
	0.2nm,0.4s,baz=356,slow=24,SNR=4.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	21 01 46.3	0.0
	0.2nm,0.5s,baz=112,slow=7.7,SNR=9.5						
	0.2nm,0.5s						

TAP 17 20:58:06.0, 21°.14N×122°.09E, h168km, ML3.8, D, Taiwan

Code	Station Name	region	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**		**0.97**	**331**	*e*P	Pn	20 58 32.9	+0.6
LAY	**Lan-yu**		**1.02**	**331**	*e*P	Pn	20 58 33.6	+0.9
TSEB	**Hengchuen, Pin**		**1.34**	**305**	*e*S	Sn	20 58 58.7	+0.6
TWKBT	**Hengchun**		**1.43**	**304**	P	Pn	20 58 37.0	+0.7
TWKBT					S	Sn	20 58 59.0	-0.6
TWK1	**Hengchun**		**1.44**	**304**	P	Pn	20 58 36.9	+0.6
TWK1					S	Sn	20 58 59.1	-0.6
SMST	**Manzhou Townsh**		**1.46**	**307**	*e*P	Pn	20 58 36.8	+0.2
HEN	**Hengchun**		**1.52**	**305**	P	Pn	20 58 37.9	+0.7
HEN					S	Sn	20 59 00.6	-0.7
SLIU	**Shizi**		**1.61**	**312**	P	Pn	20 58 38.4	+0.3
SLIU					*e*S	Sn	20 59 02.1	-0.8
LDUT	**Ludao**		**1.63**	**339**	*e*P	Pn	20 58 39.4	+1.2
LDUT					*e*S	Sn	20 59 02.8	-0.5
TAWH	**Dawu Township**		**1.63**	**317**	P	Pn	20 58 38.2	-0.1
TAWH					*e*S	Sn	20 59 01.7	-1.6
TAW	**Tawu**		**1.64**	**318**	*e*P	Pn	20 58 38.5	+0.1
TAW					*e*S	Sn	20 59 02.0	-1.4
EAST	**Anshuo**		**1.69**	**317**	P	Pn	20 58 38.9	-0.1
EAST					*e*S	Sn	20 59 02.9	-1.6
ECL	**Taimali**		**1.79**	**324**	P	Pn	20 58 39.4	-0.5
ECL					S	Sn	20 59 04.7	-1.6
SCZT	**Fangliau**		**1.83**	**312**	P	Pn	20 58 40.6	+0.2
SCZT					*e*S	Sn	20 59 05.8	-1.3
TWGBT	**Beinan**		**1.91**	**331**	P	Pn	20 58 41.2	-0.1
TWGBT					*e*S	Sn	20 59 07.4	-1.3
TWG	**Pinlang**		**1.92**	**331**	*e*P	Pn	20 58 41.2	-0.2
TWG					*e*S	Sn	20 59 06.0	-2.8
LONT	**Longtian**		**1.97**	**333**	P	Pn	20 58 42.1	+0.1
LONT					*e*S	Sn	20 59 09.2	-0.6
MASBT	**Mashibuluo**		**1.99**	**318**	P	Pn	20 58 42.5	+0.4
MASBT					S	Sn	20 59 08.5	-1.7
TSMG	**Majia**		**2.05**	**320**	*e*P	Pn	20 58 43.2	+0.4
TSMG					S	Sn	20 59 10.5	-1.0
CHKT	**Chengkung**		**2.06**	**341**	*e*S	Sn	20 59 11.8	+0.2
SSD	**Sandimen**		**2.09**	**320**	P	Pn	20 58 43.5	+0.2
SSD					*e*S	Sn	20 59 10.2	-2.0
ECS	**Chishang**		**2.10**	**338**	*e*P	Pn	20 58 44.9	+1.4
ECS					*e*S	Sn	20 59 13.8	+1.3
CHKH	**Chenggong**		**2.14**	**343**	*e*P	Pn	20 58 43.7	-0.1
CHKH					*e*S	Sn	20 59 14.1	+0.9
EHD	**Haiduan**		**2.16**	**338**	*e*P	Pn	20 58 44.6	+0.5
EHD					*e*S	Sn	20 59 12.2	-1.4
FULB	**Fuli**		**2.17**	**340**	*e*P	Pn	20 58 45.3	+1.0
FULB					*e*S	Sn	20 59 14.9	+0.9
WSSB	**Gushan**		**2.26**	**312**	P	Pn	20 58 45.1	-0.1
ELDTW	**Lidau**		**2.27**	**334**	*e*P	Pn	20 58 45.4	-0.1
TWM1	**Shoushan**		**2.28**	**318**	P	Pn	20 58 47.2	+1.7
TWM1					S	Sn	20 59 18.6	+2.5
SCST	**Cishan**		**2.28**	**320**	P	Pn	20 58 46.3	+0.8
SCST					S	Sn	20 59 15.4	-0.6
EYUL	**Yuli**		**2.31**	**342**	*e*P	Pn	20 58 47.5	+1.7
EYUL					*e*S	Sn	20 59 17.1	+0.4
TWF1	**Yuli**		**2.32**	**342**	*e*P	Pn	20 58 47.2	+1.3
TWF1					*e*S	Sn	20 59 17.6	+0.7
STYH	**Taoyuan**		**2.36**	**329**	P	Pn	20 58 46.9	+0.6
STYH					*e*S	Sn	20 59 17.1	-0.6
YULB	**Yu-li**		**2.36**	**342**	*e*P	Pn	20 58 46.5	+0.1
YULB					*e*S	Sn	20 59 16.6	-1.2
STYT	**Tauyuan**		**2.36**	**329**	*e*P	Pn	20 58 47.0	+0.6
STYT					S	Sn	20 59 16.7	-1.2
SGST	**Jiashian**		**2.38**	**324**	*e*P	Pn	20 58 46.4	-0.3
SGST					*e*S	Sn	20 59 16.8	-1.4
HGSD	**Ruisui**		**2.42**	**345**	*e*P	Pn	20 58 48.6	+1.5
EHY	**Hungye**		**2.46**	**343**	*e*P	Pn	20 58 48.0	+0.4
EHY					*e*S	Sn	20 59 18.9	-0.9
SHHT	**Tainan City**		**2.47**	**320**	*e*P	Pn	20 58 48.6	+0.9
SHHT					*e*S	Sn	20 59 20.1	+0.1
CHN1	**Nanshi**		**2.49**	**325**	P	Pn	20 58 48.5	+0.5
CHN1					*e*S	Sn	20 59 19.6	-1.1
WTP	**Ta-pu**		**2.50**	**327**	P	Pn	20 58 48.5	+0.4
WTP					*e*S	Sn	20 59 20.0	-0.8
TPUB	**Ta-pu**		**2.54**	**328**	P	Pn	20 58 48.7	+0.2
TPUB					S	Sn	20 59 19.9	-1.7
SNST	**Tainan City**		**2.54**	**325**	P	Pn	20 58 48.7	+0.2
SNST					*e*S	Sn	20 59 20.4	-1.2
TWK	**Hsinying**		**2.58**	**325**	*e*P	Pn	20 58 49.7	+0.6
TWK					*e*S	Sn	20 59 21.2	-1.3
EGFH	**Guangfu**		**2.59**	**346**	*e*P	Pn	20 58 50.4	+1.3
EGFH					*e*S	Sn	20 59 21.6	-1.0
SSHA	**Shanhua**		**2.59**	**320**	P	Pn	20 58 49.9	+0.8
SSHA					*e*S	Sn	20 59 22.8	+0.1
CHN4	**Tsaushan**		**2.60**	**328**	P	Pn	20 58 49.3	+0.1
CHN4					*e*S	Sn	20 59 22.2	-0.7
ALS	**Alishan**		**2.64**	**334**	P	Pn	20 58 50.1	+0.5
ALS					*e*S	Sn	20 59 24.1	-0.1
WARBT	**Fenglin Townsh**		**2.64**	**346**	*e*P	Pn	20 58 49.8	0.0
WARBT					*e*S	Sn	20 59 23.0	-0.9
WCKO	**Fanlu**		**2.67**	**329**	P	Pn	20 58 50.1	0.0
WCKO					*e*S	Sn	20 59 23.2	-1.1
TSCK	**Chigu Township**		**2.72**	**317**	P	Pn	20 58 51.0	+0.3
TSCK					S	Sn	20 59 24.3	-1.2
VWDT	**VWDT**		**2.74**	**342**	P	Pn	20 58 51.9	+1.0
VWDT					*e*S	Sn	20 59 26.6	+0.7
CHN5	**Tsauling**		**2.77**	**332**	P	Pn	20 58 51.6	+0.2
CHN5					*e*S	Sn	20 59 25.9	-0.8
ICHU	**Yijhu**		**2.77**	**323**	*e*P	Pn	20 58 51.3	0.0
WHYT	**Xinyi Township**		**2.79**	**336**	P	Pn	20 58 51.8	+0.3
WHYT					*e*S	Sn	20 59 26.1	-0.9
CHY	**Chiayi**		**2.81**	**327**	*e*P	Pn	20 58 52.2	+0.5
CHY					*e*S	Sn	20 59 26.2	-1.1
SSLB	**Suanglung**		**2.83**	**339**	P	Pn	20 58 52.2	+0.1
SSLB					*e*S	Sn	20 59 27.0	-1.0
WDLH	**Douliu**		**2.91**	**331**	*e*P	Pn	20 58 52.9	-0.1
WDLH					*e*S	Sn	20 59 28.1	-1.5
OWD	**Renai**		**2.92**	**343**	*e*P	Pn	20 58 55.0	+1.7
OWD					*e*S	Sn	20 59 29.8	-0.4
WSL	**Shuilin Townsh**		**2.93**	**324**	*e*P	Pn	20 58 53.0	-0.2
WSL					*e*S	Sn	20 59 28.8	-1.2
LXIB	**Xiulin Townshi**		**2.93**	**348**	P	Pn	20 58 53.6	+0.2
LXIB					*e*S	Sn	20 59 29.4	-1.0
SMLT	**Sun Moon Lake**		**2.94**	**338**	*e*P	Pn	20 58 52.2	-1.3
SMLT					*e*S	Sn	20 59 29.5	-1.0
TYC	**Yuchr**		**2.98**	**338**	P	Pn	20 58 54.2	+0.5
TYC					*e*S	Sn	20 59 30.1	-0.9
WUSB	**Renai**		**2.98**	**343**	P	Pn	20 58 54.7	+0.7
WUSB					S	Sn	20 59 31.3	0.0
WTK	**Tuku**		**2.98**	**329**	P	Pn	20 58 53.1	-0.8
WTK					*e*S	Sn	20 59 29.6	-1.6
WNT	**Mingjian**		**3.02**	**335**	*e*P	Pn	20 58 54.5	+0.2
WNT					*e*S	Sn	20 59 30.2	-1.7
WSF	**Szhu**		**3.02**	**326**	*e*P	Pn	20 58 55.5	+1.1
WSF					*e*S	Sn	20 59 30.9	-1.1
NACB	**Ninganchiao**		**3.05**	**352**	*e*P	Pn	20 58 55.4	+0.6
NACB					*e*S	Sn	20 59 31.9	-0.8
WDGT	**Dungji**		**3.08**	**314**	P	Pn	20 58 54.8	-0.3
WDGT					S	Sn	20 59 30.7	-2.6
WCS	**Beigang Elemen**		**3.10**	**340**	*e*P	Pn	20 58 56.1	+0.8
WCS					*e*S	Sn	20 59 33.3	-0.5
ETLH	**Xiulin Townshi**		**3.10**	**350**	*e*P	Pn	20 58 55.5	+0.1
ETLH					*e*S	Sn	20 59 33.7	-0.3
FUSS	**Fushou**		**3.19**	**346**	P	Pn	20 58 58.3	+1.6
FUSS					*e*S	Sn	20 59 36.8	+0.6
VCHM	**Qimei**		**3.21**	**310**	P	Pn	20 58 55.7	-1.0
VCHM					S	Sn	20 59 34.5	-1.7
WHP	**Taichung City**		**3.29**	**342**	P	Pn	20 58 58.8	+0.9
WHP					S	Sn	20 59 38.8	+0.5
PHUB	**P'eng-hu**		**3.31**	**316**	*e*P	Pn	20 58 57.5	-0.5
PHUB					S	Sn	20 59 35.5	-3.0
NNSB	**Datong**		**3.33**	**349**	*e*P	Pn	20 58 59.4	+0.9
PNG	**Penghu**		**3.36**	**316**	P	Pn	20 58 58.2	-0.5
PNG					S	Sn	20 59 37.3	-2.3
LATG	**Datong**		**3.42**	**351**	*e*P	Pn	20 59 00.2	+0.8
YHNB	**Yeheng**		**3.57**	**350**	*e*P	Pn	20 59 03.0	+1.6
VWUC	**VWUC**		**4.54**	**328**	P	Pn	20 59 13.4	-0.3
VWUC					S	Sn	21 00 04.4	-2.3
KNMB	**Chin-men Tao**		**4.75**	**315**	P	Pn	20 59 16.1	-0.4
KNMB					*e*S	Sn	21 00 10.2	-1.4
AXDP	**Jialang**		**5.33**	**315**	P	Pn	20 59 23.7	-0.3

IDC 17 21:05:01.6±1.6, 30°.54N×140°.29E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=43.7km s-min=34.8km az=117.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**26.32**	**108**	T	T	21 38 02.3	
	baz=300,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**26.32**	**108**	T	T	21 38 01.6	
	baz=300,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**26.33**	**108**	T	T	21 38 02.9	
	baz=300,slow=75,SNR=106						
H11S3	**WAKE ISLAND Hy**	**26.77**	**111**	T	T	21 38 35.5	
	baz=302,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**26.77**	**110**	T	T	21 38 35.8	
	baz=302,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**26.79**	**110**	T	T	21 38 36.7	
	baz=302,slow=75,SNR=17						
CMAR	**Chiang Mai Arr**	**39.30**	**262**	P	P	21 12 33.2	+0.7
	0.6nm,0.7s,baz=63,slow=6.9,SNR=4.1						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**47.04**	**307**	P	P	21 13 33.9	-1.0
	0.3nm,0.7s,baz=85,slow=9.3,SNR=3.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**50.52**	**187**	P	P	21 14 01.2	-0.5
	0.5nm,0.7s,baz=4.3,slow=7.5,SNR=2.8						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**55.52**	**30**	P	P	21 14 38.5	+0.3
	0.5nm,1.0s,baz=272,slow=7.7,SNR=2.8						
	0.5nm,1.0s						

SKO ***17*** *21:21:32.9, 41°.29N×19°.26E, h42km*
TIR ***17*** *21:21:33.7, 41°.40N×19°.37E, h26km±2km, Md2.7/5, Ml3.0/7*
RHSSO ***17*** *21:21:33.7±0.6, 41°.31N×19°.16E, h12km±2km, ML2.9/12*
PDG ***17*** *21:21:34.4±0.2, 41°.37N×19°.37E, h24km, ML2.7/11, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
ATH ***17*** *21:21:34.4±0.5, 41°.41N×19°.41E, h15km±3km, ML2.7/7, Manual Solution by N.Liadopoulou First location: 2019/02/17 21:22:52, This location: 2020/07/15 11:42:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
BEO ***17*** *21:21:35.7±0.6, 41°.43N×19°.53E, h19km±2km, ML2.4/15*
ISC 17 21:21:34.1±1.1, **41°.40N**±0°.02×**19°.39E**±0°.02, **h16**km±9km, **n109**, σ1°**11**/185, **9C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**98**	Pg	**Pb**	**21 21 42.7**	**+0.6**
TIR				AML	AML	21 21 48.2	
	4.6nm,0.1s						
TIR				Sg	**Sb**	**21 21 48.8**	**+1.2**
TIR	**Tirane**	**0.36**	**98**	*e*Pg	**Pb**	**21 21 42.7**	**+0.6**
TIR				*e*Sg	**Sb**	**21 21 47.9**	**+0.3**
TIR	**Tirane**	**0.36**	**98**	P	**Pb**	**21 21 42.7**	**+0.6**
TIR				S	**Sb**	**21 21 48.5**	**+0.9**
ULC	**Ulcinj**	**0.57**	**349**	*i* Pg	**Pb**	**21 21 46.9**	**+1.1**
ULC	**Ulcinj**	**0.57**	**349**	*e*Pg	**Pb**	**21 21 46.2**	**+0.4**
ULC				*i* Sg	**Sb**	**21 21 56.1**	**+2.4**
PUK	**Puka**	**0.75**	**30**	Pg	**Pb**	**21 21 48.9**	**+0.1**
PUK				S	**Sb**	**21 21 59.9**	**+1.2**
PUK				AML	AML	21 22 03.5	
	2.5nm,0.2s						
PUK				AMd		21 22 37.8	
DRME	**Dracevica, Mon**	**0.80**	**349**	*e*Pg	**Pb**	**21 21 50.1**	**+0.5**
DRME				*e*Sg	**Sb**	**21 22 02.0**	**+1.8**
DRME	**Dracevica, Mon**	**0.80**	**349**	*i*Pg	**Pb**	**21 21 50.3**	**+0.7**
DRME				*i* Sg	**Sn**	**21 22 03.7**	**+1.4**
PHP	**Peshkopia**	**0.84**	**70**	P	**Pb**	**21 21 49.8**	**-0.5**
PHP				Sg	**Sn**	**21 22 02.4**	**-1.0**
PHP				AML	AML	21 22 05.5	
	1.7nm,0.4s						
PHP				AMd		21 22 42.9	
VLO	**Vlora**	**0.93**	**175**	Pg	**Pn**	**21 21 52.9**	**+0.4**
VLO				Sg	**Sn**	**21 22 06.0**	**+0.5**
VLO				AML	AML	21 22 14.1	
	2.0nm,0.2s						
VLO				AMd		21 22 36.8	
BUM	**Brajici-Budva**	**0.97**	**338**	⇓*i*Pg	**Pn**	**21 21 53.5**	**+0.4**
BUM				*i* Sg	**Sn**	**21 22 08.2**	**+1.6**
PDG	**Podgorica**	**1.03**	**355**	⇑*i*Pg	**Pb**	**21 21 54.1**	**+0.5**
PDG				*e*Sg	**Sn**	**21 22 09.4**	**+1.4**
PDG	**Podgorica**	**1.03**	**355**	*i* Pg	**Pn**	**21 21 54.5**	**+0.6**
PDG				*i* Sg	**Sn**	**21 22 09.6**	**+1.6**
PDG	**Podgorica**	**1.03**	**355**	*e*Pg	**Pb**	**21 21 53.9**	**+0.3**
PDG				*e*Sg	**Sn**	**21 22 09.2**	**+1.2**
PDG	**Podgorica**	**1.03**	**355**	⇑*i*Pg	**Pn**	**21 21 54.3**	**+0.4**
PDG				*i

BBLS				*e*Sn	**Sb**	**21 22 46.6**	**-1.5**
BBLS	**Lazi&#263i**	**2.46**	**0**	*e*Pn	**Pn**	**21 22 14.0**	**+0.4**
BBLS				*e*Sn	**Sn**	**21 22 44.5**	**+1.1**
TETR	**Tetrakomo, Epi**	**2.51**	**144**	P	**Pn**	**21 22 15.2**	**+1.0**
BOSS	**Bosilegrad**	**2.56**	**64**	*e*Pn	**Pn**	**21 22 14.6**	**-0.2**
BOSS				*e*Sn	**Sn**	**21 22 43.1**	**-2.4**
MAKA	**Makarska**	**2.58**	**318**	*e*Pn	**Pn**	**21 22 15.8**	**+0.7**
MAKA				Sn	**Sn**	**21 22 45.7**	**-0.3**
GRUS	**Gruza**	**2.67**	**21**	*e*Pn	**Pn**	**21 22 16.5**	**+0.1**
GRUS				*e*Sn	**Sn**	**21 22 48.5**	**+0.1**
RICI	**Ricice**	**2.68**	**322**	*i* Pn	**Pn**	**21 22 16.9**	**+0.5**
RICI				Sn	**Sn**	**21 22 48.6**	**+0.1**
LIT	**Litokhoron**	**2.69**	**118**	P	**Pn**	**21 22 17.2**	**+0.5**
CAPA	**Cerignola FG**	**2.70**	**266**	P	**Pn**	**21 22 17.3**	**+0.6**
HAPS	**Han Pijesak,BI**	**2.70**	**353**	*e*Pn	**Pn**	**21 22 18.4**	**+1.4**
HAPS				*e*Sn	**Sn**	**21 22 50.6**	**+1.2**
THL	**Klokotos Trika**	**2.72**	**132**	P	**Pn**	**21 22 17.9**	**+0.9**
DIVS	**Divibare**	**2.73**	**9**	*e*Pn	**Pn**	**21 22 17.2**	**-0.1**
DIVS				*e*Sn	**Sn**	**21 22 50.0**	**-0.1**
TYRN	**Tyrnavos**	**2.75**	**127**	P	**Pn**	**21 22 17.5**	**+0.1**
TSLK	**Tsoukalades, L**	**2.75**	**159**	P	**Pn**	**21 22 17.6**	**+0.1**
LKD2	**Lefkada island**	**2.78**	**159**	P	**Pn**	**21 22 17.9**	**0.0**
HVAR	**Hvar**	**2.81**	**310**	*e*Pn	**Pn**	**21 22 19.6**	**+1.3**
HVAR				Sn	**Sn**	**21 22 51.7**	**-0.2**
BOVS	**Bovan**	**2.82**	**37**	*e*Pn	**Pn**	**21 22 18.7**	**+0.3**
BOVS				*e*Sn	**Sn**	**21 22 50.7**	**-1.2**
DRAG	**Dragano-Lefkad**	**2.86**	**161**	P	**Pn**	**21 22 19.8**	**+0.7**
HORT	**Hortiatis**	**2.92**	**105**	P	**Pn**	**21 22 20.0**	**0.0**
EVGI	**Lefkada island**	**2.94**	**160**	P	**Pn**	**21 22 20.4**	**+0.2**
TIP	**Timpagrande**	**2.99**	**223**	P	**Pn**	**21 22 20.8**	**-0.1**
ZAPS	**Zavoj**	**3.05**	**51**	*e*Pn	**Pn**	**21 22 22.6**	**+1.0**
ZAPS				*e*Sn	**Sn**	**21 22 56.8**	**-1.0**
SOH	**Sokhos**	**3.05**	**100**	P	**Pn**	**21 22 21.6**	**-0.1**
TEKS	**Tekeris**	**3.15**	**2**	*e*Pn	**Pn**	**21 22 25.1**	**+2.1**
TEKS				*e*Sn	**Sn**	**21 23 02.7**	**+2.5**
MAKR	**Makrakomi, Fth**	**3.18**	**138**	P	**Pn**	**21 22 24.0**	**+0.6**
SRS	**Serrai**	**3.18**	**94**	P	**Pn**	**21 22 23.2**	**-0.2**
PVO	**Paravola**	**3.23**	**149**	P	**Pn**	**21 22 24.3**	**+0.2**
PLG	**Polygyros**	**3.24**	**107**	P	**Pn**	**21 22 24.5**	**+0.2**
NVR	**Nevrokopi**	**3.37**	**89**	P	**Pn**	**21 22 26.3**	**+0.3**
KIJV	**Kijevo**	**3.41**	**321**	*i* Pn	**Pn**	**21 22 27.5**	**+1.0**
KIJV				Sn	**Sn**	**21 23 06.5**	**-0.1**
KUBS	**Kucevo**	**3.45**	**28**	*e*Pn	**Pn**	**21 22 25.8**	**-1.3**
KUBS				*e*Sn	**Sn**	**21 23 06.5**	**-1.1**
KOKK	**Kokkinochori,**	**3.53**	**98**	P	**Pn**	**21 22 28.2**	**0.0**
ZIRJ	**Zirje**	**3.57**	**310**	*e*Pn	**Pn**	**21 22 29.4**	**+0.7**
ZIRJ				Sn	**Sn**	**21 23 10.2**	**-0.3**
OUR	**Ouranopolis**	**3.64**	**105**	P	**Pn**	**21 22 29.5**	**-0.3**
MORI	**Morici**	**3.67**	**313**	*e*Pn	**Pn**	**21 22 31.3**	**+1.3**
MORI				Sn	**Sn**	**21 23 12.0**	**-0.9**
BLY	**Banja Luka**	**3.72**	**335**	*e*Pn	**Pn**	**21 22 30.4**	**-0.3**
BLY				*e*Sn	**Sn**	**21 23 14.2**	**+0.1**
A050A	**Klekovaca**	**3.73**	**327**	*e*Pn	**Pn**	**21 22 31.2**	**+0.2**
A050A				*e*Sn	**Sn**	**21 23 13.8**	**-0.7**
FRGS	**Fruska Gora**	**3.77**	**5**	*e*Pn	**Pn**	**21 22 32.8**	**+1.3**
FRGS				*e*Sn	**Sn**	**21 23 17.9**	**+2.4**
KAVA	**Kavala**	**3.89**	**94**	P	**Pn**	**21 22 32.7**	**-0.4**
A051A	**Mrakovica**	**4.04**	**334**	*e*Pn	**Pn**	**21 22 35.7**	**+0.4**
A051A				*e*Sn	**Sn**	**21 23 21.5**	**-0.7**
UDBI	**Udbina**	**4.10**	**321**	*e*Pn	**Pn**	**21 22 37.9**	**+1.8**
UDBI				Sn	**Sn**	**21 23 22.9**	**-0.9**
DUGI	**Dugi Otok**	**4.11**	**311**	*e*Pn	**Pn**	**21 22 37.2**	**+1.0**
DUGI				Sn	**Sn**	**21 23 23.9**	**+0.1**
THAS	**Thassos island**	**4.11**	**99**	P	**Pn**	**21 22 35.6**	**-0.6**
VIRC	**Vir**	**4.30**	**314**	*e*Pn	**Pn**	**21 22 39.8**	**+1.0**
VIRC				Sn	**Sn**	**21 23 27.8**	**-0.7**
PLIT	**Plitvice**	**4.43**	**323**	*i* Pn	**Pn**	**21 22 41.8**	**+1.1**
PLIT				Sn	**Sn**	**21 23 30.6**	**-1.3**
NVLJ	**Novalja**	**4.58**	**315**	*e*Pn	**Pn**	**21 22 43.1**	**+0.5**
NVLJ				Sn	**Sn**	**21 23 33.7**	**-1.7**
BOJS	**Bojanci**	**5.09**	**325**	*e*Pn	**Pn**	**21 22 49.4**	**-0.2**
BOJS				*e*Sn	**Sn**	**21 23 45.6**	**-2.3**
CRES	**Cresnjevec Ost**	**5.26**	**329**	*e*Pn	**Pn**	**21 22 51.6**	**-0.4**
CRES				*e*Sn	**Sn**	**21 23 49.9**	**-2.4**
BRJN	**Brijuni**	**5.41**	**312**	*e*Pn	**Pn**	**21 22 54.5**	**+0.5**
BRJN				Sn	**Sn**	**21 23 54.0**	**-1.9**
CEY	**Cerknica**	**5.64**	**322**	*i* Pn	**Pn**	**21 22 57.0**	**-0.2**
CEY				*e*Sn	**Sn**	**21 23 59.1**	**-2.5**
SKDS	**Skadanscina**	**5.70**	**318**	*e*Pn	**Pn**	**21 22 56.3**	**-1.7**
SKDS				*e*Sn	**Sn**	**21 23 59.1**	**-3.9**
OBKA	**Obir**	**6.19**	**327**	*e*Pn	**Pn**	**21 23 04.8**	**0.0**
	0.9nm,0.3s						
OBKA				*e*Sn	**Sn**	**21 24 13.9**	**-1.2**
	0.9nm,0.3s						
OBKA	**Obir**	**6.19**	**327**	*e*Pn	**Pn**	**21 23 03.8**	**-1.0**
OBKA				*e*Sn	**Sn**	**21 24 12.5**	**-2.6**
ABTA	**Abfaltersbach**	**7.28**	**320**	*i* Pn	**Pn**	**21 23 18.1**	**-1.7**
	0.2nm,0.1s						
ABTA				*e*Sn	**Sn**	**21 24 39.3**	**-2.9**
	0.2nm,0.2s						
WTTA	**Wattenberg**	**8.07**	**319**	*e*Pn	**Pn**	**21 23 27.5**	**-3.2**
	0.8nm,0.6s						
WATA	**Walderalm**	**8.15**	**319**	*e*Pn	**Pn**	**21 23 29.2**	**-2.6**
	0.2nm,0.2s						

IDC 17 21:25:46.5±2.2,2°.97N×127°.95E,h0km,mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=186.2km s-min=21.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**165**	P	P	21 30 58.7	-0.6
	0.8nm,0.4s,baz=342,slow=9.6,SNR=6.4						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.10**	**168**	P	P	21 31 29.8	-1.4
	0.4nm,0.6s,baz=346,slow=8.7,SNR=4.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.88**	**325**	P	P	21 35 47.8	+0.5
	0.3nm,0.6s,baz=115,slow=8.8,SNR=7.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**63.04**	**327**	P	P	21 36 16.1	+0.8
	0.3nm,0.3s,baz=131,slow=6.2,SNR=4.4						
	0.3nm,0.3s						

*IDC **17** 21:27:01.5±6.5, 9°.62S×118°.20E, h52km±57km, mb3.0/3, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=103.0km s-min=22.1km az=66.0*
*DJA **17** 21:27:04.4±0.5, 9°.S±4°.×11°.9E±°, h13km±5km, M4.1/16, mb4.1/6, MLv4.2/16*
ISC 17 21:27:04.7±0.9, 9°.41S±0°.06×118°.69E±0°.04, h48km, n31, σ1§85/31, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.72**	**108**	P	**Pn**	**21 27 19.2**	**+0.4**
WBSI				S	**Sn**	**21 27 29.8**	**+0.8**
PLAI	**Plampang**	**1.07**	**303**	P	**Pn**	**21 27 24.5**	**+1.1**
PLAI	**Plampang**	**1.07**	**303**	S	**Sn**	**21 27 39.2**	**+1.9**
PLAI	**Plampang**	**1.07**	**303**	P	**Pn**	**21 27 24.6**	**+1.1**
PLAI				S	**Sn**	**21 27 38.9**	**+1.6**
WSI	**Waingapu**	**1.60**	**99**	P	**Pn**	**21 27 31.1**	**+0.5**
BASI	**Baing, Sumba**	**2.02**	**114**	P	**Pn**	**21 27 39.3**	**+2.9**
DNP	**Denpasar**	**3.52**	**282**	P	**Pn**	**21 27 58.8**	**+1.9**
DNP				S	**Sn**	**21 28 40.5**	**+3.2**
MMRI	**Maumere**	**3.58**	**78**	P	**Pn**	**21 28 00.1**	**+2.3**
MMRI	**Maumere**	**3.58**	**78**	P	**Pn**	**21 28 00.6**	**+2.8**
SRBI	**Singaraja**	**3.68**	**291**	P	**Pn**	**21 27 59.8**	**+0.6**
BSSI	**Bau Bau, Buton**	**3.70**	**29**	P	**Pn**	**21 28 00.6**	**+1.1**
BKSI	**Bulukumba**	**4.30**	**19**	P	**Pn**	**21 28 09.0**	**+1.3**
KAPI	**Kappang**	**4.49**	**14**	P	**Pn**	**21 28 11.8**	**+1.5**
	3.2nm,0.3s,baz=203,slow=6.6,SNR=10.0						
KAPI				S	**Sn**	**21 29 00.4**	**-0.9**
	30nm,0.3s,baz=89,slow=23,SNR=20						
	14nm,0.2s						
JAGI	**Jajag, Banyuwa**	**4.58**	**281**	P	**Pn**	**21 28 11.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.58**	**281**	S	**Sn**	**21 29 04.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**4.58**	**281**	P	**Pn**	**21 28 12.0**	**+0.4**
KMMI	**Kalianget**	**5.23**	**296**	P	**Pn**	**21 28 23.5**	**+3.0**
GMJI	**Gumukmas**	**5.31**	**282**	P	**Pn**	**21 28 22.7**	**+1.2**
	0.1nm20nm,0.7s						
BBSI	**Bau Bau**	**5.47**	**45**	P	**Pn**	**21 28 25.3**	**+1.5**
	0.1nm31nm,1.0s						
SOEI	**Soe**	**5.51**	**94**	P	**Pn**	**21 28 25.6**	**+1.2**
SOEI	**Soe**	**5.51**	**94**	S	**Sn**	**21 29 29.3**	**+2.8**
SOEI	**Soe**	**5.51**	**94**	P	**Pn**	**21 28 26.3**	**+1.9**
	0.1nm11nm,0.7s						
SPSI	**Sidrap Palu**	**5.52**	**11**	P	**Pn**	**21 28 25.7**	**+1.3**
	8.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.96**	**143**	P	**Pn**	**21 29 36.8**	**-2.2**
	0.5nm,0.3s,baz=325,slow=10,SNR=15						
FITZ				S	Sn	21 31 29.5	-11
	1.3nm,0.3s,baz=182,slow=22,SNR=12						
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**18.39**	**126**	P	**P**	**21 31 15.1**	**-0.8**
	0.1nm,0.3s,baz=300,slow=11,SNR=4.4						
WRA				S	Sn	21 34 28.3	-13
	0.4nm,0.7s,baz=310,slow=25,SNR=2.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**20.31**	**136**	P	**P**	**21 31 36.1**	**-0.7**
	0.6nm,0.5s,baz=314,slow=11,SNR=9.0						
	0.6nm,0.5s						
H08S2	**Diego Garcia H**	**45.70**	**268**	T	T	22 24 48.7	
	baz=96						
H08S3	**Diego Garcia H**	**45.71**	**269**	T	T	22 24 37.6	
	baz=96						
H08S1	**Diego Carcia H**	**45.72**	**268**	T	T	22 24 40.6	
	baz=96						
SONM	**Songino Array**	**58.03**	**350**	P	**P**	**21 36 49.9**	**-3.0**
	0.2nm,0.5s,baz=154,slow=6.3,SNR=2.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**64.68**	**333**	P	P	21 37 33.9	-3.8
	0.1nm,0.5s,baz=144,slow=6.8,SNR=2.9						
	0.1nm,0.5s						

*IDC **17** 21:29:57.4±1.7, 35°.57N×26°.01E, h0km, mb3.7/2, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=65.6km s-min=26.0km az=146.0*
*ATH **17** 21:29:59.6, 35°.69N×25°.93E, h14km±2km, ML3.1/12, Manual Solution by N.Liadopoulou First location: 2019/02/17 21:31:07, This location: 2020/07/01 09:03:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **17** 21:30:06.9, 35°.67N×26°.49E, h12km±2km, ML2.4*
ISC 17 21:29:59.6±1.1, 35°.68N±0°.03×25°.95E±0°.03, h19km±3km, n57, σ1§74/76, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.61**	**159**	P	**Pb**	**21 30 12.5**	**+0.9**
ZKR				S	**Sb**	**21 30 20.4**	**+0.7**
IACM	**Heraklion**	**0.81**	**242**	P	**Pg**	**21 30 15.1**	**-0.3**
IACM				S	**Sg**	**21 30 26.1**	**-0.1**
THRA	**Thira**	**0.84**	**330**	P	**Pg**	**21 30 15.7**	**-0.4**
THRA				S	**Sg**	**21 30 27.2**	**-0.1**
SAP3	**Santorini-Thir**	**0.90**	**327**	P	**Pg**	**21 30 16.5**	**-0.7**
SAP3				S	**Sg**	**21 30 29.0**	**0.0**
ASTA	**Astypalaia**	**0.92**	**21**	P	**Pg**	**21 30 17.3**	**-0.3**
IDI	**Anoyia**	**0.95**	**246**	P	**Pg**	**21 30 17.2**	**-1.0**
IDI				S	**Sg**	**21 30 30.0**	**-0.6**
KARP	**Karpathos**	**1.00**	**97**	P	**Pn**	**21 30 19.0**	**+0.3**
AMGA	**Amorgos Island**	**1.15**	**358**	P	**Pb**	**21 30 20.9**	**+0.1**
APE	**Apeiranthos**	**1.42**	**346**	P	**Pn**	**21 30 23.8**	**-0.8**
YAZI	**Mula-Dat§a-**	**1.57**	**50**	P	**Pb**	**21 30 27.9**	**-0.3**
YAZI				S	**Sn**	**21 30 46.0**	**-0.4**
YAZI				*i* AML	AML	21 30 54.0	
	comp=E,54nm,0.6s						
MHLO	**Agia Marina, M**	**1.60**	**309**	P	**Pn**	**21 30 28.3**	**+1.3**
IMMV	**Iera Moni Meta**	**1.62**	**263**	P	**Pn**	**21 30 27.6**	**+0.5**
GVD	**Gavdhos**	**1.74**	**242**	P	**Pn**	**21 30 30.1**	**+1.3**
BDRM	**Kayabasi**	**1.83**	**41**	P	**Pg**	**21 30 34.7**	**-0.3**
BDRM				S	**Sn**	**21 30 47.8**	**-5.1**
ARG	**Arkhangelos**	**1.85**	**73**	P	**Pb**	**21 30 31.9**	**-0.9**
TNSA	**Tinos**	**1.96**	**341**	P	**Pn**	**21 30 33.2**	**+1.4**
DDIM	**Aydin, Didim**	**2.06**	**30**	P	**Pg**	**21 30 40.0**	**+0.8**
DDIM				S	**Sn**	**21 31 00.5**	**+2.3**
DDIM				*i* AML	AML	21 31 16.0	
	comp=E,77nm,1.1s						
SMG	**Samos**	**2.15**	**19**	P	**Pn**	**21 30 34.4**	**-0.1**
ANKY	**Antikythira Is**	**2.16**	**276**	P	**Pn**	**21 30 34.9**	**+0.3**
GCAM	**G?zelcaml?**	**2.26**	**27**	P	**Pg**	**21 30 42.3**	**-0.8**
GCAM				S	**Sn**	**21 31 02.9**	**-0.5**
GCAM				*i* AML	AML	21 31 08.0	
	comp=N,31nm,1.2s						
GCAM				*i* AML	AML	21 31 22.0	
	comp=E,33nm,0.4s						
MULA	**Mugla, Merkez-**	**2.48**	**50**	P	**Pb**	**21 30 43.8**	**+0.2**
MULA				*i* AML	AML	21 31 11.0	
	comp=E,20nm,0.6s						
DGB	**zmir**	**2.48**	**17**	P	**Pg**	**21 30 46.1**	**-1.1**
DGB				S	**Sb**	**21 31 13.0**	**-0.8**
DGB				*i* AML	AML	21 31 24.0	
	comp=N,24nm,0.7s						
AYDN	**Tasoluk**	**2.51**	**38**	P	**Pb**	**21 30 44.2**	**0.0**
AYDN				S	**Sn**	**21 31 06.1**	**-3.5**
KARY	**Karystos**	**2.64**	**333**	P	**Pn**	**21 30 41.3**	**+0.1**
VLI	**Veliai**	**2.64**	**294**	P	**Pn**	**21 30 41.1**	**-0.1**
SABU	**Mula-Dalaman**	**2.69**	**64**	P	**Pn**	**21 30 44.6**	**+2.6**
SABU				S	**Sn**	**21 31 13.3**	**-0.8**
SABU				*i* AML	AML	21 31 28.0	
	comp=N,24nm,0.5s						
SABU				*i* AML	AML	21 31 28.0	
	comp=E,19nm,0.5s						
URLA	**Izmir**	**2.72**	**11**	P	**Pg**	**21 30 50.2**	**-1.6**
URLA				S	**Sb**	**21 31 21.3**	**+0.6**
IZZE	**Mula-Seydike**	**2.76**	**73**	P	**Pn**	**21 30 45.2**	**+2.3**
IZZE				S	**Sn**	**21 31 17.0**	**+1.2**
IZZE				*i* AML	AML	21 31 31.0	
	comp=N,39nm,0.4s						
IZZE				*i* AML	AML	21 31 38.0	
	comp=E,28nm,0.5s						
VLY	**Voula,Athens**	**2.77**	**322**	P	**Pn**	**21 30 43.5**	**+0.5**
MET4	**Agioi Theodoro**	**2.82**	**314**	P	**Pn**	**21 30 44.6**	**+0.9**
KRND	**KRANIDI**	**2.82**	**308**	P	**Pn**	**21 30 44.4**	**+0.7**
MET5	**Makryloggos,Me**	**2.84**	**314**	P	**Pn**	**21 30 44.9**	**+0.9**
ESEN	**Aydn-Nazilli**	**2.86**	**42**	P	**Pb**	**21 30 48.2**	**-1.8**
ESEN				S	**Sn**	**21 31 20.0**	**+1.9**
ATHU	**Athens Univers**	**2.86**	**323**	P	**Pn**	**21 30 44.4**	**+0.1**
DION	**Dionisos Attik**	**2.88**	**327**	P	**Pn**	**21 30 45.3**	**+0.7**
PTL	**Penteli**	**2.89**	**325**	P	**Pn**	**21 30 45.6**	**+0.9**
DNZT	**Denizli-Tavas-**	**2.95**	**56**	P	**Pn**	**21 30 48.5**	**+2.9**
DNZT				S	**Sn**	**21 31 20.3**	**-0.2**
TAVA	**DENIZLI_Tavas**	**2.98**	**52**	P	**Pn**	**21 30 49.2**	**+3.3**
TAVA				S	**Sn**	**21 31 18.2**	**-3.0**
CAEL	**Denizli, Camel**	**3.08**	**61**	P	**Pn**	**21 30 50.1**	**+2.8**
DNIZ	**Denizli-Tavas-**	**3.15**	**51**	P	**Pn**	**21 30 49.6**	**+1.3**
DNIZ				S	**Sn**	**21 31 27.5**	**+1.9**
KIRA	**zmir-Kiraz**	**3.19**	**37**	P	**Pn**	**21 30 52.6**	**+3.8**
KYMI	**Kymi, Euboea I**	**3.29**	**334**	P	**Pn**	**21 30 50.6**	**+0.4**
VIL2	**Platees**	**3.31**	**320**	P	**Pn**	**21 30 50.5**	**0.0**
LTK	**Loutraki**	**3.34**	**315**	P	**Pn**	**21 30 51.7**	**+0.9**
ELL	**Elmali**	**3.38**	**70**	P	**Pn**	**21 30 53.1**	**+1.6**
ITM	**Ithomi**	**3.57**	**296**	P	**Pn**	**21 30 55.1**	**+1.1**
GUR	**Goura**	**3.66**	**309**	P	**Pn**	**21 30 56.4**	**+1.0**
KLV	**Kalavryta, Ach**	**3.85**	**309**	P	**Pn**	**21 30 58.6**	**+0.7**
AXAR	**Agios Charalam**	**4.04**	**321**	P	**Pn**	**21 31 01.2**	**+0.7**
ANX	**Ano Chora**	**4.33**	**313**	P	**Pn**	**21 31 05.3**	**+0.7**
MAKR	**Makrakomi, Fth**	**4.50**	**319**	P	**Pn**	**21 31 07.8**	**+1.0**
TYRN	**Tyrnavos**	**4.98**	**325**	P	**Pn**	**21 31 14.3**	**+0.9**
BRTR	**Keskin Array B**	**7.31**	**54**	Pn	**Pn**	**21 31 47.6**	**+2.1**
	0.1nm,0.3s,baz=226,slow=15,SNR=4.8						
	0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**8.26**	**106**	Pn	**Pn**	**21 31 57.5**	**-1.0**
	0.6nm,0.3s,baz=286,slow=14,SNR=5.2						
MMAI				Sn	**Sn**	**21 33 23.6**	**-7.8**
	1.1nm,0.3s,baz=274,slow=24,SNR=1.6						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**31.32**	**230**	P	**P**	**21 36 19.2**	**+0.3**
	20nm,0.3s,baz=41,slow=9.1,SNR=1.2						
KURBB	**Kurchatov Arra**	**40.29**	**51**	P	**P**	**21 37 36.3**	**+0.9**
	0.4nm,0.2s,baz=277,slow=8.6,SNR=4.2						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**42.95**	**57**	P	**P**	**21 37 58.0**	**+0.7**
	0.3nm,0.4s,baz=274,slow=6.9,SNR=7.3						
	0.3nm,0.4s						

*IDC **17** 21:39:59.2±0.6, 37°.44N×21°.11E, h0km, mb4.2/21, mbtmp4.1/32, ML3.9/9, MS3.8/54, Error ellipse: s-maj=13.5km s-min=11.4km az=7.0*
*MOS **17** 21:39:59.3±1.3, 37°.34N×20°.96E, h11km, mb4.7/19, Error ellipse: s-maj=5.5km s-min=2.9km az=78.6*
*ATH **17** 21:40:01.1, 37°.37N×20°.87E, h12km, Mw4.5, Moment Tensor Solution. s12 Moment tensor: Mrr=0.17; Mθθ=4.31; Mφφ=-4.14; Mrθ=1.97; Mrφ=2.59; Mθφ=2.97; Fault plane solution: NP1:φs210.00000°, δ90.00000°, λ-144.00000°.*
*THE **17** 21:40:01.1, 37°.38N×20°.92E, h0km±3km, ML4.1/8 Error ellipse: s-maj=3.7km s-min=0.9km az=219.0*
*NEIC **17** 21:40:01.3±1.2, 37°.38N±0°.05×21°.00E±0°.05, h10km±1km, mb4.4/35, Error ellipse: s-maj=10.0km s-min=3.0km az=219.0*
*NAO **17** 21:40:01.9, 37°.46N×20°.91E, h15km, mb4.2*
*UPSL **17** 21:40:01.1, 37°.37N×20°.87E, h12km, Mw4.4, Moment Tensor Solution. s6 Moment tensor: Mrr1.84; Mθθ2.30; Mφφ-4.14; Mrθ2.40; Mrφ1.63; Mθφ2.36; Fault plane solution: NP1:φs130.00000°, δ48.00000°, λ22.00000°. NP2: φs25.00000°, δ74.00000°, λ136.00000°.*
*MCSM **17** 21:40:03.5±0.4, 37°.N±4°.×2°.1E±°, h10km, mb4.4, mB4.4, MLv4.5, Mw(mB)3.6*
*MED_RC **17** 21:40:04.0±0.8, 37°.53N×20°.99E, h18km±1km, MW4.5/25, Moment Tensor Solution. Mantle waves: s25, c32; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr0.00±.06; Mθθ0.56±.04; Mφφ-0.56±.04; Mrθ0.05±.06; Mrφ0.59±.05; Mθφ-0.20±.06; Best double couple: M0 0.84000×10^16 NP1:φs291.00000°, δ79.00000°, λ-8.00000°. NP2:φs22.00000°, δ83.00000°, λ-169.00000°. Principal axes: T 0.8200, Plg3.0000°, Azm156.0000°; N 0.0500, Plg76.0000°, Azm55.0000°; P -0.8600, Plg13.0000°, Azm247.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PDG **17** 21:40:04.3±1.1, 37°.47N×20°.95E, h15km±4km, ML4.3/10 Error ellipse: s-maj=1.8km s-min=3.7km az=0.0*
ISC 17 21:40:01.3±1.0, 37°.38N±0°.02×20°.93E±0°.02, h13km±6km, n546, σ1§45/557, mb4.4/52, MS3.9/45, 26C-30D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYPS	**Kipseli, Zakin**	**0.44**	**349**	P	**Pg**	**21 40 10.3**	**+0.2**
KYPS				S	**Sb**	**21 40 17.8**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.50**	**338**	P	**Pg**	**21 40 11.0**	**-0.2**
ORTH				S	**Sb**	**21 40 19.4**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.53**	**17**	P	**Pg**	**21 40 11.6**	**-0.1**
CLEM				S	**Sb**	**21 40 20.6**	**+0.5**
ZARO	**Zacharo**	**0.58**	**80**	P	**Pb**	**21 40 13.2**	**-0.1**
LCHA	**Lechaina**	**0.61**	**25**	P	**Pb**	**21 40 13.6**	**-0.3**
AMT	**Artemida-Makis**	**0.64**	**76**	P	**Pg**	**21 40 13.4**	**-0.3**
AMT				S	**Sn**	**21 40 25.4**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.70**	**350**	P	**Pg**	**21 40 14.2**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.78**	**339**	P	**Pg**	**21 40 15.5**	**-0.9**
PSDA				S	**Sb**	**21 40 28.0**	**+0.7**
	15μm,1.0s						
PSDA	**Pessada-Kefalo**	**0.78**	**339**	P	**Pg**	**21 40 15.6**	**-0.8**
PSDA				S	**Sb**	**21 40 27.5**	**+0.2**
RLS	**Riolos of Patr**	**0.79**	**32**	P	**Pg**	**21 40 15.8**	**-0.9**
RLS	**Riolos of Patr**	**0.79**	**32**	P	**Pg**	**21 40 16.3**	**-0.5**
ITM	**Ithomi**	**0.82**	**104**	P	**Pg**	**21 40 15.8**	**-1.4**
ITM	**Ithomi**	**0.82**	**104**	Pg	**Pg**	**21 40 15.9**	**-1.2**
ITM				Sg	**Sg**	**21 40 26.5**	**-1.4**
ITM	**Ithomi**	**0.82**	**104**	P	**Pg**	**21 40 15.7**	**-1.4**
ITM				S	**Sb**	**21 40 28.9**	**+0.5**
	18μm,0.7s						
ITM	**Ithomi**	**0.82**	**104**	P	**Pg**	**21 40 16.1**	**-1.1**
MTHA	**Methoni**	**0.84**	**132**	P	**Pb**	**21 40 17.7**	**0.0**
VLS	**Valsamata**	**0.84**	**341**	P	**Pg**	**21 40 16.4**	**-1.1**
VLS				S	**Sn**	**21 40 30.9**	**-0.2**
VLS	**Valsamata**	**0.84**	**341**	P	**Pg**	**21 40 16.7**	**-0.8**
VLS	**Valsamata**	**0.84**	**341**	P	**Pg**	**21 40 16.5**	**-1.1**
VLS				S	**Sg**	**21 40 27.1**	**-1.5**
DRO	**Drossia**	**0.84**	**47**	P	**Pg**	**21 40 16.6**	**-1.0**
DRO				S	**Sb**	**21 40 29.9**	**+0.9**
	33μm,0.6s						
DRO	**Drossia**	**0.84**	**47**	P	**Pg**	**21 40 16.9**	**-0.7**
DMLN	**Damoulianata-K**	**0.96**	**333**	P	**Pg**	**21 40 18.8**	**-1.1**
FSK	**Fiskardo**	**1.11**	**345**	P	**Pb**	**21 40 21.6**	**-0.9**
FSK				S	**Sn**	**21 40 40.3**	**+2.4**
FSK	**Fiskardo**	**1.11**	**345**	P	**Pb**	**21 40 21.3**

APE Apeiranthos 3.68 94 ⇑P Pn 21 40 59.3 +1.2
APE Apeiranthos 3.68 94 *ce*P Pn 21 40 58.8 +0.7
APE Apeiranthos 3.68 94 P Pn 21 40 58.3 +0.2
OHR Ohrid 3.72 358 *i* Pn Pn 21 41 01.2 +2.6
OHR Ohrid 3.72 358 P Pn 21 41 02.1 +3.5
TIP Timpagrande 3.74 300 Pn Pn 21 40 59.0 +0.1
TIP Timpagrande 3.74 300 ⇓P Pn 21 40 56.7 -2.2
TIP Timpagrande 3.74 300 P Pn 21 41 01.1 +2.2
GRG Griva 3.75 17 P Pn 21 40 48.6 -10
GRG Griva 3.75 17 P Pn 21 41 01.3 +2.4
GRG Griva 3.75 17 P Pn 21 41 00.5 +1.6
OUR Ouranopolis 3.79 38 P Pn 21 41 00.6 +1.1
OUR Ouranopolis 3.79 38 P Pn 21 41 00.6 +1.1
OUR Ouranopolis 3.79 38 P Pn 21 41 01.2 +1.8
OUR Ouranopolis 3.79 38 P Pn 21 41 00.5 +1.1
IDI Anoyia 3.82 122 P Pn 21 40 55.6 -4.3
IDI Anoyia 3.82 122 Pn Pn 21 40 56.0 -3.9
8.8nm,0.7s,baz=17,slow=6.5,SNR=15
IDI Sn Sn 21 41 45.4 +0.6
24nm,0.3s,baz=294,slow=19,SNR=7.6
IDI LR LR 21 42 31.1
comp=Z,1µm,18.3s,baz=297,slow=41
SOH Sokhos 3.92 28 P Pn 21 41 03.0 +1.7
SOH Sokhos 3.92 28 P Pn 21 41 04.1 +2.8
TIR Tirane 4.04 349 Pn Pn 21 41 03.6 +0.6
TIR Tirane 4.04 349 P Pn 21 41 03.6 +0.6
TIR Tirane 4.04 349 P Pn 21 41 04.7 +1.7
KNT Kendrikon 4.07 21 P Pn 21 41 02.9 -0.4
CEL Celeste 4.08 284 Pn 21 41 03.8 +0.2
CEL Celeste 4.08 284 P Pn 21 41 05.8 +2.2
GMB Gambarie 4.12 282 P Pn 21 41 07.5 +3.4
VAY Valandovo 4.13 17 *i* Pn Pn 21 41 05.7 +1.5
VAY Valandovo 4.13 17 P Pn 21 41 05.7 +1.5
LIA Limnos Island 4.17 52 P Pn 21 41 06.1 +1.4
LIA Limnos Island 4.17 52 P Pn 21 41 05.6 +0.9
KOKK Kokkinochori, 4.18 34 P Pn 21 41 05.7 +0.9
KOKK Kokkinochori, 4.18 34 P Pn 21 41 05.7 +0.9
SRS Serrai 4.26 28 P Pn 21 41 07.6 +1.6
SRS Serrai 4.26 28 P Pn 21 41 07.4 +1.5
SIGR SIGRI 4.28 63 P Pn 21 41 07.3 +1.1
SIGR SIGRI 4.28 63 P Pn 21 41 07.4 +1.2
SIGR SIGRI 4.28 63 P Pn 21 41 07.0 +0.8
THAS Thassos island 4.37 41 P Pn 21 41 08.3 +0.9
KAVA Kavala 4.55 37 P Pn 21 41 10.2 +0.2
NVR Nevrokopi 4.56 29 P Pn 21 41 13.0 +2.8
PRK Paraskevi 4.59 64 P Pn 21 41 12.1 +1.6
PRK Paraskevi 4.59 64 P Pb 21 41 16.5 -5.3
MATE Matera 4.63 316 ⇓P Pn 21 41 10.1 -0.9
MMB Musomishta 4.69 27 P Pn 21 41 13.4 +1.5
SMG Samos 4.70 84 P Pn 21 41 12.5 +0.4
SMTH Samothraki Isl 4.73 48 P Pn 21 41 13.1 +0.7
ULC Ulcinj 4.75 345 ⇓ *i* Pn Pn 21 41 12.9 +0.1
ULC *i* Sn Sn 21 42 07.5 -0.3
KKB Krupnik 4.76 20 P Pn 21 41 14.1 +1.2
CUC Castrocucco 4.78 305 Pn Pn 21 41 14.0 +0.9
GADA Gvkgeada 4.79 53 P Pn 21 41 14.2 +1.0
EZN Ezine 4.88 58 P Pn 21 41 14.2 -0.2
EZN Ezine 4.88 58 P Pn 21 41 15.2 +0.8
DRME Dracevica, Mon 4.98 345 *e*Pn Pn 21 41 16.3 +0.4
DRME Dracevica, Mon 4.98 345 ⇓ *i* Pn Pn 21 41 16.5 +0.6
DRME *i* Sn Sn 21 42 12.5 -0.8
BUM Brajici-Budva 5.16 343 ⇓ *i* Pn Pn 21 41 18.0 -0.3
BUM *i* Sn Sn 21 42 15.6 -2.1
RDO Rodhopi 5.18 42 Pn Pn 21 41 18.8 +0.2
RDO Rodhopi 5.18 42 P Pn 21 41 19.5 +0.9
VAE Valguarnera 5.19 273 Pn Pn 21 41 21.1 +2.3
25nm,0.3s,baz=345,slow=9.4,SNR=24
VAE Sn Sn 21 42 17.7 -0.9
8.3nm,0.3s,baz=55,slow=19,SNR=4.3
VAE LR LR 21 43 06.2
comp=Z,715nm,18.5s,baz=111,slow=35
PDG Podgorica 5.20 346 Pn Pn 21 41 19.3 +0.4
PDG Podgorica 5.20 346 *e*Pn Pn 21 41 17.9 -1.0
PDG Podgorica 5.20 346 ⇓P Pn 21 41 19.2 +0.3
PDG Podgorica 5.20 346 ⇑ *i* Pn Pn 21 41 16.5 -2.4
PDG *i* Sn Sn 21 42 18.2 -0.5
RZN Rozhen 5.21 33 P Pn 21 41 20.5 +1.3
RAFF Raffo Rosso 5.24 270 Pn Pn 21 41 19.4 0.0
CAVK Edirne/Enez-Ca 5.25 49 ⇓P Pn 21 41 21.7 +2.2
PVY Plav 5.26 352 ⇓ *i* Pn Pn 21 41 18.9 -0.9
PVY *i* Sn Sn 21 42 21.1 +0.8
ALN Alexandroupoli 5.30 47 Pn Pn 21 41 20.1 -0.1
ALN Alexandroupoli 5.30 47 P Pn 21 41 21.7 +1.5
ALN Alexandroupoli 5.30 47 P Pn 21 41 20.1 -0.1
KARP Karpathos 5.34 108 Pn Pn 21 41 20.9 +0.1
KARP Karpathos 5.34 108 P Pn 21 41 21.9 +1.0
0.8nm2µm209nm,0.8s
WDD Wied Dalam 5.38 255 Pn Pn 21 41 22.1 +0.8
CEME Cevo 5.38 344 ⇓ *i* Pn Pn 21 41 21.5 +0.1
CEME *i* Sn Sn 21 42 21.7 -1.6
HCY Herceg Novi 5.39 340 *e*Pn Pn 21 41 20.7 -0.8
HCY Herceg Novi 5.39 340 ⇓ *i* Pn Pn 21 41 19.7 -1.8
HCY *i* Sn Sn 21 42 22.4 -1.1
PLNA Plana 5.43 20 *e*P Pn 21 41 24.7 +2.5
VTS Vitosha 5.52 18 P Pn 21 41 24.9 +1.5
IVA Berane 5.54 352 ⇓ *i* Pn Pn 21 41 23.9 +0.3
IVA *i* Sn Sn 21 42 26.9 -0.3
KOME Kolasin 5.57 349 ⇓ *i* Pn Pn 21 41 24.9 +0.9
KOME *i* Sn Sn 21 42 27.2 -0.7
PLD Plovdiv 5.59 31 *e*P Pn 21 41 31.2 +7.0
PLD Plovdiv 5.59 31 P Pn 21 41 28.7 +4.5
PLD pmax pmax
comp=Z,143nm,0.8s
TRAN Tran 5.60 13 *e*P Pn 21 41 25.9 +1.5
BRY Bratogost 5.81 342 *e*Pn Pn 21 41 27.1 -0.2
BRY Bratogost 5.81 342 ⇓ *i* Pn Pn 21 41 26.6 -0.7
BRY *i* Sn Sn 21 42 31.9 -2.0
DIM Dimitrovgrad 5.87 36 *e*P Pn 21 41 29.5 +1.4
ARG Arkhangelos 5.89 99 Pn 21 41 27.7 -0.6
ARG Arkhangelos 5.89 99 P Pn 21 41 30.0 +1.7
ARG Arkhangelos 5.89 99 P Pn 21 41 27.7 -0.6
SJES Sjenica 5.92 353 *e*Pn Pn 21 41 29.2 +0.4
SGRT San Giovanni R 5.92 319 Pn Pn 21 41 28.9 0.0
STON Ston 6.01 337 *e*Pn Pn 21 41 28.4 -1.6
PLE Pljevlja 6.05 349 ⇓ *i* Pn Pn 21 41 30.2 -0.5
PAOL Paolisi 6.14 308 Pn 21 41 32.5 +0.6
BOVS Bovan 6.27 5 ⇑P Pn 21 41 33.1 -0.5
EDRB Edirne 6.32 43 P Pn 21 41 35.0 +0.7
BAND Balkesir-Ban 6.33 60 ⇑P Pn 21 41 37.1 +2.7
MPEP Malo Peshtene 6.34 19 *e*P Pn 21 41 36.2 +1.7
RUDO Rudo 6.34 350 *e*Pn Pn 21 41 35.0 +0.5
BBLS Lazi&#263i 6.58 350 *e*Pn Pn 21 41 37.1 -0.8
VALD Valchedram 6.58 16 *e*P Pn 21 41 38.2 +0.4
JMB Yambol 6.67 36 *e*P Pn 21 41 42.7 +3.7
CTYL Yalikoy Yolu 7.01 52 P Pn 21 41 46.2 +2.6
comp=Z,0.1nmcomp=Z,40nm,0.8s
SZH Strazhitsa 7.02 32 P Pn 21 41 45.7 +1.8
AKAS Kas 7.05 97 Pn 21 41 44.6 +0.2
INTR Introdacqua 7.12 313 Pn Pn 21 41 46.0 +0.7
ELL Elmali 7.21 92 Pn Pn 21 41 45.9 -0.6
ELL Elmali 7.21 92 P Pn 21 41 45.9 -0.6
TEKS Tekeris 7.24 352 *e*Pn Pn 21 41 45.2 -1.6
YLV Yalova 7.30 62 P Pn 21 41 50.3 +2.5
comp=Z,0.2nmcomp=Z,587nmcomp=Z,47nm,1.0s
KLYT Kilyos 7.38 56 P Pn 21 41 51.4 +2.7
comp=Z,0.1nmcomp=Z,651nmcomp=Z,52nm,1.1s
MDVR Moldovita 7.41 4 ⇓P Pn 21 41 49.0 -0.3
HERR Herculane 7.57 8 ⇑P Pn 21 41 51.8 +0.4
PRD Provadia 7.60 39 *e*P Pn 21 41 53.8 +2.0
NEF NEVSHA 7.61 38 *e*P Pn 21 41 53.5 +1.5
ISP Isparta 7.62 84 Pn Pn 21 41 52.4 +0.1
ISP Isparta 7.62 84 ⇑ *e*P Pn 21 41 54.4 +2.1
CAMP Campotosto 7.74 314 Pn 21 41 55.4 +1.6
HUMR Humele 7.76 22 ⇓P Pn 21 41 55.3 +1.3
FRGS Fruska Gora 7.81 354 *e*Pn Pn 21 41 53.8 -0.9
A050A Klekovaca 7.83 336 *e*Pn Pn 21 41 54.3 -0.8
BORA Eskisehir 7.86 69 Pn Pn 21 41 55.2 -0.2
BLY Banja Luka 7.88 340 *e*Pn Pn 21 41 55.3 -0.4
NRCA Norcia 8.09 315 Pn 21 41 59.8 +1.2
GZR Gura Zlata 8.12 9 ⇓P Pn 21 41 59.5 +0.5
GZR Gura Zlata 8.12 9 P Pn 21 41 59.5 +0.5
A051A Mrakovica 8.20 340 *e*Pn Pn 21 41 58.7 -1.4
FDMO Fiordimonte 8.24 316 Pn Pn 21 42 02.1 +1.6
BZS Buzias 8.24 3 ⇑P Pn 21 42 00.4 -0.2
BZS Buzias 8.24 3 P Pn 21 42 00.4 -0.2
ARR Arges 8.45 18 ⇓P Pn 21 42 04.5 +1.0
VOIR 8.62 20 ⇑P Pn 21 42 07.7 +1.8
VOIR 8.62 20 P Pn 21 42 07.6 +1.8
VOIR 8.62 20 P Pn 21 42 08.0 +2.2
comp=Z,17nm,0.7s

ISR Istrita 8.80 27 P Pn 21 42 10.5 +2.1
comp=Z,30nm,0.8s
MLR Muntele Rosu 8.93 23 Pn 21 42 10.6 +0.4
MLR Muntele Rosu 8.93 23 Pn Pn 21 42 12.4 +2.3
comp=Z,0.5nm,0.3s,baz=211,slow=8.5,SNR=11
MLR LR LR 21 45 50.3
comp=Z,397nm,19.5s,baz=240,slow=40
MLR Muntele Rosu 8.93 23 ⇑P Pn 21 42 12.0 +1.9
MLR Muntele Rosu 8.93 23 P Pn 21 42 12.0 +1.9
MLR Muntele Rosu 8.93 23 P Pn 21 42 12.2 +2.1
comp=Z,35nm,1.0s
MORH Mrgy, Hungar 8.99 350 ⇓P Pn 21 42 10.9 +0.1
HARR Harsova 9.01 34 ⇓P Pn 21 42 12.7 +1.6
HARR Harsova 9.01 34 P Pn 21 42 12.7 +1.6
TIRR Tirgusor 9.05 36 Pn Pn 21 42 11.9 +0.2
TIRR Tirgusor 9.05 36 P Pn 21 42 11.9 +0.2
TIRR Tirgusor 9.05 36 P Pn 21 42 13.2 +1.5
comp=Z,19nm,1.1s
BOJS Bojanci 9.16 334 *e*Pn Pn 21 42 12.8 -0.4
DOPR Dopca 9.20 20 ⇓P Pn 21 42 15.7 +2.0
BISRR Bisoca 9.23 26 ⇑P Pn 21 42 16.1 +1.8
BISRR Bisoca 9.23 26 P Pn 21 42 16.2 +1.9
comp=Z,102nm,0.8s
PTJ Puntijarka 9.29 338 P Pn 21 42 18.6 +3.6
COVR Voineasa-Covas 9.33 23 ⇑P Pn 21 42 18.5 +2.9
TPGR Topolog 9.36 35 ⇑P Pn 21 42 17.7 +1.8
CRES Cresnjevec Ost 9.38 336 *e*Pn Pn 21 42 15.4 -0.8
MARR Marisel-Cluj 9.43 9 ⇑P Pn 21 42 17.6 +0.7
OZUR 9.43 21 ⇓P Pn 21 42 18.2 +1.3
KEST Kesra 9.47 263 Pn Pn 21 42 18.6 +1.1
KEST Kesra 9.47 263 Pn Pn 21 42 17.8 +0.2
comp=Z,0.5nm,0.3s,baz=60,slow=5.1,SNR=15
KEST Sn Sn 21 44 01.2 -2.7
comp=Z,0.1nm,0.3s,baz=232,slow=21,SNR=1.0
KEST LR LR 21 46 09.1
comp=Z,393nm,21.7s,baz=43,slow=38
comp=Z,13nm,0.8s
PLOR3 Plostina Array 9.48 25 P Pn 21 42 20.5 +2.9
comp=Z,73nm,1.1s
CFR Carcaliu 9.48 33 ⇓P Pn 21 42 18.7 +1.0
CFR Carcaliu 9.48 33 P Pn 21 42 18.6 +1.0
DRGR 9.49 7 ⇑P Pn 21 42 19.3 +1.4
DRGR 9.49 7 P Pn 21 42 19.2 +1.4
VRI Vrincioaia 9.52 25 ⇓P Pn 21 42 20.2 +2.0
VRI Vrincioaia 9.52 25 P Pn 21 42 20.1 +2.0
BEHE Becsehely 9.59 342 Pn 21 42 20.2 +1.1
CEY Cerknica 9.66 332 *e*Pn Pn 21 42 19.8 -0.3
SKDS Skadanscina 9.66 330 *e*Pn Pn 21 42 19.6 -0.5
LJU Ljubljana 9.88 333 P Pn 21 42 30.8 +7.7
LJU pmax pmax
comp=Z,106nm,1.1s
TESR Tescani 10.06 23 P Pn 21 42 27.7 +2.2
comp=Z,17nm,1.9s
SABO M.te Sabotino 10.19 330 Pn Pn 21 42 27.7 +0.4
BR105 Keskin Array S 10.21 73 P Pn 21 42 30.4 +2.7
comp=Z,68nmcomp=Z,6.9nm,0.8s
BR106 Keskin Array S 10.21 73 P Pn 21 42 30.4 +2.7
comp=Z,57nmcomp=Z,6.0nm,0.8s
BR104 Keskin Array S 10.22 73 P Pn 21 42 30.6 +2.7
comp=Z,62nmcomp=Z,5.4nm,0.9s
BR131 Keskin Array S 10.22 73 Pn Pn 21 42 28.7 +0.8
BR131 Keskin Array S 10.22 73 *de*P Pn 21 42 28.3 +0.4
BRTR Keskin Array B 10.22 73 Pn Pn 21 42 28.2 +0.3
BRTR Keskin Array B 10.22 73 Pn Pn 21 42 30.2 +2.3
comp=Z,0.6nm,0.3s,baz=256,slow=13,SNR=24
BRTR LR LR 21 47 02.6
comp=Z,794nm,19.4s,baz=268,slow=42
BRTR Keskin Array B 10.22 73 P Pn 21 42 28.2 +0.3
ZCCA Zocca 10.26 316 Pn Pn 21 42 28.9 +0.7
SOKA Soboth 10.27 337 *e*Pn Pn 21 42 27.1 -1.3
comp=Z,4.1nm,0.6s,SNR=13
OBKA Obir 10.28 335 *e*Pn Pn 21 42 27.6 -1.0
comp=Z,2.6nm,0.3s
OBKA *e*Sn Sn 21 44 22.9 -0.8
comp=Z,4.0nm,0.4s
OBKA Obir 10.28 335 *e*Pn Pn 21 42 27.8 -0.8
CIDE Kastamonu/Cide 10.29 60 ⇑P Pn 21 42 32.4 +3.7
BMR Baia Mare 10.46 10 P Pn 21 42 35.5 +4.6
BMR pmax pmax
comp=Z,21nm,1.0s
PSZ Piszkesteto 10.56 356 Pn Pn 21 42 32.7 +0.3
PSZ Piszkesteto 10.56 356 ⇓P Pn 21 42 32.5 +0.2
PSZ Piszkesteto 10.56 356 P Pn 21 42 32.7 +0.3
PSZ Piszkesteto 10.56 356 *e*P Pn 21 42 32.1 -0.2
ILGA Ilgaz 10.57 66 Pn Pn 21 42 32.1 -0.7
TEOL Teolo 10.57 322 Pn 21 42 33.1 +0.5
ARSA Arzberg 10.64 340 *e*Pn Pn 21 42 33.2 -0.3
comp=Z,0.5nm,0.3s
ARSA Arzberg 10.64 340 Pn 21 42 33.4 -0.1
BURAR Bucovina Array 10.70 16 ⇑P Pn 21 42 36.9 +2.5
BURAR Bucovina Array 10.70 16 P Pn 21 42 36.9 +2.5
MYKA Terra Mystica 10.71 332 Pn Pn 21 42 36.1 +1.6
comp=Z,2.3nm,0.4s
BUR08 Bucovina Ar. S 10.72 16 Pn 21 42 34.4 -0.3
TRSU Trosnyk 10.81 7 P Pn 21 42 37.2 +1.5
RONA Rosalia, Austr 10.86 343 *e*Pn Pn 21 42 35.9 -0.5
comp=Z,0.8nm,0.5s
CTI Castel Tesino 11.09 324 Pn Pn 21 42 40.0 +0.3
CTI Castel Tesino 11.09 324 P Pn 21 42 40.0 +0.3
NSLU Nyzhne Selyshc 11.11 12 P Pn 21 42 39.0 -0.9
MUKU Mukachevo 11.14 6 P Pn 21 42 41.5 +1.3
CONA Conrad Observa 11.18 342 *e*Pn Pn 21 42 41.4 +0.6
comp=Z,0.6nm,0.4s
HOLU Holmets 11.19 5 P Pn 21 42 42.6 +1.7
KBA Koelnbreinsper 11.20 332 *e*Pn Pn 21 42 40.8 -0.4
comp=Z,2.1nm,0.7s
KBA *e*Sn Sn 21 44 44.3 -2.0
comp=Z,3.4nm,0.6s
KBA Koelnbreinsper 11.20 332 P Pn 21 42 40.8 -0.4
KBA pmax pmax
comp=Z,10.0nm,1.7s
VYHS Vyhne 11.21 353 *e*P Pn 21 42 41.3 0.0
VYHS Vyhne 11.21 353 *e*PN Pn 21 42 41.3 0.0
ABTA Abfaltersbach 11.25 329 *e*Pn Pn 21 42 41.6 -0.2
comp=Z,0.9nm,0.7s
ABTA *e*Sn Sn 21 44 43.9 -3.6
comp=Z,6.6nm,0.7s
PURM Purcari 11.30 33 P Pn 21 42 44.8 +2.4
comp=Z,24nm,1.2s
MODS Modra-Piesok 11.30 347 *e*P Pn 21 42 43.7 +1.1
MODS Modra-Piesok 11.30 347 *e*PN Pn 21 42 43.7 +1.1
MOA Molln 11.55 337 *e*Pn Pn 21 42 45.1 -0.8
comp=Z,1.1nm,0.3s
KOLS Kolonicke sedl 11.59 4 *e*P Pn 21 42 48.2 +1.8
KOLS Kolonicke sedl 11.59 4 *e*PN Pn 21 42 48.2 +1.8
BIOA Bad Ischl, Aus 11.61 335 *e*Pn Pn 21 42 46.0 -0.8
comp=Z,2.6nm,0.6s
STNU Staruna 11.62 12 P Pn 21 42 49.0 +2.2
JAVC Velka Javorina 11.71 349 *e*PN Pn 21 42 49.1 +0.9
LESA Schwarzleotal 11.73 331 *e*Pn Pn 21 42 48.3 -0.2
comp=Z,1.9nm,0.5s
BNN Bunyan 11.84 78 Pn Pn 21 42 49.5 -0.6
WTTA Wattenberg 12.02 328 *e*Pn Pn 21 42 52.4 -0.1
comp=Z,1.3nm,0.4s
NIE Niedzica 12.04 358 P Pn 21 42 55.2 +2.6
NIE pmax pmax
comp=Z,5.0nm,2.1s
WATA Walderalm 12.11 328 *e*Pn Pn 21 42 53.3 -0.3
comp=Z,1.7nm,0.5s
KRUC Moravsky 12.13 346 *e*PN Pn 21 42 53.7 -0.1
FUORN Ofenpass-Fuorn 12.16 323 Pn Pn 21 42 56.5 +2.0
SQTA Sankt Quirin 12.17 327 *e*Pn Pn 21 42 54.5 0.0
comp=Z,0.8nm,0.3s
FETA Feichten 12.23 325 Pn Pn 21 42 56.3 +0.8
comp=Z,3.5nm,1.4s
MOTA Moosalm 12.31 327 *e*Pn Pn 21 42 56.8 +0.3
comp=Z,2.5nm,0.8s
VRAC Vranov 12.33 347 Pn Pn 21 42 55.8 -0.8
comp=Z,0.2nm,0.3s,baz=172,slow=18,SNR=2.7
VRAC LR LR 21 49 16.5
comp=Z,360nm,19.2s,baz=174,slow=45
comp=Z,0.6nm,0.3s
VRAC Vranov 12.33 347 *e*PN Pn 21 42 55.7 -0.8
DAVOX Davos/Dischmat 12.46 322 Pn Pn 21 43 00.9 +2.3
comp=Z,0.2nm,0.3s,baz=147,slow=18,SNR=5.4
DAVOX Sn Sn 21 45 12.4 -4.9
comp=Z,0.5nm,0.3s,baz=283,slow=22,SNR=4.1
DAVOX LR LR 21 49 29.4
comp=Z,190nm,18.9s,baz=124,slow=46
TUE Stuetta 12.51 320 Pn Pn 21 42 59.3 0.0
RETA Reutte 12.57 327 Pn Pn 21 42 59.9 0.0
comp=Z,6.4nm,1.3s
GEC2 GERESS Array S 12.61 338 Pn Pn 21 43 01.2 +0.7
GEC2 GERESS Array S 12.61 338 P Pn 21 42 58.5 -1.9

GEC2 pmax pmax
comp=Z,9.0nm,2.3s
GERES GERESS Array B 12.61 338 Pn Pn 21 42 59.5 -1.0
comp=Z,0.2nm,0.3s,baz=153,slow=19,SNR=9.2
GERES Sn Sn 21 45 15.0 -5.6
comp=Z,0.2nm,0.3s,baz=148,slow=26,SNR=1.7
GERES LR LR 21 48 28.8
comp=Z,275nm,18.6s,baz=148,slow=40
comp=Z,0.6nm,0.3s
MMAI Mount Meron Ar 12.61 106 Pn Pn 21 42 56.5 -4.0
comp=Z,1.5nm,0.3s,baz=305,slow=12,SNR=10.0
MMAI Sn Sn 21 45 09.9 -11
comp=Z,0.8nm,0.3s,baz=299,slow=28,SNR=2.0
comp=Z,0.7nm,0.3s
KHC Kasperske Hory 12.90 338 *e*PN Pn 21 43 05.8 +1.4
KHC *e*SN Sn 21 45 23.9 -3.8
KHC AMS AMS 21 49 00.0
comp=Z,900nm,14.1s
KHC Kasperske Hory 12.90 338 *e*P Pn 21 43 05.8 +1.4
KHC *e* 21 45 23.9
KHC MLR MLR
comp=Z,900nm,14.1s
ZVC Zvikov 13.00 340 *e*PN Pn 21 43 07.3 +1.6
KRLC Kraliky 13.03 348 P P 21 43 13.7 -2.9
DPC Dobruska-Polom 13.38 347 AMS AMS 21 49 10.0
comp=Z,700nm,12.9s
PRU Pruhonice 13.41 342 AMS AMS 21 49 20.0
comp=Z,1µm,8.6s
LUBAR Lubar, Ukraine 13.46 19 P Pn 21 43 14.1 +2.1
GHAJ Ghor Haditha 13.52 112 Pn 21 43 12.6 -0.3
SENIN Lac Senin/Sane 13.54 316 Pn Pn 21 43 14.1 +0.9
SLE Schleitheim 13.82 323 P P 21 43 25.3 -0.1
EIL Elat 13.99 119 Pn Pn 21 43 15.4 -3.8
comp=Z,0.7nm,0.3s,baz=337,slow=13,SNR=7.2
EIL Sn Sn 21 45 41.0 -13
comp=Z,0.3nm,0.3s,baz=343,slow=17,SNR=1.8
comp=Z,6.7nm,0.6s
ASF Jabal al Asfar 14.11 107 Pn Pn 21 43 17.5 -3.5
comp=Z,0.3nm,0.3s,baz=323,slow=23,SNR=4.1
comp=Z,1.4nm,0.5s
GRFO Grafenberg 14.16 333 P P 21 43 31.5 +2.4
GRA1 Grafenberg Arr 14.16 333 Pn Pn 21 43 23.5 +2.0
GRF Grafenberg Arr 14.16 333 P Pn 21 43 23.5 +2.0
NKC Novy Kostel 14.22 337 AMS AMS 21 50 00.0
comp=Z,1µm,7.9s
RNPP5 Staryi Chortor 14.28 13 P Pn 21 43 25.9 +2.7
BRG Berggiesshubel 14.38 342 *e*P P 21 43 34.8 +3.3
BRG Amp 21 43 38.8
comp=Z,3.6nm,0.8s
AK05 Malin Array Si 14.49 21 P Pn 21 43 26.6 +0.5
AK17 Malin Array Si 14.51 21 P Pn 21 43 26.7 +0.4
AK16 Malin Array Si 14.51 21 P Pn 21 43 26.6 +0.3
AK01 Malin Array Si 14.56 21 P Pn 21 43 27.2 +0.2
KIEV Kiev 14.56 21 Pn 21 43 27.1 +0.1
KIEV Kiev 14.56 21 P Pn 21 43 27.1 +0.1
KIEV Kiev 14.56 21 P Pn 21 43 27.4 +0.4
AKASG Malin Array Be 14.57 21 Pn Pn 21 43 25.9 -1.3
comp=Z,0.9nm,0.3s,baz=212,slow=12,SNR=4.8
AKASG LR LR 21 49 17.2
comp=Z,324nm,21.2s,baz=202,slow=39
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 14.57 21 Pn 21 43 27.1 -0.1
AKBB Malin Array Si 14.57 21 ⇑ *e*P Pn 21 43 30.0 +2.8
AKBB Malin Array Si 14.57 21 P Pn 21 43 27.4 +0.2
ECH Echery 14.79 321 Pn Pn 21 43 30.3 +0.1
ECH Echery 14.79 321 P Pn 21 43 30.3 +0.1
MOX Moxa 14.84 336 P P 21 43 37.8 +1.2
CLL Collm 15.02 340 Pn Pn 21 43 33.4 +0.2
CLL IAmb IAmb 21 43 54.5
comp=Z,12nm,1.0s
CLL Collm 15.02 340 P Pn 21 43 33.4 +0.2
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 15.02 340 *e*P Pn 21 43 33.0 -0.2
CLL *i* PP PnPn 21 43 40.3 -0.9
CLL *es*PP 21 43 44.0
SOC Sochi 15.56 61 *e*P Pn 21 43 40.2 -0.2
SOC *e* 21 46 32.9
SOC MLR MLR
comp=Z,102nm,14.0s
TNS Taunus Mts 15.65 329 P P 21 43 44.8 -0.9
TNS pmax pmax
comp=Z,22nm,1.6s
MARD Mardin 15.79 84 Pn 21 43 43.1 -0.4
MARD IAmb IAmb 21 43 56.1
comp=Z,9.1nm,0.7s
CEST Esterri de Car 15.95 295 Pn 21 43 47.3 +1.7
WLF Walferdange 16.26 324 P 21 43 51.5 -0.9
WLF IAmb IAmb 21 44 02.1
comp=Z,30nm,1.1s
WLF Walferdange 16.26 324 P P 21 43 51.5 -0.9
WLF pmax pmax
comp=Z,30nm,1.1s
GURO Guroymak-BITLI 16.68 80 P Pn 21 43 54.5 -0.4
SUW Suwalki 16.70 5 *e*P Pn 21 43 54.5 -0.4
SUW Suwalki 16.70 5 P Pn 21 43 53.9 -1.1
SUW Suwalki 16.70 5 P Pn 21 43 53.9 -1.1
SUW pmax pmax
comp=Z,152nm,0.9s
SUW Suwalki 16.70 5 *e*P P 21 43 58.5 +1.2
SIRT Sirnak 17.08 83 P Pn 21 43 58.3 -1.7
SIRT IAmb IAmb 21 44 21.8
comp=Z,91nm,1.4s
KIV Kislovodsk 17.73 61 *e*P P 21 44 10.4 +1.5
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,51nm,14.0s
MNK Minsk 17.77 13 *i* P Pn 21 44 08.5 +0.2
comp=E,17nm,0.9s
MNK *i* P Pn 21 44 08.5 +0.2
comp=N,6.0nm,0.8s,baz=199
MNK *i* P Pn 21 44 08.5 +0.2
comp=Z,20nm,0.7s
MNK *i* PP PnPn 21 44 19.3 +0.3
MNK *i* PPP PPP 21 44 27.4
MNK *i* S Sn 21 47 25.6 -0.5
MNK *i* SS SnSn 21 47 38.1 -1.6
MNK *i* SSS SSS 21 47 53.3
MNK *i* LQ LQ 21 49 45.2
MNK *i* LR LR 21 51 15.0
MNK *i* LRM MLR 21 51 58.2
comp=N,189nm,13.4s
MNK *i* LRM MLR 21 52 06.7
comp=Z,281nm,13.9s
MNK *i* LRM MLR 21 52 11.8
comp=E,369nm,14.9s
MNK Minsk 17.77 13 *i* P Pn 21 44 08.5 +0.2
MNK *i* S Sn 21 47 25.6 -0.5
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=E,17nm,0.9s
MNK pmax pmax
comp=Z,20nm,0.7s
MNK MLR MLR
comp=N,189nm,13.0s
MNK MLR MLR
comp=Z,281nm,14.0s
MNK MLR MLR
comp=E,369nm,15.0s
KBZ Khabaz 17.83 62 Pn P 21 44 12.1 +2.4
comp=E,0.2nm,0.3s,baz=280,slow=3.2,SNR=3.9
KBZ Khabaz 17.83 62 *ce*P P 21 44 11.6 +1.8
KBZ pmax pmax
comp=Z,11nm,1.1s
NACGM Naroch 17.97 11 *e*P P 21 44 11.2 -0.1
baz=196
BSEG Bad Segeberg 18.10 339 P P 21 44 14.6 +1.9
BSEG pmax pmax
comp=Z,16nm,1.1s
NCK Nalchik 18.27 63 ⇓ *e*P P 21 44 14.6 -0.1
NCK pmax pmax
comp=Z,8.0nm,1.0s
IIGN Ignalina 18.33 10 *e*P P 21 44 17.4 +2.2
PBUR Paburge 18.66 2 *e*P Pn 21 44 19.0 -0.1
VSVD Vaisvydziai 18.71 5 *e*P Pn 21 44 21.4 +1.6
GNI Garni 18.76 74 P P 21 44 19.9 -0.4
GNI IAmb IAmb 21 44 33.0
comp=Z,37nm,1.2s
GNI Garni 18.76 74 Pn Pn 21 44 21.5 +0.9
comp=Z,0.5nm,0.3s,baz=148,slow=7.5,SNR=4.3
GNI LR LR 21 53 15.1
comp=Z,174nm,18.7s,baz=272,slow=43
comp=Z,5.8nm,0.7s

GNI Garni 18.76 74⇑ *e*P Pn 21 44 21.9 +1.2
GNI pmax pmax
comp=Z,22nm,1.3s
VORD Divnogorie 18.84 38 *e*P Pn 21 44 24.2 +2.8
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 18.94 37 *e*P P 21 44 18.8 -3.1
VSR pmax pmax
comp=Z,20nm,1.0s
ESBB Sonseca Array 19.60 284 P 21 44 29.9 +0.6
ESDC Sonseca Array 19.60 284 P P 21 44 29.0 -0.3
ESDC Sonseca Array 19.60 284 P Pn 21 44 30.2 -0.5
comp=Z,0.1nm,0.3s,baz=76,slow=11,SNR=14
comp=Z,4.1nm,1.1s
TAM Tamanrasset 19.69 227 P Pn 21 44 36.0 +4.0
TAM pmax pmax
comp=Z,4.0nm,1.1s
LPSR Galich'ya Gora 19.75 34 *e*P Pn 21 44 31.8 -0.5
LPSR pmax pmax
comp=Z,30nm,0.8s
PAB San Pablo 19.90 284 P P 21 44 33.3 +0.7
PAB San Pablo 19.90 284 P P 21 44 33.3 +0.7
PAB pmax pmax
comp=Z,9.0nm,1.1s
VRH Novokhopyorsk 20.21 40 *e*P P 21 44 35.5 -0.3
VRH pmax pmax
comp=Z,16nm,0.8s
SLIT Slitere, Latvi 20.28 2 *e*P P 21 44 36.6 +0.2
OBN Obninsk 20.68 26 P P 21 44 39.8 -1.1
OBN Obninsk 20.68 26 P P 21 44 39.8 -1.1
comp=Z,20nm,0.5s,baz=70,slow=15,SNR=6.9
comp=Z,20nm,0.5s
OBN Obninsk 20.68 26 *i* P P 21 44 39.1 -1.8
OBN *i* 21 45 06.3
OBN *i* S **S 21 48 31.3 -0.2**
OBN pmax pmax
comp=Z,19nm,0.6s
OBN MLR MLR
comp=Z,325nm,16.0s
MDT Midelt 21.36 265 P P 21 44 50.8 +2.2
comp=Z,5.1nm,0.8s,baz=91,slow=8.7,SNR=12
MDT LR LR 21 55 34.1
comp=Z,76nm,19.1s,baz=90,slow=44
comp=Z,5.1nm,0.8s
MTSE Matsula 21.43 4 *e*P P 21 44 49.7 +0.9
VSU Vasula 21.43 8 *de*P P 21 44 47.6 -1.3
VSU pmax pmax
comp=Z,23nm,0.7s
VSU Vasula 21.43 8 *e*P P 21 44 48.3 -0.6
MOS Moscow 21.55 26 *e*P P 21 44 48.9 -1.3
MOS *e* 21 45 09.3
MOS *e*S **S 21 48 45.2 -3.4**
MOS pmax pmax
comp=Z,27nm,0.7s
PBRG Braganca 21.73 290 *e*P P 21 44 53.7 +1.3
PBRG *i* Amb 21 45 00.7
comp=Z,30nm,1.5s
MVO Moncorvo 21.93 289 *e*P P 21 44 55.0 +0.5
PBAR Barrancos 22.09 281 *e*P P 21 44 60.0 +3.7
PMRV Marv??o 22.26 284 *e*P P 21 44 56.7 -1.3
PMRV *i* Amb 21 45 04.2
comp=Z,34nm,1.3s
PCBR Castelo Branco 22.30 285 *e*P P 21 44 59.0 +0.5
ARBE Abravere 22.31 7 *e*P P 21 44 59.4 +1.0
MTE Manteigas 22.33 287 *e*P P 21 45 00.5 +1.7
PESTR Estremoz 22.45 283 *e*P P 21 45 00.1 -0.1
PMTG Montargil 22.93 283 *e*P P 21 45 04.2 -0.9
PMTG *i* Amb 21 45 25.4
comp=Z,23nm,2.5s
MEF Metsahovi 22.96 4 *e*P P 21 45 06.9 +1.7
PCAS Casmilo, Conde 23.07 286 *e*P P 21 45 06.3 -0.3
PUL Pulkovo 23.20 12⇑ *e*P P 21 45 09.1 +1.4
PUL pmax pmax
comp=Z,42nm,0.5s
HFS Hagfors 23.23 351 P P 21 45 06.1 -1.9
comp=Z,9.2nm,0.8s,baz=163,slow=11,SNR=17
HFS LR LR 21 55 17.6
comp=Z,191nm,19.0s,baz=168,slow=40
comp=Z,9.2nm,0.8s
RAF Rauma 23.67 1 *e*P P 21 45 13.8 +1.5
BELG Belogornoye 23.95 43 P P 21 45 12.8 -2.3
comp=Z,23nm,0.6s,baz=270,slow=20,SNR=13
BELG LR LR 21 55 26.7
comp=Z,136nm,18.9s,baz=246,slow=39
comp=Z,23nm,0.6s
BELG Belogornoye 23.95 43⇑ *e*P P 21 45 14.6 -0.5
BELG pmax pmax
comp=Z,6.0nm,0.9s
NORES NORESS Array B 24.12 349 P P 21 45 19.2 +2.6
EKA Eskdalemuir Ar 24.27 325 P P 21 45 18.1 0.0
comp=Z,8.8nm,0.7s,baz=122,slow=8.4,SNR=15
comp=Z,8.8nm,0.7s
FINES FINESS Array B 24.30 6 P P 21 45 16.9 -1.4
comp=Z,3.4nm,0.7s,baz=181,slow=8.0,SNR=22
FINES LR LR 21 55 51.8
comp=Z,442nm,18.4s,baz=187,slow=39
comp=Z,3.4nm,0.7s
NC405 NORSAR Array S 24.45 349 P P 21 45 20.5 +0.8
NB2 NORSAR Subarra 24.46 349 P P 21 45 19.6 -0.2
comp=Z,4.7nm,0.9s,baz=161,slow=9.3
NOA NORSAR Array B 24.46 349 P P 21 45 18.6 -1.2
comp=Z,1.0nm,0.7s,baz=157,slow=9.0,SNR=11
NOA LR LR 21 56 10.8
comp=Z,93nm,20.2s,baz=175,slow=40
comp=Z,1.0nm,0.7s
KEF Keuruu 24.93 4 *e*P P 21 45 25.8 +1.8
RAYN Ar Rayn 25.20 116 P P 21 45 27.3 +0.5
RAYN IAmb IAmb 21 45 31.1
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 25.20 116 P P 21 45 27.3 +0.5
RAYN pmax pmax
comp=Z,8.0nm,1.1s
VAF Ylistaro 25.71 2 *e*P P 21 45 33.1 +2.1
KLMR Klimovskoe 26.26 21 *e*P P 21 45 36.2 +0.2
KLMR pmax pmax
comp=Z,28nm,1.0s
JOF Joensuu 26.34 11 *e*P P 21 45 38.7 +1.9
KIRV Kirov 28.15 32 LR LR 21 57 51.5
comp=Z,144nm,18.6s,baz=236,slow=38
KIRV Kirov 28.15 32 *ce*P P 21 45 55.0 +2.0
TORD Torodi Ar. Bea 29.63 220 P P 21 46 07.0 +0.4
comp=Z,27nm,0.4s,baz=27,slow=10,SNR=1.6
ABKAR Akbulak array 30.43 55 P P 21 46 12.3 -1.1
ABKAR IAmb IAmb 21 46 16.9
comp=Z,8.9nm,1.4s
ARTI Arti 31.34 41 P P 21 46 20.0 -1.3
ARTI IAmb IAmb 21 46 45.6
comp=Z,14nm,1.2s
ARTI Arti 31.34 41 LR LR 22 00 15.4
ARTI Arti 31.34 41 *c i*P P 21 46 23.8 +2.5
ARTI 21 47 21.1
ARTI S **S 21 51 30.5 +2.6**
ARTI SS **SnSn 21 53 07.6 -3.5**
ARTI pmax pmax
comp=Z,11nm,1.2s
ARCES ARCESS Array B 32.30 3 P P 21 46 28.8 -0.9
comp=Z,2.3nm,0.7s,baz=190,slow=6.2,SNR=8.6
ARCES LR LR 22 00 43.1
comp=Z,374nm,21.1s,baz=182,slow=39
comp=Z,2.3nm,0.7s
SVE Sverdlovsk 32.66 41 *e*P P 21 46 34.4 +1.5
SVE pmax pmax
comp=Z,15nm,1.1s
LODK Lodwar 36.30 155 P P 21 47 05.3 +0.4
LODK IAmb IAmb 21 47 12.7
comp=Z,4.6nm,1.0s
BORG Borgarnes 36.96 331 LR LR 22 05 48.6
comp=Z,120nm,18.7s,baz=123,slow=42
BRVK Borovoye 37.32 49 P P 21 47 13.4 +0.3
BRVK IAmb IAmb 21 47 28.6
comp=Z,6.0nm,0.8s
BRVK Borovoye 37.32 49⇑ *e*P P 21 47 13.8 +0.6
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 37.38 49 P P 21 47 13.0 -0.7
comp=Z,2.6nm,0.5s,baz=261,slow=8.7,SNR=16
BVAR LR LR 22 04 17.0
comp=Z,88nm,18.0s,baz=325,slow=39
comp=Z,2.6nm,0.5s
KKAR Karatay Array 37.82 65 P P 21 47 17.4 -0.2
KKAR Karatay Array 37.82 65 P P 21 47 17.4 -0.2
GAR Garm 38.47 72 P P 21 47 22.9 -0.3
DBIC Dimbokro 38.54 224 P P 21 47 24.5 +0.7
comp=Z,5.1nm,0.9s,baz=29,slow=7.9,SNR=4.5
DBIC LR LR 22 03 39.3
comp=Z,79nm,19.4s,baz=23,slow=37
comp=Z,5.1nm,0.9s
BTK Batken 38.60 70 P P 21 47 22.7 -1.6
BTK IAmb IAmb 21 47 51.0
comp=Z,6.1nm,0.9s
BTK Batken 38.60 70 P P 21 47 22.7 -1.6
BTK pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 38.72 79 P P 21 47 31.9 +6.5
KBL pmax pmax
comp=Z,4.0nm,0.7s
DRK Karamyk 39.47 71 P P 21 47 31.1 -0.7
DRK IAmb IAmb 21 47 47.5
comp=Z,8.1nm,0.5s
DRK Karamyk 39.47 71 P P 21 47 31.1 -0.7
DRK pmax pmax
comp=Z,8.0nm,0.5s
ARSB Arslanbob 39.95 68 P P 21 47 34.4 -1.1
ARSB Arslanbob 39.95 68 P P 21 47 34.4 -1.1
ARSB pmax pmax
comp=Z,2.0nm,1.1s
BBTS Babate 40.19 246 LR LR 22 06 44.6
comp=Z,269nm,19.4s,baz=297,slow=40
AAK Ala-Archa 40.79 65 P P 21 47 42.2 -0.3
AAK Ala-Archa 40.79 65 LR LR 22 08 47.0
comp=Z,46nm,18.5s,baz=279,slow=42
AAK Ala-Archa 40.79 65⇓ *e*P P 21 47 42.7 +0.2
AAK pmax pmax
comp=Z,2.0nm,1.1s
SPITS Spitsbergen Ar 40.95 359 P P 21 47 43.0 -0.2
comp=Z,5.1nm,0.8s,baz=152,slow=6.5,SNR=12
SPITS LR LR 22 06 41.1
comp=Z,285nm,19.9s,baz=152,slow=39
comp=Z,5.1nm,0.8s
KMBO Kilima Mbogo 41.19 155 P P 21 47 45.8 -0.3
KMBO Kilima Mbogo 41.19 155 P P 21 47 45.8 -0.3
KMBO pmax pmax
comp=Z,4.0nm,1.1s
NIL Nilore 42.30 79 P P 21 47 54.2 -0.7
NIL IAmb IAmb 21 48 03.4
comp=Z,13nm,1.1s
NIL Nilore 42.30 79 P P 21 47 54.2 -0.7
NIL pmax pmax
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 42.44 53 P P 21 47 54.3 -1.4
comp=Z,3.6nm,0.6s,baz=278,slow=8.6,SNR=19
comp=Z,3.6nm,0.6s
KURK Kurchatov 42.49 53 P P 21 47 55.3 -0.9
KURK IAmb IAmb 21 48 19.7
comp=Z,12nm,1.3s
KURK Kurchatov 42.49 53 *ce*P P 21 47 54.9 -1.2
KURK pmax pmax
comp=Z,1.0nm,0.6s
KSH Kashi 42.59 70 P P 21 47 55.4 -1.9
KSH sP pwP 21 48 03.3 +2.5
KSH pmax pmax
comp=Z,3.0nm,0.9s
ICESG Greenland Ices 45.19 334 *i* P P 21 48 18.9 +0.9
MAKZ Makanchi 45.23 58 P P 21 48 17.3 -0.9
MAKZ IAmb IAmb 21 48 30.1
comp=Z,3.3nm,1.1s
MAKZ Makanchi 45.23 58 P P 21 48 17.3 -0.9
MAKZ pmax pmax
comp=Z,3.0nm,1.2s
MK31 Makanchi Array 45.44 58 P P 21 48 18.8 -1.2
MK31 IAmb IAmb 21 48 24.4
comp=Z,2.7nm,0.6s
MK31 Makanchi Array 45.44 58 *de*P P 21 48 18.9 -1.1
MKAR Makanchi Array 45.44 58 P P 21 48 18.4 -1.5
comp=Z,2.1nm,0.5s,baz=268,slow=7.4,SNR=47
MKAR PcP **PcP 21 49 59.3 +0.4**
comp=Z,0.5nm,0.5s,baz=267,slow=5.1,SNR=1.3
MKAR LR LR 22 11 52.3
comp=Z,45nm,18.2s,baz=278,slow=42
comp=Z,2.1nm,0.5s
SUMG Summit 45.68 339 *i* P P 21 48 22.0 +0.1
ZAA0 Zalesovo Array 45.98 48 P P 21 48 23.3 -0.8
ZAA0 IAmb IAmb 21 48 45.4
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 45.98 48 P P 21 48 22.6 -1.4
ZALV Zalesovo Beam 45.98 48 P P 21 48 22.2 -1.8
comp=Z,9.9nm,0.5s,baz=272,slow=8.7,SNR=12
ZALV LR LR 22 08 10.0
comp=Z,72nm,19.0s,baz=256,slow=37
comp=Z,2.9nm,0.5s
ZALV Zalesovo Beam 45.98 48 P P 21 48 22.6 -1.4
SFJD Kangerlussuaq 49.08 330 LR LR 22 10 25.8
comp=Z,75nm,18.6s,baz=108,slow=37
WMQ Urumqi 49.86 60 *e*P P 21 48 55.3 +0.9
WMQ pmax pmax
comp=Z,9.0nm,0.7s
LSZ Lusaka 52.82 171 LR LR 22 13 31.5
comp=Z,150nm,18.2s,baz=344,slow=38
TSUM Tsumeb 56.37 184 LR LR 22 15 55.4
comp=Z,124nm,18.4s,baz=357,slow=38
FRB Frobisher Bay 56.99 328 LR LR 22 16 41.6
comp=Z,72nm,18.4s,baz=50,slow=39
LSA Lhasa 57.82 75 P P 21 49 51.8 -1.4
LSA IAmb IAmb 21 50 15.9
comp=Z,5.0nm,1.1s
LSA Lhasa 57.82 75 P P 21 49 51.8 -1.4
LSA pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 59.91 61 *e*P P 21 50 06.0 -1.3
GTA pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 60.62 344 LR LR 22 16 00.6
comp=Z,39nm,20.6s,baz=356,slow=36
SONM Songino Array 60.71 50 P P 21 50 11.4 -1.2
comp=Z,0.4nm,0.5s,baz=295,slow=8.3,SNR=5.7
SONM LR LR 22 21 29.5
comp=Z,101nm,18.2s,baz=356,slow=41
comp=Z,0.4nm,0.5s
OPO Ambohidratompo 60.91 151 LR LR 22 18 49.1
comp=Z,60nm,18.6s,baz=183,slow=38
LBTB Lobatse 62.22 175 LR LR 22 19 38.7
comp=Z,119nm,18.6s,baz=359,slow=38
LZH Lanzhou 64.27 63 *e*P P 21 50 39.4 +2.8
LZH pP sP 21 50 44.8 +3.2
LZH pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 65.64 29 LR LR 22 23 46.4
comp=Z,83nm,18.6s,baz=293,slow=40
BOSA Boshof 65.78 176 LR LR 22 21 49.2
comp=Z,125nm,19.9s,baz=6.0,slow=38
PZH PanZhiHua 67.52 73 P P 21 50 59.3 +1.7
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.4s
SUR Sutherland 69.41 180 LR LR 22 23 39.8
comp=Z,107nm,18.2s,baz=4.0,slow=38
CHTO Chiang Mai 69.48 82 P P 21 51 09.1 -0.8
CHTO Chiang Mai 69.48 82 P P 21 51 09.1 -0.8
CHTO pmax pmax
comp=Z,10.0nm,1.4s
CMAR Chiang Mai Arr 69.68 82 P P 21 51 10.3 -0.8
CMAR Chiang Mai Arr 69.68 82 P P 21 51 10.1 -0.9
comp=Z,1.1nm,0.6s,baz=306,slow=7.6,SNR=13
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 69.68 82 P P 21 51 10.3 -0.8
SEY Seymchan 72.76 21 *e*P P 21 51 28.8 -0.2
SEY pmax pmax
comp=Z,2.0nm,0.8s
E29M Blow River 73.36 352 P P 21 51 33.0 +0.5
E29M IAmb IAmb 21 51 34.1
comp=Z,4.5nm,0.7s
MDP Montagnes des 73.87 264 LR LR 22 23 47.8
comp=Z,38nm,19.6s,baz=110,slow=36
YKA Yellowknife Ar 74.25 340 P P 21 51 37.9 +0.2
comp=Z,0.5nm,0.7s,baz=40,slow=5.1,SNR=8.4
comp=Z,0.5nm,0.7s
KLR Kul'dur 74.28 40 LR LR 22 27 40.2
comp=Z,94nm,18.3s,baz=330,slow=39
MA2 Magadan 74.89 24 P P 21 51 41.6 +0.1
MA2 Magadan 74.89 24 LR LR 22 28 46.9
comp=Z,63nm,18.9s,baz=332,slow=39
MA2 Magadan 74.89 24 P P 21 51 41.6 +0.1
MA2 pmax pmax
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 76.53 324 P P 21 51 51.0 0.0
comp=Z,1.4nm,0.6s,baz=348,slow=3.5,SNR=3.8
ULM LR LR 22 25 55.2
comp=Z,71nm,19.4s,baz=48,slow=36
comp=Z,1.4nm,0.6s
SJG San Juan 76.98 283 LR LR 22 23 04.3
comp=Z,25nm,20.2s,baz=154,slow=34
ILAR Eielson Array 77.73 355 P P 21 51 58.0 +0.4
comp=Z,0.4nm,0.9s,baz=338,slow=2.9,SNR=5.8
ILAR LR LR 22 27 29.7
comp=Z,35nm,20.1s,baz=102,slow=37
comp=Z,0.4nm,0.9s
ILAR Eielson Array 77.73 355 P P 21 51 58.0 +0.4
KSRS Korea Array 79.58 51 P P 21 52 07.8 -0.4
comp=Z,0.8nm,0.5s,baz=318,slow=4.9,SNR=2.5
KSRS LR LR 22 32 21.9
comp=Z,47nm,18.1s,baz=330,slow=40
comp=Z,0.8nm,0.5s
YSS Yuzhno-Sakhali 81.22 36 *e*P P 21 52 25.6 +8.8
YSS pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 82.39 25 LR LR 22 32 28.9
comp=Z,76nm,19.4s,baz=311,slow=38
BDFB Brasilia 83.47 245 LR LR 22 29 57.8
comp=Z,64nm,20.6s,baz=347,slow=36
JNU Nakatsue 84.22 52 LR LR 22 34 05.8
comp=Z,41nm,18.7s,baz=339,slow=39
KDAK Kodiak Island 85.03 357 LR LR 22 32 11.2
comp=Z,49nm,21.3s,baz=195,slow=37
NEW Newport 86.91 333 LR LR 22 33 53.5
comp=Z,90nm,18.8s,baz=286,slow=37
ELK Elko 92.49 328 LR LR 22 37 16.6
comp=Z,51nm,18.3s,baz=358,slow=37
ANMO Albuquerque 93.02 319 LR LR 22 34 53.6
comp=Z,22nm,20.3s,baz=210,slow=35
SIV San Ignacio 93.38 253 LR LR 22 35 19.8
comp=Z,38nm,20.9s,baz=116,slow=36
YBH Yreka Blue Hor 94.54 334 LR LR 22 38 14.3
comp=Z,55nm,20.1s,baz=360,slow=37
TXAR Lajitas Array 95.75 314 P **P 21 53 29.2 +1.6**
comp=Z,0.3nm,0.7s,baz=19,slow=4.5,SNR=4.6
comp=Z,0.3nm,0.7s
PFO Pinyon Flats O 98.98 325 LR LR 22 40 40.4
comp=Z,61nm,18.5s,baz=230,slow=37
WRA Warramunga Arr 120.18 93 PKP **PKPdf 21 58 51.8 -0.7**
comp=Z,0.4nm,0.7s,baz=322,slow=2.0,SNR=9.2
ASAR Alice Springs 121.76 97 PKP **PKPdf 21 58 55.2 -0.2**
comp=Z,0.4nm,0.5s,baz=302,slow=1.5,SNR=7.1

IDC 17 21:45:35.1±3.2, 20°.25S×177°.68W, h562km±26km, mb2.9/2, mbtmp3.9/4, Error ellipse: s-maj=53.2km s-min=40.9km az=65.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.75**	**301**	P	P	P	21 47 03.8	0.0
	4.4nm,0.3s,baz=65,slow=16,SNR=4.8							
URZ	**Urewera**	**18.51**	**193**	P	P	P	21 49 16.8	-0.1
	5.7nm,0.6s,baz=20,slow=4.8,SNR=2.6							
ASAR	**Alice Springs**	**44.87**	**256**	P	P	P	21 53 00.5	+0.2
	0.8nm,0.6s,baz=94,slow=7.7,SNR=9.6							
	0.8nm,0.6s							
WRA	**Warramunga Arr**	**44.93**	**262**	P	P	P	21 53 00.4	-0.4
	0.6nm,0.3s,baz=98,slow=8.1,SNR=36							
	0.6nm,0.3s							
AKASG	**Malin Array Be**	**142.94**	**331**	PKP		PKPdf	22 04 04.5	-0.6
	0.1nm,0.2s,baz=39,slow=4.4,SNR=4.7							

---

*DJA **17** 22:23:37.6±0.2, 0°.S±2°.×12°.4E±°, h10km, M4.8/31, mB5.2/10, mb5.1/14, MLv4.9/31, Mw(mB)4.6/10, MwMwp4.7/1, Mwp5.0/1*
*NEIC **17** 22:23:40.3±2.0, 0°.16S±0°.08×124°.41E±0°.06, h75km±8km, mb4.6/43, Error ellipse: s-maj=11.4km s-min=8.8km az=173.0*
*IDC **17** 22:23:40.6±1.5, 0°.19S×124°.23E, h89km±14km, mb4.2/19, mbtmp4.5/23, MS3.2/10, Error ellipse: s-maj=16.5km s-min=9.7km az=89.0*
ISC 17 22:23:39.3±0.4, 0°.20S±0°.04×124°.45E±0°.05, h73km, n134, σ1°.25/138, mb4.6/50, 2C-1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.90**	**328**	P	**Pn**	**Pn**	**22 23 55.1**	**-1.6**
KMSI				S	**Sn**	**Sn**	**22 24 07.6**	**-2.0**
LUWI	**Luwuk**	**1.88**	**243**	Pn	**Pn**	**Pn**	**22 24 09.7**	**+0.3**
LUWI				Sn	**Sn**	**Sn**	**22 24 32.9**	**+0.7**
LUWI	**Luwuk**	**1.88**	**243**	P	**Pn**	**Pn**	**22 24 09.9**	**+0.5**
LUWI	**Luwuk**	**1.88**	**243**	P	**Pn**	**Pn**	**22 24 10.2**	**+0.8**
SANI	**Sanana**	**2.40**	**140**	P	**Pn**	**Pn**	**22 24 14.3**	**-2.1**
MRSI	**Marisa**	**2.60**	**285**	P	**Pn**	**Pn**	**22 24 19.9**	**+0.8**
APSI	**Ampana**	**2.89**	**256**	P	**Pn**	**Pn**	**22 24 23.8**	**+0.8**
TNTI	**Ternate**	**3.07**	**72**	Pn	**Pn**	**Pn**	**22 24 25.9**	**+0.4**
TNTI	**Ternate**	**3.07**	**72**	P	**Pn**	**Pn**	**22 24 25.8**	**+0.3**
TOLI2	**Tolitoli**	**3.89**	**289**	Pn	**Pn**	**Pn**	**22 24 36.3**	**-0.4**
TOLI2	**Tolitoli**	**3.89**	**289**	P	**Pn**	**Pn**	**22 24 37.6**	**+0.9**
NLAI	**Namlea**	**4.02**	**139**	P	**Pn**	**Pn**	**22 24 37.9**	**-0.5**
KDI	**Kendari**	**4.16**	**206**	P	**Pn**	**Pn**	**22 24 40.4**	**0.0**
MPSI	**Mapaga**	**4.58**	**277**	P	**Pn**	**Pn**	**22 24 46.9**	**+0.8**
PCI	**Palu**	**4.67**	**261**	P	**Pn**	**Pn**	**22 24 48.9**	**+1.6**
AAI	**Ambon**	**5.10**	**133**	P	**Pn**	**Pn**	**22 24 54.0**	**+0.8**
TTSI	**Tana Toraja**	**5.43**	**239**	P	**Pn**	**Pn**	**22 24 58.6**	**+0.9**
	1.2nm4μm279nm,0.6s							
MSAI	**Masohi**	**5.46**	**125**	P	**Pn**	**Pn**	**22 24 59.0**	**+0.9**
	2.2nm436nm,1.1s							
BBSI	**Bau Bau**	**5.58**	**200**	P	**Pn**	**Pn**	**22 25 00.7**	**+0.9**
	0.3nm89nm,0.9s							
SPSI	**Sidrap Palu**	**5.99**	**231**	P	**Pn**	**Pn**	**22 25 07.0**	**+1.6**
BKSI	**Bulukumba**	**6.68**	**220**	P	**Pn**	**Pn**	**22 25 15.9**	**+1.1**
	0.4nm632nm54nm,0.8s							
KAPI	**Kappang**	**6.70**	**224**	Pn	**Pn**	**Pn**	**22 25 15.8**	**+0.7**
KAPI	**Kappang**	**6.70**	**224**	P	**Pn**	**Pn**	**22 25 16.0**	**+0.8**
	58nm,0.5s,baz=47,slow=6.9,SNR=12							
KAPI				S	**Sn**	**Sn**	**22 26 28.6**	**-1.5**
	65nm,0.8s,baz=183,slow=23,SNR=6.9							
KAPI				LR	LR	LR	22 28 22.7	
	comp=Z,130nm,20.9s,baz=62,slow=43							
KAPI	**Kappang**	**6.70**	**224**	P	**Pn**	**Pn**	**22 25 16.1**	**+1.0**
SWI	**Sorong**	**6.84**	**96**	P	**Pn**	**Pn**	**22 25 17.8**	**+0.8**
BSSI	**Bau Bau, Buton**	**7.11**	**214**	P	**Pn**	**Pn**	**22 25 21.6**	**+0.9**
	0.6nm1μm102nm,0.7s							
DAV	**Davao City (W)**	**7.30**	**9**	P	**Pn**	**Pn**	**22 25 26.1**	**+2.7**
	79nm,0.4s,baz=255,slow=4.7,SNR=5.8							
DAV				S	**Sn**	**Sn**	**22 26 48.2**	**+3.4**
	52nm,0.4s,baz=286,slow=8.5,SNR=1.1							
DAV				LR	LR	LR	22 28 27.5	
	comp=Z,271nm,20.9s,baz=218,slow=39							
BKB	**Balikpapan**	**7.63**	**262**	P	**Pn**	**Pn**	**22 25 28.9**	**+1.1**
	0.5nm141nm,0.8s							
MYLDM	**Lahad Datu**	**7.99**	**312**	Pn	**Pn**	**Pn**	**22 25 33.3**	**+0.6**
MYLDM	**Lahad Datu**	**7.99**	**312**	P	**Pn**	**Pn**	**22 25 35.2**	**+2.5**
FAKI	**Fak Fak**	**8.25**	**109**	Pn	**Pn**	**Pn**	**22 25 34.8**	**-1.6**
FAKI	**Fak Fak**	**8.25**	**109**	P	**Pn**	**Pn**	**22 25 34.7**	**-1.6**
FAKI	**Fak Fak**	**8.25**	**109**	P	**Pn**	**Pn**	**22 25 37.3**	**+1.0**
MMRI	**Maumere**	**8.67**	**195**	P	**Pn**	**Pn**	**22 25 43.4**	**+1.4**
SOEI	**Soe**	**9.50**	**181**	P	**Pn**	**Pn**	**22 25 54.8**	**+1.3**
KKM	**Kota Kinabalu**	**10.30**	**307**	Pn	**Pn**	**Pn**	**22 26 04.0**	**-0.3**
KKM	**Kota Kinabalu**	**10.30**	**307**	P	**Pn**	**Pn**	**22 26 05.9**	**+1.6**
MTN	**Manton Dam**	**14.21**	**152**	Pn	**Pn**	**Pn**	**22 26 55.6**	**-1.4**
TGY	**Tagaytay City**	**14.62**	**346**	P	**Pn**	**Pn**	**22 27 03.9**	**+1.4**
	136nm,0.3s,baz=284,slow=12,SNR=3.0							
KNRA	**Kununurra**	**15.96**	**165**	Pn	**Pn**	**Pn**	**22 27 19.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**17.83**	**176**	P	**P**	**P**	**22 27 42.5**	**+0.1**
	6.7nm,0.8s,baz=6.8,slow=7.5,SNR=12							
FITZ				LR	LR	LR	22 35 22.2	
	comp=Z,58nm,21.8s,baz=342,slow=39							
LEM	**Lembang**	**18.04**	**248**	P	**P**	**P**	**22 27 43.0**	**-2.0**
	10nm,0.4s,baz=80,slow=13,SNR=4.1							
BBJI	**Bungbulang**	**18.24**	**246**	P	**Pn**	**Pn**	**22 27 49.8**	**+2.1**
DLV	**Lat**	**19.92**	**308**	P	**P**	**P**	**22 28 05.2**	**-0.3**
DLV				IAmb	IAmb	IAmb	22 28 11.6	
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**21.75**	**154**	P	**P**	**P**	**22 28 24.4**	**-0.6**
WRAB	**Tennant Creek**	**21.88**	**154**	P	**P**	**P**	**22 28 26.1**	**-0.3**
WRAB				IAmb	IAmb	IAmb	22 28 31.8	
	comp=Z,17nm,0.6s							
WRA	**Warramunga Arr**	**21.89**	**154**	P	**P**	**P**	**22 28 24.3**	**-2.1**
WRA	**Warramunga Arr**	**21.89**	**154**	P	**P**	**P**	**22 28 25.8**	**-0.6**
	comp=Z,5.9nm,0.5s,baz=336,slow=11,SNR=66							
	comp=Z,5.9nm,0.5s							
WB2	**Warramunga Arr**	**21.89**	**154**	P	**P**	**P**	**22 28 25.7**	**-0.8**
WB2				IAmb	IAmb	IAmb	22 28 31.8	
	comp=Z,19nm,0.6s							
WR0	**Warramunga Arr**	**21.99**	**154**	P	**P**	**P**	**22 28 27.0**	**-0.5**
COEN	**Coen**	**23.03**	**127**	P	**P**	**P**	**22 28 39.1**	**+0.5**
COEN	**Coen**	**23.03**	**127**	P	**P**	**P**	**22 28 39.2**	**+0.6**
YULB	**Yu-li**	**23.65**	**353**	P	**P**	**P**	**22 28 44.4**	**+0.3**
YULB				IAmb	IAmb	IAmb	22 29 05.5	
	comp=Z,64nm,1.5s							
TPUB	**Ta-pu**	**23.65**	**351**	P	**P**	**P**	**22 28 43.1**	**-1.0**
IPM	**Ipoh**	**23.86**	**282**	P	**P**	**P**	**22 28 46.5**	**+0.3**

IPM IAmb IAmb 22 29 10.8
comp=Z,19nm,1.1s
KULM Kulim 24.39 283 P **P** **22 28 51.1 +0.2**
WRKA Warakurna 24.98 172 P **P** **22 28 57.3 +1.1**
AS31 Alice Springs 25.07 159 P **P** **22 28 58.4 +1.2**
ASAR Alice Springs 25.07 159 P **P** **22 28 58.4 +1.2**
ASAR Alice Springs 25.07 159 P **P** **22 28 58.1 +1.0**
comp=Z,5.8nm,0.6s,baz=332,slow=7.1,SNR=66
ASAR PcP **PcP** **22 32 30.5 +0.3**
comp=Z,0.3nm,0.3s,baz=335,slow=2.9,SNR=4.3
comp=Z,5.8nm,0.6s
QIS Mount Isa 25.09 145 P **P** **22 28 58.9 +1.6**
AS01 Alice Springs 25.09 159 P **P** **22 28 58.1 +0.8**
PSI Prapat 25.69 277 LR LR 22 41 28.9
comp=Z,46nm,18.2s,baz=55,slow=42
OOD Oodnadatta 29.48 159 P **P** **22 29 38.0 +1.4**
PHRA Phrae 30.19 309 P **P** **22 29 42.7 -0.2**
FORT Forrest 30.61 174 P **P** **22 29 47.5 +1.0**
FORT IAmb IAmb 22 29 54.1
comp=Z,19nm,0.9s
FORT Forrest 30.61 174 P **P** **22 29 47.1 +0.6**
CMAR Chiang Mai Arr 31.17 308 P **P** **22 29 51.2 -0.4**
comp=Z,1.4nm,0.5s,baz=121,slow=8.6,SNR=10
CMAR PcP **PcP** **22 32 44.5 -0.8**
comp=Z,1.2nm,0.3s,baz=126,slow=3.1,SNR=5.9
CMAR LR LR 22 42 33.7
comp=Z,37nm,21.8s,baz=125,slow=37
comp=Z,1.4nm,0.5s
CHTO Chiang Mai 31.37 308 P **P** **22 29 53.1 -0.3**
CHTO IAmb IAmb 22 29 54.9
comp=Z,6.8nm,0.8s
JCJ Chichijima 32.05 31 LR LR 22 43 01.9
comp=Z,45nm,19.3s,baz=105,slow=36
NJ2 Nanjing 32.51 351 *eP* **P** **22 30 04.3 +1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
LCRK Leigh Creek 32.81 158 P **P** **22 30 06.9 +1.1**
JNU Nakatsue 33.69 10 P **P** **22 30 13.3 -0.2**
JNU Nakatsue 33.69 10 LR LR 22 44 59.0
comp=Z,31nm,20.2s,baz=18,slow=38
PZH PanZhiHua 34.40 322 P **P** **22 30 22.1 +2.3**
PZH pmax pmax
comp=Z,70nm,1.1s
PZH pmax pmax
comp=Z,110nm,4.7s
JMN Monobe 34.89 14 P **P** **22 30 24.3 +0.4**
STKA Stephens Creek 35.44 154 P **P** **22 30 29.8 +1.3**
STKA Stephens Creek 35.44 154 P **P** **22 30 29.7 +1.1**
comp=Z,7.8nm,0.5s,baz=328,slow=8.9,SNR=21
comp=Z,7.8nm,0.5s
LYN LuoYang 36.34 343 P **P** **22 30 37.6 +1.4**
LYN pmax pmax
comp=Z,24nm,0.7s
LYN pmax pmax
comp=Z,230nm,4.8s
XAN Xi'an 37.04 338 ⇑P **P** **22 30 42.5 +0.2**
XAN pP pwP 22 31 03.9 +0.9
XAN pmax pmax
comp=Z,18nm,1.0s
KSRS Korea Array 37.60 5 P **P** **22 30 47.4 +0.5**
comp=Z,2.9nm,0.8s,baz=181,slow=9.7,SNR=12
KSRS LR LR 22 46 15.5
comp=Z,12nm,21.2s,baz=110,slow=36
comp=Z,2.9nm,0.8s
MAJO Matsushiro 38.72 18 P **P** **22 30 56.6 +0.2**
MJAR Matsushiro Arr 38.72 18 P **P** **22 30 56.1 -0.2**
comp=Z,11nm,0.7s,baz=190,slow=8.9,SNR=31
comp=Z,11nm,0.7s
MJB9 Matsu-Tunnel 38.72 18 P **P** **22 30 56.4 0.0**
MJB9 IAmb IAmb 22 30 56.9
comp=Z,17nm,0.9s
BRDH Bariadhala 39.20 308 LR LR 22 48 53.1
comp=Z,41nm,18.5s,baz=214,slow=39
SHL Shillong 40.56 312 P **P** **22 31 11.7 -0.3**
SHL IAmb IAmb 22 31 15.7
comp=Z,7.4nm,1.0s
BJI Beijing 40.75 350 P **P** **22 31 14.0 +0.9**
BJI pmax pmax
comp=Z,3.0nm,1.0s
JMM Marumori 40.77 20 P **P** **22 31 13.9 +0.7**
LZH Lanzhou 40.87 334 *eP* **P** **22 31 15.5 +1.1**
LZH pP pwP 22 31 34.4 -0.7
LZH pmax pmax
comp=Z,13nm,1.1s
XLT XiLinHaoTe 44.53 351 *eP* **P** **22 31 44.6 +0.8**
XLT pP pP 22 31 48.8 -12
XLT pmax pmax
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 44.71 8 P **P** **22 31 45.4 +0.3**
USRK Ussuriysk Ar. 44.71 8 P **P** **22 31 45.0 0.0**
comp=Z,9.7nm,0.5s,baz=193,slow=7.3,SNR=34
comp=Z,9.7nm,0.5s
MDJ Mudanjiang 44.85 5 P **P** **22 31 47.3 +1.1**
MDJ pmax pmax
comp=Z,20nm,0.7s
MDJ pmax pmax
comp=Z,280nm,5.5s
GTA Gaotai 45.41 333 *eP* **P** **22 31 51.9 +1.0**
GTA pP pwP 22 32 12.0 -0.5
GTA pmax pmax
comp=Z,11nm,0.9s
BNX BinXian 45.81 3 ⇑P **P** **22 31 53.5 -0.3**
BNX pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 50.20 345 P **P** **22 32 28.0 +0.1**
ULN IAmb IAmb 22 32 29.7
comp=Z,4.6nm,0.6s
HEH HeiHe 50.32 2 *eP* **P** **22 32 28.3 -0.2**
HEH pmax pmax
comp=Z,23nm,0.7s
SONM Songino Array 50.35 344 P **P** **22 32 28.1 -0.9**
SONM IAmb IAmb 22 32 30.6
comp=Z,5.5nm,0.9s
SONM Songino Array 50.35 344 P **P** **22 32 27.7 -1.2**
comp=Z,6.0nm,0.9s,baz=160,slow=8.0,SNR=32
SONM ScP **ScP** **22 37 35.5 -0.8**
comp=Z,0.9nm,0.9s,baz=152,slow=4.6,SNR=5.7
comp=Z,6.0nm,0.9s
WMQ Urumqi 54.72 328 *eP* **P** **22 33 02.1 +0.8**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 59.29 318 P **P** **22 33 35.3 +1.5**
KSH pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 59.55 328 P **P** **22 33 34.0 -1.2**
MK31 IAmb IAmb 22 33 36.3
comp=Z,3.5nm,0.7s
MKAR Makanchi Array 59.55 328 P **P** **22 33 34.0 -1.2**
MKAR Makanchi Array 59.55 328 P **P** **22 33 33.9 -1.3**
comp=Z,4.8nm,0.6s,baz=123,slow=8.5,SNR=58
MKAR PcP **PcP** **22 34 21.1 -0.9**
comp=Z,1.3nm,0.6s,baz=135,slow=4.2,SNR=5.3
MKAR ScP **ScP** **22 38 14.8 -1.7**
comp=Z,0.8nm,0.8s,baz=129,slow=4.8,SNR=5.4
comp=Z,4.8nm,0.6s
MAKZ Makanchi 59.72 328 P **P** **22 33 35.0 -1.4**
MAKZ IAmb IAmb 22 33 37.0
comp=Z,4.3nm,0.6s
PETK Petropavlovsk- 59.90 22 P **P** **22 33 38.7 +1.2**
comp=Z,5.1nm,0.6s,baz=183,slow=2.0,SNR=27
comp=Z,5.1nm,0.6s
AAK Ala-Archa 61.80 320 P **P** **22 33 50.9 +0.1**
AAK IAmb IAmb 22 33 52.8
comp=Z,4.2nm,1.2s
KBL Kabul 62.18 310 P **P** **22 33 52.3 -1.3**
KBL IAmb IAmb 22 33 54.5
comp=Z,5.2nm,0.7s
YAK Yakutsk 62.19 3 P **P** **22 33 53.0 +0.2**
GAR Garm 62.97 315 P **P** **22 33 57.2 -1.4**
GAR IAmb IAmb 22 34 02.5
comp=Z,5.4nm,0.6s
MA2 Magadan 63.05 15 P **P** **22 33 59.5 +1.0**
ZALV Zalesovo Beam 63.09 335 P **P** **22 33 57.0 -2.0**
ZALV Zalesovo Beam 63.09 335 P **P** **22 33 56.7 -2.3**
comp=Z,1.7nm,0.4s,baz=127,slow=5.4,SNR=13
comp=Z,1.7nm,0.4s
KURBB Kurchatov Arra 63.86 329 P **P** **22 34 02.6 -1.5**
comp=Z,3.2nm,0.6s,baz=120,slow=6.7,SNR=52
comp=Z,3.2nm,0.6s
KURK Kurchatov 63.87 329 P **P** **22 34 03.0 -1.2**
BVAR Borovoye Array 69.40 329 P **P** **22 34 37.0 -2.3**
comp=Z,1.9nm,0.5s,baz=130,slow=6.9,SNR=17
comp=Z,1.9nm,0.5s
BRVK Borovoye 69.47 328 P **P** **22 34 38.2 -1.6**
TIXI Tiksi 71.78 1 P **P** **22 34 53.9 +0.4**
TIXI IAmb IAmb 22 34 56.3
comp=Z,5.9nm,0.8s
NRIK Noril'sk 73.70 347 P **P** **22 35 04.8 -0.1**
NRIK IAmb IAmb 22 35 06.6
comp=Z,4.4nm,0.6s
NRIK Noril'sk 73.70 347 P **P** **22 35 03.4 -1.5**
comp=Z,3.9nm,0.6s,baz=137,slow=7.1,SNR=8.2
comp=Z,3.9nm,0.6s
ABKAR Akbulak array 73.77 322 P **P** **22 35 04.3 -1.4**
ARTI Arti 77.13 329 P **P** **22 35 23.3 -1.5**
ARTI IAmb IAmb 22 35 25.2
comp=Z,5.2nm,0.7s
BELG Belogornoye 82.13 323 LR LR 23 15 34.8
comp=Z,36nm,19.2s,baz=227,slow=38
C16K Lisburne Hills 82.94 21 P **P** **22 35 56.8 +1.0**
C16K IAmb IAmb 22 35 58.5
comp=Z,9.2nm,1.4s
SYO Syowa Base 87.97 201⇓*eP* **P** **22 36 23.7 +2.9**
ILAR Ełelson Array 89.60 25 P **P** **22 36 26.6 -2.0**
comp=Z,0.3nm,0.5s,baz=250,slow=4.1,SNR=9.0
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 90.75 310 P **P** **22 36 32.6 -2.1**
comp=Z,0.6nm,0.8s,baz=101,slow=6.4,SNR=3.6
comp=Z,0.6nm,0.8s
F28M Old Crow 92.35 22 P **P** **22 36 42.0 +0.6**
F28M IAmb IAmb 22 36 44.0
comp=Z,3.9nm,0.8s
ARCES ARCESS Array B 93.32 340 P **P** **22 36 44.6 -1.2**
comp=Z,3.1nm,0.8s,baz=77,slow=4.9,SNR=3.6
comp=Z,3.1nm,0.8s
ELL Elmali 93.76 307 P **P** **22 36 48.1 -0.6**
SPITS Spitsbergen Ar 93.86 349 P **P** **22 36 48.2 +0.1**
comp=Z,9.1nm,1.0s,baz=80,slow=7.9,SNR=5.1
comp=Z,9.1nm,1.0s
FINES FINESS Array B 94.18 332 P **P** **22 36 47.6 -2.3**
comp=Z,1.0nm,0.7s,baz=111,slow=10,SNR=6.4
comp=Z,1.0nm,0.7s
HFS Hagfors 100.39 332 P **Pdif** **22 37 14.7 -3.2**
comp=Z,1.5nm,0.9s,baz=128,slow=8.3,SNR=5.1
MODS Modra-Piesok 101.50 319 *e*PDIFF **Pdif** **22 37 21.2 -2.0**

---

*IDC **17**22:40:37.5±0.6,4°.08S×121°.33E,h0km,mb4.2/17, mbtmp4.2/18,ML3.4/1,MS3.2/13,Error ellipse: s-maj=14.7km s-min=12.2km az=108.0*
*NEIC **17**22:40:39.7±0.8,4°.12S±0°.06×121°.35E±0°.06,h10km±1km, mb4.6/29,Error ellipse: s-maj=11.6km s-min=9.0km az=127.0*
*DJA **17**22:40:40.2±0.2,4°.S±2°×12°.1E±°,h10km,M4.7/22, mb4.8/18,mB5.3/10,MLv4.5/22,Mw(mB)4.8/10*
ISC 17 22:40:42.5±0.4,4°.14S±0°.05×121°.41E±0°.06,h35km,n94, σ0.84/88,mb4.5/33,MS3.1/10,1D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.22**	**81**	P	**Pn**	**22 41 01.8**	**-1.3**
SPSI	**Sidrap Palu**	**1.64**	**276**	P	**Pn**	**22 41 06.6**	**-2.3**
SPSI				S	**Sn**	**22 41 30.1**	**+1.2**
BKSI	**Bulukumba**	**1.74**	**227**	P	**Pn**	**22 41 08.4**	**-1.8**
BBSI	**Bau Bau**	**1.77**	**139**	P	**Pn**	**22 41 11.5**	**+0.8**
KAPI	**Kappang**	**1.86**	**242**	Pg	**Pn**	**22 41 10.7**	**-1.3**
224nm,0.3s,baz=68,slow=6.5,SNR=353							
KAPI				Lg	Lg	22 41 34.4	
282nm,0.3s,baz=75,slow=23,SNR=20							
KAPI				LR	LR	22 41 59.6	
comp=Z,1μm,19.5s,baz=14,slow=45							
TTSI	**Tana Toraja**	**1.92**	**304**	P	**Pn**	**22 41 12.6**	**-0.2**
BSSI	**Bau Bau, Buton**	**2.19**	**205**	P	**Pn**	**22 41 14.5**	**-1.9**
LUWI	**Luwuk**	**3.37**	**24**	Pn	**Pn**	**22 41 31.6**	**-1.0**
LUWI	**Luwuk**	**3.37**	**24**	P	**Pn**	**22 41 33.3**	**+0.7**
PCI	**Palu**	**3.58**	**334**	P	**Pn**	**22 41 36.0**	**+0.4**
MMRI	**Maumere**	**4.54**	**170**	Pn	**Pn**	**22 41 49.6**	**+0.8**
MMRI	**Maumere**	**4.54**	**170**	P	**Pn**	**22 41 49.2**	**+0.4**
MRSI	**Marisa**	**4.62**	**7**	P	**Pn**	**22 41 50.3**	**+0.4**
MPSI	**Mapaga**	**4.70**	**341**	P	**Pn**	**22 41 51.1**	**+0.1**
SANI	**Sanana**	**5.02**	**66**	P	**Pn**	**22 41 56.5**	**+1.1**
TOLI2	**Tolitoli**	**5.25**	**353**	Pn	**Pn**	**22 41 58.6**	**0.0**
WSI	**Waingapu**	**5.60**	**191**	P	**Pn**	**22 42 03.8**	**+0.4**
0.6nm2μm165nm,1.0s							
WBSI	**Waikabubak, Su**	**5.82**	**200**	P	**Pn**	**22 42 06.9**	**+0.5**
0.4nm1μm153nm,1.0s							
PLAI	**Plampang**	**5.89**	**218**	P	**Pn**	**22 42 07.1**	**-0.3**
0.3nm873nm112nm,0.7s							
SOEI	**Soe**	**6.26**	**153**	Pn	**Pn**	**22 42 13.3**	**+0.8**
SOEI	**Soe**	**6.26**	**153**	P	**Pn**	**22 42 13.7**	**+1.2**
0.3nm89nm,0.8s							
SRBI	**Singaraja**	**7.30**	**237**	P	**Pn**	**22 42 26.1**	**-0.6**
0.2nm61nm,0.6s							
KMMI	**Kalianget**	**7.95**	**248**	P	**Pn**	**22 42 36.9**	**+1.3**
2μm98nm,0.8s							
JAGI	**Jajag, Banyuwa**	**8.40**	**239**	Pn	**Pn**	**22 42 40.7**	**-1.1**
JAGI	**Jajag, Banyuwa**	**8.40**	**239**	P	**Pn**	**22 42 41.5**	**-0.3**
1μm34nm,0.9s							
GMJI	**Gumukmas**	**8.92**	**242**	P	**Pn**	**22 42 49.4**	**+0.5**
27nm,0.9s							
MYLDM	**Lahad Datu**	**9.71**	**343**	Pn	**Pn**	**22 42 58.4**	**-1.4**
DAV	**Davao City (W)**	**11.89**	**21**	LR	LR	22 48 25.2	
comp=Z,210nm,19.5s,baz=198,slow=39							
KNRA	**Kununurra**	**13.55**	**148**	Pn	**Pn**	**22 43 51.6**	**-0.8**
LEM	**Lembang**	**13.98**	**258**	LR	LR	22 49 37.0	
comp=Z,221nm,21.5s,baz=72,slow=39							
FITZ	**Fitzroy Crossi**	**14.48**	**164**	Pn	**Pn**	**22 44 03.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**14.48**	**164**	Pn	**Pn**	**22 44 03.5**	**-1.5**
0.1nm,0.3s,baz=10,slow=11,SNR=5.1							
FITZ				LR	LR	22 49 25.8	
comp=Z,111nm,20.1s,baz=338,slow=36							
2.7nm,0.7s							
TNG	**Tangerang**	**14.84**	**262**	P	P	22 44 09.5	-5.8
TNG				P	**Pn**	**22 44 09.0**	**-0.9**
MDSI	**Maura Dua**	**17.18**	**268**	P	**P**	**22 44 40.7**	**-0.7**
WB0	**Warramunga Arr**	**20.04**	**142**	P	**P**	**22 45 13.2**	**+0.5**
WRA	**Warramunga Arr**	**20.14**	**142**	P	**P**	**22 45 14.6**	**+0.8**
3.4nm,0.9s,baz=316,slow=12,SNR=18							
WRA				LR	LR	22 53 15.9	
comp=Z,99nm,20.5s,baz=4.0,slow=38							
3.4nm,0.9s							
WB2	**Warramunga Arr**	**20.14**	**142**	P	**P**	**22 45 13.7**	**-0.1**
WR0	**Warramunga Arr**	**20.27**	**142**	P	**P**	**22 45 14.1**	**-1.2**
AS31	**Alice Springs**	**22.85**	**149**	P	**P**	**22 45 42.6**	**-0.4**
ASAR	**Alice Springs**	**22.86**	**149**	P	**P**	**22 45 43.3**	**+0.3**
ASAR	**Alice Springs**	**22.86**	**149**	P	**P**	**22 45 44.3**	**+1.3**
2.3nm,0.8s,baz=322,slow=8.8,SNR=19							
2.3nm,0.8s							
PSI	**Prapat**	**23.50**	**287**	LR	LR	22 55 35.8	
comp=Z,51nm,19.5s,baz=128,slow=38							
COEN	**Coen**	**23.58**	**116**	P	**P**	**22 45 48.8**	**-1.5**
COEN				IAmb	IAmb	22 45 55.3	
comp=Z,14nm,0.8s							
JOW	**Kunigami**	**31.50**	**12**	LR	LR	22 59 46.3	
comp=Z,35nm,21.0s,baz=179,slow=36							
CMAR	**Chiang Mai Arr**	**31.54**	**316**	P	**P**	**22 47 01.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**31.54**	**316**	P	**P**	**22 47 02.5**	**+0.8**
comp=Z,4.8nm,0.8s,baz=140,slow=7.1,SNR=22							
CMAR				LR	LR	23 01 50.2	
comp=Z,36nm,19.1s,baz=130,slow=40							
comp=Z,4.8nm,0.8s							
CHTO	**Chiang Mai**	**31.78**	**317**	P	**P**	**22 47 03.8**	**0.0**
CHTO				IAmb	IAmb	22 47 08.4	
comp=Z,5.6nm,1.0s							
STKA	**Stephens Creek**	**33.47**	**148**	P	**P**	**22 47 19.0**	**+0.5**
STKA	**Stephens Creek**	**33.47**	**148**	P	**P**	**22 47 18.8**	**+0.2**
comp=Z,4.6nm,0.9s,baz=301,slow=8.3,SNR=7.0							
comp=Z,4.6nm,0.9s							
JNU	**Nakatsue**	**38.13**	**13**	LR	LR	23 06 40.9	
comp=Z,24nm,18.0s,baz=176,slow=41							
JHJ	**Hachijo jima 2**	**40.94**	**24**	LR	LR	23 02 46.1	
comp=Z,42nm,21.3s,baz=295,slow=32							
SHL	**Shillong**	**41.14**	**317**	P	**P**	**22 48 23.6**	**-0.2**
SHL				IAmb	IAmb	22 48 25.0	
comp=Z,13nm,1.0s							
PALK	**Pallekele**	**42.18**	**285**	LR	LR	23 05 40.3	
comp=Z,32nm,18.3s,baz=116,slow=36							
MJAR	**Matsushiro Arr**	**43.41**	**20**	P	**P**	**22 48 41.0**	**-1.0**
comp=Z,6.3nm,1.1s,baz=197,slow=8.0,SNR=5.1							
MJAR				LR	LR	23 09 13.2	
comp=Z,14nm,18.2s,baz=202,slow=40							
comp=Z,6.3nm,1.1s							
LSA	**Lhasa**	**44.42**	**321**	P	**P**	**22 48 50.6**	**-0.1**
LSA				IAmb	IAmb	22 48 53.2	
comp=Z,15nm,1.5s							
GTA	**Gaotai**	**47.69**	**337**	*eP*	**P**	**22 49 17.4**	**+1.5**
GTA				PcP	**PcP**	**22 50 47.3**	**+2.3**
GTA				pmax	pmax		
comp=Z,6.0nm,0.9s							
USA0B	**Ussuriysk Arra**	**49.05**	**10**	P	**P**	**22 49 26.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**49.05**	**10**	P	**P**	**22 49 26.2**	**+0.1**
USRK	**Ussuriysk Ar.**	**49.05**	**10**	P	**P**	**22 49 26.1**	**-0.1**
comp=Z,5.3nm,0.5s,baz=186,slow=7.3,SNR=17							
comp=Z,5.3nm,0.5s							
ASAJ	**Asahikawa**	**51.68**	**19**	LR	LR	23 10 46.5	
comp=Z,19nm,21.6s,baz=100,slow=35							
ULN	**Ulaanbaatar**	**53.30**	**348**	P	**P**	**22 49 58.3**	**+0.1**
SONM	**Songino Array**	**53.41**	**347**	P	**P**	**22 49 58.3**	**-0.6**
comp=Z,2.1nm,0.8s,baz=169,slow=7.7,SNR=15							
comp=Z,2.1nm,0.8s							
KLR	**Kul'dur**	**53.91**	**8**	LR	LR	23 13 19.7	
comp=Z,18nm,18.5s,baz=204,slow=36							
HEH	**HeiHe**	**54.43**	**5**	*eP*	**P**	**22 50 06.1**	**0.0**
HEH				pmax	pmax		
comp=Z,6.0nm,0.7s							
WUS	**Wushi**	**59.30**	**324**	P	**P**	**22 50 41.1**	**0.0**
WUS				IAmb	IAmb	22 50 45.6	
comp=Z,4.5nm,1.0s							
KSH	**Kashi**	**60.27**	**321**	P	**P**	**22 50 48.8**	**+1.0**
KSH				pmax	pmax		
comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**61.34**	**330**	P	**P**	**22 50 54.7**	**-0.1**
MK31				IAmb	IAmb	22 50 55.9	
comp=Z,3.9nm,1.0s							
MKAR	**Makanchi Array**	**61.34**	**330**	P	**P**	**22 50 54.7**	**-0.1**
MKAR	**Makanchi Array**	**61.34**	**330**	P	**P**	**22 50 54.9**	**+0.1**
comp=Z,2.8nm,0.8s,baz=131,slow=7.9,SNR=29							
MKAR				PcP	**PcP**	**22 51 37.0**	**+0.1**
comp=Z,0.8nm,0.7s,baz=139,slow=5.8,SNR=4.5							
comp=Z,2.8nm,0.8s							
MAKZ	**Makanchi**	**61.51**	**330**	P	**P**	**22 50 55.7**	**-0.2**
MAKZ				IAmb	IAmb	22 50 57.0	
comp=Z,4.4nm,1.2s							
BOOM	**Boomskoye usch**	**62.02**	**323**	P	**P**	**22 51 00.3**	**+0.6**
KBL	**Kabul**	**62.47**	**313**	P	**P**	**22 51 02.5**	**-0.4**
DRK	**Karamyk**	**62.95**	**319**	P	**P**	**22 51 06.0**	**0.0**
DRK				IAmb	IAmb	22 51 07.3	
comp=Z,7.3nm,1.2s							
AAK	**Ala-Archa**	**62.98**	**323**	P	**P**	**22 51 06.0**	**-0.1**
AAK	**Ala-Archa**	**62.98**	**323**	P	**P**	**22 51 06.2**	**+0.2**
comp=Z,1.4nm,0.6s,baz=128,slow=3.1,SNR=6.4							
comp=Z,1.4nm,0.6s							
ARSB	**Arslanbob**	**63.17**	**321**	P	**P**	**22 51 07.2**	**-0.1**
GAR	**Garm**	**63.69**	**317**	P	**P**	**22 51 10.6**	**-0.2**
GAR				IAmb	IAmb	22 51 24.7	
comp=Z,6.9nm,1.1s							
SIMJ	**Simiganj**	**64.42**	**317**	P	**P**	**22 51 15.4**	**-0.1**
SIMJ				IAmb	IAmb	22 51 16.2	
comp=Z,6.9nm,1.1s							
ZALV	**Zalesovo Beam**	**65.45**	**337**	P	**P**	**22 51 20.8**	**-1.0**
comp=Z,1.8nm,0.8s,baz=131,slow=6.3,SNR=8.8							
comp=Z,1.8nm,0.8s							
KURBB	**Kurchatov Arra**	**65.78**	**332**	P	**P**	**22 51 23.4**	**-0.6**
comp=Z,1.6nm,1.0s,baz=145,slow=5.5,SNR=13							
comp=Z,1.6nm,1.0s							
KURK	**Kurchatov**	**65.80**	**332**	P	**P**	**22 51 24.1**	**0.0**
KURK				IAmb	IAmb	22 51 24.9	
comp=Z,6.7nm,1.1s							
BVAR	**Borovoye Array**	**71.23**	**330**	P	**P**	**22 51 57.2**	**-0.8**
comp=Z,1.5nm,0.8s,baz=137,slow=9.2,SNR=9.1							
comp=Z,1.5nm,0.8s							
ABKAR	**Akbulak array**	**75.05**	**323**	P	**P**	**22 52 20.6**	**0.0**
TIXI	**Tiksi**	**75.81**	**2**	P	**P**	**22 52 24.7**	**+0.2**
TIXI				IAmb	IAmb	22 52 25.0	
comp=Z,3.6nm,0.8s							
NRIK	**Noril'sk**	**76.89**	**348**	P	**P**	**22 52 31.4**	**+0.7**
NRIK	**Noril'sk**	**76.89**	**348**	P	**P**	**22 52 30.5**	**-0.2**
comp=Z,3.8nm,0.7s,baz=140,slow=5.6,SNR=10							
comp=Z,3.8nm,0.7s							
RAYN	**Ar Rayn**	**78.78**	**295**	P	**P**	**22 52 41.5**	**-0.9**
RAYN				IAmb	IAmb	22 52 43.7	
comp=Z,9.9nm,1.3s							
SYO	**Syowa Base**	**83.22**	**201**⇓*eP*		**P**	**22 53 05.4**	**+0.5**
KBZ	**Khabaz**	**84.57**	**314**	P	**P**	**22 53 12.9**	**+0.6**
comp=Z,2.6nm,0.9s,baz=146,slow=3.6,SNR=3.7							
comp=Z,2.6nm,0.9s							
MARD	**Mardin**	**85.06**	**308**	P	**P**	**22 53 15.4**	**+0.3**
MARD				IAmb	IAmb	22 53 19.5	
comp=Z,2.8nm,0.6s							
QSPA	**South Pole Qui**	**85.82**	**180**	P	**P**	**22 53 19.5**	**+1.2**
comp=Z,2.8nm,1.0s,baz=261,slow=3.7,SNR=4.0							
comp=Z,2.8nm,1.0s							
BRTR	**Keskin Array B**	**90.90**	**310**	P	**P**	**22 53 43.0**	**-0.1**
comp=Z,0.8nm,0.8s,baz=149,slow=2.9,SNR=4.2							
comp=Z,0.8nm,0.8s							
AKASG	**Malin Array Be**	**94.56**	**320**	P	**P**	**22 53 58.7**	**-0.8**
comp=Z,0.9nm,0.7s,baz=85,slow=3.5,SNR=5.2							
comp=Z,0.9nm,0.7s							
CPUP	**Villa Florida**	**149.68**	**182**	PKPbc	**PKiKP**	**23 00 30.6**	**+0.1**
comp=Z,1.9nm,1.0s,baz=32,slow=3.9,SNR=2.9							

---

*NEIC **17**22:45:37.6±1.7,36°.47N±0°.02×98°.77W±0°.02,h11km±4km, mb_Lg2.4/21,ML2.9/34,ML3.1/26,Error ellipse: s-maj=2.7km s-min=2.1km az=129.0*
*NEIC **17**22:45:37.8±0.9,36°.46N±0°.01×98°.76W±0°.01,h7km±3km, Error ellipse: s-maj=1.9km s-min=1.3km az=184.0*
ISC 17 22:45:37.5±0.8,36°.45N±0°.02×98°.77W±0°.02,h10km±5km, n57,σ1.09/62,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**38**	Pg	**Pg**	**22 45 39.6**	**+0.1**
OK038				Sg	**Sg**	**22 45 40.9**	**-0.1**
NOKA	**Waynoka**	**0.23**	**324**	Pg	**Pg**	**22 45 42.6**	**+0.4**
NOKA				Sg	**Sg**	**22 45 46.1**	**+0.7**
CROK	**Carrier**	**0.63**	**85**		**Pg**	**22 45 50.0**	**+0.2**
CROK				Sg	**Sg**	**22 45 58.7**	**+0.5**
CROK				IAML		22 45 59.2	
comp=N,675nm,0.5s							
ELIS	**Ellis County**	**0.65**	**234**		**Pg**	**22 45 50.3**	**+0.1**
ELIS				Sg	**Sg**	**22 45 59.6**	**+0.9**
ELIS				IAML		22 46 06.8	
comp=E,567nm,0.3s							
ELIS				IAML		22 46 08.7	
comp=N,429nm,0.5s							
CSTR	**Hydro, Custer**	**0.81**	**175**		**Pg**	**22 45 53.5**	**+0.4**
CSTR					**Sb**	**22 46 04.9**	**+0.3**
KAN14	**Manchester OK**	**0.82**	**52**		**Pg**	**22 45 53.5**	**+0.1**
KAN14				Sg	**Sg**	**22 46 04.0**	**0.0**
KAN14				IAML		22 46 14.1	
comp=N,294nm,0.1s							
KAN14				IAML		22 46 14.7	
comp=E,358nm,0.1s							
KAN10	**Anthony SW Sta**	**0.86**	**39**		**Pg**	**22 45 54.0**	**-0.2**
KAN05	**Bluff City Nor**	**0.97**	**47**		**Pg**	**22 45 56.1**	**-0.1**
KAN05					**Sb**	**22 46 09.0**	**-0.4**
KAN05				IAML		22 46 11.7	
comp=N,472nm,0.1s							
KAN05				IAML		22 46 13.6	
comp=E,395nm,0.2s							
KAN08	**Anthony NE Sta**	**1.00**	**39**		**Pg**	**22 45 56.6**	**-0.3**
KAN12	**Harper NE Stat**	**1.04**	**36**		**Pg**	**22 45 57.3**	**-0.3**
KAN12					**Sb**	**22 46 11.3**	**-0.1**
KAN12				IAML		22 46 16.8	
comp=E,434nm,0.3s							
KAN12				IAML		22 46 18.4	
comp=N,322nm,0.3s							
KAN01	**Argonia South**	**1.07**	**49**		**Pb**	**22 45 57.7**	**-0.4**
KAN01				IAML		22 46 12.5	
comp=N,264nm,0.1s							
KAN01				IAML		22 46 13.2	
comp=E,241nm,0.2s							
KAN09	**Caldwell North**	**1.15**	**53**		**Pb**	**22 45 59.1**	**-0.3**
BCOK	**Bluff Creek, N**	**

X34A Smith Ranch, M 2.00 157 Pn Pn 22 46 12.9 +1.5
X34A IAmb_Lg 22 46 41.9
comp=Z,33nm,0.9s
W35A Tecumseh 2.01 130 Pn **Pn 22 46 12.3 +0.8**
CBKS Cedar Bluff 2.48 342 *eP* **Pn 22 46 19.0 +1.0**
CBKS Cedar Bluff 2.48 342 P **Pb 22 46 21.4 -0.9**
CBKS S **Sb 22 46 53.6 +0.8**
WTFS Witchita Falls 2.69 175 Pn 22 46 21.6 +0.8
WTFS IAmb_Lg 22 47 10.1
comp=Z,8.9nm,0.8s
WTFS Witchita Falls 2.69 175 P **Pb 22 46 23.9 -1.9**
AMTX Amarillo 2.84 237 Pn **Pn 22 46 23.4 +0.4**
AMTX IAmb_Lg 22 47 09.1
comp=Z,21nm,1.0s
AMTX Amarillo 2.84 237 P **Pb 22 46 26.8 -1.6**
RTBA Rita Blanca 3.20 271 Pn **Pn 22 46 29.2 +1.2**
RTBA Rita Blanca 3.20 271 P **Pn 22 46 30.1 +2.1**
DKNS Dickens 3.29 213 P **Pb 22 46 36.1 0.0**
APMT Aspermont 3.31 200 Pn **Pn 22 46 31.1 +1.7**
APMT Aspermont 3.31 200 P **Pn 22 46 31.9 +2.5**
PLPT Palo Pinto 3.65 174 Pn **Pn 22 46 34.9 +0.8**
PLPT Palo Pinto 3.65 174 P **Pb 22 46 39.5 -2.6**
SN07 Snyder 07 3.78 208 Pn **Pn 22 46 36.5 +0.6**
SN07 IAmb_Lg 22 47 46.9
comp=Z,7.0nm,0.7s
ABTX Abilene, Hawle 3.89 191 P **Pb 22 46 42.2 -4.0**
HHAR Hobbs 3.90 91 Pn **Pn 22 46 37.8 +0.3**
KSCO Kaye Shedlock' 3.99 311 Pn **Pn 22 46 38.8 0.0**
T25A Trinidad 4.58 280 Pn **Pn 22 46 48.0 +1.0**
T25A IAmb_Lg 22 48 10.3
comp=Z,5.7nm,0.8s
T25A Trinidad 4.58 280 P **Pn 22 46 48.7 +1.7**
MIAR Mount Ida 4.64 113 P Pn 22 46 31.6 -16
MGMO Mountain Grove 5.26 80 IAmb_Lg 22 48 26.0
comp=Z,7.1nm,0.7s
FCAR Ozark Folk Cen 5.40 94 IAmb_Lg 22 48 29.1
comp=Z,6.5nm,0.9s
JCT Junction City 6.02 189 IAmb_Lg 22 49 01.2
comp=Z,6.8nm,0.8s
PBMO Poplar Bluff 6.71 85 IAmb_Lg 22 49 21.6
comp=Z,8.6nm,1.0s
FVM French Village 6.83 75 IAmb_Lg 22 49 12.4
comp=Z,6.9nm,0.8s
EF51 Christine 7.64 178 P Pb 22 47 41.9 -8.3
EF51 P Pb 22 47 41.9 -8.3

*NNC **17** 22:53:19.0±3.0, 32°.63N×74°.57E, h0km, mb4.2, Error ellipse: s-maj=45.0km s-min=24.0km az=88.0*
*IDC **17** 22:53:25.3±0.7, 33°.39N×76°.75E, h0km, mb3.9/17, mbtmp3.8/20, ML3.5/3, Error ellipse: s-maj=21.4km s-min=13.3km az=52.0*
*NDI **17** 22:53:29.9±4.0, 33°.41N×76°.74E, h10km, ML4.0, MW4.0, mb4.5(NEIC)*
*NEIC **17** 22:53:30.3±1.5, 33°.44N±0°.08×76°.73E±0°.08, h24km±5km, mb4.5/29, Error ellipse: s-maj=12.5km s-min=8.6km az=158.0*
*BJI **17** 22:53:32.0, 33°.68N×77°.28E, h21km, mB4.4/1, mb4.3/11, ML3.5/3*

ISC 17 22:53:30.0±1.3,**33°.38N**±0°.04×**76°.81E**±0°.05,**h30**km±10km, **n95**,σ1§**89**/115,**mb4.1**/29,**4C-1D, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**1.20**	**201**	*eP*	**Pn**	**22 53 49.6**	**-1.3**
DHRM				*eS*	**Sb**	**22 54 07.8**	**+0.3**
DHRM				IAML		22 54 10.9	
comp=E,2μm,0.3s							
DHRM				IAML		22 54 13.5	
comp=E,2μm,0.4s							
JMU	**Jammu**	**1.73**	**248**	*eP*	**Pb**	**22 53 59.7**	**-1.3**
JMU				*eS*	**Sb**	**22 54 24.4**	**+2.0**
JMU				IAML		22 54 30.3	
comp=E,2μm,0.7s							
JMU				IAML		22 54 40.4	
comp=E,2μm,0.6s							
SRNI	**Srinagar**	**1.78**	**294**	*eP*	**Pn**	**22 53 59.0**	**+0.3**
SRNI				*eS*	**Sb**	**22 54 26.0**	**+2.0**
SRNI				IAML		22 54 35.3	
comp=E,3μm,0.5s							
SRNI				IAML		22 54 38.6	
comp=N,2μm,0.5s							
BHK	**Bhakra**	**1.98**	**190**	*eP*	**Pb**	**22 54 05.4**	**+0.1**
BHK				*eS*	**Sb**	**22 54 33.7**	**+4.0**
BHK				IAML		22 54 36.9	
comp=E,6μm,0.4s							
BHK				IAML		22 54 48.5	
comp=E,4μm,0.3s							
SMLA	**Simla**	**2.26**	**172**	*eP*	**Pb**	**22 54 09.3**	**-0.8**
SMLA				*eS*	**Sb**	**22 54 37.1**	**-0.5**
SMLA				IAML		22 54 44.7	
comp=E,2μm,0.5s							
SMLA				IAML		22 54 46.2	
comp=E,2μm,0.3s							
NIL	**Nilore**	**2.98**	**276**	Pn	**Pn**	**22 54 16.2**	**+0.9**
NIL				Sn	**Sn**	**22 54 50.9**	**+0.8**
DDI	**Dehra Dun**	**3.22**	**160**	*eP*	**Pb**	**22 54 23.2**	**-3.3**
DDI				*eS*	**Sn**	**22 55 00.6**	**+4.5**
DDI				IAML		22 55 21.0	
comp=E,835nm,0.6s							
DDI				IAML		22 55 24.5	
comp=E,648nm,0.4s							
RTK	**Rohtak**	**4.34**	**185**	IAML		22 54 38.5	
comp=N,1μm,0.2s							
RTK				IAML		22 54 38.6	
comp=E,990nm,0.1s							
RTK				*eS*	**Sn**	**22 55 22.5**	**-1.0**
MERT	**Meerut**	**4.46**	**170**	*eP*	**Pn**	**22 54 38.8**	**+3.3**
MERT				IAML		22 54 44.9	
comp=N,10μm,0.5s							
MERT				IAML		22 54 48.9	
comp=E,149nm,0.3s							
MERT				*eS*	**Sn**	**22 55 26.8**	**+0.3**
NDI	**New Delhi**	**4.69**	**176**	*eP*	**Pn**	**22 54 41.2**	**+2.5**
NDI				*eS*	**Sn**	**22 55 34.0**	**+1.8**
NPLP	**NPLP New Delhi**	**4.73**	**176**	*eP*	**Pn**	**22 54 41.3**	**+2.0**
NPLP				*eS*	**Sn**	**22 55 35.9**	**+2.7**
NPLP				IAML		22 55 39.6	
comp=N,289nm,0.3s							
NPLP				IAML		22 55 39.9	
comp=E,213nm,0.1s							
JMIU	**JAMIA UNIVERSI**	**4.81**	**175**	IAML		22 54 52.9	
comp=E,1μm,0.2s							
JMIU				IAML		22 54 52.9	
comp=N,3μm,0.2s							
JMIU				*eS*	**Sn**	**22 55 34.7**	**-0.4**
LGTI	**Lohaghat**	**4.89**	**142**	*eP*	**Pn**	**22 54 43.2**	**+1.7**
LGTI				*eS*	**Sn**	**22 55 40.2**	**+3.1**
LGTI				IAML		22 55 41.6	
comp=E,50nm,0.4s							
LGTI				IAML		22 55 52.4	
comp=E,56nm,0.3s							
UGON	**Onchagaon**	**5.14**	**169**	*eP*	**Pn**	**22 54 45.8**	**+0.9**
UGON				*eS*	**Sn**	**22 55 44.1**	**+0.9**
UGON				IAML		22 55 47.6	
comp=E,252nm,0.4s							
UGON				IAML		22 55 49.6	
comp=N,241nm,0.5s							
KUDL	**Kundal**	**5.22**	**183**	*eP*	**Pn**	**22 54 48.2**	**+2.2**
KUDL				*eS*	**Sn**	**22 55 46.2**	**+1.0**
KUDL				IAML		22 55 50.1	
comp=E,61nm,0.4s							
KUDL				IAML		22 56 03.4	
comp=E,57nm,0.3s							
KSH	**Kashi**	**6.17**	**354**	Pn	**Pn**	**22 54 59.3**	**+0.2**
KSH				smax	smax		
comp=E,37nm,0.5s							
KSH				smax	smax		
comp=E,42nm,0.9s							
KBL	**Kabul**	**6.56**	**282**	Pn	**Pn**	**22 55 04.0**	**-0.5**
DRK	**Karamyk**	**7.31**	**328**	Pn	**Pn**	**22 55 14.6**	**-0.3**
GAR	**Garm**	**7.68**	**319**	Pn	**Pn**	**22 55 18.4**	**-1.5**
JHNI	**Jhansi**	**8.03**	**169**	*eP*	**Pn**	**22 55 24.8**	**+0.3**
JHNI				*eS*	**Sn**	**22 56 53.9**	**-0.4**
JHNI				IAML		22 57 05.9	
comp=E,15nm,0.4s							
WUS	**Wushi**	**8.04**	**13**	Pn	**Pn**	**22 55 25.7**	**+0.8**
JASL	**Jaisalmer**	**8.21**	**220**	*eP*	**Pn**	**22 55 29.9**	**+2.8**
JASL				*eS*	**Sn**	**22 56 53.7**	**-5.2**
JASL				IAML		22 56 57.7	
comp=E,65nm,0.3s							
JASL				IAML		22 57 00.3	
comp=N,71nm,0.5s							
BTK	**Batken**	**8.22**	**326**	Pn	**Pn**	**22 55 26.6**	**-0.7**
SIMJ	**Simiganj**	**8.23**	**312**	Pn	**Pn**	**22 55 26.3**	**-1.1**
ARSB	**Arslanbob**	**8.50**	**340**		**Pn**	**22 55 30.8**	**-0.4**
GUNA	**GUNA**	**8.71**	**177**	*eP*	**Pn**	**22 55 34.1**	**+0.1**
GUNA				*eS*	**Sn**	**22 57 08.3**	**-2.8**
GUNA				IAML		22 57 11.2	
comp=E,46nm,0.2s							
GUNA				IAML		22 57 12.5	
comp=N,97nm,0.3s							
KDJ	**Kajisay**	**8.74**	**2**	Pn	**Pn**	**22 55 34.4**	**-0.1**
ALBI	**Allahabad**	**9.14**	**150**	*eP*	**Pn**	**22 55 39.9**	**+0.1**
ALBI				*eS*	**Sn**	**22 57 19.3**	**-2.5**
AAK	**Ala-Archa**	**9.43**	**350**		**Pn**	**22 55 43.2**	**-0.6**
AAK	**Ala-Archa**	**9.43**	**350**	Pn	**Pn**	**22 55 44.6**	**+0.8**
comp=N,0.4nm,0.3s,baz=148,slow=7.1,SNR=11							
AAK				Sn	**Sn**	**22 57 28.7**	**-0.1**
comp=N,0.1nm,0.3s,baz=248,slow=13,SNR=1.1							
comp=N,1.1nm,0.4s							
TKM2	**Tokmak 2**	**9.58**	**355**	⇓Pn	**Pn**	**22 55 47.9**	**+1.9**
comp=N,3.6nm,0.8s							
TKM2				⇑Sn	Sn	22 57 45.7	+13
comp=N,3.6nm,1.2s							
CHMS	**Chumysh**	**9.74**	**351**	⇑Pn	**Pn**	**22 55 48.9**	**+0.9**
comp=N,3.3nm,0.8s							
CHMS				⇑Sn	Sn	22 57 47.5	+11
comp=N,6.3nm,1.3s							
BHPL	**Bhopal**	**10.11**	**177**	*eP*	**Pn**	**22 55 52.8**	**-0.4**
BHPL				*eS*	**Sn**	**22 57 41.4**	**-4.3**
BHPL				IAML		22 57 48.5	
comp=E,46nm,0.8s							
BHPL				IAML		22 57 50.5	
comp=E,35nm,0.3s							
NRDN	**NARMADA NAGAR**	**10.62**	**178**	*eP*	**Pn**	**22 56 02.4**	**+2.2**
NRDN				IAML		22 58 07.2	
comp=E,28nm,0.4s							
NRDN				IAML		22 58 07.5	
comp=N,16nm,0.3s							
KK31	**Karatay Array**	**10.90**	**335**		**Pn**	**22 56 02.7**	**-1.1**
KK31	**Karatay Array**	**10.90**	**335**	⇑Pn	Pn	22 55 57.0	-6.9
comp=N,2.1nm,0.4s,baz=147,slow=12,SNR=30							
KK31				Sn	**Sn**	**22 58 00.5**	**-4.2**
comp=N,6.7nm,0.7s,baz=154,slow=22,SNR=6.6							
KKAR	**Karatay Array**	**10.90**	**335**	Pn	**Pn**	**22 56 03.1**	**-0.7**
KKAR	**Karatay Array**	**10.90**	**335**	Pn	**Pn**	**22 56 03.1**	**-0.7**
BLSP	**Bilaspur**	**12.15**	**156**	IAML		22 56 24.9	
comp=N,394nm,0.2s							
BLSP				IAML		22 56 25.8	
comp=E,300nm,0.2s							
BLSP				*eS*	**Sn**	**22 58 27.7**	**-7.9**
AKL	**Akola**	**12.62**	**179**	*eP*	**Pn**	**22 56 28.3**	**+0.8**
AKL				*eS*	**Sn**	**22 58 40.7**	**-6.4**
AKL				*eS*		22 58 41.3	
AKL				IAML		22 58 45.0	
comp=E,20nm,0.3s							
AKL				IAML		22 58 58.7	
comp=E,20nm,0.4s							
MAKZ	**Makanchi**	**13.98**	**15**		**Pn**	**22 56 43.9**	**-2.1**
MK31	**Makanchi Array**	**14.04**	**16**		**Pn**	**22 56 45.0**	**-1.7**
MKAR	**Makanchi Array**	**14.04**	**16**	Pn	**Pn**	**22 56 45.0**	**-1.8**
comp=E,0.4nm,0.3s,baz=198,slow=13,SNR=27							
MKAR				Sn	Sn	22 59 09.5	-12
comp=E,0.3nm,0.3s,baz=193,slow=24,SNR=6.6							
comp=E,0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**17.28**	**4**	P	**Pn**	**22 57 26.9**	**-2.0**
comp=E,0.1nm,0.3s,baz=187,slow=11,SNR=10.0							
comp=E,0.3nm,0.4s							
KURK	**Kurchatov**	**17.38**	**4**	P	**Pn**	**22 57 30.5**	**+0.5**
GTA	**Gaotai**	**19.45**	**65**	*eP*	**Pn**	**22 57 55.8**	**+0.2**
GTA				pmax	pmax		
comp=E,1.0nm,0.6s							
BVAR	**Borovoye Array**	**20.18**	**349**	P	**P**	**22 57 59.9**	**-1.9**
comp=E,2.3nm,0.7s,baz=154,slow=12,SNR=15							
comp=E,2.3nm,0.7s							
BRVK	**Borovoye**	**20.22**	**349**	P	**P**	**22 58 02.2**	**-0.2**
ABKAR	**Akbulak array**	**20.23**	**327**	P	**P**	**22 58 01.7**	**-0.8**
ABKAR	**Akbulak array**	**20.23**	**327**	P	**P**	**22 58 02.0**	**-0.5**
ABKAR				IAmb	IAmb	22 58 07.5	
comp=Z,3.6nm,0.7s							
ZALV	**Zalesovo Beam**	**21.34**	**13**	P	**P**	**22 58 12.9**	**-1.5**
comp=Z,1.7nm,0.5s,baz=216,slow=11,SNR=9.4							
comp=Z,1.7nm,0.5s							
AKTO	**Aktyubinsk**	**21.95**	**327**	P	**P**	**22 58 19.9**	**-1.1**
comp=Z,11nm,0.7s,baz=123,slow=9.0,SNR=37							
comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**24.53**	**121**	P	**P**	**22 58 47.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**24.77**	**121**	P	**P**	**22 58 49.5**	**+0.3**
comp=Z,1.8nm,0.3s,baz=313,slow=10,SNR=15							
comp=Z,1.8nm,0.3s							
PBA	**Port Blair**	**26.08**	**142**	P	**P**	**22 59 02.4**	**+1.4**
PBA				IAmb	IAmb	22 59 03.3	
comp=Z,22nm,1.1s							
ARTI	**Arti**	**26.29**	**337**	P	**P**	**22 59 02.5**	**0.0**
ARTI				IAmb	IAmb	22 59 07.7	
comp=Z,4.4nm,0.8s							
SONM	**Songino Array**	**26.51**	**48**	P	**P**	**22 59 06.3**	**+1.4**
SONM	**Songino Array**	**26.51**	**48**	P	**P**	**22 59 06.1**	**+1.3**
comp=Z,1.4nm,0.8s,baz=241,slow=9.6,SNR=12							
comp=Z,1.4nm,0.8s							
ILGA	**Ilgaz**	**34.88**	**295**	P	**P**	**23 00 16.3**	**-2.6**
BRTR	**Keskin Array B**	**34.99**	**293**	P	**P**	**23 00 19.0**	**-0.8**
BRTR	**Keskin Array B**	**34.99**	**293**	P	**P**	**23 00 20.6**	**+0.8**
comp=Z,0.5nm,0.7s,baz=79,slow=7.8,SNR=4.2							
comp=Z,0.5nm,0.7s							
IPM	**Ipoh**	**36.55**	**137**	P	**P**	**23 00 34.1**	**+0.9**
IPM				IAmb	IAmb	23 00 59.2	
comp=Z,14nm,1.2s							
GSI	**Gunungsitoli**	**37.38**	**144**	P	**P**	**23 00 40.6**	**+0.4**
ELL	**Elmali**	**38.24**	**289**	P	**P**	**23 00 47.9**	**+0.4**
AKASG	**Malin Array Be**	**38.60**	**311**	P	**P**	**23 00 48.9**	**-1.2**
comp=Z,0.2nm,0.4s,baz=81,slow=7.7,SNR=4.6							
comp=Z,0.2nm,0.4s							
BURAR	**Bucovina Array**	**40.98**	**306**	P	**P**	**23 01 10.5**	**+0.3**
IDI	**Anoyia**	**42.51**	**288**	P	**P**	**23 01 23.0**	**+0.2**
FINES	**FINESS Array B**	**42.72**	**327**	P	**P**	**23 01 23.7**	**-0.3**
comp=Z,1.7nm,0.8s,baz=111,slow=11,SNR=6.1							
comp=Z,1.7nm,0.8s							
USRK	**Ussuriysk Ar.**	**43.61**	**59**	P	**P**	**23 01 33.4**	**+2.0**
ARCES	**ARCESS Array B**	**45.85**	**338**	P	**P**	**23 01 47.4**	**-1.6**
comp=Z,8.8nm,1.1s,baz=99,slow=6.4,SNR=4.0							
comp=Z,8.8nm,1.1s							
HFS	**Hagfors**	**48.44**	**323**	P	**P**	**23 02 09.3**	**0.0**
comp=Z,0.6nm,0.5s,baz=109,slow=11,SNR=5.4							
comp=Z,0.6nm,0.5s							
GERES	**GERESS Array B**	**48.62**	**308**	P	**P**	**23 02 12.5**	**+1.6**
CLL	**Collm**	**48.84**	**312**	*eP*	**P**	**23 02 14.0**	**+1.5**
NOA	**NORSAR Array B**	**49.71**	**324**	P	**P**	**23 02 18.7**	**-0.3**
comp=Z,0.8nm,0.9s,baz=95,slow=7.6,SNR=2.3							
comp=Z,0.8nm,0.9s							
NRCA	**Norcia**	**49.93**	**300**	P	**P**	**23 02 22.0**	**+1.0**
NRCA				IAmb	IAmb	23 02 47.5	
comp=Z,2.0nm,1.0s							
ESDC	**Sonseca Array**	**63.14**	**301**	P	**P**	**23 03 54.8**	**-0.3**
comp=Z,0.9nm,0.8s,baz=58,slow=6.4,SNR=7.7							
comp=Z,0.9nm,0.8s							
TOLK	**Toolik Lake Re**	**72.66**	**16**	P	**P**	**23 04 54.9**	**+0.5**
TOLK				IAmb	IAmb	23 05 08.8	
comp=Z,4.5nm,1.3s							
J14K	**Nanvaranak Lak**	**72.81**	**25**	P	**P**	**23 04 56.9**	**+1.6**
J14K				IAmb	IAmb	23 05 22.9	
comp=Z,12nm,1.4s							
J17K	**VABM Dome**	**73.88**	**23**	P	**P**	**23 05 03.0**	**+1.4**
J17K				IAmb	IAmb	23 05 18.3	
comp=Z,9.0nm,1.4s							
L14K	**Kuka Creek**	**74.04**	**26**	P	**P**	**23 05 04.3**	**+1.7**
K17K	**Iditarod**	**74.61**	**23**	P	**P**	**23 05 07.3**	**+1.4**
BMAR	**Burnt Mountain**	**74.77**	**15**	P	**P**	**23 05 08.0**	**+1.2**
LBTB	**Lobatse**	**75.80**	**227**	P	**P**	**23 05 14.0**	**+0.7**
LBTB				IAmb	IAmb	23 05 48.3	
comp=Z,6.5nm,1.2s							
BPAW	**Bear Paw Mtn.**	**75.82**	**20**	P	**P**	**23 05 13.7**	**+0.8**
BPAW				IAmb	IAmb	23 05 22.6	
comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**76.21**	**125**	P	**P**	**23 05 15.8**	**+0.2**
WB0				IAmb	IAmb	23 05 33.7	
comp=Z,4.9nm,1.2s							
WRA	**Warramunga Arr**	**76.29**	**125**	P	**P**	**23 05 16.3**	**+0.1**
WRA	**Warramunga Arr**	**76.29**	**125**	P	**P**	**23 05 16.1**	**0.0**
comp=Z,0.8nm,0.6s,baz=320,slow=6.4,SNR=19							
comp=Z,0.8nm,0.6s							
WB2	**Warramunga Arr**	**76.30**	**125**	P	**P**	**23 05 16.6**	**+0.4**
WB2				IAmb	IAmb	23 05 17.6	
comp=Z,8.3nm,1.4s							
WRH	**Wood River Hil**	**76.31**	**18**	P	**P**	**23 05 17.0**	**+1.4**
WRH				IAmb	IAmb	23 05 25.4	
comp=Z,12nm,1.4s							
ILAR	**Eielson Array**	**76.38**	**18**	P	**P**	**23 05 16.5**	**+0.5**
comp=Z,0.3nm,0.6s,baz=332,slow=6.6,SNR=4.2							
comp=Z,0.3nm,0.6s							
G30M	**tAoh Zraii Nji**	**76.85**	**13**	P	**P**	**23 05 18.9**	**+0.2**
G30M				IAmb	IAmb	23 05 26.2	
comp=Z,3.5nm,1.3s							
O16K	**Kokwok River B**	**76.90**	**25**	P	**P**	**23 05 20.9**	**+1.9**
ASAR	**Alice Springs**	**78.57**	**128**	P	**P**	**23 05 29.2**	**+0.4**
comp=Z,1.0nm,0.6s,baz=315,slow=5.9,SNR=14							
comp=Z,1.0nm,0.6s							
BOSA	**Boshof**	**78.66**	**225**	P	**P**	**23 05 28.4**	**-1.0**
comp=Z,1.5nm,0.7s,baz=34,slow=3.6,SNR=1.5							
comp=Z,1.5nm,0.7s							
YKA	**Yellowknife Ar**	**84.02**	**5**	P	**P**	**23 05 56.5**	**-0.7**
comp=Z,0.3nm,0.6s,baz=341,slow=4.9,SNR=5.5							
comp=Z,0.3nm,0.6s							

*IDC **17** 23:18:52.1±0.4, 59°.83S×25°.89W, h0km, mb4.8/14, mbtmp4.8/14, MS4.6/30, Error ellipse: s-maj=20.3km s-min=15.0km az=51.0*
*NEIC **17** 23:18:54.1±1.6, 59°.88S±0°.09×25°.9W±0°.2, h10km±1km, mb5.1/83, Error ellipse: s-maj=17.8km s-min=13.4km az=222.0*
*GCMT **17** 23:19:00.1±0.1, 60°.14S±0°.01×25°.04W±0°.02, h14km, MW5.3/129, Moment Tensor Solution. s94, c152; s129, c229; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.76±.02; $M_{\theta\theta}$-0.19±.01; $M_{\phi\phi}$-0.56±.01; $M_{r\theta}$0.40±.03; $M_{\theta\phi}$-0.48±.01; $M_{\phi r}$0.31±.03; Best double couple: $M_0$0.97100×10^{17} NP1:ϕ_s202.00000°, δ31.00000°, λ70.00000°. NP2:ϕ_s45.00000°, δ61.00000°, λ102.00000°. Principal axes: T 0.9140, Plg72.0000°, Azm341.0000°; N 0.1150, Plg10.0000°, Azm219.0000°; P -1.0280, Plg15.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 23:18:53.9±0.3,**59°.90S**±0°.07×**25°.79W**±0°.07,**h16**km,**n248**, σ1§**11**/222,**mb5.1**/48,**MS4.7**/30,**7C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.10**	**309**	Pn	**Pn**	**23 20 51.4**	**+0.7**
VNA1	**Neumayer--Stat**	**12.96**	**153**	P	**Pn**	**23 21 56.2**	**-1.0**
VNA1	**Neumayer--Stat**	**12.96**	**153**	⇑P	**Pn**	**23 21 56.2**	**-1.0**
comp=Z,44nm,0.2s							
VNA3	**Neumayer Olymp**	**13.12**	**157**	P	**Pn**	**23 21 58.0**	**-1.4**
VNA3				S	Sn	23 24 09.9	-15
VNA3	**Neumayer Olymp**	**13.12**	**157**	⇑P	**Pn**	**23 21 58.0**	**-1.4**
comp=Z,22nm,0.2s							
VNA3				⇓S	Sn	23 24 09.9	-15
comp=N,6.1nm,0.2s							
VNA2	**Neumayer--Watz**	**13.36**	**153**	P	**Pn**	**23 22 01.7**	**-1.0**
baz=315,slow=13							
VNA2	**Neumayer--Watz**	**13.36**	**153**	⇑P	**Pn**	**23 22 01.7**	**-1.0**
comp=Z,13nm,0.2s,baz=315,slow=13							
SNAA	**Sanae**	**14.95**	**151**	P	**Pn**	**23 22 22.6**	**-1.6**
SNAA	**Sanae**	**14.95**	**151**	⇑P	**Pn**	**23 22 22.6**	**-1.6**
comp=Z,415nm,0.2s							
SNAA	**Sanae**	**14.95**	**151**	Pn	**Pn**	**23 22 22.3**	**-2.0**
comp=Z,20nm,0.3s,baz=35,slow=7.2,SNR=145							
SNAA				Sn	Sn	23 24 50.8	-18
baz=187,slow=17							
SNAA				LR	LR	23 26 57.0	
comp=Z,3μm,20.6s,baz=332,slow=32							
ESPZ	**Base Esperanza**	**15.14**	**243**		**Pn**	**23 22 27.2**	**+0.4**
ESPZ				IAmb	IAmb	23 22 55.0	
comp=Z,44nm,0.8s							
TROLL	**Troll, Antarti**	**16.50**	**149**	P	**Pn**	**23 22 43.6**	**-0.9**
TROLL	**Troll, Antarti**	**16.50**	**149**	⇑P	**Pn**	**23 22 43.6**	**-0.9**
comp=Z,181nm,0.2s							
PMSA	**Palmer Station**	**18.20**	**238**	P	**Pn**	**23 23 02.2**	**-3.3**
comp=Z,16nm,0.5s,baz=257,slow=20,SNR=15							
BELA	**Belgrano 2**	**18.29**	**186**	P	**P**	**23 23 08.6**	**+1.9**
EFI	**East Falkland**	**19.75**	**280**	P	**Pn**	**23 23 24.4**	**+0.1**
MG01	**Puerto William**	**22.77**	**264**	P	**P**	**23 23 57.1**	**+1.8**
MG02	**Cerro Sombrero**	**24.72**	**267**	P	**P**	**23 24 14.1**	**+0.1**
MG05	**Puerto Natales**	**27.00**	**267**	P	**P**	**23 24 34.5**	**-0.2**
MG05				IAmb	IAmb	23 24 40.1	
comp=Z,38nm,0.8s							
SYO	**Syowa Base**	**28.20**	**136**⇑	*eP*	**P**	**23 24 43.2**	**-2.0**
SYO	**Syowa Base**	**28.20**	**136**⇓	*ep*	pP	23 24 46.4	-2.9
SYO	**Syowa Base**	**28.20**	**136**⇓	*es*	sP	23 24 53.0	+2.1
QSPA	**South Pole Qui**	**30.34**	**180**	P	**P**	**23 25 06.0**	**+1.4**
QSPA				IAmb	IAmb	23 25 18.7	
comp=Z,57nm,1.2s							
QSPA	**South Pole Qui**	**30.34**	**180**	P	**P**	**23 25 06.5**	**+2.0**
comp=Z,13nm,1.0s,baz=327,slow=0.2,SNR=38							
QSPA				LR	LR	23 37 17.1	
comp=Z,2μm,18.8s,baz=186,slow=36							
comp=Z,13nm,1.0s							
TRQA	**Tornquist**	**31.65**	**297**	P	**P**	**23 25 16.1**	**0.0**
TRQA				IAmb	IAmb	23 25 38.6	
comp=Z,18nm,0.7s							
AY01	**Puyuhuapi**	**31.86**	**278**	P	**P**	**23 25 17.5**	**-0.3**
AY01				IAmb	IAmb	23 25 31.0	
comp=Z,29nm,1.1s							
LL02	**Futaleuf**	**32.35**	**280**	P	**P**	**23 25 22.5**	**+0.3**
PLCA	**Paso Flores**	**33.56**	**284**	P	**P**	**23 25 32.7**	**-0.2**
PLCA				IAmb	IAmb	23 25 45.3	
comp=Z,23nm,1.1s							
PLCA	**Paso Flores**	**33.56**	**284**	P	**P**	**23 25 33.4**	**+0.6**
comp=Z,7.0nm,0.5s,baz=147,slow=6.6,SNR=22							
PLCA				PcP	**PcP**	**23 28 13.7**	**+0.7**
comp=Z,1.8nm,0.7s,baz=127,slow=1.0,SNR=2.9							
PLCA				LR	LR	23 39 29.7	
comp=Z,1μm,18.4s,baz=150,slow=37							
comp=Z,7.0nm,0.5s							
PLCA	**Paso Flores**	**33.56**	**284**	*eP*	**P**	**23 25 33.3**	**+0.5**
PLTB	**Pedras Altas**	**33.68**	**314**	P	**P**	**23 25 33.6**	**-0.3**
PLTB				IAmb	IAmb

comp=Z,786nm,19.2s,baz=162,slow=37
comp=Z,3.8nm,0.6s
ZON Zonda 40.10 296 P **P 23 26 29.0 +0.4**
VA06 Catapilco 40.46 292 P **P 23 26 32.4 +0.9**
VA06 IAmb IAmb 23 26 44.0
comp=Z,38nm,0.6s
SUR Sutherland 41.12 69 LR LR 23 39 55.7
comp=Z,945nm,18.7s,baz=212,slow=31
CO03 El Pedregal 41.62 294 P **P 23 26 42.0 +0.9**
CO01 Juntas del Tor 42.07 295 P **P 23 26 44.8 -0.2**
CO01 IAmb IAmb 23 26 51.3
comp=Z,30nm,0.7s
CO06 Fray Jorge 42.19 293 P **P 23 26 45.8 +0.1**
CO06 IAmb IAmb 23 27 01.3
comp=Z,32nm,1.1s
GO04 Tololo Observa 42.23 294 P **P 23 26 47.5 +1.2**
GO04 IAmb IAmb 23 27 16.4
comp=Z,26nm,0.7s
CO05 La Serena 42.65 294 P **P 23 26 49.6 +0.2**
VNDA Vanda 42.75 182 P **P 23 26 50.4 +0.7**
comp=Z,6.1nm,1.2s,baz=283,slow=2.2,SNR=2.7
VNDA LR LR 23 43 42.5
comp=Z,536nm,19.8s,baz=168,slow=35
comp=Z,6.1nm,1.2s
LCO Las Campanas 43.17 295 P **P 23 26 54.1 +0.2**
DIAM Diamantina, MG 43.51 335 *e*P **P 23 26 56.3 -0.3**
AC04 Llanos de Chal 44.02 296 P **P 23 27 00.3 -0.2**
AC04 IAmb IAmb 23 27 11.9
comp=Z,50nm,1.1s
AC02 Maricunga 44.33 299 P **P 23 27 04.5 +0.9**
AC02 IAmb IAmb 23 27 27.7
comp=Z,31nm,1.1s
MURT Porto Murtinho 44.33 315 *e*P **P 23 27 02.1 -1.0**
GUA01 Guaratinga, BA 44.45 341 *e*P **P 23 27 04.0 +0.1**
AQDB Aquidauana 44.77 318 P **P 23 27 05.7 -0.9**
H04S2 CROZET ISLANDS 45.41 110 T T 00 16 19.4
baz=224,slow=75,SNR=10
H04S3 CROZET ISLANDS 45.42 110 T T 00 16 19.9
baz=224,slow=75,SNR=9.7
H04S1 CROZET ISLANDS 45.43 110 T T 00 16 23.5
baz=224,slow=75,SNR=11
AC01 Pan de Azucar 45.58 298 P **P 23 27 11.8 -1.2**
AC01 IAmb IAmb 23 27 38.9
comp=Z,20nm,1.1s
GO02 Mina Guanaco 45.98 299 P **P 23 27 16.5 0.0**
BOSA Boshof 46.36 71 P **P 23 27 19.4 +0.2**
BOSA IAmb IAmb 23 27 29.9
comp=Z,16nm,0.9s
BOSA Boshof 46.36 71 P **P 23 27 19.4 +0.2**
comp=Z,5.6nm,0.8s,baz=209,slow=7.2,SNR=10
BOSA PcP **PcP 23 28 55.3 +1.2**
comp=Z,4.2nm,0.8s,baz=215,slow=4.7,SNR=3.1
BOSA LR LR 23 42 50.4
comp=Z,445nm,20.4s,baz=212,slow=31
comp=Z,5.6nm,0.8s
JANB Januaria 46.79 335 *e*P **P 23 27 22.2 -0.4**
PB14 IPOC Station P 46.81 299 P **P 23 27 22.3 -0.7**
BDFB Brasilia 47.09 330 P **P 23 27 24.4 -0.6**
BDFB Brasilia 47.09 330 P **P 23 27 24.6 -0.3**
comp=Z,6.0nm,0.7s,baz=165,slow=5.4,SNR=11
BDFB LR LR 23 46 24.9
comp=Z,1μm,18.6s,baz=154,slow=35
comp=Z,6.0nm,0.7s
ARAG Araguaiana, MT 48.04 325 *e*P **P 23 27 32.3 0.0**
PB09 IPOC Station P 48.79 302 P **P 23 27 38.7 +0.5**
SALV Santo Antonio 49.04 321 *e*P **P 23 27 39.0 -1.0**
PB01 IPOC Station P 49.56 302 P **P 23 27 44.1 +0.1**
LBTB Lobatse 49.56 69 P **P 23 27 44.6 +0.6**
LBTB Lobatse 49.56 69 LR LR 23 45 14.3
comp=Z,746nm,18.3s,baz=202,slow=32
NBLA Lagarto - SE 49.63 344 *e*P **P 23 27 43.4 -1.1**
PB08 IPOC Station P 50.22 303 P **P 23 27 48.9 -0.5**
PB08 IAmb IAmb 23 28 16.8
comp=Z,18nm,0.9s
TA01 Diego Aracena 50.28 302 P **P 23 27 49.3 -0.1**
TA01 IAmb IAmb 23 28 02.5
comp=Z,17nm,0.8s
TA02 Huaiquique 50.52 302 P **P 23 27 50.8 -0.3**
TA02 IAmb IAmb 23 27 53.6
comp=Z,22nm,0.8s
PTLB Pontes e Lacer 50.61 317 P **P 23 27 50.2 -1.7**
PTLB IAmb IAmb 23 27 52.9
comp=Z,13nm,0.8s
PTLB Pontes e Lacer 50.61 317 *e*P **P 23 27 51.0 -0.9**
NBAN Anadia - AL 50.75 347 *e*P **P 23 27 52.4 -0.6**
SIV San Ignacio 50.79 314 ScP **ScP 23 33 07.0 +1.8**
comp=Z,1.0nm,0.4s,baz=150,slow=3.8,SNR=4.9
SIV LR LR 23 51 12.7
comp=Z,732nm,18.6s,baz=113,slow=38
TSUM Tsumeb 51.05 57 LR LR 23 45 26.4
comp=Z,1μm,19.3s,baz=211,slow=31
SNDB Serra Nova Dou 51.45 327 *e*P **P 23 27 57.6 -0.7**
H10S2 ASCENSION HYDR 51.52 14 T T 00 23 51.7
baz=33,slow=74,SNR=6.9
H10S3 ASCENSION HYDR 51.53 14 T T 00 23 49.1
baz=187,slow=74,SNR=7.0
PB12 IPOC Station P 52.07 303 P **P 23 28 02.6 -0.3**
PB12 IAmb IAmb 23 28 16.1
comp=Z,49nm,1.4s
NBCA Caruaru-PE 52.14 347 *e*P **P 23 28 03.3 -0.1**
H10N1 ASCENSION HYDR 52.64 14 T T 00 25 09.8
baz=181,slow=72,SNR=3.9
H10N3 ASCENSION HYDR 52.64 14 T T 00 25 13.2
baz=181,slow=72,SNR=6.8
H10N2 ASCENSION HYDR 52.66 14 T T 00 25 12.9
baz=181,slow=72,SNR=4.1
LPAZ La Paz 53.24 306 P **P 23 28 12.1 -0.2**
LPAZ IAmb IAmb 23 28 25.6
comp=Z,38nm,1.4s
LPAZ La Paz 53.24 306 P **P 23 28 12.5 +0.3**
comp=Z,8.8nm,0.3s,baz=148,slow=3.3,SNR=51
LPAZ PcP **PcP 23 29 21.4 +1.4**
comp=Z,4.3nm,0.8s,baz=162,slow=3.2,SNR=0.9
LPAZ LR LR 23 55 06.8
comp=Z,583nm,18.1s,baz=163,slow=41
comp=Z,8.8nm,0.3s
LPAZ La Paz 53.24 306 *e*P **P 23 28 12.5 +0.3**
VILB Vilhena 53.29 317 P **P 23 28 11.0 -0.9**
VILB Vilhena 53.29 317 *e*P **P 23 28 10.7 -1.2**
PDRB Porto dos Gac 53.40 321 *e*P **P 23 28 11.3 -1.4**
SMTB Santa Maria do 53.51 333 *e*P **P 23 28 13.2 -0.3**
RCBR Riachuelo 54.50 348 LR LR 23 46 16.4
comp=Z,225nm,21.9s,baz=176,slow=30
MATP Matopo 54.86 69 LR LR 23 47 26.8
comp=Z,819nm,21.4s,baz=238,slow=31
NPGB Novo Progresso 57.29 324 *e*P **P 23 28 39.3 -1.5**
LSZ Lusaka 59.19 65 P **P 23 28 53.8 -0.3**
LSZ IAmb IAmb 23 29 08.3
comp=Z,9.3nm,0.8s
LSZ Lusaka 59.19 65 LR LR 23 51 23.3
comp=Z,643nm,18.6s,baz=210,slow=33
ITTB Itaituba 59.95 325 *e*P **P 23 28 57.7 -1.5**
NNA Nana 60.78 299 P **P 23 29 04.5 -0.4**
NNA Nana 60.78 299 LR LR 23 54 17.7
comp=Z,365nm,20.9s,baz=152,slow=35
MAL2 Monte Alegre, 61.75 327 P **P 23 29 09.9 -1.6**
MACA Manacapuru-AM 62.61 320 P **P 23 29 15.6 -1.7**
MACA IAmb IAmb 23 29 28.3
comp=Z,13nm,0.7s
MACA Manacapuru-AM 62.61 320 *e*P **P 23 29 15.2 -2.1**
CZSB Cruzeiro do Su 62.83 306 P **P 23 29 17.8 -0.9**
CZSB Cruzeiro do Su 62.83 306 *e*P **P 23 29 17.6 -1.2**
OPO Ambohidratompo 65.58 85 LR LR 23 53 13.6
comp=Z,269nm,18.8s,baz=355,slow=31
ATAH Atahualpa 65.78 300 LR LR 23 56 47.5
comp=Z,296nm,22.0s,baz=164,slow=35
BOAV Boa Vista 67.79 322 P **P 23 29 49.3 -1.5**
BOAV IAmb IAmb 23 30 01.0
comp=Z,8.9nm,0.7s
MDP Montagnes des 68.19 331 LR LR 23 57 34.0
comp=Z,563nm,20.5s,baz=156,slow=34
DBIC Dimbokro 68.41 22 P **P 23 29 54.6 -0.1**
DBIC IAmb IAmb 23 29 57.0
comp=Z,11nm,0.8s
DBIC Dimbokro 68.41 22 P **P 23 29 55.3 +0.6**
comp=Z,10nm,0.7s,baz=178,slow=6.4,SNR=22
DBIC LR LR 23 52 45.0
comp=Z,473nm,20.2s,baz=168,slow=30
comp=Z,10nm,0.7s
COHC Cochancay 70.33 302 P **P 23 30 07.0 +0.4**
OTAV Otavalo 72.42 303 P **P 23 30 19.6 -0.2**
OTAV IAmb IAmb 23 30 34.0
comp=Z,22nm,1.1s
OTAV Otavalo 72.42 303 *e*P **P 23 30 20.1 +0.3**
FLOC Florencia 72.48 307 P **P 23 30 19.7 +0.1**
BBTS Babate 74.68 9 LR LR 23 56 08.8
comp=Z,423nm,19.8s,baz=84,slow=30
ROSC El Rosal 74.92 309 P **P 23 30 34.6 +0.2**
ROSC IAmb IAmb 23 30 38.1
comp=Z,12nm,0.7s
ROSC El Rosal 74.92 309 P **P 23 30 34.6 +0.2**
comp=Z,12nm,0.7s,baz=166,slow=7.6,SNR=8.1
ROSC LR LR 00 04 06.3
comp=Z,500nm,21.9s,baz=188,slow=36
comp=Z,12nm,0.7s
KIBK Kibwezi 75.10 68 P **P 23 30 36.0 +0.9**
RUSC La Rusia 75.41 311 P **P 23 30 35.6 -1.7**
RUSC IAmb IAmb 23 30 49.2
comp=Z,23nm,1.2s
TORD Torodi Ar. Bea 76.09 28 P **P 23 30 41.2 +0.7**
TORD Torodi Ar. Bea 76.09 28 P **P 23 30 41.8 +1.2**
comp=Z,28nm,0.3s,baz=193,slow=6.1,SNR=2.0
BAUV El Baul 76.40 317 **P 23 30 42.7 +0.4**
BAUV IAmb IAmb 23 30 52.1
comp=Z,16nm,1.0s
PCRV Puerto La Cruz 76.42 321 P **P 23 30 42.8 +0.3**
comp=Z,16nm,0.6s,baz=166,slow=4.6,SNR=8.4
PCRV LR LR 00 04 35.7
comp=Z,739nm,20.4s,slow=36
comp=Z,16nm,0.6s
SDV Santo Domingo 77.26 314 P **P 23 30 46.7 -0.7**
SDV IAmb IAmb 23 30 51.0
comp=Z,12nm,0.7s
SDV Santo Domingo 77.26 314 P **P 23 30 46.8 -0.6**
comp=Z,11nm,0.6s,baz=19,slow=12,SNR=7.7
SDV LR LR 00 06 31.6
comp=Z,2μm,19.6s,baz=124,slow=37
comp=Z,11nm,0.6s
SDV Santo Domingo 77.26 314 *e*P **P 23 30 46.9 -0.6**
TOZ Tahuroa Road 81.14 197 P **P 23 31 09.5 +1.3**
TOZ IAmb IAmb 23 31 21.0
comp=Z,39nm,1.4s
NWAO Narrogin (SRO) 82.61 149 LR LR 00 04 51.6
comp=Z,242nm,19.7s,baz=96,slow=33
JTS Las Juntas de 84.21 302 LR LR 00 13 12.8
comp=Z,93nm,18.0s,baz=116,slow=39
SJG San Juan 84.36 322 LR LR 00 08 45.9
comp=Z,344nm,20.8s,baz=168,slow=36
TBI Tubuai 85.21 230 *e*LR LR 23 58 22.3
comp=Z,808nm,24.5s
ACON Acoyapa 85.80 302 P **P 23 31 31.4 -0.9**
ACON IAmb IAmb 23 31 34.6
comp=Z,8.2nm,0.8s
TAM Tamanrasset 86.29 29 P **P 23 31 35.9 +1.2**
STKA Stephens Creek 87.97 169 P **P 23 31 44.1 +1.2**
STKA Stephens Creek 87.97 169 P **P 23 31 43.5 +0.6**
comp=Z,3.3nm,0.9s,baz=166,slow=14,SNR=3.6
comp=Z,3.3nm,0.9s
MTO3 Montecristo 89.78 300 P **P 23 31 50.0 -1.6**
PPT2 Papeete2 90.46 232 *e*LR LR 00 00 46.1
comp=Z,323nm,22.8s
PPT2 *e*LR LR 00 00 50.7
comp=Z,304nm,24.0s
PPT Papeete 90.47 232 LR LR 00 07 31.8
comp=Z,275nm,18.6s,baz=177,slow=32
PETF Flores 92.23 300 P **P 23 32 02.2 -0.5**
MDT Midelt 94.02 18 LR LR 00 10 23.3
comp=Z,460nm,18.1s,baz=214,slow=33
ASAR Alice Springs 95.09 161 P **P 23 32 15.2 -0.9**
ASAR Alice Springs 95.09 161 P **P 23 32 16.7 +0.6**
comp=Z,2.1nm,0.8s,baz=194,slow=3.7,SNR=13
ASAR PKKPbc **PKKPbc 23 49 09.8 +2.2**
comp=Z,1.7nm,0.7s,baz=6.4,slow=2.1,SNR=18
comp=Z,2.1nm,0.8s
AS31 Alice Springs 95.09 161 P **P 23 32 15.8 -0.3**
DZM Mont Dzumac 97.72 191 *e*LR LR 00 04 11.3
comp=Z,493nm,22.9s
WRA Warramunga Arr 98.81 161 P Pdif 23 32 32.7 -0.2
comp=Z,0.7nm,0.9s,baz=196,slow=4.2,SNR=2.9
WRA PKKPbc **PKKPdf 23 48 59.5 +0.2**
comp=Z,1.7nm,0.6s,baz=353,slow=2.8,SNR=26
comp=Z,0.7nm,0.9s
ESDC Soseca Array 100.84 17 P **Pdif 23 32 43.5 +2.2**
comp=Z,0.4nm,0.5s,baz=185,slow=4.4,SNR=1.8
AKASG Malin Array Be 118.87 37 PKP **PKiKP 23 37 40.1 -0.2**
comp=Z,1.3nm,0.7s,baz=247,slow=1.4,SNR=4.6
AKASG PP **PP 23 39 01.1 +1.0**
comp=Z,0.1nm,0.2s,baz=218,slow=6.9,SNR=4.2
SCHQ Schefferville 118.98 334 PKP **PKiKP 23 37 40.5 +0.1**
comp=Z,7.0nm,0.6s,baz=163,slow=0.5,SNR=14
PV11 David Mesa, Pa 119.03 297 **PKiKP 23 37 42.2 +0.9**
PV10 Paradox Valley 119.17 297 **PKiKP 23 37 41.3 -0.3**
O20A White River Ci 120.25 298 PKPdf **PKiKP 23 37 44.6 +1.0**
SHPR Sheep Range 120.47 291 **PKiKP 23 37 46.3 +2.2**
TCRU Three Creeks R 120.91 294 **PKiKP 23 37 46.7 +1.7**
PRN Pahroc Range 121.15 292 **PKiKP 23 37 47.0 +1.7**
RSSD Black Hills 121.69 304 PKPdf **PKiKP 23 37 46.4 +0.1**
PDAR Pinedale Array 122.96 299 PKP **PKiKP 23 37 48.6 -0.2**
comp=Z,1.4nm,0.6s,baz=142,slow=5.2,SNR=17
CMAR Chiang Mai Arr 122.98 112 PKP **PKiKP 23 37 50.0 +0.6**
comp=Z,1.5nm,0.4s,baz=234,slow=3.7,SNR=13
NVAR Mina Array Bea 123.50 290 PKP **PKiKP 23 37 51.4 +1.3**
comp=Z,1.7nm,0.7s,baz=130,slow=3.7,SNR=8.1
ULM Lac du Bonnet 123.51 314 PKP **PKiKP 23 37 49.1 -0.3**
comp=Z,8.7nm,0.6s,baz=134,slow=1.8,SNR=31
HFS Hagfors 123.58 22 PKP **PKiKP 23 37 48.5 -0.7**
comp=Z,2.3nm,0.8s,baz=96,slow=4.5,SNR=4.1
PHRA Phrae 123.62 113 PKPdf **PKiKP 23 37 52.0 +1.4**
ELK Elko 123.91 294 PKP **PKiKP 23 37 51.4 +0.5**
comp=Z,1.3nm,0.6s,baz=212,slow=3.9,SNR=6.4
NB2 NORSAR Subarra 123.96 21 PKPdf **PKiKP 23 37 50.3 +0.3**
comp=Z,3.1nm,1.0s,baz=198,slow=1.8
NOA NORSAR Array B 123.96 21 PKP **PKiKP 23 37 50.4 +0.3**
comp=Z,2.0nm,0.9s,baz=198,slow=1.6,SNR=4.7
DY2G Dye2 126.98 350 *i* P **PKiKP 23 37 57.8 +1.7**
FINES FINESS Array B 127.44 28 PKPdf **PKiKP 23 37 55.8 -1.0**
FINES FINESS Array B 127.44 28 PKP **PKiKP 23 37 57.0 +0.2**
comp=Z,4.9nm,0.7s,baz=207,slow=1.7,SNR=19
FIA1 FINESS Array S 127.44 28 PKPdf **PKiKP 23 37 58.2 +1.4**
BPMT Black Pine Rid 127.56 299 PKPdf **PKiKP 23 37 58.8 +0.8**
PLID Pearl Lake 127.66 297 PKPdf **PKiKP 23 37 59.1 +0.9**
QIZ Qiongzhong 128.37 122 PKP **PKiKP 23 37 59.1 -1.0**
QIZ PP **PP 23 40 03.4 -0.6**
QIZ SS SS 23 57 21.8 +3.2
QIZ LR LR
comp=Z,170nm,10.3s
QIZ LR LR
comp=Z,350nm,15.8s
QIZ LR LR
comp=Z,300nm,14.4s
LSA Lhasa 128.64 97 **PKiKP 23 38 01.8 +0.8**
KSH Kashi 128.82 76 PKP **PKiKP 23 38 00.5 0.0**
ABKAR Akbulak array 128.89 57 PKPdf **PKiKP 23 37 59.8 -0.4**
ICESG Greenland Ices 129.08 354 *i* P **PKPdf 23 37 58.7 -1.0**
FCC Fort Churchill 129.79 321 PKPdf **PKiKP 23 38 01.0 -0.6**
AAK Ala-Archa 130.49 73 PKPdf **PKiKP 23 38 04.2 +0.4**
NEW Newport 130.57 298 PKP **PKiKP 23 38 03.9 +0.3**
comp=Z,1.3nm,0.6s,baz=180,slow=1.0,SNR=3.1
PZH PanZhiHua 131.18 109 PKP **PKiKP 23 38 06.8 +1.1**
SUMG Summit 132.49 355 **PKiKP 23 38 08.0 +0.8**
SUMG Summit 132.49 355 *i* P **PKiKP 23 38 07.0 -0.2**
ARCES ARCESS Array B 134.24 23 PKP **PKiKP 23 38 09.5 -0.9**
comp=Z,3.3nm,0.6s,baz=208,slow=1.2,SNR=15
BVAR Borovoye Array 136.14 60 PKP **PKiKP 23 38 14.0 -0.7**
comp=Z,2.7nm,0.6s,baz=224,slow=2.8,SNR=10
BVAR SKPbc **SKPab 23 41 47.3 -2.2**
comp=Z,2.1nm,0.8s,baz=222,slow=1.9,SNR=6.2
DAG Danmarks Havn 136.49 2 *i* P **PKiKP 23 38 13.0 -1.7**
MKAR Makanchi Array 137.31 74 PKhKP PKPpre 23 38 04.8
comp=Z,0.6nm,0.7s,baz=201,slow=1.1,SNR=7.4
MKAR SKPbc **SKiKP 23 41 49.3 -3.1**
comp=Z,0.1nm,0.3s,baz=239,slow=3.7,SNR=4.5
WMQ Urumqi 137.84 82 *e*PKP **PKiKP 23 38 19.1 +0.5**
NEEM North Greenlan 137.99 352 *i* P PKPdf 23 38 06.0 -10
KURBB Kurchatov Arra 138.18 68 PKhKP PKPpre 23 38 07.4
comp=Z,0.8nm,0.7s,baz=238,slow=3.7,SNR=9.6
KURBB SKPbc **SKiKP 23 41 50.8 -3.1**
comp=Z,0.3nm,0.7s,baz=230,slow=2.2,SNR=2.4
YKA Yellowknife Ar 139.48 314 PKhKP PKPpre 23 38 10.0
comp=Z,0.3nm,0.7s,baz=130,slow=2.6,SNR=3.5
YKA PKP **PKiKP 23 38 19.7 -1.5**
comp=Z,0.4nm,0.6s,baz=128,slow=2.7,SNR=8.7
YKA SKPbc **SKiKP 23 41 53.9 -2.3**
comp=Z,1.8nm,0.8s,baz=129,slow=2.1,SNR=6.3
SPITS Spitsbergen Ar 140.18 12 PKhKP PKPpre 23 38 12.3
comp=Z,4.8nm,0.8s,baz=155,slow=6.1,SNR=7.3
GTA Gaotai 140.66 96 *e*PKP **PKiKP 23 38 23.3 -1.3**
XAN Xi'an 140.87 111 PKP **PKiKP 23 38 22.8 -2.2**
DLBC Dease Lake 143.11 302 PKhKP PKPpre 23 38 21.5
comp=Z,2.0nm,0.5s,baz=33,slow=3.0,SNR=9.2
ZALV Zalesovo Beam 143.27 68 PKPpre 23 38 22.5
ZALV Zalesovo Beam 143.27 68 PKhKP PKPpre 23 38 22.2
comp=Z,1.9nm,0.6s,baz=243,slow=3.8,SNR=12
EUNU Eureka 143.86 345 PKPpre 23 38 25.8
TIY Taiyuan 145.50 111 *e*PKPbc **PKiKP 23 38 32.3 -2.2**
HNS HongShan 146.31 114 ⇑PKPbc **PKiKP 23 38 34.1 -1.9**
TIA Tai'an 146.42 118 PKPbc **PKiKP 23 38 34.0 -2.3**
C36M Paulatuk 146.44 321 PKPdf **PKPab 23 38 32.1 -1.2**
BTO Baotou 146.62 105 *e*PKPbc **PKiKP 23 38 35.1 -1.6**
BTO PKPab sPKPab 23 38 40.0 -1.0
BTO LR LR
comp=Z,170nm,5.8s
M31M Drury Creek, Y 146.96 305 **PKPab 23 38 34.7 -0.9**
O30N Mendenhall 146.97 302 **PKiKP 23 38 35.2 -1.5**
A36M Sachs Harbour 147.84 325 PKPdf **PKPbc 23 38 34.6 -1.6**
SONM Songino Array 150.03 92 **PKiKP 23 38 43.1 -0.5**
SONM Songino Array 150.03 92 PKPbc **PKiKP 23 38 43.2 -0.3**
comp=Z,8.2nm,0.7s,baz=205,slow=3.1,SNR=4.7
ULN Ulaanbaatar 150.38 93 **PKiKP 23 38 44.4 +0.1**
BCAR Beaver Creek A 150.41 304 PKPdf **PKPdf 23 38 38.9 +1.2**
JMN Monobe 150.60 144 PKPab **PKPab 23 38 51.9 +0.8**
NRIK Noril'sk 151.44 43 **PKiKP 23 38 46.3 +0.7**
NRIK Noril'sk 151.44 43 PKPbc **PKiKP 23 38 45.5 -0.1**
comp=Z,2.4nm,0.4s,baz=198,slow=0.5,SNR=11
KSAR Wonju Array Be 151.94 131 **PKiKP 23 38 48.2 +0.6**
KSRS Korea Array 151.96 131 PKPbc **PKiKP 23 38 48.1 +0.4**
comp=Z,3.0nm,0.8s,baz=185,slow=1.8,SNR=12
XLT XiLinHaoTe 152.05 108 *e*P **PKiKP 23 38 48.3 +0.5**
XLT pP pPKPab 23 38 57.9 -3.5
XLT sP sPKPab 23 39 03.1 +0.1
XLT pmax pmax
comp=Z,12nm,0.7s
PRP Porcupine Dome 152.79 308 **PKiKP 23 38 49.6 +0.9**
BMAR Burnt Mountain 152.93 312 **PKiKP 23 38 49.8 +0.9**
ILAR Eielson Array 153.12 306 **PKiKP 23 38 49.3 +0.1**
ILAR Eielson Array 153.12 306 PKP **PKPdf 23 38 40.8 -0.9**
comp=Z,0.4nm,0.6s,baz=250,slow=1.1,SNR=4.4
ILAR PKPbc **PKiKP 23 38 49.6 +0.4**
comp=Z,5.7nm,0.6s,baz=102,slow=0.3,SNR=46
MJAR Matsushiro Arr 154.45 149 PKPbc **PKiKP 23 38 54.2 +1.3**
comp=Z,1.2nm,0.4s,baz=194,slow=3.4,SNR=5.3
COLD Coldfoot 155.02 310 PKPdf **PKPdf 23 38 46.0 +1.7**
MDJ Mudanjiang 158.71 125 PKP **PKPdf 23 38 47.3 -2.4**
C16K Lisburne Hills 160.81 313 PKPab **PKPab 23 39 34.5 +0.6**
KIWB Kanaga Island 162.15 256 **PKPab 23 39 40.0 -0.3**
TIXI Tiksi 164.47 30 PKPab **PKPab 23 39 51.7 +1.8**
PETK Petropavlovsk- 172.92 197 PKP **PKPdf 23 39 03.0 +2.1**
comp=Z,1.2nm,0.6s,baz=80,slow=1.8,SNR=1.9

*IDC **17** 23:24:11.3±1.4, 59°.99S×25°.85W, h0km, mb3.9/1, mbtmp4.2/2, ML4.5/1, Error ellipse: s-maj=66.3km s-min=41.1km az=44.0*
ISC 17 23:24:13.3±1.0, 60°.00S±0°.2×26°.00W±0°.3, h16km, n14, σ0°.72/14, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.88 153**		P	**Pn**	**23 27 15.5**	**+0.1**
VNA1	**Neumayer--Stat**	**12.88 153**		⇓P	**Pn**	**23 27 15.5**	**+0.1**
comp=Z,4.0nm,0.2s							
VNA3	**Neumayer Olymp**	**13.03 156**		P	**Pn**	**23 27 17.6**	**+0.1**
VNA3	**Neumayer Olymp**	**13.03 156**		⇑P	**Pn**	**23 27 17.6**	**+0.1**
comp=Z,6.8nm,0.3s							
SNAA	**Sanae**	**14.87 151**		P	**Pn**	**23 27 42.3**	**-0.3**
SNAA	**Sanae**	**14.87 151**		⇑P	**Pn**	**23 27 42.3**	**-0.3**
comp=Z,72nm,0.2s							
SNAA	**Sanae**	**14.87 151**		Pn	**Pn**	**23 27 42.2**	**-0.3**
comp=Z,2.1nm,0.3s,baz=315,slow=16,SNR=12							
comp=Z,5.8nm,0.4s							
TROLL	**Troll, Antarti**	**16.43 148**		P	**Pn**	**23 28 04.0**	**+1.1**
TROLL	**Troll, Antarti**	**16.43 148**		⇑P	**Pn**	**23 28 04.0**	**+1.1**
comp=Z,36nm,0.2s							
LPAZ	**La Paz**	**53.25 306**		P	**P**	**23 33 32.1**	**+0.5**
comp=Z,0.7nm,0.4s,baz=128,slow=4.6,SNR=3.1							
comp=Z,0.7nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.25 28**		P	**P**	**23 36 00.9**	**+0.1**
comp=Z,30nm,0.3s,baz=192,slow=5.8,SNR=1.2							
YKA	**Yellowknife Ar**	**139.51 314**		PKP	**PKiKP**	**23 43 39.0**	**-1.5**
comp=Z,0.7nm,0.7s,baz=138,slow=2.3,SNR=3.4							
SONM	**Songino Array**	**150.11 92**		PKPbc	**PKiKP**	**23 44 02.7**	**-0.3**
comp=Z,0.6nm,0.8s,baz=223,slow=2.4,SNR=3.5							
ILAR	**Eielson Array**	**153.12 306**		PKPbc	**PKiKP**	**23 44 09.1**	**+0.5**
comp=Z,0.3nm,0.4s,baz=132,slow=1.3,SNR=5.4							

*IDC **17** 23:26:12.6±0.7, 59°.79S×25°.85W, h0km, mb4.3/9, mbtmp4.3/9, MS3.9/1, Error ellipse: s-maj=27.4km s-min=20.2km az=35.0*
*NEIC **17** 23:26:14.0±1.6, 59°.9S±0°.1×25°.7W±0°.2, h10km±1km, mb4.6/57, Error ellipse: s-maj=20.0km s-min=14.4km az=224.0*
ISC 17 23:26:13.6±0.4, 59°.87S±0°.08×25°.71W±0°.08, h10km, n101, σ0°.95/101, mb4.6/33, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.11 309**		Pn	**Pn**	**23 28 09.9**	**-1.3**
VNA1	**Neumayer--Stat**	**12.98 154**		P	**Pn**	**23 29 16.2**	**-1.5**
VNA1	**Neumayer--Stat**	**12.98 154**		⇑P	**Pn**	**23 29 16.2**	**-1.5**
comp=Z,33nm,0.2s							
VNA3	**Neumayer Olymp**	**13.13 157**		P	**Pn**	**23 29 18.4**	**-1.5**
VNA3				S	Sn	23 31 31.9	-14
VNA3	**Neumayer Olymp**	**13.13 157**		⇑P	**Pn**	**23 29 18.4**	**-1.5**
comp=Z,16nm,0.4s							
VNA3				⇑S	Sn	23 31 31.9	-14
comp=E,8.2nm,0.3s							
SNAA	**Sanae**	**14.96 152**		P	**Pn**	**23 29 43.0**	**-1.8**
SNAA	**Sanae**	**14.96 152**		Pn	**Pn**	**23 29 43.4**	**-1.4**
SNAA	**Sanae**	**14.96 152**		⇑P	**Pn**	**23 29 43.0**	**-1.8**
comp=Z,339nm,0.3s							
SNAA	**Sanae**	**14.96 152**		Pn	**Pn**	**23 29 43.0**	**-1.8**
comp=Z,13nm,0.3s,baz=310,slow=14,SNR=66							
SNAA				Sn	Sn	23 32 15.6	-15
comp=Z,0.6nm,0.3s,baz=260,slow=18,SNR=1.6							
SNAA				LR	LR	23 35 32.9	
comp=Z,461nm,18.3s,baz=0.0,slow=37							
TROLL	**Troll, Antarti**	**16.51 149**		P	**Pn**	**23 30 04.3**	**-0.7**
TROLL	**Troll, Antarti**	**16.51 149**		⇑P	**Pn**	**23 30 04.3**	**-0.7**
comp=Z,209nm,0.3s							
BELA	**Belgrano 2**	**18.33 186**			**P**	**23 30 28.8**	**+1.2**
SMAI	**San Martin Ant**	**19.55 228**			**Pn**	**23 30 42.3**	**-0.1**
SMAI				IAmb	IAmb	23 31 00.5	
comp=Z,59nm,1.1s							
EFI	**East Falkland**	**19.78 280**		P	**P**	**23 30 45.0**	**+1.3**
EFI				IAmb	IAmb	23 30 47.0	
comp=Z,29nm,0.8s							
MG02	**Cerro Sombrero**	**24.75 267**		P	**P**	**23 31 35.3**	**+0.3**
MG05	**Puerto Natales**	**27.04 267**		P	**P**	**23 31 54.9**	**-0.7**
MG05				IAmb	IAmb	23 31 56.6	
comp=Z,16nm,0.8s							
SYO	**Syowa Base**	**28.19 136**	‖	*e*pP	**P**	**23 32 06.0**	**+0.2**
QSPA	**South Pole Qui**	**30.37 180**		P	**P**	**23 32 27.8**	**+2.4**
comp=Z,2.1nm,0.8s,baz=113,slow=11,SNR=2.1							
comp=Z,2.1nm,0.8s							
TRQA	**Tornquist**	**31.67 297**		P	**P**	**23 32 37.3**	**+0.4**
TRQA				IAmb	IAmb	23 32 49.8	
comp=Z,5.4nm,0.8s							
PLCA	**Paso Flores**	**33.58 284**		P	**P**	**23 32 53.8**	**+0.1**
PLCA	**Paso Flores**	**33.58 284**		P	**P**	**23 32 53.5**	**-0.2**
comp=Z,2.1nm,0.7s,baz=153,slow=8.7,SNR=7.0							
comp=Z,2.1nm,0.7s							
PLTB	**Pedras Altas**	**33.68 314**		P	**P**	**23 32 54.3**	**-0.3**
PLTB				IAmb	IAmb	23 32 57.3	
comp=Z,3.6nm,0.7s							
LR05	**Currie**	**34.68 283**		P	**P**	**23 33 03.3**	**+0.2**
LR05				IAmb	IAmb	23 33 16.0	
comp=Z,7.3nm,0.8s							
LR04	**Corral**	**35.65 282**		P	**P**	**23 33 11.3**	**-0.1**
BI02	**San Fabin de**	**37.12 288**		P	**P**	**23 33 25.2**	**+1.0**
BI05	**Punta Hualpn**	**37.98 286**		P	**P**	**23 33 32.0**	**+0.7**
BO02	**Sierra Bellavi**	**38.40 290**		P	**P**	**23 33 36.4**	**+1.4**
BO02				IAmb	IAmb	23 33 44.4	
comp=Z,9.5nm,1.1s							
BO01	**Tunca**	**38.87 290**		P	**P**	**23 33 39.2**	**+0.3**
BO01				IAmb	IAmb	23 33 58.3	
comp

MT05	Renca	39.53 292	P	P	23 33 44.9	+0.4
PEL	Peldehue	39.71 292	P	P	23 33 46.8	+0.8
VA05	Santo Domingo	39.73 290	P	P	23 33 46.9	+0.9
MT02	Curacav	39.83 291	P	P	23 33 47.8	+0.9
MT02			IAmb	IAmb	23 33 57.9	
	comp=Z,12nm,0.8s					
AUSP	Uspallata	39.88 294	*i* P	P	23 33 49.0	+1.4
VA03	San Esteban	39.96 292	P	P	23 33 48.8	+0.7
VA03			IAmb	IAmb	23 34 02.3	
	comp=Z,18nm,1.0s					
VA03	San Esteban	39.96 292	*i* P	P	23 33 49.8	+1.7
CPUP	Villa Florida	39.97 313	P	P	23 33 48.1	+0.1
CPUP	Villa Florida	39.97 313	P	P	23 33 47.9	-0.2
	comp=Z,1.0nm,0.3s,baz=162,slow=5.3,SNR=3.7					
	comp=Z,1.0nm,0.3s					
ZON	Zonda	40.12 295	P	P	23 33 49.5	+0.1
APLL	PUNTA DE LOS L	40.13 299	*i* P	P	23 33 49.5	0.0
RTLS	Leoncito	40.19 295	*i* P	P	23 33 51.1	+0.9
AVFE	Valle Fertil	40.32 298	*i* P	P	23 33 51.3	+0.3
VA06	Catapilco	40.48 292	P	P	23 33 53.2	+0.9
VA06			IAmb	IAmb	23 33 54.8	
	comp=Z,14nm,0.6s					
ACCO	Cerro Coronel	41.11 296	*i* P	P	23 34 00.2	+2.4
ACLC	CERRO LA CRUZ	41.15 299	*i* P	P	23 33 58.1	0.0
CYA	Choya	41.50 301	*i* P	P	23 33 59.8	-0.9
CO03	El Pedregal	41.64 294	P	P	23 34 02.4	+0.5
AROD	Rodeo	41.65 296	*i* P	P	23 34 03.5	+1.2
CO01	Juntas del Tor	42.09 295	P	P	23 34 06.9	+1.1
CO01			IAmb	IAmb	23 34 09.7	
	comp=Z,7.7nm,0.8s					
CO06	Fray Jorge	42.21 293	P	P	23 34 07.2	+0.7
CO06			IAmb	IAmb	23 34 11.3	
	comp=Z,6.5nm,0.8s					
GO04	Tololo Observa	42.25 294	P	P	23 34 08.0	+0.9
GO04			IAmb	IAmb	23 34 16.3	
	comp=Z,9.9nm,0.7s					
VCA	Vinchina	42.30 298	*i* P	P	23 34 08.9	+1.5
LCO	Las Campanas	43.19 295	P	P	23 34 14.8	+0.1
AC04	Llanos de Chal	44.05 295	P	P	23 34 21.7	+0.4
AC04			IAmb	IAmb	23 34 23.7	
	comp=Z,17nm,1.1s					
AC02	Maricunga	44.35 299	P	P	23 34 24.4	0.0
AC02			IAmb	IAmb	23 34 27.0	
	comp=Z,5.1nm,0.7s					
AC01	Pan de Azucar	45.60 297	P	P	23 34 33.5	-0.2
AC01			IAmb	IAmb	23 34 40.5	
	comp=Z,9.5nm,0.9s					
GO02	Mina Guanaco	46.00 299	P	P	23 34 37.1	-0.2
SHEL	Horse Pasture	46.21 27	P	P	23 34 38.2	-0.4
BOSA	Boshof	46.31 71	P	P	23 34 39.5	0.0
BOSA	Boshof	46.31 71	P	P	23 34 39.3	-0.2
	comp=Z,1.5nm,0.8s,baz=118,slow=9.9,SNR=1.5					
	comp=Z,1.5nm,0.8s					
PB14	IPOC Station P	46.83 299	P	P	23 34 43.1	-0.7
BDFB	Brasilia	47.08 330	P	P	23 34 45.8	+0.2
BDFB			IAmb	IAmb	23 34 46.1	
	comp=Z,4.1nm,1.0s					
BDFB	Brasilia	47.08 330	P	P	23 34 45.4	-0.1
	comp=Z,1.7nm,0.4s,baz=145,slow=14,SNR=5.3					
	comp=Z,1.7nm,0.4s					
PB09	IPOC Station P	48.80 302	P	P	23 34 59.9	+0.9
PB09			IAmb	IAmb	23 35 06.2	
	comp=Z,8.8nm,0.9s					
LBTB	Lobatse	49.52 69	P	P	23 35 04.5	+0.1
PB01	IPOC Station P	49.57 302	P	P	23 35 04.9	+0.2
PB08	IPOC Station P	50.23 303	P	P	23 35 09.4	-0.7
PB08			IAmb	IAmb	23 35 11.5	
	comp=Z,7.9nm,0.8s					
TA01	Diego Aracena	50.29 301	P	P	23 35 10.4	+0.3
TA01			IAmb	IAmb	23 35 16.9	
	comp=Z,7.4nm,0.9s					
PTLB	Pontes e Lacer	50.61 317	P	P	23 35 11.6	-0.9
PTLB			IAmb	IAmb	23 35 13.1	
	comp=Z,5.0nm,0.7s					
SIV	San Ignacio	50.80 314	P	P	23 35 12.7	-1.3
	comp=Z,2.6nm,0.4s,baz=136,slow=8.1,SNR=10					
	comp=Z,2.6nm,0.4s					
PB12	IPOC Station P	52.09 302	P	P	23 35 23.4	-0.3
PB12			IAmb	IAmb	23 35 35.2	
	comp=Z,15nm,1.0s					
LPAZ	La Paz	53.25 306	P	P	23 35 33.1	+0.2
LPAZ			IAmb	IAmb	23 35 35.8	
	comp=Z,6.2nm,1.1s					
LPAZ	La Paz	53.25 306	P	P	23 35 33.2	+0.3
	comp=Z,4.2nm,0.3s,baz=87,slow=4.3,SNR=31					
LPAZ			PcP	PcP	23 36 40.6	-0.1
	comp=Z,1.1nm,0.4s,baz=180,slow=4.0,SNR=1.5					
	comp=Z,4.2nm,0.3s					
LSZ	Lusaka	59.14 65	P	P	23 36 14.9	+0.4
BOAV	Boa Vista	67.79 322	P	P	23 37 09.8	-1.7
BOAV			IAmb	IAmb	23 37 23.7	
	comp=Z,3.9nm,1.0s					
DBIC	Dimbokro	68.37 22	P	P	23 37 15.4	+0.4
DBIC			IAmb	IAmb	23 37 16.5	
	comp=Z,5.5nm,0.8s					
DBIC	Dimbokro	68.37 22	P	P	23 37 15.7	+0.7
	comp=Z,3.1nm,0.7s,baz=156,slow=7.4,SNR=5.9					
	comp=Z,3.1nm,0.7s					
COHC	Cochancay	70.34 301	P	P	23 37 27.1	-0.3
OTAV	Otavalo	72.43 303	P	P	23 37 41.4	+0.8
RUSC	La Rusia	75.42 311	P	P	23 37 56.5	-1.5
RUSC			IAmb	IAmb	23 37 57.1	
	comp=Z,4.7nm,0.8s					
TORD	Torodi Ar. Bea	76.05 28	P	P	23 38 02.2	+1.2
TORD	Torodi Ar. Bea	76.05 28	P	P	23 38 02.1	+1.2
	comp=Z,36nm,0.4s,baz=194,slow=6.3,SNR=1.4					
TKNZ	Takaka Hill	78.28 194	P	P	23 38 13.1	-0.3
NWAO	Narrogin (SRO)	82.62 149	P	P	23 38 34.4	-2.4
ASAR	Alice Springs	95.10 161	P	P	23 39 37.0	+0.2
	comp=Z,0.5nm,0.5s,baz=183,slow=4.7,SNR=6.7					
	comp=Z,0.5nm,0.5s					
PDAR	Pinedale Array	122.98 299	PKP	PKPdf	23 45 09.2	-0.3
	comp=Z,0.4nm,0.4s,baz=124,slow=6.2,SNR=7.7					
ULM	Lac du Bonnet	123.51 314	PKP	PKPdf	23 45 08.7	-1.2
	comp=Z,3.2nm,0.5s,baz=167,slow=1.6,SNR=9.6					
NVAR	Mina Array Bea	123.53 290	PKP	PKPdf	23 45 10.8	+0.2
	comp=Z,0.7nm,0.7s,baz=129,slow=2.9,SNR=4.3					
FINES	FINESS Array B	127.39 28	PKP	PKiKP	23 45 17.6	+0.2
	comp=Z,1.9nm,0.6s,baz=100,slow=2.1,SNR=8.1					
ARCES	ARCESS Array B	134.20 22	PKP	PKPdf	23 45 30.3	+0.7
	comp=Z,3.7nm,0.7s,baz=290,slow=0.6,SNR=9.3					
BVAR	Borovoye Array	136.09 60	PKP	PKPdf	23 45 34.5	+0.8
	comp=Z,1.0nm,0.5s,baz=222,slow=1.9,SNR=3.3					
KURBB	Kurchatov Arra	138.13 68	PKP	PKPdf	23 45 38.8	+1.3
	comp=Z,0.6nm,0.7s,baz=228,slow=2.3,SNR=5.8					
YKA	Yellowknife Ar	139.48 314	PKP	PKPdf	23 45 40.3	+0.7
	comp=Z,3.0nm,0.7s,baz=138,slow=2.2,SNR=26					
ZALV	Zalesovo Beam	143.23 68	PKnKP	PKPpre	23 45 42.9	
	comp=Z,1.0nm,0.6s,baz=280,slow=3.1,SNR=5.3					
SONM	Songino Array	149.99 92	PKPbc	PKPbc	23 46 04.0	+0.8
	comp=Z,2.4nm,0.6s,baz=229,slow=2.2,SNR=18					
ILAR	Eielson Array	153.13 306	PKPbc	PKPbc	23 46 10.3	+0.5
	comp=Z,2.0nm,0.4s,baz=146,slow=2.6,SNR=46					

NIED ***17*** *23:27:50.1, 25°.45N×124°.86E, h13km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.39; $M_{\theta\theta}$=0.80; $M_{\phi\phi}$=1.19; $M_{r\theta}$=2.66; $M_{\theta\phi}$=5.04; $M_{\phi r}$=0.47; Fault plane solution: M_0=5.80000×10^{14} NP1: ϕ_s=354.00000°, δ62.00000°, λ-179.00000°. NP2: ϕ_s=264.00000°, δ89.00000°, λ-28.00000°.*

JMA 17 23:27:50.1±0.2, 25°.5N±0°.6×124°.9E±0°.5, h13km±2km, MD4.1/9, MV3.5/9, NW OFF MIYAKOJIMA ISLAND, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	Ikemajima	0.64 146		P	Pg	23 28 02.2	-0.2
JIKM				S	Sg	23 28 11.0	+0.1
JIKM	Ikemajima	0.64 146		A	A	23 28 02.2	
	comp=N,12nm,2.0s,comp=E,17nm,0.6s						
JIRB	Irabujima	0.69 155		P	Pg	23 28 03.2	-0.2
JIRB				S	Sg	23 28 12.0	-0.4
JIRB	Irabujima	0.69 155		A	A	23 28 03.2	
	comp=N,12nm,0.6s,comp=E,16nm,1.3s						
JTJ	Tarama	0.82 190		*e*P	Pg	23 28 05.7	-0.3
JTJ				*e*S	Sg	23 28 16.5	-0.2
JMJ2	Miyako jima3	0.83 149		*e*P	Pg	23 28 05.7	-0.4
JMJ2				*e*S	Sg	23 28 16.6	-0.3
JOGS	Gusukube	0.85 144		P	Pg	23 28 06.2	-0.4
JOGS				S	Sg	23 28 17.7	0.0
JISG	Ishigakijimahi	0.99 210		*e*P	Pb	23 28 08.6	-0.5
JIJ	Ishigaki jima	1.26 211		*e*P	Pn	23 28 12.8	-0.7
JIJ				*e*S	Sn	23 28 30.1	-0.1
JKRS	Kuro-shima	1.43 213		*e*P	Pn	23 28 15.9	+0.2

IDC ***17*** *23:30:29.9±1.7, 59°.98S×25°.90W, h^{0km}, mb3.8/1, mbtmp4.1/2, ML4.3/1, Error ellipse: s-maj=67.1km s-min=45.6km az=47.0*

ISC 17 23:30:32.0±1.0, 60°.0S±0°.2×26°.0W±0°.3, h16km, n11, σ0°.47/11, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.89 153		P	Pn	23 33 34.5	+0.2
VNA1	Neumayer--Stat	12.89 153		⇑P	Pn	23 33 34.5	+0.2
	comp=Z,2.2nm,0.2s						
VNA3	Neumayer Olymp	13.04 156		P	Pn	23 33 36.2	-0.1
VNA3	Neumayer Olymp	13.04 156		⇑P	Pn	23 33 36.2	-0.1
	comp=Z,0.4nm,0.2s						
SNAA	Sanae	14.88 151		P	Pn	23 34 01.4	+0.1
SNAA	Sanae	14.88 151		⇑P	Pn	23 34 01.4	+0.1
	comp=Z,42nm,0.3s						
SNAA	Sanae	14.88 151		Pn	Pn	23 34 01.3	-0.1
	comp=Z,1.2nm,0.3s,baz=310,slow=14,SNR=9.1						
	comp=Z,6.4nm,0.5s						
LPAZ	La Paz	53.23 306		P	P	23 39 50.5	+0.3
	comp=Z,0.5nm,0.4s,baz=166,slow=4.2,SNR=2.2						
	comp=Z,0.5nm,0.4s						
TORD	Torodi Ar. Bea	76.27 28		P	P	23 42 19.6	+0.1
	comp=Z,19nm,0.3s,baz=200,slow=6.5,SNR=1.3						
YKA	Yellowknife Ar	139.49 314		PKP	PKiKP	23 49 58.1	-1.2
	comp=Z,0.5nm,0.8s,baz=144,slow=2.1,SNR=5.6						
ILAR	Eielson Array	153.11 306		PKPbc	PKiKP	23 50 27.7	+0.4
	comp=Z,0.3nm,0.5s,baz=132,slow=2.6,SNR=4.2						

IDC ***17*** *23:37:57.3±1.3, 59°.96S×25°.88W, h^{0km}, mb4.9/2, mbtmp4.9/3, ML4.6/1, Error ellipse: s-maj=64.0km s-min=37.2km az=39.0*

NEIC ***17*** *23:37:59.0±1.3, 59°.96S±0°.09×25°.7W±0°.2, $h10^{km}$±1km, mb4.5/21, Error ellipse: s-maj=17.7km s-min=9.7km az=145.0*

ISC 17 23:37:59.6±0.7, 60°.0S±0°.1×25°.8W±0°.1, h16km, n38, σ0°.53/38, mb4.5/12, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.16 310		Pn	Pn	23 39 56.4	-0.8
VNA1	Neumayer--Stat	12.88 153		P	Pn	23 41 01.4	-0.3
VNA1	Neumayer--Stat	12.88 153		⇓P	Pn	23 41 01.4	-0.3
	comp=Z,3.9nm,0.2s						
VNA3	Neumayer Olymp	13.04 157		P	Pn	23 41 03.4	-0.5
VNA3	Neumayer Olymp	13.04 157		⇓P	Pn	23 41 03.4	-0.5
	comp=Z,3.4nm,0.2s						
SNAA	Sanae	14.87 151		P	Pn	23 41 28.7	-0.2
SNAA	Sanae	14.87 151			Pn	23 41 27.8	-1.0
SNAA	Sanae	14.87 151		⇓P	Pn	23 41 28.7	-0.2
	comp=Z,51nm,0.2s						
SNAA	Sanae	14.87 151		Pn	Pn	23 41 28.7	-0.2
	comp=Z,2.4nm,0.3s,baz=309,slow=15,SNR=28						
	comp=Z,11nm,0.5s						
TROLL	Troll, Antarti	16.42 149		P	Pn	23 41 49.9	+0.7
TROLL	Troll, Antarti	16.42 149		⇓P	Pn	23 41 49.9	+0.7
	comp=Z,43nm,0.2s						
PMSA	Palmer Station	18.17 238		P	P	23 42 12.0	+1.0
EFI	East Falkland	19.78 280		P	Pn	23 42 29.9	-0.4
EFI				IAmb	IAmb	23 43 00.0	
	comp=Z,47nm,1.2s						
MG02	Cerro Sombrero	24.73 267		P	P	23 43 19.4	-0.4
TRQA	Tornquist	31.70 297		P	P	23 44 23.0	+0.8
TRQA				IAmb	IAmb	23 44 49.0	
	comp=Z,6.0nm,1.2s						
BO02	Sierra Bellavi	38.42 290		P	P	23 45 20.6	+0.4
BO02				IAmb	IAmb	23 45 48.0	
	comp=Z,13nm,1.4s						
BO01	Tunca	38.89 291		P	P	23 45 24.1	0.0
BO01				IAmb	IAmb	23 45 27.5	
	comp=Z,14nm,1.5s						
BO04	La Punta	39.00 291		P	P	23 45 25.3	+0.2
MT09	Talagante	39.35 291		P	P	23 45 28.2	+0.1
MT01	Popeta	39.40 291		P	P	23 45 27.8	-0.5
MT01				IAmb	IAmb	23 45 44.3	
	comp=Z,13nm,1.1s						
MT02	Curacav	39.85 291		P	P	23 45 32.4	+0.3
MT02				IAmb	IAmb	23 46 08.3	
	comp=Z,20nm,1.4s						
VA03	San Esteban	39.99 293		P	P	23 45 34.0	+0.6
VA03				IAmb	IAmb	23 46 05.9	
	comp=Z,8.6nm,1.0s						
CPUP	Villa Florida	40.03 313		P	P	23 45 34.1	+0.5
VA06	Catapilco	40.50 292		P	P	23 45 38.3	+0.8
VA06				IAmb	IAmb	23 45 40.3	
	comp=Z,15nm,1.0s						
CO01	Juntas del Tor	42.12 295		P	P	23 45 52.3	+1.2
CO01				IAmb	IAmb	23 45 54.0	
	comp=Z,6.5nm,1.0s						
LCO	Las Campanas	43.22 295		P	P	23 45 59.8	-0.2
LCO				IAmb	IAmb	23 46 31.3	
	comp=Z,14nm,1.3s						
GO02	Mina Guanaco	46.04 299		P	P	23 46 22.7	+0.1
PB09	IPOC Station P	48.84 302		P	P	23 46 44.8	+0.4
PB01	IPOC Station P	49.61 302		P	P	23 46 49.9	-0.2
PB01				IAmb	IAmb	23 47 10.3	
	comp=Z,4.8nm,0.8s						
LPAZ	La Paz	53.30 306		P	P	23 47 18.0	-0.3
LPAZ	La Paz	53.30 306		P	P	23 47 18.0	-0.3
	comp=Z,1.3nm,0.4s,baz=135,slow=2.9,SNR=8.8						
	comp=Z,1.3nm,0.4s						
TORD	Torodi Ar. Bea	76.16 28		P	P	23 49 46.6	0.0
TORD	Torodi Ar. Bea	76.16 28		P	P	23 49 46.8	+0.2
	comp=Z,28nm,0.4s,baz=198,slow=6.4,SNR=1.2						
	comp=Z,28nm,0.4s						
WAKE	Wake Island	138.38 198		PKPdf	PKPdf	23 57 23.9	+0.1
YKA	Yellowknife Ar	139.54 314		PKP	PKPdf	23 57 25.0	+0.3
	comp=Z,1.0nm,0.7s,baz=141,slow=2.2,SNR=12						
A36M	Sachs Harbour	147.92 325		PKPbc	PKPbc	23 57 42.0	-0.1
SONM	Songino Array	150.01 92		PKPbc	PKiKP	23 57 48.8	-0.4
	comp=Z,0.8nm,0.6s,baz=221,slow=3.2,SNR=6.5						
ILAR	Eielson Array	153.18 306		PKPbc	PKiKP	23 57 55.0	0.0
	comp=Z,0.6nm,0.4s,baz=117,slow=3.1,SNR=20						

WEL 17 23:53:10.6±0.8, 33°S±8°×18°0E±1°, h421km±9km, M4.2/12, mB4.5/5, ML4.1/5, MLv4.4/12, Mw(mB)3.6/5, Error ellipse: s-maj=21.1km s-min=7.1km az=113.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.69 193		P	P	23 54 30.9	+0.8
MXZ				S	S	23 55 34.0	-1.3
WMGZ	Waiomatatini S	4.92 192		P	P	23 54 32.5	+0.1
WMGZ				S	S	23 55 39.0	-0.5
HAZ	Te Kaha	4.99 197		P	P	23 54 31.9	-1.2
HAZ				S	S	23 55 40.8	+0.1
PKGZ	Pakihiroa	5.03 194		P	P	23 54 33.5	-0.1
PKGZ				S	S	23 55 37.5	-4.0
PUZ	Puketiti	5.19 192		P	P	23 54 35.3	+0.1
PUZ				S	S	23 55 44.3	-0.2
RUGZ	Raukumara Rang	5.21 197		P	P	23 54 35.1	-0.5
WCZ	Waipu Caves	5.28 235		P	P	23 54 36.0	-0.1
WIAZ	Waiheke Island	5.30 223		P	P	23 54 38.0	+1.6
TWGZ	Tauwhareparae	5.34 194		P	P	23 54 36.7	-0.2
TWGZ				S	S	23 55 49.2	+1.8
CNGZ	Carnagh Statio	5.60 192		P	P	23 54 38.7	-0.7
MWZ	Matawai	5.60 197		P	P	23 54 39.4	-0.1
MWZ				S	S	23 55 52.8	+0.5
URZ	Urewera	5.64 201		P	P	23 54 39.9	+0.1
URZ				S	S	23 55 53.2	+0.2
RTZ	Ruatahuna	6.01 200		P	P	23 54 44.0	+0.2
RTZ				S	S	23 56 00.1	-0.1
KNZ	Kokohu	6.22 194		P	P	23 54 47.2	+1.3
TLZ	Tolley Road	6.29 211		P	P	23 54 49.0	+2.3
BKZ	Black Stump Fm	6.67 202		P	P	23 54 51.3	+0.1
BKZ				S	S	23 56 14.5	+1.4
NGZ	Ngauruhoe	6.98 207		P	P	23 54 54.7	-0.1
NGZ				S	S	23 56 19.2	-0.4
PWZ	Pawanui	7.37 197		P	P	23 54 60.0	+1.1
PWZ				S	S	23 56 28.9	+1.8
PXZ	Pawanui	7.37 197		P	P	23 54 59.7	+0.9
PXZ				S	S	23 56 30.0	+2.9
TSZ	Takapari Road	7.65 202		P	P	23 55 00.5	-1.4
TSZ				S	S	23 56 33.1	+0.2
NEZ	North Egmont	7.71 214		P	P	23 55 06.7	+4.0
KHEZ	Kahui Hut	7.76 214		P	P	23 55 05.7	+2.4
BFZ	Birch Farm	8.14 199		P	P	23 55 07.1	-0.1
BFZ				S	S	23 56 43.4	+0.6
MRZ	Mangatainoka R	8.32 202		P	P	23 55 07.8	-1.3
MRZ				S	S	23 56 46.3	-0.2
NNZ	Nelson	9.61 210		P	P	23 55 22.6	-0.7
NNZ				S	S	23 57 12.2	-0.8
QRZ	Quartz Range	9.67 214		P	P	23 55 23.9	-0.1
QRZ				S	S	23 57 16.8	+2.5
THZ	Tophouse	10.26 210		P	P	23 55 30.8	+0.2
THZ				S	S	23 57 25.7	-0.6
KHZ	Kahutara	10.57 205		P	P	23 55 34.3	+0.3
KHZ				S	S	23 57 33.2	+0.9
DSZ	Denniston Nort	10.73 213		P	P	23 55 35.0	-0.8
DSZ				S	S	23 57 35.0	-0.7
GVZ	Greta Valley S	11.24 206		P	P	23 55 42.1	+0.8
GVZ				S	S	23 57 46.5	+0.8

JMA ***18*** *00:03:54.3±0.3, 31°N±2°×13°7E±°, h519km±3km, MD4.9/31, MV4.7/31, SHIKOKU BASIN*

NIED ***18*** *00:03:54.3, 30°.91N×137°.29E, h519km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.26; $M_{\theta\theta}$=2.14; $M_{\phi\phi}$=-0.87; $M_{r\theta}$=0.49; $M_{\theta\phi}$=1.55; $M_{\phi r}$=1.16; Fault plane solution: M_0=2.67000×10^{16} NP1: ϕ_s=286.00000°, δ51.00000°, λ-25.00000°. NP2: ϕ_s=32.00000°, δ71.00000°, λ-138.00000°.*

BJI ***18*** *00:03:55.3, 30°.84N×137°.08E, h492km, mB4.9/24, mb5.3/69*

MOS ***18*** *00:03:55.2±0.8, 30°.87N×137°.03E, h486km, mb4.5/63, Error ellipse: s-maj=7.8km s-min=4.1km az=112.9*

NEIC ***18*** *00:03:57.0±1.4, 30°.87N±0°.07×137°.1E±0°.1, h495km±6km, mb4.5/213, Error ellipse: s-maj=12.7km s-min=10.7km az=91.0*

IDC ***18*** *00:03:57.1±0.7, 30°.92N×137°.04E, h495km±7km, mb4.0/26, mbtmp4.9/33, Error ellipse: s-maj=10.0km s-min=6.4km az=64.0*

ISC 18 00:03:56.3±0.4, 30°.87N±0°.03×137°.19E±0°.04, h491km±3km, h493km:pP-P, n736, σ1s11/783, mb4.5/233, 58C-32D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.71	53	P	P	00 05 05.0	+0.4
JAOM				*e*S	S	00 06 01.2	+1.0
TTO1	TONANKAI O.B.S	2.76	353	P	P	00 05 06.1	+1.6
JWKM	Wakayamakushim	2.84	335	A	A	00 05 06.3	
	comp=N,7.0nm,2.4s,comp=E,5.0nm,2.8s						
TTO3	TONANKAI O.B.S	2.99	3	A	A	00 05 07.0	
	comp=N,11nm,3.2s,comp=E,17nm,2.1s						
JMMH	Miemihama	3.10	342	A	A	00 05 08.0	
	comp=N,3.0nm,2.7s,comp=E,3.0nm,3.6s						
TTO4	TONANKAI O.B.S	3.14	5	A	A	00 05 08.0	
	comp=N,15nm,2.3s,comp=E,9.0nm,1.8s						
JHJ	Hachijo jima 2	3.14	44	P	P	00 05 07.5	+0.1
	comp=E,735nm,0.7s,baz=318,slow=19,SNR=67						
JHJ				S	S	00 06 05.6	+0.1
	comp=E,231nm,0.3s,baz=293,slow=23,SNR=4.6						
JHJ2	Mitsune	3.16	44	P	P	00 05 06.8	-0.8
JHJ2				S	S	00 06 05.6	0.0
JHJ2	Mitsune	3.16	44	P	P	00 05 08.0	+0.5
JHJ2	Mitsune	3.16	44	P	P	00 05 07.0	-0.6
JTNC	Tanabenakahech	3.23	336	P	P	00 05 08.5	+0.4
JTNC				*e*S	S	00 06 06.3	-0.3
JWM	Minabe	3.35	333	A	A	00 05 09.8	
	comp=N,3.0nm,3.4s,comp=E,3.0nm,2.1s						
JIE	Ise	3.53	353	P	P	00 05 11.5	+1.2
JIE				*e*S	S	00 06 11.3	+0.6
JIE	Ise	3.53	353	A	A	00 05 11.5	
	comp=N,3.0nm,2.7s,comp=E,5.0nm,2.6s						
JWY	Kouya	3.60	338	P	P	00 05 11.9	+1.1
JAI	Aioi	3.72	322	P	P	00 05 12.6	+0.9
JAI				S	S	00 06 14.1	+0.7
JAA	Atsumi	3.75	359	A	A	00 05 12.4	
	comp=N,2.0nm,3.3s,comp=E,3.0nm,3.1s						
JSG	Sagara	3.88	12	P	P	00 05 13.3	+0.2
JSG				S	S	00 06 16.9	+1.2
JSG	Sagara	3.88	12	A	A	00 05 13.3	
	comp=N,5.0nm,2.8s,comp=E,7.0nm,2.4s						
JMN	Monobe	4.00	316	P	P	00 05 14.1	0.0
JMN					S	00 06 17.6	+0.1
JMN	Monobe	4.00	316	P	P	00 05 15.2	+1.2
HMMJ	Hamamatsu 2	4.00	6	A	A	00 05 14.3	
	comp=N,2.0nm,4.8s,comp=E,3.0nm,4.2s						
JTO	Tosashimizu	4.23	299	P	P	00 05 16.4	+0.4
JTO				*e*S	S	00 06 20.9	0.0
SHZ3	Shizuoka 3	4.27	11	A	A	00 05 16.4	
	comp=N,4.0nm,2.3s,comp=E,6.0nm,3.0s						
INU	Inuyama	4.47	358		P	00 05 17.3	-0.6
INU				S	S	00 06 24.6	0.0
INU	Inuyama	4.47	358	P	P	00 05 18.8	+0.9
JNY	Yasuok	4.51	7	A	A	00 05 18.4	
	comp=N,5.0nm,1.6s,comp=E,6.0nm,2.4s						
UWA2	Uwa jima 2	4.53	302	A	A	00 05 19.4	
	comp=N,3.0nm,2.7s,comp=E,1.0nm,4.7s						
JOD2	Odawara 2	4.66	19	P	P	00 05 19.1	-0.6
JOD2				*e*S	S	00 06 25.2	-2.6
JGF	Kuroka	4.72	2	P	P	00 05 20.2	0.0
JGF				S	S	00 06 28.4	-0.3
JGF	Kuroka	4.72	2	P	P	00 05 21.2	+1.0
JSKE	Saikikamae	4.89	294	A	A	00 05 22.7	
	comp=N,3.0nm,2.7s,comp=E,2.0nm,2.4s						
BSO1	Boso 1	4.94	39	P	P	00 05 19.7	-1.8
BSO1				S	S	00 06 26.0	-5.2
JKUC	kamogawauchiur	4.97	30	A	A	00 05 22.1	

INCN	**Inchon**	**10.95 310**	P	**P**	**00 06 23.2**	**-0.3**
INCN	**Inchon**	**10.95 310**	P	**P**	**00 06 23.2**	**-0.3**
	comp=E,76nm,0.9s					
INCN	**Inchon**	**10.95 310**	P	**P**	**00 06 23.2**	**-0.3**
JOSM	**Okushiri--Mats**	**11.34 9**	P	**P**	**00 06 28.2**	**+0.7**
ERM	**Erimo**	**12.11 22**		**P**	**00 06 37.1**	**+1.3**
ERM	**Erimo**	**12.11 22**	*ce*P	**P**	**00 06 36.7**	**+0.9**
ERM			pmax	pmax		
	comp=Z,71nm,1.0s					
MSHR	**Mys Shultsa**	**12.64 339**	*ce*P	**P**	**00 06 41.0**	**-0.5**
MSHR			pmax	pmax		
	comp=Z,69nm,0.7s					
PSTR	**Posyet**	**12.82 338**	*d i*P	**P**	**00 06 43.7**	**+0.4**
VLA	**Vladivostok**	**12.94 342**	*d i*P	**P**	**00 06 45.1**	**+0.5**
VLA			pmax	pmax		
	comp=Z,114nm,1.0s					
ASAJ	**Asahikawa**	**13.89 16**	P	**P**	**00 06 55.9**	**+1.1**
	comp=Z,37nm,0.4s,baz=226,slow=13,SNR=24					
ASAJ			S	**S**	**00 09 19.9**	**-2.1**
	comp=Z,54nm,0.8s,baz=67,slow=27,SNR=6.2					
JKA	**Kamikawa-asahi**	**13.89 16**	P	**P**	**00 06 55.5**	**+0.8**
USA0B	**Ussuriysk Arra**	**13.93 344**	*c i*P	**P**	**00 06 55.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**13.93 344**	P	**P**	**00 06 54.0**	**-1.1**
USRK	**Ussuriysk Ar.**	**13.93 344**	P	**P**	**00 06 55.2**	**+0.1**
	comp=Z,332nm,0.6s,baz=158,slow=11,SNR=569					
YOJ	**Yonaguni jima**	**14.09 247**	P	**P**	**00 06 55.8**	**-1.3**
YOJ	**Yonaguni jima**	**14.09 247**	P	**P**	**00 06 56.6**	**-0.5**
YOJ	**Yonaguni jima**	**14.09 247**	P	**P**	**00 06 55.8**	**-1.3**
TEY	**Ternei**	**14.15 358⇑**	*e*P	**P**	**00 06 57.3**	**-0.1**
TEY			pmax	pmax		
	comp=Z,70nm,0.5s					
TEY			pmax	pmax		
	comp=N,40nm,0.9s					
MDJ	**Mudanjiang**	**14.97 339**	P	**P**	**00 07 05.7**	**-0.3**
MDJ	**Mudanjiang**	**14.97 339**	P	**P**	**00 07 05.6**	**-0.5**
MDJ			sP		00 08 55.5	
MDJ			S	**S**	**00 09 43.8**	**+1.2**
MDJ			pmax	pmax		
	comp=N,66nm,1.4s					
MDJ			pmax	pmax		
	comp=N,330nm,3.5s					
DL2	**Dalian**	**15.06 306**	P	**P**	**00 07 05.6**	**-1.5**
DL2			S	**S**	**00 09 41.4**	**-3.2**
DL2			pmax	pmax		
	comp=N,32nm,0.6s					
DL2			pmax	pmax		
	comp=N,240nm,5.7s					
TATO	**Taipei**	**15.07 251**	P	**P**	**00 07 05.7**	**-1.7**
YHNB	**Yeheng**	**15.29 250**	P	**P**	**00 07 08.0**	**-1.9**
YHNB	**Yeheng**	**15.29 250**	P	**P**	**00 07 08.6**	**-1.3**
NACB	**Ninganchiao**	**15.35 248**	P	**P**	**00 07 08.4**	**-1.9**
NACB	**Ninganchiao**	**15.35 248**	P	**P**	**00 07 10.2**	**-0.2**
NJ2	**Nanjing**	**15.70 279⇑**	*i*P	**P**	**00 07 12.8**	**-1.1**
NJ2			pmax	pmax		
	comp=N,170nm,0.8s					
CN2	**Changchun**	**15.91 327**	P	**P**	**00 07 16.0**	**+0.1**
CN2			S	**S**	**00 09 57.8**	**-2.9**
CN2			pmax	pmax		
	comp=N,60nm,0.8s					
YULB	**Yu-li**	**15.98 246**	P	**P**	**00 07 15.0**	**-2.0**
YULB	**Yu-li**	**15.98 246**	P	**P**	**00 07 14.9**	**-2.1**
SSLB	**Suanglung**	**16.05 248**	P	**P**	**00 07 16.8**	**-1.0**
SSLB	**Suanglung**	**16.05 248**	P	**P**	**00 07 16.3**	**-1.5**
TWGBT	**Beinan**	**16.45 245**	P	**P**	**00 07 21.8**	**-0.2**
	comp=N,110nm,0.9s					
TWG	**Pinlang**	**16.46 245**	P	**P**	**00 07 19.9**	**-2.1**
TPUB	**Ta-pu**	**16.55 247**	P	**P**	**00 07 21.4**	**-1.6**
TPUB	**Ta-pu**	**16.55 247**	P	**P**	**00 07 21.3**	**-1.8**
YSS	**Yuzhno-Sakhali**	**16.62 13**		**P**	**00 07 23.6**	**+0.1**
YSS	**Yuzhno-Sakhali**	**16.62 13**	P	**P**	**00 07 24.6**	**+1.2**
YSS	**Yuzhno-Sakhali**	**16.62 13**	*e*P	**P**	**00 07 23.7**	**+0.3**
YSS			*e*S	**S**	**00 10 13.1**	**-0.6**
YSS			pmax	pmax		
	comp=Z,200nm,3.0s					
YSS			pmax	pmax		
	comp=Z,50nm,0.9s					
YSS			smax	smax		
	comp=N,40nm,1.3s					
YSS			smax	smax		
	comp=E,30nm,1.3s					
YSS			smax	smax		
	comp=N,500nm,5.2s					
YSS			smax	smax		
	comp=E,400nm,4.4s					
BNX	**BinXian**	**16.69 336**	⇑P	**P**	**00 07 23.4**	**-0.7**
BNX			S	**S**	**00 10 15.6**	**+0.6**
BNX			pmax	pmax		
	comp=E,240nm,0.7s					
BNX			pmax	pmax		
	comp=E,490nm,3.5s					
TIA	**Tai'an**	**17.55 293**	P	**P**	**00 07 31.3**	**-1.5**
TIA			S	**S**	**00 10 24.5**	**-5.4**
TIA			pmax	pmax		
	comp=E,66nm,1.1s					
TIA			pmax	pmax		
	comp=E,170nm,3.6s					
KNMB	**Chin-men Tao**	**17.83 254**	P	**P**	**00 07 33.5**	**-2.1**
GUMO	**Guam**	**18.60 156**	P	**P**	**00 07 43.4**	**+0.7**
	comp=E,392nm,0.8s,baz=158,slow=3.8,SNR=12					
KLR	**Kul'dur**	**18.79 349**	P	**P**	**00 07 44.8**	**+0.7**
	comp=E,27nm,0.5s,baz=168,slow=8.8,SNR=98					
KLR			ScP	**ScP**	**00 14 34.9**	**+0.1**
	comp=E,1.8nm,0.9s,baz=30,slow=4.1,SNR=4.3					
KLR	**Kul'dur**	**18.79 349**	*e*P	**P**	**00 07 42.4**	**-1.7**
KLR			pmax	pmax		
	comp=Z,65nm,1.5s					
BJI	**Beijing**	**19.37 304**	P	**P**	**00 07 49.0**	**-0.5**
BJI			S	**S**	**00 10 55.4**	**-4.0**
WHN	**Wuhan**	**19.64 275**	P	**P**	**00 07 51.8**	**-0.3**
WHN			S	**S**	**00 11 09.3**	**+5.3**
WHN			pmax	pmax		
	comp=Z,270nm,0.5s					
HNS	**HongShan**	**19.70 295**	⇓P	**P**	**00 07 51.6**	**-0.9**
HNS			S	**S**	**00 11 03.5**	**-1.2**
HNS			pmax	pmax		
	comp=Z,41nm,1.3s					
GRNR	**Gornyy**	**19.89 359⇑**	*i*P	**P**	**00 07 55.3**	**+1.2**
GRNR			pmax	pmax		
	comp=N,40nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,60nm,0.7s					
SZP	**Santa**	**20.18 233**	P	**P**	**00 07 57.9**	**+0.7**
	comp=Z,191nm,1.1s					
TYV	**Tymovskoe**	**20.38 10**	*e*P	**P**	**00 08 00.0**	**+1.5**
TYV			pmax	pmax		
	comp=Z,31nm,0.7s					
TYV			pmax	pmax		
	comp=Z,100nm,3.9s					
HEH	**HeiHe**	**20.70 342**	*e*P	**P**	**00 08 01.8**	**+0.3**
HEH			pmax	pmax		
	comp=Z,93nm,0.8s					
LYN	**LuoYang**	**21.11 287**	⇑P	**P**	**00 08 05.3**	**-0.1**
LYN			sP	sP	00 10 15.5	+0.5
LYN			S	**S**	**00 11 25.0**	**-2.4**
LYN			pmax	pmax		
	comp=Z,69nm,0.8s					
LYN			pmax	pmax		
	comp=Z,200nm,6.9s					
XLT	**XiLinHaoTe**	**21.15 314**	*e*P	**P**	**00 08 06.1**	**+0.3**
XLT			S	**S**	**00 11 26.6**	**-1.5**
CNSH	**ChangSha**	**21.27 269**	P	**P**	**00 08 06.9**	**0.0**
CNSH			pmax	pmax		
	comp=Z,42nm,0.5s					
HIA	**Hailar**	**22.62 329**	IAmb	IAmb	00 08 19.9	
	comp=Z,12nm,0.7s					
HIA	**Hailar**	**22.62 329**	*c i*P	**P**	**00 08 18.6**	**-0.2**
HIA			pmax	pmax		
	comp=Z,11nm,0.9s					
ZEA	**Zeya**	**23.96 345**	*e*P	**P**	**00 08 31.4**	**+0.7**
ZEA			pmax	pmax		
	comp=N,20nm,0.7s					
ZEA			pmax	pmax		
	comp=Z,50nm,0.7s					
BTO	**Baotou**	**24.02 301**	*e*P	**P**	**00 08 33.1**	**+1.6**
BTO			S	**S**	**00 12 21.9**	**+8.5**
BTO			pmax	pmax		
	comp=Z,29nm,1.0s					
XAN	**Xi'an**	**24.03 285**	⇓P	**P**	**00 08 31.1**	**-0.6**
XAN			pmax	pmax		
	comp=Z,140nm,0.8s					
GULI	**GuiLin**	**24.28 263**	P	**P**	**00 08 34.8**	**+0.8**
GULI			pmax	pmax		
	comp=Z,60nm,0.8s					
SKR	**Severo-Kuril's**	**24.31 30**	*e*P	P	00 08 50.3	+17
SKR			pmax	pmax		
	comp=Z,100nm,4.6s					
SKR			MLR	MLR		
	comp=Z,200nm,13.0s					
PETK	**Petropavlovsk-**	**26.76 28**	P	**P**	**00 08 57.5**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=202,slow=10.0,SNR=2.1					
PETK			ScP	**ScP**	**00 14 54.8**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=259,slow=2.9,SNR=4.2					
GYA	**Guiyang**	**27.10 268**	⇑P	**P**	**00 08 58.9**	**-0.1**
GYA			pmax	pmax		
	comp=Z,84nm,0.7s					
LZH	**Lanzhou**	**28.21 290**	P	**P**	**00 09 08.3**	**-0.4**
LZH			pP	pP	00 10 26.3	-5.9
LZH			S	**S**	**00 13 23.3**	**+3.9**
LZH			pmax	pmax		
	comp=Z,75nm,1.2s					
ULN	**Ulaanbaatar**	**28.58 315**	P	**P**	**00 09 11.7**	**0.0**
ULN				**pP**	**00 10 34.8**	**-0.4**
ULN	**Ulaanbaatar**	**28.58 315⇑**	*e*P	**P**	**00 09 10.9**	**-0.8**
ULN			pmax	pmax		
	comp=Z,4.0nm,0.7s					
SONM	**Songino Array**	**28.96 315**	P	**P**	**00 09 15.0**	**-0.1**
SONM			pP	**pP**	**00 10 38.5**	**-0.3**
SONM	**Songino Array**	**28.96 315**	P	**P**	**00 09 14.7**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=132,slow=9.1,SNR=12					
SONM			PcP	**PcP**	**00 12 09.1**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=139,slow=3.1,SNR=13					
SONM			ScP	**ScP**	**00 15 02.5**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=134,slow=2.6,SNR=4.3					
MA2	**Magadan**	**30.13 14**		**P**	**00 09 25.9**	**+1.1**
MA2			IAmb	IAmb	00 09 26.8	
	comp=Z,19nm,0.6s					
MA2	**Magadan**	**30.13 14**	P	**P**	**00 09 26.5**	**+1.6**
MA2	**Magadan**	**30.13 14**	*ce*P	**P**	**00 09 25.6**	**+0.7**
MA2			pmax	pmax		
	comp=Z,16nm,0.7s					
MA2	**Magadan**	**30.13 14**	P	**P**	**00 09 26.1**	**+1.2**
	comp=Z,26nm,1.0s					
MYLDM	**Lahad Datu**	**31.02 218**	P	**P**	**00 09 33.2**	**+0.1**
MYLDM			IAmb	IAmb	00 09 35.9	
	comp=Z,31nm,0.9s					
MYLDM	**Lahad Datu**	**31.02 218**	P	**P**	**00 09 35.3**	**+2.2**
SLVN	**Son La**	**31.27 260**	P	**P**	**00 09 34.9**	**-0.4**
SLVN	**Son La**	**31.27 260**	P	**P**	**00 09 36.4**	**+1.1**
PZH	**PanZhiHua**	**31.32 271**	P	**P**	**00 09 35.3**	**-0.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,100nm,4.5s					
GTA	**Gaotai**	**31.55 296**	*e*P	**P**	**00 09 37.6**	**0.0**
GTA			pP	pP	00 11 06.6	+4.2
GTA			PcP	**PcP**	**00 12 16.5**	**+0.9**
GTA			S	**S**	**00 14 09.4**	**-1.5**
GTA			ScS	**ScS**	**00 19 10.8**	**-0.4**
GTA			pmax	pmax		
	comp=Z,55nm,1.1s					
YAK	**Yakutsk**	**31.55 353**	P	**P**	**00 09 36.9**	**-0.1**
YAK			IAmb	IAmb	00 09 37.8	
	comp=Z,27nm,0.7s					
YAK	**Yakutsk**	**31.55 353**	*e*P	**P**	**00 09 36.4**	**-0.6**
YAK			*e**PP	**pP**	**00 11 01.4**	**-0.6**
YAK			*e*S	**S**	**00 14 08.4**	**-1.5**
YAK			*e*		00 19 04.4	
YAK			pmax	pmax		
	comp=Z,24nm,0.9s					
YAK			pmax	pmax		
	comp=E,3.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,8.0nm,1.1s					
YAK			smax	smax		
	comp=E,59nm,1.5s					
YAK			smax	smax		
	comp=N,140nm,1.8s					
DLV	**Lat**	**32.54 241**	P	**P**	**00 09 44.0**	**-2.4**
DLV	**Lat**	**32.54 241**	P	**P**	**00 09 47.1**	**+0.7**
	comp=N,87nm,1.2s					
UBPT	**Khong Chiam**	**32.91 249**	P	**P**	**00 09 48.5**	**-0.7**
UBPT	**Khong Chiam**	**32.91 249**	P	**P**	**00 09 50.2**	**+1.0**
NONG	**Nongkai**	**33.37 256**	P	**P**	**00 09 53.7**	**+0.5**
	comp=N,189nm,0.7s					
MRSI	**Marisa**	**33.52 208**	P	**P**	**00 09 54.9**	**+0.5**
	comp=N,31nm,0.6s					
SEY	**Seymchan**	**33.53 13**	*e*P	**P**	**00 09 53.8**	**-0.1**
SEY			pmax	pmax		
	comp=Z,4.0nm,0.7s					
FAKI	**Fak Fak**	**33.93 189**	P	**P**	**00 09 57.2**	**-0.7**
FAKI	**Fak Fak**	**33.93 189**	P	**P**	**00 09 57.9**	**0.0**
FAKI	**Fak Fak**	**33.93 189**	P	**P**	**00 09 57.8**	**-0.1**
	comp=Z,53nm,0.7s					
TNCH	**TengChong**	**34.53 270**	P	**P**	**00 10 02.9**	**-0.2**
TNCH			PP	**PP**	**00 11 43.1**	**+3.2**
TNCH			S	**S**	**00 14 56.9**	**+0.2**
TNCH			pmax	pmax		
	comp=Z,130nm,0.9s					
TNCH			pmax	pmax		
	comp=Z,150nm,3.7s					
AAI	**Ambon**	**35.42 196**	P	**P**	**00 10 11.6**	**+1.2**
	comp=Z,103nm,0.6s					
GOMU	**GeErMu**	**35.51 290**	P	**P**	**00 10 11.3**	**-0.1**
GOMU			pmax	pmax		
	comp=Z,150nm,1.1s					
PHRA	**Phrae**	**35.61 259**	P	**P**	**00 10 11.9**	**-0.1**
CHTO	**Chiang Mai**	**36.55 260**	P	**P**	**00 10 19.1**	**-0.7**
CHTO	**Chiang Mai**	**36.55 260**	P	**P**	**00 10 19.1**	**-0.7**
CHTO			pmax	pmax		
	comp=Z,72nm,0.9s					
CM31	**Chiang Mai Arr**	**36.71 259**	P	**P**	**00 10 20.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**36.71 259**	P	**P**	**00 10 20.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**36.71 259**	P	**P**	**00 10 21.9**	**+0.6**
	comp=Z,20nm,0.7s,baz=52,slow=7.1,SNR=109					
CMAR			ScP	**ScP**	**00 15 31.6**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=30,slow=2.7,SNR=8.6					
	comp=Z,20nm,0.7s					
CMAR	**Chiang Mai Arr**	**36.71 259**	*ce*P	**P**	**00 10 21.8**	**+0.6**
CMAR			pmax	pmax		
	comp=Z,21nm,0.7s					
NAYO	**Nakonayok**	**36.79 252**	P	**P**	**00 10 22.6**	**+0.8**
SBUM	**Sibu**	**36.83 225**	P	**P**	**00 10 22.4**	**+0.3**
SBUM			IAmb	IAmb	00 10 24.0	
	comp=Z,12nm,1.0s					
SBUM	**Sibu**	**36.83 225**	P	**P**	**00 10 23.3**	**+1.2**
RABL	**Rabaul**	**37.69 155**	P	**P**	**00 10 28.9**	**-0.2**
SRDT	**SRDT**	**38.57 253**	P	**P**	**00 10 37.5**	**+1.1**
KSM	**Kuching**	**38.77 226**	P	**P**	**00 10 38.3**	**+0.3**
KSM	**Kuching**	**38.77 226**	P	**P**	**00 10 39.5**	**+1.5**
KAPI	**Kappang**	**39.39 208**	P	**P**	**00 10 42.9**	**-0.1**
KAPI			IAmb	IAmb	00 10 44.3	
	comp=Z,24nm,1.0s					
KAPI	**Kappang**	**39.39 208**	P	**P**	**00 10 44.6**	**+1.6**
KAPI	**Kappang**	**39.39 208**	*d i*P	**P**	**00 10 42.6**	**-0.4**
KAPI			pmax	pmax		
	comp=Z,19nm,0.9s					
LSA	**Lhasa**	**39.56 280**	P	**P**	**00 10 44.9**	**+0.1**
LSA			IAmb	IAmb	00 10 47.0	
	comp=Z,8.9nm,0.5s					
LSA	**Lhasa**	**39.56 280**	P	**P**	**00 10 45.6**	**+0.8**
LSA	**Lhasa**	**39.56 280**	P	**P**	**00 10 44.9**	**+0.1**
LSA			pmax	pmax		
	comp=Z,9.0nm,0.5s					
LSA	**Lhasa**	**39.56 280**	*i* P	**P**	**00 10 46.0**	**+1.1**
	SNR=13					
SHL	**Shillong**	**40.06 274**	P	**P**	**00 10 47.8**	**-0.8**
SHL			IAmb	IAmb	00 10 49.6	
	comp=Z,22nm,0.7s					
SHL	**Shillong**	**40.06 274**	P	**P**	**00 10 47.8**	**-0.8**
SHL			pmax	pmax		
	comp=Z,22nm,0.7s					
WMQ	**Urumqi**	**40.84 303**	⇑P	**P**	**00 10 55.0**	**+0.5**
WMQ			pmax	pmax		
	comp=Z,26nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,150nm,4.3s					
BILL	**Bilibino**	**40.91 16**	P	**P**	**00 10 55.1**	**+0.5**
BILL			IAmb	IAmb	00 10 56.9	
	comp=Z,11nm,0.8s					
BILL	**Bilibino**	**40.91 16**	*c i*P	**P**	**00 10 55.7**	**+1.2**
BILL			pmax	pmax		
	comp=Z,24nm,1.7s					
TIXI	**Tiksi**	**41.08 356**	P	**P**	**00 10 55.3**	**-0.5**
TIXI			IAmb	IAmb	00 10 56.6	
	comp=Z,6.9nm,0.6s					
TIXI	**Tiksi**	**41.08 356**	*c i*P	**P**	**00 10 55.7**	**-0.1**
TIXI			pmax	pmax		
	comp=Z,5.0nm,0.7s					
ATKA	**Atka Island**	**41.21 44**	P	**P**	**00 10 57.8**	**+0.6**
SRIT	**Nakonsritamara**	**41.45 246**	P	**P**	**00 10 59.1**	**-0.4**
SRIT	**Nakonsritamara**	**41.45 246**	P	**P**	**00 11 00.5**	**+1.0**
	comp=Z,62nm,0.8s					
SOEI	**Soe**	**42.26 199**	P	**P**	**00 11 07.0**	**+1.0**
KULM	**Kulim**	**42.72 241**	P	**P**	**00 11 09.7**	**0.0**
KULM	**Kulim**	**42.72 241**	P	**P**	**00 11 10.5**	**+0.9**
	comp=Z,48nm,1.0s					
MYKOM	**Kota Tinggi**	**42.79 234**	P	**P**	**00 11 10.5**	**+0.3**
MYKOM			IAmb	IAmb	00 11 11.8	
	comp=Z,25nm,0.6s					
BATI	**Baumata**	**42.86 200**	P	**P**	**00 11 11.3**	**+0.6**
	comp=Z,19nm,0.5s					
IPM	**Ipoh**	**42.97 240**	P	**P**	**00 11 10.5**	**-1.1**
IPM	**Ipoh**	**42.97 240**	P	**P**	**00 11 11.7**	**+0.1**
DRS	**Darwin Rock St**	**43.48 189**	P	**P**	**00 11 15.6**	**+0.2**
	comp=Z,28nm,0.6s					
KDU	**Kakadu**	**43.54 187**	P	**P**	**00 11 16.1**	**+0.2**
PLAI	**Plampang**	**43.65 208**	P	**P**	**00 11 15.4**	**-1.4**
TPI	**Tanjungpandan**	**43.71 225**	P	**P**	**00 11 17.7**	**+0.4**
	comp=Z,974nmcomp=Z,94nm,0.7s					
ZAA0	**Zalesovo Array**	**43.77 317**	P	**P**	**00 11 17.1**	**-0.2**
ZAA0			IAmb	IAmb	00 11 17.7	
	comp=Z,12nm,1.2s					
ZAA0	**Zalesovo Array**	**43.77 317**	IAmb	IAmb	00 12 53.6	
	comp=Z,8.7nm,0.9s					
ZAA0	**Zalesovo Array**	**43.77 317**	P	**PcP**	**00 12 50.5**	**-2.8**
ZALV	**Zalesovo Beam**	**43.77 317**	P	**P**	**00 11 16.8**	**-0.5**
ZALV	**Zalesovo Beam**	**43.77 317**	P	**PcP**	**00 12 53.1**	**-0.2**
ZALV	**Zalesovo Beam**	**43.77 317**	P	**P**	**00 11 17.0**	**-0.3**
	comp=Z,5.2nm,0.4s,baz=91,slow=8.6,SNR=18					
ZALV			PcP	**PcP**	**00 12 52.8**	**-0.5**
	comp=Z,5.2nm,0.5s,baz=101,slow=3.2,SNR=15					
ZALV			ScP	**ScP**	**00 15 56.1**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=106,slow=4.2,SNR=3.6					
ZALV			S	**S**	**00 17 08.6**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=101,slow=15,SNR=4.0					
	comp=Z,5.2nm,0.4s					
KMMI	**Kalianget**	**43.78 214**	P	**P**	**00 11 17.9**	**+0.1**
	comp=Z,57nm,0.6s					
MTN	**Manton Dam**	**43.85 189**	P	**P**	**00 11 17.4**	**-0.9**
MTN	**Manton Dam**	**43.85 189**	P	**P**	**00 11 18.1**	**-0.2**
SRBI	**Singaraja**	**44.09 212**	P	**P**	**00 11 20.7**	**+0.4**
	comp=Z,31nm,0.5s					
PPBI	**Pangkal Pinang**	**44.20 228**	P	**P**	**00 11 22.4**	**+1.3**
MK31	**Makanchi Array**	**44.71 307**	P	**P**	**00 11 24.5**	**-0.2**
MK31			IAmb	IAmb	00 11 25.7	
	comp=Z,10nm,0.8s					
MK31	**Makanchi Array**	**44.71 307**	*d i*P	**P**	**00 11 24.6**	**-0.2**
MKAR	**Makanchi Array**	**44.71 307**	P	**P**	**00 11 24.3**	**-0.5**
MKAR				**pP**	**00 12 56.0**	**-0.3**
MKAR	**Makanchi Array**	**44.71 307**	P	**P**	**00 11 24.4**	**-0.3**
	comp=Z,6.6nm,0.5s,baz=85,slow=10,SNR=128					
MKAR			PcP	**PcP**	**00 12 56.6**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=81,slow=6.5,SNR=21					
MKAR			ScP	**ScP**	**00 16 00.9**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=79,slow=4.0,SNR=4.3					
MKAR			S	**S**	**00 17 23.2**	**-1.7**
	comp=Z,2.6nm,1.0s,baz=94,slow=18,SNR=9.2					
	comp=Z,6.6nm,0.5s					
JAGI	**Jajag, Banyuwa**	**44.93 213**	P	**P**	**00 11 25.6**	**-1.2**
JAGI			IAmb	IAmb	00 11 28.1	
	comp=Z,17nm,0.6s					
MAKZ	**Makanchi**	**44.93 307**	P	**P**	**00 11 26.2**	**-0.2**
MAKZ			IAmb	IAmb	00 11 27.5	
	comp=Z,28nm,1.4s					
MAKZ	**Makanchi**	**44.93 307**	P	**P**	**00 11 26.6**	**+0.2**
COEN	**Coen**	**44.94 172**	P	**P**	**00 11 27.4**	**+0.6**
COEN	**Coen**	**44.94 172**	P	**P**	**00 11 27.5**	**+0.7**
PBA	**Port Blair**	**45.27 255**	P	**P**	**00 11 29.2**	**-0.2**
PBA			IAmb	IAmb	00 11 33.1	
	comp=Z,27nm,0.7s					
LHMI	**Lhok Sumawe**	**45.59 244**	P	**P**	**00 11 31.6**	**-0.2**
LHMI	**Lhok Sumawe**	**45.59 244**	P	**P**	**00 11 33.0**	**+1.1**
	comp=Z,79nm,0.5s					
SMRI	**Semarang**	**45.59 219**	P	**P**	**00 11 30.9**	**-0.9**
PSI	**Prapat**	**45.65 240**	P	**P**	**00 11 32.5**	**0.0**
PSI	**Prapat**	**45.65 240**	P	**P**	**00 11 30.1**	**-2.4**
PSI			pmax	pmax		
	comp=Z,22nm,0.7s					
RPSI	**Rantau Prapat**	**45.72 240**	P	**P**	**00 11 30.1**	**-2.7**
RPSI			IAmb	IAmb	00 11 33.2	
	comp=Z,22nm,0.7s					
BKNI	**Bangkinang**	**45.80 235**	P	**P**	**00 11 33.5**	**0.0**
KPJI	**Karang Pucung**	**46.65 220**	P	**P**	**00 11 40.0**	**+0.1**
	comp=Z,72nm,0.8s					
PPI	**Padang Panjang**	**46.80 235**	P	**P**	**00 11 41.1**	**0.0**
	comp=Z,34nm,0.8s					
KNRA	**Kununurra**	**46.98 191**	P	**P**	**00 11 42.5**	**+0.1**
KURK	**Kurchatov**	**47.22 312**	P	**P**	**00 11 43.3**	**-0.5**
KURK	**Kurchatov**	**47.22 312**	*c i*P	**P**	**00 11 42.8**	**-1.0**
KURK			pmax	pmax		
	comp=Z,67nm,1.3s					
MDSI	**Maura Dua**	**47.22 228**	P	**P**	**00 11 44.3**	**0.0**
WUS	**Wushi**	**47.23 299**	IAmb	IAmb	00 11 45.7	
	comp=Z,60nm,1.5s					
KURBB	**Kurchatov Arra**	**47.28 312**	P	**P**	**00 11 43.8**	**-0.4**
	comp=Z,24nm,0.5s,baz=91,slow=7.1,SNR=504					
KURBB			PcP	**PcP**	**00 13 04.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=94,slow=3.8,SNR=4.9					
KURBB			S	**S**	**00 17 58.4**	**-2.1**
	comp=Z,3.2nm,0.9s,baz=89,slow=13,SNR=5.7					
	comp=Z,24nm,0.5s					
NRIK	**Noril'sk**	**47.55 338**	P	**P**	**00 11 46.1**	**+0.2**
NRIK	**Noril'sk**	**47.55 338**	P	**P**	**00 11 45.9**	**0.0**
	comp=Z,2.1nm,0.4s,baz=111,slow=8.8,SNR=9.4					
NRIK			PcP	**PcP**	**00 13 06.8**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=106,slow=4.8,SNR=5.4					
NRIK			ScP	**ScP**	**00 16 13.3**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=97,slow=5.4,SNR=5.1					
NRIK			S	**S**	**00 18 03.2**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=189,slow=23,SNR=22					
	comp=Z,2.1nm,0.4s					
NRIK	**Noril'sk**	**47.55 338**	*de*P	**P**	**00 11 45.6**	**-0.3**
NRIK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
GSI	**Gunungsitoli**	**47.64 240**	P	**P**	**00 11 47.8**	**+0.3**
GSI	**Gunungsitoli**	**47.64 240**	P	**P**	**00 11 47.2**	**-0.3**
SISI	**Saibi**	**48.34 236**	P	**P**	**00 11 52.1**	**-0.6**
	comp=Z,32nm,0.8s					
KDJ	**Kajisay**	**48.63 301**	P	**P**	**00 11 55.1**	**+0.4**
KDJ			IAmb	IAmb	00 11 57.1	
	comp=Z,9.3nm,0.8s					
KDJ	**Kajisay**	**48.63 301**	P	**P**	**00 11 55.1**	**+0.4**
KDJ			pmax

comp=Z,18nm,1.0s
WB2 Warramunga Arr 50.60 183 P **P** **00 12 08.3 -0.9**
WB2 IAmb IAmb 00 12 10.0
comp=Z,20nm,0.7s
WRA Warramunga Arr 50.60 183 P **P** **00 12 08.4 -0.8**
WRA Warramunga Arr 50.60 183 P **P** **00 12 08.8 -0.5**
comp=Z,19nm,0.6s,baz=359,slow=7.7,SNR=325
WRA ScP **ScP** **00 16 27.5 +0.5**
comp=Z,2.6nm,0.9s,baz=352,slow=4.7,SNR=5.0
WRA S **S** **00 18 45.1 -1.6**
comp=Z,1.6nm,0.7s,baz=357,slow=14,SNR=9.1
comp=Z,19nm,0.6s
WR0 Warramunga Arr 50.60 183 P **P** **00 12 08.6 -0.7**
WR0 IAmb IAmb 00 12 10.0
comp=Z,27nm,0.7s
TV1H Townsville Har 50.69 168 P **P** **00 12 10.7 +0.8**
comp=Z,26nm,0.7s
BRZS Berezniki 51.04 311 *e*P **P** **00 12 10.9 -1.2**
BRZS pmax pmax
comp=Z,41nm,3.4s
EKS2 Erkin-Say 51.05 302 P **P** **00 12 13.2 +0.7**
SNR=14
QIS Mount Isa 51.19 177 P **P** **00 12 14.0 +0.5**
AML Almayashu 51.20 301 P **P** **00 12 14.4 +0.5**
SNR=62
ARSB Arslanbob 51.86 300 P **P** **00 12 18.3 -0.1**
ARSB IAmb IAmb 00 12 20.0
comp=Z,14nm,1.2s
ARSB Arslanbob 51.86 300 P **P** **00 12 18.3 -0.1**
ARSB pmax pmax
comp=Z,14nm,1.2s
BVAR Borovoye Array 52.30 315 P **P** **00 12 20.9 -0.3**
comp=Z,18nm,0.6s,baz=94,slow=8.4,SNR=94
BVAR PcP **PcP** **00 13 24.3 -0.1**
comp=Z,5.7nm,0.3s,baz=121,slow=2.2,SNR=15
BVAR S **S** **00 19 06.3 -2.7**
comp=Z,2.5nm,0.8s,baz=91,slow=12,SNR=6.9
comp=Z,18nm,0.6s
BRVK Borovoye 52.37 315 P **P** **00 12 20.7 -0.9**
BRVK IAmb IAmb 00 12 22.6
comp=Z,19nm,0.8s
BRVK Borovoye 52.37 315 *de*P **P** **00 12 21.4 -0.3**
BRVK pmax pmax
comp=Z,27nm,1.0s
DRK Karamyk 53.10 298 P **P** **00 12 27.6 +0.1**
DRK IAmb IAmb 00 12 28.9
comp=Z,22nm,0.8s
DRK Karamyk 53.10 298 P **P** **00 12 27.6 +0.1**
DRK pmax pmax
comp=Z,22nm,0.8s
KK31 Karatay Array 53.35 303 P **P** **00 12 29.0 +0.1**
KK31 IAmb IAmb 00 12 30.0
comp=Z,49nm,0.8s
KK31 Karatay Array 53.35 303 P **P** **00 12 29.0 +0.1**
KK31 pmax pmax
comp=Z,49nm,0.9s
KKAR Karatay Array 53.35 303 P **P** **00 12 28.9 0.0**
KKAR Karatay Array 53.35 303 P **P** **00 12 28.4 -0.5**
KKAR IAmb IAmb 00 12 29.9
comp=Z,32nm,0.8s
KKAR Karatay Array 53.35 303 P **P** **00 12 28.9 0.0**
NIL Nilore 53.37 291 P **P** **00 12 29.0 -0.2**
NIL IAmb IAmb 00 12 30.8
comp=Z,46nm,0.8s
NIL Nilore 53.37 291 P **P** **00 12 29.0 -0.2**
NIL pmax pmax
comp=Z,46nm,0.8s
BTK Batken 53.72 299 P **P** **00 12 31.4 -0.3**
BTK IAmb IAmb 00 12 32.6
comp=Z,22nm,1.1s
BTK Batken 53.72 299 P **P** **00 12 31.4 -0.3**
BTK pmax pmax
comp=Z,22nm,1.1s
B21K Ikpikpuk River 53.84 24 P **P** **00 12 33.8 +1.9**
B21K IAmb IAmb 00 12 34.8
comp=Z,18nm,1.4s
BRLS Borolday 53.85 303 *e*P **P** **00 12 32.9 +0.4**
BRLS pmax pmax
comp=Z,14nm,1.6s
AS01 Alice Springs 54.31 184 P **P** **00 12 36.5 +0.6**
comp=Z,16nm,0.8s
AS31 Alice Springs 54.32 184 P **P** **00 12 36.0 0.0**
ASAR Alice Springs 54.32 184 P **P** **00 12 36.1 +0.2**
comp=Z,7.1nm,0.7s,baz=14,slow=13,SNR=111
ASAR ScP **ScP** **00 16 44.0 +0.8**
comp=Z,2.1nm,0.8s,baz=5.5,slow=5.0,SNR=6.7
ASAR S **S** **00 19 34.8 -1.5**
comp=Z,1.7nm,0.8s,baz=17,slow=21,SNR=7.2
comp=Z,7.1nm,0.7s
GAR Garm 54.33 298 P **P** **00 12 35.5 -0.6**
D22K Ayikyak River 54.42 25 P **P** **00 12 37.5 +1.4**
E22K Anaktuvuk Pass 54.67 26 P **P** **00 12 39.4 +1.5**
D23K Nanushuk River 55.15 25 P **P** **00 12 42.6 +1.5**
COLD Coldfoot 55.23 27 P **P** **00 12 41.3 -0.4**
C23K Itkillik River 55.24 24 P **P** **00 12 42.9 +1.1**
G23K Bananza Creek 55.27 28 P **P** **00 12 42.9 +0.8**
SIMJ Simiganj 55.40 298 P **P** **00 12 43.1 -0.5**
SIMJ IAmb IAmb 00 12 44.7
comp=Z,45nm,0.9s
E23K Chandalar 55.49 26 pP 00 14 25.4 +4.9
D24K Happy Valley 55.83 25 P **P** **00 12 47.5 +1.6**
D24K IAmb IAmb 00 12 48.8
comp=Z,26nm,1.4s
C24K Franklin Bluff 55.90 24 P **P** **00 12 47.7 +1.3**
C24K IAmb IAmb 00 12 49.1
comp=Z,8.5nm,0.7s
KBL Kabul 56.47 293 P **P** **00 12 50.5 -0.7**
KBL IAmb IAmb 00 12 51.9
comp=Z,18nm,0.7s
KBL **pwP** **00 14 30.8 +0.2**
KBL Kabul 56.47 293 P **P** **00 12 50.5 -0.7**
KBL *PP **pwP** **00 14 30.8 +0.2**
KBL pmax pmax
comp=Z,18nm,0.7s
ILAR Eielson Array 56.57 30 P **P** **00 12 51.2 +0.2**
comp=Z,0.5nm,0.4s,baz=248,slow=5.8,SNR=21
ILAR PcP **PcP** **00 13 40.4 -0.3**
comp=Z,0.5nm,0.6s,baz=264,slow=3.8,SNR=5.2
D25K Kavik River 56.71 24 P **P** **00 12 53.2 +1.2**
F25K Christian Rive 56.99 26 P **P** **00 12 55.9 +1.9**
BMAR Burnt Mountain 57.40 27 P **P** **00 12 58.6 +1.8**
EIDS Eidsvold 57.48 165 P **P** **00 12 58.3 +0.5**
EIDS IAmb IAmb 00 12 59.3
comp=Z,15nm,0.8s
QLP Quilpie 57.53 173 P **P** **00 12 58.9 +0.8**
F26K Sheenjek River 57.56 26 P **P** **00 12 59.9 +2.0**
SVE Sverdlovsk 57.56 321 *e*P **P** **00 12 58.5 +0.5**
SVE pmax pmax
comp=Z,12nm,0.8s
C27K Jago River 57.64 24 P **P** **00 12 60.0 +1.6**
PALK Pallekele 57.65 258 P **P** **00 12 59.3 0.0**
PALK IAmb IAmb 00 13 00.5
comp=Z,24nm,0.8s
PALK Pallekele 57.65 258 P **P** **00 12 59.9 +0.6**
COCO West Island 57.76 228 P **P** **00 12 58.5 -1.4**
COCO IAmb IAmb 00 13 01.4
comp=Z,41nm,0.8s
COCO West Island 57.76 228 P **P** **00 12 58.5 -1.4**
COCO pmax pmax
comp=Z,41nm,0.8s
INKA Innaminka 58.38 176 P **P** **00 13 04.7 +0.8**
comp=Z,48nm,0.7s
D27M Malcolm River 58.63 24 P **P** **00 13 06.2 +1.0**
ARTI Arti 58.86 320 P **P** **00 13 05.6 -1.2**
ARTI IAmb IAmb 00 13 07.2
comp=Z,14nm,0.5s
ARTI Arti 58.86 320 *d*P **P** **00 13 06.2 -0.6**
ARTI 00 13 46.0
ARTI 00 15 23.0
ARTI S **S** **00 20 35.0 +0.9**
ARTI SS **SS** **00 24 35.4 -2.0**
ARTI pmax pmax
comp=Z,10.0nm,0.6s
BCAR Beaver Creek A 58.96 32 P **P** **00 13 08.8 +1.4**
F28M Old Crow 59.19 26 P **P** **00 13 10.6 +1.7**
ABKAR Abkulak array 59.33 312 P **P** **00 13 09.7 -0.4**
ABKAR Abkulak array 59.33 312 P **P** **00 13 09.8 -0.3**
I28M Miner Creek 59.44 29 P **P** **00 13 11.9 +1.1**
I28M IAmb IAmb 00 13 13.5
comp=Z,8.9nm,1.1s
DZM Mont Dzumac 59.66 148 P **P** **00 13 13.9 +1.2**
DZM Mont Dzumac 59.66 148 P **P** **00 13 14.9 +2.2**
comp=Z,34nm,0.6s,baz=13,slow=2.3,SNR=30
comp=Z,34nm,0.6s
G29M Pine Creek 60.00 27 P **P** **00 13 15.9 +1.6**
G29M IAmb IAmb 00 13 17.6
comp=Z,18nm,0.9s
I29M Ogilvie Camp, 60.13 29 P **P** **00 13 16.0 +0.8**
AKTO Aktyubinsk 60.28 314 S **S** **00 20 50.0 -2.1**
comp=Z,3.7nm,0.9s,baz=142,slow=15,SNR=7.7
J29N Klondike Camp 60.32 30 P **P** **00 13 17.6 +1.0**
J29N IAmb IAmb 00 13 18.9
comp=Z,11nm,1.2s
L29M L29M 60.59 31 P **P** **00 13 20.6 +2.2**
EPYK Eagle Plains 60.60 27 P **P** **00 13 19.2 +0.9**
EPYK IAmb IAmb 00 13 21.5
comp=Z,26nm,1.1s
G30M tAoh Zraii Nji 60.69 27 P **P** **00 13 19.7 +0.8**
G30M IAmb IAmb 00 13 21.7
comp=Z,21nm,1.2s
K29M Barlow Dome 60.73 30 P **P** **00 13 20.0 +0.7**
I30M Mount Dempster 60.95 29 P **P** **00 13 22.1 +1.3**
H31M Peel River 61.66 28 P **P** **00 13 25.8 +0.5**
H31M IAmb IAmb 00 13 28.2
comp=Z,7.6nm,0.8s
FORT Forrest 61.92 189 P **P** **00 13 27.7 +0.3**
FORT IAmb IAmb 00 13 56.3
comp=Z,24nm,0.9s
M31M Drury Creek, Y 62.48 32 P **P** **00 13 31.9 +1.2**
M31M IAmb IAmb 00 13 35.2
comp=Z,10nm,1.3s
ARMA Armidale 62.48 166 P **P** **00 13 31.8 +0.6**
ARMA IAmb IAmb 00 13 33.0
comp=Z,16nm,0.7s
STKA Stephens Creek 62.55 176 P **P** **00 13 31.2 -0.2**
STKA Stephens Creek 62.55 176 P **P** **00 13 32.1 +0.7**
comp=Z,9.1nm,0.6s,baz=340,slow=7.3,SNR=23
comp=Z,9.1nm,0.6s
STKA Stephens Creek 62.55 176 P **P** **00 13 32.5 +1.1**
STKA Stephens Creek 62.55 176 *d*P **P** **00 13 32.2 +0.8**
CMSA Cobar Meteorol 62.59 172 P **P** **00 13 33.3 +1.6**
FARO Faro, Yukon 62.94 32 P **P** **00 13 35.0 +1.3**
KIRV Kirov 63.10 324 *ce*P **P** **00 13 34.6 -0.1**
MNCI Minicoy 63.62 264 P **P** **00 13 36.5 -2.3**
YNG Young 65.68 170 P **P** **00 13 53.9 +2.5**
SPA0 Spitsbergen Ar 65.87 349 *e*P **P** **00 13 52.9 +0.8**
SPITS Spitsbergen Ar 65.87 349 P **P** **00 13 52.5 +0.4**
comp=Z,13nm,1.0s,baz=90,slow=7.5,SNR=15
comp=Z,13nm,1.0s
BELG Belogornoye 65.95 318 *de*P **P** **00 13 52.5 -0.4**
BELG pmax pmax
comp=Z,9.0nm,1.0s
KBS Kingsbay 66.11 350 *e*P **P** **00 13 54.9 +1.4**
KBS Kingsbay 66.11 350 *i*P **P** **00 13 54.3 +0.8**
VADS Vadso 67.06 339 *e*P **P** **00 13 59.8 +0.2**
KLMR Klimovskoe 67.11 328 *e*P **P** **00 13 58.7 -1.2**
KLMR pmax pmax
comp=Z,34nm,1.4s
ARA0 ARCESS Array S 68.52 339 *e*P **P** **00 14 09.0 +0.5**
ARCES ARCESS Array B 68.52 339 P **P** **00 14 08.8 +0.4**
comp=Z,6.1nm,0.4s,baz=62,slow=8.5,SNR=81
comp=Z,6.1nm,0.4s
KTK1 Kautokeino 69.48 339 *e*P **P** **00 14 14.9 +0.6**
JOF Joensuu 69.74 332 *e*P **P** **00 14 15.6 -0.3**
VRH Novokhopyorsk 69.80 318 *e*P **P** **00 14 15.4 -1.1**
VRH pmax pmax
comp=Z,19nm,0.6s
SHME Shamm 69.92 289 P **P** **00 14 18.6 +0.9**
JETT Jettan, Norway 70.01 341 *e*P **P** **00 14 18.0 +0.5**
MSFE Esma-Masafi 70.20 288 P **P** **00 14 20.1 +0.6**
UOSS Minazif 70.34 288 P **P** **00 14 20.4 +0.1**
TRO Tromso 70.38 341 *e*P **P** **00 14 19.7 +0.1**
SOHO SOHO 70.42 287 *i*P **P** **00 14 21.0 +0.3**
SNR=12
HATD Hatta, Dubai 70.45 288 P **P** **00 14 21.5 +0.6**
LPSR Galich'ya Gora 70.78 320 *e*P **P** **00 14 21.8 -0.5**
LPSR pmax pmax
comp=Z,22nm,0.7s
YKA Yellowknife Ar 70.88 28 P **P** **00 14 23.3 +0.6**
comp=Z,1.2nm,0.6s,baz=294,slow=5.8,SNR=18
comp=Z,1.2nm,0.6s
OBN Obninsk 70.92 323 ⇑ *e*P **P** **00 14 22.9 -0.2**
OBN *e* 00 14 37.9
OBN *e*S **S** **00 23 02.2 +3.5**
OBN pmax pmax
comp=Z,42nm,2.5s
FAQ Al Faqa, Dubai 70.93 288 P **P** **00 14 23.9 +0.2**
VORR Voronezh 71.03 319 *e*P **P** **00 14 23.3 -0.5**
VORR pmax pmax
comp=Z,22nm,0.5s
ALNE Al Ain 71.10 287 *i*P **P** **00 14 24.9 +0.1**
SNR=15
VSR Storozhevoye 71.25 319 *e*P **P** **00 14 22.0 -3.1**
VSR pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 71.29 319 *e*P **P** **00 14 23.3 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 71.57 354 P **P** **00 14 27.7 +1.2**
DAG pmax pmax
comp=Z,10.0nm,2.5s
DAG Danmarks Havn 71.57 354 *i*P **P** **00 14 26.3 -0.2**
DAG IAmb IAmb 00 14 28.2
comp=Z,5.3nm,0.8s
NEEM North Greenlan 71.82 2 *i*P **P** **00 14 28.7 +0.4**
NEEM IAmb IAmb 00 14 30.5
comp=Z,13nm,1.0s
NCK Nalchik 71.88 310 ⇑ *e*P **P** **00 14 25.5 -3.5**
NCK pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 72.24 311 P **P** **00 14 31.8 +0.8**
comp=Z,27nm,0.9s,baz=86,slow=4.0,SNR=40
comp=Z,27nm,0.9s
KBZ Khabaz 72.24 311 *de*P **P** **00 14 30.9 -0.1**
KBZ pmax pmax
comp=Z,31nm,0.9s
KIV Kislovodsk 72.28 311 P **P** **00 14 31.5 +0.1**
KIV IAmb IAmb 00 14 33.6
comp=Z,32nm,0.9s
KIV Kislovodsk 72.28 311 ⇑P **P** **00 14 32.2 +0.8**
KIV Kislovodsk 72.28 311 *e*P **P** **00 14 30.7 -0.7**
KIV pmax pmax
comp=Z,34nm,1.1s
KIV Kislovodsk 72.28 311 *i*P **P** **00 14 32.9 +1.5**
SNR=10
KIV Kislovodsk 72.28 311 P **P** **00 14 31.7 +0.3**
comp=Z,31nm,1.1s
STEI Steigen 72.50 340 *e*P **P** **00 14 32.2 +0.2**
GNI Garni 72.56 307 P **P** **00 14 32.8 -0.4**
GNI IAmb IAmb 00 14 35.1
comp=Z,28nm,1.2s
GNI Garni 72.56 307 ⇓ *e*P **P** **00 14 32.7 -0.4**
GNI pmax pmax
comp=Z,17nm,1.1s
FIA1 FINESS Array S 72.60 332 P **P** **00 14 32.2 -0.6**
FINES FINESS Array B 72.61 332 P **P** **00 14 31.5 -1.3**
FINES FINESS Array B 72.61 332 P **P** **00 14 32.5 -0.3**
comp=Z,9.0nm,0.4s,baz=68,slow=5.2,SNR=179
comp=Z,9.0nm,0.4s
KEF Keuruu 72.69 333 *e*P **P** **00 14 33.0 -0.3**
FAUS Fauske 72.84 340 *e*P **P** **00 14 34.1 +0.1**
LOF Lofoten 72.85 341 *e*P **P** **00 14 34.6 +0.6**
VAF Ylistaro 73.03 334 *e*P **P** **00 14 35.5 +0.3**
MZR Muzera 73.43 287 *i*P **P** **00 14 37.7 -0.6**
SNR=8.2
ARBE Arbavere 73.74 330 *e*P **P** **00 14 39.5 +0.2**
MOR8 Moi Rana 73.89 339 *e*P **P** **00 14 38.6 -1.4**
VSU Vasula 73.95 329 *ce*P **P** **00 14 39.4 -1.1**
VSU pmax pmax
comp=Z,20nm,1.0s
VSU Vasula 73.95 329 *e*P **P** **00 14 39.9 -0.6**
MEF Metsahovi 73.97 331 *e*P **P** **00 14 40.8 +0.1**
BCA Borcka 74.10 309 ⇓P **P** **00 14 42.1 +0.3**
LEIR Leirfjorden 74.33 339 *e*P **P** **00 14 42.1 -0.4**
KULLO Kullorsuaq 74.39 4 *i*P **P** **00 14 42.8 +0.1**
KULLO IAmb IAmb 00 14 44.4
comp=Z,33nm,1.4s
RAF Rauma 74.56 333 *e*P **P** **00 14 43.7 -0.3**
MTSE Matsula 75.08 330 *e*P **P** **00 14 46.9 0.0**
GURO Guroymak-BITLI 75.15 306 P **P** **00 14 48.4 +0.5**
GURO IAmb IAmb 00 14 49.5
comp=Z,15nm,1.0s
SIRT Sirnak 75.35 305 P **P** **00 14 48.6 -0.4**
LTY Liberty 75.48 43 P **P** **00 14 50.0 +0.5**
KOPT Kop Dagi 75.52 308 P **P** **00 14 50.2 +0.1**
KOPT IAmb IAmb 00 14 52.7
comp=Z,20nm,1.3s
MNK Minsk 75.59 325 *i*P **P** **00 14 50.4 +0.6**
MNK *i* *PP **pP** **00 16 35.7 +1.6**
MNK *i* *SP **sP** **00 17 26.7 +1.7**
MNK *i* 00 17 45.7
MNK *i* PPP PPP 00 19 39.3
MNK *i* S **S** **00 23 51.9 +1.6**
MNK *i* SS **SS** **00 28 58.9 +5.4**
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=E,22nm,0.8s
B08A Colville Reser 75.71 42 P **P** **00 14 51.7 +1.0**
B08A IAmb IAmb 00 14 53.0
comp=Z,7.7nm,1.1s
KBO Bosley Butte 75.73 49 P **P** **00 14 51.7 +0.7**
NSS Namsos 75.76 339 *e*P **P** **00 14 50.3 -0.3**
IIGN Ignalina 75.91 327 *e*P **P** **00 14 52.8 +1.2**
MXC Moxie City 76.05 44 P **P** **00 14 53.5 +0.9**
MXC IAmb IAmb 00 14 55.4
comp=Z,6.1nm,0.9s
E07A Sunnyside 76.32 44 P **P** **00 14 55.2 +1.1**
SLIT Slitere, Latvi 76.37 330 *e*P **P** **00 14 53.5 -0.6**
MARD Mardin 76.61 305 P **P** **00 14 55.5 -0.5**
MARD IAmb IAmb 00 14 57.1
comp=Z,24nm,0.7s
C09A Chrisman Ranch 76.61 42 P **P** **00 14 57.1 +1.4**
D08A Wollman Farm, 76.61 43 P **P** **00 14 56.5 +0.8**
VSVD Vaisvydziai 76.62 328 *e*P **P** **00 14 55.6 +0.1**
SUMG Summit 76.79 359 P **P** **00 14 57.5 +0.8**
SUMG Summit 76.79 359 P **P** **00 14 57.5 +0.8**
SUMG pmax pmax
comp=Z,2.0nm,0.8s
SUMG Summit 76.79 359 *i*P **P** **00 14 57.0 +0.3**
E08A Dider Farm, El 76.83 44 P **P** **00 14 57.6 +0.7**
AKASG Malin Array Be 76.97 322 P **P** **00 14 56.8 -0.7**
AKASG IAmb IAmb 00 14 58.3
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 76.97 322 P **P** **00 14 56.9 -0.7**
comp=Z,7.1nm,0.4s,baz=52,slow=5.7,SNR=65
comp=Z,7.1nm,0.4s
AKBB Malin Array Si 76.97 322 P **P** **00 14 56.0 -1.6**
AKBB IAmb IAmb 00 14 57.9
comp=Z,21nm,0.7s
AKBB Malin Array Si 76.97 322 *de*P **P** **00 14 56.8 -0.8**
KIEV Kiev 76.99 322 P **P** **00 14 56.7 -1.0**
KIEV IAmb IAmb 00 14 57.9
comp=Z,19nm,0.7s
KIEV Kiev 76.99 322 ⇑P **P** **00 14 57.3 -0.3**
KIEV Kiev 76.99 322 P **P** **00 14 57.3 -0.3**
KIEV Kiev 76.99 322 *i*P **P** **00 14 56.9 -0.7**
SNR=14
KIEV Kiev 76.99 322 P **P** **00 14 56.9 -0.7**
comp=Z,107nm,0.6s
NEW Newport 77.02 41 P **P** **00 14 58.8 +0.8**
NEW Newport 77.02 41 P **P** **00 14 58.8 +0.8**
NEW pmax pmax
comp=Z,10.0nm,1.3s
PINE Pine Mountain 77.05 47 P **P** **00 14 59.3 +0.8**
PINE IAmb IAmb 00 15 02.1
comp=Z,15nm,0.9s
TOZ Tahuroa Road 77.07 150 P **P** **00 14 58.4 +0.3**
TOZ IAmb IAmb 00 15 00.7
comp=Z,14nm,1.0s
J05D Fort Rock, OR 77.12 47 P **P** **00 14 59.4 +0.6**
E09A Wood Farm, Sta 77.35 43 P **P** **00 15 00.5 +0.7**
PBUR Paburge 77.50 329 *e*P **P** **00 15 00.4 +0.1**
SCO Scoresbysund 77.83 353 *i*P **P** **00 15 02.3 +0.4**
SUW Suwalki 78.13 327 *e*P **P** **00 15 03.9 +0.1**
SUW Suwalki 78.13 327 IAmb IAmb 00 15 04.9
comp=Z,41nm,0.9s
SUW Suwalki 78.13 327 *e*P **P** **00 15 04.6 +0.8**
HFS Hagfors 78.20 335 P **P** **00 15 03.5 -0.6**
comp=Z,15nm,0.4s,baz=101,slow=4.7,SNR=211
comp=Z,15nm,0.4s
NC405 NORSAR Array S 78.23 336 IAmb IAmb 00 15 04.9
comp=Z,25nm,0.7s
NB201 NORSAR Array S 78.42 336 P **P** **00 15 04.3 -0.9**
NC204 NORSAR Array S 78.44 337 P **P** **00 15 05.9 +0.5**
NC204 IAmb IAmb 00 15 22.8
comp=Z,24nm,1.4s
NB2 NORSAR Subarra 78.45 336 P **P** **00 15 04.7 -0.8**
comp=Z,7.8nm,0.6s,baz=47,slow=5.6
NB2 NORSAR Subarra 78.45 336 P **P** **00 15 04.7 -0.8**
baz=47,slow=5.6
NB2 NORSAR Subarra 78.45 336 P **P** **00 15 01.7 -3.8**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 78.45 336 P **P** **00 15 04.7 -0.8**
comp=Z,4.7nm,0.5s,baz=54,slow=6.7,SNR=50
comp=Z,4.7nm,0.5s
UMMG Uummannaq 78.52 3 *i*P **P** **00 15 05.4 -0.2**
UMMG IAmb IAmb 00 15 06.8
comp=Z,7.8nm,0.7s
MOL Molde 78.55 339 *e*P **P** **00 15 06.5 +0.6**
NC602 NORSAR Array S 78.55 336 *e*P **P** **00 15 05.1 -0.8**
NORES NORESS Array B 78.55 336 P **P** **00 15 05.0 -0.9**
BMO Blue Mountains 78.73 44 P **P** **00 15 08.6 +1.2**
BMO Blue Mountains 78.73 44 P **P** **00 15 08.6 +1.2**
BMO pmax pmax
comp=Z,3.0nm,1.0s
J08A Circle Bar Ran 78.81 46 P **P** **00 15 08.3 +0.5**
ORV Oroville 78.84 51 P **P** **00 15 08.1 +0.2**
ORV Oroville 78.84 51 P **P** **00 15 08.1 +0.2**
ORV pmax pmax
comp=Z,9.0nm,1.5s
SORM Soroca 78.87 320 ⇑P **P** **00 15 07.4 -0.5**
SORM Soroca 78.87 320 P **P** **00 15 07.3 -0.5**
SORM Soroca 78.87 320 P **P** **00 15 07.3 -0.5**
comp=Z,20nm,0.8s
GAZ Gaziantep 79.16 307 P **P** **00 15 09.9 +0.1**
GAZ IAmb IAmb 00 15 11.1
comp=Z,15nm,0.8s
WVOR Wild Horse Val 79.20 47 P **P** **00 15 10.8 +0.9**
WVOR Wild Horse Val 79.20 47 P **P** **00 15 10.8 +0.9**
WVOR pmax pmax
comp=Z,6.0nm,1.3s
BNN Bunyan 79.23 309 P **P** **00 15 09.8 -0.3**
BNN IAmb IAmb 00 15 11.5
comp=Z,43nm,1.0s
MILM Milestii Mici 79.28 319 ⇓P **P** **00 15 09.9 -0.3**
MILM Milestii Mici 79.28 319 P **P** **00 15 09.8 -0.3**
OSL Oslo 79.41 336 *e*P **P** **00 15 10.9 +0.4**
ILGA Ilgaz 79.48 312 P **P** **00 15 10.7 -0.9**
ILGA IAmb IAmb 00 15 13.2
comp=Z,22nm,0.9s
RAYN Ar Rayn 79.67 291 P **P** **00 15 12.4 -0.3**
RAYN IAmb IAmb 00 15 13.7
comp=Z,51nm,1.2s
RAYN Ar Rayn 79.67 291 P **P** **00 15 12.7 +0.1**
RAYN Ar Rayn 79.67 291 *i*P **P** **00 15 12.5 -0.1**
SNR=34
STRU Stroemstad 79.88 335 *i*P **P** **00 15 12.3 -0.7**
KONO Kongsberg 80.01 336 *e*P **P** **00 15 13.5 -0.2**
OVMT Ovando 80.01 41 P **P** **00 15 14.7 +0.5**
HYA Hoyanger 80.03 338 *e*P **P** **00 15 13.4 -0.3**
BPMT Black Pine Rid 80.12 41 P **P** **00 15 15.8 +0.9**
BR131 Keskin Array S 80.23 310 P **P** **00 15 15.0 -0.4**
BR131 IAmb IAmb 00 15 16.4
comp=Z,10nm,0.8s
BR131 Keskin Array S 80.23 310 *de*P **P** **00 15 15.1 -0.4**
BRTR Keskin Array B 80.23 310 P **P** **00 15 15.0 -0.4**
BRTR Keskin Array B 80.23 310 P **P** **00 15 15.4 0.0**
comp=Z,7.7nm,0.8s,baz=106,slow=4.3,SNR=52
comp=Z,7.7nm,0.8s
BR106 Keskin Array S 80.24 310 P **P** **00 15 15.6 +0.1**
comp=Z,79nmcomp=Z,11nm,0.9s
BR105 Keskin Array S 80.25 310 P **P** **00 15 15.6 0.0**
comp=Z,107nmcomp=Z,13nm,0.9s
BORU Boraas 80.27 333 *i*P **P** **00 15 13.9 -1.1**
VLDR Vladesti 80.31 318 ⇑P **P** **00 15 15.8 +0.3**
ICESG Greenland Ices 80.31 359 *i*P **P** **00 15 15.7 +0.2**
ICESG IAmb IAmb 00 15 17.5
comp=Z,18nm,0.8s
BIR Birlad 80.33 318 ⇑P **P** **00 15 16.7 +1.1**
BIR Birlad 80.33 318 P **P** **00 15 16.7 +1.1**
KIRS Kirsehir-Merke 80.36 310 ⇓P **P** **00 15 16.6 +0.5**
MFID Camas Ranch 80.41 45 P **P** **00 15 17.2 +0.9**
TJOU Tjoern 80.43 334 *i*P **P** **00 15 14.6 -1.2**
DEL Delary 80.64 332 *i*P **P** **00 15 15.9 -1.1**
CFR Carcaliu 80.65 317 ⇑P **P** **00 15 17.1 -0.2**
CFR Carcaliu 80.65 317 P **P** **00 15 17.1 -0.2**
TPGR Topolog 80.67 317 ⇑P **P** **00 15 17.8 +0.4**
ANTO Ankara 80.71 311 ⇑P **P** **00 15 18.6 +0.7**
ANTO Ankara 80.71 311 P **P** **00 15 18.5 +0.7**

FABU Falkenberg 80.73 333 *i* P **P 00 15 15.7 -1.7**
TESR Tescani 80.74 319 ⇑P **P 00 15 17.9 +0.1**
TESR Tescani 80.74 319 P **P 00 15 17.4 -0.4**
comp=Z,37nm,1.1s
ONAU Onsala 80.77 333 *i* P **P 00 15 16.6 -1.0**
FFC Flin Flon 80.78 30 P **P 00 15 17.4 -0.4**
FFC Flin Flon 80.78 30 P **P 00 15 17.4 -0.4**
FFC pmax pmax
comp=Z,6.0nm,1.0s
PANC Panciu 80.83 318 ⇑P **P 00 15 19.0 +0.8**
ODD1 Odda 80.83 337 *eP* **P 00 15 18.3 +0.3**
ASK Askoy 80.87 338 *eP* **P 00 15 18.5 +0.4**
BUR08 Bucovina Ar. S 80.88 321 P **P 00 15 18.4 -0.2**
BUR08 IAmb IAmb 00 15 20.5
comp=Z,6.4nm,0.8s
BURAR Bucovina Array 80.89 321 ⇑P **P 00 15 19.0 +0.3**
BURAR Bucovina Array 80.89 321 P **P 00 15 18.9 +0.3**
BER Bergen 80.90 338 *eP* **P 00 15 18.6 +0.3**
TIRR Tirgusor 80.90 317 P **P 00 15 18.1 -0.5**
TIRR IAmb IAmb 00 15 19.6
comp=Z,16nm,1.2s
TIRR Tirgusor 80.90 317 P **P 00 15 18.1 -0.5**
TIRR pmax pmax
comp=Z,16nm,1.2s
KWP Kalwaria Pacla 81.01 323 *eP* **P 00 15 19.7 +0.5**
KWP Kalwaria Pacla 81.01 323 P **P 00 15 19.1 0.0**
KWP Kalwaria Pacla 81.01 323 P **P 00 15 19.1 0.0**
KWP Kalwaria Pacla 81.01 323 P **P 00 15 19.4 +0.3**
comp=Z,52nm,1.1s
LRM Limekiln Ridge 81.04 42 P **P 00 15 20.1 +0.5**
HARR Harsova 81.05 317 ⇑P **P 00 15 19.7 +0.3**
HARR Harsova 81.05 317 P **P 00 15 19.7 +0.3**
TLBR Topalu 81.07 317 ⇑P **P 00 15 19.8 +0.4**
VRI Vrincioaia 81.07 318 ⇓P **P 00 15 20.7 +1.2**
VRI Vrincioaia 81.07 318 P **P 00 15 20.7 +1.2**
VRI Vrincioaia 81.07 318 P **P 00 15 20.3 +0.8**
comp=Z,35nm,1.3s
PLOR Plostina 81.12 319 ⇑P **P 00 15 20.5 +0.7**
PLOR Plostina 81.12 319 P **P 00 15 20.5 +0.7**
PLOR3 Plostina Array 81.12 319 P **P 00 15 20.1 +0.3**
comp=Z,17nm,0.9s
SPBR Spulber 81.13 318 ⇓P **P 00 15 20.9 +1.1**
BSD Bornholm Skovb 81.14 331 *eP* **P 00 15 19.2 -0.4**
BSD Bornholm Skovb 81.14 331 *i* P **P 00 15 18.7 -0.9**
BSD IAmb IAmb 00 15 20.1
comp=Z,16nm,1.0s
HLID Hailey 81.18 44 P **P 00 15 21.1 +0.8**
DLMT Dillon 81.22 42 P **P 00 15 20.9 +0.4**
DLMT IAmb IAmb 00 15 23.4
comp=Z,9.2nm,1.1s
EGMT Eagleton 81.23 39 P **P 00 15 21.4 +1.0**
EGMT IAmb IAmb 00 15 30.7
comp=Z,19nm,1.5s
BJUU Bjuv 81.26 332 *i* P **P 00 15 19.2 -1.0**
BLS5 Blasjo 81.26 337 *eP* **P 00 15 20.4 +0.2**
BISRR Bisoca 81.27 318 ⇑P **P 00 15 21.4 +0.8**
BISRR Bisoca 81.27 318 P **P 00 15 21.8 +1.2**
comp=Z,106nm,0.9s
COVR Voineasa-Covas 81.38 319 ⇓P **P 00 15 22.0 +0.8**
MCMT McKenzie Canyo 81.38 43 P **P 00 15 21.1 -0.4**
LUNU Lund 81.39 332 *i* P **P 00 15 20.1 -0.8**
MDUB Mudurnu 81.41 312 P **P 00 15 21.3 -0.2**
ICOR Ion Corvin 81.45 317 ⇓P **P 00 15 22.5 +1.0**
OZUR 81.47 319 ⇓P **P 00 15 22.4 +0.8**
OVD Ostervraa, Den 81.47 334 *i* P **P 00 15 19.8 -1.5**
NVAR Mina Array Bea 81.55 50 P **P 00 15 24.2 +1.8**
comp=Z,0.7nm,0.4s,baz=289,slow=5.2,SNR=10.0
comp=Z,0.7nm,0.4s
BOZ Bozeman (W) 81.64 41 P **P 00 15 23.3 +0.7**
BOZ Bozeman (W) 81.64 41 P **P 00 15 23.3 +0.7**
BOZ pmax pmax
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 81.67 323 *eP* **P 00 15 22.9 +0.4**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 81.67 323 *eP* **P 00 15 22.9 +0.4**
MLR Muntele Rosu 81.73 319 P **P 00 15 23.0 -0.1**
MLR IAmb IAmb 00 15 24.9
comp=Z,17nm,1.2s
MLR Muntele Rosu 81.73 319 ⇑P **P 00 15 23.5 +0.3**
MLR Muntele Rosu 81.73 319 P **P 00 15 23.4 +0.3**
DOPR Dopca 81.77 319 ⇓P **P 00 15 23.9 +0.8**
BMR Baia Mare 81.79 321 ⇓P **P 00 15 23.9 +0.8**
BMR Baia Mare 81.79 321 P **P 00 15 23.9 +0.8**
SNART Snartemo 81.81 336 *eP* **P 00 15 23.3 +0.2**
OJC Ojcow 82.11 325 *eP* **P 00 15 25.0 +0.3**
OJC Ojcow 82.11 325 P **P 00 15 23.6 -1.2**
OJC IAmb IAmb 00 15 25.7
comp=Z,25nm,1.3s
OJC Ojcow 82.11 325 P **P 00 15 23.6 -1.2**
OJC pmax pmax
comp=Z,25nm,1.3s
OJC Ojcow 82.11 325 P **P 00 15 24.8 0.0**
comp=Z,15nm,1.3s
QLMT Earthquake Lak 82.20 42 P **P 00 15 26.9 +1.3**
BORA Eskisehir 82.21 312 P **P 00 15 24.8 -0.8**
BORA IAmb IAmb 00 15 26.2
comp=Z,15nm,0.8s
ELK Elko 82.25 47 P **P 00 15 27.2 +1.2**
ELK Elko 82.25 47 P **P 00 15 27.2 +1.2**
ELK pmax pmax
comp=Z,4.0nm,1.0s
VOIR 82.28 319 ⇑P **P 00 15 25.9 +0.1**
VOIR 82.28 319 P **P 00 15 25.9 +0.1**
CBBR Cluj-Babes-Bol 82.31 321 ⇓P **P 00 15 26.8 +1.0**
CJR Cluj-Napoca 82.32 320 ⇑P **P 00 15 27.0 +1.0**
CJR Cluj-Napoca 82.32 320 P **P 00 15 26.9 +1.0**
YHL Hebgen Lake 82.33 42 P **P 00 15 27.6 +1.2**
YHL IAmb IAmb 00 15 29.3
comp=Z,6.6nm,1.0s
NIE Niedzica 82.37 324 P **P 00 15 26.8 +0.6**
NIE Niedzica 82.37 324 P **P 00 15 26.8 +0.6**
comp=Z,5.6nm,1.4s
YHB Horse Butte 82.38 42 P **P 00 15 25.3 -1.3**
YHB IAmb IAmb 00 15 29.9
comp=Z,9.1nm,1.2s
SGRR Singureni 82.46 317 ⇓P **P 00 15 26.9 +0.3**
ARR Arges 82.55 319 ⇑P **P 00 15 28.2 +1.0**
MZP Montezuma Peak 82.56 50 P **P 00 15 28.2 +0.6**
MMAI Mount Meron Ar 82.57 304 P **P 00 15 28.0 +0.5**
comp=Z,17nm,0.8s,baz=44,slow=5.0,SNR=28
comp=Z,17nm,0.8s
TNR Turnu Rosu 82.58 319 ⇑P **P 00 15 28.3 +1.0**
TNR Turnu Rosu 82.58 319 P **P 00 15 28.3 +1.0**
MARR Marisel-Cluj 82.60 321 ⇑P **P 00 15 27.8 +0.3**
GCMT Greycliff 82.63 40 P **P 00 15 27.9 +0.3**
YNR Norris Junctio 82.70 42 P **P 00 15 29.2 +1.0**
YNR IAmb IAmb 00 15 31.8
comp=Z,7.2nm,1.1s
DRGR 82.75 321 ⇑P **P 00 15 28.5 +0.3**
DRGR 82.75 321 P **P 00 15 28.4 +0.3**
YFT Old Faithful 82.77 42 P **P 00 15 29.2 +0.7**
YFT IAmb IAmb 00 15 33.4
comp=Z,6.7nm,1.0s
HUMR Humele 82.86 318 ⇓P **P 00 15 28.7 0.0**
GMN Gold Mountain 82.86 51 P **P 00 15 29.8 +0.7**
BALJ Balqa 82.89 303 P **P 00 15 28.3 -0.8**
YNE Yellowstone No 82.91 41 P **P 00 15 30.1 +0.8**
H17A Grant Village 82.95 42 P **P 00 15 30.4 +1.0**
H17A IAmb IAmb 00 15 34.4
comp=Z,11nm,1.1s
LANS Liptovska Anna 82.97 324 *eP* **P 00 15 29.9 +0.7**
LANS pmax pmax
comp=Z,5.0nm,1.5s
LANS Liptovska Anna 82.97 324 *eP* **P 00 15 29.9 +0.7**
YMP Mirror Lake PI 82.98 42 P **P 00 15 30.4 +0.7**
YMP IAmb IAmb 00 15 32.9
comp=Z,8.0nm,1.1s
CSS Mathiatis 82.99 307 P **P 00 15 28.0 -1.5**
LOT Lotru 82.99 319 ⇓P **P 00 15 30.2 +0.7**
FLWY Flagg Ranch 83.06 42 P **P 00 15 30.6 +0.6**
FLWY IAmb IAmb 00 15 33.5
comp=Z,7.9nm,1.1s
FXWY Fox Creek 83.14 43 P **P 00 15 31.8 +1.4**
HVU Hansel Valley 83.19 45 P **P 00 15 32.1 +1.5**
HVU Hansel Valley 83.19 45 P **P 00 15 32.1 +1.5**
HVU pmax pmax
comp=Z,5.0nm,0.8s
MOOW Moose Ponds 83.24 43 P **P 00 15 31.9 +1.0**
RLMT Red Lodge 83.25 41 P **P 00 15 31.9 +0.9**
RLMT IAmb IAmb 00 15 33.6
comp=Z,9.3nm,1.2s
TPAW Teton Pass 83.27 43 P **P 00 15 31.4 +0.3**

ISP Isparta 83.31 310 P **P 00 15 30.5 -0.7**
ISP Isparta 83.31 310 P **P 00 15 30.5 -0.7**
ISP pmax pmax
comp=Z,4.0nm,0.7s
GHAJ Ghor Haditha 83.36 302 P **P 00 15 31.0 -0.4**
GHAJ IAmb IAmb 00 15 32.4
comp=Z,22nm,0.7s
R11B Troy Canyon, C 83.38 49 P **P 00 15 32.4 +0.7**
KSP Ksiaz 83.40 327 *eP* **P 00 15 31.4 +0.1**
KSP Ksiaz 83.40 327 P **P 00 15 31.4 +0.1**
KSP Ksiaz 83.40 327 P **P 00 15 31.4 +0.1**
comp=Z,22nm,1.2s
BAND Balkesir-Ban 83.43 313 ⇑P **P 00 15 32.6 +1.0**
VLAD Vladila 83.51 318 ⇑P **P 00 15 32.0 +0.1**
MORC Moravsky Berou 83.51 325 P **P 00 15 31.6 -0.2**
MORC IAmb IAmb 00 15 31.9
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 83.51 325 *eP* **P 00 15 31.7 -0.2**
MORC Moravsky Berou 83.51 325 ⇑P **P 00 15 31.7 -0.2**
MORC Moravsky Berou 83.51 325 P **P 00 15 31.7 -0.2**
PSZ Piszkesteto 83.54 323 P **P 00 15 32.3 +0.2**
PSZ IAmb IAmb 00 15 33.2
comp=Z,15nm,1.3s
PSZ Piszkesteto 83.54 323 ⇑P **P 00 15 32.3 +0.2**
PSZ Piszkesteto 83.54 323 P **P 00 15 32.2 +0.2**
GZR Gura Zlata 83.58 320 ⇑P **P 00 15 32.0 -0.4**
GZR Gura Zlata 83.58 320 P **P 00 15 31.9 -0.4**
SIRR Siria 83.65 321 ⇑P **P 00 15 32.8 +0.2**
KRLC Kraliky 83.68 326 *eP* **P 00 15 33.1 +0.4**
KRLC Kraliky 83.68 326 *eP* **P 00 15 33.1 +0.4**
CHVC Chvalec 83.68 327 *eP* **P 00 15 32.8 +0.1**
CHVC Chvalec 83.68 327 *eP* **P 00 15 32.8 +0.1**
VYHS Vyhne 83.71 324 *eP* **P 00 15 33.1 +0.3**
VYHS pmax pmax
comp=Z,12nm,1.1s
VYHS Vyhne 83.71 324 *eP* **P 00 15 33.1 +0.3**
SURR Surduc 83.71 320 ⇑P **P 00 15 32.9 0.0**
DPC Dobruska-Polom 83.72 326 *eP* **P 00 15 33.1 +0.2**
DPC Dobruska-Polom 83.72 326 *eP* **P 00 15 33.1 +0.2**
UPC Upice 83.76 327 *eP* **P 00 15 33.2 +0.2**
UPC Upice 83.76 327 *eP* **P 00 15 33.2 +0.2**
HWUT Hardware Ranch 84.02 45 P **P 00 15 35.4 +0.6**
HWUT IAmb IAmb 00 15 37.5
comp=Z,8.3nm,0.9s
JAVC Velka Javorina 84.05 325 *eP* **P 00 15 35.6 +1.0**
BZS Buzias 84.08 320 ⇑P **P 00 15 34.3 -0.4**
BZS Buzias 84.08 320 P **P 00 15 34.3 -0.4**
DUG Dugway, Tooele 84.09 46 P **P 00 15 35.0 -0.1**
DUG IAmb IAmb 00 15 37.7
comp=Z,5.1nm,0.9s
DUG Dugway, Tooele 84.09 46 P **P 00 15 35.0 -0.1**
DUG pmax pmax
comp=Z,5.0nm,0.9s
HERR Herculane 84.09 320 ⇑P **P 00 15 34.7 -0.1**
PRN Pahroc Range 84.26 50 P **P 00 15 35.9 -0.1**
VRAC Vranov 84.28 326 *eP* **P 00 15 35.7 0.0**
ELL Elmali 84.32 310 P **P 00 15 35.5 -0.7**
ELL Elmali 84.32 310 P **P 00 15 35.5 -0.7**
ELL pmax pmax
comp=Z,35nm,0.5s
PSUT Pine Spring 84.39 48 P **P 00 15 37.2 +0.5**
SMOL Smolenice 84.40 325 *eP* **P 00 15 36.8 +0.5**
SMOL pmax pmax
comp=Z,8.0nm,1.8s
BRG Berggiesshubel 84.47 328 *eP* **P 00 15 36.2 -0.4**
BRG Amp 00 15 37.1
comp=Z,4.4nm,0.7s
PD31 Pinedale Array 84.52 43 P **P 00 15 37.0 -0.3**
PDAR Pinedale Array 84.52 43 P **P 00 15 38.2 +1.0**
comp=Z,1.5nm,0.9s,baz=325,slow=1.8,SNR=8.4
comp=Z,1.5nm,0.9s
RDO Rodhopi 84.55 315 P **P 00 15 36.4 -0.7**
RDO IAmb IAmb 00 15 38.4
comp=Z,6.6nm,1.0s
KRUC Moravsky 84.55 325 *eP* **P 00 15 36.8 -0.2**
MDVR Moldovita 84.55 320 ⇑P **P 00 15 36.8 -0.3**
MODS Modra-Piesok 84.57 325 *eP* **P 00 15 38.0 +0.9**
MODS pmax pmax
comp=Z,27nm,1.5s
MODS Modra-Piesok 84.57 325 *eP* **P 00 15 38.0 +0.9**
MODS *eP*P **PP 00 18 59.2 -1.5**
CLL Collm 84.59 329 P **P 00 15 35.6 -1.5**
CLL IAmb IAmb 00 15 37.3
comp=Z,8.2nm,0.7s
CLL Collm 84.59 329 *i* P **P 00 15 35.8 -1.3**
CLL pmax pmax
comp=Z,14nm,1.2s
CLL Collm 84.59 329 *i* P **P 00 15 35.8 -1.3**
comp=Z,14nm,1.2s
CLL AMS AMS 00 28 00.0
comp=Z,200nm,20.7s
PRU Pruhonice 84.81 327 *eP* **P 00 15 38.3 +0.1**
PRU Pruhonice 84.81 327 *eP* **P 00 15 38.3 +0.1**
HSKC Hora Svate Kat 84.89 328 *eP* **P 00 15 37.6 -1.1**
MPLH Magyarpolny 85.24 323 P **P 00 15 39.5 -0.9**
comp=Z,21nm,1.3s
BOVS Bovan 85.27 319 ⇑P **P 00 15 40.3 -0.3**
MORH Mrgy, Hungar 85.29 322 ⇓P **P 00 15 40.3 -0.3**
MORH Mrgy, Hungar 85.29 322 P **P 00 15 39.5 -1.1**
comp=Z,6.7nm,1.2s
ZVC Zvikov 85.35 327 *eP* **P 00 15 40.7 -0.2**
RONA Rosalia, Austr 85.51 324 *i* P **P 00 15 41.6 -0.1**
comp=Z,5.9nm,1.2s
CONA Conrad Observa 85.57 325 *i* P **P 00 15 42.2 +0.1**
comp=Z,4.5nm,0.9s
CKRC Cesky Krumlov 85.72 326 *eP* **P 00 15 42.7 0.0**
CKRC Cesky Krumlov 85.72 326 *eP* **P 00 15 42.7 0.0**
KHC Kasperske Hory 85.85 327 *eP* **P 00 15 43.1 -0.3**
KHC Kasperske Hory 85.85 327 ⇑/P **P 00 15 43.1 -0.3**
KHC pmax pmax
comp=Z,6.0nm,1.4s
GERES GERESS Array B 85.99 326 P **P 00 15 43.4 -0.7**
comp=Z,1.5nm,0.7s,baz=43,slow=4.5,SNR=8.5
comp=Z,1.5nm,0.7s
ARSA Arzberg 86.20 324 *i* P **P 00 15 44.6 -0.5**
comp=Z,8.5nm,1.3s
MOA Molln 86.41 325 *i* P **P 00 15 45.6 -0.5**
comp=Z,3.1nm,1.1s
ULM Lac du Bonnet 86.57 31 P **P 00 15 46.8 +0.1**
comp=Z,1.0nm,0.3s,baz=306,slow=9.0,SNR=3.7
comp=Z,1.0nm,0.3s
PERS Pernice 86.82 324 *eP* **P 00 15 47.5 -0.6**
BIOA Bad Ischl, Aus 86.83 326 *i* P **P 00 15 47.9 0.0**
comp=Z,3.7nm,0.9s
SOKA Soboth 86.84 324 *i* P **P 00 15 47.0 -1.1**
comp=Z,7.5nm,1.0s
LEGS Legarje 87.19 324 *eP* **P 00 15 48.6 -1.1**
OBKA Obir 87.20 324 *eP* **P 00 15 49.0 -0.8**
comp=Z,3.0nm,1.2s
KBA Koelnbreinsper 87.40 325 *i* P **P 00 15 49.9 -0.9**
comp=Z,3.5nm,1.1s
LESA Schwarzleotal 87.48 326 *i* P **P 00 15 50.3 -0.9**
comp=Z,5.2nm,0.9s
BOJS Bojanci 87.53 323 *eP* **P 00 15 50.4 -0.8**
MYKA Terra Mystica 87.56 325 *eP* **P 00 15 50.7 -0.9**
comp=Z,0.7nm,0.3s
EKA Eskdalemuir Ar 87.67 339 P **P 00 15 51.4 -0.3**
comp=Z,1.3nm,0.5s,baz=40,slow=5.7,SNR=5.0
comp=Z,1.3nm,0.5s
N23A Red Feather La 87.80 43 P **P 00 15 53.9 +0.9**
N23A IAmb IAmb 00 15 56.5
comp=Z,14nm,1.4s
VOJS Vojsko 87.86 324 *eP* **P 00 15 51.2 -1.7**
ABTA Abfaltersbach 88.03 326 *eP* **P 00 15 52.0 -1.7**
comp=Z,8.0nm,0.8s,SNR=11
SABO M.te Sabotino 88.04 324 P **P 00 15 51.9 -1.9**
SABO IAmb IAmb 00 15 52.9
comp=Z,6.3nm,0.9s
WATA Walderalm 88.07 326 *i* P **P 00 15 52.7 -1.3**
comp=Z,5.6nm,1.2s
WTTA Wattenberg 88.09 326 *i* P **P 00 15 53.4 -0.7**
comp=Z,4.2nm,0.9s
MOTA Moosalm 88.28 327 *i* P **P 00 15 54.3 -0.7**
comp=Z,3.3nm,0.8s
SQTA Sankt Quirin 88.32 327 *i* P **P 00 15 54.3 -0.8**
comp=Z,6.0nm,1.0s,SNR=4.8
RETA Reutte 88.34 327 *i* P **P 00 15 54.1 -1.1**
comp=Z,4.6nm,0.9s,SNR=5.7
FETA Feichten 88.69 327 *i* P **P 00 15 56.4 -0.5**
comp=Z,10nm,1.0s
BFO Black Forest 88.84 329 P **P 00 15 57.0 -0.4**
BFO IAmb IAmb 00 15 57.3
comp=Z,5.5nm,0.8s
BFO Black Forest 88.84 329 P **P 00 15 57.0 -0.4**
BFO pmax pmax
comp=Z,6.0nm,0.8s
DAVA Damuels 88.90 327 *i* P **P 00 15 57.2 -0.6**
comp=Z,14nm,1.1s
CTI Castel Tesino 88.95 325 P **P 00 15 56.7 -1.4**
CTI IAmb IAmb 00 15 57.1
comp=Z,3.9nm,0.8s
CTI Castel Tesino 88.95 325 P **P 00 15 56.7 -1.4**
CTI pmax pmax
comp=Z,4.0nm,0.8s
FUORN Ofenpass-Fuorn 89.21 327 P **P 00 15 57.9 -1.6**
FUORN IAmb IAmb 00 15 59.8
comp=Z,14nm,1.0s
TEOL Teolo 89.43 325 P **P 00 15 59.3 -0.9**
TEOL IAmb IAmb 00 16 00.2
comp=Z,6.9nm,0.7s
TUE Stuetta 89.75 327 P **P 00 16 00.8 -1.1**
TUE IAmb IAmb 00 16 02.0
comp=Z,5.0nm,0.9s
TUE Stuetta 89.75 327 P **P 00 16 00.8 -1.1**
SGRT San Giovanni R 89.82 320 P **P 00 16 01.4 -0.8**
SGRT IAmb IAmb 00 16 03.5
comp=Z,6.8nm,0.9s
FDMO Fiordimonte 90.36 323 P **P 00 16 03.5 -1.1**
FDMO IAmb IAmb 00 16 05.1
comp=Z,8.9nm,0.8s
DSB Dublin 90.44 339 P **P 00 16 04.0 -0.7**
NRCA Norcia 90.49 322 P **P 00 16 03.7 -1.6**
NRCA IAmb IAmb 00 16 05.7
comp=Z,6.6nm,0.9s
ANMO Albuquerque 91.28 47 P **P 00 16 08.6 -0.6**
ANMO IAmb IAmb 00 16 12.3
comp=Z,2.3nm,0.9s
ANMO Albuquerque 91.28 47 P **P 00 16 08.6 -0.6**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 96.70 50 P **P 00 16 35.6 +1.7**
comp=Z,0.4nm,0.8s,baz=328,slow=4.6,SNR=3.3
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 118.81 309 **PKPdf 00 21 47.5 -1.5**
QSPA South Pole Qui 120.63 180 PKP **PKPdf 00 21 51.0 0.0**
comp=Z,1.1nm,0.3s,baz=285,slow=1.3,SNR=5.9
SYO Syowa Base 121.15 205 jepPdiff pPdif 00 20 14.2 +3.9
BOSA Boshof 121.71 253 PKP **PKPdf 00 21 54.3 0.0**
comp=Z,3.8nm,0.7s,baz=82,slow=3.3,SNR=9.2
DBIC Dimbokro 127.92 309 PKP **PKPdf 00 22 06.2 -0.3**
comp=Z,3.1nm,0.8s,baz=60,slow=1.7,SNR=2.0
SNAA Sanae 133.85 196 PKP **PKPdf 00 22 16.3 +0.3**
comp=Z,4.6nm,1.0s,baz=218,slow=14,SNR=5.6
CZSB Cruzeiro do Su 143.80 57 PKPbc 00 22 34.8 +0.2
LPAZ La Paz 152.71 64 PKPbc **PKiKP 00 22 58.5 0.0**
comp=Z,0.9nm,0.5s,baz=309,slow=1.4,SNR=4.0

---

*JMA **18** 00:05:34.8±0.3, 31°N±2°×13°7E±°, h509km±4km, MD4.6/27, MV4.3/27, SHIKOKU BASIN*
*MOS **18** 00:05:35.3±0.8, 30°84N×137°14E, h498km, mb4.6/18, Error ellipse: s-maj=10.6km s-min=6.4km az=107.4*
*IDC **18** 00:05:36.3±0.7, 30°90N×137°21E, h494km±7km, mb3.6/22, mbtmp4.6/29, Error ellipse: s-maj=12.2km s-min=8.0km az=69.0*
*BJI **18** 00:05:36.0, 30°87N×137°14E, h507km, mB4.9/16, mb5.0/53*
*NEIC **18** 00:05:36.3±1.5, 30°85N±0°09×137°1E±0°1, h489km±8km, mb4.5/80, Error ellipse: s-maj=15.4km s-min=12.4km az=103.0*
ISC 18 00:05:36.4±0.3, 30°87N±0°04×137°25E±0°05, h500km, n204, σ1$38/230, mb4.4/76, 4C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.67**	**53**	*eP*	**P**	**00 06 44.5**	**-0.6**
JAOM				S	**S**	**00 07 40.2**	**-0.9**
TTO1	**TONANKAI O.B.S**	**2.77**	**352**	P	**P**	**00 06 46.1**	**+0.7**
JHJ	**Hachijo jima 2**	**3.11**	**43**	P	**P**	**00 06 47.8**	**-0.2**
	188nm,0.3s,baz=336,slow=20,SNR=4.0						
JHJ				S	**S**	**00 07 45.5**	**-0.9**
	365nm,0.7s,baz=252,slow=23,SNR=2.2						
JHJ2	**Mitsune**	**3.12**	**44**	P	**P**	**00 06 47.2**	**-0.8**
JHJ2	**Mitsune**	**3.12**	**44**	*eP*	**P**	**00 06 48.3**	**+0.2**
JHJ2				*eS*	**S**	**00 07 46.1**	**-0.5**
JTNC	**Tanabenakahech**	**3.25**	**335**	*eP*	**P**	**00 06 48.6**	**-0.4**
JTNC				*eS*	**S**	**00 07 46.6**	**-1.7**
JIE	**Ise**	**3.54**	**353**	P	**P**	**00 06 51.1**	**0.0**
JIE				S	**S**	**00 07 51.3**	**-0.8**
JAI	**Aioi**	**3.76**	**322**	P	**P**	**00 06 52.4**	**-0.3**
JAI				S	**S**	**00 07 53.6**	**-1.5**
JMN	**Monobe**	**4.04**	**316**	P	**P**	**00 06 55.5**	**+0.4**
SHZ3	**Shizuoka 3**	**4.26**	**11**	A	A	00 06 56.6	
	comp=N,3.0nm,1.7s,comp=E,2.0nm,2.5s						
JTO	**Tosashimizu**	**4.28**	**299**	P	**P**	**00 06 57.0**	**0.0**
JTO				*eS*	**S**	**00 08 02.4**	**-0.4**
INU	**Inuyama**	**4.47**	**358**	P	**P**	**00 06 58.3**	**-0.2**
JOD2	**Odawara 2**	**4.64**	**19**	S	**S**	**00 08 05.0**	**-3.6**
JGF	**Kuroka**	**4.72**	**1**	P	**P**	**00 06 58.4**	**-2.3**
JGF	**Kuroka**	**4.72**	**1**	A	A	00 07 00.6	
	comp=N,1.0nm,2.1s,comp=E,2.0nm,3.1s						
BSO1	**Boso 1**	**4.91**	**39**	S	**S**	**00 08 06.7**	**-5.0**
JRY	**Ryogami san**	**5.31**	**15**	S	**S**	**00 08 16.1**	**-3.5**
JHS	**Saijyo**	**5.39**	**321**	P	**P**	**00 07 06.9**	**+0.1**
MJAR	**Matsushiro Arr**	**5.71**	**8**	P	**P**	**00 07 05.9**	**-3.9**
	comp=E,74nm,0.7s,baz=187,slow=9.9,SNR=5.5						
MJAR				S	**S**	**00 08 21.4**	**-5.0**
	comp=E,62nm,1.1s,baz=169,slow=14,SNR=5.0						
MAJO	**Matsushiro**	**5.71**	**8**	P	**P**	**00 07 08.7**	**-1.1**
MAJO	**Matsushiro**	**5.71**	**8**	P	**P**	**00 07 08.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**5.72**	**8**	P	**P**	**00 07 08.6**	**-1.3**
CBIJ	**Chichi jima**	**5.73**	**130**	S	**S**	**00 08 20.7**	**-6.0**
JCJ	**Chichijima**	**5.73**	**130**	S	S	00 08 11.9	-15
	comp=E,259nm,0.4s,baz=283,slow=23,SNR=5.7						
JNU	**Nakatsue**	**5.86**	**294**	P	**P**	**00 07 11.7**	**+0.4**
JNU	**Nakatsue**	**5.86**	**294**	P	**P**	**00 07 11.4**	**0.0**
	comp=E,96nm,0.6s,baz=71,slow=2.3,SNR=11						
JNU				S	**S**	**00 08 28.6**	**-0.4**
	comp=E,44nm,1.1s,baz=215,slow=21,SNR=2.3						
JOI	**OKI**	**6.36**	**329**	P	**P**	**00 07 15.4**	**-0.6**
JSJ	**Shimokoshiki**	**6.50**	**279**	P	**P**	**00 07 17.1**	**-0.5**
JSJ				S	**S**	**00 08 39.0**	**-1.5**
JMZ	**Minamidaito 2**	**7.32**	**228**	P	**P**	**00 07 25.3**	**-0.6**
JAMN	**Amaminishikomi**	**7.51**	**252**	P	**P**	**00 07 27.0**	**-0.7**
JMK	**Ichinoseki**	**8.69**	**21**	*eS*	**S**	**00 09 15.3**	**-5.9**
JOW	**Kunigami**	**8.84**	**245**	P	**P**	**00 07 41.2**	**-0.4**
JOW	**Kunigami**	**8.84**	**245**	P	**P**	**00 07 40.9**	**-0.7**
	comp=E,25nm,0.4s,baz=81,slow=4.1,SNR=8.0						
TJN	**Taejon**	**9.90**	**306**	P	**P**	**00 07 52.5**	**-0.1**
TJN	**Taejon**	**9.90**	**306**	P	**P**	**00 07 52.5**	**-0.1**
KSRS	**Korea Array**	**10.14**	**313**	P	**P**	**00 07 54.8**	**-0.2**
	comp=E,24nm,0.7s,baz=125,slow=10,SNR=7.8						
KSRS				S	**S**	**00 09 48.4**	**-0.8**
	comp=E,2.1nm,0.9s,baz=127,slow=20,SNR=4.0						
KSAR	**Wonju Array Be**	**10.16**	**313**	P	**P**	**00 07 54.8**	**-0.5**
KSAR	**Wonju Array Be**	**10.16**	**313**	P	**P**	**00 07 54.8**	**-0.5**
KS19	**Wonju Array Si**	**10.20**	**313**	P	**P**	**00 07 54.7**	**-1.1**
JTM	**Tenmabayashi**	**10.37**	**16**	P	**P**	**00 07 57.5**	**+0.1**
JOT	**Ohata**	**10.93**	**15**	S	**S**	**00 10 02.7**	**-1.7**
JOSM	**Okushiri--Mats**	**11.33**	**8**	P	**P**	**00 08 08.0**	**+0.4**
JOSM				*eS*	**S**	**00 10 11.1**	**-1.2**
ASAJ	**Asahikawa**	**13.88**	**16**	P	**P**	**00 08 35.2**	**+0.6**
	comp=E,37nm,0.7s,baz=225,slow=18,SNR=6.1						
ASAJ				S	**S**	**00 11 01.4**	**-0.1**
	comp=E,32nm,0.9s,baz=95,slow=7.6,SNR=3.9						
ASAJ	**Asahikawa**	**13.88**	**16**	P	**P**	**00 08 35.4**	**+0.8**
JKA	**Kamikawa-asahi**	**13.88**	**16**	P	**P**	**00 08 35.4**	**+0.8**
USA0B	**Ussuriysk Arra**	**13.94**	**344**	P	**P**	**00 08 35.5**	**+0.3**
USA0B	**Ussuriysk Arra**	**13.94**	**344**	P	**P**	**00 08 35.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**13.94**	**344**	P	**P**	**00 08 35.1**	**-0.1**
	comp=E,214nm,0.7s,baz=170,slow=10,SNR=40						
YOJ	**Yonaguni jima**	**14.14**	**247**	P	**P**	**00 08 35.9**	**-1.7**
YOJ	**Yonaguni jima**	**14.14**	**247**	P	**P**	**00 08 35.9**	**-1.7**
MDJ	**Mudanjiang**	**14.99**	**338**	P	**P**	**00 08 47.1**	**+0.9**
MDJ	**Mudanjiang**	**14.99**	**338**	P	**P**	**00 08 46.0**	**-0.2**
MDJ				pmax	pmax		
	comp=E,36nm,1.1s						
MDJ				pmax	pmax		
	comp=E,150nm,3.6s						
DL2	**Dalian**	**15.11**	**306**	P	**P**	**00 08 47.8**	**+0.2**
DL2				S	**S**	**00 11 25.1**	**-0.2**
DL2				pmax	pmax		
	comp=E,20nm,1.2s						
DL2				pmax	pmax		
	comp=E,150nm,6.7s						
TATO	**Taipei**	**15.12**	**251**	P	**P**	**00 08 45.7**	**-2.2**
YHNB	**Yeheng**	**15.35**	**250**	P	**P**	**00 08 47.7**	**-2.6**
NACB	**Ninganchiao**	**15.40**	**248**	P	**P**	**00 08 47.8**	**-3.1**

NJ2	**Nanjing**	**15.75 279**	⇓P	**P**	**00 08 52.5**	**-1.8**
NJ2			pmax	pmax		
comp=E,110nm,0.9s						
CN2	**Changchun**	**15.94 327**	P	**P**	**00 08 55.8**	**-0.3**
CN2			pmax	pmax		
comp=E,40nm,0.9s						
YULB	**Yu-li**	**16.03 246**	P	**P**	**00 08 54.8**	**-2.6**
SSLB	**Suanglung**	**16.10 248**	P	**P**	**00 08 56.3**	**-1.9**
TPUB	**Ta-pu**	**16.60 247**	P	**P**	**00 09 00.8**	**-2.7**
YSS	**Yuzhno-Sakhali**	**16.61 13**	P	**P**	**00 09 03.4**	**+0.3**
YSS	**Yuzhno-Sakhali**	**16.61 13**	*e*P	**P**	**00 09 00.4**	**-2.8**
YSS			*e*S	**S**	**00 11 50.1**	**-2.9**
YSS			pmax	pmax		
comp=Z,40nm,0.9s						
YSS			smax	smax		
comp=N,30nm,1.0s						
YSS			smax	smax		
comp=E,30nm,1.0s						
BNX	**BinXian**	**16.72 335**	⇑P	**P**	**00 09 03.4**	**-0.9**
BNX			S	**S**	**00 11 55.8**	**+1.0**
BNX			pmax	pmax		
comp=E,150nm,0.7s						
BNX			pmax	pmax		
comp=E,170nm,4.1s						
TIA	**Tai'an**	**17.60 293**	P	**P**	**00 09 11.6**	**-1.4**
TIA			pmax	pmax		
comp=E,43nm,1.1s						
TIA			pmax	pmax		
comp=E,85nm,3.7s						
KNMB	**Chin-men Tao**	**17.88 254**	P	**P**	**00 09 14.0**	**-1.7**
GUMO	**Guam**	**18.57 156**	P	**P**	**00 09 21.9**	**-0.3**
comp=E,122nm,0.6s,baz=243,slow=9.0,SNR=4.7						
KLR	**Kul'dur**	**18.81 349**	P	**P**	**00 09 24.6**	**+0.8**
comp=E,21nm,0.6s,baz=174,slow=6.5,SNR=11						
WHN	**Wuhan**	**19.70 275**	P	**P**	**00 09 32.4**	**+0.2**
WHN			pmax	pmax		
comp=E,110nm,0.6s						
HNS	**HongShan**	**19.74 295**	⇓P	**P**	**00 09 31.9**	**-0.7**
HNS			pmax	pmax		
comp=E,20nm,1.2s						
GRNR	**Gornyy**	**19.89 358**	⇑*i*P	**P**	**00 09 34.8**	**+1.1**
GRNR			pmax	pmax		
comp=Z,40nm,0.7s						
TYV	**Tymovskoe**	**20.38 10**	*e*P	**P**	**00 09 39.6**	**+1.5**
TYV			pmax	pmax		
comp=Z,200nm,4.4s						
TYV			pmax	pmax		
comp=Z,26nm,0.8s						
LYN	**LuoYang**	**21.16 287**	⇑P	**P**	**00 09 45.3**	**-0.2**
LYN			sP	sP	00 11 58.1	+1.0
LYN			S	**S**	**00 13 11.8**	**+4.4**
LYN			pmax	pmax		
comp=Z,43nm,0.8s						
CNSH	**ChangSha**	**21.32 269**	P	**P**	**00 09 46.9**	**-0.2**
CNSH			pmax	pmax		
comp=Z,21nm,0.7s						
HIA	**Hailar**	**22.64 329**	P	**P**	**00 09 58.9**	**+0.2**
HIA			IAmb	IAmb	00 09 59.6	
comp=Z,13nm,0.7s						
HIA	**Hailar**	**22.64 329**	P	**P**	**00 09 58.9**	**+0.2**
HIA			pmax	pmax		
comp=Z,13nm,0.7s						
ENH	**Enshi**	**23.89 276**	P	**P**	**00 10 09.7**	**-0.4**
ZEA	**Zeya**	**23.97 345**	*e*P	**P**	**00 10 11.1**	**+0.7**
ZEA			pmax	pmax		
comp=N,100nm,0.5s						
ZEA			pmax	pmax		
comp=Z,30nm,0.7s						
XAN	**Xi'an**	**24.08 285**	⇓P	**P**	**00 10 10.9**	**-0.9**
XAN			pmax	pmax		
comp=Z,67nm,0.8s						
GYA	**Guiyang**	**27.15 268**	⇑P	**P**	**00 10 38.8**	**-0.3**
GYA			pmax	pmax		
comp=Z,58nm,0.8s						
LZH	**Lanzhou**	**28.26 290**	*e*P	**P**	**00 10 48.4**	**-0.4**
LZH			pmax	pmax		
comp=Z,30nm,1.2s						
MA2	**Magadan**	**30.12 14**	P	**P**	**00 11 05.6**	**+1.2**
MA2	**Magadan**	**30.12 14**	P	**P**	**00 11 05.6**	**+1.2**
MA2			pmax	pmax		
comp=Z,26nm,0.6s						
SLVN	**Son La**	**31.32 260**	P	**P**	**00 11 16.1**	**+0.8**
PZH	**PanZhiHua**	**31.37 271**	P	**P**	**00 11 15.5**	**-0.3**
PZH			pmax	pmax		
comp=Z,8.0nm,1.0s						
PZH			pmax	pmax		
comp=Z,90nm,4.7s						
GTA	**Gaotai**	**31.60 296**	*e*P	**P**	**00 11 17.8**	**+0.2**
GTA			pP	pP	00 12 46.3	+2.8
GTA			S	**S**	**00 15 49.8**	**-0.9**
GTA			pmax	pmax		
comp=Z,28nm,0.8s						
DLV	**Lat**	**32.58 241**	P	**P**	**00 11 26.5**	**+0.2**
UBPT	**Khong Chiam**	**32.95 249**	P	**P**	**00 11 29.3**	**+0.1**
UBPT			IAmb	IAmb	00 11 30.7	
comp=Z,29nm,1.0s						
TOLI2	**Tolitoli**	**33.46 211**	P	**P**	**00 11 32.2**	**-1.3**
TOLI2			IAmb	IAmb	00 11 33.6	
comp=Z,17nm,1.1s						
FAKI	**Fak Fak**	**33.94 189**	P	**P**	**00 11 37.9**	**+0.4**
FAKI			IAmb	IAmb	00 12 15.7	
comp=Z,30nm,1.2s						
PHRA	**Phrae**	**35.66 259**	P	**P**	**00 11 52.1**	**+0.1**
CHTO	**Chiang Mai**	**36.61 260**	P	**P**	**00 11 59.5**	**-0.3**
CHTO	**Chiang Mai**	**36.61 260**	P	**P**	**00 11 59.5**	**-0.3**
CHTO			pmax	pmax		
comp=Z,40nm,0.9s						
CM31	**Chiang Mai Arr**	**36.77 259**	P	**P**	**00 12 00.7**	**-0.4**
CM31			IAmb	IAmb	00 12 02.2	
comp=Z,19nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.77 259**	P	**P**	**00 12 00.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**36.77 259**	P	**P**	**00 12 01.6**	**+0.4**
comp=Z,10nm,0.7s,baz=54,slow=6.8,SNR=17						
CMAR			ScP	**ScP**	**00 17 11.2**	**+2.0**
comp=Z,0.9nm,0.3s,baz=9.4,slow=4.7,SNR=5.1						
comp=Z,10nm,0.7s						
SBUM	**Sibu**	**36.87 225**	P	**P**	**00 12 01.5**	**-0.4**
SBUM			IAmb	IAmb	00 12 03.7	
comp=Z,9.3nm,1.0s						
KSM	**Kuching**	**38.80 226**	P	**P**	**00 12 18.1**	**+0.2**
KAPI	**Kappang**	**39.41 208**	P	**P**	**00 12 22.7**	**0.0**
KAPI			IAmb	IAmb	00 12 23.8	
comp=Z,22nm,1.0s						
KAPI	**Kappang**	**39.41 208**	P	**P**	**00 12 22.7**	**0.0**
KAPI			pmax	pmax		
comp=Z,22nm,1.0s						
ADK	**Adak**	**39.60 44**	P	**P**	**00 12 26.2**	**+2.4**
ADK	**Adak**	**39.60 44**	P	**P**	**00 12 26.2**	**+2.4**
ADK			pmax	pmax		
comp=Z,187nm,1.5s						
LSA	**Lhasa**	**39.61 280**	P	**P**	**00 12 24.1**	**-0.7**
LSA	**Lhasa**	**39.61 280**	P	**P**	**00 12 24.1**	**-0.7**
LSA			pmax	pmax		
comp=Z,5.0nm,0.9s						
SHL	**Shillong**	**40.12 274**	P	**P**	**00 12 27.4**	**-1.1**
SHL			IAmb	IAmb	00 12 42.3	
comp=Z,21nm,0.6s						
SHL	**Shillong**	**40.12 274**	P	**P**	**00 12 27.4**	**-1.1**
SHL			pmax	pmax		
comp=Z,21nm,0.6s						
WMQ	**Urumqi**	**40.89 303**	*e*P	**P**	**00 12 34.8**	**+0.5**
WMQ			pmax	pmax		
comp=Z,20nm,0.9s						
WMQ	**Urumqi**	**40.89 303**	PP	**P**	**00 12 34.9**	**+0.6**
BILL	**Bilibino**	**40.90 16**	P	**P**	**00 12 35.2**	**+1.3**
BILL			IAmb	IAmb	00 12 36.2	
comp=Z,21nm,0.8s						
TIXI	**Tiksi**	**41.09 356**	P	**P**	**00 12 35.0**	**-0.3**
TIXI			IAmb	IAmb	00 12 36.0	
comp=Z,11nm,0.6s						
TIXI	**Tiksi**	**41.09 356**	P	**P**	**00 12 35.0**	**-0.3**
TIXI			pmax	pmax		
comp=Z,11nm,0.6s						
SRIT	**Nakonsritamara**	**41.49 246**		**P**	**00 12 38.9**	**-0.6**
SRIT			IAmb	IAmb	00 12 41.0	
comp=Z,22nm,0.6s						
MYKOM	**Kota Tinggi**	**42.84 234**	P	**P**	**00 12 49.5**	**-0.4**
MYKOM			IAmb	IAmb	00 13 14.6	
comp=Z,25nm,1.3s						
IPM	**Ipoh**	**43.02 240**	P	**P**	**00 12 50.4**	**-1.1**
IPM			IAmb	IAmb	00 12 52.4	
comp=Z,27nm,0.8s						
ZALV	**Zalesovo Beam**	**43.81 317**	P	**P**	**00 12 56.6**	**-0.4**
comp=Z,1.2nm,0.3s,baz=95,slow=7.9,SNR=3.0						
ZALV			PcP	**PcP**	**00 14 32.7**	**0.0**
comp=Z,5.1nm,0.9s,baz=104,slow=4.1,SNR=6.2						
comp=Z,1.2nm,0.3s						
MTN	**Manton Dam**	**43.86 189**	P	**P**	**00 12 56.9**	**-1.0**
MTN			IAmb	IAmb	00 12 58.4	
comp=Z,16nm,0.8s						
MK31	**Makanchi Array**	**44.75 307**	P	**P**	**00 13 04.4**	**-0.2**
MK31	**Makanchi Array**	**44.75 307**	P	**P**	**00 13 04.4**	**-0.2**
MK31			pmax	pmax		
comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**44.75 307**		**P**	**00 13 04.0**	**-0.6**
MKAR	**Makanchi Array**	**44.75 307**	P	**P**	**00 13 04.9**	**+0.3**
comp=Z,3.1nm,0.5s,baz=92,slow=8.5,SNR=6.3						
MKAR			PcP	**PcP**	**00 14 36.4**	**+0.2**
comp=Z,1.1nm,0.3s,baz=79,slow=5.4,SNR=8.5						
MKAR			S	**S**	**00 19 04.8**	**+0.3**
comp=Z,1.4nm,0.9s,baz=91,slow=18,SNR=4.3						
comp=Z,3.1nm,0.5s						
COEN	**Coen**	**44.93 172**		**P**	**00 13 06.8**	**+0.6**
COEN			IAmb	IAmb	00 13 07.7	
comp=Z,16nm,0.8s						
PSI	**Prapat**	**45.69 240**	P	**P**	**00 13 11.7**	**-0.6**
PSI			pmax	pmax		
comp=Z,12nm,0.8s						
RPSI	**Rantau Prapat**	**45.76 240**		**P**	**00 13 11.7**	**-1.0**
RPSI			IAmb	IAmb	00 13 12.9	
comp=Z,12nm,0.8s						
UGM	**Wanagama**	**46.30 218**	P	**P**	**00 13 16.5**	**-0.2**
KURK	**Kurchatov**	**47.26 312**	P	**P**	**00 13 22.5**	**-1.0**
KURK			IAmb	IAmb	00 13 24.2	
comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**47.26 312**	P	**P**	**00 13 23.8**	**+0.2**
WUS	**Wushi**	**47.27 299**	P	**P**	**00 13 24.3**	**+0.3**
WUS			IAmb	IAmb	00 13 25.6	
comp=Z,23nm,1.4s						
KURBB	**Kurchatov Arra**	**47.32 312**	P	**P**	**00 13 23.8**	**-0.1**
comp=Z,6.4nm,0.5s,baz=92,slow=8.9,SNR=7.1						
KURBB			S	**S**	**00 19 38.4**	**-1.7**
comp=Z,1.4nm,0.7s,baz=236,slow=42,SNR=5.1						
comp=Z,6.4nm,0.5s						
NRIK	**Noril'sk**	**47.57 338**	P	**P**	**00 13 25.4**	**-0.2**
NRIK			IAmb	IAmb	00 13 26.5	
comp=Z,7.8nm,0.6s						
NRIK	**Noril'sk**	**47.57 338**	P	**P**	**00 13 26.0**	**+0.4**
comp=Z,8.6nm,0.6s,baz=106,slow=8.3,SNR=11						
NRIK			ScP	**ScP**	**00 17 53.2**	**+1.4**
comp=Z,1.3nm,0.5s,baz=105,slow=6.1,SNR=2.1						
NRIK			S	**S**	**00 19 42.6**	**-0.4**
comp=Z,0.5nm,0.3s,baz=12,slow=21,SNR=7.0						
comp=Z,8.6nm,0.6s						
GSI	**Gunungsitoli**	**47.69 240**		**P**	**00 13 26.7**	**-0.6**
F15K	**North Star Dit**	**49.25 28**	P	**P**	**00 13 39.9**	**+1.7**
C16K	**Lisburne Hills**	**49.74 24**	P	**P**	**00 13 42.3**	**+0.6**
KSH	**Kashi**	**49.97 298**	P	**P**	**00 13 47.6**	**+3.5**
KSH			pmax	pmax		
comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**50.60 184**	P	**P**	**00 13 48.0**	**-0.6**
WRA	**Warramunga Arr**	**50.60 184**	P	**P**	**00 13 48.4**	**-0.3**
comp=Z,5.7nm,0.6s,baz=359,slow=7.8,SNR=8.8						
WRA			S	**S**	**00 20 24.2**	**-1.5**
comp=Z,0.9nm,0.7s,baz=2.3,slow=16,SNR=3.3						
comp=Z,5.7nm,0.6s						
WR0	**Warramunga Arr**	**50.60 183**	P	**P**	**00 13 48.4**	**-0.4**
WR0			IAmb	IAmb	00 13 49.3	
comp=Z,8.2nm,0.7s						
BVAR	**Borovoye Array**	**52.34 315**	P	**P**	**00 14 01.1**	**+0.2**
comp=Z,6.0nm,0.6s,baz=89,slow=8.6,SNR=6.8						
BVAR			PcP	**PcP**	**00 15 04.2**	**+0.4**
comp=Z,2.6nm,0.4s,baz=120,slow=2.5,SNR=6.4						
BVAR			S	**S**	**00 20 47.8**	**-0.6**
comp=Z,0.9nm,0.7s,baz=82,slow=11,SNR=3.7						
comp=Z,6.0nm,0.6s						
DRK	**Karamyk**	**53.15 298**	P	**P**	**00 14 07.5**	**+0.2**
DRK			IAmb	IAmb	00 14 08.7	
comp=Z,12nm,0.8s						
DRK	**Karamyk**	**53.15 298**	P	**P**	**00 14 07.5**	**+0.2**
DRK			pmax	pmax		
comp=Z,12nm,0.8s						
KK31	**Karatay Array**	**53.40 303**	P	**P**	**00 14 08.4**	**-0.3**
KK31			IAmb	IAmb	00 14 09.8	
comp=Z,18nm,0.8s						
KK31	**Karatay Array**	**53.40 303**	P	**P**	**00 14 08.4**	**-0.3**
KK31			pmax	pmax		
comp=Z,18nm,0.8s						
KKAR	**Karatay Array**	**53.40 303**		**P**	**00 14 08.4**	**-0.3**
KKAR			IAmb	IAmb	00 14 09.8	
comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**53.40 303**	P	**P**	**00 14 08.4**	**-0.3**
KKAR			pmax	pmax		
comp=Z,12nm,0.8s						
NIL	**Nilore**	**53.42 291**		**P**	**00 14 09.4**	**+0.4**
NIL			IAmb	IAmb	00 14 10.5	
comp=Z,21nm,0.8s						
NIL	**Nilore**	**53.42 291**	P	**P**	**00 14 09.4**	**+0.4**
NIL			pmax	pmax		
comp=Z,21nm,0.8s						
BTK	**Batken**	**53.76 299**	P	**P**	**00 14 10.4**	**-1.0**
BTK	**Batken**	**53.76 299**	P	**P**	**00 14 10.5**	**-1.0**
BTK			pmax	pmax		
comp=Z,10.0nm,1.1s						
B21K	**Ikpikpuk River**	**53.82 24**	P	**P**	**00 14 12.6**	**+1.5**
E21K	**Killik River**	**53.88 25**	P	**P**	**00 14 12.6**	**+0.8**
KDAK	**Kodiak Island**	**54.02 39**	P	**P**	**00 14 14.5**	**+1.7**
KDAK	**Kodiak Island**	**54.02 39**	P	**P**	**00 14 14.5**	**+1.7**
KDAK			pmax	pmax		
comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**54.32 184**		**P**	**00 14 15.2**	**-0.1**
ASAR	**Alice Springs**	**54.32 184**	P	**P**	**00 14 15.6**	**+0.2**
comp=Z,3.2nm,0.8s,baz=9.1,slow=7.4,SNR=9.2						
ASAR			ScP	**ScP**	**00 18 23.8**	**+2.1**
comp=Z,0.6nm,0.8s,baz=311,slow=7.6,SNR=4.5						
comp=Z,3.2nm,0.8s						
GAR	**Garm**	**54.38 298**	P	**P**	**00 14 15.3**	**-0.5**
GAR			IAmb	IAmb	00 14 16.9	
comp=Z,35nm,1.0s						
D22K	**Ayikyak River**	**54.40 25**	P	**P**	**00 14 16.9**	**+1.6**
E22K	**Anaktuvuk Pass**	**54.65 26**	P	**P**	**00 14 19.1**	**+1.9**
D24K	**Happy Valley**	**55.81 25**	P	**P**	**00 14 26.6**	**+1.5**
D24K			IAmb	IAmb	00 14 28.0	
comp=Z,11nm,0.7s						
C24K	**Franklin Bluff**	**55.88 24**	P	**P**	**00 14 27.0**	**+1.3**
C24K			IAmb	IAmb	00 14 28.3	
comp=Z,11nm,0.7s						
ILAR	**Eielson Array**	**56.54 30**	P	**P**	**00 14 30.7**	**+0.4**
comp=Z,0.5nm,0.7s,baz=267,slow=5.3,SNR=5.2						
comp=Z,0.5nm,0.7s						
F25K	**Christian Rive**	**56.97 26**	P	**P**	**00 14 35.7**	**+2.5**
F26K	**Sheenjek River**	**57.54 26**	P	**P**	**00 14 39.6**	**+2.5**
ABKAR	**Akbulak array**	**59.37 312**		**P**	**00 14 49.9**	**+0.1**
DZM	**Mont Dzumac**	**59.63 148**	P	**P**	**00 14 53.6**	**+1.6**
comp=Z,24nm,0.8s,baz=339,slow=8.6						
comp=Z,24nm,0.8s						
G29M	**Pine Creek**	**59.98 27**	P	**P**	**00 14 55.7**	**+2.1**
AKTO	**Aktyubinsk**	**60.32 314**	S	**S**	**00 22 28.1**	**-3.4**
comp=Z,0.5nm,0.3s,baz=116,slow=4.2,SNR=1.7						
EPYK	**Eagle Plains**	**60.58 27**	P	**P**	**00 14 59.1**	**+1.5**
EPYK			IAmb	IAmb	00 15 00.2	
comp=Z,9.0nm,0.6s						
I30M	**Mount Dempster**	**60.92 29**	P	**P**	**00 15 00.5**	**+0.5**
STKA	**Stephens Creek**	**62.54 176**	P	**P**	**00 15 11.2**	**+0.4**
comp=Z,5.2nm,0.7s,baz=349,slow=7.9,SNR=5.5						
comp=Z,5.2nm,0.7s						
C36M	**Paulatuk**	**64.45 23**	P	**P**	**00 15 23.6**	**+1.0**
SPITS	**Spitsbergen Ar**	**65.88 349**	P	**P**	**00 15 30.6**	**-0.9**
comp=Z,9.5nm,1.1s,baz=22,slow=9.4,SNR=1.2						
comp=Z,9.5nm,1.1s						
ARCES	**ARCESS Array B**	**68.54 339**	P	**P**	**00 15 48.6**	**+0.7**
comp=Z,1.3nm,0.5s,baz=64,slow=7.9,SNR=6.0						
comp=Z,1.3nm,0.5s						
YKA	**Yellowknife Ar**	**70.86 28**	P	**P**	**00 16 03.0**	**+1.1**
comp=Z,0.5nm,0.7s,baz=292,slow=6.2,SNR=4.1						
comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**70.86 28**	P	**P**	**00 16 03.0**	**+1.1**
KBZ	**Khabaz**	**72.28 311**	P	**P**	**00 16 11.3**	**+0.7**
comp=Z,11nm,0.9s,baz=95,slow=1.0,SNR=8.0						
comp=Z,11nm,0.9s						
FINES	**FINESS Array B**	**72.63 332**	P	**P**	**00 16 12.3**	**0.0**
comp=Z,1.6nm,0.3s,baz=61,slow=6.2,SNR=5.0						
comp=Z,1.6nm,0.3s						
GURO	**Guroymak-BITLI**	**75.20 306**	P	**P**	**00 16 27.2**	**-0.4**
MARD	**Mardin**	**76.65 305**		**P**	**00 16 36.1**	**+0.5**
MARD			IAmb	IAmb	00 16 36.8	
comp=Z,8.4nm,0.7s						
AKASG	**Malin Array Be**	**77.01 322**	P	**P**	**00 16 36.8**	**-0.3**
comp=Z,1.9nm,0.4s,baz=52,slow=5.8,SNR=11						
comp=Z,1.9nm,0.4s						
HFS	**Hagfors**	**78.22 335**	P	**P**	**00 16 43.3**	**-0.2**
comp=Z,2.9nm,0.4s,baz=88,slow=3.9,SNR=12						
comp=Z,2.9nm,0.4s						
NB2	**NORSAR Subarra**	**78.47 336**	P	**P**	**00 16 44.9**	**0.0**
comp=Z,0.8nm,0.5s,baz=47,slow=5.1						
NOA	**NORSAR Array B**	**78.47 336**	P	**P**	**00 16 44.9**	**0.0**
comp=Z,0.8nm,0.5s,baz=54,slow=6.6,SNR=5.5						
comp=Z,0.8nm,0.5s						
RAYN	**Ar Rayn**	**79.72 291**	P	**P**	**00 16 52.5**	**+0.2**
RAYN			IAmb	IAmb	00 16 53.4	
comp=Z,22nm,1.3s						
RAYN	**Ar Rayn**	**79.72 291**	P	**P**	**00 16 52.5**	**+0.2**
RAYN			pmax	pmax		
comp=Z,22nm,1.3s						
BR131	**Keskin Array S**	**80.28 310**	P	**P**	**00 16 54.8**	**-0.2**
BR131	**Keskin Array S**	**80.28 310**	P	**P**	**00 16 54.8**	**-0.2**
BR131			pmax	pmax		
comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B**	**80.28 310**	P	**P**	**00 16 54.8**	**-0.2**
BRTR	**Keskin Array B**	**80.28 310**	P	**P**	**00 16 55.4**	**+0.4**
comp=Z,2.6nm,0.7s,baz=103,slow=4.0,SNR=9.8						
comp=Z,2.6nm,0.7s						
BRTR	**Keskin Array B**	**80.28 310**	P	**P**	**00 16 54.8**	**-0.2**
KWP	**Kalwaria Pacla**	**81.05 323**	P	**P**	**00 16 58.8**	**+0.2**
KWP	**Kalwaria Pacla**	**81.05 323**	P	**P**	**00 16 58.8**	**+0.2**
KWP			pmax	pmax		
comp=Z,154nm,1.1s						
BORA	**Eskisehir**	**82.25 312**	P	**P**	**00 17 04.8**	**-0.3**
MMAI	**Mount Meron Ar**	**82.62 304**	P	**P**	**00 17 07.7**	**+0.6**
comp=Z,5.6nm,0.7s,baz=37,slow=8.4,SNR=8.4						
comp=Z,5.6nm,0.7s						
BALJ	**Balqa**	**82.94 303**	P	**P**	**00 17 08.6**	**0.0**
BALJ			IAmb	IAmb	00 17 09.8	
comp=Z,16nm,0.9s						
CSS	**Mathiatis**	**83.03 307**	P	**P**	**00 17 08.2**	**-0.8**
CSS			IAmb	IAmb	00 17 09.8	
comp=Z,16nm,0.8s						
RONA	**Rosalia, Austr**	**85.54 324**	*e*PcP	**PcP**	**00 17 22.4**	**-0.8**
comp=Z,5.4nm,2.2s						
GERES	**GERESS Array B**	**86.02 327**	P	**P**	**00 17 22.6**	**-1.0**
comp=Z,0.3nm,0.4s,baz=358,slow=6.6,SNR=2.2						
comp=Z,0.3nm,0.4s						
ARSA	**Arzberg**	**86.23 325**	*i* P	**P**	**00 17 23.6**	**-0.9**
comp=Z,0.4nm,0.2s						
ESJX	**Sierra Juarez**	**86.67 55**	P	**P**	**00 17 27.9**	**+0.8**
LIT	**Litokhoron**	**87.06 316**	P	**P**	**00 17 27.6**	**-0.9**
LIT			IAmb	IAmb	00 17 28.0	
comp=Z,4.1nm,0.7s						
LIT	**Litokhoron**	**87.06 316**	P	**P**	**00 17 27.6**	**-0.9**
LIT			pmax	pmax		
comp=Z,4.0nm,0.7s						
ABTA	**Abfaltersbach**	**88.07 326**	*i* P	**P**	**00 17 32.4**	**-0.8**
comp=Z,1.7nm,0.8s						
FETA	**Feichten**	**88.73 327**	*i* P	**P**	**00 17 35.8**	**-0.5**
comp=Z,1.6nm,0.8s						
SYO	**Syowa Base**	**121.17 205**	⇓*e*Pdiff	**Pdif**	**00 20 04.0**	**+3.3**

NEIC ***18*** *00:25:23.9±1.2, 37°.09N±0°.01×97°.35W±0°.02, h5km±1km, mb_Lg2.2/8, ML2.4/42, ML2.1/9, ML2.5/36, Error ellipse: s-maj=3.6km s-min=2.2km az=232.0*

NEIC ***18*** *00:25:24.8±0.9, 37°.06N±0°.02×97°.37W±0°.01, h6km±1km, Error ellipse: s-maj=2.5km s-min=1.0km az=192.0*

NEIC 18 00:25:24.8±0.9, 37°.06N±0°.02×97°.36W±0°.02, h6km±2km, Error ellipse: s-maj=3.5km s-min=1.4km az=222.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**245**		Pg	00 25 27.3	+0.2
KAN13				Sg	Sg	00 25 29.1	+0.4
KAN09	**Caldwell North**	**0.22**	**291**		Pg	00 25 29.3	+0.1
KAN09				Sg	Sg	00 25 32.6	+0.4
KAN09				IAML		00 25 35.9	
comp=E,898nm,0.3s							
KAN09				IAML		00 25 36.1	
comp=N,612nm,0.3s							
BLOK	**Blackwell**	**0.32**	**159**		Pg	00 25 31.3	+0.3
BLOK				Sg	Sg	00 25 36.0	+0.7
BLOK				IAML		00 25 37.6	
comp=N,284nm,0.2s							
BLOK				IAML		00 25 38.7	
comp=E,506nm,0.2s							
KAN17	**Caldwell West**	**0.33**	**268**		Pg	00 25 31.3	+0.2
KAN17				Sg	Sg	00 25 36.0	+0.5
KAN17				IAML		00 25 38.8	
comp=N,344nm,0.3s							
KAN01	**Argonia South**	**0.33**	**287**		Pg	00 25 31.4	+0.1
KAN01				Sg	Sg	00 25 36.2	+0.4
KAN05	**Bluff City Nor**	**0.41**	**277**		Pg	00 25 32.1	-0.7
KAN05				Sg	Sg	00 25 38.3	+0.1
KAN14	**Manchester OK**	**0.49**	**258**		Pg	00 25 34.4	0.0
KAN14					Sg	00 25 41.0	+0.2
KAN14				IAML		00 25 45.9	
comp=N,185nm,0.4s							
KAN08	**Anthony NE Sta**	**0.52**	**289**		Pg	00 25 34.8	0.0
KAN08					Sg	00 25 42.2	+0.6
KAN08				IAML		00 25 42.3	
comp=E,202nm,0.2s							
KAN10	**Anthony SW Sta**	**0.59**	**277**		Pg	00 25 36.5	+0.2
OK051	**E0350 and S346**	**0.69**	**143**		Pg	00 25 38.3	+0.1
OK051				IAML		00 25 50.9	
comp=E,129nm,0.2s							
OK051				IAML		00 25 56.3	
comp=E,135nm,0.2s							
CROK	**Carrier**	**0.75**	**222**		Pg	00 25 38.6	-0.5
QUOK	**Quay**	**1.03**	**149**		Pg	00 25 44.3	-0.2
QUOK				IAML		00 26 00.2	
comp=E,102nm,0.2s							
QUOK				IAML		00 26 05.8	
comp=N,88nm,0.2s							
OK052	**Battle Ridge R**	**1.15**	**157**		Pg	00 25 46.5	-0.4
OK052				IAML		00 26 06.6	
comp=N,94nm,0.4s							
OK038	**West end E0370**	**1.25**	**243**		Pg	00 25 47.9	-0.9
OK029	**Liberty Lake**	**1.26**	**184**		Pn	00 25 48.0	-1.0
OK029					Sn	00 26 06.2	0.0
OK029				IAML		00 26 08.9	
comp=N,46nm,0.5s							
OK029				IAML		00 26 09.2	
comp=N,74nm,0.2s							
NOKA	**Waynoka**	**1.33**	**252**		Pn	00 25 49.3	-0.6
DEOK	**Depew**	**1.40**	**150**	

HTT	**Hallett**	**2.15**	**84**	P	**Pn**	**00 27 44.2**	**+2.5**
HTT	**Hallett**	**2.15**	**84**	P	**Pn**	**00 27 44.0**	**+2.3**
YAPP	**Yappala Statio**	**2.44**	**43**	P	**Pn**	**00 27 47.6**	**+1.9**
YAPP				S	**Sb**	**00 28 21.4**	**+1.4**
SDAN	**Sedan**	**2.60**	**109**	P	**Pn**	**00 27 50.4**	**+2.6**
SDAN				S	**Sn**	**00 28 18.3**	**-0.9**
LCRK	**Leigh Creek**	**3.59**	**26**	P	**Pn**	**00 28 03.3**	**+1.9**
LCRK	**Leigh Creek**	**3.59**	**26**	S	**Sn**	**00 28 45.5**	**+1.8**
LCRK	**Leigh Creek**	**3.59**	**26**	P	**Pn**	**00 28 03.1**	**+1.6**
STKA	**Stephens Creek**	**4.76**	**69**	P	**Pn**	**00 28 19.9**	**+2.3**
STKA	**Stephens Creek**	**4.76**	**69**	Pn	**Pn**	**00 28 19.9**	**+2.3**
	1.0nm,0.3s,baz=254,slow=16,SNR=7.9						
STKA				Sn	**Sn**	**00 29 09.2**	**-3.3**
	1.2nm,0.3s,baz=255,slow=14,SNR=3.4						
STKA				Lg	Lg	00 29 30.4	
	2.1nm,0.3s,baz=164,slow=22,SNR=4.5						
	2.4nm,0.3s						
STKA	**Stephens Creek**	**4.76**	**69**	P	**Pn**	**00 28 20.4**	**+2.9**
ARPS	**Mount Arapiles**	**5.43**	**126**	P	**Pn**	**00 28 29.4**	**+2.6**
ARPS	**Mount Arapiles**	**5.43**	**126**	P	**Pn**	**00 28 29.0**	**+2.2**
OOD	**Oodnadatta**	**5.90**	**354**	P	**Pn**	**00 28 34.2**	**+1.0**
OOD	**Oodnadatta**	**5.90**	**354**	P	**Pn**	**00 28 34.9**	**+1.7**
FORT	**Forrest**	**7.61**	**290**	P	**Pn**	**00 28 58.3**	**+1.5**
	comp=Z,0.1nmcomp=Z,40nm,0.9s						
FORT	**Forrest**	**7.61**	**290**	S	**Sn**	**00 30 21.7**	**-1.1**
FORT	**Forrest**	**7.61**	**290**	P	**Pn**	**00 28 58.2**	**+1.5**
CMSA	**Cobar Meteorol**	**8.15**	**77**	P	**Pn**	**00 29 04.9**	**+0.8**
CMSA	**Cobar Meteorol**	**8.15**	**77**	P	**Pn**	**00 29 04.6**	**+0.4**
ASAR	**Alice Springs**	**10.21**	**347**	Pn	**Pn**	**00 29 32.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=1.6						
ASAR				Sn	Sn	00 31 19.2	-7.7
	comp=Z,0.3nm,0.3s,baz=169,slow=22,SNR=4.6						
ASAR				Lg	Lg	00 32 17.6	
	baz=173,slow=25						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**13.81**	**352**	Pn	**Pn**	**00 30 19.4**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=167,slow=14,SNR=9.0						
WRA				Sn	Sn	00 32 47.5	-7.4
	comp=Z,0.1nm,0.3s,baz=174,slow=23,SNR=2.4						
	comp=Z,0.2nm,0.3s						

*NEIC **18** 00:42:36.1±0.4, 37.°28N±0.°01×97.°78W±0.°01, h5km±1km, Long ellipse: s-maj=1.9km s-min=1.2km az=215.0*

NEIC 18 00:42:35.9±0.4, 37.°270N±0.°008×97.°78W±0.°01, h5km±1km, ML1.8/12, ML2.1/28, Error ellipse: s-maj=2.2km s-min=2.0km az=58.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN01	**Argonia South**	**0.12**	**173**		Pg	00 42 38.9	+0.6
KAN01				Sg	Sg	00 42 40.0	0.0
KAN08	**Anthony NE Sta**	**0.16**	**254**	Pg	Pg	00 42 39.6	+0.5
KAN08				Sg	Sg	00 42 42.2	+0.9
KAN08				IAML		00 42 42.6	
	comp=N,542nm,0.1s						
KAN05	**Bluff City Nor**	**0.18**	**205**	Pg	Pg	00 42 39.9	+0.5
KAN05				Sg	Sg	00 42 42.7	+0.9
KAN05				IAML		00 42 43.0	
	comp=E,475nm,0.3s						
KAN12	**Harper NE Stat**	**0.18**	**279**	Pg	Pg	00 42 39.9	+0.5
KAN12				Sg	Sg	00 42 42.0	+0.2
KAN12				IAML		00 42 42.9	
	comp=N,509nm,0.2s						
KAN12				IAML		00 42 45.0	
	comp=E,429nm,0.4s						
KAN09	**Caldwell North**	**0.18**	**137**	Pg	Pg	00 42 40.1	+0.6
KAN09				Sg	Sg	00 42 42.9	+1.0
KAN09				IAML		00 42 45.0	
	comp=N,576nm,0.3s						
KAN17	**Caldwell West**	**0.23**	**178**	Pg	Pg	00 42 40.9	+0.6
KAN17				Sg	Sg	00 42 44.2	+0.9
KAN14	**Manchester OK**	**0.35**	**206**	Pg	Pg	00 42 43.0	+0.4
KAN14				Sg	Sg	00 42 48.0	+0.8
KAN13	**South Haven SW**	**0.35**	**137**	Pg	Pg	00 42 43.1	+0.4
KAN13				Sg	Sg	00 42 48.2	+1.0
KAN13				IAML		00 42 48.6	
	comp=N,185nm,0.3s						
KAN13				IAML		00 42 51.9	
	comp=E,213nm,0.3s						
BLOK	**Blackwell**	**0.68**	**138**	Sg	Sg	00 42 58.6	+0.9
CROK	**Carrier**	**0.78**	**192**	Pg	Pg	00 42 51.0	+0.1
CROK				IAML		00 43 02.4	
	comp=E,84nm,0.3s						
CROK				IAML		00 43 03.2	
	comp=N,63nm,0.3s						
OK051	**E0350 and S346**	**1.07**	**135**	Pg	Pg	00 42 56.3	-0.2
OK051				IAML		00 43 24.8	
	comp=N,44nm,0.2s						
OK038	**West end E0370**	**1.11**	**225**	Pg	Pg	00 42 57.0	-0.1
NOKA	**Waynoka**	**1.12**	**236**	Pg	Pg	00 42 57.1	-0.3
R32A	**Long Quarter,**	**1.37**	**328**		Pn	00 43 01.1	-0.5
OK029	**Liberty Lake**	**1.49**	**170**		Pn	00 43 03.1	-0.2
KSU1	**Kansas State U**	**2.05**	**26**	Pn	Pn	00 43 10.0	-1.0
RTBA	**Rita Blanca**	**4.06**	**260**	Pn	Pn	00 43 40.0	+1.1

TXNET 18 01:09:32.2, 31.°6N±0.°6×104.°3W±0.°7, h5km±2km, ML1.7/7, 3C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=63.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**33**	⇑P	Pg	01 09 38.7	-0.4
TPB11				S	Sg	01 09 43.7	-0.2
PECS	**Pecos**	**0.43**	**128**	⇑P	Pg	01 09 40.6	0.0
PECS				S	Sg	01 09 46.3	+0.1
TPB12	**Southwest of T**	**0.50**	**148**	⇑P	Pg	01 09 41.9	+0.1
TPB12				S	Sg	01 09 48.6	+0.3
TPB07	**Mentone**	**0.51**	**96**	S	Sg	01 09 49.0	+0.3
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	01 09 43.0	0.0
TPB10				S	Sg	01 09 50.6	+0.3
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	01 09 43.2	+0.1
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	01 09 55.4	+0.4
TPB01	**Permian Basin**	**0.81**	**149**	⇓P	Pg	01 09 47.0	-0.7
TPB01				S	Sg	01 09 57.4	-0.7
TPB03	**Saragosa**	**0.85**	**131**	S	Sg	01 09 59.6	+0.1
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	01 09 50.6	0.0
MNTX				S	Sg	01 10 03.3	+0.3
TPB04	**Verhalen**	**0.96**	**118**	P	Pg	01 09 50.0	-0.7
TPB04				S	Sg	01 10 03.0	-0.2
HTMS	**Hat Mesa**	**0.99**	**33**	P	Pg	01 09 50.1	-1.2
VHRN	**Van Horn**	**1.05**	**216**	P	Pg	01 09 52.0	-0.4
VHRN				S	Sb	01 10 06.7	-0.4
TPB05	**Hovey Rd**	**1.08**	**131**	P	Pg	01 09 52.2	-0.7
TPB05				S	Sg	01 10 06.3	-0.6
MNHN	**Monahans**	**1.32**	**103**	P	Pn	01 09 55.7	-1.7
MNHN				S	Sg	01 10 12.5	-2.0
ALPN	**Alpine**	**1.37**	**157**	P	Pn	01 09 56.7	-1.4
ALPN				S	Sg	01 10 14.2	-2.0
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	01 09 58.5	-0.5
ODSA	**Odessa**	**1.54**	**71**	S	Sn	01 10 19.3	-1.5
TMB04	**Seminole**	**1.80**	**56**	P	Pn	01 10 04.1	+0.1
TMB04				S	Sb	01 10 28.1	-0.6
TX31	**Lajitas Ar. Si**	**2.35**	**167**	P	Pn	01 10 12.7	+1.1
TX31				Pg	Pb	01 10 14.5	-0.6
TX31				S	Sb	01 10 45.1	+0.5
SAND	**Sanderson**	**2.49**	**132**	P	Pb	01 10 16.3	-1.2

*BER **18** 01:13:32.6±2.0, 62.°29N×2.°28E, h5km±8km, ML2.1, MW2.3, ML2.4(BGS), Confirmed Earthquake*
*DNK **18** 01:13:32.6±1.8, 62.°23N×2.°75E, h0km±63km, ML2.7, Confirmed Earthquake*
*NAO **18** 01:13:32.0±4.5, 62.°22N×2.°43E, h8km±23km, ML2.0*
*BGS **18** 01:13:32.2±0.8, 62.°37N×2.°30E, h10km, ML2.4*
*UPP **18** 01:13:35.0±2.9, 62.°19N×2.°94E, h0km, ML2.3*
*IDC **18** 01:13:35.6±3.7, 62.°46N×3.°24E, h0km, mbtmp3.5/4, ML2.6/4, Error ellipse: s-maj=43.5km s-min=21.0km az=40.0*

ISC 18 01:13:30.5±1.5, 62.°23N±0.°05×2.°35E±0.°03, h17km±9km, n72, σ2§06/129, 1C, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.43**	**115**	*e*P	**Pg**	**01 13 58.0**	**+0.1**
FOO				*e*S	**Sg**	**01 14 16.4**	**0.0**
FOO				IAML		01 14 18.2	
	comp=N,21nm,0.1s						
FOO				IAML		01 14 18.3	
	comp=E,17nm,0.2s						
FOO	**Floro**	**1.43**	**115**	Pn	**Pg**	**01 13 58.0**	**+0.1**
FOO				Lg	Lg	01 14 17.0	
FOO	**Floro**	**1.43**	**115**	*e*P	**Pg**	**01 13 58.0**	**+0.1**
FOO				*e*S	**Sg**	**01 14 16.4**	**0.0**
FOO				IAML		01 14 18.1	
	comp=Z,56nm,0.2s						
FOO	**Floro**	**1.43**	**115**	*e*P	**Pg**	**01 13 58.0**	**+0.1**
FOO				*e*S	**Sg**	**01 14 16.4**	**0.0**
FOO				IAML		01 14 18.2	
	comp=N,21nm,0.1s						
FOO				IAML		01 14 18.3	
	comp=E,17nm,0.2s						
SUE	**Sulen**	**1.65**	**135**	Pn	**Pg**	**01 14 01.4**	**-0.7**
SUE				Lg	Lg	01 14 22.2	
SUE	**Sulen**	**1.65**	**135**	⇑*i*P	**Pg**	**01 14 01.3**	**-0.8**
SUE				*e*S	**Sb**	**01 14 22.1**	**+1.4**
SUE				IAML		01 14 24.2	
	comp=Z,36nm,0.2s						
HYA	**Hoyanger**	**2.12**	**119**	Pn	**Pb**	**01 14 08.1**	**-0.3**
HYA				Sn	**Sb**	**01 14 34.0**	**-0.3**
HYA	**Hoyanger**	**2.12**	**119**	*e*P	**Pb**	**01 14 08.0**	**-0.3**
HYA				*e*S	**Sb**	**01 14 34.1**	**-0.3**
HYA				IAML		01 14 37.2	
	comp=Z,18nm,0.3s						
AKN	**Aaknes**	**2.18**	**89**	Pn	**Pb**	**01 14 08.4**	**-1.0**
AKN				Sn	**Sn**	**01 14 33.7**	**+1.2**
AKN	**Aaknes**	**2.18**	**89**	Pn	**Pb**	**01 14 08.4**	**-1.0**
AKN				Sn	**Sn**	**01 14 33.7**	**+1.2**
ASK	**Askoy**	**2.23**	**141**	*e*P	**Pb**	**01 14 09.7**	**-0.5**
ASK				*e*S	**Sn**	**01 14 36.2**	**+2.6**
ASK				IAML		01 14 37.9	
	comp=Z,10nm,0.2s						
BER	**Bergen**	**2.35**	**141**	*e*P	**Pb**	**01 14 10.6**	**-1.6**
BER				*e*S	**Sn**	**01 14 38.7**	**+2.1**
BER				IAML		01 14 39.4	
	comp=N,5.9nm,0.2s						
BER				IAML		01 14 39.6	
	comp=E,7.5nm,0.2s						
BER	**Bergen**	**2.35**	**141**	Pn	**Pb**	**01 14 10.7**	**-1.5**
BER				Sn	**Sn**	**01 14 39.0**	**+2.5**
BER	**Bergen**	**2.35**	**141**	*e*P	**Pb**	**01 14 10.6**	**-1.6**
BER				*e*P	**Pn**	**01 14 11.0**	**+2.8**
BER				IAML		01 14 41.3	
	comp=Z,9.3nm,0.1s						
BER	**Bergen**	**2.35**	**141**	*e*P	**Pb**	**01 14 10.6**	**-1.6**
BER				*e*S	**Sn**	**01 14 38.7**	**+2.1**
BER				IAML		01 14 39.4	
	comp=N,5.9nm,0.2s						
BER				IAML		01 14 39.6	
	comp=E,7.5nm,0.2s						
MOL	**Molde**	**2.44**	**80**	*e*P	**Pn**	**01 14 10.9**	**+1.4**
MOL				*e*S	**Sn**	**01 14 37.7**	**-1.2**
MOL				IAML		01 14 39.9	
	comp=E,21nm,0.2s						
MOL				IAML		01 14 40.7	
	comp=N,28nm,0.2s						
MOL	**Molde**	**2.44**	**80**	Pn	**Pn**	**01 14 10.6**	**+1.1**
MOL				Sn	**Sn**	**01 14 38.0**	**-0.9**
MOL	**Molde**	**2.44**	**80**	*e*P	**Pn**	**01 14 10.9**	**+1.4**
MOL				*e*P	**Pn**	**01 14 10.9**	**+1.4**
MOL				IAML		01 14 40.9	
	comp=Z,26nm,0.6s						
MOL	**Molde**	**2.44**	**80**	*e*P	**Pn**	**01 14 10.9**	**+1.4**
MOL				*e*S	**Sn**	**01 14 37.7**	**-1.2**
MOL				IAML		01 14 39.9	
	comp=E,21nm,0.2s						
MOL				IAML		01 14 40.7	
	comp=N,28nm,0.2s						
LRW	**Lerwick**	**2.71**	**221**	*e*P	**Pn**	**01 14 15.1**	**+1.9**
LRW				*e*S	**Sn**	**01 14 47.0**	**+1.5**
LRW				IAML		01 14 50.8	
	comp=N,12nm,0.2s						
LRW				IAML		01 14 53.2	
	comp=E,13nm,0.2s						
LRW	**Lerwick**	**2.71**	**221**	Pn	**Pn**	**01 14 15.4**	**+2.3**
LRW				Sn	**Sn**	**01 14 47.4**	**+2.0**
LRW	**Lerwick**	**2.71**	**221**	*e*P	**Pn**	**01 14 15.7**	**+2.6**
LRW				*e*S	**Sn**	**01 14 47.0**	**+1.5**
LRW				IAML		01 14 54.0	
	comp=Z,12nm,0.7s						
LRW	**Lerwick**	**2.71**	**221**	*e*P	**Pn**	**01 14 15.1**	**+1.9**
LRW				*e*S	**Sn**	**01 14 47.0**	**+1.5**
LRW				IAML		01 14 50.8	
	comp=N,12nm,0.2s						
LRW				IAML		01 14 53.2	
	comp=E,13nm,0.2s						
ODD1	**Odda**	**3.12**	**136**	*e*P	**Pn**	**01 14 21.9**	**+3.1**
ODD1				*e*S	**Sn**	**01 14 57.7**	**+2.0**
ODD1				IAML		01 14 58.8	
	comp=Z,25nm,0.6s						
DOMB	**Dombas**	**3.16**	**90**	*e*P	**Pn**	**01 14 22.0**	**+2.6**
DOMB				IAML		01 15 15.7	
	comp=Z,6.9nm,0.4s						
SKAR	**Skarslia**	**3.26**	**116**	*e*P	**Pn**	**01 14 23.6**	**+2.9**
SKAR				*e*S	**Sn**	**01 15 01.3**	**+2.2**
SKAR				IAML		01 15 16.3	
	comp=Z,9.6nm,0.3s						
KMY	**Karmoy**	**3.35**	**154**	*e*P	**Pn**	**01 14 24.6**	**+2.7**
KMY				*e*S	**Sn**	**01 15 02.4**	**+1.2**
KMY				IAML		01 15 05.9	
	comp=Z,17nm,0.4s						
BLS5	**Blasjo**	**3.46**	**143**	*e*P	**Pn**	**01 14 26.4**	**+2.9**
BLS5				*e*S	**Sn**	**01 15 05.2**	**+1.1**
BLS5				IAML		01 15 05.8	
	comp=Z,12nm,0.2s						
NC204	**NORSAR Array S**	**4.11**	**100**	*e*P	**Pn**	**01 14 34.9**	**+2.4**
NC204				*e*S	**Sn**	**01 15 21.3**	**+1.1**
NC204				IAML		01 15 38.5	
	comp=Z,3.6nm,0.3s						
NBO00	**NORSAR Array S**	**4.20**	**103**	*e*P	**Pn**	**01 14 36.5**	**+2.8**
NBO00				*e*S	**Sn**	**01 15 23.0**	**+0.7**
NBO00				IAML		01 15 46.7	
	comp=Z,5.5nm,0.7s						
NAO01	**NORSAR Array S**	**4.32**	**105**	*e*P	**Pn**	**01 14 37.6**	**+2.4**
NAO01				*e*S	**Sn**	**01 15 25.4**	**+0.3**
NAO01				IAML		01 15 46.9	
	comp=Z,3.9nm,0.6s						
KONO	**Kongsberg**	**4.38**	**123**	*e*P	**Pn**	**01 14 38.9**	**+2.8**
KONO				*e*S	**Sn**	**01 15 27.2**	**+0.5**
KONO				IAML		01 15 32.2	
	comp=Z,3.7nm,0.8s						
NB2	**NORSAR Subarra**	**4.40**	**102**	Pn	**Pn**	**01 14 38.6**	**+2.2**
	baz=292,slow=14						
NB2				Sn	**Sn**	**01 15 31.1**	**+3.9**
	baz=292,slow=28						
NB2	**NORSAR Subarra**	**4.40**	**102**	Pn	**Pn**	**01 14 38.6**	**+2.2**
	baz=292,slow=14						
NB2				Sn	**Sn**	**01 15 31.1**	**+3.9**
	baz=292,slow=28						
NOA	**NORSAR Array B**	**4.40**	**102**	Pn	**Pn**	**01 14 38.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=294,slow=14,SNR=18						
NOA				Sn	**Sn**	**01 15 26.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=316,slow=26,SNR=4.6						
NOA				Lg	Lg	01 15 42.3	
	comp=Z,0.1nm,0.3s,baz=16,slow=20,SNR=4.2						
	comp=Z,0.8nm,0.3s						
SNART	**Snartemo**	**4.59**	**146**	*e*P	**Pn**	**01 14 41.6**	**+2.5**
SNART				*e*S	**Sn**	**01 15 32.4**	**+0.5**
SNART				IAML		01 15 40.1	
	comp=Z,12nm,0.5s						
SNART	**Snartemo**	**4.59**	**146**	*i*P	**Pn**	**01 14 41.8**	**+2.8**
SNART				*i*S	**Sn**	**01 15 32.3**	**+0.5**
SNART				IAML		01 15 36.6	
	comp=Z,6.0nm,0.3s						
NRA0	**NORESS Array S**	**4.66**	**105**	Pn	**Pn**	**01 14 41.7**	**+1.8**
	baz=300,slow=14						
NRA0				Sn	**Sn**	**01 15 34.4**	**+0.9**
	baz=297,slow=22						
NRA0	**NORESS Array S**	**4.66**	**105**	Pn	**Pn**	**01 14 41.7**	**+1.8**
	baz=300,slow=14						
NRA0				Sn	**Sn**	**01 15 34.4**	**+0.9**
	baz=297,slow=22						
OSL	**Oslo**	**4.67**	**116**	*e*S	**Sn**	**01 15 35.1**	**+1.3**
OSL				IAML		01 15 56.4	
	comp=Z,6.9nm,0.1s						
BIGH	**Upper Bighouse**	**4.87**	**222**	*e*P	**Pn**	**01 14 44.8**	**+2.0**
BIGH				*e*S	**Sn**	**01 15 37.1**	**-1.5**
BIGH				IAML		01 15 39.1	
	comp=E,3.4nm,0.3s						
BIGH				IAML		01 15 39.2	
	comp=N,2.8nm,0.2s						
BIGH	**Upper Bighouse**	**4.87**	**222**	*e*P	**Pn**	**01 14 44.8**	**+2.0**
BIGH				*e*S	**Sn**	**01 15 36.6**	**-2.1**
BIGH				IAML		01 15 39.1	
	comp=E,3.4nm,0.3s						
BIGH	**Upper Bighouse**	**4.87**	**222**	*e*P	**Pn**	**01 14 44.8**	**+2.0**
BIGH				*e*S	**Sn**	**01 15 37.1**	**-1.5**
BIGH				IAML		01 15 39.1	
	comp=E,3.4nm,0.3s						
BIGH				IAML		01 15 39.2	
	comp=N,2.8nm,0.2s						
HOMB	**Homborsund**	**5.02**	**140**	*e*P	**Pn**	**01 14 47.7**	**+2.9**
HOMB				*e*S	**Sn**	**01 15 42.3**	**-0.1**
HOMB				IAML		01 15 47.5	
	comp=Z,4.8nm,0.6s						
HOMB	**Homborsund**	**5.02**	**140**	*i*P	**Pn**	**01 14 47.8**	**+3.0**
HOMB				*i*S	**Sn**	**01 15 42.3**	**-0.1**
STRU	**Stroemstad**	**5.40**	**122**	P	**Pn**	**01 14 51.4**	**+1.3**
STRU				S	**Sn**	**01 15 49.7**	**-2.1**
STRU	**Stroemstad**	**5.40**	**122**	P	**Pn**	**01 14 51.4**	**+1.3**
STRU				*i*P	Pb	01 14 51.8	-12
STRU				*e*S	**Sn**	**01 15 48.5**	**-3.2**
STRU				S	Sb	01 15 49.7	-19
FINU	**Finntorp**	**5.71**	**115**	P	**Pn**	**01 14 56.3**	**+1.9**
FINU				S	**Sn**	**01 15 58.2**	**-1.2**
FINU	**Finntorp**	**5.71**	**115**	P	**Pn**	**01 14 56.3**	**+1.9**
FINU				S	**Sn**	**01 15 58.2**	**-1.2**
UDD	**Uddeholm**	**5.86**	**107**	P	**Pn**	**01 14 58.6**	**+2.2**
UDD	**Uddeholm**	**5.86**	**107**	P	**Pn**	**01 14 58.6**	**+2.2**
NOD	**Norderasen**	**5.86**	**73**	P	**Pn**	**01 14 58.1**	**+1.7**
NOD	**Norderasen**	**5.86**	**73**	P	**Pn**	**01 14 58.1**	**+1.7**
DRUM	**Mains of Drumt**	**5.87**	**207**	*e*P	**Pn**	**01 14 58.9**	**+2.3**
DRUM				*e*S	**Sn**	**01 16 02.1**	**-1.3**
DRUM				IAML		01 16 02.6	
	comp=N,6.5nm,0.5s						
DRUM				IAML		01 16 05.7	
	comp=E,7.1nm,0.3s						
DRUM	**Mains of Drumt**	**5.87**	**207**	*e*P	**Pn**	**01 14 58.6**	**+2.0**
DRUM				*e*P	Pb	01 14 58.9	-13
DRUM				*e*S	**Sn**	**01 16 02.1**	**-1.3**
DRUM				IAML		01 16 02.6	
	comp=N,6.5nm,0.5s						
DRUM				*e*S	Sb	01 16 03.1	-19
DRUM				IAML		01 16 05.7	
	comp=E,7.1nm,0.3s						
DRUM	**Mains of Drumt**	**5.87**	**207**	*e*P	**Pn**	**01 14 58.9**	**+2.3**
DRUM				*e*S	**Sn**	**01 16 02.1**	**-1.3**
DRUM				IAML		01 16 02.6	
	comp=N,6.5nm,0.5s						
DRUM				IAML		01 16 05.7	
	comp=E,7.1nm,0.3s						
HFS	**Hagfors**	**5.88**	**106**	Pn	**Pn**	**01 14 59.0**	**+2.3**
	baz=309,slow=14						
HFS				Sn	**Sn**	**01 16 02.1**	**-1.5**
	baz=290,slow=28						
HFS	**Hagfors**	**5.88**	**106**	Pn	**Pn**	**01 14 59.0**	**+2.3**
	baz=309,slow=14						
HFS				Sn	**Sn**	**01 16 02.1**	**-1.5**
	baz=290,slow=28						
HFS	**Hagfors**	**5.88**	**106**	Pn	**Pn**	**01 14 58.9**	**+2.3**
	comp=E,0.5nm,0.3s,baz=305,slow=10,SNR=30						
HFS				Sn	**Sn**	**01 16 02.1**	**-1.5**
	comp=E,0.4nm,0.3s,baz=288,slow=20,SNR=4.9						
HFS				Lg	Lg	01 16 29.9	
	comp=E,0.4nm,0.3s,baz=319,slow=30,SNR=2.0						
	comp=E,1.2nm,0.3s						
VANU	**Vaenersborg**	**6.11**	**124**	P	**Pn**	**01 15 01.8**	**+2.0**
VANU	**Vaenersborg**	**6.11**	**124**	P	**Pn**	**01 15 01.8**	**+2.0**
TJOU	**Tjoern**	**6.26**	**128**	P	**Pn**	**01 15 04.0**	**+2.2**
TJOU	**Tjoern**	**6.26**	**128**	*i*P	**Pn**	**01 15 03.6**	**+1.8**
TJOU				P	Pb	01 15 04.0	-15
TJOU				*i*S	**Sn**	**01 16 09.8**	**-3.1**
KPL	**Plockton**	**6.35**	**223**	*e*S	**Sn**	**01 16 12.7**	**-2.5**
ONAU	**Onsala**	**6.84**	**131**	*i*P	**Pn**	**01 15 11.3**	**+1.5**
ONAU				*i*S	**Sn**	**01 16 23.9**	**-3.2**
BORU	**Boraas**	**6.97**	**127**	*i*P	**Pn**	**01 15 13.2**	**+1.5**
BORU				*e*S	**Sn**	**01 16 27.4**	**-3.0**
DEL	**Delary**	**8.24**	**129**	*i*P	**Pn**	**01 15 31.0**	**+1.9**
DEL				*e*S	**Sn**	**01 16 56.1**	**-5.5**
BJUU	**Bjuv**	**8.25**	**134**	*i*P	**Pn**	**01 15 30.5**	**+1.3**
BJUU				*e*S	**Sn**	**01 16 56.1**	**-5.8**
FIA0	**FINESS Array S**	**11.22**	**83**	Pn	**Pn**	**01 16 11.4**	**+1.6**
	baz=295,slow=12						
FIA0	**FINESS Array S**	**11.22**	**83**	Pn	**Pn**	**01 16 11.4**	**+1.6**
	baz=295,slow=12						
FINES	**FINESS Array B**	**11.22**	**83**	Pn	**Pn**	**01 16 11.2**	**+1.4**
	comp=E,0.4nm,0.3s,baz=284,slow=12,SNR=18						
FINES				Sn	**Sn**	**01 18 09.2**	**-5.5**
	comp=E,0.1nm,0.3s,baz=290,slow=20,SNR=2.2						
	comp=E,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**11.89**	**42**	Pn	**Pn**	**01 16 17.5**	**-1.4**
	baz=235,slow=13,SNR=1.4						
	comp=E,5.9nm,1.2s						

*BJI **18** 01:18:07.6, 1.°26N×126.°25E, h66km, mB5.2/12, mb4.5/36, Ms4.9/3, Ms7 4.5/2*
*DJA **18** 01:18:09.5±0.8, 2.°N±2.°×12.°6E±.°, h10km±7km, M4.7/16, mB5.2/9, mb4.9/11, MLv4.7/16, Mw(mB)4.6/9*
*NEIC **18** 01:18:12.1±2.2, 1.°68N±0.°05×126.°42E±0.°07, h68km±5km, mb5.0/81, Error ellipse: s-maj=10.1km s-min=6.9km az=68.0*
*IDC **18** 01:18:12.3±2.1, 1.°69N×126.°29E, h73km±18km, mb4.2/32, mbtmp4.5/35, MS3.3/15, Error ellipse: s-maj=16.8km s-min=7.8km az=80.0*

ISC 18 01:18:12.0±0.7, 1.°73N±0.°04×126.°42E±0.°05, h70km±6km, n180, σ1§26/176, mb4.9/81, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**135**		**Pn**	**01 18 33.1**	**-1.8**
TNTI	**Ternate**	**1.34**	**135**	P	**Pn**	**01 18 33.8**	**-1.1**
TNTI	**Ternate**	**1.34**	**135**	P	**Pn**	**01 18 33.3**	**-1.6**
SGSI	**Sangihe**	**2.13**	**335**	P	**Pn**	**01 18 44.9**	**-0.6**
SGSI				S	**Sn**	**

WB0 Warramunga Arr 22.75 160 P **P** **01 23 07.1 -1.6**
WB0 IAmb IAmb 01 23 11.5
comp=Z,30nm,0.5s
COEN Coen 22.78 134 P **P** **01 23 07.5 -1.5**
WRAB Tennant Creek 22.89 161 P **P** **01 23 08.5 -1.6**
WRAB IAmb IAmb 01 23 11.6
comp=Z,29nm,0.4s
WRA Warramunga Arr 22.90 161 P **P** **01 23 08.2 -1.9**
WRA Warramunga Arr 22.90 161 P **P** **01 23 09.2 -0.9**
comp=Z,15nm,0.4s,baz=340,slow=11,SNR=153
WRA PcP **PcP** **01 26 59.4 +0.7**
comp=Z,1.7nm,0.7s,baz=341,slow=2.1,SNR=5.5
WRA S **S** **01 27 14.8 +0.1**
comp=Z,3.5nm,0.9s,baz=344,slow=18,SNR=5.6
comp=Z,15nm,0.4s
WB2 Warramunga Arr 22.90 161 P **P** **01 23 08.6 -1.7**
WB2 IAmb IAmb 01 23 13.0
comp=Z,26nm,0.8s
WR0 Warramunga Arr 22.98 160 P **P** **01 23 09.6 -1.4**
WR0 IAmb IAmb 01 23 12.5
comp=Z,98nm,2.0s
YHNB Yeheng 23.32 348 P **P** **01 23 13.4 -0.9**
PSA00 Pilbara Seismi 24.04 195 P **P** **01 23 19.9 -0.8**
JOW Kunigami 25.02 4 P **P** **01 23 30.4 +0.8**
comp=Z,20nm,0.7s,baz=154,slow=8.9,SNR=3.5
comp=Z,20nm,0.7s
AS31 Alice Springs 26.27 164 P **P** **01 23 41.3 +0.3**
ASAR Alice Springs 26.28 164 P **P** **01 23 41.1 +0.1**
comp=Z,6.7nm,0.5s,baz=343,slow=8.1,SNR=34
ASAR PcP **PcP** **01 27 07.0 +0.9**
comp=Z,2.0nm,0.4s,baz=347,slow=2.3,SNR=8.6
ASAR S **S** **01 28 08.7 -0.1**
comp=Z,2.0nm,1.0s,baz=342,slow=20,SNR=8.0
comp=Z,6.7nm,0.5s
KRVT Keravat (AS076 26.28 103 LR LR 01 32 35.7
comp=Z,111nm,20.1s,baz=12,slow=33
GSI Gunungsitoli 28.84 270 P **P** **01 24 03.2 -0.9**
NJ2 Nanjing 30.99 347 *e*P **P** **01 24 25.0 +2.2**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
JNU Nakatsue 31.50 7 P **P** **01 24 27.1 -0.4**
comp=Z,7.4nm,0.9s,baz=181,slow=6.0,SNR=4.6
JNU LR LR 01 37 16.4
comp=Z,19nm,21.4s,baz=180,slow=36
comp=Z,7.4nm,0.9s
CMAR Chiang Mai Arr 31.66 303 P **P** **01 24 28.6 -0.4**
comp=Z,1.2nm,0.3s,baz=128,slow=7.3,SNR=5.3
CMAR PcP **PcP** **01 27 20.9 +1.1**
comp=Z,0.8nm,0.3s,baz=128,slow=3.5,SNR=5.6
comp=Z,1.2nm,0.3s
MORW Morawa 32.20 197 P **P** **01 24 33.8 +0.2**
MORW IAmb IAmb 01 24 33.8
comp=Z,35nm,1.6s
FORT Forrest 32.37 177 P **P** **01 24 35.3 +0.3**
FORT IAmb IAmb 01 24 37.3
comp=Z,30nm,0.8s
JHJ Hachijo jima 2 33.65 20 LR LR 01 40 55.6
comp=Z,15nm,18.1s,baz=304,slow=40
PZH PanZhiHua 34.19 318 P P 01 24 57.6 +6.5
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.4s
JGF Kuroka 35.20 16 P **P** **01 25 00.1 +0.5**
JGF IAmb IAmb 01 25 19.8
comp=Z,20nm,1.2s
BBOO Buckleboo 35.55 166 P **P** **01 25 02.7 +0.2**
NWAO Narrogin (SRO) 35.55 193 P **P** **01 25 02.6 +0.1**
NWAO IAmb IAmb 01 25 20.9
comp=Z,37nm,1.4s
KSRS Korea Array 35.57 2 P **P** **01 25 03.0 +0.3**
comp=Z,0.8nm,0.3s,baz=184,slow=11,SNR=4.7
KSRS PcP **PcP** **01 27 29.3 -1.0**
comp=Z,0.4nm,0.4s,baz=244,slow=20,SNR=1.8
comp=Z,0.8nm,0.3s
EIDS Eidsvold 36.00 140 P **P** **01 25 05.7 -0.8**
EIDS IAmb IAmb 01 25 06.7
comp=Z,61nm,1.9s
XAN Xi'an 36.07 335 P **P** **01 25 10.8 +3.8**
XAN pmax pmax
comp=Z,9.0nm,1.3s
CD2 Chengdu 36.09 326 P **P** **01 25 06.6 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
MAJO Matsushiro 36.31 16 P **P** **01 25 10.4 +1.4**
MAJO IAmb IAmb 01 25 47.3
comp=Z,45nm,1.6s
MJAR Matsushiro Arr 36.31 16 P **P** **01 25 08.8 -0.2**
comp=Z,2.3nm,0.6s,baz=182,slow=10,SNR=6.6
MJAR LR LR 01 42 45.6
comp=Z,18nm,18.2s,baz=202,slow=40
comp=Z,2.3nm,0.6s
MJB9 Matsu-Tunnel 36.31 16 P **P** **01 25 10.3 +1.2**
MJB9 IAmb IAmb 01 25 47.3
comp=Z,44nm,1.6s
STKA Stephens Creek 36.39 158 P **P** **01 25 09.3 -0.5**
STKA IAmb IAmb 01 25 11.4
comp=Z,22nm,0.7s
STKA Stephens Creek 36.39 158 P **P** **01 25 09.7 -0.1**
comp=Z,5.0nm,0.7s,baz=328,slow=9.2,SNR=9.2
STKA PcP **PcP** **01 27 33.4 +0.5**
comp=Z,3.0nm,0.9s,baz=0.0,slow=3.0,SNR=2.0
comp=Z,5.0nm,0.7s
JMM Marumori 38.31 18 P **P** **01 25 26.5 +0.6**
JMM IAmb IAmb 01 25 29.9
comp=Z,25nm,0.9s
BJI Beijing 39.25 348 P **P** **01 25 33.8 +0.1**
BJI pmax pmax
comp=Z,3.0nm,0.6s
ARMA Armidale 40.00 145 P **P** **01 25 40.9 +0.7**
ARMA IAmb IAmb 01 25 43.3
comp=Z,12nm,0.8s
LZH Lanzhou 40.08 331 *e*P **P** **01 25 40.6 -0.3**
LZH pmax pmax
comp=Z,15nm,1.0s
JTM Tenmabayashi 41.07 17 P **P** **01 25 49.7 +0.9**
HHC Hu-ho-hao-te 41.19 343 *e*P **P** **01 25 52.3 +2.3**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.6s
BTO Baotou 41.45 341 *e*P **P** **01 25 51.8 -0.3**
BTO pP **pP** **01 26 04.6 -4.3**
BTO sP **pwP** **01 26 13.5 +4.6**
BTO PP **PP** **01 27 30.3 +1.2**
BTO S **S** **01 32 02.4 0.0**
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,390nm,6.2s
BTO LR LR
comp=Z,330nm,6.1s
BTO LR LR
comp=Z,290nm,6.0s
BTO LR LR
comp=Z,200nm,4.9s
CAN Canberra 42.48 152 P **P** **01 26 02.5 +2.0**
USRK Ussuriysk Ar. 42.57 6 P **P** **01 26 01.5 +0.5**
comp=Z,4.5nm,0.9s,baz=204,slow=8.6,SNR=5.3
comp=Z,4.5nm,0.9s
MDJ Mudanjiang 42.80 3 P **P** **01 26 04.6 +1.8**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
H11S3 WAKE ISLAND Hy 42.84 64 T T 02 13 06.2
baz=253,slow=75,SNR=8.8
H11S2 WAKE ISLAND Hy 42.85 64 T T 02 13 21.6
baz=253,slow=75,SNR=3.1
H11S1 WAKE ISLAND Hy 42.85 64 T T 02 13 08.6
baz=253,slow=75,SNR=3.1
BNX BinXian 43.83 1 ⇑P **P** **01 26 11.3 +0.2**
BNX pmax pmax
comp=Z,5.0nm,0.7s
GTA Gaotai 44.66 330 *e*P **P** **01 26 18.3 +0.3**
GTA PcP **PcP** **01 28 01.3 +1.6**
GTA pmax pmax
comp=Z,2.0nm,0.7s
DZM Mont Dzumac 45.67 123 P **P** **01 26 27.4 +1.1**
PALK Pallekele 45.89 278 LR LR 01 46 29.3
comp=Z,35nm,21.8s,baz=62,slow=37
KLR Kul'dur 47.54 5 P **P** **01 26 40.4 +0.1**
comp=Z,3.3nm,0.7s,baz=207,slow=6.2,SNR=14
comp=Z,3.3nm,0.7s
SONM Songino Array 49.09 342 P **P** **01 26 52.2 -0.3**
comp=Z,1.0nm,0.5s,baz=159,slow=9.5,SNR=8.2
SONM PcP **PcP** **01 28 15.7 +0.6**
comp=Z,1.7nm,0.7s,baz=161,slow=4.0,SNR=7.0
SONM LR LR 01 50 04.6
comp=Z,57nm,18.7s,baz=172,slow=39
comp=Z,1.0nm,0.5s
WMQ Urumqi 54.19 326 *e*P **P** **01 27 31.8 +1.3**
MSVF Nonsavu 54.39 113 P **P** **01 27 34.6 +2.3**
PEA0B Petropavlovsk- 57.38 22 P **P** **01 27 54.6 +1.5**
PETK Petropavlovsk- 57.38 22 P **P** **01 27 53.5 +0.4**
PETK Petropavlovsk- 57.38 22 P **P** **01 27 54.6 +1.5**
comp=Z,2.5nm,0.5s,baz=190,slow=5.6,SNR=26
PETK LR LR 01 51 50.6
comp=Z,13nm,20.3s,baz=150,slow=35
comp=Z,2.5nm,0.5s
NIL Nilore 58.91 309 P **P** **01 28 04.6 +0.4**
MK31 Makanchi Array 59.02 326 P **P** **01 28 04.0 -0.6**
MKAR Makanchi Array 59.02 326 P **P** **01 28 04.2 -0.5**
MKAR Makanchi Array 59.02 326 P **P** **01 28 03.8 -0.9**
comp=Z,3.5nm,0.4s,baz=114,slow=7.9,SNR=30
MKAR LR LR 01 56 18.0
comp=Z,42nm,18.3s,baz=264,slow=39
comp=Z,3.5nm,0.4s
TARG Taragay, Kyrgy 59.03 319 P **P** **01 28 05.9 +0.6**
TARG IAmb IAmb 01 29 29.2
comp=Z,7.2nm,0.5s
MAKZ Makanchi 59.20 326 P **P** **01 28 05.3 -0.6**
MAKZ IAmb IAmb 01 28 06.7
comp=Z,7.8nm,0.7s
KSH Kashi 59.24 316 P **P** **01 28 07.6 +1.1**
KSH pmax pmax
comp=Z,2.0nm,0.8s
KDJ Kajisay 59.64 319 P **P** **01 28 09.0 -0.2**
KDJ IAmb IAmb 01 28 13.3
comp=Z,5.4nm,0.6s
LBZ Lake Benmore 60.22 145 P **P** **01 28 12.6 -0.3**
MA2 Magadan 60.70 14 P **P** **01 28 17.7 +1.8**
MA2 IAmb IAmb 01 28 18.4
comp=Z,13nm,0.8s
MA2 Magadan 60.70 14 P **P** **01 28 17.1 +1.2**
comp=Z,11nm,0.8s,baz=192,slow=6.0,SNR=16
MA2 LR LR 02 01 04.1
comp=Z,9.9nm,18.0s,baz=208,slow=42
comp=Z,11nm,0.8s
MA2 Magadan 60.70 14 P **P** **01 28 17.8 +1.8**
TUWZ Tuamarina 60.80 141 P **P** **01 28 16.6 -0.3**
BKZ Black Stump Fm 61.33 137 P **P** **01 28 20.4 -0.2**
AAK Ala-Archa 61.63 319 P **P** **01 28 21.0 -1.8**
comp=Z,1.3nm,0.8s,baz=98,slow=7.1,SNR=5.2
comp=Z,1.3nm,0.8s
ZAA0 Zalesovo Array 62.22 334 P **P** **01 28 25.1 -1.1**
ZALV Zalesovo Beam 62.22 334 P **P** **01 28 24.9 -1.4**
ZALV Zalesovo Beam 62.22 334 P **P** **01 28 25.3 -0.9**
comp=Z,1.8nm,0.3s,baz=137,slow=7.3,SNR=16
comp=Z,1.8nm,0.3s
KBL Kabul 62.50 308 P **P** **01 28 26.9 -1.9**
GAR Garm 63.05 313 P **P** **01 28 30.9 -1.4**
KURBB Kurchatov Arra 63.25 328 P **P** **01 28 32.9 -0.3**
comp=Z,9.4nm,0.7s,baz=131,slow=6.6,SNR=49
comp=Z,9.4nm,0.7s
KURK Kurchatov 63.26 328 P **P** **01 28 32.9 -0.3**
KURK IAmb IAmb 01 28 35.9
comp=Z,17nm,0.8s
KURK Kurchatov 63.26 328 P **P** **01 28 32.8 -0.4**
SIMJ Simiganj 63.89 313 P **P** **01 28 36.2 -1.7**
SIMJ Simiganj 63.89 313 P **P** **01 28 37.4 -0.5**
KK31 Karatay Array 64.48 318 P **P** **01 28 40.6 -0.9**
KKAR Karatay Array 64.48 318 P **P** **01 28 41.3 -0.2**
BVAR Borovoye Array 68.82 328 P **P** **01 29 08.7 -0.2**
comp=Z,2.5nm,0.4s,baz=88,slow=4.6,SNR=15
comp=Z,2.5nm,0.4s
BRVK Borovoye 68.89 328 P **P** **01 29 08.4 -0.9**
BRVK Borovoye 68.89 328 P **P** **01 29 09.1 -0.3**
TIXI Tiksi 69.83 1 P **P** **01 29 14.5 -0.2**
TIXI Tiksi 69.83 1 P **P** **01 29 15.0 +0.2**
NRIK Noril'sk 72.28 346 P **P** **01 29 30.2 +0.5**
comp=Z,9.2nm,0.6s,baz=130,slow=6.7,SNR=24
NRIK LR LR 02 03 38.8
comp=Z,33nm,18.5s,baz=130,slow=38
comp=Z,9.2nm,0.6s
ABKAR Akbulak array 73.50 321 P **P** **01 29 36.7 -0.5**
AKTO Aktyubinsk 75.03 322 P **P** **01 29 46.1 0.0**
comp=Z,2.7nm,0.6s,baz=108,slow=2.7,SNR=9.2
AKTO LR LR 02 04 19.6
comp=Z,44nm,19.7s,baz=240,slow=37
comp=Z,2.7nm,0.6s
ARTI Arti 76.53 328 P **P** **01 29 53.9 -0.7**
ARTI IAmb IAmb 01 30 24.3
comp=Z,22nm,1.9s
ANM Nome 79.20 24 P **P** **01 30 09.8 +0.6**
ANM IAmb IAmb 01 30 39.4
comp=Z,25nm,2.0s
L14K Kuka Creek 79.39 28 IAmb IAmb 01 30 13.9
comp=Z,20nm,1.1s
M14K Bethel 79.57 28 P **P** **01 30 13.0 +1.8**
M14K IAmb IAmb 01 30 31.6
comp=Z,23nm,1.1s
VOI Vohitsoka 81.03 248 P **P** **01 30 18.7 -1.4**
VOI IAmb IAmb 01 30 37.9
comp=Z,44nm,1.7s
VNDA Vanda 81.50 173 P **P** **01 30 21.0 -0.3**
VNDA IAmb IAmb 01 33 23.9
comp=Z,30nm,1.6s
VNDA Vanda 81.50 173 P **P** **01 30 21.2 -0.1**
comp=Z,1.6nm,0.4s,baz=318,slow=8.6,SNR=6.6
comp=Z,1.6nm,0.4s
K17K Iditarod 81.74 27 IAmb IAmb 01 30 27.4
comp=Z,30nm,1.3s
J18K Innoko River 82.59 26 IAmb IAmb 01 30 30.6
comp=Z,56nm,1.9s
TTA Tatalina 82.81 27 P **P** **01 30 29.4 +0.9**
TTA IAmb IAmb 01 30 31.0
comp=Z,37nm,1.6s
G19K Purcell Mounta 82.97 23 IAmb IAmb 01 30 32.4
comp=Z,20nm,0.8s
D19K Kuna River 83.08 21 IAmb IAmb 01 30 32.8
comp=Z,14nm,0.8s
J19K Poorman 83.17 26 IAmb IAmb 01 30 34.0
comp=Z,13nm,1.0s
E19K Redstone River 83.18 22 IAmb IAmb 01 30 34.1
comp=Z,20nm,0.8s
L19K White Mountain 83.21 28 IAmb IAmb 01 31 00.5
comp=Z,53nm,1.8s
OHAK Old Harbor 83.29 33 P **P** **01 30 32.7 +1.7**
M19K Big River Lodg 83.38 28 P **P** **01 30 33.6 +2.2**
KDAK Kodiak Island 83.73 32 P **P** **01 30 35.1 +1.9**
KDAK Kodiak Island 83.73 32 P **P** **01 30 34.8 +1.5**
comp=Z,20nm,1.1s,baz=222,slow=1.5,SNR=12
KDAK LR LR 02 03 12.1
comp=Z,29nm,20.2s,baz=87,slow=32
comp=Z,20nm,1.1s
KBZ Khabaz 84.12 314 P **P** **01 30 34.2 -1.3**
comp=Z,2.2nm,0.9s,baz=159,slow=8.7,SNR=3.8
comp=Z,2.2nm,0.9s
SPU Mount Spurr 84.39 29 P **P** **01 30 37.5 +0.9**
STLK Strandline Lak 84.54 28 P **P** **01 30 37.3 -0.1**
STLK IAmb IAmb 01 31 42.7
comp=Z,45nm,1.9s
B21K Ikpikpuk River 84.54 20 IAmb IAmb 01 30 40.3
comp=Z,13nm,0.7s
CNPM China Poot 84.62 30 P **P** **01 30 38.7 +0.9**
BRLK Bradley Lake 84.82 30 P **P** **01 30 39.9 +1.1**
G23K Bananza Creek 85.86 23 IAmb IAmb 01 34 03.5
comp=Z,12nm,1.3s
GHO Glory Hole Cre 85.94 28 P **P** **01 30 44.6 +0.2**
E23K Chandalar 86.14 22 IAmb IAmb 01 33 28.6
comp=Z,10nm,0.8s
ILAR Eielson Array 87.03 25 P **P** **01 30 48.4 -1.2**
comp=Z,0.8nm,0.6s,baz=253,slow=4.6,SNR=19
comp=Z,0.8nm,0.6s
J26L Joseph Creek 88.45 26 IAmb IAmb 01 33 32.8
comp=Z,11nm,1.4s
MMAI Mount Meron Ar 89.92 303 P **P** **01 31 04.2 +0.1**
comp=Z,0.5nm,0.3s,baz=71,slow=5.7,SNR=6.3
comp=Z,0.5nm,0.3s
I28M Miner Creek 89.96 25 IAmb IAmb 01 31 46.1
comp=Z,31nm,1.9s
SYO Syowa Base 90.47 201 ⇓P **P** **01 31 05.8 +0.2**
BRTR Keskin Array B 91.05 310 P **P** **01 31 09.4 +0.2**
comp=Z,0.4nm,0.7s,baz=86,slow=6.3,SNR=3.7
comp=Z,0.4nm,0.7s
INK Inuvik 92.12 21 P **P** **01 31 13.2 -0.1**
comp=Z,2.1nm,1.0s,baz=290,slow=6.8,SNR=5.8
comp=Z,2.1nm,1.0s
ARCES ARCESS Array B 92.20 340 P **P** **01 31 13.3 -0.5**
comp=Z,6.6nm,0.9s,baz=69,slow=3.3,SNR=5.8
comp=Z,6.6nm,0.9s
SPITS Spitsbergen Ar 92.36 349 P **P** **01 31 14.2 -0.2**
comp=Z,7.9nm,1.0s,baz=80,slow=7.9,SNR=1.6
comp=Z,7.9nm,1.0s
AKASG Malin Array Be 93.24 321 P **P** **01 31 18.4 -0.5**
comp=Z,0.1nm,0.3s,baz=73,slow=4.6,SNR=2.4
AKASG LR LR 02 16 41.9
comp=Z,48nm,20.1s,baz=261,slow=38
comp=Z,0.1nm,0.3s
FINES FINESS Array B 93.43 332 P **P** **01 31 18.4 -1.2**
comp=Z,0.7nm,0.6s,baz=76,slow=3.7,SNR=8.2
comp=Z,0.7nm,0.6s
BUR08 Bucovina Ar. S 96.28 318 P **P** **01 31 32.5 -0.5**
BUR08 IAmb IAmb 01 32 21.4
comp=Z,16nm,1.8s
BBB Bella Bella 98.07 37 LR LR 02 18 49.3
comp=Z,36nm,18.3s,baz=195,slow=37
HFS Hagfors 99.63 332 P **Pdif** **01 31 46.5 -1.2**
comp=Z,3.3nm,1.1s,baz=117,slow=5.0,SNR=1.8
comp=Z,3.3nm,1.1s
YKA Yellowknife Ar 101.43 24 P **Pdif** **01 31 56.7 +1.1**
comp=Z,0.3nm,0.7s,baz=298,slow=5.0,SNR=3.1
CLL Collm 103.06 324 *e*Pdif **Pdif** **01 32 03.0 -0.1**
SCHQ Schefferville 122.57 9 PKP **PKPdf** **01 36 59.2 -0.4**
comp=Z,8.0nm,1.1s,baz=270,slow=6.7,SNR=6.0
TXAR Lajitas Array 123.05 53 PKP **PKiKP** **01 37 01.9 +0.3**
comp=Z,0.5nm,0.8s,baz=207,slow=2.5,SNR=4.9
PLCA Paso Flores 138.25 161 PKP **PKPdf** **01 37 28.1 -1.6**
comp=Z,1.8nm,1.0s,baz=302,slow=3.9,SNR=3.6
CO01 Juntas del Tor 147.82 152 **PKPbc** **01 37 50.7 +0.6**

---

*NNC **18** 01:26:53.6±6.9, 43.°14N×84.°52E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=57.9km s-min=51.8km az=162.0*
SOME 18 01:26:48.6, 42.°82N×84.°00E, h5km, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.35**	**277**		Pg	Pn	01 27 32.8	-8.9
SHLS	5.1nm,0.2s							
					Lg	Lg	01 28 23.0	
SHLS	17nm,0.4s							
SHLS	**Shalkode**	**3.35**	**277**	*e*P		Pb	01 27 45.1	-3.3
SHLS	2.3nm,0.1s							
				*e*S		Sb	01 28 25.8	-3.8
SHLS	15nm,0.3s							
DJR	**Jarkent**	**3.41**	**298**		Lg	Lg	01 28 37.0	
DJR	4.7nm,0.4s							
DJR	**Jarkent**	**3.41**	**298**	*e*P		Pg	01 27 51.8	-2.2
DJR	2.1nm,0.2s							
				*e*S		Sg	01 28 37.4	-0.8
DJR	4.9nm,0.2s							
UZB	**Uzynbulak**	**3.67**	**277**	*e*P		Pb	01 27 56.0	+2.0
UZB	2.6nm,0.1s							
				*e*S		Sg	01 28 44.5	-1.8
UZB	4.2nm,0.2s							
KPKS	**Kokpek**	**3.94**	**281**		Pg	Pn	01 27 50.2	+0.4
KPKS	2.2nm,0.2s							
					Lg	Lg	01 28 52.9	
KPKS	13nm,0.4s							
KPKS	**Kokpek**	**3.94**	**281**	*e*P		Pb	01 28 01.2	+2.5
KPKS	1.5nm,0.1s							
				*e*S		Sg	01 28 53.5	-1.8
KPKS	6.1nm,0.2s							
ZHN	**Zhinishke**	**4.10**	**277**	*e*P		Pg	01 28 04.9	-2.2
ZHN	0.9nm,0.1s							
				*e*S		Sg	01 28 59.6	-0.5
ZHN	7.4nm,0.1s							
SATY	**Saty**	**4.11**	**275**		Pg	Pn	01 27 51.6	-0.6
SATY	7.0nm,0.8s							
					Lg	Lg	01 28 55.3	
SATY	6.1nm,0.6s							
MK31	**Makanchi Array**	**4.16**	**344**	⇑Pn		Pn	01 27 56.0	+3.3
MK31	1.3nm,0.6s,baz=148,slow=16,SNR=79							
				⇓Pg		Pg	01 28 05.4	-2.8
MK31	1.7nm,0.3s,baz=161,slow=18,SNR=42							
				⇓Lg		Lg	01 29 00.9	
MK31	4.5nm,0.6s,baz=159,slow=26							
BLB	**Baldybastay**	**4.22**	**290**		Lg	Lg	01 29 00.7	
BLB	7.7nm,0.5s							
MAKZ	**Makanchi**	**4.24**	**341**	⇑Pn		Pn	01 27 57.9	+4.0
MAKZ	2.2nm,1.0s							
				⇓Pg		Pg	01 28 07.2	-2.6
MAKZ	7.8nm,0.7s							
				⇓Lg		Lg	01 29 04.3	
MAKZ	2.8nm,0.6s							
ZSN	**Zaisan**	**4.67**	**7**	Pg		Pn	01 28 00.1	+0.3
ZSN	3.3nm,0.5s							
					Lg	Lg	01 29 09.8	
ZSN	4.4nm,0.5s							
ZSN	**Zaisan**	**4.67**	**7**	*e*P		Pg	01 28 15.0	-3.1
ZSN	2.3nm,0.2s							
				*e*S		Sg	01 29 17.0	-1.6
ZSN	3.5nm,0.3s							
KOTS	**Kotyrbulak**	**5.07**	**277**		Pg	Pb	01 28 11.7	-6.1
KOTS	2.6nm,0.3s							
KTBS	**Karatobe**	**5.42**	**282**		Pg	Pb	01 28 18.5	-5.3
KTBS	4.6nm,0.9s							
KST	**Kastek**	**5.91**	**275**		Pg	Pb	01 28 26.9	-5.2
KST	5.6nm,0.4s							

IDC 18 01:28:34.2±6.6, 30.°59S×178.°96W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=262.4km s-min=62.1km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.27**	**268**		P	P	01 36 30.2	+0.5
ASAR	0.3nm,0.5s,baz=111,slow=8.4,SNR=1.7							
ASAR	0.3nm,0.5s							
WRA	**Warramunga Arr**	**43.28**	**273**		P	P	01 36 37.1	-0.8
WRA	0.3nm,0.3s,baz=114,slow=8.0,SNR=6.2							
WRA	0.3nm,0.3s							
FINES	**FINESS Array B**	**145.04**	**339**		PKPbc	PKPbc	01 48 11.5	-0.7
FINES	3.0nm,1.0s,baz=52,slow=2.3,SNR=4.3							

IDC 18 01:53:38.0±2.5, 6.°83S×130.°53E, h0km, mb3.4/1, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=92.4km s-min=31.1km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.18**	**203**		Pn	Pn	01 56 34.7	+1.8
FITZ	baz=32,slow=12,SNR=1.2							
					Sn	Sn	01 58 47.5	-2.0
FITZ	0.1nm,0.3s,baz=100,slow=9.4,SNR=2.8							
FITZ	1.0nm,0.8s							
WRA	**Warramunga Arr**	**13.55**	**165**		Pn	Pn	01 56 51.2	-0.6
WRA	0.1nm,0.3s,baz=344,slow=13,SNR=8.3							
					Sn	Sn	01 59 21.2	-2.0
WRA	0.1nm,0.3s,baz=338,slow=22,SNR=1.6							
WRA	0.3nm,0.9s							
ASAR	**Alice Springs**	**17.05**	**169**		P	Pn	01 57 37.1	-1.1
ASAR	0.1nm,0.3s,baz=351,slow=11,SNR=4.5							
ASAR	0.3nm,0.4s							
MKAR	**Makanchi Array**	**68.37**	**327**		P	P	02 04 41.5	0.0
MKAR	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.9							
MKAR	0.3nm,0.7s							

---

*IDC **18** 01:57:34.1±0.6, 59.°93S×25.°91W, h0km, mb4.2/9, mbtmp4.3/10, ML4.6/1, Error ellipse: s-maj=26.1km s-min=18.8km az=49.0*
*NEIC **18** 01:57:35.5±1.5, 59.°9S±0.°1×25.°6W±0.°1, h10km±1km, mb4.6/25, Error ellipse: s-maj=25.6km s-min=7.0km az=22.0*
ISC 18 01:57:35.5±0.4, 59.°93S±0.°09×25.°8W±0.°1, h10km, n75, σ0:90/71, mb4.5/19, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.12**	**309**		Pn	**Pn**	**01 59 35.3**	**+1.9**
VNA1	**Neumayer--Stat**	**12.94**	**153**		P	**Pn**	**02 00 38.9**	**-0.1**
VNA1	**Neumayer--Stat**	**12.94**	**153**	⇓P		**Pn**	**02 00 38.9**	**-0.1**
VNA1	2.1nm,0.4s							
VNA3	**Neumayer Olymp**	**13.09**	**157**		P	**Pn**	**02 00 39.7**	**-1.5**
VNA3	**Neumayer Olymp**	**13.09**	**157**	⇓P		**Pn**	**02 00 39.7**	**-1.5**
VNA3	2.4nm,0.2s							
SNAA	**Sanae**	**14.92**	**151**		P	**Pn**	**02 01 04.8**	**-1.4**
SNAA	**Sanae**	**14.92**	**151**			**Pn**	**02 01 04.1**	**-2.1**
SNAA	**Sanae**	**14.92**	**151**	⇓P		**Pn**	**02 01 04.8**	**-1.4**
SNAA	2.191nm,0.4s							
SNAA	**Sanae**	**14.92**	**151**	Pn		**Pn**	**02 01 04.7**	**-1.5**
SNAA	2.2.8nm,0.3s,baz=350,slow=10,SNR=44							
					Sn	Sn	02 03 35.7	-15
SNAA	comp=Z,0.1nm,0.3s,baz=335,slow=19,SNR=1.1							
SNAA	comp=Z,5.2nm,0.3s							
TROLL	**Troll, Antarti**	**16.47**	**149**	P		**Pn**	**02 01 26.1**	**-0.3**
TROLL	**Troll, Antarti**	**16.47**	**149**	⇓P		**Pn**	**02 01 26.1**	**-0.3**
TROLL	comp=Z,98nm,0.2s							

BELA Belgrano 2 18.27 186 P **P 02 01 50.6 +1.8**
EFI East Falkland 19.77 280 P **Pn 02 02 08.0 +1.1**
EFI IAmb IAmb 02 02 30.8
comp=Z,65nm,1.4s
MG02 Cerro Sombrero 24.73 267 P **P 02 02 56.0 -0.6**
QSPA South Pole Qui 30.31 180 P **P 02 03 47.1 +0.3**
comp=Z,4.9nm,1.0s,baz=201,slow=7.0,SNR=6.0
comp=Z,4.9nm,1.0s
TRQA Tornquist 31.67 297 P **P 02 03 59.1 +0.3**
TRQA IAmb IAmb 02 04 21.4
comp=Z,14nm,1.4s
PLCA Paso Flores 33.58 285 P **P 02 04 15.2 -0.3**
PLCA Paso Flores 33.58 285 P **P 02 04 14.8 -0.6**
comp=Z,1.5nm,0.8s,baz=146,slow=6.5,SNR=8.7
comp=Z,1.5nm,0.8s
PLTB Pedras Altas 33.71 314 P **P 02 04 15.2 -1.4**
LL04 Puerto Octay 34.35 282 P **P 02 04 21.3 -0.8**
BO02 Sierra Bellavi 38.40 290 P **P 02 04 57.4 +0.6**
BO01 Tunca 38.87 290 P **P 02 05 01.2 +0.5**
BO01 IAmb IAmb 02 05 02.6
comp=Z,14nm,1.2s
BO04 La Punta 38.98 291 P **P 02 05 02.0 +0.3**
BO04 IAmb IAmb 02 05 02.7
comp=Z,15nm,1.3s
MT09 Talagante 39.33 291 P **P 02 05 04.7 -0.1**
MT09 IAmb IAmb 02 05 05.4
comp=Z,17nm,0.8s
PEL Peldehue 39.71 292 P **P 02 05 07.7 -0.2**
PEL IAmb IAmb 02 05 09.2
comp=Z,14nm,0.9s
MT02 Curacav 39.83 291 P **P 02 05 08.7 -0.1**
MT02 IAmb IAmb 02 05 09.7
comp=Z,15nm,1.0s
CPUP Villa Florida 39.98 313 P **P 02 05 09.3 -0.7**
comp=Z,0.6nm,0.3s,baz=168,slow=3.1,SNR=3.1
comp=Z,0.6nm,0.3s
CO01 Juntas del Tor 42.09 295 P **P 02 05 28.9 +1.2**
AC02 Maricunga 44.35 299 P **P 02 05 46.5 +0.2**
AC02 IAmb IAmb 02 05 48.4
comp=Z,7.8nm,1.2s
H04S2 CROZET ISLANDS 45.39 110 T T 02 55 21.6
baz=225,slow=74,SNR=4.0
H04S3 CROZET ISLANDS 45.40 110 T T 02 55 22.6
baz=225,slow=74,SNR=3.9
H04S1 CROZET ISLANDS 45.41 110 T T 02 55 21.2
baz=225,slow=74,SNR=3.2
GO02 Mina Guanaco 46.01 299 P **P 02 05 59.2 0.0**
GO02 IAmb IAmb 02 06 26.4
comp=Z,5.2nm,0.8s
BOSA Boshof 46.36 71 P **P 02 06 01.4 -0.3**
comp=Z,3.2nm,0.9s,baz=211,slow=11,SNR=3.6
comp=Z,3.2nm,0.9s
PB14 IPOC Station P 46.84 299 P **P 02 06 05.2 -0.6**
BDFB Brasilia 47.11 330 P **P 02 06 07.0 -0.7**
comp=Z,0.9nm,0.4s,baz=186,slow=7.5,SNR=3.9
comp=Z,0.9nm,0.4s
PB09 IPOC Station P 48.81 302 P **P 02 06 21.2 +0.3**
PB01 IPOC Station P 49.58 302 P **P 02 06 24.9 -1.8**
PTLB Pontes e Lacer 50.63 317 P **P 02 06 33.4 -1.2**
LPAZ La Paz 53.26 306 P **P 02 06 54.6 -0.3**
LPAZ IAmb IAmb 02 06 55.8
comp=Z,6.8nm,1.3s
LPAZ La Paz 53.26 306 P **P 02 06 55.0 +0.1**
comp=Z,2.3nm,0.3s,baz=62,slow=3.5,SNR=18
comp=Z,2.3nm,0.3s
MAL2 Monte Alegre, 61.78 327 P **P 02 07 53.2 -1.0**
DBIC Dimbokro 68.43 22 P **P 02 08 37.8 +0.5**
comp=Z,3.6nm,0.8s,baz=164,slow=7.6,SNR=3.7
comp=Z,3.6nm,0.8s
RUSC La Rusia 75.43 311 P **P 02 09 17.8 -2.1**
RUSC IAmb IAmb 02 09 19.6
comp=Z,3.8nm,0.9s
TORD Torodi Ar. Bea 76.11 28 P **P 02 09 23.8 +0.7**
TORD IAmb IAmb 02 09 25.0
comp=Z,4.8nm,0.7s
TORD Torodi Ar. Bea 76.11 28 P **P 02 09 24.2 +1.1**
comp=Z,29nm,0.3s,baz=203,slow=5.5,SNR=1.5
STKA Stephens Creek 87.94 169 P **P 02 10 25.7 +0.4**
comp=Z,1.5nm,0.7s,baz=243,slow=4.5,SNR=2.9
comp=Z,1.5nm,0.7s
ASAR Alice Springs 95.06 161 P **P 02 10 58.6 +0.1**
comp=Z,0.6nm,0.6s,baz=185,slow=4.2,SNR=4.5
ASAR PKKPbc **PKKPbc 02 27 50.7 +0.6**
comp=Z,0.3nm,0.6s,baz=1.9,slow=2.8,SNR=2.1
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 98.78 161 PKKP 02 27 42.1
comp=Z,0.2nm,0.4s,baz=358,slow=3.0,SNR=9.5
SDCO Great Sand Dun 117.10 299 PKPdf **PKiKP 02 16 21.2 +1.0**
SCHQ Schefferville 119.01 334 PKP **PKPdf 02 16 22.9 0.0**
comp=Z,1.0nm,0.5s,baz=90,slow=1.0,SNR=3.6
MSU Marysvale 120.73 294 PKPdf **PKiKP 02 16 28.9 +1.7**
HWUT Hardware Ranch 122.95 297 PKPdf **PKPdf 02 16 31.4 +0.2**
CMAR Chiang Mai Arr 122.96 112 PKP **PKPdf 02 16 32.4 +0.7**
comp=Z,1.6nm,0.3s,baz=259,slow=2.9,SNR=4.0
PDAR Pinedale Array 122.98 299 PKP **PKPdf 02 16 30.9 -0.4**
comp=Z,0.2nm,0.5s,baz=124,slow=7.7,SNR=5.1
NVAR Mina Array Bea 123.53 290 PKP **PKPdf 02 16 31.4 -1.1**
comp=Z,0.4nm,0.7s,baz=148,slow=3.3,SNR=3.6
ULM Lac du Bonnet 123.53 314 PKP **PKPdf 02 16 30.9 -0.9**
comp=Z,0.7nm,0.4s,baz=99,slow=3.6,SNR=4.7
FLWY Flagg Ranch 124.54 299 PKPdf **PKPdf 02 16 34.8 +0.6**
FINES FINESS Array B 127.45 28 PKP **PKPdf 02 16 38.9 0.0**
comp=Z,1.4nm,0.7s,baz=264,slow=3.8,SNR=3.7
ABKAR Abkulak array 128.90 57 PKPdf **PKPdf 02 16 41.5 -0.6**
G08A Pilot Rock 129.18 295 PKPdf **PKiKP 02 16 44.4 +0.8**
ARCES ARCESS Array B 134.26 23 PKP **PKPdf 02 16 52.2 +0.6**
comp=Z,3.2nm,0.9s,baz=220,slow=1.9,SNR=6.6
BVAR Borovoye Array 136.14 60 PKP **PKPdf 02 16 56.6 +1.0**
comp=Z,0.8nm,0.6s,baz=248,slow=1.6,SNR=2.9
MKAR Makanchi Array 137.30 74 PKP **PKPdf 02 16 57.8 -0.2**
comp=Z,0.3nm,0.8s,baz=192,slow=1.3,SNR=2.7
YKA Yellowknife Ar 139.50 314 PKPdf **PKPdf 02 17 01.7 +0.3**
YKA Yellowknife Ar 139.50 314 PKP **PKPdf 02 17 01.9 +0.4**
comp=Z,2.1nm,0.7s,baz=140,slow=2.1,SNR=29
EUNU Eureka 143.89 345 PKPdf PKPbc 02 17 08.1 +1.2
P33M Teslin, Yukon 145.31 303 **PKPbc 02 17 11.4 -0.4**
M30M Minto, Yukon 148.15 305 PKPbc **PKPbc 02 17 19.5 -0.5**
L29M L29M 148.94 305 PKPbc **PKPbc 02 17 22.2 +0.3**
EPYK Eagle Plains 149.68 312 PKPbc **PKPbc 02 17 23.0 -0.7**
SONM Songino Array 150.01 92 PKPbc **PKPbc 02 17 25.7 +0.5**
comp=Z,3.6nm,0.8s,baz=213,slow=3.4,SNR=19
L27K Beaver Creek, 150.45 304 PKPbc **PKPbc 02 17 26.3 +0.6**
KSRS Korea Array 151.93 131 PKPbc **PKPbc 02 17 30.2 +0.4**
comp=Z,0.4nm,0.4s,baz=204,slow=2.0,SNR=5.7
ILAR Eielson Array 153.14 306 PKPbc **PKPbc 02 17 31.9 +0.3**
comp=Z,0.8nm,0.4s,baz=144,slow=2.6,SNR=29

---

*IDC **18** 01:59:39.3±1.5, 6°.36S×142°.92E, h0km, mb3.8/5, mbtmp3.8/8, ML3.5/3, MS3.2/3, Error ellipse: s-maj=42.7km s-min=21.0km az=103.0*

ISC 18 01:59:44.0±1.4, 6°.57S±0°.08×142°.8E±0°.2, h35km, n9, σ1§93/10, mb3.9/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.55**	**332**	Pn	**Pn**	**02 00 49.5**	**-1.1**
	2.1nm,0.3s,baz=102,slow=10,SNR=4.7						
JAY				Sn	**Sn**	**02 01 42.8**	**+0.5**
	1.7nm,0.3s,baz=228,slow=6.2,SNR=1.8						
	9.3nm,0.5s						
PMG	**Port Moresby**	**5.14**	**124**	LR	LR	02 03 50.2	
	comp=Z,178nm,18.6s,baz=176,slow=48						
WRA	**Warramunga Arr**	**15.64**	**211**	Pn	**Pn**	**02 03 21.9**	**0.0**
	0.1nm,0.3s,baz=31,slow=12,SNR=7.4						
WRA				Sn	**Sn**	**02 06 10.6**	**-3.6**
	0.1nm,0.3s,baz=30,slow=22,SNR=4.0						
WRA				Lg	Lg	02 08 04.0	
	0.1nm,0.3s,baz=28,slow=28,SNR=5.4						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**19.04**	**206**	P	**Pn**	**02 04 06.7**	**+2.4**
	0.4nm,0.3s,baz=34,slow=9.7,SNR=18						
ASAR				Lg	Lg	02 09 50.8	
	0.1nm,0.3s,baz=30,slow=30,SNR=4.6						
ASAR				LR	LR	02 12 09.3	
	comp=Z,89nm,19.1s,baz=66,slow=39						
	2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.30**	**234**	P	**P**	**02 04 19.0**	**+2.0**
	4.5nm,0.8s,baz=55,slow=10,SNR=11						
FITZ				Lg	Lg	02 10 23.4	
	0.1nm,0.3s,baz=313,slow=21,SNR=4.7						
FITZ				LR	LR	02 12 58.0	
	comp=Z,65nm,19.3s,baz=16,slow=39						
	4.5nm,0.8s						
MKAR	**Makanchi Array**	**75.33**	**322**	P	**P**	**02 11 23.8**	**-0.1**
	0.2nm,0.7s,baz=132,slow=6.0,SNR=2.4						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**79.23**	**324**	P	**P**	**02 11 45.3**	**-0.3**
	0.3nm,0.2s,baz=99,slow=5.7,SNR=1.5						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**84.81**	**325**	P	**P**	**02 12 15.8**	**+0.9**
	1.8nm,0.8s,baz=100,slow=6.2,SNR=5.7						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**02 12 27.5**	**-1.1**
	0.6nm,0.8s,baz=257,slow=4.7,SNR=6.0						
	0.6nm,0.8s						

---

*IDC **18** 02:03:20.6±0.6, 59°.89S×25°.88W, h0km, mb4.1/8, mbtmp4.2/9, ML4.9/1, MS3.7/18, Error ellipse: s-maj=27.0km s-min=19.8km az=44.0*
*NEIC **18** 02:03:22.8±1.8, 59°.9S±0°.1×26°.0W±0°.3, h10km±1km, mb4.6/31, Error ellipse: s-maj=26.8km s-min=19.8km az=245.0*

ISC 18 02:03:22.5±0.4, 59°.94S±0°.10×25°.9W±0°.1, h16km, n85, σ1§03/72, mb4.5/20, MS3.7/17, 1C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.95**	**153**	P	**Pn**	**02 06 24.6**	**-0.9**
VNA1	**Neumayer--Stat**	**12.95**	**153**	⇓P	**Pn**	**02 06 24.6**	**-0.9**
	comp=Z,23nm,0.3s						
VNA3	**Neumayer Olymp**	**13.10**	**157**	P	**Pn**	**02 06 26.0**	**-1.6**
VNA3	**Neumayer Olymp**	**13.10**	**157**	⇓P	**Pn**	**02 06 26.0**	**-1.6**
	comp=Z,19nm,0.3s						
SNAA	**Sanae**	**14.93**	**151**	P	**Pn**	**02 06 50.2**	**-2.4**
SNAA	**Sanae**	**14.93**	**151**		**Pn**	**02 06 50.5**	**-2.1**
SNAA				IAmb	IAmb	02 06 57.1	
	comp=Z,17nm,0.6s						
SNAA	**Sanae**	**14.93**	**151**	⇓P	**Pn**	**02 06 50.2**	**-2.4**
	comp=Z,414nm,0.4s						
SNAA	**Sanae**	**14.93**	**151**	Pn	**Pn**	**02 06 51.2**	**-1.4**
	comp=Z,4.9nm,0.3s,baz=308,slow=13,SNR=43						
SNAA				Sn	Sn	02 09 21.8	-16
	comp=Z,0.2nm,0.3s,baz=14,slow=11,SNR=1.4						
SNAA				LR	LR	02 11 38.2	
	comp=Z,170nm,18.1s,baz=340,slow=33						
	comp=Z,15nm,0.5s						
TROLL	**Troll, Antarti**	**16.49**	**149**	P	**Pn**	**02 07 10.8**	**-2.1**
TROLL	**Troll, Antarti**	**16.49**	**149**	⇓P	**Pn**	**02 07 10.8**	**-2.1**
	comp=Z,187nm,0.3s						
EFI	**East Falkland**	**19.71**	**280**	P	**Pn**	**02 07 53.5**	**+1.1**
EFI				IAmb	IAmb	02 08 12.9	
	comp=Z,47nm,1.1s						
MG02	**Cerro Sombrero**	**24.67**	**268**	P	**P**	**02 08 41.1**	**-1.0**
SYO	**Syowa Base**	**28.20**	**136**	⇑eP	**P**	**02 09 13.6**	**-0.2**
QSPA	**South Pole Qui**	**30.30**	**180**	P	**P**	**02 09 35.0**	**+2.3**
QSPA				IAmb	IAmb	02 10 01.4	
	comp=Z,19nm,1.4s						
QSPA	**South Pole Qui**	**30.30**	**180**	P	**P**	**02 09 33.9**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=232,slow=4.2,SNR=4.4						
	comp=Z,2.2nm,0.8s						
TRQA	**Tornquist**	**31.62**	**297**	P	**P**	**02 09 44.5**	**+0.1**
TRQA				IAmb	IAmb	02 09 57.2	
	comp=Z,5.3nm,0.8s						
PLCA	**Paso Flores**	**33.52**	**285**	P	**P**	**02 09 59.7**	**-1.4**
PLCA				IAmb	IAmb	02 10 40.4	
	comp=Z,12nm,1.4s						
PLCA	**Paso Flores**	**33.52**	**285**	P	**P**	**02 10 00.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=145,slow=8.9,SNR=7.8						
PLCA				LR	LR	02 22 21.9	
	comp=Z,135nm,19.3s,baz=188,slow=34						
	comp=Z,1.0nm,0.5s						
PLTB	**Pedras Altas**	**33.67**	**314**	P	**P**	**02 10 02.0**	**-0.4**
LL04	**Puerto Octay**	**34.29**	**283**	P	**P**	**02 10 07.8**	**+0.1**
LL04				IAmb	IAmb	02 10 08.6	
	comp=Z,8.1nm,0.9s						
MAW	**Mawson**	**36.65**	**140**	LR	LR	02 23 19.8	
	comp=Z,140nm,21.2s,baz=142,slow=33						
BI02	**San Fabin de**	**37.06**	**288**	P	**P**	**02 10 31.4**	**-0.2**
BO04	**La Punta**	**38.93**	**291**	P	**P**	**02 10 47.6**	**+0.3**
BO04				IAmb	IAmb	02 10 57.9	
	comp=Z,13nm,1.2s						
MT09	**Talagante**	**39.28**	**291**	P	**P**	**02 10 50.9**	**+0.6**
MT01	**Popeta**	**39.33**	**291**	P	**P**	**02 10 50.8**	**+0.2**
MT01				IAmb	IAmb	02 11 33.9	
	comp=Z,19nm,1.3s						
PEL	**Peldehue**	**39.66**	**292**	P	**P**	**02 10 53.8**	**+0.3**
PEL				IAmb	IAmb	02 11 10.4	
	comp=Z,16nm,0.8s						
VA05	**Santo Domingo**	**39.67**	**291**	P	**P**	**02 10 54.7**	**+1.3**
MT02	**Curacav**	**39.78**	**292**	P	**P**	**02 10 55.0**	**+0.7**
MT02				IAmb	IAmb	02 11 17.2	
	comp=Z,14nm,0.9s						
CPUP	**Villa Florida**	**39.95**	**313**	P	**P**	**02 10 54.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=164,slow=7.3,SNR=2.1						
CPUP				LR	LR	02 28 50.3	
	comp=Z,71nm,18.8s,baz=176,slow=38						
	comp=Z,0.7nm,0.3s						
CO01	**Juntas del Tor**	**42.05**	**295**	P	**P**	**02 11 14.0**	**+0.7**
LCO	**Las Campanas**	**43.14**	**295**	P	**P**	**02 11 22.9**	**+0.6**
AC04	**Llanos de Chal**	**44.00**	**296**	P	**P**	**02 11 29.6**	**+0.7**
AC04				IAmb	IAmb	02 11 42.4	
	comp=Z,14nm,0.9s						
AC02	**Maricunga**	**44.31**	**299**	P	**P**	**02 11 33.0**	**+1.0**
H04S2	**CROZET ISLANDS**	**45.44**	**110**	T	T	03 00 40.2	
	baz=225,slow=75,SNR=5.0						
H04S3	**CROZET ISLANDS**	**45.45**	**110**	T	T	03 00 43.7	
	baz=225,slow=75,SNR=3.1						
H04S1	**CROZET ISLANDS**	**45.46**	**110**	T	T	03 00 48.4	
	baz=225,slow=75,SNR=3.4						
AC01	**Pan de Azucar**	**45.55**	**298**	P	**P**	**02 11 41.4**	**+0.1**
BOSA	**Boshof**	**46.42**	**71**	P	**P**	**02 11 47.4**	**-0.9**
	comp=Z,2.0nm,1.0s,baz=228,slow=11,SNR=2.3						
BOSA				LR	LR	02 26 22.2	
	comp=Z,38nm,19.6s,baz=177,slow=30						
	comp=Z,2.0nm,1.0s						
PB14	**IPOC Station P**	**46.79**	**299**	P	**P**	**02 11 51.4**	**0.0**
PB14				IAmb	IAmb	02 12 30.5	
	comp=Z,7.6nm,1.4s						
BDFB	**Brasilia**	**47.10**	**330**	P	**P**	**02 11 53.7**	**+0.1**
BDFB	**Brasilia**	**47.10**	**330**	P	**P**	**02 11 53.6**	**0.0**
	comp=Z,0.9nm,0.4s,baz=57,slow=5.6,SNR=3.7						
	comp=Z,0.9nm,0.4s						
PB09	**IPOC Station P**	**48.77**	**302**	P	**P**	**02 12 07.5**	**+1.0**
PB09				IAmb	IAmb	02 12 10.8	
	comp=Z,6.4nm,0.8s						
PB01	**IPOC Station P**	**49.54**	**302**	P	**P**	**02 12 13.2**	**+0.8**
LBTB	**Lobatse**	**49.62**	**69**	LR	LR	02 29 33.9	
	comp=Z,90nm,19.3s,baz=181,slow=32						
PTLB	**Pontes e Lacer**	**50.60**	**317**	P	**P**	**02 12 19.0**	**-1.4**
SIV	**San Ignacio**	**50.78**	**314**	LR	LR	02 35 32.8	
	comp=Z,49nm,18.7s,baz=106,slow=38						
TSUM	**Tsumeb**	**51.11**	**57**	LR	LR	02 29 44.8	
	comp=Z,62nm,20.6s,baz=155,slow=31						
LPAZ	**La Paz**	**53.22**	**306**	P	**P**	**02 12 41.4**	**+0.8**
LPAZ	**La Paz**	**53.22**	**306**	P	**P**	**02 12 41.7**	**+1.1**
	comp=Z,2.3nm,0.4s,baz=71,slow=1.7,SNR=18						
LPAZ				LR	LR	02 39 25.9	
	comp=Z,38nm,18.6s,baz=194,slow=41						
	comp=Z,2.3nm,0.4s						
LSZ	**Lusaka**	**59.25**	**65**	LR	LR	02 35 13.9	
	comp=Z,83nm,20.2s,baz=236,slow=32						
MAL2	**Monte Alegre,**	**61.76**	**327**	P	**P**	**02 13 39.5**	**-0.6**
ATAH	**Atahualpa**	**65.76**	**300**	LR	LR	02 44 20.4	
	comp=Z,24nm,19.2s,baz=127,slow=37						
BOAV	**Boa Vista**	**67.80**	**322**	P	**P**	**02 14 17.3**	**-2.1**
BOAV				IAmb	IAmb	02 14 55.6	
	comp=Z,4.9nm,1.1s						
DBIC	**Dimbokro**	**68.47**	**23**	P	**P**	**02 14 24.0**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=164,slow=7.1,SNR=3.6						
DBIC				LR	LR	02 37 05.1	
	comp=Z,50nm,19.5s,baz=28,slow=30						
	comp=Z,2.3nm,0.7s						
ROSC	**El Rosal**	**74.91**	**309**	LR	LR	02 50 52.2	
	comp=Z,37nm,18.9s,baz=178,slow=38						
RUSC	**La Rusia**	**75.40**	**311**	P	**P**	**02 15 04.1**	**-1.7**
RUSC				IAmb	IAmb	02 15 46.8	
	comp=Z,12nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.15**	**28**	P	**P**	**02 15 10.2**	**+0.8**
TORD				IAmb	IAmb	02 15 11.3	
	comp=Z,3.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.15**	**28**	P	**P**	**02 15 10.2**	**+0.8**
	comp=Z,37nm,0.3s,baz=201,slow=5.8,SNR=2.0						
PCRV	**Puerto La Cruz**	**76.42**	**321**	LR	LR	02 49 04.8	
	comp=Z,54nm,20.4s,slow=36						
SDV	**Santo Domingo**	**77.25**	**314**	LR	LR	02 50 59.5	
	comp=Z,92nm,20.0s,baz=84,slow=37						
NWAO	**Narrogin (SRO)**	**82.60**	**149**	LR	LR	02 50 30.4	
	comp=Z,43nm,18.9s,baz=226,slow=34						
ASAR	**Alice Springs**	**95.06**	**161**	P	**P**	**02 16 44.9**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=186,slow=3.8,SNR=6.2						
ASAR				PKKPbc	**PKKPbc**	**02 33 37.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=8.7,slow=1.9,SNR=4.7						
ASAR				LR	LR	02 58 01.6	
	comp=Z,72nm,18.8s,baz=220,slow=34						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**98.78**	**161**	PKKP		02 33 28.3	
	comp=Z,0.3nm,0.5s,baz=0.2,slow=3.0,SNR=10						
WRA				LR	LR	02 59 11.2	
	comp=Z,60nm,20.4s,baz=134,slow=34						
HWUT	**Hardware Ranch**	**122.90**	**297**		**PKPdf**	**02 22 16.6**	**-0.5**
PDAR	**Pinedale Array**	**122.94**	**299**	PKP	**PKPdf**	**02 22 17.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=120,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**123.47**	**290**	PKP	**PKiKP**	**02 22 18.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=83,slow=3.7,SNR=4.4						
ULM	**Lac du Bonnet**	**123.50**	**314**	PKP	**PKPdf**	**02 22 17.6**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=187,slow=1.4,SNR=5.7						
FXWY	**Fox Creek**	**124.28**	**299**	PKPdf	**PKiKP**	**02 22 20.6**	**+0.6**
FINES	**FINESS Array B**	**127.50**	**28**	PKP	**PKiKP**	**02 22 25.7**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=222,slow=2.6,SNR=4.6						
ABKAR	**Abkulak array**	**128.96**	**57**	PKPdf	**PKPdf**	**02 22 28.6**	**+0.4**
AKTO	**Aktyubinsk**	**129.05**	**55**	PKP	**PKPdf**	**02 22 28.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=180,slow=3.0,SNR=2.2						
ARCES	**ARCESS Array B**	**134.30**	**23**	PKP	**PKPdf**	**02 22 37.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=216,slow=2.2,SNR=5.9						
BVAR	**Borovoye Array**	**136.20**	**60**	PKP	**PKPdf**	**02 22 42.5**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=158,slow=1.6,SNR=2.8						
MKAR	**Makanchi Array**	**137.36**	**75**	PKP	**PKPdf**	**02 22 44.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=236,slow=3.3,SNR=3.7						
YKA	**Yellowknife Ar**	**139.47**	**314**	PKP	**PKPdf**	**02 22 48.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=140,slow=2.2,SNR=23						
P33M	**Teslin, Yukon**	**145.27**	**303**		**PKPbc**	**02 22 57.6**	**-0.1**
A36M	**Sachs Harbour**	**147.85**	**325**	PKPdf	**PKPbc**	**02 23 04.8**	**0.0**
H31M	**Peel River**	**148.54**	**312**	PKPbc	**PKPbc**	**02 23 07.2**	**+0.4**
L29M	**L29M**	**148.90**	**305**	PKPbc	**PKPbc**	**02 23 08.6**	**+0.8**
JNU	**Nakatsue**	**149.10**	**140**	PKPbc	**PKiKP**	**02 23 11.1**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=232,slow=6.3,SNR=4.2						
SONM	**Songino Array**	**150.07**	**92**	PKPbc	**PKPbc**	**02 23 12.1**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=223,slow=2.2,SNR=11						
L27K	**Beaver Creek,**	**150.41**	**304**	PKPbc	**PKiKP**	**02 23 12.3**	**0.0**
D27M	**Malcolm River**	**152.05**	**316**	PKPbc	**PKiKP**	**02 23 16.0**	**+0.5**
ILAR	**Eielson Array**	**153.10**	**306**	PKPbc	**PKiKP**	**02 23 18.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=150,slow=2.2,SNR=19						
TOLK	**Toolik Lake Re**	**155.00**	**314**	PKPbc	**PKiKP**	**02 23 22.0**	**+0.4**

RSNC 18 02:13:57.0±0.6, 1°S±4°×7°8W±°, h278km±5km, M3.0, mB5.8, mb3.4, ML2.7, Mw(mB)5.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.35**	**355**	P	Pn	02 14 28.7	-4.6
PIAT				S	S	02 15 10.8	+8.8
PIAT	**Ana Tenorio**	**0.35**	**355**	P		02 14 28.7	
PIAT				S		02 15 10.8	
COHC	**Cochancay**	**1.51**	**223**	P	Pn	02 14 37.7	-0.4
COHC				S	S	02 15 04.6	-6.1
COHC	**Cochancay**	**1.51**	**223**	P		02 14 37.7	
COHC				S		02 15 04.6	
OTAV	**Otavalo**	**1.59**	**352**	P	Pn	02 14 38.8	-0.5
OTAV				S	S	02 15 17.6	+4.9
OTAV	**Otavalo**	**1.59**	**352**	P		02 14 38.8	
OTAV				S		02 15 17.6	
CUSE	**Cuicocha Este**	**1.65**	**354**	P	Pn	02 14 39.6	-0.1
CUSE	**Cuicocha Este**	**1.65**	**354**	P		02 14 39.6	
PAC1	**Pacto, Paraso**	**1.70**	**341**	P	Pn	02 14 41.0	+1.3
PAC1				S	S	02 15 10.4	-3.1
PAC1	**Pacto, Paraso**	**1.70**	**341**	P		02 14 41.0	
PAC1				S		02 15 10.4	
BONI	**La Bonita**	**1.92**	**21**	P	Pn	02 14 39.9	-1.7
BONI	**La Bonita**	**1.92**	**21**	P		02 14 39.9	
PPLP	**Puerto Lpez**	**2.55**	**266**	P	Pn	02 14 49.8	+2.9
PPLP				S	S	02 15 26.9	+0.4
PPLP	**Puerto Lpez**	**2.55**	**266**	P		02 14 49.8	
PPLP				S		02 15 26.9	
BBAC	**Balboa, Cauca**	**3.49**	**16**	P	Pn	02 14 57.6	+0.9
BBAC				S	S	02 15 44.3	0.0
BBAC	**Balboa, Cauca**	**3.49**	**16**	P		02 14 57.6	
BBAC				S		02 15 44.3	
FLOC	**Florencia**	**3.89**	**42**	P	Pn	02 14 59.8	-1.1
FLOC	**Florencia**	**3.89**	**42**	P		02 14 59.8	
POPC	**Popayan, Colom**	**4.17**	**22**	P	Pn	02 15 05.0	+0.7
POPC				S	S	02 15 55.0	-3.0
POPC	**Popayan, Colom**	**4.17**	**22**	P		02 15 05.0	
POPC				S		02 15 55.0	
GR1C	**Gorgona, Isla**	**4.32**	**1**	P	Pn	02 15 09.6	+3.7
GR1C				S	S	02 15 56.1	-4.8
GR1C	**Gorgona, Isla**	**4.32**	**1**	P		02 15 09.6	
GR1C				S		02 15 56.1	
GARC	**Garzon, Huila**	**4.45**	**38**	P	Pn	02 15 08.2	+0.6
GARC	**Garzon, Huila**	**4.45**	**38**	P		02 15 08.2	
JAMC	**Jamundi, Valle**	**4.79**	**19**	P	Pn	02 15 12.6	+1.0
JAMC				S	S	02 16 08.4	-2.8
JAMC	**Jamundi, Valle**	**4.79**	**19**	P		02 15 12.6	
JAMC				S		02 16 08.4	
MALC	**Bahia Malaga**	**5.40**	**10**	P	Pn	02 15 20.4	+1.8
MALC	**Bahia Malaga**	**5.40**	**10**	P		02 15 20.4	
**

3.0nm,0.9s,baz=99,slow=7.9,SNR=7.7
3.0nm,0.9s
HFS Hagfors 42.55 320 P **P 02 28 03.6 +1.8**
1.8nm,0.5s,baz=87,slow=9.9,SNR=14
1.8nm,0.5s
NB2 NORSAR Subarra 43.81 322 P **P 02 28 13.4 +1.4**
comp=Z,0.4nm,0.4s,baz=92,slow=7.9
NOA NORSAR Array B 43.81 322 P **P 02 28 13.3 +1.3**
comp=Z,0.6nm,0.6s,baz=92,slow=7.8,SNR=2.1
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 67.64 269 P **P 02 31 01.2 -1.1**
comp=Z,20nm,0.3s,baz=54,slow=6.3,SNR=1.0

*JMA **18** 02:24:19.7±0.2,35°.1N±0°.6×14°.1E±°,h60km±1km,*
MV3.2/38,E OFF BOSO PENINSULA
*IDC **18** 02:24:20.7±4.1,35°.08N×140°.59E,h50km±30km,mb3.4/5,*
mbtmp3.6/7,ML3.3/2,Error ellipse: s-maj=46.6km
s-min=7.7km az=74.0
ISC 18 02:24:20.8±0.9,35°.09N±0°.04×140°.58E±0°.06,h56km±6km,
n36,σ0$80/37,mb3.9/5,7D,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.23**	**243**	P	**Pn**	**02 24 29.7**	**-0.2**
KTR	**Katsuura**	**0.23**	**284**	⇓P	**Pn**	**02 24 29.2**	**-0.7**
KTR				⇓eS	**Sn**	**02 24 36.4**	**-0.1**
BSO3	**Boso 3**	**0.30**	**191**	*i* P	**Pn**	**02 24 30.0**	**-0.2**
JKUC	**kamogawauchiur**	**0.32**	**282**	⇓*i*P	**Pn**	**02 24 30.0**	**-0.7**
JKUC				⇓eS	**Sn**	**02 24 37.4**	**-0.4**
JCN	**Nagara**	**0.45**	**316**	*e*P	**Pn**	**02 24 31.5**	**-0.5**
JCN				*e*S	**Sn**	**02 24 40.8**	**+0.8**
BSO1	**Boso 1**	**0.55**	**143**	*e*P	**Pn**	**02 24 32.4**	**-0.1**
JSMT	**Sammumatsuo**	**0.56**	**349**	*e*P	**Pn**	**02 24 32.4**	**-0.8**
JSMT				*e*S	**Sn**	**02 24 42.2**	**+0.1**
JIM2	**Oshima 3**	**1.02**	**249**	⇓P	**Pn**	**02 24 37.8**	**-1.2**
JIM2				⇓eS	**Sn**	**02 24 51.0**	**-1.4**
JOD2	**Odawara 2**	**1.23**	**278**	⇓P	**Pn**	**02 24 40.8**	**-1.1**
JMYK	**Miyake Tsubota**	**1.34**	**220**	*e*P	**Pn**	**02 24 42.6**	**-0.6**
JIZS	**Izushimoda**	**1.45**	**255**	*e*P	**Pn**	**02 24 43.8**	**-0.9**
JIZS				*e*S	**Sn**	**02 25 01.3**	**-1.4**
JMKN	**Mikurajimanish**	**1.45**	**215**	*e*P	**Pn**	**02 24 44.0**	**-0.8**
JAG	**Ashikaga**	**1.61**	**326**	*e*P	**Pn**	**02 24 46.3**	**-0.7**
JHJ2	**Mitsune**	**2.08**	**198**	P	**Pn**	**02 24 52.9**	**-0.4**
JHJ	**Hachijo jima 2**	**2.08**	**199**	P	**Pn**	**02 24 52.6**	**-0.7**
	109nm,0.3s,baz=335,slow=15,SNR=43						
JHJ				S	**Sn**	**02 25 17.9**	**-0.2**
	229nm,0.3s,baz=241,slow=22,SNR=10						
	195nm,0.3s						
MJAR	**Matsushiro Arr**	**2.41**	**308**	P	**Pn**	**02 24 58.0**	**+0.2**
	1.3nm,0.3s,baz=132,slow=15,SNR=18						
MJAR				S	**Sn**	**02 25 26.0**	**-0.2**
	6.6nm,0.3s,baz=116,slow=20,SNR=5.7						
	10nm,0.5s						
MAJO	**Matsushiro**	**2.41**	**308**	P	**Pn**	**02 24 58.8**	**+0.9**
JGF	**Kuroka**	**2.68**	**282**	P	**Pn**	**02 25 02.5**	**+0.9**
JMM	**Marumori**	**2.77**	**3**	P	**Pn**	**02 25 01.8**	**-1.0**
INU	**Inuyama**	**2.93**	**276**	P	**Pn**	**02 25 05.5**	**+0.6**
JTM	**Tenmabayashi**	**5.70**	**4**	P	**Pn**	**02 25 41.8**	**-1.0**
ERM	**Erimo**	**7.20**	**16**	P	**Pn**	**02 26 02.4**	**-1.0**
JEM	**Erimo**	**7.20**	**16**	P	**Pn**	**02 26 02.4**	**-1.0**
JCJ	**Chichijima**	**8.09**	**170**	P	Pn	02 26 07.0	-8.7
	48nm,0.4s,baz=94,slow=23,SNR=5.3						
JCJ				S	Sn	02 27 33.5	-12
	83nm,0.9s,baz=292,slow=23,SNR=1.9						
JCJ	**Chichijima**	**8.09**	**170**	P	**Pn**	**02 26 14.8**	**-0.9**
	119nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.81**	**116**	T	T	02 59 18.5	
	baz=309,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**27.82**	**117**	T	T	02 59 19.1	
	baz=309,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**27.83**	**116**	T	T	02 59 18.5	
	baz=309,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	03 00 03.7	
	baz=312,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	03 00 07.3	
	baz=312,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	03 00 07.5	
	baz=312,slow=76,SNR=10						
MKAR	**Makanchi Array**	**44.60**	**304**	P	**P**	**02 32 28.0**	**+0.5**
	0.3nm,0.5s,baz=90,slow=9.7,SNR=5.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**46.68**	**309**	P	**P**	**02 32 44.2**	**+0.5**
	0.7nm,0.5s,baz=83,slow=7.5,SNR=8.2						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**55.05**	**187**	P	**P**	**02 33 46.7**	**-0.2**
	0.6nm,0.5s,baz=0.7,slow=7.4,SNR=9.4						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**58.78**	**187**	P	**P**	**02 34 13.7**	**+0.4**
	0.1nm,0.3s,baz=13,slow=7.7,SNR=4.5						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**70.21**	**332**	P	**P**	**02 35 28.5**	**+1.1**
	1.3nm,0.8s,baz=45,slow=5.3,SNR=1.1						
	1.3nm,0.8s						

*AFAD **18** 02:28:37.9,40°.56N×33°.01E,h10km±2km,MW3.6*
*ISK **18** 02:28:37.2,40°.55N×33°.01E,h5km,ML3.5/31*
*CFUSG **18** 02:28:40.1,40°.60N×33°.08E,h28km,mb2.8/6,Central*
Turkey Magtype MSH 3.0 from 5 stations
ISC 18 02:28:37.9±1.0,40°.56N±0°.02×33°.02E±0°.01,h8km±8km,
n78,σ0$94/107,5C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.32**	**102**	P	**Pg**	**02 28 44.8**	**+0.5**
ELDT				S	**Sg**	**02 28 48.8**	**+0.3**
CMDR	**Camlidere-ANKA**	**0.42**	**261**	P	**Pg**	**02 28 46.6**	**+0.5**
CMDR				S	**Sg**	**02 28 51.0**	**-0.5**
DERS	**Karabk-Eskip**	**0.46**	**310**	P	**Pg**	**02 28 47.5**	**+0.6**
DERS				S	**Sg**	**02 28 53.0**	**+0.1**
CANT	**Cankiri**	**0.46**	**84**	Pg	**Pg**	**02 28 47.4**	**+0.5**
CANT				Sg	**Sb**	**02 28 54.9**	**-0.4**
GOKD	**Ankara-Kalecik**	**0.60**	**144**	P	**Pb**	**02 28 50.2**	**-0.5**
GOKD				S	**Sg**	**02 28 57.5**	**+0.2**
YENC	**ankr-Yen**	**0.64**	**79**	P	**Pb**	**02 28 50.8**	**-0.5**
YENC				S	**Sg**	**02 28 59.2**	**+0.5**
LOD	**Lodumlu**	**0.69**	**196**	Pg	**Pg**	**02 28 51.6**	**+0.3**
LOD				Sg	**Sb**	**02 29 02.4**	**+0.4**
ANTO	**Ankara**	**0.71**	**194**	Pg	**Pg**	**02 28 51.9**	**+0.4**
ANTO				Sg	**Sb**	**02 29 02.8**	**+0.4**
ILGA	**Ilgaz**	**0.73**	**47**	P	**Pg**	**02 28 51.5**	**-0.4**
ILGA				S	**Sg**	**02 29 00.9**	**-0.5**
KBUK	**KARABUK-Merkez**	**0.74**	**337**	P	**Pg**	**02 28 52.1**	**0.0**
BCAM	**Yenicaga**	**0.77**	**290**	P	**Pg**	**02 28 52.7**	**0.0**
PELI	**Kastamonı-Ara**	**0.78**	**17**	P	**Pg**	**02 28 52.6**	**-0.2**
PELI				S	**Sg**	**02 29 02.1**	**-0.9**
DELI	**KIRIKKALE**	**0.89**	**129**	P	**Pg**	**02 28 55.2**	**+0.2**
KIBS	**BOLU**	**0.90**	**262**	P	**Pg**	**02 28 55.2**	**+0.1**
KIBS				S	**Sb**	**02 29 07.7**	**-0.2**
TOS	**Tosya**	**0.90**	**58**	Pg	**Pg**	**02 28 54.9**	**-0.3**
BR131	**Keskin Array S**	**0.96**	**150**	Pg	**Pb**	**02 28 56.8**	**0.0**
DEVR	**Zonguldak/Devr**	**0.98**	**307**	P	**Pg**	**02 28 56.3**	**-0.5**
DEVR				S	**Sg**	**02 29 08.2**	**-1.4**
KMON	**Kastamonu**	**1.00**	**35**	Pg	**Pb**	**02 28 57.5**	**0.0**
SUNG	**orum-Sungurl**	**1.01**	**111**	P	**Pg**	**02 28 57.4**	**+0.1**
SUNG				S	**Sg**	**02 29 10.6**	**+0.2**
BBAL	**Bala**	**1.02**	**175**	P	**Pb**	**02 28 57.8**	**0.0**
BBAL				S	**Sb**	**02 29 10.9**	**-0.4**
KESK	**Krkkale-Ke**	**1.02**	**155**	P	**Pb**	**02 28 57.9**	**+0.1**
YUVA	**Yuva-Kibriscik**	**1.03**	**261**	Pg	**Pg**	**02 28 57.7**	**+0.1**
BOLU	**Bolu-Merkez-Mu**	**1.04**	**283**	P	**Pg**	**02 28 57.7**	**-0.2**
BOLU				S	**Sb**	**02 29 11.8**	**-0.2**
AFSR	**Afar-Bala (An**	**1.11**	**178**	Pn	**Pn**	**02 28 59.6**	**-0.2**
SEYI	**Kastamonu-Seyd**	**1.21**	**27**	P	**Pb**	**02 29 00.7**	**-0.4**
SEYI				S	**Sb**	**02 29 16.7**	**-0.2**
BTIN	**Bartın**	**1.22**	**332**	P	**Pb**	**02 29 01.2**	**0.0**
BTIN				S	**Sn**	**02 29 18.0**	**+0.1**
KAGI	**orum-Kargı**	**1.25**	**62**	P	**Pn**	**02 29 01.1**	**-0.6**
KAGI				S	**Sb**	**02 29 16.1**	**-1.9**
YIGI	**Dzce**	**1.26**	**289**	P	**Pn**	**02 29 01.3**	**-0.4**
CORM	**Corum**	**1.29**	**107**	Pn	**Pb**	**02 29 02.5**	**+0.1**
AKPI	**Kirsehir/Akpin**	**1.29**	**144**	P	**Pb**	**02 29 02.4**	**-0.1**
KAMT	**Kaman**	**1.30**	**155**	Pn	**Pg**	**02 29 03.1**	**+0.2**
KURC	**Kurucasile-Bar**	**1.30**	**351**	Pn	**Pg**	**02 29 03.9**	**+1.0**
CIDE	**Kastamonu/Cide**	**1.32**	**358**	P	**Pg**	**02 29 03.2**	**0.0**
CIDE	**Kastamonu/Cide**	**1.32**	**358**	⇑P	**Pg**	**02 29 04.3**	**+1.0**
AUMIH	**MIHALICIK**	**1.36**	**240**	P	**Pn**	**02 29 03.1**	**-0.2**
AUMIH				S	**Sn**	**02 29 21.4**	**-0.2**
KKUL	**Konya-Kulu**	**1.39**	**183**	P	**Pg**	**02 29 04.8**	**+0.3**
KKUL				S	**Sg**	**02 29 22.8**	**+0.3**
MDUB	**Mudurnu**	**1.39**	**267**	Pn	**Pg**	**02 29 04.5**	**0.0**
AYAZ	**Ayas K¶y, M**	**1.41**	**84**	P	**Pn**	**02 29 04.0**	**+0.1**
AYAZ				S	**Sn**	**02 29 21.6**	**-1.0**
KDZE	**Karadeniz Ereo**	**1.41**	**303**	Pn	**Pg**	**02 29 05.1**	**+0.2**
KDZE	**Karadeniz Ereo**	**1.41**	**303**	⇑P	**Pg**	**02 29 04.7**	**-0.2**
KULU	**Kulu**	**1.51**	**180**	Pn	**Pg**	**02 29 06.7**	**-0.2**
BTAS	**Taskesti**	**1.54**	**271**	P	**Pb**	**02 29 06.8**	**+0.2**
BTAS				S	**Sg**	**02 29 26.9**	**-0.4**
YOZG	**Bozok Univ. Me**	**1.57**	**119**	P	**Pb**	**02 29 06.9**	**-0.3**
YOZG				S	**Sn**	**02 29 25.6**	**-1.1**
KIRS	**Kirsehir-Merke**	**1.58**	**154**	P	**Pb**	**02 29 07.0**	**-0.4**
KIRS				S	**Sb**	**02 29 28.0**	**+0.4**
KIRS	**Kirsehir-Merke**	**1.58**	**154**	⇓P	**Pg**	**02 29 08.6**	**+0.3**
BZK	**Bozkurt**	**1.59**	**28**	Pn	**Pg**	**02 29 08.1**	**-0.2**
BZK	**Bozkurt**	**1.59**	**28**	⇑P	**Pg**	**02 29 08.6**	**+0.3**
AUSIV	**SIVRIHISAR**	**1.59**	**226**	P	**Pb**	**02 29 07.2**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.59**	**226**	Pn	**Pb**	**02 29 07.4**	**-0.2**
SERE	**Sereflikochisa**	**1.66**	**165**	Pn	**Pb**	**02 29 08.6**	**-0.2**
SUSU	**Bolu-G¶ynk-**	**1.67**	**263**	P	**Pb**	**02 29 09.3**	**+0.4**
SUSU				S	**Sb**	**02 29 29.9**	**-0.2**
CTIK	**Konya-Celtik**	**1.86**	**215**	P	**Pb**	**02 29 11.1**	**-1.0**
CBEY	**Konya-Cihanbey**	**1.87**	**186**	P	**Pb**	**02 29 11.3**	**-1.1**
KIZT	**Kizilcal**	**1.89**	**208**	Pn	**Pb**	**02 29 11.9**	**-0.8**
GULT	**Gulveren**	**1.91**	**267**	Pn	**Pb**	**02 29 12.7**	**-0.3**
CIFT	**Cifteler, Eski**	**1.92**	**232**	Pn	**Pb**	**02 29 12.3**	**-0.8**
SGAZ	**Eskisehir, Sey**	**1.96**	**239**	P	**Pn**	**02 29 12.3**	**+0.8**
CHBY	**Cihanbeyli**	**1.98**	**183**	Pn	**Pn**	**02 29 12.5**	**+0.8**
YOZ	**Yozgat**	**1.99**	**117**	Pn	**Pb**	**02 29 13.6**	**-0.8**
DIKM	**Dikmen**	**2.02**	**56**	Pn	**Pb**	**02 29 13.4**	**-1.3**
DIKM	**Dikmen**	**2.02**	**56**	⇑P	**Pb**	**02 29 15.5**	**+0.8**
SAUV	**Serdivan-Sakar**	**2.05**	**276**	Pn	**Pb**	**02 29 14.6**	**-0.8**
SNOP	**Sinop**	**2.20**	**48**	Pn	**Pb**	**02 29 16.9**	**-1.0**
KIZO	**Buyukkizoglu-L**	**2.24**	**80**	Pn	**Pb**	**02 29 17.6**	**-1.1**
KVT	**Kavak**	**2.36**	**76**	Pn	**Pb**	**02 29 19.3**	**-1.3**
LADK	**Ladik-KONYA**	**2.41**	**192**	Pn	**Pn**	**02 29 19.3**	**+1.7**
TOKT	**Tokat**	**2.70**	**94**	Pn	**Pb**	**02 29 24.1**	**-2.4**
BNN	**Bunyan**	**2.77**	**127**	Pn	**Pn**	**02 29 24.8**	**+2.2**
SVSK	**Karacayir**	**3.12**	**101**	Pn	**Pn**	**02 29 29.4**	**+2.2**
BAND	**Balkesir-Ban**	**3.76**	**269**	⇓P	**Pg**	**02 29 47.4**	**-2.4**
SEV	**Sevastopol'**	**4.01**	**7**	*e*P	**Pn**	**02 29 40.5**	**+0.9**
SEV				*e*S	**Sn**	**02 30 25.8**	**-0.9**
SEV				Sm		02 30 32.0	
	comp=N,6.0nm,0.4s						
SEV				Sm		02 30 32.0	
	comp=E,1.0nm,0.4s						
SEV				Pm		02 30 48.1	
	comp=Z,5.0nm,0.4s						
YAL	**Yalta**	**4.02**	**12**	*e*P	**Pn**	**02 29 41.0**	**+1.4**
YAL				Pm		02 29 41.4	
	comp=Z,6.0nm,0.4s						
YAL				*e*S	**Sn**	**02 30 27.1**	**+0.3**
YAL				Sm		02 30 35.3	
	comp=N,13nm,0.5s						
YAL				Sm		02 30 35.3	
	comp=E,1.0nm,0.2s						
ALU	**Alushta**	**4.25**	**13**	*e*P	**Pn**	**02 29 43.5**	**+0.7**
ALU				Pm		02 29 43.6	
	comp=Z,4.0nm,0.3s						
ALU				*e*S	**Sn**	**02 30 32.9**	**+0.4**
ALU				Sm		02 30 33.1	
	comp=N,7.0nm,0.4s						
ALU				Sm		02 30 33.1	
	comp=E,4.0nm,0.4s						
SUDU	**Sudak**	**4.57**	**18**	*e*P	**Pn**	**02 29 48.6**	**+1.4**
SUDU				Pm		02 29 50.3	
	comp=Z,19nm,0.4s						
SUDU				*e*S	**Sn**	**02 30 40.6**	**+0.1**
SUDU				Sm		02 30 41.9	
	comp=N,32nm,0.6s						
SUDU				Sm		02 30 41.9	
	comp=E,3.0nm,0.3s						
FEO	**Feodosiya**	**4.79**	**21**	*e*P	**Pn**	**02 29 49.6**	**-0.6**
FEO				Pm		02 29 49.8	
	comp=Z,12nm,0.3s						
DNZ2	**Donuzlav2**	**4.82**	**2**	*e*P	**Pn**	**02 29 52.9**	**+2.3**
DNZ2				Pm		02 29 56.0	
	comp=Z,19nm,0.3s						
DNZ2				*e*S	**Sn**	**02 30 49.7**	**+3.2**
DNZ2				Sm		02 30 56.5	
	comp=N,13nm,0.5s						
DNZ2				Sm		02 30 56.5	
	comp=E,3.0nm,0.2s						
CFR	**Carcaliu**	**5.84**	**324**	⇓P	Pn	02 30 11.5	+6.8
VOIR		**7.61**	**313**	⇑P	**Pn**	**02 30 32.8**	**+3.8**

*IDC **18** 02:56:02.5±0.9,38°.35N×70°.52E,h0km,mb3.8/15,*
mbtmp3.8/21,ML3.5/6,Error ellipse: s-maj=17.8km
s-min=11.1km az=156.0
*NNC **18** 02:56:08.8±2.7,38°.66N×70°.55E,h0km,mb4.3,mpv4.3,*
Error ellipse: s-maj=21.0km s-min=14.8km az=13.0
ISC 18 02:56:04.4±0.9,38°.36N±0°.08×70°.39E±0°.07,h10km,n44,
σ1$98/41,mb3.8/15,7C-4D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.54**	**33**	P	**Pn**	**02 57 16.7**	**+3.2**
	SNR=64						
BRLS	**Borolday**	**4.69**	**355**	Lg	Lg	02 58 17.9	
	58nm,0.8s						
KK31	**Karatay Array**	**4.74**	**1**	⇑Pn	**Pn**	**02 57 16.6**	**+0.6**
	4.2nm,0.2s,baz=180,slow=12,SNR=181						
KK31				⇓Pg	**Pb**	**02 57 28.3**	**+0.6**
	6.1nm,0.3s,baz=190,slow=17,SNR=16						
KK31				⇓Sn	**Sn**	**02 58 11.8**	**+0.8**
	22nm,0.5s,baz=183,slow=22						
KK31				⇑Lg	Lg	02 58 28.3	
	41nm,0.5s,baz=175,slow=29						
EKS2	**Erkin-Say**	**5.02**	**30**	P	**Pn**	**02 57 24.6**	**+4.7**
	SNR=7.1						
AAK	**Ala-Archa**	**5.30**	**35**	Pn	**Pn**	**02 57 24.5**	**+0.8**
	4.8nm,0.3s,baz=215,slow=6.1,SNR=43						
AAK				Sn	**Sn**	**02 58 25.1**	**+0.1**
	baz=163,slow=20						
AAK				Lg	Lg	02 58 46.7	
	0.9nm,0.3s,baz=18,slow=18,SNR=3.6						
	29nm,0.5s						
AAK	**Ala-Archa**	**5.30**	**35**	P	Pn	02 57 29.1	+5.4
	SNR=8.2						
KBK	**Karagaybulak**	**5.52**	**38**	P	**Pn**	**02 57 31.4**	**+4.6**
	SNR=66						
CHMS	**Chumysh**	**5.70**	**34**	P	**Pn**	**02 57 32.5**	**+3.4**
	SNR=12						
CHMS	**Chumysh**	**5.70**	**34**	Pg	Pn	02 57 14.8	-14
	109nm,0.1s						
CHMS				Pn	Pb	02 57 32.1	-12
	32nm,0.8s						
CHMS				Lg	Lg	02 58 03.9	
	438nm,0.3s						
CHMS				Sn	**Sn**	**02 58 34.4**	**-0.3**
	38nm,0.8s						
USP	**Ospenovka**	**5.81**	**31**	P	**Pn**	**02 57 30.0**	**-0.7**
	SNR=14						
TKM2	**Tokmak 2**	**6.04**	**39**	P	**Pn**	**02 57 37.8**	**+3.8**
	SNR=36						
TKM2	**Tokmak 2**	**6.04**	**39**	⇑P	**Pn**	**02 57 35.1**	**+1.1**
	13nm,0.4s						
KST	**Kastek**	**6.31**	**40**	Lg	Lg	02 59 09.8	
	14nm,0.8s						
DGS	**Degeres**	**6.36**	**38**	Pg	**Pb**	**02 57 53.3**	**-2.0**
	11nm,0.3s						
MTBS	**Maitube**	**6.62**	**42**	Lg	Lg	02 59 18.1	
	8.2nm,0.4s						
TNSS	**Tian-Shan**	**6.83**	**45**	Lg	Lg	02 59 25.7	
	8.3nm,1.1s						
KOTS	**Kotyrbulak**	**7.05**	**44**	Pg	**Pb**	**02 58 06.7**	**-0.4**
	6.9nm,0.5s						
MK31	**Makanchi Array**	**12.16**	**42**	P	**Pn**	**02 58 58.8**	**+1.2**
	2.4nm,0.6s,baz=230,slow=13,SNR=45						
MKAR	**Makanchi Array**	**12.16**	**42**	Pn	**Pn**	**02 58 57.6**	**-0.1**
	0.4nm,0.3s,baz=235,slow=13,SNR=40						
MKAR				Lg	Lg	03 02 20.7	
	baz=274,slow=38,SNR=1.7						
	3.1nm,0.6s						
AB31	**Akbulak array**	**13.24**	**329**	⇑Pn	**Pn**	**02 59 15.0**	**+2.7**
	2.1nm,0.5s,baz=136,slow=12,SNR=84						
AB31				⇑Sn	**Sn**	**03 01 41.0**	**+1.5**
	1.9nm,0.4s						
KURBB	**Kurchatov Arra**	**13.56**	**23**	Pn	**Pn**	**02 59 14.5**	**-2.2**
	baz=214,slow=12,SNR=6.9						
KURBB				Lg	Lg	03 03 06.6	
	baz=215,slow=33,SNR=4.2						
	0.5nm,0.6s						
BVA0	**Borovoye Array**	**14.67**	**360**	⇑Pn	**Pn**	**02 59 33.4**	**+1.5**
	2.9nm,1.2s,baz=170,slow=7.7,SNR=5.1						
BVA0				⇓Lg	Lg	03 03 44.6	
	6.2nm,1.0s						
BVAR	**Borovoye Array**	**14.67**	**360**	Pn	**Pn**	**02 59 30.6**	**-1.3**
	baz=159,slow=11,SNR=11						
BVAR				Lg	Lg	03 03 40.9	
	baz=174,slow=30,SNR=2.8						
BRVK	**Borovoye**	**14.71**	**360**	⇓Pn	**Pn**	**02 59 33.9**	**+1.6**
	12nm,2.6s						
BRVK				⇑Lg	Lg	03 03 46.1	
	1.5nm,0.5s						
AKTO	**Aktyubinsk**	**14.94**	**328**	Pn	**Pn**	**02 59 34.6**	**-1.0**
	0.5nm,0.3s,baz=134,slow=11,SNR=7.4						
AKTO				Sn	**Sn**	**03 02 16.4**	**-4.6**
	0.1nm,0.3s,baz=24,slow=5.3,SNR=2.3						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**18.46**	**28**	P	**Pn**	**03 00 18.1**	**-2.1**
	0.4nm,0.3s,baz=216,slow=11,SNR=11						
	2.4nm,0.6s						
ARTI	**Arti**	**19.73**	**340**	P	**P**	**03 00 32.9**	**-1.2**
	0.1nm,0.3s,baz=136,slow=14,SNR=3.2						
	0.7nm,0.3s						
GNI	**Garni**	**19.93**	**283**	P	**P**	**03 00 35.1**	**-1.4**
	2.8nm,0.6s,baz=182,slow=18,SNR=4.5						
	2.8nm,0.6s						
KBZ	**Khabaz**	**21.37**	**293**	P	**P**	**03 00 52.3**	**+0.4**
	1.9nm,0.4s,baz=104,slow=9.2,SNR=10						
	1.9nm,0.4s						
SONM	**Songino Array**	**27.73**	**58**	P	**P**	**03 01 53.2**	**+0.1**
	0.4nm,0.6s,baz=282,slow=7.2,SNR=2.8						
	0.4nm,0.6s						
BRTR	**Keskin Array B**	**28.45**	**284**	P	**P**	**03 01 60.0**	**+0.3**
	0.8nm,0.8s,baz=94,slow=9.1,SNR=4.3						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**31.43**	**307**	P	**P**	**03 02 26.7**	**+1.1**
	0.3nm,0.4s,baz=121,slow=8.1,SNR=3.9						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**35.68**	**325**	P	**P**	**03 03 02.9**	**+0.3**
	1.8nm,0.6s,baz=103,slow=9.0,SNR=13						
	1.8nm,0.6s						
ARCES	**ARCESS Array B**	**39.25**	**337**	P	**P**	**03 03 31.1**	**-1.6**
	3.0nm,0.9s,baz=118,slow=4.4,SNR=3.9						
	3.0nm,0.9s						
HFS	**Hagfors**	**41.32**	**321**	P	**P**	**03 03 49.8**	**-0.1**
	1.9nm,0.6s,baz=97,slow=11,SNR=11						
	1.9nm,0.6s						
NB2	**NORSAR Subarra**	**42.62**	**322**	P	**P**	**03 04 00.4**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=92,slow=8.6						
NOA	**NORSAR Array B**	**42.62**	**322**	P	**P**	**03 03 59.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=93,slow=8.3,SNR=4.6						
	comp=Z,0.8nm,0.7s						
MJAR	**Matsushiro Arr**	**52.74**	**70**	P	P	03 05 17.2	-2.3
	comp=Z,0.6nm,0.4s,baz=305,slow=8.1,SNR=1.4						
	comp=Z,0.6nm,0.4s						
ESDC	**Sonseca Array**	**56.18**	**297**	P	**P**	**03 05 45.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=60,slow=7.4,SNR=6.8						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.30**	**267**	P	P	03 06 46.5	-0.4
	comp=Z,41nm,0.3s,baz=45,slow=6.1,SNR=2.1						
ILAR	**Eielson Array**	**73.13**	**16**	P	**P**	**03 07 32.6**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=326,slow=5.9,SNR=2.7						
	comp=Z,0.3nm,0.9s						
YKA	**Yellowknife Ar**	**79.42**	**2**	P	**P**	**03 08 10.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=349,slow=5.3,SNR=14						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**83.38**	**122**	P	P	03 08 31.6	-0.4
	comp=Z,0.5nm,0.6s,baz=323,slow=4.9,SNR=7.0						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**85.71**	**125**	P	**P**	**03 08 43.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=293,slow=4.2,SNR=1.5						
	comp=Z,0.2nm,0.5s						

*GUC **18** 03:04:58.4±0.8,35°.68S×71°.39W,h106km±3km,ML3.1*
*SJA **18** 03:04:59.0,35°.66S×71°.39W,h78km,ML3.1*
ISC 18 03:04:58.6±1.7,35°.68S±0°.04×71°.39W±0°.07,
h100km±11km,n35,σ0$67/44,2C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.09**	**194**	*i* P	**Pn**	**03 05 12.1**	**-0.4**
ML02	**Panimavida**	**0.09**	**194**	⇑*i*P	**Pn**	**03 05 12.8**	**+0.2**

*KRSC **18** 03:06:30.9±0.9, 53°.27N×162°.00E, h43km±20km, Ml4.6*
*NEIC **18** 03:06:32.9±2.1, 53°.54N±0°.09×161°.5E±0°.1, h10km±1km, mb4.5/60, Error ellipse: s-maj=17.2km s-min=6.2km az=146.0*
*MOS **18** 03:06:35.0±1.1, 53°.42N×161°.66E, h44km, mb4.6/21, Error ellipse: s-maj=6.5km s-min=4.4km az=92.8*
*IDC **18** 03:06:38.0±0.7, 53°.55N×161°.52E, h49km±5km, mb3.8/28, mbtmp4.1/33, MS3.5/14, Error ellipse: s-maj=14.5km s-min=7.5km az=158.0*

ISC 18 03:06:35.6±0.5, 53°.33N±0°.04×161°.79E±0°.04, h42km±4km, h40km:pP-P, n310, σ1§40/335, mb4.4/100, MS3.6/10, 21C-35D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.09**	**258**	PN	**Pn**	**Pn**	**03 06 52.9**	**-1.5**
SPN				S	**Sn**	**Sn**	**03 07 07.6**	**-0.6**
SPN	**Mys Shipunski**	**1.09**	**258**	*e*P	**Pn**	**Pn**	**03 06 52.9**	**-1.5**
SPN				*e*S	**Sn**	**Sn**	**03 07 07.6**	**-0.6**
NLC	**Nalytchevo**	**1.48**	**265**	PN	**Pn**	**Pn**	**03 06 58.3**	**-1.3**
NLC				S	**Sn**	**Sn**	**03 07 18.0**	**+0.3**
NLC	**Nalytchevo**	**1.48**	**265**	*e*P	**Pn**	**Pn**	**03 06 58.4**	**-1.3**
NLC				*e*S	**Sn**	**Sn**	**03 07 18.0**	**+0.3**
KII	**Karymskiy**	**1.56**	**298**	PN	**Pn**	**Pn**	**03 06 59.1**	**-1.8**
KII	**Karymskiy**	**1.56**	**298**	*e*P	**Pn**	**Pn**	**03 06 59.1**	**-1.8**
UGLR	**Uglovaya**	**1.79**	**267**	PN	**Pn**	**Pn**	**03 07 03.5**	**-0.5**
UGLR				S	**Sn**	**Sn**	**03 07 26.2**	**+0.7**
UGLR	**Uglovaya**	**1.79**	**267**	*e*P	**Pn**	**Pn**	**03 07 03.6**	**-0.5**
UGLR				*e*S	**Sn**	**Sn**	**03 07 26.3**	**+0.7**
AVH	**Avacha**	**1.83**	**269**	PN	**Pn**	**Pn**	**03 07 04.3**	**-0.3**
AVH				S	**Sn**	**Sn**	**03 07 27.8**	**+1.2**
AVH	**Avacha**	**1.83**	**269**	*e*P	**Pn**	**Pn**	**03 07 04.3**	**-0.3**
AVH				*e*S	**Sn**	**Sn**	**03 07 27.8**	**+1.2**
DALK	**Dalny**	**1.85**	**262**	PN	**Pn**	**Pn**	**03 07 03.8**	**-1.0**
DALK				S	**Sn**	**Sn**	**03 07 27.2**	**+0.3**
DALK	**Dalny**	**1.85**	**262**	*e*P	**Pn**	**Pn**	**03 07 03.9**	**-1.0**
DALK				*e*S	**Sn**	**Sn**	**03 07 27.2**	**+0.3**
KRX	**Arik**	**1.88**	**272**	PN	**Pn**	**Pn**	**03 07 04.5**	**-0.9**
KRX				S	**Sn**	**Sn**	**03 07 27.7**	**-0.3**
KRX	**Arik**	**1.88**	**272**	*e*P	**Pn**	**Pn**	**03 07 04.6**	**-0.9**
KRX				*e*S	**Sn**	**Sn**	**03 07 27.8**	**-0.3**
KOK	**Koryaka**	**1.89**	**270**	PN	**Pn**	**Pn**	**03 07 04.9**	**-0.6**
KOK				S	**Sn**	**Sn**	**03 07 29.4**	**+1.3**
KOK	**Koryaka**	**1.89**	**270**	*e*P	**Pn**	**Pn**	**03 07 04.9**	**-0.6**
KOK				*e*S	**Sn**	**Sn**	**03 07 29.5**	**+1.3**
PET	**Petropavlovsk**	**1.91**	**262**	Pn	**Pn**	**Pn**	**03 07 04.1**	**-1.6**
PET				Sn	**Sn**	**Sn**	**03 07 25.4**	**-3.1**
PET	**Petropavlovsk**	**1.91**	**262**	*c i*PN	**Pn**	**Pn**	**03 07 04.7**	**-1.0**
PET	comp=Z,288nm,1.3s			pmax	pmax			
PET	**Petropavlovsk**	**1.91**	**262**	P	**Pn**	**Pn**	**03 07 04.4**	**-1.3**
PET	**Petropavlovsk**	**1.91**	**262**	*e*P	**Pn**	**Pn**	**03 07 04.9**	**-0.8**
PET				*e*S	**Sn**	**Sn**	**03 07 29.8**	**+1.3**
INSR	**Institute**	**1.93**	**263**	*e*S	**Sn**	**Sn**	**03 07 30.1**	**+1.1**
TUMD	**Tumrok D**	**2.05**	**337**	*e*P	**Pn**	**Pn**	**03 07 06.7**	**-0.9**
RUS	**Russkaya**	**2.18**	**247**	PN	**Pn**	**Pn**	**03 07 08.6**	**-0.7**
RUS				S	**Sn**	**Sn**	**03 07 34.3**	**-0.7**
RUS	**Russkaya**	**2.18**	**247**	*e*P	**Pn**	**Pn**	**03 07 08.7**	**-0.7**
RUS				*e*S	**Sn**	**Sn**	**03 07 34.4**	**-0.7**
KRMR	**Karymshinskiy**	**2.26**	**259**	PN	**Pn**	**Pn**	**03 07 10.0**	**-0.5**
KRMR	**Karymshinskiy**	**2.26**	**259**	*e*P	**Pn**	**Pn**	**03 07 10.0**	**-0.5**
GNL	**Ganaly**	**2.33**	**281**	PN	**Pn**	**Pn**	**03 07 11.7**	**+0.2**
GNL	**Ganaly**	**2.33**	**281**	*e*P	**Pn**	**Pn**	**03 07 11.7**	**+0.2**
GRL	**Gorelyy**	**2.38**	**252**	PN	**Pn**	**Pn**	**03 07 12.4**	**+0.2**
GRL	**Gorelyy**	**2.38**	**252**	*e*P	**Pn**	**Pn**	**03 07 12.5**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.47**	**267**	Pn	**Pn**	**Pn**	**03 07 12.9**	**-0.4**
PEA0B				Sn	**Sn**	**Sn**	**03 07 37.6**	**-4.6**
PEA0B	**Petropavlovsk-**	**2.47**	**267**	*c i*PN	**Pn**	**Pn**	**03 07 13.3**	**0.0**
PETK	**Petropavlovsk-**	**2.47**	**267**	Pn	**Pn**	**Pn**	**03 07 12.0**	**-1.4**
PETK	**Petropavlovsk-**	**2.47**	**267**	P	**Pn**	**Pn**	**03 07 12.9**	**-0.4**
PETK	comp=Z,105nm,0.6s,baz=85,slow=21,SNR=362			S		**Sn**	**03 07 43.2**	**+1.0**
PETK	comp=Z,182nm,0.6s,baz=238,slow=8.4,SNR=15			LR		LR	03 07 55.7	
KMNR	**Kamenistaya**	**2.60**	**340**	PN	**Pn**	**Pn**	**03 07 15.5**	**+0.3**
KMNR				S	**Sn**	**Sn**	**03 07 46.7**	**+1.3**
KMNR	**Kamenistaya**	**2.60**	**340**	*e*P	**Pn**	**Pn**	**03 07 15.5**	**+0.3**
KMNR				*e*S	**Sn**	**Sn**	**03 07 46.8**	**+1.3**
KIRR	**Kirishev**	**2.76**	**343**	PN	**Pn**	**Pn**	**03 07 17.5**	**0.0**
KIRR				S	**Sn**	**Sn**	**03 07 51.4**	**+1.8**
KIRR	**Kirishev**	**2.76**	**343**	*e*P	**Pn**	**Pn**	**03 07 17.6**	**0.0**
KIRR				*e*S	**Sn**	**Sn**	**03 07 51.5**	**+1.8**
APC	**Apacha**	**2.82**	**264**	PN	**Pn**	**Pn**	**03 07 19.2**	**+1.1**
APC				S	**Sn**	**Sn**	**03 07 53.7**	**+2.9**
APC	**Apacha**	**2.82**	**264**	*e*P	**Pn**	**Pn**	**03 07 19.3**	**+1.1**
APC				*e*S	**Sn**	**Sn**	**03 07 53.7**	**+2.9**
LGNR	**Loginova**	**2.83**	**347**	PN	**Pn**	**Pn**	**03 07 19.0**	**+0.4**
LGNR	**Loginova**	**2.83**	**347**	*e*P	**Pn**	**Pn**	**03 07 19.0**	**+0.4**
KBTR	**Krutoberegovo**	**2.95**	**11**	PN	**Pn**	**Pn**	**03 07 19.0**	**-0.9**
KBTR	**Krutoberegovo**	**2.95**	**11**	*e*P	**Pn**	**Pn**	**03 07 19.1**	**-0.9**
KBG	**Krutoberegovo**	**2.98**	**10**	PN	**Pn**	**Pn**	**03 07 19.8**	**-0.5**
KBG	**Krutoberegovo**	**2.98**	**10**	*e*P	**Pn**	**Pn**	**03 07 19.9**	**-0.5**
KRSR	**Krestovskiy**	**2.98**	**347**	PN	**Pn**	**Pn**	**03 07 19.9**	**-0.5**
KRSR	**Krestovskiy**	**2.98**	**347**	*e*P	**Pn**	**Pn**	**03 07 19.9**	**-0.5**
KLY	**Klyuchi**	**3.06**	**348**	PN	**Pn**	**Pn**	**03 07 20.6**	**-0.8**
KLY	**Klyuchi**	**3.06**	**348**	*e*P	**Pn**	**Pn**	**03 07 20.6**	**-0.8**
BKI	**Bering**	**3.09**	**51**	PN	**Pn**	**Pn**	**03 07 20.6**	**-1.2**
BKI	**Bering**	**3.09**	**51**	*e*P	**Pn**	**Pn**	**03 07 20.7**	**-1.2**
BKI				*e*S	**Sn**	**Sn**	**03 07 53.6**	**-3.9**
ESO	**Esso**	**3.16**	**327**	PN	**Pn**	**Pn**	**03 07 22.3**	**-0.5**
ESO	**Esso**	**3.16**	**327**	*e*P	**Pn**	**Pn**	**03 07 22.3**	**-0.5**
SRDR	**Sredinnyy**	**3.23**	**339**	PN	**Pn**	**Pn**	**03 07 23.2**	**-0.5**
SRDR	**Sredinnyy**	**3.23**	**339**	*e*P	**Pn**	**Pn**	**03 07 23.3**	**-0.5**
SMKR	**Semkarok**	**3.27**	**357**	PN	**Pn**	**Pn**	**03 07 24.6**	**+0.3**
SMKR	**Semkarok**	**3.27**	**357**	*e*P	**Pn**	**Pn**	**03 07 24.6**	**+0.3**
PAU	**Pauzhetka**	**3.57**	**241**	PN	**Pn**	**Pn**	**03 07 28.7**	**+0.2**
PAU	**Pauzhetka**	**3.57**	**241**	*e*P	**Pn**	**Pn**	**03 07 28.7**	**+0.2**
SKR	**Severo-Kuril's**	**4.39**	**235**	⇑*e*PN	**Pn**	**Pn**	**03 07 43.9**	**+4.2**
SHEM	**Shemya Is, Ala**	**7.45**	**90**	P	**Pn**	**Pn**	**03 08 22.0**	**+0.4**
SHEM	comp=Z,59nm,0.7s,baz=277,slow=17,SNR=2.1			S		**Sn**	**03 09 39.8**	**-4.9**
SHEM	comp=Z,71nm,0.8s,baz=279,slow=20,SNR=1.8			LR		LR	03 11 48.9	
MA2	**Magadan**	**8.73**	**320**	Pn	**Pn**	**Pn**	**03 08 36.5**	**-2.7**
MA2	**Magadan**	**8.73**	**320**	P	**Pn**	**Pn**	**03 08 35.8**	**-3.5**
MA2	comp=Z,5.0nm,0.5s,baz=115,slow=9.6,SNR=9.3			LR		LR	03 12 29.1	
MA2	**Magadan**	**8.73**	**320**	⇓*e*PN		**Pn**	**03 08 40.4**	**+1.2**
MA2	comp=Z,11nm,0.9s			pmax		pmax		
MA2	**Magadan**	**8.73**	**320**	P		Pn	03 08 33.2	-6.0
SEY	**Seymchan**	**10.82**	**337**	*e*PN		Pn	03 09 20.2	+12
SEY	comp=Z,5.0nm,1.6s			pmax		pmax		
OKH	**Okha**	**11.25**	**279**	*de*PN		Pn	03 09 04.5	-9.1
OKH	comp=Z,100nm,6.4s			pmax		pmax		
OKH	comp=E,400nm,15.0s			MLR		MLR		
OKH	comp=Z,300nm,14.0s			MLR		MLR		
BILL	**Bilibino**	**14.92**	**7**	Pn		**Pn**	**03 10 02.4**	**-0.9**
BILL	**Bilibino**	**14.92**	**7**	⇓*e*P		**P**	**03 10 08.5**	**+0.2**
BILL	comp=Z,5.0nm,1.0s			pmax		pmax		
JKA	**Kamikawa-asahi**	**15.62**	**242**	Pn		**Pn**	**03 10 12.2**	**-0.4**
JKA	comp=Z,69nm,1.4s			IAmb		IAmb	03 10 21.0	
ASAJ	**Asahikawa**	**15.62**	**242**	P		**Pn**	**03 10 12.2**	**-0.4**
ASAJ	comp=Z,9.3nm,0.7s,baz=21,slow=32,SNR=4.1			LR		LR	03 17 08.0	
GRNR	**Gornyy**	**15.79**	**271**	⇓*i*P		**P**	**03 10 19.3**	**+1.2**
GRNR	comp=Z,4.0nm,0.9s			pmax		pmax		
GRNR	comp=E,200nm,15.0s			MLR		MLR		
GRNR	comp=N,130nm,13.0s			MLR		MLR		
ERM	**Erimo**	**16.84**	**235**	Pn		**Pn**	**03 10 24.7**	**-3.4**
ERM	comp=Z,59nm,1.2s			IAmb		IAmb	03 10 38.1	
ERM	**Erimo**	**16.84**	**235**	P		**Pn**	**03 10 24.7**	**-3.4**
ERM	comp=Z,59nm,1.2s			pmax		pmax		
YAK	**Yakutsk**	**19.06**	**310**	P		**P**	**03 10 51.6**	**-2.5**
YAK	comp=Z,18nm,0.3s,baz=96,slow=1.9,SNR=7.1			LR		LR	03 19 08.3	
YAK	**Yakutsk**	**19.06**	**310**	*e*P		**P**	**03 10 51.2**	**-2.9**
YAK	comp=Z,146nm,19.7s,baz=112,slow=40			pmax		pmax		
YAK	comp=Z,24nm,0.8s			pmax		pmax		
YAK	comp=E,7.0nm,0.9s			pmax		pmax		
YAK	comp=N,4.0nm,1.0s			pmax		pmax		
KLR	**Kul'dur**	**19.16**	**270**	P		**P**	**03 10 55.5**	**+0.2**
KLR	comp=N,4.1nm,0.7s,baz=69,slow=11,SNR=18			LR		LR	03 19 09.4	
KLR	**Kul'dur**	**19.16**	**270**	*e*P		**P**	**03 10 54.7**	**-0.5**
KLR	comp=N,115nm,18.6s,baz=66,slow=40			pmax		pmax		
ANM	**Nome**	**20.06**	**43**	Pn		Pn	03 11 07.5	+0.4
ANM	**Nome**	**20.06**	**43**	P		Pn	03 11 07.5	+0.5
ANM	comp=Z,10.0nm,1.3s			pmax		pmax		
J14K	**Nanvaranak Lak**	**20.37**	**49**	P		Pn	03 11 10.3	-0.3
ZEA	**Zeya**	**20.42**	**285**	*e*P		Pn	03 11 11.8	+0.5
HEH	**HeiHe**	**21.36**	**276**	*e*P		**P**	**03 11 17.3**	**-1.8**
HEH	comp=Z,15nm,1.0s			pmax		pmax		
USRK	**Ussuriysk Ar.**	**21.52**	**257**	P		**P**	**03 11 20.8**	**-0.1**
USRK	comp=Z,2.6nm,0.7s,baz=53,slow=12,SNR=6.2			LR		LR	03 20 18.1	
C16K	**Lisburne Hills**	**21.54**	**33**	P		**P**	**03 11 20.8**	**0.0**
K17K	**Iditarod**	**22.76**	**50**	P		**P**	**03 11 34.1**	**+0.2**
K17K	comp=Z,15nm,1.2s			IAmb		IAmb	03 12 01.7	
MSHR	**Mys Shultsa**	**22.98**	**255**	⇓*e*P		**P**	**03 11 37.6**	**+1.2**
MSHR	comp=Z,9.0nm,1.0s			pmax		pmax		
C18K	**Utukok River**	**23.08**	**34**	P		**P**	**03 11 36.6**	**-0.7**
H18K	**Honhosa River**	**23.11**	**44**	P		**P**	**03 11 38.7**	**+1.2**
TIXI	**Tiksi**	**23.30**	**334**	LR		LR	03 22 01.2	
TIXI	**Tiksi**	**23.30**	**334**	⇓*e*P		**P**	**03 11 37.8**	**-1.5**
TIXI	comp=Z,6.0nm,0.9s			pmax		pmax		
BNX	**BinXian**	**23.39**	**265**	⇓P		**P**	**03 11 38.4**	**-2.0**
BNX	comp=Z,10.0nm,0.8s			pmax		pmax		
MJB9	**Matsu-Tunnel**	**23.50**	**234**	P		**P**	**03 11 41.3**	**-0.3**
MJB9	comp=Z,26nm,1.2s			IAmb		IAmb	03 11 44.5	
MAJO	**Matsushiro**	**23.50**	**234**	P		**P**	**03 11 43.5**	**+1.9**
MAJO	comp=Z,15nm,0.8s			IAmb		IAmb	03 11 47.5	
MAJO	**Matsushiro**	**23.50**	**234**	⇓*e*P		**P**	**03 11 43.1**	**+1.5**
MAJO	comp=Z,14nm,1.0s			pmax		pmax		
MJAR	**Matsushiro Arr**	**23.50**	**234**	P		**P**	**03 11 42.4**	**+0.8**
MJAR	comp=Z,6.1nm,0.8s,baz=23,slow=9.8,SNR=13			LR		LR	03 22 02.6	
TTA	**Tatalina**	**23.82**	**50**	P		**P**	**03 11 46.2**	**+1.7**
TTA	**Tatalina**	**23.82**	**50**	P		**P**	**03 11 46.2**	**+1.7**
TTA	comp=Z,5.0nm,0.8s			pmax		pmax		
J19K	**Poorman**	**24.10**	**47**	P		**P**	**03 11 46.2**	**-0.7**
J19K	comp=Z,12nm,1.4s			IAmb		IAmb	03 12 13.3	
K20K	**Telida**	**24.73**	**49**	P		**P**	**03 11 54.7**	**+2.0**
K20K	comp=Z,6.6nm,0.7s			IAmb		IAmb	03 12 08.6	
J20K	**Nowinta River**	**24.76**	**47**	P		**P**	**03 11 54.6**	**+1.7**
J20K	comp=Z,6.0nm,0.7s			IAmb		IAmb	03 12 08.7	
CAST	**Castle Rocks**	**25.63**	**49**	P		**P**	**03 12 02.5**	**+1.7**
CAST	comp=Z,7.4nm,1.2s			IAmb		IAmb	03 12 38.0	
B21K	**Ikpikpuk River**	**25.63**	**34**	P		**P**	**03 12 00.7**	**0.0**
B21K	comp=Z,10nm,1.0s			IAmb		IAmb	03 12 37.9	
D22K	**Ayikyak River**	**26.10**	**36**	P		**P**	**03 12 06.4**	**+1.4**
E22K	**Anaktuvuk Pass**	**26.25**	**38**	P		**P**	**03 12 07.1**	**+0.6**
HIA	**Hailar**	**26.32**	**278**	⇓*e*P		**P**	**03 12 05.2**	**-2.0**
HIA	comp=Z,8.0nm,0.8s			pmax		pmax		
C23K	**Itkillik River**	**27.03**	**34**	P		**P**	**03 12 13.1**	**-0.3**
TOLK	**Toolik Lake Re**	**27.16**	**37**	P		**P**	**03 12 15.2**	**+0.6**
E24K	**Your Creek**	**27.48**	**38**	P		**P**	**03 12 17.9**	**+0.5**
ILAR	**Eielson Array**	**27.92**	**46**	P		**P**	**03 12 22.1**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=267,slow=8.1,SNR=7.1							
KSRS	**Korea Array**	**28.25**	**250**	P		**P**	**03 12 24.3**	**-0.3**
KSRS	comp=Z,0.8nm,0.8s comp=Z,0.7nm,0.4s,baz=30,slow=10,SNR=2.7			LR		LR	03 25 06.5	
BCAR	**Beaver Creek A**	**30.30**	**49**	P		**P**	**03 12 44.7**	**+2.1**
D27M	**Malcolm River**	**30.32**	**36**	P		**P**	**03 12 43.6**	**+1.0**
D27M	comp=Z,4.7nm,1.2s			IAmb		IAmb	03 13 15.0	
L29M	**L29M**	**31.93**	**48**	P		**P**	**03 12 57.2**	**+0.3**
L29M	comp=Z,8.5nm,1.2s			IAmb		IAmb	03 13 08.2	
M30M	**Minto, Yukon**	**32.64**	**49**	P		**P**	**03 13 04.0**	**+0.9**
M30M	comp=Z,8.4nm,1.3s			IAmb		IAmb	03 13 09.6	
INK	**Inuvik**	**33.06**	**38**	P		**P**	**03 13 06.4**	**-0.2**
INK	**Inuvik**	**33.06**	**38**	P		**P**	**03 13 06.4**	**-0.2**
INK	comp=Z,2.0nm,1.1s			pmax		pmax		
H31M	**Peel River**	**33.08**	**43**	P		**P**	**03 13 04.7**	**-2.3**
H31M	comp=Z,4.8nm,1.1s			IAmb		IAmb	03 13 14.9	
H11N2	**WAKE ISLAND Hy**	**33.77**	**171**	T		T	03 50 10.9	
	baz=354,slow=76,SNR=30							
H11N3	**WAKE ISLAND Hy**	**33.78**	**171**	T		T	03 50 15.4	
	baz=354,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**33.78**	**171**	T		T	03 50 15.9	
	baz=354,slow=76,SNR=24							
SONM	**Songino Array**	**34.84**	**284**	P		**P**	**03 13 21.4**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=63,slow=7.5,SNR=5.8							
SONM				PcP		**PcP**	**03 15 56.6**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=52,slow=2.4,SNR=4.0							
SONM				LR		LR	03 29 01.4	
	comp=Z,124nm,19.5s,baz=318,slow=39							
HHC	**Hu-ho-hao-te**	**35.66**	**270**	*e*P		P	03 13 24.6	-5.0
HHC	comp=Z,0.8nm,0.7s			pmax		pmax		
HHC	comp=Z,17nm,0.5s			pmax		pmax		
	comp=Z,95nm,6.7s							
NRIK	**Noril'sk**	**36.30**	**325**	LR		LR	03 29 12.7	
	comp=Z,92nm,19.0s,baz=76,slow=38							
NJ2	**Nanjing**	**37.30**	**253**	*e*P		**P**	**03 13 43.1**	**-0.4**
NJ2	comp=Z,5.0nm,0.5s			pmax		pmax		
EUNU	**Eureka**	**41.48**	**14**	P		**P**	**03 14 19.1**	**+1.2**
EUNU	comp=Z,4.2nm,0.8s			IAmb		IAmb	03 14 19.8	
YKA	**Yellowknife Ar**	**42.30**	**43**	P		**P**	**03 14 25.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=300,slow=8.2,SNR=4.9							
LZH	**Lanzhou**	**43.36**	**271**	*e*P		**P**	**03 14 33.4**	**-0.4**
LZH	comp=Z,0.4nm,0.8s			pP		pwP	03 14 51.8	+2.2
LZH	comp=Z,15nm,1.0s			pmax		pmax		
ZALV	**Zalesovo Beam**	**43.50**	**303**	P		**P**	**03 14 32.6**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=2.2							
GTA	**Gaotai**	**43.59**	**277**	*e*P		**P**	**03 14 36.3**	**+0.7**
GTA	comp=Z,0.3nm,0.3s comp=Z,5.0nm,0.9s			pmax		pmax		
GTA	comp=N,110nm,14.2s			LR		LR		
GTA	comp=E,120nm,14.9s			LR		LR		
GTA	comp=Z,120nm,16.0s			LR		LR		
SPITS	**Spitsbergen Ar**	**47.07**	**351**	P		**P**	**03 15 02.7**	**+0.2**
	comp=Z,4.9nm,0.5s,baz=58,slow=10.0,SNR=20							
SPITS				pP		**pP**	**03 15 14.9**	**+1.7**
	comp=Z,4.7nm,0.6s,baz=62,slow=9.5,SNR=2.1							
	comp=Z,4.9nm,0.5s							
SPITS	**Spitsbergen Ar**	**47.07**	**351**	P		**P**	**03 15 02.4**	**-0.1**
SPITS	comp=Z,51nm,1.3s			pmax		pmax		
SPB2	**Spitsbergen Ar**	**47.07**	**351**	P		**P**	**03 15 01.7**	**-0.8**
WMQ	**Urumqi**	**47.85**	**290**	*e*P		**P**	**03 15 06.8**	**-2.3**
WMQ	comp=Z,14nm,0.7s			pmax		pmax		
KURK	**Kurchatov**	**48.47**	**303**	P		**P**	**03 15 11.0**	**-2.6**
KURK	comp=Z,3.5nm,0.5s			IAmb		IAmb	03 15 13.0	
KURK	**Kurchatov**	**48.47**	**303**	⇓*e*P		**P**	**03 15 11.2**	**-2.4**
KURK	comp=Z,2.0nm,1.0s			pmax		pmax		
KURBB	**Kurchatov Arra**	**48.57**	**302**	P		**P**	**03 15 11.9**	**-2.5**
KURBB	comp=Z,1.7nm,0.5s,baz=57,slow=7.7,SNR=14			PcP		**PcP**	**03 16 39.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=64,slow=4.8,SNR=2.3							
	comp=Z,1.7nm,0.5s							
MK31	**Makanchi Array**	**48.97**	**296**	P		**P**	**03 15 15.9**	**-1.7**
MK31	**Makanchi Array**	**48.97**	**296**	⇓*e*P		**P**	**03 15 15.6**	**-2.0**
MKAR	**Makanchi Array**	**48.97**	**296**	P		**P**	**03 15 14.4**	**-3.2**
MKAR	**Makanchi Array**	**48.97**	**296**	P		**P**	**03 15 15.4**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=55,slow=6.5,SNR=18							
MKAR				PcP		**PcP**	**03 16 41.9**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=34,slow=4.2,SNR=1.2							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**48.97**	**296**	*i* P		**P**	**03 15 16.0**	**-1.6**
MKAR	comp=Z,1.0nm,0.4s			pmax		pmax		
MAKZ	**Makanchi**	**49.13**	**297**	P		**P**	**03 15 16.8**	**-2.0**
BVAR	**Borovoye Array**	**51.04**	**309**	P		**P**	**03 15 31.6**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=56,slow=9.1,SNR=7.3							
	comp=Z,0.8nm,0.3s							
BRVK	**Borovoye**	**51.06**	**309**	P		**P**	**03 15 31.7**	**-1.6**
BRVK	**Borovoye**	**51.06**	**309**	⇓*e*P		**P**	**03 15 32.4**	**-0.9**
BRVK	comp=Z,7.0nm,2.5s			pmax		pmax		
PZH	**PanZhiHua**	**51.43**	**263**	P		**P**	**03 15 36.4**	**-0.1**
PZH	comp=Z,10.0nm,0.7s			pmax		pmax		
PZH	comp=Z,100nm,5.3s			pmax		pmax		
KMI	**Kunming**	**51.87**	**261**	⇑P		**P**	**03 15 36.8**	**-3.2**
KMI	comp=Z,17nm,1.2s			pmax		pmax		
FCC	**Fort Churchill**	**52.66**	**39**	P		**P**	**03 15 45.8**	**+0.7**
FCC	comp=Z,7.5nm,1.5s			IAmb		IAmb	03 15 59.4	
FCC	**Fort Churchill**	**52.66**	**39**	P		**P**	**03 15 45.8**	**+0.7**
FCC	comp=Z,7.0nm,1.5s			pmax		pmax		
ARCES	**ARCESS Array B**	**53.38**	**342**	P		**P**	**03 15 49.0**	**-1.3**
ARCES	**ARCESS Array B**	**53.38**	**342**	P		**P**	**03 15 49.5**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=35,slow=7.6,SNR=7.1							
	comp=Z,2.8nm,0.8s							
ARCES	**ARCESS Array B**	**53.38**	**342**	P		**P**	**03 15 49.0**	**-1.3**
ARCES	comp=Z,16nm,1.3s			pmax		pmax		
ARTI	**Arti**	**54.01**	**318**	P		**P**	**03 15 53.0**	**-2.1**
ARTI	comp=Z,10.0nm,1.5s			IAmb		IAmb	03 15 56.2	
ARTI	**Arti**	**54.01**	**318**	LR		LR	03 41 55.7	
	comp=Z,83nm,18.8s,baz=160,slow=39							
ARTI	**Arti**	**54.01**	**318**	P		**P**	**03 15 53.0**	**-2.1**
ARTI	comp=Z,10.0nm,1.5s			pmax		pmax		
NVAR	**Mina Array Bea**	**54.70**	**71**	P		**P**	**03 16 02.9**	**+2.3**
	comp=Z,0.4nm,0.7s,baz=317,slow=7.0,SNR=3.2							
NVAR				pP		**pwP**	**03 16 16.6**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=309,slow=9.2,SNR=4.4							
	comp=Z,0.4nm,0.7s							
BOOM	**Boomskoye usch**	**55.21**	**296**	P		**P**	**03 16 04.2**	**0.0**
BOOM	**Boomskoye usch**	**55.21**	**296**	P		**P**	**03 16 04.2**	**0.0**
BOOM	comp=Z,18nm,1.2s			pmax		pmax		
KIRV	**Kirov**	**55.80**	**324**	*ce*P		**P**	**03 16 08.1**	**+0.1**
PDAR	**Pinedale Array**	**56.52**	**62**	P		**P**	**03 16 15.2**	**+1.6**
PDAR	**Pinedale Array**	**56.52**	**62**	P		**P**	**03 16 16.1**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=337,slow=3.4,SNR=6.9							
	comp=Z,0.6nm,0.8s							
KSH	**Kashi**	**57.25**	**293**	P		**P**	**03 16 22.3**	**+3.6**
KSH	comp=Z,3.0nm,1.0s			pmax		pmax		
ABKAR	**Akbulak array**	**58.41**	**311**	P		**P**	**03 16 25.1**	**-1.5**
PHRA	**Phrae**	**58.44**	**258**	P		**P**	**03 16 28.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**59.23**	**259**	P		**P**	**03 16 34.4**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=21,slow=7.3,SNR=20							
CMAR				pP		**sP**	**03 16 47.0**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=18,slow=6.6,SNR=2.5							
	comp=Z,3.6nm,0.7s							
BTK	**Batken**	**59.66**	**297**	P		**P**	**03 16 33.0**	**-2.5**
FIA1	**FINESS Array S**	**60.30**	**337**	P		**P**	**03 16 39.4**	**0.0**
FINES	**FINESS Array B**	**60.30**	**337**	P		**P**	**03 16 39.2**	**-0.2**
FINES	**FINESS Array B**	**60.30**	**337**	P		**P**	**03 16 39.9**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=36,slow=8.2,SNR=28							
	comp=Z,2.6nm,0.5s							
FINES	**FINESS Array B**	**60.30**	**337**	P		**P**	**03 16 39.2**

KBZ pmax pmax
comp=Z,4.0nm,0.9s
LUBAR Lubar, Ukraine 70.06 330 P **P 03 17 42.6 -0.2**
SORM Soroca 71.47 329 ⇓P **P 03 17 51.5 +0.1**
SORM Soroca 71.47 329 ⇓P **P 03 17 51.5 +0.1**
SORM Soroca 71.47 329 P **P 03 17 51.2 -0.2**
comp=Z,14nm,2.2s
KMPD K-Podol'skiy 71.66 331 P **P 03 17 52.4 -0.1**
KWP Kalwaria Pacla 71.75 333 P **P 03 17 54.1 +1.0**
KWP Kalwaria Pacla 71.75 333 P **P 03 17 54.1 +1.0**
KWP pmax pmax
comp=Z,170nm,1.4s
KSP Ksiaz 72.22 338 P **P 03 17 56.4 +0.5**
KSP Ksiaz 72.22 338 P **P 03 17 56.4 +0.5**
comp=Z,9.7nm,2.2s
CLL Collm 72.49 340 *i* P **P 03 17 58.2 +0.8**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 72.49 340 P **P 03 17 58.3 +0.8**
CLL Collm 72.49 340 *i* P **P 03 17 58.2 +0.8**
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 72.67 338 *e*P **P 03 18 00.2 +1.6**
DPC Dobruska-Polom 72.67 338 *e*P **P 03 18 00.2 +1.6**
KRLC Kraliky 72.82 337 *e*P **P 03 18 00.5 +0.9**
KRLC Kraliky 72.82 337 *e*P **P 03 18 00.5 +0.9**
BUR08 Bucovina Ar. S 72.85 331 P **P 03 18 00.5 +0.6**
BUR08 IAmb IAmb 03 18 01.8
comp=Z,5.5nm,1.2s
BURAR Bucovina Array 72.87 331 P **P 03 18 00.6 +0.6**
BURAR Bucovina Array 72.87 331 ⇓P **P 03 18 00.5 +0.6**
BURAR Bucovina Array 72.87 331 ⇓P **P 03 18 00.5 +0.6**
MORC Moravsky Berou 72.92 337 ⇓P **P 03 18 01.5 +1.4**
MORC Moravsky Berou 72.92 337 ⇓P **P 03 18 01.5 +1.4**
LANS Liptovska Anna 73.03 335 *e*P **P 03 18 02.9 +2.1**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 73.03 335 *e*P **P 03 18 02.9 +2.1**
HSKC Hora Svate Kat 73.06 340 *e*P **P 03 18 02.7 +1.8**
PRU Pruhonice 73.41 339 *e*P **P 03 18 04.4 +1.5**
PRU Pruhonice 73.41 339 *e*P **P 03 18 04.4 +1.5**
VYHS Vyhne 73.80 335 *e*P **P 03 18 06.8 +1.5**
VYHS Vyhne 73.80 335 *e*P **P 03 18 06.8 +1.5**
PANC Panciu 73.86 329 ⇓P **P 03 18 06.7 +1.0**
ODBI Odobesti 73.99 329 ⇓P **P 03 18 06.1 -0.3**
VRI Vrincioaia 74.00 329 ⇑P **P 03 18 07.2 +0.7**
VRI Vrincioaia 74.00 329 P **P 03 18 07.2 +0.7**
ZVC Zvikov 74.00 339 *e*P **P 03 18 07.7 +1.3**
PLOR Plostina 74.03 329 ⇑P **P 03 18 07.4 +0.7**
PLOR Plostina 74.03 329 P **P 03 18 07.4 +0.7**
OZUR 74.08 330 ⇑P **P 03 18 08.6 +1.6**
SPBR Spulber 74.09 329 ⇑P **P 03 18 08.6 +1.5**
CFR Carcaliu 74.17 328 ⇑P **P 03 18 08.0 +0.6**
CFR Carcaliu 74.17 328 P **P 03 18 08.0 +0.6**
MODS Modra-Piesok 74.30 336 *e*P **P 03 18 10.2 +2.0**
MODS Modra-Piesok 74.30 336 *e*P **P 03 18 10.2 +2.0**
MODS *e*PDIFF 03 35 43.6
MARR Marisel-Cluj 74.33 332 ⇓P **P 03 18 09.3 +0.8**
DRGR 74.34 332 ⇓P **P 03 18 09.2 +0.7**
DRGR 74.34 332 P **P 03 18 09.2 +0.7**
KHC Kasperske Hory 74.43 339 *e*P **P 03 18 10.2 +1.2**
KHC Kasperske Hory 74.43 339⇑*e*P **P 03 18 10.1 +1.1**
KHC pmax pmax
comp=Z,19nm,1.7s
MEM Membach 74.44 344 *d*P **P 03 18 09.9 +0.9**
MEM *d*pP **pwP 03 18 30.8 +5.5**
comp=Z,7.6nm,0.9s
MLR Muntele Rosu 74.57 329 P **P 03 18 09.9 -0.1**
MLR IAmb IAmb 03 18 12.7
comp=Z,5.5nm,0.8s
MLR Muntele Rosu 74.57 329 ⇓P **P 03 18 11.3 +1.3**
MLR Muntele Rosu 74.57 329 P **P 03 18 09.9 -0.1**
MLR pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 74.67 339 P **P 03 18 11.4 +1.0**
comp=Z,1.7nm,0.6s,baz=35,slow=4.9,SNR=8.7
GERES pP **PcP 03 18 24.3 -0.3**
comp=Z,0.7nm,0.5s,baz=40,slow=6.9,SNR=3.6
comp=Z,1.7nm,0.6s
GERES GERESS Array B 74.67 339 P **P 03 18 11.3 +0.8**
BCLA Clavier 74.74 345 *d*P **P 03 18 12.3 +1.6**
BCLA *d*PcP **pwP 03 18 27.6 +0.6**
VOIR 74.89 330 ⇑P **P 03 18 12.9 +1.1**
VOIR 74.89 330 ⇑P **P 03 18 12.9 +1.1**
CONA Conrad Observa 75.05 337 *e*P **P 03 18 14.1 +1.5**
comp=Z,1.2nm,0.7s
ARR Arges 75.08 330 ⇓P **P 03 18 14.4 +1.6**
SIRR Siria 75.11 333 ⇑P **P 03 18 12.9 0.0**
SURR Surduc 75.45 332 ⇓P **P 03 18 16.8 +1.9**
MOA Molln 75.49 338 *e*P **P 03 18 16.4 +1.3**
comp=Z,2.8nm,1.1s
GZR Gura Zlata 75.60 332 ⇑P **P 03 18 16.1 +0.3**
GZR Gura Zlata 75.60 332 ⇑P **P 03 18 16.1 +0.3**
BZS Buzias 75.72 332 ⇓P **P 03 18 16.9 +0.5**
BZS Buzias 75.72 332 ⇓P **P 03 18 16.9 +0.5**
ARSA Arzberg 75.76 337 *i* P **P 03 18 18.3 +1.6**
comp=Z,1.7nm,0.7s
MORH Mrgy, Hungar 75.96 335 ⇑P **P 03 18 17.9 +0.1**
LESA Schwarzleotal 76.24 339 *e*P **P 03 18 20.7 +1.2**
comp=Z,2.6nm,1.0s
SOKA Soboth 76.42 337 *i* P **P 03 18 22.2 +1.8**
comp=Z,1.3nm,0.6s
KBA Koelnbreinsper 76.42 338 *i* P **P 03 18 22.2 +1.6**
comp=Z,8.5nm,0.9s
WATA Walderalm 76.56 340 *e*P **P 03 18 22.2 +0.9**
comp=Z,1.4nm,0.5s
RETA Reutte 76.58 340 *i* P **P 03 18 23.0 +1.7**
comp=Z,5.9nm,1.3s
WTTA Wattenberg 76.61 340 *e*P **P 03 18 22.2 +0.5**
comp=Z,2.7nm,0.7s
MOTA Moosalm 76.64 340 *i* P **P 03 18 23.3 +1.4**
comp=Z,3.8nm,0.9s
OBKA Obir 76.69 337 *i* P **P 03 18 23.4 +1.4**
comp=Z,5.3nm,0.7s
WB2 Warramunga Arr 76.73 206 P **P 03 18 22.7 +0.4**
WB2 IAmb IAmb 03 18 40.9
comp=Z,6.9nm,1.3s
WRA Warramunga Arr 76.73 206 P **P 03 18 23.8 +1.4**
comp=Z,0.9nm,0.8s,baz=16,slow=5.8,SNR=5.1
comp=Z,0.9nm,0.8s
SQTA Sankt Quirin 76.74 340 *i* P **P 03 18 23.9 +1.5**
comp=Z,3.3nm,0.9s
ABTA Abfaltersbach 76.92 339 *i* P **P 03 18 24.3 +1.0**
comp=Z,5.8nm,1.1s
DAVA Damuels 76.95 341 *e*P **P 03 18 24.6 +1.0**
comp=Z,7.4nm,1.6s
FETA Feichten 77.03 340 *i* P **P 03 18 25.6 +1.5**
comp=Z,5.7nm,1.1s
BRTR Keskin Array B 77.08 322 P **P 03 18 24.9 +0.5**
BRTR Keskin Array B 77.08 322 P **P 03 18 25.1 +0.6**
comp=Z,1.7nm,0.8s,baz=42,slow=5.8,SNR=8.4
BRTR pP **sP 03 18 38.0 -2.0**
comp=Z,0.6nm,0.6s,baz=42,slow=2.4,SNR=2.8
comp=Z,1.7nm,0.8s
BRTR Keskin Array B 77.08 322 P **P 03 18 24.9 +0.5**
FUORN Ofenpass-Fuorn 77.51 340 P **P 03 18 27.9 +1.1**
FUORN IAmb IAmb 03 18 30.3
comp=Z,2.5nm,0.8s
BOVS Bovan 77.52 331 ⇑P **P 03 18 26.7 +0.1**
FITZ Fitzroy Crossi 77.67 215 P **P 03 18 29.4 +1.8**
comp=Z,2.8nm,0.9s,baz=8.1,slow=7.1,SNR=3.4
comp=Z,2.8nm,0.9s
CTI Castel Tesino 77.77 339 P **P 03 18 28.4 +0.3**
CTI IAmb IAmb 03 18 29.2
comp=Z,5.7nm,1.1s
CTI Castel Tesino 77.77 339 P **P 03 18 28.4 +0.3**
CTI pmax pmax
comp=Z,6.0nm,1.1s
TUE Stuetta 77.83 341 P **P 03 18 29.7 +1.1**
TUE IAmb IAmb 03 18 33.8
comp=Z,5.7nm,0.9s
PDG Podgorica 79.31 333 P **P 03 18 36.8 +0.3**
PDG Podgorica 79.31 333 ⇑P **P 03 18 36.5 0.0**
ZCCA Zocca 79.53 339 P **P 03 18 40.1 +2.4**
BNI Bardonecchia 79.70 342 P **P 03 18 37.6 -1.2**
BNI IAmb IAmb 03 19 11.3
comp=Z,13nm,1.5s
BNI Bardonecchia 79.70 342 P **P 03 18 37.6 -1.2**
BNI pmax pmax
comp=Z,13nm,1.5s
MSSA Maissana 79.87 340 P **P 03 18 39.0 -0.6**
MSSA IAmb IAmb 03 18 54.7
comp=Z,7.2nm,1.0s
FDMO Fiordimonte 80.31 337 P **P 03 18 43.1 +1.2**
FDMO IAmb IAmb 03 18 45.9
comp=Z,5.2nm,1.0s
ASAR Alice Springs 80.40 206 P **P 03 18 44.8 +2.3**
ASAR Alice Springs 80.40 206 P **P 03 18 44.0 +1.6**
comp=Z,0.7nm,0.6s,baz=17,slow=5.4,SNR=10
comp=Z,0.7nm,0.6s
NRCA Norcia 80.50 337 P **P 03 18 44.2 +1.2**
NRCA IAmb IAmb 03 18 47.2
comp=Z,8.4nm,1.1s
MMAI Mount Meron Ar 82.24 317 P **P 03 18 53.0 +0.5**
comp=Z,1.6nm,0.5s,baz=38,slow=9.6,SNR=4.3
comp=Z,1.6nm,0.5s
ESDC Sonseca Array 86.55 349 P **P 03 19 15.4 +1.3**
comp=Z,0.7nm,0.6s,baz=357,slow=5.5,SNR=5.8
comp=Z,0.7nm,0.6s

---

*AFAD **18** 03:16:30.3, 39.°12N×25.°92E, h7^{km}±2^{km}, ML1.5*
ISK 18 03:16:29.8, 39.°17N×26.°02E, h5^{km}, ML1.6/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.13**	**288**	Pg	Pg	03 16 32.8	+0.3
SIGR				Sg	Sg	03 16 35.4	+1.1
KOCA	**Canakkale, Ayv**	**0.34**	**16**	P	Pb	03 16 38.7	+0.2
KOCA				S	Sb	03 16 46.0	+1.7
KOCA				*i* AML	AML	03 16 47.0	
	comp=E,38nm,0.2s						
KOCA				*i* AML	AML	03 16 52.0	
	comp=N,30nm,0.2s						
AYVA	**Ayvalik**	**0.54**	**75**	P	Pb	03 16 42.7	+0.9
AYVA				*i* AML	AML	03 16 53.0	
	comp=N,26nm,0.4s						
AYVA				*i* AML	AML	03 16 57.0	
	comp=E,25nm,0.8s						
BOZC	**Bozcaada**	**0.67**	**2**	Pg	Pb	03 16 43.9	-0.1
BOZC				Sg	Sb	03 16 54.5	+0.9
BOZC	**Bozcaada**	**0.67**	**2**	P	Pb	03 16 43.9	-0.1
BOZC				S	Sb	03 16 55.0	+1.4
BOZC				*i* AML	AML	03 16 57.0	
	comp=E,25nm,0.2s						
EZN	**Ezine**	**0.70**	**20**	Pg	Pg	03 16 42.7	-0.5
EZN				Sg	Sb	03 16 54.7	+0.4
DKL	**Dikili**	**0.70**	**98**	Pg	Pb	03 16 44.4	0.0
BAYC	**CANAKKALE_Bayr**	**0.70**	**36**	P	Pb	03 16 45.2	+0.7
BAYC				S	Sn	03 16 56.3	-1.4
BAYC				*i* AML	AML	03 17 00.0	
	comp=N,25nm,0.2s						
BAYC				*i* AML	AML	03 17 00.0	
	comp=E,25nm,0.1s						
COMU	**Canakkale**	**0.99**	**21**	Pg	Pn	03 16 50.1	-0.3
CANM	**Can-anakkale**	**1.16**	**43**	Pn	Pn	03 16 52.9	+0.2
GELI	**Tayfur-Gelibol**	**1.27**	**16**	Pn	Pb	03 16 55.4	+1.1
GELI				Sn	Sn	03 17 13.9	+2.1
LPK	**Lapseki**	**1.33**	**25**	Pn	Pg	03 16 56.5	+1.2
LPK				Sn	Sn	03 17 15.7	+2.6
ERIK	**Erikli-Kesan**	**1.55**	**14**	Pn	Pg	03 16 59.3	-0.1
ALN	**Alexandroupoli**	**1.72**	**1**	Pn	Pb	03 17 01.9	-0.1
RKY	**Sarkoy-Tekirda**	**1.76**	**30**	Pn	Pb	03 17 02.7	+0.1
SUSR	**Susurluk-Balik**	**1.78**	**63**	Pn	Pb	03 17 02.9	0.0

---

*IDC **18** 03:17:45.2±1.0, 2.°99S×119.°37E, h0^{km}, mb3.7/5, mbtmp3.7/5, MS3.1/3, Error ellipse: s-maj=60.9km s-min=12.4km az=73.0*
*DJA **18** 03:17:47.6±0.3, 3.°S±2.°×11.°9E±.°, h10^{km}, M4.1/12, mb4.0/2, MLv4.2/12*
ISC 18 03:17:47.2±0.9, 2.°96S±0.°04×119.°47E±0.°09, h10^{km}, n18, σ0.°90/18, mb3.7/5, MS3.0/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.36**	**104**	P	**Pg**	**03 17 53.8**	**-0.5**
SPSI	**Sidrap Palu**	**1.05**	**163**	P	**Pg**	**03 18 06.8**	**-0.5**
SPSI				S	**Sg**	**03 18 22.2**	**+1.3**
KAPI	**Kappang**	**2.06**	**172**	Pg	**Pn**	**03 18 23.4**	**+1.5**
	55nm,0.3s,baz=350,slow=13,SNR=76						
KAPI				Lg	Lg	03 18 48.7	
	120nm,0.3s,baz=203,slow=20,SNR=21						
PCI	**Palu**	**2.07**	**10**	P	**Pn**	**03 18 23.3**	**+1.3**
PCI				S	**Sn**	**03 18 49.0**	**+1.1**
BKSI	**Bulukumba**	**2.44**	**165**	P	**Pn**	**03 18 27.9**	**+0.8**
APSI	**Ampana**	**2.98**	**47**	P	**Pn**	**03 18 34.2**	**-0.3**
KDI	**Kendari**	**3.30**	**108**	P	**Pn**	**03 18 39.6**	**+0.7**
MPSI	**Mapaga**	**3.30**	**7**	P	**Pn**	**03 18 39.0**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.33**	**162**	P	**Pn**	**03 18 39.9**	**+0.6**
PLAI	**Plampang**	**6.07**	**196**	P	**Pn**	**03 19 17.1**	**0.0**
	0.1nm14nm,0.8s						
TWSI	**Taliwang, Sumb**	**6.29**	**204**	P	**Pn**	**03 19 19.0**	**-1.1**
PSI	**Prapat**	**21.32**	**285**	LR	LR	03 31 22.8	
	comp=Z,63nm,18.1s,baz=167,slow=39						
WRA	**Warramunga Arr**	**22.27**	**140**	P	**P**	**03 22 43.7**	**-0.9**
	2.3nm,1.0s,baz=326,slow=9.4,SNR=8.9						
	2.3nm,1.0s						
ASAR	**Alice Springs**	**24.88**	**147**	P	**P**	**03 23 10.8**	**+0.5**
	1.7nm,0.9s,baz=324,slow=8.0,SNR=17						
	1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.35**	**317**	LR	LR	03 39 13.3	
	comp=Z,16nm,18.8s,baz=185,slow=44						
SONM	**Songino Array**	**51.86**	**349**	P	**P**	**03 26 55.1**	**-0.7**
	0.5nm,0.6s,baz=166,slow=8.3,SNR=5.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.37**	**331**	P	**P**	**03 27 49.1**	**-0.6**
	0.6nm,0.6s,baz=135,slow=7.6,SNR=8.8						
MKAR				LR	LR	03 57 35.1	
	comp=Z,29nm,18.0s,baz=302,slow=40						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**63.83**	**332**	P	**P**	**03 28 19.4**	**-0.3**
	0.3nm,0.3s,baz=129,slow=5.4,SNR=2.1						
	0.3nm,0.3s						

---

*JSN **18** 03:18:30.8±0.3, 18.°20N×76.°68W, h2^{km}±4^{km}, MD1.9*
*SSNC **18** 03:18:32.0±1.4, 18.°35N×76.°73W, h0^{km}±13^{km}, MD2.5, ML1.4*
ISC 18 03:18:29.3±1.1, 18.°32N±0.°07×76.°71W±0.°07, h18^{km}, n6, σ1.°30/9, 1C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.26**	**202**	⇓*i*P	**Pg**	**03 18 34.6**	**-0.6**
HOJ	**Hope**	**0.31**	**187**	⇑*i*P	**Pg**	**03 18 35.1**	**-1.0**
MTDJ	**Mount Denham**	**0.79**	**264**	*e*P	**Pn**	**03 18 46.2**	**+0.5**
MTDJ				*e*S	**Sg**	**03 18 57.2**	**+1.8**
MTDJ				IAML		03 18 59.1	
	8.2nm,0.1s						
MTDJ				IAML		03 18 59.1	
	comp=Z,7.6nm,0.1s						
LMGC	**Las Mercedes**	**1.76**	**351**	*e*P	**Pb**	**03 19 00.6**	**-0.6**
LMGC				*e*S	**Sb**	**03 19 21.3**	**-1.6**
LMGC				IAML		03 19 23.9	
	comp=N,9.9nm,0.1s						
LMGC				IAML		03 19 24.1	
	comp=E,5.0nm,0.1s						
RCC	**Rio Carpintero**	**1.92**	**30**	*e*P	**Pb**	**03 19 03.7**	**-0.2**
RCC				*e*S	**Sb**	**03 19 27.3**	**-0.2**
QMBU	**Quimbuelo**	**2.59**	**43**	*e*P	**Pn**	**03 19 11.9**	**+1.5**

---

*IDC **18** 03:22:17.3±0.7, 18.°98N×104.°30W, h0^{km}, mb4.5/20, mbtmp4.4/24, ML4.2/3, MS4.2/49, Error ellipse: s-maj=25.0km s-min=12.7km az=53.0*
*MEX **18** 03:22:20.3±0.9, 18.°81N×104.°54W, h9^{km}±9^{km}, MD4.9*
*NEIC **18** 03:22:23.5±2.6, 18.°92N±0.°06×104.°35W±0.°07, h35^{km}±1^{km}, mb4.8/336, Md4.9/121(MEX), Error ellipse: s-maj=13.5km s-min=6.0km az=227.0*
*GCMT **18** 03:22:24.5±0.3, 18.°87N±0.°02×104.°46W±0.°02, h30^{km}, MW5.0/95, Moment Tensor Solution. s54,c64; s95,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.79±.16; $M_{\theta\theta}$-2.86±.10; $M_{\phi\phi}$-0.93±.10; $M_{r\theta}$2.26±.12; $M_{\theta\phi}$1.64±.06; $M_{\phi r}$-0.98±.12; Best double couple: M_0=4.52300×10^{16} NP1:ϕ_s303.00000°, δ29.00000°, λ96.00000°. NP2: ϕ_s116.00000°, δ61.00000°, λ87.00000°. Principal axes: T 4.5260, Plg73.0000°, Azm18.0000°; N -0.0090, Plg3.0000°, Azm118.0000°; P -4.5200, Plg16.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 03:22:20.7±0.6, 18.°82N±0.°03×104.°47W±0.°03, h27^{km}±4^{km}, n678, σ1.°59/601, mb4.8/121, MS4.3/45, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAR	**Ciudad de Arme**	**0.45**	**74**	*e*P	**Pb**	**03 22 27.8**	**-2.3**
CDAR				*i* S	**Sb**	**03 22 34.1**	**-2.4**
CIHU	**Emiliano Zapat**	**0.51**	**330**	*e*P	**Pb**	**03 22 28.4**	**-2.8**
CIHU				*e*S	**Sb**	**03 22 35.1**	**-3.2**
COMA	**Comala**	**0.84**	**53**	*e*P	**Pb**	**03 22 34.1**	**-2.6**
COMA				*e*S	**Sb**	**03 22 45.4**	**-2.2**
CJM	**Chamela**	**0.87**	**321**	*e*P	**Pb**	**03 22 34.5**	**-2.7**
CJM				*e*S	**Sb**	**03 22 45.7**	**-2.7**
MNGA	**Volcan de Coli**	**1.03**	**51**	*e*P	**Pn**	**03 22 37.9**	**-1.7**
MNGA				*e*S	**Sb**	**03 22 52.0**	**-1.2**
EZ5V		**1.05**	**51**		**Pn**	**03 22 38.4**	**-1.5**
EZ5V		**1.05**	**51**	*e*P	**Pn**	**03 22 38.4**	**-1.5**
EZ5V				*e*S	**Sb**	**03 22 52.2**	**-1.6**
SOMAC	**Volcano de Col**	**1.06**	**48**	*e*P	**Pn**	**03 22 38.5**	**-1.7**
SOMAC				*e*S	**Sb**	**03 22 53.3**	**-0.9**
INCO	**Volcan de Coli**	**1.08**	**49**	*e*P	**Pn**	**03 22 38.8**	**-1.6**
INCO				*i* S	**Sb**	**03 22 53.1**	**-1.7**
MMIG	**Aquila**	**1.19**	**116**		**Sb**	**03 22 56.5**	**-0.9**
MMIG	**Aquila**	**1.19**	**116**	*e*P	**Pn**	**03 22 39.7**	**-1.8**
MMIG				*e*S	**Sn**	**03 22 56.0**	**-0.8**
PUVA	**Puert Vallarta**	**1.93**	**339**		**Pn**	**03 22 51.0**	**-0.9**
PUVA					**Sb**	**03 23 17.7**	**-1.3**
PUVA	**Puert Vallarta**	**1.93**	**339**	*i* P	**Pn**	**03 22 51.0**	**-0.9**
PUVA				*e*S	**Sn**	**03 23 15.9**	**+0.7**
GDLP	**Chapalita**	**2.09**	**27**	*i* P	**Pn**	**03 22 55.1**	**+0.9**
GDLP				*i* S	**Sn**	**03 23 20.2**	**+0.7**
TON2	**Tonala**	**2.14**	**33**	*e*P	**Pb**	**03 22 57.1**	**-1.8**
TON2				*i* S	**Sb**	**03 23 23.2**	**-1.8**
ANIG	**Ahuacatlan**	**2.22**	**359**		**Pn**	**03 22 56.0**	**+0.1**
ANIG					**Sn**	**03 23 23.9**	**+1.3**
ANIG	**Ahuacatlan**	**2.22**	**359**	*e*P	**Pn**	**03 22 55.0**	**-1.0**
ANIG				*e*S	**Sn**	**03 23 20.9**	**-1.7**
URUA	**Uruapan**	**2.34**	**75**		**Pn**	**03 22 59.1**	**+1.5**
URUA	**Uruapan**	**2.34**	**75**	*e*P	**Pn**	**03 22 59.1**	**+1.5**
URUA				*e*S	**Sb**	**03 23 29.3**	**-1.6**
UON	**La Union**	**2.66**	**108**	*e*P	**Pn**	**03 23 04.1**	**+2.4**
UON				*i* S	**Sb**	**03 23 35.7**	**-4.0**
ZIIG	**Zihuatanejo**	**3.10**	**112**		**Pn**	**03 23 06.6**	**-1.2**
ZIIG					**Sn**	**03 23 47.0**	**+3.0**
ZIIG	**Zihuatanejo**	**3.10**	**112**	*e*P	**Pn**	**03 23 06.6**	**-1.2**
ZIIG				*e*S	**Sn**	**03 23 47.0**	**+3.0**
MOIG	**Morelia**	**3.21**	**74**		**Pn**	**03 23 10.0**	**+0.4**
MOIG	**Morelia**	**3.21**	**74**	*e*P	**Pn**	**03 23 11.8**	**+2.2**
MOIG				*e*S	**Sb**	**03 23 51.2**	**-4.8**
PET2	**Petatlan**	**3.30**	**112**	*i* P	**Pn**	**03 23 13.5**	**+2.8**
PET2				*i* S	**Sn**	**03 23 49.2**	**+0.2**
IGIG	**Irapuato, Guan**	**3.53**	**56**		**Pn**	**03 23 15.0**	**+1.0**
IGIG					**Sn**	**03 23 55.6**	**+0.7**
IGIG	**Irapuato, Guan**	**3.53**	**56**	*e*P	**Pn**	**03 23 15.0**	**+1.0**
IGIG				*e*S	**Sn**	**03 23 55.6**	**+0.7**
ARIG	**Puente Sto Nin**	**3.94**	**97**		**Pn**	**03 23 20.0**	**+0.5**
ARIG	**Puente Sto Nin**	**3.94**	**97**	*e*P	**Pn**	**03 23 20.0**	**+0.5**
ARIG				*e*S	**Sn**	**03 24 09.8**	**+4.8**
TEJU	**Tejupilco**	**4.08**	**88**	*e*P	Pn	03 23 26.1	+4.6
TEJU				*e*S	**Sb**	**03 24 14.7**	**-6.2**
ATYC	**Atoyac**	**4.16**	**112**	*e*	**Sn**	**03 24 13.2**	**+3.0**
JRQG	**Juriquilla Cam**	**4.22**	**63**	Pn	**Pn**	**03 23 24.6**	**+1.1**
JRQG	**Juriquilla Cam**	**4.22**	**63**	*e*P	Pn	03 23 28.4	+4.9
JRQG				*e*S	**Sn**	**03 24 13.1**	**+1.0**
ZAIG	**Zacatecas**	**4.31**	**24**	Pn	**Pn**	**03 23 25.2**	**+0.4**
ZAIG	**Zacatecas**	**4.31**	**24**	*e*P	**Pn**	**03 23 26.3**	**+1.5**
ZAIG				*e*S	**Sb**	**03 24 20.8**	**-6.9**
CAIG	**El Cayaco**	**4.37**	**113**		**Pn**	**03 23 26.1**	**+0.8**
CAIG					**Sn**	**03 24 17.9**	**+2.5**
CAIG	**El Cayaco**	**4.37**	**113**	*e*P	**Pn**	**03 23 26.1**	**+0.8**
CAIG				*e*S	**Sn**	**03 24 17.9**	**+2.5**
ACIG	**Acambay**	**4.48**	**74**	*e*P	**Pn**	**03 23 31.4**	**+4.4**
ACIG				*e*S	**Sn**	**03 24 23.9**	**+5.5**
MAIG	**Mazatlaan**	**4.72**	**338**		**Pn**	**03 23 32.0**	**+1.9**
MAIG					**Sn**	**03 24 26.8**	**+2.9**
MAIG	**Mazatlaan**	**4.72**	**338**	*e*P	**Pn**	**03 23 32.0**	**+1.9**
MAIG				*e*S	**Sn**	**03 24 26.8**	**+2.9**
PLIG	**Platanillo**	**4.73**	**94**		**Pn**	**03 23 32.5**	**+2.1**
PLIG	**Platanillo**	**4.73**	**94**	*e*P	**Pn**	**03 23 32.5**	**+2.1**
PLIG				*e*S	**Sn**	**03 24 28.5**	**+4.2**
ACP2	**Acapulco**	**4.77**	**113**	*e*	Sn	03 24 37.0	+12
VNTA	**La Mica**	**4.81**	**112**	*e*	Sn	03 24 40.1	+14
AOVM	**Tlapan**	**4.89**	**84**		**Pn**	**03 23 33.7**	**+0.8**
AOVM	**Tlapan**	**4.89**	**84**	*e*P	**Pn**	**03 23 33.7**	**+0.8**
AOVM				*e*S	**Sn**	**03 24 26.9**	**-1.9**
DAIG	**Los Arroyos**	**4.92**	**111**		**Pn**	**03 23 34.0**	**+1.1**
DAIG					**Sn**	**03 24 27.1**	**-1.9**
DAIG	**Los Arroyos**	**4.92**	**111**	*e*P	**Pn**	**03 23 34.0**	**+1.1**
DAIG				*e*S	**Sn**	**03 24 27.1**	**-1.9**
CUP5	**Mexico City**	**5.02**	**83**	*e*	Pb	03 23 42.3	-5.8
CUP5				*e*		03 24 43.5	
UNM	**Universidad Na**	**5.03**	**83**	Pn	**Pn**	**03 23 36.7**	**+2.0**
UNM	**Universidad Na**	**5.03**	**83**	*e*P	Pn	03 23 39.6	+5.0
UNM				*e*S	**Sn**	**03 24 34.9**	**+2.9**
YAIG	**Yautepec**	**5.11**	**89**		**Pn**	**03 23 38.4**	**+2.7**
YAIG					**Sn**	**03 24 34.4**	**+0.4**
YAIG	**Yautepec**	**5.11**	**89**	*e*P	**Pn**	**03 23 38.4**	**+2.7**
YAIG				*e*S	**Sn**	**03 24 34.4**	**+0.4**
DHIG	**Demacu**	**5.33**	**73**		**Sn**	**03 24 40.8**	**+1.4**
DEIG	**Demacu**	**5.33**	**73**	*e*P	Pn	03 23 43.8	+5.1
DEIG				*e*S	**Sn**	**03 24 40.8**	**+1.4**
CRIG	**Cruz Grande**	**5.49**	**111**		**Pn**	**03 23 41.9**	**+1.2**
CRIG	**Cruz Grande**	**5.49**	**111**	*e*P	**Pn**	**03 23 41.9**	**+1.2**
CRIG				*e*S	**Sn**	**03 24 40.4**	**-2.6**
PPM	**Popocatepetl**	**5.53**	**87**	*e*P	**Pn**	**03 23 38.9**	**-2.9**
PPM				*e*S	**Sn**	**03 24 42.2**	**-2.6**
PBCV	**Popocatepetl**	**5.60**	**87**	*e*P	**Pn**	**03 23 39.4**	**-3.1**
PBCV				*e*S	**Sn**	**03 24 45.6**	**-0.5**
HMTT	**Tlapaneco**	**5.70**	**99**	*e*		03 25 01.9	
TLIG	**Tlapa**	**5.75**	**102**	Pn	**Pn**	**03 23 46.0**	**+1.7**
TLIG	**Tlapa**	**5.75**	**102**	*e*P	**Pn**	**03 23 46.2**	**+1.8**
TLIG				*e*S	**Sn**	**03 24 48.6**	**-0.9**
MGIG	**Malinaltepec**	**5.77**	**105**		**Pn**	**03 23 46.8**	**+2.0**
MGIG					**Sn**	**03 24 50.1**	**0.0**
MGIG	**Malinaltepec**	**5.77**	**105**	*e*P	**Pn**	**03 23 46.8**	**+2.0**
MGIG				*e*S	**Sn**	**03 24 50.1**	**0.0**
PHPU	**Puebla**	**5.96**	**87**	*e*		03 25 20.5	
FTIG	**Fresnillo de T**	**6.08**	**98**		**Pn**	**03 23 50.5**	**+1.5**

LNIG eS Sn 03 25 39.0 +3.4
MNIG Monterrey 7.79 29 eP Pn 03 24 16.0 +3.6
MNIG eS Sn 03 25 42.9 +3.2
HPIG 8.15 352 Pn Pn 03 24 19.1 +1.6
HPIG 8.15 352 eP Pn 03 24 19.8 +2.3
HPIG eS Sn 03 25 55.5 +6.6
NEUV Arroyo Zacate 8.30 96 eP Pn 03 24 21.3 +1.9
NEUV eS Sn 03 25 49.9 -2.5
HUIG Huatulco 8.54 110 Pn 03 24 24.5 +1.8
HUIG Huatulco 8.54 110 eP Pn 03 24 24.5 +1.8
HUIG eS Sn 03 26 03.8 +5.6
PMUV Sontecomapan 8.86 90 eP Pn 03 24 29.5 +2.4
PMUV e 03 25 51.9
CMIG Matias Romero 9.28 99 Pn Pn 03 24 32.2 -0.6
1.9nm,0.3s,baz=292,slow=11,SNR=9.2
CMIG Sn Sn 03 26 15.3 -1.1
0.4nm,0.3s,baz=62,slow=17,SNR=1.2
CMIG Lg Lg 03 27 00.1
1.2nm,0.3s,baz=225,slow=9.7,SNR=5.1
CMIG LR LR 03 28 24.7
comp=Z,2µm,18.8s,baz=310,slow=40
2.5nm,0.3s
MCIG Muzquiz 9.42 16 Pn 03 24 37.2 +2.4
MCIG Muzquiz 9.42 16 eP Pn 03 24 37.2 +2.4
MCIG e 03 26 45.7
TX31 Lajitas Ar. Si 10.49 4 Pn Pn 03 24 52.7 +3.2
TXAR Lajitas Array 10.49 4 Pn Pn 03 24 52.7 +3.2
TXAR Lajitas Array 10.49 4 Pn Pn 03 24 52.1 +2.6
0.4nm,0.3s,baz=185,slow=14,SNR=66
TXAR Lg Lg 03 27 35.1
0.1nm,0.3s,baz=184,slow=30,SNR=1.3
833A Chaparral WMA, 10.54 25 Pn Pn 03 24 52.9 +2.8
833A Chaparral WMA, 10.54 25 P Pn 03 24 51.7 +1.6
baz=207,SNR=14
TGIG 10.99 99 Pn 03 24 57.3 +0.9
TGIG 10.99 99 eP Pn 03 24 57.3 +0.9
TGIG eS Sn 03 26 54.3 -4.2
SRIG Santa Rosalia 11.08 321 Pn Pn 03 25 00.3 +2.9
DRIO Del Rio 11.12 18 Pn Pn 03 25 00.7 +2.6
SAND Sanderson 11.29 10 Pn Pn 03 25 02.9 +2.6
ALPN Alpine 11.53 4 Pn Pn 03 25 05.7 +2.0
HNDO Hondo 11.66 23 Pn Pn 03 25 07.6 +2.2
735A Kenedy 11.70 30 Pn Pn 03 25 08.7 +2.9
HSIG 11.76 331 Pn Pn 03 25 09.2 +2.5
VHRN Van Horn 11.93 358 Pn Pn 03 25 11.7 +2.6
CCIG Comitan 12.03 100 Pn Pn 03 25 11.7 +1.1
CCIG Comitan 12.03 100 eP Pn 03 25 11.3 +0.7
CCIG eS Sn 03 27 30.7 +6.7
JCT Junction City 12.36 19 Pn Pn 03 25 17.2 +2.3
OZNA Ozona 12.43 13 Pn Pn 03 25 19.5 +3.6
PECS Pecos 12.51 2 Pn Pn 03 25 18.3 +1.2
MNHN Monahans 12.56 7 Pn Pn 03 25 18.8 +1.1
MLDN Muldoon 12.82 30 Pn Pn 03 25 21.7 +0.4
EPT El Paso 13.03 352 Pn Pn 03 25 26.6 +2.4
319A Douglas 13.24 342 Pn Pn 03 25 29.1 +2.0
ODSA Odessa 13.36 7 Pn Pn 03 25 28.6 0.0
SGCY Sterling City 13.38 12 Pn Pn 03 25 30.9 +2.0
435B Jarrell 13.45 26 P Pn 03 25 30.9 +1.1
baz=209
HKT Hockley 13.58 34 Pn Pn 03 25 32.7 +1.1
HTMS Hat Mesa 13.62 3 Pn Pn 03 25 34.5 +2.3
APG El Apazote 13.92 104 Pn Pn 03 25 34.9 -1.7
baz=320,slow=17
APG LR LR 03 30 26.7
comp=Z,141nm,21.2s,slow=35
121A Cookes Peak, D 13.98 348 P Pn 03 25 39.2 +2.0
baz=167,SNR=7.9
PETF Flores 14.03 95 Pn Pn 03 25 39.8 +2.0
DUN6 Lazy B Ranch 14.29 344 Pn Pn 03 25 43.7 +2.2
SN05 Snyder 5 14.37 12 Pn Pn 03 25 43.2 +0.8
ABTX Abilene, Hawle 14.41 17 Pn Pn 03 25 41.9 -1.2
SN07 Snyder 07 14.57 12 Pn Pn 03 25 45.1 -0.1
TUC Tucson 14.59 338 P P 03 25 50.8 -0.8
FW14 Alvarado 15.02 24 Pn Pn 03 25 51.1 -0.1
DKNS Dickens 15.12 11 IAmb IAmb 03 25 58.0
comp=Z,42nm,0.8s
MTO3 Montecristo 15.13 105 P P 03 26 00.1 +2.2
MTO3 IAmb IAmb 03 26 01.5
comp=Z,36nm,1.2s
MSTX Muleshoe 15.17 5 IAmb IAmb 03 25 59.4
comp=Z,48nm,1.0s
237A Washetta, Mont 15.27 29 P P 03 25 58.9 -0.2
FW03 Perrin-Whitt E 15.28 21 IAmb IAmb 03 26 02.1
comp=Z,37nm,1.2s
Y22D IRIS PASSCAL I 15.35 352 P Pn 03 25 57.3 +1.6
baz=171
FW06 Azle 15.40 22 IAmb IAmb 03 26 03.3
comp=Z,47nm,0.9s
NATX Nacogdoches 15.63 33 IAmb IAmb 03 26 04.4
comp=Z,147nm,1.2s
TREL Terrell 15.76 27 Pn Pn 03 26 01.2 +0.4
Z35A Perchaven, San 15.83 23 IAmb IAmb 03 26 09.1
comp=Z,36nm,1.0s
ANMO Albuquerque 16.16 354 Pn Pn 03 26 05.8 -0.4
ANMO Albuquerque 16.16 354 Pn Pn 03 26 05.1 -1.1
comp=Z,0.1nm,0.3s,baz=327,slow=12,SNR=36
ANMO Lg Lg 03 30 39.6
baz=204,slow=19,SNR=2.5
comp=Z,2.1nm,1.1s
AMTX Amarillo 16.19 8 IAmb IAmb 03 26 10.4
comp=Z,40nm,1.1s
113A Mohawk Valley, 16.21 331 Pn P 03 26 08.6 -0.9
WMOK Wichita Mounta 16.64 17 IAmb IAmb 03 26 14.7
comp=Z,62nm,1.5s
ESJX Sierra Juarez 16.71 324 IAmb IAmb 03 26 20.5
comp=Z,87nm,1.5s
X34A Smith Ranch, M 16.79 19 Pn Pn 03 26 13.5 -0.5
X34A IAmb IAmb 03 26 16.4
comp=Z,127nm,1.2s
GLA Glamis 16.95 329 P 03 26 18.4 +0.7
GLA IAmb IAmb 03 26 22.5
comp=Z,51nm,1.2s
TGUH Tegucigalpa,Un 17.15 103 P 03 26 20.4 +0.1
TGUH IAmb IAmb 03 26 25.3
comp=Z,53nm,1.4s
CSTR Hydro, Custer 17.52 16 Pn Pn 03 26 22.6 -0.6
W35A Tecumseh 17.61 21 IAmb IAmb 03 26 34.6
comp=Z,89nm,1.4s
Z41A Richland Creek 17.77 34 IAmb IAmb 03 26 28.5
comp=Z,58nm,1.0s
WLAR White Oak Lake 17.95 32 IAmb IAmb 03 26 38.4
comp=Z,116nm,1.3s
OK029 Liberty Lake 18.01 19 P Pn 03 26 28.6 -0.5
OK029 IAmb IAmb 03 26 39.5
comp=Z,208nm,1.8s
143A Socs Landing, 18.13 38 P Pn 03 26 29.7 -0.9
143A IAmb IAmb 03 26 41.3
comp=Z,77nm,1.4s
PFO Pinyon Flats O 18.22 326 P P 03 26 32.6 +0.7
PFO IAmb IAmb 03 26 37.8
comp=Z,54nm,1.4s
PFO Pinyon Flats O 18.22 326 P Pn 03 26 31.8 0.0
comp=Z,1.1nm,0.3s,baz=118,slow=7.4,SNR=7.3
PFO LR LR 03 33 02.7
comp=Z,834nm,19.9s,baz=156,slow=36
comp=Z,12nm,0.7s
T25A Trinidad 18.25 0 P P 03 26 34.3 +2.0
baz=180,SNR=14
OK031 S. Brethren Rd 18.35 20 IAmb IAmb 03 26 44.4
comp=Z,64nm,1.4s
DEOK Depew 18.36 21 P P 03 26 31.9 -1.4
DEOK IAmb IAmb 03 26 43.6
comp=Z,130nm,1.7s
OK052 Battle Ridge R 18.40 20 IAmb IAmb 03 26 45.0
comp=Z,66nm,1.4s
NOKA Waynoka 18.41 14 P P 03 26 33.0 -0.8
CROK Carrier 18.52 17 P Pn 03 26 35.5 +0.1
QUOK Quay 18.59 20 IAmb IAmb 03 26 46.5
comp=Z,123nm,1.6s
X40A Basin Creek Fa 18.73 31 P P 03 26 36.2 -1.1
ELS Elsinore Mount 18.77 324 IAmb IAmb 03 26 44.1
comp=Z,50nm,1.4s
CCAR Cane Creek 18.83 34 IAmb IAmb 03 26 41.0
comp=Z,116nm,1.5s
U15A North Rim 18.85 340 P Pn 03 26 39.9 +0.2
OK051 E0350 and S346 18.86 19 IAmb IAmb 03 26 50.0
comp=Z,131nm,1.5s
KAN14 Manchester OK 18.95 16 IAmb IAmb 03 26 41.0
comp=Z,75nm,1.4s
S22A 4UR Ranch, Cre 18.97 354 P Pn 03 26 42.7 +1.5
baz=173
BLOK Blackwell 18.98 18 P P 03 26 39.1 -1.0
BLOK IAmb IAmb 03 26 51.5
comp=Z,43nm,1.2s
KAN17 Caldwell West 19.09 17 P P 03 26 40.4 -0.8
KAN17 IAmb IAmb 03 26 53.0
comp=Z,75nm,1.5s
KAN13 South Haven SW 19.14 17 P P 03 26 41.1 -0.7
KAN13 IAmb IAmb 03 26 53.7
comp=Z,67nm,1.4s
V12A Nelson 19.18 333 P Pn 03 26 43.8 +0.4
KAN01 Argonia South 19.19 16 IAmb IAmb 03 26 43.0
comp=Z,134nm,1.7s
KAN09 Caldwell North 19.21 17 IAmb IAmb 03 26 55.6
comp=Z,119nm,1.6s
WHAR Wooly Hollow 19.64 31 IAmb IAmb 03 26 49.2
comp=Z,59nm,1.4s
HHAR Hobbs 19.72 26 IAmb IAmb 03 26 48.1
comp=Z,37nm,1.1s
GSC Goldstone, Bar 19.73 329 IAmb IAmb 03 26 52.2
comp=Z,97nm,1.6s
PV15 Paradox Valley 19.77 351 P Pn 03 26 50.2 -0.4
PV11 David Mesa, Pa 19.79 350 IAmb IAmb 03 26 53.3
comp=Z,57nm,1.5s
PKCU Pink Cliffs 19.79 341 P Pn 03 26 50.9 0.0
PKCU IAmb IAmb 03 26 53.6
comp=Z,34nm,1.2s
ACON Acoyapa 19.80 107 P Pn 03 26 50.6 -0.2
ACON IAmb IAmb 03 27 01.9
comp=Z,115nm,1.6s
PV07 Paradox Valley 19.89 350 P P 03 26 50.9 +0.7
PV10 Paradox Valley 19.89 349 IAmb IAmb 03 27 03.3
comp=Z,31nm,0.9s
PV23 Carpenter Ridg 19.96 349 IAmb IAmb 03 26 57.9
comp=Z,39nm,1.1s
SHPR Sheep Range 19.98 334 P P 03 26 51.8 +0.6
Y45A Yeager Farm, C 20.05 39 IAmb IAmb 03 27 07.5
comp=Z,100nm,1.3s
Q24A Divide 20.08 358 P Pn 03 26 53.8 -0.6
baz=178
FCAR Ozark Folk Cen 20.20 30 IAmb IAmb 03 26 53.5
comp=Z,23nm,0.8s
CCAC Calif City Air 20.23 326 P Pn 03 26 55.2 -0.6
CCAC IAmb IAmb 03 26 57.6
comp=Z,79nm,1.0s
MTPU Mount Pierson 20.30 342 IAmb IAmb 03 27 02.8
comp=Z,49nm,1.1s
GWY Greenwater Val 20.37 331 IAmb IAmb 03 26 59.4
comp=Z,50nm,1.1s
AMDNV Amargosa 20.42 332 P Pn 03 26 58.6 +0.6
ESPN Las Esperanzas 20.51 106 P Pn 03 26 58.1 -1.1
ESPN IAmb IAmb 03 26 59.8
comp=Z,36nm,0.6s
Z47A Carrollton 20.51 42 P P 03 26 56.3 -0.5
NSP Numbskull Pass 20.61 332 Pn 03 27 01.8 +1.4
HBAR Harrisburg 20.67 33 P P 03 26 57.5 -1.0
JTS Las Juntas de 20.69 111 P Pn 03 27 00.9 -0.4
JTS Las Juntas de 20.69 111 P Pn 03 27 00.0 -1.3
comp=Z,4.7nm,0.9s,baz=302,slow=8.1,SNR=4.3
JTS LR LR 03 33 34.7
comp=Z,364nm,20.8s,baz=298,slow=33
comp=Z,4.7nm,0.9s
LCAR Lake Charles 20.81 32 P P 03 26 58.5 -1.6
LCAR IAmb IAmb 03 27 04.4
comp=Z,65nm,1.1s
TPNV Topopah Spring 20.82 333 P P 03 27 01.3 +1.0
TPNV IAmb IAmb 03 27 04.8
comp=Z,56nm,0.9s
WCT Wildcat Mounta 20.85 332 IAmb IAmb 03 27 04.8
comp=Z,26nm,1.1s
ISA Isabella, Lake 20.86 326 IAmb IAmb 03 27 07.2
comp=Z,53nm,1.0s
Q16A Castle Valley 20.86 345 IAmb IAmb 03 27 04.1
comp=Z,37nm,1.0s
TCRU Three Creeks R 20.91 342 IAmb IAmb 03 27 05.0
comp=Z,36nm,1.1s
LRAL Laview Retre 21.10 44 P P 03 27 03.5 +0.2
MGMO Mountain Grove 21.17 28 IAmb IAmb 03 27 21.5
comp=Z,71nm,1.4s
S39A Bolivar 21.18 25 P P 03 27 01.9 -2.1
S39A IAmb IAmb 03 27 18.7
comp=Z,28nm,1.0s
TMUT Trail Mountain 21.23 345 IAmb IAmb 03 27 08.0
comp=Z,27nm,1.1s
PSUT Pine Spring 21.28 339 P P 03 27 05.7 +0.4
KSU1 Kansas State U 21.33 17 P P 03 27 03.2 -2.4
KSU1 IAmb IAmb 03 27 14.4
comp=Z,28nm,1.1s
P18A Preston Nutter 21.33 348 IAmb IAmb 03 27 11.6
comp=Z,28nm,1.1s
O20A White River Ci 21.49 352 P P 03 27 07.3 -0.2
GMN Gold Mountain 21.56 331 IAmb IAmb 03 27 11.9
comp=Z,40nm,1.3s
T42A Van Buren 21.61 30 IAmb IAmb 03 27 14.8
comp=Z,62nm,1.1s
BRIGG Briggsdale 21.69 0 IAmb IAmb 03 27 10.4
comp=Z,44nm,1.1s
PBMO Poplar Bluff 21.73 32 IAmb IAmb 03 27 15.3
comp=Z,42nm,1.2s
R11B Troy Canyon, C 21.74 336 P P 03 27 11.5 +1.3
R11B Troy Canyon, C 21.74 336 P P 03 27 12.5 +2.3
baz=150,SNR=19
DSP Deep Springs 21.94 330 P P 03 27 12.5 +0.3
DSP IAmb IAmb 03 27 17.2
comp=Z,39nm,1.3s
N23A Red Feather La 22.04 357 P P 03 27 15.5 +2.0
baz=176,SNR=9.9
R40A Maddies Statio 22.12 26 IAmb IAmb 03 27 15.6
comp=Z,20nm,0.7s
OGNE Ogallala 22.15 5 IAmb IAmb 03 27 16.5
comp=Z,34nm,1.0s
BSUT Blindstream Ca 22.31 347 P P 03 27 16.0 -0.6
CCM Cathedral Cave 22.37 28 P P 03 27 14.5 -2.3
CCM IAmb IAmb 03 27 17.7
comp=Z,50nm,1.4s
DUG Dugway, Tooele 22.48 343 IAmb IAmb 03 27 22.9
comp=Z,28nm,1.1s
MDPB Devils Postpil 22.69 329 P P 03 27 22.8 +2.3
MDPB Devils Postpil 22.69 329 IAmb IAmb 03 27 24.5
comp=Z,48nm,1.0s
P38A Dawn 22.79 22 P P 03 27 18.5 -2.7
P38A IAmb IAmb 03 27 33.9
comp=Z,50nm,1.5s
NV11 Mina Array Sit 22.89 331 P P 03 27 24.4 +2.0
NV11 Mina Array Sit 22.89 331 IAmb IAmb 03 27 27.0
comp=Z,75nm,1.1s
LHV Little Huntoon 22.90 331 P P 03 27 24.1 +1.7
LHV IAmb IAmb 03 27 31.8
comp=Z,21nm,1.0s
NV08 Mina Array Sit 22.94 331 P P 03 27 25.4 +2.4
NVAR Mina Array Bea 22.95 331 P P 03 27 24.3 +1.0
NVAR Mina Array Bea 22.95 331 P P 03 27 24.0 +0.8
comp=Z,28nm,1.0s,baz=154,slow=9.7,SNR=75
comp=Z,28nm,1.0s
V48A Smith Brothers 22.96 39 IAmb IAmb 03 27 47.6
comp=Z,41nm,1.3s
NV09 Mina Array Sit 22.97 331 P P 03 27 26.7 +3.3
S44A Carbondale 23.03 32 IAmb IAmb 03 27 40.6
comp=Z,34nm,1.4s
SIUC Southern Illin 23.07 32 IAmb IAmb 03 27 41.6
comp=Z,70nm,1.9s
BGNE Belgrade 23.15 12 P P 03 27 24.8 -0.2
BGNE IAmb IAmb 03 27 45.2
comp=Z,22nm,0.7s
RYN Ryan 23.22 331 P P 03 27 28.9 +3.1
RYN Ryan 23.22 331 IAmb IAmb 03 27 30.0
comp=Z,65nm,1.2s
P40A Paris 23.27 25 IAmb IAmb 03 27 26.4
comp=Z,47nm,0.9s
SLM Saint Louis 23.30 29 P P 03 27 24.3 -2.2
SLM IAmb IAmb 03 27 26.6
comp=Z,63nm,1.4s
CLTN Cedars of Leba 23.49 39 IAmb IAmb 03 27 53.7
comp=Z,42nm,1.9s
HWUT Hardware Ranch 23.51 347 IAmb IAmb 03 27 31.0
comp=Z,25nm,1.6s
CMB Columbia Colle 23.65 327 IAmb IAmb 03 27 32.5
comp=Z,104nm,1.9s
T47A Sharon Grove 23.66 37 IAmb IAmb 03 27 51.4
comp=Z,26nm,1.3s
K22A Casper 23.82 356 P P 03 27 30.7 -1.0
K22A IAmb IAmb 03 27 32.6
comp=Z,24nm,1.2s
N38A Joes South For 23.93 21 IAmb IAmb 03 27 33.5
comp=Z,22nm,0.8s
HVU Hansel Valley 23.96 345 IAmb IAmb 03 27 36.1
comp=Z,18nm,1.0s
K30B Basset 24.13 9 IAmb IAmb 03 27 36.8
comp=Z,57nm,1.2s
CPCT Cooper Cave 24.20 43 P P 03 27 33.1 -2.0
PDAR Pinedale Array 24.26 351 P P 03 27 34.4 -1.5
PDAR Pinedale Array 24.26 351 P P 03 27 35.6 -0.2
comp=Z,7.3nm,0.9s,baz=161,slow=9.2,SNR=39
comp=Z,7.3nm,0.9s
W52A Murphy 24.37 44 IAmb IAmb 03 28 01.0
comp=Z,32nm,1.5s
OLIL Olney 24.41 32 IAmb IAmb 03 28 05.3
comp=Z,21nm,0.9s
PAHR Pah Rah Range 24.48 331 IAmb IAmb 03 27 49.8
comp=Z,31nm,1.2s
AFDM Forest Hills D 24.65 328 P P 03 27 38.5 -0.7
AFDM IAmb IAmb 03 27 42.4
comp=Z,18nm,1.0s
TKL Tuckaleechee C 24.81 43 LR LR 03 39 40.4
comp=Z,502nm,18.2s,baz=236,slow=42
BG3 Lake Jocassee 24.98 46 IAmb IAmb 03 28 13.1
comp=Z,57nm,1.7s
WCI Wyandotte Cave 24.99 36 P P 03 27 40.2 -2.1
WCI IAmb IAmb 03 28 13.6
comp=Z,14nm,0.8s
T50A Nancy 25.00 39 IAmb IAmb 03 28 13.3
comp=Z,57nm,1.8s
SNOW Snow King Moun 25.14 349 IAmb IAmb 03 27 47.2
comp=Z,20nm,0.9s
TPAW Teton Pass 25.20 349 IAmb IAmb 03 27 46.9
comp=Z,32nm,1.1s
RSSD Black Hills 25.23 1 P P 03 27 43.2 -1.4
RSSD IAmb IAmb 03 27 46.2
comp=Z,14nm,0.8s
LOHW Long Hollow 25.25 350 IAmb IAmb 03 27 48.2
comp=Z,16nm,0.8s
HDIL Hopedale 25.28 28 IAmb IAmb 03 27 45.5
comp=Z,37nm,0.9s
ORV Oroville 25.37 328 IAmb IAmb 03 27 50.8
comp=Z,48nm,1.3s
TZTN Tazewell 25.50 42 P P 03 27 45.1 -1.7
TZTN IAmb IAmb 03 28 14.8
comp=Z,59nm,1.7s
L40A Anamosa 25.77 23 IAmb IAmb 03 27 50.8
comp=Z,19nm,0.9s
SUSD Miller 25.96 9 P P 03 27 52.3 +1.3
SUSD IAmb IAmb 03 28 17.8
comp=Z,36nm,1.2s
YFT Old Faithful 26.11 350 P P 03 27 51.9 -0.7
SFIN Lafayette 26.17 31 IAmb IAmb 03 27 52.3
comp=Z,23nm,1.1s
L42A Oliver, Polo 26.32 25 IAmb IAmb 03 28 17.1
comp=Z,35nm,1.3s
HATC Hat Creek Radi 26.33 330 P P 03 27 55.4 +1.0
HATC IAmb IAmb 03 27 57.4
comp=Z,48nm,1.1s
WVOR Wild Horse Val 26.44 336 P P 03 27 56.0 +0.6
WVOR IAmb IAmb 03 27 58.7
comp=Z,16nm,1.0s
J08A Circle Bar Ran 27.17 337 IAmb IAmb 03 28 04.5
comp=Z,17nm,0.9s
YBH Yreka Blue Hor 27.63 330 IAmb IAmb 03 28 08.1
comp=Z,15nm,1.1s
YBH Yreka Blue Hor 27.63 330 LR LR 03 40 05.3
comp=Z,197nm,18.1s,baz=162,slow=39
LRM Limekiln Ridge 27.73 348 P P 03 28 05.3 -1.8
K04D Chiloquin, OR 27.89 332 P P 03 28 09.5 +1.0
J05D Fort Rock, OR 28.20 334 IAmb IAmb 03 28 13.7
comp=Z,24nm,1.0s
PINE Pine Mountain 28.49 334 IAmb IAmb 03 28 16.3
comp=Z,21nm,1.2s
LYMT Lyon Mountain 28.80 349 P P 03 28 15.7 -1.0
G08A Pilot Rock 29.02 339 IAmb IAmb 03 28 20.2
comp=Z,34nm,1.8s
EGMT Eagleton 29.45 353 IAmb IAmb 03 28 23.3
comp=Z,16nm,0.9s
DGMT Dagmar 29.58 0 P P 03 28 22.3 -1.0
DGMT IAmb IAmb 03 28 23.8
comp=Z,18nm,1.1s
HOOD Mount Hood Mea 30.04 335 P P 03 28 28.0 +0.4
COR Corvallis 30.13 333 P P 03 28 30.5 +2.3
COR pP sP 03 28 40.9 +2.0
EYMN Ely 30.92 17 IAmb IAmb 03 29 41.5
comp=Z,10nm,1.1s
NEW Newport 31.12 344 LR LR 03 41 36.4
comp=Z,426nm,20.2s,baz=160,slow=37
LTY Liberty 31.32 339 P P 03 28 38.2 -0.6
LTY IAmb IAmb 03 28 40.3
comp=Z,16nm,1.4s
OTAV Otavalo 31.51 123 P P 03 28 42.6 +1.3
OTAV IAmb IAmb 03 28 50.0
comp=Z,19nm,1.4s
OTAV Otavalo 31.51 123 eP P 03 28 41.6 +0.4
B08A Colville Reser 31.84 341 IAmb IAmb 03 28 45.2
comp=Z,41nm,1.8s
ULM Lac du Bonnet 32.10 10 P P 03 28 43.3 -2.2
comp=Z,2.6nm,0.7s,baz=195,slow=10,SNR=7.4
ULM PcP PcP 03 31 34.2 -0.1
comp=Z,5.7nm,1.0s,baz=185,slow=0.8,SNR=5.4
ULM LR LR 03 42 47.1
comp=Z,1µm,18.9s,baz=197,slow=38
comp=Z,2.6nm,0.7s
GNW Green Mountain 32.36 337 IAmb IAmb 03 28 50.2
comp=Z,16nm,0.9s
RUSC La Rusia 33.16 109 P P 03 28 57.3 +1.5
RUSC IAmb IAmb 03 29 02.8
comp=Z,28nm,1.3s
SADO Sadowa 33.39 34 LR LR 03 44 10.3
comp=Z,385nm,19.6s,baz=258,slow=40
SDV Santo Domingo 34.24 102 P P 03 29 05.5 +0.6
SDV IAmb IAmb 03 29 17.4
comp=Z,18nm,1.2s
SDV Santo Domingo 34.24 102 LR LR 03 43 42.6
comp=Z,285nm,19.3s,baz=294,slow=38
SDV Santo Domingo 34.24 102 eP P 03 29 06.6 +1.8
FFC Flin Flon 35.89 2 P P 03 29 16.3 -2.0
FFC IAmb IAmb 03 29 17.6
comp=Z,9.0nm,0.9s
FFC Flin Flon 35.89 2 P P 03 29 16.7 -1.7
FFC pP pP 03 29 26.6 +0.4
FFC PcP PcP 03 31 45.7 +0.6
SJG San Juan 36.30 85 LR LR 03 45 19.0
comp=Z,221nm,21.5s,baz=293,slow=38
SJG San Juan 36.30 85 P P 03 29 21.2 -1.1
SJG PcP PcP 03 31 48.4 +1.4
ATAH Atahualpa 36.41 133 LR LR 03 41 15.0
comp=Z,248nm,18.3s,baz=312,slow=31
BBB Bella Bella 38.11 336 LR LR 03 46 17.7
comp=Z,309nm,19.7s,baz=165,slow=38
PCRV Puerto La Cruz 39.43 97 LR LR 03 48 01.0
comp=Z,394nm,19.3s,slow=39
FCC Fort Churchill 40.61 8 P P 03 29 56.2 -1.7
CZSB Cruzeiro do Su 40.95 127 P P 03 30 01.9 +0.5
CZSB IAmb IAmb 03 30 08.9
comp=Z,35nm,1.6s
CZSB Cruzeiro do Su 40.95 127 eP P 03 30 01.5 +0.1
NNA Nana 40.98 136 LR LR 03 43 24.4
comp=Z,169nm,20.5s,baz=322,slow=31
V35K Ketchikan 41.86 337 P P 03 30 10.2 +1.9
baz=140
CRAG Craig 42.53 336 P P 03 30 15.4 +1.6
baz=138,SNR=6.6
T35M Bob Quinn 42.67 339 P P 03 30 15.2 +0.2
T35M IAmb IAmb 03 30 17.6
comp=Z,18nm,1.2s
T35M Bob Quinn 42.67 339 P P 03 30 16.8 +1.8
baz=142,SNR=8.2
TOAD Toad River Com 42.75 344 P P 03 30 17.1 +1.5
baz=150
WRAK Wrangell Islan 42.96 338 P P 03 30 18.7 +1.5
baz=139
U33K Whale Pass 43.01 337 IAmb IAmb 03 30 20.4
comp=Z,26nm,1.2s
U33K Whale Pass 43.01 337 P P 03 30 19.1 +1.5
baz=138
T33K Petersburg 43.48 338 P P 03 30 22.5 +1.1
baz=139
KOTAN Kotaneelee Air 43.59 346 P P 03 30 23.6 +1.3
baz=152
S34M Telegraph Cree 43.70 340 P P 03 30 24.2 +1.0
baz=142
DLBC Dease Lake 43.77 341 IAmb IAmb 03 30 27.3
comp=Z,28nm,1.1s
DLBC Dease Lake 43.77 341 LR LR 03 49 37.6
comp=Z,364nm,21.8s,baz=151,slow=38
DLBC Dease Lake 43.77 341 P P 03 30 25.4 +1.5
baz=144,SNR=14
YKA Yellowknife Ar 44.20 353 P P 03 30 25.7 -1.5
comp=Z,1.6nm,0.7s,baz=167,slow=8.0,SNR=25
YKA PcP PcP 03 32 12.0 +0.5
comp=Z,1.0nm,0.9s,baz=162,slow=3.4,SNR=6.0
YKA LR LR 03 49 10.1
comp=Z,603nm,21.1s,baz=148,slow=37

comp=Z,1.6nm,0.7s
SIT Sitka 44.54 336 P P 03 30 30.8 +0.9
baz=136
S32K Killisnoo 44.56 337 IAmb IAmb 03 30 32.8
comp=Z,18nm,1.1s
S32K Killisnoo 44.56 337 P P 03 30 30.5 +0.4
baz=137
TAOE Nuku Hiva Isla 44.66 235 *e*P **P 03 30 30.9 -0.7**
comp=Z,30nm,22.4s
TAOE *e*S **S 03 37 04.0 -2.7**
comp=Z,133nm,24.9s
TAOE *e*SS **SS 03 40 27.5 -0.2**
comp=Z,86nm,26.0s
TAOE *e*LR LR 03 43 03.0
comp=Z,440nm,25.0s
WTLY Watson Lake, Y 44.78 343 P **P 03 30 31.9 0.0**
WTLY IAmb IAmb 03 30 33.9
comp=Z,17nm,1.1s
WTLY Watson Lake, Y 44.78 343 P P 03 30 31.9 0.0
baz=146,SNR=8.6
R33M Jennings River 44.83 341 IAmb IAmb 03 30 35.0
comp=Z,20nm,1.2s
R33M Jennings River 44.83 341 P P 03 30 33.3 +0.9
baz=143,SNR=6.9
Q32M Nakina River 44.90 340 P P 03 30 33.7 +0.7
baz=141
TEFE Tefe 45.05 115 *e*P **P 03 30 35.5 +0.9**
TGTN Hyland Airport 45.84 344 P P 03 30 41.0 +0.7
baz=148,SNR=13
P32M Atlin 45.85 340 IAmb IAmb 03 30 42.7
comp=Z,17nm,1.2s
P32M Atlin 45.85 340 P P 03 30 41.3 +0.9
baz=140
SCHQ Schefferville 45.93 29 P P 03 30 39.1 -1.9
comp=Z,4.2nm,0.6s,baz=233,slow=9.2,SNR=10
SCHQ LR LR 03 51 14.6
comp=Z,551nm,21.0s,baz=238,slow=38
comp=Z,4.2nm,0.6s
P33M Teslin, Yukon 46.05 341 P P 03 30 42.0 0.0
P33M IAmb IAmb 03 30 45.2
comp=Z,14nm,1.1s
P33M Teslin, Yukon 46.05 341 P P 03 30 41.8 -0.2
baz=141,SNR=7.0
WRGLY Wrigley 46.25 348 P P 03 30 44.1 +0.6
baz=155
SKAG Skagway 46.30 339 P P 03 30 44.6 +0.7
baz=138
PLBC Pleasant Camp 46.66 338 P P 03 30 47.7 +1.0
baz=136
N32M Quiet Lake 46.87 341 P P 03 30 49.0 +0.6
baz=142
WHY Whitehorse 47.05 340 P P 03 30 50.4 +0.5
baz=139
P30M Million Dollar 47.35 339 P P 03 30 53.1 +0.9
baz=136
MMPY Sheldon Lake, 47.53 344 P P 03 30 54.1 +0.6
baz=144,SNR=19
O30N Mendenhall 47.53 340 IAmb IAmb 03 30 56.0
comp=Z,10nm,0.9s
O30N Mendenhall 47.53 340 P P 03 30 54.0 +0.5
baz=138,SNR=5.2
FARO Faro, Yukon 47.80 342 IAmb IAmb 03 30 58.1
comp=Z,9.2nm,1.1s
FARO Faro, Yukon 47.80 342 P P 03 30 56.3 +0.7
baz=142
PNL Peninsula 47.90 337 P P 03 30 57.6 +1.2
baz=133
N31M Braeburn, Yuko 47.96 340 P P 03 30 57.5 +0.7
N31M Braeburn, Yuko 47.96 340 P P 03 30 57.6 +0.7
baz=138,SNR=7.8
HYT Haines Junctio 48.04 339 P P 03 30 57.7 0.0
baz=136,SNR=5.5
O29M Mount Kennedy 48.04 338 P P 03 30 58.6 +1.0
baz=134
M31M Drury Creek, Y 48.08 342 IAmb IAmb 03 31 00.1
comp=Z,16nm,1.0s
M31M Drury Creek, Y 48.08 342 P P 03 30 58.7 +1.0
baz=140,SNR=12
MACA Manacapuru-AM 48.30 112 *e*P **P 03 31 00.7 +0.6**
YUK6 Outpost Mounta 48.42 339 P P 03 31 01.7 +1.1
baz=135
YUK4 Talbot Arm 48.80 339 P P 03 31 04.5 +1.0
baz=135
O28M Mount Upton 48.95 338 P P 03 31 05.9 +1.1
baz=133,SNR=7.7
M30M Minto, Yukon 49.10 341 IAmb IAmb 03 31 07.1
comp=Z,29nm,1.6s
M30M Minto, Yukon 49.10 341 P P 03 31 06.9 +1.3
baz=138,SNR=5.7
YUK8 Steele Glacier 49.15 338 P P 03 31 06.6 +0.3
baz=134,SNR=16
MESA MESA 49.20 336 P P 03 31 07.8 +1.2
baz=130
M29M Somme Creek 49.53 340 P P 03 31 10.1 +1.1
M29M IAmb IAmb 03 31 11.7
comp=Z,14nm,0.9s
M29M Somme Creek 49.53 340 P P 03 31 10.2 +1.1
baz=136,SNR=12
BGLC Bering Glacier 49.68 336 P P 03 31 12.0 +2.1
baz=129
L29M L29M 49.91 341 P P 03 31 12.8 +1.0
baz=137
LPAZ La Paz 49.95 132 P P 03 31 13.9 +0.5
LPAZ IAmb IAmb 03 31 23.7
comp=Z,8.5nm,1.4s
LPAZ La Paz 49.95 132 P P 03 31 14.8 +1.5
comp=Z,2.8nm,1.1s,baz=345,slow=8.2,SNR=4.3
LPAZ LR LR 03 51 42.2
comp=Z,149nm,18.0s,baz=311,slow=35
comp=Z,2.8nm,1.1s
LPAZ La Paz 49.95 132 *e*P **P 03 31 12.0 -1.4**
K29M Barlow Dome 50.26 342 P P 03 31 15.4 +0.8
baz=138,SNR=13
J30M Hart River 50.47 343 IAmb IAmb 03 31 53.8
comp=Z,10nm,1.2s
J30M Hart River 50.47 343 P P 03 31 17.3 +1.2
baz=140
M27K Edge Creek, AK 50.62 338 P P 03 31 17.9 +0.7
baz=132,SNR=8.5
BMRM Bremner River 50.72 336 P P 03 31 18.8 +0.9
baz=128
H31M Peel River 50.90 345 P P 03 31 20.2 +1.0
baz=142,SNR=5.5
J29N Klondike Camp 50.92 342 IAmb IAmb 03 31 36.7
comp=Z,21nm,1.5s
J29N Klondike Camp 50.92 342 P P 03 31 20.7 +1.2
baz=137
I30M Mount Dempster 50.98 343 P P 03 31 20.6 +0.7
baz=140
DAWY Dawson 50.99 341 P P 03 31 19.2 -0.7
DAWY IAmb IAmb 03 31 21.6
comp=Z,12nm,0.9s
DAWY Dawson 50.99 341 P P 03 31 20.7 +0.8
baz=136,SNR=5.5
M26K Nabesna, AK 51.04 338 P P 03 31 21.8 +1.5
baz=131,SNR=5.1
BCAR Beaver Creek A 51.06 339 P P 03 31 20.6 +0.1
L27K Beaver Creek, 51.07 339 IAmb IAmb 03 31 23.0
comp=Z,8.8nm,0.9s
L27K Beaver Creek, 51.07 339 P P 03 31 22.2 +1.6
baz=132,SNR=6.2
FRB Frobisher Bay 51.07 20 LR LR 03 53 58.9
comp=Z,368nm,18.6s,baz=244,slow=37
N25K Chitina, Valde 51.11 337 P P 03 31 21.7 +0.8
N25K Chitina, Valde 51.11 337 P P 03 31 22.5 +1.5
baz=128
KLU Klutina 51.55 336 P P 03 31 24.6 +0.4
baz=127
L26K Log Cabin Wild 51.57 339 IAmb IAmb 03 31 26.5
comp=Z,23nm,1.1s
L26K Log Cabin Wild 51.57 339 P P 03 31 25.6 +1.4
baz=130,SNR=8.6
I29M Ogilvie Camp, 51.62 343 P P 03 31 23.3 -1.3
I29M IAmb IAmb 03 31 25.9
comp=Z,24nm,1.4s
I29M Ogilvie Camp, 51.62 343 P P 03 31 25.1 +0.5
baz=138
MENT Mentasta 51.64 338 IAmb IAmb 03 31 27.0
comp=Z,11nm,0.8s
HARP HAARP 51.81 337 P P 03 31 27.5 +1.4
baz=128
C36M Paulatuk 51.95 351 P P 03 31 27.3 +0.3
baz=156
EPYK Eagle Plains 51.95 344 P P 03 31 27.3 +0.2
EPYK Eagle Plains 51.95 344 P P 03 31 28.1 +1.0
baz=140,SNR=9.4
M24K Tolsona, Glenn 52.01 337 P P 03 31 28.3 +0.6
baz=127

F31M Tsiigehtchic 52.08 346 P P 03 31 28.5 +0.6
baz=144,SNR=14
PWL Port Wells 52.13 335 P P 03 31 29.6 +1.1
baz=124
I28M Miner Creek 52.15 342 P P 03 31 29.1 +0.4
baz=136,SNR=6.9
SEW Seward 52.19 333 P P 03 31 29.8 +1.0
baz=122
H29M Whitestone 52.27 343 P P 03 31 29.9 +0.5
baz=138
PAX Paxson 52.28 338 P P 03 31 29.9 +0.3
baz=128,SNR=8.6
SCM Sheep Creek Mo 52.29 336 P P 03 31 30.9 +1.2
baz=125
G30M tAoh Zraii Nji 52.30 345 P P 03 31 30.5 +0.8
baz=141
MDP Montagnes des 52.30 98 LR LR 03 55 21.9
comp=Z,75nm,18.1s,baz=304,slow=38
SCRK Sand Creek 52.41 339 P P 03 31 31.2 +0.6
SCRK IAmb IAmb 03 31 32.9
comp=Z,15nm,1.0s
SCRK Sand Creek 52.41 339 P P 03 31 31.4 +0.8
baz=130,SNR=9.2
M23K Glacier View 52.42 336 P P 03 31 32.7 +2.0
baz=125
KDAK Kodiak Island 52.45 330 P P 03 31 32.1 +1.3
baz=117
KNK Knik Glacier 52.49 335 P P 03 31 32.1 +0.9
baz=124
O22K Cooper Landing 52.50 334 P P 03 31 32.3 +1.1
baz=122
OHAK Old Harbor 52.53 329 P P 03 31 32.5 +1.1
baz=116
RIDG Independent Ri 52.55 339 P P 03 31 32.5 +1.0
baz=129,SNR=24
J26L Joseph Creek 52.61 340 P P 03 31 32.9 +0.8
baz=131,SNR=20
SML Sawmill 52.66 336 P P 03 31 33.1 +0.6
baz=124
F30M Barrier River 52.69 346 P P 03 31 33.7 +1.2
baz=142
G29M Pine Creek 52.70 344 P P 03 31 33.5 +0.9
baz=139,SNR=12
INK Inuvik 52.74 347 LR LR 03 56 44.4
comp=Z,444nm,18.3s,baz=196,slow=39
INK Inuvik 52.74 347 P P 03 31 33.2 +0.4
baz=145,SNR=23
Q20K Shuyak Island 52.74 331 P P 03 31 34.3 +1.3
baz=118
I27K Kandik River 52.75 342 P P 03 31 34.2 +1.1
baz=134
RC01 Rabbit Creek A 52.83 334 P P 03 31 35.1 +1.5
baz=122
PMR Palmer 52.86 335 P P 03 31 35.5 +1.7
baz=123
K24K Donnelly Dome 52.91 338 P P 03 31 35.3 +1.1
baz=128,SNR=8.0
I26K Coal Creek Min 53.02 341 P P 03 31 36.0 +1.1
baz=132
H27K Steamboat Moun 53.17 342 P P 03 31 36.3 +0.2
baz=134
ITTB Itaituba 53.22 111 *e*P **P 03 31 37.3 +0.1**
J25K Salcha River, 53.28 339 P P 03 31 38.3 +1.3
baz=129
M22K Willow 53.34 335 P P 03 31 38.3 +0.9
M22K Willow 53.34 335 P P 03 31 37.8 +0.4
baz=122
Q19K Cape Douglas, 53.47 331 P P 03 31 39.1 +0.7
baz=117
G27K Doyon Strip 53.61 343 P P 03 31 40.1 +0.8
baz=135,SNR=20
HDA Harding Lake 53.69 339 P P 03 31 41.2 +1.3
baz=127,SNR=8.5
F28M Old Crow 53.71 344 P P 03 31 40.6 +0.6
baz=137,SNR=70
CUT Chulitna 53.76 336 P P 03 31 40.7 +0.4
baz=123,SNR=9.1
E29M Blow River 53.80 345 P P 03 31 41.1 +0.5
baz=140,SNR=21
VILB Vilhena 53.85 123 *e*P **P 03 31 42.3 +0.5**
ILAR Eielson Array 53.89 339 P P 03 31 41.4 0.0
ILAR Eielson Array 53.89 339 P P 03 31 41.5 +0.1
comp=Z,21nm,1.0s,baz=150,slow=6.1,SNR=140
ILAR LR LR 03 56 19.8
comp=Z,304nm,18.1s,baz=105,slow=38
comp=Z,21nm,1.0s
PRP Porcupine Dome 53.91 340 P P 03 31 41.7 +0.1
baz=130,SNR=11
STLK Strandline Lak 53.91 334 IAmb IAmb 03 31 43.6
comp=Z,14nm,0.9s
SPCR Spurr Chakacha 53.92 334 P P 03 31 42.9 +1.2
baz=120,SNR=5.0
MCK McKinley 53.99 337 P P 03 31 42.7 +0.5
baz=125,SNR=9.9
SKT Skwentna 54.03 335 P P 03 31 43.1 +0.6
baz=121,SNR=8.0
WRH Wood River Hil 54.12 338 IAmb IAmb 03 31 44.8
comp=Z,16nm,1.0s
CCB Clear Creek Bu 54.13 339 IAmb IAmb 03 31 44.8
comp=Z,13nm,1.0s
COLA College 54.28 339 P P 03 31 43.9 -0.3
COLA College 54.28 339 P P 03 31 45.4 +1.2
baz=127
COLA College 54.28 339 P P 03 31 44.3 +0.2
COLA pP **sP 03 31 54.7 -0.4**
COLA PcP **PcP 03 32 49.0 +1.0**
POKR Poker Plat Res 54.28 339 P P 03 31 44.8 +0.6
baz=127,SNR=12
G26K Porcupine Rive 54.32 342 P P 03 31 44.9 +0.5
baz=132,SNR=12
TRF Thorofare Moun 54.33 337 P P 03 31 45.4 +0.6
baz=123,SNR=21
O19K Port Alsworth 54.35 332 P P 03 31 45.3 +0.6
baz=117
P18K Big Mountain, 54.41 331 P P 03 31 44.8 -0.4
baz=115
H25L Birch Creek 54.48 341 P P 03 31 46.5 +0.8
baz=130,SNR=10.0
A36M Sachs Harbour 54.53 352 IAmb IAmb 03 31 47.1
comp=Z,15nm,1.1s
A36M Sachs Harbour 54.53 352 P P 03 31 45.3 -0.6
baz=156,SNR=13
NEA2 Nenana 54.53 338 P P 03 31 46.1 0.0
baz=125,SNR=23
O18K Koktuh Hills 54.60 331 P P 03 31 47.0 +0.4
baz=116
M20K Styx River 54.64 334 P P 03 31 47.0 0.0
baz=119
N19K Bonanza Creek 54.70 333 P P 03 31 47.8 +0.3
baz=117,SNR=7.8
D28M Stokes Point 54.71 346 P P 03 31 47.2 0.0
baz=139,SNR=5.3
PPLA Purkeypile 54.77 335 P P 03 31 48.5 +0.5
baz=121,SNR=11
NPGB Novo Progresso 54.80 113 *e*P **P 03 31 47.6 -1.2**
H24K Noodor Dome 54.87 340 P P 03 31 49.2 +0.6
baz=127
BMAR Burnt Mountain 54.87 342 P P 03 31 48.8 +0.2
P17K Kvichak River 54.88 330 P P 03 31 49.5 +0.8
baz=114
G25K Bearman Lake 54.89 341 P P 03 31 49.5 +1.0
baz=130
CHNA Chernabura Isl 54.91 325 P P 03 31 50.0 +1.1
baz=108
F26K Sheenjek River 54.93 343 P P 03 31 49.6 +0.6
baz=132,SNR=22
BPAW Bear Paw Mtn. 54.95 337 IAmb IAmb 03 31 51.0
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 54.95 337 P P 03 31 49.4 +0.3
baz=123,SNR=6.1
SIV San Ignacio 54.96 126 LR LR 03 53 09.8
comp=Z,247nm,21.1s,baz=286,slow=34
I23K Minto, Yukon-K 54.96 339 P P 03 31 49.5 +0.4
baz=125,SNR=18
CAST Castle Rocks 55.00 336 P P 03 31 50.0 +0.5
baz=121,SNR=17
M19K Big River Lodg 55.17 334 P P 03 31 51.2 +0.4
baz=118
D27M Malcolm River 55.18 345 P P 03 31 51.2 +0.5
baz=137,SNR=16
L20K Farewell, AK 55.24 335 P P 03 31 51.8 +0.6
baz=119
N18K Kilae Creek 55.26 332 P P 03 31 52.2 +0.7
baz=116
G24K Hadweenzic Riv 55.27 341 P P 03 31 51.9 +0.6
baz=128
F25K Christian Rive 55.29 342 P P 03 31 52.4 +0.8
baz=131,SNR=19

CHUM Lake Minchumin 55.33 336 P P 03 31 52.1 +0.3
baz=121,SNR=5.6
O17K Koliganek Bris 55.43 331 P P 03 31 53.1 +0.6
baz=114
L19K White Mountain 55.49 334 P P 03 31 53.5 +0.5
baz=118
P16K Nushagak River 55.55 330 P P 03 31 53.9 +0.4
baz=112
M18K Stony River 55.59 333 P P 03 31 54.2 +0.4
baz=116,SNR=6.1
K20K Telida 55.74 335 P P 03 31 54.8 0.0
baz=119,SNR=15
N17K Nushagak Hills 55.78 332 P P 03 31 55.2 +0.1
baz=114
O16K Kokwok River B 55.82 330 P P 03 31 55.8 +0.4
baz=113
I21K Tanana 55.90 338 P P 03 31 56.0 +0.2
baz=122
PDRB Porto dos Gac 55.94 119 *e*P **P 03 31 56.2 -0.7**
H22K Ishtalitna Cre 56.08 339 P P 03 31 57.3 +0.1
baz=123
G23K Bananza Creek 56.09 340 P P 03 31 57.7 +0.5
baz=125
RES Resolute Bay 56.13 3 LR LR 03 56 03.6
comp=Z,381nm,19.2s,baz=190,slow=36
PTLB Pontes e Lacer 56.13 124 P P 03 31 58.2 +0.1
PTLB IAmb IAmb 03 32 00.4
comp=Z,13nm,1.6s
PTLB Pontes e Lacer 56.13 124 *e*P **P 03 31 58.3 +0.1**
C27K Jago River 56.14 345 P P 03 31 57.9 +0.4
baz=134,SNR=21
J20K Nowinta River 56.17 336 P P 03 31 58.1 +0.2
baz=120
M17K Holitna River 56.25 332 P P 03 31 58.7 +0.3
baz=114
L18K Granite Mounta 56.28 334 P P 03 31 59.0 +0.3
baz=116
TTA Tatalina 56.32 334 P P 03 31 59.1 +0.1
baz=117,SNR=15
CLDB Colider 56.33 118 *e*P **P 03 31 59.7 -0.1**
E24K Your Creek 56.43 342 P P 03 32 00.0 +0.3
baz=128,SNR=18
H21K Melozitna Rive 56.44 338 P P 03 32 00.1 +0.3
baz=122,SNR=36
COLD Coldfoot 56.45 340 P P 03 32 00.7 +0.9
baz=125,SNR=16
O15K Ungalikthiuk R 56.49 329 P P 03 32 00.7 +0.5
baz=111
I20K Naaghedeneel 56.61 337 P P 03 32 01.1 +0.2
baz=120
D25K Kavik River 56.62 343 P P 03 32 01.7 +0.6
baz=131,SNR=19
C26K Camden Bay 56.64 344 P P 03 32 01.8 +0.7
baz=133
J19K Poorman 56.65 336 P P 03 32 01.4 +0.1
baz=118,SNR=20
E23K Chandalar 56.76 341 P P 03 32 02.9 +0.8
baz=126
M16K Timber Creek 56.77 332 P P 03 32 03.0 +0.8
baz=113
J18K Innoko River 56.84 335 P P 03 32 02.9 +0.2
baz=116,SNR=19
L17K Donlin 56.93 333 P P 03 32 03.5 +0.3
baz=114,SNR=6.3
TOLK Toolik Lake Re 57.09 342 P P 03 32 04.9 +0.5
baz=127,SNR=16
H20K Anotleneega Mo 57.10 337 P P 03 32 04.9 +0.4
baz=120
K17K Iditarod 57.17 334 P P 03 32 05.2 +0.3
baz=114
D24K Happy Valley 57.19 343 P P 03 32 05.5 +0.4
baz=128,SNR=9.6
PPT Papeete 57.21 234 LR LR 03 50 44.1
comp=Z,156nm,18.9s,baz=9.0,slow=30
PPT2 Papeete2 57.23 233 *e*S **S 03 39 53.3 -7.3**
comp=Z,72nm,26.8s
PPT2 *e*S S 03 40 00.5 -0.1
comp=Z,112nm,26.0s
PPT2 *e*SS **SS 03 43 50.5 +0.2**
comp=Z,117nm,27.5s
PPT2 *e*SS SKiKP 03 43 52.5 +54
comp=Z,92nm,35.2s
PPT2 *e*LR LR 03 48 53.0
comp=Z,453nm,25.5s
PPT2 *e*LR LR 03 49 01.1
comp=Z,251nm,24.0s
L16K Owhat River 57.27 332 IAmb IAmb 03 32 12.6
comp=Z,17nm,1.1s
L16K Owhat River 57.27 332 P P 03 32 06.3 +0.6
baz=113
H03N2 Juan Fernandez 57.40 155 T T 04 34 11.2
baz=333,slow=77,SNR=323
H03N1 Juan Fernandez 57.41 155 T T 04 34 17.4
baz=333,slow=77,SNR=538
H03N3 Juan Fernandez 57.41 155 T T 04 34 11.7
baz=333,slow=77,SNR=453
M15K Kasigluk River 57.44 331 P P 03 32 07.4 +0.6
baz=111
E22K Anaktuvuk Pass 57.47 341 P P 03 32 07.6 +0.5
baz=124,SNR=14
GCSA Galena City Sc 57.49 336 P P 03 32 07.9 +0.8
baz=117
F21K Alatna River 57.51 340 P P 03 32 08.1 +0.8
baz=122,SNR=25
C24K Franklin Bluff 57.51 343 P P 03 32 07.6 +0.3
baz=128
D23K Nanushuk River 57.61 342 P P 03 32 08.8 +0.8
baz=126
H19K Roundabout Mou 57.69 337 P P 03 32 09.1 +0.6
baz=118
J17K VABM Dome 57.77 334 IAmb IAmb 03 32 10.2
comp=Z,14nm,0.9s
J17K VABM Dome 57.77 334 P P 03 32 09.5 +0.3
baz=114,SNR=6.7
M14K Bethel 58.04 331 P P 03 32 11.5 +0.4
baz=110
C23K Itkillik River 58.11 343 P P 03 32 12.3 +0.8
baz=126,SNR=20
L15K Ungalak Mounta 58.15 332 P P 03 32 12.6 +0.8
baz=111
D22K Ayikyak River 58.16 341 P P 03 32 12.5 +0.7
baz=124
F20K Avaraart Lake 58.17 339 P P 03 32 12.4 +0.5
baz=120
G19K Purcell Mounta 58.21 338 P P 03 32 12.4 +0.2
baz=118
H18K Honhosa River 58.23 336 P P 03 32 13.1 +0.7
baz=116,SNR=7.6
E21K Killik River 58.31 341 P P 03 32 13.7 +0.7
baz=122,SNR=19
J16K Anvik River 58.36 334 P P 03 32 14.2 +0.9
baz=112
K15K Wolf Creek Mou 58.39 333 P P 03 32 14.1 +0.6
baz=111,SNR=5.9
UNV Unalaska Valle 58.57 322 P P 03 32 15.7 +0.7
baz=101
L14K Kuka Creek 58.57 331 P P 03 32 15.4 +0.7
baz=109
M13K Dall Lake 58.58 330 P P 03 32 15.5 +0.6
baz=108
I17K Unalakleet 58.63 334 P P 03 32 16.0 +0.9
baz=113,SNR=10
G18K Tagagawik 58.67 337 IAmb IAmb 03 32 16.9
comp=Z,7.3nm,1.0s
G18K Tagagawik 58.67 337 P P 03 32 16.3 +0.8
baz=116
H17K Granite Mounta 58.74 336 P P 03 32 16.7 +0.8
baz=114
F19K Shaleruckik Mo 58.77 338 P P 03 32 16.6 +0.4
baz=117,SNR=21
E19K Redstone River 58.88 339 P P 03 32 17.5 +0.6
baz=118
E20K Nigu River 58.92 340 P P 03 32 17.7 +0.4
baz=120
C21K Knifeblade Rid 58.95 341 P P 03 32 18.2 +0.8
baz=122
SFJD Kangerlussuaq 59.04 22 LR LR 03 58 19.9
comp=Z,267nm,18.0s,baz=224,slow=37
CO03 El Pedregal 59.09 146 P P 03 32 21.4 +2.4
CO03 IAmb IAmb 03 32 28.9
comp=Z,7.8nm,0.9s
SALV Santo Antonio 59.11 123 *e*P **P 03 32 20.1 +0.9**
B21K Ikpikpuk River 59.14 342 P P 03 32 18.8 +0.2
baz=122,SNR=38
D20K Etivluk River 59.29 340 P P 03 32 20.1 +0.4
baz=120
F18K Selawik 59.34 338 P P 03 32 20.3 +0.2
baz=115,SNR=14

J14K Nanvaranak Lak 59.43 333 P P 03 32 21.6 +0.9
baz=109
H16K Elim 59.54 335 P P 03 32 22.2 +0.8
baz=112,SNR=22
K13K Kusilvak Mount 59.65 332 P P 03 32 22.7 +0.4
baz=108
D19K Kuna River 59.66 340 P P 03 32 22.7 +0.3
baz=118
F17K Baldwin Pennin 59.86 337 P P 03 32 24.3 +0.7
baz=114
G16K Koyuk River 59.87 336 P P 03 32 24.8 +1.1
baz=112
E18K Tukpahlearik C 60.03 338 P P 03 32 25.3 +0.5
baz=115
E17K Hotham Inlet 60.32 338 P P 03 32 27.4 +0.6
baz=113
G15K Niukluk 60.39 335 P P 03 32 28.2 +0.9
baz=110,SNR=14
SNDB Serra Nova Dou 60.69 116 *eP* **P 03 32 31.0 +0.8**
TBI Tubuai 60.71 228 *e*LR LR 03 50 24.1
comp=Z,910nm,27.2s
TBI *e*LR LR 03 50 26.4
comp=Z,2μm,25.0s
C18K Utukok River 60.75 339 P P 03 32 29.8 0.0
baz=115,SNR=24
ANM Nome 60.78 334 P P 03 32 30.0 -0.1
ANM Nome 60.78 334 P P 03 32 30.7 +0.7
baz=108,SNR=16
F15K North Star Dit 60.87 336 P P 03 32 31.5 +0.9
baz=110,SNR=27
MURT Porto Murtinho 60.99 129 *eP* **P 03 32 31.8 -0.3**
D17K Noatak River 61.01 338 P P 03 32 32.0 +0.5
baz=112
RDOG Red Dog Mine 61.09 339 P P 03 32 31.5 -0.5
RDOG Red Dog Mine 61.09 339 P P 03 32 32.7 +0.7
baz=113,SNR=22
B18K Kokolik River 61.25 340 P P 03 32 33.5 +0.5
baz=114,SNR=20
C17K DeLong Mountai 61.34 339 P P 03 32 34.4 +0.6
baz=113
F14K Arctic Creek 61.46 335 P P 03 32 35.4 +0.8
baz=108
MT08 Bocatoma Ro 61.50 147 P P 03 32 37.0 +1.5
MT08 IAmb IAmb 03 32 47.4
comp=Z,8.7nm,0.6s
AQDB Aquidauana 61.72 127 *eP* **P 03 32 36.0 -1.0**
C16K Lisburne Hills 62.02 338 P P 03 32 38.9 +0.6
baz=110
ARAG Araguaiana, MT 62.15 120 *eP* **P 03 32 39.0 -0.9**
SMTB Santa Maria do 62.46 111 *eP* **P 03 32 43.6 +1.5**
GAMB Gambell 63.25 333 P P 03 32 47.5 +1.0
baz=102
BI02 San Fabin de 63.47 151 P P 03 32 50.1 +1.7
BI02 IAmb IAmb 03 32 57.6
comp=Z,14nm,1.4s
CPUP Villa Florida 64.10 133 P P 03 32 53.5 +0.8
comp=Z,2.1nm,0.9s,baz=339,slow=2.7,SNR=3.3
CPUP LR LR 03 59 12.9
comp=Z,118nm,19.2s,baz=330,slow=35
comp=Z,2.1nm,0.9s
CPUP Villa Florida 64.10 133 *eP* **P 03 32 50.3 -2.4**
CPUP Villa Florida 64.10 133 P P 03 32 53.8 +1.1
CPUP PcP **PcP 03 33 29.0 +1.2**
BDFB Brasilia 65.27 118 P P 03 33 00.9 +0.3
comp=Z,5.5nm,1.1s,baz=279,slow=8.1,SNR=4.2
comp=Z,5.5nm,1.1s
ITRB Iturama 65.43 123 *eP* **P 03 32 60.0 -1.6**
PLCA Paso Flores 67.11 153 P P 03 33 12.9 +1.0
comp=Z,2.5nm,1.1s,baz=308,slow=8.5,SNR=5.6
PLCA LR LR 03 56 39.7
comp=Z,213nm,19.5s,baz=278,slow=31
comp=Z,2.5nm,1.1s
PLCA Paso Flores 67.11 153 *eP* **P 03 33 08.5 -3.5**
RAR Rarotonga 67.19 236 LR LR 03 54 15.6
comp=Z,281nm,18.4s,baz=40,slow=28
PMNB Patos De Minas 68.00 120 *eP* **P 03 33 17.2 -0.9**
JANB Januaria 68.12 115 *eP* **P 03 33 18.1 -0.8**
CPSB Cacapava Do Su 69.31 134 *eP* **P 03 33 24.6 -1.3**
VAO Valinhos 69.86 124 *eP* **P 03 33 28.6 -0.9**
SHEM Shemya Is, Ala 70.10 320 LR LR 04 00 38.5
comp=Z,63nm,18.1s,baz=314,slow=33
BORG Borgarnes 70.23 27 LR LR 04 04 25.7
comp=Z,267nm,18.1s,baz=299,slow=36
RCBR Riachuelo 71.82 103 LR LR 04 07 31.6
comp=Z,75nm,18.5s,baz=258,slow=38
BILL Bilibino 72.44 337 P P 03 33 43.3 -1.1
BILL IAmb IAmb 03 33 46.4
comp=Z,20nm,1.3s
NBCA Caruaru-PE 72.62 105 *eP* **P 03 33 47.6 +1.2**
BSFB Barra de Sao F 72.80 117 *eP* **P 03 33 46.9 -0.3**
SPITS Spitsbergen Ar 77.67 10 LR LR 04 09 42.9
comp=Z,420nm,19.5s,baz=281,slow=37
PETK Petropavlovsk- 79.75 323 P P 03 34 27.0 +0.8
PETK Petropavlovsk- 79.75 323 P P 03 34 27.6 +1.4
comp=Z,11nm,0.9s,baz=71,slow=9.7,SNR=12
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 80.97 35 P P 03 34 32.4 -0.4
comp=Z,12nm,1.0s,baz=291,slow=7.0,SNR=7.8
comp=Z,12nm,1.0s
MA2 Magadan 81.19 330 P P 03 34 34.6 +0.8
MA2 IAmb IAmb 03 34 36.1
comp=Z,24nm,1.3s
PCAS Casmilo, Conde 82.53 50 *eP* **P 03 34 43.1 +1.7**
PCAS *i* Amb 03 34 45.1
comp=Z,41nm,1.6s
POLO Lamas de Olo 82.63 49 *eP* **P 03 34 42.4 +0.4**
POLO *i* Amb 03 34 44.5
comp=Z,26nm,1.7s
TIXI Tiksi 82.82 345 P P 03 34 41.6 -0.6
TIXI Tiksi 82.82 345 LR LR 04 15 12.4
comp=Z,143nm,20.0s,baz=23,slow=38
PMTG Montargil 83.04 51 *eP* **P 03 34 44.7 +0.7**
PMTG *i* Amb 03 34 46.0
comp=Z,28nm,1.3s
MTE Manteigas 83.12 50 *eP* **P 03 34 46.0 +1.6**
MTE *i* Amb 03 34 55.9
comp=Z,44nm,1.7s
PCBR Castelo Branco 83.35 50 *eP* **P 03 34 46.4 +0.9**
EVO Evora 83.37 52 *eP* **P 03 34 46.6 +0.9**
MESJ Messejana 83.44 52 *eP* **P 03 34 47.1 +1.0**
BBTS Babate 83.47 77 LR LR 04 06 28.7
comp=Z,110nm,19.7s,baz=152,slow=32
PMRV Marv??o 83.54 51 *eP* **P 03 34 47.5 +0.9**
PMRV *i* Amb 03 34 48.4
comp=Z,26nm,1.2s
PESTR Estremoz 83.58 51 *eP* **P 03 34 47.0 +0.2**
PESTR *i* Amb 03 34 52.0
comp=Z,35nm,1.7s
PBEJ Beja 83.64 52 *eP* **P 03 34 48.0 +0.8**
MSVF Nonsavu 84.34 249 LR LR 04 03 27.4
comp=Z,165nm,19.6s,baz=76,slow=29
ARCES ARCESS Array B 85.06 16 P P 03 34 54.1 +0.4
comp=Z,16nm,1.2s,baz=347,slow=3.7,SNR=7.6
ARCES LR LR 04 13 21.2
comp=Z,285nm,19.5s,baz=299,slow=36
comp=Z,16nm,1.2s
NOA NORSAR Array B 85.39 26 P P 03 34 55.7 +0.2
comp=Z,2.3nm,1.1s,baz=297,slow=4.9,SNR=3.9
NOA LR LR 04 14 00.5
comp=Z,204nm,18.0s,baz=300,slow=36
comp=Z,2.3nm,1.1s
PAB San Pablo 85.72 50 P P 03 34 58.1 +0.4
ESBB Sonseca Array 85.95 50 P P 03 34 58.7 -0.1
ESDC Sonseca Array 85.95 50 P P 03 34 58.5 -0.2
ESDC Sonseca Array 85.95 50 P P 03 34 58.8 0.0
comp=Z,6.7nm,1.1s,baz=308,slow=5.4,SNR=15
ESDC LR LR 04 14 13.3
comp=Z,147nm,18.1s,baz=278,slow=36
comp=Z,6.7nm,1.1s
HFS Hagfors 86.91 26 LR LR 04 13 51.0
comp=Z,243nm,18.5s,baz=274,slow=36
MDT Midelt 87.92 56 LR LR 04 14 53.8
comp=Z,65nm,18.4s,baz=318,slow=36
FINES FINESS Array B 90.84 21 P P 03 35 21.1 -0.4
comp=Z,2.5nm,1.0s,baz=330,slow=6.6,SNR=4.0
comp=Z,2.5nm,1.0s
NRIK Noril'sk 91.66 356 P P 03 35 25.6 +0.4
comp=Z,2.4nm,0.4s,baz=55,slow=2.0,SNR=9.0
NRIK LR LR 04 19 41.1
comp=Z,302nm,18.1s,baz=22,slow=38
comp=Z,2.4nm,0.4s
DAVOX Davos/Dischmat 92.03 39 LR LR 04 17 16.9
comp=Z,366nm,18.1s,baz=290,slow=36
GERES GERESS Array B 93.13 36 P P 03 35 32.3 -0.2
comp=Z,0.5nm,0.7s,baz=29,slow=3.0,SNR=4.8
GERES LR LR 04 17 32.2
comp=Z,188nm,20.1s,baz=302,slow=36
comp=Z,0.5nm,0.7s
VRAC Vranov 94.44 34 LR LR 04 19 23.2
comp=Z,118nm,18.2s,baz=304,slow=36
DZM Mont Dzumac 96.08 249 *e*LR LR 04 06 54.3
comp=Z,409nm,23.1s
DBIC Dimbokro 96.90 81 LR LR 04 16 11.7
comp=Z,75nm,21.0s,baz=280,slow=33
PSZ Piszkesteto 97.03 34 P P 03 35 48.9 -1.4
KEST Kesra 97.17 49 LR LR 04 21 14.7
comp=Z,133nm,18.3s,baz=343,slow=36
AKASG Malin Array Be 99.71 28 P Pdif 03 36 00.9 -1.2
comp=Z,0.2nm,0.4s,baz=310,slow=4.6,SNR=1.4
comp=Z,0.2nm,0.4s
HHC Hu-ho-hao-te 111.85 331 *eP* **PKiKP 03 40 53.4 -0.3**
NJ2 Nanjing 114.57 320 *eP* PKPdf 03 41 00.6 +1.7
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
GAR Garm 122.28 5 PKPdf **PKiKP 03 41 15.2 +1.2**
WB2 Warramunga Arr 124.76 258 PKPdf **PKiKP 03 41 19.2 +0.1**
WRA Warramunga Arr 124.77 258 PKPdf **PKPdf 03 41 18.3 -0.5**
WRA Warramunga Arr 124.77 258 PKP **PKPdf 03 41 19.2 +0.4**
comp=Z,1.3nm,0.9s,baz=81,slow=1.9,SNR=7.8
ASAR Alice Springs 125.69 254 PKP **PKiKP 03 41 21.0 +0.1**
comp=Z,1.4nm,0.9s,baz=103,slow=2.2,SNR=9.0
PZH PanZhiHua 128.26 330 PKP **PKPdf 03 41 25.6 0.0**
BOSA Boshof 133.23 112 PKP **PKPdf 03 41 34.3 -0.6**
comp=Z,4.1nm,0.9s,baz=328,slow=1.6,SNR=4.2
CMAR Chiang Mai Arr 136.40 327 PKP **PKPdf 03 41 40.3 -0.6**
comp=Z,1.4nm,0.3s,baz=41,slow=2.1,SNR=4.8
PBA Port Blair 145.29 329 PKPbc 03 41 56.1 -0.5
IPM Ipoh 145.85 310 PKPdf **PKPdf 03 41 58.5 +0.5**
RPSI Rantau Prapat 148.59 310 PKPdf **PKPdf 03 42 01.1 -1.4**

IDC ***18*** *03:41:38.5±0.5, 51°.16N×179°.40E, h0km, mb4.6/30, mbtmp4.6/35, ML5.2/4, MS3.7/22, Error ellipse: s-maj=16.5km s-min=10.2km az=173.0*
BJI ***18*** *03:41:40.0, 51°.10N×179°.30E, h30km, mB5.0/13, mb4.9/58, Ms4.4/9, Ms7 4.1/11*
MOS ***18*** *03:41:42.2±0.9, 51°.17N×179°.40E, h37km, mb5.0/41, Error ellipse: s-maj=8.4km s-min=6.4km az=107.3*
NEIC ***18*** *03:41:43.7±2.1, 51°.1N±0°.1×179°.31E±0°.07, h35km±2km, mb4.8/367, ML4.4(AEIC), Error ellipse: s-maj=17.0km s-min=7.3km az=175.0*
AEIC ***18*** *03:41:45.3±3.8, 51°.7N±0°.1×179°.20E±0°.05, h66km±6km, Error ellipse: s-maj=15.4km s-min=4.2km az=181.0*
ISC 18 03:41:43.8±0.4, 51°.09N±0°.08×179°.38E±0°.03, h39km±3km, h39km:pP-P, n734, σ1$31/602, mb4.8/227, MS3.8/24, 25C-21D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.30**	**57**		**Pn**	**03 42 06.8**	**+1.3**
GALAA	**Gareloi Lava P**	**1.34**	**59**		**Pn**	**03 42 07.5**	**+1.5**
GANO	**Gareloi North**	**1.35**	**56**		**Pn**	**03 42 07.3**	**+1.1**
GAEA	**Gareloi East**	**1.36**	**59**		**Pn**	**03 42 07.7**	**+1.4**
TASE	**Tanaga Southea**	**1.78**	**64**		**Pn**	**03 42 13.7**	**+1.6**
TAFP	**Tanaga Falls P**	**1.84**	**63**		**Pn**	**03 42 14.3**	**+1.5**
TAFP					**Sn**	**03 42 35.1**	**+0.3**
KIKV	**Kanaga Island**	**2.30**	**69**		**Pn**	**03 42 21.2**	**+2.1**
KIWB	**Kanaga Island**	**2.30**	**69**		**Pn**	**03 42 20.0**	**+0.8**
KINC	**Kanaga Island**	**2.34**	**67**		**Pn**	**03 42 21.8**	**+2.1**
ADK	**Adak**	**2.58**	**71**		**Sn**	**03 42 55.2**	**+2.0**
ADK	**Adak**	**2.58**	**71**	Pn	**Pn**	**03 42 23.6**	**+0.5**
ADK	**Adak**	**2.58**	**71**	P	**Pn**	**03 42 24.8**	**+1.7**
ADK	**Adak**	**2.58**	**71**	P	**Pn**	**03 42 23.6**	**+0.5**
GSCK	**Great Sitkin C**	**2.93**	**70**		**Pn**	**03 42 29.6**	**+1.8**
GSSP	**Great Sitkin S**	**2.95**	**68**		**Pn**	**03 42 29.0**	**+1.0**
GSTR	**Great Sitkin T**	**3.02**	**69**	Pn	**Pn**	**03 42 29.8**	**+0.7**
SHEM	**Shemya Is, Ala**	**3.66**	**299**	Pn	**Pn**	**03 42 37.7**	**-0.1**
	113nm,0.3s,baz=119,slow=1.8,SNR=41						
SHEM				LR	LR	03 43 12.4	
	comp=Z,353nm,20.4s,baz=148,slow=26						
SHEM				Sn	**Sn**	**03 43 20.0**	**+0.3**
	24nm,0.3s,baz=286,slow=22,SNR=5.7						
	267nm,0.3s						
ATKA	**Atka Island**	**4.15**	**72**	Pn	**Pn**	**03 42 45.1**	**+0.5**
ATKA				Sn	**Sn**	**03 43 32.0**	**+0.2**
ATKA	**Atka Island**	**4.15**	**72**	P	**Pn**	**03 42 46.3**	**+1.7**
P08K	**Saint George I**	**8.56**	**46**	Pn	**Pn**	**03 43 46.1**	**+1.1**
P08K	**Saint George I**	**8.56**	**46**	P	**Pn**	**03 43 49.7**	**+4.7**
	baz=235						
SPIA	**Saint Paul Isl**	**8.61**	**41**	Pn	**Pn**	**03 43 47.8**	**+2.1**
SPIA	**Saint Paul Isl**	**8.61**	**41**	P	**Pn**	**03 43 50.3**	**+4.6**
	baz=230,SNR=7.6						
MAPS	**Pakushin South**	**8.79**	**67**		**Pn**	**03 43 50.4**	**+2.2**
MAPS					**Sn**	**03 45 28.9**	**+3.1**
MGOD	**Makushin Gods**	**8.82**	**67**		**Pn**	**03 43 51.2**	**+2.5**
MSW	**Makushin Switc**	**8.90**	**66**		**Pn**	**03 43 51.7**	**+2.0**
UNV	**Unalaska Valle**	**9.05**	**67**	Pn	**Pn**	**03 43 53.6**	**+1.9**
UNV	**Unalaska Valle**	**9.05**	**67**	P	**Pn**	**03 43 53.9**	**+2.2**
	baz=259						
AKMO	**Akutan Morgan**	**9.38**	**66**		**Pn**	**03 43 59.1**	**+2.8**
LVA	**Lava Point**	**9.39**	**65**	Pn	**Pn**	**03 43 58.5**	**+2.1**
ZRO	**Akutan Zero**	**9.40**	**66**		**Pn**	**03 43 59.5**	**+2.8**
AKBBA	**Akutan Broad B**	**9.43**	**66**		**Pn**	**03 43 59.3**	**+2.3**
FALS	**False Pass**	**11.03**	**63**	P	**Pn**	**03 44 21.4**	**+2.5**
	baz=258						
S12K	**Black Hills**	**11.99**	**60**	Pn	**Pn**	**03 44 33.3**	**+1.3**
S12K	**Black Hills**	**11.99**	**60**	P	**Pn**	**03 44 34.5**	**+2.5**
	baz=256						
M11K	**Mekoryuk**	**12.33**	**35**	Pn	**Pn**	**03 44 38.9**	**+2.4**
M11K	**Mekoryuk**	**12.33**	**35**	P	**Pn**	**03 44 41.0**	**+4.5**
	baz=228						
PET	**Petropavlovsk**	**12.90**	**287**	*e*P	**P**	**03 44 50.0**	**-4.4**
PET				*e*S	**Sn**	**03 47 06.5**	**+0.1**
PET				pmax	pmax		
	comp=Z,100nm,15.2s						
CNBA	**Chernabura Isl**	**13.20**	**65**	Pn	**Pn**	**03 44 46.7**	**-1.8**
CHNA	**Chernabura Isl**	**13.20**	**65**	P	**Pn**	**03 44 49.9**	**+1.4**
	baz=263						
M13K	**Dall Lake**	**13.44**	**39**	P	**Pn**	**03 44 55.2**	**+3.6**
	baz=234						
PEA0B	**Petropavlovsk-**	**13.47**	**287**	Pn	**Pn**	**03 44 52.4**	**+0.2**
PEA0B	**Petropavlovsk-**	**13.47**	**287**	‖*e*P	**Pn**	**03 44 50.7**	**-1.6**
PETK	**Petropavlovsk-**	**13.47**	**287**		**Pn**	**03 44 51.4**	**-0.9**
PETK	**Petropavlovsk-**	**13.47**	**287**	Pn	**Pn**	**03 44 51.2**	**-1.1**
	comp=Z,4.2nm,0.9s,baz=90,slow=15,SNR=14						
PETK				Sn	**Sn**	**03 47 17.9**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=22,SNR=1.4						
PETK				LR	LR	03 51 25.9	
	comp=Z,186nm,18.0s,baz=90,slow=44						
PETK	**Petropavlovsk-**	**13.47**	**287**	P	**Pn**	**03 44 51.4**	**-0.9**
GAMB	**Gambell**	**13.57**	**17**	Pn	**Pn**	**03 44 54.1**	**+0.6**
GAMB	**Gambell**	**13.57**	**17**	P	**Pn**	**03 44 56.2**	**+2.7**
	baz=205						
O14K	**Tigyukauivet M**	**13.71**	**46**	P	**Pn**	**03 44 59.0**	**+3.6**
	baz=242						
N14K	**Kuskokwak Cree**	**13.86**	**43**	P	**P**	**03 45 01.2**	**-3.8**
	baz=239						
K13K	**Kusilvak Mount**	**13.94**	**33**	Pn	**Pn**	**03 44 59.5**	**+1.0**
K13K	**Kusilvak Mount**	**13.94**	**33**	P	**P**	**03 45 03.2**	**-2.7**
	baz=226						
CHGN	**Chignik**	**14.12**	**60**	Pn	**Pn**	**03 44 59.7**	**-1.3**
CHGN	**Chignik**	**14.12**	**60**	P	**Pn**	**03 45 04.1**	**+3.1**
	baz=258						
M14K	**Bethel**	**14.20**	**40**	Pn	**Pn**	**03 45 04.9**	**+2.9**
M14K	**Bethel**	**14.20**	**40**	P	**P**	**03 45 06.6**	**-2.1**
	baz=236						
L14K	**Kuka Creek**	**14.26**	**37**	P	**P**	**03 45 06.8**	**-2.6**
L14K	**Kuka Creek**	**14.26**	**37**	P	**P**	**03 45 08.1**	**-1.4**
	baz=232						
O15K	**Ungalikthiuk R**	**14.34**	**48**	P	**P**	**03 45 08.6**	**-1.8**
	baz=245						
N15K	**Kwethluk River**	**14.67**	**44**	Pn	**Pn**	**03 45 10.1**	**+1.6**
N15K	**Kwethluk River**	**14.67**	**44**	P	**P**	**03 45 13.3**	**-0.8**
	baz=241						
M15K	**Kasigluk River**	**14.69**	**41**	P	**P**	**03 45 13.8**	**-0.4**
	baz=238						
J14K	**Nanvaranak Lak**	**14.88**	**32**	P	**P**	**03 45 14.7**	**-1.6**
J14K	**Nanvaranak Lak**	**14.88**	**32**	P	**P**	**03 45 16.4**	**+0.1**
	baz=226,SNR=5.0						
L15K	**Unalakleet Mounta**	**14.92**	**37**	P	**P**	**03 45 16.4**	**-0.4**
	baz=234						
P16K	**Nushagak River**	**15.15**	**50**	P	**P**	**03 45 18.2**	**-1.1**
	baz=248						
K15K	**Wolf Creek Mou**	**15.28**	**35**	P	**P**	**03 45 18.9**	**-1.9**
K15K				IAmb	IAmb	03 45 24.0	
	comp=Z,79nm,1.2s						
K15K	**Wolf Creek Mou**	**15.28**	**35**	P	**P**	**03 45 20.9**	**+0.1**
	baz=232						
O16K	**Kokwok River B**	**15.32**	**48**	Pn	**Pn**	**03 45 16.6**	**-0.3**
O16K				IAmb	IAmb	03 45 23.0	
	comp=Z,34nm,0.8s						
O16K	**Kokwok River B**	**15.32**	**48**	P	**P**	**03 45 20.8**	**-0.3**
	baz=246						
M16K	**Timber Creek**	**15.58**	**42**	P	**P**	**03 45 24.5**	**+0.4**
	baz=240						
CHIR	**Chirikof Islan**	**15.58**	**63**	Pn	**Pn**	**03 45 18.8**	**-1.6**
CHIR	**Chirikof Islan**	**15.58**	**63**	P	**P**	**03 45 22.8**	**-1.4**
	baz=263						
CHIR	**Chirikof Islan**	**15.58**	**63**	P	**Pn**	**03 45 19.2**	**-1.2**
Q16K	**King Salmon**	**15.68**	**52**	P	**P**	**03 45 25.0**	**-0.1**
	baz=252						
ANM	**Nome**	**15.69**	**25**	P	**P**	**03 45 24.6**	**-0.7**
ANM	**Nome**	**15.69**	**25**	P	**P**	**03 45 25.7**	**+0.4**
	baz=218,SNR=15						
ANM	**Nome**	**15.69**	**25**	P	**P**	**03 45 24.6**	**-0.7**
ANM				pmax	pmax		
	comp=Z,14nm,0.7s						
L16K	**Owhat River**	**15.73**	**39**	P	**P**	**03 45 26.3**	**+0.6**
	baz=237,SNR=11						
O17K	**Koliganek Bris**	**15.85**	**48**	P	**P**	**03 45 28.2**	**+1.1**
	baz=247						
P17K	**Kvichak River**	**15.95**	**50**	P	**P**	**03 45 28.7**	**+0.5**
	baz=250,SNR=7.0						
N17K	**Nushagak Hills**	**16.12**	**45**	P	**P**	**03 45 29.3**	**-0.8**
N17K	**Nushagak Hills**	**16.12**	**45**	P	**P**	**03 45 30.8**	**+0.7**
	baz=245						
F14K	**Arctic Creek**	**16.20**	**22**	P	**P**	**03 45 31.4**	**+0.6**
	baz=214						
ACHA	**Angle Creek He**	**16.21**	**54**	Pn	**Pn**	**03 45 28.0**	**-0.5**
J16K	**Anvik River**	**16.24**	**34**	P	**P**	**03 45 32.2**	**+0.8**
	baz=231						
G15K	**Niukluk**	**16.39**	**25**	P	**P**	**03 45 34.4**	**+1.4**
	baz=220						
M17K	**Holitna River**	**16.41**	**42**	IAmb	IAmb	03 45 36.7	
	comp=Z,40nm,0.8s						
M17K	**Holitna River**	**16.41**	**42**	P	**P**	**03 45 34.6**	**+1.3**
	baz=242						
L17K	**Donlin**	**16.43**	**39**	P	**P**	**03 45 35.0**	**+1.5**
	baz=238						
SII	**Sitkinak Islan**	**16.48**	**60**	Pn	**Pn**	**03 45 29.7**	**-2.1**
SII	**Sitkinak Islan**	**16.48**	**60**	P	**P**	**03 45 33.9**	**-0.2**
	baz=262						
SII	**Sitkinak Islan**	**16.48**	**60**	P	**Pn**	**03 45 30.6**	**-1.3**
R18K	**Karluk**	**16.51**	**57**	P	**P**	**03 45 35.2**	**+0.8**
	baz=258						
I17K	**Unalakleet**	**16.60**	**32**	P	**P**	**03 45 37.0**	**+1.6**
	baz=229,SNR=8.7						
P18K	**Big Mountain,**	**16.60**	**50**	P	**P**	**03 45 36.2**	**+0.7**
	baz=251						
H16K	**Elim**	**16.63**	**28**	P	**P**	**03 45 37.5**	**+1.8**
	baz=224,SNR=12						
K17K	**Iditarod**	**16.74**	**37**	IAmb	IAmb	03 45 40.5	
	comp=Z,37nm,0.8s						
K17K	**Iditarod**	**16.74**	**37**	P	**P**	**03 45 37.8**	**+0.8**
	baz=236,SNR=11						
N18K	**Kilae Creek**	**16.77**	**46**	IAmb	IAmb	03 45 40.7	
	comp=Z,119nm,1.9s						
N18K	**Kilae Creek**	**16.77**	**46**	P	**P**	**03 45 38.3**	**+1.1**
	baz=246						
O18K	**Koktuh Hills**	**16.77**	**49**	P	**P**	**03 45 38.7**	**+1.4**
	baz=250						
F15K	**North Star Dit**	**16.79**	**23**	P	**P**	**03 45 38.6**	**+1.1**
	baz=217						
J17K	**VABM Dome**	**16.85**	**35**	P	**P**	**03 45 39.6**	**+1.5**
	baz=233						
OHAK	**Old Harbor**	**17.07**	**58**	Pn	**Pn**	**03 45 35.5**	**-3.6**
OHAK				IAmb	IAmb	03 45 40.5	
	comp=Z,40nm,0.5s						
OHAK	**Old Harbor**	**17.07**	**58**	P	**P**	**03 45 40.3**	**-0.2**
	baz=261,SNR=5.7						
L18K	**Granite Mounta**	**17.12**	**40**	P	**P**	**03 45 42.1**	**+1.0**
	baz=241						
M18K	**Stony River**	**17.14**	**43**	P	**P**	**03 45 42.6**	**+1.3**
	baz=244						
G16K	**Koyuk River**	**17.15**	**26**	P	**P**	**03 45 43.0**	**+1.5**
	baz=222,SNR=37						
Q19K	**Cape Douglas,**	**17.25**	**53**		**P**	**03 45 42.6**	**0.0**
Q19K	**Cape Douglas,**	**17.25**	**53**	P	**P**	**03 45 43.4**	**+0.8**
	baz=255,SNR=6.6						
O19K	**Port Alsworth**	**17.31**	**48**	P	**P**	**03 45 44.8**	**+1.6**
	baz=250						
N19K	**Bonanza Creek**	**17.45**	**46**	P	**P**	**03 45 46.6**	**+1.7**
	baz=248						
KDAK	**Kodiak Island**	**17.54**	**57**	Pn	**Pn**	**03 45 41.0**	**-4.0**
KDAK				IAmb	IAmb	03 45 48.8	
	comp=Z,256nm,1.8s						
KDAK	**Kodiak Island**	**17.54**	**57**	P	**Pn**	**03 45 42.8**	**-2.2**
	comp=Z,6.0nm,0.3s,baz=104,slow=4.2,SNR=79						
KDAK				S	**Sn**	**03 48 49.6**	**-9.5**
	comp=Z,6.1nm,0.8s,baz=119,slow=9.7,SNR=1.3						
	comp=Z,22nm,0.4s						
KDAK	**Kodiak Island**	**17.54**	**57**	P	**Pn**	**03 45 45.3**	**+0.2**
	baz=260						
H17K	**Granite Mounta**	**17.56**	**30**	P	**P**	**03 45 47.0**	**+1.1**
	baz=228,SNR=14						
P19K	**Oil Pt**	**17.65**	**50**		**Pn**	**03 45 46.5**	**+0.1**
P19K				IAmb	IAmb	03 45 55.2	
	comp=Z,196nm,1.6s						
P19K	**Oil Pt**	**17.65**	**50**	P	**P**	**03 45 47.9**	**+0.8**
	baz=253						
TTA	**Tatalina**	**17.75**	**39**	P	**P**	**03 45 49.3**	**+1.1**
	baz=240,SNR=10						
TTA	**Tatalina**	**17.75**	**39**	P	**P**	**03 45 50.1**	**+1.9**
J18K	**Innoko River**	**17.76**	**37**	P	**P**	**03 45 49.8**	**+1.5**
	baz=237						
ILSW	**Iliamna Southw**	**17.80**	**49**		**P**	**03 45 49.9**	**+1.1**
ILSW				IAmb	IAmb	03 45 51.8	
	comp=Z,82nm,1.5s						
Q20K	**Shuyak Island**	**17.80**	**54**	P	**P**	**03 45 48.8**	**+0.1**
	baz=258						
SYI	**Shuyak Island**	**17.80**	**54**	Pn	**Pn**	**03 45 46.2**	**-2.1**
SYI				IAmb	IAmb	03 45 58.5	
	comp=Z,126nm,1.4s						
L19K	**White Mountain**	**17.86**	**42**	P	**P**	**03 45 51.4**	**+2.1**
	baz=244						
M19K	**Big River Lodg**	**17.93**	**43**	P	**P**	**03 45 52.1**	**+2.0**
	baz=245						
O20K	**Slope Mountain**	**18.07**	**49**	P	**P**	**03 45 53.8**	**+2.0**
	baz=253						
BILL	**Bilibino**	**18.18**	**344**		**P**	**03 45 51.5**	**-1.2**
BILL	**Bilibino**	**18.18**	**344**	‖*e*P	**Pn**	**03 45 53.4**	**+0.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H18K	**Honhosa River**	**18.19**	**31**	P	**Pn**	**03 45 54.9**	**+1.9**
	baz=230						
MA2	**Magadan**	**18.23**	**309**	P	**P**	**03 45 51.7**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=89,slow=12,SNR=5.2						
MA2				LR	LR	03 52 37.4	
	comp=Z,325nm,19.2s,baz=118,slow=36						
	comp=Z,3.7nm,0.2s						
MA2	**Magadan**	**18.23**	**309**⇑	*e*P	**Pn**	**03 45 54.3**	**+0.8**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.7s						
F17K	**Baldwin Pennin**	**18.24**	**25**	P	**Pn**	**03 45 55.2**	**+1.7**
	baz=222						
L20K	**Farewell, AK**	**18.40**	**41**	P	**Pn**	**03 45 56.1**	**+0.5**
	baz=244,SNR=11						
HOM	**Homer**	**18.43**	**51**	P	**Pn**	**03 45 56.9**	**+1.0**
	baz=255						
GCSA	**Galena City Sc**	**18.44**	**33**	P	**Pn**	**03 45 56.8**	**+0.8**
	baz=234						
J19K	**Poorman**	**18.46**	**36**	P	**Pn**	**03 45 57.2**	**+1.0**
	baz=238						
M20K	**Styx River**	**18.47**	**

	baz=211,SNR=70						
F18K	Selawik	18.80	26	P	Pn	03 46 01.3	+1.0
	baz=225,SNR=22						
BRLK	Bradley Lake	18.83	51	P	P	03 45 59.8	-0.2
BRSE	Bradley Lake S	18.89	51	P	Pn	03 46 02.1	+0.6
	baz=256						
STLK	Strandline Lak	18.90	45	IAmb	IAmb	03 46 05.4	
	comp=Z,37nm,0.8s						
CAPN	Captain Cook N	18.98	48	P	Pn	03 46 03.0	+0.5
	baz=253						
H19K	Roundabout Mou	19.06	31	P	Pn	03 46 04.1	+0.7
	baz=232						
RDOG	Red Dog Mine	19.10	20	IAmb	IAmb	03 46 06.8	
	comp=Z,29nm,0.6s						
RDOG	Red Dog Mine	19.10	20	P	Pn	03 46 04.2	+0.3
	baz=216,SNR=12						
J20K	Nowinta River	19.11	37	IAmb	IAmb	03 46 05.6	
	comp=Z,32nm,0.6s						
J20K	Nowinta River	19.11	37	P	Pn	03 46 04.9	+0.9
	baz=239						
E18K	Tukpahlearik C	19.15	24	P	Pn	03 46 04.7	+0.2
E18K	Tukpahlearik C	19.15	24	P	Pn	03 46 05.1	+0.6
	baz=221,SNR=30						
SKT	Skwentna	19.21	44	IAmb	IAmb	03 46 07.4	
	comp=Z,43nm,0.8s						
SKT	Skwentna	19.21	44	P	Pn	03 46 06.2	+0.9
	baz=249,SNR=20						
G19K	Purcell Mounta	19.24	30	IAmb	IAmb	03 46 11.7	
	comp=Z,55nm,0.7s						
G19K	Purcell Mounta	19.24	30	P	Pn	03 46 06.4	+0.8
	baz=230						
PPLA	Purkeypile	19.28	41	IAmb	IAmb	03 46 13.5	
	comp=Z,32nm,0.6s						
PPLA	Purkeypile	19.28	41	P	Pn	03 46 06.7	+0.3
	baz=246						
I20K	Naaghedeneel	19.31	35	P	Pn	03 46 07.3	+0.8
	baz=237						
SLKM	Skilak Lake	19.34	49	P	P	03 46 05.9	+0.3
C17K	DeLong Mountai	19.38	19	P	Pn	03 46 07.4	0.0
	baz=215,SNR=52						
F19K	Shaleruckik Mo	19.49	27	IAmb	IAmb	03 46 09.8	
	comp=Z,44nm,0.8s						
F19K	Shaleruckik Mo	19.49	27	P	Pn	03 46 08.7	+0.1
	baz=227						
CAST	Castle Rocks	19.55	40	IAmb	IAmb	03 46 13.1	
	comp=Z,28nm,0.7s						
CAST	Castle Rocks	19.55	40	P	Pn	03 46 08.8	-0.6
	baz=244,SNR=18						
H20K	Anotleneega Mo	19.56	33	P	Pn	03 46 09.8	+0.3
	baz=235						
O22K	Cooper Landing	19.57	49	P	Pn	03 46 09.6	0.0
	baz=255						
SEW	Seward	19.61	51	P	Pn	03 46 09.7	-0.4
SEW				IAmb	IAmb	03 46 14.1	
	comp=Z,182nm,2.0s						
SEW	Seward	19.61	51	P	Pn	03 46 09.8	-0.3
	baz=257						
CHUM	Lake Minchumin	19.67	39	P	Pn	03 46 10.4	-0.3
	baz=243,SNR=14						
RC01	Rabbit Creek A	19.73	48	P	Pn	03 46 11.2	-0.3
	baz=254						
M22K	Willow	19.76	46	P	P	03 46 10.8	+0.8
	baz=251						
CUT	Chulitna	19.91	44	IAmb	IAmb	03 46 17.0	
	comp=Z,44nm,0.6s						
CUT	Chulitna	19.91	44	P	Pn	03 46 12.9	-0.7
	baz=250						
C18K	Utukok River	19.95	21	P	P	03 46 12.7	+0.5
C18K				IAmb	IAmb	03 46 15.2	
	comp=Z,42nm,0.8s						
C18K	Utukok River	19.95	21	P	Pn	03 46 13.7	-0.4
	baz=218						
E19K	Redstone River	20.08	26	IAmb	IAmb	03 46 16.7	
	comp=Z,38nm,0.9s						
E19K	Redstone River	20.08	26	P	Pn	03 46 15.1	-0.5
	baz=227						
KTH	Kantishna Hill	20.08	40	IAmb	IAmb	03 46 16.0	
	comp=Z,62nm,0.8s						
PMR	Palmer	20.16	46	P	P	03 46 13.3	-1.1
PMR				IAmb	IAmb	03 46 19.3	
	comp=Z,94nm,2.0s						
PMR	Palmer	20.16	46	P	Pn	03 46 16.0	-0.5
	baz=253						
PMR	Palmer	20.16	46	P	Pn	03 46 16.5	0.0
PMR	Palmer	20.16	46	P	P	03 46 13.3	-1.1
PMR				pmax	pmax		
	comp=Z,94nm,2.0s						
F20K	Avaraart Lake	20.24	28	P	Pn	03 46 16.7	-0.7
	baz=230						
BPAW	Bear Paw Mtn.	20.29	39	IAmb	IAmb	03 46 18.2	
	comp=Z,20nm,0.7s						
BPAW	Bear Paw Mtn.	20.29	39	P	Pn	03 46 17.2	-0.9
	baz=244,SNR=13						
TRF	Thorofare Moun	20.30	41	P	P	03 46 14.7	-1.5
TRF				IAmb	IAmb	03 46 24.3	
	comp=Z,86nm,1.5s						
TRF	Thorofare Moun	20.30	41	P	Pn	03 46 17.6	-0.8
	baz=247						
GHO	Glory Hole Cre	20.30	46	P	P	03 46 14.3	-1.8
PWL	Port Wells	20.33	49	P	Pn	03 46 17.5	-1.1
	baz=256						
H21K	Melozitna Rive	20.37	34	IAmb	IAmb	03 46 19.4	
	comp=Z,41nm,0.8s						
H21K	Melozitna Rive	20.37	34	P	Pn	03 46 18.2	-0.8
	baz=238						
B18K	Kokolik River	20.40	19	P	Pn	03 46 18.4	-0.9
	baz=216						
KNK	Knik Glacier	20.41	47	P	P	03 46 15.8	-1.4
KNK				IAmb	IAmb	03 46 23.4	
	comp=Z,160nm,2.0s						
KNK	Knik Glacier	20.41	47	P	P	03 46 18.4	+1.1
	baz=254						
I21K	Tanana	20.42	35	IAmb	IAmb	03 46 20.4	
	comp=Z,59nm,1.1s						
I21K	Tanana	20.42	35	P	Pn	03 46 18.4	-1.1
	baz=240						
D19K	Kuna River	20.57	24	IAmb	IAmb	03 46 21.6	
	comp=Z,52nm,0.7s						
D19K	Kuna River	20.57	24	P	P	03 46 20.1	+1.1
	baz=224						
SML	Sawmill	20.58	46	IAmb	IAmb	03 46 28.9	
	comp=Z,98nm,1.6s						
SML	Sawmill	20.58	46	P	P	03 46 19.5	+0.4
	baz=254						
P23K	Montague Islan	20.59	52	P	P	03 46 20.2	+1.1
	baz=259						
M23K	Glacier View	20.86	46	P	P	03 46 22.8	+0.7
	baz=254,SNR=6.0						
RND	Reindeer	20.88	42	IAmb	IAmb	03 46 40.8	
	comp=Z,29nm,1.1s						
E20K	Nigu River	20.91	26	P	P	03 46 23.9	+1.2
	baz=227						
BWN	Browne	20.92	39	P	P	03 46 22.4	-0.3
BWN				IAmb	IAmb	03 46 30.5	
	comp=Z,48nm,0.8s						
GLI	Glacier Island	20.92	49	P	P	03 46 23.4	+0.7
	baz=257						
MCK	McKinley	20.96	41	P	P	03 46 22.0	-1.2
MCK				IAmb	IAmb	03 46 39.6	
	comp=Z,24nm,0.8s						
MCK	McKinley	20.96	41	P	Pn	03 46 24.8	-1.2
	baz=248,SNR=8.8						
MCK	McKinley	20.96	41	P	P	03 46 22.0	-1.2
MCK				pmax	pmax		
	comp=Z,24nm,0.8s						
H22K	Ishtalitna Cre	21.00	34	P	Pn	03 46 25.2	-1.1
	baz=240						
Q23K	Middleton Isla	21.03	53	P	P	03 46 24.5	+0.7
	baz=262						
F21K	Alatna River	21.04	30	IAmb	IAmb	03 46 27.1	
	comp=Z,25nm,0.7s						
F21K	Alatna River	21.04	30	P	P	03 46 25.1	+1.1
	baz=233						
SCM	Sheep Creek Mo	21.05	46	IAmb	IAmb	03 46 39.2	
	comp=Z,46nm,0.9s						
SCM	Sheep Creek Mo	21.05	46	P	P	03 46 25.5	+1.3
	baz=255,SNR=6.2						
D20K	Etivluk River	21.12	24	P	P	03 46 25.6	+0.8
	baz=226,SNR=97						
NEA2	Nenana	21.25	39	IAmb	IAmb	03 46 28.4	
	comp=Z,50nm,0.8s						
NEA2	Nenana	21.25	39	P	P	03 46 27.0	+0.7
	baz=246,SNR=32						
I23K	Minto, Yukon-K	21.38	37	IAmb	IAmb	03 46 32.9	
	comp=Z,15nm,0.6s						
I23K	Minto, Yukon-K	21.38	37	P	P	03 46 28.5	+1.0
	baz=244,SNR=11						
EYAK	Cordova Ski Ar	21.50	50	P	P	03 46 29.4	+0.5
	baz=260						
EYAK	Cordova Ski Ar	21.50	50	P	P	03 46 30.6	+1.7
WRH	Wood River Hil	21.59	39	P	P	03 46 28.5	-1.4
DIV	Divide	21.61	49	IAmb	IAmb	03 46 39.9	
	comp=Z,82nm,1.5s						
KLU	Klutina	21.61	48	P	P	03 46 30.8	+0.6
	baz=257						
M24K	Tolsona, Glenn	21.65	46	P	P	03 46 31.5	+0.9
	baz=255						
E21K	Killik River	21.65	27	IAmb	IAmb	03 46 34.2	
	comp=Z,24nm,0.6s						
E21K	Killik River	21.65	27	P	P	03 46 31.8	+1.3
	baz=230						
COLA	College	21.85	38	P	P	03 46 32.0	-0.6
COLA				IAmb	IAmb	03 46 36.5	
	comp=Z,26nm,0.7s						
COLA	College	21.85	38	P	P	03 46 33.6	+1.1
	baz=247						
COLA	College	21.85	38	P	P	03 46 34.6	+2.1
COLA	College	21.85	38	eP	P	03 46 32.9	+0.4
COLA				pmax	pmax		
	comp=Z,22nm,0.8s						
G23K	Bananza Creek	21.89	33	IAmb	IAmb	03 46 36.4	
	comp=Z,56nm,0.9s						
G23K	Bananza Creek	21.89	33	P	P	03 46 34.0	+0.9
	baz=240,SNR=44						
C21K	Knifeblade Rid	21.90	25	P	P	03 46 34.2	+1.0
	baz=228,SNR=18						
HDA	Harding Lake	22.03	40	P	P	03 46 35.5	+1.0
	baz=249						
COLD	Coldfoot	22.09	32	P	P	03 46 36.8	+1.6
	baz=238,SNR=8.3						
E22K	Anaktuvuk Pass	22.09	29	IAmb	IAmb	03 46 38.1	
	comp=Z,20nm,0.7s						
E22K	Anaktuvuk Pass	22.09	29	P	P	03 46 35.7	+0.4
	baz=234,SNR=27						
POKR	Poker Plat Res	22.11	38	IAmb	IAmb	03 46 38.1	
	comp=Z,18nm,0.7s						
POKR	Poker Plat Res	22.11	38	P	P	03 46 36.5	+1.1
	baz=247,SNR=8.1						
BMRM	Bremner River	22.13	50	P	P	03 46 35.1	-0.6
BMRM				IAmb	IAmb	03 46 53.1	
	comp=Z,51nm,1.4s						
BMRM	Bremner River	22.13	50	P	P	03 46 36.4	+0.6
	baz=260						
HARP	HAARP	22.18	46	P	P	03 46 37.0	+0.7
	baz=256						
ILAR	Eielson Array	22.19	39	P	P	03 46 35.6	-0.6
ILAR	Eielson Array	22.19	39	P	P	03 46 34.0	-2.3
	comp=Z,3.9nm,0.6s,baz=245,slow=8.8,SNR=38						
ILAR				PcP	PcP	03 50 31.3	-0.2
	comp=Z,0.9nm,0.7s,baz=266,slow=3.1,SNR=6.3						
ILAR				ScP	ScP	03 54 08.4	+3.0
	comp=Z,0.4nm,0.6s,baz=284,slow=3.5,SNR=9.1						
	comp=Z,3.9nm,0.6s						
ILAR	Eielson Array	22.19	39	P	P	03 46 35.7	-0.6
PAX	Paxson	22.19	44	IAmb	IAmb	03 46 55.3	
	comp=Z,32nm,1.2s						
PAX	Paxson	22.19	44	P	P	03 46 36.6	+0.1
	baz=254						
H24K	Noodor Dome	22.24	36	IAmb	IAmb	03 46 39.3	
	comp=Z,21nm,0.8s						
H24K	Noodor Dome	22.24	36	P	P	03 46 37.5	+0.6
	baz=244						
N25K	Chitina, Valde	22.26	48	IAmb	IAmb	03 46 54.2	
	comp=Z,40nm,1.2s						
N25K	Chitina, Valde	22.26	48	P	P	03 46 37.5	+0.4
	baz=258						
B21K	Ikpikpuk River	22.27	24	IAmb	IAmb	03 46 39.3	
	comp=Z,27nm,0.7s						
B21K	Ikpikpuk River	22.27	24	P	P	03 46 37.3	+0.2
	baz=227						
D22K	Ayikyak River	22.30	27	P	P	03 46 38.2	+0.8
	baz=231						
K24K	Donnelly Dome	22.31	42	P	P	03 46 38.3	+0.7
	baz=252						
GLB	Gilahina Butte	22.60	49	P	P	03 46 39.7	-1.1
GLB				IAmb	IAmb	03 46 42.1	
	comp=Z,17nm,0.7s						
BGLC	Bering Glacier	22.65	52	P	P	03 46 40.8	-0.4
	baz=263						
RIDG	Independent Ri	22.68	42	P	P	03 46 41.4	-0.2
	baz=253						
E23K	Chandalar	22.73	30	P	P	03 46 41.9	-0.2
	baz=237,SNR=13						
J25K	Salcha River,	22.74	40	IAmb	IAmb	03 46 50.2	
	comp=Z,45nm,1.8s						
J25K	Salcha River,	22.74	40	P	P	03 46 42.7	+0.5
	baz=250						
G24K	Hadweenzic Riv	22.77	34	IAmb	IAmb	03 46 44.5	
	comp=Z,44nm,0.8s						
G24K	Hadweenzic Riv	22.77	34	P	P	03 46 43.2	+0.8
	baz=243						
D23K	Nanushuk River	22.92	28	IAmb	IAmb	03 46 47.0	
	comp=Z,37nm,0.7s						
D23K	Nanushuk River	22.92	28	P	P	03 46 44.3	+0.3
	baz=234						
MENT	Mentasta	22.96	45	P	P	03 46 45.9	+1.5
TYV	Tymovskoe	22.98	284	eP	P	03 46 46.4	+1.7
TYV				eS	S	03 50 56.9	+4.9
TYV				pmax	pmax		
	comp=Z,100nm,3.9s						
TYV				pmax	pmax		
	comp=Z,17nm,1.0s						
TYV				smax	smax		
	comp=N,600nm,8.9s						
TYV				smax	smax		
	comp=E,500nm,8.9s						
PRP	Porcupine Dome	23.00	38	IAmb	IAmb	03 46 47.7	
	comp=Z,13nm,0.6s						
PRP	Porcupine Dome	23.00	38	P	P	03 46 44.6	-0.4
	baz=248						
A21K	Barrow	23.03	20	P	P	03 46 44.7	-0.4
	baz=221,SNR=5.8						
TOLK	Toolik Lake Re	23.07	29	P	P	03 46 45.6	+0.1
TOLK	Toolik Lake Re	23.07	29	P	P	03 46 45.4	-0.1
	baz=236,SNR=31						
E24K	Your Creek	23.10	31	IAmb	IAmb	03 46 48.4	
	comp=Z,18nm,0.8s						
E24K	Your Creek	23.10	31	P	P	03 46 46.3	+0.4
	baz=239						
SCRK	Sand Creek	23.11	42	P	P	03 46 44.5	-1.6
SCRK	Sand Creek	23.11	42	P	P	03 46 45.9	-0.2
	baz=254,SNR=8.8						
L26K	Log Cabin Wild	23.14	45	P	P	03 46 46.6	+0.3
	baz=256,SNR=9.0						
M26K	Nabesna, AK	23.16	46	IAmb	IAmb	03 47 03.3	
	comp=Z,71nm,1.9s						
M26K	Nabesna, AK	23.16	46	P	P	03 46 46.1	-0.4
	baz=258						
H25L	Birch Creek	23.18	36	P	P	03 46 47.1	+0.5
	baz=246,SNR=12						
G25K	Bearman Lake	23.29	35	P	P	03 46 48.0	+0.4
	baz=245						
MESA	MESA	23.32	52	P	P	03 46 47.4	-0.9
	baz=265						
J26L	Joseph Creek	23.44	41	IAmb	IAmb	03 46 50.7	
	comp=Z,17nm,0.6s						
J26L	Joseph Creek	23.44	41	P	P	03 46 48.5	-0.8
	baz=253						
C23K	Itkillik River	23.47	26	P	P	03 46 49.0	-0.3
	baz=232						
FYU	Fort Yukon	23.52	35	IAmb	IAmb	03 46 52.0	
	comp=Z,43nm,0.8s						
D24K	Happy Valley	23.58	28	P	P	03 46 50.1	-0.3
	baz=236						
M27K	Edge Creek, AK	23.66	47	P	P	03 46 51.5	0.0
	baz=260						
F25K	Christian Rive	23.81	33	IAmb	IAmb	03 46 55.2	
	comp=Z,44nm,1.0s						
F25K	Christian Rive	23.81	33	P	P	03 46 52.9	+0.1
	baz=244						
L27K	Beaver Creek,	23.83	45	IAmb	IAmb	03 46 54.2	
	comp=Z,18nm,0.9s						
L27K	Beaver Creek,	23.83	45	P	P	03 46 52.6	-0.3
	baz=258						
BCAR	Beaver Creek A	23.84	45	P	P	03 46 52.8	-0.3
I26K	Coal Creek Min	23.86	39	P	P	03 46 53.0	-0.2
	baz=252						
C24K	Franklin Bluff	23.94	27	P	P	03 46 53.7	-0.1
	baz=235						
BMAR	Burnt Mountain	24.11	34	P	P	03 46 56.0	+0.5
PCA	Pinnacle	24.16	52	P	P	03 46 55.2	-0.9
PINM	Pinnacle	24.16	52	P	P	03 46 55.5	-0.6
	baz=266						
G26K	Porcupine Rive	24.20	35	P	P	03 46 56.3	+0.1
	baz=247,SNR=39						
YSS	Yuzhno-Sakhali	24.21	275	P	P	03 46 57.3	+0.8
YSS	Yuzhno-Sakhali	24.21	275	eP	P	03 46 57.5	+1.0
YSS				eS	S	03 51 10.4	-1.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,12.0s						
O28M	Mount Upton	24.25	51	P	P	03 46 56.1	-1.0
	baz=265						
F26K	Sheenjek River	24.37	33	IAmb	IAmb	03 47 00.9	
	comp=Z,30nm,0.9s						
F26K	Sheenjek River	24.37	33	P	P	03 46 57.8	0.0
	baz=245						
D25K	Kavik River	24.41	29	IAmb	IAmb	03 47 00.8	
	comp=Z,35nm,0.7s						
D25K	Kavik River	24.41	29	P	P	03 46 58.1	-0.1
	baz=239						
YUK8	Steele Glacier	24.50	50	P	P	03 46 58.5	-0.9
	baz=264						
I27K	Kandik River	24.56	39	P	P	03 46 59.1	-0.6
	baz=253						
PNL	Peninsula	24.57	54	P	P	03 46 58.8	-0.9
	baz=268						
PNL	Peninsula	24.57	54	P	P	03 47 00.0	+0.2
H27K	Steamboat Moun	24.79	38	P	P	03 47 00.9	-0.8
	baz=252						
G27K	Doyon Strip	24.93	36	P	P	03 47 02.4	-0.5
	baz=250						
O29M	Mount Kennedy	25.01	52	P	P	03 47 02.8	-1.1
	baz=268						
YUK4	Talbot Arm	25.05	50	P	P	03 47 03.9	-0.4
	baz=265						
DAWY	Dawson	25.10	43	P	P	03 47 03.5	-1.0
DAWY				IAmb	IAmb	03 47 09.2	
	comp=Z,15nm,0.9s						
DAWY	Dawson	25.10	43	P	P	03 47 04.3	-0.2
	baz=259,SNR=6.5						
C26K	Camden Bay	25.15	28	P	P	03 47 04.8	-0.1
	baz=240,SNR=49						
YUK6	Outpost Mounta	25.15	51	P	P	03 47 04.4	-0.9
	baz=266						
I28M	Miner Creek	25.19	40	IAmb	IAmb	03 47 11.3	
	comp=Z,18nm,0.6s						
I28M	Miner Creek	25.19	40	P	P	03 47 04.8	-0.5
	baz=255						
M29M	Somme Creek	25.25	47	IAmb	IAmb	03 47 12.0	
	comp=Z,15nm,0.8s						
M29M	Somme Creek	25.25	47	P	P	03 47 05.7	-0.2
	baz=263						
C27K	Jago River	25.38	29	IAmb	IAmb	03 47 10.3	
	comp=Z,41nm,1.1s						
C27K	Jago River	25.38	29	P	P	03 47 06.8	-0.1
	baz=242						
L29M	L29M	25.49	46	IAmb	IAmb	03 47 11.8	
	comp=Z,11nm,0.7s						
L29M	L29M	25.49	46	P	P	03 47 08.2	+0.1
	baz=262						
JKA	Kamikawa-asahi	25.56	269	P	P	03 47 09.7	+1.0
ASAJ	Asahikawa	25.56	269	LR	LR	03 56 48.9	
	comp=Z,80nm,21.4s,baz=118,slow=36						
ASAJ	Asahikawa	25.56	269	P	P	03 47 09.7	+0.9
ASAJ				pmax	pmax		
	comp=Z,51nm,0.8s						
HYT	Haines Junctio	25.57	51	P	P	03 47 08.4	-0.5
	baz=267						
J29N	Klondike Camp	25.68	42	P	P	03 47 10.3	+0.5
	baz=259						
P30M	Million Dollar	25.81	53	P	P	03 47 11.0	-0.1
	baz=269						
I29M	Ogilvie Camp,	25.83	40	IAmb	IAmb	03 47 24.6	
	comp=Z,9.9nm,0.6s						
I29M	Ogilvie Camp,	25.83	40	P	P	03 47 11.3	+0.2
	baz=257						
F28M	Old Crow	25.86	35	IAmb	IAmb	03 47 15.2	
	comp=Z,24nm,0.8s						
F28M	Old Crow	25.86	35	P	P	03 47 11.4	+0.1
	baz=251,SNR=33						
K29M	Barlow Dome	25.87	44	P	P	03 47 11.1	-0.5
	baz=261						
H29M	Whitestone	26.01	38	IAmb	IAmb	03 47 34.4	
	comp=Z,62nm,2.0s						
H29M	Whitestone	26.01	38	P	P	03 47 12.6	-0.2
	baz=255						
M30M	Minto, Yukon	26.03	47	P	P	03 47 13.4	+0.4
M30M	Minto, Yukon	26.03	47	P	P	03 47 12.9	-0.1
	baz=264,SNR=8.6						
D27M	Malcolm River	26.08	31	IAmb	IAmb	03 47 17.2	
	comp=Z,22nm,0.7s						
D27M	Malcolm River	26.08	31	P	P	03 47 13.3	-0.1
	baz=246						
PLBC	Pleasant Camp	26.11	54	P	P	03 47 12.9	-0.8
	baz=271						
S31K	Pelican	26.25	57	P	P	03 47 13.6	-1.3
	baz=274						
O30N	Mendenhall	26.26	51	P	P	03 47 14.7	-0.3
	baz=269						
G29M	Pine Creek	26.33	37	P	P	03 47 15.4	-0.2
	baz=254						
N31M	Braeburn, Yuko	26.43	49	P	P	03 47 16.1	-0.5
	baz=268						
J30M	Hart River	26.50	42	P	P	03 47 17.1	-0.2
	baz=261						
MAYO	Mayo, Yukon	26.55	45	P	P	03 47 17.5	-0.2
	baz=263						
I30M	Mount Dempster	26.60	41	IAmb	IAmb	03 47 49.8	
	comp=Z,47nm,1.9s						
I30M	Mount Dempster	26.60	41	P	P	03 47 17.7	-0.4
	baz=260						
SKAG	Skagway	26.64	54	P	P	03 47 18.2	-0.2
	baz=272						
EPYK	Eagle Plains	26.70	38	P	P	03 47 18.4	-0.5
	baz=257,SNR=6.7						
GRNR	Gornyy	26.80	286	eP	P	03 47 13.4	-6.6
E29M	Blow River	26.81	34	P	P	03 47 19.7	-0.2
	baz=252						
SIT	Sitka	26.83	59	P	P	03 47 18.5	-1.6
	baz=277						
D28M	Stokes Point	26.85	32	P	P	03 47 20.3	+0.2
	baz=249						
WHY	Whitehorse	26.85	51	P	P	03 47 19.7	-0.7
	baz=270						
G30M	tAoh Zraii Nji	27.03	37	P	P	03 47 21.8	-0.2
	baz=256						
M31M	Drury Creek, Y	27.12	48	P	P	03 47 22.6	-0.1
M31M	Drury Creek, Y	27.12	48	P	P	03 47 22.9	+0.1
	baz=268						
R32K	Eaglecrest	27.13	57	P	P	03 47 21.7	-1.2
	baz=275						
S32K	Killisnoo	27.18	58	P	P	03 47 22.3	-0.9
	baz=277						
F30M	Barrier River	27.35	36	P	P	03 47 24.8	+0.1
	baz=256						
P32M	Atlin	27.46	54	P	P	03 47 25.2	-0.6
	baz=273						
H31M	Peel River	27.53	40	P	P	03 47 26.3	-0.2
	baz=260						
FARO	Faro, Yukon	27.61	48	P	P	03 47 27.0	-0.2
	baz=268						
N32M	Quiet Lake	27.73	50	P	P	03 47 28.0	-0.2
	baz=271						
P33M	Teslin, Yukon	27.88	52	P	P	03 47 28.6	-1.1
	baz=273						
F31M	Tsiigehtchic	28.08	37	P	P	03 47 30.5	-0.7
F31M	Tsiigehtchic	28.08	37	P	P	03 47 31.2	0.0
	baz=258						
U33K	Whale Pass	28.17	61	P	P	03 47 30.7	-1.4
	baz=280						
Q32M	Nakina River	28.25	55	P	P	03 47 31.4	-1.6
	baz=276						
CRAG	Craig	28.29	62	P	P	03 47 31.4	-1.7
	baz=281						
INK	Inuvik	28.35	35	IAmb	IAmb	03 47 39.7	
	comp=Z,12nm,0.8s						
INK	Inuvik	28.35	35	P	P	03 47 33.4	-0.2
	baz=257,SNR=6.9						
INK	Inuvik	28.35	35	P	P	03 47 34.1	+0.5
INK				pmax	pmax		
	comp=Z,19nm,0.9s						
WRAK	Wrangell Islan	28.54	60	P	P	03 47 33.7	-1.7
	baz=280						
YAK	Yakutsk	28.75	312	LR	LR	03 58 57.9	
	comp=Z,175nm,19.2s,baz=90,slow=36						
YAK	Yakutsk	28.75	312	eP	P	03 47 36.3	-0.9
YAK				pmax	pmax	

V35K	Ketchikan	29.16	62	P	P	03 47 38.9	-2.0	
	baz=283							
DLBC	Dease Lake	29.47	56	P	P	03 47 42.7	-1.1	
	baz=278							
T35M	Bob Quinn	29.58	59	P	P	03 47 43.8	-0.9	
	baz=280							
WTLY	Watson Lake, Y	29.89	52	P	P	03 47 47.2	-0.3	
	baz=276							
TGTN	Hyland Airport	30.03	49	P	P	03 47 48.7	+0.1	
	baz=274							
KLR	Kul'dur	30.16	285	LR	LR	03 59 54.4		
	comp=Z,50nm,21.2s,baz=50,slow=36							
KLR	Kul'dur	30.16	285	*c i* P	P	03 47 50.2	+0.4	
KLR				pmax	pmax			
	comp=Z,57nm,1.3s							
TIXI	Tiksi	30.33	331	P	P	03 47 50.4	-0.7	
TIXI	Tiksi	30.33	331⇓	*e* P	P	03 47 50.6	-0.5	
TIXI				pmax	pmax			
	comp=Z,7.0nm,2.5s							
ZEA	Zeya	31.32	296	*e* P	P	03 47 59.5	-0.6	
ZEA				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=N,10.0nm,0.6s							
ZEA				pmax	pmax			
	comp=Z,20nm,0.9s							
ZEA				MLR	MLR			
	comp=Z,100nm,13.0s							
A36M	Sachs Harbour	31.89	29	P	P	03 48 04.9	+0.1	
	baz=259,SNR=28							
C36M	Paulatuk	31.91	34	P	P	03 48 04.8	-0.1	
C36M				IAmb	IAmb	03 48 06.1		
	comp=Z,7.5nm,0.8s							
C36M	Paulatuk	31.91	34	P	P	03 48 04.9	-0.1	
	baz=265,SNR=6.7							
WRGLY	Wrigley	32.13	46	P	P	03 48 06.6	-0.4	
WRGLY				IAmb	IAmb	03 48 08.4		
	comp=Z,12nm,0.8s							
WRGLY	Wrigley	32.13	46	P	P	03 48 06.9	-0.2	
	baz=275,SNR=5.8							
USRK	Ussuriysk Ar.	32.20	276	P	P	03 48 07.9	+0.1	
	comp=Z,3.2nm,0.8s,baz=69,slow=7.7,SNR=6.0							
USRK				LR	LR	03 59 29.1		
	comp=Z,76nm,21.8s,baz=36,slow=33							
	comp=Z,3.2nm,0.8s							
KOTAN	Kotaneelee Air	32.24	52	P	P	03 48 08.7	+0.6	
	baz=280							
MJAR	Matsushiro Arr	32.61	260	P	P	03 48 12.0	+0.5	
	comp=Z,2.9nm,0.9s,baz=53,slow=7.9,SNR=6.0							
MJAR				LR	LR	03 59 23.9		
	comp=Z,87nm,20.7s,baz=62,slow=33							
	comp=Z,2.9nm,0.9s							
MAJO	Matsushiro	32.61	260	P	P	03 48 12.8	+1.2	
H11N2	WAKE ISLAND Hy	32.81	202	T	T	04 23 16.9		
	baz=19,slow=75,SNR=30							
H11N3	WAKE ISLAND Hy	32.82	202	T	T	04 23 15.6		
	baz=19,slow=75,SNR=38							
H11N1	WAKE ISLAND Hy	32.83	202	T	T	04 23 20.4		
	baz=19,slow=75,SNR=38							
MDJ	Mudanjiang	33.49	279	P	P	03 48 18.9	-0.2	
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MSHR	Mys Shultsa	33.54	274⇓	*e* P	P	03 48 20.0	+0.4	
MSHR				pmax	pmax			
	comp=Z,30nm,1.3s							
PSTR	Posyet	33.73	275⇑	*e* P	P	03 48 22.0	+0.8	
H11S1	WAKE ISLAND Hy	34.03	202	T	T	04 24 45.7		
	baz=18,slow=76,SNR=25							
H11S2	WAKE ISLAND Hy	34.05	202	T	T	04 24 47.1		
	baz=18,slow=76,SNR=13							
H11S3	WAKE ISLAND Hy	34.05	202	T	T	04 24 51.6		
	baz=18,slow=76,SNR=11							
BNX	BinXian	34.31	282	⇑P	P	03 48 24.3	-1.9	
BNX				pmax	pmax			
	comp=Z,20nm,0.8s							
OZB	Mount Ozzard	34.78	71	P	P	03 48 31.7	+1.3	
LLLB	Lillooet	36.23	67	IAmb	IAmb	03 48 45.8		
	comp=Z,6.4nm,0.6s							
YKA	Yellowknife Ar	36.26	46	P	P	03 48 42.8	0.0	
	comp=Z,6.3nm,0.6s,baz=282,slow=8.5,SNR=71							
YKA				PcP	PcP	03 51 07.2	+0.2	
	comp=Z,1.7nm,0.7s,baz=286,slow=3.6,SNR=9.4							
YKA				ScP	ScP	03 54 52.8	+2.7	
	comp=Z,0.7nm,0.6s,baz=291,slow=3.5,SNR=10							
YKA				LR	LR	04 05 01.1		
	comp=Z,285nm,18.9s,baz=352,slow=39							
	comp=Z,6.3nm,0.6s							
NLWA	Neilton Lookou	36.45	73	P	P	03 48 46.7	+2.0	
CN2	Changchun	36.48	280	P	P	03 48 44.8	-0.1	
CN2				S	S	03 54 23.5	-0.5	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				LR	LR			
	comp=Z,400nm,16.0s							
CN2				LR	LR			
	comp=Z,400nm,16.0s							
CN2				LR	LR			
	comp=Z,200nm,17.0s							
GNW	Green Mountain	37.00	72	IAmb	IAmb	03 48 52.4		
	comp=Z,16nm,0.7s							
BOD	Bodaibo	37.23	306	*e* P	P	03 48 50.1	-1.0	
BOD				pmax	pmax			
	comp=Z,22nm,0.7s							
HIA	Hailar	37.33	291	*c e* P	P	03 48 51.2	-0.9	
HIA				pmax	pmax			
	comp=Z,12nm,1.0s							
LTY	Liberty	38.44	72	IAmb	IAmb	03 49 03.2		
	comp=Z,7.7nm,0.7s							
KSRS	Korea Array	38.50	270	P	P	03 49 03.5	+1.6	
	comp=Z,5.8nm,0.9s,baz=61,slow=8.2,SNR=20							
KSRS				PcP	PcP	03 51 15.8	+1.6	
	comp=Z,2.2nm,0.8s,baz=39,slow=3.5,SNR=6.1							
KSRS				LR	LR	04 03 54.9		
	comp=Z,36nm,21.1s,baz=50,slow=35							
	comp=Z,5.8nm,0.9s							
H04D	Lebanon	38.54	76	P	P	03 49 04.8	+2.5	
B08A	Colville Reser	38.71	69	IAmb	IAmb	03 49 05.6		
	comp=Z,5.3nm,0.5s							
H04A	Detroit Lake	38.80	76	IAmb	IAmb	03 49 07.8		
	comp=Z,12nm,0.9s							
MXC	Moxie City	38.99	72	P	P	03 49 06.5	+0.4	
E07A	Sunnyside	39.26	72	IAmb	IAmb	03 49 10.4		
	comp=Z,6.9nm,0.6s							
JNU	Nakatsue	39.40	262	P	P	03 49 10.0	+0.3	
JNU				IAmb	IAmb	03 49 12.3		
	comp=Z,18nm,1.1s							
JNU	Nakatsue	39.40	262	LR	LR	04 04 24.8		
	comp=Z,58nm,20.4s,baz=64,slow=35							
TJN	Taejon	39.51	269	*d e* P	P	03 49 10.8	+0.3	
HAWA	Hanford	39.54	72	IAmb	IAmb	03 49 13.1		
	comp=Z,19nm,0.7s							
F07A	Phinny Hill Vi	39.55	73	IAmb	IAmb	03 49 13.4		
	comp=Z,12nm,0.7s							
D08A	Wollman Farm,	39.58	71	P	P	03 49 11.4	+0.4	
D08A				IAmb	IAmb	03 49 12.9		
	comp=Z,9.8nm,0.8s							
E08A	Dider Farm, El	39.77	72	P	P	03 49 13.5	+0.9	
E08A				IAmb	IAmb	03 49 14.8		
	comp=Z,11nm,0.7s							
NEW	Newport	40.05	68	P	P	03 49 15.1	+0.1	
NEW				IAmb	IAmb	03 49 16.7		
	comp=Z,8.3nm,0.6s							
NEW	Newport	40.05	68	P	P	03 49 15.1	+0.1	
NEW				pmax	pmax			
	comp=Z,8.0nm,0.6s							
YBH	Yreka Blue Hor	40.05	80	LR	LR	04 03 53.1		
	comp=Z,103nm,20.0s,baz=301,slow=33							
J05D	Fort Rock, OR	40.12	77	P	P	03 49 18.4	+2.7	
E09A	Wood Farm, Sta	40.31	71	IAmb	IAmb	03 49 19.0		
	comp=Z,16nm,1.1s							
RES	Resolute Bay	40.48	24	P	P	03 49 17.5	-0.5	
RES	Resolute Bay	40.48	24	P	P	03 49 17.5	-0.5	
RES				pmax	pmax			
	comp=Z,6.0nm,1.1s							
O02D	Mt. Diablo Mer	40.89	82	P	P	03 49 23.5	+1.5	
O02D				IAmb	IAmb	03 50 43.4		
	comp=Z,36nm,1.8s							
HATC	Hat Creek Radi	41.35	81	P	P	03 49 26.5	+0.8	
BMO	Blue Mountains	41.67	73	P	P	03 49 29.0	+0.6	
BMO	Blue Mountains	41.67	73	P	P	03 49 29.0	+0.6	
BMO				pmax	pmax			
	comp=Z,8.0nm,1.0s							
J08A	Circle Bar Ran	41.77	75	IAmb	IAmb	03 49 44.4		
	comp=Z,29nm,1.8s							
XLT	XiLinHaoTe	42.18	286	*e* P	P	03 49 32.8	+0.3	
XLT				PcP	PcP	03 51 27.0	+0.8	
XLT				pmax	pmax			
	comp=Z,34nm,0.8s							
WVOR	Wild Horse Val	42.18	77	P	P	03 49 32.9	+0.3	
WVOR				pmax	pmax			
	comp=Z,12nm,0.9s							
OVMT	Ovando	43.07	68	P	P	03 49 39.8	0.0	
ALE	Alert	43.10	10	P	P	03 49 39.8	+0.3	
PNTR	Pine Nut	43.52	81	P	P	03 49 45.4	+1.8	
PNTR				IAmb	IAmb	03 50 13.7		
	comp=Z,14nm,0.7s							
WAKR	Walker	43.97	82	IAmb	IAmb	03 50 36.8		
	comp=Z,37nm,2.0s							
NRIK	Noril'sk	44.08	329	P	P	03 49 46.9	-0.5	
NRIK				IAmb	IAmb	03 49 48.7		
	comp=Z,15nm,1.1s							
NRIK	Noril'sk	44.08	329	P	P	03 49 47.9	+0.5	
	comp=Z,8.4nm,1.0s,baz=90,slow=9.3,SNR=11							
NRIK				PcP	PcP	03 51 33.2	+1.2	
	comp=Z,3.1nm,0.7s,baz=88,slow=3.5,SNR=4.5							
	comp=Z,8.4nm,1.0s							
NRIK	Noril'sk	44.08	329	*c e* P	P	03 49 47.4	0.0	
NRIK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HLID	Hailey	44.12	73	P	P	03 49 49.2	+0.9	
HLID				IAmb	IAmb	03 49 50.6		
	comp=Z,12nm,0.8s							
DLMT	Dillon	44.21	70	IAmb	IAmb	03 49 50.5		
	comp=Z,17nm,1.5s							
BJI	Beijing	44.31	281	P	P	03 49 50.8	+1.1	
BJI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BJT	Baijiatuau	44.33	281	IAmb	IAmb	03 49 52.1		
	comp=Z,8.2nm,0.7s							
BJT	Baijiatuau	44.33	281	P	P	03 49 51.4	+1.6	
EGMT	Eagleton	44.44	65	IAmb	IAmb	03 49 53.5		
	comp=Z,9.4nm,0.8s							
BOZ	Bozeman (W)	44.65	69	P	P	03 49 52.8	+0.3	
BOZ				IAmb	IAmb	03 49 54.5		
	comp=Z,13nm,0.8s							
BOZ	Bozeman (W)	44.65	69	P	P	03 49 52.8	+0.3	
BOZ				pmax	pmax			
	comp=Z,13nm,0.8s							
NVAR	Mina Array Bea	44.72	81	P	P	03 49 54.7	+1.4	
NVAR	Mina Array Bea	44.72	81	P	P	03 49 55.0	+1.8	
	comp=Z,3.6nm,0.8s,baz=288,slow=7.2,SNR=23							
NVAR				PcP	PP	03 51 36.7	-1.2	
	comp=Z,1.4nm,0.8s,baz=304,slow=4.5,SNR=3.1							
	comp=Z,3.6nm,0.8s							
NV11	Mina Array Sit	44.81	81	P	P	03 49 55.3	+1.4	
YHL	Hebgen Lake	45.33	69	IAmb	IAmb	03 50 00.4		
	comp=Z,20nm,0.9s							
ULN	Ulaanbaatar	45.36	296	P	P	03 49 57.8	-0.3	
ULN				IAmb	IAmb	03 49 59.8		
	comp=Z,8.1nm,0.8s							
ULN	Ulaanbaatar	45.36	296	*c e* P	P	03 49 58.6	+0.5	
ULN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ULN	Ulaanbaatar	45.36	296	P	P	03 49 58.9	+0.8	
YMR	Madison River	45.56	70	IAmb	IAmb	03 50 01.7		
	comp=Z,17nm,0.9s							
DSP	Deep Springs	45.58	82	P	P	03 50 01.8	+2.0	
YNR	Norris Junctio	45.70	69	IAmb	IAmb	03 50 03.8		
	comp=Z,17nm,0.9s							
SONM	Songino Array	45.75	296	P	P	03 50 00.9	-0.3	
SONM	Songino Array	45.75	296	P	P	03 50 02.1	+0.9	
	comp=Z,5.3nm,0.6s,baz=63,slow=8.7,SNR=40							
SONM				PcP	PcP	03 51 39.0	+0.7	
	comp=Z,1.1nm,0.6s,baz=39,slow=2.2,SNR=2.6							
	comp=Z,5.3nm,0.6s							
YFT	Old Faithful	45.76	70	IAmb	IAmb	03 50 04.7		
	comp=Z,18nm,0.8s							
YNE	Yellowstone No	45.93	69	P	P	03 50 02.8	0.0	
YNE				IAmb	IAmb	03 50 04.3		
	comp=Z,7.4nm,0.7s							
YMP	Mirror Lake Pl	45.99	69	IAmb	IAmb	03 50 05.3		
	comp=Z,6.7nm,0.8s							
FLWY	Flagg Ranch	46.05	70	IAmb	IAmb	03 50 06.5		
	comp=Z,15nm,0.8s							
TIA	Tai'an	46.06	276	P	P	03 50 04.4	+0.8	
TIA				sP	sP	03 50 18.9	+0.7	
TIA				pmax	pmax			
	comp=Z,25nm,0.9s							
ZAK	Zakamensk	46.12	300	*e* P	P	03 50 03.3	-0.7	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
HVU	Hansel Valley	46.13	74	IAmb	IAmb	03 50 07.1		
	comp=Z,9.5nm,0.6s							
MOOW	Moose Ponds	46.21	70	P	P	03 50 05.0	+0.1	
TPAW	Teton Pass	46.23	71	IAmb	IAmb	03 50 07.0		
	comp=Z,6.0nm,0.7s							
RLMT	Red Lodge	46.30	68	IAmb	IAmb	03 50 08.3		
	comp=Z,14nm,0.8s							
LOHW	Long Hollow	46.37	71	IAmb	IAmb	03 50 08.3		
	comp=Z,5.7nm,0.8s							
R11B	Troy Canyon, C	46.46	80	P	P	03 50 03.4	-3.6	
	baz=308,SNR=8.3							
AHID	Auburn Hatcher	46.56	72	IAmb	IAmb	03 50 09.9		
	comp=Z,16nm,1.1s							
HHC	Hu-ho-hao-te	46.66	285	*e* P	P	03 50 10.3	+1.9	
HHC				pmax	pmax			
	comp=Z,18nm,0.7s							
HHC				pmax	pmax			
	comp=Z,87nm,5.9s							
MOY	Mondy	46.67	303	*e* P	P	03 50 08.6	+0.3	
MOY				pmax	pmax			
	comp=Z,20nm,2.8s							
WCT	Wildcat Mounta	46.78	82	IAmb	IAmb	03 50 34.6		
	comp=Z,15nm,1.8s							
HNS	HongShan	46.83	279	⇑P	P	03 50 10.8	+1.2	
HNS				pmax	pmax			
	comp=Z,21nm,0.8s							
TPNV	Topopah Spring	46.92	81	IAmb	IAmb	03 50 12.8		
	comp=Z,12nm,0.7s							
DUG	Dugway, Tooele	47.05	76	P	P	03 50 11.8	+0.3	
DUG				IAmb	IAmb	03 50 32.0		
	comp=Z,7.9nm,0.8s							
DUG	Dugway, Tooele	47.05	76	P	P	03 50 11.8	+0.3	
DUG				pmax	pmax			
	comp=Z,8.0nm,0.8s							
NOR	Nord	47.27	3	*i* P	P	03 50 11.6	-1.0	
NOR				IAmb	IAmb	03 50 13.4		
	comp=Z,3.6nm,0.8s							
PRN	Pahroc Range	47.38	80	IAmb	IAmb	03 50 35.2		
	comp=Z,10.0nm,0.9s							
PSUT	Pine Spring	47.42	78	IAmb	IAmb	03 50 32.3		
	comp=Z,7.8nm,0.7s							
PDAR	Pinedale Array	47.48	71	P	P	03 50 14.8	-0.2	
PDAR	Pinedale Array	47.48	71	P	P	03 50 15.8	+0.8	
	comp=Z,19nm,0.7s,baz=301,slow=3.5,SNR=229							
	comp=Z,19nm,0.7s							
NJ2	Nanjing	47.67	271	*e* P	P	03 50 25.0	+8.8	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
NJ2	Nanjing	47.67	271	*e* P	P	03 50 16.4	+0.2	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
NEEM	North Greenlan	47.98	13	*i* P	P	03 50 17.3	-1.1	
NEEM				IAmb	IAmb	03 50 19.1		
	comp=Z,42nm,0.8s							
TIY	Taiyuan	48.04	281	*e* P	P	03 50 21.1	+2.0	
TIY				pmax	pmax			
	comp=Z,34nm,0.8s							
BSUT	Blindstream Ca	48.09	74	IAmb	IAmb	03 50 30.4		
	comp=Z,6.1nm,0.9s							
TMUT	Trail Mountain	48.58	76	IAmb	IAmb	03 50 41.2		
	comp=Z,9.3nm,0.8s							
LCMT	Little Creek M	48.75	79	P	P	03 50 25.4	+0.8	
LCMT				IAmb	IAmb	03 50 27.1		
	comp=Z,6.3nm,0.9s							
MTPU	Mount Pierson	48.76	78	IAmb	IAmb	03 50 27.7		
	comp=Z,5.3nm,0.9s							
Q16A	Castle Valley	48.83	76	IAmb	IAmb	03 50 27.8		
	comp=Z,5.9nm,0.7s							
PFO	Pinyon Flats O	48.93	85	LR	LR	04 07 37.2		
	comp=Z,87nm,20.4s,baz=212,slow=32							
P18A	Preston Nutter	48.96	75	IAmb	IAmb	03 50 45.4		
	comp=Z,7.2nm,0.7s							
KNB	Kanab	49.01	79	IAmb	IAmb	03 51 53.4		
	comp=Z,7.1nm,0.9s							
PKCU	Pink Cliffs	49.05	78	IAmb	IAmb	03 50 35.9		
	comp=Z,26nm,1.7s							
KULLO	Kullorsuaq	49.09	17	*i* P	P	03 50 26.3	-0.2	
KULLO				IAmb	IAmb	03 50 29.4		
	comp=Z,14nm,1.1s							
SRU	San Rafael Swe	49.11	75	IAmb	IAmb	03 50 31.0		
	comp=Z,8.5nm,0.7s							
K22A	Casper	49.35	69	IAmb	IAmb	03 50 30.9		
	comp=Z,9.9nm,0.8s							
W13A	Hualapai Mount	49.57	82	P	P	03 50 31.1	0.0	
U15A	North Rim	49.71	79	IAmb	IAmb	03 50 34.6		
	comp=Z,9.2nm,0.7s							
KBS	Kingsbay	50.03	357	*i* P	P	03 50 33.8	+0.1	
LYN	LuoYang	50.04	278	P	P	03 50 35.5	+1.1	
LYN				pmax	pmax			
	comp=Z,26nm,0.8s							
PV23	Carpenter Ridg	50.44	75	IAmb	IAmb	03 51 05.8		
	comp=Z,10nm,0.7s							
PV10	Paradox Valley	50.47	75	IAmb	IAmb	03 50 57.0		
	comp=Z,15nm,0.8s							
SPITS	Spitsbergen Ar	50.58	356	P	P	03 50 37.5	-0.4	
	comp=Z,16nm,0.5s,baz=59,slow=6.9,SNR=59							
	comp=Z,16nm,0.5s							
UPNV	Upernavik	50.62	19	*i* P	P	03 50 36.9	-1.3	
UPNV				IAmb	IAmb	03 50 38.6		
	comp=Z,9.9nm,0.5s							
N23A	Red Feather La	50.77	71	IAmb	IAmb	03 50 42.2		
	comp=Z,19nm,1.4s							
N23A	Red Feather La	50.77	71	P	P	03 50 37.3	-2.8	
	baz=308							
ULM	Lac du Bonnet	50.79	56	P	P	03 50 38.5	-1.3	
	comp=Z,1.3nm,0.5s,baz=298,slow=6.1,SNR=7.3							
ULM				LR	LR	04 12 39.1		
	comp=Z,123nm,19.1s,baz=336,slow=37							
	comp=Z,1.3nm,0.5s							
WUAZ	Wupatki	50.86	80	IAmb	IAmb	03 50 43.0		
	comp=Z,6.8nm,0.7s							
WHN	Wuhan	51.53	273	P	P	03 50 45.9	+0.3	
WHN				pmax	pmax			
	comp=Z,30nm,0.6s							
MVCO	Mesa Verde	51.54	76	IAmb	IAmb	03 51 05.5		
	comp=Z,17nm,1.4s							
DAG	Danmarks Havn	51.90	5	P	P	03 50 47.3	-0.4	
DAG				pmax	pmax			
	comp=Z,8.0nm,0.7s							
DAG	Danmarks Havn	51.90	5	*i* P	P	03 50 46.1	-1.6	
DAG				IAmb	IAmb	03 50 48.1		
	comp=Z,5.0nm,0.7s							
X18A	Snowflake	52.39	80	P	P	03 50 52.4	+0.2	
X18A				IAmb	IAmb	03 50 58.1		
	comp=Z,3.7nm,0.6s							
XAN	Xi'an	52.59	280	⇑P	P	03 50 53.8	+0.3	
XAN				pP	pP	03 51 01.8	-2.5	
XAN				pmax	pmax			
	comp=Z,18nm,0.9s							
TUC	Tucson	53.35	82	P	P	03 50 59.0	-0.2	
TUC	Tucson	53.35	82	P	P	03 50 59.0	-0.2	
TUC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TUC	Tucson	53.35	82	P	P	03 50 60.0	+0.8	
ZALV	Zalesovo Beam	53.40	313	P	P	03 50 58.2	-0.9	
ZALV	Zalesovo Beam	53.40	313	P	P	03 50 58.6	-0.5	
	comp=Z,2.7nm,0.4s,baz=46,slow=6.4,SNR=14							
ZALV				PcP	PcP	03 52 06.9	+1.0	
	comp=Z,4.1nm,0.7s,baz=26,slow=3.7,SNR=7.2							
	comp=Z,2.7nm,0.4s							
ZALV	Zalesovo Beam	53.40	313	*i* P	P	03 50 58.5	-0.6	
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.4s							
SUMG	Summit	53.85	13	P	P	03 51 01.9	-0.7	
SUMG	Summit	53.85	13	P	P	03 51 01.9	-0.7	
SUMG				pmax	pmax			
	comp=Z,20nm,1.0s							
SUMG	Summit	53.85	13	*i* P	P	03 51 02.0	-0.7	
SUMG				IAmb	IAmb	03 51 04.0		
	comp=Z,17nm,0.9s							
T25A	Trinidad	54.08	73	IAmb	IAmb	03 51 07.2		
	comp=Z,14nm,0.9s							
T25A	Trinidad	54.08	73	P	P	03 51 02.2	-2.4	
	baz=311,SNR=8.9							
DBG	Daneborg	54.19	6	*i* P	P	03 51 02.8	-1.9	
DBG				IAmb	IAmb	03 51 05.3		
	comp=Z,12nm,1.0s							
ANMO	Albuquerque	54.27	77	P	P	03 51 06.1	+0.1	
ANMO	Albuquerque	54.27	77	LR	LR	04 14 37.7		
	comp=Z,57nm,18.3s,baz=136,slow=36							
ANMO	Albuquerque	54.27	77	P	P	03 51 06.1	+0.1	
ANMO				pmax	pmax			
	comp=Z,7.0nm,1.5s							
ANMO	Albuquerque	54.27	77	P	P	03 51 07.1	+1.1	
ANMO				PcP	PcP	03 52 11.7	+1.8	
LZH	Lanzhou	54.36	285	*e* P	P	03 51 07.8	+1.2	
LZH				pP	pP	03 51 19.5	+2.1	
LZH				sP	sP	03 51 23.3	+1.2	
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
EYMN	Ely	54.48	56	IAmb	IAmb	03 51 19.3		
	comp=Z,13nm,1.6s							
GTA	Gaotai	54.61	291	*e* P	P	03 51 09.1	+0.8	
GTA				pP	pP	03 51 16.4	-2.7	
GTA				sP	sP	03 51 23.0	-0.6	
GTA				pmax	pmax			
	comp=Z,22nm,0.9s							
GTA				LR	LR			
	comp=Z,110nm,14.5s							
GTA				LR	LR			
	comp=Z,94nm,14.5s							
GTA				LR	LR			
	comp=Z,150nm,16.4s							
E38A	The Farm, Brul	55.30	57	IAmb	IAmb	03 51 14.2		
	comp=Z,7.1nm,0.6s							
RTBA	Rita Blanca	55.55	73	IAmb	IAmb	03 51 17.0		
	comp=Z,9.3nm,0.8s							
ICESG	Greenland Ices	56.74	16	*i* P	P	03 51 20.8	-2.6	
ICESG				IAmb	IAmb	03 51 23.5		
	comp=Z,19nm,0.9s							
KSU1	Kansas State U	57.41	67	IAmb	IAmb	03 51 29.5		
	comp=Z,11nm,0.8s							
ARCES	ARCESS Array B	58.17	349	P	P	03 51 32.1	-1.0	
	comp=Z,1.7nm,0.6s,baz=37,slow=8.3,SNR=8.5							
	comp=Z,1.7nm,0.6s							
KURK	Kurchatov	58.39	313	P	P	03 51 34.6	-0.3	
KURK	Kurchatov	58.39	313	*c i* P	P	03 51 35.2	+0.3	
KURK				pmax	pmax			
	comp=Z,27nm,1.3s							
KURK	Kurchatov	58.39	313	P	P	03 51 35.0	+0.2	
KURK				pP	pP	03 51 46.3	+0.1	
KURK				sP	sP	03 51 50.6	+0.1	
KURK				PcP	PcP	03 52 26.0	+0.6	
KURBB	Kurchatov Arra	58.49	313	P	P	03 51 36.0	+0.4	
	comp=Z,16nm,0.6s,baz=43,slow=6.8,SNR=151							
KURBB				PcP	PcP	03 52 26.3	+0.6	
	comp=Z,2.4nm,0.6s,baz=49,slow=3.9,SNR=5.3							

L44A	Lake County Fo	60.20	59	P	P	03 51 46.3	-1.2
	baz=314						
BVAR	Borovoye Array	60.36	319	P	P	03 51 49.2	+0.7
	comp=Z,39nm,0.7s,baz=50,slow=7.4,SNR=182						
	comp=Z,39nm,0.7s						
BRVK	Borovoye	60.38	319	P	P	03 51 47.9	-0.7
BRVK	Borovoye	60.38	319	*c iP*	P	03 51 49.3	+0.7
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s						
BRVK	Borovoye	60.38	319	P	P	03 51 49.3	+0.7
BRVK				pP	pP	03 52 00.3	+0.4
BRVK				PcP	PcP	03 52 34.0	+0.8
R40A	Maddies Statio	60.45	65	IAmb	IAmb	03 51 49.3	
	comp=Z,18nm,1.5s						
SCHQ	Schefferville	60.93	37	P	P	03 51 52.1	-0.3
	comp=Z,3.8nm,0.6s,baz=307,slow=7.1,SNR=9.4						
SCHQ				LR	LR	04 18 01.6	
	comp=Z,104nm,19.0s,baz=38,slow=36						
	comp=Z,3.8nm,0.6s						
CCM	Cathedral Cave	61.19	64	P	P	03 51 54.1	-0.3
CCM				pP	PcP	03 52 36.1	-0.7
MGMO	Mountain Grove	61.23	66	IAmb	IAmb	03 52 39.7	
	comp=Z,16nm,1.5s						
PZH	PanZhiHua	62.26	279	P	P	03 52 09.8	+7.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
PZH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
MIAR	Mount Ida	62.29	69	IAmb	IAmb	03 52 03.6	
	comp=Z,12nm,0.8s						
MIAR	Mount Ida	62.29	69	P	P	03 52 02.8	+1.0
MIAR				pmax	pmax		
	comp=Z,20nm,1.5s						
ARTI	Arti	62.33	327	P	P	03 52 02.4	+0.7
ARTI	Arti	62.33	327	*c iP*	P	03 52 02.7	+1.0
ARTI						03 52 41.4	
ARTI				S	S	04 00 28.1	+3.2
ARTI				SS	SS	04 04 32.9	+5.1
ARTI				pmax	pmax		
	comp=Z,12nm,0.7s						
ARTI	Arti	62.33	327	P	P	03 52 02.7	+1.0
ARTI				PcP	PcP	03 52 42.0	+0.9
WHAR	Wooly Hollow	62.52	67	P	P	03 52 02.0	-1.4
WHAR				IAmb	IAmb	03 52 04.7	
	comp=Z,8.0nm,0.9s						
S44A	Carbondale	62.57	63	IAmb	IAmb	03 52 05.1	
	comp=Z,7.8nm,0.7s						
LCAR	Lake Charles	62.63	66	IAmb	IAmb	03 52 04.7	
	comp=Z,5.7nm,1.0s						
X40A	Basin Creek Fa	62.77	68	IAmb	IAmb	03 52 28.8	
	comp=Z,23nm,1.7s						
SADO	Sadowa	62.91	52	LR	LR	04 19 15.6	
	comp=Z,86nm,19.1s,baz=302,slow=36						
833A	Chaparral WMA,	63.18	77	P	P	03 52 05.2	-2.7
	baz=316						
KIRV	Kirov	63.33	333	*de*P	P	03 52 09.8	+1.6
WVT	Waverly	64.48	64	P	P	03 52 16.0	-0.3
WVT				IAmb	IAmb	03 52 17.5	
	comp=Z,3.9nm,0.6s						
WVT	Waverly	64.48	64	P	P	03 52 16.0	-0.3
WVT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WVT	Waverly	64.48	64	P	P	03 52 16.8	+0.6
WUS	Wushi	64.83	305	IAmb	IAmb	03 52 20.3	
	comp=Z,11nm,0.7s						
WUS	Wushi	64.83	305	P	P	03 52 19.3	+0.6
WUS				pP	pP	03 52 30.2	0.0
WUS				sP	sP	03 52 34.6	0.0
TARG	Taragay, Kyrgy	65.17	306	IAmb	IAmb	03 53 42.3	
	comp=Z,3.9nm,0.7s						
KDJ	Kajisay	65.20	307	IAmb	IAmb	03 52 22.4	
	comp=Z,9.6nm,0.6s						
V48A	Smith Brothers	65.33	63	IAmb	IAmb	03 52 24.3	
	comp=Z,5.1nm,0.6s						
CLTN	Cedars of Leba	65.36	63	IAmb	IAmb	03 52 45.6	
	comp=Z,5.5nm,0.8s						
AAK	Ala-Archa	66.16	309	P	P	03 52 27.5	+0.3
AAK				IAmb	IAmb	03 52 29.1	
	comp=Z,9.3nm,0.9s						
AAK	Ala-Archa	66.16	309	*c iP*	P	03 52 27.8	+0.6
AAK				pmax	pmax		
	comp=Z,14nm,1.3s						
AAK	Ala-Archa	66.16	309	P	P	03 52 28.1	+0.9
AAK				sP	sP	03 52 43.1	-0.2
AAK				PcP	PcP	03 52 58.1	+0.8
SSPA	Standing Stone	66.57	54	P	P	03 52 29.1	-0.5
SSPA				IAmb	IAmb	03 53 00.9	
	comp=Z,12nm,1.1s						
SSPA	Standing Stone	66.57	54	P	P	03 52 29.6	-0.1
SSPA				PcP	PcP	03 52 58.8	0.0
TKL	Tuckaleechee C	67.10	61	LR	LR	04 22 24.8	
	comp=Z,51nm,18.5s,baz=332,slow=36						
ABKAR	Akbulak array	67.47	322	P	P	03 52 34.9	-0.4
ABKAR				IAmb	IAmb	03 52 37.2	
	comp=Z,14nm,0.9s						
KK31	Karatay Array	67.73	312	P	P	03 52 36.9	-0.1
KK31	Karatay Array	67.73	312	P	P	03 52 36.9	-0.1
KK31				pmax	pmax		
	comp=Z,13nm,0.7s						
KKAR	Karatay Array	67.73	312	P	P	03 52 37.3	+0.3
KKAR				IAmb	IAmb	03 52 38.5	
	comp=Z,8.6nm,0.7s						
KKAR	Karatay Array	67.73	312	P	P	03 52 37.3	+0.3
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KSH	Kashi	67.75	306	P	P	03 52 41.5	+4.2
KSH				sP	sP	03 52 54.4	+1.1
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
L61B	Northampton	67.78	50	P	P	03 52 35.7	-1.6
	baz=320						
NB2	NORSAR Subarra	67.82	354	P	P	03 52 37.0	-0.3
	comp=Z,2.9nm,0.6s,baz=8.7,slow=6.5						
NOA	NORSAR Array B	67.82	354	P	P	03 52 37.0	-0.3
	comp=Z,5.1nm,0.7s,baz=8.2,slow=6.3,SNR=15						
	comp=Z,5.1nm,0.7s						
LUPA	Lehigh Univers	67.86	52	IAmb	IAmb	03 52 39.9	
	comp=Z,8.2nm,0.7s						
HFS	Hagfors	68.53	352	P	P	03 52 40.9	-0.8
	comp=Z,3.8nm,0.6s,baz=128,slow=2.4,SNR=6.6						
	comp=Z,3.8nm,0.6s						
BELG	Belogornoye	69.15	331	LR	LR	04 25 17.4	
	comp=Z,291nm,19.6s,baz=306,slow=38						
TAOE	Nuku Hiva Isla	69.18	137	*e*LR	LR	04 13 44.9	
	comp=Z,145nm,22.8s						
DRK	Karamyk	69.88	308	IAmb	IAmb	03 52 54.0	
	comp=Z,12nm,0.8s						
CMAR	Chiang Mai Arr	69.90	275	P	P	03 52 51.2	+0.4
	comp=Z,3.1nm,0.6s,baz=25,slow=7.1,SNR=17						
	comp=Z,3.1nm,0.6s						
CMAR	Chiang Mai Arr	69.90	275	*i* P	P	03 52 51.5	+0.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DZET	Dzherino	71.86	310	P	P	03 53 03.6	+1.0
DZET				pmax	pmax		
	comp=Z,23nm,0.7s						
SIMJ	Simiganj	71.89	309	P	P	03 53 03.1	+0.3
SIMJ	Simiganj	71.89	309	P	P	03 53 03.6	+0.8
PPT2	Papeete2	73.60	149	*e*LR	LR	04 15 46.2	
	comp=Z,112nm,23.8s						
PPT2				*e*LR	LR	04 15 51.6	
	comp=Z,94nm,23.0s						
NIL	Nilore	73.63	303	P	P	03 53 13.2	+0.2
NIL	Nilore	73.63	303	P	P	03 53 13.3	+0.2
NIL				pmax	pmax		
	comp=Z,25nm,1.1s						
DZM	Mont Dzumac	73.73	192	*e*LR	LR	04 15 54.1	
	comp=Z,202nm,23.7s						
EKA	Eskdalemuir Ar	73.92	2	P	P	03 53 14.7	+0.3
	comp=Z,3.7nm,0.7s,baz=350,slow=4.8,SNR=7.3						
	comp=Z,3.7nm,0.7s						
RAR	Rarotonga	74.29	160	LR	LR	04 19 47.3	
	comp=Z,179nm,20.1s,baz=347,slow=31						
KBL	Kabul	75.10	307	P	P	03 53 21.2	-0.6
KBL				IAmb	IAmb	03 53 22.6	
	comp=Z,14nm,0.8s						
KBL	Kabul	75.10	307	P	P	03 53 21.3	-0.6
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
AKASG	Malin Array Be	75.46	341	P	P	03 53 22.7	-0.7
	comp=Z,3.1nm,0.5s,baz=22,slow=6.5,SNR=10						
	comp=Z,3.1nm,0.5s						
KIEV	Kiev	75.47	341	P	P	03 53 22.3	-1.1
KIEV				IAmb	IAmb	03 53 44.4	
	comp=Z,38nm,1.9s						
KIEV	Kiev	75.47	341	⇓P	P	03 53 23.0	-0.4
KIEV	Kiev	75.47	341	⇓P	P	03 53 23.0	-0.4
KAPI	Kappang	75.51	243	LR	LR	04 23 42.8	
	comp=Z,284nm,20.8s,baz=66,slow=33						
SORM	Soroca	78.08	341	⇓P	P	03 53 37.6	-0.5
SORM	Soroca	78.08	341	⇓P	P	03 53 37.6	-0.5
KIV	Kislovodsk	78.15	330	*e*P	P	03 53 39.8	+1.0
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	Khabaz	78.29	329	P	P	03 53 39.0	-0.4
	comp=Z,2.9nm,0.8s,baz=75,slow=6.6,SNR=4.1						
	comp=Z,2.9nm,0.8s						
KBZ	Khabaz	78.29	329	P	P	03 53 39.0	-0.4
MEM	Membach	78.52	356	*d*P	P	03 53 40.9	+0.3
	comp=Z,7.3nm,1.1s						
BMRD	Maredsous	78.88	356	*d*P	P	03 53 42.6	0.0
	comp=Z,4.9nm,0.8s						
TBI	Tubuai	79.04	151	*e*LR	LR	04 18 23.3	
	comp=Z,513nm,22.5s						
BURAR	Bucovina Array	79.20	343	⇓P	P	03 53 44.3	-0.2
BURAR	Bucovina Array	79.20	343	⇓P	P	03 53 44.3	-0.2
ARCR	ARCALIA	79.87	343	⇑P	P	03 53 49.3	+1.2
DRGR		80.45	344	⇓P	P	03 53 50.9	-0.3
DRGR		80.45	344	⇓P	P	03 53 50.9	-0.3
MARR	Marisel-Cluj	80.49	344	⇓P	P	03 53 51.6	+0.1
COVR	Voineasa-Covas	80.70	341	⇑P	P	03 53 54.0	+1.4
BIOA	Bad Ischl, Aus	80.84	350	*e*P	P	03 53 54.0	+0.7
	comp=Z,7.2nm,1.4s						
CFR	Carcaliu	80.94	340	⇓P	P	03 53 53.6	-0.1
CFR	Carcaliu	80.94	340	⇓P	P	03 53 53.6	-0.1
WB2	Warramunga Arr	81.02	222	P	P	03 53 53.7	-0.7
WB2				IAmb	IAmb	03 53 55.1	
	comp=Z,6.0nm,0.9s						
WRA	Warramunga Arr	81.02	222	P	P	03 53 53.9	-0.5
	comp=Z,3.3nm,0.8s,baz=34,slow=6.2,SNR=19						
	comp=Z,3.3nm,0.8s						
MLR	Muntele Rosu	81.09	341	P	P	03 53 55.5	+0.7
	comp=Z,2.8nm,0.6s,baz=348,slow=9.3						
	comp=Z,2.8nm,0.6s						
MLR	Muntele Rosu	81.09	341	⇑P	P	03 53 55.9	+1.1
MLR	Muntele Rosu	81.09	341	⇑P	P	03 53 55.9	+1.1
VOIR		81.32	342	⇑P	P	03 53 54.7	-1.2
VOIR		81.32	342	⇑P	P	03 53 54.7	-1.2
WATA	Walderalm	81.39	352	*i* P	P	03 53 56.6	+0.3
	comp=Z,5.3nm,0.8s						
MOTA	Moosalm	81.43	352	*i* P	P	03 53 57.7	+1.1
	comp=Z,4.9nm,1.0s						
WTTA	Wattenberg	81.46	352	*i* P	P	03 53 57.3	+0.5
	comp=Z,4.3nm,0.8s						
KBA	Koelnbreinsper	81.48	350	*i* P	P	03 53 57.5	+0.7
	comp=Z,8.3nm,0.7s						
SQTA	Sankt Quirin	81.54	352	*i* P	P	03 53 55.0	-2.1
	comp=Z,5.5nm,1.2s						
SURR	Surduc	81.55	344	⇑P	P	03 53 57.2	+0.2
SOKA	Soboth	81.68	349	*i* P	P	03 53 58.3	+0.5
	comp=Z,7.0nm,1.0s						
FETA	Feichten	81.78	352	*i* P	P	03 53 59.0	+0.6
	comp=Z,4.1nm,1.0s						
GZR	Gura Zlata	81.79	344	⇑P	P	03 53 58.6	+0.2
GZR	Gura Zlata	81.79	344	⇑P	P	03 53 58.6	+0.2
PSI	Prapat	81.83	264	P	P	03 53 59.0	-0.1
	comp=Z,4.9nm,0.6s,baz=358,slow=6.0,SNR=6.2						
	comp=Z,4.9nm,0.6s						
PSI	Prapat	81.83	264	P	P	03 53 59.0	-0.1
ABTA	Abfaltersbach	81.89	351	*i* P	P	03 54 00.2	+1.3
	comp=Z,9.4nm,1.4s						
OBKA	Obir	81.91	349	*i* P	P	03 53 59.5	+0.5
	comp=Z,3.1nm,0.8s						
RPSI	Rantau Prapat	81.91	264	P	P	03 53 59.0	-0.4
HERR	Herculane	82.35	344	⇑P	P	03 53 59.2	-2.0
CHIV	Chivirico	83.22	67	IAmb	IAmb	03 54 07.9	
	comp=Z,16nm,0.7s						
FITZ	Fitzoy Crossi	83.39	231	P	P	03 54 07.2	+0.4
BOVS	Bovan	83.68	344	⇑P	P	03 54 07.1	-1.0
ASAR	Alice Springs	84.51	221	P	P	03 54 12.5	0.0
ASAR	Alice Springs	84.51	221	P	P	03 54 13.1	+0.6
	comp=Z,2.3nm,0.8s,baz=29,slow=5.1,SNR=18						
	comp=Z,2.3nm,0.8s						
BR131	Keskin Array S	84.72	334	IAmb	IAmb	03 54 15.3	
	comp=Z,5.1nm,0.7s						
BRTR	Keskin Array B	84.72	334	P	P	03 54 12.2	-1.4
BRTR	Keskin Array B	84.72	334	P	P	03 54 14.2	+0.6
	comp=Z,4.0nm,0.7s,baz=54,slow=2.4,SNR=25						
	comp=Z,4.0nm,0.7s						
MARD	Mardin	84.77	328	IAmb	IAmb	03 54 16.3	
	comp=Z,10nm,0.9s						
BNN	Bunyan	84.91	332	P	P	03 54 14.6	0.0
OSSC	Osservatorio P	85.20	351	IAmb	IAmb	03 54 16.4	
	comp=Z,5.6nm,0.8s						
BORA	Eskisehir	85.41	337	IAmb	IAmb	03 54 18.3	
	comp=Z,5.8nm,0.8s						
NRCA	Norcia	85.70	350	IAmb	IAmb	03 54 20.5	
	comp=Z,8.8nm,0.9s						
ESDC	Sonseca Array	89.57	3	P	P	03 54 37.4	+0.3
	comp=Z,0.9nm,0.7s,baz=350,slow=6.5,SNR=6.4						
	comp=Z,0.9nm,0.7s						
SJG	San Juan	90.50	60	LR	LR	04 38 09.4	
	comp=Z,29nm,19.1s,baz=338,slow=38						
RAYN	Ar Rayn	95.35	318	P	P	03 55 03.3	-0.7
RAYN	Ar Rayn	95.35	318	P	P	03 55 03.3	-0.7
H03N2	Juan Fernandez	122.17	105	T	T	06 14 50.3	
	baz=315,slow=77,SNR=17						
H03N1	Juan Fernandez	122.19	105	T	T	06 14 51.6	
	baz=315,slow=77,SNR=20						
H03N3	Juan Fernandez	122.19	105	T	T	06 14 51.8	
	baz=315,slow=77,SNR=12						
DBIC	Dimbokro	122.36	5	PKP	PKPdf	04 00 34.3	-0.6
	comp=Z,1.4nm,0.4s,baz=324,slow=2.5,SNR=9.5						
QSPA	South Pole Qui	140.84	180	PKhKP	PKPpre	04 01 02.8	
	comp=Z,1.8nm,0.6s,baz=239,slow=1.6,SNR=6.5						
QNGWA	Qangwa	144.12	323	*i* P	PKPdf	04 01 14.8	-0.6
LPHEP	Lephephe	145.57	314	*i* P	PKPab	04 01 19.1	+0.8
GRTLG	Ghanzi	145.76	322	*i* P	PKPab	04 01 19.7	+0.7
KDWAN	Kaudwane	146.12	315	*i* P	PKPab	04 01 20.6	+0.3
KGCAE	Kacgae	146.71	319	*i* P	PKPbc	04 01 22.0	+0.6
SKOMA	Sekoma	147.43	315	*i* P	PKPbc	04 01 23.8	+0.4
KOOLE	Kule	147.63	322	*i* P	PKPbc	04 01 23.2	-0.8
MAKGR	Makgori	148.16	313	*i* P	PKPbc	04 01 25.9	+0.5
PHPEN	Phepeng	148.74	316	*i* P	PKPbc	04 01 25.8	-1.0
BOSA	Boshof	150.30	309	PKPbc	PKiKP	04 01 31.4	0.0
	comp=Z,11nm,0.8s,baz=50,slow=2.8,SNR=21						

IDC ***18*** *03:46:34.1±0.8, 34°.83N×23°.21E, h0km, mb4.0/16, mbtmp3.9/28, MLS.8/12, Error ellipse: s-maj=17.5km s-min=13.3km az=179.0*
ISK ***18*** *03:46:38.4, 34°.78N×23°.16E, h77km, ML4.0/16*
MCSM ***18*** *03:46:39.7±0.8, 35°.N±8°.×2°.3E±°, h10km, mb4.2, mB4.1, MLv4.4, Mw(mB)3.2*
THE ***18*** *03:46:40.1, 34°.84N×23°.12E, h11km±1km, ML3.9/8, Error ellipse: s-maj=1.6km s-min=0.8km az=213.0*
ATH ***18*** *03:46:41.8, 34°.89N×23°.17E, h32km±2km, ML4.0/37, Manual Solution by M.Charalampakis First location: 2019/02/18 03:47:06, This location: 2021/03/25 09:38:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km*
GII ***18*** *03:46:44.0±0.0, 34°.73N×24°.18E, h10km, Mws4.1, confirmed*
HLW ***18*** *03:46:45.2, 34°.56N×23°.76E, h33km±67km, Md4.2, Ml4.3*
AFAD ***18*** *03:46:54.3, 35°.60N×24°.38E, h6km±4km, MW4.0*
BEO ***18*** *03:46:55.2±0.6, 36°.17N×22°.22E, h0km, ML4.0/13*
ISC 18 03:46:39.3±0.6, 34°.76N±0°.05×23°.07E±0°.04, h38km, n301, σ1§83/269, mb4.0/17, 14C-9D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res s
GVD	Gavdhos	0.84	84	Pg		Pn		03 46 54.9	+0.3
GVD				Sg		Sn		03 47 07.4	+1.6
GVD	Gavdhos	0.84	84	P		Pn		03 46 54.9	+0.3
GVD				S		Sn		03 47 07.2	+1.4
	31μm,0.5s								
GVD	Gavdhos	0.84	84	P		Pn		03 46 54.9	+0.3
GVD				S		Sn		03 47 06.8	+1.0
IMMV	Iera Moni Meta	1.03	47	Pg		Pn		03 46 57.4	+0.3
IMMV				Sg		Sn		03 47 11.4	+1.2
IMMV	Iera Moni Meta	1.03	47	P		Pn		03 46 57.6	+0.5
IMMV				S		Sn		03 47 11.5	+1.2
	11μm,0.4s								
IMMV	Iera Moni Meta	1.03	47	P		Pn		03 46 57.5	+0.3
IMMV				S		Sn		03 47 09.8	-0.5
CHNB	Souda	1.09	48	P		Pn		03 46 58.7	+0.7
CHAN	Chania	1.10	46	P		Pn		03 46 59.0	+0.9
ANKY	Antikythira Is	1.12	10	P		Pn		03 46 59.8	+1.4
ANKY				S		Sn		03 47 13.4	+0.8
	6μm,0.6s								
ANKY	Antikythira Is	1.12	10	P		Pn		03 46 59.7	+1.2
PRNS	Prines Rethymn	1.32	62	P		Pn		03 47 01.0	-0.2
PRNS				S		Sn		03 47 18.1	+0.6
PRNS	Prines Rethymn	1.32	62	P		Pn		03 47 00.6	-0.6
PRNS				S		Sn		03 47 14.3	-3.3
TMBK	Timbaki Herakl	1.43	77	P		Pn		03 47 04.0	+1.3
TMBK				S		Sn		03 47 20.6	+0.4
IDI	Anoyia	1.59	70	Pn		Pn		03 47 05.4	+0.5
IDI				Sn		Sn		03 47 23.9	-0.3
IDI	Anoyia	1.59	70	P		Pn		03 47 05.8	+0.9
IDI				S		Sn		03 47 26.5	+2.3
	2μm,0.6s								
IDI	Anoyia	1.59	70	Pg		Pn		03 47 06.3	+1.5
	43nm,0.3s,baz=248,slow=11,SNR=317								
IDI				Lg		Lg		03 47 22.3	
	113nm,0.3s,baz=340,slow=18,SNR=7.4								
IDI	Anoyia	1.59	70	P		Pn		03 47 05.4	+0.5
IDI				S		Sn		03 47 23.8	-0.4
IACM	Heraklion	1.73	71	P		Pn		03 47 08.3	+1.6
IACM				S		Sn		03 47 30.3	+2.7
IACM	Heraklion	1.73	71	P		Pn		03 47 08.4	+1.6
VLI	Veliai	1.96	357	P		Pn		03 47 12.1	+2.2
VLI				S		Sn		03 47 36.3	+3.0
	3μm,0.8s								
VLI	Veliai	1.96	357	P		Pn		03 47 11.9	+2.0
MHLO	Agia Marina, M	2.21	29	P		Pn		03 47 13.9	+0.5
MHLO				S		Sn		03 47 42.0	+2.5
	4μm,0.5s								
THR9	Santorini-Faro	2.46	49	P		Pn		03 47 17.3	+0.6
ITM	Ithomi	2.59	339	Pn		Pn		03 47 19.9	+1.3
ITM	Ithomi	2.59	339	P		Pn		03 47 20.4	+1.8
ITM				S		Sn		03 47 52.2	+3.4
ITM	Ithomi	2.59	339	P		Pn		03 47 20.4	+1.8
ZKR	Zakros	2.61	81	Pn		Pn		03 47 19.0	+0.1
ZKR	Zakros	2.61	81	P		Pn		03 47 20.4	+1.5
ZKR				S		Sn		03 47 53.1	+3.7
	482nm,0.9s								
ZKR	Zakros	2.61	81	P		Pn		03 47 20.4	+1.5
KRND	KRANIDI	2.62	1	P		Pn		03 47 20.6	+1.6
KRND				S		Sn		03 47 51.9	+2.3
	748nm,0.4s								
KRND	KRANIDI	2.62	1	P		Pn		03 47 20.4	+1.4
MET6	Megalochori,Me	2.84	5	P		Pn		03 47 22.9	+0.9
MET5	Makryloggos,Me	2.87	5	P		Pn		03 47 23.3	+0.9
MET4	Agioi Theodoro	2.87	5	P		Pn		03 47 23.6	+1.2
AMT	Artemida-Makis	2.98	339	P		Pn		03 47 26.2	+2.2
APE	Apeiranthos	3.05	40	Pn		Pn		03 47 23.8	-1.2
APE	Apeiranthos	3.05	40	⇓P		Pn		03 47 24.2	-0.8
APE	Apeiranthos	3.05	40	P		Pn		03 47 23.7	-1.2
APE				S		Sn		03 47 56.7	-3.6
APE	Apeiranthos	3.05	40	P		Pn		03 47 23.6	-1.4
AMGA	Amorgos Island	3.09	47	P		Pn		03 47 25.3	-0.2
VLY	Voula,Athens	3.14	11	P		Pn		03 47 26.5	+0.3
GUR	Goura	3.23	350	P		Pn		03 47 29.7	+2.3
ATH	Athens Observa	3.25	9	P		Pn		03 47 28.4	+0.7
NOAC	Athens-Thissio	3.25	9	P		Pn		03 47 28.6	+0.9
TNSA	Tinos	3.25	31	P		Pn		03 47 27.2	-0.4
ATHU	Athens Univers	3.25	10	P		Pn		03 47 28.1	+0.4
LTK	Loutraki	3.26	359	P		Pn		03 47 28.8	+1.0
PTL	Penteli	3.35	11	P		Pn		03 47 29.4	+0.3
KLV	Kalavryta, Ach	3.36	348	P		Pn		03 47 31.6	+2.3
KLV	Kalavryta, Ach	3.36	348	P		Pn		03 47 31.2	+1.9
DRO	Drossia	3.37	341	P		Pn		03 47 31.6	+2.2
DRO	Drossia	3.37	341	P		Pn		03 47 31.5	+2.1
DION	Dionisos Attik	3.39	12	P		Pn		03 47 30.1	+0.6
KARP	Karpathos	3.44	76	Pn		Pn		03 47 30.8	+0.4
KARP	Karpathos	3.44	76	P		Pn		03 47 31.6	+1.2
KARP	Karpathos	3.44	76	Pn		Pn		03 47 32.4	+2.0
KARP	Karpathos	3.44	76	P		Pn		03 47 30.8	+0.4
RLS	Riolos of Patr	3.54	339	P		Pn		03 47 33.7	+2.1
KALE	Kalithea	3.70	349	P		Pn		03 47 35.0	+1.1
SLUM	Salum	3.72	150	P		Pn		03 47 34.9	+0.7
SLUM				S		Sn		03 48 13.9	-2.8
EFP	Efpalio	3.78	346	P		Pn		03 47 36.7	+1.7
LKR	Lokris	3.89	359	P		Pn		03 47 36.7	+0.3
PSDA	Pessada-Kefalo	3.90	330	P		Pn		03 47 37.2	+0.6
ANX	Ano Chora	3.94	347	P		Pn		03 47 38.6	+1.4
VLS	Valsamata	3.95	330	P		Pn		03 47 37.9	+0.5
KYMI	Kymi, Euboea I	3.96	12	P		Pn		03 47 36.8	-0.5
AXAR	Agios Charalam	4.01	355	P		Pn		03 47 39.1	+0.9
PVO	Paravola	4.05	343	P		Pn		03 47 41.6	+3.0
YAZI	Mula-Dat§a-	4.05	60	P		Pn		03 47 37.1	-1.6
YAZI				S		Sn		03 48 10.7	-14
DMLN	Damoulianata-K	4.10	329	P		Pn		03 47 39.9	+0.5
BODT	Bodrum	4.14	55	Pn		Pn		03 47 39.7	-0.2
FSK	Fiskardo	4.21	332	P		Pn		03 47 41.6	+0.8
BDRM	Kayabasi	4.23	56	P		Pn		03 47 39.6	-1.6
BDRM				S		Sn		03 48 15.0	-14
EVR	Evrytania

SRS eSn Sn 03 49 09.8 -12
CAVK Edirne/Enez-Ca 6.41 22 ⇑P Pn 03 48 11.9 +0.9
VAY Valandovo 6.56 357 ePn **Pn 03 48 14.8 +1.7**
VAY Valandovo 6.56 357 ePn **Pn 03 48 12.2 -1.0**
VAY eSn Sn 03 49 11.1 -16
OHR Ohrid 6.59 345 i Pn **Pn 03 48 14.4 +0.8**
OHR Ohrid 6.59 345 ePn **Pn 03 48 12.2 -1.4**
OHR eSn Sn 03 49 08.9 -19
TIP Timpagrande 6.71 313 ⇑P Pn 03 48 15.1 -0.1
TIP Timpagrande 6.71 313 Pn **Pn 03 48 15.3 +0.1**
0.1nm16nm,0.6s
TIP Sn **Sn 03 49 29.6 -0.7**
0.1nm16nm,0.6s
CEL Celeste 6.75 303 Pn **Pn 03 48 16.0 +0.2**
0.2nm741nm25nm,1.2s
CEL Sn **Sn 03 49 32.7 +1.3**
0.2nm741nm25nm,1.2s
TIR Tirane 7.05 340 ePn **Pn 03 48 18.0 -1.8**
TIR eSn Sn 03 49 20.4 -18
TIR Tirane 7.05 340 Sn **Sn 03 49 37.1 -1.5**
PLD Plovdiv 7.49 10 ePn **Pn 03 48 26.5 +0.6**
VAE Valguarnera 7.51 294 Pn **Pn 03 48 25.9 -0.4**
7.3nm,0.3s,baz=100,slow=7.3,SNR=7.6
VAE Sn **Sn 03 49 47.5 -2.6**
6.5nm,0.3s,baz=312,slow=4.8,SNR=5.0
25nm,0.5s
YLV Yalova 7.66 39 Pn **Pn 03 48 27.4 -0.8**
0.1nm14nm,0.9s
BOSS Bosilegrad 7.74 357 ePn **Pn 03 48 29.7 +0.4**
MATE Matera 7.75 321 ⇑P Pn 03 48 28.2 -1.2
VTS Vitosha 7.85 1 ePn **Pn 03 48 31.7 +0.7**
CTYL Yalikoy Yolu 7.87 30 Pn **Pn 03 48 30.6 -0.4**
0.1nm19nm,0.7s
DRME Dracevica, Mon 8.02 339 ePn **Pn 03 48 31.6 -1.5**
BARS Barje 8.11 353 ePn **Pn 03 48 33.5 -0.8**
BARS eSn Sn 03 49 47.4 -17
PDG Podgorica 8.22 340 ePn **Pn 03 48 34.7 -1.2**
PDG Podgorica 8.22 340 ⇑P Pn 03 48 36.5 +0.6
RYAN Fayoum 8.34 131 P **Pn 03 48 36.7 -0.9**
CSS Mathiatis 8.44 86 P Pn 03 48 34.6 -4.3
CSS Mathiatis 8.44 86 S Sn 03 49 59.9 -13
HCY Herceg Novi 8.47 336 ePn Pn 03 48 37.2 -2.1
ZAPS Zavoj 8.51 358 ePn **Pn 03 48 40.0 +0.1**
SELS Selova 8.58 350 ePn **Pn 03 48 39.0 -1.9**
SELS eSn Sn 03 49 57.8 -19
SJES Sjenica 8.82 345 ePn **Pn 03 48 42.6 -1.7**
SJES Sjenica 8.82 345 ePn **Pn 03 48 42.8 -1.5**
SJES eSn Sn 03 50 02.1 -20
KOT Kottamia 8.84 121 P Pn 03 48 42.7 -1.7
BRY Bratogost 8.86 338 ePn **Pn 03 48 43.1 -1.8**
BOVS Bovan 8.93 354 ⇑P Pn 03 48 43.7 -1.8
BOVS Bovan 8.93 354 ePn **Pn 03 48 43.8 -1.8**
BOVS eSn Sn 03 50 07.4 -17
GOCS Kraljevo Serbi 8.96 350 ePn Pn 03 48 43.1 -3.0
GOCS eSn Sn 03 50 06.2 -19
HHAG Hagoal 9.02 120 P **Pn 03 48 46.2 -0.7**
IVAS Ivanjica 9.09 346 ePn Pn 03 48 45.0 -2.9
IVAS eSn Sn 03 50 08.5 -20
STON Ston 9.12 334 ePn Pn 03 48 44.9 -3.3
NBNS Bani Suef 9.30 129 P Pn 03 48 49.4 -1.4
RUDO Rudo 9.30 343 ePn Pn 03 48 48.2 -2.5
BBLS Lazi&#263i 9.53 344 ePn Pn 03 48 51.1 -2.8
BBLS Lazi&#263i 9.53 344 ePn **Pn 03 48 52.4 -1.5**
BBLS eSn Sn 03 50 17.8 -22
DIVS Divibare 9.63 347 ePn **Pn 03 48 53.1 -2.1**
DIVS eSn Sn 03 50 20.6 -21
KUBS Kucevo 9.70 354 ePn Pn 03 48 53.7 -2.5
BR105 Keskin Array S 9.76 56 Pn **Pn 03 48 58.0 +0.9**
68nm9.4nm,0.8s
BR106 Keskin Array S 9.77 56 Pn **Pn 03 48 59.2 +2.0**
58nm8.0nm,0.8s
BR104 Keskin Array S 9.77 57 Pn **Pn 03 48 58.8 +1.5**
BRTR Keskin Array B 9.78 56 Pn **Pn 03 48 56.3 -1.1**
0.2nm,0.3s,baz=249,slow=16,SNR=12
1.1nm,0.7s
MDVR Moldovita 10.06 354 ⇑P Pn 03 49 00.4 -0.8
AVAS Avala Beograd 10.12 350 ePn Pn 03 48 58.9 -3.0
HERR Herculane 10.12 357 ⇓P Pn 03 49 01.4 -0.5
TEKS Tekeris 10.15 345 ePn Pn 03 48 58.9 -3.5
TEKS Tekeris 10.15 345 ePn Pn 03 48 59.6 -2.8
TEKS eSn Sn 03 50 33.1 -22
KZIT Kziot 10.28 109 P Pn 03 48 59.3 -4.8
KZIT Kziot 10.28 109 S Sn 03 50 45.5 -13
SLTI Sal'it 10.31 101 P Pn 03 48 59.9 -4.7
SLTI Sal'it 10.31 101 S Sn 03 50 45.9 -13
MMAI Mount Meron Ar 10.40 96 Pn Pn 03 49 03.4 -2.5
3.4nm,0.3s,baz=283,slow=11,SNR=11
MMAI Sn Sn 03 50 49.6 -12
8.3nm,0.3s,baz=271,slow=30,SNR=6.7
3.0nm,0.4s
AMAZ Amatzia 10.44 105 P Pn 03 49 02.0 -4.4
SALP Salfit 10.48 101 P Pn 03 49 02.7 -4.3
SALP Salfit 10.48 101 S Sn 03 50 50.4 -13
MMLI Mount Malkishu 10.56 99 P Pn 03 49 02.9 -5.1
MMLI Mount Malkishu 10.56 99 S Sn 03 50 52.1 -13
GEM Giv'at Ha'Em 10.57 95 P Pn 03 49 02.7 -5.5
GEM Giv'at Ha'Em 10.57 95 S Sn 03 50 52.5 -13
NATI Neve Ativ 10.62 94 P Pn 03 49 04.2 -4.6
NATI Neve Ativ 10.62 94 S Sn 03 50 53.9 -13
GZR Gura Zlata 10.62 359 ⇓P Pn 03 49 07.9 -1.0
YTIR Yattir 10.66 105 P Pn 03 49 05.3 -4.2
YTIR Yattir 10.66 105 S Sn 03 50 55.0 -13
ARR Arges 10.66 6 ⇓P Pn 03 49 11.1 +1.7
FRGS Fruska Gora 10.68 347 ePn Pn 03 49 04.4 -5.2
FRGS Fruska Gora 10.68 347 ePn Pn 03 49 07.4 -2.2
HMDT Nahal Hemdat 10.70 100 P Pn 03 49 04.8 -5.1
HMDT Nahal Hemdat 10.70 100 S Sn 03 50 55.7 -13
UJAP Al Uja 10.74 102 P Pn 03 49 05.7 -4.7
UJAP Al Uja 10.74 102 S Sn 03 50 55.9 -13
VOIR 10.77 7 ⇑P Pn 03 49 10.3 -0.6
DSI Dead Sea 10.80 104 P Pn 03 49 07.1 -4.2
DSI Dead Sea 10.80 104 S Sn 03 50 57.5 -13
BZS Buzias 10.90 355 ⇓P Pn 03 49 11.2 -1.4
A050A Klekovaca 10.94 335 ePn **Pn 03 49 11.4 -1.8**
MLR Muntele Rosu 10.94 11 Pn Pn 03 49 10.6 -2.7
0.3nm,0.3s,baz=180,slow=9.9,SNR=8.3
2.4nm,0.7s
MLR Muntele Rosu 10.94 11 ⇓P Pn 03 49 15.3 +2.0
BLY Banja Luka 10.95 337 ePn **Pn 03 49 11.3 -2.0**
PRNI Paran 10.99 110 P Pn 03 49 09.7 -4.2
PRNI Paran 10.99 110 S Sn 03 51 03.7 -12
ZFRI Zfri 11.03 109 P Pn 03 49 10.2 -4.2
ZFRI Zfri 11.03 109 S Sn 03 51 03.3 -13
GHAJ Ghor Haditha 11.04 105 P Pn 03 49 09.9 -4.7
CFR Carcaliu 11.11 19 ⇑P Pn 03 49 18.7 +3.3
HRFI Mount Harif 11.16 112 P Pn 03 49 12.9 -3.3
HRFI Mount Harif 11.16 112 S Sn 03 51 07.4 -12
MBRI Mt Berech 11.18 113 P Pn 03 49 13.2 -3.3
MBRI Mt Berech 11.18 113 S Sn 03 51 07.9 -12
KEST Kesra 11.26 279 Pn Pn 03 49 16.5 -1.2
0.1nm,0.3s,baz=80,slow=11,SNR=1.3
KEST Sn **Sn 03 51 19.3 -3.0**
0.2nm,0.3s,baz=318,slow=24,SNR=5.9
0.8nm,0.5s
EIL Elat 11.27 113 Pn Pn 03 49 15.1 -2.6
1.8nm,0.3s,baz=352,slow=4.1,SNR=30
EIL Sn Sn 03 51 08.8 -13
4.8nm,0.3s,baz=190,slow=17,SNR=8.1
5.2nm,0.5s
EIL Elat 11.27 113 P Pn 03 49 14.2 -3.5
EIL Elat 11.27 113 S Sn 03 51 09.8 -12
A051A Mrakovica 11.28 337 ePn Pn 03 49 14.4 -3.4
SPBR Spulber 11.33 13 ⇓P Pn 03 49 20.3 +1.8
DOPR Dopca 11.34 8 ⇓P Pn 03 49 20.5 +1.9
PLOR Plostina 11.41 13 ⇑P Pn 03 49 22.8 +3.1
VRI Vrincioaia 11.44 13 ⇑P Pn 03 49 23.6 +3.7
ASF Jabal al Asfar 11.83 99 Pn Pn 03 49 22.8 -2.7
0.6nm,0.3s,baz=88,slow=7.5,SNR=7.2
ASF Sn Sn 03 51 21.6 -15
0.7nm,0.3s,baz=308,slow=10,SNR=2.2
2.0nm,0.4s
MARR Marisel-Cluj 11.91 0 ⇑P Pn 03 49 26.6 +0.2
MORH Mrgy, Hungar 11.93 345 ⇑P Pn 03 49 24.3 -2.3
DRGR 12.03 359 ⇑P Pn 03 49 27.6 -0.4
TESR Tescani 12.05 12 ⇓P Pn 03 49 30.8 +2.5
BOJS Bojanci 12.28 333 ePn Pn 03 49 29.4 -2.0
GBRS Gornja Briga 12.47 332 ePn **Pn 03 49 32.4 -1.6**
CRES Cresnjevec Ost 12.48 335 ePn **Pn 03 49 32.4 -1.8**
CRES Cresnjevec Ost 12.48 335 ePn Pn 03 49 31.7 -2.5
CEY Cerknica 12.79 332 ePn **Pn 03 49 36.7 -1.7**
SKDS Skadanscina 12.80 330 ePn Pn 03 49 35.6 -2.9
PDKS Podkum 12.85 334 ePn Pn 03 49 37.0 -2.2

BURAR Bucovina Array 12.95 7 ⇑P Pn 03 49 43.9 +3.3
SOKA Soboth 13.37 335 ePn Pn 03 49 44.2 -2.2
0.8nm,0.5s
SOKA i Sn Sn 03 52 06.1 -7.5
1.2nm,0.4s
OBKA Obir 13.39 334 i Pn **Pn 03 49 45.5 -1.3**
0.8nm,0.2s
OBKA i Sn **Sn 03 52 09.1 -5.1**
1.8nm,0.4s
OBKA Obir 13.39 334 ePn **Pn 03 49 45.4 -1.3**
ARSA Arzberg 13.71 338 i Pn **Pn 03 49 54.8 +3.9**
1.7nm,0.4s
ARSA eSn **Sn 03 52 15.5 -6.3**
1.9nm,0.6s
RONA Rosalia, Austr 13.89 341 ePn **Pn 03 49 53.6 +0.1**
0.2nm,0.2s
RONA i Sn **Sn 03 52 19.6 -6.6**
0.2nm,0.2s
VYHS Vyhne 14.08 348 ePN **Pn 03 49 57.3 +1.3**
VYHS Vyhne 14.08 348 eP **P 03 50 06.6 +3.5**
VYHS Vyhne 14.08 348 eSN Sn 03 52 22.9 -8.0
CONA Conrad Observa 14.22 340 ePn **Pn 03 49 59.1 +1.2**
0.3nm,0.2s
CONA eSn Sn 03 52 26.5 -7.9
0.6nm,0.4s
MODS Modra-Piesok 14.27 344 ePN **Pn 03 50 01.5 +2.9**
MODS Modra-Piesok 14.27 344 eP P 03 50 11.9 +6.7
MODS Modra-Piesok 14.27 344 eSN Sn 03 52 26.4 -9.1
KBA Koelnbreinsper 14.32 332 ePn **Pn 03 49 59.3 -0.1**
0.5nm,0.3s
KBA i Sn Sn 03 52 29.8 -7.1
1.5nm,0.6s
ABTA Abfaltersbach 14.38 330 ePn **Pn 03 50 00.8 +0.6**
0.7nm,0.3s
LANS Liptovska Anna 14.63 351 eP **P 03 50 11.9 +2.7**
MOA Molln 14.64 336 i Pn **Pn 03 50 03.3 -0.3**
0.5nm,0.2s
MOA i Sn Sn 03 52 36.6 -8.0
1.2nm,0.4s
BIOA Bad Ischl, Aus 14.72 334 i Pn **Pn 03 50 04.7 -0.1**
0.8nm,0.2s
BIOA i Sn **Sn 03 52 41.4 -5.2**
1.2nm,0.4s
LESA Schwarzleotal 14.86 331 ePn **Pn 03 50 07.9 +1.3**
1.0nm,0.4s
LESA i Sn Sn 03 52 39.9 -10
1.3nm,0.4s
KRUC Moravsky 15.12 343 eP **P 03 50 15.8 +1.1**
WTTA Wattenberg 15.16 329 i Pn **Pn 03 50 09.6 -1.1**
0.8nm,0.3s
WTTA i Sn **Sn 03 52 51.6 -5.8**
2.3nm,0.4s
WATA Walderalm 15.24 329 i Pn **Pn 03 50 15.4 +3.7**
0.6nm,0.2s
WATA i Sn **Sn 03 52 52.7 -6.7**
1.7nm,0.4s
VRAC Vranov 15.30 344 Pn **Pn 03 50 12.4 0.0**
0.4nm,0.3s,baz=149,slow=9.2,SNR=4.4
1.0nm,0.4s
VRAC Vranov 15.30 344 eP **P 03 50 17.9 +1.2**
SQTA Sankt Quirin 15.31 328 ePn **Pn 03 50 17.6 +5.0**
0.4nm,0.2s
SQTA i Sn Sn 03 52 51.6 -9.4
1.9nm,0.4s
FETA Feichten 15.37 327 i Pn **Pn 03 50 17.8 +4.3**
1.7nm,0.6s
FETA i Sn **Sn 03 53 02.1 -0.5**
0.5nm,0.4s
MOTA Moosalm 15.45 328 i Pn **P 03 50 19.5 +1.0**
0.7nm,0.4s
MOTA i Sn Sn 03 52 55.1 -9.4
1.1nm,0.3s
CKRC Cesky Krumlov 15.48 338 eP **P 03 50 22.3 +3.7**
MORC Moravsky Berou 15.55 347 eP **P 03 50 20.7 +1.3**
DAVOX Davos/Dischmat 15.60 324 Pn **Pn 03 50 17.4 +1.1**
0.1nm,0.3s,baz=133,slow=22,SNR=4.1
DAVOX Sn Sn 03 52 55.4 -13
0.2nm,0.3s,baz=336,slow=23,SNR=1.9
0.9nm,0.6s
GERES GERESS Array B 15.69 337 Pn **Pn 03 50 17.2 -0.3**
0.1nm,0.3s,baz=146,slow=11,SNR=2.1
GERES Sn Sn 03 53 00.7 -10
0.3nm,0.3s,baz=151,slow=25,SNR=3.2
0.3nm,0.4s
DAVA Damuels 15.96 326 i Pn **P 03 50 26.6 +2.4**
1.4nm,0.4s
DAVA i Sn Sn 03 53 07.3 -9.5
0.9nm,0.3s
KHC Kasperske Hory 15.98 337 eP **P 03 50 26.2 +1.9**
KRLC Kraliky 15.99 345 eP **Pn 03 50 25.1 +3.9**
ZVC Zvikov 16.06 339 eP **Pn 03 50 25.9 +3.8**
DPC Dobruska-Polom 16.34 344 eP **Pn 03 50 29.6 +3.8**
AKASG Malin Array Be 16.55 14 Pn **Pn 03 50 25.2 -3.1**
1.9nm,0.3s,baz=205,slow=10,SNR=19
0.4nm,0.3s
KBZ Khabaz 17.75 54 P **Pn 03 50 42.7 -0.5**
0.2nm,0.3s,baz=246,slow=11,SNR=9.3
6.2nm,0.8s
NACGM Naroch 20.31 6 eP **P 03 51 10.6 -1.1**
comp=Z,11nm,0.7s,baz=189
BSD Bornholm Skovb 21.13 347 i P **P 03 51 19.2 -1.3**
LUNU Lund 21.91 345 i P **P 03 51 32.2 +3.4**
ESDC Sonseca Array 22.04 291 P **P 03 51 32.0 +1.4**
comp=Z,1.2nm,0.7s,baz=90,slow=9.7,SNR=11
comp=Z,1.2nm,0.7s
BJUU Bjuv 22.41 345 i P **P 03 51 37.6 +3.4**
DEL Delary 22.61 347 i P **P 03 51 36.0 -0.4**
BORU Boraas 23.91 346 i P **P 03 51 53.0 +3.7**
HFS Hagfors 26.11 349 P **P 03 52 08.6 -0.6**
comp=Z,2.3nm,0.5s,baz=156,slow=11,SNR=20
comp=Z,2.3nm,0.5s
FINES FINESS Array B 26.77 3 P **P 03 52 14.4 -0.7**
comp=Z,1.0nm,0.5s,baz=169,slow=9.9,SNR=10
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 27.38 347 P **P 03 52 20.3 -0.5**
comp=Z,0.4nm,0.6s,baz=156,slow=10,SNR=8.5
comp=Z,0.4nm,0.6s
EKA Eskdalemuir Ar 27.40 327 P **P 03 52 21.9 +1.0**
comp=Z,0.6nm,0.4s,baz=118,slow=8.2,SNR=4.9
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 28.94 227 P **P 03 52 36.4 +1.4**
comp=Z,58nm,0.3s,baz=34,slow=8.6,SNR=3.9
ARCES ARCESS Array B 34.86 2 P **P 03 53 24.7 -1.7**
comp=Z,1.4nm,0.6s,baz=178,slow=8.3,SNR=8.8
comp=Z,1.4nm,0.6s
BVAR Borovoye Array 37.87 46 P **P 03 53 51.1 -1.1**
comp=Z,1.4nm,0.6s,baz=254,slow=8.9,SNR=2.7
comp=Z,1.4nm,0.6s
DBIC Dimbokro 37.99 229 P **P 03 53 54.1 +0.4**
comp=Z,2.3nm,0.8s,baz=32,slow=9.4,SNR=2.1
comp=Z,2.3nm,0.8s
KURBB Kurchatov Arra 42.71 51 P **P 03 54 31.1 -1.2**
comp=Z,2.3nm,0.4s,baz=273,slow=8.7,SNR=16
comp=Z,2.3nm,0.4s
MKAR Makanchi Array 45.43 56 P **P 03 54 53.4 -0.8**
comp=Z,2.0nm,0.5s,baz=270,slow=7.9,SNR=19
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 46.52 46 P **P 03 55 01.1 -1.6**
comp=Z,4.8nm,0.3s,baz=272,slow=8.2,SNR=28
comp=Z,4.8nm,0.3s
SONM Songino Array 61.06 50 P **P 03 56 49.0 -0.3**
comp=Z,0.9nm,0.5s,baz=284,slow=8.0,SNR=5.3
comp=Z,0.9nm,0.5s
YKA Yellowknife Ar 77.29 341 P **P 03 58 31.5 +2.2**
comp=Z,0.2nm,0.6s,baz=28,slow=4.9,SNR=3.1
comp=Z,0.2nm,0.6s
USRK Ussuriysk Ar. 78.33 44 P **P 03 58 35.9 +0.5**
comp=Z,1.0nm,0.6s,baz=282,slow=3.7,SNR=2.6
comp=Z,1.0nm,0.6s
KSRS Korea Array 79.88 51 P **P 03 58 44.2 +0.1**
comp=Z,0.5nm,0.4s,baz=309,slow=4.7,SNR=2.2
comp=Z,0.5nm,0.4s
ILAR Eielson Array 80.48 356 P **P 03 58 47.5 +0.6**
comp=Z,0.2nm,0.7s,baz=348,slow=4.9,SNR=4.9
comp=Z,0.2nm,0.7s

*MOS **18** 04:15:49.9±0.7, 0.82S×127.21E, h36km, mb5.3/44, Error ellipse: s-maj=8.6km s-min=5.0km az=112.6*
*NEIC **18** 04:15:49.5±2.2, 0.89S±0.05×127.29E±0.06, h18km±3km, mb5.3/151, Mww5.0/22, Error ellipse: s-maj=9.3km s-min=7.5km az=85.0*
*GCMT **18** 04:15:51.2±0.2, 0.92S±0.01×127.28E±0.02, h18km±1km, MW5.0/119, Moment Tensor Solution. s45,c60; s119,c186; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.42±.15; Mθθ2.44±.12; Mφφ-1.02±.11; Mrθ3.14±.33; Mθφ3.47±.10; Mφr1.87±.29; Best double couple: Mo4.76400×10^16 NP1:φ=8.00000°, δ45.00000°, λ-171.00000°. NP2:φ=272.00000°, δ84.00000°, λ-46.00000°. Principal axes: T 6.3140, Plg25.0000°, Azm328.0000°; N -3.1000, Plg44.0000°, Azm86.0000°; P -3.2140, Plg35.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 04:15:51.3, 0.99S×127.00E, h20km, Moment Tensor Solution. Duration: 1?7 Moment tensor: Scale 10^16Nm; Mrr-0.73; Mθθ1.13; Mφφ-0.40; Mrθ0.63; Mθφ3.26; Mφr0.36; Fault plane solution: Mo3.41000×1016 NP1:φ=6.18000°, δ81.57000°, λ175.69000°. NP2:φ=96.81000°, δ85.74000°, λ8.46000°. Principal axes: T 3.8290, Plg9.0000°, Azm322.0000°; N -0.8384, Plg81.0000°, Azm123.0000°; P -2.9906, Plg3.0000°, Azm231.0000°;*
*IDC **18** 04:15:51.8±1.8, 0.89S×127.27E, h39km±15km, mb4.8/27, mbtmp5.0/29, ML4.9/3, MS4.0/42 Error ellipse: s-maj=16.1km s-min=8.6km az=74.0*
*NEIC **18** 04:15:51.3, 0.89S×127.28E, h20km*
*DJA **18** 04:15:52.6±0.2, 1°S±1°×12°7E±°, h40km±2km, M5.2/106, mb5.5/106, mB5.7/73, MLv5.4/24, Mw(mB)5.3/73, MwMwp4.7/12, Mwp5.0/12*
ISC 18 04:15:51.1±0.5, 0.93S±0.03×127.29E±0.04, h33km±2km, h34km:pP-P, n484, σ1?40/467, mb5.3/183, MS4.2/59, 29C-11D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**3**	Pn	**Pn**	**04 16 18.3**	**-0.1**
TNTI	**Ternate**	**1.69**	**3**	P	**Pn**	**04 16 19.5**	**+1.1**
TNTI	**Ternate**	**1.69**	**3**	P	**Pn**	**04 16 18.6**	**+0.2**
SANI	**Sanana**	**1.71**	**229**	P	**Pn**	**04 16 17.7**	**-0.9**
SANI	**Sanana**	**1.71**	**229**	S	**Sb**	**04 16 43.4**	**+0.4**
SANI	**Sanana**	**1.71**	**229**	P	**Pn**	**04 16 17.5**	**-1.1**
SANI				S	**Sn**	**04 16 38.4**	**-0.9**
NLAI	**Namlea**	**2.30**	**185**	P	**Pn**	**04 16 26.9**	**+0.2**
NLAI				S	**Sn**	**04 16 54.3**	**+0.4**
AAI	**Ambon**	**2.88**	**162**	P	**Pn**	**04 16 36.5**	**+1.8**
MSAI	**Masohi**	**2.91**	**146**	P	**Pn**	**04 16 37.8**	**+2.8**
KMSI	**Cibinong**	**3.63**	**294**	P	**Pn**	**04 16 45.6**	**+0.6**
SWI	**Sorong**	**3.97**	**89**	P	**Pn**	**04 16 50.7**	**+1.0**
BNDI	**Bandanaira**	**4.42**	**144**	P	**Pn**	**04 16 57.9**	**+2.0**
LUWI	**Luwuk**	**4.52**	**269**	Pn	**Pn**	**04 16 56.9**	**-0.3**
LUWI	**Luwuk**	**4.52**	**269**	P	**Pn**	**04 16 58.7**	**+1.5**
LUWI	**Luwuk**	**4.52**	**269**	P	**Pn**	**04 16 57.0**	**-0.2**
SGSI	**Sangihe**	**4.91**	**339**	P	**Pn**	**04 17 03.4**	**+0.7**
FAKI	**Fak Fak**	**5.34**	**112**	Pn	**Pn**	**04 17 07.1**	**-1.4**
FAKI	**Fak Fak**	**5.34**	**112**	P	**Pn**	**04 17 08.4**	**-0.1**
FAKI	**Fak Fak**	**5.34**	**112**	P	**Pn**	**04 17 07.9**	**-0.6**
	2.2nm4μm6μm618nm,0.7s						
MRSI	**Marisa**	**5.53**	**285**	P	**Pn**	**04 17 12.1**	**+1.0**
	1.7nm5μm485nm,0.6s						
KDI	**Kendari**	**5.55**	**237**	P	**Pn**	**04 17 11.8**	**+0.4**
	1.5nm3μm6μm330nm,0.7s						
APSI	**Ampana**	**5.64**	**270**	P	**Pn**	**04 17 13.3**	**+0.7**
BBSI	**Bau Bau**	**6.53**	**226**	P	**Pn**	**04 17 27.9**	**+3.0**
	1.8nm3μm5μm556nm,0.7s						
TOLI2	**Tolitoli**	**6.81**	**287**	Pn	**Pn**	**04 17 28.3**	**-0.5**
TOLI2	**Tolitoli**	**6.81**	**287**	P	**Pn**	**04 17 30.3**	**+1.5**
RKPI	**Ransiki, Papua**	**6.91**	**95**	P	**Pn**	**04 17 31.9**	**+1.7**
	2.1nm3μm9μm356nm,0.7s						
KMPI	**Kaimana, Papua**	**6.96**	**113**	P	**Pn**	**04 17 32.6**	**+1.8**
	2μm6μm572nm,0.7s						
PCI	**Palu**	**7.45**	**270**	P	**Pn**	**04 17 37.8**	**+0.2**
MPSI	**Mapaga**	**7.50**	**280**	P	**Pn**	**04 17 39.9**	**+1.7**
	0.6nm2μm3μm119nm,0.9s						
TTSI	**Tana Toraja**	**7.75**	**254**	P	**Pn**	**04 17 42.7**	**+1.0**
	2.3nm7μm639nm,1.0s						
SAUI	**Saumlaki**	**8.06**	**150**	Pn	**Pn**	**04 17 46.8**	**+0.8**
SAUI	**Saumlaki**	**8.06**	**150**	P	**Pn**	**04 17 48.6**	**+2.6**
SPSI	**Sidrap Palu**	**8.09**	**248**	P	**Pn**	**04 17 48.3**	**+1.9**
DAV	**Davao City (W)**	**8.13**	**348**	Pn	**Pn**	**04 17 47.2**	**+0.3**
BSSI	**Bau Bau, Buton**	**8.53**	**232**	P	**Pn**	**04 17 54.3**	**+1.9**
KAPI	**Kappang**	**8.55**	**242**	Pn	**Pn**	**04 17 54.2**	**+1.6**
KAPI	**Kappang**	**8.55**	**242**	Pn	**Pn**	**04 17 54.7**	**+2.1**
	54nm,0.3s,baz=59,slow=8.8,SNR=314						
KAPI				Sn	**Sn**	**04 19 26.9**	**-1.1**
	14nm,0.3s,baz=225,slow=21,SNR=8.7						
KAPI	**Kappang**	**8.55**	**242**	P	**Pn**	**04 17 55.1**	**+2.5**
KAPI	**Kappang**	**8.55**	**242**	S	**Sn**	**04 19 28.6**	**+0.6**
KAPI	**Kappang**	**8.55**	**242**	P	**Pn**	**04 17 54.2**	**+1.6**
MMRI	**Maumere**	**9.16**	**213**	Pn	**Pn**	**04 18 02.0**	**+1.0**
MMRI	**Maumere**	**9.16**	**213**	P	**Pn**	**04 18 03.0**	**+2.0**
	123nm,0.5s						
SOEI	**Soe**	**9.27**	**199**	Pn	**Pn**	**04 18 04.7**	**+2.1**
SOEI	**Soe**	**9.27**	**199**	P	**Pn**	**04 18 05.8**	**+3.2**
	3μm251nm,0.9s						
BATI	**Baumata**	**9.89**	**201**	P	**Pn**	**04 18 15.2**	**+4.1**
	153nm,1.0s						
SMKI	**Samarinda**	**10.09**	**273**	P	**Pn**	**04 18 14.9**	**+1.1**
BKB	**Balikpapan**	**10.39**	**268**	Pn	**Pn**	**04 18 18.0**	**0.0**
BKB	**Balikpapan**	**10.39**	**268**	P	**Pn**	**04 18 19.4**	**+1.5**
BKB	**Balikpapan**	**10.39**	**268**	P	**Pn**	**04 18 19.2**	**+1.3**
	4μm297nm,0.7s						
MYLDM	**Lahad Datu**	**10.67**	**305**	Pn	**Pn**	**04 18 23.6**	**+1.9**
MYLDM	**Lahad Datu**	**10.67**	**305**	P	**Pn**	**04 18 24.0**	**+2.2**
WSI	**Waingapu**	**11.12**	**218**	P	**Pn**	**04 18 30.4**	**+2.5**
	8μm301nm,1.3s						
BASI	**Baing, Sumba**	**11.38**	**216**	P	**Pn**	**04 18 33.1**	**+1.6**
	3μm364nm,0.9s						
SMPI	**Sarmi**	**11.47**	**95**	P	**Pn**	**04 18 35.1**	**+2.5**
	93nm,1.3s						
WBSI	**Waikabubak, Su**	**11.69**	**222**	P	**Pn**	**04 18 37.7**	**+2.0**
	2μm124nm,0.8s						
DRS	**Darwin Rock St**	**11.97**	**163**	P	**Pn**	**04 18 40.1**	**+0.6**
PLAI	**Plampang**	**12.29**	**230**	P	**Pn**	**04 18 45.1**	**+1.1**
PLAI	**Plampang**	**12.29**	**230**	P	**Pn**	**04 18 46.4**	**+2.4**
	1μm77nm,0.8s						
MTN	**Manton Dam**	**12.43**	**162**	Pn	**Pn**	**04 18 45.5**	**-0.3**
MTN	**Manton Dam**	**12.43**	**162**	P	**Pn**	**04 18 45.5**	**-0.3**
	comp=Z,0.0nmcomp=Z,216nm,0.6s						
MTN	**Manton Dam**	**12.43**	**162**	P	**Pn**	**04 18 45.9**	**+0.1**
KDU	**Kakadu**	**12.76**	**156**	P	**Pn**	**04 18 48.5**	**-1.8**
KDU	**Kakadu**	**12.76**	**156**	P	**Pn**	**04 18 48.3**	**-2.0**
TWSI	**Taliwang, Sumb**	**12.94**	**233**	P	**Pn**	**04 18 54.7**	**+1.9**
	comp=Z,74nm,0.8s						
GENI	**Genyem**	**12.98**	**97**	P	**Pn**	**04 18 54.1**	**+0.8**
	comp=Z,4μmcomp=Z,171nm,1.8s						
KKM	**Kota Kinabalu**	**13.05**	**302**	Pn	**Pn**	**04 18 54.2**	**-0.1**
JAY	**Jayapura**	**13.50**	**97**	Pn	**Pn**	**04 19 03.0**	**+2.5**
	comp=Z,1.9nm,0.3s,baz=219,slow=9.3,SNR=5.3						
JAY				LR	LR	04 25 20.5	
	comp=Z,2μm,19.3s,baz=272,slow=42						
	comp=Z,28nm,0.9s						
JAY	**Jayapura**	**13.50**	**97**	P	**Pn**	**04 19 03.3**	**+2.8**
SRBI	**Singaraja**	**13.97**	**239**	P	**Pn**	**04 19 08.5**	**+1.6**
KMMI	**Kalianget**	**14.61**	**245**	P	**Pn**	**04 19 16.4**	**+0.9**
	comp=Z,3μmcomp=Z,286nm,1.2s						
ABJI	**Asem Bagus**	**14.69**	**242**	P	**Pn**	**04 19 19.0**	**+2.4**
	comp=Z,4μmcomp=Z,402nm,1.3s						
KNRA	**Kununurra**	**14.72**	**174**	Pn	**Pn**	**04 19 15.8**	**-1.2**
KNRA	**Kununurra**	**14.72**	**174**	P	**Pn**	**04 19 15.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**15.07**	**240**	Pn	**Pn**	**04 19 22.9**	**+1.1**
JAGI				IAmb	IAmb	04 19 27.1	
	comp=Z,192nm,1.4s						
JAGI	**Jajag, Banyuwa**	**15.07**	**240**	P	**Pn**	**04 19 23.7**	**+1.9**
JAGI	**Jajag, Banyuwa**	**15.07**	**240**	P	**Pn**	**04 19 23.6**	**+1.8**
	comp=Z,4μmcomp=Z,423nm,1.1s						
SBUM	**Sibu**	**15.43**	**283**	Pn	**Pn**	**04 19 26.8**	**+0.3**
GMJI	**Gumukmas**	**15.60**	**242**	P	**Pn**	**04 19 30.7**	**+2.0**
	comp=Z,3μmcomp=Z,322nm,1.2s						
STKI	**Sint

comp=Z,5µmcomp=Z,296nm,0.9s
UGM Wanagama 18.09 247 P **P 04 20 01.2 +1.1**
UGM IAmb IAmb 04 20 03.3
comp=Z,248nm,1.1s
UGM Wanagama 18.09 247 P **P 04 20 03.0 +2.8**
UGM Wanagama 18.09 247 P **P 04 20 02.0 +1.8**
comp=Z,4µmcomp=Z,300nm,1.2s
YOGI Yogyakarta 18.26 248 P **Pn 04 20 03.4 +1.3**
comp=Z,3µmcomp=Z,233nm,1.6s
KPJI Karang Pucung 19.37 250 P **Pn 04 20 16.7 +1.2**
comp=Z,5µmcomp=Z,379nm,1.1s
TPI Tanjungpandan 19.71 264 P **Pn 04 20 19.1 -0.4**
comp=Z,5µmcomp=Z,467nm,1.3s
JCJI Jatiwangi 19.76 253 P **Pn 04 20 21.2 +1.1**
comp=Z,11µmcomp=Z,751nm,1.5s
CMJI Cimerak 19.97 250 P **P 04 20 21.0 +0.2**
comp=Z,4µmcomp=Z,549nm,0.9s
WB0 Warramunga Arr 19.97 160 P **P 04 20 19.5 -1.3**
WRAB Tennant Creek 20.11 160 P **P 04 20 21.3 -1.0**
WRAB Tennant Creek 20.11 160*c iP* **P 04 20 21.4 -0.9**
WRAB pmax pmax
comp=Z,68nm,0.9s
WRA Warramunga Arr 20.11 160 P **P 04 20 21.3 -1.0**
comp=Z,48nm,0.7s,baz=342,slow=12,SNR=194
WRA S **S 04 24 01.5 -5.1**
comp=Z,15nm,1.1s,baz=343,slow=22,SNR=8.2
WRA ScP **ScP 04 28 11.2 +0.2**
comp=Z,1.6nm,0.9s,baz=334,slow=3.1,SNR=3.4
WRA LR LR 04 29 08.9
comp=Z,1µm,19.7s,baz=340,slow=40
comp=Z,48nm,0.7s
WRA Warramunga Arr 20.11 160 *i* P **P 04 20 21.2 -1.1**
WRA pmax pmax
comp=Z,61nm,0.7s
WB2 Warramunga Arr 20.12 160 P **P 04 20 21.5 -0.9**
WB2 IAmb IAmb 04 20 24.8
comp=Z,82nm,0.8s
WR0 Warramunga Arr 20.20 160 P **P 04 20 21.3 -2.0**
COEN Coen 20.36 130 P **P 04 20 24.8 -0.3**
COEN Coen 20.36 130 P **P 04 20 25.7 +0.6**
comp=Z,323nm,1.1s
LEM Lembang 20.47 253 P **P 04 20 27.6 +1.2**
comp=Z,169nm,0.8s,baz=69,slow=9.3,SNR=33
LEM LR LR 04 30 12.6
comp=Z,909nm,18.2s,baz=56,slow=42
comp=Z,169nm,0.8s
LEM Lembang 20.47 253 P Pn 04 20 27.9 -0.8
comp=Z,4µmcomp=Z,283nm,1.1s
BBJI Bungbulang 20.62 251 P **P 04 20 28.9 +1.0**
CNJI Cibinong 21.07 252 P **P 04 20 32.8 +0.1**
comp=Z,2µmcomp=Z,222nm,1.1s
PPBI Pangkal Pinang 21.18 266 P **P 04 20 35.0 +1.1**
PMG Port Moresby 21.49 114 P **P 04 20 38.8 +1.6**
comp=Z,54nm,0.8s,baz=300,slow=3.5,SNR=15
PMG LR LR 04 31 40.9
comp=Z,980nm,19.4s,baz=321,slow=44
comp=Z,54nm,0.8s
SKJI Sukabumi 21.53 253 P **P 04 20 38.0 +0.3**
comp=Z,5µmcomp=Z,396nm,1.4s
SBJI Serang 21.73 256 P **P 04 20 41.4 +1.6**
comp=Z,940nm,1.6s
PSAC1 Pilbara Seismi 21.73 199 P **P 04 20 38.8 -1.0**
comp=Z,64nm,1.0s
PSA00 Pilbara Seismi 21.76 199 P **P 04 20 38.5 -1.6**
PSA00 Pilbara Seismi 21.76 199 P **P 04 20 39.3 -0.7**
comp=Z,65nm,0.9s
PSA00 Pilbara Seismi 21.76 199 P **P 04 20 41.3 +1.3**
CGJI Cibinong 22.27 255 P **P 04 20 45.1 -0.5**
comp=Z,3µmcomp=Z,237nm,1.2s
PMBI Palembang 22.59 265 P **P 04 20 49.0 0.0**
GUMO Guam 22.62 50 LR LR 04 28 20.0
comp=Z,378nm,21.7s,baz=248,slow=33
DLV Lat 22.64 305 P **P 04 20 48.9 -0.9**
DLV IAmb IAmb 04 21 06.4
comp=Z,95nm,1.1s
QIS Mount Isa 22.92 149 P **P 04 20 52.9 +0.5**
comp=Z,333nm,1.0s
QIS Mount Isa 22.92 149 P **P 04 20 53.4 +0.9**
MDSI Maura Dua 23.35 261 P **P 04 20 57.1 +0.3**
comp=Z,6µmcomp=Z,460nm,1.4s
AS31 Alice Springs 23.49 165 P **P 04 20 57.6 -0.6**
AS31 Alice Springs 23.49 165 P **P 04 20 57.2 -0.9**
comp=Z,48nm,0.7s
ASAR Alice Springs 23.49 165 P **P 04 20 57.5 -0.7**
comp=Z,47nm,0.8s,baz=342,slow=9.0,SNR=201
ASAR S **S 04 25 10.3 +0.5**
comp=Z,19nm,0.9s,baz=344,slow=21,SNR=6.4
ASAR LR LR 04 32 02.2
comp=Z,734nm,19.3s,baz=353,slow=41
comp=Z,47nm,0.8s
XMIS Christmas Isla 23.50 245 P **P 04 20 55.2 -3.1**
XMIS IAmb IAmb 04 21 05.6
comp=Z,91nm,0.9s
AS01 Alice Springs 23.50 165 P **P 04 20 58.2 -0.1**
MTSU Mount Surprise 23.92 137 P **P 04 21 03.0 +0.7**
comp=Z,56nm,0.7s
WRKA Warakurna 23.98 178 P **P 04 21 02.8 0.0**
comp=Z,100nm,0.9s
WRKA Warakurna 23.98 178 P **P 04 21 03.3 +0.5**
TWG Pinlang 24.37 346 P **P 04 21 04.0 -2.3**
TWG IAmb IAmb 04 21 19.3
comp=Z,82nm,0.6s
MNAI Manna 24.54 262 P **P 04 21 07.5 -0.5**
MNAI Manna 24.54 262 P **P 04 21 08.8 +0.8**
KSI Kapahiang 24.82 263 P **P 04 21 11.2 +0.6**
YULB Yu-li 24.87 347 IAmb IAmb 04 21 16.0
comp=Z,53nm,0.9s
YULB Yu-li 24.87 347 P **P 04 21 13.5 +2.6**
KRVT Keravat (AS076 24.94 98 LR LR 04 31 12.3
comp=Z,1µm,18.7s,baz=11,slow=37
TPUB Ta-pu 24.94 345 P **P 04 21 10.5 -1.1**
TPUB Ta-pu 24.94 345 P **P 04 21 11.9 +0.3**
GIRL Giralia 25.04 210 P **P 04 21 10.6 -1.7**
GIRL Giralia 25.04 210 P **P 04 21 13.4 +1.0**
SSLB Suanglung 25.33 346 P **P 04 21 13.5 -1.6**
YHNB Yeheng 26.09 348 P **P 04 21 22.7 +0.7**
QIZ Qiongzhong 26.21 320 P **P 04 21 28.8 +5.7**
QIZ S **S 04 25 55.3 +2.0**
QIZ LR LR
comp=Z,290nm,13.5s
QIZ LR LR
comp=Z,470nm,17.0s
QIZ LR LR
comp=Z,520nm,25.3s
BKNI Bangkinang 26.28 273 P **P 04 21 25.0 +1.2**
BKNI Bangkinang 26.28 273 P **P 04 21 25.1 +1.3**
comp=Z,4µmcomp=Z,150nm,0.6s
IPM Ipoh 26.78 282 P **P 04 21 28.1 -0.2**
IPM IAmb IAmb 04 21 31.3
comp=Z,55nm,0.9s
MEEK Meekatharra 26.88 197 P **P 04 21 27.7 -1.5**
comp=Z,25nm,1.1s
MEEK Meekatharra 26.88 197 P **P 04 21 29.0 -0.1**
PPI Padang Panjang 26.89 271 P **P 04 21 30.3 +1.0**
comp=Z,3µmcomp=Z,184nm,1.5s
PPSI Pulau Pagai 27.32 266 P **P 04 21 33.0 -0.2**
comp=Z,4µmcomp=Z,257nm,1.6s
JOW Kunigami 27.62 2 P **P 04 21 35.0 -0.6**
JOW IAmb IAmb 04 21 37.3
comp=Z,110nm,1.2s
JOW Kunigami 27.62 2 P **P 04 21 35.5 -0.1**
comp=Z,53nm,1.0s,baz=193,slow=7.3,SNR=5.3
comp=Z,53nm,1.0s
MNSI Mandailing Nat 27.76 273 P **P 04 21 38.2 +1.1**
comp=Z,49nm,0.5s
OOD Oodnadatta 27.90 164 P **P 04 21 39.4 +1.3**
SISI Saibi 28.20 269 P **P 04 21 41.0 0.0**
comp=Z,2µmcomp=Z,158nm,1.6s
RPSI Rantau Prapat 28.58 277 IAmb IAmb 04 21 47.2
comp=Z,95nm,1.2s
PBSI Pulau Batu 29.02 272 P **P 04 21 48.6 +0.3**
comp=Z,95nm,2.0s
INKA Innaminka 29.61 155 P **P 04 21 54.9 +1.5**
FORT Forrest 29.69 179 P **P 04 21 54.1 0.0**
comp=Z,164nm,0.8s
FORT Forrest 29.69 179 P **P 04 21 54.6 +0.5**
GSI Gunungsitoli 29.79 274 P **P 04 21 53.5 -1.7**
GSI Gunungsitoli 29.79 274 P **P 04 21 54.3 -0.9**
comp=Z,76nm,0.6s
MORW Morawa 29.97 200 P **P 04 21 56.1 -0.5**
MORW Morawa 29.97 200 P **P 04 21 54.7 -1.8**
MORW Morawa 29.97 200 P **P 04 21 56.0 -0.5**
QLP Quilpie 30.27 149 P **P 04 21 59.6 +0.3**
comp=Z,39nm,1.2s
KMBL Kambalda 30.70 189 P **P 04 22 02.4 -0.6**
comp=Z,65nm,0.9s
KMBL Kambalda 30.70 189 P **P 04 22 03.5 +0.5**
GULI GuiLin 30.79 329 P **P 04 22 05.5 +1.7**
GULI pmax pmax
comp=Z,30nm,1.1s
SNSI Sinabang, Aceh 31.13 276 P **P 04 22 07.7 +0.7**
comp=Z,127nm,1.6s
LCRK Leigh Creek 31.13 162 P **P 04 22 07.9 +1.1**
BLDU Ballidu 31.18 198 P **P 04 22 06.8 -0.5**
comp=Z,33nm,1.1s
BLDU Ballidu 31.18 198 P **P 04 22 07.4 +0.2**
MLSI Meulaboh, Aceh 31.29 280 P **P 04 22 08.9 +0.5**
comp=Z,206nm,1.4s
JCJ Chichijima 31.34 26 LR LR 04 33 52.2
comp=Z,152nm,21.0s,baz=198,slow=34
KLBR Kellerberrin 31.80 196 P **P 04 22 11.8 -0.9**
comp=Z,39nm,0.8s
SLVN Son La 31.81 315 P **P 04 22 11.7 -1.3**
SLVN IAmb IAmb 04 22 15.2
comp=Z,49nm,1.5s
BSI Banda Aceh 32.58 282 P **P 04 22 19.6 -0.2**
comp=Z,853nmcomp=Z,26nm,0.8s
MUN Mundaring 32.60 198 P **P 04 22 20.4 +0.7**
comp=Z,30nm,1.0s
BBOO Buckleboo 32.77 166 IAmb IAmb 04 22 31.5
comp=Z,44nm,0.8s
BBOO Buckleboo 32.77 166 P **P 04 22 21.3 +0.1**
comp=Z,70nm,0.9s
BBOO Buckleboo 32.77 166 P **P 04 22 22.1 +0.9**
PHRA Phrae 32.87 307 P **P 04 22 22.2 -0.1**
NWAO Narrogin (SRO) 33.20 196 P **P 04 22 25.2 +0.3**
NWAO IAmb IAmb 04 22 37.9
comp=Z,115nm,1.9s
NWAO Narrogin (SRO) 33.20 196 P **P 04 22 25.2 +0.3**
NWAO pmax pmax
comp=Z,115nm,2.0s
EIDS Eidsvold 33.43 139 P **P 04 22 28.2 +1.1**
EIDS IAmb IAmb 04 22 50.2
comp=Z,55nm,1.5s
EIDS Eidsvold 33.43 139 P **P 04 22 23.0 -4.1**
HNR Honiara 33.57 106 LR LR 04 37 40.1
comp=Z,354nm,19.6s,baz=325,slow=39
STKA Stephens Creek 33.62 158 P **P 04 22 29.1 +0.5**
STKA Stephens Creek 33.62 158 P **P 04 22 29.5 +0.9**
comp=Z,31nm,1.0s
STKA Stephens Creek 33.62 158 P **P 04 22 29.6 +1.0**
comp=Z,76nm,0.9s,baz=331,slow=9.0,SNR=70
STKA LR LR 04 38 08.9
comp=Z,547nm,18.1s,baz=333,slow=40
comp=Z,76nm,0.9s
STKA Stephens Creek 33.62 158 P **P 04 22 29.9 +1.3**
STKA Stephens Creek 33.62 158*c iP* **P 04 22 29.2 +0.6**
WHN Wuhan 33.64 340 P **P 04 22 30.6 +1.8**
WHN S **S 04 27 49.5 0.0**
WHN LR LR
comp=Z,2µm,44.1s
GYA Guiyang 33.72 325 ⇑P **P 04 22 30.8 +1.1**
GYA S **S 04 27 51.4 +0.2**
GYA pmax pmax
comp=Z,23nm,0.8s
GYA LR LR
comp=Z,400nm,17.2s
NJ2 Nanjing 33.76 347 ⇑P **P 04 22 30.8 +1.0**
NJ2 pmax pmax
comp=Z,38nm,1.1s
CM31 Chiang Mai Arr 33.88 306 P **P 04 22 31.5 +0.4**
CMAR Chiang Mai Arr 33.88 306 P **P 04 22 30.3 -0.8**
CMAR Chiang Mai Arr 33.88 306 P **P 04 22 31.4 +0.3**
comp=Z,7.1nm,0.9s,baz=137,slow=7.9,SNR=38
CMAR PcP **PcP 04 25 10.2 +0.8**
comp=Z,2.2nm,0.6s,baz=159,slow=2.5,SNR=6.1
CMAR ScP **ScP 04 28 52.6 +0.6**
comp=Z,0.9nm,0.4s,baz=112,slow=3.8,SNR=4.9
CMAR LR LR 04 37 44.3
comp=Z,228nm,21.3s,baz=115,slow=39
comp=Z,7.1nm,0.9s
CMAR Chiang Mai Arr 33.88 306 *i* P **P 04 22 31.7 +0.6**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
JNU Nakatsue 34.04 5 P **P 04 22 31.2 -1.0**
comp=Z,17nm,1.1s,baz=207,slow=2.3,SNR=5.3
comp=Z,17nm,1.1s
CHTO Chiang Mai 34.07 307 P **P 04 22 31.6 -1.1**
CHTO Chiang Mai 34.07 307 P **P 04 22 31.6 -1.1**
CHTO pmax pmax
comp=Z,20nm,0.9s
HTT Hallett 34.12 163 P **P 04 22 34.2 +1.1**
comp=Z,53nm,0.8s
HTT Hallett 34.12 163 P **P 04 22 34.4 +1.4**
JMN Monobe 35.03 10 P **P 04 22 41.3 +0.4**
JMN IAmb IAmb 04 22 42.1
comp=Z,59nm,1.4s
CMSA Cobar Meteorol 35.07 152 P **P 04 22 41.6 +0.4**
comp=Z,54nm,1.2s
CMSA Cobar Meteorol 35.07 152 P **P 04 22 42.3 +1.2**
KMI Kunming 35.15 319 ⇑P **P 04 22 44.3 +2.1**
KMI pmax pmax
comp=Z,29nm,0.9s
JHS Saijyo 36.16 8 P **P 04 22 52.9 +2.4**
PZH PanZhiHua 36.75 320 P **P 04 22 56.3 +0.5**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.6s
TJN Taejon 37.12 0⇓*eP* **P 04 22 58.4 -0.2**
INU Inuyama 37.22 13 P **P 04 22 58.5 -1.0**
ARMA Armidale 37.34 144 P **P 04 23 01.5 +0.8**
ARMA IAmb IAmb 04 23 04.0
comp=Z,45nm,1.1s
ARMA Armidale 37.34 144 P **P 04 23 01.7 +1.0**
LYN LuoYang 37.94 340⇑*iP* **P 04 23 06.3 +0.7**
LYN pP pP 04 23 15.3 +0.2
LYN sP sP 04 23 21.8 +3.4
LYN PP **PnPn 04 24 35.5 +1.4**
LYN S **S 04 28 59.1 +3.8**
LYN pmax pmax
comp=Z,130nm,1.0s
LYN pmax pmax
comp=Z,550nm,3.6s
LYN LR LR
comp=Z,380nm,15.5s
LYN LR LR
comp=Z,310nm,9.1s
LYN LR LR
comp=Z,460nm,16.9s
TNCH TengChong 37.97 315 ⇑P **P 04 23 06.8 +0.5**
TNCH pP pP 04 23 16.8 +1.4
TNCH sP sP 04 23 21.3 +1.6
TNCH S **S 04 28 56.8 +0.3**
TNCH sS sS 04 29 11.9 +0.7
TNCH pmax pmax
comp=Z,51nm,1.8s
TNCH LR LR
comp=Z,380nm,21.4s
TNCH LR LR
comp=Z,490nm,18.5s
TNCH LR LR
comp=Z,320nm,24.3s
ARPS Mount Arapiles 38.12 161 P **P 04 23 08.5 +1.4**
TIA Tai'an 38.15 347 P **P 04 23 07.1 -0.2**
TIA pP **pP 04 23 17.3 +0.3**
TIA sP **sP 04 23 21.9 +1.6**
TIA S **S 04 28 57.3 -1.2**
TIA pmax pmax
comp=Z,22nm,0.9s
TIA pmax pmax
comp=Z,160nm,3.5s
TIA LR LR
comp=Z,300nm,14.1s
TIA LR LR
comp=Z,240nm,14.2s
TIA LR LR
comp=Z,330nm,15.7s
KSAR Wonju Array Be 38.19 1 P **P 04 23 05.7 -2.0**
KSAR Wonju Array Be 38.19 1 P **P 04 23 05.7 -2.0**
KSRS Korea Array 38.20 1 P **P 04 23 07.5 -0.3**
comp=Z,10nm,1.0s,baz=181,slow=10,SNR=31
KSRS LR LR 04 38 12.0
comp=Z,162nm,21.6s,baz=180,slow=35
comp=Z,10nm,1.0s
MAJO Matsushiro 38.64 14*deP* **P 04 23 10.2 -1.3**
MAJO pmax pmax
comp=Z,42nm,2.0s
MJAR Matsushiro Arr 38.64 14 P **P 04 23 10.6 -1.0**
comp=Z,2.8nm,0.5s,baz=189,slow=9.7,SNR=8.7
comp=Z,2.8nm,0.5s
MJB9 Matsu-Tunnel 38.65 14 IAmb IAmb 04 23 21.8
comp=Z,89nm,1.7s
CD2 Chengdu 38.77 327 P **P 04 23 13.0 +0.3**
CD2 S **S 04 29 11.6 +3.5**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,210nm,8.4s
CD2 LR LR
comp=Z,350nm,12.7s
CD2 LR LR
comp=Z,280nm,18.8s
CD2 LR LR
comp=Z,360nm,16.3s
XAN Xi'an 38.83 335 ⇑P **P 04 23 13.4 +0.2**
XAN S **S 04 29 08.3 -0.7**
XAN sS sS 04 29 26.6 +1.7
XAN pmax pmax
comp=Z,120nm,1.4s
XAN pmax pmax
comp=Z,660nm,3.5s
CAN Canberra 39.74 152 IAmb IAmb 04 23 32.8
comp=Z,51nm,0.9s
CAN Canberra 39.74 152 P **P 04 23 23.4 +2.6**
CAN pmax pmax
comp=Z,106nm,1.0s
HNS HongShan 39.88 344 ⇑P **P 04 23 21.9 +0.1**
HNS pP **pP 04 23 30.5 -1.0**
HNS S **S 04 29 23.0 -1.5**
HNS pmax pmax
comp=Z,44nm,1.0s
HNS LR LR
comp=Z,160nm,17.7s
HNS LR LR
comp=Z,290nm,17.3s
HNS LR LR
comp=Z,400nm,18.6s
DL2 Dalian 39.98 353 P **P 04 23 22.8 +0.2**
DL2 S **S 04 29 23.6 -2.4**
DL2 pmax pmax
comp=Z,27nm,1.1s
DL2 pmax pmax
comp=Z,220nm,5.2s
DL2 LR LR
comp=Z,430nm,14.7s
DL2 LR LR
comp=Z,450nm,14.2s
DL2 LR LR
comp=Z,360nm,22.6s
TOO Toolangi 40.14 157 P **P 04 23 25.7 +1.7**
TOO IAmb IAmb 04 23 37.9
comp=Z,120nm,2.0s
TOO Toolangi 40.14 157 P **P 04 23 25.7 +1.7**
TOO pmax pmax
comp=Z,120nm,2.0s
TIY Taiyuan 40.83 342 *eP* **P 04 23 30.3 +0.5**
TIY S **S 04 29 40.6 +1.7**
TIY pmax pmax
comp=Z,77nm,0.6s
TIY LR LR
comp=Z,350nm,18.2s
TIY LR LR
comp=Z,280nm,16.3s
TIY LR LR
comp=Z,370nm,19.6s
BJT Baijiatuau 42.01 347 P **P 04 23 38.6 -0.6**
BJT Baijiatuau 42.01 347 P **P 04 23 38.7 -0.6**
BJT pmax pmax
comp=Z,35nm,1.0s
BJI Beijing 42.02 347 P **P 04 23 38.9 -0.5**
BJI pP **pP 04 23 48.3 -0.8**
BJI S **S 04 29 56.3 0.0**
BJI pmax pmax
comp=Z,17nm,1.1s
BJI pmax pmax
comp=Z,88nm,4.0s
BJI LR LR
comp=Z,98nm,18.5s
BJI LR LR
comp=Z,92nm,19.3s
BJI LR LR
comp=Z,150nm,22.3s
LZH Lanzhou 42.81 332 ⇑P **P 04 23 47.8 +1.6**
LZH pP sP 04 23 58.6 -0.4
LZH sP pP 04 24 03.1 +7.2
LZH S **S 04 30 10.0 +1.6**
LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,640nm,4.4s
LZH LR LR
comp=Z,480nm,17.9s
LZH LR LR
comp=Z,300nm,17.2s
LZH LR LR
comp=Z,530nm,19.2s
SHL Shillong 43.18 310 P **P 04 23 48.9 -0.4**
SHL Shillong 43.18 310 P **P 04 23 48.9 -0.4**
SHL pmax pmax
comp=Z,93nm,0.8s
MSHR Mys Shultsa 43.45 4*deP* **P 04 23 51.4 +0.4**
MSHR pmax pmax
comp=Z,26nm,1.3s
PSTR Posyet 43.50 4⇑*eP* **P 04 23 51.2 -0.1**
DZM Mont Dzumac 43.51 122 *e*LR LR 04 35 59.0
comp=Z,634nm,23.9s
HHC Hu-ho-hao-te 43.98 343⇑*iP* **P 04 23 55.8 +0.4**
HHC pP pP 04 24 05.3 +0.2
HHC PP **PcP 04 25 42.8 +2.0**
HHC S **S 04 30 26.5 +1.2**
HHC sS sS 04 30 43.1 +1.6
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,88nm,4.8s
HHC LR LR
comp=Z,140nm,22.7s
HHC LR LR
comp=Z,140nm,17.7s
HHC LR LR
comp=Z,270nm,20.2s
BTO Baotou 44.24 341 *eP* **P 04 23 58.3 +0.8**
BTO pP **pP 04 24 07.6 +0.5**
BTO S **S 04 30 30.3 +1.3**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,310nm,6.0s
BTO LR LR
comp=Z,310nm,9.6s
BTO LR LR
comp=Z,350nm,7.5s
BTO LR LR
comp=Z,330nm,9.0s
CN2 Changchun 44.57 358 P **P 04 23 58.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 LR LR
comp=Z,300nm,16.0s
USA0B Ussuriysk Arra 45.13 5*c iP* **P 04 24 04.0 -0.4**
USRK Ussuriysk Ar. 45.13 5 P **P 04 24 03.6 -0.8**
USRK Ussuriysk Ar. 45.13 5 P **P 04 24 04.0 -0.3**
comp=Z,9.5nm,0.6s,baz=189,slow=5.4,SNR=17
USRK LR LR 04 44 54.4
comp=Z,92nm,19.0s,baz=181,slow=39
comp=Z,9.5nm,0.6s
MDJ Mudanjiang 45.40 2 P **P 04 24 06.4 -0.1**
MDJ pmax pmax
comp=Z,29nm,1.1s
MDJ pmax pmax
comp=Z,190nm,8.2s
XLT XiLinHaoTe 45.75 349 *eP* **P 04 24 09.0 -0.4**
XLT pP pP 04 24 17.3 -1.9
XLT sP sP 04 24 25.5 +3.1
XLT pmax pmax
comp=Z,29nm,1.3s
XLT LR LR
comp=Z,260nm,15.3s
XLT LR LR
comp=Z,240nm,18.4s
LSA Lhasa 46.00 315 IAmb IAmb 04 24 15.1
comp=Z,47nm,0.9s
LSA Lhasa 46.00 315 P **P 04 24 13.8 +1.7**
LSA pmax pmax
comp=Z,52nm,1.0s
BNX BinXian 46.47 0 ⇓P **P 04 24 14.1 -0.9**
BNX pmax pmax

comp=Z,8.0nm,1.1s
ASAJ Asahikawa 46.89 15 LR LR 04 42 20.1
comp=Z,394nm,21.5s,baz=274,slow=34
ASAJ Asahikawa 46.89 15 P **P** **04 24 18.2 -0.1**
ASAJ pmax pmax
comp=Z,98nm,1.4s
JKA Kamikawa-asahi 46.89 15 P **P** **04 24 18.2 -0.1**
PALK Pallekele 47.18 281 P **P** **04 24 20.2 -0.9**
PALK Pallekele 47.18 281 P **P** **04 24 20.2 -0.9**
PALK pmax pmax
comp=Z,157nm,2.0s
GTA Gaotai 47.39 331 P **P** **04 24 24.3 +1.9**
GTA sP sP 04 24 43.8 +8.5
GTA PcP **PcP** **04 25 54.0 +1.2**
GTA S **S** **04 31 16.8 +2.3**
GTA ScS **ScS** **04 34 15.3 +1.1**
GTA pmax pmax
comp=Z,55nm,1.0s
GTA pmax pmax
comp=Z,320nm,5.5s
GTA LR LR
comp=Z,210nm,14.9s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,190nm,15.3s
GOMU GeErMu 47.72 324 P **P** **04 24 27.0 +1.7**
GOMU S **S** **04 31 23.1 +3.4**
GOMU pmax pmax
comp=Z,33nm,1.6s
GOMU LR LR
comp=Z,210nm,15.8s
GOMU LR LR
comp=Z,330nm,15.6s
GOMU LR LR
comp=Z,520nm,15.8s
YSS Yuzhno-Sakhali 49.58 14 P **P** **04 24 38.7 -0.2**
YSS IAmb IAmb 04 24 50.3
comp=Z,74nm,1.5s
YSS Yuzhno-Sakhali 49.58 14 *e*P **P** **04 24 36.2 -2.8**
YSS *e*S **S** **04 31 42.3 -2.6**
YSS pmax pmax
comp=Z,300nm,4.0s
YSS pmax pmax
comp=Z,30nm,1.0s
KLR Kul'dur 50.12 4 LR LR 04 45 18.1
comp=Z,142nm,21.6s,baz=180,slow=35
KLR Kul'dur 50.12 4*ce*P **P** **04 24 42.3 -0.7**
KLR pmax pmax
comp=Z,16nm,1.3s
HIA Hailar 50.43 354*c i*P **P** **04 24 45.2 -0.2**
HIA pmax pmax
comp=Z,9.0nm,1.3s
HEH HeiHe 50.99 0 *e*P **P** **04 24 48.9 -0.7**
HEH pmax pmax
comp=Z,24nm,1.2s
HYB Hyderabad 51.33 293 *e*P **P** **04 24 53.1 +0.3**
HYB IVmB_BB 04 24 53.6
comp=Z,981nm,2.0s
ULN Ulaanbaatar 51.70 343 P **P** **04 24 54.3 -0.9**
ULN Ulaanbaatar 51.70 343*c i*P **P** **04 24 55.1 -0.1**
ULN pmax pmax
comp=Z,39nm,1.1s
SONM Songino Array 51.87 342 P **P** **04 24 55.7 -0.7**
SONM IAmb IAmb 04 24 57.9
comp=Z,38nm,1.2s
SONM Songino Array 51.87 342 P **P** **04 24 56.4 0.0**
comp=Z,21nm,1.0s,baz=162,slow=8.6,SNR=72
SONM PcP **PcP** **04 26 08.9 -0.1**
comp=Z,5.7nm,0.9s,baz=157,slow=5.9,SNR=1.9
SONM LR LR 04 47 46.7
comp=Z,131nm,19.8s,baz=140,slow=37
comp=Z,21nm,1.0s
GRNR Gornyy 52.09 7⇑*i*P **P** **04 24 58.1 +0.2**
GRNR pmax pmax
comp=N,6.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
MSVF Nonsavu 52.58 112 P **P** **04 25 03.0 +0.8**
MSVF IAmb IAmb 04 25 13.8
comp=Z,46nm,1.2s
MSVF Nonsavu 52.58 112 LR LR 04 47 41.7
comp=Z,193nm,19.6s,baz=292,slow=36
MSVF Nonsavu 52.58 112 P **P** **04 25 03.0 +0.8**
MSVF pmax pmax
comp=Z,46nm,1.2s
TYV Tymovskoe 53.24 12 *e*P **P** **04 25 06.8 +0.5**
TYV pmax pmax
comp=Z,8.0nm,1.0s
TYV pmax pmax
comp=Z,300nm,4.5s
CIT Chita 54.02 350 *e*P **P** **04 25 12.0 -0.1**
CIT *e* 04 25 20.8
CIT *e* 04 26 18.8
CIT pmax pmax
comp=Z,108nm,1.6s
ZEA Zeya 54.48 360 *e*P **P** **04 25 14.5 -0.8**
ZEA pmax pmax
comp=Z,20nm,0.6s
ZAK Zakamensk 55.09 341 *e*P **P** **04 25 19.0 -0.9**
ZAK pmax pmax
comp=Z,11nm,1.3s
JCZ Jackson Bay 56.56 145 P **P** **04 25 32.3 +1.6**
WMQ Urumqi 56.87 327 ⇑P **P** **04 25 33.3 +0.5**
WMQ pmax pmax
comp=Z,60nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,360nm,19.5s
WMQ LR LR
comp=Z,570nm,17.7s
WMQ LR LR
comp=Z,160nm,24.7s
MOY Mondy 56.93 341 *e*P **P** **04 25 33.2 +0.1**
MOY pmax pmax
comp=Z,56nm,3.0s
QRZ Quartz Range 56.99 140 P **P** **04 25 35.1 +1.5**
TOZ Tahuroa Road 57.45 135 IAmb IAmb 04 25 40.8
comp=Z,40nm,1.2s
RPZ Rata Peaks 57.68 144 P **P** **04 25 38.7 +0.3**
RPZ Rata Peaks 57.68 144 LR LR 04 53 19.9
comp=Z,212nm,18.1s,baz=322,slow=39
LTZ Lake Taylor 57.89 142 P **P** **04 25 41.1 +1.2**
LTZ IAmb IAmb 04 25 57.1
comp=Z,66nm,1.6s
BKZ Black Stump Fm 58.80 137 P **P** **04 25 45.6 -0.8**
BKZ IAmb IAmb 04 25 59.3
comp=Z,23nm,0.8s
BKZ Black Stump Fm 58.80 137 P **P** **04 25 48.1 +1.7**
URZ Urewera 58.82 135 P **P** **04 25 47.6 +1.2**
comp=Z,8.4nm,0.6s,baz=287,slow=5.2,SNR=5.9
URZ LR LR 04 52 03.0
comp=Z,272nm,21.0s,baz=30,slow=37
comp=Z,8.4nm,0.6s
URZ Urewera 58.82 135 P **P** **04 25 48.6 +2.1**
PEA0B Petropavlovsk- 59.54 21 P **P** **04 25 51.1 -0.1**
PEA0B IAmb IAmb 04 26 05.2
comp=Z,17nm,0.8s
PEA0B Petropavlovsk- 59.54 21⇓*e*P **P** **04 25 51.7 +0.5**
PETK Petropavlovsk- 59.54 21 P **P** **04 25 50.9 -0.3**
PETK Petropavlovsk- 59.54 21 P **P** **04 25 51.5 +0.4**
comp=Z,7.2nm,0.6s,baz=178,slow=4.5,SNR=15
PETK LR LR 04 49 30.5
comp=Z,98nm,21.8s,baz=212,slow=34
comp=Z,7.2nm,0.6s
PET Petropavlovsk 59.81 21 P **P** **04 25 52.8 -0.2**
PET Petropavlovsk 59.81 21⇓*e*P **P** **04 25 53.6 +0.6**
PET pmax pmax
comp=Z,26nm,1.3s
ZSN Zaisan 60.72 328 *e*P **P** **04 25 58.9 -0.5**
ZSN pmax pmax
comp=Z,11nm,1.0s
ZSN Zaisan 60.72 328 *e*P **P** **04 25 59.0 -0.5**
comp=Z,11nm,1.0s
NIL Nilore 61.26 310 P **P** **04 26 02.6 -0.7**
NIL IAmb IAmb 04 26 06.2
comp=Z,24nm,0.8s
NIL Nilore 61.26 310 P **P** **04 26 02.7 -0.7**
NIL pmax pmax
comp=Z,24nm,0.9s
SHLS Shalkode 61.30 322 *e*P **P** **04 26 01.5 -2.1**
SHLS pmax pmax
comp=Z,12nm,1.0s
SHLS Shalkode 61.30 322 *e*P **P** **04 26 01.6 -2.1**
comp=Z,12nm,1.0s

UZB Uzynbulak 61.57 322 *e*P **P** **04 26 05.0 -0.4**
UZB pmax pmax
comp=Z,7.0nm,0.7s
UZB Uzynbulak 61.57 322 *e*P **P** **04 26 05.0 -0.4**
comp=Z,6.5nm,0.7s
TARG Taragay, Kyrgy 61.61 320 IAmb IAmb 04 26 20.9
comp=Z,34nm,1.0s
MK31 Makanchi Array 61.70 327 P **P** **04 26 04.3 -1.8**
MK31 Makanchi Array 61.70 327*c i*P **P** **04 26 06.3 +0.2**
MKAR Makanchi Array 61.70 327 P **P** **04 26 06.0 -0.1**
MKAR Makanchi Array 61.70 327 P **P** **04 26 06.3 +0.2**
comp=Z,20nm,0.4s,baz=116,slow=7.6,SNR=190
MKAR LR LR 04 54 52.0
comp=Z,138nm,20.3s,baz=144,slow=38
comp=Z,20nm,0.4s
KSH Kashi 61.76 317 P **P** **04 26 08.3 +1.5**
KSH pP pP 04 26 15.8 -0.5
KSH pmax pmax
comp=Z,29nm,1.2s
KSH LR LR
comp=Z,560nm,16.8s
KSH LR LR
comp=Z,290nm,13.1s
KSH LR LR
comp=Z,660nm,17.5s
MAKZ Makanchi 61.88 326 P **P** **04 26 06.2 -1.1**
MAKZ Makanchi 61.88 326 P **P** **04 26 06.3 -1.1**
MAKZ pmax pmax
comp=Z,148nm,1.8s
SATY Saty 61.91 321 *e*P **P** **04 26 07.0 -0.7**
SATY Saty 61.91 321 *e*P **P** **04 26 07.0 -0.7**
ZHN Zhinishke 61.94 321 *e*P **P** **04 26 07.6 -0.3**
ZHN pmax pmax
comp=Z,7.0nm,0.8s
ZHN Zhinishke 61.94 321 *e*P **P** **04 26 07.6 -0.3**
comp=Z,6.8nm,0.8s
KPKS Kokpek 61.95 322 *e*P **P** **04 26 07.4 -0.5**
KPKS Kokpek 61.95 322 *e*P **P** **04 26 07.5 -0.5**
KDJ Kajisay 62.21 320 IAmb IAmb 04 26 25.0
comp=Z,32nm,0.8s
MDOK Medeo 62.81 321 *e*P **P** **04 26 12.9 -0.9**
MDOK Medeo 62.81 321 *e*P **P** **04 26 12.9 -0.9**
TNSS Tian-Shan 62.81 321 *e*P **P** **04 26 13.4 -0.7**
TNSS Tian-Shan 62.81 321 *e*P **P** **04 26 13.5 -0.7**
YAK Yakutsk 62.82 1 P **P** **04 26 12.3 -0.9**
YAK Yakutsk 62.82 1 *e*P **P** **04 26 12.8 -0.4**
YAK *e**PP **pP** **04 26 24.3 +0.9**
YAK *e* 04 26 47.5
YAK *e* 04 28 28.1
YAK *e*S **S** **04 34 39.8 -0.3**
YAK *e**SS **sS** **04 34 58.6 +2.6**
YAK pmax pmax
comp=Z,56nm,0.8s
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.5s
YAK smax smax
comp=N,6.0nm,1.1s
YAK smax smax
comp=E,67nm,3.4s
AAA Alma-Ata 62.92 321 *e*P **P** **04 26 14.3 -0.1**
AAA Alma-Ata 62.92 321 *e*P **P** **04 26 14.1 -0.3**
TDK Taldyqorghan 62.93 323 *e*P **P** **04 26 14.2 -0.1**
TDK Taldyqorghan 62.93 323 *e*P **P** **04 26 14.2 -0.1**
MA2 Magadan 63.08 13 P **P** **04 26 14.2 -0.8**
MA2 Magadan 63.08 13*c i*P **P** **04 26 15.5 +0.5**
MA2 pmax pmax
comp=Z,31nm,0.7s
TKM2 Tokmak 2 63.62 320 P **P** **04 26 19.9 +0.7**
SNR=27
KBK Karagaybulak 63.91 319 P **P** **04 26 21.5 +0.4**
SNR=9.9
UCH Uchtor 64.00 319 P **P** **04 26 23.6 +1.6**
SNR=5.1
AAK Ala-Archa 64.20 319 P **P** **04 26 22.4 -0.5**
AAK IAmb IAmb 04 26 27.9
comp=Z,33nm,1.2s
AAK Ala-Archa 64.20 319 LR LR 04 57 27.5
comp=Z,70nm,20.2s,baz=90,slow=39
AAK Ala-Archa 64.20 319 P **P** **04 26 23.5 +0.5**
SNR=17
AAK Ala-Archa 64.20 319*ce*P **P** **04 26 23.7 +0.7**
AAK pmax pmax
comp=Z,66nm,2.5s
USP Osenovka 64.49 320 P **P** **04 26 25.2 +0.5**
SNR=59
AML Almayashu 64.49 318 P **P** **04 26 22.0 -3.2**
SNR=46
SGDS Sogindy 64.49 320 *e*P **P** **04 26 24.3 -0.4**
SGDS Sogindy 64.49 320 *e*P **P** **04 26 24.4 -0.4**
EKS2 Erkin-Say 64.68 319 P **P** **04 26 27.1 +1.1**
SNR=19
KBL Kabul 64.83 309 P **P** **04 26 26.6 -0.7**
KBL IAmb IAmb 04 26 30.0
comp=Z,31nm,1.1s
KBL Kabul 64.83 309 P **P** **04 26 26.6 -0.7**
KBL pmax pmax
comp=Z,31nm,1.1s
SEM Semipalatinsk 64.94 329 *e*P **P** **04 26 27.0 -0.7**
SEM pmax pmax
comp=Z,5.0nm,0.9s
SEM Semipalatinsk 64.94 329 *e*P **P** **04 26 27.0 -0.7**
comp=Z,4.8nm,0.9s
ZAA0 Zalesovo Array 64.98 334 IAmb IAmb 04 26 33.7
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 64.98 334 P **P** **04 26 25.5 -2.1**
ZALV Zalesovo Beam 64.98 334 P **P** **04 26 26.9 -0.7**
comp=Z,22nm,1.0s,baz=111,slow=6.5,SNR=45
ZALV PP **PP** **04 28 49.0 -1.9**
comp=Z,1.0nm,0.6s,baz=117,slow=8.6,SNR=1.7
ZALV LR LR 04 55 45.1
comp=Z,90nm,21.2s,baz=114,slow=37
comp=Z,22nm,1.0s
ZALV Zalesovo Beam 64.98 334 *i* P **P** **04 26 26.8 -0.8**
ZALV pmax pmax
comp=Z,22nm,1.0s
BTK Batken 65.57 315 IAmb IAmb 04 26 49.9
comp=Z,30nm,0.9s
BTLS Baital 65.62 321 *e*P **P** **04 26 31.6 -0.3**
BTLS pmax pmax
comp=Z,8.0nm,0.8s
BTLS Baital 65.62 321 *e*P **P** **04 26 31.6 -0.3**
comp=Z,7.6nm,0.8s
KURBB Kurchatov Arra 65.96 328 P **P** **04 26 33.7 -0.3**
comp=Z,41nm,0.8s,baz=125,slow=5.9,SNR=168
KURBB PP **PP** **04 28 58.7 -0.8**
comp=Z,3.7nm,1.2s,baz=127,slow=8.4,SNR=4.1
comp=Z,41nm,0.8s
KURK Kurchatov 65.96 328 P **P** **04 26 32.8 -1.2**
KURK Kurchatov 65.96 328*ce*P **P** **04 26 33.8 -0.2**
KURK pmax pmax
comp=Z,82nm,1.0s
SHEM Shemya Is, Ala 66.21 29 LR LR 04 49 38.4
comp=Z,131nm,20.8s,baz=266,slow=31
CHGR Chuyangaron 66.22 313 P **P** **04 26 36.1 0.0**
SIMJ Simiganj 66.33 313 P **P** **04 26 36.0 -0.8**
SIMJ IAmb IAmb 04 26 40.8
comp=Z,26nm,0.9s
DZA Taraz 66.40 318 *e*P **P** **04 26 36.5 -0.5**
DZA pmax pmax
comp=Z,9.0nm,0.8s
DZA Taraz 66.40 318 *e*P **P** **04 26 36.5 -0.5**
comp=Z,8.8nm,0.8s
SEY Seymchan 66.43 12⇑*e*P **P** **04 26 37.5 +0.7**
SEY pmax pmax
comp=Z,31nm,1.3s
KK31 Karatay Array 67.03 318 IAmb IAmb 04 26 46.1
comp=Z,26nm,0.9s
KKAR Karatay Array 67.03 318 P **P** **04 26 40.2 -0.8**
KKAR Karatay Array 67.03 318 IAmb IAmb 04 26 46.0
comp=Z,16nm,0.9s
KKAR Karatay Array 67.03 318 P **P** **04 26 40.3 -0.8**
BRLS Borolday 67.45 318 *e*P **P** **04 26 43.5 -0.3**
BRLS pmax pmax
comp=Z,13nm,0.9s
BRLS Borolday 67.45 318 *e*P **P** **04 26 43.5 -0.3**
comp=Z,13nm,0.9s
BRZS Berezniki 68.81 326 *e*P **P** **04 26 51.8 -0.3**
BRZS pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 68.81 326 *e*P **P** **04 26 51.9 -0.3**
comp=Z,9.3nm,0.9s
BVAR Borovoye Array 71.52 328 P **P** **04 27 08.2 -0.4**

comp=Z,21nm,0.9s,baz=131,slow=8.1,SNR=48
comp=Z,21nm,0.9s
BRVK Borovoye 71.59 328 P **P** **04 27 07.5 -1.6**
BRVK IAmb IAmb 04 27 15.3
comp=Z,37nm,0.8s
BRVK Borovoye 71.59 328*ce*P **P** **04 27 08.7 -0.4**
BRVK pmax pmax
comp=Z,25nm,1.0s
TIXI Tiksi 72.47 1 P **P** **04 27 11.8 -2.1**
TIXI IAmb IAmb 04 27 24.8
comp=Z,33nm,1.2s
TIXI Tiksi 72.47 1⇓*e*P **P** **04 27 12.9 -1.0**
TIXI pmax pmax
comp=Z,21nm,1.3s
UOSS Minazif 73.29 296 P **P** **04 27 19.3 -0.5**
UOSS IAmb IAmb 04 27 21.4
comp=Z,23nm,0.7s
RAR Rarotonga 73.77 112 LR LR 05 00 15.3
comp=Z,37nm,19.9s,baz=277,slow=36
BILL Bilibino 73.90 14⇑*i*P **P** **04 27 22.5 +0.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
NRIK Noril'sk 75.06 346 IAmb IAmb 04 27 39.4
comp=Z,91nm,1.6s
NRIK Noril'sk 75.06 346 P **P** **04 27 28.8 -0.3**
comp=Z,19nm,0.8s,baz=133,slow=6.0,SNR=22
NRIK LR LR 05 03 15.7
comp=Z,166nm,19.7s,baz=137,slow=38
comp=Z,19nm,0.8s
NRIK Noril'sk 75.06 346*c i*P **P** **04 27 29.0 -0.2**
NRIK pmax pmax
comp=Z,21nm,0.9s
ABKAR Akbulak array 76.11 321 P **P** **04 27 34.5 -1.0**
ABKAR IAmb IAmb 04 27 37.6
comp=Z,64nm,1.5s
AKTO Aktyubinsk 77.65 322 LR LR 05 05 04.6
comp=Z,128nm,19.6s,baz=29,slow=38
SVE Sverdlovsk 78.21 329 *e*P **P** **04 27 47.0 -0.2**
SVE pmax pmax
comp=Z,43nm,1.0s
VNDA Vanda 78.76 173 P **P** **04 27 50.2 +0.3**
VNDA Vanda 78.76 173 P **P** **04 27 50.1 +0.2**
comp=Z,11nm,0.9s,baz=309,slow=5.9,SNR=13
VNDA LR LR 05 03 18.3
comp=Z,86nm,19.5s,baz=336,slow=36
comp=Z,11nm,0.9s
VNDA Vanda 78.76 173 P **P** **04 27 50.2 +0.3**
VNDA pmax pmax
comp=Z,19nm,1.1s
ARTI Arti 79.24 328 P **P** **04 27 50.9 -2.0**
ARTI IAmb IAmb 04 28 01.2
comp=Z,17nm,0.6s
ARTI Arti 79.24 328*c i*P **P** **04 27 51.9 -1.0**
ARTI 04 30 46.1
ARTI S **S** **04 37 52.1 +1.5**
ARTI SS **SS** **04 42 56.9 -0.7**
ARTI pmax pmax
comp=Z,27nm,1.6s
MAW Mawson 79.61 201 LR LR 05 02 04.3
comp=Z,64nm,18.6s,baz=66,slow=35
ABPO Ambohimpanom 80.30 251 P **P** **04 27 59.3 -0.4**
ABPO IAmb IAmb 04 28 01.5
comp=Z,56nm,1.5s
ABPO Ambohimpanom 80.30 251 P **P** **04 27 59.3 -0.4**
ABPO pmax pmax
comp=Z,56nm,1.5s
K13K Kusilvak Mount 80.65 26 IAmb IAmb 04 28 18.9
comp=Z,50nm,1.8s
FOMA Nahampoana Res 80.82 245 P **P** **04 28 02.2 +0.1**
FOMA IAmb IAmb 04 28 04.4
comp=Z,64nm,1.1s
VOI Vohitsoka 80.83 248 IAmb IAmb 04 28 04.1
comp=Z,44nm,1.0s
L14K Kuka Creek 81.35 27 IAmb IAmb 04 28 40.5
comp=Z,43nm,1.5s
F15K North Star Dit 81.96 23 IAmb IAmb 04 28 21.5
comp=Z,57nm,1.9s
C16K Lisburne Hills 82.63 20 IAmb IAmb 04 28 24.5
comp=Z,35nm,1.3s
G16K Koyuk River 82.76 23 IAmb IAmb 04 28 25.3
comp=Z,56nm,1.6s
RAYN Ar Rayn 82.83 294 P **P** **04 28 12.2 -0.6**
RAYN IAmb IAmb 04 28 14.7
comp=Z,30nm,1.3s
RAYN Ar Rayn 82.83 294 P **P** **04 28 12.2 -0.6**
RAYN pmax pmax
comp=Z,30nm,1.3s
J16K Anvik River 82.85 26 IAmb IAmb 04 28 14.4
comp=Z,20nm,0.9s
L16K Owhat River 82.93 27 P **P** **04 28 12.9 +0.5**
L16K IAmb IAmb 04 28 25.3
comp=Z,50nm,1.5s
I17K Unalakleet 82.99 25 IAmb IAmb 04 28 15.2
comp=Z,36nm,1.1s
PPT Papeete 83.17 107 LR LR 05 04 27.7
comp=Z,53nm,19.9s,baz=3.5,slow=35
PPT2 Papeete2 83.18 107 *e*LR LR 04 54 19.3
comp=Z,314nm,32.8s
PPT2 *e*LR LR 04 54 27.7
comp=Z,180nm,33.5s
TBI Tubuai 83.43 113 *e*LR LR 04 54 25.8
comp=Z,901nm,28.8s
H17K Granite Mounta 83.61 24 IAmb IAmb 04 28 30.8
comp=Z,51nm,1.8s
K17K Iditarod 83.72 27 IAmb IAmb 04 28 27.2
comp=Z,23nm,0.8s
L18K Granite Mounta 84.33 27 P **P** **04 28 20.5 +0.9**
L18K IAmb IAmb 04 28 28.2
comp=Z,12nm,0.7s
BELG Belogornoye 84.42 323 LR LR 05 09 00.8
comp=Z,55nm,20.9s,baz=84,slow=38
BELG Belogornoye 84.42 323*c i*P **P** **04 28 19.2 -1.0**
BELG pmax pmax
comp=Z,13nm,1.0s
KIRV Kirov 84.48 329*ce*P **P** **04 28 19.7 -0.7**
J18K Innoko River 84.59 26 IAmb IAmb 04 29 26.9
comp=Z,42nm,2.0s
TTA Tatalina 84.79 27 IAmb IAmb 04 29 06.1
comp=Z,27nm,1.4s
N19K Bonanza Creek 85.07 29 IAmb IAmb 04 28 32.0
comp=Z,27nm,0.9s
KDAK Kodiak Island 85.52 32 LR LR 05 00 43.0
comp=Z,139nm,20.1s,baz=105,slow=32
KBZ Khabaz 86.58 314 P **P** **04 28 30.3 -0.9**
comp=Z,6.2nm,1.0s,baz=105,slow=5.2,SNR=7.0
KBZ LR LR 05 12 20.1
comp=Z,33nm,18.1s,baz=84,slow=39
comp=Z,6.2nm,1.0s
KBZ Khabaz 86.58 314*de*P **P** **04 28 31.2 0.0**
KBZ pmax pmax
comp=Z,21nm,1.5s
E21K Killik River 86.72 21 IAmb IAmb 04 29 20.4
comp=Z,27nm,1.8s
B21K Ikpikpuk River 86.73 20 IAmb IAmb 04 29 43.8
comp=Z,36nm,1.9s
KIV Kislovodsk 86.75 314 *e*P **P** **04 28 30.9 -1.3**
KIV pmax pmax
comp=Z,4.0nm,1.0s
GURO Guroymak-BITLI 86.86 309 IAmb IAmb 04 28 35.7
comp=Z,44nm,1.5s
MARD Mardin 87.78 307 P **P** **04 28 36.5 -0.8**
I23K Minto, Yukon-K 88.04 25 IAmb IAmb 04 29 00.1
comp=Z,36nm,1.6s
C23K Itkillik River 88.14 20 IAmb IAmb 04 28 47.9
comp=Z,49nm,1.9s
SYO Syowa Base 88.31 201⇓*e*P **P** **04 28 39.6 +0.6**
D24K Happy Valley 88.68 21 IAmb IAmb 04 30 04.4
comp=Z,27nm,1.8s
SOC Sochi 88.87 313 *e*P **P** **04 28 39.7 -2.5**
SOC *e* 04 32 08.8
SOC *e*S **SKSac** **04 39 06.0 -3.5**
SOC *e*SS **SS** **04 45 20.9 +0.4**
SOC *e*SSS SSS 04 48 50.6
QSPA South Pole Qui 89.00 180 P **P** **04 28 42.9 +0.4**
QSPA South Pole Qui 89.00 180 P **P** **04 28 42.5 0.0**
comp=Z,30nm,1.0s,baz=299,slow=1.2,SNR=74
comp=Z,30nm,1.0s
ILAR Eielson Array 89.05 25 P **P** **04 28 40.9 -1.7**
comp=Z,1.1nm,1.0s,baz=244,slow=3.9,SNR=12
comp=Z,1.1nm,1.0s
KIBK Kibwezi 89.20 268 IAmb IAmb 04 28 47.7
comp=Z,32nm,1.5s
KMBO Kilima Mbogo 90.02 269 P **P** **04 28 46.8 -1.8**
KMBO IAmb IAmb 04 28 51.1
comp=Z,34nm,1.4s
KMBO Kilima Mbogo 90.02 269 P **P** **04 28 46.8 -1.8**
KMBO pmax pmax

comp=Z,34nm,1.4s
OBN Obninsk 91.17 325 ⇓*e*P **P 04 28 51.0 -1.6**
OBN *SP **pP 04 28 59.0 -3.6**
OBN *e*S **S 04 39 52.7 +4.2**
OBN *e* 04 41 00.8
OBN pmax pmax
comp=Z,33nm,1.7s
I28M Miner Creek 92.00 25 IAmb IAmb 04 29 08.3
comp=Z,39nm,1.7s
MMAI Mount Meron Ar 92.08 303 LR LR 05 18 49.8
comp=Z,46nm,18.2s,baz=97,slow=41
TAOE Nuku Hiva Isla 92.39 99 *e*LR LR 04 58 40.1
comp=Z,187nm,23.9s
EIL Elat 92.49 299 LR LR 05 18 14.4
comp=Z,34nm,18.5s,baz=70,slow=40
BR131 Keskin Array S 93.40 310 ⇓*e*P **P 04 29 01.9 -1.7**
BRTR Keskin Array B 93.40 310 P **P 04 29 01.9 -1.7**
comp=Z,1.4nm,0.8s,baz=94,slow=3.7,SNR=7.0
BRTR PP **PP 04 32 46.6 -1.3**
comp=Z,1.6nm,1.0s,baz=114,slow=8.8,SNR=4.7
comp=Z,1.4nm,0.8s
BRTR Keskin Array B 93.40 310 *i* P **P 04 29 03.4 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 94.27 22 P **P 04 29 03.9 -2.7**
INK IAmb IAmb 04 31 04.1
comp=Z,25nm,2.0s
INK Inuvik 94.27 22 P **P 04 29 03.9 -2.7**
INK pmax pmax
comp=Z,25nm,2.0s
ARCES ARCESS Array B 94.99 340 P **P 04 29 08.1 -1.9**
comp=Z,3.2nm,0.8s,baz=72,slow=4.0,SNR=5.9
ARCES LR LR 05 16 13.3
comp=Z,74nm,20.7s,baz=114,slow=38
comp=Z,3.2nm,0.8s
SPITS Spitsbergen Ar 95.13 349 P **P 04 29 09.0 -1.5**
comp=Z,6.5nm,1.0s,baz=102,slow=13,SNR=1.0
SPITS LR LR 05 18 57.3
comp=Z,79nm,18.3s,baz=18,slow=40
comp=Z,6.5nm,1.0s
FARO Faro, Yukon 95.19 28 IAmb IAmb 04 29 26.1
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 95.83 321 P **P 04 29 12.9 -1.3**
comp=Z,0.3nm,0.4s,baz=69,slow=4.3,SNR=4.6
AKASG Malin Array Be 95.83 321 *i* P **P 04 29 13.8 -0.4**
FINES FINESS Array B 96.18 332 P **P 04 29 13.7 -1.8**
comp=Z,1.4nm,0.7s,baz=49,slow=4.2,SNR=3.6
comp=Z,1.4nm,0.7s
FINES FINESS Array B 96.18 332 *i* P **P 04 29 15.8 +0.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
DLBC Dease Lake 97.43 31 LR LR 05 08 08.8
comp=Z,97nm,20.4s,baz=284,slow=32
LSZ Lusaka 98.53 255 P Pdif 04 29 28.0 +0.6
LSZ IAmb IAmb 04 29 28.6
comp=Z,12nm,1.1s
LSZ Lusaka 98.53 255 LR LR 05 12 31.6
comp=Z,102nm,19.7s,baz=101,slow=34
LSZ Lusaka 98.53 255 P Pdif 04 29 28.0 +0.6
LSZ pmax pmax
comp=Z,12nm,1.2s
MLR Muntele Rosu 98.62 316 LR LR 05 20 20.7
comp=Z,68nm,20.2s,baz=72,slow=39
BUR08 Bucovina Ar. S 98.83 318 IAmb IAmb 04 29 30.3
comp=Z,17nm,1.8s
BBB Bella Bella 99.67 37 LR LR 05 07 19.9
comp=Z,61nm,21.4s,baz=238,slow=31
KOLS Kolonicke sedl 100.54 320 *e*P **Pdif 04 29 41.7 +6.2**
KOLS Kolonicke sedl 100.54 320 *e*PDIFF **Pdif 04 29 41.7 +6.2**
HFS Hagfors 102.37 332 P **Pdif 04 29 42.1 -1.2**
comp=Z,3.1nm,1.0s,baz=49,slow=4.8,SNR=2.6
NB2 NORSAR Subarra 103.18 333 P **Pdif 04 29 45.7 -1.3**
comp=Z,4.3nm,1.0s,baz=70,slow=4.8
NOA NORSAR Array B 103.18 333 Pdiff **Pdif 04 29 45.7 -1.3**
comp=Z,0.6nm,0.7s,baz=68,slow=4.5,SNR=2.3
MODS Modra-Piesok 103.90 320 *e*P **Pdif 04 29 53.9 +3.5**
MODS Modra-Piesok 103.90 320 *e*PDIFF **Pdif 04 29 53.9 +3.5**
PDAR Pinedale Array 114.43 43 PKP PKPdf 04 34 26.8 -1.4
comp=Z,0.5nm,0.8s,baz=136,slow=1.0,SNR=4.5
PDAR PKKPbc **PKKPbc 04 45 08.1 -0.7**
comp=Z,0.2nm,0.5s,baz=140,slow=5.8,SNR=4.0
ULM Lac du Bonnet 118.72 30 PKP **PKPdf 04 34 34.3 -1.7**
comp=Z,0.8nm,0.5s,baz=310,slow=4.3,SNR=3.1
ECSD EROS Data Cent 122.23 36 PKPdf **PKPdf 04 34 42.3 -0.7**
TXAR Lajitas Array 123.91 55 PKP **PKiKP 04 34 47.2 +0.2**
comp=Z,1.2nm,0.8s,baz=203,slow=1.8,SNR=9.5
TXAR PKKPab **PKKPbc 04 44 34.1 +0.7**
comp=Z,0.5nm,0.8s,baz=131,slow=6.6,SNR=3.7
SCHQ Schefferville 125.04 10 PKP **PKiKP 04 34 49.5 +1.2**
comp=Z,2.3nm,0.8s,baz=353,slow=4.1,SNR=4.2
PLCA Paso Flores 135.46 161 PKP **PKiKP 04 35 09.2 -0.6**
comp=Z,2.3nm,1.0s,baz=243,slow=6.6,SNR=3.6
CO03 El Pedregal 144.07 153 PKPdf **PKPab 04 35 21.2 -0.4**
AC01 Pan de Azucar 148.01 149 PKPbc 04 35 34.5 +0.4
CPUP Villa Florida 152.53 171 PKPbc **PKPbc 04 35 44.1 -0.8**
comp=Z,7.6nm,0.9s,baz=188,slow=2.8,SNR=11
PB01 IPOC Station P 152.68 144 PKPdf **PKPdf 04 35 35.6 -2.8**
LPAZ La Paz 157.10 139 PKP **PKPdf 04 35 45.9 +0.6**
comp=Z,0.9nm,0.8s,baz=270,slow=4.0,SNR=5.0
LPAZ PKPab **PKPab 04 36 15.3 -0.3**
comp=Z,4.0nm,0.9s,baz=338,slow=4.9,SNR=5.0

*IDC **18** 04:26:38.6±2.6,3°.50N×122°.99E,h561km±31km,mb2.8/6, mbtmp3.8/7, Error ellipse: s-maj=68.7km s-min=9.6km az=66.0*
ISC 18 04:26:37.3±0.9,3°.6N±0°.1×123°.2E±0°.3,h545km,n7, σ0°52/11,mb3.4/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.23**	**202**	P	**P**	**04 28 47.6**	**+0.3**
	10nm,0.4s,baz=354,slow=12,SNR=8.8						
FITZ	**Fitzroy Crossi**	**21.70**	**174**	P	**P**	**04 30 48.3**	**-0.7**
	3.6nm,0.9s,baz=353,slow=8.6,SNR=7.8						
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**25.83**	**155**	P	**P**	**04 31 26.2**	**+0.4**
	0.4nm,0.3s,baz=335,slow=9.6,SNR=28						
WRA				PcP	**PcP**	**04 34 36.3**	**-0.6**
	0.5nm,0.9s,baz=336,slow=2.4,SNR=2.1						
WRA				S	**S**	**04 35 17.1**	**-0.3**
	0.7nm,1.0s,baz=336,slow=15,SNR=3.6						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**29.05**	**159**	P	**P**	**04 31 54.4**	**+0.5**
	0.3nm,0.3s,baz=333,slow=8.2,SNR=4.5						
ASAR				S	**S**	**04 36 07.6**	**+0.2**
	0.7nm,0.8s,baz=347,slow=20,SNR=5.9						
	0.3nm,0.3s						
SONM	**Songino Array**	**46.38**	**344**	P	**P**	**04 34 15.5**	**+0.6**
	0.4nm,0.5s,baz=165,slow=7.4,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**55.69**	**327**	P	**P**	**04 35 22.2**	**-0.1**
	0.7nm,0.3s,baz=123,slow=7.9,SNR=17						
MKAR				PcP	**PcP**	**04 36 13.2**	**-0.4**
	0.5nm,0.6s,baz=127,slow=3.7,SNR=5.4						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**59.98**	**329**	P	**P**	**04 35 50.9**	**-0.4**
	0.6nm,0.5s,baz=132,slow=6.6,SNR=7.3						
	0.6nm,0.5s						

*AEIC **18** 04:33:13.8±1.2,54°.1N±0°.2×165°.4W±0°.1,h84km±5km, Error ellipse: s-maj=24.6km s-min=2.4km az=158.0*
NEIC 18 04:33:12.7±1.3,54°.13N±0°.08×165°.4W±0°.1,h92km±5km, ML3.0/6,ML2.8(AEIC),Error ellipse: s-maj=15.0km s-min=3.7km az=141.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.16**	**272**		Pn	04 33 25.5	-0.2
AKSA					Sn	04 33 35.8	+0.4
AHB	**Akutan Harbor**	**0.23**	**266**		Pn	04 33 25.7	-0.3
AHB					Sn	04 33 36.1	+0.2
AKV	**Akutan Volcano**	**0.31**	**269**		Pn	04 33 26.1	-0.4
ZRO	**Akutan Zero**	**0.32**	**263**		Sn	04 33 36.6	0.0
AKGG	**Akutan Green G**	**0.34**	**282**		Pn	04 33 26.1	-0.4
AKMO	**Akutan Morgan**	**0.34**	**264**		Pn	04 33 26.2	-0.3
AKMO					Sn	04 33 36.7	-0.1
LVA	**Lava Point**	**0.35**	**275**		Pn	04 33 25.8	-0.8
LVA				Sn	Sn	04 33 37.5	+0.5
LVA				IAML		04 33 38.1	
	comp=E,339nm,0.6s						
LVA				IAML		04 33 39.3	
	comp=N,358nm,0.6s						
AKRB	**Akutan Reef Bi**	**0.38**	**270**		Pn	04 33 26.4	-0.3
AKRB					Sn	04 33 38.1	+0.9
WESE	**West Dahl East**	**0.60**	**55**		Pn	04 33 28.2	-0.3
UNV	**Unalaska Valle**	**0.69**	**246**	Pn	Pn	04 33 28.8	-0.4
UNV				Sn	Sn	04 33 41.5	-0.1
MSW	**Makushin Switc**	**0.83**	**255**		Pn	04 33 30.1	-0.5
MSW					Sn	04 33 44.0	+0.1
MGOD	**Makushin Gods**	**0.92**	**249**		Pn	04 33 31.6	0.0
MGOD					Sn	04 33 46.4	+0.7
MAPS	**Pakushin South**	**0.95**	**251**		Pn	04 33 31.9	0.0
ISLZ	**Isanotski Laza**	**1.17**	**59**		Pn	04 33 34.2	-0.3
ISLZ					Sn	04 33 51.2	+0.4
FALS	**False Pass**	**1.38**	**57**	Pn	Pn	04 33 36.1	-0.9
OKTU	**Okmok Mt. Tuli**	**1.72**	**245**		Pn	04 33 41.7	+0.4
OKWE	**Okmok W'ng Wal**	**1.79**	**250**		Pn	04 33 42.5	+0.3
HAG	**Hague Volcano**	**2.37**	**58**		Pn	04 33 50.2	+0.5
PS4A	**Pavlof South-4**	**2.41**	**58**		Pn	04 33 51.0	+0.7
PVV	**Pavlof Volcano**	**2.45**	**58**		Pn	04 33 51.2	+0.4
PS1A	**Pavlof South-1**	**2.50**	**57**		Pn	04 33 52.0	+0.6
S12K	**Black Hills**	**2.50**	**50**	Pn	Pn	04 33 50.5	-1.1
S12K				Sn	Sn	04 34 22.0	+0.6
S12K				IAML		04 34 30.6	
	comp=E,75nm,1.1s						
CHGN	**Chignik**	**4.57**	**59**	Pn	Pn	04 34 19.4	0.0
CHGN				IAML		04 35 35.5	
	comp=N,24nm,1.1s						
ATKA	**Atka Island**	**5.61**	**253**	Pn	Pn	04 34 34.7	+1.1
M11K	**Mekoryuk**	**6.29**	**357**	Pn	Pn	04 34 41.8	-0.8
N15K	**Kwethluk River**	**6.71**	**23**	Pn	Pn	04 34 49.2	+0.7
O16K	**Kokwok River B**	**6.79**	**33**	Pn	Pn	04 34 48.2	-1.3
ACHA	**Anglo Creek He**	**6.97**	**50**	Pn	Pn	04 34 53.6	+1.6
KDAK	**Kodiak Island**	**8.08**	**58**	Pn	Pn	04 35 05.2	-1.9
Q19K	**Cape Douglas,**	**8.09**	**49**	Pn	Pn	04 35 08.5	+1.2

*NEIC **18** 05:07:47.7±1.1,21°.2S±0°.2×178°.00W±0°.08,h487km±17km, mb4.0/15,Error ellipse: s-maj=34.5km s-min=7.7km az=191.0*
*IDC **18** 05:07:51.6±6.5,20°.68S×178°.58W,h505km±44km,mb3.3/3, mbtmp4.2/4,Error ellipse: s-maj=128.4km s-min=69.0km az=139.0*
ISC 18 05:07:47.4±0.7,21°.0S±0°.2×177°.98W±0°.09,h500km,n23, σ0°67/26,mb3.9/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.95**	**310**	P	**P**	**05 09 13.7**	**-0.4**
MSVF	**Nonsavu**	**4.95**	**310**	P	**P**	**05 09 13.1**	**-1.0**
	34nm,0.5s,baz=130,slow=9.7,SNR=43						
NIUE	**Niue**	**7.80**	**77**	P	**P**	**05 09 41.2**	**-0.6**
NIUE				S	**S**	**05 11 16.1**	**+0.4**
PINNC	**Pines Island,**	**13.64**	**261**	P	**P**	**05 10 43.0**	**-0.3**
QRZ	**Quartz Range**	**21.36**	**200**	P	**P**	**05 11 57.1**	**-1.1**
EIDS	**Eidsvold**	**28.74**	**255**	P	**P**	**05 13 03.6**	**-0.3**
ARMA	**Armidale**	**28.88**	**245**	P	**P**	**05 13 05.9**	**+0.8**
ARMA				IAmb	IAmb	05 13 16.3	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**37.60**	**245**	P	**P**	**05 14 18.4**	**-0.5**
STKA	**Stephens Creek**	**37.60**	**245**	P	**P**	**05 14 18.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=73,slow=7.8,SNR=3.9						
	comp=Z,1.7nm,0.5s						
COEN	**Coen**	**37.64**	**274**	P	**P**	**05 14 20.0**	**+0.6**
COEN				IAmb	IAmb	05 14 28.4	
	comp=Z,13nm,1.4s						
BBOO	**Buckleboo**	**42.35**	**244**	P	**P**	**05 14 56.3**	**-0.8**
WR0	**Warramunga Arr**	**44.37**	**263**	P	**P**	**05 15 12.4**	**-0.6**
WR0				IAmb	IAmb	05 15 55.5	
	comp=Z,5.8nm,1.4s						
WR0				PcP	**PcP**	**05 16 47.5**	**+1.2**
WR8	**Warramunga Arr**	**44.40**	**263**	P	**P**	**05 15 13.4**	**+0.2**
WR8				IAmb	IAmb	05 15 14.7	
	comp=Z,4.4nm,1.1s						
AS31	**Alice Springs**	**44.43**	**257**	P	**P**	**05 15 14.1**	**+0.7**
AS31				IAmb	IAmb	05 15 15.1	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**44.43**	**257**	P	**P**	**05 15 13.2**	**-0.3**
ASAR	**Alice Springs**	**44.43**	**257**	P	**P**	**05 15 13.6**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=94,slow=8.2,SNR=47						
ASAR				PcP	**PcP**	**05 16 48.2**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=93,slow=5.2,SNR=2.5						
	comp=Z,2.9nm,0.5s						
WB0	**Warramunga Arr**	**44.54**	**263**	P	**P**	**05 15 14.7**	**+0.4**
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**05 15 14.3**	**-0.1**
WRA	**Warramunga Arr**	**44.55**	**263**	P	**P**	**05 15 14.2**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=96,slow=7.6,SNR=41						
	comp=Z,1.2nm,0.5s						
FORT	**Forrest**	**49.12**	**247**	P	**P**	**05 15 48.9**	**+0.1**
MTN	**Manton Dam**	**49.19**	**271**	P	**P**	**05 15 49.9**	**+0.3**
MTN				IAmb	IAmb	05 16 28.5	
	comp=Z,5.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.98**	**263**	P	**P**	**05 16 17.4**	**+0.3**
QSPA	**South Pole Qui**	**69.08**	**180**	P	**P**	**05 18 02.8**	**+0.3**
QSPA				IAmb	IAmb	05 18 10.9	
	comp=Z,4.3nm,1.3s						

*IDC **18** 05:11:22.2±2.0,24°.75N×60°.88E,h0km,mb3.6/7, mbtmp3.6/7,MS2.4/2,Error ellipse: s-maj=45.9km s-min=28.7km az=15.0*
*TEH **18** 05:11:25.1,24°.82N×60°.82E,h20km±84km*
*DSN **18** 05:11:32.6±2.1,24°.76N×60°.36E,h20km,ML3.0/9,Error ellipse: s-maj=37.7km s-min=19.8km az=177.0*
ISC 18 05:11:24.1±0.9,24°.78N±0°.07×60°.80E±0°.07,h10km,n27, σ1°61/27,mb3.5/7,Gulf of Oman

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**0.66**	**27**	Pg	**Pg**	**05 11 37.4**	**+0.5**
NGCH				Sg	**Sg**	**05 11 46.4**	**+0.9**
CHBR	**Chabahar**	**0.87**	**340**	Pg	**Pg**	**05 11 41.1**	**+0.3**
WSAR	**Wadi Sarin**	**2.51**	**233**	LR	LR	05 12 45.9	
	comp=Z,17nm,19.7s,baz=156,slow=33						
WBK	**Wadi Bani Khal**	**2.73**	**218**	Pn	**Pn**	**05 12 09.9**	**+1.8**
HOQ	**Hoqain**	**3.40**	**250**	Pn	**Pn**	**05 12 18.8**	**+1.4**
SOHO	**SOHO**	**3.94**	**262**	*i* P	**Pn**	**05 12 24.6**	**-0.1**
	SNR=27						
MDH	**Madha**	**4.12**	**278**	*i* P	**Pn**	**05 12 28.3**	**+1.1**
	SNR=14						
UOSS	**Minazif**	**4.18**	**273**	Pn	**Pn**	**05 12 29.0**	**+1.0**
UOSS	**Minazif**	**4.18**	**273**	*i* P	**Pn**	**05 12 28.2**	**+0.2**
	SNR=13						
BANOM	**Banah**	**4.23**	**287**	*i* P	**Pn**	**05 12 30.2**	**+1.4**
	SNR=35						
HATD	**Hatta, Dubai**	**4.25**	**272**	P	**Pn**	**05 12 29.8**	**+0.8**
HATD				S	**Sn**	**05 13 16.0**	**-2.6**
MSFE	**Esma-Masafi**	**4.25**	**279**	P	**Pn**	**05 12 29.8**	**+0.8**
ASHO	**Ashiyiah**	**4.32**	**270**	*i* P	**Pn**	**05 12 31.9**	**+2.0**
	SNR=20						
SHME	**Shamm**	**4.40**	**288**	*i* P	**Pn**	**05 12 33.8**	**+2.7**
	SNR=36						
ALNE	**Al Ain**	**4.66**	**262**	P	**Pn**	**05 12 36.5**	**+1.8**
NAZ	**Nazwa, Dubai**	**4.67**	**274**	P	**Pn**	**05 12 38.5**	**+3.7**
FAQ	**Al Faqa, Dubai**	**4.74**	**271**	P	**Pn**	**05 12 38.5**	**+2.9**
GENO	**Geno**	**4.92**	**303**	Pn	**Pn**	**05 12 39.9**	**+1.6**
NGRK	**Negar Kerman**	**6.05**	**324**	Pn	**Pn**	**05 12 54.7**	**+0.6**
AAK	**Ala-Archa**	**21.10**	**29**	LR	LR	05 24 50.8	
	comp=Z,40nm,20.2s,baz=138,slow=38						
BRTR	**Keskin Array B**	**27.25**	**310**	P	**P**	**05 17 09.9**	**+1.3**
	0.5nm,0.8s,baz=116,slow=8.4,SNR=4.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**27.88**	**33**	P	**P**	**05 17 13.9**	**-0.2**
	1.2nm,0.8s,baz=214,slow=7.7,SNR=9.1						
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**34.21**	**25**	P	**P**	**05 18 09.0**	**-0.8**
	0.8nm,0.6s,baz=230,slow=10,SNR=4.9						
	0.8nm,0.6s						
AKASG	**Malin Array Be**	**35.50**	**325**	P	**P**	**05 18 20.1**	**-0.8**
	0.3nm,0.5s,baz=124,slow=8.5,SNR=1.6						
	0.3nm,0.5s						
SONM	**Songino Array**	**42.56**	**45**	P	**P**	**05 19 19.9**	**-0.4**
	0.4nm,0.6s,baz=234,slow=8.6,SNR=4.1						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**43.58**	**337**	P	**P**	**05 19 27.7**	**-0.4**
	1.3nm,0.7s,baz=140,slow=15,SNR=5.2						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**85.64**	**118**	P	**P**	**05 24 02.6**	**-0.8**
	0.2nm,0.5s,baz=304,slow=5.1,SNR=3.1						
	0.2nm,0.5s						

IDC 18 05:20:34.8±2.7,6°.16S×131°.59E,h0km,mb3.3/1, mbtmp3.3/4,ML3.3/3,Error ellipse: s-maj=101.6km s-min=28.8km az=78.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.21**	**206**	Pn	Pn	05 23 42.5	-1.3
	0.1nm,0.3s,baz=20,slow=13,SNR=1.5						
	1.6nm,1.0s						
WRA	**Warramunga Arr**	**13.96**	**169**	Pn	Pn	05 23 53.6	-0.5
	0.1nm,0.3s,baz=351,slow=14,SNR=7.9						
WRA				Sn	Sn	05 26 32.1	+2.1
	baz=349,slow=21,SNR=0.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**17.55**	**173**	P	P	05 24 42.2	0.0
	0.2nm,0.3s,baz=359,slow=14,SNR=6.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**68.40**	**326**	P	P	05 31 38.5	0.0
	0.1nm,0.5s,baz=126,slow=7.3,SNR=2.3						
	0.1nm,0.5s						

*CNRM **18** 05:49:39.8,33°.22N×6°.46W,h44km,ML2.6*
*INMG **18** 05:49:41.2±1.2,33°.28N×6°.42W,h49km±13km,ML2.1, Error ellipse: s-maj=3.7km s-min=3.1km az=67.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
ISC 18 05:49:39.9±1.2,33°.25N±0°.03×6°.46W±0°.04,h35km,n25, σ1°46/29,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.24**	**322**	P	**Pn**	**05 49 49.0**	**+1.7**
ZHG	**ZHG**	**0.24**	**322**	S	**Sn**	**05 49 54.4**	**+2.1**
MD31	**MD31**	**1.48**	**105**	P	**Pn**	**05 50 04.2**	**+0.1**
MD31	**MD31**	**1.48**	**105**	S	**Sn**	**05 50 22.6**	**+0.2**
MDT	**Midelt**	**1.62**	**105**	P	**Pn**	**05 50 05.9**	**-0.1**
MDT	**Midelt**	**1.62**	**105**	S	**Sn**	**05 50 25.9**	**+0.2**
TIO	**Tiouine**	**2.42**	**197**	P	**Pn**	**05 50 17.0**	**0.0**
TIO	**Tiouine**	**2.42**	**197**	S	**Sn**	**05 50 46.0**	**+0.5**
AKLM	**AKL**	**2.50**	**59**	P	**Pn**	**05 50 18.1**	**0.0**
AKLM	**AKL**	**2.50**	**59**	S	**Sn**	**05 50 47.8**	**+0.4**
TZRR	**Tazzarine**	**2.58**	**163**	P	**Pn**	**05 50 19.0**	**-0.2**
TZRR	**Tazzarine**	**2.58**	**163**	S	**Sn**	**05 50 49.7**	**+0.4**
PALE	**Palemas**	**2.86**	**46**	P	**Pn**	**05 50 23.3**	**+0.2**
PALE	**Palemas**	**2.86**	**46**	S	**Sn**	**05 50 57.9**	**+1.5**
TTIG	**Tnine Tigouga,**	**3.18**	**212**	P	**Pn**	**05 50 26.7**	**-0.9**
TTIG	**Tnine Tigouga,**	**3.18**	**212**	S	**Sn**	**05 51 04.2**	**-0.1**
PBDV	**Barranco-do-Ve**	**4.16**	**344**	*e*P	**Pn**	**05 50 41.6**	**+0.8**
PBDV				*e*S	**Sn**	**05 51 25.9**	**-2.3**
PVAQ	**Vaqueiros**	**4.26**	**346**	*e*P	**Pn**	**05 50 43.1**	**+0.8**
PFVI	**Vila Bisbo**	**4.33**	**334**	*e*P	**Pn**	**05 50 43.9**	**+0.8**
MORF	**Marmelete**	**4.42**	**337**	*e*P	**Pn**	**05 50 45.5**	**+1.0**
PCVE	**Castro Verde**	**4.55**	**344**	*e*P	**Pn**	**05 50 47.5**	**+1.2**
MESJ	**Messejana**	**4.79**	**343**	*e*P	**Pn**	**05 50 51.0**	**+1.4**
MESJ				*e*S	**Sn**	**05 51 42.1**	**-1.8**
PBAR	**Barrancos**	**4.93**	**355**	*e*P	**Pn**	**05 50 52.4**	**+1.0**
PBAR				*e*S	**Sn**	**05 51 43.5**	**-3.8**
PBAR				*i* AML	AML	05 51 45.4	
PBAR				*i* AML	AML	05 51 45.8	
PBAR				*i* AML	AML	05 51 47.2	
EVO	**Evora**	**5.42**	**347**	*e*P	**Pn**	**05 50 59.8**	**+1.7**
PMRV	**Marv??o**	**6.21**	**353**	*e*P	**Pn**	**05 51 09.6**	**+0.6**
PMRV				*e*S	**Sn**	**05 52 15.5**	**-3.3**

*ASRS **18** 06:01:34.1±0.4,48°N±4°×8°4E±°,h5km,MLh3.5/10,Error ellipse: s-maj=10.7km s-min=2.6km az=137.8,confirmed*
*NNC **18** 06:01:37.9±1.6,47°.85N×84°.08E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=14.1km s-min=5.4km az=102.0*
*SOME **18** 06:01:39.7,47°.63N×83°.80E,h5km*
ISC 18 06:01:39.1±1.4,47°.90N±0°.03×84°.25E±0°.04,h7km±13km, n35,σ2°49/59,8C-2D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.62**	**137**	*e*P	**Pn**	**06 01 54.3**	**-0.1**
	460nm,0.1s						
ZSN				*e*S	**Sn**	**06 02 05.1**	**+0.5**
	1μm,0.3s						
MK31	**Makanchi Array**	**1.73**	**231**	⇑P	**Pn**	**06 02 07.6**	**-2.2**
	1.7nm,0.2s,baz=65,slow=13,SNR=189						
MK31				⇑S	**Sn**	**06 02 28.9**	**-3.3**
	31nm,0.3s,baz=70,slow=17						
MKAR	**Makanchi Array**	**1.73**	**231**	Pg	**Pn**	**06 02 08.2**	**-1.5**
MKAR				Sg	**Sn**	**06 02 28.8**	**-3.3**
MAKZ	**Makanchi**	**1.89**	**235**	⇑P	**Pn**	**06 02 10.3**	**-1.6**
	8.5nm,0.3s						
MAKZ				⇓S	**Sn**	**06 02 33.6**	**-2.5**
	33nm,0.2s						
MAKZ	**Makanchi**	**1.89**	**235**	Pg	**Pn**	**06 02 10.8**	**-1.2**
MAKZ				Sg	**Sn**	**06 02 33.1**	**-3.0**
DGZ	**Jazzator, Alta**	**2.77**	**48**	Pn	**Pb**	**06 02 30.0**	**+1.0**
DGZ				Sg	**Sg**	**06 03 06.7**	**-1.3**
UKR	**Ust'-Kan**	**3.06**	**6**	Pn	**Pn**	**06 02 30.0**	**+2.1**
UKR				S	**Sb**	**06 03 07.8**	**-3.6**
UKR				Sg	**Sg**	**06 03 18.9**	**+1.7**
CHBI	**Chibit, Altay**	**3.22**	**40**	Pn	**Pb**	**06 02 34.4**	**-2.4**
CHBI				Pg	**Pg**	**06 02 40.5**	**-0.3**
CHBI				S	**Sb**	**06 03 13.3**	**-2.9**
CHBI				Sg	**Sg**	**06 03 22.0**	**-0.6**
AKAR	**Aktash**	**3.28**	**41**	Pn	**Pb**	**06 02 35.2**	**-2.5**
AKAR				S	**Sb**	**06 03 16.2**	**-1.7**
AKAR				Sg	**Sg**	**06 03 23.7**	**-0.7**
CUR	**Chagan-Uzun**	**3.48**	**49**	Sg	**Sg**	**06 03 31.2**	**+0.3**
ELDR	**Elanda**	**3.53**	**19**	Pn	**Pb**	**06 02 38.8**	**-3.0**
ELDR				Sg	**Sg**	**06 03 31.0**	**-1.3**
ULGR	**Ulagan, Altay**	**3.65**	**40**	Sg	**Sg**	**06 03 35.3**	**-1.0**
KAPS	**Kapalarasan**	**4.27**	**234**	Pg	**Pb**	**06 02 51.9**	**-2.6**
	2.2nm,0.1s						
KAPS				Lg	Lg	06 03 44.1	
	21nm,0.3s						
ARTR	**Artybash**	**4.36**	**26**	Pn	Pn	06 02 50.3	+4.4
ARTR				Sg	**Sg**	**06 03 56.8**	**-2.4**
YALR	**Yailyu, Altay**	**4.44**	**28**	Pg	**Pb**	**06 02 59.0**	**+1.6**
YALR				Sg	**Sg**	**06 04 00.0**	**-1.5**
KURBB	**Kurchatov Arra**	**4.63**	**308**	⇑P

KTBS	**Karatobe**	**6.75 234**	Pg	**Pb**	**06 03 37.8**	**+1.1**
	1.7nm,0.4s					
KTBS			Lg	Lg	06 05 02.7	
	18nm,0.7s					
KOTS	**Kotyrbulak**	**6.85 230**	*e*P	**Pb**	**06 03 39.5**	**+1.0**
	1.1nm,0.2s					
KOTS			*e*S	**Sb**	**06 05 05.6**	**+5.1**
	8.1nm,0.3s					
TNSS	**Tian-Shan**	**7.07 229**	*e*P	**Pb**	**06 03 44.0**	**+1.5**
	0.2nm,0.1s					
TNSS			*e*S	**Sb**	**06 05 12.7**	**+5.5**
	1.8nm,0.4s					
KRBS	**Karabastau**	**7.32 238**	Pg	**Pb**	**06 03 48.3**	**+1.9**
	1.0nm,0.3s					
KRBS			Lg	Lg	06 05 20.9	
	4.7nm,0.9s					
DGS	**Degeres**	**7.55 235**	Pg	**Pb**	**06 03 52.7**	**+2.2**
	2.1nm,0.5s					
DGS			Lg	Lg	06 05 28.3	
	7.1nm,0.6s					
BTLS	**Baital**	**7.60 252**	Pg	**Pb**	**06 03 53.9**	**+2.7**
	1.8nm,0.5s					
BTLS			Lg	Lg	06 05 30.6	
	2.4nm,0.4s					
BTLS	**Baital**	**7.60 252**	*e*P	**Pb**	**06 03 53.9**	**+2.7**
	0.6nm,0.1s					
BTLS			*e*S	**Sb**	**06 05 30.6**	**+8.5**
	1.5nm,0.4s					

*SJA **18** 06:03:12.0,21°.42S×66°.75W,h243km,ML2.9*
*SCB **18** 06:03:12.3±1.2,21°.37S×66°.48W,h202km±27km,ML2.9/2,*
Error ellipse: s-maj=15.5km s-min=7.3km az=0.0
ISC 18 06:03:12.7±1.4,21°.36S±0°.06×66°.64W±0°.07,h219km,n21,
σ1§05/23,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.32**	**128**	*i* P	**Pn**	**06 03 48.0**	**+0.9**
PB09	**IPOC Station P**	**2.46**	**259**	*i* P	**Pn**	**06 03 58.5**	**+0.9**
PB09	**IPOC Station P**	**2.46**	**259**	Pg	**Pn**	**06 03 58.3**	**+0.7**
PB09				Sg	**S**	**06 04 33.6**	**+1.2**
PB09				IAML		06 04 35.9	
	15nm,0.6s						
PB08	**IPOC Station P**	**2.65**	**297**	*i* P	**Pn**	**06 04 00.9**	**+1.1**
PB08	**IPOC Station P**	**2.65**	**297**	Pg	**Pn**	**06 04 00.0**	**+0.2**
PB01	**IPOC Station P**	**2.68**	**276**	*i* P	**Pn**	**06 03 59.9**	**0.0**
PB01	**IPOC Station P**	**2.68**	**276**	Pg	**Pn**	**06 04 00.6**	**+0.8**
PB01				Sg	**S**	**06 04 36.8**	**+0.3**
PB01				IAML		06 04 39.1	
	58nm,0.2s						
SOEO	**Opoqueri**	**3.02**	**337**	Pg	**Pn**	**06 04 03.6**	**-0.5**
AZAP	**Zapla**	**3.20**	**153**	*i* P	**Pn**	**06 04 05.4**	**-0.5**
SOET	**ToroToro**	**3.32**	**14**	Pg	**Pn**	**06 04 06.4**	**-1.0**
TA01	**Diego Aracena**	**3.41**	**283**	*i* P	**Pn**	**06 04 06.6**	**-1.4**
AOEA	**Aiquile**	**3.42**	**23**	Pg	**Pn**	**06 04 07.7**	**-0.9**
PB12	**IPOC Station P**	**4.42**	**308**	*i* P	**Pn**	**06 04 18.3**	**-2.1**
SOEJ	**Jacaque**	**4.60**	**341**	Pg	**Pn**	**06 04 24.1**	**+1.0**
GO02	**Mina Guanaco**	**4.66**	**215**	*i* P	**Pn**	**06 04 22.1**	**-1.5**
BBOE	**La Paz, Chanca**	**4.70**	**344**	Pg	**Pn**	**06 04 25.4**	**+1.0**
PB14	**IPOC Station P**	**4.76**	**226**	*i* P	**Pn**	**06 04 23.3**	**-1.6**
FSA	**Cafayete**	**4.77**	**173**	*i* P	**Pn**	**06 04 25.3**	**+0.5**
BBOD	**La Paz, Gloria**	**5.05**	**338**	Pg	**Pn**	**06 04 29.2**	**+0.4**
LPAZ	**La Paz**	**5.24**	**344**	*i* P	**Pn**	**06 04 32.1**	**+0.9**
LPAZ	**La Paz**	**5.24**	**344**	Pg	**Pn**	**06 04 31.3**	**+0.1**

*WEL **18** 06:16:19.8±0.6,41°.3S±3°.3°×17°.3E±°,h4km±2km,M2.9/8,*
ML3.2/7,MLv2.9/8,Error ellipse: s-maj=4.3km
s-min=3.2km az=6.9,confirmed
*NOU **18** 06:16:20.7,40°.79S×172°.76E,h0km,MLv3.5/12,Off W.*
Coast of S. Island, N.Z.
ISC 18 06:16:18.7±0.9,40°.78S±0°.02×172°.83E±0°.02,h10km±6km,
n73,σ1§04/84,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSFS	**Takaka Scotts**	**0.07**	**184**	P	**Pg**	**06 16 21.0**	**+0.1**
TSFS				S	**Sg**	**06 16 22.5**	**-0.1**
QRZ	**Quartz Range**	**0.23**	**258**	P	**Pg**	**06 16 24.0**	**+0.5**
QRZ	**Quartz Range**	**0.23**	**258**	P	**Pg**	**06 16 24.0**	**+0.5**
QRZ				S	**Sg**	**06 16 26.6**	**-0.1**
TKNZ	**Takaka Hill**	**0.27**	**158**	P	**Pb**	**06 16 25.1**	**-0.6**
TKNZ				S	**Sg**	**06 16 28.4**	**+0.5**
KHLK	**Kaihoka Lakes**	**0.28**	**324**	P	**Pb**	**06 16 26.6**	**+0.9**
MOTS	**Motueka DOC wo**	**0.37**	**158**	P	**Pb**	**06 16 26.9**	**-0.4**
MOTS				S	**Sg**	**06 16 31.7**	**+0.8**
NNZ	**Nelson**	**0.60**	**136**	P	**Pb**	**06 16 31.3**	**-0.1**
NNZ				S	**Sb**	**06 16 39.6**	**-0.3**
MRNZ	**Matariki Terra**	**0.62**	**185**	P	**Pg**	**06 16 30.7**	**0.0**
MRNZ				S	**Sg**	**06 16 38.1**	**-0.8**
MATW	**Matariki Wadsw**	**0.66**	**188**	P	**Pg**	**06 16 31.5**	**+0.1**
MATW				S	**Sg**	**06 16 39.6**	**-0.4**
KASC	**Karamea School**	**0.71**	**229**	P	**Pg**	**06 16 32.8**	**+0.3**
DUWZ	**D'Urville Isla**	**0.83**	**92**	P	**Pn**	**06 16 36.3**	**-0.1**
DUWZ				S	**Sn**	**06 16 48.8**	**0.0**
HAVS	**Havelock**	**0.88**	**125**	P	**Pn**	**06 16 36.4**	**-0.6**
THZ	**Tophouse**	**0.98**	**177**	P	**Pb**	**06 16 37.0**	**-0.9**
TUWZ	**Tuamarina**	**1.06**	**128**	P	**Pn**	**06 16 39.8**	**+0.2**
TCW	**Tory Channel**	**1.18**	**112**	P	**Pg**	**06 16 41.8**	**+0.5**
TCW				S	**Sn**	**06 16 58.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.22**	**140**	P	**Pg**	**06 16 42.7**	**+0.5**
BSWZ				S	**Sg**	**06 16 59.8**	**+1.6**
DSZ	**Denniston Nort**	**1.23**	**218**	P	**Pn**	**06 16 41.3**	**-0.7**
DSZ				S	**Sb**	**06 16 56.6**	**-1.5**
SNZO	**South Karori**	**1.52**	**111**	P	**Pg**	**06 16 48.7**	**+0.9**
SNZO	**South Karori**	**1.52**	**111**	S	**Sg**	**06 17 09.9**	**+2.5**
KIW	**Kapiti Island**	**1.58**	**94**	P	**Pg**	**06 16 49.7**	**+0.6**
BHW	**Baring Head**	**1.67**	**113**	P	**Pg**	**06 16 50.7**	**0.0**
KHZ	**Kahutara**	**1.72**	**162**	P	**Pg**	**06 16 51.4**	**-0.2**
KHZ	**Kahutara**	**1.72**	**162**	S	**Sg**	**06 17 15.1**	**+1.1**
KHZ	**Kahutara**	**1.72**	**162**	P	**Pg**	**06 16 51.5**	**-0.2**
CAW	**Cannon Point**	**1.73**	**102**	P	**Pg**	**06 16 52.5**	**+0.7**
KHEZ	**Kahui Hut**	**1.74**	**32**	P	**Pg**	**06 16 52.1**	**0.0**
KHEZ	**Kahui Hut**	**1.74**	**32**	S	**Sg**	**06 17 16.4**	**+1.7**
KHEZ	**Kahui Hut**	**1.74**	**32**	P	**Pg**	**06 16 52.0**	**0.0**
PREZ	**Palmer Road**	**1.76**	**36**	P	**Pg**	**06 16 52.3**	**-0.1**
OGWZ	**Otaki Gorge**	**1.78**	**92**	P	**Pg**	**06 16 53.2**	**+0.4**
NEZ	**North Egmont**	**1.79**	**33**	P	**Pg**	**06 16 52.7**	**-0.4**
PKE	**Pukeiti**	**1.82**	**30**	P	**Pg**	**06 16 53.1**	**-0.4**
MSWZ	**Moikau Station**	**1.94**	**110**	P	**Pg**	**06 16 55.2**	**-0.6**
WAZ	**Wanganui**	**1.94**	**59**	P	**Pg**	**06 16 55.5**	**-0.4**
PLWZ	**Palliser**	**2.00**	**114**	P	**Pb**	**06 16 55.3**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.04**	**94**	P	**Pg**	**06 16 57.3**	**-0.5**
LTZ	**Lake Taylor**	**2.04**	**192**	P	**Pb**	**06 16 55.1**	**-0.8**
PAWZ	**Paruwai Farm**	**2.06**	**108**	P	**Pb**	**06 16 56.1**	**0.0**
MTW	**Mount Morrison**	**2.06**	**101**	P	**Pg**	**06 16 57.1**	**-1.0**
MRZ	**Mangatainoka R**	**2.09**	**88**	P	**Pg**	**06 16 58.0**	**-0.8**
GVZ	**Greta Valley S**	**2.19**	**176**	P	**Pb**	**06 16 57.6**	**-0.8**
INZ	**Inchbonnie**	**2.20**	**208**	P	**Pn**	**06 16 55.6**	**+0.3**
VRZ	**Vera Road**	**2.22**	**43**	P	**Pb**	**06 16 58.5**	**-0.4**
TMWZ	**Te Maipa**	**2.34**	**99**	P	**Pg**	**06 17 02.1**	**-1.5**
PKVZ	**Pokaka**	**2.44**	**53**	P	**Pb**	**06 17 02.2**	**-0.5**
TSZ	**Takapari Road**	**2.50**	**74**	P	**Pb**	**06 17 04.3**	**+0.7**
WNVZ	**Wahianoa**	**2.57**	**57**	P	**Pb**	**06 17 04.2**	**-0.8**
DVHZ	**Dannevirke**	**2.59**	**80**	P	**Pg**	**06 17 07.1**	**-1.2**
BFZ	**Birch Farm**	**2.60**	**89**	P	**Pb**	**06 17 04.4**	**-1.0**
MOVZ	**Moawhango**	**2.63**	**60**	P	**Pb**	**06 17 06.1**	**+0.2**
TUVZ	**Tukino**	**2.64**	**56**	P	**Pb**	**06 17 05.5**	**-0.7**
NGZ	**Ngauruhoe**	**2.67**	**54**	P	**Pb**	**06 17 05.4**	**-1.2**
SNVZ	**South Ngauruho**	**2.68**	**55**	P	**Pb**	**06 17 06.1**	**-0.8**
WTVZ	**West Tongariro**	**2.70**	**53**	P	**Pb**	**06 17 06.1**	**-1.0**
NNVZ	**North Ngauruho**	**2.70**	**53**	P	**Pb**	**06 17 05.9**	**-1.3**
OTVZ	**Oturere**	**2.71**	**54**	P	**Pb**	**06 17 06.5**	**-0.9**
PNHZ	**Pukenui**	**2.72**	**73**	P	**Pb**	**06 17 06.7**	**-0.7**
HIZ	**Hauiti**	**2.75**	**35**	P	**Pb**	**06 17 05.2**	**-2.8**
HIZ	**Hauiti**	**2.75**	**35**	P	**Pb**	**06 17 05.2**	**-2.8**
ETVZ	**East Tongariro**	**2.76**	**54**	P	**Pb**	**06 17 07.5**	**-0.6**
NTVZ	**North Tongarir**	**2.76**	**53**	P	**Pb**	**06 17 06.9**	**-1.2**
TMVZ	**Te Maari**	**2.77**	**54**	P	**Pb**	**06 17 07.2**	**-1.0**
WVZ	**Waitaha Valley**	**2.77**	**214**	P	**Pn**	**06 17 04.4**	**+1.3**
RATZ	**Rangitukua**	**2.96**	**51**	P	**Pg**	**06 17 15.3**	**-0.2**
KWHZ	**Kaweka Forest**	**3.07**	**65**	P	**Pb**	**06 17 13.6**	**+0.2**
TLZ	**Tolley Road**	**3.22**	**41**	P	**Pb**	**06 17 12.0**	**-4.0**
BKZ	**Black Stump Fm**	**3.25**	**61**	P	**Pb**	**06 17 14.8**	**-1.6**
BKZ	**Black Stump Fm**	**3.25**	**61**	P	**Pb**	**06 17 16.7**	**+0.3**
FOZ	**Fox Glacier**	**3.55**	**218**	P	**Pn**	**06 17 14.6**	**+0.9**
TMZ	**Timaru**	**3.84**	**200**	P	**Pn**	**06 17 17.3**	**-0.5**
MKAZ	**Moumakai**	**4.10**	**27**	P	**Pn**	**06 17 23.1**	**+1.8**
JCZ	**Jackson Bay**	**4.45**	**221**	P	**Pn**	**06 17 27.5**	**+1.3**
JCZ	**Jackson Bay**	**4.45**	**221**	P	**Pn**	**06 17 27.7**	**+1.5**

IDC 18 06:27:04.8±3.1,20°.40S×170°.99E,h306km±76km,mb2.7/3,
mbtmp3.5/4,Error ellipse: s-maj=247.3km
s-min=24.3km az=153.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.19**	**70**	P	Pn	06 28 48.7	0.0
	6.8nm,0.7s,baz=246,slow=20,SNR=11						
WRA	**Warramunga Arr**	**34.36**	**264**	P	P	06 33 23.3	-0.5
	0.4nm,0.9s,baz=98,slow=7.7,SNR=1.4						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**34.47**	**258**	P	P	06 33 24.8	+0.1
	0.3nm,0.6s,baz=87,slow=9.2,SNR=6.8						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**90.86**	**17**	P	P	06 39 33.4	-0.1
	0.2nm,0.5s,baz=225,slow=5.0,SNR=6.8						
	0.2nm,0.5s						

ROM 18 06:28:30.7±0.1,42°.671N±0°.003×13°.185E±0°.004,
h13km,ML2.0/53,Error ellipse: s-maj=0.3km
s-min=0.1km az=355.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**110**	P	Pb	06 28 34.5	-0.4
SMA1				S	Sg	06 28 36.9	+0.5
SMA1				AML	AML		
	comp=E,2370μm,0.2s						
SMA1				AML	AML		
	comp=N,1380μm,0.2s						
SMA1				AML	AML		
	comp=N,1383μm,0.2s						
SMA1				AML	AML		
	comp=E,2369μm,0.2s						
LNSS	**Leonessa**	**0.13**	**237**	P	Pg	06 28 34.5	+0.3
LNSS				S	Sb	06 28 37.3	-0.5
LNSS				AML	AML		
	comp=E,1340μm,0.9s						
LNSS				AML	AML		
	comp=N,1382μm,0.1s						
LNSS				AML	AML		
	comp=E,1345μm,0.9s						
LNSS				AML	AML		
	comp=N,1380μm,0.1s						
LNSS				AML	AML		
	comp=E,1237μm,0.1s						
LNSS				AML	AML		
	comp=N,1382μm,0.1s						
LNSS				AML	AML		
	comp=E,1438μm,0.1s						
LNSS				AML	AML		
	comp=N,1407μm,0.2s						
RM33	**Pellescritta (**	**0.16**	**172**	P	Pg	06 28 35.1	+0.4
RM33				S	Sg	06 28 38.1	+0.7
RM33				AML	AML		
	comp=E,538μm,1.4s						
RM33				AML	AML		
	comp=N,852μm,0.2s						
RM33				AML	AML		
	comp=N,907μm,0.2s						
RM33				AML	AML		
	comp=E,527μm,0.9s						
RM33				AML	AML		
	comp=N,850μm,0.2s						
RM33				AML	AML		
	comp=N,905μm,0.2s						
RM33				AML	AML		
	comp=E,498μm,0.2s						
RM33				AML	AML		
	comp=E,499μm,0.2s						
NRCA	**Norcia**	**0.17**	**342**	P	Pg	06 28 34.8	+0.1
NRCA				S	Sg	06 28 37.6	0.0
NRCA				AML	AML		
	comp=E,2380μm,0.1s						
NRCA				AML	AML		
	comp=N,1990μm,0.1s						
NRCA				AML	AML		
	comp=E,2415μm,0.4s						
NRCA				AML	AML		
	comp=N,2289μm,0.1s						
NRCA				AML	AML		
	comp=E,2380μm,0.1s						
NRCA				AML	AML		
	comp=E,2361μm,0.1s						
NRCA				AML	AML		
	comp=N,1990μm,0.1s						
MTRA	**Matera**	**0.18**	**61**	P	Pg	06 28 35.1	+0.2
MTRA				S	Sg	06 28 38.0	+0.3
MTRA				AML	AML		
	comp=E,1820μm,1.0s						
MTRA				AML	AML		
	comp=N,1190μm,0.1s						
MTRA				AML	AML		
	comp=E,1820μm,1.0s						
MTRA				AML	AML		
	comp=E,1755μm,0.3s						
MTRA				AML	AML		
	comp=N,1189μm,0.1s						
MTRA				AML	AML		
	comp=E,1718μm,0.3s						
MTRA				AML	AML		
	comp=N,1186μm,0.1s						
CAMP	**Campotosto**	**0.21**	**129**	P	Pg	06 28 35.9	+0.4
CAMP				S	Sg	06 28 39.4	+0.7
CAMP				AML	AML		
	comp=E,143μm,1.2s						
CAMP				AML	AML		
	comp=E,143μm,0.8s						
CAMP				AML	AML		
	comp=N,115μm,0.3s						
CAMP				AML	AML		
	comp=E,143μm,0.3s						
CAMP				AML	AML		
	comp=N,115μm,0.3s						
GAVE	**Gavelli**	**0.22**	**276**	P	Pg	06 28 35.7	+0.2
GAVE				S	Sg	06 28 39.4	+0.6
GAVE				AML	AML		
	comp=E,970μm,0.3s						
GAVE				AML	AML		
	comp=N,469μm,0.9s						
GAVE				AML	AML		
	comp=E,938μm,0.3s						
GAVE				AML	AML		
	comp=N,469μm,0.8s						
GAVE				AML	AML		
	comp=N,1272μm,0.1s						
GAVE				AML	AML		
	comp=N,469μm,1.2s						
GAVE				AML	AML		
	comp=E,972μm,0.3s						
GAVE				AML	AML		
	comp=N,375μm,0.1s						
GAVE				AML	AML		
	comp=E,932μm,0.1s						
GAVE				AML	AML		
	comp=E,912μm,0.1s						
GAVE				AML	AML		
	comp=N,1270μm,0.1s						
MC2	**Monte Cornacci**	**0.24**	**1**	P	Pg	06 28 36.2	+0.2
MC2				S	Sg	06 28 40.3	+0.7
MMO1	**Montemonaco**	**0.25**	**25**	P	Pg	06 28 36.3	+0.3
MMO1				S	Sg	06 28 40.5	+0.8
FEMA	**Monte Fema**	**0.31**	**341**	P	Pg	06 28 37.3	+0.2
TERO	**Teramo**	**0.31**	**99**	P	Pg	06 28 37.3	+0.2
TERO				S	Sg	06 28 42.0	+0.5
TERO				AML	AML		
	comp=E,170μm,0.6s						
TERO				AML	AML		
	comp=E,261μm,0.2s						
TERO				AML	AML		
	comp=N,137μm,0.1s						
TERO				AML	AML		
	comp=N,329μm,0.1s						
ARRO	**Arrone**	**0.32**	**254**	P	Pg	06 28 37.5	+0.3
ARRO				S	Sb	06 28 42.9	-0.5
ARRO				AML	AML		
	comp=E,184μm,0.2s						
ARRO				AML	AML		
	comp=N,140μm,1.4s						
ARRO				AML	AML		
	comp=E,184μm,0.2s						
ARRO				AML	AML		
	comp=E,184μm,0.2s						
ARRO				AML	AML		
	comp=N,131μm,0.1s						
GIGS	**Gran Sasso**	**0.36**	**128**	P	Pg	06 28 38.1	+0.2
GIGS				S	Sb	06 28 43.7	-0.8
GIGS				AML	AML		
	comp=E,47μm,0.1s						
GIGS				AML	AML		
	comp=E,47μm,0.1s						
GIGS				AML	AML		
	comp=N,64μm,1.7s						
GIGS				AML	AML		
	comp=E,47μm,0.1s						
GIGS				AML	AML		
	comp=N,50μm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**349**	P	Pg	06 28 38.3	+0.1
FDMO				S	Sb	06 28 44.2	-0.7
MF5	**Montefalcone A**	**0.38**	**32**	P	Pb	06 28 38.9	-0.3
MF5				S	Sb	06 28 45.1	+0.1
MF5				AML	AML		
	comp=E,292μm,0.5s						
MF5				AML	AML		
	comp=E,292μm,0.5s						
MF5				AML	AML		
	comp=N,235μm,0.2s						
CESI	**CESI - Serrava**	**0.39**	**328**	P	Pg	06 28 38.7	+0.1
CESI				S	Sb	06 28 44.8	-0.7
CESI				AML	AML		
	comp=N,162μm,0.2s						
CESI				AML	AML		
	comp=E,101μm,0.4s						
CESI				AML	AML		
	comp=E,83μm,0.2s						
CESI				AML	AML		
	comp=N,162μm,0.2s						
GUMA	**Gualdo di Mace**	**0.41**	**16**	P	Pb	06 28 39.4	-0.4
GUMA				S	Sb	06 28 46.1	+0.3
GUMA				AML	AML		
	comp=E,811μm,0.3s						
GUMA				AML	AML		
	comp=N,803μm,0.6s						
CSP1	**Cessapalombo**	**0.42**	**2**	P	Pg	06 28 39.3	+0.2
CSP1				S	Sb	06 28 45.9	-0.4

ROM 18 06:28:53.4±0.1,42°.674N±0°.003×13°.186E±0°.004,
h13km,ML2.1/62,6C-3D,Error ellipse: s-maj=0.3km
s-min=0.0km az=239.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.12**	**111**	⇑P	Pb	06 28 57.2	-0.4
SMA1				S	Sg	06 28 59.6	+0.5
SMA1				AML	AML		
	comp=E,3032μm,0.2s						
SMA1				AML	AML		
	comp=N,2031μm,0.2s						
LNSS	**Leonessa**	**0.13**	**237**	P	Pg	06 28 57.2	+0.4
LNSS				S	Sg	06 28 59.8	+0.5
LNSS				AML	AML		
	comp=E,3795μm,0.1s						
LNSS				AML	AML		
	comp=N,2940μm,0.2s						
LNSS				AML	AML		
	comp=E,3796μm,0.1s						
LNSS				AML	AML		
	comp=N,2907μm,0.1s						
RM33	**Pellescritta (**	**0.17**	**173**	⇑P	Pg	06 28 57.8	+0.5
RM33				S	Sg	06 29 00.8	+0.7
RM33				AML	AML		
	comp=E,955μm,0.9s						
RM33				AML	AML		
	comp=N,1700μm,0.2s						
RM33				AML	AML		
	comp=E,967μm,1.0s						
RM33				AML	AML		
	comp=N,1700μm,0.2s						
RM33				AML	AML		
	comp=E,905μm,0.1s						
RM33				AML	AML		
	comp=N,1653μm,0.2s						
NRCA	**Norcia**	**0.17**	**342**	⇓P	Pg	06 28 57.6	+0.2
NRCA				S	Sg	06 29 00.3	+0.1
NRCA				AML	AML		
	comp=N,4850μm,0.1s						
NRCA				AML	AML		
	comp=N,4850μm,0.1s						
NRCA				AML	AML		
	comp=N,5630μm,0.1s						
NRCA				AML	AML		
	comp=E,6483μm,0.1s						
MTRA	**Matera**	**0.18**	**62**	⇑P	Pg	06 28 57.8	+0.3
MTRA				S	Sg	06 29 00.7	+0.3
MTRA				AML	AML		
	comp=E,3515μm,0.3s						
MTRA				AML	AML		
	comp=N,2410μm,1.0s						
MTRA				AML	AML		
	comp=E,3455μm,0.3s						
MTRA				AML	AML		
	comp=N,2345μm,1.0s						
MTRA				AML	AML		
	comp=E,3510μm,0.3s						
MTRA				AML	AML		
	comp=N,2027μm,0.1s						
CAMP	**Campotosto**	**0.21**	**130**	⇑P	Pg	06 28 58.6	+0.4
CAMP				S	Sg	06 29 02.2	+0.8
CAMP				AML	AML		
	comp=E,155μm,0.3s						
CAMP				AML	AML		
	comp=N,145μm,0.3s						
CAMP				AML	AML		
	comp=N,148μm,0.4s						
GAVE	**Gavelli**	**0.22**	**275**	⇑P	Pg	06 28 58.5	+0.3
GAVE				S	Sg	06 29 02.1	+0.7
GAVE				AML	AML		
	comp=N,2560μm,0.1s						
GAVE				AML	AML		
	comp=E,1810μm,0.3s						
GAVE				AML	AML		
	comp=N,767μm,0.3s						
GAVE				AML	AML		
	comp=E,1765μm,0.3s						
GAVE				AML	AML		
	comp=E,1621μm,0.1s						
GAVE				AML	AML		
	comp=E,1677μm,0.1s						
MC2	**Monte Cornacci**	**0.24**	**1**	⇓P	Pg	06 28 59.0	+0.3
MC2				S	Sg	06 29 03.0	+0.8
MMO1	**Montemonaco**	**0.25**	**25**	P	Pg	06 28 59.0	+0.3
MMO1				S	Sg	06 29 03.2	+0.9
FEMA	**Monte Fema**	**0.30**	**341**	P	Pg	06 29 00.2	+0.5
TERO	**Teramo**	**0.31**	**99**	⇓P	Pg	06 29 00.1	+0.2
TERO				S	Sg	06 29 04.8	+0.7
TERO				AML	AML		
	comp=N,571μm,0.1s						
TERO				AML	AML		
	comp=E,186μm,0.1s						
TERO				AML	AML		
	comp=N,224μm,0.1s						
TERO				AML	AML		
	comp=E,364μm,0.2s						
ARRO	**Arrone**	**0.32**	**253**	⇑P	Pg	06 29 00.3	+0.3
ARRO				S	Sb	06 29 05.4	-0.8
ARRO				AML	AML		
	comp=E,332μm,0.2s						
ARRO				AML	AML		
	comp=N,284μm,0.5s						
ARRO				AML	AML		
	comp=N,272μm,0.2s						
ARRO				AML	AML		
	comp=E,332μm,0.2s						
ARRO				AML	AML		
	comp=N,272μm,1.8s						
GIGS	**Gran Sasso**	**0.36**	**128**	P	Pg	06 29 00.9	+0.1
GIGS				S	Sb	06 29 06.5	-0.9
GIGS				AML	AML		
	comp=E,73μm,0.1s						
GIGS				AML	AML		
	comp=N,58μm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**349**	P	Pg	06 29 01.1	+0.3
FDMO				S	Sb	06 29 06.8	-0.8
FDMO				AML	AML		
	comp=E,274μm,1.0s						
FDMO				AML	AML		
	comp=N,206μm,0.5s						
FDMO				AML	AML		
	comp=N,204μm,0.1s						
FDMO				AML	AML		

comp=E,254μm,0.1s
MF5 Montefalcone A 0.37 33 P Pb 06 29 01.6 -0.3
MF5 AML AML
comp=E,419μm,0.3s
MF5 AML AML
comp=N,332μm,0.2s
MF5 AML AML
comp=N,332μm,1.8s
CESI CESI - Serrava 0.39 328 P Pg 06 29 01.4 +0.1
CESI S Sb 06 29 07.5 -0.7
CESI AML AML
comp=E,193μm,0.3s
CESI AML AML
comp=N,356μm,0.3s
GUMA Gualdo di Mace 0.40 16 P Pb 06 29 02.1 -0.3
GUMA S Sb 06 29 08.9 +0.3
GUMA AML AML
comp=E,1555μm,0.3s
GUMA AML AML
comp=N,1590μm,0.8s
GUMA AML AML
comp=E,1950μm,0.3s
GUMA AML AML
comp=N,1506μm,0.5s
GUMA AML AML
comp=E,1553μm,0.3s
GUMA AML AML
comp=N,1433μm,0.2s
GUMA AML AML
comp=E,1947μm,0.3s
GUMA AML AML
comp=N,1313μm,0.2s
GUMA AML AML
comp=N,1433μm,1.8s

UCR 18 06:34:42.3±1.1, 9°.05N×84°.08W, h26km±2km, MW3.6, 7C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.39**	**348**	*e*P	Pb	06 34 50.5	-0.3
SVQ2				*e*S	Sb	06 34 57.0	+0.4
LLNJ	**Naranjito**	**0.42**	**358**	⇓*e*P	Pb	06 34 51.2	-0.1
LLNJ				*e*S	Sb	06 34 57.9	+0.5
EDPE	**Pejibaye, P**	**0.52**	**78**	⇓*e*P	Pb	06 34 52.5	-0.4
EDPE				*e*S	Sb	06 35 00.1	0.0
PISJ	**San Jernim**	**0.58**	**356**	⇓*e*P	Pb	06 34 53.7	-0.3
PISJ				*e*S	Sn	06 35 03.4	-0.4
PICV	**PH. Pirrs**	**0.59**	**349**	⇓*e*P	Pb	06 34 53.8	-0.3
PICV				*e*S	Sb	06 35 02.7	+0.7
RAZU	**San Marcos de**	**0.61**	**5**	*e*P	Pb	06 34 54.0	-0.5
RAZU				*e*S	Sb	06 35 03.5	+0.7
ABE2	**San Pablo**	**0.65**	**2**	*e*P	Pb	06 34 54.9	-0.4
ABE2				*e*S	Sn	06 35 05.3	-0.4
LCR2	**La Lucha 2**	**0.69**	**6**	⇓*i*P	Pb	06 34 55.2	-0.7
LCR2				*e*S	Sb	06 35 05.0	-0.2
ACOS	**Acosta**	**0.75**	**354**	⇑*e*P	Pb	06 34 56.3	-0.5
ACOS				*e*S	Sb	06 35 06.7	0.0
REPA	**Paraso**	**0.80**	**15**	*e*P	Pb	06 34 56.9	-0.8
REPA				*e*S	Sb	06 35 08.2	-0.1
TAGO	**Cartago**	**0.83**	**11**	*e*P	Pb	06 34 57.4	-0.8
AMPA	**Desamparados**	**0.84**	**1**	*e*P	Pb	06 34 57.5	-0.9
AMPA				*e*S	Sb	06 35 09.3	-0.1
DRK0	**Durika**	**0.85**	**75**	⇑*e*P	Pb	06 34 58.0	-0.6
DRK0				*e*S	Sb	06 35 09.2	-0.6
TRIO	**Tres Rios**	**0.86**	**6**	*e*P	Pb	06 34 57.6	-1.0
LUJA	**Lujan**	**0.87**	**1**	*e*P	Pn	06 34 59.1	+0.1
LUJA				*e*S	Sn	06 35 10.8	-0.2
SANTA	**Santa Ana**	**0.89**	**353**	*e*P	Pb	06 34 58.2	-0.9
SANTA				*e*S	Sb	06 35 10.4	-0.2
SJS3	**Mercedes San J**	**0.89**	**2**	⇓*e*P	Pb	06 34 58.4	-0.7
SJS3				*e*S	Sb	06 35 10.6	0.0
SJS	**Escuela Geolog**	**0.89**	**2**	*e*P	Pb	06 34 58.6	-0.5
SJS				*e*S	Sb	06 35 10.4	-0.2
MEXI	**Barrio Mexico**	**0.89**	**360**	*e*P	Pb	06 34 59.2	0.0
MEXI				*e*S	Sn	06 35 11.3	0.0
EDP2	**Potrero Grande**	**0.90**	**92**	⇓*e*P	Pb	06 34 59.2	-0.1
EDP2				*e*S	Sn	06 35 11.8	+0.4
LUPE	**Guadalupe**	**0.90**	**2**	*e*P	Pb	06 34 58.6	-0.7
LUPE				*e*S	Sb	06 35 10.8	-0.1
PCAYA	**Pacayas**	**0.90**	**17**	⇓*i*P	Pb	06 34 58.5	-1.0
PCAYA				*e*S	Sn	06 35 12.3	+0.4
CORON	**Coronado**	**0.92**	**5**	⇓*e*P	Pn	06 34 59.4	-0.4
CORON				*e*S	Sb	06 35 12.0	+0.3
BELE	**Belen**	**0.93**	**354**	*e*P	Pn	06 34 59.3	-0.5
BELE				*e*S	Sb	06 35 11.8	0.0
DOMI	**Santo Domingo**	**0.93**	**359**	*e*P	Pn	06 34 59.6	-0.2
TURIB	**Turrialba**	**0.94**	**25**	*e*P	Pn	06 34 58.9	-1.0
VERB	**Verbena**	**0.97**	**23**	⇓*i*P	Pn	06 34 59.7	-0.7
PIRO	**Carate, Puerto**	**0.98**	**131**	*e*P	Pn	06 35 00.1	-0.2
CVIMO	**Finca Echandi**	**0.98**	**8**	⇓*e*P	Pn	06 35 00.0	-0.6
EDAD	**Golfito**	**0.99**	**113**	*e*P	Pn	06 34 59.4	-1.1
VTCV	**VTCV, Calle Va**	**0.99**	**21**	⇓*i*P	Pn	06 35 00.2	-0.5
VTLA	**Turrialba Volc**	**1.00**	**18**	*e*P	Pn	06 35 00.5	-0.5
VTLA				*e*S	Sb	06 35 13.8	-0.2
CVTQ	**Turrialba Volc**	**1.00**	**18**	*e*P	Pn	06 35 00.8	-0.3
CVTV	**Tajo**	**1.00**	**19**	⇓*e*P	Pn	06 35 00.7	-0.4
VTR0	**Volcan Turrial**	**1.01**	**18**	*e*P	Pn	06 35 01.0	-0.3
CVTR	**Volcan Turrial**	**1.02**	**18**	*e*P	Pn	06 35 00.9	-0.4
RVSTA	**Santa Teresita**	**1.02**	**25**	*e*P	Pn	06 35 00.6	-0.4
VBV1	**V. Barva**	**1.06**	**359**	⇓*e*P	Pn	06 35 01.7	-0.1
VBV1				*e*S	Sb	06 35 15.3	-0.5
RAMO	**San Ramon**	**1.10**	**340**	*e*P	Pn	06 35 02.1	0.0
SRA1	**San Ramn**	**1.10**	**339**	⇑*i*P	Pn	06 35 02.1	-0.1
CBL1	**Cabuya**	**1.13**	**298**	*e*P	Pn	06 35 01.9	-0.6
CVTG	**V. Turrialba,**	**1.13**	**16**	*e*P	Pn	06 35 02.9	+0.3
RVLA	**Villa Bonita**	**1.16**	**25**	⇑*i*P	Pn	06 35 03.0	+0.1
ZARE	**Zarcero**	**1.17**	**345**	*e*P	Pn	06 35 03.5	+0.3
BRIBI	**Bribri**	**1.34**	**65**	⇑*i*P	Pb	06 35 07.2	+0.3
CARI	**Cariari**	**1.35**	**15**	⇑*i*P	Pb	06 35 06.3	-0.7
BRU2	**Volcan**	**1.40**	**100**	*e*P	Pn	06 35 07.0	+0.7
ITAL	**Pital**	**1.41**	**352**	*e*P	Pn	06 35 06.9	+0.6
SOCE	**Pocosol**	**1.43**	**338**	⇑*i*P	Pn	06 35 07.2	+0.5
MTEVE	**Monteverde**	**1.46**	**330**	*e*P	Pn	06 35 07.6	+0.4
JUNT	**Juntas**	**1.50**	**325**	⇓*e*P	Pn	06 35 07.5	-0.1
JTS	**Las Juntas de**	**1.50**	**325**	⇓*e*P	Pn	06 35 07.5	-0.1
FORC	**Fortuna**	**1.52**	**338**	*e*P	Pb	06 35 09.1	-0.9
VACR	**Volcan Arenal**	**1.53**	**338**	*e*P	Pn	06 35 09.0	+1.0
ARE1	**Arenal 1**	**1.54**	**336**	*e*P	Pb	06 35 09.5	-0.7
VARE2	**V. Arenal**	**1.54**	**336**	*e*P	Pb	06 35 09.4	-0.8
CMARA	**Lajas Hojancha**	**1.64**	**306**	*e*P	Pn	06 35 08.7	-0.8
PLVR	**Palo Verde**	**1.80**	**316**	*e*P	Pn	06 35 11.1	-0.7
CUI	**Cuipilapa**	**1.92**	**326**	*e*P	Pn	06 35 14.3	+0.8

*SOF **18** 07:05:07.2, 41°.24N±0°.01×23°.74E±0°.01, h11km±1km, MD2.8/7*
*THE **18** 07:05:08.5, 41°.20N×23°.75E, h13km, ML2.3/15, Error ellipse: s-maj=1.0km s-min=0.6km az=326.0*
*SKO **18** 07:05:08.2, 41°.28N×23°.74E, h0km, ML2.3*
*ATH **18** 07:05:08.2, 41°.21N×23°.75E, h14km±3km, ML2.4/13, Manual Solution by N.Liadopoulou First location: 2019/02/18 07:05:30, This location: 2019/02/23 19:20:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*BEO **18** 07:05:09.2±0.4, 41°.26N×23°.70E, h3km±3km, ML2.4/9*

ISC 18 07:05:07.2±0.9, 41°.25N±0°.01×23°.71E±0°.02, h14km±8km, n61, σ0$67/101, 3C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.15**	**48**	P	**Pb**	**07 05 12.6**	**+0.6**
NVR				S	**Sb**	**07 05 14.9**	**-0.2**
4μm,0.2s							
NVR	**Nevrokopi**	**0.15**	**48**	P	**Pb**	**07 05 12.6**	**+0.6**
NVR				S	**Sb**	**07 05 14.9**	**-0.2**
SRS	**Serrai**	**0.16**	**215**	P	**Pb**	**07 05 12.1**	**+0.2**
SRS				S	**Sb**	**07 05 15.0**	**-0.1**
4μm,0.2s							
SRS	**Serrai**	**0.16**	**215**	⇑*i*Pg	**Pb**	**07 05 12.1**	**+0.2**
SRS				*i* Sg	**Sb**	**07 05 15.1**	**-0.1**
SRS	**Serrai**	**0.16**	**215**	*e*Pg	**Pb**	**07 05 12.1**	**+0.2**
SRS				*e*Sg	**Sb**	**07 05 15.0**	**-0.1**
SRS	**Serrai**	**0.16**	**215**	P	**Pb**	**07 05 12.2**	**+0.3**
SRS				S	**Sb**	**07 05 15.0**	**-0.1**
MMB	**Musomishta**	**0.30**	**6**	Pg	**Pb**	**07 05 14.1**	**-0.4**
MMB				Sg	**Sg**	**07 05 18.5**	**+0.7**
MMB	**Musomishta**	**0.30**	**6**	⇑*i*Pg	**Pb**	**07 05 14.1**	**-0.4**
MMB				*i* Sg	**Sg**	**07 05 17.6**	**-0.2**
KOKK	**Kokkinochori,**	**0.48**	**153**	P	**Pb**	**07 05 17.1**	**-0.4**
KOKK				S	**Sg**	**07 05 23.2**	**+0.1**
190nm,0.1s							
KOKK	**Kokkinochori,**	**0.48**	**153**	P	**Pg**	**07 05 16.9**	**+0.2**
KOKK				S	**Sg**	**07 05 22.7**	**-0.4**
SOH	**Sokhos**	**0.50**	**213**	P	**Pb**	**07 05 18.0**	**+0.1**
SOH				S	**Sb**	**07 05 24.8**	**-0.3**
495nm,0.2s							
SOH	**Sokhos**	**0.50**	**213**	⇑*i*Pg	**Pb**	**07 05 17.9**	**+0.1**
SOH				*i* Sg	**Sb**	**07 05 25.2**	**+0.1**
SOH	**Sokhos**	**0.50**	**213**	P	**Pb**	**07 05 17.9**	**+0.1**
SOH				S	**Sg**	**07 05 24.3**	**+0.5**
KVLA	**Kavala**	**0.60**	**121**	P	**Pb**	**07 05 19.4**	**-0.1**
KAVA	**Kavala**	**0.66**	**112**	P	**Pb**	**07 05 20.3**	**-0.2**
KAVA				S	**Sg**	**07 05 28.5**	**-0.2**
652nm,0.2s							
KAVA	**Kavala**	**0.66**	**112**	P	**Pb**	**07 05 20.6**	**+0.1**
KAVA				S	**Sg**	**07 05 28.2**	**-0.5**
KKB	**Krupnik**	**0.74**	**324**	Pg	**Pb**	**07 05 22.1**	**+0.2**
KKB				Sg	**Sb**	**07 05 31.9**	**0.0**
KKB	**Krupnik**	**0.74**	**324**	*i* Pg	**Pb**	**07 05 22.2**	**+0.2**
KKB				*i* Sg	**Sb**	**07 05 32.1**	**+0.2**
HORT	**Hortiatis**	**0.80**	**216**	P	**Pb**	**07 05 23.2**	**+0.3**
HORT				S	**Sb**	**07 05 34.3**	**+0.7**
235nm,0.4s							
HORT	**Hortiatis**	**0.80**	**216**	P	**Pb**	**07 05 22.9**	**+0.1**
HORT				S	**Sb**	**07 05 33.5**	**-0.1**
THE	**Thessaloniki**	**0.83**	**223**	P	**Pb**	**07 05 23.8**	**+0.3**
THE				S	**Sn**	**07 05 35.9**	**-0.7**
208nm,0.3s							
THE	**Thessaloniki**	**0.83**	**223**	*i* Pg	**Pb**	**07 05 23.8**	**+0.3**
THE				*i* Sg	**Sb**	**07 05 35.0**	**+0.5**
THE	**Thessaloniki**	**0.83**	**223**	P	**Pb**	**07 05 23.5**	**+0.1**
VAY	**Valandovo**	**0.86**	**275**	*i* Pg	**Pn**	**07 05 25.0**	**0.0**
VAY				*i* Sg	**Sn**	**07 05 36.6**	**-0.9**
VAY				*e*Lg	Lg	07 05 37.6	
comp=N,56nm,0.3s							
VAY				*e*Lg	Lg	07 05 38.7	
comp=E,72nm,0.6s							
VAY	**Valandovo**	**0.86**	**275**	*e*Pg	**Pn**	**07 05 24.8**	**-0.2**
VAY				*e*Sg	**Sn**	**07 05 36.5**	**-0.9**
PLG	**Polygyros**	**0.89**	**193**	P	**Pb**	**07 05 25.0**	**+0.5**
PLG				S	**Sn**	**07 05 37.6**	**-0.6**
comp=E,148nm,0.4s							
PLG	**Polygyros**	**0.89**	**193**	P	**Pb**	**07 05 24.7**	**+0.2**
RZN	**Rozhen**	**0.89**	**60**	Pg	**Pb**	**07 05 24.7**	**0.0**
RZN				Sg	**Sg**	**07 05 36.3**	**0.0**
OUR	**Ouranopolis**	**0.93**	**167**	P	**Pn**	**07 05 25.6**	**-0.3**
OUR				S	**Sn**	**07 05 38.4**	**-0.7**
comp=E,548nm,0.2s							
OUR	**Ouranopolis**	**0.93**	**167**	P	**Pn**	**07 05 25.6**	**-0.3**
XANC	**Avdira**	**0.98**	**105**	P	**Pb**	**07 05 25.9**	**0.0**
THAS	**Thassos island**	**1.00**	**130**	P	**Pn**	**07 05 26.7**	**-0.1**
THAS				S	**Sb**	**07 05 39.2**	**-0.1**
comp=E,400nm,0.2s							
THAS	**Thassos island**	**1.00**	**130**	P	**Pg**	**07 05 26.4**	**0.0**
GRG	**Griva**	**1.03**	**254**	P	**Pn**	**07 05 28.8**	**+1.5**
GRG				S	**Sn**	**07 05 42.0**	**+0.4**
comp=E,118nm,0.4s							
GRG	**Griva**	**1.03**	**254**	*i* Pg	**Pb**	**07 05 26.5**	**-0.3**
GRG				*i* Sg	**Sn**	**07 05 42.1**	**+0.4**
GRG	**Griva**	**1.03**	**254**	P	**Pn**	**07 05 28.1**	**+0.8**
PLD	**Plovdiv**	**1.19**	**40**	*i* Pg	**Pg**	**07 05 29.9**	**-0.2**
PLD	**Plovdiv**	**1.19**	**40**	*e*Pg	**Pg**	**07 05 29.9**	**-0.2**
PLD				*e*Sg	**Sb**	**07 05 45.0**	**+0.1**
PLNA	**Plana**	**1.25**	**350**	P	**Pg**	**07 05 31.5**	**+0.2**
PLNA				Sg	**Sg**	**07 05 47.8**	**+0.3**
KDZ	**Kurdzhali**	**1.28**	**72**	P	**Pb**	**07 05 31.5**	**+0.3**
KDZ				Sg	**Sn**	**07 05 48.1**	**+0.3**
PGB	**Panagyurishte**	**1.31**	**15**	P	**Pg**	**07 05 32.3**	**-0.2**
PGB				S	**Sg**	**07 05 50.7**	**+1.1**
PAIG	**Paliouri**	**1.32**	**181**	P	**Pn**	**07 05 31.4**	**+0.2**
PAIG				S	**Sb**	**07 05 48.1**	**-0.4**
comp=E,52nm,0.3s							
VTS	**Vitosha**	**1.42**	**346**	P	**Pg**	**07 05 34.4**	**-0.1**
VTS				S	**Sg**	**07 05 53.2**	**+0.3**
VTS	**Vitosha**	**1.42**	**346**	*e*Pg	**Pg**	**07 05 34.7**	**+0.2**
VTS				*e*Sg	**Sg**	**07 05 52.4**	**-0.5**
BOSS	**Bosilegrad**	**1.55**	**324**	*e*Pn	**Pg**	**07 05 36.5**	**-0.5**
SMTH	**Samothraki Isl**	**1.58**	**119**	P	**Pb**	**07 05 35.7**	**-0.6**
SMTH				S	**Sb**	**07 05 55.9**	**-0.3**
comp=E,32nm,0.4s							
SMTH	**Samothraki Isl**	**1.58**	**119**	P	**Pn**	**07 05 34.6**	**-0.3**
DIM	**Dimitrovgrad**	**1.61**	**60**	*e*S	**Sg**	**07 05 59.2**	**+0.1**
LIA	**Limnos Island**	**1.75**	**140**	P	**Pn**	**07 05 37.7**	**+0.5**
LIA				S	**Sn**	**07 05 59.5**	**+0.2**
comp=E,235nm,0.4s							
LIA	**Limnos Island**	**1.75**	**140**	P	**Pn**	**07 05 36.9**	**-0.3**
ALN	**Alexandroupoli**	**1.80**	**100**	P	**Pn**	**07 05 38.1**	**+0.2**
ALN				S	**Sn**	**07 06 01.4**	**+0.9**
comp=E,35nm,0.4s							
XOR	**Xorichti**	**1.92**	**192**	P	**Pn**	**07 05 39.9**	**+0.4**
BARS	**Barje**	**2.11**	**319**	*i* Pn	**Pg**	**07 05 47.4**	**-0.3**
BARS	**Barje**	**2.11**	**319**	*e*Pn	**Pb**	**07 05 45.2**	**-0.1**
ZAPS	**Zavoj**	**2.18**	**339**	*e*Pn	**Pb**	**07 05 45.9**	**-0.6**
BLKB	**Belogradchik**	**2.50**	**342**	*e*Pg	**Pg**	**07 05 54.0**	**-1.1**
BLKB				*e*Sg	**Sg**	**07 06 27.7**	**+0.3**
SZH	**Strazhitsa**	**2.63**	**39**	*e*S	**Sg**	**07 06 32.9**	**+1.3**
SELS	**Selova**	**2.75**	**317**	*e*Pn	**Pb**	**07 05 54.3**	**-2.0**
ZAGS	**Zajecar**	**2.79**	**337**	*e*Pn	**Pb**	**07 05 54.6**	**-2.2**
BOVS	**Bovan**	**2.81**	**329**	*e*Pn	**Pb**	**07 05 54.8**	**-2.4**
GOCS	**Kraljevo Serbi**	**3.13**	**319**	*e*Pn	**Pn**	**07 05 59.4**	**+3.2**

NNC 18 07:14:47.1±9.2, 51°.19N×77°.74E, h0km, mb4.3, mpv3.3, 7C-3D, Error ellipse: s-maj=56.4km s-min=49.7km az=48.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**0.73**	**130**	⇑P	Pb	07 15 02.3	-0.4
5.7nm,0.4s,baz=331,slow=12							
KURK				⇑S	Sb	07 15 13.3	+0.1
80nm,0.9s,baz=331,slow=12							
KURBB	**Kurchatov Arra**	**0.76**	**138**	⇓P	Pg	07 15 01.1	-0.5
22nm,0.6s,baz=292,slow=12							
KURBB				⇓S	Sg	07 15 10.9	-0.4
107nm,0.7s,baz=331,slow=12							
SEM	**Semipalatinsk**	**1.77**	**115**	P	Pn	07 15 10.6	-8.7
5.1nm,0.1s							
SEM				S	Sn	07 15 23.9	-19
23nm,0.2s							
BRZS	**Berezniki**	**3.45**	**251**	Lg	Lg	07 16 53.0	
7.1nm,0.3s							
MAKZ	**Makanchi**	**5.20**	**146**	⇑Pn	Pn	07 15 52.1	-14
0.3nm,0.4s,baz=331,slow=12							
MAKZ				⇑Pg	Pb	07 15 59.4	-19
2.5nm,0.8s,baz=331,slow=12							
MAKZ				⇑Lg	Lg	07 16 48.9	
6.9nm,0.5s,baz=331,slow=12							
MK31	**Makanchi Array**	**5.32**	**144**	⇑Pn	Pn	07 15 53.1	-15
0.1nm,0.2s,baz=327,slow=11,SNR=9.6							
MK31				⇓Pg	Pb	07 16 01.2	-20
0.8nm,0.5s,baz=331,slow=14,SNR=14							
MK31				⇑Lg	Lg	07 16 52.6	
4.8nm,0.5s,baz=330,slow=27							
ZSN	**Zaisan**	**5.97**	**126**	Pg	Pn	07 16 19.2	+2.5
3.6nm,0.3s							
DJR	**Jarkent**	**7.00**	**168**	Lg	Lg	07 17 53.2	
5.5nm,0.8s							
BLB	**Baldybastay**	**7.11**	**176**	Lg	Lg	07 17 58.6	
23nm,0.4s							
KTBS	**Karatobe**	**7.52**	**186**	Lg	Lg	07 18 16.4	
5.2nm,0.8s							
KPKS	**Kokpek**	**7.75**	**175**	Lg	Lg	07 18 19.2	
3.8nm,0.7s							
DGS	**Degeres**	**8.06**	**190**	Lg	Lg	07 18 33.1	
7.5nm,0.5s							

*BJI **18** 07:32:17.6, 25°.40N×125°.10E, h10km, mB4.9/28, mb4.4/50, ML4.6/6, Ms4.8/62, Ms7 4.5/56*
*JMA **18** 07:32:17.6±0.3, 25°.5N±0°.9×124°.8E±0°.6, h8km±4km, MD4.8/11, MW4.8/11, NW OFF MIYAKOJIMA ISLAND*
JMA Felt I J1 at NW OFF MIYAKOJIMA ISLAND.
*NIED **18** 07:32:17.6, 25°.46N×124°.83E, h8km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$0.19; $M_{r\theta}$0.20; $M_{\theta\phi}$1.22; $M_{\phi r}$-0.01; Fault plane solution: $M_0$1.25000×10^{16} NP1: ϕ_s356.00000°, δ81.00000°, λ-179.00000°. NP2: ϕ_s265.00000°, δ89.00000°, λ-9.00000°.*
*NEIC **18** 07:32:18.1±1.6, 25°.42N±0°.08×125°.05E±0°.07, h10km±1km, mb4.6/36 Error ellipse: s-maj=13.8km s-min=9.0km az=149.0*
*GCMT **18** 07:32:21.1±0.3, 25°.47N±0°.01×124°.89E±0°.02, h19km±1km, MW4.9/112, Moment Tensor Solution. s26,c31; s112,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.11; $M_{\theta\theta}$0.47±.08; $M_{\phi\phi}$0.23±.08; $M_{r\theta}$-0.06±.17; $M_{\theta\phi}$2.56±.07; $M_{\phi r}$0.21±.17; Best double couple: $M_0$2.57600×10^{16} NP1:ϕ_s91.00000°, δ84.00000°, λ-4.00000°. NP2:ϕ_s182.00000°, δ86.00000°, λ-174.00000°. Principal axes: T 2.9170, Plg2.0000°, Azm316.0000°; N -0.6810, Plg83.0000°, Azm214.0000°; P -2.2360, Plg7.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **18** 07:32:22.0±2.6, 25°.52N×124°.94E, h45km±27km, mb3.8/16, mbtmp4.0/20, ML3.7/4, MS4.1/62 Error ellipse: s-maj=18.9km s-min=13.7km az=65.0*

ISC 18 07:32:19.3±0.6, 25°.37N±0°.03×125°.00E±0°.04, h18km±2km, n177, σ1$65/145, mb4.5/37, MS4.2/59, 3C-1D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.50**	**153**	P	**Pb**	**07 32 30.3**	**+0.8**
JIKM				S	**Sb**	**07 32 39.1**	**+2.7**
JIKM	**Ikemajima**	**0.50**	**153**	A	A	07 32 30.3	
comp=N,179nm,1.7s,comp=E,226nm,2.7s							
JIRB	**Irabujima**	**0.56**	**164**	*i* P	**Pg**	**07 32 31.1**	**+0.6**
JIRB				S	**Sb**	**07 32 40.0**	**+1.8**
JIRB	**Irabujima**	**0.56**	**164**	A	A	07 32 31.1	
comp=N,89nm,2.5s,comp=E,154nm,1.4s							
JMJ2	**Miyako jima3**	**0.69**	**154**	*i* P	**Pb**	**07 32 33.9**	**+1.1**
JMJ2				*e*S	**Sn**	**07 32 45.2**	**+0.8**
JMJ2	**Miyako jima3**	**0.69**	**154**	A	A	07 32 33.9	
comp=N,129nm,1.9s,comp=E,137nm,3.6s							
JOGS	**Gusukube**	**0.71**	**148**	*i* P	**Pb**	**07 32 34.1**	**+1.0**
JOGS				*e*S	**Sn**	**07 46.2**	**+1.4**
JOGS	**Gusukube**	**0.71**	**148**	A	A	07 32 34.1	
comp=N,120nm,2.3s,comp=E,176nm,2.1s							
JTJ	**Tarama**	**0.77**	**200**	*e*P	**Pg**	**07 32 33.4**	**-1.0**
JTJ				S	**Sg**	**07 32 45.0**	**+0.4**
JTJ	**Tarama**	**0.77**	**200**	A	A	07 32 33.4	
comp=N,51nm,2.6s,comp=E,84nm,2.0s							
JISG	**Ishigakijimahi**	**1.00**	**219**	*i* P	**Pg**	**07 32 36.4**	**-2.2**
JISG	**Ishigakijimahi**	**1.00**	**219**	A	A	07 32 36.4	
comp=N,16nm,7.8s,comp=E,14nm,2.7s							
JIJ	**Ishigaki jima**	**1.27**	**218**	P	**Pn**	**07 32 40.5**	**-1.6**
JIJ	**Ishigaki jima**	**1.27**	**218**	A	A	07 32 40.5	
comp=N,13nm,3.2s,comp=E,11nm,2.4s							
JKRS	**Kuro-shima**	**1.44**	**219**	P	**Pn**	**07 32 44.1**	**-0.3**
JKRS	**Kuro-shima**	**1.44**	**219**	A	A	07 32 44.1	
comp=N,49nm,3.2s,comp=E,60nm,1.9s							
IRIF	**Iriomote-Funau**	**1.54**	**229**	P	**Pn**	**07 32 44.5**	**-1.4**
IRIF	**Iriomote-Funau**	**1.54**	**229**	A	A	07 32 44.5	
comp=N,12nm,2.0s,comp=E,15nm,1.7s							
HATJ	**Hateruma jima**	**1.70**	**220**	*e*P	**Pn**	**07 32 48.1**	**+0.1**
HATJ	**Hateruma jima**	**1.70**	**220**	A	A	07 32 48.1	
comp=N,27nm,2.2s,comp=E,30nm,2.5s							
JKE	**Kume jima 2**	**1.87**	**59**	A	A	07 32 51.7	
comp=N,7.0nm,2.2s,comp=E,8.0nm,2.2s							
YOJ	**Yonaguni jima**	**2.02**	**244**		**Pn**	**07 32 54.0**	**+1.6**
YOJ	**Yonaguni jima**	**2.02**	**244**	P	Pg	07 33 02.5	+4.4
YOJ	**Yonaguni jima**	**2.02**	**244**	A	A	07 32 51.2	
comp=N,9.0nm,4.5s,comp=E,14nm,4.8s							
JYNG	**Yonagunijimaku**	**2.08**	**244**	A	A	07 32 52.1	
comp=N,12nm,4.9s,comp=E,8.0nm,5.4s							
JAGN	**Aguni-jima**	**2.36**	**58**	A	A	07 32 58.7	
comp=N,7.0nm,3.7s,comp=E,8.0nm,4.5s							
JJT3	**Tamagusuku3**	**2.63**	**72**	A	A	07 33 03.0	
comp=N,29nm,4.6s,comp=E,19nm,3.5s							
TATO	**Taipei**	**3.21**	**264**		**Pn**	**07 33 09.3**	**+0.6**
TATO	**Taipei**	**3.21**	**264**	P	**Pb**	**07 33 13.8**	**-1.9**
JOW	**Kunigami**	**3.29**	**63**	Pn	**Pn**	**07 33 09.8**	**-0.1**
JOW	**Kunigami**	**3.29**	**63**	P	**Pn**	**07 33 10.7**	**+0.8**
comp=E,26nm,0.3s,baz=140,slow=23,SNR=26							
JOW				S	**Sn**	**07 33 48.4**	**-0.2**
comp=E,182nm,0.5s,baz=28,slow=7.9,SNR=5.8							
comp=E,68nm,0.3s							
NACB	**Ninganchiao**	**3.31**	**250**	Pn	**Pn**	**07 33 11.7**	**+1.5**
NACB	**Ninganchiao**	**3.31**	**250**	P	**Pn**	**07 33 12.3**	**+2.0**
YHNB	**Yeheng**	**3.36**	**259**	Pn	**Pn**	**07 33 12.0**	**+1.0**
YHNB	**Yeheng**	**3.36**	**259**	P	**Pn**	**07 33 13.1**	**+2.1**
YULB	**Yu-li**	**3.91**	**241**		**Pn**	**07 33 17.7**	**-0.7**
SSLB	**Suanglung**	**4.00**	**248**	Pn	**Pn**	**07 33 19.9**	**+0.1**
SSLB	**Suanglung**	**4.00**	**248**	P	**Pn**	**07 33 20.8**	**+1.0**
TWG	**Pinlang**	**4.39**	**236**	Pn	**Pn**	**07 33 24.9**	**-0.2**

HNS	**HongShan**	**14.86 326**	⇑P	**Pn**	**07 35 48.6 +0.2**
HNS			pmax	pmax	
	comp=E,13nm,1.9s				
HNS			LR	LR	
	comp=E,1μm,10.6s				
HNS			LR	LR	
	comp=E,2μm,11.2s				
HNS			LR	LR	
	comp=E,1μm,14.9s				
JHJ	**Hachijo jima 2**	**15.03 56**	LR	LR	07 41 49.4
	comp=E,235nm,18.0s,baz=190,slow=38				
QIZ	**Qiongzhong**	**15.38 249**	P	**Pn**	**07 35 55.3 -0.2**
QIZ			S	**Sn**	**07 38 48.5 +2.9**
QIZ			LR	LR	
	comp=E,960nm,15.0s				
QIZ			LR	LR	
	comp=E,830nm,16.0s				
QIZ			LR	LR	
	comp=E,540nm,15.3s				
JCJ	**Chichijima**	**15.52 80**	LR	LR	07 39 55.1
	comp=E,86nm,20.2s,baz=74,slow=29				
MJAR	**Matsushiro Arr**	**15.87 42**	P	**Pn**	**07 36 01.9 0.0**
	comp=E,0.1nm,0.3s,baz=233,slow=12,SNR=4.8				
MJAR			LR	LR	07 43 06.2
	comp=E,381nm,18.3s,baz=218,slow=41				
	comp=E,0.5nm,0.3s				
TIY	**Taiyuan**	**16.30 322**	*e*P	**Pn**	**07 36 09.1 +1.8**
TIY			S	**Sn**	**07 39 09.6 +1.9**
TIY			pmax	pmax	
	comp=E,360nm,4.3s				
TIY			LR	LR	
	comp=E,610nm,13.7s				
TIY			LR	LR	
	comp=E,1μm,14.2s				
TIY			LR	LR	
	comp=E,1μm,16.3s				
BJT	**Baijiatuau**	**16.38 335**	Pn	**Pn**	**07 36 07.3 -0.9**
BJI	**Beijing**	**16.39 335**	P	**Pn**	**07 36 08.3 -0.1**
BJI			pP	**P**	**07 36 11.5 +0.3**
BJI			sP	**pP**	**07 36 15.5 -0.1**
BJI			PP	**PnPn**	**07 36 21.3 +3.7**
BJI			S	**Sn**	**07 39 11.8 +1.9**
BJI			pmax	pmax	
	comp=E,6.0nm,1.4s				
BJI			pmax	pmax	
	comp=E,95nm,7.9s				
BJI			LR	LR	
	comp=E,450nm,21.0s				
BJI			LR	LR	
	comp=E,870nm,20.9s				
BJI			LR	LR	
	comp=E,830nm,15.9s				
XAN	**Xi'an**	**16.41 306**	⇓P	**Pn**	**07 36 10.1 +1.3**
XAN			S	**Sn**	**07 39 15.1 +4.6**
XAN			pmax	pmax	
	comp=E,26nm,1.1s				
XAN			pmax	pmax	
	comp=E,310nm,4.5s				
XAN			LR	LR	
	comp=E,4μm,15.1s				
XAN			LR	LR	
	comp=E,2μm,14.8s				
XAN			LR	LR	
	comp=E,4μm,15.1s				
DAV	**Davao City (W)**	**18.20 178**	LR	LR	07 43 47.2
	comp=E,157nm,20.8s,baz=341,slow=37				
CN2	**Changchun**	**18.39 1**	P	**P**	**07 36 35.0 +1.7**
CN2			S	**Sn**	**07 39 57.0 -1.3**
CN2			pmax	pmax	
	comp=E,20nm,1.1s				
CN2			LR	LR	
	comp=E,800nm,12.0s				
CN2			LR	LR	
	comp=E,900nm,12.0s				
CN2			LR	LR	
	comp=E,800nm,12.0s				
HHC	**Hu-ho-hao-te**	**19.07 327**	⇑*i*P	**P**	**07 36 42.4 +1.6**
HHC			pP	sP	07 36 45.4 -2.0
HHC			sP	pwP	07 36 50.1 +2.0
HHC			SS	S	07 40 36.0 +19
HHC			pmax	pmax	
	comp=E,38nm,0.9s				
HHC			pmax	pmax	
	comp=E,290nm,4.5s				
HHC			LR	LR	
	comp=E,1μm,12.7s				
HHC			LR	LR	
	comp=E,1μm,13.7s				
HHC			LR	LR	
	comp=E,1μm,16.9s				
CD2	**Chengdu**	**19.52 291**	P	**P**	**07 36 46.0 +0.2**
CD2			S	**Sn**	**07 40 26.5 +0.7**
CD2			sS	sS	07 40 31.5 -1.3
CD2			PcP	**PcP**	**07 41 05.9 -0.2**
CD2			pmax	pmax	
	comp=E,40nm,0.9s				
CD2			pmax	pmax	
	comp=E,50nm,4.9s				
CD2			LR	LR	
	comp=E,3μm,13.1s				
CD2			LR	LR	
	comp=E,2μm,12.6s				
CD2			LR	LR	
	comp=E,1μm,15.0s				
MDJ	**Mudanjiang**	**19.56 10**	P	**P**	**07 36 47.0 +0.9**
MDJ			pP	pP	07 36 50.3 -0.3
MDJ			S	**Sn**	**07 40 25.9 -0.7**
MDJ			sS	sS	07 40 32.3 -1.2
MDJ			pmax	pmax	
	comp=E,10.0nm,1.1s				
MDJ			pmax	pmax	
	comp=E,120nm,5.3s				
MDJ			LR	LR	
	comp=E,1μm,12.4s				
MDJ			LR	LR	
	comp=E,1μm,13.1s				
MDJ			LR	LR	
	comp=E,2μm,14.1s				
USA0B	**Ussuriysk Arra**	**19.63 15**	P	**P**	**07 36 46.2 -0.6**
USRK	**Ussuriysk Ar.**	**19.63 15**	P	**P**	**07 36 45.5 -1.3**
USRK	**Ussuriysk Ar.**	**19.63 15**	P	**P**	**07 36 45.3 -1.6**
	comp=E,0.2nm,0.3s,baz=197,slow=8.8,SNR=8.5				
USRK			LR	LR	07 44 08.5
	comp=E,384nm,19.6s,baz=196,slow=36				
	comp=E,5.1nm,0.8s				
BTO	**Baotou**	**19.67 324**	*e*P	**P**	**07 36 49.8 +2.4**
BTO			pP	**pwP**	**07 36 54.4 -0.3**
BTO			sP	**sP**	**07 36 57.1 +3.1**
BTO			S	**Sn**	**07 40 34.3 +4.8**
BTO			pmax	pmax	
	comp=E,23nm,0.7s				
BTO			pmax	pmax	
	comp=E,570nm,5.2s				
BTO			LR	LR	
	comp=E,1μm,11.7s				
BTO			LR	LR	
	comp=E,1μm,9.6s				
BTO			LR	LR	
	comp=E,2μm,10.2s				
XLT	**XiLinHaoTe**	**19.87 341**	*e*P	**P**	**07 36 49.8 +0.3**
XLT			sP	pwP	07 36 58.5 +1.7
XLT			S	**S**	**07 40 31.0 -1.6**
XLT			pmax	pmax	
	comp=E,21nm,0.9s				
XLT			pmax	pmax	
	comp=E,140nm,4.3s				
XLT			LR	LR	
	comp=E,3μm,15.2s				
XLT			LR	LR	
	comp=E,1μm,16.5s				
BNX	**BinXian**	**20.42 5**	⇑P	**P**	**07 36 55.3 -0.1**
BNX			pP	Pn	07 36 57.8 +0.2
BNX			S	**S**	**07 40 46.0 +2.7**
BNX			sS	**sS**	**07 40 51.0 +0.4**
BNX			pmax	pmax	
	comp=E,27nm,1.2s				
BNX			pmax	pmax	
	comp=E,130nm,5.2s				
BNX			LR	LR	
	comp=E,680nm,11.9s				
BNX			LR	LR	
	comp=E,2μm,12.5s				
BNX			LR	LR	
	comp=E,1μm,15.2s				
UBPT	**Khong Chiam**	**20.86 245**	P	**P**	**07 37 00.7 +0.3**
UBPT			IAmb	IAmb	07 37 13.5
	comp=Z,22nm,1.2s				
PZH	**PanZhiHua**	**20.94 278**	P	**P**	**07 37 02.3 +0.9**
PZH			pmax	pmax	
	comp=Z,10.0nm,1.3s				
PZH			pmax	pmax	
	comp=Z,210nm,6.7s				
LZH	**Lanzhou**	**21.05 306**	*e*P	**P**	**07 37 03.3 +0.8**
LZH			sP	pwP	07 37 11.1 +1.3
LZH			S	**S**	**07 41 01.5 +5.2**
LZH			pmax	pmax	
	comp=Z,30nm,1.4s				
LZH			pmax	pmax	
	comp=Z,300nm,4.6s				
LZH			LR	LR	
	comp=Z,1μm,17.5s				
LZH			LR	LR	
	comp=Z,2μm,14.4s				
LZH			LR	LR	
	comp=Z,2μm,15.1s				
GUMO	**Guam**	**22.06 118**	LR	LR	07 44 03.6
	comp=Z,451nm,21.7s,baz=337,slow=32				
ASAJ	**Asahikawa**	**23.55 33**	LR	LR	07 47 13.3
	comp=Z,291nm,18.7s,baz=192,slow=38				
TNCH	**TengChong**	**23.95 275**	P	**P**	**07 37 35.8 +2.9**
TNCH			pmax	pmax	
	comp=Z,150nm,2.9s				
HIA	**Hailar**	**24.21 352**	P	**P**	**07 37 33.3 -1.5**
HIA			IAmb	IAmb	07 37 43.5
	comp=Z,15nm,1.3s				
KLR	**Kul'dur**	**24.40 11**	LR	LR	07 46 55.7
	comp=Z,175nm,19.1s,baz=157,slow=36				
CMAR	**Chiang Mai Arr**	**25.11 259**	P	**P**	**07 37 41.6 -1.7**
	comp=Z,1.3nm,0.3s,baz=67,slow=9.0,SNR=1.3				
CMAR			LR	LR	07 47 58.7
	comp=Z,243nm,19.9s,baz=80,slow=37				
	comp=Z,1.3nm,0.3s				
GTA	**Gaotai**	**25.36 310**	*e*P	**P**	**07 37 45.5 0.0**
GTA			sP	pwP	07 37 53.0 -0.1
GTA			sS	sS	07 42 24.9 +5.8
GTA			pmax	pmax	
	comp=Z,12nm,1.0s				
GTA			LR	LR	
	comp=Z,1μm,13.8s				
GTA			LR	LR	
	comp=Z,830nm,14.9s				
GTA			LR	LR	
	comp=Z,610nm,14.9s				
SBUM	**Sibu**	**25.90 210**	P	**P**	**07 37 50.9 +0.5**
SBUM			IAmb	IAmb	07 37 53.4
	comp=Z,12nm,1.3s				
SONM	**Songino Array**	**26.81 332**	P	**P**	**07 37 57.4 -1.1**
SONM	**Songino Array**	**26.81 332**	P	**P**	**07 37 57.4 -1.1**
	comp=Z,2.9nm,0.8s,baz=149,slow=9.7,SNR=17				
SONM			LR	LR	07 49 59.9
	comp=Z,883nm,18.9s,baz=142,slow=40				
	comp=Z,2.9nm,0.8s				
BKB	**Balikpapan**	**27.61 198**	P	**P**	**07 38 05.2 -0.6**
JAY	**Jayapura**	**31.62 149**	LR	LR	07 48 54.9
	comp=Z,358nm,21.2s,baz=14,slow=31				
PSI	**Prapat**	**33.66 232**	LR	LR	07 52 31.4
	comp=Z,219nm,19.7s,baz=38,slow=36				
WMQ	**Urumqi**	**35.43 311**	*e*P	**P**	**07 39 16.6 +2.2**
WMQ			pP	pwP	07 39 21.4 -0.7
WMQ			pmax	pmax	
	comp=Z,13nm,0.7s				
WMQ			LR	LR	
	comp=Z,1μm,15.7s				
WMQ			LR	LR	
	comp=Z,890nm,16.7s				
WMQ			LR	LR	
	comp=Z,440nm,19.7s				
PETK	**Petropavlovsk-**	**36.97 33**	LR	LR	07 55 41.5
	comp=Z,189nm,18.2s,baz=231,slow=38				
MTN	**Manton Dam**	**38.45 170**	P	**P**	**07 39 39.8 -0.4**
MTN			IAmb	IAmb	07 39 54.7
	comp=Z,22nm,1.4s				
MA2	**Magadan**	**38.61 21**	LR	LR	07 56 16.5
	comp=Z,143nm,19.4s,baz=242,slow=37				
KRVT	**Keravat (AS076**	**39.48 135**	LR	LR	07 52 57.0
	comp=Z,287nm,19.7s,baz=12,slow=31				
MK31	**Makanchi Array**	**39.97 314**	P	**P**	**07 39 51.2 -1.6**
MKAR	**Makanchi Array**	**39.97 314**	P	**P**	**07 39 51.5 -1.3**
MKAR	**Makanchi Array**	**39.97 314**	P	**P**	**07 39 50.0 -2.8**
	comp=Z,1.4nm,0.7s,baz=96,slow=9.9,SNR=11				
MKAR			LR	LR	07 57 43.9
	comp=Z,470nm,18.8s,baz=93,slow=38				
	comp=Z,1.4nm,0.7s				
MAKZ	**Makanchi**	**40.18 313**	P	**P**	**07 39 53.6 -0.9**
MAKZ			IAmb	IAmb	07 40 02.8
	comp=Z,9.2nm,0.8s				
PMG	**Port Moresby**	**40.75 145**	LR	LR	07 57 22.7
	comp=Z,62nm,18.5s,baz=330,slow=37				
WUS	**Wushi**	**40.91 304**	P	**P**	**07 40 00.8 0.0**
ZAA0	**Zalesovo Array**	**41.22 325**	P	**P**	**07 40 01.5 -1.3**
ZAA0			IAmb	IAmb	07 40 02.4
	comp=Z,12nm,0.9s				
ZALV	**Zalesovo Beam**	**41.22 325**	P	**P**	**07 40 01.2 -1.6**
ZALV	**Zalesovo Beam**	**41.22 325**	P	**P**	**07 40 00.7 -2.2**
	comp=Z,5.8nm,0.8s,baz=117,slow=8.8,SNR=5.7				
ZALV			LR	LR	07 58 45.9
	comp=Z,298nm,18.0s,baz=122,slow=39				
	comp=Z,5.8nm,0.8s				
SEY	**Seymchan**	**41.72 18**	LR	LR	07 57 57.7
	comp=Z,203nm,19.3s,baz=332,slow=37				
KDJ	**Kajisay**	**42.55 305**	P	**P**	**07 40 13.6 -0.6**
COEN	**Coen**	**42.91 154**	P	**P**	**07 40 16.6 -0.5**
COEN			IAmb	IAmb	07 40 19.4
	comp=Z,9.5nm,1.1s				
FITZ	**Fitzroy Crossi**	**43.21 179**	P	**P**	**07 40 19.7 +0.3**
KURK	**Kurchatov**	**43.48 318**	P	**P**	**07 40 20.2 -1.1**
KURK			IAmb	IAmb	07 40 29.3
	comp=Z,9.4nm,0.9s				
KURBB	**Kurchatov Arra**	**43.50 318**	P	**P**	**07 40 19.9 -1.7**
	comp=Z,1.4nm,0.8s,baz=110,slow=8.3,SNR=9.7				
KURBB			LR	LR	07 59 55.8
	comp=Z,213nm,21.7s,baz=170,slow=38				
	comp=Z,1.4nm,0.8s				
AAK	**Ala-Archa**	**44.59 306**	LR	LR	08 01 50.8
	comp=Z,665nm,18.9s,baz=102,slow=40				
SHEM	**Shemya Is, Ala**	**45.70 40**	LR	LR	07 58 11.1
	comp=Z,61nm,21.5s,baz=267,slow=34				
WB0	**Warramunga Arr**	**45.78 168**	P	**P**	**07 40 40.1 +0.1**
WB0			IAmb	IAmb	07 40 56.1
	comp=Z,9.6nm,1.1s				
WRAB	**Tennant Creek**	**45.94 168**	P	**P**	**07 40 40.5 -0.7**
WRAB			IAmb	IAmb	07 41 09.0
	comp=Z,10nm,1.2s				
WRA	**Warramunga Arr**	**45.95 168**	P	**P**	**07 40 41.5 +0.2**
	comp=Z,3.2nm,0.8s,baz=350,slow=8.7,SNR=14				
WRA			LR	LR	07 58 59.7
	comp=Z,146nm,20.4s,baz=355,slow=35				
	comp=Z,3.2nm,0.8s				
WB2	**Warramunga Arr**	**45.95 168**	P	**P**	**07 40 41.9 +0.6**
WB2			IAmb	IAmb	07 41 09.7
	comp=Z,8.3nm,1.0s				
TIXI	**Tiksi**	**46.37 2**	P	**P**	**07 40 44.9 +0.9**
TIXI			IAmb	IAmb	07 40 49.6
	comp=Z,3.3nm,0.6s				
TIXI	**Tiksi**	**46.37 2**	LR	LR	07 59 46.3
	comp=Z,441nm,18.9s,baz=204,slow=36				
KKAR	**Karatay Array**	**47.55 306**	P	**P**	**07 40 54.0 +0.3**
KBL	**Kabul**	**48.81 295**	P	**P**	**07 41 03.4 -0.4**
BVAR	**Borovoye Array**	**49.00 319**	P	**P**	**07 41 04.5 -0.3**
	comp=Z,0.9nm,0.7s,baz=90,slow=8.9,SNR=4.0				
BVAR			LR	LR	08 02 14.5
	comp=Z,188nm,19.1s,baz=109,slow=37				
	comp=Z,0.9nm,0.7s				
BRVK	**Borovoye**	**49.07 319**	P	**P**	**07 41 04.6 -0.7**
NRIK	**Noril'sk**	**49.21 343**	P	**P**	**07 41 04.6 -1.5**
	comp=Z,1.4nm,0.7s,baz=143,slow=10,SNR=1.7				
NRIK			LR	LR	08 03 44.5
	comp=Z,637nm,18.4s,baz=140,slow=38				
	comp=Z,1.4nm,0.7s				
ASAR	**Alice Springs**	**49.50 169**	P	**P**	**07 41 09.7 +0.8**
	comp=Z,2.4nm,0.9s,baz=352,slow=7.8,SNR=22				
ASAR			LR	LR	08 01 47.1
	comp=Z,80nm,20.7s,baz=356,slow=36				
	comp=Z,2.4nm,0.9s				
ABKAR	**Akbulak array**	**55.12 314**	P	**P**	**07 41 50.0 -0.4**
ARTI	**Arti**	**56.37 322**	LR	LR	08 07 45.9
	comp=Z,339nm,21.6s,baz=86,slow=38				
AKTO	**Aktyubinsk**	**56.37 315**	LR	LR	08 08 18.6
	comp=Z,236nm,19.8s,baz=106,slow=38				
NWAO	**Narrogin (SRO)**	**58.44 188**	LR	LR	08 08 16.6
	comp=Z,48nm,19.9s,baz=46,slow=37				
STKA	**Stephens Creek**	**59.09 164**	P	**P**	**07 42 19.4 +0.9**
	comp=Z,2.4nm,0.8s,baz=325,slow=11,SNR=3.7				
STKA			LR	LR	08 07 58.5
	comp=Z,43nm,21.0s,baz=9.7,slow=36				
	comp=Z,2.4nm,0.8s				
KIRV	**Kirov**	**61.25 325**	LR	LR	08 11 16.9
	comp=Z,313nm,19.4s,baz=87,slow=38				
DZM	**Mont Dzumac**	**61.98 136**	*e*LR	LR	08 00 57.7
	comp=Z,400nm,24.4s				
DZM	**Mont Dzumac**	**61.98 136**	LR	LR	08 05 07.7
	comp=Z,131nm,21.6s,baz=200,slow=32				
BELG	**Belogornoye**	**62.75 318**	LR	LR	08 12 48.2
	comp=Z,176nm,18.8s,baz=77,slow=39				
NEA2	**Nenana**	**65.67 28**	P	**P**	**07 43 02.5 +0.2**
RND	**Reindeer**	**65.93 29**	P	**P**	**07 43 03.2 -0.9**
IL31		**66.56 28**	P	**P**	**07 43 06.5 -1.5**
IL31			IAmb	IAmb	07 43 49.7
	comp=Z,8.2nm,1.4s				
ILAR	**Eielson Array**	**66.56 28**	P	**P**	**07 43 06.3 -1.7**
	comp=Z,0.2nm,0.5s,baz=257,slow=5.0,SNR=13				
ILAR			LR	LR	08 15 33.3
	comp=Z,68nm,18.2s,baz=278,slow=39				
	comp=Z,0.2nm,0.5s				
GNI	**Garni**	**66.98 305**	LR	LR	08 16 58.0
	comp=Z,167nm,18.6s,baz=88,slow=40				
MSVF	**Nonsavu**	**67.09 124**	LR	LR	08 11 22.1
	comp=Z,76nm,18.7s,baz=313,slow=35				
F26K	**Sheenjek River**	**67.13 24**	P	**P**	**07 43 11.8 +0.1**
F26K			IAmb	IAmb	07 43 46.0
	comp=Z,7.3nm,1.1s				
M24K	**Tolsona, Glenn**	**67.37 31**	P	**P**	**07 43 12.4 -0.9**
KBZ	**Khabaz**	**67.44 309**	LR	LR	08 17 27.4
	comp=Z,274nm,18.5s,baz=44,slow=40				
SCRK	**Sand Creek**	**67.96 28**	P	**P**	**07 43 15.7 -1.3**
J26L	**Joseph Creek**	**68.02 28**	P	**P**	**07 43 16.4 -1.0**
J26L			IAmb	IAmb	07 43 46.5
	comp=Z,4.0nm,0.9s				
MENT	**Mentasta**	**68.31 29**	P	**P**	**07 43 18.7 -0.4**
MENT			IAmb	IAmb	07 43 51.5
	comp=Z,5.9nm,1.0s				
OBN	**Obninsk**	**68.72 322**	LR	LR	08 15 07.5
	comp=Z,341nm,19.3s,baz=20,slow=37				
SPITS	**Spitsbergen Ar**	**69.06 348**	LR	LR	08 21 13.4
	comp=Z,91nm,19.1s,baz=18,slow=42				
I28M	**Miner Creek**	**69.28 26**	P	**P**	**07 43 24.9 -0.3**
I28M			IAmb	IAmb	07 43 33.2
	comp=Z,5.7nm,1.1s				
ARCES	**ARCESS Array B**	**69.73 338**	LR	LR	08 18 14.3
	comp=Z,206nm,19.0s,baz=82,slow=40				
DAWY	**Dawson**	**69.89 28**	P	**P**	**07 43 28.3 -0.7**
DAWY			IAmb	IAmb	07 43 36.2
	comp=Z,6.8nm,1.1s				
J29N	**Klondike Camp**	**70.27 27**	P	**P**	**07 43 30.8 -0.5**
FINES	**FINESS Array B**	**72.17 330**	P	**P**	**07 43 40.4 -2.3**
	comp=Z,2.8nm,0.9s,baz=65,slow=6.8,SNR=2.5				
FINES			LR	LR	08 18 38.5
	comp=Z,250nm,19.5s,baz=65,slow=39				
	comp=Z,2.8nm,0.9s				
AKASG	**Malin Array Be**	**74.28 319**	P	**P**	**07 43 53.5 -1.9**
	comp=Z,0.9nm,0.7s,baz=61,slow=6.1,SNR=4.2				
AKASG			LR	LR	08 19 21.4
	comp=Z,164nm,18.8s,baz=59,slow=38				
	comp=Z,0.9nm,0.7s				
BRTR	**Keskin Array B**	**75.25 307**	P	**P**	**07 43 59.7 -1.7**
	comp=Z,0.5nm,0.5s,baz=59,slow=5.6,SNR=3.6				
BRTR			LR	LR	08 19 37.5
	comp=Z,68nm,20.4s,baz=93,slow=38				
	comp=Z,0.5nm,0.5s				
MMAI	**Mount Meron Ar**	**76.32 300**	LR	LR	08 22 41.8
	comp=Z,112nm,20.1s,baz=72,slow=40				
RES	**Resolute Bay**	**76.92 10**	LR	LR	08 20 25.3
	comp=Z,42nm,19.4s,baz=354,slow=38				
EIL	**Elat**	**77.92 297**	LR	LR	08 25 00.5
	comp=Z,71nm,19.7s,baz=71,slow=41				
HFS	**Hagfors**	**78.21 332**	LR	LR	08 22 52.9
	comp=Z,368nm,18.9s,baz=50,slow=39				
MLR	**Muntele Rosu**	**78.31 315**	LR	LR	08 22 25.1
	comp=Z,275nm,20.3s,baz=56,slow=38				
NOA	**NORSAR Array B**	**78.78 333**	P	P	07 44 17.3 -3.4
	comp=Z,0.7nm,0.9s,baz=52,slow=7.4,SNR=1.4				
NOA			LR	LR	08 23 28.7
	comp=Z,272nm,18.1s,baz=55,slow=39				
	comp=Z,0.7nm,0.9s				
YKA	**Yellowknife Ar**	**80.51 24**	P	**P**	**07 44 28.7 -1.3**
	comp=Z,1.2nm,0.9s,baz=311,slow=5.0,SNR=14				
	comp=Z,1.2nm,0.9s				
VRAC	**Vranov**	**82.23 321**	LR	LR	08 24 58.2
	comp=Z,222nm,18.9s,baz=44,slow=38				
GERES	**GERESS Array B**	**84.10 322**	LR	LR	08 24 52.2
	comp=Z,248nm,21.9s,baz=62,slow=38				
RAR	**Rarotonga**	**86.45 115**	LR	LR	08 19 47.2
	comp=Z,51nm,19.5s,baz=260,slow=33				
DAVOX	**Davos/Dischmat**	**87.39 321**	LR	LR	08 27 40.5
	comp=Z,262nm,21.1s,baz=40,slow=38				
SFJD	**Kangerlussuaq**	**87.86 358**	LR	LR	08 28 38.6
	comp=Z,74nm,18.8s,baz=356,slow=38				
FFC	**Flin Flon**	**90.63 25**	P	**P**	**07 45 20.0 -0.6**
PPT	**Papeete**	**93.38 108**	LR	LR	08 18 39.6
	comp=Z,93nm,21.1s,baz=330,slow=30				
PPT2	**Papeete2**	**93.39 108**	*e*LR	LR	08 15 31.0
	comp=Z,216nm,33.2s				
PPT2			*e*LR	LR	08 15 31.2
	comp=Z,355nm,30.0s				
KEST	**Kesra**	**94.07 313**	LR	LR	08 34 57.5
	comp=Z,142nm,19.1s,baz=23,slow=40				
TBI	**Tubuai**	**95.93 113**	*e*LR	LR	08 16 47.8
	comp=Z,429nm,26.8s				
ULM	**Lac du Bonnet**	**96.46 25**	LR	LR	08 33 31.2
	comp=Z,66nm,18.4s,baz=352,slow=38				
TAOE	**Nuku Hiva Isla**	**98.09 96**	*e*LR	LR	08 17 41.1
	comp=Z,417nm,26.1s				
SCHQ	**Schefferville**	**99.48 7**	LR	LR	08 34 44.7
	comp=Z,120nm,18.8s,baz=42,slow=38				
ESDC	**Sonseca Array**	**99.68 322**	LR	LR	08 32 51.6
	comp=Z,115nm,19.1s,baz=8.5,slow=36				

TXNET 18 07:33:19.4, 31°.6N±0°.8×104°.5W±0°.7, h2km±1km, ML1.9/9, Error ellipse: s-maj=1.3km s-min=1.0km az=31.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.53**	**51**	P	Pg	07 33 29.5	0.0
TPB11				S	Sg	07 33 36.7	+0.4
PECS	**Pecos**	**0.60**	**113**	P	Pg	07 33 31.2	+0.2
PECS				S	Sg	07 33 39.1	+0.4
PECS	**Pecos**	**0.60**	**113**	P	Pg	07 33 31.1	+0.2
PECS				S	Sg	07 33 39.2	+0.5
GDL2	**Guadalupe Moun**	**0.61**	**12**	P	Pg	07 33 31.2	+0.1
TPB12	**Southwest of T**	**0.61**	**129**	P	Pg	07 33 31.4	+0.2
TPB12				S	Sg	07 33 39.7	+0.5
TPB07	**Mentone**	**0.72**	**92**	S	Sg	07 33 43.9	+1.3
TPB10	**Southeast of T**	**0.72**	**116**	S	Sg	07 33 42.8	+0.1
TPB10	**Southeast of T**	**0.72**	**116**	P	Pg	07 33 33.9	+0.6
TPB10				S	Sg	07 33 43.1	+0.5
MNTX	**Cornudas Mount**	**0.75**	**278**	P	Pg	07 33 33.9	+0.1
MNTX				S	Sg	07 33 44.1	+0.7
CLNB	**Carlsbad**	**0.85**	**39**	P	Pg	07 33 35.7	-0.1
PCOS	**Crockett Middl**	**0.88**	**102**	S	Sb	07 33 48.7	-1.0
TPB01	**Permian Basin**	**0.91**	**136**	P	Pg	07 33 36.4	-0.5
TPB01				S	Sg	07 33 48.5	-0.1
TPB01	**Permian Basin**	**0.91**	**136**	P	Pg	07 33 36.3	-0.5
TPB01				S	Sg	07 33 48.5	-0.1
VHRN	**Van Horn**	**0.91**	**207**	P	Pg	07 33 36.9	0.0
VHRN				S	Sg	07 33 48.9	+0.3
VHRN	**Van Horn**	**0.91**	**207**	P	Pg	07 33 36.8	-0.1
VHRN				S	Sg	07 33 48.6	0.0
TPB03	**Saragosa**	**1.00**	**121**	S	Sg	07 33 51.7	+0.2
CLN7	**Carlsbad 7**	**1.01**	**36**	P	Pg	07 33 38.3	-0.4
TPB06	**Permian Basin**	**1.11**	**87**	S	Sb	07 33 55.8	-0.4
TPB04	**Verhalen**	**1.14**	**111**	S	Sg	07 33 56.6	+0.5
HTMS	**Hat Mesa**	**1.14**	**41**	P	Pg	07 33 40.8	-0.6
NM01	**Eunice**	**1.21**	**51**	S	Sb	07 33 59.6	+0.4
TPB05	**Hovey Rd**	**1.23**	**123**	P	Pg	07 33 42.5	-0.4
TPB05				S	Sg	07 33 58.1	-0.6
MNHN	**Monahans**	**1.52**	**99**	P	Pn	07 33 47.5	-0.1
MNHN				S	Sb	07 34 08.2	+0.1
MNHN	**Monahans**	**1.52**	**99**	P	Pn	07 33 47.5	-0.1
MNHN				S	Sg	07 34 08.2	0.0
CPRX	**Cap Rock**	**1.52**	**21**	P	Pn	07 33 47.6	-0.2
ODSA	**Odessa**	**1.75**	**72**	P	Pn	07 33 51.4	+0.5
ODSA				S	Sb	07 34 14.9	+0.1
TMB04	**Seminole**	**2.00**	**59**	P	Pn	07 33 55.2	+1.0
TMB04				S	Sb	07 34 22.3	+0.4
TX31	**Lajitas Ar. Si**	**2.38**	**162**	P	Pn	07 34 00.5	+1.0
TX31				S	Sb	07 34 33.6	+0.8
TX31	**Lajitas Ar. Si**	**2.38**	**162**	P	Pn	07 34 00.3	+0.8

TX31 S Sb 07 34 33.7 +0.9

*JMA **18** 08:01:09.2±0.3,30°N±2°×13°9E±°, h457km, MV3.8/25, NEAR TORISHIMA IS*
*NEIC **18** 08:01:11.5±1.4,30°.47N±0°.09×138°.47E±0°.07, h422km±8km, mb4.2/96, Error ellipse: s-maj=14.7km s-min=4.9km az=148.0*
*IDC **18** 08:01:11.7±1.0,30°.49N×138°.40E, h432km±10km, mb3.4/23, mbtmp4.2/31, Error ellipse: s-maj=11.6km s-min=8.8km az=92.0*
ISC 18 08:01:11.8±0.4,30°.44N±0°.05×138°.56E±0°.06, h440km, n414, σ1°18/426, mb4.1/74, 1C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.83**	**22**	P	**P**	**P**	**08 02 15.6**	**-1.0**
JHCJ				*e*S	**S**	**S**	**08 03 05.4**	**-4.0**
JHJ	**Hachijo jima 2**	**2.87**	**21**	P	**P**	**P**	**08 02 15.8**	**-1.1**
	334nm,0.3s,baz=71,slow=23,SNR=35							
JHJ				S		S	08 02 55.3	-15
	110nm,0.3s,baz=63,slow=22,SNR=1.7							
JHJ2	**Mitsune**	**2.87**	**22**	P	**P**		**08 02 15.8**	**-1.1**
JHJ2	**Mitsune**	**2.87**	**22**	P	**P**		**08 02 15.9**	**-1.1**
JHJ2	**Mitsune**	**2.87**	**22**	S	**S**		**08 03 07.2**	**-2.8**
JHJ2	**Mitsune**	**2.87**	**22**	P	**P**		**08 02 15.6**	**-1.3**
TTO3	**TONANKAI O.B.S**	**3.55**	**344**	*e*P	**P**		**08 02 23.1**	**+1.0**
JTNC	**Tanabenakahech**	**4.19**	**324**	P	**P**		**08 02 27.5**	**-0.4**
JSG	**Sagara**	**4.23**	**356**	P	**P**		**08 02 25.3**	**-2.9**
JIE	**Ise**	**4.24**	**339**	*e*P	**P**		**08 02 28.5**	**+0.3**
CBIJ	**Chichi jima**	**4.61**	**135**	*e*P	**P**		**08 02 29.8**	**-2.2**
CBIJ				*e*S	**S**		**08 03 30.8**	**-6.5**
JCJ	**Chichijima**	**4.61**	**135**	P	**P**		**08 02 30.1**	**-1.9**
JCJ	**Chichijima**	**4.61**	**135**	P	P		08 02 23.7	-8.3
	62nm,0.4s,baz=351,slow=22,SNR=17							
JCJ				S		S	08 03 19.6	-18
	74nm,0.3s,baz=276,slow=22,SNR=6.5							
BSO1	**Boso 1**	**4.67**	**25**	P	**P**		**08 02 29.9**	**-1.8**
BSO1				*e*S	**S**		**08 03 32.6**	**-4.5**
JOD2	**Odawara 2**	**4.83**	**5**	P	**P**		**08 02 32.1**	**-1.7**
JOD2				*e*S	**S**		**08 03 36.7**	**-4.1**
INU	**Inuyama**	**5.06**	**346**	P	**P**		**08 02 35.3**	**-0.8**
INU	**Inuyama**	**5.06**	**346**	P	**P**		**08 02 36.5**	**+0.4**
JMN	**Monobe**	**5.14**	**311**	P	**P**		**08 02 37.2**	**+0.1**
JMN	**Monobe**	**5.14**	**311**	P	**P**		**08 02 37.1**	**+0.1**
JGF	**Kuroka**	**5.24**	**349**	P	**P**		**08 02 36.8**	**-1.1**
JGF	**Kuroka**	**5.24**	**349**	P	**P**		**08 02 37.5**	**-0.4**
JTO	**Tosashimizu**	**5.46**	**298**	P	**P**		**08 02 40.0**	**-0.2**
JTO				*e*S	**S**		**08 03 51.1**	**-1.3**
JRY	**Ryogami san**	**5.56**	**3**	P	**P**		**08 02 39.7**	**-1.4**
JRY				*e*S	**S**		**08 03 48.4**	**-5.9**
MJAR	**Matsushiro Arr**	**6.09**	**357**	P	**P**		**08 02 44.1**	**-2.4**
	11nm,0.3s,baz=172,slow=11,SNR=46							
MJAR				S		**S**	**08 03 59.0**	**-5.0**
	3.0nm,0.4s,baz=172,slow=30,SNR=4.4							
MAJO	**Matsushiro**	**6.09**	**357**	P	**P**		**08 02 44.9**	**-1.6**
MAJO	**Matsushiro**	**6.09**	**357**	P	**P**		**08 02 45.1**	**-1.4**
MJB9	**Matsu-Tunnel**	**6.09**	**357**	P	**P**		**08 02 45.0**	**-1.6**
JHS	**Saijyo**	**6.45**	**316**	P	**P**		**08 02 50.4**	**0.0**
JNU	**Nakatsue**	**7.06**	**294**	P	**P**		**08 02 57.0**	**+0.1**
JNU	**Nakatsue**	**7.06**	**294**	P	**P**		**08 02 56.4**	**-0.6**
	3.3nm,0.4s,baz=58,slow=4.7,SNR=5.2							
JNU	**Nakatsue**	**7.06**	**294**	P	**P**		**08 02 57.7**	**+0.7**
JSD	**Sado**	**7.58**	**358**	P	**P**		**08 03 00.5**	**-1.9**
JSD	**Sado**	**7.58**	**358**	P	**P**		**08 03 00.2**	**-2.2**
JMM	**Marumori**	**7.63**	**13**	P	**P**		**08 03 01.3**	**-1.6**
JMM	**Marumori**	**7.63**	**13**	P	**P**		**08 03 01.4**	**-1.6**
JSJ	**Shimokoshiki**	**7.68**	**281**	*e*P	**P**		**08 03 03.2**	**-0.4**
JAMN	**Amaminishikomi**	**8.47**	**257**	P	**P**		**08 03 11.7**	**-0.6**
JTU	**Tsushima**	**8.74**	**300**	P	**P**		**08 03 15.3**	**+0.3**
JMK	**Ichinoseki**	**8.77**	**14**	P	**P**		**08 03 14.6**	**-0.6**
JOW	**Kunigami**	**9.72**	**251**	P	**P**		**08 03 25.1**	**-0.8**
JOW	**Kunigami**	**9.72**	**251**	P	**P**		**08 03 25.6**	**-0.3**
	22nm,0.4s,baz=24,slow=7.6,SNR=7.8							
JOW	**Kunigami**	**9.72**	**251**	*e*P	**P**		**08 03 26.8**	**+0.9**
JTM	**Tenmabayashi**	**10.52**	**11**	P	**P**		**08 03 35.2**	**+0.8**
JOT	**Ohata**	**11.10**	**10**	*e*P	**P**		**08 03 41.2**	**+0.5**
JKE	**Kume jima 2**	**11.14**	**251**	*e*P	**P**		**08 03 41.1**	**-0.3**
KSRS	**Korea Array**	**11.26**	**311**	P	**P**		**08 03 42.1**	**-0.3**
	1.3nm,0.6s,baz=128,slow=10,SNR=7.0							
JEM	**Erimo**	**12.13**	**17**	P	**P**		**08 03 54.7**	**+2.8**
JCH	**Churui**	**12.74**	**16**	*e*P	**P**		**08 03 59.3**	**+0.7**
ASAJ	**Asahikawa**	**14.02**	**12**	P	**P**		**08 04 12.1**	**-0.3**
	2.6nm,0.4s,baz=171,slow=19,SNR=1.4							
USRK	**Ussuriysk Ar.**	**14.68**	**341**	P	**P**		**08 04 18.2**	**-1.3**
	1.8nm,0.5s,baz=146,slow=11,SNR=6.1							
YHNB	**Yeheng**	**16.28**	**253**	P	**P**		**08 04 33.5**	**-3.4**
NACB	**Ninganchiao**	**16.31**	**252**	P	**P**		**08 04 32.9**	**-4.3**
YULB	**Yu-li**	**16.91**	**250**	P	**P**		**08 04 40.9**	**-2.6**
BNX	**BinXian**	**17.58**	**333**	⇑P	**P**		**08 04 49.9**	**-0.5**
BNX				pmax	pmax			
	comp=Z,6.0nm,0.5s							
TIA	**Tai'an**	**18.80**	**293**	P	**P**		**08 05 00.3**	**-2.3**
TIA				pmax	pmax			
	comp=Z,14nm,0.6s							
KLR	**Kul'dur**	**19.46**	**347**	P	**P**		**08 05 08.7**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=164,slow=7.8,SNR=19							
HNS	**HongShan**	**20.94**	**296**	⇓P	**P**		**08 05 20.5**	**-1.7**
HNS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**24.18**	**303**	*e*P	**P**		**08 05 52.1**	**+0.5**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,63nm,4.0s							
PEA0B	**Petropavlovsk-**	**26.61**	**26**	P	**P**		**08 06 14.2**	**+1.4**
PEA0B				IAmb	IAmb		08 06 46.1	
	comp=Z,12nm,1.1s							
PETK	**Petropavlovsk-**	**26.61**	**26**	P	**P**		**08 06 13.5**	**+0.7**
PETK	**Petropavlovsk-**	**26.61**	**26**	P	**P**		**08 06 13.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=206,slow=9.6,SNR=6.4							
	comp=Z,1.0nm,0.6s							
CD2	**Chengdu**	**29.86**	**280**	P	**P**		**08 06 40.6**	**-1.1**
CD2				pmax	pmax			
	comp=Z,30nm,0.4s							
SONM	**Songino Array**	**30.10**	**314**	P	**P**		**08 06 43.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=130,slow=9.5,SNR=5.1							
SONM				PcP	**PcP**		**08 09 32.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=114,slow=3.5,SNR=1.8							
	comp=Z,0.4nm,0.3s							
MA2	**Magadan**	**30.28**	**12**	P	**P**		**08 06 45.9**	**+1.0**
PZH	**PanZhiHua**	**32.51**	**272**	P	**P**		**08 07 05.3**	**+0.6**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.2s							
GTA	**Gaotai**	**32.79**	**296**	*e*P	**P**		**08 07 06.3**	**-0.7**
GTA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
FAKI	**Fak Fak**	**33.72**	**191**	P	**P**		**08 07 15.3**	**+0.3**
PHRA	**Phrae**	**36.69**	**260**	P	**P**		**08 07 39.9**	**0.0**
CHTO	**Chiang Mai**	**37.64**	**261**	P	**P**		**08 07 47.4**	**-0.5**
CHTO				IAmb	IAmb		08 07 48.0	
	comp=Z,12nm,0.9s							
CMAR	**Chiang Mai Arr**	**37.80**	**261**	P	**P**		**08 07 49.0**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=57,slow=6.7,SNR=18							
	comp=Z,3.5nm,0.7s							
BILL	**Bilibino**	**41.00**	**15**	P	**P**		**08 08 15.7**	**+1.4**
BILL				IAmb	IAmb		08 08 16.5	
	comp=Z,10nm,0.7s							
TIXI	**Tiksi**	**41.59**	**355**	P	**P**		**08 08 19.0**	**0.0**
TIXI				IAmb	IAmb		08 08 19.3	
	comp=Z,4.3nm,0.6s							
WMQ	**Urumqi**	**42.06**	**303**	*e*P	**P**		**08 08 27.9**	**+4.6**
WMQ				pmax	pmax			
	comp=Z,17nm,0.7s							
MTN	**Manton Dam**	**43.63**	**191**	P	**P**		**08 08 35.4**	**-0.5**
MTN				IAmb	IAmb		08 08 36.0	
	comp=Z,8.1nm,0.6s							
SPIA	**Saint Paul Isl**	**44.15**	**38**	P	**P**		**08 08 40.0**	**+0.6**
	baz=255							
COEN	**Coen**	**44.37**	**174**	P	**P**		**08 08 42.6**	**+1.0**
P08K	**Saint George I**	**44.38**	**38**	P	**P**		**08 08 41.4**	**+0.3**
	baz=256							
ZALV	**Zalesovo Beam**	**44.88**	**318**	P	**P**		**08 08 44.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=106,slow=7.0,SNR=2.3							
ZALV				PcP	**PcP**		**08 10 17.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=123,slow=4.9,SNR=4.4							
ZALV				ScP	**ScP**		**08 13 27.2**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=90,slow=4.3,SNR=5.9							
	comp=Z,0.3nm,0.3s							
UNV	**Unalaska Valle**	**45.57**	**43**	P	**P**		**08 08 50.8**	**+0.4**
	baz=262							
GAMB	**Gambell**	**45.60**	**28**	P	**P**		**08 08 51.5**	**+1.0**
	baz=247							
MK31	**Makanchi Array**	**45.91**	**307**	P	**P**		**08 08 52.5**	**-0.7**
MKAR	**Makanchi Array**	**45.91**	**307**	P	**P**		**08 08 52.5**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=92,slow=9.9,SNR=22							
MKAR				PcP	**PcP**		**08 10 21.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=1.4,SNR=7.2							
MKAR				ScP	**ScP**		**08 13 32.7**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=107,slow=2.7,SNR=4.7							
	comp=Z,1.4nm,0.5s							
KNRA	**Kununurra**	**46.81**	**193**	P	**P**		**08 09 00.7**	**+0.3**
M11K	**Mekoryuk**	**46.99**	**34**	P	**P**		**08 09 02.3**	**+1.1**
	baz=256							
K13K	**Kusilvak Mount**	**48.09**	**32**	P	**P**		**08 09 10.8**	**+1.3**
K13K	**Kusilvak Mount**	**48.09**	**32**	P	**P**		**08 09 10.3**	**+0.8**
	baz=256							
S12K	**Black Hills**	**48.35**	**41**	P	**P**		**08 09 12.2**	**+0.6**
	baz=264							
F14K	**Arctic Creek**	**48.37**	**27**	P	**P**		**08 09 12.5**	**+1.0**
	baz=251							
NRIK	**Noril'sk**	**48.38**	**338**	P	**P**		**08 09 11.8**	**+0.2**
NRIK				IAmb	IAmb		08 09 11.9	
	comp=Z,4.3nm,0.5s							
NRIK	**Noril'sk**	**48.38**	**338**	P	**P**		**08 09 11.2**	**-0.3**
	comp=Z,3.2nm,0.4s,baz=110,slow=9.6,SNR=4.6							
	comp=Z,3.2nm,0.4s							
KURK	**Kurchatov**	**48.38**	**313**	P	**P**		**08 09 11.2**	**-0.6**
M13K	**Dall Lake**	**48.38**	**34**	P	**P**		**08 09 12.6**	**+0.9**
	baz=259							
KURBB	**Kurchatov Arra**	**48.43**	**312**	P	**P**		**08 09 11.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.5,SNR=12							
	comp=Z,0.9nm,0.5s							
GSI	**Gunungsitoli**	**48.45**	**241**	P	**P**		**08 09 12.9**	**0.0**
ANM	**Nome**	**48.48**	**29**	P	**P**		**08 09 14.7**	**+2.3**
ANM	**Nome**	**48.48**	**29**	P	**P**		**08 09 13.2**	**+0.8**
	baz=253							
J14K	**Nanvaranak Lak**	**48.78**	**31**	P	**P**		**08 09 15.5**	**+0.9**
	baz=257							
L14K	**Kuka Creek**	**48.88**	**33**	P	**P**		**08 09 16.2**	**+0.8**
	baz=259							
F15K	**North Star Dit**	**49.11**	**27**	P	**P**		**08 09 18.6**	**+1.6**
F15K				IAmb	IAmb		08 09 19.6	
	comp=Z,6.3nm,0.6s							
F15K	**North Star Dit**	**49.11**	**27**	P	**P**		**08 09 17.8**	**+0.7**
	baz=253							
N14K	**Kuskokwak Cree**	**49.11**	**35**	P	**P**		**08 09 16.9**	**-0.2**
	baz=261							
M14K	**Bethel**	**49.12**	**34**	P	**P**		**08 09 18.5**	**+1.3**
M14K				IAmb	IAmb		08 09 20.2	
	comp=Z,8.5nm,0.8s							
M14K	**Bethel**	**49.12**	**34**	P	**P**		**08 09 17.0**	**-0.2**
	baz=260							
G15K	**Niukluk**	**49.15**	**28**	P	**P**		**08 09 17.8**	**+0.4**
	baz=254							
O14K	**Tigyukauivet M**	**49.22**	**36**	P	**P**		**08 09 18.5**	**+0.6**
	baz=262							
L15K	**Ungalak Mounta**	**49.51**	**33**	P	**P**		**08 09 21.0**	**+0.9**
	baz=260							
K15K	**Wolf Creek Mou**	**49.60**	**32**	P	**P**		**08 09 21.6**	**+0.8**
	baz=259							
C16K	**Lisburne Hills**	**49.67**	**24**	P	**P**		**08 09 22.7**	**+1.6**
C16K				IAmb	IAmb		08 09 23.5	
	comp=Z,6.2nm,0.8s							
C16K	**Lisburne Hills**	**49.67**	**24**	P	**P**		**08 09 21.6**	**+0.4**
	baz=250							
CHNA	**Chernabura Isl**	**49.69**	**42**	P	**P**		**08 09 21.5**	**-0.1**
	baz=267							
M15K	**Kasigluk River**	**49.72**	**34**	P	**P**		**08 09 22.2**	**+0.6**
	baz=261							
H16K	**Elim**	**49.80**	**29**	P	**P**		**08 09 23.5**	**+1.3**
	baz=256							
N15K	**Kwethluk River**	**49.94**	**35**	P	**P**		**08 09 24.1**	**+0.7**
	baz=262							
G16K	**Koyuk River**	**49.94**	**28**	P	**P**		**08 09 23.7**	**+0.5**
	baz=256							
O15K	**Ungalikthiuk R**	**49.94**	**36**	P	**P**		**08 09 23.9**	**+0.5**
	baz=263							
WB0	**Warramunga Arr**	**50.08**	**185**	P	**P**		**08 09 25.1**	**+0.2**
J16K	**Anvik River**	**50.22**	**31**	P	**P**		**08 09 26.0**	**+0.7**
	baz=259							
WRAB	**Tennant Creek**	**50.25**	**185**	P	**P**		**08 09 26.5**	**+0.3**
WRAB				IAmb	IAmb		08 09 27.1	
	comp=Z,9.5nm,0.7s							
WB2	**Warramunga Arr**	**50.26**	**185**	P	**P**		**08 09 26.5**	**+0.3**
WB2				IAmb	IAmb		08 09 27.2	
	comp=Z,12nm,0.7s							
WRA	**Warramunga Arr**	**50.26**	**185**	P	**P**		**08 09 25.4**	**-0.8**
WRA	**Warramunga Arr**	**50.26**	**185**	P	**P**		**08 09 26.5**	**+0.3**
	comp=Z,13nm,0.5s,baz=0.9,slow=7.8,SNR=194							
WR0	**Warramunga Arr**	**50.26**	**185**	P	**P**		**08 09 26.5**	**+0.3**
WR0				IAmb	IAmb		08 09 27.2	
	comp=Z,12nm,0.7s							
D17K	**Noatak River**	**50.29**	**25**	P	**P**		**08 09 26.4**	**+0.6**
	baz=253,SNR=8.6							
I17K	**Unalakleet**	**50.29**	**30**	P	**P**		**08 09 26.7**	**+0.8**
	baz=258							
CHGN	**Chignik**	**50.44**	**40**	P	**P**		**08 09 27.8**	**+0.7**
	baz=267							
RDOG	**Red Dog Mine**	**50.46**	**25**	P	**P**		**08 09 29.2**	**+2.1**
RDOG				IAmb	IAmb		08 09 29.8	
	comp=Z,5.9nm,0.6s							
RDOG	**Red Dog Mine**	**50.46**	**25**	P	**P**		**08 09 27.8**	**+0.7**
	baz=253							
L16K	**Owhat River**	**50.46**	**33**	P	**P**		**08 09 27.9**	**+0.8**
	baz=261							
C17K	**DeLong Mountai**	**50.49**	**24**	P	**P**		**08 09 27.2**	**-0.1**
	baz=252							
E17K	**Hotham Inlet**	**50.58**	**26**	P	**P**		**08 09 27.9**	**-0.1**
	baz=255							
M16K	**Timber Creek**	**50.61**	**34**	P	**P**		**08 09 29.1**	**+0.9**
	baz=262							
F17K	**Baldwin Pennin**	**50.64**	**27**	P	**P**		**08 09 30.2**	**+1.8**
F17K				IAmb	IAmb		08 09 31.0	
	comp=Z,6.9nm,0.7s							
F17K	**Baldwin Pennin**	**50.64**	**27**	P	**P**		**08 09 29.2**	**+0.9**
	baz=256,SNR=5.4							
BOOM	**Boomskoye usch**	**50.72**	**302**	P	**P**		**08 09 29.9**	**+0.3**
BOOM				IAmb	IAmb		08 09 37.7	
	comp=Z,8.7nm,1.1s							
H17K	**Granite Mounta**	**50.84**	**29**	P	**P**		**08 09 30.7**	**+0.8**
	baz=258							
P16K	**Nushagak River**	**50.87**	**37**	P	**P**		**08 09 30.8**	**+0.6**
	baz=265							
O16K	**Kokwok River B**	**50.87**	**36**	P	**P**		**08 09 30.5**	**+0.3**
	baz=264							
J17K	**VABM Dome**	**50.91**	**31**	P	**P**		**08 09 32.0**	**+1.6**
	baz=260							
R16K	**Pilot Point**	**50.98**	**39**	P	**P**		**08 09 31.3**	**+0.4**
	baz=266							
L17K	**Donlin**	**51.07**	**33**	P	**P**		**08 09 31.7**	**0.0**
	baz=262							
E18K	**Tukpahlearik C**	**51.13**	**26**	P	**P**		**08 09 32.2**	**+0.3**
	baz=256							
K17K	**Iditarod**	**51.15**	**32**	P	**P**		**08 09 34.1**	**+1.9**
	baz=262							
KSH	**Kashi**	**51.16**	**298**	P	**P**		**08 09 35.9**	**+3.1**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.7s							
B18K	**Kokolik River**	**51.23**	**23**	P	**P**		**08 09 33.7**	**+1.0**
	baz=253,SNR=9.2							
C18K	**Utukok River**	**51.24**	**24**	P	**P**		**08 09 34.1**	**+1.3**
C18K	**Utukok River**	**51.24**	**24**	P	**P**		**08 09 33.0**	**+0.2**
	baz=254,SNR=5.7							
F18K	**Selawik**	**51.30**	**27**	P	**P**		**08 09 33.5**	**+0.3**
	baz=257							
M17K	**Holitna River**	**51.38**	**34**	P	**P**		**08 09 36.0**	**+2.1**
M17K				IAmb	IAmb		08 09 39.6	
	comp=Z,21nm,1.4s							
M17K	**Holitna River**	**51.38**	**34**	P	**P**		**08 09 33.8**	**-0.2**
	baz=264							
O17K	**Koliganek Bris**	**51.39**	**36**	P	**P**		**08 09 35.1**	**+1.1**
	baz=265							
N17K	**Nushagak Hills**	**51.41**	**35**	P	**P**		**08 09 35.1**	**+1.0**
	baz=264							
H18K	**Honhosa River**	**51.53**	**29**	P	**P**		**08 09 36.4**	**+1.4**
	baz=260							
Q16K	**King Salmon**	**51.53**	**37**	P	**P**		**08 09 35.8**	**+0.8**
	baz=266							
G18K	**Tagagawik**	**51.55**	**28**	P	**P**		**08 09 35.8**	**+0.8**
	baz=259							
P17K	**Kvichak River**	**51.68**	**36**	P	**P**		**08 09 36.8**	**+0.7**
	baz=266							
AAK	**Ala-Archa**	**51.76**	**302**	P	**P**		**08 09 37.1**	**0.0**
L18K	**Granite Mounta**	**51.83**	**33**	P	**P**		**08 09 37.9**	**+0.7**
	baz=264							
J18K	**Innoko River**	**51.97**	**31**	P	**P**		**08 09 40.1**	**+1.9**
	baz=262							
CHIR	**Chirikof Islan**	**51.99**	**41**	P	**P**		**08 09 39.3**	**+0.9**
	baz=270							
N18K	**Kilae Creek**	**52.06**	**35**	P	**P**		**08 09 39.8**	**+0.9**
	baz=266							
F19K	**Shaleruckik Mo**	**52.08**	**27**	P	**P**		**08 09 38.9**	**0.0**
	baz=259							
GCSA	**Galena City Sc**	**52.08**	**29**	P	**P**		**08 09 39.7**	**+0.8**
	baz=261							
M18K	**Stony River**	**52.17**	**34**	P	**P**		**08 09 39.8**	**+0.2**
	baz=265							
G19K	**Purcell Mounta**	**52.22**	**28**	P	**P**		**08 09 40.9**	**+1.0**
	baz=260							
TTA	**Tatalina**	**52.22**	**32**	P	**P**		**08 09 40.3**	**+0.2**
	baz=264							
D19K	**Kuna River**	**52.30**	**25**	P	**P**		**08 09 42.0**	**+1.5**
D19K	**Kuna River**	**52.30**	**25**	P	**P**		**08 09 41.2**	**+0.7**
	baz=257							
P18K	**Big Mountain,**	**52.31**	**36**	P	**P**		**08 09 41.7**	**+1.0**
	baz=267							
O18K	**Koktuh Hills**	**52.35**	**36**	P	**P**		**08 09 42.0**	**+1.0**
	baz=267							
H19K	**Roundabout Mou**	**52.38**	**28**	P	**P**		**08 09 42.7**	**+1.6**
	baz=261							
E19K	**Redstone River**	**52.41**	**26**	P	**P**		**08 09 41.1**	**-0.1**
	baz=259							
J19K	**Poorman**	**52.52**	**30**	P	**P**		**08 09 41.8**	**-0.3**
	baz=263							
L19K	**White Mountain**	**52.68**	**33**	P	**P**		**08 09 43.5**	**+0.1**
	baz=265							
N19K	**Bonanza Creek**	**52.76**	**35**	P	**P**		**08 09 44.6**	**+0.6**
N19K				IAmb	IAmb		08 09 47.5	
	comp=Z,16nm,1.1s							
N19K	**Bonanza Creek**	**52.76**	**35**	P	**P**		**08 09 44.6**	**+0.6**
	baz=267							
SII	**Sitkinak Islan**	**52.80**	**40**	P	**P**		**08 09 43.8**	**-0.4**
	baz=270							
O19K	**Port Alsworth**	**52.81**	**35**	P	**P**		**08 09 44.1**	**-0.1**
	baz=267							
M19K	**Big River Lodg**	**52.88**	**33**	P	**P**		**08 09 44.2**	**-0.6**
	baz=266							
D20K	**Etivluk River**	**52.88**	**24**	P	**P**		**08 09 44.4**	**-0.3**
	baz=259,SNR=9.6							
F20K	**Avaraart Lake**	**52.91**	**27**	P	**P**		**08 09 44.2**	**-0.6**
	baz=261							
E20K	**Nigu River**	**52.95**	**25**	P	**P**		**08 09 44.8**	**-0.4**
	baz=259							
H20K	**Anotleneega Mo**	**53.02**	**29**	P	**P**		**08 09 45.8**	**0.0**
	baz=263							
ARSB	**Arslanbob**	**53.09**	**301**	P	**P**		**08 09 47.8**	**+1.0**
I20K	**Naaghedeneel**	**53.11**	**30**	P	**P**		**08 09 46.4**	**+0.1**
	baz=264							
Q19K	**Cape Douglas,**	**53.11**	**37**	P	**P**		**08 09 45.9**	**-0.6**
	baz=269							
K20K	**Telida**	**53.14**	**31**	P	**P**		**08 09 46.5**	**-0.2**
	baz=265							
L20K	**Farewell, AK**	**53.16**	**32**	P	**P**		**08 09 46.9**	**+0.1**
	baz=266							
J20K	**Nowinta River**	**53.19**	**30**	P	**P**		**08 09 48.6**	**+1.8**
J20K				IAmb	IAmb		08 09 50.0	
	comp=Z,11nm,0.7s							
J20K	**Nowinta River**	**53.19**	**30**	P	**P**		**08 09 46.4**	**-0.5**
	baz=264							
OHAK	**Old Harbor**	**53.28**	**39**	P	**P**		**08 09 48.8**	**+1.1**
P19K	**Oil Pt**	**53.34**	**36**	P	**P**		**08 09 46.8**	**-1.3**
	baz=269							
BVAR	**Borovoye Array**	**53.43**	**316**	P	**P**		**08 09 48.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=100,slow=8.9,SNR=12							
	comp=Z,0.8nm,0.3s							
A21K	**Barrow**	**53.44**	**21**	P	**P**		**08 09 48.4**	**-0.2**
	baz=257							
M20K	**Styx River**	**53.47**	**33**	P	**P**		**08 09 48.5**	**-0.7**
	baz=267							
C21K	**Knifeblade Rid**	**53.61**	**24**	P	**P**		**08 09 49.6**	**-0.3**
	baz=260							
O20K	**Slope Mountain**	**53.65**	**35**	P	**P**		**08 09 50.3**	**-0.1**
	baz=269							
KDAK	**Kodiak Island**	**53.66**	**38**	P	**P**		**08 09 50.6**	**+0.2**
KDAK	**Kodiak Island**	**53.66**	**38**	P	**P**		**08 09 50.4**	**0.0**
	baz=271							
B21K	**Ikpikpuk River**	**53.76**	**24**	P	**P**		**08 09 51.7**	**+0.8**
	baz=260							
Q20K	**Shuyak Island**	**53.76**	**37**	P	**P**		**08 09 51.0**	**0.0**
	baz=270							
SYI	**Shuyak Island**	**53.76**	**37**	P	**P**		**08 09 52.5**	**+1.4**
F21K	**Alatna River**	**53.80**	**27**	P	**P**		**08 09 53.0**	**+1.6**
F21K	**Alatna River**	**53.80**	**27**	P	**P**		**08 09 50.8**	**-0.5**
	baz=263							
SPCR	**Spurr Chakacha**	**53.89**	**34**	P	**P**		**08 09 51.4**	**-0.6**
	baz=268							
H21K	**Melozitna Rive**	**53.90**	**29**

	baz=269						
TOLK	Toolik Lake Re	55.42	25	P	P	08 10 02.9	+0.2
	baz=266						
MCK	McKinley	55.46	31	P	P	08 10 03.2	+0.1
	baz=270						
KNK	Knik Glacier	55.70	34	P	P	08 10 04.5	-0.2
	baz=272						
D24K	Happy Valley	55.73	24	P	P	08 10 06.8	+2.0
D24K				IAmb	IAmb	08 10 07.9	
	comp=Z,8.2nm,0.8s						
D24K	Happy Valley	55.73	24	P	P	08 10 05.6	+0.8
	baz=266,SNR=7.8						
SML	Sawmill	55.75	33	P	P	08 10 05.4	+0.3
	baz=271						
PWL	Port Wells	55.77	35	P	P	08 10 05.8	+0.5
	baz=272						
C24K	Franklin Bluff	55.82	24	P	P	08 10 05.8	+0.4
	baz=266						
COLA	College	55.94	30	P	P	08 10 07.0	+0.7
	baz=270						
H24K	Noodor Dome	55.94	28	P	P	08 10 06.9	+0.5
	baz=269						
M23K	Glacier View	56.04	33	P	P	08 10 07.4	+0.3
	baz=272						
POKR	Poker Plat Res	56.12	29	P	P	08 10 09.2	+1.5
POKR	Poker Plat Res	56.12	29	P	P	08 10 08.3	+0.7
	baz=270						
G24K	Hadweenzic Riv	56.12	27	P	P	08 10 09.8	+2.2
G24K	Hadweenzic Riv	56.12	27	P	P	08 10 08.3	+0.7
	baz=269						
SCM	Sheep Creek Mo	56.22	33	P	P	08 10 09.5	+1.0
SCM	Sheep Creek Mo	56.22	33	P	P	08 10 08.9	+0.4
	baz=272						
P23K	Montague Islan	56.27	36	P	P	08 10 08.7	0.0
	baz=273						
HDA	Harding Lake	56.33	30	P	P	08 10 09.9	+0.8
HDA	Harding Lake	56.33	30	P	P	08 10 09.9	+0.8
	baz=271						
IL31		56.35	30	P	P	08 10 09.8	+0.7
ILAR	Eielson Array	56.35	30	P	P	08 10 10.0	+0.7
ILAR	Eielson Array	56.35	30	P	P	08 10 09.5	+0.3
	comp=Z,0.8nm,0.6s,baz=248,slow=5.4,SNR=25						
ILAR				PcP	PcP	08 11 00.4	0.0
	comp=Z,0.4nm,0.6s,baz=267,slow=3.8,SNR=6.0						
	comp=Z,0.8nm,0.6s						
GLI	Glacier Island	56.38	34	P	P	08 10 09.9	+0.4
	baz=273						
CHGR	Chuyangaron	56.52	299	P	P	08 10 11.0	0.0
D25K	Kavik River	56.61	24	P	P	08 10 11.2	+0.1
	baz=268						
SIMJ	Simiganj	56.64	299	P	P	08 10 11.3	-0.6
G25K	Bearman Lake	56.67	27	P	P	08 10 11.9	+0.6
	baz=270						
M24K	Tolsona, Glenn	56.76	33	P	P	08 10 13.4	+1.3
	baz=273						
Q23K	Middleton Isla	56.85	36	P	P	08 10 12.5	-0.2
	baz=275						
F25K	Christian Rive	56.85	26	P	P	08 10 12.8	+0.1
	baz=270						
KLU	Klutina	56.91	34	P	P	08 10 13.1	-0.2
	baz=274						
PRP	Porcupine Dome	56.92	29	P	P	08 10 12.9	-0.4
	baz=271						
J25K	Salcha River,	57.01	30	P	P	08 10 13.9	+0.1
	baz=272						
PAX	Paxson	57.04	32	P	P	08 10 14.8	+0.7
	baz=273						
C26K	Camden Bay	57.14	24	P	P	08 10 15.5	+0.9
	baz=269						
HARP	HAARP	57.22	33	P	P	08 10 15.7	+0.5
	baz=274						
RIDG	Independent Ri	57.28	31	P	P	08 10 16.6	+0.8
	baz=273						
F26K	Sheenjek River	57.42	26	P	P	08 10 16.6	0.0
	baz=271						
N25K	Chitina, Valde	57.53	33	P	P	08 10 18.2	+0.7
	baz=275						
C27K	Jago River	57.55	24	P	P	08 10 18.0	+0.5
	baz=270						
G26K	Porcupine Rive	57.58	27	P	P	08 10 18.6	+0.9
	baz=272						
BMRM	Bremner River	57.59	34	P	P	08 10 17.9	0.0
	baz=275						
SCRK	Sand Creek	57.64	31	P	P	08 10 18.6	+0.2
SCRK				IAmb	IAmb	08 10 20.0	
	comp=Z,7.2nm,0.6s						
SCRK	Sand Creek	57.64	31	P	P	08 10 19.2	+0.9
	baz=274,SNR=6.3						
KAIM	Kayak Island	57.78	35	P	P	08 10 20.6	+1.5
	baz=276						
J26L	Joseph Creek	57.79	30	P	P	08 10 19.7	+0.4
J26L				IAmb	IAmb	08 10 21.1	
	comp=Z,5.5nm,0.8s						
J26L	Joseph Creek	57.79	30	P	P	08 10 20.2	+0.9
	baz=274						
I26K	Coal Creek Min	57.92	29	P	P	08 10 20.5	+0.5
	baz=274						
L26K	Log Cabin Wild	58.00	32	P	P	08 10 20.2	-0.4
	baz=275						
M26K	Nabesna, AK	58.22	32	P	P	08 10 21.9	-0.3
	baz=276						
BGLC	Bering Glacier	58.32	35	P	P	08 10 22.4	-0.4
	baz=277						
G27K	Doyon Strip	58.43	27	P	P	08 10 23.6	+0.1
	baz=274						
H27K	Steamboat Moun	58.52	28	P	P	08 10 24.6	+0.4
	baz=274						
D27M	Malcolm River	58.54	24	P	P	08 10 24.2	-0.1
	baz=273						
I27K	Kandik River	58.54	29	P	P	08 10 24.5	+0.3
	baz=275						
L27K	Beaver Creek,	58.69	32	P	P	08 10 26.8	+1.5
	baz=276						
M27K	Edge Creek, AK	58.74	32	P	P	08 10 25.8	-0.1
	baz=277						
MESA	MESA	58.98	35	P	P	08 10 28.8	+1.3
	baz=278						
F28M	Old Crow	59.06	26	P	P	08 10 28.2	+0.5
	baz=275						
I28M	Miner Creek	59.25	29	P	P	08 10 29.7	+0.6
	baz=276						
D28M	Stokes Point	59.32	24	P	P	08 10 30.0	+0.6
	baz=275						
DAWY	Dawson	59.65	30	P	P	08 10 32.2	+0.4
	baz=278						
E29M	Blow River	59.72	25	P	P	08 10 32.5	+0.4
	baz=276						
O28M	Mount Upton	59.75	34	P	P	08 10 33.3	+0.5
	baz=279						
H29M	Whitestone	59.80	28	P	P	08 10 34.3	+1.6
	baz=277						
PINM	Pinnacle	59.83	35	P	P	08 10 34.8	+1.7
	baz=279						
G29M	Pine Creek	59.85	27	P	P	08 10 34.1	+1.0
	baz=277						
YUK8	Steele Glacier	59.88	34	P	P	08 10 34.0	+0.3
	baz=279						
I29M	Ogilvie Camp,	59.94	29	P	P	08 10 35.0	+1.3
	baz=278						
J29N	Klondike Camp	60.10	30	P	P	08 10 35.6	+0.7
	baz=278						
M29M	Somme Creek	60.30	32	P	P	08 10 36.8	+0.5
	baz=279						
PNL	Peninsula	60.33	35	P	P	08 10 36.6	+0.2
	baz=280						
YUK4	Talbot Arm	60.40	33	P	P	08 10 37.8	+0.8
	baz=280						
EPYK	Eagle Plains	60.44	27	P	P	08 10 39.1	+2.1
EPYK	Eagle Plains	60.44	27	P	P	08 10 38.0	+1.0
	baz=279,SNR=8.4						
ABKAR	Akbulak array	60.49	312	P	P	08 10 37.4	-0.2
ABKAR				IAmb	IAmb	08 10 37.8	
	comp=Z,3.0nm,0.5s						
K29M	Barlow Dome	60.50	30	P	P	08 10 38.1	+0.5
	baz=279						
G30M	tAoh Zraii Nji	60.54	27	P	P	08 10 38.8	+1.1
	baz=279						
YUK6	Outpost Mounta	60.61	34	P	P	08 10 38.5	0.0
	baz=280						
F30M	Barrier River	60.61	26	P	P	08 10 38.6	+0.5
	baz=279						
O29M	Mount Kennedy	60.62	35	P	P	08 10 37.5	-1.0
	baz=280						
I30M	Mount Dempster	60.76	29	P	P	08 10 40.6	+1.3
I30M				IAmb	IAmb	08 10 42.8	
	comp=Z,7.1nm,1.2s						
I30M	Mount Dempster	60.76	29	P	P	08 10 40.1	+0.9
	baz=280						
J30M	Hart River	60.89	29	P	P	08 10 41.3	+1.2
	baz=280						
HYT	Haines Junctio	61.04	34	P	P	08 10 43.3	+2.1
HYT				IAmb	IAmb	08 10 57.3	
	comp=Z,13nm,1.3s						
HYT	Haines Junctio	61.04	34	P	P	08 10 42.1	+0.8
	baz=281						
M30M	Minto, Yukon	61.04	32	P	P	08 10 42.8	+1.6
M30M	Minto, Yukon	61.04	32	P	P	08 10 42.4	+1.3
	baz=281						
INK	Inuvik	61.34	25	P	P	08 10 44.1	+1.3
	baz=280						
F31M	Tsiigehtchic	61.41	26	P	P	08 10 44.6	+1.2
	baz=281						
P30M	Million Dollar	61.45	35	P	P	08 10 44.8	+1.0
	baz=282						
H31M	Peel River	61.49	28	P	P	08 10 43.9	-0.1
	baz=281						
N31M	Braeburn, Yuko	61.73	33	P	P	08 10 45.5	-0.1
	baz=282						
PLBC	Pleasant Camp	61.88	35	P	P	08 10 46.2	-0.4
	baz=283						
STKA	Stephens Creek	62.05	177	P	P	08 10 48.9	+0.9
	comp=Z,2.5nm,0.5s,baz=338,slow=6.5,SNR=9.9						
	comp=Z,2.5nm,0.5s						
M31M	Drury Creek, Y	62.22	32	P	P	08 10 49.0	+0.2
	baz=283						
WHY	Whitehorse	62.34	34	P	P	08 10 49.8	+0.1
	baz=283						
SKAG	Skagway	62.40	35	P	P	08 10 51.0	+1.0
	baz=284						
FARO	Faro, Yukon	62.69	32	P	P	08 10 52.3	+0.4
	baz=284						
SIT	Sitka	62.99	38	P	P	08 10 54.6	+0.8
	baz=285						
N32M	Quiet Lake	63.07	33	P	P	08 10 55.1	+0.7
	baz=285						
R32K	Eaglecrest	63.10	36	P	P	08 10 53.9	-0.6
	baz=285						
P32M	Atlin	63.16	35	P	P	08 10 55.0	0.0
	baz=285						
A36M	Sachs Harbour	63.25	20	P	P	08 10 56.8	+1.6
A36M	Sachs Harbour	63.25	20	P	P	08 10 55.1	-0.2
	baz=286,SNR=9.6						
S32K	Killisnoo	63.27	37	P	P	08 10 56.4	+0.8
	baz=285						
P33M	Teslin, Yukon	63.44	34	P	P	08 10 56.5	-0.4
	baz=285						
Q32M	Nakina River	64.05	35	P	P	08 11 01.6	+0.6
Q32M				IAmb	IAmb	08 11 36.9	
	comp=Z,9.5nm,1.2s						
Q32M	Nakina River	64.05	35	P	P	08 10 59.3	-1.6
	baz=286						
C36M	Paulatuk	64.40	23	P	P	08 11 03.8	+1.1
C36M	Paulatuk	64.40	23	P	P	08 11 02.4	-0.4
	baz=288,SNR=6.2						
U33K	Whale Pass	64.42	38	P	P	08 11 02.4	-0.6
	baz=287						
R33M	Jennings River	64.56	35	P	P	08 11 03.7	-0.5
	baz=287						
CRAG	Craig	64.61	39	P	P	08 11 04.3	+0.1
	baz=287						
WRAK	Wrangell Islan	64.74	38	P	P	08 11 05.4	+0.3
	baz=287						
S34M	Telegraph Cree	64.92	36	P	P	08 11 06.2	-0.1
	baz=288						
DLBC	Dease Lake	65.32	35	P	P	08 11 09.2	+0.3
	baz=288						
WTLY	Watson Lake, Y	65.39	33	P	P	08 11 09.3	0.0
	baz=288						
V35K	Ketchikan	65.47	39	P	P	08 11 09.6	-0.1
	baz=288						
T35M	Bob Quinn	65.67	37	P	P	08 11 10.5	-0.5
	baz=289						
U35K	Hyder	66.13	38	P	P	08 11 15.2	+1.3
	baz=289						
SPITS	Spitsbergen Ar	66.52	349	P	P	08 11 16.7	+0.7
	comp=Z,7.7nm,0.8s,baz=95,slow=8.8,SNR=10						
	comp=Z,7.7nm,0.8s						
WRGLY	Wrigley	66.72	29	P	P	08 11 17.9	+0.5
	baz=292						
TOAD	Toad River Com	67.53	34	P	P	08 11 24.0	+1.3
	baz=292						
KOTAN	Kotaneelee Air	67.61	32	P	P	08 11 23.1	0.0
	baz=292						
ARCES	ARCESS Array B	69.33	340	P	P	08 11 33.8	+0.5
	comp=Z,2.8nm,0.5s,baz=76,slow=9.2,SNR=39						
	comp=Z,2.8nm,0.5s						
RES	Resolute Bay	69.55	13	P	P	08 11 35.3	+0.7
RES				IAmb	IAmb	08 11 36.4	
	comp=Z,2.5nm,0.7s						
YKA	Yellowknife Ar	70.71	28	P	P	08 11 42.5	+0.8
	comp=Z,1.6nm,0.8s,baz=295,slow=6.2,SNR=23						
	comp=Z,1.6nm,0.8s						
YKAB2	New Yellowknif	70.74	28	P	P	08 11 42.6	+0.7
LLLB	Lillooet	72.71	41	P	P	08 11 55.0	+1.2
LLLB				IAmb	IAmb	08 11 58.3	
	comp=Z,4.2nm,1.1s						
FINES	FINESS Array B	73.53	332	P	P	08 11 58.0	-0.2
	comp=Z,3.0nm,0.4s,baz=67,slow=5.1,SNR=32						
	comp=Z,3.0nm,0.4s						
B08A	Colville Reser	75.24	42	P	P	08 12 09.3	+1.1
B08A				IAmb	IAmb	08 12 10.9	
	comp=Z,5.8nm,0.9s						
D08A	Wollman Farm,	76.12	43	P	P	08 12 15.0	+1.9
NEW	Newport	76.56	42	P	P	08 12 16.8	+1.2
NEW				IAmb	IAmb	08 12 18.1	
	comp=Z,5.4nm,0.8s						
E09A	Wood Farm, Sta	76.85	44	P	P	08 12 19.0	+1.8
E09A				IAmb	IAmb	08 12 19.7	
	comp=Z,4.2nm,0.7s						
AKASG	Malin Array Be	78.03	322	P	P	08 12 22.8	-0.7
	comp=Z,0.7nm,0.4s,baz=57,slow=5.1,SNR=2.7						
	comp=Z,0.7nm,0.4s						
BMO	Blue Mountains	78.21	45	P	P	08 12 26.1	+1.4
BMO				IAmb	IAmb	08 12 27.1	
	comp=Z,3.2nm,0.8s						
J08A	Circle Bar Ran	78.26	47	P	P	08 12 26.9	+1.9
PLID	Pearl Lake	78.88	44	P	P	08 12 29.7	+1.2
HFS	Hagfors	79.08	335	P	P	08 12 28.3	-0.6
	comp=Z,3.0nm,0.4s,baz=69,slow=7.9,SNR=35						
	comp=Z,3.0nm,0.4s						
NB2	NORSAR Subarra	79.31	337	P	P	08 12 30.0	-0.3
	comp=Z,1.1nm,0.5s,baz=44,slow=5.3						
NOA	NORSAR Array B	79.31	337	P	P	08 12 29.9	-0.3
	comp=Z,1.7nm,0.6s,baz=46,slow=5.2,SNR=6.4						
	comp=Z,1.7nm,0.6s						
MFID	Camas Ranch	79.87	45	P	P	08 12 35.1	+1.4
MFID				IAmb	IAmb	08 12 36.2	
	comp=Z,2.5nm,0.6s						
HRY	Holter Researc	80.42	41	P	P	08 12 38.0	+1.5
FFC	Flin Flon	80.55	31	P	P	08 12 37.8	+1.0
FFC				IAmb	IAmb	08 12 38.5	
	comp=Z,3.7nm,0.7s						
LRM	Limekiln Ridge	80.57	42	P	P	08 12 39.1	+1.6
HLID	Hailey	80.66	45	P	P	08 12 39.0	+1.1
NVAR	Mina Array Bea	80.92	51	P	P	08 12 41.1	+1.7
	comp=Z,1.0nm,0.5s,baz=295,slow=5.7,SNR=9.8						
	comp=Z,1.0nm,0.5s						
BOZ	Bozeman (W)	81.17	42	P	P	08 12 41.9	+1.4
BOZ				IAmb	IAmb	08 12 43.0	
	comp=Z,4.2nm,0.7s						
BRTR	Keskin Array B	81.40	311	P	P	08 12 41.9	+0.1
	comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=2.4						
	comp=Z,0.3nm,0.3s						
YHL	Hebgen Lake	81.86	42	P	P	08 12 45.9	+1.6
YHL				IAmb	IAmb	08 12 47.3	
	comp=Z,4.8nm,0.8s						
FXWY	Fox Creek	82.65	43	P	P	08 12 49.5	+1.3
HVU	Hansel Valley	82.65	46	P	P	08 12 49.7	+1.5
R11B	Troy Canyon, C	82.76	50	P	P	08 12 49.0	+0.2
	baz=303						
GSC	Goldstone, Bar	83.60	53	P	P	08 12 54.4	+1.4
GSC				IAmb	IAmb	08 12 55.5	
	comp=Z,5.7nm,0.8s						
PDAR	Pinedale Array	84.03	43	P	P	08 12 56.2	+1.1
	comp=Z,1.5nm,0.8s,baz=291,slow=1.3,SNR=15						
	comp=Z,1.5nm,0.8s						
KNB	Kanab	85.33	50	P	P	08 13 03.0	+1.4
KNB				IAmb	IAmb	08 13 36.9	
	comp=Z,6.4nm,1.5s						
ULM	Lac du Bonnet	86.33	32	P	P	08 13 06.8	+0.9
	comp=Z,0.9nm,0.5s,baz=280,slow=5.9,SNR=3.1						
	comp=Z,0.9nm,0.5s						
PV10	Paradox Valley	86.96	47	P	P	08 13 10.9	+1.4
N23A	Red Feather La	87.31	43	P	P	08 13 11.1	0.0
	baz=309						
S22A	4UR Ranch, Cre	88.73	46	P	P	08 13 17.3	-0.6
	baz=308						
Q24A	Divide	89.00	44	P	P	08 13 17.8	-1.3
	baz=309						
T25A	Trinidad	90.61	45	P	P	08 13 26.5	0.0
T25A				IAmb	IAmb	08 13 29.6	
	comp=Z,3.0nm,0.8s						
T25A	Trinidad	90.61	45	P	P	08 13 26.5	0.0
	baz=310						
ANMO	Albuquerque	90.70	48	P	P	08 13 26.5	-0.4
ANMO				IAmb	IAmb	08 13 29.8	
	comp=Z,2.1nm,0.8s						
121A	Cookes Peak, D	91.31	51	P	P	08 13 29.0	-0.8
	baz=308						
TXAR	Lajitas Array	96.07	51	P	P	08 13 52.7	+1.3
	comp=Z,0.4nm,0.6s,baz=304,slow=4.0,SNR=4.5						
	comp=Z,0.4nm,0.6s						
833A	Chaparral WMA,	99.56	49	P	Pdif	08 14 07.0	+0.1
	baz=312						
L61B	Northampton	101.97	23	P	Pdif	08 14 16.8	-0.6
	baz=333						
LPAZ	La Paz	151.83	66	PKPbc	PKiKP	08 20 18.9	+1.4
	comp=Z,1.3nm,0.5s,baz=6.1,slow=3.7,SNR=6.5						

NEIC ***18*** *08:07:43.5±1.2,4°.63N±0°.09×123°.4E±0°.1,h552km±9km, mb4.2/31, Error ellipse: s-maj=22.5km s-min=9.4km az=62.0*

IDC ***18*** *08:07:43.8±1.7,4°.69N×123°.47E,h565km±21km,mb3.3/13, mbtmp4.3/13, Error ellipse: s-maj=27.6km s-min=10.9km az=72.0*

ISC 18 08:07:42.7±0.5,4°.63N±0°.07×123°.4E±0°.1,h550km,n51, σ0983/54,mb4.0/30,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	4.36	217	P	P	08 09 07.1	-0.3
MYLDM	Lahad Datu	4.91	277	P	P	08 09 13.4	+1.6
LUWI	Luwuk	5.67	186	P	P	08 09 19.5	+1.1
KKM	Kota Kinabalu	7.29	281	P	P	08 09 33.5	0.0
TPUB	Ta-pu	18.75	352	P	P	08 11 28.3	+0.9
SSLB	Suanglung	19.19	353	P	P	08 11 32.7	+1.3
FITZ	Fitzroy Crossi	22.70	174	P	P	08 12 02.7	-0.3
WB0	Warramunga Arr	26.55	156	P	P	08 12 37.0	-0.2
WB0				IAmb	IAmb	08 12 37.6	
	comp=Z,4.8nm,0.5s						
WRA	Warramunga Arr	26.69	157	P	P	08 12 37.0	-1.4
WRA	Warramunga Arr	26.69	157	P	P	08 12 38.5	+0.1
	comp=Z,3.2nm,0.4s,baz=331,slow=10,SNR=42						
WRA				PcP	PcP	08 15 43.0	-0.8
	comp=Z,0.7nm,1.0s,baz=344,slow=2.6,SNR=1.7						
WRA				ScP	ScP	08 18 30.5	-1.6
	comp=Z,0.6nm,0.6s,baz=338,slow=3.2,SNR=6.3						
	comp=Z,3.2nm,0.4s						
WB2	Warramunga Arr	26.69	157	P	P	08 12 38.1	-0.3
WB2				IAmb	IAmb	08 12 39.2	
	comp=Z,5.7nm,0.6s						
COEN	Coen	26.95	134	P	P	08 12 40.1	-0.7
COEN				IAmb	IAmb	08 12 49.3	
	comp=Z,5.4nm,1.3s						
AS31	Alice Springs	29.94	160	P	P	08 13 06.9	+0.2
AS31				IAmb	IAmb	08 13 07.8	
	comp=Z,1.6nm,0.4s						
ASAR	Alice Springs	29.94	160	P	P	08 13 06.7	-0.1
ASAR	Alice Springs	29.94	160	P	P	08 13 07.5	+0.8
	comp=Z,3.0nm,0.3s,baz=339,slow=7.6,SNR=62						
ASAR				ScP	ScP	08 18 40.8	-1.6
	comp=Z,0.4nm,0.6s,baz=334,slow=3.7,SNR=5.8						
	comp=Z,3.0nm,0.3s						
JMN	Monobe	30.55	17	P	P	08 13 11.9	+0.1
JMN				IAmb	IAmb	08 13 20.4	
	comp=Z,17nm,1.3s						
MORW	Morawa	34.24	191	P	P	08 13 43.2	0.0
MJAR	Matsushiro Arr	34.55	21	P	P	08 13 44.7	-1.0
	comp=Z,2.5nm,0.6s,baz=191,slow=9.0,SNR=6.0						
	comp=Z,2.5nm,0.6s						
FORT	Forrest	35.49	173	P	P	08 13 54.2	+0.6
NWAO	Narrogin (SRO)	37.81	188	P	P	08 14 12.7	+0.2
NWAO				IAmb	IAmb	08 14 35.2	
	comp=Z,23nm,1.4s						
JTM	Tenmabayashi	39.34	21	P	P	08 14 25.1	+0.2
KLR	Kul'dur	45.00	8	P	P	08 15 08.9	-0.3
	comp=Z,1.0nm,0.4s,baz=193,slow=7.5,SNR=5.0						
	comp=Z,1.0nm,0.4s						
SONM	Songino Array	45.45	344	P	P	08 15 13.2	+0.4
SONM	Songino Array	45.45	344	P	P	08 15 12.8	-0.1
	comp=Z,1.8nm,0.7s,baz=161,slow=9.2,SNR=10						
	comp=Z,1.8nm,0.7s						
CAN	Canberra	46.46	151	P	P	08 15 21.6	+1.0
MK31	Makanchi Array	54.95	327	P	P	08 16 22.5	+0.4
MK31				IAmb	IAmb	08 16 22.9	
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	54.95	327	P	P	08 16 21.9	-0.2
MKAR	Makanchi Array	54.95	327	P	P	08 16 22.6	+0.5
	comp=Z,2.1nm,0.3s,baz=120,slow=7.8,SNR=72						
MKAR				PcP	PcP	08 17 14.1	-1.5
	comp=Z,0.5nm,0.6s,baz=104,slow=3.4,SNR=4.7						
	comp=Z,2.1nm,0.3s						
KDJ	Kajisay	55.48	319	P	P	08 16 26.8	+0.7
KDJ				IAmb	IAmb	08 16 55.4	
	comp=Z,8.4nm,1.2s						
PETK	Petropavlovsk-	55.91	24	P	P	08 16 29.5	+0.8
PETK	Petropavlovsk-	55.91	24	P	P	08 16 28.9	+0.2
	comp=Z,1.4nm,0.7s,baz=220,slow=3.8,SNR=6.9						
	comp=Z,1.4nm,0.7s						
ZALV	Zalesovo Beam	58.31	334	P	P	08 16 44.2	-0.8
	comp=Z,0.8nm,0.4s,baz=142,slow=7.4,SNR=3.8						
	comp=Z,0.8nm,0.4s						
KURBB	Kurchatov Arra	59.21	328	P	P	08 16 51.0	-0.1
	comp=Z,2.5nm,0.6s,baz=123,slow=6.4,SNR=25						
	comp=Z,2.5nm,0.6s						
KURK	Kurchatov	59.22	329	P	P	08 16 51.0	-0.2
KURK				IAmb	IAmb	08 16 51.7	
	comp=Z,8.2nm,0.5s						
BKZ	Black Stump Fm	65.49	137	P	P	08 17 32.7	+0.7
BKZ				IAmb	IAmb	08 18 15.3	
	comp=Z,12nm,1.2s						
NRIK	Noril'sk	68.79	347	P	P	08 17 51.2	-0.4
	comp=Z,3.1nm,0.6s,baz=117,slow=4.3,SNR=5.6						
	comp=Z,3.1nm,0.6s						
ABKAR	Akbulak array	69.36	321	P	P	08 17 55.1	-0.3
ABKAR	Akbulak array	69.36	321	P	P	08 17 54.9	-0.6
ABKAR				IAmb	IAmb	08 17 55.5	
	comp=Z,1.6nm,0.8s						
C16K	Lisburne Hills	78.83	21	P	P	08 18 49.4	+0.9
G16K	Koyuk River	79.27	24	P	P	08 18 51.8	+0.8
J16K	Anvik River	79.60	26	P	P	08 18 54.6	+1.8
J16K				IAmb	IAmb	08 18 57.2	
	comp=Z,11nm,1.4s						
L16K	Owhat River	79.84	28	P	P	08 18 55.0	+1.0
L16K				IAmb	IAmb	08 19 00.4	
	comp=Z,15nm,1.4s						
M16K	Timber Creek	79.98	29	P	P	08 18 55.6	+0.8
M16K				IAmb	IAmb	08 19 14.4	
	comp=Z,19nm,1.4s						
C18K	Utukok River	80.41	21	P	P	08 18 57.3	+0.3
C18K				IAmb	IAmb	08 19 17.8	
	comp=Z,4.3nm,1.4s						
L18K	Granite Mounta	81.22	28	P	P	08 19 01.9	+0.7
E19K	Redstone River	81.67	23	P	P	08 19 04.5	+1.1
E19K				IAmb	IAmb	08 19 05.9	
	comp=Z,4.0nm,0.9s						
H19K	Roundabout Mou	81.72

0.9nm,0.6s
ZALV Zalesovo Beam 58.91 332 P P 08 21 56.1 -0.7
1.0nm,0.3s,baz=134,slow=6.2,SNR=5.6
1.0nm,0.3s
KURBB Kurchatov Arra 60.18 327 P P 08 22 05.5 -0.2
1.8nm,0.6s,baz=125,slow=6.1,SNR=16
1.8nm,0.6s
BVAR Borovoye Array 65.77 326 P P 08 22 43.1 +0.2
1.5nm,0.5s,baz=123,slow=8.0,SNR=7.9
1.5nm,0.5s
ILAR Eielson Array 83.20 26 P P 08 24 24.2 +0.2
0.2nm,0.6s,baz=245,slow=5.0,SNR=7.6
0.2nm,0.6s
ARCES ARCESS Array B 88.64 340 P P 08 24 50.5 -0.4
1.8nm,0.7s,baz=85,slow=4.8,SNR=5.7
1.8nm,0.7s

---

*IDC **18** 08:39:06.7±2.4, 30°.35S×177°.65W, h0km, mb3.6/3, mbtmp3.6/3, MS3.2/1, Error ellipse: s-maj=52.8km s-min=24.1km az=105.0*

ISC 18 08:39:09.9±2.0, 30°.44S±0°.09×177°.6W±0°.3, h33km, n8, σ1§86/8, mb3.5/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**345**	Pn	**Pn**	**08 39 29.2**	**-1.6**
	53nm,0.3s,baz=109,slow=18,SNR=1.3						
RAO				Sn	**Sb**	**08 39 47.5**	**-0.5**
	353nm,0.3s,baz=130,slow=20,SNR=6.4						
URZ	**Urewera**	**8.96**	**208**	Pn	**Pn**	**08 41 14.6**	**-2.5**
	0.2nm,0.3s,baz=334,slow=5.0,SNR=1.4						
URZ				Sn	Sn	08 42 44.6	-12
	0.2nm,0.3s,baz=268,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**34.85**	**257**	P	**P**	**08 46 00.3**	**+2.2**
	2.0nm,0.7s,baz=113,slow=7.7,SNR=3.6						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**43.50**	**267**	P	**P**	**08 47 10.7**	**+0.3**
	0.1nm,0.4s,baz=101,slow=7.0,SNR=4.6						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**08 47 18.8**	**+0.4**
	0.5nm,0.6s,baz=110,slow=8.0,SNR=13						
	0.5nm,0.6s						
GUMO	**Guam**	**56.78**	**315**	LR	LR	09 12 42.4	
	comp=Z,21nm,18.0s,baz=60,slow=36						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	**PKPdf**	**08 58 45.0**	**+1.5**
	0.8nm,0.4s,baz=65,slow=4.7,SNR=6.5						
AKASG	**Malin Array Be**	**151.57**	**323**	PKPbc	**PKPbc**	**08 59 01.4**	**+1.1**
	0.6nm,0.6s,baz=58,slow=1.3,SNR=2.4						

---

*IDC **18** 08:40:25.1±1.0, 24°.20N×125°.15E, h0km, mb3.6/8, mbtmp3.6/9, ML2.8/1, MS3.0/4, Error ellipse: s-maj=31.0km s-min=20.9km az=68.0*
*JMA **18** 08:40:30.7±0.2, 24°.N±2°.×125°.2E±0°.8, h46km±4km, MV3.5/11, NEAR MIYAKOJIMA ISLAND*

ISC 18 08:40:30.2±1.5, 24°.29N±0°.07×125°.20E±0°.05, h31km±10km, n23, σ0§82/27, mb3.6/8, MS3.2/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.47**	**15**	P	**Pn**	**08 40 40.6**	**-0.1**
JMJ2				*e*S	**Sn**	**08 40 48.2**	**+0.3**
JOGS	**Gusukube**	**0.51**	**22**	*i* P	**Pn**	**08 40 41.3**	**0.0**
JOGS				S	**Sn**	**08 40 49.6**	**+0.6**
JIRB	**Irabujima**	**0.54**	**358**	*i* P	**Pb**	**08 40 41.4**	**+0.1**
JIRB				S	**Sb**	**08 40 49.3**	**+0.4**
JTJ	**Tarama**	**0.57**	**308**	*i* P	**Pn**	**08 40 42.1**	**-0.1**
JTJ				S	**Sn**	**08 40 50.7**	**+0.2**
JIKM	**Ikemajima**	**0.64**	**4**	P	**Pn**	**08 40 43.1**	**0.0**
JIKM				*e*S	**Sb**	**08 40 51.3**	**-0.3**
JISG	**Ishigakijimahi**	**0.86**	**291**	P	**Pb**	**08 40 46.1**	**-0.5**
JISG				*e*S	**Sn**	**08 40 58.2**	**+0.6**
JIJ	**Ishigaki jima**	**0.96**	**275**	*i* P	**Pn**	**08 40 48.3**	**+0.7**
JKRS	**Kuro-shima**	**1.08**	**268**	P	**Pb**	**08 40 50.8**	**+0.4**
JKRS				*e*S	**Sn**	**08 41 04.8**	**+1.7**
HATJ	**Hateruma jima**	**1.29**	**260**	P	**Pn**	**08 40 52.8**	**+0.8**
IRIF	**Iriomote-Funau**	**1.34**	**272**	*e*P	**Pb**	**08 40 53.8**	**-0.9**
JOW	**Kunigami**	**3.76**	**47**	Pn	**Pn**	**08 41 26.8**	**+0.7**
	1.5nm,0.3s,baz=284,slow=19,SNR=1.7						
JOW				Sn	**Sn**	**08 42 11.2**	**+1.8**
	1.0nm,0.3s,baz=102,slow=20,SNR=1.0						
	10nm,0.5s						
MJAR	**Matsushiro Arr**	**16.57**	**39**	LR	LR	08 49 43.7	
	comp=Z,22nm,20.4s,baz=10.0,slow=34						
CMAR	**Chiang Mai Arr**	**25.10**	**262**	LR	LR	08 56 05.7	
	comp=Z,21nm,18.3s,baz=340,slow=38						
BRDH	**Bariadhala**	**30.77**	**274**	LR	LR	09 00 18.7	
	comp=Z,46nm,18.5s,baz=11,slow=39						
MKAR	**Makanchi Array**	**40.85**	**314**	P	**P**	**08 48 09.3**	**+0.2**
	0.9nm,0.4s,baz=102,slow=10,SNR=24						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**42.20**	**325**	P	**P**	**08 48 18.7**	**-1.3**
	0.6nm,0.5s,baz=112,slow=10,SNR=2.5						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**44.42**	**319**	P	**P**	**08 48 37.4**	**-0.6**
	0.5nm,0.5s,baz=110,slow=8.6,SNR=5.2						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.86**	**168**	P	**P**	**08 48 40.4**	**-1.3**
	0.4nm,0.6s,baz=348,slow=8.0,SNR=2.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**48.41**	**169**	P	**P**	**08 49 08.6**	**-1.0**
	0.3nm,0.7s,baz=350,slow=8.5,SNR=4.5						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**49.94**	**320**	P	**P**	**08 49 21.3**	**+0.4**
	0.4nm,0.3s,baz=112,slow=7.7,SNR=1.5						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**73.19**	**330**	P	**P**	**08 51 58.1**	**+0.4**
	1.1nm,0.5s,baz=62,slow=5.5,SNR=5.1						
	1.1nm,0.5s						
NOA	**NORSAR Array B**	**79.82**	**333**	LR	LR	09 30 19.1	
	comp=Z,16nm,21.3s,baz=250,slow=38						
YKA	**Yellowknife Ar**	**81.42**	**24**	P	**P**	**08 52 44.2**	**+0.4**
	0.2nm,0.8s,baz=295,slow=5.3,SNR=2.4						
	0.2nm,0.8s						

IDC 18 09:11:01.0±9.9, 55°.87S×146°.08W, h0km, mb3.4/2, mbtmp3.4/2, MS3.7/2, Error ellipse: s-maj=782.6km s-min=61.8km az=159.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.16**	**201**	LR	LR	09 24 42.5	
	comp=Z,160nm,18.2s,baz=232,slow=29						
TBI	**Tubuai**	**32.58**	**354**	*e*LR	LR	09 26 07.5	
	452nm,26.8s						
QSPA	**South Pole Qui**	**34.28**	**180**	LR	LR	09 29 53.6	
	comp=Z,98nm,18.7s,baz=84,slow=33						
PPT2	**Papeete2**	**38.30**	**355**	*e*LR	LR	09 28 46.9	
	87nm,23.2s						
H03S2	**Juan Fernandez**	**50.21**	**93**	T	T	10 12 21.9	
	baz=221,slow=74						
H03S1	**Juan Fernandez**	**50.22**	**93**	T	T	10 12 23.5	
	baz=221,slow=74						
H03S3	**Juan Fernandez**	**50.23**	**93**	T	T	10 12 22.3	
	baz=221,slow=74						
H03N3	**Juan Fernandez**	**50.49**	**93**	T	T	10 12 37.6	
	baz=224,slow=72,SNR=231						
H03N2	**Juan Fernandez**	**50.50**	**93**	T	T	10 12 36.4	
	baz=224,slow=72,SNR=225						
H03N1	**Juan Fernandez**	**50.51**	**93**	T	T	10 12 34.1	
	baz=224,slow=72,SNR=252						
ASAR	**Alice Springs**	**65.21**	**264**	P	P	09 21 44.2	+0.1
	0.4nm,0.7s,baz=139,slow=6.6,SNR=6.1						
	0.4nm,0.7s						
H01W1	**Cape Leeuwin H**	**66.93**	**242**	T	T	10 36 39.8	
	baz=143,slow=76,SNR=76						
H01W2	**Cape Leeuwin H**	**66.94**	**242**	T	T	10 36 40.2	
	baz=143,slow=76,SNR=79						
H01W3	**Cape Leeuwin H**	**66.95**	**242**	T	T	10 36 41.0	
	baz=143,slow=76,SNR=80						
WRA	**Warramunga Arr**	**67.92**	**267**	P	P	09 22 01.4	-0.1
	0.3nm,0.6s,baz=145,slow=5.9,SNR=1.8						
	0.3nm,0.6s						
H10N3	**ASCENSION HYDR**	**104.99**	**130**	T	T	11 21 53.0	
	baz=206,slow=75						
H10N1	**ASCENSION HYDR**	**105.00**	**130**	T	T	11 21 51.6	
	baz=206,slow=75						
H10N2	**ASCENSION HYDR**	**105.01**	**130**	T	T	11 21 52.6	
	baz=206,slow=75						
ILAR	**Eielson Array**	**120.32**	**360**	PKP	PKPdf	09 29 52.2	-0.2
	0.5nm,0.7s,baz=192,slow=0.7,SNR=7.0						

---

*VKMS **18** 09:17:12.0, 51°.27N×37°.61E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDG **18** 09:17:14.0, 51°.24N×37°.64E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 18 09:17:18.3±5.4, 51°.31N×37°.41E, h0km, mbtmp3.4/2, ML2.8/2, Error ellipse: s-maj=62.5km s-min=28.1km az=134.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**5.20**	**266**	Pn	Pn	09 18 36.0	-1.3
	0.4nm,0.3s,baz=78,slow=14,SNR=1.7						
AKASG				Lg	Lg	09 20 02.1	
	1.8nm,0.3s,baz=78,slow=29,SNR=4.6						
	0.4nm,0.5s						
I43RU	**DUBNA INFRASON**	**5.43**	**359**	I	I	09 54 30.0	
	0.1nm,0.9s,baz=173,slow=336,SNR=2.0						
FINES	**FINESS Array B**	**11.92**	**333**	Pn	Pn	09 20 04.0	-5.4
	0.2nm,0.3s,baz=151,slow=13,SNR=2.1						
	3.4nm,1.0s						

---

*SJA **18** 09:24:24.0, 30°.75S×71°.59W, h10km, ML2.6*

ISC 18 09:24:27.3±1.4, 30°.74S±0°.04×71°.48W±0°.05, h35km, n24, σ1§48/27, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.15**	**294**	*i*P	**Pn**	**09 24 33.5**	**-0.2**
CO06				*e*S	**Sn**	**09 24 38.6**	**+0.5**
CO06				IAML		09 24 40.3	
	comp=E,692nm,0.2s						
CO03	**El Pedregal**	**0.68**	**99**	*i* P	**Pn**	**09 24 37.9**	**-2.7**
CO03	**El Pedregal**	**0.68**	**99**	*i* P	**Pn**	**09 24 38.6**	**-1.9**
CO03				IAML		09 24 48.1	
	comp=E,145nm,0.3s						
CO03				*e*S	**Sn**	**09 24 48.3**	**-1.8**
GO04	**Tololo Observa**	**0.81**	**46**	*i* P	**Pn**	**09 24 40.6**	**-1.8**
GO04	**Tololo Observa**	**0.81**	**46**	*e*P	**Pn**	**09 24 41.3**	**-1.1**
GO04				*e*S	**Sn**	**09 24 52.9**	**-0.5**
GO04				IAML		09 24 54.0	
	comp=N,638nm,0.1s						
CO05	**La Serena**	**0.84**	**14**	*e*P	**Pn**	**09 24 42.1**	**-0.5**
CO05				*e*S	**Sn**	**09 24 53.2**	**-0.5**
CO05				IAML		09 25 01.0	
	comp=N,106nm,0.4s						
CO01	**Juntas del Tor**	**1.41**	**58**	*i* P	**Pn**	**09 24 50.0**	**-0.8**
CO01	**Juntas del Tor**	**1.41**	**58**	*e*P	**Pn**	**09 24 50.4**	**-0.3**
CO01				IAML		09 25 09.6	
	comp=N,56nm,0.2s						
AROD	**Rodeo**	**1.82**	**72**	*i* P	**Pn**	**09 24 57.9**	**+1.5**
LCO	**Las Campanas**	**1.85**	**22**	*i* P	**Pn**	**09 24 56.0**	**-0.7**
LCO	**Las Campanas**	**1.85**	**22**	*e*P	**Pn**	**09 24 56.4**	**-0.3**
DOCA	**Reserva Natura**	**2.07**	**96**	*i* P	**Pn**	**09 25 00.3**	**+0.4**
ACCO	**Cerro Coronel**	**2.08**	**87**	*i* P	**Pn**	**09 25 01.9**	**+1.9**
ACDV	**Cuesta del Vie**	**2.11**	**75**	*i* P	**Pn**	**09 25 02.5**	**+2.2**
VA03	**San Esteban**	**2.17**	**159**	*i* P	**Pn**	**09 24 59.5**	**-1.5**
MT02	**Curacav**	**2.53**	**174**	*i* P	**Pn**	**09 25 05.2**	**-0.8**
AC04	**Llanos de Chal**	**2.55**	**8**	*i* P	**Pn**	**09 25 06.0**	**-0.1**
AGUA	**GUANDACOL**	**2.87**	**65**	*i* P	Pn	09 25 14.1	+3.4
ASAL	**Salagasta**	**2.91**	**130**	*i* P	**Pn**	**09 25 13.2**	**+1.9**
AVFE	**Valle Fertil**	**3.46**	**90**	*i* P	**Pn**	**09 25 19.9**	**+1.1**
VCA	**Vinchina**	**3.47**	**56**	*i* P	**Pn**	**09 25 22.0**	**+3.0**
BO02	**Sierra Bellavi**	**4.09**	**172**	*i* P	**Pn**	**09 25 28.7**	**+1.3**
ACLC	**CERRO LA CRUZ**	**4.13**	**73**	*i* P	**Pn**	**09 25 29.2**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.28**	**87**	*i* P	**Pn**	**09 25 30.8**	**+0.7**

---

*THE **18** 09:25:12.5, 37°.58N×20°.84E, h7km±1km, ML3.3/12, Error ellipse: s-maj=1.3km s-min=0.6km az=218.0*
*ATH **18** 09:25:12.1, 37°.63N×20°.85E, h16km±1km, ML3.4/25, Manual Solution by M.Kolligri First location: 2019/02/18 09:26:04, This location: 2020/07/02 10:12:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*NAO **18** 09:25:17.7, 38°.49N×24°.40E, h33km, mb3.3*
*IDC **18** 09:25:18.6±3.6, 37°.56N×20°.78E, h78km±34km, mb3.5/8, mbtmp3.7/11, MS3.6/4, Error ellipse: s-maj=55.9km s-min=23.7km az=30.0*

ISC 18 09:25:11.3±1.1, 37°.57N±0°.03×20°.87E±0°.03, h13km±7km, n72, σ1§00/99, mb3.8/8, MS3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.14**	**350**	P	**Pb**	**09 25 15.3**	**-0.4**
LTHK				S	**Sb**	**09 25 17.6**	**-1.1**
	31μm,0.2s						
LTHK	**Lithakia**	**0.14**	**350**	P	**Pb**	**09 25 15.4**	**-0.3**
LTHK				S	**Sg**	**09 25 17.3**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.25**	**352**	P	**Pb**	**09 25 17.5**	**-0.1**
KYPS				S	**Sb**	**09 25 20.5**	**-1.4**
ORTH	**Orthonies,Zaky**	**0.31**	**334**	P	**Pb**	**09 25 18.5**	**-0.2**
ORTH				S	**Sb**	**09 25 22.4**	**-1.2**
CLEM	**Kyllini,Ilia,G**	**0.38**	**34**	P	**Pb**	**09 25 19.3**	**-0.6**
CLEM				S	**Sg**	**09 25 24.0**	**0.0**
LCHA	**Lechaina**	**0.48**	**41**	P	**Pb**	**09 25 21.6**	**0.0**
LCHA				S	**Sb**	**09 25 28.1**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.51**	**351**	P	**Pb**	**09 25 21.6**	**-0.5**
RTZL				S	**Sb**	**09 25 29.7**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.58**	**338**	P	**Pb**	**09 25 23.2**	**-0.2**
PSDA				S	**Sb**	**09 25 31.8**	**+0.2**
	5μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.58**	**338**	P	**Pb**	**09 25 22.9**	**-0.4**
PSDA				S	**Sg**	**09 25 30.0**	**-0.4**
ZARO	**Zacharo**	**0.63**	**98**	P	**Pn**	**09 25 26.0**	**+0.1**
ZARO				S	**Sn**	**09 25 34.2**	**-1.6**
VLS	**Valsamata**	**0.64**	**340**	P	**Pb**	**09 25 23.9**	**-0.5**
VLS				S	**Sb**	**09 25 33.4**	**+0.2**
	2μm,0.5s						
VLS	**Valsamata**	**0.64**	**340**	P	**Pb**	**09 25 23.7**	**-0.7**
VLS				S	**Sb**	**09 25 32.3**	**-0.9**
AMT	**Artemida-Makis**	**0.67**	**93**	P	**Pn**	**09 25 25.5**	**-1.0**
AMT				S	**Sn**	**09 25 36.4**	**-0.5**
RLS	**Riolos of Patr**	**0.68**	**44**	P	**Pb**	**09 25 24.8**	**-0.2**
RLS				S	**Sn**	**09 25 34.9**	**-2.1**
	4μm,0.5s						
RLS	**Riolos of Patr**	**0.68**	**44**	P	**Pb**	**09 25 24.7**	**-0.3**
RLS				S	**Sb**	**09 25 34.2**	**-0.1**
AXS	**Araxos**	**0.74**	**33**	P	**Pb**	**09 25 25.5**	**-0.5**
AXS				S	**Sb**	**09 25 35.3**	**-0.8**
DRO	**Drossia**	**0.77**	**60**	P	**Pn**	**09 25 26.9**	**-1.0**
DRO				S	**Sn**	**09 25 38.7**	**-0.6**
	6μm,0.5s						
DRO	**Drossia**	**0.77**	**60**	P	**Pn**	**09 25 26.8**	**-1.1**
DRO				S	**Sb**	**09 25 37.2**	**+0.3**
DMLN	**Damoulianata-K**	**0.77**	**330**	P	**Pb**	**09 25 26.7**	**+0.1**
DMLN				S	**Sn**	**09 25 38.2**	**-1.2**
	5μm,0.6s						
DMLN	**Damoulianata-K**	**0.77**	**330**	P	**Pb**	**09 25 26.5**	**-0.1**
DMLN				S	**Sb**	**09 25 36.6**	**-0.4**
FSK	**Fiskardo**	**0.92**	**345**	P	**Pg**	**09 25 28.9**	**-0.1**
FSK				S	**Sn**	**09 25 42.4**	**-0.5**
	2μm,0.7s						
FSK	**Fiskardo**	**0.92**	**345**	P	**Pb**	**09 25 28.5**	**-0.5**
FSK				S	**Sg**	**09 25 41.0**	**0.0**
ITM	**Ithomi**	**0.93**	**115**	P	**Pn**	**09 25 31.3**	**+1.2**
ITM				S	**Sn**	**09 25 44.7**	**+1.3**
	2μm,0.4s						
ITM	**Ithomi**	**0.93**	**115**	P	**Pn**	**09 25 30.6**	**+0.4**
ITM				S	**Sn**	**09 25 44.1**	**+0.8**
MTHA	**Methoni**	**1.01**	**138**	P	**Pn**	**09 25 32.2**	**+1.1**
EVGI	**Lefkada island**	**1.06**	**351**	P	**Pn**	**09 25 32.3**	**+0.5**
EVGI				S	**Sn**	**09 25 47.6**	**+1.1**
	1μm,0.5s						
EVGI	**Lefkada island**	**1.06**	**351**	P	**Pb**	**09 25 30.9**	**-0.5**
KLV	**Kalavryta, Ach**	**1.12**	**65**	P	**Pg**	**09 25 33.4**	**+0.6**
KLV				S	**Sn**	**09 25 50.7**	**+2.6**
KLV	**Kalavryta, Ach**	**1.12**	**65**	P	**Pg**	**09 25 33.2**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.13**	**348**	P	**Pg**	**09 25 33.1**	**0.0**
DRAG	**Dragano-Lefkad**	**1.13**	**348**	P	**Pn**	**09 25 32.4**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.15**	**353**	P	**Pg**	**09 25 34.1**	**+0.8**
NYDR				S	**Sn**	**09 25 51.2**	**+2.6**
	915nm,0.6s						
PVO	**Paravola**	**1.16**	**26**	P	**Pg**	**09 25 33.7**	**0.0**
EFP	**Efpalio**	**1.18**	**44**	P	**Pg**	**09 25 33.7**	**-0.3**
EFP				S	**Sg**	**09 25 51.6**	**+2.2**
EFP	**Efpalio**	**1.18**	**44**	P	**Pn**	**09 25 33.0**	**-0.6**
GUR	**Goura**	**1.22**	**72**	P	**Pg**	**09 25 34.4**	**-0.4**
LKD2	**Lefkada island**	**1.22**	**352**	P	**Pg**	**09 25 35.1**	**+0.3**
LKD2				S	**Sg**	**09 25 53.1**	**+2.3**
	2μm,0.5s						
LKD2	**Lefkada island**	**1.22**	**352**	P	**Pb**	**09 25 33.9**	**-0.4**
TSLK	**Tsoukalades, L**	**1.26**	**352**	P	**Pg**	**09 25 35.6**	**+0.1**
TSLK				S	**Sg**	**09 25 53.5**	**+1.6**
	1μm,0.7s						
TSLK	**Tsoukalades, L**	**1.26**	**352**	P	**Pb**	**09 25 34.4**	**-0.5**
KALE	**Kalithea**	**1.29**	**51**	P	**Pg**	**09 25 35.7**	**-0.5**
ANX	**Ano Chora**	**1.31**	**39**	P	**Pg**	**09 25 36.3**	**-0.2**
ANX				S	**Sg**	**09 25 55.8**	**+2.2**
ANX	**Ano Chora**	**1.31**	**39**	P	**Pg**	**09 25 35.9**	**-0.6**
LTK	**Loutraki**	**1.72**	**74**	P	**Pb**	**09 25 42.6**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.75**	**34**	P	**Pb**	**09 25 42.9**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.80**	**10**	P	**Pb**	**09 25 43.6**	**-0.5**
KRND	**KRANIDI**	**1.83**	**95**	P	**Pg**	**09 25 46.0**	**-0.3**
VLI	**Veliai**	**1.86**	**117**	P	**Pg**	**09 25 47.0**	**0.0**
MET6	**Megalochori,Me**	**1.98**	**89**	P	**Pb**	**09 25 47.1**	**0.0**
MET5	**Makryloggos,Me**	**1.98**	**88**	P	**Pb**	**09 25 47.6**	**+0.4**
LKR	**Lokris**	**2.00**	**57**	P	**Pb**	**09 25 47.0**	**-0.5**
IGT	**Igoumenitsa**	**2.00**	**348**	P	**Pb**	**09 25 46.3**	**-1.2**
MET4	**Agioi Theodoro**	**2.01**	**88**	P	**Pb**	**09 25 47.2**	**-0.5**
THL	**Klokotos Trika**	**2.18**	**24**	P	**Pb**	**09 25 49.7**	**-0.9**
KPRO	**Kipourio**	**2.41**	**9**	P	**Pn**	**09 25 50.2**	**-0.3**
OHR	**Ohrid**	**3.53**	**359**	*i* Pn	**Pb**	**09 26 11.5**	**-2.2**
IDI	**Anoyia**	**3.97**	**124**	P	**Pb**	**09 26 17.3**	**-3.8**
	7.2nm,0.8s,baz=358,slow=14,SNR=5.5						
IDI				S	**Sn**	**09 26 60.0**	**+1.7**
	11nm,0.4s,baz=74,slow=21,SNR=7.9						
BRTR	**Keskin Array B**	**10.22**	**74**	P	Pn	09 27 43.9	+6.1
	0.2nm,0.5s,baz=249,slow=13,SNR=1.6						
AKASG	**Malin Array Be**	**14.42**	**22**	P	**P**	**09 28 40.5**	**-1.3**
	0.5nm,0.5s,baz=212,slow=12,SNR=4.3						
HFS	**Hagfors**	**23.04**	**351**	P	**P**	**09 30 15.9**	**-0.1**
	2.3nm,0.6s,baz=170,slow=12,SNR=8.0						
	2.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.08**	**325**	P	**P**	**09 30 27.5**	**+1.3**
	1.6nm,0.7s,baz=154,slow=8.9,SNR=2.7						
	1.6nm,0.7s						
FINES	**FINESS Array B**	**24.11**	**6**	P	**P**	**09 30 26.4**	**-0.1**
	3.7nm,1.0s,baz=181,slow=9.4,SNR=3.4						
	3.7nm,1.0s						
NB2	**NORSAR Subarra**	**24.26**	**349**	P	**P**	**09 30 28.7**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=154,slow=10						
NOA	**NORSAR Array B**	**24.26**	**349**	P	**P**	**09 30 28.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=164,slow=8.7,SNR=3.6						
	comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**32.12**	**3**	LR	LR	09 46 03.6	
	comp=Z,94nm,19.0s,baz=242,slow=39						
BVAR	**Borovoye Array**	**37.30**	**49**	P	**P**	**09 32 23.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=266,slow=3.8,SNR=5.7						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**42.37**	**53**	P	**P**	**09 33 04.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=280,slow=9.0,SNR=5.2						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**45.39**	**58**	P	**P**	**09 33 29.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=272,slow=7.9,SNR=9.4						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.89**	**48**	P	**P**	**09 33 33.6**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=286,slow=8.9,SNR=4.7						
	comp=Z,1.2nm,0.4s						
BRDH	**Bariadhala**	**61.68**	**82**	LR	LR	10 07 06.5	
	comp=Z,70nm,18.6s,baz=18,slow=41						
LBTB	**Lobatse**	**62.41**	**175**	LR	LR	10 03 31.8	
	comp=Z,40nm,20.1s,baz=176,slow=37						
PSI	**Prapat**	**78.83**	**95**	LR	LR	10 18 12.7	
	comp=Z,36nm,18.3s,baz=136,slow=40						

---

*IDC **18** 09:48:44.0±0.8, 28°.57N×66°.71E, h0km, mb3.9/22, mbtmp3.9/23, ML4.5/1, MS3.6/23, Error ellipse: s-maj=20.7km s-min=14.7km az=29.0*
*MOS **18** 09:48:45.2±1.3, 28°.72N×66°.73E, h14km, mb4.4/10, Error ellipse: s-maj=10.7km s-min=4.8km az=74.4*
*NEIC **18** 09:48:46.6±1.9, 28°.67N±0°.08×66°.72E±0°.04, h10km±2km, mb4.1/15, Error ellipse: s-maj=13.8km s-min=3.2km az=199.0*

ISC 18 09:48:47.7±0.6, 28°.66N±0°.09×66°.72E±0°.06, h20km, n103, σ1§33/88, mb4.1/36, MS3.7/23, 4C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**6.19**	**18**	Pn	**Pn**	**09 50 19.2**	**+1.0**
KBL	**Kabul**	**6.19**	**18**	P	**Pn**	**09 50 19.2**	**+1.0**
HRA	**Herat**	**6.87**	**327**	Pn	**Pn**	**09 50 27.1**	**-0.4**
NIL	**Nilore**	**7.49**	**47**	Pn	**Pn**	**09 50 35.4**	**-0.5**
NIL	**Nilore**	**7.49**	**47**	P	**Pn**	**09 50 35.4**	**-0.5**
WSAR	**Wadi Sarin**	**9.06**	**235**	Pn	**Pn**	**09 50 56.4**	**-1.1**
	4.5nm,0.3s,baz=99,slow=7.3,SNR=57						
WSAR				Sn	Sn	09 52 21.0	-18
	baz=123,slow=18						
WSAR				LR	LR	09 55 44.2	
	comp=Z,299nm,18.4s,baz=90,slow=47						
	12nm,0.4s						
UOSS	**Minazif**	**10.09**	**251**	Pn	**Pn**	**09 51 11.3**	**-0.3**
SIMJ	**Simiganj**	**10.16**	**10**	Pn	**Pn**	**09 51 11.9**	**-0.7**
**CH

MAKZ	**Makanchi**	**21.70**	**29**	P	**P**	**09 53 36.7**	**-0.7**
MAKZ				IAmb	IAmb	09 54 03.0	
comp=Z,6.2nm,0.8s							
MAKZ	**Makanchi**	**21.70**	**29**	P	**P**	**09 53 36.7**	**-0.7**
MAKZ				pmax	pmax		
comp=Z,6.0nm,0.8s							
MK31	**Makanchi Array**	**21.83**	**30**	*ce*P	**P**	**09 53 38.1**	**-0.6**
MKAR	**Makanchi Array**	**21.83**	**30**	P	**P**	**09 53 39.0**	**+0.2**
MKAR	**Makanchi Array**	**21.83**	**30**	P	**P**	**09 53 38.4**	**-0.4**
comp=Z,2.4nm,0.8s,baz=213,slow=10,SNR=18							
MKAR				LR	LR	10 03 46.1	
comp=Z,245nm,18.5s,baz=219,slow=41							
comp=Z,2.4nm,0.8s							
MKAR	**Makanchi Array**	**21.83**	**30**	P	**P**	**09 53 39.0**	**+0.2**
WMQ	**Urumqi**	**22.61**	**42**	*e*P	**P**	**09 53 50.6**	**+3.4**
WMQ				pP	pP	09 53 54.9	+1.4
WMQ				pmax	pmax		
comp=Z,17nm,1.3s							
WMQ				LR	LR		
comp=Z,490nm,22.5s							
WMQ				LR	LR		
comp=Z,97nm,17.7s							
AKTO	**Aktyubinsk**	**22.73**	**345**	P	**P**	**09 53 49.8**	**+1.4**
comp=Z,4.5nm,0.7s,baz=170,slow=8.7,SNR=15							
AKTO				LR	LR	10 04 06.0	
comp=Z,133nm,20.6s,baz=264,slow=40							
comp=Z,4.5nm,0.7s							
GURO	**Guroymak-BITLI**	**22.75**	**302**	P	**P**	**09 53 49.0**	**+0.2**
KURBB	**Kurchatov Arra**	**23.69**	**19**	P	**P**	**09 53 57.2**	**-0.8**
comp=Z,3.1nm,0.9s,baz=209,slow=9.4,SNR=9.1							
comp=Z,3.1nm,0.9s							
KURK	**Kurchatov**	**23.80**	**19**	P	**P**	**09 53 59.4**	**+0.4**
KURK				IAmb	IAmb	09 54 22.6	
comp=Z,5.0nm,0.9s							
KURK	**Kurchatov**	**23.80**	**19**	*ce*P	**P**	**09 53 56.4**	**-2.6**
KURK				pmax	pmax		
comp=Z,7.0nm,1.3s							
KBZ	**Khabaz**	**24.29**	**315**	P	**P**	**09 54 03.2**	**-0.5**
comp=Z,2.2nm,0.8s,baz=180,slow=4.0,SNR=2.4							
comp=Z,2.2nm,0.8s							
KBZ	**Khabaz**	**24.29**	**315**	*i* P	**P**	**09 54 01.4**	**-2.3**
KBZ				pmax	pmax		
comp=Z,15nm,2.3s							
BVAR	**Borovoye Array**	**24.50**	**5**	P	**P**	**09 54 06.1**	**+0.6**
comp=Z,3.6nm,0.7s,baz=174,slow=9.1,SNR=11							
BVAR				LR	LR	10 04 13.0	
comp=Z,119nm,18.9s,baz=193,slow=38							
comp=Z,3.6nm,0.7s							
BRVK	**Borovoye**	**24.52**	**5**	P	**P**	**09 54 05.9**	**+0.2**
BRVK				IAmb	IAmb	09 54 17.5	
comp=Z,4.2nm,0.8s							
BRVK	**Borovoye**	**24.52**	**5**	*i* P	**P**	**09 54 04.9**	**-0.8**
BRVK				pmax	pmax		
comp=Z,28nm,4.0s							
GOMU	**GeErMu**	**24.82**	**65**	P	**P**	**09 54 10.8**	**+1.8**
GOMU				pP	pP	09 54 14.3	-1.4
GOMU				sP	sP	09 54 18.4	-0.1
GOMU				pmax	pmax		
comp=Z,3.0nm,0.4s							
GOMU				LR	LR		
comp=Z,410nm,17.7s							
GOMU				LR	LR		
comp=Z,250nm,17.6s							
GOMU				LR	LR		
comp=Z,250nm,17.0s							
PALK	**Pallekele**	**25.03**	**145**	LR	LR	10 04 48.3	
comp=Z,28nm,20.1s,baz=324,slow=39							
BELG	**Belogornoye**	**27.63**	**334**	LR	LR	10 08 39.6	
comp=Z,118nm,19.5s,baz=212,slow=43							
EIL	**Elat**	**27.72**	**280**	LR	LR	10 08 21.0	
comp=Z,69nm,18.6s,baz=74,slow=42							
ZALV	**Zalesovo Beam**	**28.53**	**23**	P	**P**	**09 54 42.9**	**+1.1**
comp=Z,0.6nm,0.4s,baz=234,slow=11,SNR=3.9							
comp=Z,0.6nm,0.4s							
GTA	**Gaotai**	**29.30**	**60**	*e*P	**P**	**09 54 50.3**	**+1.3**
GTA				pmax	pmax		
comp=Z,2.0nm,0.9s							
CHTO	**Chiang Mai**	**31.00**	**101**	P	**P**	**09 55 05.5**	**+1.4**
CHTO	**Chiang Mai**	**31.00**	**101**	P	**P**	**09 55 05.5**	**+1.4**
CHTO				pmax	pmax		
comp=Z,5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**31.14**	**102**	P	**P**	**09 55 07.5**	**+2.2**
CMAR	**Chiang Mai Arr**	**31.14**	**102**	P	**P**	**09 55 06.2**	**+0.8**
comp=Z,1.0nm,0.3s,baz=297,slow=8.2,SNR=10							
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.14**	**102**	*e*P	**P**	**09 55 08.1**	**+2.7**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
KIRV	**Kirov**	**32.23**	**343**	LR	LR	10 09 59.6	
comp=Z,93nm,18.6s,baz=162,slow=40							
AKASG	**Malin Array Be**	**35.75**	**319**	P	**P**	**09 55 43.8**	**-1.3**
comp=Z,0.2nm,0.4s,baz=110,slow=7.8,SNR=4.6							
comp=Z,0.2nm,0.4s							
SONM	**Songino Array**	**36.07**	**47**	P	**P**	**09 55 48.7**	**+0.6**
comp=Z,0.9nm,1.0s,baz=247,slow=7.2,SNR=4.8							
SONM				LR	LR	10 11 46.7	
comp=Z,79nm,21.0s,baz=285,slow=38							
comp=Z,0.9nm,1.0s							
MLR	**Muntele Rosu**	**36.17**	**309**	LR	LR	10 13 32.3	
comp=Z,80nm,19.6s,baz=283,slow=41							
ULN	**Ulaanbaatar**	**36.50**	**47**	*i* P	**P**	**09 55 52.4**	**+0.6**
ULN				pmax	pmax		
comp=Z,9.0nm,2.7s							
BURAR	**Bucovina Array**	**37.19**	**312**	P	**P**	**09 55 58.6**	**+1.0**
BUR08	**Bucovina Ar. S**	**37.21**	**312**	P	**P**	**09 55 58.7**	**+0.9**
BUR08				IAmb	IAmb	09 56 08.5	
comp=Z,5.3nm,1.5s							
FINES	**FINESS Array B**	**42.37**	**332**	P	**P**	**09 56 39.6**	**-0.7**
comp=Z,3.0nm,0.9s,baz=108,slow=7.5,SNR=2.4							
FINES				LR	LR	10 17 44.3	
comp=Z,96nm,20.7s,baz=151,slow=41							
comp=Z,3.0nm,0.9s							
NRIK	**Noril'sk**	**42.48**	**11**	P	**P**	**09 56 41.7**	**+0.6**
comp=Z,4.9nm,0.9s,baz=158,slow=2.8,SNR=5.8							
NRIK				LR	LR	10 17 01.2	
comp=Z,138nm,18.2s,baz=198,slow=40							
comp=Z,4.9nm,0.9s							
NRIK	**Noril'sk**	**42.48**	**11**	*i* P	**P**	**09 56 40.5**	**-0.6**
NRIK				pmax	pmax		
comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**44.98**	**312**	P	**P**	**09 57 02.2**	**+0.6**
comp=Z,0.4nm,0.4s,baz=79,slow=8.8,SNR=1.2							
comp=Z,0.4nm,0.4s							
ARCES	**ARCESS Array B**	**47.23**	**342**	P	**P**	**09 57 18.4**	**-0.6**
comp=Z,3.5nm,0.9s,baz=117,slow=7.5,SNR=2.1							
ARCES				LR	LR	10 19 30.5	
comp=Z,111nm,20.4s,baz=178,slow=39							
comp=Z,3.5nm,0.9s							
HFS	**Hagfors**	**47.35**	**327**	P	**P**	**09 57 19.3**	**-0.6**
comp=Z,1.4nm,0.6s,baz=99,slow=8.9,SNR=2.3							
comp=Z,1.4nm,0.6s							
NOA	**NORSAR Array B**	**48.78**	**328**	LR	LR	10 20 58.0	
comp=Z,51nm,18.8s,baz=250,slow=40							
KSRS	**Korea Array**	**51.26**	**63**	P	**P**	**09 57 48.9**	**-1.4**
comp=Z,1.8nm,0.8s,baz=270,slow=7.8,SNR=9.3							
comp=Z,1.8nm,0.8s							
KSRS	**Korea Array**	**51.26**	**63**	*e*P	**P**	**09 57 49.8**	**-0.4**
KSRS				pmax	pmax		
comp=Z,2.0nm,0.8s							
YAK	**Yakutsk**	**52.48**	**32**	LR	LR	10 22 27.9	
comp=Z,81nm,19.7s,baz=248,slow=38							
YAK	**Yakutsk**	**52.48**	**32**	*ce*P	**P**	**09 57 58.3**	**-0.6**
YAK				pmax	pmax		
comp=Z,12nm,0.7s							
KLR	**Kul'dur**	**52.88**	**48**	LR	LR	10 23 28.9	
comp=Z,65nm,19.6s,baz=298,slow=39							
KLR	**Kul'dur**	**52.88**	**48**	*e*P	**P**	**09 58 03.5**	**+1.4**
KLR				pmax	pmax		
comp=Z,2.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**53.42**	**54**	LR	LR	10 22 15.2	
comp=Z,55nm,20.1s,baz=5.3,slow=38							
JNU	**Nakatsue**	**54.48**	**68**	LR	LR	10 26 01.8	
comp=Z,66nm,18.5s,baz=286,slow=41							
EKA	**Eskdalemuir Ar**	**55.65**	**319**	P	**P**	**09 58 22.3**	**+0.1**
comp=Z,0.6nm,0.4s,baz=90,slow=8.3,SNR=2.0							
comp=Z,0.6nm,0.4s							
ESDC	**Sonseca Array**	**58.15**	**301**	P	**P**	**09 58 39.8**	**-0.5**
comp=Z,0.7nm,0.7s,baz=84,slow=7.1,SNR=4.4							
comp=Z,0.7nm,0.7s							
ASAJ	**Asahikawa**	**60.96**	**53**	LR	LR	10 27 56.1	
comp=Z,57nm,18.9s,baz=80,slow=38							
JHJ	**Hachijo jima 2**	**61.69**	**66**	LR	LR	10 29 14.2	
comp=Z,57nm,18.0s,baz=143,slow=39							
SEY	**Seymchan**	**62.96**	**31**	*e*P	**P**	**09 59 15.1**	**+2.5**
SEY				pmax	pmax		
comp=Z,3.0nm,1.0s							
BORG	**Borgarnes**	**63.65**	**331**	LR	LR	10 32 54.1	
comp=Z,86nm,18.2s,baz=113,slow=42							
PETK	**Petropavlovsk-**	**68.19**	**40**	LR	LR	10 31 46.8	
comp=Z,56nm,18.7s,baz=310,slow=38							
WRA	**Warramunga Arr**	**81.19**	**118**	P	**P**	**10 01 01.8**	**-0.6**
comp=Z,0.7nm,0.6s,baz=320,slow=4.6,SNR=8.2							
comp=Z,0.7nm,0.6s							
ASAR	**Alice Springs**	**82.99**	**122**	P	**P**	**10 01 10.7**	**-1.1**
comp=Z,1.3nm,0.7s,baz=309,slow=5.2,SNR=15							
comp=Z,1.3nm,0.7s							
ILAR	**Eielson Array**	**83.26**	**14**	P	**P**	**10 01 11.8**	**-0.8**
comp=Z,0.6nm,1.1s,baz=322,slow=3.4,SNR=4.4							
comp=Z,0.6nm,1.1s							
YKA	**Yellowknife Ar**	**89.17**	**1**	P	**P**	**10 01 39.8**	**-1.9**
comp=Z,0.1nm,0.3s,baz=349,slow=4.7,SNR=6.4							
comp=Z,0.1nm,0.3s							

RSNC 18 09:54:03.3±0.0, 5°N±1°×7°4W±°, h150km±2km, M2.5, mb3.8, ML2.2, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.65**	**178**	P	Pn	09 54 25.4	-0.6
CHIC				S	Sn	09 54 42.1	-1.2
ROSC	**El Rosal**	**0.72**	**232**	P	Pn	09 54 27.1	+0.7
ROSC				S	Sn	09 54 45.3	+1.4
RUSC	**La Rusia**	**0.90**	**47**	P	Pn	09 54 27.6	-0.2
RUSC				S	Sn	09 54 46.3	-0.2
NORC	**Norcasia**	**1.15**	**284**	P	Pn	09 54 29.1	-0.4
NORC				S	Sn	09 54 48.9	-0.5
VILC	**Villavicencio,**	**1.16**	**177**	P	Pn	09 54 28.8	-0.9
VILC				S	Sn	09 54 49.1	-0.8
BARC	**Barichara**	**1.42**	**23**	P	Pn	09 54 31.6	-0.7
BARC				S	Sn	09 54 52.5	-2.0
PTBC	**PUERTO BERRIO,**	**1.44**	**331**	P	Pn	09 54 31.0	-1.2
PTBC				S	Sn	09 54 52.0	-2.4
GUY2C	**Guyana, Caldas**	**1.61**	**268**	P	Pn	09 54 34.0	-0.5
GUY2C				S	Sn	09 54 59.4	+1.0
BRJC	**Barrancabermej**	**1.68**	**0**	P	Pn	09 54 35.0	+0.1
BRJC				S	Sn	09 54 58.9	-0.2
PRAC	**Prado**	**1.92**	**216**	P	Pn	09 54 37.1	-0.5
PRAC				S	Sn	09 55 03.0	-1.0
ORTC	**Ortega, Tolima**	**2.02**	**228**	P	Pn	09 54 38.0	-0.7
ORTC				S	Sn	09 55 04.8	-1.1
URMC	**La Uribe, Meta**	**2.12**	**197**	P	Pn	09 54 39.5	-0.4
URMC				S	Sn	09 55 07.9	-0.2
TAMC	**Tame, Arauca**	**2.26**	**59**	P	Pn	09 54 41.2	-0.4
TAMC				S	Sn	09 55 10.0	-1.0
PAMC	**Pamplona, Colo**	**2.30**	**27**	P	Pn	09 54 42.5	0.0
PAMC				S	Sn	09 55 12.8	+0.2
CBOC	**Ciudad Bolivar**	**2.33**	**285**	P	Pn	09 54 42.4	-0.1
CBOC				S	Sn	09 55 12.7	+0.1
ZARC	**Zaragoza, Cauc**	**2.46**	**333**	P	Pn	09 54 42.2	-1.8
ZARC				S	Sn	09 55 13.5	-1.8
YOTC	**Yotoco, Valle**	**2.89**	**244**	P	Pn	09 54 49.3	-0.1
YOTC				S	Sn	09 55 25.0	0.0
OCAC	**Ocana**	**2.97**	**8**	P	Pn	09 54 49.9	-0.6
OCAC				S	Sn	09 55 26.6	-0.4
DBBC	**Dabeiba**	**2.99**	**305**	P	Pn	09 54 50.3	-0.4
DBBC				S	Sn	09 55 27.1	-0.2
UREC	**San Jos de Ur**	**3.03**	**324**	P	Pn	09 54 48.6	-2.5
UREC				S	Sn	09 55 24.8	-3.2
MACC	**Macarena, Meta**	**3.12**	**182**	P	Pn	09 54 50.2	-2.0
MACC				S	Sn	09 55 26.6	-3.5
GARC	**Garzon, Huila**	**3.53**	**210**	P	Pn	09 54 56.6	-1.1
GARC				S	Sn	09 55 43.1	+3.2
APAC	**Apartado, Choc**	**3.83**	**313**	P	Pn	09 55 01.4	0.0
APAC				S	Sn	09 55 46.7	+0.2
FLOC	**Florencia**	**4.13**	**207**	P	Pn	09 55 04.6	-0.8
CRJC	**Cerrejon, Guaj**	**5.77**	**9**	P	Pn	09 55 25.0	-2.0
CRJC				S	Sn	09 56 26.6	-5.9

IDC 18 10:08:05.0±314.0, 16°39S×24°22E, h0km, Error ellipse: s-maj=142.4km s-min=119.6km az=76.0, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I35NA	**TSUMEB INFRASO**	**6.92**	**245**	I	I	10 48 10.0	
0.5nm,0.7s,baz=64,slow=301,SNR=13							
I47ZA	**BOSHOF INFRASO**	**12.21**	**176**	I	I	11 20 40.0	
0.1nm,1.0s,baz=353,slow=316,SNR=2.3							
I32KE	**NAIROBI INFRAS**	**19.51**	**41**	I	I	11 56 10.0	
baz=221,slow=320,SNR=3.8							
I49GB	**TRISTAN DA CUN**	**38.28**	**230**	I	I	14 04 40.0	
baz=54,slow=305,SNR=2.0							
I50GB	**ASCENSION ISLA**	**38.59**	**278**	I	I	14 04 40.0	
baz=108,slow=305,SNR=1.5							
I48TN	**KESRA INFRASON**	**53.79**	**345**	I	I	15 44 48.2	
baz=161,slow=323,SNR=2.7							
I43RU	**DUBNA INFRASON**	**73.64**	**7**	I	I	17 51 40.4	
baz=194,slow=339,SNR=1.3							
I53US	**FAIRBANKS INFR**	**131.26**	**356**	I	I	00 13 38.5	
0.1nm,6.6s,baz=357,slow=323,SNR=2.0							

*IDC **18** 10:33:12.2±1.0, 34°52S×55°54E, h0km, mb4.0/5, mbtmp4.0/5, MS3.1/1, Error ellipse: s-maj=34.5km s-min=28.7km az=44.0*
*NEIC **18** 10:33:13.5±1.3, 34°41S±0°08×55°5E±0°1, h10km±1km, mb4.5/9, Error ellipse: s-maj=22.3km s-min=10.2km az=118.0*
ISC 18 10:33:14.0±0.7, 34°4S±0°1×55°5E±0°1, h16km, n27, σ0°81/20, mb4.4/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**12.08**	**192**	T	T	10 48 41.1	
baz=14,slow=75,SNR=233							
H04N1	**CROZET ISLANDS**	**12.08**	**192**	T	T	10 48 45.1	
baz=14,slow=75,SNR=231							
H04N3	**CROZET ISLANDS**	**12.09**	**192**	T	T	10 48 47.6	
baz=14,slow=75,SNR=194							
CRZF	**Crozet Islands**	**12.32**	**192**	Pn	**Pn**	**10 36 08.2**	**-0.5**
VOI	**Vohitsoka**	**14.59**	**326**	Pn	**Pn**	**10 36 39.1**	**-0.8**
H08S1	**Diego Carcia H**	**30.90**	**34**	T	T	11 11 47.0	
baz=208,slow=76,SNR=25							
H08S2	**Diego Garcia H**	**30.91**	**34**	T	T	11 11 44.1	
baz=208,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**30.92**	**34**	T	T	11 11 45.3	
baz=208,slow=76,SNR=24							
KMBO	**Kilima Mbogo**	**37.22**	**329**	LR	LR	10 55 39.7	
comp=Z,24nm,18.1s,baz=272,slow=36							
QSPA	**South Pole Qui**	**55.78**	**180**	P	**P**	**10 42 50.0**	**+0.1**
QSPA				IAmb	IAmb	10 42 55.8	
comp=Z,7.4nm,1.5s							
QSPA	**South Pole Qui**	**55.78**	**180**	P	**P**	**10 42 49.7**	**-0.3**
comp=Z,2.4nm,0.8s,baz=273,slow=1.2,SNR=11							
comp=Z,2.4nm,0.8s							
SHEL	**Horse Pasture**	**57.53**	**272**	P	**P**	**10 43 03.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.89**	**45**	P	**P**	**10 44 06.0**	**+0.4**
comp=Z,0.4nm,0.4s,baz=220,slow=6.3,SNR=4.5							
comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**67.90**	**104**	P	**P**	**10 44 11.6**	**-0.5**
ASAR	**Alice Springs**	**67.90**	**104**	P	**P**	**10 44 12.3**	**+0.3**
comp=Z,0.6nm,0.7s,baz=234,slow=5.8,SNR=13							
comp=Z,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.57**	**303**	P	**P**	**10 44 23.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**69.57**	**303**	P	**P**	**10 44 23.2**	**+0.8**
comp=Z,28nm,0.3s,baz=131,slow=3.8,SNR=1.0							
STKA	**Stephens Creek**	**69.95**	**115**	P	**P**	**10 44 24.7**	**0.0**
comp=Z,3.1nm,0.9s,baz=225,slow=7.1,SNR=3.6							
comp=Z,3.1nm,0.9s							
WRA	**Warramunga Arr**	**70.09**	**101**	P	**P**	**10 44 25.9**	**+0.2**
WRA	**Warramunga Arr**	**70.09**	**101**	P	**P**	**10 44 26.1**	**+0.4**
comp=Z,1.4nm,0.7s,baz=237,slow=5.6,SNR=9.6							
comp=Z,1.4nm,0.7s							
WB2	**Warramunga Arr**	**70.09**	**101**	P	**P**	**10 44 24.4**	**-1.3**
WB2				IAmb	IAmb	10 45 01.9	
comp=Z,5.3nm,1.4s							
WRAB	**Tennant Creek**	**70.10**	**101**	P	**P**	**10 44 25.3**	**-0.5**
WRAB				IAmb	IAmb	10 44 49.4	
comp=Z,5.8nm,1.4s							
WB0	**Warramunga Arr**	**70.22**	**101**	P	**P**	**10 44 25.9**	**-0.6**
WB0				IAmb	IAmb	10 44 27.5	
comp=Z,2.5nm,0.8s							
WR0	**Warramunga Arr**	**70.24**	**101**	P	**P**	**10 44 26.1**	**-0.5**
WR0				IAmb	IAmb	10 45 01.5	
comp=Z,5.3nm,1.4s							
ARG	**Arkhangelos**	**74.74**	**337**	P	**P**	**10 44 51.8**	**-1.0**
ILAR	**Eielson Array**	**146.71**	**17**	PKPbc	**PKPab**	**10 52 55.1**	**-0.3**
comp=Z,0.6nm,1.0s,baz=295,slow=3.1,SNR=4.4							
YKA	**Yellowknife Ar**	**151.19**	**350**	PKPbc	**PKiKP**	**10 53 08.2**	**+2.1**
comp=Z,0.3nm,0.8s,baz=30,slow=2.1,SNR=4.2							

ATH 18 10:34:34.8, 37°72N×20°58E, h15km±3km, ML2.9/7, Manual Solution by S.Liakopoulos First location: 2019/02/18 10:35:26, This location: 2019/02/18 16:37:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.16**	**35**	P	Pg	10 34 39.0	+0.1
ORTH				S	Sg	10 34 41.5	-0.1
LTHK	**Lithakia**	**0.20**	**93**	P	Pg	10 34 39.3	-0.1
LTHK				S	Sg	10 34 42.4	-0.2
KYPS	**Kipseli, Zakin**	**0.22**	**63**	P	Pb	10 34 40.1	-0.4
KYPS				S	Sb	10 34 44.0	-0.3
PSDA	**Pessada-Kefalo**	**0.39**	**0**	P	Pb	10 34 43.2	-0.3
PSDA				S	Sb	10 34 49.3	-0.1
VLS	**Valsamata**	**0.46**	**1**	P	Pg	10 34 44.1	+0.2
VLS				S	Sg	10 34 50.6	+0.5
CLEM	**Kyllini,Ilia,G**	**0.47**	**69**	P	Pb	10 34 44.5	-0.3
CLEM				S	Sb	10 34 51.4	-0.1
SMHA	**Samh**	**0.53**	**6**	P	Pg	10 34 45.6	+0.2
SMHA				S	Sg	10 34 52.6	+0.2
DMLN	**Damoulianata-K**	**0.54**	**342**	P	Pb	10 34 45.8	-0.3
DMLN				S	Sb	10 34 53.3	-0.4
FSK	**Fiskardo**	**0.74**	**359**	P	Pg	10 34 49.0	-0.2
RLS	**Riolos of Patr**	**0.78**	**64**	P	Pg	10 34 49.9	-0.1
AXS	**Araxos**	**0.79**	**53**	P	Pg	10 34 49.6	-0.5
EVGI	**Lefkada island**	**0.90**	**4**	P	Pb	10 34 52.0	-0.2
AMT	**Artemida-Makis**	**0.92**	**101**	P	Pg	10 34 52.6	+0.1
AMT				S	Sb	10 35 04.0	-0.4
DRO	**Drossia**	**0.92**	**75**	P	Pb	10 34 52.6	0.0
DRAG	**Dragano-Lefkad**	**0.96**	**360**	P	Pb	10 34 52.8	-0.4
DRAG				S	Sb	10 35 05.1	-0.7
LKD2	**Lefkada island**	**1.07**	**3**	P	Pb	10 34 54.8	-0.3
LKD2				S	Sb	10 35 09.1	+0.2
TSLK	**Tsoukalades, L**	**1.10**	**3**	P	Pb	10 34 55.4	-0.3
PVO	**Paravola**	**1.17**	**39**	P	Pg	10 34 57.0	-0.3
PVO				S	Sb	10 35 09.9	-1.6
ITM	**Ithomi**	**1.20**	**116**	P	Pb	10 34 57.4	+0.2
EFP	**Efpalio**	**1.26**	**56**	P	Pn	10 34 58.0	+0.1
KLV	**Kalavryta, Ach**	**1.28**	**75**	P	Pn	10 34 58.3	0.0
ANX	**Ano Chora**	**1.37**	**50**	P	Pb	10 35 00.1	-0.1
KALE	**Kalithea**	**1.40**	**61**	P	Pn	10 35 00.2	+0.3
GUR	**Goura**	**1.41**	**81**	P	Pb	10 35 00.7	-0.2
TETR	**Tetrakomo, Epi**	**1.71**	**18**	P	Pg	10 35 06.9	-0.8
IGT	**Igoumenitsa**	**1.82**	**354**	P	Pb	10 35 07.4	-0.5
LTK	**Loutraki**	**1.91**	**80**	P	Pb	10 35 09.6	+0.1

*IDC **18** 10:34:37.2±39.0, 37°12N×19°65E, h0km, mb3.8/5, mbtmp3.8/5, MS2.9/1, Error ellipse: s-maj=749.7km s-min=53.4km az=37.0*
*THE **18** 10:34:45.5, 37°63N×20°51E, h0km±2km, ML3.5/10, Error ellipse: s-maj=2.8km s-min=0.6km az=229.0*
*ATH **18** 10:34:45.6, 37°63N×20°52E, h13km±3km, ML3.6/9, Manual Solution by A.Papageorgiou First location: 2019/02/18 10:36:19, This location: 2021/02/28 14:22:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 18 10:34:45.2±1.7, 37°64N±0°06×20°49E±0°06, h11km±7km, n40, σ0°62/67, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORTH	**Orthonies,Zaky**	**0.27**	**38**	P	**Pg**	**10 34 51.1**	**+0.2**
ORTH				S	**Sg**	**10 34 54.4**	**-0.2**
LTHK	**Lithakia**	**0.29**	**75**	P	**Pg**	**10 34 51.2**	**+0.1**
LTHK				S	**Sg**	**10 34 54.8**	**-0.2**
37µm,0.3s							
LTHK	**Lithakia**	**0.29**	**75**	P	**Pg**	**10 34 51.2**	**+0.1**
LTHK				S	**Sg**	**10 34 54.4**	**-0.5**
KYPS	**Kipseli, Zakin**	**0.32**	**55**	P	**Pg**	**10 34 52.0**	**+0.3**
KYPS				S	**Sg**	**10 34 56.7**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.48**	**9**	P	**Pg**	**10 34 55.1**	**+0.4**
PSDA				S	**Sb**	**10 35 02.5**	**-0.3**
14µm,0.2s							
PSDA	**Pessada-Kefalo**	**0.48**	**9**	P	**Pg**	**10 34 55.1**	**+0.4**
PSDA				S	**Sg**	**10 35 01.6**	**+0.5**
VLS	**Valsamata**	**0.55**	**8**	P	**Pg**	**10 34 55.7**	**-0.2**
VLS				S	**Sb**	**10 35 04.3**	**-0.4**
6µm,0.2s							
VLS	**Valsamata**	**0.55**	**8**	P	**Pg**	**10 34 56.1**	**+0.2**
VLS				S	**Sg**	**10 35 04.1**	**+0.9**
CLEM	**Kyllini,Ilia,G**	**0.57**	**63**	P	**Pg**	**10 34 56.3**	**-0.1**
CLEM				S	**Sg**	**10 35 04.4**	**+0.5**
DMLN	**Damoulianata-K**	**0.61**	**352**	P	**Pb**	**10 34 57.8**	**-0.1**
DMLN				S	**Sb**	**10 35 07.1**	**+0.6**
8µm,0.5s							
DMLN	**Damoulianata-K**	**0.61**	**352**	P	**Pb**	**10 34 57.8**	**-0.1**
DMLN				S	**Sb**	**10 35 06.9**	**+0.4**
SMHA	**Samh**	**0.63**	**12**	P	**Pb**	**10 34 58.4**	**+0.2**
SMHA				S	**Sg**	**10 35 05.9**	**+0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.87**	**135**	PG	Pg	10 35 17.1	-1.1
ERTU				SB	Sg	10 35 28.9	-0.6
PAJU	**Pajala**	**0.98**	**98**	PG	Pg	10 35 19.1	-1.1
	baz=285						
PAJU				SB	Sg	10 35 32.4	-0.6
LANU	**Lannavaara**	**1.02**	**30**	PG	Pg	10 35 20.0	-1.0
LANU				SN	Sn	10 35 38.0	0.0
KLF	**Kolari**	**1.30**	**86**	PG	Pg	10 35 24.5	-1.8
KLF				MSG		10 35 40.6	
	comp=Z,0.8nm,0.2s						
KLF				SG	Sg	10 35 41.9	-1.2
HEF	**Hetta**	**1.69**	**41**	PG	Pn	10 35 31.6	-0.6
HEF				MSG		10 35 52.0	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sb	10 35 54.9	-0.3
KALU	**Kalix**	**1.71**	**139**	PG	Pn	10 35 32.5	0.0
KALU				SN	Sn	10 35 55.4	+0.4
TOF	**Tornio**	**1.84**	**125**	PG	Pn	10 35 34.4	+0.2
TOF				MSG		10 35 56.2	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sn	10 35 58.7	+0.6
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	Pn	10 35 34.9	+0.7
KIF				MSG		10 35 57.5	
	comp=Z,1.9nm,0.2s						
KIF				SG	Sg	10 36 00.4	-0.1
KTK1	**Kautokeino**	**2.09**	**27**	PG	Pn	10 35 38.8	+1.1
KTK1				SG	Sb	10 36 06.9	+0.3
RNF	**Rovaniemi**	**2.19**	**103**	PG	Pn	10 35 40.0	+0.8
RNF				SG	Sb	10 36 09.2	-0.5
RAJF	**Raja-Jooseppi**	**3.19**	**62**	SG	Sb	10 36 39.3	+1.0

FUNV 18 10:44:16.9, 9°.72N×62°.19W, h34km, MW3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUEV	**Luepa**	**3.92**	**169**	*eP*	Pn	10 45 13.3	-1.5
LUEV				*eS*	Sn	10 45 55.5	-4.3
TACV	**Tcata**	**4.79**	**275**	*eP*	Pn	10 45 25.4	-1.3
TACV				*eS*	Sn	10 46 15.9	-5.2
CACV	**CAICARA DEL OR**	**4.80**	**244**	*eP*	Pn	10 45 19.5	-7.4
CACV				*eS*	Sn	10 46 05.9	-16
BENV	**Beln**	**5.34**	**273**	*eP*	Pn	10 45 32.9	-1.4
BENV				*eS*	Sn	10 46 27.7	-7.0
BAUV	**El Baul**	**5.83**	**263**	*eP*	Pn	10 45 38.5	-2.5
BAUV				*eS*	Sn	10 46 39.6	-7.1

AZER ***18*** *11:52:17.4, 38°.33N×46°.93E, h13km, ml3.3*
TEH ***18*** *10:52:18.6, 38°.31N×46°.92E, h9km±26km*
NSSP ***18*** *10:52:19.2, 38°.40N×46°.83E, h10km, Ms3.2*
ISC 18 10:52:19.0±1.0, 38°.33N±0°.02×46°.90E±0°.02, h10km±8km, n45, σ1§31/75, 4C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.12**	**94**	Pg	**Pg**	**10 52 21.8**	**-0.3**
ITBZ	**Tabriz**	**0.60**	**261**	Pg	**Pg**	**10 52 30.0**	**-0.6**
ITBZ				Sg	**Sg**	**10 52 39.5**	**+1.0**
ISRB	**Sarab**	**0.79**	**129**	Pg	**Pg**	**10 52 33.0**	**-1.2**
GRMI	**Germi**	**0.92**	**58**	Pg	**Pg**	**10 52 35.7**	**-1.1**
ORD	**Ordubad**	**0.93**	**311**	P	**Pg**	**10 52 36.5**	**-0.4**
ORD				S	**Sb**	**10 52 50.1**	**+0.5**
EGVZ	**Egvard**	**0.94**	**343**	⇑*iP*	**Pg**	**10 52 36.7**	**-0.5**
EGVZ				⇑*iS*	**Sg**	**10 52 49.3**	**-0.2**
IAZR	**Azarshahr**	**0.97**	**228**	Pg	**Pg**	**10 52 37.6**	**-0.1**
ISHB	**Shabestar**	**1.01**	**268**	Pg	**Pg**	**10 52 37.7**	**-0.7**
IMRD	**Marand**	**1.01**	**293**	Pg	**Pg**	**10 52 38.1**	**-0.4**
IHSH	**Hashtrud**	**1.06**	**164**	Pg	**Pg**	**10 52 37.7**	**-1.7**
LRK	**Lerik**	**1.18**	**74**	P	**Pb**	**10 52 40.8**	**-0.7**
LRK				S	**Sn**	**10 52 57.5**	**-0.3**
QRD	**Qoradiz**	**1.18**	**16**	P	**Pg**	**10 52 41.4**	**-0.4**
QRD				S	**Sn**	**10 52 58.5**	**+0.8**
YRD	**Yardimli**	**1.21**	**60**	P	**Pb**	**10 52 41.1**	**-1.0**
YRD				S	**Sn**	**10 52 57.8**	**-0.8**
NAX	**Nakhchivan**	**1.38**	**308**	P	**Pb**	**10 52 44.9**	**-0.1**
NAX				S	**Sg**	**10 53 04.9**	**+1.3**
BLQ	**Beylaqan**	**1.49**	**20**	P	**Pg**	**10 52 47.1**	**-0.4**
BLQ				S	**Sg**	**10 53 07.9**	**+1.1**
GLBA	**Clilabad**	**1.49**	**52**	P	**Pg**	**10 52 47.0**	**-0.6**
GLBA				S	**Sg**	**10 53 08.3**	**+1.5**
SBZ	**Shahbuz**	**1.50**	**316**	P	**Pg**	**10 52 47.2**	**-0.6**
SBZ				S	**Sg**	**10 53 08.8**	**+1.6**
ASTR	**Astara**	**1.51**	**80**	P	**Pg**	**10 52 46.8**	**-1.2**
ASTR				S	**Sg**	**10 53 08.0**	**+0.5**
LKRN	**Lenkeran, Azer**	**1.53**	**75**	P	**Pb**	**10 52 46.9**	**-0.4**
LKRN				S	**Sg**	**10 53 08.2**	**+0.1**
GAS1	**Astara - Iran**	**1.53**	**87**	Pg	**Pb**	**10 52 46.8**	**-0.6**
VAYK	**Vayk**	**1.78**	**321**	*i P*	**Pb**	**10 52 51.9**	**0.0**
VAYK				*i S*	**Sg**	**10 53 15.4**	**-1.0**
AGDM	**Agdam**	**1.79**	**5**	P	**Pb**	**10 52 51.7**	**-0.1**
AGDM				S	**Sg**	**10 53 16.3**	**-0.2**
MAHB	**Mahabad**	**1.82**	**212**	Pn	**Pb**	**10 52 52.4**	**-0.1**
BRDA	**Brd**	**1.95**	**6**	P	**Pg**	**10 52 55.2**	**-1.2**
BRDA				S	**Sg**	**10 53 22.9**	**+1.3**
AYRK	**Ayrk**	**1.98**	**335**	⇑*iP*	**Pb**	**10 52 55.0**	**-0.3**
AYRK				⇑*iS*	**Sb**	**10 53 19.7**	**-0.5**
MAKU	**Maku**	**2.01**	**301**	Pn	**Pb**	**10 52 55.0**	**-0.7**
HYR	**Heyderabad**	**2.11**	**312**	P	**Pb**	**10 52 56.7**	**-0.7**
HYR				S	**Sg**	**10 53 25.4**	**-1.5**
GANJ	**Ganja**	**2.36**	**349**	P	**Pb**	**10 53 01.1**	**-0.5**
GANJ				S	**Sb**	**10 53 29.5**	**-1.3**
NRKZ	**NAREK**	**2.41**	**315**	*eP*	**Pb**	**10 53 02.3**	**-0.2**
NRKZ				*eS*	**Sg**	**10 53 34.6**	**-1.8**
GNI	**Garni**	**2.47**	**318**	*eP*	**Pg**	**10 53 05.3**	**-1.1**
GNI				*eS*	**Sg**	**10 53 38.7**	**+0.2**
GDB	**GEDABAY**	**2.55**	**340**	P	**Pb**	**10 53 04.3**	**-0.6**
GDB				S	**Sb**	**10 53 37.1**	**+0.7**
KAPZ	**Kaputan**	**2.62**	**320**	*eP*	**Pg**	**10 53 07.7**	**-1.5**
KAPZ				*eS*	**Sg**	**10 53 43.1**	**-0.2**
IML	**Ismayilli**	**2.66**	**22**	P	**Pb**	**10 53 05.7**	**-1.0**
IML				S	**Sb**	**10 53 38.4**	**-0.9**
GBS	**Qobustan**	**2.72**	**35**	P	**Pb**	**10 53 07.9**	**+0.2**
GBS				S	**Sg**	**10 53 45.8**	**-1.5**
PQL	**Pirkuli**	**2.79**	**28**	P	**Pb**	**10 53 08.5**	**-0.4**
PQL				S	**Sb**	**10 53 43.7**	**+0.5**
SEKA	**Sheki**	**2.89**	**5**	P	**Pb**	**10 53 07.6**	**-3.0**
SEKA				S	**Sb**	**10 53 45.4**	**-0.6**
ATGJ	**Altiaghaj**	**2.98**	**31**	P	**Pg**	**10 53 16.9**	**+0.7**
ATGJ				S	**Sg**	**10 54 00.1**	**+5.2**
XNQ	**Khinaliq**	**3.00**	**18**	P	**Pn**	**10 53 09.1**	**+2.4**
XNQ				S	**Sb**	**10 53 47.0**	**-2.3**
SIZA	**Siyzn**	**3.15**	**29**	P	**Pb**	**10 53 13.7**	**-1.4**
SIZA				S	**Sb**	**10 53 50.4**	**-3.2**
HGHA	**Hamedan- Ghaye**	**3.24**	**150**	Pn	**Pn**	**10 53 12.1**	**+2.1**
ZKTA	**Zakatala**	**3.31**	**356**	P	**Pb**	**10 53 15.4**	**-2.5**
ZKTA				S	**Sb**	**10 53 57.9**	**-0.4**
QABG	**Abgarm-Qazvin**	**3.38**	**140**	Pn	**Pn**	**10 53 13.3**	**+1.3**
KLST	**Kelardasht - M**	**3.77**	**117**	Pn	**Pn**	**10 53 18.8**	**+1.3**
HAGD	**Aghdareh**	**3.94**	**152**	Pn	**Pn**	**10 53 20.6**	**+1.0**
MZPU	**Pul - Mazandar**	**4.17**	**115**	Pn	**Pn**	**10 53 24.6**	**+1.8**

NIED ***18*** *11:00:10.9, 38°.72N×142°.21E, h40km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.40; $M_{\theta\theta}$0.85; $M_{\phi\phi}$-0.45; $M_{r\theta}$0.59; $M_{\theta\phi}$0.11; $M_{\phi r}$1.05; Fault plane solution: $M_0$1.40000×10^{15} NP1: ϕ_s117.00000°, δ31.00000°, λ-17.00000°. NP2: ϕ_s222.00000°, δ81.00000°, λ-120.00000°.*
JMA ***18*** *11:00:10.9±0.1, 38°.7N±0°.2×142°.2E±0°.6, h40km±1km, MD4.0/40, MV4.4/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
IDC ***18*** *11:00:14.5±2.1, 38°.64N×142°.20E, h75km±20km, mb3.5/17, mbtmp3.9/23, MS3.2/14, Error ellipse: s-maj=17.1km s-min=13.1km az=106.0*
ISC 18 11:00:10.8±0.9, 38°.68N±0°.05×142°.34E±0°.07, h37km±2km, n67, σ1§72/50, mb3.7/17, MS3.3/6, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.65**	**307**	⇓*iP*	**Pn**	**11 00 22.4**	**-1.2**
OFUJ				⇓S	**Sn**	**11 00 30.4**	**-2.3**
OFUJ	**Ofunato**	**0.65**	**307**	A	A	11 00 22.4	
	comp=N,13nm,0.5s,comp=E,8.0nm,0.6s						
JKMT	**Kesennumamotoy**	**0.69**	**281**	⇓*iP*	**Pn**	**11 00 22.8**	**-1.2**
JKMT				⇓S	**Sn**	**11 00 30.8**	**-2.6**
JKMT	**Kesennumamotoy**	**0.69**	**281**	A	A	11 00 22.8	
	comp=N,3.0nm,0.4s,comp=E,16nm,0.5s						
JIO	**Ouri**	**0.81**	**254**	⇓*iP*	**Pn**	**11 00 24.5**	**-1.1**
JIO				⇓S	**Sn**	**11 00 34.0**	**-2.4**
JIO	**Ouri**	**0.81**	**254**	A	A	11 00 24.5	
	comp=N,6.0nm,2.5s,comp=E,6.0nm,1.0s						
JMK	**Ichinoseki**	**0.91**	**287**	⇓*iP*	**Pn**	**11 00 26.0**	**-1.0**
JMK				⇓S	**Sn**	**11 00 36.7**	**-2.2**
JMK	**Ichinoseki**	**0.91**	**287**	A	A	11 00 26.0	
	comp=N,9.0nm,0.4s,comp=E,7.0nm,0.8s						
JOFO	**Osakifurukawao**	**1.12**	**266**	A	A	11 00 29.1	
	comp=N,16nm,1.7s,comp=E,19nm,0.5s						
JOM	**Ohasama**	**1.13**	**314**	⇓*iP*	**Pn**	**11 00 29.4**	**-0.6**
JOM				⇓S	**Sn**	**11 00 42.9**	**-1.4**
JOM	**Ohasama**	**1.13**	**314**	A	A	11 00 29.4	
	comp=N,16nm,0.5s,comp=E,28nm,0.3s						
JTH	**Tanohata**	**1.30**	**344**	P	**Pn**	**11 00 32.1**	**-0.3**
JOU	**Okura**	**1.35**	**257**	⇓*iP*	**Pn**	**11 00 32.5**	**-0.6**
JOU				⇓S	**Sn**	**11 00 48.8**	**-0.9**
JOU	**Okura**	**1.35**	**257**	A	A	11 00 32.5	
	comp=N,6.0nm,0.5s,comp=E,6.0nm,1.2s						
JMM	**Marumori**	**1.46**	**237**	P	**Pn**	**11 00 34.0**	**-0.6**
JMST	**Minamisoumatoc**	**1.49**	**230**	A	A	11 00 35.2	
	comp=N,3.0nm,0.4s,comp=E,3.0nm,1.5s						
JRG	**Rokugo**	**1.50**	**299**	⇓P	**Pn**	**11 00 34.6**	**-0.6**
JRG	**Rokugo**	**1.50**	**299**	A	A	11 00 34.6	
	comp=N,4.0nm,0.7s,comp=E,4.0nm,0.6s						
JSZI	**Iwateshizukuis**	**1.51**	**315**	A	A	11 00 34.9	
	comp=N,8.0nm,2.4s,comp=E,6.0nm,1.8s						
JKZ	**Kuzumaki**	**1.52**	**329**	A	A	11 00 35.2	
	comp=N,4.0nm,3.9s,comp=E,6.0nm,1.2s						
JYK	**Kaneyama**	**1.56**	**279**	⇓*iP*	**Pn**	**11 00 35.4**	**-0.6**
JKEN	**Kujiedanarisaw**	**1.59**	**342**	A	A	11 00 36.6	
	comp=N,8.0nm,0.7s,comp=E,7.0nm,4.0s						
JYW	**Yuwa**	**1.86**	**298**	A	A	11 00 39.9	
	comp=N,7.0nm,1.7s,comp=E,7.0nm,2.0s						
JYAR	**Yonezawaarcadi**	**1.89**	**247**	A	A	11 00 40.7	
	comp=N,6.0nm,1.0s,comp=E,6.0nm,1.0s						
JYA	**Atsumi**	**2.06**	**268**	A	A	11 00 42.8	
	comp=N,3.0nm,0.8s,comp=E,3.0nm,0.6s						
JTM	**Tenmabayashi**	**2.32**	**335**	P	**Pn**	**11 00 47.6**	**+1.3**
JSD	**Sado**	**3.27**	**260**	P	**Pn**	**11 01 00.9**	**+1.5**
ERM	**Erimo**	**3.39**	**10**	P	**Pn**	**11 01 01.3**	**+0.3**
JEM	**Erimo**	**3.39**	**10**	P	**Pn**	**11 01 01.5**	**+0.5**
MJAR	**Matsushiro Arr**	**3.91**	**238**	P	**Pn**	**11 01 09.5**	**+1.2**
	comp=E,14nm,0.7s,baz=39,slow=11,SNR=56						
MJAR				S	**Sn**	**11 01 55.8**	**+2.8**
	comp=E,7.6nm,0.5s,baz=93,slow=15,SNR=4.8						
MJAR				LR	LR	11 02 53.9	
	comp=E,158nm,19.7s,baz=74,slow=42						
MAJO	**Matsushiro**	**3.91**	**238**	P	**Pn**	**11 01 10.3**	**+2.0**
JGF	**Kuroka**	**5.03**	**234**	P	**Pn**	**11 01 26.2**	**+2.6**
INU	**Inuyama**	**5.40**	**234**	P	**Pn**	**11 01 32.4**	**+3.7**
ASAJ	**Asahikawa**	**5.43**	**2**	P	**Pn**	**11 01 28.9**	**-0.2**
	comp=E,4.5nm,0.3s,baz=216,slow=11,SNR=8.8						
ASAJ				S	**Sn**	**11 02 27.5**	**-2.8**
	comp=E,20nm,0.6s,baz=58,slow=16,SNR=4.7						
ASAJ				LR	LR	11 04 08.1	
	comp=E,116nm,21.7s,baz=138,slow=43						
JHJ	**Hachijo jima 2**	**5.93**	**201**	P	**Pn**	**11 01 37.4**	**+1.4**
	comp=E,40nm,0.3s,baz=89,slow=21,SNR=13						
JHJ				S	**Sn**	**11 02 38.4**	**-4.2**
	comp=E,100nm,0.5s,baz=91,slow=22,SNR=6.9						
USRK	**Ussuriysk Ar.**	**9.52**	**309**	P	**Pn**	**11 02 28.7**	**+3.5**
	comp=E,20nm,0.8s,baz=122,slow=14,SNR=23						
USRK				LR	LR	11 05 56.1	
	comp=E,127nm,18.5s,baz=178,slow=36						
JNU	**Nakatsue**	**10.82**	**243**	P	**Pn**	**11 02 44.2**	**+1.2**
	comp=E,4.9nm,0.9s,baz=151,slow=7.3,SNR=3.5						
JNU				LR	LR	11 07 11.8	
	comp=E,84nm,18.5s,baz=48,slow=39						
KSRS	**Korea Array**	**11.43**	**268**	P	**Pn**	**11 02 53.1**	**+1.8**
	comp=E,2.1nm,0.8s,baz=77,slow=14,SNR=10						
KSRS				LR	LR	11 07 02.0	
	comp=E,67nm,18.1s,baz=65,slow=36						
KLR	**Kul'dur**	**13.00**	**328**	P	**Pn**	**11 03 15.7**	**+3.0**
	comp=E,1.3nm,0.8s,baz=130,slow=16,SNR=3.9						
KLR				LR	LR	11 07 59.0	
	comp=E,118nm,19.6s,baz=160,slow=36						
JOW	**Kunigami**	**16.70**	**229**	LR	LR	11 10 06.2	
	comp=E,152nm,19.5s,baz=114,slow=36						
PETK	**Petropavlovsk-**	**17.90**	**31**	LR	LR	11 11 33.9	
	comp=E,53nm,18.0s,baz=185,slow=38						
MA2	**Magadan**	**21.59**	**12**	P	**P**	**11 04 57.3**	**+0.3**
	comp=E,0.8nm,0.3s,baz=185,slow=9.5,SNR=3.8						
MA2				LR	LR	11 13 58.7	
	comp=E,30nm,18.1s,baz=184,slow=38						
	comp=E,0.8nm,0.3s						
YAK	**Yakutsk**	**24.64**	**346**	LR	LR	11 14 47.9	
	comp=E,19nm,19.7s,baz=102,slow=35						
SEY	**Seymchan**	**25.03**	**11**	P	**P**	**11 05 32.8**	**+1.7**
	comp=E,2.0nm,0.8s,baz=186,slow=5.6,SNR=11						
	comp=E,2.0nm,0.8s						
SONM	**Songino Array**	**27.51**	**301**	P	**P**	**11 05 52.9**	**-0.9**
	comp=E,0.3nm,0.5s,baz=89,slow=10,SNR=3.7						
SONM				LR	LR	11 16 56.8	
	comp=E,51nm,18.9s,baz=149,slow=36						
	comp=E,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.42**	**125**	T	T	11 36 20.2	
	baz=317,slow=75,SNR=579						
H11N1	**WAKE ISLAND Hy**	**28.43**	**125**	T	T	11 36 31.7	
	baz=317,slow=75,SNR=536						
H11N3	**WAKE ISLAND Hy**	**28.44**	**125**	T	T	11 36 21.6	
	baz=317,slow=75,SNR=391						
H11S1	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	11 37 27.6	
	baz=318,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	11 37 19.6	
	baz=318,slow=76,SNR=108						
H11S2	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	11 37 23.0	
	baz=318,slow=76,SNR=90						
ZALV	**Zalesovo Beam**	**41.36**	**311**	P	**P**	**11 07 52.2**	**-0.7**
	comp=E,1.5nm,0.4s,baz=90,slow=8.6,SNR=6.5						
	comp=E,1.5nm,0.4s						
MKAR	**Makanchi Array**	**43.88**	**301**	P	**P**	**11 08 13.0**	**-0.5**
	comp=E,1.4nm,0.7s,baz=85,slow=8.9,SNR=6.4						
	comp=E,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.58**	**307**	P	**P**	**11 08 26.0**	**-0.9**
	comp=E,2.2nm,0.5s,baz=82,slow=8.1,SNR=17						
	comp=E,2.2nm,0.5s						
ILAR	**Eielson Array**	**47.71**	**33**	P	**P**	**11 08 44.2**	**+0.8**
	comp=E,0.6nm,0.7s,baz=262,slow=5.5,SNR=13						
	comp=E,0.6nm,0.7s						
BVAR	**Borovoye Array**	**50.02**	**311**	P	**P**	**11 08 59.6**	**-1.7**
	comp=E,0.7nm,0.5s,baz=83,slow=9.8,SNR=4.3						
	comp=E,0.7nm,0.5s						
ARTI	**Arti**	**55.72**	**318**	LR	LR	11 35 56.1	
	comp=E,66nm,19.9s,baz=351,slow=38						
AKTO	**Aktyubinsk**	**58.12**	**311**	P	**P**	**11 10 00.1**	**-0.3**
	comp=E,1.0nm,0.6s,baz=90,slow=7.1,SNR=2.0						
	comp=E,1.0nm,0.6s						
WRA	**Warramunga Arr**	**58.80**	**189**	P	**P**	**11 10 04.2**	**-1.1**
	comp=E,2.0nm,0.8s,baz=3.9,slow=7.1,SNR=11						
	comp=E,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**62.02**	**31**	P	**P**	**11 10 26.6**	**-0.3**
	comp=E,0.3nm,0.9s,baz=294,slow=5.5,SNR=3.6						
	comp=E,0.3nm,0.9s						
ASAR	**Alice Springs**	**62.52**	**189**	P	**P**	**11 10 30.2**	**-0.5**
	comp=E,0.8nm,0.6s,baz=22,slow=7.2,SNR=5.1						
	comp=E,0.8nm,0.6s						
HFS	**Hagfors**	**72.89**	**336**	LR	LR	11 47 39.0	
	comp=E,79nm,18.7s,baz=276,slow=39						
NOA	**NORSAR Array B**	**72.95**	**337**	P	**P**	**11 11 35.6**	**-0.3**
	comp=E,0.4nm,0.6s,baz=40,slow=5.9,SNR=1.8						
NOA				LR	LR	11 46 25.3	
	comp=E,29nm,19.9s,baz=210,slow=38						
	comp=E,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**73.42**	**54**	P	**P**	**11 11 40.3**	**+0.9**
	comp=E,0.8nm,0.8s,baz=301,slow=6.1,SNR=5.7						
	comp=E,0.8nm,0.8s						
AKASG	**Malin Array Be**	**73.44**	**322**	P	**P**	**11 11 38.1**	**-0.9**
	comp=E,0.2nm,0.3s,baz=39,slow=6.9,SNR=1.2						
	comp=E,0.2nm,0.3s						
PDAR	**Pinedale Array**	**75.99**	**46**	P	**P**	**11 11 54.4**	**+0.2**
	comp=E,0.5nm,0.7s,baz=239,slow=3.3,SNR=6.8						
	comp=E,0.5nm,0.7s						
TXAR	**Lajitas Array**	**88.54**	**53**	P	**P**	**11 12 59.6**	**-0.2**
	comp=E,0.3nm,0.6s,baz=317,slow=4.6,SNR=3.9						
	comp=E,0.3nm,0.6s						

ISN ***18*** *11:03:56.1±0.9, 32°.72N×47°.59E, h15km±6km, ML3.4*
TEH ***18*** *11:03:58.5, 32°.90N×47°.48E, h11km±18km*
IDC ***18*** *11:04:01.6±2.2, 32°.94N×48°.10E, h0km, mb3.8/8, mbtmp3.9/10, ML3.5/2, MS3.0/3, Error ellipse: s-maj=44.0km s-min=22.7km az=29.0*
ISC 18 11:04:00.9±0.7, 32°.80N±0°.05×47°.42E±0°.04, h15km, n47, σ1§39/47, mb4.0/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.18**	**32**	Pg	**Pn**	**11 04 19.9**	**-3.2**
IBDR	**Badra**	**1.29**	**284**	*e*Pg	**Pn**	**11 04 22.0**	**-2.5**
IBDR				*e*Sg	**Sg**	**11 04 42.0**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.31**	**309**	Pg	**Pn**	**11 04 24.3**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.51**	**348**	Pg	**Pn**	**11 04 26.1**	**-1.5**
BDRS	**Dareh Seyedi**	**1.68**	**46**	Pg	**Pn**	**11 04 29.9**	**-0.2**
IGHG	**Ghaleghazi**	**1.69**	**335**	Pg	**Pn**	**11 04 29.9**	**-0.2**
HSAM	**Samen**	**1.72**	**35**	Pg	**Pn**	**11 04 30.1**	**-0.5**
AHWZ	**Ahwaz**	**1.79**	**144**	Pn	**Pg**	**11 04 34.5**	**-0.9**
GLG1	**Gilan-e-Gharb**	**1.82**	**317**	Pg	**Pn**	**11 04 32.1**	**+0.2**
SNQR	**Sonqor, Kerman**	**2.06**	**5**	Pn	**Pn**	**11 04 35.2**	**-0.2**
IDHR	**Dehrash**	**2.09**	**336**	Pn	**Pn**	**11 04 35.6**	**0.0**
ILIN	**Lien**	**2.15**	**350**	Pn	**Pn**	**11 04 36.8**	**+0.3**
HAGD	**Aghdareh**	**2.48**	**35**	Pn	**Pn**	**11 04 40.8**	**-0.2**
BHD	**Baghdad**	**2.60**	**281**	*e*Pn	**Pn**	**11 04 42.0**	**-0.4**
BHD				*e*Sn	**Sn**	**11 05 15.0**	**+1.3**
IPIR	**Pirpir**	**2.93**	**91**	Pn	**Pn**	**11 04 47.8**	**+0.6**
HGHA	**Hamedan- Ghaye**	**2.94**	**24**	Pn	**Pn**	**11 04 47.4**	**+0.1**
ZNGN	**Zangian**	**2.98**	**102**	Pn	**Pn**	**11 04 48.6**	**+0.6**
IBRJ	**Brojen**	**3.37**	**104**	Pn	**Pn**	**11 04 53.7**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.41**	**31**	Pn	**Pn**	**11 04 53.6**	**-0.3**
IKLH	**Kolahrood**	**3.53**	**80**	Pn	**Pn**	**11 04 55.8**	**+0.3**
IKRK	**Kirkuk**	**3.65**	**316**	*e*Pn	**Pn**	**11 04 56.0**	**-0.8**
IKRK				*e*Sn	**Sn**	**11 05 40.0**	**+0.4**
IKRK				AML	AML	11 05 55.5	
	comp=E,102nm,1.8s						
IKRK				AML	AML	11 06 01.6	
	comp=N,123nm,0.4s						
IQOM	**Qom**	**3.66**	**55**	Pn	**Pn**	**11 04 57.3**	**+0.1**
KLNJ	**Kolanjah**	**3.97**	**116**	Pn	**Pn**	**11 05 02.8**	**+1.2**
IZEF	**Zefreh**	**4.13**	**87**	Pn	**Pn**	**11 05 04.3**	**+0.6**
IVRN	**Varamin**	**4.20**	**57**	Pn	**Pn**	**11 05 04.4**	**-0.1**
IGZV	**Ghazvin**	**4.26**	**32**	Pn	**Pn**	**11 05 05.1**	**-0.4**
ISFB	**Sefidab**	**4.31**	**68**	Pn	**Pn**	**11 05 05.9**	**-0.2**
IRAM	**Ramesheh**	**4.31**	**102**	Pn	**Pn**	**11 05 06.2**	**0.0**
IDMV	**Damavand**	**4.72**	**53**	Pn	**Pn**	**11 05 11.7**	**-0.2**
KLST	**Kelardasht - M**	**4.77**	**38**	Pn	**Pn**	**11 05 12.6**	**0.0**
ISRB	**Sarab**	**5.02**	**2**	Pn	**Pn**	**11 05 16.3**	**+0.4**
ANAR	**Anarak**	**5.31**	**84**	Pn	**Pn**	**11 05 19.9**	**0.0**
DSBU	**Dashti - Bushe**	**5.52**	**142**	Pn	**Pn**	**11 05 23.7**	**+1.0**
ICHK	**Chekchek**	**5.93**	**93**	Pn	**Pn**	**11 05 28.3**	**-0.1**
IBAF	**Bafgh**	**7.01**	**98**	Pn	**Pn**	**11 05 43.6**	**+0.4**
EIL	**Elat**	**11.12**	**257**	LR	LR	11 12 10.0	
	comp=N,47nm,20.4s,baz=64,slow=42						
WSAR	**Wadi Sarin**	**13.72**	**131**	Pn	**Pn**	**11 07 13.1**	**-2.0**
	comp=N,0.5nm,0.3s,baz=318,slow=12,SNR=5.6						
	comp=N,7.7nm,0.9s						
AKTO	**Aktyubinsk**	**19.29**	**21**	P	**P**	**11 08 23.3**	**-1.8**
	comp=N,0.1nm,0.3s,baz=190,slow=12,SNR=2.4						
AKTO				LR	LR	11 18 47.1	
	comp=N,46nm,20.8s,baz=186,slow=47						
	comp=N,0.7nm,0.5s						
MLR	**Muntele Rosu**	**20.86**	**314**	P	Pn	11 08 48.9	+4.0
	comp=N,1.6nm,0.6s,baz=122,slow=19,SNR=2.2						
	comp=N,1.6nm,0.6s						
AKASG	**Malin Array Be**	**22.35**	**329**	P	**P**	**11 09 03.6**	**+5.3**
	comp=N,0.5nm,0.5s,baz=140,slow=11,SNR=4.2		

comp=Z,20nm,1.5s
WRAB Tennant Creek 41.38 258 P **P 11 28 45.6 -1.4**
WRAB IAmb IAmb 11 28 48.0
comp=Z,14nm,1.4s
WRA Warramunga Arr 41.39 258 P **P 11 28 45.9 -1.1**
WRA Warramunga Arr 41.39 258 P **P 11 28 45.1 -2.0**
comp=Z,5.9nm,1.2s,baz=92,slow=8.0,SNR=8.6
WRA LR LR 11 45 16.0
comp=Z,164nm,18.9s,baz=88,slow=35
comp=Z,5.9nm,1.2s
AS31 Alice Springs 41.76 253 P **P 11 28 48.9 -1.2**
ASAR Alice Springs 41.76 253 P **P 11 28 48.9 -1.2**
ASAR Alice Springs 41.76 253 P **P 11 28 48.5 -1.5**
comp=Z,3.7nm,0.8s,baz=83,slow=8.5,SNR=29
ASAR LR LR 11 44 19.3
comp=Z,207nm,20.5s,baz=90,slow=34
comp=Z,3.7nm,0.8s
GUMO Guam 44.27 311 LR LR 11 45 02.0
comp=Z,102nm,21.5s,baz=92,slow=33
FORT Forrest 47.40 243 P **P 11 29 34.4 -0.6**
FITZ Fitzroy Crossi 49.74 260 P **P 11 29 53.1 -0.1**
FITZ IAmb IAmb 11 29 56.7
comp=Z,6.1nm,1.4s
PSA00 Pilbara Seismi 54.81 255 P **P 11 30 32.5 +1.6**
JCJ Chichijima 55.51 321 LR LR 11 49 21.6
comp=Z,233nm,21.8s,baz=130,slow=31
DAV Davao City (W) 56.79 290 LR LR 11 51 20.1
comp=Z,108nm,21.6s,baz=103,slow=32
KAPI Kappang 58.04 274 LR LR 11 56 07.5
comp=Z,38nm,18.8s,baz=96,slow=36
JHJ Hachijo jima 2 61.34 324 LR LR 11 51 08.3
comp=Z,101nm,21.6s,baz=108,slow=30
VNDA Vanda 61.52 184 LR LR 11 55 10.6
comp=Z,146nm,18.3s,baz=339,slow=33
TGY Tagaytay City 63.95 295 LR LR 11 57 49.2
comp=Z,83nm,18.5s,baz=142,slow=35
JMM Marumori 64.37 328 P **P 11 31 39.3 +3.0**
JGF Kuroka 64.52 324 P **P 11 31 40.5 +3.0**
JOW Kunigami 64.63 311 LR LR 11 56 03.1
comp=Z,116nm,21.0s,baz=144,slow=33
MJAR Matsushiro Arr 64.73 325 P **P 11 31 36.1 -2.7**
comp=Z,3.3nm,0.9s,baz=159,slow=6.1,SNR=7.6
MJAR LR LR 11 54 44.9
comp=Z,150nm,21.9s,baz=135,slow=31
comp=Z,3.3nm,0.9s
JNU Nakatsue 66.73 318 LR LR 11 56 58.0
comp=Z,58nm,20.4s,baz=110,slow=32
ASAJ Asahikawa 68.43 333 LR LR 11 56 09.3
comp=Z,209nm,21.8s,baz=170,slow=31
KSRS Korea Array 71.35 320 P **P 11 32 19.1 -1.2**
comp=Z,0.9nm,0.8s,baz=130,slow=6.5,SNR=5.8
KSRS LR LR 11 58 24.2
comp=Z,115nm,21.6s,baz=130,slow=32
comp=Z,0.9nm,0.8s
PETK Petropavlovsk- 71.52 347 P **P 11 32 19.7 -1.3**
comp=Z,5.0nm,1.0s,baz=181,slow=6.1,SNR=4.3
PETK LR LR 11 57 17.4
comp=Z,70nm,21.5s,baz=160,slow=30
comp=Z,5.0nm,1.0s
QSPA South Pole Qui 73.49 180 P **P 11 32 33.6 +0.7**
QSPA South Pole Qui 73.49 180 P **P 11 32 33.1 +0.2**
comp=Z,6.2nm,1.0s,baz=67,slow=1.8,SNR=12
QSPA LR LR 11 59 40.6
comp=Z,133nm,20.1s,baz=40,slow=32
comp=Z,6.2nm,1.0s
USA0B Ussuriysk Arra 73.53 327 P **P 11 32 36.9 +3.7**
USA0B IAmb IAmb 11 32 38.3
comp=Z,5.2nm,0.8s
USRK Ussuriysk Ar. 73.53 327 P **P 11 32 31.2 -1.9**
comp=Z,1.6nm,0.7s,baz=152,slow=6.5,SNR=2.2
USRK LR LR 11 59 11.5
comp=Z,133nm,20.7s,baz=136,slow=31
comp=Z,1.6nm,0.7s
KLR Kul'dur 77.17 331 LR LR 12 00 38.9
comp=Z,81nm,21.5s,baz=158,slow=31
KDAK Kodiak Island 78.00 16 LR LR 11 59 32.6
comp=Z,122nm,21.4s,baz=58,slow=30
MA2 Magadan 79.00 346 LR LR 12 09 31.8
comp=Z,36nm,18.1s,baz=163,slow=37
YBH Yreka Blue Hor 79.78 41 LR LR 12 01 56.9
comp=Z,106nm,18.4s,baz=239,slow=31
PFO Pinyon Flats O 80.00 51 LR LR 12 00 38.0
comp=Z,113nm,18.8s,baz=250,slow=30
PSI Prapat 80.21 276 LR LR 12 07 20.9
comp=Z,41nm,21.9s,baz=158,slow=35
DSP Deep Springs 80.68 47 P **P 11 33 15.3 +1.8**
DSP IAmb IAmb 11 33 21.8
comp=Z,9.5nm,1.1s
LPIG La Paz 80.89 62 LR LR 12 01 42.5
comp=Z,95nm,18.8s,baz=251,slow=30
NVAR Mina Array Bea 80.97 46 P **P 11 33 14.7 -0.6**
comp=Z,1.0nm,0.9s,baz=226,slow=9.1,SNR=5.2
NVAR LR LR 12 00 58.7
comp=Z,171nm,20.2s,baz=235,slow=30
comp=Z,1.0nm,0.9s
MAW Mawson 83.90 200 LR LR 12 06 10.1
comp=Z,133nm,20.6s,baz=106,slow=32
G08A Pilot Rock 83.97 39 P **P 11 33 33.0 +2.2**
CMAR Chiang Mai Arr 85.08 291 P **P 11 33 37.0 +0.2**
comp=Z,0.8nm,0.3s,baz=104,slow=3.9,SNR=6.8
comp=Z,0.8nm,0.3s
ILAR Eielson Array 85.42 14 P **P 11 33 35.5 -1.9**
comp=Z,0.9nm,0.9s,baz=229,slow=5.1,SNR=7.3
ILAR LR LR 12 04 12.6
comp=Z,79nm,20.1s,baz=228,slow=30
comp=Z,0.9nm,0.9s
PMSA Palmer Station 86.43 158 LR LR 12 04 23.1
comp=Z,253nm,19.9s,baz=268,slow=30
YAK Yakutsk 87.03 339 LR LR 12 09 50.9
comp=Z,63nm,18.8s,baz=112,slow=34
ANMO Albuquerque 88.08 53 LR LR 12 05 55.7
comp=Z,62nm,20.0s,baz=45,slow=31
TXAR Lajitas Array 88.31 59 P **P 11 33 51.8 -0.7**
comp=Z,0.5nm,0.9s,baz=251,slow=3.8,SNR=5.1
TXAR LR LR 12 04 39.0
comp=Z,50nm,21.2s,baz=254,slow=30
comp=Z,0.5nm,0.9s
PDAR Pinedale Array 88.86 45 P **P 11 33 53.8 -1.2**
comp=Z,0.9nm,1.0s,baz=225,slow=1.9,SNR=4.2
PDAR LR LR 12 06 19.4
comp=Z,68nm,19.6s,baz=255,slow=31
comp=Z,0.9nm,1.0s
SONM Songino Array 90.22 320 P **P 11 34 00.1 -1.0**
comp=Z,0.5nm,0.8s,baz=94,slow=25,SNR=3.8
SONM LR LR 12 09 27.9
comp=Z,85nm,21.2s,baz=118,slow=32
comp=Z,0.5nm,0.8s
SNAA Sanae 92.00 180 LR LR 12 12 46.2
comp=Z,60nm,19.6s,baz=14,slow=34
CMIG Matias Romero 92.22 73 LR LR 12 08 01.8
comp=Z,58nm,18.3s,baz=140,slow=31
BRDH Bariadhala 92.88 293 LR LR 12 15 32.8
comp=Z,28nm,19.8s,baz=184,slow=35
TIXI Tiksi 93.97 346 LR LR 12 12 57.5
comp=Z,54nm,19.9s,baz=192,slow=33
YKA Yellowknife Ar 94.62 25 P **P 11 34 21.8 +1.0**
comp=Z,0.2nm,0.6s,baz=242,slow=4.7,SNR=2.8
YKA LR LR 12 13 31.7
comp=Z,76nm,18.3s,baz=296,slow=33
comp=Z,0.2nm,0.6s
PLCA Paso Flores 94.82 135 LR LR 12 09 04.8
comp=Z,64nm,19.9s,baz=216,slow=30
PALK Pallekele 98.87 275 LR LR 12 20 05.3
comp=Z,43nm,19.5s,baz=114,slow=36
JTS Las Juntas de 99.69 82 LR LR 12 12 12.9
comp=Z,30nm,18.1s,baz=319,slow=31
GERES GERESS Array B 145.29 342 PKPbc **PKPbc 11 40 37.6 -0.4**
comp=Z,0.9nm,0.7s,baz=111,slow=7.3,SNR=4.7
CONA Conrad Observa 145.38 339 *i* PKiKP **PKiKP 11 40 45.8 +3.4**
comp=Z,14nm,1.5s
RONA Rosalia, Austr 145.42 338 *i* PKP **PKPbc 11 40 38.6 +0.2**
comp=Z,1.6nm,0.6s
RONA *i* PKiKP **pPKPdf 11 40 46.0 +0.3**
comp=Z,13nm,1.3s
MOA Molln 145.99 340 *i* PKP **PKPab 11 40 41.0 +0.3**
comp=Z,3.4nm,0.9s
MOA *i* PKiKP **pPKPdf 11 40 47.3 +0.8**
comp=Z,10nm,1.2s
ARSA Arzberg 146.08 338 *i* PKiKP **PKiKP 11 40 44.8 +1.0**
comp=Z,6.1nm,1.3s
BIOA Bad Ischl, Aus 146.33 341 *e*PKP **PKPbc 11 40 41.5 +0.3**
comp=Z,1.3nm,0.4s
SOKA Soboth 146.75 338 *i* PKP **PKPbc 11 40 42.9 +0.4**
comp=Z,1.7nm,0.9s
SOKA *i* PKiKP **pPKPdf 11 40 48.2 +0.3**
comp=Z,2.4nm,0.7s
LESA Schwarzleotal 146.87 341 *i* PKiKP **PKiKP 11 40 47.0 +1.5**
comp=Z,5.0nm,1.0s
KBA Koelnbreinsper 146.97 340 *i* PKP **PKPbc 11 40 42.9 -0.3**
comp=Z,2.6nm,1.2s
KBA *i* PKiKP **pPKPdf 11 40 48.7 +0.3**
comp=Z,3.8nm,1.0s
OBKA Obir 147.06 339 *i* PKP **PKPbc 11 40 43.1 -0.3**
comp=Z,0.9nm,0.5s
OBKA *i* PKiKP **pPKPdf 11 40 48.3 -0.2**
comp=Z,4.1nm,1.4s
MYKA Terra Mystica 147.27 340 *e*PKiKP **PKiKP 11 40 50.2 +3.9**
WATA Walderalm 147.28 343 *e*PKP **PKPdf 11 40 42.0 +0.2**
comp=Z,3.2nm,0.5s
WATA *i* PKiKP **PKiKP 11 40 47.6 +1.2**
comp=Z,8.2nm,1.1s
WTTA Wattenberg 147.32 343 *i* PKP **PKiKP 11 40 47.2 +0.7**
comp=Z,7.2nm,1.1s
RETA Reutte 147.36 344 *i* PKiKP **PKiKP 11 40 48.2 +1.7**
comp=Z,9.8nm,1.6s
MOTA Moosalm 147.40 343 *i* PKiKP **PKiKP 11 40 49.6 +2.9**
comp=Z,7.1nm,1.0s
SQTA Sankt Quirin 147.48 343 *i* PKiKP **PKiKP 11 40 50.2 +3.4**
comp=Z,6.7nm,0.8s
ABTA Abfaltersbach 147.53 341 *i* PKiKP **PKiKP 11 40 49.0 +2.1**
comp=Z,7.2nm,1.4s
DAVA Damuels 147.78 345 *i* PKiKP **PKPab 11 40 49.3 +1.5**
comp=Z,13nm,1.6s
FETA Feichten 147.80 343 *i* PKP **PKPab 11 40 48.5 +0.6**
comp=Z,4.3nm,0.7s

---

*NEIC **18** 11:41:39.2±1.9, 39°.73N±0°.06×142°.6E±0°.1, h35km±2km, mb4.3/5, Error ellipse: s-maj=17.8km s-min=9.7km az=106.0*
*NIED **18** 11:41:45.1, 39°.76N×141°.84E, h59km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}5.51; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$-3.97; $M_{r\theta}$1.92; $M_{\theta\phi}$-1.44; $M_{\phi r}$5.95; Fault plane solution: $M_0$8.05000×10^14^ NP1: ϕ_s208.00000°, δ20.00000°, λ98.00000°. NP2:ϕ_s20.00000°, δ70.00000°, λ87.00000°.*
*JMA **18** 11:41:45.1±0.1, 39°.8N±0°.2×141°.8E±0°.4, h59km, MD3.7/39, MV3.7/39, NORTHERN IWATE PREF*
JMA Felt II J1 at NORTHERN IWATE PREF .
*IDC **18** 11:41:46.4±2.0, 39°.72N×141°.85E, h79km±16km, mb3.6/16, mbtmp3.9/21, MS3.6/2, Error ellipse: s-maj=19.8km s-min=13.0km az=110.0*

ISC 18 11:41:45.0±0.7, 39°.74N±0°.04×141°.85E±0°.06, h61km±5km, n66, σ0§98/60, mb4.1/18, 17D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.16**	**188**	*i* P	**Pn**	**11 41 54.5**	**+0.1**
MIYJ				S	**Sn**	**11 42 00.9**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.16**	**188**	A	A	11 41 54.5	
	comp=N,6.0nm,2.3s,comp=E,10.0nm,1.1s						
JTH	**Tanohata**	**0.20**	**3**	*i* P	**Pn**	**11 41 54.4**	**-0.1**
JTH				S	**Sn**	**11 42 01.0**	**-0.6**
JTH	**Tanohata**	**0.20**	**3**	A	A	11 41 54.4	
	comp=N,18nm,0.3s,comp=E,30nm,0.3s						
JKZ	**Kuzumaki**	**0.47**	**302**	‖*i* P	**Pn**	**11 41 56.7**	**-0.1**
JKZ				‖S	**Sn**	**11 42 04.7**	**-0.6**
JKZ	**Kuzumaki**	**0.47**	**302**	A	A	11 41 56.7	
	comp=N,6.0nm,0.9s,comp=E,14nm,0.8s						
JKEN	**Kujiedanarisaw**	**0.48**	**347**	‖*i* P	**Pn**	**11 41 56.5**	**-0.3**
JKEN				‖S	**Sn**	**11 42 04.7**	**-0.7**
JKEN	**Kujiedanarisaw**	**0.48**	**347**	A	A	11 41 56.5	
	comp=N,23nm,1.0s,comp=E,25nm,1.0s						
JOM	**Ohasama**	**0.51**	**239**	‖*i* P	**Pn**	**11 41 57.0**	**-0.1**
JOM				‖S	**Sn**	**11 42 05.5**	**-0.4**
JOM	**Ohasama**	**0.51**	**239**	A	A	11 41 57.0	
	comp=N,5.0nm,1.7s,comp=E,16nm,1.2s						
OFUJ	**Ofunato**	**0.67**	**192**	*i* P	**Pn**	**11 41 59.1**	**+0.2**
OFUJ				S	**Sn**	**11 42 09.1**	**0.0**
OFUJ	**Ofunato**	**0.67**	**192**	A	A	11 41 59.1	
	comp=N,7.0nm,0.3s,comp=E,9.0nm,0.4s						
JANG	**Nango**	**0.68**	**338**	‖*i* P	**Pn**	**11 41 58.6**	**-0.5**
JANG				‖S	**Sn**	**11 42 08.3**	**-1.2**
JANG	**Nango**	**0.68**	**338**	A	A	11 41 58.6	
	comp=N,8.0nm,0.6s,comp=E,6.0nm,0.4s						
JMK	**Ichinoseki**	**0.93**	**212**	‖*i* P	**Pn**	**11 42 02.1**	**+0.1**
JMK				‖S	**Sn**	**11 42 14.8**	**+0.1**
JRG	**Rokugo**	**1.00**	**250**	‖*i* P	**Pn**	**11 42 02.9**	**-0.2**
JRG				‖*e*S	**Sn**	**11 42 15.8**	**-0.6**
JRG	**Rokugo**	**1.00**	**250**	A	A	11 42 02.9	
	comp=N,5.0nm,0.5s,comp=E,6.0nm,0.5s						
JAH	**Hinai**	**1.03**	**296**	‖*i* P	**Pn**	**11 42 03.3**	**-0.2**
JAH				‖*e*S	**Sn**	**11 42 17.6**	**+0.4**
JTM	**Tenmabayashi**	**1.21**	**331**	Pn	**Pn**	**11 42 05.7**	**-0.1**
JTM	**Tenmabayashi**	**1.21**	**331**	‖P	**Pn**	**11 42 05.5**	**-0.3**
JTM				‖S	**Sn**	**11 42 20.8**	**-0.4**
JIO	**Ouri**	**1.34**	**197**	*i* P	**Pn**	**11 42 07.7**	**+0.1**
JYK	**Kaneyama**	**1.42**	**235**	‖*i* P	**Pn**	**11 42 08.7**	**+0.1**
JMM	**Marumori**	**2.04**	**204**		**Pn**	**11 42 17.2**	**+0.2**
ERM	**Erimo**	**2.48**	**23**	Pn	Pn	11 42 15.4	-7.5
JSD	**Sado**	**3.28**	**240**	Pn	**Pn**	**11 42 34.2**	**+0.4**
MAJO	**Matsushiro**	**4.29**	**223**	Pn	**Pn**	**11 42 47.5**	**-0.2**
MJAR	**Matsushiro Arr**	**4.29**	**223**	P	**Pn**	**11 42 49.1**	**+1.4**
	comp=E,4.2nm,0.6s,baz=33,slow=13,SNR=12						
MJB9	**Matsu-Tunnel**	**4.29**	**223**	Pn	**Pn**	**11 42 47.6**	**-0.1**
ASAJ	**Asahikawa**	**4.41**	**7**	P	**Pn**	**11 42 52.4**	**+3.1**
	comp=E,7.6nm,0.5s,baz=214,slow=16,SNR=11						
ASAJ				S	**Sn**	**11 43 40.2**	**+0.9**
	comp=E,5.3nm,0.3s,baz=352,slow=30,SNR=1.6						
JKA	**Kamikawa-asahi**	**4.41**	**7**	Pn	Pn	11 42 43.4	-5.9
JGF	**Kuroka**	**5.46**	**222**		**Pn**	**11 43 03.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.59**	**304**	P	**Pn**	**11 43 47.5**	**+1.1**
	comp=E,3.1nm,0.7s,baz=102,slow=14,SNR=5.3						
JMN	**Monobe**	**8.77**	**229**	Pn	**Pn**	**11 43 50.6**	**+1.5**
JNU	**Nakatsue**	**11.03**	**237**	Pn	**Pn**	**11 44 21.3**	**+1.4**
KSRS	**Korea Array**	**11.14**	**263**	P	**Pn**	**11 44 24.4**	**+3.1**
	comp=E,1.6nm,0.8s,baz=72,slow=14,SNR=5.8						
KLR	**Kul'dur**	**11.91**	**326**	P	**Pn**	**11 44 35.1**	**+3.3**
	comp=E,0.3nm,0.3s,baz=150,slow=20,SNR=2.3						
MA2	**Magadan**	**20.64**	**13**	P	**P**	**11 46 19.3**	**+0.1**
	comp=E,2.3nm,0.5s,baz=184,slow=11,SNR=8.3						
	comp=E,2.3nm,0.5s						
SONM	**Songino Array**	**26.66**	**299**	P	**P**	**11 47 17.1**	**-0.9**
	comp=E,0.3nm,0.7s,baz=93,slow=9.0,SNR=2.9						
	comp=E,0.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**126**	T	T	12 18 18.7	
	baz=318,slow=75,SNR=241						
H11N1	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	12 18 16.2	
	baz=318,slow=75,SNR=269						
H11N3	**WAKE ISLAND Hy**	**29.36**	**126**	T	T	12 18 22.5	
	baz=318,slow=75,SNR=290						
H11S1	**WAKE ISLAND Hy**	**30.14**	**127**	T	T	12 19 21.1	
	baz=319,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**30.14**	**127**	T	T	12 19 14.8	
	baz=319,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**30.15**	**127**	T	T	12 19 16.5	
	baz=319,slow=76,SNR=17						
ZAA0	**Zalesovo Array**	**40.39**	**310**	P	**P**	**11 49 16.6**	**-0.1**
ZAA0				IAmb	IAmb	11 49 17.4	
	comp=Z,3.5nm,0.6s						
ZALV	**Zalesovo Beam**	**40.39**	**310**	P	**P**	**11 49 16.6**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=89,slow=8.7,SNR=16						
	comp=Z,3.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.57**	**253**	LR	LR	12 09 26.9	
	comp=Z,46nm,18.6s,baz=115,slow=39						
MK31	**Makanchi Array**	**43.02**	**300**	P	**P**	**11 49 37.3**	**-1.0**
MKAR	**Makanchi Array**	**43.02**	**300**	P	**P**	**11 49 37.6**	**-0.7**
MKAR	**Makanchi Array**	**43.02**	**300**	P	**P**	**11 49 38.0**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=85,slow=9.8,SNR=23						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**43.23**	**300**	P	**P**	**11 49 39.3**	**-0.7**
MAKZ				IAmb	IAmb	11 49 39.6	
	comp=Z,5.1nm,1.5s						
KURK	**Kurchatov**	**44.58**	**306**	P	**P**	**11 49 50.5**	**-0.1**
KURK				IAmb	IAmb	11 49 51.1	
	comp=Z,4.5nm,0.8s						
KURBB	**Kurchatov Arra**	**44.65**	**306**	P	**P**	**11 49 51.0**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=82,slow=8.5,SNR=30						
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**47.04**	**34**	P	**P**	**11 50 10.1**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=266,slow=5.7,SNR=9.4						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**49.04**	**311**	P	**P**	**11 50 24.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=62,slow=9.2,SNR=3.6						
	comp=Z,0.7nm,0.6s						
ARTI	**Arti**	**54.69**	**317**	P	**P**	**11 51 07.0**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=131,slow=3.5,SNR=6.1						
	comp=Z,3.1nm,0.5s						
ABKAR	**Akbulak array**	**56.48**	**309**	P	**P**	**11 51 18.5**	**-1.9**
AKTO	**Aktyubinsk**	**57.15**	**311**	P	**P**	**11 51 24.5**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=84,slow=9.7,SNR=4.5						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**59.78**	**188**	P	**P**	**11 51 42.8**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=2.5,slow=7.1,SNR=5.3						
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**61.31**	**31**	P	**P**	**11 51 53.9**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=281,slow=7.0,SNR=1.8						
	comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**61.59**	**339**	P	**P**	**11 51 55.1**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=53,slow=5.9,SNR=2.0						
	comp=Z,4.8nm,1.0s						
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**11 52 07.4**	**-1.3**
	comp=Z,0.6nm,1.0s,baz=2.3,slow=6.4,SNR=4.7						
	comp=Z,0.6nm,1.0s						
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**11 52 28.3**	**0.0**
	comp=Z,3.6nm,0.8s,baz=27,slow=13,SNR=6.5						
	comp=Z,3.6nm,0.8s						
HFS	**Hagfors**	**71.77**	**336**	P	**P**	**11 53 00.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=46,slow=8.3,SNR=4.0						
	comp=Z,1.4nm,0.6s						
AKASG	**Malin Array Be**	**72.38**	**322**	P	**P**	**11 53 03.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=46,slow=6.4,SNR=6.2						
	comp=Z,1.0nm,0.6s						
SFJD	**Kangerlussuaq**	**73.17**	**5**	LR	LR	12 27 59.2	
	comp=Z,47nm,18.1s,baz=286,slow=38						

---

*IDC **18** 11:51:47.0±1.8, 7°.08S×121°.00E, h0km, mb3.2/2, mbtmp3.4/4, ML3.6/2, MS3.5/1, Error ellipse: s-maj=170.9km s-min=25.9km az=58.0*
*DJA **18** 11:52:07.4±1.5, 8°S±4°×12°0E±°, h20km±13km, M3.7/6, MLv3.7/6*

ISC 18 11:52:02.8±1.0, 8°.31S±0°.07×120°.16E±0°.07, h172km, n12, σ1§87/16, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.36**	**174**	P	**Pn**	**11 52 34.2**	**+1.5**
WSI				S	**Sn**	**11 52 56.7**	**+0.7**
WBSI	**Waikabubak, Su**	**1.53**	**210**	P	**Pn**	**11 52 35.4**	**+1.0**
WBSI				S	**Sn**	**11 52 58.2**	**-0.7**
BASI	**Baing, Sumba**	**1.94**	**168**	P	**Pn**	**11 52 39.8**	**+1.1**
BASI				S	**Sn**	**11 53 07.2**	**+0.6**
MMRI	**Maumere**	**2.08**	**99**	P	**Pn**	**11 52 42.1**	**+1.9**
BSSI	**Bau Bau, Buton**	**2.18**	**9**	P	**Pn**	**11 52 41.2**	**-0.2**
PLAI	**Plampang**	**2.42**	**258**	P	**Pn**	**11 52 45.4**	**+1.3**
PLAI				S	**Sn**	**11 53 15.9**	**-0.2**
SOEI	**Soe**	**4.30**	**110**	P	**Pn**	**11 53 10.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**11.09**	**152**	Pn	**Pn**	**11 54 38.6**	**+1.9**
	0.3nm,0.3s,baz=333,slow=12,SNR=6.8						
FITZ				Sn	**Sn**	**11 56 35.7**	**-4.2**
	0.1nm,0.3s,baz=13,slow=19,SNR=3.5						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**17.95**	**132**	P	**Pn**	**11 56 02.2**	**+0.4**
	0.2nm,0.3s,baz=308,slow=12,SNR=13						
WRA				S	**S**	**11 59 14.5**	**-2.8**
	0.2nm,0.3s,baz=304,slow=23,SNR=5.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**20.16**	**141**	P	Pn	11 56 26.9	-1.1
	0.3nm,0.4s,baz=325,slow=12,SNR=12						
	0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**24.65**	**186**	LR	LR	12 09 03.8	
	comp=Z,104nm,19.1s,baz=72,slow=40						
MKAR	**Makanchi Array**	**64.38**	**332**	P	**P**	**12 02 20.4**	**0.0**
	0.2nm,0.6s,baz=148,slow=6.8,SNR=3.8						
	0.2nm,0.6s						

---

*GCG **18** 11:59:55.2±1.4, 14°.24N×93°.22W, h22km±18km, MD3.8, Hypocentre not reviewed by the ISC*
*IDC **18** 11:59:56.8±6.8, 15°.18N×92°.65W, h0km, mb3.5/2, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=158.7km s-min=50.5km az=22.0*
*MEX **18** 11:59:57.6±0.8, 14°.45N×93°.26W, h9km±15km, MD4.2*

ISC 18 11:59:53.3±1.7, 14°.59N±0°.06×93°.15W±0°.03, h2km±11km, n26, σ2§56/46, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.91**	**70**	*e*P	**Pn**	**12 00 14.5**	**+1.3**
THIG				*e*S	**Sn**	**12 00 28.4**	**+1.5**
THIG		**0.91**	**70**	*e*P		12 00 14.8	
SMCA	**Catarina**	**1.07**	**76**	*e*P		12 00 16.8	
PCIG		**1.11**	**357**	*e*P	**Pn**	**12 00 17.6**	**+1.7**
PCIG				*e*S	**Sn**	**12 00 32.3**	**+0.6**
RTAL	**Retalhuleu**	**1.41**	**93**	*e*P	**Pg**	**12 00 20.7**	**+0.3**
RTAL				*e*S	**Sn**	**12 00 39.1**	**-0.1**
SOKI	**Kika Raxquin**	**1.71**	**82**	*e*P		12 00 26.6	
HUEH	**Huehuetenango**	**1.75**	**65**	*e*P	**Pg**	**12 00 28.3**	**+1.4**
HUEH				*e*S	**Sg**	**12 00 51.8**	**+2.2**
HUEH	**Huehuetenango**	**1.75**	**65**	*e*P		12 00 28.4	
CARR	**Arriaga**	**1.80**	**336**	*e*P	**Pn**	**12 00 27.7**	**+2.3**
CARR				*e*S	**Sb**	**12 00 51.1**	**+1.0**
CCIG	**Comitan**	**1.94**	**30**	*e*P	**Pg**	**12 00 32.7**	**+2.0**
CCIG				*i* S	**Sg**	**12 00 57.9**	**+2.0**
CCIG	**Comitan**	**1.94**	**30**	*e*P		12 00 32.8	
QUIS	**Sacapulas**	**2.11**	**71**	*e*P		12 00 33.5	
TGBT	**Tuxtla Gutierr**	**2.17**	**2**	*e*P	**Pg**	**12 00 34.8**	**-0.3**
TGBT				*e*S	**Sg**	**12 01 02.1**	**-1.2**
TGIG		**2.17**	**1**	*e*P	**Pg**	**12 00 34.8**	**-0.2**
TGIG				*e*S	**Sg**	**12 01 02.1**	**-1.1**
TGIG		**2.17**	**1**	*e*P		12 00 34.7	
NILT	**Santiago Nilte**	**2.42**	**324**	*e*P	**Pn**	**12 00 35.9**	**+2.0**
NILT				*e*S	**Sn**	**12 01 04.4**	**+0.4**
CMIG	**Matias Romero**	**2.99**	**326**	Pn	**Pn**	**12 00 44.1**	**+2.3**
	5.4nm,0.3s,baz=133,slow=15,SNR=42						
CMIG				Sn	**Sn**	**12 01 20.9**	**+2.7**
	13nm,0.3s,baz=94,slow=22,SNR=6.4						
	14nm,0.3s						
CMIG	**Matias Romero**	**2.99**	**326**	*e*P	**Pn**	**12 00 44.0**	**+2.2**
CMIG				*e*S	**Sn**	**12 01 19.5**	**+1.2**
HUIG	**Huatulco**	**3.08**	**293**	*e*P	**Pn**	**12 00 44.3**	**+1.2**
HUIG				*e*S	Sn	12 01 14.1	-6.5
HUIG	**Huatulco**	**3.08**	**293**	‖*e*P		12 00 44.0	
PETF	**Flores**	**3.92**	**53**	*e*P	**Pb**	**12 00 58.5**	**-4.6**
PETF				*e*S	**Sb**	**12 01 42.7**	**-8.3**
PETF	**Flores**	**3.92**	**53**	*e*P		12 00 59.4	
NEUV	**Arroyo Zacate**	**4.01**	**321**	*e*P	**Pn**	**12 00 57.2**	**+1.4**
NEUV				*e*S	**Sn**	**12 01 41.0**	**-2.5**
PEIG	**Puerto Escondi**	**4.10**	**290**	*e*P	**Pn**	**12 00 58.2**	**+1.1**
PEIG				*e*S	Sn	12 01 39.3	-6.5
VHO	**Vista Hermosa**	**4.24**	**306**	*e*P	**Pn**	**12 00 59.5**	**+0.4**
VHO				*e*S	**Sn**	**12 01

BYL	Byron's Ledge	0.09 329			Pg	12 22 19.9	+0.4
SDHHI	Sand Hill	0.09 304			Pg	12 22 21.9	+2.3
STCH	Steam Cracks	0.10 60	Pg		Pg	12 22 19.9	+0.4
STCH			IAML			12 22 22.2	
	comp=N,2μm,0.5s						
STCH			IAML			12 22 22.2	
	comp=E,1μm,0.2s						
HATHI	Halema'uma'u T	0.10 332			Pg	12 22 20.1	+0.4
HATHI			IAML			12 22 22.4	
	comp=N,1μm,0.2s						
HLP	Hilina Pali	0.10 245			Pg	12 22 20.1	+0.5
HLP			IAML			12 22 22.4	
	comp=E,3μm,0.3s						
SBLHI	Steaming Bluff	0.10 330			Pg	12 22 20.1	+0.4
SBLHI					Sg	12 22 22.1	+0.7
OBL	Observatory Le	0.10 320			Pg	12 22 22.1	+2.4
UWB	Uwekahuna Bluf	0.11 325			Pg	12 22 22.1	+2.3
WRMHI	West Rim	0.11 310			Pg	12 22 22.1	+2.3
NPOC	North of Pu'u	0.11 61			Pg	12 22 20.3	+0.4
NPOC					Sg	12 22 22.3	+0.7
UWE	Uwekahuna	0.11 318			Pg	12 22 20.3	+0.4
UWE					Sg	12 22 22.4	+0.8
UWE	Uwekahuna	0.11 318	IAML			12 22 22.9	
	comp=E,995nm,0.6s						
UWE			IAML			12 22 23.2	
	comp=N,1μm,0.8s						
JCUZ	Jacuzzi	0.12 66			Pg	12 22 20.3	+0.4
JCUZ					Sg	12 22 22.3	+0.7
RSD	Rainshed	0.14 334			Pg	12 22 20.7	+0.3
RSD					Sg	12 22 23.2	+0.8
RSD	Rainshed	0.14 334	IAML			12 22 23.4	
	comp=E,327nm,0.5s						
RSD			IAML			12 22 23.8	
	comp=N,676nm,0.9s						
HTC	Hot Caves	0.20 240			Pg	12 22 21.9	+0.5
JOKA	Jonika Flow	0.22 64			Pg	12 22 21.8	0.0
JOKA	Jonika Flow	0.22 64			Sg	12 22 25.4	+0.8
MLH	Mauna Loa	0.23 314			Pg	12 22 22.3	+0.4
MLH					Sg	12 22 25.9	+0.9
MLH	Mauna Loa	0.23 314	IAML			12 22 28.2	
	comp=E,383nm,0.2s						
MLH			IAML			12 22 28.3	
	comp=N,469nm,0.7s						
PAH	Pahoa	0.30 58			Pg	12 22 23.4	+0.2
PAH					Sg	12 22 27.7	+0.6
KHU	Kahuku	0.39 257	Pg		Pg	12 22 25.2	+0.1
KHU			IAML			12 22 31.6	
	comp=E,568nm,1.3s						
KHU			IAML			12 22 37.2	
	comp=N,353nm,0.8s						
ALEP	Alea Permanent	0.45 297			Pg	12 22 25.9	-0.4
POHA	Pohakuloa	0.52 324	Pg		Pg	12 22 27.2	-0.2
HUH	Hualalai	0.68 301			Pg	12 22 29.6	-0.9

*IDC **18** 12:33:44.0±5.2,6°.09S×148°.17E,h69km±48km,mb3.4/4, mbtmp3.8/6,ML4.2/1,Error ellipse: s-maj=63.2km s-min=33.7km az=109.0*

ISC 18 12:33:43.2±1.4,6°.1S±0°.1×148°.2E±0°.4,h60km,n7,σ1§00/8, mb3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.43	197	P	Pn	12 34 35.5	+1.2
	24nm,0.3s,baz=16,slow=12,SNR=16						
PMG				S	Sn	12 35 12.2	-1.6
	219nm,0.4s,baz=331,slow=20,SNR=9.8						
WRA	Warramunga Arr	19.23	223	P	P	12 38 02.2	-0.5
	0.7nm,0.3s,baz=52,slow=11,SNR=23						
	1.9nm,0.4s						
ASAR	Alice Springs	22.21	217	P	P	12 38 35.0	+0.1
	3.0nm,0.5s,baz=51,slow=9.0,SNR=108						
	3.0nm,0.5s						
STKA	Stephens Creek	26.37	193	P	P	12 39 14.3	+0.4
	1.6nm,0.5s,baz=8.7,slow=11,SNR=4.9						
	1.6nm,0.5s						
MKAR	Makanchi Array	78.31	320	P	P	12 45 37.2	+0.2
	0.1nm,0.4s,baz=117,slow=6.4,SNR=5.2						
	0.1nm,0.4s						
ILAR	Eielson Array	85.12	23	P	P	12 46 11.7	-0.7
	0.1nm,0.6s,baz=255,slow=5.5,SNR=1.1						
	0.1nm,0.6s						
TORD	Torodi Ar. Bea	146.24	284	PKPbc	PKPdf	12 53 17.0	+0.1
	26nm,0.3s,baz=72,slow=4.1,SNR=1.6						

*NOU **18** 12:45:22.4,21°.65S×179°.02W,h615km,mb4.3/17,Fiji Islands Region*
*NEIC **18** 12:45:23.1±1.6,21°.55S±0°.10×179°.3W±0°.1,h605km±8km, mb4.3/26,Error ellipse: s-maj=21.0km s-min=3.3km az=131.0*
*IDC **18** 12:45:23.8±1.3,21°.45S×179°.40W,h616km±13km, mb3.3/12,mbtmp4.2/14,Error ellipse: s-maj=21.5km s-min=13.0km az=135.0*

ISC 18 12:45:22.3±0.5,21°.67S±0°.07×179°.31W±0°.08,h604km, n121,σ1§49/122,mb4.1/24,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	3.45	8	P	P	12 46 46.0	+1.4
MSVF	Nonsavu	4.64	327	P	P	12 46 53.8	+0.9
MSVF	Nonsavu	4.64	327	P	P	12 46 54.3	+1.4
	5.0nm,0.3s,baz=272,slow=24,SNR=28						
MSVF				S	S	12 48 06.8	+0.2
	6.8nm,0.8s,baz=254,slow=18,SNR=1.2						
MSVF	Nonsavu	4.64	327	P	P	12 46 54.3	+1.4
TAVE	Taveuni	4.97	353	P	P	12 46 56.5	+1.2
DGTI	Dogotuki	5.42	350	P	P	12 46 59.5	+0.6
YSA	Yasawairara	5.75	329	P	P	12 47 02.9	+1.2
FUTU	Fugatoga	7.41	9	P	P	12 47 16.3	0.0
FUTU	Fugatoga	7.41	9	P	P	12 47 16.8	+0.4
GLKZ	Green Lake	7.67	171	P	P	12 47 18.4	-0.1
GLKZ				P	S	12 48 53.6	-0.1
NIUE	Niue	9.17	75	P	P	12 47 32.6	-0.4
NIUE	Niue	9.17	75	P	P	12 47 27.3	-5.8
AFI	Afiamalu	10.53	44	P	P	12 47 44.5	-2.1
AFI	Afiamalu	10.53	44	P	P	12 47 45.0	-1.7
AFI	Afiamalu	10.53	44	P	P	12 47 43.5	-3.2
PINNC	Pines Island,	12.31	263	P	P	12 48 04.0	-0.2
DZM	Mont Dzumac	13.24	266	P	P	12 48 14.2	+0.6
DZM	Mont Dzumac	13.24	266	P	P	12 48 13.8	+0.2
	5.4nm,0.7s,baz=156,slow=23,SNR=1.3						
OUZ	Omahuta	14.87	203	P	P	12 48 32.3	+3.4
OUZ	Omahuta	14.87	203	P	P	12 48 32.4	+3.4
MXZ	Matakaoa Point	15.97	187	P	P	12 48 39.9	+0.8
MXZ	Matakaoa Point	15.97	187	P	P	12 48 39.8	+0.7
MKAZ	Moumakai	16.11	196	P	P	12 48 43.2	+2.9
HAZ	Te Kaha	16.23	188	P	P	12 48 42.0	+0.7
RUGZ	Raukumara Rang	16.45	188	P	P	12 48 43.5	0.0
TWGZ	Tauwhareparae	16.62	187	P	P	12 48 46.1	+1.1
TOZ	Tahuroa Road	16.63	195	P	P	12 48 47.1	+2.1
TOZ				IAmb	IAmb	12 48 49.0	
	comp=Z,8.5nm,0.5s						
TOZ	Tahuroa Road	16.63	195	P	P	12 48 47.7	+2.7
URZ	Urewera	16.82	190	P	P	12 48 45.1	-1.7
	comp=Z,12nm,0.3s,baz=327,slow=2.8,SNR=32						
URZ				S	S	12 51 27.0	-6.2
	comp=Z,2.6nm,0.4s,baz=290,slow=18,SNR=5.7						
URZ	Urewera	16.82	190	P	P	12 48 45.8	-1.0
URZ	Urewera	16.82	190	P	P	12 48 46.5	-0.3
MWZ	Matawai	16.83	189	P	P	12 48 46.7	-0.3
TKGZ	Te Karaka	16.89	188	P	P	12 48 47.0	-0.5
CNGZ	Carnagh Statio	16.90	187	P	P	12 48 47.7	+0.2
MUGZ	Murupara	17.09	191	P	P	12 48 49.2	-0.1
HRRZ	Handcock Road	17.09	192	P	P	12 48 50.3	+0.9
RIGZ	Rimuhau	17.17	188	P	P	12 48 49.8	-0.2
SNGZ	Shannon Statio	17.30	189	P	P	12 48 50.9	-0.4
PRGZ	Paritu Road	17.37	187	P	P	12 48 50.9	-0.9
MTHZ	Maungataniwha	17.45	190	P	P	12 48 52.5	-0.1
RAHZ	Arahi	17.47	189	P	P	12 48 53.2	+0.5
HIZ	Hauiti	17.52	195	P	P	12 48 54.7	+1.5
HIZ	Hauiti	17.52	195	P	P	12 48 57.5	+4.3
RATZ	Rangitukua	17.66	193	P	P	12 48 55.6	+1.1
NMHZ	Naumai	17.69	190	P	P	12 48 55.4	+0.6
BKZ	Black Stump Fm	17.81	191	P	P	12 48 54.6	-1.3
BKZ	Black Stump Fm	17.81	191	P	P	12 48 54.5	-1.3
TMVZ	Te Maari	17.91	193	P	P	12 48 57.5	+0.6
ETVZ	East Tongariro	17.93	193	P	P	12 48 57.6	+0.6
OTVZ	Oturere	17.96	193	P	P	12 48 58.1	+0.7
NGZ	Ngauruhoe	17.99	193	P	P	12 48 58.2	+0.5
SNVZ	South Ngauruho	17.99	193	P	P	12 48 58.0	+0.3
MCHZ	McNeill Hill	18.05	190	P	P	12 48 58.3	+0.3
TUVZ	Tukino	18.07	193	P	P	12 48 57.9	-0.4
KWHZ	Kaweka Forest	18.07	191	P	P	12 48 57.9	-0.4
WNVZ	Wahianoa	18.14	193	P	P	12 48 58.2	-0.8
KRHZ	Kereru	18.30	191	P	P	12 49 00.2	0.0
PNHZ	Pukenui	18.59	191	P	P	12 49 02.5	-0.4
PXZ	Pawanui	18.59	189	P	P	12 49 03.2	+0.3
TSZ	Takapari Road	18.77	191	P	P	12 49 04.2	-0.4
DVHZ	Dannevirke	18.97	191	P	P	12 49 06.6	+0.2
BFZ	Birch Farm	19.33	190	P	P	12 49 09.5	-0.1
MRZ	Mangatainoka R	19.43	192	P	P	12 49 09.9	-0.6
QRZ	Quartz Range	20.32	198	P	P	12 49 19.8	+1.3
TKNZ	Takaka Hill	20.39	197	P	P	12 49 19.6	+0.4
KHZ	Kahutara	21.54	195	P	P	12 49 29.0	-0.4
RPZ	Rata Peaks	23.40	198	P	P	12 49 47.3	+1.3
JCZ	Jackson Bay	24.43	201	P	P	12 49 56.5	+1.3
EIDS	Eidsvold	27.37	256	P	P	12 50 22.8	+1.5
EIDS				IAmb	IAmb	12 50 22.8	
	comp=Z,11nm,1.0s						
ARMA	Armidale	27.47	245	P	P	12 50 23.8	+1.7
STKA	Stephens Creek	36.19	245	P	P	12 51 36.8	+1.0
STKA	Stephens Creek	36.19	245	P	P	12 51 36.5	+0.7
	comp=Z,2.7nm,0.5s,baz=75,slow=12,SNR=12						
	comp=Z,2.7nm,0.5s						
COEN	Coen	36.46	276	P	P	12 51 39.1	+0.9
COEN				IAmb	IAmb	12 51 40.7	
	comp=Z,11nm,1.1s						
BBOO	Buckleboo	40.94	245	P	P	12 52 14.8	+0.8
WR0	Warramunga Arr	43.05	264	P	P	12 52 30.4	-0.3
WR0				IAmb	IAmb	12 52 36.0	
	comp=Z,8.2nm,1.4s						
AS31	Alice Springs	43.07	258	P	P	12 52 30.9	0.0
ASAR	Alice Springs	43.07	258	P	P	12 52 31.3	+0.4
ASAR	Alice Springs	43.07	258	P	P	12 52 31.6	+0.7
	comp=Z,5.1nm,0.5s,baz=90,slow=8.1,SNR=136						
ASAR				PcP	PcP	12 54 07.2	+0.4
	comp=Z,0.7nm,0.5s,baz=109,slow=3.5,SNR=6.0						
ASAR				ScP	ScP	12 57 02.0	+0.8
	comp=Z,0.7nm,0.7s,baz=98,slow=4.3,SNR=6.8						
ASAR				S	S	12 58 08.3	-6.2
	comp=Z,1.3nm,0.9s,baz=96,slow=14,SNR=10.0						
	comp=Z,5.1nm,0.5s						
WB0	Warramunga Arr	43.23	264	P	P	12 52 32.4	+0.3
WB0				IAmb	IAmb	12 52 32.8	
	comp=Z,5.1nm,0.6s						
WB2	Warramunga Arr	43.23	264	P	P	12 52 32.3	+0.2
WB2				IAmb	IAmb	12 52 33.0	
	comp=Z,4.8nm,0.8s						
WRAB	Tennant Creek	43.23	264	P	P	12 52 32.4	+0.2
WRAB				IAmb	IAmb	12 52 33.0	
	comp=Z,5.1nm,0.9s						
WRA	Warramunga Arr	43.24	264	P	P	12 52 30.9	-1.3
WRA	Warramunga Arr	43.24	264	P	P	12 52 32.2	0.0
	comp=Z,1.6nm,0.3s,baz=96,slow=7.7,SNR=184						
WRA				PcP	PcP	12 54 08.1	+0.7
	comp=Z,0.2nm,0.5s,baz=100,slow=4.3,SNR=2.0						
WRA				S	S	12 58 11.4	-5.6
	comp=Z,0.6nm,0.9s,baz=105,slow=14,SNR=3.0						
	comp=Z,1.6nm,0.3s						
FORT	Forrest	47.72	248	P	P	12 53 06.2	+0.2
MTN	Manton Dam	47.97	272	P	P	12 53 08.2	+0.1
MTN				IAmb	IAmb	12 53 44.8	
	comp=Z,8.2nm,1.0s						
KNRA	Kununurra	49.38	268	P	P	12 53 19.1	+0.7
KNRA				IAmb	IAmb	12 53 48.8	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	51.67	264	P	P	12 53 35.9	+0.9
QSPA	South Pole Qui	68.41	180	P	P	12 55 26.7	+2.0
QSPA	South Pole Qui	68.41	180	P	P	12 55 26.3	+1.5
	comp=Z,2.6nm,1.0s,baz=160,slow=1.2,SNR=12						
	comp=Z,2.6nm,1.0s						
MJAR	Matsushiro Arr	70.44	325	P	P	12 55 36.5	-0.6
	comp=Z,1.2nm,0.5s,baz=157,slow=6.2,SNR=2.9						
	comp=Z,1.2nm,0.5s						
PEA0B	Petropavlovsk-	77.09	346	P	P	12 56 14.4	+0.1
PEA0B				IAmb	IAmb	12 56 21.6	
	comp=Z,27nm,1.5s						
PETK	Petropavlovsk-	77.09	346	P	P	12 56 13.1	-1.2
PETK	Petropavlovsk-	77.09	346	P	P	12 56 12.5	-1.9
	comp=Z,2.2nm,0.7s,baz=219,slow=4.0,SNR=9.7						
	comp=Z,2.2nm,0.7s						
NVAR	Mina Array Bea	82.71	44	P	P	12 56 45.1	+0.8
	comp=Z,2.0nm,0.8s,baz=227,slow=8.3,SNR=11						
	comp=Z,2.0nm,0.8s						
U15A	North Rim	85.65	48	P	P	12 56 58.4	-0.3
U15A				IAmb	IAmb	12 57 00.9	
	comp=Z,3.3nm,0.7s						
G08A	Pilot Rock	86.28	38	P	P	12 57 02.3	+1.0
F10A	Beach Ranch, E	87.67	38	P	P	12 57 08.1	+0.3
F10A				IAmb	IAmb	12 57 09.0	
	comp=Z,4.4nm,0.8s						
TRF	Thorofare Moun	87.84	13	P	P	12 57 07.6	-0.6
B08A	Colville Reser	87.88	35	P	P	12 57 08.2	-0.4
B08A				IAmb	IAmb	12 57 09.7	
	comp=Z,4.1nm,0.8s						
HLID	Hailey	88.00	41	P	P	12 57 09.9	+0.4
RND	Reindeer	88.10	13	P	P	12 57 09.1	-0.2
TXAR	Lajitas Array	88.71	58	P	P	12 57 14.6	+1.6
	comp=Z,1.7nm,0.8s,baz=217,slow=5.8,SNR=7.4						
	comp=Z,1.7nm,0.8s						
BSUT	Blindstream Ca	88.76	45	P	P	12 57 13.9	+0.5
BSUT				IAmb	IAmb	12 57 15.2	
	comp=Z,4.2nm,0.9s						
CMAR	Chiang Mai Arr	89.36	290	P	P	12 57 17.6	+1.4
	comp=Z,0.5nm,0.5s,baz=110,slow=4.8,SNR=5.5						
	comp=Z,0.5nm,0.5s						
ILAR	Eielson Array	89.72	13	P	P	12 57 15.6	-1.2
	comp=Z,0.6nm,0.4s,baz=217,slow=4.8,SNR=32						
	comp=Z,0.6nm,0.4s						
PDAR	Pinedale Array	90.64	44	P	P	12 57 22.1	+0.3
	comp=Z,0.8nm,0.8s,baz=203,slow=3.5,SNR=7.5						
	comp=Z,0.8nm,0.8s						
YKA	Yellowknife Ar	98.08	25	P	Pdif	12 57 53.7	-1.0
	comp=Z,0.1nm,0.4s,baz=234,slow=5.9,SNR=3.0						
	comp=Z,0.1nm,0.4s						
MKAR	Makanchi Array	111.11	313	PKiKP	PKiKP	13 02 47.1	-1.1
	comp=Z,0.2nm,0.4s,baz=171,slow=0.6,SNR=10						
KURBB	Kurchatov Arra	114.07	317	PKiKP	PKPdf	13 02 52.3	-1.4
	comp=Z,0.3nm,0.5s,baz=116,slow=1.2,SNR=2.0						
BVAR	Borovoye Array	119.18	320	PKP	PKPdf	13 03 02.6	-0.8
	comp=Z,1.4nm,0.3s,baz=87,slow=1.5,SNR=7.2						
SPITS	Spitsbergen Ar	122.95	356	PKP	PKPdf	13 03 09.6	-0.5
	comp=Z,8.0nm,0.9s,baz=56,slow=6.1,SNR=5.8						
ARCES	ARCESS Array B	129.84	349	PKP	PKPdf	13 03 22.9	-0.5
	comp=Z,3.4nm,0.9s,baz=107,slow=1.0,SNR=8.6						
FINES	FINESS Array B	136.53	343	PKP	PKPdf	13 03 34.3	-1.8
	comp=Z,2.2nm,0.9s,baz=96,slow=1.4,SNR=5.5						
HFS	Hagfors	140.48	350	PKhKP	PKPpre	13 03 36.0	
	comp=Z,1.1nm,0.3s,baz=70,slow=4.9,SNR=13						
AKASG	Malin Array Be	143.42	329	PKP	PKPab	13 03 46.7	-0.8
	comp=Z,1.5nm,0.3s,baz=44,slow=4.3,SNR=35						
AKBB	Malin Array Si	143.42	329		PKPab	13 03 47.0	-0.6
KIEV	Kiev	143.43	329		PKPab	13 03 47.0	-0.6
EKA	Eskdalemuir Ar	146.26	4	PKPbc	PKPbc	13 03 55.3	-0.6
	comp=Z,0.8nm,0.5s,baz=318,slow=3.6,SNR=4.1						
BRTR	Keskin Array B	146.69	310	PKPbc	PKPbc	13 03 57.6	-0.2
	comp=Z,1.4nm,0.6s,baz=144,slow=5.6,SNR=7.1						
MMAI	Mount Meron Ar	147.30	298	PKPbc	PKPbc	13 03 59.6	+0.1
	comp=Z,1.5nm,0.4s,baz=80,slow=5.3,SNR=4.1						
GERES	GERESS Array B	150.96	342	PKPbc	PKPbc	13 04 07.7	-0.2
	comp=Z,1.1nm,0.5s,baz=66,slow=3.3,SNR=7.3						

*IDC **18** 13:00:55.6±1.6,5°.52S×147°.00E,h132km±16km,mb3.5/10, mbtmp3.9/13,Error ellipse: s-maj=24.1km s-min=11.9km az=97.0*
*NEIC **18** 13:01:00.1±1.5,5°.5S±0°.1×146°.75E±0°.10,h157km±8km, mb4.4/32,Error ellipse: s-maj=15.6km s-min=13.3km az=138.0*

ISC 18 13:00:58.7±0.5,5°.52S±0°.05×146°.76E±0°.06,h150km,n61, σ1§27/65,mb4.2/22,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.88	174	P	Pn	13 01 55.0	-2.5
	84nm,0.3s,baz=346,slow=6.0,SNR=150						
PMG				S	Sn	13 02 38.2	-4.9
	94nm,0.3s,baz=24,slow=22,SNR=22						
TABU	Tabubil	5.51	272	P	Pn	13 02 19.2	+0.2
	8μm,0.6s						
TABU	Tabubil	5.51	272	S	Sn	13 03 21.6	-0.2
	8μm,0.6s						
RABL	Rabaul	5.55	76	Pn	Pn	13 02 19.5	0.0
JAY	Jayapura	6.73	296	P	Pn	13 02 35.1	-0.1
	17nm,0.7s,baz=126,slow=5.7,SNR=13						
JAY				S	Sn	13 03 48.7	-2.2
	8.7nm,0.5s,baz=61,slow=23,SNR=1.3						
COEN	Coen	9.10	203		Pn	13 03 06.8	0.0
COEN	Coen	9.10	203	P	Pn	13 03 07.0	+0.2
	18nm,0.9s						
COEN	Coen	9.10	203	S	Sn	13 04 44.8	-3.0
	18nm,0.9s						
TATA	Tatamba Isabel	13.26	103	P	P	13 04 06.0	+0.3
	43nm,0.4s						
HNR	Honiara	13.64	107	P	P	13 04 10.6	+0.6
ALEG	Aligegeo Malai	14.20	104	P	P	13 04 16.4	+0.3
	96nm,0.7s						
MTN	Manton Dam	17.05	244		P	13 04 48.8	+1.2
MTN				IAmb	IAmb	13 05 08.4	
	comp=Z,17nm,1.4s						
MTN	Manton Dam	17.05	244	P	Pn	13 04 50.4	+2.1
	comp=Z,7.5nm,2.0s						
WB0	Warramunga Arr	18.58	219	P	P	13 05 05.2	+0.7
WR0	Warramunga Arr	18.64	219	P	P	13 05 05.8	+0.8
WRAB	Tennant Creek	18.73	219	P	P	13 05 06.8	+0.7
WB2	Warramunga Arr	18.74	219	P	P	13 05 06.9	+0.7
WB2				IAmb	IAmb	13 05 11.6	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	18.75	219	P	P	13 05 06.9	+0.7
	comp=Z,2.0nm,0.6s,baz=40,slow=11,SNR=24						
WRA				S	S	13 08 34.5	+2.7
	comp=Z,0.5nm,0.8s,baz=30,slow=24,SNR=1.5						
EIDS	Eidsvold	20.17	169	P	P	13 05 23.2	+1.7
EIDS				IAmb	IAmb	13 05 35.9	
	comp=Z,15nm,1.2s						
AS31	Alice Springs	21.88	213	P	P	13 05 39.6	-0.2
ASAR	Alice Springs	21.88	213	P	P	13 05 40.0	+0.1
ASAR	Alice Springs	21.88	213	P	P	13 05 40.3	+0.4
	comp=Z,0.8nm,0.6s,baz=42,slow=7.9,SNR=26						
ASAR				S	S	13 09 31.7	+0.1
	comp=Z,0.3nm,1.0s,baz=38,slow=11,SNR=1.7						
	comp=Z,0.8nm,0.6s						
SOEI	Soe	22.68	258	P	P	13 05 48.6	+0.7
SOEI				IAmb	IAmb	13 06 13.0	
	comp=Z,14nm,1.0s						
FITZ	Fitzroy Crossi	24.12	237	P	P	13 06 01.1	+0.3
DZM	Mont Dzumac	25.17	133	P	P	13 06 12.8	+2.4
KAPI	Kappang	26.89	270	P	P	13 06 25.9	0.0
WAKE	Wake Island	31.48	38	P	P	13 07 05.3	-1.2
YULB	Yu-li	38.00	320	P	P	13 08 01.7	-0.6
JNU	Nakatsue	41.28	340	P	P	13 08 28.2	-1.1
	comp=Z,5.0nm,0.9s,baz=105,slow=5.3,SNR=4.0						
	comp=Z,5.0nm,0.9s						
BKZ	Black Stump Fm	42.94	146	P	P	13 08 43.8	+0.9
BKZ				IAmb	IAmb	13 09 07.8	
	comp=Z,18nm,1.4s						
THZ	Tophouse	42.96	151	P	P	13 08 43.3	+0.4
THZ				IAmb	IAmb	13 09 04.3	
	comp=Z,11nm,1.0s						
TCW	Tory Channel	43.22	149	P	P	13 08 46.1	+1.2
MRZ	Mangatainoka R	43.49	148	P	P	13 08 47.5	+0.3
MRZ				IAmb	IAmb	13 09 30.1	
	comp=Z,17nm,1.2s						
KSRS	Korea Array	46.22	339	P	P	13 09 08.6	-0.1
	comp=Z,1.1nm,0.7s,baz=157,slow=10.0,SNR=5.8						
	comp=Z,1.1nm,0.7s						
JTM	Tenmabayashi	46.37	354	P	P	13 09 10.0	+0.1
JKA	Kamikawa-asahi	49.55	356	P	P	13 09 34.3	+0.1
ASAJ	Asahikawa	49.55	356	P	P	13 09 34.4	+0.1
	comp=Z,3.4nm,0.7s,baz=256,slow=4.2,SNR=1.3						
	comp=Z,3.4nm,0.7s						
SONM	Songino Array	63.87	331	P	P	13 11 14.7	-0.7
	comp=Z,0.4nm,0.4s,baz=132,slow=2.2,SNR=4.2						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	76.97	320	P	P	13 12 33.9	-1.0
MKAR	Makanchi Array	76.97	320	P	P	13 12 34.0	-0.8
MKAR	Makanchi Array	76.97	320	P	P	13 12 33.5	-1.3
	comp=Z,0.2nm,0.5s,baz=94,slow=8.2,SNR=6.3						
	comp=Z,0.2nm,0.5s						
J14K	Nanvaranak Lak	77.78	21	P	P	13 12 40.4	+1.5
J14K				IAmb	IAmb	13 13 21.0	
	comp=Z,16nm,1.5s						
K15K	Wolf Creek Mou	78.24	22	P	P	13 12 42.6	+1.1
K15K				IAmb	IAmb	13 13 09.8	
	comp=Z,15nm,1.2s						
ZALV	Zalesovo Beam	78.48	328	P	P	13 12 40.8	-2.2
	comp=Z,0.7nm,0.5s,baz=123,slow=6.9,SNR=2.6						
	comp=Z,0.7nm,0.5s						
M16K	Timber Creek	78.49	24	P	P	13 12 43.9	+1.0
M16K				IAmb	IAmb	13 13 15.1	
	comp=Z,21nm,1.4s						
J16K	Anvik River	79.18	21	P	P	13 12 47.4	+0.9
J16K				IAmb	IAmb	13 12 48.7	
	comp=Z,16nm,1.4s						
O18K	Koktuh Hills	79.42	26	P	P	13 12 48.2	+0.1
BOOM	Boomskoye usch	79.77	315	P	P	13 12 49.9	-0.6
G18K	Tagagawik	81.39	20	P	P	13 12 58.6	+0.2
G18K				IAmb	IAmb	13 12 59.8	
	comp=Z,8.9nm,1.5s						
D19K	Kuna River	83.05	18	P	P	13 13 07.4	+0.4
D19K				IAmb	IAmb	13 13 27.9	
	comp=Z,6.8nm,1.5s						
TRF	Thorofare Moun	83.22	24	P	P	13 13 08.9	+0.7
TRF				IAmb	IAmb	13 13 28.5	
	com

YKA Yellowknife Ar 81.75 6 P P 13 35 40.8 +0.6
0.2nm,0.7s,baz=332,slow=6.1,SNR=4.4
0.2nm,0.7s

*NEIC **18** 13:25:05.9±0.7,8°.5S±0°.1×158°.8E±0°.1,h135km±8km, mb4.2/15, Error ellipse: s-maj=23.2km s-min=8.2km az=214.0*
*IDC **18** 13:25:05.9±1.4,8°.50S×158°.76E,h135km±16km,mb3.6/11, mbtmp4.1/12, Error ellipse: s-maj=24.8km s-min=16.4km az=146.0*
ISC 18 13:25:06.9±0.6,8°.56S±0°.10×158°.81E±0°.08,h150km,n31, σ1º02/33,mb4.0/18,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.42**	**128**	Pn	**Pn**	**13 25 34.2**	**-1.4**
HNR				Sn	**Sn**	**13 25 55.6**	**-2.0**
HNR	**Honiara**	**1.42**	**128**	P	**Pn**	**13 25 34.5**	**-1.1**
388nm,0.2s,baz=275,slow=5.2,SNR=177							
HNR				S	**Sn**	**13 25 55.9**	**-1.7**
1μm,0.3s,baz=307,slow=23,SNR=28							
RABL	**Rabaul**	**7.90**	**303**	Pn	**Pn**	**13 26 56.9**	**-2.1**
COEN	**Coen**	**16.24**	**249**	P	**P**	**13 28 48.5**	**+1.6**
COEN				IAmb	IAmb	13 28 52.3	
comp=Z,9.3nm,0.8s							
JAY	**Jayapura**	**18.98**	**287**	P	**P**	**13 29 15.8**	**-1.2**
comp=Z,14nm,0.9s,baz=129,slow=18,SNR=1.6							
ARMA	**Armidale**	**22.76**	**196**	P	**P**	**13 29 57.1**	**+0.5**
ARMA				IAmb	IAmb	13 30 23.2	
comp=Z,22nm,1.4s							
WR0	**Warramunga Arr**	**26.07**	**242**	P	**P**	**13 30 26.7**	**0.0**
WR0				IAmb	IAmb	13 30 28.9	
comp=Z,3.5nm,0.8s							
WB0	**Warramunga Arr**	**26.12**	**242**	P	**P**	**13 30 27.3**	**+0.2**
WB0				IAmb	IAmb	13 30 28.3	
comp=Z,5.0nm,0.9s							
WRAB	**Tennant Creek**	**26.22**	**242**	P	**P**	**13 30 28.2**	**+0.2**
WRAB				IAmb	IAmb	13 30 28.7	
comp=Z,3.7nm,0.8s							
WB2	**Warramunga Arr**	**26.22**	**242**	P	**P**	**13 30 28.3**	**+0.3**
WRA	**Warramunga Arr**	**26.23**	**242**	P	**P**	**13 30 28.3**	**+0.2**
comp=Z,1.4nm,0.3s,baz=66,slow=9.2,SNR=49							
comp=Z,1.4nm,0.3s							
AS31	**Alice Springs**	**28.17**	**235**		**P**	**13 30 45.0**	**-0.5**
ASAR	**Alice Springs**	**28.18**	**235**	P	**P**	**13 30 45.0**	**-0.5**
ASAR	**Alice Springs**	**28.18**	**235**	P	**P**	**13 30 45.3**	**-0.2**
comp=Z,1.1nm,0.4s,baz=63,slow=9.6,SNR=25							
comp=Z,1.1nm,0.4s							
STKA	**Stephens Creek**	**28.18**	**212**	P	**P**	**13 30 46.8**	**+1.4**
comp=Z,1.3nm,0.4s,baz=39,slow=8.0,SNR=6.4							
comp=Z,1.3nm,0.4s							
KNRA	**Kununurra**	**30.19**	**254**	P	**P**	**13 31 02.6**	**-0.7**
KNRA				IAmb	IAmb	13 31 23.6	
comp=Z,16nm,1.1s							
BBOO	**Buckleboo**	**32.02**	**218**	P	**P**	**13 31 19.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.58**	**250**	P	**P**	**13 31 32.1**	**-0.9**
BKZ	**Black Stump Fm**	**34.36**	**155**	P	**P**	**13 31 40.6**	**+1.1**
BKZ				IAmb	IAmb	13 32 03.9	
comp=Z,10nm,1.4s							
PSA00	**Pilbara Seismi**	**39.66**	**246**	P	**P**	**13 32 23.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**64.86**	**295**	P	**P**	**13 35 30.8**	**+0.3**
comp=Z,0.6nm,0.3s,baz=126,slow=4.9,SNR=4.4							
comp=Z,0.6nm,0.3s							
SONM	**Songino Array**	**72.71**	**326**	P	**P**	**13 36 19.8**	**+1.2**
comp=Z,1.8nm,0.6s,baz=141,slow=6.1,SNR=7.2							
comp=Z,1.8nm,0.6s							
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**13 37 08.2**	**+1.2**
QSPA				IAmb	IAmb	13 37 30.7	
comp=Z,4.5nm,1.4s							
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**13 37 08.2**	**+1.2**
comp=Z,0.6nm,0.5s,baz=88,slow=6.2,SNR=1.5							
comp=Z,0.6nm,0.5s							
C18K	**Utukok River**	**81.96**	**14**	P	**P**	**13 37 10.2**	**+0.6**
C18K				IAmb	IAmb	13 37 22.5	
comp=Z,3.9nm,1.2s							
ILAR	**Eielson Array**	**83.47**	**21**	P	**P**	**13 37 17.5**	**+0.1**
comp=Z,0.4nm,0.6s,baz=246,slow=5.2,SNR=3.2							
comp=Z,0.4nm,0.6s							
MAW	**Mawson**	**84.41**	**203**	P	**P**	**13 37 22.1**	**-0.1**
MKAR	**Makanchi Array**	**87.08**	**318**	P	**P**	**13 37 35.6**	**-0.1**
comp=Z,0.2nm,0.5s,baz=84,slow=5.6,SNR=5.0							
comp=Z,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**89.73**	**51**	P	**P**	**13 37 48.6**	**-0.1**
comp=Z,1.0nm,0.8s,baz=255,slow=5.3,SNR=4.8							
comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**95.95**	**28**	P	**P**	**13 38 17.5**	**+1.0**
comp=Z,0.2nm,0.7s,baz=255,slow=4.6,SNR=4.2							
comp=Z,0.2nm,0.7s							
PDAR	**Pinedale Array**	**96.94**	**48**	P	**P**	**13 38 22.3**	**+0.6**
comp=Z,0.5nm,0.9s,baz=259,slow=4.1,SNR=3.4							
comp=Z,0.5nm,0.9s							

IDC 18 13:37:44.2±4.7,18°.41S×178°.23W,h494km±27km, mb3.2/4,mbtmp4.0/5,Error ellipse: s-maj=117.1km s-min=61.2km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.60**	**280**	P	P	13 38 59.1	-0.1
5.9nm,0.3s,baz=113,slow=18,SNR=26							
STKA	**Stephens Creek**	**38.54**	**242**	P	P	13 44 24.2	+0.5
1.5nm,0.7s,baz=82,slow=7.1,SNR=2.9							
1.5nm,0.7s							
WRA	**Warramunga Arr**	**44.71**	**260**	P	P	13 45 12.1	-0.8
0.5nm,0.3s,baz=97,slow=8.3,SNR=35							
WRA				PcP	pP	13 46 44.5	+0.4
0.2nm,0.4s,baz=93,slow=3.2,SNR=1.7							
0.5nm,0.3s							
ASAR	**Alice Springs**	**44.82**	**255**	P	P	13 45 13.9	+0.2
4.5nm,0.4s,baz=90,slow=8.5,SNR=128							
ASAR				PcP	pP	13 46 44.9	0.0
0.4nm,0.5s,baz=94,slow=3.6,SNR=5.3							
4.5nm,0.4s							
FITZ	**Fitzroy Crossi**	**53.11**	**261**	P	P	13 46 15.7	+0.3
1.8nm,0.9s,baz=76,slow=8.3,SNR=1.5							
1.8nm,0.9s							

IDC 18 13:43:02.5±2.4,4°.09N×126°.51E,h0km,mb3.3/3, mbtmp3.3/3,MS2.7/1,Error ellipse: s-maj=191.8km s-min=29.9km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.28**	**217**	LR	LR	13 50 30.9	
comp=Z,40nm,21.8s,baz=302,slow=40							
WRA	**Warramunga Arr**	**25.09**	**162**	P	P	13 48 28.9	-0.2
1.0nm,0.9s,baz=342,slow=11,SNR=5.7							
1.0nm,0.9s							
ASAR	**Alice Springs**	**28.51**	**166**	P	P	13 49 00.1	+0.2
0.1nm,0.6s,baz=346,slow=8.5,SNR=1.8							
0.1nm,0.6s							
MKAR	**Makanchi Array**	**57.14**	**325**	P	P	13 52 51.2	0.0
0.2nm,0.5s,baz=124,slow=7.0,SNR=2.4							
0.2nm,0.5s							

*IDC **18** 13:50:34.5±0.9,25°.20N×124°.27E,h0km,mb3.6/8, mbtmp3.5/10,ML2.8/2,MS2.8/4,Error ellipse: s-maj=32.5km s-min=20.1km az=66.0*
*JMA **18** 13:50:35.3±0.4,25°.1N×124°.4E±0°.6,h17km±4km, MV3.1/9,NW OFF ISHIGAKIJIMA IS*
ISC 18 13:50:36.5±1.6,25°.25N±0°.06×124°.38E±0°.05,h10km±11km, n21,σ1º02/25,mb3.5/8,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.66**	**185**	*eP*	**Pg**	**13 50 49.6**	**+0.3**
JISG				*eS*	**Sb**	**13 50 59.9**	**+0.6**
JTJ	**Tarama**	**0.67**	**154**	*eP*	**Pg**	**13 50 50.0**	**+0.5**
JTJ				*eS*	**Sb**	**13 51 00.2**	**+0.6**
JIRB	**Irabujima**	**0.83**	**120**	*eP*	**Pg**	**13 50 51.8**	**-0.8**
JIRB				*eS*	**Sg**	**13 51 02.4**	**-1.0**
JIKM	**Ikemajima**	**0.85**	**112**	*eP*	**Pg**	**13 50 52.0**	**-1.0**
JIKM				*eS*	**Sg**	**13 51 03.6**	**-0.4**
JIJ	**Ishigaki jima**	**0.91**	**194**	*eP*	**Pg**	**13 50 53.6**	**-0.3**
JIJ				*eS*	**Sb**	**13 51 06.8**	**+0.5**
JOGS	**Gusukube**	**1.05**	**117**	*eP*	**Pg**	**13 50 55.8**	**-0.9**
JOGS				*eS*	**Sg**	**13 51 10.5**	**0.0**
JKRS	**Kuro-shima**	**1.06**	**198**	*eP*	**Pg**	**13 50 56.5**	**-0.4**
IRIF	**Iriomote-Funau**	**1.08**	**213**	*eP*	**Pg**	**13 50 56.5**	**-0.8**
JOW	**Kunigami**	**3.84**	**65**	Pn	**Pn**	**13 51 38.3**	**+2.6**
1.0nm,0.3s,baz=300,slow=20,SNR=2.0							
6.3nm,0.5s							
JNU	**Nakatsue**	**9.68**	**34**	LR	LR	13 56 33.6	
comp=Z,50nm,20.9s,baz=224,slow=37							
KSRS	**Korea Array**	**12.54**	**13**	Pn	**Pn**	**13 53 36.6**	**+1.7**
0.1nm,0.3s,baz=193,slow=12,SNR=6.6							
KSRS				LR	LR	13 58 40.8	
comp=Z,42nm,20.4s,baz=155,slow=39							
0.2nm,0.4s							
KLR	**Kul'dur**	**24.62**	**12**	LR	LR	14 04 54.8	
comp=Z,32nm,18.6s,baz=147,slow=35							
SONM	**Songino Array**	**26.65**	**332**	P	**P**	**13 56 15.4**	**-0.1**
1.2nm,1.0s,baz=142,slow=7.5,SNR=5.5							
1.2nm,1.0s							
KAPI	**Kappang**	**30.41**	**189**	LR	LR	14 09 40.9	
comp=Z,14nm,20.4s,baz=120,slow=38							
MKAR	**Makanchi Array**	**39.65**	**314**	P	**P**	**13 58 08.6**	**+0.1**
0.3nm,0.6s,baz=94,slow=9.9,SNR=3.6							
MKAR				PcP	**PcP**	**14 00 14.5**	**-0.8**
0.2nm,0.4s,baz=130,slow=2.3,SNR=2.9							
0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**40.99**	**325**	P	**P**	**13 58 18.5**	**-0.9**
0.5nm,0.3s,baz=95,slow=4.8,SNR=3.5							
0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**43.21**	**318**	P	**P**	**13 58 36.6**	**-1.0**
0.5nm,0.7s,baz=108,slow=8.6,SNR=4.1							
0.5nm,0.7s							
WRA	**Warramunga Arr**	**45.95**	**167**	P	**P**	**13 58 59.9**	**+0.2**
1.1nm,1.2s,baz=348,slow=7.7,SNR=1.4							
1.1nm,1.2s							
ASAR	**Alice Springs**	**49.49**	**168**	P	**P**	**13 59 26.2**	**-1.1**
0.3nm,0.9s,baz=350,slow=8.0,SNR=6.1							
0.3nm,0.9s							
YKA	**Yellowknife Ar**	**80.85**	**24**	P	**P**	**14 02 48.5**	**-1.8**
0.4nm,0.9s,baz=299,slow=5.9,SNR=4.3							
0.4nm,0.9s							
NVAR	**Mina Array Bea**	**93.66**	**44**	P	**P**	**14 03 53.9**	**+0.2**
0.4nm,0.8s,baz=312,slow=4.9,SNR=2.2							
0.4nm,0.8s							

ATH 18 14:14:52.6,38°.83N×24°.86E,h8km±3km,ML1.8/2,Manual Solution by A.Agalos First location: 2019/02/18 14:16:01, This location: 2019/02/18 14:42:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.25**	**282**	P	Pg	14 14 57.7	+0.1
SKY				S	Sg	14 15 01.4	+0.6
KYMI	**Kymi, Euboea I**	**0.62**	**252**	P	Pg	14 15 04.9	+0.2
KYMI				S	Sg	14 15 13.1	+0.3
KARY	**Karystos**	**0.86**	**203**	P	Pg	14 15 09.2	+0.1
KARY				S	Sb	14 15 21.0	-0.5
SIGR	**SIGRI**	**0.86**	**63**	P	Pb	14 15 09.9	0.0
DION	**Dionisos Attik**	**1.04**	**224**	P	Pg	14 15 12.7	+0.1
DION				S	Sb	14 15 26.9	+0.1
LIA	**Limnos Island**	**1.10**	**13**	P	Pb	14 15 13.9	+0.1
LIA				S	Sg	14 15 27.5	-0.5
VLY	**Voula,Athens**	**1.28**	**221**	P	Pn	14 15 15.9	-1.0
VIL2	**Platees**	**1.39**	**244**	P	Pn	14 15 18.6	+0.2
XOR	**Xorichti**	**1.40**	**293**	P	Pg	14 15 19.4	-0.1

*BUC **18** 14:16:36.8±0.2,45°.62N×26°.48E,h145km±1km,ml3.9/55, Error ellipse: s-maj=1.6km s-min=1.2km az=12.0*
*SOF **18** 14:16:36.1,45°.63N±0°.01×26°.50E±0°.02,h150km±1km, MD3.4/5*
*MCSM **18** 14:16:38.5±0.3,46°.N±2°.×2°.7E±°,h150km±5km,mb4.3, MLv3.5*
ISC 18 14:16:36.0±1.3,45°.64N±0°.03×26°.48E±0°.02,h152km±5km, n163,σ0º57/245,116C-93D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.18**	**120**	⇓P	**Pn**	**14 16 57.2**	**+0.6**
BISRR				⇓S	**Sn**	**14 17 11.6**	**-0.7**
BISRR	**Bisoca**	**0.18**	**120**	⇓P	**Pn**	**14 16 57.2**	**+0.6**
BISRR				⇓S	**Sn**	**14 17 11.6**	**-0.7**
SPBR	**Spulber**	**0.22**	**60**	⇑P	**Pn**	**14 16 57.2**	**+0.6**
SPBR				⇓S	**Sn**	**14 17 12.6**	**+0.2**
SPBR	**Spulber**	**0.22**	**60**	⇑P	**Pn**	**14 16 57.2**	**+0.6**
SPBR				⇓S	**Sn**	**14 17 12.6**	**+0.2**
PLOR	**Plostina**	**0.24**	**29**	⇑P	**Pn**	**14 16 56.8**	**+0.1**
PLOR				⇑S	**Sn**	**14 17 12.4**	**-0.2**
PLOR	**Plostina**	**0.24**	**29**	⇑S	**Sn**	**14 17 12.4**	**-0.2**
PLOR	**Plostina**	**0.24**	**29**	Pn	**Pn**	**14 16 56.6**	**-0.1**
PLOR	**Plostina**	**0.24**	**29**	⇑P	**Pn**	**14 16 56.8**	**+0.1**
NEHR	**Nehoiu**	**0.25**	**212**	⇑P	**Pn**	**14 16 57.0**	**+0.3**
NEHR				⇑S	**Sn**	**14 17 12.8**	**+0.4**
NEHR	**Nehoiu**	**0.25**	**212**	⇑P	**Pn**	**14 16 57.0**	**+0.3**
NEHR				⇑S	**Sn**	**14 17 12.8**	**+0.4**
VRI	**Vrincioaia**	**0.28**	**37**	⇓P	**Pn**	**14 16 56.7**	**0.0**
VRI				⇑S	**Sn**	**14 17 12.6**	**-0.1**
VRI	**Vrincioaia**	**0.28**	**37**	⇓P	**Pn**	**14 16 56.7**	**0.0**
VRI				⇑S	**Sn**	**14 17 12.6**	**-0.1**
VRI	**Vrincioaia**	**0.28**	**37**	Pn	**Pn**	**14 16 56.9**	**+0.1**
VRI				Sn	**Sn**	**14 17 11.9**	**-0.8**
COVR	**Voineasa-Covas**	**0.28**	**317**	⇓P	**Pn**	**14 16 56.7**	**-0.1**
COVR				⇓S	**Sn**	**14 17 12.0**	**-0.7**
COVR	**Voineasa-Covas**	**0.28**	**317**	⇓P	**Pn**	**14 16 56.7**	**-0.1**
COVR				⇓S	**Sn**	**14 17 12.0**	**-0.7**
MLR	**Muntele Rosu**	**0.41**	**249**	⇑P	**Pn**	**14 16 57.8**	**+0.4**
MLR				⇑S	**Sn**	**14 17 14.3**	**+0.8**
MLR	**Muntele Rosu**	**0.41**	**249**	⇑P	**Pn**	**14 16 57.8**	**+0.4**
MLR				⇑S	**Sn**	**14 17 14.3**	**+0.8**
PANC	**Panciu**	**0.52**	**63**	⇑P	**Pn**	**14 16 58.3**	**+0.7**
PANC				⇓S	**Sn**	**14 17 14.7**	**+0.5**
PANC	**Panciu**	**0.52**	**63**	⇓S	**Sn**	**14 17 14.7**	**+0.5**
PANC	**Panciu**	**0.52**	**63**	⇑P	**Pn**	**14 16 58.3**	**+0.7**
ISR	**Istrita**	**0.52**	**175**	⇓P	**Pn**	**14 16 57.8**	**0.0**
ISR				⇑S	**Sn**	**14 17 13.5**	**-0.8**
ISR	**Istrita**	**0.52**	**175**	⇓P	**Pn**	**14 16 57.8**	**0.0**
ISR				⇑S	**Sn**	**14 17 13.5**	**-0.8**
COSR	**Cosmesti PH**	**0.62**	**69**	⇓P	**Pn**	**14 16 58.7**	**+0.6**
COSR				⇑S	**Sn**	**14 17 14.8**	**-0.3**
COSR	**Cosmesti PH**	**0.62**	**69**	⇑S	**Sn**	**14 17 14.8**	**-0.3**
COSR	**Cosmesti PH**	**0.62**	**69**	⇓P	**Pn**	**14 16 58.7**	**+0.6**
OZUR		**0.67**	**313**	⇑P	**Pn**	**14 16 58.4**	**-0.2**
OZUR				⇑S	**Sn**	**14 17 14.8**	**-1.1**
OZUR		**0.67**	**313**	⇑P	**Pn**	**14 16 58.4**	**-0.2**
OZUR				⇑S	**Sn**	**14 17 14.8**	**-1.1**
ONER	**Baraj Valea Uz**	**0.70**	**355**	⇑P	**Pn**	**14 16 59.0**	**+0.3**
ONER				⇓S	**Sn**	**14 17 15.6**	**-0.6**
ONER	**Baraj Valea Uz**	**0.70**	**355**	⇑P	**Pn**	**14 16 59.0**	**+0.3**
ONER				⇓S	**Sn**	**14 17 15.6**	**-0.6**
GHRR		**0.77**	**57**	⇑P	**Pn**	**14 16 59.8**	**+0.6**
GHRR				⇑S	**Sn**	**14 17 17.2**	**+0.3**
GHRR		**0.77**	**57**	⇑P	**Pn**	**14 16 59.8**	**+0.6**
GHRR				⇑S	**Sn**	**14 17 17.2**	**+0.3**
DOPR	**Dopca**	**0.83**	**294**	⇑P	**Pn**	**14 16 59.7**	**0.0**
DOPR				⇓S	**Sn**	**14 17 17.1**	**-0.7**
DOPR	**Dopca**	**0.83**	**294**	⇑P	**Pn**	**14 16 59.7**	**0.0**
DOPR				⇓S	**Sn**	**14 17 17.1**	**-0.7**
TUDR		**0.83**	**93**	⇑P	**Pn**	**14 17 00.1**	**+0.5**
TUDR				⇑S	**Sn**	**14 17 17.8**	**+0.2**
TUDR		**0.83**	**93**	⇑P	**Pn**	**14 17 00.1**	**+0.5**
TUDR				⇑S	**Sn**	**14 17 17.8**	**+0.2**
TESR	**Tescani**	**0.88**	**7**	⇑P	**Pn**	**14 16 59.8**	**-0.2**
TESR	**Tescani**	**0.88**	**7**	⇑P	**Pn**	**14 16 59.8**	**-0.2**
SLCR	**Slobozia Conac**	**0.90**	**93**	⇓S	**Sn**	**14 17 18.7**	**+0.1**
SLCR	**Slobozia Conac**	**0.90**	**93**	⇓S	**Sn**	**14 17 18.7**	**+0.1**
IZVR	**Izvoarele**	**0.91**	**96**	⇓S	**Sn**	**14 17 17.7**	**-0.9**
IZVR	**Izvoarele**	**0.91**	**96**	⇓S	**Sn**	**14 17 17.7**	**-0.9**
SCHL	**Schela**	**0.96**	**98**	⇓S	**Sn**	**14 17 19.2**	**0.0**
SCHL	**Schela**	**0.96**	**98**	⇓S	**Sn**	**14 17 19.2**	**0.0**
SCHLR	**Schela**	**0.96**	**100**	⇑P	**Pn**	**14 17 00.9**	**+0.3**
SCHLR				⇓S	**Sn**	**14 17 19.4**	**0.0**
SCHLR	**Schela**	**0.96**	**100**	⇑P	**Pn**	**14 17 00.9**	**+0.3**
SCHLR				⇓S	**Sn**	**14 17 19.4**	**0.0**
SULR		**0.97**	**190**	⇑P	**Pn**	**14 17 01.4**	**+0.6**
SULR				⇑S	**Sn**	**14 17 18.6**	**-1.0**
SULR		**0.97**	**190**	⇑P	**Pn**	**14 17 01.4**	**+0.6**
SULR				⇑S	**Sn**	**14 17 18.6**	**-1.0**
NEGRR	**Negrea**	**0.98**	**95**	⇓P	**Pn**	**14 17 01.2**	**+0.5**
NEGRR				⇑S	**Sn**	**14 17 19.7**	**0.0**
NEGRR	**Negrea**	**0.98**	**95**	⇓P	**Pn**	**14 17 01.2**	**+0.5**
NEGRR				⇑S	**Sn**	**14 17 19.7**	**0.0**
VARL	**Varlezi**	**0.99**	**74**	⇑P	**Pn**	**14 17 01.2**	**+0.3**
VARL				⇑S	**Sn**	**14 17 19.6**	**-0.2**
VARL	**Varlezi**	**0.99**	**74**	⇑S	**Sn**	**14 17 19.6**	**-0.2**
VARL	**Varlezi**	**0.99**	**74**	⇑P	**Pn**	**14 17 01.2**	**+0.3**
BIR	**Birlad**	**1.01**	**51**	⇓P	**Pn**	**14 17 01.3**	**+0.3**
BIR				⇓S	**Sn**	**14 17 19.8**	**-0.5**
BIR	**Birlad**	**1.01**	**51**	⇓P	**Pn**	**14 17 01.3**	**+0.3**
BIR				⇓S	**Sn**	**14 17 19.8**	**-0.5**
VOIR		**1.03**	**259**	⇓P	**Pn**	**14 17 01.1**	**-0.2**
VOIR				⇑S	**Sn**	**14 17 19.4**	**-1.1**
VOIR		**1.03**	**259**	⇓P	**Pn**	**14 17 01.1**	**-0.2**
VOIR				⇑S	**Sn**	**14 17 19.4**	**-1.1**
VOIR		**1.03**	**259**	Pn	**Pn**	**14 17 01.2**	**-0.1**
SCTR	**Scanteiesti**	**1.06**	**88**	⇑P	**Pn**	**14 17 02.3**	**+0.8**
SCTR				⇓S	**Sn**	**14 17 20.8**	**-0.1**
SCTR	**Scanteiesti**	**1.06**	**88**	⇑P	**Pn**	**14 17 02.3**	**+0.8**
SCTR				⇓S	**Sn**	**14 17 20.8**	**-0.1**
MTUR	**Matau**	**1.08**	**248**	⇓P	**Pn**	**14 17 02.2**	**+0.4**
MTUR	**Matau**	**1.08**	**248**	⇓P	**Pn**	**14 17 02.2**	**+0.4**
TATR	**Tatarca**	**1.10**	**92**	⇑S	**Sn**	**14 17 21.3**	**-0.2**
TATR	**Tatarca**	**1.10**	**92**	⇑S	**Sn**	**14 17 21.3**	**-0.2**
GISR	**Galati**	**1.12**	**100**	⇑S	**Sn**	**14 17 21.3**	**-0.5**
GISR	**Galati**	**1.12**	**100**	⇑S	**Sn**	**14 17 21.3**	**-0.5**
VLDR	**Vladesti**	**1.14**	**79**	⇑P	**Pn**	**14 17 02.8**	**+0.6**
VLDR				⇑S	**Sn**	**14 17 21.5**	**-0.6**
VLDR	**Vladesti**	**1.14**	**79**	⇑P	**Pn**	**14 17 02.8**	**+0.6**
VLDR				⇑S	**Sn**	**14 17 21.5**	**-0.6**
LEHL	**Lehliu**	**1.19**	**168**	⇑P	**Pn**	**14 17 03.1**	**+0.4**
LEHL				⇑S	**Sn**	**14 17 23.3**	**+0.3**
LEHL	**Lehliu**	**1.19**	**168**	⇑P	**Pn**	**14 17 03.1**	**+0.4**
LEHL				⇑S	**Sn**	**14 17 23.3**	**+0.3**
AMRR	**Amara**	**1.19**	**149**	⇑P	**Pn**	**14 17 03.3**	**+0.7**
AMRR				⇓S	**Sn**	**14 17 23.2**	**+0.2**
AMRR	**Amara**	**1.19**	**149**	⇑P	**Pn**	**14 17 03.3**	**+0.7**
AMRR				⇓S	**Sn**	**14 17 23.2**	**+0.2**
CFR	**Carcaliu**	**1.25**	**111**	⇑P	**Pn**	**14 17 03.3**	**+0.1**
CFR				⇓S	**Sn**	**14 17 23.4**	**-0.6**
CFR	**Carcaliu**	**1.25**	**111**	⇑P	**Pn**	**14 17 03.3**	**+0.1**
CFR				⇓S	**Sn**	**14 17 23.4**	**-0.6**
CIOR	**Ciorogarla**	**1.27**	**200**	⇓S	**Sn**	**14 17 24.9**	**+0.6**
CIOR	**Ciorogarla**	**1.27**	**200**	⇓S	**Sn**	**14 17 24.9**	**+0.6**
GIRR	**Girov**	**1.32**	**1**	⇑P	**Pn**	**14 17 04.4**	**+0.5**
GIRR	**Girov**	**1.32**	**1**	⇑P	**Pn**	**14 17 04.4**	**+0.5**
ARR	**Arges**	**1.33**	**259**	⇑P	**Pn**	**14 17 04.1**	**0.0**
ARR				⇑S	**Sn**	**14 17 25.4**	**-0.1**
ARR	**Arges**	**1.33**	**259**	⇑P	**Pn**	**14 17 04.1**	**0.0**
ARR				⇑S	**Sn**	**14 17 25.4**	**-0.1**
ARR	**Arges**	**1.33**	**259**	Pn	**Pn**	**14 17 04.6**	**+0.5**
BUC1	**Bucharest**	**1.33**	**194**	⇓S	**Sn**	**14 17 25.4**	**0.0**
BUC1	**Bucharest**	**1.33**	**194**	⇓S	**Sn**	**14 17 25.4**	**0.0**
HARR	**Harsova**	**1.40**	**132**	⇓P	**Pn**	**14 17 05.0**	**+0.4**
HARR	**Harsova**	**1.40**	**132**	⇓P	**Pn**	**14 17 05.0**	**+0.4**
SGRR	**Singureni**	**1.46**	**195**	⇑P	**Pn**	**14 17 05.7**	**+0.4**
SGRR				⇓S	**Sn**	**14 17 27.3**	**-0.4**
SGRR	**Singureni**	**1.46**	**195**	⇑P	**Pn**	**14 17 05.7**	**+0.4**
SGRR				⇓S	**Sn**	**14 17 27.3**	**-0.4**
HUMR	**Humele**	**1.54**	**224**	⇑P	**Pn**	**14 17 06.3**	**+0.1**
HUMR				⇑S	**Sn**	**14 17 28.8**	**-0.4**
HUMR	**Humele**	**1.54**	**224**	⇑P	**Pn**	**14 17 06.3**	**+0.1**
HUMR				⇑S	**Sn**	**14 17 28.8**	**-0.4**
HUMR	**Humele**	**1.54**	**224**	Pn	**Pn**	**14 17 06.0**	**-0.1**
HUMR				Sn	**Sn**	**14 17 27.5**	**-1.7**
TNR	**Turnu Rosu**	**1.55**	**271**	⇑P	**Pn**	**14 17 06.8**	**+0.6**
TNR				⇓S	**Sn**	**14 17 29.6**	**+0.1**
TNR	**Turnu Rosu**	**1.55**	**271**	⇑P	**Pn**	**14 17 06.8**	**+0.6**
TNR				⇓S	**Sn**	**14 17 29.6**	**+0.1**
TLBR	**Topalu**	**1.56**	**134**	⇓P	**Pn**	**14 17 06.8**	**+0.5**
TLBR				⇑S	**Sn**	**14 17 28.5**	**-1.0**
TLBR	**Topalu**	**1.56**	**134**	⇓P	**Pn**	**14 17 06.8**	**+0.5**
TLBR				⇑S	**Sn**	**14 17 28.5**	**-1.0**
**TP

AK18	Malin Array Si	5.37	18	Pn	Pn	14 17 53.5	-0.7
AK04	Malin Array Si	5.39	18	Pn	Pn	14 17 54.0	-0.5
YLV	Yalova	5.49	156	Pn	Pn	14 17 57.4	+1.4

*IDC **18** 14:25:22.8±2.2, 10°.53S×118°.75E, h0km, mb3.4/1, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=80.5km s-min=24.7km az=58.0*
*DJA **18** 14:25:31.6±0.6, 10°.5±5°.5×11°.9E±°, h35km±8km, M3.9/13, mb4.0/4, MLv3.8/13*
ISC 18 14:25:27.9±0.8, 10°.40S±0°.06×119°.17E±0°.04, h41km, n17, σ2°95/26, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.78	16	P	Pn	14 25 41.9	-0.6
WSI	Waingapu	1.32	57	P	Pn	14 25 52.3	+2.4
WSI				S	Sn	14 26 07.0	+0.7
BASI	Baing, Sumba	1.39	83	P	Pn	14 25 54.6	+3.7
BASI				S	Sn	14 26 11.5	+3.4
PLAI	Plampang	2.08	318	P	Pn	14 26 01.7	+1.3
PLAI				S	Sn	14 26 25.2	+0.1
TWSI	Taliwang, Sumb	2.80	306	P	Pn	14 26 11.6	+1.4
TWSI				S	Sn	14 26 41.7	-1.0
MMRI	Maumere	3.49	60	P	Pn	14 26 20.5	+0.8
MMRI				S	Sn	14 26 58.5	-1.4
DNP	Denpasar	4.27	293	P	Pn	14 26 32.9	+2.5
BSSI	Bau Bau, Buton	4.42	17	P	Pn	14 26 32.8	+0.2
SRBI	Singaraja	4.54	300	P	Pn	14 26 37.9	+3.8
SOEI	Soe	5.06	83	P	Pn	14 26 44.3	+2.9
	0.1nm24nm,1.2s						
BKSI	Bulukumba	5.13	11	P	Pn	14 26 41.5	-0.8
JAGI	Jajag, Banyuwa	5.31	291	P	Pn	14 26 46.4	+1.6
	0.1nm19nm,1.9s						
KAPI	Kappang	5.38	6	Pn	Pn	14 26 47.2	+1.5
	0.7nm,0.3s,baz=185,slow=11,SNR=2.2						
KAPI				Sn	Sn	14 27 45.6	-0.8
	2.7nm,0.3s,baz=211,slow=23,SNR=4.7						
	4.6nm,0.5s						
FITZ	Fitzroy Crossi	9.89	141	Pn	Pn	14 27 48.3	+0.7
	0.1nm,0.3s,baz=312,slow=14,SNR=2.1						
FITZ				Sn	Sn	14 29 33.3	-4.1
	0.1nm,0.3s,baz=329,slow=18,SNR=1.4						
	1.9nm,0.9s						
WRA	Warramunga Arr	17.43	125	P	P	14 29 30.8	+1.8
	0.1nm,0.3s,baz=298,slow=12,SNR=4.9						
WRA				S	Sn	14 32 34.9	-6.4
	0.3nm,0.8s,baz=296,slow=24,SNR=1.2						
	0.3nm,0.7s						
ASAR	Alice Springs	19.27	135	P	Pn	14 29 52.2	+1.6
	baz=313,slow=11,SNR=7.2						
ASAR				S	S	14 33 17.8	-7.8
	0.2nm,0.8s,baz=303,slow=21,SNR=1.7						
	0.4nm,0.7s						
MKAR	Makanchi Array	65.77	333	P	P	14 36 08.9	+0.2
	0.2nm,0.6s,baz=148,slow=7.1,SNR=3.8						
	0.2nm,0.6s						

*IDC **18** 14:56:10.8±3.6, 10°.37S×118°.81E, h0km, mb3.3/1, mbtmp3.1/3, ML2.9/2, Error ellipse: s-maj=270.2km s-min=31.4km az=48.0*
*DJA **18** 14:56:15.7±0.9, 10°.5±5°.5×11°.9E±°, h14km±5km, M3.8/11, mb4.0/4, MLv3.7/11*
ISC 18 14:56:15.5±0.9, 10°.50S±0°.07×119°.12E±0°.05, h41km, n15, σ2°86/21, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.90	17	P	Pn	14 56 30.2	-1.6
WBSI				S	Sn	14 56 40.1	-3.5
WSI	Waingapu	1.42	54	P	Pn	14 56 40.6	+1.7
WSI				S	Sn	14 56 58.9	+2.4
BASI	Baing, Sumba	1.46	79	P	Pn	14 56 41.1	+1.7
BASI				S	Sn	14 57 00.2	+2.9
PLAI	Plampang	2.13	321	P	Pn	14 56 49.1	+0.5
TWSI	Taliwang, Sumb	2.82	308	P	Pn	14 56 59.0	+0.9
TWSI				S	Sn	14 57 31.5	+0.6
MMRI	Maumere	3.59	59	P	Pn	14 57 08.8	+0.1
SRBI	Singaraja	4.55	302	P	Pn	14 57 22.7	+0.8
SOEI	Soe	5.12	82	P	Pn	14 57 31.1	+1.2
	0.1nm15nm,1.3s						
BKSI	Bulukumba	5.24	11	P	Pn	14 57 32.6	+1.2
	0.1nm17nm,0.9s						
JAGI	Jajag, Banyuwa	5.30	292	P	Pn	14 57 33.5	+1.2
	15nm,0.7s						
GMJI	Gumukmas	6.03	291	P	Pn	14 57 44.5	+2.3
FITZ	Fitzroy Crossi	9.84	141	Sn	Sn	15 00 21.0	-2.8
	0.3nm,0.3s,baz=300,slow=20,SNR=6.5						
WRA	Warramunga Arr	17.41	124	P	P	15 00 19.1	+2.7
	0.1nm,0.3s,baz=297,slow=14,SNR=4.7						
WRA				S	Sn	15 03 23.7	-4.8
	0.4nm,0.7s,baz=307,slow=26,SNR=2.4						
	0.5nm,1.0s						
ASAR	Alice Springs	19.23	135	P	Pn	15 00 40.5	+2.8
	baz=312,slow=10,SNR=4.3						
ASAR				S	S	15 04 05.0	-7.4
	0.2nm,1.0s,baz=304,slow=22,SNR=1.9						
	0.3nm,0.9s						
MKAR	Makanchi Array	65.84	333	P	P	15 06 56.4	-0.4
	0.3nm,0.9s,baz=134,slow=6.4,SNR=2.3						
	0.3nm,0.9s						

*DJA **18** 15:01:34.0±0.2, 7°.5±3°.3×13°.0E±°, h226km±6km, M4.8/18, mb4.8/13, mB5.2/11, MLv5.1/18, Mw(mB)4.6/11*
*NEIC **18** 15:01:35.1±1.2, 6°.58S±0°.04×129°.77E±0°.08, h198km±6km, mb4.5/34, Error ellipse: s-maj=12.4km s-min=4.6km az=107.0*
*IDC **18** 15:01:40.5±4.1, 6°.62S×129°.75E, h256km±42km, mb3.5/12, mbtmp4.1/13, Error ellipse: s-maj=20.6km s-min=11.7km az=65.0*
ISC 18 15:01:34.2±0.4, 6°.68S±0°.04×129°.68E±0°.05, h200km, n117, σ1°59/121, mb4.3/28, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.06	129	Pn	Pn	15 02 15.4	+2.0
SAUI				Sn	Sn	15 02 44.2	+0.2
SAUI	Saumlaki	2.06	129	P	Pn	15 02 15.6	+2.2
SAUI	Saumlaki	2.06	129	S	Sn	15 02 44.6	+0.7
SAUI	Saumlaki	2.06	129	P	Pn	15 02 15.5	+2.2
BNDI	Bandanaira	2.15	6	P	Pn	15 02 15.2	+0.9
BNDI	Bandanaira	2.15	6	P	Pn	15 02 15.0	+0.7
BNDI				S	Sn	15 02 47.7	+2.0
AAI	Ambon	3.32	333	P	Pn	15 02 28.5	+0.8
MSAI	Masohi	3.39	347	P	Pn	15 02 28.9	+0.3
MSAI				S	Sn	15 03 10.5	-0.7
NLAI	Namlea	4.28	323	P	Pn	15 02 40.9	+1.4
FAKI	Fak Fak	4.53	35		Pn	15 02 40.1	-2.5
FAKI	Fak Fak	4.53	35	P	Pn	15 02 40.6	-2.0
FAKI	Fak Fak	4.53	35	P	Pn	15 02 40.9	-1.7
KMPI	Kaimana, Papua	5.00	53	P	Pn	15 02 48.5	-0.2
DRS	Darwin Rock St	5.84	168	P	Pn	15 03 01.1	+1.7
SANI	Sanana	5.89	321	P	Pn	15 03 01.0	+0.9
SANI	Sanana	5.89	321	P	Pn	15 03 01.3	+1.2
	0.5nm109nm,1.1s						
SWI	Sorong	5.99	15	P	Pn	15 02 58.8	-2.5
	1.8nm4μm43nm,0.6s						
SOEI	Soe	6.17	240	Pn	Pn	15 03 05.7	+1.9
SOEI	Soe	6.17	240	P	Pn	15 03 05.9	+2.2
SOEI	Soe	6.17	240	P	Pn	15 03 06.0	+2.2
	1.3nm6μm224nm,0.5s						
MTN	Manton Dam	6.29	167	Pn	Pn	15 03 06.4	+1.1
MTN	Manton Dam	6.29	167	P	Pn	15 03 06.5	+1.2
LBMI	Labuha	6.38	340	P	Pn	15 03 06.7	+0.2
	0.7nm3μm131nm,0.7s						
KDU	Kakadu	6.58	155	P	Pn	15 03 09.7	+0.8
RKPI	Ransiki, Papua	6.82	41	P	Pn	15 03 10.9	-1.2
KDI	Kendari	7.53	291	P	Pn	15 03 23.3	+1.9
MMRI	Maumere	7.63	255		Pn	15 03 24.7	+2.0
MMRI	Maumere	7.63	255	P	Pn	15 03 24.9	+2.2
MMRI	Maumere	7.63	255	P	Pn	15 03 22.8	+0.1
	0.2nm65nm,0.5s						
BAKI	Biak	8.41	50	P	Pn	15 03 32.7	-0.2
KNRA	Kununurra	8.99	186	Pn	Pn	15 03 41.2	+0.9
BASI	Baing, Sumba	9.67	248	P	Pn	15 03 50.3	+1.1
	161nm,1.3s						
WSI	Waingapu	9.75	252	P	Pn	15 03 49.8	-0.5
	5μm148nm,0.6s						
SMPI	Sarmi	10.13	63	P	Pn	15 03 53.0	-2.3
	40nm,1.5s						
MRSI	Marisa	10.49	312	P	Pn	15 03 59.4	-0.5
	1μm66nm,1.2s						
WBSI	Waikabubak, Su	10.60	253	P	Pn	15 04 00.6	-0.7
	61nm,0.7s						
PLAI	Plampang	11.99	259	P	Pn	15 04 18.7	-0.3
PLAI	Plampang	11.99	259	P	Pn	15 04 17.8	-1.2
FITZ	Fitzroy Crossi	12.02	199	Pn	Pn	15 04 19.9	+0.6
FITZ	Fitzroy Crossi	12.02	199	P	Pn	15 04 20.2	+0.8
	18nm,0.3s,baz=18,slow=10,SNR=87						
FITZ				S	Sn	15 06 25.4	-8.0
	27nm,0.4s,baz=106,slow=19,SNR=7.2						
TWSI	Taliwang, Sumb	12.85	260	P	Pn	15 04 29.3	-0.6
WB0	Warramunga Arr	13.79	161	Pn	Pn	15 04 40.9	-0.8
WRAB	Tennant Creek	13.94	161		Pn	15 04 42.7	-0.7
WRA	Warramunga Arr	13.94	162		Pn	15 04 42.4	-1.1
WRA	Warramunga Arr	13.94	162	P	P	15 04 43.2	-2.2
	22nm,0.4s,baz=337,slow=12,SNR=66						
WRA				S	S	15 07 13.4	-5.4
	18nm,0.4s,baz=344,slow=22,SNR=11						
WB2	Warramunga Arr	13.95	161	Pn	Pn	15 04 42.7	-0.8
WR0	Warramunga Arr	14.02	161		P	15 04 44.0	-2.3
COEN	Coen	15.11	120		P	15 04 57.6	-0.9
COEN				IAmb	IAmb	15 04 59.9	
	comp=Z,26nm,0.9s						
COEN	Coen	15.11	120	P	P	15 04 59.0	+0.5
JAGI	Jajag, Banyuwa	15.49	262	P	P	15 05 02.8	+0.1
JAGI				IAmb	IAmb	15 05 06.4	
	comp=Z,30nm,1.2s						
QIS	Mount Isa	16.82	146	P	Pn	15 05 19.9	+1.4
AS31	Alice Springs	17.37	167		Pn	15 05 26.1	+1.2
ASAR	Alice Springs	17.37	167	P	Pn	15 05 26.3	+1.3
	comp=Z,47nm,0.3s,baz=349,slow=11,SNR=951						
ASAR				S	S	15 08 35.2	+1.5
	comp=Z,9.0nm,0.9s,baz=346,slow=21,SNR=12						
AS01	Alice Springs	17.38	167	P	Pn	15 05 26.6	+1.5
PMG	Port Moresby	17.52	100	P	Pn	15 05 27.4	+0.7
	comp=Z,5.9nm,0.7s,baz=290,slow=7.3,SNR=3.9						
PMG				S	S	15 08 36.6	0.0
	comp=Z,1.3nm,0.3s,baz=234,slow=17,SNR=1.0						
PSA00	Pilbara Seismi	17.60	212	P	Pn	15 05 28.5	+0.9
PSA00				IAmb	IAmb	15 05 50.1	
	comp=Z,20nm,0.7s						
PSA00	Pilbara Seismi	17.60	212	P	Pn	15 05 27.2	-0.4
PSA00				IAmb	IAmb	15 05 42.5	
	comp=Z,16nm,1.1s						
PSA00	Pilbara Seismi	17.60	212	P	Pn	15 05 28.8	+1.2
WRKA	Warakurna	18.30	184	P	Pn	15 05 36.3	+0.4
OOD	Oodnadatta	21.76	166	P	P	15 06 11.9	+1.8
INKA	Innaminka	23.43	155	P	P	15 06 27.9	+2.4
FORT	Forrest	24.02	183	P	P	15 06 33.0	+2.1
FORT				IAmb	IAmb	15 07 10.4	
	comp=Z,19nm,0.8s						
FORT	Forrest	24.02	183	P	P	15 06 33.4	+2.5
QLP	Quilpie	24.17	147	P	P	15 06 34.8	+2.6
LCRK	Leigh Creek	24.97	162	P	P	15 06 41.6	+2.2
BBOO	Buckleboo	26.67	168	P	P	15 06 56.0	+1.3
BBOO	Buckleboo	26.67	168	P	P	15 06 56.6	+1.9
STKA	Stephens Creek	27.43	158	P	P	15 07 03.1	+1.6
STKA	Stephens Creek	27.43	158	P	P	15 07 03.1	+1.6
	comp=Z,2.4nm,0.4s,baz=329,slow=11,SNR=8.9						
	comp=Z,2.4nm,0.4s						
STKA	Stephens Creek	27.43	158	P	P	15 07 03.3	+1.8
HTT	Hallett	27.97	163	P	P	15 07 08.0	+1.7
NWAO	Narrogin (SRO)	28.57	202	P	P	15 07 13.7	+2.1
CMSA	Cobar Meteorol	28.91	151	P	P	15 07 16.9	+2.3
ARPS	Mount Arapiles	31.95	161	P	P	15 07 44.2	+3.0
CMAR	Chiang Mai Arr	39.28	310	P	P	15 08 44.6	+0.7
	comp=Z,0.9nm,0.3s,baz=136,slow=6.0,SNR=6.9						
	comp=Z,0.9nm,0.3s						
NJ2	Nanjing	39.87	346	eP	P	15 08 51.1	+2.6
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JMN	Monobe	40.38	5	P	P	15 08 52.4	-0.4
JMN				IAmb	IAmb	15 09 27.6	
	comp=Z,16nm,1.1s						
PZH	PanZhiHua	42.68	322	P	P	15 09 14.4	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
KSRS	Korea Array	43.93	358	P	P	15 09 21.6	+0.3
	comp=Z,0.4nm,0.5s,baz=174,slow=9.4,SNR=5.3						
	comp=Z,0.4nm,0.5s						
HHC	Hu-ho-hao-te	50.14	342	eP	P	15 10 06.3	-3.1
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.7s						
USA0B	Ussuriysk Arra	50.68	2	P	P	15 10 13.2	-0.1
USRK	Ussuriysk Ar.	50.68	2	P	P	15 10 13.0	-0.2
USRK	Ussuriysk Ar.	50.68	2	P	P	15 10 13.1	-0.1
	comp=Z,2.1nm,0.6s,baz=185,slow=6.9,SNR=5.0						
	comp=Z,2.1nm,0.6s						
JKA	Kamikawa-asahi	51.89	12	P	P	15 10 22.1	-0.1
SONM	Songino Array	58.04	342	P	P	15 11 07.3	+1.0
SONM	Songino Array	58.04	342	P	P	15 11 07.1	+0.8
	comp=Z,0.6nm,0.5s,baz=167,slow=6.2,SNR=5.4						
	comp=Z,0.6nm,0.5s						
PEA0B	Petropavlovsk-	64.12	18	P	P	15 11 47.3	+0.3
PEA0B				IAmb	IAmb	15 11 57.8	
	comp=Z,25nm,1.4s						
PETK	Petropavlovsk-	64.12	18	P	P	15 11 47.4	+0.4
	comp=Z,1.8nm,0.7s,baz=203,slow=4.7,SNR=6.8						
	comp=Z,1.8nm,0.7s						
MK31	Makanchi Array	67.78	327	P	P	15 12 11.3	+0.8
MKAR	Makanchi Array	67.78	327	P	P	15 12 11.4	+0.9
MKAR	Makanchi Array	67.78	327	P	P	15 12 11.5	+1.0
	comp=Z,2.2nm,0.4s,baz=117,slow=7.9,SNR=58						
	comp=Z,2.2nm,0.4s						
MAKZ	Makanchi	67.96	327	P	P	15 12 12.2	+0.7
MAKZ				IAmb	IAmb	15 12 13.1	
	comp=Z,2.5nm,0.5s						
KDJ	Kajisay	68.12	321	P	P	15 12 12.7	-0.3
YAK	Yakutsk	68.50	0	P	P	15 12 14.5	-0.1
YAK				IAmb	IAmb	15 12 15.2	
	comp=Z,8.6nm,0.8s						
RAR	Rarotonga	69.50	110	P	P	15 12 20.9	-0.6
RAR				IAmb	IAmb	15 12 26.9	
	comp=Z,25nm,1.2s						
ZALV	Zalesovo Beam	71.16	334	P	P	15 12 30.7	-0.2
	comp=Z,1.0nm,0.4s,baz=104,slow=6.3,SNR=5.4						
	comp=Z,1.0nm,0.4s						
KURBB	Kurchatov Arra	72.07	329	P	P	15 12 37.0	+0.6
	comp=Z,1.2nm,0.4s,baz=128,slow=5.0,SNR=12						
	comp=Z,1.2nm,0.4s						
VNDA	Vanda	72.80	173	P	P	15 12 41.6	+1.3
VNDA				IAmb	IAmb	15 13 20.4	
	comp=Z,8.0nm,1.4s						
SBA	Scott Base	73.69	172	P	P	15 12 46.5	+1.0
ATKA	Atka Island	75.54	32	P	P	15 12 56.7	+0.1
BVAR	Borovoye Array	77.62	328	P	P	15 13 08.2	0.0
	comp=Z,0.6nm,0.5s,baz=127,slow=12,SNR=5.8						
	comp=Z,0.6nm,0.5s						
TIXI	Tiksi	78.17	360	P	P	15 13 10.3	-0.5
BYL	Byron's Ledge	78.26	69	P	P	15 13 10.7	-1.9
ABKAR	Akbulak array	82.06	322	P	P	15 13 32.2	+0.1
QSPA	South Pole Qui	83.30	180	P	P	15 13 39.1	+0.7
QSPA				IAmb	IAmb	15 13 48.7	
	comp=Z,10nm,1.4s						
QSPA	South Pole Qui	83.30	180	P	P	15 13 39.0	+0.7
	comp=Z,1.4nm,1.0s,baz=236,slow=0.8,SNR=7.9						
	comp=Z,1.4nm,1.0s						
SYO	Syowa Base	83.85	201	‖ ePcP	PcP	15 13 46.0	+1.5
L14K	Kuka Creek	85.36	27	P	P	15 13 49.0	+0.5
L14K				IAmb	IAmb	15 14 31.3	
	comp=Z,16nm,1.4s						
M14K	Bethel	85.45	27	P	P	15 13 49.8	+0.7
F15K	North Star Dit	86.32	22	P	P	15 13 53.8	+0.6
O16K	Kokwok River B	86.86	29	P	P	15 13 56.3	+0.4
O16K				IAmb	IAmb	15 14 23.9	
	comp=Z,14nm,1.2s						
L16K	Owhat River	86.92	27	P	P	15 13 56.8	+0.6
L16K				IAmb	IAmb	15 14 31.0	
	comp=Z,14nm,1.5s						
J16K	Anvik River	86.99	25	P	P	15 13 56.9	+0.4
J16K				IAmb	IAmb	15 13 58.8	
	comp=Z,9.5nm,1.2s						
F17K	Baldwin Pennin	87.89	22	P	P	15 14 01.1	+0.4
F17K				IAmb	IAmb	15 14 18.7	
	comp=Z,8.0nm,1.4s						
C18K	Utukok River	88.73	20	P	P	15 14 04.5	-0.3
TTA	Tatalina	88.84	26	P	P	15 14 05.5	+0.1
TTA				IAmb	IAmb	15 14 05.6	
	comp=Z,9.2nm,1.5s						
ILAR	Eielson Array	93.19	25	P	P	15 14 23.4	-2.0
	comp=Z,0.3nm,0.7s,baz=256,slow=4.6,SNR=11						
	comp=Z,0.3nm,0.7s						

*KRSC **18** 15:16:25.5±2.3, 49°.66N×155°.23E, h160km±18km, Ml4.9*
*BJI **18** 15:16:27.0, 50°.01N×154°.92E, h145km, mB4.8/13, mb4.7/54*
*MOS **18** 15:16:28.6±1.0, 49°.94N×154°.78E, h144km, mb4.8/73, Error ellipse: s-maj=6.6km s-min=3.3km az=78.3*
*IDC **18** 15:16:29.1±0.5, 50°.00N×154°.69E, h132km±3km, mb4.3/30, mbtmp4.7/39, MS3.4/16, Error ellipse: s-maj=10.1km s-min=7.1km az=148.0*
*NEIC **18** 15:16:30.5±1.3, 50°.04N±0°.05×154°.7E±0°.1, h145km±7km, mb4.8/311, Error ellipse: s-maj=10.7km s-min=7.6km az=75.0*
ISC 18 15:16:29.5±0.3, 49°.91N±0°.05×154°.92E±0°.04, h142km±2km, h142km:pP-P, n884, σ1°13/828, mb4.8/293, 35C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.09	44	‖ iPN	Pn	15 16 53.1	-1.1
SKR				eS	Sn	15 17 11.7	-1.5
SKR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SKR	Severo-Kuril's	1.09	44	eP	Pn	15 16 53.1	-1.1
SKR				eS	Sn	15 17 11.6	-1.5
PAU	Pauzhetka	1.97	37	PN	Pn	15 17 03.2	-0.4
PAU				S	Sn	15 17 30.3	+0.4
PAU	Pauzhetka	1.97	37	eP	Pn	15 17 03.3	-0.4
PAU				eS	Sn	15 17 30.3	+0.4
GRL	Gorelyy	3.30	36	PN	Pn	15 17 21.1	+0.6
GRL	Gorelyy	3.30	36	eP	Pn	15 17 21.1	+0.6
APC	Apacha	3.33	24	PN	Pn	15 17 21.0	+0.4
APC	Apacha	3.33	24	eP	Pn	15 17 21.0	+0.4
RUS	Russkaya	3.39	40	PN	Pn	15 17 20.4	-1.0
RUS				S	Sn	15 17 59.7	-2.0
RUS	Russkaya	3.39	40	eP	Pn	15 17 20.4	-1.0
RUS				eS	Sn	15 17 59.8	-2.0
KRMR	Karymshinskiy	3.55	33	PN	Pn	15 17 24.1	+0.6
KRMR	Karymshinskiy	3.55	33	eP	Pn	15 17 24.2	+0.6
PEA0B	Petropavlovsk-	3.64	27		Pn	15 17 25.6	+0.9
PEA0B	Petropavlovsk-	3.64	27	cePN	Pn	15 17 26.0	+1.3
PETK	Petropavlovsk-	3.64	27	P	Pn	15 17 24.8	0.0
	comp=Z,77nm,0.5s,baz=196,slow=10,SNR=266						
PETK				S	Sn	15 18 08.6	+0.9
	comp=Z,85nm,0.8s,baz=162,slow=15,SNR=5.9						
PET	Petropavlovsk	3.89	35		Pn	15 17 28.1	+0.1
PET	Petropavlovsk	3.89	35	P	Pn	15 17 28.7	+0.8
PET	Petropavlovsk	3.89	35	ePN	Pn	15 17 28.8	+0.8
PET				eS	Sn	15 18 14.6	+1.1
PET				pmax	pmax		
	comp=Z,67nm,0.8s						
PET				smax	smax		
	comp=E,355nm,0.6s						
PET				smax	smax		
	comp=N,497nm,0.6s						
PET	Petropavlovsk	3.89	35	Pn	Pn	15 17 28.5	+0.5
PET	Petropavlovsk	3.89	35	eP	Pn	15 17 27.9	-0.1
PET				eS	Sn	15 18 13.6	+0.2
INSR	Institute	3.91	35	eS	Sn	15 18 15.0	+1.2
DALK	Dalny	3.94	36	PN	Pn	15 17 28.9	+0.4
DALK				S	Sn	15 18 13.5	-1.0
DALK	Dalny	3.94	36	eP	Pn	15 17 28.9	+0.4
DALK				eS	Sn	15 18 13.5	-1.0
KOK	Koryaka	4.10	33	PN	Pn	15 17 32.5	+1.7
KOK	Koryaka	4.10	33	eP	Pn	15 17 32.6	+1.7
UGLR	Uglovaya	4.10	35	PN	Pn	15 17 31.9	+1.0
UGLR	Uglovaya	4.10	35	eP	Pn	15 17 31.9	+1.0
AVH	Avacha	4.12	34	PN	Pn	15 17 32.2	+1.2
AVH	Avacha	4.12	34	eP	Pn	15 17 32.3	+1.2
KRX	Arik	4.16	32	PN	Pn	15 17 33.0	+1.3
KRX	Arik	4.16	32	eP	Pn	15 17 33.0	+1.3
GNL	Ganaly	4.23	25	PN	Pn	15 17 34.0	+1.5
GNL	Ganaly	4.23	25	eP	Pn	15 17 34.0	+1.5
NLC	Nalytchevo	4.27	39	PN	Pn	15 17 32.3	-0.7
NLC	Nalytchevo	4.27	39	eP	Pn	15 17 32.3	-0.7
SPN	Mys Shipunski	4.51	43	PN	Pn	15 17 35.3	-0.8
SPN				S	Sn	15 18 24.7	-3.3
SPN	Mys Shipunski	4.51	43	eP	Pn	15 17 35.3	-0.8
SPN				eS	Sn	15 18 24.8	-3.3
TUMD	Tumrok D	6.26	30	eP	Pn	15 17 59.9	+0.4
ESO	Esso	6.44	19	PN	Pn	15 18 03.9	+2.0
ESO	Esso	6.44	19	eP	Pn	15 18 03.9	+2.0
KMNR	Kamenistaya	6.68	27	PN	Pn	15 18 06.6	+1.5
KMNR	Kamenistaya	6.68	27	eP	Pn	15 18 06.6	+1.5
KUR	Kuril'sk	6.68	228	ePN	Pn	15 18 05.5	+0.3
KUR				eS	Sn	15 19 20.7	+0.6
KUR				pmax	pmax		
	comp=E,35nm,0.2s						
KUR				pmax	pmax		
	comp=Z,28nm,0.2s						
KUR				pmax	pmax		
	comp=N,73nm,0.6s						
KOZ	Kozyrevsk	6.84	24	PN	Pn	15 18 08.0	+0.8
KOZ	Kozyrevsk	6.84	24	eP	Pn	15 18 08.0	+0.8
KIRR	Kirishev	6.88	26	PN	Pn	15 18 08.4	+0.5
KIRR	Kirishev	6.88	26	eP	Pn	15 18 08.4	+0.5
SRDR	Sredinnyy	7.03	22	PN	Pn	15 18 11.6	+1.8
SRDR	Sredinnyy	7.03	22	eP	Pn	15 18 11.6	+1.8
KRSR	Krestovskiy	7.17	26	PN	Pn	15 18 11.8	+0.1
KRSR	Krestovskiy	7.17	26	eP	Pn	15 18 11.9	+0.1
KLY	Klyuchi	7.28	26	PN	Pn	15 18 14.2	+1.2
KLY	Klyuchi	7.28	26	eP	Pn	15 18 14.3	+1.2
KBG	Krutoberegovo	7.89	33	PN	Pn	15

MA2	Magadan	9.97	348	*ce*PN	Pn	15 18 49.0	-0.1
MA2				pmax	pmax		
comp=Z,54nm,2.5s							
MA2	Magadan	9.97	348	Pn	Pn	15 18 49.8	+0.7
comp=Z,18nm,0.7s							
JKA	Kamikawa-asahi	10.21	240		Pn	15 18 52.8	+0.5
ASAJ	Asahikawa	10.21	240	P	Pn	15 18 53.0	+0.6
comp=Z,86nm,0.8s,baz=69,slow=13,SNR=46							
ASAJ	Asahikawa	10.21	240	PN	Pn	15 18 52.8	+0.4
ERM	Erimo	11.37	230		Pn	15 19 03.6	-4.0
ERM	Erimo	11.37	230	*i* PN	Pn	15 19 05.7	-1.9
GRNR	Gornyy	11.86	281	⇓ *i* PN	Pn	15 19 15.8	+1.9
GRNR				pmax	pmax		
comp=E,10.0nm,1.0s							
GRNR				pmax	pmax		
comp=Z,10.0nm,1.2s							
GRNR				MLR	MLR		
comp=N,90nm,16.0s							
GRNR				MLR	MLR		
comp=E,110nm,16.0s							
GRNR				MLR	MLR		
comp=Z,120nm,16.0s							
SHEM	Shemya Is, Ala	12.32	69	P	Pn	15 19 22.8	+2.9
comp=Z,51nm,0.7s,baz=308,slow=4.9,SNR=4.6							
SHEM				S	Sn	15 21 28.1	-7.7
comp=Z,140nm,0.5s,baz=273,slow=20,SNR=15							
SHEM				LR	LR	15 24 30.5	
comp=Z,33nm,20.7s,baz=142,slow=39							
SEY	Seymchan	13.13	355	P	Pn	15 19 30.8	+0.6
comp=Z,6.0nm,1.0s,baz=164,slow=9.7,SNR=19							
SEY	Seymchan	13.13	355	*ce*PN	Pn	15 19 30.9	+0.6
SEY				pmax	pmax		
comp=Z,10.0nm,1.0s							
JTM	Tenmabayashi	13.33	232	Pn	Pn	15 19 26.6	-6.4
KLR	Kul'dur	15.04	276	P	Pn	15 19 54.5	0.0
comp=Z,7.7nm,0.8s,baz=81,slow=12,SNR=18							
KLR	Kul'dur	15.04	276	*e*P	Pn	15 19 55.0	+0.4
KLR				pmax	pmax		
comp=Z,24nm,1.5s							
JMM	Marumori	15.74	225	Pn	Pn	15 20 01.7	-1.6
JMM	Marumori	15.74	225	P	P	15 20 05.0	+0.7
USA0B	Ussuriysk Arra	16.61	259	P	P	15 20 13.6	-0.2
USA0B	Ussuriysk Arra	16.61	259	P	P	15 20 13.6	-0.2
USRK	Ussuriysk Ar.	16.61	259	P	P	15 20 13.1	-0.8
USRK	Ussuriysk Ar.	16.61	259	P	P	15 20 13.5	-0.3
comp=Z,11nm,0.7s,baz=60,slow=13,SNR=14							
USRK	Ussuriysk Ar.	16.61	259	P	P	15 20 13.1	-0.8
JSD	Sado	16.83	231	P	P	15 20 14.9	-1.4
JSD	Sado	16.83	231	P	Pn	15 20 17.2	+0.6
ZEA	Zeya	17.48	293	*e*P	P	15 20 24.1	+0.8
ZEA				pmax	pmax		
comp=Z,20nm,0.8s							
ZEA				MLR	MLR		
comp=Z,100nm,15.0s							
HEH	HeiHe	17.62	282	*e*P	P	15 20 25.1	+0.2
HEH				pmax	pmax		
comp=Z,14nm,0.7s							
MDJ	Mudanjiang	17.95	263	P	P	15 20 26.7	-1.8
MDJ	Mudanjiang	17.95	263	P	P	15 20 26.6	-1.9
MDJ				S	S	15 23 46.8	-0.3
MDJ				pmax	pmax		
comp=Z,11nm,0.8s							
MDJ				pmax	pmax		
comp=Z,190nm,3.8s							
MDJ	Mudanjiang	17.95	263	P	P	15 20 27.8	-0.7
MJB9	Matsu-Tunnel	18.02	228	P	P	15 20 28.8	-0.7
MAJO	Matsushiro	18.02	228	P	P	15 20 28.8	-0.6
MAJO	Matsushiro	18.02	228	P	P	15 20 29.7	+0.2
MAJO	Matsushiro	18.02	228	*i* P	P	15 20 28.3	-1.2
MJAR	Matsushiro Arr	18.02	228	P	P	15 20 28.9	-0.6
comp=Z,11nm,0.8s,baz=25,slow=12,SNR=28							
MJAR				LR	LR	15 26 30.6	
comp=Z,56nm,21.8s,baz=28,slow=34							
YAK	Yakutsk	18.47	321		P	15 20 34.0	0.0
YAK	Yakutsk	18.47	321	P	P	15 20 33.9	0.0
comp=Z,151nm,0.6s,baz=104,slow=5.1,SNR=108							
YAK	Yakutsk	18.47	321	*c i* P	P	15 20 34.3	+0.3
YAK				*e*S	S	15 23 57.8	+0.7
YAK				pmax	pmax		
comp=Z,85nm,0.7s							
YAK				pmax	pmax		
comp=N,4.0nm,0.6s							
YAK				pmax	pmax		
comp=E,12nm,0.6s							
YAK				smax	smax		
comp=E,18nm,1.2s							
YAK				smax	smax		
comp=N,40nm,1.3s							
BNX	BinXian	18.89	268	⇑P	P	15 20 37.4	-1.4
BNX				pmax	pmax		
comp=N,14nm,1.0s							
BILL	Biiibino	19.04	13	P	P	15 20 40.1	-0.1
BILL	Biiibino	19.04	13	*ce*P	P	15 20 40.3	+0.1
BILL				pmax	pmax		
comp=Z,9.0nm,0.6s							
JGF	Kuroka	19.19	228	P	P	15 20 41.5	-0.6
JGF	Kuroka	19.19	228	P	P	15 20 41.8	-0.4
INU	Inuyama	19.56	229	P	P	15 20 45.2	-0.9
INU	Inuyama	19.56	229	P	P	15 20 45.6	-0.5
JHJ2	Mitsune	20.18	219	P	P	15 20 52.7	0.0
CN2	Changchun	20.98	264	P	P	15 20 57.8	-3.4
CN2				PP	pP	15 21 28.0	+1.8
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
SPIA	Saint Paul Isl	21.74	57	P	P	15 21 09.8	+0.6
baz=266							
P08K	Saint George I	22.09	59	P	P	15 21 13.8	+1.0
baz=268							
JMN	Monobe	22.41	232	P	P	15 21 15.6	-0.7
JMN				IAmb	IAmb	15 21 25.4	
comp=Z,50nm,1.3s							
JMN	Monobe	22.41	232	P	P	15 21 18.4	+2.2
GAMB	Gambell	22.58	40	P	P	15 21 17.4	-0.1
baz=248							
HIA	Hailar	22.69	282	P	P	15 21 18.0	-0.8
HIA	Hailar	22.69	282	P	P	15 21 18.5	-0.3
HIA	Hailar	22.69	282	P	P	15 21 18.0	-0.8
HIA				pmax	pmax		
comp=Z,10.0nm,0.7s							
KSRS	Korea Array	23.02	248	P	P	15 21 22.1	+0.3
comp=Z,20nm,0.8s,baz=45,slow=10,SNR=70							
KSRS				pP	pP	15 21 48.0	-0.2
comp=Z,3.0nm,0.7s,baz=43,slow=10,SNR=2.3							
KSRS				PcP	PcP	15 25 07.2	+0.6
comp=Z,1.2nm,0.9s,baz=24,slow=3.4,SNR=4.3							
comp=Z,20nm,0.8s							
KS19	Wonju Array Si	23.02	248	P	P	15 21 21.2	-0.7
KS19				IAmb	IAmb	15 21 24.2	
comp=Z,29nm,1.1s							
KSAR	Wonju Array Be	23.05	248	P	P	15 21 21.4	-0.8
KSAR	Wonju Array Be	23.05	248	P	P	15 21 21.4	-0.8
UNV	Unalaska Valle	23.93	66	P	P	15 21 31.0	+1.0
baz=277							
M11K	Mekoryuk	24.20	50	P	P	15 21 32.7	+0.3
baz=262							
JNU	Nakatsue	24.44	236	P	P	15 21 35.0	+0.1
JNU				IAmb	IAmb	15 21 40.4	
comp=Z,41nm,0.9s							
JNU	Nakatsue	24.44	236	LR	LR	15 31 30.7	
comp=Z,45nm,18.3s,baz=55,slow=37							
JNU	Nakatsue	24.44	236	P	P	15 21 35.8	+0.8
TIXI	Tiksi	24.82	341	P	P	15 21 36.7	-1.2
TIXI				IAmb	IAmb	15 22 12.2	
comp=Z,29nm,1.0s							
TIXI	Tiksi	24.82	341	LR	LR	15 31 26.6	
comp=Z,60nm,21.0s,baz=191,slow=36							
TIXI	Tiksi	24.82	341	*i* P	P	15 21 37.4	-0.6
TIXI				pmax	pmax		
comp=Z,18nm,0.9s							
BOD	Bodaibo	25.05	304	*e*P	P	15 21 38.4	-1.8
BOD				pmax	pmax		
comp=Z,11nm,1.5s							
K13K	Kusilvak Mount	25.18	46	P	P	15 21 41.1	-0.2
baz=261							
F14K	Arctic Creek	25.35	38	P	P	15 21 42.8	0.0
baz=252							
ANM	Nome	25.46	40	P	P	15 21 45.1	+1.3
ANM	Nome	25.46	40	P	P	15 21 44.0	+0.2
baz=254							
ANM	Nome	25.46	40	P	P	15 21 45.1	+1.3
ANM				pmax	pmax		
comp=Z,8.0nm,1.1s							
M13K	Dall Lake	25.61	50	P	P	15 21 46.6	+1.4
baz=265							
FALS	False Pass	25.61	63	P	P	15 21 45.7	+0.4
baz=277							
J14K	Nanvaranak Lak	25.83	44	P	P	15 21 47.1	0.0
baz=260							
L14K	Kuka Creek	26.03	48	P	P	15 21 48.6	-0.3
baz=264							
F15K	North Star Dit	26.08	38	P	P	15 21 49.9	+0.5
baz=253							
G15K	Niukluk	26.12	39	P	P	15 21 49.6	-0.2
baz=255							
S12K	Black Hills	26.30	61	P	P	15 21 51.4	-0.1
baz=276							
M14K	Bethel	26.32	49	P	P	15 21 51.4	-0.1
baz=266							
N14K	Kuskokwak Cree	26.40	51	P	P	15 21 52.4	+0.2
baz=268							
O14K	Tigyukauivet M	26.59	53	P	P	15 21 54.1	+0.1
baz=269							
L15K	Ungalak Mounta	26.64	47	P	P	15 21 54.4	0.0
baz=264							
K15K	Wolf Creek Mou	26.69	46	P	P	15 21 54.9	+0.1
baz=263							
C16K	Lisburne Hills	26.73	32	P	P	15 21 54.4	-0.7
baz=247							
H16K	Elim	26.79	41	P	P	15 21 55.4	-0.3
baz=258							
G16K	Koyuk River	26.91	39	P	P	15 21 56.3	-0.5
baz=256							
M15K	Kasigluk River	26.94	49	P	P	15 21 56.7	-0.4
baz=267							
XLT	XiLinHaoTe	26.98	272	*e*P	P	15 21 56.9	-0.9
XLT				pP	pP	15 22 28.3	+1.0
XLT				PcS	PcS	15 28 51.8	-5.3
XLT				pmax	pmax		
comp=Z,9.0nm,1.4s							
XLT				LR	LR		
comp=Z,15nm,7.7s							
XLT				LR	LR		
comp=Z,130nm,6.3s							
XLT				LR	LR		
comp=Z,90nm,9.1s							
N15K	Kwethluk River	27.21	51	P	P	15 21 59.5	-0.1
baz=269							
J16K	Anvik River	27.25	44	P	P	15 21 59.2	-0.6
baz=262							
I17K	Unalakleet	27.30	42	P	P	15 21 59.8	-0.5
baz=261							
D17K	Noatak River	27.31	34	P	P	15 21 59.8	-0.5
baz=251							
O15K	Ungalikthiuk R	27.33	53	P	P	15 22 00.4	-0.2
baz=271							
RDOG	Red Dog Mine	27.49	33	P	P	15 22 01.9	-0.1
baz=251							
C17K	DeLong Mountai	27.55	32	P	P	15 22 01.7	-0.8
baz=250							
E17K	Hotham Inlet	27.58	35	P	P	15 22 01.9	-0.9
baz=254							
L16K	Owhat River	27.59	47	P	P	15 22 03.3	+0.3
baz=266							
F17K	Baldwin Pennin	27.62	37	P	P	15 22 02.5	-0.6
baz=255							
M16K	Timber Creek	27.80	49	P	P	15 22 04.4	-0.4
baz=268							
CHNA	Chernabura Isl	27.81	62	P	P	15 22 05.0	0.0
baz=279							
H17K	Granite Mounta	27.82	40	P	P	15 22 04.2	-0.8
baz=260							
J17K	VABM Dome	27.94	44	P	P	15 22 05.6	-0.4
baz=263							
E18K	Tukpahlearik C	28.13	35	P	P	15 22 07.5	-0.2
baz=254							
L17K	Donlin	28.18	46	P	P	15 22 08.8	+0.7
baz=267							
O16K	Kokwok River B	28.21	52	P	P	15 22 09.4	+1.0
baz=272							
K17K	Iditarod	28.22	45	P	P	15 22 09.1	+0.6
baz=266							
CHGN	Chignik	28.27	59	P	P	15 22 09.9	+0.9
baz=277							
F18K	Selawik	28.28	37	P	P	15 22 09.6	+0.7
baz=257							
P16K	Nushagak River	28.28	53	P	P	15 22 10.4	+1.3
baz=273							
C18K	Utukok River	28.29	32	P	P	15 22 09.5	+0.4
C18K	Utukok River	28.29	32	P	P	15 22 09.6	+0.4
baz=252							
B18K	Kokolik River	28.33	31	P	P	15 22 09.4	0.0
baz=250							
H18K	Honhosa River	28.51	40	IAmb	IAmb	15 22 13.5	
comp=Z,42nm,1.8s							
H18K	Honhosa River	28.51	40	P	P	15 22 11.5	+0.4
baz=261							
G18K	Tagagawik	28.52	39	P	P	15 22 10.9	-0.2
baz=259							
M17K	Holitna River	28.55	48	IAmb	IAmb	15 22 14.6	
comp=Z,24nm,0.8s							
M17K	Holitna River	28.55	48	P	P	15 22 12.4	+0.9
baz=269,SNR=6.1							
R16K	Pilot Point	28.60	56	P	P	15 22 12.7	+0.8
baz=276							
N17K	Nushagak Hills	28.66	50	P	P	15 22 12.4	0.0
baz=270							
O17K	Koliganek Bris	28.72	51	P	P	15 22 13.6	+0.7
baz=272							
BJI	Beijing	28.84	265	P	P	15 22 14.3	+0.1
BJI				pmax	pmax		
comp=Z,3.0nm,0.7s							
L18K	Granite Mounta	28.94	46	P	P	15 22 15.5	+0.6
baz=268							
Q16K	King Salmon	28.99	54	P	P	15 22 15.1	-0.2
baz=274							
J18K	Innoko River	29.01	44	P	P	15 22 15.6	+0.1
baz=266							
F19K	Shaleruckik Mo	29.06	37	IAmb	IAmb	15 22 47.1	
comp=Z,26nm,1.9s							
F19K	Shaleruckik Mo	29.06	37	P	P	15 22 15.7	-0.1
baz=258							
GCSA	Galena City Sc	29.07	41	P	P	15 22 15.2	-0.7
baz=263							
P17K	Kvichak River	29.07	53	P	P	15 22 17.6	+1.5
baz=274							
G19K	Purcell Mounta	29.20	38	P	P	15 22 17.6	+0.5
baz=260							
TTA	Tatalina	29.29	45	P	P	15 22 19.2	+1.2
TTA	Tatalina	29.29	45	P	P	15 22 19.3	+1.2
baz=267,SNR=6.3							
TTA	Tatalina	29.29	45	P	P	15 22 19.5	+1.5
TTA	Tatalina	29.29	45	P	P	15 22 19.2	+1.2
TTA				pmax	pmax		
comp=Z,12nm,1.0s							
N18K	Kilae Creek	29.30	50	P	P	15 22 18.8	+0.7
baz=271							
D19K	Kuna River	29.33	33	P	P	15 22 18.7	+0.4
baz=255							
M18K	Stony River	29.33	48	P	P	15 22 18.2	-0.1
baz=270							
H19K	Roundabout Mou	29.36	40	P	P	15 22 19.2	+0.7
baz=262,SNR=9.2							
E19K	Redstone River	29.40	36	P	P	15 22 17.8	-1.1
baz=258							
J19K	Poorman	29.54	43	P	P	15 22 19.3	-0.9
baz=266							
O18K	Koktuh Hills	29.67	51	P	P	15 22 20.1	-1.3
baz=273							
P18K	Big Mountain,	29.68	52	P	P	15 22 21.2	-0.3
baz=274							
L19K	White Mountain	29.80	47	P	P	15 22 21.9	-0.6
baz=270							
CHIR	Chirikof Islan	29.89	59	P	P	15 22 23.9	+0.6
baz=280							
F20K	Avaraart Lake	29.89	37	P	P	15 22 22.9	-0.3
baz=260							
D20K	Etivluk River	29.91	33	P	P	15 22 23.4	-0.1
baz=256							
E20K	Nigu River	29.96	34	P	P	15 22 23.3	-0.6
baz=258							
N19K	Bonanza Creek	29.99	49	P	P	15 22 24.6	+0.3
baz=272							
H20K	Anotleneega Mo	30.00	40	P	P	15 22 24.4	+0.1
baz=264							
M19K	Big River Lodg	30.01	47	P	P	15 22 24.8	+0.4
baz=270							
O19K	Port Alsworth	30.09	50	P	P	15 22 25.4	+0.4
baz=274							
I20K	Naaghedeneel	30.10	41	P	P	15 22 24.9	-0.2
baz=265							
K20K	Telida	30.19	44	P	P	15 22 26.0	+0.1
baz=268							
J20K	Nowinta River	30.20	43	IAmb	IAmb	15 22 31.0	
comp=Z,24nm,1.4s							
J20K	Nowinta River	30.20	43	P	P	15 22 26.7	+0.7
baz=267,SNR=5.7							
L20K	Farewell, AK	30.25	46	P	P	15 22 26.5	0.0
baz=270							
TIA	Tai'an	30.47	258	P	P	15 22 28.3	-0.4
TIA				pmax	pmax		
comp=Z,9.0nm,0.7s							
Q19K	Cape Douglas,	30.54	53	P	P	15 22 30.0	+1.0
baz=276							
SII	Sitkinak Islan	30.56	58	P	P	15 22 29.3	0.0
baz=280							
M20K	Styx River	30.61	47	P	P	15 22 29.1	-0.7
baz=272							
A21K	Barrow	30.64	28	P	P	15 22 29.6	-0.2
baz=252							
C21K	Knifeblade Rid	30.66	33	P	P	15 22 30.1	+0.1
baz=258							
P19K	Oil Pt	30.68	51	P	P	15 22 29.9	-0.3
baz=275							
F21K	Alatna River	30.79	37	P	P	15 22 30.4	-0.8
baz=262							
B21K	Ikpikpuk River	30.82	32	P	P	15 22 31.3	-0.1
baz=257							
H21K	Melozitna Rive	30.88	40	IAmb	IAmb	15 22 34.2	
comp=Z,28nm,1.9s							
H21K	Melozitna Rive	30.88	40	P	P	15 22 32.0	+0.1
baz=266							
OHAK	Old Harbor	30.94	56	P	P	15 22 32.4	-0.1
baz=279							
O20K	Slope Mountain	30.95	51	P	P	15 22 33.1	+0.4
baz=275							
CHUM	Lake Minchumin	30.99	43	P	P	15 22 32.5	-0.4
baz=269							
PPLA	Purkeypile	31.04	45	P	P	15 22 33.5	-0.1
baz=271							
SPCR	Spurr Chakacha	31.08	48	P	P	15 22 34.6	+0.7
baz=274							
CAST	Castle Rocks	31.08	44	P	P	15 22 34.1	+0.3
baz=270							
ULN	Ulaanbaatar	31.12	285	P	P	15 22 33.2	-1.3
ULN	Ulaanbaatar	31.12	285	*i* P	P	15 22 33.3	-1.2
ULN				pmax	pmax		
comp=Z,4.0nm,0.7s							
ULN	Ulaanbaatar	31.12	285	P	P	15 22 33.3	-1.2
ULN				pP	pP	15 23 05.8	+1.4
SPU	Mount Spurr	31.15	48	IAmb	IAmb	15 22 37.2	
comp=Z,13nm,1.1s							
I21K	Tanana	31.19	41	P	P	15 22 34.9	+0.2
baz=267							
Q20K	Shuyak Island	31.22	53	P	P	15 22 34.2	-0.8
baz=278							
KDAK	Kodiak Island	31.23	55	P	P	15 22 35.5	+0.4
baz=279							
KDAK	Kodiak Island	31.23	55	P	P	15 22 35.1	0.0
KDAK				ScP	ScP	15 28 55.1	-0.3
STLK	Strandline Lak	31.24	48	IAmb	IAmb	15 22 37.9	
comp=Z,17nm,0.7s							
HNS	HongShan	31.29	262	⇑P	P	15 22 35.8	0.0
HNS				pP	pP	15 23 08.1	+2.4
HNS				pmax	pmax		
comp=Z,28nm,1.0s							
D22K	Ayikyak River	31.35	34	P	P	15 22 36.0	0.0
baz=260							
SKT	Skwentna	31.36	47	P	P	15 22 36.9	+0.6
baz=273							
HOM	Homer	31.48	51	P	P	15 22 37.6	+0.4
baz=276							
H22K	Ishtalitna Cre	31.48	39	P	P	15 22 37.4	+0.1
baz=266							
SONM	Songino Array	31.55	285	P	P	15 22 36.9	-1.2
comp=Z,1.0nm,0.5s,baz=78,slow=7.9,SNR=11							
SONM				PcP	PcP	15 25 27.9	+0.7
comp=Z,2.0nm,0.6s,baz=75,slow=1.8,SNR=6.3							
SONM				ScP	ScP	15 28 57.9	+1.0
comp=Z,3.0nm,0.9s,baz=94,slow=2.5,SNR=13							
SONM				LR	LR	15 35 40.2	
comp=Z,38nm,19.9s,baz=28,slow=37							
comp=Z,1.0nm,0.5s							
E22K	Anaktuvuk Pass	31.55	35	P	P	15 22 38.8	+1.0
E22K				IAmb	IAmb	15 23 12.1	
comp=Z,23nm,1.7s							
E22K	Anaktuvuk Pass	31.55	35	P	P	15 22 37.8	0.0
baz=262,SNR=10							
BPAW	Bear Paw Mtn.	31.58	43	P	P	15 22 38.4	+0.2
baz=270							
H11N2	WAKE ISLAND Hy	31.59	158	T	T	15 55 36.0	
baz=342,slow=74							
H11N1	WAKE ISLAND Hy	31.61	158	T	T	15 54 57.3	
baz=342							
H11N3	WAKE ISLAND Hy	31.61	158	T	T	15 55 57.5	
baz=342,slow=74							
CAPN	Captain Cook N	31.62	49	P	P	15 22 38.9	+0.5
baz=275							
TRF	Thorofare Moun	31.89	44	IAmb	IAmb	15 22 44.9	
comp=Z,16nm,0.9s							
TRF	Thorofare Moun	31.89	44	P	P	15 22 40.9	-0.2
baz=272,SNR=6.8							
BRSE	Bradley Lake S	31.93	51	P	P	15 22 42.0	+0.8
baz=277							
CUT	Chulitna	31.93	46	P	P	15 22 41.5	+0.3
baz=273,SNR=5.3							
M22K	Willow	32.04	47	P	P	15 22 41.7	-0.5
baz=274							
COLD	Coldfoot	32.06	37	P	P	15 22 43.2	+0.9
COLD	Coldfoot	32.06	37	P	P	15 22 42.3	0.0
baz=266							
D23K	Nanushuk River	32.08	34	P	P	15 22 41.1	-1.3
baz=262							
G23K	Bananza Creek	32.09	38	P	P	15 22 41.5	-1.1
baz=266							
NJ2	Nanjing	32.15	250	*e*P	P	15 22 43.4	0.0
NJ2				pmax	pmax		
comp=Z,2.0nm,0.5s							
C23K	Itkillik River	32.23	32	P	P	15 22 42.8	-0.9
baz=261							
RC01	Rabbit Creek A	32.28	48	P	P	15 22 43.4	-0.9
baz=276							
I23K	Minto, Yukon-K	32.29	41	P	P	15 22 43.5	-0.8
baz=270							
O22K	Cooper Landing	32.35	50	P	P	15 22 45.3	+0.4
baz=277							
E23K	Chandalar	32.36	35	P	P	15 22 44.6	-0.4
baz=265							
NEA2	Nenana	32.41	42	IAmb	IAmb	15 22 48.5	
comp=Z,13nm,0.7s							
NEA2	Nenana	32.41	42	P	P	15 22 44.8	-0.6
baz=271,SNR=9.3							
TOLK	Toolik Lake Re	32.43	34	P	P	15 22 45.2	-0.4
baz=264,SNR=5.5							
MCK	McKinley	32.49	43	P	P	15 22 46.8	+0.7
MCK				IAmb	IAmb	15 22 48.5	
comp=Z,19nm,0.9s							
MCK	McKinley	32.49	43	P	P	15 22 45.2	-0.9
baz=272,SNR=14							
MCK	McKinley	32.49	43	P	P	15 22 46.8	+0.7
MCK				pmax	pmax		
comp=Z,19nm,0.9s							
PMR	Palmer	32.53	47	P	P	15 22 46.4	0.0
baz=275							
SEW	Seward	32.53	50	P	P	15 22 47.0	+0.7
baz=278							
ZAK	Zakamensk	32.55	291	*e*P	P	15 22 46.2	-0.7
ZAK				*e*		15 23 17.4	
ZAK				pmax	pmax		
comp=Z,15nm,0.9s							
TIY	Taiyuan	32.56	264	*e*P	P	15 22 47.5	+0.4
TIY				pmax	pmax		
comp=Z,18nm,0.9s							
GHO	Glory Hole Cre	32.61	47	IAmb	IAmb	15 22 49.0	
comp=Z,12nm,0.6s							
H11S1	WAKE ISLAND Hy	32.73	159	T	T	15 57 25.5	
baz=347,slow=76,SNR=299							
H11S3	WAKE ISLAND Hy	32.73	159	T	T	15 56 58.2	
baz=347,slow=76,SNR=425							
H11S2	WAKE ISLAND Hy	32.74	159	T	T	15 57 22.5	
baz=347,slow=76,SNR=192							
D24K	Happy Valley	32.76	33	P	P	15 22 47.8	-0.6
baz=264							
E24K	Your Creek	32.78	35	P	P	15 22 48.4	-0.2
baz=266							
WRH	Wood River Hil	32.84	42	IAmb	IAmb	15 22 51.9	
comp=Z,25nm,1.2s							
KNK	Knik Glacier	32.86	48	P	P	15 22 49.2	-0.2
baz=276,SNR=9.7							
C24K	Franklin Bluff	32.88	32	P	P	15 22 49.2	-0.1
baz=263							
SML	Sawmill	32.89	47	P	P	15 22 49.7	+0.1

baz=276,SNR=22
H24K Noodor Dome 32.92 40 P **P** 15 22 49.7 -0.1
baz=270
COLA College 32.93 41 P **P** 15 22 50.9 +1.0
COLA IAmb IAmb 15 22 52.2
comp=Z,13nm,0.7s
COLA College 32.93 41 P **P** 15 22 49.8 -0.1
baz=271
COLA College 32.93 41 P **P** 15 22 51.6 +1.7
COLA College 32.93 41 *i* P **P** 15 22 50.7 +0.8
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 32.93 41 P **P** 15 22 51.2 +1.3
PWL Port Wells 32.98 49 P **P** 15 22 51.1 +0.6
baz=277
G24K Hadweenzic Riv 33.10 38 P **P** 15 22 51.7 +0.4
baz=269
POKR Poker Plat Res 33.11 41 IAmb IAmb 15 22 54.1
comp=Z,38nm,1.7s
POKR Poker Plat Res 33.11 41 P **P** 15 22 52.1 +0.7
baz=271
M23K Glacier View 33.17 47 P **P** 15 22 51.7 -0.4
baz=276,SNR=5.1
HDA Harding Lake 33.34 42 IAmb IAmb 15 22 55.2
comp=Z,12nm,0.6s
HDA Harding Lake 33.34 42 P **P** 15 22 52.9 -0.5
baz=273,SNR=8.9
ILAR Eielson Array 33.35 41 P **P** 15 22 54.1 +0.6
comp=Z,5.2nm,0.8s,baz=260,slow=6.0,SNR=92
ILAR pP **pP** 15 23 22.2 -2.0
comp=Z,1.8nm,0.7s,baz=256,slow=6.7,SNR=6.4
ILAR ScP **ScP** 15 29 04.2 +1.6
comp=Z,0.1nm,0.6s,baz=297,slow=4.0,SNR=2.2
comp=Z,5.2nm,0.8s
SCM Sheep Creek Mo 33.36 47 P **P** 15 22 54.6 +0.8
baz=276
MOY Mondy 33.49 294 *e*P **P** 15 22 55.2 +0.1
MOY pmax pmax
comp=Z,10.0nm,1.5s
P23K Montague Islan 33.56 50 P **P** 15 22 56.3 +0.9
baz=279
GLI Glacier Island 33.58 49 P **P** 15 22 55.3 -0.3
baz=278
G25K Bearman Lake 33.64 38 P **P** 15 22 56.4 +0.4
baz=270
D25K Kavik River 33.65 33 P **P** 15 22 55.9 -0.2
baz=266
H25L Birch Creek 33.76 39 P **P** 15 22 57.4 +0.4
baz=271
F25K Christian Rive 33.83 36 P **P** 15 22 58.1 +0.4
baz=269
M24K Tolsona, Glenn 33.87 46 P **P** 15 22 58.8 +0.6
baz=277
K24K Donnelly Dome 33.89 43 P **P** 15 22 59.1 +0.9
baz=275,SNR=6.6
PRP Porcupine Dome 33.90 40 P **P** 15 22 59.6 +1.2
PRP IAmb IAmb 15 23 00.8
comp=Z,11nm,0.8s
PRP Porcupine Dome 33.90 40 P **P** 15 22 58.6 +0.1
baz=272,SNR=7.1
FYU Fort Yukon 33.99 38 IAmb IAmb 15 23 15.0
comp=Z,41nm,1.8s
J25K Salcha River, 34.01 42 P **P** 15 22 58.8 -0.5
baz=274
KLU Klutina 34.06 47 IAmb IAmb 15 23 05.6
comp=Z,12nm,0.8s
KLU Klutina 34.06 47 P **P** 15 23 00.5 +0.6
baz=278
PAX Paxson 34.10 45 P **P** 15 23 00.7 +0.6
baz=276
Q23K Middleton Isla 34.18 51 P **P** 15 23 01.5 +0.8
baz=281
C26K Camden Bay 34.20 32 P **P** 15 23 00.8 0.0
baz=266
EYAK Cordova Ski Ar 34.29 49 P **P** 15 23 01.6 0.0
baz=280
RIDG Independent Ri 34.30 43 IAmb IAmb 15 23 03.7
comp=Z,27nm,1.2s
RIDG Independent Ri 34.30 43 P **P** 15 23 02.0 +0.2
baz=276,SNR=6.7
HARP HAARP 34.31 46 P **P** 15 23 02.9 +1.0
baz=277,SNR=5.5
F26K Sheenjek River 34.41 36 P **P** 15 23 03.9 +1.2
baz=270
G26K Porcupine Rive 34.56 38 P **P** 15 23 04.9 +1.0
baz=272
C27K Jago River 34.60 33 P **P** 15 23 04.3 0.0
baz=268
SCRK Sand Creek 34.66 43 IAmb IAmb 15 23 06.3
comp=Z,16nm,1.1s
SCRK Sand Creek 34.66 43 P **P** 15 23 05.7 +0.7
baz=276,SNR=8.4
N25K Chitina, Valde 34.68 47 P **P** 15 23 05.8 +0.7
baz=279,SNR=7.1
BMRM Bremner River 34.77 48 IAmb IAmb 15 23 08.7
comp=Z,21nm,0.9s
BMRM Bremner River 34.77 48 P **P** 15 23 07.0 +1.0
baz=280
J26L Joseph Creek 34.79 42 P **P** 15 23 07.3 +1.2
baz=276
I26K Coal Creek Min 34.90 40 P **P** 15 23 07.6 +0.8
baz=275
KAIM Kayak Island 35.05 50 P **P** 15 23 08.6 +0.4
baz=282
L26K Log Cabin Wild 35.05 44 IAmb IAmb 15 23 12.5
comp=Z,22nm,1.4s
L26K Log Cabin Wild 35.05 44 P **P** 15 23 09.2 +0.9
baz=278
M26K Nabesna, AK 35.30 45 P **P** 15 23 10.3 -0.2
baz=279
G27K Doyon Strip 35.40 38 P **P** 15 23 11.8 +0.6
baz=274
H27K Steamboat Moun 35.50 39 P **P** 15 23 12.2 +0.1
baz=275
I27K Kandik River 35.52 40 P **P** 15 23 12.8 +0.6
baz=276
D27M Malcolm River 35.57 33 P **P** 15 23 13.2 +0.6
baz=271
L27K Beaver Creek, 35.73 44 P **P** 15 23 16.0 +1.9
baz=279
BCAR Beaver Creek A 35.75 44 P **P** 15 23 15.9 +1.7
M27K Edge Creek, AK 35.83 45 P **P** 15 23 16.8 +1.8
baz=280
WHN Wuhan 35.96 253 P **P** 15 23 16.8 +0.5
WHN pmax pmax
comp=Z,38nm,0.6s
F28M Old Crow 36.04 36 P **P** 15 23 15.9 -0.7
baz=274,SNR=6.1
MESA MESA 36.21 49 P **P** 15 23 19.3 +1.0
baz=283
I28M Miner Creek 36.23 40 P **P** 15 23 18.3 -0.1
baz=277
D28M Stokes Point 36.36 33 P **P** 15 23 19.8 +0.5
baz=273
DAWY Dawson 36.66 42 P **P** 15 23 23.8 +1.9
baz=280
NRIK Noril'sk 36.72 327 P **P** 15 23 21.5 -0.8
comp=Z,2.1nm,0.6s,baz=97,slow=16,SNR=6.6
NRIK pP **pP** 15 23 50.8 -2.1
comp=Z,1.4nm,0.6s,baz=100,slow=5.3,SNR=1.6
NRIK PcP **PcP** 15 25 41.9 +0.4
comp=Z,2.2nm,0.5s,baz=80,slow=4.3,SNR=2.4
NRIK LR LR 15 38 37.4
comp=Z,41nm,18.5s,baz=357,slow=36
comp=Z,2.1nm,0.6s
NRIK Noril'sk 36.72 327 *ce*P **P** 15 23 22.9 +0.6
NRIK pmax pmax
comp=Z,5.0nm,1.1s
E29M Blow River 36.73 35 P **P** 15 23 23.4 +1.0
baz=275
H29M Whitestone 36.77 38 P **P** 15 23 23.8 +1.0
baz=278
G29M Pine Creek 36.82 37 P **P** 15 23 24.3 +1.0
baz=277
I29M Ogilvie Camp, 36.91 40 IAmb IAmb 15 23 26.5
comp=Z,9.6nm,0.8s
I29M Ogilvie Camp, 36.91 40 P **P** 15 23 24.3 +0.2
baz=279
O28M Mount Upton 36.93 48 P **P** 15 23 24.3 -0.2
baz=283
YUK8 Steele Glacier 37.02 47 P **P** 15 23 25.8 +0.5
baz=283
PINM Pinnacle 37.06 49 P **P** 15 23 26.1 +0.7
baz=284
XAN Xi'an 37.06 262 ⇑P P 15 23 20.0 -5.7
XAN pmax pmax
comp=Z,5.0nm,0.7s
J29N Klondike Camp 37.10 41 P **P** 15 23 25.9 +0.2
baz=280
M29M Somme Creek 37.37 45 P **P** 15 23 28.2 +0.1
baz=282
L29M L29M 37.38 44 P **P** 15 23 28.1 +0.1
baz=282
EPYK Eagle Plains 37.41 38 P **P** 15 23 28.8 +0.5
baz=279
K29M Barlow Dome 37.51 42 P **P** 15 23 28.6 -0.6
baz=282
G30M tAoh Zraii Nji 37.52 37 P **P** 15 23 29.3 +0.1
baz=278
YUK4 Talbot Arm 37.53 46 P **P** 15 23 30.8 +1.3
baz=284
PNL Peninsula 37.58 49 P **P** 15 23 30.5 +0.7
baz=285
F30M Barrier River 37.60 36 P **P** 15 23 30.5 +0.8
baz=278
I30M Mount Dempster 37.74 40 P **P** 15 23 31.3 +0.2
baz=281
YUK6 Outpost Mounta 37.76 47 P **P** 15 23 32.1 +0.7
baz=284
O29M Mount Kennedy 37.82 48 P **P** 15 23 32.8 +0.9
baz=285
J30M Hart River 37.88 41 P **P** 15 23 32.6 +0.4
baz=282
M30M Minto, Yukon 38.10 44 P **P** 15 23 34.8 +0.8
baz=284
HYT Haines Junctio 38.20 47 IAmb IAmb 15 23 37.9
comp=Z,11nm,0.8s
HYT Haines Junctio 38.20 47 P **P** 15 23 35.2 +0.2
baz=285,SNR=6.0
MAYO Mayo, Yukon 38.27 42 P **P** 15 23 35.7 +0.3
baz=283
INK Inuvik 38.34 35 P **P** 15 23 35.7 -0.3
baz=279,SNR=6.6
INK Inuvik 38.34 35 P **P** 15 23 36.8 +0.8
INK pmax pmax
comp=Z,8.0nm,2.4s
F31M Tsiigehtchic 38.40 36 P **P** 15 23 35.7 -0.8
baz=280
H31M Peel River 38.46 39 P **P** 15 23 37.9 +0.9
baz=282
P30M Million Dollar 38.64 48 P **P** 15 23 39.2 +0.5
baz=286
N31M Braeburn, Yuko 38.83 46 P **P** 15 23 40.9 +0.7
baz=286,SNR=6.2
O30N Mendenhall 38.88 47 P **P** 15 23 42.0 +1.4
baz=286,SNR=7.6
LZH Lanzhou 39.07 269 *e*P **P** 15 23 43.0 +0.4
LZH pP pP 15 24 15.5 +2.2
LZH sP sP 15 24 31.9 +2.7
LZH pmax pmax
comp=Z,17nm,1.1s
ENH Enshi 39.18 257 P **P** 15 23 45.0 +1.5
M31M Drury Creek, Y 39.27 44 P **P** 15 23 45.2 +1.4
baz=286
WHY Whitehorse 39.48 47 P **P** 15 23 46.8 +1.1
baz=287
SKAG Skagway 39.63 49 P **P** 15 23 48.0 +1.3
baz=288
S31K Pelican 39.66 51 P **P** 15 23 47.4 +0.4
baz=290
FARO Faro, Yukon 39.74 44 P **P** 15 23 47.6 0.0
baz=287,SNR=6.7
GTA Gaotai 39.74 276 *e*P **P** 15 23 47.5 -0.6
GTA pP pP 15 24 21.3 +2.3
GTA PcP **PcP** 15 25 53.0 +1.4
GTA pmax pmax
comp=Z,21nm,0.7s
R31K City Hall, Gus 39.76 50 P **P** 15 23 49.1 +1.3
baz=289
N32M Quiet Lake 40.17 46 P **P** 15 23 51.8 +0.5
baz=288
P32M Atlin 40.37 48 P **P** 15 23 52.6 -0.3
baz=289
R32K Eaglecrest 40.41 50 P **P** 15 23 53.9 +0.6
baz=290
SIT Sitka 40.43 52 P **P** 15 23 54.4 +1.1
baz=291
A36M Sachs Harbour 40.49 28 P **P** 15 23 55.1 +1.5
A36M IAmb IAmb 15 23 56.7
comp=Z,16nm,0.8s
A36M Sachs Harbour 40.49 28 P **P** 15 23 54.0 +0.4
baz=282,SNR=17
P33M Teslin, Yukon 40.59 47 IAmb IAmb 15 23 58.7
comp=Z,14nm,1.0s
P33M Teslin, Yukon 40.59 47 P **P** 15 23 55.8 +1.0
baz=289,SNR=8.0
S32K Killisnoo 40.66 51 P **P** 15 23 56.1 +0.8
baz=291
Q32M Nakina River 41.28 49 P **P** 15 24 01.7 +1.1
baz=291
C36M Paulatuk 41.48 32 P **P** 15 24 02.6 +0.8
C36M Paulatuk 41.48 32 P **P** 15 24 03.2 +1.4
baz=286
T33K Petersburg 41.73 52 P **P** 15 24 06.1 +2.2
baz=293
R33M Jennings River 41.75 48 IAmb IAmb 15 24 08.2
comp=Z,16nm,0.9s
R33M Jennings River 41.75 48 P **P** 15 24 05.6 +1.2
baz=291,SNR=8.1
ZALV Zalesovo Beam 41.80 304 P **P** 15 24 03.1 -1.5
ZALV Zalesovo Beam 41.80 304 P **P** 15 24 03.5 -1.2
comp=Z,4.2nm,0.4s,baz=61,slow=7.9,SNR=23
ZALV pP **pP** 15 24 33.5 -2.4
comp=Z,3.1nm,0.7s,baz=48,slow=7.7,SNR=4.6
ZALV PcP **PcP** 15 25 58.1 +0.2
comp=Z,6.0nm,0.7s,baz=74,slow=2.2,SNR=17
comp=Z,4.2nm,0.4s
ZALV Zalesovo Beam 41.80 304 *i* P **P** 15 24 03.6 -1.1
ZALV pmax pmax
comp=Z,4.0nm,0.4s
U33K Whale Pass 41.91 53 P **P** 15 24 06.4 +0.9
baz=293
CRAG Craig 42.17 54 P **P** 15 24 08.6 +1.1
baz=294
WRAK Wrangell Islan 42.19 52 P **P** 15 24 08.5 +0.8
baz=294
S34M Telegraph Cree 42.22 50 P **P** 15 24 09.0 +1.0
baz=293
WTLY Watson Lake, Y 42.51 46 P **P** 15 24 11.9 +1.5
baz=292,SNR=5.7
DLBC Dease Lake 42.56 49 P **P** 15 24 11.8 +1.0
baz=293
V35K Ketchikan 43.01 53 P **P** 15 24 14.9 +0.6
baz=295
T35M Bob Quinn 43.02 51 IAmb IAmb 15 24 18.7
comp=Z,14nm,0.8s
T35M Bob Quinn 43.02 51 P **P** 15 24 14.9 +0.4
baz=294,SNR=5.0
U35K Hyder 43.58 52 P **P** 15 24 19.8 +0.9
baz=295
GYA Guiyang 43.62 256 P **P** 15 24 19.6 -0.2
GYA pmax pmax
comp=Z,11nm,0.7s
WRGLY Wrigley 43.71 40 P **P** 15 24 20.8 +0.9
baz=293
GRNB Grenville Isla 44.53 55 IAmb IAmb 15 24 30.2
comp=Z,24nm,0.8s
TOAD Toad River Com 44.68 47 P **P** 15 24 29.0 +1.3
baz=296,SNR=9.5
GOMU GeErMu 44.83 276 P **P** 15 24 28.3 -1.3
GOMU pmax pmax
comp=Z,27nm,0.6s
WMQ Urumqi 44.97 289 *e*P **P** 15 24 29.9 -0.3
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ Urumqi 44.97 289 P **P** 15 24 30.7 +0.5
WMQ pP **pP** 15 25 04.4 +2.6
EUNU Eureka 45.78 12 IAmb IAmb 15 24 37.8
comp=Z,18nm,0.8s
ALE Alert 46.47 6 P **P** 15 24 41.1 -0.3
ALE pP **pP** 15 25 15.7 +2.5
MKAR Makanchi Array 46.61 296 P **P** 15 24 41.6 -1.4
MKAR Makanchi Array 46.61 296 P **P** 15 24 42.0 -1.0
comp=Z,8.7nm,0.7s,baz=62,slow=8.0,SNR=117
MKAR pP **pP** 15 25 12.6 -2.3
comp=Z,11nm,1.0s,baz=65,slow=8.6,SNR=7.1
MKAR PcP **PcP** 15 26 14.7 +0.2
comp=Z,4.7nm,0.9s,baz=57,slow=4.9,SNR=5.9
MKAR ScP **ScP** 15 29 55.2 +0.7
comp=Z,0.4nm,0.7s,baz=29,slow=3.3,SNR=3.1
MKAR LR LR 15 44 46.4
comp=Z,42nm,20.2s,baz=9.0,slow=36
comp=Z,8.7nm,0.7s
KURK Kurchatov 46.67 302 P **P** 15 24 42.1 -1.2
KURK IAmb IAmb 15 24 43.5
comp=Z,26nm,1.0s
KURK Kurchatov 46.67 302 P **P** 15 24 42.2 -1.2
KURK pmax pmax
comp=Z,26nm,1.0s
KURK Kurchatov 46.67 302 P **P** 15 24 42.5 -0.9
KURK PcP **PcP** 15 26 14.9 +0.3
PZH PanZhiHua 46.70 260 P **P** 15 24 44.1 0.0
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.7s
KURBB Kurchatov Arra 46.76 302 P **P** 15 24 43.3 -0.8
comp=Z,15nm,0.6s,baz=64,slow=8.3,SNR=79
KURBB pP **pP** 15 25 13.4 -2.6
comp=Z,3.4nm,0.8s,baz=65,slow=7.7,SNR=2.8
KURBB PcP **PcP** 15 26 15.2 +0.2
comp=Z,7.5nm,0.7s,baz=62,slow=3.3,SNR=19
KURBB ScP **ScP** 15 29 54.9 -0.1
comp=Z,0.6nm,0.8s,baz=64,slow=4.3,SNR=4.0
comp=Z,15nm,0.6s
MAKZ Makanchi 46.79 296 P **P** 15 24 43.0 -1.4
MAKZ Makanchi 46.79 296 P **P** 15 24 43.0 -1.4
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 46.79 296 P **P** 15 24 43.1 -1.4
MAKZ pP **pP** 15 25 17.3 +1.1
MAKZ PcP **PcP** 15 26 15.1 -0.1
RES Resolute Bay 47.45 20 P **P** 15 24 49.9 +0.8
RES Resolute Bay 47.45 20 P **P** 15 24 49.9 +0.8
RES pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 47.68 39 P **P** 15 24 52.5 +1.4
comp=Z,4.2nm,0.7s,baz=298,slow=7.8,SNR=44
YKA pP **pP** 15 25 21.2 -2.0
comp=Z,0.9nm,0.6s,baz=291,slow=12,SNR=3.3
YKA PcP **PcP** 15 26 20.4 +2.4
comp=Z,0.2nm,0.6s,baz=304,slow=3.6,SNR=2.4
comp=Z,4.2nm,0.7s
SPITS Spitsbergen Ar 49.71 350 P **P** 15 25 05.1 -1.3
comp=Z,4.1nm,0.7s,baz=78,slow=12,SNR=7.0
SPITS PcP **PcP** 15 26 25.8 +0.6
comp=Z,19nm,1.1s,baz=81,slow=5.2,SNR=6.8
comp=Z,4.1nm,0.7s
BVAR Borovoye Array 49.82 308 P **P** 15 25 06.9 -0.6
comp=Z,10nm,0.5s,baz=58,slow=7.8,SNR=83
BVAR pP **pP** 15 25 37.4 -2.2
comp=Z,8.4nm,0.6s,baz=76,slow=8.6,SNR=5.6
BVAR PcP **PcP** 15 26 25.4 -0.6
comp=Z,4.5nm,0.5s,baz=63,slow=3.1,SNR=6.6
BVAR ScP **ScP** 15 30 08.2 +0.3
comp=Z,2.3nm,1.0s,baz=67,slow=3.9,SNR=5.3
BVAR LR LR 15 47 47.8
comp=Z,44nm,20.8s,baz=314,slow=38
comp=Z,10nm,0.5s
BRVK Borovoye 49.85 308 P **P** 15 25 07.1 -0.6
BRVK IAmb IAmb 15 25 08.1
comp=Z,17nm,1.0s
BRVK Borovoye 49.85 308 P **P** 15 25 07.1 -0.6
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 49.85 308 P **P** 15 25 07.1 -0.6
BRVK pP **pP** 15 25 41.1 +1.2
BRVK PcP **PcP** 15 26 26.4 +0.3
BRVK ScP **ScP** 15 30 09.5 +1.4
NEEM North Greenlan 51.88 7 *i* P **P** 15 25 21.2 -1.7
NEEM IAmb IAmb 15 25 25.6
comp=Z,6.8nm,0.9s
NONG Nongkai 52.00 252 P **P** 15 25 25.7 +1.5
TARG Taragay, Kyrgy 52.14 292 IAmb IAmb 15 26 37.3
comp=Z,10.0nm,0.7s
KDJ Kajisay 52.27 293 IAmb IAmb 15 25 26.1
comp=Z,8.2nm,0.6s
SVE Sverdlovsk 52.36 316 *e*P **P** 15 25 26.3 0.0
SVE pmax pmax
comp=Z,22nm,0.9s
BOOM Boomskoye usch 52.78 294 IAmb IAmb 15 26 39.0
comp=Z,8.3nm,0.6s
LTY Liberty 53.02 58 IAmb IAmb 15 25 33.2
comp=Z,5.2nm,0.6s
B08A Colville Reser 53.10 56 IAmb IAmb 15 25 34.3
comp=Z,19nm,1.2s
BAKI Biak 53.41 204 P **P** 15 25 35.9 +1.4
comp=Z,59nm,1.8s
PHRA Phrae 53.47 255 P **P** 15 25 35.4 +0.4
DAG Danmarks Havn 53.53 358 *i* P **P** 15 25 32.1 -2.5
DAG IAmb IAmb 15 25 35.7
comp=Z,2.9nm,0.7s
AAK Ala-Archa 53.54 295 P **P** 15 25 34.3 -1.2
AAK Ala-Archa 53.54 295 LR LR 15 48 41.3
comp=Z,32nm,19.9s,baz=27,slow=36
AAK Ala-Archa 53.54 295 P **P** 15 25 34.3 -1.2
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK Ala-Archa 53.54 295 P **P** 15 25 34.7 -0.7
AAK pP **pP** 15 26 08.6 +0.6
AAK PcP **PcP** 15 26 40.6 +0.2
ARTI Arti 53.62 317 P **P** 15 25 34.3 -1.3
ARTI Arti 53.62 317 *d i* P **P** 15 25 34.6 -1.0
ARTI *PP **pP** 15 26 07.3 -0.9
ARTI 15 26 39.6
ARTI 15 27 35.7
ARTI S **S** 15 32 57.7 -0.1
ARTI SS **SS** 15 36 39.1 -0.3
ARTI pmax pmax
comp=Z,30nm,0.8s
ARTI Arti 53.62 317 P **P** 15 25 34.4 -1.2
ARTI pP **pP** 15 26 09.6 +1.3
ARTI PcP **PcP** 15 26 39.9 -0.2
HOOD Mount Hood Mea 53.64 60 IAmb IAmb 15 25 39.0
comp=Z,19nm,0.9s
E07A Sunnyside 53.89 58 IAmb IAmb 15 25 40.2
comp=Z,9.8nm,0.9s
KULLO Kullorsuaq 53.94 10 *i* P **P** 15 25 36.1 -1.5
KULLO IAmb IAmb 15 25 37.9
comp=Z,21nm,0.8s
CHTO Chiang Mai 54.04 256 P **P** 15 25 39.2 0.0
CHTO Chiang Mai 54.04 256 P **P** 15 25 39.2 0.0
CHTO pmax pmax
comp=Z,23nm,0.6s
HAWA Hanford 54.17 58 IAmb IAmb 15 25 42.2
comp=Z,9.5nm,1.1s
CMAR Chiang Mai Arr 54.31 256 P **P** 15 25 40.4 -0.7
CMAR Chiang Mai Arr 54.31 256 P **P** 15 25 41.9 +0.8
comp=Z,10nm,0.6s,baz=33,slow=7.3,SNR=78
CMAR PcP **PcP** 15 26 45.0 +1.6
comp=Z,5.0nm,0.6s,baz=16,slow=2.8,SNR=14
CMAR ScP **ScP** 15 30 29.0 +1.1
comp=Z,0.7nm,0.3s,baz=39,slow=2.3,SNR=1.7
comp=Z,10nm,0.6s
CMAR Chiang Mai Arr 54.31 256 *i* P **P** 15 25 42.2 +1.1
CMAR pmax pmax
comp=Z,10.0nm,0.6s
TNTI Ternate 54.32 215 P **P** 15 25 42.0 +0.9
comp=Z,35nm,1.1s
NEW Newport 54.34 55 P **P** 15 25 38.9 -2.1
NEW pmax pmax
comp=Z,7.0nm,1.3s
KSH Kashi 54.59 291 P **P** 15 25 46.4 +3.3
KSH pP pP 15 26 21.6 +5.9
KSH pmax pmax
comp=Z,8.0nm,0.7s
J04A Umpqua Nationa 54.65 63 P **P** 15 25 45.6 +2.1
E09A Wood Farm, Sta 54.85 57 IAmb IAmb 15 25 47.1
comp=Z,12nm,0.8s
PINE Pine Mountain 54.97 62 IAmb IAmb 15 25 49.4
comp=Z,13nm,0.8s
J05D Fort Rock, OR 55.12 62 P **P** 15 25 49.2 +2.3
YBH Yreka Blue Hor 55.24 65 P **P** 15 25 49.9 +2.3
YBH IAmb IAmb 15 25 51.2
comp=Z,9.8nm,0.8s
YBH Yreka Blue Hor 55.24 65 P **P** 15 25 49.9 +2.3
YBH pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 55.26 341 P **P** 15 25 46.7 -0.6
comp=Z,4.9nm,0.8s,baz=42,slow=8.1,SNR=11
ARCES PcP **PcP** 15 26 47.2 +1.0
comp=Z,4.3nm,0.6s,baz=21,slow=5.2,SNR=6.4
comp=Z,4.9nm,0.8s
KKAR Karatay Array 55.56 298 P **P** 15 25 48.5 -1.3
KKAR Karatay Array 55.56 298 P **P** 15 25 48.5 -1.3
I07A Izee 55.61 61 IAmb IAmb 15 25 52.8
comp=Z,9.3nm,1.1s
UPNV Upernavik 55.71 11 *i* P **P** 15 25 46.8 -3.6
UPNV IAmb IAmb 15 25 50.4
comp=Z,16nm,0.7s
NAYO Nakonayok 55.99 250 P **P** 15 25 54.9 +1.7

BMO Blue Mountains 56.35 59 lAmb lAmb 15 25 57.9
comp=Z,5.5nm,0.7s
J08A Circle Bar Ran 56.64 61 lAmb lAmb 15 26 00.9
comp=Z,15nm,1.0s
MSO Missoula 56.92 55 lAmb lAmb 15 26 02.1
comp=Z,14nm,1.1s
WVOR Wild Horse Val 57.14 62 lAmb lAmb 15 26 04.3
comp=Z,18nm,1.1s
WVOR Wild Horse Val 57.14 62 P **P** **15 26 03.4 +2.2**
WVOR pmax pmax
comp=Z,18nm,1.0s
NUUG Nuugaatsiaq 57.21 10 *i* P **P** **15 25 60.0 -1.1**
NUUG lAmb lAmb 15 26 02.6
comp=Z,6.8nm,0.7s
SRDT SRDT 57.31 252 P **P** **15 26 03.5 +1.0**
ORV Oroville 57.33 66 lAmb lAmb 15 26 04.1
comp=Z,5.5nm,0.7s
ABKAR Akbulak array 57.34 309 P **P** **15 26 01.5 -0.8**
ABKAR Akbulak array 57.34 309 lAmb lAmb 15 26 03.3
comp=Z,18nm,0.6s
SANI Sanana 57.43 215 P **P** **15 26 02.7 -0.6**
comp=Z,30nm,1.0s
SUMG Summit 57.45 5 *i* P **P** **15 26 01.0 -2.2**
SUMG lAmb lAmb 15 26 05.3
comp=Z,7.1nm,0.9s
FFC Flin Flon 57.56 42 P **P** **15 26 05.2 +1.5**
FFC lAmb lAmb 15 26 06.3
comp=Z,8.1nm,0.8s
FFC Flin Flon 57.56 42 P **P** **15 26 05.2 +1.5**
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC Flin Flon 57.56 42 P **P** **15 26 05.3 +1.5**
FFC pP **pP** **15 26 41.3 +4.2**
FFC sP **sP** **15 26 57.3 +4.6**
FCC Fort Churchill 57.97 35 lAmb lAmb 15 26 09.1
comp=Z,4.6nm,0.6s
KLMR Klimovskoe 58.03 329 *e*P **P** **15 26 04.2 -2.7**
KLMR *e**PP **pP** **15 26 38.1 -1.8**
KLMR pmax pmax
comp=Z,6.0nm,0.7s
EGMT Eagleton 58.32 52 lAmb lAmb 15 26 11.7
comp=Z,15nm,1.1s
PAHR Pah Rah Range 58.47 64 lAmb lAmb 15 26 13.3
comp=Z,12nm,1.0s
HLID Hailey 58.77 58 lAmb lAmb 15 26 15.7
comp=Z,15nm,1.5s
CHGR Chuyangaron 59.20 295 P **P** **15 26 14.7 -0.8**
CHGR pmax pmax
comp=Z,54nm,0.7s
SIMJ Simiganj 59.29 295 P **P** **15 26 14.8 -1.3**
SIMJ lAmb lAmb 15 26 17.0
comp=Z,14nm,0.8s
SIMJ Simiganj 59.29 295 P **P** **15 26 14.9 -1.2**
SIMJ pP **pP** **15 26 49.5 +0.2**
DZET Dzherino 59.30 295 P **P** **15 26 15.4 -0.8**
DZET pmax pmax
comp=Z,13nm,0.5s
SBUM Sibu 59.53 232 P **P** **15 26 18.6 +0.8**
SBUM Sibu 59.53 232 P **P** **15 26 19.3 +1.4**
ILULI Ilulissat 59.65 10 *i* P **P** **15 26 15.3 -2.7**
ILULI lAmb lAmb 15 26 18.4
comp=Z,25nm,0.9s
YHL Hebgen Lake 59.67 55 lAmb lAmb 15 26 21.6
comp=Z,8.8nm,0.6s
RYN Ryan 59.69 65 lAmb lAmb 15 26 21.8
comp=Z,11nm,0.8s
SCO Scoresbysund 59.90 359 *i* P **P** **15 26 20.2 +0.6**
NVAR Mina Array Bea 59.95 65 P **P** **15 26 22.4 +1.6**
NVAR Mina Array Bea 59.95 65 P **P** **15 26 22.5 +1.8**
comp=Z,8.0nm,0.7s,baz=293,slow=7.3,SNR=56
NVAR pP **pP** **15 26 53.0 -1.4**
comp=Z,2.2nm,0.6s,baz=296,slow=6.9,SNR=4.5
comp=Z,8.0nm,0.7s
YNR Norris Junctio 60.03 55 lAmb lAmb 15 26 25.7
comp=Z,26nm,1.6s
NV11 Mina Array Sit 60.03 65 lAmb lAmb 15 26 24.2
comp=Z,9.6nm,1.0s
NIL Nilore 60.07 288 P **P** **15 26 21.2 -0.3**
NIL Nilore 60.07 288 P **P** **15 26 21.2 -0.3**
NIL pmax pmax
comp=Z,14nm,0.7s
YNE Yellowstone No 60.19 55 lAmb lAmb 15 26 25.4
comp=Z,11nm,0.8s
YMP Mirror Lake Pl 60.29 55 lAmb lAmb 15 26 26.5
comp=Z,7.6nm,0.8s
FLWY Flagg Ranch 60.44 56 lAmb lAmb 15 26 27.8
comp=Z,19nm,1.4s
RLMT Red Lodge 60.50 54 lAmb lAmb 15 26 27.9
comp=Z,18nm,1.1s
FXWY Fox Creek 60.56 56 lAmb lAmb 15 26 28.4
comp=Z,6.8nm,0.8s
MOOW Moose Ponds 60.64 56 lAmb lAmb 15 26 28.9
comp=Z,19nm,1.6s
TPAW Teton Pass 60.70 56 lAmb lAmb 15 26 28.7
comp=Z,12nm,0.8s
LOHW Long Hollow 60.81 56 lAmb lAmb 15 26 30.2
comp=Z,21nm,1.4s
ICESG Greenland Ices 60.83 6 *i* P **P** **15 26 25.7 -0.7**
ICESG lAmb lAmb 15 26 29.6
comp=Z,17nm,0.9s
DSP Deep Springs 60.85 66 lAmb lAmb 15 26 30.0
comp=Z,14nm,1.0s
AHID Auburn Hatcher 61.11 57 lAmb lAmb 15 26 31.1
comp=Z,6.0nm,0.7s
KSM Kuching 61.34 233 P **P** **15 26 31.4 +1.2**
SRIT Nakonsritamara 61.51 248 P **P** **15 26 33.2 +1.9**
R11B Troy Canyon, C 61.58 63 lAmb lAmb 15 26 34.4
comp=Z,7.8nm,0.9s
R11B Troy Canyon, C 61.58 63 P **P** **15 26 32.9 +1.1**
baz=313
HWUT Hardware Ranch 61.64 58 lAmb lAmb 15 26 35.2
comp=Z,24nm,1.4s
FINES FINESS Array B 61.69 335 P **P** **15 26 30.7 -1.2**
comp=Z,4.9nm,0.5s,baz=29,slow=5.5,SNR=37
FINES PcP **PcP** **15 27 12.1 +0.2**
comp=Z,8.6nm,0.5s,baz=60,slow=3.3,SNR=15
comp=Z,4.9nm,0.5s
FINES FINESS Array B 61.69 335 *i* P **P** **15 26 29.6 -2.3**
FINES pmax pmax
comp=Z,5.0nm,0.5s
SFJD Kangerlussuaq 61.82 11 *i* P **P** **15 26 31.4 -1.2**
SFJD lAmb lAmb 15 26 33.9
comp=Z,19nm,0.9s
SFJD Kangerlussuaq 61.82 11 P **P** **15 26 32.4 -0.2**
SFJD sP **sP** **15 27 24.2 +2.8**
SPR3 Spring Creek 3 61.86 62 lAmb lAmb 15 26 37.2
comp=Z,10nm,0.7s
DUG Dugway, Tooele 61.91 60 lAmb lAmb 15 26 37.0
comp=Z,15nm,1.1s
DUG Dugway, Tooele 61.91 60 P **P** **15 26 36.2 +2.3**
DUG pmax pmax
comp=Z,16nm,1.0s
PD31 Pinedale Array 61.94 56 lAmb lAmb 15 26 36.9
comp=Z,15nm,0.9s
PDAR Pinedale Array 61.94 56 P **P** **15 26 35.7 +1.5**
PDAR Pinedale Array 61.94 56 P **P** **15 26 35.9 +1.7**
comp=Z,9.5nm,0.8s,baz=316,slow=1.9,SNR=80
PDAR pP **pP** **15 27 06.2 -1.8**
comp=Z,4.4nm,0.9s,baz=310,slow=3.3,SNR=4.6
comp=Z,9.5nm,0.8s
KBL Kabul 62.03 291 P **P** **15 26 32.9 -2.0**
KBL lAmb lAmb 15 26 34.6
comp=Z,15nm,1.4s
KBL Kabul 62.03 291 P **P** **15 26 32.9 -2.0**
KBL pmax pmax
comp=Z,15nm,1.5s
TPNV Topopah Spring 62.15 65 lAmb lAmb 15 26 38.3
comp=Z,14nm,0.8s
GWY Greenwater Val 62.42 66 lAmb lAmb 15 26 39.9
comp=Z,13nm,0.8s
BSUT Blindstream Ca 62.82 59 lAmb lAmb 15 26 43.3
comp=Z,7.4nm,0.8s
DY2G Dye2 62.82 9 *i* P **P** **15 26 38.5 -1.2**
DY2G lAmb lAmb 15 26 41.4
comp=Z,19nm,0.7s
GSC Goldstone, Bar 62.95 67 lAmb lAmb 15 26 43.2
comp=Z,8.7nm,0.9s
ULM Lac du Bonnet 63.36 43 P **P** **15 26 43.8 +0.7**
comp=Z,3.5nm,0.8s,baz=305,slow=7.0,SNR=7.7
comp=Z,3.5nm,0.8s
OBN Obninsk 63.38 326 ⇑*i*P **P** **15 26 41.9 -1.3**
OBN *i* 15 27 18.4
OBN pmax pmax
comp=Z,25nm,1.8s
TMUT Trail Mountain 63.42 60 lAmb lAmb 15 26 46.9
comp=Z,11nm,0.7s

KULM Kulim 63.53 245 P **P** **15 26 45.3 +0.6**
KULM Kulim 63.53 245 P **P** **15 26 46.0 +1.3**
P18A Preston Nutter 63.73 59 lAmb lAmb 15 26 49.3
comp=Z,8.6nm,1.1s
V12A Nelson 63.80 65 lAmb lAmb 15 26 49.3
comp=Z,8.2nm,1.1s
LCMT Little Creek M 63.85 63 lAmb lAmb 15 26 49.9
comp=Z,10nm,1.0s
RSSD Black Hills 63.89 52 P **P** **15 26 48.1 +1.1**
RSSD lAmb lAmb 15 26 49.4
comp=Z,13nm,0.7s
RSSD Black Hills 63.89 52 P **P** **15 26 48.1 +1.1**
RSSD pmax pmax
comp=Z,13nm,0.7s
RSSD Black Hills 63.89 52 P **P** **15 26 48.4 +1.4**
IPM Ipoh 63.96 244 lAmb lAmb 15 26 49.0
comp=Z,12nm,1.1s
KNB Kanab 64.09 63 lAmb lAmb 15 26 51.7
comp=Z,9.0nm,0.9s
ISOG Isortoq, Green 64.38 6 *i* P **P** **15 26 48.9 -0.6**
ISOG lAmb lAmb 15 26 50.5
comp=Z,23nm,0.7s
O20A White River Ci 64.48 58 lAmb lAmb 15 26 53.5
comp=Z,11nm,1.2s
N23A Red Feather La 65.18 56 lAmb lAmb 15 26 58.0
comp=Z,7.5nm,0.9s
N23A Red Feather La 65.18 56 P **P** **15 26 56.2 +0.7**
baz=316
PV15 Paradox Valley 65.61 59 lAmb lAmb 15 27 00.8
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 65.62 342 P **P** **15 26 57.1 -0.6**
comp=Z,6.8nm,0.8s,baz=24,slow=6.5
NOA NORSAR Array B 65.62 342 P **P** **15 26 57.0 -0.6**
comp=Z,1.6nm,0.6s,baz=25,slow=6.4,SNR=9.0
NOA PcP **PcP** **15 27 27.7 -0.4**
comp=Z,1.9nm,0.8s,baz=23,slow=3.2,SNR=3.5
NOA LR LR 15 57 46.2
comp=Z,10nm,21.5s,baz=220,slow=38
comp=Z,1.6nm,0.6s
NORES NORESS Array B 65.83 341 P **P** **15 27 01.2 +2.2**
HFS Hagfors 65.91 340 P **P** **15 26 59.1 -0.4**
comp=Z,2.7nm,0.5s,baz=29,slow=3.4,SNR=16
comp=Z,2.7nm,0.5s
ISCO Idaho Springs 66.14 56 lAmb lAmb 15 27 04.9
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 66.14 56 P **P** **15 27 03.9 +2.2**
MVCO Mesa Verde 66.41 60 lAmb lAmb 15 27 05.6
comp=Z,7.3nm,0.8s
F33A 5 Mile Ranch, 66.42 46 lAmb lAmb 15 27 05.0
comp=Z,16nm,1.1s
PSI Prapat 66.54 245 P **P** **15 27 05.1 +0.8**
PSI Prapat 66.54 245 P **P** **15 27 04.4 +0.1**
PSI pmax pmax
comp=Z,15nm,1.1s
RPSI Rantau Prapat 66.62 244 P **P** **15 27 04.4 -0.3**
RPSI lAmb lAmb 15 27 05.8
comp=Z,15nm,1.1s
MLSI Meulaboh, Aceh 66.85 248 P **P** **15 27 05.6 -0.5**
comp=Z,64nm,0.7s
Q24A Divide 66.99 57 P **P** **15 27 07.7 +0.6**
baz=317
IVI Ivigtut 67.69 12 P **P** **15 27 11.3 +0.6**
MNSI Mandailing Nat 67.78 243 P P 15 27 20.5 +8.5
ECSD EROS Data Cent 67.84 48 lAmb lAmb 15 27 13.8
comp=Z,12nm,0.8s
E38A The Farm, Brul 67.99 43 lAmb lAmb 15 27 14.9
comp=Z,27nm,1.5s
GSI Gunungsitoli 68.53 245 lAmb lAmb 15 27 21.8
comp=Z,16nm,0.7s
GSI Gunungsitoli 68.53 245 P **P** **15 27 18.5 +1.8**
GSI Gunungsitoli 68.53 245 P **P** **15 27 18.2 +1.5**
comp=Z,4μmcomp=Z,24nm,0.8s
T25A Trinidad 68.71 57 P **P** **15 27 18.6 +0.7**
baz=317
ANMO Albuquerque 69.18 60 P **P** **15 27 22.1 +1.4**
ANMO Albuquerque 69.18 60 P **P** **15 27 22.1 +1.4**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 69.18 60 P **P** **15 27 22.3 +1.6**
ANMO PcP **PcP** **15 27 44.8 +1.2**
KIV Kislovodsk 69.45 314 *e*P **P** **15 27 20.3 -1.8**
KIV pmax pmax
comp=Z,15nm,1.1s
KBZ Khabaz 69.53 314 P **P** **15 27 22.1 -0.3**
comp=Z,17nm,0.9s,baz=83,slow=3.5,SNR=17
comp=Z,17nm,0.9s
AK03 Malin Array Si 69.56 327 P **P** **15 27 21.0 -1.5**
AKASG Malin Array Be 69.58 327 P **P** **15 27 21.3 -1.3**
comp=Z,3.6nm,0.5s,baz=33,slow=6.2,SNR=25
AKASG PcP **PcP** **15 27 44.2 -0.5**
comp=Z,2.3nm,0.5s,baz=39,slow=4.3,SNR=6.3
AKASG LR LR 15 59 24.6
comp=Z,33nm,18.6s,baz=339,slow=37
comp=Z,3.6nm,0.5s
AKBB Malin Array Si 69.58 327 P **P** **15 27 20.6 -2.0**
AKBB Malin Array Si 69.58 327 P **P** **15 27 20.6 -2.0**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 69.58 327 P **P** **15 27 21.2 -1.4**
AK04 Malin Array Si 69.58 327 P **P** **15 27 21.2 -1.4**
AK22 Malin Array Si 69.58 327 P **P** **15 27 21.2 -1.5**
KIEV Kiev 69.59 327 P **P** **15 27 20.6 -2.1**
KIEV Kiev 69.59 327 ⇑P **P** **15 27 21.4 -1.3**
KIEV Kiev 69.59 327 ⇑P **P** **15 27 21.4 -1.3**
KIEV Kiev 69.59 327 P **P** **15 27 20.9 -1.8**
comp=Z,39nm,0.8s
KIEV Kiev 69.59 327 P **P** **15 27 20.8 -1.9**
KIEV PcP **PcP** **15 27 44.4 -0.4**
KIEV pP **pP** **15 27 58.0 +1.2**
MDSI Maura Dua 69.60 235 P **P** **15 27 23.4 +0.2**
SCHQ Schefferville 69.93 24 P **P** **15 27 25.5 +0.8**
SCHQ Schefferville 69.93 24 P **P** **15 27 25.8 +1.0**
comp=Z,8.4nm,0.6s,baz=333,slow=5.0,SNR=22
SCHQ pP **pP** **15 27 58.1 -0.9**
comp=Z,3.2nm,0.7s,baz=332,slow=13,SNR=2.2
comp=Z,8.4nm,0.6s
MI28 Mi28,Pidlybu 69.94 328 P **P** **15 27 23.9 -0.9**
RTBA Rita Blanca 70.14 57 lAmb lAmb 15 27 59.3
comp=Z,32nm,1.8s
319A Douglas 70.16 65 lAmb lAmb 15 27 29.5
comp=Z,14nm,0.9s
121A Cookes Peak, D 70.18 63 P **P** **15 27 27.5 +0.7**
baz=317
RNPP5 Staryi Chortor 70.29 329 P **P** **15 27 26.0 -1.0**
MSVF Nonsavu 70.39 157 LR LR 15 51 25.3
comp=Z,396nm,21.9s,baz=119,slow=30
SKJI Sukabumi 70.49 232 P **P** **15 27 31.4 +2.8**
LUBAR Lubar, Ukraine 70.75 327 P **P** **15 27 28.0 -1.8**
WRA Warramunga Arr 71.90 200 P **P** **15 27 37.0 0.0**
WRA Warramunga Arr 71.90 200 P **P** **15 27 36.9 0.0**
comp=Z,1.9nm,0.6s,baz=16,slow=6.3,SNR=16
comp=Z,1.9nm,0.6s
WRA Warramunga Arr 71.90 200 *i* P **P** **15 27 37.2 +0.3**
WRA pmax pmax
comp=Z,2.0nm,0.6s
SORM Soroca 72.04 326 ⇑P **P** **15 27 36.0 -1.5**
SORM Soroca 72.04 326 ⇑P **P** **15 27 36.0 -1.5**
SORM Soroca 72.04 326 P **P** **15 27 36.1 -1.4**
comp=Z,11nm,0.7s
KMPD K-Podol'skiy 72.35 327 P **P** **15 27 38.0 -1.4**
KMPD P **P** **15 27 38.0 -1.4**
P38A Dawn 72.47 49 lAmb lAmb 15 27 41.8
comp=Z,13nm,0.8s
SMWD Samnorwood 72.48 56 lAmb lAmb 15 27 42.9
comp=Z,16nm,0.7s
L44A Lake County Fo 73.08 44 P **P** **15 27 43.8 0.0**
baz=323
DKNS Dickens 73.19 58 lAmb lAmb 15 27 46.9
comp=Z,11nm,0.9s
P40A Paris 73.26 48 lAmb lAmb 15 27 46.7
comp=Z,15nm,1.0s
POST Post 73.33 58 lAmb lAmb 15 27 47.8
comp=Z,16nm,1.0s
KOLS Kolonicke sedl 73.46 330 *e*P **P** **15 27 45.7 -0.2**
KOLS pmax pmax
comp=Z,8.0nm,0.6s
KOLS Kolonicke sedl 73.46 330 *e*P **P** **15 27 45.7 -0.2**
EKA Eskdalemuir Ar 73.54 347 P **P** **15 27 45.9 -0.4**
comp=Z,1.1nm,0.3s,baz=18,slow=4.9,SNR=7.2
comp=Z,1.1nm,0.3s
WMOK Wichita Mounta 73.54 56 lAmb lAmb 15 27 48.7
comp=Z,9.1nm,0.7s
BURAR Bucovina Array 73.60 327 ⇓P **P** **15 27 46.3 -0.6**
BURAR Bucovina Array 73.60 327 ⇓P **P** **15 27 46.3 -0.6**
NIE Niedzica 73.67 331 P **P** **15 27 47.5 +0.3**
comp=Z,3.4nm,1.7s

OSTC Ostas 73.88 334 *e*P **P** **15 27 47.5 -0.8**
OSTC Ostas 73.88 334 *e*P **P** **15 27 47.5 -0.8**
APMT Aspermont 73.89 57 lAmb lAmb 15 27 50.6
comp=Z,10nm,0.7s
MNHN Monahans 73.93 60 lAmb lAmb 15 27 51.3
comp=Z,12nm,0.7s
GURO Guroymak-BITLI 73.96 311 lAmb lAmb 15 27 52.0
comp=Z,14nm,1.1s
TESR Tescani 74.03 326 ⇑P **P** **15 27 47.1 -2.2**
TESR Tescani 74.03 326 P **P** **15 27 48.5 -0.8**
comp=Z,11nm,1.7s
DPC Dobruska-Polom 74.03 334 *e*P **P** **15 27 49.3 0.0**
DPC Dobruska-Polom 74.03 334 *e*P **P** **15 27 49.3 0.0**
CLL Collm 74.07 336 *i* P **P** **15 27 48.6 -0.8**
CLL *e**PP **pP** **15 28 23.0 -0.9**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 74.07 336 *i* P **P** **15 27 48.6 -0.8**
comp=Z,4.0nm,0.7s
CLL *i* x x 15 27 56.0
CLL *e*PcP **PcP** **15 28 02.0 -1.9**
CLL *e*pP **pP** **15 28 24.0 +0.1**
R40A Maddies Statio 74.12 49 lAmb lAmb 15 27 51.3
comp=Z,9.5nm,0.8s
KRLC Kraliky 74.14 333 *e*P **P** **15 27 49.9 -0.1**
KRLC Kraliky 74.14 333 *e*P **P** **15 27 49.9 -0.1**
LANS Liptovska Anna 74.16 331 *e*P **P** **15 27 50.9 +0.8**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 74.16 331 *e*P **P** **15 27 50.9 +0.8**
MORC Moravsky Berou 74.19 333 *e*P **P** **15 27 50.2 0.0**
MORC Moravsky Berou 74.19 333 ⇑P **P** **15 27 48.8 -1.4**
MORC Moravsky Berou 74.19 333 ⇑P **P** **15 27 48.8 -1.4**
PALK Pallekele 74.31 263 P **P** **15 27 51.4 0.0**
PALK Pallekele 74.31 263 P **P** **15 27 51.4 0.0**
PALK pmax pmax
comp=Z,31nm,0.8s
VRI Vrincioaia 74.55 325 ⇓P **P** **15 27 52.0 -0.3**
VRI Vrincioaia 74.55 325 ⇓P **P** **15 27 52.0 -0.3**
PLOR Plostina 74.59 325 ⇓P **P** **15 27 54.2 +1.6**
PLOR Plostina 74.59 325 ⇓P **P** **15 27 54.2 +1.6**
CFR Carcaliu 74.60 324 ⇑P **P** **15 27 52.0 -0.6**
CFR Carcaliu 74.60 324 ⇑P **P** **15 27 52.0 -0.6**
TPGR Topolog 74.77 324 ⇑P **P** **15 27 52.7 -0.9**
CCM Cathedral Cave 74.81 48 P **P** **15 27 54.2 +0.3**
CCM Cathedral Cave 74.81 48 P **P** **15 27 54.2 +0.3**
CCM pmax pmax
comp=Z,8.0nm,1.0s
PRU Pruhonice 74.86 335 *e*P **P** **15 27 55.0 +1.0**
PRU Pruhonice 74.86 335 *e*P **P** **15 27 55.0 +1.0**
VRAC Vranov 74.89 333 LR LR 16 03 05.7
comp=Z,56nm,18.4s,baz=267,slow=37
VRAC Vranov 74.89 333 *e*P **P** **15 27 54.4 +0.2**
VRAC *e* 15 28 01.6
TX31 Lajitas Ar. Si 74.92 62 lAmb lAmb 15 27 57.3
comp=Z,14nm,0.7s
TXAR Lajitas Array 74.92 62 P **P** **15 27 56.1 +1.2**
TXAR Lajitas Array 74.92 62 P **P** **15 27 56.5 +1.6**
comp=Z,11nm,0.6s,baz=298,slow=4.5,SNR=94
TXAR pP **pP** **15 28 27.3 -2.6**
comp=Z,4.6nm,0.8s,baz=292,slow=3.8,SNR=4.9
comp=Z,11nm,0.6s
TXAR Lajitas Array 74.92 62 P **P** **15 27 56.1 +1.2**
VYHS Vyhne 74.94 331 *e*P **P** **15 27 54.6 +0.1**
VYHS pmax pmax
comp=Z,64nm,2.8s
VYHS Vyhne 74.94 331 *e*P **P** **15 27 54.6 +0.1**
JAVC Velka Javorina 74.97 332 *e*P **P** **15 27 55.8 +1.1**
MLR Muntele Rosu 75.15 326 LR LR 16 04 11.6
comp=Z,52nm,18.8s,baz=293,slow=38
MLR Muntele Rosu 75.15 326 ⇑P **P** **15 27 56.3 +0.4**
MLR Muntele Rosu 75.15 326 ⇑P **P** **15 27 56.3 +0.4**
MLR Muntele Rosu 75.15 326 P **P** **15 27 56.0 0.0**
comp=Z,9.2nm,0.6s
KRUC Moravsky 75.17 333 *e*P **P** **15 27 55.8 0.0**
KRUC *e* 15 28 02.6
DRGR 75.17 328 ⇑P **P** **15 27 55.4 -0.6**
DRGR 75.17 328 ⇑P **P** **15 27 55.4 -0.6**
NKC Novy Kostel 75.19 336 *e*P **P** **15 27 56.9 +0.9**
NKC Novy Kostel 75.19 336 *e*P **P** **15 27 56.9 +0.9**
ZVC Zvikov 75.45 335 *e*P **P** **15 27 57.4 0.0**
MODS Modra-Piesok 75.52 332 *e*P **P** **15 27 58.5 +0.6**
MODS pmax pmax
comp=Z,17nm,1.0s
MODS Modra-Piesok 75.52 332 *e*P **P** **15 27 58.5 +0.6**
VOIR 75.53 326 ⇓P **P** **15 27 58.1 +0.1**
VOIR 75.53 326 ⇓P **P** **15 27 58.1 +0.1**
VOIR 75.53 326 P **P** **15 27 58.2 +0.2**
AS31 Alice Springs 75.59 200 P **P** **15 27 59.1 +0.7**
ASAR Alice Springs 75.59 200 P **P** **15 27 59.4 +1.0**
comp=Z,1.2nm,0.8s,baz=13,slow=5.4,SNR=29
ASAR pP **pP** **15 28 31.9 -1.6**
comp=Z,1.1nm,0.7s,baz=12,slow=5.2,SNR=3.9
comp=Z,1.2nm,0.8s
ARR Arges 75.73 326 ⇑P **P** **15 27 59.2 0.0**
KHC Kasperske Hory 75.90 335 *e*P **P** **15 28 00.1 +0.1**
KHC Kasperske Hory 75.90 335 *e*P **P** **15 28 00.1 +0.1**
KHC Kasperske Hory 75.90 335 P **P** **15 28 00.3 +0.3**
comp=Z,19nm,0.7s
CKRC Cesky Krumlov 75.98 334 *e*P **P** **15 28 00.1 -0.4**
CKRC Cesky Krumlov 75.98 334 *e*P **P** **15 28 00.1 -0.4**
SIUC Southern Illin 76.05 47 lAmb lAmb 15 28 02.7
comp=Z,11nm,0.8s
GERES GERESS Array B 76.12 335 P **P** **15 28 00.5 -0.9**
GERES GERESS Array B 76.12 335 P **P** **15 28 01.3 -0.1**
comp=Z,2.5nm,0.6s,baz=37,slow=5.2,SNR=13
comp=Z,2.5nm,0.6s
GERES GERESS Array B 76.12 335 P **P** **15 28 00.5 -0.9**
JCT Junction City 76.23 59 lAmb lAmb 15 28 04.3
comp=Z,14nm,0.9s
CONA Conrad Observa 76.34 333 *e*P **P** **15 28 02.9 +0.3**
comp=Z,7.5nm,0.8s
GZR Gura Zlata 76.37 327 ⇑P **P** **15 28 01.6 -1.2**
GZR Gura Zlata 76.37 327 ⇑P **P** **15 28 01.6 -1.2**
BTNL Ternell 76.39 340 *d*P **P** **15 28 04.7 +1.9**
MIAR Mount Ida 76.41 52 lAmb lAmb 15 28 05.1
comp=Z,9.2nm,0.7s
RONA Rosalia, Austr 76.42 333 *e*P **P** **15 28 03.6 +0.6**
comp=Z,6.2nm,0.6s
MPLH Magyarpolny 76.52 332 P **P** **15 28 04.2 +0.7**
comp=Z,35nm,0.8s
BZS Buzias 76.57 328 ⇑P **P** **15 28 03.7 -0.1**
BZS Buzias 76.57 328 ⇑P **P** **15 28 03.7 -0.1**
DRIO Del Rio 76.58 60 lAmb lAmb 15 28 07.0
comp=Z,12nm,0.9s
BCLA Clavier 76.72 341 *d*P **P** **15 28 04.3 -0.3**
comp=Z,7.0nm,0.8s
BGES Gesves 76.81 341 *d*P **P** **15 28 05.4 +0.4**
MOA Molln 76.87 334 *i* P **P** **15 28 06.4 +0.9**
comp=Z,6.1nm,1.0s
BRTR Keskin Array B 76.89 317 P **P** **15 28 04.8 -1.1**
BRTR Keskin Array B 76.89 317 P **P** **15 28 05.5 -0.4**
comp=Z,4.6nm,0.8s,baz=60,slow=4.0,SNR=19
BRTR pP **pP** **15 28 39.0 -1.6**
comp=Z,1.7nm,1.0s,baz=99,slow=3.9,SNR=2.3
comp=Z,4.6nm,0.8s
BR106 Keskin Array S 76.90 317 P **P** **15 28 06.0 +0.1**
comp=Z,52nmcomp=Z,6.0nm,0.9s
BR104 Keskin Array S 76.91 317 P **P** **15 28 06.0 0.0**
comp=Z,53nmcomp=Z,7.0nm,0.8s
BR105 Keskin Array S 76.91 317 P **P** **15 28 05.9 -0.1**
comp=Z,63nmcomp=Z,9.0nm,0.9s
HERR Herculane 76.94 327 ⇑P **P** **15 28 05.1 -0.8**
ARSA Arzberg 77.05 333 *i* P **P** **15 28 06.8 +0.3**
comp=Z,3.2nm,0.5s
DOU Dourbes 77.18 341 *d*P **P** **15 28 07.9 +0.7**
BIOA Bad Ischl, Aus 77.19 334 *i* P **P** **15 28 08.4 +1.1**
comp=Z,6.3nm,0.5s
435B Jarrell 77.22 57 P **P** **15 28 07.6 -0.1**
baz=321
KIRS Kirsehir-Merke 77.26 317 ⇑P **P** **15 28 08.2 +0.3**
MDVR Moldovita 77.27 328 ⇑P **P** **15 28 07.1 -0.7**
BAIF Baives 77.30 341 *e*P **P** **15 28 11.0 +3.2**
BAIF pmax pmax
comp=Z,2.0nm,0.3s
GAZ Gaziantep 77.36 314 lAmb lAmb 15 28 11.2
comp=Z,11nm,0.8s
FRGS Fruska Gora 77.58 329 *e*P **P** **15 28 09.0 -0.5**
CTYL Yalikoy Yolu 77.67 322 P **P** **15 28 09.9 -0.1**
comp=Z,13nm,0.6s
LESA Schwarzleotal 77.70 335 *i* P **P** **15 28 11.0 +0.7**
comp=Z,16nm,0.9s,SNR=13
SOKA Soboth 77.71 333 *i* P **P** **15 28 10.6 +0.3**
comp=Z,18nm,0.9s,SNR=17

GROS **Grobnik** 77.77 333 *e*P P 15 28 10.5 0.0
KBA **Koelnbreinsper** 77.83 334 *i* P P 15 28 12.0 +0.9
comp=Z,42nm,0.6s,SNR=31
YLV **Yalova** 78.00 321 P P 15 28 12.8 +0.8
comp=Z,12nm,0.8s
OBKA **Obir** 78.01 333 *i* P P 15 28 12.1 +0.2
comp=Z,13nm,0.6s,SNR=7.6
OBKA **Obir** 78.01 333 *e*P P 15 28 11.7 -0.2
WATA **Walderalm** 78.08 335 *i* P P 15 28 13.2 +0.8
comp=Z,22nm,1.0s,SNR=6.9
833A **Chaparral WMA,** 78.11 60 P P 15 28 13.3 +0.6
baz=321
WTTA **Wattenberg** 78.13 335 *i* P P 15 28 13.5 +0.8
comp=Z,27nm,0.7s,SNR=9.6
MYKA **Terra Mystica** 78.16 334 *i* P P 15 28 13.4 +0.7
comp=Z,9.2nm,0.5s
RETA **Reutte** 78.16 336 *i* P P 15 28 13.9 +1.1
comp=Z,15nm,1.0s
CDF **Champ du Feu** 78.17 339 *e*P P 15 28 12.1 -0.7
CDF pmax pmax
comp=Z,13nm,1.1s
MOTA **Moosalm** 78.20 336 *i* P P 15 28 14.2 +1.1
comp=Z,21nm,0.8s
TEKS **Tekeris** 78.21 329 *e*P P 15 28 10.9 -2.1
BOVS **Bovan** 78.28 327 ⇑P P 15 28 11.9 -1.4
SQTA **Sankt Quirin** 78.29 336 *i* P P 15 28 14.2 +0.7
comp=Z,22nm,1.2s
CRES **Cresnjevec Ost** 78.36 332 *i* P P 15 28 13.6 -0.1
CRES **Cresnjevec Ost** 78.36 332 *e*P P 15 28 13.0 -0.8
ABTA **Abfaltersbach** 78.37 335 *i* P P 15 28 14.6 +0.7
comp=Z,22nm,1.3s,SNR=5.4
ECH **Echery** 78.38 339 IAmb IAmb 15 28 16.1
comp=Z,18nm,1.3s
ECH **Echery** 78.38 339 P P 15 28 15.3 +1.4
ECH pmax pmax
comp=Z,63nm,1.1s
VISS **Visnje** 78.56 333 *e*P P 15 28 14.4 -0.5
DAVA **Damuels** 78.57 337 *i* P P 15 28 16.2 +1.0
comp=Z,24nm,1.1s
FETA **Feichten** 78.60 336 *i* P P 15 28 15.9 +0.7
comp=Z,9.9nm,1.0s,SNR=5.3
A051A **Mrakovica** 78.64 331 *e*P P 15 28 13.6 -1.8
BAND **Balkesir-Ban** 78.70 321 ⇑P P 15 28 16.0 +0.2
BOJS **Bojanci** 78.71 332 *e*P P 15 28 15.0 -0.7
CEY **Cerknica** 78.74 333 *e*P P 15 28 14.5 -1.4
SABO **M.te Sabotino** 78.76 334 IAmb IAmb 15 28 16.1
comp=Z,8.4nm,0.6s
HAU **Haudompre** 78.77 339 *e*P P 15 28 15.2 -0.8
HAU pmax pmax
comp=Z,13nm,1.0s
BLY **Banja Luka** 78.79 331 *e*P P 15 28 14.4 -1.7
HAPS **Han Pijesak,BI** 78.81 329 *e*P P 15 28 16.1 -0.3
HINF **Hinteralfeld** 78.83 339 *e*P P 15 28 15.3 -1.0
HINF pmax pmax
comp=Z,7.0nm,1.0s
BBLS **Lazi&#263i** 78.86 329 *e*P P 15 28 16.6 0.0
L61B **Northampton** 79.02 34 P P 15 28 16.7 -0.8
baz=331
RDO **Rodhopi** 79.03 324 IAmb IAmb 15 28 18.8
comp=Z,17nm,0.8s
DAVOX **Davos/Dischmat** 79.04 336 LR LR 16 10 01.7
comp=Z,109nm,19.6s,baz=262,slow=41
ALN **Alexandroupoli** 79.05 323 IAmb IAmb 15 28 18.6
comp=Z,14nm,0.9s
FUORN **Ofenpass-Fuorn** 79.09 336 IAmb IAmb 15 28 23.0
comp=Z,12nm,0.8s
RUDO **Rudo** 79.09 329 *e*P P 15 28 16.8 -1.0
CAVK **Edirne/Enez-Ca** 79.18 323 ⇑P P 15 28 18.3 0.0
SJES **Sjenica** 79.20 328 *e*P P 15 28 18.4 -0.2
A050A **Klekovaca** 79.24 331 *e*P P 15 28 18.8 +0.1
CTI **Castel Tesino** 79.25 335 P P 15 28 18.0 -0.7
CTI IAmb IAmb 15 28 19.3
comp=Z,11nm,0.7s
CTI **Castel Tesino** 79.25 335 P P 15 28 18.0 -0.7
CTI pmax pmax
comp=Z,11nm,0.7s
FLN **La Foliniere** 79.45 344 *e*P P 15 28 19.7 +0.1
FLN pmax pmax
comp=Z,31nm,1.0s
TUE **Stuetta** 79.47 337 P P 15 28 21.0 +1.0
comp=Z,128nm,0.8s
LDF **La Druitiere** 79.55 343 *e*P P 15 28 20.1 -0.1
LDF pmax pmax
comp=Z,21nm,1.0s
GRR **Gorron** 79.88 344 *e*P P 15 28 22.2 +0.2
GRR pmax pmax
comp=Z,33nm,0.8s
BRY **Bratogost** 80.01 329 *e*P P 15 28 21.6 -1.3
LOR **Lormes** 80.02 340 *e*P P 15 28 22.7 -0.1
LOR pmax pmax
comp=Z,16nm,0.8s
CABF **La Chapelle** 80.14 339 *e*P P 15 28 23.8 +0.3
CABF pmax pmax
comp=Z,118nm,2.2s
SSF **Saint Saulge** 80.29 341 *e*P P 15 28 24.2 0.0
SSF pmax pmax
comp=Z,10.0nm,0.8s
SGMF **Saint Gilles** 80.31 345 *e*P P 15 28 24.5 +0.3
SGMF pmax pmax
comp=Z,21nm,0.7s
PUK **Puka** 80.31 328 IAmb IAmb 15 28 25.5
comp=Z,9.7nm,0.7s
ROSF **Rostrenen** 80.34 345 *e*P P 15 28 24.8 +0.4
ROSF pmax pmax
comp=Z,75nm,1.2s
DRME **Dracevica, Mon** 80.42 328 *e*P P 15 28 23.0 -2.0
M65A **Busby, Falmout** 80.53 33 P P 15 28 26.9 +1.4
baz=332
AVF **Avril sur Loir** 80.58 341 *e*P P 15 28 25.9 +0.2
AVF pmax pmax
comp=Z,15nm,0.6s
SMF **Signal de Mont** 80.61 340 *e*P P 15 28 26.0 +0.1
SMF pmax pmax
comp=Z,24nm,0.9s
QUIF **Quistinic** 80.73 345 *e*P P 15 28 26.7 +0.2
QUIF pmax pmax
comp=Z,59nm,1.3s
BGF **Bois d'Agland** 80.91 341 *e*P P 15 28 28.8 +1.3
BGF pmax pmax
comp=Z,10.0nm,0.6s
TIR **Tirane** 80.94 327 P P 15 28 28.1 +0.4
TIR pmax pmax
comp=Z,72nm,0.7s
TIR **Tirane** 80.94 327 P P 15 28 27.3 -0.4
comp=Z,72nm,0.7s
CSS **Mathiatis** 80.97 315 IAmb IAmb 15 28 29.6
comp=Z,18nm,0.7s
CSS **Mathiatis** 80.97 315 P P 15 28 28.2 +0.2
comp=Z,28nm,0.7s
ELL **Elmali** 80.99 318 P P 15 28 29.3 +1.0
ELL pmax pmax
comp=Z,15nm,0.9s
LPL **La Plagne** 81.01 338 *e*P P 15 28 29.1 +0.7
LPL pmax pmax
comp=Z,28nm,0.6s
LPG **La Plagne** 81.03 338 *e*P P 15 28 29.3 +0.8
LPG pmax pmax
comp=Z,30nm,0.6s
LIT **Litokhoron** 81.09 325 IAmb IAmb 15 28 28.4
comp=Z,9.6nm,0.7s
TCF **Toulx Ste Croi** 81.30 341 *e*P P 15 28 29.9 +0.3
TCF pmax pmax
comp=Z,15nm,0.7s
MSSA **Maissana** 81.42 336 IAmb IAmb 15 28 32.2
comp=Z,22nm,0.8s
BNI **Bardonecchia** 81.46 338 IAmb IAmb 15 28 32.6
comp=Z,13nm,0.6s
BNI **Bardonecchia** 81.46 338 P P 15 28 32.0 +1.4
BNI pmax pmax
comp=Z,77nm,0.8s
MFF **Saint Martin d** 81.47 343 *e*P P 15 28 31.1 +0.7
MFF pmax pmax
comp=Z,10.0nm,0.6s
MMAI **Mount Meron Ar** 81.60 312 P P 15 28 31.4 -0.1
comp=Z,25nm,0.7s,baz=39,slow=6.7,SNR=53
comp=Z,25nm,0.7s
MBDF **Montbardon** 81.74 338 *e*P P 15 28 30.4 -1.7
MBDF pmax pmax
comp=Z,8.0nm,0.6s
SSB **Saint Sauveur** 81.75 339 P P 15 28 33.1 +1.1
SSB pmax pmax
comp=Z,33nm,0.8s
ORIF **Oris-en-Rattie** 81.78 338 *e*P P 15 28 33.7 +1.5
ORIF pmax pmax
comp=Z,26nm,0.7s
CAMP **Campotosto** 81.96 332 IAmb IAmb 15 28 35.1
comp=Z,19nm,0.7s
VIVF **Saint-Julien-l** 82.12 339 *e*P P 15 28 34.5 +0.5
VIVF pmax pmax
comp=Z,10.0nm,0.6s
CESX **Cesi** 82.14 333 IAmb IAmb 15 28 36.9
comp=Z,15nm,0.8s
INTR **Introdacqua** 82.29 332 IAmb IAmb 15 28 36.7
comp=Z,14nm,0.6s
RJF **Les Rejaudoux** 82.38 341 *e*P P 15 28 35.8 +0.5
RJF pmax pmax
comp=Z,20nm,0.9s
SBF **Sospel** 82.39 337 *e*P P 15 28 35.2 -0.2
SBF pmax pmax
comp=Z,16nm,0.6s
KEK **Kerkira** 82.41 327 IAmb IAmb 15 28 41.1
comp=Z,13nm,0.7s
CAF **Calviac** 82.63 341 *e*P P 15 28 37.3 +0.7
CAF pmax pmax
comp=Z,19nm,0.7s
MATE **Matera** 82.63 329 ⇓P P 15 28 36.4 -0.1
LFF **La Frestale** 82.89 342 *e*P P 15 28 38.5 +0.6
LFF pmax pmax
comp=Z,34nm,0.8s
LMR **La Mourre** 83.12 337 *e*P P 15 28 39.4 +0.3
LMR pmax pmax
comp=Z,22nm,0.9s
PGF **Pioggiola** 83.21 335 *e*P P 15 28 39.5 -0.2
PGF pmax pmax
comp=Z,14nm,0.6s
CUC **Castrocucco** 83.52 330 IAmb IAmb 15 29 20.6
comp=Z,8.5nm,0.7s
TIP **Timpagrande** 83.94 329 IAmb IAmb 15 28 45.2
comp=Z,18nm,1.0s
TIP **Timpagrande** 83.94 329 P P 15 28 43.6 +0.2
comp=Z,13nm,1.0s
EPF **Esparros** 84.80 342 *e*P P 15 28 47.7 0.0
EPF pmax pmax
comp=Z,9.0nm,0.7s
CEST **Esterri de Car** 85.03 341 IAmb IAmb 15 28 50.9
comp=Z,12nm,0.7s
CEL **Celeste** 85.06 329 IAmb IAmb 15 28 50.7
comp=Z,9.2nm,0.7s
ETSF **Etsaut** 85.11 342 *e*P P 15 28 49.1 -0.2
ETSF pmax pmax
comp=Z,6.0nm,0.7s
GMB **Gambarie** 85.16 329 P P 15 28 51.2 +1.5
GMB pmax pmax
comp=Z,75nm,0.6s
VSL **Villasalto** 85.94 334 IAmb IAmb 15 28 55.5
comp=Z,22nm,1.1s
PBRG **Braganca** 87.26 346 *e*P P 15 28 59.4 -0.4
PBRG *i* Amb 15 29 18.1
comp=Z,36nm,2.2s
PGAV **Gavieira, Arco** 87.32 348 *e*P P 15 28 60.0 -0.2
POLO **Lamas de Olo** 87.84 347 *e*P P 15 29 02.3 -0.3
POLO *i* Amb 15 29 03.1
comp=Z,19nm,1.5s
PVRL **Vila Real** 87.92 347 *e*P P 15 29 02.7 -0.2
PVRL *i* Amb 15 29 03.4
comp=Z,48nm,1.0s
MVO **Moncorvo** 87.93 346 *e*P P 15 29 02.5 -0.5
MVO *i* Amb 15 29 03.5
comp=Z,36nm,1.8s
PVIS **Viseu** 88.50 347 *e*P P 15 29 05.5 -0.1
MTE **Manteigas** 88.75 347 *e*P P 15 29 06.6 -0.3
ESBB **Sonseca Array** 88.87 344 IAmb IAmb 15 29 07.9
comp=Z,8.4nm,0.8s
ESDC **Sonseca Array** 88.87 344 P P 15 29 07.0 -0.4
ESDC **Sonseca Array** 88.87 344 P P 15 29 07.1 -0.4
comp=Z,9.4nm,0.8s,baz=4.0,slow=4.1,SNR=40
ESDC LR LR 16 13 50.2
comp=Z,83nm,18.9s,baz=214,slow=39
comp=Z,9.4nm,0.8s
PCAS **Casmilo, Conde** 89.23 347 *e*P P 15 29 08.8 -0.2
PCBR **Castelo Branco** 89.29 347 *e*P P 15 29 09.0 -0.3
KEST **Kesra** 89.45 333 P P 15 29 10.8 +0.6
comp=Z,19nm,0.8s,baz=76,slow=0.7,SNR=16
comp=Z,19nm,0.8s
PMRV **Marv??o** 89.68 346 *e*P P 15 29 09.7 -1.5
PMTG **Montargil** 90.16 347 *e*P P 15 29 12.7 -0.6
PBAR **Barrancos** 90.85 346 *e*P P 15 29 17.0 +0.4
BOSA **Boshof** 136.58 280 PKhKP PKPpre 15 35 29.9
comp=Z,1.9nm,0.7s,baz=90,slow=2.0,SNR=4.5
QSPA **South Pole Qui** 139.65 180 PKhKP PKPpre 15 35 35.1
comp=Z,1.0nm,0.5s,baz=63,slow=2.3,SNR=15
QSPA pPKP pPKPdf 15 36 14.2 -2.4
comp=Z,3.2nm,0.9s,baz=234,slow=2.6,SNR=3.8
CPUP **Villa Florida** 145.82 58 PKPbc **PKPbc** 15 35 52.0 +0.2
comp=Z,2.0nm,0.8s,baz=281,slow=3.2,SNR=3.3
CPUP **Villa Florida** 145.82 58 PKP2 **PKPbc** 15 35 52.0 +0.2
PLCA **Paso Flores** 147.18 91 PKPbc **PKPbc** 15 35 55.6 +0.2
comp=Z,4.1nm,1.0s,baz=322,slow=6.7,SNR=5.0
PLCA pPKPbc **pPKPdf** 15 36 30.6 -0.1
comp=Z,3.3nm,0.9s,baz=270,slow=4.1,SNR=3.2

---

*NOU **18** 15:26:25.4, 16°.23S×177°.95E, h0km, MLv4.5/7, Fiji Islands*
*IDC **18** 15:26:26.6±1.1, 16°.41S×177°.94E, h0km, mb3.9/5, mbtmp3.9/5, MS3.3/9, Error ellipse: s-maj=34.5km s-min=20.1km az=90.0*
ISC 18 15:26:29.4±0.8, 16°.38S±0°.09×177°.94E±0°.09, h21km, n21, σ1°29/13, mb3.8/5, MS3.4/8, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YSA	**Yasawairara**	0.47	228	P		**Pb**	15 26 37.0	-2.0
YSA	**Yasawairara**	0.47	228	S		**Sb**	15 26 44.2	-1.3
MSVF	**Nonsavu**	1.35	176	Pn		**Pn**	15 26 52.8	-0.3
	85nm,0.3s,baz=300,slow=14,SNR=249							
MSVF				Sn		**Sn**	15 27 11.0	+0.6
	505nm,0.3s,baz=90,slow=20,SNR=11							
MSVF	**Nonsavu**	1.35	176	P		**Pn**	15 26 52.8	-0.3
DGTI	**Dogotuki**	1.72	88	P		**Pn**	15 26 55.6	-2.6
TAVE	**Taveuni**	2.09	99	P		**Pn**	15 27 02.4	-0.8
LKBA	**Tubou, Lakemba**	3.60	121	P		**Pn**	15 27 23.7	-0.3
HNR	**Honiara**	18.84	289	LR		LR	15 37 16.9
	comp=Z,131nm,19.1s,baz=116,slow=34							
RAR	**Rarotonga**	21.63	106	LR		LR	15 37 59.8
	comp=Z,29nm,18.1s,baz=292,slow=32							
URZ	**Urewera**	21.81	182	LR		LR	15 38 37.7
	comp=Z,96nm,19.8s,baz=88,slow=34							
ASAR	**Alice Springs**	41.88	253	P		**P**	15 34 18.6	+0.1
	1.1nm,0.7s,baz=83,slow=8.5,SNR=22							
	1.1nm,0.7s							
JCJ	**Chichijima**	55.43	321	LR		LR	15 54 19.3
	comp=Z,44nm,21.9s,baz=108,slow=30							
JHJ	**Hachijo jima 2**	61.25	324	LR		LR	16 01 17.1
	2.1nm,18.6s,baz=140,slow=34							
JNU	**Nakatsue**	66.66	318	LR		LR	16 02 26.1
	comp=Z,26nm,20.4s,baz=86,slow=32							
KSRS	**Korea Array**	71.27	320	LR		LR	16 02 47.4
	comp=Z,18nm,21.9s,baz=135,slow=31							
QSPA	**South Pole Qui**	73.66	180	P		**P**	15 38 02.5	+1.1
	3.2nm,1.0s,baz=1.9,slow=1.3,SNR=3.8							
	3.2nm,1.0s							
NVAR	**Mina Array Bea**	80.80	46	P		**P**	15 38 43.0	+1.0
	0.6nm,0.7s,baz=240,slow=7.1,SNR=3.8							
	0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	85.09	291	P		**P**	15 39 05.3	+1.0
	0.2nm,0.3s,baz=98,slow=6.7,SNR=1.9							
	0.2nm,0.3s							
ILAR	**Eielson Array**	85.24	14	P		**P**	15 39 04.3	+0.4
	0.3nm,0.8s,baz=218,slow=5.2,SNR=5.4							
	0.3nm,0.8s							
YAK	**Yakutsk**	86.90	339	LR		LR	16 17 05.9
	comp=Z,22nm,18.4s,baz=114,slow=35							
TXAR	**Lajitas Array**	88.16	59	LR		LR	16 12 15.7
	comp=Z,35nm,18.2s,baz=316,slow=31							

---

*SJA **18** 15:40:24.9±0.6, 30°.35S×71°.33W, h64km±29km, ML2.2, MW1.9*
GUC 18 15:40:25.3±0.8, 30°.25S×71°.24W, h58km±4km, ML2.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	0.33	360	*e*P		Pn	15 40 36.2	+0.7
CO05				*i* S		Sn	15 40 44.3	+1.3
CO05				IAML			15 40 44.6	
	comp=E,549nm,0.2s							
GO04	**Tololo Observa**	0.39	78	*e*P		Pn	15 40 37.4	+1.1
GO04				*i* S		Sn	15 40 46.7	+2.5
CO06	**Fray Jorge**	0.54	219	⇑*i*P		Pn	15 40 38.4	+0.8
CO06				*i* S		Sn	15 40 47.9	+1.3
CO06				IAML			15 40 48.5	
	comp=E,347nm,0.1s							
CO03	**El Pedregal**	0.75	141	*e*P		Pn	15 40 41.5	+1.3
CO03				*i* S		Sn	15 40 53.3	+2.2
CO03				IAML			15 40 53.8	
	comp=E,653nm,0.1s							
CO01	**Juntas del Tor**	1.03	75	*e*P		Pn	15 40 45.9	+2.0
CO01				*i* S		Sn	15 41 00.5	+2.9
CO01				IAML			15 41 01.2	
	comp=N,153nm,0.2s							
AROD	**Rodeo**	1.53	87	*e*P		Pn	15 40 54.0	+3.4
AROD				*e*S		Sn	15 41 14.8	+5.1
AROD	**Rodeo**	1.53	87	*e*P		Pn	15 40 54.1	+3.4
AROD				*e*S		Sn	15 41 15.6	+5.9
ACDV	**Cuesta del Vie**	1.83	88	*e*P		Pn	15 40 44.1	-11
ACDV				*e*S		Sn	15 41 29.9	+13
ACDV				IAML			15 41 36.8	
	comp=Z,24nm,0.5s							
ACCO	**Cerro Coronel**	1.90	101	*e*P		Pn	15 41 00.3	+4.6
ACCO				*e*S		Sn	15 41 26.3	+7.5
ACCO	**Cerro Coronel**	1.90	101	*e*P		Pn	15 41 00.3	+4.6
ACCO				*e*S		Sn	15 41 21.7	+2.9
AGUA	**GUANDACOL**	2.50	73	*e*P		Pn	15 41 09.3	+5.5
AGUA				IAML			15 43 22.2	
	comp=Z,12nm,2.8s							
AGUA	**GUANDACOL**	2.50	73	*e*P		Pn	15 41 09.3	+5.5
AVFE	**Valle Fertil**	3.29	98	*e*P		Pn	15 41 17.6	+3.1
AVFE				*e*S		Sn	15 41 56.5	+4.1
AVFE				IAML			15 42 04.9	
	comp=Z,3.8nm,1.9s							
AVFE	**Valle Fertil**	3.29	98	*e*P		Pn	15 41 17.6	+3.1
AVFE				*e*S		Sn	15 41 58.2	+5.8
ACHE	**Chepes**	4.04	104	*e*P		Pn	15 41 27.6	+2.8
ACHE				*e*S		Sn	15 42 13.9	+3.0
ACHE	**Chepes**	4.04	104	*e*P		Pn	15 41 27.6	+2.8
ACHE				*e*S		Sn	15 42 14.0	+3.1
APLL	**PUNTA DE LOS L**	4.07	93	*e*P		Pn	15 41 28.0	+2.9
APLL	**PUNTA DE LOS L**	4.07	93	*e*P		Pn	15 41 28.4	+3.2
APLL				*e*S		Sn	15 42 15.8	+4.2

---

*IDC **18** 15:46:26.8±3.2, 37°.01N×142°.66E, h0km, mb3.5/3, mbtmp3.6/7, ML3.2/4, MS2.5/1, Error ellipse: s-maj=53.6km s-min=24.7km az=107.0*
*JMA **18** 15:46:32.7±0.2, 37°.4N±0°.6×14°2E±°, h27km±3km, MV3.6/35, E OFF FUKUSHIMA PREF*
*NIED **18** 15:46:32.7, 37°.36N×142°.18E, h27km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.67; Mθθ-0.71; Mφφ-0.96; Mrθ0.15; Mθφ-0.48; Mφr0.37; Fault plane solution: M0 1.55000×10^14 NP1: φs220.00000°, δ38.00000°, λ95.00000°. NP2: φs34.00000°, δ52.00000°, λ86.00000°.*
ISC 18 15:46:32.5±3.9, 37°30N±0°.06×142°15E±0°.08, h14km±25km, n27, σ1°22/26, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	1.02	274	*i* P		**Pb**	15 46 51.4	-0.5
JFK				S		**Sb**	15 47 04.6	-0.6
JMST	**Minamisoumatoc**	1.09	293	*e*S		**Sb**	15 47 05.5	-1.7
ONAJ	**Iwakimizuishiy**	1.10	260	*i* P		**Pn**	15 46 52.5	-0.9
ONAJ				*e*S		**Sb**	15 47 07.2	-0.3
JIKH	**Ishinomakikobu**	1.15	332	*i* P		**Pn**	15 46 52.4	-1.7
JMM	**Marumori**	1.22	298	*i* P		**Pn**	15 46 54.1	-0.9
JIO	**Ouri**	1.31	331	*i* P		**Pn**	15 46 55.0	-1.4
JOTO	**OTAMA OYAMA**	1.47	281	*i* P		**Pn**	15 46 58.9	+0.3
JOTO				*e*S		**Sn**	15 47 17.7	+0.2
JOU	**Okura**	1.59	313	*i* P		**Pn**	15 47 00.1	-0.1
JOU				S		**Sn**	15 47 20.2	-0.3
JMK	**Ichinoseki**	1.80	336	P		**Pn**	15 47 02.8	-0.4
JYS	**Shirataka**	1.89	300	P		**Pn**	15 47 04.8	+0.5
JFY	**Yanaizu**	1.95	274	P		**Pn**	15 47 05.8	+0.6
JFY				*e*S		**Sn**	15 47 30.6	+1.2
JYK	**Kaneyama**	2.15	319	P		**Pn**	15 47 07.8	-0.1
JOM	**Ohasama**	2.27	343	P		**Pn**	15 47 09.3	-0.2
MJAR	**Matsushiro Arr**	3.25	258	Pn		**Pn**	15 47 24.3	+1.3
	0.3nm,0.3s,baz=83,slow=15,SNR=3.5							
MJAR				Sn		**Sb**	15 48 09.0	-0.3
	0.4nm,0.3s,baz=78,slow=30,SNR=4.8							
	2.5nm,0.4s							
JHJ	**Hachijo jima 2**	4.60	206	Pn		Pn	15 47 36.1	-5.4
	10nm,0.3s,baz=79,slow=21,SNR=5.6							
JHJ				Sn		**Sn**	15 48 32.4	-2.3
	8.1nm,0.3s,baz=82,slow=21,SNR=2.2							
	55nm,0.8s							
ASAJ	**Asahikawa**	6.82	3	Pn		**Pn**	15 48 14.0	+2.0
	0.6nm,0.3s,baz=210,slow=10,SNR=5.7							
	13nm,1.0s							
USRK	**Ussurisk Ar.**	10.33	315	Pn		**Pn**	15 49 03.2	+3.0
	0.1nm,0.3s,baz=125,slow=12,SNR=2.4							
	1.7nm,0.7s							
H11N2	**WAKE ISLAND Hy**	27.79	122	T		T	16 21 19.6	
	baz=315,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	27.79	122	T		T	16 21 19.9	
	baz=315,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	27.80	122	T		T	16 21 18.6	
	baz=315,slow=75,SNR=17							
SONM	**Songino Array**	28.13	303	P		**P**	15 52 24.0	0.0
	0.3nm,0.6s,baz=101,slow=7.5,SNR=1.9							
	0.3nm,0.6s							
H11S1	**WAKE ISLAND Hy**	28.52	124	T		T	16 22 14.1	
	baz=317,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	28.52	124	T		T	16 22 11.2	
	baz=317,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	28.53	124	T		T	16 22 13.7	
	baz=317,slow=76,SNR=11							
CMAR	**Chiang Mai Arr**	42.13	256	LR		LR	16 11 40.1	
	comp=Z,6.5nm,20.3s,baz=240,slow=36							
MKAR	**Makanchi Array**	44.48	302	P		**P**	15 54 43.5	+0.4
	0.4nm,0.7s,baz=89,slow=7.4,SNR=4.7							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	46.30	308	P		**P**	15 54 57.6	+0.1
	0.6nm,0.5s,baz=83,slow=8.2,SNR=6.2							
	0.6nm,0.5s							

---

*NEIC **18** 15:46:42.8±2.5, 19°.13S±0°.10×172°.80W±0°.06, h10km±1km, mb4.9/28, Error ellipse: s-maj=17.9km s-min=7.3km az=23.0*
*IDC **18** 15:46:44.1±0.7, 19°.20S×173°.34W, h0km, mb4.1/15, mbtmp4.1/15, MS3.8/17, Error ellipse: s-maj=27.0km s-min=17.6km az=130.0*
*NOU **18** 15:46:46.7, 19°.05S×172°.69W, h25km, mb4.5/10, Tonga Islands Region*
ISC 18 15:46:43.9±0.4, 19°33S±0°.07×172°86W±0°.05, h10km, n109, σ2°31/92, mb4.6/32, MS3.9/15, 2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	2.78	85			**Pn**	15 47 26.6	-1.9
NIUE	**Niue**	2.78	85	P		**Pn**	15 47 26.9	-1.5
NIUE	**Niue**	2.78	85	S		**Sn**	15 47 59.0	-3.1
AFI	**Afiamalu**	5.49	11	Pn		**Pn**	15 48 01.9	-3.9
AFI	**Afiamalu**	5.49	11	P		**Pn**	15 48 02.4	-3.4
AFI	**Afiamalu**	5.49	11	P		**Pn**	15 48 02.1	-3.7
DGTI	**Dogotuki**	7.67	292	P		**Pn**	15 48 37.9	+2.2
MSVF	**Nonsavu**	8.77	279	Pn		**Pn**	15 48 50.9	0.0
MSVF	**Nonsavu**	8.77	279	Pn		**Pn**	15 48 54.1	+3.2
	0.4nm,0.3s,baz=122,slow=15,SNR=14							
RAR	**Rarotonga**	12.42	101	Pn		**Pn**	15 49 39.2	-1.6
RAR	**Rarotonga**	12.42	101	Pn		**Pn**	15 49 40.6	-0.2
	3.8nm,0.3s,baz=264,slow=7.9,SNR=6.5							
RAR				LR		LR	15 54 13.0	
	comp=Z,299nm,20.3s,baz=276,slow=35							
RAR	**Rarotonga**	12.42	101	P		**Pn**	15 49 41.3	+0.5
RAR	**Rarotonga**	12.42	101	P		**Pn**	15 49 39.7	-1.1
PINNC	**Pines Island,**	18.68	257	P		**P**	15 51 02.0	-0.3
PINNC				IAmb		IAmb	15 51 12.2	
	comp=Z,74nm,1.1s							
DZM	**Mont Dzumac**	19.55	258	P		**P**	15 51 12.3	+0.3
DZM				IAmb		IAmb	15 51 13.2	
	comp=Z,155nm,1.8s							
DZM	**Mont Dzumac**	19.55	258	*e*LR		LR	15 55 47.5	
	comp=Z,484nm,25.4s							
DZM	**Mont Dzumac**	19.55	258	P		**P**	15 51 11.7	-0.4
	comp=Z,8.9nm,0.8s,baz=100,slow=19,SNR=2.0							
DZM				LR		LR	15 57 10.6	
	comp=Z,366nm,19.9s,baz=188,slow=33							
ONTNC	**Ouen Toro**	19.57	258	P		**P**	15 51 11.1	-0.9
OUZ	**Omahuta**	19.85	214	P		**Pn**	15 51 19.3	+2.7
OUZ	**Omahuta**	19.85	214	P		**Pn**	15 51 16.6	-0.1

PUZ Puketiti 20.21 201 P Pn 15 51 25.3 +4.4
RUGZ Raukumara Rang 20.32 202 P Pn 15 51 24.9 +2.7
MKAZ Moumakai 20.58 208 P Pn 15 51 25.5 +0.4
MWZ Matawai 20.70 202 P Pn 15 51 27.4 +0.8
MWZ S **S 15 55 16.9 +1.4**
URZ Urewera 20.78 203 P Pn 15 51 28.0 +0.5
comp=Z,7.8nm,0.4s,baz=48,slow=3.4,SNR=18
URZ S S 15 55 05.6 -11
comp=Z,2.8nm,0.6s,baz=203,slow=16,SNR=1.2
comp=Z,7.8nm,0.4s
URZ Urewera 20.78 203 P Pn 15 51 28.2 +0.7
URZ Urewera 20.78 203 P Pn 15 51 27.5 0.0
AWAZ Awhitu Peninsu 20.79 209 P Pn 15 51 28.6 +1.0
TOZ Tahuroa Road 20.96 207 P **P 15 51 27.5 +0.5**
TOZ Tahuroa Road 20.96 207 P Pn 15 51 31.0 +1.4
RAHZ Arahi 21.38 202 P **P 15 51 32.8 +1.2**
MTHZ Maungataniwha 21.41 202 P **P 15 51 34.9 +3.0**
BKZ Black Stump Fm 21.81 203 P **P 15 51 36.4 +0.2**
BKZ IAmb IAmb 15 51 50.2
comp=Z,48nm,1.9s
BKZ Black Stump Fm 21.81 203 P **P 15 51 36.7 +0.5**
HIZ Hauiti 21.89 207 P **P 15 51 41.6 +4.5**
HIZ Hauiti 21.89 207 P **P 15 51 41.3 +4.3**
ETVZ East Tongariro 22.08 204 P **P 15 51 41.1 +1.9**
OTVZ Oturere 22.12 204 P **P 15 51 41.9 +2.2**
PPT2 Papeete2 22.15 89 *e*P **P 15 51 41.1 +1.0**
comp=Z,50nm,30.8s
PPT2 *e*LR LR 15 56 48.2
comp=Z,182nm,37.2s
PPT2 *e*LR LR 15 56 48.7
comp=Z,383nm,27.0s
TBI Tubuai 22.15 105 *e*P **P 15 51 40.2 +0.3**
comp=Z,288nm,35.5s
TBI *e*LR LR 15 56 46.3
comp=Z,1µm,30.5s
PXZ Pawanui 22.45 201 P **P 15 51 46.4 +3.4**
PXZ S **S 15 55 47.6 -1.8**
TSZ Takapari Road 22.79 203 P **P 15 51 47.9 +1.2**
TSZ S **S 15 55 49.9 -5.9**
BFZ Birch Farm 23.24 201 P **P 15 51 52.1 +0.8**
BFZ Birch Farm 23.24 201 P **P 15 51 55.3 +4.0**
BFZ Birch Farm 23.24 201 P **P 15 51 53.1 +1.8**
PLWZ Palliser 24.37 202 P **P 15 52 02.8 +0.6**
QRZ Quartz Range 24.81 207 P **P 15 52 07.3 +1.2**
QRZ Quartz Range 24.81 207 P **P 15 52 10.2 +4.1**
DSZ Denniston Nort 25.88 207 P **P 15 52 16.9 +1.1**
DSZ IAmb IAmb 15 52 36.6
comp=Z,17nm,0.8s
INZ Inchbonnie 26.83 206 P **P 15 52 25.0 +0.6**
INZ IAmb IAmb 15 52 43.2
comp=Z,25nm,0.9s
RPZ Rata Peaks 27.81 206 P **P 15 52 39.9 +6.7**
comp=Z,5.8nm,0.4s,baz=85,slow=11,SNR=6.9
HNR Honiara 28.08 287 LR LR 16 02 05.7
comp=Z,98nm,18.5s,baz=356,slow=33
KRVT Keravat (AS076 37.36 289 LR LR 16 08 54.5
comp=Z,111nm,20.1s,baz=195,slow=36
PTCN Pitcairn Islan 39.88 106 P **P 15 54 16.3 -1.8**
PMG Port Moresby 39.88 279 LR LR 16 09 06.1
comp=Z,98nm,19.1s,baz=90,slow=34
TOO Toolangi 40.50 234 P **P 15 54 22.9 -0.2**
TOO IAmb IAmb 15 54 51.2
comp=Z,21nm,1.6s
COEN Coen 42.38 270 P **P 15 54 35.6 -3.2**
STKA Stephens Creek 42.65 244 P **P 15 54 38.8 -1.9**
STKA Stephens Creek 42.65 244 P **P 15 54 38.9 -1.9**
comp=Z,2.5nm,0.7s,baz=88,slow=13,SNR=4.2
STKA LR LR 16 10 55.8
comp=Z,237nm,18.1s,baz=46,slow=34
comp=Z,2.5nm,0.7s
BBOO Buckleboo 47.39 243 P **P 15 55 16.4 -2.2**
WR0 Warramunga Arr 49.37 260 P **P 15 55 30.9 -3.1**
WR0 IAmb IAmb 15 55 56.5
comp=Z,7.7nm,1.3s
AS31 Alice Springs 49.49 255 P **P 15 55 32.6 -2.4**
ASAR Alice Springs 49.50 255 P **P 15 55 32.2 -2.8**
ASAR Alice Springs 49.50 255 P **P 15 55 32.9 -2.1**
comp=Z,9.4nm,0.9s,baz=89,slow=8.7,SNR=99
ASAR PcP **PcP 15 56 57.0 0.0**
comp=Z,0.8nm,0.7s,baz=98,slow=6.8,SNR=0.8
comp=Z,9.4nm,0.9s
WB0 Warramunga Arr 49.54 260 P **P 15 55 32.0 -3.3**
WB0 IAmb IAmb 15 55 33.6
comp=Z,6.6nm,0.8s
WB2 Warramunga Arr 49.55 260 P **P 15 55 32.2 -3.2**
WB2 IAmb IAmb 15 55 34.4
comp=Z,11nm,1.2s
WRAB Tennant Creek 49.55 260 P **P 15 55 32.2 -3.2**
WRAB IAmb IAmb 15 55 35.5
comp=Z,27nm,1.9s
WRA Warramunga Arr 49.56 260 P **P 15 55 32.3 -3.2**
WRA Warramunga Arr 49.56 260 P **P 15 55 33.0 -2.5**
comp=Z,1.5nm,0.3s,baz=97,slow=7.2,SNR=78
WRA PcP **PcP 15 56 57.9 +0.6**
comp=Z,0.8nm,0.8s,baz=86,slow=3.4,SNR=2.1
comp=Z,1.5nm,0.3s
MTN Manton Dam 54.02 268 P **P 15 56 06.1 -2.7**
MTN IAmb IAmb 15 56 07.8
comp=Z,18nm,0.8s
FORT Forrest 54.19 246 P **P 15 56 07.9 -1.9**
KNRA Kununurra 55.58 264 P **P 15 56 19.2 -0.9**
KNRA IAmb IAmb 15 56 27.4
comp=Z,18nm,1.1s
FITZ Fitzroy Crossi 57.99 260 P **P 15 56 35.9 -1.3**
VNDA Vanda 59.54 186 P **P 15 56 48.0 +1.0**
VNDA IAmb IAmb 15 58 16.0
comp=Z,27nm,1.9s
SOEI Soe 61.33 269 P **P 15 56 58.4 -2.0**
PSA00 Pilbara Seismi 62.65 255 P **P 15 57 06.7 -2.3**
PSA00 IAmb IAmb 15 57 59.1
comp=Z,22nm,1.5s
NWAO Narrogin (SRO) 63.20 242 LR LR 16 23 24.9
comp=Z,73nm,18.2s,baz=278,slow=35
LUWI Luwuk 65.52 278 P **P 15 57 26.0 -2.0**
QSPA South Pole Qui 70.74 180 P **P 15 58 03.2 +3.1**
comp=Z,1.7nm,0.8s,baz=104,slow=1.7,SNR=11
comp=Z,1.7nm,0.8s
MJAR Matsushiro Arr 72.27 320 P **P 15 58 09.4 -0.2**
comp=Z,4.4nm,0.9s,baz=157,slow=5.4,SNR=8.3
comp=Z,4.4nm,0.9s
LPIG La Paz 74.68 57 LR LR 16 24 22.1
comp=Z,104nm,19.4s,baz=213,slow=30
PFO Pinyon Flats O 75.24 46 LR LR 16 25 01.4
comp=Z,67nm,19.6s,baz=316,slow=30
PETK Petropavlovsk- 76.51 342 P **P 15 58 35.0 +1.2**
comp=Z,1.6nm,0.7s,baz=162,slow=5.6,SNR=2.1
comp=Z,1.6nm,0.7s
NVAR Mina Array Bea 76.91 41 P **P 15 58 39.8 +3.0**
comp=Z,0.7nm,0.6s,baz=243,slow=9.8,SNR=4.4
comp=Z,0.7nm,0.6s
KSRS Korea Array 79.32 316 P **P 15 58 51.1 +1.3**
comp=Z,3.8nm,1.1s,baz=131,slow=5.6,SNR=9.9
KSRS LR LR 16 28 50.9
comp=Z,26nm,21.1s,baz=70,slow=32
comp=Z,3.8nm,1.1s
TXAR Lajitas Array 82.38 55 P **P 15 59 09.7 +3.1**
comp=Z,1.2nm,1.0s,baz=188,slow=3.3,SNR=5.8
TXAR LR LR 16 29 06.1
comp=Z,40nm,18.2s,baz=21,slow=31
comp=Z,1.2nm,1.0s
NJ2 Nanjing 82.94 307 *e*P **P 15 59 08.4 -0.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NEW Newport 83.66 34 LR LR 16 32 08.0
comp=Z,132nm,18.3s,baz=233,slow=32
BNX BinXian 84.35 323 ||P **P 15 59 17.5 +1.3**
BNX pmax pmax
comp=Z,6.0nm,0.7s
CMIG Matias Romero 84.72 70 LR LR 16 30 48.8
comp=Z,75nm,18.4s,baz=359,slow=31
PDAR Pinedale Array 84.84 41 P **P 15 59 21.9 +2.9**
comp=Z,0.2nm,0.7s,baz=260,slow=6.9,SNR=2.4
comp=Z,0.2nm,0.7s
ILAR Eielson Array 86.18 11 P **P 15 59 26.3 +1.4**
comp=Z,1.4nm,0.9s,baz=236,slow=4.3,SNR=6.9
comp=Z,1.4nm,0.9s
SYO Syowa Base 88.87 191||*e*P **P 15 59 36.0 -2.0**
XAN Xi'an 91.33 306 P **P 15 59 52.8 +2.6**
XAN pmax pmax
comp=Z,7.0nm,1.4s
JTS Las Juntas de 91.40 80 LR LR 16 32 53.5
comp=Z,44nm,18.7s,baz=244,slow=30
ATAH Atahualpa 91.85 98 LR LR 16 33 52.2
comp=Z,71nm,18.3s,baz=197,slow=31
INK Inuvik 91.94 14 P **P 15 59 52.8 +0.8**
comp=Z,0.8nm,1.0s,baz=243,slow=6.8,SNR=1.5
comp=Z,0.8nm,1.0s
HHC Hu-ho-hao-te 92.06 313 *e*P **P 15 59 52.6 -0.9**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.5s
YAK Yakutsk 92.91 337 LR LR 16 38 32.5
comp=Z,22nm,19.7s,baz=188,slow=34
YKA Yellowknife Ar 93.48 23 P **P 16 00 01.9 +2.6**
comp=Z,0.2nm,0.7s,baz=232,slow=5.3,SNR=1.8
comp=Z,0.2nm,0.7s
CMAR Chiang Mai Arr 94.33 288 P **P 16 00 04.4 +0.2**
comp=Z,0.6nm,0.7s,baz=105,slow=3.2,SNR=7.4
comp=Z,0.6nm,0.7s
PZH PanZhiHua 94.48 296 P **P 16 00 04.1 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.5s
LPAZ La Paz 97.98 110 LR LR 16 36 18.8
comp=Z,66nm,19.5s,baz=224,slow=30
BVAR Borovoye Array 121.27 321 PKP **PKiKP 16 05 37.8 +0.6**
comp=Z,0.6nm,0.6s,baz=96,slow=4.5,SNR=3.9
AKASG Malin Array Be 144.13 336 PKP **PKPdf 16 06 19.1 -0.6**
comp=Z,0.2nm,0.3s,baz=35,slow=2.7,SNR=2.3
SORM Soroca 146.51 334 PKP **PKPbc 16 06 25.4 0.0**
BRTR Keskin Array B 149.46 317 PKPbc **PKiKP 16 06 35.1 +0.2**
comp=Z,1.7nm,0.8s,baz=90,slow=2.9,SNR=7.4
GERES GERESS Array B 150.08 351 PKPbc **PKiKP 16 06 36.0 +0.2**
comp=Z,0.7nm,0.7s,baz=350,slow=4.0,SNR=5.1
MMAI Mount Meron Ar 151.32 304 PKPbc **PKPbc 16 06 37.4 -0.9**
comp=Z,2.4nm,0.7s,baz=76,slow=9.2,SNR=4.6

IDC 18 15:52:53.6±2.4, 9°.08S×122°.93E, h0km, mb3.4/1, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=267.7km s-min=34.0km az=55.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.44**	**136**	Pn	Pn	15 56 31.4	-1.5
	0.3nm,0.6s,baz=309,slow=14,SNR=1.2						
WRA				Sn	Sn	15 59 11.0	-14
	0.2nm,0.3s,baz=324,slow=28,SNR=4.6						
ASAR	**Alice Springs**	**17.91**	**145**	P	P	15 57 05.4	+0.3
	0.1nm,0.3s,baz=325,slow=12,SNR=1.0						
ASAR				S	Sn	16 00 10.0	-15
	0.2nm,0.4s,baz=308,slow=21,SNR=4.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**66.36**	**331**	P	P	16 03 44.3	0.0
	0.3nm,0.7s,baz=132,slow=6.4,SNR=2.7						
	0.3nm,0.7s						

---

*IDC **18** 15:59:52.3±0.8, 10°.79N×125°.84E, h0km, mb4.1/10, mbtmp4.1/10, Error ellipse: s-maj=45.7km s-min=16.0km az=64.0*
*NEIC **18** 15:59:59.2±1.4, 10°.66N±0°.09×125°.7E±0°.2, h35km±6km, mb4.5/26, Error ellipse: s-maj=26.5km s-min=12.3km az=75.0*
ISC 18 15:59:58.1±0.6, 10°.68N±0°.08×125°.7E±0°.1, h35km, n46, σ0s95/45, mb4.4/23, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.59**	**182**	Sn	**Sn**	**16 01 31.7**	**-0.8**
	48nm,0.3s,baz=359,slow=3.6,SNR=1.6						
FAKI	**Fak Fak**	**14.99**	**154**	Pn	**Pn**	**16 03 27.0**	**-0.6**
SBUM	**Sibu**	**15.69**	**240**	P	**P**	**16 03 41.4**	**+1.0**
SOEI	**Soe**	**20.35**	**184**	P	**P**	**16 04 32.5**	**+0.7**
SOEI				IAmb	IAmb	16 04 44.5	
	comp=Z,30nm,1.3s						
MTN	**Manton Dam**	**23.98**	**167**	P	**P**	**16 05 09.0**	**-0.6**
MTN				IAmb	IAmb	16 05 14.3	
	comp=Z,26nm,1.5s						
PHRA	**Phrae**	**25.83**	**290**	P	**P**	**16 05 27.3**	**+0.8**
PHRA				IAmb	IAmb	16 06 05.0	
	comp=Z,35nm,1.4s						
KNRA	**Kununurra**	**26.36**	**173**	P	**P**	**16 05 31.5**	**+0.3**
KNRA				IAmb	IAmb	16 06 05.1	
	comp=Z,29nm,1.4s						
CMAR	**Chiang Mai Arr**	**27.01**	**290**	P	**P**	**16 05 38.2**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=108,slow=9.2,SNR=9.0						
	comp=Z,0.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.59**	**180**	P	**P**	**16 05 51.6**	**+0.4**
WB0	**Warramunga Arr**	**31.44**	**164**	P	**P**	**16 06 15.5**	**-0.9**
WB0				IAmb	IAmb	16 06 16.1	
	comp=Z,2.9nm,0.6s						
WRAB	**Tennant Creek**	**31.58**	**164**	P	**P**	**16 06 16.7**	**-1.0**
WRAB				IAmb	IAmb	16 06 57.4	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**31.59**	**164**	P	**P**	**16 06 16.9**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=343,slow=8.1,SNR=17						
	comp=Z,1.9nm,0.7s						
WB2	**Warramunga Arr**	**31.59**	**164**	P	**P**	**16 06 16.8**	**-1.0**
WB2				IAmb	IAmb	16 06 17.5	
	comp=Z,3.0nm,0.7s						
PSA00	**Pilbara Seismi**	**32.56**	**190**	P	**P**	**16 06 25.8**	**-0.4**
AS31	**Alice Springs**	**35.06**	**167**	P	**P**	**16 06 47.6**	**-0.4**
AS31				IAmb	IAmb	16 06 50.8	
	comp=Z,1.6nm,0.3s						
ASAR	**Alice Springs**	**35.06**	**167**	P	**P**	**16 06 47.4**	**-0.6**
ASAR	**Alice Springs**	**35.06**	**167**	P	**P**	**16 06 47.9**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=349,slow=6.6,SNR=60						
ASAR				PcP	**PcP**	**16 09 18.4**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=342,slow=2.7,SNR=4.0						
	comp=Z,1.2nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.65**	**72**	T	T	16 51 16.1	
	baz=268						
H11N2	**WAKE ISLAND Hy**	**40.66**	**72**	T	T	16 51 15.7	
	baz=268						
H11N3	**WAKE ISLAND Hy**	**40.67**	**72**	T	T	16 51 19.5	
	baz=268						
FORT	**Forrest**	**41.28**	**177**	P	**P**	**16 07 40.7**	**+0.5**
FORT				IAmb	IAmb	16 07 50.3	
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**44.36**	**168**	P	**P**	**16 08 05.4**	**+0.3**
STKA	**Stephens Creek**	**44.96**	**161**	P	**P**	**16 08 10.7**	**+0.7**
STKA	**Stephens Creek**	**44.96**	**161**	P	**P**	**16 08 10.7**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=338,slow=8.0,SNR=6.2						
	comp=Z,2.5nm,0.5s						
MK31	**Makanchi Array**	**51.37**	**323**	P	**P**	**16 08 59.5**	**+0.1**
MKAR	**Makanchi Array**	**51.37**	**323**	P	**P**	**16 08 59.4**	**0.0**
MKAR	**Makanchi Array**	**51.37**	**323**	P	**P**	**16 08 59.2**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=128,slow=7.8,SNR=12						
MKAR				PcP	**PcP**	**16 10 12.1**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=96,slow=3.7,SNR=4.7						
	comp=Z,1.1nm,0.6s						
MAKZ	**Makanchi**	**51.57**	**323**	P	**P**	**16 09 01.2**	**+0.4**
KURBB	**Kurchatov Arra**	**55.43**	**325**	P	**P**	**16 09 28.4**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=114,slow=6.5,SNR=2.4						
	comp=Z,1.3nm,0.3s						
TCW	**Tory Channel**	**68.29**	**142**	P	**P**	**16 10 55.6**	**-0.1**
OXZ	**Oxford**	**68.32**	**145**	P	**P**	**16 10 56.9**	**+1.1**
BKZ	**Black Stump Fm**	**68.45**	**140**	P	**P**	**16 10 57.5**	**+0.7**
J14K	**Nanvaranak Lak**	**71.78**	**27**	P	**P**	**16 11 17.4**	**+0.7**
H19K	**Roundabout Mou**	**75.31**	**25**	P	**P**	**16 11 38.1**	**+0.7**
C23K	**Itkillik River**	**77.87**	**21**	P	**P**	**16 11 53.6**	**+1.7**
C23K				IAmb	IAmb	16 12 02.4	
	comp=Z,3.3nm,1.2s						
TOLK	**Toolik Lake Re**	**78.20**	**22**	P	**P**	**16 11 55.0**	**+1.1**
MCK	**McKinley**	**78.45**	**27**	P	**P**	**16 11 56.2**	**+0.9**
MCK				IAmb	IAmb	16 12 32.1	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**79.32**	**26**	P	**P**	**16 12 00.2**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=237,slow=4.0,SNR=1.8						
	comp=Z,0.2nm,0.8s						
BMAR	**Burnt Mountain**	**80.11**	**23**	P	**P**	**16 12 06.3**	**+2.0**
I28M	**Miner Creek**	**82.18**	**25**	P	**P**	**16 12 16.9**	**+1.5**
I28M				IAmb	IAmb	16 12 36.8	
	comp=Z,4.4nm,1.4s						
ARCES	**ARCESS Array B**	**83.62**	**340**	P	**P**	**16 12 22.0**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=100,slow=6.3,SNR=4.7						
	comp=Z,3.2nm,0.9s						
INK	**Inuvik**	**84.11**	**22**	P	**P**	**16 12 26.0**	**+0.8**
INK				IAmb	IAmb	16 13 03.9	
	comp=Z,5.2nm,1.5s						
FINES	**FINESS Array B**	**85.27**	**332**	P	**P**	**16 12 30.1**	**-1.0**
	comp=Z,4.3nm,0.9s,baz=79,slow=5.5,SNR=7.1						
	comp=Z,4.3nm,0.9s						
AKASG	**Malin Array Be**	**85.90**	**321**	P	**P**	**16 12 32.4**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=66,slow=6.1,SNR=4.0						
	comp=Z,0.4nm,0.4s						
EUNU	**Eureka**	**87.91**	**5**	P	**P**	**16 12 43.9**	**+0.1**
EUNU				IAmb	IAmb	16 13 22.3	
	comp=Z,2.1nm,1.1s						
PLCA	**Paso Flores**	**146.79**	**157**	PKPbc	**PKPdf**	**16 19 36.9**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=232,slow=2.3,SNR=4.0						

---

*IDC **18** 16:23:09.7±3.6, 18°.51S×169°.05E, h218km±31km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=39.9km s-min=29.7km az=174.0*
*NEIC **18** 16:23:09.8±0.9, 18°.5S±0°.2×169°.1E±0°.2, h222km±5km, mb4.2/11, Error ellipse: s-maj=40.9km s-min=16.9km az=143.0*
ISC 18 16:23:07.6±0.8, 18°.4S±0°.1×169°.1E±0°.1, h201km, n21, σ1s10/22, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.43**	**213**	P	**Pn**	**16 24 16.2**	**+1.2**
	16nm,1.0s,baz=37,slow=20						
DZM				S	**S**	**16 25 08.5**	**+1.0**
	9.7nm,0.5s,baz=65,slow=11,SNR=3.6						
PINNC	**Pines Island,**	**4.50**	**199**	Pn	**Pn**	**16 24 17.6**	**+2.0**
ONTNC	**Ouen Toro**	**4.63**	**211**	Pn	**Pn**	**16 24 18.1**	**+0.8**
EIDS	**Eidsvold**	**18.07**	**244**	P	**P**	**16 27 03.1**	**-1.2**
AFI	**Afiamalu**	**18.94**	**79**	P	**P**	**16 27 13.2**	**-0.5**
ARMA	**Armidale**	**19.87**	**230**	P	**P**	**16 27 21.3**	**-2.4**
ARMA				IAmb	IAmb	16 27 48.7	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**32.61**	**261**	P	**P**	**16 29 20.4**	**-0.2**
WB0	**Warramunga Arr**	**32.76**	**262**	P	**P**	**16 29 21.6**	**-0.3**
WB0				IAmb	IAmb	16 29 28.1	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**32.79**	**262**	P	**P**	**16 29 22.0**	**-0.2**
WRAB	**Tennant Creek**	**32.79**	**262**	P	**P**	**16 29 21.7**	**-0.4**
WRAB				IAmb	IAmb	16 29 52.7	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**32.80**	**262**	P	**P**	**16 29 22.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=97,slow=8.2,SNR=10						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**33.18**	**255**	P	**P**	**16 29 25.6**	**0.0**
AS31				IAmb	IAmb	16 29 26.3	
	comp=Z,2.1nm,0.3s						
ASAR	**Alice Springs**	**33.18**	**255**	P	**P**	**16 29 25.6**	**+0.1**
ASAR	**Alice Springs**	**33.18**	**255**	P	**P**	**16 29 25.9**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=82,slow=8.6,SNR=87						
	comp=Z,1.6nm,0.4s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**16 34 06.7**	**-0.8**
QSPA				IAmb	IAmb	16 34 08.7	
	comp=Z,5.6nm,1.2s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**16 34 06.9**	**-0.6**
	comp=Z,2.0nm,1.1s,baz=45,slow=5.7,SNR=3.2						
	comp=Z,2.0nm,1.1s						
BELA	**Belgrano 2**	**82.99**	**175**	P	**P**	**16 35 08.3**	**-1.5**
BELA				IAmb	IAmb	16 35 09.1	
	comp=Z,9.5nm,1.4s						
L18K	**Granite Mounta**	**84.76**	**15**	PcP	**PcP**	**16 35 22.1**	**+0.3**
J18K	**Innoko River**	**85.81**	**15**	P	**P**	**16 35 26.2**	**+2.2**
J18K				IAmb	IAmb	16 35 54.4	
	comp=Z,5.2nm,1.3s						
ILAR	**Eielson Array**	**89.44**	**17**	P	**P**	**16 35 41.7**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=206,slow=4.9,SNR=5.4						
	comp=Z,0.4nm,0.8s						
ARCES	**ARCESS Array B**	**124.17**	**345**	PKP	**PKPdf**	**16 41 42.0**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=50,slow=2.3,SNR=6.0						

---

*NSSP **18** 16:31:27.8, 38°.50N×44°.30E, h10km, Ms4.5*
*ISK **18** 16:31:29.9, 38°.52N×44°.30E, h5km, ML4.1/12*
*TEH **18** 16:31:30.3, 38°.60N×44°.26E, h5km±56km*
*AFAD **18** 16:31:30.4, 38°.57N×44°.27E, h11km±1km, MW4.0*
*MOS **18** 16:31:31.6±1.1, 38°.58N×44°.14E, h13km, mb4.1/11, Error ellipse: s-maj=7.0km s-min=4.7km az=78.4*
*IDC **18** 16:31:31.3±0.9, 38°.57N×44°.11E, h0km, mb3.8/10, mbtmp3.8/19, ML3.7/8, MS3.4/22, Error ellipse: s-maj=13.2km s-min=10.0km az=132.0*
*NEIC **18** 16:31:33.5±1.4, 38°.59N±0°.06×44°.13E±0°.07, h10km±1km, mb4.1/20, Error ellipse: s-maj=11.8km s-min=6.5km az=143.0*
*MCSM **18** 16:31:33.5±0.4, 38°N±5°×4°4E±°, h10km, mb4.0, MLv4.1*
*AZER **18** 16:31:35.4, 38°.73N×44°.71E, h6km, ml4.3*
ISC 18 16:31:31.3±1.1, 38°.54N±0°.02×44°.26E±0°.02, h0km±8km, n253, σ1s57/299, mb3.9/21, MS3.5/15, 7C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.24**	**301**	P	**Pg**	**16 31 36.0**	**0.0**
TVAN	**Van**	**0.67**	**269**	P	**Pg**	**16 31 43.8**	**-0.3**
TVAN	**Van**	**0.67**	**269**	Pg	**Pg**	**16 31 43.5**	**-0.6**
VANB	**Van**	**0.69**	**275**	Pg	**Pg**	**16 31 43.5**	**-0.9**
VANB	**Van**	**0.69**	**275**	Pg	**Pg**	**16 31 43.5**	**-0.9**
VMUR	**Van-Muradiye**	**0.70**	**310**	P	**Pg**	**16 31 43.8**	**-0.9**
VMUR	**Van-Muradiye**	**0.70**	**310**	Pg	**Pg**	**16 31 43.8**	**-0.9**
MAKU	**Maku**	**0.88**	**22**	Pg	**Pg**	**16 31 46.4**	**-1.8**
YOVA	**Hakkari_Yksek**	**0.95**	**179**	P	**Pg**	**16 31 49.4**	**-0.1**
YOVA	**Hakkari_Yksek**	**0.95**	**179**	Pg	**Pg**	**16 31 49.4**	**-0.1**
GEVA	**Gevas**	**0.97**	**257**	Pg	**Pg**	**16 31 48.2**	**-1.7**
GEVA	**Gevas**	**0.97**	**257**	P	**Pg**	**16 31 47.5**	**-2.4**
GEVA				S	**Sg**	**16 32 00.7**	**-1.8**
GEVA	**Gevas**	**0.97**	**257**	Pg	**Pg**	**16 31 48.2**	**-1.7**
HAKT	**HAKKARI**	**1.07**	**204**	P	**Pb**	**16 31 51.7**	**-1.2**
HAKT	**HAKKARI**	**1.07**	**204**	Pg	**Pb**	**16 31 51.6**	**-1.2**
HAKT	**HAKKARI**	**1.07**	**204**	P	**Pb**	**16 31 51.5**	**-1.3**
HAKT				S	**Sn**	**16 32 08.8**	**-0.7**
DYDN	**Diyadin**	**1.10**	**336**	P	Pb	16 31 49.1	-4.2
DYDN				S	**Sb**	**16 32 06.0**	**-2.2**
DYDN				*i* AML	AML	16 32 20.0	
	comp=N,4µm,0.9s						
DYDN	**Diyadin**	**1.10**	**336**	Pg	Pb	16 31 49.1	-4.2
IMRD	**Marand**	**1.14**	**81**	Pg	**Pb**	**16 31 51.5**	**-2.5**
NAX	**Nakhchivan**	**1.15**	**56**	P	**Pb**	**16 31 52.3**	**-1.9**
NAX				S	**Sb**	**16 32 04.5**	**-5.2**
NAX	**Nakhchivan**	**1.15**	**56**	PG	**Pb**	**16 31 52.2**	**-1.9**
ADCV	**BITLIS_Adilcev**	**1.23**	**283**	P	**Pb**	**16 31 54.8**	**-0.8**
ADCV				S	**Sn**	**16 32 12.5**	**-0.9**
ADCV				*i* AML	AML	16 32 16.0	
	comp=E,2µm,0.8s						
ADCV	**BITLIS_Adilcev**	**1.23**	**283**	Pg	**Pb**	**16 31 54.7**	**-0.8**
HYR	**Heyderabad**	**1.27**	**21**	P	**Pn**	**16 31 54.1**	**-2.2**
HYR				S	**Sb**	**16 32 11.9**	**-1.0**
SBZ	**Shahbuz**	**1.32**	**49**	P	**Pn**	**16 31 55.1**	**-2.0**
SBZ				S	**Sb**	**16 32 13.7**	**-0.9**
IGDI	**IGDIR**	**1.34**	**354**	P	**Pn**	**16 31 54.2**	**-3.0**
IGDI				S	**Sb**	**16 32 14.7**	**-0.2**
IGDI				*i* AML	AML	16 32 18.0	
	comp=E,3µm,0.6s						
IGDI	**IGDIR**	**1.34**	**354**	P	**Pn**	**16 31 55.0**	**-2.2**
IGDI				S	**Sg**	**16 32 16.2**	**+2.0**
CUKT	**Cukurca**	**1.39**	**202**	Pn	**Pn**	**16 31 57.4**	**-0.6**
CUKT				Sn	**Sg**	**16 32 17.6**	**+1.7**
CUKT	**Cukurca**	**1.39**	**202**	P	**Pn**	**16 31 58.4**	**+0.4**
ORD	**Ordubad**	**1.41**	**73**	P	**Pn**	**16 31 56.4**	**-1.9**
ORD				S	**Sn**	**16 32 14.3**	**-3.3**
AGRB	**Hanur-Agry**	**1.43**	**317**	Pn	**Pn**	**16 31 57.6**	**-1.1**
AGRB				Sn	**Sg**	**16 32 19.6**	**+2.3**
DORK	**Agr/Tutak/Do**	**1

GURO Sn **Sg** **16 32 27.4 0.0**
GURO Guroymak-BITLI 1.75 271 Pn 16 32 02.1 -0.9
ARUZ Aruch 1.75 356 *e*P **Pn 16 32 03.4 +0.4**
ARUZ *e*S **Sg 16 32 28.6 +1.2**
SIRT Sirnak 1.77 235 Pn **Pn 16 32 03.3 +0.1**
SIRT Sn **Sb 16 32 27.5 0.0**
SIRT Sirnak 1.77 235 Pn 16 32 03.7 +0.4
SIRN Sırnak 1.79 235 P **Pn 16 32 03.8 +0.2**
SIRN S **Sg 16 32 30.4 +1.6**
SIRN *i* AML AML 16 32 35.0
comp=E,2μm,1.4s
KAPZ Kaputan 1.81 11 *e*P **Pn 16 32 03.6 -0.3**
KAPZ *e*S **Sb 16 32 29.1 +0.3**
GRS Goris 1.88 59⇑*i*P **Pn 16 32 04.0 -0.8**
GRS ⇑*i*S **Sn 16 32 30.0 +0.8**
EGVZ Egvard 1.91 68 *e*P **Pn 16 32 04.7 -0.5**
EGVZ *e*S **Sn 16 32 30.9 +0.9**
SRTM Siirt_Merkez 1.92 254 P **Pb 16 32 06.6 -0.6**
SRTM S **Sb 16 32 32.1 +0.4**
SRTM *i* AML AML 16 32 36.0
comp=N,1μm,1.3s
SRTM *i* AML AML 16 32 37.0
comp=E,1μm,0.9s
AYRK Ayrk 1.97 36 *e*P **Pn 16 32 06.2 +0.1**
AYRK *e*S **Sn 16 32 33.2 +1.5**
MAHB Mahabad 2.11 147 Pn **Pn 16 32 09.0 +1.1**
MUSM Mu-Merkez 2.16 276 P **Pn 16 32 08.2 -0.4**
IHRS Heris 2.19 95 Pn **Pn 16 32 09.6 +0.4**
EAK Akyaka 2.20 347 P **Pn 16 32 09.6 +0.4**
VRTB Varto-Mus 2.28 287 Pn **Pn 16 32 10.8 +0.6**
VRTB Varto-Mus 2.28 287 P **Pb 16 32 12.2 -1.1**
KARS Kars 2.28 337 Pn **Pn 16 32 10.4 +0.1**
KARS Kars 2.28 337 Pn **Pn 16 32 10.4 +0.1**
KARS Kars 2.28 337 PN **Pn 16 32 10.4 +0.1**
KOPR Koprukoy-ERZUR 2.37 309 Pn **Pn 16 32 12.2 +0.7**
HOMI Horasan 2.37 310 P **Pb 16 32 16.1 +1.2**
SVAN Silvan-Diyarba 2.44 262 Pn **Pn 16 32 13.1 +0.7**
BTMN Batman 2.44 256 P **Pn 16 32 12.5 0.0**
GDB GEDABAY 2.47 27 P **Pb 16 32 15.8 -0.7**
GDB S **Sn 16 32 45.7 +1.9**
SENK Senkaya-Erzuru 2.50 324 Pn **Pn 16 32 14.1 +0.7**
SRTK Saratovka 2.53 1 *e*P **Pn 16 32 16.2 +2.5**
SRTK *e*S **Sb 16 32 50.0 +0.8**
QRD Qoradiz 2.56 68 P **Pn 16 32 15.1 +1.1**
QRD S **Sn 16 32 45.1 -0.6**
SDS1 Sardasht. Az. 2.58 157 Pn **Pn 16 32 16.0 +1.7**
KARO Karliova-Bingo 2.62 288 Pn **Pn 16 32 15.9 +0.9**
GANJ Ganja 2.64 36 P **Pn 16 32 16.4 +1.2**
GANJ S **Sn 16 32 49.6 +1.8**
GANJ Ganja 2.64 36 PN **Pn 16 32 16.3 +1.2**
QZX Qazax, Azerbai 2.66 18 P **Pb 16 32 18.9 -0.9**
QZX S **Sb 16 32 51.7 -1.2**
IHSH Hashtrud 2.67 116 Pn **Pn 16 32 16.4 +0.5**
AGDM Agdam 2.71 54 P **Pn 16 32 18.4 +2.4**
AGDM S **Sn 16 32 49.4 -0.2**
ISRB Sarab 2.78 104 Pn **Pn 16 32 17.8 +0.6**
BLQ Beylaqan 2.82 64 P **Pn 16 32 19.2 +1.6**
BLQ S **Sn 16 32 51.5 -0.8**
BNGB Bingl 2.84 280 Pn **Pn 16 32 18.9 +1.0**
BRDA Brd 2.84 52 P **Pn 16 32 19.7 +1.9**
BRDA S **Sn 16 32 52.2 -0.6**
KZRT Kazreti 2.85 2 P **Pb 16 32 22.1 -0.9**
KZRT S **Sg 16 32 02.2 -0.6**
KZRT Kazreti 2.85 2 *e*PN **Pb 16 32 22.1 -0.9**
KZRT *e*S **Sg 16 33 02.1 -0.6**
GRMI Germi 2.86 83 Pn **Pn 16 32 18.6 +0.4**
BINT Bingol 2.97 278 PN **Pn 16 32 18.9 -0.9**
TRLG Trialeti 3.00 358 P **Pb 16 32 24.7 -1.0**
TRLG Trialeti 3.00 358 *e*PN **Pb 16 32 24.7 -1.0**
MARD Mardin 3.01 247 Pn **Pn 16 32 20.2 -0.1**
DGRG David-gareji 3.03 16 P **Pn 16 32 22.3 +1.7**
DGRG David-gareji 3.03 16 *e*PN **Pn 16 32 22.2 +1.7**
MNGR Mingechevir, A 3.12 43 P **Pn 16 32 24.4 +2.7**
MNGR S **Sn 16 33 01.2 +1.6**
MNGR Mingechevir, A 3.12 43 PN **Pn 16 32 24.4 +2.7**
YRD Yardimli 3.14 82 P **Pn 16 32 23.6 +1.5**
YRD S **Sn 16 32 58.6 -1.7**
VSHL Vashlovani 3.15 31 P **Pn 16 32 24.1 +1.9**
VSHL S **Sg 16 32 13.3 -0.2**
ZRD Zardab 3.17 56 P **Pn 16 32 24.5 +2.1**
ZRD S **Sn 16 32 58.5 -2.4**
LRK Lerik 3.20 87 P **Pn 16 32 24.4 +1.5**
LRK S **Sn 16 33 02.9 +1.1**
MAZI Mazidag 3.20 252 Pn **Pn 16 32 23.3 +0.4**
TBLG Delisi 3.21 6 P **Pb 16 32 28.9 -0.3**
TBLG Delisi 3.21 6 *e*PN **Pb 16 32 28.9 -0.3**
KOPT Kop Dagi 3.27 298 Pn **Pn 16 32 23.7 -0.4**
GLBA Clilabad 3.30 76 P **Pn 16 32 26.5 +2.3**
GLBA S **Sn 16 33 05.1 +1.0**
SAAT Saatly 3.49 66 S **Sn 16 33 09.7 +0.9**
SEKA Sheki 3.50 39 P **Pn 16 32 29.7 +2.8**
SEKA S **Sn 16 33 09.7 +0.7**
SEKA Sheki 3.50 39 PN **Pn 16 32 29.7 +2.8**
BCA Borcka 3.54 326 Pn **Pn 16 32 28.8 +1.3**
LKRN Lenkeran, Azer 3.54 86 P **Pn 16 32 29.1 +1.6**
LKRN S **Sn 16 33 08.6 -1.4**
LKRN Lenkeran, Azer 3.54 86 PN **Pn 16 32 29.1 +1.6**
KDMR Kurdemir 3.55 58 P **Pb 16 32 35.8 +0.7**
KDMR S **Sn 16 33 04.2 -5.9**
ASTR Astara 3.55 88 P **Pn 16 32 29.4 +1.8**
ASTR S **Sn 16 33 05.3 -5.0**
ZKTA Zakatala 3.59 30 P **Pn 16 32 30.7 +2.5**
ZKTA S **Sn 16 33 14.2 +3.0**
GAS1 Astara - Iran 3.60 91 Pn **Pn 16 32 29.0 +0.8**
LGD Lagodekhi 3.63 24 P **Pb 16 32 35.7 -0.6**
LGD Lagodekhi 3.63 24 *e*PN **Pb 16 32 35.6 -0.6**
QBL Gabala 3.66 48 P **Pn 16 32 31.2 +2.0**
QBL S **Sn 16 33 14.1 +1.1**
IML Ismayilli 3.77 52 P **Pn 16 32 33.0 +2.3**
IML S **Sn 16 33 14.6 -1.3**
CHRG Chargali 3.82 7 P **Pb 16 32 39.9 +0.2**
PTK Pertek 3.83 277 Pn **Pn 16 32 32.8 +1.2**
TKB Tkibuli 3.93 346 P **Pb 16 32 41.4 0.0**
TKB Tkibuli 3.93 346 *e*PN **Pb 16 32 41.4 0.0**
ALIB &Aumlli-Bayram 3.95 67 P **Pn 16 32 33.7 +0.6**
AKT Akhty 3.97 41 *i*PN **Pn 16 32 36.0 +2.6**
XNQ Khinaliq 3.98 47 P **Pn 16 32 35.2 +1.5**
XNQ S **Sn 16 33 19.8 -1.4**
PQL Pirkuli 4.03 55 P **Pn 16 32 36.7 +2.4**
PQL S **Sn 16 33 20.6 -1.7**
GARIG Gari 4.11 352 P **Pn 16 32 38.0 +2.7**
GBS Qobustan 4.13 60 P **Pn 16 32 37.8 +2.2**
MTEO Meteo 4.14 3 P **Pb 16 32 45.5 +0.2**
MTEO Meteo 4.14 3 *e*PN **Pb 16 32 45.5 +0.2**
IDHR Dehrash 4.20 155 Pn **Pn 16 32 38.6 +2.0**
ILIN Lien 4.21 148 Pn **Pn 16 32 37.4 +0.5**
QSAR Qusar 4.28 45 P **Pn 16 32 39.2 +1.6**
QSAR S **Sn 16 33 26.6 -1.6**
ATGJ Altiaghaj 4.29 56 P **Pn 16 32 39.8 +2.0**
QUBA Quba, Azerbaij 4.30 48 P **Pn 16 32 39.8 +1.9**
QUBA S **Sn 16 33 27.9 -0.9**
SIZA Siyzn 4.38 53 P **Pn 16 32 41.5 +2.4**
BTLR Botlikh 4.38 19 *i*PN **Pn 16 32 38.6 -0.5**
JIR1 Jirandeh 4.76 111 Pn **Pn 16 32 44.6 +0.1**
HGHA Hamedan- Ghaye 4.77 128 Pn **Pn 16 32 45.7 +1.1**
GROC Groznyy 4.80 14 *i*PN **Pn 16 32 43.4 -1.4**
NCK Nalchik 4.98 354 *i*PN **Pn 16 32 46.2 -1.1**
MAK Makhachkala 5.06 28 *c i*PN Pn 16 32 41.1 -7.2
MAK pmax pmax
comp=Z,189nm,1.4s
MAK MLR MLR
comp=Z,418nm,9.0s
QABG Abgarm-Qazvin 5.10 122 Pn **Pn 16 32 50.3 +1.1**
ILBA Ilam Banvizeh 5.15 162 Pn **Pn 16 32 50.5 +0.8**
IGZV Ghazvin 5.20 113 Pn **Pn 16 32 51.5 +1.0**
KBZ Khabaz 5.29 349 Pn **Pn 16 32 55.0 +3.5**
comp=Z,3.8nm,0.9s,baz=167,slow=11,SNR=4.5
KBZ Khabaz 5.29 349 *i*PN **Pn 16 32 49.9 -1.5**
SHA1 Shidzhatmaz 5.33 347 *i*PN **Pn 16 32 52.5 +0.2**
KVAR Kislovodsk Arr 5.54 348 Pn **Pn 16 32 57.7 +2.6**
baz=192,slow=14
comp=Z,2.1nm,0.5s
KIV Kislovodsk 5.54 348 Pn **Pn 16 32 55.5 +0.5**
KIV Kislovodsk 5.54 348 *e*P **Pn 16 32 54.5 -0.5**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,75nm,10.0s
KIV Kislovodsk 5.54 348 Pn **Pn 16 32 58.5 +3.5**
comp=Z,0.1nmcomp=Z,30nm,1.1s

GAZ Gaziantep 5.74 258 Pn **Pn 16 32 57.8 0.0**
IKFM Kafar-mosalman 5.79 149 Pn **Pn 16 33 00.2 +1.9**
SOC Sochi 6.10 327 *e*P **Pn 16 32 58.9 -3.7**
SOC *e* 16 34 06.7
SOC MLR MLR
comp=Z,177nm,15.0s
LABN Labinsk 6.65 338 *e*P **Pn 16 33 06.7 -3.5**
LABN *e*S **Sn 16 34 20.3 -6.3**
LABN pmax pmax
comp=Z,17nm,0.5s
ANN Anapa 8.08 323 *e*P **Pn 16 33 33.8 +4.1**
ANN *e*S **Sn 16 35 00.2 -1.5**
ANN pmax pmax
comp=Z,83nm,1.3s
BRTR Keskin Array B 8.34 281 Pn **Pn 16 33 34.0 +0.5**
comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=4.7
BRTR LR LR 16 37 27.5
comp=Z,163nm,21.7s,baz=98,slow=43
BR105 Keskin Array S 8.36 281 Pn **Pn 16 33 34.4 +0.6**
comp=Z,3.0nm,0.9s
ASF Jabal al Asfar 8.74 226 Pn **Pn 16 33 40.2 +1.2**
comp=Z,0.3nm,0.3s,baz=20,slow=6.5,SNR=1.7
ASF Lg Lg 16 36 05.4
comp=Z,0.3nm,0.3s,baz=223,slow=23,SNR=1.1
comp=Z,1.1nm,0.4s
MMAI Mount Meron Ar 9.06 235 Pn **Pn 16 33 44.0 +0.7**
comp=Z,0.5nm,0.3s,baz=52,slow=16,SNR=2.0
MMAI LR LR 16 37 30.6
comp=Z,417nm,18.4s,baz=50,slow=40
comp=Z,0.5nm,0.4s
BORA Eskisehir 10.80 281 Pn **Pn 16 34 06.1 -1.0**
EIL Elat 11.73 224 LR LR 16 39 04.3
comp=Z,220nm,19.8s,baz=62,slow=39
VORD Divnogorie 12.91 346 *e*P **Pn 16 34 33.7 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 13.18 346 *e*P **Pn 16 34 38.3 -1.2**
VSR pmax pmax
comp=Z,7.0nm,0.9s
BELG Belogornoye 14.05 9 Pn **Pn 16 34 52.4 +0.9**
comp=Z,0.7nm,0.3s,baz=196,slow=18,SNR=3.8
BELG LR LR 16 41 31.5
comp=Z,124nm,19.2s,baz=210,slow=43
comp=Z,8.3nm,0.8s
MLR Muntele Rosu 15.27 303 Pn **Pn 16 35 08.0 -0.1**
comp=Z,0.2nm,0.3s,baz=144,slow=18,SNR=1.6
comp=Z,1.2nm,0.6s
AKTO Aktyubinsk 15.39 35 Pn **Pn 16 35 09.9 +0.4**
comp=Z,0.4nm,0.3s,baz=235,slow=7.7,SNR=12
AKTO LR LR 16 43 18.5
comp=Z,58nm,18.4s,baz=249,slow=46
comp=Z,4.2nm,0.8s
AKTO Aktyubinsk 15.39 35 P **Pn 16 35 10.0 +0.4**
ABKAR Akbulak array 15.54 41 Pn **Pn 16 35 12.7 +1.1**
VOIR 15.84 302 P **Pn 16 35 17.3 +1.7**
comp=Z,9.3nm,1.1s
AK07 Malin Array Si 16.07 323 P **P 16 35 21.3 -0.6**
AK09 Malin Array Si 16.07 324 P **P 16 35 21.4 -0.6**
AK10 Malin Array Si 16.08 323 P **P 16 35 21.1 -0.9**
AK06 Malin Array Si 16.09 323 P **P 16 35 20.9 -1.3**
AK08 Malin Array Si 16.10 324 P **P 16 35 21.9 -0.4**
AK05 Malin Array Si 16.12 323 P **P 16 35 22.5 +0.1**
AKASG Malin Array Be 16.16 324 Pn **Pn 16 35 19.0 -0.6**
comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=9.6
AKASG LR LR 16 42 21.9
comp=Z,131nm,19.7s,baz=133,slow=40
comp=Z,2.5nm,0.8s
AKBB Malin Array Si 16.16 324 P **P 16 35 22.2 -0.7**
AKBB Malin Array Si 16.16 324 *i*P **Pn 16 35 17.2 -2.4**
AKBB Malin Array Si 16.16 324 P **P 16 35 22.3 -0.7**
KIEV Kiev 16.16 324 P **P 16 35 22.3 -0.7**
KIEV Kiev 16.16 324 P **P 16 35 22.3 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,1.0s
AK20 Malin Array Si 16.29 323 P **P 16 35 24.7 +0.3**
KMPD K-Podol'skiy 16.30 314 P **P 16 35 23.2 -1.3**
LUBAR Lubar, Ukraine 16.37 319 P **P 16 35 24.2 -1.1**
BURAR Bucovina Array 16.57 309 Pn **Pn 16 35 24.7 -0.3**
BURAR Bucovina Array 16.57 309 P **Pn 16 35 24.7 -0.3**
BUR08 Bucovina Ar. S 16.60 309 P **P 16 35 28.0 +0.1**
MI30 MI30,Zelenitsa 16.68 322 P **P 16 35 28.4 -0.3**
comp=Z,11nm,2.0s
OBN Obninsk 17.38 345⇑*e*P **Pn 16 35 33.4 -1.5**
OBN pmax pmax
comp=Z,15nm,1.0s
OBN MLR MLR
comp=Z,114nm,19.0s
HOLU Holmets 18.68 309 P **Pn 16 35 52.2 +1.1**
CHGR Chuyangaron 19.45 82 P **Pn 16 36 01.4 +0.9**
CHGR IAmb IAmb 16 36 07.7
comp=Z,11nm,0.9s
CHGR Chuyangaron 19.45 82 P **Pn 16 36 01.4 +0.9**
CHGR pmax pmax
comp=Z,11nm,0.9s
WSAR Wadi Sarin 19.57 137 P **Pn 16 36 02.9 +0.8**
comp=Z,0.1nm,0.3s,baz=260,slow=13,SNR=2.7
WSAR LR LR 16 44 41.0
comp=Z,91nm,21.9s,baz=284,slow=40
comp=Z,5.6nm,0.9s
ARTI Arti 20.18 23 P **P 16 36 06.8 -0.3**
ARTI IAmb IAmb 16 36 49.9
comp=Z,10nm,1.2s
ARTI Arti 20.18 23 P **P 16 36 06.8 -0.3**
comp=Z,4.5nm,0.8s,baz=203,slow=7.0,SNR=6.8
ARTI LR LR 16 46 15.4
comp=Z,62nm,18.3s,baz=201,slow=44
comp=Z,4.5nm,0.8s
ARTI Arti 20.18 23 *d i*P **P 16 36 07.1 0.0**
ARTI 16 36 24.1
ARTI S Sn 16 39 56.8 +0.4
ARTI SS **SnSn 16 40 14.5 +3.7**
ARTI pmax pmax
comp=Z,24nm,3.4s
KIRV Kirov 20.34 8 LR LR 16 45 22.5
comp=Z,72nm,19.5s,baz=172,slow=41
KK31 Karatay Array 20.35 69 P **P 16 36 10.6 +1.5**
KK31 IAmb IAmb 16 36 11.6
comp=Z,7.3nm,0.8s
KK31 Karatay Array 20.35 69 P **P 16 36 10.6 +1.5**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 20.35 69 P **P 16 36 10.2 +1.1**
KKAR Karatay Array 20.35 69 P **P 16 36 10.4 +1.3**
KKAR IAmb IAmb 16 36 11.5
comp=Z,4.7nm,0.8s
KKAR Karatay Array 20.35 69 P **P 16 36 10.2 +1.1**
KKAR 16 36 10.4
KKAR pmax pmax
comp=Z,5.0nm,0.8s
MORH Mrgy, Hungar 20.36 300 P **P 16 36 09.5 +0.3**
DRK Karamyk 21.39 79 P **P 16 36 21.9 +1.1**
TIP Timpagrande 21.40 280 P **P 16 36 22.0 +1.4**
comp=Z,4.9nm,1.1s
ARSB Arslanbob 22.16 74 P **P 16 36 28.9 +0.1**
ARSB IAmb IAmb 16 36 39.3
comp=Z,8.3nm,0.8s
ARSB Arslanbob 22.16 74 P **P 16 36 28.9 +0.1**
ARSB pmax pmax
comp=Z,8.0nm,0.8s
VRAC Vranov 22.53 308 LR LR 16 48 14.4
comp=Z,55nm,20.2s,baz=160,slow=45
KLMR Klimovskoe 22.54 354 *e*P **P 16 36 26.7 -5.8**
KLMR pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye 23.07 43 P **P 16 36 38.1 0.0**
BRVK IAmb IAmb 16 36 52.6
comp=Z,4.0nm,0.9s
BRVK Borovoye 23.07 43 *c e*P **P 16 36 37.6 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
BVAR Borovoye Array 23.11 43 P **P 16 36 38.8 +0.2**
comp=Z,3.5nm,0.9s,baz=234,slow=8.7,SNR=4.5
comp=Z,3.5nm,0.9s
AAK Ala-Archa 23.26 70 P **P 16 36 41.9 +1.5**
AAK IAmb IAmb 16 36 48.5
comp=Z,5.5nm,1.1s
AAK Ala-Archa 23.26 70 LR LR 16 46 14.2
comp=Z,70nm,21.3s,baz=274,slow=38
AAK Ala-Archa 23.26 70 *i*P **P 16 36 40.8 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.1s
GERES GERESS Array B 24.23 305 P **P 16 36 47.5 -2.2**
comp=Z,0.3nm,0.5s,baz=89,slow=7.6,SNR=4.0
comp=Z,0.3nm,0.5s
BOOM Boomskoye usch 24.33 71 P **P 16 36 51.8 +1.0**
BOOM IAmb IAmb 16 37 17.5
comp=Z,9.4nm,1.4s
BOOM Boomskoye usch 24.33 71 P **P 16 36 51.8 +1.0**
BOOM pmax pmax
comp=Z,9.0nm,1.4s
KHC Kasperske Hory 24.38 306 *i*P **P 16 36 50.1 -0.9**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 24.59 78 P **P 16 36 53.1 -0.1**
KSH pmax pmax
comp=Z,2.0nm,0.8s
FIA1 FINESS Array S 25.56 340 P **P 16 37 02.2 +0.8**
FINES FINESS Array B 25.56 340 P **P 16 36 59.3 -2.1**
comp=Z,3.3nm,0.8s,baz=142,slow=8.4,SNR=6.0
FINES LR LR 16 48 52.2
comp=Z,91nm,19.3s,baz=190,slow=41
comp=Z,3.3nm,0.8s
FINES FINESS Array B 25.56 340 *c e*P **P 16 37 02.0 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 26.98 52 P **P 16 37 15.3 +0.8**
comp=Z,1.2nm,0.5s,baz=263,slow=8.9,SNR=14
KURBB LR LR 16 49 58.5
comp=Z,36nm,19.2s,baz=170,slow=41
comp=Z,1.2nm,0.5s
KURK Kurchatov 27.06 52 P **P 16 37 15.2 0.0**
KURK IAmb IAmb 16 37 34.6
comp=Z,5.1nm,1.1s
KURK Kurchatov 27.06 52 *i*P **P 16 37 15.2 0.0**
KURK pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 28.93 61 P **P 16 37 32.7 +0.7**
MK31 Makanchi Array 28.93 61 P **P 16 37 32.7 +0.7**
MK31 pmax pmax
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 28.93 61 P **P 16 37 32.5 +0.5**
MKAR Makanchi Array 28.93 61 P **P 16 37 32.2 +0.3**
comp=Z,0.6nm,0.7s,baz=263,slow=8.4,SNR=6.6
comp=Z,0.6nm,0.7s
MKAR Makanchi Array 28.93 61 *c e*P **P 16 37 33.0 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 28.94 328 P **P 16 37 30.4 -1.4**
comp=Z,3.5nm,0.9s,baz=119,slow=8.4,SNR=2.8
HFS LR LR 16 51 10.7
comp=Z,163nm,19.1s,baz=154,slow=41
comp=Z,3.5nm,0.9s
NOA NORSAR Array B 30.46 328 LR LR 16 51 13.7
comp=Z,82nm,18.4s,baz=135,slow=39
NAO01 NORSAR Array S 30.49 328 P **P 16 37 44.6 -1.1**
NC204 NORSAR Array S 30.77 329 P **P 16 37 47.8 -0.4**
ARCES ARCESS Array B 32.65 348 LR LR 16 52 01.8
comp=Z,122nm,19.4s,baz=172,slow=38
WMQ Urumqi 32.83 67 *e*P **P 16 38 09.4 +3.0**
WMQ PP **PP 16 39 18.8 -1.6**
WMQ pmax pmax
comp=Z,17nm,0.9s
NRIK Noril'sk 38.50 23 P **P 16 38 55.4 +0.7**
comp=Z,1.1nm,0.5s,baz=246,slow=10.0,SNR=4.8
NRIK LR LR 16 58 48.7
comp=Z,73nm,18.0s,baz=227,slow=42
comp=Z,1.1nm,0.5s
KMBO Kilima Mbogo 39.99 191 P **P 16 39 07.8 -0.3**
KMBO IAmb IAmb 16 39 35.2
comp=Z,5.0nm,1.5s
KMBO Kilima Mbogo 39.99 191 P **P 16 39 07.8 -0.3**
KMBO pmax pmax
comp=Z,5.0nm,1.5s
JMIC Jan Mayen 42.12 337 LR LR 16 57 35.3
comp=Z,54nm,18.5s,baz=60,slow=37
BRDH Bariadhala 43.26 97 LR LR 17 00 27.3
comp=Z,61nm,19.5s,baz=311,slow=40
SONM Songino Array 45.13 57 P **P 16 39 50.7 +1.2**
comp=Z,0.3nm,0.6s,baz=279,slow=9.4,SNR=2.2
SONM LR LR 17 01 32.4
comp=Z,94nm,18.4s,baz=254,slow=40
comp=Z,0.3nm,0.6s
PALK Pallekele 45.26 124 LR LR 16 59 21.6
comp=Z,51nm,18.4s,baz=296,slow=37
CMAR Chiang Mai Arr 51.27 97 P **P 16 40 37.4 +0.2**
comp=Z,0.5nm,0.7s,baz=298,slow=7.3,SNR=5.4
comp=Z,0.5nm,0.7s
I28M Miner Creek 76.30 2 P **P 16 43 21.6 +0.1**
CCB Clear Creek Bu 76.71 5 P **P 16 43 23.3 -0.5**
ULM Lac du Bonnet 84.88 336 LR LR 17 21 49.5
comp=Z,162nm,19.9s,baz=320,slow=36

DJA 18 16:39:01.2±0.3, 2°S±2°×12°8E±°, h51km±11km, M3.8/12, mb3.9/1, MLv3.7/12, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.31**	**217**	P	Pn	16 39 22.9	-0.2
NLAI				S	Sn	16 39 40.3	+0.8
AAI	**Ambon**	**1.53**	**168**	P	Pn	16 39 27.5	+1.3
AAI				S	Sn	16 39 44.5	-0.4
MSAI	**Masohi**	**1.56**	**138**	P	Pn	16 39 27.6	+1.0
MSAI				S	Sn	16 39 46.9	+1.2
SANI	**Sanana**	**1.90**	**274**	P	Pn	16 39 30.2	-0.9
SANI				S	Sn	16 39 53.4	-0.5
TNTI	**Ternate**	**2.98**	**350**	P	Pn	16 39 46.9	+0.9
TNTI				S	Sn	16 40 21.3	+0.8
BNDI	**Bandanaira**	**3.08**	**139**	P	Pn	16 39 47.4	0.0
BNDI				S	Sn	16 40 23.2	+0.1
SWI	**Sorong**	**3.62**	**69**	P	Pn	16 39 54.6	-0.2
SWI				S	Sn	16 40 36.3	-0.1
FAKI	**Fak Fak**	**4.43**	**100**	P	Pn	16 40 05.8	-0.1
KDI	**Kendari**	**5.54**	**251**	P	Pn	16 40 21.6	+0.4

---

*NEIC **18** 17:02:45.8, 61°.42N×149°.87W, h40km*
*NEIC **18** 17:02:45.6±2.5, 61°.42N±0°.03×149°.87W±0°.07, h43km±3km, Error ellipse: s-maj=5.3km s-min=3.7km az=127.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-2.89; Mθθ0.35; Mφφ2.54; Mrθ1.02; Mφθ1.29; Mφr3.26; Fault plane solution: Mo4.57000×10^15^ NP1:φ31.41000°, δ21.09000°, λ-78.49000°. NP2:φ199.10000°, δ69.36000°, λ-94.40000°. Principal axes: T 4.6697, Plg24.0000°, Azm293.0000°; N -0.2164, Plg4.0000°, Azm201.0000°; P -4.4533, Plg65.0000°, Azm102.0000°;*
*IDC **18** 17:02:45.0±1.3, 61°.48N×150°.24W, h42km±12km, mb4.1/27, mbtmp4.3/33, ML3.8/6, MS3.5/37 Error ellipse: s-maj=10.8km s-min=8.5km az=105.0*
*AEIC **18** 17:02:46.7±2.3, 61°.47N±0°.03×149°.96W±0°.06, h38km±4km, ML4.4, mb4.6/135(NEIC), ML4.5/182(NEIC), Mwr4.4/136(NEIC), Error ellipse: s-maj=4.9km s-min=3.1km az=123.0*
*ANF **18** 17:02:46.0±0.1, 61°.39N×149°.94W, h30km±1km, ML4.8/100, ML4.8/100, Error ellipse: s-maj=0.7km s-min=0.6km az=179.0*

ISC 18 17:02:45.1±0.6, 61°.45N±0°.02×149°.97W±0°.02, h42km±5km, n654, σ1$52/605, mb4.5/126, MS3.5/31, 9C-22D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**347**	IAML		17 03 01.3	
M22K	comp=N,45μm,0.8s						
M22K	**Willow**	**0.31**	**347**		**Pn**	**17 02 53.9**	**+0.3**
M22K					**Sn**	**17 03 00.9**	**+1.2**
M22K	**Willow**	**0.31**	**347**	P	**Pn**	**17 02 54.0**	**+0.3**
M22K	baz=169			S	**Sn**	**17 03 00.8**	**+1.2**
	baz=169						
FIS	**Fire Island**	**0.33**	**201**		**Pn**	**17 02 54.7**	**+0.9**
FIS				IAML		17 03 02.9	
	comp=N,45μm,0.9s						
RC01	**Rabbit Creek A**	**0.38**	**162**		**Pn**	**17 02 54.4**	**-0.1**
RC01					**Sn**	**17 03 01.3**	**+0.3**
RC01	**Rabbit Creek A**	**0.38**	**162**	IAML		17 03 02.4	
	comp=E,19μm,0.3s						
RC01				IAML		17 03 02.6	
	comp=N,38μm,0.5s						
RC01	**Rabbit Creek A**	**0.38**	**162**	P	**Pn**	**17 02 54.2**	**-0.3**
RC01	baz=340,SNR=1000			S	**Sn**	**17 02 59.4**	**-1.6**
	baz=340						
PMR	**Palmer**	**0.43**	**70**		**Pn**	**17 02 55.1**	**+0.1**
PMR				IAML		17 03 03.2	
	comp=N,26μm,0.4s						
PMR				IAML		17 03 03.3	
	comp=E,25μm,0.2s						
PMR	**Palmer**	**0.43**	**70**		**Sn**	**17 03 02.3**	**+0.3**

PMR	**Palmer**	**0.43 70**	P	**Pn**	**17 02 55.2 +0.1**
	baz=244,SNR=1000				
PMR			S	**Sn**	**17 03 02.6 +0.6**
	baz=244				
PMR	**Palmer**	**0.43 70**	P	**Pn**	**17 02 55.0 0.0**
PMR	**Palmer**	**0.43 70**	S	**Sn**	**17 03 02.7 +0.7**
GHO	**Glory Hole Cre**	**0.60 57**		**Pn**	**17 02 57.7 +0.3**
GHO			IAML		17 03 08.9
	comp=E,21µm,0.6s				
GHO	**Glory Hole Cre**	**0.60 57**		**Sn**	**17 03 07.0 +1.0**
KNK	**Knik Glacier**	**0.73 92**		**Pn**	**17 02 59.4 +0.4**
KNK			IAML		17 03 14.0
	comp=E,19µm,0.7s				
KNK			IAML		17 03 14.1
	comp=N,28µm,0.6s				
KNK	**Knik Glacier**	**0.73 92**	P	**Pn**	**17 02 59.5 +0.5**
	baz=269,SNR=1000				
KNK			S	**Sn**	**17 03 09.8 +0.8**
	baz=269				
SML	**Sawmill**	**0.86 65**		**Pn**	**17 03 01.1 +0.2**
SML			IAML		17 03 17.2
	comp=E,13µm,0.8s				
SML	**Sawmill**	**0.86 65**		**Sn**	**17 03 13.0 +0.7**
SML	**Sawmill**	**0.86 65**	P	**Pn**	**17 03 01.3 +0.5**
	baz=243,SNR=556				
SML			S	**Sn**	**17 03 13.7 +1.4**
	baz=243				
CAPN	**Captain Cook N**	**0.89 220**		**Pn**	**17 03 02.8 +1.6**
CAPN			IAML		17 03 19.0
	comp=E,22µm,0.7s				
CAPN	**Captain Cook N**	**0.89 220**	P	**Pn**	**17 03 02.6 +1.4**
	baz=42,SNR=90				
CAPN			S	**Sn**	**17 03 12.8 -0.1**
	baz=42				
STLK	**Strandline Lak**	**0.89 274**		**Pn**	**17 03 02.0 +0.7**
STLK			IAML		17 03 15.3
	comp=E,11µm,0.7s				
STLK	**Strandline Lak**	**0.89 274**		**Sn**	**17 03 14.0 +0.9**
SKT	**Skwentna**	**0.91 306**		**Pn**	**17 03 02.0 +0.5**
SKT			IAML		17 03 15.3
	comp=E,18µm,0.5s				
SKT	**Skwentna**	**0.91 306**		**Sn**	**17 03 14.6 +1.1**
SKT	**Skwentna**	**0.91 306**	P	**Pn**	**17 03 02.1 +0.5**
	baz=128,SNR=1000				
SKT			S	**Sn**	**17 03 14.7 +1.2**
	baz=128				
SLKM	**Skilak Lake**	**0.95 187**		**Pn**	**17 03 01.8 -0.3**
SLKM			IAML		17 03 17.1
	comp=N,14µm,0.6s				
SLKM			IAML		17 03 17.2
	comp=E,21µm,0.4s				
CUT	**Chulitna**	**0.97 352**		**Pn**	**17 03 02.9 +0.7**
CUT	**Chulitna**	**0.97 352**		**Sn**	**17 03 16.4 +1.7**
CUT	**Chulitna**	**0.97 352**	P	**Pn**	**17 03 03.2 +1.0**
	baz=172,SNR=412				
CUT			S	**Sn**	**17 03 16.5 +1.7**
	baz=172				
O22K	**Cooper Landing**	**0.98 173**		**Pn**	**17 03 02.3 -0.1**
O22K	**Cooper Landing**	**0.98 173**		**Sn**	**17 03 16.1 +1.1**
O22K	**Cooper Landing**	**0.98 173**	P	**Pn**	**17 03 02.4 0.0**
	baz=353,SNR=852				
O22K			S	**Sn**	**17 03 16.0 +0.9**
	baz=353				
PWL	**Port Wells**	**0.99 126**		**Pn**	**17 03 02.8 +0.2**
PWL	**Port Wells**	**0.99 126**	P	**Pn**	**17 03 02.9 +0.3**
	baz=305,SNR=1000				
PWL			S	**Sn**	**17 03 16.7 +1.2**
	baz=305				
SPCG	**Spurr Capps Gl**	**1.00 262**		**Sn**	**17 03 16.7 +1.0**
SPU	**Mount Spurr**	**1.04 256**	Pn	**Pn**	**17 03 03.6 +0.3**
SPU			IAML		17 03 18.0
	comp=N,7µm,0.6s				
SPU	**Mount Spurr**	**1.04 256**		**Sn**	**17 03 17.7 +1.1**
SPCR	**Spurr Chakacha**	**1.11 258**		**Pn**	**17 03 05.0 +0.7**
SPCR	**Spurr Chakacha**	**1.11 258**	P	**Pn**	**17 03 04.9 +0.7**
	baz=79,SNR=794				
SPCR			S	**Sn**	**17 03 19.4 +1.1**
	baz=79				
M23K	**Glacier View**	**1.13 71**	P	**Pn**	**17 03 05.3 +0.9**
	baz=250,SNR=1000				
M23K			S	**Sn**	**17 03 21.1 +2.3**
	baz=250				
SCM	**Sheep Creek Mo**	**1.32 72**		**Pn**	**17 03 08.5 +1.4**
SCM	**Sheep Creek Mo**	**1.32 72**	P	**Pn**	**17 03 08.5 +1.4**
	baz=252,SNR=766				
SCM			S	**Sn**	**17 03 25.9 +2.3**
	baz=252				
SEW	**Seward**	**1.38 169**	Pn	**Pn**	**17 03 07.8 0.0**
SEW	**Seward**	**1.38 169**	P	**Pn**	**17 03 08.0 +0.2**
	baz=349,SNR=53				
SEW			Sb	**Sn**	**17 03 27.1 +2.4**
	baz=349				
GLI	**Glacier Island**	**1.51 111**		**Pn**	**17 03 10.5 +0.8**
GLI	**Glacier Island**	**1.51 111**	P	**Pn**	**17 03 10.4 +0.7**
	baz=292				
GLI			S	**Sn**	**17 03 29.4 +1.3**
	baz=292				
M20K	**Styx River**	**1.57 287**		**Pn**	**17 03 12.5 +2.0**
M20K	**Styx River**	**1.57 287**	IAML		17 03 35.7
	comp=E,5µm,1.0s				
M20K	**Styx River**	**1.57 287**	P	**Pn**	**17 03 12.6 +2.0**
	baz=107				
M20K			S	**Sn**	**17 03 32.7 +3.0**
	baz=107				
M20K			S	**Sn**	**17 03 32.7 +3.0**
	baz=107				
DFR	**Drift River**	**1.58 238**		**Pn**	**17 03 11.3 +0.6**
BRLK	**Bradley Lake**	**1.75 195**	Pn	**Pn**	**17 03 13.5 +0.5**
BRLK			IAML		17 03 41.6
	comp=E,4µm,0.5s				
BRSE	**Bradley Lake S**	**1.76 193**	P	**Pn**	**17 03 13.3 +0.2**
	baz=13,SNR=56				
BRSE			Sb	**Sn**	**17 03 38.0 +3.8**
	baz=13				
PPLA	**Purkeypile**	**1.79 325**	Pn	**Pn**	**17 03 14.9 +1.4**
PPLA	**Purkeypile**	**1.79 325**	P	**Pn**	**17 03 15.0 +1.4**
	baz=144,SNR=354				
PPLA			S	**Sn**	**17 03 37.7 +2.6**
	baz=144				
O20K	**Slope Mountain**	**1.89 225**	P	**Pn**	**17 03 16.5 +1.6**
	baz=44,SNR=47				
O20K			Sb	**Sn**	**17 03 41.9 +4.3**
	baz=44				
O20K			Sb	**Sn**	**17 03 41.9 +4.3**
	baz=44				
M24K	**Tolsona, Glenn**	**1.92 68**	P	**Pn**	**17 03 17.7 +2.3**
	baz=250,SNR=718				
P23K	**Montague Islan**	**1.93 138**		**Pn**	**17 03 15.2 -0.3**
P23K	**Montague Islan**	**1.93 138**	P	**Pn**	**17 03 15.1 -0.3**
	baz=319,SNR=220				
P23K			Sb	**Sn**	**17 03 43.6 +5.2**
	baz=319				
P23K			Sb	**Sn**	**17 03 43.6 +5.2**
	baz=319				
KLU	**Klutina**	**1.94 87**		**Pn**	**17 03 16.6 +1.0**
KLU			IAML		17 03 42.2
	comp=N,6µm,0.5s				
KLU			IAML		17 03 46.0
	comp=E,4µm,0.5s				
KLU	**Klutina**	**1.94 87**	P	**Pn**	**17 03 16.7 +1.0**
	baz=269,SNR=422				
KLU			S	**Sn**	**17 03 41.1 +2.1**
	baz=269				
HOM	**Homer**	**1.98 205**		**Pn**	**17 03 16.9 +0.8**
HOM	**Homer**	**1.98 205**	P	**Pn**	**17 03 17.0 +0.9**
	baz=25,SNR=10				
HOM			Sb	**Sn**	**17 03 44.8 +5.2**
	baz=25				
HIN	**Hinchinbrook I**	**2.00 120**		**Pn**	**17 03 16.7 +0.3**
HIN			IAML		17 03 49.2
	comp=N,5µm,0.8s				
HIN			IAML		17 03 53.1
	comp=E,6µm,0.6s				
TRF	**Thorofare Moun**	**2.01 356**		**Pn**	**17 03 18.6 +1.9**
TRF			IAML		17 03 46.3
	comp=E,3µm,0.9s				
TRF			IAML		17 03 47.1
	comp=N,4µm,0.5s				
TRF	**Thorofare Moun**	**2.01 356**	P	**Pn**	**17 03 18.6 +1.9**
	baz=176,SNR=346				
TRF			S	**Sn**	**17 03 43.9 +3.1**
	baz=176				
CNPM	**China Poot**	**2.03 198**		**Pn**	**17 03 17.2 +0.3**
CNPM			IAML		17 03 49.7
	comp=N,2µm,0.5s				
CNPM			IAML		17 03 50.2
	comp=E,3µm,0.4s				
RND	**Reindeer**	**2.03 14**	Pn	**Pn**	**17 03 18.8 +1.9**
DIV	**Divide**	**2.05 97**		**Pn**	**17 03 17.9 +0.6**
L20K	**Farewell, AK**	**2.11 301**		**Pn**	**17 03 19.5 +1.5**
L20K	**Farewell, AK**	**2.11 301**	P	**Pn**	**17 03 19.6 +1.5**
	baz=119,SNR=526				
L20K			S	**Sn**	**17 03 45.9 +2.9**
	baz=119				
L20K			S	**Sn**	**17 03 45.9 +2.9**
	baz=119				
ILSW	**Iliamna Southw**	**2.14 228**		**Pn**	**17 03 19.8 +1.3**
ILSW			IAML		17 03 52.1
	comp=E,2µm,1.0s				
ILSW			IAML		17 04 06.3
	comp=N,2µm,1.2s				
M19K	**Big River Lodg**	**2.15 284**		**Pn**	**17 03 20.0 +1.5**
M19K	**Big River Lodg**	**2.15 284**	P	**Pn**	**17 03 20.0 +1.5**
	baz=102,SNR=368				
M19K			S	**Sn**	**17 03 46.8 +2.8**
	baz=102				
M19K			S	**Sn**	**17 03 46.8 +2.8**
	baz=102				
KTH	**Kantishna Hill**	**2.16 349**	IAML		17 03 49.5
	comp=E,5µm,0.7s				
CAST	**Castle Rocks**	**2.21 335**	Pn	**Pn**	**17 03 20.6 +1.3**
CAST			IAML		17 04 02.7
	comp=E,3µm,1.0s				
CAST	**Castle Rocks**	**2.21 335**	P	**Pn**	**17 03 21.2 +2.0**
	baz=153,SNR=529				
CAST			S	**Sn**	**17 03 48.4 +3.1**
	baz=153				
EYAK	**Cordova Ski Ar**	**2.25 112**	P	**Pn**	**17 03 20.0 +0.2**
	baz=294,SNR=95				
EYAK			Sb	**Sn**	**17 03 54.0 +7.8**
	baz=294				
EYAK	**Cordova Ski Ar**	**2.25 112**	P	**Pn**	**17 03 19.8 0.0**
N19K	**Bonanza Creek**	**2.28 256**		**Pn**	**17 03 21.6 +1.3**
N19K	**Bonanza Creek**	**2.28 256**	IAML		17 03 54.3
	comp=N,2µm,0.8s				
N19K	**Bonanza Creek**	**2.28 256**	P	**Pn**	**17 03 21.7 +1.3**
	baz=73				
N19K			S	**Sn**	**17 03 49.5 +2.3**
	baz=73				
N19K			S	**Sn**	**17 03 49.5 +2.3**
	baz=73				
MCK	**McKinley**	**2.34 11**	Pn	**Pn**	**17 03 23.2 +2.1**
MCK	**McKinley**	**2.34 11**	P	**Pn**	**17 03 23.5 +2.4**
	baz=192,SNR=254				
MCK			S	**Sn**	**17 03 52.2 +3.6**
	baz=192				
P19K	**Oil Pt**	**2.42 223**	IAML		17 03 57.0
	comp=E,4µm,0.6s				
P19K			IAML		17 04 13.4
	comp=N,4µm,0.8s				
P19K	**Oil Pt**	**2.42 223**	P	**Pn**	**17 03 23.6 +1.4**
	baz=41				
P19K			S	**Sn**	**17 03 52.2 +1.7**
	baz=41				
L19K	**White Mountain**	**2.43 290**		**Pn**	**17 03 24.1 +1.7**
L19K	**White Mountain**	**2.43 290**	IAML		17 04 07.3
	comp=E,2µm,1.6s				
L19K	**White Mountain**	**2.43 290**	P	**Pn**	**17 03 24.1 +1.7**
	baz=107				
L19K			S	**Sn**	**17 03 53.6 +2.8**
	baz=107				
L19K			S	**Sn**	**17 03 53.6 +2.8**
	baz=107				
HARP	**HARP**	**2.47 65**	P	**Pn**	**17 03 25.0 +2.1**
	baz=248,SNR=187				
O19K	**Port Alsworth**	**2.47 241**		**Pn**	**17 03 23.7 +0.9**
O19K			IAML		17 03 57.6
	comp=E,3µm,0.5s				
O19K			IAML		17 04 02.4
	comp=N,4µm,0.4s				
O19K	**Port Alsworth**	**2.47 241**	P	**Pn**	**17 03 23.8 +0.9**
	baz=59,SNR=60				
O19K			S	**Sn**	**17 03 53.8 +2.0**
	baz=59				
O19K			S	**Sn**	**17 03 53.8 +2.0**
	baz=59				
N25K	**Chitina, Valde**	**2.58 84**		**Pn**	**17 03 25.0 +0.6**
N25K			IAML		17 04 04.6
	comp=E,2µm,0.7s				
N25K			IAML		17 04 09.2
	comp=N,2µm,1.3s				
N25K	**Chitina, Valde**	**2.58 84**	P	**Pn**	**17 03 25.2 +0.7**
	baz=268,SNR=185				
N25K			S	**Sn**	**17 03 56.8 +2.2**
	baz=268				
PAX	**Paxson**	**2.60 52**		**Pn**	**17 03 26.9 +2.1**
PAX	**Paxson**	**2.60 52**	P	**Pn**	**17 03 26.5 +1.8**
	baz=235,SNR=146				
BMRM	**Bremner River**	**2.64 98**		**Pn**	**17 03 25.5 +0.3**
BMRM	**Bremner River**	**2.64 98**	P	**Pn**	**17 03 25.4 +0.1**
	baz=282,SNR=271				
CHUM	**Lake Minchumin**	**2.67 337**		**Pn**	**17 03 27.2 +1.7**
CHUM	**Lake Minchumin**	**2.67 337**	P	**Pn**	**17 03 27.1 +1.5**
	baz=156,SNR=550				
GOAT	**Goat Mountain**	**2.70 107**		**Pn**	**17 03 26.4 +0.3**
BPAW	**Bear Paw Mtn.**	**2.70 351**	IAML		17 04 01.0
	comp=N,2µm,0.7s				
BPAW			IAML		17 04 13.7
	comp=E,2µm,0.7s				
BPAW	**Bear Paw Mtn.**	**2.70 351**	P	**Pn**	**17 03 27.3 +1.3**
	baz=170,SNR=378				
K20K	**Telida**	**2.70 317**		**Pn**	**17 03 27.5 +1.5**
K20K	**Telida**	**2.70 317**	IAML		17 04 20.3
	comp=E,2µm,0.8s				
K20K	**Telida**	**2.70 317**	P	**Pn**	**17 03 27.5 +1.5**
	baz=134				
AUCH	**Augustine Cone**	**2.71 221**		**Pn**	**17 03 28.5 +2.3**
M18K	**Stony River**	**2.81 273**		**Pn**	**17 03 28.8 +1.3**
M18K	**Stony River**	**2.81 273**	P	**Pn**	**17 03 28.8 +1.3**
	baz=90				
GLB	**Gilahina Butte**	**2.96 87**		**Pn**	**17 03 30.5 +0.9**
GLB	**Gilahina Butte**	**2.96 87**	IAML		17 04 15.5
	comp=N,3µm,0.9s				
GLB			IAML		17 04 19.5
	comp=E,2µm,0.7s				
N18K	**Kilae Creek**	**2.98 258**		**Pn**	**17 03 30.9 +1.1**
N18K	**Kilae Creek**	**2.98 258**	P	**Pn**	**17 03 31.0 +1.1**
	baz=74,SNR=142				
HMT	**Hamilton**	**3.01 109**		**Pn**	**17 03 30.6 +0.3**
O18K	**Koktuh Hills**	**3.03 240**		**Pn**	**17 03 31.3 +0.7**
O18K			IAML		17 04 17.8
	comp=N,1µm,1.2s				
O18K	**Koktuh Hills**	**3.03 240**	P	**Pn**	**17 03 31.2 +0.7**
	baz=57,SNR=40				
K24K	**Donnelly Dome**	**3.06 38**	P	**Pn**	**17 03 34.3 +3.4**
	baz=220,SNR=257				
Q20K	**Shuyak Island**	**3.10 204**	P	**Pn**	**17 03 32.0 +0.5**
	baz=22,SNR=8.1				
Q19K	**Cape Douglas,**	**3.12 218**	P	**Pn**	**17 03 32.7 +0.9**
	baz=35,SNR=57				
KAIM	**Kayak Island**	**3.13 117**	P	**Pn**	**17 03 32.2 +0.3**
	baz=301				
VRDI	**Verde Repeater**	**3.15 91**	IAML		17 04 22.7
	comp=E,1µm,0.7s				
VRDI			IAML		17 04 28.1
	comp=N,1µm,1.5s				
WRH	**Wood River Hil**	**3.15 15**		**Pn**	**17 03 33.5 +1.3**
NEA2	**Nenana**	**3.18 7**	P	**Pn**	**17 03 33.7 +1.1**
	baz=188,SNR=72				
TTA	**Tatalina**	**3.20 300**	Pn	**Pn**	**17 03 34.1 +1.3**
TTA			IAML		17 04 34.8
	comp=N,851nm,0.8s				
TTA	**Tatalina**	**3.20 300**	P	**Pn**	**17 03 34.2 +1.3**
	baz=116,SNR=572				
TTA	**Tatalina**	**3.20 300**	P	**Pn**	**17 03 33.3 +0.4**
HDA	**Harding Lake**	**3.28 24**	IAML		17 04 25.0
	comp=E,843nm,0.6s				
HDA			IAML		17 04 34.8
	comp=N,1µm,0.8s				
HDA	**Harding Lake**	**3.28 24**	P	**Pn**	**17 03 35.9 +2.0**
	baz=206,SNR=142				
L18K	**Granite Mounta**	**3.28 287**		**Pn**	**17 03 35.4 +1.4**
L18K	**Granite Mounta**	**3.28 287**	IAML		17 04 46.6
	comp=N,848nm,0.9s				
L18K	**Granite Mounta**	**3.28 287**	P	**Pn**	**17 03 35.3 +1.4**
	baz=102				
MENT	**Mentasta**	**3.29 60**		**Pn**	**17 03 35.5 +1.4**
MENT	**Mentasta**	**3.29 60**	P	**Pn**	**17 03 35.8 +1.7**
RIDG	**Independent Ri**	**3.30 44**	P	**Pn**	**17 03 36.5 +2.2**
	baz=227,SNR=148				
P18K	**Big Mountain,**	**3.32 234**		**Pn**	**17 03 34.9 +0.2**
P18K	**Big Mountain,**	**3.32 234**	P	**Pn**	**17 03 35.0 +0.4**
	baz=50,SNR=18				
J20K	**Nowinta River**	**3.34 327**		**Pn**	**17 03 36.5 +1.7**
J20K	**Nowinta River**	**3.34 327**	IAML		17 04 38.9
	comp=E,2µm,0.9s				
J20K	**Nowinta River**	**3.34 327**	P	**Pn**	**17 03 36.5 +1.7**
	baz=144				
M26K	**Nabesna, AK**	**3.43 71**	P	**Pn**	**17 03 37.4 +1.3**
	baz=256,SNR=38				
L26K	**Log Cabin Wild**	**3.48 60**	IAML		17 04 36.2
	comp=E,1µm,0.7s				
L26K			IAML		17 04 41.8
	comp=N,2µm,0.6s				
L26K	**Log Cabin Wild**	**3.48 60**	P	**Pn**	**17 03 38.7 +1.9**
	baz=245,SNR=47				
COLA	**College**	**3.57 15**		**Pn**	**17 03 39.4 +1.5**
COLA			IAML		17 04 27.8
	comp=N,2µm,0.6s				
COLA	**College**	**3.57 15**	P	**Pn**	**17 03 39.7 +1.8**
	baz=196				
COLA	**College**	**3.57 15**	P	**Pn**	**17 03 39.4 +1.5**
M17K	**Holitna River**	**3.59 272**		**Pn**	**17 03 39.5 +1.3**
M17K	**Holitna River**	**3.59 272**	IAML		17 04 40.1
	comp=E,1µm,0.9s				
M17K			IAML		17 04 50.4
	comp=N,1µm,1.2s				
M17K	**Holitna River**	**3.59 272**	P	**Pn**	**17 03 39.4 +1.3**
	baz=87				
ILAR	**Eielson Array**	**3.62 21**		**Pn**	**17 03 39.9 +1.4**
ILAR	**Eielson Array**	**3.62 21**	P	**Pn**	**17 03 40.2 +1.6**
	comp=N,7.8nm,0.3s,baz=204,slow=14,SNR=270				
ILAR			S	**Sn**	**17 04 20.9 +1.0**
	comp=N,280nm,0.8s,baz=209,slow=19,SNR=1.8				
ILAR			LR	LR	17 05 14.2
	comp=N,418nm,20.6s,baz=56,slow=41				
	comp=N,39nm,0.4s				
N17K	**Nushagak Hills**	**3.63 258**		**Pn**	**17 03 39.9 +1.0**
N17K	**Nushagak Hills**	**3.63 258**	IAML		17 04 22.8
	comp=E,732nm,0.8s				
N17K			IAML		17 04 39.2
	comp=N,636nm,1.0s				
N17K	**Nushagak Hills**	**3.63 258**	P	**Pn**	**17 03 40.0 +1.2**
	baz=73,SNR=109				
J19K	**Poorman**	**3.64 317**		**Pn**	**17 03 40.3 +1.4**
J19K	**Poorman**	**3.64 317**	IAML		17 04 40.1
	comp=N,840nm,0.7s				
J19K			IAML		17 04 54.2
	comp=E,807nm,1.0s				
J19K	**Poorman**	**3.64 317**	P	**Pn**	**17 03 40.3 +1.4**
	baz=133				
I23K	**Minto, Yukon-K**	**3.72 4**	IAML		17 04 40.0
	comp=E,585nm,0.9s				
I23K	**Minto, Yukon-K**	**3.72 4**	P	**Pn**	**17 03 41.8 +1.8**
	baz=184,SNR=252				
J18K	**Innoko River**	**3.73 306**	P	**Pn**	**17 03 41.7 +1.6**
	baz=121,SNR=468				
SCRK	**Sand Creek**	**3.75 45**	IAML		17 04 44.1
	comp=E,680nm,0.7s				
SCRK			IAML		17 04 45.5
	comp=N,613nm,0.9s				
SCRK	**Sand Creek**	**3.75 45**	P	**Pn**	**17 03 41.6 +1.2**
	baz=229,SNR=73				
KAHG	**Katmai Hook Gl**	**3.75 220**		**Pn**	**17 03 41.9 +1.4**
J25K	**Salcha River,**	**3.80 31**		**Pn**	**17 03 43.6 +2.4**
J25K	**Salcha River,**	**3.80 31**	IAML		17 04 36.1
	comp=E,747nm,0.7s				
J25K	**Salcha River,**	**3.80 31**	P	**Pn**	**17 03 43.8 +2.6**
	baz=215,SNR=103				
I21K	**Tanana**	**3.85 347**		**Pn**	**17 03 43.6 +1.9**
I21K	**Tanana**	**3.85 347**	IAML		17 04 29.6
	comp=N,1µm,0.7s				
I21K			IAML		17 04 32.7
	comp=E,593nm,0.6s				
I21K	**Tanana**	**3.85 347**	P	**Pn**	**17 03 43.7 +1.9**
	baz=166				
POKR	**Poker Plat Res**	**3.86 16**	P	**Pn**	**17 03 43.9 +2.0**
	baz=198,SNR=126				
O17K	**Koliganek Bris**	**3.89 248**	P	**Pn**	**17 03 43.5 +1.1**
	baz=82,SNR=18				
KDAK	**Kodiak Island**	**3.91 201**		**Pn**	**17 03 41.5 -1.1**
KDAK			IAML		17 05 01.1
	comp=E,659nm,0.9s				
KDAK	**Kodiak Island**	**3.91 201**	P	**Pn**	**17 03 41.5 -1.1**
	comp=E,3.6nm,0.3s,baz=235,slow=5.1,SNR=54				
KDAK			S	**Sn**	**17 04 26.1 -1.1**
	comp=E,151nm,0.6s,baz=227,slow=8.2,SNR=5.0				
KDAK			Lg	Lg	17 04 38.8
	comp=E,27nm,0.3s,baz=297,slow=13,SNR=4.2				
KDAK			LR	LR	17 05 38.2
	comp=E,757nm,21.0s,baz=221,slow=44				
	comp=E,13nm,0.4s				
KDAK	**Kodiak Island**	**3.91 201**	P	**Pn**	**17 03 42.6 0.0**
	baz=19				
P17K	**Kvichak River**	**3.93 238**	P	**Pn**	**17 03 44.0 +1.1**
	baz=53,SNR=36				
I20K	**Naaghedeneel**	**3.93 331**		**Pn**	**17 03 44.6 +1.7**
I20K	**Naaghedeneel**	**3.93 331**	P	**Pn**	**17 03 44.3 +1.5**
	baz=147				
M27K	**Edge Creek, AK**	**3.94 73**	P	**Pn**	**17 03 44.9 +1.8**
	baz=259,SNR=40				
L17K	**Donlin**	**4.01 283**		**Pn**	**17 03 45.3 +1.3**
L17K	**Donlin**	**4.01 283**	P	**Pn**	**17 03 45.2 +1.3**
	baz=97				
K17K	**Iditarod**	**4.12 292**		**Pn**	**17 03 46.8 +1.4**
K17K	**Iditarod**	**4.12 292**	IAML		17 05 02.2
	comp=E,844nm,0.8s				
K17K			IAML		17 05 11.7
	comp=N,604nm,1.3s				
K17K	**Iditarod**	**4.12 292**	P	**Pn**	**17 03 46.9 +1.5**
	baz=105,SNR=162				
MESA	**MESA**	**4.13 104**	IAML		17 04 56.9
	comp=N,999nm,0.7s				
MESA	**MESA**	**4.13 104**	P	**Pn**	**17 03 46.2 +0.4**
	baz=291,SNR=5.5				
L27K	**Beaver Creek,**	**4.14 63**	P	**Pn**	**17 03 47.2 +1.4**
	baz=250				
KCE	**Katmai Mt Cerb**	**4.15 222**		**Pn**	**17 03 47.4 +1.4**
BCAR	**Beaver Creek A**	**4.16 63**		**Pn**	**17 03 47.2 +1.2**
J26L	**Joseph Creek**	**4.23 41**	IAML		17 04 44.1
	comp=N,641nm,0.6s				
J26L			IAML		17 04 44.5
	comp=E,573nm,0.7s				
J26L	**Joseph Creek**	**4.23 41**	P	**Pn**	**17 03 49.1 +2.0**
	baz=226				
Q16K	**King Salmon**	**4.35 233**	P	**Pn**	**17 03 50.3 +1.7**
	baz=48,SNR=11				
M16K	**Timber Creek**	**4.36 268**		**Pn**	**17 03 50.2 +1.4**
M16K	**Timber Creek**	**4.36 268**	P	**Pn**	**17 03 50.2 +1.4**
	baz=81				
H21K	**Melozitna Rive**	**4.41 345**		**Pn**	**17 03 50.8 +1.4**
H21K	**Melozitna Rive**	**4.41 345**	IAML		17 05 11.5
	comp=E,408nm,1.0s				
H21K			IAML		17 05 18.0
	comp=N,402nm,1.0s				
H21K	**Melozitna Rive**	**4.41 345**	P	**Pn**	**17 03 51.2 +1.8**
	baz=162				
O16K	**Kokwok River B**	**4.42 249**		**Pn**	**17 03 50.9 +1.3**
O16K	**Kokwok River B**	**4.42 249**	IAML		17 05 08.0
	comp=N,478nm,1.8s				
O16K	**Kokwok River B**	**4.42 249**	P	**Pn**	**17 03 50.8 +1.2**
	baz=62,SNR=18				
H24K	**Noodor Dome**	**4.50 11**		**Pn**	**17 03 53.0 +2.3**
H24K	**Noodor Dome**	**4.50 11**	IAML		17 05 13.5
	comp=E,366nm,1.3s				
H24K	**Noodor Dome**	**4.50 11**	P	**Pn**	**17 03 52.8 +2.0**
	baz=193				
H22K	**Ishtalitna Cre**	**4.50 353**		**Pn**	**17 03 52.1 +1.4**
H22K	**Ishtalitna Cre**	**4.50 353**	P	**Pn**	**17 03 52.9 +2.1**
	baz=172				
PRP	**Porcupine Dome**	**4.54 24**	IAML		17 05 17.1
	comp=N,448nm,1.0s				
PRP			IAML		17 05 20.3
	comp=E,354nm,0.7s				
PRP	**Porcupine Dome**	**4.54 24**	P	**Pn**	**17 03 53.2 +1.8**
	baz=208,SNR=78				
L16K	**Owhat River**	**4.55 277**	IAML		17 05 21.8
	comp=N,490nm,1.2s				
L16K	**Owhat River**	**4.55 277**	P	**Pn**	**17 03 52.6 +1.2**
	baz=90,SNR=39				
GCSA	**Galena City Sc**	**4.56 320**		**Pn**	**17 03 52.9 +1.5**
GCSA	**Galena City Sc**	**4.56 320**	P	**Pn**	**17 03 53.1 +1.7**
	baz=134,SNR=78				
OHAK	**Old Harbor**	**4.57 203**		**Pn**	**17 03 52.1 +0.5**
OHAK	**Old Harbor**	**4.57 203**	P	**Pn**	**17 03 52.1 +0.5**
	baz=21				
H20K	**Anotleneega Mo**	**4.62 334**		**Pn**	**17 03 53.9 +1.6**
H20K	**Anotleneega Mo**	**4.62 334**	P	**Pn**	**17 03 54.3 +2.1**
	baz=150				
J17K	**VABM Dome**	**4.66 299**		**Pn**	**17 03 53.9 +1.0**

J17K	VABM Dome	4.66 299	IAML			17 05 24.7
	comp=N,317nm,1.1s					
J17K			IAML			17 05 31.0
	comp=E,319nm,1.1s					
J17K	VABM Dome	4.66 299	P		Pn	17 03 54.4 +1.5
	baz=111					
P16K	Nushagak River	4.67 242	P		Pn	17 03 54.3 +1.3
	baz=56					
SAMH	Samovar Hills	4.70 102			Pn	17 03 54.6 +1.1
O28M	Mount Upton	4.79 94			Pn	17 03 56.9 +1.8
O28M	Mount Upton	4.79 94	P		Pn	17 03 56.8 +1.8
	baz=282					
YUK8	Steele Glacier	4.92 87			Pn	17 03 58.6 +2.0
YUK8	Steele Glacier	4.92 87	P		Pn	17 03 58.2 +1.6
	baz=276,SNR=14					
I26K	Coal Creek Min	4.94 35	P		Pn	17 03 59.2 +2.5
	baz=221					
PINM	Pinnacle	4.96 102	P		Pn	17 03 57.8 +0.8
	baz=289					
H19K	Roundabout Mou	5.01 327			Pn	17 03 59.2 +1.5
H19K	Roundabout Mou	5.01 327	IAML			17 05 31.6
	comp=E,517nm,1.4s					
H19K			IAML			17 05 35.1
	comp=N,415nm,1.4s					
H19K	Roundabout Mou	5.01 327	P		Pn	17 03 59.7 +2.0
	baz=142					
N15K	Kwethluk River	5.12 260	IAML			17 05 39.5
	comp=E,361nm,1.1s					
N15K	Kwethluk River	5.12 260	P		Pn	17 04 00.6 +1.4
	baz=72,SNR=33					
H25L	Birch Creek	5.17 19	P		Pn	17 04 02.9 +3.1
	baz=202,SNR=48					
M15K	Kasigluk River	5.26 266			Pn	17 04 02.0 +0.9
M15K	Kasigluk River	5.26 266	P		Pn	17 04 02.0 +0.9
	baz=78					
J16K	Anvik River	5.28 295			Pn	17 04 02.5 +1.1
J16K	Anvik River	5.28 295	IAML			17 05 46.1
	comp=E,180nm,1.0s					
J16K			IAML			17 05 49.0
	comp=N,189nm,1.0s					
J16K	Anvik River	5.28 295	P		Pn	17 04 02.8 +1.4
	baz=106					
G23K	Bananza Creek	5.28 360	P		Pn	17 04 03.8 +2.3
	baz=180					
BCPM	Bancas Point	5.30 102	IAML			17 05 29.6
	comp=E,379nm,0.7s					
H18K	Honhosa River	5.30 318			Pn	17 04 03.3 +1.7
H18K	Honhosa River	5.30 318	IAML			17 05 49.9
	comp=E,198nm,2.5s					
H18K			IAML			17 05 56.2
	comp=N,210nm,1.3s					
H18K	Honhosa River	5.30 318	P		Pn	17 04 03.7 +2.1
	baz=131					
SII	Sitkinak Islan	5.37 206	P		Pn	17 04 03.4 +0.8
	baz=22					
G24K	Hadweenzic Riv	5.38 11	P		Pn	17 04 05.1 +2.3
	baz=193,SNR=52					
O15K	Ungalikthiuk R	5.40 249			Pn	17 04 04.7 +1.6
O15K	Ungalikthiuk R	5.40 249	P		Pn	17 04 04.4 +1.4
	baz=61,SNR=8.0					
YUK4	Talbot Arm	5.45 86	P		Pn	17 04 05.3 +1.5
	baz=275					
R16K	Pilot Point	5.49 228	P		Pn	17 04 04.9 +0.7
	baz=42					
L15K	Ungalak Mounta	5.51 277			Pn	17 04 05.7 +1.2
L15K	Ungalak Mounta	5.51 277	P		Pn	17 04 05.7 +1.2
	baz=88,SNR=22					
I17K	Unalakleet	5.51 301			Pn	17 04 06.1 +1.6
I17K	Unalakleet	5.51 301	P		Pn	17 04 05.9 +1.4
	baz=112,SNR=126					
PNL	Peninsula	5.51 104			Pn	17 04 06.0 +1.4
PNL	Peninsula	5.51 104	P		Pn	17 04 05.7 +1.0
	baz=293					
PNL	Peninsula	5.51 104	P		Pn	17 04 04.8 +0.2
DAWY	Dawson	5.52 57	P		Pn	17 04 06.4 +1.6
	baz=246,SNR=20					
M29M	Somme Creek	5.53 75	P		Pn	17 04 06.1 +1.3
	baz=264					
K15K	Wolf Creek Mou	5.53 284			Pn	17 04 06.2 +1.3
K15K	Wolf Creek Mou	5.53 284	P		Pn	17 04 06.4 +1.5
	baz=94					
I27K	Kandik River	5.60 38	P		Pn	17 04 08.2 +2.4
	baz=225,SNR=60					
G25K	Bearman Lake	5.60 16			Pn	17 04 08.0 +2.3
G25K	Bearman Lake	5.60 16	P		Pn	17 04 08.6 +2.9
	baz=199,SNR=36					
YUK6	Outpost Mounta	5.64 90	P		Pn	17 04 07.9 +1.4
	baz=280					
G19K	Purcell Mounta	5.67 329			Pn	17 04 07.9 +1.2
G19K	Purcell Mounta	5.67 329	P		Pn	17 04 07.5 +0.9
	baz=143					
O29M	Mount Kennedy	5.69 97			Pn	17 04 08.3 +1.3
O29M	Mount Kennedy	5.69 97	P		Pn	17 04 07.8 +0.8
	baz=286,SNR=18					
H17K	Granite Mounta	5.70 312			Pn	17 04 09.1 +2.0
H17K	Granite Mounta	5.70 312	P		Pn	17 04 08.9 +1.8
	baz=124					
L29M	L29M	5.77 68			Pn	17 04 09.9 +1.7
L29M	L29M	5.77 68	P		Pn	17 04 09.6 +1.4
	baz=258,SNR=13					
COLD	Coldfoot	5.80 359	P		Pn	17 04 10.6 +2.1
	baz=179,SNR=206					
M14K	Bethel	5.86 268			Pn	17 04 10.4 +1.2
M14K	Bethel	5.86 268	P		Pn	17 04 10.6 +1.3
	baz=78,SNR=21					
G18K	Tagagawik	5.90 323			Pn	17 04 11.5 +1.7
G18K	Tagagawik	5.90 323	P		Pn	17 04 11.5 +1.7
	baz=136,SNR=250					
N14K	Kuskokwak Cree	5.95 260			Pn	17 04 12.2 +1.6
N14K	Kuskokwak Cree	5.95 260	P		Pn	17 04 11.8 +1.2
	baz=71					
F21K	Alatna River	5.99 347			Pn	17 04 12.7 +1.5
F21K	Alatna River	5.99 347	P		Pn	17 04 13.3 +2.1
	baz=164					
O14K	Tigyukauivet M	6.02 254			Pn	17 04 13.0 +1.5
O14K	Tigyukauivet M	6.02 254	P		Pn	17 04 12.6 +1.0
	baz=64					
I28M	Miner Creek	6.03 44	P		Pn	17 04 13.4 +1.7
	baz=232					
HYT	Haines Junctio	6.07 90	P		Pn	17 04 13.3 +1.0
	baz=281					
H27K	Steamboat Moun	6.08 34	P		Pn	17 04 14.4 +2.1
	baz=221,SNR=35					
L14K	Kuka Creek	6.11 275			Pn	17 04 14.6 +1.9
L14K	Kuka Creek	6.11 275	P		Pn	17 04 14.2 +1.5
	baz=84					
G26K	Porcupine Rive	6.14 23			Pn	17 04 15.1 +1.9
G26K	Porcupine Rive	6.14 23	P		Pn	17 04 15.4 +2.2
	baz=209					
J29N	Klondike Camp	6.15 56	P		Pn	17 04 14.7 +1.4
	baz=246,SNR=39					
F20K	Avaraart Lake	6.15 338			Pn	17 04 14.7 +1.4
F20K	Avaraart Lake	6.15 338	P		Pn	17 04 15.0 +1.7
	baz=154					
K29M	Barlow Dome	6.22 62	P		Pn	17 04 16.0 +1.6
	baz=252,SNR=11					
M30M	Minto, Yukon	6.31 74	P		Pn	17 04 16.6 +1.1
	baz=265,SNR=6.4					
F19K	Shaleruckik Mo	6.39 331			Pn	17 04 18.0 +1.6
F19K	Shaleruckik Mo	6.39 331	P		Pn	17 04 18.1 +1.6
	baz=144					
H16K	Elim	6.43 305	P		Pn	17 04 19.0 +2.0
	baz=115,SNR=90					
BMAR	Burnt Mountain	6.44 19			Pn	17 04 19.6 +2.4
F25K	Christian Rive	6.44 15	P		Pn	17 04 19.8 +2.5
	baz=199					
G27K	Doyon Strip	6.49 30			Pn	17 04 20.0 +2.0
G27K	Doyon Strip	6.49 30	P		Pn	17 04 20.0 +2.0
	baz=218,SNR=23					
J14K	Nanvaranak Lak	6.51 287			Pn	17 04 19.8 +1.6
J14K	Nanvaranak Lak	6.51 287	P		Pn	17 04 19.5 +1.4
	baz=96					
P30M	Million Dollar	6.51 96			Pn	17 04 19.3 +1.0
P30M	Million Dollar	6.51 96	P		Pn	17 04 19.2 +0.9
	baz=287					
I29M	Ogilvie Camp,	6.54 48	P		Pn	17 04 20.6 +1.9
	baz=238,SNR=28					
M13K	Dall Lake	6.60 267			Pn	17 04 21.3 +1.9
M13K	Dall Lake	6.60 267	P		Pn	17 04 21.4 +1.9
	baz=76					
E23K	Chandalar	6.64 1	P		Pn	17 04 22.5 +2.5
	baz=182,SNR=69					
E24K	Your Creek	6.68 5	P		Pn	17 04 22.8 +2.1
	baz=186					
F18K	Selawik	6.69 325	P		Pn	17 04 22.7 +2.1
	baz=136,SNR=38					
F26K	Sheenjek River	6.75 19	P		Pn	17 04 23.6 +2.0
	baz=204,SNR=58					
E22K	Anaktuvuk Pass	6.76 354			Pn	17 04 24.4 +2.8
E22K	Anaktuvuk Pass	6.76 354	P		Pn	17 04 24.2 +2.6
	baz=172,SNR=25					
O30N	Mendenhall	6.76 90	P		Pn	17 04 22.4 +0.6
	baz=281					
E19K	Redstone River	6.79 336			Pn	17 04 23.9 +1.7
E19K	Redstone River	6.79 336	P		Pn	17 04 24.1 +2.0
	baz=149					
N31M	Braeburn, Yuko	6.80 83	P		Pn	17 04 23.0 +0.7
	baz=276					
G16K	Koyuk River	6.81 311			Pn	17 04 23.6 +1.2
G16K	Koyuk River	6.81 311	P		Pn	17 04 23.9 +1.5
	baz=120					
MAYO	Mayo, Yukon	6.86 66	P		Pn	17 04 24.8 +1.7
	baz=258					
J30M	Hart River	6.95 57	P		Pn	17 04 26.4 +1.9
	baz=249,SNR=24					
K13K	Kusilvak Mount	7.00 280			Pn	17 04 25.5 +0.6
K13K	Kusilvak Mount	7.00 280	P		Pn	17 04 26.3 +1.4
	baz=88,SNR=11					
H29M	Whitestone	7.01 42	P		Pn	17 04 26.9 +1.8
	baz=232					
PLBC	Pleasant Camp	7.02 101	P		Pn	17 04 26.5 +1.3
	baz=292					
F17K	Baldwin Pennin	7.05 320	P		Pn	17 04 27.6 +2.1
	baz=130,SNR=149					
I30M	Mount Dempster	7.19 52	P		Pn	17 04 29.4 +1.8
	baz=244					
E21K	Killik River	7.22 348	P		Pn	17 04 31.1 +3.1
	baz=165					
TOLK	Toolik Lake Re	7.22 1	P		Pn	17 04 31.3 +3.2
	baz=182,SNR=33					
G15K	Niukluk	7.27 305	P		Pn	17 04 30.5 +1.8
	baz=113,SNR=68					
E20K	Nigu River	7.33 342	P		Pn	17 04 31.5 +2.1
	baz=156					
WHY	Whitehorse	7.37 90	P		Pn	17 04 30.4 +0.3
	baz=282					
M31M	Drury Creek, Y	7.42 77	P		Pn	17 04 31.8 +1.1
	baz=271					
SKAG	Skagway	7.51 99	P		Pn	17 04 33.0 +1.1
	baz=291					
SKAG	Skagway	7.51 99	P		Pn	17 04 33.0 +1.1
E18K	Tukpahlearik C	7.54 327	P		Pn	17 04 34.6 +2.3
	baz=138					
D22K	Ayikyak River	7.55 353	P		Pn	17 04 35.4 +3.0
	baz=170,SNR=16					
D23K	Nanushuk River	7.55 358	P		Pn	17 04 35.8 +3.2
	baz=177,SNR=19					
F28M	Old Crow	7.55 31	P		Pn	17 04 34.8 +2.2
	baz=220,SNR=16					
G29M	Pine Creek	7.56 38	P		Pn	17 04 35.3 +2.7
	baz=229,SNR=7.7					
EPYK	Eagle Plains	7.64 44	P		Pn	17 04 36.7 +3.0
	baz=236					
E17K	Hotham Inlet	7.64 323	P		Pn	17 04 35.8 +2.1
	baz=132					
ANM	Nome	7.67 301			Pn	17 04 35.8 +1.8
ANM	Nome	7.67 301	P		Pn	17 04 36.0 +2.0
	baz=107,SNR=55					
D24K	Happy Valley	7.75 3	P		Pn	17 04 38.6 +3.4
	baz=184					
S31K	Pelican	7.78 111	P		Pn	17 04 36.2 +0.6
	baz=302					
F15K	North Star Dit	7.80 309	P		Pn	17 04 38.1 +2.1
	baz=117					
D20K	Etivluk River	7.81 342	P		Pn	17 04 38.2 +2.2
	baz=156					
D19K	Kuna River	7.86 338	P		Pn	17 04 39.5 +2.7
	baz=150,SNR=28					
FARO	Faro, Yukon	7.90 77	P		Pn	17 04 38.8 +1.4
	baz=271,SNR=5.1					
M11K	Mekoryuk	7.98 269	P		Pn	17 04 40.3 +2.0
	baz=76					
C21K	Knifeblade Rid	7.99 348	P		Pn	17 04 41.4 +2.8
	baz=163					
D25K	Kavik River	8.04 9	P		Pn	17 04 42.2 +2.9
	baz=192					
N32M	Quiet Lake	8.14 85	P		Pn	17 04 41.1 +0.6
	baz=279					
G30M	tAoh Zraii Nji	8.15 41	P		Pn	17 04 41.9 +1.1
	baz=233					
H31M	Peel River	8.20 51	P		Pn	17 04 42.9 +1.4
	baz=245					
P32M	Atlin	8.23 96	P		Pn	17 04 42.6 +0.7
	baz=290					
C24K	Franklin Bluff	8.32 3	P		Pn	17 04 45.4 +2.4
	baz=184					
F14K	Arctic Creek	8.35 306	P		Pn	17 04 46.1 +2.7
	baz=112					
CHNA	Chernabura Isl	8.35 222	P		Pn	17 04 44.8 +1.3
	baz=34					
R32K	Eaglecrest	8.40 105	P		Pn	17 04 44.2 +0.1
	baz=298					
D17K	Noatak River	8.42 324	P		Pn	17 04 46.4 +2.1
	baz=132					
B21K	Ikpikpuk River	8.43 349	P		Pn	17 04 46.6 +2.2
	baz=165					
C23K	Itkillik River	8.43 358	P		Pn	17 04 47.3 +2.9
	baz=178,SNR=27					
JIS	Juneau Island	8.46 105	P		Pn	17 04 45.4 +0.5
P33M	Teslin, Yukon	8.47 91	P		Pn	17 04 45.5 +0.3
	baz=286					
S12K	Black Hills	8.54 233	P		Pn	17 04 47.5 +1.4
	baz=43					
C27K	Jago River	8.61 15	P		Pn	17 04 49.5 +2.6
	baz=200,SNR=39					
RDOG	Red Dog Mine	8.61 326			Pn	17 04 47.9 +0.9
RDOG	Red Dog Mine	8.61 326	P		Pn	17 04 49.8 +2.8
	baz=134,SNR=18					
C18K	Utukok River	8.63 332	P		Pn	17 04 49.3 +2.1
	baz=142					
E29M	Blow River	8.63 31	P		Pn	17 04 49.4 +2.1
	baz=222,SNR=11					
D27M	Malcolm River	8.67 22	P		Pn	17 04 50.5 +2.6
	baz=210					
F30M	Barrier River	8.67 39	P		Pn	17 04 50.1 +2.3
	baz=231					
SIT	Sitka	8.69 114	P		Pn	17 04 47.4 -0.7
C26K	Camden Bay	8.75 12	P		Pn	17 04 51.1 +2.3
	baz=196					
S32K	Killisnoo	8.79 110	P		Pn	17 04 49.9 +0.4
	baz=303					
C17K	DeLong Mountai	8.98 327	P		Pn	17 04 54.1 +2.0
	baz=136					
Q32M	Nakina River	9.16 98	P		Pn	17 04 54.9 +0.2
	baz=293					
D28M	Stokes Point	9.17 26	P		Pn	17 04 56.4 +1.8
	baz=216					
F31M	Tsiigehtchic	9.21 42	P		Pn	17 04 56.6 +1.5
	baz=237					
B18K	Kokolik River	9.33 333	P		Pn	17 04 58.6 +1.9
	baz=143,SNR=18					
C16K	Lisburne Hills	9.44 323	P		Pn	17 05 00.4 +2.1
	baz=129,SNR=30					
R33M	Jennings River	9.62 94	P		Pn	17 05 01.6 +0.7
	baz=290					
FALS	False Pass	9.69 233	P		Pn	17 05 02.5 +0.8
	baz=42					
INK	Inuvik	9.78 38	P		Pn	17 05 04.0 +1.1
	comp=N,0.4nm,0.3s,baz=232,slow=16,SNR=20					
INK			S		Sn	17 06 54.7 +3.6
	comp=N,17nm,0.8s,baz=241,slow=13,SNR=5.3					
INK			Lg		Lg	17 07 45.6
	comp=N,0.3nm,0.3s,baz=135,slow=16,SNR=3.3					
INK			LR		LR	17 09 17.5
	comp=N,245nm,18.4s,baz=246,slow=40					
	comp=N,6.1nm,0.8s					
INK	Inuvik	9.78 38	P		Pn	17 05 04.7 +1.8
	baz=233,SNR=12					
S34M	Telegraph Cree	10.15 102			Pn	17 05 08.4 +0.3
S34M	Telegraph Cree	10.15 102	P		Pn	17 05 08.7 +0.6
	baz=298,SNR=5.6					
U33K	Whale Pass	10.24 114	P		Pn	17 05 10.1 +0.8
	baz=308					
A21K	Barrow	10.26 348	P		Pn	17 05 11.0 +1.5
	baz=162,SNR=5.3					
GAMB	Gambell	10.26 293			Pn	17 05 11.5 +2.0
GAMB	Gambell	10.26 293	P		Pn	17 05 11.1 +1.6
	baz=94,SNR=8.1					
WRAK	Wrangell Islan	10.39 111	P		Pn	17 05 11.8 +0.4
	baz=306					
DLBC	Dease Lake	10.44 98			Pn	17 05 12.8 +0.7
DLBC	Dease Lake	10.44 98	P		Pn	17 05 13.0 +0.9
	comp=N,0.7nm,0.3s,baz=290,slow=11,SNR=13					
DLBC			Lg		Lg	17 08 05.8
	baz=51,slow=23					
DLBC			LR		LR	17 09 26.8
	comp=N,506nm,21.3s,baz=294,slow=38					
	comp=N,5.0nm,0.6s					
DLBC	Dease Lake	10.44 98	P		Pn	17 05 12.7 +0.6
	baz=295					
CRAG	Craig	10.65 117	P		Pn	17 05 15.1 +0.2
	baz=311					
CRAG	Craig	10.65 117	P		Pn	17 05 14.6 -0.3
T35M	Bob Quinn	11.04 105			Pn	17 05 21.0 +0.7
T35M	Bob Quinn	11.04 105	P		Pn	17 05 20.7 +0.5
	baz=302					
P08K	Saint George I	11.17 253	P		Pn	17 05 22.4 +0.4
	baz=56					
SPIA	Saint Paul Isl	11.19 257	P		Pn	17 05 22.9 +0.6
	baz=59					
V35K	Ketchikan	11.39 114	P		Pn	17 05 25.4 +0.3
	baz=310					
UNV	Unalaska Valle	11.65 237	P		Pn	17 05 29.0 +0.4
	baz=43					
WRGLY	Wrigley	12.41 70	P		Pn	17 05 40.0 +1.1
	baz=273					
TOAD	Toad River Com	12.57 91	P		Pn	17 05 41.8 +0.7
	baz=292					
C36M	Paulatuk	13.27 42	P		Pn	17 05 48.8 -1.8
	baz=246					
A36M	Sachs Harbour	14.24 32	P		Pn	17 06 02.7 -1.0
	baz=235,SNR=7.3					
BBB	Bella Bella	15.07 118	P		Pn	17 06 16.1 +1.3
	comp=N,0.1nm,0.3s,baz=239,slow=18,SNR=1.6					
BBB			LR		LR	17 11 39.5
	comp=N,123nm,18.1s,baz=358,slow=35					
	comp=N,8.2nm,1.1s					
YKA	Yellowknife Ar	16.53 71	P		Pn	17 06 33.0 -0.5
	comp=N,0.5nm,0.3s,baz=280,slow=12,SNR=40					
YKA			PcP		PcP	17 11 22.1 -0.1
	comp=N,0.6nm,0.6s,baz=286,slow=2.1,SNR=4.1					
YKA			LR		LR	17 13 01.8
	comp=N,140nm,22.0s,baz=23,slow=37					
YKA			ScP		ScP	17 14 52.6 -0.4
	comp=N,0.5nm,1.0s,baz=264,slow=2.0,SNR=3.7					
	comp=N,4.9nm,0.7s					
BILL	Bilibino	19.41 308	P		P	17 07 06.6 -0.7
GNW	Green Mountain	20.80 120	P		Pn	17 07 23.8 -1.4
SHEM	Shemya Is, Ala	21.12 262	LR		LR	17 15 24.6
	comp=N,91nm,19.7s,baz=132,slow=36					
B08A	Colville Reser	21.70 113	P		P	17 07 32.7 +0.5
NEW	Newport	22.75 110	LR		LR	17 16 03.0
	comp=N,174nm,18.6s,baz=326,slow=35					
D08A	Wollman Farm,	22.87 115	P		P	17 07 45.8 +1.1
D08A			IAmb		IAmb	17 07 47.1
	comp=Z,9.9nm,0.7s					
RES	Resolute Bay	23.28 33	P		P	17 07 48.0 -0.5
RES	Resolute Bay	23.28 33	LR		LR	17 17 52.3
	comp=Z,57nm,19.8s,baz=36,slow=39					
F07A	Phinny Hill Vi	23.34 118	IAmb		IAmb	17 07 52.2
	comp=Z,12nm,0.9s					
I05D	Terrebonne, OR	24.02 122	P		P	17 07 57.1 +1.3
I05D			IAmb		IAmb	17 07 58.5
	comp=Z,14nm,0.8s					
K02D	Willamette Mer	24.49 128	IAmb		IAmb	17 08 04.7
	comp=Z,16nm,0.9s					
J04A	Umpqua Nationa	24.63 125	P		P	17 08 03.0 +1.5
J04A			IAmb		IAmb	17 08 05.9
	comp=Z,35nm,1.3s					
PINE	Pine Mountain	24.63 123	IAmb		IAmb	17 08 05.3
	comp=Z,24nm,1.2s					
J05D	Fort Rock, OR	24.94 124	P		P	17 08 05.6 +1.3
J05D			IAmb		IAmb	17 08 07.6
	comp=Z,13nm,1.1s					
I07A	Izee	24.98 120	IAmb		IAmb	17 08 09.1
	comp=Z,9.4nm,0.8s					
YBH	Yreka Blue Hor	25.68 128	LR		LR	17 16 19.1
	comp=Z,119nm,21.3s,baz=349,slow=32					
FFC	Flin Flon	25.73 83	P		P	17 08 11.0 -0.1
EGMT	Eagleton	26.32 102	IAmb		IAmb	17 08 18.4
	comp=Z,24nm,0.8s					
FCC	Fort Churchill	27.26 70	P		P	17 08 25.7 +0.8
FCC			IAmb		IAmb	17 08 26.6
	comp=Z,11nm,0.8s					
YMR	Madison River	28.26 108	IAmb		IAmb	17 08 36.9
	comp=Z,10nm,0.9s					
MA2	Magadan	28.36 293	LR		LR	17 21 25.7
	comp=Z,110nm,18.2s,baz=76,slow=40					
YNE	Yellowstone No	28.44 107	IAmb		IAmb	17 08 38.4
	comp=Z,7.0nm,0.7s					
RLMT	Red Lodge	28.69 106	IAmb		IAmb	17 08 41.1
	comp=Z,12nm,0.7s					
PETK	Petropavlovsk-	28.75 277	P		P	17 08 38.1 -0.2
	comp=Z,1.2nm,0.7s,baz=52,slow=8.9,SNR=1.2					
PETK			LR		LR	17 21 00.8
	comp=Z,50nm,18.8s,baz=59,slow=38					
	comp=Z,1.2nm,0.7s					
LAO	LASA Array	28.95 100	IAmb		IAmb	17 08 42.9
	comp=Z,27nm,1.2s					
TPAW	Teton Pass	29.18 110	IAmb		IAmb	17 08 44.5
	comp=Z,7.6nm,0.8s					
NVAR	Mina Array Bea	30.23 125	P		P	17 08 53.8 +2.0
	comp=Z,3.0nm,0.7s,baz=315,slow=9.1,SNR=18					
NVAR			PcP		PcP	17 11 51.9 +0.3
	comp=Z,0.9nm,0.5s,baz=303,slow=2.7,SNR=5.0					
NVAR			LR		LR	17 20 41.8
	comp=Z,86nm,18.0s,baz=294,slow=35					
	comp=Z,3.0nm,0.7s					
NV11	Mina Array Sit	30.29 125	IAmb		IAmb	17 08 55.2
	comp=Z,10nm,1.3s					
PDAR	Pinedale Array	30.38 109	P		P	17 08 53.8 +0.7
PDAR	Pinedale Array	30.38 109	P		P	17 08 54.4 +1.3
	comp=Z,2.2nm,0.6s,baz=321,slow=5.0,SNR=29					
PDAR			LR		LR	17 22 44.1
	comp=Z,75nm,19.1s,baz=342,slow=39					
	comp=Z,2.2nm,0.6s					
TIXI	Tiksi	31.21 323	LR		LR	17 24 11.9
	comp=Z,68nm,18.6s,baz=13,slow=41					
R11B	Troy Canyon, C	31.39 122	IAmb		IAmb	17 09 04.5
	comp=Z,6.3nm,1.0s					
R11B	Troy Canyon, C	31.39 122	P		P	17 09 03.4 +1.4
	baz=329,SNR=9.5					
ULM	Lac du Bonnet	31.43 86	P		P	17 09 02.9 +0.9
	comp=Z,22nm,0.8s,baz=309,slow=8.9,SNR=48					
ULM			PcP		PcP	17 11 53.7 -0.6
	comp=Z,3.5nm,0.6s,baz=333,slow=2.2,SNR=7.0					
	comp=Z,22nm,0.8s					
BSUT	Blindstream Ca	31.63 113	IAmb		IAmb	17 09 07.1
	comp=Z,9.1nm,1.0s					
K22A	Casper	31.86 106	IAmb		IAmb	17 09 08.0
	comp=Z,6.9nm,0.9s					
RSSD	Black Hills	31.89 102	P		P	17 09 07.4 +1.1
RSSD			IAmb		IAmb	17 09 08.2
	comp=Z,7.2nm,0.7s					
TPNV	Topopah Spring	32.33 124	IAmb		IAmb	17 09 18.6
	comp=Z,4.1nm,0.8s					
ISA	Isabella, Lake	32.58 128	IAmb		IAmb	17 09 14.9
	comp=Z,6.9nm,1.0s					
Q16A	Castle Valley	32.78 115	IAmb		IAmb	17 09 17.1
	comp=Z,13nm,1.2s					
SRU	San Rafael Swe	32.90 114	IAmb		IAmb	17 09 17.9
	comp=Z,12nm,0.9s					
NEEM	North Greenlan	32.91 23	*i* P		P	17 09 14.6 -0.4
NEEM			IAmb		IAmb	17 09 16.4
	comp=Z,11nm,0.6s					
LCMT	Little Creek M	33.50 120	IAmb		IAmb	17 09 23.3
	comp=Z,5.9nm,0.9s					
N23A	Red Feather La	33.51 107	P		P	17 09 21.5 +0.9
	baz=323					
KNB	Kanab	33.67 119	IAmb		IAmb	17 09 25.0
	comp=Z,9.5nm,0.9s					
PV10	Paradox Valley	34.16 113	IAmb		IAmb	17 09 28.9
	comp=Z,7.5nm,0.8s					
PV15	Paradox Valley	34.43 113	IAmb		IAmb	17 09 30.4
	comp=Z,6.0nm,0.7s					
PV13	Radium Mtn., P	34.43 113	IAmb		IAmb	17 09 30.8
	comp=Z,12nm,1.0s					
PFO	Pinyon Flats O	35.17 127	LR		LR	17 22 13.8
	comp=Z,84nm,18.1s,baz=358,slow=33					
Q24A	Divide	35.42 109	P		P	17 09 38.5 +1.3
	baz=324					
WUAZ	Wupatki	35.56 119	IAmb		IAmb	17 09 41.1
	comp=Z,11nm,0.8s			

UMMG IAmb IAmb 17 09 46.9
comp=Z,16nm,0.9s
T25A Trinidad 37.25 109 P P 17 09 53.9 +1.3
baz=326
G40A Rib Lake 37.65 87 IAmb IAmb 17 09 56.8
comp=Z,7.6nm,0.7s
ANMO Albuquerque 38.16 114 P **P 17 10 00.1 -0.2**
SUMG Summit 38.45 27 P **P 17 10 03.0 +0.4**
SUMG IAmb IAmb 17 10 05.2
comp=Z,6.3nm,0.7s
SUMG Summit 38.45 27 *i* P **P 17 10 02.5 -0.1**
SUMG IAmb IAmb 17 10 03.7
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 38.70 16 *i* P **P 17 10 03.1 -1.0**
DAG IAmb IAmb 17 10 04.6
comp=Z,4.9nm,0.8s
SFJD Kangerlussuaq 39.12 38 *i* P **P 17 10 08.2 +0.3**
SFJD IAmb IAmb 17 10 10.1
comp=Z,22nm,0.6s
KBS Kingsbay 39.45 5 *i* P **P 17 10 10.1 -0.4**
121A Cookes Peak, D 39.64 117 P **P 17 10 14.0 +1.2**
baz=330
L42A Oliver, Polo 40.35 90 P **P 17 10 18.4 +0.1**
L42A IAmb IAmb 17 10 19.2
comp=Z,12nm,0.9s
SPITS Spitsbergen Ar 40.36 4 P **P 17 10 18.0 -0.1**
comp=Z,12nm,0.9s,baz=20,slow=5.3,SNR=23
comp=Z,12nm,0.9s
DBG Daneborg 40.51 19 *i* P **P 17 10 18.6 -0.6**
DBG IAmb IAmb 17 10 19.7
comp=Z,6.4nm,0.7s
ICESG Greenland Ices 40.65 31 *i* P **P 17 10 20.5 -0.4**
ICESG IAmb IAmb 17 10 24.0
comp=Z,15nm,1.0s
DY2G Dye2 40.75 37 *i* P **P 17 10 21.8 +0.2**
DY2G IAmb IAmb 17 10 24.0
comp=Z,9.5nm,0.6s
SCHQ Schefferville 41.53 60 P **P 17 10 27.9 0.0**
comp=Z,3.5nm,0.8s,baz=337,slow=8.9,SNR=5.0
comp=Z,3.5nm,0.8s
WMOK Wichita Mounta 41.80 106 IAmb IAmb 17 10 31.9
comp=Z,10nm,1.4s
ASAJ Asahikawa 42.16 278 LR LR 17 27 34.1
comp=Z,46nm,20.8s,baz=334,slow=35
VHRN Van Horn 42.35 115 P **P 17 10 35.8 +0.8**
VHRN IAmb IAmb 17 10 37.9
comp=Z,6.3nm,0.9s
MGMO Mountain Grove 42.90 97 IAmb IAmb 17 10 39.5
comp=Z,13nm,1.0s
L48A N Adams 42.91 86 IAmb IAmb 17 10 40.6
comp=Z,15nm,0.8s
NRIK Noril'sk 43.25 334 P **P 17 10 41.1 -0.5**
NRIK IAmb IAmb 17 10 42.0
comp=Z,4.9nm,0.6s
NRIK Noril'sk 43.25 334 P **P 17 10 40.9 -0.8**
comp=Z,4.8nm,0.6s,baz=54,slow=6.6,SNR=22
NRIK LR LR 17 30 58.0
comp=Z,75nm,20.4s,baz=20,slow=39
comp=Z,4.8nm,0.6s
KLR Kul'dur 43.42 291 LR LR 17 28 45.3
comp=Z,54nm,21.1s,baz=62,slow=36
N49A Columbus Grove 43.82 87 IAmb IAmb 17 10 47.5
comp=Z,16nm,1.0s
TXAR Lajitas Array 44.17 115 P **P 17 10 51.0 +1.3**
comp=Z,1.7nm,0.7s,baz=338,slow=3.9,SNR=14
TXAR PcP **PcP 17 12 33.9 0.0**
comp=Z,0.3nm,0.4s,baz=350,slow=2.0,SNR=2.2
comp=Z,1.7nm,0.7s
HEH HeiHe 44.59 295 *eP* **P 17 10 50.3 -2.3**
HEH pmax pmax
comp=Z,6.0nm,1.1s
LPIG La Paz 46.05 126 LR LR 17 28 07.2
comp=Z,46nm,18.9s,baz=56,slow=33
CLTN Cedars of Leba 46.60 93 IAmb IAmb 17 11 10.6
comp=Z,6.8nm,0.9s
833A Chaparral WMA, 46.93 111 P **P 17 11 12.4 +1.0**
baz=330
USRK Ussuriysk Ar. 47.08 286 LR LR 17 33 02.6
comp=Z,94nm,19.0s,baz=36,slow=39
L61B Northampton 48.09 76 P **P 17 11 21.0 +0.8**
baz=321
TKL Tuckaleechee C 48.17 91 LR LR 17 32 29.2
comp=Z,185nm,20.6s,baz=342,slow=37
BORG Borgarnes 48.43 27 LR LR 17 36 30.3
comp=Z,53nm,19.5s,baz=103,slow=42
ARCES ARCESS Array B 49.26 2 P **P 17 11 28.3 -0.6**
comp=Z,5.4nm,1.0s,baz=6.6,slow=7.6,SNR=10
ARCES PcP **PcP 17 12 50.4 -0.7**
comp=Z,2.8nm,0.8s,baz=349,slow=3.8,SNR=4.2
comp=Z,5.4nm,1.0s
MJAR Matsushiro Arr 50.16 275 P **P 17 11 35.3 -0.8**
comp=Z,0.9nm,0.7s,baz=355,slow=12,SNR=4.1
MJAR LR LR 17 34 25.8
comp=Z,24nm,19.3s,baz=26,slow=38
comp=Z,0.9nm,0.7s
CN2 Changchun 50.37 291 P **P 17 11 36.3 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KSRS Korea Array 54.29 284 P **P 17 12 06.7 0.0**
comp=Z,4.0nm,0.6s,baz=32,slow=6.9,SNR=23
KSRS LR LR 17 34 56.3
comp=Z,36nm,21.8s,baz=45,slow=36
comp=Z,4.0nm,0.6s
SONM Songino Array 55.12 307 P **P 17 12 13.3 +0.5**
comp=Z,2.5nm,0.8s,baz=50,slow=7.3,SNR=19
SONM LR LR 17 36 46.9
comp=Z,74nm,20.6s,baz=21,slow=37
comp=Z,2.5nm,0.8s
NB2 NORSAR Subarra 56.99 11 P **P 17 12 25.1 -0.7**
comp=Z,0.8nm,0.7s,baz=350,slow=7.4
NOA NORSAR Array B 56.99 11 P **P 17 12 24.9 -0.9**
comp=Z,1.4nm,0.8s,baz=350,slow=7.2,SNR=4.3
comp=Z,1.4nm,0.8s
ZAA0 Zalesovo Array 57.06 325 P **P 17 12 25.3 -1.0**
ZAA0 IAmb IAmb 17 12 32.2
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 57.06 325 P **P 17 12 25.3 -1.0**
comp=Z,1.5nm,0.4s,baz=24,slow=6.9,SNR=6.3
comp=Z,1.5nm,0.4s
FINES FINESS Array B 57.39 2 P **P 17 12 27.8 -0.8**
comp=Z,2.7nm,0.6s,baz=5.5,slow=8.7,SNR=10
comp=Z,2.7nm,0.6s
HFS Hagfors 58.09 10 P **P 17 12 32.2 -1.3**
comp=Z,3.1nm,1.0s,baz=344,slow=3.8,SNR=8.2
comp=Z,3.1nm,1.0s
CMIG Matias Romero 58.73 113 LR LR 17 39 02.7
comp=Z,33nm,19.3s,baz=1.5,slow=37
HHC Hu-ho-hao-te 58.81 299 *eP* **P 17 12 39.4 +0.4**
HHC pmax pmax
comp=Z,3.0nm,1.5s
HHC pmax pmax
comp=Z,190nm,5.3s
ARTI Arti 60.41 342 P **P 17 12 48.5 -1.1**
ARTI Arti 60.41 342 LR LR 17 41 17.4
comp=Z,52nm,18.1s,baz=352,slow=38
EKA Eskdalemuir Ar 60.66 21 P **P 17 12 51.2 -0.1**
comp=Z,1.7nm,0.4s,baz=328,slow=5.5,SNR=12
comp=Z,1.7nm,0.4s
BRVK Borovoye 61.45 334 P **P 17 12 55.4 -1.3**
BRVK IAmb IAmb 17 13 01.5
comp=Z,2.7nm,0.8s
BVAR Borovoye Array 61.45 334 P **P 17 12 55.8 -0.9**
comp=Z,5.1nm,0.6s,baz=34,slow=7.2,SNR=26
BVAR LR LR 17 43 09.9
comp=Z,64nm,18.1s,baz=339,slow=40
comp=Z,5.1nm,0.6s
KURK Kurchatov 61.64 327 P **P 17 12 56.6 -1.3**
KURK IAmb IAmb 17 12 57.3
comp=Z,4.1nm,0.6s
KURBB Kurchatov Arra 61.75 327 P **P 17 12 57.5 -1.2**
comp=Z,2.3nm,0.4s,baz=29,slow=6.6,SNR=35
KURBB PcP **PcP 17 13 38.8 -0.8**
comp=Z,1.2nm,0.5s,baz=23,slow=4.2,SNR=3.6
KURBB LR LR 17 41 20.0
comp=Z,50nm,18.1s,baz=182,slow=38
comp=Z,2.3nm,0.4s
OBN Obninsk 63.66 356 P **P 17 13 11.1 -0.3**
comp=Z,26nm,2.2s
MKAR Makanchi Array 64.20 323 P **P 17 13 13.5 -1.6**
comp=Z,2.1nm,0.5s,baz=39,slow=6.7,SNR=64
MKAR LR LR 17 44 00.4
comp=Z,51nm,18.8s,baz=343,slow=39
comp=Z,2.1nm,0.5s
MAKZ Makanchi 64.28 323 P **P 17 13 13.8 -1.8**
MAKZ IAmb IAmb 17 13 23.1
comp=Z,3.0nm,0.6s
GTA Gaotai 64.79 307 *eP* **P 17 13 18.3 -0.9**
GTA pP pP 17 13 23.6 -7.8
GTA pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 66.05 302 *eP* P 17 13 33.0 +5.5
LZH sP sP 17 13 49.0 +4.4
LZH pmax pmax
comp=Z,9.0nm,1.1s
AKTO Aktyubinsk 66.23 341 LR LR 17 46 08.1
comp=Z,54nm,18.5s,baz=86,slow=39
CLL Collm 66.77 12 *i* P **P 17 13 31.4 -0.2**
comp=Z,5.0nm,1.0s
ABKAR Abkulak array 67.06 339 P **P 17 13 32.4 -1.1**
ABKAR Abkulak array 67.06 339 IAmb IAmb 17 13 33.2
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 67.29 11 *eP* **P 17 13 35.2 +0.3**
BRG Amp 17 13 36.0
comp=Z,3.5nm,0.9s
HSKC Hora Svate Kat 67.50 11 *eP* **P 17 13 36.7 +0.4**
KSP Ksiaz 67.52 9 P **P 17 13 36.7 +0.4**
comp=Z,11nm,1.6s
RNPP5 Staryi Chortor 67.62 3 P **P 17 13 37.0 0.0**
CHVC Chvalec 67.75 10 *eP* **P 17 13 38.4 +0.5**
MI28 Mi28,Pidlybu 67.95 2 P **P 17 13 39.1 0.0**
DPC Dobruska-Polom 68.01 9 *eP* **P 17 13 40.4 +0.9**
DPC Dobruska-Polom 68.01 9 P **P 17 13 39.9 +0.4**
comp=Z,19nm,0.9s
AK21 Malin Array Si 68.12 1 P **P 17 13 39.5 -0.6**
AK23 Malin Array Si 68.14 1 P **P 17 13 39.6 -0.6**
AK20 Malin Array Si 68.15 1 P **P 17 13 39.5 -0.8**
AKASG Malin Array Be 68.20 1 P **P 17 13 39.9 -0.7**
comp=Z,8.3nm,0.6s,baz=3.0,slow=6.2,SNR=36
comp=Z,8.3nm,0.6s
AKBB Malin Array Si 68.20 1 P **P 17 13 39.8 -0.8**
AK15 Malin Array Si 68.20 1 P **P 17 13 39.9 -0.7**
KIEV Kiev 68.20 1 P **P 17 13 39.9 -0.7**
KIEV Kiev 68.20 1 ⇓P **P 17 13 40.2 -0.4**
KIEV Kiev 68.20 1 P **P 17 13 39.8 -0.8**
comp=Z,59nm,2.1s
AK02 Malin Array Si 68.24 1 P **P 17 13 40.2 -0.7**
KRLC Kraliky 68.32 9 *eP* **P 17 13 42.1 +0.6**
OJC Ojcow 68.38 7 P **P 17 13 41.8 0.0**
comp=Z,5.6nm,0.6s
MORC Moravsky Berou 68.67 9 IAmb IAmb 17 13 44.6
comp=Z,6.8nm,0.8s
MORC Moravsky Berou 68.67 9 *eP* **P 17 13 43.8 +0.1**
MORC Moravsky Berou 68.67 9 ⇓P **P 17 13 44.0 +0.4**
ZVC Zvikov 68.73 11 *eP* **P 17 13 44.6 +0.6**
LUBAR Lubar, Ukraine 68.97 2 P **P 17 13 44.6 -0.8**
KHC Kasperske Hory 68.98 11 *eP* **P 17 13 46.4 +0.8**
KHC Kasperske Hory 68.98 11 P **P 17 13 46.3 +0.7**
comp=Z,7.2nm,1.4s
VRAC Vranov 69.07 9 *eP* **P 17 13 46.3 +0.2**
VRAC Vranov 69.07 9 ⇓P **P 17 13 46.7 +0.6**
KWP Kalwaria Pacla 69.11 5 P **P 17 13 46.2 -0.2**
comp=Z,12nm,0.6s
JTS Las Juntas de 69.19 107 LR LR 17 47 25.3
comp=Z,28nm,19.6s,baz=338,slow=39
STHS Stebnicka Huta 69.26 6 *eP* **P 17 13 47.5 +0.2**
GERES GERESS Array B 69.28 11 P **P 17 13 47.6 +0.2**
comp=Z,1.8nm,0.7s,baz=349,slow=4.1,SNR=9.5
comp=Z,1.8nm,0.7s
KRUC Moravsky 69.30 10 *eP* **P 17 13 47.8 +0.3**
CKRC Cesky Krumlov 69.36 11 *eP* **P 17 13 48.2 +0.3**
LANS Liptovska Anna 69.42 7 *eP* **P 17 13 49.4 +1.1**
JAVC Velka Javorina 69.59 9 *eP* **P 17 13 50.8 +1.4**
HORU Horodok 69.65 3 P **P 17 13 49.4 -0.3**
MORS Morshin 69.66 4 P **P 17 13 50.3 +0.6**
KOLS Kolonicke sedl 69.79 5 *eP* **P 17 13 51.5 +0.9**
KDJ Kajisay 69.93 325 IAmb IAmb 17 13 59.0
comp=Z,4.1nm,0.6s
BOOM Boomskoye usch 69.94 326 IAmb IAmb 17 14 00.4
comp=Z,3.3nm,0.7s
VYHS Vyhne 70.04 8 *eP* **P 17 13 52.5 +0.4**
MODS Modra-Piesok 70.05 9 *eP* **P 17 13 52.8 +0.6**
STNU Starunia 70.10 4 P **P 17 13 52.4 -0.1**
AAK Ala-Archa 70.19 327 P **P 17 13 52.7 -0.6**
AAK IAmb IAmb 17 13 53.3
comp=Z,4.1nm,0.6s
HOLU Holmets 70.20 5 P **P 17 13 53.7 +0.7**
KMPD K-Podol'skiy 70.30 3 P **P 17 13 52.9 -0.7**
CONA Conrad Observa 70.38 10 *i* P **P 17 13 54.4 +0.1**
comp=Z,6.7nm,0.8s
BRIU Briu 70.42 5 P **P 17 13 54.5 +0.1**
MOTA Moosalm 70.49 14 *i* P **P 17 13 56.0 +1.0**
comp=Z,6.6nm,1.1s
BERU Beregovo 70.51 5 P **P 17 13 54.7 -0.2**
WATA Walderalm 70.55 13 *i* P **P 17 13 56.2 +0.8**
comp=Z,5.1nm,1.0s
LESA Schwarzleotal 70.58 12 *i* P **P 17 13 56.0 +0.5**
comp=Z,6.2nm,1.0s
NSLU Nyzhne Selyshc 70.61 4 P **P 17 13 55.6 0.0**
SQTA Sankt Quirin 70.62 13 *i* P **P 17 13 56.5 +0.6**
comp=Z,10nm,0.9s
WTTA Wattenberg 70.63 13 *i* P **P 17 13 56.7 +0.7**
comp=Z,9.3nm,0.8s
RONA Rosalia, Austr 70.64 10 *i* P **P 17 13 56.7 +0.9**
comp=Z,4.4nm,0.9s
PSZ Piszkesteto 70.68 7 ⇑P **P 17 13 56.8 +0.7**
KK31 Karatay Array 70.76 330 IAmb IAmb 17 13 56.5
comp=Z,2.5nm,0.7s
KKAR Karatay Array 70.76 330 P **P 17 13 55.1 -1.5**
KKAR Karatay Array 70.76 330 IAmb IAmb 17 13 56.4
comp=Z,1.6nm,0.7s
SORM Soroca 70.76 1 ⇓P **P 17 13 55.8 -0.6**
FETA Feichten 70.77 14 *i* P **P 17 13 57.4 +0.7**
comp=Z,7.0nm,1.1s
KBA Koelnbreinsper 70.99 12 *i* P **P 17 13 59.2 +1.0**
comp=Z,9.6nm,0.6s,SNR=4.4
ARSA Arzberg 71.02 10 *i* P **P 17 13 59.0 +0.8**
comp=Z,2.6nm,0.8s
FUORN Ofenpass-Fuorn 71.11 14 IAmb IAmb 17 14 00.5
comp=Z,4.0nm,0.9s
TUE Stuetta 71.14 15 P **P 17 13 59.8 +0.7**
TUE IAmb IAmb 17 14 00.7
comp=Z,5.7nm,0.7s
TUE Stuetta 71.14 15 P **P 17 13 59.9 +0.8**
comp=Z,40nm,0.8s
BUR08 Bucovina Ar. S 71.19 3 P **P 17 13 59.2 0.0**
BUR08 IAmb IAmb 17 13 59.7
comp=Z,2.7nm,0.6s
BUR08 Bucovina Ar. S 71.19 3 ⇑P **P 17 13 59.5 +0.2**
BURAR Bucovina Array 71.22 3 ⇑P **P 17 13 59.5 +0.1**
MPLH Magyarpolny 71.27 9 P **P 17 14 00.0 +0.5**
SJG San Juan 71.33 86 LR LR 17 47 25.7
comp=Z,32nm,19.0s,baz=162,slow=38
SOKA Soboth 71.55 11 *i* P **P 17 14 02.4 +1.1**
comp=Z,4.7nm,0.9s
OBKA Obir 71.67 11 *eP* **P 17 14 02.6 +0.5**
comp=Z,20nm,0.7s,SNR=19
DRGR 71.95 5 ⇓P **P 17 14 03.8 0.0**
MARR Marisel-Cluj 72.08 5 ⇑P **P 17 14 04.3 -0.3**
SABO M.te Sabotino 72.10 12 IAmb IAmb 17 14 04.9
comp=Z,5.1nm,0.8s
MORH Mrgy, Hungar 72.30 8 ⇓P **P 17 14 05.5 -0.2**
MORH Mrgy, Hungar 72.30 8 P **P 17 14 05.8 +0.1**
comp=Z,4.9nm,1.1s
SIRR Siria 72.42 6 ⇓P **P 17 14 06.2 -0.4**
ONER Baraj Valea Uz 72.53 3 ⇓P **P 17 14 07.3 +0.2**
KSH Kashi 72.69 324 P **P 17 14 09.8 +1.4**
KSH pmax pmax
comp=Z,4.0nm,0.6s
OZUR 72.75 3 ⇓P **P 17 14 09.0 +0.5**
DOPR Dopca 72.87 3 ⇓P **P 17 14 09.8 +0.6**
SURR Surduc 72.96 6 ⇓P **P 17 14 09.9 +0.2**
PLOR3 Plostina Array 73.02 2 P **P 17 14 10.1 0.0**
PLOR Plostina 73.02 2 ⇓P **P 17 14 10.8 +0.7**
BZS Buzias 73.07 6 ⇑P **P 17 14 10.1 -0.3**
SPBR Spulber 73.12 2 ⇓P **P 17 14 11.3 +0.6**
LOT Lotru 73.33 5 ⇓P **P 17 14 11.4 -0.6**
GZR Gura Zlata 73.35 5 ⇑P **P 17 14 12.0 0.0**
VOIR 73.39 4 ⇓P **P 17 14 12.4 0.0**
ARR Arges 73.45 4 ⇓P **P 17 14 13.3 +0.6**
CFR Carcaliu 73.72 1 ⇓P **P 17 14 14.0 -0.1**
MDVR Moldovita 73.91 6 ⇓P **P 17 14 15.2 -0.2**
TPGR Topolog 74.04 1 ⇓P **P 17 14 16.0 -0.1**
HARR Harsova 74.20 2 ⇑P **P 17 14 17.1 +0.2**
TIRR Tirgusor 74.44 1 ⇑P **P 17 14 18.7 +0.4**
KBZ Khabaz 74.66 350 P **P 17 14 19.9 +0.3**
comp=Z,5.7nm,0.9s,baz=27,slow=4.5,SNR=5.2
comp=Z,5.7nm,0.9s
FDMO Fiordimonte 74.96 13 IAmb IAmb 17 14 22.6
comp=Z,8.1nm,1.1s
BOVS Bovan 75.05 6 ⇓P **P 17 14 21.2 -0.7**
NRCA Norcia 75.17 13 IAmb IAmb 17 14 30.0
comp=Z,4.6nm,0.9s
PZH PanZhiHua 75.27 298 P **P 17 14 25.8 +2.2**
PZH pmax pmax
comp=Z,8.0nm,39.0s
PZH pmax pmax
comp=Z,100nm,4.7s
SIMJ Simiganj 75.33 329 P **P 17 14 22.9 -0.9**
SIMJ IAmb IAmb 17 14 23.9
comp=Z,4.7nm,0.7s
ESDC Sonseca Array 75.51 26 P **P 17 14 25.1 +0.4**
comp=Z,2.8nm,0.7s,baz=341,slow=5.5,SNR=15
comp=Z,2.8nm,0.7s
PDG Podgorica 76.10 8 ⇑P **P 17 14 27.6 -0.3**
SDV Santo Domingo 77.15 95 P **P 17 14 34.0 -0.5**
SDV IAmb IAmb 17 14 38.1
comp=Z,5.4nm,0.7s
CTYL Yalikoy Yolu 77.42 1 P **P 17 14 35.3 -0.1**
comp=Z,8.6nm,1.0s
MATE Matera 77.68 10 ⇓P **P 17 14 37.1 +0.2**
RDO Rodhopi 77.69 3 IAmb IAmb 17 14 38.1
comp=Z,6.3nm,0.9s
ALN Alexandroupoli 77.95 3 IAmb IAmb 17 14 39.3
comp=Z,7.6nm,0.8s
BAUV El Baul 78.34 93 P **P 17 14 39.4 -1.4**
RUSC La Rusia 78.59 99 P **P 17 14 41.7 -1.1**
LIT Litokhoron 78.61 6 IAmb IAmb 17 14 42.5
comp=Z,7.0nm,0.7s
ANTO Ankara 79.01 358 P **P 17 14 44.5 +0.2**
comp=Z,4.9nm,1.3s
BR106 Keskin Array S 79.12 357 P **P 17 14 45.3 +0.2**
BRTR Keskin Array B 79.13 357 P **P 17 14 44.8 -0.3**
comp=Z,1.6nm,0.8s,baz=20,slow=3.4,SNR=6.1
comp=Z,1.6nm,0.8s
TIP Timpagrande 79.14 10 ⇓P **P 17 14 44.8 -0.3**
MARD Mardin 81.19 351 P **P 17 14 56.3 +0.1**
MARD IAmb IAmb 17 14 57.5
comp=Z,6.6nm,0.7s
KEST Kesra 81.71 17 P **P 17 14 58.8 -0.1**
comp=Z,5.4nm,0.7s,baz=329,slow=5.5,SNR=7.1
comp=Z,5.4nm,0.7s
BRDH Bariadhala 82.80 305 LR LR 17 56 10.7
comp=Z,45nm,21.7s,baz=352,slow=39
CMAR Chiang Mai Arr 83.57 297 P **P 17 15 07.3 -1.4**
comp=Z,1.2nm,0.7s,baz=4.3,slow=6.4,SNR=14
CMAR LR LR 17 55 57.7
comp=Z,26nm,18.9s,baz=60,slow=38
comp=Z,1.2nm,0.7s
BOSA Boshof 147.01 8 PKPbc **PKPbc 17 22 21.7 -1.1**
comp=Z,5.5nm,0.9s,baz=7.1,slow=2.7,SNR=6.2
QSPA South Pole Qui 151.26 180 PKPbc **PKiKP 17 22 32.0 -0.7**
comp=Z,11nm,0.7s,baz=188,slow=1.3,SNR=26

---

*NOU **18** 17:07:49.2, 37.°32S×177.°37E, h246km, mb3.5/9, Off E. Coast of N. Island, N.Z.*
*WEL **18** 17:07:58.8±0.7, 37.°S±4.°×17.°7E±.°, h164km±6km, M2.9/47, MLv2.9/47, Error ellipse: s-maj=5.9km s-min=4.7km az=29.4, confirmed*
ISC 18 17:07:54.6±2.1, 37.°48S±0.°07×176.°77E±0.°06, h201km±12km, n109, σ19.44/121, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.40**	**206**	P	**Pn**	**17 08 22.0**	**+0.5**
TGRZ	**Tauranga**	**0.48**	**239**	P	**Pn**	**17 08 22.4**	**+0.7**
MARZ	**Manawahe**	**0.51**	**189**	P	**Pn**	**17 08 22.9**	**+1.1**
KMRZ	**Kaimai**	**0.75**	**241**	P	**Pn**	**17 08 24.0**	**+1.0**
TARZ	**Mount Tarawera**	**0.78**	**196**	P	**Pn**	**17 08 24.8**	**+1.6**
URZ	**Urewera**	**0.82**	**161**	P	**Pn**	**17 08 23.9**	**+0.7**
URZ	**Urewera**	**0.82**	**161**	P	**Pn**	**17 08 24.0**	**+0.7**
URZ				S	**S**	**17 08 43.3**	**-2.4**
HAZ	**Te Kaha**	**0.85**	**109**	P	**Pn**	**17 08 23.9**	**+0.5**
HAZ				S	**S**	**17 08 44.0**	**-1.7**
RUGZ	**Raukumara Rang**	**0.86**	**124**	P	**Pn**	**17 08 23.7**	**0.0**
RUGZ				S	**S**	**17 08 43.8**	**-2.4**
MUGZ	**Murupara**	**0.99**	**180**	P	**Pn**	**17 08 25.4**	**+1.0**
MUGZ				S	**S**	**17 08 45.8**	**-1.7**
GRRZ	**Galatos Road**	**1.01**	**211**	P	**Pn**	**17 08 26.0**	**+1.5**
MWZ	**Matawai**	**1.04**	**145**	P	**Pn**	**17 08 25.6**	**+0.9**
MWZ				S	**S**	**17 08 46.8**	**-1.3**
TOZ	**Tahuroa Road**	**1.04**	**256**	P	**Pn**	**17 08 25.8**	**+1.1**
PRRZ	**Plateau Road**	**1.06**	**196**	P	**Pn**	**17 08 26.5**	**+1.6**
PKGZ	**Pakihiroa**	**1.11**	**111**	P	**Pn**	**17 08 26.5**	**+1.3**
PKGZ				S	**S**	**17 08 47.4**	**-1.3**
KUZ	**Kuaotunu**	**1.12**	**311**	P	**Pn**	**17 08 25.5**	**+0.2**
ALRZ	**Allen Road**	**1.13**	**197**	P	**Pn**	**17 08 26.7**	**+1.4**
RAGZ	**Rawiri**	**1.13**	**154**	P	**Pn**	**17 08 27.0**	**+1.5**
RAGZ				S	**S**	**17 08 48.6**	**-0.7**
RTZ	**Ruatahuna**	**1.14**	**172**	P	**Pn**	**17 08 26.6**	**+1.0**
RTZ				S	**S**	**17 08 48.7**	**-0.8**
TWGZ	**Tauwhareparae**	**1.18**	**126**	P	**Pn**	**17 08 28.4**	**+2.6**
TWGZ				S	**S**	**17 08 50.1**	**+0.4**
MXZ	**Matakaoa Point**	**1.22**	**94**	P	**Pn**	**17 08 27.2**	**+1.2**
MXZ				S	**S**	**17 08 49.4**	**-0.7**
TKGZ	**Te Karaka**	**1.28**	**139**	P	**Pn**	**17 08 28.3**	**+1.8**
TKGZ				S	**S**	**17 08 50.5**	**-0.5**
TLZ	**Tolley Road**	**1.29**	**229**	P	**Pn**	**17 08 28.3**	**+1.6**
PUZ	**Puketiti**	**1.31**	**117**	P	**Pn**	**17 08 26.9**	**+0.1**
PUZ				S	**S**	**17 08 50.3**	**-1.3**
MKAZ	**Moumakai**	**1.34**	**286**	P	**Pn**	**17 08 27.9**	**+0.9**
WMGZ	**Waiomatatini S**	**1.34**	**105**	P	**Pn**	**17 08 28.4**	**+1.4**
WMGZ				S	**S**	**17 08 51.7**	**-0.2**
MTHZ	**Maungataniwha**	**1.37**	**178**	P	**Pn**	**17 08 28.6**	**+1.3**
SNGZ	**Shannon Statio**	**1.37**	**161**	P	**Pn**	**17 08 28.9**	**+1.6**
MRHZ	**Matea Rd**	**1.38**	**192**	P	**Pn**	**17 08 28.6**	**+1.2**
RIGZ	**Rimuhau**	**1.45**	**148**	P	**Pn**	**17 08 29.9**	**+2.0**
RAHZ	**Arahi**	**1.45**	**170**	P	**Pn**	**17 08 29.7**	**+1.8**
WATZ	**Wairara**	**1.48**	**214**	P	**Pn**	**17 08 30.0**	**+1.8**
WIAZ	**Waiheke Island**	**1.48**	**297**	P	**Pn**	**17 08 29.0**	**+0.8**
CNGZ	**Carnagh Statio**	**1.51**	**132**	P	**Pn**	**17 08 31.0**	**+2.5**
ETAZ	**East Tamaki Re**	**1.56**	**289**	P	**Pn**	**17 08 30.3**	**+1.4**
RATZ	**Rangitukua**	**1.59**	**209**	P	**Pn**	**17 08 30.9**	**+1.7**
WHHZ	**Waihua**	**1.63**	**167**	P	**Pn**	**17 08 31.7**	**+2.1**
RITZ	**Rihia Road**	**1.66**	**205**	P	**Pn**	**17 08 31.7**	**+1.9**
MBAZ	**Motutapu North**	**1.66**	**295**	P	**Pn**	**17 08 30.9**	**+1.1**
PRGZ	**Paritu Road**	**1.68**	**149**	P	**Pn**	**17 08 31.9**	**+1.8**
KNZ	**Kokohu**	**1.69**	**156**	P	**Pn**	**17 08 31.8**	**+1.7**
BKZ	**Black Stump Fm**	**1.70**	**187**	P	**Pn**	**17 08 31.2**	**+1.0**
BKZ	**Black Stump Fm**	**1.70**	**187**	P	**Pn**	**17 08 31.2**	**+1.0**
KATZ	**Kakaramea**	**1.72**	**209**	P	**Pn**	**17 08 32.7**	**+2.3**
AWAZ	**Awhitu Peninsu**	**1.75**	**283**	P	**Pn**	**17 08 31.8**	**+1.1**
ABAZ	**Army Bay**	**1.79**	**299**	P	**Pn**	**17 08 32.2**	**+1.2**
ARHZ	**Aropaoanui**	**1.79**	**174**	P	**Pn**	**17 08 32.9**	**+1.9**
NTVZ	**North Tongarir**	**1.83**	**208**	P	**Pn**	**17 08 33.5**	**+1.9**
HIZ	**Hauiti**	**1.83**	**235**	P	**Pn**	**17 08 33.7**	**+2.2**
HIZ	**Hauiti**	**1.83**	**235**	P	**Pn**	**17 08 31.7**	**+0.3**
TMVZ	**Te Maari**	**1.84**	**207**	P	**Pn**	**17 08 33.4**	**+1.8**
KRVZ	**Karewarewa**	**1.84**	**209**	P	**Pn**	**17 08 33.3**	**+1.6**
ETVZ	**East Tongariro**	**1.85**	**207**	P	**Pn**	**17 08 33.4**	**+1.7**
WTVZ	**West Tongariro**	**1.88**	**209**	P	**Pn**	**17 08 33.7**	**+1.7**
NNVZ	**North Ngauruho**	**1.88**	**209**	P	**Pn**	**17 08 34.2**	**+2.1**
MHGZ	**Mahia Peninsul**	**1.89**	**152**	P	**Pn**	**17 08 34.3**	**+2.2**
OTVZ	**Oturere**	**1.89**	**207**	P	**Pn**	**17 08 34.0**	**+1.8**
TWVZ	**Taurewa**	**1.90**	**213**	P	**Pn**	**17 08 34.2**	**+1.9**
SNVZ	**South Ngauruho**	**1.92**	**207**	P	**Pn**	**17 08 34.3**	**+1.8**
NGZ	**Ngauruhoe**	**1.93**	**208**	P	**Pn**	**17 08 34.9**	**+2.3**
KWHZ	**Kaweka Forest**	**1.96**	**188**	P	**Pn**	**17 08 34.5**	**+1.7**
MCHZ	**McNeill Hill**	**1.96**	**182**	P	**Pn**	**17 08 34.7**	**+1.9**
COVZ	**Chateau Observ**	**1.97**	**209**	P	**Pn**	**17 08 34.7**	**+1.7**
TUVZ	**Tukino**	**1.99**	**206**	P	**Pn**	**17 08 34.7**	**+1.5**
FWVZ	**Far West T-bar**	**2.02**	**208**	P	**Pn**	**17 08 35.2**	**+1.7**
MAVZ	**Matarangi**	**2.02**	**208**	P	**Pn**	**17 08 35.3**	**+1.6**
WHVZ	**Whangaehu Hut**	**2.03**	**207**	P	**Pn**	**17 08 35.2**	**+1.5**
TRVZ	**Turoa**	**2.06**	**208**	P	**Pn**	**17 08 35.6**	**+1.6**
WNVZ	**Wahianoa**	**2.06**	**206**	P	**Pn**	**17 08 35.3**	**+1.4**
MOVZ	**Moawhango**	**2.08**	**202**	P	**Pn**	**17 08 34.9**	**+0.9**
PKVZ	**Pokaka**	**2.13**	**211**	P	**Pn**	**17 08 36.0**	**+1.5**
MTVZ	**Mangateitei**	**2.16**	**208**	P	**Pn**	**17 08 36.4**	**+1.5**
KRHZ	**Kereru**	**2.18**	**188**	P	**Pn**	**17 08 36.1**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.19**	**174**	P	**Pn**	**17 08 36.9**	**+1.9**
KAHZ	**Kahuranaki**	**2.31**	**178**	P	**Pn**	**17 08 38.2**	**+1.8**
PNHZ	**Pukenui**	**2.47**	**190**	P	**Pn**	**17 08 38.9**	**+0.7**
PXZ	**Pawanui**	**2.55**	**178**	P	**Pn**	**17 08 40.3**	**+1.3**
WPHZ	**Waipukurau**	**2.59**	**186**	P	**Pn**	**17 08 40.7**	**+1.2**
TSZ	**Takapari Road**	**2.65**	**194**	P	**Pn**	**17 08 40.9**	**+0.7**
WAZ	**Wanganui**	**2.67**	**211**	P	**Pn**	**17 08 41.7**	**+1.4**
LREZ	**Lake Rotokare**

PRWZ	Pori Road	3.13 191	P	Pn	17 08 46.7 +0.9
BFZ	Birch Farm	3.22 187	P	Pn	17 08 47.3 +0.5
BFZ	Birch Farm	3.22 187	P	Pn	17 08 47.4 +0.6
MRZ	Mangatainoka R	3.31 196	P	Pn	17 08 48.0 +0.1
TIWZ	Tintock	3.36 192	P	Pn	17 08 49.1 +0.5
CPWZ	Castlepoint	3.45 187	P	Pn	17 08 50.9 +1.4
HOWZ	Holdsworth Sta	3.55 196	P	Pn	17 08 50.7 -0.1
OGWZ	Otaki Gorge	3.56 200	P	Pn	17 08 50.9 +0.1
KIW	Kapiti Island	3.67 203	P	Pn	17 08 52.1 -0.2
TMWZ	Te Maipa	3.69 190	P	Pn	17 08 53.0 +0.5
MTW	Mount Morrison	3.80 195	P	Pn	17 08 53.5 -0.4
CAW	Cannon Point	3.86 200	P	Pn	17 08 54.3 -0.2
DUWZ	D'Urville Isla	3.99 213	P	Pn	17 08 56.2 0.0
TRWZ	Traveller	4.00 192	P	Pn	17 08 56.2 -0.1
PAWZ	Paruwai Farm	4.03 195	P	Pn	17 08 56.2 -0.6
MSWZ	Moikau Station	4.10 196	P	Pn	17 08 57.0 -0.6
WEL	Wellington	4.10 202	P	Pn	17 08 57.3 -0.3
SNZO	South Karori	4.15 202	P	Pn	17 08 58.2 +0.1
BHW	Baring Head	4.19 200	P	Pn	17 08 58.1 -0.5
PLWZ	Palliser	4.25 196	P	Pn	17 08 58.7 -0.8
QRZ	Quartz Range	4.70 223	P	Pn	17 09 06.3 +1.2
KHZ	Kahutara	5.52 206	P	Pn	17 09 15.0 -0.5

*WEL **18** 17:10:36.4±1.0,33°S±6°×17°8W±1°8,h0km,M4.6/10, mB5.0/6,ML4.8/14,MLv4.8/10,Mw(mB)4.3/6,Error ellipse: s-maj=24.2km s-min=4.7km az=105.9,confirmed*
*IDC **18** 17:10:40.0±0.9,32°40S×178°37W,h0km,mb4.2/3, mbtmp4.3/5,ML4.3/2,MS3.4/4,Error ellipse: s-maj=33.7km s-min=21.8km az=105.0*
*NEIC **18** 17:10:47.9±1.2,32°92S±0°06×178°6W±0°2,h35km±2km, mb4.5/14,Error ellipse: s-maj=29.2km s-min=7.2km az=106.0*
*NOU **18** 17:10:55.9,33°43S×178°50W,h109km,mb4.1/6,South of Kermadec Islands*
ISC 18 17:10:41.3±0.7,32°61S±0°06×178°0W±0°1,h20km,n93, σ1º92/95,mb4.4/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.34	1	P	Pn	17 11 30.0	-2.3
GLKZ				S	Sn	17 12 07.5	-3.8
RAO	Raoul Island	3.35	1	Pn	Pb	17 11 42.9	+2.9
RAO	Raoul Island	3.35	1	Pn	Pn	17 11 32.0	-0.4
	49nm,0.3s,baz=188,slow=23,SNR=1.4						
RAO				Sn	Sn	17 12 09.9	-1.7
	214nm,0.3s,baz=251,slow=21,SNR=4.1						
RAO				LR	LR	17 12 31.8	
	comp=Z,324nm,19.1s,baz=176,slow=35						
	187nm,0.3s						
MXZ	Matakaoa Point	5.81 211		Pn	Pn	17 12 03.2	-3.0
MXZ	Matakaoa Point	5.81 211		P	Pn	17 12 08.0	+1.8
MXZ	Matakaoa Point	5.81 211		P	Pn	17 12 04.4	-1.8
MXZ				S	Sn	17 13 13.0	+0.8
WMGZ	Waiomatatini S	5.98 209		P	Pn	17 12 07.3	-1.3
PKGZ	Pakihiroa	6.16 211		P	Pn	17 12 10.0	-1.1
HAZ	Te Kaha	6.20 213		P	Pn	17 12 11.3	-0.4
HAZ				S	Sn	17 13 24.8	+2.9
PUZ	Puketiti	6.26 208		P	Pn	17 12 11.5	-1.0
PUZ				S	Sn	17 13 24.1	+0.6
RUGZ	Raukumara Rang	6.42 212		P	Pn	17 12 13.7	-1.0
TWGZ	Tauwhareparae	6.46 210		P	Pn	17 12 14.4	-0.9
CNGZ	Carnagh Statio	6.64 207		P	Pn	17 12 16.0	-1.6
TKGZ	Te Karaka	6.74 209		P	Pn	17 12 19.6	+0.6
MWZ	Matawai	6.79 211		P	Pn	17 12 17.9	-1.8
URZ	Urewera	6.92 214		Pn	Pn	17 12 21.6	+0.1
	3.5nm,0.3s,baz=337,slow=4.8,SNR=13						
URZ				Sn	Sn	17 13 38.6	-1.0
	4.6nm,0.3s,baz=12,slow=18,SNR=8.0						
	9.5nm,0.3s						
URZ	Urewera	6.92 214		P	Pn	17 12 21.1	-0.4
URZ	Urewera	6.92 214		P	Pn	17 12 20.4	-1.0
URZ				S	Sn	17 13 38.4	-1.2
RAGZ	Rawiri	6.97 211		P	Pn	17 12 20.7	-1.6
RIGZ	Rimuhau	7.00 209		P	Pn	17 12 21.9	-0.8
PRGZ	Paritu Road	7.14 207		P	Pn	17 12 21.8	-2.8
WCZ	Waipu Caves	7.17 240		P	Pn	17 12 28.8	+3.7
SNGZ	Shannon Statio	7.24 210		P	Pn	17 12 25.9	0.0
MUGZ	Murupara	7.25 215		P	Pn	17 12 25.6	-0.5
RTZ	Ruatahuna	7.27 213			Pn	17 12 26.2	-0.2
RTZ	Ruatahuna	7.27 213		P	Pn	17 12 26.0	-0.4
KNZ	Kokohu	7.31 208		P	Pn	17 12 26.0	-0.8
TOZ	Tahuroa Road	7.39 224		Pn	Pn	17 12 25.3	-2.7
RAHZ	Arahi	7.46 211		P	Pn	17 12 30.1	+1.1
RAHZ				S	Sn	17 13 52.9	-0.2
OUZ	Omahuta	7.48 247		P	Pn	17 12 32.8	+3.6
OUZ	Omahuta	7.48 247		P	Pn	17 12 32.5	+3.3
BKZ	Black Stump Fm	7.93 213			Pn	17 12 33.6	-1.9
BKZ	Black Stump Fm	7.93 213		P	Pn	17 12 36.4	+0.9
BKZ	Black Stump Fm	7.93 213		P	Pn	17 12 36.1	+0.6
PXZ	Pawanui	8.50 208		P	Pn	17 12 42.4	-0.8
TSZ	Takapari Road	8.90 212		P	Pn	17 12 46.9	-1.8
BFZ	Birch Farm	9.30 208		Pn	Pn	17 12 51.6	-2.5
BFZ	Birch Farm	9.30 208		P	Pn	17 12 53.3	-0.8
BFZ	Birch Farm	9.30 208		P	Pn	17 12 51.6	-2.5
MRZ	Mangatainoka R	9.56 211		Pn	Pn	17 12 55.0	-2.7
MRZ	Mangatainoka R	9.56 211		P	Pn	17 12 54.7	-3.0
MSWZ	Moikau Station	10.32 210		Pn	Pn	17 13 07.0	-1.2
CTZ	Chatham Island	11.16 175		P	Pn	17 13 21.0	+1.4
THZ	Tophouse	11.67 216		Pn	Pn	17 13 24.8	-1.9
THZ	Tophouse	11.67 216		P	Pn	17 13 26.8	+0.1
KHZ	Kahutara	11.88 212		Pn	Pn	17 13 27.1	-2.3
KHZ	Kahutara	11.88 212		P	Pn	17 13 29.6	+0.2
KHZ	Kahutara	11.88 212		P	Pn	17 13 28.9	-0.6
DSZ	Denniston Nort	12.22 219		P	Pn	17 13 34.1	-0.2
GVZ	Greta Valley S	12.54 212		Pn	Pn	17 13 36.4	-2.1
LTZ	Lake Taylor	12.75 214		Pn	Pn	17 13 38.5	-2.9
LTZ	Lake Taylor	12.75 214		P	Pn	17 13 38.9	-2.5
INZ	Inchbonnie	13.11 217		Pn	Pn	17 13 44.3	-2.0
INZ	Inchbonnie	13.11 217		P	Pn	17 13 45.9	-0.4
OXZ	Oxford	13.28 213		Pn	Pn	17 13 44.0	-4.6
MQZ	McQueen's Vall	13.30 211		Pn	Pn	17 13 45.0	-3.8
MQZ	McQueen's Vall	13.30 211		P	Pn	17 13 45.4	-3.4
RPZ	Rata Peaks	14.04 215		Pn	Pn	17 13 55.0	-3.9
	0.4nm,0.3s,baz=115,slow=23,SNR=2.0						
RPZ				Sn	Sn	17 16 20.4	-14
	0.5nm,0.3s,baz=95,slow=23,SNR=2.4						
TMZ	Timaru	14.56 213		P	Pn	17 14 03.9	-2.3
ODZ	Otahua Downs	15.24 212		Pn	Pn	17 14 10.8	-4.4
WHZ	Wether Hill Ro	17.14 215		Pn	Pn	17 14 34.6	-4.9
WHZ				IAmb	IAmb	17 14 36.2	
	comp=Z,36nm,1.4s						
DZM	Mont Dzumac	17.36 303		LR	LR	17 19 38.1	
	comp=Z,181nm,18.6s,baz=210,slow=32						
RAR	Rarotonga	19.77 59		LR	LR	17 23 44.7	
	comp=Z,59nm,18.2s,baz=272,slow=39						
COEN	Coen	39.95 288		P	P	17 18 15.3	+0.9
COEN				IAmb	IAmb	17 18 26.3	
	comp=Z,15nm,1.4s						
AS31	Alice Springs	43.06 269		P	P	17 18 39.6	-0.4
ASAR	Alice Springs	43.06 269		P	P	17 18 39.3	-0.7
ASAR	Alice Springs	43.06 269		P	P	17 18 39.0	-1.0
	comp=Z,1.9nm,0.6s,baz=110,slow=7.4,SNR=60						
ASAR				PcP	PcP	17 20 30.7	+0.8
	comp=Z,0.2nm,0.4s,baz=124,slow=3.1,SNR=1.4						
	comp=Z,1.9nm,0.6s						
WR0	Warramunga Arr	44.07 274		P	P	17 18 47.2	-0.9
WR0				IAmb	IAmb	17 19 01.1	
	comp=Z,7.8nm,1.2s						
WB2	Warramunga Arr	44.24 274		P	P	17 18 48.9	-0.5
WB2				IAmb	IAmb	17 19 01.4	
	comp=Z,6.8nm,0.7s						
WRAB	Tennant Creek	44.24 274		P	P	17 18 48.8	-0.7
WRAB				IAmb	IAmb	17 18 55.2	
	comp=Z,6.0nm,0.9s						
WRA	Warramunga Arr	44.25 274		P	P	17 18 48.8	-0.8
WRA	Warramunga Arr	44.25 274		P	P	17 18 48.8	-0.8
	comp=Z,1.5nm,0.3s,baz=114,slow=8.0,SNR=32						
	comp=Z,1.5nm,0.3s						
WB0	Warramunga Arr	44.28 275		P	P	17 18 49.5	-0.3
WB0				IAmb	IAmb	17 18 55.6	
	comp=Z,10nm,1.1s						
FORT	Forrest	45.55 257		P	P	17 18 58.3	-1.4
MTN	Manton Dam	50.38 281		P	P	17 19 35.1	-2.2
KNRA	Kununurra	50.93 276		P	P	17 19 41.6	+0.2
KNRA				IAmb	IAmb	17 19 48.0	
	comp=Z,8.8nm,0.9s						
FITZ	Fitzroy Crossi	52.41 272		P	P	17 19 50.9	-1.7
CASY	Casey	53.21 209		P	P	17 19 56.4	-1.3
QSPA	South Pole Qui	57.51 180		P	P	17 20 31.5	+2.6
QSPA				IAmb	IAmb	17 21 03.8	
	comp=Z,4.0nm,0.9s						
QSPA	South Pole Qui	57.51 180		P	P	17 20 32.7	+3.8
	comp=Z,1.9nm,1.0s,baz=66,slow=0.8,SNR=14						
	comp=Z,1.9nm,1.0s						
H03N3	Juan Fernandez	79.43 123		T	T	18 51 50.5	
	baz=238,slow=74						
H03N2	Juan Fernandez	79.44 123		T	T	18 51 47.3	
	baz=238						
H03N1	Juan Fernandez	79.45 123		T	T	18 51 51.9	
	baz=238,slow=74						
YBH	Yreka Blue Hor	89.75 38		LR	LR	17 56 03.9	
	comp=Z,25nm,20.4s,baz=282,slow=30						
MKAR	Makanchi Array	119.20 309		PKP	PKiKP	17 29 29.4	+0.8
	comp=Z,0.2nm,0.6s,baz=158,slow=1.0,SNR=4.5						
KURBB	Kurchatov Arra	122.61 313		PKP	PKiKP	17 29 36.0	+0.8
	comp=Z,0.9nm,0.8s,baz=107,slow=2.2,SNR=9.1						
BVAR	Borovoye Array	127.99 315		PKP	PKiKP	17 29 46.8	+1.0
	comp=Z,1.0nm,0.5s,baz=142,slow=2.5,SNR=9.4						
FINES	FINESS Array B	147.22 339		PKPbc	PKPbc	17 30 23.3	+1.0
	comp=Z,6.7nm,0.8s,baz=45,slow=3.9,SNR=38						
NOA	NORSAR Array B	150.93 351		PKPbc	PKiKP	17 30 32.5	+0.1
	comp=Z,0.9nm,0.9s,baz=18,slow=3.1,SNR=1.6						
HFS	Hagfors	151.41 348		PKPbc	PKiKP	17 30 33.9	+0.5
	comp=Z,1.9nm,0.5s,baz=104,slow=4.9,SNR=5.7						
MMAI	Mount Meron Ar	152.01 280		PKPbc	PKiKP	17 30 36.6	+1.0
	comp=Z,2.5nm,0.6s,baz=64,slow=3.8,SNR=7.8						
AKASG	Malin Array Be	153.04 320		PKPbc	PKiKP	17 30 37.4	+0.4
	comp=Z,0.9nm,0.5s,baz=60,slow=2.0,SNR=5.3						
BRTR	Keskin Array B	153.61 295		PKPbc	PKiKP	17 30 39.2	+0.4
	comp=Z,0.6nm,0.5s,baz=147,slow=4.3,SNR=4.6						

*NEIC **18** 17:32:48.2±1.2,6°38S±0°09×148°74E±0°06,h35km±2km, mb4.1/14,Error ellipse: s-maj=17.5km s-min=6.5km az=149.0*
*IDC **18** 17:32:49.8±2.2,6°43S×148°83E,h72km±18km,mb3.5/6, mbtmp3.9/8,MS3.1/4,Error ellipse: s-maj=48.1km s-min=13.6km az=117.0*
ISC 18 17:32:48.0±0.8,6°39S±0°08×148°6E±0°1,h46km,n28, σ2º00/31,mb3.9/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.31 205		P	Pn	17 33 39.4	+2.0
PMG				S	Sn	17 34 20.1	+4.5
	450nm,0.5s,baz=18,slow=16,SNR=14						
PMG				LR	LR	17 35 08.1	
	comp=Z,127nm,21.9s,baz=322,slow=41						
KRVT	Keravat (AS076	4.00 59		LR	LR	17 35 34.3	
	comp=Z,127nm,18.2s,baz=330,slow=43						
MANU	Manus Island	4.48 344		Pn	Pn	17 33 53.9	+0.5
COEN	Coen	9.21 215		Pn	Pn	17 34 58.8	+0.4
COEN				Sn	Sn	17 36 34.4	-6.3
SAUI	Saumlaki	17.22 264		Pn	Pn	17 36 44.4	-1.0
MTN	Manton Dam	18.35 248		P	Pn	17 36 59.9	+0.6
MTN				IAmb	IAmb	17 37 08.3	
	comp=Z,11nm,0.9s						
EIDS	Eidsvold	19.03 173		P	P	17 37 05.1	-1.1
EIDS				IAmb	IAmb	17 37 30.8	
	comp=Z,14nm,1.3s						
WB0	Warramunga Arr	19.16 225		P	Pn	17 37 09.0	0.0
WB0				IAmb	IAmb	17 37 23.4	
	comp=Z,4.6nm,0.6s						
WRAB	Tennant Creek	19.30 224		P	Pn	17 37 10.8	+0.1
WRAB				IAmb	IAmb	17 37 24.8	
	comp=Z,6.4nm,0.9s						
WB2	Warramunga Arr	19.30 224		P	Pn	17 37 11.0	+0.3
WB2				IAmb	IAmb	17 37 24.9	
	comp=Z,5.2nm,0.6s						
WRA	Warramunga Arr	19.31 224		P	Pn	17 37 11.0	+0.2
WRA	Warramunga Arr	19.31 224		P	Pn	17 37 11.2	+0.4
	comp=Z,2.7nm,0.3s,baz=52,slow=11,SNR=51						
WRA				S	S	17 40 41.6	-4.2
	comp=Z,0.6nm,0.7s,baz=49,slow=21,SNR=2.8						
WRA				LR	LR	17 45 26.6	
	comp=Z,105nm,18.1s,baz=352,slow=39						
KNRA	Kununurra	21.51 243		P	P	17 37 34.5	+1.3
KNRA				IAmb	IAmb	17 38 15.0	
	comp=Z,20nm,1.2s						
AS31	Alice Springs	22.23 218		P	P	17 37 42.0	+0.9
ASAR	Alice Springs	22.23 218		P	P	17 37 42.5	+1.5
ASAR	Alice Springs	22.23 218		P	P	17 37 42.2	+1.2
	comp=Z,1.7nm,0.5s,baz=56,slow=9.2,SNR=35						
ASAR				S	S	17 41 43.5	+0.4
	comp=Z,1.8nm,0.8s,baz=34,slow=21,SNR=8.7						
	comp=Z,1.7nm,0.5s						
ARMA	Armidale	24.08 174		P	P	17 37 59.7	+0.3
ARMA				IAmb	IAmb	17 38 03.6	
	comp=Z,18nm,1.4s						
SOEI	Soe	24.30 260		P	P	17 38 04.0	+2.5
SOEI				IAmb	IAmb	17 38 25.4	
	comp=Z,8.1nm,0.7s						
FITZ	Fitzroy Crossi	25.22 240		P	P	17 38 12.0	+2.3
STKA	Stephens Creek	26.19 194		P	P	17 38 18.6	+0.2
STKA	Stephens Creek	26.19 194		P	P	17 38 18.5	+0.1
	comp=Z,1.7nm,0.7s,baz=9.5,slow=12,SNR=3.3						
STKA				LR	LR	17 48 31.1	
	comp=Z,66nm,18.5s,baz=57,slow=36						
	comp=Z,1.7nm,0.7s						
JAGI	Jajag, Banyuwa	34.20 264		P	P	17 39 28.8	-0.7
KSAR	Wonju Array Be	47.69 338		P	P	17 41 21.0	+0.9
PETK	Petropavlovsk-	59.77 6		P	P	17 42 47.1	-1.1
	comp=Z,1.8nm,0.8s,baz=151,slow=5.4,SNR=4.7						
	comp=Z,1.8nm,0.8s						
MKAR	Makanchi Array	78.80 320		P	P	17 44 46.7	+0.7
	comp=Z,0.2nm,0.5s,baz=129,slow=3.9,SNR=1.8						
	comp=Z,0.2nm,0.5s						
QSPA	South Pole Qui	83.58 180		P	P	17 45 10.2	-1.0
	comp=Z,1.0nm,0.8s,baz=352,slow=2.0,SNR=6.5						
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	85.22 23		P	P	17 45 17.1	-2.3
	comp=Z,0.4nm,0.7s,baz=250,slow=4.7,SNR=4.7						
	comp=Z,0.4nm,0.7s						
TORD	Torodi Ar. Bea	146.71 284		PKPbc	PKPdf	17 52 24.8	+0.6
	comp=Z,19nm,0.3s,baz=64,slow=2.8,SNR=1.7						

TXNET 18 17:40:12.0,32°N±1°×104°3W±0°9,h4km±2km,ML1.7/5, Error ellipse: s-maj=1.7km s-min=1.2km az=30.0,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.36	31	P	Pg	17 40 18.8	-0.2
TPB11				S	Sg	17 40 23.6	-0.2
PECS	Pecos	0.42	128	P	Pg	17 40 20.3	+0.2
PECS				S	Sg	17 40 25.8	+0.3
TPB12	Southwest of T	0.48	148	P	Pg	17 40 21.4	0.0
TPB12				S	Sg	17 40 28.2	+0.7
TPB07	Mentone	0.50	95	S	Sg	17 40 28.5	+0.3
GDL2	Guadalupe Moun	0.58	351	P	Pg	17 40 23.9	+0.7
TPB01	Permian Basin	0.79	149	P	Pg	17 40 26.6	-0.6
TPB01				S	Sg	17 40 36.6	-0.9
MNTX	Cornudas Mount	0.97	275	P	Pg	17 40 30.9	+0.3
MNTX				S	Sb	17 40 43.9	-0.6
VHRN	Van Horn	1.04	217	P	Pg	17 40 31.8	-0.3
VHRN				S	Sb	17 40 46.4	-0.5
TPB05	Hovey Rd	1.06	131	P	Pg	17 40 32.0	-0.4
TPB05				S	Sg	17 40 45.7	-0.5
MNHN	Monahans	1.30	102	S	Sg	17 40 53.2	-0.8
ALPN	Alpine	1.35	157	P	Pn	17 40 36.5	-1.4
ALPN				S	Sg	17 40 54.0	-1.6
ODSA	Odessa	1.53	71	S	Sn	17 40 59.4	-1.2
TMB02	Rankin	1.94	102	S	Sb	17 41 11.7	-0.9
TX31	Lajitas Ar. Si	2.34	167	Pg	Pb	17 40 54.5	-0.3
TX31				Sg	Sg	17 41 25.9	-1.3
SAND	Sanderson	2.48	132	Sg	Sg	17 41 29.8	-1.8

*IDC **18** 17:49:45.1±0.5,2°35N×128°92E,h0km,mb4.2/24, mbtmp4.3/26,ML4.7/2,MS3.3/15,Error ellipse: s-maj=21.3km s-min=9.9km az=85.0*
*DJA **18** 17:49:49.0±0.4,2°N±2°×12°9E±°,h10km±2km,M4.7/39, mb4.7/39,mB5.3/6,MLv4.7/15,Mw(mB)4.7/6*
*NEIC **18** 17:49:50.9±1.8,2°25N±0°07×128°79E±0°08,h35km±2km, mb4.6/45,Error ellipse: s-maj=14.4km s-min=11.2km az=79.0*
ISC 18 17:49:50.7±0.4,2°25N±0°05×128°81E±0°06,h40km,n145, σ1º08/129,mb4.5/57,MS3.3/14,1C-2D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.05	225	Pn	Pn	17 50 22.6	-0.1
TNTI	Ternate	2.05	225	P	Pn	17 50 22.3	-0.4
TNTI				S	Sn	17 50 47.1	0.0
SGSI	Sangihe	3.57	294	P	Pn	17 50 44.5	+0.9
SGSI				S	Sn	17 51 27.1	+2.5
SWI	Sorong	3.94	142	P	Pn	17 50 48.7	0.0
KMSI	Cibinong	5.10	251	P	Pn	17 51 04.8	+0.2
SANI	Sanana	5.11	213	P	Pn	17 51 04.3	-0.5
	44nm,0.7s						
MSAI	Masohi	5.56	179	P	Pn	17 51 16.4	+5.5
DAV	Davao City (W)	5.77	326	Pn	Pn	17 51 13.2	-0.6
DAV	Davao City (W)	5.77	326	Pn	Pn	17 51 12.3	-1.6
	16nm,0.3s,baz=95,slow=16,SNR=1.2						
DAV				Sn	Sn	17 52 32.5	+14
	31nm,0.3s,baz=56,slow=18,SNR=1.5						
	92nm,0.3s						
FAKI	Fak Fak	6.18	146	Pn	Pn	17 51 19.2	-0.2
FAKI	Fak Fak	6.18	146	P	Pn	17 51 18.9	-0.5
RKPI	Ransiki, Papua	6.54	125	P	Pn	17 51 25.5	+1.1
LUWI	Luwuk	6.86	242	Pn	Pn	17 51 24.6	-4.2
LUWI	Luwuk	6.86	242	P	Pn	17 51 29.6	+0.8
	0.5nm87nm,1.0s						
MRSI	Marisa	7.09	256	P	Pn	17 51 30.8	-1.1
BAKI	Biak	8.06	115	P	Pn	17 51 48.4	+3.2
TOLI2	Tolitoli	8.10	262	Pn	Pn	17 51 45.3	-0.6
SRPI	Serui, Papua	8.48	119	P	Pn	17 51 52.8	+1.7
	22nm,0.6s						
KDI	Kendari	8.73	225	P	Pn	17 51 55.2	+0.7
	601nm47nm,1.3s						
TTSI	Tana Toraja	10.41	240	P	Pn	17 52 16.0	-1.5
	540nm62nm,1.0s						
MYLDM	Lahad Datu	10.69	286		Pn	17 52 21.8	+0.5
SPSI	Sidrap Palu	10.94	236	P	Pn	17 52 25.6	+0.9
BKSI	Bulukumba	11.48	229	P	Pn	17 52 33.2	+1.1
	39nm,0.9s						
KAPI	Kappang	11.57	231	Pn	Pn	17 52 33.8	+0.4
KAPI	Kappang	11.57	231	Pn	Pn	17 52 34.9	+1.5
	6.2nm,0.3s,baz=118,slow=5.1,SNR=9.2						
KAPI				LR	LR	17 57 40.9	
	comp=Z,64nm,18.8s,baz=52,slow=41						
	14nm,0.3s						
BSSI	Bau Bau, Buton	11.77	225	P	Pn	17 52 36.3	+0.2
	47nm,0.9s						
KKM	Kota Kinabalu	13.11	287	Pn	Pn	17 52 55.1	+0.6
WBSI	Waikabubak, Su	15.08	218	P	Pn	17 53 21.0	-0.1
	53nm,0.9s						
MTN	Manton Dam	15.17	171	Pn	Pn	17 53 19.9	-2.3
PLAI	Plampang	15.55	225	P	Pn	17 53 26.1	-1.2
	29nm,0.8s						
TWSI	Taliwang, Sumb	16.14	227	P	Pn	17 53 34.8	+0.1
	51nm,1.1s						
SBUM	Sibu	16.57	271		Pn	17 53 40.0	-0.3
SRBI	Singaraja	17.00	233	P	Pn	17 53 45.7	0.0
	26nm,1.1s						
KMMI	Kalianget	17.45	238	P	Pn	17 53 51.4	+0.1
	83nm,1.1s						
STKI	Sintang	17.46	263	P	P	17 53 52.3	+0.1
KNRA	Kununurra	17.81	180	Pn	Pn	17 53 54.4	-1.2
JAGI	Jajag, Banyuwa	18.08	234	P	Pn	17 53 59.3	+0.3
JAGI				IAmb	IAmb	17 54 18.5	
	comp=Z,45nm,1.0s						
KSM	Kuching	18.51	268	P	Pn	17 54 04.8	+0.6
GMJI	Gumukmas	18.55	236	P	P	17 54 04.6	+0.5
	comp=Z,26nm,1.4s						
NGJI	Ngawi	19.77	241	P	Pn	17 54 19.5	+0.2
	comp=Z,74nm,0.9s						
PWJI	Pagerwojo	19.79	239	P	P	17 54 18.7	+0.9
	comp=Z,8μmcomp=Z,58nm,1.3s						
PCJI	Pacitan	20.41	239	P	P	17 54 26.0	+1.4
	comp=Z,91nm,1.2s						
FITZ	Fitzroy Crossi	20.45	189	P	P	17 54 25.4	+0.5
	comp=Z,3.6nm,0.6s,baz=23,slow=7.6,SNR=8.0						
FITZ				S	Sn	17 58 18.5	+1.5
	comp=Z,1.9nm,1.0s,baz=324,slow=9.8,SNR=1.3						
	comp=Z,3.6nm,0.6s						
SMRI	Semarang	20.52	243	P	P	17 54 25.4	-0.4
SMRI	Semarang	20.52	243	P	P	17 54 27.2	+1.4
	comp=Z,52nm,1.0s						
UGM	Wanagama	20.84	241	P	Pn	17 54 31.1	-0.8
	comp=Z,83nm,1.2s						
YOGI	Yogyakarta	21.00	241	P	P	17 54 31.8	+0.9
	comp=Z,51nm,0.7s						
PMG	Port Moresby	21.64	123	P	P	17 54 36.8	-0.9
	comp=Z,5.8nm,0.9s,baz=306,slow=18,SNR=2.1						
PMG				LR	LR	18 02 51.3	
	comp=Z,80nm,20.1s,baz=284,slow=36						
	comp=Z,5.8nm,0.9s						
TPI	Tanjungpandan	21.72	257	P	P	17 54 38.8	+0.1
KPJI	Karang Pucung	22.00	244	P	P	17 54 42.6	+1.0
	comp=Z,35nm,1.1s						
DLV	Lat	22.33	297	P	P	17 54 44.7	-0.7
WB0	Warramunga Arr	22.55	166	P	P	17 54 48.2	+0.7
WB0				IAmb	IAmb	17 55 14.8	
	comp=Z,14nm,0.9s						
WRAB	Tennant Creek	22.70	166	P	P	17 54 49.4	+0.3
WRAB				IAmb	IAmb	17 55 04.7	
	comp=Z,12nm,0.7s						
WRA	Warramunga Arr	22.71	166	P	P	17 54 49.4	+0.2
WRA	Warramunga Arr	22.71	166	P	P	17 54 49.5	+0.4
	comp=Z,2.8nm,0.5s,baz=342,slow=11,SNR=

XAN				pP	pP	17 56 59.0	-6.0
XAN				sP	sP	17 57 04.6	-5.1
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
JMM	**Marumori**	**37.12**	**16**	P	**P**	**17 56 58.0**	**+0.6**
BJT	**Baijiatuau**	**39.31**	**345**	P	**P**	**17 57 15.6**	**-0.3**
BJT				IAmb	IAmb	17 57 23.0	
	comp=Z,6.3nm,0.8s						
BJI	**Beijing**	**39.33**	**345**	P	**P**	**17 57 15.8**	**-0.2**
BJI				sP	**pP**	**17 57 22.6**	**-4.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.47**	**64**	T	T	18 40 44.6	
	baz=251,slow=75,SNR=116						
H11S2	**WAKE ISLAND Hy**	**40.48**	**64**	T	T	18 40 45.6	
	baz=251,slow=75,SNR=104						
H11S1	**WAKE ISLAND Hy**	**40.49**	**64**	T	T	18 40 45.6	
	baz=251,slow=75,SNR=122						
LZH	**Lanzhou**	**40.84**	**328**	*e*P	P	17 57 35.3	+6.5
LZH				pP	sP	17 57 46.0	+1.5
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**41.06**	**62**	T	T	18 41 27.0	
	baz=250,slow=75,SNR=278						
H11N2	**WAKE ISLAND Hy**	**41.07**	**62**	T	T	18 41 30.4	
	baz=250,slow=75,SNR=163						
H11N3	**WAKE ISLAND Hy**	**41.08**	**62**	T	T	18 41 28.7	
	baz=250,slow=75,SNR=310						
USRK	**Ussuriysk Ar.**	**41.87**	**3**	P	**P**	**17 57 36.3**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=177,slow=7.2,SNR=2.7						
	comp=Z,3.1nm,0.8s						
MDJ	**Mudanjiang**	**42.20**	**1**	P	**P**	**17 57 40.4**	**+0.7**
MDJ				IAmb	IAmb	17 57 50.2	
	comp=Z,22nm,1.5s						
MDJ	**Mudanjiang**	**42.20**	**1**	P	**P**	**17 57 40.8**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.8s						
XLT	**XiLinHaoTe**	**42.99**	**346**	*e*P	**P**	**17 57 46.1**	**-0.1**
XLT				pP	pP	17 57 59.1	+2.1
XLT				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BNX	**BinXian**	**43.33**	**359**	⇓P	**P**	**17 57 49.4**	**+0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,2.3s						
ASAJ	**Asahikawa**	**43.45**	**14**	LR	LR	18 14 45.2	
	comp=Z,46nm,19.9s,baz=173,slow=35						
GTA	**Gaotai**	**45.44**	**328**	*e*P	**P**	**17 58 07.3**	**+1.4**
GTA				pP	pP	17 58 12.3	-4.8
GTA				PcP	**PP**	**17 59 51.8**	**-1.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GOMU	**GeErMu**	**46.13**	**321**	P	**P**	**17 58 12.4**	**+0.7**
GOMU				pP	pP	17 58 16.3	-6.6
GOMU				sP	sP	17 58 21.8	-5.8
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**49.18**	**341**	P	**P**	**17 58 35.1**	**+0.2**
ULN				IAmb	IAmb	17 58 36.2	
	comp=Z,5.8nm,0.8s						
SONM	**Songino Array**	**49.37**	**340**	P	**P**	**17 58 36.7**	**+0.4**
SONM				IAmb	IAmb	17 58 45.9	
	comp=Z,3.6nm,0.7s						
SONM	**Songino Array**	**49.37**	**340**	P	**P**	**17 58 36.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=155,slow=9.0,SNR=17						
SONM				LR	LR	18 21 25.3	
	comp=Z,38nm,19.2s,baz=293,slow=38						
	comp=Z,1.7nm,0.7s						
WMQ	**Urumqi**	**55.12**	**325**	*e*P	**P**	**17 59 18.1**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**56.05**	**21**	P	**P**	**17 59 25.4**	**0.0**
	comp=Z,4.6nm,0.9s,baz=218,slow=9.0,SNR=5.6						
	comp=Z,4.6nm,0.9s						
YAK	**Yakutsk**	**59.64**	**0**	P	**P**	**17 59 50.2**	**-0.2**
YAK	**Yakutsk**	**59.64**	**0**	LR	LR	18 24 58.2	
	comp=Z,13nm,20.9s,baz=54,slow=36						
MA2	**Magadan**	**59.66**	**13**	P	**P**	**17 59 48.4**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=129,slow=13,SNR=5.4						
MA2				LR	LR	18 23 17.8	
	comp=Z,26nm,21.6s,baz=164,slow=34						
	comp=Z,1.8nm,0.5s						
MK31	**Makanchi Array**	**59.95**	**325**	P	**P**	**17 59 52.2**	**-0.7**
MKAR	**Makanchi Array**	**59.95**	**325**	P	**P**	**17 59 52.4**	**-0.6**
MKAR	**Makanchi Array**	**59.95**	**325**	P	**P**	**17 59 52.9**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=117,slow=8.4,SNR=65						
	comp=Z,1.5nm,0.4s						
MAKZ	**Makanchi**	**60.14**	**325**	P	**P**	**17 59 53.8**	**-0.5**
MAKZ				IAmb	IAmb	18 00 00.3	
	comp=Z,5.2nm,1.1s						
KSH	**Kashi**	**60.55**	**315**	P	**P**	**17 59 58.3**	**+0.9**
KSH				sP	sP	18 00 19.0	+5.4
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KDJ	**Kajisay**	**60.83**	**318**	P	**P**	**17 59 59.4**	**+0.2**
KDJ				IAmb	IAmb	18 00 06.0	
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**62.84**	**318**	P	**P**	**18 00 12.5**	**-0.3**
ZALV	**Zalesovo Beam**	**62.85**	**333**	P	**P**	**18 00 11.8**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=104,slow=6.3,SNR=4.2						
	comp=Z,0.5nm,0.4s						
SEY	**Seymchan**	**63.03**	**12**	P	**P**	**18 00 12.9**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=214,slow=3.0,SNR=9.4						
	comp=Z,2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**64.10**	**327**	P	**P**	**18 00 20.6**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=126,slow=6.0,SNR=14						
	comp=Z,1.8nm,0.5s						
KURK	**Kurchatov**	**64.10**	**327**	P	**P**	**18 00 20.2**	**-0.5**
GAR	**Garm**	**64.45**	**313**	P	**P**	**18 00 23.1**	**-0.3**
CHGR	**Chuyangaron**	**65.20**	**312**	P	**P**	**18 00 28.0**	**-0.2**
KK31	**Karatay Array**	**65.73**	**317**	P	**P**	**18 00 32.9**	**+1.4**
KK31				IAmb	IAmb	18 00 37.0	
	comp=Z,4.1nm,0.9s						
KKAR	**Karatay Array**	**65.73**	**317**	P	**P**	**18 00 30.7**	**-0.8**
TIXI	**Tiksi**	**69.30**	**0**	P	**P**	**18 00 52.9**	**-0.6**
TIXI				IAmb	IAmb	18 01 07.9	
	comp=Z,3.5nm,0.6s						
TIXI	**Tiksi**	**69.30**	**0**	LR	LR	18 32 40.5	
	comp=Z,25nm,19.3s,baz=187,slow=37						
BVAR	**Borovoye Array**	**69.69**	**327**	P	**P**	**18 00 56.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=125,slow=7.4,SNR=12						
	comp=Z,1.9nm,0.7s						
BRVK	**Borovoye**	**69.76**	**327**	P	**P**	**18 00 55.9**	**-0.7**
BRVK				IAmb	IAmb	18 01 03.0	
	comp=Z,4.4nm,0.8s						
NRIK	**Noril'sk**	**72.36**	**346**	P	**P**	**18 01 11.0**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=142,slow=7.8,SNR=3.9						
	comp=Z,1.5nm,0.4s						
ABKAR	**Akbulak array**	**74.61**	**321**	P	**P**	**18 01 24.9**	**-0.8**
AKTO	**Aktyubinsk**	**76.10**	**322**	LR	LR	18 35 27.3	
	comp=Z,38nm,18.2s,baz=262,slow=36						
E18K	**Tukpahlearik C**	**80.55**	**22**	IAmb	IAmb	18 02 01.4	
	comp=Z,5.0nm,1.0s						
C18K	**Utukok River**	**80.71**	**20**	IAmb	IAmb	18 02 01.8	
	comp=Z,6.9nm,1.2s						
D19K	**Kuna River**	**81.75**	**21**	IAmb	IAmb	18 02 28.1	
	comp=Z,6.5nm,1.1s						
E19K	**Redstone River**	**81.81**	**22**	P	**P**	**18 02 07.2**	**+2.0**
E19K				IAmb	IAmb	18 02 19.3	
	comp=Z,6.8nm,1.1s						
KDAK	**Kodiak Island**	**82.03**	**32**	P	**P**	**18 02 07.0**	**+0.4**
	comp=Z,12nm,1.0s,baz=136,slow=5.4,SNR=2.0						
	comp=Z,12nm,1.0s						
E22K	**Anaktuvuk Pass**	**83.97**	**22**	P	**P**	**18 02 18.5**	**+2.0**
COLD	**Coldfoot**	**84.45**	**23**	IAmb	IAmb	18 02 33.0	
	comp=Z,3.7nm,0.8s						
G23K	**Bananza Creek**	**84.45**	**23**	IAmb	IAmb	18 02 44.1	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**85.55**	**25**	P	**P**	**18 02 24.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=250,slow=5.1,SNR=8.0						
	comp=Z,0.3nm,0.7s						
INK	**Inuvik**	**90.77**	**22**	P	**P**	**18 02 49.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=14,slow=4.2,SNR=1.6						
	comp=Z,0.4nm,0.5s						
SYO	**Syowa Base**	**91.80**	**201**	⇑*e*P	**P**	**18 02 56.2**	**+2.2**
QSPA	**South Pole Qui**	**92.16**	**180**	P	**P**	**18 02 55.4**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=153,slow=4.5,SNR=1.3						
	comp=Z,1.0nm,1.0s						
ARCES	**ARCESS Array B**	**92.55**	**340**	P	**P**	**18 02 57.5**	**0.0**
	comp=Z,3.8nm,0.8s,baz=76,slow=5.8,SNR=7.0						
	comp=Z,3.8nm,0.8s						
FINES	**FINESS Array B**	**94.11**	**332**	P	**P**	**18 03 05.0**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=2.6,slow=4.2,SNR=3.4						
FINES				LR	LR	18 48 40.1	
	comp=Z,73nm,18.4s,baz=274,slow=38						
	comp=Z,2.6nm,0.9s						

*IDC **18** 18:05:04.6±1.1, 13°.12N×143°.75E, h223km±17km, mb2.8/5, mbtmp3.4/5, Error ellipse: s-maj=52.9km s-min=18.5km az=95.0*

ISC 18 18:05:03.4±1.0, 13°.1N±0°.2×143°.3E±0°.1, h200km, n6, σ1§41/7, mb3.0/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.55**	**73**	P	**Pn**	**18 05 38.7**	**+1.2**
	452nm,1.3s,baz=252,slow=6.4,SNR=7.3						
GUMO				S	**Sn**	**18 06 04.1**	**+0.1**
	80nm,0.3s,baz=189,slow=22,SNR=11						
WRA	**Warramunga Arr**	**34.05**	**195**	P	**P**	**18 11 28.6**	**-0.2**
	0.7nm,0.6s,baz=16,slow=9.4,SNR=8.2						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**37.73**	**194**	P	**P**	**18 11 59.8**	**-0.2**
	0.2nm,0.6s,baz=28,slow=9.2,SNR=5.7						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**60.78**	**316**	P	**P**	**18 14 55.5**	**+1.2**
	0.3nm,0.9s,baz=103,slow=6.4,SNR=1.4						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**69.36**	**322**	P	**P**	**18 15 49.4**	**+0.1**
	0.2nm,0.5s,baz=106,slow=7.2,SNR=2.3						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**69.61**	**25**	P	**P**	**18 15 48.4**	**-2.2**
	0.3nm,0.9s,baz=264,slow=6.1,SNR=1.8						
	0.3nm,0.9s						

*TIR **18** 18:39:38.0, 37°.61N×20°.50E, h8km, Md3.6/5, Ml3.1/4*
*THE **18** 18:39:38.8, 37°.59N×20°.61E, h0km±2km, ML2.9/7, Error ellipse: s-maj=2.9km s-min=0.7km az=223.0*
*ATH **18** 18:39:38.4, 37°.57N×20°.60E, h10km±1km, ML2.9/13, Manual Solution by A.Agalos First location: 2019/02/18 18:40:33, This location: 2019/02/18 19:17:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 18 18:39:38.5±1.6, 37°.59N±0°.05×20°.59E±0°.04, h8km±8km, n45, σ0§64/76, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.23**	**58**	P	**Pg**	**18 39 43.0**	**-0.2**
LTHK				S	**Sg**	**18 39 45.6**	**-0.7**
	10μm,0.2s						
LTHK	**Lithakia**	**0.23**	**58**	P	**Pg**	**18 39 43.2**	**0.0**
LTHK				S	**Sg**	**18 39 45.9**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.28**	**17**	P	**Pg**	**18 39 44.7**	**+0.6**
ORTH				S	**Sg**	**18 39 48.3**	**+0.5**
KYPS	**Kipseli, Zakin**	**0.29**	**38**	P	**Pg**	**18 39 45.0**	**+0.7**
KYPS				S	**Sg**	**18 39 48.8**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.51**	**16**	P	**Pg**	**18 39 48.5**	**+0.1**
RTZL				S	**Sb**	**18 39 56.1**	**-1.1**
	1μm,0.2s						
CLEM	**Kyllini,Ilia,G**	**0.52**	**55**	P	**Pg**	**18 39 48.8**	**+0.1**
CLEM				S	**Sg**	**18 39 55.9**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.53**	**359**	P	**Pg**	**18 39 49.2**	**+0.5**
PSDA				S	**Sb**	**18 39 57.1**	**-0.6**
	1μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.53**	**359**	P	**Pb**	**18 39 49.3**	**-0.7**
PSDA				S	**Sg**	**18 39 56.6**	**+1.0**
VLS	**Valsamata**	**0.59**	**360**	P	**Pg**	**18 39 50.0**	**0.0**
VLS				S	**Sb**	**18 39 58.8**	**-0.8**
	815nm,0.1s						
VLS	**Valsamata**	**0.59**	**360**	P	**Pg**	**18 39 49.9**	**0.0**
SMHA	**Samh**	**0.66**	**4**	P	**Pg**	**18 39 50.7**	**-0.6**
SMHA				S	**Sg**	**18 40 00.4**	**+0.4**
DMLN	**Damoulianata-K**	**0.67**	**345**	P	**Pg**	**18 39 51.9**	**+0.4**
DMLN				S	**Sb**	**18 40 01.8**	**-0.2**
	2μm,0.7s						
DMLN	**Damoulianata-K**	**0.67**	**345**	P	**Pb**	**18 39 52.1**	**-0.4**
RLS	**Riolos of Patr**	**0.84**	**56**	P	**Pg**	**18 39 54.2**	**-0.4**
RLS				S	**Sg**	**18 40 05.8**	**+0.2**
RLS	**Riolos of Patr**	**0.84**	**56**	P	**Pg**	**18 39 54.2**	**-0.4**
RLS				S	**Sg**	**18 40 05.7**	**+0.2**
AXS	**Araxos**	**0.87**	**45**	P	**Pg**	**18 39 54.8**	**-0.5**
AXS				S	**Sg**	**18 40 06.8**	**+0.3**
FSK	**Fiskardo**	**0.87**	**358**	P	**Pg**	**18 39 54.7**	**-0.6**
FSK				S	**Sb**	**18 40 08.7**	**+1.0**
	610nm,0.5s						
FSK	**Fiskardo**	**0.87**	**358**	P	**Pg**	**18 39 55.0**	**-0.3**
AMT	**Artemida-Makis**	**0.89**	**93**	P	**Pg**	**18 39 55.6**	**0.0**
AMT				S	**Sb**	**18 40 07.7**	**-0.6**
DRO	**Drossia**	**0.96**	**67**	P	**Pg**	**18 39 56.7**	**-0.2**
DRO				S	**Sb**	**18 40 10.7**	**+0.5**
	810nm,0.5s						
DRO	**Drossia**	**0.96**	**67**	P	**Pg**	**18 39 56.8**	**-0.2**
EVGI	**Lefkada island**	**1.03**	**3**	P	**Pg**	**18 39 57.8**	**-0.5**
EVGI				S	**Sn**	**18 40 14.0**	**0.0**
EVGI	**Lefkada island**	**1.03**	**3**	P	**Pg**	**18 39 57.9**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.09**	**359**	P	**Pg**	**18 39 58.8**	**-0.8**
DRAG				S	**Sn**	**18 40 15.3**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.09**	**359**	P	**Pb**	**18 39 59.6**	**-0.1**
DRAG				S	**Sn**	**18 40 15.0**	**-0.5**
ITM	**Ithomi**	**1.14**	**111**	P	**Pb**	**18 40 00.4**	**-0.1**
ITM				S	**Sn**	**18 40 16.8**	**+0.2**
ITM	**Ithomi**	**1.14**	**111**	P	**Pg**	**18 40 00.1**	**-0.3**
LKD2	**Lefkada island**	**1.20**	**2**	Pg	**Pb**	**18 40 01.4**	**-0.1**
LKD2				Sg	**Sn**	**18 40 18.8**	**+0.7**
LKD2				AML	AML	18 40 28.1	
	1.6nm,0.8s						
LKD2				AMd		18 41 23.6	
LKD2	**Lefkada island**	**1.20**	**2**	P	**Pb**	**18 40 00.9**	**-0.6**
LKD2				S	**Sn**	**18 40 18.4**	**+0.3**
TSLK	**Tsoukalades, L**	**1.24**	**2**	P	**Pn**	**18 40 02.1**	**0.0**
PVO	**Paravola**	**1.26**	**35**	P	**Pn**	**18 40 02.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.31**	**69**	P	**Pn**	**18 40 03.1**	**-0.2**
KLV				S	**Sn**	**18 40 23.1**	**+2.1**
KLV	**Kalavryta, Ach**	**1.31**	**69**	P	**Pn**	**18 40 03.2**	**0.0**
EFP	**Efpalio**	**1.33**	**51**	P	**Pn**	**18 40 02.7**	**-0.7**
EFP				S	**Sn**	**18 40 23.1**	**+1.8**
EFP	**Efpalio**	**1.33**	**51**	P	**Pn**	**18 40 03.0**	**-0.5**
GUR	**Goura**	**1.43**	**75**	P	**Pn**	**18 40 04.9**	**0.0**
ANX	**Ano Chora**	**1.45**	**46**	P	**Pn**	**18 40 05.1**	**-0.1**
ANX				S	**Sb**	**18 40 24.6**	**+0.1**
KALE	**Kalithea**	**1.46**	**56**	P	**Pn**	**18 40 04.9**	**-0.4**
KALE				S	**Sg**	**18 40 26.0**	**+0.4**
KALE	**Kalithea**	**1.46**	**56**	P	**Pn**	**18 40 05.0**	**-0.3**
IGT	**Igoumenitsa**	**1.95**	**354**	Pg	**Pb**	**18 40 14.5**	**+0.1**
IGT				Sg	**Sg**	**18 40 41.7**	**+0.5**
IGT				AMd		18 41 53.6	
IGT	**Igoumenitsa**	**1.95**	**354**	P	**Pn**	**18 40 12.4**	**+0.4**
SRN	**Sarande**	**2.33**	**349**	Pn	**Pb**	**18 40 20.4**	**-0.4**
SRN				Sn	**Sg**	**18 40 52.2**	**-1.3**
SRN				AML	AML	18 41 02.9	
	0.1nm,0.7s						
SRN				AMd		18 41 58.9	
LSK	**Leskovik**	**2.56**	**0**	Pn	**Pb**	**18 40 24.3**	**-0.4**
LSK				Sn	**Sb**	**18 40 57.4**	**+1.1**
NEST	**Nestorio**	**2.84**	**7**	Pn	**Pb**	**18 40 27.8**	**-1.8**
NEST				Sn	**Sb**	**18 41 05.4**	**+0.7**
NEST				AML	AML	18 41 34.5	
	0.1nm,0.9s						
NEST				AMd		18 42 28.3	
SCTE	**Santa Cesarea**	**2.98**	**327**	Pn	**Pn**	**18 40 26.8**	**+0.6**
SCTE				AML	AML	18 41 29.6	
	0.3nm,0.8s						
SCTE				AMd		18 42 32.1	

*IDC **18** 18:59:06.9±4.7, 7°.57S×127°.79E, h103km±43km, mb3.5/8, mbtmp4.0/11, Error ellipse: s-maj=68.6km s-min=16.9km az=63.0*
*NEIC **18** 18:59:10.1±1.7, 7°.4S±0°.1×127°.87E±0°.05, h147km±13km, mb4.1/8, Error ellipse: s-maj=17.7km s-min=6.9km az=189.0*

ISC 18 18:59:10.5±0.6, 7°.59S±0°.08×127°.83E±0°.06, h150km, n42, σ1§87/37, mb3.7/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.46**	**97**	Pn	**Pn**	**19 00 03.0**	**-0.8**
SAUI				Sn	**Sn**	**19 00 44.1**	**-0.9**
SOEI	**Soe**	**4.13**	**238**	Pn	**Pn**	**19 00 13.2**	**+0.6**
SOEI				Sn	**Sn**	**19 00 56.2**	**-4.6**
SOEI	**Soe**	**4.13**	**238**	P	**Pn**	**19 00 13.6**	**+1.0**
MMRI	**Maumere**	**5.64**	**259**	Pn	**Pn**	**19 00 33.0**	**+0.6**
DRS	**Darwin Rock St**	**5.68**	**148**	P	**Pn**	**19 00 34.3**	**+1.3**
SANI	**Sanana**	**5.80**	**341**	P	Pn	19 00 38.3	+3.7
MTN	**Manton Dam**	**6.15**	**148**		**Pn**	**19 00 40.5**	**+1.3**
MTN	**Manton Dam**	**6.15**	**148**	P	**Pn**	**19 00 40.8**	**+1.6**
FAKI	**Fak Fak**	**6.39**	**44**	Pn	**Pn**	**19 00 38.7**	**-3.8**
FAKI	**Fak Fak**	**6.39**	**44**	P	Pn	19 00 45.6	+3.1
KDU	**Kakadu**	**6.82**	**138**	P	**Pn**	**19 00 49.3**	**+1.1**
KNRA	**Kununurra**	**8.09**	**174**		**Pn**	**19 01 04.6**	**-0.5**
PLAI	**Plampang**	**10.03**	**262**	P	**Pn**	**19 01 31.0**	**0.0**
FITZ	**Fitzroy Crossi**	**10.66**	**191**		Pn	19 01 36.3	-3.0
FITZ	**Fitzroy Crossi**	**10.66**	**191**	P	Pn	19 01 36.5	-2.8
	12nm,0.4s,baz=23,slow=10,SNR=103						
FITZ				S	Sn	19 03 27.0	-10
	3.7nm,0.3s,baz=18,slow=9.6,SNR=2.4						
FITZ	**Fitzroy Crossi**	**10.66**	**191**	P	Pn	19 01 36.5	-2.8
WB0	**Warramunga Arr**	**13.68**	**153**		**Pn**	**19 02 16.4**	**-2.0**
WRAB	**Tennant Creek**	**13.80**	**153**	P	**Pn**	**19 02 17.9**	**-2.1**
WRA	**Warramunga Arr**	**13.81**	**153**	P	**Pn**	**19 02 18.2**	**-1.9**
WRA	**Warramunga Arr**	**13.81**	**153**	P	**Pn**	**19 02 18.0**	**-2.0**
	6.7nm,0.8s,baz=324,slow=14,SNR=41						
WRA				S	Sn	19 04 43.0	-10
	5.1nm,0.6s,baz=335,slow=22,SNR=8.0						
WB2	**Warramunga Arr**	**13.81**	**153**	P	**Pn**	**19 02 17.8**	**-2.4**
WR0	**Warramunga Arr**	**13.91**	**153**	P	**Pn**	**19 02 18.5**	**-2.9**
PSA00	**Pilbara Seismi**	**15.90**	**208**	P	Pn	19 02 40.1	-6.0
PSA00				IAmb	IAmb	19 02 46.7	
	comp=Z,12nm,0.7s						
PSA00	**Pilbara Seismi**	**15.90**	**208**	P	Pn	19 02 39.6	-6.4
PSA00				IAmb	IAmb	19 02 40.3	
	comp=Z,10.0nm,1.1s						
COEN	**Coen**	**16.34**	**114**		**Pn**	**19 02 49.5**	**-2.0**
COEN				IAmb	IAmb	19 03 24.1	
	comp=Z,6.6nm,1.0s						
AS31	**Alice Springs**	**17.01**	**161**	P	**Pn**	**19 03 01.3**	**+1.7**
ASAR	**Alice Springs**	**17.02**	**161**		**P**	**19 02 58.4**	**-0.7**
ASAR	**Alice Springs**	**17.02**	**161**	P	**P**	**19 02 59.0**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=336,slow=12,SNR=76						
ASAR				S	S	19 06 00.8	-8.1
	comp=Z,1.3nm,0.7s,baz=317,slow=18,SNR=5.9						
BBOO	**Buckleboo**	**26.23**	**164**	P	**P**	**19 04 34.1**	**+2.5**
STKA	**Stephens Creek**	**27.36**	**154**	P	**P**	**19 04 42.8**	**+1.1**
STKA	**Stephens Creek**	**27.36**	**154**	P	**P**	**19 04 43.5**	**+1.8**
	comp=Z,3.1nm,0.6s,baz=317,slow=8.3,SNR=8.5						
	comp=Z,3.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.50**	**313**	P	**P**	**19 06 19.9**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=142,slow=6.7,SNR=4.1						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**58.35**	**343**	P	**P**	**19 08 51.6**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=156,slow=7.2,SNR=3.1						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**67.56**	**328**	P	**P**	**19 09 48.8**	**-2.0**
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**19 09 48.9**	**-1.8**
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**19 09 52.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=122,slow=7.2,SNR=10.0						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**71.18**	**335**	P	**P**	**19 10 13.1**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=150,slow=6.2,SNR=4.4						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**71.90**	**329**	P	**P**	**19 10 18.9**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=134,slow=5.1,SNR=10						
	comp=Z,0.6nm,0.3s						
KURK	**Kurchatov**	**71.92**	**330**	P	**P**	**19 10 17.2**	**0.0**
KURK				IAmb	IAmb	19 10 28.1	
	comp=Z,4.2nm,1.4s						
BVAR	**Borovoye Array**	**77.43**	**329**	P	**P**	**19 10 50.5**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=140,slow=7.6,SNR=2.0						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**82.39**	**180**	P	**P**	**19 11 17.2**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=84,slow=0.4,SNR=8.7						
	comp=Z,1.1nm,0.7s						
LPAZ	**La Paz**	**151.50**	**146**	PKPbc	**PKiKP**	**19 18 51.0**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=180,slow=1.9,SNR=2.8						

*KRNET **18** 19:06:38.4±0.1, 39°.47N×73°.78E, h17km, mb2.9*
*SOME **18** 19:06:39.8, 39°.85N×73°.05E, h5km*
*NNC **18** 19:06:42.0±1.3, 39°.85N×73°.17E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.9km s-min=7.9km az=162.0*

ISC 18 19:06:42.6±1.4, 39°.70N±0°.05×73°.43E±0°.03, h1km±11km, n34, σ1§82/57, 22C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.31**	**10**	⇑*i*P	**Pg**	**19 06 49.7**	**+1.0**
SFK				⇑*i*S	**Sb**	**19 06 58.0**	**+1.2**
OHH	**Osh**	**0.96**	**329**	⇓*i*P	**Pn**	**19 07 02.7**	**-0.5**
OHH				⇓*i*S	**Sn**	**19 07 20.4**	**+2.8**
SALK	**Salom-Alik**	**1.22**	**14**	⇓*i*P	**Pg**	**19 07 04.6**	**-1.3**
SALK				⇓*i*S	**Sn

2.2nm,0.4s
KOTS Lg Lg 19 09 04.1
24nm,0.7s
KOTS Kotyrbulak 4.48 37 *e*P **Pb 19 08 03.8 +1.6**
1.2nm,0.2s
KOTS *e*S **Sg 19 09 04.1 -2.4**
18nm,0.4s
KTBS Karatobe 4.69 30 Pg **Pb 19 08 07.5 +1.9**
1.6nm,0.5s
KTBS Lg Lg 19 09 10.5
6.0nm,0.6s
SATY Saty 5.02 47 *e*P **Pg 19 08 23.4 +4.6**
0.1nm,0.1s
SATY *e*S Sg 19 09 37.8 +14
2.1nm,0.2s
BTLS Baital 5.35 5 Pg **Pb 19 08 17.3 +0.4**
0.6nm,0.3s
BTLS Lg Lg 19 09 27.2
0.8nm,0.2s
ARXS Arharly 5.57 35 Pg **Pb 19 08 23.4 +2.8**
0.1nm,0.1s
ARXS Lg Lg 19 09 37.8
4.2nm,0.4s

*NEIC **18** 19:10:07.7±1.7,8°.89N±0°.09×126°.4E±0°.2,h79km±10km, mb4.2/17, Error ellipse: s-maj=21.6km s-min=12.5km az=86.0*
*IDC **18** 19:10:22.3±2.0,8°.78N×126°.41E,h218km±19km,mb3.3/7, mbtmp3.8/7, Error ellipse: s-maj=36.3km s-min=13.1km az=64.0*
ISC 18 19:10:05.1±0.7,**8°.95N**±0°.07×**126°.5E**±0°.1,**h54**km,**n30,**
σ1§**22**/32,**mb4.0**/16,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.06**	**205**	Pn	**Pn**	**19 10 40.0**	**+2.7**
DAV				Sn	**Sn**	**19 11 01.0**	**-0.9**
DAV	**Davao City (W)**	**2.06**	**205**	P	**Sn**	**19 11 01.9**	**0.0**
208nm,0.5s,baz=54,slow=18,SNR=5.2							
FAKI	**Fak Fak**	**13.12**	**154**	Pn	**Pn**	**19 13 10.6**	**+1.7**
SBUM	**Sibu**	**15.56**	**246**		**P**	**19 13 43.9**	**-0.7**
YOJ	**Yonaguni jima**	**15.78**	**348**		**Pn**	**19 13 43.2**	**-0.7**
UBPT	**Khong Chiam**	**21.45**	**289**	P	**P**	**19 14 48.9**	**-0.3**
UBPT				IAmb	IAmb	19 15 12.9	
comp=Z,9.1nm,1.2s							
MTN	**Manton Dam**	**22.14**	**168**	P	**P**	**19 14 54.6**	**-1.9**
MTN				IAmb	IAmb	19 15 14.9	
comp=Z,20nm,1.3s							
KNRA	**Kununurra**	**24.57**	**175**	P	**P**	**19 15 20.5**	**+0.4**
KNRA				IAmb	IAmb	19 15 27.6	
comp=Z,21nm,1.2s							
FITZ	**Fitzroy Crossi**	**26.89**	**182**	P	**P**	**19 15 40.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.32**	**292**	P	**P**	**19 15 55.9**	**+1.9**
comp=Z,0.7nm,0.7s,baz=97,slow=7.2,SNR=7.5							
comp=Z,0.7nm,0.7s							
WB0	**Warramunga Arr**	**29.58**	**165**	P	**P**	**19 16 04.6**	**-0.6**
WB0				IAmb	IAmb	19 16 44.6	
comp=Z,5.2nm,1.2s							
WRAB	**Tennant Creek**	**29.73**	**165**	P	**P**	**19 16 05.2**	**-1.3**
WRAB				IAmb	IAmb	19 16 06.2	
comp=Z,4.6nm,1.1s							
WRA	**Warramunga Arr**	**29.74**	**165**	P	**P**	**19 16 04.9**	**-1.7**
WRA	**Warramunga Arr**	**29.74**	**165**	P	**P**	**19 16 06.2**	**-0.4**
comp=Z,0.6nm,0.6s,baz=345,slow=7.9,SNR=22							
comp=Z,0.6nm,0.6s							
WB2	**Warramunga Arr**	**29.74**	**165**	P	**P**	**19 16 04.9**	**-1.7**
WB2				IAmb	IAmb	19 16 05.7	
comp=Z,8.3nm,1.4s							
WR0	**Warramunga Arr**	**29.81**	**165**	P	**P**	**19 16 06.8**	**-0.4**
WR0				IAmb	IAmb	19 16 38.8	
comp=Z,2.8nm,1.1s							
AS31	**Alice Springs**	**33.22**	**167**	P	**P**	**19 16 36.3**	**-0.9**
ASAR	**Alice Springs**	**33.22**	**167**	P	**P**	**19 16 36.0**	**-1.2**
ASAR	**Alice Springs**	**33.22**	**167**	P	**P**	**19 16 37.0**	**-0.3**
comp=Z,0.5nm,0.3s,baz=348,slow=7.4,SNR=24							
ASAR				PcP	**PcP**	**19 19 18.3**	**-0.6**
comp=Z,0.3nm,0.6s,baz=332,slow=2.2,SNR=5.2							
comp=Z,0.5nm,0.3s							
BBOO	**Buckleboo**	**42.52**	**168**	P	**P**	**19 17 55.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**42.56**	**191**	P	**P**	**19 17 53.0**	**-2.8**
STKA	**Stephens Creek**	**43.10**	**161**	P	**P**	**19 17 59.0**	**-1.1**
STKA	**Stephens Creek**	**43.10**	**161**	P	**P**	**19 18 00.7**	**+0.6**
comp=Z,2.4nm,0.9s,baz=315,slow=10.0,SNR=3.2							
comp=Z,2.4nm,0.9s							
PETK	**Petropavlovsk-**	**50.76**	**24**	P	**P**	**19 19 00.8**	**+1.1**
comp=Z,3.2nm,0.9s,baz=238,slow=8.2,SNR=2.1							
comp=Z,3.2nm,0.9s							
MK31	**Makanchi Array**	**53.19**	**323**	P	**P**	**19 19 18.0**	**+0.1**
MK31				IAmb	IAmb	19 19 43.4	
comp=Z,2.5nm,1.4s							
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**19 19 18.1**	**+0.2**
comp=Z,0.2nm,0.3s,baz=107,slow=7.6,SNR=6.4							
comp=Z,0.2nm,0.3s							
KK31	**Karatay Array**	**59.31**	**315**	P	**P**	**19 20 00.7**	**-0.9**
KK31				IAmb	IAmb	19 20 37.2	
comp=Z,4.7nm,1.4s							
KKAR	**Karatay Array**	**59.31**	**315**	P	**P**	**19 20 00.7**	**-0.9**
BVAR	**Borovoye Array**	**62.85**	**326**	P	**P**	**19 20 26.4**	**+1.0**
comp=Z,0.6nm,0.5s,baz=131,slow=6.1,SNR=4.9							
comp=Z,0.6nm,0.5s							
ABKAR	**Akbulak array**	**68.00**	**320**	P	**P**	**19 20 58.0**	**-0.7**

*TEH **18** 19:16:38.9,38°.94N×48°.85E,h24km±33km*
*AZER **18** 19:16:39.1,38°.96N×48°.69E,h28km,ml3.5*
ISC 18 19:16:40.5±0.9,**38°.95N**±0°.02×**48°.75E**±0°.03,**h31**km±7km,
n75,σ1§**05**/111,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.24**	**174**	P	**Pb**	**19 16 47.1**	**-0.2**
LKRN				S	**Sn**	**19 16 52.5**	**-0.3**
ASTR	**Astara**	**0.39**	**175**	Pg	**Pb**	**19 16 48.9**	**-0.4**
ASTR	**Astara**	**0.39**	**175**	P	**Pb**	**19 16 49.0**	**-0.4**
ASTR				S	**Sb**	**19 16 55.8**	**+0.4**
YRD	**Yardimli**	**0.40**	**265**	Pg	**Pb**	**19 16 48.6**	**-0.9**
YRD	**Yardimli**	**0.40**	**265**	P	**Pb**	**19 16 48.6**	**-0.9**
YRD				S	**Sb**	**19 16 55.1**	**-0.6**
GLBA	**Cilalabad**	**0.40**	**316**	Pg	**Pb**	**19 16 48.7**	**-0.7**
GLBA	**Cilalabad**	**0.40**	**316**	P	**Pb**	**19 16 48.8**	**-0.7**
GLBA				S	**Sb**	**19 16 56.0**	**+0.5**
LRK	**Lerik**	**0.44**	**226**	Pg	**Pb**	**19 16 49.5**	**-0.7**
LRK	**Lerik**	**0.44**	**226**	P	**Pb**	**19 16 49.5**	**-0.7**
LRK				S	**Sb**	**19 16 56.8**	**-0.1**
GRMI	**Germi**	**0.68**	**258**	Pg	**Pb**	**19 16 52.8**	**-1.2**
SAAT	**Saatly**	**0.94**	**345**	Pg	**Pn**	**19 16 57.9**	**+0.2**
SAAT	**Saatly**	**0.94**	**345**	P	**Pn**	**19 16 57.8**	**+0.2**
SAAT				S	**Sb**	**19 17 12.5**	**+2.1**
ALIB	**&Aumlli-Bayram**	**1.02**	**11**	P	**Pb**	**19 17 00.2**	**+0.5**
ALIB				S	**Sb**	**19 17 13.1**	**+0.3**
BLQ	**Beylaqan**	**1.20**	**310**	Pg	**Pn**	**19 17 00.9**	**-0.3**
BLQ	**Beylaqan**	**1.20**	**310**	P	**Pn**	**19 17 00.6**	**-0.6**
BLQ				S	**Sn**	**19 17 16.1**	**-0.4**
QRD	**Qoradiz**	**1.22**	**295**	P	**Pn**	**19 17 00.8**	**-0.6**
QRD				S	**Sn**	**19 17 16.6**	**-0.3**
ISRB	**Sarab**	**1.41**	**217**	Pg	**Pn**	**19 17 05.0**	**+0.7**
CSN1	**Caspian**	**1.41**	**169**	Pg	**Pn**	**19 17 03.6**	**-0.5**
IHRS	**Heris**	**1.48**	**245**	Pg	**Pn**	**19 17 05.6**	**+0.4**
KDMR	**Kurdemir**	**1.49**	**343**	Pn	**Pn**	**19 17 05.3**	**+0.2**
KDMR				Sn	**Sb**	**19 17 25.4**	**-0.6**
ZRD	**Zardab**	**1.56**	**329**	Pn	**Pn**	**19 17 07.0**	**+0.9**
ZRD				Sn	**Sb**	**19 17 28.3**	**+0.3**
GBS	**Qobustan**	**1.59**	**5**	Pn	**Pb**	**19 17 08.2**	**-1.1**
GBS				Sn	**Sb**	**19 17 29.4**	**+0.5**
GOBA	**Gobu**	**1.63**	**27**	Pn	**Pb**	**19 17 08.5**	**-1.5**
GOBA				Sn	**Sb**	**19 17 31.6**	**+1.4**
AGDM	**Agdam**	**1.71**	**313**	Pn	**Pn**	**19 17 08.2**	**-0.1**
AGDM				Sn	**Sn**	**19 17 30.7**	**+1.5**
BRDA	**Brd**	**1.78**	**318**	Pn	**Pn**	**19 17 10.2**	**+1.1**
BRDA				Sn	**Sn**	**19 17 33.5**	**+2.7**
PQL	**Pirkuli**	**1.84**	**356**	Pn	**Pn**	**19 17 10.5**	**+0.4**
PQL				Sn	**Sb**	**19 17 35.8**	**-0.4**
IML	**Ismayilli**	**1.89**	**347**	Pn	**Pn**	**19 17 10.8**	**0.0**
IML				Sn	**Sb**	**19 17 36.4**	**-1.2**
ATGJ	**Altiaghaj**	**1.91**	**4**	Pg	**Pb**	**19 17 14.6**	**-0.2**
ATGJ				Sn	**Sb**	**19 17 37.3**	**-1.0**
IHSH	**Hashtrud**	**2.02**	**216**	Pn	**Pn**	**19 17 13.7**	**+0.9**
QBL	**Gabala**	**2.11**	**341**	Pn	**Pn**	**19 17 14.0**	**+0.2**
QBL				Sn	**Sn**	**19 17 38.9**	**0.0**
ORD	**Ordubad**	**2.15**	**270**	Pn	**Pn**	**19 17 14.9**	**+0.6**
ORD				Sn	**Sn**	**19 17 41.5**	**+1.5**
ITBZ	**Tabriz**	**2.16**	**251**	Pn	**Pn**	**19 17 16.3**	**+1.7**
MNGR	**Mingechevir, A**	**2.22**	**325**	Pn	**Pn**	**19 17 16.4**	**+1.1**
MNGR				Sn	**Sn**	**19 17 42.1**	**+0.4**
XNQ	**Khinaliq**	**2.27**	**348**	Pn	**Pn**	**19 17 15.8**	**-0.2**
XNQ				Sn	**Sn**	**19 17 44.3**	**+1.2**
IMRD	**Marand**	**2.39**	**265**	Pn	**Pn**	**19 17 19.1**	**+1.4**
JIR1	**Jirandeh**	**2.39**	**159**	Pn	**Pn**	**19 17 16.8**	**-0.9**
QUBA	**Quba, Azerbaij**	**2.41**	**355**	Pn	**Pn**	**19 17 19.8**	**+1.9**
QUBA				Sn	**Sn**	**19 17 48.0**	**+1.7**
GANJ	**Ganja**	**2.52**	**313**	Pn	**Pn**	**19 17 19.5**	**+0.2**
GANJ				Sn	**Sn**	**19 17 48.7**	**-0.4**
IAZR	**Azarshahr**	**2.52**	**241**	Pn	**Pn**	**19 17 21.1**	**+1.5**
SBZ	**Shahbuz**	**2.52**	**281**	Pn	**Pn**	**19 17 20.4**	**+0.9**
SBZ				Sn	**Sb**	**19 17 54.1**	**-1.7**
ISHB	**Shabestar**	**2.54**	**256**	Pn	**Pn**	**19 17 22.0**	**+2.1**
NAX	**Nakhchivan**	**2.54**	**276**	Pn	**Pn**	**19 17 21.3**	**+1.5**
NAX				Sn	**Sn**	**19 17 48.7**	**-1.0**
SEKA	**Sheki**	**2.55**	**333**	Pn	**Pn**	**19 17 19.6**	**-0.2**
SEKA				Sn	**Sn**	**19 17 48.7**	**-1.1**
QSAR	**Qusar**	**2.58**	**352**	Pn	**Pn**	**19 17 21.3**	**+1.0**
QSAR				Sn	**Sn**	**19 17 50.7**	**0.0**
IGZV	**Ghazvin**	**2.82**	**155**	Pn	**Pn**	**19 17 23.2**	**-0.5**
VSHL	**Vashlovani**	**2.90**	**322**	P	**Pn**	**19 17 25.9**	**+1.3**
VSHL				S	**Sn**	**19 18 00.4**	**+2.0**
GDB	**GEDABAY**	**2.90**	**308**	Pn	**Pn**	**19 17 25.5**	**+0.7**
GDB				Sn	**Sn**	**19 17 59.3**	**+0.6**
KLST	**Kelardasht - M**	**3.04**	**142**	Pn	**Pn**	**19 17 25.7**	**-1.2**
HYR	**Heyderabad**	**3.12**	**285**	Pn	**Pn**	**19 17 29.6**	**+2.0**
HYR				Sn	**Sn**	**19 18 06.0**	**+2.2**
ZKTA	**Zakatala**	**3.14**	**329**	Pn	**Pn**	**19 17 28.8**	**+0.9**
ZKTA				Sn	**Sn**	**19 18 04.6**	**+0.4**
MAKU	**Maku**	**3.19**	**279**	Pn	**Pn**	**19 17 29.6**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.31**	**168**	Pn	**Pn**	**19 17 30.4**	**0.0**
QZX	**Qazax, Azerbai**	**3.34**	**310**	Pn	**Pn**	**19 17 31.3**	**+0.7**
QZX				Sn	**Sn**	**19 18 10.7**	**+1.5**
MZPU	**Pul - Mazandar**	**3.36**	**137**	Pn	**Pn**	**19 17 30.4**	**-0.8**
LGD	**Lagodekhi**	**3.46**	**327**	P	**Pn**	**19 17 32.6**	**+0.4**
LGD				S	**Sn**	**19 18 13.7**	**+1.5**
HGHA	**Hamedan- Ghaye**	**3.46**	**179**	Pn	**Pn**	**19 17 33.8**	**+1.3**
DGRG	**David-gareji**	**3.59**	**315**	P	**Pb**	**19 17 41.5**	**-1.8**
IPRN	**Peran**	**3.93**	**132**	Pn	**Pn**	**19 17 38.5**	**-0.4**
HAGD	**Aghdareh**	**4.13**	**176**	Pn	**Pn**	**19 17 42.3**	**+0.5**
SNQR	**Sonqor, Kerman**	**4.18**	**193**	Pn	**Pn**	**19 17 44.4**	**+1.9**
IDMV	**Damavand**	**4.27**	**141**	Pn	**Pn**	**19 17 44.3**	**+0.6**
IALA	**Alasht**	**4.32**	**130**	Pn	**Pn**	**19 17 44.4**	**0.0**
CHRG	**Chargali**	**4.45**	**320**	P	**Pn**	**19 17 46.4**	**+0.3**
CHRG				S	**Sn**	**19 18 35.7**	**-1.1**
IFIR	**Firoozkooh**	**4.60**	**135**	Pn	**Pn**	**19 17 48.6**	**+0.4**
IGLO	**Ghaloghah**	**4.71**	**120**	Pn	**Pn**	**19 17 49.4**	**-0.4**
HSAM	**Samen**	**4.73**	**181**	Pn	**Pn**	**19 17 50.8**	**+0.8**
GUDG	**Gudauri**	**4.78**	**319**	P	**Pn**	**19 17 51.2**	**+0.6**
IKIA	**Kiasar**	**4.78**	**123**	Pn	**Pn**	**19 17 51.2**	**+0.5**
MTEO	**Meteo**	**4.91**	**321**	P	**Pn**	**19 17 53.7**	**+1.1**
MTEO				S	**Sn**	**19 18 46.3**	**-2.1**
BDRS	**Dareh Seyedi**	**4.99**	**179**	Pn	**Pn**	**19 17 54.7**	**+1.1**
IANJ	**Anjilo**	**5.39**	**129**	Pn	**Pn**	**19 17 59.9**	**+0.8**
ILBA	**Ilam Banvizeh**	**5.70**	**202**	Pn	**Pn**	**19 18 04.6**	**+1.5**
MRVT	**Maraveh tapeh**	**5.92**	**100**	Pn	**Pn**	**19 18 05.0**	**-1.1**
TAPT	**Tabas- Tapeh t**	**7.87**	**118**	Pn	**Pn**	**19 18 33.1**	**+0.2**
IEMG	**Emamgholi**	**7.95**	**98**	Pn	**Pn**	**19 18 33.1**	**-1.1**

*IDC **18** 19:27:59.2±5.0,5°.48S×147°.78E,h117km±58km, mb3.4/3, mbtmp3.9/5, Error ellipse: s-maj=86.2km s-min=36.1km az=113.0*
ISC 18 19:27:59.1±2.8,**5°.4S**±0°.1×**147°.5E**±0°.4,**h100**km,**n7,**
σ1§**52**/8,**mb3.7**/3,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.01**	**185**	P	**Pn**	**19 28 59.6**	**+1.1**
50nm,0.3s,baz=341,slow=5.8,SNR=82							
PMG				S	**Sn**	**19 29 43.4**	**-1.0**
42nm,0.4s,baz=18,slow=20,SNR=18							
WRA	**Warramunga Arr**	**19.34**	**220**	P	**P**	**19 32 17.1**	**+0.3**
4.7nm,0.5s,baz=44,slow=11,SNR=23							
ASAR	**Alice Springs**	**22.42**	**215**	P	**P**	**19 32 49.5**	**-0.3**
1.9nm,0.5s,baz=48,slow=8.8,SNR=63							
1.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**24.84**	**238**	P	**P**	**19 33 11.9**	**-0.5**
2.8nm,0.8s,baz=57,slow=9.9,SNR=5.9							
2.8nm,0.8s							
TOLI2	**Tolitoli**	**27.49**	**283**	P	**P**	**19 33 34.5**	**-1.9**
MYLDM	**Lahad Datu**	**30.84**	**289**	P	**P**	**19 34 08.1**	**+2.1**
MKAR	**Makanchi Array**	**77.37**	**320**	P	**P**	**19 39 42.2**	**-1.0**
0.1nm,0.3s,baz=120,slow=5.7,SNR=5.1							
0.1nm,0.3s							

*BJI **18** 19:30:21.0,9°.50S×112°.90E,h25km,mB5.5/66,mb5.3/92, Ms5.4/99,Ms7 5.3/98*
*MOS **18** 19:30:22.2±1.0,9°.32S×112°.92E,h26km,mb5.8/70, MS5.1/20, Error ellipse: s-maj=7.2km s-min=4.2km az=112.6*
*NEIC **18** 19:30:22.7,10°.10S×112°.76E,h24km,Moment Tensor Solution. Duration: 2§1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.98; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$0.02; $M_{r\theta}$3.04; $M_{r\phi}$0.34; $M_{\theta\phi}$-2.06; Fault plane solution: $M_0$3.82000×10^{17} NP1: ϕ_s269.36000°,δ9.13000°,λ56.15000°. NP2:ϕ_s123.55000°, δ82.43000°,λ95.11000°. Principal axes: T 3.8060, Plg52.0000°, Azm39.0000°; N 0.0242, Plg5.0000°, Azm303.0000°; P -3.8302, Plg37.0000°, Azm209.0000°;*
*NEIC **18** 19:30:22.7,9°.50S×112°.86E,h24km*
*NEIC **18** 19:30:22.9±1.9,9°.51S±0°.07×112°.86E±0°.05,h23km±1km, mb5.7/153,Ms_20 5.4/271,Mwb5.5/70,Mww5.7/29, Error ellipse: s-maj=12.6km s-min=8.8km az=174.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.79; $M_{\phi\phi}$0.12; $M_{r\theta}$1.66; $M_{\theta\phi}$1.48; $M_{\phi r}$-1.04; Fault plane solution: $M_0$2.56000×10^{17} NP1: ϕ_s333.89000°,δ19.55000°,λ126.62000°. NP2: ϕ_s115.63000°,δ74.42000°,λ78.04000°. Principal axes: T 1.7590, Plg59.0000°, Azm9.0000°; N 1.1790, Plg12.0000°, Azm119.0000°; P -2.9379, Plg28.0000°, Azm215.0000°;*
*NEIC **18** 19:30:23.3,9°.49S×112°.86E,h26km*
*IPGP **18** 19:30:23.0,9°.62S×112°.85E,h34km,Mw5.7,Fault plane solution: NP1:ϕ_s227.00000°,δ13.00000°,λ22.00000°. NP2:ϕ_s116.00000°,δ85.00000°,λ102.00000°.*
*DJA **18** 19:30:26.0±0.2,10°.S±2°.×11°.3E±°,h45km±2km,M5.5/121, mb5.6/121,mB6.0/99,MLv6.2/31,Mw(mB)5.6/99, MwMwp5.3/67,Mwp5.5/67*
*IDC **18** 19:30:27.2±1.0,9°.28S×112°.97E,h50km±8km,mb5.0/37, mbtmp5.2/38,MS5.1/73,Error ellipse: s-maj=11.0km s-min=7.6km az=62.0*
*GCMT **18** 19:30:27.9±0.1,9°.74S±0°.01×112°.84E±0°.01,h35km, MW5.7/147,Moment Tensor Solution. s130,c229; s147,c301; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}2.07±.04; $M_{\theta\theta}$-2.53±.03; $M_{\phi\phi}$0.46±.03; $M_{r\theta}$2.83±.06; $M_{\theta\phi}$0.93±.02; $M_{\phi r}$-1.63±.06; Best double couple: $M_0$4.08900×10^{17} NP1:ϕ_s267.00000°,δ21.00000°, λ60.00000°. NP2:ϕ_s119.00000°,δ72.00000°,λ100.00000°. Principal axes: T 3.7980, Plg61.0000°, Azm44.0000°; N 0.5840, Plg10.0000°, Azm295.0000°; P -4.3790, Plg27.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 19:30:24.4±0.3,**9°.44S**±0°.03×**112°.80E**±0°.02,**h33**km±1km,
h33km:**pP-P,n1005,**σ1§**97**/973,**mb5.6**/228,**MS5.2**/253,
50C-10D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.33**	**29**	P	**Pb**	**19 30 48.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.65**	**54**	Pn	**Pn**	**19 30 50.7**	**-0.3**
JAGI	**Jajag, Banyuwa**	**1.65**	**54**	P	**Pb**	**19 30 53.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	**1.65**	**54**	S	**Sb**	**19 31 17.2**	**+2.5**
JAGI	**Jajag, Banyuwa**	**1.65**	**54**	P	**Pb**	**19 30 53.2**	**-1.0**
PCJI	**Pacitan**	**2.03**	**308**	P	**Pn**	**19 30 58.7**	**+2.5**
ABJI	**Asem Bagus**	**2.17**	**41**	P	**Pb**	**19 31 02.1**	**-0.9**
NGJI	**Ngawi**	**2.45**	**327**	P	**Pb**	**19 31 09.0**	**+1.2**
DNP	**Denpasar**	**2.50**	**72**	P	**Pb**	**19 31 05.5**	**-3.1**
GRJI	**Gresik**	**2.53**	**353**	P	**Pb**	**19 31 08.1**	**-1.1**
KMMI	**Kalianget**	**2.64**	**26**	P	**Pb**	**19 31 09.4**	**-1.7**
UGM	**Wanagama**	**2.72**	**304**	Pn	**Pn**	**19 31 07.1**	**+1.3**
UGM	**Wanagama**	**2.72**	**304**	P	**Pn**	**19 31 08.8**	**+3.1**
UGM	**Wanagama**	**2.72**	**304**	P	**Pn**	**19 31 09.2**	**+3.5**
SRBI	**Singaraja**	**2.74**	**61**	P	**Pb**	**19 31 09.2**	**-3.5**
TBJI	**Tambak Boyo**	**2.77**	**340**	P	**Pb**	**19 31 11.4**	**-1.9**
YOGI	**Yogyakarta**	**2.96**	**303**	P	**Pn**	**19 31 11.8**	**+2.8**
SMRI	**Semarang**	**3.33**	**315**	Pn	**Pn**	**19 31 18.4**	**+4.2**
SMRI	**Semarang**	**3.33**	**315**	P	**Pn**	19 31 18.8	+4.5
SMRI	**Semarang**	**3.33**	**315**	P	**Pn**	19 31 18.7	+4.5
TWSI	**Taliwang, Sumb**	**4.09**	**80**	P	**Pn**	**19 31 27.2**	**+2.5**
KPJI	**Karang Pucung**	**4.36**	**298**	P	**Pn**	**19 31 31.7**	**+3.3**
CMJI	**Cimerak**	**4.61**	**291**	P	**Pn**	**19 31 32.9**	**+1.2**
PLAI	**Plampang**	**4.95**	**83**	P	**Pn**	**19 31 38.9**	**+2.4**
PLAI	**Plampang**	**4.95**	**83**	S	**Sn**	**19 32 36.3**	**+3.6**
PLAI	**Plampang**	**4.95**	**83**	P	**Pn**	**19 31 38.5**	**+2.0**
JCJI	**Jatiwangi**	**5.36**	**303**	P	**Pn**	**19 31 43.4**	**+1.3**
17μm2μm,1.2s							
BBJI	**Bungbulang**	**5.46**	**291**	P	**Pn**	**19 31 46.5**	**+3.0**
BBJI	**Bungbulang**	**5.46**	**291**	S	**Sn**	**19 32 48.1**	**+2.8**
LEM	**Lembang**	**5.75**	**296**	P	**Pn**	**19 31 51.4**	**+3.7**
414nm,0.9s,baz=111,slow=7.9,SNR=34							
LEM				S	**Sn**	**19 32 57.0**	**+4.4**
2μm,0.9s,baz=22,slow=18,SNR=4.7							
LEM				LR	LR	19 34 33.9	
comp=Z,17μm,18.7s,baz=126,slow=42							
LEM	**Lembang**	**5.75**	**296**	P	**Pn**	**19 31 50.8**	**+3.2**
CNJI	**Cibinong**	**6.00**	**290**	P	**Pn**	**19 31 51.7**	**+0.9**
11nm10μm1μm,1.0s							
WBSI	**Waikabubak, Su**	**6.50**	**92**	P	**Pn**	**19 31 56.4**	**-1.5**
14nm13μm1μm,1.0s							
SKJI	**Sukabumi**	**6.64**	**291**	P	**Pn**	**19 32 01.6**	**+2.0**
TNG	**Tangerang**	**6.91**	**298**	P	**Pn**	19 32 07.6	+4.2
XMI	**Christmas Isla**	**7.08**	**261**	P	**Pn**	**19 32 05.1**	**-0.6**
XMIS	**Christmas Isla**	**7.12**	**261**	Pn	**Pn**	**19 32 04.8**	**-1.4**
XMIS	**Christmas Isla**	**7.12**	**261**	P	**Pn**	**19 32 05.7**	**-0.5**
SBJI	**Serang**	**7.39**	**296**	P	**Pn**	19 32 14.7	+4.8
12nm17μm1μm,1.5s							
WSI	**Waingapu**	**7.40**	**92**	P	**Pn**	**19 32 12.7**	**+2.6**
CGJI	**Cibinong**	**7.58**	**291**	P	**Pn**	**19 32 14.1**	**+1.5**
BASI	**Baing, Sumba**	**7.70**	**96**	P	**Pn**	**19 32 15.7**	**+1.4**
KAPI	**Kappang**	**8.18**	**58**	Pn	**Pn**	**19 32 20.3**	**-0.6**
KAPI	**Kappang**	**8.18**	**58**	P	**Pn**	**19 32 24.0**	**+3.2**
97nm,0.8s,baz=245,slow=11,SNR=27							
KAPI				S	**Sn**	**19 33 53.2**	**+1.0**
164nm,0.6s,baz=48,slow=22,SNR=6.2							
KAPI				LR	LR	19 36 06.8	
comp=Z,23μm,18.7s,baz=266,slow=43							
KAPI	**Kappang**	**8.18**	**58**	P	**Pn**	**19 32 24.3**	**+3.5**
KAPI				P	**Pn**	**19 32 24.3**	**+3.5**
KAPI				S	**Sn**	**19 33 55.8**	**+3.6**
KAPI				S	**Sn**	**19 33 55.8**	**+3.6**
KAPI	**Kappang**	**8.18**	**58**	P	**Pn**	**19 32 24.0**	**+3.2**
KAPI	**Kappang**	**8.18**	**58**	S	**Sn**	**19 33 56.8**	**+4.6**
KAPI	**Kappang**	**8.18**	**58**	*i* P	**Pn**	**19 32 22.0**	**+1.2**
BSSI	**Bau Bau, Buton**	**8.30**	**67**	P	**Pn**	**19 32 25.0**	**+2.6**
13μm12μm866nm,0.7s							
BKSI	**Bulukumba**	**8.34**	**61**	P	**Pn**	**19 32 25.8**	**+2.8**
18μm5μm452nm,0.9s							
TPI	**Tanjungpandan**	**8.38**	**322**	P	Pn	19 32 28.1	+4.5
9μm259nm,1.1s							
SPSI	**Sidrap Palu**	**8.80**	**52**	P	**Pn**	**19 32 32.8**	**+3.4**
18μm5μm264nm,1.5s							
BKB	**Balikpapan**	**9.09**	**27**	P	Pn	19 32 40.7	+7.3
BKB	**Balikpapan**	**9.09**	**27**	P	Pn	19 32 39.9	+6.5
12μm727nm,1.2s							
MMRI	**Maumere**	**9.36**	**86**	Pn	**Pn**	**19 32 35.9**	**-1.1**
MMRI	**Maumere**	**9.36**	**86**	P	**Pn**	**19 32 37.1**	**+0.1**
MMRI	**Maumere**	**9.36**	**86**	P	**Pn**	**19 32 37.0**	**+0.1**
6μm12μm776nm,1.6s							
TTSI	**Tana Toraja**	**9.44**	**48**	P	Pn	19 32 42.6	+4.5
19μm6μm508nm,1.1s							
STKI	**Sintang**	**9.54**	**352**	P	**Pn**	**19 32 43.6**	**+4.1**
15μm9μm416nm,1.2s							
PPBI	**Pangkal Pinang**	**9.81**	**317**	P	**Pn**	**19 32 44.0**	**+0.8**
MDSI	**Maura Dua**	**9.87**	**299**	P	**Pn**	**19 32 46.3**	**+2.3**
5μm399nm,1.0s							
SMKI	**Samarinda**	**9.96**

comp=Z,0.0nmcomp=Z,168nm,0.8s
MEEK Meekatharra 17.97 163 P **Pn** **19 34 28.7 -3.0**
DRS Darwin Rock St 18.02 101 P **P** **19 34 33.4 +0.8**
IPM Ipoh 18.14 319 P **Pn** **19 34 33.5 -0.4**
IPM Ipoh 18.14 319 P **P** **19 34 35.8 +1.8**
SGSI Sangihe 18.20 45 P **P** **19 34 37.7 +3.1**
comp=Z,13μmcomp=Z,789nm,1.4s
MTN Manton Dam 18.30 102 P **P** **19 34 34.8 -1.0**
MTN Manton Dam 18.30 102 P **P** **19 34 36.0 +0.2**
comp=Z,0.0nmcomp=Z,212nm,0.8s
MTN Manton Dam 18.30 102 P **P** **19 34 36.2 +0.4**
SAUI Saumlaki 18.34 87 P **Pn** **19 34 33.5 -2.9**
SAUI IAmb IAmb 19 34 45.1
comp=Z,495nm,0.6s
SAUI Saumlaki 18.34 87 P **P** **19 34 37.6 +1.4**
SAUI Saumlaki 18.34 87 P **P** **19 34 35.9 -0.3**
RPSI Rantau Prapat 18.35 310 ScS 19 46 18.1 -3.3
PSI Prapat 18.41 311 P **P** **19 34 33.1 -4.1**
comp=Z,4.0nm,0.3s,baz=146,slow=9.4,SNR=4.0
PSI LR LR 19 42 40.6
comp=Z,7μm,20.2s,baz=143,slow=40
PSI ScS ScS 19 46 18.1 -3.8
comp=Z,2.6nm,0.3s,baz=187,slow=8.1,SNR=6.0
PSI Prapat 18.41 311 P **Pn** **19 34 38.5 +1.1**
PSI Prapat 18.41 311 P **Pn** **19 34 39.0 +1.6**
PSI pmax pmax
comp=Z,54nm,1.9s
GSI Gunungsitoli 18.55 304 P **P** **19 34 35.9 -2.5**
KULM Kulim 19.00 320 P **P** **19 34 39.4 -4.0**
KULM Kulim 19.00 320 P **Pn** **19 34 46.0 +1.7**
TSI Tuntungan 19.15 312 P **P** **19 34 46.1 +1.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,136nm,1.1s
KDU Kakadu 19.57 101 P **Pn** **19 34 49.6 -1.6**
comp=Z,0.0nmcomp=Z,154nm,0.7s
KDU Kakadu 19.57 101 P **Pn** **19 34 51.1 -0.1**
MORW Morawa 19.76 172 P **P** **19 34 49.2 -2.5**
MORW Morawa 19.76 172 P **P** **19 34 50.3 -1.4**
comp=Z,0.0nmcomp=Z,143nm,1.2s
MORW Morawa 19.76 172 P **P** **19 34 50.6 -1.0**
SNSI Sinabang, Aceh 20.20 305 P **P** **19 34 57.8 +1.3**
comp=Z,117nm,0.8s
SWI Sorong 20.25 66 P **P** **19 34 55.9 -1.2**
comp=Z,6μmcomp=Z,6μmcomp=Z,391nm,1.1s
FAKI Fak Fak 20.38 73 P **P** **19 34 56.5 -2.0**
FAKI Fak Fak 20.38 73 P **P** **19 34 56.3 -2.3**
FAKI Fak Fak 20.38 73 P **P** **19 34 56.6 -2.0**
comp=Z,6μmcomp=Z,8μmcomp=Z,646nm,1.1s
DAV Davao City (W) 20.77 38 P **P** **19 35 00.4 -2.3**
comp=Z,157nm,0.5s,baz=69,slow=8.4,SNR=1.8
comp=Z,157nm,0.5s
DAV Davao City (W) 20.77 38 P Pn 19 35 04.2 -1.0
MLSI Meulaboh, Aceh 21.27 309 P **P** **19 35 09.6 +1.5**
comp=Z,148nm,1.2s
BLDU Ballidu 21.38 171 P **P** **19 35 08.6 -0.6**
BLDU Ballidu 21.38 171 P **P** **19 35 08.9 -0.2**
WRKA Warakurna 21.40 138 P **P** **19 35 09.9 +0.4**
WRKA Warakurna 21.40 138 P **P** **19 35 10.1 +0.6**
LHMI Lhok Sumawe 21.50 312 P **P** **19 35 13.0 +2.5**
LHMI Lhok Sumawe 21.50 312 P **P** **19 35 11.0 +0.5**
KMPI Kaimana, Papua 21.54 76 P **P** **19 35 09.5 -1.5**
DLV Lat 21.68 349 IAms_20 IAms_20 19 45 11.2
comp=Z,10μm,18.0s
DLV Lat 21.68 349 P **P** **19 35 14.7 +2.1**
SRIT Nakonsritamara 22.22 323 P **P** **19 35 18.6 +0.3**
SRIT Nakonsritamara 22.22 323 P **P** **19 35 21.0 +2.7**
KLBR Kellerberrin 22.51 169 P **P** **19 35 21.2 -0.1**
KLBR Kellerberrin 22.51 169 P **P** **19 35 22.3 +1.0**
MUN Mundaring 22.65 172 P **P** **19 35 21.7 -1.0**
MUN Mundaring 22.65 172 P **P** **19 35 23.3 +0.5**
MUN Mundaring 22.65 172 P **P** **19 35 23.2 +0.5**
RKPI Ransiki, Papua 22.68 71 P **P** **19 35 23.1 -0.1**
comp=Z,5μmcomp=Z,5μmcomp=Z,500nm,0.7s
BSI Banda Aceh 22.90 310 P **P** **19 35 27.1 +1.5**
WB0 Warramunga Arr 23.25 119 P **P** **19 35 27.2 -1.9**
WRA Warramunga Arr 23.27 119 P **P** **19 35 27.5 -1.8**
WRA Warramunga Arr 23.27 119 P **P** **19 35 28.5 -0.8**
comp=Z,37nm,0.6s,baz=293,slow=11,SNR=116
WRA S **S** **19 39 37.6 -2.0**
comp=Z,6.9nm,0.9s,baz=289,slow=23,SNR=2.6
WRA LR LR 19 44 58.9
comp=Z,10μm,20.9s,baz=294,slow=38
comp=Z,37nm,0.6s
WRA Warramunga Arr 23.27 119 P **P** **19 35 27.5 -1.8**
WRAB Tennant Creek 23.28 119 P **P** **19 35 27.6 -1.8**
WRAB IAms_20 IAms_20 19 44 48.0
comp=Z,10μm,20.0s
WRAB Tennant Creek 23.28 119 *i* P **P** **19 35 28.4 -1.0**
WRAB pmax pmax
comp=Z,91nm,1.2s
WRAB MLR MLR
comp=Z,9μm,19.0s
KMBL Kambalda 23.39 160 P **P** **19 35 30.0 -0.3**
KMBL Kambalda 23.39 160 P **P** **19 35 30.4 0.0**
NWAO Narrogin (SRO) 23.73 171 P **P** **19 35 32.5 -1.0**
NWAO Narrogin (SRO) 23.73 171 IAms_20 IAms_20 19 45 01.6
comp=Z,12μm,20.0s
NWAO Narrogin (SRO) 23.73 171 LR LR 19 45 51.6
comp=Z,11μm,18.8s,baz=304,slow=39
NWAO Narrogin (SRO) 23.73 171 P **P** **19 35 34.9 +1.4**
NWAO S **S** **19 39 53.2 +6.6**
NWAO Narrogin (SRO) 23.73 171 P **P** **19 35 32.7 -0.8**
NWAO Narrogin (SRO) 23.73 171 P **P** **19 35 32.5 -1.0**
NWAO pmax pmax
comp=Z,771nm,2.0s
NWAO MLR MLR
comp=Z,12μm,20.0s
SRPI Serui, Papua 24.49 74 P **P** **19 35 39.9 -0.9**
comp=Z,3μmcomp=Z,4μmcomp=Z,306nm,0.9s
BAKI Biak 24.59 72 P **P** **19 35 41.8 0.0**
comp=Z,4μmcomp=Z,5μmcomp=Z,416nm,1.4s
ASAR Alice Springs 24.63 128 P **P** **19 35 42.2 +0.2**
comp=Z,90nm,0.8s,baz=304,slow=9.0,SNR=470
ASAR PcP **PcP** **19 39 20.5 +1.2**
comp=Z,2.5nm,0.4s,baz=290,slow=1.7,SNR=2.2
ASAR ScP **ScP** **19 42 56.6 +0.8**
comp=Z,4.4nm,0.8s,baz=327,slow=3.8,SNR=2.6
ASAR LR LR 19 45 56.5
comp=Z,4μm,20.7s,baz=304,slow=38
ASAR ScS **ScS** **19 46 40.7 -3.2**
comp=Z,2.0nm,1.1s,baz=288,slow=5.1,SNR=4.3
comp=Z,90nm,0.8s
AS31 Alice Springs 24.63 128 P **P** **19 35 41.2 -0.9**
AS31 Alice Springs 24.63 128 P **P** **19 35 41.8 -0.3**
comp=Z,45nm,0.7s
AS01 Alice Springs 24.67 128 P **P** **19 35 43.1 +0.7**
TGY Tagaytay City 24.75 19 P **P** **19 35 43.5 +0.3**
comp=Z,251nm,0.3s,baz=225,slow=16,SNR=8.9
TGY LR LR 19 46 57.0
comp=Z,2μm,20.8s,baz=178,slow=40
FORT Forrest 25.55 148 P **P** **19 35 49.0 -1.2**
FORT IAmb IAmb 19 36 18.4
comp=Z,187nm,0.7s
FORT Forrest 25.55 148 P **P** **19 35 50.9 +0.7**
FORT Forrest 25.55 148 P **P** **19 35 51.3 +1.1**
UBPT Khong Chiam 25.61 343 P **P** **19 35 51.7 +0.8**
NAYO Nakonayok 26.21 334 P **P** **19 35 58.1 +1.8**
WAMI Wamena 26.31 80 P **P** **19 35 58.7 +1.4**
comp=Z,4μmcomp=Z,7μmcomp=Z,244nm,0.9s
SMPI Sarmi 26.81 76 P **P** **19 35 59.6 -2.2**
comp=Z,4μmcomp=Z,4μmcomp=Z,250nm,1.2s
MMPI Merauke 27.26 90 P **P** **19 36 03.4 -2.5**
comp=Z,6μmcomp=Z,250nm,0.7s
SZP Santa 27.87 16 P **P** **19 36 12.9 +1.7**
GENI Genyem 28.04 78 P **P** **19 36 13.1 +0.2**
GENI Genyem 28.04 78 P **P** **19 36 12.5 -0.4**
comp=Z,3μmcomp=Z,2μmcomp=Z,102nm,0.9s
OOD Oodnadatta 28.25 133 P **P** **19 36 15.2 +0.6**
QIZ Qiongzhong 28.44 354 P **P** **19 36 17.9 +1.6**
QIZ S **S** **19 41 04.5 +2.9**
QIZ pmax pmax
comp=Z,640nm,11.1s
QIZ LR LR
comp=Z,2μm,16.7s
QIZ LR LR
comp=Z,2μm,15.2s
QIZ LR LR
comp=Z,4μm,15.9s
TABU Tabubil 28.48 84 P **P** **19 36 18.9 +2.0**
JAY Jayapura 28.58 78 P **P** **19 36 20.8 +3.1**
comp=Z,38nm,0.9s,baz=250,slow=15,SNR=3.7
JAY Jayapura 28.58 78 P **P** **19 36 17.1 -0.6**
comp=Z,60nm,1.4s
PBA Port Blair 28.93 316 IAms_20 IAms_20 19 49 47.8
comp=Z,7μm,20.0s
NONG Nongkai 28.95 341 P **P** **19 36 22.8 +2.0**

COEN Coen 30.07 102 IAmb IAmb 19 36 45.5
comp=Z,76nm,0.8s
COEN Coen 30.07 102 P **P** **19 36 33.0 +2.1**
CMAR Chiang Mai Arr 30.91 334 P **P** **19 36 38.4 +0.1**
CMAR Chiang Mai Arr 30.91 334 P **P** **19 36 39.5 +1.3**
comp=Z,7.9nm,0.9s,baz=167,slow=7.7,SNR=62
CMAR S **S** **19 41 46.6 +6.2**
comp=Z,7.6nm,1.1s,baz=154,slow=17,SNR=11
CMAR ScP **ScP** **19 43 16.1 +1.1**
comp=Z,7.4nm,1.2s,baz=136,slow=3.0,SNR=6.9
CMAR LR LR 19 50 11.8
comp=Z,5μm,18.6s,baz=145,slow=38
comp=Z,7.9nm,0.9s
CHTO Chiang Mai 31.23 334 P **P** **19 36 40.5 -0.5**
CHTO IAMs_20 IAMs_20 19 50 19.3
comp=Z,7μm,18.0s
CHTO Chiang Mai 31.23 334 P **P** **19 36 40.5 -0.5**
CHTO pmax pmax
comp=Z,28nm,1.1s
CHTO MLR MLR
comp=Z,6μm,18.0s
LCRK Leigh Creek 31.60 135 P **P** **19 36 45.5 +1.3**
BBOO Buckleboo 31.65 141 IAMs_20 IAMs_20 19 49 22.8
comp=Z,12μm,21.0s
BBOO Buckleboo 31.65 141 P **P** **19 36 45.4 +0.7**
MTSU Mount Surprise 31.76 109 P **P** **19 36 48.1 +2.3**
SLVN Son La 31.81 344 IAMs_20 IAMs_20 19 50 53.0
comp=Z,6μm,21.0s
SLVN Son La 31.81 344 P **P** **19 36 48.8 +2.6**
INKA Innaminka 32.01 128 P **P** **19 36 49.2 +1.4**
GZH Guangzhou 32.33 1 *e*P P 19 36 57.8 +7.2
GZH S S 19 42 11.8 +9.3
GZH LR LR
comp=Z,3μm,20.6s
GZH LR LR
comp=Z,2μm,19.7s
GZH LR LR
comp=Z,4μm,21.7s
TPUB Ta-pu 33.43 13 P **P** **19 37 00.6 +0.3**
TPUB IAmb IAmb 19 37 04.1
comp=Z,216nm,1.4s
TPUB Ta-pu 33.43 13 P **P** **19 37 02.2 +1.9**
YULB Yu-li 33.68 14 P **P** **19 37 04.5 +2.1**
HTT Hallett 33.88 139 P **P** **19 37 05.5 +1.2**
PMG Port Moresby 33.89 93 LR LR 19 54 05.6
comp=Z,4μm,20.5s,baz=270,slow=42
SSLB Suanglung 33.98 13 P **P** **19 37 05.8 +0.8**
SSLB IAmb IAmb 19 37 30.1
comp=Z,136nm,1.3s
SSLB IAMs_20 IAMs_20 19 52 29.3
comp=Z,4μm,21.0s
SSLB Suanglung 33.98 13 P **P** **19 37 06.4 +1.4**
KNMB Chin-men Tao 34.14 9 IAMs_20 IAMs_20 19 51 25.7
comp=Z,4μm,20.0s
QLP Quilpie 34.27 124 P **P** **19 37 10.6 +3.0**
NACB Ninganchiao 34.50 14 P **P** **19 37 09.4 -0.1**
NACB IAmb IAmb 19 37 11.6
comp=Z,138nm,1.3s
NACB Ninganchiao 34.50 14 P **P** **19 37 11.6 +2.1**
GULI GuiLin 34.61 356 P **P** **19 37 12.6 +2.2**
GULI sP **sP** **19 37 18.8 -3.9**
GULI S **S** **19 42 40.4 +2.7**
GULI pmax pmax
comp=Z,10.0nm,1.5s
GULI pmax pmax
comp=Z,340nm,5.4s
GULI LR LR
comp=Z,2μm,17.3s
GULI LR LR
comp=Z,1μm,15.2s
GULI LR LR
comp=Z,4μm,17.1s
QZH Quanzhou 34.64 9 P **P** **19 37 10.6 -0.1**
QZH S **S** **19 42 41.4 +3.1**
QZH LR LR
comp=Z,3μm,19.2s
QZH LR LR
comp=Z,1μm,21.4s
QZH LR LR
comp=Z,4μm,20.6s
STKA Stephens Creek 34.79 134 P **P** **19 37 11.3 -0.8**
STKA Stephens Creek 34.79 134 P **P** **19 37 12.6 +0.6**
comp=Z,40nm,0.8s,baz=309,slow=9.1,SNR=56
STKA LR LR 19 51 58.7
comp=Z,9μm,21.8s,baz=297,slow=37
comp=Z,40nm,0.8s
STKA Stephens Creek 34.79 134 P **P** **19 37 14.0 +1.9**
STKA Stephens Creek 34.79 134 *i* P **P** **19 37 12.0 -0.1**
YHNB Yeheng 34.92 14 P **P** **19 37 13.8 +0.5**
YHNB IAmb IAmb 19 37 17.6
comp=Z,193nm,1.4s
YHNB Yeheng 34.92 14 P **P** **19 37 15.2 +1.9**
YOJ Yonaguni jima 35.14 16 P **P** **19 37 17.8 +2.7**
AUMBR Murray Bridge 35.20 141 P **P** **19 37 16.8 +1.3**
KMI Kunming 35.73 344 ⇑P **P** **19 37 21.5 +1.1**
KMI S **S** **19 42 55.3 -0.2**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI pmax pmax
comp=Z,330nm,5.8s
KMI LR LR
comp=Z,3μm,18.2s
KMI LR LR
comp=Z,4μm,15.6s
KMI LR LR
comp=Z,5μm,15.5s
PALK Pallekele 36.03 296 P **P** **19 37 23.6 +0.6**
PALK IAmb IAmb 19 37 38.3
comp=Z,211nm,1.4s
PALK Pallekele 36.03 296 LR LR 19 52 38.2
comp=Z,2μm,19.8s,baz=116,slow=37
PALK Pallekele 36.03 296 P **P** **19 37 23.6 +0.6**
PALK S **S** **19 43 00.4 +0.3**
PALK Pallekele 36.03 296 *i* P **P** **19 37 24.1 +1.1**
PALK pmax pmax
comp=Z,83nm,1.3s
PALK MLR MLR
comp=Z,3μm,20.0s
GYA Guiyang 36.18 351 P **P** **19 37 25.1 +1.0**
GYA pP sP 19 37 33.8 -2.6
GYA PP **PnPn** **19 38 44.3 -2.0**
GYA S **S** **19 43 03.3 +1.1**
GYA ScP **ScP** **19 43 34.4 +1.0**
GYA ScS **ScS** **19 47 39.1 -0.4**
GYA pmax pmax
comp=Z,13nm,1.5s
GYA pmax pmax
comp=Z,430nm,6.2s
GYA LR LR
comp=Z,2μm,24.5s
GYA LR LR
comp=Z,1μm,22.6s
GYA LR LR
comp=Z,7μm,21.2s
TNCH TengChong 36.98 338 ⇑P **P** **19 37 32.8 +1.7**
TNCH pP pwP 19 37 44.3 +0.9
TNCH S **S** **19 43 15.8 +1.2**
TNCH sS ScP 19 43 34.3 -2.2
TNCH SS **SnSn** **19 45 45.3 -4.2**
TNCH ScS **ScS** **19 47 43.5 -0.6**
TNCH pmax pmax
comp=Z,110nm,0.9s
TNCH pmax pmax
comp=Z,340nm,2.8s
TNCH LR LR
comp=Z,4μm,15.8s
TNCH LR LR
comp=Z,2μm,17.3s
TNCH LR LR
comp=Z,8μm,16.3s
PZH PanZhiHua 37.31 344 P **P** **19 37 35.0 +1.2**
PZH sP **pwP** **19 37 45.5 -0.7**
PZH S **S** **19 43 20.0 +0.6**
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,210nm,5.3s
PZH LR LR
comp=Z,3μm,23.0s
PZH LR LR
comp=Z,4μm,22.6s
PZH LR LR
comp=Z,4μm,20.6s
CNSH ChangSha 37.40 0 P **P** **19 37 35.3 +0.9**
CNSH S **S** **19 43 22.0 +1.5**

CNSH pmax pmax
comp=Z,50nm,1.3s
CNSH LR LR
comp=Z,2μm,23.7s
CNSH LR LR
comp=Z,1μm,18.7s
CNSH LR LR
comp=Z,3μm,22.2s
CMSA Cobar Meteorol 37.60 131 P **P** **19 37 38.7 +2.6**
ARPS Mount Arapiles 37.83 141 P **P** **19 37 39.7 +1.7**
BRDH Bariadhala 38.06 327 P **P** **19 37 41.2 +1.2**
comp=Z,178nm,0.3s,baz=88,slow=7.2,SNR=7.2
BRDH LR LR 19 57 04.6
comp=Z,4μm,18.0s,baz=146,slow=42
AZL Aizawl 38.39 330 *e*P **P** **19 37 43.2 +0.3**
AZL IAmb IAmb 19 38 01.2
comp=Z,271nm,1.3s
AZL *e*S **S** **19 43 30.0 -5.9**
AZL IAMs_20 IAMs_20 19 57 14.9
comp=Z,4μm,19.2s
AULRC Lightning Ridg 38.45 126 P **P** **19 37 44.6 +1.3**
IMP Imphal 38.71 332 *e*P **P** **19 37 45.5 -0.1**
IMP IAmb IAmb 19 38 00.6
comp=Z,57nm,1.1s
IMP *e*S **S** **19 43 36.1 -4.5**
IMP IAMs_20 IAMs_20 19 57 37.2
comp=Z,4μm,22.1s
JOW Kunigami 39.06 22 P **P** **19 37 49.1 +0.8**
comp=Z,26nm,0.5s,baz=168,slow=7.0,SNR=5.9
JOW LR LR 19 54 49.1
comp=Z,1μm,21.8s,baz=162,slow=38
comp=Z,26nm,0.5s
JOW Kunigami 39.06 22 P **P** **19 37 49.2 +0.8**
GUMO Guam 39.20 55 LR LR 19 53 16.1
comp=Z,1μm,21.6s,baz=234,slow=35
KRVT Keravat (AS076 39.26 85 LR LR 19 56 33.5
comp=Z,1μm,21.5s,baz=350,slow=40
AUMAG Moama Anglican 39.32 137 P **P** **19 37 52.1 +1.6**
KOHI KOHIMA 39.40 333 *e*P **P** **19 37 51.5 +0.1**
KOHI IAmb IAmb 19 38 09.3
comp=Z,167nm,1.1s
KOHI *e*S **S** **19 43 44.2 -6.9**
KOHI IAMs_20 IAMs_20 19 56 22.0
comp=Z,5μm,18.0s
ENH Enshi 39.61 356 IAmb IAmb 19 38 10.4
comp=Z,254nm,1.8s
ENH IAMs_20 IAMs_20 19 55 01.3
comp=Z,4μm,21.0s
EIDS Eidsvold 39.64 119 P **P** **19 37 54.9 +1.6**
EIDS IAMs_20 IAMs_20 19 54 41.2
comp=Z,9μm,21.0s
EIDS Eidsvold 39.64 119 P **P** **19 37 54.5 +1.2**
WHN Wuhan 39.78 2 P **P** **19 37 56.3 +2.0**
WHN S **S** **19 43 56.3 -0.1**
WHN pmax pmax
comp=Z,160nm,1.3s
WHN pmax pmax
comp=Z,2μm,3.8s
WHN LR LR
comp=Z,5μm,11.5s
WHN LR LR
comp=Z,3μm,14.5s
WHN LR LR
comp=Z,14μm,24.7s
H08S2 Diego Garcia H 39.88 269 T T 20 20 10.7
baz=94,slow=76,SNR=80
H08S3 Diego Garcia H 39.90 269 T T 20 20 11.3
baz=94,slow=76,SNR=59
H08S1 Diego Carcia H 39.90 269 T T 20 20 11.9
baz=94,slow=76,SNR=68
DGAR Diego Garcia 39.95 270 IAMs_20 IAMs_20 19 52 11.4
comp=Z,4μm,20.0s
DGAR Diego Garcia 39.95 270 P **P** **19 37 57.6 +1.6**
DGAR Diego Garcia 39.95 270 *ce*P **P** **19 37 58.2 +2.2**
DGAR pmax pmax
comp=Z,401nm,1.7s
LKP Lekhapani 40.08 336 *e*P **P** **19 37 57.6 +0.8**
LKP IAmb IAmb 19 38 07.0
comp=Z,229nm,1.2s
LKP *e*S **S** **19 43 56.5 -4.5**
LKP IAMs_20 IAMs_20 19 56 05.9
comp=Z,3μm,14.4s
AUDCS Dubbo College 40.14 130 P **P** **19 37 59.0 +1.6**
KOD Kodaikanal 40.23 298 *e*P **P** **19 37 59.7 +1.1**
KOD IAmb IAmb 19 38 16.2
comp=Z,232nm,1.6s
KOD IAMs_20 IAMs_20 19 55 52.8
comp=Z,3μm,22.1s
SALM Salem 40.28 301 *e*P **P** **19 37 59.7 +1.1**
SALM IAmb IAmb 19 38 16.3
comp=Z,166nm,1.4s
SALM IAMs_20 IAMs_20 19 55 37.4
comp=Z,4μm,21.0s
SHL Shillong 40.32 330 P **P** **19 37 58.1 -0.9**
SHL IAmb IAmb 19 38 14.8
comp=Z,96nm,0.9s
SHL Shillong 40.32 330 P **P** **19 37 59.8 +0.7**
SNR=50
SHL Shillong 40.32 330 P **P** **19 37 58.2 -0.9**
SHL pmax pmax
comp=Z,97nm,0.9s
SHL MLR MLR
comp=Z,2μm,21.0s
RAGD RAYAGADA 40.61 315 *e*P **P** **19 38 02.0 +0.6**
RAGD IAmb IAmb 19 38 16.5
comp=Z,138nm,1.4s
RAGD IAMs_20 IAMs_20 19 56 56.1
comp=Z,3μm,19.9s
TOO Toolangi 40.65 139 IAMs_20 IAMs_20 19 55 02.5
comp=Z,3μm,21.0s
YNG Young 40.92 133 P **P** **19 38 05.0 +1.2**
CD2 Chengdu 41.05 348 P **P** **19 38 05.6 +0.7**
CD2 pP sP 19 38 13.4 -3.8
CD2 sP pwP 19 38 16.3 -1.1
CD2 S **S** **19 44 14.3 -1.1**
CD2 sS sS 19 44 30.4 -0.2
CD2 pmax pmax
comp=Z,90nm,1.4s
CD2 pmax pmax
comp=Z,610nm,3.4s
CD2 LR LR
comp=Z,3μm,25.9s
CD2 LR LR
comp=Z,4μm,16.2s
CD2 LR LR
comp=Z,3μm,25.7s
TW1H Toowoomba 1 Ha 41.05 121 P **P** **19 38 06.3 +1.3**
SSE Sheshan 41.10 11 P **P** **19 38 06.4 +1.2**
SSE S **S** **19 44 18.8 +2.8**
SSE pmax pmax
comp=Z,58nm,1.2s
SSE pmax pmax
comp=Z,340nm,6.3s
SSE LR LR
comp=Z,1μm,22.0s
SSE LR LR
comp=Z,390nm,21.6s
AUPHS Peel High Scho 41.42 127 P **P** **19 38 09.9 +1.9**
NJ2 Nanjing 41.66 8 ⇑P **P** **19 38 11.6 +1.8**
NJ2 pP **pwP** **19 38 19.8 -2.6**
NJ2 ScP **ScP** **19 43 54.6 +0.4**
NJ2 S **S** **19 44 27.5 +3.2**
NJ2 ScS **ScS** **19 48 11.4 +0.6**
NJ2 pmax pmax
comp=Z,75nm,0.7s
NJ2 pmax pmax
comp=Z,670nm,5.1s
NJ2 LR LR
comp=Z,2μm,23.2s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,4μm,20.4s
ARMA Armidale 41.75 126 P **P** **19 38 06.2 -4.6**
ARMA IAMs_20 IAMs_20 19 55 30.0
comp=Z,4μm,22.0s
ARMA Armidale 41.75 126 P **P** **19 38 13.9 +3.1**
CAN Canberra 41.85 134 IAMs_20 IAMs_20 19 56 03.8
comp=Z,7μm,21.0s
AUWSH Wavell State H 41.91 121 P **P** **19 38 13.4 +1.4**
TAWA Tawang 42.03 332 *e*P **P** **19 38 14.0 +0.6**
TAWA IAmb IAmb 19 38 37.3
comp=Z,61nm,0.3s
TAWA *e*S **S** **19 44 27.1 -3.6**
KNTI KHUNTI 42.06 321 *e*P **P** **19 38 13.3 0.0**
KNTI IAmb IAmb 19 38 29.5

comp=Z,122nm,1.3s
KNTI IAMs_20 IAMs_20 19 58 14.1
comp=Z,4μm,21.7s
JHSG JHARSUGUGA 42.11 318 *e*P **P 19 38 14.6 +0.9**
JHSG IAmb IAmb 19 38 38.9
comp=Z,155nm,1.2s
JHSG IAMs_20 IAMs_20 19 55 52.5
comp=Z,4μm,20.8s
SHBG Sahibganj 42.27 325 *e*P **P 19 38 15.7 +0.8**
HMDM Hanimaadhoo 42.63 291 P **P 19 38 15.6 -2.5**
HMDM IAmb IAmb 19 38 34.8
comp=Z,304nm,1.3s
HMDM Hanimaadhoo 42.63 291 P **P 19 38 19.9 +1.9**
HYB Hyderabad 43.10 308 *e*P **P 19 38 21.7 -0.1**
HYB *e*sP **sP 19 38 31.8 -2.6**
HYB IVmB_BB 19 38 36.7
comp=Z,611nm,1.6s
HYB *e*ScP **ScP 19 44 00.6 +0.2**
HYB *e* 19 44 40.7
HYB *e*S **S 19 44 47.5 +1.4**
HYB *e* 19 48 19.7
HYB IVMs_BB IVMs_BB 19 53 55.5
comp=Z,493nm,25.3s
MNCI Minicoy 43.32 293 IAMs_20 IAMs_20 19 58 02.5
comp=Z,3μm,20.0s
XAN Xi'an 43.40 355 ⇑P **P 19 38 24.3 +0.3**
XAN pP pP 19 38 30.0 -3.0
XAN S **S 19 44 48.6 -1.4**
XAN ScS **ScS 19 48 20.3 -1.3**
XAN pmax pmax
comp=Z,73nm,1.4s
XAN pmax pmax
comp=Z,290nm,3.6s
XAN LR LR
comp=Z,6μm,20.6s
XAN LR LR
comp=Z,3μm,19.2s
XAN LR LR
comp=Z,10μm,20.6s
GTK Tadong 43.42 328 *e*P **P 19 38 25.4 +1.0**
GTK IAmb IAmb 19 38 34.6
comp=Z,55nm,0.7s
BLSP Bilaspur 43.46 317 *e*P **P 19 38 24.3 -0.3**
LYN LuoYang 43.75 360 ⇑P **P 19 38 27.8 +1.1**
LYN ScP **ScP 19 44 03.8 +1.3**
LYN S **S 19 44 53.9 -1.1**
LYN pmax pmax
comp=Z,98nm,1.2s
LYN pmax pmax
comp=Z,920nm,11.2s
LYN LR LR
comp=Z,3μm,21.9s
LYN LR LR
comp=Z,4μm,18.9s
LYN LR LR
comp=Z,4μm,22.5s
LSA Lhasa 44.15 333 IAmb IAmb 19 38 52.4
comp=Z,327nm,1.9s
LSA Lhasa 44.15 333 P **P 19 38 31.8 +1.2**
LSA S **S 19 45 00.1 -1.8**
LSA pmax pmax
comp=Z,54nm,1.3s
LSA LR LR
comp=Z,1μm,20.1s
LSA LR LR
comp=Z,2μm,19.6s
LSA Lhasa 44.15 333 P **P 19 38 32.0 +1.4**
LSA pmax pmax
comp=Z,66nm,1.0s
LSA Lhasa 44.15 333 P **P 19 38 31.5 +0.9**
VAR Varanasi 45.10 321 *e*P **P 19 38 40.2 +2.6**
TIA Tai'an 45.59 5 P **P 19 38 41.3 -0.1**
TIA ScP **ScP 19 44 10.0 -0.1**
TIA S **S 19 45 19.8 -1.9**
TIA ScS **ScS 19 48 34.6 -0.8**
TIA pmax pmax
comp=Z,59nm,1.0s
TIA pmax pmax
comp=Z,460nm,5.7s
TIA LR LR
comp=Z,3μm,21.3s
TIA LR LR
comp=Z,2μm,18.9s
TIA LR LR
comp=Z,6μm,18.0s
JNU Nakatsue 45.70 21 P **P 19 38 41.2 -1.2**
JNU IAmb IAmb 19 38 43.3
comp=Z,132nm,1.5s
JNU Nakatsue 45.70 21 LR LR 19 59 06.7
comp=Z,631nm,22.0s,baz=161,slow=38
JNU Nakatsue 45.70 21 P **P 19 38 42.5 +0.2**
ALBI Allahabad 45.88 320 *e*P **P 19 38 43.6 -0.2**
ALBI IAmb IAmb 19 38 49.2
comp=Z,154nm,1.4s
LZH Lanzhou 46.07 350 ⇑*i*P **P 19 38 46.5 +1.2**
LZH pP pP 19 38 53.0 -1.4
LZH ScP **ScP 19 44 12.8 +0.5**
LZH S **S 19 45 30.3 +1.5**
LZH sS sS 19 45 45.6 +1.3
LZH ScS **ScS 19 48 38.4 -0.4**
LZH SS **SS 19 48 50.8 -3.7**
LZH pmax pmax
comp=Z,82nm,1.3s
LZH pmax pmax
comp=Z,580nm,6.9s
LZH LR LR
comp=Z,4μm,18.9s
LZH LR LR
comp=Z,2μm,16.5s
LZH LR LR
comp=Z,5μm,17.6s
JCJ Chichijima 46.17 37 LR LR 19 56 36.5
comp=Z,971nm,21.8s,baz=238,slow=34
JCJ Chichijima 46.17 37 P **P 19 38 47.7 +1.6**
AKL Akola 46.21 311 *e*P **P 19 38 46.5 -0.1**
AKL IAmb IAmb 19 39 01.4
comp=Z,66nm,1.0s
SAVO Savo Central 46.37 94 P **P 19 38 49.7 +1.7**
TATA Tatamba Isabel 46.42 93 P **P 19 38 49.6 +1.2**
JTU Tsushima 46.47 19 P **P 19 38 49.1 +0.8**
HNR Honiara 46.48 94 LR LR 20 03 16.4
comp=Z,916nm,18.1s,baz=266,slow=42
KAD Karad 46.51 305 *e*P **P 19 38 49.2 +0.2**
KAD IAmb IAmb 19 39 11.6
comp=Z,38nm,0.8s
HNS HongShan 46.63 2 ⇑P **P 19 38 49.6 +0.1**
HNS pP **sP 19 38 59.1 -2.9**
HNS ScP **ScP 19 44 15.3 +1.0**
HNS S **S 19 45 34.0 -2.5**
HNS ScS **ScS 19 48 41.8 -0.2**
HNS pmax pmax
comp=Z,58nm,1.3s
HNS LR LR
comp=Z,3μm,15.7s
HNS LR LR
comp=Z,1μm,16.2s
HNS LR LR
comp=Z,3μm,16.2s
TIY Taiyuan 46.91 360 *e*P **P 19 38 52.4 +0.6**
TIY sP **pwP 19 39 03.4 -1.1**
TIY S **S 19 45 39.1 -1.6**
TIY ScS **ScS 19 48 41.4 -2.6**
TIY pmax pmax
comp=Z,42nm,1.0s
TIY pmax pmax
comp=Z,520nm,6.7s
TIY LR LR
comp=Z,1μm,16.7s
TIY LR LR
comp=Z,1μm,13.5s
TIY LR LR
comp=Z,1μm,17.5s
ALEG Aligegeo Malai 47.27 93 P **P 19 38 57.0 +2.0**
NRDN NARMADA NAGAR 47.33 313 *e*P **P 19 38 56.4 +1.1**
NRDN IAmb IAmb 19 39 12.4
comp=Z,75nm,1.1s
JMN Monobe 47.38 24 P **P 19 38 54.9 -0.6**
JMN Monobe 47.38 24 P **P 19 38 56.7 +1.2**
LKN LUCKNOW 47.49 320 *e*P **P 19 38 56.5 0.0**
TJN Taejon 47.59 16 IAMs_20 IAMs_20 19 59 39.6
comp=Z,7μm,22.0s
TJN Taejon 47.59 16 P **P 19 38 58.2 +1.1**
TJN Taejon 47.59 16 *i*P **P 19 38 57.3 +0.2**
JHNI Jhansi 48.13 317 *e*P **P 19 39 00.2 -1.2**
JHNI IAmb IAmb 19 39 08.8
comp=Z,96nm,0.4s
LHI Lord Howe Isla 48.14 124 IAMs_20 IAMs_20 20 00 15.2
comp=Z,3μm,20.0s
HURO Huro Makira 48.34 96 P **P 19 39 05.0 +1.8**
GUNA GUNA 48.43 315 *e*P **P 19 39 03.5 -0.3**
GUNA IAmb IAmb 19 39 18.1
comp=Z,206nm,1.1s
INCN Inchon 48.45 15 P **P 19 39 04.9 +1.2**
INCN S **S 19 46 01.8 -0.6**
GOMU GeErMu 48.46 341 P **P 19 39 05.0 +0.8**
GOMU sP pP 19 39 12.1 -1.3
GOMU S **S 19 46 00.5 -2.8**
GOMU pmax pmax
comp=Z,18nm,0.9s
GOMU LR LR
comp=Z,3μm,18.9s
GOMU LR LR
comp=Z,5μm,18.5s
GOMU LR LR
comp=Z,2μm,18.4s
KSAR Wonju Array Be 48.73 16 P **P 19 39 06.1 +0.2**
KSAR Wonju Array Be 48.73 16 P **P 19 39 06.1 +0.2**
KSRS Korea Array 48.76 16 P **P 19 39 06.8 +0.8**
comp=Z,37nm,1.1s,baz=197,slow=7.6,SNR=82
KSRS LR LR 20 00 47.3
comp=Z,1μm,21.6s,baz=205,slow=38
comp=Z,37nm,1.1s
FRKB FARRUKHABAD 48.76 320 *e*P **P 19 39 06.1 -0.1**
KS19 Wonju Array Si 48.79 16 IAmb IAmb 19 39 08.4
comp=Z,157nm,1.4s
DL2 Dalian 48.80 9 ⇑*i*P **P 19 39 06.1 -0.2**
DL2 S **S 19 46 09.3 +2.1**
DL2 pmax pmax
comp=Z,95nm,1.1s
DL2 pmax pmax
comp=Z,640nm,4.6s
DL2 LR LR
comp=Z,3μm,19.4s
DL2 LR LR
comp=Z,860nm,19.4s
DL2 LR LR
comp=Z,4μm,21.1s
BJT Baijiatuau 49.31 3 IAmb IAmb 19 39 12.2
comp=Z,183nm,1.5s
BJT Baijiatuau 49.31 3 IAMs_20 IAMs_20 20 02 48.7
comp=Z,3μm,18.0s
BJT Baijiatuau 49.31 3 P **P 19 39 10.9 +0.7**
BJT pmax pmax
comp=Z,83nm,1.2s
BJI Beijing 49.33 3 P **P 19 39 10.8 +0.4**
BJI pP **pP 19 39 15.0 -4.5**
BJI sP **sP 19 39 17.9 -5.0**
BJI ScP **ScP 19 44 25.8 +0.1**
BJI S **S 19 46 12.8 -1.9**
BJI ScS **ScS 19 48 59.8 0.0**
BJI pmax pmax
comp=Z,42nm,1.1s
BJI pmax pmax
comp=Z,260nm,5.7s
BJI LR LR
comp=Z,2μm,17.5s
BJI LR LR
comp=Z,710nm,16.4s
BJI LR LR
comp=Z,2μm,18.0s
JHJ Hachijo jima 2 49.52 30 LR LR 20 02 44.0
comp=Z,540nm,18.8s,baz=224,slow=39
LGTI Lohaghat 49.79 322 *e*P **P 19 39 13.5 -0.6**
LGTI IAmb IAmb 19 39 30.0
comp=Z,71nm,0.8s
BTO Baotou 49.86 357 ⇑*i*P **P 19 39 16.6 +2.0**
BTO S **S 19 46 30.3 +7.9**
BTO pmax pmax
comp=Z,220nm,0.8s
BTO pmax pmax
comp=Z,430nm,3.7s
BTO LR LR
comp=Z,4μm,21.4s
BTO LR LR
comp=Z,4μm,19.6s
BTO LR LR
comp=Z,6μm,21.4s
PTH Pithoragarh 49.88 322 *e*P **P 19 39 14.2 -0.8**
PTH IAmb IAmb 19 39 34.3
comp=Z,154nm,1.2s
PTH IAMs_20 IAMs_20 19 59 44.1
comp=Z,3μm,22.0s
HHC Hu-ho-hao-te 50.05 359 ⇑*i*P **P 19 39 16.8 +0.8**
HHC pP pP 19 39 23.3 -1.9
HHC S **S 19 46 25.1 0.0**
HHC sS sS 19 46 36.6 -4.1
HHC ScS **ScS 19 49 05.3 +0.3**
HHC SS **SS 19 49 54.8 -3.9**
HHC pmax pmax
comp=Z,54nm,1.3s
HHC pmax pmax
comp=Z,330nm,4.5s
HHC LR LR
comp=Z,990nm,20.4s
HHC LR LR
comp=Z,2μm,20.0s
HHC LR LR
comp=Z,1μm,22.0s
GTA Gaotai 50.08 347 P **P 19 39 18.3 +2.0**
GTA pP sP 19 39 26.1 -2.7
GTA ScP **ScP 19 44 29.8 +0.7**
GTA S **S 19 46 26.4 +0.9**
GTA ScS **ScS 19 49 03.4 -1.9**
GTA pmax pmax
comp=Z,21nm,1.9s
GTA pmax pmax
comp=Z,340nm,7.6s
GTA LR LR
comp=Z,2μm,17.1s
GTA LR LR
comp=Z,2μm,18.5s
GTA LR LR
comp=Z,2μm,18.2s
INU Inuyama 50.08 26 P **P 19 39 15.1 -1.1**
INU IAmb IAmb 19 39 17.4
comp=Z,87nm,0.8s
INU Inuyama 50.08 26 P **P 19 39 16.3 +0.1**
TKRD Thakurdwara 50.43 321 *e*P **P 19 39 19.3 +0.3**
JGF Kuroka 50.44 26 IAmb IAmb 19 39 19.5
comp=Z,58nm,0.6s
JGF Kuroka 50.44 26 P **P 19 39 18.5 -0.5**
UGON Onchagaon 50.46 319 *e*P **P 19 39 17.1 -2.1**
SONA Sohna 50.95 318 *e*P **P 19 39 21.7 -1.2**
SONA IAmb IAmb 19 39 41.4
comp=Z,132nm,1.3s
JMIU JAMIA UNIVERSI 51.03 319 *e*P **P 19 39 21.5 -2.0**
NDI New Delhi 51.16 319 *e*P **P 19 39 22.4 -2.0**
NDI IAmb IAmb 19 39 34.2
comp=Z,60nm,0.9s
NPLP NPLP New Delhi 51.16 319 *e*P **P 19 39 23.1 -1.4**
NPLP IAmb IAmb 19 39 38.7
comp=Z,53nm,0.8s
KUDL Kundal 51.27 318 *e*P **P 19 39 23.8 -1.5**
KUDL IAmb IAmb 19 39 42.0
comp=Z,44nm,0.9s
AJM Ajmer 51.46 315 *e*P **P 19 39 26.1 -0.8**
AJM IAmb IAmb 19 39 42.0
comp=Z,61nm,1.3s
MAJO Matsushiro 51.61 26 P **P 19 39 26.5 -1.2**
MAJO Matsushiro 51.61 26 P **P 19 39 27.0 -0.7**
MAJO Matsushiro 51.61 26 *c i*P **P 19 39 26.5 -1.2**
MAJO pmax pmax
comp=Z,205nm,1.4s
MAJO MLR MLR
comp=Z,1μm,19.0s
MJAR Matsushiro Arr 51.61 26 P **P 19 39 26.5 -1.2**
comp=Z,71nm,0.9s,baz=200,slow=7.3,SNR=114
MJAR S **S 19 46 41.8 -4.7**
comp=Z,2.6nm,1.0s,baz=72,slow=33,SNR=4.9
MJAR LR LR 20 03 08.6
comp=Z,842nm,19.6s,baz=208,slow=38
comp=Z,71nm,0.9s
SNY Shenyang 51.97 10 ⇑P **P 19 39 29.6 -0.6**
SNY S **S 19 46 47.8 -3.5**
SNY pmax pmax
comp=Z,73nm,1.4s
SNY pmax pmax
comp=Z,440nm,3.5s
SNY LR LR
comp=Z,840nm,21.1s
SNY LR LR
comp=Z,1μm,18.3s
SNY LR LR
comp=Z,2μm,24.5s
DZM Mont Dzumac 52.88 110 *e*P **P 19 39 35.2 -2.4**
comp=Z,292nm,25.9s
DZM Mont Dzumac 52.88 110 *e*PP **PP 19 41 36.3 -1.1**
comp=Z,238nm,24.4s
DZM *e*S **S 19 47 03.4 -1.4**
comp=Z,617nm,27.5s
DZM *e*LR LR 19 54 51.0
comp=Z,3μm,25.2s
DZM Mont Dzumac 52.88 110 LR LR 20 03 27.7
comp=Z,2μm,19.1s,baz=252,slow=38
JSD Sado 52.89 25 P **P 19 39 35.6 -1.6**
JSD Sado 52.89 25 P **P 19 39 37.1 -0.1**
XLT XiLinHaoTe 53.17 3 *e*P **P 19 39 39.4 +0.1**
XLT PcS **PcS 19 44 41.9 -4.0**
XLT S **S 19 47 05.9 -2.0**
XLT ScS **ScS 19 49 26.6 +0.2**
XLT pmax pmax
comp=Z,96nm,1.3s
XLT pmax pmax
comp=Z,450nm,5.5s
XLT LR LR
comp=Z,1μm,20.7s
XLT LR LR
comp=Z,2μm,24.7s
BHK Bhakra 53.52 321 *e*P **P 19 39 41.4 -0.5**
BHK IAmb IAmb 19 39 52.8
comp=Z,80nm,1.1s
JMM Marumori 53.85 27 P **P 19 39 44.3 +0.1**
SRGN SRI GANGA NAGA 54.16 318 *e*P **P 19 39 44.7 -1.9**
CN2 Changchun 54.23 11 P **P 19 39 46.4 -0.4**
CN2 pP pP 19 39 52.4 -3.7
CN2 PP **PP 19 41 52.1 +3.1**
CN2 ScP **ScP 19 44 46.8 0.0**
CN2 S **S 19 47 22.4 +0.5**
CN2 ScS **ScS 19 49 32.8 -0.9**
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 pmax pmax
comp=Z,400nm,3.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
MSHR Mys Shultsa 54.43 17 *ce*P **P 19 39 48.4 +0.1**
MSHR pmax pmax
comp=Z,75nm,1.0s
JMU Jammu 55.35 321 *e*P **P 19 39 55.0 -0.2**
JMU IAmb IAmb 19 40 19.6
comp=Z,99nm,0.8s
MDJ Mudanjiang 55.91 14 IAmb IAmb 19 40 08.2
comp=Z,81nm,1.1s
MDJ Mudanjiang 55.91 14 P **P 19 39 58.6 -0.4**
MDJ pP pP 19 40 05.4 -2.9
MDJ sP sP 19 40 07.9 -3.8
MDJ S **S 19 47 39.8 -4.7**
MDJ sS sS 19 48 00.4 +0.8
MDJ pmax pmax
comp=Z,75nm,1.4s
MDJ pmax pmax
comp=Z,560nm,6.2s
MDJ LR LR
comp=Z,1μm,17.9s
MDJ LR LR
comp=Z,600nm,17.9s
MDJ LR LR
comp=Z,2μm,24.7s
RER Riviere de l'E 55.99 251 P **P 19 39 58.7 -1.5**
RER IAmb IAmb 19 40 03.9
comp=Z,100nm,1.0s
RER IAMs_20 IAMs_20 19 57 30.4
comp=Z,2μm,22.0s
USA0B Ussuriysk Arra 56.16 17 *c i*P **P 19 40 00.7 -0.1**
USRK Ussuriysk Ar. 56.16 17 P **P 19 40 00.3 -0.5**
USRK Ussuriysk Ar. 56.16 17 P **P 19 40 00.8 +0.1**
comp=Z,86nm,1.0s,baz=204,slow=4.2,SNR=96
USRK S **S 19 47 44.6 -3.1**
comp=Z,1.1nm,0.6s,baz=197,slow=9.0,SNR=5.4
USRK LR LR 20 04 51.9
comp=Z,959nm,21.4s,baz=212,slow=37
comp=Z,86nm,1.0s
SRNI Srinagar 56.31 322 *e*P **P 19 40 04.0 +1.9**
JTM Tenmabayashi 56.38 26 P **P 19 40 02.4 0.0**
BNX BinXian 56.48 12 ⇑P **P 19 40 02.4 -0.6**
BNX pP **pwP 19 40 13.4 -2.5**
BNX sP **sP 19 40 18.6 +2.9**
BNX PP **PP 19 42 11.3 +2.2**
BNX S **S 19 47 49.0 -3.0**
BNX sS **sS 19 48 08.3 +1.2**
BNX pmax pmax
comp=Z,59nm,1.3s
BNX pmax pmax
comp=Z,630nm,4.3s
BNX LR LR
comp=Z,490nm,19.0s
BNX LR LR
comp=Z,830nm,18.4s
BNX LR LR
comp=Z,1μm,18.4s
CASY Casey 56.78 181 IAMs_20 IAMs_20 20 01 03.8
comp=Z,5μm,21.0s
NIL Nilore 57.00 321 P **P 19 40 05.5 -1.6**
NIL IAmb IAmb 19 40 24.2
comp=Z,88nm,1.0s
NIL Nilore 57.00 321 P **P 19 40 06.6 -0.4**
NIL Nilore 57.00 321 P **P 19 40 05.5 -1.6**
NIL pmax pmax
comp=Z,88nm,1.0s
NIL MLR MLR
comp=Z,1μm,21.0s
MSEY Mahe Island 57.03 271 P **P 19 40 08.5 +0.8**
MSEY Mahe Island 57.03 271 IAMs_20 IAMs_20 19 59 42.6
comp=Z,2μm,21.0s
MSEY Mahe Island 57.03 271 P **P 19 40 09.2 +1.5**
MSEY S **S 19 48 01.2 +0.6**
MSEY Mahe Island 57.03 271 P **P 19 40 08.5 +0.8**
MSEY pmax pmax
comp=Z,466nm,2.0s
MSEY MLR MLR
comp=Z,2μm,21.0s
MSEY Mahe Island 57.03 271 *i* P **P 19 40 08.9 +1.2**
SNR=7.4
ULN Ulaanbaatar 57.28 355 P **P 19 40 08.4 -0.6**
ULN IAmb IAmb 19 40 13.8
comp=Z,41nm,0.9s
ULN Ulaanbaatar 57.28 355 IAMs_20 IAMs_20 20 06 23.9
comp=Z,3μm,21.0s
ULN Ulaanbaatar 57.28 355 P **P 19 40 08.9 0.0**
ULN S **S 19 48 03.4 +0.5**
ULN Ulaanbaatar 57.28 355 *c i*P **P 19 40 09.4 +0.5**
ULN pmax pmax
comp=Z,88nm,1.6s
ULN MLR MLR
comp=Z,2μm,22.0s
SONM Songino Array 57.31 355 P **P 19 40 09.0 0.0**
SONM IAmb IAmb 19 40 11.0
comp=Z,152nm,1.6s
SONM Songino Array 57.31 355 P **P 19 40 09.4 +0.3**
comp=Z,15nm,0.5s,baz=174,slow=8.3,SNR=163
SONM ScP **ScP 19 44 59.5 -0.9**
comp=Z,2.9nm,1.1s,baz=163,slow=4.0,SNR=4.0
SONM LR LR 20 07 35.1
comp=Z,2μm,18.4s,baz=180,slow=39
SONM PKPPKP **P'P'df 20 09 58.2 +3.6**
comp=Z,0.6nm,0.9s,baz=288,slow=1.4,SNR=4.4
SONM PKP2bc 20 10 14.7
comp=Z,0.5nm,0.8s,baz=348,slow=1.3,SNR=4.2
comp=Z,15nm,0.5s
WMQ Urumqi 57.71 339 ⇑P **P 19 40 12.8 +0.9**
WMQ pP sP 19 40 20.3 -4.4
WMQ S **S 19 48 05.5 -3.0**
WMQ ScS **ScS 19 49 56.8 -2.2**
WMQ pmax pmax
comp=Z,28nm,1.3s
WMQ pmax pmax
comp=Z,400nm,5.7s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,2μm,21.3s
WMQ LR LR
comp=Z,1μm,24.2s

ERM	**Erimo**	**58.28**	**26**	P	**P**	**19 40 15.5**	**-0.4**
ERM	**Erimo**	**58.28**	**26**	P	**P**	**19 40 16.8**	**+1.0**
ERM	**Erimo**	**58.28**	**26**	*ceP*	**P**	**19 40 15.9**	**+0.1**
ERM				pmax	pmax		
	comp=Z,85nm,1.0s						
JEM	**Erimo**	**58.28**	**26**	P	**P**	**19 40 16.6**	**+0.8**
TEY	**Ternei**	**58.33**	**20‖**	*eP*	**P**	**19 40 16.3**	**+0.2**
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.5s						
PYZ	**Puysegur Point**	**58.57**	**139**	IAMs_20	IAMs_20	20 03 43.5	
	comp=Z,5μm,22.0s						
DCZ	**Deep Cove**	**58.64**	**138**	IAMs_20	IAMs_20	20 03 58.2	
	comp=Z,3μm,21.0s						
HIA	**Hailar**	**58.78**	**5**	IAMs_20	IAMs_20	20 06 05.2	
	comp=Z,2μm,22.0s						
HIA	**Hailar**	**58.78**	**5**	P	**P**	**19 40 19.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,21nm,2.0s						
WUS	**Wushi**	**59.12**	**331**	IAmb	IAmb	19 40 44.0	
	comp=Z,106nm,1.2s						
WUS	**Wushi**	**59.12**	**331**	IAMs_20	IAMs_20	20 08 31.1	
	comp=Z,2μm,20.0s						
MLZ	**Mavora Lakes**	**59.24**	**138**	IAMs_20	IAMs_20	20 04 48.2	
	comp=Z,3μm,20.0s						
JCZ	**Jackson Bay**	**59.28**	**136**	P	**P**	**19 40 26.2**	**+3.2**
KSH	**Kashi**	**59.50**	**327**	P	**P**	**19 40 23.8**	**-0.7**
KSH				sP	sP	19 40 34.3	-3.0
KSH				S	S	19 48 23.8	-8.2
KSH				ScS	**ScS**	**19 50 14.0**	**+1.5**
KSH				pmax	pmax		
	comp=Z,12nm,0.8s						
KSH				LR	LR		
	comp=Z,770nm,19.9s						
KSH				LR	LR		
	comp=Z,920nm,19.9s						
KSH				LR	LR		
	comp=Z,2μm,21.6s						
ASAJ	**Asahikawa**	**59.76**	**24**	LR	LR	20 07 19.0	
	comp=Z,587nm,21.6s,baz=193,slow=37						
ASAJ	**Asahikawa**	**59.76**	**24**	P	**P**	**19 40 26.6**	**+0.5**
JKA	**Kamikawa-asahi**	**59.76**	**24**	IAmb	IAmb	19 40 35.3	
	comp=Z,53nm,0.8s						
ZAK	**Zakamensk**	**60.15**	**353**	*eP*	**P**	**19 40 28.4**	**-0.4**
ZAK				*e*		19 48 37.8	
ZAK				*e*		19 50 14.0	
ZAK				pmax	pmax		
	comp=Z,23nm,1.4s						
KBL	**Kabul**	**60.25**	**319**	P	**P**	**19 40 28.2**	**-1.7**
KBL				IAmb	IAmb	19 40 47.8	
	comp=Z,76nm,1.3s						
KBL	**Kabul**	**60.25**	**319**	P	**P**	**19 40 29.3**	**-0.6**
	SNR=28						
KBL				S	**S**	**19 48 36.6**	**-5.4**
KBL	**Kabul**	**60.25**	**319**	P	**P**	**19 40 28.2**	**-1.7**
KBL				pmax	pmax		
	comp=Z,76nm,1.3s						
SHLS	**Shalkode**	**60.52**	**332**	*eP*	**P**	**19 40 30.6**	**-0.9**
SHLS				*eS*	**S**	**19 48 43.1**	**-1.9**
SHLS				pmax	pmax		
	comp=Z,12nm,0.5s						
SHLS	**Shalkode**	**60.52**	**332**	*eP*	**P**	**19 40 30.6**	**-0.9**
	comp=Z,12nm,0.5s						
SHLS				*eS*	**S**	**19 48 43.2**	**-1.9**
UZB	**Uzynbulak**	**60.72**	**332**	*eP*	**P**	**19 40 33.4**	**+0.6**
UZB	**Uzynbulak**	**60.72**	**332**	*eP*	**P**	**19 40 33.5**	**+0.6**
RPZ	**Rata Peaks**	**60.75**	**135**	P	**P**	**19 40 32.9**	**-0.1**
RPZ				IAmb	IAmb	19 41 29.4	
	comp=Z,66nm,1.1s						
RPZ	**Rata Peaks**	**60.75**	**135**	LR	LR	20 07 33.2	
	comp=Z,5μm,19.1s,baz=284,slow=37						
KLR	**Kul'dur**	**60.75**	**14**	LR	LR	20 10 07.5	
	comp=Z,1μm,18.0s,baz=234,slow=39						
KLR	**Kul'dur**	**60.75**	**14**	*ceP*	**P**	**19 40 32.3**	**-0.4**
KLR				pmax	pmax		
	comp=Z,51nm,1.3s						
DSZ	**Denniston North**	**60.77**	**133**	IAMs_20	IAMs_20	20 05 55.8	
	comp=Z,4μm,22.0s						
HEH	**HeiHe**	**60.80**	**11**	*eP*	**P**	**19 40 32.6**	**-0.4**
HEH				ScP	**ScP**	**19 45 14.5**	**-1.2**
HEH				S	**S**	**19 48 50.0**	**+2.0**
HEH				ScS	SKKSac	19 50 16.8	-4.5
HEH				pmax	pmax		
	comp=Z,100nm,1.1s						
HEH				pmax	pmax		
	comp=Z,910nm,5.1s						
HEH				LR	LR		
	comp=Z,1μm,19.5s						
HEH				LR	LR		
	comp=Z,410nm,16.6s						
HEH				LR	LR		
	comp=Z,2μm,20.4s						
KDJ	**Kajisay**	**60.81**	**330**	IAmb	IAmb	19 40 56.1	
	comp=Z,79nm,1.0s						
KDJ				IAMs_20	IAMs_20	20 11 56.7	
	comp=Z,2μm,22.0s						
KDJ	**Kajisay**	**60.81**	**330**	P	**P**	**19 40 34.4**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,82nm,1.1s						
ODZ	**Otahua Downs**	**60.84**	**137**	P	**P**	**19 40 34.9**	**+1.3**
SATY	**Saty**	**60.93**	**332**	*eP*	**P**	**19 40 34.7**	**+0.4**
SATY				*eS*	**S**	**19 48 50.7**	**+0.4**
SATY	**Saty**	**60.93**	**332**	*eP*	**P**	**19 40 34.8**	**+0.4**
SATY				*eS*	**S**	**19 48 50.8**	**+0.4**
ZHN	**Zhinishke**	**61.00**	**332**	*eP*	**P**	**19 40 35.1**	**+0.3**
ZHN	**Zhinishke**	**61.00**	**332**	*eP*	**P**	**19 40 35.2**	**+0.4**
JLN	**Jalan Bani Buh**	**61.03**	**302**	P	**P**	**19 40 36.3**	**+1.1**
JLN				S	**S**	**19 48 51.0**	**-1.0**
QRZ	**Quartz Range**	**61.08**	**132**	IAMs_20	IAMs_20	20 06 57.1	
	comp=Z,4μm,19.0s						
QRZ	**Quartz Range**	**61.08**	**132**	P	**P**	**19 40 36.2**	**+0.9**
KPKS	**Kokpek**	**61.12**	**332**	*eP*	**P**	**19 40 35.9**	**+0.4**
KPKS				*eS*	**S**	**19 48 53.0**	**+0.4**
KPKS				pmax	pmax		
	comp=Z,24nm,1.0s						
KPKS	**Kokpek**	**61.12**	**332**	*eP*	**P**	**19 40 36.0**	**+0.4**
	comp=Z,24nm,1.0s						
KPKS				*eS*	**S**	**19 48 53.0**	**+0.4**
CIT	**Chita**	**61.22**	**1**	*eP*	**P**	**19 40 36.8**	**+0.9**
CIT				*e*		19 41 12.6	
CIT				*e*		19 43 00.6	
CIT				*eS*	**S**	**19 48 53.6**	**+0.1**
CIT				*e*		19 49 20.0	
CIT				*e*		19 50 20.4	
CIT				pmax	pmax		
	comp=Z,262nm,2.4s						
ULHL	**Ulahol**	**61.36**	**330**	P	**P**	**19 40 37.8**	**+0.5**
	SNR=13						
THZ	**Tophouse**	**61.57**	**132**	P	**P**	**19 40 35.7**	**-2.9**
THZ				IAmb	IAmb	19 41 02.4	
	comp=Z,91nm,1.3s						
THZ				IAMs_20	IAMs_20	20 05 39.0	
	comp=Z,4μm,22.0s						
WBK	**Wadi Bani Khal**	**61.59**	**302**	P	**P**	**19 40 42.0**	**+3.0**
	SNR=8.1						
WBK				P	**P**	**19 40 42.0**	**+3.0**
	SNR=8.1						
WBK				S	**S**	**19 48 59.4**	**+0.2**
WBK				S	**S**	**19 48 59.4**	**+0.2**
TNSS	**Tian-Shan**	**61.61**	**331**	*eP*	**P**	**19 40 39.3**	**+0.1**
TNSS	**Tian-Shan**	**61.61**	**331**	*eP*	**P**	**19 40 39.4**	**+0.1**
SBV	**Sambava**	**61.62**	**260**	P	**P**	**19 40 41.2**	**+1.9**
	SNR=6.0						
MDOK	**Medeo**	**61.66**	**331**	*eP*	**P**	**19 40 39.7**	**+0.5**
MDOK				*eS*	**S**	**19 49 00.0**	**+0.4**
MDOK	**Medeo**	**61.66**	**331**	*eP*	**P**	**19 40 39.7**	**+0.5**
MDOK				*eS*	**S**	**19 49 00.0**	**+0.4**
BOOM	**Boomskoye usch**	**61.69**	**330**	IAmb	IAmb	19 40 49.6	
	comp=Z,62nm,1.1s						
BOOM	**Boomskoye usch**	**61.69**	**330**	P	**P**	**19 40 40.0**	**+0.5**
MOY	**Mondy**	**61.71**	**352**	*eP*	**P**	**19 40 39.6**	**+0.3**
MOY				pmax	pmax		
	comp=Z,84nm,1.7s						
DQM	**DQM**	**61.72**	**299**	P	**P**	**19 40 41.3**	**+1.4**
DQM				S	**S**	**19 49 01.7**	**+0.9**
AAA	**Alma-Ata**	**61.76**	**331**	*eP*	**P**	**19 40 40.3**	**+0.5**
AAA				pmax	pmax		
	comp=Z,21nm,0.8s						
AAA	**Alma-Ata**	**61.76**	**331**	*eP*	**P**	**19 40 40.3**	**+0.5**
	comp=Z,21nm,0.8s						
DRK	**Karamyk**	**61.77**	**325**	IAmb	IAmb	19 41 02.0	
	comp=Z,32nm,0.9s						
DRK	**Karamyk**	**61.77**	**325**	P	**P**	**19 40 40.5**	**+0.3**
NNZ	**Nelson**	**61.80**	**132**	IAMs_20	IAMs_20	20 06 60.0	
	comp=Z,4μm,21.0s						
ZSN	**Zaisan**	**61.84**	**339**	*eP*	**P**	**19 40 40.8**	**+0.6**
ZSN	**Zaisan**	**61.84**	**339**	*eP*	**P**	**19 40 40.9**	**+0.6**
MQZ	**McQueen's Vall**	**61.86**	**135**	IAMs_20	IAMs_20	20 08 06.7	
	comp=Z,4μm,20.0s						
IRK	**Irkutsk**	**61.88**	**354**	*eP*	**P**	**19 40 39.5**	**-0.8**
IRK				*eS*	**S**	**19 49 01.6**	**-0.1**
IRK				*e*		19 50 26.9	
IRK				pmax	pmax		
	comp=Z,143nm,1.9s						
OHH	**Osh**	**61.93**	**326**	P	**P**	**19 40 41.4**	**+0.4**
OHH				pmax	pmax		
	comp=Z,56nm,1.1s						
ARLS	**Aral**	**62.06**	**328**	P	**P**	**19 40 42.8**	**+0.8**
ARLS				pmax	pmax		
	comp=Z,77nm,1.2s						
WSAR	**Wadi Sarin**	**62.14**	**302**	LR	LR	20 07 44.5	
	comp=Z,2μm,20.2s,baz=128,slow=36						
YSS	**Yuzhno-Sakhali**	**62.17**	**23**	P	**P**	**19 40 41.8**	**-0.6**
YSS	**Yuzhno-Sakhali**	**62.17**	**23**	P	**P**	**19 40 44.5**	**+2.1**
YSS	**Yuzhno-Sakhali**	**62.17**	**23**	*oeP*	**P**	**19 40 42.6**	**+0.2**
YSS				*e*		19 42 54.4	
YSS				*eS*	**S**	**19 49 00.9**	**-4.6**
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,600nm,2.6s						
TKM2	**Tokmak 2**	**62.18**	**330**	P	**P**	**19 40 43.2**	**+0.4**
	SNR=6.5						
JMDO	**Jabal Madar**	**62.22**	**301**	P	**P**	**19 40 46.0**	**+2.7**
	SNR=9.5						
JMDO				S	**S**	**19 49 06.9**	**-0.3**
MK31	**Makanchi Array**	**62.25**	**337**	*ceP*	**P**	**19 40 42.8**	**-0.2**
MKAR	**Makanchi Array**	**62.25**	**337**	P	**P**	**19 40 42.6**	**-0.4**
MKAR	**Makanchi Array**	**62.25**	**337**	P	**P**	**19 40 43.0**	**0.0**
	comp=Z,13nm,0.3s,baz=150,slow=7.2,SNR=456						
MKAR				S	**S**	**19 49 05.1**	**-1.6**
	comp=Z,4.2nm,1.1s,baz=163,slow=10,SNR=7.2						
MKAR				PKP2bc		20 10 01.9	
	comp=Z,1.5nm,1.1s,baz=54,slow=2.5,SNR=4.8						
MKAR				LR	LR	20 10 28.7	
	comp=Z,1μm,21.1s,baz=150,slow=39						
	comp=Z,13nm,0.3s						
GAR	**Garm**	**62.30**	**324**	IAMs_20	IAMs_20	20 11 10.6	
	comp=Z,3μm,21.0s						
KBK	**Karagaybulak**	**62.31**	**329**	P	**P**	**19 40 44.8**	**+1.1**
	SNR=37						
HIZ	**Hauiti**	**62.37**	**129**	IAMs_20	IAMs_20	20 10 04.3	
	comp=Z,3μm,19.0s						
HIZ	**Hauiti**	**62.37**	**129**	P	**P**	**19 40 45.6**	**+1.6**
ARSB	**Arslanbob**	**62.38**	**327**	IAMs_20	IAMs_20	20 11 28.6	
	comp=Z,2μm,20.0s						
MAKZ	**Makanchi**	**62.39**	**337**	P	**P**	**19 40 42.9**	**-1.0**
MAKZ				IAMs_20	IAMs_20	20 12 00.4	
	comp=Z,2μm,21.0s						
MAKZ	**Makanchi**	**62.39**	**337**	P	**P**	**19 40 44.5**	**+0.6**
TDK	**Taldyqorghan**	**62.44**	**333**	*eP*	**P**	**19 40 44.7**	**+0.5**
TDK				pmax	pmax		
	comp=Z,38nm,0.8s						
TDK	**Taldyqorghan**	**62.44**	**333**	*eP*	**P**	**19 40 44.7**	**+0.5**
	comp=Z,38nm,0.8s						
AAK	**Ala-Archa**	**62.53**	**329**	P	**P**	**19 40 45.1**	**0.0**
AAK				IAmb	IAmb	19 40 54.9	
	comp=Z,71nm,1.4s						
AAK	**Ala-Archa**	**62.53**	**329**	IAMs_20	IAMs_20	20 12 11.4	
	comp=Z,2μm,21.0s						
AAK	**Ala-Archa**	**62.53**	**329**	S	**S**	**19 49 05.6**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=238,slow=14,SNR=4.1						
AAK				LR	LR	20 12 33.0	
	comp=Z,2μm,18.9s,baz=143,slow=40						
AAK	**Ala-Archa**	**62.53**	**329**	P	**P**	**19 40 45.6**	**+0.5**
AAK				S	**S**	**19 49 10.1**	**-0.6**
AAK	**Ala-Archa**	**62.53**	**329**	P	**P**	**19 40 45.6**	**+0.5**
	SNR=20						
AAK	**Ala-Archa**	**62.53**	**329**	*ceP*	**P**	**19 40 45.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,50nm,1.7s						
AAK	**Ala-Archa**	**62.53**	**329**	*i* P	**P**	**19 40 45.6**	**+0.5**
	SNR=49						
SMDO	**Samad**	**62.55**	**302**	P	**P**	**19 40 47.0**	**+1.5**
AML	**Almayashu**	**62.58**	**328**	P	**P**	**19 40 46.4**	**+0.6**
	SNR=32						
FRU1	**Bishkek**	**62.59**	**329**	IAmb	IAmb	19 41 07.7	
	comp=Z,112nm,1.6s						
FRU1				IAMs_20	IAMs_20	20 11 47.0	
	comp=Z,2μm,19.0s						
FRU1	**Bishkek**	**62.59**	**329**	P	**P**	**19 40 46.2**	**+0.8**
FRU1				pmax	pmax		
	comp=Z,53nm,0.8s						
BIDO	**Bidbid**	**62.68**	**303**	P	**P**	**19 40 49.0**	**+2.7**
	SNR=11						
BIDO				S	**S**	**19 49 13.8**	**+1.0**
BTK	**Batken**	**62.72**	**325**	IAmb	IAmb	19 41 08.1	
	comp=Z,42nm,1.1s						
BTK	**Batken**	**62.72**	**325**	P	**P**	**19 40 46.5**	**+0.2**
BTK				pmax	pmax		
	comp=Z,40nm,1.9s						
CHGR	**Chuyangaron**	**62.77**	**323**	IAMs_20	IAMs_20	20 10 22.9	
	comp=Z,2μm,22.0s						
SNZO	**South Karori**	**62.79**	**132**	IAMs_20	IAMs_20	20 07 31.3	
	comp=Z,4μm,21.0s						
SIMJ	**Simiganj**	**62.86**	**322**	P	**P**	**19 40 43.9**	**-3.4**
SIMJ				IAmb	IAmb	19 41 43.5	
	comp=Z,182nm,1.9s						
EKS2	**Erkin-Say**	**62.91**	**329**	P	**P**	**19 40 48.6**	**+1.0**
	SNR=38						
USP	**Ospenovka**	**62.98**	**329**	P	**P**	**19 40 48.3**	**+0.3**
	SNR=24						
SGDS	**Sogindy**	**63.05**	**330**	*eP*	**P**	**19 40 48.6**	**+0.2**
SGDS	**Sogindy**	**63.05**	**330**	*eP*	**P**	**19 40 48.7**	**+0.2**
BSY	**Bisya**	**63.13**	**301**	P	**P**	**19 40 51.6**	**+2.2**
DMTO	**DMTO**	**63.19**	**295**	P	**P**	**19 40 50.7**	**+1.0**
DMTO				S	**S**	**19 49 18.5**	**-0.8**
ARK	**Arkit**	**63.26**	**327**	P	**P**	**19 40 50.3**	**+0.4**
ARK				pmax	pmax		
	comp=Z,36nm,1.2s						
H04N2	**CROZET ISLANDS**	**63.28**	**223**	T	T	20 50 48.0	
	baz=69,slow=74						
H04N1	**CROZET ISLANDS**	**63.29**	**223**	T	T	20 50 14.2	
	baz=69						
H04N3	**CROZET ISLANDS**	**63.29**	**223**	T	T	20 50 26.1	
	baz=69,slow=74						
CRZF	**Crozet Islands**	**63.31**	**223**	IAMs_20	IAMs_20	20 01 57.7	
	comp=Z,4μm,21.0s						
GRNR	**Gornyy**	**63.38**	**17⇑**	*iP*	**P**	**19 40 50.8**	**+0.4**
GRNR				pmax	pmax		
	comp=N,7.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,20nm,1.1s						
HOQ	**Hoqain**	**63.38**	**302**	P	**P**	**19 40 54.0**	**+3.1**
	SNR=12						
HOQ				S	**S**	**19 49 22.0**	**+0.3**
UGL	**Uglegorsk**	**63.70**	**21⇑**	*iP*	**P**	**19 40 53.4**	**+1.0**
UGL				*e*		19 43 14.0	
UGL				*eS*	**S**	**19 49 21.8**	**-2.7**
UGL				pmax	pmax		
	comp=Z,50nm,0.6s						
UGL				smax	smax		
	comp=E,1μm,4.2s						
UGL				smax	smax		
	comp=N,900nm,2.7s						
MSVF	**Nonsavu**	**63.70**	**105**	LR	LR	20 07 34.9	
	comp=N,1μm,20.7s,baz=264,slow=35						
MSVF	**Nonsavu**	**63.70**	**105**	P	**P**	**19 40 55.7**	**+2.4**
BKZ	**Black Stump Fm**	**63.74**	**129**	P	**P**	**19 40 53.6**	**+0.5**
BKZ				IAmb	IAmb	19 41 11.4	
	comp=Z,52nm,0.9s						
BKZ	**Black Stump Fm**	**63.74**	**129**	P	**P**	**19 40 55.3**	**+2.1**
RBK	**Rabkut**	**63.78**	**295**	P	**P**	**19 40 55.0**	**+1.3**
RBK				S	**S**	**19 49 27.7**	**+0.9**
BFZ	**Birch Farm**	**63.81**	**131**	P	**P**	**19 40 54.3**	**+0.7**
ARQ	**Araqi**	**63.94**	**302**	P	**P**	**19 40 56.2**	**+1.5**
ARQ				S	**S**	**19 49 28.5**	**-0.2**
ABPO	**Ambohimpanom**	**63.97**	**253**	P	**P**	**19 40 57.0**	**+1.8**
ABPO				IAmb	IAmb	19 40 58.5	
	comp=Z,79nm,1.1s						
ABPO	**Ambohimpanom**	**63.97**	**253**	IAMs_20	IAMs_20	20 02 50.6	
	comp=Z,2μm,21.0s						
ABPO	**Ambohimpanom**	**63.97**	**253**	P	**P**	**19 40 57.0**	**+1.8**
ABPO				pmax	pmax		
	comp=Z,79nm,1.1s						
ABPO				MLR	MLR		
	comp=Z,2μm,21.0s						
RTZ	**Ruatahuna**	**64.03**	**128**	IAmb	IAmb	19 41 13.5	
	comp=Z,69nm,0.9s						
URZ	**Urewera**	**64.07**	**128**	LR	LR	20 09 50.1	
	comp=Z,4μm,19.4s,baz=15,slow=37						
URZ	**Urewera**	**64.07**	**128**	P	**P**	**19 40 58.6**	**+3.3**
ZEA	**Zeya**	**64.12**	**9**	*eP*	**P**	**19 40 55.3**	**+0.1**
ZEA				*e*		19 43 14.7	
ZEA				*eS*	**S**	**19 49 27.1**	**-2.6**
ZEA				*eSS*	**SS**	**19 53 43.1**	**+3.6**
ZEA				pmax	pmax		
	comp=E,20nm,1.2s						
ZEA				pmax	pmax		
	comp=N,30nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,50nm,1.5s						
ZEA				pmax	pmax		
	comp=Z,400nm,2.5s						
ZEA				pmax	pmax		
	comp=Z,200nm,7.5s						
ZEA				smax	smax		
	comp=N,300nm,10.3s						
FOMA	**Nahampoana Res**	**64.20**	**247**	IAMs_20	IAMs_20	20 01 55.3	
	comp=Z,2μm,21.0s						
DOK	**Doka**	**64.23**	**296**	P	**P**	**19 40 57.9**	**+1.3**
DOK				S	**S**	**19 49 30.0**	**-2.3**
SOHO	**SOHO**	**64.26**	**302**	P	**P**	**19 40 58.2**	**+1.5**
SOHO				S	**S**	**19 49 31.3**	**-1.2**
SOHO	**SOHO**	**64.26**	**302**	*i* P	**P**	**19 40 55.8**	**-0.9**
	SNR=6.7						
VOI	**Vohitsoka**	**64.34**	**250**	P	**P**	**19 40 56.7**	**-0.8**
VOI				IAmb	IAmb	19 41 00.7	
	comp=Z,114nm,1.2s						
VOI				IAMs_20	IAMs_20	20 01 58.2	
	comp=Z,2μm,22.0s						
DZA	**Taraz**	**64.36**	**327**	*eP*	**P**	**19 40 56.9**	**-0.1**
DZA	**Taraz**	**64.36**	**327**	*eP*	**P**	**19 40 57.0**	**-0.1**
BTLS	**Baital**	**64.50**	**331**	*eP*	**P**	**19 40 57.6**	**-0.2**
BTLS	**Baital**	**64.50**	**331**	*eP*	**P**	**19 40 57.7**	**-0.2**
ABTO	**Aybut**	**64.54**	**294**	P	**P**	**19 40 60.0**	**+1.3**
	SNR=11						
ABTO				S	**S**	**19 49 33.1**	**-3.3**
UMZA	**Um Al Zommool**	**64.85**	**300**	P	**P**	**19 41 03.2**	**+2.7**
UMZA				S	**S**	**19 49 36.9**	**-2.9**
UOSS	**Minazif**	**64.87**	**303**	P	**P**	**19 40 59.9**	**-0.8**
UOSS				IAmb	IAmb	19 41 16.7	
	comp=Z,141nm,1.4s						
UOSS	**Minazif**	**64.87**	**303**	P	**P**	**19 41 01.8**	**+1.1**
UOSS				S	**S**	**19 49 36.1**	**-3.9**
UOSS	**Minazif**	**64.87**	**303**	*i* P	**P**	**19 41 00.6**	**0.0**
	SNR=6.0						
HATD	**Hatta, Dubai**	**64.88**	**303**	P	**P**	**19 41 03.1**	**+2.3**
	SNR=12						
HATD				S	**S**	**19 49 38.2**	**-2.0**
HATD	**Hatta, Dubai**	**64.88**	**303**	*i* P	**P**	**19 41 01.0**	**+0.2**
	SNR=13						
ALNE	**Al Ain**	**64.88**	**302**	P	**P**	**19 41 02.7**	**+1.9**
	SNR=9.9						
ALNE				S	**S**	**19 49 37.8**	**-2.4**
ALNE	**Al Ain**	**64.88**	**302**	*i* P	**P**	**19 41 00.8**	**0.0**
	SNR=11						
ASHO	**Ashiyiah**	**64.88**	**303**	P	**P**	**19 41 02.1**	**+1.3**
ASHO				S	**S**	**19 49 38.5**	**-1.7**
ASHO	**Ashiyiah**	**64.88**	**303**	*i* P	**P**	**19 41 01.2**	**+0.4**
	SNR=8.4						
MXZ	**Matakaoa Point**	**64.91**	**127**	P	**P**	**19 41 02.6**	**+1.8**
MDH	**Madha**	**64.94**	**304**	P	**P**	**19 41 00.7**	**-0.4**
MDH				S	**S**	**19 49 40.0**	**-0.9**
MDH	**Madha**	**64.94**	**304**	P	**P**	**19 41 00.4**	**-0.7**
KKAR	**Karatay Array**	**64.94**	**327**	P	**P**	**19 41 00.1**	**-0.7**
KKAR	**Karatay Array**	**64.94**	**327**	P	**P**	**19 41 00.1**	**-0.7**
MSFE	**Esma-Masafi**	**65.08**	**304**	*i* P	**P**	**19 41 01.4**	**-0.7**
	SNR=5.8						
MASF	**Masafi**	**65.08**	**304**	P	**P**	**19 41 04.1**	**+2.0**
MASF				P	**P**	**19 41 04.1**	**+2.0**
MASF				S	**S**	**19 49 40.5**	**-2.2**
MASF				S	**S**	**19 49 40.5**	**-2.2**
BRLS	**Boroldoy**	**65.25**	**327**	*eP*	**P**	**19 41 02.3**	**-0.6**
BRLS	**Boroldoy**	**65.25**	**327**	*eP*	**P**	**19 41 02.3**	**-0.6**
FAQ	**Al Faqa, Dubai**	**65.29**	**303**	P	**P**	**19 41 05.0**	**+1.6**
	SNR=11						
FAQ				S	**S**	**19 49 42.3**	**-3.0**
FAQ	**Al Faqa, Dubai**	**65.29**	**303**	*i* P	**P**	**19 41 03.4**	**0.0**
	SNR=8.1						
NAZ	**Nazwa, Dubai**	**65.33**	**303**	P	**P**	**19 41 05.5**	**+1.8**
NAZ				S	**S**	**19 49 44.6**	**-1.1**
NAZ	**Nazwa, Dubai**	**65.33**	**303**	*i* P	**P**	**19 41 02.9**	**-0.8**
	SNR=8.7						
DGTI	**Dogotuki**	**65.38**	**104**	P	**P**	**19 41 06.1**	**+1.9**
SHME	**Shamm**	**65.38**	**304**	P	**P**	**19 41 05.7**	**+1.8**
SHME	**Shamm**	**65.38**	**304**	P	**P**	**19 41 04.0**	**0.0**
TYV	**Tymovskoe**	**65.41**	**20**	*eP*	**P**	**19 41 03.7**	**+0.1**
TYV				*eS*	**S**	**19 49 43.9**	**-1.7**
TYV				pmax	pmax		
	comp=Z,20nm,1.6s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				smax	smax		
	comp=N,500nm,6.3s						
TYV				smax	smax		
	comp=E,600nm,6.3s						
ASUD	**Al Ashush, Dub**	**65.46**	**302**	P	**P**	**19 41 05.7**	**+1.2**
ASUD				S	**S**	**19 49 46.9**	**-0.4**
ASUD	**Al Ashush, Dub**	**65.46**	**302**	*i* P	**P**	**19 41 05.4**	**+0.9**
	SNR=8.1						
TAVE	**Taveuni**	**65.70**	**104**	P	**P**	**19 41 08.1**	**+1.9**
AJN	**Ajban**	**65.72**	**302**	P	P	19 41 12.9	+6.7
AJN				S	**S**	**19 49 49.6**	**-0.9**
SEM	**Semipalatinsk**	**65.99**	**338**	*eP*	**P**	**19 41 07.7**	**0.0**
SEM	**Semipalatinsk**	**65.99**	**338**	*eP*	**P**	**19 41 07.7**	**0.0**
MZWR	**Madinat Zayed**	**66.34**	**301**	P	**P**	**19 41 11.3**	**+1.2**
MZWR				S	**S**	**19 49 55.3**	**-2.7**
MZR	**Muzera**	**66.39**	**300**	P	**P**	**19 41 11.7**	**+1.2**
MZR				S	**S**	**19 49 57.7**	**-1.0**
MZR	**Muzera**	**66.39**	**300**	*i* P	**P**	**19 41 10.7**	**+0.2**
	SNR=7.0						
NKL	**Nikolayevsk**	**66.72**	**18**	*eP*	**P**	**19 41 10.0**	**-2.0**
NKL				*eS*	**S**	**19 49 59.4**	**-2.1**
NKL				pmax	pmax		

comp=Z,8.3nm,0.4s
ZALV Zalesovo Beam 67.45 343 *i* P **P 19 41 16.2 -0.4**
ZALV pmax pmax
comp=Z,14nm,0.6s
FUTU Fugatoga 67.57 102 P **P 19 41 20.3 +2.1**
JRN Qarnain Island 67.66 302 P **P 19 41 19.1 +0.5**
JRN S **S 19 50 09.7 -4.2**
SLWR Sila 68.31 301 P **P 19 41 23.8 +1.1**
SLWR S **S 19 50 18.0 -3.7**
BRZS Berezniki 68.74 333 *eP* **P 19 41 25.2 +0.4**
BRZS Berezniki 68.74 333 *eP* **P 19 41 25.2 +0.4**
TRNA Turayna 68.96 301 P **P 19 41 27.5 +0.8**
TRNA S **S 19 50 26.6 -2.8**
SMRA Abu-Samra 69.29 301 P **P 19 41 29.3 +0.6**
SMRA S **S 19 50 29.0 -4.3**
SHMA Al-Shehemyia 69.58 302 P **P 19 41 31.0 +0.5**
SHMA S **S 19 50 32.6 -4.1**
SAKB Bahrain 69.98 302 P **P 19 41 33.4 +0.4**
SAKB S **S 19 50 37.5 -3.9**
BVAR Borovoye Array 71.93 335 P **P 19 41 44.1 -0.2**
comp=Z,3.8nm,0.5s,baz=143,slow=8.4,SNR=24
BVAR LR LR 20 16 21.2
comp=Z,831nm,20.9s,baz=142,slow=38
comp=Z,3.8nm,0.5s
BRVK Borovoye 72.00 335 P **P 19 41 43.4 -1.3**
BRVK Borovoye 72.00 335 IAMs_20 IAMs_20 20 19 34.9
comp=Z,1μm,20.0s
BRVK Borovoye 72.00 335 P **P 19 41 44.7 0.0**
BRVK Borovoye 72.00 335 *ceP* **P 19 41 43.6 -1.1**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
YAK Yakutsk 72.46 8 P **P 19 41 46.7 -0.5**
YAK Yakutsk 72.46 8 LR LR 20 15 45.3
comp=Z,987nm,21.3s,baz=200,slow=38
YAK Yakutsk 72.46 8 *c i*P **P 19 41 47.0 -0.2**
YAK *e**PP **pwP 19 41 59.1 -1.7**
YAK *e* 19 42 03.3
YAK *e* 19 44 35.2
YAK *e*S **S 19 51 02.9 -5.8**
YAK *e* 19 51 43.1
YAK *e*SS **SS 19 55 42.4 -5.7**
YAK *e*SSS SSS 19 58 59.3
YAK pmax pmax
comp=Z,110nm,1.1s
YAK pmax pmax
comp=N,56nm,1.2s
YAK pmax pmax
comp=E,25nm,1.2s
YAK pmax pmax
comp=Z,138nm,3.2s
YAK pmax pmax
comp=E,61nm,2.5s
YAK pmax pmax
comp=N,122nm,4.3s
YAK smax smax
comp=N,179nm,2.1s
YAK smax smax
comp=E,188nm,2.1s
VNDA Vanda 72.56 170 P **P 19 41 48.0 +0.4**
VNDA IAmb IAmb 19 41 50.0
comp=Z,60nm,1.2s
VNDA Vanda 72.56 170 P **P 19 41 48.5 +0.9**
comp=Z,15nm,0.9s,baz=348,slow=4.6,SNR=12
VNDA LR LR 20 13 06.6
comp=Z,3μm,18.3s,baz=334,slow=35
comp=Z,15nm,0.9s
VNDA Vanda 72.56 170 P **P 19 41 48.1 +0.4**
VNDA pmax pmax
comp=Z,60nm,1.3s
ATD Arta Tunnel 72.60 285 LR LR 20 11 30.5
comp=Z,28nm,19.1s,baz=90,slow=34
PEA0B Petropavlovsk- 73.06 26 IAmb IAmb 19 42 05.5
comp=Z,158nm,1.4s
PEA0B Petropavlovsk- 73.06 26 *ceP* **P 19 41 51.4 +0.4**
PETK Petropavlovsk- 73.06 26 P **P 19 41 50.3 -0.7**
PETK Petropavlovsk- 73.06 26 P **P 19 41 51.4 +0.3**
comp=Z,25nm,0.9s,baz=233,slow=0.6,SNR=36
PETK LR LR 20 18 01.1
comp=Z,237nm,18.1s,baz=235,slow=39
comp=Z,25nm,0.9s
PET Petropavlovsk 73.43 27 P **P 19 41 52.8 -0.3**
PET Petropavlovsk 73.43 27 P **P 19 41 54.6 +1.5**
PET Petropavlovsk 73.43 27 *eP* **P 19 41 53.7 +0.6**
PET *e* 19 44 39.2
PET *e*S **S 19 51 21.5 +1.4**
PET *e*SS **SS 19 56 08.7 +5.5**
PET pmax pmax
comp=Z,40nm,1.3s
PET pmax pmax
comp=Z,500nm,18.3s
PET pmax pmax
comp=Z,400nm,16.3s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 73.43 27 P **P 19 41 54.1 +1.0**
comp=Z,26nm,1.4s
RAYN Ar Rayn 73.45 298 P **P 19 41 54.6 +0.6**
RAYN pmax pmax
comp=Z,9.0nm,2.9s
RAYN Ar Rayn 73.45 298 P **P 19 41 54.3 +0.3**
AFI Afiamalu 73.74 102 P **P 19 41 57.8 +1.9**
ABKAR Akbulak array 74.50 327 P **P 19 41 59.7 +0.2**
ABKAR Akbulak array 74.50 327 IAmb IAmb 19 42 27.4
comp=Z,90nm,0.8s
KIBK Kibwezi 74.58 270 P **P 19 42 00.2 -0.7**
KIBK IAMs_20 IAMs_20 20 08 10.8
comp=Z,2μm,22.0s
KIBK Kibwezi 74.58 270 P **P 19 42 03.1 +2.2**
SNR=14
MA2 Magadan 75.19 19 P **P 19 42 02.4 -0.9**
MA2 IAmb IAmb 19 42 06.3
comp=Z,42nm,0.8s
MA2 Magadan 75.19 19 LR LR 20 16 19.1
comp=Z,453nm,22.0s,baz=222,slow=37
MA2 Magadan 75.19 19 P **P 19 42 04.1 +0.8**
MA2 Magadan 75.19 19 *ceP* **P 19 42 03.6 +0.3**
MA2 pmax pmax
comp=Z,52nm,1.0s
MA2 Magadan 75.19 19 P **P 19 42 03.9 +0.6**
comp=Z,1μmcomp=Z,59nm,0.9s
SYO Syowa Base 75.24 201‖ *i*P **P 19 42 03.6 +0.1**
SYO Syowa Base 75.24 201‖⇑ *ep*P pP 19 42 11.4 -1.5
SYO Syowa Base 75.24 201‖ *e*PcP **PcP 19 42 16.2 -0.6**
KMBO Kilima Mbogo 75.56 271 P **P 19 42 07.8 +1.1**
KMBO Kilima Mbogo 75.56 271 IAMs_20 IAMs_20 20 09 06.7
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 75.56 271 P **P 19 42 08.6 +1.9**
comp=Z,19nm,1.0s,baz=74,slow=6.1,SNR=43
KMBO LR LR 20 09 30.5
comp=Z,3μm,21.8s,baz=96,slow=31
comp=Z,19nm,1.0s
KMBO Kilima Mbogo 75.56 271 P **P 19 42 09.5 +2.8**
KMBO Kilima Mbogo 75.56 271 P **P 19 42 07.8 +1.1**
KMBO pmax pmax
comp=Z,231nm,1.7s
KMBO MLR MLR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 75.56 271 *i* P **P 19 42 08.7 +1.9**
SNR=33
AKTO Aktyubinsk 76.20 327 P **P 19 42 10.3 +1.0**
comp=Z,18nm,0.7s,baz=118,slow=3.7,SNR=14
AKTO S **S 19 51 51.6 +0.4**
comp=Z,0.4nm,0.3s,baz=63,slow=4.5,SNR=6.2
AKTO LR LR 20 20 29.8
comp=Z,1μm,19.3s,baz=100,slow=39
comp=Z,18nm,0.7s
POGA Pongola 77.86 244 IAMs_20 IAMs_20 20 09 55.1
comp=Z,2μm,21.0s
LODK Lodwar 78.20 276 IAmb IAmb 19 42 40.4
comp=Z,145nm,1.8s
LODK IAMs_20 IAMs_20 20 12 58.1
comp=Z,1μm,20.0s
LODK Lodwar 78.20 276 P **P 19 42 23.7 +2.3**
SNR=22
SEY Seymchan 78.29 17 LR LR 20 19 12.5
comp=Z,425nm,20.7s,baz=224,slow=38
SEY Seymchan 78.29 17 *ceP* **P 19 42 21.5 +0.8**
SEY pmax pmax
comp=Z,70nm,1.0s
SVE Sverdlovsk 78.67 334 *deP* **P 19 42 23.7 +0.8**
SVE *e*S **S 19 52 14.8 -2.8**
SVE pmax pmax
comp=Z,128nm,1.5s
MAK Makhachkala 78.93 317 *c i*P **P 19 42 22.2 -2.5**
MAK *e*PPP PPP 19 47 16.5
MAK *e*S **S 19 52 17.2 -3.7**
MAK *e*SS **SS 19 57 22.5 -4.4**
MAK *e*SSS SSS 20 00 49.5
MAK pmax pmax
comp=Z,249nm,1.6s
ARTI Arti 79.41 333 P **P 19 42 26.8 -0.2**
ARTI IAmb IAmb 19 42 55.7
comp=Z,57nm,0.9s
ARTI Arti 79.41 333 IAMs_20 IAMs_20 20 20 49.8
comp=Z,1μm,20.0s
ARTI Arti 79.41 333 P **P 19 42 27.3 +0.2**
comp=Z,17nm,0.3s,baz=143,slow=7.5,SNR=40
ARTI LR LR 20 22 42.2
comp=Z,912nm,18.7s,baz=131,slow=40
comp=Z,17nm,0.3s
ARTI Arti 79.41 333 *c i*P **P 19 42 27.2 +0.2**
ARTI *PP **pwP 19 42 39.4 -1.0**
ARTI 19 45 22.1
ARTI S **S 19 52 26.7 +1.2**
ARTI SS **SS 19 57 30.3 -3.3**
ARTI pmax pmax
comp=Z,14nm,0.6s
ARTI MLR MLR
comp=Z,966nm,23.0s
GNI Garni 79.75 314 P **P 19 42 27.6 -1.9**
GNI IAmb IAmb 19 42 47.1
comp=Z,184nm,1.7s
GNI Garni 79.75 314 P **P 19 42 29.3 -0.2**
comp=Z,8.3nm,0.8s,baz=159,slow=8.6,SNR=3.6
GNI LR LR 20 22 41.5
comp=Z,371nm,20.1s,baz=104,slow=39
comp=Z,8.3nm,0.8s
GNI Garni 79.75 314 P **P 19 42 32.3 +2.8**
GNI Garni 79.75 314 *i* P **P 19 42 27.0 -2.5**
GNI pmax pmax
comp=Z,112nm,1.7s
GNI Garni 79.75 314 P **P 19 42 30.9 +1.4**
GEVA Gevas 80.32 312 IAMs_20 IAMs_20 20 22 13.0
comp=Z,1μm,22.0s
SIRT Sirnak 80.51 311 IAMs_20 IAMs_20 20 24 14.0
comp=Z,3μm,20.0s
NRIK Noril'sk 80.54 351 IAmb IAmb 19 42 49.8
comp=Z,71nm,1.4s
NRIK Noril'sk 80.54 351 P **P 19 42 32.6 -0.2**
comp=Z,7.2nm,0.5s,baz=160,slow=4.5,SNR=20
NRIK S **S 19 52 31.5 -5.5**
comp=Z,2.0nm,0.5s,baz=115,slow=5.0,SNR=4.5
NRIK LR LR 20 23 11.8
comp=Z,2μm,18.5s,baz=170,slow=39
comp=Z,7.2nm,0.5s
NRIK Noril'sk 80.54 351 *i* P **P 19 42 31.9 -0.9**
NRIK pmax pmax
comp=Z,74nm,1.4s
QSPA South Pole Qui 80.56 180 P **P 19 42 34.4 +1.1**
comp=Z,27nm,1.1s,baz=332,slow=1.9,SNR=22
QSPA S **S 19 52 39.4 +1.6**
comp=Z,0.6nm,0.2s,baz=16,slow=23,SNR=3.7
QSPA LR LR 20 16 39.3
comp=Z,3μm,20.1s,baz=346,slow=34
comp=Z,27nm,1.1s
TRLG Trialeti 80.71 315 P **P 19 42 35.5 +0.9**
GUDG Gudauri 80.79 316 P **P 19 42 36.9 +1.8**
SHEM Shemya Is, Ala 80.87 33 LR LR 20 16 02.3
comp=Z,255nm,20.6s,baz=220,slow=34
ELIB Princess Elisa 80.92 198 *dP* **P 19 42 36.5 +1.3**
comp=Z,39nm,1.2s
KARS Kars 81.11 314 P **P 19 42 38.8 +2.1**
KARS pmax pmax
comp=Z,185nm,1.4s
GURO Guroymak-BITLI 81.16 311 IAmb IAmb 19 42 55.0
comp=Z,156nm,1.5s
MATP Matopo 81.46 251 LR LR 20 11 40.1
comp=Z,1μm,21.8s,baz=66,slow=30
TIXI Tiksi 81.62 5 P **P 19 42 37.1 -1.4**
TIXI IAmb IAmb 19 42 55.7
comp=Z,112nm,1.3s
TIXI Tiksi 81.62 5 IAMs_20 IAMs_20 20 24 42.8
comp=Z,1μm,18.0s
TIXI Tiksi 81.62 5 LR LR 20 21 02.7
comp=Z,1μm,21.5s,baz=212,slow=37
TIXI Tiksi 81.62 5 *eP* **P 19 42 37.2 -1.3**
TIXI pmax pmax
comp=Z,51nm,0.9s
MARD Mardin 81.70 310 IAmb IAmb 19 42 57.5
comp=Z,80nm,1.2s
NCK Nalchik 81.77 317 *i* P **P 19 42 40.8 +0.8**
NCK pmax pmax
comp=Z,197nm,1.6s
GRHM Grahamstown, E 81.92 238 IAMs_20 IAMs_20 20 13 02.1
comp=Z,2μm,19.0s
MBAR Mbarara 82.07 271 IAMs_20 IAMs_20 20 15 49.6
comp=Z,2μm,20.0s
MBAR Mbarara 82.07 271 P **P 19 42 44.8 +2.4**
MBAR Mbarara 82.07 271 *i* P **P 19 42 44.2 +1.8**
MBAR pmax pmax
comp=Z,105nm,1.1s
KBZ Khabaz 82.33 317 P **P 19 42 44.1 +1.3**
comp=Z,20nm,1.0s,baz=109,slow=1.9,SNR=14
KBZ S **S 19 52 54.8 -1.7**
comp=Z,1.5nm,0.9s,baz=8.4,slow=22,SNR=8.3
KBZ LR LR 20 23 44.9
comp=Z,209nm,21.8s,baz=108,slow=39
comp=Z,20nm,1.0s
KBZ Khabaz 82.33 317 *ceP* **P 19 42 43.7 +0.9**
KBZ pmax pmax
comp=Z,202nm,1.3s
LSZ Lusaka 82.41 256 P **P 19 42 45.3 +1.2**
LSZ IAmb IAmb 19 42 47.1
comp=Z,93nm,1.3s
LSZ Lusaka 82.41 256 IAMs_20 IAMs_20 20 13 01.7
comp=Z,2μm,22.0s
LSZ Lusaka 82.41 256 LR LR 20 13 23.9
comp=Z,2μm,22.0s,baz=104,slow=31
LSZ Lusaka 82.41 256 P **P 19 42 45.6 +1.5**
LSZ Lusaka 82.41 256 P **P 19 42 45.3 +1.2**
LSZ pmax pmax
comp=Z,93nm,1.3s
LSZ MLR MLR
comp=Z,2μm,22.0s
BROLN Tlhalogang 82.46 250 *i* P **P 19 42 45.2 +0.9**
SHA1 Shidzhatmaz 82.50 317 *i* P **P 19 42 43.2 -0.9**
KVAR Kislovodsk Arr 82.55 317 LR LR 20 24 09.0
comp=Z,553nm,20.6s,baz=171,slow=39
KIV Kislovodsk 82.55 317 P **P 19 42 43.9 -0.3**
KIV Kislovodsk 82.55 317 P **P 19 42 44.8 +0.7**
KIV Kislovodsk 82.55 317 *eP* **P 19 42 44.3 +0.1**
KIV *e*S **S 19 52 56.6 -2.4**
KIV *e*SS **SS 19 58 21.1 -0.2**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV Kislovodsk 82.55 317 *i* P **P 19 42 45.3 +1.1**
SNR=7.5
GOF Gofitskoye 82.71 318 *ceP* P 19 42 56.5 +12
BELG Belogornoye 82.82 326 P **P 19 42 45.6 +0.4**
comp=Z,10nm,0.3s,baz=236,slow=3.7,SNR=6.6
BELG LR LR 20 24 59.7
comp=Z,947nm,21.1s,baz=118,slow=40
comp=Z,10nm,0.3s
BELG Belogornoye 82.82 326 *i* P **P 19 42 44.4 -0.8**
BELG pmax pmax
comp=Z,35nm,1.5s
ASF Jabal al Asfar 83.26 304 P **P 19 42 50.0 +1.9**
comp=Z,26nm,1.1s,baz=180,slow=1.4,SNR=19
ASF LR LR 20 23 11.9
comp=Z,936nm,18.0s,baz=66,slow=38
comp=Z,26nm,1.1s
BOSA Boshof 83.41 242 IAmb IAmb 19 42 52.0
comp=Z,72nm,1.2s
BOSA Boshof 83.41 242 P **P 19 42 50.6 +1.5**
comp=Z,26nm,1.0s,baz=93,slow=5.7,SNR=20
BOSA LR LR 20 12 39.5
comp=Z,3μm,21.8s,baz=108,slow=30
comp=Z,26nm,1.0s
LPHEP Lephephe 83.53 247 *i* P **P 19 42 51.5 +1.7**
LBTB Lobatse 83.56 246 LR LR 20 15 59.1
comp=Z,809nm,19.6s,baz=104,slow=33
KHWEE KHWEE 84.09 249 *i* P **P 19 42 53.5 +0.8**
LABN Labinsk 84.11 317 *eP* **P 19 42 54.8 +2.7**
LABN *e*S **SKSac 19 53 08.9 -4.2**
LABN pmax pmax
comp=Z,90nm,1.5s
GHAJ Ghor Haditha 84.12 303 IAMs_20 IAMs_20 20 22 48.0
comp=Z,1μm,20.0s
MAKGR Makgori 84.17 245 *i* P **P 19 42 54.5 +1.5**
FKH Fakeheh 84.20 306 *eP* **P 19 42 55.4 +2.4**
EIL Elat 84.23 301 P **P 19 42 54.2 +1.2**
comp=Z,36nm,1.2s,baz=120,slow=2.5,SNR=11
EIL LR LR 20 21 53.3
comp=Z,1μm,18.8s,baz=99,slow=37
comp=Z,36nm,1.2s
BALJ Balqa 84.26 304 IAMs_20 IAMs_20 20 23 16.7
comp=Z,2μm,19.0s
RAR Rarotonga 84.26 110 LR LR 20 18 18.5
comp=Z,870nm,22.0s,baz=266,slow=34
GAZ Gaziantep 84.37 309 IAMs_20 IAMs_20 20 24 08.4
comp=Z,974nm,21.0s
SOC Sochi 84.45 316 *eP* **P 19 42 52.7 -1.1**
SOC *e* 19 46 06.2
SOC *e*S **SKSac 19 53 11.4 -3.9**
SOC pmax pmax
comp=Z,150nm,1.1s
BEIL Beino 84.46 306 *eP* **P 19 42 56.6 +2.5**
RCY Rachaya 84.47 305 *eP* **P 19 42 56.6 +2.3**
SHBL Chebaa 84.50 305 *eP* **P 19 42 56.8 +2.3**
HWQ Hawqa 84.58 306 *eP* **P 19 42 56.8 +1.9**
QRWL Qaraoun 84.60 305 *eP* **P 19 42 57.5 +2.6**
KDWAN Kaudwane 84.62 247 *i* P **P 19 42 56.5 +1.2**
ERBR Yeremizino-Bor 84.62 318 *eP* **P 19 42 56.4 +1.8**
ERBR *e*S **SKSac 19 53 11.7 -4.6**
ERBR pmax pmax
comp=Z,84nm,1.3s
KIRV Kirov 84.68 332 P **P 19 42 55.3 +0.7**
comp=Z,19nm,0.8s,baz=18,slow=3.2,SNR=8.3
KIRV LR LR 20 25 19.4
comp=Z,932nm,19.2s,baz=123,slow=39
comp=Z,19nm,0.8s
KIRV Kirov 84.68 332 *ceP* **P 19 42 55.7 +1.1**
MMAI Mount Meron Ar 84.69 305 P **P 19 42 57.7 +2.3**
comp=Z,68nm,1.2s,baz=105,slow=8.0,SNR=40
MMAI LR LR 20 24 38.1
comp=Z,848nm,18.4s,baz=87,slow=38
comp=Z,68nm,1.2s
BHL Bhannes 84.72 305 *eP* **P 19 42 57.9 +2.4**
DQRL Deir Qamar 84.73 305 *eP* **P 19 42 57.9 +2.3**
NVL N'lazarevskaya 84.74 199 *eP* **P 19 42 57.1 +2.3**
NVL *e*S **SKSac 19 53 10.9 -5.4**
NVL pmax pmax
comp=Z,19nm,1.1s
NVL MLR MLR
comp=Z,627nm,18.0s
KSANE Kasane 84.94 253 *i* P **P 19 42 58.8 +1.8**
SKOMA Sekoma 85.12 246 *i* P **P 19 42 59.9 +2.1**
VRH Novokhopyorsk 85.72 323 *eP* **P 19 43 00.2 +0.2**
VRH pmax pmax
comp=Z,45nm,1.2s
TOKA Tokat 85.80 312 IAMs_20 IAMs_20 20 25 39.9
comp=Z,879nm,20.0s
BILL Bilibino 85.99 18 P **P 19 43 00.8 -0.2**
BILL Bilibino 85.99 18 *ceP* **P 19 43 01.1 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.0s
ANN Anapa 86.39 316 *eP* **P 19 43 03.8 +0.4**
ANN *e*S **SKSac 19 53 25.2 -2.2**
ANN pmax pmax
comp=Z,114nm,1.6s
SUR Sutherland 86.68 238 LR LR 20 16 10.8
comp=Z,2μm,20.0s,baz=102,slow=32
CSS Mathiatis 86.84 306 IAMs_20 IAMs_20 20 23 50.8
comp=Z,1μm,20.0s
CSS Mathiatis 86.84 306 P **P 19 43 08.0 +2.1**
comp=Z,2μmcomp=Z,112nm,1.6s
KGCAE Kacgae 86.93 247 *i* P **P 19 43 08.6 +1.7**
VORD Divnogorie 87.09 323 *eP* **P 19 43 05.7 -1.0**
VORD pmax pmax
comp=Z,40nm,1.1s
TROLL Troll, Antarti 87.21 197 P **P 19 43 09.3 +2.1**
TROLL Troll, Antarti 87.21 197 ⇑P **P 19 43 09.3 +2.1**
comp=Z,312nm,0.6s
VSR Storozhevoye 87.24 323 *eP* **P 19 43 06.6 -0.8**
VSR pmax pmax
comp=Z,80nm,1.0s
VORR Voronezh 87.36 323 *eP* **P 19 43 08.5 +0.5**
VORR pmax pmax
comp=Z,131nm,1.4s
KIRS Kirsehir-Merke 87.39 310‖P **P 19 43 09.9 +1.3**
BRTR Keskin Array B 87.75 311 P **P 19 43 09.8 -0.5**
BRTR Keskin Array B 87.75 311 P **P 19 43 10.9 +0.6**
comp=Z,14nm,0.9s,baz=135,slow=5.7,SNR=52
BRTR LR LR 20 25 27.1
comp=Z,831nm,21.6s,baz=111,slow=38
comp=Z,14nm,0.9s
BRTR Keskin Array B 87.75 311 P **P 19 43 11.0 +0.6**
BR105 Keskin Array S 87.76 311 P **P 19 43 11.2 +0.8**
comp=Z,738nmcomp=Z,87nm,1.2s
BR106 Keskin Array S 87.76 311 P **P 19 43 11.3 +0.9**
comp=Z,634nmcomp=Z,75nm,1.2s
LPSR Galich'ya Gora 87.82 324 *eP* **P 19 43 10.8 +0.6**
LPSR pmax pmax
comp=Z,68nm,1.2s
ILGA Ilgaz 88.01 312 IAMs_20 IAMs_20 20 26 24.6
comp=Z,1μm,21.0s
BZK Bozkurt 88.03 313 IAMs_20 IAMs_20 20 26 53.9
comp=Z,1μm,21.0s
GRTLG Ghanzi 88.07 249 *i* P **P 19 43 13.3 +1.0**
ANTO Ankara 88.41 311 P **P 19 43 13.8 +0.4**
ANTO Ankara 88.41 311 P **P 19 43 13.8 +0.4**
ANTO pmax pmax
comp=Z,128nm,1.3s
ANTO MLR MLR
comp=Z,800nm,21.0s
ANTO Ankara 88.41 311 P **P 19 43 14.9 +1.5**
comp=Z,697nmcomp=Z,42nm,1.4s
SIM Simferopol' 88.70 316 *eP* **P 19 43 15.9 +1.3**
SIM *e*S **S 19 53 59.1 -0.1**
SIM pmax pmax
comp=Z,81nm,1.3s
SIM smax smax
comp=E,92nm,11.1s
KOOLE Kule 88.74 247 *i* P **P 19 43 17.3 +1.8**
SNAA Sanae 88.88 197 P **P 19 43 16.1 +1.0**
SNAA Sanae 88.88 197 P **P 19 43 14.3 -0.7**
SNAA IAmb IAmb 19 43 18.0
comp=Z,66nm,1.2s
SNAA Sanae 88.88 197 ⇑P **P 19 43 16.1 +1.0**
comp=Z,588nm,0.6s
SNAA Sanae 88.88 197 P **P 19 43 16.2 +1.1**
comp=Z,25nm,0.7s,baz=158,slow=4.7,SNR=39
SNAA LR LR 20 20 57.3
comp=Z,2μm,18.2s,baz=108,slow=34
comp=Z,25nm,0.7s
SNAA Sanae 88.88 197 P **P 19 43 14.3 -0.7**
SNAA pmax pmax
comp=Z,66nm,1.2s
SNAA MLR MLR
comp=Z,3μm,19.0s
MOS Moscow 89.52 327 *eP* **P 19 43 17.9 -0.2**
MOS *e* 19 53 43.8
MOS *e*S **S 19 54 02.1 -4.3**
MOS pmax pmax
comp=Z,700nm,2.0s
MOS pmax pmax
comp=Z,294nm,1.5s
MOS pmax pmax
comp=N,64nm,1.2s
MOS pmax pmax
comp=E,83nm,1.3s
MDUB Mudurnu 89.74 311 IAMs_20 IAMs_20 20 26 21.3
comp=Z,2μm,22.0s
OBN Obninsk 89.91 326 P **P 19 43 20.1 +0.2**
OBN Obninsk 89.91 326 P **P 19 43 20.4 +0.5**
comp=Z,14nm,0.4s,baz=53,slow=6.5,SNR=5.7
OBN LR LR 20 29 34.9
comp=Z,708nm,19.8s,baz=106,slow=40
comp=Z,14nm,0.4s
OBN Obninsk 89.91 326 ⇑P **P 19 43 20.8 +0.8**
OBN Obninsk 89.91 326 *c i*P **P 19 43 20.0 0.0**
OBN *i* *PP **sP 19 43 29.3 -3.6**
OBN *i* 19 46 57.7
OBN PPP PPP 19 48 47.0
OBN *i* S **S 19 54 03.6 -6.4**
OBN pmax pmax
comp=Z,129nm,1.5s
OBN MLR MLR
comp=Z,1μm,26.0s
BORA Eskisehir 90.17 310 IAmb IAmb 19 43 39.1
comp=Z,85nm,1.5s
BORA IAMs_20 IAMs_20 20 28 07.8
comp=Z,858nm,20.0s
KLMR Klimovskoe 90.18 332 *eP* **P 19 43 20.2 -0.9**
KLMR S **SKSac 19 53 48.2 -1.3**
KLMR pmax pmax

comp=Z,219nm,1.6s
VNA1 Neumayer--Stat 90.92 197 P **P 19 43 25.6 +1.1**
VNA1 Neumayer--Stat 90.92 197 ⇑P **P 19 43 25.6 +1.1**
comp=Z,53nm,1.1s
BELA Belgrano 2 90.94 187 P **P 19 43 21.0 -3.5**
BELA IAmb IAmb 19 43 40.8
comp=Z,29nm,1.2s
VNA3 Neumayer Olymp 90.98 196 P **P 19 43 26.4 +1.6**
VNA3 Neumayer Olymp 90.98 196 ⇑P **P 19 43 26.4 +1.6**
comp=Z,29nm,1.0s
WIN Windhoek 91.63 247 IAMs_20 IAMs_20 20 26 48.0
comp=Z,829nm,19.0s
TSUM Tsumeb 91.80 250 IAMs_20 IAMs_20 20 17 47.1
comp=Z,2μm,22.0s
TSUM Tsumeb 91.80 250 LR LR 20 18 20.9
comp=Z,1μm,21.6s,baz=112,slow=31
KARP Karpathos 91.90 306 IAMs_20 IAMs_20 20 31 36.8
comp=Z,771nm,20.0s
BAND Balkesir-Ban 92.03 310 ⇓P **P 19 43 30.6 +0.4**
GAMB Gambell 92.08 25 IAmb IAmb 19 43 45.5
comp=Z,54nm,1.4s
JURR Jurilovca 92.29 315 ⇓P **P 19 43 31.9 +0.7**
MILM Milestii Mici 92.74 317 *e*P **P 19 43 33.0 -0.3**
MILM *e*S **S 19 54 33.0 -3.1**
MILM *e*L L 20 25 53.0
MILM LRM MLR 20 32 30.0
comp=Z,600nm,15.0s
MILM Milestii Mici 92.74 317 *e*P **P 19 43 33.0 -0.3**
MILM *e*S **S 19 54 33.0 -3.1**
TLBR Topalu 92.83 315 ⇑P **P 19 43 34.9 +1.2**
CFR Carcaliu 92.89 315 ⇑P **P 19 43 34.4 +0.4**
CFR Carcaliu 92.89 315 P **P 19 43 34.4 +0.4**
HARR Harsova 92.94 315 ⇑P **P 19 43 35.4 +1.1**
HARR Harsova 92.94 315 P **P 19 43 35.4 +1.1**
AK09 Malin Array Si 93.13 321 P **P 19 43 35.1 +0.1**
AK10 Malin Array Si 93.15 321 P **P 19 43 35.2 +0.1**
AK06 Malin Array Si 93.18 321 P **P 19 43 35.4 +0.1**
AKASG Malin Array Be 93.19 321 P **P 19 43 34.7 -0.5**
comp=Z,2.8nm,0.7s,baz=85,slow=4.6,SNR=13
AKASG LR LR 20 31 54.8
comp=Z,432nm,20.6s,baz=97,slow=40
comp=Z,2.8nm,0.7s
AKASG Malin Array Be 93.19 321 *i* P **P 19 43 35.0 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 93.19 321 *i* P **P 19 43 33.6 -1.7**
AKBB pmax pmax
comp=Z,20nm,1.5s
AKBB Malin Array Si 93.19 321 P **P 19 43 35.4 +0.1**
KIEV Kiev 93.20 321 P **P 19 43 34.4 -0.9**
KIEV Kiev 93.20 321 P **P 19 43 34.4 -0.9**
KIEV pmax pmax
comp=Z,108nm,1.7s
KIEV Kiev 93.20 321 P **P 19 43 35.4 +0.1**
comp=Z,132nm,1.3s
TBI Tubuai 93.32 114 *e*P P 19 43 30.9 -5.7
comp=Z,280nm,27.0s
TBI Tubuai 93.32 114 *e*S **S 19 54 41.4 -0.9**
TBI *e*SS **SS 20 00 50.9 -7.7**
comp=Z,859nm,29.0s
TBI *e*LQ LQ 20 09 28.4
comp=Z,5μm,28.5s
TBI *e*LR LR 20 13 29.5
comp=Z,5μm,30.2s
TBI *e*LR LR 20 13 37.3
comp=Z,2μm,29.5s
TBI *e*LR LR 20 13 37.3
comp=Z,6μm,24.2s
ALN Alexandroupoli 93.67 311 P **P 19 43 37.1 -0.6**
ALN IAmb IAmb 19 43 54.6
comp=Z,35nm,1.2s
ALN Alexandroupoli 93.67 311 P **P 19 43 37.1 -0.6**
ALN pmax pmax
comp=Z,35nm,1.2s
IDI Anoyia 93.69 305 P **P 19 43 39.9 +1.9**
comp=Z,10.0nm,1.0s,baz=52,slow=6.2,SNR=2.4
IDI LR LR 20 32 58.8
comp=Z,278nm,18.3s,baz=98,slow=40
comp=Z,10.0nm,1.0s
LUBAR Lubar, Ukraine 93.97 320 P **P 19 43 38.6 -0.3**
VRI Vrincioaia 93.98 316 ⇓P **P 19 43 39.5 +0.3**
VRI Vrincioaia 93.98 316 P **P 19 43 39.4 +0.3**
VRI Vrincioaia 93.98 316 P **P 19 43 40.4 +1.3**
PLOR Plostina 94.03 316 ⇑P **P 19 43 40.4 +1.1**
PLOR Plostina 94.03 316 P **P 19 43 40.4 +1.1**
PPT2 Papeete2 94.35 109 *e*PKIKP **P 19 43 41.1 -0.4**
comp=Z,84nm,25.8s
PPT2 Papeete2 94.35 109 *e*PP **PP 19 47 25.7 -3.3**
comp=Z,93nm,24.2s
PPT2 *e*S **S 19 54 47.7 -4.0**
comp=Z,237nm,26.0s
PPT2 *e*SS **SS 20 01 09.2 -4.7**
comp=Z,261nm,28.8s
PPT2 *e*LQ LQ 20 10 06.9
comp=Z,1μm,29.8s
PPT2 *e*LR LR 20 14 01.4
comp=Z,2μm,25.5s
PPT2 *e*LR LR 20 14 01.6
comp=Z,1μm,25.8s
PPT Papeete 94.36 109 LR LR 20 21 12.3
comp=Z,751nm,20.0s,baz=248,slow=32
MLR Muntele Rosu 94.46 315 IAMs_20 IAMs_20 20 32 33.0
comp=Z,1μm,21.0s
MLR Muntele Rosu 94.46 315 P **P 19 43 41.9 +0.5**
comp=Z,3.6nm,1.1s,baz=95,slow=13,SNR=4.3
comp=Z,3.6nm,1.1s
MLR Muntele Rosu 94.46 315 ⇑P **P 19 43 42.9 +1.5**
APA Apatity 94.64 338 ⇓*i*P **P 19 43 40.3 -1.3**
APA pmax pmax
comp=Z,9.0nm,1.2s
MNK Minsk 94.67 324 *i* P **P 19 43 43.6 +1.6**
MNK *i* 19 47 32.8
MNK *i* PPP PPP 19 49 32.9
MNK *i* S **SKSac 19 54 16.0 +1.2**
MNK *i* SS **SS 20 01 13.8 -3.0**
MNK *i* SSS SSS 20 05 02.6
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=Z,14nm,1.1s
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK MLR MLR
comp=E,937nm,22.0s
K13K Kusilvak Mount 94.77 28 IAmb IAmb 19 43 57.6
comp=Z,81nm,1.8s
BUR08 Bucovina Ar. S 95.29 317 IAmb IAmb 19 44 02.6
comp=Z,36nm,1.9s
RNPP5 Staryi Chortor 95.36 321 P **P 19 43 46.6 +1.4**
RNPP9 Sopachiv 95.38 321 P **P 19 43 45.8 +0.5**
C16K Lisburne Hills 95.70 22 IAmb IAmb 19 44 01.9
comp=Z,66nm,1.6s
MPEP Malo Peshtene 95.72 313 *e*P **P 19 43 47.3 +0.2**
FINES FINESS Array B 96.65 331 P **P 19 43 51.1 +0.3**
comp=Z,2.6nm,0.8s,baz=132,slow=6.4,SNR=9.2
FINES LR LR 20 34 24.0
comp=Z,1μm,18.8s,baz=90,slow=40
comp=Z,2.6nm,0.8s
FINES FINESS Array B 96.65 331 *i* P **P 19 43 51.7 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.8s
I17K Unalakleet 96.87 26 IAmb IAmb 19 44 07.4
comp=Z,50nm,1.7s
H17K Granite Mounta 97.33 25 IAmb IAmb 19 44 19.5
comp=Z,54nm,2.0s
E18K Tukpahlearik C 97.34 23 IAmb IAmb 19 44 09.4
comp=Z,59nm,1.9s
KOLS Kolonicke sedl 97.38 318 *e*P Pdif 19 43 55.9 +1.3
KOLS *e* 19 44 09.8
KOLS Kolonicke sedl 97.38 318 *e*PDIFF Pdif 19 43 55.9 +1.3
KOLS *e* 19 44 09.8
K17K Iditarod 97.81 28 IAmb IAmb 19 44 11.5
comp=Z,54nm,1.4s
ARCES ARCESS Array B 97.83 339 P **P 19 43 56.0 0.0**
comp=Z,4.6nm,1.1s,baz=72,slow=7.8,SNR=8.0
ARCES LR LR 20 34 40.4
comp=Z,980nm,19.5s,baz=100,slow=39
comp=Z,4.6nm,1.1s
J18K Innoko River 98.59 27 IAmb IAmb 19 44 14.6
comp=Z,39nm,1.6s
G19K Purcell Mounta 98.61 24 IAmb IAmb 19 44 02.2
comp=Z,26nm,1.5s
TTA Tatalina 98.88 28 IAmb IAmb 19 44 22.9
comp=Z,39nm,1.7s
VYHS Vyhne 99.62 318 *e*P **Pdif 19 44 06.2 +1.6**
VYHS *e* 19 44 17.5
VYHS Vyhne 99.62 318 *e*PDIFF **Pdif 19 44 06.2 +1.6**
VYHS *e* 19 44 17.5
I20K Naaghedeneel 99.64 26 IAMs_20 IAMs_20 20 27 53.0
comp=Z,732nm,21.0s
J20K Nowinta River 99.76 26 IAmb IAmb 19 44 20.2
comp=Z,26nm,1.6s
OKC Ostrava-Krasne 100.14 319 AMS AMS 20 37 10.0
comp=Z,900nm,20.7s
SPITS Spitsbergen Ar 100.50 348 P **Pdif 19 44 08.9 +1.0**
comp=Z,9.2nm,1.0s,baz=96,slow=7.6,SNR=7.1
MORC Moravsky Berou 100.53 319 *e*PDIFF **Pdif 19 44 10.2 +1.6**
MORC *e* 19 44 23.4
MORC *e*PP **PP 19 48 17.9 +2.1**
KRLC Kraliky 101.03 319 AMS AMS 20 32 10.0
comp=Z,1μm,24.2s
VRAC Vranov 101.13 318 P **Pdif 19 44 13.1 +1.8**
comp=Z,0.9nm,0.3s,baz=326,slow=5.0,SNR=1.2
VRAC Vranov 101.13 318 *e*PDIFF **Pdif 19 44 12.6 +1.3**
KBS Kingsbay 101.30 349 IAMs_20 IAMs_20 20 35 48.5
comp=Z,2μm,20.0s
DPC Dobruska-Polom 101.33 320 AMS AMS 20 33 40.0
comp=Z,1μm,23.9s
OSTC Ostas 101.40 320 AMS AMS 20 37 50.0
comp=Z,1μm,20.3s
CHVC Chvalec 101.50 320 AMS AMS 20 37 50.0
comp=Z,1μm,22.5s
D24K Happy Valley 101.75 21 IAMs_20 IAMs_20 20 33 54.8
comp=Z,788nm,21.0s
TREC Trest 101.86 318 AMS AMS 20 32 50.0
comp=Z,1μm,27.4s
E24K Your Creek 101.96 22 IAMs_20 IAMs_20 20 39 59.2
comp=Z,629nm,20.0s
GHO Glory Hole Cre 102.18 29 IAMs_20 IAMs_20 20 25 57.3
comp=Z,778nm,21.0s
RAFF Raffo Rosso 102.34 306 IAMs_20 IAMs_20 20 21 17.2
comp=Z,615nm,19.0s
PVCC Panska Ves 102.45 320 AMS AMS 20 36 50.0
comp=Z,1μm,21.0s
PRU Pruhonice 102.47 319 AMS AMS 20 33 50.0
comp=Z,2μm,25.0s
CCB Clear Creek Bu 102.50 26 IAMs_20 IAMs_20 20 24 57.8
comp=Z,643nm,19.0s
PRA Prague 102.54 319 AMS AMS 20 34 20.0
comp=Z,1μm,27.6s
CKRC Cesky Krumlov 102.63 318 AMS AMS 20 34 10.0
comp=Z,1μm,25.0s
HFS Hagfors 102.67 330 P **Pdif 19 44 20.0 +2.2**
comp=Z,2.3nm,0.7s,baz=90,slow=7.8,SNR=4.7
ZVC Zvikov 102.70 319 AMS AMS 20 34 00.0
comp=Z,1μm,23.0s
RICC Richard 102.75 320 AMS AMS 20 37 00.0
comp=Z,2μm,23.9s
BRG Berggiesshubel 102.85 320 SS SS 20 03 11.0 -0.6
ILAR Eielson Array 102.89 26 P **Pdif 19 44 20.1 +1.3**
comp=Z,0.9nm,1.0s,baz=269,slow=3.6,SNR=4.5
ILAR PKKPbc **PKKPbc 20 00 17.2 -1.8**
comp=Z,0.5nm,0.7s,baz=94,slow=1.0,SNR=7.9
KHC Kasperske Hory 103.11 318 AMS AMS 20 32 50.0
comp=Z,1μm,28.6s
HSKC Hora Svate Kat 103.18 320 AMS AMS 20 39 30.0
comp=Z,1μm,17.1s
GUMA Gualdo di Mace 103.28 312 IAMs_20 IAMs_20 20 37 51.7
comp=Z,819nm,22.0s
CLL Collm 103.43 321 *e*SKSac **SKSac 19 55 06.0 +7.2**
CLL *e*Sdif **Sdif 19 56 04.0 -3.1**
CLL *e*PS PS 19 57 40.0 -7.6
CLL *e*PPS PPS 19 58 42.0
CLL *e*SS **SS 20 03 14.0 -5.5**
CLL *e*x x 20 04 36.0
CLL *e*SSS SSS 20 07 36.0
CLL AMS AMS 20 37 00.0
comp=N,500nm,21.2s
CLL AMS AMS 20 37 00.0
comp=E,500nm,21.8s
CLL AMS AMS 20 37 00.0
comp=Z,600nm,21.2s
FDMO Fiordimonte 103.47 312 IAMs_20 IAMs_20 20 36 36.5
comp=Z,707nm,22.0s
NKC Novy Kostel 103.82 319 AMS AMS 20 41 10.0
comp=Z,900nm,21.4s
CASP Castiglione de 105.10 312 IAMs_20 IAMs_20 20 37 40.8
comp=Z,528nm,18.0s
TAOE Nuku Hiva Isla 105.13 102 *e*LR LR 20 19 04.4
comp=Z,1μm,24.0s
O29M Mount Kennedy 107.35 30 IAMs_20 IAMs_20 20 32 58.1
comp=Z,760nm,21.0s
H31M Peel River 107.85 24 IAMs_20 IAMs_20 20 43 45.1
comp=Z,708nm,21.0s
A36M Sachs Harbour 108.50 16 IAMs_20 IAMs_20 20 26 47.3
comp=Z,615nm,19.0s
U35K Hyder 112.86 33 IAMs_20 IAMs_20 20 27 48.8
comp=Z,730nm,22.0s
ACRG Accra 113.56 272 IAMs_20 IAMs_20 20 32 33.1
comp=Z,1μm,20.0s
ESDC Sonseca Array 116.52 310 PKP **PKPdf 19 49 04.4 -0.9**
comp=Z,0.6nm,0.5s,baz=356,slow=1.7,SNR=5.2
ESDC PP **PP 19 50 19.6 +7.1**
comp=Z,2.7nm,1.1s,baz=84,slow=6.0,SNR=4.7
PAB San Pablo 116.84 310 IAMs_20 IAMs_20 20 47 22.6
comp=Z,553nm,18.0s
YKA Yellowknife Ar 117.03 23 **PKiKP 19 49 05.9 +0.4**
YKA Yellowknife Ar 117.03 23 PKP **PKiKP 19 49 06.0 +0.4**
comp=Z,1.4nm,0.6s,baz=300,slow=1.9,SNR=16
YKA SKKPbc SKKPbc 20 03 11.0 -7.5
comp=Z,0.1nm,0.4s,baz=139,slow=4.7,SNR=1.4
YKA Yellowknife Ar 117.03 23 PKIKP **PKiKP 19 49 05.9 +0.4**
OZB Mount Ozzard 117.67 39 IAMs_20 IAMs_20 20 28 39.3
comp=Z,892nm,22.0s
DBIC Dimbokro 118.28 273 PKP **PKiKP 19 49 09.9 +0.5**
comp=Z,6.9nm,0.6s,baz=81,slow=3.2,SNR=19
GNW Green Mountain 119.81 40 IAMs_20 IAMs_20 20 32 07.2
comp=Z,961nm,21.0s
BMO Blue Mountains 124.38 41 IAMs_20 IAMs_20 20 32 22.1
comp=Z,559nm,20.0s
PAHR Pah Rah Range 124.78 48 IAMs_20 IAMs_20 20 35 19.0
comp=Z,784nm,19.0s
NVAR Mina Array Bea 125.98 49 PKP **PKiKP 19 49 25.2 +1.1**
comp=Z,1.9nm,0.7s,baz=298,slow=3.1,SNR=6.6
NVAR PP **PP 19 51 23.4 +6.3**
comp=Z,4.3nm,1.1s,baz=284,slow=6.5,SNR=4.2
Q09A Carvers 126.68 48 IAMs_20 IAMs_20 20 35 11.4
comp=Z,743nm,18.0s
FCC Fort Churchill 126.71 17 **PKPdf 19 49 19.5 -4.7**
FCC Fort Churchill 126.71 17 PKIKP **PKPdf 19 49 19.5 -4.7**
FFC Flin Flon 127.08 25 PKPdf **PKPdf 19 49 25.4 +0.3**
FFC Flin Flon 127.08 25 PKIKP **PKPdf 19 49 25.4 +0.3**
WCT Wildcat Mounta 127.76 50 IAMs_20 IAMs_20 20 27 03.1
comp=Z,488nm,19.0s
S11A Bethel 128.14 49 IAMs_20 IAMs_20 20 32 36.2
comp=Z,913nm,22.0s
YHL Hebgen Lake 128.28 39 IAMs_20 IAMs_20 20 35 36.2
comp=Z,935nm,21.0s
YHB Horse Butte 128.32 39 IAMs_20 IAMs_20 20 35 38.3
comp=Z,886nm,21.0s
TJX Tijuana 128.66 56 IAMs_20 IAMs_20 20 57 44.3
comp=Z,1μm,20.0s
BGU Big Grassy Mou 128.85 44 **PKPdf 19 49 25.7 -3.4**
TKX Tecate 129.01 56 IAMs_20 IAMs_20 20 56 26.5
comp=Z,443nm,21.0s
LL04 Puerto Octay 129.67 175 IAMs_20 IAMs_20 20 50 02.4
comp=Z,627nm,19.0s
PLCA Paso Flores 129.98 177 SKPbc SKPbc 19 52 52.3 +0.8
comp=Z,5.9nm,1.0s,baz=204,slow=7.6,SNR=4.4
CPBX Cerro Prieto 130.11 55 IAMs_20 IAMs_20 20 34 10.6
comp=Z,873nm,19.0s
PDAR Pinedale Array 130.33 41 PKP **PKiKP 19 49 33.7 +0.9**
comp=Z,1.2nm,0.7s,baz=272,slow=1.2,SNR=7.4
PDAR SKPab **SKPab 19 52 52.8 +0.1**
comp=Z,6.2nm,1.0s,baz=248,slow=1.6,SNR=13
RDMU Red Mountain 131.37 43 IAMs_20 IAMs_20 20 38 38.1
comp=Z,788nm,21.0s
ULM Lac du Bonnet 132.90 25 PKP **PKiKP 19 49 37.9 +0.5**
comp=Z,2.1nm,0.7s,baz=314,slow=2.7,SNR=5.6
ULM SKPbc **SKPbc 19 53 01.3 -0.2**
comp=Z,22nm,1.1s,baz=334,slow=4.0,SNR=14
SCHQ Schefferville 134.73 360 PKP **PKiKP 19 49 42.0 +1.0**
comp=Z,1.5nm,0.4s,baz=76,slow=4.2,SNR=5.8
SCHQ SKPbc **SKPbc 19 53 07.5 +0.1**
comp=Z,13nm,1.1s,baz=354,slow=1.9,SNR=5.3
ML02 Panimavida 134.86 175 IAMs_20 IAMs_20 20 48 41.8
comp=Z,1μm,19.0s
VHRN Van Horn 138.94 53 PKPpre 19 49 40.0
ALPN Alpine 140.17 53 **PKPdf 19 49 44.4 -6.1**
VLDQ Val d'Or 140.50 11 IAMs_20 IAMs_20 20 47 26.7
comp=Z,737nm,20.0s
TXAR Lajitas Array 140.56 55 PKhKP PKPpre 19 49 44.2
comp=Z,1.7nm,0.7s,baz=347,slow=4.1,SNR=11
OK038 West end E0370 140.73 42 IAMs_20 IAMs_20 20 33 17.1
comp=Z,449nm,18.0s
DKNS Dickens 140.74 47 **PKPdf 19 49 47.1 -4.2**
CROK Carrier 141.21 41 IAMs_20 IAMs_20 20 56 11.8
comp=Z,827nm,18.0s
SGCY Sterling City 141.44 50 **PKPdf 19 49 46.2 -6.4**
LMQ La Malbaie 141.93 3 **PKPdf 19 49 48.3 -4.7**
OK052 Battle Ridge R 142.28 41 IAMs_20 IAMs_20 21 04 13.1
comp=Z,686nm,20.0s
DRIO Del Rio 142.95 53 **PKPdf 19 49 52.7 -2.6**
PLPT Palo Pinto 143.06 46 PKPbc 19 49 52.1 -0.2
JCT Junction City 143.11 51 PKPpre 19 49 49.8
JCT Junction City 143.11 51 PKHKP PKPpre 19 49 49.8
CPUP Villa Florida 143.17 195 PKPab 19 49 50.1 -1.3
CPUP Villa Florida 143.17 195 PKP PKPbc 19 49 54.0 +1.3
comp=Z,2.8nm,0.6s,baz=182,slow=1.5,SNR=6.1
LMN Caledonia Moun 143.66 357 PKPab 19 49 52.2 -0.5
LDASE Londrina, Braz 143.77 206 *e*P **PKiKP 19 50 00.2 -0.3**
GBN Guysborough 143.83 353 PKPab 19 49 51.2 -2.1
CCM Cathedral Cave 144.23 33 PKPbc 19 49 55.5 0.0
CCM Cathedral Cave 144.23 33 PKIKP PKPbc 19 49 55.5 0.0
NBCA Caruaru-PE 144.32 242 *e*P **PKPdf 19 49 59.3 +1.1**
NBLA Lagarto - SE 144.39 236 *e*P **PKPdf 19 49 58.1 -0.2**
PECO Prince Edward 144.60 12 IAMs_20 IAMs_20 20 48 55.7
comp=Z,999nm,21.0s
PMNB Patos De Minas 145.46 216 *e*P **PKiKP 19 50 02.9 -1.3**
NBLV Livramento - P 145.52 242 *e*P **PKPab 19 50 02.5 +1.8**
PAPY Pozo Azul 145.54 195 *e*P **PKiKP 19 50 03.1 -0.9**
SIUC Southern Illin 145.56 32 IAMs_20 IAMs_20 20 51 36.0
comp=Z,644nm,20.0s
WVNY West Valley, N 145.67 15 **PKPab 19 50 00.6 +0.2**
K57A Scipio Center 145.85 12 IAMs_20 IAMs_20 21 05 00.8
comp=Z,912nm,20.0s
L56A Greenwood 146.19 14 **PKPdf 19 50 01.0 +0.3**
TRY Troy 146.36 9 IAMs_20 IAMs_20 21 00 05.3
comp=Z,1μm,22.0s
WCI Wyandotte Cave 146.59 28 IAMs_20 IAMs_20 20 53 30.0
comp=Z,876nm,19.0s
ITRB Iturama 146.62 210 *e*P **PKPab 19 50 05.2 +0.6**
JANB Januaria 146.72 223 *e*P **PKPbc 19 50 04.5 +0.6**
IPMB Ipameri, GO 146.92 215 *e*P **PKPab 19 50 05.8 0.0**
RPRD Ribas do Rio P 147.43 204 *e*P **PKPab 19 50 06.8 -0.8**
WVT Waverly 147.48 32 **PKPdf 19 50 02.1 -0.8**
WVT Waverly 147.48 32 PKIKP **PKPdf 19 50 02.1 -0.8**
MURT Porto Murtinho 147.69 197 *e*P **PKPbc 19 50 06.4 0.0**
PAL Palisades 148.01 10 **PKPbc 19 50 07.8 +1.1**
PAL Palisades 148.01 10 PKP2 **PKPbc 19 50 07.8 +1.1**
AQDB Aquidauana 148.19 201 **PKPbc 19 50 08.5 +0.7**
PLAL Pickwick Lake 148.21 34 **PKPbc 19 50 06.1 -1.4**
V48A Smith Brothers 148.30 31 IAMs_20 IAMs_20 21 05 44.6
comp=Z,795nm,21.0s
BDQN Dodoquena, MS 148.57 199 *e*P **PKPbc 19 50 07.9 -0.9**
BDFB Brasília 148.66 217 **PKPdf 19 50 05.6 0.0**
BDFB Brasília 148.66 217 PKPbc **PKiKP 19 50 10.7 0.0**
comp=Z,20nm,0.9s,baz=62,slow=4.0,SNR=15
BDFB Brasília 148.66 217 PKIKP **PKPdf 19 50 05.6 0.0**
SWET Sewanee 149.16 31 **PKPdf 19 50 06.0 +0.2**
SWET IAMs_20 IAMs_20 21 06 34.4
comp=Z,800nm,20.0s
PB01 IPOC Station P 149.62 176 **PKiKP 19 50 12.8 +0.2**
CPCT Cooper Cave 149.67 29 IAMs_20 IAMs_20 21 09 46.7
comp=Z,865nm,22.0s
PANT Pantanal (Braz 149.88 200 *e*P **PKPbc 19 50 10.8 -1.3**
TA01 Diego Aracena 150.03 174 **PKiKP 19 50 14.0 +0.7**
TA02 Huaiquique 150.33 174 **PKPdf 19 50 05.2 -2.8**
ARAG Araguaiana, MT 150.73 212 *e*P **PKPdf 19 50 11.0 +2.3**
V58A Windy Hill, Pi 151.61 21 IAMs_20 IAMs_20 21 09 24.6
comp=Z,866nm,21.0s
SALV Santo Antonio 152.36 204 *e*P **PKPdf 19 50 13.5 +2.3**
Y57A Sumter 152.70 24 IAMs_20 IAMs_20 21 09 08.7
comp=Z,829nm,21.0s
Y58A Scranton 153.09 23 IAMs_20 IAMs_20 20 55 39.9
comp=Z,777nm,19.0s
SMTB Santa Maria do 153.31 228 *e*P **PKPdf 19 50 15.2 +2.5**
SNDB Serra Nova Dou 153.49 217 *e*P **PKPdf 19 50 14.6 +1.7**
Y60A Bolivia 153.54 21 IAMs_20 IAMs_20 21 14 43.7
comp=Z,883nm,20.0s
PTLB Pontes e Lacer 154.01 198 *e*P **PKPdf 19 50 16.6 +3.1**
SIV San Ignacio 154.01 194 PKP **PKPdf 19 50 14.4 +0.8**
comp=Z,1.7nm,0.8s,baz=301,slow=5.9,SNR=6.8
SIV PKPbc **sPKPdf 19 50 23.4 -3.4**
comp=Z,5.0nm,0.9s,baz=198,slow=1.4,SNR=11
LPAZ La Paz 154.42 178 PKP **PKPdf 19 50 15.7 +0.8**
comp=Z,2.0nm,0.9s,baz=270,slow=1.0,SNR=6.3
LPAZ PKPbc **sPKPdf 19 50 25.0 -3.2**
comp=Z,4.0nm,0.9s,baz=164,slow=1.5,SNR=11
LPAZ La Paz 154.42 178 *e*P **PKPdf 19 50 17.5 +2.6**
CCIG Comitan 154.78 72 IAMs_20 IAMs_20 21 05 25.2
comp=Z,698nm,22.0s
PDRB Porto dos Gac 156.63 207 *e*P **PKPdf 19 50 19.4 +2.2**
VILB Vilhena 156.69 197 *e*P **PKPdf 19 50 19.8 +2.5**
CLDB Colider 156.85 210 *e*P **PKPdf 19 50 19.4 +1.9**
TEIG Tepich 157.01 60 IAMs_20 IAMs_20 21 14 45.7
comp=Z,816nm,22.0s
MTO3 Montecristo 157.77 75 IAMs_20 IAMs_20 21 10 27.7
comp=Z,656nm,22.0s
NPGB Novo Progresso 159.81 216 *e*P **PKPdf 19 50 24.0 +2.9**
TGUH Tegucigalpa,Un 159.82 75 IAMs_20 IAMs_20 21 15 46.1
comp=Z,536nm,22.0s
ETMB Extrema 160.84 183 *e*P **PKPdf 19 50 25.2 +3.0**
ITTB Itaituba 162.14 220 *e*P **PKPdf 19 50 26.0 +2.5**
SOCE Pocosol 162.82 85 **PKPdf 19 50 20.0 -4.3**
OTAV Otavalo 165.54 129 *e*P **PKPdf 19 50 30.2 +2.9**
MACA Manacapuru-AM 165.89 208 *e*P **PKPdf 19 50 28.8 +1.8**
TBTG Tabatinga, AM 166.19 169 *e*P **PKPdf 19 50 29.4 +2.1**
BOAV Boa Vista 170.35 224 *e*P **PKPdf 19 50 32.1 +2.1**

---

*THE **18** 19:42:40.9,37°.61N×20°.66E,h11km,ML3.3/8,Error ellipse: s-maj=1.4km s-min=0.6km az=43.0*
*TIR **18** 19:42:40.5,37°.82N×19°.98E,h2km±1km,Md3.7/5,Ml3.2/6*
*ATH **18** 19:42:41.9,37°.66N×20°.65E,h14km±1km,ML3.2/19,*
Manual Solution by A.Agalos First location: 2019/02/18 19:43:34, This location: 2019/02/18 20:35:08 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 18 19:42:41.2±1.1,37°.66N±0°.03×20°.65E±0°.03,h13km±6km, n75,σ0°95/106,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.15**	**72**	P	**Pg**	**19 42 44.7**	**-0.3**
LTHK				S	**Sg**	**19 42 46.9**	**-0.7**
25μm,0.2s							
LTHK	**Lithakia**	**0.15**	**72**	P	**Pg**	**19 42 45.0**	**0.0**
ORTH	**Orthonies,Zaky**	**0.19**	**11**	P	**Pb**	**19 42 46.4**	**-0.3**
ORTH				S	**Sg**	**19 42 49.5**	**+0.9**
KYPS	**Kipseli, Zakin**	**0.21**	**41**	P	**Pb**	**19 42 46.6**	**-0.2**
KYPS				S	**Sg**	**19 42 50.0**	**+1.0**
RTZL	**Ratzakli, Kefa**	**0.42**	**13**	P	**Pb**	**19 42 50.2**	**-0.4**
RTZL				S	**Sb**	**19 42 57.3**	**+0.4**
5μm,0.2s							
CLEM	**Kyllini,Ilia,G**	**0.45**	**59**	P	**Pb**	**19 42 50.3**	**-0.6**
CLEM				S	**Sg**	**19 42 56.4**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.45**	**353**	P	**Pb**	**19 42 50.9**	**-0.2**
PSDA				S	**Sb**	**19 42 58.5**	**+0.8**
4μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.45**	**353**	P	**Pb**	**19 42 51.1**	**0.0**
PSDA				S	**Sb**	**19 42 57.2**	**-0.5**
VLS	**Valsamata**	**0.52**	**355**	P	**Pb**	**19 42 51.9**	**-0.2**
VLS				S	**Sb**	**19 43 00.4**	**+0.8**
4μm,0.3s							
VLS	**Valsamata**	**0.52**	**355**	P	**Pb**	**19 42 52.0**	**-0.2**
VLS				S	**Sb**	**19 42 59.4**	**-0.2**
LCHA	**Lechaina**	**0.56**	**60**	P	**Pb**	**19 42 53.0**	**+0.1**
SMHA	**Samh**	**0.59**	**360**	P	**Pg**	**19 42 52.5**	**-0.3**
SMHA				S	**Sb**	**19 43 01.2**	**-0.4**
DMLN	**Damoulianata-K**	**0.62**	**339**	P	**Pb**	**19 42 53.8**	**0.0**
DMLN				S	**Sn**	**19 43 04.0**	**-1.4**
4μm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**339**	P	**Pb**	**19 42 54.0**	**+0.2**
RLS	**Riolos of Patr**	**0.76**	**58**	P	**Pg**	**19 42 55.5**	**-0.4**
RLS				S	**Sb**	**19 43 07.1**	**+0.7**
1μm,0.3s							
RLS	**Riolos of Patr**	**0.76**	**58**	P	**Pb**	**19 42 55.8**	**-0.4**
RLS				S	**Sb**	**19 43 06.0**	**-0.4**
AXS	**Araxos**	**0.78**	**47**	P	**Pg**	**19 42 56.1**	**-0.3**
AXS				S	**Sb**	**19 43 07.3**	**+0.1**
FSK	**Fiskardo**	**0.80**	**355**	P	**Pg**	**19 42 56.5**	**-0.2**
FSK				S	**Sn**	**19 43 09.9**	**0.0**
2μm,0.5s							
FSK	**Fiskardo**	**0.80**	**355**	P	**Pb**	**19 42 56.8**	**-0.1**

FSK				S	Sb	19 43 08.2	+0.6
ZARO	**Zacharo**	**0.81**	**102**	P	**Pb**	**19 42 57.6**	**+0.4**
AMT	**Artemida-Makis**	**0.85**	**98**	P	**Pg**	**19 42 57.5**	**-0.2**
AMT				S	Sb	19 43 09.8	+0.7
DRO	**Drossia**	**0.89**	**71**	P	**Pg**	**19 42 57.8**	**-0.6**
DRO				S	Sn	19 43 11.3	-0.8
	2μm,0.4s						
DRO	**Drossia**	**0.89**	**71**	P	**Pg**	**19 42 58.2**	**-0.2**
EVGI	**Lefkada island**	**0.96**	**0**	P	**Pg**	**19 42 59.2**	**-0.5**
EVGI				S	Sn	19 43 14.6	+0.8
EVGI	**Lefkada island**	**0.96**	**0**	P	**Pb**	**19 42 59.5**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.02**	**357**	P	**Pg**	**19 43 00.4**	**-0.5**
DRAG				S	Sn	19 43 16.5	+1.3
DRAG	**Dragano-Lefkad**	**1.02**	**357**	P	**Pb**	**19 43 00.6**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.05**	**2**	P	**Pb**	**19 43 00.6**	**-0.6**
ITM	**Ithomi**	**1.12**	**115**	P	**Pb**	**19 43 01.3**	**-1.2**
ITM				S	Sg	19 43 17.6	+0.1
ITM	**Ithomi**	**1.12**	**115**	P	**Pn**	**19 43 02.8**	**+0.2**
ITM				S	Sn	19 43 17.9	0.0
LKD2	**Lefkada island**	**1.12**	**0**	Pg	**Pg**	**19 43 02.5**	**-0.4**
LKD2				Sg	Sn	19 43 19.0	+1.0
LKD2				AML	AML	19 43 28.7	
	4.2nm,0.3s						
LKD2				AMd		19 44 36.1	
LKD2	**Lefkada island**	**1.12**	**0**	P	**Pb**	**19 43 02.4**	**-0.1**
LKD2				S	Sn	19 43 19.3	+1.3
LKD2	**Lefkada island**	**1.12**	**0**	P	**Pg**	**19 43 02.5**	**-0.4**
LKD2				S	Sn	19 43 18.6	+0.6
TSLK	**Tsoukalades, L**	**1.16**	**0**	P	**Pg**	**19 43 03.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.16**	**0**	P	**Pn**	**19 43 03.0**	**-0.1**
PVO	**Paravola**	**1.18**	**36**	P	**Pg**	**19 43 03.6**	**-0.3**
MTHA	**Methoni**	**1.19**	**135**	P	**Pn**	**19 43 03.6**	**+0.1**
MTHA				S	Sn	19 43 20.1	+0.6
KLV	**Kalavryta, Ach**	**1.25**	**72**	P	**Pn**	**19 43 03.9**	**-0.5**
KLV	**Kalavryta, Ach**	**1.25**	**72**	P	**Pn**	**19 43 04.2**	**-0.1**
EFP	**Efpalio**	**1.25**	**52**	P	**Pn**	**19 43 03.6**	**-0.8**
EFP	**Efpalio**	**1.25**	**52**	P	**Pn**	**19 43 04.1**	**-0.3**
ALIK	**Aliki, Aigiali**	**1.30**	**62**	P	**Pn**	**19 43 05.0**	**0.0**
ANX	**Ano Chora**	**1.37**	**47**	P	**Pn**	**19 43 06.1**	**0.0**
ANX	**Ano Chora**	**1.37**	**47**	P	**Pn**	**19 43 06.3**	**+0.2**
ANX				S	Sg	19 43 25.1	-0.2
GUR	**Goura**	**1.37**	**78**	P	**Pn**	**19 43 06.3**	**+0.2**
KALE	**Kalithea**	**1.38**	**58**	P	**Pn**	**19 43 06.0**	**-0.2**
KALE	**Kalithea**	**1.38**	**58**	P	**Pn**	**19 43 06.2**	**0.0**
EVR	**Evrytania**	**1.55**	**36**	P	**Pb**	**19 43 09.9**	**+0.1**
TETR	**Tetrakomo, Epi**	**1.75**	**16**	P	**Pn**	**19 43 11.8**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.78**	**40**	P	**Pb**	**19 43 13.5**	**-0.5**
LTK	**Loutraki**	**1.87**	**78**	P	**Pb**	**19 43 14.2**	**-1.0**
IGT	**Igoumenitsa**	**1.88**	**353**	Pg	**Pn**	**19 43 13.9**	**+0.8**
IGT				Sg	Sb	19 43 39.1	+0.2
IGT				AML	AML	19 43 57.5	
	0.5nm,0.7s						
IGT				AMd		19 45 01.1	
AXAR	**Agios Charalam**	**1.93**	**55**	P	**Pb**	**19 43 15.0**	**-1.2**
KRND	**KRANIDI**	**2.01**	**97**	P	**Pn**	**19 43 15.9**	**+1.2**
VLI	**Veliai**	**2.06**	**117**	P	**Pn**	**19 43 16.7**	**+1.3**
LKR	**Lokris**	**2.10**	**61**	P	**Pn**	**19 43 17.1**	**+1.1**
VIL2	**Platees**	**2.14**	**74**	P	**Pb**	**19 43 18.7**	**-1.1**
MET6	**Megalochori,Me**	**2.15**	**91**	P	**Pn**	**19 43 18.2**	**+1.5**
MET5	**Makryloggos,Me**	**2.15**	**90**	P	**Pn**	**19 43 18.0**	**+1.3**
KEK	**Kerkira**	**2.15**	**342**	P	**Pn**	**19 43 18.2**	**+1.4**
MET4	**Agioi Theodoro**	**2.18**	**90**	P	**Pn**	**19 43 18.8**	**+1.6**
SRN	**Sarande**	**2.27**	**347**	Pg	**Pn**	**19 43 00.0**	**+1.6**
SRN				Sg	Sb	19 43 49.6	-0.4
SRN				AML	AML	19 44 09.2	
	0.3nm,0.7s						
SRN				AMd		19 45 17.1	
LSK	**Leskovik**	**2.48**	**359**	Pn	**Pb**	**19 43 24.3**	**-1.4**
LSK				Sn	Sb	19 43 56.9	+0.6
LSK				AML	AML	19 44 13.7	
	0.8nm,0.9s						
VLY	**Voula,Athens**	**2.50**	**85**	P	**Pn**	**19 43 21.9**	**+0.4**
XOR	**Xorichti**	**2.62**	**49**	P	**Pn**	**19 43 24.4**	**+1.2**
DION	**Dionisos Attik**	**2.63**	**80**	P	**Pn**	**19 43 24.4**	**+1.0**
NEST	**Nestorio**	**2.77**	**6**	Pn	**Pb**	**19 43 29.4**	**-1.2**
NEST				Sn	Sb	19 44 06.0	+1.6
NEST				AML	AML	19 44 21.5	
	0.2nm,0.7s						
NEST				AMd		19 45 28.8	
SCTE	**Santa Cesarea**	**2.95**	**325**	Pn	**Pn**	**19 43 26.7**	**-1.0**
SCTE				Sn	Sn	19 44 01.5	-1.5
SCTE				AML	AML	19 44 23.4	
	0.4nm,0.5s						
SCTE				AMd		19 45 36.1	
SCTE	**Santa Cesarea**	**2.95**	**325**	P	**Pn**	**19 43 28.5**	**+0.8**
TIP	**Timpagrande**	**3.41**	**298**	P	**Pn**	**19 43 34.5**	**+0.4**
OHR	**Ohrid**	**3.45**	**2**	*i* Pn	**Pb**	**19 43 39.5**	**-2.6**
MMB	**Musomishta**	**4.56**	**31**	*eP*	Pn	19 43 55.0	+5.1
KKB	**Krupnik**	**4.59**	**24**	*eP*	**Pn**	**19 43 53.7**	**+3.4**
VTS	**Vitosha**	**5.33**	**21**	*eP*	**Pn**	**19 44 02.9**	**+2.3**
PGB	**Panagyurishte**	**5.55**	**28**	*eP*	**Pn**	**19 43 59.6**	**-3.8**

IDC 18 20:14:28.3±4.6, 16°.49S×173°.33W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=218.0km s-min=41.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.67**	**258**	P	P	20 23 21.6	-0.7
	0.5nm,0.8s,baz=101,slow=8.1,SNR=5.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.85**	**253**	P	P	20 23 23.6	0.0
	1.4nm,0.6s,baz=85,slow=8.0,SNR=24						
ASAR				PcP	PcP	20 24 44.9	+0.5
	0.2nm,0.5s,baz=97,slow=4.1,SNR=2.3						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**83.50**	**11**	P	P	20 26 57.3	-0.3
	0.7nm,1.1s,baz=201,slow=5.2,SNR=2.2						
	0.7nm,1.1s						

DJA 18 20:18:44.9±0.7, 10°.S±4°.×11°.3E±°, h30km±8km, M3.7/19, mb4.2/4, MLv3.5/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.54**	**25**	P	Pn	20 19 09.2	-1.1
GMJI				S	Sn	20 19 29.2	0.0
JAGI	**Jajag, Banyuwa**	**1.81**	**49**	P	Pn	20 19 13.3	-0.7
JAGI				S	Sn	20 19 35.9	0.0
PWJI	**Pagerwojo**	**1.90**	**329**	P	Pn	20 19 15.6	+0.3
PCJI	**Pacitan**	**2.16**	**313**	P	Pn	20 19 18.8	0.0
PCJI				S	Sn	20 19 44.7	+0.1
ABJI	**Asem Bagus**	**2.35**	**38**	P	Pn	20 19 22.1	+0.6
ABJI				S	Sn	20 19 48.9	-0.5
DNP	**Denpasar**	**2.59**	**68**	P	Pn	20 19 25.0	+0.2
DNP				S	Sn	20 19 56.8	+1.4
NGJI	**Ngawi**	**2.63**	**330**	P	Pn	20 19 25.4	0.0
NGJI				S	Sn	20 19 57.0	+0.7
GRJI	**Gresik**	**2.75**	**354**	P	Pn	20 19 27.5	+0.5
GRJI				S	Sn	20 19 59.7	+0.4
UGM	**Wanagama**	**2.83**	**308**	P	Pn	20 19 28.7	+0.5
UGM				S	Sn	20 20 01.5	+0.2
KMMI	**Kalianget**	**2.86**	**24**	P	Pn	20 19 28.5	+0.1
KMMI				S	Sn	20 20 01.4	-0.4
SRBI	**Singaraja**	**2.87**	**57**	P	Pn	20 19 29.0	+0.3
SRBI				S	Sn	20 20 03.5	+1.2
TBJI	**Tambak Boyo**	**2.98**	**342**	P	Pn	20 19 28.9	-1.3
TWSI	**Taliwang, Sumb**	**4.15**	**77**	P	Pn	20 19 45.4	-0.9
TWSI				S	Sn	20 20 33.5	-0.4
KPJI	**Karang Pucung**	**4.46**	**301**	P	Pn	20 19 50.6	+0.1
PLAI	**Plampang**	**5.00**	**81**	P	Pn	20 19 58.4	+0.4
	0.1nm14nm,0.8s						
CGJI	**Cibinong**	**7.64**	**293**	P	Pn	20 20 34.8	+0.5

*DJA **18** 20:45:28.6±0.7, 1°.N±1°.×12°.6E±°, h21km±5km, M4.1/16, mB5.1/1, mb4.4/6, MLv4.0/16, Mw(mB)4.5/1*
*NEIC **18** 20:45:28.4±1.4, 1°.11N±0°.07×126°.25E±0°.06, h52km±8km, mb4.4/21, Error ellipse: s-maj=11.7km s-min=7.8km az=208.0*
*IDC **18** 20:45:30.7±5.0, 0°.95N×126°.19E, h69km±50km, mb3.5/12, mbtmp3.9/14, ML3.7/2, Error ellipse: s-maj=35.6km s-min=15.4km az=63.0*
ISC 18 20:45:28.9±1.0, 0°.97N±0°.04×126°.22E±0°.04, h57km±10km, n57, σ1°.26/66, mb4.1/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**100**	Pn	**Pn**	**20 45 49.4**	**+0.3**
TNTI				Sn	**Sn**	**20 46 03.2**	**-0.9**
TNTI	**Ternate**	**1.17**	**100**	P	**Pn**	**20 45 49.4**	**+0.3**
TNTI				S	**Sn**	**20 46 06.3**	**+2.2**
KMSI	**Cibinong**	**2.27**	**260**	P	**Pn**	**20 46 04.6**	**+0.5**
KMSI				S	**Sn**	**20 46 32.0**	**+1.1**
SGSI	**Sangihe**	**2.79**	**346**	P	**Pn**	**20 46 13.5**	**+2.3**
SGSI				S	**Sn**	**20 46 45.6**	**+2.0**
SANI	**Sanana**	**3.00**	**184**	P	**Pn**	**20 46 13.2**	**-0.9**
SANI				S	**Sn**	**20 46 45.7**	**-3.2**
LUWI	**Luwuk**	**3.98**	**240**	Pn	**Pn**	**20 46 28.1**	**+0.6**
LUWI	**Luwuk**	**3.98**	**240**	P	**Pn**	**20 46 29.1**	**+1.6**
LUWI				S	**Sn**	**20 47 14.0**	**+1.1**
NLAI	**Namlea**	**4.27**	**168**	P	**Pn**	**20 46 31.0**	**-0.5**
NLAI				S	**Sn**	**20 47 21.9**	**+1.9**
MRSI	**Marisa**	**4.30**	**264**	P	**Pn**	**20 46 32.8**	**+0.9**
MRSI				S	**Sn**	**20 47 21.4**	**+0.5**
MSAI	**Masohi**	**5.07**	**148**	P	**Pn**	**20 46 45.2**	**+2.8**
	0.2nm2μm23nm,0.5s						
TOLI2	**Tolitoli**	**5.44**	**272**	Pn	**Pn**	**20 46 47.4**	**-0.1**
KDI	**Kendari**	**6.07**	**216**	P	**Pn**	**20 46 56.9**	**+0.7**
DAV	**Davao City (W)**	**6.10**	**354**	Pn	**Pn**	**20 46 53.3**	**-3.3**
FAKI	**Fak Fak**	**7.16**	**123**	Pn	**Pn**	**20 47 09.5**	**-1.6**
SPSI	**Sidrap Palu**	**8.09**	**233**	P	**Pn**	**20 47 24.5**	**+0.6**
	14nm,0.5s						
BKSI	**Bulukumba**	**8.72**	**224**	P	**Pn**	**20 47 32.2**	**-0.3**
MYLDM	**Lahad Datu**	**8.77**	**299**		**Pn**	**20 47 31.6**	**-1.5**
KAPI	**Kappang**	**8.78**	**227**	P	**Pn**	**20 47 35.5**	**+2.3**
	1.2nm,0.3s,baz=82,slow=13,SNR=2.8						
	4.2nm,0.3s						
SBUM	**Sibu**	**14.07**	**276**	P	**P**	**20 48 50.4**	**-1.2**
KSM	**Kuching**	**15.91**	**272**		**P**	**20 49 12.3**	**+0.2**
KNRA	**Kununurra**	**16.73**	**171**	P	**Pn**	**20 49 20.1**	**+0.5**
KNRA				IAmb	IAmb	20 49 34.6	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.95**	**182**	P	**P**	**20 49 44.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.95**	**182**	P	**P**	**20 49 45.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=25,slow=11,SNR=2.0						
	comp=Z,1.3nm,0.5s						
WRAB	**Tennant Creek**	**22.25**	**159**	P	**P**	**20 50 21.3**	**+0.1**
WRAB				IAmb	IAmb	20 50 27.1	
	comp=Z,4.9nm,0.8s						
WRA	**Warramunga Arr**	**22.25**	**159**	P	**P**	**20 50 21.1**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=339,slow=11,SNR=28						
	comp=Z,1.6nm,0.3s						
WB2	**Warramunga Arr**	**22.26**	**159**	P	**P**	**20 50 21.6**	**+0.3**
WB2				IAmb	IAmb	20 50 27.6	
	comp=Z,9.1nm,1.0s						
YULB	**Yu-li**	**22.80**	**348**	P	**P**	**20 50 25.8**	**-1.3**
TPUB	**Ta-pu**	**22.85**	**347**	P	**P**	**20 50 25.7**	**-1.9**
AS31	**Alice Springs**	**25.60**	**164**	P	**P**	**20 50 53.2**	**+0.1**
ASAR	**Alice Springs**	**25.60**	**164**	P	**P**	**20 50 53.9**	**+0.8**
ASAR	**Alice Springs**	**25.60**	**164**	P	**P**	**20 50 54.2**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=348,slow=13,SNR=25						
	comp=Z,1.3nm,0.6s						
GSI	**Gunungsitoli**	**28.64**	**271**	P	**P**	**20 51 19.5**	**-1.0**
GSI				IAmb	IAmb	20 51 39.8	
	comp=Z,8.3nm,1.2s						
FORT	**Forrest**	**31.62**	**177**	P	**P**	**20 51 46.9**	**+0.4**
FORT				IAmb	IAmb	20 51 58.8	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.92**	**305**	P	**P**	**20 51 49.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=109,slow=5.8,SNR=4.2						
	comp=Z,0.2nm,0.4s						
BBOO	**Buckleboo**	**34.86**	**165**	P	**P**	**20 52 14.9**	**+0.1**
STKA	**Stephens Creek**	**35.77**	**157**	P	**P**	**20 52 23.3**	**+0.7**
STKA	**Stephens Creek**	**35.77**	**157**	P	**P**	**20 52 23.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=342,slow=8.8,SNR=3.4						
	comp=Z,1.8nm,0.7s						
MJAR	**Matsushiro Arr**	**37.10**	**16**	P	**P**	**20 52 34.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=181,slow=9.6,SNR=4.9						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**43.35**	**6**	P	**P**	**20 53 27.0**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=216,slow=7.3,SNR=2.2						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**49.75**	**343**	P	**P**	**20 54 17.6**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=151,slow=7.6,SNR=3.0						
SONM				PcP	**PcP**	**20 55 37.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=160,slow=4.6,SNR=2.3						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**59.54**	**326**	P	**P**	**20 55 26.1**	**-0.5**
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**20 55 26.0**	**-0.5**
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**20 55 26.9**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=121,slow=7.7,SNR=37						
	comp=Z,1.0nm,0.4s						
KDJ	**Kajisay**	**60.08**	**320**	P	**P**	**20 55 30.6**	**0.0**
KDJ				IAmb	IAmb	20 55 53.0	
	comp=Z,2.4nm,0.9s						
BKZ	**Black Stump Fm**	**60.91**	**137**	P	**P**	**20 55 36.5**	**+0.4**
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**20 55 47.1**	**-1.5**
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**20 55 48.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=128,slow=6.3,SNR=4.2						
	comp=Z,0.8nm,0.5s						
GAR	**Garm**	**63.43**	**314**	P	**P**	**20 55 50.9**	**-2.3**
GAR				IAmb	IAmb	20 55 57.6	
	comp=Z,5.9nm,1.2s						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	**P**	**20 55 55.5**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=128,slow=6.3,SNR=27						
	comp=Z,1.5nm,0.6s						
KURK	**Kurchatov**	**63.80**	**328**	P	**P**	**20 55 53.8**	**-1.3**
KURK				IAmb	IAmb	20 55 56.0	
	comp=Z,3.1nm,0.6s						
BVAR	**Borovoye Array**	**69.36**	**328**	P	**P**	**20 56 30.9**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=128,slow=9.3,SNR=6.4						
	comp=Z,0.5nm,0.5s						
BRVK	**Borovoye**	**69.43**	**328**	P	**P**	**20 56 30.1**	**-0.9**
AB31	**Akbulak array**	**73.96**	**321**	P	**P**	**20 56 57.5**	**-0.8**
AB31				IAmb	IAmb	20 57 31.1	
	comp=Z,4.5nm,1.5s						
ABKAR	**Akbulak array**	**73.96**	**321**	P	**P**	**20 56 57.4**	**-0.9**
ABKAR	**Akbulak array**	**73.96**	**321**	P	**P**	**20 56 57.3**	**-1.0**
ABKAR				IAmb	IAmb	20 57 31.1	
	comp=Z,4.5nm,1.5s						
ARTI	**Arti**	**77.07**	**328**	P	**P**	**20 57 16.1**	**+0.1**
ARTI				IAmb	IAmb	20 57 39.0	
	comp=Z,14nm,1.5s						
ILAR	**Eielson Array**	**87.80**	**25**	P	**P**	**20 58 12.2**	**+0.5**
	comp=Z,0.4nm,1.1s,baz=200,slow=7.6,SNR=2.2						
	comp=Z,0.4nm,1.1s						

*NEIC **18** 20:55:44.9±1.9, 18°.22S±0°.08×177°.9W±0°.2, h550km±9km, mb4.6/18, Error ellipse: s-maj=25.0km s-min=11.1km az=101.0*
*IDC **18** 20:55:48.0±1.1, 18°.33S×178°.29W, h567km±10km, mb3.2/11, mbtmp4.0/12, Error ellipse: s-maj=20.8km s-min=13.7km az=141.0*
ISC 18 20:55:46.0±0.7, 18°.3S±0°.1×178°.1W±0°.1, h557km, n35, σ1°.33/39, mb4.3/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**278**	P	**P**	**20 57 06.1**	**-0.2**
MSVF	**Nonsavu**	**3.69**	**278**	P	**P**	**20 57 07.8**	**+1.5**
	7.6nm,0.8s,baz=112,slow=21,SNR=6.9						
MSVF				S	**S**	**20 58 14.0**	**+2.4**
	2.2nm,0.6s,baz=357,slow=23,SNR=5.8						
FUTU	**Fugatoga**	**3.94**	**360**	P	**P**	**20 57 06.5**	**-1.6**
URZ	**Urewera**	**20.35**	**191**	P	**P**	**20 59 44.6**	**-0.1**
	4.5nm,0.3s,baz=350,slow=4.5,SNR=12						
	4.5nm,0.3s						
RTZ	**Ruatahuna**	**20.72**	**191**	P	**P**	**20 59 47.9**	**-0.3**
RTZ				IAmb	IAmb	20 59 50.8	
	comp=Z,18nm,1.4s						
BKZ	**Black Stump Fm**	**21.35**	**192**	P	**P**	**20 59 53.0**	**-0.8**
BKZ				IAmb	IAmb	20 59 55.4	
	comp=Z,10nm,1.2s						
MRZ	**Mangatainoka R**	**22.97**	**192**	P	**P**	**21 00 07.0**	**-1.3**
MRZ				IAmb	IAmb	21 00 29.5	
	comp=Z,35nm,1.4s						
QRZ	**Quartz Range**	**23.88**	**198**	P	**P**	**21 00 16.7**	**+0.4**
QRZ				IAmb	IAmb	21 00 49.5	
	comp=Z,44nm,1.5s						
THZ	**Tophouse**	**24.65**	**196**	P	**P**	**21 00 23.3**	**+0.2**
THZ				IAmb	IAmb	21 00 37.3	
	comp=Z,20nm,1.3s						
DSZ	**Denniston Nort**	**24.94**	**198**	P	**P**	**21 00 24.4**	**-1.3**
KHZ	**Kahutara**	**25.10**	**195**	P	**P**	**21 00 26.8**	**-0.3**
KHZ				IAmb	IAmb	21 00 28.6	
	comp=Z,11nm,0.9s						
FOZ	**Fox Glacier**	**27.17**	**199**	P	**P**	**21 00 46.0**	**+0.7**
LBZ	**Lake Benmore**	**27.83**	**198**	P	**P**	**21 00 50.6**	**-0.5**
LBZ				IAmb	IAmb	21 01 07.0	
	comp=Z,21nm,1.4s						
MLZ	**Mavora Lakes**	**29.36**	**200**	P	**P**	**21 01 04.9**	**+0.5**
MLZ				IAmb	IAmb	21 01 15.8	
	comp=Z,40nm,1.4s						
RABL	**Rabaul**	**32.26**	**292**	P	**P**	**21 01 27.8**	**-1.8**
WR0	**Warramunga Arr**	**44.66**	**260**	P	**P**	**21 03 09.7**	**-0.2**
WB0	**Warramunga Arr**	**44.81**	**260**	P	**P**	**21 03 10.6**	**-0.6**
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**21 03 10.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=97,slow=6.7,SNR=17						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**44.97**	**255**	P	**P**	**21 03 12.0**	**-0.3**
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**21 03 12.9**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=88,slow=8.4,SNR=85						
ASAR				PcP	**PcP**	**21 04 42.6**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=101,slow=3.1,SNR=2.2						
ASAR				pP	**pP**	**21 04 50.0**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=89,slow=7.6,SNR=5.0						
ASAR				S	**S**	**21 09 09.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=91,slow=14,SNR=5.5						
	comp=Z,5.3nm,0.6s						
KNRA	**Kununurra**	**50.73**	**264**	P	**P**	**21 03 57.0**	**+1.6**
KNRA				IAmb	IAmb	21 04 20.4	
	comp=Z,37nm,1.5s						
MJAR	**Matsushiro Arr**	**68.36**	**323**	P	**P**	**21 05 52.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=159,slow=5.9,SNR=4.8						
	comp=Z,1.4nm,0.7s						
SSLB	**Suanglung**	**72.67**	**303**	P	**P**	**21 06 18.0**	**-0.1**
SSLB				IAmb	IAmb	21 06 42.0	
	comp=Z,39nm,1.5s						
PETK	**Petropavlovsk-**	**74.10**	**345**	P	**P**	**21 06 26.0**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=162,slow=5.6,SNR=2.5						
	comp=Z,2.5nm,0.7s						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**21 06 57.7**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=217,slow=7.2,SNR=4.2						
	comp=Z,0.8nm,0.7s						
X16A	**Lo Mia Camp, P**	**82.19**	**50**	P	**P**	**21 07 06.2**	**-3.3**
SEY	**Seymchan**	**84.19**	**347**	P	**P**	**21 07 18.9**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=133,slow=4.6,SNR=7.8						
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**21 07 31.2**	**+3.2**
	comp=Z,0.9nm,0.8s,baz=213,slow=4.3,SNR=5.7						
	comp=Z,0.9nm,0.8s						
ILAR	**Eielson Array**	**86.17**	**13**	P	**P**	**21 07 28.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=223,slow=4.9,SNR=9.5						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**21 07 36.5**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=256,slow=4.1,SNR=3.7						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**21 07 45.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=104,slow=5.5,SNR=1.3						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**145.23**	**315**	PKPbc	**PKPab**	**21 14 23.1**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=54,slow=2.6,SNR=4.0						
MMAI	**Mount Meron Ar**	**146.57**	**303**	PKPbc	**PKiKP**	**21 14 27.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.6,SNR=4.6						
GERES	**GERESS Array B**	**148.03**	**345**	PKPbc	**PKPbc**	**21 14 28.9**	**-0.4**
GERES	**GERESS Array B**	**148.03**	**345**	PKPbc	**PKPbc**	**21 14 30.2**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=357,slow=5.5,SNR=5.9						

*NEIC **18** 21:15:57.9±2.0, 23°.30S±0°.05×71°.2W±0°.1, h10km±2km, ML3.7/22, Error ellipse: s-maj=16.8km s-min=7.9km az=265.0*
*GUC **18** 21:15:59.6±0.3, 23°.34S×71°.02W, h42km±15km, ML3.5*
ISC 18 21:15:54.8±1.9, 23°.26S±0°.03×71°.22W±0°.09, h7km±14km, n23, σ2°.28/29, 4C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**1.56**	**151**		**Pg**	**21 16 24.7**	**0.0**
PB14				Sn	**Sn**	**21 16 41.5**	**-2.5**
PB14	**IPOC Station P**	**1.56**	**151**	*eP*	**Pg**	**21 16 25.2**	**+0.4**
PB09	**IPOC Station P**	**2.34**	**52**	Pn	**Pb**	**21 16 35.6**	**-1.8**
PB09				IAML		21 17 12.1	
	comp=E,424nm,0.5s						
PB09				IAML		21 17 14.1	
	comp=N,449nm,0.5s						
PB09	**IPOC Station P**	**2.34**	**52⇑**	*eP*	**Pb**	**21 16 36.2**	**-1.3**
PB09				*eS*	**Sb**	**21 17 04.2**	**-2.4**
PB09				IAML		21 17 12.2	
	comp=E,405n

s-min=8.7km az=155.0
*NEIC **18** 21:30:48.7±1.8, 43°.67N±0°.06×105°.4W±0°.1, h0km±1km, ML3.5/68, Error ellipse: s-maj=13.6km s-min=9.1km az=240.0*
ISC 18 21:30:48.8±0.9, 43°.71N±0°.06×105°.37W±0°.06, h0km, n61, σ1§42/60, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**66**		**Pg**	**21 31 08.9**	**+0.1**
K22A	**Casper**	**1.36**	**219**	Pg	**Pg**	**21 31 14.1**	**-0.7**
K22A				IAML		21 31 41.0	
	comp=E,599nm,0.9s						
N23A	**Red Feather La**	**2.85**	**189**		**Pn**	**21 31 37.3**	**+1.5**
N23A				IAML		21 32 20.9	
	comp=N,118nm,0.7s						
LAO	**LASA Array**	**3.04**	**349**		**Pn**	**21 31 39.3**	**+1.1**
RLMT	**Red Lodge**	**3.13**	**298**		**Pn**	**21 31 41.4**	**+1.7**
RLMT				IAML		21 32 31.2	
	comp=N,87nm,0.3s						
RLMT				IAML		21 32 37.1	
	comp=N,115nm,0.3s						
PD31	**Pinedale Array**	**3.21**	**254**		**Pn**	**21 31 42.3**	**+1.6**
PDAR	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**21 31 42.1**	**+1.4**
PDAR	**Pinedale Array**	**3.21**	**254**	Pn	**Pn**	**21 31 41.9**	**+1.2**
	comp=N,3.2nm,0.3s,baz=63,slow=14,SNR=71						
PDAR				Lg	Lg	21 32 27.0	
	comp=N,18nm,0.3s,baz=68,slow=27,SNR=13						
	comp=N,3.3nm,0.3s						
YNE	**Yellowstone No**	**3.57**	**293**		**Pn**	**21 31 47.3**	**+1.5**
YNE				IAML		21 32 47.7	
	comp=E,78nm,0.7s						
YMP	**Mirror Lake Pl**	**3.59**	**288**		**Pn**	**21 31 47.7**	**+1.6**
GCMT	**Greycliff**	**3.70**	**306**		**Pn**	**21 31 49.3**	**+1.9**
OGNE	**Ogallala**	**3.71**	**137**	Pn	**Pn**	**21 31 48.1**	**+0.6**
LOHW	**Long Hollow**	**3.80**	**270**		**Pn**	**21 31 47.6**	**-1.3**
H17A	**Grant Village**	**3.82**	**282**	Pn	**Pn**	**21 31 49.8**	**+0.7**
H17A				IAML		21 32 54.9	
	comp=E,70nm,2.5s						
H17A				IAML		21 32 57.9	
	comp=N,51nm,1.8s						
FLWY	**Flagg Ranch**	**3.87**	**277**	Pn	**Pn**	**21 31 50.6**	**+0.7**
MOOW	**Moose Ponds**	**3.90**	**272**		**Pn**	**21 31 51.2**	**+1.0**
ISCO	**Idaho Springs**	**3.91**	**183**		**Pn**	**21 31 51.1**	**+0.6**
SNOW	**Snow King Moun**	**3.92**	**268**	Pn	**Pn**	**21 31 49.3**	**-1.3**
SNOW				IAML		21 33 07.7	
	comp=N,86nm,1.8s						
YFT	**Old Faithful**	**4.01**	**283**	Pn	**Pn**	**21 31 50.6**	**-1.1**
YFT				IAML		21 33 06.2	
	comp=E,48nm,2.0s						
O20A	**White River Ci**	**4.17**	**212**	Pn	**Pn**	**21 31 55.7**	**+1.8**
AHID	**Auburn Hatcher**	**4.29**	**259**		**Pn**	**21 31 58.4**	**+2.8**
AHID				IAML		21 33 28.2	
	comp=E,57nm,1.5s						
YHB	**Horse Butte**	**4.32**	**286**	Pn	**Pn**	**21 31 55.0**	**-1.0**
YHB				IAML		21 33 32.2	
	comp=N,34nm,1.6s						
YHL	**Hebgen Lake**	**4.33**	**287**		**Pn**	**21 31 57.5**	**+1.3**
YHL				IAML		21 33 21.6	
	comp=E,60nm,1.3s						
YHL				IAML		21 33 21.0	
	comp=N,53nm,1.5s						
K30B	**Basset**	**4.33**	**102**	Pn	**Pn**	**21 31 55.5**	**-0.5**
E28A	**Huff**	**4.37**	**47**		**Pn**	**21 31 57.3**	**+0.8**
RDMU	**Red Mountain**	**4.43**	**226**		**Pn**	**21 32 00.1**	**+2.6**
RDMU				IAML		21 33 17.0	
	comp=E,46nm,1.8s						
RDMU				IAML		21 33 44.7	
	comp=N,45nm,2.1s						
Q24A	**Divide**	**4.75**	**178**		**Pn**	**21 32 02.6**	**+0.7**
DGMT	**Dagmar**	**4.83**	**9**	Pn	**Pn**	**21 32 01.7**	**-1.1**
DGMT					Pb	21 32 04.6	-10
BOZ	**Bozeman (W)**	**4.85**	**295**	Pn	**Pn**	**21 32 03.7**	**+0.5**
BOZ				IAML		21 33 24.4	
	comp=N,28nm,1.1s						
BOZ				IAML		21 33 24.4	
	comp=N,30nm,2.1s						
HWUT	**Hardware Ranch**	**5.03**	**247**	Pn	**Pn**	**21 32 06.1**	**+0.4**
HWUT				IAML		21 33 50.4	
	comp=N,33nm,1.1s						
BSUT	**Blindstream Ca**	**5.11**	**233**	Pn	**Pn**	**21 32 07.0**	**-0.1**
BSUT				IAML		21 33 37.1	
	comp=N,26nm,2.2s						
BSUT				IAML		21 33 52.5	
	comp=E,35nm,2.6s						
KSCO	**Kaye Shedlock'**	**5.13**	**155**		**Pn**	**21 32 07.3**	**+0.3**
DLMT	**Dillon**	**5.42**	**290**		**Pn**	**21 32 13.3**	**+2.2**
HRY	**Holter Researc**	**5.46**	**306**		**Pn**	**21 32 13.4**	**+1.8**
P18A	**Preston Nutter**	**5.48**	**223**		**Pn**	**21 32 13.3**	**+1.4**
MDND	**Maddock**	**5.78**	**42**		**Pn**	**21 32 15.1**	**-0.7**
BGNE	**Belgrade**	**5.80**	**111**		**Pn**	**21 32 16.9**	**+0.7**
PV15	**Paradox Valley**	**5.86**	**205**		**Pn**	**21 32 19.4**	**+2.3**
LYMT	**Lyon Mountain**	**5.87**	**306**		**Pn**	**21 32 18.7**	**+1.5**
SDCO	**Great Sand Dun**	**5.96**	**181**		**Pn**	**21 32 19.6**	**+0.9**
PV10	**Paradox Valley**	**6.01**	**209**	Pn	**Pn**	**21 32 22.5**	**+3.3**
SRU	**San Rafael Swe**	**6.01**	**222**		**Pn**	**21 32 19.6**	**+0.3**
PV11	**David Mesa, Pa**	**6.02**	**207**	Pn	**Pn**	**21 32 20.8**	**+1.4**
PV13	**Radium Mtn., P**	**6.13**	**206**	Pn	**Pn**	**21 32 23.4**	**+2.5**
TMUT	**Trail Mountain**	**6.22**	**227**	Pn	**Pn**	**21 32 23.4**	**+1.2**
OVMT	**Ovando**	**6.33**	**305**	Pn	**Pn**	**21 32 24.8**	**+1.3**
BPMT	**Black Pine Rid**	**6.34**	**298**	Pn	**Pn**	**21 32 25.4**	**+1.7**
ECSD	**EROS Data Cent**	**6.34**	**87**	Pn	**Pn**	**21 32 23.8**	**+0.2**
Q16A	**Castle Valley**	**6.48**	**224**	Pn	**Pn**	**21 32 26.4**	**+0.7**
HLID	**Hailey**	**6.57**	**272**	Pn	**Pn**	**21 32 28.9**	**+2.1**
DUG	**Dugway, Tooele**	**6.57**	**240**	Pn	**Pn**	**21 32 27.6**	**+0.7**
T25A	**Trinidad**	**6.61**	**173**	Pn	**Pn**	**21 32 28.1**	**+0.6**
MSO	**Missoula**	**6.80**	**300**	Pn	**Pn**	**21 32 31.0**	**+1.0**
RTBA	**Rita Blanca**	**7.54**	**164**		**Pn**	**21 32 40.5**	**+0.4**
AGMN	**Agassiz Nation**	**8.05**	**52**		**Pn**	**21 32 47.2**	**+0.2**
I10CA	**LAC DU BONNET**	**9.10**	**41**	I	I	22 24 20.0	
	comp=E,0.1nm,1.3s,baz=224,slow=328,SNR=6.8						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**21 33 01.4**	**-1.5**
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**21 33 01.0**	**-1.8**
	comp=E,2.9nm,0.3s,baz=230,slow=11,SNR=31						
ULM				Lg	Lg	21 35 35.4	
	comp=E,0.3nm,0.3s,baz=157,slow=17,SNR=3.5						
	comp=E,4.9nm,0.3s						
FFC	**Flin Flon**	**11.24**	**10**	Pn	**Pn**	**21 33 28.9**	**-1.8**
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**21 35 20.6**	**+1.3**
	comp=E,0.1nm,0.3s,baz=166,slow=13,SNR=2.1						
	comp=E,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**61.46**	**18**	P	**P**	**21 41 05.9**	**-0.7**
	comp=E,3.4nm,1.0s,baz=334,slow=8.1,SNR=1.7						
	comp=E,3.4nm,1.0s						

*IDC **18** 21:31:29.8±3.3, 36°.59N×141°.75E, h0km, mb3.1/3, mbtmp3.2/5, ML2.6/2, MS2.4/1, Error ellipse: s-maj=52.7km s-min=36.9km az=99.0*
*JMA **18** 21:31:34.0±0.2, 36°.6N±0°.7×14°.1E±°, h54km±3km, MV2.8/26, E OFF IBARAKI PREF*
ISC 18 21:31:34.8±1.4, 36°.60N±0°.05×141°.65E±0°.09, h50km, n21, σ2§31/20, mb3.0/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.85**	**306**	P	**Pn**	**21 31 48.0**	**-2.5**
JHO	**Hitachi**	**0.87**	**271**	P	**Pn**	**21 31 48.1**	**-2.7**
JHO				S	**Sn**	**21 31 59.4**	**-3.2**
JHYU	**Hitachinakayam**	**0.90**	**254**	P	**Pn**	**21 31 49.0**	**-2.1**
JHYU				*e*S	**Sn**	**21 32 00.2**	**-2.9**
JFFD	**Fukushimafurud**	**1.00**	**300**	*e*P	**Pn**	**21 31 50.1**	**-2.4**
JOTO	**OTAMA OYAMA**	**1.43**	**313**	*e*P	**Pn**	**21 31 57.3**	**-1.0**
JOTO				*e*S	**Sn**	**21 32 15.4**	**-0.6**
JMM	**Marumori**	**1.44**	**332**	*e*P	**Pn**	**21 31 56.4**	**-2.1**
JAG	**Ashikaga**	**1.78**	**265**	P	**Pn**	**21 32 01.9**	**-1.2**
JIO	**Ouri**	**1.87**	**353**	P	**Pn**	**21 32 02.3**	**-2.0**
JIO				S	**Sn**	**21 32 23.3**	**-3.4**
JOU	**Okura**	**1.93**	**336**	P	**Pn**	**21 32 04.6**	**-0.6**
MJAR	**Matsushiro Arr**	**2.77**	**270**	Pn	**Pn**	**21 32 16.4**	**-0.3**
	0.4nm,0.3s,baz=89,slow=10.0,SNR=16						
MJAR				Sn	**Sn**	**21 32 51.2**	**+2.2**
	0.3nm,0.3s,baz=147,slow=25,SNR=2.1						
	3.1nm,0.4s						
JHJ	**Hachijo jima 2**	**3.80**	**204**	Pn	**Pn**	**21 32 29.7**	**-1.1**
	3.6nm,0.3s,baz=42,slow=14,SNR=7.2						
JHJ				Sn	**Sn**	**21 33 11.7**	**-2.5**
	6.3nm,0.3s,baz=48,slow=15,SNR=5.6						
	34nm,0.7s						
KSRS	**Korea Array**	**11.01**	**279**	LR	LR	21 38 36.4	
	comp=Z,20nm,18.8s,baz=0.0,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.76**	**120**	T	T	22 06 39.3	
	baz=312,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.77**	**120**	T	T	22 06 27.7	
	baz=312,slow=74						
H11N3	**WAKE ISLAND Hy**	**27.78**	**120**	T	T	22 06 34.5	
	baz=312						
SONM	**Songino Array**	**28.19**	**305**	P	**P**	**21 37 24.8**	**+2.2**
	0.3nm,0.6s,baz=110,slow=10,SNR=3.6						
	0.3nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	22 07 52.6	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	22 07 38.2	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	22 07 42.6	
	baz=314						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**21 39 43.7**	**+2.4**
	0.1nm,0.6s,baz=88,slow=7.5,SNR=2.7						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**46.42**	**308**	P	**P**	**21 39 57.9**	**+1.6**
	0.1nm,0.5s,baz=83,slow=8.5,SNR=5.1						
	0.1nm,0.5s						

DJA 18 21:45:28.8±0.7, 10°S±3°×11°3E±°, h16km±6km, M3.8/20, mB4.4/1, mb4.2/5, MLv3.6/20, Mw(mB)3.6/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.54**	**26**	P	Pn	21 45 54.1	-1.4
GMJI				S	Sb	21 46 15.7	-0.4
JAGI	**Jajag, Banyuwa**	**1.81**	**49**	P	Pn	21 45 58.6	-0.8
JAGI				S	Sn	21 46 22.2	+0.1
PWJI	**Pagerwojo**	**1.88**	**330**	P	Pn	21 45 59.7	-0.6
PCJI	**Pacitan**	**2.14**	**313**	P	Pn	21 46 04.1	+0.3
PCJI				S	Sn	21 46 30.6	+0.6
ABJI	**Asem Bagus**	**2.36**	**38**	P	Pn	21 46 07.0	+0.1
ABJI				S	Sn	21 46 35.6	+0.1
DNP	**Denpasar**	**2.61**	**68**	P	Pn	21 46 10.1	-0.2
DNP				S	Sn	21 46 42.5	+0.8
NGJI	**Ngawi**	**2.62**	**330**	P	Pn	21 46 10.0	-0.4
GRJI	**Gresik**	**2.74**	**354**	P	Pn	21 46 11.7	-0.5
GRJI				S	Sn	21 46 45.8	+0.8
UGM	**Wanagama**	**2.81**	**308**	P	Pn	21 46 14.0	+0.8
UGM				S	Sn	21 46 48.0	+1.2
KMMI	**Kalianget**	**2.85**	**25**	P	Pn	21 46 13.7	0.0
KMMI				S	Sn	21 46 48.4	+0.6
SRBI	**Singaraja**	**2.88**	**57**	P	Pn	21 46 14.7	+0.6
SRBI				S	Sn	21 46 49.1	+0.6
KPJI	**Karang Pucung**	**4.44**	**301**	P	Pn	21 46 35.9	+0.4
CMJI	**Cimerak**	**4.65**	**293**	P	Pn	21 46 37.8	-0.6
PLAI	**Plampang**	**5.02**	**81**	P	Pn	21 46 43.7	+0.2
	0.1nm15nm,0.7s						
CNJI	**Cibinong**	**6.04**	**292**	P	Pn	21 46 57.0	-0.5
WBSI	**Waikabubak, Su**	**6.54**	**90**	P	Pn	21 47 04.1	-0.3
	26nm,1.1s						

*IDC **18** 22:02:53.8±3.0, 9°.44S×112°.82E, h0km, mb3.6/5, mbtmp3.7/6, ML3.8/1, MS2.6/1, Error ellipse: s-maj=156.0km s-min=20.5km az=49.0*
*DJA **18** 22:03:00.4±0.6, 10°S±3°×11°3E±°, h20km±6km, M4.1/24, mB4.7/1, mb4.2/6, MLv4.0/24, Mw(mB)4.0/1*
ISC 18 22:02:57.8±2.1, 9.71S±0°.09×112°.86E±0°.04, h19km±7km, n29, σ2§23/39, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.54**	**22**	P	**Pn**	**22 03 24.9**	**+0.7**
GMJI				S	**Sb**	**22 03 45.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.77**	**46**	P	**Pb**	**22 03 28.8**	**-0.9**
JAGI				S	**Sb**	**22 03 52.3**	**+0.8**
PCJI	**Pacitan**	**2.25**	**312**	P	**Pn**	**22 03 34.4**	**+0.4**
PCJI				S	**Sn**	**22 04 02.4**	**+1.2**
ABJI	**Asem Bagus**	**2.33**	**36**	P	**Pb**	**22 03 38.5**	**-0.8**
ABJI				S	**Sb**	**22 04 06.4**	**-1.3**
DNP	**Denpasar**	**2.53**	**66**	P	**Pn**	**22 03 39.8**	**+1.9**
DNP				S	**Sb**	**22 04 12.2**	**-1.3**
NGJI	**Ngawi**	**2.71**	**329**	P	**Pb**	**22 03 43.3**	**-2.4**
GRJI	**Gresik**	**2.80**	**352**	P	**Pn**	**22 03 42.9**	**+1.3**
SRBI	**Singaraja**	**2.83**	**55**	P	**Pb**	**22 03 45.2**	**-2.5**
SRBI				S	**Sn**	**22 04 18.0**	**+2.5**
KMMI	**Kalianget**	**2.86**	**23**	P	**Pn**	**22 03 45.0**	**+2.6**
KMMI				S	**Sn**	**22 04 17.2**	**+0.9**
UGM	**Wanagama**	**2.92**	**307**	P	**Pn**	**22 03 44.2**	**+0.9**
UGM				S	**Sn**	**22 04 20.1**	**+2.1**
TBJI	**Tambak Boyo**	**3.04**	**341**	P	**Pn**	**22 03 46.9**	**+1.9**
TBJI				S	**Sn**	**22 04 22.6**	**+1.7**
YOGI	**Yogyakarta**	**3.16**	**306**	P	**Pn**	**22 03 48.3**	**+1.7**
KPJI	**Karang Pucung**	**4.55**	**301**	P	**Pn**	**22 04 09.2**	**+3.5**
KPJI				S	**Sn**	**22 05 01.6**	**+3.5**
CMJI	**Cimerak**	**4.76**	**293**	P	**Pn**	**22 04 10.7**	**+2.0**
CMJI				S	**Sn**	**22 05 04.4**	**+1.0**
PLAI	**Plampang**	**4.93**	**80**	P	**Pn**	**22 04 15.4**	**+4.5**
CNJI	**Cibinong**	**6.15**	**292**	P	**Pn**	**22 04 29.5**	**+1.8**
	0.1nm8.9nm,0.9s						
WBSI	**Waikabubak, Su**	**6.44**	**90**	P	**Pn**	**22 04 35.5**	**+3.8**
	0.1nm17nm,1.7s						
CGJI	**Cibinong**	**7.74**	**293**	P	**Pn**	**22 04 51.8**	**+2.3**
	501nm14nm,0.5s						
KAPI	**Kappang**	**8.27**	**56**	LR	LR	22 08 42.0	
	comp=Z,43nm,20.3s,baz=220,slow=43						
BSSI	**Bau Bau, Buton**	**8.34**	**65**	P	**Pn**	**22 05 00.6**	**+2.7**
TPI	**Tanjungpandan**	**8.63**	**323**	P	**Pn**	**22 05 03.4**	**+1.6**
MNAI	**Manna**	**11.18**	**298**	P	**Pn**	**22 05 38.0**	**+1.3**
SOEI	**Soe**	**11.24**	**91**	P	**Pn**	**22 05 40.3**	**+2.6**
FITZ	**Fitzroy Crossi**	**14.94**	**125**	Pn	**Pn**	**22 06 26.9**	**-1.2**
	0.3nm,0.3s,baz=300,slow=8.2,SNR=7.0						
FITZ				Sn	Sn	22 09 03.5	-10
	0.2nm,0.3s,baz=318,slow=19,SNR=1.7						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**23.09**	**119**	P	**P**	**22 08 03.2**	**+0.5**
	0.8nm,0.9s,baz=292,slow=9.4,SNR=6.1						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.42**	**127**	P	**P**	**22 08 16.6**	**+1.2**
	1.9nm,0.7s,baz=301,slow=9.7,SNR=23						
	1.9nm,0.7s						
SONM	**Songino Array**	**57.58**	**355**	P	**P**	**22 12 42.9**	**-3.6**
	0.2nm,0.4s,baz=174,slow=8.4,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**	**22 13 17.7**	**-2.5**
	0.3nm,0.5s,baz=152,slow=7.7,SNR=10.0						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**67.72**	**343**	P	**P**	**22 13 50.9**	**-2.9**
	0.3nm,0.3s,baz=164,slow=7.2,SNR=2.6						
	0.3nm,0.3s						

IDC 18 22:10:06.2±12.0, 21°.71S×176°.81W, h0km, mb4.0/4, mbtmp3.9/4, Error ellipse: s-maj=368.5km s-min=53.4km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.34**	**258**	P	P	22 18 26.4	0.0
	1.4nm,0.8s,baz=99,slow=7.1,SNR=13						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**45.54**	**263**	P	P	22 18 27.6	-0.5
	1.0nm,0.9s,baz=101,slow=7.5,SNR=6.0						
	1.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**80.58**	**325**	P	P	22 22 20.4	0.0
	1.8nm,0.8s,baz=155,slow=4.8,SNR=4.4						
	1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.56**	**289**	P	P	22 23 15.7	+0.2
	0.6nm,0.8s,baz=101,slow=5.1,SNR=4.6						
	0.6nm,0.8s						

*IDC **18** 22:11:35.8±1.4, 2°.07N×96°.05E, h0km, mb4.1/8, mbtmp4.0/10, ML3.7/2, MS3.1/4, Error ellipse: s-maj=39.2km s-min=18.7km az=45.0*
*DJA **18** 22:11:38.0±0.5, 2°N±2°×9°6E±°, h13km±2km, M4.2/13, mB4.7/1, mb4.6/6, MLv4.0/13, Mw(mB)3.9/1*
*NEIC **18** 22:11:38.6±1.2, 2°.22N±0°.07×96°.2E±0°.1, h10km±1km, mb4.3/24, Error ellipse: s-maj=20.5km s-min=10.1km az=247.0*
ISC 18 22:11:37.5±3.7, 2°.18N±0°.05×96°.07E±0°.06, h8km±23km, n73, σ0§88/65, mb4.2/22, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.34**	**48**	P	**Pb**	**22 11 47.0**	**+1.1**
SNSI				S	**Sb**	**22 11 51.2**	**-0.3**
GSI	**Gunungsitoli**	**1.73**	**120**		**Pn**	**22 12 07.5**	**-0.5**
GSI	**Gunungsitoli**	**1.73**	**120**		**Pn**	**22 12 07.9**	**-0.1**
GSI				S	**Sn**	**22 12 30.4**	**+0.1**
MLSI	**Meulaboh, Aceh**	**2.10**	**9**	P	**Pn**	**22 12 13.0**	**-0.1**
MLSI				S	**Sn**	**22 12 39.9**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.16**	**52**	P	**Pn**	**22 12 13.7**	**-0.2**
KCSI				S	**Sn**	**22 12 41.8**	**+0.9**
RPSI	**Rantau Prapat**	**2.90**	**80**	Pn	**Pn**	**22 12 23.4**	**-0.6**
RPSI	**Rantau Prapat**	**2.90**	**80**		**Pn**	**22 12 23.3**	**-0.6**
PSI	**Prapat**	**2.92**	**78**	Pn	**Pn**	**22 12 23.3**	**-1.0**
	2.4nm,0.3s,baz=257,slow=5.1,SNR=13						
PSI				Sn	**Sn**	**22 13 01.2**	**+1.5**
	3.4nm,0.3s,baz=239,slow=12,SNR=4.4						
PSI				LR	LR	22 13 14.8	
	comp=Z,125nm,21.3s,baz=1.0,slow=34						
	7.1nm,0.4s						
PBSI	**Pulau Batu**	**3.13**	**135**	P	**Pn**	**22 12 27.4**	**+0.3**
LHMI	**Lhok Sumawe**	**3.16**	**16**	Pn	**Pn**	**22 12 26.6**	**-1.0**
LHMI	**Lhok Sumawe**	**3.16**	**16**	P	**Pn**	**22 12 28.6**	**+1.0**
BSI	**Banda Aceh**	**3.39**	**347**	P	**Pn**	**22 12 29.9**	**-0.9**
BSI				S	**Sn**	**22 13 11.0**	**-0.2**
MNSI	**Mandailing Nat**	**3.77**	**111**	P	**Pn**	**22 12 36.5**	**+0.6**
MNSI				S	**Sn**	**22 13 20.4**	**0.0**
SISI	**Saibi**	**4.61**	**139**	P	**Pn**	**22 12 48.0**	**+0.5**
PPI	**Padang Panjang**	**5.05**	**121**	S	**Sn**	**22 13 52.5**	**+0.2**
BKNI	**Bangkinang**	**5.29**	**110**	Pn	**Pn**	**22 12 54.9**	**-2.1**
IPM	**Ipoh**	**5.45**	**65**	Pn	**Pn**	**22 12 58.3**	**-0.8**
KULM	**Kulim**	**5.52**	**56**	Pn	**Pn**	**22 12 59.3**	**-0.8**
PPSI	**Pulau Pagai**	**6.29**	**141**	P	**Pn**	**22 13 11.5**	**+0.8**
	48nm,0.9s						
SRIT	**Nakonsritamara**	**7.28**	**29**	Pn	**Pn**	**22 13 23.5**	**-0.8**
MNAI	**Manna**	**9.46**	**133**	Pn	**Pn**	**22 13 53.8**	**-0.4**
MNAI	**Manna**	**9.46**	**133**	P	**Pn**	**22 13 54.8**	**+0.6**
MDSI	**Maura Dua**	**10.46**	**129**	P	**Pn**	**22 14 07.9**	**0.0**
PALK	**Pallekele**	**16.13**	**289**	Sn	Sn	22 18 10.2	-14
	0.5nm,0.3s,baz=150,slow=8.1,SNR=4.7						
PALK				LR	LR	22 21 21.6	
	comp=Z,32nm,18.9s,baz=312,slow=36						
CMAR	**Chiang Mai Arr**	**16.42**	**10**	Pn	**P**	**22 15 30.6**	**-0.7**
	0.3nm,0.3s,baz=187,slow=12,SNR=16						
	1.4nm,0.7s						
KKM	**Kota Kinabalu**	**20.45**	**79**	P	**P**	**22 16 15.3**	**-0.6**
KKM				IAmb	IAmb	22 16 18.1	
	comp=Z,9.7nm,0.9s						
SHL	**Shillong**	**23.60**	**351**	P	**P**	**22 16 46.7**	**-2.6**
KAPI	**Kappang**	**24.71**	**107**	LR	LR	22 27 20.1	
	comp=Z,154nm,18.1s,baz=260,slow=38						
PZH	**PanZhiHua**	**24.80**	**12**	P	**P**	**22 17 02.1**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
H08S2	**Diego Garcia H**	**25.47**	**247**	T	T	22 43 42.4	
	baz=68,slow=76,SNR=1082						
H08S3	**Diego Garcia H**	**25.47**	**247**	T	T	22 43 43.1	
	baz=68,slow=76,SNR=1225						
H08S1	**Diego Carcia H**	**25.48**	**247**	T	T	22 43 44.3	
	baz=68,slow=76,SNR=1004						
LSA	**Lhasa**	**27.77**	**351**	P	**P**	**22 17 27.3**	**-0.2**
LSA				IAmb	IAmb	22 17 30.1	
	comp=Z,5.9nm,0.9s						
GTA	**Gaotai**	**37.22**	**5**	*e*P	**P**	**22 18 50.8**	**+1.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HNS	**HongShan**	**39.02**	**24**	⇑P	**P**	**22 19 05.1**	**+0.4**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
H01W3	**Cape Leeuwin H**	**40.57**	**157**	T	T	23 02 18.9	
	baz=333,slow=76,SNR=66						
H01W2	**Cape Leeuwin H**	**40.59**	**157**	T	T	23 02 21.9	
	baz=333,slow=76,SNR=73						
H01W1	**Cape Leeuwin H**	**40.59**	**157**	T	T	23 02 28.3	
	baz=333,slow=76,SNR=71						
KSH	**Kashi**	**41.43**	**336**	P	**P**	**22 19 24.8**	**0.0**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WUS	**Wushi**	**41.72**	**341**	P	**P**	**22 19 28.1**	**+1.0**
TARG	**Taragay, Kyrgy**	**42.67**	**340**	P	**P**	**22 19 34.3**	**-1.0**
TARG				IAmb	IAmb	22 19 39.8	
	comp=Z,3.7nm,0.8s						
DRK	**Karamyk**	**43.21**	**332**	P	**P**	**22 19 41.2**	**+1.7**
WB0	**Warramunga Arr**	**43.47**	**122**	P	**P**	**22 19 39.9**	**-1.7**
WRA	**Warramunga Arr**	**43.51**	**122**	P	**P**	**22 19 40.9**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=298,slow=8.2,SNR=5.0						
	comp=Z,0.9nm,0.8s						
WRAB	**Tennant Creek**	**43.51**	**122**	P	**P**	**22 19 40.7**	**-1.2**
GAR	**Garm**	**43.54**	**331**	P	**P**	**22 19 42.1**	**+0.1**
GAR				IAmb	IAmb	22 20 07.2	
	comp=Z,4.8nm,1.0s						
SIMJ	**Simiganj**	**43.93**	**329**	P	**P**	**22 19 45.6**	**+0.4**
BTK	**Batken**

GMJI				S	Sn	22 22 26.3	+1.3
JAGI	**Jajag, Banyuwa**	**1.83**	**48**		**Pn**	**22 22 07.5**	**-1.7**
JAGI	**Jajag, Banyuwa**	**1.83**	**48**	P	**Pn**	**22 22 09.6**	**+0.3**
JAGI				S	Sn	22 22 31.8	+0.5
PCJI	**Pacitan**	**2.19**	**313**	P	**Pn**	**22 22 14.6**	**+0.4**
PCJI				S	Sn	22 22 40.0	-0.2
ABJI	**Asem Bagus**	**2.39**	**37**	P	**Pn**	**22 22 17.8**	**+0.9**
ABJI				S	Sn	22 22 47.5	+2.6
DNP	**Denpasar**	**2.61**	**67**	P	**Pn**	**22 22 20.3**	**+0.4**
DNP				S	Sn	22 22 51.9	+1.5
NGJI	**Ngawi**	**2.68**	**331**	P	**Pn**	**22 22 21.7**	**+0.8**
NGJI				S	Sn	22 22 54.0	+1.9
GRJI	**Gresik**	**2.80**	**354**	P	**Pn**	**22 22 22.8**	**+0.2**
GRJI				S	Sn	22 22 57.4	+2.3
UGM	**Wanagama**	**2.87**	**309**	Pn	**Pn**	**22 22 23.9**	**+0.4**
UGM	**Wanagama**	**2.87**	**309**	P	**Pn**	**22 22 24.1**	**+0.6**
UGM				S	Sn	22 22 59.1	+2.3
KMMI	**Kalianget**	**2.90**	**24**	P	**Pn**	**22 22 24.2**	**+0.3**
KMMI				S	Sn	22 23 00.1	+2.6
TBJI	**Tambak Boyo**	**3.03**	**342**	P	**Pn**	**22 22 26.1**	**+0.4**
TBJI				S	Sn	22 23 04.0	+3.3
YOGI	**Yogyakarta**	**3.10**	**307**	P	**Pn**	**22 22 25.9**	**-0.8**
YOGI				S	Sn	22 23 05.5	+2.9
SMRI	**Semarang**	**3.52**	**319**	Pn	**Pn**	**22 22 31.9**	**-0.6**
SMRI	**Semarang**	**3.52**	**319**	P	**Pn**	**22 22 32.3**	**-0.2**
SMRI				S	Sn	22 23 15.6	+2.6
KPJI	**Karang Pucung**	**4.49**	**302**	P	**Pn**	**22 22 46.6**	**+0.8**
KPJI				S	Sn	22 23 39.8	+3.1
CMJI	**Cimerak**	**4.70**	**294**	P	**Pn**	**22 22 47.9**	**-0.7**
CMJI				S	Sn	22 23 41.8	-0.1
PLAI	**Plampang**	**5.00**	**80**	P	**Pn**	**22 22 54.0**	**+1.1**
PLAI				S	Sn	22 23 49.6	+0.1
LEM	**Lembang**	**5.87**	**299**	P	**Pn**	**22 23 04.4**	**-0.4**
0.2nm34nm,1.2s							
CNJI	**Cibinong**	**6.08**	**293**	P	**Pn**	**22 23 08.8**	**+1.1**
0.1nm18nm,0.7s							
WBSI	**Waikabubak, Su**	**6.51**	**90**	P	**Pn**	**22 23 14.9**	**+1.3**
0.4nm62nm,0.9s							
WBSI				S	**Sn**	**22 24 28.6**	**+1.9**
0.4nm62nm,0.9s							
XMIS	**Christmas Isla**	**7.07**	**263**	Pn	**Pn**	**22 23 20.6**	**-0.5**
WSI	**Waingapu**	**7.41**	**90**	P	**Pn**	**22 23 26.1**	**+0.3**
CGJI	**Cibinong**	**7.67**	**293**	P	**Pn**	**22 23 31.3**	**+1.9**
0.2nm986nm27nm,0.4s							
CGJI				S	**Sn**	**22 24 55.9**	**+0.9**
0.2nm986nm27nm,0.4s							
BASI	**Baing, Sumba**	**7.69**	**94**	P	**Pn**	**22 23 31.1**	**+1.4**
3µm63nm,1.5s							
KAPI	**Kappang**	**8.34**	**56**	Pn	**Pn**	**22 23 39.1**	**+0.5**
BSSI	**Bau Bau, Buton**	**8.42**	**66**	P	**Pn**	**22 23 39.8**	**+0.1**
36nm,1.1s							
BKSI	**Bulukumba**	**8.48**	**60**	P	**Pn**	**22 23 41.9**	**+1.3**
13nm,0.6s							
TPI	**Tanjungpandan**	**8.59**	**323**	P	**Pn**	**22 23 42.1**	**0.0**
MMRI	**Maumere**	**9.39**	**84**	Pn	**Pn**	**22 23 52.8**	**-0.3**
MMRI	**Maumere**	**9.39**	**84**	P	**Pn**	**22 23 53.9**	**+0.8**
2µm45nm,1.6s							
MDSI	**Maura Dua**	**10.00**	**301**	P	**Pn**	**22 24 01.5**	**+0.2**
MNAI	**Manna**	**11.11**	**298**	Pn	**Pn**	**22 24 16.3**	**-0.3**
MNAI	**Manna**	**11.11**	**298**	P	**Pn**	**22 24 16.2**	**-0.3**
66nm,0.9s							
KDI	**Kendari**	**11.31**	**60**	P	**Pn**	**22 24 19.3**	**-0.1**
14nm,1.0s							
SOEI	**Soe**	**11.32**	**91**	Pn	**Pn**	**22 24 20.0**	**+0.4**
SOEI	**Soe**	**11.32**	**91**	P	**Pn**	**22 24 19.3**	**-0.2**
2µm16nm,0.7s							
KSI	**Kapahiang**	**11.78**	**300**	P	**Pn**	**22 24 26.6**	**+0.8**
GIRL	**Giralia**	**12.93**	**174**	Pn	**Pn**	**22 24 39.5**	**-1.8**
PSA00	**Pilbara Seismi**	**13.60**	**151**	Pn	**Pn**	**22 24 50.0**	**-0.6**
PPSI	**Pulau Pagai**	**14.45**	**298**	P	**Pn**	**22 25 01.0**	**-1.1**
48nm,0.9s							
FITZ	**Fitzroy Crossi**	**14.99**	**125**	Pn	**Pn**	**22 25 07.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.99**	**125**	Pn	**Pn**	**22 25 09.0**	**-0.2**
0.6nm,0.3s,baz=308,slow=11,SNR=13							
FITZ				Sn	Sn	22 27 43.0	-11
1.1nm,0.3s,baz=186,slow=23,SNR=8.2							
1.9nm,0.4s							
KNRA	**Kununurra**	**16.67**	**112**		**P**	**22 25 32.1**	**-0.4**
KNRA				IAmb	IAmb	22 25 51.9	
comp=Z,9.2nm,0.8s							
MTN	**Manton Dam**	**18.26**	**102**	P	**Pn**	**22 25 50.8**	**+0.5**
MTN				IAmb	IAmb	22 26 13.8	
comp=Z,19nm,1.2s							
MORW	**Morawa**	**19.49**	**171**	P	**Pn**	**22 26 06.1**	**+1.1**
MORW				IAmb	IAmb	22 26 38.9	
comp=Z,19nm,1.4s							
FAKI	**Fak Fak**	**20.48**	**72**	P	**P**	**22 26 11.1**	**-3.2**
WB0	**Warramunga Arr**	**23.13**	**118**	P	**P**	**22 26 42.7**	**+0.1**
WB0				IAmb	IAmb	22 27 15.4	
comp=Z,3.5nm,0.9s							
WRA	**Warramunga Arr**	**23.15**	**118**	P	**P**	**22 26 44.4**	**+1.7**
WRA	**Warramunga Arr**	**23.15**	**118**	P	**P**	**22 26 43.5**	**+0.8**
comp=Z,0.9nm,0.6s,baz=293,slow=10,SNR=7.6							
WRA				S	**S**	**22 30 57.2**	**+6.2**
comp=Z,0.6nm,0.7s,baz=290,slow=27,SNR=4.7							
comp=Z,0.9nm,0.6s							
WB2	**Warramunga Arr**	**23.16**	**118**	P	**P**	**22 26 43.7**	**+0.9**
WB2				IAmb	IAmb	22 26 52.4	
comp=Z,6.9nm,1.2s							
WR0	**Warramunga Arr**	**23.34**	**118**	P	**P**	**22 26 43.1**	**-1.4**
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**22 26 57.2**	**+2.1**
comp=Z,2.3nm,0.7s,baz=298,slow=9.3,SNR=24							
comp=Z,2.3nm,0.7s							
FORT	**Forrest**	**25.33**	**148**	P	**P**	**22 27 06.0**	**+3.4**
CMAR	**Chiang Mai Arr**	**31.15**	**334**	P	**P**	**22 27 53.8**	**-1.0**
comp=Z,0.2nm,0.3s,baz=152,slow=8.4,SNR=1.5							
comp=Z,0.2nm,0.3s							
STKA	**Stephens Creek**	**34.61**	**134**	P	**P**	**22 28 26.8**	**+1.9**
comp=Z,1.6nm,0.6s,baz=313,slow=13,SNR=3.4							
comp=Z,1.6nm,0.6s							
MJAR	**Matsushiro Arr**	**51.86**	**26**	P	**P**	**22 30 41.3**	**-2.6**
comp=Z,2.5nm,0.9s,baz=188,slow=8.7,SNR=5.0							
comp=Z,2.5nm,0.9s							
USRK	**Ussuriysk Ar.**	**56.42**	**16**	P	**P**	**22 31 16.6**	**-0.3**
comp=Z,1.6nm,0.9s,baz=212,slow=5.1,SNR=2.3							
comp=Z,1.6nm,0.9s							
SONM	**Songino Array**	**57.58**	**355**	P	**P**	**22 31 24.0**	**-1.2**
SONM				IAmb	IAmb	22 31 26.2	
comp=Z,2.3nm,1.2s							
SONM	**Songino Array**	**57.58**	**355**	P	**P**	**22 31 24.5**	**-0.8**
comp=Z,1.2nm,0.6s,baz=171,slow=8.8,SNR=11							
comp=Z,1.2nm,0.6s							
MK31	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 31 58.1**	**-0.7**
MK31				IAmb	IAmb	22 32 24.9	
comp=Z,1.5nm,1.2s							
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 31 57.7**	**-1.1**
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**22 31 58.1**	**-0.7**
comp=Z,0.8nm,0.4s,baz=149,slow=7.7,SNR=25							
comp=Z,0.8nm,0.4s							
GAR	**Garm**	**62.51**	**324**	P	**P**	**22 31 59.4**	**+0.1**
KURBB	**Kurchatov Arra**	**67.06**	**337**	P	**P**	**22 32 27.1**	**-1.3**
comp=Z,0.5nm,0.2s,baz=152,slow=5.0,SNR=3.5							
comp=Z,0.5nm,0.2s							
ZALV	**Zalesovo Beam**	**67.70**	**343**	P	**P**	**22 32 31.8**	**-0.6**
ZALV	**Zalesovo Beam**	**67.70**	**343**	P	**P**	**22 32 30.6**	**-1.9**
comp=Z,1.0nm,0.5s,baz=154,slow=6.3,SNR=5.9							
comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**74.72**	**327**	P	**P**	**22 33 14.4**	**-0.6**
ABKAR				IAmb	IAmb	22 33 16.4	
comp=Z,3.3nm,0.8s							
ARTI	**Arti**	**79.64**	**333**		**P**	**22 33 42.1**	**-0.3**
ARTI				IAmb	IAmb	22 33 43.2	
comp=Z,2.9nm,0.9s							

*TIR **18** 22:22:02.2, 41˚.48N×15˚.79E, h1km±1km, Md2.5/2, MI1.9/3*
*ROM **18** 22:22:02.5±0.1, 41˚.507N±0˚.004×15˚.827E±0˚.007,*
h21km±1km, ML1.9/42, Error ellipse: s-maj=0.6km
s-min=0.4km az=257.0

ISC 18 22:22:03.0±0.9, 41˚.50N±0˚.02×15˚.81E±0˚.03, h17km±7km,
n37, σ0s74/54, 3C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.23**	**20**	P	**Pb**	**22 22 08.3**	**-0.5**
MSAG				S	**Sg**	**22 22 12.4**	**+0.5**
MSAG				AML	AML		
comp=E,237µm,1.0s							
MSAG				AML	AML		
comp=E,238µm,1.0s							
MSAG				AML	AML		
comp=N,395µm,0.3s							
MSAG				AML	AML		
comp=E,176µm,0.1s							
SGRT	**San Giovanni R**	**0.26**	**350**	⇓*i* Pg	**Pb**	**22 22 08.5**	**-0.8**
SGRT				AML	AML	22 22 12.9	
comp=E,0.8nm,0.3s							
SGRT				*i* Sg	**Sb**	**22 22 13.0**	**-0.6**
SGRT	**San Giovanni R**	**0.26**	**350**	P	**Pb**	**22 22 08.6**	**-0.8**
SGRT				S	**Sg**	**22 22 12.6**	**-0.2**
SGRT				AML	AML		
comp=N,418µm,0.1s							
SGRT				AML	AML		
comp=E,280µm,0.3s							
SGRT				AML	AML		
comp=N,418µm,0.1s							
APRC	**Apricena**	**0.32**	**323**	P	**Pg**	**22 22 09.5**	**-0.4**
APRC				S	**Sb**	**22 22 14.8**	**-0.6**
APRC				AML	AML		
comp=E,314µm,0.3s							
APRC				AML	AML		
comp=N,368µm,0.3s							
APRC				AML	AML		
comp=E,303µm,0.4s							
APRC				AML	AML		
comp=E,302µm,0.2s							
APRC				AML	AML		
comp=N,344µm,0.3s							
CAPA	**Cerignola FG**	**0.34**	**179**	P	**Pb**	**22 22 09.9**	**-0.8**
CAPA				S	**Sb**	**22 22 15.6**	**-0.3**
CAPA				AML	AML		
comp=E,131µm,0.9s							
CAPA				AML	AML		
comp=N,112µm,1.0s							
CAPA				AML	AML		
comp=E,95µm,0.1s							
CAPA				AML	AML		
comp=N,96µm,0.1s							
CAPA				AML	AML		
comp=N,83µm,0.2s							
SGTA	**Sant Agata di**	**0.49**	**222**	P	**Pb**	**22 22 13.5**	**+0.1**
SGTA				S	**Sb**	**22 22 21.9**	**+1.6**
MOCO	**Biccari - m.te**	**0.50**	**255**	P	**Pb**	**22 22 13.8**	**+0.3**
MRVN	**Minervino Murg**	**0.53**	**146**	⇑*i* Pn	**Pb**	**22 22 13.1**	**-0.8**
MRVN				*i* Sn	**Sb**	**22 22 21.4**	**+0.1**
MRVN				AML	AML	22 22 25.0	
comp=N,0.2nm,0.1s							
MRVN				AMd		22 22 43.7	
MRVN	**Minervino Murg**	**0.53**	**146**	P	**Pb**	**22 22 13.2**	**-0.7**
MRVN				AML	AML		
comp=E,121µm,0.2s							
MRVN				AML	AML		
comp=N,88µm,0.4s							
MRVN				AML	AML		
comp=N,88µm,0.4s							
MRVN				AML	AML		
comp=E,121µm,0.2s							
MRVN				AML	AML		
comp=E,121µm,1.8s							
MELA	**Melanico ??? S**	**0.55**	**292**	P	**Pb**	**22 22 14.2**	**-0.1**
MELA				S	**Sb**	**22 22 22.7**	**+0.9**
MELA				AML	AML		
comp=N,168µm,0.6s							
MELA				AML	AML		
comp=N,151µm,0.4s							
MELA				AML	AML		
comp=N,234µm,0.4s							
MELA				AML	AML		
comp=E,93µm,0.3s							
PALZ	**Palazzo San Ge**	**0.57**	**168**	P	**Pb**	**22 22 14.4**	**-0.2**
PALZ				AML	AML		
comp=E,80µm,1.4s							
PALZ				AML	AML		
comp=N,106µm,1.0s							
PALZ				AML	AML		
comp=E,70µm,0.2s							
CAFE	**Carife**	**0.64**	**222**	P	**Pb**	**22 22 15.7**	**-0.1**
CAFE				S	**Sn**	**22 22 26.5**	**-0.8**
CLT3	**Calitri**	**0.67**	**207**	P	**Pn**	**22 22 16.9**	**-1.0**
GATE	**Gambatesa**	**0.67**	**271**	P	**Pb**	**22 22 16.5**	**+0.2**
ACER	**Acerenza**	**0.72**	**172**	P	**Pb**	**22 22 17.4**	**+0.2**
ACER				AML	AML		
comp=E,97µm,0.5s							
ACER				AML	AML		
comp=N,80µm,0.4s							
ACER				AML	AML		
comp=E,97µm,0.5s							
ACER				AML	AML		
comp=E,97µm,0.5s							
ACER				AML	AML		
comp=E,113µm,0.0s							
ACER				AML	AML		
comp=N,80µm,0.4s							
ACER				AML	AML		
comp=N,139µm,0.6s							
SNAL	**S. Angelo Dei**	**0.73**	**218**	P	**Pb**	**22 22 17.7**	**+0.3**
SNAL				AML	AML		
comp=E,86µm,0.7s							
SNAL				AML	AML		
comp=N,116µm,0.6s							
SNAL				AML	AML		
comp=E,86µm,0.7s							
SNAL				AML	AML		
comp=N,116µm,0.6s							
SNAL				AML	AML		
comp=N,107µm,0.6s							
SNAL				AML	AML		
comp=E,86µm,1.3s							
GLNS	**Guglionesi**	**0.78**	**302**	P	**Pb**	**22 22 18.3**	**+0.1**
MRLC	**Muro Lucano**	**0.78**	**198**	P	**Pn**	**22 22 19.0**	**-0.3**
MRLC				AML	AML		
comp=E,70µm,1.3s							
MRLC				AML	AML		
comp=N,83µm,0.4s							
MRLC				AML	AML		
comp=N,83µm,0.4s							
MRLC				AML	AML		
comp=N,83µm,1.6s							
MRLC				AML	AML		
comp=N,41µm,0.3s							
MRLC				AML	AML		
comp=E,69µm,0.3s							
MRLC				AML	AML		
comp=E,37µm,0.5s							
AMUR	**Altamura**	**0.85**	**134**	P	**Pn**	**22 22 19.7**	**-0.5**
AMUR				AML	AML		
comp=E,162µm,0.2s							
AMUR				AML	AML		
comp=N,147µm,0.6s							
AMUR				AML	AML		
comp=E,162µm,0.2s							
AMUR				AML	AML		
comp=E,162µm,1.8s							
AMUR				AML	AML		
comp=N,144µm,0.1s							
MCRV	**Calabrutti - M**	**0.86**	**214**	P	**Pn**	**22 22 20.1**	**-0.5**
SNR3	**Senerchia**	**0.89**	**211**	P	**Pn**	**22 22 20.5**	**-0.5**
SNR3				AML	AML		
comp=E,53µm,0.6s							
SNR3				AML	AML		
comp=N,98µm,0.8s							
SNR3				AML	AML		
comp=E,47µm,0.3s							
SNR3				AML	AML		
comp=N,94µm,0.2s							
SNR3	**Senerchia**	**0.89**	**211**	AML	AML		
comp=N,144µm,0.8s							
SNR3				AML	AML		
comp=E,294µm,1.3s							
PTRP	**Pietrapertosa**	**1.00**	**169**	P	**Pn**	**22 22 22.8**	**+0.4**
PTRP				AML	AML		
comp=E,62µm,0.5s							
PTRP				AML	AML		
comp=N,79µm,1.2s							
PTRP				AML	AML		
comp=N,67µm,0.4s							
PTRP				AML	AML		
comp=E,41µm,0.6s							
PTRP				AML	AML		
comp=N,67µm,1.6s							
MIGL	**Miglionico**	**1.02**	**152**	P	**Pn**	**22 22 22.9**	**+0.3**
MIGL				AML	AML		
comp=E,157µm,0.8s							
MIGL				AML	AML		
comp=N,204µm,0.4s							
MIGL				AML	AML		
comp=E,156µm,0.4s							
MIGL				AML	AML		
comp=N,204µm,0.4s							
MIGL				AML	AML		
comp=E,156µm,1.6s							
MATE	**Matera**	**1.09**	**141**	P	**Pn**	**22 22 24.5**	**+1.0**
MATE				AML	AML		
comp=E,99µm,0.2s							
MATE				AML	AML		
comp=N,68µm,1.0s							
MATE				AML	AML		
comp=E,99µm,0.1s							
NOCI	**Noci**	**1.19**	**126**	⇑*i* Pg	**Pg**	**22 22 25.9**	**-0.1**
NOCI				*i* Sg	**Sn**	**22 22 42.3**	**+1.6**
NOCI				AML	AML	22 22 45.9	
comp=E,0.2nm,0.2s							
NOCI				AMd		22 23 15.8	
NOCI	**Noci**	**1.19**	**126**	P	**Pg**	**22 22 25.8**	**-0.1**
CRAC	**Craco**	**1.23**	**157**	P	**Pg**	**22 22 26.6**	**-0.2**
CRAC				AML	AML		
comp=E,70µm,0.3s							
CRAC				AML	AML		
comp=N,78µm,1.5s							
CRAC				AML	AML		
comp=N,72µm,0.3s							
LSTV	**Lastovo**	**1.50**	**32**	*e*Pg	**Pg**	**22 22 33.0**	**+1.1**
LSTV				Sg	**Sg**	**22 22 51.5**	**-0.1**
HVAR	**Hvar**	**1.74**	**16**	*e*Pn	**Pb**	**22 22 34.4**	**-0.2**
HVAR				Sn	**Sn**	**22 22 54.2**	**-0.2**
STON	**Ston**	**1.96**	**45**	Sn	**Sn**	**22 22 59.8**	**0.0**
ZIRJ	**Zirje**	**2.15**	**357**	*e*Pn	**Pn**	**22 22 38.5**	**+0.2**
ZIRJ				Sn	**Sn**	**22 23 03.2**	**-1.4**
RICI	**Ricice**	**2.22**	**26**	*i* Pn	**Pb**	**22 22 41.5**	**-1.3**
RICI				Sn	**Sn**	**22 23 06.0**	**-0.2**
SCTE	**Santa Cesarea**	**2.47**	**124**	⇑*i* Pn	**Pb**	**22 22 47.6**	**+0.6**
SCTE				*i* Sn	**Sg**	**22 23 21.5**	**-1.0**
KIJV	**Kijevo**	**2.54**	**10**	*e*Pn	**Pn**	**22 22 45.3**	**+1.8**
KIJV				Sn	**Sn**	**22 23 14.4**	**+0.3**
DUGI	**Dugi Otok**	**2.55**	**348**	*e*Pn	**Pn**	**22 22 43.9**	**+0.2**
DUGI				Sn	**Sn**	**22 23 12.9**	**-1.4**
VIRC	**Vir**	**2.84**	**349**	*e*Pn	**Pn**	**22 22 48.9**	**+1.2**
VIRC				Sn	**Sn**	**22 23 21.4**	**-0.2**

*SFS **18** 22:29:25.5, 33˚.32N×6˚.43W, h44km, ML3.7/10, ML3.7/10, MLv3.9/10*
*CNRM **18** 22:29:25.1, 33˚.25N×6˚.43W, h42km, ML2.7*
*INMG **18** 22:29:26.1±1.6, 33˚.38N×6˚.40W, h31km±13km, ML2.4, Error ellipse: s-maj=5.0km s-min=3.5km az=51.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
*IGIL **18** 22:29:26.8, 33˚.37N×6˚.41W, h28km, ML2.0*

ISC 18 22:29:24.1±1.1, 33˚.34N±0˚.03×6˚.47W±0˚.03, h35km, n52,
σ1s70/69, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**0.79**	**267**	Pg	**Pn**	**22 29 40.6**	**+1.9**
AVE	**Averroes**	**0.79**	**267**	P	**Pn**	**22 29 40.7**	**+1.9**
AVE	**Averroes**	**0.79**	**267**	S	**Sn**	**22 29 51.1**	**+1.7**
IFR	**Ifrane**	**1.14**	**81**	Pg	**Pn**	**22 29 44.1**	**+0.4**
IFR				Sg	**Sn**	**22 29 57.5**	**-0.7**
LCRM	**LCR**	**1.39**	**75**	P	**Pn**	**22 29 47.9**	**+0.7**
LCRM	**LCR**	**1.39**	**75**	S	**Sn**	**22 30 03.8**	**-0.6**
MD31	**MD31**	**1.51**	**108**	P	**Pn**	**22 29 49.6**	**+0.9**
MD31	**MD31**	**1.51**	**108**	S	**Sn**	**22 30 06.5**	**-0.8**
MDT	**Midelt**	**1.65**	**108**	P	**Pn**	**22 29 51.4**	**+0.7**
MDT	**Midelt**	**1.65**	**108**	S	**Sn**	**22 30 09.7**	**-1.0**
CHEFC	**Chefchaouen**	**1.99**	**28**	P	Pn	22 29 58.9	+3.5
CHEFC	**Chefchaouen**	**1.99**	**28**	S	**Sn**	**22 30 22.6**	**+3.4**
GOLM	**Goulmima**	**2.08**	**141**	P	**Pn**	**22 29 57.5**	**+0.9**
GOLM	**Goulmima**	**2.08**	**141**	S	**Sn**	**22 30 23.2**	**+1.9**
OUZM	**OUZ**	**2.44**	**186**	P	Pn	22 30 04.6	+3.0
TIO	**Tiouine**	**2.50**	**196**	Pn	**Pn**	**22 30 02.6**	**+0.2**
TIO				Sn	**Sn**	**22 30 30.0**	**-1.7**
TIO	**Tiouine**	**2.50**	**196**	P	**Pn**	**22 30 02.9**	**+0.5**
TIO	**Tiouine**	**2.50**	**196**	S	**Sn**	**22 30 30.1**	**-1.7**
TZRR	**Tazzarine**	**2.66**	**163**	P	**Pn**	**22 30 05.5**	**+0.8**
TZRR	**Tazzarine**	**2.66**	**163**	S	**Sn**	**22 30 36.3**	**+0.6**
PALE	**Palemas**	**2.81**	**48**	P	**Pn**	**22 30 07.9**	**+1.4**
PALE	**Palemas**	**2.81**	**48**	S	**Sn**	**22 30 40.9**	**+1.7**
TTIG	**Tnine Tigouga,**	**3.25**	**212**	P	**Pn**	**22 30 10.6**	**-2.2**
TTIG	**Tnine Tigouga,**	**3.25**	**212**	S	**Sn**	**22 30 51.8**	**+1.5**
ZGR	**Zagora**	**3.29**	**167**	P	**Pn**	**22 30 12.9**	**-0.5**
ZGR	**Zagora**	**3.29**	**167**	S	**Sn**	**22 30 49.9**	**-1.4**
TAF	**Taforalt**	**3.67**	**65**	P	**Pn**	**22 30 19.5**	**+1.0**
TAF	**Taforalt**	**3.67**	**65**	S	**Sn**	**22 31 01.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**4.07**	**343**	*e*Pn	**Pn**	**22 30 25.5**	**+1.5**
PBDV				*e*Sn	**Sn**	**22 31 10.1**	**-0.3**
PBDV				*i* AML	AML	22 31 10.2	
PBDV				*i* AML	AML	22 31 11.8	
PVAQ	**Vaqueiros**	**4.18**	**346**	*e*Pn	**Pn**	**22 30 27.2**	**+1.8**
PVAQ				*e*Sn	**Sn**	**22 31 11.9**	**-1.1**
PVAQ				*i* AML	AML	22 31 12.8	
PVAQ	**Vaqueiros**	**4.18**	**346**	Sn	**Sn**	**22 31 10.6**	**-2.3**
PVAQ				Pn	**Pn**	**22 30 26.6**	**+1.2**
ELGU	**Los Guajares,**	**4.22**	**33**	Pn	**Pn**	**22 30 26.4**	**+0.4**
ELGU				Sn	**Sn**	**22 31 12.3**	**-1.8**
PFVI	**Vila Bisbo**	**4.25**	**334**	*e*Pn	**Pn**	**22 30 28.2**	**+1.9**
PFVI				*e*Sn	**Sn**	**22 31 14.2**	**-0.4**
PFVI				*i* AML	AML	22 31 16.9	
PFVI				*i* AML	AML	22 31 47.8	
PFVI	**Vila Bisbo**	**4.25**	**334**	Pn	**Pn**	**22 30 27.8**	**+1.5**
PFVI				Sn	**Sn**	**22 31 13.0**	**-1.6**
EGRO	**El Granado**	**4.26**	**349**	Pn	**Pn**	**22 30 27.8**	**+1.2**
EGRO				Sn	**Sn**	**22 31 13.5**	**-1.6**
MORF	**Marmelete**	**4.34**	**336**	*e*P	**Pn**	**22 30 29.3**	**+1.7**
MORF	**Marmelete**	**4.34**	**336**	*e*Pn	Pn	22 30 29.6	+2.0
MORF				*e*Sn	**Sn**	**22 31 16.1**	**-0.9**
MORF				*i* AML	AML	22 31 17.9	
MORF				*i* AML	AML	22 31 18.1	
MORF				*i* AML	AML	22 31 19.1	
PCVE	**Castro Verde**	**4.47**	**344**	*e*Pn	**Pn**	**22 30 31.2**	**+1.8**
PCVE				*e*Sn	**Sn**	**22 31 19.0**	**-1.1**
PCVE				*i* AML	AML	22 31 20.4	
PCVE				*i* AML	AML	22 31 21.7	
PCVE				*i* AML	AML	22 31 22.3	
PCVE	**Castro Verde**	**4.47**	**344**	Pn	**Pn**	**22 30 30.6**	**+1.3**
PCVE				Sn	**Sn**	**22 31 19.1**	**-1.0**
PTEO	**Sao Teotonio**	**4.58**	**337**	*e*Pn	Pn	22 30 33.2	+2.3
PTEO				*e*Sn	**Sn**	**22 31 22.0**	**-0.9**
PTEO				*i* AML	AML	22 31 23.8	
PTEO				*i* AML	AML	22 31 26.8	
MESJ	**Messejana**	**4.71**	**343**	*e*P	**Pn**	**22 30 34.3**	**+1.6**
MESJ				*e*S	**Sn**	**22 31 23.5**	**-2.5**
MESJ				IAML		22 31 26.4	
comp=N,2.6nm,0.1s							
MESJ	**Messejana**	**4.71**	**343**	*e*Pn	Pn	22 30 34.6	+1.9
MESJ				*e*Sn	**Sn**	**22 31 25.0**	**-1.0**
MESJ				*i* AML	AML	22 31 26.9	
MESJ				*i* AML	AML	22 31 29.4	
MESJ				*i* AML	AML	22 31 29.4	
ECAB	**El Cabril**	**4.80**	**10**	Pn	Pn	22 30 35.9	+1.9
ECAB				Sn	**Sn**	**22 31

PCBR		*e*Sn	**Sn**	**22 32 09.0**	**-2.0**
PCBR		*i* AML	AML	22 32 09.5	
PCBR		*i* AML	AML	22 32 09.6	
PCBR		*i* AML	AML	22 32 09.7	

TEH ***18*** *22:32:27.8, 34°.26N×45°.60E, h8km±63km*
ISN ***18*** *22:32:28.4±1.3, 34°.26N×45°.56E, h17km±45km, ML2.8*
ISC 18 22:32:28.1±1.0,**34°.26N**±0°.03×**45°.59E**±0°.04,**h11**km±11km, **n11**,σ0∓**50**/16,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**359**	Pg	**Pg**	**22 32 33.0**	**-0.2**
KGS1				Sg	**Sg**	**22 32 37.2**	**+0.6**
IDHR	**Dehrash**	**0.79**	**56**	Pg	**Pg**	**22 32 42.3**	**-1.1**
IGHG	**Ghaleghazi**	**0.81**	**85**	Pg	**Pg**	**22 32 44.0**	**+0.2**
IGHG				Sg	**Sb**	**22 32 55.9**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.82**	**141**	Pg	**Pg**	**22 32 43.5**	**-0.4**
IBDR	**Badra**	**1.19**	**166**	*e*Pg	**Pg**	**22 32 51.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**22 33 06.0**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.20**	**89**	Pg	**Pn**	**22 32 51.0**	**0.0**
ILIN	**Lien**	**1.31**	**60**	Pg	**Pn**	**22 32 52.7**	**+0.2**
BHD	**Baghdad**	**1.41**	**226**	*e*Pn	**Pg**	**22 32 55.0**	**-0.3**
BHD				*e*Sn	**Sg**	**22 33 14.0**	**+0.4**
IKRK	**Kirkuk**	**1.53**	**318**	*e*Pn	**Pb**	**22 32 56.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**22 33 18.0**	**+0.6**
IKRK	comp=N,172nm,0.0s			AML	AML	22 33 20.9	
IKRK	comp=E,113nm,0.6s			AML	AML	22 33 22.0	
SNQR	**Sonqor, Kerman**	**1.78**	**70**	Pg	**Pb**	**22 33 01.0**	**0.0**
IKFM	**Kafar-mosalman**	**2.02**	**111**	Pn	**Pb**	**22 33 04.5**	**-0.3**

DJA 18 22:37:06.4±0.6,**10°S**±4°×**11°3E**±°,**h11**km±5km,**M3.8**/18, **mb4.1**/1,**MLv3.7**/18,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.48**	**23**	P	Pn	22 37 31.4	-1.7
GMJI				S	Sn	22 37 50.7	-1.8
JAGI	**Jajag, Banyuwa**	**1.73**	**48**	P	Pn	22 37 36.3	-0.2
JAGI				S	Sn	22 37 57.2	-1.4
PWJI	**Pagerwojo**	**1.93**	**327**	P	Pn	22 37 38.8	-0.3
PCJI	**Pacitan**	**2.20**	**311**	P	Pn	22 37 42.2	-0.8
PCJI				S	Sn	22 38 11.0	+0.8
ABJI	**Asem Bagus**	**2.29**	**37**	P	Pn	22 37 44.7	+0.6
ABJI				S	Sn	22 38 13.1	+0.8
DNP	**Denpasar**	**2.51**	**68**	P	Pn	22 37 46.9	-0.3
DNP				S	Sn	22 38 18.6	+0.7
NGJI	**Ngawi**	**2.66**	**329**	P	Pn	22 37 49.9	+0.7
NGJI				S	Sn	22 38 23.0	+1.6
GRJI	**Gresik**	**2.74**	**352**	P	Pn	22 37 51.6	+1.2
GRJI				S	Sn	22 38 24.6	+1.0
SRBI	**Singaraja**	**2.80**	**56**	P	Pn	22 37 51.4	+0.3
SRBI				S	Sn	22 38 24.5	-0.4
KMMI	**Kalianget**	**2.81**	**23**	P	Pn	22 37 51.7	+0.5
KMMI				S	Sn	22 38 26.9	+1.8
UGM	**Wanagama**	**2.88**	**307**	P	Pn	22 37 51.3	-1.1
UGM				S	Sn	22 38 28.4	+1.3
TBJI	**Tambak Boyo**	**2.99**	**340**	P	Pn	22 37 54.0	+0.3
KPJI	**Karang Pucung**	**4.52**	**300**	P	Pn	22 38 15.4	+0.6
CMJI	**Cimerak**	**4.74**	**293**	P	Pn	22 38 17.9	+0.1
PLAI	**Plampang**	**4.92**	**81**	P	Pn	22 38 21.5	+1.1
PLAI				S	Sn	22 39 18.4	+1.0
CGJI	**Cibinong**	**7.71**	**292**	P	Pn	22 38 58.8	+0.1

NEIC ***18*** *22:55:26.9±1.9, 35°.130N±0°.010×97°.86W±0°.01, h7km±5km, Error ellipse: s-maj=1.8km s-min=1.3km az=52.0*
NEIC 18 22:55:26.0±1.4,**35°.10N**±0°.01×**97°.87W**±0°.02,**h12**km±7km, **mb_Lg2.2**/14,**ML2.4**/34,**ML2.7**/19,**Error ellipse: s-maj=2.2km s-min=2.1km az=122.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.41**	**67**	Pg	Pb	22 55 34.8	-0.4
FNO				Sg	Sb	22 55 40.7	-0.7
FNO	comp=N,191nm,0.3s			IAML		22 55 41.0	
X34A	**Smith Ranch, M**	**0.50**	**177**	Pg	Pb	22 55 37.0	+0.4
X34A				Sg	Sg	22 55 41.0	-1.3
X34A	comp=N,284nm,0.5s			IAML		22 55 46.1	
X34A	comp=E,139nm,0.3s			IAML		22 55 52.7	
OK004	**Okla Sci Mus**	**0.53**	**37**		Pg	22 55 36.4	0.0
W35A	**Tecumseh**	**0.81**	**86**	Pg	Pg	22 55 41.4	-0.3
W35A				Sg	Sb	22 55 52.9	-0.1
W35A	comp=E,101nm,0.3s			IAML		22 55 53.3	
W35A	comp=N,101nm,0.3s			IAML		22 56 03.4	
WMOK	**Wichita Mounta**	**0.83**	**245**	Pg	Pg	22 55 42.0	-0.1
WMOK				Sg	Sg	22 55 53.0	0.0
CSTR	**Hydro, Custer**	**0.87**	**309**	Pg	Pg	22 55 42.8	+0.1
OK031	**S. Brethren Rd**	**1.20**	**44**	Pg	Pn	22 55 47.5	-1.0
OK031				Sg	Sb	22 56 04.2	+0.2
OK031	comp=N,98nm,0.1s			IAML		22 56 10.2	
DEOK	**Depew**	**1.34**	**56**	Pn	Pb	22 55 51.1	+0.1
DEOK				IAML		22 56 12.3	
CROK	**Carrier**	**1.41**	**356**	Pn	Pn	22 55 51.7	+0.2
WTFS	**Witchita Falls**	**1.42**	**201**	Pn	Pn	22 55 51.9	+0.4
QUOK	**Quay**	**1.43**	**41**	Pn	Pn	22 55 51.6	-0.1
OK038	**West end E0370**	**1.55**	**333**	Pn	Pb	22 55 54.0	-0.6
ELIS	**Ellis County**	**1.59**	**308**	Pn	Pb	22 55 54.8	-0.5
OK051	**E0350 and S346**	**1.64**	**30**	Pn	Pb	22 55 55.4	-0.6
BLOK	**Blackwell**	**1.74**	**17**	Pn	Pn	22 55 56.8	+0.8
NOKA	**Waynoka**	**1.76**	**331**	Pn	Pn	22 55 56.8	+0.5
KAN14	**Manchester OK**	**1.86**	**358**	Pn	Pn	22 55 58.4	+0.8
KAN13	**South Haven SW**	**1.94**	**9**	Pn	Pn	22 55 59.2	+0.5
KAN17	**Caldwell West**	**1.94**	**2**	Pn	Pn	22 55 59.9	+1.1
SMWD	**Samnorwood**	**1.95**	**271**	Pn	Pb	22 56 00.3	-1.2
SMWD	comp=Z,16nm,1.0s			IAmb_Lg		22 56 31.8	
KAN05	**Bluff City Nor**	**2.01**	**360**	Pn	Pn	22 56 00.9	+1.2
KAN09	**Caldwell North**	**2.04**	**6**	Pn	Pb	22 56 01.7	-1.4
KAN01	**Argonia South**	**2.05**	**2**	Pn	Pn	22 56 01.5	+1.2
KAN01	comp=Z,45nm,1.3s			IAmb_Lg		22 56 34.2	
FW03	**Perrin-Whitt E**	**2.06**	**185**	Pn	Pn	22 56 01.1	+0.7
FW06	**Azle**	**2.13**	**173**	Pn	Pn	22 56 01.7	+0.3
FW06	comp=Z,13nm,1.0s			IAmb_Lg		22 56 39.8	
PLPT	**Palo Pinto**	**2.31**	**189**	IAmb_Lg		22 56 43.9	
AMTX	**Amarillo**	**3.14**	**267**	Pn	Pn	22 56 15.8	+0.5
AMTX	comp=Z,7.9nm,0.8s			IAmb_Lg		22 57 04.5	
HHAR	**Hobbs**	**3.41**	**69**	Pn	Pn	22 56 20.3	+1.4
HHAR	comp=Z,6.4nm,0.8s			IAmb_Lg		22 57 21.2	
MIAR	**Mount Ida**	**3.57**	**98**	Pn	Pn	22 56 22.4	+1.3
BRDY	**Brady**	**3.92**	**194**	Pn	Pn	22 56 28.1	+2.2
X40A	**Basin Creek Fa**	**4.18**	**97**	Pn	Pn	22 56 30.4	+0.9
WHAR	**Wooly Hollow**	**4.57**	**86**	Pn	Pn	22 56 37.0	+2.1
OZNA	**Ozona**	**4.99**	**214**	Pn	Pn	22 56 41.2	+0.6
SAND	**Sanderson**	**6.26**	**216**	Pn	Pn	22 56 58.5	+0.3

DJA 18 22:59:44.2±0.9,**10°S**±5°×**11°3E**±°,**h24**km±10km,**M3.6**/18, **mb3.6**/1,**MLv3.6**/18,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.40**	**26**	P	Pn	23 00 06.7	-1.5
GMJI				S	Sn	23 00 26.1	+0.2
JAGI	**Jajag, Banyuwa**	**1.68**	**51**	P	Pn	23 00 11.7	-0.5
JAGI				S	Sn	23 00 33.2	+0.2
PCJI	**Pacitan**	**2.11**	**309**	P	Pn	23 00 17.4	-0.6
PCJI				S	Sn	23 00 44.4	+0.9
ABJI	**Asem Bagus**	**2.22**	**39**	P	Pn	23 00 20.3	+0.8
ABJI				S	Sn	23 00 46.2	0.0
DNP	**Denpasar**	**2.50**	**70**	P	Pn	23 00 23.7	+0.3
NGJI	**Ngawi**	**2.55**	**328**	P	Pn	23 00 23.5	-0.6
GRJI	**Gresik**	**2.63**	**352**	P	Pn	23 00 24.2	-1.0
KMMI	**Kalianget**	**2.72**	**25**	P	Pn	23 00 27.1	+0.7
SRBI	**Singaraja**	**2.76**	**59**	P	Pn	23 00 27.9	+0.9
UGM	**Wanagama**	**2.80**	**305**	P	Pn	23 00 28.0	+0.5
TBJI	**Tambak Boyo**	**2.87**	**340**	P	Pn	23 00 28.7	+0.2
KPJI	**Karang Pucung**	**4.44**	**299**	P	Pn	23 00 49.7	-0.3
CMJI	**Cimerak**	**4.67**	**292**	P	Pn	23 00 53.6	+0.3
PLAI	**Plampang**	**4.94**	**82**	P	Pn	23 00 56.9	0.0

IDC 18 23:07:20.3±52.0,**35°.48S**×**54°.08E**,**h0**km,**mb3.7**/3, **mbtmp3.7**/3,**MS3.2**/2,**Error ellipse: s-maj=1398.0km s-min=72.7km az=75.0,South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.82**	**189**	T	T	23 20 30.2	
	baz=8.8,slow=75,SNR=1559						
H04N2	**CROZET ISLANDS**	**10.82**	**188**	T	T	23 20 28.2	
	baz=8.8,slow=75,SNR=1281						
H04N3	**CROZET ISLANDS**	**10.83**	**189**	T	T	23 20 24.7	
	baz=8.8,slow=75,SNR=1258						
BOSA	**Boshof**	**25.32**	**278**	LR	LR	23 20 46.1	
	comp=Z,72nm,18.1s,baz=174,slow=32						
LBTB	**Lobatse**	**26.64**	**285**	LR	LR	23 22 08.2	
	comp=Z,39nm,19.2s,baz=144,slow=33						
H08S1	**Diego Carcia H**	**32.43**	**36**	T	T	23 48 43.3	
	baz=208,slow=76,SNR=21						
H08S2	**Diego Garcia H**	**32.44**	**36**	T	T	23 48 48.1	
	baz=208,slow=76,SNR=6.2						
H08S3	**Diego Garcia H**	**32.45**	**36**	T	T	23 48 34.9	
	baz=208,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**48.39**	**108**	T	T	00 08 05.8	
	baz=251,slow=75,SNR=8.9						
H01W3	**Cape Leeuwin H**	**48.40**	**108**	T	T	00 08 07.3	
	baz=251,slow=75,SNR=7.5						
H01W1	**Cape Leeuwin H**	**48.41**	**108**	T	T	00 08 08.2	
	baz=251,slow=75,SNR=7.8						
CMAR	**Chiang Mai Arr**	**68.45**	**46**	P	P	23 18 24.3	0.0
	0.2nm,0.3s,baz=198,slow=7.2,SNR=1.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**68.72**	**104**	P	P	23 18 26.6	+0.4
	0.3nm,0.5s,baz=232,slow=6.4,SNR=4.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**70.98**	**101**	P	P	23 18 39.9	-0.2
	0.9nm,0.8s,baz=231,slow=5.5,SNR=6.2						
	0.9nm,0.8s						

NEIC ***18*** *23:16:11.3±2.9, 43°.69N±0°.05×105°.42W±0°.07, h0km±1km, ML2.6/22, Error ellipse: s-maj=10.1km s-min=6.7km az=133.0*
IDC ***18*** *23:16:13.9±2.2, 43°.74N×105°.71W, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=58.1km s-min=10.7km az=150.0*
ISC 18 23:16:09.6±1.2,**43°.76N**±0°.05×**105°.59W**±0°.06,**h0**km,**n16**, σ2∓**01**/15,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.18**	**72**		**Pn**	**23 16 32.4**	**-1.2**
RSSD	**Black Hills**	**1.18**	**72**		**Pn**	**23 16 32.5**	**-1.1**
K22A	**Casper**	**1.30**	**212**		**Pn**	**23 16 37.9**	**+2.7**
K22A				IAML		23 17 01.5	
K22A	comp=N,92nm,0.3s			IAML		23 17 01.6	
K22A	comp=E,78nm,0.2s						
N23A	**Red Feather La**	**2.88**	**185**	Pn	**Pb**	**23 17 00.2**	**-1.7**
N23A				IAML		23 18 11.0	
N23A	comp=N,17nm,3.8s						
LAO	**LASA Array**	**2.96**	**352**	Pn	**Pb**	**23 17 02.0**	**-1.2**
RLMT	**Red Lodge**	**2.96**	**299**	Pn	**Pb**	**23 17 01.4**	**-1.9**
RLMT				IAML		23 18 13.4	
RLMT	comp=N,12nm,5.0s						
PD31	**Pinedale Array**	**3.06**	**252**	Pn	**Pb**	**23 17 04.4**	**-0.7**
PDAR	**Pinedale Array**	**3.06**	**252**	Pn	**Pb**	**23 17 04.2**	**-0.9**
PDAR	**Pinedale Array**	**3.06**	**252**	Pn	**Pb**	**23 17 05.2**	**+0.1**
	comp=N,0.6nm,0.3s,baz=71,slow=16,SNR=9.2						
PDAR				Lg	Lg	23 17 47.6	
	comp=N,1.6nm,0.3s,baz=69,slow=34,SNR=3.0						
	comp=N,0.7nm,0.3s						
YNE	**Yellowstone No**	**3.40**	**293**	Pn	**Pb**	**23 17 09.1**	**-1.8**
YNE				IAML		23 18 10.4	
YNE	comp=E,9.8nm,1.6s						
YNE				IAML		23 18 21.5	
YNE	comp=N,13nm,4.3s						
YMP	**Mirror Lake Pl**	**3.42**	**288**	Pn	**Pb**	**23 17 10.0**	**-1.2**
YMP				IAML		23 17 36.5	
YMP	comp=E,18nm,4.5s						
YMP				IAML		23 18 19.3	
YMP	comp=N,17nm,4.5s						
GCMT	**Greycliff**	**3.54**	**306**		**Pn**	**23 17 08.0**	**+2.1**
LOHW	**Long Hollow**	**3.64**	**269**		**Pn**	**23 17 09.0**	**+1.7**
LOHW				IAML		23 17 43.6	
LOHW	comp=N,13nm,5.0s						
LOHW				IAML		23 18 29.2	
LOHW	comp=N,9.8nm,5.0s						
OGNE	**Ogallala**	**3.86**	**136**	Pn	**Pn**	**23 17 11.7**	**+1.5**
I10CA	**LAC DU BONNET**	**9.17**	**42**	I	I	00 12 40.0	
	baz=224,slow=336,SNR=1.3						
ULM	**Lac du Bonnet**	**9.28**	**42**	Pn	**Pn**	**23 18 28.5**	**+3.9**
	comp=N,0.2nm,0.3s,baz=230,slow=10,SNR=2.1						
ULM				Lg	Lg	23 21 01.4	
	comp=N,0.1nm,0.3s,baz=304,slow=19,SNR=1.6						
	comp=N,0.7nm,0.4s						

NEIC ***18*** *23:17:57.6±0.8, 19°.37N±0°.01×155°.072W±0°.009, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.4km az=155.0*
HVO 18 23:17:57.3±0.6,**19°.38N**±0°.01×**155°.07W**±0°.01,**h6**km±3km, **ML2.5**/31,**ML2.5**/38(NEIC),**Error ellipse: s-maj=2.0km s-min=0.7km az=141.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.06**	**278**	Pg	Pg	23 17 59.1	+0.1
STCH				Sg	Sg	23 18 00.8	+0.6
JOKA	**Jonika Flow**	**0.08**	**47**	Pg	Pg	23 17 59.3	0.0
JOKA				Sg	Sg	23 18 01.0	+0.3
JOKA	comp=N,4μm,0.6s			IAML		23 18 01.7	
KNHH	**Kane Nui o Ham**	**0.10**	**271**		Pg	23 17 59.8	+0.2
PUH	**Pauahi**	**0.14**	**268**		Pg	23 18 00.5	+0.2
PUH					Sg	23 18 02.9	+0.5
PAH	**Pahoa**	**0.16**	**44**		Pg	23 18 00.7	0.0
PAH				Sg	Sg	23 18 03.3	+0.4
BYL	**Byron's Ledge**	**0.18**	**281**		Pg	23 18 00.3	-0.8
BYL	**Byron's Ledge**	**0.18**	**281**		Sg	23 18 04.4	+0.8
BYL	**Byron's Ledge**	**0.18**	**281**	IAML		23 18 07.7	
BYL	comp=E,809nm,0.4s			IAML		23 18 07.7	
BYL	comp=N,696nm,0.4s						
HATHI	**Halema'uma'u T**	**0.19**	**284**		Pg	23 18 00.6	-0.5
HATHI					Sg	23 18 04.3	+0.5
HATHI				IAML		23 18 07.2	
HATHI	comp=N,857nm,0.2s						
KKO	**Keanakako'i**	**0.19**	**276**		Pg	23 18 01.5	+0.3
KKO					Sg	23 18 04.5	+0.8
SBLHI	**Steaming Bluff**	**0.20**	**285**		Pg	23 18 01.4	+0.1
RIM	**Rim**	**0.20**	**275**		Pg	23 18 01.6	+0.3
RIM					Sg	23 18 04.7	+0.7
UWB	**Uwekahuna Bluf**	**0.20**	**283**		Pg	23 18 01.6	+0.1
SDHHI	**Sand Hill**	**0.21**	**273**		Pg	23 18 01.8	+0.2
RSD	**Rainshed**	**0.22**	**293**		Pg	23 18 02.0	+0.3
RSD					Sg	23 18 05.2	+0.6
RSD	**Rainshed**	**0.22**	**293**	IAML		23 18 06.2	
RSD	comp=N,1μm,0.3s			IAML		23 18 07.8	
RSD	comp=E,803nm,0.2s						
UWE	**Uwekahuna**	**0.22**	**281**		Pg	23 18 01.9	+0.2
UWE	**Uwekahuna**	**0.22**	**281**	IAML		23 18 07.2	
UWE	comp=N,585nm,1.5s			IAML		23 18 07.5	
UWE	comp=E,694nm,0.4s						
WRMHI	**West Rim**	**0.22**	**277**		Pg	23 18 02.0	+0.2
WRMHI					Sg	23 18 05.6	+0.8
HLP	**Hilina Pali**	**0.24**	**250**		Pg	23 18 02.5	+0.4
HLP					Sg	23 18 06.6	+1.3
HLP	**Hilina Pali**	**0.24**	**250**	IAML		23 18 08.3	
HLP	comp=E,1μm,0.1s			IAML		23 18 08.3	
HLP	comp=N,1μm,0.1s						
MLH	**Mauna Loa**	**0.32**	**291**		Pg	23 18 04.1	+0.3
MLH					Sg	23 18 09.4	+1.4
MLH	**Mauna Loa**	**0.32**	**291**	IAML		23 18 12.2	
MLH	comp=N,894nm,0.1s			IAML		23 18 12.4	
MLH	comp=E,581nm,0.2s						
HTC	**Hot Caves**	**0.34**	**246**		Pg	23 18 04.9	+0.9
KHU	**Kahuku**	**0.53**	**256**		Sg	23 18 15.0	+0.4
KHU	**Kahuku**	**0.53**	**256**		Pg	23 18 07.2	-0.5
KHU				IAML		23 18 15.7	
KHU	comp=E,236nm,0.2s **Kahuku**	**0.53**	**256**	IAML		23 18 14.8	
	comp=N,370nm,4.1s						
ALEP	**Alea Permanent**	**0.57**	**287**		Pg	23 18 07.8	-0.5
ALEP					Sg	23 18 16.1	+0.2
POHA	**Pohakuloa**	**0.58**	**311**		Pg	23 18 08.0	-0.5
POHA				IAML		23 18 16.6	
	comp=N,328nm,0.7s						
POHA				IAML		23 18 26.6	
	comp=N,243nm,1.3s						
HUH	**Hualalai**	**0.79**	**293**		Pg	23 18 12.5	0.0

MOS ***18*** *23:38:05.8±1.2, 19°.37N×64°.98W, h28km, mb5.1/49, Error ellipse: s-maj=6.6km s-min=5.2km az=122.1*
IDC ***18*** *23:38:05.5±3.6, 19°.32N×64°.93W, h12km±22km, mb4.5/34, mbtmp4.6/38, ML4.3/4, MS4.5/70, Error ellipse: s-maj=10.6km s-min=9.4km az=113.0*
OSPL ***18*** *23:38:05.4±2.8, 19°.70N×64°.67W, h24km±72km, ML5.1, Hypocentre not reviewed by the ISC*
RSNC ***18*** *23:38:05.7±1.0, 20°.N±5°×6°.5W±°, h10km±8km, M5.0, mb5.4, mB5.5, ML4.4, Mw(mB)5.2, MwMwp5.0, Mwp5.3, Hypocentre not reviewed by the ISC*
NEIC ***18*** *23:38:05.5±1.5, 19°.43N±0°.05×64°.94W±0°.03, h10km±3km, mb5.0/486, ML5.0/50, Mww4.8/12, Md4.8/17(RSPR), Error ellipse: s-maj=7.0km s-min=4.3km az=158.0*
RSPR ***18*** *23:38:06.8, 19°.49N×64°.89W, h87km±10km, MD4.8/17*
GCMT ***18*** *23:38:09.5±0.2, 19°.54N±0°.01×64°.94W±0°.01, h24km, MW5.1/129, Moment Tensor Solution. s53,c73; s129,c188; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}3.34±.20; $M_{\theta\theta}$-3.42±.13; $M_{\phi\phi}$0.08±.12; $M_{r\theta}$-2.06±.15; $M_{\theta\phi}$2.97±.08; $M_{\phi r}$3.56±.19; Best double couple: $M_0$6.05200×10^16^ NP1:φs90.00000°, δ32.00000°, λ41.00000°. NP2:φs324.00000°, δ70.00000°, λ115.00000°. Principal axes: T 5.6290, Plg58.0000°, Azm268.0000°; N 0.8510, Plg23.0000°, Azm135.0000°; P -6.4750, Plg21.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
INMG ***18*** *23:38:11.0±6.3, 19°.02N×65°.01W, h10km, mb5.3, MW5.0, #DIST_RANGE: DISTANT*
ISC 18 23:38:07.7±0.5,**19°.36N**±0°.03×**65°.01W**±0°.03,**h31**km±3km, **n874**,σ1∓**47**/809,**mb5.0**/292,**MS4.6**/67,**43C-13D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.45**	**213**		**Pn**	**23 38 32.3**	**+0.5**
HUMP				Sn	**Sb**	**23 38 52.8**	**+0.6**
HUMP	comp=E,11μm,0.8s			IAML		23 38 57.0	
HUMP	**Col San Antoni**	**1.45**	**213**‖	*e*P	**Pn**	**23 38 32.4**	**+0.6**
HUMP	**Col San Antoni**	**1.45**	**213**	*e*S	**Sb**	**23 38 53.7**	**+1.5**
GCPR	**Guaynabo City**	**1.46**	**224**		**Pn**	**23 38 32.2**	**+0.3**
GCPR				Sn	**Sn**	**23 38 51.1**	**+1.1**
GCPR	**Guaynabo City**	**1.46**	**224**‖	*e*P	**Pn**	**23 38 32.7**	**+0.7**
GCPR	**Guaynabo City**	**1.46**	**224**	*e*S	**Sb**	**23 38 53.9**	**+1.5**
PDPR	**Patillas Dam,**	**1.65**	**216**		**Pn**	**23 38 35.1**	**+0.6**
PDPR				Sn	**Sn**	**23 38 55.4**	**+0.8**
PDPR	**Patillas Dam,**	**1.65**	**216**‖	*e*P	**Pn**	**23 38 35.5**	**+1.0**
PDPR	**Patillas Dam,**	**1.65**	**216**	*e*S	**Sb**	**23 38 59.0**	**+1.2**
SJG	**San Juan**	**1.65**	**221**		**Pn**	**23 38 35.1**	**+0.6**
SJG				Sn	**Sb**	**23 38 58.7**	**+0.9**
SJG	comp=E,9μm,0.6s			IAML		23 39 03.6	
SJG	**San Juan**	**1.65**	**221**	Pn	**Pn**	**23 38 35.1**	**+0.6**
	comp=E,374nm,0.3s,baz=59,slow=11,SNR=612						
SJG				Sn	**Sn**	**23 38 56.2**	**+1.5**
SJG	comp=E,793nm,0.3s,baz=245,slow=11,SNR=14			LR	LR	23 39 30.0	
SJG	comp=E,18μm,19.5s,baz=1.5,slow=51						
SJG	**San Juan**	**1.65**	**221**	*e*	**Pn**	**23 38 35.2**	**+0.6**
SJG	**San Juan**	**1.65**	**221**‖	*e*P	**Pn**	**23 38 35.5**	**+1.0**
SJG	**San Juan**	**1.65**	**221**	*e*S	**Sb**	**23 38 58.8**	**+0.9**
ECPR	**Experimental S**	**1.65**	**231**‖	*e*P	**Pn**	**23 38 35.6**	**+1.1**
ECPR	**Experimental S**	**1.65**	**231**	*e*S	**Sb**	**23 38 59.8**	**+1.9**
EMPR	**Esperanza - Ma**	**1.69**	**239**		**Pn**	**23 38 36.2**	**+1.2**
EMPR					**Sb**	**23 38 58.1**	**-0.8**
EMPR	comp=N,16μm,0.7s			IAML		23 39 09.2	
EMPR	comp=E,20μm,0.8s			IAML		23 39 11.8	
EMPR	**Esperanza - Ma**	**1.69**	**239**‖	*e*P	**Pn**	**23 38 36.4**	**+1.3**
EMPR	**Esperanza - Ma**	**1.69**	**239**	*e*S	**Sb**	**23 38 59.9**	**+1.0**
IGPR	**InterUniversit**	**1.73**	**217**		**Pn**	**23 38 35.9**	**+0.2**
IGPR					**Sb**	**23 38 59.9**	**-0.4**
IGPR	comp=E,11μm,0.3s			IAML		23 39 03.6	
IGPR	comp=N,10μm,0.3s			IAML		23 39 10.0	
IGPR	**InterUniversit**	**1.73**	**217**‖	*e*P	**Pn**	**23 38 36.8**	**+1.0**
IGPR	**InterUniversit**	**1.73**	**217**	*e*S	**Sb**	**23 39 01.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.94**	**239**		**Pn**	**23 38 39.0**	**+0.5**
AOPR	comp=N,11μm,0.6s			IAML		23 39 20.6	
AOPR	**Arecibo Observ**	**1.94**	**239**		**Sb**	**23 39 08.5**	**+2.4**
AOPR	**Arecibo Observ**	**1.94**	**239**	*e*S	**Sb**	**23 39 08.5**	**+2.4**
AOPR	**Arecibo Observ**	**1.94**	**239**‖	*e*P	**Pn**	**23 38 39.6**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.96**	**236**		**Pn**	**23 38 39.5**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.96**	**236**	*e*S	**Sb**	**23 39 09.4**	**+2.6**
UUPR	**Utuado, UPR, P**	**1.96**	**236**‖	*e*P	**Pn**	**23 38 40.0**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.96**	**236**	*e*S	**Sb**	**23 39 09.4**	**+2.6**
CELP	**Cerrillos**	**1.96**	**230**		**Sb**	**23 39 06.3**	**-0.5**
CELP	**Cerrillos**	**1.96**	**230**		**Pn**	**23 38 40.0**	**+1.1**
CELP	comp=E,7μm,0.8s			IAML		23 39 13.4	
CELP	**Cerrillos**	**1.96**	**230**‖

SEUS St. Eustatius 2.67 134 Pn 23 38 48.3 -0.4
SEUS IAML 23 39 36.8
comp=N,7µm,0.8s
SEUS IAML 23 39 37.8
comp=E,5µm,1.2s
SKI Saint Kitts 2.95 133 *e* **Pn 23 38 52.5 -0.1**
SKOC St. Kitts, UWI 2.98 133 *e* **Pn 23 38 53.0 0.0**
PCDR Punta Cana, DR 3.30 256 Pn 23 38 57.7 +0.4
PCDR IAML 23 40 24.2
comp=N,4µm,0.9s
PCDR Punta Cana, DR 3.30 256⇑ *eP* **Pn 23 38 58.7 +1.4**
PCDR Punta Cana, DR 3.30 256 *i* P 23 38 58.6
PCDR IAML 23 39 55.2
comp=Z,2µm,1.7s
ANWB Willy Bob 3.49 118 Pn 23 38 58.4 -1.6
ANWB IAML 23 40 00.6
comp=Z,2µm,1.3s
ANWB IAML 23 40 14.0
comp=Z,3µm,1.8s
ANWB Willy Bob 3.49 118 *e* **Pn 23 38 58.9 -1.1**
ANWB Willy Bob 3.49 118 P 23 38 58.7
HIDR Higuey Centro 3.59 258⇑ *eP* **Pn 23 39 01.9 +0.6**
HIDR Higuey Centro 3.59 258 *eS* **Sn 23 39 45.5 +2.8**
MBFL Flemmings, Mon 3.72 134 *e* **Pn 23 39 02.2 -0.9**
MBWH 3.74 134 *e* **Pn 23 39 01.7 -1.6**
ANBD Bethesda, Anti 3.85 126 *e* **Pn 23 39 02.5 -2.2**
DR12 Loma Pena Alta 4.17 263 Pn **Pn 23 39 09.5 +0.1**
GDHS Morne Mazeau, 4.36 134 Pn **Pn 23 39 11.1 -0.8**
ABD La Joyeuse, An 4.41 130 Pn 23 39 12.3 -0.3
ABD IAML 23 40 20.0
comp=N,2µm,1.6s
ABD IAML 23 40 56.7
comp=E,2µm,2.5s
ABD La Joyeuse, An 4.41 130⇑ *eP* **Pn 23 39 12.6 +0.1**
ABD La Joyeuse, An 4.41 130 *eS* **Sn 23 40 01.6 -1.4**
CBE Ff, Capester 4.61 135 Pn 23 39 13.6 -1.7
CBE Ff, Capester 4.61 135⇑ *eP* **Pn 23 39 15.3 +0.1**
SDD Santo Domingo 4.73 260 Pn 23 39 17.5 +0.5
SDD IAML 23 40 34.9
comp=E,2µm,1.4s
SDD Santo Domingo 4.73 260 *i* P 23 39 18.9
TBG Guadaloupe-3 4.74 137 *e* **Pn 23 39 16.8 -0.3**
TDBA Terre de Bas, 4.75 137 Pn 23 39 16.5 -0.7
TDBA IAML 23 40 46.7
comp=E,1µm,1.8s
TDBA IAML 23 40 49.5
comp=N,2µm,1.1s
GDSD La Dsirade Is 4.83 128 Pn 23 39 16.3 -2.0
GDSD IAML 23 40 39.6
comp=N,1µm,1.8s
GDSD IAML 23 40 40.2
comp=E,1µm,1.7s
MAGL Barre de l'ile 4.91 133 Pn 23 39 18.6 -0.9
MAGL IAML 23 40 34.1
comp=E,2µm,2.0s
BANI BANI 5.16 260 Pn 23 39 24.6 +1.6
DSLB Salisbury 5.19 138 *e* **Pn 23 39 20.1 -3.2**
MDN Morne-Daniel 5.30 139 *e* **Pn 23 39 24.2 -0.6**
SC01 Santiago de Io 5.40 272 Pn 23 39 27.2 +1.1
SC01 Santiago de Io 5.40 272 *i* P 23 39 28.1
SC01 IAML 23 40 45.6
comp=Z,882nm,0.6s
SVN Savane Anatole 5.80 140 Pn 23 39 33.7 +1.9
SVN Savane Anatole 5.80 140 *e* **Pn 23 39 35.5 +3.7**
FDF Fort de France 5.90 141 Pn 23 39 33.2 +0.1
FDF Fort de France 5.90 141 P **Pn 23 39 33.2 +0.1**
SDDR Presa de Saban 5.95 267 Pn **Pn 23 39 35.2 +1.4**
SDDR Presa de Saban 5.95 267 *eP* **Pn 23 39 35.1 +1.4**
SDDR *eS* **Sn 23 40 41.9 +1.0**
SDDR Presa de Saban 5.95 267 *e* **Pn 23 39 35.9 +2.2**
SDDR Presa de Saban 5.95 267 *i* P 23 39 35.7
SDDR *eS* 23 40 40.9
SDDR IAML 23 40 47.1
comp=Z,447nm,0.4s
SDDR Presa de Saban 5.95 267 P 23 39 35.1
comp=Z,5µmcomp=Z,14µmcomp=Z,1µm,0.5s
PODR Polo 6.06 260 *i* P 23 39 38.1
PODR *eS* 23 40 47.0
BIM Bigot 6.12 141 Pn 23 39 36.4 +0.4
BIM Bigot 6.12 141 *e* **Pn 23 39 36.4 +0.4**
GRTK Grand Turk 6.13 291 Pn **Pn 23 39 35.1 -1.0**
GRTK Grand Turk 6.13 291 *eP* **Pn 23 39 34.2 -2.0**
GRTK *e* 23 39 36.7
baz=117,slow=22
GRTK *eS* **Sn 23 40 40.3 -5.0**
GRTK Grand Turk 6.13 291 *i* P 23 39 34.0
GRTK *eS* 23 40 39.7
GRTK IAML 23 40 44.5
comp=Z,205nm,0.3s
GRTK Grand Turk 6.13 291 P 23 39 33.9
comp=Z,5µmcomp=Z,223nm,0.6s
LONE3 El Aguacate, B 6.15 264 *i* P 23 39 38.7
LONE3 IAML 23 40 58.6
comp=Z,274nm,0.6s
LODU1 El Espartillar 6.20 262 *i* P 23 39 40.0
LODU1 IAML 23 41 04.6
comp=Z,552nm,0.5s
LOVI El Cajuil, Ovi 6.23 257 *i* P 23 39 38.6
LOVI IAML 23 41 00.7
comp=Z,424nm,0.4s
MPOM Morne Pois Mar 6.30 140 Pn 23 39 38.8 +0.3
LOBH Bahia de las A 6.46 258 *i* P 23 39 42.4
LOBH *eS* 23 40 53.0
LOBH IAML 23 41 10.5
comp=Z,433nm,0.7s
SLBI Saint Lucia, B 6.57 143 *e* **Pn 23 39 42.7 +0.5**
SLAC Saint Lucia, A 6.71 143 *e* **Pn 23 39 47.0 +2.8**
PAPH Port-au-Prince 6.95 264 Pn **Pn 23 39 48.1 +0.6**
PAPH Port-au-Prince 6.95 264 *eP* **Pn 23 39 49.5 +2.0**
PAPH *eS* **Sn 23 41 11.1 +5.5**
PAPH Port-au-Prince 6.95 264 *i* P 23 39 49.4
SVB Belmont 7.05 149 *e* **Pn 23 39 48.7 -0.1**
SVT Saint Vincent 7.14 149 *e* **Pn 23 39 51.3 +1.2**
GCMP Grenada, Carri 7.66 153 *e* Pn 23 40 05.4 +8.2
HATO Hato, Curacao 8.09 209 Pn 23 40 05.5 +2.4
BBGH Gun Hill 8.10 139 *e* Pn 23 40 09.0 +5.7
BBGH Gun Hill 8.10 139 P 23 40 05.1
comp=Z,7µmcomp=Z,558nm,1.7s
MASC Masc 8.72 277 *eP* **Pn 23 40 09.2 -2.6**
MASC *eS* **Sn 23 41 41.6 -7.5**
MASC Masc 8.72 277 *i* P 23 40 09.4
MASC *eS* 23 41 42.2
MASC IAML 23 41 54.5
comp=Z,116nm,0.8s
TOSP Speyside 9.10 151 *e* **Pn 23 40 21.1 +4.1**
PCRV Puerto La Cruz 9.14 178 Pn **Pn 23 40 18.2 +0.7**
comp=Z,4.0nm,0.3s,baz=1.0,slow=1.8,SNR=42
PCRV Sn **Sn 23 41 59.5 0.0**
comp=Z,6.8nm,0.3s,baz=20,slow=13,SNR=3.9
PCRV LR LR 23 43 43.1
comp=Z,5µm,18.6s,slow=37
comp=Z,15nm,0.3s
QMBU Quimbuelo 9.27 277 *eP* **Pn 23 40 16.6 -2.7**
QMBU *eS* **Sn 23 41 55.3 -7.3**
TRN Trinidad (W) 9.34 158 *e* **Pn 23 40 23.2 +3.0**
MOAC Moa 9.44 280 *eP* **Pn 23 40 18.1 -3.6**
MOAC *eS* Sn 23 41 58.7 -8.2
NMDO Nuevo Mundo 9.46 279 Pn **Pn 23 40 18.1 -3.7**
NMDO Nuevo Mundo 9.46 279 *eP* **Pn 23 40 18.3 -3.5**
NMDO *eS* **Sn 23 42 00.2 -7.0**
GTBY Guantanamo Bay 9.54 275 Pn 23 40 20.7 -2.2
GTBY Guantanamo Bay 9.54 275 *eP* **Pn 23 40 20.5 -2.4**
GTBY *eS* **Sn 23 42 01.9 -7.2**
GTBY Guantanamo Bay 9.54 275 *i* P 23 40 20.2
GTBY *eS* 23 42 01.6
GTBY IAML 23 42 09.1
comp=Z,67nm,1.2s
GTBY Guantanamo Bay 9.54 275 P 23 40 19.6
comp=Z,2µmcomp=Z,109nm,0.5s
RCC Rio Carpintero 10.09 275 *eP* **Pn 23 40 26.9 -3.7**
RCC *eS* **Sn 23 42 15.6 -7.1**
PINC Pinares de May 10.20 278 *eP* **Pn 23 40 28.5 -3.6**
PINC *eS* Sn 23 42 16.4 -9.1
MARVS Santiago de Cu 10.28 275 *eP* **Pn 23 40 29.7 -3.4**
MARVS *eS* Sn 23 42 19.0 -8.4
HLGC Holguin 10.49 280 *eP* **Pn 23 40 35.1 -1.0**
HLGC *eS* **Sn 23 42 26.9 -5.8**
CHIV Chivirico 10.76 275 Pn 23 40 36.4 -3.3
CHIV Chivirico 10.76 275 *eP* **Pn 23 40 35.8 -4.0**
CHIV *eS* Sn 23 42 30.1 -9.2
BAUV El Baul 10.77 196 Pn **Pn 23 40 40.4 +0.6**
CRJC Cerrejon, Guaj 11.24 224 P 23 40 23.1
LMGC Las Mercedes 11.32 276 *eP* **Pn 23 40 43.7 -3.7**
LMGC *eS* Sn 23 42 44.3 -8.6
SDV Santo Domingo 11.75 208 Pn **Pn 23 40 54.7 +1.2**
comp=Z,5.0nm,0.3s,baz=37,slow=11,SNR=29
SDV Sn **Sn 23 43 05.1 +1.3**
comp=Z,5.3nm,0.3s,baz=306,slow=21,SNR=4.2
SDV LR LR 23 45 41.8
comp=Z,3µm,19.6s,baz=46,slow=39
comp=Z,29nm,0.5s
SDV Santo Domingo 11.75 208 *eP* **Pn 23 40 55.2 +1.7**
MTDJ Mount Denham 11.92 267 Pn 23 40 54.4 -1.2
MTDJ Mount Denham 11.92 267 *eP* **Pn 23 40 54.9 -0.8**
MTDJ *eS* Sn 23 42 58.9 -8.8
MTDJ Mount Denham 11.92 267 *i* P 23 40 54.0
MTDJ Mount Denham 11.92 267 P 23 40 54.1
comp=Z,147nm,0.9s
SMRC Santa Marta, M 12.06 229 Pn **Pn 23 40 56.1 -1.3**
BBSR BB Station 12.96 1 Pn 23 41 04.5 -5.3
SJCC San Jacinto, C 13.61 228 P 23 41 24.2
comp=Z,4µmcomp=Z,2µmcomp=Z,147nm,1.3s
PAMC Pamplona, Colo 14.09 213 P 23 41 27.8
comp=Z,2µmcomp=Z,114nm,0.7s
UREC San Jos de Ur 15.41 223 P 23 41 44.6
comp=Z,2µmcomp=Z,193nm,0.5s
RUSC La Rusia 15.52 211 Pn 23 41 45.0 0.0
PTBC PUERTO BERRIO, 15.71 217 P 23 41 48.7
comp=Z,1µmcomp=Z,73nm,0.8s
061Z Ochoppi 16.04 297 Pn 23 41 49.4 -1.7
PRVC Isla de Provid 16.78 252 Pn **Pn 23 41 59.5 -1.0**
ROSC El Rosal 17.05 213 Pn 23 42 04.8 +0.5
ROSC IAmb IAmb 23 42 09.1
comp=Z,121nm,0.7s
ROSC El Rosal 17.05 213 P **P 23 42 05.3 -0.6**
comp=Z,14nm,0.3s,baz=81,slow=11,SNR=30
ROSC S **Sn 23 45 15.2 +2.0**
comp=Z,8.9nm,0.6s,baz=188,slow=24,SNR=1.4
ROSC LR LR 23 49 30.0
comp=Z,3µm,19.4s,baz=14,slow=40
comp=Z,73nm,0.4s
SOR Soroa 17.14 285 Pn 23 42 04.2 -0.8
SOR Soroa 17.14 285 *eP* **Pn 23 42 06.2 +1.1**
SOR Soroa 17.14 285 P **Pn 23 42 04.2 -0.8**
SOR pmax pmax
comp=Z,64nm,1.0s
GUY2C Guyana, Caldas 17.30 217 P 23 42 07.5
comp=Z,2µmcomp=Z,3µmcomp=Z,228nm,0.6s
DWPF Disney Wildern 17.36 303 P **Pn 23 42 06.5 -1.2**
DWPF IAmb IAmb 23 42 20.3
comp=Z,144nm,0.7s
DWPF Disney Wildern 17.36 303 *eP* **P 23 42 09.4 +0.5**
DWPF *eS* Sn 23 45 06.0 -14
BOAV Boa Vista 17.42 165 Pn **Pn 23 42 07.9 -0.7**
BCIP Isla Barro Col 17.57 237 P **P 23 42 13.0 +1.8**
BCIP Isla Barro Col 17.57 237 P **P 23 42 13.0 +1.8**
PRAC Prado 18.30 213 P 23 42 19.7
comp=Z,1µmcomp=Z,57nm,0.6s
ORTC Ortega, Tolima 18.32 214 P 23 42 20.6
comp=Z,2µmcomp=Z,1µmcomp=Z,160nm,0.8s
MDP Montagnes des 18.61 138 P **P 23 42 22.5 -0.2**
comp=Z,4.2nm,0.3s,baz=325,slow=11,SNR=12
MDP LR LR 23 52 32.0
comp=Z,1µm,18.1s,baz=315,slow=47
comp=Z,31nm,0.6s
Y60A Bolivia 18.73 324 P **P 23 42 22.0 -1.9**
Y60A IAmb IAmb 23 42 30.9
comp=Z,125nm,1.1s
CSU Charleston Sou 19.12 318 P **P 23 42 27.1 -1.1**
NHSC New Hope 19.27 318 P **P 23 42 29.2 -0.6**
V61A Roper 19.29 330 P **P 23 42 28.9 -1.0**
V61A IAmb IAmb 23 42 42.3
comp=Z,106nm,0.7s
Y58A Scranton 19.50 321 P **P 23 42 32.0 -0.4**
W59A Clinton 19.73 326 P **P 23 42 34.5 -0.3**
W59A IAmb IAmb 23 42 47.9
comp=Z,103nm,0.9s
X58A Rowland 19.77 323 P **P 23 42 34.9 -0.4**
ESPN Las Esperanzas 19.87 252 P **P 23 42 37.2 +0.6**
ESPN IAmb IAmb 23 42 54.1
comp=Z,43nm,0.8s
ESPN Las Esperanzas 19.87 252 P 23 42 38.9
comp=Z,697nmcomp=Z,80nm,1.3s
GARC Garzon, Huila 19.91 212 P 23 42 37.7
comp=Z,1µmcomp=Z,91nm,0.5s
Y57A Sumter 20.01 320 P 23 42 37.4 -0.5
BIRD Birdtown, Kers 20.48 321 P **P 23 42 41.8 -1.2**
BIRD IAmb IAmb 23 43 01.2
comp=Z,38nm,0.5s
FLOC Florencia 20.51 212 P **P 23 42 42.8 -0.7**
FLOC IAmb IAmb 23 42 53.4
comp=Z,52nm,0.8s
V58A Windy Hill, Pi 20.56 326 P **P 23 42 43.6 -0.3**
V58A IAmb IAmb 23 42 59.0
comp=Z,135nm,1.0s
W57A Gilead 20.57 323 P **P 23 42 42.7 -1.2**
HDC Heredia 20.67 246 P **P 23 42 46.0 +0.6**
T59A Double "B" Far 20.70 331 P **P 23 42 45.1 -0.3**
T59A IAmb IAmb 23 43 00.7
comp=Z,65nm,1.0s
JSC Jenkinsville 20.72 319 P **P 23 42 44.7 -1.0**
JSC IAmb IAmb 23 42 58.9
comp=Z,52nm,0.6s
JSC Jenkinsville 20.72 319 P **P 23 42 44.7 -1.0**
JSC pmax pmax
comp=Z,52nm,0.6s
ACON Acoyapa 20.75 252 P **P 23 42 45.5 -0.6**
ACON IAmb IAmb 23 43 02.8
comp=Z,115nm,1.3s
ACON Acoyapa 20.75 252 P 23 42 47.7
comp=Z,1µmcomp=Z,64nm,1.4s
SOCE Pocosol 20.93 248 P **P 23 42 47.9 -0.1**
BOAB BOACO BROADBAN 21.01 254 P **P 23 42 47.6 -1.3**
BOAB IAmb IAmb 23 43 03.8
comp=Z,121nm,1.2s
CRUC La Cruz 21.20 215 P 23 42 53.1
JTS Las Juntas de 21.26 248 P **P 23 42 49.3 -2.3**
JTS IAmb IAmb 23 42 57.4
comp=Z,87nm,1.1s
JTS Las Juntas de 21.26 248 P **P 23 42 52.5 +0.8**
comp=Z,35nm,0.5s,baz=44,slow=4.5,SNR=35
JTS LR LR 23 51 19.0
comp=Z,749nm,18.8s,baz=48,slow=37
comp=Z,35nm,0.5s
HODGE Hodges 21.32 317 P **P 23 42 52.2 +0.2**
HODGE IAmb IAmb 23 43 06.6
comp=Z,67nm,0.5s
KMSC Kings Mountain 21.34 321 P **P 23 42 52.4 0.0**
PAULI Pauline 21.42 319 P **P 23 42 52.9 -0.3**
PAULI IAmb IAmb 23 43 10.8
comp=Z,44nm,0.5s
CBN Corbin Frederi 21.64 333 P **P 23 42 55.8 +0.3**
MGAN Managua 21.65 254 P **P 23 42 56.6 +0.9**
MGAN IAmb IAmb 23 43 08.2
comp=Z,97nm,0.9s
U56A King 21.66 325 P **P 23 42 55.5 -0.2**
R58B Mineral 21.66 332 P **P 23 42 55.4 -0.3**
V55A Taylorsville 21.77 322 P **P 23 42 56.6 -0.3**
RCRC Randolf Colleg 21.90 328 P **P 23 42 57.0 -1.3**
TEIG Tepich 21.91 276 P **P 23 42 57.9 -0.6**
TEIG IAmb IAmb 23 43 04.6
comp=Z,156nm,1.3s
CNGN Cerro Negro 21.93 255 P **P 23 42 58.1 -0.8**
TGUH Tegucigalpa,Un 21.96 260 P **P 23 42 59.9 +0.7**
S57A Dark Hollow, R 22.00 329 P **P 23 42 60.0 +0.6**
HERN Volcan Telica 22.01 256 P **P 23 42 59.7 -0.1**
HERN IAmb IAmb 23 43 11.7
comp=Z,213nm,1.3s
CRIN San Cristobal 22.18 256 P **P 23 43 02.5 +1.0**
CMBC Cumbal 22.20 216 P 23 43 04.9
BG3 Lake Jocassee 22.23 318 P **P 23 43 01.5 -0.3**
BLA Blacksburg 22.32 326 P **P 23 43 02.5 -0.3**
BLA Blacksburg 22.32 326 P **P 23 43 02.5 -0.3**
BLA pmax pmax
comp=Z,112nm,0.6s
WUPA West Chester U 22.44 338 P 23 43 03.3 -0.8
WUPA IAmb IAmb 23 43 22.4
comp=Z,20nm,0.5s
SDMD Soldier's Deli 22.44 335 P 23 43 03.9 -0.2
SDMD IAmb IAmb 23 43 22.4
comp=Z,53nm,1.2s
SDMD **PcP 23 46 57.0 -0.9**
U54A Nelsons Funny 22.59 323 P **P 23 43 05.3 -0.4**
V53A Saluda 22.59 320 P **P 23 43 06.2 +0.4**
V53A IAmb IAmb 23 43 24.6
comp=Z,52nm,0.5s
CPNY Central Park 22.69 342 P **P 23 43 05.6 -1.1**
CPNY IAmb IAmb 23 43 22.3
comp=Z,49nm,1.1s
TEFE Tefe 22.73 179 *eP* **P 23 43 07.7 +0.4**
MVL Millersville 22.77 337 P **P 23 43 07.5 0.0**
MVL IAmb IAmb 23 43 25.7
comp=Z,100nm,1.5s
BRNJ Basking Ridge 22.77 341 P **P 23 43 07.8 +0.3**
BRNJ IAmb IAmb 23 43 26.6
comp=Z,80nm,0.8s
M63A Gales Ferry 22.78 346 P 23 43 08.2 +0.6
M63A IAmb IAmb 23 43 26.2
comp=Z,51nm,0.7s
MACA Manacapuru-AM 22.78 169 P **P 23 43 05.2 -2.6**
MACA IAmb IAmb 23 43 24.3
comp=Z,37nm,0.6s
MACA Manacapuru-AM 22.78 169 *eP* **P 23 43 07.4 -0.5**
PAL Palisades 22.88 342 P **P 23 43 07.2 -1.4**
PAL Palisades 22.88 342 P **P 23 43 07.3 -1.4**
PAL pmax pmax
comp=Z,171nm,1.4s
LUPA Lehigh Univers 22.96 339 P **P 23 43 08.5 -0.9**
LUPA IAmb IAmb 23 43 27.6
comp=Z,42nm,0.5s
R55A Marlinton 22.98 328 P **P 23 43 10.6 +0.7**
P57A Homestead Farm 22.98 334 P 23 43 09.3 -0.5
BRAL Brewton 23.09 305 P **P 23 43 10.1 -0.8**
TRNY Table Rock, Ra 23.10 342 P **P 23 43 11.0 +0.1**
TRNY IAmb IAmb 23 43 21.2
comp=Z,104nm,1.4s
OTAV Otavalo 23.13 216 P 23 43 12.5
comp=Z,1µmcomp=Z,63nm,0.8s
OTAV Otavalo 23.13 216 P **P 23 43 12.0 +0.1**
OTAV IAmb IAmb 23 43 23.6
comp=Z,112nm,1.4s
OTAV Otavalo 23.13 216 P **P 23 43 12.0 +0.1**
OTAV pmax pmax
comp=Z,112nm,1.4s
Q56A Snyder Ridge, 23.13 331 P **P 23 43 11.3 0.0**
Q56A IAmb IAmb 23 43 30.9
comp=Z,33nm,0.5s
TKL Tuckaleechee C 23.18 318 P **P 23 43 12.7 +0.8**
TKL Tuckaleechee C 23.18 318 LR LR 23 52 43.0
comp=Z,986nm,19.5s,baz=134,slow=38
TKL Tuckaleechee C 23.18 318 P **P 23 43 12.7 +0.8**
TKL pmax pmax
comp=Z,110nm,0.9s
S54A Dingess, Beckl 23.23 326 P **P 23 43 12.7 +0.3**
S54A IAmb IAmb 23 43 32.1
comp=Z,45nm,0.6s
CPCT Cooper Cave 23.53 317 P **P 23 43 15.5 +0.3**
CPCT IAmb IAmb 23 43 34.5
comp=Z,36nm,1.1s
TZTN Tazewell 23.62 320 P **P 23 43 15.4 -0.7**
TZTN IAmb IAmb 23 43 19.6
comp=Z,54nm,1.2s
FPAL Fort Paine 23.72 314 P **P 23 43 17.3 +0.2**
PETF Flores 23.74 268 P **P 23 43 18.5 +1.0**
ESQI Esquipulas 23.75 262 P **P 23 43 19.0 +1.3**
MAL2 Monte Alegre, 23.76 152 P **P 23 43 17.7 0.0**
MTO3 Montecristo 23.81 262 P 23 43 19.4 +1.0
Q54A Coxs Mills 23.88 328 P **P 23 43 18.5 0.0**
Q54A IAmb IAmb 23 43 22.5
comp=Z,34nm,1.0s
TBTG Tabatinga, AM 23.89 192 P 23 43 17.7
comp=Z,2µmcomp=Z,144nm,0.8s
TBTG Tabatinga, AM 23.89 192 P **P 23 43 17.4 -1.5**
TBTG Tabatinga, AM 23.89 192 *eP* **P 23 43 17.8 -1.0**
SSPA Standing Stone 23.91 335 P **P 23 43 18.9 +0.1**
SSPA IAmb IAmb 23 43 28.6
comp=Z,90nm,1.4s
LRAL Lakeview Retre 23.91 309 P **P 23 43 19.6 +0.7**
LRAL IAmb IAmb 23 43 20.9
comp=Z,60nm,1.4s
SLOR San Lorenzo - 23.95 215 P **P 23 43 20.0 0.0**
SLOR IAmb IAmb 23 43 32.0
comp=Z,37nm,0.8s
SWET Sewanee 24.32 315 P **P 23 43 22.6 -0.2**
U49A Red Boiling Sp 24.98 317 P **P 23 43 29.6 +0.9**
U49A IAmb IAmb 23 43 31.4
comp=Z,22nm,0.9s
I63A Otisfield 25.06 350 P **P 23 43 29.2 0.0**
I63A IAmb IAmb 23 43 45.8
comp=Z,72nm,1.1s
CLTN Cedars of Leba 25.09 316 P **P 23 43 30.3 +0.6**
V48A Smith Brothers 25.21 315 P **P 23 43 31.7 +0.9**
V48A IAmb IAmb 23 43 34.9
comp=Z,44nm,1.2s
O52A Adamsville 25.24 329 P **P 23 43 31.5 +0.5**
ITTB Itaituba 25.28 158 *eP* **P 23 43 33.6 +2.1**
HUEH Huehuetenango 25.59 265 P **P 23 43 34.5 -0.1**
PLAL Pickwick Lake 25.66 312 P **P 23 43 33.5 -1.3**
PLAL IAmb IAmb 23 43 39.0
comp=Z,29nm,0.8s
ALLY Alegheny Colle 25.68 333 P **P 23 43 34.7 -0.3**
ALLY IAmb IAmb 23 43 38.9
comp=Z,29nm,1.0s
WVNY West Valley, N 25.70 336 P **P 23 43 33.7 -1.4**
WVNY IAmb IAmb 23 43 45.5
comp=Z,36nm,1.1s
COHC Cochancay 25.82 214 P 23 43 35.7
comp=Z,146nmcomp=Z,7.3nm,0.6s
COHC Cochancay 25.82 214 P **P 23 43 35.7 -0.6**
ACSO Alum Creek Sta 25.90 327 P **P 23 43 37.6 +0.6**
ACSO IAmb IAmb 23 43 42.8
comp=Z,45nm,1.0s
CCIG Comitan 26.00 268 P **P 23 43 37.8 -0.5**
WVT Waverly 26.11 314 P **P 23 43 39.4 +0.5**
WVT Waverly 26.11 314 P **P 23 43 39.4 +0.5**
WVT pmax pmax
comp=Z,31nm,1.4s
WCI Wyandotte Cave 26.37 320 P **P 23 43 41.7 +0.5**
WCI IAmb IAmb 23 43 46.2
comp=Z,36nm,1.1s
WCI Wyandotte Cave 26.37 320 P **P 23 43 41.7 +0.5**
WCI pmax pmax
comp=Z,36nm,1.1s
USIN University of 27.06 318 P **P 23 43 47.7 +0.2**
USIN IAmb IAmb 23 43 53.1
comp=Z,40nm,0.8s
TMAB Tom-Au,PA,Br 27.25 141 *eP* **P 23 43 51.3 +2.0**
OLIL Olney 27.80 319 P **P 23 43 53.6 -0.4**
OLIL IAmb IAmb 23 44 04.6
comp=Z,21nm,0.9s
N47A Urbana 27.80 325 P **P 23 43 54.8 +0.7**
N47A IAmb IAmb 23 44 00.9
comp=Z,32nm,1.2s
L48A N Adams 27.91 328 IAmb IAmb 23 44 02.7
comp=Z,27nm,0.8s
NPGB Novo Progresso 27.91 159 *eP* **P 23 43 55.7 +0.5**
SIUC Southern Illin 27.91 316 IAmb IAmb 23 43 59.6
comp=Z,28nm,0.9s
SADO Sadowa 27.94 338 LR LR 23 57 06.4
comp=Z,928nm,18.3s,baz=158,slow=41
CZSB Cruzeiro do Su 27.97 196 P **P 23 43 54.6 -1.1**
CZSB Cruzeiro do Su 27.97 196 *eP* **P 23 43 55.1 -0.6**
LCAR Lake Charles 28.38 311 P **P 23 43 59.3 0.0**
X40A Basin Creek Fa 28.90 307 IAmb IAmb 23 44 06.6
comp=Z,22nm,1.0s
FCAR Ozark Folk Cen 28.99 310 IAmb IAmb 23 44 14.4
comp=Z,27nm,1.4s
CCM Cathedral Cave 29.45 315 P **P 23 44 08.7 0.0**
CCM Cathedral Cave 29.45 315 P **P 23 44 08.7 0.0**
CCM pmax pmax
comp=Z,10.0nm,0.7s
ATAH Atahualpa 29.45 208 LR LR 23 57 47.2
comp=Z,2µm,19.9s,baz=15,slow=40
MIAR Mount Ida 29.49 307 P **P 23 44 08.8 -0.3**
MIAR Mount Ida 29.49 307 P **P 23 44 08.8 -0.3**
MIAR pmax pmax
comp=Z,11nm,1.1s
HKT Hockley 29.85 297 *i* P **P 23 44 12.2 -0.1**
HKT pmax pmax
comp=Z,36nm,1.6s
GLMI Grayling 30.18 332 P **P 23 44 15.4 +0.2**
HHAR Hobbs 30.48 310 IAmb IAmb 23 44 21.7
comp=Z,23nm,1.2s
L40A Anamosa 31.71 321 IAmb IAmb 23 44 38.0
comp=Z,27nm,1.4s
PDRB Porto dos Gac 31.84 164 *eP* **P 23 44 29.2 -0.9**
VILB Vilhena 32.46 171 *eP* **P 23 44 36.6 +1.1**
FW03 Perrin-Whitt E 32.49 301 P **P 23 44 35.6 -0.1**
I40A Norwalk 32.52 324 P **P 23 44 36.6 +0.8**
I40A IAmb IAmb 23 44 55.0
comp=Z,39nm,1.4s
833A Chaparral WMA, 32.60 292 P **P 23 44 37.0 +0.3**

833A IAmb IAmb 23 44 38.8
comp=Z,31nm,1.1s
PLPT Palo Pinto 32.63 301 P **P 23 44 38.0 +1.1**
FNO Franklin 32.67 306 P **P 23 44 36.5 -0.7**
HNDO Hondo 32.69 295 P **P 23 44 37.8 +0.2**
OK051 E0350 and S346 32.70 308 P **P 23 44 36.6 -0.8**
OK051 IAmb IAmb 23 44 51.8
comp=Z,23nm,1.1s
OKCSW OKLAHOMA CITY 32.75 306 P **P 23 44 38.2 +0.3**
X34A Smith Ranch, M 32.78 304 P **P 23 44 38.9 +0.7**
ADOK Arcadia Dam 32.78 306 P **P 23 44 38.5 +0.3**
BRDY Brady 32.81 298 P **P 23 44 38.4 -0.1**
BRDY IAmb IAmb 23 44 40.4
comp=Z,20nm,0.9s
SMTB Santa Maria do 32.88 147 *e*P **P 23 44 39.8 +0.6**
OK029 Liberty Lake 32.90 307 P **P 23 44 40.0 +0.7**
WTFS Witchita Falls 33.02 303 P **P 23 44 41.2 +0.9**
BLOK Blackwell 33.08 308 P **P 23 44 41.4 +0.6**
G40A Rib Lake 33.21 327 P **P 23 44 41.3 -0.5**
NNA Nana 33.26 201 P **P 23 44 41.0 -1.6**
NNA Nana 33.26 201 LR LR 00 00 42.6
comp=Z,802nm,20.2s,baz=348,slow=41
NNA Nana 33.26 201 *c e*P **P 23 44 40.7 -1.8**
NNA pmax pmax
comp=Z,28nm,0.6s
NNA Nana 33.26 201 P **P 23 44 41.1 -1.4**
NNA pP **pwP 23 44 56.8 +0.4**
JRQG Juriquilla Cam 33.28 278 P **P 23 44 43.2 +0.2**
JRQG IAmb IAmb 23 44 47.1
comp=Z,19nm,1.4s
JCT Junction City 33.31 296 P **P 23 44 43.2 +0.3**
JCT IAmb IAmb 23 44 45.0
comp=Z,38nm,1.2s
JCT Junction City 33.31 296 P **P 23 44 43.2 +0.3**
JCT pmax pmax
comp=Z,38nm,1.3s
KAN13 South Haven SW 33.37 309 P **P 23 44 42.8 -0.5**
KAN13 IAmb IAmb 23 44 47.6
comp=Z,40nm,1.4s
KAN09 Caldwell North 33.52 309 P **P 23 44 45.0 +0.3**
KAN09 IAmb IAmb 23 44 48.3
comp=Z,21nm,1.0s
CROK Carrier 33.55 308 P **P 23 44 45.1 +0.2**
WMOK Wichita Mounta 33.56 304 P **P 23 44 44.5 -0.6**
WMOK IAmb IAmb 23 44 48.2
comp=Z,18nm,0.6s
WMOK Wichita Mounta 33.56 304 P **P 23 44 44.5 -0.6**
WMOK pmax pmax
comp=Z,18nm,0.6s
KAN17 Caldwell West 33.59 309 P **P 23 44 45.9 +0.6**
KAN17 IAmb IAmb 23 45 00.5
comp=Z,13nm,0.8s
KSU1 Kansas State U 33.62 313 P **P 23 44 45.1 -0.4**
KAN01 Argonia South 33.63 309 P **P 23 44 45.5 -0.1**
KAN14 Manchester OK 33.71 308 P **P 23 44 46.7 +0.5**
CSTR Hydro, Custer 33.79 306 P **P 23 44 47.4 +0.4**
DRIO Del Rio 33.83 294 P **P 23 44 47.5 +0.1**
DRIO IAmb IAmb 23 44 49.1
comp=Z,15nm,0.9s
KAN12 Harper NE Stat 33.86 309 P **P 23 44 48.2 +0.6**
KAN12 IAmb IAmb 23 45 04.3
comp=Z,42nm,1.2s
SNDB Serra Nova Dou 33.94 155 *e*P **P 23 44 51.7 +3.3**
OK038 West end E0370 34.12 307 P **P 23 44 50.1 +0.3**
APMT Aspermont 34.23 301 P **P 23 44 51.3 +0.5**
NOKA Waynoka 34.31 307 P **P 23 44 52.8 +1.3**
ELIS Ellis County 34.49 306 P **P 23 44 53.8 +0.7**
OZNA Ozona 34.52 297 P **P 23 44 53.6 +0.2**
OZNA IAmb IAmb 23 44 56.5
comp=Z,22nm,1.0s
SPMN Marine on St. 34.57 324 P **P 23 44 53.7 +0.1**
SGCY Sterling City 34.72 298 P **P 23 44 55.0 -0.1**
SGCY IAmb IAmb 23 44 56.9
comp=Z,38nm,1.3s
SN05 Snyder 5 34.73 300 P **P 23 44 55.7 +0.5**
SN05 IAmb IAmb 23 44 57.4
comp=Z,37nm,1.0s
SN07 Snyder 07 34.79 300 P **P 23 44 56.5 +0.8**
SN07 IAmb IAmb 23 44 57.7
comp=Z,33nm,1.0s
E38A The Farm, Brul 34.81 327 P **P 23 44 55.6 -0.1**
SMWD Samnorwood 34.82 304 P **P 23 44 56.3 +0.3**
R32A Long Quarter, 34.82 310 P **P 23 44 55.8 -0.1**
R32A IAmb IAmb 23 45 07.6
comp=Z,21nm,1.1s
DKNS Dickens 34.96 301 P **P 23 44 57.5 +0.3**
DKNS IAmb IAmb 23 44 59.2
comp=Z,26nm,0.9s
PTLB Pontes e Lacer 35.07 170 P **P 23 44 57.3 -0.8**
PTLB Pontes e Lacer 35.07 170 *e*P **P 23 44 58.0 -0.1**
ZAIG Zacatecas 35.15 282 P **P 23 45 00.2 +0.9**
ZAIG IAmb IAmb 23 45 02.8
comp=Z,21nm,1.2s
SAND Sanderson 35.20 295 P **P 23 44 59.1 -0.2**
POST Post 35.28 300 P **P 23 45 00.2 +0.2**
SIV San Ignacio 35.34 173 LR LR 00 00 47.7
comp=Z,743nm,18.4s,baz=358,slow=39
SCHQ Schefferville 35.44 358 P **P 23 45 01.1 +0.2**
SCHQ IAmb IAmb 23 45 17.3
comp=Z,42nm,1.3s
SCHQ Schefferville 35.44 358 P **P 23 45 01.9 +0.9**
comp=Z,6.8nm,0.8s,baz=186,slow=8.1,SNR=11
SCHQ LR LR 00 00 05.0
comp=Z,595nm,18.6s,baz=182,slow=37
comp=Z,6.8nm,0.8s
LPAZ La Paz 35.56 185 P **P 23 45 01.7 -1.3**
LPAZ La Paz 35.56 185 P **P 23 45 02.6 -0.4**
comp=Z,3.8nm,0.6s,baz=19,slow=5.7,SNR=14
LPAZ LR LR 00 00 36.2
comp=Z,856nm,19.2s,baz=358,slow=38
comp=Z,3.8nm,0.6s
LPAZ La Paz 35.56 185 *e*P **P 23 45 02.6 -0.4**
LPAZ La Paz 35.56 185 P **P 23 45 02.5 -0.4**
EYMN Ely 35.70 329 P **P 23 45 04.0 +0.6**
AMTX Amarillo 35.89 303 P **P 23 45 05.1 -0.1**
ECSD EROS Data Cent 35.91 320 P **P 23 45 04.4 -0.8**
SALV Santo Antonio 36.22 165 *e*P **P 23 45 07.4 -0.6**
TXAR Lajitas Array 36.45 293 P **P 23 45 10.4 +0.3**
TXAR Lajitas Array 36.45 293 P **P 23 45 11.4 +1.4**
comp=Z,13nm,0.8s,baz=105,slow=9.8,SNR=68
TXAR ScP **ScP 23 51 21.3 +3.0**
comp=Z,2.2nm,1.0s,baz=69,slow=4.4,SNR=8.1
TXAR LR LR 00 05 25.9
comp=Z,199nm,19.4s,baz=73,slow=45
comp=Z,13nm,0.8s
TX31 Lajitas Ar. Si 36.45 293 IAmb IAmb 23 45 13.1
comp=Z,27nm,1.1s
ALPN Alpine 36.56 295 P **P 23 45 10.8 -0.3**
ALPN IAmb IAmb 23 45 13.1
comp=Z,32nm,1.1s
PECS Pecos 36.91 297 P **P 23 45 14.2 +0.2**
PECS IAmb IAmb 23 45 15.7
comp=Z,29nm,1.4s
HTMS Hat Mesa 36.91 299 P **P 23 45 13.8 -0.3**
PB18 Visviri 36.98 187 P **P 23 45 13.6 -1.5**
PB18 IAmb IAmb 23 45 29.1
comp=Z,21nm,0.7s
CLN7 Carlsbad 7 37.04 298 P **P 23 45 15.0 -0.1**
RTBA Rita Blanca 37.15 305 P **P 23 45 16.6 +0.5**
CPRX Cap Rock 37.21 299 P **P 23 45 15.7 -0.9**
SDBA SAO DESIDERIO 37.27 146 *e*P **P 23 45 17.1 0.0**
K30B Basset 37.28 316 P **P 23 45 17.3 +0.4**
K30B IAmb IAmb 23 45 27.9
comp=Z,26nm,1.1s
SUSD Miller 37.72 319 P **P 23 45 20.3 -0.3**
SUSD IAmb IAmb 23 45 39.4
comp=Z,39nm,1.1s
VHRN Van Horn 37.77 295 P **P 23 45 22.1 +0.8**
VHRN IAmb IAmb 23 45 24.2
comp=Z,34nm,0.9s
RCBR Riachuelo 38.05 128 LR LR 23 59 47.4
comp=Z,124nm,21.7s,baz=311,slow=34
PB12 IPOC Station P 38.10 188 IAmb IAmb 23 45 22.4
comp=Z,27nm,0.5s
NBLV Livramento - P 38.35 131 *e*P **P 23 45 27.3 +1.1**
BDFB Brasilia 38.59 153 P **P 23 45 28.5 +0.2**
BDFB Brasilia 38.59 153 P **P 23 45 29.5 +1.2**
comp=Z,4.9nm,0.6s,baz=342,slow=9.0,SNR=6.8
BDFB LR LR 00 02 20.7
comp=Z,977nm,18.4s,baz=325,slow=38
comp=Z,4.9nm,0.6s
T25A Trinidad 38.64 306 P **P 23 45 29.7 +1.0**
ULM Lac du Bonnet 39.38 329 P **P 23 45 34.1 -0.3**
comp=Z,7.7nm,0.6s,baz=123,slow=8.9,SNR=21
ULM LR LR 00 02 47.3
comp=Z,320nm,18.2s,baz=136,slow=38
comp=Z,7.7nm,0.6s
ULM Lac du Bonnet 39.38 329 *i* P **P 23 45 33.3 -1.1**
PB08 IPOC Station P 39.47 186 IAmb IAmb 23 45 51.0
comp=Z,23nm,0.6s
NBCA Caruaru-PE 39.59 131 *e*P **P 23 45 37.4 +0.8**
SDCO Great Sand Dun 39.64 306 P **P 23 45 37.9 +0.8**
SDCO IAmb IAmb 23 45 39.9
comp=Z,36nm,0.9s
BNM Barren Site 39.69 300 P **P 23 45 38.2 +0.7**
TA02 Huaiquique 39.70 188 P **P 23 45 35.4 -2.0**
ANMO Albuquerque 39.71 302 P **P 23 45 38.0 +0.4**
ANMO IAmb IAmb 23 45 40.6
comp=Z,26nm,1.0s
ANMO Albuquerque 39.71 302 P **P 23 45 39.8 +2.2**
comp=Z,18nm,0.9s,baz=278,slow=9.5,SNR=32
ANMO LR LR 00 06 02.8
comp=Z,735nm,18.1s,baz=272,slow=42
comp=Z,18nm,0.9s
ANMO Albuquerque 39.71 302 *i* P **P 23 45 37.7 +0.1**
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 39.71 302 P **P 23 45 39.2 +1.5**
ANMO pP **pwP 23 45 55.5 +1.7**
JANB Januaria 39.81 148 *e*P **P 23 45 40.4 +2.1**
TA01 Diego Aracena 40.00 188 P **P 23 45 38.1 -1.7**
ISCO Idaho Springs 40.33 309 P **P 23 45 43.1 +0.2**
ISCO Idaho Springs 40.33 309 P **P 23 45 43.1 +0.2**
ISCO pmax pmax
comp=Z,33nm,1.5s
NBLA Lagarto - SE 40.36 136 *e*P **P 23 45 44.7 +1.7**
121A Cookes Peak, D 40.38 298 P **P 23 45 44.2 +1.0**
BDQN Bodoquena, MS 40.38 168 *e*P **P 23 45 43.2 +0.3**
PB01 IPOC Station P 40.39 186 P **P 23 45 40.5 -2.6**
PB01 IAmb IAmb 23 45 47.4
comp=Z,32nm,0.9s
NBAN Anadia - AL 40.42 133 *e*P **P 23 45 45.4 +1.9**
AQDB Aquidauana 40.63 167 P **P 23 45 44.7 -0.4**
AQDB Aquidauana 40.63 167 *e*P **P 23 45 46.0 +1.0**
RSSD Black Hills 40.81 316 P **P 23 45 48.9 +2.3**
RSSD Black Hills 40.81 316 P **P 23 45 48.9 +2.3**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
PB09 IPOC Station P 41.11 186 IAmb IAmb 23 46 08.3
comp=Z,18nm,0.8s
RPRD Ribas do Rio P 41.12 164 *e*P **P 23 45 49.8 +0.7**
MURT Porto Murtinho 41.41 170 *e*P **P 23 45 50.1 -1.3**
319A Douglas 41.50 296 P **P 23 45 53.5 +1.1**
319A IAmb IAmb 23 45 56.0
comp=Z,39nm,1.4s
PMNB Patos De Minas 41.84 153 *e*P **P 23 45 55.3 +0.2**
SLBS Sierra La Lagu 41.90 284 P **P 23 45 57.9 +2.2**
PV15 Paradox Valley 42.07 306 IAmb IAmb 23 46 04.4
comp=Z,58nm,1.0s
PV07 Paradox Valley 42.22 306 IAmb IAmb 23 46 01.1
comp=Z,35nm,0.9s
PV13 Radium Mtn., P 42.28 306 P **P 23 46 00.3 +1.5**
PV12 Saucer Basin, 42.31 306 P **P 23 45 59.1 +0.1**
PV03 Paradox Valley 42.33 306 P **P 23 45 59.4 +0.3**
PV03 IAmb IAmb 23 46 02.0
comp=Z,52nm,0.9s
PV22 Blue Mesa, Par 42.35 306 P **P 23 45 59.9 +0.6**
PV22 IAmb IAmb 23 46 02.0
comp=Z,26nm,1.0s
PV11 David Mesa, Pa 42.35 306 P **P 23 45 59.5 +0.2**
O20A White River Ci 42.36 309 P **P 23 46 00.1 +0.7**
PV18 Skein Mesa, Pa 42.37 306 P **P 23 46 00.2 +0.7**
PV16 Nyswonger Mesa 42.39 306 P **P 23 45 60.0 +0.3**
PV04 Paradox Valley 42.40 306 P **P 23 46 00.9 +1.2**
PV04 IAmb IAmb 23 46 02.7
comp=Z,52nm,1.2s
PV17 East Wray Mesa 42.42 306 P **P 23 46 00.6 +0.7**
PV20 West Nyswonger 42.44 306 P **P 23 46 00.3 +0.3**
PV19 Morning Glory 42.44 306 P **P 23 45 60.0 -0.1**
PV19 IAmb IAmb 23 46 02.9
comp=Z,46nm,1.0s
X18A Snowflake 42.47 300 P **P 23 46 01.6 +1.3**
X18A IAmb IAmb 23 46 03.6
comp=Z,26nm,0.8s
PV05 Paradox Valley 42.48 306 P **P 23 46 00.3 -0.1**
PV14 Lion Creek, Pa 42.49 306 P **P 23 46 00.8 +0.3**
PV14 IAmb IAmb 23 46 02.3
comp=Z,60nm,1.1s
PV21 Cone Mtn., Par 42.50 306 P **P 23 46 01.0 +0.4**
PV21 IAmb IAmb 23 46 04.8
comp=Z,35nm,1.2s
PV23 Carpenter Ridg 42.50 306 P **P 23 46 00.7 +0.1**
PV23 IAmb IAmb 23 46 03.3
comp=Z,54nm,1.1s
PV10 Paradox Valley 42.50 306 P **P 23 46 01.0 +0.4**
HSIG 42.77 292 P **P 23 46 03.3 +0.7**
TUC Tucson 42.87 297 P **P 23 46 04.3 +0.9**
TUC IAmb IAmb 23 46 07.2
comp=Z,38nm,1.4s
TUC Tucson 42.87 297 P **P 23 46 04.4 +0.9**
TUC pmax pmax
comp=Z,38nm,1.4s
TUC Tucson 42.87 297 P **P 23 46 05.6 +2.1**
TUC pP **pwP 23 46 22.8 +3.1**
DIAM Diamantina, MG 42.89 149 *e*P **P 23 46 04.3 +0.6**
LAO LASA Array 43.28 319 P **P 23 46 07.5 +0.9**
RDMU Red Mountain 43.45 309 P **P 23 46 08.4 +0.1**
RDMU IAmb IAmb 23 46 10.6
comp=Z,24nm,1.1s
GUA01 Guaratinga, BA 43.47 144 *e*P **P 23 46 09.6 +1.3**
X16A Lo Mia Camp, P 43.67 300 P **P 23 46 10.5 +0.5**
P18A Preston Nutter 43.71 307 P **P 23 46 11.1 +0.6**
P18A IAmb IAmb 23 46 13.1
comp=Z,17nm,0.9s
WUAZ Wupatki 43.77 301 P **P 23 46 11.9 +1.0**
SRU San Rafael Swe 43.80 307 P **P 23 46 11.8 +0.7**
SRU San Rafael Swe 43.80 307 P **P 23 46 11.8 +0.7**
SRU pmax pmax
comp=Z,11nm,0.8s
PB14 IPOC Station P 44.04 187 P **P 23 46 12.3 -0.8**
BW06 Boulder Array 44.08 312 P **P 23 46 13.5 +0.3**
PDAR Pinedale Array 44.08 312 P **P 23 46 13.4 +0.1**
PDAR Pinedale Array 44.08 312 P **P 23 46 14.4 +1.1**
comp=Z,4.2nm,0.7s,baz=113,slow=7.5,SNR=38
PDAR LR LR 00 07 45.5
comp=Z,428nm,18.1s,baz=108,slow=40
comp=Z,4.2nm,0.7s
Q16A Castle Valley 44.25 306 P **P 23 46 15.2 +0.6**
Q16A IAmb IAmb 23 46 18.4
comp=Z,32nm,1.3s
BSUT Blindstream Ca 44.32 309 P **P 23 46 15.7 +0.3**
BSUT IAmb IAmb 23 46 18.2
comp=Z,38nm,1.2s
TMUT Trail Mountain 44.36 307 P **P 23 46 16.6 +0.9**
TMUT IAmb IAmb 23 46 18.6
comp=Z,40nm,1.1s
FRB Frobisher Bay 44.42 358 LR LR 00 05 27.6
comp=Z,654nm,18.7s,baz=178,slow=37
SJMB Sao Joao De Ma 44.47 147 *e*P **P 23 46 17.2 +0.9**
GO02 Mina Guanaco 44.48 186 IAmb IAmb 23 46 30.1
comp=Z,14nm,0.8s
LDASE Londrina, Braz 44.60 162 *e*P **P 23 46 16.9 -0.4**
RLMT Red Lodge 44.65 315 IAmb IAmb 23 46 21.3
comp=Z,14nm,0.9s
U15A North Rim 44.65 303 P **P 23 46 18.4 +0.4**
U15A IAmb IAmb 23 46 21.4
comp=Z,16nm,1.0s
FCC Fort Churchill 44.66 339 P **P 23 46 16.9 -0.4**
FCC Fort Churchill 44.66 339 P **P 23 46 16.9 -0.4**
FCC pmax pmax
comp=Z,7.0nm,0.8s
PKCU Pink Cliffs 44.84 304 P **P 23 46 19.9 +0.4**
PKCU IAmb IAmb 23 46 22.7
comp=Z,42nm,1.4s
MPU Maple Canyon 44.84 308 P **P 23 46 20.1 +0.7**
MPU IAmb IAmb 23 46 22.1
comp=Z,25nm,1.0s
JLU Jordanelle 44.84 309 P **P 23 46 19.9 +0.5**
JLU IAmb IAmb 23 46 23.4
comp=Z,25nm,1.2s
MTPU Mount Pierson 44.85 305 P **P 23 46 20.0 +0.3**
MTPU IAmb IAmb 23 46 22.9
comp=Z,18nm,1.1s
Y14A Wickenburg 44.90 299 P **P 23 46 21.0 +1.3**
Y14A IAmb IAmb 23 46 23.2
comp=Z,25nm,0.8s
MSU Marysvale 44.94 305 P **P 23 46 20.9 +0.7**
MSU Marysvale 44.94 305 P **P 23 46 20.9 +0.7**
TCUT Toone Canyon 44.94 309 P **P 23 46 20.2 0.0**
TCUT IAmb IAmb 23 46 22.6
comp=Z,27nm,1.2s
MACI Morro de la Ar 45.00 69 P **P 23 46 19.4 -1.4**
FRTB Fartura 45.04 160 *e*P **P 23 46 21.4 +0.6**
LOHW Long Hollow 45.06 313 P **P 23 46 21.4 +0.3**
LOHW IAmb IAmb 23 46 23.9
comp=Z,19nm,0.9s
PIX Pinacate 45.07 296 P **P 23 46 21.7 +0.7**
FFC Flin Flon 45.09 330 P **P 23 46 20.3 -0.6**
FFC Flin Flon 45.09 330 P **P 23 46 20.3 -0.6**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 45.09 330 P **P 23 46 20.4 -0.4**
FFC pP **pwP 23 46 37.8 +0.7**
YNE Yellowstone No 45.10 315 P **P 23 46 21.9 +0.4**
YMP Mirror Lake Pl 45.11 315 P **P 23 46 21.5 0.0**
SNOW Snow King Moun 45.12 313 P **P 23 46 22.1 +0.4**
SNOW IAmb IAmb 23 46 40.8
comp=Z,23nm,1.1s
GCMT Greycliff 45.14 316 P **P 23 46 22.9 +1.3**
AHID Auburn Hatcher 45.16 312 P **P 23 46 22.4 +0.5**
AHID IAmb IAmb 23 46 24.5
comp=Z,54nm,1.5s
TCRU Three Creeks R 45.16 306 P **P 23 46 22.6 +0.6**
TCRU IAmb IAmb 23 46 25.3
comp=Z,29nm,1.3s
KNB Kanab 45.17 303 P **P 23 46 21.8 -0.2**
KNB Kanab 45.17 303 P **P 23 46 21.8 -0.2**
KNB pmax pmax
comp=Z,16nm,1.4s
HWUT Hardware Ranch 45.18 310 P **P 23 46 22.3 +0.2**
HWUT IAmb IAmb 23 46 24.3
comp=Z,24nm,1.1s
MOOW Moose Ponds 45.20 313 P **P 23 46 22.8 +0.6**
MOOW IAmb IAmb 23 46 25.9
comp=Z,12nm,0.8s
TPAW Teton Pass 45.27 313 **P 23 46 22.1 -0.7**
TPAW IAmb IAmb 23 46 38.3
comp=Z,14nm,0.7s
FLWY Flagg Ranch 45.27 313 P **P 23 46 23.0 +0.2**
H17A Grant Village 45.28 314 **P 23 46 23.2 +0.3**
FXWY Fox Creek 45.36 313 P **P 23 46 23.6 +0.1**
FXWY IAmb IAmb 23 46 27.2
comp=Z,23nm,1.4s
DUG Dugway, Tooele 45.77 308 IAmb IAmb 23 46 29.5
comp=Z,22nm,1.0s
DUG Dugway, Tooele 45.77 308 P **P 23 46 28.3 +1.7**
EGMT Eagleton 46.02 319 P **P 23 46 28.8 +0.4**
EGMT IAmb IAmb 23 46 32.2
comp=Z,19nm,1.2s
CPUP Villa Florida 46.03 170 P **P 23 46 26.5 -2.0**
CPUP IAmb IAmb 23 46 41.8
comp=Z,16nm,0.9s
CPUP Villa Florida 46.03 170 P **P 23 46 26.9 -1.6**
comp=Z,14nm,0.8s,baz=349,slow=8.1,SNR=23
CPUP LR LR 00 06 41.1
comp=Z,486nm,18.4s,baz=350,slow=37
comp=Z,14nm,0.8s
CPUP Villa Florida 46.03 170 P **P 23 46 26.9 -1.6**
BGU Big Grassy Mou 46.09 309 P **P 23 46 30.3 +1.1**
AC02 Maricunga 46.09 185 P **P 23 46 28.4 -1.2**
AC02 IAmb IAmb 23 46 44.0
comp=Z,11nm,0.8s
HVU Hansel Valley 46.10 310 P **P 23 46 29.6 +0.3**
HVU IAmb IAmb 23 46 31.7
comp=Z,31nm,1.3s
HVU Hansel Valley 46.10 310 P **P 23 46 29.6 +0.3**
HVU pmax pmax
comp=Z,31nm,1.3s
BLYC Blythe 46.13 298 P **P 23 46 29.8 +0.4**
BLYC IAmb IAmb 23 46 34.2
comp=Z,14nm,0.9s
MBO M'Bour 46.14 88 P **P 23 46 29.8 +0.2**
PSUT Pine Spring 46.23 305 P **P 23 46 31.3 +0.9**
SFX San Felipe 46.23 295 P **P 23 46 29.8 -0.4**
ALF01 Guarapari-ES 46.31 148 *e*P **P 23 46 33.4 +2.6**
GLA Glamis 46.33 297 P **P 23 46 32.5 +1.4**
GLA IAmb IAmb 23 46 34.0
comp=Z,37nm,1.4s
GLA Glamis 46.33 297 P **P 23 46 32.5 +1.4**
GLA pmax pmax
comp=Z,37nm,1.4s
BOZ Bozeman (W) 46.37 315 P **P 23 46 32.4 +1.0**
BOZ IAmb IAmb 23 46 52.1
comp=Z,11nm,0.5s
BOZ Bozeman (W) 46.37 315 P **P 23 46 32.4 +1.0**
BOZ pmax pmax
comp=Z,11nm,0.5s
BBTS Babate 46.48 88 LR LR 00 03 07.1
comp=Z,477nm,20.3s,baz=154,slow=32
V12A Nelson 46.61 301 P **P 23 46 33.8 +0.5**
SPR3 Spring Creek 3 46.68 306 P **P 23 46 35.1 +1.1**
HRY Holter Researc 46.87 317 P **P 23 46 36.1 +0.9**
CAM01 Campos-RJ 46.87 150 *e*P **P 23 46 36.5 +1.2**
DLMT Dillon 46.95 315 P **P 23 46 36.4 +0.6**
DLMT IAmb IAmb 23 46 40.0
comp=Z,28nm,1.2s
SHPR Sheep Range 46.95 302 P **P 23 46 36.4 +0.4**
MCMT McKenzie Canyo 46.96 314 P **P 23 46 37.1 +1.0**
PRN Pahroc Range 46.99 303 P **P 23 46 36.9 +0.6**
PRN IAmb IAmb 23 46 40.0
comp=Z,18nm,1.2s
LRM Limekiln Ridge 46.99 315 P **P 23 46 37.5 +1.2**
VTX Valle De La Tr 47.05 295 P **P 23 46 38.0 +1.3**
ESJX Sierra Juarez 47.21 296 P **P 23 46 37.9 -0.3**
YUH Yuha Desert 47.22 297 P **P 23 46 39.2 +1.2**
LYMT Lyon Mountain 47.25 317 P **P 23 46 38.8 +0.5**
R11B Troy Canyon, C 47.54 305 P **P 23 46 41.5 +0.8**
R11B IAmb IAmb 23 46 44.0
comp=Z,29nm,1.3s
S11A Rachel 47.57 304 P **P 23 46 41.5 +0.7**
HLID Hailey 47.71 312 P **P 23 46 42.4 +0.5**
PFO Pinyon Flats O 47.73 298 P **P 23 46 43.1 +1.0**
PFO IAmb IAmb 23 46 46.0
comp=Z,30nm,1.5s
PFO Pinyon Flats O 47.73 298 P **P 23 46 43.6 +1.5**
comp=Z,6.3nm,1.1s,baz=103,slow=7.0,SNR=5.5
PFO LR LR 00 12 12.5
comp=Z,282nm,18.1s,baz=94,slow=43
comp=Z,6.3nm,1.1s
OVMT Ovando 47.74 317 P **P 23 46 42.7 +0.7**
CBX Cerro Bola 47.83 296 P **P 23 46 43.5 +0.6**
BPMT Black Pine Rid 47.84 316 P **P 23 46 42.9 0.0**
TPNV Topopah Spring 47.87 303 P **P 23 46 43.2 0.0**
TPNV Topopah Spring 47.87 303 P **P 23 46 43.2 0.0**
TPNV pmax pmax
comp=Z,26nm,0.9s
GWY Greenwater Val 48.12 302 **P 23 46 45.7 +0.6**
GWY IAmb IAmb 23 46 48.5
comp=Z,17nm,0.9s
GSC Goldstone, Bar 48.15 300 P **P 23 46 46.5 +1.2**
GSC IAmb IAmb 23 46 48.8
comp=Z,25nm,1.1s
GSC Goldstone, Bar 48.15 300 P **P 23 46 46.5 +1.2**
GSC pmax pmax
comp=Z,25nm,1.1s
WCT Wildcat Mounta 48.16 302 P **P 23 46 45.4 +0.1**
MSO Missoula 48.28 316 P **P 23 46 46.5 +0.4**
SFJD Kangerlussuaq 48.51 7 LR LR 00 07 21.1
comp=Z,613nm,18.8s,baz=198,slow=36
ELS Elsinore Mount 48.54 298 P **P 23 46 49.2 +0.9**
ELS IAmb IAmb 23 46 51.2
comp=Z,21nm,1.4s
DY2G Dye2 48.65 10 *i* P **P 23 46 48.6 -0.2**
DY2G IAmb IAmb 23 46 53.4
comp=Z,41nm,1.2s
MFID Camas Ranch 48.67 311 P **P 23 46 49.4 +0.2**
MFID IAmb IAmb 23 46 52.1
comp=Z,35nm,1.4s
MZP Montezuma Peak 48.86 303 P **P 23 46 51.5 +0.6**
MZP IAmb IAmb 23 46 54.0
comp=Z,15nm,1.0s
CCAC Calif City Air 49.12 300 P **P 23 46 53.9 +1.2**
CCAC IAmb IAmb 23 46 56.4
comp=Z,33nm,1.1s
PLID Pearl Lake 49.19 313 P **P 23 46 53.7 +0.4**
DSP Deep Springs 49.29 303 P **P 23 46 54.6 +0.8**
DSP IAmb IAmb 23 46 57.7
comp=Z,26nm,1.1s
CO01 Juntas del Tor 49.30 186 P **P 23 46 53.2 -0.9**
CO01 IAmb IAmb 23 46 59.5
comp=Z,9.0nm,0.7s
ISA Isabella, Lake 49.54 301 P **P 23 46 57.0 +1.1**

ISA Isabella, Lake 49.54 301 P P 23 46 57.0 +1.1
ISA pmax pmax
comp=Z,8.0nm,1.1s
NV11 Mina Array Sit 49.55 304 P P 23 46 57.1 +1.0
GO04 Tololo Observa 49.56 187 P P 23 46 55.9 -0.3
GO04 IAmb IAmb 23 47 09.2
comp=Z,15nm,0.8s
NVAR Mina Array Bea 49.67 304 P P 23 46 57.3 +0.2
NVAR Mina Array Bea 49.67 304 P P 23 46 58.8 +1.7
comp=Z,17nm,1.0s,baz=100,slow=5.9,SNR=54
NVAR LR LR 00 08 57.8
comp=Z,898nm,20.9s,baz=120,slow=37
comp=Z,17nm,1.0s
LHV Little Huntoon 49.80 304 P P 23 46 59.2 +1.5
LHV IAmb IAmb 23 47 01.2
comp=Z,25nm,0.9s
RYN Ryan 49.86 305 P P 23 46 58.7 +0.3
RYN IAmb IAmb 23 47 01.3
comp=Z,19nm,1.1s
BMO Blue Mountains 50.03 313 P P 23 46 59.2 -0.3
BMO Blue Mountains 50.03 313 P P 23 46 59.2 -0.3
BMO pmax pmax
comp=Z,7.0nm,1.1s
CO03 El Pedregal 50.21 186 IAmb IAmb 23 47 15.8
comp=Z,11nm,0.7s
F10A Beach Ranch, E 50.24 314 P P 23 47 01.3 +0.2
BCW Bitter Crk WRg 50.26 300 P P 23 47 01.3 -0.1
BCW IAmb IAmb 23 47 18.1
comp=Z,45nm,1.4s
WVOR Wild Horse Val 50.50 309 P P 23 47 03.0 -0.2
WVOR IAmb IAmb 23 47 08.3
comp=Z,26nm,1.2s
WVOR Wild Horse Val 50.50 309 P P 23 47 03.0 -0.2
WVOR pmax pmax
comp=Z,26nm,1.3s
J08A Circle Bar Ran 50.55 311 P P 23 47 03.3 -0.2
J08A IAmb IAmb 23 47 05.9
comp=Z,30nm,1.2s
WAKR Walker 50.56 304 P P 23 47 04.3 +0.5
WAKR IAmb IAmb 23 47 07.3
comp=Z,32nm,1.2s
PAHR Pah Rah Range 50.66 306 P P 23 47 04.3 -0.1
CPSB Cacapava Do Su 50.72 167 *eP* **P 23 47 03.1 -1.5**
ZON Zonda 50.74 184 P P 23 47 03.6 -1.3
ZON IAmb IAmb 23 47 21.6
comp=Z,13nm,0.8s
ZON Zonda 50.74 184 *eP* **P 23 47 03.8 -1.0**
ZON Zonda 50.74 184 P P 23 47 03.6 -1.3
ZON pmax pmax
comp=Z,13nm,0.8s
PNTR Pine Nut 50.75 305 P P 23 47 05.6 +0.3
NEW Newport 50.76 317 P P 23 47 04.9 0.0
NEW IAmb IAmb 23 47 07.6
comp=Z,24nm,0.9s
NEW Newport 50.76 317 P P 23 47 06.0 +1.1
comp=Z,19nm,0.7s,baz=116,slow=7.7,SNR=32
NEW LR LR 00 09 43.0
comp=Z,904nm,19.6s,baz=102,slow=37
comp=Z,19nm,0.7s
E09A Wood Farm, Sta 50.99 315 P P 23 47 07.4 +0.8
RTLS Leoncito 51.03 185 IAML 23 48 15.4
comp=Z,46nm,3.4s
RTLS Leoncito 51.03 185 *eP* **P 23 47 07.1 -0.2**
CMB Columbia Colle 51.26 304 P P 23 47 08.4 -0.5
CMB Columbia Colle 51.26 304 P P 23 47 08.4 -0.5
CMB pmax pmax
comp=Z,13nm,1.4s
G08A Pilot Rock 51.27 313 P P 23 47 10.0 +1.0
C09A Chrisman Ranch 51.38 316 P P 23 47 09.7 +0.1
I07A Izee 51.42 311 P P 23 47 09.4 -0.6
I07A IAmb IAmb 23 47 12.6
comp=Z,31nm,1.3s
E08A Dider Farm, El 51.60 314 P P 23 47 11.8 +0.7
D08A Wollman Farm, 51.63 315 P P 23 47 11.1 -0.3
AFDM Forest Hills D 51.80 305 P P 23 47 13.3 +0.4
PFVI Vila Bisbo 51.83 58 *eP* P 23 47 18.9 +5.8
PFVI *i* Amb 23 47 22.8
comp=Z,225nm,1.8s
HAWA Hanford 51.90 314 P P 23 47 12.9 -0.5
PLTB Pedras Altas 52.00 168 P P 23 47 13.4 -0.8
PLTB IAmb IAmb 23 47 21.7
comp=Z,26nm,1.4s
SAO San Andreas Ge 52.01 302 P P 23 47 14.5 +0.1
SAO IAmb IAmb 23 47 28.2
comp=Z,18nm,1.1s
SAO San Andreas Ge 52.01 302 P P 23 47 14.5 +0.1
SAO pmax pmax
comp=Z,18nm,1.1s
ARCO CERRO ARCO 52.04 184 IAML 23 48 28.9
comp=Z,15nm,4.3s
ARCO CERRO ARCO 52.04 184 *eP* **P 23 47 13.9 -0.8**
F07A Phinny Hill Vi 52.06 314 P P 23 47 14.4 -0.2
VA03 San Esteban 52.10 186 P P 23 47 14.3 -0.8
VA03 IAmb IAmb 23 47 30.9
comp=Z,22nm,0.8s
ICESG Greenland Ices 52.13 11 *i* P **P 23 47 14.8 -0.4**
E07A Sunnyside 52.15 314 P P 23 47 14.9 -0.4
B08A Colville Reser 52.21 317 P P 23 47 15.5 -0.2
ORV Oroville 52.27 305 P P 23 47 16.5 +0.2
ORV IAmb IAmb 23 47 19.0
comp=Z,45nm,1.4s
ORV Oroville 52.27 305 P P 23 47 16.5 +0.2
ORV pmax pmax
comp=Z,45nm,1.5s
AAGR Agrelo 52.28 184 *eP* **P 23 47 15.8 -0.6**
PCAS Casmilo, Conde 52.33 54 *eP* P 23 47 22.6 +5.8
PINE Pine Mountain 52.39 311 P P 23 47 18.4 +1.0
G06A Carlson Farm, 52.42 313 P P 23 47 18.0 +0.6
MXC Moxie City 52.45 314 P P 23 47 18.0 +0.5
J05D Fort Rock, OR 52.52 310 P P 23 47 18.3 0.0
J05D IAmb IAmb 23 47 22.0
comp=Z,43nm,1.3s
EVO Evora 52.57 56 *eP* P 23 47 25.8 +7.2
EVO *i* Amb 23 47 29.2
comp=Z,42nm,1.5s
MT02 Curacav 52.65 186 P P 23 47 20.2 +1.2
MT02 IAmb IAmb 23 47 32.9
comp=Z,26nm,1.1s
MT08 Bocatoma Ro 52.73 185 P P 23 47 20.3 +0.4
MT08 IAmb IAmb 23 47 35.2
comp=Z,11nm,0.8s
K04D Chiloquin, OR 52.81 309 P P 23 47 21.3 +0.9
MT03 Universidad Ad 52.82 186 P P 23 47 19.6 -0.8
LTY Liberty 52.84 315 P P 23 47 20.9 +0.4
LTY IAmb IAmb 23 47 28.2
comp=Z,10nm,0.8s
MT13 San Alfonso 53.05 186 IAmb IAmb 23 47 39.6
comp=Z,26nm,0.8s
PVRL Vila Real 53.05 53 *eP* P 23 47 27.4 +5.2
MTE Manteigas 53.09 54 *eP* P 23 47 29.3 +6.8
PCBR Castelo Branco 53.09 54 *eP* P 23 47 29.8 +7.4
LMEL Las Melosas 53.14 185 IAmb IAmb 23 47 32.3
comp=Z,15nm,0.8s
MT09 Talagante 53.15 186 P P 23 47 21.5 -1.3
MT09 IAmb IAmb 23 47 34.8
comp=Z,32nm,1.4s
L04D Klamath Falls 53.16 309 P P 23 47 23.7 +0.7
O02D Mt. Diablo Mer 53.31 306 P P 23 47 22.8 -1.3
PBAR Barrancos 53.31 56 *eP* **P 23 47 28.0 +4.0**
PBAR *i* Amb 23 47 31.7
comp=Z,43nm,1.6s
BO04 La Punta 53.32 186 P P 23 47 23.4 -0.6
BO04 IAmb IAmb 23 47 37.5
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 53.41 308 P P 23 47 24.7 -0.1
YBH IAmb IAmb 23 47 25.9
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 53.41 308 P P 23 47 25.1 +0.3
comp=Z,12nm,0.8s,baz=112,slow=3.8,SNR=25
comp=Z,12nm,0.8s
H04A Detroit Lake 53.41 312 P P 23 47 24.4 -0.4
H04A IAmb IAmb 23 47 40.9
comp=Z,12nm,0.8s
I04A Tendick Farm, 53.45 311 P P 23 47 25.1 +0.2
I04A IAmb IAmb 23 47 41.1
comp=Z,20nm,1.3s
MVO Moncorvo 53.56 53 *eP* P 23 47 30.7 +4.8
BO01 Tunca 53.77 186 IAmb IAmb 23 47 42.7
comp=Z,12nm,0.9s
BORG Borgarnes 53.80 22 LR LR 00 08 20.5
comp=Z,296nm,18.8s,baz=231,slow=34
BO02 Sierra Bellavi 54.13 186 IAmb IAmb 23 47 37.2
comp=Z,42nm,1.4s
KSXB Camp Six Broad 54.28 308 P P 23 47 32.0 +0.8
KSXB IAmb IAmb 23 47 33.1
comp=Z,27nm,1.1s
KMPM Mount Pierce 54.35 306 P P 23 47 32.0 +0.3
YKA Yellowknife Ar 54.83 334 P P 23 47 35.1 +0.5
YKA Yellowknife Ar 54.83 334 P P 23 47 34.5 -0.2
comp=Z,2.1nm,0.7s,baz=116,slow=7.3,SNR=31
YKA LR LR 00 13 07.6
comp=Z,459nm,18.1s,baz=90,slow=38
comp=Z,2.1nm,0.7s
YKA Yellowknife Ar 54.83 334 P P 23 47 35.1 +0.5
MDT Midelt 55.22 63 LR LR 00 09 01.1
comp=Z,580nm,18.4s,baz=280,slow=34
SUMG Summit 55.34 9 P P 23 47 39.0 +0.3
SUMG Summit 55.34 9 P P 23 47 39.0 +0.3
SUMG pmax pmax
comp=Z,44nm,1.0s
SUMG Summit 55.34 9 *eP* **P 23 47 37.7 -1.0**
SUMG IAmb IAmb 23 47 53.3
comp=Z,2μm,3.6s
KULLO Kullorsuaq 55.40 3 *i* P P 23 47 31.6 -7.0
KULLO IAmb IAmb 23 47 36.5
comp=Z,9.2nm,0.6s
ESDC Sonseca Array 55.78 55 P P 23 47 41.7 -0.4
ESDC Sonseca Array 55.78 55 P P 23 47 42.2 +0.2
comp=Z,5.8nm,1.1s,baz=268,slow=6.2,SNR=11
ESDC LR LR 00 06 02.5
comp=Z,458nm,21.6s,baz=259,slow=30
comp=Z,5.8nm,1.1s
CBB Campbell River 56.43 318 IAmb IAmb 23 47 48.9
comp=Z,15nm,1.1s
RES Resolute Bay 57.64 351 LR LR 00 14 22.0
comp=Z,856nm,18.0s,baz=160,slow=38
EKA Eskdalemuir Ar 58.34 36 P P 23 48 00.3 +0.6
comp=Z,20nm,1.2s,baz=260,slow=6.2,SNR=6.1
comp=Z,20nm,1.2s
BBB Bella Bella 58.49 320 P P 23 48 01.9 +1.1
comp=Z,7.4nm,0.8s,baz=134,slow=3.5,SNR=5.5
comp=Z,7.4nm,0.8s
NEEM North Greenlan 58.53 4 *i* P **P 23 48 01.3 +0.2**
NEEM IAmb IAmb 23 48 15.1
comp=Z,14nm,1.0s
LR05 Currie 59.64 186 P P 23 48 07.8 -1.0
LR05 IAmb IAmb 23 48 08.8
comp=Z,14nm,1.1s
DBIC Dimbokro 59.68 94 P P 23 48 09.4 -0.3
DBIC IAmb IAmb 23 48 15.1
comp=Z,12nm,0.8s
DBIC Dimbokro 59.68 94 P P 23 48 09.4 -0.3
comp=Z,11nm,0.7s,baz=286,slow=9.0,SNR=12
DBIC LR LR 00 11 33.9
comp=Z,273nm,19.2s,baz=264,slow=34
comp=Z,11nm,0.7s
DBIC Dimbokro 59.68 94 P P 23 48 09.5 -0.3
DBIC pmax pmax
comp=Z,12nm,0.9s
DBIC Dimbokro 59.68 94 P P 23 48 11.7 +2.0
PLCA Paso Flores 60.01 185 P P 23 48 10.6 -0.9
PLCA Paso Flores 60.01 185 P P 23 48 10.2 -1.2
comp=Z,1.9nm,0.5s,baz=17,slow=9.4,SNR=4.5
PLCA LR LR 00 16 31.1
comp=Z,428nm,20.0s,baz=27,slow=38
comp=Z,1.9nm,0.5s
PLCA Paso Flores 60.01 185 P P 23 48 10.6 -0.9
PLCA pmax pmax
comp=Z,7.0nm,1.0s
PLCA Paso Flores 60.01 185 P P 23 48 10.5 -0.9
PLCA pP **pwP 23 48 27.9 +2.1**
DBG Daneborg 60.03 13 *i* P **P 23 48 14.2 +3.0**
DBG IAmb IAmb 23 48 23.2
comp=Z,6.6nm,1.0s
DLBC Dease Lake 60.66 327 P P 23 48 16.9 +1.1
DLBC IAmb IAmb 23 48 36.1
comp=Z,18nm,1.3s
JMIC Jan Mayen 61.18 18 LR LR 00 09 52.0
comp=Z,508nm,21.8s,baz=252,slow=31
EUNU Eureka 61.49 356 P P 23 48 22.5 +1.4
LL01 San Ignacio de 61.81 186 P P 23 48 20.4 -3.2
DAG Danmarks Havn 61.92 11 *i* P **P 23 48 23.0 -0.9**
DAG IAmb IAmb 23 48 37.2
comp=Z,18nm,1.0s
P33M Teslin, Yukon 62.38 329 P P 23 48 27.7 +0.2
P33M IAmb IAmb 23 48 40.1
comp=Z,21nm,1.4s
N32M Quiet Lake 62.67 330 P P 23 48 29.7 +0.4
N32M IAmb IAmb 23 48 32.4
comp=Z,14nm,1.2s
A36M Sachs Harbour 62.68 342 P P 23 48 29.2 +0.1
A36M IAmb IAmb 23 48 30.8
comp=Z,10nm,0.8s
ALE Alert 63.22 0 P P 23 48 32.0 -0.5
ALE pP **pwP 23 48 49.5 +0.6**
M31M Drury Creek, Y 63.45 331 P P 23 48 35.4 +1.0
M31M IAmb IAmb 23 48 55.0
comp=Z,26nm,1.4s
TORD Torodi Ar. Bea 64.01 84 P P 23 48 38.1 -0.8
comp=Z,20nm,0.3s,baz=297,slow=7.3,SNR=1.5
comp=Z,20nm,0.3s
INK Inuvik 64.25 337 IAmb IAmb 23 48 52.7
comp=Z,13nm,1.1s
INK Inuvik 64.25 337 P P 23 48 39.5 0.0
ACRG Accra 64.39 93 P P 23 48 40.0 -1.4
M30M Minto, Yukon 64.61 331 P P 23 48 42.5 +0.5
M30M IAmb IAmb 23 48 57.8
comp=Z,18nm,1.4s
N30M Aishikik Lake 64.62 330 P P 23 48 42.1 -0.1
I30M Mount Dempster 64.79 334 P P 23 48 43.7 +0.4
G30M tAoh Zraii Nji 65.00 336 IAmb IAmb 23 48 56.9
comp=Z,7.2nm,0.8s
K29M Barlow Dome 65.09 332 P P 23 48 46.1 +0.8
NOR Nord 65.28 7 *i* P **P 23 48 45.1 -0.9**
NOR IAmb IAmb 23 48 52.8
comp=Z,4.6nm,0.9s
L29M L29M 65.28 331 P P 23 48 43.8 -2.6
L29M IAmb IAmb 23 48 56.4
comp=Z,9.8nm,1.1s
TAM Tamanrasset 65.33 73 P P 23 48 47.4 -0.2
TAM IAmb IAmb 23 49 02.6
comp=Z,9.9nm,1.0s
TAM Tamanrasset 65.33 73 P P 23 48 47.4 -0.2
TAM pmax pmax
comp=Z,10.0nm,1.0s
TAM Tamanrasset 65.33 73 P P 23 48 48.8 +1.2
G29M Pine Creek 65.69 336 IAmb IAmb 23 48 56.7
comp=Z,6.7nm,0.8s
H29M Whitestone 65.74 335 IAmb IAmb 23 49 05.2
comp=Z,7.8nm,0.8s
E29M Blow River 65.86 337 IAmb IAmb 23 48 53.5
comp=Z,6.0nm,0.7s
DAVA Damuels 65.86 46 *eP* **P 23 48 49.7 -0.9**
comp=Z,4.8nm,0.8s
DAVOX Davos/Dischmat 65.89 47 LR LR 00 12 56.8
comp=Z,207nm,21.2s,baz=272,slow=32
DAWY Dawson 65.94 332 P P 23 48 51.1 +0.5
DAWY IAmb IAmb 23 49 07.0
comp=Z,8.6nm,1.0s
FUORN Ofenpass-Fuorn 66.16 47 P P 23 48 52.6 0.0
I28M Miner Creek 66.30 334 P P 23 48 53.9 +0.9
I28M IAmb IAmb 23 49 02.1
comp=Z,10nm,1.4s
RETA Reutte 66.45 46 *eP* **P 23 48 51.9 -2.3**
comp=Z,7.0nm,1.3s
FETA Feichten 66.45 46 *eP* **P 23 48 52.0 -2.5**
comp=Z,8.5nm,1.0s
E28M Babbage River 66.48 337 IAmb IAmb 23 49 07.5
comp=Z,11nm,1.4s
F28M Old Crow 66.49 336 P P 23 48 53.7 -0.5
KEST Kesra 66.50 59 P P 23 48 55.2 +0.4
comp=Z,3.3nm,0.8s,baz=196,slow=0.7,SNR=6.8
KEST LR LR 00 14 27.0
comp=Z,336nm,20.3s,baz=275,slow=33
comp=Z,3.3nm,0.8s
NB2 NORSAR Subarra 66.59 31 P P 23 48 56.7 +1.8
comp=Z,24nm,1.4s,baz=267,slow=6.5
NOA NORSAR Array B 66.59 31 P P 23 48 56.1 +1.2
comp=Z,2.5nm,1.0s,baz=267,slow=6.5,SNR=4.6
NOA LR LR 00 16 12.4
comp=Z,477nm,18.6s,baz=270,slow=34
comp=Z,2.5nm,1.0s
NB201 NORSAR Array S 66.63 31 P P 23 48 54.7 -0.4
NB201 IAmb IAmb 23 48 57.8
comp=Z,10.0nm,1.1s
MOTA Moosalm 66.69 46 *i* **P P 23 48 54.5 -1.4**
comp=Z,5.3nm,0.9s
SQTA Sankt Quirin 66.77 46 *eP* **P 23 48 56.3 0.0**
comp=Z,9.1nm,1.3s
BCAR Beaver Creek A 66.94 331 P P 23 48 58.0 +0.9
M27K Edge Creek, AK 66.95 330 P P 23 48 58.2 +0.9
M27K IAmb IAmb 23 49 00.6
comp=Z,14nm,1.1s
L27K Beaver Creek, 66.96 331 P P 23 48 57.9 +0.7
L27K IAmb IAmb 23 49 04.9
comp=Z,26nm,1.5s
OSSC Osservatorio P 67.09 50 P P 23 48 57.2 -1.2
G27K Doyon Strip 67.11 335 P P 23 48 57.8 -0.3
I26K Coal Creek Min 67.63 334 IAmb IAmb 23 49 14.0
comp=Z,19nm,1.4s
L26K Log Cabin Wild 67.65 331 P P 23 49 04.2 +2.6
L26K IAmb IAmb 23 49 09.7
comp=Z,14nm,1.1s
VRDI Verde Repeater 67.67 329 P P 23 49 03.5 +1.5
VRDI IAmb IAmb 23 49 10.2
comp=Z,22nm,1.2s
ABTA Abfaltersbach 67.69 47 *eP* **P 23 49 01.8 -0.4**
comp=Z,8.5nm,1.3s
LESA Schwarzleotal 67.75 46 *eP* **P 23 49 01.2 -1.3**
comp=Z,5.2nm,1.2s
J26L Joseph Creek 67.78 333 P P 23 49 03.1 +0.7
J26L IAmb IAmb 23 49 17.4
comp=Z,5.5nm,0.7s
HFS Hagfors 67.80 32 P P 23 49 03.2 +0.8
comp=Z,5.8nm,1.1s,baz=250,slow=8.6,SNR=2.5
HFS LR LR 00 16 58.7
comp=Z,791nm,18.7s,baz=266,slow=34
comp=Z,5.8nm,1.1s
SCRK Sand Creek 67.95 332 P P 23 49 04.5 +0.9
SCRK IAmb IAmb 23 49 17.4
comp=Z,9.2nm,0.9s
C27K Jago River 68.07 338 P P 23 49 04.6 +0.5
C27K IAmb IAmb 23 49 17.9
comp=Z,15nm,1.2s
F26K Sheenjek River 68.13 336 P P 23 49 06.4 +1.9
KHC Kasperske Hory 68.21 44 *eP* **P 23 49 08.4 +3.0**
KHC Kasperske Hory 68.21 44 *ceP* **P 23 49 03.7 -1.6**
KHC pmax pmax
comp=Z,22nm,2.5s
KBA Koelnbreinsper 68.23 46 *eP* **P 23 49 05.3 -0.4**
comp=Z,6.0nm,1.1s
BMAR Burnt Mountain 68.29 336 P P 23 49 04.7 -0.8
GEC2 GERESS Array S 68.32 44 P P 23 49 05.2 -0.9
GERES GERESS Array B 68.32 44 P P 23 49 05.1 -1.0
GERES GERESS Array B 68.32 44 P P 23 49 06.7 +0.6
comp=Z,2.0nm,1.0s,baz=260,slow=7.2,SNR=6.1
GERES LR LR 00 16 14.9
comp=Z,258nm,19.3s,baz=268,slow=34
comp=Z,2.0nm,1.0s
RIDG Independent Ri 68.33 332 P P 23 49 06.3 +0.5
RIDG IAmb IAmb 23 49 20.1
comp=Z,12nm,1.0s
BIOA Bad Ischl, Aus 68.38 45 *i* P **P 23 49 07.2 +0.8**
comp=Z,4.2nm,1.1s
RICC Richard 68.43 42 *eP* **P 23 49 09.3 +2.7**
J25K Salcha River, 68.56 333 P P 23 49 06.3 -0.9
ZVC Zvikov 68.59 44 *eP* **P 23 49 08.4 +0.8**
PRP Porcupine Dome 68.63 334 P P 23 49 08.2 +0.4
PRP IAmb IAmb 23 49 21.1
comp=Z,9.7nm,1.0s
CKRC Cesky Krumlov 68.72 44 *eP* P 23 49 03.5 -5.0
CKRC Cesky Krumlov 68.72 44 *eP* P 23 49 03.5 -5.0
MOA Molln 68.78 45 *eP* **P 23 49 08.1 -0.8**
comp=Z,5.7nm,1.6s
D25K Kavik River 69.00 338 IAmb IAmb 23 49 16.9
comp=Z,8.2nm,0.9s
OBKA Obir 69.11 47 *i* P **P 23 49 10.7 -0.4**
comp=Z,8.7nm,1.5s
IL31 69.21 333 IAmb IAmb 23 49 18.1
comp=Z,19nm,1.4s
ILAR Eielson Array 69.21 333 P P 23 49 11.4 +0.1
ILAR Eielson Array 69.21 333 P P 23 49 11.0 -0.2
comp=Z,2.4nm,0.8s,baz=104,slow=4.3,SNR=52
ILAR LR LR 00 20 03.6
comp=Z,376nm,20.9s,baz=82,slow=36
comp=Z,2.4nm,0.8s
ILAR Eielson Array 69.21 333 P P 23 49 11.4 +0.1
SPITS Spitsbergen Ar 69.41 13 LR LR 00 19 08.9
comp=Z,502nm,19.1s,baz=223,slow=36
G24K Hadweenzic Riv 69.42 335 P P 23 49 13.0 +0.5
SOKA Soboth 69.43 46 *eP* **P 23 49 12.3 -0.8**
comp=Z,2.5nm,0.9s
POKR Poker Flat Res 69.44 333 IAmb IAmb 23 49 26.4
comp=Z,9.3nm,0.8s
H24K Noodor Dome 69.60 334 P P 23 49 14.1 +0.4
H24K IAmb IAmb 23 49 27.7
comp=Z,11nm,0.9s
CCB Clear Creek Bu 69.61 333 P P 23 49 13.9 +0.2
CCB IAmb IAmb 23 49 20.2
comp=Z,20nm,1.4s
COLA College 69.62 333 *i* P **P 23 49 12.7 -1.0**
COLA pmax pmax
comp=Z,29nm,2.0s
UPC Upice 69.65 42 *eP* **P 23 49 14.5 +0.3**
UPC Upice 69.65 42 *eP* **P 23 49 14.5 +0.3**
ARSA Arzberg 69.69 46 *eP* **P 23 49 14.0 -0.5**
comp=Z,6.0nm,1.7s
E24K Your Creek 69.78 337 IAmb IAmb 23 49 22.1
comp=Z,12nm,1.3s
C24K Franklin Bluff 69.82 338 IAmb IAmb 23 49 18.9
comp=Z,12nm,0.7s
CONA Conrad Observa 69.84 45 *eP* **P 23 49 14.6 -1.0**
comp=Z,4.8nm,1.6s
DPC Dobruska-Polom 69.87 42 *eP* **P 23 49 19.2 +3.6**
DPC Dobruska-Polom 69.87 42 *eP* **P 23 49 19.2 +3.6**
RND Reindeer 70.13 332 P P 23 49 18.1 +1.0
RND IAmb IAmb 23 49 36.9
comp=Z,24nm,1.4s
RND Reindeer 70.13 332 P P 23 49 18.1 +1.0
RND pmax pmax
comp=Z,24nm,1.4s
NEA2 Nenana 70.16 333 IAmb IAmb 23 49 30.5
comp=Z,13nm,0.9s
RONA Rosalia, Austr 70.16 45 *eP* **P 23 49 15.6 -1.9**
comp=Z,7.6nm,1.4s
VRAC Vranov 70.16 43 LR LR 00 16 51.8
comp=Z,223nm,20.2s,baz=278,slow=33
I23K Minto, Yukon-K 70.25 333 P P 23 49 17.5 -0.1
I23K IAmb IAmb 23 49 25.8
comp=Z,9.7nm,0.8s
VAE Valguarnera 70.27 56 LR LR 00 17 01.0
comp=Z,298nm,19.9s,baz=279,slow=33
GHO Glory Hole Cre 70.28 330 P P 23 49 17.4 -0.5
GHO IAmb IAmb 23 49 20.9
comp=Z,23nm,1.0s
G23K Bananza Creek 70.43 335 P P 23 49 19.2 +0.5
COLD Coldfoot 70.47 336 P P 23 49 19.8 +0.9
C23K Itkillik River 70.48 338 IAmb IAmb 23 49 32.8
comp=Z,19nm,1.2s
D23K Nanushuk River 70.55 338 P P 23 49 19.8 +0.4
SGRT San Giovanni R 70.60 52 P P 23 49 18.5 -1.8
MODS Modra-Piesok 70.73 44 *eP* **P 23 49 22.4 +1.5**
MODS Modra-Piesok 70.73 44 *eP* **P 23 49 22.4 +1.5**
TRF Thorofare Moun 70.77 332 P P 23 49 21.9 +0.9
TRF IAmb IAmb 23 49 40.7
comp=Z,14nm,0.9s
E22K Anaktuvuk Pass 71.02 337 P P 23 49 22.4 +0.1
E22K IAmb IAmb 23 49 35.8
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 71.03 332 P P 23 49 22.2 -0.2
BPAW IAmb IAmb 23 49 24.6
comp=Z,14nm,1.0s
KTH Kantishna Hill 71.05 332 P P 23 49 22.2 -0.4
KTH IAmb IAmb 23 49 25.2
comp=Z,17nm,1.0s
D22K Ayikyak River 71.28 338 P P 23 49 24.1 +0.3
CAST Castle Rocks 71.58 332 P P 23 49 25.6 -0.2
H21K Melozitna Rive 71.64 334 P P 23 49 26.8 +0.7
H21K IAmb IAmb 23 49 45.4
comp=Z,11nm,1.1s
VYHS Vyhne 71.74 44 *eP* **P 23 49 31.5 +4.5**
VYHS Vyhne 71.74 44 *eP* **P 23 49 31.5 +4.5**
B21K Ikpikpuk River 71.88 338 IAmb IAmb 23 49 41.5
comp=Z,11nm,0.8s
MORH Mrgy, Hungar 71.96 47 ⇑P **P 23 49 28.4 +0.1**
MORH Mrgy, Hungar 71.96 47 P P 23 49 28.2 -0.1
comp=Z,6.6nm,2.0s
LANS Liptovska Anna 72.05 43 *eP* **P 23 49 33.4 +4.5**
LANS Liptovska Anna 72.05 43 *eP* **P 23 49 33.4 +4.5**
OJC Ojcow 72.09 42 P P 23 49 28.4 -0.7
OJC IAmb IAmb 23 49 44.4
comp=Z,15nm,1.4s
OJC Ojcow 72.09 42 P P 23 49 28.4 -0.7
OJC pmax pmax
comp=Z,15nm,1.4s
ARCES ARCESS Array B 72.21 22 P P 23 49 30.4 +0.9

comp=Z,3.5nm,0.7s,baz=270,slow=6.7,SNR=10
ARCES LR LR 00 15 39.6
comp=Z,218nm,21.3s,baz=272,slow=31
comp=Z,3.5nm,0.7s
KDAK Kodiak Island 72.56 326 LR LR 00 24 36.1
comp=Z,351nm,18.1s,baz=268,slow=38
PDG Podgorica 73.06 50 ⇑P **P 23 49 35.6 +0.7**
G19K Purcell Mounta 73.31 335 P **P 23 49 35.8 -0.3**
F19K Shaleruckik Mo 73.46 336 P **P 23 49 36.4 -0.4**
FINES FINESS Array B 73.72 30 P **P 23 49 39.0 +0.6**
comp=Z,3.3nm,0.8s,baz=235,slow=6.7,SNR=8.4
FINES LR LR 00 19 58.0
comp=Z,482nm,19.2s,baz=254,slow=34
comp=Z,3.3nm,0.8s
SIRR Siria 74.01 46 ⇑P **P 23 49 40.7 +0.2**
BZS Buzias 74.11 47 ⇑P **P 23 49 41.8 +0.7**
BZS Buzias 74.11 47 ⇑P **P 23 49 41.8 +0.7**
C18K Utukok River 74.37 338 P **P 23 49 42.2 -0.1**
E18K Tukpahlearik C 74.43 336 P **P 23 49 42.6 +0.1**
SURR Surduc 74.43 47 ⇓P **P 23 49 43.1 +0.1**
K17K Iditarod 74.49 331 P **P 23 49 42.9 -0.1**
K17K IAmb IAmb 23 49 46.2
comp=Z,12nm,1.0s
DRGR 74.62 45 ⇑P **P 23 49 44.2 +0.1**
DRGR 74.62 45 ⇑P **P 23 49 44.2 +0.1**
J17K VABM Dome 74.69 332 P **P 23 49 43.6 -0.5**
H17K Granite Mounta 74.71 334 P **P 23 49 44.5 +0.4**
F17K Baldwin Pennin 74.90 336 P **P 23 49 45.0 -0.3**
MARR Marisel-Cluj 74.92 45 ⇑P **P 23 49 46.2 +0.3**
GZR Gura Zlata 74.96 47 ⇑P **P 23 49 45.1 -1.0**
GZR Gura Zlata 74.96 47 ⇑P **P 23 49 45.1 -1.0**
M16K Timber Creek 75.16 330 P **P 23 49 46.3 -0.5**
M16K IAmb IAmb 23 49 54.4
comp=Z,37nm,1.3s
J16K Anvik River 75.38 332 P **P 23 49 48.3 +0.2**
APA Apatity 75.45 23 ⇓*i*P P 23 49 40.7 -7.7
APA pmax pmax
comp=Z,7.0nm,1.3s
G16K Koyuk River 75.60 335 P **P 23 49 50.3 +1.0**
LOT Lotru 75.63 47 ⇓P **P 23 49 50.3 +0.3**
C16K Lisburne Hills 75.95 338 P **P 23 49 51.1 -0.1**
K15K Wolf Creek Mou 76.04 331 P **P 23 49 51.4 -0.5**
K15K IAmb IAmb 23 49 54.4
comp=Z,18nm,1.4s
BUR08 Bucovina Ar. S 76.09 44 P **P 23 49 54.8 +2.3**
BURAR Bucovina Array 76.11 44 P **P 23 49 54.0 +1.3**
BURAR Bucovina Array 76.11 44 ⇓P **P 23 49 53.6 +0.9**
BURAR Bucovina Array 76.11 44 ⇓P **P 23 49 53.6 +0.9**
ITM Ithomi 76.20 55 P **P 23 49 51.8 -1.5**
ITM IAmb IAmb 23 50 10.0
comp=Z,10nm,0.9s
ARR Arges 76.24 47 ⇑P **P 23 49 53.7 +0.2**
F15K North Star Dit 76.43 335 P **P 23 49 54.0 0.0**
VOIR 76.51 46 ⇑P **P 23 49 56.3 +1.3**
VOIR 76.51 46 ⇑P **P 23 49 56.3 +1.3**
M14K Bethel 76.65 330 P **P 23 49 55.7 +0.4**
M14K IAmb IAmb 23 50 02.6
comp=Z,34nm,1.4s
J14K Nanvaranak Lak 76.82 332 P **P 23 49 57.1 +0.8**
J14K IAmb IAmb 23 50 04.4
comp=Z,12nm,1.1s
L14K Kuka Creek 76.82 331 P **P 23 49 56.8 +0.5**
L14K IAmb IAmb 23 50 11.9
comp=Z,21nm,1.4s
MLR Muntele Rosu 77.11 46 P **P 23 49 56.5 -1.9**
MLR IAmb IAmb 23 50 04.5
comp=Z,10nm,1.0s
MLR Muntele Rosu 77.11 46 P **P 23 49 59.7 +1.3**
comp=Z,6.0nm,0.9s,baz=111,slow=2.4,SNR=11
MLR LR LR 00 23 36.4
comp=Z,247nm,18.6s,baz=274,slow=35
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 77.11 46 ⇓P **P 23 49 59.4 +1.0**
MLR Muntele Rosu 77.11 46 P **P 23 50 00.0 +1.6**
comp=Z,14nm,1.3s
LUBAR Lubar, Ukraine 77.17 41 P **P 23 49 58.1 -0.4**
COVR Voineasa-Covas 77.19 46 ⇓P **P 23 49 60.0 +1.2**
TESR Tescani 77.32 45 ⇑P **P 23 49 59.7 +0.2**
M13K Dall Lake 77.40 330 P **P 23 50 00.6 +1.1**
PLOR Plostina 77.49 46 ⇑P **P 23 50 00.7 +0.2**
PLOR Plostina 77.49 46 ⇑P **P 23 50 00.7 +0.2**
K13K Kusilvak Mount 77.55 331 P **P 23 50 01.2 +0.8**
TNA Tin City 77.77 335 P **P 23 50 01.6 +0.1**
AKASG Malin Array Be 77.88 40 P **P 23 50 02.5 +0.1**
comp=Z,0.8nm,0.6s,baz=273,slow=4.6,SNR=4.1
AKASG LR LR 00 20 03.2
comp=Z,500nm,21.9s,baz=278,slow=32
comp=Z,0.8nm,0.6s
AKBB Malin Array Si 77.88 40 *i*P **P 23 50 01.0 -1.4**
SORM Soroca 78.02 43 ⇓P **P 23 50 03.0 -0.2**
SORM Soroca 78.02 43 ⇓P **P 23 50 03.0 -0.2**
CFR Carcaliu 78.68 46 ⇑P **P 23 50 06.9 0.0**
CFR Carcaliu 78.68 46 ⇑P **P 23 50 06.9 0.0**
IDI Anoyia 79.00 56 P **P 23 50 09.3 +0.3**
IDI IAmb IAmb 23 50 12.2
comp=Z,16nm,0.9s
TAOE Nuku Hiva Isla 79.11 257 *e*LR LR 00 14 51.2
comp=Z,466nm,29.7s
PURM Purcari 79.46 44 ⇓P **P 23 50 11.2 0.0**
PURM Purcari 79.46 44 P **P 23 50 12.8 +1.6**
comp=Z,21nm,0.8s
KLMR Klimovskoe 80.13 29 *e*P **P 23 50 16.9 +2.3**
KLMR pmax pmax
comp=Z,26nm,1.5s
OBN Obninsk 80.74 35 P **P 23 50 18.9 +1.0**
comp=Z,15nm,0.5s,baz=261,slow=22,SNR=3.6
OBN LR LR 00 22 32.8
comp=Z,421nm,20.9s,baz=352,slow=33
comp=Z,15nm,0.5s
OBN Obninsk 80.74 35 ⇑*e*P **P 23 50 16.5 -1.4**
OBN 23 50 23.0
OBN *i*S **S 00 00 29.1 +5.5**
OBN PS 00 01 04.0
OBN pmax pmax
comp=Z,171nm,4.0s
OBN MLR MLR
comp=Z,327nm,18.0s
LPSR Galich'ya Gora 82.97 37 *e*P **P 23 50 30.1 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 83.64 38 *e*P **P 23 50 33.2 0.0**
VSR pmax pmax
comp=Z,5.0nm,1.0s
PMSA Palmer Station 83.87 180 LR LR 00 28 09.3
comp=Z,206nm,20.9s,baz=330,slow=36
BR131 Keskin Array S 84.25 50 *i*P **P 23 50 34.2 -2.5**
BR131 Keskin Array S 84.25 50 *i*P **P 23 50 34.1 -2.7**
BRTR Keskin Array B 84.25 50 P **P 23 50 35.7 -1.1**
BRTR Keskin Array B 84.25 50 P **P 23 50 36.7 0.0**
comp=Z,1.2nm,0.8s,baz=289,slow=4.3,SNR=6.5
comp=Z,1.2nm,0.8s
BRTR Keskin Array B 84.25 50 *ce*P **P 23 50 35.7 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BR104 Keskin Array S 84.25 50 P **P 23 50 38.3 +1.5**
VRH Novokhopyorsk 85.11 37 *e*P **P 23 50 39.0 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 85.23 343 P **P 23 50 41.0 0.0**
BILL IAmb IAmb 23 50 58.9
comp=Z,4.8nm,0.7s
BILL Bilibino 85.23 343 *ce*P **P 23 50 40.6 -0.4**
BILL pmax pmax
comp=Z,5.0nm,1.3s
KIRV Kirov 85.63 29 LR LR 00 28 40.0
comp=Z,193nm,18.1s,baz=295,slow=35
KIRV Kirov 85.63 29 *i*P **P 23 50 41.8 -1.3**
SOC Sochi 87.02 45 *e*P P 23 50 43.6 -6.7
SOC *e*PPP PPP 23 56 06.7
SOC *e*S S 00 01 08.3 -19
SOC *e*SS **SS 00 07 07.8 -2.0**
SOC MLR MLR
comp=Z,147nm,17.0s
BELG Belogornoye 87.84 34 LR LR 00 27 12.3
comp=Z,424nm,20.4s,baz=296,slow=34
BELG Belogornoye 87.84 34 *i*P **P 23 50 53.3 -0.7**
BELG pmax pmax
comp=Z,2.0nm,0.9s
MMAI Mount Meron Ar 87.97 56 P **P 23 50 55.5 +0.3**
comp=Z,1.4nm,0.8s,baz=328,slow=5.8,SNR=4.0
MMAI LR LR 00 28 06.4
comp=Z,62nm,20.8s,baz=306,slow=34
comp=Z,1.4nm,0.8s
TIXI Tiksi 88.73 356 LR LR 00 33 54.7
comp=Z,308nm,18.2s,baz=12,slow=38
TIXI Tiksi 88.73 356 *ce*P **P 23 50 58.2 +0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
EIL Elat 88.84 59 LR LR 00 29 02.8
comp=Z,214nm,20.3s,baz=254,slow=34
KBZ Khabaz 89.05 44 LR LR 00 32 38.8
comp=Z,107nm,18.3s,baz=322,slow=37
KBZ Khabaz 89.05 44 *i*P **P 23 50 59.4 -0.5**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
NRIK Noril'sk 89.39 9 P **P 23 51 02.1 +1.1**
comp=Z,1.0nm,0.5s,baz=55,slow=5.1,SNR=2.0
NRIK LR LR 00 33 02.0
comp=Z,150nm,19.4s,baz=345,slow=37
comp=Z,1.0nm,0.5s
NRIK Noril'sk 89.39 9 *i*P **P 23 51 02.7 +1.7**
NRIK pmax pmax
comp=Z,5.0nm,1.4s
TSUM Tsumeb 89.58 110 LR LR 00 24 23.8
comp=Z,400nm,20.3s,baz=328,slow=31
PPT Papeete 90.78 252 LR LR 00 25 34.7
comp=Z,140nm,20.5s,baz=62,slow=31
PPT2 Papeete2 90.79 252 *e*P P 23 51 01.8 -6.8
comp=Z,46nm,23.2s
PPT2 Papeete2 90.79 252 *e*PP **PP 23 54 38.4 -6.2**
comp=Z,42nm,24.2s
PPT2 *e*S S 00 01 50.8 -13
comp=Z,107nm,25.2s
PPT2 *e*SS SS 00 07 55.0 -12
comp=Z,74nm,24.5s
PPT2 Papeete2 90.79 252 *e*LR LR 00 20 07.3
comp=Z,238nm,30.2s
PPT2 *e*LR LR 00 20 09.4
comp=Z,203nm,21.5s
ARTI Arti 90.87 28 LR LR 00 28 05.6
comp=Z,216nm,21.2s,baz=314,slow=33
GNI Garni 91.89 46 LR LR 00 33 22.3
comp=Z,124nm,19.3s,baz=316,slow=36
TBI Tubuai 92.64 246 *e*P P 23 51 07.6 -9.3
comp=Z,174nm,26.2s
TBI Tubuai 92.64 246 *e*S **SKSac 00 01 57.6 +8.9**
comp=Z,455nm,34.8s
TBI *e*SS SS 00 08 13.3 -20
comp=Z,278nm,30.2s
TBI Tubuai 92.64 246 *e*LR LR 00 21 03.3
comp=Z,589nm,28.2s
SEY Seymchan 92.87 344 *e*P **P 23 51 18.8 +1.5**
SEY pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 94.34 33 LR LR 00 33 09.6
comp=Z,402nm,18.7s,baz=275,slow=35
MA2 Magadan 96.09 343 LR LR 00 39 53.0
comp=Z,202nm,19.1s,baz=68,slow=39
SUR Sutherland 96.74 122 LR LR 00 27 57.1
comp=Z,283nm,20.7s,baz=304,slow=31
LSZ Lusaka 97.88 103 LR LR 00 30 01.3
comp=Z,287nm,19.8s,baz=288,slow=32
YAK Yakutsk 98.05 353 LR LR 00 39 27.8
comp=Z,357nm,18.7s,baz=341,slow=38
BVAR Borovoye Array 98.25 25 P Pdif 23 51 43.0 +0.9
comp=Z,0.3nm,0.5s,baz=340,slow=4.9,SNR=2.0
BVAR LR LR 00 31 39.7
comp=Z,271nm,22.0s,baz=322,slow=33
comp=Z,0.3nm,0.5s
BVAR Borovoye Array 98.25 25 P Pdif 23 51 43.0 +0.9
LBTB Lobatse 98.49 113 LR LR 00 28 24.7
comp=Z,222nm,21.9s,baz=287,slow=31
PETK Petropavlovsk- 98.94 336 LR LR 00 38 49.4
comp=Z,202nm,20.9s,baz=56,slow=37
BOSA Boshof 99.26 117 LR LR 00 31 34.7
comp=Z,92nm,19.0s,baz=297,slow=32
SNAA Sanae 99.97 163 LR LR 00 40 19.8
comp=Z,166nm,19.0s,baz=8.5,slow=37
HHC Hu-ho-hao-te 120.02 3 *e*P PKPdf 23 56 43.6 -12
XAN Xi'an 126.58 6 Pdif **Pdif 23 53 39.3 -9.3**
DZM Mont Dzumac 131.98 257 *e*LR LR 00 39 14.8
comp=Z,252nm,27.4s
PZH PanZhiHua 132.63 16 PKP **PKPdf 23 57 19.8 -0.4**
CMAR Chiang Mai Arr 139.25 24 PKP **PKPdf 23 57 33.4 +0.8**
comp=Z,1.2nm,0.7s,baz=339,slow=1.5,SNR=7.8
PMG Port Moresby 147.36 283 PKPbc **PKPab 23 57 50.9 -0.3**
comp=Z,4.3nm,0.3s,baz=41,slow=8.4,SNR=6.0
PSI Prapat 152.90 37 PKP **PKPdf 23 57 56.6 +0.8**
comp=Z,4.4nm,0.3s,baz=238,slow=6.1,SNR=2.8
RPSI Rantau Prapat 152.98 37 **PKPdf 23 57 56.6 +0.9**
STKA Stephens Creek 153.05 237 PKPbc **PKiKP 23 58 04.1 +1.3**
comp=Z,5.0nm,0.8s,baz=44,slow=1.5,SNR=7.8
WRA Warramunga Arr 161.77 265 PKP **PKPdf 23 58 05.8 -0.8**
comp=Z,0.5nm,0.3s,baz=108,slow=1.3,SNR=9.2
WRA PKPab **PKPab 23 58 52.5 +0.4**
comp=Z,3.2nm,0.7s,baz=84,slow=4.1,SNR=10
ASAR Alice Springs 161.89 253 P **PKPdf 23 58 07.1 +0.5**
ASAR Alice Springs 161.89 253 PKP **PKPdf 23 58 07.3 +0.7**
comp=Z,1.9nm,0.8s,baz=108,slow=1.6,SNR=18
ASAR PKPab **PKPab 23 58 52.7 +0.1**
comp=Z,4.5nm,0.7s,baz=102,slow=4.8,SNR=4.1

RSNC 18 23:38:18.3±0.0, 8°N±2°×7°W±°, h56km±6km, M2.9, mb3.6, ML2.7, MwMwp4.6, Mwp5.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APAC	**Apartado, Choc**	**0.53**	**114**	P	Pn		23 38 29.1	-1.2
APAC				S	Sn		23 38 38.6	-0.4
CAPC	**Capurgana**	**0.58**	**331**	P	Pn		23 38 30.3	-0.6
CAPC				S	Sn		23 38 40.2	+0.1
LCBC	**Los crdobas,**	**1.01**	**43**	P	Pn		23 38 36.3	0.0
LCBC				S	Sn		23 38 51.8	+2.1
PTAC	**Punta Ardita,**	**1.21**	**217**	P	Pn		23 38 38.1	-1.0
PTAC				S	Sn		23 38 54.2	-0.3
DBBC	**Dabeiba**	**1.39**	**142**	P	Pn		23 38 40.9	-0.6
DBBC				S	Sn		23 39 00.0	+1.1
UREC	**San Jos de Ur**	**1.57**	**103**	P	Pn		23 38 42.6	-1.2
UREC				S	Sn		23 39 00.7	-2.4
ZARC	**Zaragoza, Cauc**	**2.28**	**106**	P	Pn		23 38 52.6	-0.9
ZARC				S	Sn		23 39 17.5	-3.0
CBOC	**Ciudad Bolivar**	**2.48**	**155**	P	Pn		23 38 58.2	+1.8
CBOC				S	Sn		23 39 31.0	+5.5
SJCC	**San Jacinto, C**	**2.57**	**46**	P	Pn		23 39 00.3	+2.7
SJCC				S	Sn		23 39 25.6	-2.1
PTBC	**PUERTO BERRIO,**	**3.03**	**121**	P	Pn		23 39 02.9	-1.0
PTBC				S	Sn		23 39 36.1	-2.9
PLMC	**San Jos del P**	**3.29**	**166**	P	Pn		23 39 07.7	+0.3
PLMC				S	Sn		23 39 46.2	+0.8
GUY2C	**Guyana, Caldas**	**3.34**	**149**	P	Pn		23 39 12.8	+4.3
GUY2C				S	Sn		23 39 49.4	+2.2
NORC	**Norcasia**	**3.35**	**139**	P	Pn		23 39 09.4	+1.1
BRJC	**Barrancabermej**	**3.49**	**109**	P	Pn		23 39 09.6	-0.5
BRJC				S	Sn		23 39 47.0	-3.2
OCAC	**Ocana**	**3.71**	**88**	P	Pn		23 39 13.1	-0.2
OCAC				S	Sn		23 39 52.7	-3.3
PAMC	**Pamplona, Colo**	**4.40**	**100**	P	Pn		23 39 23.2	+0.2
PAMC				S	Sn		23 40 10.5	-2.8
RUSC	**La Rusia**	**4.53**	**119**	P	Pn		23 39 23.8	-1.1
RUSC				S	Sn		23 40 13.4	-3.2
CRJC	**Cerrejon, Guaj**	**5.04**	**55**	P	Pn		23 39 31.4	0.0
CRJC	14nm,1.8s			S	Sn		23 40 22.2	-6.2
	14nm,1.8s							
SDV	**Santo Domingo**	**6.41**	**83**	P	Pn		23 39 51.5	+1.1

DJA 18 23:52:17.7±0.9, 10°S±5°×11°3E±°, h23km±11km, M4.4/16, MLv4.4/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.37**	**24**	P	Pn		23 52 40.5	-0.9
GMJI				S	Sb		23 52 59.4	-0.3
JAGI	**Jajag, Banyuwa**	**1.64**	**50**	P	Pn		23 52 44.8	-0.4
JAGI				S	Sb		23 53 06.9	-0.6
PCJI	**Pacitan**	**2.14**	**308**	P	Pn		23 52 51.3	-0.8
PCJI				S	Sn		23 53 18.5	+0.5
ABJI	**Asem Bagus**	**2.18**	**38**	P	Pn		23 52 51.8	-0.8
ABJI				S	Sn		23 53 19.7	+0.8
DNP	**Denpasar**	**2.45**	**70**	P	Pn		23 52 56.2	-0.1
NGJI	**Ngawi**	**2.57**	**327**	P	Pn		23 52 58.0	+0.1
NGJI				S	Sn		23 53 28.3	-0.1
GRJI	**Gresik**	**2.63**	**351**	P	Pn		23 52 59.2	+0.4
KMMI	**Kalianget**	**2.69**	**24**	P	Pn		23 52 59.1	-0.5
SRBI	**Singaraja**	**2.72**	**58**	P	Pn		23 52 59.4	-0.6
UGM	**Wanagama**	**2.83**	**304**	P	Pn		23 53 00.4	-1.2
TBJI	**Tambak Boyo**	**2.88**	**339**	P	Pn		23 53 01.2	-1.0
YOGI	**Yogyakarta**	**3.07**	**303**	P	Pn		23 53 05.0	+0.1
PLAI	**Plampang**	**4.88**	**82**	P	Pn		23 53 35.0	+5.2
PLAI	**Plampang**	**4.88**	**82**	P	Pn		23 53 30.3	+0.5

*IDC **18** 23:52:52.3±1.2, 9°39S×112°92E, h0km, mb3.9/9, mbtmp3.9/12, ML4.1/3, MS3.5/6, Error ellipse: s-maj=32.5km s-min=17.5km az=39.0*
*NEIC **18** 23:52:56.1±2.8, 9°80S±0°05×112°77E±0°05, h35km±2km, mb4.2/10, Error ellipse: s-maj=10.7km s-min=4.7km az=129.0*
*DJA **18** 23:52:57.0±0.9, 10°S±4°×11°3E±°, h20km±9km, M4.6/24, mB5.6/2, mb4.8/7, MLv4.5/24, Mw(mB)5.1/2*
ISC 18 23:52:56.3±0.7, 9.73S±0.07×112.82E±0.05, h35km, n63, σ1.9 78/65, mb4.1/14, MS3.7/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.57**	**23**	P	Pn		**23 53 21.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.81**	**47**	Pn	**Pn**		**23 53 26.4**	**+1.3**
JAGI				Sn	**Sn**		**23 53 49.2**	**+2.3**
JAGI	**Jajag, Banyuwa**	**1.81**	**47**	P	**Pn**		**23 53 26.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**1.81**	**47**	P	**Pn**		**23 53 25.5**	**+0.4**
JAGI				S	**Sn**		**23 53 48.3**	**+1.4**
PCJI	**Pacitan**	**2.23**	**313**	P	**Pn**		**23 53 30.8**	**0.0**
PCJI				S	**Sn**		**23 53 58.2**	**+1.1**
ABJI	**Asem Bagus**	**2.37**	**36**	P	**Pn**		**23 53 33.4**	**+0.6**
DNP	**Denpasar**	**2.58**	**66**	P	**Pn**		**23 53 37.7**	**+2.1**
NGJI	**Ngawi**	**2.70**	**330**	P	**Pn**		**23 53 37.4**	**+0.1**
GRJI	**Gresik**	**2.82**	**353**	P	**Pn**		**23 53 38.3**	**-0.6**
SRBI	**Singaraja**	**2.87**	**56**	P	**Pn**		**23 53 40.3**	**+0.7**
KMMI	**Kalianget**	**2.89**	**23**	P	**Pn**		**23 53 41.1**	**+1.2**
UGM	**Wanagama**	**2.90**	**308**		**Pn**		**23 53 40.1**	**+0.1**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**		**23 53 40.8**	**+0.7**
UGM	**Wanagama**	**2.90**	**308**	P	**Pn**		**23 53 40.5**	**+0.4**
TBJI	**Tambak Boyo**	**3.05**	**341**	P	**Pn**		**23 53 43.5**	**+1.4**
YOGI	**Yogyakarta**	**3.14**	**307**	P	**Pn**		**23 53 44.8**	**+1.5**
SMRI	**Semarang**	**3.56**	**318**		**Pn**		**23 53 49.3**	**+0.3**
SMRI	**Semarang**	**3.56**	**318**	P	Pn		23 53 38.5	-11
SMRI	**Semarang**	**3.56**	**318**	P	**Pn**		**23 53 50.2**	**+1.1**
TWSI	**Taliwang, Sumb**	**4.13**	**77**	P	**Pn**		**23 53 58.7**	**+1.8**
KPJI	**Karang Pucung**	**4.53**	**301**	P	**Pn**		**23 54 03.6**	**+1.2**
CMJI	**Cimerak**	**4.74**	**294**	P	**Pn**		**23 54 05.0**	**-0.3**
PLAI	**Plampang**	**4.97**	**80**	P	**Pn**		**23 54 10.8**	**+2.3**
LEM	**Lembang**	**5.90**	**299**	Pn	**Pn**		**23 54 19.5**	**-2.0**
	6.5nm,0.3s,baz=299,slow=21,SNR=2.1							
LEM				Sn	**Sn**		**23 55 31.8**	**+3.8**
	baz=342,slow=23							
LEM				LR	LR		23 57 06.6	
	comp=Z,95nm,21.6s,baz=7.5,slow=44							
	16nm,0.4s							
CNJI	**Cibinong**	**6.12**	**293**	P	**Pn**		**23 54 26.5**	**+2.2**
	0.1nm18nm,0.5s							
WBSI	**Waikabubak, Su**	**6.48**	**90**	P	**Pn**		**23 54 33.1**	**+3.8**
	0.4nm65nm,0.8s							
XMI	**Christmas Isla**	**7.06**	**264**	P	**Pn**		**23 54 37.2**	**-0.1**
XMIS	**Christmas Isla**	**7.10**	**263**		**Pn**		**23 54 37.4**	**-0.4**
XMIS	**Christmas Isla**	**7.10**	**263**	P	**Pn**		**23 54 37.7**	**-0.1**
BASI	**Baing, Sumba**	**7.66**	**94**	P	**Pn**		**23 54 48.5**	**+3.1**
	81nm,1.0s							
CGJI	**Cibinong**	**7.71**	**293**	P	**Pn**		**23 54 48.2**	**+2.1**
	0.4nm5um49nm,0.4s							
KAPI	**Kappang**	**8.31**	**56**	Pn	**Pn**		**23 54 57.1**	**+2.6**
KAPI	**Kappang**	**8.31**	**56**	Pn	**Pn**		**23 54 50.2**	**-4.3**
	2.6nm,0.3s,baz=221,slow=13,SNR=5.2							
KAPI				Sn	**Sn**		**23 56 25.8**	**-1.4**
	1.1nm,0.3s,baz=62,slow=20,SNR=1.8							
KAPI				LR	LR		23 58 37.1	
	comp=Z,177nm,18.4s,baz=260,slow=43							
	1.6nm,0.4s							
BSSI	**Bau Bau, Buton**	**8.39**	**65**	P	**Pn**		**23 54 57.9**	**+2.4**
	58nm,1.0s							
BKSI	**Bulukumba**	**8.46**	**59**	P	**Pn**		**23 54 57.4**	**+1.0**
MNAI	**Manna**	**11.15**	**298**	Pn	**Pn**		**23 55 33.6**	**+0.2**
SOEI	**Soe**	**11.28**	**91**	Pn	**Pn**		**23 55 37.6**	**+2.3**
GIRL	**Giralia**	**12.91**	**174**	Pn	**Pn**		**23 55 57.2**	**-0.2**
PSA00	**Pilbara Seismi**	**13.57**	**151**	Pn	**Pn**		**23 56 05.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**		**23 56 24.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**14.96**	**125**	Pn	**Pn**		**23 56 24.9**	**-0.4**
	0.4nm,0.3s,baz=293,slow=9.3,SNR=7.7							
	1.2nm,0.4s							
WB0	**Warramunga Arr**	**23.10**	**118**	P	**P**		**23 57 58.7**	**-0.6**
WB0				IAmb	IAmb		23 58 16.1	
	comp=Z,5.9nm,1.0s							
WRA	**Warramunga Arr**	**23.12**	**118**	P	**P**		**23 57 59.2**	**-0.3**
WRA	**Warramunga Arr**	**23.12**	**118**	P	**P**		**23 58 01.4**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=292,slow=10,SNR=4.5							
WRA				LR	LR		00 07 38.5	
	comp=Z,80nm,20.1s,baz=1.0,slow=38							
	comp=Z,0.6nm,0.4s							
WB2	**Warramunga Arr**	**23.13**	**118**	P	**P**		**23 57 58.8**	**-0.8**
WB2				IAmb	IAmb		23 58 08.2	
	comp=Z,4.0nm,0.9s							
NWAO	**Narrogin (SRO)**	**23.44**	**171**	LR	LR		00 08 12.8	
	comp=Z,94nm,18.1s,baz=228,slow=39							
AS31	**Alice Springs**	**24.44**	**127**	P	**P**		**23 58 09.0**	**-3.0**
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**		**23 58 14.5**	**+2.4**
	comp=Z,2.5nm,0.7s,baz=302,slow=9.2,SNR=21							
	comp=Z,2.5nm,0.7s							
CM31	**Chiang Mai Arr**	**31.18**	**334**	P	P		23 59 07.0	-5.3
JNU	**Nakatsue**	**45.95**	**21**	P	**P**		**00 01 13.8**	**-2.3**
KSRS	**Korea Array**	**49.02**	**16**	P	**P**		**00 01 39.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=200,slow=9.1,SNR=2.2							
	comp=Z,0.8nm,0.7s							
JGF	**Kuroka**	**50.69**	**26**	P	**P**		**00 01 50.0**	**-2.5**
JGF				IAmb	IAmb		00 01 51.3	
	comp=Z,5.6nm,0.7s							
MJAR	**Matsushiro Arr**	**51.85**	**26**	P	**P**		**00 01 58.6**	**-2.6**
	comp=Z,1.6nm,0.6s,baz=198,slow=7.7,SNR=4.7							
	comp=Z,1.6nm,0.6s							
USA0B	**Ussuriysk Arra**	**56.42**	**16**	P	**P**		**00 02 33.9**	**-0.5**
USA0B				IAmb	IAmb		00 02 47.8	
	comp=Z,6.3nm,0.8s							
USRK	**Ussuriysk Ar.**	**56.42**	**16**	P	**P**		**00 02 32.6**	**-1.7**
USRK	**Ussuriysk Ar.**	**56.42**	**16**	P	**P**		**00 02 33.3**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=212,slow=4.5,SNR=2.8							
	comp=Z,1.8nm,0.6s							
ULN	**Ulaanbaatar**	**57.57**	**355**	P	**P**		**00 02 41.5**	**-1.1**
ULN				IAmb	IAmb		00 02 44.6	
	comp=Z,1.8nm,0.9s							
SONM	**Songino Array**	**57.59**	**355**		**P**		**00 02 42.4**	**-0.4**
SONM				IAmb	IAmb		00 02 58.3	
	comp=Z,0.9nm,0.8s							
SONM	**Songino Array**	**57.59**	**355**	P	**P**		**00 02 41.9**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=180,slow=7.4,SNR=6.7							
SONM				ScP	**ScP**		**00 07 37.3**	**+4.1**
	comp=Z,0.6nm,0.5s,baz=161,slow=5.4,SNR=5.3							
	comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**62.52**	**337**	P	**P**		**00 03 17.3**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=155,slow=6.0,SNR=4.6							
	comp=Z,0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**67.08**	**337**	P	**P**		**00 03 45.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=146,slow=5.6,SNR=1.8							
KURBB				LR	LR		00 35 59.9	
	comp=Z,138nm,19.9s,baz=184,slow=39							
	comp=Z,0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**67.72**	**343**	P	**P**		**00 03 48.3**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=159,slow=5.6,SNR=5.7							
	comp=Z,1.0nm,0.6s							
KMBO	**Kilima Mbogo**	**75.59**	**271**	LR	LR		00 33 43.5	
	comp=Z,210nm,21.7s,baz=276,slow=32							

*SOME **19** 00:15:59.3, 43°42N×84°70E, h10km*
*IDC **19** 00:16:02.2±2.6, 43°62N×84°68E, h0km, mbtmp3.1/6, ML2.7/6, Error ellipse: s-maj=23.9km s-min

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR				Lg	Lg	00 17 56.4	
	11nm,0.3s,baz=147,slow=29,SNR=4.8						
	0.9nm,0.2s						
MAKZ	**Makanchi**	**3.69**	**328**	⇓Pn	**Pb**	**00 17 07.2**	**-2.7**
	0.3nm,0.2s						
MAKZ				⇓Pg	**Pg**	**00 17 18.0**	**+2.7**
	3.0nm,0.3s						
MAKZ				⇓Lg	Lg	00 17 58.1	
	28nm,0.5s						
DJR	**Jarkent**	**3.70**	**281**	Pg	**Pb**	**00 17 07.9**	**-2.2**
	13nm,0.2s						
DJR				Lg	Lg	00 17 57.3	
	57nm,0.3s						
DJR	**Jarkent**	**3.70**	**281**	*e*P	**Pb**	**00 17 07.3**	**-2.8**
	12nm,0.2s						
DJR				*e*S	**Sb**	**00 17 56.7**	**+1.7**
	57nm,0.3s						
ZSN	**Zaisan**	**3.73**	**0**	Pg	**Pb**	**00 17 11.3**	**+0.8**
	15nm,0.2s						
ZSN				Lg	Lg	00 18 04.0	
	36nm,0.5s						
ZSN	**Zaisan**	**3.73**	**0**	*e*P	**Pb**	**00 17 11.3**	**+0.8**
	15nm,0.2s						
ZSN				*e*S	**Sg**	**00 18 04.0**	**-0.3**
	36nm,0.5s						
PDGK	**Podgornoye**	**3.92**	**266**	⇑Pn	**Pn**	**00 17 05.1**	**+0.2**
	1.9nm,0.3s						
PDGK				⇓Pg	**Pb**	**00 17 16.4**	**+2.6**
	3.4nm,0.3s						
PDGK				⇑Lg	Lg	00 18 01.2	
	45nm,0.5s						
SHLS	**Shalkode**	**3.96**	**264**	Pg	**Pn**	**00 17 05.1**	**-0.5**
	43nm,0.2s						
SHLS				Lg	Lg	00 17 53.7	
	115nm,0.3s						
SHLS	**Shalkode**	**3.96**	**264**	*e*P	**Pn**	**00 17 05.1**	**-0.5**
	43nm,0.2s						
SHLS				*e*S	**Sn**	**00 17 53.7**	**+1.5**
	115nm,0.3s						
KNOS	**Konyrlen**	**4.14**	**281**	Pg	**Pb**	**00 17 15.4**	**-2.2**
	7.6nm,0.1s						
KNOS				Lg	Lg	00 18 10.2	
	46nm,0.4s						
KAPS	**Kapalarasan**	**4.23**	**294**	Pg	**Pb**	**00 17 18.8**	**-0.3**
	9.9nm,0.2s						
KAPS				Lg	Lg	00 18 16.0	
	73nm,0.1s						
UZB	**Uzynbulak**	**4.28**	**264**	Pg	**Pb**	**00 17 16.8**	**-3.2**
	8.1nm,0.3s						
UZB				Lg	Lg	00 18 13.5	
	24nm,0.5s						
UZB	**Uzynbulak**	**4.28**	**264**	*e*P	**Pb**	**00 17 16.9**	**-3.2**
	8.1nm,0.3s						
UZB				*e*S	**Sb**	**00 18 13.5**	**+1.6**
	24nm,0.5s						
KPKS	**Kokpek**	**4.49**	**269**	Pg	**Pb**	**00 17 21.0**	**-2.5**
	11nm,0.2s						
KPKS				Lg	Lg	00 18 19.2	
	31nm,0.3s						
KPKS	**Kokpek**	**4.49**	**269**	*e*P	**Pb**	**00 17 20.3**	**-3.2**
	7.5nm,0.2s						
KPKS				*e*S	**Sb**	**00 18 19.2**	**+1.5**
	31nm,0.3s						
BLB	**Baldybastay**	**4.62**	**277**	Pg	**Pb**	**00 17 22.9**	**-2.9**
	38nm,0.3s						
BLB				Lg	Lg	00 18 22.3	
	58nm,0.3s						
ZHN	**Zhinishke**	**4.71**	**265**	Pg	**Pb**	**00 17 23.4**	**-3.8**
	4.0nm,0.2s						
ZHN				Lg	Lg	00 18 24.3	
	45nm,0.2s						
ZHN	**Zhinishke**	**4.71**	**265**	*e*P	**Pb**	**00 17 23.4**	**-3.8**
	4.0nm,0.2s						
ZHN				*e*S	**Sb**	**00 18 24.3**	**+0.4**
	45nm,0.2s						
SATY	**Saty**	**4.74**	**264**	Pg	**Pb**	**00 17 26.0**	**-1.9**
	10nm,0.5s						
SATY				Lg	Lg	00 18 28.9	
	40nm,0.3s						
SATY	**Saty**	**4.74**	**264**	*e*P	**Pb**	**00 17 30.2**	**+2.3**
	2.7nm,0.2s						
SATY				*e*S	**Sg**	**00 18 36.0**	**-0.9**
	19nm,0.4s						
TDK	**Taldyqorghan**	**4.79**	**288**	Pg	**Pb**	**00 17 30.1**	**+1.4**
	56nm,0.4s						
TDK				Lg	Lg	00 18 35.9	
	143nm,0.9s						
TDK	**Taldyqorghan**	**4.79**	**288**	*e*P	**Pb**	**00 17 29.6**	**+0.9**
	56nm,0.4s						
TDK				*e*S	**Sg**	**00 18 35.0**	**-3.5**
	110nm,0.6s						
KURS	**Kuram**	**4.86**	**270**	Pg	**Pb**	**00 17 28.9**	**-0.9**
	4.5nm,0.4s						
KURS				Lg	Lg	00 18 33.9	
	15nm,0.8s						
KOTS	**Kotyrbulak**	**5.65**	**268**	Pg	**Pb**	**00 17 43.0**	**-0.4**
	4.6nm,0.2s						
KOTS				Lg	Lg	00 18 57.5	
	62nm,0.5s						
KOTS	**Kotyrbulak**	**5.65**	**268**	*e*P	**Pb**	**00 17 42.5**	**-0.9**
	4.6nm,0.2s						
KOTS				*e*S	**Sb**	**00 18 57.5**	**+6.2**
	62nm,0.5s						
MDOK	**Medeo**	**5.71**	**267**	⇑Pn	**Pn**	**00 17 28.4**	**-1.2**
	1.3nm,0.4s						
MDOK				Pg	**Pb**	**00 17 42.3**	**-2.1**
	7.1nm,0.5s						
MDOK				Pg	Pg	00 17 48.4	-5.5
	4.6nm,0.5s						
MDOK				Lg	Lg	00 18 57.5	
	10nm,0.6s						
MDOK				⇓Lg	Lg	00 19 02.8	
	18nm,0.8s						
MDOK	**Medeo**	**5.71**	**267**	*e*P	**Pb**	**00 17 42.3**	**-2.1**
	7.1nm,0.5s						
MDOK				*e*S	**Sb**	**00 18 56.7**	**+3.8**
	10nm,0.6s						
TNSS	**Tian-Shan**	**5.80**	**266**	Pg	**Pb**	**00 17 46.3**	**+0.2**
	2.8nm,0.1s						
TNSS				Lg	Lg	00 19 02.8	
	4.2nm,0.5s						
TNSS	**Tian-Shan**	**5.80**	**266**	*e*P	**Pb**	**00 17 45.8**	**-0.3**
	2.8nm,0.1s						
TNSS				*e*S	**Sb**	**00 19 02.8**	**+7.0**
	4.2nm,0.5s						
KTBS	**Karatobe**	**5.92**	**273**	Pg	**Pb**	**00 17 46.7**	**-1.2**
	2.1nm,0.3s						
KTBS				Lg	Lg	00 19 04.5	
	12nm,0.4s						
KST	**Kastek**	**6.51**	**267**	Pg	**Pb**	**00 17 57.2**	**-0.8**
	3.4nm,0.5s						
KST				Lg	Lg	00 19 22.0	
	7.0nm,0.9s						
KST	**Kastek**	**6.51**	**267**	*e*P	**Pb**	**00 17 57.2**	**-0.8**
	3.4nm,0.5s						
KST				*e*S	**Sb**	**00 19 22.6**	**+6.7**
	7.0nm,0.9s						
DGS	**Degeres**	**6.62**	**269**	Pg	**Pb**	**00 17 60.0**	**+0.1**
	4.6nm,0.3s						
DGS				Lg	Lg	00 19 26.5	
	19nm,0.4s						
KRBS	**Karabastau**	**6.65**	**273**	Pg	**Pb**	**00 18 01.1**	**+0.7**
	2.1nm,0.3s						
KRBS				Lg	Lg	00 19 28.6	
	2.7nm,0.5s						
AAK	**Ala-Archa**	**7.65**	**265**	Pn	**Pn**	**00 17 55.9**	**-0.3**
	0.1nm,0.3s,baz=82,slow=7.1,SNR=2.2						
AAK				Pg	**Pb**	**00 18 17.2**	**-0.1**
	0.2nm,0.3s,baz=97,slow=8.1,SNR=4.9						
AAK				Lg	Lg	00 19 58.7	
	0.3nm,0.3s,baz=37,slow=20,SNR=1.6						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**8.13**	**330**	Pn	**Pn**	**00 18 02.9**	**+0.2**
	0.1nm,0.3s,baz=151,slow=11,SNR=4.7						
KURBB				Sn	**Sn**	**00 19 32.3**	**-2.3**
	0.2nm,0.3s,baz=144,slow=19,SNR=4.9						
KURBB				Lg	Lg	00 20 20.7	
	0.3nm,0.3s,baz=149,slow=26,SNR=5.9						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**8.13**	**330**	⇓Pn	Pn	00 18 13.0	+10
	1.1nm,0.3s						
KURBB				⇑Sn	**Sn**	**00 19 31.7**	**-2.8**
	5.3nm,0.7s						
KURBB				⇑Lg	Lg	00 20 20.2	
	44nm,0.7s						
KURK	**Kurchatov**	**8.18**	**331**	⇓Pn	Pn	00 18 11.1	+7.8
	0.6nm,0.6s						
KURK				⇑Sn	**Sn**	**00 19 31.9**	**-3.7**
	2.0nm,0.5s						
KURK				⇓Lg	Lg	00 20 21.2	
	24nm,0.9s						
ZALV	**Zalesovo Beam**	**10.23**	**360**	Pn	**Pn**	**00 18 31.2**	**-0.2**
	0.5nm,0.3s,baz=176,slow=14,SNR=4.1						
ZALV				Sn	**Sn**	**00 20 23.6**	**-2.6**
	0.8nm,0.3s,baz=176,slow=26,SNR=8.5						
ZALV				Lg	Lg	00 21 30.9	
	baz=178,slow=32,SNR=1.5						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**13.36**	**319**	Pn	**Pn**	**00 19 12.1**	**-2.0**
	baz=122,slow=11,SNR=2.0						
BVAR				Sn	Sn	00 21 34.3	-8.2
	baz=144,slow=35,SNR=1.8						
	0.2nm,0.5s						
SONM	**Songino Array**	**15.57**	**67**	Pn	**Pn**	**00 19 43.2**	**-1.0**
	0.1nm,0.3s,baz=256,slow=12,SNR=1.7						
	0.1nm,0.3s						

SOME ***19*** *00:18:58.4, 43°.55N×84°.20E, h10km*
NNC ***19*** *00:19:06.4±3.4, 43°.76N×83°.85E, h0km, mb3.6, mpv3.5,*
Error ellipse: s-maj=30.6km s-min=13.7km az=139.0
ISC 19 00:18:55.1±2.7, 43°.5N±0°.1×84°.3E±0°.1, h10km, n16,
σ1§45/22, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**3.33**	**286**	Pg	**Pg**	**00 20 00.5**	**+1.5**
	2.8nm,0.1s						
DJR				Lg	Lg	00 20 42.9	
	17nm,0.2s						
DJR	**Jarkent**	**3.33**	**286**	*e*P	**Pg**	**00 19 57.7**	**-1.2**
	2.8nm,0.1s						
DJR				*e*S	**Sg**	**00 20 41.0**	**-1.1**
	17nm,0.2s						
PDGK	**Podgornoye**	**3.49**	**268**	⇓Pn	**Pg**	**00 20 01.8**	**-0.1**
	1.5nm,0.3s						
PDGK				⇑Lg	Lg	00 20 48.1	
	8.2nm,0.5s						
SHLS	**Shalkode**	**3.52**	**266**	Pg	**Pb**	**00 19 57.7**	**0.0**
	6.8nm,0.2s						
SHLS				Lg	Lg	00 20 39.0	
	52nm,0.3s						
SHLS	**Shalkode**	**3.52**	**266**	*e*P	**Pb**	**00 19 56.7**	**-1.0**
	6.8nm,0.2s						
SHLS				*e*S	**Sb**	**00 20 39.0**	**-1.5**
	52nm,0.3s						
MK31	**Makanchi Array**	**3.55**	**338**	Pn	**Pg**	**00 20 03.9**	**+0.7**
	1.8nm,0.3s,baz=151,slow=16,SNR=5.6						
MK31				⇑Lg	Lg	00 20 50.8	
	2.6nm,0.3s,baz=146,slow=28,SNR=4.5						
KNOS	**Konyrlen**	**3.77**	**285**	Pg	**Pg**	**00 20 09.7**	**+2.4**
	2.9nm,0.1s						
KNOS				Lg	Lg	00 20 57.4	
	10nm,0.2s						
UZB	**Uzynbulak**	**3.84**	**266**	*e*P	**Pg**	**00 20 09.1**	**+0.4**
	5.5nm,0.3s						
UZB				*e*S	**Sg**	**00 20 59.6**	**+1.0**
	6.9nm,0.5s						
ZSN	**Zaisan**	**3.95**	**6**	Pg	**Pg**	**00 20 12.3**	**+1.6**
	3.1nm,0.1s						
ZSN				Lg	Lg	00 21 01.7	
	14nm,0.4s						
ZSN	**Zaisan**	**3.95**	**6**	*e*P	**Pg**	**00 20 10.1**	**-0.6**
	3.1nm,0.1s						
ZSN				*e*S	**Sg**	**00 21 01.6**	**-0.2**
	14nm,0.4s						
KPKS	**Kokpek**	**4.06**	**271**	Pg	**Pg**	**00 20 13.5**	**+0.5**
	4.2nm,0.3s						
KPKS				Lg	Lg	00 21 04.4	
	15nm,0.4s						
KPKS	**Kokpek**	**4.06**	**271**	*e*P	**Pg**	**00 20 11.8**	**-1.2**
	4.2nm,0.3s						
KPKS				*e*S	**Sg**	**00 21 04.4**	**-1.2**
	15nm,0.4s						
MDOK	**Medeo**	**5.28**	**269**	Pg	**Pg**	**00 20 36.0**	**-0.2**
	2.4nm,0.4s						
MDOK				Lg	Lg	00 21 43.8	
	7.4nm,0.4s						
TNSS	**Tian-Shan**	**5.37**	**267**	Pg	**Pg**	**00 20 39.9**	**+1.9**
	1.0nm,0.2s						
TNSS				Lg	Lg	00 21 50.7	
	1.3nm,0.3s						
TNSS	**Tian-Shan**	**5.37**	**267**	*e*P	**Pg**	**00 20 38.8**	**+0.8**
	1.0nm,0.2s						
TNSS				*e*S	**Sg**	**00 21 51.1**	**+3.7**
	1.3nm,0.3s						
KTBS	**Karatobe**	**5.51**	**275**	Pg	**Pg**	**00 20 40.0**	**-0.6**
	1.8nm,0.3s						
KTBS				Lg	Lg	00 21 49.8	
	5.2nm,0.4s						

KRSC ***19*** *00:26:43.1±1.1, 53°.25N×161°.97E, h42km±21km, Ml4.6*
IDC ***19*** *00:26:43.0±0.6, 53°.51N×161°.51E, h0km, mb4.1/31,*
mbtmp4.2/37, ML4.4/6, MS3.9/9, Error ellipse:
s-maj=13.8km s-min=10.6km az=163.0
NEIC ***19*** *00:26:45.0±1.5, 53°.44N±0°.04×161°.4E±0°.1, h14km±4km,*
mb4.6/101, Error ellipse: s-maj=10.2km s-min=4.7km
az=67.0
MOS ***19*** *00:26:47.3±1.2, 53°.36N×161°.58E, h48km, mb4.8/42,*
MS3.8/4, Error ellipse: s-maj=6.3km s-min=3.9km az=94.8
ISC 19 00:26:45.9±0.5, 53°.36N±0°.04×161°.63E±0°.03, h25km±3km,
h26km:pP-P, n420, σ1§51/447, mb4.5/146, MS4.2/21,
25C-18D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.00**	**256**	PN	**Pn**	**00 27 04.7**	**+0.4**
SPN				S	**Sb**	**00 27 19.3**	**+2.0**
SPN	**Mys Shipunski**	**1.00**	**256**	*e*P	**Pn**	**00 27 04.7**	**+0.4**
SPN				*e*S	**Sb**	**00 27 19.3**	**+2.0**
NLC	**Nalytchevo**	**1.39**	**263**	PN	**Pn**	**00 27 10.4**	**+0.8**
NLC				S	**Sb**	**00 27 29.4**	**+1.1**
NLC	**Nalytchevo**	**1.39**	**263**	*e*P	**Pn**	**00 27 10.4**	**+0.8**
NLC				*e*S	**Sb**	**00 27 29.5**	**+1.1**
UGLR	**Uglovaya**	**1.69**	**266**	PN	**Pb**	**00 27 15.6**	**-0.8**
UGLR	**Uglovaya**	**1.69**	**266**	*e*P	**Pb**	**00 27 15.6**	**-0.8**
AVH	**Avacha**	**1.74**	**268**	PN	**Pb**	**00 27 16.2**	**-0.9**
AVH	**Avacha**	**1.74**	**268**	*e*P	**Pb**	**00 27 16.3**	**-0.9**
DALK	**Dalny**	**1.76**	**260**	PN	**Pn**	**00 27 15.7**	**+1.0**
DALK				S	**Sn**	**00 27 37.4**	**+1.1**
DALK	**Dalny**	**1.76**	**260**	*e*P	**Pn**	**00 27 15.7**	**+1.0**
DALK				*e*S	**Sn**	**00 27 37.5**	**+1.1**
KRX	**Arik**	**1.79**	**271**	PN	**Pn**	**00 27 16.7**	**+1.5**
KRX	**Arik**	**1.79**	**271**	*e*P	**Pn**	**00 27 16.7**	**+1.5**
KOK	**Koryaka**	**1.80**	**269**	PN	**Pn**	**00 27 16.9**	**+1.6**
KOK	**Koryaka**	**1.80**	**269**	*e*P	**Pn**	**00 27 17.0**	**+1.6**
PET	**Petropavlovsk**	**1.82**	**261**		**Pn**	**00 27 14.2**	**-1.4**
PET	**Petropavlovsk**	**1.82**	**261**	*e*PN	**Pn**	**00 27 16.7**	**+1.1**
PET				*e*S	**Sb**	**00 27 41.7**	**+0.8**
PET				pmax	pmax		
	comp=Z,345nm,0.7s						
PET				smax	smax		
	comp=E,1μm,0.9s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET	**Petropavlovsk**	**1.82**	**261**	Pn	**Pn**	**00 27 16.6**	**+1.1**
PET	**Petropavlovsk**	**1.82**	**261**	*e*P	**Pn**	**00 27 16.6**	**+1.1**
PET				*e*S	**Sb**	**00 27 41.4**	**+0.5**
INSR	**Institute**	**1.84**	**262**	PN	**Pn**	**00 27 17.6**	**+1.8**
INSR	**Institute**	**1.84**	**262**	*e*P	**Pn**	**00 27 17.7**	**+1.8**
TUMD	**Tumrok D**	**1.99**	**339**	*e*P	**Pn**	**00 27 18.7**	**+0.8**
RUS	**Russkaya**	**2.11**	**245**	PN	**Pn**	**00 27 20.6**	**+1.2**
RUS	**Russkaya**	**2.11**	**245**	*e*P	**Pn**	**00 27 20.7**	**+1.2**
KRMR	**Karymshinskiy**	**2.18**	**257**	PN	**Pn**	**00 27 21.9**	**+1.5**
KRMR	**Karymshinskiy**	**2.18**	**257**	*e*P	**Pn**	**00 27 21.9**	**+1.5**
GNL	**Ganaly**	**2.23**	**280**	PN	**Pb**	**00 27 23.9**	**-1.6**
GNL	**Ganaly**	**2.23**	**280**	*e*P	**Pb**	**00 27 24.0**	**-1.6**
GRL	**Gorelyy**	**2.30**	**251**	PN	**Pn**	**00 27 24.2**	**+2.0**
GRL	**Gorelyy**	**2.30**	**251**	*e*P	**Pn**	**00 27 24.3**	**+2.0**
PEA0B	**Petropavlovsk-**	**2.38**	**266**		**Pn**	**00 27 21.1**	**-2.1**
PEA0B	**Petropavlovsk-**	**2.38**	**266**	*i* PN	**Pn**	**00 27 25.6**	**+2.4**
PETK	**Petropavlovsk-**	**2.38**	**266**		**Pn**	**00 27 22.2**	**-1.0**
PETK	**Petropavlovsk-**	**2.38**	**266**	Pn	**Pn**	**00 27 24.3**	**+1.0**
	comp=N,51nm,0.3s,baz=74,slow=16,SNR=333						
PETK				Sn	**Sn**	**00 27 54.1**	**+2.5**
	comp=N,23nm,0.3s,baz=94,slow=18,SNR=7.8						
PETK				LR	LR	00 27 58.9	
	comp=N,205nm,20.4s,baz=68,slow=33						
	comp=N,299nm,0.6s						
KMNR	**Kamenistaya**	**2.54**	**342**	PN	**Pn**	**00 27 27.9**	**+2.4**
KMNR	**Kamenistaya**	**2.54**	**342**	*e*P	**Pn**	**00 27 27.9**	**+2.4**
BZWR	**Bezymyannyi-We**	**2.69**	**346**	PN	**Pn**	**00 27 29.9**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.69**	**346**	*e*P	**Pn**	**00 27 30.0**	**+2.2**
KIRR	**Kirishev**	**2.71**	**344**	PN	**Pn**	**00 27 29.9**	**+2.0**
KIRR	**Kirishev**	**2.71**	**344**	*e*P	**Pn**	**00 27 29.9**	**+2.0**
APC	**Apacha**	**2.73**	**263**	PN	**Pn**	**00 27 31.0**	**+3.0**
APC	**Apacha**	**2.73**	**263**	*e*P	**Pn**	**00 27 31.0**	**+3.0**
KPT	**Kopyto**	**2.74**	**343**	PN	**Pn**	**00 27 30.4**	**+2.2**
KPT	**Kopyto**	**2.74**	**343**	*e*P	**Pn**	**00 27 30.4**	**+2.2**
LGNR	**Loginova**	**2.79**	**349**	PN	**Pn**	**00 27 31.3**	**+2.3**
LGNR	**Loginova**	**2.79**	**349**	*e*P	**Pn**	**00 27 31.4**	**+2.3**
CIRR	**Tsirk**	**2.81**	**350**	PN	**Pn**	**00 27 31.4**	**+2.2**
CIRR	**Tsirk**	**2.81**	**350**	*e*P	**Pn**	**00 27 31.5**	**+2.2**
KOZ	**Kozyrevsk**	**2.89**	**340**	PN	**Pn**	**00 27 32.4**	**+2.1**
KOZ	**Kozyrevsk**	**2.89**	**340**	*e*P	**Pn**	**00 27 32.4**	**+2.1**
KRSR	**Krestovskiy**	**2.93**	**348**	PN	**Pn**	**00 27 32.4**	**+1.5**
KRSR	**Krestovskiy**	**2.93**	**348**	*e*P	**Pn**	**00 27 32.4**	**+1.5**
KBTR	**Krutoberegovo**	**2.94**	**13**	PN	**Pn**	**00 27 31.8**	**+1.0**
KBTR	**Krutoberegovo**	**2.94**	**13**	*e*P	**Pn**	**00 27 31.9**	**+1.0**
KBG	**Krutoberegovo**	**2.97**	**12**	PN	**Pn**	**00 27 32.8**	**+1.5**
KBG	**Krutoberegovo**	**2.97**	**12**	*e*P	**Pn**	**00 27 32.9**	**+1.5**
KLY	**Klyuchi**	**3.02**	**350**	PN	**Pn**	**00 27 32.9**	**+1.0**
KLY	**Klyuchi**	**3.02**	**350**	*e*P	**Pn**	**00 27 33.0**	**+1.0**
ESO	**Esso**	**3.09**	**328**	PN	**Pn**	**00 27 34.9**	**+2.0**
ESO	**Esso**	**3.09**	**328**	*e*P	**Pn**	**00 27 34.9**	**+2.0**
BKI	**Bering**	**3.14**	**52**	PN	**Pn**	**00 27 32.9**	**-0.8**
BKI	**Bering**	**3.14**	**52**	*e*P	**Pn**	**00 27 33.0**	**-0.8**
BKI				*e*S	**Sn**	**00 28 05.9**	**-4.4**
SRDR	**Sredinnyy**	**3.17**	**340**	PN	**Pn**	**00 27 35.5**	**+1.4**
SRDR	**Sredinnyy**	**3.17**	**340**	*e*P	**Pn**	**00 27 35.5**	**+1.4**
SMKR	**Semkarok**	**3.23**	**358**	PN	**Pn**	**00 27 36.8**	**+1.8**
SMKR	**Semkarok**	**3.23**	**358**	*e*P	**Pn**	**00 27 36.9**	**+1.8**
PAU	**Pauzhetka**	**3.51**	**239**	PN	**Pn**	**00 27 40.4**	**+1.7**
PAU	**Pauzhetka**	**3.51**	**239**	*e*P	**Pn**	**00 27 40.5**	**+1.7**
SKR	**Severo-Kuril's**	**4.33**	**234**	⇑PN	**Pn**	**00 27 49.0**	**-1.0**
SKR				pmax	pmax		
	comp=Z,40nm,0.7s						
SHEM	**Shemya Is, Ala**	**7.54**	**90**	Pn	**Pn**	**00 28 34.2**	**+0.1**
	comp=Z,17nm,0.3s,baz=265,slow=1.2,SNR=9.4						
SHEM				Sn	**Sn**	**00 29 53.0**	**-5.7**
	comp=Z,8.8nm,0.3s,baz=324,slow=23,SNR=7.4						
	comp=Z,142nm,0.7s						
MA2	**Magadan**	**8.65**	**320**	Pn	**Pn**	**00 28 47.5**	**-1.7**
MA2	**Magadan**	**8.65**	**320**	Pn	**Pn**	**00 28 51.5**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=130,slow=10,SNR=12						
	comp=Z,11nm,0.8s						
MA2	**Magadan**	**8.65**	**320**	*ce*PN	**Pn**	**00 28 52.3**	**+3.0**
MA2				pmax	pmax		
	comp=Z,19nm,1.0s						
SEY	**Seymchan**	**10.76**	**337**	*e*PN	Pn	00 29 28.6	+11
SEY				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TYV	**Tymovskoe**	**11.93**	**266**	*e*PN	Pn	00 29 39.1	+5.0
TYV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,4.7s						
KIWB	**Kanaga Island**	**12.98**	**88**	Pn	**Pn**	**00 29 49.2**	**+0.7**
YSS	**Yuzhno-Sakhali**	**13.67**	**250**	*e*P	**Pn**	**00 29 57.4**	**-0.6**
YSS				*e*S	**Sn**	**00 32 27.7**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
BILL	**Bilibino**	**14.90**	**7**	*ce*P	**Pn**	**00 30 13.2**	**-1.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
JKA	**Kamikawa-asahi**	**15.55**	**241**	Pn	**Pn**	**00 30 22.3**	**-0.9**
JKA				IAmb	IAmb	00 30 28.4	
	comp=Z,56nm,1.3s						
ASAJ	**Asahikawa**	**15.55**	**241**	Pn	**Pn**	**00 30 24.0**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=75,slow=12,SNR=8.0						
	comp=Z,14nm,0.6s						
ERM	**Erimo**	**16.78**	**235**	Pn	**Pn**	**00 30 36.1**	**-2.8**
ERM	**Erimo**	**16.78**	**235**	P	**Pn**	**00 30 36.1**	**-2.8**
ERM				pmax	pmax		
	comp=Z,34nm,1.2s						
YAK	**Yakutsk**	**18.97**	**310**		**P**	**00 31 03.4**	**-1.5**
YAK				IAmb	IAmb	00 31 16.5	
	comp=Z,44nm,0.8s						
YAK	**Yakutsk**	**18.97**	**310**	P	**P**	**00 31 03.8**	**-1.1**
	comp=Z,4.9nm,0.3s,baz=93,slow=2.3,SNR=8.9						
	comp=Z,35nm,0.6s						
YAK	**Yakutsk**	**18.97**	**310**	*e*P	**P**	**00 31 03.2**	**-1.7**
YAK				*e*S	**Sn**	**00 34 35.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				smax	smax		
	comp=E,39nm,2.1s						
YAK				smax	smax		
	comp=N,4.0nm,1.5s						
YAK				MLR	MLR		
	comp=Z,141nm,12.0s						
YAK				MLR	MLR		
	comp=N,267nm,17.0s						
YAK				MLR	MLR		
	comp=E,108nm,13.0s						
KLR	**Kul'dur**	**19.06**	**270**	P	**Pn**	**00 31 07.2**	**+0.3**
	comp=E,0.4nm,0.3s,baz=73,slow=10,SNR=24						
KLR				LR	LR	00 39 40.7	
	comp=E,235nm,18.9s,baz=20,slow=41						
	comp=E,6.2nm,0.7s						
KLR	**Kul'dur**	**19.06**	**270**	*ce*P	**P**	**00 31 06.3**	**+0.2**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TNA	**Tin City**	**19.46**	**39**	P	**P**	**00 31 10.2**	**0.0**
ZEA	**Zeya**	**20.32**	**285**	*e*P	**P**	**00 31 19.6**	**-0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
F15K	**North Star Dit**	**20.77**	**40**	P	Pn	00 31 25.9	-1.1
M14K	**Bethel**	**20.

comp=Z,17nm,1.1s
C18K Utukok River 23.11 34 P **P 00 31 50.3 +0.8**
H18K Honhosa River 23.15 44 P **P 00 31 49.6 -0.2**
TIXI Tiksi 23.24 334 P **P 00 31 49.2 -1.4**
TIXI Tiksi 23.24 334 P **P 00 31 49.7 -0.9**
comp=Z,6.9nm,0.7s,baz=123,slow=8.3,SNR=16
comp=Z,6.9nm,0.7s
TIXI Tiksi 23.24 334 *ce*P **P 00 31 46.7 -3.9**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 23.30 265 ⇓P **P 00 31 50.3 -1.2**
BNX pmax pmax
comp=Z,19nm,0.9s
MJB9 Matsu-Tunnel 23.44 234 P **P 00 31 53.0 0.0**
MJB9 IAmb IAmb 00 32 00.4
comp=Z,21nm,0.7s
MAJO Matsushiro 23.44 234 P **P 00 31 51.9 -1.1**
MAJO IAmb IAmb 00 31 59.0
comp=Z,22nm,0.7s
MAJO Matsushiro 23.44 234 *i* P **P 00 31 52.6 -0.4**
MAJO pmax pmax
comp=Z,22nm,0.7s
MJAR Matsushiro Arr 23.44 234 P **P 00 31 54.6 +1.6**
comp=Z,13nm,0.8s,baz=21,slow=10.0,SNR=23
comp=Z,13nm,0.8s
F19K Shaleruckik Mo 23.76 40 P **P 00 31 58.4 +2.6**
TTA Tatalina 23.88 50 P **P 00 31 58.4 +1.3**
TTA Tatalina 23.88 50 P **P 00 31 58.4 +1.3**
TTA pmax pmax
comp=Z,9.0nm,0.9s
N18K Kilae Creek 23.88 55 P **P 00 31 57.3 +0.2**
N18K IAmb IAmb 00 32 06.0
comp=Z,31nm,1.4s
H19K Roundabout Mou 24.01 43 P **P 00 31 58.4 +0.3**
D19K Kuna River 24.11 36 P **P 00 31 59.8 +0.6**
D19K IAmb IAmb 00 32 19.2
comp=Z,14nm,1.2s
E19K Redstone River 24.13 38 P **P 00 32 00.4 +1.1**
J19K Poorman 24.14 47 P **P 00 31 59.9 +0.4**
J19K IAmb IAmb 00 32 11.6
comp=Z,15nm,1.4s
JGF Kuroka 24.61 234 P **P 00 32 04.9 +0.9**
JGF IAmb IAmb 00 32 10.9
comp=Z,9.3nm,0.6s
K20K Telida 24.78 49 P **P 00 32 07.1 +1.8**
K20K IAmb IAmb 00 32 20.5
comp=Z,14nm,0.8s
J20K Nowinta River 24.80 47 P **P 00 32 06.9 +1.4**
J20K IAmb IAmb 00 32 20.7
comp=Z,11nm,0.8s
M20K Styx River 25.19 52 P **P 00 32 10.9 +1.9**
M20K IAmb IAmb 00 32 24.8
comp=Z,11nm,1.2s
OHAK Old Harbor 25.59 63 P **P 00 32 13.7 +1.1**
PPLA Purkeypile 25.62 50 P **P 00 32 13.8 +0.8**
PPLA IAmb IAmb 00 32 16.6
comp=Z,16nm,1.4s
B21K Ikpikpuk River 25.66 34 P **P 00 32 13.5 +0.5**
B21K IAmb IAmb 00 32 30.2
comp=Z,14nm,1.4s
CAST Castle Rocks 25.68 49 P **P 00 32 15.4 +2.1**
CAST IAmb IAmb 00 32 17.2
comp=Z,13nm,1.4s
KTH Kantishna Hill 26.20 48 P **P 00 32 19.6 +1.4**
KTH IAmb IAmb 00 32 32.5
comp=Z,21nm,1.3s
HIA Hailar 26.22 278 P **P 00 32 16.8 -1.7**
HIA IAmb IAmb 00 32 21.1
comp=Z,13nm,0.7s
HIA Hailar 26.22 278 P **P 00 32 16.8 -1.7**
HIA pmax pmax
comp=Z,13nm,0.7s
E22K Anaktuvuk Pass 26.29 38 P **P 00 32 19.3 +0.4**
TOLK Toolik Lake Re 27.19 37 P **P 00 32 28.8 +1.7**
WRH Wood River Hil 27.45 46 P **P 00 32 31.3 +2.0**
WRH IAmb IAmb 00 32 44.3
comp=Z,16nm,1.4s
CCB Clear Creek Bu 27.57 46 P **P 00 32 33.5 +3.1**
CCB IAmb IAmb 00 32 40.8
comp=Z,11nm,1.4s
JMN Monobe 27.82 236 P **P 00 32 31.5 -1.4**
ILAR Eielson Array 27.97 46 P **P 00 32 34.5 +0.5**
comp=Z,0.8nm,0.9s,baz=262,slow=8.2,SNR=7.6
comp=Z,0.8nm,0.9s
KSRS Korea Array 28.18 249 P **P 00 32 37.2 +1.2**
comp=Z,1.8nm,0.6s,baz=42,slow=9.8,SNR=6.9
comp=Z,1.8nm,0.6s
D25K Kavik River 28.43 36 P **P 00 32 38.3 +0.2**
L27K Beaver Creek, 30.33 49 IAmb IAmb 00 33 10.5
comp=Z,6.5nm,0.9s
XLT XiLinHaoTe 31.07 271 *e*P **P 00 33 06.0 +4.2**
XLT PP **PnPn 00 33 57.5 -5.8**
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT LR LR
comp=N,25nm,15.7s
XLT LR LR
comp=E,180nm,16.9s
XLT LR LR
comp=Z,200nm,18.2s
H11N2 WAKE ISLAND Hy 33.81 171 T T 01 10 20.5
baz=354,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 33.83 171 T T 01 09 53.7
baz=354,slow=76,SNR=16
H11N1 WAKE ISLAND Hy 33.83 171 T T 01 10 03.6
baz=354,slow=76,SNR=20
SONM Songino Array 34.74 284 P **P 00 33 33.7 -0.1**
comp=Z,1.1nm,0.7s,baz=61,slow=8.0,SNR=12
SONM PcP **PcP 00 36 08.2 +1.3**
comp=Z,0.4nm,0.7s,baz=116,slow=3.4,SNR=5.0
comp=Z,1.1nm,0.7s
HHC Hu-ho-hao-te 35.57 270 *e*P **P 00 33 38.3 -2.7**
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,84nm,4.1s
HHC LR LR
comp=N,360nm,17.1s
HHC LR LR
comp=E,180nm,15.1s
HHC LR LR
comp=Z,470nm,18.2s
HNS HongShan 35.89 263 ⇓P **P 00 33 44.0 +0.4**
HNS pmax pmax
comp=Z,8.0nm,1.1s
HNS LR LR
comp=N,290nm,17.9s
HNS LR LR
comp=E,250nm,17.1s
HNS LR LR
comp=Z,450nm,18.0s
NRIK Noril'sk 36.23 325 *ce*P **P 00 33 45.2 -0.9**
NRIK pmax pmax
comp=Z,6.0nm,1.6s
BTO Baotou 36.65 271 *e*P **P 00 33 50.3 +0.1**
BTO pP **pP 00 33 54.9 -1.7**
BTO sP **sP 00 33 57.5 -1.7**
BTO PP **PP 00 35 13.8 +0.2**
BTO S **S 00 39 33.6 +1.9**
BTO SS **SnSn 00 41 58.9 -3.4**
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,420nm,5.4s
BTO LR LR
comp=N,260nm,6.7s
BTO LR LR
comp=E,190nm,5.9s
BTO LR LR
comp=Z,290nm,14.7s
NJ2 Nanjing 37.22 252 *e*P **P 00 33 53.8 -1.2**
NJ2 pP **pP 00 33 56.6 -4.7**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
WHN Wuhan 40.93 255 P **P 00 34 26.1 +0.1**
WHN LR LR
comp=Z,1μm,18.6s
XAN Xi'an 41.62 264 ⇑P **P 00 34 33.9 +2.1**
YKA Yellowknife Ar 42.34 43 P **P 00 34 37.6 +0.4**
comp=Z,0.3nm,0.7s,baz=298,slow=8.2,SNR=3.6
comp=Z,0.3nm,0.7s
RES Resolute Bay 42.73 22 P **P 00 34 40.8 +0.6**
RES Resolute Bay 42.73 22 P **P 00 34 40.8 +0.6**
RES pmax pmax
comp=Z,2.0nm,1.2s
LZH Lanzhou 43.27 270 *e*P **P 00 34 45.3 +0.1**
LZH pP pP 00 34 52.0 +0.3
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=N,280nm,15.1s
LZH LR LR
comp=E,260nm,17.5s
LZH LR LR
comp=Z,480nm,16.5s
ZALV Zalesovo Beam 43.41 303 P **P 00 34 44.3 -1.7**
comp=Z,0.9nm,0.6s,baz=62,slow=8.2,SNR=5.0
comp=Z,0.9nm,0.6s
GTA Gaotai 43.49 277 *e*P **P 00 34 47.3 +0.3**
GTA sP pwP 00 34 59.1 +0.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=N,220nm,18.9s
GTA LR LR
comp=E,170nm,19.3s
GTA LR LR
comp=Z,280nm,17.1s
CD2 Chengdu 46.91 265 P **P 00 35 12.5 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 LR LR
comp=N,400nm,16.9s
CD2 LR LR
comp=E,330nm,16.7s
CD2 LR LR
comp=Z,280nm,21.6s
SPITS Spitsbergen Ar 47.02 351 P **P 00 35 15.0 +0.6**
comp=Z,4.3nm,0.5s,baz=28,slow=7.8,SNR=19
comp=Z,4.3nm,0.5s
SPITS Spitsbergen Ar 47.02 351 P **P 00 35 15.0 +0.6**
WMQ Urumqi 47.75 290 *e*P **P 00 35 21.1 +0.5**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ LR LR
comp=Z,160nm,18.3s
NEEM North Greenlan 47.88 9 *i* P **P 00 35 21.1 -0.2**
NEEM IAmb IAmb 00 35 23.0
comp=Z,15nm,1.0s
KURK Kurchatov 48.38 302 P **P 00 35 23.4 -1.7**
KURK Kurchatov 48.38 302 *ce*P **P 00 35 22.8 -2.4**
KURK pmax pmax
comp=Z,11nm,1.7s
KURBB Kurchatov Arra 48.48 302 P **P 00 35 23.8 -2.1**
comp=Z,2.4nm,0.5s,baz=57,slow=7.6,SNR=27
KURBB PcP **PcP 00 36 52.3 +0.6**
comp=Z,1.0nm,0.9s,baz=55,slow=3.2,SNR=3.0
comp=Z,2.4nm,0.5s
MK31 Makanchi Array 48.87 296 P **P 00 35 27.1 -1.9**
MK31 Makanchi Array 48.87 296 *i* P **P 00 35 26.6 -2.5**
MKAR Makanchi Array 48.87 296 P **P 00 35 26.9 -2.2**
MKAR Makanchi Array 48.87 296 P **P 00 35 27.2 -1.9**
comp=Z,0.8nm,0.6s,baz=56,slow=6.4,SNR=16
MKAR PcP **PcP 00 36 53.9 +0.7**
comp=Z,0.6nm,0.7s,baz=56,slow=3.7,SNR=2.0
comp=Z,0.8nm,0.6s
KULLO Kullorsuaq 49.73 13 *i* P **P 00 35 36.9 +1.7**
KULLO IAmb IAmb 00 35 38.7
comp=Z,26nm,1.5s
DAG Danmarks Havn 50.14 0 P **P 00 35 38.9 +0.6**
DAG Danmarks Havn 50.14 0 *i* P **P 00 35 38.0 -0.3**
DAG IAmb IAmb 00 35 40.1
comp=Z,2.8nm,0.7s
BVAR Borovoye Array 50.95 309 P **P 00 35 43.0 -1.7**
comp=Z,1.7nm,0.6s,baz=55,slow=8.2,SNR=13
BVAR PcP **PcP 00 37 01.1 +0.4**
comp=Z,0.9nm,0.6s,baz=53,slow=4.1,SNR=2.1
BVAR LR LR 00 59 47.3
comp=Z,121nm,21.5s,baz=337,slow=39
comp=Z,1.7nm,0.6s
BRVK Borovoye 50.97 309 P **P 00 35 43.8 -1.1**
BRVK Borovoye 50.97 309 *ce*P **P 00 35 43.0 -1.9**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
PZH PanZhiHua 51.34 263 P **P 00 35 48.9 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
ARCES ARCESS Array B 53.32 342 P **P 00 36 01.9 -0.3**
comp=Z,3.8nm,0.8s,baz=35,slow=7.2,SNR=2.3
comp=Z,3.8nm,0.8s
SUMG Summit 53.58 7 P **P 00 36 07.5 +3.0**
SUMG Summit 53.58 7 P **P 00 36 07.5 +3.0**
SUMG pmax pmax
comp=Z,2.0nm,0.6s
SUMG Summit 53.58 7 *i* P **P 00 36 04.0 -0.5**
SUMG IAmb IAmb 00 36 07.3
comp=Z,17nm,1.2s
ARTI Arti 53.92 318 *d i* P **P 00 36 05.6 -1.1**
ARTI 00 38 06.4
ARTI S **S 00 43 40.6 +0.4**
ARTI SS **SS 00 47 19.1 -1.6**
ARTI pmax pmax
comp=Z,18nm,3.3s
NVAR Mina Array Bea 54.78 71 P **P 00 36 15.6 +2.1**
comp=Z,0.3nm,0.4s,baz=314,slow=6.4,SNR=1.9
comp=Z,0.3nm,0.4s
KIRV Kirov 55.73 324 LR LR 01 03 20.0
comp=Z,159nm,18.6s,baz=15,slow=40
KIRV Kirov 55.73 324 *ce*P **P 00 36 19.1 -0.6**
AAK Ala-Archa 55.79 297 *i* P **P 00 36 17.4 -3.2**
AAK pmax pmax
comp=Z,9.0nm,2.6s
PDAR Pinedale Array 56.58 62 P **P 00 36 27.4 +1.0**
PDAR Pinedale Array 56.58 62 P **P 00 36 28.3 +1.9**
comp=Z,1.0nm,1.0s,baz=309,slow=6.2,SNR=5.8
comp=Z,1.0nm,1.0s
ICESG Greenland Ices 56.87 9 *i* P **P 00 36 28.4 +0.2**
ICESG IAmb IAmb 00 36 29.3
comp=Z,10.0nm,0.8s
KSH Kashi 57.16 293 P **P 00 36 34.3 +3.9**
KSH sP pwP 00 36 46.1 +3.9
KSH pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 57.18 330 *e*P P 00 36 24.4 -5.6
KLMR pmax pmax
comp=Z,27nm,1.8s
KKAR Karatay Array 57.56 300 P **P 00 36 30.9 -2.2**
KKAR Karatay Array 57.56 300 P **P 00 36 30.9 -2.2**
ABKAR Akbulak array 58.32 311 P **P 00 36 38.3 0.0**
PHRA Phrae 58.35 258 P **P 00 36 39.6 +0.7**
RSSD Black Hills 58.48 57 P **P 00 36 41.3 +1.6**
CHTO Chiang Mai 58.86 260 P **P 00 36 43.2 +0.8**
CHTO Chiang Mai 58.86 260 P **P 00 36 43.2 +0.8**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CM31 Chiang Mai Arr 59.14 259 P **P 00 36 44.7 +0.4**
CMAR Chiang Mai Arr 59.14 259 P **P 00 36 45.2 +0.9**
CMAR Chiang Mai Arr 59.14 259 P **P 00 36 46.2 +1.9**
comp=Z,6.1nm,0.7s,baz=20,slow=7.1,SNR=32
comp=Z,6.1nm,0.7s
CMAR Chiang Mai Arr 59.14 259 P **P 00 36 45.2 +0.9**
PFO Pinyon Flats O 59.24 74 P **P 00 36 46.7 +1.7**
DRK Karamyk 59.45 296 P **P 00 36 47.5 +0.9**
BTK Batken 59.56 297 P **P 00 36 46.8 -0.3**
BTK Batken 59.56 297 P **P 00 36 46.8 -0.3**
BTK pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 60.24 337 P **P 00 36 51.9 +0.6**
comp=Z,3.2nm,0.6s,baz=46,slow=7.4,SNR=18
FINES LR LR 01 08 48.0
comp=Z,73nm,18.6s,baz=38,slow=42
comp=Z,3.2nm,0.6s
GAR Garm 60.60 297 P **P 00 36 53.0 -1.3**
BELG Belogornoye 61.11 320 LR LR 01 06 35.2
comp=Z,208nm,18.3s,baz=32,slow=39
BELG Belogornoye 61.11 320 *i* P **P 00 36 55.0 -2.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
CHGR Chuyangaron 61.47 297 P **P 00 36 59.1 -1.0**
CHGR Chuyangaron 61.47 297 P **P 00 36 59.1 -1.0**
CHGR pmax pmax
comp=Z,11nm,0.6s
SIMJ Simiganj 61.54 297 P **P 00 36 59.9 -0.8**
SIMJ IAmb IAmb 00 37 02.0
comp=Z,5.4nm,0.9s
BORG Borgarnes 62.21 1 *i* P **P 00 37 02.7 -1.8**
OBN Obninsk 62.79 328 *e*P **P 00 37 08.7 +0.2**
OBN *e* 00 37 43.2
OBN *e* 00 39 24.7
OBN pmax pmax
comp=Z,44nm,2.5s
OBN MLR MLR
comp=Z,118nm,14.0s
NIL Nilore 62.90 290 P **P 00 37 09.9 +0.2**
NIL Nilore 62.90 290 P **P 00 37 09.9 +0.2**
NIL pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 63.54 344 P **P 00 37 13.9 +0.3**
comp=Z,2.2nm,0.7s,baz=20,slow=6.9
NB2 NORSAR Subarra 63.54 344 P **P 00 37 13.8 +0.2**
NOA NORSAR Array B 63.54 344 P **P 00 37 13.7 +0.2**
comp=Z,3.2nm,0.7s,baz=20,slow=6.7,SNR=13
comp=Z,3.2nm,0.7s
HFS Hagfors 63.98 343 P **P 00 37 16.4 0.0**
comp=Z,2.0nm,0.7s,baz=28,slow=6.0,SNR=12
comp=Z,2.0nm,0.7s
LPSR Galich'ya Gora 64.10 325 *e*P **P 00 37 16.2 -1.1**
LPSR *e**SP **sP 00 37 27.5 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 64.27 323 *e*P **P 00 37 15.9 -2.5**
VRH *e**SP **sP 00 37 27.6 -0.2**
VRH pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 64.57 294 P **P 00 37 19.6 -1.3**
KBL Kabul 64.57 294 P **P 00 37 19.6 -1.3**
KBL pmax pmax
comp=Z,10.0nm,1.1s
SCHQ Schefferville 64.98 29 P **P 00 37 23.5 +0.5**
comp=Z,2.9nm,0.9s,baz=51,slow=13,SNR=2.7
comp=Z,2.9nm,0.9s
VSR Storozhevoye 65.17 324 *e*P **P 00 37 22.7 -1.6**
VSR *e**SP **sP 00 37 34.6 +0.9**
VSR pmax pmax
comp=Z,8.0nm,0.9s
MNK Minsk 65.89 333 *i* P **P 00 37 27.1 -1.8**
MNK *i* 00 39 53.1
MNK *i* S **S 00 46 12.8 -1.3**
MNK *i* SS **SS 00 50 30.4 +2.4**
MNK pmax pmax
comp=Z,17nm,1.0s
MNK pmax pmax
comp=N,7.0nm,1.1s
MNK pmax pmax
comp=E,16nm,1.0s
MNK MLR MLR
comp=E,139nm,21.0s
MNK MLR MLR
comp=N,135nm,16.0s
MNK MLR MLR
comp=Z,42nm,11.0s
HRA Herat 68.34 299 P **P 00 37 44.9 -0.2**
HRA IAmb IAmb 00 37 46.5
comp=Z,4.3nm,0.9s
AK03 Malin Array Si 68.84 330 P **P 00 37 47.7 +0.1**
AK21 Malin Array Si 68.85 330 P **P 00 37 47.8 +0.2**
AK22 Malin Array Si 68.85 330 P **P 00 37 47.8 +0.1**
AKASG Malin Array Be 68.86 330 P **P 00 37 47.8 +0.1**
AKASG IAmb IAmb 00 37 48.9
comp=Z,4.6nm,1.1s
AKASG Malin Array Be 68.86 330 P **P 00 37 48.0 +0.3**
comp=Z,3.0nm,0.6s,baz=32,slow=6.2,SNR=23
AKASG LR LR 01 11 54.0
comp=Z,142nm,18.8s,baz=12,slow=40
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 68.86 330 P **P 00 37 47.8 +0.1**
AKASG pmax pmax
comp=Z,5.0nm,1.1s
AKBB Malin Array Si 68.86 330 P **P 00 37 47.7 0.0**
AKBB Malin Array Si 68.86 330 *ce*P **P 00 37 46.6 -1.1**
AKBB pmax pmax
comp=Z,56nm,4.0s
AKBB Malin Array Si 68.86 330 P **P 00 37 47.9 +0.2**
KIEV Kiev 68.87 330 P **P 00 37 47.5 -0.3**
KIEV Kiev 68.87 330 P **P 00 37 47.5 -0.3**
KIEV pmax pmax
comp=Z,13nm,1.2s
KIEV Kiev 68.87 330 P **P 00 37 48.1 +0.3**
comp=Z,49nm,1.1s
AK01 Malin Array Si 68.87 330 P **P 00 37 47.9 +0.1**
AK12 Malin Array Si 68.93 330 P **P 00 37 48.2 0.0**
MI28 Mi28,Pidlybu 69.12 331 P **P 00 37 49.7 +0.4**
RNPP5 Staryi Chortor 69.36 332 P **P 00 37 51.5 +0.7**
TX31 Lajitas Ar. Si 69.68 68 P **P 00 37 54.3 +1.0**
TXAR Lajitas Array 69.68 68 P **P 00 37 54.8 +1.5**
TXAR Lajitas Array 69.68 68 P **P 00 37 54.6 +1.3**
comp=Z,1.2nm,0.8s,baz=296,slow=4.4,SNR=9.5
comp=Z,1.2nm,0.8s
MYKOM Kota Tinggi 69.87 244 P **P 00 37 53.8 -0.7**
KIV Kislovodsk 69.87 318 *e*P **P 00 37 52.5 -1.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KBZ Khabaz 69.97 317 P **P 00 37 54.7 0.0**
comp=Z,5.9nm,1.0s,baz=193,slow=5.9,SNR=4.5
comp=Z,5.9nm,1.0s
KBZ Khabaz 69.97 317 *ce*P **P 00 37 53.0 -1.7**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
LUBAR Lubar, Ukraine 69.99 330 P **P 00 37 54.5 -0.2**
EKA Eskdalemuir Ar 70.95 351 P **P 00 38 00.8 +0.3**
comp=Z,1.6nm,0.7s,baz=10.0,slow=5.7,SNR=4.8
comp=Z,1.6nm,0.7s
HORU Horodok 71.01 331 P **P 00 38 02.0 +1.0**
HORU Horodok 71.01 331 P **P 00 38 02.0 +1.0**
BAL3X Bal3x, Balta 71.18 328 P **P 00 38 02.3 +0.3**
SORM Soroca 71.39 329 ⇓P **P 00 38 03.5 +0.1**
SORM Soroca 71.39 329 P **P 00 38 03.4 +0.1**
SORM Soroca 71.39 329 P **P 00 38 03.6 +0.3**
comp=Z,19nm,1.1s
KMPD K-Podol'skiy 71.58 330 P **P 00 38 04.7 +0.3**
KWP Kalwaria Pacla 71.68 333 P **P 00 38 05.4 +0.3**
KWP Kalwaria Pacla 71.68 333 P **P 00 38 05.4 +0.3**
KWP Kalwaria Pacla 71.68 333 P **P 00 38 06.5 +1.4**
comp=Z,21nm,1.0s
KSP Ksiaz 72.16 338 P **P 00 38 08.6 +0.7**
KSP Ksiaz 72.16 338 P **P 00 38 08.6 +0.7**
comp=Z,9.5nm,0.9s
KSV Kosov 72.21 331 P **P 00 38 09.7 +1.4**
KSV Kosov 72.21 331 P **P 00 38 09.7 +1.4**
STHS Stebnicka Huta 72.27 334 *e*P **P 00 38 09.2 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 72.27 334 *e*P **P 00 38 09.2 +0.6**
MILM Milestii Mici 72.33 328 ⇓P **P 00 38 09.3 +0.3**
MILM Milestii Mici 72.33 328 P **P 00 38 09.2 +0.3**
PURM Purcari 72.34 327 ⇓P **P 00 38 09.3 +0.3**
PURM Purcari 72.34 327 P **P 00 38 09.4 +0.4**
comp=Z,26nm,1.1s
CLL Collm 72.43 340 P **P 00 38 09.1 -0.4**
CLL IAmb IAmb 00 38 12.5
comp=Z,7.8nm,0.8s
CLL Collm 72.43 340 P **P 00 38 09.1 -0.4**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 72.43 340 *i* P **P 00 38 10.4 +0.9**
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 72.43 333 *e*P **P 00 38 10.8 +1.2**
KOLS pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 72.43 333 *e*P **P 00 38 10.8 +1.2**
CHVC Chvalec 72.45 338 *e*P **P 00 38 11.1 +1.4**
CHVC Chvalec 72.45 338 *e*P **P 00 38 11.1 +1.4**
DPC Dobruska-Polom 72.61 338 *e*P **P 00 38 12.1 +1.5**
DPC Dobruska-Polom 72.61 338 *e*P **P 00 38 12.1 +1.5**
BRG Berggiesshubel 72.64 339 *e*P **P 00 38 11.6 +0.9**
BRG Amp 00 38 12.6
comp=Z,3.4nm,0.9s
STEB Steborice 72.66 336 *e*P **P 00 38 13.1 +2.2**
STEB *ex* x 00 38 24.6
KRLC Kraliky 72.76 337 *e*P **P 00 38 12.8 +1.3**
KRLC Kraliky 72.76 337 *e*P **P 00 38 12.8 +1.3**
BUR08 Bucovina Ar. S 72.78 331 P **P 00 38 11.7 -0.1**
BUR08 IAmb IAmb 00 38 25.5
comp=Z,3.8nm,0.8s
BURAR Bucovina Array 72.80 331 P **P 00 38 12.0 +0.1**
BURAR Bucovina Array 72.80 331 ⇓P **P 00 38 12.5 +0.6**
BURAR Bucovina Array 72.80 331 P **P 00 38 12.5 +0.6**
MORC Moravsky Berou 72.86 337 P **P 00 38 12.1 0.0**
MORC IAmb IAmb 00 38 29.3
comp=Z,3.9nm,0.9s
MORC Moravsky Berou 72.86 337 *e*P **P 00 38 13.4 +1.3**
MORC *e* 00 38 26.2
MORC Moravsky Berou 72.86 337 ⇓P **P 00 38 13.7 +1.6**
MORC Moravsky Berou 72.86 337 P **P 00 38 12.1 0.0**
MORC pmax pmax

comp=Z,4.0nm,0.9s
LANS Liptovska Anna 72.97 335 *e*P **P 00 38 15.3 +2.5**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 72.97 335 *e*P **P 00 38 15.2 +2.5**
GIRR Girov 73.01 330 ⇑P **P 00 38 13.9 +0.9**
PRU Pruhonice 73.35 339 *e*P **P 00 38 16.3 +1.3**
PRU *e*PCP **pwP 00 38 28.8 +2.0**
PRU Pruhonice 73.35 339 *e*P **P 00 38 16.3 +1.3**
PRU *e* 00 38 28.8
TESR Tescani 73.37 329 ⇑P **P 00 38 16.1 +0.9**
VLDR Vladesti 73.52 328 ⇑P **P 00 38 17.4 +1.4**
VRAC Vranov 73.52 337 *e*P **P 00 38 17.1 +1.1**
VRAC *e* 00 38 29.7
VRAC Vranov 73.52 337 ⇑P **P 00 38 17.2 +1.2**
VRAC Vranov 73.52 337 P **P 00 38 17.2 +1.2**
JAVC Velka Javorina 73.68 336 *e*P **P 00 38 18.9 +1.9**
VYHS Vyhne 73.73 335 *e*P **P 00 38 18.6 +1.3**
VYHS Vyhne 73.73 335 *e*P **P 00 38 18.6 +1.3**
KRUC Moravsky 73.80 337 *e*P **P 00 38 18.7 +1.1**
KRUC *e* 00 38 31.7
VRI Vrincioaia 73.92 329 ⇑P **P 00 38 19.3 +0.8**
VRI Vrincioaia 73.92 329 P **P 00 38 19.2 +0.8**
ZVC Zvikov 73.94 339 *e*P **P 00 38 19.7 +1.2**
SPBR Spulber 74.02 329 ⇑P **P 00 38 20.9 +1.9**
CFR Carcaliu 74.09 328 ⇓P **P 00 38 20.5 +1.0**
CFR Carcaliu 74.09 328 P **P 00 38 20.4 +1.0**
COVR Voineasa-Covas 74.10 329 ⇓P **P 00 38 21.0 +1.5**
MODS Modra-Piesok 74.23 336 *e*P **P 00 38 20.0 -0.2**
MODS pmax pmax
comp=Z,8.0nm,1.1s
MODS Modra-Piesok 74.23 336 *e*P **P 00 38 20.0 -0.2**
MODS *e*PP **PP 00 41 07.6 +2.3**
DRGR 74.27 332 ⇓P **P 00 38 21.0 +0.4**
DRGR 74.27 332 P **P 00 38 20.9 +0.4**
TPGR Topolog 74.29 327 ⇓P **P 00 38 21.8 +1.2**
KHC Kasperske Hory 74.37 339 *e*P **P 00 38 22.3 +1.3**
KHC *e*PCP **PcP 00 38 35.1 -0.5**
KHC Kasperske Hory 74.37 339 *e*P **P 00 38 22.3 +1.3**
KHC *e* 00 38 35.1
KHC Kasperske Hory 74.37 339 P **P 00 38 22.6 +1.6**
comp=Z,8.6nm,1.4s
MEM Membach 74.39 344 *d*P **P 00 38 21.6 +0.5**
comp=Z,9.7nm,1.2s
MEM Membach 74.39 344 P **P 00 38 17.2 -3.8**
MLR Muntele Rosu 74.50 329 P **P 00 38 23.3 +1.4**
MLR IAmb IAmb 00 38 25.0
comp=Z,6.6nm,0.7s
MLR Muntele Rosu 74.50 329 LR LR 01 13 25.6
comp=Z,114nm,18.5s,baz=12,slow=38
MLR Muntele Rosu 74.50 329 ⇑P **P 00 38 23.8 +1.8**
MLR Muntele Rosu 74.50 329 P **P 00 38 23.3 +1.4**
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR Muntele Rosu 74.50 329 P **P 00 38 23.7 +1.8**
comp=Z,9.0nm,0.7s
WET Wettzell 74.50 339 P **P 00 38 23.5 +1.7**
HARR Harsova 74.60 328 ⇑P **P 00 38 23.8 +1.5**
HARR Harsova 74.60 328 P **P 00 38 23.8 +1.5**
GEC2 GERESS Array S 74.61 339 P **P 00 38 22.6 +0.1**
GEC2 IAmb IAmb 00 38 25.2
comp=Z,5.0nm,0.9s
GERES GERESS Array B 74.61 339 P **P 00 38 22.5 0.0**
comp=Z,2.4nm,0.8s,baz=30,slow=6.8,SNR=11
comp=Z,2.4nm,0.8s
TIRR Tirgusor 74.65 327 P **P 00 38 22.9 +0.3**
TIRR IAmb IAmb 00 38 24.5
comp=Z,7.3nm,0.8s
TIRR Tirgusor 74.65 327 P **P 00 38 22.9 +0.3**
TIRR pmax pmax
comp=Z,7.0nm,0.8s
TIRR Tirgusor 74.65 327 P **P 00 38 23.9 +1.3**
comp=Z,11nm,1.5s
GURO Guroymak-BITLI 74.65 315 P **P 00 38 23.7 +0.7**
GURO IAmb IAmb 00 38 26.5
comp=Z,7.5nm,1.4s
VOIR 74.82 330 ⇓P **P 00 38 25.2 +1.4**
VOIR 74.82 330 P **P 00 38 25.1 +1.4**
VOIR 74.82 330 P **P 00 38 25.4 +1.7**
comp=Z,9.7nm,0.7s
CONA Conrad Observa 74.98 337 *i* pP **P 00 38 26.3 +1.6**
comp=Z,3.6nm,0.8s
ARR Arges 75.01 330 ⇑P **P 00 38 26.8 +2.0**
RONA Rosalia, Austr 75.09 337 *e*pP **P 00 38 27.0 +1.7**
comp=Z,3.5nm,1.1s
ICOR Ion Corvin 75.15 327 ⇓P **P 00 38 27.0 +1.5**
MPLH Magyarpolny 75.29 336 P **P 00 38 28.3 +2.0**
comp=Z,30nm,1.1s
SURR Surduc 75.38 332 ⇑P **P 00 38 27.9 +1.0**
GZR Gura Zlata 75.53 331 ⇓P **P 00 38 28.2 +0.4**
GZR Gura Zlata 75.53 331 P **P 00 38 28.2 +0.4**
BZS Buzias 75.65 332 ⇓P **P 00 38 28.7 +0.3**
BZS Buzias 75.65 332 P **P 00 38 28.7 +0.3**
ARSA Arzberg 75.70 337 *e*pP **P 00 38 30.3 +1.6**
comp=Z,4.3nm,0.7s
MORH Mrgy, Hungar 75.90 334 ⇑P **P 00 38 30.1 +0.3**
MORH Mrgy, Hungar 75.90 334 P **P 00 38 30.6 +0.8**
comp=Z,3.1nm,1.4s
HERR Herculane 76.10 331 ⇑P **P 00 38 31.6 +0.7**
LESA Schwarzleotal 76.18 339 *e*pP **P 00 38 32.8 +1.3**
comp=Z,4.5nm,1.1s
BFO Black Forest 76.18 342 P **P 00 38 32.9 +1.5**
MARD Mardin 76.23 315 P **P 00 38 32.4 +0.4**
SOKA Soboth 76.35 337 *i* pP **P 00 38 33.7 +1.2**
comp=Z,3.3nm,0.7s
KBA Koelnbreinsper 76.36 338 *e*pP **P 00 38 34.0 +1.4**
comp=Z,17nm,1.1s
KBA Koelnbreinsper 76.36 338 P **P 00 38 34.7 +2.1**
KBA pmax pmax
comp=Z,18nm,1.0s
WATA Walderalm 76.50 340 *i* P **P 00 38 31.5 -1.9**
comp=Z,3.6nm,0.9s
WATA *i* pP **P 00 38 34.3 +0.9**
comp=Z,3.6nm,0.9s
ECH Echery 76.51 343 P **P 00 38 37.5 +4.2**
ECH pmax pmax
comp=Z,44nm,1.3s
RETA Reutte 76.52 340 *i* P **P 00 38 32.3 -1.1**
comp=Z,5.2nm,1.1s
RETA *i* pP **P 00 38 34.5 +1.1**
comp=Z,3.7nm,1.0s
WB0 Warramunga Arr 76.54 206 P **P 00 38 34.3 +0.7**
WB0 IAmb IAmb 00 38 54.9
comp=Z,12nm,1.4s
WTTA Wattenberg 76.55 340 *e*P **P 00 38 32.5 -1.2**
comp=Z,4.6nm,0.6s
WTTA Wattenberg 76.55 340 P **P 00 38 33.2 -0.5**
WTTA pmax pmax
comp=Z,10.0nm,1.2s
MOTA Moosalm 76.58 340 *e*pP **P 00 38 34.7 +0.8**
comp=Z,6.6nm,1.1s
OBKA Obir 76.62 337 *e*pP **P 00 38 35.3 +1.2**
comp=Z,8.0nm,0.8s
SQTA Sankt Quirin 76.68 340 *i* P **P 00 38 33.5 -0.9**
comp=Z,3.2nm,1.0s
SQTA *e*pP **P 00 38 35.2 +0.8**
comp=Z,6.4nm,0.8s
WB2 Warramunga Arr 76.72 206 P **P 00 38 35.6 +1.0**
WB2 IAmb IAmb 00 39 03.8
comp=Z,4.2nm,1.1s
WRA Warramunga Arr 76.72 206 P **P 00 38 35.4 +0.7**
comp=Z,0.5nm,0.6s,baz=21,slow=6.1,SNR=6.7
comp=Z,0.5nm,0.6s
ABTA Abfaltersbach 76.86 339 *e*pP **P 00 38 36.2 +0.9**
comp=Z,4.9nm,0.8s
FETA Feichten 76.97 340 *i* pP **P 00 38 37.8 +1.8**
comp=Z,7.6nm,1.0s
BR131 Keskin Array S 77.00 321 P **P 00 38 36.1 -0.3**
BR131 IAmb IAmb 00 38 37.6
comp=Z,3.2nm,0.9s
BR131 Keskin Array S 77.00 321 P **P 00 38 36.1 -0.3**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 77.00 321 P **P 00 38 35.8 -0.5**
BRTR Keskin Array B 77.00 321 P **P 00 38 37.4 +1.1**
comp=Z,3.4nm,1.1s,baz=45,slow=3.8,SNR=9.1
BRTR LR LR 01 15 30.5
comp=Z,40nm,21.2s,baz=312,slow=38
comp=Z,3.4nm,1.1s
BRTR Keskin Array B 77.00 321 P **P 00 38 35.8 -0.5**
BR104 Keskin Array S 77.01 321 P **P 00 38 37.5 +1.1**
comp=Z,3.3nm,1.0s
KIRS Kirsehir-Merke 77.41 321 ⇑P **P 00 38 39.2 +0.6**
FUORN Ofenpass-Fuorn 77.45 340 P **P 00 38 40.3 +1.4**
FUORN IAmb IAmb 00 38 54.9
comp=Z,4.9nm,1.1s
FITZ Fitzroy Crossi 77.64 215 P **P 00 38 41.5 +1.7**
CTI Castel Tesino 77.71 339 P **P 00 38 40.0 -0.2**
CTI IAmb IAmb 00 38 42.6
comp=Z,4.3nm,0.8s
CTI Castel Tesino 77.71 339 P **P 00 38 40.0 -0.2**
CTI pmax pmax
comp=Z,4.0nm,0.8s
TUE Stuetta 77.77 341 P **P 00 38 41.6 +1.0**
TUE IAmb IAmb 00 38 44.3
comp=Z,5.4nm,0.8s
TUE Stuetta 77.77 341 P **P 00 38 42.3 +1.7**
comp=Z,37nm,0.8s
TEOL Teolo 78.36 339 P **P 00 38 44.0 +0.4**
RDO Rodhopi 78.55 328 P **P 00 38 45.4 +0.7**
PALK Pallekele 78.79 267 P **P 00 38 47.7 +1.2**
PALK IAmb IAmb 00 38 49.4
comp=Z,4.1nm,0.8s
PALK Pallekele 78.79 267 P **P 00 38 47.7 +1.2**
PALK pmax pmax
comp=Z,4.0nm,0.8s
UOSS Minazif 78.99 297 P **P 00 38 46.9 -0.6**
PDG Podgorica 79.25 333 P **P 00 38 48.7 +0.2**
PDG Podgorica 79.25 333 ⇓P **P 00 38 48.8 +0.3**
ZCCA Zocca 79.47 339 P **P 00 38 51.9 +2.1**
ZCCA IAmb IAmb 00 38 53.5
comp=Z,9.1nm,0.9s
OSSC Osservatorio P 80.20 339 P **P 00 38 54.7 +1.0**
OSSC IAmb IAmb 00 39 18.2
comp=Z,12nm,1.3s
FDMO Fiordimonte 80.25 337 P **P 00 38 54.0 0.0**
FDMO IAmb IAmb 00 38 57.6
comp=Z,6.7nm,0.8s
ASAR Alice Springs 80.39 206 P **P 00 38 56.3 +1.5**
ASAR Alice Springs 80.39 206 P **P 00 38 56.6 +1.8**
comp=Z,1.1nm,0.5s,baz=15,slow=5.5,SNR=9.5
comp=Z,1.1nm,0.5s
ASAR Alice Springs 80.39 206 P **P 00 38 56.3 +1.5**
ISO Isola 80.42 342 P **P 00 38 57.9 +2.9**
ISO pmax pmax
comp=Z,6.0nm,1.2s
NRCA Norcia 80.43 337 P **P 00 38 55.5 +0.4**
LIT Litokhoron 80.45 329 P **P 00 38 54.3 -0.9**
LIT IAmb IAmb 00 39 12.0
comp=Z,3.4nm,0.8s
LIT Litokhoron 80.45 329 P **P 00 38 54.3 -0.9**
LIT pmax pmax
comp=Z,3.0nm,0.8s
CAMP Campotosto 80.64 337 P **P 00 38 55.9 -0.4**
CAMP IAmb IAmb 00 39 19.1
comp=Z,5.4nm,0.9s
CESX Cesi 80.77 337 P **P 00 38 57.2 +0.4**
CESX IAmb IAmb 00 38 60.0
comp=Z,5.1nm,1.2s
SGRT San Giovanni R 80.81 335 P **P 00 38 57.3 +0.2**
SGRT IAmb IAmb 00 38 59.9
comp=Z,6.3nm,0.8s
INTR Introdacqua 81.02 336 P **P 00 38 58.2 -0.1**
INTR IAmb IAmb 00 39 16.3
comp=Z,4.5nm,1.0s
CSS Mathiatis 81.29 319 P **P 00 38 59.2 -0.5**
MMAI Mount Meron Ar 82.16 317 P **P 00 39 05.0 +0.6**
comp=Z,1.8nm,0.6s,baz=40,slow=5.6,SNR=5.5
comp=Z,1.8nm,0.6s
TIP Timpagrande 82.96 333 P **P 00 39 09.9 +1.4**
comp=Z,9.7nm,1.2s
CMIG Matias Romero 84.25 69 P **P 00 39 15.4 +0.1**
comp=Z,2.0nm,0.8s,baz=323,slow=5.1,SNR=3.6
comp=Z,2.0nm,0.8s
EIL Elat 85.26 316 LR LR 01 21 51.6
comp=Z,36nm,21.1s,baz=222,slow=39
RAYN Ar Rayn 85.68 304 P **P 00 39 22.6 +0.1**
ESDC Sonseca Array 86.51 349 P **P 00 39 27.1 +0.8**
comp=Z,0.8nm,0.8s,baz=12,slow=4.5,SNR=3.6
comp=Z,0.8nm,0.8s

*NAO **19** 00:27:03.5±1.7, 60°.62N×4°.74E, h13km±9km, ML2.5*
*BER **19** 00:27:04.2±2.5, 60°.58N×4°.53E, h15km±4km, ML2.1, MW2.4, ML2.5(NAO), Confirmed Earthquake*
ISC 19 00:27:01.3±1.6, **60°.57N**±0°.02×**4°.44E**±0°.04, **h13**km±11km, **n35**, σ**1°36**/68, **2C-1D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASK	**Askoy**	**0.39**	**103**	⇓*i*P	**Pb**	**00 27 09.4**	**-0.5**
ASK				*e*S	**Sg**	**00 27 13.7**	**-0.5**
ASK				IAML		00 27 14.2	
comp=Z,217nm,0.3s							
BER	**Bergen**	**0.48**	**113**	Pg	**Pb**	**00 27 11.1**	**-0.5**
BER				Lg	Lg	00 27 16.8	
BER	**Bergen**	**0.48**	**113**	*e*P	**Pb**	**00 27 11.1**	**-0.5**
BER				*e*S	**Sg**	**00 27 16.8**	**-0.5**
BER				IAML		00 27 17.0	
comp=Z,96nm,0.3s							
SUE	**Sulen**	**0.51**	**18**	Pg	**Pb**	**00 27 12.3**	**+0.2**
SUE				Lg	Lg	00 27 19.1	
SUE	**Sulen**	**0.51**	**18**	⇑*i*P	**Pb**	**00 27 12.3**	**+0.2**
SUE				*e*S	**Sb**	**00 27 19.1**	**-0.3**
SUE				IAML		00 27 22.4	
comp=Z,62nm,0.2s							
HYA	**Hoyanger**	**1.04**	**54**	Pg	**Pb**	**00 27 20.9**	**-0.2**
HYA				Lg	Lg	00 27 34.0	
HYA	**Hoyanger**	**1.04**	**54**	*e*P	**Pb**	**00 27 20.9**	**-0.2**
HYA				*e*S	**Sg**	**00 27 34.1**	**-0.9**
HYA				IAML		00 27 36.4	
comp=Z,84nm,0.2s							
FOO	**Floro**	**1.07**	**16**	Pg	**Pb**	**00 27 21.5**	**-0.2**
FOO				Lg	Lg	00 27 35.5	
FOO	**Floro**	**1.07**	**16**	⇑*i*P	**Pb**	**00 27 21.8**	**+0.1**
FOO				*e*S	**Sb**	**00 27 35.4**	**-0.2**
FOO				IAML		00 27 38.1	
comp=Z,62nm,0.8s							
ODD1	**Odda**	**1.28**	**120**	*e*P	**Pb**	**00 27 25.4**	**+0.2**
ODD1				*e*S	**Sn**	**00 27 41.2**	**-0.6**
ODD1				IAML		00 27 41.5	
comp=Z,54nm,0.2s							
KMY	**Karmoy**	**1.42**	**163**	*e*P	**Pn**	**00 27 27.1**	**+0.4**
KMY				*e*S	**Sn**	**00 27 44.5**	**-0.8**
KMY				IAML		00 27 48.7	
comp=Z,22nm,0.1s							
BLS5	**Blasjo**	**1.54**	**138**	*e*P	**Pb**	**00 27 29.1**	**-0.4**
BLS5				*e*S	**Sb**	**00 27 48.2**	**-0.7**
BLS5				IAML		00 27 50.3	
comp=Z,38nm,0.2s							
SKAR	**Skarslia**	**1.91**	**85**	*e*Pg	**Pb**	**00 27 35.9**	**-0.1**
SKAR				*e*Sg	**Sb**	**00 27 59.9**	**+0.2**
SKAR				IAML		00 28 00.9	
comp=Z,54nm,0.2s							
AKN	**Aaknes**	**2.03**	**36**	Pn	**Pn**	**00 27 36.0**	**+0.8**
AKN				Sn	**Sn**	**00 28 00.2**	**-0.1**
AKN				Lg	Lg	00 28 03.5	
AKN	**Aaknes**	**2.03**	**36**	Pn	**Pn**	**00 27 36.0**	**+0.8**
AKN				Sn	**Sn**	**00 28 00.2**	**-0.1**
AKN				Sg	**Sb**	**00 28 03.5**	**+0.4**
MOL	**Molde**	**2.50**	**35**	*e*P	**Pn**	**00 27 42.6**	**+1.1**
MOL				*e*S	**Sn**	**00 28 11.4**	**-0.3**
MOL				IAML		00 28 18.7	
comp=Z,14nm,0.2s							
SNART	**Snartemo**	**2.65**	**146**	*e*P	**Pn**	**00 27 44.2**	**+0.6**
SNART				*e*Pg	**Pb**	**00 27 49.2**	**+0.7**
SNART				*e*S	**Sn**	**00 28 15.1**	**-0.5**
SNART				*e*Sg	**Sb**	**00 28 22.4**	**+1.5**
SNART				IAML		00 28 23.6	
comp=Z,45nm,0.3s							
SNART	**Snartemo**	**2.65**	**146**	*i* P	**Pn**	**00 27 44.2**	**+0.6**
SNART				*i* S	**Sb**	**00 28 22.1**	**+1.2**
DOMB	**Dombas**	**2.68**	**55**	*e*P	**Pn**	**00 27 45.3**	**+1.3**
DOMB				*e*S	**Sn**	**00 28 16.4**	**0.0**
DOMB				*e*Sg	**Sb**	**00 28 22.6**	**+0.9**
DOMB				IAML		00 28 24.3	
comp=Z,16nm,0.4s							
KONO	**Kongsberg**	**2.75**	**107**	*e*P	**Pn**	**00 27 46.6**	**+1.7**
KONO				*i*		00 28 24.7	
KONO				IAML		00 28 30.1	
comp=Z,8.6nm,0.6s							
LRW	**Lerwick**	**2.82**	**264**	*e*S	**Sn**	**00 28 19.0**	**-0.8**
LRW				IAML		00 28 38.5	
comp=Z,9.1nm,0.8s							
HOMB	**Homborsund**	**3.11**	**136**	*e*P	**Pn**	**00 27 50.9**	**+1.0**
HOMB				*e*Sg	**Sb**	**00 28 36.2**	**+2.2**
HOMB				IAML		00 28 45.1	
comp=Z,8.3nm,0.5s							
HOMB	**Homborsund**	**3.11**	**136**	*i* P	**Pn**	**00 27 49.8**	**0.0**
HOMB				*i* S	**Sb**	**00 28 34.6**	**+0.6**
OSL	**Oslo**	**3.20**	**99**	*e*S	**Sn**	**00 28 28.4**	**-0.7**
OSL				*e*Sg	**Sb**	**00 28 37.5**	**+0.9**
OSL				IAML		00 28 44.1	
comp=Z,15nm,0.2s							
NB2	**NORSAR Subarra**	**3.35**	**79**	Pn	**Pn**	**00 27 54.6**	**+1.2**
baz=268,slow=14							
NB2				Pg	**Pb**	**00 28 00.1**	**-0.5**
baz=268,slow=16							
NB2				Lg	Lg	00 28 41.0	
baz=268,slow=28							
NB2	**NORSAR Subarra**	**3.35**	**79**	Pn	**Pn**	**00 27 54.6**	**+1.2**
baz=268,slow=14							
NB2				Pg	**Pb**	**00 28 00.1**	**-0.5**
baz=268,slow=16							
NB2				Sg	**Sb**	**00 28 41.0**	**-0.2**
baz=268,slow=28							
NRA0	**NORESS Array S**	**3.50**	**84**	Pn	**Pn**	**00 27 57.1**	**+1.8**
baz=273,slow=12							
NRA0				Sn	**Sn**	**00 28 34.3**	**-2.3**
baz=273,slow=22							
NRA0				Lg	Lg	00 28 47.7	
baz=280,slow=28							
NRA0	**NORESS Array S**	**3.50**	**84**	Pn	**Pn**	**00 27 57.1**	**+1.8**
baz=273,slow=12							
NRA0				Sn	**Sn**	**00 28 34.3**	**-2.3**
baz=273,slow=22							
NRA0				Sg	**Sb**	**00 28 47.7**	**+2.3**
baz=280,slow=28							
TJOU	**Tjoern**	**4.48**	**122**	*i* P	**Pn**	**00 28 11.7**	**+2.9**
TJOU				*i* S	**Sb**	**00 29 17.4**	**+3.9**
HFS	**Hagfors**	**4.62**	**91**	Pn	**Pn**	**00 28 11.4**	**+0.7**
baz=276,slow=12							
HFS				Sn	**Sn**	**00 29 01.3**	**-2.8**
baz=267,slow=22							
HFS				Lg	Lg	00 29 18.8	
baz=270,slow=28							
HFS	**Hagfors**	**4.62**	**91**	Pn	**Pn**	**00 28 11.4**	**+0.7**
baz=276,slow=12							
HFS				Sn	**Sn**	**00 29 01.3**	**-2.8**
baz=267,slow=22							
HFS				Sg	**Sb**	**00 29 18.8**	**+1.2**
baz=270,slow=28							
BIGH	**Upper Bighouse**	**4.73**	**248**	*e*P	**Pn**	**00 28 12.9**	**+0.7**
BIGH				*e*S	**Sn**	**00 29 04.5**	**-2.4**
ONAU	**Onsala**	**5.01**	**126**	*i* P	**Pb**	**00 28 26.3**	**-2.4**
DRUM	**Mains of Drumt**	**5.14**	**228**	*e*S	**Sn**	**00 29 14.2**	**-2.8**
NSS	**Namsos**	**5.28**	**38**	*e*S	**Sn**	**00 29 18.0**	**-2.4**

*HEL **19** 00:28:53.9±0.2, 67°.84N×19°.99E, h0km, ML1.3, Suspected explosion*
*UPP **19** 00:28:54.7±0.0, 67°.83N×20°.20E, h0km, ML2.6, Unknown*
ISC 19 00:28:54.7±0.9, **67°.81N**±0°.02×**20°.28E**±0°.04, **h0**km, **n25**, σ**0°91**/36, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**8**	P	**Pg**	**00 28 57.4**	**-0.2**
KUA				S	**Sg**	**00 28 59.3**	**-0.3**
RATU	**Laukkuluspa**	**0.26**	**274**	P	**Pg**	**00 28 59.3**	**-0.4**
KOVU	**Salmi**	**0.42**	**354**	P	**Pg**	**00 29 02.3**	**-0.5**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pg**	**00 29 08.0**	**+0.1**
LANU	**Lannavaara**	**0.69**	**69**	PG	**Pg**	**00 29 08.0**	**+0.1**
baz=255							
LANU				SG	**Sg**	**00 29 17.4**	**+0.5**
DUNU	**Dundret**	**0.70**	**171**	P	**Pg**	**00 29 08.3**	**+0.3**
MASU	**Masugnsbyn**	**0.74**	**117**	P	**Pb**	**00 29 09.6**	**-1.0**
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	**Pb**	**00 29 18.3**	**-0.3**
KIF	**Kilpisjarvi**	**1.22**	**9**	PN	**Pb**	**00 29 18.3**	**-0.3**
KIF				MSG		00 29 31.8	
comp=Z,4.1nm,0.2s							
KIF				SB	**Sg**	**00 29 33.6**	**-0.3**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**00 29 20.1**	**-0.4**
PAJU	**Pajala**	**1.35**	**124**	PG	**Pg**	**00 29 20.0**	**-0.4**
baz=301							
PAJU				SG	**Sb**	**00 29 38.5**	**-0.1**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**00 29 20.2**	**-1.4**
HEF	**Hetta**	**1.41**	**63**	PG	**Pn**	**00 29 20.7**	**-0.9**
baz=247							
HEF				MSG		00 29 38.7	
comp=Z,2.4nm,0.2s							
HEF				SG	**Sg**	**00 29 39.4**	**-0.3**
ERTU	**Ertsjaerv**	**1.46**	**148**	P	**Pb**	**00 29 22.5**	**-0.2**
ERTU	**Ertsjaerv**	**1.46**	**148**	PN	**Pb**	**00 29 22.6**	**-0.2**
ERTU				SN	**Sn**	**00 29 43.2**	**+1.1**
KLF	**Kolari**	**1.53**	**110**	PG	**Pb**	**00 29 23.5**	**-0.4**
KLF				MSG		00 29 42.9	
comp=Z,1.3nm,0.2s							
KLF				SG	**Sn**	**00 29 44.6**	**+0.9**
KTK1	**Kautokeino**	**1.63**	**41**	PG	**Pn**	**00 29 24.3**	**-0.4**
KTK1				SN	**Sg**	**00 29 48.1**	**+1.0**
HARU	**Harads**	**1.67**	**170**	P	**Pb**	**00 29 25.8**	**-0.5**
KALU	**Kalix**	**2.30**	**147**	PG	**Pb**	**00 29 36.4**	**-0.6**
KALU				SG	**Sg**	**00 30 07.6**	**-0.9**
TOF	**Tornio**	**2.35**	**136**	PG	**Pb**	**00 29 36.6**	**-1.4**
TOF				MSG		00 30 06.5	
comp=Z,0.5nm,0.2s							
TOF				SG	**Sg**	**00 30 09.3**	**-0.9**
RNF	**Rovaniemi**	**2.54**	**116**	PG	**Pb**	**00 29 39.8**	**-1.2**
RNF				SB	**Sb**	**00 30 12.8**	**+0.1**
RAJF	**Raja-Jooseppi**	**3.08**	**74**	SG	**Sb**	**00 30 29.8**	**+1.4**
RANF	**Ranua**	**3.13**	**122**	SG	**Sg**	**00 30 33.5**	**-1.7**
KEV	**Kevo**	**3.13**	**48**	SG	**Sb**	**00 30 31.1**	**+1.2**
OUL	**Oulu**	**3.54**	**138**	PB	**Pn**	**00 29 53.5**	**+2.6**

*ISN **19** 00:34:26.9±0.3, 34°.65N×46°.57E, h22km±5km, ML2.6*
*TEH **19** 00:34:26.8, 34°.61N×46°.46E, h10km±41km*
ISC 19 00:34:26.8±1.1, **34°.63N**±0°.04×**46°.52E**±0°.04, **h8**km±9km, **n12**, σ**0°69**/16, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.13**	**301**	Pg	**Pg**	**00 34 29.8**	**0.0**
IDHR				Sg	**Sg**	**00 34 32.1**	**+0.3**
IGHG	**Ghaleghazi**	**0.31**	**173**	Pg	**Pg**	**00 34 33.3**	**+0.3**
ILIN	**Lien**	**0.46**	**52**	Pg	**Pb**	**00 34 37.4**	**0.0**
KCHF	**Cheshme Sefid,**	**0.56**	**130**	Pg	**Pb**	**00 34 38.3**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**0.78**	**261**	Pg	**Pg**	**00 34 41.2**	**-0.6**
SNQR	**Sonqor, Kerman**	**0.94**	**76**	Pg	**Pn**	**00 34 46.1**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.04**	**195**	Pg	**Pg**	**00 34 46.1**	**-0.6**
IKFM	**Kafar-mosalman**	**1.56**	**135**	Pg	**Pg**	**00 34 56.6**	**-0.1**
IBDR	**Badra**	**1.60**	**198**	*e*Pg	**Pb**	**00 34 56.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**00 35 17.0**	**+0.1**
IDOB	**Doab**	**1.61**	**121**	Pg	**Pg**	**00 34 58.4**	**+0.6**
IKRK	**Kirkuk**	**1.95**	**294**	*e*Pn	**Pn**	**00 35 01.0**	**+0.8**
IKRK				*e*Sn	**Sb**	**00 35 26.0**	**-1.0**
IKRK				AML	AML	00 35 35.7	
comp=N,6.1nm,0.5s							
BHD	**Baghdad**	**2.24**	**233**	*e*Pn	**Pn**	**00 35 05.0**	**+0.8**
BHD				*e*Sn	**Sn**	**00 35 33.0**	**+0.9**

IDC 19 00:38:52.9±16.0, **11°.18N**×**125°.45E, h0**km, **mb4.0**/4, **mbtmp4.0**/4, **Error ellipse: s-maj=725.5km s-min=135.8km az=30.0, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy 40.75**	**73**		T	T	01 29 59.4	
baz=265,slow=75,SNR=22							
H11N2	**WAKE ISLAND Hy 40.76**	**73**		T	T	01 29 57.2	
baz=265,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy 40.77**	**73**		T	T	01 30 00.1	
baz=265,slow=75,SNR=18							
MKAR	**Makanchi Array**	**50.82**	**323**	P	P	00 47 55.2	-0.1
0.4nm,0.9s,baz=131,slow=7.5,SNR=4.0							
0.4nm,0.9s							
KURBB	**Kurchatov Arra**	**54.87**	**325**	P	P	00 48 24.9	-0.2
0.6nm,0.6s,baz=126,slow=7.0,SNR=10							
0.6nm,0.6s							
ARCES	**ARCESS Array B**	**83.06**	**340**	P	P	00 51 20.0	-0.1
7.6nm,1.1s,baz=79,slow=5.2,SNR=3.9							
7.6nm,1.1s							
FINES	**FINESS Array B**	**84.71**	**332**	P	P	00 51 28.8	+0.2
2.4nm,0.9s,baz=77,slow=5.4,SNR=1.7							
2.4nm,0.9s							

IDC 19 01:12:48.2±2.2, **5°.55S**×**129°.11E, h0**km, **mb3.4**/1, **mbtmp3.5**/4, **ML3.5**/3, **MS3.2**/1, **Error ellipse: s-maj=101.3km s-min=28.4km az=74.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.93**	**195**	Pn	Pn	01 15 53.7	+0.4
	0.3nm,0.3s,baz=14,slow=12,SNR=5.9						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**15.19**	**161**	Pn	Pn	01 16 22.0	-2.2
	0.2nm,0.3s,baz=342,slow=12,SNR=7.0						
	0.3nm,0.4s						
PMG	**Port Moresby**	**18.30**	**103**	LR	LR	01 26 32.2	
	comp=Z,62nm,18.4s,baz=261,slow=45						
ASAR	**Alice Springs**	**18.60**	**166**	P	Pn	01 17 07.9	+0.5
	0.2nm,0.3s,baz=355,slow=10,SNR=5.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**66.53**	**327**	P	P	01 23 40.0	0.0
	0.2nm,0.5s,baz=129,slow=7.1,SNR=5.3						
	0.2nm,0.5s						

*IDC **19** 01:17:07.9±4.8, 47.°00N×153.°94E, h0km, mb3.8/11, mbtmp3.8/12, ML2.4/1, MS2.5/1, Error ellipse: s-maj=112.3km s-min=30.3km az=159.0*

*NEIC **19** 01:17:09.5±1.5, 47.°1N±0.°1×153.°8E±0.°2, h10km±1km, mb4.5/22, Error ellipse: s-maj=26.0km s-min=13.5km az=138.0*

ISC 19 01:17:11.8±0.9,**47.°1N**±0.°1×**153.°8E**±0.°1,**h27**km,**n41**, σ0**95**/41,**mb4.3**/23,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**6.56**	**21**	Pn	**Pn**	**01 18 44.8**	**-1.7**
PETK	**Petropavlovsk-**	**6.56**	**21**	Pn	**Pn**	**01 18 46.9**	**+0.4**
PETK	**Petropavlovsk-**	**6.56**	**21**	Pn	**Pn**	**01 18 46.5**	**0.0**
	0.4nm,0.3s,baz=177,slow=11,SNR=5.2						
PETK				LR	LR	01 20 52.4	
	comp=Z,38nm,20.7s,baz=180,slow=34						
	0.8nm,0.5s						
ERM	**Erimo**	**9.12**	**240**	Pn	**Pn**	**01 19 20.6**	**-1.0**
UNV	**Unalaska Valle**	**25.89**	**60**	P	**P**	**01 22 39.5**	**-1.6**
FALS	**False Pass**	**27.68**	**58**	P	**P**	**01 22 55.5**	**-1.7**
ULN	**Ulaanbaatar**	**31.26**	**289**	P	**P**	**01 23 27.3**	**-2.0**
J19K	**Poorman**	**32.18**	**40**	P	**P**	**01 23 36.4**	**-0.6**
J19K				IAmb	IAmb	01 23 47.0	
	comp=Z,5.7nm,1.2s						
E19K	**Redstone River**	**32.18**	**33**	P	**P**	**01 23 36.7**	**-0.2**
L19K	**White Mountain**	**32.35**	**43**	P	**P**	**01 23 38.5**	**0.0**
L19K				IAmb	IAmb	01 23 46.5	
	comp=Z,8.1nm,1.4s						
HOM	**Homer**	**33.90**	**48**	P	**P**	**01 23 52.5**	**+0.5**
SKT	**Skwentna**	**33.90**	**44**	P	**P**	**01 23 52.0**	**-0.1**
SKT				IAmb	IAmb	01 23 55.2	
	comp=Z,7.3nm,1.4s						
E22K	**Anaktuvuk Pass**	**34.34**	**33**	P	**P**	**01 23 55.1**	**-0.7**
NACB	**Ninganchiao**	**34.36**	**240**	P	**P**	**01 23 56.3**	**-0.1**
SML	**Sawmill**	**35.42**	**44**	P	**P**	**01 24 05.0**	**-0.2**
SML				IAmb	IAmb	01 24 23.5	
	comp=Z,28nm,1.5s						
POKR	**Poker Plat Res**	**35.78**	**38**	P	**P**	**01 24 08.3**	**+0.1**
POKR				IAmb	IAmb	01 24 26.8	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**36.01**	**39**	P	**P**	**01 24 10.1**	**0.0**
	comp=Z,0.2nm,0.7s,baz=275,slow=8.4,SNR=1.7						
	comp=Z,0.2nm,0.7s						
D25K	**Kavik River**	**36.47**	**31**	P	**P**	**01 24 14.0**	**-0.1**
D25K				IAmb	IAmb	01 24 25.7	
	comp=Z,7.1nm,1.4s						
L27K	**Beaver Creek,**	**38.34**	**41**	P	**P**	**01 24 30.2**	**+0.2**
L27K				IAmb	IAmb	01 24 31.3	
	comp=Z,7.1nm,1.4s						
ZALV	**Zalesovo Beam**	**42.83**	**306**	P	**P**	**01 25 07.8**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=64,slow=6.8,SNR=4.2						
	comp=Z,0.7nm,0.5s						
V35K	**Ketchikan**	**45.35**	**51**	P	**P**	**01 25 27.8**	**+0.6**
V35K				IAmb	IAmb	01 25 37.4	
	comp=Z,12nm,0.9s						
MKAR	**Makanchi Array**	**47.24**	**297**	P	**P**	**01 25 43.4**	**+1.1**
MKAR	**Makanchi Array**	**47.24**	**297**	P	**P**	**01 25 43.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=69,slow=7.2,SNR=5.6						
	comp=Z,0.5nm,0.6s						
KURK	**Kurchatov**	**47.60**	**304**	P	**P**	**01 25 46.0**	**+1.0**
KURK				IAmb	IAmb	01 25 46.6	
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Array**	**47.70**	**304**	P	**P**	**01 25 46.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=69,slow=8.4,SNR=13						
	comp=Z,1.5nm,0.6s						
BVAR	**Borovoye Array**	**51.05**	**309**	P	**P**	**01 26 12.4**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=55,slow=7.8,SNR=3.1						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**58.61**	**310**	P	**P**	**01 27 05.0**	**-1.1**
ABKAR	**Akbulak array**	**58.61**	**310**	P	**P**	**01 27 05.5**	**-0.6**
ABKAR				IAmb	IAmb	01 27 08.0	
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**01 27 42.8**	**+0.6**
	comp=Z,4.1nm,1.1s,baz=29,slow=5.6,SNR=8.9						
	comp=Z,4.1nm,1.1s						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**01 28 10.0**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=25,slow=6.4,SNR=3.5						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**68.35**	**340**	P	**P**	**01 28 10.1**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=26,slow=7.0,SNR=5.2						
	comp=Z,1.8nm,0.6s						
KBZ	**Khabaz**	**71.00**	**314**	P	**P**	**01 28 28.4**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=304,slow=23,SNR=1.6						
	comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**71.57**	**327**	P	**P**	**01 28 31.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=32,slow=6.3,SNR=4.6						
	comp=Z,0.4nm,0.3s						
BUR08	**Bucovina Ar. S**	**75.59**	**327**	P	**P**	**01 28 54.5**	**+0.5**
BURAR	**Bucovina Array**	**75.61**	**327**	P	**P**	**01 28 54.5**	**+0.5**
MLR	**Muntele Rosu**	**77.10**	**325**	P	**P**	**01 29 04.3**	**+1.7**
MLR				IAmb	IAmb	01 29 10.8	
	comp=Z,3.4nm,1.5s						
BRTR	**Keskin Array B**	**78.50**	**317**	P	**P**	**01 29 10.9**	**+0.4**
BRTR	**Keskin Array B**	**78.50**	**317**	P	**P**	**01 29 11.8**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=35,slow=5.0,SNR=2.4						
	comp=Z,0.7nm,0.9s						
CSS	**Mathiatis**	**82.46**	**314**	P	**P**	**01 29 30.8**	**-0.9**
CSS				IAmb	IAmb	01 29 38.2	
	comp=Z,17nm,1.3s						
MORW	**Morawa**	**83.08**	**213**	P	**P**	**01 29 35.9**	**+1.3**
MORW				IAmb	IAmb	01 29 55.7	
	comp=Z,15nm,1.3s						
AKAS	**Kas**	**83.20**	**318**	P	**P**	**01 29 35.4**	**-0.3**

*IDC **19** 02:05:36.3±0.5, 21.°64S×174.°55W, h0km, mb4.5/18, mbtmp4.5/20, ML4.4/1, MS4.8/52, Error ellipse: s-maj=20.8km s-min=12.9km az=155.0*

*NOU **19** 02:05:37.2, 21.°59S×173.°72W, h0km, mb4.9/12, Tonga Islands*

*BJI **19** 02:05:37.7, 21.°27S×174.°21W, h6km, mB5.9/34, mb5.1/39, Ms5.2/29, Ms7 4.9/33*

*MOS **19** 02:05:38.8±1.4, 21.°43S×174.°73W, h10km, mb5.2/17, MS5.1/6, Error ellipse: s-maj=14.1km s-min=11.0km az=98.2*

*NEIC **19** 02:05:39.5±2.2, 21.°6S±0.°1×174.°1W±0.°1, h10km±1km, mb5.2/96, Error ellipse: s-maj=21.7km s-min=17.5km az=131.0*

*GCMT **19** 02:05:42.5±0.1, 21.°74S±0.°01×173.°86W±0.°01, h14km, MW5.3/147, Moment Tensor Solution. s104,c163; s147,c248; Duration: 1†1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.84±.02; M_{tt}0.23±.01; M_{pp}-0.61±.01; M_{rt}0.42±.03; M_{rp}-0.39±.01; M_{tp}0.55±.03; Best double couple: $M_0$1.09700×10^{17} NP1:ϕ_s208.00000°, δ26.00000°, λ83.00000°. NP2:ϕ_s35.00000°, δ65.00000°, λ93.00000°. Principal axes: T 1.0900, Plg70.0000°, Azm312.0000°; N 0.0140, Plg3.0000°, Azm214.0000°; P -1.1050, Plg20.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 02:05:38.3±0.3,**21.°74S**±0.°05×**174.°16W**±0.°05,**h10**km, **n347**, σ2**$^{\circ}$01**/319,**mb5.1**/102,**MS4.9**/72,**16C-26D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.77**	**57**	Pn	Pn	02 06 43.3	-6.9
NIUE	**Niue**	**4.77**	**57**	P	Pn	02 06 44.5	-5.7
NIUE	**Niue**	**4.77**	**57**	P	Pn	02 06 44.6	-5.7
LKBA	**Tubou, Lakemba**	**5.60**	**308**	P	**Pn**	**02 07 04.9**	**+3.3**
TAVE	**Taveuni**	**7.38**	**312**	P	**Pn**	**02 07 29.8**	**+3.7**
DGTI	**Dogotuki**	**7.91**	**312**	P	**Pn**	**02 07 36.1**	**+2.7**
AFI	**Afiamalu**	**8.11**	**17**	Pn	**Pn**	**02 07 32.3**	**-3.9**
AFI	**Afiamalu**	**8.11**	**17**	P	**Pn**	**02 07 33.2**	**-3.0**
AFI	**Afiamalu**	**8.11**	**17**	P	**Pn**	**02 07 35.7**	**-0.5**
AFI				pmax	pmax		
	comp=Z,33nm,0.6s						
RAO	**Raoul Island**	**8.22**	**204**		**Sn**	**02 09 06.2**	**-4.3**
RAO	**Raoul Island**	**8.22**	**204**	Pn	**Pn**	**02 07 33.7**	**-3.9**
	comp=Z,142nm,0.3s,baz=158,slow=17,SNR=3.5						
RAO				Sn	**Sn**	**02 09 05.1**	**-5.4**
	comp=Z,75nm,0.3s,baz=99,slow=24,SNR=13						
RAR	**Rarotonga**	**13.40**	**90**	Pn	Pn	02 08 41.5	-7.1
RAR	**Rarotonga**	**13.40**	**90**	Pn	Pn	02 08 42.6	-6.0
	comp=Z,6.8nm,0.3s,baz=272,slow=9.2,SNR=11						
RAR				Sn	Sn	02 10 57.4	-20
	comp=Z,8.8nm,0.3s,baz=230,slow=21,SNR=3.1						
RAR				LR	LR	02 13 33.2	
	comp=Z,5μm,18.4s,baz=259,slow=35						
RAR	**Rarotonga**	**13.40**	**90**	P	Pn	02 08 42.6	-6.1
PINNC	**Pines Island,**	**17.06**	**264**		**P**	**02 09 42.4**	**+3.6**
PINNC				IAmb	IAmb	02 09 47.1	
	comp=Z,384nm,1.6s						
DZM	**Mont Dzumac**	**18.00**	**265**	P	**P**	**02 09 52.8**	**+3.5**
DZM	**Mont Dzumac**	**18.00**	**265**	*e*P	**Pn**	**02 09 48.6**	**-0.3**
	comp=Z,148nm,1.4s						
DZM				*e*LR	LR	02 13 59.6	
	comp=Z,2μm,20.6s						
DZM	**Mont Dzumac**	**18.00**	**265**	P	**Pn**	**02 09 44.9**	**-4.0**
	comp=Z,9.8nm,0.8s,baz=112,slow=19						
DZM	**Mont Dzumac**	**18.00**	**265**	P	**P**	**02 09 53.5**	**+4.1**
URZ	**Urewera**	**18.10**	**203**	P	**Pn**	**02 09 49.3**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=25,slow=17,SNR=8.5						
URZ				S	Sn	02 12 58.6	-13
	comp=Z,13nm,0.6s,baz=226,slow=22,SNR=7.0						
	comp=Z,10nm,0.6s						
BKZ	**Black Stump Fm**	**19.13**	**203**	P	**Pn**	**02 10 07.2**	**+4.8**
BKZ	**Black Stump Fm**	**19.13**	**203**	P	**Pn**	**02 10 04.6**	**+2.2**
BFZ	**Birch Farm**	**20.57**	**201**		Pn	02 10 22.6	+3.2
BFZ				IAmb	IAmb	02 10 43.2	
	comp=Z,162nm,1.5s						
BFZ	**Birch Farm**	**20.57**	**201**	P	Pn	02 10 20.8	+1.4
MRZ	**Mangatainoka R**	**20.78**	**202**	P	**P**	**02 10 20.6**	**+1.1**
TKNZ	**Takaka Hill**	**22.11**	**207**	P	P	02 10 41.9	+8.1
QRZ	**Quartz Range**	**22.12**	**208**	P	**P**	**02 10 37.2**	**+3.3**
MRNZ	**Matariki Terra**	**22.50**	**206**	P	**P**	**02 10 39.4**	**+1.4**
THZ	**Tophouse**	**22.74**	**206**	P	P	02 10 48.6	+8.0
TBI	**Tubuai**	**22.86**	**99**	*e*P	**P**	**02 10 43.5**	**+1.5**
BFZ							
	comp=Z,2μm,35.5s						
TBI				*e*S	**S**	**02 14 50.4**	**-1.3**
	comp=Z,16μm,25.2s						
TBI				*e*LR	LR	02 16 12.9	
	comp=Z,3μm,22.0s						
TBI				*e*LR	LR	02 16 21.0	
	comp=Z,9μm,21.5s						
KHZ	**Kahutara**	**23.05**	**204**	P	**P**	**02 10 47.4**	**+3.6**
DSZ	**Denniston Nort**	**23.19**	**207**	P	**P**	**02 10 50.8**	**+5.5**
DSZ				IAmb	IAmb	02 11 09.8	
	comp=Z,45nm,1.0s						
PPT2	**Papeete2**	**23.50**	**84**	*e*P	**P**	**02 10 46.1**	**-2.5**
	comp=Z,220nm,26.0s						
PPT2				*e*S	**S**	**02 14 59.7**	**-3.0**
	comp=Z,4μm,25.0s						
PPT2				*e*LR	LR	02 16 24.7	
	comp=Z,2μm,21.5s						
PPT2				*e*LR	LR	02 16 35.3	
	comp=Z,2μm,20.8s						
PPT	**Papeete**	**23.51**	**84**	P	**P**	**02 10 50.2**	**+1.6**
	comp=Z,62nm,1.1s,baz=266,slow=15,SNR=2.8						
PPT				LR	LR	02 18 40.3	
	comp=Z,4μm,18.4s,baz=260,slow=33						
	comp=Z,62nm,1.1s						
LTZ	**Lake Taylor**	**23.86**	**205**	P	**P**	**02 10 54.0**	**+2.2**
LTZ				IAmb	IAmb	02 11 09.8	
	comp=Z,54nm,1.3s						
INZ	**Inchbonnie**	**24.14**	**207**	P	**P**	**02 10 55.5**	**+1.0**
INZ				IAmb	IAmb	02 11 00.5	
	comp=Z,55nm,1.0s						
OXZ	**Oxford**	**24.41**	**205**	P	**P**	**02 10 58.8**	**+2.0**
OXZ				IAmb	IAmb	02 11 06.5	
	comp=Z,36nm,0.9s						
RPZ	**Rata Peaks**	**25.12**	**206**	P	**P**	**02 11 04.6**	**+1.2**
RPZ				IAmb	IAmb	02 11 20.1	
	comp=Z,124nm,1.9s						
RPZ	**Rata Peaks**	**25.12**	**206**	LR	LR	02 19 51.0	
	comp=Z,2μm,18.0s,baz=26,slow=34						
JCZ	**Jackson Bay**	**26.38**	**208**	P	**P**	**02 11 18.2**	**+3.4**
MLZ	**Mavora Lakes**	**27.69**	**208**	P	**P**	**02 11 30.5**	**+3.9**
MLZ				IAmb	IAmb	02 11 40.7	
	comp=Z,38nm,1.1s						
HNR	**Honiara**	**27.73**	**292**	LR	LR	02 20 52.2	
	comp=Z,407nm,19.2s,baz=18,slow=34						
WHZ	**Wether Hill Ro**	**28.18**	**207**	P	**P**	**02 11 33.5**	**+2.6**
ARMA	**Armidale**	**31.82**	**247**	P	**P**	**02 12 05.5**	**+2.0**
EIDS	**Eidsvold**	**32.01**	**257**	P	**P**	**02 12 06.8**	**+1.7**
EIDS				IAmb	IAmb	02 12 10.5	
	comp=Z,47nm,1.9s						
TAOE	**Nuku Hiva Isla**	**35.12**	**74**	*e*S	**S**	**02 18 04.2**	**-1.3**
	comp=Z,290nm,24.1s						
TAOE				*e*LR	LR	02 21 35.2	
	comp=Z,2μm,21.1s						
CMSA	**Cobar Meteorol**	**37.02**	**246**	P	**P**	**02 12 47.5**	**-0.9**
	comp=Z,19nm,2.5s						
KRVT	**Keravat (AS076**	**37.08**	**293**	LR	LR	02 26 43.4	
	comp=Z,599nm,19.0s,baz=209,slow=34						
MTSU	**Mount Surprise**	**39.12**	**268**	P	**P**	**02 13 05.0**	**-1.2**
	comp=Z,5.4nm,0.7s						
STKA	**Stephens Creek**	**40.52**	**246**	P	**P**	**02 13 19.3**	**+1.5**
STKA	**Stephens Creek**	**40.52**	**246**	P	**P**	**02 13 15.9**	**-1.9**
	comp=Z,4.5nm,1.8s						
STKA	**Stephens Creek**	**40.52**	**246**	P	**P**	**02 13 15.2**	**-2.5**
	comp=Z,16nm,1.2s,baz=104,slow=6.2,SNR=8.2						
STKA				LR	LR	02 29 45.9	
	comp=Z,2μm,18.6s,baz=81,slow=36						
	comp=Z,16nm,1.2s						
STKA	**Stephens Creek**	**40.52**	**246**	*i*P	**P**	**02 13 16.4**	**-1.4**
ARPS	**Mount Arapiles**	**40.85**	**239**	P	**P**	**02 13 17.9**	**-2.5**
	comp=Z,18nm,1.1s						
COEN	**Coen**	**41.24**	**273**	P	**P**	**02 13 23.4**	**-0.4**
COEN	**Coen**	**41.24**	**273**	P	**P**	**02 13 22.4**	**-1.5**
	comp=Z,13nm,2.2s						
HTT	**Hallett**	**42.87**	**244**	P	**P**	**02 13 35.3**	**-1.7**
	comp=Z,26nm,1.4s						
QIS	**Mount Isa**	**43.02**	**263**	P	**P**	**02 13 35.9**	**-2.4**
BBOO	**Buckleboo**	**45.24**	**245**	P	**P**	**02 13 54.7**	**-1.3**
	comp=Z,22nm,2.0s						
AS17	**Alice Springs**	**47.66**	**257**	P	**P**	**02 14 13.5**	**-1.7**
	comp=Z,21nm,1.0s						
AS07	**Alice Springs**	**47.68**	**257**	P	**P**	**02 14 13.7**	**-1.7**
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**47.73**	**257**		**P**	**02 14 13.6**	**-2.2**
ASAR	**Alice Springs**	**47.74**	**257**	P	**P**	**02 14 13.3**	**-2.5**
	comp=Z,13nm,0.3s,baz=90,slow=4.9,SNR=30						
ASAR				S	**S**	**02 21 04.5**	**-7.9**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=1.6						
ASAR				LR	LR	02 34 34.8	
	comp=Z,3μm,18.2s,baz=97,slow=37						
	comp=Z,13nm,0.3s						
WR0	**Warramunga Arr**	**47.80**	**262**	P	**P**	**02 14 12.7**	**-3.5**
WR0				IAmb	IAmb	02 14 14.9	
	comp=Z,37nm,1.5s						
WC2	**Warramunga Arr**	**47.97**	**262**	P	**P**	**02 14 14.8**	**-2.8**
WB0	**Warramunga Arr**	**47.97**	**263**		**P**	**02 14 15.1**	**-2.5**
WB2	**Warramunga Arr**	**47.97**	**262**		**P**	**02 14 14.5**	**-3.1**
WRAB	**Tennant Creek**	**47.98**	**262**	P	**P**	**02 14 14.7**	**-2.9**
WRAB	**Tennant Creek**	**47.98**	**262**	*i*P	**P**	**02 14 15.0**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,43nm,1.4s						
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**02 14 14.5**	**-3.2**
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**02 14 15.3**	**-2.4**
	comp=Z,22nm,1.1s,baz=94,slow=8.2,SNR=65						
WRA				S	**S**	**02 21 13.0**	**-3.0**
	comp=Z,0.4nm,0.8s,baz=98,slow=12,SNR=3.7						
WRA				LR	LR	02 34 40.9	
	comp=Z,2μm,18.0s,baz=98,slow=37						
	comp=Z,22nm,1.1s						
KDU	**Kakadu**	**51.56**	**271**	P	**P**	**02 14 42.7**	**-2.2**
	comp=Z,24nm,1.5s						
FORT	**Forrest**	**52.11**	**247**	P	**P**	**02 14 48.6**	**-0.3**
FORT				IAmb	IAmb	02 14 48.9	
	comp=Z,38nm,0.9s						
FORT	**Forrest**	**52.11**	**247**	P	**P**	**02 14 47.6**	**-1.3**
	comp=Z,56nm,1.4s						
WRKA	**Warakurna**	**52.59**	**255**	P	**P**	**02 14 50.8**	**-1.8**
	comp=Z,40nm,1.6s						
GUMO	**Guam**	**53.37**	**307**	LR	LR	02 36 46.7	
	comp=Z,524nm,18.3s,baz=105,slow=35						
KNRA	**Kununurra**	**54.15**	**266**	P	**P**	**02 15 03.4**	**-0.7**
KNRA	**Kununurra**	**54.15**	**266**	P	**P**	**02 15 02.5**	**-1.6**
	comp=Z,38nm,1.7s						
FITZ	**Fitzroy Crossi**	**56.42**	**262**	LR	LR	02 39 50.5	
	comp=Z,2μm,18.1s,baz=96,slow=37						
VNDA	**Vanda**	**57.03**	**186**	P	**P**	**02 15 20.1**	**-3.8**
	comp=Z,4.4nm,1.1s,baz=12,slow=9.3,SNR=1.8						
VNDA				LR	LR	02 35 45.9	
	comp=Z,612nm,20.5s,baz=15,slow=32						
SOEI	**Soe**	**60.12**	**271**	P	**P**	**02 15 46.5**	**0.0**
KLBR	**Kellerberrin**	**60.79**	**245**	P	**P**	**02 15 49.6**	**-1.1**
	comp=Z,33nm,1.0s						
PSA00	**Pilbara Seismi**	**60.88**	**257**	P	**P**	**02 15 49.0**	**-2.5**
	comp=Z,21nm,1.5s						
NWAO	**Narrogin (SRO)**	**61.02**	**244**	LR	LR	02 41 53.0	
	comp=Z,1μm,19.2s,baz=50,slow=36						
JCJ	**Chichijima**	**64.35**	**317**	LR	LR	02 39 24.4	
	comp=Z,431nm,21.3s,baz=104,slow=32						
DAV	**Davao City (W)**	**65.62**	**289**	LR	LR	02 43 54.4	
	comp=Z,426nm,18.1s,baz=78,slow=35						
KAPI	**Kappang**	**65.96**	**274**	LR	LR	02 45 28.3	
	comp=Z,284nm,20.4s,baz=123,slow=36						
QSPA	**South Pole Qui**	**68.34**	**180**	P	**P**	**02 16 39.5**	**-0.2**
	comp=Z,5.1nm,1.1s,baz=46,slow=4.5,SNR=10						
QSPA				LR	LR	02 42 18.7	
	comp=Z,1μm,20.9s,baz=40,slow=32						
	comp=Z,5.1nm,1.1s						
TGY	**Tagaytay City**	**72.94**	**293**	LR	LR	02 46 17.7	
	comp=Z,221nm,20.8s,baz=167,slow=34						
MJAR	**Matsushiro Arr**	**73.36**	**322**	P	**P**	**02 17 08.1**	**-2.3**
	comp=Z,9.0nm,0.8s,baz=153,slow=6.1,SNR=14						
MJAR				LR	LR	02 49 26.4	
	comp=Z,312nm,18.1s,baz=119,slow=36						
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	**73.36**	**322**	P	**P**	**02 17 09.9**	**-0.5**
MAJO				IAmb	IAmb	02 17 18.5	
	comp=Z,19nm,1.1s						
MAJO	**Matsushiro**	**73.36**	**322**	*i*P	**P**	**02 17 09.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,23nm,1.2s						
MJB9	**Matsu-Tunnel**	**73.37**	**322**	IAmb	IAmb	02 17 19.9	
	comp=Z,19nm,1.1s						
JOW	**Kunigami**	**73.72**	**308**	LR	LR	02 44 49.6	
	comp=Z,381nm,21.5s,baz=156,slow=32						
JSD	**Sado**	**74.38**	**323**	P	**P**	**02 17 15.8**	**-0.5**
JSD				IAmb	IAmb	02 17 17.4	
	comp=Z,24nm,1.2s						
SHEM	**Shemya Is, Ala**	**74.85**	**353**	LR	LR	02 45 59.0	
	comp=Z,923nm,19.6s,baz=140,slow=32						
JNU	**Nakatsue**	**75.66**	**315**	LR	LR	02 45 50.2	
	comp=Z,219nm,21.2s,baz=158,slow=32						
SBUM	**Sibu**	**75.74**	**278**	P	**P**	**02 17 26.0**	**+1.2**
ASAJ	**Asahikawa**	**76.56**	**330**	LR	LR	02 46 00.0	
	comp=Z,557nm,20.3s,baz=145,slow=32						
SKR	**Severo-Kuril's**	**76.73**	**341**	*e*P	P	02 17 14.5	-15
SKR				pmax	pmax		
	comp=Z,100nm,8.5s						
SKR				MLR	MLR		
	comp=Z,400nm,17.0s						
LPIG	**La Paz**	**77.00**	**57**	LR	LR	02 46 59.8	
	comp=Z,1μm,18.0s,baz=229,slow=32						
PFO	**Pinyon Flats O**	**77.78**	**46**	LR	LR	02 49 22.2	
	comp=Z,394nm,18.1s,baz=252,slow=34						
BELA	**Belgrano 2**	**77.86**	**172**	P	**P**	**02 17 38.4**	**+2.8**
PET	**Petropavlovsk**	**78.10**	**344**	*e*P	**P**	**02 17 32.8**	**-4.3**
PET				*e*		02 20 36.0	
PET				*e*S	**S**	**02 27 28.1**	**-3.0**
PET				*e*		02 27 57.5	
PET				*e*PS	PnS	02 28 31.0	+19
PET				*e*SS	**SS**	**02 32 28.5**	**-4.9**
PET				pmax	pmax		
	comp=Z,300nm,7.3s						
PET				pmax	pmax		
	comp=Z,400nm,7.2s						
PEA0B	**Petropavlovsk-**	**78.43**	**343**	*i*P	**P**	**02 17 38.6**	**-0.4**
PETK	**Petropavlovsk-**	**78.43**	**343**	P	**P**	**02 17 39.2**	**+0.2**
PETK	**Petropavlovsk-**	**78.43**	**343**	P	**P**	**02 17 37.0**	**-2.0**
	comp=Z,11nm,1.0s,baz=127,slow=7.8,SNR=7.2						
PETK				LR	LR	02 47 35.0	
	comp=Z,613nm,20.3s,baz=150,slow=32						
	comp=Z,11nm,1.0s						
PETK	**Petropavlovsk-**	**78.43**	**343**	P	**P**	**02 17 39.2**	**+0.2**
YSS	**Yuzhno-Sakhali**	**78.64**	**331**	*ce*P	**P**	**02 17 40.3**	**0.0**
YSS				*e*		02 20 38.0	
YSS				*e*S	**S**	**02 27 35.6**	**-1.6**
YSS				*e*PS	pS	02 27 47.1	+7.8
YSS				*e*SS	**SS**	**02 32 41.4**	**-0.4**
YSS				pmax	pmax		
	comp=Z,600nm,4.4s						
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,500nm,5.9s						
YSS				smax	smax		
	comp=E,400nm,4.8s						
PMSA	**Palmer Station**	**78.72**	**156**	LR	LR	02 48 01.6	
	comp=E,858nm,18.2s,baz=270,slow=32						
WAKR	**Walker**	**78.87**	**41**	IAmb	IAmb	02 18 04.8	
	comp=Z,41nm,1.6s

comp=Z,48nm,1.7s
MTPU Mount Pierson 83.17 45 IAmb IAmb 02 18 13.7
comp=Z,29nm,1.4s
NJ2 Nanjing 83.44 308 ⇑P **P** **02 18 06.6 +0.4**
NJ2 pP **PcP** **02 18 10.3 -0.3**
NJ2 pmax pmax
comp=Z,27nm,1.1s
NJ2 pmax pmax
comp=Z,520nm,4.0s
MDJ Mudanjiang 83.62 323 P **P** **02 18 08.3 +1.5**
MDJ PP **PP** **02 21 17.6 -2.2**
MDJ S **S** **02 28 34.4 +5.3**
MDJ pmax pmax
comp=Z,31nm,1.5s
MDJ pmax pmax
comp=Z,950nm,5.5s
MDJ LR LR
comp=Z,580nm,15.8s
MDJ LR LR
comp=Z,760nm,18.6s
MDJ LR LR
comp=Z,1μm,19.9s
E07A Sunnyside 83.81 34 IAmb IAmb 02 18 30.2
comp=Z,20nm,1.1s
BBB Bella Bella 83.85 26 LR LR 02 51 38.0
comp=Z,389nm,18.2s,baz=198,slow=33
HAWA Hanford 83.87 35 IAmb IAmb 02 18 30.4
comp=Z,31nm,1.4s
MFID Camas Ranch 84.06 39 IAmb IAmb 02 18 31.4
comp=Z,12nm,1.2s
BMO Blue Mountains 84.10 37 IAmb IAmb 02 18 30.6
comp=Z,12nm,1.3s
GRNR Gornyy 84.28 331 *e*P **P** **02 18 10.1 0.0**
TMUT Trail Mountain 84.50 44 IAmb IAmb 02 18 17.6
comp=Z,22nm,1.3s
QIZ Qiongzhong 84.64 293 P **P** **02 18 11.8 -0.8**
QIZ PP **PP** **02 21 25.8 -2.8**
QIZ S **S** **02 28 40.4 0.0**
QIZ pmax pmax
comp=Z,370nm,11.0s
QIZ LR LR
comp=Z,290nm,13.7s
QIZ LR LR
comp=Z,300nm,13.7s
QIZ LR LR
comp=Z,400nm,18.1s
E09A Wood Farm, Sta 84.69 35 IAmb IAmb 02 18 32.5
comp=Z,28nm,1.6s
TX31 Lajitas Ar. Si 84.74 56 IAmb IAmb 02 18 38.0
comp=Z,23nm,1.6s
TXAR Lajitas Array 84.74 56 P **P** **02 18 14.9 +1.8**
TXAR Lajitas Array 84.74 56 P **P** **02 18 14.5 +1.5**
comp=Z,2.9nm,1.1s,baz=207,slow=5.2,SNR=8.3
TXAR LR LR 02 49 29.2
comp=Z,570nm,19.3s,baz=234,slow=31
comp=Z,2.9nm,1.1s
TXAR Lajitas Array 84.74 56 P **P** **02 18 14.9 +1.8**
F10A Beach Ranch, E 84.84 36 IAmb IAmb 02 18 38.1
comp=Z,14nm,1.1s
SRU San Rafael Swe 84.84 44 IAmb IAmb 02 18 20.8
comp=Z,22nm,1.5s
PLID Pearl Lake 84.97 37 IAmb IAmb 02 18 35.1
comp=Z,17nm,1.4s
B08A Colville Reser 85.25 33 IAmb IAmb 02 18 36.1
comp=Z,30nm,1.9s
GAMB Gambell 85.25 1 IAmb IAmb 02 18 35.5
comp=Z,26nm,1.3s
ANMO Albuquerque 85.42 50 P **P** **02 18 19.0 +2.6**
ANMO Albuquerque 85.42 50 LR LR 02 50 50.3
comp=Z,948nm,18.6s,baz=52,slow=32
ANMO Albuquerque 85.42 50 *i* P **P** **02 18 18.4 +1.9**
ANMO pmax pmax
comp=Z,17nm,3.5s
PV10 Paradox Valley 85.42 46 IAmb IAmb 02 18 23.7
comp=Z,55nm,1.9s
KLR Kul'dur 85.44 328 P **P** **02 18 14.1 -1.8**
comp=Z,2.6nm,0.8s,baz=87,slow=3.5,SNR=6.3
KLR LR LR 02 51 50.8
comp=Z,450nm,20.6s,baz=136,slow=33
comp=Z,2.6nm,0.8s
KLR Kul'dur 85.44 328 *e*P **P** **02 18 17.5 +1.5**
KLR pmax pmax
comp=Z,8.0nm,1.7s
BSUT Blindstream Ca 85.47 43 IAmb IAmb 02 18 41.9
comp=Z,26nm,1.6s
CN2 Changchun 85.49 321 P **P** **02 18 15.8 -0.5**
CN2 S **S** **02 28 45.9 -1.9**
CN2 pmax pmax
comp=Z,30nm,1.8s
CN2 pmax pmax
comp=Z,700nm,4.0s
CN2 LR LR
comp=Z,300nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,400nm,18.0s
BNX BinXian 85.53 323 ⇑P **P** **02 18 15.8 -0.7**
BNX pP **pP** **02 18 18.4 +0.2**
BNX sP **PcP** **02 18 19.8 +0.4**
BNX PP **PP** **02 21 33.4 -2.0**
BNX S **S** **02 28 46.8 -1.3**
BNX sS **sS** **02 28 51.9 +1.1**
BNX pmax pmax
comp=Z,21nm,1.0s
BNX pmax pmax
comp=Z,630nm,4.1s
BNX LR LR
comp=Z,330nm,19.5s
BNX LR LR
comp=Z,680nm,18.4s
BNX LR LR
comp=Z,970nm,19.5s
ELIB Princess Elisa 85.79 185 *d*P **P** **02 18 18.9 +1.2**
comp=Z,12nm,1.2s
PLCA Paso Flores 85.81 132 LR LR 02 50 52.0
comp=Z,972nm,18.2s,baz=235,slow=32
MA2 Magadan 85.97 343 LR LR 02 52 20.6
comp=Z,832nm,20.4s,baz=154,slow=33
MA2 Magadan 85.97 343 *ce*P **P** **02 18 17.4 -0.9**
MA2 pmax pmax
comp=Z,13nm,1.7s
MA2 Magadan 85.97 343 P **P** **02 18 17.9 -0.4**
comp=Z,8.5nm,1.6s
WHN Wuhan 86.08 305 P **P** **02 18 21.0 +1.5**
WHN S **S** **02 28 53.3 -0.8**
WHN LR LR
comp=Z,1μm,18.9s
SYO Syowa Base 86.28 192 ‖ *e*P **P** **02 18 20.8 +0.9**
SYO Syowa Base 86.28 192 ‖ *ep*P pP 02 18 25.8 +4.7
NEW Newport 86.33 34 LR LR 02 52 12.6
comp=Z,2μm,18.9s,baz=223,slow=32
SNAA Sanae 86.65 177 P **P** **02 18 22.3 +0.4**
comp=Z,4.1nm,1.0s,baz=125,slow=5.9,SNR=3.2
SNAA LR LR 02 54 02.8
comp=Z,856nm,19.6s,baz=194,slow=34
comp=Z,4.1nm,1.0s
CMIG Matias Romero 86.68 70 LR LR 02 48 47.9
comp=Z,919nm,19.6s,baz=240,slow=30
TIA Tai'an 86.77 311 P **P** **02 18 23.0 +0.1**
TIA S **SKSac** **02 28 51.0 +1.0**
TIA SS **SS** **02 34 35.3 -7.7**
TIA pmax pmax
comp=Z,14nm,1.4s
TIA pmax pmax
comp=Z,620nm,6.3s
TIA LR LR
comp=Z,190nm,15.7s
TIA LR LR
comp=Z,350nm,16.7s
TIA LR LR
comp=Z,410nm,20.6s
GULI GuiLin 86.87 299 P **P** **02 18 24.8 +1.2**
GULI SKS **SKSac** **02 28 52.6 +1.6**
GULI pmax pmax
comp=Z,20nm,1.6s
GULI pmax pmax
comp=Z,430nm,9.2s
GULI LR LR
comp=Z,280nm,20.6s
GULI LR LR
comp=Z,390nm,20.6s
GULI LR LR
comp=Z,330nm,19.5s
UBPT Khong Chiam 86.92 288 P **P** **02 18 25.6 +1.6**
TRF Thorofare Moun 86.95 10 IAmb IAmb 02 18 50.3
comp=Z,23nm,1.1s

BI02 San Fabin de 87.01 128 P **P** **02 18 26.4 +2.1**
BI02 IAmb IAmb 02 18 29.5
comp=Z,15nm,1.4s
RND Reindeer 87.16 11 P **P** **02 18 25.0 +0.8**
RND IAmb IAmb 02 18 44.6
comp=Z,28nm,1.2s
RND Reindeer 87.16 11 P **P** **02 18 25.0 +0.8**
RND pmax pmax
comp=Z,28nm,1.2s
PDAR Pinedale Array 87.45 42 P **P** **02 18 25.9 -0.4**
comp=Z,0.6nm,0.8s,baz=192,slow=3.3,SNR=11
PDAR LR LR 02 51 32.7
comp=Z,395nm,18.8s,baz=242,slow=32
comp=Z,0.6nm,0.8s
KULM Kulim 87.48 277 IAmb IAmb 02 18 47.6
comp=Z,28nm,1.3s
NVL N'lazarevskaya 87.65 182 *e*P **P** **02 18 30.7 +4.1**
NVL *e*S **SKSac** **02 29 00.6 +6.2**
NVL pmax pmax
comp=Z,4.0nm,0.9s
NVL MLR MLR
comp=Z,1μm,18.0s
DLBC Dease Lake 87.83 22 LR LR 02 52 13.9
comp=Z,383nm,18.8s,baz=232,slow=32
PSI Prapat 88.16 274 LR LR 03 01 49.1
comp=Z,529nm,18.4s,baz=128,slow=38
HEH HeiHe 88.27 327 *e*P **P** **02 18 29.8 +0.1**
HEH pmax pmax
comp=Z,11nm,1.1s
BCAR Beaver Creek A 88.29 14 P **P** **02 18 33.4 +3.8**
HDA Harding Lake 88.43 11 IAmb IAmb 02 19 00.8
comp=Z,40nm,1.9s
SEY Seymchan 88.43 345 *ce*P **P** **02 18 29.2 -0.9**
SEY pmax pmax
comp=Z,38nm,2.5s
COLA College 88.69 11 *i* P **P** **02 18 34.2 +2.9**
COLA pmax pmax
comp=Z,36nm,1.9s
ILAR Eielson Array 88.77 11 P **P** **02 18 30.9 -0.8**
ILAR Eielson Array 88.77 11 P **P** **02 18 31.1 -0.6**
comp=Z,0.5nm,0.6s,baz=217,slow=4.5,SNR=10
comp=Z,0.5nm,0.6s
GSI Gunungsitoli 88.86 272 P **P** **02 18 34.2 +0.8**
HNS HongShan 89.04 311 ⇓P **P** **02 18 34.8 +1.2**
HNS SKS **SKSac** **02 29 04.3 +0.8**
HNS S **ScS** **02 29 26.3 -1.1**
HNS pmax pmax
comp=Z,9.0nm,1.1s
HNS pmax pmax
comp=Z,370nm,6.6s
HNS LR LR
comp=Z,440nm,17.6s
HNS LR LR
comp=Z,280nm,18.0s
HNS LR LR
comp=Z,430nm,19.6s
BJT Baijiatuau 89.30 314 P **P** **02 18 35.1 +0.3**
BJI Beijing 89.31 314 P **P** **02 18 35.3 +0.5**
BJI pmax pmax
comp=Z,8.0nm,2.5s
BJI pmax pmax
comp=Z,260nm,4.0s
LYN LuoYang 89.33 308 P **P** **02 18 36.3 +1.2**
LYN SKS **SKSac** **02 29 04.3 -1.1**
LYN S **SKKSac** **02 29 21.1 +3.5**
LYN sS ScS 02 29 30.8 +0.9
LYN pmax pmax
comp=Z,28nm,1.6s
LYN pmax pmax
comp=Z,640nm,3.7s
LYN LR LR
comp=Z,390nm,18.2s
LYN LR LR
comp=Z,350nm,19.2s
LYN LR LR
comp=Z,590nm,16.1s
PRP Porcupine Dome 89.69 12 P **P** **02 18 36.9 +0.6**
PRP IAmb IAmb 02 18 56.9
comp=Z,32nm,1.5s
J29N Klondike Camp 90.31 15 IAmb IAmb 02 18 47.0
comp=Z,47nm,1.8s
GYA Guiyang 90.38 298 P **P** **02 18 40.9 +0.5**
GYA SKS **SKSac** **02 29 13.5 +1.3**
GYA S **S** **02 29 33.4 -2.1**
GYA pmax pmax
comp=Z,400nm,4.3s
GYA LR LR
comp=Z,460nm,17.0s
ZEA Zeya 90.48 330 *e*P **P** **02 18 41.1 +1.1**
ZEA *e* 02 22 14.8
ZEA *e* 02 29 13.0
ZEA *e*S **S** **02 29 37.4 +2.5**
ZEA *e*SS **SS** **02 35 38.4 +2.2**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA pmax pmax
comp=N,100nm,4.7s
ZEA pmax pmax
comp=Z,200nm,7.2s
ZEA smax smax
comp=E,300nm,14.5s
ZEA smax smax
comp=N,400nm,15.9s
ZEA MLR MLR
comp=E,200nm,15.0s
BILL Bilibino 90.67 353 P **P** **02 18 42.5 +1.9**
BILL IAmb IAmb 02 18 44.3
comp=Z,13nm,1.5s
BILL Bilibino 90.67 353 *ce*P **P** **02 18 40.9 +0.4**
BILL pmax pmax
comp=Z,9.0nm,1.5s
TIY Taiyuan 90.79 311 *e*P **P** **02 18 43.3 +1.4**
TIY pmax pmax
comp=Z,9.0nm,0.6s
TIY pmax pmax
comp=Z,300nm,4.8s
TIY LR LR
comp=Z,200nm,14.7s
TIY LR LR
comp=Z,320nm,16.5s
TIY LR LR
comp=Z,360nm,16.1s
ZON Zonda 91.16 125 P **P** **02 18 47.5 +3.6**
ZON IAmb IAmb 02 19 01.9
comp=Z,17nm,1.4s
ZON Zonda 91.16 125 P **P** **02 18 47.5 +3.6**
ZON pmax pmax
comp=Z,17nm,1.4s
XLT XiLinHaoTe 91.25 317 *e*P **P** **02 18 43.1 -0.9**
XLT SKS **SKSac** **02 29 12.8 -3.6**
XLT S **SKKSac** **02 29 36.3 +4.5**
XLT pmax pmax
comp=Z,6.0nm,1.4s
XLT pmax pmax
comp=Z,280nm,3.9s
XLT LR LR
comp=Z,330nm,18.2s
XLT LR LR
comp=Z,310nm,15.6s
BMAR Burnt Mountain 91.58 11 P **P** **02 18 45.3 +0.4**
XAN Xi'an 91.74 306 ⇓P **P** **02 18 45.9 -0.5**
XAN pP pwP 02 18 53.0 -1.7
XAN SKS **SKSac** **02 29 22.0 +2.5**
XAN S **ScS** **02 29 50.8 +0.7**
XAN pmax pmax
comp=Z,34nm,1.5s
XAN pmax pmax
comp=Z,620nm,4.2s
NNA Nana 92.29 104 LR LR 02 52 48.6
comp=Z,670nm,18.6s,baz=232,slow=31
ATAH Atahualpa 92.71 99 LR LR 02 53 37.6
comp=Z,2μm,18.0s,baz=252,slow=31
JTS Las Juntas de 93.02 80 LR LR 02 53 10.4
comp=Z,510nm,18.1s,baz=274,slow=31
BTO Baotou 93.74 312 *e*P **P** **02 18 57.5 +1.9**
BTO pP **pwP** **02 19 01.8 -2.0**
BTO sP **sP** **02 19 04.9 +7.0**
BTO PP **PP** **02 22 44.3 +3.1**
BTO SKS **SKSac** **02 29 29.3 -1.2**
BTO S **ScS** **02 30 07.0 +0.4**
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,190nm,5.0s
BTO LR LR
comp=Z,540nm,16.7s

BTO LR LR
comp=Z,270nm,9.2s
BTO LR LR
comp=Z,680nm,14.4s
CMAR Chiang Mai Arr 93.91 288 P **P** **02 18 57.3 +0.6**
CMAR Chiang Mai Arr 93.91 288 P **P** **02 18 54.7 -2.0**
comp=Z,1.0nm,0.4s,baz=118,slow=3.0,SNR=22
CMAR LR LR 02 59 25.3
comp=Z,145nm,19.7s,baz=115,slow=34
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 93.91 288 P **P** **02 18 57.3 +0.6**
CHTO Chiang Mai 94.03 289 P **P** **02 18 58.7 +1.4**
CHTO IAmb IAmb 02 18 59.8
comp=Z,32nm,1.6s
CHTO Chiang Mai 94.03 289 P **P** **02 18 58.7 +1.4**
CHTO pmax pmax
comp=Z,32nm,1.7s
PZH PanZhiHua 94.46 297 P **P** **02 19 00.5 +1.3**
PZH SKS **SKSac** **02 29 33.8 -1.2**
PZH S **ScS** **02 30 14.9 +1.7**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,260nm,4.7s
PZH LR LR
comp=Z,190nm,20.1s
PZH LR LR
comp=Z,270nm,20.2s
PZH LR LR
comp=Z,310nm,18.6s
YAK Yakutsk 94.62 337 LR LR 02 58 10.8
comp=Z,202nm,19.4s,baz=114,slow=33
YKA Yellowknife Ar 96.16 24 P P 02 19 11.3 +5.4
YKA Yellowknife Ar 96.16 24 P **P** **02 19 03.9 -2.1**
comp=Z,0.2nm,0.4s,baz=239,slow=5.0,SNR=5.4
YKA LR LR 03 00 07.7
comp=Z,270nm,18.0s,baz=264,slow=34
comp=Z,0.2nm,0.4s
YKA Yellowknife Ar 96.16 24 P P 02 19 11.3 +5.3
ECSD EROS Data Cent 96.22 45 P **P** **02 19 08.7 +2.0**
LPAZ La Paz 98.28 111 LR LR 02 57 00.3
comp=Z,1μm,18.1s,baz=254,slow=31
ULN Ulaanbaatar 98.66 318 *i* P **P** **02 19 14.4 -3.4**
ULN pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 99.05 318 P **Pdif** **02 19 17.7 -1.9**
comp=Z,0.2nm,0.4s,baz=108,slow=3.2,SNR=1.4
SONM LR LR 03 02 29.6
comp=Z,177nm,19.4s,baz=138,slow=35
comp=Z,0.2nm,0.4s
ULM Lac du Bonnet 99.27 40 LR LR 03 00 09.4
comp=Z,1μm,19.1s,baz=250,slow=33
WMQ Urumqi 110.45 310 PKP **PKiKP** **02 24 10.4 -0.6**
WMQ PP **PP** **02 24 50.3 +3.5**
WMQ LR LR
comp=Z,250nm,24.9s
MKAR Makanchi Array 114.66 313 PKP PKPdf 02 24 17.9 -1.0
comp=Z,0.1nm,0.4s,baz=42,slow=2.3,SNR=2.3
KURK Kurchatov 117.34 317 *c i* PKIKP **PKiKP** **02 24 25.2 +1.4**
KURK pmax pmax
comp=Z,8.0nm,2.5s
KURBB Kurchatov Arra 117.39 317 PKP **PKPdf** **02 24 22.8 -1.2**
comp=Z,0.7nm,0.3s,baz=96,slow=2.9,SNR=2.0
BVAR Borovoye Array 122.33 320 PKP **PKPdf** **02 24 32.9 -0.6**
comp=Z,1.1nm,0.6s,baz=85,slow=3.2,SNR=4.3
BRVK Borovoye 122.39 320 ⇑ *e*PKIKP **PKiKP** **02 24 34.8 +1.1**
BRVK pmax pmax
comp=Z,3.0nm,1.7s
SPITS Spitsbergen Ar 123.28 357 PKP **PKPdf** **02 24 34.2 -0.4**
comp=Z,15nm,1.1s,baz=350,slow=1.6,SNR=2.2
ARTI Arti 128.35 326 *i* PKIKP **PKPdf** **02 24 44.8 0.0**
ARTI 02 26 48.2
ARTI 02 31 55.7
ARTI SS SS 02 44 03.7 -1.1
ARTI MLR MLR
comp=Z,563nm,21.0s
ARCES ARCESS Array B 130.74 351 PKP **PKPdf** **02 24 48.6 -0.4**
comp=Z,2.0nm,0.8s,baz=14,slow=4.0,SNR=4.2
FINES FINESS Array B 137.91 346 PKP **PKPdf** **02 25 01.4 -1.2**
comp=Z,2.0nm,0.8s,baz=56,slow=4.8,SNR=4.4
OBN Obninsk 139.51 333 *e*PKIKP **PKPdf** **02 25 06.4 +0.7**
OBN *e* 02 27 59.4
OBN *e*PPP PPP 02 31 03.9
OBN pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 141.24 354 PKP **PKPdf** **02 25 07.7 -1.1**
comp=Z,1.7nm,0.8s,baz=48,slow=2.1,SNR=5.3
KMBO Kilima Mbogo 141.83 237 PKP **PKPdf** **02 25 10.4 -1.2**
comp=Z,0.5nm,0.3s,baz=78,slow=4.0,SNR=3.6
KIV Kislovodsk 142.38 315 *i* PKIKP **PKiKP** **02 25 14.8 +0.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SOC Sochi 144.48 316 *e*PKHKP PKPpre 02 25 11.3
SOC *e*PPP PPP 02 31 42.6
SOC *e*SSS SSS 02 52 29.5
SUW Suwalki 145.19 342 *e*PKP **PKPbc** **02 25 15.1 -0.4**
AK03 Malin Array Si 145.76 333 PKP **PKPdf** **02 25 16.7 -0.2**
AK23 Malin Array Si 145.77 333 PKP **PKPdf** **02 25 16.7 -0.3**
AKASG Malin Array Be 145.78 333 PKPbc **PKPdf** **02 25 15.8 -1.1**
comp=Z,3.2nm,0.5s,baz=38,slow=4.0,SNR=33
AKBB Malin Array Si 145.78 333 PKP **PKPdf** **02 25 16.7 -0.3**
EKA Eskdalemuir Ar 145.78 9 PKPbc **PKPdf** **02 25 16.9 0.0**
comp=Z,1.7nm,0.6s,baz=335,slow=3.3,SNR=5.7
AK04 Malin Array Si 145.78 333 PKP **PKPdf** **02 25 16.7 -0.3**
KIEV Kiev 145.79 333 ⇓P **PKPdf** **02 25 16.8 -0.2**
KIEV Kiev 145.79 333 PKP **PKPdf** **02 25 16.7 -0.2**
MI28 Mi28,Pidlybu 146.23 335 PKP **PKPbc** **02 25 18.6 -0.2**
RNPP9 Sopachiv 146.52 337 PKP **PKPdf** **02 25 18.9 +0.7**
LUBAR Lubar, Ukraine 146.98 334 PKP **PKPdf** **02 25 20.0 +0.9**
SIM Simferopol' 147.21 322 *e*PKP2 **PKiKP** **02 25 24.0 -0.2**
BEL Belsk 147.79 343 *e*PKP **PKPbc** **02 25 24.1 +0.9**
SORM Soroca 148.07 331 ⇓P **PKPbc** **02 25 24.2 +0.1**
SORM Soroca 148.07 331 PKP **PKPbc** **02 25 22.9 -1.2**
PURM Purcari 148.50 327 ⇓P **PKiKP** **02 25 26.4 -0.3**
KMPD K-Podol'skiy 148.57 333 PKP **PKPdf** **02 25 23.2 +1.5**
MILM Milestii Mici 148.75 329 ⇑P **PKPbc** **02 25 26.1 +0.3**
KWP Kalwaria Pacla 149.12 338 *e*PKP **PKPbc** **02 25 27.3 +0.5**
STNU Starunia 149.24 336 PKP **PKPdf** **02 25 24.0 +1.2**
OJC Ojcow 149.52 342 *e*PKP **PKPbc** **02 25 26.3 -1.5**
STHS Stebnicka Huta 149.79 340 *e*PKIKP **PKPbc** **02 25 26.4 -2.1**
STHS *e* 02 25 30.4
STHS Stebnicka Huta 149.79 340 *e*PKP **PKPbc** **02 25 26.4 -2.1**
STHS *e* 02 25 30.4
KSP Ksiaz 149.82 347 *e*PKP **PKPdf** **02 25 25.2 +1.5**
BURAR Bucovina Array 149.83 333 ⇑P **PKiKP** **02 25 29.9 +0.2**
KOLS Kolonicke sedl 149.87 338 *e*PKIKP **PKPbc** **02 25 26.3 -2.3**
KOLS *e* 02 25 30.8
KOLS Kolonicke sedl 149.87 338 *e*PKP **PKPbc** **02 25 26.3 -2.3**
KOLS *e* 02 25 30.8
KOLS *e* 02 25 35.5
CLL Collm 149.96 351 *e*PKHKP PKPpre 02 25 26.0
CLL *i* 02 25 34.8
CLL pmax pmax
comp=Z,68nm,1.9s
CLL MLR MLR
comp=Z,500nm,19.1s
GHRR 150.04 329 ⇓P **PKiKP** **02 25 31.2 +1.2**
NIE Niedzica 150.09 341 *e*PKP **PKiKP** **02 25 29.9 -0.2**
OSTC Ostas 150.10 347 *e*PKP **PKPbc** **02 25 29.1 -0.1**
OSTC Ostas 150.10 347 *e*PKP2 **PKPbc** **02 25 29.1 -0.1**
BRG Berggiesshubel 150.23 350 *e*PKP **PKiKP** **02 25 30.0 -0.3**
BRG Amp 02 25 35.6
comp=Z,3.8nm,0.7s
BRG Berggiesshubel 150.23 350 P **PKPab** **02 25 38.6 +3.1**
BRG Amp 02 25 39.6
comp=Z,17nm,1.4s
BRG Berggiesshubel 150.23 350 P PKPab 02 25 43.3 +7.8
BRG Amp 02 25 44.0
comp=Z,2.3nm,0.6s
DPC Dobruska-Polom 150.27 346 *e*PKP **PKiKP** **02 25 30.5 +0.1**
DPC Dobruska-Polom 150.27 346 *e*PKP2 **PKiKP** **02 25 30.5 +0.1**
BRTR Keskin Array B 150.31 313 PKPbc **PKPbc** **02 25 30.2 0.0**
comp=Z,3.7nm,1.0s,baz=113,slow=2.8,SNR=15
CFR Carcaliu 150.31 327 ⇓P **PKiKP** **02 25 30.3 -0.2**
STEB Steborice 150.32 344 *e*PKP **PKiKP** **02 25 30.2 -0.3**
TPGR Topolog 150.39 326 ⇑P **PKiKP** **02 25 30.5 -0.3**
KRLC Kraliky 150.43 346 *e*PKP **PKiKP** **02 25 30.4 -0.4**
KRLC Kraliky 150.43 346 *e*PKIKP **PKiKP** **02 25 30.4 -0.4**
VRI Vrincioaia 150.50 330 ⇓P **PKiKP** **02 25 31.2 +0.2**
MORC Moravsky Berou 150.52 345 *e*PKP **PKPbc** **02 25 30.0 -0.2**
MORC Moravsky Berou 150.52 345 ⇓P **PKiKP** **02 25 30.9 -0.1**
PLOR Plostina 150.55 330 ⇑P **PKiKP** **02 25 31.2 0.0**
LANS Liptovska Anna 150.57 342 *e*PKIKP **PKiKP** **02 25 31.9 +0.8**
LANS *e* 02 25 37.3

LANS	**Liptovska Anna**	**150.57**	**342**	*e*PKP	**PKiKP**	**02 25 31.9 +0.8**
LANS				*e*		02 25 37.3
HARR	**Harsova**	**150.76**	**327**	⇑P	**PKiKP**	**02 25 32.8 +1.3**
MAUC	**Maruska**	**150.83**	**344**	*e*PKP	**PKiKP**	**02 25 32.0 +0.4**
PRU	**Pruhonice**	**150.98**	**348**	*e*PKP	**PKPbc**	**02 25 30.5 -0.7**
PRU	**Pruhonice**	**150.98**	**348**	*e*PKIKP	**PKPbc**	**02 25 30.5 -0.7**
MANR	**Mangalia**	**151.01**	**325**	⇓P	**PKPbc**	**02 25 31.5 0.0**
DOPR	**Dopca**	**151.04**	**331**	⇑P	**PKiKP**	**02 25 32.2 0.0**
MLR	**Muntele Rosu**	**151.15**	**330**	⇓P	**PKPbc**	**02 25 32.2 +0.2**
MEM	**Membach**	**151.19**	**360**	*d*PKP	**PKPbc**	**02 25 31.8 +0.1**
VRAC	**Vranov**	**151.19**	**345**	*e*PKP	**PKPbc**	**02 25 30.7 -1.1**
BTNL	**Ternell**	**151.21**	**360**	*d*PKP	**PKPbc**	**02 25 32.0 +0.2**
JAVC	**Velka Javorina**	**151.34**	**344**	*e*PKP	**PKiKP**	**02 25 33.8 +1.1**
VYHS	**Vyhne**	**151.35**	**342**	*e*PKIKP	**PKiKP**	**02 25 32.9 +0.2**
VYHS	**Vyhne**	**151.35**	**342**	*e*PKP	**PKiKP**	**02 25 32.9 +0.2**
BCLA	**Clavier**	**151.37**	**1**	*d*PKPdf	**PKPdf**	**02 25 22.9 -3.2**
BGES	**Gesves**	**151.40**	**1**	*d*PKP	**PKPdf**	**02 25 27.7 +1.5**
MARR	**Marisel-Cluj**	**151.44**	**335**	⇓P	**PKPbc**	**02 25 30.9 -1.7**
BHOU	**Houvegnez**	**151.44**	**360**	*d*PKP	**PKiKP**	**02 25 32.7 -0.1**
KRUC	**Moravsky**	**151.47**	**345**	*e*PKP	**PKPbc**	**02 25 31.8 -0.6**
BMRD	**Maredsous**	**151.48**	**1**	*d*PKP	**PKPab**	**02 25 44.9 +4.2**
MMAI	**Mount Meron Ar**	**151.54**	**300**	PKPbc	**PKPbc**	**02 25 32.4 -0.8**
	comp=Z,6.3nm,0.8s,baz=76,slow=3.5,SNR=9.4					
ZVC	**Zvikov**	**151.57**	**349**	*e*PKP	**PKPbc**	**02 25 32.8 +0.2**
VOIR		**151.60**	**331**	⇓P	**PKiKP**	**02 25 33.8 +0.4**
DOU	**Dourbes**	**151.68**	**2**	*d*PKP	**PKiKP**	**02 25 34.3 +1.1**
ARR	**Arges**	**151.84**	**331**	⇑P	**PKiKP**	**02 25 34.1 +0.3**
MODS	**Modra-Piesok**	**151.89**	**344**	*e*PKIKP	**PKiKP**	**02 25 34.7 +0.9**
MODS	**Modra-Piesok**	**151.89**	**344**	*e*PKP	**PKiKP**	**02 25 34.7 +0.9**
KHC	**Kasperske Hory**	**151.98**	**349**	*e*PKP	**PKiKP**	**02 25 33.9 -0.1**
KHC				*ex*	x	02 25 42.5
KHC	**Kasperske Hory**	**151.98**	**349**	*e*PKIKP	**PKiKP**	**02 25 33.9 -0.1**
KHC				*e*		02 25 42.5
WLF	**Walferdange**	**152.13**	**360**	*d*PKP	**PKPbc**	**02 25 30.9 -2.9**
CKRC	**Cesky Krumlov**	**152.14**	**348**	*e*PKP	**PKPbc**	**02 25 33.4 -0.6**
CKRC	**Cesky Krumlov**	**152.14**	**348**	*e*PKIKP	**PKPbc**	**02 25 33.4 -0.6**
GERES	**GERESS Array B**	**152.23**	**349**	PKPbc	**PKPbc**	**02 25 32.9 -1.4**
	comp=Z,1.0nm,0.7s,baz=47,slow=4.5,SNR=6.9					
SIRR	**Siria**	**152.34**	**336**	⇓P	**PKiKP**	**02 25 35.1 +0.3**
SURR	**Surduc**	**152.59**	**335**	⇑P	**PKPbc**	**02 25 34.9 -0.1**
CONA	**Conrad Observa**	**152.65**	**345**	*e*PKP	**PKPbc**	**02 25 35.1 -0.1**
	comp=Z,8.2nm,1.2s					
CONA				*i* PKP	**PKPab**	**02 25 45.4 -0.3**
	comp=Z,8.4nm,1.2s					
RONA	**Rosalia, Austr**	**152.76**	**344**	*e*PKP	**PKPbc**	**02 25 34.4 -1.0**
	comp=Z,3.3nm,0.7s					
RONA				*e*PKP	**PKPab**	**02 25 45.6 -0.5**
	comp=Z,4.6nm,0.8s					
BZS	**Buzias**	**152.90**	**335**	⇓P	**PKPbc**	**02 25 34.8 -1.0**
MOA	**Molln**	**153.08**	**347**	*i* PKP	**PKPbc**	**02 25 35.7 -0.4**
	comp=Z,6.4nm,1.5s					
BIOA	**Bad Ischl, Aus**	**153.35**	**348**	*e*PKP	**PKiKP**	**02 25 37.3 +0.4**
	comp=Z,8.9nm,1.1s					
BIOA				*e*PKP	**PKPab**	**02 25 49.2 +0.5**
	comp=Z,8.9nm,1.1s					
LESA	**Schwarzleotal**	**153.78**	**349**	*e*PKP	**PKiKP**	**02 25 38.1 +0.2**
	comp=Z,8.8nm,1.8s					
LESA				*i* PKP	**PKPab**	**02 25 50.3 -0.2**
	comp=Z,9.4nm,1.4s					
KBA	**Koelnbreinsper**	**154.00**	**348**	*i* PKiKP	**PKiKP**	**02 25 38.9 +0.5**
	comp=Z,4.1nm,1.0s					
KBA				*i* PKP	**PKPab**	**02 25 50.3 -1.3**
	comp=Z,4.1nm,1.0s					
RETA	**Reutte**	**154.00**	**352**	*e*PKiKP	**PKiKP**	**02 25 39.4 +1.1**
	comp=Z,11nm,1.3s					
RETA				*i* PKP	**PKPab**	**02 25 50.7 -0.8**
	comp=Z,11nm,1.3s					
SOKA	**Soboth**	**154.02**	**345**	*e*PKP	**PKiKP**	**02 25 38.7 +0.4**
	comp=Z,14nm,1.8s					
SOKA				*i* PKP	**PKPab**	**02 25 50.3 -1.3**
	comp=Z,9.4nm,1.3s					
MOTA	**Moosalm**	**154.10**	**352**	*i* PKiKP	**PKiKP**	**02 25 39.7 +1.1**
	comp=Z,11nm,1.3s					
MOTA				*i* PKP	**PKPab**	**02 25 50.9 -1.0**
	comp=Z,11nm,1.3s					
WTTA	**Wattenberg**	**154.10**	**351**	*e*PKiKP	**PKiKP**	**02 25 39.7 +1.1**
	comp=Z,4.4nm,1.1s					
SQTA	**Sankt Quirin**	**154.21**	**352**	*e*PKP	**PKPbc**	**02 25 38.4 -0.3**
	comp=Z,4.9nm,1.1s					
DAVA	**Damuels**	**154.30**	**354**	*e*PKP	**PKPbc**	**02 25 37.8 -1.1**
	comp=Z,8.8nm,1.2s					
DAVA				*i* PKP	**PKPab**	**02 25 52.1 -0.7**
	comp=Z,8.8nm,1.2s					
ABTA	**Abfaltersbach**	**154.47**	**349**	*e*PKP	**PKiKP**	**02 25 39.4 +0.2**
	comp=Z,4.8nm,1.3s					
ABTA				*i* PKP	**PKPab**	**02 25 52.5 -1.0**
	comp=Z,6.3nm,1.1s					

IDC 19 02:09:48.5±5.5, 21°.73S×175°.96W, h0km, mb4.3/2, mbtmp4.3/2, Error ellipse: s-maj=269.6km s-min=50.2km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.11**	**258**	P	P	02 18 14.5	-0.3
	15nm,0.4s,baz=88,slow=9.2,SNR=4.2						
	15nm,0.4s						
WRA	**Warramunga Arr**	**46.33**	**263**	P	P	02 18 16.2	-0.4
	0.3nm,0.3s,baz=96,slow=7.7,SNR=15						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**145.00**	**332**	PKPbc	PKPab	02 29 27.1	+0.3
	1.1nm,0.4s,baz=44,slow=4.1,SNR=9.9						
MMAI	**Mount Meron Ar**	**150.08**	**299**	PKPbc	PKPbc	02 29 41.1	-0.6
	1.0nm,0.5s,baz=77,slow=6.4,SNR=5.9						

DJA 19 02:10:10.3±0.3, 2°.5S±3°.3×12°.1E±°, h10km, M4.0/9, mb4.8/2, MLv3.7/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.27**	**226**	P	Pn	02 10 31.9	-2.3
PCI	**Palu**	**1.52**	**324**	P	Pn	02 10 36.2	-1.5
APSI	**Ampana**	**1.54**	**37**	P	Pb	02 10 38.7	-0.2
APSI				S	Sg	02 10 59.7	-0.1
SPSI	**Sidrap Palu**	**2.04**	**208**	P	Pn	02 10 44.7	-0.1
SPSI				S	Sn	02 11 11.6	+1.3
LUWI	**Luwuk**	**2.32**	**62**	P	Pn	02 10 48.2	-0.4
MRSI	**Marisa**	**2.88**	**25**	P	Pn	02 10 55.7	-0.5

*TIR **19** 02:59:35.1, 37°.32N×21°.07E, h8km×3km, Md3.7/2, Ml3.9/5*
*IDC **19** 02:59:35.4±1.6, 37°.49N×21°.02E, h0km, mb3.6/7, mbtmp3.5/11, ML1.4/2, Error ellipse: s-maj=30.6km s-min=19.6km az=18.0*
*THE **19** 02:59:36.8, 37°.27N×20°.82E, h0km±1km, ML3.4/7, Error ellipse: s-maj=1.5km s-min=0.6km az=221.0*
*ATH **19** 02:59:37.6, 37°.43N×20°.96E, h18km±4km, ML3.4/7, Manual Solution by F.Xalaris First location: 2019/02/19 02:59:47, This location: 2019/02/19 03:32:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 19 03:59:35.9±1.2, 37°.31N±0°.04×20°.87E±0°.03, h8km±8km, n115, σ1$48/149, mb3.7/7, 5C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.40**	**356**	P	**Pg**	**02 59 44.4**	**+0.7**
LTHK				S	**Sb**	**02 59 51.0**	**-0.4**
LTHK	**Lithakia**	**0.40**	**356**	P	**Pg**	**02 59 44.2**	**+0.6**
LTHK				S	**Sg**	**02 59 48.8**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.51**	**356**	P	**Pg**	**02 59 46.2**	**+0.5**
KYPS				S	**Sg**	**02 59 51.7**	**-0.7**
ORTH	**Orthonies,Zaky**	**0.55**	**346**	P	**Pg**	**02 59 47.2**	**+0.5**
ORTH				S	**Sg**	**02 59 54.0**	**0.0**
CLEM	**Kyllini,Ilia,G**	**0.61**	**20**	P	**Pg**	**02 59 47.6**	**-0.1**
CLEM				S	**Sg**	**02 59 54.0**	**-1.8**
ZARO	**Zacharo**	**0.65**	**74**	P	**Pg**	**02 59 48.7**	**+0.4**
LCHA	**Lechaina**	**0.70**	**27**	P	**Pg**	**02 59 49.1**	**-0.3**
LCHA				S	**Sg**	**02 59 56.8**	**-1.6**
AMT	**Artemida-Makis**	**0.70**	**72**	P	**Pg**	**02 59 49.4**	**-0.1**
AMT				S	**Sg**	**02 59 58.0**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.77**	**354**	P	**Pb**	**02 59 51.7**	**+0.3**
RTZL				S	**Sn**	**03 00 04.2**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.83**	**344**	P	**Pb**	**02 59 52.9**	**+0.4**
PSDA				S	**Sn**	**03 00 05.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.83**	**344**	P	**Pg**	**02 59 51.9**	**0.0**
PSDA				S	**Sg**	**03 00 02.5**	**-0.2**
ITM	**Ithomi**	**0.85**	**99**	P	**Pb**	**02 59 53.8**	**+0.8**
ITM	**Ithomi**	**0.85**	**99**	P	**Pg**	**02 59 52.8**	**+0.5**
ITM				S	**Sg**	**03 00 04.1**	**+0.6**
RLS	**Riolos of Patr**	**0.88**	**32**	P	**Pb**	**02 59 53.8**	**+0.4**
RLS				S	**Sn**	**03 00 08.0**	**+0.5**
	2μm,0.8s						
RLS	**Riolos of Patr**	**0.88**	**32**	P	**Pg**	**02 59 51.9**	**-1.0**
RLS				S	**Sg**	**03 00 01.9**	**-2.4**
VLS	**Valsamata**	**0.89**	**346**	P	**Pn**	**02 59 54.4**	**-0.3**
VLS	**Valsamata**	**0.89**	**346**	P	**Pg**	**02 59 52.6**	**-0.4**
VLS				S	**Sg**	**03 00 04.3**	**-0.3**
DRO	**Drossia**	**0.92**	**46**	P	**Pn**	**02 59 55.0**	**-0.2**
DRO				S	**Sn**	**03 00 10.1**	**+1.5**
DRO	**Drossia**	**0.92**	**46**	P	**Pg**	**02 59 53.0**	**-0.7**
DRO				S	**Sg**	**03 00 04.1**	**-1.6**
AXS	**Araxos**	**0.97**	**24**	P	**Pg**	**02 59 54.0**	**-0.5**
AXS				S	**Sg**	**03 00 05.1**	**-2.1**
FSK	**Fiskardo**	**1.17**	**348**	P	**Pn**	**02 59 59.2**	**+0.7**
FSK				S	**Sn**	**03 00 17.3**	**+2.7**
	2μm,0.8s						
UPR	**University Cam**	**1.21**	**37**	P	**Pg**	**03 00 01.1**	**+1.9**
KLV	**Kalavryta, Ach**	**1.25**	**54**	P	**Pn**	**02 59 58.4**	**-1.3**
EVGI	**Lefkada island**	**1.32**	**353**	P	**Pg**	**03 00 02.4**	**+1.2**
EVGI				S	**Sg**	**03 00 22.5**	**+4.3**
	1μm,0.5s						
GUR	**Goura**	**1.33**	**62**	P	**Pn**	**03 00 00.0**	**-0.8**
ALIK	**Aliki, Aigiali**	**1.37**	**46**	P	**Pg**	**03 00 02.4**	**+0.3**
EFP	**Efpalio**	**1.38**	**36**	P	**Pb**	**03 00 02.2**	**+0.2**
EFP				S	**Sg**	**03 00 23.4**	**+3.0**
EFP	**Efpalio**	**1.38**	**36**	P	**Pn**	**03 00 00.4**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.39**	**350**	P	**Pg**	**03 00 03.6**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.40**	**355**	P	**Pg**	**03 00 03.5**	**+0.7**
NYDR				S	**Sg**	**03 00 24.3**	**+3.2**
	892nm,0.6s						
KALE	**Kalithea**	**1.47**	**43**	P	**Pg**	**03 00 04.2**	**0.0**
KALE				S	**Sg**	**03 00 26.4**	**+3.1**
	1μm,0.7s						
KALE	**Kalithea**	**1.47**	**43**	P	**Pn**	**03 00 01.1**	**-1.6**
LKD2	**Lefkada island**	**1.48**	**354**	⇑*i*Pg	**Pg**	**03 00 04.9**	**+0.6**
LKD2				Sg	**Sg**	**03 00 25.9**	**+2.4**
LKD2				AML	AML	03 00 41.7	
	5.7nm,0.7s						
LKD2				AMd		03 02 27.2	
LKD2	**Lefkada island**	**1.48**	**354**	P	**Pg**	**03 00 05.0**	**+0.6**
TSLK	**Tsoukalades, L**	**1.52**	**354**	P	**Pg**	**03 00 05.0**	**0.0**
ANX	**Ano Chora**	**1.52**	**33**	P	**Pg**	**03 00 05.3**	**+0.1**
ANX				S	**Sg**	**03 00 27.7**	**+2.7**
	1μm,0.6s						
ANX	**Ano Chora**	**1.52**	**33**	P	**Pn**	**03 00 02.4**	**-1.1**
VLI	**Veliai**	**1.76**	**109**	P	**Pn**	**03 00 08.2**	**+1.6**
EVR	**Evrytania**	**1.76**	**25**	P	**Pb**	**03 00 08.8**	**+0.3**
EVR				S	**Sg**	**03 00 33.4**	**+0.8**
KRND	**KRANIDI**	**1.82**	**87**	P	**Pb**	**03 00 09.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.97**	**30**	P	**Pb**	**03 00 11.9**	**-0.1**
MAKR				S	**Sg**	**03 00 38.7**	**-0.4**
AXAR	**Agios Charalam**	**2.03**	**44**	P	**Pb**	**03 00 12.5**	**-0.4**
AXAR				S	**Sg**	**03 00 40.1**	**-0.9**
VILL	**Villia**	**2.12**	**66**	P	**Pn**	**03 00 13.0**	**+1.4**
IGT	**Igoumenitsa**	**2.25**	**349**	⇓*i*Pg	**Pb**	**03 00 16.8**	**-0.1**
IGT				Sg	**Sg**	**03 00 47.4**	**-1.0**
IGT				AML	AML	03 01 03.9	
	0.7nm,0.9s						
IGT				AMd		03 03 21.4	
IGT	**Igoumenitsa**	**2.25**	**349**	P	**Pn**	**03 00 15.2**	**+1.7**
ATH	**Athens Observa**	**2.35**	**73**	P	**Pb**	**03 00 17.2**	**-1.3**
ATH				S	**Sb**	**03 00 49.0**	**+1.3**
	422nm,1.1s						
VLY	**Voula,Athens**	**2.39**	**76**	P	**Pn**	**03 00 16.5**	**+1.3**
THL	**Klokotos Trika**	**2.42**	**21**	P	**Pb**	**03 00 18.2**	**-1.5**
ANKY	**Antikythira Is**	**2.43**	**126**	P	**Pn**	**03 00 17.3**	**+1.4**
PTL	**Penteli**	**2.49**	**72**	P	**Pn**	**03 00 18.5**	**+1.8**
DION	**Dionisos Attik**	**2.55**	**72**	P	**Pn**	**03 00 19.3**	**+1.8**
TYRN	**Tyrnavos**	**2.62**	**24**	P	**Pn**	**03 00 20.4**	**+1.9**
SRN	**Sarande**	**2.65**	**345**	P	**Pb**	**03 00 23.3**	**-0.3**
SRN				S	**Sg**	**03 00 59.5**	**-1.6**
SRN	**Sarande**	**2.65**	**345**	P	**Pn**	**03 00 20.9**	**+2.0**
KPRO	**Kipourio**	**2.67**	**8**	P	**Pn**	**03 00 21.4**	**+2.2**
XOR	**Xorichti**	**2.75**	**41**	P	**Pn**	**03 00 22.3**	**+2.1**
LSK	**Leskovik**	**2.84**	**356**	⇓*e*Pn	**Pn**	**03 00 23.6**	**+2.0**
LSK				Sn	**Sg**	**03 01 04.4**	**-2.8**
LSK				AML	AML	03 01 36.7	
	1.5nm,1.1s						
LSK	**Leskovik**	**2.84**	**356**	P	**Pn**	**03 00 23.7**	**+2.1**
KYMI	**Kymi, Euboea I**	**2.87**	**62**	P	**Pn**	**03 00 23.6**	**+1.6**
PENT	**Pentalofos**	**2.89**	**4**	P	**Pn**	**03 00 24.4**	**+2.2**
LIT	**Litokhoron**	**3.06**	**24**	P	**Pn**	**03 00 25.9**	**+1.4**
KZN	**Kozani**	**3.07**	**13**	P	**Pn**	**03 00 26.7**	**+2.0**
NEST	**Nestorio**	**3.10**	**3**	⇓*i*Pn	**Pn**	**03 00 28.2**	**+3.0**
NEST				Sn	**Sb**	**03 01 09.3**	**0.0**
NEST				AML	AML	03 01 38.3	
	0.5nm,0.8s						
NEST	**Nestorio**	**3.10**	**3**	P	**Pn**	**03 00 27.5**	**+2.3**
IMMV	**Iera Moni Meta**	**3.12**	**125**	P	**Pn**	**03 00 27.5**	**+2.2**
SCTE	**Santa Cesarea**	**3.33**	**326**	Pn	**Pn**	**03 00 30.1**	**+1.8**
SCTE				Sn	**Sb**	**03 01 17.6**	**+1.7**
SCTE				AML	AML	03 01 39.4	
	0.6nm,0.9s						
GVD	**Gavdhos**	**3.59**	**132**	P	**Pn**	**03 00 32.9**	**+1.1**
PLG	**Polygyros**	**3.66**	**33**	P	**Pn**	**03 00 34.3**	**+1.5**
THR5	**Thira Island,**	**3.70**	**103**	P	**Pn**	**03 00 35.6**	**+2.3**
HORT	**Hortiatis**	**3.71**	**27**	P	**Pn**	**03 00 35.6**	**+2.0**
APE	**Apeiranthos**	**3.73**	**92**	⇑P	**Pg**	**03 00 46.2**	**-1.1**
TIP	**Timpagrande**	**3.73**	**301**	⇑P	**Pn**	**03 00 35.9**	**+2.1**
THR3	**Thira Island,**	**3.75**	**103**	P	**Pn**	**03 00 36.8**	**+2.9**
THR6	**Thira Island,**	**3.76**	**103**	P	**Pn**	**03 00 35.7**	**+1.6**
OHR	**Ohrid**	**3.79**	**359**	*i* Pn	**Pn**	**03 00 36.5**	**+1.9**
IDI	**Anoyia**	**3.83**	**121**	P	**Pn**	**03 00 37.3**	**+2.2**
IDI	**Anoyia**	**3.83**	**121**	Pn	**Pn**	**03 00 36.3**	**+1.2**
	0.8nm,0.3s,baz=329,slow=18,SNR=7.8						
IDI				Sn	**Sn**	**03 01 22.4**	**+2.1**
	1.1nm,0.3s,baz=227,slow=19,SNR=3.5						
	2.6nm,0.5s						
SOH	**Sokhos**	**4.00**	**28**	P	**Pn**	**03 00 39.7**	**+2.2**
SRS	**Serrai**	**4.35**	**28**	P	**Pn**	**03 00 44.7**	**+2.5**
MATE	**Matera**	**4.65**	**317**	⇑P	**Pn**	**03 00 46.8**	**+0.5**
DRME	**Dracevica, Mon**	**5.04**	**346**	*e*Pn	**Pn**	**03 00 51.9**	**+0.2**
VAE	**Valguarnera**	**5.14**	**274**	Pn	**Pn**	**03 00 55.0**	**+1.8**
	1.2nm,0.3s,baz=202,slow=17,SNR=2.3						
VAE				Sn	**Sn**	**03 01 50.4**	**-2.4**
	1.4nm,0.3s,baz=212,slow=22,SNR=1.6						
	3.8nm,0.4s						
PDG	**Podgorica**	**5.26**	**347**	*e*Pn	**Pn**	**03 00 54.6**	**-0.1**
PDG	**Podgorica**	**5.26**	**347**	⇓P	**Pn**	**03 00 54.0**	**-0.7**
HCY	**Herceg Novi**	**5.44**	**341**	*e*Pn	**Pn**	**03 00 55.4**	**-1.9**
BRT	**Bratogost**	**5.86**	**343**	*e*Pn	Pn	03 00 54.9	-8.2
SJES	**Sjenica**	**5.98**	**354**	*e*Pn	**Pn**	**03 01 04.8**	**+0.1**
STON	**Ston**	**6.06**	**337**	*e*Pn	**Pn**	**03 01 03.8**	**-1.9**
UPM	**Unac-Piva**	**6.07**	**346**	*e*Pn	**Pn**	**03 01 08.6**	**+2.5**
BOVS	**Bovan**	**6.35**	**6**	⇑P	**Pn**	**03 01 08.1**	**-1.6**
RUDO	**Rudo**	**6.40**	**350**	*e*Pn	**Pn**	**03 01 10.5**	**+0.1**
HAPS	**Han Pijesak,Bl**	**6.92**	**348**	*e*Pn	**Pn**	**03 01 18.2**	**+0.6**
HERR	**Herculane**	**7.65**	**8**	⇓P	**Pn**	**03 01 26.2**	**-1.4**
FRGS	**Fruska Gora**	**7.88**	**355**	*e*Pn	**Pn**	**03 01 29.6**	**-1.1**
BLY	**Banja Luka**	**7.93**	**341**	*e*Pn	**Pn**	**03 01 31.1**	**-0.3**
GZR	**Gura Zlata**	**8.20**	**9**	⇓P	**Pn**	**03 01 35.0**	**-0.2**
ARR	**Arges**	**8.53**	**18**	⇓P	**Pn**	**03 01 40.1**	**+0.5**
VOIR		**8.70**	**20**	⇓P	**Pn**	**03 01 42.9**	**+0.8**
BOJS	**Bojanci**	**9.20**	**335**	*e*Pn	**Pn**	**03 01 48.4**	**-0.4**
CRES	**Cresnjevec Ost**	**9.42**	**336**	*e*Pn	**Pn**	**03 01 51.2**	**-0.6**
PLOR	**Plostina**	**9.56**	**25**	⇓P	**Pn**	**03 01 54.4**	**+0.6**
VRI	**Vrincioaia**	**9.60**	**25**	⇓P	**Pn**	**03 01 55.5**	**+1.1**
SKDS	**Skadanscina**	**9.70**	**330**	*e*Pn	**Pn**	**03 01 54.6**	**-1.1**
CEY	**Cerknica**	**9.70**	**332**	*e*Pn	**Pn**	**03 01 56.7**	**+1.0**
BRTR	**Keskin Array B**	**10.29**	**73**	Pn	**Pn**	**03 02 02.1**	**-1.9**
	baz=11,slow=14,SNR=1.4						
AKASG	**Malin Array Be**	**14.66**	**21**	Pn	**Pn**	**03 03 01.7**	**-1.7**
	0.2nm,0.3s,baz=212,slow=13,SNR=1.1						
NACGM	**Naroch**	**18.05**	**11**	*e*P	**P**	**03 03 47.4**	**+0.1**
	baz=195						
ESDC	**Sonseca Array**	**19.56**	**285**	P	**Pn**	**03 04 06.3**	**+0.9**
	0.6nm,0.8s,baz=84,slow=10,SNR=2.7						
HFS	**Hagfors**	**23.30**	**351**	P	**P**	**03 04 42.6**	**-1.2**
	2.3nm,0.8s,baz=163,slow=10,SNR=5.9						
	2.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.29**	**326**	P	**P**	**03 04 54.1**	**+0.6**
	2.2nm,0.8s,baz=128,slow=9.7,SNR=2.7						
	2.2nm,0.8s						
FINES	**FINESS Array B**	**24.37**	**6**	P	**P**	**03 04 53.2**	**-1.0**
	1.9nm,0.9s,baz=182,slow=14,SNR=3.3						
	1.9nm,0.9s						
BVAR	**Borovoye Array**	**37.47**	**49**	P	**P**	**03 06 48.7**	**-0.9**
	0.8nm,0.7s,baz=274,slow=4.0,SNR=4.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**42.53**	**53**	P	**P**	**03 07 29.5**	**-2.1**
	0.8nm,0.7s,baz=279,slow=8.7,SNR=7.0						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**45.52**	**58**	P	**P**	**03 07 54.6**	**-1.2**
	0.4nm,0.7s,baz=282,slow=7.6,SNR=4.8						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**03 07 59.5**	**-0.5**
	0.4nm,0.5s,baz=280,slow=12,SNR=3.7						
	0.4nm,0.5s						

*SJA **19** 03:11:08.2±0.5, 23°.85S×66°.54W, h194km±8km, ML4.4, MW4.3*
*NEIC **19** 03:11:10.1±1.6, 23°.96S±0°.06×66°.67W±0°.09, h192km±8km, mb4.4/12, Error ellipse: s-maj=11.7km s-min=9.4km az=97.0*
*GUC **19** 03:11:10.8±0.7, 23°.97S×66°.81W, h220km±5km, ML4.5*
*IDC **19** 03:11:10.4±1.2, 23°.89S×66°.62W, h199km±10km, mb3.8/9, mbtmp4.5/16, Error ellipse: s-maj=15.7km s-min=10.6km az=84.0*
*VAO **19** 03:11:12.1±0.3, 23°.85S×66°.64W, h222km, mb4.6*

ISC 19 03:11:10.5±0.6, 23°.95S±0°.04×66°.77W±0°.04, h208km±5km, n183, σ1$58/208, mb4.3/16, 9C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.48**	**125**	*e*P	**Pn**	**03 11 35.0**	**-4.1**
SALTA				*e*P		03 11 35.2	
SALTA		**0.48**	**125**	⇓*e*P	**Pn**	**03 11 40.6**	**+1.5**
SALTA				*e*S	**S**	**03 12 03.7**	**+2.2**
SLA	**San Lorenzo**	**1.39**	**124**	*e*P	**Pn**	**03 11 40.6**	**-3.7**
SLA	**San Lorenzo**	**1.39**	**124**	⇓*e*P	**Pn**	**03 11 45.9**	**+1.6**
SLA				*e*S	**S**	**03 12 11.7**	**+1.5**
AZAP	**Zapla**	**1.58**	**100**	*e*P	**Pn**	**03 11 41.5**	**-4.5**
AZAP				*e*S	**Pn**	**03 11 47.0**	**+1.0**
AZAP				IAML		03 11 47.3	
	comp=Z,1μm,0.5s						
AF01	**San Pedro de A**	**1.63**	**307**	Pn	**Pn**	**03 11 48.3**	**+1.9**
AF01				Sn	**S**	**03 12 16.1**	**+2.0**
AF01	**San Pedro de A**	**1.63**	**307**	*e*P	**Pn**	**03 11 44.6**	**-1.9**
AF01				*e*S	**S**	**03 12 14.1**	**+0.1**
AF01				IAML		03 12 32.4	
	comp=Z,1μm,1.4s						
AF01	**San Pedro de A**	**1.63**	**307**	⇑*e*P	**Pn**	**03 11 48.4**	**+1.9**
AF01				*e*S	**S**	**03 12 16.5**	**+2.5**
AF01				IAML		03 12 19.5	
	comp=N,2μm,0.7s						
YJA	**Yavi**	**2.11**	**34**	*e*P	**Pn**	**03 11 47.0**	**-4.3**
YJA				*e*S	**S**	**03 12 24.9**	**+2.3**
YJA	**Yavi**	**2.11**	**34**	⇓*e*P	**Pn**	**03 11 52.5**	**+1.2**
YJA				*e*S	**S**	**03 12 24.3**	**+1.8**
FSA	**Cafayete**	**2.27**	**162**	*e*P	**Pn**	**03 11 54.0**	**+1.3**
ALOL	**LOMAS DE OLMED**	**2.56**	**88**	*e*P	**Pn**	**03 11 52.0**	**-3.6**
GO02	**Mina Guanaco**	**2.84**	**244**		**Pn**	**03 11 59.8**	**+0.8**
GO02	**Mina Guanaco**	**2.84**	**244**	*e*P	**Pn**	**03 11 59.3**	**+0.3**
GO02				*e*S	**S**	**03 12 37.5**	**+1.1**
GO02	**Mina Guanaco**	**2.84**	**244**	⇑*e*P	**Pn**	**03 12 00.1**	**+1.1**
GO02	

PLTB Pedras Altas 14.00 127 Pn **Pn 03 14 19.3 -0.9**
PLTB Pedras Altas 14.00 127 *e*P **Pn 03 14 19.7 -0.5**
VA04 Juan Fernndez 14.31 225 Pn **Pn 03 14 24.5 +0.6**
LDASE Londrina, Braz 14.36 91 *e*P **Pn 03 14 24.5 -0.1**
TRQA Tornquist 14.65 165 Pn 03 14 26.1 -1.9
CNLB Canela 15.20 114 *e*P **Pn 03 14 34.4 -0.5**
NNA Nana 15.26 319 P **P 03 14 36.6 +0.7**
comp=Z,4.1nm,0.4s,baz=151,slow=7.2,SNR=3.6
PDRB Porto dos Gac 15.54 40 *e*P **P 03 14 38.3 -0.7**
FRTB Fartura 15.78 91 *e*P **P 03 14 41.2 -0.4**
ITRB Iturama 15.81 78 *e*P **P 03 14 41.8 -0.2**
ARAG Araguaiana, MT 16.28 63 *e*P **P 03 14 47.2 +0.1**
MAJ01 Sao Joao Batis 16.38 106 *e*P **Pn 03 14 48.5 -0.5**
TER01 Tubaro-SC 16.47 110 *e*P **Pn 03 14 49.5 -0.6**
CLDB Colider 16.68 41 *e*P **P 03 14 51.4 -0.1**
LR05 Currie 16.82 194 P **Pn 03 14 53.5 -0.7**
LR04 Corral 16.85 198 P **P 03 14 53.5 +0.4**
PLCA Paso Flores 17.04 190 P **Pn 03 14 56.5 -0.2**
PLCA Paso Flores 17.04 190 P **Pn 03 14 56.7 0.0**
comp=Z,9.9nm,0.7s,baz=12,slow=13,SNR=31
PLCA Paso Flores 17.04 190 *e*P **Pn 03 14 56.5 -0.2**
CZSB Cruzeiro do Su 17.10 340 P **P 03 14 55.0 -1.1**
CZSB Cruzeiro do Su 17.10 340 *e*P **P 03 14 54.9 -1.1**
LL04 Puerto Octay 17.56 194 P **P 03 15 01.6 +0.7**
SPB Sao Paulo 17.71 93 P **P 03 15 02.0 -0.6**
SPB Sao Paulo 17.71 93 *e*P **P 03 15 02.9 +0.3**
LL03 Petrohue 17.78 194 P **P 03 15 03.5 +0.2**
VAO Valinhos 18.20 91 P **P 03 15 08.0 -0.1**
VAO Valinhos 18.20 91 *e*P **P 03 15 08.0 -0.1**
LL05 Los Muermos 18.29 196 P **P 03 15 09.9 +1.1**
IPMB Ipameri, GO 18.31 75 *e*P **P 03 15 09.5 +0.1**
SNDB Serra Nova Dou 18.91 54 *e*P **P 03 15 15.1 -0.7**
LL01 San Ignacio de 18.97 193 P **P 03 15 17.0 +0.9**
LL06 Loncomilla 19.09 196 P **P 03 15 17.6 +0.2**
PARB Paraibuna 19.39 92 *e*P **P 03 15 21.3 +0.3**
BDFB Brasilia 19.47 68 P **P 03 15 21.8 -0.2**
BDFB Brasilia 19.47 68 P **P 03 15 21.4 -0.5**
comp=Z,119nm,0.6s,baz=243,slow=10.0,SNR=252
LL02 Futaleuf 19.65 191 P **P 03 15 23.7 +0.3**
PMNB Patos De Minas 19.70 78 *e*P **P 03 15 23.8 -0.5**
TBTG Tabatinga, AM 19.88 351 *e*P **P 03 15 27.2 +1.1**
GO07 Milladeo Hill, 19.95 195 P **P 03 15 27.2 +0.6**
NPGB Novo Progresso 20.06 35 *e*P **P 03 15 25.8 -2.4**
TEFE Tefe 20.42 6 *e*P **P 03 15 31.2 -0.7**
BSCB Bom Sucesso 20.54 86 *e*P **P 03 15 32.5 -0.8**
MAN01 Angra dos Reis 20.96 92 *e*P **P 03 15 36.8 -0.9**
AY01 Puyuhuapi 20.98 192 P **P 03 15 37.7 +0.1**
MACA Manacapuru-AM 21.48 17 P **P 03 15 41.6 -1.5**
COYC Coyhaique 22.00 190 P **P 03 15 48.5 +0.7**
ITTB Itaituba 22.19 30 *e*P **P 03 15 48.3 -1.6**
DIAM Diamantina, MG 22.26 80 *e*P **P 03 15 50.4 -0.3**
DUB01 Friburgo-RJ 22.53 90 *e*P **P 03 15 52.8 -0.3**
JANB Januaria 22.92 71 *e*P **P 03 15 55.6 -1.0**
CAM01 Campos-RJ 23.23 90 *e*P **P 03 15 58.6 -0.6**
SMTB Santa Maria do 23.69 54 *e*P **P 03 16 02.6 -1.0**
SDBA SAO DESIDERIO 23.70 65 *e*P **P 03 16 02.4 -1.3**
AY03 Cochrane 23.72 190 P **P 03 16 05.4 +1.9**
SJMB Sao Joao De Ma 24.38 83 *e*P **P 03 16 09.3 -0.6**
BSFB Barra de Sao F 24.65 83 *e*P **P 03 16 11.7 -0.6**
RIB01 Linhares ES 24.93 84 *e*P **P 03 16 14.1 -0.8**
GUA01 Guaratinga, BA 26.31 79 *e*P **P 03 16 26.4 -0.7**
OTAV Otavalo 26.58 333 *e*P **P 03 16 29.7 -0.4**
BOAV Boa Vista 26.88 14 *e*P **P 03 16 32.4 +0.1**
CMC01 Camacan, BA 27.01 77 *e*P **P 03 16 32.7 -0.7**
NBLA Lagarto - SE 30.42 70 *e*P **P 03 17 01.9 -1.8**
NBAN Anadia - AL 32.37 69 *e*P **P 03 17 19.3 -1.4**
NBLV Livramento - P 33.02 65 *e*P **P 03 17 25.6 -0.9**
NBCA Caruaru-PE 33.32 67 *e*P **P 03 17 27.8 -1.3**
ACON Acoyapa 39.97 331 P **P 03 18 24.9 -0.1**
ACON IAmb IAmb 03 18 45.5
comp=Z,30nm,1.4s
BELA Belgrano 2 56.07 172 P **P 03 20 29.4 +2.0**
BELA IAmb IAmb 03 20 29.8
comp=Z,7.7nm,0.7s
VNA3 Neumayer Olymp 57.14 161 P **P 03 20 36.9 +1.9**
VNA3 Neumayer Olymp 57.14 161 ⇑P **P 03 20 36.9 +1.9**
comp=Z,17nm,0.8s
SNAA Sanae 59.33 161 P **P 03 20 50.9 +0.7**
SNAA Sanae 59.33 161 ⇑P **P 03 20 50.9 +0.7**
comp=Z,204nm,0.7s
SNAA Sanae 59.33 161 P **P 03 20 51.1 +0.9**
comp=Z,8.7nm,0.8s,baz=294,slow=7.8,SNR=14
comp=Z,8.7nm,0.8s
TROLL Troll, Antarti 61.05 161 P **P 03 21 03.8 +1.9**
TROLL Troll, Antarti 61.05 161 ⇑P **P 03 21 03.8 +1.9**
comp=Z,611nm,0.6s
TXAR Lajitas Array 63.76 324 P **P 03 21 21.1 +0.7**
comp=Z,0.7nm,0.6s,baz=141,slow=8.1,SNR=4.8
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 66.26 180 P **P 03 21 38.3 +2.2**
QSPA South Pole Qui 66.26 180 P **P 03 21 37.7 +1.6**
comp=Z,14nm,0.5s,baz=162,slow=3.1,SNR=162
comp=Z,14nm,0.5s
DBIC Dimbokro 67.59 71 P **P 03 21 44.6 -0.5**
comp=Z,4.2nm,0.3s,baz=229,slow=7.2,SNR=18
comp=Z,4.2nm,0.3s
BGNE Belgrade 71.24 336 P **P 03 22 07.7 +0.8**
SDCO Great Sand Dun 71.35 328 P **P 03 22 07.3 -0.6**
SDCO IAmb IAmb 03 22 09.8
comp=Z,6.1nm,0.9s
TORD Torodi Ar. Bea 76.36 69 P **P 03 22 37.1 0.0**
TORD IAmb IAmb 03 22 39.7
comp=Z,6.8nm,0.6s
PDAR Pinedale Array 77.21 329 P **P 03 22 43.2 +1.6**
comp=Z,0.5nm,0.6s,baz=128,slow=8.5,SNR=5.9
comp=Z,0.5nm,0.6s
ULM Lac du Bonnet 78.24 341 P **P 03 22 47.8 +0.9**
comp=Z,1.0nm,0.6s,baz=159,slow=5.2,SNR=3.4
comp=Z,1.0nm,0.6s
YNE Yellowstone No 79.14 330 P **P 03 22 53.9 +1.7**
YHL Hebgen Lake 79.56 330 P **P 03 22 57.0 +2.5**
YHL IAmb IAmb 03 23 00.4
comp=Z,11nm,1.6s
HLID Hailey 80.16 327 P **P 03 22 59.4 +1.8**
BOSA Boshof 80.57 117 P **P 03 23 00.4 +0.2**
comp=Z,1.2nm,0.4s,baz=260,slow=4.1,SNR=9.4
comp=Z,1.2nm,0.4s
PLID Pearl Lake 82.04 327 P **P 03 23 09.7 +2.1**
TAM Tamanrasset 84.19 62 P **P 03 23 20.2 +1.2**
TAM IAmb IAmb 03 23 21.2
comp=Z,4.4nm,0.9s
ESDC Sonseca Array 86.22 43 P **P 03 23 27.7 -0.8**
comp=Z,1.0nm,0.7s,baz=254,slow=4.8,SNR=7.8
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 94.15 340 P **P 03 24 06.0 +1.1**
comp=Z,0.7nm,0.6s,baz=142,slow=4.2,SNR=17
comp=Z,0.7nm,0.6s
ASAR Alice Springs 128.59 204 PKP **PKiKP 03 29 54.3 +0.2**
comp=Z,3.1nm,0.7s,baz=143,slow=2.5,SNR=18
WRA Warramunga Arr 131.77 207 PKP **PKiKP 03 30 00.8 +0.3**
comp=Z,1.6nm,0.5s,baz=154,slow=1.9,SNR=25
WRA SKPbc **SKPab 03 33 07.1 +0.6**
comp=Z,1.3nm,0.7s,baz=154,slow=3.5,SNR=10.0
KURBB Kurchatov Arra 142.21 36 PKP **PKPdf 03 30 17.9 +0.2**
comp=Z,0.4nm,0.5s,baz=300,slow=2.8,SNR=4.9
ZALV Zalesovo Beam 143.25 28 PKP **PKPdf 03 30 18.6 -0.9**
comp=Z,1.7nm,0.7s,baz=309,slow=4.5,SNR=8.5
ZALV SKPbc **SKiKP 03 33 39.0 -0.1**
comp=Z,0.2nm,0.3s,baz=309,slow=5.2,SNR=4.0
MKAR Makanchi Array 146.35 40 PKPbc **PKPbc 03 30 26.7 0.0**
comp=Z,2.3nm,0.6s,baz=321,slow=2.1,SNR=28

*IDC **19** 03:35:42.4±10.0, 13°.19S×167°.21E, h156km±85km, mb4.1/10, mbtmp4.5/10, MS3.3/2, Error ellipse: s-maj=38.1km s-min=20.1km az=84.0*
*NEIC **19** 03:35:51.4±1.5, 13°.36S±0°.09×167°.1E±0°.1, h230km±7km, mb4.4/42, Error ellipse: s-maj=19.7km s-min=12.4km az=79.0*
ISC 19 03:35:47.7±0.6, **13°.26S**±0°.10×**167°.1E**±0°.1, **h200**km, **n59,** σ0°**78**/61, **mb4.4**/30, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
EIDS	**Eidsvold**	**19.29**	**229**	P	**P**	**03 39 58.3**	**+0.8**
EIDS				IAmb	IAmb	03 40 02.7	
comp=Z,19nm,1.3s							
ARMA	**Armidale**	**22.26**	**217**	P	**P**	**03 40 29.5**	**+1.0**
ARMA				IAmb	IAmb	03 40 30.8	
comp=Z,13nm,0.6s							
COEN	**Coen**	**23.24**	**265**	P	**P**	**03 40 38.8**	**+1.3**
COEN				IAmb	IAmb	03 40 39.8	
comp=Z,5.3nm,0.6s							
RTZ	**Ruatahuna**	**26.74**	**163**	P	**P**	**03 41 09.1**	**+0.2**
RTZ				IAmb	IAmb	03 41 19.6	
comp=Z,22nm,1.4s							
BKZ	**Black Stump Fm**	**27.12**	**164**	P	**P**	**03 41 12.2**	**0.0**
BKZ				IAmb	IAmb	03 41 13.6	
comp=Z,17nm,1.2s							
CAN	**Canberra**	**27.37**	**214**	P	**P**	**03 41 14.7**	**+0.2**
STKA	**Stephens Creek**	**29.83**	**227**	P	**P**	**03 41 37.1**	**+0.8**
STKA				PcP	**PcP**	**03 44 33.9**	**-0.6**
STKA	**Stephens Creek**	**29.83**	**227**	P	**P**	**03 41 36.8**	**+0.5**
comp=Z,14nm,0.5s,baz=49,slow=9.5,SNR=41							
STKA				PcP	**PcP**	**03 44 34.1**	**-0.4**
comp=Z,3.6nm,0.7s,baz=68,slow=3.5,SNR=6.4							
comp=Z,14nm,0.5s							
TOO	**Toolangi**	**30.94**	**215**	P	**P**	**03 41 46.7**	**+0.7**
TOO				IAmb	IAmb	03 41 47.5	
comp=Z,3.8nm,0.6s							
WR0	**Warramunga Arr**	**31.85**	**254**	P	**P**	**03 41 52.9**	**-1.2**
WB0	**Warramunga Arr**	**31.96**	**254**	P	**P**	**03 41 54.5**	**-0.6**
WB0				IAmb	IAmb	03 41 55.2	
comp=Z,7.9nm,0.5s							
WB2	**Warramunga Arr**	**32.02**	**254**	P	**P**	**03 41 54.6**	**-1.1**
WB2				IAmb	IAmb	03 41 55.7	
comp=Z,8.4nm,1.1s							
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**03 41 54.5**	**-1.3**
WRA	**Warramunga Arr**	**32.03**	**254**	P	**P**	**03 41 55.0**	**-0.8**
comp=Z,3.4nm,0.5s,baz=86,slow=9.2,SNR=35							
WRA				PcP	**PcP**	**03 44 40.3**	**-0.3**
comp=Z,0.3nm,0.6s,baz=89,slow=1.1,SNR=0.9							
comp=Z,3.4nm,0.5s							
AS31	**Alice Springs**	**33.05**	**247**	P	**P**	**03 42 03.7**	**-0.9**
AS31				IAmb	IAmb	03 42 04.4	
comp=Z,4.7nm,0.4s							
ASAR	**Alice Springs**	**33.05**	**247**	P	**P**	**03 42 04.1**	**-0.5**
comp=Z,15nm,0.4s,baz=76,slow=9.5,SNR=57							
comp=Z,15nm,0.4s							
BBOO	**Buckleboo**	**34.35**	**230**	P	**P**	**03 42 15.0**	**-0.7**
BBOO				IAmb	IAmb	03 42 29.1	
comp=Z,23nm,1.4s							
GUMO	**Guam**	**34.58**	**320**	LR	LR	03 56 33.5	
comp=Z,61nm,19.9s,baz=72,slow=36							
KNRA	**Kununurra**	**37.15**	**261**	P	**P**	**03 42 39.7**	**+0.1**
KNRA				IAmb	IAmb	03 42 40.9	
comp=Z,12nm,0.7s							
FORT	**Forrest**	**39.91**	**238**	P	**P**	**03 43 02.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.13**	**258**	P	**P**	**03 43 03.8**	**-0.6**
PSA00	**Pilbara Seismi**	**45.68**	**253**	P	**P**	**03 43 49.3**	**+0.4**
PSA00				IAmb	IAmb	03 43 49.8	
comp=Z,13nm,0.6s							
NWAO	**Narrogin (SRO)**	**49.36**	**238**	P	**P**	**03 44 16.4**	**-0.7**
NWAO				IAmb	IAmb	03 44 31.8	
comp=Z,16nm,1.1s							
MORW	**Morawa**	**49.75**	**243**	P	**P**	**03 44 19.4**	**-0.8**
GIRL	**Giralia**	**50.91**	**252**	P	**P**	**03 44 30.3**	**+1.4**
UGM	**Wanagama**	**55.76**	**269**	P	**P**	**03 45 04.2**	**-0.1**
MJAR	**Matsushiro Arr**	**56.52**	**332**	P	**P**	**03 45 08.9**	**-0.4**
comp=Z,1.3nm,0.6s,baz=169,slow=8.8,SNR=3.4							
comp=Z,1.3nm,0.6s							
JNU	**Nakatsue**	**57.62**	**324**	LR	LR	04 09 13.3	
comp=Z,24nm,19.3s,baz=4.5,slow=35							
JKA	**Kamikawa-asahi**	**61.30**	**340**	P	**P**	**03 45 43.3**	**+1.4**
JKA				IAmb	IAmb	03 45 50.5	
comp=Z,24nm,1.4s							
VNDA	**Vanda**	**64.32**	**181**	P	**P**	**03 46 01.4**	**0.0**
CASY	**Casey**	**64.82**	**202**	P	**P**	**03 46 04.8**	**0.0**
RPSI	**Rantau Prapat**	**69.44**	**278**	P	**P**	**03 46 34.2**	**-0.5**
RPSI				IAmb	IAmb	03 46 35.0	
comp=Z,8.1nm,1.0s							
CMAR	**Chiang Mai Arr**	**74.19**	**294**	P	**P**	**03 47 03.5**	**+0.5**
comp=Z,2.6nm,0.6s,baz=126,slow=4.4,SNR=14							
comp=Z,2.6nm,0.6s							
QSPA	**South Pole Qui**	**76.76**	**180**	P	**P**	**03 47 16.8**	**-0.2**
QSPA				IAmb	IAmb	03 47 18.9	
comp=Z,11nm,0.9s							
QSPA	**South Pole Qui**	**76.76**	**180**	P	**P**	**03 47 17.0**	**+0.1**
comp=Z,6.3nm,0.6s,baz=347,slow=2.0,SNR=44							
comp=Z,6.3nm,0.6s							
K13K	**Kusilvak Mount**	**78.18**	**13**	P	**P**	**03 47 25.0**	**+0.5**
K13K				IAmb	IAmb	03 47 31.6	
comp=Z,9.7nm,1.4s							
M16K	**Timber Creek**	**78.80**	**16**	P	**P**	**03 47 28.4**	**+0.5**
J14K	**Nanvaranak Lak**	**79.14**	**13**	P	**P**	**03 47 30.7**	**+1.0**
J14K				IAmb	IAmb	03 47 42.7	
comp=Z,8.2nm,1.4s							
K15K	**Wolf Creek Mou**	**79.22**	**14**	P	**P**	**03 47 30.8**	**+0.6**
ILSW	**Iliamna Southw**	**79.67**	**19**	P	**P**	**03 47 32.4**	**-0.5**
ILSW				IAmb	IAmb	03 47 45.2	
comp=Z,16nm,1.4s							
SONM	**Songino Array**	**81.21**	**324**	P	**P**	**03 47 42.5**	**+1.1**
SONM	**Songino Array**	**81.21**	**324**	P	**P**	**03 47 41.1**	**-0.2**
comp=Z,0.5nm,0.6s,baz=132,slow=3.6,SNR=5.7							
comp=Z,0.5nm,0.6s							
J18K	**Innoko River**	**81.41**	**16**	P	**P**	**03 47 42.8**	**+0.9**
J18K				IAmb	IAmb	03 47 53.5	
comp=Z,6.7nm,1.4s							
F15K	**North Star Dit**	**81.53**	**11**	P	**P**	**03 47 43.3**	**+0.9**
CAST	**Castle Rocks**	**82.65**	**17**	P	**P**	**03 47 47.7**	**-0.6**
J20K	**Nowinta River**	**82.67**	**16**	P	**P**	**03 47 49.9**	**+1.6**
MCCM	**Marconi Confer**	**83.00**	**48**	P	**P**	**03 47 51.6**	**+1.0**
TRF	**Thorofare Moun**	**83.20**	**18**	P	**P**	**03 47 50.6**	**-0.8**
TRF				IAmb	IAmb	03 47 58.2	
comp=Z,9.1nm,1.4s							
BPAW	**Bear Paw Mtn.**	**83.49**	**17**	P	**P**	**03 47 51.8**	**-0.8**
G19K	**Purcell Mounta**	**83.52**	**14**	P	**P**	**03 47 53.6**	**+0.9**
ILAR	**Eielson Array**	**85.19**	**18**	P	**P**	**03 48 00.1**	**-1.0**
comp=Z,1.1nm,0.7s,baz=240,slow=5.3,SNR=20							
comp=Z,1.1nm,0.7s							
MK31	**Makanchi Array**	**96.02**	**317**	P	**P**	**03 48 52.5**	**+0.3**
MK31				IAmb	IAmb	03 48 52.8	
comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**96.02**	**317**	P	**P**	**03 48 52.2**	**0.0**
comp=Z,1.3nm,0.6s,baz=87,slow=6.0,SNR=21							
comp=Z,1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**96.10**	**324**	P	**P**	**03 48 51.3**	**-1.1**
comp=Z,0.5nm,0.4s,baz=107,slow=5.0,SNR=4.5							
comp=Z,0.5nm,0.4s							
ARCES	**ARCESS Array B**	**118.79**	**346**	PKP	**PKiKP**	**03 54 10.9**	**-0.7**
comp=Z,1.1nm,0.5s,baz=75,slow=2.0,SNR=19							
FINES	**FINESS Array B**	**124.29**	**339**	PKP	**PKiKP**	**03 54 22.1**	**-0.5**
comp=Z,20nm,1.4s,baz=85,slow=1.5,SNR=6.8							
AKASG	**Malin Array Be**	**129.41**	**326**	PKP	**PKiKP**	**03 54 32.6**	**-0.6**
comp=Z,0.4nm,0.5s,baz=80,slow=1.0,SNR=2.3							
KEST	**Kesra**	**149.95**	**322**	PKPbc	**PKiKP**	**03 55 15.1**	**-0.6**
comp=Z,4.0nm,0.6s,baz=0.0,slow=0.0,SNR=3.9							
ESDC	**Sonseca Array**	**152.52**	**345**	PKPbc	**PKPbc**	**03 55 19.9**	**-0.8**
comp=Z,1.0nm,0.8s,baz=5.5,slow=3.4,SNR=7.6							
ESDC				PKPab	**PKPab**	**03 55 30.4**	**-1.2**
comp=Z,0.6nm,0.7s,baz=14,slow=5.9,SNR=4.4							

*INMG **19** 03:46:08.2±2.1, 35°.72N×4°.50W, h84km±5km, ML3.5, Error ellipse: s-maj=4.0km s-min=3.0km az=83.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
*CNRM **19** 03:46:08.9, 35°.64N×4°.56W, h91km, ML2.9*
*SFS **19** 03:46:08.1, 35°.75N×4°.51W, h89km, ML3.6/24, MLv3.6/24*
*MDD **19** 03:46:08.8±0.3, 35°.78N×4°.53W, h87km±4km, Mb3.5/36, Error ellipse: s-maj=2.5km s-min=2.0km az=146.0*
*IGIL **19** 03:46:08.9, 35°.78N×4°.53W, h34km, ML3.8*
ISC 19 03:46:06.2±1.2, **35°.77N**±0°.03×**4°.51W**±0°.02, **h105**km±8km, **n137,** σ1°**77**/213, **21C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PVLZ	**Pen de Vlez**	**0.62**	**164**	P	**Pn**	**03 46 22.7**	**-0.7**
PVLZ				S	**Sn**	**03 46 32.7**	**-3.7**
CEU	**Ceuta**	**0.71**	**280**	P	**Pn**	**03 46 23.8**	**-0.4**
CEU				S	**Sn**	**03 46 34.9**	**-2.8**
SMIR	**Smir Dam**	**0.72**	**263**	P	**Pn**	**03 46 24.9**	**+0.7**
SMIR	**Smir Dam**	**0.72**	**263**	S	**Sn**	**03 46 38.0**	**+0.2**
ECEU	**Ceuta**	**0.72**	**280**	P	**Pn**	**03 46 24.7**	**+0.5**
ECEU				S	**Sn**	**03 46 37.1**	**-0.7**
ECEU	**Ceuta**	**0.72**	**280**	P	**Pn**	**03 46 24.8**	**+0.5**
ECEU				S	**Sn**	**03 46 36.3**	**-1.5**
PALE	**Palemas**	**0.72**	**140**	P	**Pn**	**03 46 24.7**	**+0.3**
PALE	**Palemas**	**0.72**	**140**	S	**Sn**	**03 46 37.8**	**-0.2**
TARIF	**Tarifa**	**0.90**	**287**	P	**Pn**	**03 46 28.4**	**+2.4**
TARIF				S	**Sn**	**03 46 42.2**	**+1.3**
CHEFC	**Chefchaouen**	**0.95**	**226**	P	**Pn**	**03 46 29.1**	**+2.5**
CHEFC	**Chefchaouen**	**0.95**	**226**	S	**Sn**	**03 46 40.4**	**-1.6**
EJIF	**Jimena Fronter**	**1.03**	**311**	P	**Pn**	**03 46 29.6**	**+2.3**
EJIF				S	**Sn**	**03 46 43.4**	**+0.1**
CPS	**Cap Spartel**	**1.14**	**271**	P	**Pn**	**03 46 30.2**	**+1.7**
CPS	**Cap Spartel**	**1.14**	**271**	S	**Sn**	**03 46 46.2**	**+0.8**
EALB	**Alboran**	**1.21**	**82**	P	**Pn**	**03 46 28.6**	**-0.7**
EXBAR	**Barbate**	**1.22**	**290**	P	**Pn**	**03 46 31.7**	**+2.3**
EXBAR				S	**Sn**	**03 46 45.4**	**-1.5**
ELGU	**Los Guajares,**	**1.30**	**33**	P	**Pn**	**03 46 30.4**	**-0.1**
ELGU				S	**Sn**	**03 46 46.6**	**-2.2**
ELGU	**Los Guajares,**	**1.30**	**33**	P	**Pn**	**03 46 30.4**	**-0.1**
ELGU				⇑*i*Vmb_V		03 46 31.2	
2μm,SNR=15							
ELGU				S	**Sn**	**03 46 47.0**	**-1.8**
WMELI	**Melilla**	**1.35**	**109**	P	**Pn**	**03 46 31.2**	**+0.3**
WMELI				S	**Sn**	**03 46 47.4**	**-2.3**
EMEL	**Melilla**	**1.35**	**110**	P	**Pn**	**03 46 31.2**	**+0.2**
EMEL				⇑*i*Vmb_V		03 46 31.5	
15μm,SNR=5.4							
EMEL				S	**Sn**	**03 46 47.9**	**-1.8**
GOG	**Mont Gurugu**	**1.35**	**114**	P	**Pn**	**03 46 31.4**	**+0.4**
GOG	**Mont Gurugu**	**1.35**	**114**	S	**Sn**	**03 46 51.3**	**+1.4**
EMLI	**Melilla**	**1.36**	**110**	P	**Pn**	**03 46 31.0**	**0.0**
EMLI				S	**Sn**	**03 46 47.7**	**-2.1**
AKLM	**AKL**	**1.37**	**157**	P	**Pn**	**03 46 32.9**	**+1.6**
AKLM	**AKL**	**1.37**	**157**	S	**Sn**	**03 46 46.8**	**-3.4**
EGOR	**Sierra Gorda,**	**1.37**	**13**	P	**Pn**	**03 46 32.4**	**+1.1**
EGOR				S	**Sn**	**03 46 51.6**	**+1.2**
EGOR	**Sierra Gorda,**	**1.37**	**13**	P	**Pn**	**03 46 32.8**	**+1.4**
EGOR				⇑*i*Vmb_V		03 46 35.4	
950nm,SNR=11							
EGOR				S	**Sn**	**03 46 51.5**	**+1.1**
SFS	**San Fernando**	**1.54**	**297**	P	**Pn**	**03 46 35.4**	**+2.3**
SFS	**San Fernando**	**1.54**	**297**	P	**Pn**	**03 46 35.5**	**+2.3**
SFS	**San Fernando**	**1.54**	**297**	S	**Sn**	**03 46 56.0**	**+2.3**
ESPR	**Espera**	**1.54**	**315**	P	**Pn**	**03 46 34.6**	**+1.4**
ESPR				S	**Sn**	**03 46 53.7**	**0.0**
ESPR	**Espera**	**1.54**	**315**	P	**Pn**	**03 46 35.1**	**+1.8**
ESPR				⇑*i*Vmb_V		03 46 35.3	
1μm,SNR=7.5							
ESPR				S	**Sn**	**03 46 53.6**	**-0.2**
EQUE	**Quentar**	**1.67**	**31**	P	**Pn**	**03 46 36.6**	**+1.7**
EQUE				⇑*i*Vmb_V		03 46 38.2	
489nm,SNR=5.3							
EQUE				S	**Sn**	**03 46 57.3**	**+0.6**
EQTA	**Presa de Quent**	**1.67**	**31**	P	**Pn**	**03 46 36.1**	**+1.2**
EQTA				S	**Sn**	**03 46 57.8**	**+1.1**
EBER	**Berja**	**1.72**	**49**	P	**Pn**	**03 46 36.2**	**+0.5**
EBER				S	**Sn**	**03 46 57.8**	**-0.3**
EBER	**Berja**	**1.72**	**49**	P	**Pn**	**03 46 36.2**	**+0.5**
EBER				⇑*i*Vmb_V		03 46 37.6	
423nm,SNR=1.5							
EBER				S	**Sn**	**03 46 59.5**	**+1.5**
TAF	**Taforalt**	**1.96**	**119**	P	**Pn**	**03 46 39.6**	**+1.1**
TAF	**Taforalt**	**1.96**	**119**	S	**Sn**	**03 47 05.3**	**+2.0**
LCRM	**LCR**	**2.10**	**188**	P	**Pn**	**03 46 41.5**	**+1.0**
LCRM	**LCR**	**2.10**	**188**	S	**Sn**	**03 47 08.5**	**+1.9**
JBK	**JBK**	**2.14**	**131**	P	**Pn**	**03 46 42.0**	**+0.9**
JBK	**JBK**	**2.14**	**131**	S	**Sn**	**03 47 07.7**	**0.0**
ENIJ	**Nijar**	**2.21**	**57**	P	**Pn**	**03 46 42.4**	**+0.7**
ENIJ	**Nijar**	**2.21**	**57**	P	**Pn**	**03 46 42.8**	**+1.1**
ENIJ				S	**Sn**	**03 47 08.4**	**-0.4**
E0803	**Jimena (Jaen)**	**2.22**	**22**	P	**Pn**	**03 46 43.8**	**+1.9**
E0803				S	**Sn**	**03 47 10.2**	**+1.1**
IFR	**Ifrane**	**2.31**	**193**	P	**Pn**	**03 46 44.0**	**+0.8**
IFR				S	**Sn**	**03 47 09.1**	**-2.3**
EADA	**Adamuz**	**2.39**	**359**	P	**Pn**	**03 46 45.3**	**+1.2**
EADA				S	**Sn**	**03 47 11.2**	**-1.8**
EADA	**Adamuz**	**2.39**	**359**	P	**Pn**	**03 46 45.6**	**+1.5**
EADA				⇑*i*Vmb_V		03 46 45.7	
3μm,SNR=33							
EADA				S	**Sn**	**03 47 12.1**	**-1.0**
EXCBR	**El Cabril**	**2.41**	**343**	P	**Pn**	**03 46 45.3**	**+1.0**
ECAB	**El Cabril**	**2.41**	**343**	P	**Pn**	**03 46 45.1**	**+0.8**
ECAB				S	**Sn**	**03 47 11.8**	**-1.8**
ECAB	**El Cabril**	**2.41**	**343**	P	**Pn**	**03 46 45.2**	**+0.8**
ECAB				⇑*i*Vmb_V		03 46 46.2	
899nm,SNR=9.1							
ECAB				S	**Sn**	**03 47 10.9**	**-2.6**
E0802	**Ubeda,Jaen**	**2.42**	**22**	P	**Pn**	**03 46 46.7**	**+2.1**
EMIN	**Mina Concepcio**	**2.64**	**320**	P	**Pn**	**03 46 48.3**	**+1.1**
EMIN				S	**Sn**	**03 47 16.5**	**-2.4**
EMIN	**Mina Concepcio**	**2.64**	**320**	P	**Pn**	**03 46 48.4**	**+1.1**
EMIN				⇑*i*Vmb_V		03 46 48.5	
4μm,SNR=30							
EMIN				S	**Sn**	**03 47 17.3**	**-1.6**
MD31	**MD31**	**2.91**	**184**	P	**Pn**	**03 46 52.4**	**+1.4**
MD31	**MD31**	**2.91**	**184**	S	**Sn**	**03 47 24.9**	**-0.5**
ZHG	**ZHG**	**2.91**	**218**	P	**Pn**	**03 46 52.2**	**+1.2**
MDT	**Midelt**	**2.95**	**182**	P	**Pn**	**03 46 52.8**	**+1.2**
MDT	**Midelt**	**2.95**	**182**	S	**Sn**	**03 47 26.1**	**-0.4**
EGRO	**El Granado**	**2.97**	**307**	P	**Pn**	**03 46 52.5**	**+0.9**
EGRO				S	**Sn**	**03 47 24.7**	**-1.9**
EGRO

PAB ⇑iVmb_V 03 47 04.7
comp=N,330nm,SNR=3.4
PAB S **Sn** **03 47 41.8 -4.0**
PTEO Sao Teotonio 3.82 299 eP **Pn** **03 47 04.4 +1.3**
PTEO eS **Sn** **03 47 45.3 -1.8**
PTEO i AML AML 03 47 47.6
PTEO i AML AML 03 47 48.4
PTEO i AML AML 03 47 48.9
ESDC Sonseca Array 3.92 6 P **Pn** **03 47 05.7 +1.3**
ESDC ⇑iVmb_V 03 47 06.5
comp=N,241nm,SNR=2.7
ESDC S **Sn** **03 47 46.8 -2.6**
ESBB Sonseca Array 3.92 6 P **Pn** **03 47 05.7 +1.3**
ESBB ⇑iVmb_V 03 47 05.9
comp=N,190nm,SNR=2.0
EVO Evora 3.93 316 eP **Pn** **03 47 06.0 +1.6**
EVO eS **Sn** **03 47 47.7 -1.8**
EVO i AML AML 03 47 49.6
EVO i AML AML 03 47 50.0
EVO i AML AML 03 47 50.1
EVO Evora 3.93 316 P **Pn** **03 47 05.9 +1.4**
GOLM Goulmima 4.08 185 P **Pn** **03 47 09.3 +2.6**
GOLM Goulmima 4.08 185 S **Sn** **03 47 55.4 +1.9**
PMRV Marv??o 4.31 329 eP **Pn** **03 47 11.1 +1.5**
PMRV eS **Sn** **03 47 56.6 -2.2**
PMRV i AML AML 03 48 09.7
PMRV i AML AML 03 48 10.8
PMRV i AML AML 03 48 11.9
ARF Arif 4.34 177 P **Pn** **03 47 11.4 +1.3**
ARF Arif 4.34 177 S **Sn** **03 48 00.4 +0.7**
EVIV Cofrentes, Val 4.41 37 P **Pn** **03 47 12.6 +1.7**
EVIV S **Sn** **03 47 58.7 -2.5**
PMTG Montargil 4.42 319 eP **Pn** **03 47 12.4 +1.3**
PMTG eS **Sn** **03 47 59.6 -1.9**
PMTG i AML AML 03 48 13.8
PMTG i AML AML 03 48 15.3
PMTG i AML AML 03 48 15.5
EPLA Plasencia 4.46 344 P **Pn** **03 47 13.2 +1.5**
EPLA ⇑iVmb_V 03 47 13.5
comp=N,1μm,SNR=7.7
EPLA S **Sn** **03 47 58.9 -3.6**
UCM Universidad Co 4.63 12 P **Pn** **03 47 15.5 +1.5**
PCBR Castelo Branco 4.69 331 eP **Pn** **03 47 16.4 +1.6**
PCBR eS **Sn** **03 48 05.5 -2.5**
PCBR i AML AML 03 48 05.5
PCBR i AML AML 03 48 05.8
PCBR i AML AML 03 48 06.0
LIS Lisbon 4.73 310 eS **Sn** **03 48 07.8 -1.1**
ECHE Chera 4.73 35 P **Pn** **03 47 16.7 +1.4**
ECHE Chera 4.73 35 P **Pn** **03 47 17.0 +1.6**
ECHE S **Sn** **03 48 06.9 -2.2**
GUD Guadarrama 4.87 3 P **Pn** **03 47 18.5 +1.3**
GUD ⇑iVmb_V 03 47 20.2
comp=N,108nm,SNR=1.5
GUD S **Sn** **03 48 09.6 -3.0**
PMAFR Mafra 4.95 311 eP **Pn** **03 47 20.1 +1.7**
PMAFR eS **Sn** **03 48 12.2 -2.2**
PMAFR i AML AML 03 48 14.4
PMAFR i AML AML 03 48 14.6
PMAFR i AML AML 03 48 15.5
PMAFR Mafra 4.95 311 P **Pn** **03 47 19.4 +1.1**
TZRR Tazzarine 5.05 190 P **Pn** **03 47 20.7 +0.9**
TZRR Tazzarine 5.05 190 S **Sn** **03 48 17.0 -0.1**
MTE Manteigas 5.20 334 eP **Pn** **03 47 23.2 +1.5**
MTE eS **Sn** **03 48 19.2 -1.3**
MTE i AML AML 03 48 22.0
OUZM OUZ 5.21 202 P **Pn** **03 47 24.5 +2.6**
OUZM OUZ 5.21 202 S **Sn** **03 48 24.0 +3.2**
PCAS Casmilo, Conde 5.31 325 eP **Pn** **03 47 25.0 +1.8**
PCAS eS **Sn** **03 48 20.3 -2.7**
PCAS i AML AML 03 48 24.8
TIO Tiouine 5.36 206 P **Pn** **03 47 25.2 +1.3**
TIO Tiouine 5.36 206 P **Pn** **03 47 25.6 +1.7**
TIO Tiouine 5.36 206 S **Sn** **03 48 24.5 +0.1**
COI Coimbra 5.39 326 eP **Pn** **03 47 26.6 +2.4**
COI eS **Sn** **03 48 23.6 -1.5**
COI i AML AML 03 48 25.3
COI i AML AML 03 48 26.8
COI i AML AML 03 48 27.0
ETOR Torete 5.39 20 P **Pn** **03 47 25.9 +1.5**
ETOR ⇑iVmb_V 03 47 26.5
comp=N,307nm,SNR=2.5
ETOR S **Sn** **03 48 24.1 -1.1**
EJUZ Juzbado, Salam 5.41 349 P **Pn** **03 47 26.2 +1.6**
EJUZ S **Sn** **03 48 24.1 -1.5**
EMOS Mosqueruela 5.58 34 P **Pn** **03 47 29.2 +2.3**
EMOS S **Sn** **03 48 27.3 -2.5**
PVIS Viseu 5.61 333 eP **Pn** **03 47 28.7 +1.5**
PVIS eS **Sn** **03 48 28.4 -1.9**
ZGR Zagora 5.72 190 P **Pn** **03 47 29.8 +1.0**
ZGR Zagora 5.72 190 S **Sn** **03 48 33.6 +0.4**
MVO Moncorvo 5.73 341 eP **Pn** **03 47 30.1 +1.2**
MVO eS **Sn** **03 48 31.6 -1.8**
EAH EAH 5.90 227 P **Pn** **03 47 32.7 +1.5**
EAH EAH 5.90 227 S **Sn** **03 48 37.9 +0.4**
PVRL Vila Real 6.04 336 eP **Pn** **03 47 34.9 +1.8**
PVRL eS **Sn** **03 48 39.0 -1.8**
PVRL i AML AML 03 48 41.9
PVRL i AML AML 03 48 42.0
PVRL i AML AML 03 48 42.0
POLO Lamas de Olo 6.16 336 eP **Pn** **03 47 36.5 +1.9**
POLO eS **Sn** **03 48 41.2 -2.5**
POLO i AML AML 03 48 44.6
POLO i AML AML 03 48 44.8
TTIG Tnine Tigouga, 6.17 213 P **Pn** **03 47 35.3 +0.4**
TTIG Tnine Tigouga, 6.17 213 S **Sn** **03 48 43.8 -0.3**
PBRG Braganca 6.27 345 eP **Pn** **03 47 37.6 +1.5**
PBRG eS **Sn** **03 48 44.2 -2.2**
PBRG i AML AML 03 48 46.2
PBRG i AML AML 03 48 46.5
PBRG i AML AML 03 48 47.1
PCAB Cabril 6.53 336 eP **Pn** **03 47 41.8 +2.0**
PCAB eS **Sn** **03 48 49.6 -3.1**
PCAB i AML AML 03 48 50.9
PCAB i AML AML 03 48 52.8
PCAB i AML AML 03 48 53.8
ELOB Lobios 6.69 337 P **Pn** **03 47 43.8 +2.0**
ELOB ⇑iVmb_V 03 47 44.1
comp=N,381nm,SNR=2.2
ELOB S **Sn** **03 48 52.9 -3.7**
PGAV Gavieira, Arco 6.84 336 eP **Pn** **03 47 46.1 +2.1**
PGAV eS **Sn** **03 48 56.9 -3.5**
PGAV i AML AML 03 48 59.7
PGAV i AML AML 03 48 59.9
ELAN Lanestosa 7.49 6 P **Pn** **03 47 54.5 +1.7**
ELAN S **Sn** **03 49 13.0 -3.1**
EAGO Agolada(Pontev 7.55 340 P **Pn** **03 47 54.9 +1.4**
EAGO ⇑iVmb_V 03 47 56.7
comp=N,456nm,SNR=2.3
EALK Alkurruntz 7.79 16 P **Pn** **03 47 59.9 +3.1**
EALK ⇑iVmb_V 03 48 01.6
comp=N,213nm,SNR=1.1
EALK S **Sn** **03 49 20.4 -2.9**
EPON Pontenova 7.81 346 P **Pn** **03 47 59.1 +2.0**
EPON S **Sn** **03 49 19.2 -4.6**
EMAZ Mazaricos 7.96 336 P **Pn** **03 48 01.2 +2.2**
EMAZ S **Sn** **03 49 22.8 -4.5**

*IDC **19** 03:54:12.5±1.2, 12°.38N×142°.00E, h0km, mb3.9/8, mbtmp3.9/8, MS2.4/1, Error ellipse: s-maj=40.0km s-min=20.8km az=86.0*
*NEIC **19** 03:54:20.4±1.0, 12°.37N±0°.10×142°.0E±0°.2, h59km±3km, mb4.5/21, Error ellipse: s-maj=22.8km s-min=14.2km az=82.0*
ISC 19 03:54:18.9±0.6, 12°.35N±0°.08×142°.0E±0°.1, h50km, n42, σ0°99/41, mb4.2/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**14.67**	**1**	Pn	**Pn**	**03 57 43.5**	**+0.1**
TATO	**Taipei**	**23.12**	**306**	P	**P**	**03 59 22.3**	**+1.5**
TATO				IAmb	IAmb	03 59 40.2	
comp=Z,38nm,0.9s							
KSRS	**Korea Array**	**28.01**	**336**	LR	LR	04 09 29.5	
comp=Z,9.0nm,21.2s,baz=155,slow=33							
WB0	**Warramunga Arr**	**32.79**	**193**	P	**P**	**04 00 47.4**	**-0.1**
WB0				IAmb	IAmb	04 00 48.3	
comp=Z,5.9nm,1.2s							
USRK	**Ussuriysk Ar.**	**32.89**	**347**	P	**P**	**04 00 45.4**	**-2.7**
WR0	**Warramunga Arr**	**32.95**	**193**	P	**P**	**04 00 49.3**	**+0.4**
WR0				IAmb	IAmb	04 00 50.7	
comp=Z,7.0nm,1.4s							
WB2	**Warramunga Arr**	**32.97**	**193**	P	**P**	**04 00 48.9**	**-0.3**
WB2				IAmb	IAmb	04 01 01.3	
comp=Z,6.1nm,1.3s							
WRA	**Warramunga Arr**	**32.97**	**193**	P	**P**	**04 00 49.0**	**-0.2**
comp=Z,2.4nm,0.7s,baz=12,slow=9.6,SNR=8.7							
comp=Z,2.4nm,0.7s							
MDJ	**Mudanjiang**	**33.88**	**344**	P	**P**	**04 00 56.9**	**+0.1**
MDJ				IAmb	IAmb	04 01 12.5	
comp=Z,12nm,1.5s							
ENH	**Enshi**	**35.00**	**306**	P	**P**	**04 01 04.9**	**-1.8**
ENH				IAmb	IAmb	04 01 14.4	
comp=Z,10.0nm,1.3s							
ASAR	**Alice Springs**	**36.67**	**193**	P	**P**	**04 01 21.7**	**+0.7**
comp=Z,0.7nm,0.6s,baz=20,slow=12,SNR=4.2							
CMAR	**Chiang Mai Arr**	**41.91**	**284**	P	**P**	**04 02 05.0**	**+0.1**
comp=Z,1.0nm,0.3s,baz=99,slow=7.6,SNR=4.5							
comp=Z,1.0nm,0.3s							
FORT	**Forrest**	**44.94**	**197**	P	**P**	**04 02 28.6**	**-0.4**
SONM	**Songino Array**	**46.20**	**327**	P	**P**	**04 02 40.2**	**+1.2**
comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=1.8							
comp=Z,0.3nm,0.7s							
YAK	**Yakutsk**	**50.40**	**352**	P	**P**	**04 03 10.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**50.87**	**207**	P	**P**	**04 03 15.1**	**+0.2**
ATKA	**Atka Island**	**53.00**	**32**	P	**P**	**04 03 30.5**	**0.0**
MK31	**Makanchi Array**	**60.48**	**317**	P	**P**	**04 04 23.4**	**-0.3**
MKAR	**Makanchi Array**	**60.48**	**317**	P	**P**	**04 04 23.4**	**-0.3**
MKAR	**Makanchi Array**	**60.48**	**317**	P	**P**	**04 04 23.7**	**0.0**
comp=Z,1.0nm,0.8s,baz=89,slow=8.7,SNR=8.6							
comp=Z,1.0nm,0.8s							
BKZ	**Black Stump Fm**	**60.48**	**150**	P	**P**	**04 04 24.0**	**+0.2**
BKZ				IAmb	IAmb	04 04 24.8	
comp=Z,10nm,1.3s							
ZAA0	**Zalesovo Array**	**61.04**	**325**	P	**P**	**04 04 27.2**	**-0.1**
ZAA0				IAmb	IAmb	04 04 30.8	
comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**61.04**	**325**	P	**P**	**04 04 27.2**	**-0.1**
ZALV	**Zalesovo Beam**	**61.04**	**325**	P	**P**	**04 04 27.1**	**-0.3**
comp=Z,0.7nm,0.4s,baz=104,slow=6.7,SNR=2.7							
comp=Z,0.7nm,0.4s							
KURK	**Kurchatov**	**63.76**	**321**	P	**P**	**04 04 45.6**	**0.0**
KURK				IAmb	IAmb	04 04 46.4	
comp=Z,3.7nm,0.8s							
KURBB	**Kurchatov Arra**	**63.80**	**321**	P	**P**	**04 04 46.0**	**+0.2**
comp=Z,2.6nm,0.8s,baz=104,slow=6.7,SNR=20							
comp=Z,2.6nm,0.8s							
E18K	**Tukpahlearik C**	**66.45**	**21**	P	**P**	**04 05 05.1**	**+2.4**
G18K	**Tagagawik**	**66.51**	**23**	P	**P**	**04 05 03.6**	**+0.4**
E19K	**Redstone River**	**67.65**	**21**	P	**P**	**04 05 12.2**	**+1.8**
BVAR	**Borovoye Array**	**69.19**	**322**	P	**P**	**04 05 20.6**	**+0.3**
comp=Z,1.6nm,0.5s,baz=100,slow=7.6,SNR=8.0							
comp=Z,1.6nm,0.5s							
IL31		**70.86**	**25**	P	**P**	**04 05 30.8**	**+0.6**
IL31				IAmb	IAmb	04 05 33.0	
comp=Z,3.6nm,1.4s							
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**04 05 30.7**	**+0.4**
ILAR	**Eielson Array**	**70.86**	**25**	P	**P**	**04 05 31.1**	**+0.9**
comp=Z,0.4nm,0.6s,baz=244,slow=6.1,SNR=8.0							
comp=Z,0.4nm,0.6s							
IL03	**Eielson Array**	**70.88**	**25**	P	**P**	**04 05 30.0**	**-0.4**
ABKAR	**Akbulak array**	**75.60**	**318**	P	**P**	**04 05 58.6**	**+0.1**
EUNU	**Eureka**	**84.45**	**8**	P	**P**	**04 06 47.7**	**+1.9**
L02F	**Cave Junction**	**85.05**	**48**	P	**P**	**04 06 48.0**	**-1.5**
L02F				IAmb	IAmb	04 06 55.2	
comp=Z,13nm,1.3s							
RES	**Resolute Bay**	**86.38**	**13**	P	**P**	**04 06 55.6**	**+0.3**
VNDA	**Vanda**	**90.43**	**176**	P	**P**	**04 07 13.2**	**-1.2**
HLID	**Hailey**	**91.17**	**45**	P	**P**	**04 07 18.2**	**-0.7**
GO07	**Milladeo Hill,**	**136.54**	**142**	PKPdf	**PKPdf**	**04 13 35.9**	**+0.3**
PLCA	**Paso Flores**	**139.80**	**141**	PKPdf	**PKPdf**	**04 13 43.3**	**+1.5**

*SJA **19** 04:06:58.0, 30°.05S×71°.63W, h10km, ML3.1*
*GUC **19** 04:07:01.9±0.7, 30°.16S×71°.22W, h54km±4km, ML2.9*
ISC 19 04:07:02.2±1.4, 30°.08S±0°.04×71°.45W±0°.06, h35km, n30, σ1°56/35, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.24**	**49**	⇓iP	**Pn**	**04 07 11.5**	**+2.0**
CO05				eS	**Sn**	**04 07 18.6**	**+4.1**
CO05				IAML		04 07 18.9	
comp=N,2μm,0.1s							
GO04	**Tololo Observa**	**0.57**	**100**	iP	**Pn**	**04 07 13.1**	**-1.1**
GO04	**Tololo Observa**	**0.57**	**100**	iP	**Pn**	**04 07 13.8**	**-0.4**
GO04				eS	**Sn**	**04 07 22.6**	**+0.1**
CO06	**Fray Jorge**	**0.62**	**195**	⇑iP	**Pn**	**04 07 15.7**	**+1.2**
CO06				eS	**Sn**	**04 07 26.0**	**+2.7**
CO06				IAML		04 07 29.8	
comp=E,468nm,0.2s							
CO03	**El Pedregal**	**1.00**	**139**	iP	**Pn**	**04 07 18.1**	**-1.9**
CO03	**El Pedregal**	**1.00**	**139**	iP	**Pn**	**04 07 18.9**	**-1.1**
CO03				eS	**Sn**	**04 07 31.0**	**-1.9**
CO03				IAML		04 07 33.1	
comp=E,721nm,0.1s							
CO01	**Juntas del Tor**	**1.18**	**86**	iP	**Pn**	**04 07 20.8**	**-1.7**
CO01	**Juntas del Tor**	**1.18**	**86**	⇑iP	**Pn**	**04 07 21.6**	**-0.9**
CO01				eS	**Sn**	**04 07 36.0**	**-1.5**
CO01				IAML		04 07 36.5	
comp=E,1μm,0.2s							
LCO	**Las Campanas**	**1.25**	**32**	iP	**Pn**	**04 07 22.3**	**-1.1**
AROD	**Rodeo**	**1.71**	**93**	iP	**Pn**	**04 07 30.1**	**+0.2**
AC04	**Llanos de Chal**	**1.89**	**10**	iP	**Pn**	**04 07 31.3**	**-0.8**
ACDV	**Cuesta del Vie**	**2.02**	**93**	iP	**Pn**	**04 07 35.3**	**+1.3**
ACCO	**Cerro Coronel**	**2.12**	**104**	iP	**Pn**	**04 07 36.8**	**+1.3**
DOCA	**Reserva Natura**	**2.22**	**114**	iP	**Pn**	**04 07 36.6**	**-0.3**
RTLS	**Leoncito**	**2.52**	**133**	iP	**Pn**	**04 07 42.3**	**+1.3**
AGUA	**GUANDACOL**	**2.64**	**78**	iP	**Pn**	**04 07 44.7**	**+2.2**
VA03	**San Esteban**	**2.79**	**164**	iP	**Pn**	**04 07 44.0**	**-0.4**
VCA	**Vinchina**	**3.13**	**66**	iP	**Pn**	**04 07 50.5**	**+1.2**
MT02	**Curacav**	**3.18**	**175**	iP	**Pn**	**04 07 48.2**	**-1.6**
ASAL	**Salagasta**	**3.36**	**139**	iP	**Pn**	**04 07 54.3**	**+1.9**
MT03	**Universidad Ad**	**3.50**	**167**	iP	**Pn**	**04 07 54.3**	**0.0**
AVFE	**Valle Fertil**	**3.50**	**101**	iP	**Pn**	**04 07 54.0**	**-0.3**
MT01	**Popeta**	**3.78**	**177**	iP	**Pn**	**04 07 56.4**	**-1.6**
AC02	**Maricunga**	**3.82**	**33**	iP	**Pn**	**04 07 57.9**	**-1.2**
ACLC	**CERRO LA CRUZ**	**3.96**	**82**	iP	**Pn**	**04 08 00.6**	**-0.2**
AC01	**Pan de Azucar**	**3.99**	**11**	iP	**Pn**	**04 07 58.7**	**-2.2**
ACHE	**Chepes**	**4.26**	**106**	iP	**Pn**	**04 08 03.9**	**-1.0**
BO01	**Tunca**	**4.31**	**176**	iP	**Pn**	**04 08 04.2**	**-1.2**
BO02	**Sierra Bellavi**	**4.74**	**173**	iP	**Pn**	**04 08 10.8**	**-0.5**
GO02	**Mina Guanaco**	**5.17**	**19**	iP	**Pn**	**04 08 16.5**	**-0.8**

*JMA **19** 04:08:18.0±0.2, 43°.1N±0°.6×145°.9E±0°.8, h45km±1km, MV2.8/29, OFF NEMURO PENINSULA*
*SKHL **19** 04:08:18.7±0.2, 43°.20N×146°.00E, h34km±4km, mb4.0/2*
ISC 19 04:08:16.9±1.9, 43°.13N±0°.09×146°.02E±0°.07, h47km±12km, n11, σ0°51/21, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**319**	P	**Pn**	**04 08 26.2**	**+0.4**
NEM2				S	**Sn**	**04 08 32.0**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.32**	**318**	iP	**Pn**	**04 08 26.2**	**+0.3**
NMR				iS	**Sn**	**04 08 31.8**	**-0.5**
JKHN	**Kushirohamanak**	**0.63**	**266**	P	**Pn**	**04 08 30.1**	**+0.5**
JKHN				eS	**Sn**	**04 08 38.8**	**+0.1**
AKK	**Akkeshi**	**0.87**	**263**	eP	**Pn**	**04 08 33.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.91**	**353**	eP	**Pn**	**04 08 33.8**	**+0.5**
YUK				AMB	AMB	04 08 35.7	
170nm,0.2s							
YUK				iS	**Sn**	**04 08 45.1**	**-0.3**
YUK				A	A	04 08 47.6	
760nm,0.2s							
YUK				A	A	04 08 47.6	
670nm,0.2s							
SHO	**Shikotan**	**0.95**	**38**	eP	**Pn**	**04 08 34.1**	**+0.3**
SHO				AMB	AMB	04 08 36.9	
20nm,0.2s							
SHO				iS	**Sn**	**04 08 45.5**	**-0.7**
SHO				A	A	04 08 48.4	
210nm,0.2s							
SHO				A	A	04 08 48.4	
270nm,0.2s							
JAK	**Akkeshi**	**0.98**	**263**	P	**Pn**	**04 08 34.2**	**0.0**
JAK				S	**Sn**	**04 08 46.4**	**-0.6**
JNSB	**Nemuroshibetsu**	**0.98**	**311**	P	**Pn**	**04 08 34.5**	**+0.3**
JNSB				eS	**Sn**	**04 08 46.7**	**-0.3**
JRA	**Rausu**	**1.04**	**321**	P	**Pn**	**04 08 35.7**	**+0.7**
JRA				S	**Sn**	**04 08 48.3**	**-0.1**
JNK	**Nakash**	**1.05**	**296**	P	**Pn**	**04 08 35.2**	**0.0**
JNK				S	**Sn**	**04 08 47.6**	**-1.2**
JAR	**Ashorobuto**	**1.65**	**277**	P	**Pn**	**04 08 44.1**	**+0.6**
JAR				S	**Sn**	**04 09 03.4**	**-0.1**

*JMA **19** 04:33:07.1±0.9, 46°.8N×15°.3E±°, h30km, MV4.5/13, KURILE ISLANDS REGION*
*SKHL **19** 04:33:08.7±0.8, 46°.10N×152°.80E, h86km±8km, mb5.1/4, msha5.4/4*
ISC 19 04:33:04.1±2.3, 45°.8N±0°.2×153°.1E±0°.2, h31km, n20, σ2°82/35, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.74**	**263**	iP	**Pn**	**04 34 03.0**	**+3.4**
KUR				AMB	AMB	04 34 05.0	
250nm,0.3s							
KUR				eS	**Sn**	**04 34 41.9**	**-0.6**
KUR				A	A	04 34 55.5	
200nm,0.8s							
KUR				A	A	04 34 55.5	
220nm,0.8s							
SHO	**Shikotan**	**4.88**	**249**	iP	**Pn**	**04 34 17.3**	**+2.0**
SHO				AMB	AMB	04 34 17.9	
60nm,0.5s							
SHO				eS	**Sn**	**04 35 08.7**	**-2.0**
SHO				A	A	04 35 12.9	
70nm,0.4s							
SHO				A	A	04 35 12.9	
60nm,0.4s							
SKR	**Severo-Kuril's**	**5.26**	**21**	eP	**Pn**	**04 34 23.7**	**+3.3**
SKR				AMB	AMB	04 34 26.9	
40nm,0.5s							
SKR				eS	**Sn**	**04 35 18.1**	**-1.8**
SKR				A	A	04 35 28.3	
50nm,0.6s							
SKR				A	A	04 35 28.3	
50nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.46**	**253**	eP	**Pn**	**04 34 26.8**	**+3.6**
YUK				AMB	AMB	04 34 28.0	
60nm,0.4s							
YUK				eS	**Sn**	**04 35 25.1**	**+0.3**
YUK				A	A	04 35 28.5	
160nm,0.4s							
YUK				A	A	04 35 28.5	
160nm,0.4s							
NEM2	**Nemuro 2**	**5.81**	**248**	P	**Pn**	**04 34 30.2**	**+2.1**
NEM2				S	**Sn**	**04 35 31.8**	**-1.9**
NMR	**Nemuro--Hokkai**	**5.82**	**248**	eP	**Pn**	**04 34 30.2**	**+2.0**
NMR				eS	**Sn**	**04 35 31.7**	**-2.1**
JRA	**Rausu**	**5.99**	**254**	eP	**Pn**	**04 34 34.7**	**+4.2**
JRA				eS	**Sn**	**04 35 42.4**	**+4.5**
PAU	**Pauzhetka**	**6.15**	**22**	eP	**Pn**	**04 34 34.7**	**+2.0**
PAU				eS	**Sn**	**04 35 39.9**	**-2.1**
JNK	**Nakash**	**6.39**	**252**	P	**Pn**	**04 34 39.5**	**+3.5**
JNK				eS	**Sn**	**04 35 48.4**	**+0.5**
AKK	**Akkeshi**	**6.56**	**248**	eP	**Pn**	**04 34 41.3**	**+3.0**
AKK				eS	**Sn**	**04 35 49.9**	**-2.1**
JAK	**Akkeshi**	**6.66**	**248**	eP	**Pn**	**04 34 41.2**	**+1.5**
JAK				eS	**Sn**	**04 35 51.2**	**-3.4**
JTKR	**Abashiri--Toko**	**6.80**	**257**	eP	**Pn**	**04 34 45.7**	**+4.0**
JAR	**Ashorobuto**	**7.14**	**253**	P	**Pn**	**04 34 49.9**	**+3.5**
JAR				eS	**Sn**	**04 36 07.0**	**+0.6**
JOB	**Onbets**	**7.27**	**250**	eP	**Pn**	**04 34 50.7**	**+2.7**
JOB				eS	**Sn**	**04 36 07.4**	**-2.0**
JKK2	**Kamakawa 2**	**7.62**	**259**	P	**Pn**	**04 34 57.7**	**+4.7**
JCH	**Churui**	**7.71**	**249**	P	**Pn**	**04 34 57.2**	**+3.1**
JCH				eS	**Sn**	**04 36 17.6**	**-2.7**
JNBK	**Urakawa-nobuka**	**8.26**	**248**	P	**Pn**	**04 35 03.8**	**+2.0**
JNBK				eS	**Sn**	**04 36 29.7**	**-4.2**
TYV	**Tymovskoe**	**8.60**	**310**	eP	**Pn**	**04 35 05.6**	**-0.7**
JANG	**Nango**	**10.08**	**241**	eP	**Pn**	**04 35 26.2**	**-0.4**
JANG				eS	Sn	04 37 10.9	-7.7
NKL	**Nikolayevsk**	**10.91**	**317**	eP	**Pn**	**04 35 35.8**	**-2.1**

*DNK **19** 04:55:42.2±1.6, 51°.72N×16°.13E, h0km±57km, ML2.4*
*IPEC **19** 04:55:42.6±0.2, 51°.57N×16°.14E, h1km, ML3.1/5, Error ellipse: s-maj=1.9km s-min=1.1km az=39.0*
*IDC **19** 04:55:42.5±0.7, 51°.51N×15°.82E, h0km, mb3.3/3, mbtmp3.4/9, ML3.1/6, Error ellipse: s-maj=11.2km s-min=6.8km az=106.0*
*BGR **19** 04:55:43.8±0.4, 51°.52N×16°.07E, h1km, ML3.3/16, Error ellipse: s-maj=4.4km s-min=2.2km az=18.0*
*MCSM **19** 04:55:43.3±0.4, 52°.N±3°.×1°.6E±°, h10km, mb3.4, MLv3.7*
*VIE **19** 04:55:46.2±0.7, 51°.32N×15°.84E, h0km, mb2.9/19, ml3.0/18, ms3.8/1, Error ellipse: s-maj=6.8km s-min=4.4km az=44.0, Suspected Mining induced.*
ISC 19 04:55:41.1±0.6, 51°.63N±0°.02×16°.11E±0°.02, h0km, n111, σ1°26/201, mb3.4/3, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.80**	**171**	ePg	**Pg**	**04 55 57.0**	**+0.7**
KSP				eSg	**Sg**	**04 56 06.8**	**+0.2**
KSP	**Ksiaz**	**0.80**	**171**	ePg	**Pg**	**04 55 57.1**	**+0.7**
KSP				eSg	**Sg**	**04 56 06.6**	**-0.1**
KSP	**Ksiaz**	**0.80**	**171**	Pg	**Pg**	**04 55 57.1**	**+0.7**
KSP				Sg	**Sg**	**04 56 06.9**	**+0.2**
CHVC	**Chvalec**	**1.05**	**182**	ePG	**Pb**	**04 56 01.8**	**-0.3**
CHVC				eSG	**Sg**	**04 56 15.1**	**+0.5**
OSTC	**Ostas**	**1.08**	**176**	ePG	**Pb**	**04 56 02.5**	**-0.1**
OSTC				eSG	**Sg**	**04 56 15.9**	**+0.2**
comp=Z,183nm,0.4s							
UPC	**Upice**	**1.13**	**183**	ePG	**Pg**	**04 56 03.2**	**+0.5**
UPC				eSG	**Sg**	**04 56 17.4**	**+0.1**
DPC	**Dobruska-Polom**	**1.29**	**174**	ePG	**Pg**	**04 56 05.8**	**0.0**
DPC				eSG	**Sg**	**04 56 21.7**	**-0.8**
comp=Z,116nm,0.3s							
DPC	**Dobruska-Polom**	**1.29**	**174**	ePg	**Pg**	**04 56 05.8**	**0.0**
DPC				eSg	**Sg**	**04 56 21.7**	**-0.8**
DPC	**Dobruska-Polom**	**1.29**	**174**	Pg	**Pg**	**04 56 05.8**	**0.0**
DPC				Sg	**Sg**	**04 56 21.9**	**-0.6**
PVCC	**Panska Ves**	**1.47**	**222**	ePG	**Pn**	**04 56 09.1**	**+0.3**
PVCC				eSG	**Sg**	**04 56 28.8**	**+0.5**
comp=Z,634nm,0.4s							
PIVO	**Bartosovice**	**1.47**	**169**	ePg	**Pn**	**04 56 09.0**	**+0.1**
baz=350							
PIVO				eSg	**Sg**	**04 56 26.9**	**-1.5**
285nm,0.5s,baz=350							
BRG	**Berggiesshubel**	**1.56**	**242**	Pn	**Pn**	**04 56 09.5**	**-0.6**
BRG				Pg	**Pg**	**04 56 11.7**	**+0.7**
BRG				Sg	**Sg**	**04 56 31.7**	**+0.7**
BRG				Amp		04 56 32.1	
comp=Z,410nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**242**	ePn	**Pn**	**04 56 10.1**	**0.0**
BRG				ePg	**Pg**	**04 56 11.6**	**+0.7**
BRG				eSg	**Sg**	**04 56 31.8**	**+0.7**
KRLC	**Kraliky**	**1.62**	**164**	ePG	**Pn**	**04 56 11.1**	**+0.2**
KRLC				eSG	**Sn**	**04 56 32.2**	**-0.2**
comp=Z,170nm,0.4s							
FBE	**Freiberg**	**1.87**	**249**	ePn	**Pn**	**04 56 15.0**	**+0.7**
FBE				ePg	**Pg**	**04 56 17.5**	**+0.6**
FBE				eSg	**Sb**	**04 56 40.7**	**+0.7**
PRA	**Prague**	**1.89**	**215**	ePG	**Pg**	**04 56 17.4**	**+

comp=Z,101nm,0.6s,baz=334
MORC Moravsky Berou 2.07 153 *e*PN **Pn 04 56 17.3 +0.1**
MORC *e*SG **Sb 04 56 45.5 -0.3**
MORC Moravsky Berou 2.07 153 ⇓P **Pn 04 56 17.2 +0.1**
MORC Moravsky Berou 2.07 153 *e*Pn **Pn 04 56 17.2 +0.1**
MORC *e*Sg **Sb 04 56 45.8 0.0**
OKC Ostrava-Krasne 2.22 143 *e*Pn **Pn 04 56 19.5 +0.4**
OKC *e*Pg **Pg 04 56 23.4 -0.1**
OKC *e*Sg **Sb 04 56 50.7 +0.8**
VRAC Vranov 2.35 172 Pn **Pn 04 56 20.7 -0.2**
comp=Z,8.2nm,0.3s,baz=343,slow=14,SNR=22
VRAC Lg Lg 04 56 54.4
comp=Z,12nm,0.3s,baz=64,slow=20,SNR=12
comp=Z,18nm,0.4s
VRAC Vranov 2.35 172 *e*Pn **Pn 04 56 21.4 +0.5**
baz=353
VRAC *e*Sg **Sb 04 56 54.2 +0.4**
comp=Z,96nm,0.7s,baz=353
VRAC Vranov 2.35 172 *e*PN **Pn 04 56 21.5 +0.5**
VRAC *e*SG **Sb 04 56 54.2 +0.4**
VRAC Vranov 2.35 172 ⇑P **Pn 04 56 22.0 +1.1**
KRUC Moravsky 2.58 176 *e*Pn **Pn 04 56 24.7 +0.7**
baz=356
KRUC *e*Sg **Sb 04 57 01.4 +1.0**
comp=Z,86nm,0.9s,baz=356
KRUC Moravsky 2.58 176 *e*PN **Pn 04 56 24.8 +0.7**
KRUC *e*SG **Sb 04 57 01.5 +1.0**
TANN Tannenbergstha 2.60 244 *e*Pn **Pn 04 56 25.1 +0.6**
TANN *e*Pg **Pg 04 56 32.1 +1.1**
TANN *e*Sg **Sg 04 57 03.7 -1.0**
WERD Werda 2.68 245 *e*Pn **Pn 04 56 25.9 +0.5**
WERD *e*Pg **Pg 04 56 31.9 -0.4**
WERD *e*Sg **Sg 04 57 06.5 -0.5**
NKC Novy Kostel 2.71 240 *e*PN **Pn 04 56 26.6 +0.8**
NKC *e*PG **Pg 04 56 32.5 -0.4**
OJC Ojcow 2.73 120 *e*Pg **Pg 04 56 33.8 +0.4**
OJC *e*Sg **Sg 04 57 10.1 +1.3**
OJC Ojcow 2.73 120 *e*Sg **Sg 04 57 11.1 +2.3**
OJC Ojcow 2.73 120 Pn **Pn 04 56 26.9 +0.7**
JAVC Velka Javorina 2.95 160 *e*Pn **Pn 04 56 30.0 +0.7**
baz=341
JAVC Velka Javorina 2.95 160 *e*PN **Pn 04 56 30.0 +0.7**
KHC Kasperske Hory 2.98 214 *e*PN **Pn 04 56 30.0 +0.3**
KHC *e*PG **Pb 04 56 36.5 +1.4**
KHC *e*SN **Sn 04 57 05.6 -0.5**
KHC *e*SG **Sg 04 57 15.4 -1.4**
comp=Z,44nm,0.4s
KHC Kasperske Hory 2.98 214 Pn **Pn 04 56 29.9 +0.3**
MOX Moxa 3.00 252 *e*Pn **Pn 04 56 30.3 +0.4**
MOX *e*Pg **Pg 04 56 39.3 +0.8**
MOX *e*Sg **Sg 04 57 18.2 +0.9**
MANZ Manzenberg 3.02 239 *e*Pn **Pn 04 56 31.1 +0.8**
MANZ *e*Pg **Pg 04 56 39.2 +0.2**
MANZ *e*Sg **Sg 04 57 18.3 +0.1**
CKRC Cesky Krumlov 3.04 203 *e*PN **Pn 04 56 31.6 +1.1**
CKRC *e*PG **Pb 04 56 37.5 +1.4**
CKRC *e*SG **Sg 04 57 17.5 -1.3**
comp=Z,23nm,0.3s
ROTZ Rotzenmuhle 3.10 235 *e*Pn **Pn 04 56 31.8 +0.5**
ROTZ *e*Sg **Sg 04 57 19.9 -0.8**
GEC2 GERESS Array S 3.19 210 *e*Pn **Pn 04 56 32.8 +0.2**
GEC2 *e*Sg **Sg 04 57 21.5 -2.0**
GERES GERESS Array B 3.19 210 Pn **Pn 04 56 31.8 -0.8**
comp=Z,3.7nm,0.3s,baz=33,slow=13,SNR=56
GERES Sn **Sn 04 57 06.3 -5.0**
comp=Z,4.9nm,0.3s,baz=29,slow=28,SNR=6.6
GERES Lg Lg 04 57 17.0
comp=Z,5.9nm,0.3s,baz=23,slow=32,SNR=5.6
comp=Z,10nm,0.5s
WET Wettzell 3.24 221 *e*Pn **Pn 04 56 33.5 +0.4**
WET *e*Sg **Sg 04 57 22.7 -2.2**
LANS Liptovska Anna 3.29 138 *e*PN **Pn 04 56 34.8 +1.0**
LANS *e*PG **Pg 04 56 44.3 +0.3**
LANS *e*SG **Sg 04 57 26.3 -0.3**
LANS *e*LG Lg 04 57 29.7
MODS Modra-Piesok 3.35 167 *e*PN **Pn 04 56 36.1 +1.4**
MODS *e*PG **Pg 04 56 45.4 +0.2**
MODS *e*SG **Sg 04 57 27.8 -0.8**
NIE Niedzica 3.47 128 *e*Pg **Pg 04 56 47.5 -0.1**
NIE *e*Sg **Sg 04 57 31.1 -1.5**
BSD Bornholm Skovb 3.56 349 *i* P **Pn 04 56 37.0 -0.5**
BSD *e*S **Sn 04 57 18.4 -1.9**
BSD IAML 04 57 41.1
comp=Z,2.6nm,0.3s
CLZ Clausthal 3.57 276 *e*Pn **Pn 04 56 39.3 +1.6**
CLZ *e*Sg **Sg 04 57 37.3 +1.6**
VYHS Vyhne 3.60 150 *e*PN **Pn 04 56 38.6 +0.5**
VYHS *e*PG **Pg 04 56 50.0 0.0**
GRF Grafenberg Arr 3.66 240 *e*Pn **Pn 04 56 39.9 +0.9**
GRF *e*Sg **Sg 04 57 38.0 -0.8**
CONA Conrad Observa 3.71 183 *i* Pn **Pn 04 56 40.4 +0.7**
comp=Z,5.8nm,0.4s,SNR=24
CONA *e*Pg **Pg 04 56 51.4 -0.8**
comp=Z,21nm,0.4s,SNR=6.7
CONA *e*Sg **Sg 04 57 38.9 -1.4**
comp=Z,52nm,0.5s
RONA Rosalia, Austr 3.94 178 *i* Pn **Pn 04 56 43.2 +0.4**
comp=Z,1.6nm,0.3s,SNR=4.8
RONA *e*Pg **Pg 04 56 54.4 -2.2**
comp=Z,5.8nm,0.4s
RONA *e*Sg **Sg 04 57 45.7 -1.8**
comp=Z,39nm,0.6s
STHS Stebnicka Huta 3.96 122 *e*PN **Pn 04 56 40.8 -2.2**
STHS *e*PG **Pg 04 56 55.7 -1.2**
STHS *e*SG **Sg 04 57 48.5 +0.3**
MOA Molln 3.97 198 *i* Pn **Pn 04 56 44.0 +0.8**
comp=Z,20nm,0.3s,SNR=19
MOA *e*Sg **Sg 04 57 47.1 -1.4**
comp=Z,52nm,0.7s
BIOA Bad Ischl, Aus 4.26 203 *i* Pn **Pn 04 56 47.8 +0.7**
comp=Z,11nm,0.3s,SNR=7.9
LUNU Lund 4.31 340 *e*P **Pn 04 56 48.9 +1.0**
LUNU *i* S **Sn 04 57 37.4 -1.3**
ARSA Arzberg 4.40 185 *e*Pn **Pn 04 56 50.8 +1.7**
comp=Z,4.9nm,0.3s,SNR=8.4
ARSA *e*Pg **Pg 04 57 04.1 -1.3**
comp=Z,7.2nm,0.4s
ARSA *i* Sn **Sn 04 57 44.0 +2.9**
comp=Z,4.2nm,0.4s
ARSA *e*Sg **Sg 04 58 01.1 -1.3**
comp=Z,33nm,0.7s
PSZ Piszkesteto 4.45 145 ⇑P **Pn 04 56 51.1 +1.2**
MPLH Magyarpolny 4.56 168 Pn **Pn 04 56 52.0 +0.7**
KWP Kalwaria Pacla 4.66 113 Pn **Pn 04 56 52.8 +0.2**
BLEU Blekinge 4.69 358 *i* P **Pn 04 56 54.0 +1.0**
BLEU *e*S **Sn 04 57 45.8 -2.2**
LESA Schwarzleotal 4.77 209 *i* Pn **Pn 04 56 54.8 +0.5**
comp=Z,2.3nm,0.3s
LESA *e*Pg **Pg 04 57 11.7 -0.7**
comp=Z,3.9nm,0.3s
LESA Sg **Sg 04 58 14.2 +0.1**
comp=Z,16nm,0.4s
KOLS Kolonicke sedl 4.79 122 *e*PN **Pn 04 56 55.2 +0.8**
BJUU Bjuv 4.81 339 *i* P **Pn 04 56 54.8 +0.1**
BJUU *e*S **Sn 04 57 47.4 -3.6**
KBA Koelnbreinsper 4.90 203 *i* Pn **Pn 04 56 57.1 +1.0**
comp=Z,14nm,0.4s,SNR=31
SOKA Soboth 5.01 188 *e*Pg **Pb 04 57 13.2 +3.6**
comp=Z,4.9nm,0.5s
SOKA *e*Sg **Sg 04 58 19.6 -2.3**
comp=Z,20nm,0.9s
DEL Delary 5.02 346 *i* P **Pn 04 56 57.5 -0.2**
DEL *e*S **Sn 04 57 52.8 -3.5**
WATA Walderalm 5.21 216 Pn **Pn 04 57 01.9 +1.5**
comp=Z,369nm,0.0s,SNR=5.3
WATA *e*Sg **Sg 04 58 24.4 -4.2**
comp=Z,12nm,0.5s
OBKA Obir 5.23 192 *i* Pn **Pn 04 57 01.5 +0.9**
comp=Z,0.4nm,0.2s
OBKA Sg **Sg 04 58 29.5 +0.6**
comp=Z,25nm,0.6s
WTTA Wattenberg 5.25 215 *e*Pn **Pn 04 57 02.4 +1.4**
comp=Z,3.5nm,0.4s,SNR=4.7
WTTA *e*Sg **Sg 04 58 28.6 -1.1**
comp=Z,14nm,0.5s
MOTA Moosalm 5.39 219 *i* Pn **Pn 04 57 04.0 +1.2**
comp=Z,1.7nm,0.3s
MOTA *e*Sg **Sg 04 58 30.9 -3.2**
comp=Z,8.0nm,0.5s
RETA Reutte 5.41 222 *e*Pn **Pn 04 57 03.7 +0.7**
comp=Z,2.9nm,0.5s,SNR=5.5
RETA *e*Pg **Pg 04 57 24.2 -0.5**
comp=Z,5.1nm,0.6s
RETA *e*Sg **Sg 04 58 33.4 -1.5**
comp=Z,14nm,0.4s
ABTA Abfaltersbach 5.43 207 *e*Pn **Pn 04 57 04.8 +1.5**
comp=Z,5.5nm,0.9s
SQTA Sankt Quirin 5.45 218 *i* Pn **Pn 04 57 05.3 +1.7**
comp=Z,2.6nm,0.3s,SNR=5.1
SSRD Sdr. Stenderup 5.45 318 *i* S **Sn 04 58 04.5 -2.4**
SSRD IAML 04 58 10.4
comp=Z,4.9nm,0.3s
MORH Mrgy, Hungar 5.67 162 ⇓P **Pn 04 57 07.3 +0.8**
MORH Mrgy, Hungar 5.67 162 Pn **Pn 04 57 07.8 +1.2**
FABU Falkenberg 5.73 341 *i* P **Pn 04 57 07.4 +0.1**
FETA Feichten 5.80 219 *e*Pn **Pn 04 57 09.8 +1.3**
comp=Z,1.3nm,0.4s
DAVA Damuels 5.95 225 *i* Pn **Pn 04 57 11.1 +0.6**
comp=Z,1.8nm,0.2s
ONAU Onsala 6.27 339 *e*P **Pn 04 57 14.3 -0.4**
DAVOX Davos/Dischmat 6.34 222 Pn **Pn 04 57 13.8 -2.1**
comp=Z,0.2nm,0.3s,baz=131,slow=22,SNR=2.7
DAVOX Lg Lg 04 58 57.3
comp=Z,0.5nm,0.3s,baz=200,slow=22,SNR=2.7
comp=Z,0.8nm,0.4s
SIRR Siria 6.49 144 ⇓P **Pn 04 57 18.7 +0.9**
MARR Marisel-Cluj 6.76 134 ⇓P **Pn 04 57 23.2 +1.6**
CJR Cluj-Napoca 6.95 132 ⇑P **Pn 04 57 26.6 +2.4**
NACGM Naroch 7.19 59 *e*P Pb 04 57 37.4 -9.3
baz=248
AK19 Malin Array Si 8.16 91 Pn **Pn 04 57 40.9 +0.2**
AK21 Malin Array Si 8.17 91 Pn **Pn 04 57 40.9 +0.1**
AK22 Malin Array Si 8.19 91 Pn **Pn 04 57 41.7 +0.6**
AK15 Malin Array Si 8.24 91 Pn **Pn 04 57 41.9 +0.1**
AK14 Malin Array Si 8.24 92 Pn **Pn 04 57 41.6 -0.2**
AK04 Malin Array Si 8.26 91 Pn **Pn 04 57 43.6 +1.6**
KIEV Kiev 8.29 91 Pn **Pn 04 57 42.4 -0.1**
AKASG Malin Array Be 8.30 91 Pn **Pn 04 57 42.4 -0.2**
comp=Z,1.6nm,0.3s,baz=282,slow=12,SNR=11
AKASG Sn **Sn 04 59 16.2 -0.8**
comp=Z,0.5nm,0.3s,baz=272,slow=24,SNR=4.1
comp=Z,1.7nm,0.6s
AKBB Malin Array Si 8.30 91 Pn **Pn 04 57 43.8 +1.2**
AK05 Malin Array Si 8.30 92 Pn **Pn 04 57 42.3 -0.3**
HFS Hagfors 8.63 352 Pn **Pn 04 57 46.9 -0.1**
comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=1.7
HFS Sn **Sn 04 59 22.8 -2.2**
comp=Z,0.1nm,0.3s,baz=167,slow=27,SNR=1.8
HFS Lg Lg 05 00 18.6
comp=Z,0.2nm,0.3s,baz=176,slow=26,SNR=1.1
comp=Z,1.2nm,0.6s
FINES FINESS Array B 11.25 25 Pn **Pn 04 58 22.1 -0.9**
comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=5.9
FINES Sn **Sn 05 00 24.9 -4.4**
comp=Z,0.3nm,0.3s,baz=208,slow=19,SNR=4.1
comp=Z,1.2nm,0.6s
EKA Eskdalemuir Ar 12.05 295 Pn **Pn 04 58 30.5 -3.4**
baz=108,slow=13
ARCES ARCESS Array B 18.50 10 P **P 04 59 56.9 -1.5**
comp=Z,4.9nm,1.0s,baz=183,slow=33,SNR=5.0
MKAR Makanchi Array 42.17 69 P **P 05 03 37.7 +2.5**
comp=Z,0.3nm,0.8s,baz=324,slow=7.1,SNR=2.6
comp=Z,0.3nm,0.8s
YKA Yellowknife Ar 59.74 336 P **P 05 05 49.2 +2.1**
comp=Z,0.3nm,0.6s,baz=27,slow=6.3,SNR=7.0
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 74.84 322 P **P 05 07 25.2 +1.8**
comp=Z,0.2nm,0.5s,baz=48,slow=2.9,SNR=2.6
comp=Z,0.2nm,0.5s

---

*IDC **19** 05:09:40.1±0.5,27°.97S×71°.20W,h0km,mb4.5/15, mbtmp4.4/20,ML4.2/5,MS4.1/32,Error ellipse: s-maj=19.6km s-min=12.0km az=71.0*
*NEIC **19** 05:09:43.0±2.4,28°.01S±0°.04×71°.53W±0°.06,h21km±4km, mb5.1/136,Mww4.8/15,Error ellipse: s-maj=8.3km s-min=6.2km az=89.0*
*NEIC **19** 05:09:43.1,28°.31S×71°.42W,h24km,Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr1.94; Mθθ0.10; Mϕϕ-2.03; Mrθ-0.30; Mθϕ0.46; Mϕr-0.38; Fault plane solution: M0 2.09000×10^16 NP1: ϕs336.75000°,δ41.77000°,λ72.71000°. NP2: ϕs179.40000°,δ50.50000°,λ104.86000°. Principal axes: T 2.0358, Plg78.0000°, Azm148.0000°; N 0.1173, Plg11.0000°, Azm350.0000°; P -2.1531, Plg4.0000°, Azm259.0000°;*
*GUC **19** 05:09:43.3±0.8,28°.02S×71°.36W,h38km±3km,ML4.7*
*NEIC **19** 05:09:43.1,28°.01S×71°.53W,h24km*
*GCMT **19** 05:09:47.0±0.4,28°.18S±0°.03×71°.53W±0°.03,h32km, MW5.0/67,Moment Tensor Solution. s37,c41; s67,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.73±.21; Mθθ-0.42±.13; Mϕϕ-3.31±.14; Mrθ-0.56±.14; Mθϕ1.21±.07; Mϕr-0.90±.16; Best double couple: M0 3.88500×10^16 NP1:ϕs328.00000°,δ41.00000°,λ72.00000°. NP2: ϕs172.00000°,δ51.00000°,λ105.00000°. Principal axes: T 3.9630, Plg77.0000°, Azm138.0000°; N -0.1550, Plg12.0000°, Azm342.0000°; P -3.8080, Plg5.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **19** 05:09:57.6±0.3,27°.76S×71°.02W,h139km,mb4.5*
ISC 19 05:09:43.7±1.1,**28°.01S**±0°.03×**71°.43W**±0°.06,**h26**km±7km, **n247**,σ1**§32**/179,**mb5.0**/78,**MS4.1**/29,**6C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.37**	**121**	Pg	**Pb**	**05 09 52.1**	**+0.2**
AC04				Sg	**Sb**	**05 09 57.6**	**+0.1**
AC04	**Llanos de Chal**	**0.37**	**121**	⇓*i*P	**Pb**	**05 09 52.1**	**+0.2**
AC04				*e*S	**Sb**	**05 09 57.6**	**+0.1**
AC04				IAML		05 09 59.1	
comp=E,210μm,0.5s							
LCO	**Las Campanas**	**1.18**	**147**	Pn	**Pn**	**05 10 05.3**	**+0.4**
LCO				Sn	**Sn**	**05 10 19.8**	**-0.4**
LCO	**Las Campanas**	**1.18**	**147**	*e*P	**Pn**	**05 10 04.3**	**-0.5**
LCO				*e*S	**Sn**	**05 10 20.0**	**-0.3**
CO05	**La Serena**	**1.91**	**175**		**Pn**	**05 10 14.2**	**-0.4**
CO05				Sn	**Sn**	**05 10 36.3**	**-1.4**
CO05	**La Serena**	**1.91**	**175**	*e*P	**Pn**	**05 10 14.3**	**-0.2**
CO05				*e*S	**Sn**	**05 10 36.5**	**-1.1**
CO05				IAML		05 10 46.2	
comp=E,8μm,0.3s							
AC01	**Pan de Azucar**	**2.00**	**22**	P	**Pn**	**05 10 15.0**	**-0.9**
AC01	**Pan de Azucar**	**2.00**	**22**	⇑*i*P	**Pn**	**05 10 15.2**	**-0.6**
AC01				IAML		05 10 39.9	
comp=N,4μm,0.4s							
GO04	**Tololo Observa**	**2.22**	**166**		**Pn**	**05 10 19.6**	**+0.5**
GO04	**Tololo Observa**	**2.22**	**166**	⇑*e*P	**Pn**	**05 10 19.4**	**+0.3**
GO04				*e*S	**Sn**	**05 10 46.8**	**+1.0**
CO01	**Juntas del Tor**	**2.28**	**149**		**Pn**	**05 10 21.7**	**+1.8**
CO01	**Juntas del Tor**	**2.28**	**149**	*i* P	**Pn**	**05 10 21.5**	**+1.5**
CO01				IAML		05 10 51.0	
comp=E,5μm,0.1s							
AC02	**Maricunga**	**2.36**	**61**	Pn	**Pn**	**05 10 22.9**	**+1.6**
CO06	**Fray Jorge**	**2.66**	**184**		**Pn**	**05 10 23.9**	**-0.9**
CO03	**El Pedregal**	**2.89**	**167**	Pn	**Pn**	**05 10 28.8**	**+0.6**
CO03	**El Pedregal**	**2.89**	**167**	*e*P	**Pn**	**05 10 28.5**	**+0.3**
CO03				IAML		05 11 23.0	
comp=N,2μm,0.3s							
GO02	**Mina Guanaco**	**3.28**	**31**	Pn	**Pn**	**05 10 34.2**	**+0.4**
GO02	**Mina Guanaco**	**3.28**	**31**	⇑*e*P	**Pn**	**05 10 33.9**	**+0.1**
GO02				*e*S	**Sn**	**05 11 12.4**	**+0.3**
PB14	**IPOC Station P**	**3.50**	**16**	Pn	**Pn**	**05 10 34.6**	**-2.1**
ZON	**Zonda**	**4.26**	**146**		**Pn**	**05 10 49.8**	**+2.8**
CFA	**Coronel Fontan**	**4.53**	**143**	Pn	**Pn**	**05 10 50.1**	**-0.5**
comp=N,29nm,0.3s,baz=236,slow=10,SNR=12							
CFA				Sn	**Sn**	**05 11 41.5**	**-1.0**
comp=N,66nm,0.3s,baz=198,slow=12,SNR=4.7							
comp=N,74nm,0.3s							
VA06	**Catapilco**	**4.53**	**179**		**Pn**	**05 10 50.1**	**-0.6**
VA03	**San Esteban**	**4.79**	**171**	Pn	**Pn**	**05 10 55.1**	**+0.8**
VA01	**Torpederas**	**5.00**	**182**		**Pn**	**05 10 55.6**	**-1.4**
PEL	**Peldehue**	**5.15**	**173**		**Pn**	**05 10 59.8**	**+0.6**
MT02	**Curacav**	**5.24**	**177**		**Pn**	**05 10 59.5**	**-0.8**
MT05	**Renca**	**5.39**	**174**		**Pn**	**05 11 02.2**	**-0.4**
MT16	**CCHEN**	**5.45**	**172**	Pn	**Pn**	**05 11 03.9**	**+0.5**
MT08	**Bocatoma Ro**	**5.55**	**168**		**Pn**	**05 11 07.6**	**+2.8**
VA05	**Santo Domingo**	**5.63**	**182**	Pn	**Pn**	**05 11 03.9**	**-1.7**
MT09	**Talagante**	**5.76**	**176**		**Pn**	**05 11 07.2**	**-0.4**
MT13	**San Alfonso**	**5.80**	**170**		**Pn**	**05 11 09.6**	**+1.5**
BO01	**Tunca**	**6.37**	**177**		**Pn**	**05 11 14.8**	**-1.0**
BO02	**Sierra Bellavi**	**6.78**	**175**		**Pn**	**05 11 20.5**	**-1.1**
ML02	**Panimavida**	**7.73**	**180**		**Pn**	**05 11 32.9**	**-1.6**
PB08	**IPOC Station P**	**8.11**	**15**		**Pn**	**05 11 38.0**	**-2.2**
H03N1	**Juan Fernandez**	**8.41**	**228**	T	T	05 20 20.0	
baz=56,slow=72							
H03N2	**Juan Fernandez**	**8.42**	**228**	T	T	05 20 22.7	
baz=56,slow=72							
H03N3	**Juan Fernandez**	**8.42**	**228**	T	T	05 20 23.5	
baz=56,slow=72							
VA04	**Juan Fernndez**	**8.48**	**227**	Pn	**Pn**	**05 11 41.6**	**-3.2**
PB18	**Visviri**	**10.53**	**10**	Pn	**Pn**	**05 12 13.4**	**-0.1**
LPAZ	**La Paz**	**12.06**	**15**	Pn	**Pn**	**05 12 32.8**	**-1.7**
LPAZ	**La Paz**	**12.06**	**15**	Pn	**Pn**	**05 12 32.7**	**-1.9**
comp=N,1.0nm,0.3s,baz=201,slow=6.0,SNR=16							
LPAZ				Sn	**Sn**	**05 14 50.0**	**+1.5**
comp=N,0.1nm,0.3s,baz=236,slow=4.8,SNR=1.8							
LPAZ				LR	LR	05 17 47.7	
comp=N,1μm,18.4s,baz=182,slow=41							
comp=N,2.2nm,0.4s							
CPUP	**Villa Florida**	**12.67**	**86**		**Pn**	**05 12 41.7**	**-0.5**
CPUP	**Villa Florida**	**12.67**	**86**	Pn	**Pn**	**05 12 39.0**	**-3.2**
comp=N,0.5nm,0.3s,baz=260,slow=12,SNR=12							
CPUP				Sn	**Sn**	**05 14 59.6**	**-2.9**
comp=N,0.3nm,0.3s,baz=234,slow=16,SNR=1.5							
CPUP				LR	LR	05 17 59.8	
comp=N,1μm,18.1s,baz=266,slow=40							
comp=N,1.4nm,1.1s							
PLCA	**Paso Flores**	**12.71**	**177**	Pn	**Pn**	**05 12 43.5**	**+0.7**
comp=N,0.1nm,0.3s,baz=330,slow=11,SNR=3.0							
PLCA				Sn	**Sn**	**05 15 08.1**	**+4.6**
comp=N,0.1nm,0.3s,baz=123,slow=20,SNR=1.6							
PLCA				LR	LR	05 17 58.6	
comp=N,1μm,18.6s,baz=350,slow=39							
comp=N,1.6nm,0.9s							
PLCA	**Paso Flores**	**12.71**	**177**	*e*P	**P**	**05 12 56.0**	**+2.2**
TRQA	**Tornquist**	**12.77**	**144**		**Pn**	**05 12 41.9**	**-1.6**
LL01	**San Ignacio de**	**14.36**	**183**		**Pn**	**05 13 06.4**	**+1.2**
SIV	**San Ignacio**	**15.33**	**41**	Pn	**Pn**	**05 13 11.9**	**-6.5**
comp=N,0.1nm,0.3s,baz=224,slow=9.8,SNR=16							
SIV				Sn	**Sn**	**05 16 08.5**	**+0.9**
baz=236,slow=18,SNR=1.0							
CPSB	**Cacapava Do Su**	**15.89**	**103**	*e*P	**P**	**05 13 29.3**	**+0.2**
PLTB	**Pedras Altas**	**15.91**	**108**		**Pn**	**05 13 25.5**	**-0.3**
PLTB	**Pedras Altas**	**15.91**	**108**	*e*P	**P**	**05 13 30.7**	**+1.4**
AQDB	**Aquidauana**	**16.18**	**66**		**Pn**	**05 13 29.5**	**+0.1**
NNA	**Nana**	**16.73**	**341**	Pn	**Pn**	**05 13 37.2**	**+0.8**
comp=N,0.6nm,0.3s,baz=169,slow=10,SNR=1.9							
comp=N,2.4nm,0.3s							
PTLB	**Pontes e Lacer**	**16.92**	**45**		**Pn**	**05 13 37.6**	**-1.1**
PTLB	**Pontes e Lacer**	**16.92**	**45**	*e*P	**P**	**05 13 41.0**	**+0.4**
ITAB	**Concordia**	**17.12**	**92**		**Pn**	**05 13 41.2**	**-0.1**
ITAB	**Concordia**	**17.12**	**92**	*e*P	**P**	**05 13 45.0**	**+2.2**
COYC	**Coyhaique**	**17.53**	**182**		**Pn**	**05 13 44.6**	**-1.6**
PTGB	**Pitanga**	**17.66**	**84**	*e*P	**P**	**05 13 51.8**	**+2.9**
RPRD	**Ribas do Rio P**	**17.81**	**69**	*e*P	**P**	**05 13 51.1**	**+0.6**
CNLB	**Canela**	**18.11**	**99**	*e*P	**P**	**05 13 56.9**	**+3.2**
VILB	**Vilhena**	**18.29**	**37**	P	**P**	**05 13 52.4**	**-3.3**
VILB	**Vilhena**	**18.29**	**37**	*e*P	**P**	**05 13 55.5**	**-0.3**
LDASE	**Londrina, Braz**	**18.87**	**80**	*e*P	**Pn**	**05 14 02.8**	**0.0**
SALV	**Santo Antonio**	**18.91**	**54**	*e*P	**P**	**05 14 02.6**	**+0.1**
C2SB	**Chapadao do Su**	**19.37**	**66**	*e*P	**Pn**	**05 14 09.3**	**+0.5**
TER01	**Tubaro-SC**	**19.65**	**97**	*e*P	**Pn**	**05 14 11.7**	**-0.4**
MAJ01	**Sao Joao Batis**	**19.86**	**93**	*e*P	**Pn**	**05 14 14.6**	**0.0**
CZSB	**Cruzeiro do Su**	**20.21**	**356**	P	**P**	**05 14 15.8**	**-0.9**
CZSB				IAmb	IAmb	05 14 20.5	
comp=Z,98nm,1.4s							
CZSB	**Cruzeiro do Su**	**20.21**	**356**	*e*P	Pn	05 14 18.6	-0.2
FRTB	**Fartura**	**20.24**	**82**	*e*P	**P**	**05 14 15.9**	**-1.2**
ITRB	**Iturama**	**20.95**	**71**	*e*P	**P**	**05 14 24.8**	**0.0**
PDRB	**Porto dos Gac**	**21.35**	**43**	*e*P	**P**	**05 14 29.2**	**0.0**
ATAH	**Atahualpa**	**21.79**	**341**	P	**P**	**05 14 35.3**	**+1.1**
comp=Z,3.2nm,0.9s,baz=165,slow=7.4,SNR=4.5							
ATAH				LR	LR	05 21 26.6	
comp=Z,314nm,20.7s,baz=188,slow=32							
comp=Z,3.2nm,0.9s							
ARAG	**Araguaiana, MT**	**21.91**	**60**	*e*P	**P**	**05 14 33.7**	**-1.4**
SPB	**Sao Paulo**	**22.04**	**84**	*e*P	**P**	**05 14 35.6**	**-0.8**
CLDB	**Colider**	**22.50**	**44**	*e*P	**P**	**05 14 43.0**	**+1.6**
VAO	**Valinhos**	**22.62**	**83**	P	**P**	**05 14 41.9**	**-0.9**
VAO	**Valinhos**	**22.62**	**83**	*e*P	**P**	**05 14 41.3**	**-1.5**
IPMB	**Ipameri, GO**	**23.55**	**70**	*e*P	**P**	**05 14 50.7**	**-1.5**
PARB	**Paraibuna**	**23.70**	**85**	*e*P	**P**	**05 14 52.4**	**-1.3**
TBTG	**Tabatinga, AM**	**23.74**	**4**	P	**P**	**05 14 53.1**	**-0.8**
TBTG				IAmb	IAmb	05 15 14.5	
comp=Z,97nm,1.2s							
TBTG	**Tabatinga, AM**	**23.74**	**4**	*e*P	**P**	**05 14 54.8**	**+0.9**
SNDB	**Serra Nova Dou**	**24.69**	**54**	*e*P	**P**	**05 15 00.2**	**-2.6**
PMNB	**Patos De Minas**	**24.78**	**73**	*e*P	**P**	**05 15 02.6**	**-1.0**
BDFB	**Brasilia**	**24.93**	**65**	P	**P**	**05 15 04.0**	**-1.0**
BDFB	**Brasilia**	**24.93**	**65**	P	**P**	**05 15 03.1**	**-1.9**
comp=Z,6.7nm,0.7s,baz=233,slow=9.6,SNR=12							
BDFB				LR	LR	05 26 18.0	
comp=Z,1μm,19.5s,baz=252,slow=40							
comp=Z,6.7nm,0.7s							
BSCB	**Bom Sucesso**	**25.21**	**80**	*e*P	**P**	**05 15 08.2**	**+0.6**
TEFE	**Tefe**	**25.22**	**16**	*e*P	**P**	**05 15 07.9**	**+0.4**
EFI	**East Falkland**	**25.68**	**161**	P	**P**	**05 15 11.4**	**0.0**
EFI				IAmb	IAmb	05 15 36.9	
comp=Z,55nm,1.1s							
NPGB	**Novo Progresso**	**25.82**	**39**	*e*P	**P**	**05 15 12.5**	**-0.5**
MACA	**Manacapuru-AM**	**26.76**	**24**	P	**P**	**05 15 20.8**	**-0.7**
MACA	**Manacapuru-AM**	**26.76**	**24**	*e*P	**P**	**05 15 21.4**	**0.0**
ITTB	**Itaituba**	**27.86**	**35**	*e*P	**P**	**05 15 30.6**	**-0.8**
JANB	**Januaria**	**28.25**	**68**	*e*P	**P**	**05 15 34.0**	**-0.9**
OTAV	**Otavalo**	**28.89**	**345**	P	**P**	**05 15 39.6**	**-1.4**
OTAV	**Otavalo**	**28.89**	**345**	*e*P	**P**	**05 15 42.3**	**+1.3**
SDBA	**SAO DESIDERIO**	**29.24**	**63**	*e*P	**P**	**05 15 42.9**	**-0.9**
BSFB	**Barra de Sao F**	**29.45**	**79**	*e*P	**P**	**05 15 45.2**	**-0.3**
SMTB	**Santa Maria do**	**29.46**	**54**	*e*P	**P**	**05 15 45.7**	**0.0**
GUA01	**Guaratinga, BA**	**31.30**	**75**	*e*P	**P**	**05 16 01.0**	**-0.9**
BOAV	**Boa Vista**	**32.00**	**21**	P	**P**	**05 16 06.6**	**-1.4**
BOAV				IAmb	IAmb	05 16 09.1	
comp=Z,38nm,1.7s							
BOAV	**Boa Vista**	**32.00**	**21**	*e*P	**P**	**05 16 07.4**	**-0.6**
ROSC	**El Rosal**	**32.78**	**355**	P	**P**	**05 16 13.9**	**-1.4**
comp=Z,2.7nm,0.4s,baz=108,slow=19,SNR=3.6							
ROSC

TKL	Tuckaleechee C	64.39	349	P	P	05 20 17.5 +0.1
	comp=Z,8.5nm,0.7s,baz=163,slow=7.1,SNR=6.8					
	comp=Z,8.5nm,0.7s					
BRDY	Brady	64.56	334	P	P	05 20 19.5 +0.9
BRDY				IAmb	IAmb	05 20 20.9
	comp=Z,25nm,1.6s					
SAND	Sanderson	64.68	331	IAmb	IAmb	05 20 22.5
	comp=Z,23nm,1.3s					
TXAR	Lajitas Array	64.83	329	P	P	05 20 22.1 +1.6
	comp=Z,0.9nm,0.5s,baz=157,slow=10,SNR=12					
	comp=Z,0.9nm,0.5s					
OZNA	Ozona	65.09	332	IAmb	IAmb	05 20 24.1
	comp=Z,13nm,1.1s					
CLTN	Cedars of Leba	65.29	347	IAmb	IAmb	05 20 25.2
	comp=Z,12nm,1.3s					
U49A	Red Boiling Sp	65.59	347	IAmb	IAmb	05 20 26.3
	comp=Z,30nm,1.5s					
WVT	Waverly	65.65	345	P	P	05 20 25.4 0.0
WVT				IAmb	IAmb	05 20 26.0
	comp=Z,8.4nm,0.7s					
MIAR	Mount Ida	65.65	340	IAmb	IAmb	05 20 42.2
	comp=Z,15nm,1.2s					
MNHN	Monahans	66.15	331	IAmb	IAmb	05 20 31.7
	comp=Z,17nm,1.3s					
FCAR	Ozark Folk Cen	66.49	342	IAmb	IAmb	05 20 32.6
	comp=Z,19nm,1.4s					
VHRN	Van Horn	66.66	329	IAmb	IAmb	05 20 35.5
	comp=Z,21nm,1.7s					
X34A	Smith Ranch, M	67.10	337	IAmb	IAmb	05 20 37.2
	comp=Z,24nm,1.2s					
CGM3	Cape Girardeau	67.18	344	IAmb	IAmb	05 20 37.0
	comp=Z,22nm,1.3s					
T42A	Van Buren	67.29	343	IAmb	IAmb	05 20 37.3
	comp=Z,18nm,1.4s					
HHAR	Hobbs	67.38	340	IAmb	IAmb	05 20 37.9
	comp=Z,10nm,0.9s					
MGMO	Mountain Grove	67.72	342	IAmb	IAmb	05 20 40.6
	comp=Z,13nm,1.1s					
BBTS	Babate	68.00	59	LR	LR	05 50 05.6
	comp=Z,124nm,18.7s,baz=270,slow=36					
CCM	Cathedral Cave	68.30	343	P	P	05 20 42.9 +0.6
SMWD	Samnorwood	68.43	335	IAmb	IAmb	05 20 45.5
	comp=Z,33nm,1.5s					
ACSO	Alum Creek Sta	68.74	351	IAmb	IAmb	05 20 46.3
	comp=Z,30nm,1.4s					
VNDA	Vanda	70.06	191	LR	LR	05 47 29.7
	comp=Z,52nm,19.4s,baz=341,slow=32					
HDIL	Hopedale	70.21	346	IAmb	IAmb	05 20 55.1
	comp=Z,18nm,0.8s					
TUC	Tucson	70.71	325	P	P	05 20 58.4 +0.9
N41A	Harden Midland	70.71	344	IAmb	IAmb	05 20 59.2
	comp=Z,22nm,1.1s					
SYO	Syowa Base	71.24	159	eP	P	05 20 58.4 -1.7
N38A	Joes South Far	71.39	343	IAmb	IAmb	05 21 02.4
	comp=Z,9.0nm,0.7s					
CBKS	Cedar Bluff	71.55	337	IAmb	IAmb	05 21 04.3
	comp=Z,9.6nm,0.8s					
PPT2	Papeete2	71.72	259	eS	S	05 30 19.4 -3.4
	comp=Z,80nm,26.8s					
PPT2				eSS	SS	05 34 46.6 -12
	comp=Z,52nm,22.5s					
PPT2				eLR	LR	05 42 53.2
	comp=Z,118nm,24.8s					
PPT2				eLR	LR	05 42 55.4
	comp=Z,127nm,22.0s					
PPT	Papeete	71.73	259	LR	LR	05 45 28.6
	comp=Z,122nm,21.4s,baz=90,slow=30					
T25A	Trinidad	71.83	333	IAmb	IAmb	05 21 07.5
	comp=Z,19nm,1.4s					
L40A	Anamosa	72.08	345	IAmb	IAmb	05 21 06.9
	comp=Z,25nm,1.0s					
N35A	Tabor	72.11	341	IAmb	IAmb	05 21 06.6
	comp=Z,14nm,0.7s					
JFWS	Jewell Farm	72.67	346	IAmb	IAmb	05 21 14.4
	comp=Z,22nm,1.4s					
SADO	Sadowa	72.77	354	LR	LR	05 56 32.5
	comp=Z,45nm,18.8s,baz=257,slow=39					
DBIC	Dimbokro	72.83	73	P	P	05 21 10.7 +0.1
DBIC				IAmb	IAmb	05 21 11.0
	comp=Z,16nm,0.6s					
DBIC	Dimbokro	72.83	73	P	P	05 21 10.6 +0.1
	comp=Z,12nm,0.5s,baz=223,slow=5.8,SNR=45					
DBIC				LR	LR	05 50 12.1
	comp=Z,119nm,21.5s,baz=226,slow=34					
	comp=Z,12nm,0.5s					
GGN	Saint George	72.90	3	P	P	05 21 11.4 +1.2
GLA	Glamis	73.39	323	IAmb	IAmb	05 21 15.3
	comp=Z,11nm,0.7s					
Q24A	Divide	73.70	333	IAmb	IAmb	05 21 18.5
	comp=Z,21nm,1.4s					
PV13	Radium Mtn., P	74.56	330	IAmb	IAmb	05 21 23.4
	comp=Z,16nm,1.4s					
PV10	Paradox Valley	74.83	330	IAmb	IAmb	05 21 24.4
	comp=Z,17nm,1.3s					
E46A	Sault Ste Mari	74.94	351	IAmb	IAmb	05 21 23.4
	comp=Z,46nm,1.5s					
K30B	Basset	74.98	339	IAmb	IAmb	05 21 25.7
	comp=Z,37nm,1.2s					
ECSD	EROS Data Cent	75.04	341	IAmb	IAmb	05 21 24.9
	comp=Z,38nm,1.6s					
O20A	White River Ci	75.95	332	IAmb	IAmb	05 21 31.6
	comp=Z,20nm,1.3s					
SUR	Sutherland	77.31	120	LR	LR	05 52 07.4
	comp=Z,158nm,19.6s,baz=248,slow=33					
JLU	Jordanelle	77.72	330	IAmb	IAmb	05 21 41.4
	comp=Z,25nm,1.7s					
TCUT	Toone Canyon	78.12	330	IAmb	IAmb	05 21 43.8
	comp=Z,38nm,1.8s					
HWUT	Hardware Ranch	78.59	330	IAmb	IAmb	05 21 45.7
	comp=Z,28nm,1.4s					
PDAR	Pinedale Array	78.69	332	P	P	05 21 44.2 +0.5
PDAR	Pinedale Array	78.69	332	P	P	05 21 44.8 +1.1
	comp=Z,1.3nm,0.6s,baz=130,slow=6.0,SNR=14					
	comp=Z,1.3nm,0.6s					
MAW	Mawson	78.76	164	LR	LR	05 57 08.1
	comp=Z,196nm,18.5s,baz=230,slow=36					
RAR	Rarotonga	78.93	252	LR	LR	05 48 22.8
	comp=Z,109nm,21.6s,baz=148,slow=29					
HVU	Hansel Valley	79.26	330	IAmb	IAmb	05 21 49.2
	comp=Z,17nm,1.4s					
NVAR	Mina Array Bea	79.31	324	P	P	05 21 48.4 +1.2
	comp=Z,1.4nm,1.0s,baz=173,slow=6.0,SNR=5.1					
	comp=Z,1.4nm,1.0s					
AHID	Auburn Hatcher	79.33	331	IAmb	IAmb	05 21 49.8
	comp=Z,22nm,1.4s					
SNOW	Snow King Moun	79.76	332	IAmb	IAmb	05 21 52.4
	comp=Z,19nm,1.4s					
FLWY	Flagg Ranch	80.25	332	IAmb	IAmb	05 21 55.3
	comp=Z,26nm,1.4s					
TSUM	Tsumeb	80.38	107	LR	LR	05 52 52.5
	comp=Z,172nm,20.1s,baz=324,slow=32					
RLMT	Red Lodge	80.54	334	IAmb	IAmb	05 21 56.6
	comp=Z,51nm,1.9s					
LAO	LASA Array	80.74	337	IAmb	IAmb	05 21 57.1
	comp=Z,36nm,1.6s					
PAHR	Pah Rah Range	80.82	325	IAmb	IAmb	05 21 58.6
	comp=Z,30nm,1.6s					
YMR	Madison River	80.84	333	IAmb	IAmb	05 21 58.8
	comp=Z,24nm,1.2s					
ULM	Lac du Bonnet	80.88	344	IAmb	IAmb	05 21 56.8
	comp=Z,14nm,1.1s					
ULM	Lac du Bonnet	80.88	344	P	P	05 21 55.8 +0.7
	comp=Z,8.4nm,1.0s,baz=155,slow=4.8,SNR=11					
	comp=Z,8.4nm,1.0s					
HLID	Hailey	81.41	330		P	05 21 59.8 +1.5
TORD	Torodi Ar. Bea	81.70	70	P	P	05 21 59.6 -0.7
TORD				IAmb	IAmb	05 22 02.0
	comp=Z,14nm,1.2s					
MCMT	McKenzie Canyo	81.75	332		P	05 22 01.3 +1.1
BOSA	Boshof	82.41	118	P	P	05 22 03.7 -0.4
BOSA				IAmb	IAmb	05 22 04.3
	comp=Z,12nm,0.7s					
BOSA	Boshof	82.41	118	P	P	05 22 03.9 -0.2
	comp=Z,10.0nm,0.5s,baz=250,slow=3.6,SNR=51					
BOSA				LR	LR	05 54 09.6
	comp=Z,177nm,20.1s,baz=204,slow=32					
	comp=Z,10.0nm,0.5s					
SCHQ	Schefferville	82.60	3	P	P	05 22 04.0 -0.1
	comp=Z,3.5nm,0.7s,baz=210,slow=5.3,SNR=6.1					
SCHQ				LR	LR	05 59 08.1
	comp=Z,37nm,19.1s,baz=69,slow=36					
	comp=Z,3.5nm,0.7s					
J08A	Circle Bar Ran	83.12	327	IAmb	IAmb	05 22 10.1
	comp=Z,20nm,1.3s					
EGMT	Eagleton	83.15	335	IAmb	IAmb	05 22 10.1
	comp=Z,36nm,1.9s					
BMO	Blue Mountains	83.72	329	IAmb	IAmb	05 22 25.2
	comp=Z,15nm,1.8s					
I07A	Izee	84.16	327	IAmb	IAmb	05 22 15.4
	comp=Z,11nm,1.4s					
LBTB	Lobatse	84.36	115	P	P	05 22 13.7 -0.4
LBTB				IAmb	IAmb	05 22 15.6
	comp=Z,12nm,0.7s					
LBTB	Lobatse	84.36	115	LR	LR	05 58 08.5
	comp=Z,151nm,18.2s,baz=214,slow=34					
J05D	Fort Rock, OR	84.40	326	IAmb	IAmb	05 22 17.3
	comp=Z,9.7nm,1.2s					
G08A	Pilot Rock	84.81	328	IAmb	IAmb	05 22 18.4
	comp=Z,11nm,1.5s					
I05D	Terrebonne, OR	85.23	327	IAmb	IAmb	05 22 20.8
	comp=Z,22nm,1.5s					
HAWA	Hanford	85.90	329	IAmb	IAmb	05 22 23.8
	comp=Z,15nm,1.4s					
FFC	Flin Flon	86.50	343	P	P	05 22 23.8 +0.1
FFC				IAmb	IAmb	05 22 25.2
	comp=Z,14nm,1.4s					
LTY	Liberty	87.07	329	IAmb	IAmb	05 22 29.1
	comp=Z,14nm,1.6s					
MDT	Midelt	87.65	51	LR	LR	06 02 52.4
	comp=Z,121nm,18.1s,baz=232,slow=36					
URZ	Urewera	88.08	227	LR	LR	05 53 04.6
	comp=Z,134nm,20.6s,baz=130,slow=30					
LSZ	Lusaka	91.16	108	LR	LR	06 00 17.4
	comp=Z,228nm,19.1s,baz=193,slow=33					
ESDC	Sonseca Array	92.04	46	P	P	05 22 50.7 +0.3
	comp=Z,0.5nm,0.9s,baz=234,slow=5.5,SNR=2.0					
ESDC				LR	LR	06 04 03.6
	comp=Z,95nm,18.0s,baz=234,slow=36					
	comp=Z,0.5nm,0.9s					
YKA	Yellowknife Ar	96.57	341	P	P	05 23 10.9 +0.4
	comp=Z,0.8nm,0.8s,baz=147,slow=4.3,SNR=12					
	comp=Z,0.8nm,0.8s					
KEST	Kesra	99.00	54	LR	LR	06 09 11.8
	comp=Z,315nm,21.3s,baz=246,slow=36					
AKASG	Malin Array Be	117.68	45	PKP	PKPdf	05 28 26.8 -0.3
	comp=Z,1.0nm,0.5s,baz=266,slow=2.7,SNR=6.3					
ASAR	Alice Springs	123.11	208	PKP	PKPdf	05 28 38.1 -0.5
	comp=Z,2.0nm,0.6s,baz=126,slow=1.4,SNR=12					
H11S2	WAKE ISLAND Hyl	26.17	273	T	T	07 47 53.2
	baz=112,slow=75,SNR=120					
H11S1	WAKE ISLAND Hyl	26.18	273	T	T	07 47 48.2
	baz=112,slow=75,SNR=128					
H11S3	WAKE ISLAND Hyl	26.19	273	T	T	07 47 55.5
	baz=112,slow=75,SNR=129					
WRA	Warramunga Arr	126.20	210	PKP	PKPdf	05 28 44.8 +0.2
	comp=Z,3.4nm,0.5s,baz=152,slow=1.7,SNR=50					
H11N3	WAKE ISLAND Hyl	26.43	275	T	T	07 48 14.1
	baz=113,slow=75,SNR=20					
H11N1	WAKE ISLAND Hyl	26.45	275	T	T	07 48 10.4
	baz=113,slow=75,SNR=13					
H11N2	WAKE ISLAND Hyl	26.45	275	T	T	07 48 15.3
	baz=113,slow=75,SNR=13					
BVAR	Borovoye Array	142.39	38	PKhKP	PKPpre	05 29 10.3
	comp=Z,1.4nm,0.6s,baz=270,slow=1.5,SNR=6.3					
KAPI	Kappang	145.44	200	PKPbc	PKPab	05 29 20.7 +0.4
	comp=Z,36nm,1.0s,baz=116,slow=3.6,SNR=17					
KURBB	Kurchatov Arra	147.96	37	PKPbc	PKPdf	05 29 24.7 +1.5
	comp=Z,5.7nm,0.6s,baz=304,slow=3.0,SNR=39					
ZALV	Zalesovo Beam	148.78	27	PKP	PKPdf	05 29 25.1 +0.6
	comp=Z,19nm,0.6s,baz=302,slow=3.6,SNR=33					
ZALV				PKPbc	PKiKP	05 29 29.2 -0.5
	comp=Z,4.6nm,0.6s,baz=314,slow=2.5,SNR=6.8					
HYB	Hyderabad	150.45	104	ePKiKP	PKPbc	05 29 33.9 +0.3
MKAR	Makanchi Array	152.15	41	PKP	PKPdf	05 29 29.3 -0.8
	comp=Z,0.5nm,0.7s,baz=5.3,slow=0.5,SNR=4.8					
MKAR				PKPbc	PKiKP	05 29 37.0 0.0
	comp=Z,8.6nm,0.6s,baz=316,slow=1.8,SNR=71					
MDJ	Mudanjiang	156.41	320	P	PKPdf	05 29 34.8 -1.2
MDJ				pmax	pmax	
	comp=Z,9.0nm,2.1s					
MDJ				pmax	pmax	
	comp=Z,230nm,3.8s					
SONM	Songino Array	160.14	4	PKP	PKPdf	05 29 40.3 -0.3
	comp=Z,1.0nm,0.8s,baz=205,slow=0.9,SNR=6.3					
SONM				PKPab	PKPab	05 30 20.9 +0.2
	comp=Z,1.0nm,0.7s,baz=328,slow=4.1,SNR=5.1					
KSRS	Korea Array	161.22	305	PKP	PKPdf	05 29 40.8 -1.1
	comp=Z,0.5nm,0.3s,baz=72,slow=0.4,SNR=5.8					
JOW	Kunigami	162.46	271	PKPab	PKPab	05 30 34.1 +2.7
	comp=Z,17nm,0.4s,baz=34,slow=5.9,SNR=3.7					
GOMU	GeErMu	165.78	52	P	PKPdf	05 29 47.8 +1.0
GOMU				pP	pPKPdf	05 29 51.6 -3.2
GOMU				sP	sPKPdf	05 29 54.9 -2.6
GOMU				pmax	pmax	
	comp=Z,13nm,1.3s					
GOMU				LR	LR	
	comp=N,160nm,14.0s					
GOMU				LR	LR	
	comp=E,240nm,13.3s					
GOMU				LR	LR	
	comp=Z,240nm,13.4s					
GTA	Gaotai	166.51	30	ePKP	PKPdf	05 29 48.5 +1.6
GTA				PKPab	PKPab	05 30 49.0 +0.1
CMAR	Chiang Mai Arr	167.02	135	PKP	PKPdf	05 29 48.0 +0.3
	comp=Z,0.6nm,0.3s,baz=243,slow=1.4,SNR=4.9					
CMAR				PKPab	PKPab	05 30 51.2 -0.3
	comp=Z,0.9nm,0.3s,baz=233,slow=3.7,SNR=4.9					
NJ2	Nanjing	170.22	297	eP	PKPdf	05 29 50.4 +1.0
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.6s					
PZH	PanZhiHua	173.74	102	PKP	PKPdf	05 29 50.4 -1.0

*MDD **19** 05:10:33.5±1.1, 37.°02N×13.°44W, h15km±16km, Mb4.1/9, M_mb3.5/7, Error ellipse: s-maj=17.0km s-min=5.5km az=87.0*
*IGIL **19** 05:10:36.7, 37.°02N×13.°44W, h27km, ML2.2*
*INMG **19** 05:10:37.4±1.5, 37.°00N×13.°63W, h20km, ML2.4, Error ellipse: s-maj=8.8km s-min=7.0km az=67.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Josephine*

ISC 19 05:10:35.1±2.6, 37.°12N±0.°06×12.°9W±0.°1, h10km, n44, σ3§37/78, 9C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	3.28	89	eP	Pn	05 11 30.3	+3.8
PFVI				eS	Sb	05 12 10.0	-3.2
PFVI				i AML	AML	05 12 14.0	
PFVI				i AML	AML	05 12 17.2	
PFVI				i AML	AML	05 12 19.8	
PFVI	Vila Bisbo	3.28	89	S	Sn	05 12 09.3	+3.8
PFVI				P	Pn	05 11 29.0	+2.5
PTEO	Sao Teotonio	3.38	82	eP	Pn	05 11 27.8	0.0
PTEO				eS	Sn	05 12 12.5	+4.5
PTEO				i AML	AML	05 12 15.6	
PTEO				i AML	AML	05 12 18.7	
PTEO				i AML	AML	05 12 25.9	
PMAFR	Mafra	3.41	56	eP	Pn	05 11 32.4	+4.1
PMAFR				eS	Sb	05 12 13.6	-3.4
PMAFR				i AML	AML	05 12 31.3	
PMAFR				i AML	AML	05 12 31.4	
PMAFR				i AML	AML	05 12 31.6	
PMAFR	Mafra	3.41	56	S	Sb	05 12 13.6	-3.4
PMAFR				P	Pn	05 11 31.8	+3.5
MORF	Marmelete	3.42	86	eP	Pb	05 11 32.5	-3.2
MORF				eS	Sn	05 12 13.4	+4.4
MORF				IAML		05 12 17.4	
	comp=E,6.2nm,0.1s						
MORF	Marmelete	3.42	86	eP	Pb	05 11 32.6	-3.2
MORF				eS	Sb	05 12 13.7	-3.6
MORF				i AML	AML	05 12 16.8	
MORF				i AML	AML	05 12 17.2	
MORF				i AML	AML	05 12 27.9	
MESJ	Messejana	3.81	78	eP	Pn	05 11 38.0	+4.2
MESJ	Messejana	3.81	78	eP	Pn	05 11 36.3	+2.5
MESJ				eS	Sn	05 12 24.0	+5.3
MESJ				i AML	AML	05 12 26.8	
MESJ				i AML	AML	05 12 27.6	
MESJ				i AML	AML	05 12 27.8	
PCVE	Castro Verde	3.93	81	eP	Pn	05 11 38.1	+2.7
PCVE				eS	Sn	05 12 26.1	+4.5
PCVE				i AML	AML	05 12 28.2	
PCVE				i AML	AML	05 12 28.4	
PCVE	Castro Verde	3.93	81	P	Pn	05 11 38.1	+2.7
PCVE				S	Sn	05 12 24.6	+3.0
PBDV	Barranco-do-Ve	3.99	87	eP	Pn	05 11 40.3	+4.0
PBDV				eS	Sb	05 12 29.9	-4.0
PBDV				i AML	AML	05 12 30.9	
PBDV				i AML	AML	05 12 33.4	
PBDV				i AML	AML	05 12 39.4	
PBEJ	Beja	4.12	76	eS	Sn	05 12 31.6	+5.3
EVO	Evora	4.14	69	eP	Pn	05 11 42.4	+4.1
EVO				i AML	AML	05 12 33.7	
EVO				i AML	AML	05 12 35.2	
EVO				i AML	AML	05 12 35.4	
EVO	Evora	4.14	69	P	Pn	05 11 42.2	+3.9
EVO				S	Sn	05 12 31.5	+4.8
PVAQ	Vaqueiros	4.17	85	eP	Pb	05 11 44.3	-4.1
PVAQ	Vaqueiros	4.17	85	P	Pn	05 11 42.5	+3.8
PVAQ				S	Sn	05 12 31.5	+4.1
PMTG	Montargil	4.19	61	eP	Pn	05 11 42.7	+3.7
PMTG				eS	Sn	05 12 32.1	+4.1
PMTG				i AML	AML	05 12 36.1	
PMTG				i AML	AML	05 12 43.4	
PMTG				i AML	AML	05 12 44.3	
EGRO	El Granado	4.36	83	P	Pn	05 11 43.5	+2.2
EGRO				S	Sn	05 12 36.0	+3.9
EGRO	El Granado	4.36	83	P	Pn	05 11 44.0	+2.7
EGRO				⇑iVmb_V		05 11 46.3	
	comp=E,67nm,SNR=0.3						
EGRO				S	Sn	05 12 36.1	+3.9
PCAS	Casmilo, Conde	4.54	49	eP	Pn	05 11 46.6	+2.8
PCAS				eS	Sn	05 12 40.2	+3.6
PBAR	Barrancos	4.79	76	eP	Pn	05 11 52.1	+4.9
PBAR				eS	Sn	05 12 47.1	+4.3
PBAR				i AML	AML	05 12 48.8	
PBAR				i AML	AML	05 12 49.5	
PBAR				i AML	AML	05 12 49.8	
PBAR	Barrancos	4.79	76	P	Pn	05 11 50.4	+3.2
PBAR				S	Sn	05 12 46.4	+3.6
PMRV	Marv??o	4.92	60	eP	Pn	05 11 53.0	+3.8
PMRV				eS	Sn	05 12 48.6	+2.4
PMRV				i AML	AML	05 12 50.6	
PMRV				i AML	AML	05 12 55.3	
PMRV				i AML	AML	05 12 57.6	
EBAD	Badajoz	4.95	69	P	Pn	05 11 52.5	+3.1
EBAD				S	Sn	05 12 51.2	+4.5
EBAD	Badajoz	4.95	69	P	Pn	05 11 52.6	+3.1
EBAD				⇑iVmb_V		05 11 55.1	
	comp=E,91nm,SNR=0.8						
EBAD				S	Sn	05 12 50.9	+4.1
EMIN	Mina Concepcio	5.02	81	P	Pn	05 11 54.1	+3.7
EMIN				S	Sn	05 12 50.5	+2.0
EMIN	Mina Concepcio	5.02	81	P	Pn	05 11 53.7	+3.2
EMIN				⇑iVmb_V		05 11 56.5	
	comp=E,244nm,SNR=1.6						
EMIN				S	Sn	05 12 51.3	+2.8
PCBR	Castelo Branco	5.06	56	eP	Pn	05 11 55.0	+4.0
PVIS	Viseu	5.32	46	eP	Pn	05 11 58.8	+4.3
PVIS				eS	Sn	05 12 59.6	+3.7
POLO	Lamas de Olo	5.82	42	eP	Pn	05 12 04.3	+2.8
POLO				eS	Sn	05 13 09.3	+1.0
POLO				i AML	AML	05 13 13.4	
POLO				i AML	AML	05 13 22.8	
AVE	Averroes	5.91	129	S	Sn	05 13 10.3	-0.1
PGAV	Gavieira, Arco	6.03	35	eP	Pn	05 12 06.8	+2.5
PGAV				eS	Sn	05 13 12.6	-0.8
PGAV				i AML	AML	05 13 13.3	
PGAV				i AML	AML	05 13 15.5	
PGAV				i AML	AML	05 13 16.8	
ECAB	El Cabril	6.04	79	P	Pn	05 12 07.4	+3.0
ECAB				S	Sn	05 13 16.0	+2.4
ECAB	El Cabril	6.04	79	P	Pn	05 12 06.5	+2.1
ECAB				⇑iVmb_V		05 12 08.7	
	comp=E,72nm,SNR=0.8						
ECAB				S	Sn	05 13 15.9	+2.3
ELOB	Lobios	6.05	37	P	Pn	05 12 05.7	+1.1
ELOB				⇑iVmb_V		05 12 08.0	
	comp=E,216nm,SNR=1.1						
ELOB				S	Sn	05 13 13.5	-0.5
MVO	Moncorvo	6.11	47	eP	Pn	05 12 07.5	+2.1
MVO				eS	Sn	05 13 16.7	+1.3
MVO				i AML	AML	05 13 17.6	
MVO				i AML	AML	05 13 19.0	
EPLA	Plasencia	6.11	59	P	Pn	05 12 07.2	+1.7
EPLA				⇑iVmb_V		05 12 09.9	
	comp=E,141nm,SNR=0.9						
EPLA				S	Sn	05 13 19.7	+4.2
EMAZ	Mazaricos	6.56	26	P	Pn	05 12 11.8	+0.2
EMAZ				⇑iVmb_V		05 12 13.6	
	comp=E,306nm,SNR=1.0						
EMAZ				S	Sn	05 13 21.2	-5.3
PBRG	Braganca	6.69	44	eS	Sn	05 13 31.8	+2.1
EADA	Adamuz	6.71	79	P	Pn	05 12 15.5	+1.9
EADA				⇑iVmb_V		05 12 16.7	
	comp=E,60nm,SNR=0.6						
EADA				S	Sn	05 13 31.6	+1.5
PAB	San Pablo	7.16	68	P	Pn	05 12 22.2	+2.2
PAB				⇑iVmb_V		05 12 24.9	
	comp=E,51nm,SNR=0.6						
IFR	Ifrane	7.32	117	S	Sn	05 13 44.6	-0.8
TIO	Tiouine	7.76	141	S	Sn	05 13 52.8	-3.6
TIO				P	Pn	05 12 28.2	-0.1

*IDC **19** 05:15:21.7±0.9, 9.°71N×121.°85E, h0km, mb3.9/13, mbtmp3.9/13, MS3.5/15, Error ellipse: s-maj=33.2km s-min=18.4km az=68.0*
*NEIC **19** 05:15:29.2±1.6, 9.°91N±0.°09×122.°0E±0.°1, h35km±2km, mb4.4/12, Error ellipse: s-maj=22.8km s-min=6.1km az=132.0*

ISC 19 05:15:27.0±0.7, 9.°92N±0.°09×122.°0E±0.°1, h27km, n43, σ1§42/32, mb4.1/20, MS3.4/12, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	4.28	346	LR	LR	05 18 28.7	
	comp=Z,807nm,19.0s,baz=78,slow=42						
DAV	Davao City (W)	4.54	128	LR	LR	05 18 36.1	
	comp=Z,1μm,18.2s,baz=339,slow=43						
MYLDM	Lahad Datu	5.84	217	Pn	Pn	05 16 52.7	+0.8
KKM	Kota Kinabalu	6.89	236	Pn	Pn	05 17 08.4	+1.9
KAPI	Kappang	15.00	189	LR	LR	05 25 01.5	
	comp=Z,139nm,18.8s,baz=13,slow=39						
CMAR	Chiang Mai Arr	23.88	293	P	P	05 20 36.4	-2.2
	1.2nm,0.3s,baz=77,slow=8.4,SNR=6.3						
CMAR				LR	LR	05 30 35.1	
	comp=Z,42nm,18.1s,baz=105,slow=38						
	1.2nm,0.3s						
PSI	Prapat	23.97	254	LR	LR	05 31 27.6	
	comp=Z,74nm,20.3s,baz=66,slow=41						
KSRS	Korea Array	27.93	10	LR	LR	05 33 37.4	
	comp=Z,72nm,19.1s,baz=200,slow=39						
FITZ	Fitzroy Crossi	28.07	173	P	P	05 21 17.0	+0.5
BRDH	Bariadhala	31.69	297	LR	LR	05 35 01.5	
	comp=Z,52nm,18.4s,baz=131,slow=37						
WB0	Warramunga Arr	31.93	158	P	P	05 21 49.5	-1.2
WRAB	Tennant Creek	32.07	158	P

MAKZ IAmb IAmb 05 24 22.9
comp=Z,5.7nm,1.3s
AAK Ala-Archa 52.64 317 LR LR 05 48 49.3
comp=Z,52nm,20.0s,baz=90,slow=38
ZALV Zalesovo Beam 52.98 333 P **P 05 24 40.6 -0.5**
comp=Z,0.7nm,0.6s,baz=144,slow=5.5,SNR=4.0
ZALV LR LR 05 47 43.9
comp=Z,36nm,19.4s,baz=53,slow=37
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 54.02 327 P **P 05 24 49.1 +0.3**
comp=Z,2.8nm,0.8s,baz=132,slow=6.5,SNR=17
comp=Z,2.8nm,0.8s
KURK Kurchatov 54.02 327 P **P 05 24 49.4 +0.5**
KKAR Karatay Array 55.53 316 P **P 05 25 01.0 +1.0**
BVAR Borovoye Array 59.60 327 P **P 05 25 29.5 +1.0**
comp=Z,0.8nm,0.8s,baz=100,slow=3.5,SNR=1.7
comp=Z,0.8nm,0.8s
TIXI Tiksi 61.82 2 P **P 05 25 43.3 0.0**
TIXI IAmb IAmb 05 25 44.9
comp=Z,4.2nm,0.9s
ABKAR Akbulak array 64.41 320 P **P 05 26 00.6 -0.2**
AKTO Aktyubinsk 65.92 321 LR LR 05 55 45.5
comp=Z,47nm,21.9s,baz=132,slow=37
ILAR Eielson Array 81.58 26 P **P 05 27 42.1 -0.1**
comp=Z,0.3nm,0.7s,baz=224,slow=6.2,SNR=5.6
comp=Z,0.3nm,0.7s
BRTR Keskin Array B 82.48 309 P **P 05 27 45.0 -2.6**
comp=Z,0.3nm,0.5s,baz=19,slow=6.1,SNR=2.2
comp=Z,0.3nm,0.5s
ARCES ARCESS Array B 83.04 339 P **P 05 27 49.6 -0.2**
comp=Z,3.6nm,0.9s,baz=80,slow=8.7,SNR=3.9
comp=Z,3.6nm,0.9s
F28M Old Crow 83.99 22 P **P 05 27 56.1 +1.4**
F28M IAmb IAmb 05 28 30.8
comp=Z,2.5nm,1.0s
FINES FINESS Array B 84.18 331 P **P 05 27 53.4 -2.3**
comp=Z,1.3nm,0.8s,baz=108,slow=4.2,SNR=5.1
comp=Z,1.3nm,0.8s
VRAC Vranov 92.39 321 LR LR 06 12 24.9
comp=Z,60nm,19.0s,baz=279,slow=37
YKA Yellowknife Ar 95.75 23 LR LR 06 15 25.6
comp=Z,49nm,19.6s,baz=282,slow=38

---

*SOME **19** 05:16:27.5, 39°.72N×72°.70E, h5km*
*KRNET **19** 05:16:28.8±0.1, 39°.56N×73°.17E, h19km, mb3.2*
*NNC **19** 05:16:30.9±2.7, 39°.57N×73°.21E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=21.9km s-min=11.8km az=164.0
ISC 19 05:16:29.0±1.4, 39°.69N±0°.05×73°.11E±0°.03, h1km±10km, n39, σ1°94/67, 30C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.45**	**43**	⇑*iP*	**Pb**	**05 16 38.9**	**-1.0**
SFK				⇑*iS*	**Sb**	**05 16 46.3**	**-0.9**
OHH	**Osh**	**0.87**	**344**	⇑*iP*	**Pn**	**05 16 47.6**	**-1.0**
OHH				⇑*iS*	**Sn**	**05 17 01.6**	**-0.4**
DRK	**Karamyk**	**1.03**	**259**	⇑*eP*	**Pg**	**05 16 48.6**	**-0.2**
DRK				⇑*iS*	**Sb**	**05 17 03.3**	**-0.8**
SALK	**Salom-Alik**	**1.31**	**24**	⇑*iP*	**Pg**	**05 16 55.0**	**+0.8**
SALK				⇑*iS*	**Sg**	**05 17 13.8**	**+2.5**
ARSB	**Arslanbob**	**1.64**	**357**	⇑*iP*	**Pg**	**05 17 01.2**	**+0.8**
ARSB				⇑*iS*	**Sg**	**05 17 24.7**	**+3.0**
BTK	**Batken**	**1.80**	**283**	⇑*iP*	**Pb**	**05 17 03.0**	**+0.1**
BTK				⇑*iS*	**Sg**	**05 17 27.9**	**+1.0**
ARK	**Arkit**	**2.28**	**338**	⇑*iP*	**Pb**	**05 17 10.3**	**-0.8**
ARK				⇑*iS*	**Sb**	**05 17 40.7**	**+0.8**
ARLS	**Aral**	**2.36**	**23**	⇑*iP*	**Pb**	**05 17 10.8**	**-1.7**
ARLS				⇑*iS*	**Sb**	**05 17 41.7**	**-0.5**
TRKS	**Terek-Say**	**2.37**	**322**	⇑*eP*	**Pb**	**05 17 10.5**	**-2.2**
TRKS				⇑*iS*	**Sb**	**05 17 41.0**	**-1.6**
AML	**Almayashu**	**2.48**	**10**	⇓*iP*	**Pb**	**05 17 13.2**	**-1.5**
AML				⇓*iS*	**Sb**	**05 17 45.4**	**-0.5**
UCH	**Uchtor**	**2.75**	**22**	⇑*iP*	**Pb**	**05 17 16.6**	**-2.7**
UCH				⇑*iS*	**Sb**	**05 17 51.3**	**-2.5**
MNAS	**Manas**	**2.83**	**351**	⇓*iP*	**Pb**	**05 17 18.1**	**-2.5**
MNAS				⇓*eS*	**Sb**	**05 17 54.0**	**-1.8**
EKS2	**Erkin-Say**	**3.02**	**9**	⇓*iP*	**Pb**	**05 17 20.3**	**-3.3**
EKS2				⇓*iS*	**Sb**	**05 17 57.7**	**-3.3**
MRKS	**Merke**	**3.06**	**2**	Pg	**Pg**	**05 17 28.1**	**+0.5**
MRKS	11nm,0.3s			Lg	Lg	05 18 12.5	
	45nm,0.4s						
MRKS	**Merke**	**3.06**	**2**	*e*P	**Pb**	**05 17 24.6**	**+0.3**
MRKS	11nm,0.3s						
	45nm,0.4s			*e*S	**Sg**	**05 18 05.9**	**-1.4**
AAK	**Ala-Archa**	**3.13**	**19**	⇓*iP*	**Pn**	**05 17 21.7**	**+2.0**
AAK				⇓*iS*	**Sb**	**05 18 20.2**	**-4.1**
CHGR	**Chuyangaron**	**3.24**	**253**	⇑*iP*	**Pn**	**05 17 21.7**	**+0.6**
CHGR				⇑*iS*	**Sn**	**05 18 00.4**	**0.0**
KBK	**Karagaybulak**	**3.28**	**24**	⇑*iP*	**Pn**	**05 17 23.7**	**+2.0**
KBK				⇑*iS*	**Sn**	**05 18 03.7**	**+2.3**
ULHL	**Ulahol**	**3.49**	**42**	⇓*iP*	**Pn**	**05 17 26.0**	**+1.4**
ULHL				⇓*iS*	**Sn**	**05 18 07.9**	**+1.2**
BOOM	**Boomskoye usch**	**3.52**	**36**	⇑*iP*	**Pn**	**05 17 26.8**	**+1.7**
BOOM				⇑*iS*	**Sn**	**05 18 09.0**	**+1.4**
USP	**Ospenovka**	**3.73**	**16**	⇑*iP*	**Pn**	**05 17 30.1**	**+2.3**
USP				⇑*iS*	**Sn**	**05 18 14.6**	**+2.2**
TKM2	**Tokmak 2**	**3.74**	**29**	⇑Pg	**Pg**	**05 17 45.4**	**+4.8**
TKM2	3.0nm,0.5s			Lg	Lg	05 18 30.3	
	12nm,0.6s						
KK31	**Karatay Array**	**3.93**	**331**	⇓Pn	**Pb**	**05 17 35.9**	**-3.3**
KK31	0.7nm,0.3s,baz=131,slow=12,SNR=56			⇓Pg	**Pg**	**05 17 44.6**	**+0.2**
	3.7nm,0.4s,baz=146,slow=13,SNR=21						
KK31				⇓Sn	**Sb**	**05 18 26.1**	**-1.2**
	12nm,0.6s,baz=143,slow=22,SNR=7.5						
KK31				⇑Lg	Lg	05 18 38.7	
	8.1nm,0.5s,baz=157,slow=25,SNR=3.6						
KDJ	**Kajisay**	**3.93**	**50**	⇓*iP*	**Pn**	**05 17 32.1**	**+1.3**
KDJ				⇓*iS*	**Sn**	**05 18 18.5**	**+0.8**
KST	**Kastek**	**3.98**	**32**	Pg	**Pg**	**05 17 44.8**	**-0.6**
KST	4.7nm,0.3s			Lg	Lg	05 18 40.3	
	22nm,0.8s						
KST	**Kastek**	**3.98**	**32**	*e*P	**Pg**	**05 17 44.5**	**-0.8**
KST	4.7nm,0.3s						
	22nm,0.8s			*e*S	**Sg**	**05 18 39.6**	**+2.6**
DGS	**Degeres**	**4.08**	**29**	Pg	**Pg**	**05 17 46.1**	**-1.0**
DGS	4.7nm,0.4s			Lg	Lg	05 18 43.0	
	24nm,0.8s						
MTBS	**Maitube**	**4.25**	**35**	Pg	**Pg**	**05 17 48.4**	**-2.1**
MTBS	2.3nm,0.2s			Lg	Lg	05 18 46.9	
	11nm,0.4s						
MTBS	**Maitube**	**4.25**	**35**	*e*P	**Pg**	**05 17 48.4**	**-2.1**
MTBS	2.3nm,0.2s						
	11nm,0.4s			*e*S	**Sg**	**05 18 46.9**	**+1.3**
TNSS	**Tian-Shan**	**4.42**	**40**	*e*P	**Pg**	**05 17 52.3**	**-1.4**
TNSS	2.7nm,0.4s						
	6.9nm,0.5s			*e*S	**Sg**	**05 18 53.2**	**+2.1**
KRBS	**Karabastau**	**4.44**	**25**	Pg	**Pg**	**05 17 52.4**	**-1.7**
KRBS	1.7nm,0.4s			Lg	Lg	05 18 53.8	
	11nm,0.6s						
MDOK	**Medeo**	**4.56**	**39**	Pg	**Pg**	**05 17 54.5**	**-2.0**
MDOK	4.4nm,0.4s			Lg	Lg	05 18 56.9	
	13nm,0.5s						
MDOK	**Medeo**	**4.56**	**39**	*e*P	**Pg**	**05 17 54.5**	**-2.0**
MDOK	4.4nm,0.4s						
	13nm,0.5s			*e*S	**Sg**	**05 18 56.9**	**+1.3**
KOTS	**Kotyrbulak**	**4.65**	**39**	Pg	**Pg**	**05 17 57.0**	**-1.1**
KOTS	4.3nm,0.3s			Lg	Lg	05 19 00.3	
	28nm,0.6s						
KOTS	**Kotyrbulak**	**4.65**	**39**	*e*P	**Pg**	**05 17 57.0**	**-1.1**
KOTS	4.3nm,0.3s						
	28nm,0.6s			*e*S	**Sg**	**05 19 00.3**	**+2.0**
KTBS	**Karatobe**	**4.83**	**32**	Pg	**Pg**	**05 17 58.7**	**-2.8**
KTBS	3.0nm,0.6s			Lg	Lg	05 19 04.7	
	16nm,0.7s						
ARXS	**Arharly**	**5.73**	**36**	Pg	**Pg**	**05 18 15.5**	**-3.3**
ARXS	0.1nm,0.1s			Lg	Lg	05 19 32.8	
	6.9nm,0.6s						
AB31	**Akbulak array**	**13.39**	**320**	⇓P	**Pn**	**05 19 41.6**	**+1.4**
	0.3nm,0.6s,baz=131,slow=13,SNR=8.0						
AKTO	**Aktyubinsk**	**15.11**	**320**	⇓P	**Pn**	**05 20 01.9**	**-1.7**
	0.5nm,0.8s						

---

*IDC **19** 05:23:38.4±0.5, 4°.84S×153°.53E, h0km, mb4.7/20,*
mbtmp4.7/23, ML3.3/2, MS3.6/28, Error ellipse:
s-maj=18.4km s-min=12.5km az=81.0
*BJI **19** 05:23:44.9, 4°.56S×153°.71E, h53km, mb4.8/48, mB5.3/13,*
Ms4.8/2, Ms7 4.4/2
*NEIC **19** 05:23:47.7±1.7, 4°.93S±0°.09×153°.37E±0°.09, h60km±6km,*
mb4.9/64, Error ellipse: s-maj=15.1km s-min=10.6km
az=49.0
*DJA **19** 05:24:01.3±1.7, 5°.5S±6°.5×15°.3E±°, h177km±14km, M5.1/25,*
mb4.8/25, mB5.8/5, Mw(mB)5.4/5
ISC 19 05:23:46.4±0.3, 4°.96S±0°.05×153°.42E±0°.05, h56km, n258, σ1°28/235, mb4.9/75, MS3.6/28, 4D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**301**		**Pn**	**05 24 09.5**	**-1.1**
RABL				Sn	**Sn**	**05 24 30.1**	**+1.3**
MANU	**Manus Island**	**6.70**	**295**	Pn	**Pn**	**05 25 22.2**	**-0.1**
TATA	**Tatamba Isabel**	**7.20**	**119**	P	**Pn**	**05 25 31.8**	**+2.7**
PMG	**Port Moresby**	**7.62**	**234**	Pn	**Pn**	**05 25 33.5**	**-1.3**
PMG	11nm,0.3s,baz=38,slow=6.0,SNR=24			Sn	**Sn**	**05 26 58.8**	**-1.1**
	18nm,0.3s,baz=57,slow=16,SNR=12						
	110nm,0.7s						
HNR	**Honiara**	**7.86**	**125**	Pn	Pn	05 25 32.9	-5.2
	62nm,0.3s,baz=337,slow=4.4,SNR=1.1						
HNR				Sn	**Sn**	**05 27 04.0**	**-1.7**
	25nm,0.3s,baz=352,slow=19,SNR=1.4						
ALEG	**Aligegeo Malai**	**8.15**	**118**	P	**Pn**	**05 25 44.7**	**+2.5**
HURO	**Huro Makira**	**10.03**	**124**	P	**Pn**	**05 26 09.4**	**+1.5**
JAY	**Jayapura**	**12.91**	**280**	Pn	**Pn**	**05 26 45.1**	**-2.3**
	0.6nm,0.3s,baz=143,slow=20,SNR=1.6						
	14nm,1.0s						
COEN	**Coen**	**13.48**	**228**		**Pn**	**05 26 53.6**	**-1.5**
COEN	**Coen**	**13.48**	**228**	P	**Pn**	**05 26 56.3**	**+1.2**
SMPI	**Sarmi**	**14.97**	**281**	P	**P**	**05 27 20.4**	**+1.2**
	84nm,1.3s						
RKPI	**Ransiki, Papua**	**19.51**	**279**	P	**Pn**	**05 28 10.6**	**-0.4**
	90nm,0.7s						
GUMO	**Guam**	**20.29**	**335**	LR	LR	05 35 34.4	
	comp=Z,73nm,20.5s,baz=96,slow=35						
EIDS	**Eidsvold**	**20.42**	**186**	P	**P**	**05 28 20.8**	**+1.8**
EIDS	**Eidsvold**	**20.42**	**186**	P	**P**	**05 28 18.6**	**-0.4**
QIS	**Mount Isa**	**20.51**	**220**	P	**P**	**05 28 21.9**	**+1.8**
DZM	**Mont Dzumac**	**21.18**	**145**	P	**P**	**05 28 28.3**	**+0.9**
DZM	**Mont Dzumac**	**21.18**	**145**	*e*P	**P**	**05 28 27.6**	**+0.2**
	74nm,0.7s						
DZM				*e*S	**S**	**05 32 13.2**	**-6.8**
	125nm,26.3s						
DZM				*e*LR	LR	05 33 38.7	
	540nm,27.4s						
DZM	**Mont Dzumac**	**21.18**	**145**	P	**P**	**05 28 27.5**	**+0.2**
	59nm,0.5s,baz=305,slow=7.6,SNR=42						
	59nm,0.5s						
DZM	**Mont Dzumac**	**21.18**	**145**	P	**P**	**05 28 28.9**	**+1.5**
FAKI	**Fak Fak**	**21.21**	**275**	P	**P**	**05 28 26.6**	**-1.1**
FAKI	**Fak Fak**	**21.21**	**275**	P	**P**	**05 28 28.6**	**+0.8**
ONTNC	**Ouen Toro**	**21.37**	**145**	P	**P**	**05 28 28.4**	**-0.9**
ONTNC				IAmb	IAmb	05 28 39.0	
	comp=Z,99nm,1.2s						
MTN	**Manton Dam**	**23.35**	**249**	P	**P**	**05 28 49.0**	**-1.2**
MTN				IAmb	IAmb	05 28 59.1	
	comp=Z,46nm,1.2s						
DRS	**Darwin Rock St**	**23.45**	**250**	P	**P**	**05 28 58.1**	**+7.0**
WB0	**Warramunga Arr**	**23.66**	**230**	P	**P**	**05 28 52.2**	**-0.8**
WB0				IAmb	IAmb	05 29 20.6	
	comp=Z,39nm,1.2s						
WRA	**Warramunga Arr**	**23.80**	**230**	P	**P**	**05 28 54.3**	**-0.1**
	comp=Z,10nm,0.7s,baz=53,slow=9.6,SNR=50						
WRA				PcP	**PcP**	**05 32 37.5**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=56,slow=2.7,SNR=7.7						
WRA				LR	LR	05 38 05.4	
	comp=Z,258nm,20.5s,baz=28,slow=36						
	comp=Z,10nm,0.7s						
ARMA	**Armidale**	**25.38**	**184**	P	**P**	**05 29 10.1**	**+1.4**
ARMA				IAmb	IAmb	05 29 11.5	
	comp=Z,24nm,0.8s						
ARMA	**Armidale**	**25.38**	**184**	P	**P**	**05 29 10.6**	**+1.9**
AS01	**Alice Springs**	**26.42**	**223**	P	**P**	**05 29 19.8**	**+1.7**
AS31	**Alice Springs**	**26.45**	**223**	P	**P**	**05 29 17.2**	**-1.2**
ASAR	**Alice Springs**	**26.45**	**223**	P	**P**	**05 29 17.8**	**-0.7**
	comp=Z,12nm,0.3s,baz=57,slow=8.7,SNR=14						
ASAR				PcP	**PcP**	**05 32 43.5**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=61,slow=2.3,SNR=4.1						
ASAR				LR	LR	05 39 04.9	
	comp=Z,194nm,21.6s,baz=57,slow=35						
	comp=Z,12nm,0.3s						
KNRA	**Kununurra**	**26.45**	**244**	P	**P**	**05 29 18.6**	**+0.1**
KNRA				IAmb	IAmb	05 29 24.7	
	comp=Z,29nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**26.73**	**29**	T	T	05 57 45.3	
	baz=208,slow=76,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**26.73**	**29**	T	T	05 57 43.9	
	baz=208,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**26.75**	**29**	T	T	05 57 48.3	
	baz=208,slow=76,SNR=11						
MSVF	**Nonsavu**	**27.23**	**120**	LR	LR	05 39 35.8	
	comp=Z,189nm,20.3s,baz=288,slow=35						
CMSA	**Cobar Meteorol**	**27.41**	**194**	P	**P**	**05 29 27.0**	**+0.1**
STKA	**Stephens Creek**	**28.98**	**201**	P	**P**	**05 29 40.6**	**-0.2**
STKA	**Stephens Creek**	**28.98**	**201**	P	**P**	**05 29 40.1**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=8.7,slow=13,SNR=6.8						
STKA				LR	LR	05 40 52.0	
	comp=Z,180nm,21.3s,baz=23,slow=36						
	comp=Z,3.6nm,0.7s						
STKA	**Stephens Creek**	**28.98**	**201**	P	**P**	**05 29 42.0**	**+1.1**
LCRK	**Leigh Creek**	**29.12**	**208**	P	**P**	**05 29 42.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.12**	**242**	LR	LR	05 43 35.2	
	comp=Z,232nm,19.3s,baz=62,slow=40						
DAV	**Davao City (W)**	**30.24**	**293**	LR	LR	05 41 45.1	
	comp=Z,89nm,18.0s,baz=162,slow=36						
HTT	**Hallett**	**31.38**	**204**	P	**P**	**05 30 02.5**	**+0.4**
JCJ	**Chichijima**	**33.67**	**342**	LR	LR	05 41 47.4	
	comp=Z,87nm,21.5s,baz=86,slow=32						
WBSI	**Waikabubak, Su**	**34.05**	**260**	P	**P**	**05 30 24.4**	**-1.4**
FORT	**Forrest**	**35.05**	**220**	P	**P**	**05 30 33.2**	**-0.9**
OUZ	**Omahuta**	**35.41**	**151**	P	**P**	**05 30 38.3**	**+1.2**
TOZ	**Tahuroa Road**	**38.34**	**151**	P	**P**	**05 31 03.4**	**+1.4**
TOZ				IAmb	IAmb	05 31 04.8	
	comp=Z,22nm,0.8s						
HIZ	**Hauiti**	**38.67**	**153**	P	**P**	**05 31 06.5**	**+1.8**
HIZ	**Hauiti**	**38.67**	**153**	P	**P**	**05 31 07.2**	**+2.5**
WTVZ	**West Tongariro**	**39.49**	**153**	P	**P**	**05 31 14.9**	**+3.2**
HAZ	**Te Kaha**	**39.49**	**149**	P	**P**	**05 31 13.2**	**+1.6**
NNVZ	**North Ngauruho**	**39.52**	**152**	P	**P**	**05 31 14.2**	**+2.2**
URZ	**Urewera**	**39.54**	**150**	P	**P**	**05 31 13.5**	**+1.5**
URZ	**Urewera**	**39.54**	**150**	P	**P**	**05 31 13.8**	**+1.8**
NGZ	**Ngauruhoe**	**39.54**	**153**	P	**P**	**05 31 14.5**	**+2.3**
ETVZ	**East Tongariro**	**39.56**	**152**	P	**P**	**05 31 15.0**	**+2.6**
SNVZ	**South Ngauruho**	**39.57**	**153**	P	**P**	**05 31 14.9**	**+2.5**
RUGZ	**Raukumara Rang**	**39.60**	**149**	P	**P**	**05 31 14.1**	**+1.4**
QRZ	**Quartz Range**	**39.62**	**157**	P	**P**	**05 31 14.6**	**+2.0**
MWZ	**Matawai**	**39.80**	**150**	P	**P**	**05 31 16.4**	**+2.1**
BKZ	**Black Stump Fm**	**39.95**	**152**	P	**P**	**05 31 16.1**	**+0.6**
BKZ				IAmb	IAmb	05 31 17.6	
	comp=Z,17nm,1.0s						
BKZ	**Black Stump Fm**	**39.95**	**152**	P	**P**	**05 31 16.6**	**+1.1**
BKZ	**Black Stump Fm**	**39.95**	**152**	P	**P**	**05 31 16.6**	**+1.1**
RAHZ	**Arahi**	**40.04**	**151**	P	**P**	**05 31 16.7**	**+0.5**
DSZ	**Denniston Nort**	**40.14**	**159**	P	**P**	**05 31 18.0**	**+1.0**
THZ	**Tophouse**	**40.57**	**157**	P	**P**	**05 31 21.4**	**+0.8**
INZ	**Inchbonnie**	**40.87**	**160**	P	**P**	**05 31 23.8**	**+0.8**
SNZO	**South Karori**	**40.90**	**155**	P	**P**	**05 31 24.8**	**+1.6**
SNZO	**South Karori**	**40.90**	**155**	P	**P**	**05 31 24.6**	**+1.4**
WVZ	**Waitaha Valley**	**40.94**	**161**	P	**P**	**05 31 24.0**	**+0.5**
BFZ	**Birch Farm**	**41.05**	**153**	P	**P**	**05 31 25.4**	**+0.9**
BFZ	**Birch Farm**	**41.05**	**153**	P	**P**	**05 31 25.2**	**+0.7**
FOZ	**Fox Glacier**	**41.05**	**162**	P	**P**	**05 31 26.4**	**+2.0**
LTZ	**Lake Taylor**	**41.21**	**159**	P	**P**	**05 31 26.9**	**+1.0**
KHZ	**Kahutara**	**41.37**	**157**	P	**P**	**05 31 27.7**	**+0.7**
KHZ	**Kahutara**	**41.37**	**157**	P	**P**	**05 31 27.3**	**+0.3**
OXZ	**Oxford**	**41.61**	**159**	P	**P**	**05 31 29.0**	**0.0**
RPZ	**Rata Peaks**	**41.62**	**161**	P	**P**	**05 31 30.2**	**+1.1**
RPZ	**Rata Peaks**	**41.62**	**161**	P	**P**	**05 31 30.4**	**+1.3**
RPZ	**Rata Peaks**	**41.62**	**161**	P	**P**	**05 31 30.7**	**+1.6**
GVZ	**Greta Valley S**	**41.65**	**158**	P	**P**	**05 31 28.8**	**-0.6**
LBZ	**Lake Benmore**	**41.94**	**162**	P	**P**	**05 31 32.6**	**+0.9**
MQZ	**McQueen's Vall**	**42.16**	**159**	P	**P**	**05 31 34.0**	**+0.6**
TMZ	**Timaru**	**42.20**	**161**	P	**P**	**05 31 33.2**	**-0.7**
MLZ	**Mavora Lakes**	**42.24**	**165**	P	**P**	**05 31 35.2**	**+1.0**
ODZ	**Otahua Downs**	**42.67**	**162**	P	**P**	**05 31 38.6**	**+0.9**
ODZ	**Otahua Downs**	**42.67**	**162**	P	**P**	**05 31 38.1**	**+0.4**
WHZ	**Wether Hill Ro**	**42.69**	**165**	P	**P**	**05 31 38.8**	**+1.1**
UGM	**Wanagama**	**42.71**	**264**	P	**P**	**05 31 37.0**	**-1.5**
MORW	**Morawa**	**42.72**	**232**	P	P	05 31 43.7	+5.3
BLDU	**Ballidu**	**42.94**	**229**	P	P	05 31 45.7	+5.7
TUZ	**Tuapeka**	**43.20**	**163**	P	**P**	**05 31 41.9**	**+0.1**
JNU	**Nakatsue**	**43.49**	**332**	P	**P**	**05 31 43.8**	**-0.6**
MJAR	**Matsushiro Arr**	**43.67**	**342**	P	**P**	**05 31 43.7**	**-2.1**
	comp=Z,2.2nm,0.8s,baz=156,slow=6.8,SNR=4.2						
MJAR				LR	LR	05 49 57.0	
	comp=Z,34nm,18.1s,baz=171,slow=36						
	comp=Z,2.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.71**	**226**	LR	LR	05 49 55.4	
	comp=Z,208nm,21.7s,baz=50,slow=36						
KPJI	**Karang Pucung**	**44.28**	**265**	P	**P**	**05 31 50.1**	**-1.0**
	comp=Z,32nm,0.8s						
CMJI	**Cimerak**	**44.76**	**264**	P	**P**	**05 31 53.1**	**-1.8**
LEM	**Lembang**	**45.58**	**265**	LR	LR	05 55 39.5	
	comp=Z,44nm,18.4s,baz=7.0,slow=42						
CNJI	**Cibinong**	**46.07**	**265**	P	**P**	**05 32 03.6**	**-1.6**
	comp=Z,45nm,0.9s						
JTM	**Tenmabayashi**	**46.91**	**347**	P	**P**	**05 32 10.3**	**-1.1**
JTM				IAmb	IAmb	05 33 19.0	
	comp=Z,20nm,1.1s						
CGJI	**Cibinong**	**47.49**	**266**	P	**P**	**05 32 15.0**	**-1.4**
	comp=Z,28nm,0.9s						
KSRS	**Korea Array**	**48.42**	**333**	P	**P**	**05 32 21.9**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=149,slow=7.9,SNR=18						
KSRS				LR	LR	05 52 30.0	
	comp=Z,22nm,18.2s,baz=145,slow=36						
	comp=Z,4.9nm,0.7s						
MDSI	**Maura Dua**	**49.06**	**268**	P	**P**	**05 32 27.4**	**-1.1**
	comp=Z,13nm,0.9s						
NJ2	**Nanjing**	**49.36**	**321**	*e*P	**P**	**05 32 31.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
ASAJ	**Asahikawa**	**49.82**	**350**	LR	LR	05 50 37.6	
	comp=Z,60nm,21.9s,baz=92,slow=33						
UBPT	**Khong Chiam**	**51.57**	**294**	P	**P**	**05 32 46.3**	**-1.1**
USRK	**Ussuriysk Ar.**	**52.60**	**341**	P	**P**	**05 32 53.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**52.60**	**341**	P	**P**	**05 32 52.7**	**-1.9**
	comp=Z,7.5nm,0.8s,baz=135,slow=4.1,SNR=10						
USRK				LR	LR	05 54 14.1	
	comp=Z,23nm,18.1s,baz=193,slow=35						
	comp=Z,7.5nm,0.8s						
MDJ	**Mudanjiang**	**53.79**	**339**	P	**P**	**05 33 02.9**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.5s						
CN2	**Changchun**	**54.70**	**335**	P	**P**	**05 33 08.8**	**-1.1**
CN2				sP	pP	05 33 25.4	+1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS	**HongShan**	**55.45**	**323**	⇓P	**P**	**05 33 15.8**	**+0.4**
HNS				pmax	pmax		
	comp=Z,13nm,1.5s						
BNX	**BinXian**	**55.55**	**338**	⇓P	**P**	**05 33 15.6**	**-0.4**
BNX				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN	**Xi'an**	**57.16**	**316**	⇓P	**P**	**05 33 27.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**57.17**	**343**	LR	LR	05 59 14.8	
	comp=Z,23nm,19.2s,baz=166,slow=37						
KMI	**Kunming**	**57.59**	**304**	P	**P**	**05 33 32.4**	**+1.2**
TBI	**Tubuai**	**57.93**	**114**	*e*LR	LR	05 50 37.7	
	comp=Z,367nm,24.0s						
PEA0B	**Petropavlovsk-**	**57.97**	**3**	P	**P**	**05 33 33.5**	**+0.4**
PETK	**Petropavlovsk-**	**57.97**	**3**	P	**P**	**05 33 33.6**	**+0.6**
PETK	**Petropavlovsk-**	**57.97**	**3**	P	**P**	**05 33 31.1**	**-1.9**
	comp=Z,2.7nm,0.5s,baz=167,slow=6.4,SNR=12						
PETK				LR	LR	05 54 22.3	
	comp=Z,43nm,21.5s,baz=176,slow=32						
	comp=Z,2.7nm,0.5s						
CM31	**Chiang Mai Arr**	**58.50**	**295**	P	**P**	**05 33 36.8**	**-0.6**
CM31				IAmb	IAmb	05 33 40.2	
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.50**	**295**	P	**P**	**05 33 36.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**58.50**	**295**	P	**P**	**05 33 37.5**	**0.0**
	comp=Z,1.6nm,0.4s,baz=116,slow=4.9,SNR=14						
CMAR				LR	LR	05 57 19.5	
	comp=Z,29nm,20.8s,baz=115,slow=34						
	comp=Z,1.6nm,0.4s						
PZH	**PanZhiHua**	**58.97**	**305**	P	**P**	**05 33 41.4**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s	

E19K	Redstone River	80.16	17	IAmb	IAmb	05 36 38.6
	comp=Z,14nm,1.0s					
MK31	Makanchi Array	80.85	319	IAmb	IAmb	05 35 55.9
	comp=Z,14nm,0.9s					
MKAR	Makanchi Array	80.85	319	P	P	05 35 54.6 +0.1
MKAR	Makanchi Array	80.85	319	P	P	05 35 54.9 +0.4
	comp=Z,16nm,0.9s,baz=99,slow=6.8,SNR=99					
	comp=Z,16nm,0.9s					
MAKZ	Makanchi	81.06	319	P	P	05 35 55.7 +0.1
MAKZ				IAmb	IAmb	05 35 57.0
	comp=Z,25nm,0.8s					
ZAA0	Zalesovo Array	81.63	326	IAmb	IAmb	05 35 58.6
	comp=Z,14nm,0.8s					
ZALV	Zalesovo Beam	81.63	326	P	P	05 35 57.2 -1.2
ZALV	Zalesovo Beam	81.63	326	P	P	05 35 57.8 -0.6
	comp=Z,13nm,0.6s,baz=112,slow=5.5,SNR=48					
	comp=Z,13nm,0.6s					
SHLS	Shalkode	81.78	315	*e*P	P	05 35 57.7 -2.0
	comp=Z,4.9nm,0.6s					
ILAR	Eielson Array	82.08	22	P	P	05 35 59.0 -1.6
	comp=Z,1.3nm,0.7s,baz=254,slow=4.9,SNR=12					
ILAR				LR	LR	06 05 46.5
	comp=Z,59nm,21.9s,baz=176,slow=31					
	comp=Z,1.3nm,0.7s					
UZB	Uzynbulak	82.09	315	*e*P	P	05 36 01.0 -0.3
	comp=Z,14nm,1.3s					
KPKS	Kokpek	82.41	315	*e*P	P	05 36 02.5 -0.4
SATY	Saty	82.51	314	*e*P	P	05 36 03.0 -0.4
	comp=Z,9.1nm,1.4s					
ZHN	Zhinishke	82.51	315	*e*P	P	05 36 02.9 -0.6
J25K	Salcha River,	82.57	22	IAmb	IAmb	05 36 49.9
	comp=Z,14nm,1.3s					
TDK	Taldyqorghan	82.98	316	*e*P	P	05 36 05.3 -0.4
	comp=Z,5.1nm,0.6s					
D23K	Nanushuk River	83.02	18	IAmb	IAmb	05 36 54.2
	comp=Z,9.9nm,1.0s					
KDJ	Kajisay	83.17	313	IAmb	IAmb	05 36 08.9
	comp=Z,21nm,1.2s					
SEM	Semipalatinsk	83.19	322	*e*P	P	05 36 06.1 -0.8
MDOK	Medeo	83.50	314	*e*P	P	05 36 08.2 -0.4
KSH	Kashi	83.51	311	P	P	05 36 11.3 +2.6
KSH				pmax	pmax	
	comp=Z,7.0nm,0.9s					
AAA	Alma-Ata	83.60	314	*e*P	P	05 36 08.7 -0.4
ULHL	Ulahol	83.88	313	P	P	05 36 11.7 +1.0
	SNR=5.8					
KURK	Kurchatov	84.27	322	P	P	05 36 11.8 -0.4
KURK				IAmb	IAmb	05 36 13.2
	comp=Z,25nm,0.9s					
KURBB	Kurchatov Arra	84.30	322	P	P	05 36 12.1 -0.2
	comp=Z,11nm,0.8s,baz=107,slow=4.3,SNR=67					
	comp=Z,11nm,0.8s					
TKM2	Tokmak 2	84.48	314	P	P	05 36 14.3 +0.6
	SNR=13					
NIL	Nilore	84.57	304	P	P	05 36 14.3 +0.2
NIL				IAmb	IAmb	05 36 15.1
	comp=Z,15nm,0.8s					
KBK	Karagaybulak	84.90	313	P	P	05 36 16.7 +0.9
	SNR=8.7					
QSPA	South Pole Qui	85.00	180	P	P	05 36 16.4 +0.7
QSPA	South Pole Qui	85.00	180	P	P	05 36 16.7 +1.0
	comp=Z,32nm,0.6s,baz=234,slow=0.3,SNR=337					
	comp=Z,32nm,0.6s					
AAK	Ala-Archa	85.22	313	P	P	05 36 17.8 +0.4
AAK				IAmb	IAmb	05 36 19.0
	comp=Z,12nm,0.6s					
AAK	Ala-Archa	85.22	313	P	P	05 36 18.3 +0.9
	SNR=16					
SGDS	Sogindy	85.28	314	*e*P	P	05 36 17.0 -0.5
J29N	Klondike Camp	85.31	24	P	P	05 36 19.0 +1.8
J29N				IAmb	IAmb	05 37 07.0
	comp=Z,7.8nm,1.1s					
AML	Almayashu	85.71	313	P	P	05 36 21.4 +1.3
	SNR=21					
EKS2	Erkin-Say	85.75	313	P	P	05 36 20.7 +0.8
	SNR=9.6					
BTLS	Baital	86.00	316	*e*P	P	05 36 21.1 +0.1
	comp=Z,6.2nm,1.2s					
NRIK	Noril'sk	86.31	341	IAmb	IAmb	05 36 23.5
	comp=Z,16nm,1.1s					
NRIK	Noril'sk	86.31	341	P	P	05 36 21.9 -0.1
	comp=Z,8.9nm,0.6s,baz=116,slow=3.9,SNR=17					
	comp=Z,8.9nm,0.6s					
BTK	Batken	87.51	310	IAmb	IAmb	05 36 29.4
	comp=Z,5.8nm,0.8s					
DZA	Taraz	87.56	313	*e*P	P	05 36 28.2 -0.5
GAR	Garm	87.74	309	IAmb	IAmb	05 36 30.9
	comp=Z,11nm,0.9s					
KKAR	Karatay Array	88.19	313	P	P	05 36 30.7 -0.9
KKAR	Karatay Array	88.19	313	IAmb	IAmb	05 36 34.7
	comp=Z,2.4nm,0.9s					
INK	Inuvik	88.39	21	LR	LR	06 11 51.6
	comp=Z,92nm,21.0s,baz=241,slow=33					
YBH	Yreka Blue Hor	88.70	48	LR	LR	06 08 23.0
	comp=Z,86nm,22.0s,baz=256,slow=30					
SIMJ	Simiganj	88.71	309	P	P	05 36 34.5 +0.2
SIMJ				IAmb	IAmb	05 36 35.8
	comp=Z,6.1nm,0.8s					
BVAR	Borovoye Array	89.74	323	P	P	05 36 38.1 -0.6
	comp=Z,11nm,0.6s,baz=107,slow=5.6,SNR=30					
	comp=Z,11nm,0.6s					
BRVK	Borovoye	89.81	323	P	P	05 36 38.3 -0.7
BRVK				IAmb	IAmb	05 36 55.1
	comp=Z,13nm,0.9s					
NVAR	Mina Array Bea	91.70	52	P	P	05 36 47.0 -1.4
	comp=Z,0.2nm,0.5s,baz=254,slow=4.7,SNR=2.3					
NVAR				LR	LR	06 11 15.9
	comp=Z,75nm,20.9s,baz=232,slow=31					
	comp=Z,0.2nm,0.5s					
A36M	Sachs Harbour	92.00	18	IAmb	IAmb	05 37 11.1
	comp=Z,8.0nm,1.3s					
NEW	Newport	93.31	42	LR	LR	06 11 42.4
	comp=Z,38nm,21.0s,baz=253,slow=31					
YKA	Yellowknife Ar	95.28	28	P	P	05 37 03.1 -0.9
	comp=Z,0.4nm,0.8s,baz=270,slow=5.0,SNR=5.5					
	comp=Z,0.4nm,0.8s					
ABKAR	Akbulak array	96.00	319	P	P	05 37 06.0 -1.6
ABKAR				IAmb	IAmb	05 37 22.8
	comp=Z,3.0nm,0.9s					
ELIB	Princess Elisa	96.80	194	*d*P	P	05 37 10.6 -0.4
	comp=Z,2.9nm,0.9s					
LPIG	La Paz	97.72	66	LR	LR	06 11 44.5
	comp=Z,47nm,21.8s,baz=250,slow=30					
PDAR	Pinedale Array	98.50	48	LR	LR	06 16 46.6
	comp=Z,39nm,19.0s,baz=263,slow=32					
ARCES	ARCESS Array B	107.20	343	PKiKP	PKiKP	05 42 06.5 +0.6
	comp=Z,3.0nm,0.9s,baz=346,slow=1.7,SNR=5.2					
FINES	FINESS Array B	111.45	336	PKiKP	PKiKP	05 42 15.9 +1.8
	comp=Z,1.8nm,0.8s,baz=119,slow=1.7,SNR=3.8					
AKASG	Malin Array Be	114.98	325	PKP	PKiKP	05 42 20.7 -0.4
	comp=Z,4.1nm,0.6s,baz=59,slow=2.4,SNR=18					
BRTR	Keskin Array B	115.87	312	PKP	PKiKP	05 42 22.6 -0.9
	comp=Z,0.7nm,0.6s,baz=85,slow=2.6,SNR=3.9					
HFS	Hagfors	117.05	339	PKP	PKPdf	05 42 24.5 -0.4
	comp=Z,0.7nm,0.5s,baz=328,slow=5.1,SNR=4.3					
NOA	NORSAR Array B	117.27	340	PKP	PKPdf	05 42 23.9 -1.4
	comp=Z,0.7nm,0.7s,baz=47,slow=2.1,SNR=4.0					
BORA	Eskisehir	118.16	313		PKPdf	05 42 27.8 +0.1
PLCA	Paso Flores	119.28	143	PKP	PKiKP	05 42 30.9 +1.0
	comp=Z,0.6nm,0.5s,baz=176,slow=4.6,SNR=4.1					
KOLS	Kolonicke sedl	119.79	325	*e*PKP	PKiKP	05 42 31.8 +1.2
BOSA	Boshof	120.02	233	PKP	PKiKP	05 42 32.6 +0.7
	comp=Z,1.4nm,0.5s,baz=115,slow=1.5,SNR=6.5					
RDO	Rodhopi	121.22	316	PKPdf	PKPdf	05 42 32.9 -0.6
LANS	Liptovska Anna	121.25	326	*e*PKP	PKiKP	05 42 35.1 +1.6
STEB	Steborice	121.73	328	*e*PKP	PKiKP	05 42 34.9 +0.5
MODS	Modra-Piesok	122.89	327	*e*PKP	PKiKP	05 42 37.7 +1.0
BRG	Berggiesshubel	123.11	331	*e*PKP	PKiKP	05 42 37.3 +0.2
BRG				Amp		05 42 38.2
	comp=Z,4.6nm,0.7s					
BRG				PP	PP	05 44 26.1 +10
BRG				Amp		05 44 27.0
	comp=Z,2.3nm,0.6s					
CLL	Collm	123.29	331	*i* PKPdf	PKiKP	05 42 37.5 +0.1
	comp=Z,8.0nm,0.8s					
TREC	Trest	123.31	328	*e*PKP	PKPdf	05 42 35.1 -2.2
PRU	Pruhonice	123.37	329	*e*PKP	PKiKP	05 42 37.8 +0.2
RONA	Rosalia, Austr	123.81	326	*e*PKiKP	PKiKP	05 42 38.9 +0.3
	comp=Z,3.6nm,0.7s					
ZVC	Zvikov	123.89	329	*e*PKP	PKiKP	05 42 39.2 +0.6
CONA	Conrad Observa	123.92	327	*e*PKiKP	PKiKP	05 42 39.2 +0.4
	comp=Z,3.8nm,0.6s					
CKRC	Cesky Krumlov	124.21	328	*e*PKP	PKiKP	05 42 39.9 +0.6
KHC	Kasperske Hory	124.39	329	*e*PKP	PKiKP	05 42 40.3 +0.6
GERES	GERESS Array B	124.51	329	PKPdf	PKPdf	05 42 39.6 -0.1
GERES	GERESS Array B	124.51	329	PKP	PKiKP	05 42 40.3 +0.3
	comp=Z,4.7nm,0.6s,baz=81,slow=1.8,SNR=18					
MOA	Molln	124.83	328	*e*PKiKP	PKPdf	05 42 40.5 +0.3
	comp=Z,4.5nm,1.0s					
CO03	El Pedregal	124.86	133		PKPdf	05 42 39.1 -1.8
SOKA	Soboth	125.11	326	*e*PKiKP	PKPdf	05 42 41.1 +0.2
	comp=Z,6.0nm,1.1s					
BIOA	Bad Ischl, Aus	125.26	328	*e*PKiKP	PKPdf	05 42 41.3 +0.2
	comp=Z,2.0nm,0.7s					
OBKA	Obir	125.48	326	*e*PKP	PKPdf	05 42 41.5 -0.1
	comp=Z,2.8nm,1.0s					
BOJS	Bojanci	125.67	325	*i* PKPdf	PKiKP	05 42 42.7 +0.4
KBA	Koelnbreinsper	125.79	327	*e*PKP	PKPdf	05 42 42.0 -0.4
	comp=Z,3.6nm,1.0s					
MYKA	Terra Mystica	125.91	327	*e*PKP	PKPdf	05 42 42.5 +0.1
	comp=Z,1.8nm,0.5s					
LESA	Schwarzleotal	125.94	328	*i* PKP	PKPdf	05 42 42.6 +0.1
	comp=Z,5.3nm,0.5s,SNR=6.0					
CEY	Cerknica	126.00	325	*i* PKPdf	PKiKP	05 42 43.0 0.0
EKA	Eskdalemuir Ar	126.36	344	PKP	PKPdf	05 42 42.8 -0.1
	comp=Z,0.2nm,0.3s,baz=35,slow=3.8,SNR=1.6					
ABTA	Abfaltersbach	126.45	327	*e*PKP	PKPdf	05 42 43.3 -0.2
	comp=Z,4.1nm,0.6s					
WATA	Walderalm	126.57	328	*e*PKiKP	PKPdf	05 42 43.9 +0.1
	comp=Z,5.7nm,0.9s					
WTTA	Wattenberg	126.58	328	*e*PKiKP	PKiKP	05 42 44.5 +0.1
	comp=Z,12nm,0.9s					
MOTA	Moosalm	126.81	329	*e*PKiKP	PKPdf	05 42 44.6 +0.4
	comp=Z,8.1nm,0.7s					
SQTA	Sankt Quirin	126.83	329	*e*PKiKP	PKiKP	05 42 44.9 +0.2
	comp=Z,8.9nm,0.9s					
RETA	Reutte	126.89	329	*e*PKiKP	PKPdf	05 42 44.6 +0.3
	comp=Z,1.6nm,0.6s					
FETA	Feichten	127.21	329	*i* PKiKP	PKiKP	05 42 45.9 +0.4
	comp=Z,7.5nm,0.9s,SNR=9.5					
SGRT	San Giovanni R	127.45	321	PKPdf	PKPdf	05 42 45.7 +0.1
DAVA	Damuels	127.47	329	*i* PKiKP	PKiKP	05 42 46.3 +0.2
	comp=Z,6.0nm,0.7s,SNR=4.5					
TUE	Stuetta	128.29	329	PKPdf	PKiKP	05 42 47.7 -0.1
TA02	Huaiquique	130.42	122		PKPdf	05 42 50.0 -1.6
KEST	Kesra	134.34	318	PKP	PKPdf	05 42 59.6 -0.2
	comp=Z,2.4nm,0.6s,baz=4.6,slow=3.6,SNR=5.5					
ESDC	Sonseca Array	139.85	333	PKP	PKPdf	05 43 08.5 -0.4
	comp=Z,0.6nm,0.5s,baz=5.6,slow=3.0,SNR=6.0					
BDFB	Brasilia	150.52	134	PKPbc	PKPbc	05 43 32.1 -1.0
	comp=Z,4.1nm,0.4s,baz=303,slow=1.4,SNR=14					

*IDC **19** 05:31:19.2±5.6, 37.°26N×20.°28E, h0km, mb3.8/3, mbtmp3.7/4, ML4.3/1, MS3.1/2, Error ellipse: s-maj=94.7km s-min=49.5km az=41.0*
*TIR **19** 05:31:20.6, 37.°45N×19.°70E, h0km±3km, Md3.5/2, Ml3.7/6*
*THE **19** 05:31:25.4, 37.°38N×20.°47E, h0km±1km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=0.6km az=223.0*
*ATH **19** 05:31:26.0, 37.°43N×20.°47E, h12km±1km, ML3.5/33, Manual Solution by D.Makaris First location: 2019/02/19 05:32:18, This location: 2020/09/25 14:51:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 19 05:31:24.8±1.4, 37.°40N±0.°04×20.°43E±0.°04, h12km±8km, n105, σ1°49/141, mb3.8/3, 1-C2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.45	46	P	Pg	05 31 33.5	-0.1
LTHK				S	Sg	05 31 39.8	+0.2
LTHK	Lithakia	0.45	46	P	Pg	05 31 34.0	+0.4
LTHK				S	Sg	05 31 39.3	-0.3
ORTH	Orthonies,Zaky	0.50	25	P	Pg	05 31 35.1	+0.5
ORTH				S	Sg	05 31 41.6	+0.3
KYPS	Kipseli, Zakin	0.52	36	P	Pg	05 31 35.6	+0.5
KYPS				S	Sg	05 31 42.6	+0.7
PSDA	Pessada-Kefalo	0.72	9	P	Pg	05 31 38.8	-0.1
PSDA				S	Sb	05 31 50.7	+1.4
	6μm,0.2s						
PSDA	Pessada-Kefalo	0.72	9	P	Pb	05 31 39.6	+0.2
PSDA				S	Sb	05 31 49.6	+0.3
RTZL	Ratzakli, Kefa	0.73	22	P	Pg	05 31 38.7	-0.2
RTZL				S	Sb	05 31 50.0	+0.6
CLEM	Kyllini,Ilia,G	0.74	48	P	Pg	05 31 39.7	+0.5
CLEM				S	Sb	05 31 49.5	-0.2
VLS	Valsamata	0.79	9	P	Pg	05 31 39.7	-0.4
VLS				S	Sb	05 31 52.8	+1.7
	5μm,0.6s						
VLS	Valsamata	0.79	9	P	Pb	05 31 41.1	+0.6
VLS				S	Sb	05 31 51.1	0.0
DMLN	Damoulianata-K	0.84	357	P	Pg	05 31 41.6	+0.5
DMLN				S	Sb	05 31 54.5	+1.8
DMLN	Damoulianata-K	0.84	357	P	Pg	05 31 41.7	+0.6
SMHA	Samh	0.87	11	P	Pg	05 31 42.0	+0.3
SMHA				S	Sb	05 31 53.9	+0.5
ZARO	Zacharo	0.97	84	P	Pg	05 31 44.0	+0.5
ZARO				S	Sb	05 31 56.9	+0.5
AMT	Artemida-Makis	1.02	82	P	Pb	05 31 45.2	+0.7
AMT				S	Sb	05 31 58.5	+0.6
RLS	Riolos of Patr	1.05	51	P	Pg	05 31 44.3	-0.8
RLS				S	Sb	05 32 00.0	+1.3
	2μm,0.6s						
RLS	Riolos of Patr	1.05	51	P	Pb	05 31 45.6	+0.6
RLS				S	Sg	05 31 57.8	-0.9
FSK	Fiskardo	1.06	5	P	Pg	05 31 45.5	+0.2
FSK				S	Sn	05 32 02.1	+1.8
	2μm,0.5s						
FSK	Fiskardo	1.06	5	P	Pb	05 31 45.9	+0.7
FSK				S	Sb	05 31 59.5	+0.4
AXS	Araxos	1.09	43	P	Pg	05 31 45.8	0.0
AXS				S	Sb	05 32 00.3	+0.4
DRO	Drossia	1.15	61	P	Pg	05 31 46.5	-0.5
DRO	Drossia	1.15	61	P	Pg	05 31 46.2	-0.8
DRO				S	Sg	05 32 01.6	-0.5
MTHA	Methoni	1.17	119	P	Pg	05 31 47.9	+0.6
ITM	Ithomi	1.21	100	P	Pg	05 31 47.9	-0.2
ITM	Ithomi	1.21	100	P	Pg	05 31 48.1	0.0
EVGI	Lefkada island	1.23	8	P	Pb	05 31 48.9	+0.8
EVGI				S	Sn	05 32 07.3	+2.8
	1μm,0.4s						
EVGI	Lefkada island	1.23	8	P	Pg	05 31 48.5	-0.1
EVGI				S	Sg	05 32 04.1	-0.5
DRAG	Dragano-Lefkad	1.29	5	P	Pb	05 31 49.8	+0.8
DRAG				S	Sn	05 32 09.2	+3.3
DRAG	Dragano-Lefkad	1.29	5	P	Pg	05 31 49.7	+0.1
DRAG				S	Sg	05 32 05.8	-0.6
NYDR	Nydri-Lefkada	1.33	9	P	Pg	05 31 49.7	-0.7
NYDR				S	Sn	05 32 10.3	+3.5
	922nm,0.6s						
UPR	University Cam	1.39	50	P	Pb	05 31 51.7	+1.0
LKD2	Lefkada island	1.40	7	Pn	Pg	05 31 50.5	-1.2
LKD2				Sn	Sn	05 32 13.4	+4.8
LKD2				AML	AML	05 32 13.8	
	8.0nm,0.5s						
LKD2				AMd		05 33 47.6	
LKD2	Lefkada island	1.40	7	P	Pb	05 31 51.9	+1.0
LKD2				S	Sn	05 32 12.3	+3.6
LKD2	Lefkada island	1.40	7	P	Pg	05 31 51.7	0.0
LKD2				S	Sg	05 32 09.1	-0.8
TSLK	Tsoukalades, L	1.43	7	P	Pb	05 31 52.6	+1.1
TSLK				S	Sn	05 32 12.7	+3.2
TSLK	Tsoukalades, L	1.43	7	P	Pn	05 31 50.8	+0.1
PVO	Paravola	1.49	35	P	Pn	05 31 51.3	-0.2
KLV	Kalavryta, Ach	1.51	64	P	Pn	05 31 52.8	+1.1
KLV	Kalavryta, Ach	1.51	64	P	Pn	05 31 52.5	+0.8
KLV				S	Sg	05 32 12.7	-0.7
EFP	Efpalio	1.55	48	P	Pn	05 31 54.0	+1.7
EFP	Efpalio	1.55	48	P	Pn	05 31 53.9	+1.7
EFP				S	Sg	05 32 14.0	-0.8
ALIK	Aliki, Aigiali	1.58	57	P	Pn	05 31 54.0	+1.3
GUR	Goura	1.61	70	P	Pn	05 31 53.8	+0.6
GUR	Goura	1.61	70	P	Pn	05 31 54.2	+1.1
ANX	Ano Chora	1.67	44	P	Pn	05 31 55.3	+1.2
ANX	Ano Chora	1.67	44	P	Pb	05 31 56.1	+0.4
KALE	Kalithea	1.67	53	P	Pn	05 31 55.7	+1.7
KALE				S	Sg	05 32 18.0	-0.7
	1μm,0.6s						
KALE	Kalithea	1.67	53	P	Pn	05 31 55.9	+1.9
MAKR	Makrakomi, Fth	2.09	39	P	Pn	05 32 01.9	+2.1
LTK	Loutraki	2.10	72	P	Pn	05 32 00.4	+0.5
VLI	Veliai	2.12	108	P	Pn	05 32 01.9	+1.9
VLI	Veliai	2.12	108	P	Pn	05 32 02.4	+2.3
IGT	Igoumenitsa	2.13	358	Pn	Pn	05 32 01.2	+0.9
IGT				Sn	Sn	05 32 29.5	+2.8
IGT				AML	AML	05 32 48.3	
	1.1nm,0.7s						
IGT				AMd		05 34 24.2	
IGT	Igoumenitsa	2.13	358	P	Pn	05 32 02.6	+2.3
IGT	Igoumenitsa	2.13	358	P	Pn	05 32 01.9	+1.6
KRND	KRANIDI	2.16	90	P	Pn	05 32 02.7	+2.0
AXAR	Agios Charalam	2.22	51	P	Pn	05 32 03.1	+1.5
AXAR	Agios Charalam	2.22	51	P	Pn	05 32 02.9	+1.3
MET5	Makryloggos,Me	2.34	84	P	Pn	05 32 04.0	+1.0
KEK	Kerkira	2.36	348	P	Pn	05 32 05.7	+2.2
MET4	Agioi Theodoro	2.37	84	P	Pn	05 32 03.9	+0.4
LKR	Lokris	2.38	58	P	Pn	05 32 04.5	+0.9
VIL2	Platees	2.39	69	P	Pn	05 32 04.4	+0.6
VILL	Villia	2.41	71	P	Pn	05 32 04.9	+0.8
VILL				S	Sn	05 32 37.1	+3.6
THL	Klokotos Trika	2.49	29	P	Pn	05 32 07.1	+1.9
THL	Klokotos Trika	2.49	29	P	Pn	05 32 06.7	+1.5
SRN	Sarande	2.50	352	Pn	Pn	05 32 05.7	+0.4
SRN				Sn	Sn	05 32 35.6	-0.1
SRN				AML	AML	05 33 01.0	
	0.5nm,0.6s						
SRN	Sarande	2.50	352	P	Pn	05 32 06.7	+1.4
KPRO	Kipourio	2.65	16	P	Pn	05 32 09.5	+2.0
TYRN	Tyrnavos	2.71	31	P	Pn	05 32 09.4	+1.3
TYRN	Tyrnavos	2.71	31	P	Pn	05 32 09.2	+1.0
VLY	Voula,Athens	2.71	79	P	Pn	05 32 10.0	+1.8
LSK	Leskovik	2.75	3‖	*e*Pn	Pn	05 32 10.5	+1.7
LSK				Sn	Sb	05 32 48.0	+0.3
LSK				AML	AML	05 33 10.2	
	1.5nm,0.9s						
LSK	Leskovik	2.75	3	P	Pn	05 32 10.8	+1.9
ANKY	Antikythira Is	2.77	123	P	Pn	05 32 10.8	+1.8
ANKY	Antikythira Is	2.77	123	P	Pn	05 32 11.1	+2.1
PENT	Pentalofos	2.85	11	P	Pn	05 32 12.8	+2.6
DION	Dionisos Attik	2.86	75	P	Pn	05 32 11.2	+0.9
DION	Dionisos Attik	2.86	75	P	Pn	05 32 10.5	+0.2
NEO	Neokhori	2.91	48	P	Pn	05 32 11.2	+0.3
XOR	Xorichti	2.92	47	P	Pn	05 32 11.7	+0.5
XOR	Xorichti	2.92	47	P	Pn	05 32 11.6	+0.5
NEST	Nestorio	3.05	9‖	*i* Pn	Pn	05 32 16.1	+3.1
NEST				Sn	Sb	05 32 57.6	+1.2
NEST				AML	AML	05 33 10.6	
	0.3nm,0.5s						
NEST	Nestorio	3.05	9	P	Pn	05 32 15.5	+2.5
NEST	Nestorio	3.05	9	P	Pn	05 32 14.2	+1.2
SCTE	Santa Cesarea	3.08	331‖	*e*Pn	Pn	05 32 13.2	-0.1
SCTE				Sn	Sn	05 32 48.5	-1.5
SCTE				AML	AML	05 33 20.7	
	0.7nm,0.8s						
SCTE	Santa Cesarea	3.08	331	P	Pn	05 32 15.2	+1.9
KZN	Kozani	3.08	19	P	Pn	05 32 14.8	+1.3
KZN	Kozani	3.08	19	P	Pn	05 32 15.2	+1.8
LIT	Litokhoron	3.14	30	P	Pn	05 32 14.7	+0.5
KYMI	Kymi, Euboea I	3.15	66	P	Pn	05 32 15.8	+1.6
KYMI	Kymi, Euboea I	3.15	66	P	Pn	05 32 14.7	+0.4
TIP	Timpagrande	3.39	303	P	Pn	05 32 20.2	+2.5
PAIG	Paliouri	3.58	44	P	Pn	05 32 21.4	+1.2
OHR	Ohrid	3.72	4	*i* Pn	Pn	05 32 24.2	+2.1
PLG	Polygyros	3.79	37	P	Pn	05 32 23.4	+0.3
HORT	Hortiatis	3.81	32	P	Pn	05 32 23.8	+0.4
IDI	Anoyia	4.17	119	P	Pn	05 32 30.0	+1.7
NVR	Nevrokopi	4.76	33	P	Pn	05 32 38.2	+1.8
DAVOX	Davos/Dischmat	12.21	323	LR	LR	05 39 42.5	
	comp=Z,13nm,19.5s,baz=247,slow=41						
AKASG	Malin Array Be	14.71	23	Pn	Pn	05 34 49.9	-2.7
	1.4nm,0.3s,baz=211,slow=8.6,SNR=11						
	0.3nm,0.5s						
HFS	Hagfors	23.16	351	P	P	05 36 28.1	-2.8
	3.5nm,0.7s,baz=160,slow=13,SNR=5.8						
	3.5nm,0.7s						
FINES	FINESS Array B	24.33	7	P	P	05 36 39.7	-2.4
	1.6nm,0.6s,baz=179,slow=9.7,SNR=6.3						
	1.6nm,0.6s						
MKAR	Makanchi Array	45.77	58	P	P	05 39 43.6	-2.5
	0.6nm,0.5s,baz=274,slow=7.8,SNR=7.7						
	0.6nm,0.5s						
LEM	Lembang	91.87	97	LR	LR	06 31 15.7	
	comp=Z,70nm,20.3s,baz=158,slow=39						

*SCB **19** 05:41:21.3±1.2, 17.°29S×64.°72W, h28km±7km, ML3.5/2, MW3.2, Error ellipse: s-maj=6.3km s-min=4.5km az=0.0*
*VAO **19** 05:41:30.0±1.1, 17.°35S×64.°42W, h79km±25km, mb4.0*

ISC 19 05:41:26.1±1.0, 17.°40S±0.°07×64.°67W±0.°06, h35km, n19, σ1°37/27, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOEA	Aiquile	0.94	215	Pg	Pn	05 41 41.0	-2.1
AOEA	Aiquile	0.94	215	Pg	Pn	05 41 41.2	-1.9
AOEA				Sg	Sn	05 41 54.7	-0.9
AOEA				IAML		05 42 01.4	
	2μm,1.0s						
SOET	ToroToro	1.30	237

PCJI S **Sn** **06 09 42.8 +2.2**
ABJI Asem Bagus 2.32 37 P **Pn** **06 09 18.7 +2.4**
DNP Denpasar 2.54 67 P **Pn** **06 09 22.6 +3.2**
NGJI Ngawi 2.66 329 P **Pn** **06 09 24.4 +3.4**
GRJI Gresik 2.76 353 P **Pn** **06 09 25.0 +2.7**
GRJI S **Sn** **06 09 54.6 +0.2**
SRBI Singaraja 2.83 56 P **Pn** **06 09 26.0 +2.7**
KMMI Kalianget 2.83 23 P **Pn** **06 09 25.2 +1.9**
UGM Wanagama 2.87 307 P **Pn** **06 09 24.5 +0.5**
TBJI Tambak Boyo 2.99 341 P **Pn** **06 09 28.2 +2.6**
YOGI Yogyakarta 3.11 306 P **Pn** **06 09 30.8 +3.6**
SMRI Semarang 3.52 317 P **Pn** **06 09 35.6 +2.8**
TWSI Taliwang, Sumb 4.10 77 P **Pn** **06 09 44.1 +3.3**
KPJI Karang Pucung 4.50 301 P **Pn** **06 09 50.4 +4.0**
CMJI Cimerak 4.72 293 P **Pn** **06 09 51.9 +2.5**
PLAI Plampang 4.95 81 P **Pn** **06 09 55.4 +2.9**
CGJI Cibinong 7.69 293 P **Pn** **06 10 33.6 +3.4**
KAPI Kappang 8.27 57 LR LR 06 14 09.7
comp=Z,78nm,20.2s,baz=255,slow=42
BSSI Bau Bau, Buton 8.35 66 P **Pn** **06 10 42.3 +3.0**
20nm,0.5s
BKSI Bulukumba 8.41 60 P **Pn** **06 10 43.1 +3.0**
9.1nm,0.5s
PPBI Pangkal Pinang 10.00 318 P **Pn** **06 11 04.1 +2.3**
FITZ Fitzroy Crossi 14.98 125 Pn **Pn** **06 12 07.8 -2.0**
0.3nm,0.3s,baz=311,slow=10,SNR=8.2
FITZ Sn Sn 06 14 42.1 -13
0.5nm,0.3s,baz=216,slow=23,SNR=3.6
1.5nm,0.6s
WRA Warramunga Arr 23.14 119 P **P** **06 13 44.0 +0.1**
2.4nm,0.9s,baz=290,slow=12,SNR=7.3
2.4nm,0.9s
ASAR Alice Springs 24.47 127 P **P** **06 13 57.6 +1.1**
2.4nm,0.7s,baz=305,slow=9.3,SNR=15
2.4nm,0.7s
STKA Stephens Creek 34.61 134 P **P** **06 15 28.1 +1.6**
1.0nm,0.6s,baz=324,slow=14,SNR=2.8
1.0nm,0.6s
MJAR Matsushiro Arr 51.79 26 P **P** **06 17 41.6 -3.3**
2.0nm,0.7s,baz=193,slow=6.5,SNR=4.1
2.0nm,0.7s
SONM Songino Array 57.53 355 P **P** **06 18 25.1 -1.4**
2.0nm,0.7s,baz=176,slow=8.8,SNR=6.2
2.0nm,0.7s
MKAR Makanchi Array 62.47 337 P **P** **06 18 58.6 -1.7**
1.7nm,0.4s,baz=151,slow=7.3,SNR=40
1.7nm,0.4s
ZALV Zalesovo Beam 67.67 343 P **P** **06 19 31.7 -2.2**
0.9nm,0.4s,baz=166,slow=6.2,SNR=6.2
0.9nm,0.4s
AKTO Aktyubinsk 76.41 327 P **P** **06 20 25.7 -0.6**
1.1nm,0.4s,baz=76,slow=4.2,SNR=5.4
1.1nm,0.4s
SEY Seymchan 78.49 17 LR LR 06 58 17.7
comp=Z,90nm,21.6s,baz=330,slow=38
ARTI Arti 79.62 333 P **P** **06 20 42.5 -1.6**
2.8nm,0.4s,baz=54,slow=3.0,SNR=5.6
2.8nm,0.4s

NEIC ***19*** *06:11:42.7±1.7, 11°.05S±0°.06×75°.53W±0°.08, h110km±6km, mb4.5/52, Error ellipse: s-maj=10.8km s-min=9.2km az=88.0*
IDC ***19*** *06:11:42.5±1.2, 11°.03S×75°.54W, h111km±11km, mb3.9/14, mbtmp4.2/18, Error ellipse: s-maj=15.6km s-min=9.6km az=74.0*
RSNC ***19*** *06:11:42.6±0.4, 11°.S±4°.×7°.6W±°., h116km±10km, mB5.4, mb4.5, ML4.0, MLv4.7, Mw(mB)4.9, Hypocentre not reviewed by the ISC*
VAO ***19*** *06:11:44.3±0.6, 10°.95S×75°.33W, h111km, mb4.5*
ISC 19 06:11:41.4±0.4, 11°.01S±0°.05×75°.47W±0°.06, h100km, n107, σ1°.02/101, mb4.4/33, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.66**	**234**	P	**Pn**	**06 12 10.8**	**+1.1**
	2μm,0.3s,baz=66,slow=8.2,SNR=1679						
NNA				S	**Sn**	**06 12 31.8**	**+0.6**
	2μm,0.5s,baz=188,slow=19,SNR=21						
NNA	**Nana**	**1.66**	**234**	P		06 12 10.6	
NNA				S		06 12 32.0	
CZSB	**Cruzeiro do Su**	**4.25**	**40**	Pn	**Pn**	**06 12 46.1**	**+2.0**
CZSB	**Cruzeiro do Su**	**4.25**	**40**	*eP*	**Pn**	**06 12 46.1**	**+2.0**
CZSB	**Cruzeiro do Su**	**4.25**	**40**	P		06 12 46.0	
CZSB				S		06 13 33.7	
ATAH	**Atahualpa**	**4.81**	**323**	P	**Pn**	**06 12 53.8**	**+1.8**
	17nm,0.3s,baz=172,slow=5.9,SNR=36						
ATAH				S	**Sn**	**06 13 48.7**	**+1.9**
	77nm,0.8s,baz=145,slow=16,SNR=4.9						
TBTG	**Tabatinga, AM**	**8.74**	**40**		**Pn**	**06 13 45.8**	**+0.8**
TBTG	**Tabatinga, AM**	**8.74**	**40**	*eP*	**Pn**	**06 13 45.4**	**+0.4**
TBTG	**Tabatinga, AM**	**8.74**	**40**	P		06 13 44.8	
	5μm506nm,0.8s						
TBTG				S		06 15 18.4	
	5μm506nm,0.8s						
LPAZ	**La Paz**	**8.85**	**127**	Pn	**Pn**	**06 13 48.5**	**+1.4**
LPAZ	**La Paz**	**8.85**	**127**	P	**Pn**	**06 13 48.8**	**+1.7**
	4.0nm,0.6s,baz=306,slow=7.2,SNR=30						
LPAZ	**La Paz**	**8.85**	**127**	*eP*	**Pn**	**06 13 49.5**	**+2.3**
COHC	**Cochancay**	**9.28**	**336**	Pn	**Pn**	**06 13 53.1**	**+0.7**
SLOR	**San Lorenzo -**	**10.65**	**343**	Pn	**Pn**	**06 14 12.4**	**+1.0**
PTLC	**Puerto Leguiza**	**11.13**	**4**	P		06 14 13.1	
OTAV	**Otavalo**	**11.56**	**345**	Pn	**Pn**	**06 14 24.9**	**+1.1**
OTAV	**Otavalo**	**11.56**	**345**	*eP*	**Pn**	**06 14 26.6**	**+2.8**
PB09	**IPOC Station P**	**12.27**	**152**	Pn	**Pn**	**06 14 35.2**	**+2.2**
FLO9	**Florencia**	**12.51**	**359**	Pn	**Pn**	**06 14 36.1**	**0.0**
TEFE	**Tefe**	**13.08**	**56**	*eP*	**Pn**	**06 14 42.5**	**-1.0**
GARC	**Garzon, Huila**	**13.11**	**360**	P		06 14 44.4	
AF01	**San Pedro de A**	**13.77**	**151**		**Pn**	**06 14 51.8**	**-0.8**
URMC	**La Uribe, Meta**	**14.21**	**4**	P		06 14 57.9	
	15nm,0.9s						
PB14	**IPOC Station P**	**14.37**	**161**	Pn	**Pn**	**06 15 00.3**	**-0.2**
SIV	**San Ignacio**	**14.85**	**111**	P	**Pn**	**06 15 06.1**	**-0.3**
	2.9nm,0.7s,baz=298,slow=13,SNR=13						
VILB	**Vilhena**	**15.07**	**99**	Pn	**Pn**	**06 15 08.5**	**-0.6**
VILB				IAmb	IAmb	06 15 11.7	
	comp=Z,17nm,0.7s						
VILB	**Vilhena**	**15.07**	**99**	*eP*	**Pn**	**06 15 10.0**	**+0.8**
GO02	**Mina Guanaco**	**15.14**	**159**	Pn	**Pn**	**06 15 11.1**	**+0.8**
GO02				IAmb	IAmb	06 15 17.1	
	comp=Z,27nm,0.8s						
AC01	**Pan de Azucar**	**15.74**	**164**	Pn	**Pn**	**06 15 17.7**	**+0.1**
ROSC	**El Rosal**	**15.79**	**4**		**Pn**	**06 15 19.2**	**+0.6**
ROSC				IAmb	IAmb	06 15 40.4	
	comp=Z,13nm,0.6s						
ROSC	**El Rosal**	**15.79**	**4**	P	**P**	**06 15 20.8**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=262,slow=16,SNR=1.9						
ROSC	**El Rosal**	**15.79**	**4**	P	**Pn**	**06 15 18.9**	**+0.3**
PTLB	**Pontes e Lacer**	**16.50**	**107**	Pn	**Pn**	**06 15 26.4**	**-0.6**
PTLB	**Pontes e Lacer**	**16.50**	**107**	*eP*	**Pn**	**06 15 27.3**	**+0.3**
MACA	**Manacapuru-AM**	**16.61**	**63**	Pn	**Pn**	**06 15 26.5**	**-1.9**
MACA	**Manacapuru-AM**	**16.61**	**63**	*eP*	**Pn**	**06 15 27.2**	**-1.2**
AC02	**Maricuiga**	**16.84**	**160**		**Pn**	**06 15 31.9**	**+0.3**
RUSC	**La Rusia**	**16.96**	**8**		**P**	**06 15 34.4**	**+0.9**
PDRB	**Porto dos Gac**	**18.39**	**94**	*eP*	**P**	**06 15 50.2**	**+1.4**
SALV	**Santo Antonio**	**19.84**	**106**	*eP*	**P**	**06 16 06.3**	**+1.8**
BOAV	**Boa Vista**	**19.97**	**49**	P	**P**	**06 16 06.8**	**+0.8**
BOAV	**Boa Vista**	**19.97**	**49**	*eP*	**P**	**06 16 06.7**	**+0.8**
BOAV	**Boa Vista**	**19.97**	**49**	P		06 16 07.0	
MURT	**Porto Murtinho**	**20.12**	**124**	*eP*	**P**	**06 16 08.6**	**+1.0**
CO03	**El Pedregal**	**20.22**	**168**	P	**P**	**06 16 08.4**	**-0.2**
NPGB	**Novo Progresso**	**20.25**	**80**	*eP*	**P**	**06 16 08.6**	**-0.4**
BDQN	**Bodoquena, MS**	**20.30**	**120**	*eP*	**P**	**06 16 10.4**	**+1.0**
SDV	**Santo Domingo**	**20.35**	**14**	P	**P**	**06 16 11.5**	**+1.2**
SDV	**Santo Domingo**	**20.35**	**14**	P	**P**	**06 16 11.3**	**+1.1**
	comp=Z,6.7nm,0.3s,baz=159,slow=5.6,SNR=12						
	comp=Z,6.7nm,0.3s						
SDV	**Santo Domingo**	**20.35**	**14**	*eP*	**P**	**06 16 11.4**	**+1.2**
ITTB	**Itaituba**	**20.64**	**73**	*eP*	**P**	**06 16 13.2**	**0.0**
BAUV	**El Baul**	**21.16**	**21**	P	**P**	**06 16 19.6**	**+0.8**
SMRC	**Santa Marta, M**	**22.07**	**3**	P	**P**	**06 16 30.0**	**+1.7**
VA03	**San Esteban**	**22.12**	**169**	P	**P**	**06 16 28.9**	**0.0**
VA03				IAmb	IAmb	06 16 32.0	
	comp=Z,16nm,0.9s						
CPUP	**Villa Florida**	**22.92**	**134**	P	**P**	**06 16 37.6**	**+0.6**
CPUP	**Villa Florida**	**22.92**	**134**	P	**P**	**06 16 37.7**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=320,slow=10,SNR=7.7						
	comp=Z,3.6nm,0.8s						
CPUP	**Villa Florida**	**22.92**	**134**	*eP*	**P**	**06 16 38.1**	**+1.1**
MAL2	**Monte Alegre,**	**22.95**	**69**	P	**P**	**06 16 37.5**	**+0.1**
MAL2				IAmb	IAmb	06 17 02.1	
	comp=Z,36nm,1.2s						
ARAG	**Araguaiana, MT**	**23.48**	**104**	*eP*	**P**	**06 16 42.8**	**+0.3**
SNDB	**Serra Nova Dou**	**23.71**	**95**	*eP*	**P**	**06 16 45.3**	**+0.8**
PTGB	**Pitanga**	**26.06**	**125**	*eP*	**P**	**06 17 06.4**	**+0.6**
LDASE	**Londrina, Braz**	**26.27**	**121**	*eP*	**P**	**06 17 07.9**	**+0.3**
CPSB	**Cacapava Do Su**	**28.13**	**137**	*eP*	**P**	**06 17 24.4**	**+0.2**
PLTB	**Pedras Altas**	**28.89**	**139**	*eP*	**P**	**06 17 31.3**	**+0.4**
PLCA	**Paso Flores**	**29.92**	**172**	P	**P**	**06 17 39.8**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=337,slow=13,SNR=2.1						
	comp=Z,1.2nm,0.8s						
NBAN	**Anadia - AL**	**38.57**	**92**	*eP*	**P**	**06 18 55.1**	**+0.2**
DRIO	**Del Rio**	**46.95**	**330**	P	**P**	**06 20 01.3**	**-1.1**
DRIO				IAmb	IAmb	06 20 03.4	
	comp=Z,5.4nm,0.9s						
V48A	**Smith Brothers**	**47.72**	**348**	P	**P**	**06 20 07.0**	**-1.2**
V48A				IAmb	IAmb	06 20 30.6	
	comp=Z,10.0nm,0.8s						
TXAR	**Lajitas Array**	**48.46**	**327**	P	**P**	**06 20 14.5**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=154,slow=8.7,SNR=55						
TXAR				PcP	**PcP**	**06 21 38.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=138,slow=2.0,SNR=1.6						
	comp=Z,2.5nm,0.5s						
TX31	**Lajitas Ar. Si**	**48.47**	**327**	IAmb	IAmb	06 20 15.3	
	comp=Z,5.5nm,1.0s						
ALPN	**Alpine**	**49.27**	**327**	IAmb	IAmb	06 20 21.6	
	comp=Z,5.2nm,1.1s						
APMT	**Aspermont**	**49.96**	**333**	P	**P**	**06 20 25.8**	**+0.4**
VHRN	**Van Horn**	**50.31**	**327**	IAmb	IAmb	06 20 29.3	
	comp=Z,5.9nm,0.8s						
SDCO	**Great Sand Dun**	**56.07**	**331**	IAmb	IAmb	06 21 11.5	
	comp=Z,3.8nm,0.7s						
F33A	**5 Mile Ranch,**	**59.61**	**343**	IAmb	IAmb	06 21 34.5	
	comp=Z,4.2nm,0.7s						
PDAR	**Pinedale Array**	**61.94**	**332**	P	**P**	**06 21 50.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=125,slow=10,SNR=11						
PDAR				pP	**pP**	**06 22 19.4**	**+2.6**
	comp=Z,0.5nm,0.9s,baz=116,slow=6.8,SNR=2.3						
	comp=Z,0.3nm,0.3s						
NVAR	**Mina Array Bea**	**63.38**	**323**	P	**P**	**06 22 01.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=130,slow=6.0,SNR=6.7						
	comp=Z,0.9nm,0.7s						
FLWY	**Flagg Ranch**	**63.49**	**332**	IAmb	IAmb	06 22 02.3	
	comp=Z,5.7nm,0.9s						
ULM	**Lac du Bonnet**	**63.56**	**346**	P	**P**	**06 21 59.7**	**-1.5**
ULM	**Lac du Bonnet**	**63.56**	**346**	P	**P**	**06 22 00.1**	**-1.1**
	comp=Z,6.4nm,0.7s,baz=152,slow=6.3,SNR=17						
	comp=Z,6.4nm,0.7s						
YNE	**Yellowstone No**	**63.90**	**333**	IAmb	IAmb	06 22 04.6	
	comp=Z,3.7nm,0.8s						
YHL	**Hebgen Lake**	**64.30**	**333**	IAmb	IAmb	06 22 08.4	
	comp=Z,6.1nm,0.9s						
SCHQ	**Schefferville**	**66.00**	**5**	P	**P**	**06 22 16.1**	**-0.9**
SCHQ				IAmb	IAmb	06 22 56.5	
	comp=Z,5.7nm,1.2s						
SCHQ	**Schefferville**	**66.00**	**5**	P	**P**	**06 22 16.1**	**-0.9**
	comp=Z,4.1nm,1.0s,baz=214,slow=7.7,SNR=4.5						
	comp=Z,4.1nm,1.0s						
ORV	**Oroville**	**66.01**	**322**	IAmb	IAmb	06 22 19.1	
	comp=Z,5.9nm,1.0s						
E07A	**Sunnyside**	**69.71**	**329**	IAmb	IAmb	06 22 42.1	
	comp=Z,5.8nm,0.9s						
BELA	**Belgrano 2**	**69.97**	**172**	P	**P**	**06 22 41.1**	**-0.5**
BELA				IAmb	IAmb	06 22 43.1	
	comp=Z,7.1nm,1.1s						
NLWA	**Neilton Lookou**	**72.32**	**328**	P	**P**	**06 22 56.3**	**0.0**
NLWA				IAmb	IAmb	06 23 24.1	
	comp=Z,15nm,1.3s						
DBIC	**Dimbokro**	**72.44**	**79**	P	**P**	**06 22 56.9**	**-0.7**
DBIC				IAmb	IAmb	06 22 58.0	
	comp=Z,8.4nm,1.2s						
DBIC	**Dimbokro**	**72.44**	**79**	P	**P**	**06 22 57.2**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=262,slow=5.4,SNR=3.7						
	comp=Z,2.8nm,0.6s						
SNAA	**Sanae**	**74.17**	**162**	P	**P**	**06 23 06.5**	**-0.4**
SNAA	**Sanae**	**74.17**	**162**	P	**P**	**06 23 07.0**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=145,slow=9.4,SNR=2.2						
	comp=Z,4.7nm,0.9s						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**06 23 35.7**	**+0.9**
QSPA				IAmb	IAmb	06 23 36.3	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**79.11**	**180**	P	**P**	**06 23 35.3**	**+0.5**
	comp=Z,5.2nm,0.9s,baz=173,slow=1.0,SNR=12						
	comp=Z,5.2nm,0.9s						
YKA	**Yellowknife Ar**	**79.31**	**343**	P	**P**	**06 23 34.9**	**-0.8**
YKA	**Yellowknife Ar**	**79.31**	**343**	P	**P**	**06 23 35.0**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=149,slow=6.0,SNR=36						
YKA				pP	**pP**	**06 24 01.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=162,slow=8.8,SNR=5.0						
	comp=Z,2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.24**	**75**	P	**P**	**06 23 41.7**	**0.0**
TORD	**Torodi Ar. Bea**	**80.24**	**75**	P	**P**	**06 23 41.4**	**-0.4**
	comp=Z,22nm,0.5s,baz=278,slow=4.1,SNR=1.1						
T35M	**Bob Quinn**	**81.30**	**333**	P	**P**	**06 23 46.0**	**-0.6**
T35M				IAmb	IAmb	06 24 23.7	
	comp=Z,14nm,1.4s						
ESDC	**Sonseca Array**	**83.13**	**47**	P	**P**	**06 23 57.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=258,slow=5.5,SNR=7.9						
	comp=Z,1.1nm,0.7s						
SUMG	**Summit**	**86.84**	**10**	P	**P**	**06 24 12.9**	**-1.9**
SUMG				IAmb	IAmb	06 24 37.2	
	comp=Z,9.0nm,1.5s						
INK	**Inuvik**	**89.03**	**342**	P	**P**	**06 24 24.5**	**-0.2**
INK				IAmb	IAmb	06 24 24.7	
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**92.14**	**336**	P	**P**	**06 24 38.5**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=146,slow=1.5,SNR=8.5						
	comp=Z,0.4nm,0.8s						
MORS	**Morshin**	**104.36**	**42**	P	**Pdif**	**06 25 33.7**	**-1.0**
AK14	**Malin Array Si**	**107.68**	**40**	P	**Pdif**	**06 25 48.7**	**-0.7**
AK02	**Malin Array Si**	**107.74**	**40**	P	**Pdif**	**06 25 48.9**	**-0.8**
AK06	**Malin Array Si**	**107.74**	**40**	P	**Pdif**	**06 25 48.9**	**-0.8**
ZALV	**Zalesovo Beam**	**134.38**	**16**	PKP	**PKPdf**	**06 30 47.5**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=271,slow=3.6,SNR=5.9						
KURBB	**Kurchatov Arra**	**135.11**	**23**	PKP	**PKPdf**	**06 30 49.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=313,slow=2.9,SNR=1.9						
ASAR	**Alice Springs**	**135.13**	**220**	PKP	**PKPdf**	**06 30 49.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=124,slow=2.0,SNR=5.7						
WRA	**Warramunga Arr**	**137.48**	**224**	PKP	**PKPdf**	**06 30 53.9**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=135,slow=1.6,SNR=9.9						
MKAR	**Makanchi Array**	**139.67**	**24**	PKP	**PKPdf**	**06 30 57.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=318,slow=1.6,SNR=4.1						
SONM	**Songino Array**	**143.26**	**358**	PKP	PKPab	06 31 01.2	+1.0
	comp=Z,0.8nm,0.6s,baz=357,slow=2.2,SNR=6.1						
KSRS	**Korea Array**	**146.31**	**325**	PKPbc	**PKPdf**	**06 31 09.6**	**-0.1**
	comp=Z,4.0nm,0.9s,baz=51,slow=3.8,SNR=10						

RSNC 19 06:14:57.3±0.0, 5°N±1°.×7°4W±°., h139km±2km, M1.9, ML1.7, MLv2.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.67**	**178**	P	Pn	06 15 18.2	-0.7
CHIC				S	Sn	06 15 35.2	-0.1
ROSC	**El Rosal**	**0.73**	**231**	S	Sn	06 15 35.1	-0.8
RUSC	**La Rusia**	**0.89**	**48**	P	Pn	06 15 20.6	0.0
RUSC				S	Sn	06 15 37.9	-0.4
NORC	**Norcasia**	**1.15**	**283**	P	Pn	06 15 22.2	-0.2
NORC				S	Sn	06 15 41.7	+0.1
PTBC	**PUERTO BERRIO,**	**1.42**	**330**	P	Pn	06 15 24.0	-1.2
PTBC				S	Sn	06 15 45.5	-1.0
GUY2C	**Guyana, Caldas**	**1.61**	**267**	P	Pn	06 15 28.6	+0.9
GUY2C				S	Sn	06 15 52.0	+1.1
BRJC	**Barrancabermej**	**1.66**	**0**	P	Pn	06 15 28.1	+0.2
BRJC				S	Sn	06 15 51.4	+0.1
PRAC	**Prado**	**1.94**	**216**	P	Pn	06 15 30.1	-1.0
PRAC				S	Sn	06 15 56.9	-0.2
ORTC	**Ortega, Tolima**	**2.03**	**227**	P	Pn	06 15 31.2	-1.0
ORTC				S	Sn	06 15 59.0	0.0
ZARC	**Zaragoza, Cauc**	**2.44**	**333**	P	Pn	06 15 34.8	-2.4
ZARC				S	Sn	06 16 07.4	-0.5

RHSSO ***19*** *06:32:39.6±0.7, 41°.61N×20°.30E, h9km±3km, ML2.9/8*
PDG ***19*** *06:32:40.9±0.3, 41°.70N×20°.13E, h8km±1km, ML2.7/13, Error ellipse: s-maj=0.4km s-min=1.0km az=0.0*
TIR ***19*** *06:32:40.2, 41°.70N×20°.12E, h9km±1km, Md3.1/5, Ml2.6/8*
SKO ***19*** *06:32:41.0, 41°.50N×19°.98E, h15km*
ATH ***19*** *06:32:41.5, 41°.68N×20°.00E, h10km±4km, ML2.6/6, Manual Solution by I.Dede First location: 2019/02/19 06:33:59, This location: 2019/02/19 07:25:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 70 km; Longitude uncertainty: 26 km*
BEO ***19*** *06:32:41.5±0.3, 41°.69N×20°.22E, h0km, ML2.5/8*
THE ***19*** *06:33:00.2, 40°.16N×21°.14E, h74km±4km, ML2.4/1, Error ellipse: s-maj=4.5km s-min=0.9km az=322.0*

ISC 19 06:32:40.5±0.9, 41°.67N±0°.01×20°.15E±0°.02, h10km±8km, n83, σ1°.11/131, 14C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.22**	**85**	⇑*i*Pg	**Pg**	**06 32 45.3**	**+0.3**
PHP				Sg	**Sg**	**06 32 48.7**	**+0.6**
PHP				AML	AML	06 32 50.5	
	22nm,0.4s						
TIR	**Tirane**	**0.39**	**214**	⇓*i*Pg	**Pb**	**06 32 48.5**	**-0.9**
TIR				*i* Sg	**Sb**	**06 32 54.2**	**-1.1**
TIR				AML	AML	06 32 54.8	
	1.3nm,0.6s						
TIR	**Tirane**	**0.39**	**214**	*e*Pg	**Pg**	**06 32 48.3**	**+0.3**
TIR				*e*Sg	**Sb**	**06 32 55.3**	**-0.1**
TIR	**Tirane**	**0.39**	**214**	P	**Pg**	**06 32 48.3**	**+0.3**
TIR				S	**Sg**	**06 32 53.4**	**+0.2**
PUK	**Puka**	**0.42**	**333**	⇑*e*Pg	**Pg**	**06 32 48.1**	**-0.7**
PUK				Sg	**Sg**	**06 32 54.4**	**0.0**
PUK				AML	AML	06 32 59.3	
	2.7nm,0.3s						
PUK				AMd		06 33 53.7	
BCI	**Bajram Curri**	**0.70**	**355**	⇑*i*Pg	**Pg**	**06 32 53.6**	**-0.4**
BCI				Sg	**Sg**	**06 33 03.5**	**+0.3**
BCI				AML	AML	06 33 08.8	
	1.4nm,0.5s						
BCI				AMd		06 34 19.9	
ULC	**Ulcinj**	**0.74**	**294**	Pg	**Pg**	**06 32 53.4**	**-1.3**
ULC				AMd		06 34 04.4	
ULC	**Ulcinj**	**0.74**	**294**	*i* Pg	**Pg**	**06 32 54.4**	**-0.4**
ULC	**Ulcinj**	**0.74**	**294**	⇓*i*Pg	**Pg**	**06 32 54.2**	**-0.5**
ULC				*i* Sg	**Sb**	**06 33 05.6**	**0.0**
OHR	**Ohrid**	**0.74**	**138**	*i* Pg	**Pg**	**06 32 54.4**	**-0.3**
OHR				*i* Sg	**Sb**	**06 33 05.4**	**-0.3**
OHR	**Ohrid**	**0.74**	**138**	*e*Pg	**Pg**	**06 32 54.3**	**-0.4**
OHR				*e*Sg	**Sg**	**06 33 05.0**	**+0.6**
DRME	**Dracevica, Mon**	**0.89**	**306**	Pn	**Pb**	**06 32 57.5**	**-0.6**
DRME	**Dracevica, Mon**	**0.89**	**306**	*e*Pg	**Pb**	**06 32 57.4**	**-0.6**
DRME				*e*Sg	**Sn**	**06 33 12.5**	**+0.5**
DRME	**Dracevica, Mon**	**0.89**	**306**	⇓*i*Pg	**Pg**	**06 32 57.3**	**-0.3**
DRME				*i* Sg	**Sb**	**06 33 10.6**	**+0.7**
PVY	**Plav**	**0.94**	**351**	Pg	**Pg**	**06 32 57.4**	**-1.1**
PVY				AMd		06 34 18.4	
PVY	**Plav**	**0.94**	**351**	⇓*i*Pg	**Pg**	**06 32 57.4**	**-1.1**
PVY				*i* Sg	**Sb**	**06 33 12.3**	**+0.8**
PDG	**Podgorica**	**1.01**	**319**	⇑*i*Pg	**Pg**	**06 32 59.2**	**-0.7**
PDG				*e*Sg	**Sn**	**06 33 15.4**	**+0.4**
PDG	**Podgorica**	**1.01**	**319**	*i* Pg	**Pg**	**06 32 59.5**	**-0.4**
PDG				*i* Sg	**Sn**	**06 33 15.6**	**+0.6**
PDG	**Podgorica**	**1.01**	**319**	*e*Pg	**Pg**	**06 32 59.5**	**-0.4**
PDG				*e*Sg	**Sn**	**06 33 15.1**	**+0.1**
PDG	**Podgorica**	**1.01**	**319**	⇑*i*Pg	**Pg**	**06 32 59.2**	**-0.7**
PDG				*i* Sg	**Sn**	**06 33 14.7**	**-0.3**
PDG	**Podgorica**	**1.01**	**319**	P	**Pg**	**06 32 59.3**	**-0.6**
PDG				S	**Sg**	**06 33 11.8**	**-1.3**
BUM	**Brajici-Budva**	**1.13**	**304**	Pn	**Pb**	**06 33 02.0**	**-0.1**
BUM	**Brajici-Budva**	**1.13**	**304**	⇑*i*Pg	**Pg**	**06 33 01.6**	**-0.6**
BUM				*i* Sg	**Sn**	**06 33 18.8**	**+0.7**
KBN	**Korca**	**1.15**	**155**	Pn	**Pn**	**06 33 02.9**	**+0.2**
KBN				Sn	**Sn**	**06 33 20.1**	**+1.6**
KBN				AML	AML	06 33 27.1	
	1.6nm,0.4s						
BEY	**Berane**	**1.22**	**351**	Pn	**Pg**	**06 33 03.4**	**-0.5**
IVA	**Berane**	**1.22**	**351**	⇑*i*Pg	**Pg**	**06 33 02.3**	**-1.6**
IVA				*i* Sg	**Sn**	**06 33 21.7**	**+1.4**
CEME	**Cevo**	**1.27**	**314**	Pn	**Pn**	**06 33 04.2**	**-0.2**
CEME	**Cevo**	**1.27**	**314**	⇑*i*Pg	**Pn**	**06 33 03.9**	**-0.5**
CEME				*i* Sg	**Sn**	**06 33 23.5**	**+2.0**
KOME	**Kolasin**	**1.27**	**338**	Pn	**Pn**	**06 33 03.9**	**-0.6**
KOME	**Kolasin**	**1.27**	**338**	*e*Pg	**Pn**	**06 33 03.5**	**-0.9**
KOME				*i* Sg	**Sn**	**06 33 23.9**	**+2.3**
NKME	**Niksic**	**1.41**	**321**	Pn	**Pn**	**06 33 06.6**	**+0.3**
NKME	**Niksic**	**1.41**	**321**	⇑*i*Pg	**Pn**	**06 33 06.2**	**-0.1**
NKME				*i* Sg	**Sg**	**06 33 28.4

TXNET 19 06:32:56.1, 31°.5N±0°.9×103°.7W±0°.8, h6km±1km, ML2.2/7, 3C-1D, Error ellipse: s-maj=1.5km s-min=1.0km az=145.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB07	**Mentone**	**0.07**	**25**	P	Pg	06 32 57.7	-0.1
TPB07				S	Sg	06 32 59.5	+0.5
PCOS	**Crockett Middl**	**0.20**	**124**	P	Pg	06 33 00.5	+0.5
PCOS				S	Sg	06 33 04.1	+1.5
PECS	**Pecos**	**0.21**	**224**	⇓P	Pg	06 33 00.8	+0.6
PECS				S	Sg	06 33 04.6	+1.6
TPB10	**Southeast of T**	**0.24**	**191**	P	Pg	06 33 01.5	+0.6
TPB10				S	Sg	06 33 05.5	+1.5
TPB12	**Southwest of T**	**0.38**	**216**	⇑P	Pg	06 33 04.0	+0.6
TPB12				S	Sg	06 33 09.8	+1.4
TPB06	**Permian Basin**	**0.43**	**73**	P	Pg	06 33 05.2	+0.7
TPB06				Pn	Pb	06 33 07.1	+0.9
TPB06				S	Sb	06 33 11.9	-1.1
TPB06				Sn	Sg	06 33 14.2	+4.1
TPB03	**Saragosa**	**0.46**	**160**	P	Pg	06 33 05.2	+0.2
TPB03				S	Sg	06 33 12.3	+1.2
TPB11	**China Draw**	**0.50**	**326**	S	Sb	06 33 14.4	-0.7
TPB01	**Permian Basin**	**0.58**	**187**	⇑P	Pg	06 33 07.2	0.0
TPB01				S	Sg	06 33 15.4	+0.6
TPB05	**Hovey Rd**	**0.68**	**152**	S	Sg	06 33 18.4	+0.5
MNHN	**Monahans**	**0.82**	**102**	S	Sg	06 33 22.6	0.0
ALPN	**Alpine**	**1.14**	**177**	⇑P	Pg	06 33 17.1	-1.0
ALPN				S	Sg	06 33 33.1	+0.2
ODSA	**Odessa**	**1.15**	**58**	S	Sb	06 33 34.3	+0.6
VHRN	**Van Horn**	**1.32**	**237**	P	Pn	06 33 21.0	-0.3
VHRN				S	Sn	06 33 39.1	-0.3
MNTX	**Cornudas Mount**	**1.45**	**277**	S	Sg	06 33 43.4	+0.8
TMB02	**Rankin**	**1.46**	**102**	P	Pn	06 33 22.9	-0.2
TMB02				S	Sb	06 33 42.3	-0.2
TMB04	**Seminole**	**1.51**	**43**	S	Sg	06 33 45.2	+0.7
SAND	**Sanderson**	**2.07**	**139**	P	Pb	06 33 33.0	-1.1
SAND				S	Sb	06 33 59.3	-0.8
TX31	**Lajitas Ar. Si**	**2.18**	**179**	P	Pb	06 33 34.6	-1.5
TX31				S	Sb	06 34 04.6	+1.2
SGCY	**Sterling City**	**2.23**	**79**	P	Pb	06 33 35.9	-1.0
SGCY				S	Sb	06 34 03.5	-1.2
OZNA	**Ozona**	**2.28**	**104**	P	Pb	06 33 36.7	-1.1
OZNA				S	Sb	06 34 05.7	-0.6

*NNC **19** 06:47:07.2±0.7, 41°.90N×79°.67E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=4.5km s-min=3.8km az=141.0*
*SOME **19** 06:47:07.1, 42°.00N×79°.67E, h0km*
*KRNET **19** 06:47:10.9±0.1, 41°.95N×79°.52E, h19km, mb2.2*

ISC 19 06:47:08.1±2.2, 41°.95N±0°.08×79°.63E±0°.07, h8km±11km, n20, σ0°79/33, 12C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.06**	**301**	⇓eP	Pn	06 47 29.7	+0.4
PRZ				⇓eS	Sn	06 47 42.7	-0.6
UZB	**Uzynbulak**	**1.28**	**340**	P	Pg	06 47 32.2	-0.4
UZB	0.9nm,0.1s			S	Sn	06 47 50.9	+1.1
	5.5nm,0.2s						
UZB	**Uzynbulak**	**1.28**	**340**	*e*P	Pg	06 47 32.2	-0.4
UZB	0.9nm,0.1s			*e*S	Sn	06 47 50.9	+1.1
	5.5nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.38**	**261**	⇑*i*P	Pg	06 47 35.4	+0.8
TARG				⇑*i*S	Sg	06 47 53.2	+0.7
PDGK	**Podgornoye**	**1.38**	**356**	⇑P	Pg	06 47 34.1	-0.5
PDGK	0.6nm,0.3s			⇑S	Sg	06 47 53.7	+1.2
	4.2nm,0.3s						
SATY	**Saty**	**1.43**	**321**	P	Pb	06 47 34.8	-0.3
SATY	2.2nm,0.1s			S	Sg	06 47 55.3	+1.2
	9.7nm,0.1s						
ANVS	**Anan'yevo**	**1.67**	**300**	⇑*e*P	Pg	06 47 40.5	+0.3
ANVS				⇑*e*S	Sg	06 48 02.6	+0.7
KDJ	**Kajisay**	**1.83**	**276**	⇑*i*P	Pg	06 47 42.9	-0.3
KDJ				⇑*i*S	Sg	06 48 06.2	-0.8
KURS	**Kuram**	**1.88**	**326**	Pg	Pg	06 47 43.1	-1.0
KURS	0.7nm,0.1s			Lg	Lg	06 48 09.5	
	6.1nm,0.3s						
KOTS	**Kotyrbulak**	**2.26**	**305**	Pg	Pb	06 47 49.9	+0.8
KOTS	1.4nm,0.2s			Lg	Lg	06 48 21.2	
	18nm,0.4s						
KOTS	**Kotyrbulak**	**2.26**	**305**	*e*P	Pb	06 47 49.9	+0.8
KOTS	1.4nm,0.2s			*e*S	Sg	06 48 21.2	+0.6
	18nm,0.4s						
TNSS	**Tian-Shan**	**2.26**	**300**	Pg	Pb	06 47 49.4	+0.1
TNSS	1.0nm,0.3s			Lg	Lg	06 48 20.4	
	2.8nm,0.3s						
TNSS	**Tian-Shan**	**2.26**	**300**	*e*P	Pb	06 47 49.4	+0.1
TNSS	1.0nm,0.3s			*e*S	Sg	06 48 20.4	-0.4
	2.8nm,0.3s						
BLB	**Baldybastay**	**2.31**	**339**	Pg	Pb	06 47 50.2	+0.3
BLB	4.3nm,0.1s			Lg	Lg	06 48 21.7	
	6.4nm,0.3s						
DJR	**Jarkent**	**2.38**	**3**	Pg	Pb	06 47 51.0	-0.3
DJR	0.8nm,0.3s			Lg	Lg	06 48 24.2	
	8.4nm,0.3s						
DJR	**Jarkent**	**2.38**	**3**	*e*P	Pb	06 47 51.3	0.0
DJR	0.5nm,0.2s			*e*S	Sg	06 48 23.8	-0.9
	8.4nm,0.3s						
KNOS	**Konyrlen**	**2.43**	**352**	Pg	Pb	06 47 52.6	+0.5
KNOS	0.6nm,0.2s			Lg	Lg	06 48 26.0	
	4.3nm,0.2s						
ULHL	**Ulahol**	**2.54**	**278**	⇑*i*P	Pb	06 47 53.8	-0.2
ULHL				⇑*i*S	Sb	06 48 25.0	-0.4
BOOM	**Boomskoye usch**	**2.79**	**282**	⇑*i*P	Pb	06 47 57.2	-1.1
BOOM				⇑*i*S	Sb	06 48 30.7	-2.0
KTBS	**Karatobe**	**2.79**	**310**	Pg	Pb	06 47 58.6	+0.4
KTBS	0.7nm,0.1s			Lg	Lg	06 48 36.1	
	3.9nm,0.3s						

*GCG **19** 06:48:45.3±1.9, 14°.31N×93°.87W, h26km±51km, MD4.8, Hypocentre not reviewed by the ISC*
*MEX **19** 06:48:48.6±0.8, 14°.48N×93°.76W, h12km±27km, MD4.3*
*IDC **19** 06:48:50.8±6.5, 14°.72N×93°.58W, h34km±44km, mb3.7/4, mbtmp3.7/6, ML3.3/3, MS3.1/1, Error ellipse: s-maj=56.2km s-min=26.9km az=22.0*

ISC 19 06:48:44.9±2.5, 14°.56N±0°.06×93°.77W±0°.03, h5km±15km, n40, σ2°83/67, mb4.0/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**25**	*e*P	Pb	06 49 09.4	+0.4
PCIG				*e*S	Sg	06 49 25.6	+0.4
THIG		**1.50**	**77**	*e*P	Pn	06 49 12.3	-0.1
THIG				*e*S	Sn	06 49 27.5	-4.8
THIG		**1.50**	**77**	*e*P		06 49 11.8	
PATR	**El Naranjo**	**1.58**	**70**	*e*P	Pn	06 49 13.1	-0.7
PATR				*e*S	Sb	06 49 35.2	0.0
PAVE	**Pavencul**	**1.66**	**68**	*e*P	Pn	06 49 14.2	-0.7
PAVE				*e*S	Sn	06 49 35.1	-1.7
SMCA	**Catarina**	**1.67**	**80**	*e*P		06 49 15.6	
SMCA				*e*S		06 49 37.6	
CARR	**Arriaga**	**1.68**	**355**	*e*P	Pn	06 49 15.7	+0.8
CARR				*e*S	Sb	06 49 36.4	-1.3
CHUJ	**Union Juarez**	**1.69**	**72**	*e*P	Pn	06 49 14.6	-0.7
CHUJ				*e*S	Sn	06 49 34.7	-2.8
RTAL	**Retalhuleu**	**2.01**	**91**	*e*P	Pn	06 49 15.7	-3.8
RTAL				*e*S	Sn	06 49 46.2	+1.1
NILT	**Santiago Nilte**	**2.15**	**338**	*e*P	Pn	06 49 22.1	+0.7
NILT				*e*S	Sn	06 49 44.6	-3.9
TGIG		**2.29**	**16**	*e*P	Pb	06 49 25.8	-0.9
TGIG				*e*S	Sg	06 49 56.0	-2.4
TGIG		**2.29**	**16**	*e*P		06 49 25.7	
TGIG				*i*S		06 49 56.3	
TGBT	**Tuxtla Gutierr**	**2.29**	**17**	*e*P	Pb	06 49 26.3	-0.5
TGBT				*i*S	Sn	06 49 49.5	-2.6
HUEH	**Huehuetenango**	**2.32**	**71**	*e*P	Pn	06 49 24.1	+0.2
HUEH				*e*S	Sb	06 49 55.2	-1.1
HUEH	**Huehuetenango**	**2.32**	**71**	*i*P		06 49 25.7	
CCIG	**Comitan**	**2.32**	**42**	*e*P	Pb	06 49 26.8	-0.6
CCIG				*i*S	Sb	06 49 56.7	+0.2
CCIG	**Comitan**	**2.32**	**42**	*i*P		06 49 26.7	
HUIG	**Huatulco**	**2.56**	**298**	*e*P	Pn	06 49 25.7	-1.3
HUIG				*i*S	Sn	06 49 52.6	-5.9
HUIG	**Huatulco**	**2.56**	**298**	*i*P		06 49 25.8	
HUIG				*i*S		06 49 52.5	
QUIS	**Sacapulas**	**2.69**	**74**	*e*P		06 49 31.1	
CMIG	**Matias Romero**	**2.73**	**337**	Pn	Pn	06 49 30.2	+0.8
	5.8nm,0.3s,baz=145,slow=12,SNR=111						
CMIG				Sn	Sn	06 50 02.9	0.0
	12nm,0.3s,baz=136,slow=16,SNR=6.0						
	28nm,0.5s						
CMIG	**Matias Romero**	**2.73**	**337**	*e*P	Pn	06 49 30.3	+0.8
CMIG				*e*S	Sn	06 49 59.0	-3.8
UXUV	**UXUV**	**2.76**	**353**	*e*P	Pn	06 49 32.4	+2.5
UXUV				*e*S	Sb	06 50 07.1	-1.9
APG	**El Apazote**	**3.23**	**82**	Pn	Pn	06 49 36.4	0.0
	0.4nm,0.3s,baz=227,slow=19,SNR=19						
TUIG	**Tuzandepetl**	**3.51**	**350**	*e*P	Pb	06 49 46.7	-0.8
TUIG				*e*S	Sb	06 50 30.1	-0.3
PEIG	**Puerto Escondi**	**3.56**	**294**	*e*P	Pn	06 49 39.5	-1.3
PEIG				*e*S	Sn	06 50 14.1	-9.2
NEUV	**Arroyo Zacate**	**3.69**	**328**	*e*P	Pn	06 49 42.8	+0.2
NEUV				*e*S	Sn	06 50 26.6	+0.1
VHO	**Vista Hermosa**	**3.79**	**312**	*e*P	Pn	06 49 47.1	+3.0
VHO				*e*S	Sn	06 50 26.1	-3.2
NUBE	**Las Nubes**	**3.92**	**99**	*i*P		06 49 46.1	
JAYA	**Jayaque - finc**	**4.29**	**102**	*e*P		06 49 50.5	
YOIG	**Yosondua**	**4.29**	**303**	*e*P	Pn	06 49 53.5	+2.3
YOIG				*e*S	Sn	06 50 35.4	-6.4
PETF	**Flores**	**4.43**	**58**	*e*P	Pn	06 49 55.0	+2.3
PETF				*e*S	Sn	06 50 39.4	-5.3
PETF	**Flores**	**4.43**	**58**	*i*P		06 49 57.0	
PNIG	**Pinotepa**	**4.58**	**294**	*e*P	Pn	06 49 55.1	+0.2
PNIG				*e*S	Sn	06 50 38.2	-10
TXIG	**Tlaxiaco**	**4.68**	**305**	*e*P	Pn	06 49 58.7	+2.1
TXIG				*e*S	Sn	06 50 49.1	-2.4
TOIG	**Toxpalan**	**4.73**	**318**	*e*P	Pn	06 50 01.6	+4.7
TOIG				*e*S	Sn	06 50 56.9	+4.6
TPIG	**Tehuac#an**	**5.15**	**319**	*e*P	Pn	06 50 08.8	+5.9
TPIG				*e*S	Sb	06 51 10.6	-7.4
FTIG	**Fresnillo de T**	**5.35**	**309**	*e*P	Pn	06 50 08.9	+3.3
FTIG				*e*S	Sn	06 51 09.8	+2.2
MGIG	**Malinaltepec**	**5.38**	**300**	*e*P	Pn	06 50 07.4	+1.4
MGIG				*i*S	Sn	06 51 01.0	-7.5
TLIG	**Tlapa**	**5.49**	**304**	*e*P	Pn	06 50 08.8	+1.3
TLIG				*e*S	Sn	06 51 05.3	-5.8
JAUV	**Jalcomulco**	**5.59**	**329**	*e*P	Pn	06 50 09.8	+1.0
JAUV				*i*S	Sn	06 51 10.0	-3.5
CRIG	**Cruz Grande**	**5.60**	**293**	*e*P	Pn	06 50 09.6	+0.8
CRIG				*e*S	Sn	06 51 03.0	-11
ARIG	**Puente Sto Nin**	**7.31**	**301**	*e*P	Pn	06 50 34.6	+2.2
ARIG				*e*S	Sn	06 51 54.8	-1.1
TEIG	**Tepich**	**7.69**	**42**	Pn	Pn	06 50 37.8	+0.2
	baz=253,slow=19,SNR=16						
TEIG				Sn	Sn	06 52 02.1	-3.1
	baz=241,slow=24,SNR=1.2						
TXAR	**Lajitas Array**	**17.31**	**330**	Pn	P	06 52 52.6	+3.5
	0.1nm,0.3s,baz=146,slow=10,SNR=4.1						
	0.5nm,0.7s						
TKL	**Tuckaleechee C**	**22.84**	**21**	LR	LR	07 03 14.0	
	comp=Z,41nm,18.0s,baz=161,slow=38						
NVAR	**Mina Array Bea**	**32.17**	**322**	P	P	06 55 17.0	+3.1
	1.1nm,0.7s,baz=134,slow=9.3,SNR=5.5						
	1.1nm,0.7s						
YKA	**Yellowknife Ar**	**50.10**	**348**	P	P	06 57 41.4	+0.7
	1.2nm,0.7s,baz=158,slow=7.5,SNR=26						
	1.2nm,0.7s						
INK	**Inuvik**	**59.42**	**344**	P	P	06 58 48.7	+0.6
	1.2nm,0.8s,baz=131,slow=6.9,SNR=8.2						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**61.65**	**337**	P	P	06 59 04.0	+0.5
	0.8nm,0.7s,baz=154,slow=4.3,SNR=10						
	0.8nm,0.7s						

*NEIC **19** 06:59:07.4±1.6, 61°.88N±0°.01×149°.29W±0°.03, h5km±10km, Error ellipse: s-maj=2.1km s-min=1.8km az=189.0*
*AEIC **19** 06:59:07.3±1.4, 61°.88N±0°.01×149°.31W±0°.03, h4km±7km, ML3.3, ML3.5/172(NEIC), Error ellipse: s-maj=2.1km s-min=1.8km az=178.0*

ISC 19 06:59:07.6±0.9, 61°.87N±0°.02×149°.30W±0°.02, h11km±8km, n132, σ0°89/121, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.20**	**119**	Pg	Pg	06 59 12.3	+0.2
GHO				IAML		06 59 16.7	
	comp=E,11μm,0.4s						
GHO				IAML		06 59 16.8	
	comp=N,11μm,0.5s						
PMR	**Palmer**	**0.29**	**164**	Pg	Pg	06 59 13.8	+0.3
PMR				IAML		06 59 18.3	
	comp=E,7μm,0.5s						
PMR	**Palmer**	**0.29**	**164**	P	Pg	06 59 13.6	0.0
	baz=344						
PMR				S	Sg	06 59 18.0	+0.5
	baz=344						
M22K	**Willow**	**0.41**	**253**	IAML		06 59 23.8	
	comp=N,7μm,0.6s						
M22K				IAML		06 59 25.7	
	comp=E,8μm,0.6s						
M22K	**Willow**	**0.41**	**253**		Pg	06 59 15.9	+0.3
M22K					Sb	06 59 22.4	-0.6
M22K	**Willow**	**0.41**	**253**	P	Pg	06 59 15.9	+0.3
	baz=72						
M22K				S	Sb	06 59 22.4	-0.6
	baz=72						
SML	**Sawmill**	**0.46**	**98**		Pg	06 59 16.7	0.0
SML				IAML		06 59 24.9	
	comp=N,3μm,0.3s						
SML				IAML		06 59 26.5	
	comp=E,4μm,0.6s						
SML	**Sawmill**	**0.46**	**98**		Sg	06 59 23.4	+0.6
SML	**Sawmill**	**0.46**	**98**	P	Pg	06 59 16.5	-0.3
	baz=279						
SML				S	Sg	06 59 23.5	+0.6
	baz=279						
KNK	**Knik Glacier**	**0.61**	**139**		Pg	06 59 19.2	-0.2
KNK				IAML		06 59 29.6	
	comp=N,4μm,0.2s						
KNK	**Knik Glacier**	**0.61**	**139**		Sg	06 59 27.3	-0.2
KNK	**Knik Glacier**	**0.61**	**139**	P	Pg	06 59 19.3	-0.2
	baz=320						
KNK				S	Sg	06 59 27.3	-0.2
	baz=320						
CUT	**Chulitna**	**0.70**	**320**		Pg	06 59 21.0	-0.2
CUT	**Chulitna**	**0.70**	**320**		Sg	06 59 30.5	+0.1
CUT	**Chulitna**	**0.70**	**320**	P	Pg	06 59 20.9	-0.3
	baz=139						
CUT				S	Sg	06 59 30.5	+0.1
	baz=139						
M23K	**Glacier View**	**0.75**	**95**		Pg	06 59 21.1	-1.0
M23K					Sg	06 59 31.4	-0.6
M23K	**Glacier View**	**0.75**	**95**	P	Pg	06 59 21.1	-1.0
	baz=277						
M23K				S	Sg	06 59 31.4	-0.6
	baz=277						
RC01	**Rabbit Creek A**	**0.81**	**195**		Pg	06 59 22.3	-1.0
RC01				IAML		06 59 35.3	
	comp=N,2μm,0.3s						
RC01				IAML		06 59 36.0	
	comp=E,3μm,0.3s						
RC01	**Rabbit Creek A**	**0.81**	**195**		Sg	06 59 33.3	-0.6
RC01	**Rabbit Creek A**	**0.81**	**195**	P	Pg	06 59 22.1	-1.2
	baz=15						
RC01				S	Sg	06 59 33.3	-0.6
	baz=15						
FIS	**Fire Island**	**0.85**	**211**		Pg	06 59 23.9	-0.2
FIS	**Fire Island**	**0.85**	**211**		Sb	06 59 37.4	+1.6
SCM	**Sheep Creek Mo**	**0.94**	**92**		Pg	06 59 24.3	-1.4
SCM				IAML		06 59 38.7	
	comp=E,1μm,0.6s						
SCM				IAML		06 59 40.8	
	comp=N,1μm,0.8s						
SCM	**Sheep Creek Mo**	**0.94**	**92**	P	Pg	06 59 24.3	-1.4
	baz=274						
SKT	**Skwentna**	**1.06**	**277**		Pg	06 59 26.9	-1.1
SKT				IAML		06 59 42.0	
	comp=E,965nm,0.5s						
SKT	**Skwentna**	**1.06**	**277**		Sg	06 59 41.4	-0.5
SKT	**Skwentna**	**1.06**	**277**	P	Pg	06 59 26.9	-1.1
	baz=95						
SKT				S	Sg	06 59 41.4	-0.5
	baz=95						
PWL	**Port Wells**	**1.12**	**155**		Pg	06 59 28.0	-1.1
PWL	**Port Wells**	**1.12**	**155**	P	Pg	06 59 27.5	-1.6
	baz=336						
STLK	**Strandline Lak**	**1.27**	**254**		Pg	06 59 30.5	-1.4
STLK				IAML		06 59 49.5	
	comp=E,720nm,0.6s						
O22K	**Cooper Landing**	**1.41**	**189**		Pn	06 59 32.7	-0.4
O22K	**Cooper Landing**	**1.41**	**189**	P	Pn	06 59 32.8	-0.4
	baz=8.1						
CAPN	**Captain Cook N**	**1.42**	**220**		Pn	06 59 34.2	+0.9
SPCG	**Spurr Capps Gl**	**1.43**	**247**		Sb	06 59 53.1	+0.7
SLKM	**Skilak Lake**	**1.44**	**198**	Pn	Pn	06 59 32.8	-0.8
SLKM				IAML		06 59 54.5	
	comp=N,574nm,0.4s						
SLKM	**Skilak Lake**	**1.44**	**198**		Sb	06 59 53.3	+0.6
GLI	**Glacier Island**	**1.46**	**132**		Pn	06 59 34.3	+0.5
GLI					Sb	06 59 52.7	-0.4
GLI	**Glacier Island**	**1.46**	**132**	P	Pn	06 59 34.3	+0.5
	baz=314						
GLI				S	Sb	06 59 52.7	-0.4
	baz=314						
SPU	**Mount Spurr**	**1.49**	**243**	Pn	Pn	06 59 34.6	+0.2
SPU				IAML		06 59 59.9	
	comp=N,538nm,0.9s						
SPU	**Mount Spurr**	**1.49**	**243**		Sn	06 59 54.5	+0.7
M24K	**Tolsona, Glenn**	**1.49**	**80**	Pn	Pn	06 59 34.2	-0.2
M24K				IAML		06 59 54.6	
	comp=N,785nm,0.8s						
M24K	**Tolsona, Glenn**	**1.49**	**80**		Sn	06 59 54.2	+0.3
M24K	**Tolsona, Glenn**	**1.49**	**80**	P	Pn	06 59 34.1	-0.2
	baz=262						
M24K				S	Sn	06 59 54.2	+0.3
	baz=262						
SPCR	**Spurr Chakacha**	**1.55**	**245**		Pn	06 59 35.9	+0.7
SPCR					Sn	06 59 55.7	+0.5
SPCR	**Spurr Chakacha**	**1.55**	**245**	P	Pn	06 59 35.9	+0.7
	baz=63						
SPCR				S	Sn	06 59 55.7	+0.5
	baz=63						
RND	**Reindeer**	**1.55**	**7**	Pn	Pn	06 59 35.0	-0.2
RND				IAML		06 59 57.3	
	comp=E,506nm,0.5s						
RND	**Reindeer**	**1.55**	**7**		Sn	06 59 55.2	-0.2
TRF	**Thorofare Moun**	**1.65**	**344**	Pn	Pn	06 59 36.8	+0.2
TRF				IAML		07 00 02.4	
	comp=E,500nm,0.9s						
TRF	**Thorofare Moun**	**1.65**	**344**		Sn	06 59 58.9	+1.1
TRF	**Thorofare Moun**	**1.65**	**344**	P	Pn	06 59 37.2	+0.6
	baz=164						
TRF				S	Sn	06 59 58.9	+1.1
	baz=164						
KLU	**Klutina**	**1.66**	**102**		Pn	06 59 35.8	-0.9
KLU				IAML		07 00 02.4	
	comp=E,672nm,0.3s						
KLU				IAML		07 00 02.7	
	comp=N,780nm,0.3s						
PPLA	**Purkeypile**	**1.69**	**309**		Pn	06 59 37.6	+0.3
PPLA	**Purkeypile**	**1.69**	**309**		Sb	07 00 00.3	+0.1
PPLA	**Purkeypile**	**1.69**	**309**	P	Pn	06 59 37.5	+0.3
	baz=126						
PPLA				S	Sb	07 00 00.3	+0.1
	baz=126						
SEW	**Seward**	**1.78**	**182**		Pn	06 59 38.9	+0.7
SEW	**Seward**	**1.78**	**182**	P	Pn	06 59 38.6	+0.4
	baz=2.3						
M20K	**Styx River**	**1.81**	**272**	IAML		07 00 08.3	
	comp=N,379nm,0.4s						
KTH	**Kantishna Hill**	**1.84**	**337**	Pn	Pn	06 59 39.7	+0.5
KTH				IAML		07 00 11.1	
	comp=E,342nm,1.2s						
KTH				IAML		07 00 13.6	
	comp=N,443nm,0.9s						
DIV	**Divide**	**1.85**	**112**		Pn	06 59 38.2	-1.0
MCK	**McKinley**	**1.87**	**5**	Pn	Pn	06 59 40.0	+0.4
MCK	**McKinley**	**1.87**	**5**	P	Pn	06 59 40.0	+0.4
	baz=185						
HIN	**Hinchinbrook I**	**2.01**	**136**		Pb	06 59 43.4	-0.7
HIN				IAML		07 00 11.9	
	comp=E,532nm,0.7s						
HIN				IAML		07 00 19.4	
	comp=N,450nm,0.9s						
CAST	**Castle Rocks**	**2.02**	**322**	Pn	Pn	06 59 42.0	+0.6
CAST				IAML		07 00 11.5	
	comp=E,310nm,0.5s						
CAST	**Castle Rocks**	**2.02**	**322**	P	Pn	06 59 42.1	+0.6
	baz=139						
HARP	**HAARP**	**2.02**	**73**	P	Pn	06 59 42.4	+0.9
	baz=257						
PAX	**Paxson**	**2.10**	**57**	Pn	Pn	06 59 43.2	+0.5
PAX	**Paxson**	**2.10**	**57**	P	Pn	06 59 43.3	+0.5
	baz=240						
EYAK	**Cordova Ski Ar**	**2.17**	**126**	Pn	Pn	06 59 45.3	+1.7
EYAK	**Cordova Ski Ar**	**2.17**	**126**	P	Pn	06 59 45.5	+1.9
	baz=309						
BRSE	**Bradley Lake S**	**2.25**	**199**		Pn	06 59 45.8	+1.0
BRSE	**Bradley Lake S**	**2.25**	**199**	P	Pn	06 59 45.8	+1.0
	baz=18						
N25K	**Chitina, Valde**	**2.25**	**95**	Pn	Pn	06 59 45.1	+0.3
N25K				IAML		07 00 18.5	
	comp=N,362nm,0.4s						
N25K	**Chitina, Valde**	**2.25**	**95**	P	Pn	06 59 45.1	+0.3
	baz=279						
BRLK	**Bradley Lake**	**2.25**	**201**		Pn	06 59 45.6	+0.8
BWN	**Browne**	**2.31**	**358**	IAML		07 00 25.1	
	comp=E,452nm,0.8s						
BWN				IAML		07 00 28.5	
	comp=N,418nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.36**	**342**	Pn	Pn	06 59 46.8	+0.4
BPAW				IAML		07 00 27.3	
	comp=E,211nm,0.8s						
BPAW	**Bear Paw Mtn.**	**2.36**	**342**	P	Pn	06 59 46.9	+0.6
	baz=160						
M19K	**Big River Lodg**	**2.41**	**273**	IAML		07 00 24.4	
	comp=E,328nm,0.8s						
M19K				IAML		07 00 26.4	
	comp=N,278nm,0.4s						
BMRM	**Bremner River**	**2.43**	**110**	P	Pn	06 59 48.6	+1.3
	baz=294						
HOM	**Homer**	**2.50**	**208**	Pn	Pn	06 59 49.4	+1.3
L19K	**White Mountain**	**2.64**	**279**		Pn	06 59 51.0	+1.0
GLB	**Gilahina Butte**	**2.66**	**97**	Pn	Pn	06 59 50.7	+0.4
GLB				IAML		07 00 31.7	
	comp=N,156nm,0.9s						
K20K	**Telida**	**2.66**	**306**	IAML		07 00 32.1	
	comp=E,191nm,0.7s						
WRH	**Wood River Hil**

comp=E,144nm,1.0s
SCRK IAML 07 00 50.3
comp=N,172nm,0.9s
SCRK Sand Creek 3.22 47 P Pn 07 00 00.1 +1.9
baz=231
J25K Salcha River, 3.27 31 IAML 07 00 49.1
comp=E,106nm,0.6s
I23K Minto, Yukon-K 3.29 360 IAML 07 00 52.0
comp=N,86nm,1.1s
I23K IAML 07 00 54.6
comp=E,93nm,1.0s
I23K Minto, Yukon-K 3.29 360 P Pn 06 59 59.4 +0.4
baz=180
TTA Tatalina 3.30 292 Pn **Pn 06 59 59.7 +0.5**
TTA Tatalina 3.30 292 P **Pn 06 59 59.7 +0.5**
baz=106
POKR Poker Plat Res 3.36 14 P **Pn 07 00 00.2 +0.2**
baz=195
N18K Kilae Creek 3.40 252 Pn 07 00 02.0 +1.5
N18K IAML 07 00 56.2
comp=N,91nm,0.8s
L18K Granite Mounta 3.50 279 IAML 07 01 12.4
comp=N,79nm,1.0s
O18K Koktuh Hills 3.53 238 Pb 07 00 09.0 -1.0
O18K IAML 07 00 58.1
comp=E,76nm,0.6s
O18K IAML 07 01 01.5
comp=N,104nm,0.7s
I21K Tanana 3.53 341 IAML 07 01 03.2
comp=E,80nm,0.7s
I21K IAML 07 01 15.2
comp=N,83nm,0.8s
J19K Poorman 3.59 309 IAML 07 01 04.9
comp=E,101nm,0.8s
J19K IAML 07 01 16.1
comp=N,81nm,0.7s
BCAR Beaver Creek A 3.69 68 Pn **Pn 07 00 07.1 +2.5**
J26L Joseph Creek 3.70 42 IAML 07 01 05.0
comp=N,80nm,0.5s
J26L IAML 07 01 08.6
comp=E,87nm,0.7s
J18K Innoko River 3.77 298 Pn **Pn 07 00 05.9 +0.2**
J18K IAML 07 01 17.1
comp=N,56nm,0.9s
M17K Holitna River 3.91 267 IAML 07 01 15.4
comp=E,111nm,0.7s
PRP Porcupine Dome 4.03 23 IAML 07 01 18.3
comp=E,64nm,0.9s
PRP Porcupine Dome 4.03 23 P **Pn 07 00 09.6 +0.3**
baz=206
H24K Noodor Dome 4.03 8 IAML 07 01 14.8
comp=E,62nm,0.9s
N17K Nushagak Hills 4.05 254 IAML 07 01 17.8
comp=E,72nm,0.6s
N17K IAML 07 01 21.2
comp=N,70nm,0.6s
H21K Melozitna Rive 4.11 339 IAML 07 01 21.6
comp=E,67nm,0.8s
H21K IAML 07 01 24.9
comp=N,44nm,1.0s
K17K Iditarod 4.29 285 IAML 07 01 30.7
comp=E,73nm,0.8s
K17K IAML 07 01 46.7
comp=N,70nm,2.7s
I26K Coal Creek Min 4.41 36 P **Pn 07 00 16.6 +2.3**
baz=221
J17K VABM Dome 4.76 293 IAML 07 02 18.1
comp=E,34nm,3.5s
L16K Owhat River 4.83 273 Pn **Pn 07 00 21.0 +0.8**
L16K IAML 07 01 54.4
comp=N,33nm,1.2s
L16K IAML 07 02 36.5
comp=E,28nm,3.3s
G24K Hadweenzic Riv 4.91 9 IAML 07 01 55.4
comp=N,26nm,1.5s
DAWY Dawson 5.03 60 IAML 07 01 47.4
comp=E,27nm,1.0s
DAWY IAML 07 01 50.7
comp=N,51nm,1.2s
H18K Honhosa River 5.22 313 IAML 07 01 57.8
comp=N,21nm,1.5s
H18K IAML 07 01 59.0
comp=E,20nm,1.1s
L29M L29M 5.33 72 IAML 07 02 01.1
comp=N,40nm,1.4s
YUK6 Outpost Mounta 5.34 95 P **Pn 07 00 29.8 +2.5**
baz=285
COLD Coldfoot 5.39 356 P **Pn 07 00 28.6 +0.8**
baz=175
I17K Unalakleet 5.59 296 Pn **Pn 07 00 31.1 +0.5**
BMAR Burnt Mountain 5.93 18 Pn **Pn 07 00 35.4 0.0**
TOLK Toolik Lake Re 6.80 359 Pn **Pn 07 00 48.8 +1.6**

IDC 19 07:00:43.0±5.0, 17°.90S×178°.90W, h567^{km}±30^{km}, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=151.8km s-min=39.9km az=25.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**273**	P	P	07 01 58.9	-0.1
	3.5nm,0.5s,baz=119,slow=9.3,SNR=5.3						
STKA	**Stephens Creek**	**38.23**	**241**	P	P	07 07 15.9	+0.5
	1.7nm,0.6s,baz=71,slow=10,SNR=3.8						
	1.7nm,0.6s						
WRA	**Warramunga Arr**	**44.18**	**260**	P	P	07 08 01.9	-0.6
	0.6nm,0.7s,baz=96,slow=7.8,SNR=5.1						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**44.35**	**254**	P	P	07 08 03.7	-0.2
	3.4nm,0.6s,baz=96,slow=7.6,SNR=23						
	3.4nm,0.6s						
QSPA	**South Pole Qui**	**72.16**	**180**	P	P	07 11 10.6	0.0
	1.2nm,0.9s,baz=51,slow=6.5,SNR=2.0						
	1.2nm,0.9s						

---

*KRNET **19** 07:08:46.3±0.1, 42°.25N×80°.72E, mb3.8*
*SOME **19** 07:08:48.3, 42°.27N×80°.60E, h15^{km}*
*NNC **19** 07:08:50.2±1.9, 42°.36N×80°.60E, h0^{km}, mb4.4, mpv4.2, Error ellipse: s-maj=12.3km s-min=11.3km az=131.0*
*IDC **19** 07:08:50.4±2.6, 42°.42N×80°.38E, h0^{km}, mb3.3/1, mbtmp3.4/4, ML3.1/3, MS2.2/1, Error ellipse: s-maj=39.5km s-min=13.5km az=151.0*
ISC 19 07:08:53.3±1.1, 42°.45N±0°.05×80°.41E±0°.05, h10^{km}, n59, σ1°77/89, 21C-21D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.99**	**316**	P	**Pg**	07 09 08.9	-3.5
	104nm,0.2s						
SHLS				S	**Sg**	07 09 23.9	-1.4
	3μm,0.3s						
SHLS	**Shalkode**	**0.99**	**316**	*e*P	**Pg**	07 09 08.9	-3.5
	104nm,0.2s						
SHLS				*e*S	**Sg**	07 09 23.9	-1.4
	3μm,0.3s						
KTMS	**Ketmen**	**0.99**	**358**	*e*P	**Pg**	07 09 11.0	-1.4
KTMS				*e*S	**Sn**	07 09 27.4	-0.2
PDGK	**Podgornoye**	**1.10**	**323**	⇓P	**Pb**	07 09 13.6	-1.0
	37nm,0.4s						
PDGK				⇑S	**Sn**	07 09 30.8	+0.4
	137nm,0.5s						
UZB	**Uzynbulak**	**1.23**	**305**	P	**Pn**	07 09 15.3	-1.4
	40nm,0.2s						
UZB				S	**Sn**	07 09 35.2	+1.7
	114nm,0.3s						
UZB	**Uzynbulak**	**1.23**	**305**	*e*P	**Pn**	07 09 15.3	-1.4
	40nm,0.2s						
UZB				*e*S	**Sn**	07 09 35.2	+1.7
	114nm,0.3s						
PRZ	**Przheval'sk**	**1.49**	**272**	⇓*e*P	**Pn**	07 09 18.8	-1.5
PRZ				⇓*e*S	**Sg**	07 09 42.9	+1.8
SATY	**Saty**	**1.59**	**293**	P	**Pb**	07 09 22.4	-0.6
	122nm,0.3s						
SATY				S	**Sg**	07 09 47.1	+2.5
	132nm,0.1s						
KPKS	**Kokpek**	**1.62**	**309**	P	**Pb**	07 09 23.2	-0.2
	244nm,0.3s						
KPKS				S	**Sg**	07 09 48.4	+3.0
	317nm,0.5s						
KPKS	**Kokpek**	**1.62**	**309**	*e*P	**Pb**	07 09 23.2	-0.2
	244nm,0.3s						
KPKS				*e*S	**Sg**	07 09 48.4	+3.0
	317nm,0.5s						
DJR	**Jarkent**	**1.93**	**347**	Pg	**Pb**	07 09 28.1	-0.5
	30nm,0.2s						
DJR				Lg	Lg	07 09 57.1	
	392nm,0.5s						
DJR	**Jarkent**	**1.93**	**347**	*e*P	**Pb**	07 09 28.1	-0.5
	30nm,0.2s						
DJR				*e*S	**Sg**	07 09 57.1	+1.8
	392nm,0.5s						
KURS	**Kuram**	**1.94**	**303**	Pg	**Pb**	07 09 28.4	-0.4
	149nm,0.4s						
KURS				Lg	Lg	07 09 57.4	
	58nm,0.2s						
ANVS	**Anan'yevo**	**2.05**	**280**	⇑*i*P	**Pn**	07 09 28.3	+0.3
ANVS				⇑*i*S	**Sg**	07 09 58.5	-0.7
TARG	**Taragay, Kyrgy**	**2.07**	**250**	⇑*i*P	**Pn**	07 09 27.0	-1.5
TARG				⇑*i*S	**Sb**	07 09 56.7	-0.4
KNOS	**Konyrlen**	**2.10**	**335**	Pg	**Pb**	07 09 31.4	-0.2
	57nm,0.2s						
KNOS				Lg	Lg	07 10 02.8	
	287nm,0.3s						
BLB	**Baldybastay**	**2.17**	**320**	Pg	**Pb**	07 09 32.3	-0.3
	476nm,0.3s						
BLB				Lg	Lg	07 10 04.3	
	422nm,0.3s						
KDJ	**Kajisay**	**2.42**	**263**	⇑*i*P	**Pn**	07 09 32.4	-0.7
KDJ				⇑*i*S	**Sb**	07 10 05.6	-1.3
KOTS	**Kotyrbulak**	**2.55**	**289**	Pg	**Pb**	07 09 39.4	+0.2
	57nm,0.2s						
KOTS				Lg	Lg	07 10 16.7	
	291nm,0.4s						
KOTS	**Kotyrbulak**	**2.55**	**289**	*e*P	**Pb**	07 09 39.4	+0.2
	57nm,0.2s						
KOTS				*e*S	**Sg**	07 10 16.7	+1.5
	291nm,0.4s						
MDOK	**Medeo**	**2.57**	**287**	⇓Pg	**Pb**	07 09 37.5	-2.1
	78nm,0.5s						
MDOK				Pg	**Pb**	07 09 38.5	-1.1
	112nm,0.4s						
MDOK				⇑Lg	Lg	07 10 15.0	
	56nm,0.4s						
MDOK				Lg	Lg	07 10 15.7	
	101nm,0.3s						
MDOK	**Medeo**	**2.57**	**287**	*e*P	**Pb**	07 09 38.5	-1.1
	112nm,0.4s						
MDOK				*e*S	**Sg**	07 10 15.7	-0.2
	101nm,0.3s						
ARXS	**Arharly**	**2.58**	**314**	Pg	**Pb**	07 09 39.2	-0.4
	3.3nm,0.1s						
ARXS				Lg	Lg	07 10 16.0	
	150nm,0.3s						
TNSS	**Tian-Shan**	**2.62**	**284**	Pg	**Pb**	07 09 39.0	-1.5
	70nm,0.3s						
TNSS				Lg	Lg	07 10 15.6	
	82nm,0.3s						
TNSS	**Tian-Shan**	**2.62**	**284**	*e*P	**Pb**	07 09 39.0	-1.5
	70nm,0.3s						
TNSS				*e*S	**Sg**	07 10 15.6	-1.8
	82nm,0.3s						
KNDC	**Almaty**	**2.65**	**288**	⇓Pn	**Pb**	07 09 39.7	-1.1
	141nm,0.6s						
KNDC				⇑Sn	**Sg**	07 10 18.4	+0.2
	99nm,0.4s						
IZV	**Izvestkoviy**	**2.86**	**283**	*e*P	**Pb**	07 09 42.9	-1.5
	32nm,0.2s						
IZV				*e*S	**Sg**	07 10 22.6	-2.4
	89nm,0.2s						
KASK	**Kaskelen**	**2.87**	**287**	⇑Pg	**Pb**	07 09 43.3	-1.4
	17nm,0.1s						
KASK				⇓Lg	Lg	07 10 24.9	
	90nm,0.3s						
KAPS	**Kapalarasan**	**2.93**	**345**	Pg	**Pb**	07 09 45.2	-0.5
	10nm,0.2s						
KAPS				Lg	Lg	07 10 27.0	
	116nm,0.2s						
TDK	**Taldyqorghan**	**2.93**	**331**	Pg	**Pb**	07 09 46.0	+0.4
	56nm,0.2s						
TDK				Lg	Lg	07 10 27.7	
	200nm,0.4s						
TDK	**Taldyqorghan**	**2.93**	**331**	*e*P	**Pb**	07 09 46.0	+0.4
	56nm,0.2s						
TDK				*e*S	**Sg**	07 10 27.7	+0.2
	200nm,0.4s						
KTBS	**Karatobe**	**3.01**	**296**	Pg	**Pb**	07 09 46.6	-0.4
	21nm,0.2s						
KTBS				Lg	Lg	07 10 28.6	
	253nm,0.2s						
MTBS	**Maitube**	**3.01**	**284**	Pg	**Pb**	07 09 46.0	-0.9
	23nm,0.2s						
MTBS				Lg	Lg	07 10 27.2	
	116nm,0.3s						
MTBS	**Maitube**	**3.01**	**284**	*e*P	**Pb**	07 09 46.0	-0.9
	23nm,0.2s						
MTBS				*e*S	**Sg**	07 10 27.2	-2.7
	116nm,0.3s						
ULHL	**Ulahol**	**3.10**	**268**	⇓*i*P	**Pn**	07 09 42.2	-0.2
ULHL				⇓*i*S	**Sb**	07 10 23.1	-3.4
BOOM	**Boomskoye usch**	**3.31**	**272**	⇓*i*P	**Pn**	07 09 45.4	+0.1
BOOM				⇓*i*S	**Sn**	07 10 28.0	+3.3
KST	**Kastek**	**3.33**	**282**	Pg	**Pb**	07 09 50.5	-1.9
	32nm,0.2s						
KST				Lg	Lg	07 10 35.4	
	156nm,0.4s						
KST	**Kastek**	**3.33**	**282**	*e*P	**Pb**	07 09 50.5	-1.9
	32nm,0.2s						
KST				*e*S	**Sb**	07 10 35.4	+2.3
	156nm,0.4s						
DGS	**Degeres**	**3.50**	**285**	Pg	**Pb**	07 09 55.1	-0.3
	29nm,0.3s						
DGS				Lg	Lg	07 10 43.2	
	45nm,0.3s						
KRBS	**Karabastau**	**3.68**	**291**	Pg	**Pb**	07 09 57.7	-0.8
	13nm,0.3s						
KRBS				Lg	Lg	07 10 47.7	
	44nm,0.3s						
KBK	**Karagaybulak**	**4.04**	**275**	⇓*i*P	**Pn**	07 09 55.7	+0.4
KBK				⇓*i*S	**Sn**	07 10 46.5	+3.7
CHMS	**Chumysh**	**4.20**	**279**	⇑*i*P	**Pn**	07 09 58.1	+0.6
CHMS				⇑*i*S	**Sn**	07 10 50.5	+3.9
AAK	**Ala-Archa**	**4.37**	**274**	Pn	**Pn**	07 10 01.6	+1.7
	1.6nm,0.3s,baz=120,slow=8.5,SNR=16						
AAK				Pg	**Pb**	07 10 10.2	-0.1
	4.9nm,0.3s,baz=102,slow=11,SNR=21						
AAK				Lg	Lg	07 11 06.7	
	3.8nm,0.3s,baz=42,slow=21,SNR=9.1						
	3.5nm,0.3s						
AAK	**Ala-Archa**	**4.37**	**274**	⇑*i*P	**Pn**	07 10 00.4	+0.5
AAK				⇑*i*S	**Sn**	07 10 54.4	+3.4
UCH	**Uchtor**	**4.38**	**269**	⇑*i*P	**Pn**	07 10 00.3	+0.1
UCH				⇑*i*S	**Sn**	07 10 54.2	+2.7
KSH	**Kashi**	**4.46**	**230**	Pn	**Pg**	07 10 17.1	-1.6
KSH				Sn	**Sg**	07 11 21.4	+5.0
KSH				smax	smax		
	comp=N,21nm,0.9s						
KSH				smax	smax		
	comp=E,28nm,0.9s						
MAKZ	**Makanchi**	**4.50**	**14**	⇓Pg	**Pn**	07 10 04.0	+2.6
	comp=E,3.7nm,0.3s						
MAKZ				⇑Lg	Lg	07 11 10.6	
	comp=E,3.8nm,0.5s						
MK31	**Makanchi Array**	**4.54**	**17**	⇑Pn	**Pn**	07 10 03.4	+1.3
	comp=E,1.4nm,0.3s,baz=201,slow=14,SNR=97						
MK31				⇓Pg	**Pb**	07 10 14.1	+1.0
	comp=E,1.8nm,0.3s,baz=186,slow=14,SNR=4.2						
MK31				⇓Lg	Lg	07 11 12.0	
	comp=E,9.6nm,0.5s						
MKAR	**Makanchi Array**	**4.54**	**17**	Pn	**Pn**	07 10 03.0	+0.9
	comp=E,2.0nm,0.3s,baz=201,slow=15,SNR=50						
MKAR				Lg	Lg	07 11 15.3	
	comp=E,3.9nm,0.3s,baz=196,slow=30,SNR=9.9						
MKAR				LR	LR	07 12 08.0	
	comp=E,28nm,18.9s,baz=5.0,slow=43						
	comp=E,3.8nm,0.4s						
ARLS	**Aral**	**4.56**	**265**	⇓*e*P	**Pn**	07 10 02.1	-0.4
ARLS				⇓*e*S	**Sn**	07 10 57.0	+1.3
AML	**Almayashu**	**4.99**	**269**	⇓*e*P	**Pn**	07 10 08.7	+0.1
AML				⇓*i*S	**Sn**	07 11 08.7	+2.1
ZSN	**Zaisan**	**5.91**	**31**	*e*P	Pg	07 10 40.4	-6.1
	comp=E,8.2nm,0.3s						
ZSN				*e*S	**Sg**	07 12 00.6	-2.4
	comp=E,15nm,0.5s						
KK31	**Karatay Array**	**7.31**	**278**	⇑Pg	Pb	07 11 05.8	+5.5
	comp=E,0.5nm,0.3s,baz=96,slow=13,SNR=17						
KK31				⇑Lg	Lg	07 12 44.2	
	comp=E,3.8nm,0.6s,baz=103,slow=25						
OTUK	**Ortayu**	**8.11**	**318**	⇓Lg	Lg	07 13 09.7	
	comp=E,6.5nm,0.7s						
KURBB	**Kurchatov Arra**	**8.27**	**352**	Lg	Lg	07 13 13.2	
	comp=E,0.2nm,0.3s,baz=173,slow=30,SNR=7.2						
KURBB	**Kurchatov Arra**	**8.27**	**352**	⇓Lg	Lg	07 13 15.4	
	comp=E,21nm,0.6s						
KURK	**Kurchatov**	**8.36**	**352**	⇑Lg	Lg	07 13 20.5	
	comp=E,4.9nm,0.6s						
ZALV	**Zalesovo Beam**	**11.87**	**13**	Pn	**Pn**	07 11 42.2	-0.2
	comp=E,0.2nm,0.3s,baz=191,slow=12,SNR=2.3						
ZALV				Sn	**Sn**	07 13 58.5	+3.7
	comp=E,0.2nm,0.3s,baz=196,slow=26,SNR=3.5						
	comp=E,0.4nm,0.4s						
ILAR	**Eielson Array**	**66.89**	**20**	P	**P**	07 19 43.5	-1.6
	comp=E,0.3nm,0.9s,baz=325,slow=5.6,SNR=4.1						
	comp=E,0.3nm,0.9s						

---

*NEIC **19** 07:36:47.5±0.5, 36°.07N±0°.01×97°.60W±0°.02, h4^{km}±1^{km}, mb_Lg2.7/37, ML3.0/59, Error ellipse: s-maj=1.9km s-min=1.8km az=117.0*
ISC 19 07:36:48.1±0.8, 36°.07N±0°.02×97°.61W±0°.03, h10^{km}, n71, σ1°37/58, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.30**	**156**		**Pg**	**07 36 53.9**	**-0.3**
OK029				IAML		07 36 58.5	
	2μm,0.3s						
OK029				IAML		07 36 58.5	
	3μm,0.3s						
CROK	**Carrier**	**0.53**	**325**		**Pg**	**07 36 58.1**	**-0.3**
CROK					**Sg**	**07 37 05.2**	**-0.2**
CROK				IAML		07 37 05.8	
	comp=E,1μm,0.3s						
CROK				IAML		07 37 12.0	
	comp=N,1μm,0.3s						
OK031	**S. Brethren Rd**	**0.63**	**101**		**Pg**	**07 37 00.1**	**-0.3**
OK031				IAML		07 37 09.0	
	comp=N,497nm,0.3s						
OK052	**Battle Ridge R**	**0.66**	**97**		**Pg**	**07 37 00.5**	**-0.3**
OK052				IAML		07 37 09.6	
	comp=N,538nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**168**		**Pg**	**07 37 00.8**	**-0.4**
OKCSW				IAML		07 37 12.9	
	comp=E,714nm,0.3s						
QUOK	**Quay**	**0.73**	**82**		**Pg**	**07 37 01.9**	**-0.5**
QUOK				IAML		07 37 12.1	
	comp=N,756nm,0.3s						
QUOK				IAML		07 37 15.9	
	comp=E,500nm,0.2s						
BLOK	**Blackwell**	**0.76**	**25**		**Pg**	**07 37 02.3**	**-0.5**
BLOK				IAML		07 37 20.4	
	comp=N,683nm,0.2s						
BLOK				IAML		07 37 23.8	
	comp=E,659nm,0.2s						
OK051	**E0350 and S346**	**0.76**	**55**		**Pg**	**07 37 02.4**	**-0.4**
OK051				IAML		07 37 16.1	
	comp=E,846nm,0.2s						
FNO	**Franklin**	**0.83**	**168**		**Pg**	**07 37 03.4**	**-0.7**
FNO				IAML		07 37 17.6	
	comp=E,437nm,0.3s						
DEOK	**Depew**	**0.93**	**104**	Pg	**Pg**	**07 37 05.0**	**-1.0**
KAN14	**Manchester OK**	**0.93**	**342**		**Pg**	**07 37 05.2**	**-0.9**
KAN13	**South Haven SW**	**0.94**	**6**		**Pg**	**07 37 05.7**	**-0.7**
KAN13				IAML		07 37 24.3	
	comp=E,455nm,0.2s						
KAN13				IAML		07 37 27.9	
	comp=N,499nm,0.3s						
CSTR	**Hydro, Custer**	**0.98**	**245**	Pg	**Pg**	**07 37 06.3**	**-0.6**
KAN17	**Caldwell West**	**0.98**	**353**		**Pg**	**07 37 06.2**	**-0.8**
KAN17				IAML		07 37 22.8	
	comp=N,442nm,0.2s						
KAN05	**Bluff City Nor**	**1.06**	**348**		**Pg**	**07 37 07.4**	**-1.1**
KAN09	**Caldwell North**	**1.06**	**360**		**Pg**	**07 37 07.7**	**-0.9**
KAN01	**Argonia South**	**1.09**	**354**		**Pg**	**07 37 08.3**	**-0.8**
KAN01				IAML		07 37 23.0	
	comp=E,479nm,0.2s						
KAN01				IAML		07 37 29.2	
	comp=N,491nm,0.1s						
W35A	**Tecumseh**	**1.09**	**147**		**Pg**	**07 37 07.9**	**-1.2**
W35A				IAML		07 37 28.0	
	comp=N,324nm,0.2s						
W35A				IAML		07 37 28.1	
	comp=E,354nm,0.4s						
KAN08	**Anthony NE Sta**	**1.19**	**346**		**Pb**	**07 37 10.1**	**-0.8**
NOKA	**Waynoka**	**1.21**	**298**		**Pn**	**07 37 10.0**	**-1.2**
NOKA				IAML		07 37 30.0	
	comp=E,397nm,0.2s						
KAN12	**Harper NE Stat**	**1.26**	**346**		**Pn**	**07 37 11.3**	**-0.6**
ELIS	**Ellis County**	**1.47**	**270**	Pg	**Pn**	**07 37 15.1**	**+0.4**
X34A	**Smith Ranch, M**	**1.48**	**187**	Pg	**Pb**	**07 37 15.5**	**-0.2**
WMOK	**Wichita Mounta**	**1.64**	**216**		**Pn**	**07 37 17.1**	**0.0**
WMOK	**Wichita Mounta**	**1.64**	**216**	Pn	**Pn**	**07 37 17.3**	**+0.2**
WMOK	**Wichita Mounta**	**1.64**	**216**	P	**Pn**	**07 37 17.2**	**+0.2**
DRZT	**Darrouzett**	**2.21**	**280**	P	**Pb**	**07 37 27.3**	**-0.8**
SMWD	**Samnorwood**	**2.35**	**247**		**Pn**	**07 37 27.8**	**+0.9**
SMWD	**Samnorwood**	**2.35**	**247**	P	**Pn**	**07 37 28.0**	**+1.0**
SMWD	**Samnorwood**	**2.35**	**247**	P	**Pn**	**07 37 27.9**	**+1.0**
SMWD				S	**Sb**	**07 37 58.1**	**-1.7**
WTFS	**Witchita Falls**	**2.41**	**197**		**Pn**	**07 37 28.6**	**+1.0**
WTFS	**Witchita Falls**	**2.41**	**197**	P	**Pn**	**07 37 28.9**	**+1.3**
R32A	**Long Quarter,**	**2.51**	**340**	Pn	**Pn**	**07 37 30.3**	**+1.3**
Z35A	**Perchaven, San**	**2.75**	**174**	P	**Pn**	**07 37 34.5**	**+2.2**
CBKS	**Cedar Bluff**	**3.22**	**329**	IAmb_Lg		07 38 28.6	
	comp=Z,23nm,1.1s						
CBKS	**Cedar Bluff**	**3.22**	**329**	P	**Pn**	**07 37 40.2**	**+1.4**
PLPT	**Palo Pinto**	**3.30**	**190**	Pn	**Pn**	**07 37 40.5**	**+0.6**
PLPT	**Palo Pinto**	**3.30**	**190**	P	**Pn**	**07 37 40.7**	**+0.7**
FW07	**Weatherford**	**3.36**	**183**	P	**Pb**	**07 37 46.9**	**-1.0**
APMT	**Aspermont**	**3.44**	**218**	Pn	**Pn**	**07 37 44.1**	**+2.4**
APMT	**Aspermont**	**3.44**	**218**	P	**Pb**	**07 37 45.5**	**-3.6**
AMTX	**Amarillo**	**3.53**	**252**	P	**Pb**	**07 37 51.4**	**+0.7**
AMTX				S	**Sb**	**07 38 36.9**	**+3.2**
TREL	**Terrell**	**3.56**	**159**	P	**Pb**	**07 37 52.4**	**+1.1**
PH02	**Texas Public H**	**3.60**	**260**	P	**Pb**	**07 37 53.3**	**+1.4**
PH02				S	**Sb**	**07 38 39.4**	**+3.8**
MIAR	**Mount Ida**	**3.63**	**114**		**Pn**	**07 37 45.3**	**+0.8**
MIAR	**Mount Ida**	**3.63**	**114**	P	**Pn**	**07 37 44.5**	**0.0**
DKNS	**Dickens**	**3.63**	**230**	IAmb_Lg		07 38 43.8	
	comp=Z,11nm,0.8s						
DKNS	**Dickens**	**3.63**	**230**	P	**Pb**	**07 37 49.3**	**-3.2**
DKNS	**Dickens**	**3.63**	**230**	P	**Pb**	**07 37 52.7**	**+0.2**
DKNS				S	**Sb**	**07 38 35.6**	**-1.1**
ABTX	**Abilene, Hawle**	**3.83**	**207**	P	**Pb**	**07 37 52.5**	**-3.3**
SN07	**Snyder 07**	**4.02**	**223**	IAmb_Lg		07 39 01.5	
	comp=Z,21nm,1.1s						
WHTX	**Lake Whitney,**	**4.07**	**178**	P	**Pn**	**07 37 51.4**	**+0.9**
RTBA	**Rita Blanca**	**4.16**	**277**		**Pn**	**07 37 52.6**	**+0.7**
RTBA	**Rita Blanca**	**4.16**	**277**	P	**Pn**	**07 37 52.8**	**+0.9**
RTBA	**Rita Blanca**	**4.16**	**277**	S	**Sn**	**07 38 40.7**	**+0.1**
SN05	**Snyder 5**	**4.18**	**221**	IAmb_Lg		07 39 10.2	
	comp=Z,15nm,0.8s						
POST	**Post**	**4.39**	**228**	IAmb_Lg		07 39 15.6	
	comp=Z,15nm,0.8s						
BRDY	**Brady**	**4.91**	**194**	Pn	**Pn**	**07 38 01.9**	**-0.1**
KSCO	**Kaye Shedlock'**	**4.95**	**308**	IAmb_Lg		07 39 29.4	
	comp=Z,13nm,0.7s						
SGCY	**Sterling City**	**5.07**	**216**	IAmb_Lg		07 39 38.4	
	comp=Z,11nm,0.8s						
T42A	**Van Buren**	**5.33**	**78**	IAmb_Lg		07 39 40.3	
	comp=Z,12nm,0.8s						
BGNE	**Belgrade**	**5.35**	**356**	IAmb_Lg		07 39 46.3	
	comp=Z,19nm,0.8s						
PBMO	**Poplar Bluff**	**5.83**	**81**	IAmb_Lg		07 40 00.9	
	comp=Z,16nm,0.8s						
N38A	**Joes South For**	**5.83**	**35**	IAmb_Lg		07 39 56.4	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**5.87**	**199**	IAmb_Lg		07 39 56.7	
	comp=Z,7.3nm,0.9s						
L34A	**Svendsen Farm,**	**5.96**	**9**	IAmb_Lg		07 40 04.6	
	comp=Z,13nm,0.8s						
FVM	**French Village**	**6.05**	**69**	IAmb_Lg		07 40 00.4	
	comp=Z,15nm,0.8s						
SCIA	**State Center**	**6.76**	**29**	IAmb_Lg		07 40 23.9	
	comp=Z,14nm,0.8s						
K30B	**Basset**	**6.77**	**347**	IAmb_Lg		07 40 25.5	
	comp=Z,14nm,0.7s						
**

p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pg	Pn	08 00 24.3	+0.1
	2.6nm,0.3s,baz=100,slow=15,SNR=11						
ZALV				Lg	Lg	08 00 49.2	
	2.1nm,0.3s,baz=101,slow=27,SNR=8.7						
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	I	I	08 13 50.3	
	0.1nm,1.1s,baz=95,slow=320,SNR=2.6						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	08 01 30.1	+2.2
	0.1nm,0.3s,baz=64,slow=14,SNR=7.6						
KURBB				Lg	Lg	08 03 16.8	
	baz=64,slow=34,SNR=7.1						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	08 01 47.7	+3.3
	0.1nm,0.3s,baz=26,slow=11,SNR=8.5						
MKAR				Sn	Sn	08 03 13.2	+0.8
	baz=32,slow=25,SNR=2.4						
MKAR				Lg	Lg	08 03 54.0	
	0.1nm,0.3s,baz=30,slow=27,SNR=5.2						
	0.2nm,0.3s						

NIED ***19*** *08:06:26.4, 36°.47N×140°.52E, h58km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr5.62; Mθθ0.26; Mϕϕ-5.88; Mrθ1.12; Mϕθ-1.77; Mϕr0.45; Fault plane solution: M0 6.12000×10^14 NP1: ϕs184.00000°, δ43.00000°, λ74.00000°. NP2: ϕs25.00000°, δ49.00000°, λ104.00000°.*
JMA ***19*** *08:06:26.4±0.1, 36°.5N±0°.2×140°.5E±0°.4, h58km, MD3.8/40, MV4.0/40, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
IDC ***19*** *08:06:27.9±2.0, 36°.39N×140°.51E, h76km±20km, mb3.3/10, mbtmp3.7/13, Error ellipse: s-maj=20.4km s-min=10.0km az=64.0*

ISC 19 08:06:26.4±0.8, 36°.48N±0°.04×140°.59E±0°.05, h56km±6km, n49, σ1§10/46, mb3.7/10, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.13**	**354**	*i* P	**Pn**	**08 06 35.3**	**+0.2**
JHO				S	**Sn**	**08 06 41.5**	**+0.1**
JHO	**Hitachi**	**0.13**	**354**	A	A	08 06 35.3	
	comp=N,8.0nm,0.2s,comp=E,6.0nm,0.2s						
JHYU	**Hitachinakayam**	**0.14**	**180**	*i* P	**Pn**	**08 06 35.4**	**+0.3**
JHYU				S	**Sn**	**08 06 41.7**	**+0.5**
JHYU	**Hitachinakayam**	**0.14**	**180**	A	A	08 06 35.4	
	comp=N,21nm,0.3s,comp=E,12nm,0.5s						
JYT	**Yasato**	**0.40**	**232**	*i* P	**Pn**	**08 06 36.8**	**-0.2**
JYT				S	**Sn**	**08 06 44.1**	**-0.6**
JYT	**Yasato**	**0.40**	**232**	A	A	08 06 36.8	
	comp=N,12nm,0.4s,comp=E,33nm,0.5s						
JAG	**Ashikaga**	**0.92**	**267**	⇓*i* P	**Pn**	**08 06 42.7**	**-0.5**
JAG				⇓S	**Sn**	**08 06 54.3**	**-1.2**
JAG	**Ashikaga**	**0.92**	**267**	A	A	08 06 42.7	
	comp=N,8.0nm,0.6s,comp=E,8.0nm,0.5s						
JFK	**Kawauchi**	**0.92**	**15**	*i* P	**Pn**	**08 06 43.0**	**-0.3**
JFK				S	**Sn**	**08 06 55.6**	**0.0**
JOTO	**OTAMA OYAMA**	**1.10**	**349**	*i* P	**Pn**	**08 06 45.8**	**+0.1**
JOTO				S	**Sn**	**08 07 00.1**	**+0.3**
JKT	**Katashina**	**1.11**	**285**	⇓P	**Pn**	**08 06 45.5**	**-0.4**
JKT				⇓S	**Sn**	**08 06 59.8**	**-0.6**
JKT	**Katashina**	**1.11**	**285**	A	A	08 06 45.5	
	comp=N,16nm,0.3s,comp=E,14nm,0.3s						
JFY	**Yanaizu**	**1.16**	**323**	⇓*i* P	**Pn**	**08 06 46.6**	**+0.1**
JMM	**Marumori**	**1.39**	**7**	P	**Pn**	**08 06 49.9**	**+0.3**
JMM	**Marumori**	**1.39**	**7**	*i* P	**Pn**	**08 06 49.9**	**+0.3**
JMM				S	**Sn**	**08 07 07.1**	**+0.2**
JUON	**Uonuma**	**1.43**	**301**	⇓P	**Pn**	**08 06 49.9**	**-0.1**
JUON				⇓S	**Sn**	**08 07 08.9**	**+1.1**
JRY	**Ryogami san**	**1.44**	**252**	⇓*i* P	**Pn**	**08 06 49.6**	**-0.6**
JRY				⇓S	**Sn**	**08 07 06.5**	**-1.6**
MJAR	**Matsushiro Arr**	**1.92**	**273**	P	**Pn**	**08 06 56.2**	**-0.4**
	comp=E,59nm,0.5s,baz=104,slow=10,SNR=183						
MJAR				S	**Sn**	**08 07 20.8**	**+1.1**
	comp=E,35nm,0.4s,baz=106,slow=25,SNR=5.0						
MJAR				LR	LR	08 07 49.3	
	comp=E,73nm,18.8s,baz=32,slow=44						
MAJO	**Matsushiro**	**1.92**	**273**	P	**Pn**	**08 06 57.1**	**+0.4**
JGF	**Kuroka**	**2.76**	**252**	P	**Pn**	**08 07 10.0**	**+1.8**
JGF	**Kuroka**	**2.76**	**252**	S	**Sn**	**08 07 43.7**	**+3.3**
INU	**Inuyama**	**3.11**	**250**	P	**Pn**	**08 07 14.8**	**+1.8**
JHJ	**Hachijo jima 2**	**3.42**	**191**	P	**Pn**	**08 07 18.1**	**+0.9**
	comp=E,46nm,0.3s,baz=99,slow=8.9,SNR=6.2						
JHJ				S	**Sn**	**08 07 55.6**	**-0.8**
	comp=E,86nm,0.3s,baz=233,slow=22,SNR=6.4						
JHJ2	**Mitsune**	**3.42**	**191**	P	**Pn**	**08 07 18.6**	**+1.4**
JTM	**Tenmabayashi**	**4.32**	**5**	P	**Pn**	**08 07 31.0**	**+1.5**
ERM	**Erimo**	**5.88**	**19**	P	**Pn**	**08 07 50.0**	**-0.8**
JEM	**Erimo**	**5.88**	**19**	P	**Pn**	**08 07 50.7**	**-0.2**
JCJ	**Chichijima**	**9.45**	**171**	P	Pn	08 08 31.2	-8.7
	comp=E,14nm,0.4s,baz=287,slow=19,SNR=1.4						
JCJ				S	Sn	08 10 08.3	-16
	comp=E,17nm,0.3s,baz=293,slow=22,SNR=7.5						
USRK	**Ussuriysk Ar.**	**10.12**	**322**	P	**Pn**	**08 08 50.8**	**+1.9**
	comp=E,2.5nm,0.7s,baz=134,slow=12,SNR=5.1						
KSRS	**Korea Array**	**10.18**	**279**	P	**Pn**	**08 08 52.4**	**+2.7**
	comp=E,1.3nm,0.5s,baz=92,slow=14,SNR=5.3						
SONM	**Songino Array**	**27.55**	**305**	P	**P**	**08 12 06.7**	**-1.3**
	comp=E,0.7nm,0.7s,baz=110,slow=9.6,SNR=6.1						
	comp=E,0.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	08 42 23.4	
	baz=313,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	08 42 12.3	
	baz=313,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.47**	**119**	T	T	08 42 07.1	
	baz=313,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**29.13**	**121**	T	T	08 43 05.4	
	baz=314,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**29.13**	**121**	T	T	08 43 05.3	
	baz=314,slow=76,SNR=58						
H11S2	**WAKE ISLAND Hy**	**29.15**	**121**	T	T	08 43 10.4	
	baz=314,slow=76,SNR=40						
ZALV	**Zalesovo Beam**	**41.80**	**313**	P	**P**	**08 14 09.4**	**-0.8**
	comp=E,0.9nm,0.5s,baz=100,slow=8.0,SNR=2.7						
	comp=E,0.9nm,0.5s						
MKAR	**Makanchi Array**	**43.85**	**302**	P	**P**	**08 14 27.1**	**0.0**
	comp=E,0.3nm,0.7s,baz=83,slow=9.4,SNR=2.8						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.82**	**308**	P	**P**	**08 14 41.1**	**-1.4**
	comp=E,0.5nm,0.3s,baz=83,slow=7.9,SNR=6.2						
	comp=E,0.5nm,0.3s						
ILAR	**Eielson Array**	**50.32**	**32**	P	**P**	**08 15 17.4**	**+0.3**
	comp=E,1.5nm,0.7s,baz=268,slow=5.8,SNR=47						
	comp=E,1.5nm,0.7s						
WRA	**Warramunga Arr**	**56.42**	**187**	P	**P**	**08 16 01.1**	**-1.2**
	comp=E,0.6nm,0.6s,baz=1.1,slow=7.5,SNR=9.9						
	comp=E,0.6nm,0.6s						
ASAR	**Alice Springs**	**60.15**	**187**	P	**P**	**08 16 27.6**	**-0.7**
	comp=E,0.2nm,0.3s,baz=17,slow=8.7,SNR=4.7						
	comp=E,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**64.62**	**30**	P	**P**	**08 16 57.4**	**-0.3**
	comp=E,0.3nm,0.7s,baz=304,slow=6.9,SNR=7.1						
	comp=E,0.3nm,0.7s						
PDAR	**Pinedale Array**	**78.53**	**45**	P	**P**	**08 18 22.3**	**+0.2**
	comp=E,0.3nm,0.6s,baz=284,slow=6.2,SNR=2.8						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**90.98**	**52**	P	**P**	**08 19 25.2**	**+0.4**
	comp=E,0.2nm,0.6s,baz=311,slow=4.5,SNR=4.1						
	comp=E,0.2nm,0.6s						
H03N2	**Juan Fernandez**	**147.62**	**96**	T	T	11 11 15.8	
	baz=291,slow=76,SNR=5.9						
H03N3	**Juan Fernandez**	**147.64**	**96**	T	T	11 11 19.4	
	baz=291,slow=76,SNR=7.6						
H03N1	**Juan Fernandez**	**147.64**	**96**	T	T	11 11 16.5	
	baz=291,slow=76,SNR=7.6						

NEIC ***19*** *08:09:55.8±1.6, 28°.15N±0°.06×129°.73E±0°.06, h10km±1km, mb4.6/48, Error ellipse: s-maj=10.6km s-min=8.5km az=160.0*
NIED ***19*** *08:09:58.9, 28°.21N×129°.53E, h34km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.69; Mθθ-1.02; Mϕϕ0.33; Mrθ-1.62; Mϕθ0.35; Mϕr-0.03; Fault plane solution: M0 1.87000×10^15 NP1: ϕs129.00000°, δ18.00000°, λ129.00000°. NP2: ϕs269.00000°, δ76.00000°, λ79.00000°.*
JMA ***19*** *08:09:58.9±0.2, 28°.1N×129°.5E±0°.6, h34km±2km, MD4.1/26, MV4.2/26, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt III J1 at NEAR AMAMI-OSHIMA ISLAND.
IDC ***19*** *08:10:00.3±1.3, 28°.28N×129°.41E, h43km±13km, mb3.7/18, mbtmp4.0/21, ML4.0/3, MS3.5/27, Error ellipse: s-maj=25.1km s-min=8.0km az=120.0*

ISC 19 08:09:57.7±0.9, 28°.11N±0°.03×129°.65E±0°.04, h28km±6km, n142, σ1§25/136, mb4.5/40, MS3.5/21, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.30**	**352**	P	**Pb**	**08 10 05.4**	**+0.3**
JAM				S	**Sb**	**08 10 10.1**	**0.0**
JAM	**Amami Oshima**	**0.30**	**352**	A	A	08 10 05.4	
	comp=N,64nm,0.6s,comp=E,54nm,2.2s						
JZK	**Kikaishima**	**0.35**	**54**	P	**Pn**	**08 10 07.9**	**+1.0**
JZK				S	**Sn**	**08 10 15.3**	**+2.4**
JZK	**Kikaishima**	**0.35**	**54**	A	A	08 10 07.9	
	comp=N,51nm,0.7s,comp=E,45nm,1.8s						
JAMN	**Amaminishikomi**	**0.44**	**288**	*i* P	**Pb**	**08 10 06.8**	**-0.3**
JAMN				S	**Sb**	**08 10 12.9**	**-0.6**
JAMN	**Amaminishikomi**	**0.44**	**288**	A	A	08 10 06.8	
	comp=N,200nm,0.3s,comp=E,121nm,0.3s						
JTK	**Tokunoshima**	**0.70**	**243**	P	**Pb**	**08 10 11.2**	**-0.2**
JTK				S	**Sb**	**08 10 20.3**	**-0.3**
JTK	**Tokunoshima**	**0.70**	**243**	A	A	08 10 11.2	
	comp=N,20nm,0.8s,comp=E,15nm,2.5s						
JTAJ	**Takarajima**	**1.11**	**339**	*i* P	**Pn**	**08 10 16.8**	**-0.6**
JTAJ				S	**Sn**	**08 10 30.6**	**-1.1**
JTAJ	**Takarajima**	**1.11**	**339**	A	A	08 10 16.8	
	comp=N,7.0nm,2.5s,comp=E,7.0nm,2.5s						
JOKE	**Okinoerabujima**	**1.21**	**232**	*i* P	**Pb**	**08 10 19.9**	**-0.1**
JOKE				S	**Sb**	**08 10 35.9**	**+0.6**
JOKE	**Okinoerabujima**	**1.21**	**232**	A	A	08 10 19.9	
	comp=N,6.0nm,1.7s,comp=E,8.0nm,2.0s						
JYRO	**Yoronjima**	**1.52**	**225**	P	**Pn**	**08 10 24.4**	**+1.4**
JYRO				S	**Sb**	**08 10 43.8**	**-0.2**
JNN	**Nakanoshima**	**1.74**	**6**	P	**Pn**	**08 10 26.8**	**+0.8**
JNN				S	**Sn**	**08 10 47.1**	**-0.1**
JOW	**Kunigami**	**1.77**	**224**		**Pn**	**08 10 27.6**	**+1.3**
JOW				Sn	**Sb**	**08 10 50.2**	**-1.0**
JOW	**Kunigami**	**1.77**	**224**	P	**Pn**	**08 10 27.7**	**+1.3**
	comp=E,969nm,0.3s,baz=54,slow=12,SNR=193						
JOW				S	**Sn**	**08 10 49.6**	**+1.7**
	comp=E,521nm,0.2s,baz=66,slow=27,SNR=14						
JOW				LR	LR	08 10 57.7	
	comp=E,355nm,18.6s,baz=294,slow=33						
JOW	**Kunigami**	**1.77**	**224**	P	**Pn**	**08 10 27.6**	**+1.3**
JOW	**Kunigami**	**1.77**	**224**	P	**Pn**	**08 10 28.1**	**+1.7**
JOW				S	**Sb**	**08 10 49.9**	**-1.3**
JOW	**Kunigami**	**1.77**	**224**	A	A	08 10 28.1	
	comp=N,3.0nm,1.2s,comp=E,4.0nm,0.7s						
JIH	**Iheya**	**1.84**	**235**	P	**Pn**	**08 10 28.8**	**+1.4**
JIH				S	**Sn**	**08 10 51.2**	**+1.5**
JNTH	**Nagotoyohara**	**2.15**	**223**	P	**Pn**	**08 10 33.1**	**+1.5**
JYAK	**Yakushimahirau**	**2.25**	**19**	P	**Pn**	**08 10 34.1**	**+1.1**
JYAK				S	**Sn**	**08 11 00.9**	**+1.1**
JKC	**Kuchinoerabu**	**2.39**	**11**	P	**Pn**	**08 10 36.3**	**+1.3**
JMTN	**Minamitane**	**2.53**	**25**	P	**Pn**	**08 10 38.2**	**+1.3**
JJT3	**Tamagusuku3**	**2.57**	**221**	P	**Pn**	**08 10 38.9**	**+1.4**
JKDJ	**Kitadaitoujima**	**2.60**	**145**	P	**Pn**	**08 10 38.9**	**+1.0**
JKDJ				S	**Sn**	**08 11 08.9**	**+0.3**
JAGN	**Aguni-jima**	**2.62**	**235**	P	**Pn**	**08 10 39.6**	**+1.4**
JAGN				S	**Sn**	**08 11 10.4**	**+1.3**
JMZ	**Minamidaito 2**	**2.68**	**148**	Pn	**Pn**	**08 10 38.9**	**0.0**
JMZ				Sn	**Sn**	**08 11 09.9**	**-0.4**
JMZ	**Minamidaito 2**	**2.68**	**148**	P	**Pn**	**08 10 39.5**	**+0.6**
JMZ	**Minamidaito 2**	**2.68**	**148**	S	**Sn**	**08 11 10.0**	**-0.4**
JMZ	**Minamidaito 2**	**2.68**	**148**	P	**Pn**	**08 10 39.4**	**+0.6**
JMZ				S	**Sn**	**08 11 09.4**	**-1.0**
JTN	**Tanegashima 3**	**2.79**	**24**	P	**Pn**	**08 10 41.8**	**+1.4**
JKE	**Kume jima 2**	**3.11**	**236**	P	**Pn**	**08 10 46.0**	**+1.1**
JKE				S	**Sn**	**08 11 21.9**	**+0.8**
JNU	**Nakatsue**	**5.11**	**12**	P	**Pn**	**08 11 14.3**	**+2.0**
	comp=E,23nm,0.3s,baz=194,slow=4.0,SNR=130						
JNU				S	**Sn**	**08 12 11.0**	**+0.6**
	comp=E,55nm,1.2s,baz=302,slow=15,SNR=0.9						
JNU				LR	LR	08 13 32.4	
	comp=E,303nm,20.3s,baz=162,slow=42						
	comp=E,63nm,0.5s						
JNU	**Nakatsue**	**5.11**	**12**	P	**Pn**	**08 11 15.1**	**+2.8**
JTU	**Tsushima**	**6.40**	**358**	P	**Pn**	**08 11 34.5**	**+4.5**
JMN	**Monobe**	**6.67**	**32**	Pn	**Pn**	**08 11 34.5**	**+0.6**
JMN	**Monobe**	**6.67**	**32**	P	**Pn**	**08 11 34.9**	**+1.0**
YOJ	**Yonaguni jima**	**6.98**	**240**	Pn	**Pn**	**08 11 37.4**	**-0.6**
YHNB	**Yeheng**	**8.17**	**247**	Pn	**Pn**	**08 11 55.0**	**+0.4**
NACB	**Ninganchiao**	**8.23**	**243**	P	**Pn**	**08 11 53.2**	**-2.1**
TJN	**Taejon**	**8.47**	**347**	Pn	**Pn**	**08 11 58.1**	**-0.3**
SSLB	**Suanglung**	**8.93**	**243**	P	**Pn**	**08 12 03.6**	**-1.3**
KSAR	**Wonju Array Be**	**9.42**	**351**	Pn	**Pn**	**08 12 10.9**	**-0.7**
KSRS	**Korea Array**	**9.43**	**352**	P	**Pn**	**08 12 15.2**	**+3.5**
	comp=E,3.8nm,0.8s,baz=172,slow=14,SNR=15						
KSRS				LR	LR	08 16 11.9	
	comp=E,231nm,18.2s,baz=175,slow=40						
TPUB	**Ta-pu**	**9.44**	**242**	Pn	**Pn**	**08 12 11.8**	**0.0**
INU	**Inuyama**	**9.56**	**39**	P	**Pn**	**08 12 16.8**	**+3.4**
JGF	**Kuroka**	**9.93**	**39**	Pn	**Pn**	**08 12 17.2**	**-1.4**
MJAR	**Matsushiro Arr**	**11.09**	**39**	P	**Pn**	**08 12 35.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=228,slow=14,SNR=4.5						
MJAR				LR	LR	08 17 00.1	
	comp=E,62nm,20.9s,baz=226,slow=38						
	comp=E,1.6nm,0.5s						
JCJ	**Chichijima**	**11.16**	**92**	LR	LR	08 16 21.6	
	comp=E,67nm,21.9s,baz=248,slow=34						
USRK	**Ussuriysk Ar.**	**16.17**	**6**	LR	LR	08 20 03.1	
	comp=E,85nm,20.0s,baz=202,slow=38						
MDJ	**Mudanjiang**	**16.47**	**360**		**Pn**	**08 13 47.4**	**+0.7**
ASAJ	**Asahikawa**	**19.05**	**30**	P	**P**	**08 14 16.5**	**-1.1**
	comp=E,0.6nm,0.3s,baz=204,slow=12,SNR=4.5						
ASAJ				LR	LR	08 21 49.1	
	comp=E,112nm,20.7s,baz=208,slow=37						
	comp=E,5.6nm,0.8s						
JKA	**Kamikawa-asahi**	**19.05**	**30**	P	**P**	**08 14 17.4**	**-0.3**
GUMO	**Guam**	**20.24**	**132**	LR	LR	08 20 48.1	
	comp=E,81nm,20.8s,baz=62,slow=32						
KLR	**Kul'dur**	**21.15**	**4**	P	**P**	**08 14 39.1**	**-1.3**
	comp=E,1.1nm,0.8s,baz=195,slow=8.4,SNR=4.1						
KLR				LR	LR	08 22 31.6	
	comp=E,68nm,18.9s,baz=181,slow=36						
	comp=E,1.1nm,0.8s						
DAV	**Davao City (W)**	**21.28**	**191**	LR	LR	08 23 22.0	
	comp=E,93nm,19.7s,baz=350,slow=38						
YSS	**Yuzhno-Sakhali**	**21.44**	**25**	P	**P**	**08 14 43.6**	**+0.2**
YSS				IAmb	IAmb	08 14 49.0	
	comp=Z,32nm,1.3s						
SONM	**Songino Array**	**26.73**	**324**	P	**P**	**08 15 35.2**	**+0.4**
SONM	**Songino Array**	**26.73**	**324**	P	**P**	**08 15 34.0**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=136,slow=10,SNR=8.3						
SONM				LR	LR	08 26 49.4	
	comp=Z,72nm,19.1s,baz=278,slow=38						
	comp=Z,0.6nm,0.4s						
PHRA	**Phrae**	**28.60**	**257**	P	**P**	**08 15 52.4**	**+0.7**
CHTO	**Chiang Mai**	**29.58**	**258**	P	**P**	**08 16 01.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**29.73**	**258**	P	**P**	**08 16 02.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=66,slow=8.0,SNR=6.2						
CMAR				PcP	**PcP**	**08 19 07.0**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=55,slow=3.1,SNR=4.3						
	comp=Z,0.6nm,0.3s						
PETK	**Petropavlovsk-**	**32.44**	**32**	LR	LR	08 30 49.0	
	comp=Z,37nm,19.0s,baz=261,slow=38						
YAK	**Yakutsk**	**33.92**	**0**	LR	LR	08 32 16.6	
	comp=Z,30nm,18.1s,baz=276,slow=40						
KAPI	**Kappang**	**34.29**	**198**	LR	LR	08 29 29.2	
	comp=Z,50nm,21.5s,baz=97,slow=34						
MA2	**Magadan**	**34.63**	**19**	LR	LR	08 32 11.5	
	comp=Z,39nm,18.3s,baz=210,slow=38						
H11S3	**WAKE ISLAND Hy**	**35.22**	**98**	T	T	08 54 29.8	
	baz=291,slow=77						
H11S1	**WAKE ISLAND Hy**	**35.22**	**98**	T	T	08 54 27.3	
	baz=291,slow=77						
H11S2	**WAKE ISLAND Hy**	**35.23**	**98**	T	T	08 54 31.3	
	baz=291,slow=77						
PMG	**Port Moresby**	**40.96**	**153**	LR	LR	08 32 30.9	
	comp=Z,103nm,20.7s,baz=283,slow=33						
MK31	**Makanchi Array**	**41.27**	**310**	P	**P**	**08 17 39.6**	**-0.8**
MKAR	**Makanchi Array**	**41.27**	**310**	P	**P**	**08 17 39.9**	**-0.5**
MKAR	**Makanchi Array**	**41.27**	**310**	P	**P**	**08 17 37.8**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=92,slow=8.7,SNR=7.0						
MKAR				PcP	**PcP**	**08 19 38.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=91,slow=2.7,SNR=3.2						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**41.55**	**321**	P	**P**	**08 17 39.7**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=101,slow=7.8,SNR=2.6						
	comp=Z,0.5nm,0.3s						
TIXI	**Tiksi**	**43.59**	**360**	LR	LR	08 38 12.6	
	comp=Z,42nm,18.2s,baz=182,slow=39						
KURK	**Kurchatov**	**44.36**	**315**	P	**P**	**08 18 04.7**	**-0.6**
KURBB	**Kurchatov Arra**	**44.40**	**315**	P	**P**	**08 18 03.8**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=96,slow=8.9,SNR=5.7						
	comp=Z,0.9nm,0.6s						
BILL	**Bilibino**	**45.50**	**18**	P	**P**	**08 18 14.2**	**+0.1**
BILL				IAmb	IAmb	08 18 23.7	
	comp=Z,12nm,1.4s						
NRIK	**Noril'sk**	**47.87**	**341**	P	**P**	**08 18 31.7**	**-1.0**
NRIK				IAmb	IAmb	08 18 32.1	
	comp=Z,3.6nm,0.7s						
NRIK	**Noril'sk**	**47.87**	**341**	P	**P**	**08 18 31.4**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=115,slow=8.8,SNR=7.9						
NRIK				LR	LR	08 40 41.2	
	comp=Z,55nm,19.2s,baz=116,slow=39						
	comp=Z,3.1nm,0.6s						
KK31	**Karatay Array**	**49.38**	**304**	P	**P**	**08 18 45.4**	**+0.6**
KK31				IAmb	IAmb	08 18 55.1	
	comp=Z,9.9nm,1.4s						
KKAR	**Karatay Array**	**49.38**	**304**	P	**P**	**08 18 45.5**	**+0.7**
BVAR	**Borovoye Array**	**49.74**	**317**	P	**P**	**08 18 46.8**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=81,slow=10,SNR=6.4						
BVAR				LR	LR	08 41 53.7	
	comp=Z,92nm,19.6s,baz=144,slow=39						
	comp=Z,1.4nm,0.5s						
GAR	**Garm**	**49.85**	**299**	P	**P**	**08 18 49.0**	**+0.4**
GAR				IAmb	IAmb	08 18 58.2	
	comp=Z,10nm,0.9s						
PALK	**Pallekele**	**50.62**	**255**	LR	LR	08 41 31.5	
	comp=Z,41nm,20.1s,baz=70,slow=38						
CHGR	**Chuyangaron**	**50.79**	**298**	P	**P**	**08 18 55.3**	**-0.3**
SIMJ	**Simiganj**	**50.90**	**298**	P	**P**	**08 18 56.4**	**-0.1**
SIMJ				IAmb	IAmb	08 19 07.1	
	comp=Z,4.5nm,0.8s						
KBL	**Kabul**	**51.51**	**293**	P	**P**	**08 19 01.9**	**+0.7**
KBL				IAmb	IAmb	08 19 11.0	
	comp=Z,5.3nm,0.5s						
C16K	**Lisburne Hills**	**54.97**	**24**	P	**P**	**08 19 26.4**	**+0.6**
C16K				IAmb	IAmb	08 19 36.8	
	comp=Z,6.2nm,1.0s						
ABKAR	**Akbulak array**	**56.30**	**312**	P	**P**	**08 19 35.7**	**-0.1**
C18K	**Utukok River**	**56.55**	**24**	P	**P**	**08 19 38.2**	**+1.0**
C18K				IAmb	IAmb	08 19 47.8	
	comp=Z,7.0nm,1.2s						
E18K	**Tukpahlearik C**	**56.60**	**26**	P	**P**	**08 19 38.3**	**+0.7**
E18K				IAmb	IAmb	08 19 52.0	
	comp=Z,8.7nm,1.4s						
ARTI	**Arti**	**56.82**	**321**	LR	LR	08 46 49.2	
	comp=Z,74nm,19.9s,baz=42,slow=39						
J17K	**VABM Dome**	**56.89**	**31**	P	**P**	**08 19 39.5**	**-0.2**
J17K				IAmb	IAmb	08 19 45.9	
	comp=Z,6.0nm,1.1s						
G18K	**Tagagawik**	**57.23**	**28**	P	**P**	**08 19 42.8**	**+0.7**
G18K				IAmb	IAmb	08 19 53.7	
	comp=Z,8.3nm,1.5s						
D19K	**Kuna River**	**57.65**	**25**	P	**P**	**08 19 45.5**	**+0.4**
E19K	**Redstone River**	**57.90**	**26**	P	**P**	**08 19 47.8**	**+1.0**
J19K	**Poorman**	**58.45**	**30**	P	**P**	**08 19 50.5**	**-0.1**
B21K	**Ikpikpuk River**	**58.99**	**23**	P	**P**	**08 19 55.8**	**+1.6**
J20K	**Nowinta River**	**59.09**	**30**	P	**P**	**08 19 56.1**	**+0.9**
K20K	**Telida**	**59.15**	**31**	P	**P**	**08 19 55.4**	**-0.2**
K20K				IAmb	IAmb	08 20 05.3	
	comp=Z,12nm,1.4s						
F21K	**Alatna River**	**59.34**	**26**	P	**P**	**08 19 57.4**	**+0.6**
F21K				IAmb	IAmb	08 20 08.7	
	comp=Z,5.1nm,1.2s						
D22K	**Ayikyak River**	**59.65**	**24**	P	**P**	**08 20 00.4**	**+1.4**
E22K	**Anaktuvuk Pass**	**59.98**	**25**	P	**P**	**08 20 02.4**	**+1.2**
E22K				IAmb	IAmb	08 20 13.5	
	comp=Z,5.7nm,1.1s						
D23K	**Nanushuk River**	**60.38**	**24**	P	**P**	**08 20 05.9**	**+2.0**
D23K				IAmb	IAmb	08 20 15.5	
	comp=Z,3.5nm,0.8s						
C23K	**Itkillik River**	**60.38**	**23**	P	**P**	**08 20 05.5**	**+1.6**
C23K				IAmb	IAmb	08 20 15.0	
	comp=Z,5.8nm,1.1s

LUES Luesalemba Tem 3.21 335 P S 08 11 59.6 -2.5
HURO Huro Makira 6.12 300 P Pn 08 11 58.3 +0.7
NGOA Tingoa Renbel 7.35 285 P Pn 08 12 14.7 +1.3
KOUNC Koumac, New Ca 7.51 202 P Pn 08 12 16.5 +1.1
HNR Honiara 8.30 299 Pn **Pn 08 12 24.3 -1.5**
HNR Honiara 8.30 299 P **Pn 08 12 25.1 -0.7**
328nm,0.8s,baz=203,slow=7.8,SNR=3.6
DZM Mont Dzumac 8.48 185 Pn **Pn 08 12 28.7 +0.5**
DZM Mont Dzumac 8.48 185 P **Pn 08 12 28.0 -0.1**
40nm,0.8s,baz=40,slow=20,SNR=11
DZM S **S 08 14 03.1 -0.7**
12nm,0.5s,baz=316,slow=21,SNR=0.7
DZM Mont Dzumac 8.48 185 P **Pn 08 12 29.2 +1.1**
ONTNC Ouen Toro 8.71 185 Pn **Pn 08 12 31.7 +0.7**
ONTNC Ouen Toro 8.71 185 P **Pn 08 12 32.0 +1.0**
PINNC Pines Island, 8.98 179 Pn **Pn 08 12 35.5 +1.0**
PINNC Pines Island, 8.98 179 P **Pn 08 12 36.9 +2.4**
TATA Tatamba Isabel 8.99 304 P **Pn 08 12 35.8 +1.1**
MSVF Nonsavu 11.14 113 Pn **P 08 13 07.1 -0.9**
MSVF Nonsavu 11.14 113 P **P 08 13 06.3 -1.8**
30nm,0.8s,baz=272,slow=8.5,SNR=22
MSVF Nonsavu 11.14 113 P **P 08 13 06.6 -1.5**
DGTI Dogotuki 12.31 104 P **P 08 13 20.8 -0.2**
TAVE Taveuni 12.73 106 P **P 08 13 25.9 +0.2**
LKBA Tubou, Lakemba 14.13 111 P **P 08 13 43.3 +2.1**
FUTU Fugatoga 14.17 95 Pn **Pn 08 13 39.9 -0.3**
EIDS Eidsvold 19.25 230 P **P 08 14 38.4 +1.2**
EIDS Eidsvold 19.25 230 P **P 08 14 38.8 +1.6**
TW1H Toowoomba 1 Ha 19.94 223 P **P 08 14 45.5 +0.8**
PMG Port Moresby 20.17 280 P **P 08 14 47.7 +0.5**
32nm,0.7s,baz=52,slow=4.6,SNR=6.6
32nm,0.7s
ARMA Armidale 22.13 218 P **P 08 15 08.8 +1.5**
ARMA IAmb IAmb 08 15 09.5
comp=Z,19nm,0.9s
ARMA Armidale 22.13 218 P **P 08 15 08.1 +0.8**
OUZ Omahuta 22.28 166 P **P 08 15 10.1 +1.7**
NIUE Niue 22.51 107 P **P 08 15 12.1 +1.3**
MTSU Mount Surprise 22.56 255 P **P 08 15 12.2 +1.0**
COEN Coen 23.44 266 P **P 08 15 19.6 +0.5**
COEN Coen 23.44 266 P **P 08 15 20.4 +1.3**
AULRC Lightning Ridg 23.86 226 P **P 08 15 23.4 +0.6**
ABAZ Army Bay 23.89 165 P **P 08 15 23.0 0.0**
QLP Quilpie 25.18 236 P **P 08 15 36.7 +1.9**
HIZ Hauiti 25.72 166 P **P 08 15 40.6 +1.1**
HAZ Te Kaha 25.82 161 P **P 08 15 40.5 +0.1**
PKGZ Pakihiroa 26.02 160 P **P 08 15 43.3 +1.1**
URZ Urewera 26.08 162 P **P 08 15 42.2 -0.5**
comp=Z,2.1nm,0.3s,baz=340,slow=0.6,SNR=5.5
URZ Urewera 26.08 162 P **P 08 15 44.7 +2.0**
URZ Urewera 26.08 162 P **P 08 15 42.5 -0.2**
MUGZ Murupara 26.18 163 P **P 08 15 44.3 +0.7**
TWGZ Tauwhareparae 26.27 161 P **P 08 15 45.5 +1.0**
MWZ Matawai 26.27 162 P **P 08 15 45.2 +0.7**
RTZ Ruatahuna 26.37 163 P **P 08 15 45.7 +0.3**
TWVZ Taurewa 26.39 166 P **P 08 15 46.7 +1.0**
MRHZ Matea Rd 26.41 164 P **P 08 15 46.1 +0.3**
WTVZ West Tongariro 26.47 165 P **P 08 15 49.4 +3.1**
TKGZ Te Karaka 26.47 161 P **P 08 15 45.6 -0.6**
NTVZ North Tongarir 26.47 165 P **P 08 15 48.0 +1.6**
NNVZ North Ngauruho 26.49 165 P **P 08 15 48.9 +2.3**
TMVZ Te Maari 26.50 165 P **P 08 15 49.5 +2.9**
ETVZ East Tongariro 26.52 165 P **P 08 15 49.4 +2.7**
NGZ Ngauruhoe 26.53 165 P **P 08 15 49.7 +2.8**
OTVZ Oturere 26.53 165 P **P 08 15 49.5 +2.5**
SNVZ South Ngauruho 26.55 165 P **P 08 15 50.1 +3.0**
MTHZ Maungataniwha 26.55 163 P **P 08 15 46.4 -0.6**
CNGZ Carnagh Statio 26.62 161 P **P 08 15 47.9 +0.3**
RIGZ Rimuhau 26.68 162 P **P 08 15 48.9 +0.7**
BKZ Black Stump Fm 26.75 164 P **P 08 15 49.0 +0.2**
BKZ IAmb IAmb 08 16 14.0
comp=Z,27nm,1.5s
BKZ Black Stump Fm 26.75 164 P **P 08 15 48.9 +0.2**
NMHZ Naumai 26.77 163 P **P 08 15 49.7 +0.7**
KWHZ Kaweka Forest 26.97 164 P **P 08 15 50.7 -0.1**
ARHZ Aropaoanui 26.97 163 P **P 08 15 50.1 -0.6**
MCHZ McNeill Hill 27.06 164 P **P 08 15 50.6 -0.9**
QIS Mount Isa 27.34 251 P **P 08 15 54.2 -0.1**
TSZ Takapari Road 27.45 165 P **P 08 15 55.0 +0.1**
PXZ Pawanui 27.66 164 P **P 08 15 56.6 -0.1**
MRZ Mangatainoka R 27.93 166 P **P 08 16 00.4 +1.2**
BFZ Birch Farm 28.11 165 P **P 08 16 00.8 0.0**
THZ Tophouse 28.50 171 P **P 08 16 05.3 +1.0**
JAY Jayapura 28.50 290 LR LR 08 26 51.0
comp=Z,126nm,19.6s,baz=310,slow=34
KHZ Kahutara 29.23 171 P **P 08 16 10.2 -0.5**
INZ Inchbonnie 29.26 174 P **P 08 16 11.8 +1.0**
INZ IAmb IAmb 08 16 12.4
comp=Z,21nm,1.1s
INZ Inchbonnie 29.26 174 P **P 08 16 12.5 +1.6**
STKA Stephens Creek 29.77 228 P **P 08 16 16.3 +0.7**
STKA Stephens Creek 29.77 228 P **P 08 16 16.2 +0.7**
comp=Z,23nm,0.4s,baz=51,slow=9.5,SNR=153
STKA PcP **PcP 08 19 13.3 -0.6**
comp=Z,1.8nm,0.6s,baz=31,slow=5.4,SNR=3.4
STKA ScP **ScP 08 22 37.3 +1.3**
comp=Z,5.1nm,0.7s,baz=40,slow=4.5,SNR=12
comp=Z,23nm,0.4s
STKA Stephens Creek 29.77 228 P **P 08 16 16.1 +0.5**
TOO Toolangi 30.80 215 P **P 08 16 26.1 +1.5**
EAZ Earnscleugh 31.59 177 P **P 08 16 32.5 +1.2**
LCRK Leigh Creek 31.63 233 P **P 08 16 31.9 0.0**
WR0 Warramunga Arr 31.96 254 P **P 08 16 34.0 -1.0**
WR0 IAmb IAmb 08 16 34.6
comp=Z,11nm,1.1s
WB0 Warramunga Arr 32.08 254 P **P 08 16 35.2 -0.9**
WB2 Warramunga Arr 32.14 254 P **P 08 16 35.4 -1.2**
WB2 IAmb IAmb 08 16 36.2
comp=Z,12nm,0.6s
WRAB Tennant Creek 32.14 254 P **P 08 16 35.5 -1.1**
WRAB IAmb IAmb 08 16 36.1
comp=Z,12nm,0.6s
WRA Warramunga Arr 32.15 254 P **P 08 16 34.6 -2.0**
WRA **PcP 08 19 20.8 +0.2**
WRA Warramunga Arr 32.15 254 P **P 08 16 35.4 -1.3**
comp=Z,12nm,0.6s,baz=86,slow=9.2,SNR=91
WRA PcP **PcP 08 19 20.4 -0.1**
comp=Z,2.7nm,0.6s,baz=84,slow=3.3,SNR=7.4
WRA S **S 08 21 29.2 -4.5**
comp=Z,3.0nm,1.0s,baz=85,slow=14,SNR=5.3
WRA ScP **ScP 08 22 45.5 +1.3**
comp=Z,4.9nm,0.9s,baz=82,slow=3.4,SNR=17
comp=Z,12nm,0.6s
HTT Hallett 32.50 228 P **P 08 16 40.3 +0.7**
HTT Hallett 32.50 228 S **S 08 21 39.5 +0.6**
OOD Oodnadatta 32.66 239 P **P 08 16 41.4 +0.4**
AS01 Alice Springs 33.08 247 P **P 08 16 43.7 -1.0**
ASAR Alice Springs 33.12 247 P **P 08 16 44.0 -1.1**
comp=Z,21nm,0.5s,baz=75,slow=9.3,SNR=484
ASAR PcP **PcP 08 19 23.1 -0.1**
comp=Z,2.9nm,0.6s,baz=66,slow=2.7,SNR=12
ASAR S **S 08 21 44.5 -4.3**
comp=Z,3.0nm,1.0s,baz=82,slow=16,SNR=12
ASAR ScP **ScP 08 22 48.8 +1.2**
comp=Z,12nm,1.0s,baz=80,slow=3.4,SNR=34
comp=Z,21nm,0.5s
MGBR Mount Gambier 33.82 220 P **P 08 16 52.3 +1.4**
KDU Kakadu 33.91 267 P **P 08 16 52.1 +0.2**
BBOO Buckleboo 34.31 231 P **P 08 16 55.4 +0.2**
MTN Manton Dam 35.20 267 P **P 08 17 03.5 +0.5**
MTN IAmb IAmb 08 17 03.9
comp=Z,19nm,0.8s
KNRA Kununurra 37.32 262 P **P 08 17 20.4 -0.4**
WRKA Warakurna 38.40 247 P **P 08 17 29.5 -0.5**
FORT Forrest 39.92 238 P **P 08 17 41.9 -0.4**
FORT Forrest 39.92 238 P **P 08 17 42.9 +0.6**
FITZ Fitzroy Crossi 40.27 258 P **P 08 17 45.4 0.0**
TNTI Ternate 42.06 287 P **P 08 17 59.1 -0.9**
PSA00 Pilbara Seismi 45.79 253 P **P 08 18 29.9 +0.3**
JCJ Chichijima 47.22 329 P **P 08 18 40.2 -0.3**
DHH Diamond Head 48.72 45 P **P 08 18 53.3 +1.3**
NWAO Narrogin (SRO) 49.37 238 P **P 08 18 56.3 -0.6**
NWAO IAmb IAmb 08 19 10.3
comp=Z,25nm,1.4s
HPAH Hawaii Prepara 49.40 48 P **P 08 18 58.2 +0.8**
STCH Steam Cracks 49.42 49 P **P 08 18 58.2 +0.8**
JOW Kunigami 55.24 317 P **P 08 19 41.2 +1.1**
comp=Z,27nm,0.5s,baz=196,slow=10.0,SNR=6.2
comp=Z,27nm,0.5s
MJAR Matsushiro Arr 56.91 332 P **P 08 19 51.2 -0.5**
comp=Z,5.9nm,0.7s,baz=168,slow=8.0,SNR=15
comp=Z,5.9nm,0.7s
MAJO Matsushiro 56.91 332 P **P 08 19 50.6 -1.1**
MAJO IAmb IAmb 08 19 52.0
comp=Z,10nm,0.8s
MAJO Matsushiro 56.91 332 P **P 08 19 51.8 +0.1**
MJB9 Matsu-Tunnel 56.92 332 IAmb IAmb 08 19 53.3
comp=Z,10.0nm,0.8s
JSD Sado 58.12 333 P **P 08 19 59.8 -0.4**
JSD Sado 58.12 333 P **P 08 20 01.2 +1.1**
TPUB Ta-pu 58.56 308 P **P 08 20 03.3 -0.1**
SSLB Suanglung 58.58 309 P **P 08 20 02.9 -0.7**
YHNB Yeheng 58.77 310 P **P 08 20 05.5 +0.6**
YHNB Yeheng 58.77 310 P **P 08 20 05.9 +1.0**
JTM Tenmabayashi 59.31 337 P **P 08 20 07.5 -0.7**
ERM Erimo 59.63 339 P **P 08 20 10.9 +0.5**
ERM IAmb IAmb 08 20 12.5
comp=Z,14nm,0.7s
JKA Kamikawa-asahi 61.68 340 P **P 08 20 25.4 +1.3**
ASAJ Asahikawa 61.68 340 P **P 08 20 24.9 +0.7**
comp=Z,25nm,0.5s,baz=214,slow=6.9,SNR=34
comp=Z,25nm,0.5s
KSRS Korea Array 62.82 325 P **P 08 20 32.4 +0.5**
comp=Z,4.2nm,0.9s,baz=142,slow=6.8,SNR=12
comp=Z,4.2nm,0.9s
KSAR Wonju Array Be 62.83 325 P **P 08 20 32.9 +0.9**
YSS Yuzhno-Sakhali 64.16 342 P **P 08 20 41.8 +1.3**
YSS Yuzhno-Sakhali 64.16 342 P **P 08 20 42.3 +1.9**
NJ2 Nanjing 64.89 315 ⇑P **P 08 20 46.5 +1.0**
NJ2 pmax pmax
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 65.89 333 P **P 08 20 52.9 +1.2**
USRK Ussuriysk Ar. 65.89 333 P **P 08 20 52.3 +0.7**
USRK Ussuriysk Ar. 65.89 333 P **P 08 20 52.5 +0.9**
comp=Z,19nm,1.0s,baz=140,slow=5.8,SNR=29
comp=Z,19nm,1.0s
PEA0B Petropavlovsk- 66.93 354 P **P 08 20 58.8 +0.8**
PETK Petropavlovsk- 66.93 354 P **P 08 20 58.0 0.0**
PETK Petropavlovsk- 66.93 354 P **P 08 20 58.4 +0.3**
comp=Z,17nm,0.9s,baz=146,slow=8.2,SNR=14
comp=Z,17nm,0.9s
MDJ Mudanjiang 67.29 332 P **P 08 21 01.3 +0.8**
MDJ Mudanjiang 67.29 332 P **P 08 21 01.8 +1.3**
MDJ pmax pmax
comp=Z,32nm,0.8s
MDJ pmax pmax
comp=Z,230nm,5.5s
MDJ Mudanjiang 67.29 332 P **P 08 21 01.9 +1.4**
IPM Ipoh 68.17 280 P **P 08 21 06.9 +0.2**
IPM IAmb IAmb 08 21 07.7
comp=Z,9.0nm,0.7s
CN2 Changchun 68.69 329 P **P 08 21 09.9 +0.7**
CN2 pmax pmax
comp=Z,30nm,0.8s
BNX BinXian 69.15 331 ⇑P **P 08 21 12.3 +0.3**
BNX pmax pmax
comp=Z,54nm,0.6s
RPSI Rantau Prapat 69.70 278 P **P 08 21 15.3 -0.7**
RPSI IAmb IAmb 08 21 16.2
comp=Z,7.4nm,0.8s
KLR Kul'dur 69.98 336 P **P 08 21 18.1 +1.0**
comp=Z,14nm,0.6s,baz=135,slow=3.2,SNR=58
comp=Z,14nm,0.6s
ENH Enshi 70.67 309 P **P 08 21 21.7 0.0**
ENH Enshi 70.67 309 P **P 08 21 21.5 -0.2**
LYN LuoYang 70.70 314 P **P 08 21 22.3 +0.6**
LYN pmax pmax
comp=Z,44nm,1.0s
HNS HongShan 70.78 318 ⇑P **P 08 21 22.8 +0.7**
HNS pmax pmax
comp=Z,23nm,0.9s
GYA Guiyang 71.10 304 P **P 08 21 24.8 +0.4**
GYA pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 71.39 321 P **P 08 21 26.5 +0.7**
BJT IAmb IAmb 08 21 26.8
comp=Z,9.9nm,0.8s
BJT Baijiatuau 71.39 321 P **P 08 21 26.9 +1.2**
BJI Beijing 71.40 321 P **P 08 21 26.4 +0.6**
BJI pmax pmax
comp=Z,7.0nm,0.8s
HEH HeiHe 72.54 334 *e*P **P 08 21 32.8 +0.5**
HEH pmax pmax
comp=Z,24nm,0.8s
XAN Xi'an 72.94 312 ⇑P **P 08 21 35.6 +0.4**
XAN PcP **PcP 08 21 55.6 +4.7**
XAN pP pP 08 22 29.3 +4.5
XAN pmax pmax
comp=Z,26nm,0.8s
XLT XiLinHaoTe 73.80 324 *e*P **P 08 21 40.3 +0.3**
XLT PcP **PcP 08 21 52.4 -2.0**
XLT pmax pmax
comp=Z,31nm,0.7s
MA2 Magadan 74.12 351 P **P 08 21 43.0 +1.6**
MA2 IAmb IAmb 08 21 43.2
comp=Z,6.1nm,0.5s
MA2 Magadan 74.12 351 P **P 08 21 41.5 +0.1**
CMAR Chiang Mai Arr 74.52 294 P **P 08 21 44.4 -0.2**
CMAR Chiang Mai Arr 74.52 294 P **P 08 21 45.6 +1.0**
comp=Z,7.1nm,1.0s,baz=121,slow=4.3,SNR=22
comp=Z,7.1nm,1.0s
CHTO Chiang Mai 74.64 294 P **P 08 21 45.5 +0.3**
HHC Hu-ho-hao-te 74.74 319 *e*P **P 08 21 46.5 +1.0**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,96nm,4.7s
PZH PanZhiHua 75.11 302 P **P 08 21 48.4 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.9s
HIA Hailar 75.31 330 IAmb IAmb 08 21 49.9
comp=Z,15nm,0.8s
HIA Hailar 75.31 330 P **P 08 21 49.3 +0.8**
CD2 Chengdu 75.34 307 P **P 08 21 49.8 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
QSPA South Pole Qui 76.44 180 P **P 08 21 54.9 +0.1**
QSPA IAmb IAmb 08 21 55.9
comp=Z,8.9nm,0.9s
QSPA South Pole Qui 76.44 180 P **P 08 21 54.7 0.0**
comp=Z,7.1nm,0.8s,baz=336,slow=1.2,SNR=31
comp=Z,7.1nm,0.8s
LZH Lanzhou 77.58 312 *e*P **P 08 22 03.3 +1.6**
LZH pP pP 08 22 45.4 -6.7
LZH pmax pmax
comp=Z,28nm,1.3s
M14K Bethel 78.04 15 P **P 08 22 04.1 +0.7**
GAMB Gambell 78.80 9 P **P 08 22 08.0 +0.6**
GAMB IAmb IAmb 08 22 08.8
comp=Z,10nm,1.0s
J14K Nanvaranak Lak 79.41 13 P **P 08 22 11.2 +0.4**
J14K IAmb IAmb 08 22 12.6
comp=Z,16nm,0.9s
K15K Wolf Creek Mou 79.48 14 P **P 08 22 11.6 +0.4**
ILSW Iliamna Southw 79.91 19 P **P 08 22 13.8 +0.1**
ILSW IAmb IAmb 08 22 18.4
comp=Z,27nm,1.3s
ANM Nome 80.64 12 P **P 08 22 17.8 +0.4**
ANM IAmb IAmb 08 22 19.3
comp=Z,11nm,1.2s
YAK Yakutsk 80.95 343 P **P 08 22 19.4 +0.4**
ULN Ulaanbaatar 81.24 324 P **P 08 22 21.8 +0.7**
ULN IAmb IAmb 08 22 22.8
comp=Z,17nm,0.8s
BILL Bilibino 81.40 360 P **P 08 22 21.6 +0.3**
SONM Songino Array 81.60 323 P **P 08 22 22.7 -0.3**
SONM IAmb IAmb 08 22 24.6
comp=Z,13nm,1.2s
SONM Songino Array 81.60 323 P **P 08 22 23.3 +0.3**
comp=Z,3.1nm,0.4s,baz=144,slow=5.9,SNR=33
comp=Z,3.1nm,0.4s
J18K Innoko River 81.67 15 IAmb IAmb 08 22 25.0
comp=Z,8.7nm,1.0s
GTA Gaotai 81.90 314 *e*P **P 08 22 26.0 +1.2**
GTA sP pP 08 23 27.3 +12
GTA pmax pmax
comp=Z,10.0nm,0.9s
CAST Castle Rocks 82.90 17 IAmb IAmb 08 22 28.8
comp=Z,11nm,1.0s
F17K Baldwin Pennin 83.12 12 IAmb IAmb 08 22 32.0
comp=Z,6.8nm,0.8s
H19K Roundabout Mou 83.42 14 IAmb IAmb 08 22 35.6
comp=Z,11nm,1.3s
MCK McKinley 84.06 18 IAmb IAmb 08 22 36.3
comp=Z,21nm,1.2s
E18K Tukpahlearik C 84.10 12 P **P 08 22 36.0 +0.8**
F19K Shaleruckik Mo 84.20 13 P **P 08 22 36.4 +0.7**
I21K Tanana 84.29 16 P **P 08 22 36.5 +0.4**
I21K IAmb IAmb 08 22 37.8
comp=Z,15nm,0.8s
H21K Melozitna Rive 84.44 15 IAmb IAmb 08 22 38.2
comp=Z,7.9nm,1.0s
NEA2 Nenana 84.66 17 IAmb IAmb 08 22 39.3
comp=Z,11nm,1.1s
E19K Redstone River 84.83 13 IAmb IAmb 08 22 40.9
comp=Z,7.9nm,0.8s
F20K Avaraart Lake 84.84 14 IAmb IAmb 08 22 40.8
comp=Z,14nm,1.2s
WRH Wood River Hil 84.86 18 P **P 08 22 38.6 -0.5**
WRH IAmb IAmb 08 22 40.8
comp=Z,7.2nm,0.7s
C18K Utukok River 85.04 11 IAmb IAmb 08 22 41.7
comp=Z,17nm,1.4s
CCB Clear Creek Bu 85.07 18 IAmb IAmb 08 22 40.3
comp=Z,5.7nm,0.7s
HDA Harding Lake 85.15 18 IAmb IAmb 08 22 41.3
comp=Z,13nm,0.7s
COLA College 85.22 18 P **P 08 22 40.5 -0.4**
COLA IAmb IAmb 08 22 42.6
comp=Z,9.9nm,0.8s
COLA College 85.22 18 P **P 08 22 40.8 0.0**
IL31 85.43 18 IAmb IAmb 08 22 42.3
comp=Z,8.7nm,0.8s
ILAR Eielson Array 85.43 18 P **P 08 22 41.4 -0.6**
ILAR Eielson Array 85.43 18 P **P 08 22 40.9 -1.1**
comp=Z,6.5nm,0.7s,baz=240,slow=5.2,SNR=112
comp=Z,6.5nm,0.7s
D19K Kuna River 85.51 12 IAmb IAmb 08 22 44.0
comp=Z,20nm,1.3s
SCRK Sand Creek 85.78 19 P **P 08 22 43.1 -0.7**
J25K Salcha River, 85.78 19 IAmb IAmb 08 22 45.0
comp=Z,7.6nm,0.7s
G23K Bananza Creek 85.98 16 IAmb IAmb 08 22 46.4
comp=Z,7.2nm,0.8s
J05D Fort Rock, OR 86.20 44 P **P 08 22 47.0 +0.6**
J05D IAmb IAmb 08 22 47.8
comp=Z,5.2nm,0.5s
COLD Coldfoot 86.32 15 IAmb IAmb 08 22 48.3
comp=Z,7.3nm,1.0s
NVAR Mina Array Bea 86.50 49 P **P 08 22 48.4 +0.3**
comp=Z,1.3nm,0.7s,baz=240,slow=7.8,SNR=8.6
comp=Z,1.3nm,0.7s
D22K Ayikyak River 87.00 13 P **P 08 22 50.0 +0.5**
D22K IAmb IAmb 08 22 51.9
comp=Z,13nm,0.8s
B21K Ikpikpuk River 87.16 12 IAmb IAmb 08 22 52.3
comp=Z,17nm,1.1s
D23K Nanushuk River 87.52 14 IAmb IAmb 08 22 54.5
comp=Z,12nm,0.8s
TPNV Topopah Spring 87.54 51 P **P 08 22 53.8 +0.8**
TOLK Toolik Lake Re 87.54 15 P **P 08 22 53.2 +1.0**
TOLK IAmb IAmb 08 22 53.6
comp=Z,7.2nm,1.0s
J08A Circle Bar Ran 88.10 45 IAmb IAmb 08 22 58.1
comp=Z,14nm,1.5s
C23K Itkillik River 88.20 13 IAmb IAmb 08 22 57.6
comp=Z,14nm,0.9s
SHPR Sheep Range 88.23 52 P **P 08 22 56.7 +0.4**
E07A Sunnyside 88.33 41 P **P 08 22 56.6 +0.2**
C24K Franklin Bluff 88.56 14 IAmb IAmb 08 22 59.2
comp=Z,9.2nm,0.8s
W13A Hualapai Mount 88.79 54 P **P 08 22 59.8 +0.8**
W13A IAmb IAmb 08 23 00.5
comp=Z,6.0nm,1.1s
E08A Dider Farm, El 88.82 42 P **P 08 22 58.2 -0.4**
E08A IAmb IAmb 08 23 00.0
comp=Z,5.8nm,0.9s
TIXI Tiksi 88.86 349 P **P 08 22 57.5 -0.7**
TIXI IAmb IAmb 08 22 58.7
comp=Z,6.4nm,0.9s
BMO Blue Mountains 89.40 43 P **P 08 23 01.7 +0.2**
BMO IAmb IAmb 08 23 02.5
comp=Z,7.4nm,1.1s
F10A Beach Ranch, E 89.83 42 IAmb IAmb 08 23 04.3
comp=Z,4.2nm,0.7s
PLID Pearl Lake 90.36 44 P **P 08 23 05.7 -0.4**
U15A North Rim 90.42 53 P **P 08 23 07.1 +0.5**
X16A Lo Mia Camp, P 90.52 55 P **P 08 23 07.5 +0.4**
X16A IAmb IAmb 08 23 08.3
comp=Z,6.8nm,1.4s
ELIB Princess Elisa 91.34 191 *d*P **P 08 23 08.5 -1.6**
comp=Z,4.3nm,1.1s
319A Douglas 91.46 58 IAmb IAmb 08 23 13.0
comp=Z,6.4nm,0.9s
PDAR Pinedale Array 94.15 47 P **P 08 23 23.3 -0.4**
comp=Z,0.4nm,0.5s,baz=280,slow=3.3,SNR=5.2
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 95.70 61 P **P 08 23 30.8 -0.1**
comp=Z,0.2nm,0.6s,baz=243,slow=5.3,SNR=2.3
TXAR PP **PP 08 27 23.6 -2.0**
comp=Z,1.3nm,1.0s,baz=220,slow=9.2,SNR=7.2
comp=Z,0.2nm,0.6s
MK31 Makanchi Array 96.40 316 P **P 08 23 33.7 +0.2**
MKAR Makanchi Array 96.40 316 P **P 08 23 33.1 -0.4**
MKAR Makanchi Array 96.40 316 P **P 08 23 33.8 +0.3**
comp=Z,5.9nm,0.6s,baz=90,slow=6.3,SNR=80
MKAR PKiKP **PKiKP 08 28 09.2 -0.9**
comp=Z,0.4nm,0.8s,baz=57,slow=1.0,SNR=3.0
MKAR PKKP **PKKPbc 08 40 17.5 -2.1**
comp=Z,0.3nm,0.7s,baz=290,slow=3.1,SNR=3.7
comp=Z,5.9nm,0.6s
ZAA0 Zalesovo Array 96.49 324 P **P 08 23 33.1 -0.7**
ZAA0 IAmb IAmb 08 23 33.5
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 96.49 324 P **P 08 23 32.9 -0.8**
ZALV Zalesovo Beam 96.49 324 P **P 08 23 32.5 -1.2**
comp=Z,3.9nm,0.7s,baz=107,slow=4.2,SNR=19
comp=Z,3.9nm,0.7s
YKA Yellowknife Ar 96.52 27 P **P 08 23 32.8 -0.9**
YKA Yellowknife Ar 96.52 27 P **P 08 23 32.5 -1.1**
comp=Z,1.0nm,0.9s,baz=255,slow=4.8,SNR=10
comp=Z,1.0nm,0.9s
MAKZ Makanchi 96.61 316 P **P 08 23 34.0 -0.5**
NRIK Noril'sk 99.02 339 **Pdif 08 23 44.5 -0.2**
NRIK Noril'sk 99.02 339 P **Pdif 08 23 44.1 -0.6**
comp=Z,2.4nm,0.7s,baz=102,slow=5.8,SNR=4.7
comp=Z,2.4nm,0.7s
KURBB Kurchatov Arra 99.59 320 P **Pdif 08 23 46.5 -1.2**
comp=Z,0.4nm,0.5s,baz=103,slow=4.6,SNR=5.1
KURBB PKiKP **PKiKP 08 28 14.9 -0.7**
comp=Z,0.3nm,0.3s,baz=69,slow=1.2,SNR=4.1
comp=Z,0.4nm,0.5s
LPAZ La Paz 117.70 117 PKP **PKPdf 08 28 50.9 -0.4**
comp=Z,0.9nm,0.7s,baz=285,slow=3.5,SNR=2.8
ARCES ARCESS Array B 119.16 346 PKP **PKPdf 08 28 51.2 -0.5**
comp=Z,8.3nm,0.7s,baz=56,slow=1.9,SNR=34
ARCES PKKPbc **PKKPab 08 39 04.4 -3.6**
comp=Z,4.0nm,0.9s,baz=208,slow=3.6,SNR=4.4
BOSA Boshof 124.26 221 PKP **PKPdf 08 29 02.8 -0.2**
comp=Z,4.1nm,1.0s,baz=268,slow=1.5,SNR=4.5
FINES FINESS Array B 124.67 339 PKP **PKPdf 08 29 02.2 -0.3**
comp=Z,4.7nm,0.8s,baz=54,slow=3.3,SNR=11
NB2 NORSAR Subarra129.53 345 PKPdf **PKPdf 08 29 12.2 +0.3**
comp=Z,0.6nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B129.53 345 PKP **PKPdf 08 29 12.1 +0.1**
comp=Z,1.7nm,0.6s,baz=31,slow=2.0,SNR=8.0
HFS Hagfors 129.64 343 PKP **PKPdf 08 29 11.2 -0.9**
comp=Z,2.2nm,0.7s,baz=17,slow=1.5,SNR=6.0
AKASG Malin Array Be 129.81 326 PKP **PKPdf 08 29 12.5 -0.2**
comp=Z,1.3nm,0.5s,baz=53,slow=2.7,SNR=7.6
AKASG SKPbc SKPbc 08 32 16.6 +1.6
comp=Z,2.1nm,0.9s,baz=46,slow=4.8,SNR=7.4
BRTR Keskin Array B 131.78 312 PKP **PKPdf 08 29 16.3 -0.7**
comp=Z,0.6nm,0.7s,baz=57,slow=5.0,SNR=3.9
BRTR SKPbc **SKPab 08 32 25.3 +1.4**
comp=Z,2.9nm,0.6s,baz=97,slow=3.5,SNR=13
EKA Eskdalemuir Ar 137.68 352 PKhKP PKPpre 08 29 18.0
comp=Z,1.1nm,0.7s,baz=19,slow=4.8,SNR=1.9
EKA PKP **PKiKP 08 29 29.0 -0.3**
comp=Z,2.0nm,0.8s,baz=13,slow=2.5,SNR=3.9
GERES GERESS Array B 138.64 334 PKP **PKPdf 08 29 29.8 +0.3**
comp=Z,2.0nm,0.7s,baz=64,slow=3.1,SNR=5.8
MSSA Maissana 143.97 333 PKPdf PKPab 08 29 36.7 -0.2
BNI Bardonecchia 144.57 336 PKPbc **PKPdf 08 29 39.9 -0.3**
CEL Celeste 144.69 319 PKPbc **PKPab 08 29 39.7 -0.1**
KEST Kesra 150.34 322 PKPbc **PKPbc 08 29 55.6 +0.2**
comp=Z,22nm,0.7s,baz=340,slow=2.2,SNR=21
PBRG Braganca 151.41 351 *e*PKPbc **PKPbc 08 29 57.7 +0.1**
PBRG *e*PKPab **PKPab 08 30 06.2 -0.3**
PGAV Gavieira, Arco 151.46 353 *e*PKPbc **PKiKP 08 29 58.1 -0.1**
POLO Lamas de Olo 151.98 352 *e*PKPbc **PKiKP 08 29 59.2 -0.1**
POLO *e*PKPab **PKPab 08 30 09.7 +0.7**
PVRL Vila Real 152.07 352 *e*PKPbc **PKiKP 08 29 59.7 +0.3**

MVO	**Moncorvo**	**152.08**	**351**	*e*PKPbc	**PKiKP**	**08 29 59.7**	**+0.2**
PVIS	**Viseu**	**152.64**	**352**	*e*PKPbc	**PKiKP**	**08 30 00.6**	**0.0**
PVIS				*e*PKPab	**PKPab**	**08 30 12.7**	**+0.9**
ESDC	**Sonseca Array**	**152.89**	**345**	PKPbc	**PKPbc**	**08 30 01.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=357,slow=2.1,SNR=11						
ESDC				PKPab	**PKPab**	**08 30 13.1**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=7.2,slow=3.4,SNR=6.0						
MTE	**Manteigas**	**152.91**	**351**	*e*PKPbc	**PKiKP**	**08 30 01.4**	**+0.2**
PAB	**San Pablo**	**153.11**	**346**	PKPbc	**PKiKP**	**08 30 02.3**	**+0.6**
PCBR	**Castelo Branco**	**153.44**	**351**	*e*PKPbc	**PKiKP**	**08 30 02.2**	**0.0**
PMRV	**Marv??o**	**153.83**	**351**	*e*PKPbc	**PKiKP**	**08 30 03.4**	**+0.4**
PBEJ	**Beja**	**155.28**	**351**	*e*PKPab	**PKPab**	**08 30 24.1**	**+1.1**
PMOZ	**Porto Moniz, M**	**160.41**	**11**	*e*PKPdf	**PKPdf**	**08 30 04.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**165.99**	**270**	PKPdf	**PKPdf**	**08 30 08.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**165.99**	**270**	PKP	**PKPdf**	**08 30 08.5**	**-0.7**
	comp=Z,30nm,0.3s,baz=66,slow=1.1,SNR=1.5						
TORD				PKPab	**PKPab**	**08 31 10.2**	**-0.4**
	comp=Z,20nm,0.2s,baz=74,slow=5.9,SNR=1.1						
DBIC	**Dimbokro**	**169.67**	**229**	PKP	**PKPdf**	**08 30 09.7**	**-2.1**
	comp=Z,4.8nm,0.9s,baz=201,slow=1.6,SNR=3.1						

MDD ***19*** *08:11:10.8±0.6, 37°.02N×9°.28W, h29km, mb_Lg3.4/35, Error ellipse: s-maj=4.4km s-min=3.0km az=51.0*
SFS ***19*** *08:11:12.8, 37°.09N×9°.16W, h30km, ML3.1/11, ML3.0/11, MLv3.0/11*
IGIL ***19*** *08:11:13.0, 37°.04N×9°.15W, h30km, ML2.5*
INMG ***19*** *08:11:13.0±1.6, 37°.04N×9°.16W, h31km±8km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.4km az=73.0, #DIST_RANGE: LOCAL #IPMA_REGION: W Cabo S.Vicente*
CNRM ***19*** *08:11:15.4, 36°.51N×9°.16W, h66km, ML3.4*
ISC 19 08:11:10.7±1.4, 37°.05N±0°.04×9°.16W±0°.05, h35km, n84, σ1§75/150, 7C, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.13**	**100**	⇑*i*P	**Pn**	**08 11 18.6**	**+1.7**
PSVI				*e*S	**Sn**	**08 11 23.2**	**+2.0**
PSVI				*i* AML	AML	08 11 23.3	
PSVI				*i* AML	AML	08 11 23.4	
PSVI				*i* AML	AML	08 11 24.2	
PFVI	**Vila Bisbo**	**0.28**	**72**	⇑*i*P	**Pn**	**08 11 19.8**	**+1.5**
PFVI				*e*S	**Sn**	**08 11 25.0**	**+1.4**
PFVI				*i* AML	AML	08 11 25.4	
PFVI				*i* AML	AML	08 11 25.5	
PFVI				*i* AML	AML	08 11 25.8	
PFVI	**Vila Bisbo**	**0.28**	**72**	Sg	**Sn**	**08 11 24.9**	**+1.4**
PFVI				Pg	**Pn**	**08 11 19.6**	**+1.2**
PLAGO	**Lagos**	**0.38**	**83**	*e*P	**Pn**	**08 11 21.1**	**+1.4**
PLAGO				*e*S	**Sn**	**08 11 27.4**	**+1.6**
PLAGO				*i* AML	AML	08 11 27.5	
PLAGO				*i* AML	AML	08 11 27.7	
PLAGO				*i* AML	AML	08 11 27.9	
MORF	**Marmelete**	**0.48**	**57**	*e*P	**Pn**	**08 11 22.5**	**+1.4**
MORF				*e*S	**Sn**	**08 11 29.1**	**+0.8**
MORF				IAML		08 11 29.7	
	comp=E,224nm,0.1s						
MORF	**Marmelete**	**0.48**	**57**	⇑*i*P	**Pn**	**08 11 22.5**	**+1.4**
MORF				*e*S	**Sn**	**08 11 29.6**	**+1.3**
MORF				*i* AML	AML	08 11 30.2	
MORF				*i* AML	AML	08 11 30.9	
MORF				*i* AML	AML	08 11 31.4	
PPOR	**Portimao**	**0.51**	**80**	*e*P	**Pn**	**08 11 22.9**	**+1.5**
PPOR				*e*S	**Sn**	**08 11 29.8**	**+0.9**
PPOR				*i* AML	AML	08 11 30.5	
PPOR				*i* AML	AML	08 11 30.6	
PTEO	**Sao Teotonio**	**0.61**	**35**	⇑*e*P	**Pn**	**08 11 24.1**	**+1.3**
PTEO				*e*S	**Sn**	**08 11 32.6**	**+1.2**
PTEO				*i* AML	AML	08 11 32.9	
PTEO				*i* AML	AML	08 11 33.0	
PTEO				*i* AML	AML	08 11 33.1	
PALBU	**Albufeira**	**0.73**	**86**	*e*P	**Pn**	**08 11 26.0**	**+1.6**
PALBU				*e*S	**Sn**	**08 11 35.5**	**+1.2**
PALBU				*i* AML	AML	08 11 35.7	
PALBU				*i* AML	AML	08 11 36.8	
PALBU				*i* AML	AML	08 11 38.2	
PSINE	**Sines**	**0.94**	**14**	*e*P	**Pn**	**08 11 28.9**	**+1.5**
PSINE				*e*S	**Sn**	**08 11 40.3**	**+0.7**
PSINE				*i* AML	AML	08 11 41.1	
PSINE				*i* AML	AML	08 11 41.2	
PSINE				*i* AML	AML	08 11 41.4	
PBDV	**Barranco-do-Ve**	**1.00**	**78**	⇑*e*P	**Pn**	**08 11 29.8**	**+1.5**
PBDV				*e*S	**Sn**	**08 11 42.3**	**+1.2**
PBDV				*i* AML	AML	08 11 42.7	
PBDV				*i* AML	AML	08 11 45.4	
PBDV				*i* AML	AML	08 11 46.2	
PCVE	**Castro Verde**	**1.07**	**56**	⇑*i*P	**Pn**	**08 11 30.7**	**+1.5**
PCVE				*e*S	**Sn**	**08 11 43.8**	**+1.1**
PCVE				*i* AML	AML	08 11 45.2	
PCVE				*i* AML	AML	08 11 45.3	
PCVE				*i* AML	AML	08 11 47.4	
PCVE	**Castro Verde**	**1.07**	**56**	Sn	**Sn**	**08 11 43.6**	**+0.9**
PCVE				Pn	**Pn**	**08 11 30.6**	**+1.5**
MESJ	**Messejana**	**1.09**	**43**	*e*P	**Pn**	**08 11 30.7**	**+1.3**
MESJ				*e*S	**Sn**	**08 11 43.8**	**+0.6**
MESJ				IAML		08 11 44.5	
	comp=N,92nm,0.1s						
MESJ	**Messejana**	**1.09**	**43**	*e*P	**Pn**	**08 11 30.7**	**+1.3**
MESJ				*e*S	**Sn**	**08 11 44.1**	**+0.9**
MESJ				*i* AML	AML	08 11 44.5	
MESJ				*i* AML	AML	08 11 44.5	
MESJ				*i* AML	AML	08 11 47.5	
PVAQ	**Vaqueiros**	**1.21**	**72**	⇑*e*P	**Pn**	**08 11 32.5**	**+1.5**
PVAQ				*e*S	**Sn**	**08 11 46.9**	**+0.8**
PVAQ				*i* AML	AML	08 11 48.7	
PVAQ				*i* AML	AML	08 11 50.8	
PVAQ				*i* AML	AML	08 11 52.4	
PVAQ	**Vaqueiros**	**1.21**	**72**	**Pn**	**Pn**	**08 11 32.5**	**+1.5**
PVAQ				Sn	**Sn**	**08 11 47.0**	**+0.8**
PBEJ	**Beja**	**1.42**	**46**	*e*P	**Pn**	**08 11 35.0**	**+1.0**
PBEJ				*e*S	**Sn**	**08 11 51.7**	**+0.3**
EGRO	**El Granado**	**1.42**	**70**	Pn	**Pn**	**08 11 35.3**	**+1.3**
EGRO				Sn	**Sn**	**08 11 52.2**	**+0.7**
EGRO	**El Granado**	**1.42**	**70**	P	**Pn**	**08 11 35.3**	**+1.3**
EGRO				S	**Sn**	**08 11 52.3**	**+0.7**
EGRO				*i* Vmb_Lg		08 11 54.9	
EVO	**Evora**	**1.74**	**31**	*e*P	**Pn**	**08 11 39.3**	**+0.9**
EVO				*e*S	**Sn**	**08 11 59.5**	**+0.2**
EVO				*i* AML	AML	08 11 59.9	
EVO				*i* AML	AML	08 12 00.0	
EVO				*i* AML	AML	08 12 00.1	
EVO	**Evora**	**1.74**	**31**	Pn	**Pn**	**08 11 39.3**	**+0.9**
EVO				Sn	**Sn**	**08 11 59.5**	**+0.2**
PMAFR	**Mafra**	**1.91**	**357**	*e*P	**Pn**	**08 11 42.3**	**+1.6**
PMAFR				*e*S	**Sn**	**08 12 03.8**	**+0.3**
PMAFR				*i* AML	AML	08 12 05.2	
PMAFR				*i* AML	AML	08 12 05.6	
PMAFR				*i* AML	AML	08 12 06.8	
PMAFR	**Mafra**	**1.91**	**357**	**Pn**	**Pn**	**08 11 41.6**	**+0.9**
PMAFR				Sn	**Sn**	**08 12 04.2**	**+0.7**
ARNO	**Arenosillo**	**1.94**	**88**	Pn	**Pn**	**08 11 43.3**	**+2.2**
ARNO				Sn	**Sn**	**08 12 06.1**	**+1.8**
PBAR	**Barrancos**	**2.03**	**56**	*e*P	**Pn**	**08 11 43.5**	**+1.2**
PBAR				*e*S	**Sn**	**08 12 06.7**	**+0.4**
PBAR				*i* AML	AML	08 12 09.4	
PBAR				*i* AML	AML	08 12 10.2	
PBAR				*i* AML	AML	08 12 10.4	
PBAR	**Barrancos**	**2.03**	**56**	Pn	**Pn**	**08 11 43.3**	**+1.0**
PBAR				Sn	**Sn**	**08 12 06.6**	**+0.2**
EMIN	**Mina Concepcio**	**2.11**	**69**	Pn	**Pn**	**08 11 44.2**	**+0.8**
EMIN				Sn	**Sn**	**08 12 08.0**	**-0.4**
EMIN	**Mina Concepcio**	**2.11**	**69**	P	**Pn**	**08 11 44.4**	**+1.0**
EMIN				S	**Sn**	**08 12 08.8**	**+0.4**
EMIN				*i* Vmb_Lg		08 12 11.7	
PMTG	**Montargil**	**2.15**	**20**	*e*P	**Pn**	**08 11 45.0**	**+1.0**
PMTG				*e*S	**Sn**	**08 12 09.1**	**-0.3**
PMTG				*i* AML	AML	08 12 10.7	
PMTG				*i* AML	AML	08 12 10.7	
PMTG				*i* AML	AML	08 12 10.9	
EBAD	**Badajoz**	**2.41**	**44**	Pn	**Pn**	**08 11 48.2**	**+0.7**
EBAD				Sn	**Sn**	**08 12 15.4**	**-0.5**
EBAD	**Badajoz**	**2.41**	**44**	P	**Pn**	**08 11 48.2**	**+0.7**
EBAD				S	**Sn**	**08 12 15.3**	**-0.5**
EBAD				*i* Vmb_Lg		08 12 19.1	
ESPR	**Espera**	**2.65**	**93**	Pn	**Pn**	**08 11 52.8**	**+1.9**
ESPR				Sn	**Sn**	**08 12 22.8**	**+0.9**
ESPR	**Espera**	**2.65**	**93**	P	**Pn**	**08 11 52.1**	**+1.2**
ESPR				S	**Sn**	**08 12 22.5**	**+0.7**
ESPR				*i* Vmb_Lg		08 12 24.6	
PMRV	**Marv??o**	**2.75**	**30**	*e*P	**Pn**	**08 11 53.3**	**+1.0**
PMRV				*e*S	**Sn**	**08 12 23.5**	**-0.9**
PMRV				*i* AML	AML	08 12 25.6	
PMRV				*i* AML	AML	08 12 25.7	
PMRV				*i* AML	AML	08 12 25.8	
EJIF	**Jimena Fronter**	**3.02**	**100**	P	**Pn**	**08 11 56.9**	**+0.9**
EJIF				S	**Sn**	**08 12 29.3**	**-1.7**
PCAS	**Casmilo, Conde**	**3.05**	**10**	*e*P	**Pn**	**08 11 58.1**	**+1.8**
PCAS				*e*S	**Sn**	**08 12 31.4**	**-0.2**
PCAS				*i* AML	AML	08 12 33.0	
PCAS				*i* AML	AML	08 12 33.7	
PCAS				*i* AML	AML	08 12 35.0	
PCBR	**Castelo Branco**	**3.09**	**25**	*e*P	**Pn**	**08 11 58.2**	**+1.3**
PCBR				*e*S	**Sn**	**08 12 31.2**	**-1.4**
PCBR				*i* AML	AML	08 12 33.0	
PCBR				*i* AML	AML	08 12 33.2	
PCBR				*i* AML	AML	08 12 33.3	
ECAB	**El Cabril**	**3.15**	**70**	Pn	**Pn**	**08 11 59.2**	**+1.4**
ECAB				Sn	**Sn**	**08 12 33.3**	**-0.7**
ECAB	**El Cabril**	**3.15**	**70**	P	**Pn**	**08 11 59.2**	**+1.4**
ECAB				S	**Sn**	**08 12 33.2**	**-0.9**
ECAB				*i* Vmb_Lg		08 12 35.0	
EXCBR	**El Cabril**	**3.15**	**70**	P	**Pn**	**08 11 58.9**	**+1.2**
EXCBR				S	**Sn**	**08 12 33.8**	**-0.3**
SMIR	**Smir Dam**	**3.34**	**113**	P	**Pn**	**08 12 02.2**	**+1.8**
SMIR	**Smir Dam**	**3.34**	**113**	S	**Sn**	**08 12 38.5**	**-0.3**
MTE	**Manteigas**	**3.58**	**20**	*e*S	**Sn**	**08 12 43.9**	**-0.8**
PVIS	**Viseu**	**3.79**	**15**	*e*P	**Pn**	**08 12 08.3**	**+1.6**
PVIS				*e*S	**Sn**	**08 12 49.4**	**-0.7**
EADA	**Adamuz**	**3.81**	**72**	Pn	**Pn**	**08 12 08.0**	**+1.2**
EADA				Sn	**Sn**	**08 12 49.8**	**-0.6**
EADA	**Adamuz**	**3.81**	**72**	P	**Pn**	**08 12 08.0**	**+1.2**
EADA				S	**Sn**	**08 12 49.8**	**-0.6**
EADA				*i* Vmb_Lg		08 12 53.1	
EPLA	**Plasencia**	**3.86**	**38**	P	**Pn**	**08 12 08.3**	**+0.7**
EPLA				S	**Sn**	**08 12 51.0**	**-0.7**
EPLA				*i* Vmb_Lg		08 12 51.7	
EGOR	**Sierra Gorda,**	**4.04**	**88**	P	**Pn**	**08 12 10.7**	**+0.6**
EGOR				S	**Sn**	**08 12 56.8**	**+0.5**
EGOR				*i* Vmb_Lg		08 13 00.3	
PVRL	**Vila Real**	**4.37**	**14**	*e*S	**Sn**	**08 13 03.0**	**-1.3**
MVO	**Moncorvo**	**4.43**	**21**	*e*P	**Pn**	**08 12 16.4**	**+1.0**
MVO				*e*S	**Sn**	**08 13 04.3**	**-1.6**
MVO				*i* AML	AML	08 13 05.7	
MVO				*i* AML	AML	08 13 06.1	
MVO				*i* AML	AML	08 13 07.1	
ELGU	**Los Guajares,**	**4.43**	**91**	P	**Pn**	**08 12 17.5**	**+2.0**
ELGU				S	**Sn**	**08 13 06.6**	**+0.7**
ELGU				*i* Vmb_Lg		08 13 10.9	
POLO	**Lamas de Olo**	**4.45**	**13**	*e*P	**Pn**	**08 12 17.1**	**+1.4**
POLO				*e*S	**Sn**	**08 13 04.2**	**-2.0**
POLO				*i* AML	AML	08 13 05.5	
POLO				*i* AML	AML	08 13 05.7	
POLO				*i* AML	AML	08 13 06.4	
PAB	**San Pablo**	**4.53**	**55**	P	**Pn**	**08 12 18.0**	**+1.1**
PAB				S	**Sn**	**08 13 05.8**	**-2.5**
PAB				*i* Vmb_Lg		08 13 10.1	
EQUE	**Quentar**	**4.57**	**86**	P	**Pn**	**08 12 18.4**	**+1.0**
EQUE				S	**Sn**	**08 13 09.3**	**-0.1**
EQUE				*i* Vmb_Lg		08 13 10.9	
E0803	**Jimena (Jaen)**	**4.59**	**78**	P	**Pn**	**08 12 18.7**	**+1.0**
PSIM	**Granatula de C**	**4.62**	**66**	P	**Pn**	**08 12 19.3**	**+1.2**
PSIM				S	**Sn**	**08 13 09.1**	**-1.5**
PCAB	**Cabril**	**4.74**	**10**	*e*P	**Pn**	**08 12 20.9**	**+1.3**
PCAB				*e*S	**Sn**	**08 13 10.5**	**-2.8**
PCAB				*i* AML	AML	08 13 14.0	
PCAB				*i* AML	AML	08 13 15.4	
PCAB				*i* AML	AML	08 13 15.6	
EJUZ	**Juzbado, Salam**	**4.77**	**31**	S	**Sn**	**08 13 12.3**	**-1.8**
ESDC	**Sonseca Array**	**4.85**	**56**	P	**Pn**	**08 12 21.9**	**+0.7**
ESDC				S	**Sn**	**08 13 14.5**	**-1.7**
ESDC				*i* Vmb_Lg		08 13 19.0	
ESBB	**Sonseca Array**	**4.86**	**56**	P	**Pn**	**08 12 21.9**	**+0.7**
ESBB				S	**Sn**	**08 13 14.5**	**-1.8**
ELOB	**Lobios**	**4.89**	**10**	P	**Pn**	**08 12 22.5**	**+0.7**
ELOB				S	**Sn**	**08 13 14.5**	**-2.6**
ELOB				*i* Vmb_Lg		08 13 17.5	
PGAV	**Gavieira, Arco**	**4.96**	**8**	*e*P	**Pn**	**08 12 24.0**	**+1.3**
PGAV				*e*S	**Sn**	**08 13 15.6**	**-3.2**
PGAV				*i* AML	AML	08 13 19.1	
PGAV				*i* AML	AML	08 13 19.1	
PGAV				*i* AML	AML	08 13 21.0	
AKLM	**AKL**	**5.00**	**119**	P	**Pn**	**08 12 22.8**	**-0.4**
AKLM	**AKL**	**5.00**	**119**	S	**Sn**	**08 13 17.1**	**-2.6**
PBRG	**Braganca**	**5.11**	**21**	*e*P	**Pn**	**08 12 26.0**	**+1.3**
PBRG				*e*S	**Sn**	**08 13 20.2**	**-2.2**
PBRG				*i* AML	AML	08 13 22.1	
PBRG				*i* AML	AML	08 13 22.2	
PBRG				*i* AML	AML	08 13 23.4	
EZAM	**Zamans**	**5.11**	**4**	P	**Pn**	**08 12 25.0**	**+0.4**
EZAM				S	**Sn**	**08 13 17.7**	**-4.7**
EZAM				*i* Vmb_Lg		08 13 26.2	
GUD	**Guadarrama**	**5.31**	**46**	P	**Pn**	**08 12 28.5**	**+1.0**
GUD				S	**Sn**	**08 13 24.9**	**-2.6**
MD31	**MD31**	**5.52**	**138**	P	**Pn**	**08 12 30.4**	**0.0**
MD31	**MD31**	**5.52**	**138**	S	**Sn**	**08 13 28.8**	**-3.9**
MDT	**Midelt**	**5.64**	**137**	P	**Pn**	**08 12 32.4**	**+0.3**
MDT	**Midelt**	**5.64**	**137**	S	**Sn**	**08 13 31.9**	**-3.8**
EAGO	**Agolada(Pontev**	**5.81**	**8**	P	**Pn**	**08 12 35.2**	**+0.9**
EAGO				S	**Sn**	**08 13 35.3**	**-4.3**
EAGO				*i* Vmb_Lg		08 13 38.9	
EMAZ	**Mazaricos**	**5.90**	**1**	P	**Pn**	**08 12 36.5**	**+1.0**
EMAZ				S	**Sn**	**08 13 37.8**	**-4.1**
EMAZ				*i* Vmb_Lg		08 13 40.7	
JBK	**JBK**	**6.01**	**115**	P	**Pn**	**08 12 37.2**	**0.0**
JBK	**JBK**	**6.01**	**115**	S	**Sn**	**08 13 41.6**	**-3.3**
OUZM	**OUZ**	**6.44**	**161**	P	**Pn**	**08 12 42.6**	**-0.5**
OUZM	**OUZ**	**6.44**	**161**	S	**Sn**	**08 13 50.0**	**-5.4**
EPON	**Pontenova**	**6.46**	**13**	P	**Pn**	**08 12 44.3**	**+1.1**
EPON				S	**Sn**	**08 13 53.2**	**-2.5**
EPON				*i* Vmb_Lg		08 14 21.3	
TTIG	**Tnine Tigouga,**	**6.51**	**175**	P	**Pn**	**08 12 41.3**	**-2.8**
TTIG	**Tnine Tigouga,**	**6.51**	**175**	S	**Sn**	**08 13 49.3**	**-7.9**
ETOR	**Torete**	**6.70**	**54**	P	**Pn**	**08 12 48.0**	**+1.4**
ETOR				S	**Sn**	**08 13 59.1**	**-2.6**
ETOR				*i* Vmb_Lg		08 14 11.1	
EVIV	**Cofrentes, Val**	**6.71**	**68**	P	**Pn**	**08 12 47.7**	**+0.9**
EVIV				S	**Sn**	**08 13 59.7**	**-2.3**
EVIV				*i* Vmb_Lg		08 14 12.2	
EMOS	**Mosqueruela**	**7.56**	**61**	P	**Pn**	**08 12 59.1**	**+0.7**
EMOS				S	**Sn**	**08 14 19.2**	**-3.8**
EMOS				*i* Vmb_Lg		08 14 32.3	

ASRS ***19*** *08:14:26.0±0.8, 53°.58N×87°.90E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 08:14:28.7±4.0, 53°.65N×87°.98E, h0km, mbtmp2.5/2, ML2.4/2, Error ellipse: s-maj=40.0km s-min=20.6km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**280**	I	I	08 28 38.2	
	baz=95,slow=317,SNR=0.3						
ZALV	**Zalesovo Beam**	**1.90**	**280**	Pn	Pb	08 15 03.9	-0.3
	0.8nm,0.3s,baz=100,slow=14,SNR=6.3						
ZALV				Lg	Lg	08 15 28.1	
	1.0nm,0.3s,baz=104,slow=27,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn	Pn	08 16 06.5	+0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.77**	**210**	Pn	Pn	08 16 23.9	+0.9
	0.1nm,0.3s,baz=26,slow=12,SNR=2.2						
	0.1nm,0.3s						

IDC 19 08:19:07.6±2.7, 2°.00N×127°.81E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=216.5km s-min=26.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**164**	P	P	08 24 10.4	-1.0
	0.4nm,0.5s,baz=341,slow=9.5,SNR=6.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.20**	**167**	P	P	08 24 44.0	-0.2
	0.2nm,0.3s,baz=355,slow=8.1,SNR=5.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.58**	**325**	P	P	08 29 14.0	+0.8
	0.2nm,0.5s,baz=113,slow=8.4,SNR=4.9						
	0.2nm,0.5s						

IDC ***19*** *08:32:17.9±0.4, 14°.58S×75°.59W, h48km±3km, mb4.1/13, mbtmp4.4/16, MS3.8/41, Error ellipse: s-maj=22.3km s-min=8.7km az=63.0*
NEIC ***19*** *08:32:18.6±2.0, 14°.58S±0°.06×75°.59W±0°.08, h45km±4km, mb4.9/258, Error ellipse: s-maj=13.0km s-min=7.4km az=58.0*
VAO ***19*** *08:32:18.7±0.5, 14°.54S×75°.50W, h42km, mb4.8*
GCMT ***19*** *08:32:19.6±0.4, 14°.88S±0°.02×75°.65W±0°.05, h42km±1km, MW4.8/51, Moment Tensor Solution. s37,c41; s51,c67; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.90±.20; $M_{\theta\theta}$-1.97±.13; $M_{\phi\phi}$0.07±.18; $M_{r\theta}$-0.89±.09; $M_{\theta\phi}$0.96±.09; $M_{r\phi}$0.51±.13; Best double couple: $M_0$2.36100×10^16 NP1:ϕ_s106.00000°, δ33.00000°, λ81.00000°. NP2: ϕ_s296.00000°, δ58.00000°, λ96.00000°. Principal axes: T 2.1410, Plg76.0000°, Azm223.0000°; N 0.4450, Plg5.0000°, Azm113.0000°; P -2.5820, Plg13.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
RSNC ***19*** *08:32:19.2±2.5, 15°.S±10°×7°.6W±°, h52km, M4.7, mB5.3, mb5.1, ML4.2, Mw(mB)4.9, Hypocentre not reviewed by the ISC*
ISC 19 08:32:17.8±0.3, 14°.63S±0°.05×75°.64W±0°.06, h46km±2km, h46km:pP-P, n314, σ0§97/253, mb4.9/119, MS3.9/39, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.88**	**336**	Pn	**Pn**	**08 33 00.5**	**-0.7**
NNA				Sn	**Sn**	**08 33 34.6**	**-0.1**
NNA	**Nana**	**2.88**	**336**	P	**Pn**	**08 33 00.0**	**-1.2**
	147nm,0.3s,baz=167,slow=12,SNR=89						
NNA				S	**Sn**	**08 33 35.2**	**+0.5**
	852nm,0.3s,baz=169,slow=17,SNR=5.7						
AP01	**Chacalluta**	**6.29**	**127**	Pn	**Pn**	**08 33 49.4**	**+1.3**
AP01				Sn	**Sn**	**08 34 57.7**	**-1.0**
PB12	**IPOC Station P**	**6.45**	**129**	Pn	**Pn**	**08 33 49.0**	**-1.3**
PB18	**Visviri**	**6.61**	**117**	Pn	**Pn**	**08 33 55.9**	**+3.1**
PB16	**IPOC Station P**	**6.94**	**123**		**Pn**	**08 33 58.3**	**+0.9**
LPAZ	**La Paz**	**7.42**	**104**	Pn	**Pn**	**08 34 08.8**	**+4.6**
LPAZ	**La Paz**	**7.42**	**104**	P	**Pn**	**08 34 08.4**	**+4.3**
	31nm,0.8s,baz=293,slow=9.5,SNR=86						
LPAZ				S	**Sn**	**08 35 28.4**	**+1.0**
	21nm,0.8s,baz=169,slow=21,SNR=1.4						
LPAZ				LR	LR	08 36 38.2	
	comp=Z,84nm,21.4s,baz=288,slow=35						
CZSB	**Cruzeiro do Su**	**7.44**	**23**	Pn	**Pn**	**08 34 04.6**	**+0.8**
CZSB	**Cruzeiro do Su**	**7.44**	**23**	*e*P	**Pn**	**08 34 02.0**	**-1.8**
TA02	**Huaiquique**	**7.68**	**138**		**Pn**	**08 34 07.7**	**+0.5**
TA01	**Diego Aracena**	**7.87**	**139**	Pn	**Pn**	**08 34 09.1**	**-0.5**
ATAH	**Atahualpa**	**7.93**	**340**	P	**Pn**	**08 34 12.1**	**+1.2**
	4.5nm,0.3s,baz=150,slow=11,SNR=16						
ATAH				S	**Sn**	**08 35 44.1**	**+4.6**
	60nm,0.5s,baz=152,slow=17,SNR=1.7						
PB08	**IPOC Station P**	**8.27**	**132**		**Pn**	**08 34 15.1**	**-0.4**
PB01	**IPOC Station P**	**8.66**	**138**		**Pn**	**08 34 21.6**	**+1.0**
PB09	**IPOC Station P**	**9.36**	**140**		**Pn**	**08 34 31.7**	**+1.3**
AF01	**San Pedro de A**	**10.88**	**141**		**Pn**	**08 34 50.6**	**-0.6**
PB14	**IPOC Station P**	**11.10**	**154**	Pn	**Pn**	**08 34 52.9**	**-1.3**
TBTG	**Tabatinga, AM**	**11.82**	**29**		**Pn**	**08 35 02.7**	**-1.0**
TBTG	**Tabatinga, AM**	**11.82**	**29**	*e*P	**Pn**	**08 35 03.0**	**-0.7**
GO02	**Mina Guanaco**	**11.92**	**152**	Pn	**Pn**	**08 35 06.5**	**+1.1**
COHC	**Cochancay**	**12.61**	**343**	Pn	**Pn**	**08 35 16.3**	**+1.8**
AC02	**Maricunga**	**13.58**	**154**	Pn	**Pn**	**08 35 29.6**	**+1.4**
SLOR	**San Lorenzo -**	**14.10**	**348**	Pn	**Pn**	**08 35 35.7**	**+0.4**
SIV	**San Ignacio**	**14.12**	**97**	P	**Pn**	**08 35 32.8**	**-2.4**
	3.8nm,0.8s,baz=269,slow=14,SNR=15						
SIV				S	**Sn**	**08 38 12.2**	**+1.7**
	5.8nm,0.7s,baz=277,slow=16,SNR=3.3						
SIV				LR	LR	08 41 36.9	
	comp=Z,1μm,19.9s,baz=288,slow=40						
LCO	**Las Campanas**	**15.02**	**163**	Pn	**Pn**	**08 35 47.2**	**-0.1**
OTAV	**Otavalo**	**15.04**	**349**	Pn	**Pn**	**08 35 49.1**	**+1.4**
OTAV	**Otavalo**	**15.04**	**349**	*e*P	**Pn**	**08 35 49.2**	**+1.4**
VILB	**Vilhena**	**15.09**	**86**	Pn	**Pn**	**08 35 47.6**	**-0.5**
VILB	**Vilhena**	**15.09**	**86**	*e*P	**Pn**	**08 35 47.3**	**-0.7**
TEFE	**Tefe**	**15.49**	**46**	*e*P	**Pn**	**08 35 52.1**	**-1.1**
CO05	**La Serena**	**15.74**	**166**	P

ITAB IAmb IAmb 08 38 00.6
comp=Z,65nm,1.4s
LR05 Currie 25.70 174 P **P 08 37 43.9 +0.3**
LR05 IAmb IAmb 08 38 04.3
comp=Z,47nm,1.4s
CPSB Cacapava Do Su 25.75 131 *e*P **P 08 37 44.6 +0.4**
HDC Heredia 25.88 341 P **P 08 37 43.6 -1.9**
HDC IAmb IAmb 08 38 01.3
comp=Z,63nm,1.2s
HDC Heredia 25.88 341 *e*P **P 08 37 46.2 +0.6**
FRTB Fartura 26.10 113 *e*P **P 08 37 46.9 -0.6**
PLCA Paso Flores 26.38 171 P **P 08 37 49.9 +0.1**
comp=Z,4.4nm,1.0s,baz=340,slow=8.9,SNR=6.1
PLCA PcP **PcP 08 41 15.7 +1.0**
comp=Z,2.1nm,0.8s,baz=323,slow=5.0,SNR=4.0
PLCA LR LR 08 46 23.2
comp=Z,132nm,19.7s,baz=353,slow=32
comp=Z,4.4nm,1.0s
PLCA Paso Flores 26.38 171 *e*P **P 08 37 50.5 +0.6**
SOCE Pocosol 26.40 340 P **P 08 37 50.7 +0.5**
SOCE IAmb IAmb 08 38 06.5
comp=Z,55nm,1.2s
JTS Las Juntas de 26.43 339 LR LR 08 47 41.1
comp=Z,216nm,21.8s,baz=139,slow=35
IPMB Ipameri, GO 26.52 101 *e*P **P 08 37 50.9 -0.5**
BB19B Bebedouro 26.56 108 *e*P **P 08 37 52.7 +1.0**
BDFB Brasilia 26.68 96 P **P 08 37 52.6 -0.3**
comp=Z,3.6nm,0.7s,baz=300,slow=14,SNR=7.0
BDFB LR LR 08 49 10.3
comp=Z,532nm,18.7s,baz=306,slow=38
comp=Z,3.6nm,0.7s
PCRV Puerto La Cruz 26.95 24 LR LR 08 49 22.4
comp=Z,343nm,18.5s,slow=38
MDP Montagnes des 30.07 51 LR LR 08 52 03.3
comp=Z,85nm,21.6s,baz=278,slow=40
DIAM Diamantina, MG 30.85 101 *e*P **P 08 38 29.6 -0.4**
APG El Apazote 32.90 333 LR LR 08 51 39.3
comp=Z,9.2nm,20.3s,baz=114,slow=35
SJG San Juan 33.86 16 LR LR 08 54 47.6
comp=Z,114nm,20.6s,baz=215,slow=40
TEIG Tepich 36.80 340 P **P 08 39 23.7 +2.3**
CMIG Matias Romero 36.80 328 LR LR 08 51 47.8
comp=Z,119nm,22.0s,baz=160,slow=32
833A Chaparral WMA, 48.50 332 IAmb IAmb 08 40 58.3
comp=Z,11nm,0.9s
FPAL Fort Paine 49.81 349 IAmb IAmb 08 41 06.2
comp=Z,15nm,1.3s
DRIO Del Rio 50.00 331 IAmb IAmb 08 41 21.9
comp=Z,13nm,1.1s
TKL Tuckaleechee C 50.61 351 LR LR 09 03 17.0
comp=Z,58nm,20.7s,baz=160,slow=37
BRDY Brady 50.87 334 IAmb IAmb 08 42 45.6
comp=Z,12nm,1.2s
SAND Sanderson 51.16 330 IAmb IAmb 08 41 17.9
comp=Z,17nm,1.2s
V48A Smith Brothers 51.20 348 IAmb IAmb 08 41 16.2
comp=Z,31nm,1.4s
LPIG La Paz 51.28 318 LR LR 08 58 41.6
comp=Z,60nm,18.5s,baz=123,slow=31
TXAR Lajitas Array 51.41 328 P **P 08 41 18.6 +0.2**
TXAR Lajitas Array 51.41 328 P **P 08 41 18.3 -0.1**
comp=Z,4.7nm,0.8s,baz=148,slow=9.3,SNR=42
TXAR pP **pP 08 41 31.9 +0.4**
comp=Z,5.3nm,0.9s,baz=173,slow=11,SNR=12
comp=Z,4.7nm,0.8s
TX31 Lajitas Ar. Si 51.41 328 P **P 08 41 18.7 +0.3**
TX31 pP **pP 08 41 32.1 +0.7**
OZNA Ozona 51.50 332 IAmb IAmb 08 41 19.9
comp=Z,10nm,1.0s
FW07 Weatherford 51.62 336 P **P 08 41 18.9 -0.9**
UALR University of 51.64 342 P **P 08 41 19.5 -0.4**
UALR IAmb IAmb 08 41 34.5
comp=Z,17nm,1.2s
MIAR Mount Ida 51.80 341 P **P 08 41 20.2 -0.8**
MIAR IAmb IAmb 08 42 34.0
comp=Z,29nm,1.5s
PLPT Palo Pinto 51.92 336 P **P 08 41 22.1 0.0**
PLPT IAmb IAmb 08 41 35.9
comp=Z,19nm,1.1s
ALPN Alpine 52.24 329 IAmb IAmb 08 42 50.8
comp=Z,11nm,1.2s
PBMO Poplar Bluff 53.00 345 IAmb IAmb 08 41 29.7
comp=Z,9.8nm,0.9s
APMT Aspermont 53.11 334 P **P 08 41 31.0 +0.1**
ODSA Odessa 53.16 331 P **P 08 41 31.0 -0.3**
ODSA IAmb IAmb 08 41 32.1
comp=Z,24nm,1.1s
ODSA **pP 08 41 43.6 -0.7**
PECS Pecos 53.17 330 P **P 08 41 30.6 -0.8**
PECS IAmb IAmb 08 41 32.6
comp=Z,25nm,1.4s
SN07 Snyder 07 53.24 333 P **P 08 41 31.2 -0.6**
SN07 pP **pP 08 41 44.6 -0.2**
SN07 IAmb IAmb 08 43 29.9
comp=Z,11nm,0.6s
VHRN Van Horn 53.25 328 P **P 08 41 32.0 -0.1**
VHRN IAmb IAmb 08 41 33.2
comp=Z,12nm,0.9s
CGM3 Cape Girardeau 53.31 346 IAmb IAmb 08 41 33.0
comp=Z,24nm,1.3s
X34A Smith Ranch, M 53.31 337 P **P 08 41 32.4 +0.1**
X34A pP **pP 08 41 45.5 +0.2**
T42A Van Buren 53.41 345 P **P 08 41 31.7 -1.2**
W35A Tecumseh 53.46 338 P **P 08 41 32.7 -0.7**
W35A IAmb IAmb 08 41 33.5
comp=Z,17nm,1.1s
W35A **pP 08 41 45.7 -0.7**
POST Post 53.48 333 P **P 08 41 33.6 0.0**
POST **pP 08 41 46.5 -0.1**
HHAR Hobbs 53.51 342 IAmb IAmb 08 41 34.3
comp=Z,9.6nm,1.1s
HHAR pP 08 41 46.6 -0.2
USIN University of 53.52 348 P **P 08 41 33.3 -0.5**
WCI Wyandotte Cave 53.52 350 P **P 08 41 32.6 -1.1**
WCI Wyandotte Cave 53.52 350 P **P 08 41 32.5 -1.3**
WCI pP **pP 08 41 45.0 -1.8**
WCI sP **sP 08 41 51.5 -0.7**
SIUC Southern Illin 53.61 347 P **P 08 41 33.4 -1.0**
SIUC IAmb IAmb 08 41 34.2
comp=Z,17nm,0.9s
DKNS Dickens 53.74 334 P **P 08 41 35.4 -0.2**
DKNS IAmb IAmb 08 41 36.3
comp=Z,14nm,0.8s
DKNS **pP 08 41 48.4 -0.2**
WMOK Wichita Mounta 53.80 336 IAmb IAmb 08 41 37.0
comp=Z,29nm,1.9s
MGMO Mountain Grove 53.84 344 IAmb IAmb 08 41 37.0
comp=Z,24nm,1.1s
FVM French Village 54.15 346 IAmb IAmb 08 41 38.2
comp=Z,14nm,1.1s
OK031 S. Brethren Rd 54.16 339 IAmb IAmb 08 41 38.8
comp=Z,19nm,0.9s
OK052 Battle Ridge R 54.19 339 IAmb IAmb 08 41 39.5
comp=Z,16nm,0.9s
QUOK Quay 54.31 339 IAmb IAmb 08 41 40.6
comp=Z,20nm,1.1s
CCM Cathedral Cave 54.42 345 P **P 08 41 39.7 -0.6**
CCM IAmb IAmb 08 41 40.7
comp=Z,17nm,1.2s
CCM PcP **PcP 08 42 43.6 0.0**
CCM Cathedral Cave 54.42 345 P **P 08 41 39.7 -0.6**
CCM pP **pP 08 41 52.0 -1.3**
CCM sP **sP 08 41 58.1 -0.6**
BLO Bloomington 54.48 350 P **P 08 41 39.7 -1.0**
BLO IAmb IAmb 08 41 41.0
comp=Z,9.5nm,0.8s
CSTR Hydro, Custer 54.56 337 P **P 08 41 41.3 -0.1**
OK051 E0350 and S346 54.66 339 P **P 08 41 41.6 -0.5**
OK051 **pP 08 41 55.0 -0.1**
SMWD Samnorwood 54.70 335 P **P 08 41 42.2 -0.3**
SLM Saint Louis 54.72 346 P **P 08 41 42.0 -0.5**
SLM IAmb IAmb 08 41 42.3
comp=Z,13nm,0.7s
O48B Farmland 55.32 351 P **P 08 41 45.0 -1.7**
O48B **pP 08 41 58.8 -1.1**
O48B IAmb IAmb 08 42 06.1
comp=Z,15nm,0.9s
KAN13 South Haven SW 55.34 339 P **P 08 41 47.0 0.0**
319A Douglas 56.00 325 P **P 08 41 53.2 +1.2**
319A IAmb IAmb 08 41 53.8
comp=Z,20nm,1.0s
319A pP **pP 08 42 06.3 +1.2**
121A Cookes Peak, D 56.09 327 P **P 08 41 53.9 +1.3**
121A IAmb IAmb 08 41 54.6
comp=Z,12nm,0.9s
121A pP **pP 08 42 06.5 +0.8**
RTBA Rita Blanca 56.88 334 IAmb IAmb 08 43 00.7
comp=Z,35nm,1.8s
KSU1 Kansas State U 56.93 341 IAmb IAmb 08 41 58.3
comp=Z,12nm,0.9s
R32A Long Quarter, 57.03 338 P **P 08 41 58.8 -0.3**
R32A pP **pP 08 42 11.5 -0.7**
TRY Troy 57.11 2 P **P 08 41 58.8 -0.6**
ANMO Albuquerque 57.33 330 P **P 08 42 01.5 0.0**
ANMO IAmb IAmb 08 42 02.8
comp=Z,9.7nm,1.0s
ANMO **pP 08 42 15.1 +0.6**
ANMO Albuquerque 57.33 330 LR LR 09 04 51.8
comp=Z,38nm,21.6s,baz=236,slow=34
ANMO Albuquerque 57.33 330 P **P 08 42 01.9 +0.4**
ANMO pP **pP 08 42 14.6 0.0**
ANMO sP **sP 08 42 20.9 +1.0**
N38A Joes South For 57.51 344 P **P 08 42 01.2 -1.1**
N38A **pP 08 42 14.5 -1.0**
TUC Tucson 57.54 325 P **P 08 42 03.2 +0.3**
TUC Tucson 57.54 325 P **P 08 42 03.1 +0.3**
TUC pP **pP 08 42 16.6 +0.5**
TUC sP **sP 08 42 22.2 +0.9**
T25A Trinidad 58.19 333 IAmb IAmb 08 42 08.7
comp=Z,12nm,0.9s
L40A Anamosa 58.22 346 IAmb IAmb 08 42 20.0
comp=Z,14nm,1.1s
X16A Lo Mia Camp, P 59.48 326 IAmb IAmb 08 42 18.4
comp=Z,10nm,1.0s
113A Mohawk Valley, 59.58 323 IAmb IAmb 08 42 18.6
comp=Z,21nm,1.6s
Y14A Wickenburg 59.99 324 P **P 08 42 20.5 +0.6**
Y14A IAmb IAmb 08 42 21.6
comp=Z,12nm,1.0s
Y14A pP **pP 08 42 33.9 +0.8**
Q24A Divide 60.03 334 P **P 08 42 20.0 -0.3**
Q24A IAmb IAmb 08 42 22.0
comp=Z,15nm,1.1s
MVCO Mesa Verde 60.13 330 P **P 08 42 20.8 -0.2**
MVCO IAmb IAmb 08 42 22.1
comp=Z,9.9nm,1.0s
WUAZ Wupatki 60.28 327 IAmb IAmb 08 42 23.9
comp=Z,18nm,1.1s
BLYC Blythe 60.73 323 IAmb IAmb 08 42 26.8
comp=Z,12nm,1.0s
PV13 Radium Mtn., P 61.04 330 IAmb IAmb 08 42 28.4
comp=Z,8.8nm,0.8s
ECSD EROS Data Cent 61.17 343 IAmb IAmb 08 42 27.6
comp=Z,15nm,0.9s
PV10 Paradox Valley 61.32 330 IAmb IAmb 08 42 34.4
comp=Z,9.9nm,0.9s
W13A Hualapai Mount 61.34 325 IAmb IAmb 08 42 31.4
comp=Z,22nm,1.6s
U15A North Rim 61.45 327 IAmb IAmb 08 42 32.0
comp=Z,7.8nm,1.0s
PFO Pinyon Flats O 61.77 322 LR LR 09 06 16.0
comp=Z,54nm,20.8s,baz=121,slow=33
PKCU Pink Cliffs 62.23 328 IAmb IAmb 08 42 37.3
comp=Z,9.8nm,0.9s
V12A Nelson 62.34 324 IAmb IAmb 08 42 37.4
comp=Z,8.0nm,1.1s
SRU San Rafael Swe 62.61 330 IAmb IAmb 08 42 38.9
comp=Z,12nm,0.9s
Q16A Castle Valley 62.78 329 IAmb IAmb 08 42 41.1
comp=Z,8.1nm,0.8s
P18A Preston Nutter 62.88 330 IAmb IAmb 08 42 41.0
comp=Z,5.7nm,0.8s
TMUT Trail Mountain 63.09 330 IAmb IAmb 08 42 42.3
comp=Z,5.7nm,0.8s
TCRU Three Creeks R 63.18 328 IAmb IAmb 08 42 43.3
comp=Z,10nm,0.9s
TAOE Nuku Hiva Isla 63.25 267 *e*LR LR 09 01 33.7
comp=Z,236nm,26.4s
PRN Pahroc Range 63.66 326 IAmb IAmb 08 42 46.6
comp=Z,9.3nm,1.0s
BSUT Blindstream Ca 63.84 331 IAmb IAmb 08 42 47.6
comp=Z,13nm,0.9s
PSUT Pine Spring 63.85 327 IAmb IAmb 08 42 47.8
comp=Z,11nm,0.9s
RSSD Black Hills 63.95 338 P **P 08 42 46.1 -0.3**
RSSD IAmb IAmb 08 42 47.4
comp=Z,18nm,1.4s
RSSD pP **pP 08 42 59.0 -0.7**
RSSD Black Hills 63.95 338 P **P 08 42 47.0 +0.5**
TPNV Topopah Spring 64.00 325 P **P 08 42 46.8 0.0**
TPNV IAmb IAmb 08 42 49.0
comp=Z,9.4nm,0.9s
TPNV pP **pP 08 43 01.3 +1.2**
WCT Wildcat Mounta 64.10 324 P **P 08 42 48.7 +1.3**
WCT IAmb IAmb 08 42 49.6
comp=Z,11nm,0.9s
S11A Rachel 64.22 325 IAmb IAmb 08 42 50.4
comp=Z,12nm,1.0s
JLU Jordanelle 64.22 330 IAmb IAmb 08 42 49.9
comp=Z,15nm,0.8s
SPR3 Spring Creek 3 64.44 327 IAmb IAmb 08 42 51.3
comp=Z,12nm,0.7s
TCUT Toone Canyon 64.60 331 IAmb IAmb 08 42 53.1
comp=Z,15nm,0.8s
HWUT Hardware Ranch 65.06 331 IAmb IAmb 08 42 54.6
comp=Z,15nm,0.8s
PD31 Pinedale Array 65.06 333 P **P 08 42 53.4 -0.3**
PD31 IAmb IAmb 08 42 58.1
comp=Z,30nm,2.0s
PDAR Pinedale Array 65.06 333 P **P 08 42 53.1 -0.6**
PDAR pP **pP 08 43 06.9 -0.1**
PDAR Pinedale Array 65.06 333 P **P 08 42 53.1 -0.6**
comp=Z,1.8nm,0.7s,baz=128,slow=8.6,SNR=17
PDAR LR LR 09 12 10.7
comp=Z,32nm,20.0s,baz=108,slow=37
comp=Z,1.8nm,0.7s
AGMN Agassiz Nation 65.19 345 P **P 08 42 53.6 -0.5**
AGMN IAmb IAmb 08 42 54.5
comp=Z,12nm,0.9s
AGMN pP **pP 08 43 07.4 0.0**
DSP Deep Springs 65.27 324 IAmb IAmb 08 42 57.1
comp=Z,9.2nm,1.0s
BBTS Babate 65.30 66 LR LR 09 09 35.6
comp=Z,102nm,19.7s,baz=144,slow=34
AHID Auburn Hatcher 65.75 332 IAmb IAmb 08 42 59.0
comp=Z,8.9nm,0.8s
HVU Hansel Valley 65.76 330 IAmb IAmb 08 42 59.1
comp=Z,12nm,0.7s
LHV Little Huntoon 66.18 324 IAmb IAmb 08 43 03.1
comp=Z,10nm,0.8s
NVAR Mina Array Bea 66.19 324 P **P 08 43 01.7 +0.6**
NVAR Mina Array Bea 66.19 324 P **P 08 43 01.9 +0.8**
comp=Z,3.6nm,0.8s,baz=146,slow=6.7,SNR=15
NVAR pP **pP 08 43 15.2 +0.8**
comp=Z,2.1nm,0.8s,baz=143,slow=6.1,SNR=6.1
comp=Z,3.6nm,0.8s
TPAW Teton Pass 66.25 333 P **P 08 43 01.0 -0.5**
MOOW Moose Ponds 66.37 333 P **P 08 43 02.4 +0.3**
FXWY Fox Creek 66.40 333 P **P 08 43 02.8 +0.4**
BELA Belgrano 2 66.44 171 P **P 08 43 03.0 +1.2**
BELA IAmb IAmb 08 43 03.3
comp=Z,9.9nm,0.9s
RLMT Red Lodge 66.84 335 IAmb IAmb 08 43 06.2
comp=Z,19nm,1.3s
LAO LASA Array 66.95 338 IAmb IAmb 08 43 06.5
comp=Z,11nm,1.1s
ULM Lac du Bonnet 67.01 346 IAmb IAmb 08 43 18.9
comp=Z,12nm,0.9s
ULM Lac du Bonnet 67.01 346 P **P 08 43 04.6 -1.1**
comp=Z,5.3nm,0.7s,baz=159,slow=6.4,SNR=13
ULM LR LR 09 16 10.1
comp=Z,69nm,18.6s,baz=144,slow=39
comp=Z,5.3nm,0.7s
YMR Madison River 67.19 333 IAmb IAmb 08 43 09.3
comp=Z,9.8nm,0.8s
YHB Horse Butte 67.36 333 IAmb IAmb 08 43 10.3
comp=Z,13nm,0.8s
PNTR Pine Nut 67.38 324 IAmb IAmb 08 43 10.9
comp=Z,9.2nm,0.9s
PAHR Pah Rah Range 67.68 325 IAmb IAmb 08 43 12.7
comp=Z,15nm,0.9s
HLID Hailey 67.90 331 IAmb IAmb 08 43 13.5
comp=Z,6.3nm,0.7s
MFID Camas Ranch 68.47 330 IAmb IAmb 08 43 17.2
comp=Z,16nm,0.8s
ORV Oroville 68.78 323 IAmb IAmb 08 43 19.4
comp=Z,19nm,0.9s
EGMT Eagleton 69.40 336 IAmb IAmb 08 43 21.8
comp=Z,12nm,1.0s
SCHQ Schefferville 69.59 5 P **P 08 43 20.4 -1.5**
comp=Z,2.8nm,0.9s,baz=228,slow=12,SNR=1.6
SCHQ LR LR 09 13 37.4
comp=Z,42nm,21.9s,baz=134,slow=36
comp=Z,2.8nm,0.9s
TBI Tubuai 69.71 250 *e*LR LR 09 04 30.7
comp=Z,686nm,26.5s
TBI *e*LR LR 09 04 34.6
comp=Z,1μm,27.0s
MSO Missoula 70.18 333 IAmb IAmb 08 43 27.7
comp=Z,13nm,1.1s
PPT2 Papeete2 70.68 256 *e*LR LR 09 04 57.0
comp=Z,145nm,26.0s
PPT2 *e*LR LR 09 04 58.2
comp=Z,113nm,25.5s
I07A Izee 70.80 328 IAmb IAmb 08 43 31.6
comp=Z,14nm,1.2s
SNAA Sanae 70.81 161 P **P 08 43 29.2 -0.1**
SNAA Sanae 70.81 161 P **P 08 43 29.6 +0.3**
SNAA IAmb IAmb 08 43 30.8
comp=Z,12nm,0.8s
SNAA Sanae 70.81 161 ⇑P **P 08 43 29.2 -0.1**
comp=Z,272nm,0.7s
SNAA Sanae 70.81 161 P **P 08 43 29.5 +0.3**
comp=Z,12nm,0.8s,baz=254,slow=6.5,SNR=12
SNAA LR LR 09 10 43.6
comp=Z,86nm,21.6s,baz=319,slow=32
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 70.92 325 P **P 08 43 29.9 -0.4**
YBH Yreka Blue Hor 70.92 325 LR LR 09 11 44.3
comp=Z,58nm,18.2s,baz=162,slow=33
K04D Chiloquin, OR 70.98 326 P **P 08 43 29.5 -1.2**
K04D IAmb IAmb 08 43 32.4
comp=Z,18nm,1.0s
J04A Umpqua Nationa 71.59 326 IAmb IAmb 08 43 36.5
comp=Z,15nm,0.9s
I05D Terrebonne, OR 71.93 327 IAmb IAmb 08 43 38.3
comp=Z,11nm,0.7s
E08A Dider Farm, El 72.29 330 IAmb IAmb 08 45 26.9
comp=Z,21nm,1.8s
NEW Newport 72.68 332 LR LR 09 17 16.6
comp=Z,36nm,18.2s,baz=126,slow=37
E07A Sunnyside 72.72 330 IAmb IAmb 08 43 43.2
comp=Z,15nm,1.1s
DBIC Dimbokro 73.29 78 LR LR 09 14 06.6
comp=Z,186nm,19.8s,baz=256,slow=34
D05A Enumclaw 74.21 329 IAmb IAmb 08 43 51.9
comp=Z,33nm,1.4s
FCC Fort Churchill 74.68 350 P **P 08 43 52.0 -0.1**
FCC IAmb IAmb 08 43 52.7
comp=Z,17nm,1.4s
FCC pP **pP 08 44 05.0 -0.7**
GNW Green Mountain 74.88 329 P **P 08 43 53.8 +0.2**
GNW IAmb IAmb 08 43 55.1
comp=Z,18nm,1.6s
GNW pP **pP 08 44 06.8 -0.3**
QSPA South Pole Qui 75.52 180 P **P 08 43 58.2 +1.0**
QSPA IAmb IAmb 08 43 59.3
comp=Z,15nm,1.1s
QSPA pP **pP 08 44 10.9 +0.2**
QSPA South Pole Qui 75.52 180 P **P 08 43 57.6 +0.4**
comp=Z,8.1nm,0.9s,baz=181,slow=0.4,SNR=24
QSPA pP **pP 08 44 11.2 +0.5**
comp=Z,7.3nm,1.0s,baz=143,slow=6.3,SNR=6.0
comp=Z,8.1nm,0.9s
LLLB Lillooet 76.52 332 IAmb IAmb 08 44 18.6
comp=Z,22nm,1.7s
FRB Frobisher Bay 78.33 3 LR LR 09 18 27.8
comp=Z,66nm,21.9s,baz=162,slow=35
RAR Rarotonga 79.48 251 LR LR 09 11 28.9
comp=Z,49nm,21.7s,baz=88,slow=30
TORD Torodi Ar. Bea 81.37 74 P **P 08 44 30.1 -0.2**
TORD IAmb IAmb 08 44 31.4
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 81.37 74 P **P 08 44 29.9 -0.3**
comp=Z,17nm,0.2s,baz=269,slow=4.9,SNR=0.9
VNDA Vanda 82.42 191 LR LR 09 14 33.5
comp=Z,126nm,19.4s,baz=76,slow=31
MDT Midelt 82.56 53 LR LR 09 19 23.3
comp=Z,46nm,18.7s,baz=271,slow=34
YKA Yellowknife Ar 82.70 343 P **P 08 44 35.4 -0.7**
comp=Z,4.7nm,1.0s,baz=143,slow=5.2,SNR=40
YKA pP **pP 08 44 49.1 -0.8**
comp=Z,4.1nm,1.1s,baz=142,slow=5.2,SNR=9.2
YKA LR LR 09 25 09.5
comp=Z,42nm,18.4s,baz=323,slow=38
comp=Z,4.7nm,1.0s
SFJD Kangerlussuaq 83.46 10 LR LR 09 24 01.7
comp=Z,25nm,19.6s,baz=178,slow=37
SYO Syowa Base 85.09 161 ‖*i*/PcP **PcP 08 44 50.3 -1.3**
ESDC Sonseca Array 85.69 47 P **P 08 44 52.4 +0.5**
comp=Z,0.8nm,0.8s,baz=290,slow=2.6,SNR=3.5
ESDC LR LR 09 20 30.1
comp=Z,55nm,19.2s,baz=251,slow=34
comp=Z,0.8nm,0.8s
WTLY Watson Lake, Y 85.79 336 IAmb IAmb 08 44 53.5
comp=Z,8.1nm,0.9s
SUR Sutherland 87.61 123 LR LR 09 23 11.8
comp=Z,56nm,18.3s,baz=231,slow=35
TSUM Tsumeb 88.24 109 LR LR 09 23 08.2
comp=Z,68nm,19.7s,baz=331,slow=35
RES Resolute Bay 89.95 355 IAmb IAmb 08 45 26.9
comp=Z,5.4nm,0.9s
BOSA Boshof 92.36 120 LR LR 09 23 54.7
comp=Z,52nm,20.2s,baz=206,slow=34
INK Inuvik 92.39 342 IAmb IAmb 08 45 38.0
comp=Z,10nm,1.2s
MAW Mawson 92.64 165 LR LR 09 23 57.7
comp=Z,108nm,21.8s,baz=214,slow=33
LBTB Lobatse 93.76 117 LR LR 09 26 00.3
comp=Z,60nm,19.3s,baz=220,slow=34
URZ Urewera 94.08 229 LR LR 09 18 30.4
comp=Z,111nm,20.9s,baz=243,slow=29
D27M Malcolm River 95.19 341 IAmb IAmb 08 45 51.0
comp=Z,7.7nm,1.3s
ILAR Eielson Array 95.36 336 P **P 08 45 35.9 -0.8**
comp=Z,0.5nm,0.8s,baz=158,slow=7.1,SNR=8.4
ILAR pP **pP 08 45 49.9 -0.8**
comp=Z,1.1nm,0.9s,baz=162,slow=3.9,SNR=7.1
ILAR LR LR 09 33 52.0
comp=Z,39nm,18.3s,baz=100,slow=39
comp=Z,0.5nm,0.8s
RPZ Rata Peaks 96.02 222 LR LR 09 18 18.1
comp=Z,391nm,22.0s,baz=139,slow=29
D25K Kavik River 96.96 340 IAmb IAmb 08 45 44.1
comp=Z,3.0nm,1.0s
DAVOX Davos/Dischmat 97.49 44 LR LR 09 26 43.8
comp=Z,40nm,20.0s,baz=256,slow=34
C24K Franklin Bluff 97.87 340 P Pdif 08 45 48.3 +0.3
LSZ Lusaka 99.06 108 LR LR 09 28 51.7
comp=Z,75nm,20.1s,baz=219,slow=34
DZM Mont Dzumac 109.06 240 *e*LR LR 09 22 52.0
comp=Z,114nm,29.4s
BRTR Keskin Array B 113.97 53 PKiKP **PKiKP 08 50 52.5 +0.2**
comp=Z,0.6nm,0.6s,baz=180,slow=3.4,SNR=4.0
H11N3 WAKE ISLAND Hyl20.30 284 T T 11 02 22.8
baz=96,slow=74,SNR=32
H11N2 WAKE ISLAND Hyl20.32 284 T T 11 02 28.1
baz=96,slow=74,SNR=38
H11N1 WAKE ISLAND Hyl20.32 284 T T 11 02 24.0
baz=96,slow=74,SNR=11
H11S2 WAKE ISLAND Hyl20.37 283 T T 11 03 28.7
baz=96
H11S1 WAKE ISLAND Hyl20.37 283 T T 11 03 22.8
baz=96,slow=74
H11S3 WAKE ISLAND Hyl20.38 283 T T 11 03 29.7
baz=96,slow=74
PETK Petropavlovsk- 123.28 325 PKPdf **PKiKP 08 51 10.0 +0.2**
ARTI Arti 125.64 29 PKPdf **PKiKP 08 51 14.1 -0.2**
FORT Forrest 129.42 207 PKPdf **PKiKP 08 51 22.4 -0.4**
ABKAR Akbulak array 129.99 37 PKPdf **PKPdf 08 51 22.8 +0.4**
ABKAR pPKPdf **pPKPdf 08 51 37.3 +0.5**
ASAR Alice Springs 132.22 218 PKPdf **PKPdf 08 51 26.9 -0.7**
ASAR pPKPdf **pPKPdf 08 51 41.0 -0.9**
ASAR Alice Springs 132.22 218 PKP **PKPdf 08 51 27.5 -0.1**
comp=Z,2.6nm,0.8s,baz=142,slow=2.7,SNR=15
ASAR pPKP **pPKPdf 08 51 41.4 -0.4**
comp=Z,5.4nm,1.1s,baz=130,slow=2.1,SNR=7.4
BRVK Borovoye 133.16 28 PKPdf **PKPdf 08 51 28.1 -0.2**
BRVK pPKPdf **pPKPdf 08 51 43.2 +0.5**
BVAR Borovoye Array 133.23 28 PKP **PKPdf 08 51 28.4 -0.1**
comp=Z,0.9nm,0.6s,baz=300,slow=2.9,SNR=4.2
WB2 Warramunga Arr 134.72 221 PKPdf **PKPdf 08 51 32.2 -0.1**
WRA Warramunga Arr 134.72 221 PKPdf **PKPdf 08 51 32.0 -0.3**
WRA pPKPdf **pPKPdf 08 51 46.6 0.0**
WRA Warramunga Arr 134.72 221 PKP **PKPdf 08 51 32.5 +0.2**
comp=Z,4.1nm,0.8s,baz=144,slow=1.5,SNR=17
WRA pPKP **pPKPdf 08 51 46.6 0.0**
comp=Z,2.8nm,0.8s,baz=144,slow=1.9,SNR=6.6
ZALV Zalesovo Beam 137.88 17 PKPdf **PKPdf 08 51 37.5 +0.4**

ZALV					pPKPdf	**pPKPdf**	08 51 51.7	+0.3
ZALV	**Zalesovo Beam**	**137.88**	**17**		PKP	**PKPdf**	**08 51 37.4**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=282,slow=2.9,SNR=8.1							
ZALV					pPKP	**pPKPdf**	**08 51 51.2**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=318,slow=2.0,SNR=2.7							
KURK	**Kurchatov**	**138.43**	**25**		PKPdf	**PKPdf**	**08 51 38.5**	**+0.3**
KURBB	**Kurchatov Arra**	**138.46**	**25**		PKP	**PKPdf**	**08 51 39.0**	**+0.7**
	comp=Z,3.6nm,1.0s,baz=314,slow=2.6,SNR=18							
KURBB					pPKP	**pPKPdf**	**08 51 52.8**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=311,slow=2.5,SNR=6.7							
FITZ	**Fitzroy Crossi**	**141.30**	**214**		PKhKP	PKPpre	08 51 38.4	
	comp=Z,2.2nm,0.7s,baz=134,slow=2.8,SNR=4.3							
MK31	**Makanchi Array**	**143.01**	**25**		PKPdf	**PKPdf**	**08 51 45.8**	**-0.8**
MKAR	**Makanchi Array**	**143.01**	**25**		PKPdf	**PKPdf**	**08 51 46.1**	**-0.6**
MKAR	**Makanchi Array**	**143.01**	**25**		PKhKP	PKPpre	08 51 42.7	
	comp=Z,1.8nm,0.9s,baz=331,slow=1.5,SNR=8.9							
TARG	**Taragay, Kyrgy**	**144.55**	**35**		PKPdf	**PKPdf**	**08 51 49.7**	**-0.3**
KSH	**Kashi**	**144.87**	**40**		PKP	**PKPdf**	**08 51 50.8**	**+0.5**
KSH	**Kashi**	**144.87**	**40**		pPKP	pPKPdf	08 52 02.9	-1.7
WUS	**Wushi**	**145.69**	**35**		PKPdf	**PKPbc**	**08 51 52.1**	**+0.1**
WUS					pPKPdf	**pPKPdf**	**08 52 06.0**	**0.0**
NIL	**Nilore**	**146.08**	**51**		PKPdf	**PKPbc**	**08 51 53.3**	**0.0**
SONM	**Songino Array**	**146.85**	**357**			**PKPbc**	**08 51 55.3**	**+0.1**
SONM	**Songino Array**	**146.85**	**357**		PKP	**PKPdf**	**08 51 52.8**	**-0.6**
	comp=Z,7.3nm,0.8s,baz=315,slow=1.1,SNR=43							
SONM					PKPbc	**PKPbc**	**08 51 55.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=356,slow=0.6,SNR=4.5							
SONM					pPKPbc	pPKPbc	08 52 08.9	-0.5
	comp=Z,7.7nm,0.9s,baz=343,slow=1.3,SNR=10							
WMQ	**Urumqi**	**147.61**	**23**		PKPbc	**PKPbc**	**08 51 58.0**	**+0.6**
KSRS	**Korea Array**	**149.11**	**322**		PKPbc	**PKPdf**	**08 51 58.5**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=64,slow=2.9,SNR=6.0							
KSRS					pPKPbc	**pPKPbc**	**08 52 15.2**	**-0.5**
	comp=Z,4.8nm,1.0s,baz=8.2,slow=1.5,SNR=5.3							
GSI	**Gunungsitoli**	**165.16**	**153**		PKPdf	**PKPdf**	**08 52 17.8**	**-0.2**
GSI					PKPab	**PKPab**	**08 53 14.9**	**-0.1**
PBA	**Port Blair**	**168.30**	**103**		PKPdf	**PKPdf**	**08 52 19.2**	**-1.2**
PBA					PKPab	**PKPab**	**08 53 28.1**	**-1.1**
CMAR	**Chiang Mai Arr**	**173.56**	**53**		PKP	**PKPdf**	**08 52 22.2**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=13,slow=0.8,SNR=4.8							
CMAR					pPKP	**pPKPdf**	**08 52 37.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=298,slow=2.5,SNR=1.1							

DJA 19 08:35:20.3±0.4, 10°S±4°×11°9E±°, h10km, M4.2/12, mB4.8/1, mb4.4/5, MLv4.2/12, Mw(mB)4.1/1, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.47**	**27**	P	Pg	08 35 29.9	+0.5
WBSI				S	Sb	08 35 37.5	-0.1
WSI	**Waingapu**	**1.17**	**71**	P	Pb	08 35 40.4	-2.2
BASI	**Baing, Sumba**	**1.39**	**97**	P	Pn	08 35 44.7	-1.0
BASI				S	Sn	08 36 04.5	+0.4
PLAI	**Plampang**	**1.85**	**311**	P	Pn	08 35 50.6	-1.5
PLAI				S	Sn	08 36 15.1	-0.5
TWSI	**Taliwang, Sumb**	**2.62**	**300**	P	Pn	08 36 03.0	+0.3
TWSI				S	Sn	08 36 35.5	+0.9
MMRI	**Maumere**	**3.33**	**65**	P	Pn	08 36 12.1	-0.4
BSSI	**Bau Bau, Buton**	**4.10**	**19**	P	Pn	08 36 23.5	+0.4
SRBI	**Singaraja**	**4.38**	**296**	P	Pn	08 36 28.5	+1.5
BKSI	**Bulukumba**	**4.80**	**11**	P	Pn	08 36 33.3	+0.6
SOEI	**Soe**	**5.02**	**87**	P	Pn	08 36 35.6	-0.3
	0.2nm24nm,1.2s						
JAGI	**Jajag, Banyuwa**	**5.21**	**287**	P	Pn	08 36 38.7	+0.4
	0.3nm998nm34nm,0.4s						
GMJI	**Gumukmas**	**5.94**	**287**	P	Pn	08 36 48.8	+0.5

*IDC **19** 08:49:58.6±1.6, 3°.64S×129°.16E, h0km, mb3.8/4, mbtmp3.9/5, ML3.6/1, MS2.5/1, Error ellipse: s-maj=95.7km s-min=21.6km az=73.0*
*DJA **19** 08:50:01.6±0.2, 4°S±3°×12°9E±°, h10km, M4.6/13, mB5.8/1, mb5.1/3, MLv4.4/13, Mw(mB)5.3/1*
ISC 19 08:50:03.5±0.8, 3°.73S±0°.06×129°.15E±0°.05, h37km, n18, σ2°63/23, mb3.8/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.45**	**330**	P	**Pn**	**08 50 10.3**	**-2.9**
MSAI				S	**Sn**	**08 50 16.1**	**-4.1**
AAI	**Ambon**	**0.96**	**273**	P	**Pn**	**08 50 20.0**	**-0.4**
AAI				S	**Sn**	**08 50 33.4**	**+0.6**
BNDI	**Bandanaira**	**1.08**	**136**	P	**Pn**	**08 50 21.2**	**-0.9**
BNDI				S	**Sn**	**08 50 35.9**	**0.0**
NLAI	**Namlea**	**2.11**	**283**	P	**Pn**	**08 50 39.3**	**+3.1**
FAKI	**Fak Fak**	**3.20**	**75**	P	**Pn**	**08 50 51.5**	**+0.3**
SWI	**Sorong**	**3.55**	**36**	P	**Pn**	**08 50 56.9**	**+0.9**
SANI	**Sanana**	**3.58**	**298**	P	**Pn**	**08 50 56.3**	**-0.1**
KMPI	**Kaimana, Papua**	**4.54**	**89**	P	**Pn**	**08 51 10.2**	**+0.5**
RKPI	**Ransiki, Papua**	**5.49**	**66**	P	**Pn**	**08 51 22.8**	**+0.1**
	8μm410nm,0.5s						
BAKI	**Biak**	**7.39**	**70**	P	**Pn**	**08 51 50.0**	**+1.1**
	132nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.68**	**193**	Pn	**Pn**	**08 53 28.5**	**-0.1**
	0.2nm,0.3s,baz=22,slow=5.4,SNR=7.8						
FITZ				Sn	**Sn**	**08 56 14.8**	**+4.6**
	0.1nm,0.3s,baz=287,slow=20,SNR=1.8 3.3nm,0.7s						
WRA	**Warramunga Arr**	**16.89**	**163**	Pn	**Pn**	**08 53 53.4**	**-3.7**
	0.3nm,0.3s,baz=352,slow=13,SNR=8.0						
WRA				Sn	**Sn**	**08 56 56.8**	**-7.0**
	0.2nm,0.3s,baz=360,slow=20,SNR=2.9						
PMG	**Port Moresby**	**18.75**	**108**	LR	LR	09 04 04.5	
	comp=Z,15nm,20.2s,baz=139,slow=45						
ASAR	**Alice Springs**	**20.34**	**167**	P	**P**	**08 54 37.9**	**+1.1**
	2.6nm,0.4s,baz=350,slow=11,SNR=58						
ASAR				S	**S**	**08 58 20.1**	**-2.8**
	1.9nm,1.0s,baz=351,slow=24,SNR=7.7 2.6nm,0.4s						
STKA	**Stephens Creek**	**30.34**	**159**	P	**P**	**08 56 12.7**	**+1.0**
	0.5nm,0.3s,baz=340,slow=12,SNR=1.4 0.5nm,0.3s						
MKAR	**Makanchi Array**	**65.05**	**326**	P	**P**	**09 00 40.5**	**+0.3**
	0.4nm,0.6s,baz=115,slow=7.9,SNR=7.1 0.4nm,0.6s						
KSH	**Kashi**	**65.06**	**317**	P	**P**	**09 00 43.0**	**+2.5**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**69.30**	**328**	P	**P**	**09 01 07.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=127,slow=6.0,SNR=6.2 comp=Z,0.6nm,0.6s						

IDC 19 08:50:30.5±7.0, 21°.49N×142°.66E, h313km±89km, mb3.0/4, mbtmp3.7/5, Error ellipse: s-maj=157.3km s-min=23.6km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.49**	**346**	P	P	08 53 51.1	-1.1
	1.0nm,0.4s,baz=164,slow=10,SNR=2.0						
KSRS	**Korea Array**	**20.39**	**324**	P	P	08 54 44.9	+0.4
	1.2nm,0.5s,baz=151,slow=8.9,SNR=7.1 1.2nm,0.5s						
WRA	**Warramunga Arr**	**41.98**	**192**	P	P	08 57 51.7	-0.2
	0.9nm,0.6s,baz=10,slow=8.7,SNR=3.7 0.9nm,0.6s						
MKAR	**Makanchi Array**	**54.48**	**313**	P	P	08 59 26.8	+0.3
	0.1nm,0.3s,baz=104,slow=6.8,SNR=2.3 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**57.34**	**317**	P	P	08 59 46.1	-0.4
	0.6nm,0.5s,baz=97,slow=7.2,SNR=6.3 0.6nm,0.5s						

*NIED **19** 08:57:31.6, 34°.77N×137°.65E, h29km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.00; $M_{\theta\theta}$=1.43; $M_{\phi\phi}$=1.44; $M_{r\theta}$=0.06; $M_{\theta\phi}$=-1.15; $M_{\phi r}$=0.06; Fault plane solution: M_0=1.84000×10^{14} NP1: ϕ_s=116.00000°, δ=88.00000°, λ=-179.00000°. NP2: ϕ_s=26.00000°, δ=89.00000°, λ=-2.00000°.*
JMA 19 08:57:31.6±0.1, 34°.8N±0°.3×137°.7E±0°.3, h29km±1km, MV3.5/20, 3D, HAMANAKO LAKE REGION, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	**Hamakita**	**0.10**	**65**	S	Sb	08 57 40.0	-0.1
HMMJ	**Hamamatsu 2**	**0.10**	**37**	P	Pb	08 57 36.6	-0.2
HMMJ				S	Sb	08 57 40.3	-0.1
JSSY	**Shinshiroyabe**	**0.18**	**321**	⇓P	Pb	08 57 37.5	0.0
JSSY				⇓S	Sb	08 57 41.8	+0.4
JKKG	**Kakegawa**	**0.27**	**87**	P	Pb	08 57 38.2	-0.2
JKKG				S	Sb	08 57 43.2	+0.1
JAA	**Atsumi**	**0.44**	**251**	*i* P	Pb	08 57 40.7	-0.3
JAA				S	Sb	08 57 47.5	+0.2
TTO5	**TONANKAI O.B.S**	**0.52**	**174**	⇓*i* P	Pb	08 57 42.0	-0.2
SHZ3	**Shizuoka 3**	**0.55**	**58**	*i* P	Pb	08 57 42.2	-0.6
SHZ3				S	Sb	08 57 50.2	-0.2
JIE	**Ise**	**0.86**	**244**	*i* P	Pn	08 57 46.2	-1.6
JIE				S	Sb	08 57 57.5	-1.7
TSUJ	**Tsu 2**	**1.01**	**267**	P	Pn	08 57 49.4	-0.5
TSUJ				*e*S	Sn	08 58 03.0	-0.1
JIZS	**Izushimoda**	**1.02**	**93**	P	Pn	08 57 48.7	-1.2
JYN	**Shimob**	**1.03**	**45**	*i* P	Pn	08 57 49.9	-0.3

*NEIC **19** 09:03:20.2±1.0, 18°.1N±0°.3×69°.04W±0°.08, h149km±8km, ML3.0/18, Md2.9/6(RSPR), Error ellipse: s-maj=44.3km s-min=6.9km az=190.0*
*SDD **19** 09:03:21.5±1.0, 18°.19N×69°.09W, h153km±7km, MD3.1, ML2.6, MW2.6*
*RSPR **19** 09:03:24.1, 18°.21N×68°.99W, h126km±2km, MD2.9/6*
*OSPL **19** 09:03:24.7±1.2, 18°.16N×68°.90W, h133km±21km, ML3.0, Hypocentre not reviewed by the ISC*
ISC 19 09:03:21.1±1.9, 18°.2N±0°.1×69°.04W±0°.05, h144km±11km, n33, σ1°09/47, 8C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.24**	**87**	*e*Pg	**Pn**	**09 03 41.6**	**+0.9**
SADR				*e*Pg	**Pn**	**09 03 41.6**	**+0.9**
SADR				*e*Sg	**Sn**	**09 03 55.7**	**+0.1**
SADR				*e*Sg		09 03 56.0	
SADR				IAML		09 04 15.3	
	comp=N,210nm,2.8s						
HIDR	**Higuey Centro**	**0.51**	**36**	⇑*e*P	**Pn**	**09 03 42.0**	**+0.2**
HIDR	**Higuey Centro**	**0.51**	**36**	*e*S	**Sn**	**09 03 56.2**	**-1.4**
DR12	**Loma Pena Alta**	**0.69**	**332**	Pn	**Pn**	**09 03 43.1**	**+0.2**
HATOM	**Hato Mayor del**	**0.69**	**332**	*e*Pg	**Pn**	**09 03 43.3**	**+0.4**
HATOM				*e*Sg	**Sn**	**09 03 58.1**	**-1.4**
HATOM				IAML		09 03 59.3	
	comp=N,47nm,0.2s						
HATOM				IAML		09 04 23.1	
	comp=N,27nm,2.1s						
PCDR	**Punta Cana, DR**	**0.71**	**62**	Sn	**Sn**	**09 04 00.2**	**+0.6**
PCDR	**Punta Cana, DR**	**0.71**	**62**	*e*Pg	**Pn**	**09 03 43.0**	**0.0**
PCDR				*e*Sg	**Sn**	**09 03 59.5**	**0.0**
PCDR				IAML		09 04 13.2	
	comp=N,191nm,1.8s						
PCDR				IAML		09 04 13.2	
	comp=N,191nm,1.8s						
PCDR	**Punta Cana, DR**	**0.71**	**62**	⇑*e*P	**Pn**	**09 03 43.3**	**+0.3**
PCDR	**Punta Cana, DR**	**0.71**	**62**	*e*S	**Sn**	**09 03 59.1**	**-0.4**
PCDR	**Punta Cana, DR**	**0.71**	**62**	*i* P		09 03 43.3	
MIDR	**Miches**	**0.80**	**359**	*e*Pg	**Pn**	**09 03 43.3**	**-0.3**
MIDR				*e*Pg		09 03 43.7	
MIDR				*e*Sg	**Sn**	**09 04 00.6**	**-0.3**
MIDR				*e*Sg	**Sn**	**09 04 00.6**	**-0.3**
MIDR				IAML		09 04 02.8	
	comp=N,47nm,0.2s						
MIDR				IAML		09 04 03.1	
	comp=N,23nm,1.0s						
SDD	**Santo Domingo**	**0.88**	**289**	Pn	**Pn**	**09 03 43.8**	**-0.4**
SDD					**Sn**	**09 04 02.2**	**+0.4**
SDD				IAML		09 04 16.2	
	comp=N,351nm,2.9s						
SDD				IAML		09 04 37.1	
	comp=E,308nm,3.0s						
SDD	**Santo Domingo**	**0.88**	**289**	*e*S	**Sn**	**09 04 02.6**	**+0.8**
SMDR	**Samana, DR**	**1.11**	**353**	*e*S	**Sn**	**09 04 05.3**	**-0.3**
IDE	**Isla Desecheo**	**1.50**	**82**		**Pn**	**09 03 52.4**	**+2.2**
IDE					**Sn**	**09 04 12.0**	**-0.4**
IDE	**Isla Desecheo**	**1.50**	**82**	⇑*e*P	**Pn**	**09 03 52.4**	**+2.2**
IDE	**Isla Desecheo**	**1.50**	**82**	*e*S	**Sn**	**09 04 12.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.84**	**95**		**Pn**	**09 03 53.3**	**-0.7**
CRPR					**Sn**	**09 04 16.1**	**-3.1**
CRPR				IAML		09 05 17.9	
	comp=E,51nm,3.1s						
CRPR				IAML		09 05 18.8	
	comp=N,41nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.84**	**95**	⇑*e*P	**Pn**	**09 03 54.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.84**	**95**	*e*S	**Sn**	**09 04 16.2**	**-3.0**
CRPR	**Cabo Rojo, PR**	**1.84**	**95**	*i* P		09 03 54.5	
AGPR	**Aguadilla, PR**	**1.85**	**81**		**Pn**	**09 03 53.9**	**-0.2**
AGPR					**Sn**	**09 04 18.9**	**-0.5**
AGPR				IAML		09 04 37.4	
	comp=E,80nm,2.6s						
AGPR				IAML		09 05 20.1	
	comp=N,101nm,2.4s						
AGPR	**Aguadilla, PR**	**1.85**	**81**	⇑*e*P	**Pn**	**09 03 55.4**	**+1.3**
AGPR	**Aguadilla, PR**	**1.85**	**81**	*e*S	**Sn**	**09 04 20.0**	**+0.6**
SC01	**Santiago de lo**	**2.03**	**308**	Pn	**Pn**	**09 03 56.2**	**0.0**
SC01					**Sn**	**09 04 23.2**	**0.0**
SC01				IAML		09 05 23.3	
	comp=E,60nm,3.8s						
SC01				IAML		09 05 31.5	
	comp=N,71nm,2.5s						
SC01	**Santiago de lo**	**2.03**	**308**	*e*S	**Sn**	**09 04 22.9**	**-0.2**
AOPR	**Arecibo Observ**	**2.18**	**85**		**Pn**	**09 03 57.4**	**-0.6**
AOPR					**Sn**	**09 04 25.4**	**-0.9**
AOPR				IAML		09 04 29.4	
	comp=N,71nm,0.5s						
AOPR				IAML		09 04 30.7	
	comp=E,89nm,0.5s						
AOPR	**Arecibo Observ**	**2.18**	**85**	⇑*e*P	**Pn**	**09 03 59.2**	**+1.2**
AOPR	**Arecibo Observ**	**2.18**	**85**	*e*S	**Sn**	**09 04 25.9**	**-0.4**
UPUR	**Utuado, UPR, P**	**2.20**	**88**		**Pn**	**09 03 57.2**	**-1.1**
UUPR					**Sn**	**09 04 27.2**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.20**	**88**	⇑*e*P	**Pn**	**09 04 00.7**	**+2.4**
UUPR	**Utuado, UPR, P**	**2.20**	**88**	*e*S	**Sn**	**09 04 27.8**	**+0.9**
LOVI	**El Cajuil, Ovi**	**2.25**	**261**	*i* P		09 04 01.9	
LOVI				*e*S		09 04 29.8	
LOVI				IAML		09 04 35.6	
	comp=Z,105nm,1.2s						
LONE3	**El Aguacate, B**	**2.34**	**281**	*i* P		09 04 02.8	
LONE3				*e*S		09 04 32.5	
CELP	**Cerrillos**	**2.34**	**92**		**Pn**	**09 03 59.9**	**-0.1**
CELP					**Sn**	**09 04 29.2**	**-0.6**
CELP	**Cerrillos**	**2.34**	**92**	⇑*e*P	**Pn**	**09 04 01.0**	**+1.0**
CELP	**Cerrillos**	**2.34**	**92**	*e*S	**Sn**	**09 04 29.5**	**-0.3**

*BER **19** 09:09:24.1±4.0, 82°.50N×5°.87W, h11km±44km, mb(Pn)3.8, Confirmed Earthquake*
ISC 19 09:09:22.1±1.9, 82°.3N±0°.2×5°.76W±0°.05, h10km, n11, σ2°29/19, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.68**	**252**	*e*P	**Pb**	**09 09 52.5**	**-0.4**
NOR				*e*S	**Sn**	**09 10 13.1**	**+0.2**
NOR	**Nord**	**1.68**	**252**	*i* P	**Pb**	**09 09 52.0**	**-0.9**
NOR				*i* S	**Sn**	**09 10 11.4**	**-1.5**
NOR				IAML		09 10 17.2	
	comp=Z,2.5nm,0.3s						
KBS	**Kingsbay**	**4.40**	**130**	*e*P	**Pn**	**09 10 30.8**	**+1.9**
KBS				*e*S	**Sn**	**09 10 18.4**	**-1.6**
KBS				IAML		09 11 33.8	
	comp=Z,4.1nm,0.8s						
BRBB	**Barentsburg B**	**5.35**	**131**	*e*P	**Pn**	**09 10 44.6**	**+2.8**
BRBB				*e*S	**Sn**	**09 11 40.8**	**-2.6**
BRBA	**Barentsburg A**	**5.38**	**131**	*e*P	**Pn**	**09 10 44.8**	**+2.6**
BRBA				*e*S	**Sn**	**09 11 46.4**	**+2.3**
BRBA				IAML		09 11 54.8	
	comp=Z,28nm,0.1s						
SPA0	**Spitsbergen Ar**	**5.51**	**126**	*e*P	**Pn**	**09 10 45.9**	**+1.9**
SPA0				IAML		09 11 50.3	
	comp=Z,2.9nm,0.7s						
DAG	**Danmarks Havn**	**5.97**	**210**	*e*P	**Pn**	**09 10 54.0**	**+3.7**
DAG				*e*S	**Sn**	**09 11 58.4**	**-0.1**
DAG	**Danmarks Havn**	**5.97**	**210**	*i* P	**Pn**	**09 10 53.0**	**+2.7**
DAG				*i* S	**Sn**	**09 11 55.8**	**-2.8**
DAG				IAML		09 12 03.0	
	comp=Z,0.5nm,0.1s						
HSPB	**Hornsund (broa**	**6.46**	**133**	*e*P	**Pn**	**09 10 59.3**	**+2.3**
HSPB				IAML		09 11 00.7	
	comp=Z,2.6nm,0.8s						
HOPEN	**Hopen**	**7.93**	**119**	*e*P	**Pn**	**09 11 15.5**	**-1.7**
HOPEN				*e*S	**Sn**	**09 12 44.0**	**-2.8**
DBG	**Daneborg**	**8.46**	**208**	*i* P	**Pn**	**09 11 24.4**	**-0.1**
DBG				*i* S	Sn	09 12 54.0	-5.8
DBG				IAML		09 13 02.3	
	comp=Z,1.0nm,0.4s						

*ASRS **19** 09:15:00.0±1.1, 53°.66N×87°.93E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 09:15:03.5±3.2, 53°.61N×87°.97E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=28.1km s-min=18.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**281**	I	I	09 29 35.0	
	0.2nm,1.1s,baz=95,slow=322,SNR=20						
ZALV	**Zalesovo Beam**	**1.90**	**281**	Pn	Pn	09 15 37.3	+0.2
	1.0nm,0.3s,baz=100,slow=15,SNR=20						
ZALV				Lg	Lg	09 16 03.6	
	1.3nm,0.3s,baz=100,slow=24,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn	Pn	09 16 41.2	+0.4
	baz=64,slow=14,SNR=2.3						
KURBB				Lg	Lg	09 18 30.1	
	baz=64,slow=32 0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	09 16 58.8	+1.5
	baz=31,slow=14,SNR=1.3						
MKAR				Lg	Lg	09 19 06.8	
	0.1nm,0.3s,baz=22,slow=30,SNR=3.9 0.1nm,0.2s						

*NEIC **19** 09:21:35.9±1.0, 19°.07N±0°.05×155°.45W±0°.05, h57km±2km, Error ellipse: s-maj=8.4km s-min=4.5km az=143.0*
HVO 19 09:21:38.6±1.1, 19°.10N±0°.03×155°.42W±0°.04, h41km±4km, Md2.4/16, ML2.7/32(NEIC), Error ellipse: s-maj=5.8km s-min=3.3km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**10**		Pn	09 21 45.0	-0.5
HLP	**Hilina Pali**	**0.22**	**29**	Pn	Pn	09 21 46.1	-0.1
KHU	**Kahuku**	**0.23**	**308**		Pn	09 21 45.8	-0.7
KHU					Sn	09 21 50.7	-1.3
KHU				IAML		09 21 52.5	
	comp=E,848nm,0.9s						
KHU				IAML		09 21 59.5	
	comp=N,565nm,1.2s						
SDHHI	**Sand Hill**	**0.31**	**23**		Pn	09 21 46.2	-0.9
RIM	**Rim**	**0.32**	**26**		Pn	09 21 46.3	-1.0
WRMHI	**West Rim**	**0.32**	**21**		Pn	09 21 46.2	-1.1
PUH	**Pauahi**	**0.33**	**36**		Pn	09 21 46.4	-1.0
PUH				IAML		09 21 59.3	
	comp=N,529nm,0.9s						
UWE	**Uwekahuna**	**0.34**	**21**		Pn	09 21 45.6	-1.9
UWB	**Uwekahuna Bluf**	**0.35**	**23**		Pn	09 21 46.3	-1.3
HATHI	**Halema'uma'u T**	**0.35**	**25**		Pn	09 21 47.3	-0.4
HATHI				IAML		09 21 55.1	
	comp=N,747nm,0.8s						
HATHI				IAML		09 21 55.6	
	comp=E,583nm,1.7s						
SBLHI	**Steaming Bluff**	**0.35**	**24**		Pn	09 21 46.4	-1.3
KNHH	**Kane Nui o Ham**	**0.36**	**41**		Pn	09 21 46.5	-1.2
RSD	**Rainshed**	**0.38**	**21**	Pn	Pn	09 21 47.5	-0.5
RSD				IAML		09 21 55.3	
	comp=N,568nm,4.0s						
MLH	**Mauna Loa**	**0.39**	**5**		Pn	09 21 47.4	-0.8
MLH				IAML		09 21 54.5	
	comp=E,506nm,1.2s						
MLH				IAML		09 21 54.6	
	comp=N,743nm,0.5s						
STCH	**Steam Cracks**	**0.40**	**45**		Pn	09 21 46.8	-1.3
NPOC	**North of Pu'u**	**0.41**	**46**		Pn	09 21 47.3	-1.0
MWH	**Mokuaweoweo**	**0.41**	**336**	Pn	Pn	09 21 48.0	-0.7
MWH				IAML		09 22 07.9	
	comp=N,545nm,0.8s						
JOKA	**Jonika Flow**	**0.51**	**50**		Pn	09 21 47.5	-2.0
JOKA				IAML		09 22 02.5	
	comp=N,489nm,1.2s						
PAH	**Pahoa**	**0.59**	**49**	Pn	Pn	09 21 49.8	-0.8
HUH	**Hualalai**	**0.70**	**326**	Pn	Pn	09 21 50.5	-1.8
HUH				IAML		09 22 09.5	
	comp=N,429nm,0.9s						

*ASRS **19** 09:28:25.0±1.0, 53°.61N×87°.97E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 19 09:28:28.8±3.1, 53°.62N×87°.91E, h0km, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=27.1km s-min=18.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	I	I	09 42 58.5	
	0.1nm,0.9s,baz=94,slow=328,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pn	Pn	09 29 01.9	-0.1
	0.7nm,0.3s,baz=98,slow=17,SNR=7.7						
ZALV				Lg	Lg	09 29 27.8	
	1.1nm,0.3s,baz=103,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	Pn	09 30 06.2	+0.5
	baz=64,slow=14,SNR=3.6						
KURBB				Lg	Lg	09 31 54.8	
	0.1nm,0.3s,baz=62,slow=30,SNR=4.1 0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	09 30 23.9	+1.5
	baz=27,slow=14,SNR=1.6						
MKAR				Lg	Lg	09 32 31.3	
	baz=26,slow=28,SNR=2.6 0.1nm,0.3s			

comp=Z,209nm,20.4s,baz=278,slow=30
OTAV Otavalo 31.64 75 P **P 09 56 52.7 +0.8**
ZAIG Zacatecas 32.11 11 P **P 09 56 55.7 +0.1**
LPIG La Paz 32.87 358 LR LR 10 06 58.6
comp=Z,188nm,21.6s,baz=186,slow=30
FLOC Florencia 34.72 74 P **P 09 57 18.9 +0.7**
FLOC IAmb IAmb 09 57 20.9
comp=Z,12nm,1.2s
H03N2 Juan Fernandez 36.82 136 T T 10 36 30.8
baz=308,slow=77,SNR=150
H03N1 Juan Fernandez 36.83 136 T T 10 36 32.1
baz=308,slow=77,SNR=207
H03N3 Juan Fernandez 36.83 136 T T 10 36 34.9
baz=308,slow=77,SNR=176
833A Chaparral WMA, 38.16 14 P **P 09 57 48.1 +0.8**
833A IAmb IAmb 09 57 50.2
comp=Z,13nm,1.1s
TXAR Lajitas Array 38.38 7 P **P 09 57 50.4 +1.1**
TXAR Lajitas Array 38.38 7 P **P 09 57 50.1 +0.8**
comp=Z,1.4nm,1.0s,baz=185,slow=11,SNR=6.1
TXAR PcP **PcP 10 00 03.3 +0.4**
comp=Z,0.4nm,0.8s,baz=172,slow=3.2,SNR=2.7
TXAR LR LR 10 10 39.5
comp=Z,58nm,22.0s,baz=180,slow=32
comp=Z,1.4nm,1.0s
TX31 Lajitas Ar. Si 38.38 7 P **P 09 57 50.6 +1.3**
RUSC La Rusia 38.60 69 P **P 09 57 53.0 +1.2**
RUSC IAmb IAmb 09 57 53.8
comp=Z,24nm,1.3s
TBTG Tabatinga, AM 38.98 86 P **P 09 57 54.5 0.0**
TBTG IAmb IAmb 09 58 15.6
comp=Z,9.1nm,0.9s
TA01 Diego Aracena 39.06 112 P **P 09 57 55.7 +0.6**
TA01 IAmb IAmb 09 57 57.5
comp=Z,26nm,1.4s
SAND Sanderson 39.21 9 P **P 09 57 56.6 +0.4**
PB01 IPOC Station P 39.79 112 P **P 09 58 01.0 -0.3**
PB01 IAmb IAmb 09 58 08.9
comp=Z,10nm,0.9s
PB14 IPOC Station P 39.83 118 P **P 09 58 01.9 +0.1**
LPAZ La Paz 40.37 105 P **P 09 58 07.3 +0.6**
LPAZ La Paz 40.37 105 P **P 09 58 07.3 +0.6**
comp=Z,3.1nm,0.9s,baz=275,slow=4.5,SNR=8.8
LPAZ LR LR 10 11 02.9
comp=Z,156nm,20.3s,baz=267,slow=31
comp=Z,3.1nm,0.9s
PPT2 Papeete2 40.46 253 *e*LR LR 10 09 11.5
comp=Z,231nm,26.5s
PPT2 *e*LR LR 10 09 20.3
comp=Z,151nm,26.0s
GO02 Mina Guanaco 40.69 118 P **P 09 58 09.6 +0.6**
GO02 IAmb IAmb 09 58 16.3
comp=Z,12nm,0.8s
BRDY Brady 41.10 13 P **P 09 58 12.4 +0.6**
BRDY IAmb IAmb 09 58 13.1
comp=Z,13nm,0.8s
121A Cookes Peak, D 41.25 1 P **P 09 58 13.3 +0.1**
SGCY Sterling City 41.29 10 P **P 09 58 14.0 +0.6**
SGCY IAmb IAmb 09 58 15.1
comp=Z,9.7nm,0.9s
TBI Tubuai 41.37 245 *e*LR LR 10 09 38.1
comp=Z,401nm,25.2s
AC02 Maricunga 41.57 121 P **P 09 58 17.3 +0.8**
SDV Santo Domingo 42.00 66 LR LR 10 11 27.4
comp=Z,49nm,21.8s,baz=250,slow=30
PEL Peldehue 42.65 130 P **P 09 58 24.8 +0.2**
PEL IAmb IAmb 09 58 27.6
comp=Z,17nm,1.0s
PLPT Palo Pinto 42.72 13 P **P 09 58 25.2 +0.1**
PLPT IAmb IAmb 09 58 26.4
comp=Z,15nm,1.1s
LENM Lemitar 42.91 2 P **P 09 58 27.2 +0.5**
PFO Pinyon Flats O 42.93 351 LR LR 10 12 14.6
comp=Z,79nm,20.4s,baz=162,slow=30
FW03 Perrin-Whitt E 43.00 13 P **P 09 58 28.1 +0.8**
FW03 IAmb IAmb 09 58 28.8
comp=Z,19nm,1.1s
MT13 San Alfonso 43.21 131 P **P 09 58 29.3 0.0**
BO02 Sierra Bellavi 43.31 132 P **P 09 58 30.1 +0.1**
BO02 IAmb IAmb 09 58 30.5
comp=Z,7.7nm,0.8s
LMEL Las Melosas 43.32 131 P **P 09 58 30.7 +0.5**
ANMO Albuquerque 43.71 3 LR LR 10 13 48.8
comp=Z,91nm,19.7s,baz=40,slow=32
BI02 San Fabin de 43.85 135 P **P 09 58 34.0 -0.3**
BI02 IAmb IAmb 09 58 50.4
comp=Z,8.7nm,0.9s
SMWD Samnorwood 44.56 10 P **P 09 58 40.5 +0.6**
SMWD IAmb IAmb 09 58 42.5
comp=Z,5.9nm,1.0s
Z41A Richland Creek 44.66 19 P **P 09 58 41.3 +0.6**
MIAR Mount Ida 45.61 18 P **P 09 58 48.6 +0.4**
MIAR IAmb IAmb 09 58 49.9
comp=Z,11nm,1.2s
MVCO Mesa Verde 45.91 0 P **P 09 58 51.4 +0.6**
MVCO IAmb IAmb 09 58 58.0
comp=Z,6.9nm,1.4s
PLCA Paso Flores 46.42 139 P **P 09 58 54.8 +0.1**
comp=Z,3.1nm,0.9s,baz=329,slow=7.8,SNR=5.0
PLCA LR LR 10 13 15.3
comp=Z,197nm,20.9s,baz=270,slow=30
comp=Z,3.1nm,0.9s
OK051 E0350 and S346 46.60 13 P **P 09 58 56.0 0.0**
WHAR Wooly Hollow 46.70 19 P **P 09 58 57.1 +0.3**
WHAR IAmb IAmb 09 58 58.0
comp=Z,7.9nm,0.8s
SIV San Ignacio 47.11 103 LR LR 10 16 28.0
comp=Z,63nm,20.7s,baz=124,slow=33
HBAR Harrisburg 47.48 20 P **P 09 59 02.9 +0.1**
LCAR Lake Charles 47.78 19 P **P 09 59 05.2 +0.1**
PLAL Pickwick Lake 47.91 23 P **P 09 59 05.3 -0.8**
NVAR Mina Array Bea 47.94 350 P **P 09 59 06.7 +0.1**
NVAR Mina Array Bea 47.94 350 P **P 09 59 06.5 -0.2**
comp=Z,1.7nm,1.0s,baz=182,slow=9.0,SNR=7.0
NVAR PcP **PcP 10 00 34.9 -0.1**
comp=Z,0.9nm,0.9s,baz=163,slow=3.1,SNR=3.6
NVAR LR LR 10 15 01.6
comp=Z,118nm,19.8s,baz=129,slow=31
comp=Z,1.7nm,1.0s
SPR3 Spring Creek 3 47.96 354 P **P 09 59 07.8 +0.9**
R32A Long Quarter, 48.06 11 P **P 09 59 08.0 +0.7**
CBKS Cedar Bluff 48.26 10 P **P 09 59 08.9 0.0**
MGMO Mountain Grove 48.42 18 P **P 09 59 10.3 +0.2**
PBMO Poplar Bluff 48.66 20 P **P 09 59 12.2 +0.2**
PTLB Pontes e Lacer 48.96 103 P **P 09 59 14.1 -0.5**
PTLB IAmb IAmb 09 59 14.8
comp=Z,8.7nm,1.2s
CCM Cathedral Cave 49.57 18 P **P 09 59 18.6 -0.3**
SIUC Southern Illin 49.92 20 P **P 09 59 21.0 -0.6**
SIUC IAmb IAmb 09 59 22.1
comp=Z,11nm,0.9s
SJG San Juan 50.02 57 LR LR 10 17 22.1
comp=Z,35nm,21.1s,baz=253,slow=32
TKL Tuckaleechee C 50.28 27 LR LR 10 19 01.7
comp=Z,31nm,19.0s,baz=192,slow=34
PDAR Pinedale Array 51.46 359 P **P 09 59 33.1 -0.3**
comp=Z,0.6nm,0.6s,baz=192,slow=5.5,SNR=7.4
PDAR LR LR 10 18 37.3
comp=Z,57nm,18.9s,baz=170,slow=33
comp=Z,0.6nm,0.6s
CPUP Villa Florida 51.72 116 P **P 09 59 35.2 -0.3**
comp=Z,0.9nm,0.3s,baz=268,slow=12,SNR=4.5
CPUP LR LR 10 17 14.3
comp=Z,153nm,21.6s,baz=280,slow=31
comp=Z,0.9nm,0.3s
YBH Yreka Blue Hor 52.00 347 LR LR 10 16 44.5
comp=Z,105nm,19.6s,baz=171,slow=30
LOHW Long Hollow 52.33 358 P **P 09 59 40.0 +0.2**
FXWY Fox Creek 52.36 358 P **P 09 59 40.1 0.0**
MFID Camas Ranch 52.49 354 P **P 09 59 41.5 +0.6**
MFID IAmb IAmb 09 59 44.9
comp=Z,5.8nm,0.9s
HLID Hailey 52.49 355 P **P 09 59 41.6 +0.6**
FLWY Flagg Ranch 52.80 358 P **P 09 59 44.1 +0.8**
FLWY IAmb IAmb 09 59 45.0
comp=Z,7.7nm,1.1s
MCMT McKenzie Canyo 53.64 356 P **P 09 59 50.7 +1.1**
I07A Izee 53.64 350 P **P 09 59 49.9 +0.5**
G08A Pilot Rock 54.74 351 P **P 09 59 57.5 +0.1**
G08A IAmb IAmb 10 00 01.6
comp=Z,5.7nm,1.2s
NEW Newport 57.42 353 LR LR 10 20 30.0
comp=Z,88nm,20.5s,baz=182,slow=31
MDP Montagnes des 57.77 78 LR LR 10 22 26.3
comp=Z,60nm,18.3s,baz=336,slow=33
BDFB Brasilia 59.68 103 P **P 10 00 32.0 -0.9**
comp=Z,2.4nm,0.6s,baz=257,slow=3.0,SNR=3.1
BDFB LR LR 10 24 05.5
comp=Z,102nm,18.0s,baz=316,slow=34
comp=Z,2.4nm,0.6s
SADO Sadowa 59.82 24 P **P 10 00 31.9 -1.3**
comp=Z,4.9nm,0.8s,baz=208,slow=6.0,SNR=5.3
SADO LR LR 10 25 44.1
comp=Z,37nm,19.6s,baz=238,slow=35
comp=Z,4.9nm,0.8s
ULM Lac du Bonnet 60.02 10 P **P 10 00 33.8 -0.6**
ULM IAmb IAmb 10 00 34.4
comp=Z,5.6nm,0.8s
ULM Lac du Bonnet 60.02 10 P **P 10 00 33.5 -0.9**
comp=Z,3.6nm,0.6s,baz=204,slow=6.5,SNR=9.9
comp=Z,3.6nm,0.6s
BBB Bella Bella 63.08 347 LR LR 10 23 02.1
comp=Z,35nm,20.0s,baz=202,slow=31
FCC Fort Churchill 68.53 8 P **P 10 01 29.8 -0.2**
FCC IAmb IAmb 10 01 30.0
comp=Z,5.2nm,0.7s
YKA Yellowknife Ar 71.36 357 P **P 10 01 46.6 -0.7**
comp=Z,1.1nm,1.0s,baz=172,slow=6.2,SNR=10.0
YKA LR LR 10 28 52.2
comp=Z,28nm,21.0s,baz=240,slow=32
comp=Z,1.1nm,1.0s
RCBR Riachuelo 72.34 93 LR LR 10 31 09.5
comp=Z,28nm,21.4s,baz=261,slow=34
KDAK Kodiak Island 75.39 338 LR LR 10 27 29.1
comp=Z,101nm,19.7s,baz=356,slow=30
FRB Frobisher Bay 78.66 17 LR LR 10 35 35.7
comp=Z,68nm,20.5s,baz=352,slow=34
ILAR Eielson Array 78.81 344 P **P 10 02 30.1 -0.2**
comp=Z,0.6nm,0.8s,baz=129,slow=6.8,SNR=9.8
ILAR LR LR 10 30 46.1
comp=Z,55nm,18.0s,baz=172,slow=31
comp=Z,0.6nm,0.8s
WRH Wood River Hil 78.90 344 P **P 10 02 31.2 +0.4**
WRH IAmb IAmb 10 02 31.9
comp=Z,6.3nm,0.9s
INK Inuvik 79.02 351 P **P 10 02 31.9 +0.5**
INK IAmb IAmb 10 02 38.2
comp=Z,10.0nm,1.5s
INK Inuvik 79.02 351 LR LR 10 34 41.8
comp=Z,61nm,18.2s,baz=243,slow=34
F28M Old Crow 79.53 348 P **P 10 02 34.3 +0.1**
F26K Sheenjek River 80.49 347 P **P 10 02 40.1 +0.6**
F26K IAmb IAmb 10 02 56.8
comp=Z,13nm,1.5s
QSPA South Pole Qui 81.14 180 P **P 10 02 44.0 +0.8**
QSPA IAmb IAmb 10 02 45.3
comp=Z,14nm,1.3s
QSPA South Pole Qui 81.14 180 P **P 10 02 43.9 +0.6**
comp=Z,5.8nm,0.9s,baz=118,slow=1.5,SNR=18
QSPA LR LR 10 31 35.4
comp=Z,98nm,18.9s,baz=116,slow=30
comp=Z,5.8nm,0.9s
A36M Sachs Harbour 81.48 355 P **P 10 02 44.9 +0.3**
A36M IAmb IAmb 10 02 45.6
comp=Z,6.8nm,1.1s
COLD Coldfoot 81.57 345 P **P 10 02 45.7 +0.5**
COLD IAmb IAmb 10 03 03.0
comp=Z,8.7nm,1.4s
C27K Jago River 81.99 348 P **P 10 02 48.2 +0.8**
C24K Franklin Bluff 83.11 347 P **P 10 02 53.9 +0.7**
C24K IAmb IAmb 10 03 06.1
comp=Z,8.4nm,1.1s
G16K Koyuk River 83.92 340 P **P 10 02 58.1 +0.7**
G16K IAmb IAmb 10 02 59.2
comp=Z,3.4nm,0.8s
RES Resolute Bay 83.92 4 LR LR 10 38 10.3
comp=Z,79nm,19.7s,baz=2.0,slow=34
F17K Baldwin Pennin 84.20 341 P **P 10 03 00.0 +1.2**
B21K Ikpikpuk River 84.44 345 P **P 10 03 01.1 +1.1**
B21K IAmb IAmb 10 03 12.9
comp=Z,7.1nm,1.1s
D19K Kuna River 84.59 344 P **P 10 03 01.4 +0.6**
E18K Tukpahlearik C 84.61 342 P **P 10 03 01.6 +0.7**
C18K Utukok River 85.55 343 P **P 10 03 05.2 -0.6**
C18K IAmb IAmb 10 03 07.8
comp=Z,6.7nm,1.3s
H11S2 WAKE ISLAND Hy 87.56 289 T T 11 40 09.2
baz=100,slow=75,SNR=193
H11S1 WAKE ISLAND Hy 87.57 289 T T 11 40 04.4
baz=100,slow=75,SNR=167
H11S3 WAKE ISLAND Hy 87.58 289 T T 11 40 05.0
baz=100,slow=75,SNR=172
H11N3 WAKE ISLAND Hy 87.59 290 T T 11 40 06.6
baz=101,slow=75,SNR=27
H11N2 WAKE ISLAND Hy 87.61 290 T T 11 40 06.9
baz=101,slow=75,SNR=28
H11N1 WAKE ISLAND Hy 87.61 290 T T 11 40 08.8
baz=101,slow=75,SNR=13
SHEM Shemya Is, Ala 89.29 324 LR LR 10 34 03.8
comp=Z,74nm,21.8s,baz=110,slow=29
PETK Petropavlovsk- 99.14 322 LR LR 10 39 39.4
comp=Z,58nm,20.5s,baz=99,slow=30
SONM Songino Array 131.11 329 PKP **PKPdf 10 09 39.5 -0.6**
comp=Z,0.8nm,0.7s,baz=51,slow=1.5,SNR=4.4
ZALV Zalesovo Beam 133.78 349 PKP **PKPdf 10 09 43.9 -0.9**
comp=Z,0.5nm,0.4s,baz=29,slow=3.3,SNR=2.5
BVAR Borovoye Array 136.04 1 PKP **PKPdf 10 09 48.3 -0.8**
comp=Z,1.8nm,1.0s,baz=68,slow=0.8,SNR=3.7
KURBB Kurchatov Arra 138.00 353 PKP **PKPdf 10 09 51.9 -0.8**
comp=Z,0.4nm,0.6s,baz=347,slow=2.2,SNR=4.3
CMAR Chiang Mai Arr 151.40 292 PKPbc **PKPbc 10 10 22.8 +0.1**
comp=Z,3.7nm,0.7s,baz=70,slow=2.6,SNR=4.8

*IDC **19** 09:51:34.5±1.9, 10°.77S×122°.15E, h0km, mb3.5/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=148.1km s-min=27.9km az=57.0*
*DJA **19** 09:51:43.9±1.1, 11°.S±7°×12°.2E±°, h27km±12km, M4.0/9, mB5.1/2, mb4.5/3, MLv3.8/9, Mw(mB)4.5/2*
ISC 19 09:51:37.2±0.7, 11°.08S±0°.06×122°.16E±0°.04, h10km, n12, σ1§86/20, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.71**	**60**	P	**Pg**	**09 52 11.5**	**+1.4**
BATI				S	**Sg**	**09 52 33.5**	**+1.1**
BASI	**Baing, Sumba**	**1.78**	**299**	P	**Pb**	**09 52 10.1**	**+0.2**
BASI				S	**Sn**	**09 52 31.0**	**+0.4**
WSI	**Waingapu**	**2.31**	**307**	P	**Pn**	**09 52 17.1**	**+1.8**
WSI				S	**Sn**	**09 52 42.9**	**-0.9**
MMRI	**Maumere**	**2.43**	**2**	P	**Pn**	**09 52 18.3**	**+1.3**
MMRI				S	**Sn**	**09 52 44.4**	**-2.5**
SOEI	**Soe**	**2.46**	**58**	P	**Pb**	**09 52 21.9**	**+0.4**
SOEI				S	**Sb**	**09 52 51.3**	**-0.6**
WBSI	**Waikabubak, Su**	**3.08**	**297**	P	**Pn**	**09 52 27.2**	**+1.3**
PLAI	**Plampang**	**4.87**	**297**	P	**Pn**	**09 52 52.0**	**+1.5**
TWSI	**Taliwang, Sumb**	**5.70**	**294**	P	**Pn**	**09 53 02.7**	**+0.8**
	0.2nm1μm49nm,0.7s						
TWSI				S	**Sn**	**09 54 05.5**	**-2.0**
	0.2nm1μm49nm,0.7s						
FITZ	**Fitzroy Crossi**	**7.75**	**155**	Pn	**Pn**	**09 53 32.5**	**+2.5**
	0.2nm,0.3s,baz=331,slow=11,SNR=8.4						
FITZ				Sn	**Sn**	**09 54 57.9**	**0.0**
	1.0nm,0.3s,baz=223,slow=21,SNR=8.9						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**14.67**	**128**	Pn	**Pn**	**09 55 04.6**	**-0.3**
	0.3nm,0.3s,baz=302,slow=14,SNR=16						
WRA				Sn	Sn	09 57 37.1	-11
	0.4nm,0.3s,baz=262,slow=22,SNR=7.5						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**16.78**	**140**	P	**P**	**09 55 35.4**	**+0.7**
	0.2nm,0.3s,baz=320,slow=12,SNR=12						
ASAR				S	**Sn**	**09 58 34.6**	**-4.6**
	0.7nm,0.5s,baz=310,slow=21,SNR=5.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**67.74**	**332**	P	**P**	**10 02 32.2**	**-2.7**
	0.3nm,0.5s,baz=149,slow=7.4,SNR=4.1						
	0.3nm,0.5s						

*GCG **19** 09:51:50.8±1.7, 14°.07N×93°.30W, h11km±32km, MD4.6, Hypocentre not reviewed by the ISC*
*IDC **19** 09:51:52.5±3.7, 14°.41N×93°.22W, h0km, mb3.4/2, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=67.2km s-min=23.8km az=15.0*
*MEX **19** 09:51:55.4±1.1, 14°.36N×93°.23W, h5km±31km, MD4.0*
ISC 19 09:51:51.7±2.0, 14°.31N±0°.08×93°.23W±0°.04, h5km±12km, n24, σ2§13/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.11**	**57**	*e*P	**Pg**	**09 52 13.4**	**+0.5**
THIG				*e*S	**Sg**	**09 52 26.8**	**-0.5**
THIG		**1.11**	**57**	*e*P		09 52 13.3	
SMCA	**Catarina**	**1.24**	**64**	*e*P		09 52 15.2	
PATR	**El Naranjo**	**1.25**	**50**	*e*P	**Pb**	**09 52 15.0**	**-1.0**
PATR				*e*S	**Sb**	**09 52 30.0**	**-2.6**
CHUJ	**Union Juarez**	**1.34**	**54**	*e*P	**Pn**	**09 52 16.5**	**-0.7**
CHUJ				*e*S	**Sb**	**09 52 33.7**	**-1.2**
PAVE	**Pavencul**	**1.35**	**49**	*e*P	**Pn**	**09 52 16.5**	**-0.8**
PAVE				*e*S	**Sb**	**09 52 29.8**	**-5.3**
RTAL	**Retalhuleu**	**1.50**	**82**	*e*P	**Pn**	**09 52 19.1**	**-0.1**
RTAL				*e*S	**Sn**	**09 52 37.5**	**-1.7**
SOKI	**Kika Raxquin**	**1.84**	**74**	*e*P		09 52 24.7	
HUEH	**Huehuetenango**	**1.95**	**59**	*e*P	**Pn**	**09 52 27.1**	**+1.5**
HUEH				*e*S	**Sn**	**09 52 49.1**	**-1.5**
HUEH	**Huehuetenango**	**1.95**	**59**	*i*P		09 52 27.1	
CARR	**Arriaga**	**2.04**	**341**	*i*P	**Pn**	**09 52 27.2**	**+0.6**
CARR				*i*S	**Sn**	**09 52 52.3**	**-0.2**
CCIG	**Comitan**	**2.23**	**28**	*e*P	**Pn**	**09 52 32.3**	**+2.9**
CCIG				*e*S	**Sb**	**09 53 01.6**	**+1.1**
CCIG	**Comitan**	**2.23**	**28**	*e*P		09 52 32.3	
CCIG				*e*S		09 53 02.8	
QUIS	**Sacapulas**	**2.29**	**64**	*i*P		09 52 32.1	
TGIG		**2.46**	**2**	*e*P	**Pn**	**09 52 34.3**	**+1.8**
TGIG				*e*S	**Sn**	**09 53 01.4**	**-1.5**
TGIG		**2.46**	**2**	*e*P		09 52 33.9	
TGIG				*e*S		09 53 05.0	
NILT	**Santiago Nilte**	**2.61**	**329**	*e*P	**Pn**	**09 52 36.1**	**+1.5**
NILT				*e*S	**Sn**	**09 53 06.3**	**-0.4**
APG	**El Apazote**	**2.76**	**75**	Pn	**Pn**	**09 52 37.6**	**+0.8**
	1.1nm,0.3s,baz=199,slow=14,SNR=21						
APG				Sn	**Sn**	**09 53 14.3**	**+3.6**
	0.9nm,0.3s,baz=239,slow=23,SNR=5.4						
	2.2nm,0.3s						
APG	**El Apazote**	**2.76**	**75**	*i*P		09 52 37.8	
UXUV	**UXUV**	**3.12**	**344**	*e*P	**Pn**	**09 52 43.7**	**+2.2**
UXUV				*e*S	**Sn**	**09 53 20.8**	**+1.6**
HUIG	**Huatulco**	**3.14**	**298**	*e*P	**Pn**	**09 52 40.5**	**-1.3**
HUIG				*e*S	Sn	09 53 10.5	-9.2
HUIG	**Huatulco**	**3.14**	**298**	*i*P		09 52 40.5	
CMIG	**Matias Romero**	**3.19**	**330**	Pn	**Pn**	**09 52 43.0**	**+0.5**
	9.9nm,0.3s,baz=152,slow=12,SNR=178						
CMIG				Sn	**Sn**	**09 53 21.8**	**+0.7**
	10nm,0.3s,baz=112,slow=19,SNR=10						
	19nm,0.3s						
CMIG	**Matias Romero**	**3.19**	**330**	*e*P	**Pn**	**09 52 43.0**	**+0.5**
CMIG				*e*S	**Sn**	**09 53 23.0**	**+2.0**
NUBE	**Las Nubes**	**3.37**	**96**	*e*P		09 52 45.1	
JAYA	**Jayaque - finc**	**3.73**	**100**	*i*P		09 52 49.6	
PEIG	**Puerto Escondi**	**4.14**	**294**	*e*P	**Pn**	**09 52 54.9**	**-0.7**
PEIG				*e*S	Sn	09 53 36.8	-7.6
PETF	**Flores**	**4.15**	**51**	*e*P	**Pn**	**09 52 57.5**	**+1.8**
PETF				*e*S	**Sn**	**09 53 43.9**	**-0.7**
PETF	**Flores**	**4.15**	**51**	*e*P		09 52 57.3	
NEUV	**Arroyo Zacate**	**4.19**	**324**	*e*P	**Pn**	**09 52 56.1**	**-0.2**
NEUV				*e*S	**Sn**	**09 53 43.1**	**-2.6**
JAUV	**Jalcomulco**	**6.08**	**326**	*e*P	**Pn**	**09 53 22.4**	**0.0**
JAUV				*e*S	**Sn**	**09 54 25.2**	**-7.2**
CXUV	**Coxquihui**	**7.17**	**325**	*e*P	**Pn**	**09 53 38.4**	**+1.2**
CXUV				*e*S	Sn	09 54 47.0	-12
TEIG	**Tepich**	**7.55**	**38**	Pn	**Pn**	**09 53 42.4**	**0.0**
	baz=219,slow=19,SNR=23						
TEIG				Sn	**Sn**	**09 55 05.8**	**-2.6**
	baz=141,slow=24,SNR=1.2						
TXAR	**Lajitas Array**	**17.80**	**329**	Pn	**P**	**09 56 03.5**	**+2.3**
	baz=143,slow=13,SNR=4.6						
	0.4nm,0.8s						
YKA	**Yellowknife Ar**	**50.46**	**347**	P	**P**	**10 00 50.2**	**+0.1**
	0.8nm,0.7s,baz=157,slow=7.6,SNR=19						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**62.09**	**337**	P	**P**	**10 02 15.0**	**+1.8**
	0.2nm,0.8s,baz=133,slow=6.6,SNR=4.7						
	0.2nm,0.8s						

*IDC **19** 09:59:52.5±2.4, 64°.58N×31°.42E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=31.2km s-min=9.7km az=107.0*
*KOLA **19** 09:59:54.1, 64°.61N×30°.45E, h0km, ML2.1, Error ellipse: s-maj=24.5km s-min=16.7km az=150.0, Karelia*
ISC 19 09:59:54.7±1.6, 64°.77N±0°.10×30°.1E±0°.1, h0km, n10, σ1§58/16, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**3.09**	**21**	P	**Pn**	**10 00 44.7**	**+0.1**
APA0				S	**Sn**	**10 01 21.5**	**-0.6**
APA	**Apatity**	**3.12**	**24**	S	**Sn**	**10 01 22.7**	**-0.3**
FINES	**FINESS Array B**	**3.80**	**210**	Pn	**Pn**	**10 00 54.1**	**-0.2**
	0.2nm,0.3s,baz=34,slow=14,SNR=7.6						
FINES				Lg	Lg	10 01 54.6	
	1.8nm,0.3s,baz=35,slow=27,SNR=11						
	3.0nm,1.0s						
TERR	**Teriberka**	**4.87**	**22**	S	**Sn**	**10 02 05.4**	**-0.7**
PRVG	**Vayda Guba**	**5.07**	**8**	P	**Pn**	**10 01 12.8**	**+1.0**
PRVG				S	**Sn**	**10 02 10.0**	**-1.0**
ARCES	**ARCESS Array B**	**5.11**	**342**	Pn	**Pn**	**10 01 12.6**	**+0.2**
	baz=155,slow=14,SNR=15						
ARCES				Sn	**Sn**	**10 02 12.4**	**+0.4**
	0.1nm,0.3s,baz=156,slow=22,SNR=1.3						
ARCES				Lg	Lg	10 02 37.6	
	0.4nm,0.3s,baz=153,slow=31,SNR=6.5						
	0.5nm,0.2s						
ARCES	**ARCESS Array B**	**5.11**	**342**	P	**Pn**	**10 01 13.2**	**+0.8**
ARCES				S	**Sn**	**10 02 12.2**	**+0.1**
VADS	**Vadso**	**5.39**	**357**	S	**Sn**	**10 02 20.2**	**+1.4**
HFS	**Hagfors**	**8.89**	**246**	Pn	**Pn**	**10 02 04.7**	**+0.6**
	0.3nm,0.3s,baz=52,slow=9.9,SNR=5.5						
HFS				Sn	**Sn**	**10 03 46.6**	**+1.7**
	0.1nm,0.3s,baz=51,slow=30,SNR=1.7						
HFS				Lg	Lg	10 04 37.7	
	0.2nm,0.3s,baz=43,slow=32,SNR=2.2						
	2.3nm,1.0s						
NOA	**NORSAR Array B**	**9.37**	**255**	Pn	**Pn**	**10 02 12.4**	**+1.5**
	baz=57,slow=14,SNR=5.9						
NOA				Sn	**Sn**	**10 03 52.2**	**-4.6**
	baz=50,slow=17,SNR=1.6						
	0.4nm,0.7s						

*CATAC **19** 10:08:11.5±0.9, 12°N±6°×8°8W±°, h13km±6km, M3.7/24, MLv3.7/24, Error ellipse: s-maj=14.5km s-min=4.7km az=26.1, rejected*
*SNET **19** 10:08:13.7±1.1, 12°.26N×87°.79W, h21km±7km, ML3.4*
ISC 19 10:08:06.1±1.7, 11°.91N±0°.07×87°.96W±0°.04, h18km±5km, n67, σ1§03/71, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACN	**Al O del Volca**	**1.29**	**63**	S	**Sn**	**10 08 42.8**	**-3.1**
PACN	**Al O del Volca**	**1.29**	**63**	P	**Pb**	**10 08 30.9**	**+1.1**
PACN	**Al O del Volca**	**1.29**	**63**	P	**Pb**	**10 08 30.9**	**+1.1**
ROCN	**Rota Cerro Neg**	**1.34**	**63**	P	**Pn**	**10 08 29.8**	**0.0**
ROCN	**Rota Cerro Neg**	**1.34**	**63**	P	**Pn**	**10 08 27.7**	**-2.2**
PLRN	**Geotermica Pol**	**1.35**	**60**	P	**Pn**	**10 08 30.4**	**+0.4**
PLRN	**Geotermica Pol**	**1.35**	**60**	P	**Pn**	**10 08 30.4**	**+0.4**
CNCH	**Conchagua**	**1.36**	**5**	*i*P	**Pg**	**10 08 32.4**	**0.0**
CNCH				*e*S	**Sn**	**10 08 46.6**	**-1.4**
CNCH	**Conchagua**	**1.36**	**5**	P	**Pg**	**10 08 32.4**	**0.0**
CNCH	**Conchagua**	**1.36**	**5**	P	**Pg**	**10 08 32.3**	**-0.2**
CNGA	**AI SSO del Vol**	**1.36**	**65**	P	**Pb**	**10 08 31.9**	**+0.8**
CNGA	**AI SSO del Vol**	**1.36**	**65**	P	**Pb**	**10 08 31.6**	**+0.5**
COPN	**Copaltepe**	**1.37**	**79**	P	**Pg**	**10 08 32.8**	**+0.3**
COPN	**Copaltepe**	**1.37**	**79**	P	**Pb**	**10 08 32.7**	**+1.5**
MACN	**El Madrono**	**1.38**	**66**	P	**Pb**	**10 08 32.2**	**+0.9**
MACN	**El Madrono**	**1.38**	**66**	P	**Pb**	**10 08 32.1**	**+0.8**
LCND	**La Caada**	**1.39**	**3**	*e*P	**Pg**	**10 08 32.8**	**-0.1**
LCND				IAML		10 08 33.8	
	comp=Z,1μm,0.2s						
LCND				*e*S	**Sn**	**10 08 47.0**	**-1.5**
LCND	**La Caada**	**1.39**	**3**	P	**Pg**	**10 08 32.9**	**-0.1**
ILCN	**San Idelfonso**	**1.40**	**62**	P	**Pn**	**10 08 31.8**	**+1.0**
ILCN	**San Idelfonso**	**1.40**	**62**	P	**Pn**	**10 08 31.7**	**+1.0**
MOMN	**Momotombo**	**1.48**	**70**	P	**Pb**	**10 08 33.7**	**+0.7**
MOMN	**Momotombo**	**1.48**	**70**	P	**Pb**	**10 08 33.4**	**+0.3**
ALJI	**Alcalda de J**	**1.53**	**337**	P	**Pg**	**10 08 36.4**	**+0.9**
LCY	**Lacayo**	**1.54**	**348**	*e*P	**Pg**	**10 08 35.8**	**+0.1**
BLLM	**Bellamira**	**1.54**	**350**	*e*P	**Pg**	**10 08 36.3**	**+0.4**
CNRM	**Centro Naciona**	**1.57**	**353**	*e*P	**P

PACA	Pacayal	1.59	347	P	Pg	10 08 36.9	+0.2
APQ2	Apoyeque	1.63	80	P	Pg	10 08 44.9	+7.5
APQ2	Apoyeque	1.63	80	P	Pb	10 08 36.3	+0.8
ABCN	Banco Central	1.63	82	P	Pb	10 08 36.9	+1.3
TISN	Laguna Tiscapa	1.67	82	P	Pb	10 08 37.4	+1.0
TISN	Laguna Tiscapa	1.67	82	P	Pb	10 08 37.1	+0.7
CHOHN	Orocuina	1.75	27	P	Pn	10 08 36.6	+1.0
CHOHN	Orocuina	1.75	27	P	Pn	10 08 36.5	+1.0
AERN	Aeropuerto Man	1.77	82	P	Pn	10 08 34.1	-1.7
PQSS	Presa 15 de Se	1.80	341	eP	Pg	10 08 40.2	-0.5
PQSS	Presa 15 de Se	1.80	341	P	Pg	10 08 40.2	-0.5
TECO	Alcaldia de Te	1.80	334	P	Pg	10 08 40.3	-0.5
UESV	Universidad de	1.89	335	P	Pg	10 08 41.9	-0.7
NADN	Granada	1.90	95	P	Pb	10 08 40.4	+0.2
COEG	Centro de Oper	1.92	332	eP	Pg	10 08 42.2	-0.8
COEG				eS	Sb	10 09 04.3	+0.1
COEG				IAML		10 09 08.9	
	comp=Z,382nm,0.2s						
COEG	Centro de Oper	1.92	332	P	Pg	10 08 42.2	-0.8
SCLA	Alcaldia de Sa	1.93	337	eP	Pg	10 08 42.7	-0.5
SCLA	Alcaldia de Sa	1.93	337	P	Pb	10 08 41.9	+1.1
SCLA	Alcaldia de Sa	1.93	337	P	Pg	10 08 42.6	-0.6
LFRS	El Faro	2.01	328	eP	Pg	10 08 44.1	-0.7
PAVA	Las Pavas	2.03	332	eP	Pg	10 08 44.5	-0.6
PAVA	Las Pavas	2.03	332	P	Pg	10 08 44.5	-0.6
LOMA	Loma Larga	2.09	326	eP	Pg	10 08 45.1	-1.1
PMON	Piamonte	2.22	324	eP	Pg	10 08 47.5	-1.3
PMON	Piamonte	2.22	324	P	Pg	10 08 47.5	-1.3
JAYA	Jayaque - finc	2.26	320	eP	Pb	10 08 48.1	+1.6
JAYA				eS	Sb	10 09 15.4	+1.3
JAYA	Jayaque - finc	2.26	320	P	Pg	10 08 48.3	-1.2
YUSH	Yuscaran	2.31	28	P	Pn	10 08 44.8	+1.5
YUSH	Yuscaran	2.31	28	P	Pn	10 08 44.5	+1.3
INTHN	La Esperanza I	2.39	357	P	Pb	10 08 48.0	-0.8
INTHN	La Esperanza I	2.39	357	P	Pb	10 08 47.9	-0.9
RCVN	Varillal2	2.40	46	P	Pn	10 08 46.1	+1.6
RCVN	Varillal2	2.40	46	P	Pn	10 08 46.0	+1.4
RCPN	Sur Rio San Ju	2.43	48	P	Pn	10 08 46.5	+1.5
CEVE	Cerro Verde	2.50	320	P	Pg	10 08 55.5	+1.4
NUBE	Las Nubes	2.66	318	eP	Pb	10 08 54.4	+1.2
NUBE	Las Nubes	2.66	318	P	Pb	10 08 53.6	+0.4
MTO3	Montecristo	2.82	331	eP	Pb	10 08 55.3	-0.8

*IDC **19** 10:21:51.3±3.3, 18°.71N×146°.16E, h75km±30km, mb3.8/9, mbtmp4.2/11, MS2.9/1, Error ellipse: s-maj=42.8km s-min=18.2km az=84.0*

ISC 19 10:21:54.0±1.0, **18°.73N**±0°.07×**145°.7E**±0°.2, **h100**km, **n18, σ2°16/13, mb4.2/9, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.17	189	P	Pn	10 23 07.3	-1.9
	111nm,0.9s,baz=66,slow=7.6,SNR=2.1						
GUMO				S	Sn	10 24 08.0	+0.3
	184nm,1.0s,baz=198,slow=20,SNR=2.5						
JCJ	Chichijima	8.95	339	P	Pn	10 23 58.3	-2.1
	32nm,0.9s,baz=215,slow=19,SNR=2.2						
JCJ				S	Sn	10 25 36.1	-3.3
	18nm,0.7s,baz=218,slow=19,SNR=1.5						
H11S3	WAKE ISLAND Hy 19.87	87		T	T	10 47 07.7	
	baz=274,slow=74,SNR=22						
H11S1	WAKE ISLAND Hy 19.88	87		T	T	10 47 07.4	
	baz=274,slow=74,SNR=24						
H11S2	WAKE ISLAND Hy 19.89	87		T	T	10 47 07.8	
	baz=274,slow=74,SNR=29						
H11N1	WAKE ISLAND Hy 20.01	84		T	T	10 47 17.6	
	baz=267,slow=74						
H11N2	WAKE ISLAND Hy 20.02	84		T	T	10 47 22.9	
	baz=267,slow=74						
H11N3	WAKE ISLAND Hy 20.03	84		T	T	10 47 19.3	
	baz=267						
KSRS	Korea Array	24.31	324	P	P	10 27 04.8	+2.6
	1.0nm,0.6s,baz=140,slow=9.1,SNR=2.6						
	1.0nm,0.6s						
WRA	Warramunga Arr	40.02	197	P	P	10 29 18.5	-0.9
	0.5nm,0.9s,baz=20,slow=7.6,SNR=1.8						
	0.5nm,0.9s						
YAK	Yakutsk	44.70	349	LR	LR	10 51 07.2	
	comp=Z,15nm,20.1s,baz=121,slow=39						
MKAR	Makanchi Array	58.46	314	P	P	10 31 42.4	+2.8
	0.7nm,0.7s,baz=87,slow=8.5,SNR=7.1						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	61.32	318	P	P	10 32 00.9	+1.9
	0.9nm,0.4s,baz=88,slow=7.7,SNR=8.8						
	0.9nm,0.4s						
BVAR	Borovoye Array	66.47	320	P	P	10 32 34.8	+2.0
	2.2nm,0.3s,baz=94,slow=7.5,SNR=14						
	2.2nm,0.3s						
SPITS	Spitsbergen Ar	79.14	351	P	P	10 33 49.0	+1.7
	7.1nm,1.0s,baz=46,slow=4.2,SNR=2.0						
	7.1nm,1.0s						
ARCES	ARCESS Array B	82.48	342	P	P	10 34 05.9	+0.8
	3.8nm,0.9s,baz=63,slow=5.4,SNR=8.9						
	3.8nm,0.9s						
NVAR	Mina Array Bea	83.10	52	P	P	10 34 08.5	-0.8
	0.3nm,0.5s,baz=289,slow=5.6,SNR=2.2						
	0.3nm,0.5s						
FINES	FINESS Array B	86.87	335	P	P	10 34 26.6	-0.7
	1.6nm,0.5s,baz=64,slow=4.4,SNR=8.0						
	1.6nm,0.5s						

*NEIC **19** 10:26:20.1±0.7, 19°.503N±0°.006×155°.483W±0°.007, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.1km az=189.0*

HVO 19 10:26:19.8±0.9, **19°.493N**±0°.007×**155°.485W**±0°.007, **h5**km±4km, **ML3.0**/40, **ML3.1**/38(NEIC), **Error ellipse: s-maj=1.1km s-min=0.8km az=146.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	Mauna Loa	0.09	90	Pg	Pg	10 26 22.5	+0.6
MLH				Sg	Sg	10 26 24.7	+1.4
MLOA	Mauna Loa Obse	0.10	296		Pg	10 26 22.6	+0.6
MWH	Mokuaweoweo	0.11	266	Pg	Pg	10 26 22.7	+0.4
MWH				IAML		10 26 25.4	
	comp=E,7μm,0.7s						
ALEP	Alea Permanent	0.16	288		Pg	10 26 23.5	+0.4
ALEP					Sg	10 26 26.5	+1.4
UWE	Uwekahuna	0.20	112		Pg	10 26 24.2	+0.6
UWE					Sg	10 26 26.6	+0.3
UWE				IAML		10 26 28.0	
	comp=N,5μm,0.3s						
UWE				IAML		10 26 28.9	
	comp=E,5μm,0.3s						
WRMHI	West Rim	0.20	116		Pg	10 26 24.1	+0.4
WRMHI					Sg	10 26 27.3	+1.1
RSD	Rainshed	0.20	99		Pg	10 26 24.3	+0.6
RSD					Sg	10 26 26.6	+0.3
RSD				IAML		10 26 29.5	
	comp=E,4μm,0.4s						
RSD				IAML		10 26 29.9	
	comp=N,6μm,0.2s						
OBL	Observatory Le	0.20	112		Pg	10 26 24.2	+0.4
OBL					Sg	10 26 27.4	+0.9
UWB	Uwekahuna Bluf	0.21	109		Pg	10 26 24.2	+0.4
UWB					Sg	10 26 27.6	+1.0
SDHHI	Sand Hill	0.21	120		Pg	10 26 24.3	+0.4
SDHHI					Sg	10 26 27.8	+1.2
SBLHI	Steaming Bluff	0.21	108		Pg	10 26 24.3	+0.3
SBLHI					Sg	10 26 27.5	+0.7
HATHI	Halema'uma'u T	0.22	108		Pg	10 26 24.4	+0.3
HATHI				Sg	Sg	10 26 26.8	-0.2
HATHI				IAML		10 26 28.5	
	comp=E,2μm,0.5s						
HATHI				IAML		10 26 32.7	
	comp=N,4μm,0.4s						
RIM	Rim	0.22	116		Pg	10 26 24.5	+0.4
RIM					Sg	10 26 27.8	+0.7
BYL	Byron's Ledge	0.23	111		Pg	10 26 24.5	+0.3
BYL					Sg	10 26 27.2	0.0
KKO	Keanakako'i	0.23	115		Pg	10 26 24.6	+0.4
KKO					Sg	10 26 28.1	+0.8
HLP	Hilina Pali	0.26	140		Pg	10 26 25.1	+0.4
HLP					Sg	10 26 29.3	+1.1
HLP				IAML		10 26 29.5	
	comp=N,3μm,0.5s						
HLP				IAML		10 26 31.6	
	comp=E,3μm,0.6s						
HTC	Hot Caves	0.27	162		Pg	10 26 25.2	+0.3
POHA	Pohakuloa	0.27	350	Pg	Pg	10 26 25.3	+0.3
POHA	Pohakuloa	0.27	350	IAML		10 26 33.8	
	comp=E,1μm,0.5s						
POHA				IAML		10 26 34.0	
	comp=E,898nm,0.4s						
KHU	Kahuku	0.28	207		Pg	10 26 25.4	+0.2
KHU					Sg	10 26 29.6	+0.8
KHU				IAML		10 26 34.0	
	comp=N,3μm,0.4s						
PUH	Pauahi	0.28	115		Pg	10 26 25.2	0.0
PUH					Sg	10 26 29.5	+0.5
KNHH	Kane Nui o Ham	0.32	111		Pg	10 26 26.1	+0.1
STCH	Steam Cracks	0.36	107		Pg	10 26 26.3	-0.4
STCH				Sg	Sb	10 26 33.3	-1.4
STCH				IAML		10 26 33.3	
	comp=E,2μm,0.3s						
STCH				IAML		10 26 33.4	
	comp=N,2μm,0.3s						
NPOC	North of Pu'u	0.37	106		Pg	10 26 26.7	-0.2
NPOC					Sg	10 26 32.1	+0.4
JCUZ	Jacuzzi	0.38	107		Pg	10 26 26.8	-0.3
HUH	Hualalai	0.38	300		Pb	10 26 28.6	-0.6
HUH				IAML		10 26 39.8	
	comp=N,3μm,0.4s						
CPH	Captain Cook	0.41	269		Pg	10 26 27.6	-0.1
JOKA	Jonika Flow	0.46	97		Pg	10 26 28.9	+0.3
JOKA				IAML		10 26 40.4	
	comp=E,2μm,0.5s						
PAH	Pahoa	0.51	90		Pg	10 26 29.5	0.0
MHA	Mahukona	0.80	330		Pg	10 26 34.2	-0.9

*TIF **19** 10:43:48.6, 43°.34N×35°.13E, h47km±4km*
*IDC **19** 10:43:48.1±0.9, 43°.17N×35°.25E, h0km, mb3.2/1, mbtmp3.4/7, ML3.2/6, Error ellipse: s-maj=12.4km s-min=11.0km az=142.0*
*ISK **19** 10:43:49.4, 43°.31N×35°.06E, h68km, ML3.4/17*
*CFUSG **19** 10:43:51.9, 43°.26N×35°.08E, h20km, Black Sea district 5*
*MOS **19** 10:43:51.2, 43°.24N×35°.21E, h35km, MPVA4.2*

ISC 19 10:43:50.5±1.5, **43°.25N**±0°.03×**35°.18E**±0°.03, **h20**km±14km, **n77, σ1°74/114, 11C-12D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNOP	Sinop	1.23	179	Pn	Pn	10 44 12.2	-0.3
YAL	Yalta	1.45	329	i Pg	Pb	10 44 16.8	0.0
YAL				eSg	Sn	10 44 34.3	+0.4
YAL	Yalta	1.45	329	ePn	Pb	10 44 16.7	0.0
YAL				Pnm		10 44 18.0	
	comp=Z,32nm,0.1s						
YAL				eSn	Sn	10 44 34.6	+0.7
YAL				Snm		10 44 38.0	
	comp=N,117nm,0.2s						
YAL				Snm		10 44 39.9	
	comp=E,11nm,0.2s						
ALU	Alushta	1.54	339	ePg	Pn	10 44 17.4	+0.6
ALU				eSg	Sn	10 44 36.6	+0.3
ALU	Alushta	1.54	339	ePn	Pn	10 44 17.4	+0.6
ALU				Pnm		10 44 18.2	
	comp=Z,59nm,0.2s						
ALU				eSn	Sn	10 44 36.6	+0.3
ALU				Snm		10 44 38.2	
	comp=N,351nm,0.2s						
ALU				Snm		10 44 39.3	
	comp=E,187nm,0.2s						
BZK	Bozkurt	1.55	214	Pn	Pn	10 44 15.5	-1.5
BZK				Sn	Sn	10 44 35.8	-0.7
BZK	Bozkurt	1.55	214	⇑P	Pn	10 44 18.1	+1.1
BZK				⇑S	Sn	10 44 37.1	+0.6
DIKM	Dikmen	1.60	178	Pn	Pn	10 44 17.8	+0.2
SUDU	Sudak	1.65	356	ePg	Pn	10 44 19.1	+0.8
SUDU				eSg	Sn	10 44 39.3	+0.4
SUDU	Sudak	1.65	356	ePn	Pn	10 44 19.1	+0.8
SUDU				Pnm		10 44 20.7	
	comp=Z,49nm,0.2s						
SUDU				eSn	Sn	10 44 39.3	+0.4
SUDU				Snm		10 44 42.0	
	comp=E,131nm,0.2s						
SUDU				Snm		10 44 42.4	
	comp=N,305nm,0.3s						
SEV	Sevastopol'	1.70	320	ePg	Pn	10 44 19.5	+0.5
SEV				eSg	Sn	10 44 39.2	-0.9
SEV	Sevastopol'	1.70	320	ePn	Pn	10 44 19.4	+0.4
SEV				Pnm		10 44 21.1	
	comp=Z,11nm,0.1s						
SEV				eSn	Sn	10 44 39.9	-0.2
SEV				Snm		10 44 43.5	
	comp=E,41nm,0.1s						
SEV				Snm		10 44 43.8	
	comp=N,56nm,0.2s						
FEO	Feodosiya	1.78	5	i Pg	Pn	10 44 21.7	+1.6
FEO				eSg	Sb	10 44 44.2	-0.1
FEO	Feodosiya	1.78	5	⇓i Pn	Pn	10 44 21.7	+1.6
FEO				Pnm		10 44 22.5	
	comp=Z,204nm,0.1s						
FEO				eSn	Sb	10 44 44.2	-0.1
FEO				Snm		10 44 47.3	
	comp=E,163nm,0.2s						
FEO				Snm		10 44 48.2	
	comp=N,209nm,0.2s						
SIM	Simferopol'	1.87	336	ePg	Pn	10 44 23.0	+1.6
SIM				eSg	Sn	10 44 45.7	+1.4
SIM	Simferopol'	1.87	336	⇓i Pn	Pn	10 44 23.1	+1.7
SIM				Pnm		10 44 23.4	
	comp=Z,77nm,0.3s						
SIM				eSn	Sn	10 44 45.8	+1.4
SIM				Snm		10 44 46.0	
	comp=N,125nm,0.4s						
SIM				Snm		10 44 46.7	
	comp=E,147nm,0.3s						
CIDE	Kastamonu/Cide	2.14	231	⇓P	Pn	10 44 26.3	+1.3
CIDE				⇓S	Sn	10 44 50.9	-0.2
SUKR	Sukko	2.25	45	i Pg	Pn	10 44 27.2	+0.6
SUKR				eSg	Sn	10 44 52.4	-1.2
ANN	Anapa	2.25	46	ePg	Pn	10 44 28.1	+1.5
ANN				eSg	Sn	10 44 52.6	-1.1
KVT	Kavak	2.26	163	Pn	Pn	10 44 27.0	+0.2
KVT				Sn	Sn	10 44 54.9	+0.9
KURC	Kurucasile-Bar	2.28	233	Pn	Pn	10 44 27.9	+0.9
GLDR	Gladkovskiy	2.52	46	ePn	Pn	10 44 31.5	+1.2
GLDR				eSn	Sn	10 45 00.5	0.0
SPGR	Shapsug	2.57	53	i Pn	Pn	10 44 32.1	+1.2
SPGR				eSn	Sn	10 45 01.5	-0.1
TARU	Tarkhankut	2.85	319	ePn	Pn	10 44 36.3	+1.4
TARU				eSn	Sn	10 45 10.2	+1.6
TARU	Tarkhankut	2.85	319	Snm		10 44 43.5	
	comp=E,41nm,0.1s						
TARU				Snm		10 44 43.8	
	comp=N,56nm,0.2s						
CORM	Corum	3.09	188	Pn	Pn	10 44 38.6	+0.3
MRNR	Maryino	3.20	76	i Pn	Pn	10 44 40.3	+0.6
MRNR				eSn	Sn	10 45 16.8	-0.4
GOYR	Goytkh	3.20	70	i Pn	Pn	10 44 40.7	+1.0
GOYR				eSn	Sn	10 45 16.1	-1.1
SOC	Sochi	3.32	83	ePn	Pn	10 44 42.8	+1.4
SOC				eSn	Sn	10 45 21.2	+1.0
KDZE	Karadeniz Ereo	3.38	236	Pn	Pn	10 44 41.2	-0.9
KDZE	Karadeniz Ereo	3.38	236	⇓P	Pn	10 44 42.9	+0.7
KDZE				⇑S	Sn	10 45 21.1	-0.5
VSLR	Vesyoloye	3.54	85	ePn	Pn	10 44 45.6	+1.2
VSLR				eSn	Sn	10 45 26.6	+0.8
YOZ	Yozgat	3.60	178	Pn	Pn	10 44 45.9	+0.5
BR131	Keskin Array S	3.70	199	Pn	Pn	10 44 46.9	+0.2
BRTR	Keskin Array B	3.70	199	Pn	Pn	10 44 47.4	+0.7
	comp=N,0.3nm,0.3s,baz=24,slow=12,SNR=5.0						
BRTR				Sn	Sn	10 45 29.6	-0.3
	comp=N,0.6nm,0.3s,baz=15,slow=19,SNR=7.4						
	comp=N,0.8nm,0.3s						
RPOR	Krasnaya Polya	3.73	81	i Pn	Pn	10 44 47.8	+0.8
RPOR				eSn	Sn	10 45 28.3	-2.0
ANTO	Ankara	3.82	209	Pn	Pn	10 44 48.3	0.0
YUVA	Yuva-Kibriscik	3.87	224	Pn	Pn	10 44 48.4	-0.5
KIRS	Kirsehir-Merke	4.22	193	⇓P	Pn	10 44 55.4	+1.6
GRYR	Gornoye	4.38	77	i Pn	Pn	10 44 57.3	+1.4
GRYR				eSn	Sn	10 45 45.2	-1.1
SAUV	Serdivan-Sakar	4.40	237	Pn	Pn	10 44 55.5	-0.6
GULT	Gulveren	4.48	233	Pn	Pn	10 44 56.5	-0.8
ERBR	Yeremizino-Bor	4.53	55	ePn	Pn	10 44 59.2	+1.3
ERBR				eSn	Sn	10 45 47.7	-2.2
MANR	Mangalia	4.83	279	⇑P	Pn	10 45 01.4	-0.6
TLCR		4.97	295	⇑P	Pn	10 45 03.0	-1.0
MFTR	Murfatlar	4.99	283	⇓P	Pn	10 45 03.4	-0.8
KIZT	Kizilcal	5.02	211	Pn	Pn	10 45 05.4	+0.5
TIRR	Tirgusor	5.04	286	Pn	Pn	10 45 03.4	-1.6
TIRR	Tirgusor	5.04	286	⇓P	Pn	10 45 03.6	-1.3
BATM	Batumi	5.09	107	P	Pn	10 45 05.7	0.0
BATM				S	Sn	10 45 58.1	-5.7
YLV	Yalova	5.09	240	Pn	Pn	10 45 04.6	-1.2
BCA	Borcka	5.10	108	Pn	Pn	10 45 06.5	+0.7
BCA	Borcka	5.10	108	⇑P	Pn	10 45 06.1	+0.3
TPGR	Topolog	5.13	291	⇑P	Pn	10 45 05.2	-1.0
PSN	Preselentsi	5.14	277	P	Pn	10 45 06.3	-0.1
PSN				S	Sn	10 46 00.6	-4.5
CFR	Carcaliu	5.42	293	⇑P	Pn	10 45 09.2	-0.9
HARR	Harsova	5.43	288	⇓P	Pn	10 45 09.1	-1.1
AVR	AVREN	5.49	271	i P	Pn	10 45 14.4	+3.2
AVR				S	Sn	10 46 15.0	+1.2
KVAR	Kislovodsk Arr	5.50	80	Sn	Sn	10 46 09.7	-4.4
	baz=318,slow=17						
SLVT	Silivri	5.55	251	Pn	Pn	10 45 10.7	-1.3
KBZ	Khabaz	5.63	82	Pn	Pn	10 45 14.1	+1.0
	comp=N,0.5nm,0.3s,baz=265,slow=10,SNR=8.6						
KBZ				Sn	Sn	10 46 19.3	+2.1
	comp=N,0.1nm,0.3s,baz=48,slow=20,SNR=1.4						
	comp=N,1.7nm,0.4s						
PRD	Provadia	5.68	272	i P	Pn	10 45 13.3	-0.4
PRD				S	Sn	10 46 12.4	-5.9
ROIA	ROIAK	5.71	271	i P	Pn	10 45 14.1	0.0
ROIA				S	Sn	10 46 13.2	-5.9
MILM	Milestii Mici	5.81	311	⇑P	Pn	10 45 14.4	-1.1
GARIG	Gari	6.12	93	P	Pn	10 45 21.1	+1.2
ALIG	Mtskhetisjvari	6.35	97	P	Pn	10 45 22.9	0.0
ALIG				S	Sn	10 46 30.0	-4.8
JMB	Yambol	6.40	266	eP	Pn	10 45 30.4	+6.8
VRI	Vrincioaia	6.58	296	⇓P	Pn	10 45 25.1	-1.0
SORM	Soroca	6.84	318	⇑P	Pn	10 45 28.7	-0.9
TESR	Tescani	6.88	301	⇑P	Pn	10 45 29.7	-0.5
MLR	Muntele Rosu	6.99	292	Pn	Pn	10 45 33.4	+1.6
	comp=N,0.3nm,0.3s,baz=90,slow=20,SNR=2.3						
MLR				Sn	Sn	10 46 48.5	-2.2
	comp=N,0.7nm,0.3s,baz=282,slow=21,SNR=3.6						
	comp=N,1.2nm,0.4s						
BURAR	Bucovina Array	8.26	305	⇓P	Pn	10 45 48.3	-0.8
AKASG	Malin Array Be	8.49	333	Pn	Pn	10 45 52.1	-0.2
	comp=N,0.9nm,0.3s,baz=140,slow=14,SNR=5.6						
AKASG				Sn	Sn	10 47 20.4	-7.1
	comp=N,1.8nm,0.3s,baz=144,slow=24,SNR=5.3						
	comp=N,0.2nm,0.2s						
GZR	Gura Zlata	9.15	288	⇓P	Pn	10 46 00.7	-0.7
AKTO	Aktyubinsk	17.16	57	P	Pn	10 47 47.3	-1.6
	comp=N,0.2nm,0.3s,baz=267,slow=7.4,SNR=2.7						
	comp=N,0.7nm,0.3s						
FINES	FINESS Array B	19.02	347	P	P	10 48 11.1	+0.3
	comp=N,0.2nm,0.3s,baz=157,slow=12,SNR=5.3						
	comp=N,2.7nm,0.8s						
YKA	Yellowknife Ar	71.85	346	P	P	10 55 12.8	+1.4
	comp=N,0.1nm,0.5s,baz=19,slow=5.6,SNR=2.3						
	comp=N,0.1nm,0.5s						

*TIF **19** 10:59:08.6, 41°.28N×43°.62E, h10km±1km*
*AFAD **19** 10:59:09.0, 41°.27N×43°.60E, h7km±4km, ML2.8*
*ISK **19** 10:59:09.7, 41°.23N×43°.61E, h13km, ML3.3/11*
*MOS **19** 10:59:10.0±1.6, 41°.16N×43°.69E, h13km, mb3.8/1, Error ellipse: s-maj=10.1km s-min=4.6km az=73.6*
*NORS **19** 10:59:10.3, 41°.44N×43°.74E, h2km, MPVA3.9*

ISC 19 10:59:09.5±1.0, **41°.26N**±0°.02×**43°.63E**±0°.02, **h10**km±8km, **n72, σ0°79/123, 3C-2D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRLG	Trialeti	0.45	51	P	Pg	10 59 18.2	-0.1
TRLG				S	Sg	10 59 24.3	0.0
TRLG	Trialeti	0.45	51	ePG	Pg	10 59 18.2	-0.1
KZRT	Kazreti	0.59	77	P	Pg	10 59 20.7	-0.3
KZRT				S	Sg	10 59 28.6	-0.2
KZRT	Kazreti	0.59	77	ePG	Pg	10 59 20.6	-0.3
KZRT				eS	Sg	10 59 28.5	-0.2
EPOS	Posof	0.72	290	P	Pg	10 59 23.3	-0.2
EPOS				S	Sg	10 59 33.2	+0.2
EPOS				i AML	AML	10 59 34.0	
	comp=N,680nm,1.0s						
EPOS				i AML	AML	10 59 34.0	
	comp=E,414nm,0.3s						
KARS	Kars	0.76	214	Pg	Pg	10 59 24.5	+0.4
KARS				Sg	Sg	10 59 34.9	+0.9
KARS	Kars	0.76	214	PG	Pg	10 59 24.4	+0.4
AHAN	Ardahan-Merkez	0.77	263	P	Pg	10 59 23.9	-0.4
AHAN				S	Sg	10 59 34.8	+0.4
AHAN				i AML	AML	10 59 40.0	
	comp=N,485nm,0.4s						
AHAN				i AML	AML	10 59 40.0	
	comp=E,461nm,0.4s						
BOZK	Kars-Merkez-Bo	0.83	217	P	Pg	10 59 25.8	+0.2
BOZK				S	Sg	10 59 37.1	+0.7
BOZK				i AML	AML	10 59 38.0	
	comp=N,107nm,0.2s						
BOZK				i AML	AML	10 59 43.0	
	comp=E,188nm,0.6s						
ALIG	Mtskhetisjvari	0.85	1	P	Pg	10 59 25.2	-0.6
ALIG				S	Sg	10 59 36.6	-0.3
ALIG	Mtskhetisjvari	0.85	1	ePG	Pg	10 59 25.2	-0.6
GOLE	Ardahan-G¶le	0.89	242	P	Pg	10 59 26.6	0.0
GOLE				i AML	AML	10 59 39.0	
	comp=E,554nm,0.3s						
GOLE				S	Sb	10 59 39.3	+0.2
GOLE				i AML	AML	10 59 40.0	
	comp=N,584nm,0.2s						
TBLG	Delisi	0.95	60	P	Pg	10 59 27.2	-0.6
TBLG				S	Sg	10 59 40.1	-0.2
TBLG	Delisi	0.95	60	ePG	Pg	10 59 27.2	-0.6
TBLG				eS	Sg	10 59 40.1	-0.2
BTNK	Botanikuri	0.97	64	ePG	Pg	10 59 27.3	-0.9
BTNK				eS	Sg	10 59 40.7	-0.2
SEAG	Tbilisi Sea	1.01	60	P	Pg	10 59 28.3	-0.6
SEAG				S	Sb	10 59 43.0	+0.4
SEAG	Tbilisi Sea	1.01	60	ePG	Pg	10 59 28.3	-0.6
SEAG				eS	Sb	10 59 42.9	+0.4
TKB	Tkibuli

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM				S	Sn	10 59 56.2	+0.2
BATM	**Batumi**	1.50	284	*e*PG	Pn	10 59 36.5	+0.1
BCA	**Borcka**	1.53	278	Pn	Pn	10 59 37.0	+0.2
BCA				Sn	Sn	10 59 56.7	0.0
MTEO	**Meteo**	1.57	25	P	Pb	10 59 38.8	-0.1
MTEO				S	Sg	11 00 00.1	+0.1
MTEO	**Meteo**	1.57	25	*e*PN	Pb	10 59 38.7	-0.1
MTEO				*e*S	Sg	11 00 00.0	-0.1
DIGR	**Digorskoe uzhe**	1.64	359	*e*Pg	Pb	10 59 40.0	+0.1
DIGR				*e*Sg	Sg	11 00 02.3	+0.1
DIGR	**Digorskoe uzhe**	1.64	359	*e*PN	Pb	10 59 40.0	+0.1
LACR	**Lac**	1.64	17	*i* Pg	Pb	10 59 39.7	-0.2
LACR				*e*Sg	Sg	11 00 01.8	-0.5
LACR	**Lac**	1.64	17⇑	*i*PN	Pb	10 59 39.7	-0.2
HOPA	**Hopa-Artvin**	1.65	275	Pn	Pn	10 59 39.3	+0.8
AGRB	**Hanur-Agry**	1.75	196	Pn	Pn	10 59 40.5	+0.5
SHTL	**Shatili**	1.80	39	P	Pb	10 59 42.1	-0.4
SHTL				S	Sb	11 00 06.2	+1.0
SHTL	**Shatili**	1.80	39	*e*PN	Pb	10 59 42.1	-0.4
KOPR	**Koprukoy-ERZUR**	1.85	228	Pn	Pn	10 59 41.7	+0.3
KORR	**Kora**	1.85	10	*e*Pg	Pg	10 59 45.0	0.0
KORR				*e*Sg	Sg	11 00 10.4	+1.3
KORR	**Kora**	1.85	10	*e*PN	Pg	10 59 45.0	0.0
KORR				*e*S	Sg	11 00 10.4	+1.3
ARNR	**Ardon**	1.98	14	*e*Pg	Pb	10 59 46.6	+1.0
ARNR				*e*Sg	Sg	11 00 12.8	-0.3
ARNR	**Ardon**	1.98	14	*e*PN	Pb	10 59 46.6	+1.0
KMGR	**Komgaron**	2.02	27	*e*Pg	Pb	10 59 47.2	+0.9
KMGR				*e*Sg	Sg	11 00 14.1	-0.2
KMGR	**Komgaron**	2.02	27	*e*PN	Pb	10 59 47.2	+0.9
KMGR				*e*S	Sg	11 00 14.1	-0.2
LSNR	**Lesken**	2.02	4	*e*Pg	Pb	10 59 47.2	+0.9
LSNR				*e*Sg	Sg	11 00 15.3	+0.8
LSNR	**Lesken**	2.02	4	*e*PN	Pb	10 59 47.2	+0.9
LSNR				*e*S	Sg	11 00 15.3	+0.8
LGD	**Lagodekhi**	2.04	73	P	Pb	10 59 46.0	-0.6
LGD				S	Sb	11 00 13.5	+1.5
LGD	**Lagodekhi**	2.04	73	*e*PN	Pb	10 59 46.0	-0.6
VSHL	**Vashlovani**	2.09	90	P	Pb	10 59 47.5	+0.1
VSHL				S	Sg	11 00 17.2	+0.7
STDR	**Stavd-Durt**	2.13	8	*e*Pg	Pg	10 59 50.4	+0.1
STDR				*e*Sg	Sg	11 00 20.8	+2.8
STDR	**Stavd-Durt**	2.13	8	*e*PN	Pg	10 59 50.4	+0.1
STDR				*e*S	Sg	11 00 20.8	+2.8
CHOM	**Cayeli-Rize**	2.17	267	Pn	Pn	10 59 46.4	+0.7
BTKR	**Batakoyurt**	2.22	17⇓	*e*PN	Pg	10 59 51.8	-0.2
NCK	**Nalchik**	2.24	359⇓	*e*PN	Pb	10 59 49.7	-0.2
NCK				*e*S	Sg	11 00 23.3	+2.0
NCK				pmax	pmax		
	comp=Z,96nm,0.2s						
BTLR	**Botlikh**	2.39	53	*e*Pg	Pb	10 59 51.9	-0.6
BTLR				*e*Sg	Sb	11 00 23.6	+1.5
BTLR	**Botlikh**	2.39	53	*e*PN	Pb	10 59 51.9	-0.6
BTLR				*e*S	Sb	11 00 23.6	+1.5
KBZ	**Khabaz**	2.53	348⇑	*e*PN	Pb	10 59 55.5	+0.6
SHA1	**Shidzhatmaz**	2.58	344⇑	*e*PN	Pb	10 59 54.1	-1.9
GNBR	**Gunib**	2.73	64	*e*Pn	Pb	10 59 57.3	-1.1
GNBR				*e*Sn	Sb	11 00 32.7	+0.7
GNBR	**Gunib**	2.73	64	*e*PN	Pb	10 59 57.3	-1.1
GNBR				*e*S	Sb	11 00 32.7	+0.7
KIV	**Kislovodsk**	2.79	346	Pn	Pn	10 59 55.9	+1.7
BAYT	**Aydıntepe-Bayb**	2.79	253	Pn	Pn	10 59 55.8	+1.5
OBN	**Obninsk**	14.63	344	*e*P	P	11 02 40.6	-2.1
OBN				pmax	pmax		
	comp=Z,10.0nm,0.4s						

*IDC **19** 11:01:19.4±2.0, 6˚.12S×129˚.48E, h0km, mb3.9/2, mbtmp4.0/4, ML4.2/2, Error ellipse: s-maj=157.5km s-min=28.4km az=69.0*
*DJA **19** 11:01:33.6±0.3, 6˚S±3˚×13˚0E± ˚, h178km±9km, M4.3/13, mB5.1/5, mb4.1/7, MLv4.4/13, Mw(mB)4.5/5*
ISC 19 11:01:32.1±0.9, **6˚.28S**±0˚.06×**130˚.48E**±0˚.08, **h150**km, **n14**, σ**2º95**/16, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	1.84	342	P	Pn	11 02 07.5	+2.0
SAUI	**Saumlaki**	1.88	154	P	Pn	11 02 10.3	+4.4
MSAI	**Masohi**	3.30	332	P	Pn	11 02 24.3	+0.9
FAKI	**Fak Fak**	3.78	28	P	Pn	11 02 29.7	+0.1
KMPI	**Kaimana, Papua**	4.14	51	P	Pn	11 02 35.6	+1.4
SWI	**Sorong**	5.44	8	P	Pn	11 02 51.1	-0.4
	0.4nm3µm50nm,0.7s						
RKPI	**Ransiki, Papua**	6.01	38	P	Pn	11 03 00.2	+1.2
SANI	**Sanana**	6.14	313	P	Pn	11 03 01.4	+0.6
LBMI	**Labuha**	6.34	332	P	Pn	11 03 02.9	-0.6
PLAI	**Plampang**	12.84	258	P	Pn	11 04 29.9	+0.5
WRA	**Warramunga Arr**	14.09	165	Pn	Pn	11 04 45.2	0.0
	1.1nm,0.3s,baz=344,slow=13,SNR=55						
WRA				Sn	Sn	11 07 14.6	-6.9
	1.4nm,0.3s,baz=330,slow=24,SNR=11						
	1.6nm,0.5s						
ASAR	**Alice Springs**	17.60	170	P	Pn	11 05 31.4	+3.1
	0.7nm,0.3s,baz=347,slow=9.0,SNR=52						
ASAR				S	S	11 08 37.6	-4.9
	0.7nm,0.6s,baz=345,slow=25,SNR=3.7						
	3.3nm,0.7s						
MKAR	**Makanchi Array**	67.89	326	P	P	11 12 15.9	+1.4
	1.7nm,0.6s,baz=119,slow=8.1,SNR=21						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	72.15	328	P	P	11 12 41.5	+1.2
	0.5nm,0.7s,baz=127,slow=4.8,SNR=7.6						
	0.5nm,0.7s						

*VAO **19** 11:06:26.2±0.8, 4˚.33N×77˚.13W, h66km, mb4.7*
*RSNC **19** 11:06:28.3±0.0, 4˚N±1˚×7˚7W± ˚, h31km±2km, M4.1, ML3.8, Mw4.4*
*NEIC **19** 11:06:30.3±1.4, 4˚.20N±0˚.07×76˚.78W±0˚.09, h69km±7km, mb4.6/131, Error ellipse: s-maj=13.6km s-min=9.1km az=116.0*
*IDC **19** 11:06:30.3±2.0, 4˚.23N×76˚.73W, h74km±18km, mb4.0/18, mbtmp4.4/23, MS3.4/16, Error ellipse: s-maj=16.2km s-min=11.6km az=77.0*
ISC 19 11:06:26.9±0.7, **4˚.20N**±0˚.02×**76˚.89W**±0˚.03, **h46**km±7km, **n247**, σ**1º31**/261, **mb4.6**/81, **MS3.4**/11, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALC	**Bahia Malaga**	0.48	247	P	Pn	11 06 38.0	+0.3
MALC				S	Sn	11 06 47.0	+1.7
YOTC	**Yotoco, Valle**	0.58	112	P	Pn	11 06 37.4	-1.7
YOTC				S	Sn	11 06 46.0	-1.8
PIZC	**Pizarro, Choco**	0.89	328	P	Pn	11 06 42.4	-0.7
PIZC				S	Sn	11 06 56.7	+1.8
JAMC	**Jamundi, Valle**	1.00	168	P	Pn	11 06 43.6	-1.2
JAMC				S	Sn	11 06 57.9	0.0
CMAN1	**Manizales, Cal**	1.61	58	P	Pn	11 06 54.2	+1.0
CMAN1				S	Sn	11 07 14.1	+1.2
NIZA	**Niza - Manizal**	1.65	59	P	Pn	11 06 53.2	-0.5
NIZA				S	Sn	11 07 13.7	-0.2
POPC	**Popayan, Colom**	1.66	173	P	Pn	11 06 54.0	+0.2
POPC				S	Sn	11 07 14.8	+0.7
ORTC	**Ortega, Tolima**	1.67	100	P	Pn	11 06 54.3	+0.6
ORTC				S	Sn	11 07 16.0	+2.1
GR1C	**Gorgona, Isla**	1.74	227	P	Pn	11 06 54.6	-0.1
GR1C				S	Sn	11 07 18.3	+2.5
GUY2C	**Guyana, Caldas**	1.83	56	P	Pn	11 06 55.7	-0.6
GUY2C				S	Sn	11 07 18.3	-0.2
CBOC	**Ciudad Bolivar**	1.87	28	P	Pn	11 06 54.3	-2.3
CBOC				S	Sn	11 07 18.8	-0.3
PRAC	**Prado**	2.06	104	P	Pn	11 07 00.3	+1.3
PRAC				S	Sn	11 07 25.9	+2.4
SOLC	**Bahia Solano**	2.08	346	P	Pn	11 07 00.3	+1.0
SOLC				S	Sn	11 07 24.3	+0.3
BETC	**Betania**	2.09	136	P	Pn	11 07 01.8	+2.3
BETC				S	Sn	11 07 27.9	+3.5
BBAC	**Balboa, Cauca**	2.19	189	P	Pn	11 07 01.1	0.0
BBAC				S	Sn	11 07 27.4	+0.2
NORC	**Norcasia**	2.43	56	P	Pn	11 07 05.3	+1.2
NORC				S	Sn	11 07 34.5	+1.9
GARC	**Garzon, Huila**	2.44	145	P	Pn	11 07 07.0	+2.5
GARC				S	Sn	11 07 34.4	+1.2
CRUC	**La Cruz**	2.62	181	P	Pn	11 07 09.2	+2.2
CRUC				S	Sn	11 07 38.7	+0.9
ROSC	**El Rosal**	2.64	76	P	Pn	11 07 10.1	+2.8
	295nm,0.3s,baz=332,slow=1.9,SNR=171						
ROSC	**El Rosal**	2.64	76	P	Pn	11 07 10.0	+2.7
ROSC				S	Sn	11 07 42.0	+3.7
URMC	**La Uribe, Meta**	2.68	111	P	Pn	11 07 08.9	+1.3
URMC				S	Sn	11 07 40.9	+2.0
DBBC	**Dabeiba**	2.88	14	P	Pn	11 07 09.7	-0.7
DBBC				S	Sn	11 07 45.0	+1.2
FLOC	**Florencia**	2.88	155		Pn	11 07 12.7	+2.3
FLOC	**Florencia**	2.88	155	P	Pn	11 07 12.6	+2.3
FLOC				S	Sn	11 07 45.0	+1.2
GCUF	**Volcan Galeras**	2.99	189	P	Pn	11 07 13.7	+1.4
GCUF				S	Sn	11 07 48.7	+1.5
PTAC	**Punta Ardita,**	3.07	343	P	Pn	11 07 13.9	+1.0
CHIC	**Chingaza**	3.18	82	P	Pn	11 07 16.9	+2.1
CHIC				S	Sn	11 07 54.4	+2.8
VILC	**Villavicencio,**	3.19	91	P	Pn	11 07 16.9	+2.2
VILC				S	Sn	11 07 53.4	+1.8
PTBC	**PUERTO BERRIO,**	3.36	46	P	Pn	11 07 17.5	+0.6
PTBC				S	Sn	11 07 56.1	+0.6
CMBC	**Cumbal**	3.37	196	P	Pn	11 07 18.5	+1.0
CMBC				S	Sn	11 07 56.5	0.0
TULM	**Tulcn-Chalpat**	3.58	195	P	Pn	11 07 23.1	+2.8
TULM				S	Sn	11 08 02.5	+0.9
MACC	**Macarena, Meta**	3.66	124	P	Pn	11 07 22.5	+1.4
MACC				S	Sn	11 08 04.3	+1.3
APAC	**Apartado, Choc**	3.69	5	P	Pn	11 07 23.1	+1.7
APAC				S	Sn	11 08 06.9	+3.2
UREC	**San Jos de Ur**	3.78	21	P	Pn	11 07 23.1	+0.4
UREC				S	Sn	11 08 06.0	+0.1
ZARC	**Zaragoza, Cauc**	3.84	32	P	Pn	11 07 24.3	+0.7
ZARC				S	Sn	11 08 09.0	+1.5
RUSC	**La Rusia**	4.15	66	Pn	Pn	11 07 29.9	+1.8
RUSC	**La Rusia**	4.15	66	P	Pn	11 07 30.3	+2.1
RUSC				S	Sn	11 08 17.9	+2.2
CUSE	**Cuicocha Este**	4.15	201	P	Pn	11 07 28.7	+0.5
CUSE				S	Sn	11 08 14.8	-1.0
BRJC	**Barrancabermej**	4.17	49	P	Pn	11 07 28.5	+0.5
BRJC				S	Sn	11 08 16.3	+0.8
OTAV	**Otavalo**	4.24	202	Pn	Pn	11 07 30.1	+0.7
OTAV				Sn	Sn	11 08 17.7	-0.1
OTAV	**Otavalo**	4.24	202	P	Pn	11 07 29.6	+0.2
OTAV				S	Sn	11 08 17.2	-0.6
OTAV	**Otavalo**	4.24	202	*e*P	Pn	11 07 29.8	+0.4
PAC1	**Pacto, Paraso**	4.35	206	P	Pn	11 07 29.6	-1.0
PAC1				S	Sn	11 08 18.9	-1.2
BARC	**Barichara**	4.39	57	P	Pn	11 07 32.6	+1.3
BARC				S	Sn	11 08 21.6	+0.3
CAPC	**Capurgana**	4.43	354	P	Pn	11 07 35.0	+3.4
CAPC				S	Sn	11 08 25.0	+3.1
GUVC	**San Jose del G**	4.56	111	P	Pn	11 07 34.5	+1.1
GUVC				S	Sn	11 08 26.2	+1.0
LCBC	**Los crdobas,**	4.66	6	P	Pn	11 07 36.3	+1.6
LCBC				S	Sn	11 08 29.2	+1.7
SLOR	**San Lorenzo -**	5.16	198		Pn	11 07 45.2	+3.2
PAMC	**Pamplona, Colo**	5.21	53	P	Pn	11 07 43.8	+1.1
PAMC				S	Sn	11 08 43.5	+1.8
BCIP	**Isla Barro Col**	5.74	329	Pn	Pn	11 07 50.8	+1.2
COHC	**Cochancay**	7.03	200	Pn	Pn	11 08 08.5	+1.1
SDV	**Santo Domingo**	7.76	53	Pn	Pn	11 08 17.8	+0.2
SDV	**Santo Domingo**	7.76	53	P	Pn	11 08 18.3	+0.7
	69nm,0.7s,baz=225,slow=7.2,SNR=79						
SDV				S	Sn	11 09 44.3	0.0
	37nm,0.5s,baz=293,slow=20,SNR=3.4						
SDV				LR	LR	11 11 42.9	
	comp=Z,354nm,19.2s,baz=253,slow=41						
SDV	**Santo Domingo**	7.76	53	*e*P	Pn	11 08 17.5	-0.1
HDC	**Heredia**	9.20	309	Pn	Pn	11 08 39.2	+2.1
BAUV	**El Baul**	9.97	61	Pn	Pn	11 08 45.3	-2.3
JTS	**Las Juntas de**	10.03	308	LR	LR	11 12 26.2	
	comp=Z,484nm,22.0s,baz=118,slow=35						
TBTG	**Tabatinga, AM**	10.87	140	Pn	Pn	11 08 59.9	0.0
TBTG	**Tabatinga, AM**	10.87	140	*e*P	Pn	11 09 02.6	+2.7
HATO	**Hato, Curacao**	11.15	44	Pn	Pn	11 09 03.0	-0.9
ACON	**Acoyapa**	11.26	314	Pn	Pn	11 09 05.5	+0.2
ATAH	**Atahualpa**	11.36	188	P	Pn	11 09 10.9	+3.9
	11nm,0.8s,baz=358,slow=6.2,SNR=7.3						
ATAH				LR	LR	11 14 27.3	
	comp=Z,222nm,20.7s,baz=346,slow=42						
USIM	**UNAN**	12.17	311	Pn	Pn	11 09 17.4	-0.3
CZSB	**Cruzeiro do Su**	12.57	161	Pn	Pn	11 09 23.6	+0.4
CZSB	**Cruzeiro do Su**	12.57	161	*e*P	Pn	11 09 24.1	+0.9
HERN	**Volcan Telica**	12.90	311	Pn	Pn	11 09 27.5	-0.3
PCRV	**Puerto La Cruz**	13.53	63	P	Pn	11 09 35.5	-0.8
	14nm,1.0s,baz=216,slow=8.3,SNR=5.9						
PCRV				LR	LR	11 15 24.3	
	comp=Z,249nm,21.8s,slow=40						
TEFE	**Tefe**	14.44	122	*e*P	Pn	11 09 50.0	+1.3
BANI	**BANI**	15.48	24		Pn	11 10 02.0	-0.4
SDDR	**Presa de Saban**	15.68	20	Pn	Pn	11 10 04.2	-0.6
SDDR				IAmb	IAmb	11 10 22.7	
	comp=Z,47nm,1.3s						
MTO3	**Montecristo**	15.93	310	Pn	Pn	11 10 08.1	-0.2
DR12	**Loma Pena Alta**	16.25	26	Pn	Pn	11 10 11.4	-0.7
DR12				IAmb	IAmb	11 10 29.8	
	comp=Z,47nm,1.2s						
BOAV	**Boa Vista**	16.44	96	Pn	Pn	11 10 11.6	-3.0
BOAV				IAmb	IAmb	11 10 27.1	
	comp=Z,24nm,0.7s						
OBIP	**Obispado Ponce**	17.05	35	Pn	Pn	11 10 20.4	-1.7
OBIP				IAmb	IAmb	11 11 01.0	
	comp=Z,48nm,1.3s						
CELP	**Cerrillos**	17.09	35	Pn	Pn	11 10 22.8	+0.1
APG	**El Apazote**	17.14	310	LR	LR	11 17 29.1	
	comp=Z,5.5nm,18.2s,baz=62,slow=38						
SJG	**San Juan**	17.37	36	P	Pn	11 10 27.1	+1.0
	comp=Z,8.3nm,0.3s,baz=164,slow=3.9,SNR=5.9						
SJG				LR	LR	11 18 19.1	
	comp=Z,66nm,18.6s,baz=222,slow=41						
MPOM	**Morne Pois Mar**	18.79	56	P	P	11 10 40.7	-1.9
BBGH	**Gun Hill**	19.28	61	P	P	11 10 47.5	-0.6
GDSD	**La Dsirade Is**	19.66	51	P	P	11 10 51.8	-0.4
GDSD				IAmb	IAmb	11 11 25.5	
	comp=Z,42nm,0.9s						
LPAZ	**La Paz**	22.12	157	P	P	11 11 18.8	-0.5
LPAZ	**La Paz**	22.12	157	P	P	11 11 18.9	-0.5
	comp=Z,4.5nm,1.0s,baz=305,slow=2.9,SNR=8.6						
	comp=Z,4.5nm,1.0s						
LPAZ	**La Paz**	22.12	157	*e*P	P	11 11 18.3	-1.0
ITTB	**Itaituba**	22.79	112	*e*P	P	11 11 26.6	+0.8
PB18	**Visviri**	22.85	162	P	P	11 11 26.7	-0.4
PB12	**IPOC Station P**	23.57	164	P	P	11 11 33.8	+0.1
PB12				IAmb	IAmb	11 11 35.9	
	comp=Z,14nm,0.6s						
VILB	**Vilhena**	23.77	136	P	P	11 11 35.1	-0.4
VILB	**Vilhena**	23.77	136	*e*P	P	11 11 36.5	+1.0
NPGB	**Novo Progresso**	24.22	117	*e*P	P	11 11 41.0	+1.3
TA02	**Huaiquique**	25.21	165	P	P	11 11 48.0	-0.4
TA02				IAmb	IAmb	11 11 53.9	
	comp=Z,41nm,1.2s						
PB08	**IPOC Station P**	25.36	163	P	P	11 11 50.4	+0.1
PB08				IAmb	IAmb	11 11 53.5	
	comp=Z,20nm,1.0s						
PDRB	**Porto dos Gac**	25.47	128	*e*P	P	11 11 50.4	-0.7
TA01	**Diego Aracena**	25.48	165	P	P	11 11 52.1	+1.2
TA01				IAmb	IAmb	11 12 00.3	
	comp=Z,18nm,0.8s						
PB01	**IPOC Station P**	26.12	164	P	P	11 11 58.0	+1.2
PTLB	**Pontes e Lacer**	26.27	138	P	P	11 11 57.5	-0.7
PTLB	**Pontes e Lacer**	26.27	138	*e*P	P	11 11 58.6	+0.4
PB09	**IPOC Station P**	26.90	164	P	P	11 12 05.6	+1.6
PB09				IAmb	IAmb	11 12 14.1	
	comp=Z,28nm,1.4s						
PB14	**IPOC Station P**	29.34	168	P	P	11 12 26.3	+0.4
Y58A	**Scranton**	29.67	355	P	P	11 12 29.3	+1.0
GO02	**Mina Guanaco**	30.04	167	P	P	11 12 33.5	+1.4
GO02				IAmb	IAmb	11 12 42.3	
	comp=Z,6.7nm,0.7s						
LRAL	**Lakeview Retre**	30.20	343	P	P	11 12 33.6	+0.5
AC01	**Pan de Azucar**	30.78	169	P	P	11 12 39.1	+0.9
AC01				IAmb	IAmb	11 13 03.9	
	comp=Z,13nm,1.1s						
ARAG	**Araguaiana, MT**	31.74	129	*e*P	P	11 12 47.6	+0.8
AC02	**Maricunga**	31.75	167	P	P	11 12 48.8	+1.4
AC02				IAmb	IAmb	11 12 50.8	
	comp=Z,20nm,1.4s						
TKL	**Tuckaleechee C**	31.94	349	LR	LR	11 25 52.0	
	comp=Z,44nm,20.4s,baz=157,slow=36						
AQDB	**Aquidauana**	32.16	140	P	P	11 12 50.3	-0.1
AQDB				IAmb	IAmb	11 12 51.2	
	comp=Z,9.1nm,0.8s						
AQDB	**Aquidauana**	32.16	140	*e*P	P	11 12 50.4	-0.1
V48A	**Smith Brothers**	32.70	345	P	P	11 12 56.5	+1.5
WVT	**Waverly**	33.34	344	P	P	11 13 00.7	+0.1
RPRD	**Ribas do Rio P**	33.47	138	*e*P	P	11 13 01.4	-0.5
LCO	**Las Campanas**	33.55	170	P	P	11 13 03.7	+0.8
LCO				IAmb	IAmb	11 13 25.1	
	comp=Z,9.3nm,1.1s						
WHAR	**Wooly Hollow**	34.06	337	P	P	11 13 08.0	+1.0
WHAR				IAmb	IAmb	11 13 20.5	
	comp=Z,6.8nm,1.1s						
FCAR	**Ozark Folk Cen**	34.53	338	P	P	11 13 12.1	+1.2
BDFB	**Brasilia**	34.72	125	P	P	11 13 12.5	-0.5
BDFB				IAmb	IAmb	11 13 14.4	
	comp=Z,7.8nm,0.9s						
BDFB	**Brasilia**	34.72	125	P	P	11 13 12.3	-0.7
	comp=Z,4.3nm,0.6s,baz=275,slow=6.3,SNR=6.5						
BDFB				LR	LR	11 28 10.5	
	comp=Z,176nm,21.4s,baz=329,slow=38						
	comp=Z,4.3nm,0.6s						
PBMO	**Poplar Bluff**	34.73	341	P	P	11 13 13.7	+1.0
PBMO				IAmb	IAmb	11 13 15.0	
	comp=Z,4.1nm,0.7s						
T42A	**Van Buren**	35.18	340	P	P	11 13 17.1	+0.6
T42A				IAmb	IAmb	11 13 18.6	
	comp=Z,4.8nm,0.8s						
SJPY	**San Joaquin**	35.36	146	*e*P	P	11 13 16.0	-2.3
TXAR	**Lajitas Array**	35.62	318	P	P	11 13 21.3	+0.7
	comp=Z,0.3nm,0.6s,baz=94,slow=7.9,SNR=2.1						
TXAR				PcP	PcP	11 15 49.5	+0.8
	comp=Z,1.0nm,0.7s,baz=83,slow=4.1,SNR=7.9						
	comp=Z,0.3nm,0.6s						
TX31	**Lajitas Ar. Si**	35.62	318	P	P	11 13 21.8	+1.2
CPUP	**Villa Florida**	35.78	149	P	P	11 13 21.9	+0.1
	comp=Z,1.1nm,0.5s,baz=353,slow=14,SNR=3.1						
	comp=Z,1.1nm,0.5s						
SDBA	**SAO DESIDERIO**	35.82	118	*e*P	P	11 13 21.9	-0.5
OLIL	**Olney**	35.86	345	P	P	11 13 23.1	+0.8
IPMB	**Ipameri, GO**	35.86	129	*e*P	P	11 13 22.3	-0.4
O52A	**Adamsville**	36.03	354	P	P	11 13 24.8	+0.9
O52A				IAmb	IAmb	11 13 30.5	
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	36.16	341	P	P	11 13 25.4	+0.5
CCM				IAmb	IAmb	11 13 36.9	
	comp=Z,5.4nm,0.7s						
FNO	**Franklin**	36.27	331	P	P	11 13 26.1	+0.2
ZON	**Zonda**	36.40	168	P	P	11 13 28.1	+0.9
ZON				IAmb	IAmb	11 13 30.3	
	comp=Z,11nm,1.1s						
LDASE	**Londrina, Braz**	37.21	139	*e*P	P	11 13 32.9	-1.3
VA03	**San Esteban**	37.25	171	P	P	11 13 34.7	+0.3
VA01	**Torpederas**	37.35	173	P	P	11 13 35.6	+0.5
VHRN	**Van Horn**	37.42	318	P	P	11 13 36.6	+0.6
VHRN				IAmb	IAmb	11 13 50.9	
	comp=Z,8.7nm,1.5s						
BB19B	**Bebedouro**	37.47	133	*e*P	P	11 13 35.9	-0.5
JANB	**Januaria**	37.52	121	*e*P	P	11 13 37.3	+0.4
MT08	**Bocatoma Ro**	38.00	171	P	P	11 13 41.8	+0.9
MT08				IAmb	IAmb	11 13 45.0	
	comp=Z,13nm,1.1s						
WVNY	**West Valley, N**	38.07	358	P	P	11 13 42.8	+1.6
MT09	**Talagante**	38.18	172	P	P	11 13 42.7	+0.4
LMEL	**Las Melosas**	38.37	171	P	P	11 13 45.0	+1.1
BO04	**La Punta**	38.44	172	P	P	11 13 44.5	+0.1
ITAB	**Concordia**	39.35	144	*e*P	P	11 13 50.3	-1.8
DIAM	**Diamantina, MG**	39.65	125	*e*P	P	11 13 54.5	-0.3
VAO	**Valinhos**	39.81	134	*e*P	P	11 13 55.3	-0.7
L40A	**Anamosa**	39.81	343	P	P	11 13 55.2	-0.5
L40A				IAmb	IAmb	11 14 19.0	
	comp=Z,5.6nm,0.7s						
SPB	**Sao Paulo**	39.85	135	P	P	11 13 55.1	-1.2
RTBA	**Rita Blanca**	39.93	327	P	P	11 13 57.5	+0.5
RTBA

WVOR	Wild Horse Val	53.15	322	IAmb	IAmb	11 16 07.9	
	comp=Z,5.5nm,1.1s						
FFC	Flin Flon	54.32	342	P	P	11 15 48.1	-0.5
B08A	Colville Reser	56.97	328	IAmb	IAmb	11 16 11.5	
	comp=Z,5.3nm,0.9s						
LLLB	Lillooet	59.64	329	IAmb	IAmb	11 16 29.9	
	comp=Z,5.1nm,0.8s						
FRB	Frobisher Bay	59.73	4	LR	LR	11 44 46.9	
	comp=Z,23nm,18.5s,baz=94,slow=38						
BBTS	Babate	60.28	76	LR	LR	11 44 21.6	
	comp=Z,56nm,18.0s,baz=150,slow=38						
CBB	Campbell River	61.18	327	P	P	11 16 38.5	+1.6
YKA	Yellowknife Ar	64.48	342	P	P	11 16 57.8	-0.8
	comp=Z,4.1nm,0.7s,baz=141,slow=6.3,SNR=62						
	comp=Z,4.1nm,0.7s						
DY2G	Dye2	65.72	13	*i* P	P	11 17 04.6	-2.3
ICESG	Greenland Ices	69.33	13	*i* P	P	11 17 25.6	-4.2
ICESG				IAmb	IAmb	11 17 33.6	
	comp=Z,51nm,1.3s						
KULLO	Kullorsuaq	71.25	5	*i* P	P	11 17 38.7	-2.3
KULLO				IAmb	IAmb	11 17 43.5	
	comp=Z,17nm,1.2s						
DBIC	Dimbokro	71.70	84	P	P	11 17 43.7	-1.1
DBIC	Dimbokro	71.70	84	P	P	11 17 43.8	-1.1
	comp=Z,13nm,0.7s,baz=258,slow=6.9,SNR=16						
	comp=Z,13nm,0.7s						
SUMG	Summit	72.26	11	P	P	11 17 47.3	-0.2
SUMG	Summit	72.26	11	*i* P	P	11 17 47.0	-0.5
SUMG				IAmb	IAmb	11 17 50.5	
	comp=Z,14nm,0.7s						
M30M	Minto, Yukon	72.78	335	IAmb	IAmb	11 17 54.5	
	comp=Z,6.4nm,0.8s						
K29M	Barlow Dome	73.62	336	IAmb	IAmb	11 17 59.4	
	comp=Z,6.3nm,0.8s						
A36M	Sachs Harbour	74.02	346	IAmb	IAmb	11 17 59.3	
	comp=Z,7.8nm,0.8s						
ESDC	Sonseca Array	74.20	50	P	P	11 17 59.4	+0.1
	comp=Z,2.4nm,0.8s,baz=257,slow=6.3,SNR=11						
ESDC				LR	LR	11 47 31.8	
	comp=Z,41nm,21.2s,baz=242,slow=33						
	comp=Z,2.4nm,0.8s						
NEEM	North Greenlan	74.49	6	*i* P	P	11 17 55.5	-5.0
NEEM				IAmb	IAmb	11 18 02.5	
	comp=Z,33nm,1.5s						
L27K	Beaver Creek,	75.10	335	IAmb	IAmb	11 18 08.1	
	comp=Z,5.0nm,0.8s						
G29M	Pine Creek	75.12	339	IAmb	IAmb	11 18 09.1	
	comp=Z,5.9nm,0.9s						
E29M	Blow River	75.72	340	IAmb	IAmb	11 18 10.4	
	comp=Z,6.8nm,0.9s						
J26L	Joseph Creek	76.32	336	P	P	11 18 12.1	+1.2
J26L				IAmb	IAmb	11 18 14.1	
	comp=Z,4.3nm,0.7s						
J25K	Salcha River,	77.09	336	IAmb	IAmb	11 18 18.6	
	comp=Z,4.8nm,0.8s						
EKA	Eskdalemuir Ar	77.33	34	P	P	11 18 15.7	-0.9
	comp=Z,1.1nm,0.5s,baz=258,slow=4.1,SNR=6.0						
	comp=Z,1.1nm,0.5s						
IL31		77.76	336	P	P	11 18 18.9	0.0
IL31				IAmb	IAmb	11 18 21.7	
	comp=Z,4.2nm,0.8s						
ILAR	Eielson Array	77.76	336	P	P	11 18 18.6	-0.3
	comp=Z,2.7nm,0.7s,baz=114,slow=4.1,SNR=27						
	comp=Z,2.7nm,0.7s						
TORD	Torodi Ar. Bea	77.95	78	P	P	11 18 19.4	-1.6
TORD	Torodi Ar. Bea	77.95	78	P	P	11 18 19.9	-1.1
	comp=Z,76nm,0.5s,baz=288,slow=5.9,SNR=1.6						
NEA2	Nenana	78.62	335	P	P	11 18 24.4	+0.7
NEA2				IAmb	IAmb	11 18 39.2	
	comp=Z,10nm,1.3s						
I23K	Minto, Yukon-K	78.88	336	IAmb	IAmb	11 18 28.4	
	comp=Z,5.1nm,0.8s						
D25K	Kavik River	78.92	340	IAmb	IAmb	11 18 29.1	
	comp=Z,5.5nm,0.8s						
BPAW	Bear Paw Mtn.	79.32	335	P	P	11 18 27.6	+0.1
BPAW				IAmb	IAmb	11 18 30.9	
	comp=Z,8.8nm,0.9s						
G23K	Bananza Creek	79.52	337	P	P	11 18 28.7	+0.1
COLD	Coldfoot	79.72	338	P	P	11 18 30.9	+1.2
D23K	Nanushuk River	80.31	339	P	P	11 18 33.7	+0.9
D23K				IAmb	IAmb	11 18 36.7	
	comp=Z,11nm,1.3s						
C23K	Itkillik River	80.49	340	IAmb	IAmb	11 18 53.8	
	comp=Z,13nm,1.1s						
J19K	Poorman	81.30	334	P	P	11 18 39.0	+0.8
J19K				IAmb	IAmb	11 19 02.8	
	comp=Z,9.7nm,1.4s						
B21K	Ikpikpuk River	81.81	340	IAmb	IAmb	11 18 43.8	
	comp=Z,6.4nm,0.9s						
D19K	Kuna River	82.89	338	IAmb	IAmb	11 19 10.9	
	comp=Z,6.0nm,1.1s						
VSL	Villasalto	84.47	51	P	P	11 18 54.8	-0.3
SPITS	Spitsbergen Ar	86.59	12	P	P	11 19 05.2	+0.3
	comp=Z,1.7nm,0.5s,baz=197,slow=2.6,SNR=6.9						
	comp=Z,1.7nm,0.5s						
HFS	Hagfors	86.68	30	P	P	11 19 05.3	-0.3
	comp=Z,2.4nm,0.8s,baz=241,slow=11,SNR=2.4						
	comp=Z,2.4nm,0.8s						
GERES	GERESS Array B	87.26	41	P	P	11 19 09.1	+0.2
	comp=Z,1.4nm,0.8s,baz=272,slow=7.9,SNR=5.0						
	comp=Z,1.4nm,0.8s						
QSPA	South Pole Qui	94.23	180	P	P	11 19 41.8	+0.8
	comp=Z,2.5nm,0.8s,baz=162,slow=2.9,SNR=8.1						
	comp=Z,2.5nm,0.8s						
ZALV	Zalesovo Beam	120.07	12	PKP	PKPdf	11 25 12.5	-0.1
	comp=Z,0.5nm,0.5s,baz=343,slow=3.0,SNR=2.3						
KLR	Kul'dur	121.26	338	PKP	PKPdf	11 25 14.8	-0.2
	comp=Z,0.7nm,0.5s,baz=252,slow=3.2,SNR=3.7						
KURBB	Kurchatov Arra	121.44	18	PKP	PKPdf	11 25 14.9	-0.5
	comp=Z,0.9nm,0.5s,baz=322,slow=2.4,SNR=12						
MKAR	Makanchi Array	125.99	18	PKP	PKPdf	11 25 23.2	-1.1
	comp=Z,0.6nm,0.5s,baz=323,slow=3.3,SNR=10						
SONM	Songino Array	128.10	357	PKP	PKPdf	11 25 27.9	-0.5
	comp=Z,0.5nm,0.6s,baz=317,slow=2.6,SNR=4.6						
KSRS	Korea Array	132.56	333	PKP	PKPdf	11 25 36.5	-0.5
	comp=Z,0.6nm,0.6s,baz=349,slow=2.1,SNR=1.9						
STKA	Stephens Creek	134.62	228	PKP	PKPdf	11 25 41.0	0.0
	comp=Z,2.3nm,0.8s,baz=69,slow=6.9,SNR=3.2						
ASAR	Alice Springs	144.55	234	PKP	PKPab	11 25 57.2	-0.6
	comp=Z,9.6nm,0.7s,baz=120,slow=3.7,SNR=103						
WRA	Warramunga Arr	145.79	240	PKPbc	PKPdf	11 26 01.5	-0.1
	comp=Z,6.4nm,0.8s,baz=109,slow=2.8,SNR=38						
CMAR	Chiang Mai Arr	157.11	10	PKPab	PKPab	11 26 48.5	-0.5
	comp=Z,1.4nm,0.6s,baz=335,slow=5.2,SNR=6.8						

NEIC ***19*** *11:06:44.6±2.5, 3°.28S±0°.07×146°.74E±0°.07, h10km±1km, mb4.7/34, Error ellipse: s-maj=13.7km s-min=10.1km az=124.0*

IDC ***19*** *11:06:44.1±0.9, 3°.15S×146°.54E, h0km, mb4.1/13, mbtmp4.2/15, ML2.7/2, MS4.0/40, Error ellipse: s-maj=32.0km s-min=15.3km az=91.0*

GCMT ***19*** *11:06:48.6±0.2, 3°.14S±0°.01×146°.41E±0°.01, h12km, MW4.9/112, Moment Tensor Solution. s41,c45; s112,c170; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.37±.08; Mθθ=0.97±.07; Mφφ=-0.60±.07; Mrθ=0.25±.20; Mθφ=2.81±.05; Mφr=0.02±.20; Best double couple: M0=2.93000×10^16^ NP1:φs=8.00000°, δ=85.00000°, λ=-179.00000°. NP2:φs=278.00000°, δ=89.00000°, λ=-5.00000°. Principal axes: T 3.1130, Plg=3.0000°, Azm=323.0000°; N -0.3660, Plg=85.0000°, Azm=89.0000°; P -2.7480, Plg=4.0000°, Azm=233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 11:06:44.1±0.5, **3°.27S**±0°.05×**146°.84E**±0°.07, **h10**km, **n101**, σ1=**89**/72, **mb4.5**/35, **MS4.1**/43, **1C-2D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	1.33	23		Pn	11 07 08.8	+0.1
RABL	Rabaul	5.39	100	Pn	Pn	11 08 04.5	-0.2
PMG	Port Moresby	6.11	177	Pn	Pn	11 08 18.4	+3.9
	4.9nm,0.3s,baz=2.9,slow=4.4,SNR=29						
PMG				Sn	Sn	11 09 29.9	+5.4
	0.2nm,0.3s,baz=342,slow=22,SNR=1.5						
	69nm,0.7s						
JAY	Jayapura	6.17	277	Pn	Pn	11 08 12.1	-3.4
	0.7nm,0.3s,baz=95,slow=6.0,SNR=4.2						
JAY				LR	LR	11 10 11.2	
	comp=Z,1μm,18.6s,baz=300,slow=35						
	40nm,1.1s						
COEN	Coen	11.22	199	Pn	Pn	11 09 27.0	+2.3
HNR	Honiara	14.39	116	LR	LR	11 15 55.5	
	comp=Z,780nm,18.7s,baz=297,slow=38						
SAUI	Saumlaki	16.15	252	Pn	Pn	11 10 30.2	-1.3
MTN	Manton Dam	18.21	238	P	Pn	11 10 55.2	-2.1
WB0	Warramunga Arr	20.41	216	P	P	11 11 21.3	-0.3
WB0				IAmb	IAmb	11 11 23.6	
	comp=Z,52nm,1.1s						
WR0	Warramunga Arr	20.48	215	P	P	11 11 21.8	-0.5
WR0				IAmb	IAmb	11 11 22.9	
	comp=Z,29nm,1.0s						
WRAB	Tennant Creek	20.57	215	P	P	11 11 22.9	-0.3
WRAB				IAmb	IAmb	11 11 23.8	
	comp=Z,36nm,0.9s						
WB2	Warramunga Arr	20.57	215	P	P	11 11 23.1	-0.2
WB2				IAmb	IAmb	11 11 23.9	
	comp=Z,33nm,0.9s						
WRA	Warramunga Arr	20.58	215	P	P	11 11 22.2	-1.2
WRA	Warramunga Arr	20.58	215	P	P	11 11 22.9	-0.5
	comp=Z,18nm,0.8s,baz=37,slow=12,SNR=76						
WRA				LR	LR	11 20 08.4	
	comp=Z,698nm,18.6s,baz=33,slow=39						
	comp=Z,18nm,0.8s						
KNRA	Kununurra	21.65	234	P	P	11 11 32.6	-2.3
KNRA				IAmb	IAmb	11 11 37.0	
	comp=Z,46nm,0.8s						
SOEI	Soe	23.32	253	P	P	11 11 49.8	-3.0
DAV	Davao City (W)	23.57	296	LR	LR	11 20 51.0	
	comp=Z,185nm,18.3s,baz=310,slow=36						
AS31	Alice Springs	23.82	211	P	P	11 11 57.0	-0.6
ASAR	Alice Springs	23.82	211	P	P	11 11 57.1	-0.5
ASAR	Alice Springs	23.82	211	P	P	11 11 57.6	+0.1
	comp=Z,13nm,1.0s,baz=38,slow=8.8,SNR=41						
ASAR				LR	LR	11 21 05.5	
	comp=Z,598nm,20.1s,baz=40,slow=36						
	comp=Z,13nm,1.0s						
FITZ	Fitzroy Crossi	25.47	233	P	P	11 12 11.1	-1.5
FITZ	Fitzroy Crossi	25.47	233	LR	LR	11 23 05.4	
	comp=Z,952nm,18.1s,baz=57,slow=39						
DZM	Mont Dzumac	26.68	136	*e*P	P	11 12 21.1	-2.5
	comp=Z,109nm,25.1s						
DZM				*e*S	S	11 16 55.7	-3.5
	comp=Z,281nm,25.8s						
DZM				*e*LR	LR	11 18 57.9	
	comp=Z,2μm,27.9s						
DZM	Mont Dzumac	26.68	136	LR	LR	11 21 45.1	
	comp=Z,902nm,20.3s,slow=33						
KAPI	Kappang	27.07	265	LR	LR	11 24 54.8	
	comp=Z,67nm,19.1s,baz=81,slow=41						
ARMA	Armidale	27.38	171	P	P	11 12 27.9	-2.0
ARMA				IAmb	IAmb	11 12 33.9	
	comp=Z,30nm,1.2s						
PINNC	Pines Island,	27.73	136	P	P	11 12 33.7	+0.7
STKA	Stephens Creek	28.88	189	P	P	11 12 42.8	-0.4
STKA	Stephens Creek	28.88	189	P	P	11 12 46.8	+3.6
	comp=Z,3.8nm,0.7s,baz=341,slow=8.4,SNR=7.2						
STKA				LR	LR	11 25 20.1	
	comp=Z,695nm,18.0s,baz=3.7,slow=38						
	comp=Z,3.8nm,0.7s						
JCJ	Chichijima	30.52	352	LR	LR	11 21 43.4	
	comp=Z,110nm,21.1s,baz=170,slow=30						
TGY	Tagaytay City	30.94	304	LR	LR	11 23 11.6	
	comp=Z,142nm,20.4s,baz=331,slow=32						
BBOO	Buckleboo	31.08	198	P	P	11 13 00.7	-1.9
PSA00	Pilbara Seismi	31.92	233	P	P	11 13 08.2	-2.0
PSA00				IAmb	IAmb	11 13 49.7	
	comp=Z,15nm,1.2s						
FORT	Forrest	32.61	211	P	P	11 13 15.3	-0.8
MSVF	Nonsavu	33.80	117	LR	LR	11 27 36.1	
	comp=Z,173nm,19.1s,baz=300,slow=37						
TOO	Toolangi	34.16	182	P	P	11 13 27.0	-2.6
TOO				IAmb	IAmb	11 14 05.6	
	comp=Z,12nm,1.5s						
JOW	Kunigami	34.89	330	LR	LR	11 24 36.4	
	comp=Z,474nm,21.9s,baz=147,slow=31						
SBUM	Sibu	35.07	279	P	P	11 13 35.1	-2.6
JNU	Nakatsue	39.22	339	LR	LR	11 27 28.8	
	comp=Z,175nm,21.0s,baz=160,slow=32						
MJAR	Matsushiro Arr	40.41	349	LR	LR	11 29 26.5	
	comp=Z,136nm,19.0s,baz=147,slow=34						
MAJO	Matsushiro	40.42	349	P	P	11 14 21.8	-0.8
MAJO				IAmb	IAmb	11 14 39.7	
	comp=Z,16nm,1.3s						
MJB9	Matsu-Tunnel	40.42	349	P	P	11 14 21.3	-1.4
MJB9				IAmb	IAmb	11 14 41.1	
	comp=Z,15nm,1.3s						
NWAO	Narrogin (SRO)	40.47	220	LR	LR	11 32 25.2	
	comp=Z,656nm,18.6s,baz=62,slow=38						
QIZ	Qiongzhong	42.61	303	P	P	11 14 40.1	-0.8
QIZ				S	S	11 21 05.3	+1.2
QIZ				SS	SS	11 24 19.5	+5.2
QIZ				LR	LR		
	comp=N,440nm,16.1s						
QIZ				LR	LR		
	comp=E,310nm,19.7s						
QIZ				LR	LR		
	comp=Z,340nm,22.7s						
NJ2	Nanjing	44.05	325	*e*P	P	11 14 53.8	+1.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSRS	Korea Array	44.16	338	P	P	11 14 52.6	-0.5
	comp=Z,0.8nm,0.8s,baz=157,slow=9.0,SNR=4.0						
KSRS				LR	LR	11 31 37.7	
	comp=Z,220nm,19.1s,baz=145,slow=34						
	comp=Z,0.8nm,0.8s						
URZ	Urewera	44.46	145	LR	LR	11 31 11.7	
	comp=Z,264nm,21.7s,baz=34,slow=33						
ASAJ	Asahikawa	47.32	356	LR	LR	11 34 27.8	
	comp=Z,55nm,19.8s,baz=182,slow=35						
PSI	Prapat	48.27	277	LR	LR	11 37 47.7	
	comp=Z,71nm,20.4s,baz=159,slow=39						
USA0B	Ussuriysk Arra	49.10	346	P	P	11 15 31.4	-0.3
USA0B				IAmb	IAmb	11 15 48.3	
	comp=Z,3.5nm,0.7s						
USRK	Ussuriysk Ar.	49.10	346	P	P	11 15 31.9	+0.1
	comp=Z,1.7nm,0.6s,baz=169,slow=6.2,SNR=4.5						
USRK				LR	LR	11 34 02.3	
	comp=Z,88nm,19.9s,baz=159,slow=34						
	comp=Z,1.7nm,0.6s						
PHRA	Phrae	50.73	297	P	P	11 15 44.5	-0.1
XAN	Xi'an	51.50	319	⇓P	P	11 15 44.4	-5.8
XAN				pmax	pmax		
	comp=Z,12nm,3.4s						
BNX	BinXian	51.76	343	⇑P	P	11 15 51.8	-0.1
BNX				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CM31	Chiang Mai Arr	51.86	296	P	P	11 15 53.0	-0.1
CM31				IAmb	IAmb	11 15 53.7	
	comp=Z,7.0nm,0.9s						
CMAR	Chiang Mai Arr	51.86	296	P	P	11 15 52.7	-0.5
	comp=Z,3.1nm,0.8s,baz=115,slow=5.9,SNR=28						
CMAR				LR	LR	11 38 56.1	
	comp=Z,54nm,18.5s,baz=110,slow=38						
	comp=Z,3.1nm,0.8s						
CHTO	Chiang Mai	51.98	297	P	P	11 15 53.2	-0.8
PZH	PanZhiHua	52.67	307	P	P	11 15 59.4	+0.2
PZH				S	S	11 23 29.0	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
PZH				LR	LR		
	comp=N,12μm,20.1s						
PZH				LR	LR		
	comp=E,160nm,19.1s						
PZH				LR	LR		
	comp=Z,190nm,21.5s						
CD2	Chengdu	53.29	313	P	P	11 16 03.0	-0.6
CD2				pmax	pmax		
	comp=Z,20nm,0.3s						
CD2				LR	LR		
	comp=N,330nm,18.5s						
CD2				LR	LR		
	comp=E,280nm,23.3s						
CD2				LR	LR		
	comp=Z,240nm,16.2s						
KLR	Kul'dur	53.90	348	LR	LR	11 36 41.6	
	comp=Z,92nm,21.9s,baz=166,slow=34						
HHC	Hu-ho-hao-te	54.45	327	*e*P	P	11 16 13.3	+1.4
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,90nm,4.5s						
HHC				LR	LR		
	comp=N,120nm,13.7s						
HHC				LR	LR		
	comp=E,200nm,18.6s						
HHC				LR	LR		
	comp=Z,260nm,19.6s						
XLT	XiLinHaoTe	54.47	333	*e*P	P	11 16 17.3	+5.3
XLT				pmax	pmax		
	comp=Z,4.0nm,1.7s						
XLT				LR	LR		
	comp=N,18nm,11.2s						
XLT				LR	LR		
	comp=E,120nm,12.9s						
XLT				LR	LR		
	comp=Z,230nm,17.7s						
RAR	Rarotonga	54.84	114	LR	LR	11 38 28.8	
	comp=Z,21nm,18.4s,baz=274,slow=34						
LZH	Lanzhou	56.06	318	*e*P	P	11 16 27.1	+3.3
LZH				sP	pwP	11 16 34.0	+5.4
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
PETK	Petropavlovsk-	56.91	8	P	P	11 16 27.7	-1.6
BRDH	Bariadhala	59.69	299	LR	LR	11 44 18.4	
	comp=Z,40nm,18.3s,baz=212,slow=38						
GTA	Gaotai	60.56	319	*e*P	P	11 16 56.9	+1.8
GTA				pmax	pmax		
	comp=Z,1.0nm,1.3s						
SONM	Songino Array	61.96	330	P	P	11 17 05.9	+1.4
	comp=Z,0.7nm,0.8s,baz=139,slow=6.0,SNR=5.4						
SONM				LR	LR	11 42 56.7	
	comp=Z,298nm,20.5s,baz=154,slow=35						
	comp=Z,0.7nm,0.8s						
ADK	Adak	63.05	24	P	P	11 17 10.7	-0.8
PPT	Papeete	63.85	108	LR	LR	11 39 53.8	
	comp=Z,37nm,21.8s,baz=274,slow=31						
PPT2	Papeete2	63.85	108	*e*LR	LR	11 36 04.9	
	comp=Z,142nm,27.0s						
PPT2				*e*LR	LR	11 36 12.3	
	comp=Z,118nm,30.0s						
TBI	Tubuai	64.60	114	*e*LR	LR	11 36 30.3	
	comp=Z,1μm,34.5s						
YAK	Yakutsk	66.43	351	LR	LR	11 46 19.8	
	comp=Z,57nm,18.1s,baz=129,slow=36						
WMQ	Urumqi	70.64	319	*e*P	P	11 18 04.6	+4.5
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
VNDA	Vanda	74.63	177	LR	LR	11 48 56.9	
	comp=Z,81nm,18.3s,baz=349,slow=34						
MK31	Makanchi Array	75.31	320	P	P	11 18 27.5	-0.2
MKAR	Makanchi Array	75.31	320	P	P	11 18 27.6	-0.1
MKAR	Makanchi Array	75.31	320	P	P	11 18 27.8	+0.1
	comp=Z,3.1nm,1.0s,baz=110,slow=6.6,SNR=17						
	comp=Z,3.1nm,1.0s						
MAKZ	Makanchi	75.51	320	P	P	11 18 29.1	+0.2
MAKZ				IAmb	IAmb	11 18 36.0	
	comp=Z,9.1nm,1.3s						
TIXI	Tiksi	75.69	354	LR	LR	12 01 08.0	
	comp=Z,32nm,18.0s,baz=191,slow=43						
ZALV	Zalesovo Beam	76.63	328	P	P	11 18 35.4	+0.4
	comp=Z,0.9nm,0.6s,baz=145,slow=8.7,SNR=5.4						
ZALV				LR	LR	11 50 54.1	
	comp=Z,151nm,21.9s,baz=107,slow=35						
	comp=Z,0.9nm,0.6s						
KSH	Kashi	77.45	312	P	P	11 18 42.8	+2.7
KSH				pmax	pmax		
	comp=Z,1.0nm,0.5s						
K17K	Iditarod	77.61	23	P	P	11 18 40.3	0.0
K17K				IAmb	IAmb	11 18 59.7	
	comp=Z,15nm,1.4s						
L18K	Granite Mounta	77.97	24	P	P	11 18 42.9	+0.5
L18K				IAmb	IAmb	11 19 19.4	
	comp=Z,15nm,1.4s						
BOOM	Boomskoye usch	78.25	314	P	P	11 18 44.8	+0.2
BOOM				IAmb	IAmb	11 19 05.7	
	comp=Z,6.0nm,1.1s						
KURK	Kurchatov	78.94	323	P	P	11 18 46.5	-1.5
KURK				IAmb	IAmb	11 19 01.3	
	comp=Z,5.4nm,0.9s						
KURBB	Kurchatov Arra	78.97	323	P	P	11 18 47.6	-0.5
	comp=Z,0.9nm,0.9s,baz=97,slow=4.7,SNR=7.0						
	comp=Z,0.9nm,0.9s						
NRIK	Noril'sk	82.64	342	LR	LR	11 53 54.9	
	comp=Z,111nm,21.6s,baz=132,slow=34						
ILAR	Eielson Array	83.05	23	P	P	11 19 10.6	+1.0
	comp=Z,0.6nm,0.7s,baz=254,slow=4.9,SNR=5.9						
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	84.48	324	P	P	11 19 16.9	-0.3
	comp=Z,2.7nm,0.8s,baz=116,slow=6.8,SNR=9.0						
	comp=Z,2.7nm,0.8s						
QSPA	South Pole Qui	86.68	180	LR	LR	11 57 41.8	
	comp=Z,122nm,18.5s,baz=12,slow=35						
BBB	Bella Bella	89.52	38	LR	LR	11 51 45.1	
	comp=Z,116nm,20.6s,baz=230,slow=30						
ABKAR	Akbulak array	90.42	319	P	P	11 19 43.6	-2.4
YBH	Yreka Blue Hor	92.49	49	LR	LR	11 53 18.5	
	comp=Z,174nm,21.8s,baz=281,slow=30						
SYO	Syowa Base	93.09	200‖	*e*P	P	11 19 58.6	+0.7
NVAR	Mina Array Bea	95.82	52	LR	LR	11 55 40.1	
	comp=Z,110nm,20.7s,baz=252,slow=30						
NEW	Newport	96.45	42	LR	LR	11 56 34.1	
	comp=Z,50nm,19.9s,baz=289,slow=31						
KIRV	Kirov	96.65	328	LR	LR	12 04 25.3	
	comp=Z,373nm,20.5s,baz=75,slow=36						
YKA	Yellowknife Ar	96.84	28	P	P	11 20 16.7	+1.5
	comp=Z,0.2nm,0.8s,baz=274,slow=5.1,SNR=4.1						
YKA				LR	LR	12 02 44.6	
	comp=Z,38nm,18.7s,baz=300,slow=35						
	comp=Z,0.2nm,0.8s						
PFO	Pinyon Flats O	97.38	57	LR	LR	11 57 02.2	
	comp=Z,124nm,19.8s,baz=270,slow=31						
DBIC	Dimbokro	151.60	278	PKPbc	PKiKP	11 26 41.5	+1.2
	comp=Z,3.1nm,0.9s,baz=45,slow=1.4,SNR=2.0						

IDC ***19*** *11:21:25.8±2.2, 37°.75N×144°.03E, h0km, mb3.4/4, mbtmp3.7/7, ML3.6/3, Error ellipse: s-maj=43.5km s-min=24.5km az=138.0*

JMA ***19*** *11:21:30.3±0.2, 37°.9N±0°.7×143°.7E±0°.9, h43km, MV3.9/33, FAR E OFF MIYAGI PREF*

NIED ***19*** *11:21:30.3, 37°.94N×143°.72E, h43km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.18; Mθθ=2.33; Mφφ=3.51; Mrθ=0.44; Mθφ=1.88; Mφr=3.31; Fault plane solution: M0=4.75000×10^14^ NP1:φs=62.00000°, δ=43.00000°, λ=-11.00000°. NP2:φs=160.00000°, δ=82.00000°, λ=-132.00000°.*

ISC 19 11:21:30.7±1.2, **37°.86N**±0°.06×**143°.87E**±0°.09, **h35**km, **n26**, σ1=**89**/29, **mb3.4**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.95	284	*i* P	Pn	11 22 00.1	-1.2
JIO	Ouri	2.08	287	*i

baz=320
H11S2 WAKE ISLAND Hy 27.75 128 T T 11 56 23.3
baz=320
SONM Songino Array 28.98 302 P **P** **11 27 28.4 +1.5**
0.4nm,0.6s,baz=108,slow=4.8,SNR=4.0
0.4nm,0.6s
ZALV Zalesovo Beam 42.82 312 P **P** **11 29 27.0 +2.1**
0.4nm,0.4s,baz=88,slow=7.9,SNR=5.5
0.4nm,0.4s
KURBB Kurchatov Arra 47.04 308 P **P** **11 29 60.0 +1.4**
0.3nm,0.6s,baz=80,slow=8.1,SNR=10
0.3nm,0.6s
ILAR Eielson Array 47.75 33 P **P** **11 30 04.4 +0.6**
0.2nm,0.7s,baz=270,slow=6.0,SNR=5.1
0.2nm,0.7s

*DJA **19** 11:24:54.8±0.3,6°S±2°×12°9E±°, h279km±5km, M4.6/19, mb4.7/17, mB5.1/11, MLv4.9/19, Mw(mB)4.5/11*
*NEIC **19** 11:24:55.0±1.6, 5°75S±0°06×129°03E±0°05, h259km±8km, mb4.6/28, Error ellipse: s-maj=10.3km s-min=6.0km az=146.0*
*IDC **19** 11:24:57.1±3.2, 5°83S×128°86E, h288km±37km, mb3.4/10, mbtmp4.2/12, Error ellipse: s-maj=26.7km s-min=13.2km az=80.0*
ISC 19 11:24:55.1±0.4, **5°85**S±0°04×**129°02E**±0°06, **h264**km, **n110**, σ1°**44**/117, **mb4.4**/26, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.58**	**34**	P	**Pn**	**11 25 37.3**	**+1.9**
BNDI	**Bandanaira**	**1.58**	**34**	P	**Pn**	**11 25 36.4**	**+1.0**
BNDI				S	**S**	**11 26 09.4**	**+2.1**
AAI	**Ambon**	**2.30**	**339**	P	**Pn**	**11 25 41.5**	**0.0**
MSAI	**Masohi**	**2.49**	**358**	P	**Pn**	**11 25 41.8**	**-1.5**
MSAI				S	**S**	**11 26 17.1**	**-4.5**
SAUI	**Saumlaki**	**3.10**	**133**	Pn	**Pn**	**11 25 48.1**	**-1.5**
SAUI				Sn	**S**	**11 26 32.0**	**-0.9**
SAUI	**Saumlaki**	**3.10**	**133**	P	**Pn**	**11 25 50.9**	**+1.3**
NLAI	**Namlea**	**3.22**	**323**	P	**Pn**	**11 25 50.5**	**-0.4**
FAKI	**Fak Fak**	**4.34**	**48**		**Pn**	**11 26 02.1**	**-1.5**
FAKI				Sn	**S**	**11 26 53.6**	**-4.6**
FAKI	**Fak Fak**	**4.34**	**48**	P	**Pn**	**11 26 02.3**	**-1.3**
FAKI	**Fak Fak**	**4.34**	**48**	P	**Pn**	**11 26 02.0**	**-1.6**
SANI	**Sanana**	**4.83**	**321**	P	**Pn**	**11 26 08.3**	**-1.1**
SANI	**Sanana**	**4.83**	**321**	P	**Pn**	**11 26 07.6**	**-1.8**
LBMI	**Labuha**	**5.39**	**344**	P	**Pn**	**11 26 14.7**	**-1.5**
	1.4nm5μm325nm,0.7s						
SWI	**Sorong**	**5.43**	**24**	P	**Pn**	**11 26 14.7**	**-2.0**
SOEI	**Soe**	**6.10**	**230**		**Pn**	**11 26 26.0**	**+1.0**
SOEI	**Soe**	**6.10**	**230**	P	**Pn**	**11 26 26.4**	**+1.4**
SOEI	**Soe**	**6.10**	**230**	P	**Pn**	**11 26 26.3**	**+1.3**
	0.4nm62nm,0.7s						
BBSI	**Bau Bau**	**6.43**	**273**	P	**Pn**	**11 26 30.3**	**+1.4**
	0.3nm81nm,1.0s						
KDI	**Kendari**	**6.65**	**286**	P	**Pn**	**11 26 32.5**	**+0.8**
RKPI	**Ransiki, Papua**	**6.71**	**50**	P	**Pn**	**11 26 30.9**	**-1.6**
TNTI	**Ternate**	**6.78**	**346**		**Pn**	**11 26 31.4**	**-1.9**
TNTI	**Ternate**	**6.78**	**346**	P	**Pn**	**11 26 32.7**	**-0.6**
TNTI	**Ternate**	**6.78**	**346**	P	**Pn**	**11 26 32.3**	**-1.0**
	0.3nm77nm,1.0s						
DRS	**Darwin Rock St**	**6.80**	**164**	P	**Pn**	**11 26 34.8**	**+1.3**
BATI	**Baumata**	**6.85**	**230**	P	**Pn**	**11 26 34.1**	**-0.1**
	0.8nm2μm234nm,0.6s						
MTN	**Manton Dam**	**7.26**	**163**		**Pn**	**11 26 39.9**	**+0.6**
KDU	**Kakadu**	**7.60**	**154**	P	**Pn**	**11 26 44.1**	**+0.5**
BAKI	**Biak**	**8.45**	**57**	P	**Pn**	**11 26 52.7**	**-1.5**
	110nm,1.0s						
BSSI	**Bau Bau, Buton**	**8.49**	**268**	P	**Pn**	**11 26 55.5**	**+0.8**
	31nm,1.0s						
BKSI	**Bulukumba**	**8.87**	**273**	P	**Pn**	**11 26 59.9**	**+0.4**
BASI	**Baing, Sumba**	**9.42**	**242**	P	**Pn**	**11 27 05.7**	**-0.7**
	76nm,0.8s						
MRSI	**Marisa**	**9.46**	**311**	P	**Pn**	**11 27 06.7**	**-0.1**
	896nm31nm,0.7s						
KNRA	**Kununurra**	**9.77**	**181**		**Pn**	**11 27 11.1**	**+0.3**
TOLI2	**Tolitoli**	**10.74**	**310**	Pn	**Pn**	**11 27 21.8**	**-1.1**
TOLI2	**Tolitoli**	**10.74**	**310**	P	**Pn**	**11 27 23.5**	**+0.5**
PLAI	**Plampang**	**11.54**	**254**	P	**Pn**	**11 27 31.6**	**-1.2**
JAY	**Jayapura**	**12.11**	**75**	P	**P**	**11 27 43.5**	**+1.1**
	16nm,0.7s,baz=239,slow=12,SNR=1.8						
FITZ	**Fitzroy Crossi**	**12.62**	**195**	Pn	**Pn**	**11 27 46.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.62**	**195**	P	**Pn**	**11 27 46.1**	**0.0**
	7.0nm,0.5s,baz=19,slow=9.8,SNR=23						
FITZ				S	**S**	**11 30 01.1**	**-5.3**
	7.7nm,0.3s,baz=95,slow=22,SNR=6.6						
BKB	**Balikpapan**	**12.93**	**290**	Pn	**Pn**	**11 27 48.9**	**-1.0**
WB0	**Warramunga Arr**	**14.79**	**160**	P	**P**	**11 28 12.5**	**+0.5**
WRAB	**Tennant Creek**	**14.93**	**160**	P	**P**	**11 28 14.2**	**+0.7**
WRA	**Warramunga Arr**	**14.94**	**160**	P	**P**	**11 28 14.2**	**+0.6**
	22nm,0.3s,baz=340,slow=11,SNR=164						
WRA				S	**S**	**11 30 53.9**	**-4.5**
	3.4nm,0.6s,baz=340,slow=21,SNR=5.0						
WB2	**Warramunga Arr**	**14.94**	**160**	P	**P**	**11 28 14.2**	**+0.6**
WR0	**Warramunga Arr**	**15.02**	**160**	P	**Pn**	**11 28 15.6**	**+0.4**
COEN	**Coen**	**16.10**	**121**	P	**Pn**	**11 28 27.9**	**-0.1**
COEN				IAmb	IAmb	11 28 28.7	
	comp=Z,28nm,0.8s						
COEN	**Coen**	**16.10**	**121**	P	**Pn**	**11 28 28.1**	**+0.1**
QIS	**Mount Isa**	**17.87**	**146**	P	**P**	**11 28 47.2**	**+1.5**
PSA00	**Pilbara Seismi**	**17.98**	**209**		**P**	**11 28 47.4**	**+0.6**
PSA00	**Pilbara Seismi**	**17.98**	**209**	P	**P**	**11 28 47.2**	**+0.4**
AS31	**Alice Springs**	**18.33**	**166**		**P**	**11 28 52.3**	**+1.8**
ASAR	**Alice Springs**	**18.33**	**166**	P	**P**	**11 28 52.1**	**+1.6**
	comp=Z,161nm,0.7s,baz=348,slow=12,SNR=1226						
ASAR				S	**S**	**11 32 03.7**	**-2.4**
	comp=Z,7.5nm,1.0s,baz=344,slow=21,SNR=11						
AS01	**Alice Springs**	**18.34**	**165**	P	**P**	**11 28 52.2**	**+1.5**
SBUM	**Sibu**	**18.69**	**296**	P	**P**	**11 28 55.4**	**+0.8**
WRKA	**Warakurna**	**19.09**	**182**	P	**P**	**11 29 00.0**	**+1.2**
MTSU	**Mount Surprise**	**19.29**	**131**	P	**P**	**11 29 02.3**	**+1.4**
OOD	**Oodnadatta**	**22.73**	**165**	P	**P**	**11 29 35.6**	**+0.9**
MEEK	**Meekatharra**	**22.93**	**205**	P	**P**	**11 29 36.5**	**-0.1**
INKA	**Innaminka**	**24.46**	**154**	P	**P**	**11 29 51.7**	**+1.3**
FORT	**Forrest**	**24.82**	**182**	P	**P**	**11 29 54.2**	**+0.6**
FORT				IAmb	IAmb	11 29 54.8	
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**24.82**	**182**	P	**P**	**11 29 54.1**	**+0.5**
LCRK	**Leigh Creek**	**25.96**	**162**	P	**P**	**11 30 05.3**	**+1.5**
KMBL	**Kambalda**	**26.25**	**194**	P	**P**	**11 30 06.9**	**+0.4**
BBOO	**Buckleboo**	**27.62**	**167**	P	**P**	**11 30 19.2**	**+0.6**
BBOO	**Buckleboo**	**27.62**	**167**	P	**P**	**11 30 19.1**	**+0.6**
STKA	**Stephens Creek**	**28.45**	**157**	P	**P**	**11 30 27.2**	**+1.3**
STKA	**Stephens Creek**	**28.45**	**157**	P	**P**	**11 30 26.8**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=332,slow=8.8,SNR=14						
	comp=Z,9.8nm,0.8s						
STKA	**Stephens Creek**	**28.45**	**157**	P	**P**	**11 30 26.8**	**+0.9**
HTT	**Hallett**	**28.95**	**163**	P	**P**	**11 30 31.6**	**+1.2**
CMSA	**Cobar Meteorol**	**29.95**	**151**	P	**P**	**11 30 40.7**	**+1.5**
ARMA	**Armidale**	**32.40**	**142**	P	**P**	**11 31 02.4**	**+1.7**
ARMA				IAmb	IAmb	11 31 27.6	
	comp=Z,22nm,1.4s						
ARMA	**Armidale**	**32.40**	**142**	P	**P**	**11 31 01.8**	**+1.0**
YNG	**Young**	**33.52**	**150**	P	**P**	**11 31 11.2**	**+1.0**
CAN	**Canberra**	**34.63**	**151**	P	**P**	**11 31 22.2**	**+2.4**
TOO	**Toolangi**	**34.97**	**157**	P	**P**	**11 31 23.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**38.25**	**310**	P	**P**	**11 31 49.4**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=128,slow=7.4,SNR=6.5						
	comp=Z,0.5nm,0.3s						
JNU	**Nakatsue**	**38.79**	**2**	P	**P**	**11 31 55.9**	**+1.1**
	comp=Z,15nm,1.1s,baz=202,slow=8.2,SNR=1.9						
	comp=Z,15nm,1.1s						
NJ2	**Nanjing**	**38.91**	**346**	*e*P	**P**	**11 31 59.1**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OUENC	**Ouen Island, N**	**40.05**	**118**	P	**P**	**11 32 04.7**	**-0.5**
PZH	**PanZhiHua**	**41.63**	**322**	P	**P**	**11 32 19.8**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**43.09**	**359**	P	**P**	**11 32 28.9**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=179,slow=9.3,SNR=3.7						
	comp=Z,0.9nm,0.5s						
JMM	**Marumori**	**44.85**	**13**	P	**P**	**11 32 42.5**	**-1.0**
JMM				IAmb	IAmb	11 32 52.5	
	comp=Z,20nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.16**	**342**	*e*P	**P**	**11 33 18.9**	**+2.2**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
CN2	**Changchun**	**49.52**	**357**	P	**P**	**11 33 20.5**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**49.89**	**3**	P	**P**	**11 33 20.6**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=134,slow=6.2,SNR=4.7						
	comp=Z,2.0nm,0.6s						
JKA	**Kamikawa-asahi**	**51.22**	**13**	P	**P**	**11 33 31.0**	**-1.0**
JKA				IAmb	IAmb	11 33 58.0	
	comp=Z,36nm,1.5s						
TCW	**Tory Channel**	**53.50**	**138**	P	**P**	**11 33 49.5**	**+0.7**
BKZ	**Black Stump Fm**	**54.10**	**135**	P	**P**	**11 33 54.1**	**+0.9**
BKZ				IAmb	IAmb	11 34 33.0	
	comp=Z,28nm,1.4s						
KLR	**Kul'dur**	**54.90**	**2**	P	**P**	**11 33 57.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=350,slow=1.1,SNR=4.6						
	comp=Z,0.3nm,0.3s						
PEA0B	**Petropavlovsk-**	**63.55**	**19**	P	**P**	**11 34 57.6**	**+0.1**
PETK	**Petropavlovsk-**	**63.55**	**19**	P	**P**	**11 34 57.4**	**-0.2**
PETK	**Petropavlovsk-**	**63.55**	**19**	P	**P**	**11 34 57.0**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=186,slow=4.8,SNR=5.5						
	comp=Z,2.2nm,0.7s						
MK31	**Makanchi Array**	**66.73**	**327**	P	**P**	**11 35 17.2**	**-1.0**
MKAR	**Makanchi Array**	**66.73**	**327**	P	**P**	**11 35 17.3**	**-0.9**
MKAR	**Makanchi Array**	**66.73**	**327**	P	**P**	**11 35 17.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=113,slow=8.5,SNR=7.3						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**84.12**	**180**	P	**P**	**11 36 56.0**	**-0.5**
QSPA				IAmb	IAmb	11 37 15.5	
	comp=Z,9.1nm,1.5s						
QSPA	**South Pole Qui**	**84.12**	**180**	P	**P**	**11 36 55.6**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=169,slow=1.5,SNR=9.2						
	comp=Z,0.7nm,0.6s						
SYO	**Syowa Base**	**84.38**	**201**	‖*e*P	**P**	**11 36 59.0**	**+1.5**
M14K	**Bethel**	**85.02**	**27**	P	**P**	**11 37 01.3**	**+0.5**
M14K				IAmb	IAmb	11 37 33.7	
	comp=Z,26nm,1.4s						
M16K	**Timber Creek**	**86.49**	**28**	P	**P**	**11 37 08.5**	**+0.5**
M16K				IAmb	IAmb	11 37 12.1	
	comp=Z,24nm,1.5s						
J16K	**Anvik River**	**86.52**	**25**	P	**P**	**11 37 08.9**	**+0.8**
J16K				IAmb	IAmb	11 37 44.8	
	comp=Z,9.7nm,1.4s						
E18K	**Tukpahlearik C**	**87.96**	**21**	P	**P**	**11 37 14.3**	**-0.6**
E19K	**Redstone River**	**89.20**	**22**	P	**P**	**11 37 20.1**	**-0.6**
BPAW	**Bear Paw Mtn.**	**90.86**	**26**	P	**P**	**11 37 29.5**	**+1.0**
BPAW				IAmb	IAmb	11 38 03.2	
	comp=Z,5.6nm,0.8s						
I23K	**Minto, Yukon-K**	**91.75**	**25**	P	**P**	**11 37 32.5**	**-0.1**
I23K				IAmb	IAmb	11 37 38.3	
	comp=Z,4.6nm,1.2s						
COLD	**Coldfoot**	**91.78**	**23**	P	**P**	**11 37 32.0**	**-0.7**
C23K	**Itkillik River**	**92.13**	**20**	P	**P**	**11 37 33.2**	**-1.0**
C23K				IAmb	IAmb	11 37 53.3	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**92.73**	**25**	P	**P**	**11 37 37.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=261,slow=4.3,SNR=4.4						
	comp=Z,0.3nm,0.8s						
BCAR	**Beaver Creek A**	**94.80**	**27**	P	**P**	**11 37 46.5**	**-0.3**
DAWY	**Dawson**	**95.91**	**26**	P	**P**	**11 37 51.6**	**-0.2**
DAWY				IAmb	IAmb	11 38 26.1	
	comp=Z,4.5nm,1.3s						

*IDC **19** 11:29:30.1±2.0, 24°32S×179°86E, h521km±21km, mb3.1/7, mbtmp4.0/10, Error ellipse: s-maj=25.4km s-min=19.7km az=126.0*
ISC 19 11:29:29.4±0.7, **24°38S**±0°09×**180°0E**±0°1, **h517**km, **n15**, σ1°**06**/15, **mb3.6**/7, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.85**	**345**	P	**P**	**11 31 14.9**	**0.0**
	8.5nm,0.5s,baz=157,slow=20,SNR=26						
DZM	**Mont Dzumac**	**12.64**	**278**	P	**P**	**11 32 16.2**	**+1.4**
	16nm,0.8s,baz=92,slow=16,SNR=4.0						
URZ	**Urewera**	**14.05**	**189**	P	**P**	**11 32 29.4**	**+0.1**
	8.8nm,0.9s,baz=322,slow=4.7,SNR=6.6						
URZ				S	**S**	**11 34 56.8**	**-0.7**
	5.8nm,0.8s,baz=132,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**11 36 34.2**	**-0.6**
	0.4nm,0.6s,baz=97,slow=7.8,SNR=2.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**11 36 37.1**	**-0.9**
	1.4nm,0.7s,baz=97,slow=8.2,SNR=5.1						
	1.4nm,0.7s						
QSPA	**South Pole Qui**	**65.71**	**180**	P	**P**	**11 39 23.4**	**+1.0**
	2.1nm,0.9s,baz=184,slow=0.2,SNR=6.7						
	2.1nm,0.9s						
NVAR	**Mina Array Bea**	**85.12**	**44**	P	**P**	**11 41 11.2**	**+0.3**
	0.7nm,0.9s,baz=231,slow=9.4,SNR=3.6						
	0.7nm,0.9s						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**11 41 38.4**	**+1.1**
	0.9nm,0.7s,baz=208,slow=6.4,SNR=9.0						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**92.50**	**14**	P	**P**	**11 41 44.0**	**-0.5**
	0.8nm,1.0s,baz=212,slow=6.2,SNR=5.7						
	0.8nm,1.0s						
PDAR	**Pinedale Array**	**93.06**	**44**	P	**P**	**11 41 47.7**	**-0.2**
	0.4nm,0.8s,baz=134,slow=4.3,SNR=3.9						
	0.4nm,0.8s						
NOA	**NORSAR Array B**	**142.54**	**351**	PKhKP	PKPpre	11 47 59.0	
	0.3nm,0.6s,baz=15,slow=4.6,SNR=3.3						
HFS	**Hagfors**	**143.00**	**349**	PKP	**PKPdf**	**11 48 01.0**	**-2.6**
	3.6nm,0.5s,baz=56,slow=2.7,SNR=19						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPdf**	**11 48 08.3**	**+0.4**
	0.4nm,0.4s,baz=49,slow=3.9,SNR=7.1						
BRTR	**Keskin Array B**	**147.84**	**307**	PKPbc	**PKPbc**	**11 48 16.0**	**-0.4**
	0.4nm,0.4s,baz=132,slow=1.8,SNR=3.9						
MMAI	**Mount Meron Ar**	**147.86**	**294**	PKPbc	**PKiKP**	**11 48 17.6**	**-0.4**
	2.0nm,0.5s,baz=35,slow=5.3,SNR=2.3						

*SNET **19** 11:34:52.2±0.9, 13°04N×89°22W, h36km±3km, ML2.9*
*CATAC **19** 11:35:02.6±0.6, 15°N±5°×8°7W±°, h5km, M3.5/8, MLv3.5/8, Error ellipse: s-maj=12.5km s-min=6.7km az=37.6*
ISC 19 11:34:53.3±2.2, **13°1N**±0°1×**89°22W**±0°06, **h35**km, **n26**, σ0°**72**/30, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**346**	P	**Sn**	**11 35 10.2**	**+0.7**
JAYA	**Jayaque - finc**	**0.62**	**339**	*e*P	**Pn**	**11 35 05.1**	**-0.7**
JAYA				*e*S	**Sn**	**11 35 14.8**	**+0.2**
JAYA				IAML		11 35 16.1	
	comp=Z,817nm,0.1s						
JAYA	**Jayaque - finc**	**0.62**	**339**	P	**Sn**	**11 35 14.3**	**-0.3**
COEG	**Centro de Oper**	**0.63**	**31**	*e*S	**Sn**	**11 35 14.7**	**-0.2**
PMON	**Piamonte**	**0.64**	**352**	*e*P	**Pn**	**11 35 05.5**	**-0.6**
PMON				*e*S	**Sn**	**11 35 15.9**	**+0.9**
PMON	**Piamonte**	**0.64**	**352**	P	**Sn**	**11 35 16.1**	**+1.0**
BOQS	**Boqueron**	**0.66**	**355**	*e*P	**Pn**	**11 35 05.9**	**-0.5**
PQSS	**Presa 15 de Se**	**0.84**	**49**	*e*P	**Pn**	**11 35 07.7**	**-1.0**
PQSS				*e*S	**Sn**	**11 35 20.4**	**+0.5**
PQSS	**Presa 15 de Se**	**0.84**	**49**	P	**Pn**	**11 35 07.6**	**-1.0**
PQSS	**Presa 15 de Se**	**0.84**	**49**	P	**Sn**	**11 35 20.8**	**+1.0**
CEVE	**Cerro Verde**	**0.85**	**332**	*e*P	**Pn**	**11 35 08.7**	**-0.2**
CEVE				*e*S	**Sn**	**11 35 21.9**	**+1.6**
CEVE				IAML		11 35 22.7	
	comp=Z,283nm,0.3s						
CEVE	**Cerro Verde**	**0.85**	**332**	P	**Pn**	**11 35 08.4**	**-0.6**
CEVE	**Cerro Verde**	**0.85**	**332**	P	**Sn**	**11 35 21.0**	**+0.6**
PACA	**Pacayal**	**0.96**	**66**	*e*P	**Pn**	**11 35 09.9**	**-0.5**
PACA				*e*S	**Sn**	**11 35 23.2**	**+0.4**
PACA	**Pacayal**	**0.96**	**66**	P	**Pn**	**11 35 09.9**	**-0.5**
PACA	**Pacayal**	**0.96**	**66**	P	**Sn**	**11 35 23.4**	**+0.6**
RANC	**El Ranchito**	**0.97**	**68**	P	**Sn**	**11 35 24.0**	**+0.7**
NUBE	**Las Nubes**	**0.99**	**326**	*e*P	**Pn**	**11 35 10.1**	**-0.8**
NUBE				*e*S	**Sn**	**11 35 23.8**	**+0.1**
NUBE	**Las Nubes**	**0.99**	**326**	P	**Pn**	**11 35 10.0**	**-0.8**
NUBE	**Las Nubes**	**0.99**	**326**	P	**Sn**	**11 35 24.6**	**+0.9**
LCND	**La Caada**	**1.31**	**80**	P	**Sn**	**11 35 31.3**	**-0.3**
LCND	**La Caada**	**1.31**	**80**	P	**Sn**	**11 35 31.5**	**0.0**
INTHN	**La Esperanza I**	**1.64**	**41**	P	Pn	11 35 25.5	+5.6
INTHN	**La Esperanza I**	**1.64**	**41**	P	Pn	11 35 25.6	+5.7
CHOHN	**Orocuina**	**2.05**	**78**	P	**Pn**	**11 35 25.6**	**+0.3**
CHOHN	**Orocuina**	**2.05**	**78**	P	**Pn**	**11 35 25.7**	**+0.3**

IDC 19 11:48:45.5±7.6, **23°91S**×**176°73W**, **h0**km, **mb3.5**/2, **mbtmp3.5**/2, **Error ellipse: s-maj=343.7km s-min=58.4km az=150.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.99**	**260**	P	P	11 57 03.5	+0.5
	0.2nm,0.4s,baz=95,slow=7.1,SNR=4.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.39**	**265**	P	P	11 57 05.5	-0.6
	0.4nm,0.4s,baz=105,slow=8.0,SNR=20						
	0.4nm,0.4s						
AKASG	**Malin Array Be**	**146.55**	**330**	PKPbc	PKPdf	12 08 27.8	+0.7
	0.7nm,0.3s,baz=42,slow=4.8,SNR=7.0						

RSNC 19 12:02:06.3±0.0, **12°N**±2°×**7°0W**±°, **h92**km±1km, **M2.5, mb3.5, mB5.2, ML2.4, Mw(mB)4.7, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUA1	**Aruba**	**0.26**	**73**	P	Pn	12 02 19.4	-0.3
AUA1				S	Sn	12 02 29.5	-0.2
AUA1	**Aruba**	**0.26**	**73**	P		12 02 19.4	
AUA1				S		12 02 29.5	
URIC	**Uribia, Colomb**	**1.84**	**247**	P	Pn	12 02 35.5	-1.0
URIC				S	Sn	12 02 59.2	-0.4
URIC	**Uribia, Colomb**	**1.84**	**247**	P		12 02 35.5	
URIC				S		12 02 59.2	
CRJC	**Cerrejon, Guaj**	**2.92**	**242**	P	Pn	12 02 50.6	-0.4
CRJC				S	Sn	12 03 24.9	-0.5
CRJC	**Cerrejon, Guaj**	**2.92**	**242**	P		12 02 50.6	
CRJC				S		12 03 24.9	
SDV	**Santo Domingo**	**3.54**	**186**	P	Pn	12 02 58.6	-0.8
SDV				S	Sn	12 03 39.8	-0.6
SDV	**Santo Domingo**	**3.54**	**186**	P		12 02 58.6	
SDV				S		12 03 39.8	
OCAC	**Ocana**	**5.14**	**216**	P		12 03 19.8	
OCAC				S		12 04 19.1	
OCAC	**Ocana**	**5.14**	**216**	P	Pn	12 03 19.8	-1.2
OCAC				S	Sn	12 04 19.1	-0.1
SJCC	**San Jacinto, C**	**5.44**	**243**	P	Pn	12 03 26.0	+0.9
	12nm,1.1s						
SJCC				S	Sn	12 04 26.3	-0.2
	12nm,1.1s						
SJCC	**San Jacinto, C**	**5.44**	**243**	P		12 03 26.0	
	12nm,1.1s						
SJCC				S		12 04 26.3	
	12nm,1.1s						
PAMC	**Pamplona, Colo**	**5.60**	**206**	P	Pn	12 03 27.7	+0.1
PAMC	**Pamplona, Colo**	**5.60**	**206**	P		12 03 27.7	
SDDR	**Presa de Saban**	**6.59**	**351**	P	Pn	12 03 39.6	-1.1
	14nm,1.3s						
SDDR	**Presa de Saban**	**6.59**	**351**	P		12 03 39.6	
	14nm,1.3s						
ZARC	**Zaragoza, Cauc**	**6.68**	**223**	P	Pn	12 03 44.0	+2.2
	1μm4.5nm,1.0s						
ZARC	**Zaragoza, Cauc**	**6.68**	**223**	P		12 03 44.0	
	1μm4.5nm,1.0s						
RUSC	**La Rusia**	**7.07**	**203**	P	Pn	12 03 48.0	+0.4
	6.3nm,1.4s						
RUSC	**La Rusia**	**7.07**	**203**	P		12 03 48.0	
	6.3nm,1.4s						
PTBC	**PUERTO BERRIO,**	**7.17**	**216**	P	Pn	12 03 47.9	-0.6
	3.2nm,1.0s						
PTBC				S	Sn	12 05 08.8	+0.3
	3.2nm,1.0s						
PTBC	**PUERTO BERRIO,**	**7.17**	**216**	P		12 03 47.9	
	3.2nm,1.0s						
PTBC				S		12 05 08.8	
	3.2nm,1.0s						
CHIC	**Chingaza**	**8.48**	**204**	P	Pn	12 04 06.5	-0.2
CHIC				S	Sn	12 05 40.3	-0.7
CHIC	**Chingaza**	**8.48**	**204**	P		12 04 06.5	
CHIC				S		12 05 40.3	

*MOS **19** 12:04:08.7±1.5, 36°32N×137°78E, h14km, mb4.6/15, Error ellipse: s-maj=8.2km s-min=5.1km az=90.8*
*IDC **19** 12:04:08.2±0.6, 36°37N×137°62E, h0km, mb3.9/16, mbtmp3.9/18, ML3.3/2, MS4.0/55, Error ellipse: s-maj=14.2km s-min=7.5km az=170.0*
*NIED **19** 12:04:09.5, 36°46N×137°66E, h0km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.31; $M_{\theta\theta}$3.49; $M_{\phi\phi}$-5.80; $M_{r\theta}$6.15; $M_{\theta\phi}$-4.29; $M_{r\phi}$4.09; Fault plane solution: $M_0$9.84000×10^{15} NP1: ϕ_s159.00000°, δ38.00000°, λ14.00000°. NP2:ϕ_s58.00000°, δ82.00000°, λ127.00000°.*
*JMA **19** 12:04:09.5±0.0, 36°5N±0°2×137°7E±0°2, h0km, MD4.7/20, MV4.2/20, HIDA MOUNTAINS REGION*
JMA Felt III J1 at HIDA MOUNTAINS REGION .
*NEIC **19** 12:04:12.3±1.8, 36°46N±0°03×137°75E±0°04, h10km±1km, mb4.6/48, Error ellipse: s-maj=7.1km s-min=3.2km az=137.0*
ISC 19 12:04:11.1±0.9, **36°44N**±0°03×**137°73E**±0°03, **h11**km±6km, **n257**

JHG Hegura jima 1.55 336 A A 12 04 37.7
comp=N,9.0nm,1.2s,comp=E,17nm,1.9s
HMMJ Hamamatsu 2 1.58 180 A A 12 04 39.2
comp=N,15nm,3.7s,comp=E,14nm,1.6s
JOD2 Odawara 2 1.61 136 A A 12 04 40.1
comp=N,18nm,4.2s,comp=E,24nm,5.3s
JSD Sado 1.65 15 Pn **Pn 12 04 39.0 -1.0**
JSD Sn **Sn 12 05 01.1 -0.1**
JSD Sado 1.65 15 P **Pn 12 04 39.2 -0.8**
JFM Mihama 1.68 238 A A 12 04 40.0
comp=N,22nm,5.2s,comp=E,15nm,5.5s
JEG Eigenji 1.69 220 A A 12 04 40.4
comp=N,18nm,5.2s,comp=E,11nm,5.4s
JKKS Kakegawashinom 1.70 173 A A 12 04 41.2
comp=N,51nm,3.9s,comp=E,56nm,4.1s
JSG Sagara 1.80 168 Pn **Pb 12 04 44.0 -0.1**
JSG Sagara 1.80 168 P **Pg 12 04 45.6 0.0**
JSG Sagara 1.80 168 A A 12 04 42.7
comp=N,48nm,1.0s,comp=E,57nm,5.2s
JHTM Izuhatsuma 1.81 144 A A 12 04 43.1
comp=N,42nm,1.4s,comp=E,42nm,1.1s
TOK Tokyo 1.81 114 A A 12 04 43.2
comp=N,55nm,3.2s,comp=E,47nm,4.8s
JSB Shiboa 1.84 73 A A 12 04 43.5
comp=N,27nm,4.7s,comp=E,12nm,4.4s
JFY Yanaizu 1.86 58 A A 12 04 43.5
comp=N,6.0nm,5.4s,comp=E,6.0nm,4.9s
JAA Atsumi 1.86 195 A A 12 04 43.3
comp=N,8.0nm,6.5s,comp=E,13nm,4.9s
JNS Sasagawa 1.87 42 A A 12 04 43.6
comp=N,8.0nm,0.6s,comp=E,8.0nm,1.2s
JIZS Izushimoda 1.96 151 A A 12 04 45.2
comp=N,11nm,6.5s,comp=E,12nm,7.4s
JYO Yokosk 1.99 127 A A 12 04 45.8
comp=N,40nm,5.2s,comp=E,21nm,2.5s
TSUJ Tsu 2 2.03 212 A A 12 04 45.5
comp=N,7.0nm,7.9s,comp=E,8.0nm,4.7s
TTO5 TONANKAI O.B.S 2.18 180 A A 12 04 48.2
comp=N,39nm,6.4s,comp=E,41nm,4.7s
JIE Ise 2.21 202 A A 12 04 48.2
comp=N,9.0nm,6.3s,comp=E,6.0nm,4.3s
JIM2 Oshima 3 2.21 141 A A 12 04 48.9
comp=N,16nm,4.4s,comp=E,13nm,3.7s
JWT Wachi 2.21 239 A A 12 04 47.8
comp=N,13nm,5.7s,comp=E,9.0nm,6.3s
TATJ Tateyama 2 2.25 128 A A 12 04 49.6
comp=N,24nm,6.0s,comp=E,23nm,4.6s
JKY Yasaka 2.27 250 A A 12 04 48.6
comp=N,15nm,5.5s,comp=E,5.0nm,7.8s
JTHY Toshimahigashi 2.30 146 A A 12 04 50.2
comp=N,22nm,5.0s,comp=E,26nm,6.0s
I30JP ISUMI INFRASON 2.38 117 I I 12 20 00.0
baz=301,slow=292,SNR=1.0
JSKK Shikinejimakit 2.42 150 A A 12 04 52.0
comp=N,14nm,3.2s,comp=E,17nm,3.9s
JHE Heguri 2.44 224 A A 12 04 51.3
comp=N,9.0nm,5.2s,comp=E,12nm,6.6s
JKN2 Miekihoku 2.50 209 A A 12 04 52.3
comp=N,7.0nm,6.0s,comp=E,6.0nm,4.2s
JYS Shirataka 2.58 46 A A 12 04 53.9
comp=N,5.0nm,1.7s,comp=E,8.0nm,5.7s
TTO3 TONANKAI O.B.S 2.58 186 A A 12 04 53.9
comp=N,45nm,4.7s,comp=E,37nm,4.8s
JKSM Kasumi 2.62 252 A A 12 04 53.6
comp=N,10.0nm,6.1s,comp=E,5.0nm,5.2s
JNTK Naratenkawa 2.64 215 A A 12 04 54.3
comp=N,5.0nm,4.7s,comp=E,9.0nm,5.0s
JYA Atsumi 2.67 36 A A 12 04 55.0
comp=N,3.0nm,1.2s,comp=E,4.0nm,4.6s
JMIK Miki 2.72 234 A A 12 04 55.2
comp=N,13nm,6.3s,comp=E,11nm,6.9s
JKS Kasai 2.76 239 A A 12 04 55.7
comp=N,9.0nm,5.5s,comp=E,6.0nm,6.4s
JMM Marumori 2.83 59 **Pn 12 04 56.9 +0.6**
JMM Marumori 2.83 59 P **Pn 12 04 58.0 +1.7**
JAWN Awajishima-nag 3.02 231 A A 12 04 59.5
comp=N,7.0nm,5.7s,comp=E,8.0nm,7.3s
JYYZ Yamagatayuza 3.11 34 A A 12 05 01.3
comp=N,10.0nm,3.6s,comp=E,7.0nm,3.2s
JTNC Tanabenakahech 3.14 214 A A 12 05 01.4
comp=N,6.0nm,4.9s,comp=E,8.0nm,4.6s
JWM Minabe 3.23 218 A A 12 05 02.7
comp=N,7.0nm,9.9s,comp=E,8.0nm,5.4s
JOFO Osakifurukawao 3.33 49 A A 12 05 04.6
comp=N,15nm,3.7s,comp=E,11nm,3.8s
JHJ Hachijo jima 2 3.72 152 Pn **Pn 12 05 06.7 -1.8**
comp=E,7.5nm,0.3s,baz=45,slow=17,SNR=2.3
JHJ Pg **Pb 12 05 15.3 -1.5**
comp=E,66nm,0.3s,baz=36,slow=19,SNR=10
JHJ Sn **Sn 12 05 49.1 -3.1**
comp=E,18nm,0.3s,baz=58,slow=23,SNR=1.3
comp=E,108nm,0.8s
JHJ2 Mitsune 3.74 152 **Pn 12 05 10.3 +1.6**
JHJ2 Mitsune 3.74 152 P **Pn 12 05 10.0 +1.3**
JMN Monobe 4.16 231 Pn **Pn 12 05 17.7 +3.2**
JTM Tenmabayashi 5.07 30 Pn **Pn 12 05 27.8 +0.8**
JTM Tenmabayashi 5.07 30 P **Pn 12 05 29.2 +2.2**
JNU Nakatsue 6.53 242 **Pn 12 05 50.4 +3.2**
JNU Nakatsue 6.53 242 Pn **Pn 12 05 50.3 +3.1**
comp=E,0.8nm,0.3s,baz=57,slow=6.6,SNR=10
JNU Lg Lg 12 07 30.9
baz=250,slow=18
JNU LR LR 12 08 29.0
comp=E,838nm,21.0s,baz=52,slow=41
ERM Erimo 6.98 35 Pn **Pn 12 05 54.4 +1.1**
ERM Erimo 6.98 35*c iP* **Pn 12 05 55.2 +1.9**
KSRS Korea Array 7.92 280 Pn **Pn 12 06 07.0 +0.9**
comp=E,0.8nm,0.3s,baz=107,slow=14,SNR=16
KSRS LR LR 12 08 51.5
comp=E,1μm,20.6s,baz=90,slow=36
KSAR Wonju Array Be 7.95 280 Pn **Pn 12 06 09.1 +2.6**
KSAR Wonju Array Be 7.95 280 P **Pn 12 06 09.1 +2.6**
KS19 Wonju Array Si 7.96 281 Pn **Pn 12 06 07.7 +0.9**
TJN Taejon 8.36 273 Pn **Pn 12 06 15.0 +2.8**
TJN Taejon 8.36 273 P **Pn 12 06 15.0 +2.8**
ASAJ Asahikawa 8.52 24 Pn **Pn 12 06 16.9 +2.5**
comp=E,0.8nm,0.3s,baz=222,slow=18,SNR=12
ASAJ LR LR 12 09 49.6
comp=E,506nm,20.6s,baz=226,slow=40
ASAJ Asahikawa 8.52 24 P **Pn 12 06 15.6 +1.2**
JKA Kamikawa-asahi 8.52 24 Pn **Pn 12 06 15.6 +1.1**
TEY Ternei 8.63 355 *eP* **Pn 12 06 17.1 +1.2**
USA0B Ussuriysk Arra 8.90 332 Pn **Pn 12 06 20.4 +0.8**
USA0B Ussuriysk Arra 8.90 332⇑*eP* Pn 12 06 24.8 +5.2
USRK Ussuriysk Ar. 8.90 332 Pn **Pn 12 06 21.3 +1.7**
USRK Ussuriysk Ar. 8.90 332 Pn **Pn 12 06 22.9 +3.3**
comp=E,0.2nm,0.3s,baz=141,slow=12,SNR=14
USRK LR LR 12 09 28.3
comp=E,805nm,20.1s,baz=147,slow=36
USRK Ussuriysk Ar. 8.90 332 P **Pn 12 06 21.3 +1.7**
JCJ Chichijima 10.06 157 LR LR 12 10 01.8
comp=E,814nm,21.5s,baz=1.5,slow=35
YSS Yuzhno-Sakhali 11.15 18 Pn **Pn 12 06 51.8 +1.4**
YSS Yuzhno-Sakhali 11.15 18*αeP* **Pn 12 06 52.0 +1.6**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,200nm,2.8s
YSS MLR MLR
comp=N,500nm,16.0s
JOW Kunigami 12.51 223 LR LR 12 12 05.5
comp=N,465nm,21.1s,baz=49,slow=38
UGL Uglegorsk 13.03 13 *eP* **Pn 12 07 17.8 +1.8**
UGL *eS* **Sn 12 09 43.5 +2.7**
UGL pmax pmax
comp=Z,30nm,0.8s
KLR Kul'dur 13.51 343 Pn **Pn 12 07 23.9 +1.3**
comp=Z,0.1nm,0.3s,baz=160,slow=12,SNR=20
KLR LR LR 12 12 24.1
comp=Z,531nm,19.5s,baz=164,slow=37
comp=Z,12nm,1.2s
KLR Kul'dur 13.51 343 *eP* **Pn 12 07 25.2 +2.6**
KLR pmax pmax
comp=Z,21nm,1.3s
GRNR Gornyy 14.36 357⇓*iP* **P 12 07 38.2 -3.1**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=E,380nm,12.0s
GRNR MLR MLR
comp=N,380nm,14.0s
GRNR MLR MLR
comp=Z,510nm,14.0s
TYV Tymovskoe 14.85 12 *eP* **Pn 12 07 41.0 +0.1**
TYV pmax pmax
comp=Z,12nm,1.2s
TYV pmax pmax
comp=Z,200nm,2.9s
BJT Baijiatuau 17.31 288 **P 12 08 15.3 +1.3**
BJT Baijiatuau 17.31 288 P **P 12 08 15.3 +1.3**
BJT pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 18.33 320 P **P 12 08 26.9 +1.6**
HIA Hailar 18.33 320*d iP* **P 12 08 26.4 +1.1**
HIA pmax pmax
comp=Z,9.0nm,0.9s
NACB Ninganchiao 18.50 233 P **Pn 12 08 29.4 +2.0**
ZEA Zeya 18.78 340 *eP* **Pn 12 08 32.1 +1.5**
ZEA *eS* **Sn 12 11 56.9 -3.6**
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA smax smax
comp=N,100nm,4.0s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
YULB Yu-li 19.25 232 P **Pn 12 08 37.2 +0.7**
YULB IAmb IAmb 12 09 05.8
comp=Z,64nm,1.5s
TPUB Ta-pu 19.74 233 P **Pn 12 08 42.8 +0.4**
TPUB IAmb IAmb 12 09 20.0
comp=Z,50nm,1.4s
PEA0B Petropavlovsk- 21.76 34⇑*eP* **P 12 09 02.8 +0.3**
PETK Petropavlovsk- 21.76 34 P **P 12 09 03.5 +0.9**
PETK Petropavlovsk- 21.76 34 LR LR 12 16 56.8
comp=Z,161nm,21.2s,baz=225,slow=35
PETK Petropavlovsk- 21.76 34 P **P 12 09 03.5 +0.9**
PET Petropavlovsk 22.14 35⇑*eP* **P 12 09 07.3 +0.7**
PET pmax pmax
comp=Z,29nm,1.4s
GUMO Guam 23.64 162 LR LR 12 18 03.3
comp=Z,392nm,18.0s,baz=350,slow=35
ENH Enshi 24.33 264 P **P 12 09 28.9 0.0**
MA2 Magadan 24.65 16 P **P 12 09 31.1 -0.4**
MA2 Magadan 24.65 16 P **P 12 09 31.0 -0.5**
comp=Z,3.7nm,0.7s,baz=206,slow=13,SNR=3.6
comp=Z,3.7nm,0.7s
MA2 Magadan 24.65 16*d iP* **P 12 09 31.3 -0.2**
MA2 pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 25.28 306 P **P 12 09 37.0 -0.5**
ULN Ulaanbaatar 25.28 306*deP* **P 12 09 38.4 +0.9**
ULN pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 25.70 306 P **P 12 09 41.1 -0.2**
SONM Songino Array 25.70 306 P **P 12 09 40.3 -1.0**
comp=Z,1.3nm,0.9s,baz=106,slow=9.3,SNR=8.9
SONM LR LR 12 20 03.9
comp=Z,778nm,19.4s,baz=114,slow=37
comp=Z,1.3nm,0.9s
SONM Songino Array 25.70 306 P **P 12 09 41.1 -0.2**
SONM pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 26.11 351 P **P 12 09 44.1 -0.6**
YAK IAmb IAmb 12 09 45.3
comp=Z,11nm,0.7s
YAK Yakutsk 26.11 351 LR LR 12 19 48.1
comp=Z,156nm,19.9s,baz=114,slow=36
YAK Yakutsk 26.11 351 *eP* **P 12 09 41.7 -2.9**
YAK pmax pmax
comp=Z,12nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.4s
SEY Seymchan 28.02 14 P **P 12 10 03.1 +1.2**
comp=E,0.9nm,0.3s,baz=202,slow=7.6,SNR=4.4
comp=E,0.9nm,0.3s
SEY Seymchan 28.02 14⇓*eP* **P 12 10 04.3 +2.4**
SEY pmax pmax
comp=Z,13nm,3.0s
SHEM Shemya Is, Ala 30.20 46 LR LR 12 21 16.9
comp=Z,46nm,21.8s,baz=304,slow=34
WAKE Wake Island 30.59 116 P **P 12 10 26.0 +0.9**
DAV Davao City (W) 31.27 204 LR LR 12 24 02.7
comp=Z,99nm,18.1s,baz=338,slow=38
BILL Bilibino 35.47 18⇑*iP* **P 12 11 05.3 -1.9**
BILL pmax pmax
comp=Z,17nm,3.3s
TIXI Tiksi 35.58 355 LR LR 12 28 01.2
comp=Z,51nm,18.3s,baz=190,slow=40
TIXI Tiksi 35.58 355⇓*iP* **P 12 11 07.2 -0.8**
TIXI pmax pmax
comp=Z,16nm,3.3s
CMAR Chiang Mai Arr 38.49 253 LR LR 12 29 11.5
comp=Z,166nm,19.0s,baz=60,slow=39
JAY Jayapura 38.85 175 LR LR 12 24 35.1
comp=Z,118nm,20.7s,baz=354,slow=32
ZALV Zalesovo Beam 40.14 313 LR LR 12 28 44.3
comp=Z,105nm,20.3s,baz=94,slow=37
MK31 Makanchi Array 41.93 302⇓*iP* **P 12 11 59.1 -2.6**
MKAR Makanchi Array 41.93 302 P **P 12 11 59.5 -2.2**
comp=Z,0.5nm,0.9s,baz=84,slow=11,SNR=4.4
MKAR LR LR 12 29 56.5
comp=Z,490nm,18.1s,baz=76,slow=37
comp=Z,0.5nm,0.9s
MKAR Makanchi Array 41.93 302 *eP* **P 12 12 01.1 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
BRDH Bariadhala 41.99 264 LR LR 12 32 01.0
comp=Z,283nm,20.1s,baz=140,slow=40
NRIK Noril'sk 42.59 336 LR LR 12 30 48.3
comp=Z,642nm,18.3s,baz=116,slow=38
KRVT Keravat (AS076 42.68 159 LR LR 12 27 10.6
comp=Z,142nm,19.8s,baz=12,slow=32
TNA Tin City 42.84 30 P **P 12 12 09.7 +1.0**
ANM Nome 43.65 32 P **P 12 12 17.1 +1.8**
ANM IAmb IAmb 12 12 21.7
comp=Z,18nm,1.4s
ANM Nome 43.65 32 P **P 12 12 17.1 +1.8**
ANM pmax pmax
comp=Z,18nm,1.4s
KURK Kurchatov 43.97 308 P **P 12 12 19.4 +1.3**
KURK Kurchatov 43.97 308⇓*iP* **P 12 12 16.6 -1.5**
KURK pmax pmax
comp=Z,5.0nm,1.4s
KURBB Kurchatov Arra 44.03 308 P **P 12 12 16.9 -1.7**
comp=Z,1.3nm,0.8s,baz=86,slow=8.1,SNR=8.2
comp=Z,1.3nm,0.8s
F15K North Star Dit 44.19 30 P **P 12 12 20.8 +1.1**
F15K IAmb IAmb 12 12 26.5
comp=Z,14nm,1.1s
KAPI Kappang 44.54 206 P **P 12 12 23.9 +0.9**
KAPI Kappang 44.54 206 LR LR 12 30 35.7
comp=Z,42nm,20.0s,baz=22,slow=36
KAPI Kappang 44.54 206 P **P 12 12 23.9 +0.9**
KAPI pmax pmax
comp=Z,25nm,1.2s
WUS Wushi 45.10 295 P **P 12 12 28.1 +0.7**
I17K Unalakleet 45.56 33 P **P 12 12 30.6 +0.1**
I17K IAmb IAmb 12 12 33.3
comp=Z,8.0nm,1.3s
F17K Baldwin Pennin 45.69 29 P **P 12 12 32.2 +0.7**
E18K Tukpahlearik C 46.11 28 P **P 12 12 36.2 +1.3**
E18K IAmb IAmb 12 12 40.9
comp=Z,9.9nm,1.1s
C18K Utukok River 46.12 26 P **P 12 12 35.4 +0.3**
C18K IAmb IAmb 12 12 40.7
comp=Z,6.3nm,0.9s
IPM Ipoh 46.33 235 P **P 12 12 38.5 +1.2**
IPM IAmb IAmb 12 12 39.9
comp=Z,8.4nm,1.0s
G18K Tagagawik 46.66 30 P **P 12 12 40.5 +1.3**
G18K IAmb IAmb 12 12 44.9
comp=Z,9.7nm,1.2s
D19K Kuna River 47.21 27 P **P 12 12 43.9 +0.3**
E19K Redstone River 47.40 28 P **P 12 12 45.9 +0.9**
E19K IAmb IAmb 12 12 49.8
comp=Z,7.4nm,1.2s
AAK Ala-Archa 48.16 298 LR LR 12 34 02.3
comp=Z,191nm,18.1s,baz=76,slow=37
B21K Ikpikpuk River 48.60 26 P **P 12 12 55.2 +1.0**
BVAR Borovoye Array 48.78 312 P **P 12 12 54.3 -1.6**
comp=Z,0.6nm,0.6s,baz=85,slow=8.8,SNR=1.8
comp=Z,0.6nm,0.6s
PSI Prapat 48.98 236 LR LR 12 35 01.7
comp=Z,65nm,18.7s,baz=36,slow=38
E22K Anaktuvuk Pass 49.51 28 P **P 12 13 02.2 +0.9**
E22K IAmb IAmb 12 13 07.1
comp=Z,7.8nm,1.1s
D23K Nanushuk River 49.95 27 P **P 12 13 05.7 +1.1**
C23K Itkillik River 50.01 25 P **P 12 13 05.6 +0.6**
HNR Honiara 50.19 151 LR LR 12 34 38.7
comp=Z,76nm,19.1s,baz=344,slow=36
E23K Chandalar 50.33 28 P **P 12 13 09.0 +1.4**
KK31 Karatay Array 50.85 299 P **P 12 13 11.6 -0.2**
KK31 IAmb IAmb 12 13 14.6
comp=Z,10nm,1.5s
KK31 Karatay Array 50.85 299 P **P 12 13 11.6 -0.2**
KK31 pmax pmax
comp=Z,11nm,1.5s
KKAR Karatay Array 50.85 299 P **P 12 13 11.5 -0.3**
KKAR Karatay Array 50.85 299 P **P 12 13 11.5 -0.3**
POKR Poker Plat Res 51.31 32 P **P 12 13 15.9 +1.0**
POKR IAmb IAmb 12 13 23.6
comp=Z,8.4nm,1.4s
D25K Kavik River 51.49 26 P **P 12 13 17.1 +0.8**
ILAR Eielson Array 51.57 32 P **P 12 13 16.4 -0.5**
comp=Z,0.4nm,0.8s,baz=270,slow=5.0,SNR=6.6
ILAR LR LR 12 36 56.6
comp=Z,62nm,18.1s,baz=278,slow=38
comp=Z,0.4nm,0.8s
C27K Jago River 52.41 26 P **P 12 13 24.2 +1.1**
C27K IAmb IAmb 12 13 31.2
comp=Z,13nm,1.4s
F26K Sheenjek River 52.42 28 P **P 12 13 25.1 +2.0**
F26K IAmb IAmb 12 13 30.3
comp=Z,14nm,1.3s
D27M Malcolm River 53.42 26 P **P 12 13 31.9 +1.3**
D27M IAmb IAmb 12 13 37.0
comp=Z,8.0nm,1.2s
BCAR Beaver Creek A 54.04 34 P **P 12 13 36.8 +1.6**
I28M Miner Creek 54.39 31 P **P 12 13 39.3 +1.5**
I28M IAmb IAmb 12 13 49.4
comp=Z,6.2nm,1.2s
ARTI Arti 54.94 318 P **P 12 13 41.7 -0.1**
ARTI IAmb IAmb 12 13 53.7
comp=Z,7.7nm,1.2s
ARTI Arti 54.94 318 LR LR 12 36 57.5
comp=Z,106nm,18.5s,baz=85,slow=36
ARTI Arti 54.94 318*c iP* **P 12 13 39.6 -2.2**
ARTI 12 15 41.9
ARTI S **S 12 21 26.6 +3.5**
ARTI SS **SS 12 25 11.2 +5.1**
ARTI pmax pmax
comp=Z,8.0nm,1.3s
WB0 Warramunga Arr 55.99 184 P **P 12 13 49.2 -0.4**
WB0 IAmb IAmb 12 13 49.6
comp=Z,4.9nm,0.8s
ABKAR Akbulak array 56.04 309 P **P 12 13 49.3 -0.5**
WB2 Warramunga Arr 56.16 184 P **P 12 13 50.5 -0.4**
WB2 IAmb IAmb 12 13 51.4
comp=Z,5.3nm,1.0s
WRA Warramunga Arr 56.17 184 P **P 12 13 49.4 -1.6**
comp=Z,3.5nm,1.0s,baz=0.4,slow=7.6,SNR=16
WRA LR LR 12 36 59.8
comp=Z,66nm,19.4s,baz=20,slow=35
comp=Z,3.5nm,1.0s
INK Inuvik 56.25 27 P **P 12 13 50.4 -0.6**
INK IAmb IAmb 12 13 57.2
comp=Z,5.0nm,1.1s
INK Inuvik 56.25 27 LR LR 12 40 16.9
comp=Z,104nm,18.8s,baz=250,slow=38
INK Inuvik 56.25 27 P **P 12 13 50.4 -0.6**
INK pmax pmax
comp=Z,5.0nm,1.1s
H31M Peel River 56.58 30 P **P 12 13 54.0 +0.6**
AKTO Aktyubinsk 56.85 311 LR LR 12 39 52.9
comp=Z,194nm,18.1s,baz=99,slow=38
A36M Sachs Harbour 57.90 21 P **P 12 14 03.1 +0.5**
KIRV Kirov 58.92 322 LR LR 12 41 51.3
comp=Z,307nm,18.3s,baz=65,slow=38
PALK Pallekele 59.35 255 LR LR 12 43 27.2
comp=Z,74nm,18.3s,baz=54,slow=40
ASAR Alice Springs 59.89 184 P **P 12 14 17.5 +0.5**
ASAR Alice Springs 59.89 184 P **P 12 14 15.7 -1.3**
comp=Z,2.4nm,0.8s,baz=18,slow=5.3,SNR=18
comp=Z,2.4nm,0.8s
ASAR Alice Springs 59.89 184 P **P 12 14 17.5 +0.5**
SPITS Spitsbergen Ar 60.52 348 P **P 12 14 21.1 +0.4**
SPITS pmax pmax
comp=Z,22nm,1.2s
EUNU Eureka 61.20 8 P **P 12 14 25.3 -0.1**
EUNU IAmb IAmb 12 14 37.7
comp=Z,5.4nm,1.3s
BELG Belogornoye 62.20 316 LR LR 12 43 44.5
comp=Z,125nm,18.4s,baz=29,slow=38
ARCES ARCESS Array B 63.49 339 LR LR 12 46 19.8
comp=Z,226nm,18.8s,baz=70,slow=40
RES Resolute Bay 63.89 14 P **P 12 14 42.8 -0.5**
RES Resolute Bay 63.89 14 P **P 12 14 42.8 -0.5**
RES pmax pmax
comp=Z,7.0nm,1.0s
DZM Mont Dzumac 64.21 150 LR LR 12 43 01.4
comp=Z,54nm,18.9s,baz=210,slow=36
YKA Yellowknife Ar 65.79 29 P **P 12 14 55.6 -0.3**
comp=Z,0.3nm,0.7s,baz=295,slow=6.2,SNR=14
YKA LR LR 12 47 07.7
comp=Z,43nm,18.5s,baz=310,slow=39
comp=Z,0.3nm,0.7s
MSVF Nonsavu 65.99 138 LR LR 12 37 22.5
comp=Z,54nm,21.3s,baz=330,slow=30
OBN Obninsk 66.77 322 LR LR 12 46 45.7
comp=Z,433nm,18.0s,baz=336,slow=38
OBN Obninsk 66.77 322 *eP* **P 12 15 01.0 -1.2**
OBN *e* 12 15 28.7
OBN pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 67.93 331 P **P 12 15 08.7 -0.8**
comp=Z,2.4nm,0.8s,baz=66,slow=6.5,SNR=4.1
FINES LR LR 12 46 12.0
comp=Z,101nm,19.3s,baz=48,slow=37
comp=Z,2.4nm,0.8s
WSAR Wadi Sarin 68.14 283 LR LR 12 48 46.9
comp=Z,70nm,19.2s,baz=78,slow=39
KBZ Khabaz 69.01 309 LR LR 12 49 21.6
comp=Z,118nm,19.0s,baz=70,slow=39
KIV Kislovodsk 69.03 310 *eP* **P 12 15 13.2 -3.6**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,128nm,17.0s
GNI Garni 69.66 305 LR LR 12 48 22.3
comp=Z,290nm,18.3s,baz=62,slow=38
SUMG Summit 71.25 359 P **P 12 15 31.3 +1.0**
SUMG Summit 71.25 359 P **P 12 15 31.3 +1.0**
SUMG pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 72.92 321 P **P 12 15 38.5 -1.7**
comp=Z,1.9nm,0.7s,baz=52,slow=6.6,SNR=6.1
AKASG LR LR 12 50 09.9
comp=Z,260nm,18.8s,baz=56,slow=38
comp=Z,1.9nm,0.7s
HFS Hagfors 73.38 334 LR LR 12 51 58.5
comp=Z,98nm,19.2s,baz=42,slow=39
NOA NORSAR Array B 73.56 336 P **P 12 15 42.8 -1.0**
comp=Z,1.6nm,0.9s,baz=42,slow=6.0,SNR=2.8
NOA LR LR 12 50 08.6
comp=Z,94nm,18.9s,baz=25,slow=38
comp=Z,1.6nm,0.9s
DLMT Dillon 76.82 43 P **P 12 16 04.2 +1.1**
DLMT IAmb IAmb 12 16 28.0
comp=Z,4.5nm,0.9s
BRTR Keskin Array B 76.99 310 P **P 12 16 02.6 -1.5**
comp=Z,0.8nm,0.8s,baz=137,slow=6.2,SNR=7.0
BRTR LR LR 12 53 46.9
comp=Z,58nm,18.9s,baz=104,slow=39
comp=Z,0.8nm,0.8s
NVAR Mina Array Bea 77.69 51 P **P 12 16 07.2 -0.9**
comp=Z,0.8nm,0.8s,baz=262,slow=4.0,SNR=4.1
comp=Z,0.8nm,0.8s
MMAI Mount Meron Ar 79.86 304 LR LR 12 55 21.5
comp=Z,169nm,18.4s,baz=46,slow=38
VRAC Vranov 79.97 325 LR LR 12 52 57.1
comp=Z,129nm,18.2s,baz=41,slow=37
PDAR Pinedale Array 80.17 44 P **P 12 16 21.6 -0.1**
comp=Z,0.4nm,0.7s,baz=318,slow=2.0,SNR=4.1
comp=Z,0.4nm,0.7s
GERES GERESS Array B 81.61 326 LR LR 12 54 23.0
comp=Z,124nm,18.1s,baz=45,slow=37
RAR Rarotonga 82.26 123 LR LR 12 47 11.2
comp=Z,78nm,19.3s,baz=246,slow=31
DAVOX Davos/Dischmat 84.86 327 LR LR 12 58 01.7
comp=Z,174nm,18.8s,baz=77,slow=38
MSEY Mahe Island 86.53 262 *i P* **P 12 16 47.4 -7.2**
PPT Papeete 87.06 114 LR LR 12 46 58.8
comp=Z,84nm,21.9s,baz=254,slow=30

PPT2	**Papeete2**	**87.07 114**	*e*S		**S**	**12 27 31.4**	**-5.0**
	comp=Z,73nm,21.8s						
PPT2	**Papeete2**	**87.07 114**	*e*LR		LR	12 44 19.5	
	comp=Z,123nm,25.5s						
PPT2			*e*LR		LR	12 44 25.9	
	comp=Z,106nm,24.5s						
SADO	**Sadowa**	**92.55 25**	LR		LR	13 03 19.7	
	comp=Z,49nm,18.8s,baz=50,slow=38						
KEST	**Kesra**	**93.64 320**	LR		LR	13 04 22.5	
	comp=Z,116nm,19.6s,baz=336,slow=39						
ESDC	**Sonseca Array**	**96.45 331**	LR		LR	13 08 36.3	
	comp=Z,58nm,18.7s,baz=20,slow=40						

*NOU **19** 12:07:52.3, 41.°44S×175.°73E, h4km, MLv3.6/7, North Island, New Zealand*
*WEL **19** 12:07:54.6±0.7, 41.°S±2.°×17.°5E±.°, h17km±4km, M3.3/8, ML3.7/8, MLv3.3/8, Error ellipse: s-maj=2.9km s-min=2.6km az=163.1, confirmed*

ISC 19 12:07:55.5±0.9, 41.°16S±0.°03×175.°53E±0.°02, h18km±1km, n28, σ1º01/46, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTW	**Mount Morrison**	**0.02**	**275**	P	**Pb**	**12 07 58.9**	**+0.2**
MTW				S	**Sg**	**12 08 01.7**	**+0.8**
MAVS	**Martinborough**	**0.07**	**226**	P	**Pb**	**12 07 59.3**	**+0.4**
MAVS				S	**Sg**	**12 08 02.7**	**+1.4**
FTPS	**Featherston Pr**	**0.16**	**285**	P	**Pg**	**12 07 59.1**	**-0.8**
FTPS				S	**Sg**	**12 08 03.3**	**+0.5**
WRCS	**Masterton Wair**	**0.23**	**23**	P	**Pb**	**12 08 00.8**	**-0.1**
WRCS				S	**Sg**	**12 08 05.1**	**+0.6**
PAWZ	**Paruwai Farm**	**0.23**	**200**	P	**Pb**	**12 08 02.0**	**+0.8**
PAWZ				S	**Sg**	**12 08 07.0**	**+2.1**
HOWZ	**Holdsworth Sta**	**0.26**	**357**	P	**Pg**	**12 08 01.1**	**-0.3**
HOWZ				S	**Sg**	**12 08 05.3**	**-0.2**
TRWZ	**Traveller**	**0.27**	**154**	P	**Pb**	**12 08 02.3**	**+0.6**
TRWZ				S	Sg	12 08 08.2	+2.6
TMWZ	**Te Maipa**	**0.28**	**79**	P	**Pb**	**12 08 01.5**	**-0.4**
TMDS	**Te Marua Water**	**0.30**	**286**	P	**Pg**	**12 08 01.1**	**-0.9**
TMDS				S	**Sg**	**12 08 06.3**	**-0.1**
MSWZ	**Moikau Station**	**0.33**	**220**	P	**Pn**	**12 08 03.4**	**-2.1**
MSWZ				S	**Sb**	**12 08 09.7**	**+1.7**
UHSS	**Upper Hutt Pri**	**0.35**	**275**	P	**Pg**	**12 08 02.1**	**-0.9**
UHSS				S	**Sg**	**12 08 07.8**	**-0.3**
CAW	**Cannon Point**	**0.36**	**278**	P	**Pb**	**12 08 03.6**	**+0.2**
CAW				S	**Sb**	**12 08 09.3**	**+0.7**
UHCS	**Upper Hutt Col**	**0.37**	**275**	P	**Pb**	**12 08 03.7**	**+0.1**
UHCS				S	**Sb**	**12 08 09.8**	**+0.7**
HIBS	**Hutt Internati**	**0.38**	**273**	P	**Pg**	**12 08 02.5**	**-0.8**
HIBS				S	**Sg**	**12 08 08.3**	**-0.3**
TAIT	**Taita Central**	**0.44**	**267**	P	**Pg**	**12 08 03.6**	**-0.8**
TAIT				S	**Sg**	**12 08 10.3**	**-0.1**
DAVS	**Collett Street**	**0.44**	**264**	P	**Pb**	**12 08 03.9**	**-0.8**
DAVS				S	**Sg**	**12 08 10.5**	**0.0**
NBSS	**St Bernadette"**	**0.44**	**264**	P	**Pg**	**12 08 03.7**	**-0.8**
NBSS				S	**Sb**	**12 08 10.7**	**-0.3**
OGWZ	**Otaki Gorge**	**0.44**	**321**	P	**Pg**	**12 08 04.5**	**+0.1**
OGWZ				S	**Sg**	**12 08 10.9**	**+0.4**
PAPS	**Paraparaumu Pr**	**0.47**	**301**	P	**Pg**	**12 08 05.0**	**0.0**
TIWZ	**Tintock**	**0.47**	**35**	P	**Pb**	**12 08 04.9**	**-0.4**
TIWZ				S	**Sb**	**12 08 12.2**	**+0.4**
CPWZ	**Castlepoint**	**0.56**	**64**	P	**Pn**	**12 08 07.2**	**-1.4**
CPWZ				S	**Sn**	**12 08 18.0**	**+0.5**
SNZO	**South Karori**	**0.64**	**256**	P	**Pb**	**12 08 08.2**	**+0.1**
SNZO	**South Karori**	**0.64**	**256**	S	**Sb**	**12 08 18.1**	**+1.4**
BFZ	**Birch Farm**	**0.72**	**49**	P	**Pg**	**12 08 08.4**	**-1.3**
KHZ	**Kahutara**	**1.95**	**229**	P	**Pn**	**12 08 25.6**	**-2.1**
KHEZ	**Kahui Hut**	**2.20**	**328**	P	**Pb**	**12 08 34.0**	**-0.7**
QRZ	**Quartz Range**	**2.30**	**277**	P	**Pn**	**12 08 32.6**	**+0.1**
HIZ	**Hauiti**	**2.69**	**349**	P	**Pn**	**12 08 40.9**	**+3.0**

*IDC **19** 12:16:58.8±1.1, 15.°35S×173.°15W, h0km, mb3.8/7, mbtmp4.0/8, ML3.5/1, MS3.5/5, Error ellipse: s-maj=53.7km s-min=21.5km az=154.0*
*NEIC **19** 12:17:01.9±1.6, 15.°16S±0.°07×172.°88W±0.°07, h10km±1km, mb4.7/43, Error ellipse: s-maj=14.2km s-min=9.1km az=133.0*

ISC 19 12:17:03.9±0.5, 15.°19S±0.°07×172.°89W±0.°08, h29km, n79, σ1º18/70, mb4.6/30, MS3.6/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.67**	**40**		**Pn**	**12 17 30.9**	**-0.3**
AFI				Sn	**Sn**	**12 17 49.2**	**-2.5**
NIUE	**Niue**	**4.79**	**144**		**Pn**	**12 18 14.2**	**+0.1**
FUTU	**Fugatoga**	**5.14**	**279**	Pn	**Pn**	**12 18 18.6**	**-0.3**
MSVF	**Nonsavu**	**9.05**	**253**	Pn	**Pn**	**12 19 13.3**	**+0.6**
MSVF	**Nonsavu**	**9.05**	**253**	LR	LR	12 22 15.2	
	comp=Z,312nm,19.2s,baz=71,slow=36						
RAR	**Rarotonga**	**13.82**	**118**	Pn	**Pn**	**12 20 16.4**	**-1.5**
RAR	**Rarotonga**	**13.82**	**118**	Pn	**Pn**	**12 20 17.4**	**-0.6**
	2.3nm,0.3s,baz=233,slow=6.8,SNR=5.2						
RAR				Sn	Sn	12 22 39.8	-11
	0.7nm,0.3s,baz=73,slow=16,SNR=1.1						
	13nm,0.5s						
PPT	**Papeete**	**22.49**	**99**	LR	LR	12 28 32.0	
	comp=Z,48nm,20.4s,baz=218,slow=30						
URZ	**Urewera**	**24.61**	**199**	LR	LR	12 30 10.5	
	comp=Z,106nm,20.3s,baz=70,slow=32						
RTZ	**Ruatahuna**	**24.98**	**199**	P	**P**	**12 22 25.6**	**+0.4**
RTZ				IAmb	IAmb	12 22 54.8	
	comp=Z,17nm,1.1s						
HIZ	**Hauiti**	**25.62**	**203**	P	**P**	**12 22 29.6**	**-1.2**
BKZ	**Black Stump Fm**	**25.64**	**199**	P	**P**	**12 22 30.5**	**-0.5**
BKZ				IAmb	IAmb	12 22 42.9	
	comp=Z,16nm,1.2s						
BFZ	**Birch Farm**	**27.10**	**198**	P	**P**	**12 22 43.7**	**-0.5**
QRZ	**Quartz Range**	**28.51**	**204**	P	**P**	**12 22 57.6**	**+0.8**
LTZ	**Lake Taylor**	**30.30**	**202**	P	**P**	**12 23 12.4**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**39.04**	**328**	T	T	13 05 10.9	
	baz=146,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	13 05 10.5	
	baz=146,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.06**	**328**	T	T	13 05 11.1	
	baz=146,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	13 06 15.9	
	baz=147,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	13 06 18.1	
	baz=147,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	13 06 17.0	
	baz=147,slow=76,SNR=11						
BBOO	**Buckleboo**	**49.34**	**240**	P	**P**	**12 25 50.1**	**-0.7**
WR0	**Warramunga Arr**	**50.18**	**257**	P	**P**	**12 25 56.0**	**-1.4**
WB0	**Warramunga Arr**	**50.33**	**257**	P	**P**	**12 25 57.2**	**-1.3**
WB0				IAmb	IAmb	12 26 36.7	
	comp=Z,8.9nm,1.3s						
WB2	**Warramunga Arr**	**50.36**	**257**	P	**P**	**12 25 57.4**	**-1.3**
WB2				IAmb	IAmb	12 26 09.9	
	comp=Z,8.2nm,1.5s						
WRAB	**Tennant Creek**	**50.36**	**257**	P	**P**	**12 25 57.1**	**-1.6**
WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**12 25 57.5**	**-1.3**
WRA	**Warramunga Arr**	**50.37**	**257**	P	**P**	**12 25 55.9**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=91,slow=6.7,SNR=10						
	comp=Z,0.3nm,0.5s						
AS31	**Alice Springs**	**50.64**	**252**	P	**P**	**12 25 59.2**	**-1.6**
ASAR	**Alice Springs**	**50.64**	**252**	P	**P**	**12 25 59.0**	**-1.8**
ASAR	**Alice Springs**	**50.64**	**252**	P	**P**	**12 25 57.8**	**-3.0**
	comp=Z,1.1nm,0.5s,baz=88,slow=8.2,SNR=16						
	comp=Z,1.1nm,0.5s						
YBH	**Yreka Blue Hor**	**73.14**	**37**	LR	LR	12 52 03.4	
	comp=Z,49nm,19.7s,baz=283,slow=29						
NVAR	**Mina Array Bea**	**73.85**	**42**	P	**P**	**12 28 37.8**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=231,slow=10.0,SNR=4.2						
NVAR				LR	LR	12 53 49.5	
	comp=Z,56nm,20.0s,baz=300,slow=30						
	comp=Z,0.8nm,0.9s						
QSPA	**South Pole Qui**	**74.85**	**180**	P	**P**	**12 28 42.9**	**+1.3**
M14K	**Bethel**	**76.19**	**6**	P	**P**	**12 28 50.1**	**+1.1**
L14K	**Kuka Creek**	**76.71**	**5**	P	**P**	**12 28 52.7**	**+0.9**
L14K				IAmb	IAmb	12 29 24.4	
	comp=Z,6.4nm,1.1s						
N19K	**Bonanza Creek**	**77.17**	**9**	P	**P**	**12 28 55.0**	**+0.4**
N19K				IAmb	IAmb	12 29 03.0	
	comp=Z,14nm,1.4s						
K15K	**Wolf Creek Mou**	**77.75**	**5**	P	**P**	**12 28 59.7**	**+2.0**
K15K				IAmb	IAmb	12 29 00.5	
	comp=Z,11nm,1.1s						
GRNB	**Grenville Isla**	**77.93**	**24**	P	**P**	**12 28 57.5**	**-1.4**
M19K	**Big River Lodg**	**78.23**	**9**	P	**P**	**12 29 00.8**	**+0.3**
M19K				IAmb	IAmb	12 29 36.7	
	comp=Z,9.5nm,1.3s						
K17K	**Iditarod**	**78.50**	**7**	P	**P**	**12 29 03.0**	**+1.1**
K17K				IAmb	IAmb	12 29 33.1	
	comp=Z,8.4nm,1.2s						
KNK	**Knik Glacier**	**78.79**	**12**	P	**P**	**12 29 04.0**	**+0.4**
J16K	**Anvik River**	**78.81**	**6**	P	**P**	**12 29 05.5**	**+1.9**
J16K				IAmb	IAmb	12 29 06.4	
	comp=Z,10nm,1.0s						
GHO	**Glory Hole Cre**	**79.03**	**11**	P	**P**	**12 29 05.2**	**+0.2**
SCM	**Sheep Creek Mo**	**79.39**	**12**	P	**P**	**12 29 07.3**	**+0.4**
SCM				IAmb	IAmb	12 29 08.2	
	comp=Z,10nm,0.9s						
ANM	**Nome**	**79.72**	**3**	P	**P**	**12 29 10.2**	**+1.7**
N25K	**Chitina, Valde**	**79.77**	**13**	P	**P**	**12 29 10.0**	**+1.0**
N25K				IAmb	IAmb	12 29 39.6	
	comp=Z,14nm,1.3s						
CAST	**Castle Rocks**	**80.01**	**9**	P	**P**	**12 29 10.5**	**+0.4**
TXAR	**Lajitas Array**	**80.09**	**56**	P	**P**	**12 29 12.9**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=206,slow=8.2,SNR=6.5						
	comp=Z,0.9nm,0.9s						
J20K	**Nowinta River**	**80.43**	**8**	P	**P**	**12 29 13.2**	**+0.8**
J20K				IAmb	IAmb	12 29 13.9	
	comp=Z,7.7nm,1.1s						
TNA	**Tin City**	**80.60**	**2**	P	**P**	**12 29 15.0**	**+1.8**
MCK	**McKinley**	**80.83**	**11**	P	**P**	**12 29 15.5**	**+0.9**
MCK				IAmb	IAmb	12 29 15.9	
	comp=Z,7.8nm,0.9s						
G18K	**Tagagawik**	**81.55**	**6**	P	**P**	**12 29 19.5**	**+1.1**
BCAR	**Beaver Creek A**	**81.69**	**14**	P	**P**	**12 29 20.0**	**+0.8**
PDAR	**Pinedale Array**	**81.78**	**42**	P	**P**	**12 29 21.6**	**+1.2**
PDAR	**Pinedale Array**	**81.78**	**42**	P	**P**	**12 29 21.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=233,slow=4.3,SNR=5.8						
	comp=Z,0.6nm,0.8s						
CCB	**Clear Creek Bu**	**81.87**	**11**	P	**P**	**12 29 20.6**	**+0.6**
CCB				IAmb	IAmb	12 29 21.6	
	comp=Z,6.1nm,0.9s						
SCRK	**Sand Creek**	**82.00**	**12**	P	**P**	**12 29 21.8**	**+0.9**
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**12 29 22.2**	**+0.7**
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**12 29 21.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=226,slow=6.0,SNR=19						
	comp=Z,1.1nm,0.8s						
F19K	**Shaleruckik Mo**	**82.56**	**6**	P	**P**	**12 29 24.5**	**+0.9**
F19K				IAmb	IAmb	12 29 35.1	
	comp=Z,8.4nm,1.4s						
E18K	**Tukpahlearik C**	**82.87**	**5**	P	**P**	**12 29 26.4**	**+1.2**
E18K				IAmb	IAmb	12 29 26.9	
	comp=Z,1.9nm,0.6s						
DAWY	**Dawson**	**83.10**	**14**	P	**P**	**12 29 26.8**	**+0.3**
DAWY				IAmb	IAmb	12 29 58.8	
	comp=Z,8.3nm,1.5s						
F21K	**Alatna River**	**83.41**	**7**	P	**P**	**12 29 29.2**	**+1.1**
F21K				IAmb	IAmb	12 29 30.4	
	comp=Z,6.4nm,1.4s						
I30M	**Mount Dempster**	**84.79**	**15**	P	**P**	**12 29 36.0**	**+0.7**
I30M				IAmb	IAmb	12 29 36.4	
	comp=Z,2.5nm,0.8s						
BMAR	**Burnt Mountain**	**84.96**	**11**	P	**P**	**12 29 37.7**	**+1.7**
TOLK	**Toolik Lake Re**	**85.27**	**8**	P	**P**	**12 29 39.1**	**+1.6**
F31M	**Tsiigehtchic**	**87.21**	**14**	P	**P**	**12 29 47.4**	**+0.4**
F31M				IAmb	IAmb	12 29 48.6	
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**87.95**	**14**	P	**P**	**12 29 50.7**	**+0.2**
INK				IAmb	IAmb	12 30 25.0	
	comp=Z,4.3nm,1.4s						
YKA	**Yellowknife Ar**	**89.71**	**23**	P	**P**	**12 29 59.6**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=237,slow=4.9,SNR=10						
	comp=Z,0.9nm,0.9s						
A36M	**Sachs Harbour**	**92.59**	**13**	P	**P**	**12 30 13.2**	**+1.1**
A36M				IAmb	IAmb	12 30 13.7	
	comp=Z,2.8nm,0.8s						
MLR	**Muntele Rosu**	**145.88**	**336**	PKPbc	**PKPab**	**12 36 41.2**	**-0.1**
GEC2	**GERESS Array S**	**146.01**	**352**	PKPbc	**PKPbc**	**12 36 40.9**	**-0.1**
GERES	**GERESS Array B**	**146.01**	**352**	PKPbc	**PKPbc**	**12 36 41.2**	**+0.2**
BR131	**Keskin Array S**	**146.30**	**322**	PKPbc	**PKPbc**	**12 36 42.1**	**-0.2**
BRTR	**Keskin Array B**	**146.30**	**322**	PKPbc	**PKPbc**	**12 36 42.2**	**-0.1**
BRTR	**Keskin Array B**	**146.30**	**322**	PKPbc	**PKPbc**	**12 36 41.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=170,slow=2.1,SNR=5.3						
FUORN	**Ofenpass-Fuorn**	**148.56**	**356**	PKPab	**PKiKP**	**12 36 49.9**	**-0.1**
ASCN	**Ascension**	**148.68**	**136**	PKPab	**PKiKP**	**12 36 50.8**	**0.0**

*IDC **19** 12:26:32.2±1.7, 2.°85S×119.°81E, h0km, mb3.3/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=61.6km s-min=24.0km az=73.0*
*DJA **19** 12:26:34.3±0.4, 3.°S±3.°×12.°0E±.°, h10km, M3.8/9, mB5.3/1, mb4.6/2, MLv3.4/9, Mw(mB)4.7/1*

ISC 19 12:26:32.6±2.4, 2.°91S±0.°05×119.°7E±0.°1, h2km±17km, n13, σ0º87/16, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.22**	**129**	P	**Pg**	**12 26 36.9**	**+0.1**
TTSI				S	**Sg**	**12 26 40.1**	**+0.5**
SPSI	**Sidrap Palu**	**1.06**	**174**	P	**Pb**	**12 26 52.4**	**-1.2**
SPSI				S	**Sb**	**12 27 08.4**	**+0.5**
PCI	**Palu**	**2.00**	**5**	P	**Pb**	**12 27 08.9**	**-0.7**
KAPI	**Kappang**	**2.10**	**177**	Pn	**Pn**	**12 27 09.4**	**+0.8**
	8.2nm,0.3s,baz=338,slow=11,SNR=20						
KAPI				Sn	**Sb**	**12 27 38.0**	**+0.3**
	14nm,0.3s,baz=79,slow=21,SNR=14						
	24nm,0.3s						
BKSI	**Bulukumba**	**2.44**	**169**	P	**Pn**	**12 27 14.4**	**+0.9**
KDI	**Kendari**	**3.14**	**109**	P	**Pn**	**12 27 24.5**	**+1.4**
BSSI	**Bau Bau, Buton**	**3.32**	**165**	P	**Pn**	**12 27 26.6**	**+1.0**
BBSI	**Bau Bau**	**3.88**	**131**	P	**Pn**	**12 27 33.0**	**-0.2**
WSI	**Waingapu**	**6.75**	**175**	P	**Pn**	**12 28 13.4**	**+0.7**
	2μm32nm,0.5s						
SOEI	**Soe**	**8.21**	**146**	P	**Pn**	**12 28 31.8**	**-1.0**
WRA	**Warramunga Arr**	**22.19**	**141**	P	**P**	**12 31 29.7**	**-0.6**
	0.8nm,0.9s,baz=320,slow=10,SNR=5.0						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.82**	**147**	P	**P**	**12 31 56.1**	**-0.2**
	0.7nm,0.8s,baz=322,slow=7.8,SNR=6.1						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**59.41**	**331**	P	**P**	**12 36 36.8**	**+0.2**
	0.3nm,0.7s,baz=137,slow=7.1,SNR=2.6						
	0.3nm,0.7s						

RSNC 19 12:31:35.3±0.0, 7.°N±1.°×7.°3W±.°, h147km±1km, M2.9, mb3.6, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**183**	P	Pn	12 31 54.8	-0.8
BARC				S	Sn	12 32 10.1	-0.9
BRJC	**Barrancabermej**	**0.59**	**286**	P	Pn	12 31 56.5	-0.3
BRJC				S	Sn	12 32 13.6	+0.5
PAMC	**Pamplona, Colo**	**0.70**	**42**	P	Pn	12 31 58.0	-0.1
PAMC				S	Sn	12 32 14.9	-0.5
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	12 31 58.8	-0.9
RUSC				S	Sn	12 32 17.6	-0.6
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	12 32 01.2	-1.5
PTBC				S	Sn	12 32 22.7	-0.8
TAMC	**Tame, Arauca**	**1.42**	**105**	P	Pn	12 32 03.4	-0.4
TAMC				S	Sn	12 32 25.2	-0.4
OCAC	**Ocana**	**1.43**	**354**	P	Pn	12 32 03.8	-0.3
OCAC				S	Sn	12 32 25.5	-0.6
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	12 32 07.4	-0.6
ZARC				S	Sn	12 32 33.0	-0.1
NORC	**Norcasia**	**2.10**	**234**	P	Pn	12 32 11.1	-0.3
NORC				S	Sn	12 32 38.0	-1.2
NORC	**Norcasia**	**2.10**	**234**	P	Pn	12 32 11.0	-0.4
NORC				S	Sn	12 32 38.5	-0.7
CHIC	**Chingaza**	**2.24**	**194**	P	Pn	12 32 13.2	-0.3
CHIC				S	Sn	12 32 42.6	-0.3
ROSC	**El Rosal**	**2.27**	**210**	P	Pn	12 32 14.9	+1.0
ROSC				S	Sn	12 32 45.9	+2.5
ROSC	**El Rosal**	**2.27**	**210**	P	Pn	12 32 14.7	+0.8
ROSC				S	Sn	12 32 45.3	+1.9
UREC	**San Jos de Ur**	**2.52**	**292**	P	Pn	12 32 15.3	-1.3
UREC				S	Sn	12 32 45.5	-2.9
GUY2C	**Guyana, Caldas**	**2.69**	**234**	P	Pn	12 32 19.1	0.0
GUY2C				S	Sn	12 32 52.4	-0.5
VILC	**Villavicencio,**	**2.73**	**191**	P	Pn	12 32 18.4	-0.9
VILC				S	Sn	12 32 53.3	0.0
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P	Pn	12 32 22.6	+0.2
CBOC				S	Sn	12 32 59.3	+0.5
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	12 32 22.9	-0.1
DBBC				S	Sn	12 33 00.0	+0.2
ARGC	**Ariguani, Magd**	**3.21**	**341**	P	Pn	12 32 26.0	+0.7
ARGC				S	Sn	12 33 04.2	+0.2
SDV	**Santo Domingo**	**3.25**	**50**	P	Pn	12 32 24.6	-1.4
SDV				S	Sn	12 33 04.4	-0.8
PRAC	**Prado**	**3.52**	**209**	P	Pn	12 32 28.6	-0.7
PRAC				S	Sn	12 33 10.6	-0.5
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	12 32 29.2	-0.5
ORTC				S	Sn	12 33 11.7	-0.1
APAC	**Apartado, Choc**	**3.55**	**288**	P	Pn	12 32 28.4	-1.2
APAC				S	Sn	12 33 11.7	-0.1
APAC	**Apartado, Choc**	**3.55**	**288**	P	Pn	12 32 28.3	-1.3
APAC				S	Sn	12 33 11.9	+0.1
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	12 32 29.1	-2.0
SJCC				S	Sn	12 33 10.3	-4.0
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	12 32 31.9	-0.3
URMC				S	Sn	12 33 15.6	-0.7
LCBC	**Los crdobas,**	**3.77**	**303**	P	Pn	12 32 32.0	-0.4
LCBC				S	Sn	12 33 16.9	+0.1
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	12 32 35.4	-2.7
CRJC				S	Sn	12 33 24.0	-3.0
SMRC	**Santa Marta, M**	**4.45**	**347**	P	Pn	12 32 40.3	-1.1
SMRC				S	Sn	12 33 28.3	-4.6
GARC	**Garzon, Huila**	**5.14**	**207**	P	Pn	12 32 49.5	-1.4
GARC				S	Sn	12 33 48.9	-0.8
FLOC	**Florencia**	**5.75**	**206**	S	Pn	12 32 57.6	-1.2
FLOC	**Florencia**	**5.75**	**206**	P	Pn	12 32 57.4	-1.4
FLOC				S	Sn	12 34 03.3	-0.7

IDC 19 12:41:58.3±2.2, 7.°23S×129.°74E, h0km, mb3.3/1, mbtmp3.1/3, ML3.0/2, MS3.0/1, Error ellipse: s-maj=79.0km s-min=34.2km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.52**	**200**	LR	LR	12 49 57.7	
	comp=Z,71nm,18.1s,baz=64,slow=42						
WRA	**Warramunga Arr**	**13.40**	**161**	Pn	Pn	12 45 10.5	+0.6
	0.1nm,0.3s,baz=341,slow=14,SNR=11						
WRA				Sn	Sn	12 47 36.1	-3.7
	0.2nm,0.3s,baz=335,slow=24,SNR=8.6						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**16.83**	**167**	Pn	Pn	12 45 54.9	-0.6
	baz=340,slow=9.0,SNR=1.8						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	12 53 01.2	0.0
	0.1nm,0.4s,baz=130,slow=5.8,SNR=2.2						
	0.1nm,0.4s						

*BJI **19** 12:51:00.9, 4.°03N×127.°99E, h7km, mB5.0/12, mb4.5/49, Ms4.4/13, Ms7 4.1/15*
*IDC **19** 12:51:00.1±0.5, 4.°03N×128.°22E, h0km, mb4.3/18, mbtmp4.3/19, ML4.7/1, MS3.7/9, Error ellipse: s-maj=25.6km s-min=9.4km az=75.0*
*DJA **19** 12:51:06.5±0.3, 4.°N±2.°×12.°8E±.°, h40km±3km, M5.0/57, mb5.1/57, mB5.4/24, MLv5.2/14, Mw(mB)4.9/24*
*NEIC **19** 12:51:09.6±1.5, 4.°00N±0.°07×128.°28E±0.°09, h75km±6km, mb4.8/65, Error ellipse: s-maj=12.7km s-min=9.5km az=74.0*

ISC 19 12:51:06.7±0.6, 4.°05N±0.°04×128.°27E±0.°06, h49km±5km, h49km:pP-P, n220, σ1º27/220, mb4.8/79, MS3.7/15, 1C-2D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.76**	**263**	P	**Pn**	**12 51 48.2**	**-0.3**
SGSI				S	**Sn**	**12 52 19.2**	**-1.4**
TNTI	**Ternate**	**3.38**	**196**	Pn	**Pn**	**12 51 59.3**	**+2.3**
TNTI	**Ternate**	**3.38**	**196**	P	**Pn**	**12 51 59.1**	**+2.1**
TNTI	**Ternate**	**3.38**	**196**	P	**Pn**	**12 51 58.8**	**+1.8**
DAV	**Davao City (W)**	**4.02**	**318**	Pn	**Pn**	**12 52 09.5**	**+3.7**
DAV	**Davao City (W)**	**4.02**	**318**	Pn	**Pn**	**12 52 06.3**	**+0.5**
	152nm,0.3s,baz=110,slow=6.1,SNR=7.1						
DAV				Sn	**Sn**	**12 52 55.9**	**+4.2**
	95nm,0.3s,baz=321,slow=17,SNR=3.5						
LBMI	**Labuha**	**4.72**	**189**	P	**Pn**	**12 52 15.0**	**-0.4**
KMSI	**Cibinong**	**5.50**	**231**	P	**Pn**	**12 52 27.4**	**+1.2**
SWI	**Sorong**	**5.72**	**148**	P	**Pn**	**12 52 30.9**	**+1.7**
	68nm,0.8s						
SANI	**Sanana**	**6.47**	**201**	P	**Pn**	**12 52 39.5**	**0.0**
SANI	**Sanana**	**6.47**	**201**	P	**Pn**	**12 52 39.0**	**-0.5**
	0.6nm2μm177nm,0.9s						
MRSI	**Marisa**	**7.25**	**241**	P	**Pn**	**12 52 51.2**	**+1.0**
NLAI	**Namlea**	**7.33**	**189**	P	**Pn**	**12 52 54.4**	**+3.1**
	0.4nm1μm98nm,0.5s						
LUWI	**Luwuk**	**7.47**	**227**	Pn	**Pn**

comp=Z,5.9nm,0.8s,baz=10,slow=8.8,SNR=16
comp=Z,5.9nm,0.8s
KPJI Karang Pucung 22.37 240 P P 12 56 00.9 -0.1
comp=Z,52nm,0.9s
JOW Kunigami 22.65 0 P P 12 56 04.5 +0.6
PMG Port Moresby 23.09 125 P P 12 56 08.4 -0.1
comp=Z,8.0nm,0.9s,baz=313,slow=19,SNR=1.8
comp=Z,8.0nm,0.9s
COEN Coen 23.21 141 P P 12 56 08.6 -1.1
QIZ Qiongzhong 23.36 311 P P 12 56 09.9 -1.2
QIZ S **S 13 00 24.1 +3.6**
QIZ pmax pmax
comp=Z,28nm,1.7s
QIZ LR LR
comp=Z,360nm,15.4s
QIZ LR LR
comp=Z,330nm,17.3s
QIZ LR LR
comp=Z,240nm,20.2s
WB0 Warramunga Arr 24.42 166 P P 12 56 20.3 -0.6
WRAB Tennant Creek 24.57 166 P P 12 56 22.6 +0.3
WRAB IAmb IAmb 12 56 26.1
comp=Z,33nm,0.7s
WRA Warramunga Arr 24.58 166 P P 12 56 21.8 -0.5
WRA Warramunga Arr 24.58 166 P P 12 56 22.4 0.0
comp=Z,23nm,0.6s,baz=345,slow=10,SNR=63
WRA S **S 13 00 44.7 +4.6**
comp=Z,3.5nm,0.9s,baz=348,slow=18,SNR=5.0
WRA LR LR 13 07 48.1
comp=Z,169nm,18.3s,baz=0.5,slow=41
comp=Z,23nm,0.6s
WB2 Warramunga Arr 24.58 166 P P 12 56 22.6 +0.3
WB2 IAmb IAmb 12 56 26.1
comp=Z,39nm,0.8s
WR0 Warramunga Arr 24.64 166 P P 12 56 22.5 -0.4
WR0 IAmb IAmb 12 56 26.8
comp=Z,24nm,0.8s
CGJI Cibinong 24.91 245 P P 12 56 25.0 -0.4
comp=Z,3μmcomp=Z,59nm,0.9s
UBPT Khong Chiam 25.06 298 P P 12 56 26.2 -0.6
UBPT IAmb IAmb 12 56 43.1
comp=Z,48nm,1.6s
MDSI Maura Dua 25.52 251 P P 12 56 32.1 +1.1
comp=Z,47nm,1.0s
JCJ Chichijima 26.49 29 P P 12 56 37.6 -2.0
XMIS Christmas Isla 26.75 237 P P 12 56 41.8 -0.3
PSA00 Pilbara Seismi 26.77 198 P P 12 56 42.5 +0.4
PSA00 IAmb IAmb 12 56 46.0
comp=Z,45nm,1.1s
PSA00 Pilbara Seismi 26.77 198 P P 12 56 42.4 +0.3
comp=Z,42nm,1.2s
QIS Mount Isa 26.87 156 P P 12 56 43.0 -0.1
comp=Z,22nm,0.9s
QIS Mount Isa 26.87 156 P P 12 56 43.0 -0.1
IPM Ipoh 27.17 272 P P 12 56 45.9 0.0
GULI GuiLin 27.24 323 P P 12 56 49.0 +2.6
GULI pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 28.09 169 P P 12 56 52.6 -1.4
ASAR Alice Springs 28.09 169 P P 12 56 53.2 -0.8
ASAR Alice Springs 28.09 169 P P 12 56 53.8 -0.2
comp=Z,1.5nm,0.5s,baz=348,slow=7.2,SNR=22
ASAR PcP **PcP 13 00 07.3 -0.3**
comp=Z,0.8nm,0.8s,baz=347,slow=2.4,SNR=4.1
ASAR S **S 13 01 40.6 +4.9**
comp=Z,0.6nm,0.7s,baz=349,slow=17,SNR=3.0
comp=Z,1.5nm,0.5s
AS01 Alice Springs 28.10 169 P P 12 56 53.8 -0.3
WRKA Warakurna 28.91 180 P P 12 57 00.6 -0.7
comp=Z,9.2nm,0.9s
WRKA Warakurna 28.91 180 P P 12 57 01.3 0.0
JNU Nakatsue 29.02 5 LR LR 13 08 22.1
comp=Z,116nm,20.1s,baz=194,slow=36
NJ2 Nanjing 29.22 343 *eP* **P 12 57 03.8 -0.1**
NJ2 pP pP 12 57 06.9 -8.4
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
PHRA Phrae 30.95 300 P P 12 57 20.1 +0.7
ENH Enshi 31.55 328 P P 12 57 25.0 +0.5
ENH IAmb IAmb 12 57 37.8
comp=Z,12nm,0.9s
ENH Enshi 31.55 328 P P 12 57 25.0 +0.5
ENH pP **pP 12 57 37.4 +1.1**
MEEK Meekatharra 31.91 197 P P 12 57 26.2 -1.5
comp=Z,23nm,1.2s
MEEK Meekatharra 31.91 197 P P 12 57 28.1 +0.4
CM31 Chiang Mai Arr 32.05 299 P P 12 57 30.1 +1.0
CMAR Chiang Mai Arr 32.05 299 P P 12 57 29.5 +0.4
CMAR Chiang Mai Arr 32.05 299 P P 12 57 29.7 +0.6
comp=Z,2.7nm,0.7s,baz=116,slow=7.4,SNR=16
comp=Z,2.7nm,0.7s
CHTO Chiang Mai 32.19 299 P P 12 57 29.7 -0.7
OOD Oodnadatta 32.46 168 P P 12 57 32.4 -0.1
KSRS Korea Array 33.25 359 P P 12 57 39.1 -0.2
comp=Z,1.3nm,0.6s,baz=177,slow=9.4,SNR=8.2
comp=Z,1.3nm,0.6s
MJAR Matsushiro Arr 33.60 15 P P 12 57 43.2 +0.8
comp=Z,1.3nm,0.7s,baz=182,slow=9.1,SNR=2.3
MJAR LR LR 13 09 31.1
comp=Z,130nm,20.8s,baz=195,slow=33
comp=Z,1.3nm,0.7s
PZH PanZhiHua 33.81 314 P P 12 57 44.3 -0.2
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,120nm,5.9s
FORT Forrest 34.63 180 P P 12 57 51.8 +0.4
FORT Forrest 34.63 180 P P 12 57 50.8 -0.6
comp=Z,30nm,0.8s
FORT Forrest 34.63 180 P P 12 57 50.8 -0.6
comp=Z,30nm,0.8s
XAN Xi'an 34.85 331 ⇓P **P 12 57 52.8 -0.5**
XAN pP pP 12 57 58.0 -7.2
XAN S S 13 03 31.9 +11
XAN pmax pmax
comp=Z,30nm,1.2s
XAN pmax pmax
comp=Z,150nm,3.7s
XAN Xi'an 34.85 331 P P 12 57 52.8 -0.5
XAN pP **pP 12 58 04.6 -0.6**
MORW Morawa 34.96 199 P P 12 57 53.9 -0.4
MORW IAmb IAmb 12 57 55.4
comp=Z,19nm,0.9s
MORW Morawa 34.96 199 P P 12 57 54.1 -0.2
comp=Z,21nm,0.9s
MORW Morawa 34.96 199 P P 12 57 54.2 -0.1
CD2 Chengdu 35.32 322 P P 12 57 57.1 -0.3
CD2 pmax pmax
comp=Z,10.0nm,0.3s
CD2 LR LR
comp=Z,340nm,18.6s
CD2 LR LR
comp=Z,360nm,19.9s
CD2 LR LR
comp=Z,310nm,19.9s
HNS HongShan 35.44 341 ⇑P **P 12 57 58.5 +0.2**
HNS pmax pmax
comp=Z,12nm,1.4s
BLDU Ballidu 36.20 197 P P 12 58 04.0 -0.9
comp=Z,26nm,1.4s
BJT Baijiatuau 37.44 345 P P 12 58 15.1 -0.2
BJT IAmb IAmb 12 58 38.2
comp=Z,10.0nm,0.8s
BJI Beijing 37.46 345 P P 12 58 15.3 -0.1
BJI pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 37.91 161 P P 12 58 19.5 +0.1
STKA Stephens Creek 37.91 161 P P 12 58 19.4 +0.1
comp=Z,3.8nm,0.8s
STKA Stephens Creek 37.91 161 P P 12 58 19.5 +0.1
comp=Z,1.8nm,0.3s,baz=3.8,slow=7.1,SNR=9.1
comp=Z,1.8nm,0.3s
NWAO Narrogin (SRO) 38.24 195 LR LR 13 14 24.3
comp=Z,54nm,19.6s,baz=252,slow=37
LZH Lanzhou 39.03 328 *eP* **P 12 58 29.9 +0.9**
LZH sP pP 12 58 38.0 -2.9
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,240nm,13.4s
LZH LR LR
comp=Z,190nm,14.1s
LZH LR LR
comp=Z,230nm,13.4s
HHC Hu-ho-hao-te 39.60 340 *eP* **P 12 58 34.3 +0.7**
HHC sP pP 12 58 41.6 -3.6
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.0s
BTO Baotou 39.93 338 *eP* **P 12 58 39.6 +3.2**
BTO pP **pP 12 58 44.0 -3.9**
BTO sP pwP 12 58 46.4 -7.7
BTO S S 13 04 49.0 +11
BTO SS **SS 13 07 34.4 -2.1**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,170nm,5.7s
BTO LR LR
comp=Z,230nm,6.1s
BTO LR LR
comp=Z,140nm,5.5s
BTO LR LR
comp=Z,230nm,14.2s
BRDH Bariadhala 39.98 301 LR LR 13 17 24.3
comp=Z,105nm,19.0s,baz=170,slow=40
H11S3 WAKE ISLAND Hy 40.20 66 T T 13 41 58.1
baz=253,slow=75,SNR=124
H11S2 WAKE ISLAND Hy 40.21 66 T T 13 41 52.5
baz=253,slow=75,SNR=137
H11S1 WAKE ISLAND Hy 40.21 66 T T 13 41 47.4
baz=253,slow=75,SNR=92
H11N1 WAKE ISLAND Hy 40.73 64 T T 13 42 40.7
baz=251,slow=74
H11N2 WAKE ISLAND Hy 40.74 64 T T 13 42 36.6
baz=251
H11N3 WAKE ISLAND Hy 40.75 64 T T 13 42 38.0
baz=251,slow=74
ARMA Armidale 40.91 148 P **P 12 58 44.1 -0.5**
SHL Shillong 40.94 305 P **P 12 58 44.7 -0.2**
XLT XiLinHaoTe 41.12 347 *eP* **P 12 58 47.4 +1.3**
XLT pmax pmax
comp=Z,4.0nm,0.8s
ASAJ Asahikawa 41.86 15 LR LR 13 16 55.6
comp=Z,106nm,19.4s,baz=211,slow=37
GTA Gaotai 43.63 328 *eP* **P 12 59 08.0 +1.4**
GTA pP pP 12 59 14.8 -3.9
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA LR LR
comp=Z,110nm,15.3s
GTA LR LR
comp=Z,78nm,13.1s
GTA LR LR
comp=Z,160nm,16.0s
GOMU GeErMu 44.40 320 P **P 12 59 13.3 +0.1**
GOMU pP pP 12 59 16.5 -9.0
GOMU sP pwP 12 59 20.0 -9.1
GOMU S **S 13 05 41.8 -3.0**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU LR LR
comp=Z,220nm,13.8s
GOMU LR LR
comp=Z,280nm,13.7s
GOMU LR LR
comp=Z,280nm,13.3s
DZM Mont Dzumac 45.48 126 *e*LR LR 13 12 05.2
comp=Z,167nm,27.1s
ULN Ulaanbaatar 47.31 341 P **P 12 59 34.2 -1.5**
ULN IAmb IAmb 12 59 51.7
comp=Z,8.7nm,0.8s
ULN Ulaanbaatar 47.31 341 P **P 12 59 35.8 +0.1**
SONM Songino Array 47.50 340 P **P 12 59 37.5 +0.3**
SONM Songino Array 47.50 340 P **P 12 59 37.2 +0.1**
comp=Z,1.8nm,0.5s,baz=154,slow=8.5,SNR=15
comp=Z,1.8nm,0.5s
PETK Petropavlovsk- 54.56 21 P **P 13 00 31.2 +1.3**
comp=Z,2.3nm,0.8s,baz=205,slow=4.1,SNR=5.2
comp=Z,2.3nm,0.8s
WUS Wushi 57.36 317 P **P 13 00 50.4 +0.1**
WUS IAmb IAmb 13 01 09.1
comp=Z,12nm,1.2s
YAK Yakutsk 57.86 1 P **P 13 00 53.0 -0.1**
YAK Yakutsk 57.86 1 P **P 13 00 53.1 -0.1**
YAK pP **pP 13 01 06.0 +1.2**
SHLS Shalkode 58.09 320 *eP* **P 13 00 53.1 -2.2**
comp=Z,5.4nm,0.9s
MK31 Makanchi Array 58.18 324 P **P 13 00 55.3 -0.5**
MK31 IAmb IAmb 13 01 38.7
comp=Z,4.8nm,0.9s
MKAR Makanchi Array 58.18 324 P **P 13 00 55.5 -0.3**
MKAR Makanchi Array 58.18 324 P **P 13 00 55.9 +0.1**
comp=Z,2.5nm,0.5s,baz=122,slow=8.2,SNR=51
comp=Z,2.5nm,0.5s
MAKZ Makanchi 58.37 324 P **P 13 00 57.1 0.0**
MAKZ IAmb IAmb 13 01 28.4
comp=Z,7.4nm,0.8s
MAKZ Makanchi 58.37 324 P **P 13 00 56.9 -0.2**
MAKZ pP **pP 13 01 09.5 -0.5**
UZB Uzynbulak 58.37 319 *eP* **P 13 00 57.0 -0.4**
comp=Z,4.6nm,0.6s
TARG Taragay, Kyrgy 58.55 317 P **P 13 00 59.6 +0.7**
TARG IAmb IAmb 13 01 16.3
comp=Z,6.8nm,0.8s
SATY Saty 58.73 319 *eP* **P 13 00 59.6 -0.2**
comp=Z,4.0nm,0.6s
KPKS Kokpek 58.74 320 *eP* **P 13 00 59.6 -0.2**
comp=Z,5.8nm,0.9s
KSH Kashi 58.91 314 P **P 13 01 03.9 +2.7**
KSH sP pP 13 01 10.3 -3.6
KSH pmax pmax
comp=Z,5.0nm,0.8s
NIL Nilore 58.95 307 P **P 13 01 01.6 +0.1**
KDJ Kajisay 59.14 318 P **P 13 01 03.0 +0.2**
KDJ IAmb IAmb 13 01 22.1
comp=Z,7.4nm,0.7s
MDOK Medeo 59.67 319 *eP* **P 13 01 06.1 -0.3**
TNSS Tian-Shan 59.68 318 *eP* **P 13 01 06.3 -0.5**
AAA Alma-Ata 59.78 319 *eP* **P 13 01 06.9 -0.1**
comp=Z,6.7nm,0.5s
ZAA0 Zalesovo Array 61.01 332 P **P 13 01 15.2 +0.1**
ZALV Zalesovo Beam 61.01 332 P **P 13 01 14.3 -0.8**
ZALV Zalesovo Beam 61.01 332 P **P 13 01 15.0 -0.1**
comp=Z,0.7nm,0.4s,baz=106,slow=7.9,SNR=7.1
ZALV LR LR 13 30 19.3
comp=Z,37nm,18.1s,baz=104,slow=39
comp=Z,0.7nm,0.4s
AAK Ala-Archa 61.16 317 P **P 13 01 16.2 -0.3**
TUWZ Tuamarina 61.45 142 P **P 13 01 16.4 -1.9**
KURK Kurchatov 62.31 327 P **P 13 01 23.9 0.0**
KURK Kurchatov 62.31 327 P **P 13 01 23.7 -0.2**
KURK pP **pP 13 01 36.9 0.0**
KURBB Kurchatov Arra 62.31 327 P **P 13 01 23.6 -0.3**
comp=Z,3.7nm,0.6s,baz=123,slow=6.1,SNR=45
comp=Z,3.7nm,0.6s
BTLS Baital 62.42 320 *eP* **P 13 01 24.6 -0.2**
KBL Kabul 62.55 307 P **P 13 01 24.9 -1.2**
KBL IAmb IAmb 13 01 39.9
comp=Z,6.8nm,0.6s
BTK Batken 62.81 313 P **P 13 01 26.9 -0.8**
BTK IAmb IAmb 13 01 48.2
comp=Z,19nm,1.2s
GAR Garm 62.84 312 P **P 13 01 27.1 -0.8**
CHGR Chuyangaron 63.60 311 P **P 13 01 32.3 -0.6**
CHGR IAmb IAmb 13 01 55.1
comp=Z,16nm,0.9s
SIMJ Simiganj 63.72 311 P **P 13 01 34.0 +0.3**
KK31 Karatay Array 64.05 316 P **P 13 01 35.7 0.0**
KKAR Karatay Array 64.05 316 P **P 13 01 35.7 0.0**
KKAR Karatay Array 64.05 316 P **P 13 01 35.5 -0.2**
BRLS Borolday 64.49 316 *eP* **P 13 01 38.8 +0.3**
BRZS Berezniki 65.32 324 *eP* **P 13 01 43.7 -0.1**
TIXI Tiksi 67.51 0 P **P 13 01 56.8 -0.5**
BVAR Borovoye Array 67.90 326 P **P 13 02 00.1 0.0**
comp=Z,3.2nm,0.8s,baz=122,slow=7.2,SNR=12
comp=Z,3.2nm,0.8s
BRVK Borovoye 67.97 326 P **P 13 01 59.9 -0.6**
BRVK IAmb IAmb 13 02 14.2
comp=Z,12nm,0.8s
BRVK Borovoye 67.97 326 P **P 13 02 00.4 -0.2**
BRVK pP **pP 13 02 13.3 +0.2**
NRIK Noril'sk 70.49 346 P **P 13 02 16.6 +0.7**
NRIK Noril'sk 70.49 346 P **P 13 02 16.3 +0.5**
comp=Z,0.8nm,0.4s,baz=58,slow=6.2,SNR=4.0
comp=Z,0.8nm,0.4s
ABKAR Akbulak array 72.88 320 P **P 13 02 30.3 -0.3**
ABKAR IAmb IAmb 13 02 44.6
comp=Z,15nm,1.5s
C18K Utukok River 79.22 21 P **P 13 03 07.5 +1.1**
C18K IAmb IAmb 13 03 22.4
comp=Z,13nm,1.4s
CAST Castle Rocks 81.76 27 P **P 13 03 20.7 +0.6**
RAYN Ar Rayn 81.77 293 P **P 13 03 19.4 -1.7**
E22K Anaktuvuk Pass 82.50 22 P **P 13 03 23.3 -0.6**
E22K IAmb IAmb 13 03 41.5
comp=Z,23nm,1.6s
COLD Coldfoot 83.00 23 P **P 13 03 26.6 +0.1**
COLD IAmb IAmb 13 03 42.8
comp=Z,12nm,1.1s
G23K Bananza Creek 83.02 23 P **P 13 03 26.4 -0.2**
G23K IAmb IAmb 13 03 43.0
comp=Z,11nm,0.9s
RND Reindeer 83.20 27 P **P 13 03 28.1 +0.4**
RND IAmb IAmb 13 03 41.8
comp=Z,30nm,1.5s
TOLK Toolik Lake Re 83.39 21 P **P 13 03 29.0 +0.5**
TOLK IAmb IAmb 13 03 44.7
comp=Z,12nm,1.0s
D24K Happy Valley 83.71 21 P **P 13 03 30.3 +0.3**
D24K IAmb IAmb 13 03 46.8
comp=Z,11nm,0.8s
PPT2 Papeete2 83.75 108 *e*LR LR 13 29 41.9
comp=Z,51nm,26.2s
CCB Clear Creek Bu 83.75 26 P **P 13 03 30.4 +0.1**
CCB IAmb IAmb 13 03 45.5
comp=Z,9.8nm,1.2s
G24K Hadweenzic Riv 84.02 23 P **P 13 03 33.2 +1.4**
G24K IAmb IAmb 13 03 48.4
comp=Z,13nm,0.8s
ILAR Eielson Array 84.16 25 P **P 13 03 32.0 -0.4**
ILAR Eielson Array 84.16 25 P **P 13 03 32.4 0.0**
comp=Z,0.8nm,0.9s,baz=231,slow=6.4,SNR=9.4
comp=Z,0.8nm,0.9s
BMAR Burnt Mountain 85.19 23 P **P 13 03 39.1 +1.5**
F28M Old Crow 86.99 23 P **P 13 03 46.3 -0.2**
F28M IAmb IAmb 13 04 02.1
comp=Z,15nm,1.6s
I28M Miner Creek 87.09 25 P **P 13 03 46.4 -0.7**
I28M IAmb IAmb 13 04 28.3
comp=Z,18nm,1.6s
MMAI Mount Meron Ar 90.22 303 LR LR 13 50 12.6
comp=Z,27nm,18.5s,baz=61,slow=39
ARCES ARCESS Array B 90.68 340 P **P 13 04 03.8 -0.1**
comp=Z,1.8nm,0.7s,baz=66,slow=2.9,SNR=5.2
comp=Z,1.8nm,0.7s
AK08 Malin Array Si 92.61 321 P **P 13 04 11.7 -1.4**
SYO Syowa Base 93.28 201⇓*eP* **P 13 04 16.6 +0.8**
QSPA South Pole Qui 93.95 180 P **P 13 04 19.6 +0.4**
comp=Z,2.6nm,0.8s,baz=268,slow=1.8,SNR=6.7
comp=Z,2.6nm,0.8s
RNPP2 Kostyukhnivka 94.56 322 P **P 13 04 20.7 -1.5**
MLR Muntele Rosu 95.73 316 LR LR 13 52 54.4
comp=Z,61nm,18.1s,baz=50,slow=39
NC204 NORSAR Array S 99.27 334 Pdif 13 04 45.0 +1.6

---

*IDC **19** 12:56:52.0±0.5,4°.07N×128°.31E,h0km,mb4.4/17,*
mbtmp4.4/18,ML4.8/1,MS3.7/13,Error ellipse:
s-maj=25.1km s-min=9.4km az=79.0
*DJA **19** 12:57:00.1±0.3,4°.N±2°.×12°.8E±°,h57km±3km,M4.9/55,*
mb5.0/55,mB5.4/27,MLv5.2/18,Mw(mB)4.8/27
*NEIC **19** 12:57:01.5±1.9,4°.07N±0.02°.×128°.2E±0°.1,h73km±8km,*
mb4.8/68,Error ellipse: s-maj=14.8km s-min=2.4km
az=80.0

ISC 19 12:56:57.6±0.5,4°.08N±0°.04×128°.32E±0°.06,h38km±4km,
h39km:pP-P,n212,σ1°68/205,mb4.8/69,MS3.8/15,1C-1D,
North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.81**	**262**	P	**Pn**	**12 57 39.3**	**-0.8**
TNTI	**Ternate**	**3.42**	**196**	Pn	**Pn**	**12 57 51.6**	**+3.2**
TNTI	**Ternate**	**3.42**	**196**	P	**Pn**	**12 57 51.0**	**+2.6**
TNTI	**Ternate**	**3.42**	**196**	P	**Pn**	**12 57 51.1**	**+2.6**
DAV	**Davao City (W)**	**4.04**	**318**	Pn	**Pn**	**12 58 00.2**	**+3.2**
DAV	**Davao City (W)**	**4.04**	**318**	Pn	**Pn**	**12 57 59.8**	**+2.9**
98nm,0.3s,baz=127,slow=3.1,SNR=4.0							
DAV				Sn	**Sn**	**12 58 45.3**	**+2.3**
37nm,0.3s,baz=305,slow=20,SNR=3.9							
LBMI	**Labuha**	**4.75**	**190**	P	Pn	12 58 12.5	+5.7
KMSI	**Cibinong**	**5.56**	**231**	P	**Pn**	**12 58 19.1**	**+1.2**
SWI	**Sorong**	**5.72**	**149**	P	**Pn**	**12 58 22.0**	**+1.9**
81nm,0.9s							
SANI	**Sanana**	**6.52**	**201**	P	**Pn**	**12 58 31.1**	**0.0**
SANI	**Sanana**	**6.52**	**201**	P	**Pn**	**12 58 31.0**	**0.0**
0.8nm3μm201nm,0.9s							
MRSI	**Marisa**	**7.31**	**241**	P	**Pn**	**12 58 43.4**	**+1.5**
NLAI	**Namlea**	**7.37**	**190**	P	**Pn**	**12 58 45.0**	**+2.3**
0.3nm1μm94nm,0.7s							
MSAI	**Masohi**	**7.40**	**175**	P	**Pn**	**12 58 46.1**	**+2.9**
0.6nm3μm146nm,1.1s							
LUWI	**Luwuk**	**7.52**	**228**	Pn	**Pn**	**12 58 47.9**	**+3.0**
LUWI	**Luwuk**	**7.52**	**228**	P	**Pn**	**12 58 48.0**	**+3.1**
LUWI	**Luwuk**	**7.52**	**228**	P	**Pn**	**12 58 46.0**	**+1.1**
AAI	**Ambon**	**7.71**	**181**	P	**Pn**	**12 58 49.5**	**+2.0**
0.4nm122nm,1.0s							
FAKI	**Fak Fak**	**7.98**	**150**	Pn	**Pn**	**12 58 53.7**	**+2.5**
FAKI	**Fak Fak**	**7.98**	**150**	P	**Pn**	**12 58 53.0**	**+1.8**
FAKI	**Fak Fak**	**7.98**	**150**	S	**Sn**	**13 00 19.9**	**-0.3**
FAKI	**Fak Fak**	**7.98**	**150**	P	**Pn**	**12 58 53.3**	**+2.1**
RKPI	**Ransiki, Papua**	**8.07**	**133**	P	Pn	12 58 57.0	+4.7
5μm98nm,1.0s							
TOLI2	**Tolitoli**	**8.09**	**249**	Pn	**Pn**	**12 58 52.6**	**0.0**
TOLI2	**Tolitoli**	**8.09**	**249**	P	**Pn**	**12 58 52.1**	**-0.5**
APSI	**Ampana**	**8.31**	**234**	P	**Pn**	**12 58 56.7**	**+1.1**
BNDI	**Bandanaira**	**8.69**	**169**	P	Pn	12 59 05.6	+4.8
237nm,1.2s							
MPSI	**Mapaga**	**9.20**	**246**	P	**Pn**	**12 59 08.4**	**+0.5**
49nm,0.9s							
KDI	**Kendari**	**9.81**	**216**	P	**Pn**	**12 59 15.4**	**-0.8**
PCI	**Palu**	**9.82**	**240**	P	**Pn**	**12 59 17.4**	**+1.0**
4μm102nm,0.9s							
MYLDM	**Lahad Datu**	**9.85**	**277**	Pn	**Pn**	**12 59 19.5**	**+2.7**
TTSI	**Tana Toraja**	**11.06**	**230**	P	**Pn**	**12 59 32.9**	**-0.4**
880nm105nm,0.7s							
BBSI	**Bau Bau**	**11.10**	**211**	P	**Pn**	**12 59 34.7**	**+0.8**
1μm102nm,1.0s							
SPSI	**Sidrap Palu**	**11.70**	**227**	P	**Pn**	**12 59 42.1**	**0.0**
2μm54nm,0.9s							
SMKI	**Samarinda**	**11.98**	**248**	P	**Pn**	**12 59 46.9**	**+0.9**
SMPI	**Sarmi**	**12.01**	**120**	P	Pn	12 59 52.0	+5.7
59nm,1.2s							
KKM	**Kota Kinabalu**	**12.22**	**280**	Pn	**Pn**	**12 59 53.4**	**+4.1**
BKSI	**Bulukumba**	**12.42**	**221**	P	**Pn**	**12 59 51.0**	**-1.0**
33nm,0.6s							
KAPI	**Kappang**	**12.44**	**224**	Pn	**Pn**	**12 59 52.5**	**+0.2**
KAPI	**Kappang**	**12.44**	**224**	Pn	**Pn**	**12 59 50.8**	**-1.4**
5.9nm,0.3s,baz=15,slow=6.0,SNR=8.3							
KAPI				LR	LR	13 05 25.0	
comp=Z,227nm,19.8s,baz=50,slow=41							
19nm,0.4s							
BSSI	**Bau Bau, Buton**	**12.81**	**218**	P	**Pn**	**12 59 58.5**	**+1.1**
803nm63nm,0.5s							
JAY	**Jayapura**	**14.00**	**118**	LR	LR	13 05 47.8	
comp=Z,240nm,18.4s,baz=305,slow=38							
SOEI	**Soe**	**14.32**	**196**	Pn	**Pn**	**13 00 18.2**	**+0.2**
SOEI	**Soe**	**14.32**	**196**	P	**P**	**13 00 22.6**	**-2.0**
1μm76nm,0.8s							
WSI	**Waingapu**	**15.82**	**210**	P	**Pn**	**13 00 38.0**	**+0.2**
215nm,1.2s							
SBUM	**Sibu**	**16.16**	**265**	Pn	**Pn**	**13 00 41.7**	**-0.3**
SBUM	**Sibu**	**16.16**	**265**	P	**Pn**	**13 00 42.3**	**+0.3**
WBSI	**Waikabubak, Su**	**16.28**	**213**	P	**Pn**	**13 00 42.8**	**-0.8**
900nm120nm,1.0s							
PLAI	**Plampang**	**16.58**	**219**	P	**Pn**	**13 00 47.6**	**+0.2**
DRS	**Darwin Rock St**	**16.60**	**171**	P	**Pn**	**13 00 49.2**	**+1.6**
MTN	**Manton Dam**	**17.04**	**171**		**Pn**	**13 00 54.2**	**+1.0**
MTN	**Manton Dam**	**17.04**	**171**	P	**Pn**	**13 00 54.7**	**+1.5**
TWSI	**Taliwang, Sumb**	**17.09**	**222**	P	**P**	**13 00 55.3**	**+0.1**
STKI	**Sintang**	**17.30**	**257**	P	**P**	**13 00 56.9**	**-0.6**
SRBI	**Singaraja**	**17.80**	**227**	P	**Pn**	**13 01 02.2**	**-0.4**
2μm178nm,1.3s							
KMMI	**Kalianget**	**18.09**	**232**	P	**P**	**13 01 05.9**	**-0.4**
52nm,1.1s							
KSM	**Kuching**	**18.18**	**262**		**P**	**13 01 06.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**18.84**	**229**	P	**P**	**13 01 13.6**	**-1.0**
JAGI	**Jajag, Banyuwa**	**18.84**	**229**	P	**Pn**	**13 01 18.1**	**+2.8**
JAGI	**Jajag, Banyuwa**	**18.84**	**229**	P	**P**	**13 01 14.5**	**0.0**
1μm85nm,0.7s							
GUMO	**Guam**	**18.87**	**59**	LR	LR	13 07 21.7	
comp=Z,259nm,20.8s,baz=260,slow=33							
GMJI	**Gumukmas**	**19.25**	**230**	P	**P**	**13 01 19.8**	**+0.8**
84nm,0.9s							

KNRA	**Kununurra**	**19.63 179**	P	**P**	**13 01 23.9**	**+0.8**
KNRA			IAmb	IAmb	13 01 26.1	
	comp=Z,26nm,0.7s					
TWG	**Pinlang**	**19.91 340**	P	**P**	**13 01 23.7**	**-2.4**
TWG			IAmb	IAmb	13 01 43.0	
	comp=Z,75nm,1.3s					
NGJI	**Ngawi**	**20.31 236**	P	**P**	**13 01 29.1**	**-1.4**
	comp=Z,46nm,1.0s					
YULB	**Yu-li**	**20.37 341**	P	**P**	**13 01 28.9**	**-2.1**
YULB			IAmb	IAmb	13 01 46.7	
	comp=Z,122nm,1.9s					
YULB	**Yu-li**	**20.37 341**	P	**P**	**13 01 28.1**	**-3.0**
TPUB	**Ta-pu**	**20.51 339**	P	**P**	**13 01 29.3**	**-3.3**
TPUB			IAmb	IAmb	13 01 39.2	
	comp=Z,56nm,0.7s					
TPUB	**Ta-pu**	**20.51 339**	P	**P**	**13 01 29.8**	**-2.8**
SSLB	**Suanglung**	**20.85 341**	P	**P**	**13 01 34.6**	**-1.6**
SSLB			IAmb	IAmb	13 01 55.3	
	comp=Z,30nm,0.8s					
SSLB	**Suanglung**	**20.85 341**	P	**P**	**13 01 34.7**	**-1.6**
PCJI	**Pacitan**	**21.00 235**	P	**P**	**13 01 37.6**	**-0.4**
	comp=Z,2μmcomp=Z,157nm,1.1s					
DLV	**Lat**	**21.12 293**	P	**P**	**13 01 37.2**	**-2.4**
DLV			IAmb	IAmb	13 01 53.2	
	comp=Z,40nm,0.9s					
UGM	**Wanagama**	**21.38 236**	P	**P**	**13 01 44.9**	**+2.8**
YHNB	**Yeheng**	**21.54 343**	P	**P**	**13 01 42.8**	**-0.9**
YHNB			IAmb	IAmb	13 01 52.0	
	comp=Z,32nm,0.6s					
YHNB	**Yeheng**	**21.54 343**	P	**P**	**13 01 42.9**	**-0.9**
TPI	**Tanjungpandan**	**21.74 252**	P	**P**	**13 01 44.2**	**-1.8**
	comp=Z,55nm,1.0s					
FITZ	**Fitzroy Crossi**	**22.19 187**	P	**P**	**13 01 49.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**22.19 187**	P	**P**	**13 01 49.3**	**-1.5**
	comp=Z,5.3nm,0.7s,baz=359,slow=8.7,SNR=10					
	comp=Z,5.3nm,0.7s					
KPJI	**Karang Pucung**	**22.43 240**	P	**P**	**13 01 52.3**	**-1.0**
	comp=Z,71nm,1.1s					
LEM	**Lembang**	**23.33 242**	LR	LR	13 11 15.3	
	comp=Z,167nm,19.0s,baz=60,slow=37					
LEM	**Lembang**	**23.33 242**	P	**P**	**13 02 02.0**	**-0.9**
	comp=Z,24nm,0.8s					
QIZ	**Qiongzhong**	**23.38 311**	P	**P**	**13 02 02.4**	**-0.7**
QIZ			S	**S**	**13 06 19.6**	**+6.0**
QIZ			pmax	pmax		
	comp=Z,39nm,2.4s					
QIZ			LR	LR		
	comp=Z,340nm,17.8s					
QIZ			LR	LR		
	comp=Z,360nm,16.6s					
QIZ			LR	LR		
	comp=Z,380nm,14.4s					
BBJI	**Bungbulang**	**23.60 241**	P	**P**	**13 02 04.6**	**-0.7**
WB0	**Warramunga Arr**	**24.43 166**	P	**P**	**13 02 11.8**	**-1.1**
WB0			IAmb	IAmb	13 02 16.8	
	comp=Z,85nm,1.4s					
MYKOM	**Kota Tinggi**	**24.54 265**	P	**P**	**13 02 12.2**	**-1.8**
WRAB	**Tennant Creek**	**24.59 166**	P	**P**	**13 02 14.8**	**+0.5**
WRAB			IAmb	IAmb	13 02 17.9	
	comp=Z,27nm,0.7s					
WRA	**Warramunga Arr**	**24.59 166**	P	**P**	**13 02 14.7**	**+0.4**
WRA	**Warramunga Arr**	**24.59 166**	P	**P**	**13 02 14.7**	**+0.4**
	comp=Z,18nm,0.7s,baz=344,slow=10,SNR=69					
WRA			S	**S**	**13 06 37.2**	**+4.2**
	comp=Z,5.7nm,0.9s,baz=345,slow=18,SNR=6.1					
	comp=Z,18nm,0.7s					
WB2	**Warramunga Arr**	**24.59 166**	P	**P**	**13 02 15.2**	**+0.8**
WB2			IAmb	IAmb	13 02 18.0	
	comp=Z,29nm,0.7s					
WB1	**Warramunga Ar.**	**24.61 166**	P	**P**	**13 02 17.2**	**+2.7**
WR0	**Warramunga Arr**	**24.66 166**	P	**P**	**13 02 15.2**	**+0.3**
CGJI	**Cibinong**	**24.96 245**	P	**P**	**13 02 15.9**	**-1.9**
	comp=Z,904nmcomp=Z,80nm,0.9s					
UBPT	**Khong Chiam**	**25.09 298**	P	**P**	**13 02 17.4**	**-1.6**
KRVT	**Keravat (AS076**	**25.11 109**	LR	LR	13 09 21.6	
	comp=Z,106nm,20.3s,baz=12,slow=30					
MDSI	**Maura Dua**	**25.58 251**	P	**P**	**13 02 22.9**	**-0.5**
	comp=Z,35nm,1.0s					
JCJ	**Chichijima**	**26.45 29**	P	**P**	**13 02 30.7**	**-0.4**
	comp=Z,34nm,0.8s,baz=236,slow=11,SNR=4.6					
JCJ			LR	LR	13 10 28.4	
	comp=Z,155nm,21.4s,baz=234,slow=31					
	comp=Z,34nm,0.8s					
JCJ	**Chichijima**	**26.45 29**	P	**P**	**13 02 31.4**	**+0.3**
PSA00	**Pilbara Seismi**	**26.81 198**	P	**P**	**13 02 33.8**	**-0.6**
PSA00			IAmb	IAmb	13 02 38.4	
	comp=Z,57nm,1.3s					
QIS	**Mount Isa**	**26.87 156**	P	**P**	**13 02 35.8**	**+0.8**
GULI	**GuiLin**	**27.25 322**	P	**P**	**13 02 41.1**	**+2.7**
GULI			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KULM	**Kulim**	**27.60 274**	P	**P**	**13 02 41.4**	**-0.2**
KULM			IAmb	IAmb	13 03 21.3	
	comp=Z,38nm,1.7s					
AS31	**Alice Springs**	**28.11 169**	P	**P**	**13 02 46.1**	**0.0**
ASAR	**Alice Springs**	**28.11 169**	P	**P**	**13 02 45.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=352,slow=6.7,SNR=12					
ASAR			S	**S**	**13 07 33.5**	**+4.8**
	comp=Z,0.8nm,0.9s,baz=356,slow=19,SNR=3.7					
	comp=Z,1.4nm,0.6s					
SRIT	**Nakonsritamara**	**28.89 280**	P	**P**	**13 02 53.1**	**0.0**
NJ2	**Nanjing**	**29.21 343**	*e*P	**P**	**13 02 57.4**	**+1.6**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
PSI	**Prapat**	**29.37 268**	LR	LR	13 16 35.6	
	comp=Z,88nm,19.0s,baz=158,slow=40					
WHN	**Wuhan**	**29.45 335**	P	P	13 03 04.5	+6.7
PHRA	**Phrae**	**30.98 300**	P	**P**	**13 03 10.9**	**-0.7**
ENH	**Enshi**	**31.55 328**	P	**P**	**13 03 15.4**	**-1.1**
ENH			IAmb	IAmb	13 03 27.1	
	comp=Z,13nm,0.8s					
CM31	**Chiang Mai Arr**	**32.08 299**	P	**P**	**13 03 20.0**	**-1.3**
CM31			IAmb	IAmb	13 03 33.1	
	comp=Z,8.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**32.08 299**	P	**P**	**13 03 19.4**	**-2.0**
CMAR	**Chiang Mai Arr**	**32.08 299**	P	**P**	**13 03 22.3**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=115,slow=7.2,SNR=17					
CMAR			LR	LR	13 16 47.4	
	comp=Z,120nm,18.4s,baz=105,slow=37					
	comp=Z,3.0nm,0.8s					
CHTO	**Chiang Mai**	**32.22 299**	P	**P**	**13 03 20.6**	**-2.0**
KSRS	**Korea Array**	**33.22 359**	P	**P**	**13 03 31.1**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=176,slow=10,SNR=10					
	comp=Z,2.8nm,0.7s					
KS19	**Wonju Array Si**	**33.27 359**	P	**P**	**13 03 30.1**	**-1.3**
PZH	**PanZhiHua**	**33.82 314**	P	**P**	**13 03 37.9**	**+1.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,120nm,4.3s					
FORT	**Forrest**	**34.66 180**	P	**P**	**13 03 42.2**	**-1.4**
FORT			IAmb	IAmb	13 03 54.0	
	comp=Z,16nm,0.8s					
XAN	**Xi'an**	**34.85 331**	⇓P	**P**	**13 03 45.8**	**+0.5**
XAN			pP	pP	13 03 48.0	-6.8
XAN			pmax	pmax		
	comp=Z,37nm,1.1s					
XAN			pmax	pmax		
	comp=Z,180nm,3.9s					
XAN	**Xi'an**	**34.85 331**	P	**P**	**13 03 45.2**	**-0.1**
XAN			pP	**pP**	**13 03 57.4**	**+2.6**
MORW	**Morawa**	**35.00 199**	P	**P**	**13 03 45.9**	**-0.7**
MORW			IAmb	IAmb	13 03 48.6	
	comp=Z,12nm,0.8s					
HNS	**HongShan**	**35.43 341**	⇑P	**P**	**13 03 51.3**	**+1.1**
HNS			pmax	pmax		
	comp=Z,11nm,1.1s					
BBOO	**Buckleboo**	**37.41 169**	P	**P**	**13 04 06.5**	**-0.6**
STKA	**Stephens Creek**	**37.92 161**	P	**P**	**13 04 11.4**	**-0.1**
STKA	**Stephens Creek**	**37.92 161**	P	**P**	**13 04 11.6**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=340,slow=8.2,SNR=12					
	comp=Z,2.7nm,0.3s					
LZH	**Lanzhou**	**39.03 328**	*e*P	**P**	**13 04 22.8**	**+1.8**
LZH			sP	pP	13 04 32.1	+1.6
LZH			pmax	pmax		
	comp=Z,20nm,1.2s					
LZH			LR	LR		
	comp=Z,140nm,13.4s					
LZH			LR	LR		
	comp=Z,150nm,13.4s					
LZH			LR	LR		
	comp=Z,280nm,13.4s					
BTO	**Baotou**	**39.93 338**	*e*P	**P**	**13 04 29.5**	**+1.2**
BTO			pP	**pP**	**13 04 33.8**	**-4.2**
BTO			sP	**sP**	**13 04 36.5**	**-4.5**
BTO			PP	**PP**	**13 05 58.5**	**-2.1**
BTO			S	**S**	**13 10 37.0**	**+6.1**
BTO			pmax	pmax		
	comp=Z,14nm,0.9s					
BTO			pmax	pmax		
	comp=Z,290nm,4.7s					
BTO			LR	LR		
	comp=Z,190nm,5.8s					
BTO			LR	LR		
	comp=Z,280nm,5.6s					
BTO			LR	LR		
	comp=Z,300nm,11.2s					
USRK	**Ussuriysk Ar.**	**40.09 4**	P	**P**	**13 04 29.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=168,slow=7.4,SNR=3.0					
	comp=Z,1.5nm,0.7s					
H11S3	**WAKE ISLAND Hy**	**40.14 66**	T	T	13 47 46.3	
	baz=253,slow=75,SNR=89					
H11S1	**WAKE ISLAND Hy**	**40.16 66**	T	T	13 47 47.4	
	baz=253,slow=75,SNR=40					
H11S2	**WAKE ISLAND Hy**	**40.16 66**	T	T	13 47 47.8	
	baz=253,slow=75,SNR=58					
H11N1	**WAKE ISLAND Hy**	**40.67 64**	T	T	13 48 31.4	
	baz=252					
H11N2	**WAKE ISLAND Hy**	**40.69 64**	T	T	13 48 44.8	
	baz=252					
H11N3	**WAKE ISLAND Hy**	**40.69 64**	T	T	13 48 34.2	
	baz=252,SNR=4.8					
ARMA	**Armidale**	**40.91 149**	P	**P**	**13 04 36.8**	**+0.2**
ARMA			IAmb	IAmb	13 05 34.3	
	comp=Z,27nm,1.2s					
SHL	**Shillong**	**40.96 305**	P	**P**	**13 04 36.4**	**-0.8**
XLT	**XiLinHaoTe**	**41.11 347**	*e*P	P	13 04 46.3	+8.3
XLT			sP	sP	13 04 54.3	+4.1
XLT			pmax	pmax		
	comp=Z,6.0nm,1.2s					
JKA	**Kamikawa-asahi**	**41.82 15**	P	**P**	**13 04 42.1**	**-1.6**
GTA	**Gaotai**	**43.64 328**	*e*P	**P**	**13 04 59.8**	**+1.1**
GTA			pP	pP	13 05 05.3	-3.0
GTA			pmax	pmax		
	comp=Z,3.0nm,0.5s					
GTA			LR	LR		
	comp=Z,87nm,13.1s					
GTA			LR	LR		
	comp=Z,67nm,14.5s					
GTA			LR	LR		
	comp=Z,130nm,16.7s					
GOMU	**GeErMu**	**44.41 320**	P	**P**	**13 05 06.5**	**+1.2**
GOMU			pP	pP	13 05 10.3	-4.9
GOMU			sP	sP	13 05 13.9	-5.3
GOMU			S	**S**	**13 11 43.3**	**+5.5**
GOMU			pmax	pmax		
	comp=Z,3.0nm,0.5s					
GOMU			LR	LR		
	comp=Z,200nm,12.6s					
GOMU			LR	LR		
	comp=Z,280nm,12.4s					
GOMU			LR	LR		
	comp=Z,370nm,12.6s					
ULN	**Ulaanbaatar**	**47.30 341**	P	**P**	**13 05 27.5**	**-0.1**
ULN			IAmb	IAmb	13 05 47.6	
	comp=Z,8.6nm,0.9s					
ULN	**Ulaanbaatar**	**47.30 341**	P	**P**	**13 05 27.4**	**-0.1**
ULN			pP	**pP**	**13 05 39.7**	**+2.9**
SONM	**Songino Array**	**47.50 340**	P	**P**	**13 05 28.8**	**-0.2**
SONM	**Songino Array**	**47.50 340**	P	**P**	**13 05 28.9**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=157,slow=9.2,SNR=15					
SONM			PcP	**PcP**	**13 06 58.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=169,slow=3.9,SNR=1.9					
	comp=Z,1.9nm,0.5s					
PEA0B	**Petropavlovsk-**	**54.52 21**	P	**P**	**13 06 22.1**	**+0.5**
PETK	**Petropavlovsk-**	**54.52 21**	P	**P**	**13 06 22.4**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=194,slow=5.1,SNR=9.9					
	comp=Z,3.3nm,0.8s					
YAK	**Yakutsk**	**57.83 1**	P	**P**	**13 06 44.7**	**-0.3**
YAK	**Yakutsk**	**57.83 1**	P	**P**	**13 06 45.4**	**+0.4**
SHLS	**Shalkode**	**58.10 320**	*e*P	**P**	**13 06 44.9**	**-2.6**
MK31	**Makanchi Array**	**58.19 324**	P	**P**	**13 06 48.0**	**+0.1**
MK31			IAmb	IAmb	13 06 59.8	
	comp=Z,6.2nm,0.9s					
MKAR	**Makanchi Array**	**58.19 324**	P	**P**	**13 06 47.5**	**-0.4**
MKAR	**Makanchi Array**	**58.19 324**	P	**P**	**13 06 47.9**	**0.0**
	comp=Z,4.2nm,0.4s,baz=117,slow=8.0,SNR=66					
MKAR			LR	LR	13 32 25.3	
	comp=Z,74nm,21.5s,baz=111,slow=37					
	comp=Z,4.2nm,0.4s					
MAKZ	**Makanchi**	**58.38 324**	P	**P**	**13 06 48.9**	**-0.3**
MAKZ			IAmb	IAmb	13 07 08.6	
	comp=Z,7.7nm,0.8s					
MAKZ	**Makanchi**	**58.38 324**	P	**P**	**13 06 49.3**	**0.0**
UZB	**Uzynbulak**	**58.38 319**	*e*P	**P**	**13 06 48.9**	**-0.7**
	comp=Z,6.6nm,0.9s					
TARG	**Taragay, Kyrgy**	**58.56 317**	P	**P**	**13 06 50.6**	**-0.5**
TARG			IAmb	IAmb	13 07 05.7	
	comp=Z,8.4nm,0.7s					
SATY	**Saty**	**58.75 319**	*e*P	**P**	**13 06 51.4**	**-0.6**
	comp=Z,7.4nm,0.8s					
KPKS	**Kokpek**	**58.75 320**	*e*P	**P**	**13 06 51.1**	**-0.9**
	comp=Z,4.7nm,0.7s					
KSH	**Kashi**	**58.93 314**	P	**P**	**13 06 54.5**	**+1.2**
KSH			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KDJ	**Kajisay**	**59.15 318**	P	**P**	**13 06 55.2**	**+0.3**
MDOK	**Medeo**	**59.69 319**	*e*P	**P**	**13 06 57.9**	**-0.6**
TNSS	**Tian-Shan**	**59.70 318**	*e*P	**P**	**13 06 58.0**	**-1.0**
AAA	**Alma-Ata**	**59.79 319**	*e*P	**P**	**13 06 58.6**	**-0.5**
BOOM	**Boomskoye usch**	**60.14 318**	P	**P**	**13 07 01.8**	**+0.1**
BOOM			IAmb	IAmb	13 07 04.1	
	comp=Z,4.7nm,0.7s					
ZAA0	**Zalesovo Array**	**61.01 332**	P	**P**	**13 07 07.6**	**+0.4**
ZAA0			IAmb	IAmb	13 07 33.0	
	comp=Z,6.6nm,1.1s					
ZALV	**Zalesovo Beam**	**61.01 332**	P	**P**	**13 07 06.2**	**-0.9**
ZALV	**Zalesovo Beam**	**61.01 332**	P	**P**	**13 07 06.9**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=116,slow=6.3,SNR=8.1					
	comp=Z,1.4nm,0.4s					
AAK	**Ala-Archa**	**61.18 317**	P	**P**	**13 07 07.5**	**-1.2**
AAK	**Ala-Archa**	**61.18 317**	P	**P**	**13 07 08.9**	**+0.1**
KURK	**Kurchatov**	**62.31 327**	P	**P**	**13 07 15.6**	**-0.4**
KURK	**Kurchatov**	**62.31 327**	P	**P**	**13 07 15.6**	**-0.4**
KURK			pP	**pP**	**13 07 28.2**	**+1.9**
KURBB	**Kurchatov Arra**	**62.31 327**	P	**P**	**13 07 15.6**	**-0.4**
	comp=Z,3.6nm,0.5s,baz=126,slow=6.3,SNR=22					
	comp=Z,3.6nm,0.5s					
BTLS	**Baital**	**62.44 320**	*e*P	**P**	**13 07 16.2**	**-0.8**
KBL	**Kabul**	**62.58 307**	P	**P**	**13 07 16.5**	**-1.9**
KBL			IAmb	IAmb	13 07 30.6	
	comp=Z,7.8nm,0.7s					
BTK	**Batken**	**62.83 313**	P	**P**	**13 07 19.6**	**-0.2**
BTK			IAmb	IAmb	13 07 34.7	
	comp=Z,7.8nm,0.8s					
GAR	**Garm**	**62.87 312**	P	**P**	**13 07 19.9**	**-0.2**
DZA	**Taraz**	**63.43 316**	*e*P	**P**	**13 07 22.9**	**-0.8**
	comp=Z,7.5nm,0.6s					
CHGR	**Chuyangaron**	**63.62 311**	P	**P**	**13 07 24.3**	**-0.8**
CHGR			IAmb	IAmb	13 07 36.1	
	comp=Z,16nm,0.9s					
SIMJ	**Simiganj**	**63.74 311**	P	**P**	**13 07 23.5**	**-2.4**
SIMJ	**Simiganj**	**63.74 311**	P	**P**	**13 07 25.5**	**-0.4**
SIMJ			pP	**pP**	**13 07 38.2**	**+2.1**
KK31	**Karatay Array**	**64.07 316**	P	**P**	**13 07 27.4**	**-0.5**
KKAR	**Karatay Array**	**64.07 316**	P	**P**	**13 07 27.2**	**-0.7**
BRLS	**Borolday**	**64.51 316**	*e*P	**P**	**13 07 30.3**	**-0.5**
	comp=Z,4.0nm,0.7s					
BRZS	**Berezniki**	**65.33 324**	*e*P	**P**	**13 07 35.2**	**-0.7**
TIXI	**Tiksi**	**67.48 0**	P	**P**	**13 07 47.9**	**-1.4**
TIXI			IAmb	IAmb	13 08 03.1	
	comp=Z,11nm,1.1s					
BVAR	**Borovoye Array**	**67.90 326**	P	**P**	**13 07 51.8**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=123,slow=7.3,SNR=14					
BVAR			LR	LR	13 41 48.3	
	comp=Z,45nm,18.7s,baz=143,slow=40					
	comp=Z,2.9nm,0.6s					
BRVK	**Borovoye**	**67.97 326**	P	**P**	**13 07 51.1**	**-1.6**
BRVK			IAmb	IAmb	13 08 22.1	
	comp=Z,15nm,1.0s					
BRVK	**Borovoye**	**67.97 326**	P	**P**	**13 07 52.5**	**-0.2**
BRVK			pP	**pP**	**13 08 06.3**	**+3.1**
ABKAR	**Akbulak array**	**72.89 320**	P	**P**	**13 08 21.6**	**-1.2**
ARTI	**Arti**	**75.58 327**	LR	LR	13 45 21.2	
	comp=Z,43nm,18.1s,baz=144,slow=38					
C18K	**Utukok River**	**79.18 21**	P	**P**	**13 08 59.3**	**+1.0**
CAST	**Castle Rocks**	**81.71 27**	P	**P**	**13 09 11.5**	**-0.5**
RAYN	**Ar Rayn**	**81.81 293**	P	**P**	**13 09 10.9**	**-2.5**
E22K	**Anaktuvuk Pass**	**82.46 22**	IAmb	IAmb	13 09 36.5	
	comp=Z,12nm,1.2s					
COLD	**Coldfoot**	**82.96 23**	IAmb	IAmb	13 09 39.0	
	comp=Z,14nm,1.3s					
I23K	**Minto, Yukon-K**	**83.09 25**	P	**P**	**13 09 19.7**	**+0.6**
I23K			IAmb	IAmb	13 09 35.1	
	comp=Z,34nm,1.6s					
RND	**Reindeer**	**83.16 27**	P	**P**	**13 09 20.3**	**+0.7**
RND			IAmb	IAmb	13 09 36.8	
	comp=Z,15nm,1.2s					
SML	**Sawmill**	**83.28 28**	P	**P**	**13 09 20.9**	**+0.7**
TOLK	**Toolik Lake Re**	**83.34 21**	P	**P**	**13 09 20.6**	**+0.2**
D24K	**Happy Valley**	**83.66 21**	P	**P**	**13 09 22.9**	**+1.0**
POKR	**Poker Plat Res**	**83.90 25**	P	**P**	**13 09 22.1**	**-1.1**
HDA	**Harding Lake**	**84.06 26**	P	**P**	**13 09 23.9**	**-0.2**
IL31		**84.11 25**	P	**P**	**13 09 24.4**	**+0.1**
IL31			IAmb	IAmb	13 10 47.3	
	comp=Z,28nm,2.0s					
ILAR	**Eielson Array**	**84.11 25**	P	**P**	**13 09 23.9**	**-0.5**
ILAR	**Eielson Array**	**84.11 25**	P	**P**	**13 09 24.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=242,slow=5.4,SNR=16					
	comp=Z,1.4nm,0.8s					
BMAR	**Burnt Mountain**	**85.14 23**	P	**P**	**13 09 29.0**	**-0.5**
F28M	**Old Crow**	**86.95 23**	P	**P**	**13 09 39.4**	**+0.9**
F28M			IAmb	IAmb	13 10 24.8	
	comp=Z,20nm,1.9s					
I28M	**Miner Creek**	**87.05 25**	P	**P**	**13 09 40.1**	**+1.1**
SPITS	**Spitsbergen Ar**	**90.45 349**	LR	LR	13 55 05.0	
	comp=Z,29nm,21.5s,baz=20,slow=39					
AKASG	**Malin Array Be**	**92.62 321**	LR	LR	13 54 46.9	
	comp=Z,54nm,18.1s,baz=64,slow=38					
QSPA	**South Pole Qui**	**93.98 180**	P	**P**	**13 10 10.3**	**-1.1**
	comp=Z,2.8nm,1.0s,baz=255,slow=5.7,SNR=4.7					
	comp=Z,2.8nm,1.0s					
YKA	**Yellowknife Ar**	**98.53 25**	P	**P**	**13 10 31.8**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.8,SNR=3.4					
	comp=Z,0.2nm,0.6s					

*IDC **19** 13:00:19.4±1.1, 18°.25N×147°.53E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=39.9km s-min=22.2km az=90.0*

ISC 19 13:00:26.6±1.1, 18°.2N±0°.2×147°.5E±0°.3, h53km, n15, σ0s53/9, mb3.8/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**18.22**	**86**	T	T	13 23 27.6	
	baz=273,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**18.23**	**86**	T	T	13 23 31.6	
	baz=273,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**18.24**	**86**	T	T	13 23 41.6	
	baz=273,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**18.41**	**82**	T	T	13 23 52.5	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**18.41**	**82**	T	T	13 23 54.2	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**18.43**	**82**	T	T	13 23 57.5	
	baz=267						
KSRS	**Korea Array**	**25.73**	**322**	P	**P**	**13 05 52.4**	**+0.4**
	1.5nm,0.6s,baz=148,slow=9.1,SNR=5.6						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**40.05**	**199**	P	**P**	**13 07 56.8**	**-0.1**
	1.0nm,0.6s,baz=20,slow=7.6,SNR=2.9						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**43.69**	**198**	P	**P**	**13 08 26.7**	**+0.2**
	0.9nm,0.6s,baz=17,slow=10.0,SNR=6.0						
	0.9nm,0.6s						
SONM	**Songino Array**	**44.59**	**321**	P	**P**	**13 08 34.0**	**+0.3**
	0.8nm,0.7s,baz=132,slow=8.6,SNR=2.0						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**59.44**	**322**	P	**P**	**13 10 23.8**	**0.0**
	0.5nm,0.5s,baz=95,slow=6.4,SNR=2.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**62.82**	**318**	P	**P**	**13 10 45.9**	**-0.8**
	0.7nm,0.4s,baz=92,slow=7.5,SNR=2.8						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**63.33**	**26**	P	**P**	**13 10 49.5**	**-0.4**
	0.8nm,0.9s,baz=246,slow=6.1,SNR=2.0						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**67.93**	**321**	P	**P**	**13 11 19.1**	**-0.6**
	1.9nm,0.6s,baz=91,slow=5.5,SNR=4.4						
	1.9nm,0.6s						
YKA	**Yellowknife Ar**	**77.62**	**28**	P	**P**	**13 12 17.4**	**+0.4**
	0.5nm,0.9s,baz=286,slow=5.3,SNR=4.5						
	0.5nm,0.9s						

*IDC **19** 13:28:45.1±1.4, 6°.87N×125°.04E, h0km, mb3.8/8, mbtmp3.8/8, MS3.6/6, Error ellipse: s-maj=195.6km s-min=17.1km az=67.0*

*NEIC **19** 13:28:46.7±0.9, 6°.88N±0°.09×124°.99E±0°.06, h4km±5km, mb4.4/14, Error ellipse: s-maj=12.7km s-min=8.0km az=165.0*

ISC 19 13:28:46.9±0.7, 6°.89N±0°.08×125°.06E±0°.10, h13km, n33, σ0s56/25, mb4.2/14, MS3.8/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.55**	**71**	Pg	**Pg**	**13 28 58.5**	**+0.8**
DAV	**Davao City (W)**	**0.55**	**71**	LR	LR	13 29 01.1	
	comp=Z,111nm,19.1s,baz=334,slow=28						
DAV	**Davao City (W)**	**0.55**	**71**	P	**Pg**	**13 28 57.0**	**-0.7**
FAKI	**Fak Fak**	**12.11**	**143**	Pn	**Pn**	**13 31 38.7**	**-0.6**
YULB	**Yu-li**	**16.80**	**348**	Pn	**Pn**	**13 32 41.3**	**-0.8**
YULB				IAmb	IAmb	13 33 23.9	
	comp=Z,34nm,1.3s						
YOJ	**Yonaguni jima**	**17.58**	**354**	Pn	**Pn**	**13 32 51.2**	**-0.5**
JOW	**Kunigami**	**20.07**	**8**	LR	LR	13 40 39.0	
	comp=Z,31nm,20.9s,baz=113,slow=36						
MTN	**Manton Dam**	**20.52**	**163**		Pn	13 33 26.4	-0.8
MTN				IAmb	IAmb	13 33 58.4	
	comp=Z,33nm,1.4s						
KNRA	**Kununurra**	**22.72**	**171**	P	**P**	**13 33 48.1**	**-0.6**
KNRA				IAmb	IAmb	13 33 55.4	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.84**	**179**	P	**P**	**13 34 08.8**	**-0.3**
LHMI	**Lhok Sumawe**	**28.00**	**268**	P	**P**	**13 34 37.4**	**-0.5**
WB0	**Warramunga Arr**

*AZER **19** 13:29:05.0, 39.39N×45.27E, h11km, ml2.7*
*AFAD **19** 13:29:05.2, 39.54N×45.48E, h7km±4km, ML2.3*
*TEH **19** 13:29:06.2, 39.39N×45.37E, h10km±723km*
ISC 19 13:29:07.2±0.9, 39.37N±0.02×45.36E±0.02, h13km±7km, n38, σ1°52/67, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBZ	Shahbuz	0.15	79	P	Pg	13 29 10.7	-0.4
SBZ				S	Sg	13 29 14.3	+0.5
NAX	Nakhchivan	0.22	151	P	Pb	13 29 12.7	-0.4
NAX				S	Sb	13 29 17.6	+0.5
MAKU	Maku	0.52	269	Pg	Pg	13 29 16.3	-1.2
HYR	Heyderabad	0.53	312	P	Pg	13 29 16.2	-1.3
HYR				S	Sg	13 29 23.6	-0.9
ORD	Ordubad	0.66	131	P	Pb	13 29 20.2	-0.4
ORD				S	Sn	13 29 30.4	-2.2
IMRD	Marand	0.71	158	Pg	Pb	13 29 21.0	-0.5
ISHB	Shabestar	1.10	169	Pg	Pb	13 29 27.1	-1.2
IGDI	IGDIR	1.11	297	P	Pb	13 29 26.1	-2.1
IGDI				S	Sb	13 29 40.3	-2.3
IGDI				*i* AML	AML	13 29 42.0	
	comp=N,87nm,0.3s						
IGDI				*i* AML	AML	13 29 43.0	
	comp=E,75nm,0.2s						
IGDI	IGDIR	1.11	297	P	Pb	13 29 26.2	-2.1
IGDI				S	Sb	13 29 40.3	-2.3
OZAP	Van, Ozalp-Mer	1.28	237	P	Pg	13 29 32.2	+0.4
OZAP				S	Sg	13 29 53.7	+5.3
ITBZ	Tabriz	1.29	151	Pg	Pb	13 29 30.4	-1.0
ITBZ				Sg	Sg	13 29 48.7	-0.2
DYDN	Diyadin	1.30	278	P	Pg	13 29 32.5	+0.2
DYDN				S	Sg	13 29 51.2	+1.9
DYDN				*i* AML	AML	13 29 59.0	
	comp=N,31nm,0.5s						
DYDN				*i* AML	AML	13 30 04.0	
	comp=E,33nm,0.7s						
GDB	GEDABAY	1.39	13	Pn	Pn	13 29 31.5	-0.9
GDB				Sn	Sn	13 29 49.6	-1.0
GANJ	Ganja	1.48	30	Pn	Pn	13 29 33.4	-0.2
GANJ				Sn	Sn	13 29 52.3	-0.4
QRD	Qoradiz	1.52	86	Pn	Pg	13 29 35.9	-0.6
QRD				Sn	Sg	13 29 56.5	+0.2
AGDM	Agdam	1.54	61	Pn	Pb	13 29 35.5	-0.1
AGDM				Sn	Sg	13 29 57.5	+0.8
BRDA	Brd	1.66	57	Pn	Pb	13 29 37.8	+0.1
BRDA				Sn	Sn	13 29 58.4	+1.2
IHRS	Heris	1.68	128	Pg	Pb	13 29 37.9	-0.3
QZX	Qazax, Azerbai	1.69	0	Pn	Pn	13 29 35.9	-0.5
QZX				Sn	Sn	13 29 58.2	+0.3
KOTA	Agri, Merkez-K	1.72	285	P	Pb	13 29 38.6	-0.2
KOTA				S	Sg	13 30 03.5	+1.0
IAZR	Azarshahr	1.76	164	Pg	Pg	13 29 40.2	-0.8
EAK	Akyaka	1.88	315	P	Pb	13 29 40.9	-0.6
EAK				S	Sb	13 30 06.2	+1.2
EAK				*i* AML	AML	13 30 08.0	
	comp=E,36nm,0.5s						
EAK				*i* AML	AML	13 30 09.0	
	comp=N,60nm,0.6s						
MNGR	Mingechevir, A	1.93	43	Sn	Sg	13 30 12.1	+2.8
VSHL	Vashlovani	2.02	23	P	Pb	13 29 43.7	-0.1
VSHL				S	Sg	13 30 12.8	+0.6
GRMI	Germi	2.05	105	Pn	Pb	13 29 44.2	-0.2
DGRG	David-gareji	2.08	0	P	Pb	13 29 44.4	-0.5
DGRG				S	Sb	13 30 12.7	+2.1
HAKT	HAKKARI	2.22	216	Pg	Pg	13 29 49.4	-0.5
HAKT				Sg	Sg	13 30 22.7	+4.0
YRD	Yardimli	2.29	100	Pg	Pb	13 29 48.4	-0.1
YRD				Sg	Sg	13 30 20.4	-0.4
SEKA	Sheki	2.32	37	Pg	Pn	13 29 46.7	+1.6
SEKA				Sg	Sb	13 30 19.4	+2.1
GLBA	Clilabad	2.36	92	Pg	Pb	13 29 50.0	+0.4
GLBA				Sg	Sg	13 30 22.5	-0.5
LRK	Lerik	2.43	106	Pg	Pb	13 29 51.3	+0.4
LRK				Sg	Sg	13 30 24.8	-0.7
ZKTA	Zakatala	2.46	23	Sg	Sb	13 30 24.1	+2.5
LKRN	Lenkeran, Azer	2.75	103	Sg	Sg	13 30 33.0	-2.4
XNQ	Khinaliq	2.79	49	Pg	Pb	13 29 56.4	-0.6
XNQ				Sg	Sb	13 30 34.4	+3.3
ASTR	Astara	2.80	106	Pg	Pb	13 29 56.5	-0.5
ASTR				Sg	Sg	13 30 35.0	-2.1
PQL	Pirkuli	2.86	59	Pg	Pb	13 29 57.9	-0.3
PQL				Sg	Sg	13 30 37.2	-1.8
CHRG	Chargali	2.98	354	P	Pb	13 29 58.8	-1.3
CHRG				S	Sb	13 30 37.3	+0.8
MTEO	Meteo	3.37	350	P	Pb	13 30 06.2	-0.8
MTEO				S	Sb	13 30 49.3	+1.3

*NOU **19** 13:33:34.7, 20.95S×169.06E, h0km, MLv4.6/10, Vanuatu Islands*
*IDC **19** 13:33:35.6±0.7, 20.83S×168.97E, h0km, mb4.4/12, mbtmp4.3/15, ML3.7/1, MS3.9/29, Error ellipse: s-maj=21.8km s-min=17.5km az=135.0*
*NEIC **19** 13:33:39.1±1.8, 20.93S±0.10×168.70E±0.07, h5km±6km, mb4.8/26, Error ellipse: s-maj=14.5km s-min=9.3km az=164.0*
*GCMT **19** 13:33:43.1±0.3, 20.81S±0.04×168.83E±0.02, h28km, MW5.0/79, Moment Tensor Solution. s39,c46; s79,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.68±.20; $M_{\theta\theta}$-0.69±.12; $M_{\phi\phi}$-3.00±.13; $M_{r\theta}$0.49±.23; $M_{\theta\phi}$0.60±.11; $M_{\phi r}$-0.48±.19; Best double couple: $M_0$3.48000×10^{16} NP1:ϕ_s351.00000°, δ40.00000°, λ97.00000°. NP2: ϕ_s161.00000°, δ50.00000°, λ84.00000°. Principal axes: T 3.7610, Plg83.0000°, Azm31.0000°; N -0.5690, Plg5.0000°, Azm165.0000°; P -3.1980, Plg5.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 13:33:40.2±0.4, 20.87S±0.05×168.84E±0.05, h25km, n117, σ1°38/99, mb4.7/32, MS3.9/26, 4C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.97	231	P	Pb	13 33 56.3	-2.0
MARNC	Mare, Loyalty	0.97	231	S	Sn	13 34 10.1	-1.1
PINNC	Pines Island,	2.16	217		Pn	13 34 13.3	-1.3
PINNC	Pines Island,	2.16	217	P	Pn	13 34 13.5	-1.1
PINNC	Pines Island,	2.16	217	S	Sn	13 34 40.2	-0.5
OUENC	Ouen Island, N	2.41	230	P	Pn	13 34 17.4	-0.7
DZM	Mont Dzumac	2.53	241		Pn	13 34 18.9	-0.9
DZM	Mont Dzumac	2.53	241	*e*Pn	Pn	13 34 18.9	-0.9
	1μm,0.9s						
DZM				*e*Sn	Sn	13 34 48.8	-1.1
	3μm,1.0s						
DZM	Mont Dzumac	2.53	241	Pn	Pn	13 34 20.0	+0.3
	224nm,0.7s,baz=62,slow=17						
DZM				LR	LR	13 34 48.0	
	comp=Z,1μm,19.9s,baz=54,slow=27						
DZM				Sn	Sn	13 34 51.0	+1.1
	baz=75,slow=20						
DZM	Mont Dzumac	2.53	241	P	Pn	13 34 18.6	-1.2
ONTNC	Ouen Toro	2.64	237		Pn	13 34 19.9	-1.2
ONTNC	Ouen Toro	2.64	237	P	Pn	13 34 21.0	-0.2
DVP	Devils Point	3.19	349	P	Pn	13 34 27.6	-1.2
KOUNC	Koumac, New Ca	4.28	273	P	Pn	13 34 44.1	+0.4
MSVF	Nonsavu	9.24	72	Pn	Pn	13 35 54.9	+2.9
MSVF	Nonsavu	9.24	72	Pn	Pn	13 35 49.5	-2.5
	3.5nm,0.9s,baz=251,slow=11,SNR=8.6						
MSVF				LR	LR	13 38 32.3	
	comp=Z,2μm,19.2s,baz=252,slow=33						
EIDS	Eidsvold	16.93	251	P	P	13 37 37.5	+0.2
ARMA	Armidale	18.18	235	P	P	13 37 50.7	-0.4
MXZ	Matakaoa Point	18.55	156	P	Pn	13 37 56.6	+1.2
MXZ				IAmb	IAmb	13 37 57.4	
	comp=Z,48nm,0.9s						
URZ	Urewera	18.75	159	P	Pn	13 37 57.3	-0.4
	comp=Z,0.3nm,0.3s,baz=79,slow=5.2,SNR=1.5						
URZ				LR	LR	13 44 22.6	
	comp=Z,577nm,18.1s,baz=69,slow=34						
	comp=Z,4.0nm,0.7s						
RTZ	Ruatahuna	19.03	160		Pn	13 38 00.8	-0.4
RTZ				IAmb	IAmb	13 38 13.3	
	comp=Z,47nm,1.2s						
MRZ	Mangatainoka R	20.54	165		P	13 38 17.1	+0.3
MRZ				IAmb	IAmb	13 38 32.7	
	comp=Z,53nm,1.1s						
THZ	Tophouse	21.11	172		P	13 38 24.6	+1.6
GVZ	Greta Valley S	22.31	172	P	P	13 38 36.4	+0.6
PMG	Port Moresby	23.80	295	LR	LR	13 46 30.9	
	comp=Z,200nm,18.3s,baz=140,slow=32						
COEN	Coen	25.41	282	P	P	13 39 06.6	+0.6
COEN				IAmb	IAmb	13 39 11.8	
	comp=Z,9.5nm,0.8s						
TOO	Toolangi	26.20	226	P	P	13 39 14.2	+1.2
STKA	Stephens Creek	26.68	240	P	P	13 39 18.9	+1.5
STKA	Stephens Creek	26.68	240	P	P	13 39 18.7	+1.3
	comp=Z,13nm,0.9s,baz=74,slow=9.8,SNR=16						
STKA				LR	LR	13 48 49.5	
	comp=Z,440nm,21.3s,baz=33,slow=34						
	comp=Z,13nm,0.9s						
RAR	Rarotonga	29.27	96	LR	LR	13 50 50.5	
	comp=Z,66nm,18.6s,baz=254,slow=36						
BBOO	Buckleboo	31.45	241	P	P	13 39 59.9	+0.2
BBOO				IAmb	IAmb	13 40 04.9	
	comp=Z,15nm,0.8s						
WR0	Warramunga Arr	32.12	265	P	P	13 40 05.3	-0.5
WR0				IAmb	IAmb	13 40 08.0	
	comp=Z,16nm,1.5s						
WB2	Warramunga Arr	32.30	265	P	P	13 40 06.4	-1.0
WB2				IAmb	IAmb	13 40 32.2	
	comp=Z,15nm,1.1s						
WRAB	Tennant Creek	32.31	265	P	P	13 40 06.2	-1.2
WRAB				IAmb	IAmb	13 40 32.7	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	32.31	265	P	P	13 40 06.7	-0.8
WRA	Warramunga Arr	32.31	265	P	P	13 40 06.9	-0.6
	comp=Z,2.7nm,0.7s,baz=91,slow=8.4,SNR=21						
WRA				PcP	PcP	13 42 53.8	-1.5
	comp=Z,0.5nm,0.8s,baz=101,slow=3.5,SNR=4.6						
WRA				LR	LR	13 53 38.1	
	comp=Z,455nm,18.7s,baz=101,slow=37						
	comp=Z,2.7nm,0.7s						
AS31	Alice Springs	32.40	258	P	P	13 40 08.0	-0.3
AS31				IAmb	IAmb	13 40 12.3	
	comp=Z,5.7nm,0.6s						
ASAR	Alice Springs	32.40	258	P	P	13 40 08.2	-0.1
	comp=Z,13nm,0.8s,baz=94,slow=9.5,SNR=90						
ASAR				LR	LR	13 52 30.4	
	comp=Z,240nm,21.5s,baz=91,slow=35						
	comp=Z,13nm,0.8s						
JAY	Jayapura	32.93	300	LR	LR	13 51 56.5	
	comp=Z,145nm,19.6s,baz=121,slow=33						
MTN	Manton Dam	36.89	276	P	P	13 40 47.9	+0.8
MTN				IAmb	IAmb	13 40 51.1	
	comp=Z,75nm,1.6s						
FORT	Forrest	37.83	246	P	P	13 40 55.4	+0.5
FORT				IAmb	IAmb	13 41 32.2	
	comp=Z,19nm,0.8s						
TBI	Tubuai	38.62	102	*e*S	S	13 46 57.2	+0.5
	comp=Z,241nm,24.8s						
TBI				*e*LQ	LQ	13 49 50.6	
	comp=Z,2μm,29.8s						
TBI				*e*LR	LR	13 51 36.2	
	comp=Z,380nm,27.2s						
PPT2	Papeete2	39.32	93	*e*S	S	13 47 12.4	+4.8
	comp=Z,121nm,25.0s						
PPT2				*e*LQ	LQ	13 50 15.3	
	comp=Z,410nm,25.8s						
PPT2				*e*LR	LR	13 51 51.8	
	comp=Z,211nm,27.5s						
PPT2				*e*LR	LR	13 51 53.9	
	comp=Z,304nm,27.2s						
PPT	Papeete	39.33	93	LR	LR	13 52 30.7	
	comp=Z,189nm,21.3s,baz=220,slow=29						
FITZ	Fitzroy Crossi	40.73	266	P	P	13 41 19.9	+0.6
FITZ	Fitzroy Crossi	40.73	266	LR	LR	13 58 47.3	
	comp=Z,329nm,18.6s,baz=97,slow=37						
GUMO	Guam	41.56	323	LR	LR	13 58 10.9	
	comp=Z,97nm,19.4s,baz=74,slow=36						
PSA00	Pilbara Seismi	45.52	260	P	P	13 41 57.8	-0.3
PSA00				IAmb	IAmb	13 42 30.5	
	comp=Z,24nm,1.5s						
NWAO	Narrogin (SRO)	47.15	244	P	P	13 42 11.1	+0.4
NWAO	Narrogin (SRO)	47.15	244	LR	LR	14 01 20.7	
	comp=Z,437nm,21.4s,baz=80,slow=35						
MORW	Morawa	48.23	249	P	P	13 42 20.1	+0.9
LUWI	Luwuk	49.07	288	P	P	13 42 25.6	-0.2
KAPI	Kappang	50.14	281	LR	LR	14 04 52.0	
	comp=Z,32nm,20.6s,baz=122,slow=37						
TAOE	Nuku Hiva Isla	50.53	84	*e*S	S	13 49 48.7	-1.4
	comp=Z,136nm,25.7s						
TAOE				*e*LR	LR	13 56 57.3	
	comp=Z,165nm,25.8s						
VNDA	Vanda	56.80	182	LR	LR	14 04 32.0	
	comp=Z,90nm,18.1s,baz=310,slow=33						
LEM	Lembang	60.73	274	LR	LR	14 10 09.6	
	comp=Z,55nm,21.3s,baz=156,slow=36						
JOW	Kunigami	61.59	319	LR	LR	14 09 42.8	
	comp=Z,20nm,18.1s,baz=114,slow=35						
MJAR	Matsushiro Arr	64.02	333	P	P	13 44 11.4	-0.3
	comp=Z,4.5nm,1.0s,baz=165,slow=5.9,SNR=4.2						
	comp=Z,4.5nm,1.0s						
JNU	Nakatsue	64.78	325	LR	LR	14 09 52.2	
	comp=Z,33nm,19.9s,baz=164,slow=34						
ASAJ	Asahikawa	69.00	340	LR	LR	14 11 55.1	
	comp=Z,109nm,19.9s,baz=166,slow=33						
QSPA	South Pole Qui	69.19	180	P	P	13 44 43.9	-0.6
	comp=Z,5.6nm,1.1s,baz=1.3,slow=2.0,SNR=8.4						
QSPA				LR	LR	14 13 31.2	
	comp=Z,129nm,18.1s,baz=7.0,slow=35						
	comp=Z,5.6nm,1.1s						
KSRS	Korea Array	69.64	326	P	P	13 44 46.4	-1.1
	comp=Z,1.8nm,0.9s,baz=142,slow=6.3,SNR=4.7						
	comp=Z,1.8nm,0.9s						
NJ2	Nanjing	71.12	317	*e*P	P	13 45 01.3	+4.7
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
USRK	Ussuriysk Ar.	73.01	333	P	P	13 45 07.8	+0.1
	comp=Z,4.0nm,1.0s,baz=160,slow=6.1,SNR=7.3						
USRK				LR	LR	14 14 40.3	
	comp=Z,47nm,20.3s,baz=157,slow=34						
	comp=Z,4.0nm,1.0s						
SHEM	Shemya Is, Ala	73.43	3	LR	LR	14 13 13.4	
	comp=Z,89nm,19.9s,baz=346,slow=32						
PETK	Petropavlovsk-	74.30	353	P	P	13 45 14.2	-0.8
	comp=Z,9.3nm,1.0s,baz=115,slow=7.0,SNR=6.4						
	comp=Z,9.3nm,1.0s						
CN2	Changchun	75.66	329	P	P	13 45 22.6	-0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX	BinXian	76.22	331	⇑P	P	13 45 24.8	-1.5
BNX				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HNS	HongShan	77.17	319	⇑P	P	13 45 33.3	+1.5
HNS				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KLR	Kul'dur	77.20	336	LR	LR	14 17 51.9	
	comp=Z,57nm,19.4s,baz=152,slow=34						
PHRA	Phrae	77.76	295	P	P	13 45 37.4	+1.8
KMI	Kunming	78.82	302	⇓P	P	13 45 43.1	+1.5
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CMAR	Chiang Mai Arr	78.84	295	P	P	13 45 41.8	+0.2
CMAR	Chiang Mai Arr	78.84	295	P	P	13 45 43.1	+1.6
	comp=Z,1.8nm,0.6s,baz=134,slow=3.7,SNR=11						
	comp=Z,1.8nm,0.6s						
XAN	Xi'an	78.94	313	P	P	13 45 48.3	+6.5
CHTO	Chiang Mai	78.99	295	P	P	13 45 43.0	+0.6
CHTO				IAmb	IAmb	13 45 54.1	
	comp=Z,6.3nm,0.9s						
PZH	PanZhiHua	80.28	303	P	P	13 45 49.4	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
HHC	Hu-ho-hao-te	81.22	320	*e*P	P	13 45 55.4	+1.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,4.9s						
MA2	Magadan	81.51	351	LR	LR	14 16 24.4	
	comp=Z,84nm,21.6s,baz=170,slow=32						
SYO	Syowa Base	83.27	196	⇑*e*sP	P	13 46 08.4	+4.1
LZH	Lanzhou	83.54	312	*e*P	P	13 46 07.9	+1.5
LZH				pP	pP	13 46 12.0	-0.6
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
ELIB	Princess Elisa	84.48	190	*d*P	P	13 46 12.7	+2.1
KDAK	Kodiak Island	84.69	20	LR	LR	14 21 52.2	
	comp=Z,95nm,18.4s,baz=38,slow=34						
TROLL	Troll, Antarti	86.89	184	P	P	13 46 21.3	-1.3
TROLL	Troll, Antarti	86.89	184	⇑P	P	13 46 21.3	-1.3
	comp=Z,296nm,0.7s						
GTA	Gaotai	87.97	314	*e*P	P	13 46 29.0	+0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SONM	Songino Array	88.30	323	P	P	13 46 29.4	-0.2
SONM				IAmb	IAmb	13 46 45.9	
	comp=Z,3.6nm,1.0s						
SONM	Songino Array	88.30	323	P	P	13 46 29.4	-0.2
	comp=Z,1.6nm,0.9s,baz=143,slow=4.3,SNR=9.5						
SONM				LR	LR	14 27 19.2	
	comp=Z,30nm,18.5s,baz=272,slow=36						
	comp=Z,1.6nm,0.9s						
NVAR	Mina Array Bea	90.16	49	P	P	13 46 37.2	-1.5
	comp=Z,1.3nm,0.6s,baz=232,slow=5.9,SNR=6.0						
	comp=Z,1.3nm,0.6s						
LPIG	La Paz	90.46	64	LR	LR	14 18 32.1	
	comp=Z,78nm,20.4s,baz=203,slow=30						
BBB	Bella Bella	91.04	33	LR	LR	14 27 44.5	
	comp=Z,34nm,18.4s,baz=232,slow=36						
ILAR	Eielson Array	91.89	17	P	P	13 46 42.0	-3.8
	comp=Z,0.3nm,0.7s,baz=232,slow=5.0,SNR=5.7						
TXAR	Lajitas Array	97.87	62	LR	LR	14 24 48.2	
	comp=Z,54nm,19.0s,baz=158,slow=31						
PDAR	Pinedale Array	97.99	47	P	P	13 47 14.6	0.0
	comp=Z,0.2nm,0.7s,baz=300,slow=4.8,SNR=1.4						
	comp=Z,0.2nm,0.7s						
CPUP	Villa Florida	115.15	134	PKP	PKiKP	13 52 18.6	-1.3
	comp=Z,1.1nm,0.3s,baz=48,slow=2.7,SNR=3.6						
EKA	Eskdalemuir Ar	145.07	352	PKPbc	PKPbc	13 53 12.3	-2.1
	comp=Z,7.4nm,0.9s,baz=350,slow=3.6,SNR=8.0						
ZVC	Zvikov	145.08	331	*e*PKP	PKPbc	13 53 14.4	-0.4
RONA	Rosalia, Austr	145.26	327	*e*PKP	PKPbc	13 53 15.3	-0.1
	comp=Z,16nm,1.1s						
CONA	Conrad Observa	145.33	328	*e*PKP	PKPbc	13 53 15.4	-0.3
	comp=Z,16nm,1.3s						
CKRC	Cesky Krumlov	145.47	330	*e*PKP	PKPdf	13 53 15.5	-0.5
KHC	Kasperske Hory	145.59	331	*e*PKP	PKPdf	13 53 15.8	-0.4
GERES	GERESS Array B	145.73	330	PKPbc	PKPdf	13 53 15.9	-0.6
	comp=Z,9.4nm,1.0s,baz=23,slow=4.4,SNR=15						
ARSA	Arzberg	145.95	327	*e*PKP	PKPbc	13 53 17.7	+0.1
	comp=Z,3.8nm,0.9s						
MOA	Molln	146.17	329	*e*PKP	PKPdf	13 53 17.4	+0.2
	comp=Z,5.5nm,0.8s						
SOKA	Soboth	146.58	327	*i* PKP	PKPdf	13 53 18.2	+0.2
	comp=Z,4.5nm,1.0s						
BIOA	Bad Ischl, Aus	146.58	329	*i* PKP	PKPbc	13 53 19.1	-0.3
	comp=Z,3.0nm,0.5s						
KBA	Koelnbreinsper	147.15	328	*e*PKP	PKPdf	13 53 19.3	+0.2
	comp=Z,4.7nm,0.8s						
LESA	Schwarzleotal	147.23	330	*e*PKP	PKPdf	13 53 20.0	+0.9
	comp=Z,3.7nm,0.8s						
ABTA	Abfaltersbach	147.79	329	*e*PKP	PKPdf	13 53 21.2	+1.1
	comp=Z,3.4nm,0.6s						
WATA	Walderalm	147.81	330	*i* PKP	PKPdf	13 53 21.3	+1.2
	comp=Z,8.1nm,1.1s						
WTTA	Wattenberg	147.84	330	*e*PKP	PKPbc	13 53 21.9	-1.3
	comp=Z,8.4nm,1.1s						
MOTA	Moosalm	148.02	331	*e*PKP	PKPdf	13 53 22.2	+1.6
	comp=Z,8.4nm,1.0s						
SQTA	Sankt Quirin	148.06	331	*i* PKP	PKPbc	13 53 22.3	-1.4
	comp=Z,7.6nm,0.8s						
RETA	Reutte	148.07	331	*i* PKP	PKPdf	13 53 22.0	+1.5
	comp=Z,2.4nm,0.6s						
FETA	Feichten	148.43	331	*e*PKP	PKPbc	13 53 23.4	-1.3
	comp=Z,8.4nm,1.0s						
DAVA	Damuels	148.61	332	*i* pPKP	PKPbc	13 53 24.1	-1.1
	comp=Z,6.9nm,0.8s						
ESDC	Sonseca Array	160.27	343	PKPab	PKPab	13 54 16.9	-1.2
	comp=Z,0.8nm,0.7s,baz=6.6,slow=3.1,SNR=4.8						

VIE 19 13:42:14.4±0.2, 46.69N×13.80E, h0km, mb1.1/1, ml1.0/3, Error ellipse: s-maj=1.4km s-min=1.0km az=22.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.12	241	*e*Pg	Pg	13 42 16.6	-0.1
	3.0nm,0.1s						
MYKA				*i* Sg	Sg	13 42 18.4	+0.1
	2.4nm,0.1s						
KBA	Koelnbreinsper	0.50	322	*e*Pg	Pg	13 42 24.4	+0.4
	0.1nm,0.0s						
KBA				*e*Sg	Sg	13 42 31.1	+0.7
	0.5nm,0.1s						
OBKA	Obir	0.55	109	*i* Pg	Pg	13 42 25.1	+0.2
	0.3nm,0.1s						
OBKA				*e*Sg	Sg	13 42 32.4	+0.4
	2.8nm,0.3s						

LJU 19 13:43:13.4, 45.74N×14.08E, h0km, ML0.5, Explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	Javornik	0.16	357	*i* Pg	Pg	13 43 16.3	-0.1
JAVS				*i* Sg	Sg	13 43 19.3	+0.9
JAVS				IAML		13 43 20.3	
	comp=Z,3.6nm,0.1s						
SKDS	Skadanscina	0.20	193	*i* Pg	Pg	13 43 17.1	-0.1
SKDS				*i* Sg	Sg	13 43 20.9	+1.2
SKDS				IAML		13 43 22.1	
	comp=Z,9.7nm,0.1s						
CEY	Cerknica	0.24	90	*i* Pg	Pg	13 43 18.0	-0.1
CEY				*e*Sg	Sg	13 43 22.9	+1.6
CEY				IAML		13 43 23.6	
	comp=Z,8.7nm,0.2s						
VOJS	Vojsko	0.32	335	*i* Pg	Pg	13 43 19.3	-0.3
VOJS				*e*Sg	Sg	13 43 24.6	+0.8
VOJS				IAML		13 43 26.7	
	comp=Z,1.7nm,0.1s						

*NEIC **19** 14:13:09.9±1.9, 14.49N±0.05×93.18W±0.03, h10km±1km, mb4.6/143, Md4.7/98(MEX), Error ellipse: s-maj=9.0km s-min=5.0km az=186.0*
*GCG **19** 14:13:09.0±2.1, 14.31N×93.24W, h14km±14km, MD4.9, Hypocentre not reviewed by the ISC*
*MEX **19** 14:13:12.6±0.8, 14.36N×93.17W, h12km±15km, MD4.7*
*SNET **19** 14:13:14.5±1.0, 14.37N×92.92W, h20km±6km, ML4.5*
*IDC **19** 14:13:21.9±2.6, 14.93N×92.68W, h104km±21km, mb3.9/8, mbtmp4.3/11, MS3.6/21, Error ellipse: s-maj=27.9km s-min=14.8km az=52.0*
**ISC 19 14:13:09.3±1.5, 14.46

CCIG eS 14 14 14.9
QUIS Sacapulas 2.20 68 eP 14 13 48.3
QUIS eS 14 14 17.7
ESSG Sabana Grande 2.29 92 eP 14 13 46.8
TGBT Tuxtla Gutierr 2.31 3 Pn 14 13 49.4 +2.0
TGBT **Sn 14 14 18.1 +2.1**
TGBT Tuxtla Gutierr 2.31 3 i P **Pn 14 13 49.4 +2.0**
TGBT i S **Sn 14 14 18.1 +2.1**
TGIG 2.31 2 Pn 14 13 49.3 +1.8
TGIG **Sn 14 14 17.9 +1.9**
TGIG 2.31 2 i P **Pn 14 13 49.3 +1.8**
TGIG eS **Sn 14 14 17.9 +1.9**
TGIG 2.31 2 i P 14 13 49.3
TGIG eS 14 14 18.0
NILT Santiago Nilte 2.50 327 eP **Pn 14 13 49.9 -0.2**
NILT eS **Sn 14 14 19.0 -1.8**
APG El Apazote 2.70 78 P **Pn 14 13 54.7 +1.7**
comp=Z,39nm,0.7s,baz=199,slow=15,SNR=62
APG S **Sn 14 14 24.5 -1.5**
comp=Z,30nm,0.8s,baz=214,slow=16,SNR=2.6
UXUV UXUV 2.98 342 eP **Pn 14 13 58.5 +1.7**
UXUV eS **Sn 14 14 33.5 +0.9**
CMIG Matias Romero 3.08 328 Pn 14 13 58.0 0.0
CMIG **Sn 14 14 30.0 -5.1**
CMIG Matias Romero 3.08 328 P **Pn 14 13 59.1 +1.1**
comp=Z,112nm,0.3s,baz=160,slow=13,SNR=124
CMIG S **Sn 14 14 36.7 +1.7**
comp=Z,414nm,0.4s,baz=108,slow=14,SNR=7.7
CMIG LR LR 14 15 34.6
comp=Z,378nm,19.7s,baz=130,slow=44
CMIG Matias Romero 3.08 328 eP **Pn 14 13 58.0 0.0**
CMIG i S **Sn 14 14 30.0 -5.1**
HUIG Huatulco 3.10 295 Pn 14 13 57.5 -0.8
HUIG Sn 14 14 29.1 -6.3
HUIG Huatulco 3.10 295 eP Pn 14 13 57.5 -0.8
HUIG eS Sn 14 14 29.1 -6.3
HUIG Huatulco 3.10 295 eP 14 13 57.7
NUBE Las Nubes 3.36 99 eP **Pn 14 14 02.0 -0.2**
NUBE Las Nubes 3.36 99‖ eP 14 14 02.5
NUBE eS 14 14 42.1
RTR El Retiro 3.49 99 eP **Pn 14 14 04.2 +0.3**
VHSA Villahermosa 3.51 4 eP **Pn 14 14 06.1 +2.1**
VHSA eS **Sn 14 14 48.5 +2.8**
SBLS San Blas 3.52 100 eP **Pn 14 14 05.2 +0.8**
CEVE Cerro Verde 3.52 100 eP **Pn 14 14 05.2 +0.8**
CEVE IAML 14 15 02.3
comp=Z,2μm,0.5s
SNJE San Jose 3.53 99 eP **Pn 14 14 04.7 +0.2**
MTO3 Montecristo 3.72 90 Pn 14 14 06.8 -0.3
JAYA Jayaque - finc 3.73 102 eP **Pn 14 14 07.1 0.0**
JAYA eS **Sn 14 14 47.4 -3.8**
JAYA IAML 14 15 02.2
comp=Z,612nm,0.5s
JAYA Jayaque - finc 3.73 102 eP 14 14 07.2
PMON Piamonte 3.84 101 eP **Pn 14 14 09.2 +0.5**
PMON eS **Sn 14 14 51.2 -2.8**
BOQS Boqueron 3.87 100 eP **Pn 14 14 10.1 +0.9**
PETF Flores 4.03 52 Pn **Pn 14 14 13.8 +2.6**
NEUV Arroyo Zacate 4.09 323 eP Pn 14 14 09.7 -2.2
NEUV eS **Sn 14 14 59.3 -0.7**
COEG Centro de Oper 4.27 101 eP **Pn 14 14 15.3 +0.7**
OXIG Oaxaca 4.28 308 Pn 14 14 16.7 +1.9
OXIG **Sn 14 15 06.2 +1.2**
VHO Vista Hermosa 4.28 308 eP **Pn 14 14 16.7 +1.9**
VHO eS **Sn 14 15 06.2 +1.2**
PMUV Sontecomapan 4.46 336 eP Pn 14 14 09.9 -7.2
PMUV eS **Sn 14 15 07.5 -1.8**
PQSS Presa 15 de Se 4.58 100 eP **Pn 14 14 19.5 +0.8**
YOIG Yosondua 4.82 300 Pn 14 14 23.9 +1.7
YOIG **Sn 14 15 18.4 +0.1**
YOIG Yosondua 4.82 300 eP **Pn 14 14 23.9 +1.7**
YOIG eS **Sn 14 15 18.4 +0.1**
SCIG Sabancuy 4.88 23 eP **Pn 14 14 23.6 +0.8**
SCIG i S **Sn 14 15 18.1 -1.3**
SCIG Sabancuy 4.88 23 eP 14 14 24.1
PNIG Pinotepa 5.13 293 Pn 14 14 26.8 +0.5
PNIG **Sn 14 15 21.2 -4.4**
PNIG Pinotepa 5.13 293 eP **Pn 14 14 26.8 +0.5**
PNIG eS **Sn 14 15 21.2 -4.4**
TOIG Toxpalan 5.18 315 Pn 14 14 22.9 -4.2
TOIG **Sn 14 15 25.7 -1.4**
TOIG Toxpalan 5.18 315 eP Pn 14 14 22.9 -4.2
TOIG eS **Sn 14 15 25.7 -1.4**
TXIG Tlaxiaco 5.20 303 Pn 14 14 30.4 +2.9
TXIG **Sn 14 15 25.7 -2.1**
TXIG Tlaxiaco 5.20 303 eP **Pn 14 14 30.4 +2.9**
TXIG eS **Sn 14 15 25.7 -2.1**
LCND La Caada 5.28 102 eP **Pn 14 14 29.4 +1.0**
LCND IAML 14 15 56.6
comp=Z,177nm,0.5s
CNCH Conchagua 5.34 102 eP **Pn 14 14 30.0 +0.6**
CNCH IAML 14 15 53.2
comp=Z,542nm,0.6s
TPIG Tehuac#an 5.61 315 Pn 14 14 33.8 +0.7
TPIG **Sn 14 15 43.0 +5.3**
TPIG Tehuac#an 5.61 315 eP **Pn 14 14 33.8 +0.7**
TPIG eS **Sn 14 15 43.0 +5.3**
FTIG Fresnillo de T 5.85 307 Pn 14 14 37.8 +1.4
FTIG Fresnillo de T 5.85 307 eP **Pn 14 14 37.8 +1.4**
MGIG Malinaltepec 5.91 299 Pn 14 14 39.9 +2.7
MGIG **Sn 14 15 43.9 -1.3**
MGIG Malinaltepec 5.91 299 eP **Pn 14 14 39.9 +2.7**
MGIG eS **Sn 14 15 43.9 -1.3**
JAUV Jalcomulco 5.97 325 eP Pn 14 14 36.3 -1.6
JAUV eS **Sn 14 15 42.3 -4.3**
TLIG Tlapa 6.01 302 Pn 14 14 39.2 +0.7
TLIG Tlapa 6.01 302 eP **Pn 14 14 40.1 +1.6**
TLIG eS **Sn 14 15 54.1 +6.5**
LVIG Laguna Verde 6.07 330 eP Pn 14 14 36.4 -2.8
LVIG i S **Sn 14 15 48.5 -0.3**
CRIG Cruz Grande 6.15 292 Pn 14 14 41.8 +1.5
CRIG Cruz Grande 6.15 292 eP **Pn 14 14 41.8 +1.5**
CRIN San Cristobal 6.23 106 Pn 14 14 41.5 +0.1
CNGN Cerro Negro 6.62 106 Pn **Pn 14 14 47.6 +0.9**
CXUV Coxquihui 7.06 324 eP **Pn 14 14 53.0 +0.1**
CXUV eS **Sn 14 16 11.5 -1.8**
YAIG Yautepec 7.13 309 Pn 14 14 53.9 0.0
YAIG **Sn 14 16 17.1 +2.0**
YAIG Yautepec 7.13 309 eP **Pn 14 14 53.9 0.0**
YAIG eS **Sn 14 16 17.1 +2.0**
PLIG Platanillo 7.20 304 Pn 14 14 57.9 +3.0
PLIG **Sn 14 17.0 +0.1**
PLIG Platanillo 7.20 304 eP **Pn 14 14 57.9 +3.0**
PLIG eS **Sn 14 16 17.0 +0.1**
CAIG El Cayaco 7.28 292 Pn 14 14 57.6 +1.8
CAIG **Sn 14 16 21.8 +3.3**
CAIG El Cayaco 7.28 292 eP **Pn 14 14 57.6 +1.8**
CAIG eS **Sn 14 16 21.8 +3.3**
TEIG Tepich 7.41 39 Pn **Pn 14 14 57.3 -0.3**
TEIG Tepich 7.41 39 P **Pn 14 14 57.9 +0.3**
comp=Z,0.5nm,0.4s,baz=40,slow=24,SNR=34
TEIG S Sn 14 16 13.5 -8.4
comp=Z,0.4nm,0.4s,baz=213,slow=24,SNR=5.3
MAVM Malinalco, Edo 7.51 307 e Pn 14 14 48.8 -10
MAVM e 14 16 09.4
AOVM Tlapan 7.56 310 Pn 14 14 59.1 -1.1
AOVM **Sn 14 16 22.8 -3.5**
AOVM Tlapan 7.56 310 eP Pn 14 14 59.1 -1.1
AOVM eS **Sn 14 16 22.8 -3.5**
BOAB BOACO BROADBAN 7.59 104 Pn **Pn 14 15 00.4 +0.2**
ARIG Puente Sto Nin 7.84 300 Pn 14 15 07.1 +3.5
ARIG **Sn 14 16 33.1 +0.5**
ARIG Puente Sto Nin 7.84 300 eP **Pn 14 15 07.1 +3.5**
ARIG eS **Sn 14 16 33.1 +0.5**
DEIG Demacu 8.05 317 eP **Pn 14 15 09.2 +2.6**
DHIG Demacu 8.05 317 Pn 14 15 09.2 +2.6
ZIIG Zihuatanejo 8.54 293 Pn 14 15 16.0 +2.9
ZIIG Zihuatanejo 8.54 293 eP **Pn 14 15 16.0 +2.9**
JTS Las Juntas de 9.06 116 P Pn 14 15 25.9 +5.6
comp=Z,8.8nm,0.7s,baz=291,slow=5.1,SNR=6.6
JTS S **Sn 14 17 08.4 +5.9**
comp=Z,3.1nm,0.3s,baz=300,slow=21,SNR=1.1
ZAIG Zacatecas 12.13 314 Pn **Pn 14 16 05.3 +2.7**
SOR Soroa 12.72 48 Pn 14 16 07.4 -3.1
833A Chaparral WMA, 14.95 338 Pn 14 16 39.2 -1.6
DRIO Del Rio 16.39 336 Pn 14 17 01.0 +1.3
JCT Junction City 17.06 340 Pn 14 17 09.4 +1.2
BRDY Brady 17.57 343 Pn 14 17 15.5 +1.0
TXAR Lajitas Array 17.69 329 Pn 14 17 18.9 +2.9
TXAR Lajitas Array 17.69 329 P **Pn 14 17 19.6 +3.6**
comp=Z,11nm,1.0s,baz=151,slow=14,SNR=26
TX31 Lajitas Ar. Si 17.69 329 P **Pn 14 17 19.2 +3.2**
OZNA Ozona 17.93 337 Pn 14 17 21.1 +2.1
OZNA IAmb IAmb 14 17 26.6
comp=Z,45nm,1.3s
SGCY Sterling City 18.83 339 P 14 17 30.0 +0.5
SGCY IAmb IAmb 14 17 37.6
comp=Z,43nm,1.0s
PLPT Palo Pinto 18.86 347 P **P 14 17 31.5 +1.8**
MNHN Monahans 18.95 334 P **P 14 17 32.8 +1.9**
MNHN IAmb IAmb 14 17 35.1
comp=Z,19nm,0.8s
VHRN Van Horn 19.53 328 P **P 14 17 39.4 +2.1**
ODSA Odessa 19.55 336 Pn **P 14 17 38.5 +1.2**
ODSA IAmb IAmb 14 17 41.2
comp=Z,31nm,0.7s
SN05 Snyder 5 19.63 340 IAmb IAmb 14 17 46.1
comp=Z,36nm,1.0s
WTFS Witchita Falls 19.80 347 IAmb IAmb 14 17 50.8
comp=Z,14nm,0.6s
APMT Aspermont 19.81 343 IAmb IAmb 14 17 48.3
comp=Z,18nm,0.6s
SN07 Snyder 07 19.82 341 IAmb IAmb 14 17 45.0
comp=Z,25nm,0.7s
MIAR Mount Ida 20.00 359 P 14 17 41.8 -0.4
MIAR IAmb IAmb 14 17 49.9
comp=Z,31nm,1.0s
POST Post 20.00 339 IAmb IAmb 14 17 52.5
comp=Z,21nm,0.8s
DKNS Dickens 20.36 341 IAmb IAmb 14 17 52.9
comp=Z,18nm,0.6s
W35A Tecumseh 20.87 352 IAmb IAmb 14 18 01.0
comp=Z,17nm,0.8s
ROSC El Rosal 20.90 115 P **P 14 17 54.4 +1.8**
comp=Z,9.6nm,0.4s,baz=106,slow=5.7,SNR=5.3
comp=Z,9.6nm,0.4s
DEOK Depew 21.50 353 IAmb IAmb 14 18 01.4
comp=Z,13nm,0.8s
SMWD Samnorwood 21.51 344 IAmb IAmb 14 18 02.4
comp=Z,24nm,0.7s
RUSC La Rusia 21.53 111 P **P 14 17 59.3 -0.2**
LCAR Lake Charles 21.60 5 P **P 14 17 58.8 -0.6**
OK052 Battle Ridge R 21.69 352 IAmb IAmb 14 18 10.2
comp=Z,20nm,0.6s
HHAR Hobbs 21.74 358 IAmb IAmb 14 18 34.9
comp=Z,18nm,1.2s
QUOK Quay 21.85 352 IAmb IAmb 14 18 30.5
comp=Z,22nm,0.9s
HODGE Hodges 22.03 25 IAmb IAmb 14 18 22.5
comp=Z,22nm,1.1s
PBMO Poplar Bluff 22.36 6 IAmb IAmb 14 18 45.1
comp=Z,11nm,0.8s
319A Douglas 22.38 322 IAmb IAmb 14 18 56.5
comp=Z,14nm,0.9s
T42A Van Buren 22.56 4 P **P 14 18 09.5 -0.2**
TKL Tuckaleechee C 22.74 20 P **P 14 18 09.7 -2.0**
comp=Z,2.3nm,0.7s,baz=190,slow=15,SNR=3.7
TKL LR LR 14 28 22.8
comp=Z,61nm,18.4s,baz=143,slow=41
comp=Z,2.3nm,0.7s
U49A Red Boiling Sp 22.94 15 IAmb IAmb 14 18 33.2
comp=Z,24nm,1.5s
RTBA Rita Blanca 23.49 340 IAmb IAmb 14 18 23.0
comp=Z,20nm,0.7s
CCM Cathedral Cave 23.57 4 P **P 14 18 18.2 -1.9**
CCM IAmb IAmb 14 18 19.3
comp=Z,7.4nm,0.7s
ANMO Albuquerque 23.64 332 P **P 14 18 21.6 +0.5**
TUC Tucson 23.94 321 P **P 14 18 24.4 +0.5**
TUC IAmb IAmb 14 18 27.6
comp=Z,15nm,1.0s
R32A Long Quarter, 24.36 349 IAmb IAmb 14 18 29.1
comp=Z,19nm,0.9s
T25A Trinidad 24.70 338 IAmb IAmb 14 18 38.6
comp=Z,15nm,0.9s
BAUV El Baul 25.23 100 P **P 14 18 33.0 -2.7**
SDCO Great Sand Dun 25.64 337 IAmb IAmb 14 18 42.8
comp=Z,11nm,1.2s
ATAH Atahualpa 26.00 145 LR LR 14 27 34.6
comp=Z,147nm,18.0s,baz=287,slow=33
SJG San Juan 26.20 78 LR LR 14 29 00.4
comp=Z,97nm,21.7s,baz=232,slow=37
MVCO Mesa Verde 26.44 332 IAmb IAmb 14 18 56.5
comp=Z,6.6nm,0.7s
PV13 Radium Mtn., P 27.36 332 IAmb IAmb 14 19 14.3
comp=Z,7.0nm,0.9s
PV11 David Mesa, Pa 27.50 333 IAmb IAmb 14 19 19.9
comp=Z,8.7nm,0.9s
PV07 Paradox Valley 27.52 333 IAmb IAmb 14 19 01.3
comp=Z,8.0nm,0.8s
PV10 Paradox Valley 27.64 332 IAmb IAmb 14 19 27.8
comp=Z,11nm,1.0s
PFO Pinyon Flats O 28.43 316 LR LR 14 32 41.1
comp=Z,66nm,19.0s,baz=100,slow=41
V12A Nelson 28.73 321 IAmb IAmb 14 19 10.4
comp=Z,11nm,1.1s
TCUT Toone Canyon 30.93 333 IAmb IAmb 14 19 35.6
comp=Z,8.4nm,0.9s
RSSD Black Hills 30.98 345 P **P 14 19 27.2 +0.1**
RSSD IAmb IAmb 14 19 29.9
comp=Z,4.2nm,0.7s
HWUT Hardware Ranch 31.39 333 IAmb IAmb 14 19 35.6
comp=Z,5.2nm,1.1s
PDAR Pinedale Array 31.53 337 P **P 14 19 32.5 +0.4**
comp=Z,1.7nm,1.0s,baz=134,slow=8.5,SNR=8.8
PDAR LR LR 14 34 47.6
comp=Z,15nm,21.6s,baz=97,slow=41
comp=Z,1.7nm,1.0s
HVU Hansel Valley 32.07 332 IAmb IAmb 14 19 39.4
comp=Z,6.0nm,1.0s
AHID Auburn Hatcher 32.14 335 IAmb IAmb 14 19 51.9
comp=Z,7.5nm,1.1s
SADO Sadowa 32.48 19 LR LR 14 34 05.9
comp=Z,88nm,19.8s,baz=244,slow=39
NV11 Mina Array Sit 32.50 322 IAmb IAmb 14 19 44.1
comp=Z,7.4nm,0.8s
NVAR Mina Array Bea 32.59 322 P **P 14 19 41.6 +0.2**
NVAR Mina Array Bea 32.59 322 P **P 14 19 43.6 +2.3**
comp=Z,8.1nm,0.8s,baz=139,slow=8.9,SNR=42
NVAR PcP **PcP 14 22 28.2 +0.4**
comp=Z,2.0nm,0.9s,baz=133,slow=4.4,SNR=5.4
NVAR LR LR 14 34 45.9
comp=Z,198nm,18.7s,baz=153,slow=40
comp=Z,8.1nm,0.8s
LHV Little Huntoon 32.59 321 IAmb IAmb 14 19 45.0
comp=Z,7.6nm,0.8s
LOHW Long Hollow 32.65 336 IAmb IAmb 14 19 52.5
comp=Z,11nm,1.2s
TPAW Teton Pass 32.69 336 IAmb IAmb 14 19 56.0
comp=Z,6.3nm,0.8s
RLMT Red Lodge 33.46 339 IAmb IAmb 14 19 51.3
comp=Z,3.1nm,0.7s
YNE Yellowstone No 33.62 338 IAmb IAmb 14 19 54.4
comp=Z,8.8nm,0.9s
YMR Madison River 33.68 337 IAmb IAmb 14 20 01.5
comp=Z,10nm,1.1s
YHL Hebgen Lake 33.92 337 IAmb IAmb 14 20 11.6
comp=Z,8.7nm,1.4s
DLMT Dillon 34.90 336 IAmb IAmb 14 20 03.6
comp=Z,8.2nm,0.9s
WVOR Wild Horse Val 35.47 327 IAmb IAmb 14 20 08.8
comp=Z,6.0nm,1.1s
ULM Lac du Bonnet 35.76 357 P P 14 20 06.8 -1.6
comp=Z,2.7nm,0.7s,baz=190,slow=9.6,SNR=6.2
ULM PcP **PcP 14 22 34.9 -1.3**
comp=Z,2.1nm,0.8s,baz=215,slow=2.0,SNR=3.8
ULM LR LR 14 36 22.1
comp=Z,74nm,19.8s,baz=151,slow=39
comp=Z,2.7nm,0.7s
J08A Circle Bar Ran 36.03 328 IAmb IAmb 14 20 13.6
comp=Z,11nm,0.9s
PLID Pearl Lake 36.12 332 IAmb IAmb 14 20 13.8
comp=Z,5.8nm,0.8s
EGMT Eagleton 36.17 341 IAmb IAmb 14 20 13.9
comp=Z,10nm,1.1s
MSO Missoula 36.64 336 IAmb IAmb 14 20 17.9
comp=Z,5.4nm,0.8s
YBH Yreka Blue Hor 37.29 323 LR LR 14 37 25.0
comp=Z,170nm,18.2s,baz=150,slow=39
H04A Detroit Lake 38.89 327 IAmb IAmb 14 20 36.9
comp=Z,11nm,0.9s
NEW Newport 39.08 335 LR LR 14 39 06.1
comp=Z,102nm,18.7s,baz=147,slow=40
LPAZ La Paz 39.33 140 LR LR 14 36 19.5
comp=Z,65nm,18.5s,baz=298,slow=35
SCHQ Schefferville 45.21 21 LR LR 14 41 40.2
comp=Z,142nm,18.1s,baz=323,slow=38
YKA Yellowknife Ar 50.32 347 P **P 14 22 05.7 -0.4**
comp=Z,7.4nm,0.8s,baz=157,slow=7.5,SNR=111
YKA PcP **PcP 14 23 22.8 -1.9**
comp=Z,0.7nm,0.8s,baz=152,slow=4.8,SNR=5.8
comp=Z,7.4nm,0.8s
WRGLY Wrigley 53.12 343 P **P 14 22 26.7 -0.2**
WRGLY IAmb IAmb 14 22 28.4
comp=Z,11nm,1.1s
CPUP Villa Florida 53.49 139 LR LR 14 46 53.3
comp=Z,45nm,18.5s,baz=304,slow=38
PLCA Paso Flores 58.80 160 LR LR 14 43 48.9
comp=Z,64nm,18.6s,baz=170,slow=31
F31M Tsiigehtchic 59.14 343 P **P 14 23 09.4 -0.5**
F31M IAmb IAmb 14 23 11.0
comp=Z,4.2nm,0.8s
INK Inuvik 59.67 344 P **P 14 23 13.4 -0.2**
INK IAmb IAmb 14 23 14.5
comp=Z,6.0nm,0.8s
INK Inuvik 59.67 344 LR LR 14 55 53.5
comp=Z,58nm,18.3s,baz=238,slow=43
RES Resolute Bay 60.23 359 IAmb IAmb 14 23 17.1
comp=Z,5.4nm,0.8s
PAX Paxson 60.56 335 IAmb IAmb 14 23 21.5
comp=Z,6.9nm,0.9s
IL31 61.96 337 IAmb IAmb 14 23 30.3
comp=Z,5.1nm,0.8s
ILAR Eielson Array 61.96 337 P **P 14 23 29.0 -0.3**
ILAR Eielson Array 61.96 337 P **P 14 23 29.1 -0.1**
comp=Z,3.7nm,0.9s,baz=135,slow=4.7,SNR=30
comp=Z,3.7nm,0.9s
TRF Thorofare Moun 62.73 335 P **P 14 23 34.7 0.0**
CAST Castle Rocks 63.46 334 P **P 14 23 38.8 -0.6**
COLD Coldfoot 64.28 339 IAmb IAmb 14 23 46.7
comp=Z,4.3nm,1.1s
TOLK Toolik Lake Re 64.70 340 IAmb IAmb 14 23 48.2
comp=Z,4.2nm,0.7s
G18K Tagagawik 66.95 336 IAmb IAmb 14 24 03.3
comp=Z,4.4nm,1.0s
BORG Borgarnes 69.30 26 LR LR 14 52 50.7
comp=Z,45nm,20.1s,baz=260,slow=34
ESDC Sonseca Array 80.34 52 P P 14 25 17.6 -3.6
comp=Z,1.7nm,0.9s,baz=288,slow=5.8,SNR=10
comp=Z,1.7nm,0.9s
BILL Bilibino 80.60 338 P **P 14 25 21.8 -0.1**
BILL IAmb IAmb 14 25 23.1
comp=Z,7.9nm,0.9s
MDT Midelt 81.15 58 LR LR 15 01 02.6
comp=Z,52nm,18.2s,baz=333,slow=36
NOA NORSAR Array B 84.30 28 LR LR 15 05 07.3
comp=Z,31nm,18.3s,baz=350,slow=37
HFS Hagfors 85.76 29 LR LR 15 04 37.3
comp=Z,52nm,18.0s,baz=346,slow=36
TIXI Tiksi 89.57 348 P P 14 26 05.7 -1.0
TIXI IAmb IAmb 14 26 06.3
comp=Z,4.2nm,0.8s
TIXI Tiksi 89.57 348 LR LR 15 14 57.1
comp=Z,18nm,18.0s,baz=10,slow=41
MKAR Makanchi Array 118.90 4 PKP **PKPdf 14 31 56.5 -2.0**
comp=Z,0.6nm,0.9s,baz=358,slow=3.6,SNR=5.0
CMAR Chiang Mai Arr 145.17 340 PKP **PKPbc 14 32 46.8 -0.9**
comp=Z,4.4nm,0.8s,baz=338,slow=3.5,SNR=36

---

*NEIC **19** 14:16:20.1±1.4,29°.9S±0°.1×178°.4W±0°.2,h13km±5km, mb4.6/8, Error ellipse: s-maj=32.8km s-min=6.7km az=125.0*
*IDC **19** 14:16:20.4±1.9,30°.01S×177°.66W,h61km±17km,mb3.9/4, mbtmp4.1/4, Error ellipse: s-maj=28.2km s-min=22.9km az=167.0*

ISC 19 14:16:17.9±1.2,30°.34S±0°.07×177°.9W±0°.2,h46km,n32, σ2°.30/24,mb4.4/7,1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**357**			**14 16 35.2**	**-1.5**
RAO				Sn	**Sn**	**14 16 48.2**	**-2.4**
RAO	**Raoul Island**	**1.09**	**357**	P	**Pn**	**14 16 35.9**	**-0.8**
752nm,0.2s,baz=90,slow=10,SNR=14							
RAO				LR	LR	14 16 46.1	
comp=Z,127nm,20.8s,baz=98,slow=32							
RAO				S	**Sn**	**14 16 48.4**	**-2.2**
4μm,0.3s,baz=158,slow=22,SNR=14							
URZ	**Urewera**	**8.93**	**206**	P	**Pn**	**14 18 20.1**	**-4.1**
1.5nm,0.3s,baz=337,slow=4.0,SNR=7.7							
URZ				S	**Sn**	**14 20 00.2**	**-3.3**
7.2nm,0.5s,baz=272,slow=21,SNR=10.0							
BKZ	**Black Stump Fm**	**9.96**	**206**		**Pn**	**14 18 35.2**	**-3.1**
THZ	**Tophouse**	**13.62**	**211**	Pn	**Pn**	**14 19 26.2**	**-2.2**
KHZ	**Kahutara**	**13.89**	**208**	Pn	**Pn**	**14 19 30.5**	**-1.5**
STKA	**Stephens Creek**	**34.62**	**257**	P	**P**	**14 23 03.6**	**+0.9**
STKA				IAmb	IAmb	14 23 12.4	
comp=Z,9.3nm,0.8s							
STKA	**Stephens Creek**	**34.62**	**257**	P	**P**	**14 23 05.7**	**+3.0**
comp=Z,2.0nm,0.4s,baz=101,slow=10,SNR=6.1							
comp=Z,2.0nm,0.4s							
BBOO	**Buckleboo**	**39.11**	**254**	P	**P**	**14 23 42.9**	**+2.0**
AS31	**Alice Springs**	**43.24**	**267**	P	**P**	**14 24 16.9**	**+1.9**
ASAR	**Alice Springs**	**43.24**	**267**	P	**P**	**14 24 16.6**	**+1.7**
comp=Z,0.9nm,0.5s,baz=105,slow=7.4,SNR=30							
comp=Z,0.9nm,0.5s							
WR0	**Warramunga Arr**	**44.05**	**272**	P	**P**	**14 24 23.6**	**+2.2**
WB2	**Warramunga Arr**	**44.22**	**272**	P	**P**	**14 24 25.0**	**+2.2**
WB2				IAmb	IAmb	14 24 25.6	
comp=Z,5.5nm,0.5s							
WRAB	**Tennant Creek**	**44.22**	**272**	P	**P**	**14 24 24.9**	**+2.1**
WRAB				IAmb	IAmb	14 24 25.9	
comp=Z,3.6nm,0.6s							
WRA	**Warramunga Arr**	**44.23**	**272**	P	**P**	**14 24 24.6**	**+1.8**
comp=Z,2.4nm,0.3s,baz=110,slow=8.1,SNR=80							
comp=Z,2.4nm,0.3s							
WB0	**Warramunga Arr**	**44.25**	**272**	P	**P**	**14 24 25.2**	**+2.2**
WB0				IAmb	IAmb	14 24 25.8	
comp=Z,4.9nm,0.6s							
QSPA	**South Pole Qui**	**59.77**	**180**	P	P	14 26 27.5	+10
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**14 26 21.3**	**+3.3**
comp=Z,1.5nm,1.2s,baz=44,slow=1.1,SNR=20							
comp=Z,1.5nm,1.2s							
SYO	**Syowa Base**	**77.20**	**193**‖	eP	P	14 28 13.8	+7.3
H03S2	**Juan Fernandez**	**80.39**	**123**	T	T	15 57 38.2	
baz=239,SNR=7.5							
H03S1	**Juan Fernandez**	**80.40**	**124**	T	T	15 57 39.9	
baz=239,slow=74,SNR=9.4							
H03S3	**Juan Fernandez**	**80.41**	**123**	T	T	15 57 39.9	
baz=239,slow=74,SNR=11							
H03N3	**Juan Fernandez**	**80.58**	**123**	T	T	15 57 53.2	
baz=241,slow=72,SNR=8.3							
H03N2	**Juan Fernandez**	**80.58**	**123**	T	T	15 57 52.1	
baz=241,slow=72,SNR=6.9							
H03N1	**Juan Fernandez**	**80.60**	**123**	T	T	15 57 49.9	
baz=241,slow=72,SNR=12							
KURBB	**Kurchatov Arra**	**121.14**	**314**	PKP	**PKiKP**	**14 35 05.3**	**0.0**
comp=Z,0.5nm,0.6s,baz=111,slow=2.1,SNR=3.5							
BVAR	**Borovoye Array**	**126.45**	**316**	PKP	**PKiKP**	**14 35 15.6**	**-0.2**
comp=Z,0.7nm,0.5s,baz=323,slow=0.6,SNR=4.2							
H10N3	**ASCENSION HYDR**	**138.81**	**154**	T	T	17 11 17.7	
baz=203,slow=75,SNR=6.2							
H10N1	**ASCENSION HYDR**	**138.81**	**154**	T	T	17 11 35.7	
baz=203,slow=75,SNR=7.7							
H10N2	**ASCENSION HYDR**	**138.82**	**154**	T	T	17 11 20.9	
baz=203,slow=75,SNR=6.6							
FINES	**FINESS Array B**	**145.13**	**340**	PKP	**PKPdf**	**14 35 49.6**	**+0.1**
comp=Z,2.4nm,0.4s,baz=50,slow=3.9,SNR=26							
AKASG	**Malin Array Be**	**151.33**	**323**	PKPbc	**PKiKP**	**14 36 06.4**	**-0.1**
comp=Z,0.9nm,0.5s,baz=54,slow=2.2,SNR=6.9							

IDC 19 14:30:58.6±2.3,30°.72S×178°.52W,h0km,mb3.6/3, mbtmp3.6/3,MS3.5/1,Error ellipse: s-maj=64.7km s-min=41.5km az=40.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.65**	**268**	P	P	14 38 56.6	-0.5
0.3nm,0.6s,baz=106,slow=7.2,SNR=6.4							
0.3nm,0.6s							
WRA	**Warramunga Arr**	**43.66**	**273**	P	P	14 39 05.5	+0.1
0.3nm,0.4s,baz=112,slow=8.1,SNR=12							
0.3nm,0.4s							
JAY	**Jayapura**	**47.65**	**298**	LR	LR	14 57 42.2	
comp=Z,48nm,18.4s,baz=208,slow=34							
QSPA	**South Pole Qui**	**59.39**	**180**	P	P	14 41 02.6	0.0
1.2nm,0.8s,baz=247,slow=1.5,SNR=2.7							
1.2nm,0.8s							
FINES	**FINESS Array B**	**145.29**	**339**	PKPbc	PKPbc	14 50 36.5	-0.8
2.1nm,0.9s,baz=80,slow=4.8,SNR=3.9							

---

*IDC **19** 14:56:31.6±2.2,1°.59N×127°.40E,h0km,mb3.3/3,*

mbtmp3.3/3, Error ellipse: s-maj=145.9km s-min=28.0km az=66.0
*DJA **19** 14:56:45.3±0.5, 2°N±4°×12°7E±°, h94km±7km, M3.7/10, mb4.1/1, MLv3.5/10*
ISC 19 14:56:45.8±1.3, 1°4N±0°1×127°26E±0°08, h128km, n8, σ0°86/9, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.63**	**170**	**P**	**Pn**	**14 57 03.7**	**-1.7**
KMSI	**Cibinong**	**3.38**	**256**	**P**	**Pn**	**14 57 36.9**	**-0.4**
KMSI				S	**Sn**	**14 58 16.9**	**-0.2**
SANI	**Sanana**	**3.65**	**200**	**P**	**Pn**	**14 57 40.3**	**-0.6**
SWI	**Sorong**	**4.58**	**119**	**P**	**Pn**	**14 57 53.1**	**-0.2**
NLAI	**Namlea**	**4.60**	**182**	**P**	**Pn**	**14 57 54.1**	**+0.5**
WRA	**Warramunga Arr**	**22.31**	**162**	**P**	**P**	**15 01 32.9**	**-0.1**
	0.7nm,0.4s,baz=342,slow=11,SNR=15						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.73**	**166**	**P**	**P**	**15 02 04.9**	**+0.4**
	0.3nm,0.6s,baz=345,slow=12,SNR=8.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**59.77**	**326**	**P**	**P**	**15 06 38.1**	**+0.7**
	0.2nm,0.6s,baz=120,slow=8.0,SNR=2.6						
	0.2nm,0.6s						

IDC 19 15:06:16.9±17.0, 63°56S×101°05E, h0km, Error ellipse: s-maj=46.4km s-min=10.6km az=152.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**29.81**	**22**	H	H	15 43 41.9	
	baz=191,slow=76,SNR=19						
H01W1	**Cape Leeuwin H**	**29.82**	**22**	H	H	15 43 42.7	
	baz=191,slow=76,SNR=16						
H01W3	**Cape Leeuwin H**	**29.82**	**22**	H	H	15 43 43.3	
	baz=191,slow=76,SNR=16						
H04S2	**CROZET ISLANDS**	**31.65**	**278**	H	H	15 46 24.3	
	baz=139,slow=75,SNR=28						
H04S1	**CROZET ISLANDS**	**31.65**	**278**	H	H	15 46 25.1	
	baz=139,slow=75,SNR=24						
H04S3	**CROZET ISLANDS**	**31.66**	**278**	H	H	15 46 23.9	
	baz=139,slow=75,SNR=24						
H08S2	**Diego Garcia H**	**59.47**	**327**	H	H	16 20 40.8	
	baz=165,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**59.48**	**327**	H	H	16 20 42.9	
	baz=165,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**59.49**	**327**	H	H	16 20 44.1	
	baz=165,slow=76,SNR=11						

IDC 19 15:13:11.1±6.0, 6°11S×142°01E, h0km, mb3.5/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=227.6km s-min=33.0km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.64**	**208**	Pn	Pn	15 16 51.5	-1.5
	0.1nm,0.3s,baz=31,slow=13,SNR=5.2						
WRA				Sn	Sn	15 19 39.0	-8.1
	0.1nm,0.3s,baz=49,slow=25,SNR=1.8						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**19.12**	**203**	P	Pn	15 17 36.4	-0.2
	0.5nm,0.3s,baz=31,slow=11,SNR=51						
	3.6nm,0.7s						
MKAR	**Makanchi Array**	**74.47**	**322**	P	P	15 24 51.7	+0.3
	0.1nm,0.5s,baz=101,slow=7.5,SNR=2.2						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**83.97**	**325**	P	P	15 25 42.9	-0.2
	0.5nm,0.5s,baz=116,slow=6.6,SNR=3.6						
	0.5nm,0.5s						

*AEIC **19** 15:15:18.4±1.5, 53°52N±0°05×162°91W±0°09, h34km±8km, Error ellipse: s-maj=8.6km s-min=5.0km az=51.0*
NEIC 19 15:15:19.9±1.4, 53°57N±0°03×163°08W±0°04, h27km±15km, ML2.8(AEIC), Error ellipse: s-maj=5.2km s-min=3.0km az=152.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.22**	**343**		Pn	15 15 40.2	-1.0
ISLZ					Sb	15 15 57.7	+0.1
SSLS	**Shishaldin Sou**	**1.27**	**335**		Pn	15 15 41.4	-0.5
WESE	**West Dahl East**	**1.27**	**316**		Pn	15 15 41.8	-0.1
FALS	**False Pass**	**1.31**	**351**		Pn	15 15 41.3	-1.0
FALS	**False Pass**	**1.31**	**351**		Sb	15 15 59.8	-0.2
ISNN	**Isanotski Nort**	**1.33**	**342**		Pn	15 15 42.7	0.0
ISNN					Sb	15 16 01.6	+0.8
WEBT	**Westdahl Beart**	**1.42**	**317**		Pn	15 15 44.0	+0.1
AKSA	**Akutan Strait**	**1.65**	**291**		Pn	15 15 47.4	+0.4
AKSA					Sb	15 16 10.4	+0.5
ZRO	**Akutan Zero**	**1.79**	**288**		Pn	15 15 49.5	+0.5
ZRO					Sb	15 16 13.5	-0.6
LVA	**Lava Point**	**1.85**	**290**	Pn	Pn	15 15 49.8	0.0
HAG	**Hague Volcano**	**1.88**	**21**		Pn	15 15 49.2	-1.0
PS1A	**Pavlof South-1**	**2.02**	**22**		Pn	15 15 51.5	-0.6
UNV	**Unalaska Valle**	**2.05**	**279**		Pn	15 15 51.8	-0.7
MSW	**Makushin Switc**	**2.23**	**280**		Pn	15 15 55.4	+0.4
MAPS	**Pakushin South**	**2.31**	**278**		Pn	15 15 56.6	+0.6
M11K	**Mekoryuk**	**7.04**	**347**	Pn	Pn	15 17 00.6	-0.4
L14K	**Kuka Creek**	**7.80**	**1**	Pn	Pn	15 17 11.6	+0.2
CNPM	**China Poot**	**8.85**	**43**	Pn	Pn	15 17 25.2	-0.6
BRLK	**Bradley Lake**	**9.14**	**42**	Pn	Pn	15 17 29.1	-0.7

JMA 19 15:38:56.1±0.3, 35°8N±0°7×14°1E±°, h34km±1km, MV2.2/30, NEAR CHOSHI CITY, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.51**	**296**	*i* P	Pn	15 39 07.1	+0.2
JIHU				*e*S	Sn	15 39 15.5	+1.2
JSMT	**Sammumatsuo**	**0.53**	**259**	*e*P	Pn	15 39 07.2	0.0
JSMT				*e*S	Sn	15 39 16.1	+1.1
JHYU	**Hitachinakayam**	**0.72**	**326**	P	Pn	15 39 09.9	+0.2
JHYU				S	Sn	15 39 19.7	+0.1
JHYU	**Hitachinakayam**	**0.72**	**326**	P	Pn	15 39 09.9	+0.2
JYT	**Yasato**	**0.87**	**304**	P	Pn	15 39 11.6	-0.3
JHO	**Hitachi**	**0.96**	**334**	P	Pn	15 39 13.4	+0.3
BSO3	**Boso 3**	**1.06**	**207**	*e*P	Pn	15 39 14.6	+0.3
BSO3				S	Sb	15 39 29.4	+0.2
JAG	**Ashikaga**	**1.48**	**297**	P	Pn	15 39 20.6	+0.2

JMA 19 15:39:00.8±0.0, 36°80N±0°08×140°6E±0°2, h7km, MV0.3/19, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.19**	**185**	*i* P	Pg	15 39 04.7	0.0
JFFD	**Fukushimafurud**	**0.29**	**356**	P	Pg	15 39 06.8	+0.1

*MOS **19** 15:56:02.6±1.4, 46°20N×153°00E, h49km, mb4.1/1, Error ellipse: s-maj=17.5km s-min=13.0km az=148.4*
*SKHL **19** 15:56:03.6±0.7, 45°20N×153°40E, h97km±6km, mb5.0/3, msha5.1/3*
*IDC **19** 15:56:09.2±6.0, 47°44N×151°65E, h0km, mb3.7/8, mbtmp3.7/11, ML3.3/3, MS2.7/1, Error ellipse: s-maj=136.2km s-min=28.0km az=143.0*
ISC 19 15:56:01.4±2.0, 45°6N±0°2×153°4E±0°2, h50km, n30, σ1°78/28, mb3.8/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.94**	**267**	*e*PN	**Pn**	**15 57 00.8**	**+1.6**
KUR				*e*S	**Sn**	**15 57 44.3**	**+0.3**
KUR				pmax	pmax		
	comp=Z,177nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.2s						
KUR				pmax	pmax		
	comp=E,26nm,0.3s						
KUR				smax	smax		
	comp=E,74nm,0.7s						
KUR				smax	smax		
	comp=N,48nm,0.5s						
KUR	**Kuril'sk**	**3.94**	**267**	*e*P	**Pn**	**15 57 00.8**	**+1.6**
KUR				AMB	AMB	15 57 01.1	
	comp=N,150nm,0.6s						
KUR				*e*S	**Sn**	**15 57 43.2**	**-0.8**
KUR				A	A	15 57 48.8	
	comp=N,70nm,0.5s						
KUR				A	A	15 57 48.8	
	comp=N,80nm,0.5s						
SHO	**Shikotan**	**5.01**	**252**	*e*P	**Pn**	**15 57 14.4**	**+0.5**
SHO				AMB	AMB	15 57 16.8	
	comp=N,40nm,0.3s						
SHO				*e*S	**Sn**	**15 58 08.0**	**-2.4**
SHO				A	A	15 58 15.6	
	comp=N,30nm,0.4s						
SHO				A	A	15 58 15.6	
	comp=N,20nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**257**	*e*PN	**Pn**	**15 57 24.6**	**+2.5**
YUK				pmax	pmax		
	comp=E,29nm,0.4s						
YUK				pmax	pmax		
	comp=Z,65nm,0.4s						
YUK				pmax	pmax		
	comp=N,24nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**257**	*e*P	**Pn**	**15 57 23.9**	**+1.8**
YUK				AMB	AMB	15 57 29.7	
	comp=N,60nm,0.4s						
YUK				*e*S	**Sn**	**15 58 21.9**	**-3.2**
YUK				A	A	15 58 31.7	
	comp=N,80nm,0.6s						
YUK				A	A	15 58 31.7	
	comp=N,60nm,0.6s						
NMR	**Nemuro--Hokkai**	**5.94**	**251**	*e*PN	**Pn**	**15 57 26.9**	**+0.2**
NMR	**Nemuro--Hokkai**	**5.94**	**251**	*e*P	**Pn**	**15 57 27.5**	**+0.8**
NMR				*e*S	**Sn**	**15 58 31.5**	**-1.9**
RUSJ	**Misakicho**	**6.00**	**259**	*e*PN	**Pn**	**15 57 30.1**	**+2.5**
AKK	**Akkeshi**	**6.68**	**250**	*e*P	**Pn**	**15 57 37.1**	**+0.3**
JKA	**Kamikawa-asahi**	**7.84**	**263**	*e*P	**Pn**	**15 57 55.1**	**+2.4**
ASAJ	**Asahikawa**	**7.84**	**263**	Pn	**Pn**	**15 57 55.1**	**+2.4**
	comp=N,0.9nm,0.3s,baz=60,slow=9.6,SNR=14						
	comp=N,3.6nm,0.5s						
PETK	**Petropavlovsk-**	**8.03**	**19**	Pn	**Pn**	**15 57 52.4**	**-2.8**
	comp=N,0.4nm,0.3s,baz=179,slow=12,SNR=17						
	comp=N,2.1nm,0.8s						
KLR	**Kul'dur**	**15.11**	**292**	LR	LR	16 05 25.6	
	comp=N,31nm,19.1s,baz=99,slow=42						
USRK	**Ussuriysk Ar.**	**15.26**	**272**	Pn	**Pn**	**15 59 31.8**	**-1.6**
	comp=N,0.3nm,0.3s,baz=245,slow=16,SNR=4.8						
	comp=N,1.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.09**	**152**	T	T	16 33 32.2	
	baz=340,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**28.10**	**152**	T	T	16 33 34.0	
	baz=340,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**28.10**	**152**	T	T	16 33 40.9	
	baz=340,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy**	**29.17**	**153**	T	T	16 35 08.2	
	baz=341,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**29.18**	**153**	T	T	16 35 03.5	
	baz=341,slow=76,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**29.19**	**153**	T	T	16 35 02.4	
	baz=341,slow=76,SNR=4.8						
MKAR	**Makanchi Array**	**47.68**	**298**	P	**P**	**16 04 31.8**	**-0.9**
	comp=N,0.2nm,0.5s,baz=62,slow=6.2,SNR=7.1						
	comp=N,0.2nm,0.5s						
KURK	**Kurchatov**	**48.20**	**305**	P	**P**	**16 04 35.8**	**-0.7**
KURK	**Kurchatov**	**48.20**	**305**	*e*P	**P**	**16 04 35.8**	**-0.7**
KURBB	**Kurchatov Arra**	**48.29**	**305**	P	**P**	**16 04 35.8**	**-1.5**
	comp=N,0.3nm,0.5s,baz=72,slow=8.7,SNR=2.6						
	comp=N,0.3nm,0.5s						
BVAR	**Borovoye Array**	**51.77**	**310**	P	**P**	**16 05 02.5**	**-1.1**
	comp=N,0.3nm,0.3s,baz=60,slow=8.5,SNR=4.0						
	comp=N,0.3nm,0.3s						
FINES	**FINESS Array B**	**65.19**	**335**	P	**P**	**16 06 37.1**	**+0.3**
	comp=N,0.5nm,0.6s,baz=23,slow=10,SNR=5.4						
	comp=N,0.5nm,0.6s						
NOA	**NORSAR Array B**	**69.40**	**341**	P	**P**	**16 07 04.9**	**+1.3**
	comp=N,0.3nm,0.4s,baz=29,slow=6.6,SNR=4.9						
	comp=N,0.3nm,0.4s						
HFS	**Hagfors**	**69.62**	**340**	P	**P**	**16 07 06.1**	**+1.2**
	comp=N,2.1nm,0.6s,baz=76,slow=6.1,SNR=2.1						
	comp=N,2.1nm,0.6s						
KBZ	**Khabaz**	**71.83**	**314**	P	**P**	**16 07 20.6**	**+2.0**
	comp=N,1.0nm,0.5s,baz=130,slow=5.5,SNR=5.2						
	comp=N,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.64**	**327**	P	**P**	**16 07 24.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=34,slow=6.2,SNR=4.4						
	comp=N,0.4nm,0.3s						

*WEL **19** 15:56:39.5±0.8, 33°S±5°×17°8W±1°3, h100km, M4.3/17, mB4.7/11, ML4.8/13, MLv4.8/17, Mw(mB)4.0/11, Error ellipse: s-maj=18.3km s-min=4.0km az=107.8, confirmed*
*IDC **19** 15:56:39.7±0.9, 32°46S×178°31W, h0km, mb4.2/3, mbtmp4.3/5, ML4.3/2, MS2.8/1, Error ellipse: s-maj=33.3km s-min=21.8km az=103.0*
*NEIC **19** 15:56:41.3±1.7, 32°5S±0°1×178°10W±0°08, h10km±1km, mb4.6/16, Error ellipse: s-maj=18.4km s-min=12.0km az=178.0*
*NOU **19** 15:57:11.5, 34°16S×179°75W, h70km, mb4.3/6, South of Kermadec Islands*
ISC 19 15:56:41.7±0.6, 32°62S±0°05×177°97W±0°10, h20km, n69, σ1°54/88, mb4.5/9, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.34**	**1**	P	**Pn**	**15 57 29.3**	**-3.5**
GLKZ				S	**Sn**	**15 58 08.4**	**-3.5**
RAO	**Raoul Island**	**3.35**	**1**	Pn	**Pn**	**15 57 32.0**	**-1.0**
RAO	**Raoul Island**	**3.35**	**1**	Pn	**Pn**	**15 57 32.1**	**-0.9**
	81nm,0.3s,baz=77,slow=19,SNR=2.1						
RAO				Sn	**Sn**	**15 58 12.4**	**+0.1**
	75nm,0.3s,baz=32,slow=22,SNR=1.7						
	191nm,0.3s						
MXZ	**Matakaoa Point**	**5.80**	**211**	Pn	**Pn**	**15 58 06.1**	**-0.5**
MXZ	**Matakaoa Point**	**5.80**	**211**	P	**Pn**	**15 58 06.6**	**0.0**
MXZ	**Matakaoa Point**	**5.80**	**211**	P	**Pn**	**15 58 06.3**	**-0.3**
MXZ				S	**Sn**	**15 59 11.8**	**-0.7**
WMGZ	**Waiomatatini S**	**5.97**	**209**	P	**Pn**	**15 58 06.6**	**-2.4**
PKGZ	**Pakihiroa**	**6.15**	**211**	P	**Pn**	**15 58 09.4**	**-2.0**
PKGZ				S	**Sn**	**15 59 21.9**	**+0.7**
HAZ	**Te Kaha**	**6.20**	**213**	P	**Pn**	**15 58 11.8**	**-0.2**
HAZ				S	**Sn**	**15 59 23.8**	**+1.6**
PUZ	**Puketiti**	**6.25**	**208**	P	**Pn**	**15 58 09.0**	**-3.8**
PUZ				S	**Sn**	**15 59 24.2**	**+0.4**
RUGZ	**Raukumara Rang**	**6.41**	**213**	P	**Pn**	**15 58 12.8**	**-2.3**
RUGZ				S	**Sn**	**15 59 29.1**	**+1.3**
TWGZ	**Tauwhareparae**	**6.46**	**210**	P	**Pn**	**15 58 14.2**	**-1.4**
TWGZ				S	**Sn**	**15 59 28.8**	**0.0**
CNGZ	**Carnagh Statio**	**6.63**	**207**	P	**Pn**	**15 58 16.4**	**-1.6**
TKGZ	**Te Karaka**	**6.74**	**209**	P	**Pn**	**15 58 19.6**	**+0.2**
TKGZ				S	**Sn**	**15 59 33.7**	**-1.8**
MWZ	**Matawai**	**6.78**	**212**	P	**Pn**	**15 58 18.5**	**-1.7**
MWZ				S	**Sn**	**15 59 35.0**	**-1.8**
URZ	**Urewera**	**6.92**	**214**	Pn	**Pn**	**15 58 21.3**	**-0.5**
	2.5nm,0.3s,baz=341,slow=4.2,SNR=38						
URZ				Sn	**Sn**	**15 59 37.3**	**-2.6**
	6.5nm,0.3s,baz=183,slow=23,SNR=9.7						
	8.6nm,0.3s						
URZ	**Urewera**	**6.92**	**214**	P	**Pn**	**15 58 21.5**	**-0.4**
URZ	**Urewera**	**6.92**	**214**	P	**Pn**	**15 58 20.1**	**-1.7**
URZ				S	**Sn**	**15 59 37.4**	**-2.6**
RIGZ	**Rimuhau**	**7.00**	**209**	P	**Pn**	**15 58 23.3**	**+0.2**
RIGZ				S	**Sn**	**15 59 40.7**	**-1.4**
PRGZ	**Paritu Road**	**7.14**	**207**	P	**Pn**	**15 58 23.5**	**-1.5**
PRGZ				S	**Sn**	**15 59 44.1**	**-1.3**
WCZ	**Waipu Caves**	**7.17**	**240**	P	Pn	15 58 30.9	+5.5
SNGZ	**Shannon Statio**	**7.24**	**211**	P	**Pn**	**15 58 24.6**	**-1.8**
SNGZ				S	**Sn**	**15 59 46.8**	**-1.2**
MUGZ	**Murupara**	**7.25**	**215**	P	**Pn**	**15 58 26.6**	**+0.1**
MUGZ				S	**Sn**	**15 59 47.8**	**-0.4**
RTZ	**Ruatahuna**	**7.26**	**213**	Pn	**Pn**	**15 58 25.5**	**-1.2**
RTZ	**Ruatahuna**	**7.26**	**213**	P	**Pn**	**15 58 25.8**	**-0.9**
MHGZ	**Mahia Peninsul**	**7.33**	**206**	P	**Pn**	**15 58 24.3**	**-3.3**
MHGZ				S	**Sn**	**15 59 46.9**	**-3.2**
RAHZ	**Arahi**	**7.46**	**211**	P	**Pn**	**15 58 30.0**	**+0.7**
RAHZ				S	**Sn**	**15 59 52.6**	**-0.8**
OUZ	**Omahuta**	**7.48**	**247**	P	**Pn**	**15 58 32.0**	**+2.4**
	46nm,0.8s						
OUZ	**Omahuta**	**7.48**	**247**	P	**Pn**	**15 58 32.2**	**+2.6**
MRHZ	**Matea Rd**	**7.70**	**215**	P	**Pn**	**15 58 32.0**	**-0.8**
MRHZ				S	**Sn**	**15 59 56.6**	**-2.8**
NMHZ	**Naumai**	**7.73**	**212**	P	**Pn**	**15 58 33.5**	**+0.3**
NMHZ				S	**Sn**	**15 59 59.5**	**-0.7**
BKZ	**Black Stump Fm**	**7.93**	**213**		**Pn**	**15 58 34.7**	**-1.2**
BKZ	**Black Stump Fm**	**7.93**	**213**	P	**Pn**	**15 58 35.7**	**-0.2**
BKZ	**Black Stump Fm**	**7.93**	**213**	P	**Pn**	**15 58 35.2**	**-0.6**
BKZ				S	**Sn**	**16 00 02.4**	**-2.6**
HIZ	**Hauiti**	**8.29**	**223**	P	**Pn**	**15 58 39.6**	**-1.2**
KHZ	**Kahutara**	**11.87**	**212**	P	**Pn**	**15 59 29.1**	**-0.7**
MSVF	**Nonsavu**	**15.25**	**345**	Pn	**Pn**	**16 00 15.4**	**-0.6**
NIUE	**Niue**	**15.29**	**30**	Pn	**Pn**	**16 00 16.3**	**-0.2**
AFI	**Afiamalu**	**19.46**	**18**	P	**P**	**16 01 06.1**	**-1.2**
AFI				IAmb	IAmb	16 01 18.8	
	comp=Z,48nm,1.4s						
RAR	**Rarotonga**	**19.77**	**59**	LR	LR	16 07 27.8	
	comp=Z,30nm,20.6s,baz=100,slow=32						
COEN	**Coen**	**39.95**	**288**	P	**P**	**16 04 14.9**	**0.0**
COEN				IAmb	IAmb	16 04 29.4	
	comp=Z,12nm,1.1s						
PTCN	**Pitcairn Islan**	**42.31**	**92**	P	**P**	**16 04 35.6**	**+1.3**
AS31	**Alice Springs**	**43.06**	**269**	P	**P**	**16 04 39.3**	**-1.1**
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**16 04 39.1**	**-1.3**
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**16 04 39.3**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=108,slow=7.4,SNR=41						
	comp=Z,2.2nm,0.6s						
WR0	**Warramunga Arr**	**44.08**	**275**	P	**P**	**16 04 47.3**	**-1.3**
WB2	**Warramunga Arr**	**44.24**	**274**	P	**P**	**16 04 48.6**	**-1.3**
WB2				IAmb	IAmb	16 04 58.0	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**44.25**	**274**	P	**P**	**16 04 48.6**	**-1.3**
WRAB				IAmb	IAmb	16 04 58.8	
	comp=Z,4.9nm,0.8s						
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**16 04 48.9**	**-1.1**
	comp=Z,2.4nm,0.3s,baz=114,slow=8.1,SNR=24						
	comp=Z,2.4nm,0.3s						
WB0	**Warramunga Arr**	**44.28**	**275**	P	**P**	**16 04 49.1**	**-1.1**
WB0				IAmb	IAmb	16 04 59.3	
	comp=Z,6.6nm,0.8s						
FORT	**Forrest**	**45.55**	**257**	P	**P**	**16 04 58.9**	**-1.2**
FORT				IAmb	IAmb	16 05 38.6	
	comp=Z,16nm,1.0s						
VNDA	**Vanda**	**45.90**	**186**	P	**P**	**16 05 04.5**	**+2.1**
MTN	**Manton Dam**	**50.39**	**281**	P	**P**	**16 05 36.8**	**-1.0**
KNRA	**Kununurra**	**50.93**	**276**	P	**P**	**16 05 41.3**	**-0.6**
KNRA				IAmb	IAmb	16 06 17.8	
	comp=Z,33nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.42**	**272**	P	**P**	**16 05 52.5**	**-0.5**
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**16 06 32.4**	**+3.1**
QSPA				IAmb	IAmb	16 06 55.4	
	comp=Z,5.0nm,0.9s						
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**16 06 32.0**	**+2.8**
	comp=Z,1.6nm,1.0s,baz=69,slow=3.2,SNR=17						
	comp=Z,1.6nm,1.0s						
SYO	**Syowa Base**	**74.97**	**193**	‖ *e*P	**P**	**16 08 21.8**	**+0.8**
SYO	**Syowa Base**	**74.97**	**193**	‖ *es*P	sP	16 08 28.8	+1.4
MKAR	**Makanchi Array**	**119.20**	**309**	PKP	**PKiKP**	**16 15 29.2**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=78,slow=2.3,SNR=6.3						
KURBB	**Kurchatov Arra**	**122.62**	**313**	PKP	**PKiKP**	**16 15 36.0**	**+0.4**
	comp=Z,1.0nm,0.2s,baz=90,slow=1.9,SNR=7.5						
BVAR	**Borovoye Array**	**127.99**	**315**	PKP	**PKiKP**	**16 15 46.3**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=96,slow=0.6,SNR=10						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	**PKPbc**	**16 16 22.9**	**+0.1**
	comp=Z,7.5nm,0.8s,baz=41,slow=4.8,SNR=29						
NB2	**NORSAR Subarra**	**150.94**	**351**	PKP	**PKiKP**	**16 16 32.9**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**150.94**	**351**	PKPbc	**PKiKP**	**16 16 33.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=14,slow=4.2,SNR=5.1						
HFS	**Hagfors**	**151.41**	**348**	PKPbc	**PKiKP**	**16 16 34.1**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=90,slow=2.9,SNR=4.4						
MMAI	**Mount Meron Ar**	**152.02**	**280**	PKPbc	**PKiKP**	**16 16 36.5**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=88,slow=4.3,SNR=6.0						
AKASG	**Malin Array Be**	**153.05**	**320**	PKPbc	**PKiKP**	**16 16 37.7**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=62,slow=2.4,SNR=5.7						
BRTR	**Keskin Array B**	**153.61**	**295**	PKPbc	**PKPbc**	**16 16 38.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=142,slow=4.2,SNR=5.3						
BRTR				PKPab	**PKPab**	**16 16 51.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=137,slow=4.3,SNR=4.6						

*SJA **19** 16:04:36.3±0.7, 23°95S×66°81W, h225km±7km, ML3.2, MW3.2*
*GUC **19** 16:04:38.0±0.4, 23°89S×67°26W, h259km±11km, ML3.6*
ISC 19 16:04:39.6±1.2, 23°93S±0°04×66°92W±0°05, h181km, n22, σ1°19/34, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.60**	**119**	*e*P	**Pn**	**16 05 06.7**	**+1.2**
SLA	**San Lorenzo**	**1.51**	**122**	*e*P	**Pn**	**16 05 12.3**	**+0.4**
SLA				*e*S	**Sn**	**16 05 39.1**	**+2.2**
AF01	**San Pedro de A**	**1.51**	**310**	IAML		16 05 46.4	
	comp=N,629nm,0.1s						
AZAP	**Zapla**	**1.72**	**100**	*e*P	**Pn**	**16 05 13.5**	**-0.5**
YJA	**Yavi**	**2.18**	**37**	*e*P	**Pn**	**16 05 19.6**	**+0.4**
YJA				*e*S	Sn	16 06 01.8	+12
FSA	**Cafayete**	**2.33**	**159**	*e*P	**Pn**	**16 05 20.1**	**-0.5**
GO02	**Mina Guanaco**	**2.72**	**243**	*e*P	**Pn**	**16 05 26.3**	**+1.1**
GO02	**Mina Guanaco**	**2.72**	**243**	*e*P	**Pn**	**16 05 26.1**	**+0.8**
GO02				*i* S	**Sn**	**16 06 03.2**	**+2.4**
GO02				IAML		16 06 03.5	
	comp=N,189nm,0.2s						
PB09	**IPOC Station P**	**3.02**	**314**	*e*P	**Pn**	**16 05 29.5**	**+0.8**
PB09				*e*S	**Sn**	**16 06 08.8**	**+1.9**
PB09				IAML		16 06 09.1	
	comp=Z,32nm,0.7s						
PB09	**IPOC Station P**	**3.02**	**314**	*e*P	**Pn**	**16 05 29.5**	**+0.8**
PB09				*i* S	**Sn**	**16 06 08.

CNGZ S **Sn** **16 08 55.0 -0.1**
MWZ Matawai 3.86 210 P **Pn** **16 08 13.5 -0.2**
MWZ S **Sn** **16 08 59.9 +2.0**
GRZ Great Barrier 3.88 250 S **Sn** **16 08 57.8 -0.3**
OPRZ Ohinepanea 3.95 223 P **Pn** **16 08 16.3 +1.4**
URZ Urewera 3.98 214 Pn **Pn** **16 08 15.2 -0.1**
3.3nm,0.3s,baz=348,slow=2.9,SNR=37
URZ Sn **Sn** **16 08 57.3 -3.4**
3.0nm,0.3s,baz=24,slow=24,SNR=6.0
7.9nm,0.3s
URZ Urewera 3.98 214 P **Pn** **16 08 15.0 -0.3**
TGRZ Tauranga 4.04 227 P **Pn** **16 08 16.5 +0.4**
RIGZ Rimuhau 4.10 205 P **Pn** **16 08 16.6 -0.3**
RIGZ S **Sn** **16 09 02.7 -1.0**
MUGZ Murupara 4.31 216 P **Pn** **16 08 20.0 +0.1**
MUGZ S **Sn** **16 09 09.5 +0.5**
KNZ Kokohu 4.41 204 P **Pn** **16 08 19.8 -1.4**
TOZ Tahuroa Road 4.51 232 P **Pn** **16 08 23.5 +0.8**
WCZ Waipu Caves 4.68 257 P **Pn** **16 08 25.6 +0.7**
TLZ Tolley Road 4.87 226 P **Pn** **16 08 28.4 +0.9**
BKZ Black Stump Fm 5.00 213 P **Pn** **16 08 28.1 -1.3**
OUZ Omahuta 5.22 266 P **Pn** **16 08 32.6 +0.2**
ASAR Alice Springs 41.39 273 P **P** **16 14 58.6 -1.2**
0.8nm,0.4s,baz=116,slow=7.5,SNR=54
0.8nm,0.4s
WRA Warramunga Arr 42.80 278 P **P** **16 15 09.8 -1.6**
0.9nm,0.6s,baz=118,slow=7.7,SNR=12
0.9nm,0.6s
QSPA South Pole Qui 55.12 180 P **P** **16 16 45.7 +0.4**
1.2nm,0.9s,baz=344,slow=2.2,SNR=6.0
1.2nm,0.9s
FINES FINESS Array B 148.76 336 PKPbc **PKPdf** **16 26 57.2 +1.5**
2.4nm,0.8s,baz=108,slow=4.5,SNR=3.6

MOS ***19*** *16:24:53.7±1.2,38°.89N×141°.76E,h77km,mb4.7/25,Error ellipse: s-maj=8.1km s-min=5.3km az=100.7*
NIED ***19*** *16:24:55.6,38°.86N×141°.61E,h74km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}1.97; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.89; $M_{r\theta}$-0.13; $M_{\theta\phi}$-0.31; $M_{\phi r}$-0.72; Fault plane solution: $M_0$2.09000×10¹⁵ NP1: ϕ_s9.00000°,δ35.00000°,λ.90.00000°. NP2:ϕ_s190.00000°, δ55.00000°,λ.90.00000°.*
NEIC ***19*** *16:24:55.1±1.7,38°.84N±0°.07×141°.7E±0°.1,h71km±7km, mb4.6/70 Error ellipse: s-maj=16.0km s-min=7.6km az=117.0*
JMA ***19*** *16:24:55.6±0.1,38°.9N±0°.2×141°.6E±0°.4,h74km,MD4.2/37, MV4.3/37,NORTHERN MIYAGI PREF*
JMA Felt II J1 at NORTHERN MIYAGI PREF .
IDC ***19*** *16:24:58.8±0.8,38°.82N×141°.49E,h105km±6km,mb3.9/22, mbtmp4.3/26,MS2.9/11,Error ellipse: s-maj=12.1km s-min=8.8km az=135.0*
ISC 19 16:24:55.0±0.5,38°.86N±0°.04×141°.71E±0°.05,h73km±3km, h73km:pP-P,n211,σ1§46/187,mb4.5/81,7C-21D,Near east coast of eastern Honshu

Code	Station Name	Δ° AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.19 254**	*i* P	**Pn**	**16 25 06.4**	**+0.5**
JKMT			S	**Sn**	**16 25 14.1**	**+0.2**
JKMT	**Kesennumamotoy**	**0.19 254**	A	A	16 25 06.4	
	comp=N,8.0nm,0.7s,comp=E,14nm,1.5s					
OFUJ	**Ofunato**	**0.22 352**	*i* P	**Pn**	**16 25 06.8**	**+0.7**
OFUJ			S	**Sn**	**16 25 14.9**	**+0.7**
JMK	**Ichinoseki**	**0.39 283**	*i* P	**Pn**	**16 25 07.2**	**0.0**
JMK			S	**Sn**	**16 25 15.7**	**-0.4**
JMK	**Ichinoseki**	**0.39 283**	A	A	16 25 07.2	
	comp=N,13nm,0.3s,comp=E,22nm,0.3s					
JIO	**Ouri**	**0.49 215**	*i* P	**Pn**	**16 25 08.3**	**+0.3**
JIO			S	**Sn**	**16 25 17.3**	**-0.3**
JIO	**Ouri**	**0.49 215**	A	A	16 25 08.3	
	comp=N,19nm,0.6s,comp=E,23nm,0.2s					
JIKH	**Ishinomakikobu**	**0.58 199**	A	A	16 25 09.3	
	comp=N,16nm,0.7s,comp=E,16nm,0.8s					
JOFO	**Osakifurukawao**	**0.68 248**	A	A	16 25 09.8	
	comp=N,38nm,0.6s,comp=E,91nm,0.7s					
JOM	**Ohasama**	**0.69 332**	*i* P	**Pn**	**16 25 10.4**	**+0.4**
JOM			S	**Sn**	**16 25 21.2**	**+0.1**
JOM	**Ohasama**	**0.69 332**	A	A	16 25 10.4	
	comp=N,15nm,0.5s,comp=E,25nm,0.2s					
MIYJ	**Miyakonagasawa**	**0.72 7**	A	A	16 25 11.3	
	comp=N,12nm,2.0s,comp=E,9.0nm,1.0s					
JOU	**Okura**	**0.96 239**	*i* P	**Pn**	**16 25 13.2**	**0.0**
JOU			S	**Sn**	**16 25 26.1**	**-0.5**
JOU	**Okura**	**0.96 239**	A	A	16 25 13.2	
	comp=N,14nm,0.3s,comp=E,32nm,0.6s					
JRG	**Rokugo**	**0.99 303**	*i* P	**Pn**	**16 25 13.6**	**+0.1**
JRG			S	**Sn**	**16 25 27.5**	**+0.1**
JRG	**Rokugo**	**0.99 303**	A	A	16 25 13.6	
	comp=N,20nm,0.6s,comp=E,32nm,0.4s					
JYK	**Kaneyama**	**1.05 273**	⇓*i* P	**Pn**	**16 25 14.2**	**-0.1**
JYK			⇓S	**Sn**	**16 25 28.4**	**-0.4**
JYK	**Kaneyama**	**1.05 273**	A	A	16 25 14.2	
	comp=N,6.0nm,0.8s,comp=E,16nm,1.8s					
JSZI	**Iwateshizukuis**	**1.05 327**	A	A	16 25 14.7	
	comp=N,13nm,3.2s,comp=E,12nm,4.6s					
JTH	**Tanohata**	**1.08 6**	A	A	16 25 15.8	
	comp=N,15nm,0.6s,comp=E,5.0nm,0.5s					
JMM	**Marumori**	**1.23 216**		**Pn**	**16 25 16.1**	**-0.4**
JMM			Sn	**Sn**	**16 25 30.9**	**-1.7**
JMM	**Marumori**	**1.23 216**	P	**Pn**	**16 25 16.2**	**-0.4**
JMM	**Marumori**	**1.23 216**	⇓*i* P	**Pn**	**16 25 16.2**	**-0.4**
JMM			⇓S	**Sn**	**16 25 31.6**	**-1.0**
JKEN	**Kujiedanarisaw**	**1.34 0**	A	A	16 25 19.0	
	comp=N,14nm,1.0s,comp=E,9.0nm,0.6s					
JYW	**Yuwa**	**1.35 301**	A	A	16 25 18.2	
	comp=N,19nm,0.5s,comp=E,27nm,1.1s					
JYYZ	**Yamagatayuza**	**1.39 277**	A	A	16 25 18.6	
	comp=N,12nm,0.9s,comp=E,19nm,4.5s					
JYS	**Shiratake**	**1.44 244**	⇓*i* P	**Pn**	**16 25 19.4**	**+0.2**
JYS			⇓S	**Sn**	**16 25 37.4**	**-0.2**
JYS	**Shiratake**	**1.44 244**	A	A	16 25 19.4	
	comp=N,9.0nm,0.9s,comp=E,10.0nm,1.2s					
JANG	**Nango**	**1.52 354**	*i* P	**Pn**	**16 25 20.5**	**+0.2**
JYAR	**Yonezawaarcadi**	**1.55 233**	A	A	16 25 20.8	
	comp=N,18nm,0.9s,comp=E,19nm,1.4s					
JAH	**Hinai**	**1.56 328**	*i* P	**Pn**	**16 25 21.7**	**+0.8**
JYA	**Atsumi**	**1.58 261**	⇓*i* P	**Pn**	**16 25 21.1**	**-0.1**
JYA			⇓S	**Sn**	**16 25 40.3**	**-0.6**
JYA	**Atsumi**	**1.58 261**	A	A	16 25 21.1	
	comp=N,7.0nm,1.9s,comp=E,9.0nm,1.1s					
JFK	**Kawauchi**	**1.63 204**	⇓*i* P	**Pn**	**16 25 21.9**	**+0.1**
JOTO	**OTAMA OYAMA**	**1.69 220**	A	A	16 25 22.9	
	comp=N,9.0nm,1.1s,comp=E,10.0nm,0.6s					
JTM	**Tenmabayashi**	**1.98 346**	Pn	**Pn**	**16 25 27.4**	**+0.9**
JTM	**Tenmabayashi**	**1.98 346**	P	**Pn**	**16 25 27.6**	**+1.1**
JOG3	**Oga3**	**2.29 298**	A	A	16 25 24.5	
	comp=N,9.0nm,0.5s,comp=E,8.0nm,0.6s					
JSD	**Sado**	**2.83 254**	Pn	**Pn**	**16 25 37.5**	**-0.4**
JSD	**Sado**	**2.83 254**	P	**Pn**	**16 25 37.9**	**0.0**
ERM	**Erimo**	**3.34 19**		**Pn**	**16 25 44.6**	**-0.2**
ERM	**Erimo**	**3.34 19**	P	**Pn**	**16 25 44.5**	**-0.3**
ERM	**Erimo**	**3.34 19**	S	**Sn**	**16 26 23.5**	**+0.2**
ERM	**Erimo**	**3.34 19**	*d i* P	**Pn**	**16 25 44.5**	**-0.3**
JEM	**Erimo**	**3.34 19**	P	**Pn**	**16 25 44.5**	**-0.3**
JEM	**Erimo**	**3.34 19**	S	**Sn**	**16 26 23.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.61 231**	P	**Pn**	**16 25 50.1**	**+1.5**
	comp=E,68nm,0.5s,baz=40,slow=12,SNR=237					
MJAR			S	**Sn**	**16 26 30.9**	**+0.7**
	comp=E,6.3nm,0.4s,baz=2.6,slow=14,SNR=4.0					
MAJO	**Matsushiro**	**3.62 231**		**Pn**	**16 25 49.9**	**+1.3**
MAJO	**Matsushiro**	**3.62 231**	P	**Pn**	**16 25 50.1**	**+1.5**
MAJO	**Matsushiro**	**3.62 231**	*c e* P	**Pn**	**16 25 50.0**	**+1.3**
MJB9	**Matsu-Tunnel**	**3.62 231**		**Pn**	**16 25 51.4**	**+2.8**
JGF	**Kuroka**	**4.76 228**	Pn	**Pn**	**16 26 06.0**	**+1.7**
JGF	**Kuroka**	**4.76 228**	P	**Pn**	**16 26 05.8**	**+1.5**
INU	**Inuyama**	**5.13 228**	Pn	**Pn**	**16 26 10.2**	**+0.8**
INU	**Inuyama**	**5.13 228**	P	**Pn**	**16 26 10.8**	**+1.5**
ASAJ	**Asahikawa**	**5.29 7**	P	**Pn**	**16 26 11.3**	**-0.1**
	comp=E,5.4nm,0.4s,baz=225,slow=12,SNR=36					
ASAJ			S	**Sn**	**16 27 10.8**	**-0.2**
	comp=E,21nm,0.6s,baz=312,slow=19,SNR=4.0					
JKA	**Kamikawa-asahi**	**5.29 7**	Pn	**Pn**	**16 26 11.3**	**-0.2**
NMR	**Nemuro--Hokkai**	**5.43 33**	*e* P	**Pn**	**16 26 11.3**	**-2.0**
NMR			*e* S	**Sn**	**16 27 08.3**	**-6.1**
RUSJ	**Misakicho**	**5.87 26**	*e* P	**Pn**	**16 26 18.7**	**-0.7**
RUSJ			*e* S	**Sn**	**16 27 23.1**	**-2.1**
JHJ	**Hachijo jima 2**	**5.94 196**	P	**Pn**	**16 26 20.4**	**0.0**
	comp=E,30nm,0.3s,baz=143,slow=24,SNR=5.5					
JHJ			S	**Sn**	**16 27 21.7**	**-5.3**
	comp=E,102nm,0.2s,baz=86,slow=22,SNR=9.2					
JHJ2	**Mitsune**	**5.94 196**	P	**Pn**	**16 26 21.9**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**6.04 30**	*e* P	**Pn**	**16 26 20.6**	**-1.0**
YUK			*e* S	**Sn**	**16 27 24.5**	**-4.7**
YUK			pmax	pmax		
	comp=N,31nm,0.2s					
YUK			pmax	pmax		
	comp=E,28nm,0.2s					
YUK			pmax	pmax		
	comp=Z,92nm,0.2s					
YUK			smax	smax		
	comp=N,340nm,0.3s					
YUK			smax	smax		
	comp=E,679nm,0.5s					
TEY	**Ternei**	**7.25 330**	*e* P	**Pn**	**16 26 41.9**	**+3.8**
KUR	**Kuril'sk**	**7.84 34**	*e* P	**Pn**	**16 26 45.2**	**-1.1**
KUR			*e* S	**Sn**	**16 28 08.4**	**-5.0**
KUR			pmax	pmax		
	comp=Z,37nm,0.4s					
KUR			smax	smax		
	comp=N,57nm,0.5s					
KUR			smax	smax		
	comp=E,116nm,0.5s					
YSS	**Yuzhno-Sakhali**	**8.12 5**	Pn	**Pn**	**16 26 50.6**	**+0.5**
YSS	**Yuzhno-Sakhali**	**8.12 5**	*e* P	**Pn**	**16 26 48.1**	**-2.0**
YSS			*e* S	**Sn**	**16 28 15.3**	**-5.0**
YSS			pmax	pmax		
	comp=Z,10.0nm,1.2s					
YSS			smax	smax		
	comp=N,10.0nm,0.9s					
YSS			smax	smax		
	comp=E,10.0nm,1.2s					
VLA	**Vladivostok**	**8.56 303**	⇑*e* P	**Pn**	**16 26 58.3**	**+2.2**
MSHR	**Mys Shultsa**	**8.83 298**	*d i* P	**Pn**	**16 27 00.1**	**+0.3**
MSHR			pmax	pmax		
	comp=Z,25nm,0.6s					
USA0B	**Ussuriysk Arra**	**9.03 309**	Pn	**Pn**	**16 27 02.9**	**+0.4**
USA0B	**Ussuriysk Arra**	**9.03 309**	*d i* P	**Pn**	**16 27 03.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**9.03 309**	Pn	**Pn**	**16 27 02.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.03 309**	P	**Pn**	**16 27 03.6**	**+1.1**
	comp=Z,8.0nm,0.5s,baz=112,slow=14,SNR=27					
USRK			S	**Sn**	**16 28 42.9**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=118,slow=27,SNR=5.6					
JNU	**Nakatsue**	**10.47 240**	P	**Pn**	**16 27 23.7**	**+1.4**
	comp=Z,7.9nm,1.0s,baz=123,slow=1.8,SNR=4.6					
JNU			LR	LR	16 31 26.4	
	comp=Z,86nm,20.3s,baz=360,slow=38					
JNU	**Nakatsue**	**10.47 240**	P	**Pn**	**16 27 23.3**	**+1.0**
MDJ	**Mudanjiang**	**10.72 306**		**Pn**	**16 27 25.9**	**+0.4**
JTU	**Tsushima**	**10.79 250**	P	**Pn**	**16 27 27.6**	**+1.1**
KSRS	**Korea Array**	**10.95 267**	P	**Pn**	**16 27 31.9**	**+3.2**
	comp=Z,7.8nm,0.5s,baz=75,slow=14,SNR=31					
KSRS			LR	LR	16 31 44.3	
	comp=Z,34nm,18.8s,baz=80,slow=38					
KLR	**Kul'dur**	**12.59 329**	P	**Pn**	**16 27 50.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=145,slow=14,SNR=2.2					
KLR			LR	LR	16 32 09.5	
	comp=Z,59nm,21.3s,baz=178,slow=34					
KLR	**Kul'dur**	**12.59 329**	⇑*e* P	**Pn**	**16 27 52.7**	**+1.7**
KLR			pmax	pmax		
	comp=Z,13nm,3.5s					
DL2	**Dalian**	**15.64 276**	P	**P**	**16 28 34.1**	**+0.4**
DL2			pmax	pmax		
	comp=Z,30nm,0.8s					
ZEA	**Zeya**	**17.87 331**	*e* P	**P**	**16 28 56.6**	**-1.6**
ZEA			pmax	pmax		
	comp=E,10.0nm,0.9s					
ZEA			pmax	pmax		
	comp=N,10.0nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,20nm,0.7s					
PETK	**Petropavlovsk-**	**18.01 32**	LR	LR	16 35 34.2	
	comp=Z,28nm,21.6s,baz=216,slow=35					
TIA	**Tai'an**	**19.66 270**	P	**P**	**16 29 16.0**	**-2.0**
TIA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
NJ2	**Nanjing**	**19.79 257**	*e* P	**P**	**16 29 18.3**	**-1.1**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
XLT	**XiLinHaoTe**	**19.84 293**	*e* P	**P**	**16 29 17.0**	**-3.0**
XLT			sP	sP	16 29 41.8	-2.6
XLT			pmax	pmax		
	comp=Z,10.0nm,0.9s					
HNS	**HongShan**	**21.27 275**	⇑P	**P**	**16 29 33.3**	**-1.9**
HNS			pmax	pmax		
	comp=Z,12nm,0.9s					
MA2	**Magadan**	**21.52 13**	P	**P**	**16 29 38.1**	**+0.3**
MA2	**Magadan**	**21.52 13**	P	**P**	**16 29 38.9**	**+1.1**
	comp=Z,7.7nm,0.7s,baz=202,slow=8.6,SNR=18					
MA2			pP	**sP**	**16 30 01.7**	**-0.5**
	comp=Z,8.8nm,0.8s,baz=198,slow=9.4,SNR=5.5					
	comp=Z,7.7nm,0.7s					
MA2	**Magadan**	**21.52 13**	⇑*i* P	**P**	**16 29 39.1**	**+1.3**
MA2			pmax	pmax		
	comp=Z,8.0nm,0.7s					
HHC	**Hu-ho-hao-te**	**23.17 285**	*e* P	**P**	**16 29 53.6**	**-1.9**
HHC			pmax	pmax		
	comp=Z,8.0nm,0.6s					
HHC			pmax	pmax		
	comp=Z,140nm,4.7s					
LYN	**LuoYang**	**23.78 269**	*e* P	**P**	**16 30 01.3**	**+0.4**
LYN			pmax	pmax		
	comp=Z,20nm,0.7s					
YAK	**Yakutsk**	**24.34 346**	P	**P**	**16 30 04.4**	**-1.3**
YAK			IAmb	IAmb	16 30 07.2	
	comp=Z,13nm,0.6s					
YAK	**Yakutsk**	**24.34 346**	LR	LR	16 41 39.0	
	comp=Z,22nm,18.0s,baz=296,slow=41					
YAK	**Yakutsk**	**24.34 346**	*e* P	**P**	**16 30 05.2**	**-0.5**
YAK			*e** PP	**pP**	**16 30 21.6**	**-1.3**
YAK			*e*		16 30 38.8	
YAK			*e* S	**S**	**16 34 21.1**	**+1.5**
YAK			*e** SS	**sS**	**16 34 49.6**	**+0.8**
YAK			*e* SS	**SnSn**	**16 35 12.9**	**+3.0**
YAK			pmax	pmax		
	comp=Z,10.0nm,0.8s					
YAK			pmax	pmax		
	comp=E,2.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,82nm,3.5s					
YAK			pmax	pmax		
	comp=N,63nm,5.7s					
YAK			pmax	pmax		
	comp=E,90nm,5.1s					
YAK			smax	smax		
	comp=N,50nm,3.3s					
YAK			smax	smax		
	comp=E,62nm,5.1s					
SEY	**Seymchan**	**24.95 12**	⇑*e* P	**P**	**16 30 12.6**	**+1.4**
SEY			pmax	pmax		
	comp=Z,5.0nm,0.9s					
ULN	**Ulaanbaatar**	**26.57 301**	⇓*e* P	**P**	**16 30 26.8**	**+0.6**
ULN			pmax	pmax		
	comp=Z,3.0nm,1.0s					
XAN	**Xi'an**	**26.72 270**	⇓P	**P**	**16 30 25.1**	**-2.5**
XAN			pmax	pmax		
	comp=Z,12nm,0.7s					
SONM	**Songino Array**	**27.00 301**	P	**P**	**16 30 29.3**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=104,slow=9.5,SNR=11					
SONM			PcP	**PcP**	**16 33 49.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=135,slow=3.8,SNR=3.1					
SONM			LR	LR	16 40 30.5	
	comp=Z,28nm,18.0s,baz=153,slow=35					
	comp=Z,1.4nm,0.8s					
ENH	**Enshi**	**27.77 262**	P	**P**	**16 30 35.8**	**-1.2**
ENH			IAmb	IAmb	16 30 39.1	
	comp=Z,13nm,0.6s					
H11N2	**WAKE ISLAND Hy**	**28.93 124**	T	T	17 01 20.6	
	baz=317,slow=75,SNR=775					
H11N1	**WAKE ISLAND Hy**	**28.94 124**	T	T	17 01 22.1	
	baz=317,slow=75,SNR=1754					
H11N3	**WAKE ISLAND Hy**	**28.95 124**	T	T	17 01 21.8	
	baz=317,slow=75,SNR=1820					
H11S1	**WAKE ISLAND Hy**	**29.70 126**	T	T	17 02 23.7	
	baz=319,slow=76,SNR=204					
H11S3	**WAKE ISLAND Hy**	**29.70 126**	T	T	17 02 26.1	
	baz=319,slow=76,SNR=386					
H11S2	**WAKE ISLAND Hy**	**29.72 126**	T	T	17 02 21.0	
	baz=319,slow=76,SNR=170					
LZH	**Lanzhou**	**30.04 277**	*e* P	**P**	**16 30 59.4**	**+2.2**
LZH			sP	sP	16 31 29.4	+6.4
LZH			pmax	pmax		
	comp=Z,12nm,1.3s					
GYA	**Guiyang**	**31.80 258**	⇑P	**P**	**16 31 11.5**	**-1.3**
GYA			sP	sP	16 31 37.3	-1.3
GYA			pmax	pmax		
	comp=Z,13nm,1.1s					
CD2	**Chengdu**	**31.95 267**	P	**P**	**16 31 12.8**	**-1.1**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BILL	**Bilibino**	**32.21 17**	⇓*e* P	**P**	**16 31 16.5**	**+0.7**
BILL			pmax	pmax		
	comp=Z,8.0nm,2.1s					
GTA	**Gaotai**	**32.29 284**	*e* P	**P**	**16 31 15.6**	**-1.4**
GTA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
PZH	**PanZhiHua**	**35.55 262**	P	**P**	**16 31 44.1**	**-1.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,100nm,5.1s					
TNA	**Tin City**	**39.16 30**	P	**P**	**16 32 16.2**	**+1.0**
TNA			IAmb	IAmb	16 32 43.9	
	comp=Z,6.7nm,1.0s					
F15K	**North Star Dit**	**40.50 31**	IAmb	IAmb	16 32 29.7	
	comp=Z,9.1nm,1.2s					
ZAA0	**Zalesovo Array**	**40.88 311**	P	**P**	**16 32 29.0**	**-0.6**
ZAA0			IAmb	IAmb	16 32 29.9	
	comp=Z,6.4nm,0.7s					
ZALV	**Zalesovo Beam**	**40.88 311**	P	**P**	**16 32 28.5**	**-1.1**
ZALV	**Zalesovo Beam**	**40.88 311**	P	**P**	**16 32 29.3**	**-0.3**
	comp=Z,6.3nm,0.5s,baz=89,slow=8.2,SNR=36					
ZALV			PcP	**PcP**	**16 34 28.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=130,slow=2.3,SNR=2.9					
ZALV			LR	LR	16 49 17.7	
	comp=Z,19nm,19.7s,baz=22,slow=36					
	comp=Z,6.3nm,0.5s					
ZALV	**Zalesovo Beam**	**40.88 311**	*i* P	**P**	**16 32 29.2**	**-0.4**
ZALV			pmax	pmax		
	comp=Z,6.0nm,0.5s					
F17K	**Baldwin Pennin**	**42.02 30**	IAmb	IAmb	16 33 07.7	
	comp=Z,6.4nm,0.8s					
CMAR	**Chiang Mai Arr**	**42.21 254**	P	**P**	**16 32 40.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=46,slow=8.2,SNR=6.0					
CMAR			LR	LR	16 50 19.0	
	comp=Z,7.5nm,19.2s,baz=150,slow=36					
	comp=Z,0.5nm,0.5s					
E18K	**Tukpahlearik C**	**42.48 29**	IAmb	IAmb	16 33 11.4	
	comp=Z,13nm,1.4s					
G18K	**Tagagawik**	**42.96 31**	IAmb	IAmb	16 32 49.1	
	comp=Z,11nm,1.4s					
MK31	**Makanchi Array**	**43.37 301**	IAmb	IAmb	16 32 50.6	
	comp=Z,10.0nm,0.8s					
MK31	**Makanchi Array**	**43.37 301**	*d i* P	**P**	**16 32 49.6**	**-0.4**
MKAR	**Makanchi Array**	**43.37 301**	P	**P**	**16 32 49.5**	**-0.5**
MKAR	**Makanchi Array**	**43.37 301**	P	**P**	**16 32 49.8**	**-0.2**
	comp=Z,8.8nm,0.7s,baz=86,slow=9.9,SNR=122					
	comp=Z,8.8nm,0.7s					
MAKZ	**Makanchi**	**43.58 301**	P	**P**	**16 32 51.1**	**-0.6**
MAKZ			IAmb	IAmb	16 32 52.4	
	comp=Z,10nm,0.8s					
MAKZ	**Makanchi**	**43.58 301**	P	**P**	**16 32 51.1**	**-0.6**
MAKZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KURK	**Kurchatov**	**45.01 307**	P	**P**	**16 33 02.3**	**-0.7**
KURK	**Kurchatov**	**45.01 307**	*d i* P	**P**	**16 33 02.4**	**-0.6**
KURK			pmax	pmax		
	comp=Z,13nm,0.7s					
KURBB	**Kurchatov Arra**	**45.08 307**	P	**P**	**16 33 03.4**	**-0.2**
	comp=Z,9.5nm,0.6s,baz=83,slow=8.4,SNR=71					
	comp=Z,9.5nm,0.6s					
E22K	**Anaktuvuk Pass**	**45.88 29**	P	**P**	**16 33 11.4**	**+1.7**
E22K			IAmb	IAmb	16 33 38.6	
	comp=Z,9.5nm,0.9s					
C23K	**Itkillik River**	**46.45 26**	IAmb	IAmb	16 33 43.5	
	comp=Z,9.4nm,1.1s					
E23K	**Chandalar**	**46.70 29**	IAmb	IAmb	16 33 19.2	
	comp=Z,11nm,1.1s					
WUS	**Wushi**	**46.99 294**	IAmb	IAmb	16 33 21.0	
	comp=Z,7.7nm,1.0s					
COLA	**College**	**47.42 33**	⇓*e* P	**P**	**16 33 25.3**	**+3.6**
COLA			pmax	pmax		
	comp=Z,16nm,1.9s					
TARG	**Taragay, Kyrgy**	**47.82 295**	IAmb	IAmb	16 33 28.3	
	comp=Z,6.7nm,0.9s					
TARG	**Taragay, Kyrgy**	**47.82 295**	P	**P**	**16 33 26.8**	**+1.1**
TARG			pmax	pmax		
	comp=Z,9.0nm,0.8s					
IL31		**47.83 33**	IAmb	IAmb	16 33 26.6	
	comp=Z,4.1nm,0.7s					
ILAR	**Eielson Array**	**47.83 33**	P	**P**	**16 33 26.1**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=267,slow=6.0,SNR=59					
ILAR			pP	**sP**	**16 33 51.0**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=270,slow=6.3,SNR=8.8					
	comp=Z,3.0nm,0.7s					
C27K	**Jago River**	**48.85 27**	IAmb	IAmb	16 34 02.5	
	comp=Z,8.2nm,1.2s					
BOOM	**Boomskoye usch**	**48.89 296**	IAmb	IAmb	16 33 36.2	
	comp=Z,4.2nm,0.8s					
BOOM	**Boomskoye usch**	**48.89 296**	P	**P**	**16 33 33.7**	**+0.1**
BOOM			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BVAR	**Borovoye Array**	**49.53 311**	P	**P**	**16 33 37.9**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=68,slow=8.6,SNR=22					
	comp=Z,3.0nm,0.5s					
BRVK	**Borovoye**	**49.58 311**	⇓*e* P	**P**	**16 33 38.2**	**-0.3**
BRVK			pmax	pmax		
	comp=Z,9.0nm,2.3s					
AAK	**Ala-Archa**	**49.84 297**	P	**P**	**16 33 40.6**	**-0.3**
AAK	**Ala-Archa**	**49.84 297**	LR	LR	16 53 58.6	
	comp=Z,18nm,20.7s,baz=64,slow=35					
AAK	**Ala-Archa**	**49.84 297**	P	**P**	**16 33 40.6**	**-0.3**
AAK			pmax	pmax		
	comp=Z,3.0nm,1.0s					
KSH	**Kashi**	**49.89 293**	P	**P**	**16 33 45.3**	**+4.1**
KSH			pmax	pmax		
	comp=Z,4.0nm,0.6s					
F28M	**Old Crow**	**50.41 29**	P	**P**	**16 33 46.6**	**+2.0**
E29M	**Blow River**	**51.05 28**	IAmb	IAmb	16 33 53.1	
	comp=Z,10nm,1.4s					
DRK	**Karamyk**	**52.89 294**	IAmb	IAmb	16 34 18.1	
	comp=Z,2.8nm,0.6s					
GAR	**Garm**	**54.14 294**	IAmb	IAmb	16 34 46.8	
	comp=Z,7.5nm,1.2s					
NIL	**Nilore**	**54.28 287**	P	**P**	**16 34 13.9**	**+0.1**
NIL	**Nilore**	**54.28 287**	P	**P**	**16 34 13.9

FINES FINESS Array B 67.31 332 P **P 16 35 41.9 +0.3**
comp=Z,1.8nm,0.7s,baz=0.0,slow=0.4,SNR=5.6
comp=Z,1.8nm,0.7s
FINES FINESS Array B 67.31 332 *i* P **P 16 35 42.4 +0.8**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 69.89 311 *e*P **P 16 35 55.8 -2.4**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 69.89 310 P **P 16 35 58.3 +0.3**
comp=Z,2.7nm,0.9s,baz=41,slow=11,SNR=2.6
comp=Z,2.7nm,0.9s
MNK Minsk 71.12 326 *i* P **P 16 36 03.9 -1.4**
MNK *i* *PP **pP 16 36 24.2 -0.5**
MNK *i* 16 38 42.3
MNK *i* PPP PPP 16 40 25.9
MNK *i* S **S 16 45 14.7 -1.3**
MNK *i* *SS **sS 16 45 50.9 +2.0**
MNK *i* SS **SS 16 49 50.1 +0.4**
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=N,11nm,1.0s
MNK MLR MLR
comp=E,144nm,16.0s
MNK MLR MLR
comp=Z,118nm,18.0s
MNK MLR MLR
comp=N,114nm,17.0s
HFS Hagfors 72.52 336 P **P 16 36 13.3 -0.3**
comp=N,1.2nm,0.4s,baz=58,slow=6.1,SNR=9.7
comp=N,1.2nm,0.4s
NB2 NORSAR Subarra 72.59 337 P **P 16 36 14.0 -0.1**
comp=Z,0.5nm,0.6s,baz=40,slow=5.9
NOA NORSAR Array B 72.59 337 P **P 16 36 13.9 -0.2**
comp=Z,0.7nm,0.7s,baz=38,slow=5.9,SNR=3.9
NOA LR LR 17 11 28.1
comp=Z,12nm,19.7s,baz=0.0,slow=38
comp=Z,0.7nm,0.7s
LRM Limekiln Ridge 72.68 45 P **P 16 36 15.6 +0.4**
EGMT Eagleton 72.75 42 IAmb IAmb 16 36 17.0
comp=Z,6.2nm,0.7s
AKASG Malin Array Be 73.00 322 P **P 16 36 16.1 -0.5**
comp=Z,0.6nm,0.4s,baz=47,slow=5.8,SNR=14
comp=Z,0.6nm,0.4s
BOZ Bozeman (W) 73.27 45 IAmb IAmb 16 36 20.9
comp=Z,5.2nm,0.7s
NVAR Mina Array Bea 73.71 54 P **P 16 36 23.1 +1.7**
comp=Z,2.0nm,0.7s,baz=292,slow=5.8,SNR=14
comp=Z,2.0nm,0.7s
HWUT Hardware Ranch 75.83 48 IAmb IAmb 16 36 36.3
comp=Z,8.5nm,1.2s
DUG Dugway, Tooele 75.99 50 P **P 16 36 35.9 +1.5**
DUG IAmb IAmb 16 36 37.1
comp=Z,4.8nm,0.8s
DUG Dugway, Tooele 75.99 50 P **P 16 36 35.9 +1.5**
DUG pmax pmax
comp=Z,5.0nm,0.8s
GWY Greenwater Val 76.11 55 IAmb IAmb 16 36 37.1
comp=Z,3.2nm,0.6s
PDAR Pinedale Array 76.22 46 P **P 16 36 36.9 +1.1**
comp=Z,2.1nm,0.6s,baz=261,slow=1.9,SNR=32
comp=Z,2.1nm,0.6s
TCUT Toone Canyon 76.23 48 IAmb IAmb 16 36 38.4
comp=Z,6.5nm,0.7s
STHS Stebnicka Huta 77.60 325 *e*P **P 16 36 43.5 +0.4**
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 77.60 325 *e*P **P 16 36 43.5 +0.4**
BR131 Keskin Array S 77.82 311 ‖ *e*P **P 16 36 43.3 -1.3**
BRTR Keskin Array B 77.82 311 P **P 16 36 44.6 0.0**
comp=Z,0.4nm,0.5s,baz=46,slow=4.2,SNR=2.6
comp=Z,0.4nm,0.5s
ULM Lac du Bonnet 77.85 34 P **P 16 36 44.3 -0.2**
comp=Z,1.3nm,0.7s,baz=302,slow=9.0,SNR=3.2
comp=Z,1.3nm,0.7s
P18A Preston Nutter 77.87 49 IAmb IAmb 16 36 48.5
comp=Z,5.9nm,0.9s
SRU San Rafael Swe 78.04 49 IAmb IAmb 16 36 48.3
comp=Z,6.2nm,0.8s
U15A North Rim 78.70 52 P **P 16 36 50.6 +0.9**
PV23 Carpenter Ridg 79.36 49 IAmb IAmb 16 36 55.4
comp=Z,6.9nm,0.7s
PV13 Radium Mtn., P 79.67 49 IAmb IAmb 16 36 57.5
comp=Z,5.5nm,0.9s
MODS Modra-Piesok 80.13 326 *e*P **P 16 36 58.7 +1.7**
MODS Modra-Piesok 80.13 326 *e*P **P 16 36 58.7 +1.7**
ANMO Albuquerque 83.24 50 ‖ *e*P **P 16 37 15.9 +2.1**
ANMO pmax pmax
comp=Z,10.0nm,4.0s
TXAR Lajitas Array 88.82 53 P **P 16 37 42.5 +1.2**
comp=Z,0.8nm,0.6s,baz=291,slow=2.8,SNR=7.9
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 128.60 180 PKP **PKPdf 16 43 52.1 -0.6**
comp=Z,1.3nm,0.9s,baz=257,slow=2.5,SNR=6.7
LPAZ La Paz 145.54 58 PKPbc **PKPab 16 44 26.4 0.0**
comp=Z,5.1nm,0.8s,baz=348,slow=4.6,SNR=20
H03N2 Juan Fernandez 146.94 93 T T 19 29 12.7
baz=291,slow=76,SNR=20
H03N3 Juan Fernandez 146.95 93 T T 19 29 13.8
baz=291,slow=76,SNR=34
H03N1 Juan Fernandez 146.96 93 T T 19 29 13.8
baz=291,slow=76,SNR=35

JMA 19 16:25:18.1±0.1, 36°.5N±0°.2×137°.7E±0°.2, h2km±1km, MV0.4/23, HIDA MOUNTAINS REGION, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.36**	**101**	P	Pg	16 25 25.4	+0.3
JNG				*e*S	Sg	16 25 30.3	+0.5
JGN	**Niukaw**	**0.38**	**228**	P	Pg	16 25 25.5	+0.2
JGN				*e*S	Sg	16 25 30.6	+0.5
MAT	**Matsushiro**	**0.45**	**81**	P	Pg	16 25 26.8	+0.1
MAT				*e*S	Sg	16 25 32.7	+0.2

*IDC **19** 16:31:36.1±7.2, 16°.55S×177°.83W, h203km±37km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=94.6km s-min=33.1km az=24.0*
*NEIC **19** 16:31:36.4±1.1, 16°.5S±0°.1×177°.8W±0°.1, h205km±8km, mb4.3/12, Error ellipse: s-maj=18.8km s-min=14.7km az=149.0*
ISC 19 16:31:35.5±0.8, 16°.5S±0°.1×177°.8W±0°.1, h200km, n18, σ0°62/19, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.15**	**252**	P	**Pn**	**16 32 39.6**	**+0.4**
	5.1nm,0.4s,baz=152,slow=23,SNR=24						
MSVF				S	**Sn**	**16 33 29.7**	**+0.5**
	6.7nm,0.7s,baz=102,slow=4.8,SNR=6.4						
KHZ	**Kahutara**	**26.88**	**194**	P	**P**	**16 36 58.1**	**+0.4**
JOHN	**Johnston Islan**	**34.01**	**14**	P	**P**	**16 38 00.7**	**+0.2**
STKA	**Stephens Creek**	**39.82**	**240**	P	**P**	**16 38 49.4**	**-0.1**
STKA				IAmb	IAmb	16 39 19.1	
	comp=Z,30nm,1.3s						
STKA	**Stephens Creek**	**39.82**	**240**	P	**P**	**16 38 50.0**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=74,slow=8.9,SNR=6.4						
	comp=Z,1.4nm,0.4s						
BBOO	**Buckleboo**	**44.60**	**240**	P	**P**	**16 39 27.5**	**-0.6**
BBOO				IAmb	IAmb	16 39 57.5	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**45.43**	**258**	P	**P**	**16 39 34.5**	**-0.3**
WB2	**Warramunga Arr**	**45.46**	**258**	P	**P**	**16 39 34.6**	**-0.4**
WB2				IAmb	IAmb	16 39 59.1	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**45.47**	**258**	P	**P**	**16 39 34.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=95,slow=8.1,SNR=5.1						
	comp=Z,0.1nm,0.3s						
AS31	**Alice Springs**	**45.74**	**253**	P	**P**	**16 39 36.8**	**-0.4**
ASAR	**Alice Springs**	**45.74**	**253**	P	**P**	**16 39 36.6**	**-0.6**
ASAR	**Alice Springs**	**45.74**	**253**	P	**P**	**16 39 37.0**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=89,slow=8.1,SNR=22						
	comp=Z,1.7nm,0.5s						
FORT	**Forrest**	**51.14**	**244**	P	**P**	**16 40 16.4**	**-1.8**
FORT				IAmb	IAmb	16 40 53.0	
	comp=Z,18nm,1.1s						
QSPA	**South Pole Qui**	**73.56**	**180**	P	**P**	**16 42 46.2**	**-0.2**
QSPA				IAmb	IAmb	16 42 47.0	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**73.56**	**180**	P	**P**	**16 42 46.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=209,slow=0.6,SNR=10						
	comp=Z,1.3nm,0.6s						
M24K	**Tolsona, Glenn**	**82.23**	**14**	P	**P**	**16 43 34.1**	**+0.1**
SMAI	**San Martin Ant**	**82.27**	**159**	P	**P**	**16 43 34.9**	**+0.7**
BELA	**Belgrano 2**	**83.49**	**173**	P	**P**	**16 43 39.9**	**-0.5**
BELA				IAmb	IAmb	16 43 43.5	
	comp=Z,12nm,1.5s						

IDC 19 16:37:42.2±2.7, 5°.64S×130°.81E, h0km, mb3.2/1, mbtmp3.0/3, ML2.9/2, MS3.3/1, Error ellipse: s-maj=154.2km s-min=33.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.63**	**167**	Pn	Pn	16 41 09.9	-0.7
	baz=347,slow=10,SNR=5.0						
WRA				Sn	Sn	16 43 40.6	-13
	0.1nm,0.3s,baz=348,slow=15,SNR=2.0						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**18.17**	**171**	P	P	16 41 56.5	0.0
	baz=350,slow=9.4,SNR=5.6						
	0.3nm,0.7s						
ASAJ	**Asahikawa**	**50.66**	**11**	LR	LR	17 05 56.2	
	comp=Z,35nm,20.6s,baz=178,slow=33						
MKAR	**Makanchi Array**	**67.54**	**326**	P	P	16 48 40.5	0.0
	0.2nm,0.9s,baz=138,slow=5.2,SNR=1.8						
	0.2nm,0.9s						

*IDC **19** 16:44:32.2±2.0, 28°.92N×6°.98E, h0km, mb3.5/6, mbtmp3.6/7, ML4.1/2, Error ellipse: s-maj=54.1km s-min=31.4km az=100.0*
*CNRM **19** 16:44:37.7, 30°.11N×6°.68E, h21km*
ISC 19 16:44:33.6±1.0, 29°.13N±0°.10×6°.38E±0°.08, h10km, n16, σ1°87/17, mb3.6/6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEST	**Kesra**	**7.04**	**20**	Pn	**Pn**	**16 46 18.2**	**+1.4**
	0.5nm,0.3s,baz=209,slow=9.5,SNR=12						
KEST				Sn	**Sn**	**16 47 37.9**	**+0.9**
	1.1nm,0.3s,baz=191,slow=21,SNR=6.9						
	1.7nm,0.4s						
FIGM	**Figuig**	**7.23**	**296**	P	**Pn**	**16 46 19.6**	**+0.1**
FIGM	**Figuig**	**7.23**	**296**	S	**Sn**	**16 47 41.0**	**-0.7**
JBK	**JBK**	**9.21**	**307**	P	**Pn**	**16 46 45.5**	**-1.3**
JBK	**JBK**	**9.21**	**307**	S	**Sn**	**16 48 27.6**	**-3.0**
TAF	**Taforalt**	**9.37**	**309**	P	**Pn**	**16 46 46.9**	**-1.9**
ARF	**Arif**	**9.44**	**287**	P	**Pn**	**16 46 53.5**	**+3.7**
AKLM	**AKL**	**10.22**	**304**	P	**Pn**	**16 47 00.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**16.49**	**196**	Pn	**Pn**	**16 48 24.2**	**-1.0**
	5.3nm,0.3s,baz=14,slow=13,SNR=1.3						
GERES	**GERESS Array B**	**20.47**	**14**	P	**P**	**16 49 12.6**	**+1.0**
	0.6nm,0.3s,baz=183,slow=12,SNR=5.6						
	0.6nm,0.3s						
BRTR	**Keskin Array B**	**24.76**	**58**	P	**P**	**16 49 53.2**	**-2.4**
	0.5nm,0.8s,baz=258,slow=6.9,SNR=2.7						
	0.5nm,0.8s						
AKASG	**Malin Array Be**	**27.57**	**32**	P	**P**	**16 50 19.3**	**-1.3**
	0.2nm,0.3s,baz=224,slow=8.5,SNR=4.2						
	0.2nm,0.3s						
HFS	**Hagfors**	**31.39**	**7**	P	**P**	**16 50 55.3**	**+0.8**
	1.0nm,0.6s,baz=189,slow=7.3,SNR=1.2						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**41.92**	**10**	P	**P**	**16 52 24.9**	**+0.9**
	2.9nm,0.9s,baz=204,slow=7.8,SNR=10						
	2.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**49.34**	**3**	P	**P**	**16 53 24.6**	**+2.0**
	12nm,1.2s,baz=198,slow=9.1,SNR=6.1						
MKAR	**Makanchi Array**	**60.12**	**50**	P	**P**	**16 54 39.4**	**-1.8**
	0.1nm,0.5s,baz=252,slow=6.5,SNR=2.3						
	0.1nm,0.5s						

*SKHL **19** 16:44:33.4±0.8, 46°.20N×154°.60E, h37km±6km, mb4.4/2*
*IDC **19** 16:44:35.8±5.9, 47°.84N×153°.23E, h0km, mb4.0/8, mbtmp3.9/10, ML2.8/2, MS2.7/4, Error ellipse: s-maj=127.4km s-min=26.9km az=141.0*
*NEIC **19** 16:44:40.7±0.5, 47°.7N±0°.2×153°.5E±0°.3, h45km±15km, mb4.3/6, Error ellipse: s-maj=36.7km s-min=12.0km az=139.0*
ISC 19 16:44:36.4±1.3, 47°.2N±0°.2×153°.8E±0°.2, h35km, n39, σ1°74/34, mb4.1/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.60**	**246**	*e*P	**Pn**	**16 45 45.3**	**+1.9**
KUR				AMB	AMB	16 45 50.2	
	30nm,0.5s						
KUR				*e*S	**Sn**	**16 46 38.5**	**+2.9**
KUR				A	A	16 46 46.2	
	40nm,0.5s						
KUR				A	A	16 46 46.2	
	40nm,0.5s						
PAU	**Pauzhetka**	**4.66**	**24**	*e*P	Pn	16 45 54.5	+10
SHO	**Shikotan**	**5.96**	**238**	*e*P	**Pn**	**16 46 00.0**	**-2.1**
SHO				AMB	AMB	16 46 09.2	
	20nm,0.4s						
SHO				*e*S	**Sn**	**16 47 05.4**	**-3.7**
SHO				A	A	16 47 12.0	
	20nm,0.3s						
SHO				A	A	16 47 12.0	
	20nm,0.3s						
PEA0B	**Petropavlovsk-**	**6.38**	**21**	Pn	**Pn**	**16 46 07.5**	**-0.2**
PETK	**Petropavlovsk-**	**6.38**	**21**	Pn	**Pn**	**16 46 07.5**	**-0.3**
PETK	**Petropavlovsk-**	**6.38**	**21**	Pn	**Pn**	**16 46 07.3**	**-0.4**
	0.4nm,0.3s,baz=224,slow=10,SNR=8.4						
PETK				Sn	**Sn**	**16 47 16.4**	**-2.9**
	baz=161,slow=16,SNR=2.0						
PETK				LR	LR	16 48 51.1	
	comp=Z,34nm,21.2s,baz=183,slow=43						
	2.7nm,0.8s						
NMR	**Nemuro--Hokkai**	**6.90**	**239**	*e*P	**Pn**	**16 46 13.2**	**-1.8**
NMR				*e*S	**Sn**	**16 47 28.3**	**-3.9**
AKK	**Akkeshi**	**7.63**	**240**	*e*P	**Pn**	**16 46 25.6**	**+0.6**
AKK				*e*S	**Sn**	**16 47 47.2**	**-3.0**
JKA	**Kamikawa-asahi**	**8.46**	**252**	Pn	**Pn**	**16 46 38.6**	**+2.2**
ASAJ	**Asahikawa**	**8.47**	**252**	Pn	**Pn**	**16 46 38.4**	**+1.9**
	0.2nm,0.3s,baz=87,slow=17,SNR=4.7						
	3.1nm,0.8s						
MA2	**Magadan**	**12.49**	**353**	LR	LR	16 52 44.8	
	comp=Z,26nm,18.2s,baz=104,slow=41						
KLR	**Kul'dur**	**14.85**	**286**	LR	LR	16 54 01.3	
	comp=Z,36nm,18.4s,baz=26,slow=40						
M14K	**Bethel**	**28.66**	**46**	P	**P**	**16 50 30.0**	**+0.6**
M14K				IAmb	IAmb	16 50 58.2	
	comp=Z,23nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**29.43**	**154**	T	T	17 22 31.4	
	baz=341,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.45**	**154**	T	T	17 22 39.2	
	baz=341,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.45**	**154**	T	T	17 22 33.1	
	baz=341,slow=76,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**30.54**	**155**	T	T	17 22 58.9	
	baz=343						
H11S3	**WAKE ISLAND Hy**	**30.55**	**155**	T	T	17 22 39.3	
	baz=343,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.55**	**155**	T	T	17 22 49.6	
	baz=343,slow=74						
H19K	**Roundabout Mou**	**31.91**	**37**	P	**P**	**16 50 59.2**	**+1.2**
H19K				IAmb	IAmb	16 51 38.0	
	comp=Z,7.8nm,1.5s						
GUMO	**Guam**	**34.38**	**196**	LR	LR	17 02 52.3	
	comp=Z,33nm,20.7s,baz=41,slow=32						
YULB	**Yu-li**	**35.24**	**239**	P	**P**	**16 51 30.9**	**+3.4**
BMAR	**Burnt Mountain**	**36.84**	**34**	P	**P**	**16 51 41.7**	**+1.0**
ZALV	**Zalesovo Beam**	**42.73**	**306**	P	**P**	**16 52 28.6**	**-1.1**
ZALV	**Zalesovo Beam**	**42.73**	**306**	P	**P**	**16 52 28.7**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=69,slow=8.1,SNR=4.2						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**47.16**	**297**	P	**P**	**16 53 04.7**	**-0.4**
MKAR	**Makanchi Array**	**47.16**	**297**	P	**P**	**16 53 04.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=67,slow=8.1,SNR=6.5						
	comp=Z,0.4nm,0.6s						
KURK	**Kurchatov**	**47.51**	**304**	P	**P**	**16 53 07.0**	**-0.7**
KURK				IAmb	IAmb	16 53 08.0	
	comp=Z,2.7nm,0.7s						
KURBB	**Kurchatov Arra**	**47.60**	**303**	P	**P**	**16 53 07.8**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=68,slow=8.5,SNR=14						
	comp=Z,1.7nm,0.7s						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**16 53 33.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=57,slow=8.1,SNR=4.7						
	comp=Z,0.5nm,0.3s						
KKAR	**Karatay Array**	**56.20**	**299**	P	**P**	**16 54 12.4**	**-0.2**
ABKAR	**Akbulak array**	**58.49**	**310**	P	**P**	**16 54 28.0**	**-0.6**
FINES	**FINESS Array B**	**63.81**	**335**	P	**P**	**16 55 04.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=42,slow=8.8,SNR=7.9						
	comp=Z,1.1nm,0.6s						
NOA	**NORSAR Array B**	**67.92**	**341**	P	**P**	**16 55 31.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=28,slow=6.5,SNR=4.0						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**68.17**	**340**	P	**P**	**16 55 32.6**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=46,slow=6.4,SNR=5.7						
	comp=Z,3.5nm,0.7s						
AKASG	**Malin Array Be**	**71.41**	**326**	P	**P**	**16 55 52.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=35,slow=6.1,SNR=5.9						
	comp=Z,0.7nm,0.4s						
BUR08	**Bucovina Ar. S**	**75.43**	**327**	P	**P**	**16 56 16.8**	**+0.3**
BUR08				IAmb	IAmb	16 56 31.5	
	comp=Z,1.7nm,1.2s						
BURAR	**Bucovina Array**	**75.45**	**327**	P	**P**	**16 56 16.8**	**+0.2**
CLL	**Collm**	**76.22**	**336**	*i* P	**P**	**16 56 20.4**	**-0.4**

*IDC **19** 16:55:13.8±0.7, 7°.55S×130°.55E, h0km, mb4.1/11, mbtmp4.2/13, ML5.1/3, Error ellipse: s-maj=30.0km s-min=16.3km az=71.0*
*NEIC **19** 16:55:20.2±1.1, 7°.51S±0°.07×130°.33E±0°.07, h35km±2km, mb4.5/19, Error ellipse: s-maj=13.3km s-min=10.3km az=227.0*
*DJA **19** 16:55:22.7±0.2, 8°.S±2°×13°.1E±°, h78km±3km, M4.8/41, mb4.8/41, mB5.3/15, MLv5.1/15, Mw(mB)4.7/15, MwMwp5.9/1, Mwp6.0/1*
ISC 19 16:55:18.4±0.4, 7°.46S±0°.04×130°.38E±0°.04, h27km, n119, σ2°11/105, mb4.5/30, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.05**	**120**	Pn	**Pb**	**16 55 39.4**	**+1.4**
SAUI				Sn	**Sn**	**16 55 51.1**	**-0.1**
SAUI	**Saumlaki**	**1.05**	**120**	P	**Pb**	**16 55 40.7**	**+2.7**
SAUI	**Saumlaki**	**1.05**	**120**	P	**Pb**	**16 55 41.0**	**+3.0**
SAUI				S	**Sb**	**16 55 51.5**	**+0.1**
BNDI	**Bandanaira**	**2.95**	**351**	P	**Pb**	**16 56 10.8**	**+0.4**
BNDI	**Bandanaira**	**2.95**	**351**	P	**Pb**	**16 56 09.3**	**-1.1**
AAI	**Ambon**	**4.33**	**330**	P	**Pb**	**16 56 30.9**	**-3.0**
MSAI	**Masohi**	**4.33**	**340**	P	**Pb**	**16 56 31.0**	**-2.9**
FAKI	**Fak Fak**	**4.88**	**23**	Pn	**Pn**	**16 56 32.5**	**+2.4**
FAKI	**Fak Fak**	**4.88**	**23**	P	**Pn**	**16 56 32.8**	**+2.7**
FAKI	**Fak Fak**	**4.88**	**23**	P	**Pn**	**16 56 32.7**	**+2.7**
DRS	**Darwin Rock St**	**4.97**	**174**	P	**Pn**	**16 56 32.9**	**+1.6**
DRS	**Darwin Rock St**	**4.97**	**174**	S	**Sn**	**16 57 26.3**	**-1.6**
NLAI	**Namlea**	**5.31**	**322**	P	Pb	16 56 45.5	-5.1
	0.5nm4μm86nm,0.6s						
MTN	**Manton Dam**	**5.40**	**172**	Pn	**Pn**	**16 56 38.5**	**+1.2**
MTN	**Manton Dam**	**5.40**	**172**	P	**Pn**	**16 56 38.7**	**+1.4**
MTN	**Manton Dam**	**5.40**	**172**	S	**Sn**	**16 57 37.3**	**-1.3**
KDU	**Kakadu**	**5.59**	**159**	P	**Pn**	**16 56 40.2**	**+0.4**
SOEI	**Soe**	**6.46**	**249**	Pn	Pn	16 56 59.1	+7.2
SOEI	**Soe**	**6.46**	**249**	P	Pn	16 56 59.6	+7.7
SOEI	**Soe**	**6.46**	**249**	P	Pn	16 56 59.7	+7.8
	2.3nm2μm101nm,0.6s						
SWI	**Sorong**	**6.61**	**8**	P	**Pn**	**16 56 56.4**	**+2.5**
	1.6nm5μm129nm,0.5s						
SANI	**Sanana**	**6.93**	**321**	P	Pn	16 57 07.6	+9.4
RKPI	**Ransiki, Papua**	**7.02**	**33**	P	**Pn**	**16 57 02.3**	**+2.8**
BBSI	**Bau Bau**	**8.00**	**284**	P	Pn	16 57 20.3	+7.3
	1μm76nm,1.0s						
SRPI	**Serui, Papua**	**8.06**	**47**	P	**Pn**	**16 57 15.9**	**+2.1**
MMRI	**Maumere**	**8.14**	**261**	P	Pn	16 57 23.1	+8.1
MMRI	**Maumere**	**8.14**	**261**	P	Pn	16 57 20.1	+5.1
	87nm,0.7s						
KNRA	**Kununurra**	**8.32**	**191**	Pn	**Pn**	**16 57 18.6**	**+1.2**
BAKI	**Biak**	**8.45**	**43**	P	**Pn**	**16 57 22.2**	**+3.1**
KDI	**Kendari**	**8.47**	**294**	P	Pn	16 57 28.6	+9.2
	24nm,0.8s						
TNTI	**Ternate**	**8.71**	**340**	P	Pn	16 57 28.7	+6.0
	30nm,0.8s						
WAMI	**Wamena**	**9.02**	**67**	P	**Pn**	**16 57 30.2**	**+3.2**
	97nm,0.7s						
BSSI	**Bau Bau, Buton**	**9.90**	**277**	P	Pn	16 57 45.8	+6.7
	46nm,1.0s						
SMPI	**Sarmi**	**9.92**	**57**	P	**Pn**	**16 57 39.8**	**+0.5**
	34nm,1.2s						
MMPI	**Merauke**	**9.96**	**96**	P	**Pn**	**16 57 38.8**	**-1.1**
BASI	**Baing, Sumba**	**10.06**	**253**	P	Pn	16 57 47.3	+6.0
WSI	**Waingapu**	**10.21**	**257**	P	Pn	16 57 48.6	+5.4
BKSI	**Bulukumba**	**10.41**	**281**	P	Pn	16 57 55.1	+9.1
	41nm,0.9s						
KAPI	**Kappang**	**10.84**	**282**	Pn	Pn	16 57 58.8	+6.9
	0.5nm,0.3s,baz=127,slow=8.8,SNR=7.2						
APSI	**Ampana**	**10.86**	**306**	P	Pn	16 58 01.5	+9.3
	54nm,1.1s						
GENI	**Genyem**	**10.88**	**64**	P	**Pn**	**16 57 52.9**	**+0.4**
	37nm,0.6s						
WBSI	**Waikabubak, Su**	**11.08**	**258**	P	**Pn**	**16 57 59.4**	**+4.2**
SPSI	**Sidrap Palu**	**11.11**	**288**	P	Pn	16 58 04.6	+9.0
	12nm,0.6s						
JAY	**Jayapura**	**11.40**	**65**	Pn	**Pn**	**16 58 00.7**	**+1.0**
	0.7nm,0.3s,baz=186,slow=4.6,SNR=2.6						
JAY				Sn	**Sn**	**17 00 00.8**	**-5.3**
	2.7nm,0.3s,baz=84,slow=13,SNR=5.2						
JAY	**Jayapura**	**11.40**	**65**	P	**Pn**	**16 57 59.8**	**+0.2**
	28nm,1.2s						
MRSI	**Marisa**	**11.53**	**313**	P	Pn	16 58 10.8	+9.4
	753nm90nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.54**	**203**	Pn	**Pn**	**16 58 00.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.54**	**203**	Pn	**Pn**	**16 58 01.1**	**-0.4**
	18nm,0.3s,baz=29,slow=11,SNR=218						
FITZ				Sn	**Sn**	**17 00 03.1**	**-6.5**
	6.6nm,0.3s,baz=223,slow=23,SNR=4.0						
PLAI	**Plampang**	**12.55**	**263**	P	**Pn**	**16 58 18.9**	**+3.6**
	55nm,0.7s						
TOLI2	**Tolitoli**	**12.81**	**311**	P	**P**	**16 58 27.6**	**-2.0**
WB0	**Warramunga Arr**	**12.84**	**163**	Pn	**Pn**	**16 58 15.0**	**-4.3**
WRA	**Warramunga Arr**	**12.99**	**163**	Pn	**Pn**	**16 58 17.4**	**-3.9**
	7.2nm,0.3s,baz=334,slow=13,SNR=168						
WRA				Sn	Sn	17 00 31.5	-14
	5.5nm,0.3s,baz=346,slow=22,SNR=6.4						
WB2	**Warramunga Arr**	**12.99**	**163**		**Pn**	**16 58 16.7**	**-4.7**
WR0	**Warramunga Arr**	**13.07**	**162**		**Pn**	**16 58 17.8**	**-4.6**
COEN	**Coen**	**14.13**	**118**	Pn	Pn	16 58 31.9	-5.1
SRBI	**Singaraja**	**15.04**	**267**	P	**P**	**16 58 55.4**	**+1.0**
JAGI	**Jajag, Banyuwa**	**16.10**	**265**	P	**Pn**	**16 59 04.6**	**+1.6**
JAGI	**Jajag, Banyuwa**	**16.10**	**265**	P	**P**	**16 59 05.1**	**-1.1**
	17nm,0.6s						
AS31	**Alice Springs**	**16.47**	**169**	P	**Pn**	**16 59 02.7**	**-5.0**
AS31				IAmb	IAmb

comp=Z,0.5nm,0.6s,baz=129,slow=3.2,SNR=4.6
comp=Z,2.4nm,0.8s
CHTO Chiang Mai 40.52 311 P P 17 02 55.5 -0.1
CHTO IAmb IAmb 17 02 57.8
comp=Z,4.7nm,0.8s
NJ2 Nanjing 40.80 345 *eP* **P 17 03 01.9 +4.3**
NJ2 pmax pmax
comp=Z,11nm,0.6s
PZH PanZhiHua 43.72 322 P P 17 03 22.3 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.5s
KSRS Korea Array 44.74 357 P P 17 03 29.9 +0.5
comp=Z,0.6nm,0.6s,baz=163,slow=8.8,SNR=1.9
comp=Z,0.6nm,0.6s
HNS HongShan 46.97 343 ⇓P **P 17 03 47.5 +0.4**
HNS pmax pmax
comp=Z,7.0nm,1.0s
HHC Hu-ho-hao-te 51.09 342 *eP* **P 17 04 21.5 +2.7**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,67nm,4.4s
GTA Gaotai 54.55 331 *eP* **P 17 04 46.3 +1.9**
GTA pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 58.81 342 P P 17 05 15.0 +0.5
ULN IAmb IAmb 17 05 16.6
comp=Z,3.4nm,0.8s
SONM Songino Array 58.99 341 P P 17 05 16.6 +0.8
comp=Z,0.9nm,0.7s,baz=150,slow=7.2,SNR=8.3
comp=Z,0.9nm,0.7s
PETK Petropavlovsk- 64.64 18 P P 17 05 53.9 +0.3
comp=Z,1.1nm,0.6s,baz=187,slow=4.7,SNR=8.6
comp=Z,1.1nm,0.6s
KSH Kashi 68.61 318 P P 17 06 21.1 +1.7
KSH pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 68.81 327 P P 17 06 20.9 +0.5
MKAR Makanchi Array 68.81 327 P P 17 06 20.8 +0.5
MKAR Makanchi Array 68.81 327 P P 17 06 21.6 +1.2
comp=Z,13nm,0.4s,baz=114,slow=8.7,SNR=298
MAKZ Makanchi 68.99 327 P P 17 06 21.8 +0.4
KDJ Kajisay 69.16 320 P P 17 06 22.0 -0.8
KDJ IAmb IAmb 17 06 25.0
comp=Z,5.6nm,0.6s
YAK Yakutsk 69.28 360 P P 17 06 22.3 -0.5
YAK IAmb IAmb 17 06 23.4
comp=Z,5.4nm,0.8s
BOOM Boomskoye usch 70.14 320 P P 17 06 28.9 +0.1
BOOM IAmb IAmb 17 06 30.9
comp=Z,6.0nm,0.8s
AAK Ala-Archa 71.13 320 P P 17 06 35.0 +0.1
AAK IAmb IAmb 17 06 37.2
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam 72.16 334 P P 17 06 40.5 0.0
comp=Z,0.7nm,0.4s,baz=97,slow=6.1,SNR=6.6
comp=Z,0.7nm,0.4s
SEY Seymchan 72.19 10 P P 17 06 40.8 +0.3
comp=Z,1.6nm,0.6s,baz=218,slow=5.4,SNR=18
comp=Z,1.6nm,0.6s
GAR Garm 72.25 315 P P 17 06 41.9 +0.2
SIMJ Simiganj 73.03 314 P P 17 06 46.3 0.0
SIMJ IAmb IAmb 17 06 47.9
comp=Z,10nm,0.9s
KURBB Kurchatov Arra 73.09 328 P P 17 06 46.6 +0.4
comp=Z,2.3nm,0.5s,baz=131,slow=5.0,SNR=37
comp=Z,2.3nm,0.5s
KURK Kurchatov 73.10 329 P P 17 06 46.2 0.0
KURK IAmb IAmb 17 06 47.9
comp=Z,4.6nm,1.0s
KK31 Karatay Array 73.93 319 P P 17 06 51.3 0.0
KK31 IAmb IAmb 17 06 53.0
comp=Z,3.2nm,1.1s
KKAR Karatay Array 73.93 319 P P 17 06 51.6 +0.3
BVAR Borovoye Array 78.65 328 P P 17 07 18.0 +0.1
comp=Z,1.5nm,0.8s,baz=128,slow=9.7,SNR=8.6
comp=Z,1.5nm,0.8s
NRIK Noril'sk 82.09 346 P P 17 07 35.9 -0.2
NRIK IAmb IAmb 17 07 37.9
comp=Z,4.0nm,0.9s
NRIK Noril'sk 82.09 346 P P 17 07 36.1 0.0
comp=Z,3.0nm,0.7s,baz=134,slow=6.0,SNR=11
comp=Z,3.0nm,0.7s
ILAR Eielson Array 93.60 25 P P 17 08 29.6 -2.3
comp=Z,0.4nm,0.8s,baz=243,slow=4.0,SNR=3.1
comp=Z,0.4nm,0.8s
LPAZ La Paz 150.13 142 PKPbc **PKPbc 17 15 07.5 -1.1**
comp=Z,0.9nm,0.4s,baz=153,slow=2.3,SNR=3.8

*IDC **19** 16:56:49.4±1.4, 57.°18S×147.°95E, h0km, mb4.3/3, mbtmp4.3/3, MS4.3/29, Error ellipse: s-maj=83.0km s-min=37.2km az=85.0*
*GCMT **19** 16:56:55.0±0.2, 57.°06S±0.°01×147.°69E±0.°02, h12km, MW5.1/123, Moment Tensor Solution. s61,c81; s123,c200; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.56±.11; Mθθ2.54±.10; Mφφ-1.98±.11; Mrθ-1.68±.27; Mφθ-4.49±.08; Mφr=0.70±.28; Best double couple: M0=5.36300×1016 NP1:φs=346.00000°, δ70.00000°, λ-6.00000°. NP2:φs=78.00000°, δ85.00000°, λ-160.00000°. Principal axes: T 5.5000, Plg10.0000°, Azm210.0000°; N -0.2710, Plg69.0000°, Azm92.0000°; P -5.2260, Plg18.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 19 16:56:51.7±1.3, 57.°2S±0.°2×147.°7E±0.°5, h14km, n61, σ1°36/25, mb4.4/3, MS4.4/29, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARPS	**Mount Arapiles**	**20.82**	**347**	P	**P**	**17 01 32.7**	**+0.2**
VNDA	**Vanda**	**20.99**	**171**	LR	LR	17 09 09.2	
comp=Z,667nm,18.4s,baz=342,slow=35							
STKA	**Stephens Creek**	**25.67**	**348**	P	**P**	**17 02 21.0**	**0.0**
6.6nm,0.7s,baz=164,slow=10,SNR=6.0							
6.6nm,0.7s							
URZ	**Urewera**	**27.06**	**58**	LR	LR	17 12 54.7	
comp=Z,800nm,18.0s,baz=291,slow=36							
H01W1	**Cape Leeuwin H**	**31.72**	**300**	T	T	17 36 32.6	
baz=144,slow=75,SNR=101							
H01W2	**Cape Leeuwin H**	**31.73**	**300**	T	T	17 36 33.1	
baz=144,slow=75,SNR=112							
H01W3	**Cape Leeuwin H**	**31.74**	**300**	T	T	17 36 33.8	
baz=144,slow=75,SNR=88							
NWAO	**Narrogin (SRO)**	**31.96**	**306**	LR	LR	17 13 07.0	
comp=Z,988nm,21.0s,baz=109,slow=30							
QSPA	**South Pole Qui**	**32.90**	**180**	LR	LR	17 17 09.8	
comp=Z,1μm,18.5s,baz=10,slow=37							
ASAR	**Alice Springs**	**34.97**	**338**	LR	LR	17 15 34.5	
comp=Z,408nm,21.5s,baz=164,slow=32							
RAO	**Raoul Island**	**36.84**	**55**	LR	LR	17 17 04.8	
comp=Z,514nm,19.9s,baz=124,slow=33							
MAW	**Mawson**	**37.47**	**219**	LR	LR	17 18 09.7	
comp=Z,1μm,22.0s,baz=98,slow=34							
DZM	**Mont Dzumac**	**37.68**	**29**	LR	LR	17 16 35.8	
comp=Z,1μm,19.9s,baz=186,slow=32							
WRA	**Warramunga Arr**	**38.50**	**340**	P	**P**	**17 04 12.5**	**-0.8**
6.9nm,0.7s,baz=169,slow=7.2,SNR=5.7							
WRA				LR	LR	17 19 45.7	
comp=Z,182nm,19.1s,baz=178,slow=36							
6.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**42.37**	**328**	LR	LR	17 20 48.0	
comp=Z,472nm,20.4s,baz=168,slow=34							
PMG	**Port Moresby**	**47.69**	**359**	LR	LR	17 24 00.1	
comp=Z,872nm,18.7s,baz=188,slow=34							
HNR	**Honiara**	**48.60**	**16**	LR	LR	17 22 59.9	
comp=Z,208nm,19.3s,baz=173,slow=32							
KRVT	**Keravat (AS076**	**52.86**	**5**	LR	LR	17 25 25.8	
comp=Z,222nm,20.9s,baz=193,slow=32							
H04S1	**CROZET ISLANDS**	**55.08**	**236**	T	T	18 06 39.7	
baz=139,slow=75,SNR=19							
H04S2	**CROZET ISLANDS**	**55.08**	**236**	T	T	18 06 51.3	
baz=139,slow=75,SNR=18							
H04S3	**CROZET ISLANDS**	**55.10**	**236**	T	T	18 06 42.9	
baz=139,slow=75,SNR=22							
PMSA	**Palmer Station**	**55.97**	**164**	LR	LR	17 27 59.5	
comp=Z,309nm,18.2s,baz=290,slow=33							
KAPI	**Kappang**	**56.51**	**326**	LR	LR	17 29 17.2	
comp=Z,300nm,20.5s,baz=170,slow=34							
LEM	**Lembang**	**59.17**	**312**	LR	LR	17 29 58.1	
comp=Z,480nm,20.1s,baz=160,slow=34							
GUMO	**Guam**	**70.57**	**357**	LR	LR	17 39 04.9	
comp=Z,86nm,18.0s,baz=88,slow=36							
PSI	**Prapat**	**71.49**	**308**	LR	LR	17 38 04.3	
comp=Z,228nm,18.5s,baz=144,slow=35							
H08S2	**Diego Garcia H**	**75.61**	**278**	T	T	18 31 31.8	
baz=147,slow=76,SNR=108							
H08S1	**Diego Garcia H**	**75.61**	**278**	T	T	18 31 22.3	
baz=147,slow=76,SNR=119							
H08S3	**Diego Garcia H**	**75.62**	**278**	T	T	18 31 30.2	
baz=147,slow=76,SNR=105							
PLCA	**Paso Flores**	**77.26**	**151**	LR	LR	17 36 38.7	
comp=Z,241nm,18.9s,baz=182,slow=31							
SUR	**Sutherland**	**80.17**	**223**	LR	LR	17 40 29.4	
comp=Z,234nm,20.0s,baz=162,slow=33							
BOSA	**Boshof**	**81.78**	**229**	LR	LR	17 41 07.4	
comp=Z,140nm,18.7s,baz=184,slow=32							
JCJ	**Chichijima**	**84.10**	**355**	LR	LR	17 45 48.4	
comp=Z,32nm,20.1s,baz=120,slow=35							
LBTB	**Lobatse**	**84.81**	**231**	LR	LR	17 42 42.1	
comp=Z,162nm,18.6s,baz=146,slow=32							
CMAR	**Chiang Mai Arr**	**85.61**	**314**	P	**P**	**17 09 31.3**	**+1.9**
0.2nm,0.3s,baz=175,slow=4.3,SNR=8.1							
CMAR				LR	LR	17 45 00.7	
comp=Z,232nm,21.3s,baz=175,slow=34							
0.2nm,0.3s							
JNU	**Nakatsue**	**91.09**	**346**	LR	LR	17 49 44.2	
comp=Z,105nm,19.8s,baz=176,slow=35							
TSUM	**Tsumeb**	**93.27**	**226**	LR	LR	17 45 29.2	
comp=Z,239nm,21.2s,baz=150,slow=31							
MJAR	**Matsushiro Arr**	**93.73**	**352**	LR	LR	17 49 20.9	
comp=Z,51nm,21.9s,baz=164,slow=34							
CPUP	**Villa Florida**	**94.15**	**158**	LR	LR	17 48 37.0	
comp=Z,87nm,19.3s,baz=200,slow=33							
KSRS	**Korea Array**	**95.77**	**344**	LR	LR	17 53 21.6	
comp=Z,46nm,18.9s,baz=130,slow=35							
KURBB	**Kurchatov Arra**	**121.56**	**316**	PKP	**PKiKP**	**17 15 43.8**	**+0.1**
0.3nm,0.6s,baz=136,slow=1.9,SNR=4.4							
YKA	**Yellowknife Ar**	**140.97**	**47**	PKP	**PKPdf**	**17 16 19.4**	**-0.3**
0.1nm,0.4s,baz=248,slow=3.3,SNR=1.9							
AKASG	**Malin Array Be**	**144.34**	**287**	PKP	**PKPdf**	**17 16 25.7**	**-0.4**
0.3nm,0.4s,baz=106,slow=3.4,SNR=4.4							
KEST	**Kesra**	**144.95**	**250**	PKPbc	**PKPab**	**17 16 26.7**	**-0.3**
13nm,0.9s,baz=350,slow=3.2,SNR=7.3							
SOKA	**Soboth**	**149.58**	**270**	*e*PKP	**PKiKP**	**17 16 41.6**	**+0.8**
4.0nm,1.3s							
ARSA	**Arzberg**	**149.66**	**272**	*e*PKP	**PKiKP**	**17 16 42.2**	**+1.4**
3.8nm,1.1s							
OBKA	**Obir**	**149.74**	**270**	*e*PKP	**PKPab**	**17 16 43.9**	**-1.7**
3.3nm,0.8s							
CONA	**Conrad Observa**	**149.88**	**273**	*e*PKP	**PKiKP**	**17 16 43.4**	**+2.1**
3.9nm,1.7s							
MYKA	**Terra Mystica**	**150.31**	**269**	PKP	**PKPab**	**17 16 46.0**	**-1.9**
5.8nm,1.1s							
KBA	**Koelnbreinsper**	**150.75**	**270**	*e*PKP	**PKiKP**	**17 16 45.5**	**+2.2**
1.9nm,0.6s							
FINES	**FINESS Array B**	**150.79**	**303**	PKPbc	**PKPbc**	**17 16 41.1**	**-0.9**
3.1nm,0.7s,baz=79,slow=4.1,SNR=8.8							
BIOA	**Bad Ischl, Aus**	**150.95**	**271**	*e*PKP	**PKiKP**	**17 16 46.3**	**+2.8**
5.9nm,1.0s							
ABTA	**Abfaltersbach**	**151.00**	**268**	*e*PKP	**PKiKP**	**17 16 44.9**	**+1.2**
2.1nm,0.6s							
RES	**Resolute Bay**	**151.08**	**29**	PKPbc	**PKiKP**	**17 16 42.5**	**-0.3**
1.5nm,0.6s,baz=255,slow=2.7,SNR=5.8							
LESA	**Schwarzleotal**	**151.32**	**270**	*e*PKP	**PKiKP**	**17 16 45.3**	**+1.0**
2.6nm,0.6s							
GERES	**GERESS Array B**	**151.59**	**273**	PKPbc	**PKiKP**	**17 16 44.8**	**-0.1**
1.9nm,0.9s,baz=236,slow=0.5,SNR=5.2							
WTTA	**Wattenberg**	**151.79**	**268**	*e*PKP	**PKiKP**	**17 16 46.2**	**+0.8**
4.4nm,0.8s							
MOTA	**Moosalm**	**152.13**	**268**	*e*PKP	**PKiKP**	**17 16 47.5**	**+1.4**
2.9nm,0.8s							
FETA	**Feichten**	**152.13**	**267**	*e*PKP	**PKiKP**	**17 16 47.9**	**+1.8**
5.7nm,1.0s							
ARCES	**ARCESS Array B**	**152.54**	**320**	PKPbc	**PKPbc**	**17 16 45.1**	**-0.7**
3.3nm,0.9s,baz=98,slow=2.5,SNR=5.7							
DAVA	**Damuels**	**152.76**	**267**	*e*PKP	**PKiKP**	**17 16 47.7**	**+0.3**
2.6nm,0.6s							

*IDC **19** 17:09:48.7±3.4, 14.°65S×167.°92E, h0km, mb4.0/4, mbtmp4.0/4, MS4.1/3, Error ellipse: s-maj=89.7km s-min=41.8km az=16.0*
*NEIC **19** 17:10:00.2±1.9, 14.°76S±0.°04×168.°1E±0.°2, h95km±9km, mb4.4/15, Error ellipse: s-maj=24.0km s-min=4.5km az=99.0*
ISC 19 17:10:01.1±0.9, 14.°88S±0.°08×167.°9E±0.°1, h100km, n28, σ1°35/29, mb4.3/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.29**	**191**	Pn	**Pn**	**17 11 44.9**	**-0.1**
DZM				Sn	**Sn**	**17 13 02.7**	**-3.5**
ONTNC	**Ouen Toro**	**7.51**	**190**	Pn	**Pn**	**17 11 49.2**	**+1.2**
ONTNC				Sn	**Sn**	**17 13 10.2**	**-1.5**
PINNC	**Pines Island,**	**7.71**	**183**	Pn	**Pn**	**17 11 51.8**	**+1.2**
PINNC				Sn	**Sn**	**17 13 13.5**	**-2.8**
EIDS	**Eidsvold**	**18.90**	**234**		**Pn**	**17 14 15.5**	**-0.2**
ARMA	**Armidale**	**21.51**	**221**	P	**P**	**17 14 44.2**	**+2.0**
RTZ	**Ruatahuna**	**24.97**	**163**	P	**P**	**17 15 16.3**	**+0.9**
RTZ				IAmb	IAmb	17 15 17.8	
comp=Z,19nm,1.2s							
BKZ	**Black Stump Fm**	**25.35**	**164**	P	**P**	**17 15 20.6**	**+1.8**
BKZ				IAmb	IAmb	17 15 32.8	
comp=Z,19nm,1.4s							
MRZ	**Mangatainoka R**	**26.55**	**167**	P	**P**	**17 15 30.0**	**+0.4**
MRZ				IAmb	IAmb	17 15 33.1	
comp=Z,42nm,1.4s							
MSWZ	**Moikau Station**	**27.20**	**168**	P	**P**	**17 15 36.6**	**+1.1**
LTZ	**Lake Taylor**	**28.06**	**173**	P	**P**	**17 15 43.5**	**+0.4**
STKA	**Stephens Creek**	**29.36**	**230**	P	**P**	**17 15 54.8**	**0.0**
comp=Z,2.8nm,0.5s,baz=42,slow=11,SNR=6.5							
comp=Z,2.8nm,0.5s							
JAY	**Jayapura**	**29.50**	**292**	LR	LR	17 26 01.2	
comp=Z,596nm,19.2s,baz=82,slow=33							
WB0	**Warramunga Arr**	**32.31**	**257**	P	**P**	**17 16 20.7**	**-0.2**
WB0				IAmb	IAmb	17 16 25.5	
comp=Z,8.0nm,1.3s							
WRA	**Warramunga Arr**	**32.37**	**256**	P	**P**	**17 16 20.8**	**-0.6**
comp=Z,0.4nm,0.8s,baz=84,slow=7.6,SNR=2.6							
WRA				PcP	**PcP**	**17 19 08.2**	**+1.1**
comp=Z,0.2nm,0.3s,baz=72,slow=2.5,SNR=1.9							
comp=Z,0.4nm,0.8s							
AS31	**Alice Springs**	**33.18**	**249**	P	**P**	**17 16 28.3**	**-0.2**
ASAR	**Alice Springs**	**33.18**	**249**	P	**P**	**17 16 27.8**	**-0.7**
ASAR	**Alice Springs**	**33.18**	**249**	P	**P**	**17 16 28.4**	**-0.2**
comp=Z,0.8nm,0.4s,baz=75,slow=9.1,SNR=49							
comp=Z,0.8nm,0.4s							
BBOO	**Buckleboo**	**33.97**	**233**	P	**P**	**17 16 35.7**	**+0.5**
FAKI	**Fak Fak**	**37.09**	**285**	P	**P**	**17 17 02.7**	**+0.6**
FORT	**Forrest**	**39.74**	**240**	P	**P**	**17 17 24.5**	**+0.4**
SBA	**Scott Base**	**62.99**	**180**	P	**P**	**17 20 17.1**	**+0.2**
USA0B	**Ussuriysk Arra**	**67.29**	**333**	P	**P**	**17 20 43.8**	**-1.3**
USA0B				IAmb	IAmb	17 21 03.3	
comp=Z,4.2nm,1.0s							
USRK	**Ussuriysk Ar.**	**67.29**	**333**	P	**P**	**17 20 43.8**	**-1.3**
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**17 21 32.7**	**+0.3**
QSPA				IAmb	IAmb	17 21 45.1	
comp=Z,5.0nm,1.5s							
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**17 21 34.1**	**+1.7**
comp=Z,1.0nm,0.5s,baz=203,slow=1.0,SNR=12							
comp=Z,1.0nm,0.5s							
P19K	**Oil Pt**	**80.65**	**19**	P	**P**	**17 22 00.7**	**-1.9**
LPIG	**La Paz**	**88.72**	**65**	LR	LR	17 55 37.3	
comp=Z,94nm,18.9s,baz=218,slow=31							
TXAR	**Lajitas Array**	**95.82**	**61**	LR	LR	17 58 20.6	
comp=Z,55nm,21.4s,baz=234,slow=30							

IDC 19 17:13:49.4±3.5, 11.°60S×166.°78E, h0km, mb3.9/3, mbtmp3.8/3, Error ellipse: s-maj=122.5km s-min=50.7km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.25**	**251**	P	P	17 20 19.8	-0.2
0.5nm,0.7s,baz=82,slow=8.8,SNR=2.0							
0.5nm,0.7s							
ASAR	**Alice Springs**	**33.46**	**245**	P	P	17 20 30.6	+0.1
0.6nm,0.7s,baz=70,slow=9.4,SNR=7.9							
ASAR				PcP	PcP	17 23 11.3	-0.6
0.2nm,0.6s,baz=87,slow=2.0,SNR=5.4							
0.6nm,0.7s							
MKAR	**Makanchi Array**	**94.62**	**317**	P	P	17 27 12.4	+0.1
0.8nm,0.5s,baz=90,slow=6.1,SNR=15							
0.8nm,0.5s							

IDC 19 17:23:43.1±2.1, 2.°59N×129.°29E, h0km, mb3.5/4, mbtmp3.5/4, MS3.9/2, Error ellipse: s-maj=150.6km s-min=21.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**168**	P	P	17 28 49.2	+0.1
1.5nm,0.7s,baz=348,slow=11,SNR=8.4							
1.5nm,0.7s							
ASAR	**Alice Springs**	**26.48**	**170**	P	P	17 29 22.0	-0.3
0.3nm,0.5s,baz=351,slow=9.0,SNR=12							
0.3nm,0.5s							
PETK	**Petropavlovsk-**	**55.56**	**20**	LR	LR	17 55 27.8	
comp=Z,107nm,21.8s,baz=172,slow=34							
MKAR	**Makanchi Array**	**59.95**	**325**	P	P	17 33 51.7	+0.4
0.3nm,0.6s,baz=120,slow=7.3,SNR=6.1							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**64.08**	**327**	P	P	17 34 18.7	-0.3
0.4nm,0.7s,baz=120,slow=6.8,SNR=4.2							
0.4nm,0.7s							
BVAR	**Borovoye Array**	**69.67**	**327**	LR	LR	18 08 53.6	
comp=Z,105nm,19.5s,baz=150,slow=39							

*IDC **19** 17:24:35.8±1.6, 24.°74S×179.°82E, h498km±16km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=18.9km s-min=13.2km az=129.0*
*NEIC **19** 17:24:35.6±1.1, 24.°9S±0.°1×179.°9E±0.°1, h496km±2km, mb4.5/82, Error ellipse: s-maj=17.5km s-min=14.1km az=113.0*
*NOU **19** 17:26:02.2, 32.°87S×177.°10E, h440km, MLv4.5/8, North of New Zealand*
ISC 19 17:24:36.5±0.4, 24.°80S±0.°05×179.°70E±0.°07, h507km, n176, σ1°39/187, mb4.5/51, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.92**	**155**	P	**P**	**17 26 02.4**	**-0.6**
GLKZ	**Green Lake**	**4.93**	**155**	P	**P**	**17 26 04.0**	**+0.9**
GLKZ				S	**S**	**17 27 14.8**	**+0.9**
MSVF	**Nonsavu**	**7.20**	**347**	P	**P**	**17 26 25.2**	**+0.2**
56nm,0.5s,baz=195,slow=5.7,SNR=139							
FUTU	**Fugatoga**	**10.63**	**12**	P	**P**	**17 27 00.4**	**-0.3**
NIUE	**Niue**	**11.18**	**61**	P	**P**	**17 27 04.0**	**-2.4**
NIUE	**Niue**	**11.18**	**61**	P	**P**	**17 27 09.8**	**+3.3**
NIUE				S	**S**	**17 29 12.8**	**+2.9**
OUZ	**Omahuta**	**11.65**	**206**	P	**P**	**17 27 14.3**	**+3.2**
MXZ	**Matakaoa Point**	**12.78**	**185**	P	**P**	**17 27 24.6**	**+1.5**
MXZ	**Matakaoa Point**	**12.78**	**185**	P	**P**	**17 27 24.5**	**+1.5**
MXZ				S	**S**	**17 29 42.2**	**+1.8**
HAZ	**Te Kaha**	**13.02**	**187**	P	**P**	**17 27 24.5**	**-1.1**
HAZ				S	**S**	**17 29 47.9**	**+2.9**
WMGZ	**Waiomatatini S**	**13.03**	**185**	P	**P**	**17 27 25.4**	**-0.3**
WMGZ				S	**S**	**17 29 44.8**	**-0.4**
PKGZ	**Pakihiroa**	**13.10**	**186**	P	**P**	**17 27 26.8**	**+0.3**
PKGZ				S	**S**	**17 29 48.5**	**+1.8**
RUGZ	**Raukumara Rang**	**13.24**	**187**	P	**P**	**17 27 27.6**	**-0.4**
PUZ	**Puketiti**	**13.29**	**185**	P	**P**	**17 27 30.5**	**+2.0**
TOZ	**Tahuroa Road**	**13.38**	**195**	P	**P**	**17 27 27.4**	**-1.9**
TWGZ	**Tauwhareparae**	**13.42**	**186**	P	**P**	**17 27 30.1**	**+0.2**
LIRZ	**Lichensteins R**	**13.46**	**191**	P	**P**	**17 27 32.2**	**+2.0**
URZ	**Urewera**	**13.60**	**189**	P	**P**	**17 27 29.2**	**-2.5**
24nm,0.3s,baz=13,slow=2.4,SNR=31							
URZ				S	**S**	**17 29 57.1**	**+0.9**
21nm,0.5s,baz=308,slow=22,SNR=12							
URZ	**Urewera**	**13.60**	**189**	P	**P**	**17 27 29.2**	**-2.5**
URZ	**Urewera**	**13.60**	**189**	P	**P**	**17 27 29.2**	**-2.5**
MWZ	**Matawai**	**13.62**	**187**	P	**P**	**17 27 31.7**	**-0.3**
TKGZ	**Te Karaka**	**13.69**	**186**	P	**P**	**17 27 34.0**	**+1.4**
TKGZ				S	**S**	**17 29 58.0**	**+0.1**
CNGZ	**Carnagh Statio**	**13.71**	**185**	P	**P**	**17 27 32.9**	**+0.1**
CNGZ				S	**S**	**17 29 59.4**	**+1.2**
MUGZ	**Murupara**	**13.86**	**190**	P	**P**	**17 27 33.2**	**-1.3**
MUGZ				S	**S**	**17 29 58.1**	**-3.2**
TLZ	**Tolley Road**	**13.95**	**194**	P	**P**	**17 27 38.5**	**+3.1**
RIGZ	**Rimuhau**	**13.96**	**186**	P	**P**	**17 27 35.4**	**-0.1**
RIGZ				S	**S**	**17 30 02.4**	**-0.9**
RTZ	**Ruatahuna**	**13.97**	**189**	P	**P**	**17 27 33.1**	**-2.6**
RTZ				S	**S**	**17 29 58.3**	**-5.1**
RTZ	**Ruatahuna**	**13.97**	**189**	P	**P**	**17 27 35.2**	**-0.5**
PRGZ	**Paritu Road**	**14.17**	**186**	P	**P**	**17 27 38.7**	**+1.0**
MTHZ	**Maungataniwha**	**14.22**	**189**	P	**P**	**17 27 37.6**	**-0.7**
MTHZ				S	**S**	**17 30 05.6**	**-2.6**
RAHZ	**Arahi**	**14.25**	**188**	P	**P**	**17 27 38.5**	**-0.1**
RAHZ				S	**S**	**17 30 09.8**	**+1.1**
MRHZ	**Matea Rd**	**14.27**	**190**	P	**P**	**17 27 38.0**	**-0.8**
MRHZ				S	**S**	**17 30 08.8**	**-0.4**
WATZ	**Wairara**	**14.27**	**193**	P	**P**	**17 27 40.2**	**+1.4**
WATZ				S	**S**	**17 30 11.9**	**+2.8**
KNZ	**Kokohu**	**14.29**	**186**	P	**P**	**17 27 38.6**	**-0.2**
MHGZ	**Mahia Peninsul**	**14.39**	**186**	P	**P**	**17 27 41.4**	**+1.4**
NMHZ	**Naumai**	**14.47**	**189**	P	**P**	**17 27 40.8**	**-0.1**
NMHZ				S	**S**	**17 30 13.0**	**+0.1**
BKZ	**Black Stump Fm**	**14.58**	**190**	P	**P**	**17 27 39.2**	**-2.8**
BKZ	**Black Stump Fm**	**14.58**	**190**	P	**P**	**17 27 39.0**	**-3.0**
NTVZ	**North Tongarir**	**14.66**	**192**	P	**P**	**17 27 43.9**	**+1.0**
TMVZ	**Te Maari**	**14.67**	**192**	P	**P**	**17 27 41.8**	**-1.3**
TWVZ	**Taurewa**	**14.68**	**193**	P	**P**	**17 27 42.7**	**-0.4**
ETVZ	**East Tongariro**	**14.69**	**192**	P	**P**	**17 27 41.6**	**-1.7**
WTVZ	**West Tongariro**	**14.69**	**193**	P	**P**	**17 27 44.2**	**+0.9**
NNVZ	**North Ngauruho**	**14.70**	**193**	P	**P**	**17 27 44.9**	**+1.4**
NNVZ				S	**S**	**17 30 19.8**	**+2.1**
OTVZ	**Oturere**	**14.72**	**192**	P	**P**	**17 27 41.8**	**-1.9**
OTVZ				S	**S**	**17 30 18.8**	**+0.7**
MCHZ	**McNeill Hill**	**14.82**	**189**	P	**P**	**17 27 42.6**	**-2.0**
TUVZ	**Tukino**	**14.83**	**192**	P	**P**	**17 27 43.9**	**-0.8**
TUVZ				S	**S**	**17 30 19.9**	**-0.1**
FWVZ	**Far West T-bar**	**14.84**	**193**	P	**P**	**17 27 46.4**	**+1.5**
KWHZ	**Kaweka Forest**	**14.85**	**190**	P	**P**	**17 27 44.1**	**-0.7**
KWHZ				S	**S**	**17 30 18.8**	**-1.4**
WNVZ	**Wahianoa**	**14.90**	**192**	P	**P**	**17 27 43.6**	**-1.9**
WNVZ				S	**S**	**17 30 24.5**	**+3.2**

KNRA IAmb IAmb 17 32 58.6
comp=Z,23nm,1.4s
FITZ Fitzroy Crossi 50.49 266 P **P** **17 32 47.8 +0.1**
FITZ Fitzroy Crossi 50.49 266 P **P** **17 32 48.2 +0.6**
comp=Z,7.4nm,0.9s,baz=115,slow=5.4,SNR=6.6
comp=Z,7.4nm,0.9s
FAKI Fak Fak 50.59 288 P **P** **17 32 47.9 -0.5**
SOEI Soe 54.65 276 P **P** **17 33 18.4 +0.7**
MORW Morawa 56.31 251 P **P** **17 33 29.1 +0.2**
QSPA South Pole Qui 65.29 180 P **P** **17 34 28.6 +1.0**
QSPA South Pole Qui 65.29 180 P **P** **17 34 28.7 +1.0**
comp=Z,0.9nm,0.6s,baz=317,slow=1.3,SNR=8.4
comp=Z,0.9nm,0.6s
UGM Wanagama 67.85 271 P **P** **17 34 44.4 +0.2**
YULB Yu-li 74.17 306 P **P** **17 35 21.1 -0.1**
BELA Belgrano 2 75.58 173 P **P** **17 35 27.3 -1.0**
LVA Lava Point 79.59 8 P **P** **17 35 52.0 +1.9**
PEA0B Petropavlovsk- 79.91 347 P **P** **17 35 51.4 -0.4**
PEA0B IAmb IAmb 17 36 11.5
comp=Z,32nm,1.4s
PETK Petropavlovsk- 79.91 347 P **P** **17 35 51.2 -0.6**
PETK Petropavlovsk- 79.91 347 P **P** **17 35 51.5 -0.3**
comp=Z,7.4nm,1.0s,baz=126,slow=7.8,SNR=11
comp=Z,7.4nm,1.0s
USRK Ussuriysk Ar. 81.37 327 P **P** **17 36 00.9 +1.3**
USRK Ussuriysk Ar. 81.37 327 P **P** **17 36 00.8 +1.1**
comp=Z,1.7nm,0.6s,baz=114,slow=6.4,SNR=4.2
comp=Z,1.7nm,0.6s
SYO Syowa Base 82.08 193⇑ *eP* **P** **17 36 01.6 -1.4**
ELIB Princess Elisa 82.14 187 *dP* **P** **17 36 03.2 -0.3**
CHGN Chignik 82.89 12 P **P** **17 36 06.7 -0.4**
CBX Cerro Bola 83.11 50 P **P** **17 36 07.9 -1.1**
ESJX Sierra Juarez 83.44 50 P **P** **17 36 10.8 +0.1**
ESJX IAmb IAmb 17 36 12.9
comp=Z,18nm,1.1s
SLBS Sierra La Lagu 83.48 60 P **P** **17 36 11.3 +0.3**
SLBS IAmb IAmb 17 36 26.1
comp=Z,28nm,1.4s
YUH Yuha Desert 83.82 50 P **P** **17 36 12.0 -0.3**
YUH IAmb IAmb 17 36 38.7
comp=Z,17nm,1.4s
ISA Isabella, Lake 83.84 46 P **P** **17 36 12.2 -0.3**
ISA IAmb IAmb 17 36 14.1
comp=Z,12nm,0.9s
O02D Mt. Diablo Mer 83.91 41 P **P** **17 36 13.2 +0.5**
O02D IAmb IAmb 17 36 15.2
comp=Z,14nm,1.0s
CMB Columbia Colle 84.04 43 P **P** **17 36 12.6 -0.8**
AFDM Forest Hills D 84.24 42 P **P** **17 36 14.2 -0.1**
AFDM IAmb IAmb 17 36 15.6
comp=Z,13nm,1.2s
ORV Oroville 84.29 42 P **P** **17 36 14.6 +0.1**
KSXB Camp Six Broad 84.34 39 P **P** **17 36 14.7 -0.2**
GSC Goldstone, Bar 84.73 47 P **P** **17 36 16.3 -0.6**
GSC IAmb IAmb 17 36 18.4
comp=Z,10nm,1.1s
GLA Glamis 84.81 50 P **P** **17 36 17.5 +0.3**
GLA IAmb IAmb 17 36 19.5
comp=Z,16nm,0.9s
WAKR Walker 84.92 43 P **P** **17 36 17.5 -0.4**
WAKR IAmb IAmb 17 36 19.6
comp=Z,12nm,1.2s
NVAR Mina Array Bea 85.58 44 P **P** **17 36 20.6 -0.5**
NVAR Mina Array Bea 85.58 44 P **P** **17 36 21.3 +0.2**
comp=Z,2.2nm,0.8s,baz=223,slow=8.4,SNR=9.5
comp=Z,2.2nm,0.8s
NV11 Mina Array Sit 85.68 44 P **P** **17 36 21.3 -0.2**
TPNV Topopah Spring 86.05 46 P **P** **17 36 23.0 -0.2**
J04A Umpqua Nationa 86.25 38 P **P** **17 36 24.2 0.0**
J04A IAmb IAmb 17 36 26.0
comp=Z,12nm,0.8s
W13A Hualapai Mount 86.59 49 P **P** **17 36 25.0 -1.0**
J05D Fort Rock, OR 86.78 39 P **P** **17 36 26.7 +0.1**
J05D IAmb IAmb 17 36 28.5
comp=Z,10nm,1.0s
PRN Pahroc Range 87.09 46 P **P** **17 36 27.4 -0.8**
PRN IAmb IAmb 17 36 30.1
comp=Z,6.7nm,1.0s
M16K Timber Creek 87.25 10 P **P** **17 36 29.3 +1.2**
M16K IAmb IAmb 17 37 02.9
comp=Z,14nm,1.4s
PINE Pine Mountain 87.26 39 P **P** **17 36 29.4 +0.6**
TUC Tucson 87.28 53 P **P** **17 36 28.8 -0.3**
TUC IAmb IAmb 17 36 31.6
comp=Z,10nm,1.1s
ILSW Iliamna Southw 87.36 13 P **P** **17 36 28.7 -0.2**
MA2 Magadan 87.38 346 P **P** **17 36 28.5 -0.2**
comp=Z,0.9nm,0.3s,baz=159,slow=8.7,SNR=5.1
comp=Z,0.9nm,0.3s
WVOR Wild Horse Val 87.77 41 P **P** **17 36 30.9 -0.3**
WVOR IAmb IAmb 17 36 32.9
comp=Z,7.6nm,1.0s
319A Douglas 87.89 54 P **P** **17 36 32.7 +0.6**
X16A Lo Mia Camp, P 87.92 50 P **P** **17 36 32.8 +0.6**
X16A IAmb IAmb 17 36 34.3
comp=Z,5.3nm,0.9s
LCMT Little Creek M 88.07 48 P **P** **17 36 32.6 -0.2**
LCMT IAmb IAmb 17 36 34.7
comp=Z,7.5nm,1.2s
I07A Izee 88.26 39 P **P** **17 36 33.9 +0.4**
I07A IAmb IAmb 17 36 35.3
comp=Z,12nm,0.9s
U15A North Rim 88.40 48 IAmb IAmb 17 36 36.6
comp=Z,8.8nm,1.1s
PKCU Pink Cliffs 88.93 48 P **P** **17 36 37.1 0.0**
PKCU IAmb IAmb 17 36 39.5
comp=Z,12nm,1.0s
L19K White Mountain 89.04 12 IAmb IAmb 17 36 37.7
comp=Z,7.3nm,0.9s
G08A Pilot Rock 89.30 38 P **P** **17 36 38.1 -0.2**
G08A IAmb IAmb 17 36 40.4
comp=Z,6.0nm,1.0s
MTPU Mount Pierson 89.34 47 IAmb IAmb 17 36 41.3
comp=Z,5.5nm,0.9s
BI02 San Fabin de 89.44 131 P **P** **17 36 38.5 -0.8**
BI02 IAmb IAmb 17 36 40.6
comp=Z,3.7nm,0.8s
MFID Camas Ranch 90.01 41 P **P** **17 36 41.4 -0.3**
MFID IAmb IAmb 17 36 43.1
comp=Z,8.5nm,1.1s
TNA Tin City 90.57 5 IAmb IAmb 17 36 44.7
comp=Z,12nm,1.2s
HVU Hansel Valley 90.97 44 IAmb IAmb 17 36 47.5
comp=Z,5.9nm,1.0s
TX31 Lajitas Ar. Si 91.14 58 P **P** **17 36 46.9 -0.2**
TX31 IAmb IAmb 17 36 48.8
comp=Z,6.7nm,1.1s
TXAR Lajitas Array 91.14 58 P **P** **17 36 47.6 +0.5**
comp=Z,2.9nm,0.8s,baz=215,slow=6.1,SNR=15
comp=Z,2.9nm,0.8s
MVCO Mesa Verde 91.41 49 pP pP 17 38 42.4 +1.5
TCUT Toone Canyon 91.49 45 IAmb IAmb 17 36 50.1
comp=Z,8.1nm,1.0s
BSUT Blindstream Ca 91.60 46 P **P** **17 36 49.2 -0.2**
ALPN Alpine 91.64 57 IAmb IAmb 17 36 50.7
comp=Z,5.1nm,1.0s
G19K Purcell Mounta 92.37 9 P **P** **17 36 51.2 -0.6**
SAND Sanderson 92.61 58 P **P** **17 36 53.4 -0.5**
SAND IAmb IAmb 17 36 55.1
comp=Z,4.3nm,0.9s
ILAR Eielson Array 92.96 14 P **P** **17 36 53.9 -0.6**
comp=Z,0.3nm,0.6s,baz=225,slow=5.2,SNR=3.0
comp=Z,0.3nm,0.6s
E18K Tukpahlearik C 93.11 7 IAmb IAmb 17 36 56.2
comp=Z,3.3nm,1.0s
PDAR Pinedale Array 93.52 44 P **P** **17 36 57.0 -1.0**
comp=Z,0.8nm,0.9s,baz=269,slow=5.9,SNR=4.7
comp=Z,0.8nm,0.9s
BVAR Borovoye Array 120.93 318 PKP **PKPdf** **17 42 30.0 -0.5**
comp=Z,1.3nm,0.3s,baz=117,slow=2.4,SNR=10
ARTI Arti 127.54 323 PKP **PKPdf** **17 42 43.3 +0.2**
comp=Z,2.0nm,0.4s,baz=117,slow=4.5,SNR=3.6
ARCES ARCESS Array B 132.70 348 PKP **PKPdf** **17 42 51.8 -0.8**
comp=Z,4.9nm,1.0s,baz=75,slow=2.1,SNR=12
FINES FINESS Array B 139.20 341 PKhKP PKPpre 17 42 55.8
comp=Z,0.9nm,0.3s,baz=38,slow=6.0,SNR=4.3
NB2 NORSAR Subarra142.92 351 PKP **PKPdf** **17 43 08.1 -3.4**
comp=Z,0.9nm,0.5s,baz=15,slow=3.8
NOA NORSAR Array B142.92 351 PKhKP PKPpre 17 43 08.4
comp=Z,4.5nm,0.9s,baz=16,slow=4.9,SNR=6.1
HFS Hagfors 143.37 348 PKP PKPab 17 43 09.8 -0.6
comp=Z,6.8nm,0.3s,baz=58,slow=4.2,SNR=39
PABE Paberze 144.53 336 PKPdf PKPbc 17 43 13.9 -0.5
AKASG Malin Array Be 145.57 326 PKPdf **PKPdf** **17 43 15.9 -0.4**
AKASG Malin Array Be 145.57 326 PKPbc **PKPdf** **17 43 17.0 +0.6**
comp=Z,1.3nm,0.3s,baz=43,slow=3.7,SNR=14

AKBB Malin Array Si 145.57 326 PKPdf **PKPdf** **17 43 16.0 -0.3**
KIEV Kiev 145.58 326 PKPdf **PKPdf** **17 43 15.8 -0.6**
AK05 Malin Array Si 145.63 326 PKPdf **PKPdf** **17 43 15.8 -0.6**
GAZ Gaziantep 145.77 300 PKPdf **PKPdf** **17 43 17.3 +0.1**
BNN Bunyan 146.47 304 **PKPdf** **17 43 19.4 +0.9**
ILGA Ilgaz 147.42 308 **PKPbc** **17 43 21.9 -1.4**
MMAI Mount Meron Ar 147.81 293 PKPbc **PKPbc** **17 43 25.2 +0.8**
comp=Z,3.0nm,0.5s,baz=82,slow=6.2,SNR=7.5
BR131 Keskin Array S 147.89 306 **PKPbc** **17 43 23.0 -1.6**
BRTR Keskin Array B 147.89 306 PKPbc **PKPbc** **17 43 23.7 -0.8**
BRTR Keskin Array B 147.89 306 PKPbc **PKPbc** **17 43 24.2 -0.3**
comp=Z,1.6nm,0.7s,baz=116,slow=2.9,SNR=8.1
EKA Eskdalemuir Ar 149.43 3 PKPbc **PKPbc** **17 43 26.9 -0.7**
comp=Z,0.7nm,0.3s,baz=340,slow=2.9,SNR=8.0
BUR08 Bucovina Ar. S 149.54 325 **PKPbc** **17 43 26.7 -1.6**
BURAR Bucovina Array 149.55 325 PKPbc **PKPbc** **17 43 28.0 -0.3**
BORA Eskisehir 150.16 308 **PKPbc** **17 43 28.3 -1.7**
OJC Ojcow 150.22 334 **PKPbc** **17 43 28.5 -1.2**
MLR Muntele Rosu 150.44 321 PKPbc **PKPbc** **17 43 29.8 -0.7**
comp=Z,2.6nm,0.7s,baz=27,slow=6.8,SNR=3.6
CLL Collm 151.63 342 **PKPbc** **17 43 31.8 -1.0**
ESDC Sonseca Array 164.85 11 PKPab **PKPab** **17 44 40.7 -0.9**
comp=Z,1.1nm,0.8s,baz=352,slow=3.9,SNR=4.4

---

*MOS **19** 17:33:51.8±0.8, 38.°30N×75.°14E, h115km, mb4.5/16, Error ellipse: s-maj=6.9km s-min=4.2km az=102.3*
*IDC **19** 17:33:52.1±2.2, 38.°27N×75.°26E, h104km±19km, mb3.7/25, mbtmp4.1/31, MS3.8/6, Error ellipse: s-maj=14.4km s-min=11.4km az=13.0*
*NEIC **19** 17:33:53.8±2.2, 38.°37N±0.°06×75.°11E±0.°04, h120km±6km, mb4.4/72, Error ellipse: s-maj=8.7km s-min=4.9km az=179.0*
*BJI **19** 17:33:53.0, 38.°36N×75.°23E, h110km, mB4.2/2, mb4.2/17*
*NNC **19** 17:33:57.4±2.8, 38.°89N×75.°23E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=21.9km s-min=16.0km az=153.0*
*SOME **19** 17:33:59.8, 38.°93N×75.°97E, h10km*
ISC 19 17:33:51.7±0.3, 38.°25N±0.°03×75.°20E±0.°04, h100km, n263, σ1**§66**/256, **mb4.4**/67, **12C-16D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.40**	**25**	P	**Pn**	**17 34 14.5**	**-2.4**
KSH				S	**Sn**	**17 34 29.6**	**-6.3**
KSH				smax	smax		
	comp=N,14μm,0.7s						
KSH				smax	smax		
	comp=E,10μm,0.6s						
DRK	**Karamyk**	**2.92**	**296**		**Pn**	**17 34 38.0**	**+1.3**
DRK	**Karamyk**	**2.92**	**296**	PN	**Pn**	**17 34 38.0**	**+1.3**
OHH	**Osh**	**2.94**	**321**	PN	**Pn**	**17 34 38.5**	**+1.8**
ARLS	**Aral**	**3.67**	**350**	PN	**Pn**	**17 34 47.7**	**+1.2**
BTK	**Batken**	**3.85**	**299**	Pn	**Pn**	**17 34 50.0**	**+1.0**
BTK	**Batken**	**3.85**	**299**	PN	**Pn**	**17 34 50.0**	**+1.0**
GAR	**Garm**	**3.90**	**283**		**Pn**	**17 34 49.7**	**+0.2**
UCH	**Uchtor**	**4.01**	**353**	P	**Pn**	**17 34 53.1**	**+1.8**
SNR=5.7							
TARG	**Taragay, Kyrgy**	**4.01**	**29**		**Pn**	**17 34 52.8**	**+1.5**
TARG	**Taragay, Kyrgy**	**4.01**	**29**	PN	**Pn**	**17 34 52.8**	**+1.5**
AML	**Almayashu**	**4.04**	**344**	P	**Pn**	**17 34 53.1**	**+1.3**
SNR=55							
ULHL	**Ulahol**	**4.07**	**11**	P	**Pn**	**17 34 54.1**	**+2.2**
SNR=27							
SRNI	**Srinagar**	**4.15**	**184**	*eP*	**Pn**	**17 34 56.7**	**+3.8**
SRNI				*eS*	**Sn**	**17 35 42.7**	**+2.3**
SRNI				IAML		17 35 46.8	
	comp=N,958nm,0.2s						
SRNI				IAML		17 35 46.8	
	comp=E,340nm,0.2s						
KDJ	**Kajisay**	**4.16**	**21**	Pn	**Pn**	**17 34 54.9**	**+1.8**
KDJ	**Kajisay**	**4.16**	**21**	PN	**Pn**	**17 34 54.9**	**+1.8**
BOOM	**Boomskoye usch**	**4.27**	**7**		**Pn**	**17 34 55.0**	**+0.3**
BOOM	**Boomskoye usch**	**4.27**	**7**	PN	**Pn**	**17 34 55.0**	**+0.3**
WUS	**Wushi**	**4.27**	**45**	Pn	**Pn**	**17 34 55.9**	**+1.2**
ARK	**Arkit**	**4.33**	**326**	PN	**Pn**	**17 34 56.3**	**+1.0**
KBK	**Karagaybulak**	**4.40**	**358**	P	**Pn**	**17 34 58.8**	**+2.3**
SNR=13							
AAK	**Ala-Archa**	**4.41**	**353**		**Pn**	**17 34 57.9**	**+1.3**
AAK	**Ala-Archa**	**4.41**	**353**	P	**Pn**	**17 34 58.8**	**+2.2**
	comp=E,11nm,0.4s,baz=159,slow=7.5,SNR=38						
AAK				S	**Sn**	**17 35 46.8**	**-0.1**
	comp=E,56nm,0.4s,baz=180,slow=12,SNR=9.2						
AAK	**Ala-Archa**	**4.41**	**353**	P	**Pn**	**17 34 58.7**	**+2.1**
SNR=20							
AAK	**Ala-Archa**	**4.41**	**353**	⇑Pn	**Pn**	**17 34 58.7**	**+2.1**
	comp=E,18nm,0.6s						
AAK				⇓Sn	**Sn**	**17 35 42.2**	**-4.8**
	comp=E,38nm,0.5s						
TRKS	**Terek-Say**	**4.52**	**318**	PN	**Pn**	**17 34 57.5**	**-0.6**
EKS2	**Erkin-Say**	**4.54**	**347**	P	**Pn**	**17 35 00.0**	**+1.8**
SNR=15							
FRU1	**Bishkek**	**4.57**	**355**		**Pn**	**17 34 58.5**	**-0.1**
FRU1	**Bishkek**	**4.57**	**355**	PN	**Pn**	**17 34 58.5**	**-0.1**
TKM2	**Tokmak 2**	**4.67**	**4**	P	**Pn**	**17 35 02.4**	**+2.3**
SNR=23							
CHGR	**Chuyangaron**	**4.76**	**277**	Pn	**Pn**	**17 35 00.7**	**-0.5**
CHGR	**Chuyangaron**	**4.76**	**277**	PN	**Pn**	**17 35 00.7**	**-0.5**
KST	**Kastek**	**4.82**	**7**	Pg	Pn	17 35 16.3	+14
	comp=E,9.8nm,0.6s						
KST				Lg	Lg	17 36 11.0	
	comp=E,82nm,0.9s						
KST	**Kastek**	**4.82**	**7**	*eP*	Pn	17 35 13.4	+11
	comp=E,9.8nm,0.6s						
KST				*eS*	Sn	17 36 06.1	+9.3
	comp=E,82nm,0.9s						
NIL	**Nilore**	**4.86**	**200**	Pn	**Pn**	**17 35 06.0**	**+3.5**
NIL	**Nilore**	**4.86**	**200**	PN	**Pn**	**17 35 06.0**	**+3.5**
SIMJ	**Simiganj**	**4.88**	**277**	Pn	**Pn**	**17 35 02.3**	**-0.5**
MTBS	**Maitube**	**4.96**	**10**	Pg	Pn	17 35 18.8	+15
	comp=E,14nm,0.6s						
MTBS				Lg	Lg	17 36 15.0	
	comp=E,72nm,0.8s						
MTBS	**Maitube**	**4.96**	**10**	*eP*	Pn	17 35 18.8	+15
	comp=E,14nm,0.6s						
MTBS				*eS*	Sn	17 36 15.1	+15
	comp=E,72nm,0.8s						
TNSS	**Tian-Shan**	**4.96**	**15**	Pg	Pn	17 35 19.9	+16
	comp=E,23nm,0.8s						
TNSS				Lg	Lg	17 36 17.6	
	comp=E,41nm,0.9s						
TNSS	**Tian-Shan**	**4.96**	**15**	*eP*	Pn	17 35 19.9	+16
	comp=E,23nm,0.8s						
TNSS				*eS*	Sn	17 36 17.6	+17
	comp=E,41nm,0.9s						
DGS	**Degeres**	**5.00**	**5**	Pg	Pn	17 35 21.7	+17
	comp=E,17nm,0.7s						
DGS				Lg	Lg	17 36 20.5	
	comp=E,87nm,0.7s						
DZET	**Dzherino**	**5.03**	**278**	PN	**Pn**	**17 35 04.4**	**-0.4**
MDOK	**Medeo**	**5.10**	**15**	Pn	**Pn**	**17 35 06.9**	**+1.0**
	comp=E,29nm,0.9s						
MDOK				Pg		17 35 20.8	
	comp=E,22nm,0.8s						
MDOK				⇑Lg	Lg	17 36 18.6	
	comp=E,75nm,0.7s						
MDOK				Lg	Lg	17 36 18.9	
	comp=E,68nm,0.7s						
MDOK	**Medeo**	**5.10**	**15**	PN	**Pn**	**17 35 06.9**	**+1.0**
MDOK	**Medeo**	**5.10**	**15**	*eP*	Pn	17 35 20.8	+15
	comp=E,22nm,0.8s						
MDOK				*eS*	Sn	17 36 18.9	+15
	comp=E,68nm,0.7s						
KOTS	**Kotyrbulak**	**5.18**	**16**	Pg	Pn	17 35 23.2	+16
	comp=E,21nm,0.5s						
KOTS				Lg	Lg	17 36 23.2	
	comp=E,177nm,0.7s						
KOTS	**Kotyrbulak**	**5.18**	**16**	*eP*	Pn	17 35 23.2	+16
	comp=E,21nm,0.5s						
KOTS				*eS*	Sn	17 36 23.2	+18
	comp=E,177nm,0.7s						
SATY	**Saty**	**5.38**	**26**	Pg	Pn	17 35 25.2	+16
	comp=E,116nm,1.2s						
KRBS	**Karabastau**	**5.45**	**4**	Pg	Pn	17 35 28.2	+18
	comp=E,15nm,0.5s						
KRBS				Lg	Lg	17 36 31.9	
	comp=E,45nm,0.8s						
JMU	**Jammu**	**5.53**	**183**	*eP*	**Pn**	**17 35 13.1**	**+1.6**
JMU				*eS*	**Sn**	**17 36 14.4**	**+0.6**
JMU				IAML		17 36 15.1	
	comp=N,200nm,0.3s						
JMU				IAML		17 36 15.3	
	comp=E,251nm,0.2s						
KTBS	**Karatobe**	**5.57**	**11**	Pg	Pn	17 35 28.8	+17
	comp=E,16nm,0.6s						
KTBS				Lg	Lg	17 36 33.0	
	comp=E,61nm,1.1s						
UZB	**Uzynbulak**	**5.69**	**29**	Pg	Pn	17 35 29.7	+16
	comp=E,54nm,1.0s						
UZB				Lg	Lg	17 36 34.9	
	comp=E,75nm,1.2s						
UZB	**Uzynbulak**	**5.69**	**29**	*eP*	Pn	17 35 29.8	+16
	comp=E,54nm,1.0s						
UZB				*eS*	Sn	17 36 34.9	+17
	comp=E,75nm,1.2s						
KURS	**Kuram**	**5.70**	**22**	Pg	Pn	17 35 30.6	+17
	comp=E,32nm,1.2s						
KURS				Lg	Lg	17 36 36.1	
	comp=E,59nm,1.3s						
KPKS	**Kokpek**	**5.84**	**26**	Pg	Pn	17 35 32.3	+17
	comp=E,51nm,0.9s						
KPKS				Lg	Lg	17 36 39.2	
	comp=E,87nm,1.1s						
KPKS	**Kokpek**	**5.84**	**26**	*eP*	Pn	17 35 21.7	+5.9
	comp=E,17nm,0.7s						
KPKS				*eS*	**Sn**	**17 36 20.5**	**-0.9**
	comp=E,87nm,0.7s						
KPKS	**Kokpek**	**5.84**	**26**	*eP*	Pn	17 35 32.3	+17
	comp=E,51nm,0.9s						
KPKS				*eS*	Sn	17 36 39.2	+18
	comp=E,87nm,1.1s						
SHLS	**Shalkode**	**5.87**	**32**	Pg	Pn	17 35 34.5	+18
	comp=E,64nm,0.7s						
SHLS				Lg	Lg	17 36 42.6	
	comp=E,71nm,0.8s						
SHLS	**Shalkode**	**5.87**	**32**	*eP*	Pn	17 35 34.5	+18
	comp=E,64nm,0.7s						
SHLS				*eS*	Sn	17 36 42.6	+20
	comp=E,71nm,0.8s						
KK31	**Karatay Array**	**6.01**	**325**		**Pn**	**17 35 18.4**	**+0.3**
KK31	**Karatay Array**	**6.01**	**325**	⇓Pn	**Pn**	**17 35 21.5**	**+3.4**
	comp=E,6.3nm,0.3s,baz=140,slow=12,SNR=54						
KK31				⇓Sn	**Sn**	**17 36 23.7**	**-1.9**
	comp=E,18nm,0.3s,baz=163,slow=27,SNR=10						
KK31	**Karatay Array**	**6.01**	**325**	PN	**Pn**	**17 35 18.4**	**+0.3**
KKAR	**Karatay Array**	**6.01**	**325**		**Pn**	**17 35 18.6**	**+0.5**
KKAR	**Karatay Array**	**6.01**	**325**		**Pn**	**17 35 18.1**	**0.0**
KKAR	**Karatay Array**	**6.01**	**325**	PN	**Pn**	**17 35 18.1**	**0.0**
PDGK	**Podgornoye**	**6.03**	**31**	⇑Pn	**Pn**	**17 35 19.3**	**+0.9**
	comp=E,58nm,0.6s						
PDGK				⇑Sn	**Sn**	**17 36 25.0**	**-1.0**
	comp=E,248nm,0.9s						
PDGK	**Podgornoye**	**6.03**	**31**	PN	**Pn**	**17 35 19.3**	**+0.9**
DHRM	**DHARAMSHALA**	**6.05**	**171**	*eP*	**Pn**	**17 35 20.6**	**+1.6**
DHRM				*eS*	**Sn**	**17 36 28.5**	**+1.5**
DHRM				IAML		17 36 29.2	
	comp=N,243nm,0.3s						
DHRM				IAML		17 36 29.2	
	comp=E,378nm,0.3s						
KBL	**Kabul**	**6.19**	**235**		**Pn**	**17 35 22.0**	**+1.2**
KBL	**Kabul**	**6.19**	**235**	PN	**Pn**	**17 35 22.0**	**+1.2**
ARXS	**Arharly**	**6.28**	**18**	Pg	Pn	17 35 41.7	+20
	comp=E,0.9nm,0.1s						
ARXS				Lg	Lg	17 36 55.1	
	comp=E,43nm,0.6s						
BLB	**Baldybastay**	**6.34**	**22**	Pg	Pn	17 35 41.2	+18
	comp=E,57nm,0.6s						
BLB				Lg	Lg	17 36 54.2	
	comp=E,92nm,1.0s						
KNOS	**Konyrlen**	**6.80**	**25**	Pg	Pn	17 35 49.7	+21
	comp=E,16nm,0.8s						
BTLS	**Baital**	**6.84**	**353**	*eP*	Pn	17 35 58.3	+29
	comp=E,1.8nm,0.6s						
BTLS				*eS*	Sn	17 37 23.8	+38
	comp=E,18nm,0.8s						
BHK	**Bhakra**	**6.89**	**171**	*eP*	**Pn**	**17 35 31.5**	**+1.4**
BHK				*eS*	**Sn**	**17 36 45.1**	**-2.0**
BHK				IAML		17 36 46.6	
	comp=E,468nm,0.2s						
BHK				IAML		17 36 46.8	
	comp=N,330nm,0.3s						
DJR	**Jarkent**	**6.99**	**28**	Pg	Pn	17 35 52.9	+21
	comp=N,11nm,1.2s						
DJR	**Jarkent**	**6.99**	**28**	*eP*	Pn	17 35 52.9	+21
	comp=N,11nm,1.2s						
DJR				*eS*	Sn	17 37 14.1	+25
	comp=N,21nm,1.0s						
SMLA	**Simla**	**7.29**	**167**	*eP*	Pn	17 35 40.8	+5.3
SMLA				*eS*	**Sn**	**17 36 55.0**	**-1.7**
SMLA				IAML		17 36 55.3	
	comp=E,286nm,0.2s						
SMLA				IAML		17 36 55.7	
	comp=N,275nm,0.3s						
KAPS	**Kapalarasan**	**7.68**	**23**	Pg	Pn	17 36 08.1	+27
	comp=N,11nm,0.7s						
SRGN	**SRI GANGA NAGA**	**8.38**	**188**	*eP*	Pn	17 35 56.0	+5.6
SRGN				*eS*	**Sn**	**17 37 18.3**	**-4.9**
PTH	**Pithoragarh**	**9.63**	**153**	*eP*	**Pn**	**17 36 10.3**	**+2.9**
PTH				*eS*	**Sn**	**17 37 48.4**	**-5.4**
PTH				IAML		17 37 49.4	
	comp=E,80nm,0.2s						
PTH				IAML		17 37 49.8	
	comp=N,121nm,0.2s						
LGTI	**Lohaghat**	**9.73**	**153**	*eP*	**Pn**	**17 36 10.3**	**+1.7**
LGTI				*eS*	**Sn**	**17 37 50.5**	**-5.5**
LGTI				IAML		17 37 51.9	
	comp=N,212nm,0.3s						
LGTI				IAML		17 37 52.0	
	comp=E,124nm,0.2s						
NPLP	**NPLP New Delhi**	**9.73**	**170**	*eP*	**Pn**	**17 36 08.4**	**-0.3**
NPLP				*eS*	Sn	17 37 47.9	-8.2
NPLP				IAML		17 37 52.3	
	comp=N,147nm,0.2s						
NPLP				IAML		17 37 52.3	
	comp=E,195nm,0.2s						
MAKZ	**Makanchi**	**9.90**	**28**	Pn	**Pn**	**17 36 10.8**	**-0.1**
MAKZ	**Makanchi**	**9.90**	**28**	P	**Pn**	**17 36 10.8**	**-0.1**
MK31	**Makanchi Array**	**10.01**	**29**	Pn	**Pn**	**17 36 12.7**	**+0.3**
MK31	**Makanchi Array**	**10.01**	**29**	*dP*	**Pn**	**17 36 12.9**	**+0.5**
MKAR	**Makanchi Array**	**10.01**	**29**	Pn	**Pn**	**17 36 12.3**	**-0.1**
MKAR	**Makanchi Array**	**10.01**	**29**	P	**Pn**	**17 36 13.1**	**+0.7**
	comp=E,3.5nm,0.5s,baz=204,slow=14,SNR=71						
SONA	**Sohna**	**10.10**	**170**	*eP*	**Pn**	**17 36 16.4**	**+2.8**
SONA				*eS*	Sn	17 37 58.6	-6.4
SONA				IAML		17 37 59.5	
	comp=N,216nm,0.2s						
KUDL	**Kundal**	**10.14**	**174**	*eP*	**Pn**	**17 36 16.4**	**+2.2**
KUDL				⇑*eS*	Sn	17 38 00.7	-5.3
KUDL				IAML		17 38 01.2	
	comp=N,62nm,0.2s						
KUDL				IAML		17 38 01.2	
	comp=E,130nm,0.3s						
UGON	**Onchagaon**	**10.17**	**166**	*eP*	**Pn**	**17 36 16.4**	**+1.8**
UGON				*eS*	**Sn**	**17 38 02.7**	**-4.1**
UGON				IAML		17 38 03.8	
	comp=E,177nm,0.3s						
UGON				IAML		17 38 04.1	
	comp=N,252nm,0.2s						
BKNR	**BIKANER**	**10.33**	**190**	*eP*	**Pn**	**17 36 16.4**	**-0.4**
BKNR				*eS*	Sn	17 38 04.1	-6.6
BKNR				IAML		17 38 04.5	
	comp=E,176nm,0.2s						
BKNR				IAML		17 38 04.6	
	comp=N,277nm,0.3s						
HRA	**Herat**	**11.14**	**254**	Pn	**Pn**	**17 36 27.7**	**-0.3**
AJM	**Ajmer**	**11.75**	**182**	*eP*	Pn	17 36 41.0	+4.9
AJM				*eS*	Sn	17 38 39.5	-5.7
AJM				IAML		17 38 40.2	
	comp=N,145nm,0.2s						
AJM				IAML		17 38 40.4	
	comp=E,126nm,0.3s				

BVA0 Borovoye Array 15.15 349 P **P 17 37 22.7 -0.1**
comp=E,14nm,0.8s,baz=158,slow=11,SNR=57
BVAR Borovoye Array 15.15 349 P **Pn 17 37 19.3 -0.8**
comp=E,4.5nm,0.6s,baz=163,slow=10,SNR=11
BRVK Borovoye 15.20 349 Pn **Pn 17 37 19.5 -1.2**
BRVK IAmb IAmb 17 37 25.7
comp=Z,22nm,0.9s
BRVK Borovoye 15.20 349⇓ *e*P **P 17 37 23.6 +0.2**
BRVK pmax pmax
comp=Z,33nm,1.3s
AB31 Akbulak array 15.54 320 ⇓P **Pn 17 37 23.6 -1.4**
comp=Z,1.4nm,0.5s,baz=131,slow=13,SNR=54
AB31 Akbulak array 15.54 320 P **Pn 17 37 23.6 -1.4**
ABKAR Akbulak array 15.54 320 Pn 17 37 22.8 -2.3
ABKAR Akbulak array 15.54 320 Pn 17 37 22.6 -2.4
ABKAR IAmb IAmb 17 37 49.0
comp=Z,4.2nm,0.8s
LSA Lhasa 15.73 118 Pn **Pn 17 37 29.3 +1.3**
LSA Lhasa 15.73 118 P **Pn 17 37 29.3 +1.3**
LSA pmax pmax
comp=Z,3.0nm,0.8s
GOMU GeErMu 15.76 91 P **P 17 37 31.1 +0.9**
ZAA0 Zalesovo Array 17.03 20 Pn 17 37 41.4 -2.0
ZALV Zalesovo Beam 17.03 20 P **Pn 17 37 42.4 -1.0**
comp=Z,3.0nm,0.5s,baz=209,slow=11,SNR=18
ZALV Zalesovo Beam 17.03 20 *i* P **Pn 17 37 42.0 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 17.25 320 P **Pn 17 37 45.5 -0.7**
comp=Z,1.2nm,0.3s,baz=124,slow=14,SNR=8.7
AKTO Aktyubinsk 17.25 320 ⇑P **Pn 17 37 45.6 -0.5**
comp=Z,3.4nm,0.7s
GTA Gaotai 19.20 79 *e*P **Pn 17 38 10.1 +0.4**
GTA pP pP 17 38 33.4 +6.4
GTA pmax pmax
comp=Z,2.0nm,1.1s
WSAR Wadi Sarin 20.61 228 P **P 17 38 23.4 +0.5**
comp=Z,6.0nm,0.7s,baz=84,slow=4.1,SNR=6.8
comp=Z,6.0nm,0.7s
UOSS Minazif 20.87 236 P **P 17 38 25.0 -0.7**
SVE Sverdlovsk 20.94 337 *e*P **P 17 38 27.0 +0.8**
ARTI Arti 21.32 334 P **P 17 38 28.4 -1.8**
ARTI Arti 21.32 334 P **P 17 38 29.9 -0.4**
comp=Z,7.7nm,0.8s,baz=139,slow=5.2,SNR=12
comp=Z,7.7nm,0.8s
ARTI Arti 21.32 334 *d i*P **P 17 38 30.6 +0.3**
ARTI 17 39 03.2
ARTI S **S 17 42 20.2 -1.0**
ARTI SS **SnSn 17 43 01.0 +8.2**
ARTI pmax pmax
comp=Z,24nm,1.8s
GNI Garni 23.63 284 P **P 17 38 52.5 -1.3**
GNI IAmb IAmb 17 39 02.6
comp=Z,10nm,0.9s
GNI Garni 23.63 284 LR LR 17 50 54.1
comp=Z,7.0nm,20.4s,baz=86,slow=43
GNI Garni 23.63 284 P **P 17 38 52.5 -1.3**
GNI pmax pmax
comp=Z,10.0nm,1.0s
TNCH TengChong 23.75 117 *e*P **P 17 38 57.0 +1.9**
TNCH pP pP 17 39 20.3 +3.2
TNCH pmax pmax
comp=Z,20nm,0.4s
BELG Belogornoye 23.81 315 P **P 17 38 54.6 -0.5**
comp=Z,8.3nm,0.8s,baz=57,slow=5.6,SNR=4.7
comp=Z,8.3nm,0.8s
BELG Belogornoye 23.81 315⇑ *e*P **P 17 38 54.9 -0.2**
BELG pmax pmax
comp=Z,3.0nm,1.5s
NCK Nalchik 24.38 292⇑ *e*P **P 17 39 03.8 +3.4**
NCK pmax pmax
comp=Z,4.0nm,0.2s
SONM Songino Array 24.58 57 P **P 17 38 60.0 -2.4**
SONM Songino Array 24.58 57 P **P 17 39 02.8 +0.4**
comp=Z,1.8nm,0.7s,baz=252,slow=10,SNR=13
comp=Z,1.8nm,0.7s
SONM Songino Array 24.58 57 *e*P **P 17 39 03.7 +1.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 24.89 293 P **P 17 39 05.0 0.0**
comp=Z,2.4nm,1.1s,baz=99,slow=13,SNR=2.1
comp=Z,2.4nm,1.1s
ULN Ulaanbaatar 25.02 57 P **P 17 39 05.2 -1.2**
ULN Ulaanbaatar 25.02 57⇓ *i*P **P 17 39 07.4 +1.0**
ULN pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 25.05 294 P **P 17 39 03.8 -2.8**
KIV IAmb IAmb 17 39 32.3
comp=Z,8.8nm,0.6s
PZH PanZhiHua 25.20 110 P **P 17 39 09.1 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
GURO Guroymak-BITLI 25.92 281 P **P 17 39 12.4 -2.2**
KIRV Kirov 26.29 329⇓ *e*P **P 17 39 18.1 +0.6**
CMAR Chiang Mai Arr 28.59 127 P **P 17 39 39.1 +0.7**
comp=Z,0.6nm,0.9s,baz=311,slow=10,SNR=4.8
comp=Z,0.6nm,0.9s
PHRA Phrae 29.38 125 P **P 17 39 44.8 -0.6**
OBN Obninsk 30.91 316⇓ *e*P **P 17 39 58.8 +0.3**
OBN *e**PP **pP 17 40 26.1 +3.8**
OBN *e**SP **sP 17 40 38.9 +4.4**
OBN *e* 17 41 04.7
OBN *e* 17 42 48.5
OBN pmax pmax
comp=Z,78nm,3.9s
KLMR Klimovskoe 31.71 327 *e*P **P 17 40 03.2 -2.4**
KLMR pmax pmax
comp=Z,30nm,2.0s
NRIK Noril'sk 31.86 8 P **P 17 40 05.3 -1.4**
NRIK IAmb IAmb 17 40 08.4
comp=Z,8.3nm,0.9s
NRIK Noril'sk 31.86 8 P **P 17 40 06.5 -0.2**
comp=Z,5.6nm,0.8s,baz=184,slow=6.9,SNR=13
comp=Z,5.6nm,0.8s
NRIK Noril'sk 31.86 8⇓ *i*P **P 17 40 06.8 +0.1**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 32.13 286 P **P 17 40 07.6 -2.1**
BR131 Keskin Array S 32.13 286⇓ *e*P **P 17 40 09.6 -0.1**
BRTR Keskin Array B 32.13 286 P **P 17 40 08.2 -1.5**
BRTR Keskin Array B 32.13 286 P **P 17 40 10.1 +0.4**
comp=Z,0.9nm,0.8s,baz=83,slow=7.1,SNR=6.4
BRTR LR LR 17 56 43.9
comp=Z,54nm,18.0s,baz=108,slow=43
comp=Z,0.9nm,0.8s
GHAJ Ghor Haditha 33.09 270 P **P 17 40 17.3 -0.6**
GHAJ IAmb IAmb 17 40 22.8
comp=Z,11nm,1.2s
CSS Mathiatis 33.57 277 P **P 17 40 19.3 -2.8**
AKASG Malin Array Be 34.54 306 P **P 17 40 30.2 -0.1**
comp=Z,0.3nm,0.3s,baz=80,slow=7.9,SNR=6.8
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 34.54 306 P **P 17 40 29.3 -1.0**
AKBB Malin Array Si 34.54 306⇓ *e*P **P 17 40 30.3 +0.1**
AKBB pmax pmax
comp=Z,37nm,2.8s
AK05 Malin Array Si 34.55 306 P **P 17 40 29.7 -0.6**
AK05 IAmb IAmb 17 40 45.3
comp=Z,12nm,1.4s
KIEV Kiev 34.55 306 P **P 17 40 29.3 -1.0**
KIEV Kiev 34.55 306 P **P 17 40 29.3 -1.0**
KIEV pmax pmax
comp=Z,2.0nm,0.7s
MNK Minsk 35.70 313 *i* P **P 17 40 39.0 -1.2**
comp=E,11nm,0.9s
MNK *i* P **P 17 40 39.0 -1.2**
comp=N,18nm,0.9s
MNK *i* P **P 17 40 39.0 -1.2**
comp=Z,20nm,0.7s,baz=97
MNK *i* pP **pP 17 41 04.9 +0.6**
MNK *i* PP **PP 17 42 00.2 -2.7**
MNK *i* S **S 17 46 07.5 -1.8**
MNK *i* sS **sS 17 46 54.0 +3.0**
MNK *i* SS **SnSn 17 48 44.3 +3.1**
MNK *i* LRM MLR 17 56 50.7
comp=Z,55nm,13.2s
MNK *i* LRM MLR 17 56 56.9
comp=N,110nm,17.8s
MNK *i* LRM MLR 17 57 28.5
comp=E,107nm,16.0s
MNK Minsk 35.70 313 *i* P **P 17 40 38.9 -1.2**
MNK *i* *PP **pP 17 41 04.9 +0.6**
MNK *i* 17 42 00.2
MNK *i* S **S 17 46 07.4 -1.8**
MNK *i* *SS **sS 17 46 53.9 +3.0**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,20nm,0.7s
MNK MLR MLR
comp=Z,55nm,13.0s
MNK MLR MLR
comp=N,110nm,18.0s
MNK MLR MLR
comp=E,107nm,16.0s
NACGM Naroch 36.38 313 *e*P **P 17 40 45.1 -0.8**
baz=97
SRIT Nakonsritamara 36.81 137 P **P 17 40 51.1 +1.0**
SRIT IAmb IAmb 17 40 58.0
comp=Z,15nm,1.2s
MLR Muntele Rosu 36.90 297 P **P 17 40 49.1 -1.6**
MLR IAmb IAmb 17 41 25.2
comp=Z,12nm,1.5s
MLR Muntele Rosu 36.90 297 P **P 17 40 51.6 +0.9**
comp=Z,3.0nm,0.8s,baz=101,slow=14,SNR=4.8
comp=Z,3.0nm,0.8s
LVZ Lovozero 37.15 336 P **P 17 40 51.5 -0.9**
LVZ Lovozero 37.15 336 P **P 17 40 51.5 -0.9**
LVZ pmax pmax
comp=Z,72nm,1.4s
BURAR Bucovina Array 37.20 301 P **P 17 40 51.7 -1.5**
BUR08 Bucovina Ar. S 37.21 301 P **P 17 40 51.6 -1.6**
ARG Arkhangelos 37.22 282 P **P 17 40 53.1 -0.3**
ARG Arkhangelos 37.22 282 P **P 17 40 53.1 -0.3**
ARG pmax pmax
comp=Z,21nm,1.1s
FIA1 FINESS Array S 37.97 324 P **P 17 40 59.4 +0.1**
FINES FINESS Array B 37.97 324 P **P 17 40 59.6 +0.3**
comp=Z,3.6nm,0.3s,baz=113,slow=9.6,SNR=37
comp=Z,3.6nm,0.3s
PABE Paberze 38.05 314 P **P 17 40 59.9 -0.1**
ZEA Zeya 38.41 49⇑ *e*P **P 17 41 05.2 +2.1**
OJC Ojcow 40.56 306 P **P 17 41 20.9 -0.2**
OJC IAmb IAmb 17 41 22.9
comp=Z,12nm,1.4s
OJC Ojcow 40.56 306 P **P 17 41 20.9 -0.2**
OJC pmax pmax
comp=Z,12nm,1.4s
YAK Yakutsk 40.59 36 LR LR 17 57 58.0
comp=Z,60nm,19.0s,baz=112,slow=36
ARCES ARCESS Array B 40.86 336 P **P 17 41 23.8 +0.5**
comp=Z,4.1nm,0.6s,baz=109,slow=9.3,SNR=27
comp=Z,4.1nm,0.6s
ARCES ARCESS Array B 40.86 336 P **P 17 41 23.5 +0.2**
ARCES pmax pmax
comp=Z,38nm,1.5s
PUK Puka 41.83 293 P **P 17 41 31.4 -0.2**
PUK IAmb IAmb 17 41 33.1
comp=Z,6.2nm,1.2s
MORC Moravsky Berou 42.05 305 P **P 17 41 33.5 +0.2**
MORC IAmb IAmb 17 41 42.3
comp=Z,8.2nm,1.4s
MORC Moravsky Berou 42.05 305 P **P 17 41 33.5 +0.2**
MORC pmax pmax
comp=Z,8.0nm,1.4s
GSI Gunungsitoli 42.12 145 P **P 17 41 34.7 +0.6**
GSI IAmb IAmb 17 42 10.4
comp=Z,17nm,1.2s
TIXI Tiksi 42.90 22 P **P 17 41 39.4 -0.4**
TIXI IAmb IAmb 17 41 40.4
comp=Z,4.8nm,1.1s
TIXI Tiksi 42.90 22⇓ *e*P **P 17 41 39.2 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
HFS Hagfors 43.80 321 P **P 17 41 47.7 +0.6**
comp=Z,4.5nm,0.6s,baz=88,slow=10,SNR=15
comp=Z,4.5nm,0.6s
GEC2 GERESS Array S 44.68 304 P **P 17 41 54.0 -0.4**
GERES GERESS Array B 44.68 304 P **P 17 41 54.5 0.0**
GERES GERESS Array B 44.68 304 P **P 17 41 55.3 +0.8**
comp=Z,1.6nm,0.9s,baz=131,slow=12,SNR=5.6
comp=Z,1.6nm,0.9s
KHC Kasperske Hory 44.71 305⇓ *e*P **P 17 41 53.8 -0.8**
KHC pmax pmax
comp=Z,35nm,3.9s
NC405 NORSAR Array S 44.79 322 P **P 17 41 55.0 -0.1**
NC602 NORSAR Array S 44.88 321 P **P 17 41 54.6 -1.1**
NORES NORESS Array B 44.88 321 P **P 17 41 55.3 -0.4**
TIP Timpagrande 44.91 290 P **P 17 41 56.4 -0.1**
TIP IAmb IAmb 17 42 36.2
comp=Z,9.3nm,1.4s
NB201 NORSAR Array S 45.00 322 P **P 17 41 56.4 -0.3**
NB2 NORSAR Subarra 45.04 322 P **P 17 41 56.7 -0.4**
comp=Z,12nm,1.0s,baz=91,slow=7.9
NOA NORSAR Array B 45.04 322 P **P 17 41 56.6 -0.5**
comp=Z,2.1nm,0.7s,baz=91,slow=7.7,SNR=7.7
comp=Z,2.1nm,0.7s
NBO00 NORSAR Array S 45.25 322 P **P 17 41 58.5 -0.2**
NC204 NORSAR Array S 45.26 322 P **P 17 41 58.0 -0.8**
NC204 IAmb IAmb 17 42 31.3
comp=Z,19nm,1.4s
FDMO Fiordimonte 46.43 297 P **P 17 42 08.6 +0.3**
FDMO IAmb IAmb 17 42 09.7
comp=Z,4.0nm,0.8s
NRCA Norcia 46.47 296 P **P 17 42 08.5 -0.1**
NRCA IAmb IAmb 17 42 15.0
comp=Z,3.6nm,0.7s
SPB2 Spitsbergen Ar 46.58 346 P **P 17 42 08.7 -0.2**
SPB1 Spitsbergen Ar 46.58 346 P **P 17 42 09.2 +0.3**
SPITS Spitsbergen Ar 46.58 346 P **P 17 42 09.8 +0.8**
comp=Z,1.0nm,0.3s,baz=119,slow=12,SNR=32
comp=Z,1.0nm,0.3s
SPB3 Spitsbergen Ar 46.58 346 P **P 17 42 09.5 +0.6**
FUORN Ofenpass-Fuorn 47.42 302 P **P 17 42 16.0 -0.2**
KBS Kingsbay 47.67 346 P **P 17 42 17.8 +0.5**
KBS Kingsbay 47.67 346 P **P 17 42 17.8 +0.5**
KBS pmax pmax
comp=Z,22nm,1.1s
YSS Yuzhno-Sakhali 49.07 57 P **P 17 42 28.6 +0.1**
YSS Yuzhno-Sakhali 49.07 57 *ce*P **P 17 42 29.0 +0.4**
YSS pmax pmax
comp=Z,14nm,1.6s
MA2 Magadan 50.91 39 P **P 17 42 42.6 +0.4**
comp=Z,0.6nm,0.2s,baz=314,slow=6.8,SNR=4.0
comp=Z,0.6nm,0.2s
SEY Seymchan 51.09 35 P **P 17 42 43.8 +0.2**
comp=Z,0.8nm,0.7s,baz=279,slow=12,SNR=5.3
comp=Z,0.8nm,0.7s
SEY Seymchan 51.09 35⇑ *e*P **P 17 42 43.9 +0.4**
SEY pmax pmax
comp=Z,7.0nm,2.2s
EKA Eskdalemuir Ar 53.36 316 P **P 17 43 00.3 -0.2**
comp=Z,6.2nm,0.9s,baz=91,slow=7.9,SNR=9.6
comp=Z,6.2nm,0.9s
DAG Danmarks Havn 54.00 344 P **P 17 43 05.1 +0.3**
BILL Bilibino 55.55 27⇑ *e*P **P 17 43 17.4 +1.3**
BILL pmax pmax
comp=Z,14nm,3.7s
ESDC Sonseca Array 59.58 298 P **P 17 43 44.7 -0.3**
comp=Z,0.4nm,0.4s,baz=56,slow=7.0,SNR=3.0
comp=Z,0.4nm,0.4s
SUMG Summit 60.48 342 P **P 17 43 50.7 -0.2**
SUMG IAmb IAmb 17 44 31.5
comp=Z,3.6nm,1.2s
SUMG Summit 60.48 342 P **P 17 43 50.7 -0.2**
SUMG pmax pmax
comp=Z,4.0nm,1.2s
EUNU Eureka 61.49 356 P **P 17 43 58.1 +0.8**
EUNU IAmb IAmb 17 44 03.8
comp=Z,5.7nm,1.4s
OPO Ambohidratompo 62.34 210 LR LR 18 07 54.7
comp=Z,359nm,21.1s,baz=210,slow=33
MDT Midelt 63.27 292 LR LR 18 16 04.1
comp=Z,64nm,18.5s,baz=170,slow=40
C16K Lisburne Hills 64.65 21 P **P 17 44 17.9 -0.3**
C16K IAmb IAmb 17 44 51.2
comp=Z,8.9nm,1.4s
C18K Utukok River 65.53 20 P **P 17 44 23.5 -0.5**
C18K IAmb IAmb 17 45 01.5
comp=Z,5.0nm,1.4s
D19K Kuna River 66.44 19 P **P 17 44 29.4 -0.4**
D19K IAmb IAmb 17 44 30.8
comp=Z,4.9nm,1.0s
B21K Ikpikpuk River 66.45 17 P **P 17 44 29.2 -0.5**
B21K IAmb IAmb 17 44 31.5
comp=Z,3.6nm,0.9s
E18K Tukpahlearik C 66.56 20 P **P 17 44 29.7 -0.8**
E18K IAmb IAmb 17 44 31.4
comp=Z,6.8nm,1.4s
F15K North Star Dit 66.56 23 P **P 17 44 30.0 -0.6**
F15K IAmb IAmb 17 44 31.8
comp=Z,4.1nm,1.1s
RES Resolute Bay 67.15 357 LR LR 18 18 11.7
comp=Z,74nm,19.1s,baz=354,slow=40
C23K Itkillik River 67.17 16 P **P 17 44 34.3 0.0**
C23K IAmb IAmb 17 44 35.8
comp=Z,7.8nm,1.1s
TOLK Toolik Lake Re 68.35 16 P **P 17 44 40.0 -1.9**
TOLK IAmb IAmb 17 44 42.7
comp=Z,3.8nm,0.8s
J14K Nanvaranak Lak 68.94 25 P **P 17 44 46.4 +1.0**
TORD Torodi Ar. Bea 69.08 270 P **P 17 44 47.5 +0.4**
comp=Z,28nm,0.3s,baz=40,slow=6.3,SNR=1.5
J16K Anvik River 69.51 24 P **P 17 44 49.1 0.0**
J16K IAmb IAmb 17 44 50.4
comp=Z,6.0nm,1.1s
L14K Kuka Creek 70.22 26 P **P 17 44 53.9 +0.6**
L14K IAmb IAmb 17 44 56.5
comp=Z,19nm,1.4s
BMAR Burnt Mountain 70.42 15 P **P 17 44 54.9 +0.3**
INK Inuvik 71.60 11 P **P 17 45 01.0 -0.6**
comp=Z,3.0nm,1.0s,baz=331,slow=7.3,SNR=6.8
comp=Z,3.0nm,1.0s
ILAR Eielson Array 72.14 18 P **P 17 45 03.9 -1.0**
ILAR Eielson Array 72.14 18 P **P 17 45 04.2 -0.8**
comp=Z,1.2nm,0.9s,baz=308,slow=5.2,SNR=12
comp=Z,1.2nm,0.9s
I30M Mount Dempster 73.95 13 P **P 17 45 15.4 -0.4**
FRB Frobisher Bay 74.34 344 LR LR 18 20 52.7
comp=Z,122nm,20.3s,baz=286,slow=38
BCAR Beaver Creek A 74.78 16 P **P 17 45 20.3 -0.2**
MORW Morawa 77.09 144 P **P 17 45 34.1 +0.1**
LBTB Lobatse 78.25 225 P **P 17 45 40.8 +0.2**
LBTB IAmb IAmb 17 45 50.0
comp=Z,13nm,1.4s
LBTB Lobatse 78.25 225 P **P 17 45 40.8 +0.2**
LBTB pmax pmax
comp=Z,13nm,1.4s
YKA Yellowknife Ar 79.29 5 P **P 17 45 43.9 -1.7**
YKA Yellowknife Ar 79.29 5 P **P 17 45 44.9 -0.8**
comp=Z,0.9nm,0.7s,baz=345,slow=5.0,SNR=16
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 79.29 5 *e*P **P 17 45 45.3 -0.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 80.16 125 P **P 17 45 49.9 -1.1**
comp=Z,1.0nm,0.8s,baz=332,slow=5.3,SNR=5.6
comp=Z,1.0nm,0.8s
WRAB Tennant Creek 80.16 125 P **P 17 45 50.4 -0.6**
WRAB IAmb IAmb 17 46 31.7
comp=Z,9.3nm,1.5s
WRAB Tennant Creek 80.16 125 P **P 17 45 50.4 -0.6**
WRAB pmax pmax
comp=Z,9.0nm,1.5s
WB2 Warramunga Arr 80.17 125 P **P 17 45 50.1 -1.0**
WB2 IAmb IAmb 17 46 16.5
comp=Z,10nm,1.4s
BOSA Boshof 81.27 223 **P 17 45 55.5 -1.4**
BOSA IAmb IAmb 17 45 57.2
comp=Z,6.0nm,1.0s
BOSA Boshof 81.27 223 P **P 17 45 55.5 -1.4**
BOSA pmax pmax
comp=Z,6.0nm,1.0s
AS31 Alice Springs 82.59 128 P **P 17 46 03.4 -0.4**
ASAR Alice Springs 82.59 128 P **P 17 46 03.0 -0.8**
ASAR Alice Springs 82.59 128 P **P 17 46 02.6 -1.2**
comp=Z,1.1nm,0.7s,baz=311,slow=5.1,SNR=18
comp=Z,1.1nm,0.7s
ASAR Alice Springs 82.59 128 P **P 17 46 03.0 -0.8**
FORT Forrest 84.54 136 P **P 17 46 13.2 -0.3**

MDD ***19*** *17:40:03.8±1.0, 36°.99N×13°.55W, h38km±73km, Mb4.3/16, M_mb3.7/19, Error ellipse: s-maj=24.3km s-min=7.0km az=69.0*
IGIL ***19*** *17:40:05.0, 36°.99N×13°.55W, h31km, ML2.5*
INMG ***19*** *17:40:06.7±1.2, 36°.98N×13°.60W, h18km, ML2.6, Error ellipse: s-maj=6.3km s-min=5.5km az=60.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Josephine*
CNRM ***19*** *17:40:16.7, 35°.93N×13°.09W, h30km*
ISC 19 17:40:03.8±3.0, 37°.13N±0°.07×13°.2W±0°.2, h10km, n65, σ2s22/108, 13C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.47**	**89**	*e*P	**Pn**	**17 40 59.2**	**+1.4**
PFVI				*e*S	**Sn**	**17 41 38.9**	**0.0**
PFVI				*i* AML	AML	17 41 41.3	
PFVI				*i* AML	AML	17 41 41.7	
PFVI				*i* AML	AML	17 41 42.1	
PFVI	**Vila Bisbo**	**3.47**	**89**	P	**Pn**	**17 40 59.1**	**+1.3**
PFVI				S	**Sn**	**17 41 38.5**	**-0.4**
PTEO	**Sao Teotonio**	**3.56**	**82**	*e*P	**Pn**	**17 41 01.1**	**+2.0**
PTEO				*e*S	**Sn**	**17 41 41.4**	**+0.1**
PTEO				*i* AML	AML	17 41 41.7	
PTEO				*i* AML	AML	17 41 43.5	
PTEO				*i* AML	AML	17 41 44.9	
PMAFR	**Mafra**	**3.56**	**58**	*e*P	**Pn**	**17 41 01.2**	**+2.1**
PMAFR				*e*S	**Sn**	**17 41 43.5**	**+2.1**
PMAFR				*i* AML	AML	17 41 51.9	
PMAFR				*i* AML	AML	17 41 52.1	
PMAFR	**Mafra**	**3.56**	**58**	P	**Pn**	**17 41 00.9**	**+1.8**
PMAFR				S	**Sn**	**17 41 42.4**	**+1.1**
MORF	**Marmelete**	**3.60**	**86**	*e*P	**Pn**	**17 41 01.1**	**+1.4**
MORF				*e*S	**Sn**	**17 41 42.1**	**-0.3**
MORF				IAML		17 41 44.1	
comp=N,18nm,0.3s							
MORF	**Marmelete**	**3.60**	**86**	*e*P	**Pn**	**17 41 01.6**	**+1.8**
MORF				*e*S	**Sn**	**17 41 42.2**	**-0.2**
MORF				*i* AML	AML	17 41 45.5	
MORF				*i* AML	AML	17 41 48.0	
MORF				*i* AML	AML	17 41 51.7	
MESJ	**Messejana**	**4.00**	**78**	*e*P	**Pn**	**17 41 06.3**	**+1.2**
MESJ				*e*S	**Sn**	**17 41 51.4**	**-0.6**
MESJ				IAML		17 41 54.5	
comp=N,6.3nm,0.2s							
MESJ	**Messejana**	**4.00**	**78**	*e*P	**Pn**	**17 41 07.1**	**+2.0**
MESJ				*e*S	**Sn**	**17 41 52.9**	**+1.0**
MESJ				*i* AML	AML	17 41 57.6	
MESJ				*i* AML	AML	17 41 59.0	
MESJ				*i* AML	AML	17 42 01.9	
PCVE	**Castro Verde**	**4.11**	**82**	*e*P	**Pn**	**17 41 08.7**	**+2.0**
PCVE				*e*S	**Sn**	**17 41 54.7**	**-0.1**
PCVE				*i* AML	AML	17 41 59.5	
PCVE				*i* AML	AML	17 42 07.7	
PCVE				*i* AML	AML	17 42 09.7	
PCVE	**Castro Verde**	**4.11**	**82**	S	**Sn**	**17 41 54.1**	**-0.7**
PCVE				P	**Pn**	**17 41 07.9**	**+1.3**
PSBE	**So Bento**	**4.18**	**54**	*e*P	**Pn**	**17 41 09.9**	**+2.4**
PBDV	**Barranco-do-Ve**	**4.18**	**87**	*e*P	**Pn**	**17 41 09.9**	**+2.2**
PBDV				*e*S	**Sn**	**17 41 58.3**	**+1.8**
PBDV				*i* AML	AML	17 42 00.4	
PBDV				*i* AML	AML	17 42 00.7	
PBDV				*i* AML	AML	17 42 03.4	
EVO	**Evora**	**4.31**	**70**	*e*S	**Sn**	**17 42 01.2**	**+1.5**
EVO				*i* AML	AML	17 42 02.8	
EVO				*i* AML	AML	17 42 04.3	
PMTG	**Montargil**	**4.35**	**62**	*e*P	**Pn**	**17 41 11.7**	**+1.8**
PMTG				*e*S	**Sn**	**17 42 00.8**	**+0.2**
PMTG				*i* AML	AML	17 42 03.6	
PMTG				*i* AML	AML	17 42 04.8	
PMTG				*i* AML	AML	17 42 07.0	
PVAQ	**Vaqueiros**	**4.35**	**85**	*e*P	**Pn**	**17 41 12.4**	**+2.4**
PVAQ				*e*S	**Sn**	**17 42 01.3**	**+0.5**
PVAQ				*i* AML	AML	17 42 06.7	
PVAQ	**Vaqueiros**	**4.35**	**85**	P	**Pn**	**17 41 11.3**	**+1.3**
PVAQ				S	**Sn**	**17 42 00.7**	**-0.1**
EGRO	**El Granado**	**4.54**	**83**	P	**Pn**	**17 41 14.1**	**+1.5**
EGRO				S	**Sn**	**17 42 05.0**	**-0.5**
EGRO	**El Granado**	**4.54**	**83**	P	**Pn**	**17 41 13.5**	**+0.9**
EGRO				⇑*i*Vmb_V		17 41 15.6	
comp=N,130nm,SNR=1.0							
EGRO				S	**Sn**	**17 42 05.3**	**-0.2**
PCAS	**Casmilo, Conde**	**4.67**	**50**	*e*P	**Pn**	**17 41 16.0**	**+1.6**
PCAS				*e*S	**Sn**	**17 42 10.3**	**+1.6**
PCAS				*i* AML	AML	17 42 13.3	
PCAS				*i* AML	AML	17 42 22.2	
PCAS				*i* AML	AML	17 42 22.4	
PESTR	**Estremoz**	**4.73**	**67**	P	**Pn**	**17 41 16.6**	**+1.4**
PESTR				S	**Sn**	**17 42 10.2**	**+0.1**
PBAR	**Barrancos**	**4.97**	**76**	*e*P	**Pn**	**17 41 21.5**	**+3.1**

PBAR					*e*S		**Sn**	**17 42 16.2**	**+0.2**
PBAR					*i* AML		AML	17 42 21.2	
PBAR					*i* AML		AML	17 42 25.0	
PBAR					*i* AML		AML	17 42 26.2	
PBAR	**Barrancos**	**4.97**	**76**	P			**Pn**	**17 41 20.3**	**+1.8**
PBAR				S			**Sn**	**17 42 15.9**	**-0.1**
PMRV	**Marv??o**	**5.09**	**61**	*e*P			**Pn**	**17 41 21.9**	**+1.8**
PMRV				*e*S			**Sn**	**17 42 19.2**	**+0.3**
PMRV				*i* AML			AML	17 42 25.6	
PMRV				*i* AML			AML	17 42 28.8	
PMRV				*i* AML			AML	17 42 30.7	
EBAD	**Badajoz**	**5.12**	**70**	P			**Pn**	**17 41 22.4**	**+1.8**
EBAD				S			**Sn**	**17 42 20.0**	**+0.2**
EBAD	**Badajoz**	**5.12**	**70**	P			**Pn**	**17 41 22.7**	**+2.1**
EBAD				⇑*i*Vmb_V				17 41 24.5	
	comp=N,100nm,SNR=1.1								
EBAD				S			**Sn**	**17 42 19.8**	**+0.1**
EMIN	**Mina Concepcio**	**5.20**	**81**	P			**Pn**	**17 41 23.5**	**+1.8**
EMIN				S			**Sn**	**17 42 20.7**	**-1.1**
EMIN	**Mina Concepcio**	**5.20**	**81**	P			**Pn**	**17 41 23.8**	**+2.1**
EMIN				⇑*i*Vmb_V				17 41 30.9	
	comp=N,90nm,SNR=1.0								
EMIN				S			**Sn**	**17 42 20.0**	**-1.7**
PCBR	**Castelo Branco**	**5.22**	**57**	*e*P			**Pn**	**17 41 24.0**	**+2.2**
PCBR				*i* AML			AML	17 42 29.9	
PVIS	**Viseu**	**5.45**	**47**	*e*S			**Sn**	**17 42 28.2**	**+0.4**
MTE	**Manteigas**	**5.47**	**52**	*e*S			**Sn**	**17 42 29.0**	**+0.7**
MTE				*i* AML			AML	17 42 31.0	
MTE				*i* AML			AML	17 42 31.3	
MTE				*i* AML			AML	17 42 31.3	
ESPR	**Espera**	**5.86**	**90**	P			**Pn**	**17 41 32.2**	**+1.6**
ESPR				S			**Sn**	**17 42 36.9**	**-0.9**
ESPR	**Espera**	**5.86**	**90**	P			**Pn**	**17 41 32.5**	**+1.9**
ESPR				⇑*i*Vmb_V				17 41 34.4	
	comp=N,133nm,SNR=1.4								
ESPR				S			**Sn**	**17 42 38.1**	**+0.3**
POLO	**Lamas de Olo**	**5.94**	**43**	*e*P			**Pn**	**17 41 33.6**	**+1.7**
POLO				*e*S			**Sn**	**17 42 38.3**	**-1.7**
POLO				*i* AML			AML	17 42 39.9	
POLO				*i* AML			AML	17 42 43.9	
POLO				*i* AML			AML	17 42 52.5	
PCAB	**Cabril**	**6.06**	**39**	*e*P			**Pn**	**17 41 35.3**	**+1.8**
PCAB				*e*S			**Sn**	**17 42 40.3**	**-2.5**
PCAB				*i* AML			AML	17 42 44.6	
PCAB				*i* AML			AML	17 42 46.5	
PCAB				*i* AML			AML	17 42 52.0	
AVE	**Averroes**	**6.07**	**127**	S			**Sn**	**17 42 37.7**	**-5.3**
PGAV	**Gavieira, Arco**	**6.13**	**37**	*e*P			**Pn**	**17 41 35.4**	**+1.0**
PGAV				*e*S			**Sn**	**17 42 41.2**	**-3.5**
PGAV				*i* AML			AML	17 42 44.3	
PGAV				*i* AML			AML	17 42 49.7	
PGAV				*i* AML			AML	17 42 50.8	
ELOB	**Lobios**	**6.16**	**38**	P			**Pn**	**17 41 36.1**	**+1.3**
ELOB				⇑*i*Vmb_V				17 41 37.3	
	comp=N,200nm,SNR=1.4								
ELOB				S			**Sn**	**17 42 42.9**	**-2.4**
ECAB	**El Cabril**	**6.22**	**79**	P			**Pn**	**17 41 37.1**	**+1.4**
ECAB				S			**Sn**	**17 42 45.2**	**-1.6**
ECAB	**El Cabril**	**6.22**	**79**	P			**Pn**	**17 41 37.1**	**+1.4**
ECAB				⇑*i*Vmb_V				17 41 39.1	
	comp=N,65nm,SNR=0.9								
ECAB				S			**Sn**	**17 42 44.7**	**-2.2**
MVO	**Moncorvo**	**6.24**	**48**	*e*P			**Pn**	**17 41 37.1**	**+1.1**
MVO				*e*S			**Sn**	**17 42 46.0**	**-1.4**
MVO				*i* AML			AML	17 42 48.8	
MVO				*i* AML			AML	17 42 49.3	
MVO				*i* AML			AML	17 42 49.4	
EPLA	**Plasencia**	**6.27**	**60**	P			**Pn**	**17 41 38.2**	**+1.8**
EPLA				⇑*i*Vmb_V				17 41 41.5	
	comp=N,127nm,SNR=1.1								
EPLA				S			**Sn**	**17 42 46.9**	**-1.2**
EMAZ	**Mazaricos**	**6.64**	**28**	P			**Pn**	**17 41 42.7**	**+1.3**
EMAZ				⇑*i*Vmb_V				17 41 44.0	
	comp=N,228nm,SNR=0.7								
EMAZ				S			**Sn**	**17 42 49.8**	**-7.2**
PBRG	**Braganca**	**6.81**	**45**	*e*P			**Pn**	**17 41 47.0**	**+3.2**
PBRG				*e*S			**Sn**	**17 43 00.2**	**-1.3**
PBRG				*i* AML			AML	17 43 00.9	
PBRG				*i* AML			AML	17 43 02.0	
PBRG				*i* AML			AML	17 43 03.8	
EAGO	**Agolada(Pontev**	**6.87**	**33**	P			**Pn**	**17 41 44.5**	**-0.1**
EAGO				⇑*i*Vmb_V				17 41 47.1	
	comp=N,136nm,SNR=0.7								
EAGO				S			**Sn**	**17 42 56.1**	**-6.8**
EADA	**Adamuz**	**6.89**	**79**	P			**Pn**	**17 41 46.2**	**+1.4**
EADA				S			**Sn**	**17 43 02.2**	**-1.1**
EADA	**Adamuz**	**6.89**	**79**	P			**Pn**	**17 41 46.0**	**+1.2**
EADA				⇑*i*Vmb_V				17 41 49.4	
	comp=N,61nm,SNR=1.0								
EADA				S			**Sn**	**17 43 01.1**	**-2.3**
PAB	**San Pablo**	**7.33**	**68**	P			**Pn**	**17 41 52.1**	**+1.0**
PAB				⇑*i*Vmb_V				17 41 58.7	
	comp=N,51nm,SNR=0.8								
PAB				S			**Sn**	**17 43 10.8**	**-3.6**
PSIM	**Granatula de C**	**7.62**	**74**	P			**Pn**	**17 41 56.4**	**+1.5**
PSIM				S			**Sn**	**17 43 19.0**	**-2.3**
TTIG	**Tnine Tigouga,**	**7.65**	**148**	P			Pn	17 41 50.1	-5.3
TTIG	**Tnine Tigouga,**	**7.65**	**148**	S			Sn	17 43 07.7	-15
ESDC	**Sonseca Array**	**7.66**	**68**	P			**Pn**	**17 41 56.7**	**+1.3**
ESBB	**Sonseca Array**	**7.66**	**68**	P			**Pn**	**17 41 57.0**	**+1.5**
EPON	**Pontenova**	**7.71**	**35**	P			**Pn**	**17 41 55.6**	**-0.4**
EPON				⇑*i*Vmb_V				17 41 56.7	
	comp=N,183nm,SNR=0.9								
EPON				S			**Sn**	**17 43 17.3**	**-6.1**
GUD	**Guadarrama**	**7.85**	**61**	P			**Pn**	**17 41 59.6**	**+1.5**
GUD				⇑*i*Vmb_V				17 42 02.1	
	comp=N,72nm,SNR=1.4								
GUD				S			**Sn**	**17 43 27.2**	**+0.1**
TIO	**Tiouine**	**7.89**	**140**	P			**Pn**	**17 41 57.1**	**-1.7**
TIO				S			**Sn**	**17 43 21.2**	**-7.0**
TIO	**Tiouine**	**7.89**	**140**	P			**Pn**	**17 41 57.5**	**-1.2**
TIO	**Tiouine**	**7.89**	**140**	S			Sn	17 43 15.8	-12
MD31	**MD31**	**8.10**	**119**	P			**Pn**	**17 42 04.4**	**+2.8**
MD31	**MD31**	**8.10**	**119**	S			**Sn**	**17 43 28.6**	**-4.7**
OUZM	**OUZ**	**8.17**	**138**	P			**Pn**	**17 42 01.7**	**-0.9**
OUZM	**OUZ**	**8.17**	**138**	S			Sn	17 43 24.9	-10
MDT	**Midelt**	**8.24**	**119**	P			**Pn**	**17 42 07.2**	**+3.7**
MDT	**Midelt**	**8.24**	**119**	S			**Sn**	**17 43 32.8**	**-3.8**
ETOR	**Torete**	**9.40**	**64**	P			**Pn**	**17 42 21.1**	**+1.7**
ETOR				S			**Sn**	**17 44 02.4**	**-2.7**

NEIC ***19*** *17:55:17.8±2.2,5.˙47S±0.˙09×68.˙71E±0.˙08,h10km±1km, mb4.5/56,Error ellipse: s-maj=15.8km s-min=13.6km az=214.0*

IDC ***19*** *17:55:17.0±1.1,5.˙37S×68.˙69E,h0km,mb4.1/12, mbtmp4.1/13,ML4.1/1,MS4.0/55,Error ellipse: s-maj=32.9km s-min=19.3km az=43.0*

GCMT ***19*** *17:55:20.8±0.2,5.˙56S±0.˙01×68.˙53E±0.˙01,h15km±1km, MW5.0/129,Moment Tensor Solution. s48,c61; s129,c197; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.36±.09; $M_{\theta\theta}$-3.60±.09; $M_{\phi\phi}$3.97±.10; $M_{r\theta}$-0.72±.17; $M_{\theta\phi}$-0.91±.07; $M_{r\phi}$0.03±.15; Best double couple: $M_0$3.96700×10^16^ NP1:ϕ_s38.00000°,δ81.00000°, λ-7.00000°. NP2:ϕ_s129.00000°,δ83.00000°, λ-171.00000°. Principal axes: T 4.0820, Plg1.0000°, Azm263.0000°; N -0.2210, Plg78.0000°, Azm166.0000°; P -3.8530, Plg12.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 17:55:17.8±0.5,5.˙49S±0.˙08×68.˙73E±0.˙07,h13km,n137, σ1§11/86,mb4.5/37,MS4.1/55,1D,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.16**	**118**	Pn	**Pn**	**17 56 21.9**	**+0.8**
KAAM	**Kaadhehdhoo**	**7.31**	**36**	Pn	**Pn**	**17 57 03.8**	**-0.6**
MSEY	**Mahe Island**	**13.23**	**273**	Pn	**Pn**	**17 58 26.3**	**+0.8**
PALK	**Pallekele**	**17.42**	**43**	P	**Pn**	**17 59 21.3**	**+0.4**
PALK	**Pallekele**	**17.42**	**43**	P	**P**	**17 59 22.9**	**+0.9**
	0.7nm,0.3s,baz=217,slow=9.9,SNR=5.3						
PALK				LR	LR	18 04 37.3	
	comp=Z,844nm,18.1s,baz=220,slow=32 2.9nm,0.5s						
WSAR	**Wadi Sarin**	**30.21**	**341**	LR	LR	18 10 43.4	
	comp=Z,436nm,21.4s,baz=170,slow=31						
ATD	**Arta Tunnel**	**30.81**	**303**	LR	LR	18 11 19.4	
	comp=Z,16nm,21.7s,baz=124,slow=31						
PSI	**Prapat**	**31.26**	**75**	LR	LR	18 13 03.7	
	comp=Z,552nm,18.7s,baz=260,slow=34						
KMBO	**Kilima Mbogo**	**31.72**	**277**	LR	LR	18 11 52.1	
	comp=Z,524nm,21.7s,baz=96,slow=31						
LODK	**Lodwar**	**34.49**	**284**	P	**P**	**18 02 06.8**	**+0.7**
LODK				IAmb	IAmb	18 02 21.5	
	comp=Z,5.0nm,1.1s						
BRDH	**Bariadhala**	**35.86**	**38**	LR	LR	18 16 36.1	
	comp=Z,278nm,20.5s,baz=202,slow=36						
CMAR	**Chiang Mai Arr**	**38.13**	**51**	P	**P**	**18 02 37.0**	**0.0**
CMAR	**Chiang Mai Arr**	**38.13**	**51**	P	**P**	**18 02 38.5**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=242,slow=9.6,SNR=27						
CMAR				LR	LR	18 16 06.6	
	comp=Z,170nm,21.8s,baz=245,slow=33 comp=Z,3.0nm,0.8s						
SHL	**Shillong**	**38.19**	**35**	P	**P**	**18 02 38.6**	**+0.9**
SHL				IAmb	IAmb	18 02 40.0	
	comp=Z,8.3nm,0.7s						
CHTO	**Chiang Mai**	**38.34**	**50**	P	**P**	**18 02 39.8**	**+1.0**
CHTO				IAmb	IAmb	18 02 41.3	
	comp=Z,5.5nm,0.8s						
LEM	**Lembang**	**38.68**	**94**	LR	LR	18 17 35.8	
	comp=Z,303nm,18.1s,baz=243,slow=35						
PHRA	**Phrae**	**39.15**	**52**	P	**P**	**18 02 47.4**	**+1.9**
LSZ	**Lusaka**	**40.98**	**253**	LR	LR	18 17 14.3	
	comp=Z,421nm,21.0s,baz=90,slow=32						
H04N2	**CROZET ISLANDS**	**43.10**	**197**	T	T	18 49 06.7	
	baz=27,slow=75,SNR=4.5						
H04N1	**CROZET ISLANDS**	**43.10**	**197**	T	T	18 49 17.6	
	baz=27,slow=75,SNR=5.3						
H04N3	**CROZET ISLANDS**	**43.11**	**197**	T	T	18 49 34.9	
	baz=27,slow=75,SNR=5.6						
DLV	**Lat**	**43.16**	**66**	P	**P**	**18 03 19.4**	**+0.5**
DLV				IAmb	IAmb	18 03 39.2	
	comp=Z,14nm,1.1s						
SLVN	**Son La**	**43.59**	**51**	P	**P**	**18 03 23.3**	**+1.1**
SIMJ	**Simiganj**	**43.92**	**0**	P	**P**	**18 03 26.4**	**+1.7**
SBUM	**Sibu**	**44.15**	**81**	P	**P**	**18 03 27.9**	**+1.3**
GAR	**Garm**	**44.29**	**2**	P	**P**	**18 03 28.7**	**+1.1**
BTK	**Batken**	**45.36**	**2**	P	**P**	**18 03 36.4**	**+0.3**
BTK				IAmb	IAmb	18 04 04.0	
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**48.19**	**6**	P	**P**	**18 03 59.4**	**+1.2**
AAK				IAmb	IAmb	18 04 24.6	
	comp=Z,5.4nm,1.1s						
AAK	**Ala-Archa**	**48.19**	**6**	LR	LR	18 23 37.4	
	comp=Z,129nm,21.2s,baz=192,slow=35						
GHAJ	**Ghor Haditha**	**48.38**	**321**	P	**P**	**18 03 59.0**	**-0.7**
KK31	**Karatay Array**	**48.39**	**2**	P	**P**	**18 03 59.6**	**0.0**
KKAR	**Karatay Array**	**48.39**	**2**	P	**P**	**18 03 59.5**	**-0.1**
KKAR	**Karatay Array**	**48.39**	**2**	P	**P**	**18 03 59.6**	**0.0**
KKAR				IAmb	IAmb	18 04 12.5	
	comp=Z,1.5nm,0.8s						
MMAI	**Mount Meron Ar**	**49.66**	**323**	LR	LR	18 21 58.3	
	comp=Z,113nm,18.8s,baz=142,slow=32						
KAPI	**Kappang**	**50.80**	**92**	LR	LR	18 23 51.6	
	comp=Z,270nm,21.3s,baz=252,slow=34						
H01W3	**Cape Leeuwin H**	**51.05**	**131**	T	T	18 59 50.7	
	baz=293						
H01W2	**Cape Leeuwin H**	**51.05**	**131**	T	T	18 59 54.9	
	baz=293,slow=74						
H01W1	**Cape Leeuwin H**	**51.06**	**131**	T	T	18 59 55.3	
	baz=293,slow=74						
TSUM	**Tsumeb**	**51.59**	**250**	LR	LR	18 24 22.5	
	comp=Z,252nm,18.9s,baz=137,slow=34						
ENH	**Enshi**	**52.79**	**45**	P	**P**	**18 04 33.2**	**0.0**
ENH				IAmb	IAmb	18 04 34.1	
	comp=Z,8.9nm,1.0s						
MAKZ	**Makanchi**	**53.38**	**11**	P	**P**	**18 04 36.1**	**-1.0**
MK31	**Makanchi Array**	**53.43**	**12**	P	**P**	**18 04 36.5**	**-0.9**
MKAR	**Makanchi Array**	**53.43**	**12**	P	**P**	**18 04 36.6**	**-0.8**
MKAR	**Makanchi Array**	**53.43**	**12**	P	**P**	**18 04 37.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=195,slow=8.1,SNR=15						
MKAR				LR	LR	18 28 01.8	
	comp=Z,115nm,19.7s,baz=191,slow=37 comp=Z,0.9nm,0.7s						
KBZ	**Khabaz**	**54.26**	**337**	LR	LR	18 28 36.5	
	comp=Z,98nm,18.8s,baz=156,slow=37						
KIV	**Kislovodsk**	**54.54**	**337**	P	**P**	**18 04 45.3**	**-0.4**
ABKAR	**Akbulak array**	**55.05**	**353**	P	**P**	**18 04 47.7**	**-1.5**
ABKAR				IAmb	IAmb	18 05 05.7	
	comp=Z,3.4nm,0.9s						
ABKAR	**Akbulak array**	**55.05**	**353**	P	**P**	**18 04 47.8**	**-1.5**
SOEI	**Soe**	**55.16**	**98**	P	**P**	**18 04 49.0**	**-1.8**
AKAS	**Kas**	**55.36**	**322**	P	**P**	**18 04 50.7**	**-1.1**
BR131	**Keskin Array S**	**55.41**	**327**	P	**P**	**18 04 51.1**	**-1.1**
BRTR	**Keskin Array B**	**55.41**	**327**	P	**P**	**18 04 51.7**	**-0.5**
BRTR	**Keskin Array B**	**55.41**	**327**	P	**P**	**18 04 52.0**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=128,slow=8.0,SNR=5.3						
BRTR				LR	LR	18 27 40.3	
	comp=Z,88nm,20.9s,baz=138,slow=35 comp=Z,1.1nm,1.0s						
ILGA	**Ilgaz**	**56.33**	**329**	P	**P**	**18 04 57.4**	**-1.5**
AKTO	**Aktyubinsk**	**56.47**	**352**	LR	LR	18 29 32.8	
	comp=Z,91nm,19.5s,baz=60,slow=36						
KURBB	**Kurchatov Arra**	**56.52**	**7**	P	**P**	**18 04 59.8**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=205,slow=7.1,SNR=8.5						
KURBB				LR	LR	18 28 41.1	
	comp=Z,114nm,21.1s,baz=208,slow=36 comp=Z,1.2nm,0.9s						
KURK	**Kurchatov**	**56.63**	**8**	P	**P**	**18 04 59.5**	**-0.9**
KURK				IAmb	IAmb	18 05 22.5	
	comp=Z,3.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.89**	**108**	LR	LR	18 28 00.6	
	comp=Z,254nm,19.1s,baz=276,slow=34						
DAV	**Davao City (W)**	**58.08**	**78**	LR	LR	18 29 02.7	
	comp=Z,106nm,21.5s,baz=302,slow=35						
BVAR	**Borovoye Array**	**58.31**	**1**	P	**P**	**18 05 12.6**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=182,slow=6.2,SNR=4.5						
BVAR				LR	LR	18 29 47.0	
	comp=Z,127nm,21.8s,baz=164,slow=36 comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**58.34**	**1**	P	**P**	**18 05 12.2**	**-0.3**
BRVK				IAmb	IAmb	18 05 29.5	
	comp=Z,3.8nm,0.9s						
KNRA	**Kununurra**	**59.70**	**105**	P	**P**	**18 05 22.4**	**-0.3**
BELG	**Belogornoye**	**60.40**	**345**	LR	LR	18 31 47.2	
	comp=Z,136nm,20.6s,baz=128,slow=36						
ALN	**Alexandroupoli**	**60.48**	**324**	P	**P**	**18 05 26.7**	**-0.9**
ALN				IAmb	IAmb	18 05 27.5	
	comp=Z,9.4nm,1.4s						
ZAA0	**Zalesovo Array**	**60.74**	**11**	P	**P**	**18 05 27.9**	**-1.2**
ZAA0				IAmb	IAmb	18 05 54.6	
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**60.74**	**11**	P	**P**	**18 05 28.0**	**-1.0**
ZALV	**Zalesovo Beam**	**60.74**	**11**	P	**P**	**18 05 28.8**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=197,slow=7.0,SNR=11						
ZALV				LR	LR	18 30 12.9	
	comp=Z,62nm,19.1s,baz=231,slow=35 comp=Z,2.5nm,0.6s						
ITM	**Ithomi**	**60.85**	**318**	P	**P**	**18 05 29.8**	**-0.4**
MTN	**Manton Dam**	**61.91**	**102**	P	**P**	**18 05 37.7**	**-0.1**
MAW	**Marson**	**62.14**	**183**	LR	LR	18 26 49.5	
	comp=Z,133nm,20.6s,baz=352,slow=30						
LIT	**Litokhoron**	**62.15**	**321**	P	**P**	**18 05 38.8**	**-0.1**
LIT				IAmb	IAmb	18 05 49.9	
	comp=Z,3.2nm,1.0s						
ARTI	**Arti**	**62.25**	**354**	P	**P**	**18 05 38.8**	**-0.4**
ARTI				IAmb	IAmb	18 06 00.5	
	comp=Z,4.9nm,0.9s						
ARTI	**Arti**	**62.25**	**354**	LR	LR	18 30 54.8	
	comp=Z,69nm,19.4s,baz=147,slow=34						
SONM	**Songino Array**	**62.57**	**28**	P	**P**	**18 05 41.2**	**-0.5**
SONM				IAmb	IAmb	18 06 00.0	
	comp=Z,5.3nm,1.3s						
SONM	**Songino Array**	**62.57**	**28**	P	**P**	**18 05 42.6**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=216,slow=7.8,SNR=15						
SONM				LR	LR	18 32 27.8	
	comp=Z,233nm,22.0s,baz=206,slow=36 comp=Z,1.6nm,0.7s						
ULN	**Ulaanbaatar**	**62.90**	**28**	P	**P**	**18 05 43.0**	**-0.9**
ULN				IAmb	IAmb	18 06 01.8	
	comp=Z,3.1nm,1.1s						
PUK	**Puka**	**64.87**	**322**	P	**P**	**18 05 56.8**	**-0.2**
PUK				IAmb	IAmb	18 06 12.7	
	comp=Z,3.4nm,0.9s						
ASAR	**Alice Springs**	**65.09**	**113**	P	**P**	**18 05 57.2**	**-1.5**
ASAR	**Alice Springs**	**65.09**	**113**	P	**P**	**18 06 00.2**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=280,slow=6.2,SNR=38						
ASAR				LR	LR	18 32 31.7	
	comp=Z,149nm,19.7s,baz=272,slow=34 comp=Z,2.3nm,0.7s						
AS31	**Alice Springs**	**65.09**	**113**	P	**P**	**18 05 57.7**	**-1.1**
WRA	**Warramunga Arr**	**65.23**	**109**	P	**P**	**18 05 58.8**	**-0.9**
WRA	**Warramunga Arr**	**65.23**	**109**	P	**P**	**18 06 01.4**	**+1.7**
	comp=Z,5.7nm,0.7s,baz=283,slow=6.3,SNR=31						
WRA				LR	LR	18 30 34.8	
	comp=Z,190nm,22.0s,baz=280,slow=32 comp=Z,5.7nm,0.7s						
WRAB	**Tennant Creek**	**65.24**	**109**	P	**P**	**18 05 60.0**	**+0.2**
WB2	**Warramunga Arr**	**65.24**	**109**	P	**P**	**18 05 59.7**	**-0.1**
WB0	**Warramunga Arr**	**65.27**	**109**	P	**P**	**18 05 59.9**	**-0.1**
TIP	**Timpagrande**	**65.36**	**318**	P	**P**	**18 06 00.6**	**+0.4**
TIP				IAmb	IAmb	18 06 03.0	
	comp=Z,7.1nm,1.2s						
WR0	**Warramunga Arr**	**65.42**	**109**	P	**P**	**18 06 00.9**	**0.0**
AKASG	**Malin Array Be**	**65.48**	**334**	P	**P**	**18 06 01.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=139,slow=5.5,SNR=4.6						
AKASG				LR	LR	18 36 54.3	
	comp=Z,90nm,19.4s,baz=146,slow=38 comp=Z,0.1nm,0.3s						
KIRV	**Kirov**	**65.72**	**349**	LR	LR	18 35 45.0	
	comp=Z,68nm,19.2s,baz=157,slow=37						
JOW	**Kunigami**	**65.91**	**58**	LR	LR	18 32 21.0	
	comp=Z,80nm,21.5s,baz=257,slow=34						
SYO	**Syowa Base**	**66.30**	**191**	*i*eP	pP	18 06 10.8	+1.9
TORD	**Torodi Ar. Bea**	**69.09**	**286**	LR	LR	18 36 17.3	
	comp=Z,97nm,18.2s,baz=92,slow=36						
NRCA	**Norcia**	**69.56**	**320**	P	**P**	**18 06 25.6**	**-1.1**
NRCA				IAmb	IAmb	18 06 55.8	
	comp=Z,5.1nm,1.1s						
KSRS	**Korea Array**	**69.62**	**47**	LR	LR	18 38 23.1	
	comp=Z,115nm,18.1s,baz=225,slow=37						
JNU	**Nakatsue**	**70.21**	**52**	LR	LR	18 37 06.5	
	comp=Z,44nm,19.2s,baz=224,slow=36						
VRAC	**Vranov**	**70.85**	**327**	LR	LR	18 37 11.5	
	comp=Z,118nm,18.1s,baz=129,slow=36						
JAY	**Jayapura**	**71.83**	**91**	LR	LR	18 39 00.5	
	comp=Z,38nm,21.2s,baz=278,slow=36						
CTI	**Castel Tesino**	**72.03**	**322**	P	**P**	**18 06 42.5**	**+0.8**
CTI				IAmb	IAmb	18 06 44.0	
	comp=Z,2.8nm,0.6s						
WATA	**Walderalm**	**72.69**	**323**	*e*P	**P**	**18 06 49.0**	**+3.4**
	comp=Z,1.6nm,0.2s						
SQTA	**Sankt Quirin**	**72.85**	**323**	*i* P	**P**	**18 06 48.5**	**+1.8**
	comp=Z,4.1nm,0.7s						
MOTA	**Moosalm**	**72.97**	**323**	*e*P	**P**	**18 06 48.5**	**+1.1**
	comp=Z,1.0nm,0.3s						
FETA	**Feichten**	**73.05**	**323**	*e*P	**P**	**18 06 50.2**	**+2.4**
	comp=Z,1.1nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**73.14**	**322**	P	**P**	**18 06 47.3**	**-1.2**
FUORN				IAmb	IAmb	18 07 05.3	
	comp=Z,3.1nm,0.8s						
FINES	**FINESS Array B**	**74.43**	**340**	LR	LR	18 40 31.5	
	comp=Z,143nm,19.6s,baz=124,slow=36						
DBIC	**Dimbokro**	**74.43**	**278**	LR	LR	18 41 00.1	
	comp=Z,72nm,18.2s,baz=101,slow=37						
SENIN	**Lac Senin/Sane**	**74.86**	**321**	P	**P**	**18 06 58.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**75.16**	**42**	LR	LR	18 41 11.2	
	comp=Z,44nm,19.9s,baz=216,slow=37						
NRIK	**Noril'sk**	**75.78**	**7**	LR	LR	18 40 23.3	
	comp=Z,101nm,18.1s,baz=225,slow=36						
MJB9	**Matsu-Tunnel**	**77.01**	**51**	P	**P**	**18 07 10.6**	**-0.2**
MAJO	**Matsushiro**	**77.01**	**51**	P	**P**	**18 07 09.5**	**-1.3**
MJAR	**Matsushiro Arr**	**77.01**	**51**	LR	LR	18 42 46.9	
	comp=Z,88nm,18.1s,baz=243,slow=37						
KLR	**Kul'dur**	**77.04**	**37**	LR	LR	18 43 11.0	
	comp=Z,98nm,20.6s,baz=234,slow=37						
PMG	**Port Moresby**	**77.73**	**98**	LR	LR	18 40 24.9	
	comp=Z,61nm,21.6s,baz=249,slow=35						
GUMO	**Guam**	**77.89**	**75**	LR	LR	18 39 33.1	
	comp=Z,45nm,20.8s,baz=68,slow=34						
JCJ	**Chichijima**	**77.90**	**61**	LR	LR	18 36 40.2	
	comp=Z,44nm,20.7s,baz=103,slow=32						
HFS	**Hagfors**	**78.27**	**335**	P	**P**	**18 07 16.4**	**-0.9**
	comp=Z,4.5nm,0.9s,baz=133,slow=11,SNR=3.6						
HFS				LR	LR	18 42 02.2	
	comp=Z,154nm,18.4s,baz=134,slow=36 comp=Z,4.5nm,0.9s						
MDT	**Midelt**	**79.10**	**305**	LR	LR	18 42 55.6	
	comp=Z,86nm,18.9s,baz=112,slow=36						
NOA	**NORSAR Array B**	**79.79**	**335**	LR	LR	18 42 12.5	
	comp=Z,52nm,21.1s,baz=140,slow=35						
ESDC	**Sonseca Array**	**80.32**	**312**	P	**P**	**18 07 31.2**	**+2.2**
	comp=Z,1.5nm,1.0s,baz=99,slow=5.2,SNR=6.0 comp=Z,1.5nm,1.0s						
ARCES

SMWD	**Samnorwood**	**1.95 271**	P	Pb	18 08 47.0	+0.2
KAN05	**Bluff City Nor**	**2.00 360**		Pn	18 08 45.1	-0.2
KAN09	**Caldwell North**	**2.04 5**	Pn	Pn	18 08 45.8	0.0
KAN09			IAmb_Lg		18 09 15.0	
	comp=Z,110nm,0.9s					
KAN01	**Argonia South**	**2.05 2**		Pn	18 08 45.7	-0.2
KAN01			IAmb_Lg		18 09 18.6	
	comp=Z,79nm,0.7s					
FW03	**Perrin-Whitt E**	**2.07 185**		Pn	18 08 46.7	+0.6
FW03	**Perrin-Whitt E**	**2.07 185**	P	Pb	18 08 48.0	-0.7
FW03			S	Sg	18 09 16.6	-0.6
KAN08	**Anthony NE Sta**	**2.12 358**		Pn	18 08 45.7	-1.2
KAN08			IAmb_Lg		18 09 18.6	
	comp=Z,47nm,0.7s					
FW06	**Azle**	**2.14 173**		Pn	18 08 48.0	+0.9
FW06	**Azle**	**2.14 173**	P	Pb	18 08 50.0	0.0
FW06			S	Sg	18 09 19.2	-0.4
PLPT	**Palo Pinto**	**2.32 189**		Pn	18 08 50.3	+0.7
PLPT			IAmb_Lg		18 09 30.2	
	comp=Z,38nm,0.7s					
PLPT	**Palo Pinto**	**2.32 189**	P	Pb	18 08 52.0	-1.0
DRZT	**Darrouzett**	**2.39 305**	P	Pb	18 08 53.6	-0.7
FW07	**Weatherford**	**2.40 178**		Pn	18 08 51.2	+0.5
FW07	**Weatherford**	**2.40 178**	P	Pb	18 08 53.8	-0.6
FW07			S	Sb	18 09 25.5	+1.2
APMT	**Aspermont**	**2.58 227**	Pn	Pn	18 08 54.8	+1.6
APMT	**Aspermont**	**2.58 227**	P	Pb	18 08 56.1	-1.4
FW13	**Cleburne**	**2.77 172**		Pn	18 08 53.8	-2.0
FW13			IAmb_Lg		18 09 45.7	
	comp=Z,37nm,0.8s					
TREL	**Terrell**	**2.79 148**	Pn	Pn	18 08 56.3	+0.2
TREL			IAmb_Lg		18 09 44.2	
	comp=Z,62nm,0.7s					
ABTX	**Abilene, Hawle**	**2.88 211**	P	Pn	18 08 59.8	+2.3
DKNS	**Dickens**	**2.91 241**		Pn	18 08 58.8	+1.0
DKNS			IAmb_Lg		18 09 48.4	
	comp=Z,43nm,1.0s					
DKNS	**Dickens**	**2.91 241**	P	Pn	18 09 00.4	+2.6
Z38A	**Mt. Pleasant**	**3.01 127**	P	Pn	18 09 01.8	+2.7
WHTX	**Lake Whitney,**	**3.12 174**	P	Pn	18 09 03.0	+2.3
AMTX	**Amarillo**	**3.14 267**		Pn	18 09 02.7	+1.6
AMTX	**Amarillo**	**3.14 267**	P	Pb	18 09 04.2	-3.0
SN07	**Snyder 07**	**3.22 232**		Pn	18 09 03.7	+1.7
SN07			IAmb_Lg		18 09 58.8	
	comp=Z,29nm,0.9s					
SN05	**Snyder 5**	**3.35 229**		Pn	18 09 04.2	+0.3
R32A	**Long Quarter,**	**3.38 349**		Pn	18 09 04.5	+0.3
R32A			IAmb_Lg		18 10 02.4	
	comp=Z,45nm,0.8s					
HHAR	**Hobbs**	**3.40 69**		Pn	18 09 04.7	+0.2
HHAR			IAmb_Lg		18 10 05.9	
	comp=Z,29nm,0.7s					
237A	**Washetta, Mont**	**3.54 150**	IAmb_Lg		18 10 09.9	
	comp=Z,35nm,0.9s					
MIAR	**Mount Ida**	**3.57 98**		Pn	18 09 08.8	+2.0
MIAR			IAmb_Lg		18 10 10.5	
	comp=Z,39nm,0.7s					
MIAR	**Mount Ida**	**3.57 98**	P	Pn	18 09 09.1	+2.3
POST	**Post**	**3.64 237**		Pn	18 09 09.0	+1.1
POST	**Post**	**3.64 237**	P	Pn	18 09 10.0	+2.2
BRDY	**Brady**	**3.93 194**		Pn	18 09 12.0	+0.2
BRDY			IAmb_Lg		18 10 21.6	
	comp=Z,24nm,0.8s					
BRDY	**Brady**	**3.93 194**	P	Pn	18 09 13.2	+1.5
CBKS	**Cedar Bluff**	**4.00 338**		Pn	18 09 14.0	+1.3
CBKS	**Cedar Bluff**	**4.00 338**	P	Pn	18 09 14.2	+1.5
KSU1	**Kansas State U**	**4.11 14**		Pn	18 09 13.7	-0.6
WLAR	**White Oak Lake**	**4.17 108**	Pn	Pn	18 09 15.6	+0.5
WLAR			IAmb_Lg		18 10 24.4	
	comp=Z,26nm,0.8s					
RTBA	**Rita Blanca**	**4.18 290**		Pn	18 09 15.5	+0.1
RTBA			IAmb_Lg		18 10 34.2	
	comp=Z,21nm,1.0s					
RTBA	**Rita Blanca**	**4.18 290**	P	Pn	18 09 16.2	+0.9
X40A	**Basin Creek Fa**	**4.18 97**		Pn	18 09 16.8	+1.6
X40A			IAmb_Lg		18 10 33.9	
	comp=Z,29nm,0.8s					
SGCY	**Sterling City**	**4.19 222**		Pn	18 09 14.0	-1.4
SGCY			IAmb_Lg		18 10 28.7	
	comp=Z,22nm,0.8s					
SGCY	**Sterling City**	**4.19 222**	P	Pn	18 09 16.5	+1.1
MSTX	**Muleshoe**	**4.21 256**	P	Pn	18 09 17.6	+1.9
435B	**Jarrell**	**4.32 177**		Pn	18 09 16.3	-0.8
435B			IAmb_Lg		18 10 33.8	
	comp=Z,39nm,0.8s					
UALR	**University of**	**4.55 93**	Pn	Pn	18 09 20.0	-0.2
UALR			IAmb_Lg		18 10 40.4	
	comp=Z,27nm,0.8s					
WHAR	**Wooly Hollow**	**4.57 86**		Pn	18 09 20.7	+0.2
WHAR			IAmb_Lg		18 10 46.7	
	comp=Z,32nm,1.1s					
Z41A	**Richland Creek**	**4.58 112**	IAmb_Lg		18 10 46.7	
	comp=Z,35nm,0.9s					
FCAR	**Ozark Folk Cen**	**4.75 79**		Pn	18 09 21.6	-1.3
JCT	**Junction City**	**4.89 200**		Pn	18 09 24.4	-0.7
JCT			IAmb_Lg		18 10 54.2	
	comp=Z,27nm,0.8s					
JCT	**Junction City**	**4.89 200**	P	Pn	18 09 27.2	+2.1
MGMO	**Mountain Grove**	**4.97 64**	Pn	Pn	18 09 25.4	-0.7
MGMO			IAmb_Lg		18 11 00.1	
	comp=Z,23nm,0.8s					
OZNA	**Ozona**	**4.99 214**		Pn	18 09 25.4	-1.0
OZNA			IAmb_Lg		18 11 02.2	
	comp=Z,29nm,0.8s					
OZNA	**Ozona**	**4.99 214**	P	Pn	18 09 27.4	+1.0
CCAR	**Cane Creek**	**5.17 102**	Pn	Pn	18 09 27.8	-0.9
KSCO	**Kaye Shedlock'**	**5.45 317**	Pn	Pn	18 09 31.7	-1.1
KSCO			IAmb_Lg		18 11 10.9	
	comp=Z,32nm,0.8s					
LCAR	**Lake Charles**	**5.55 78**	Pn	Pn	18 09 32.2	-1.8
MNHN	**Monahans**	**5.56 229**		Pn	18 09 32.6	-1.6
MNHN			IAmb_Lg		18 11 19.7	
	comp=Z,16nm,0.8s					
MNHN	**Monahans**	**5.56 229**	P	Pn	18 09 35.0	+0.7
T25A	**Trinidad**	**5.68 293**	IAmb_Lg		18 11 16.3	
	comp=Z,31nm,0.8s					
T25A	**Trinidad**	**5.68 293**	P	Pn	18 09 37.0	+1.0
HNDO	**Hondo**	**5.69 193**	IAmb_Lg		18 11 27.7	
	comp=Z,36nm,1.2s					
HNDO	**Hondo**	**5.69 193**	P	Pn	18 09 36.8	+0.9
T42A	**Van Buren**	**5.81 69**	IAmb_Lg		18 11 21.2	
	comp=Z,23nm,1.0s					
N35A	**Tabor**	**6.01 16**		Pn	18 09 39.3	-1.0
CCM	**Cathedral Cave**	**6.08 59**		Pn	18 09 41.3	0.0
EF73	**North Karnes**	**6.10 180**	P	Pn	18 09 46.7	+5.1
DRIO	**Del Rio**	**6.13 203**	Pn	Pn	18 09 42.4	+0.5
DRIO			IAmb_Lg		18 11 36.6	
	comp=Z,16nm,0.7s					
PBMO	**Poplar Bluff**	**6.26 72**	IAmb_Lg		18 11 41.5	
	comp=Z,26nm,0.8s					
PECS	**Pecos**	**6.26 235**	IAmb_Lg		18 11 44.5	
	comp=Z,20nm,1.2s					
SAND	**Sanderson**	**6.27 216**	Pn	Pn	18 09 44.6	+0.6
SAND			IAmb_Lg		18 11 35.9	
	comp=Z,13nm,0.8s					
SAND	**Sanderson**	**6.27 216**	P	Pn	18 09 44.8	+0.8
FVM	**French Village**	**6.64 62**		Pn	18 09 48.7	-0.3
FVM			IAmb_Lg		18 11 43.9	
	comp=Z,21nm,0.7s					
OGNE	**Ogallala**	**6.70 332**		Pn	18 09 50.0	+0.2
ALPN	**Alpine**	**6.78 227**	IAmb_Lg		18 11 56.1	
	comp=Z,12nm,0.8s					
CGM3	**Cape Girardeau**	**6.99 69**	IAmb_Lg		18 11 52.4	
	comp=Z,16nm,0.8s					
Q24A	**Divide**	**6.99 306**	IAmb_Lg		18 11 57.3	
	comp=Z,24nm,1.0s					
SIUC	**Southern Illin**	**7.44 67**	IAmb_Lg		18 12 11.2	
	comp=Z,21nm,0.9s					
BRIGG	**Briggsdale**	**7.48 319**	IAmb_Lg		18 12 25.9	
	comp=Z,24nm,0.8s					
TX31	**Lajitas Ar. Si**	**7.57 222**	P	Pn	18 10 00.2	-1.6
N23A	**Red Feather La**	**8.61 315**	P	Pn	18 10 18.4	+2.2
OLIL	**Olney**	**8.62 62**	IAmb_Lg		18 12 59.1	
	comp=Z,21nm,0.9s					
JFWS	**Jewell Farm**	**9.79 35**	IAmb_Lg		18 13 39.4	
	comp=Z,18nm,0.8s					

*SOME **19** 18:10:59.9,41°.47N×79°.17E,h15km*
*KRNET **19** 18:10:59.3±0.1,41°.45N×79°.21E,h16km,mb2.8*
*NNC **19** 18:11:03.1±1.9,41°.58N×79°.18E,h0km,mb3.6,mpv3.4,*
Error ellipse: s-maj=13.5km s-min=8.4km az=153.0
ISC 19 18:11:03.7±1.7,41°.55N±0°.07×79°.06E±0°.05,h10km,n49,

σ1§42/81,18C-17D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.96 281**	⇑*iP*	**Pg**	**18 11 20.2**	**-1.9**
TARG			⇑*iS*	**Sb**	**18 11 35.6**	**+0.1**
PRZ	**Przheval'sk**	**1.05 332**	⇑*eP*	**Pg**	**18 11 22.4**	**-1.5**
PRZ			⇑*eS*	**Sn**	**18 11 39.3**	**-0.2**
KDJ	**Kajisay**	**1.52 293**	⇓*iP*	**Pn**	**18 11 30.2**	**-0.9**
KDJ			⇓*iS*	**Sg**	**18 11 52.8**	**+0.3**
SATY	**Saty**	**1.58 342**	P	**Pb**	**18 11 31.8**	**-1.3**
	19nm,0.3s					
SATY			S	**Sg**	**18 11 54.4**	**-0.2**
	96nm,0.1s					
UZB	**Uzynbulak**	**1.59 359**	P	**Pn**	**18 11 31.5**	**-0.6**
	8.2nm,0.2s					
UZB			S	**Sg**	**18 11 54.2**	**-0.8**
	32nm,0.2s					
UZB	**Uzynbulak**	**1.59 359**	*eP*	**Pn**	**18 11 31.5**	**-0.6**
	8.2nm,0.2s					
UZB			*eS*	**Sg**	**18 11 54.2**	**-0.8**
	32nm,0.2s					
ANVS	**Anan'yevo**	**1.61 320**	⇑*iP*	**Pb**	**18 11 32.4**	**-1.2**
ANVS			⇑*iS*	**Sg**	**18 11 56.4**	**+1.0**
SHLS	**Shalkode**	**1.63 10**	P	**Pb**	**18 11 33.4**	**-0.6**
	9.8nm,0.2s					
SHLS			S	**Sg**	**18 11 57.2**	**+1.0**
	105nm,0.4s					
SHLS	**Shalkode**	**1.63 10**	*eP*	**Pb**	**18 11 33.4**	**-0.6**
	9.8nm,0.2s					
SHLS			*eS*	**Sg**	**18 11 57.2**	**+1.0**
	105nm,0.4s					
PDGK	**Podgornoye**	**1.81 10**	⇑Pn	**Pn**	**18 11 34.3**	**-0.7**
	10nm,0.5s					
PDGK			⇓Sn	**Sb**	**18 12 00.0**	**+0.4**
	88nm,0.5s					
KPKS	**Kokpek**	**1.93 352**	Pg	**Pb**	**18 11 37.9**	**-1.2**
	22nm,0.2s					
KPKS			Lg	Lg	18 12 05.1	
	87nm,0.5s					
KPKS	**Kokpek**	**1.93 352**	*eP*	**Pb**	**18 11 37.9**	**-1.2**
	22nm,0.2s					
KPKS			*eS*	**Sg**	**18 12 05.1**	**-0.7**
	87nm,0.5s					
KURS	**Kuram**	**2.04 342**	Pg	**Pb**	**18 11 40.5**	**-0.5**
	8.4nm,0.2s					
KURS			Lg	Lg	18 12 09.7	
	28nm,0.6s					
TNSS	**Tian-Shan**	**2.16 314**	Pg	**Pb**	**18 11 42.4**	**-0.7**
	16nm,0.2s					
TNSS			Lg	Lg	18 12 13.0	
	20nm,0.3s					
TNSS	**Tian-Shan**	**2.16 314**	*eP*	**Pb**	**18 11 42.4**	**-0.7**
	16nm,0.2s					
TNSS			*eS*	**Sg**	**18 12 13.0**	**0.0**
	20nm,0.3s					
MDOK	**Medeo**	**2.19 318**	Pn	**Pb**	**18 11 42.3**	**-1.2**
	6.8nm,0.6s					
MDOK			Pg	**Pb**	**18 11 42.6**	**-1.0**
	8.7nm,0.4s					
MDOK			Lg	Lg	18 12 12.8	
	32nm,0.5s					
MDOK			Sn	**Sg**	**18 12 13.9**	**-0.3**
	14nm,0.5s					
MDOK	**Medeo**	**2.19 318**	*eP*	**Pb**	**18 11 42.6**	**-1.0**
	8.7nm,0.4s					
MDOK			*eS*	**Sg**	**18 12 12.8**	**-1.4**
	32nm,0.5s					
KOTS	**Kotyrbulak**	**2.21 320**	Pg	**Pb**	**18 11 43.6**	**-0.3**
	16nm,0.2s					
KOTS			Lg	Lg	18 12 15.2	
	65nm,0.3s					
KOTS	**Kotyrbulak**	**2.21 320**	*eP*	**Pb**	**18 11 43.6**	**-0.3**
	16nm,0.2s					
KOTS			*eS*	**Sg**	**18 12 15.2**	**+0.3**
	65nm,0.3s					
ULHL	**Ulahol**	**2.21 289**	⇓*iP*	**Pb**	**18 11 41.4**	**-2.5**
ULHL			⇓*iS*	**Sb**	**18 12 12.1**	**+0.6**
KNDC	**Almaty**	**2.27 318**	⇓Pg	**Pb**	**18 11 44.4**	**-0.5**
	6.9nm,0.3s					
KNDC			⇓Lg	Lg	18 12 17.7	
	13nm,0.4s					
BOOM	**Boomskoye usch**	**2.51 293**	⇑*iP*	**Pn**	**18 11 45.4**	**+0.8**
BOOM			⇑*iS*	**Sb**	**18 12 19.0**	**-0.8**
MTBS	**Maitube**	**2.51 310**	Pg	**Pb**	**18 11 47.7**	**-1.1**
	4.2nm,0.3s					
MTBS			Lg	Lg	18 12 21.8	
	39nm,0.4s					
MTBS	**Maitube**	**2.51 310**	*eP*	**Pb**	**18 11 47.7**	**-1.1**
	4.2nm,0.3s					
MTBS			*eS*	**Sb**	**18 12 21.8**	**+2.0**
	39nm,0.4s					
BLB	**Baldybastay**	**2.58 351**	Pg	**Pb**	**18 11 49.1**	**-1.0**
	44nm,0.3s					
BLB			Lg	Lg	18 12 24.3	
	61nm,0.4s					
KST	**Kastek**	**2.74 304**	Pg	**Pb**	**18 11 50.6**	**-2.2**
	5.1nm,0.3s					
KST			Lg	Lg	18 12 26.8	
	40nm,0.8s					
KST	**Kastek**	**2.74 304**	*eP*	**Pb**	**18 11 51.4**	**-1.4**
	3.3nm,0.2s					
KST			*eS*	**Sb**	**18 12 28.3**	**+1.8**
	51nm,0.5s					
KTBS	**Karatobe**	**2.78 322**	Pg	**Pb**	**18 11 53.2**	**-0.3**
	4.8nm,0.3s					
KTBS			Lg	Lg	18 12 31.5	
	67nm,0.5s					
KNOS	**Konyrlen**	**2.81 2**	Pg	**Pb**	**18 11 53.2**	**-0.8**
	5.7nm,0.2s					
KNOS			Lg	Lg	18 12 31.4	
	24nm,0.2s					
ARXS	**Arharly**	**2.81 342**	Pg	**Pb**	**18 11 53.0**	**-1.0**
	2.0nm,0.1s					
ARXS			Lg	Lg	18 12 32.6	
	44nm,0.5s					
DJR	**Jarkent**	**2.83 11**	Pg	**Pb**	**18 11 53.0**	**-1.4**
	4.0nm,0.3s					
DJR			Lg	Lg	18 12 30.8	
	33nm,0.4s					
DJR	**Jarkent**	**2.83 11**	*eP*	**Pb**	**18 11 53.0**	**-1.4**
	4.0nm,0.3s					
DJR			*eS*	**Sb**	**18 12 30.8**	**+1.7**
	33nm,0.4s					
TKM2	**Tokmak 2**	**2.91 299**	⇓Pn	**Pb**	**18 11 55.0**	**-0.8**
	1.7nm,0.3s					
TKM2			⇑Sn	**Sg**	**18 12 35.5**	**-1.7**
	10.0nm,0.4s					
TKM2	**Tokmak 2**	**2.91 299**	⇑*iP*	**Pn**	**18 11 51.2**	**+0.9**
TKM2			⇑*iS*	**Sb**	**18 12 29.0**	**-2.6**
DGS	**Degeres**	**2.96 306**	Pg	**Pb**	**18 11 53.9**	**-2.7**
	5.4nm,0.4s					
DGS			Lg	Lg	18 12 32.6	
	21nm,0.6s					
KBK	**Karagaybulak**	**3.25 291**	⇑*iP*	**Pn**	**18 11 55.8**	**+0.9**
KBK			⇑*iS*	**Sn**	**18 12 37.0**	**+3.2**
KRBS	**Karabastau**	**3.29 312**	Pg	**Pb**	**18 12 02.3**	**+0.2**
	3.5nm,0.4s					
KRBS			Lg	Lg	18 12 47.2	
	13nm,0.6s					
UCH	**Uchtor**	**3.46 283**	⇓*iP*	**Pn**	**18 11 58.6**	**+0.6**
UCH			⇓*iS*	**Sn**	**18 12 42.0**	**+2.7**
TDK	**Taldyqorghan**	**3.48 352**	Pg	**Pb**	**18 12 04.8**	**-0.6**
	8.4nm,0.2s					
TDK			Lg	Lg	18 12 51.4	
	43nm,0.5s					
TDK	**Taldyqorghan**	**3.48 352**	*eP*	**Pb**	**18 12 04.8**	**-0.6**
	8.4nm,0.2s					
TDK			*eS*	**Sb**	**18 12 51.4**	**+3.6**
	43nm,0.5s					
ARLS	**Aral**	**3.56 277**	⇓*iP*	**Pn**	**18 11 59.5**	**+0.4**
ARLS			⇓*iS*	**Sn**	**18 12 43.6**	**+2.3**
AAK	**Ala-Archa**	**3.57 289**	⇓Pn	**Pb**	**18 12 05.7**	**-1.2**
	0.9nm,0.5s					
AAK			⇓Sn	**Sg**	**18 12 56.2**	**-1.9**
	4.4nm,0.5s					
AAK	**Ala-Archa**	**3.57 289**	⇑*iP*	**Pn**	**18 12 00.0**	**+0.8**
AAK			⇑*iS*	**Sn**	**18 12 44.4**	**+2.9**
KAPS	**Kapalarasan**	**3.74 3**	Pg	**Pb**	**18 12 09.1**	**-0.7**
	1.6nm,0.1s					
KAPS			Lg	Lg	18 12 58.8	
	15nm,0.2s					
AML	**Almayashu**	**4.05 280**	⇓*iP*	**Pn**	**18 12 06.8**	**+0.7**
AML			⇓*iS*	**Sn**	**18 12 56.1**	**+2.4**
MRKS	**Merke**	**4.50 287**	Pg	**Pb**	**18 12 25.2**	**+2.5**
	1.0nm,0.3s					
MRKS			Lg	Lg	18 13 26.0	
	7.1nm,0.5s					
MRKS	**Merke**	**4.50 287**	*eP*	**Pb**	**18 12 25.2**	**+2.5**
	1.0nm,0.3s					
MRKS			*eS*	**Sg**	**18 13 26.0**	**-2.0**
	7.1nm,0.5s					
MK31	**Makanchi Array**	**5.73 23**	Pn	**Pn**	**18 12 29.4**	**+0.6**
	0.1nm,0.2s,baz=206,slow=12,SNR=10					
MK31			⇑Sn	**Sn**	**18 13 35.1**	**+0.4**
	0.8nm,0.6s					
KK31	**Karatay Array**	**6.52 287**	⇓Pg	**Pg**	**18 13 07.2**	**-1.3**
	0.7nm,0.6s					
KK31			⇑Lg	Lg	18 14 31.9	
	1.2nm,0.6s,baz=93,slow=29,SNR=5.1					

*DJA **19** 18:14:51.3±0.9,7°.N±8°.×12°.7E±°,h117km±8km,M4.4/10,*
mb4.3/10,mB4.8/1,MLv4.4/7,Mw(mB)4.0/1
*IDC **19** 18:14:55.1±1.7,7°.16N×126°.68E,h87km±17km,mb3.5/14,*
mbtmp3.8/14,MS3.5/2,Error ellipse: s-maj=26.8km
s-min=13.2km az=72.0
*NEIC **19** 18:14:56.3±1.6,7°.16N±0°.09×126°.55E±0°.09,h85km±8km,*
mb4.3/27,Error ellipse: s-maj=15.4km s-min=9.7km
az=221.0
ISC 19 18:14:55.3±0.5,7°.18N±0°.06×126°.61E±0°.08,h86km,n68,

σ1§21/65,mb4.1/28,Mindanao

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.03 264**		**Pn**	**18 15 14.1**	**-0.9**
DAV			Sn	**Sn**	**18 15 31.3**	**+1.5**
DAV	**Davao City (W)**	**1.03 264**	P	**Pn**	**18 15 14.7**	**-0.3**
	538nm,0.4s,baz=82,slow=3.0,SNR=25					
DAV			S	**Sn**	**18 15 31.8**	**+2.0**
	1μm,0.6s,baz=305,slow=23,SNR=5.7					
DAV	**Davao City (W)**	**1.03 264**	P	**Pn**	**18 15 13.0**	**-2.0**
SGSI	**Sangihe**	**3.63 197**	P	**Pn**	**18 15 48.0**	**-1.3**
TNTI	**Ternate**	**6.41 173**	Pn	**Pn**	**18 16 27.2**	**0.0**
TNTI			Sn	**Sn**	**18 17 41.2**	**+2.4**
TNTI	**Ternate**	**6.41 173**	P	**Pn**	**18 16 26.7**	**-0.4**
	0.1nm25nm,0.9s					
MRSI	**Marisa**	**8.12 215**	P	**Pn**	**18 16 50.4**	**-0.1**
	29nm,0.8s					
MYLDM	**Lahad Datu**	**8.30 257**	Pn	**Pn**	**18 16 50.9**	**-2.1**
TOLI2	**Tolitoli**	**8.37 224**	Pn	**Pn**	**18 16 52.3**	**-1.6**
LUWI	**Luwuk**	**9.02 205**	Pn	**Pn**	**18 17 01.9**	**-0.8**
LUWI	**Luwuk**	**9.02 205**	P	**Pn**	**18 17 01.4**	**-1.3**
	43nm,0.7s					
SANI	**Sanana**	**9.19 184**	P	**Pn**	**18 17 02.8**	**-2.2**
SWI	**Sorong**	**9.24 150**	P	**Pn**	**18 17 02.1**	**-3.6**
	19nm,1.2s					
FAKI	**Fak Fak**	**11.50 151**	Pn	**Pn**	**18 17 34.8**	**-1.8**
SBUM	**Sibu**	**15.08 253**	Pn	**Pn**	**18 18 23.1**	**-0.8**
MTN	**Manton Dam**	**20.39 167**	P	**P**	**18 19 25.6**	**+0.2**
MTN			IAmb	IAmb	18 19 48.7	
	comp=Z,35nm,1.3s					
KNRA	**Kununurra**	**22.81 175**	P	**P**	**18 19 51.6**	**+0.5**
KNRA			IAmb	IAmb	18 19 53.1	
	comp=Z,14nm,1.0s					
FITZ	**Fitzroy Crossi**	**25.13 182**	P	**P**	**18 20 10.8**	**-1.6**
WB0	**Warramunga Arr**	**27.85 164**	P	**P**	**18 20 36.3**	**-0.6**
WB0			IAmb	IAmb	18 21 04.6	
	comp=Z,4.9nm,1.0s					
WRAB	**Tennant Creek**	**28.00 164**	P	**P**	**18 20 37.7**	**-0.5**
WRAB			IAmb	IAmb	18 20 47.4	
	comp=Z,7.6nm,1.3s					
WRA	**Warramunga Arr**	**28.00 164**	P	**P**	**18 20 37.4**	**-0.9**
WRA	**Warramunga Arr**	**28.00 164**	P	**P**	**18 20 38.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=348,slow=10.0,SNR=13					
	comp=Z,0.3nm,0.5s					
WB2	**Warramunga Arr**	**28.00 164**	P	**P**	**18 20 38.3**	**0.0**
WB2			IAmb	IAmb	18 20 48.5	
	comp=Z,7.9nm,1.2s					
WR0	**Warramunga Arr**	**28.07 164**	P	**P**	**18 20 38.5**	**-0.4**
WR0			IAmb	IAmb	18 21 08.2	
	comp=Z,6.0nm,1.4s					
JHJ	**Hachijo jima 2**	**28.56 24**	LR	LR	18 32 32.1	
	comp=Z,198nm,20.4s,baz=20,slow=37					
CMAR	**Chiang Mai Arr**	**29.16 295**	P	**P**	**18 20 48.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=100,slow=9.0,SNR=1.2					
CMAR			LR	LR	18 32 41.2	
	comp=Z,38nm,19.5s,baz=55,slow=36					
	comp=Z,0.3nm,0.3s					
MJAR	**Matsushiro Arr**	**31.09 18**	P	**P**	**18 21 03.8**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=196,slow=9.2,SNR=2.7					
	comp=Z,1.8nm,0.7s					
AS31	**Alice Springs**	**31.47 167**	P	**P**	**18 21 10.1**	**+1.2**
ASAR	**Alice Springs**	**31.47 167**	P	**P**	**18 21 09.9**	**+0.9**
ASAR	**Alice Springs**	**31.47 167**	P	**P**	**18 21 06.8**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=336,slow=7.2,SNR=31					
ASAR			PcP	**PcP**	**18 24 01.5**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=344,slow=2.9,SNR=5.4					
	comp=Z,0.3nm,0.3s					
USRK	**Ussuriysk Ar.**	**37.18 6**	P	**P**	**18 21 56.9**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=190,slow=7.2,SNR=2.4					
	comp=Z,1.1nm,0.5s					
FORT	**Forrest**	**37.76 178**	P	**P**	**18 22 04.0**	**+1.0**
JKA	**Kamikawa-asahi**	**39.37 18**	P	**P**	**18 22 16.9**	**+0.6**
JKA			IAmb	IAmb	18 22 18.3	
	comp=Z,13nm,1.1s					
H11S3	**WAKE ISLAND Hy**	**40.57 70**	T	T	19 05 55.5	
	baz=262,slow=74,SNR=8.4					
H11S1	**WAKE ISLAND Hy**	**40.58 70**	T	T	19 05 58.7	
	baz=262,slow=74,SNR=6.4					
H11S2	**WAKE ISLAND Hy**	**40.58 70**	T	T	19 05 50.5	
	baz=262,slow=74,SNR=8.0					
BBOO	**Buckleboo**	**40.77 168**	P	**P**	**18 22 28.8**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**41.00 68**	T	T	19 06 39.1	
	baz=265,slow=74,SNR=8.6					
H11N2	**WAKE ISLAND Hy**	**41.01 68**	T	T	19 06 48.5	
	baz=265,slow=74,SNR=4.6					
H11N3	**WAKE ISLAND Hy**	**41.02 68**	T	T	19 06 41.1	
	baz=265,slow=74,SNR=8.4					
STKA	**Stephens Creek**	**41.39 161**	P	**P**	**18 22 33.8**	**+0.7**
STKA	**Stephens Creek**	**41.39 161**	P	**P**	**18 22 33.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=340,slow=8.9,SNR=3.2					
	comp=Z,0.8nm,0.3s					
SONM	**Song

comp=Z,0.3nm,0.6s,baz=240,slow=4.7,SNR=7.4
comp=Z,0.3nm,0.6s
F28M Old Crow 84.76 23 P P 18 27 21.1 +1.3
F28M IAmb IAmb 18 27 22.4
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 96.43 24 P P 18 28 15.1 +0.5
comp=Z,0.1nm,0.3s,baz=309,slow=3.9,SNR=2.2
comp=Z,0.1nm,0.3s

---

*IDC **19** 18:46:39.3±0.5,6°.54S×101°.74E,h0km,mb4.8/30, mbtmp4.8/32,ML4.8/3,MS4.2/63,Error ellipse: s-maj=16.1km s-min=11.7km az=56.0*
*NEIC **19** 18:46:41.0±1.5,6°.57S±0°.06×101°.77E±0°.07,h10km±1km, mb5.2/101,Mww5.1/23,Error ellipse: s-maj=11.1km s-min=10.2km az=261.0*
*MOS **19** 18:46:40.5±0.9,6°.40S×101°.79E,h17km,mb5.2/55,Error ellipse: s-maj=9.0km s-min=4.6km az=113.9*
*NEIC **19** 18:46:41.5,6°.58S×101°.58E,h20km,Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43; $M_{\theta\theta}$-1.82; $M_{\phi\phi}$2.24; $M_{r\theta}$-2.52; $M_{\theta\phi}$-4.66; $M_{\theta r}$-1.24; Fault plane solution: $M_0$5.77000×10^{16} NP1: ϕ_s8.63000°,δ69.17000°,λ-16.03000°. NP2:ϕ_s104.47000°, δ75.04000°,λ-158.40000°. Principal axes: T 5.3194, Plg4.0000°, Azm236.0000°; N 0.8914, Plg64.0000°, Azm138.0000°; P -6.2108, Plg26.0000°, Azm328.0000°;*
*DJA **19** 18:46:41.1±0.3,7°S±2°×10°2E±°,h13km±2km,M5.1/92, mb5.4/92,mB5.6/56,MLv5.7/24,Mw(mB)5.1/56, MwMwp4.8/10,Mwp5.1/10*
*NEIC **19** 18:46:41.5,6°.58S×101°.79E,h20km*
*GCMT **19** 18:46:43.0±0.2,6°.62S±0°.01×101°.69E±0°.01,h15km±1km, MW5.1/117,Moment Tensor Solution. s59,c74; s117,c191; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.13±.11; $M_{\theta\theta}$-1.62±.10; $M_{\phi\phi}$1.50±.11; $M_{r\theta}$-10.0±.27; $M_{\theta\phi}$-4.76±.11; $M_{\phi r}$-1.07±.29; Best double couple: $M_0$5.20300×10^{16} NP1:ϕ_s100.00000°,δ77.00000°, λ-172.00000°. NP2:ϕ_s8.00000°,δ82.00000°,λ-13.00000°. Principal axes: T 4.9660, Plg3.0000°, Azm55.0000°; N 0.4810, Plg75.0000°, Azm158.0000°; P -5.4400, Plg14.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:46:41.0±0.3,6°.61S±0°.04×101°.74E±0°.04,h10km,n542, σ1§54/475,mb5.1/164,MS4.3/88,28C-37D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.55**	**29**	Pn	**Pn**	**18 47 21.2**	**-1.2**
MNAI	**Manna**	**2.55**	**29**	P	**Pn**	**18 47 21.2**	**-1.2**
MNAI	**Manna**	**2.55**	**29**	P	**Pn**	**18 47 21.2**	**-1.2**
MNAI				S	**Sn**	**18 47 50.3**	**-3.2**
KSI	**Kapahiang**	**3.06**	**16**	P	**Pn**	**18 47 28.0**	**-1.5**
KSI				S	**Sn**	**18 48 01.9**	**-4.4**
MDSI	**Maura Dua**	**3.22**	**49**	P	**Pn**	**18 47 31.3**	**-0.3**
BLSI	**Bandar Lampung**	**3.70**	**71**	P	**Pn**	**18 47 38.0**	**-0.3**
CGJI	**Cibinong**	**3.93**	**90**	P	**Pn**	**18 47 40.6**	**-0.8**
PPSI	**Pulau Pagai**	**4.20**	**336**	P	**Pn**	**18 47 43.5**	**-1.5**
SBJI	**Serang**	**4.39**	**84**	P	**Pn**	**18 47 47.8**	**0.0**
PMBI	**Palembang**	**4.75**	**40**	Pn	**Pn**	**18 47 51.7**	**-1.0**
PMBI	**Palembang**	**4.75**	**40**	P	**Pn**	**18 47 52.8**	**+0.1**
PMBI	**Palembang**	**4.75**	**40**	P	**Pn**	**18 47 51.7**	**-1.0**
SKJI	**Sukabumi**	**4.80**	**95**	P	**Pn**	**18 47 53.7**	**+0.3**
TNG	**Tangerang**	**4.90**	**85**	P	**Pn**	**18 47 55.1**	**+0.4**
TNG				P	**Pn**	**18 47 55.2**	**+0.5**
CNJI	**Cibinong**	**5.40**	**98**	P	**Pn**	**18 48 00.2**	**-1.4**
XMIS	**Christmas Isla**	**5.45**	**135**	Pn	Pn	18 47 56.7	-5.7
LEM	**Lembang**	**5.84**	**92**	Pn	**Pn**	**18 48 09.2**	**+1.3**
	157nm,0.3s,baz=330,slow=8.6,SNR=127						
LEM				Sn	**Sn**	**18 49 11.9**	**-3.1**
	baz=339,slow=19						
LEM				LR	LR	18 50 30.5	
	comp=Z,2μm,18.7s,baz=272,slow=40						
LEM	**Lembang**	**5.84**	**92**	P	**Pn**	**18 48 08.8**	**+0.9**
SISI	**Saibi**	**5.88**	**333**	P	Pn	18 48 06.1	-2.1
BBJI	**Bungbulang**	**5.93**	**99**	P	**Pn**	**18 48 08.0**	**-1.0**
PPBI	**Pangkal Pinang**	**6.23**	**45**	P	**Pn**	**18 48 12.5**	**-0.5**
PPI	**Padang Panjang**	**6.26**	**348**	P	Pn	18 48 11.1	-2.4
	4.2nm5μm7μm729nm,0.8s						
JCJI	**Jatiwangi**	**6.49**	**89**	P	**Pn**	**18 48 16.7**	**+0.1**
	3.5nm626nm,0.8s						
CMJI	**Cimerak**	**6.76**	**100**	P	**Pn**	**18 48 19.6**	**-0.7**
BKNI	**Bangkinang**	**6.93**	**354**		Pn	18 48 19.8	-2.9
BKNI	**Bangkinang**	**6.93**	**354**	P	Pn	18 48 20.7	-1.9
BKNI	**Bangkinang**	**6.93**	**354**	P	Pn	18 48 20.3	-2.3
	3.4nm5μm430nm,0.9s						
TPI	**Tanjungpandan**	**7.03**	**57**	P	**Pn**	**18 48 23.6**	**-0.5**
	4μm2μm182nm,0.8s						
KPJI	**Karang Pucung**	**7.18**	**96**	P	**Pn**	**18 48 27.5**	**+1.5**
	2.8nm6μm555nm,1.0s						
COCO	**West Island**	**7.35**	**221**		Pn	18 48 26.9	-1.5
COCO	**West Island**	**7.35**	**221**	P	**Pn**	**18 48 28.1**	**-0.4**
COCO	**West Island**	**7.35**	**221**	P	**Pn**	**18 48 28.3**	**-0.2**
COCO				pmax	pmax		
	comp=Z,1μm,0.7s						
PBSI	**Pulau Batu**	**7.37**	**332**	P	Pn	18 48 26.3	-2.4
	comp=Z,2.2nmcomp=Z,4μmcomp=Z,6μmcomp=Z,651nm,0.8s						
MNSI	**Mandailing Nat**	**7.67**	**344**	P	Pn	18 48 31.0	-1.8
	comp=Z,1.5nmcomp=Z,4μmcomp=Z,201nm,0.6s						
YOGI	**Yogyakarta**	**8.57**	**99**	P	**Pn**	**18 48 46.3**	**+1.0**
	comp=Z,3μmcomp=Z,363nm,0.7s						
MYKOM	**Kota Tinggi**	**8.61**	**14**	Pn	**Pn**	**18 48 43.9**	**-1.8**
MYKOM	**Kota Tinggi**	**8.61**	**14**	P	**Pn**	**18 48 46.5**	**+0.8**
SMRI	**Semarang**	**8.65**	**93**	Pn	**Pn**	**18 48 44.8**	**-1.6**
SMRI	**Semarang**	**8.65**	**93**	P	**Pn**	**18 48 49.1**	**+2.7**
SMRI	**Semarang**	**8.65**	**93**	P	**Pn**	**18 48 48.5**	**+2.1**
	comp=Z,3μmcomp=Z,397nm,0.9s						
UGM	**Wanagama**	**8.81**	**99**	Pn	**Pn**	**18 48 47.3**	**-1.3**
UGM	**Wanagama**	**8.81**	**99**	P	**Pn**	**18 48 48.3**	**-0.2**
UGM	**Wanagama**	**8.81**	**99**	P	**Pn**	**18 48 47.9**	**-0.6**
GSI	**Gunungsitoli**	**8.89**	**332**	Pn	Pn	18 48 46.4	-3.3
GSI	**Gunungsitoli**	**8.89**	**332**	P	Pn	18 48 47.2	-2.5
GSI	**Gunungsitoli**	**8.89**	**332**	P	Pn	18 48 47.2	-2.5
PCJI	**Pacitan**	**9.49**	**100**	P	**Pn**	**18 48 56.4**	**-1.4**
RPSI	**Rantau Prapat**	**9.66**	**343**	Pn	Pn	18 48 56.6	-3.6
RPSI	**Rantau Prapat**	**9.66**	**343**		**Pn**	**18 48 58.8**	**-1.4**
NGJI	**Ngawi**	**9.68**	**95**	P	**Pn**	**18 49 02.0**	**+1.6**
	comp=Z,214nm,0.9s						
PSI	**Prapat**	**9.77**	**343**	Pn	Pn	18 48 58.8	-2.9
	comp=Z,3.8nm,0.3s,baz=173,slow=9.4,SNR=13						
PSI				Sn	Sn	18 50 39.3	-12
	comp=Z,2.1nm,0.3s,baz=192,slow=15,SNR=1.8						
	comp=Z,16nm,0.5s						
PSI	**Prapat**	**9.77**	**343**	P	Pn	18 48 59.2	-2.5
TBJI	**Tambak Boyo**	**10.04**	**92**	P	**Pn**	**18 49 05.5**	**+0.1**
	comp=Z,258nm,0.9s						
SNSI	**Sinabang, Aceh**	**10.46**	**329**	P	Pn	18 49 09.4	-1.8
TSI	**Tuntungan**	**10.54**	**342**	P	**Pn**	**18 49 10.8**	**-1.3**
	comp=Z,3μmcomp=Z,2μmcomp=Z,143nm,1.3s						
GRJI	**Gresik**	**10.67**	**92**	P	**Pn**	**18 49 14.8**	**+0.8**
IPM	**Ipoh**	**11.04**	**356**	Pn	**Pn**	**18 49 18.1**	**-1.0**
IPM	**Ipoh**	**11.04**	**356**	P	**Pn**	**18 49 20.3**	**+1.2**
GMJI	**Gumukmas**	**11.72**	**99**	P	**Pn**	**18 49 28.9**	**+0.5**
	comp=Z,1μmcomp=Z,101nm,0.9s						
KSM	**Kuching**	**11.74**	**47**	Pn	**Pn**	**18 49 27.6**	**-1.0**
KSM	**Kuching**	**11.74**	**47**	P	**Pn**	**18 49 28.8**	**+0.2**
STKI	**Sintang**	**11.77**	**56**	P	**Pn**	**18 49 28.5**	**-0.5**
	comp=Z,2μmcomp=Z,266nm,0.8s						
KULM	**Kulim**	**11.87**	**355**	Pn	Pn	18 49 28.0	-2.5
KULM	**Kulim**	**11.87**	**355**	P	**Pn**	**18 49 28.9**	**-1.6**
MLSI	**Meulaboh, Aceh**	**12.05**	**334**	P	**Pn**	**18 49 31.2**	**-1.7**
KMMI	**Kalianget**	**12.15**	**93**	P	**Pn**	**18 49 35.1**	**+0.8**
	comp=Z,2μmcomp=Z,132nm,1.0s						
JAGI	**Jajag, Banyuwa**	**12.45**	**99**	Pn	Pn	18 49 35.1	-3.2
JAGI	**Jajag, Banyuwa**	**12.45**	**99**	P	**Pn**	**18 49 38.3**	**0.0**
JAGI	**Jajag, Banyuwa**	**12.45**	**99**	P	**Pn**	**18 49 37.8**	**-0.5**
	comp=Z,2μmcomp=Z,190nm,1.0s						
ABJI	**Asem Bagus**	**12.46**	**96**	P	**Pn**	**18 49 39.2**	**+0.8**
	comp=Z,3μmcomp=Z,370nm,0.9s						
LHMI	**Lhok Sumawe**	**12.70**	**338**	Pn	Pn	18 49 36.2	-5.6
LHMI	**Lhok Sumawe**	**12.70**	**338**	P	**Pn**	**18 49 40.5**	**-1.3**
LHMI	**Lhok Sumawe**	**12.70**	**338**	P	Pn	18 49 39.9	-1.9
	comp=Z,3μmcomp=Z,324nm,0.9s						
SRBI	**Singaraja**	**13.45**	**97**	P	**Pn**	**18 49 52.6**	**+0.6**
	comp=Z,2μmcomp=Z,199nm,0.9s						
DNP	**Denpasar**	**13.51**	**100**	P	**Pn**	**18 49 53.6**	**+0.7**
	comp=Z,303nm,0.9s						
BSI	**Banda Aceh**	**13.64**	**332**	P	Pn	18 49 50.8	-3.8
	comp=Z,4μmcomp=Z,368nm,0.9s						
SBUM	**Sibu**	**13.80**	**50**	Pn	**Pn**	**18 49 58.9**	**+2.0**
SBUM	**Sibu**	**13.80**	**50**	P	**Pn**	**18 49 58.9**	**+2.0**
TWSI	**Taliwang, Sumb**	**15.16**	**99**	P	**Pn**	**18 50 14.8**	**-0.5**
	comp=Z,1μmcomp=Z,83nm,0.8s						
SRIT	**Nakonsritamara**	**15.26**	**352**	Pn	**Pn**	**18 50 12.7**	**-4.0**
SRIT	**Nakonsritamara**	**15.26**	**352**	P	**Pn**	**18 50 13.7**	**-2.9**
BKB	**Balikpapan**	**16.03**	**71**	Pn	**Pn**	**18 50 22.6**	**-4.0**
BKB				IAmb	IAmb	18 50 33.0	
	comp=Z,161nm,0.8s						
PLAI	**Plampang**	**16.05**	**99**	P	**Pn**	**18 50 27.4**	**+0.5**
PLAI	**Plampang**	**16.05**	**99**	P	**Pn**	**18 50 25.2**	**-1.7**
	comp=Z,2μmcomp=Z,291nm,0.9s						
WBSI	**Waikabubak, Su**	**17.73**	**101**	P	**Pn**	**18 50 44.5**	**-3.7**
	comp=Z,97nm,0.6s						
KAPI	**Kappang**	**17.99**	**86**	P	**Pn**	**18 50 51.2**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=187,slow=19,SNR=7.6						
KAPI				LR	LR	18 59 10.3	
	comp=Z,664nm,18.0s,baz=269,slow=42						
	comp=Z,3.4nm,0.4s						
KAPI	**Kappang**	**17.99**	**86**	P	**Pn**	**18 50 52.6**	**+1.2**
BKSI	**Bulukumba**	**18.33**	**87**	P	**Pn**	**18 50 53.4**	**-2.2**
TTSI	**Tana Toraja**	**18.36**	**80**	P	**Pn**	**18 50 55.4**	**-0.5**
WSI	**Waingapu**	**18.62**	**101**	P	**P**	**18 50 58.3**	**-0.5**
	comp=Z,3μmcomp=Z,278nm,0.8s						
BSSI	**Bau Bau, Buton**	**18.64**	**90**	P	**P**	**18 50 57.6**	**-1.5**
	comp=Z,980nmcomp=Z,78nm,0.9s						
PCI	**Palu**	**18.92**	**73**	P	**P**	**18 51 02.4**	**+0.2**
	comp=Z,4μmcomp=Z,237nm,1.0s						
BASI	**Baing, Sumba**	**18.98**	**102**	P	**P**	**18 51 03.6**	**+0.9**
	comp=Z,4μmcomp=Z,369nm,1.1s						
KKM	**Kota Kinabalu**	**19.15**	**49**		**P**	**18 51 02.7**	**-2.1**
KKM				IAmb	IAmb	18 51 16.1	
	comp=Z,103nm,0.9s						
KKM	**Kota Kinabalu**	**19.15**	**49**	P	**P**	**18 51 04.3**	**-0.5**
MPSI	**Mapaga**	**19.39**	**70**	P	**P**	**18 51 07.2**	**-0.1**
	comp=Z,84nm,0.7s						
DLV	**Lat**	**19.62**	**20**		**P**	**18 51 08.5**	**-1.5**
DLV	**Lat**	**19.62**	**20**	P	**P**	**18 51 10.2**	**+0.2**
GIRL	**Giralia**	**19.98**	**144**	P	**P**	**18 51 11.2**	**-2.4**
MMRI	**Maumere**	**20.42**	**97**	P	**P**	**18 51 16.7**	**-1.8**
MMRI	**Maumere**	**20.42**	**97**	P	**P**	**18 51 17.5**	**-1.0**
MMRI	**Maumere**	**20.42**	**97**	P	**P**	**18 51 17.3**	**-1.2**
	comp=Z,2μmcomp=Z,312nm,0.8s						
MYLDM	**Lahad Datu**	**20.43**	**55**	P	**P**	**18 51 16.9**	**-1.7**
MYLDM	**Lahad Datu**	**20.43**	**55**	P	**P**	**18 51 19.4**	**+0.8**
TOLI2	**Tolitoli**	**20.50**	**69**	P	**P**	**18 51 16.8**	**-2.6**
TOLI2				IAmb	IAmb	18 51 31.9	
	comp=Z,72nm,0.9s						
TOLI2	**Tolitoli**	**20.50**	**69**	P	**P**	**18 51 19.5**	**+0.1**
APSI	**Ampana**	**20.65**	**75**	P	**P**	**18 51 20.3**	**-0.8**
	comp=Z,3μmcomp=Z,261nm,1.1s						
BBSI	**Bau Bau**	**20.75**	**88**	P	**P**	**18 51 21.9**	**-0.2**
	comp=Z,958nmcomp=Z,83nm,0.9s						
NAYO	**Nakonayok**	**20.80**	**359**	P	**P**	**18 51 21.9**	**-0.7**
KDI	**Kendari**	**20.96**	**84**	P	**P**	**18 51 23.9**	**-0.5**
SRDT	**Sroi**	**20.99**	**353**	P	**P**	**18 51 24.8**	**+0.2**
MRSI	**Marisa**	**21.36**	**71**	P	**P**	**18 51 27.2**	**-1.5**
	comp=Z,1μmcomp=Z,91nm,0.6s						
LUWI	**Luwuk**	**21.70**	**76**	P	P	18 51 25.2	-7.1
LUWI				IAmb	IAmb	18 51 48.3	
	comp=Z,105nm,1.0s						
LUWI	**Luwuk**	**21.70**	**76**	P	**P**	**18 51 33.0**	**+0.7**
LUWI	**Luwuk**	**21.70**	**76**	P	**P**	**18 51 32.0**	**-0.3**
	comp=Z,2μmcomp=Z,104nm,0.9s						
UBPT	**Khong Chiam**	**22.07**	**10**	P	**P**	**18 51 34.6**	**-1.5**
UBPT				IAmb	IAmb	18 51 49.4	
	comp=Z,70nm,0.9s						
UBPT	**Khong Chiam**	**22.07**	**10**	P	**P**	**18 51 35.3**	**-0.9**
SOEI	**Soe**	**22.52**	**99**	P	**P**	**18 51 39.2**	**-2.0**
SOEI	**Soe**	**22.52**	**99**	P	**P**	**18 51 40.5**	**-0.8**
SOEI	**Soe**	**22.52**	**99**	P	**P**	**18 51 39.7**	**-1.6**
	comp=Z,4μmcomp=Z,422nm,0.8s						
PSAC1	**Pilbara Seismi**	**22.92**	**132**	P	**P**	**18 51 44.6**	**-0.7**
	comp=Z,101nm,1.9s						
PSA00	**Pilbara Seismi**	**22.97**	**132**	P	**P**	**18 51 44.6**	**-1.2**
PSA00				IAmb	IAmb	18 51 47.5	
	comp=Z,65nm,0.9s						
PSA00	**Pilbara Seismi**	**22.97**	**132**	P	**P**	**18 51 45.3**	**-0.6**
	comp=Z,88nm,1.5s						
PSA00	**Pilbara Seismi**	**22.97**	**132**	P	**P**	**18 51 45.8**	**-0.1**
NONG	**Nongkai**	**24.56**	**3**	P	**P**	**18 52 00.3**	**-0.9**
SANI	**Sanana**	**24.60**	**80**	P	**P**	**18 52 00.2**	**-1.4**
SANI	**Sanana**	**24.60**	**80**	P	**P**	**18 51 59.7**	**-1.9**
	comp=Z,936nmcomp=Z,99nm,0.9s						
PHRA	**Phrae**	**25.00**	**357**	P	**P**	**18 52 04.8**	**-0.4**
CM31	**Chiang Mai Arr**	**25.06**	**354**	P	**P**	**18 52 04.8**	**-1.0**
CM31				IAmb	IAmb	18 52 25.0	
	comp=Z,37nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.06**	**354**	P	**P**	**18 52 05.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**25.06**	**354**	P	**P**	**18 52 05.8**	**+0.1**
	comp=Z,20nm,0.7s,baz=167,slow=8.0,SNR=223						
CMAR				LR	LR	19 03 32.5	
	comp=Z,599nm,18.2s,baz=185,slow=40						
	comp=Z,20nm,0.7s						
PALK	**Pallekele**	**25.11**	**303**	LR	LR	18 59 53.2	
	comp=Z,745nm,21.8s,baz=122,slow=32						
PALK	**Pallekele**	**25.11**	**303**	*de*P	**P**	**18 52 08.6**	**+2.3**
PALK				pmax	pmax		
	comp=Z,30nm,1.4s						
CHTO	**Chiang Mai**	**25.42**	**354**	P	**P**	**18 52 08.1**	**-0.8**
CHTO				IAmb	IAmb	18 52 09.9	
	comp=Z,29nm,0.8s						
CHTO	**Chiang Mai**	**25.42**	**354**	P	**P**	**18 52 08.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,29nm,0.8s						
NLAI	**Namlea**	**25.49**	**84**	P	**P**	**18 52 08.6**	**-1.1**
	comp=Z,62nm,1.0s						
MEEK	**Meekatharra**	**25.59**	**143**	P	**P**	**18 52 10.6**	**0.0**
	comp=Z,26nm,1.1s						
MEEK	**Meekatharra**	**25.59**	**143**	P	**P**	**18 52 10.5**	**0.0**
FITZ	**Fitzroy Crossi**	**25.95**	**118**	P	**P**	**18 52 12.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**25.95**	**118**	LR	LR	19 01 51.7	
	comp=Z,531nm,21.7s,baz=310,slow=35						
MORW	**Morawa**	**26.10**	**151**	P	**P**	**18 52 14.4**	**-0.7**
MORW				IAmb	IAmb	18 52 26.6	
	comp=Z,58nm,1.5s						
MORW	**Morawa**	**26.10**	**151**	P	**P**	**18 52 13.5**	**-1.7**
	comp=Z,22nm,1.0s						
MORW	**Morawa**	**26.10**	**151**	P	**P**	**18 52 15.0**	**-0.1**
QIZ	**Qiongzhong**	**26.70**	**17**	P	**P**	**18 52 21.6**	**+1.0**
QIZ				S	**S**	**18 56 55.5**	**-0.7**
QIZ				sS	**sS**	**18 57 03.4**	**+5.2**
QIZ				pmax	pmax		
	comp=Z,31nm,2.0s						
QIZ				LR	LR		
	comp=Z,870nm,21.3s						
QIZ				LR	LR		
	comp=Z,1μm,17.9s						
QIZ				LR	LR		
	comp=Z,880nm,15.1s						
DAV	**Davao City (W)**	**27.40**	**61**	LR	LR	19 04 28.5	
	comp=Z,366nm,19.0s,baz=238,slow=39						
SLVN	**Son La**	**27.86**	**4**	P	**P**	**18 52 29.7**	**-1.3**
SLVN				IAmb	IAmb	18 53 03.3	
	comp=Z,30nm,1.0s						
SLVN	**Son La**	**27.86**	**4**	P	**P**	**18 52 31.6**	**+0.6**
KNRA	**Kununurra**	**27.97**	**111**	P	**P**	**18 52 31.2**	**-0.9**
KNRA	**Kununurra**	**27.97**	**111**	P	**P**	**18 52 32.4**	**+0.3**
	comp=Z,46nm,0.8s						
TGY	**Tagaytay City**	**28.05**	**43**	LR	LR	19 04 04.8	
	comp=Z,299nm,21.3s,baz=164,slow=37						
BNDI	**Bandanaira**	**28.11**	**87**	P	**P**	**18 52 33.0**	**-0.3**
	comp=Z,166nm,1.2s						
H08S2	**Diego Garcia H**	**29.03**	**266**	T	T	19 24 01.4	
	baz=92						
H08S3	**Diego Garcia H**	**29.04**	**266**	T	T	19 23 57.3	
	baz=92,slow=74						
H08S1	**Diego Carcia H**	**29.05**	**266**	T	T	19 24 01.3	
	baz=92,slow=74						
DRS	**Darwin Rock St**	**29.32**	**104**	P	**P**	**18 52 44.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**29.89**	**153**	LR	LR	19 02 48.5	
	comp=Z,1μm,22.0s,baz=290,slow=32						
H01W3	**Cape Leeuwin H**	**30.37**	**160**	T	T	19 26 12.6	
	baz=338						
H01W2	**Cape Leeuwin H**	**30.38**	**160**	T	T	19 25 52.8	
	baz=338,slow=74						
H01W1	**Cape Leeuwin H**	**30.38**	**160**	T	T	19 25 55.5	
	baz=338,slow=74						
FAKI	**Fak Fak**	**30.62**	**85**	P	**P**	**18 52 54.1**	**-1.6**
	comp=Z,63nm,1.3s						
BRDH	**Bariadhala**	**30.74**	**342**	LR	LR	19 08 22.4	
	comp=Z,944nm,19.2s,baz=154,slow=42						
KMBL	**Kambalda**	**31.01**	**145**	P	**P**	**18 52 57.8**	**-1.1**
	comp=Z,50nm,1.1s						
KMBL	**Kambalda**	**31.01**	**145**	P	**P**	**18 52 59.0**	**+0.1**
WRKA	**Warakurna**	**31.33**	**129**	P	**P**	**18 53 00.8**	**-1.0**
	comp=Z,40nm,1.3s						
WRKA	**Warakurna**	**31.33**	**129**	P	**P**	**18 53 02.0**	**+0.2**
KMI	**Kunming**	**31.56**	**2**	⇓P	**P**	**18 53 05.8**	**+1.8**
KMI				S	**S**	**18 58 15.1**	**+2.2**
KMI				pmax	pmax		
	comp=Z,28nm,0.8s						
KMI				pmax	pmax		
	comp=Z,150nm,3.5s						
KMI				LR	LR		
	comp=Z,500nm,19.4s						
KMI				LR	LR		
	comp=Z,2μm,17.6s						
KMI				LR	LR		
	comp=Z,550nm,21.8s						
TNCH	**TengChong**	**31.61**	**354**	⇓P	**P**	**18 53 04.5**	**+0.1**
TNCH				pP	pP	18 53 07.0	+1.4
TNCH				sP	sP	18 53 10.0	+3.9
TNCH				PP	**PnPn**	**18 54 05.4**	**-2.6**
TNCH				S	**S**	**18 58 17.8**	**+4.2**
TNCH				sS	sS	18 58 26.3	+11
TNCH				pmax	pmax		
	comp=Z,23nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,100nm,2.6s						
TNCH				LR	LR		
	comp=Z,530nm,11.7s						
TNCH				LR	LR		
	comp=Z,480nm,14.1s						
TNCH				LR	LR		
	comp=Z,710nm,20.4s						
GULI	**GuiLin**	**32.80**	**15**	P	**P**	**18 53 18.5**	**+3.8**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH	**PanZhiHua**	**32.92**	**0**	P	**P**	**18 53 15.9**	**+0.1**
PZH				S	**S**	**18 58 31.3**	**-2.6**
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,140nm,4.9s						
PZH				LR	LR		
	comp=Z,490nm,16.5s						
PZH				LR	LR		
	comp=Z,770nm,17.3s						
PZH				LR	LR		
	comp=Z,580nm,19.1s						
HYB	**Hyderabad**	**33.09**	**316**	*e*P	**P**	**18 53 17.3**	**0.0**
HYB				IVmB_BB		18 53 19.3	
	comp=Z,216nm,3.0s						
GYA	**Guiyang**	**33.22**	**8**	⇑P	**P**	**18 53 19.4**	**+1.0**
GYA				sP	pwP	18 53 29.5	+1.9
GYA				PP	**PP**	**18 54 34.5**	**+0.8**
GYA				S	**S**	**18 58 37.8**	**-0.8**
GYA				pmax	pmax		
	comp=Z,21nm,0.8s						
GYA				LR	LR		
	comp=Z,770nm,17.3s						
GYA				LR	LR		
	comp=Z,720nm,14.6s						
GYA				LR	LR		
	comp=Z,1μm,16.3s						
WB0	**Warramunga Arr**	**34.29**	**116**	P	**P**	**18 53 27.4**	**-0.4**
WB0				IAmb	IAmb	18 53 47.8	
	comp=Z,38nm,0.9s						
WRA	**Warramunga Arr**	**34.30**	**116**	P	**P**	**18 53 27.1**	**-0.7**
WRA	**Warramunga Arr**	**34.30**	**116**	P	**P**	**18 53 27.8**	**-0.1**
	comp=Z,22nm,0.8s,baz=285,slow=11,SNR=87						
WRA				LR	LR	19 06 13.7	
	comp=Z,339nm,21.7s,baz=293,slow=34						
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**34.30**	**116**	P	**P**	**18 53 27.5**	**-0.4**
WRAB				IAmb	IAmb	18 53 29.1	
	comp=Z,35nm,0.8s						
WRAB	**Tennant Creek**	**34.30**	**116**	*di*P	**P**	**18 53 27.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,35nm,0.7s						
WB2	**Warramunga Arr**	**34.31**	**116**	P	**P**	**18 53 27.2**	**-0.7**
WB2				IAmb	IAmb	18 53 29.0	
	comp=Z,33nm,0.8s						
FORT	**Forrest**	**34.45**	**138**	P	**P**	**18 53 28.0**	**-1.0**
FORT				IAmb	IAmb	18 53 30.2	
	comp=Z,38nm,0.7s						
FORT	**Forrest**	**34.45**	**138**	P	**P**	**18 53 29.4**	**+0.4**
	comp=Z,70nm,0.7s						
FORT	**Forrest**	**34.45**	**138**	P	**P**	**18 53 29.2**	**+0.2**
WR0	**Warramunga Arr**	**34.48**	**116**	P	**P**	**18 53 28.6**	**-0.9**
WR0				IAmb	IAmb	18 53 41.0	
	comp=Z,31nm,0.9s						
AS31	**Alice Springs**	**35.24**	**122**	P	**P**	**18 53 34.7**	**-1.3**
AS31	**Alice Springs**	**35.24**	**122**	P	**P**	**18 53 34.5**	**-1.5**

comp=Z,780nm,19.2s
LYN LR LR
comp=Z,3μm,21.3s
LYN LR LR
comp=Z,800nm,19.6s
INKA Innaminka 42.51 124 P **P 18 54 37.4 +0.6**
LZH Lanzhou 42.52 3 *e*P **P 18 54 37.4 +0.5**
LZH sP sP 18 54 43.5 +4.8
LZH S **S 19 00 58.0 -1.4**
LZH pmax pmax
comp=Z,30nm,1.3s
LZH LR LR
comp=Z,870nm,13.7s
LZH LR LR
comp=Z,970nm,14.8s
LZH LR LR
comp=Z,1μm,14.8s
MTSU Mount Surprise 43.03 109 P **P 18 54 41.8 +0.5**
comp=Z,19nm,0.9s
MTSU Mount Surprise 43.03 109 P **P 18 54 42.1 +0.9**
GOMU GeErMu 43.08 352 P **P 18 54 41.8 +0.1**
GOMU pP pP 18 54 45.1 +2.2
GOMU sP sP 18 54 49.1 +5.7
GOMU S **S 19 01 04.0 -4.0**
GOMU SS SS 19 04 11.3 -9.3
GOMU pmax pmax
comp=Z,15nm,0.9s
GOMU LR LR
comp=Z,370nm,13.1s
GOMU LR LR
comp=Z,310nm,13.7s
GOMU LR LR
comp=Z,800nm,13.0s
HTT Hallett 43.56 133 P **P 18 54 45.0 -0.4**
comp=Z,21nm,0.9s
HTT Hallett 43.56 133 P **P 18 54 45.5 +0.1**
STKA Stephens Creek 44.85 129 P **P 18 54 55.4 -0.3**
STKA Stephens Creek 44.85 129 P **P 18 54 55.1 -0.6**
comp=Z,5.3nm,1.0s
STKA Stephens Creek 44.85 129 P **P 18 54 56.0 +0.3**
comp=Z,13nm,0.7s,baz=300,slow=8.5,SNR=30
STKA LR LR 19 13 26.9
comp=Z,640nm,21.5s,baz=306,slow=36
comp=Z,13nm,0.7s
STKA Stephens Creek 44.85 129 P **P 18 54 55.8 +0.1**
STKA Stephens Creek 44.85 129 *d iP* **P 18 54 55.8 +0.1**
TIA Tai'an 44.98 18 P **P 18 54 56.6 0.0**
TIA S **S 19 01 31.9 -3.2**
TIA ScS **ScS 19 04 54.6 +0.3**
TIA pmax pmax
comp=Z,6.0nm,0.9s
TIA pmax pmax
comp=Z,140nm,3.6s
TIA LR LR
comp=Z,810nm,20.9s
TIA LR LR
comp=Z,2μm,18.8s
QLP Quilpie 45.02 121 P **P 18 54 57.4 +0.3**
comp=Z,67nm,0.9s
QLP Quilpie 45.02 121 P **P 18 54 57.8 +0.7**
PMG Port Moresby 45.04 97 LR LR 19 15 33.3
comp=Z,253nm,21.7s,baz=255,slow=38
TIY Taiyuan 45.21 12 *e*P **P 18 55 00.9 +2.5**
TIY pmax pmax
comp=Z,8.0nm,0.8s
HNS HongShan 45.43 15 ⇑P **P 18 55 02.8 +2.8**
HNS S **S 19 01 39.8 -1.7**
HNS pmax pmax
comp=Z,12nm,0.8s
HNS LR LR
comp=Z,560nm,20.8s
HNS LR LR
comp=Z,1μm,20.8s
HNS LR LR
comp=Z,410nm,20.8s
GTA Gaotai 45.83 358 *e*P **P 18 55 04.3 +1.0**
GTA sP pwP 18 55 15.3 +2.7
GTA S **S 19 01 46.4 -1.0**
GTA SS **ScS 19 05 08.0 +8.1**
GTA pmax pmax
comp=Z,14nm,1.0s
GTA LR LR
comp=Z,450nm,16.7s
GTA LR LR
comp=Z,510nm,16.4s
GTA LR LR
comp=Z,600nm,19.6s
BTO Baotou 47.60 9 *e*P **P 18 55 19.1 +1.9**
BTO pP **sP 18 55 23.5 +4.5**
BTO sP **pwP 18 55 26.5 +0.1**
BTO PP **PP 18 57 04.3 -4.6**
BTO S **S 19 02 18.3 +5.6**
BTO pmax pmax
comp=Z,20nm,0.9s
BTO pmax pmax
comp=Z,330nm,5.0s
BTO LR LR
comp=Z,540nm,15.7s
BTO LR LR
comp=Z,2μm,15.9s
BTO LR LR
comp=Z,550nm,8.9s
CMSA Cobar Meteorol 47.92 127 P **P 18 55 20.7 +0.9**
comp=Z,57nm,1.1s
CMSA Cobar Meteorol 47.92 127 P **P 18 55 20.4 +0.6**
HHC Hu-ho-hao-te 48.09 10 *e*P **P 18 55 22.1 +1.1**
HHC pP sP 18 55 25.5 +2.8
HHC sP pwP 18 55 32.6 +2.4
HHC S **S 19 02 20.5 +0.9**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC LR LR
comp=Z,250nm,17.2s
HHC LR LR
comp=Z,730nm,17.7s
HHC LR LR
comp=Z,370nm,17.2s
BJT Baijiatuau 48.27 15 P **P 18 55 22.3 0.0**
BJT Baijiatuau 48.27 15 P **P 18 55 21.4 -0.9**
NIL Nilore 48.30 328 P **P 18 55 21.4 -1.2**
NIL Nilore 48.30 328 P **P 18 55 21.5 -1.2**
NIL pmax pmax
comp=Z,36nm,0.8s
AULRC Lightning Ridg 49.06 123 P **P 18 55 29.1 +0.5**
KRVT Keravat (AS076 50.10 90 LR LR 19 21 38.3
comp=Z,43nm,18.3s,baz=12,slow=42
KSRS Korea Array 50.20 27 P **P 18 55 36.5 -0.6**
comp=Z,2.6nm,0.5s,baz=224,slow=7.4,SNR=14
KSRS LR LR 19 15 18.3
comp=Z,131nm,21.8s,baz=225,slow=34
comp=Z,2.6nm,0.5s
KBL Kabul 51.28 325 P **P 18 55 44.2 -1.3**
KBL Kabul 51.28 325 P **P 18 55 44.2 -1.3**
KBL pmax pmax
comp=Z,6.0nm,0.7s
WSAR Wadi Sarin 51.52 307 LR LR 19 14 29.3
comp=Z,588nm,20.7s,baz=140,slow=32
JCJ Chichijima 51.53 48 LR LR 19 16 48.1
comp=Z,120nm,21.6s,baz=156,slow=35
KSH Kashi 51.72 335 P P 18 55 47.0 -1.6
KSH sP sP 18 55 55.0 +4.6
KSH pmax pmax
comp=Z,33nm,0.7s
KSH LR LR
comp=Z,330nm,15.5s
KSH LR LR
comp=Z,280nm,16.5s
KSH LR LR
comp=Z,430nm,16.8s
WUS Wushi 51.87 338 IAmb IAmb 18 55 50.9
comp=Z,17nm,0.8s
XLT XiLinHaoTe 51.93 13 *e*P **P 18 55 50.3 +0.2**
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT LR LR
comp=Z,790nm,20.1s
XLT LR LR
comp=Z,270nm,19.3s
AUPHS Peel High Scho 51.96 125 P **P 18 55 51.7 +1.1**
KDJ Kajisay 53.44 337 P **P 18 56 00.7 -0.7**
SHLS Shalkode 53.51 340 *e*P **P 18 56 00.4 -1.4**
SHLS pmax pmax
comp=Z,7.0nm,0.5s
SHLS Shalkode 53.51 340 *e*P **P 18 56 00.4 -1.4**
comp=Z,7.4nm,0.5s
DRK Karamyk 53.57 331 IAmb IAmb 18 56 04.4
comp=Z,27nm,0.7s
DRK Karamyk 53.57 331 P **P 18 56 01.6 -1.0**
UZB Uzynbulak 53.65 339 *e*P **P 18 56 02.3 -0.6**
UZB pmax pmax
comp=Z,10.0nm,0.8s
UZB Uzynbulak 53.65 339 *e*P **P 18 56 02.4 -0.6**
comp=Z,9.7nm,0.8s
SATY Saty 53.79 339 *e*P **P 18 56 03.2 -0.7**
SATY pmax pmax
comp=Z,10.0nm,0.9s
SATY Saty 53.79 339 *e*P **P 18 56 03.2 -0.7**
comp=Z,9.9nm,0.9s
GAR Garm 53.92 330 IAmb IAmb 18 56 05.7
comp=Z,19nm,0.8s
KPKS Kokpek 54.05 339 *e*P **P 18 56 05.2 -0.6**
KPKS Kokpek 54.05 339 *e*P **P 18 56 05.2 -0.6**
BOOM Boomskoye usch 54.23 337 IAmb IAmb 18 56 08.0
comp=Z,20nm,0.8s
BOOM Boomskoye usch 54.23 337 P **P 18 56 06.3 -0.9**
UOSS Minazif 54.29 307 P **P 18 56 07.6 -0.2**
TNSS Tian-Shan 54.31 338 *e*P **P 18 56 07.0 -1.0**
TNSS Tian-Shan 54.31 338 *e*P **P 18 56 07.0 -1.0**
SIMJ Simiganj 54.33 329 P P 18 56 05.0 -3.0
SONM Songino Array 54.37 4 P **P 18 56 08.0 -0.1**
SONM IAmb IAmb 18 56 20.4
comp=Z,25nm,1.0s
SONM Songino Array 54.37 4 P **P 18 56 08.3 +0.2**
comp=Z,12nm,0.8s,baz=182,slow=9.6,SNR=107
SONM LR LR 19 23 40.5
comp=Z,425nm,18.1s,baz=180,slow=41
comp=Z,12nm,0.8s
MDOK Medeo 54.38 338 *e*P **P 18 56 07.5 -0.7**
MDOK Medeo 54.38 338 *e*P **P 18 56 07.6 -0.7**
ULN Ulaanbaatar 54.45 4 P **P 18 56 08.8 +0.2**
ULN IAmb IAmb 18 56 20.8
comp=Z,16nm,1.0s
ULN Ulaanbaatar 54.45 4 *d iP* **P 18 56 09.3 +0.6**
ULN pmax pmax
comp=Z,18nm,1.0s
AAA Alma-Ata 54.47 338 *e*P **P 18 56 08.1 -0.6**
AAA pmax pmax
comp=Z,12nm,1.0s
AAA Alma-Ata 54.47 338 *e*P **P 18 56 08.2 -0.6**
comp=Z,12nm,1.0s
BTK Batken 54.49 331 P **P 18 56 08.4 -0.7**
CN2 Changchun 54.57 21 P **P 18 56 11.8 +2.4**
CN2 S **S 19 03 50.4 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,14.0s
MJAR Matsushiro Arr 54.86 36 P P 18 56 09.4 -2.4
comp=Z,2.3nm,0.7s,baz=211,slow=6.8,SNR=4.7
MJAR LR LR 19 20 16.5
comp=Z,83nm,20.4s,baz=226,slow=37
comp=Z,2.3nm,0.7s
AAK Ala-Archa 54.93 336 P **P 18 56 11.6 -0.7**
AAK Ala-Archa 54.93 336 LR LR 19 22 38.2
comp=Z,180nm,18.4s,baz=149,slow=39
AAK Ala-Archa 54.93 336 *d iP* **P 18 56 12.1 -0.2**
AAK pmax pmax
comp=Z,28nm,2.5s
FRU1 Bishkek 55.02 336 IAmb IAmb 18 56 13.4
comp=Z,21nm,0.8s
TDK Taldyqorghan 55.49 340 *e*P **P 18 56 15.5 -0.6**
TDK pmax pmax
comp=Z,13nm,0.6s
TDK Taldyqorghan 55.49 340 *e*P **P 18 56 15.5 -0.6**
comp=Z,13nm,0.6s
SGDS Sogindy 55.56 336 *e*P **P 18 56 15.8 -0.8**
SGDS Sogindy 55.56 336 *e*P **P 18 56 15.9 -0.8**
ZSN Zaisan 55.86 346 *e*P **P 18 56 18.5 -0.2**
ZSN pmax pmax
comp=Z,28nm,1.0s
ZSN Zaisan 55.86 346 *e*P **P 18 56 18.5 -0.2**
comp=Z,28nm,1.0s
MK31 Makanchi Array 55.91 344 *d iP* **P 18 56 18.6 -0.5**
MKAR Makanchi Array 55.91 344 P **P 18 56 18.3 -0.8**
MKAR Makanchi Array 55.91 344 P **P 18 56 18.7 -0.4**
comp=Z,16nm,0.8s,baz=149,slow=8.2,SNR=158
MKAR LR LR 19 25 54.2
comp=Z,106nm,19.1s,baz=137,slow=42
comp=Z,16nm,0.8s
MAKZ Makanchi 56.01 344 P **P 18 56 18.9 -0.9**
MAKZ Makanchi 56.01 344 P **P 18 56 19.2 -0.6**
DZA Taraz 56.49 334 *e*P **P 18 56 22.1 -1.2**
DZA Taraz 56.49 334 *e*P **P 18 56 22.2 -1.2**
ZAK Zakamensk 56.78 1 *e*P **P 18 56 24.7 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
MDJ Mudanjiang 56.83 23 P **P 18 56 27.3 +1.7**
MDJ S **S 19 04 21.6 +2.6**
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,300nm,4.8s
MDJ LR LR
comp=Z,500nm,16.5s
MDJ LR LR
comp=Z,420nm,15.5s
MDJ LR LR
comp=Z,350nm,16.5s
BNX BinXian 56.95 21 ⇑P **P 18 56 26.6 +0.1**
BNX pP **pP 18 56 29.8 +2.1**
BNX S **S 19 04 24.9 +4.4**
BNX pmax pmax
comp=Z,14nm,0.9s
BNX LR LR
comp=Z,370nm,18.4s
BNX LR LR
comp=Z,450nm,17.3s
BNX LR LR
comp=Z,200nm,14.1s
KKAR Karatay Array 57.02 333 P **P 18 56 25.6 -1.5**
KKAR Karatay Array 57.02 333 IAmb IAmb 18 56 27.6
comp=Z,3.9nm,0.7s
KKAR Karatay Array 57.02 333 P **P 18 56 25.6 -1.5**
BTLS Baital 57.12 337 *e*P **P 18 56 26.6 -1.1**
BTLS Baital 57.12 337 *e*P **P 18 56 26.6 -1.1**
BRLS Borolday 57.27 333 *e*P P 18 56 27.2 -1.7
BRLS Borolday 57.27 333 *e*P P 18 56 27.2 -1.7
USA0B Ussuriysk Arra 57.47 25 P **P 18 56 29.2 -1.0**
USA0B IAmb IAmb 18 56 44.0
comp=Z,18nm,0.9s
USA0B Ussuriysk Arra 57.47 25 *de*P **P 18 56 29.6 -0.6**
USRK Ussuriysk Ar. 57.47 25 P **P 18 56 29.0 -1.1**
USRK Ussuriysk Ar. 57.47 25 P **P 18 56 29.7 -0.5**
comp=Z,10nm,0.7s,baz=212,slow=6.9,SNR=15
USRK LR LR 19 23 12.7
comp=Z,169nm,18.1s,baz=218,slow=38
comp=Z,10nm,0.7s
HNR Honiara 57.66 97 LR LR 19 23 30.5
comp=Z,89nm,18.5s,baz=294,slow=38
MOY Mondy 58.05 359 *e*P **P 18 56 34.4 +0.1**
MOY pmax pmax
comp=Z,21nm,1.7s
H04S1 CROZET ISLANDS 58.46 218 T T 20 01 41.4
baz=60,slow=75,SNR=4.7
H04S3 CROZET ISLANDS 58.47 218 T T 20 01 40.4
baz=60,slow=75,SNR=12
H04S2 CROZET ISLANDS 58.47 218 T T 20 01 33.2
baz=60,slow=75,SNR=8.6
IRK Irkutsk 58.67 2 *e*P **P 18 56 38.0 -0.4**
IRK pmax pmax
comp=Z,45nm,1.5s
CIT Chita 59.27 8 *e*P **P 18 56 41.8 -0.9**
CIT *e* 18 57 23.4
SEM Semipalatinsk 59.77 344 *e*P **P 18 56 45.9 -0.4**
SEM Semipalatinsk 59.77 344 *e*P **P 18 56 45.9 -0.4**
KURBB Kurchatov Arra 60.44 343 P **P 18 56 50.1 -0.5**
comp=Z,11nm,0.9s,baz=165,slow=6.1,SNR=78
KURBB LR LR 19 28 15.0
comp=Z,134nm,18.2s,baz=198,slow=41
comp=Z,11nm,0.9s
KURK Kurchatov 60.49 343 P **P 18 56 49.9 -1.2**
KURK IAmb IAmb 18 56 51.7
comp=Z,21nm,0.9s
KURK Kurchatov 60.49 343 *d iP* **P 18 56 50.3 -0.7**
KURK pmax pmax
comp=Z,26nm,1.0s
HEH HeiHe 60.85 19 *e*P **P 18 56 53.3 -0.2**
HEH pmax pmax
comp=Z,6.0nm,0.8s
HEH LR LR
comp=Z,400nm,18.3s
HEH LR LR
comp=Z,740nm,17.7s
HEH LR LR
comp=Z,490nm,16.4s
KLR Kul'dur 61.48 22 LR LR 19 24 59.9
comp=Z,272nm,19.1s,baz=221,slow=38
KLR Kul'dur 61.48 22 ⇑*e*P **P 18 56 56.2 -1.6**
KLR pmax pmax
comp=Z,4.0nm,0.6s
BRZS Berezniki 61.76 339 *e*P **P 18 56 58.9 -0.7**
BRZS Berezniki 61.76 339 *e*P **P 18 56 59.0 -0.7**
ZAA0 Zalesovo Array 62.00 349 P **P 18 56 59.9 -1.3**
ZALV Zalesovo Beam 62.00 349 P **P 18 57 00.4 -0.8**
ZALV Zalesovo Beam 62.00 349 P **P 18 57 00.7 -0.5**
comp=Z,18nm,0.8s,baz=178,slow=4.2,SNR=85
ZALV LR LR 19 26 03.5
comp=Z,231nm,20.1s,baz=152,slow=38
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 62.00 349 *i* P **P 18 57 00.7 -0.5**
ZALV pmax pmax
comp=Z,19nm,0.8s
ASAJ Asahikawa 62.50 32 LR LR 19 23 44.7
comp=Z,108nm,21.8s,baz=235,slow=36
RAYN Ar Rayn 62.52 301 P P 18 57 03.9 -1.5
RAYN IAmb IAmb 18 57 06.1
comp=Z,10nm,0.9s
RAYN Ar Rayn 62.52 301 P P 18 57 03.9 -1.5
RAYN pmax pmax
comp=Z,10.0nm,1.0s
KRAR Krasnoyarsk 62.83 354 ⇑*e*P **P 18 57 05.7 -1.0**
KIBK Kibwezi 63.60 271 P **P 18 57 12.2 -0.6**
ZEA Zeya 63.86 17 *e*P **P 18 57 13.9 +0.3**
ZEA *e*S **S 19 05 52.7 +3.8**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA smax smax
comp=E,100nm,7.3s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
DZM Mont Dzumac 64.12 111 *e*LR LR 19 16 20.5
comp=Z,413nm,23.2s
DZM Mont Dzumac 64.12 111 LR LR 19 26 27.9
comp=Z,225nm,20.3s,baz=207,slow=37
YSS Yuzhno-Sakhali 64.53 30 P P 18 57 15.9 -2.1
YSS IAmb IAmb 18 57 43.5
comp=Z,23nm,0.9s
YSS Yuzhno-Sakhali 64.53 30 P **P 18 57 17.6 -0.5**
YSS Yuzhno-Sakhali 64.53 30 ⇓*e*P **P 18 57 17.7 -0.4**
YSS pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 64.53 272 P **P 18 57 19.9 +0.8**
comp=Z,1.6nm,0.5s,baz=68,slow=6.8,SNR=5.3
KMBO LR LR 19 20 41.2
comp=Z,109nm,19.0s,baz=90,slow=32
comp=Z,1.6nm,0.5s
KMBO Kilima Mbogo 64.53 272 *i* P **P 18 57 20.8 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
BOD Bodaibo 64.98 7 *e*P **P 18 57 20.2 -0.7**
BOD pmax pmax
comp=Z,21nm,1.4s
BVAR Borovoye Array 65.08 340 P **P 18 57 20.7 -0.9**
comp=Z,21nm,0.7s,baz=143,slow=8.9,SNR=147
comp=Z,21nm,0.7s
BRVK Borovoye 65.15 340 P **P 18 57 20.9 -1.1**
BRVK IAmb IAmb 18 57 22.1
comp=Z,14nm,0.8s
BRVK Borovoye 65.15 340 ⇓*e*P P 18 57 19.8 -2.2
BRVK pmax pmax
comp=Z,23nm,1.3s
MAW Mawson 66.29 195 LR LR 19 20 38.3
comp=Z,359nm,18.6s,baz=29,slow=31
ABKAR Akbulak array 66.49 332 P **P 18 57 29.7 -1.1**
ABKAR Akbulak array 66.49 332 IAmb IAmb 18 57 31.2
comp=Z,24nm,0.8s
LODK Lodwar 67.01 277 P **P 18 57 34.8 0.0**
AKTO Aktyubinsk 68.21 332 LR LR 19 30 50.3
comp=Z,83nm,19.2s,baz=102,slow=39
GNI Garni 70.05 317 P **P 18 57 53.2 -0.3**
GNI IAmb IAmb 18 58 07.8
comp=Z,14nm,1.0s
GNI Garni 70.05 317 *ce*P **P 18 57 54.1 +0.6**
GNI pmax pmax
comp=Z,15nm,1.0s
RPZ Rata Peaks 70.54 134 LR LR 19 26 26.7
comp=Z,440nm,21.9s,baz=302,slow=34
MBAR Mbarara 71.06 272 P **P 18 57 59.1 -1.1**
MBAR Mbarara 71.06 272 ⇓*i iP* **P 18 58 01.4 +1.2**
MBAR pmax pmax
comp=Z,7.0nm,0.9s
GURO Guroymak-BITLI 71.22 314 IAmb IAmb 18 58 02.1
comp=Z,13nm,0.7s
KARS Kars 71.39 317 P **P 18 58 03.9 +2.2**
KARS pmax pmax
comp=Z,20nm,1.4s
SVE Sverdlovsk 71.58 338 *e*P **P 18 58 02.1 -0.1**
SVE pmax pmax
comp=Z,39nm,1.1s
YAK Yakutsk 71.77 13 P **P 18 58 02.3 -0.9**
comp=Z,33nm,0.8s,baz=197,slow=0.4,SNR=22
YAK LR LR 19 31 38.1
comp=Z,191nm,19.3s,baz=216,slow=38
comp=Z,33nm,0.8s
YAK Yakutsk 71.77 13 *d iP* **P 18 58 02.0 -1.2**
YAK pmax pmax
comp=Z,37nm,0.7s
ARTI Arti 72.14 336 P **P 18 58 04.6 -1.0**
ARTI IAmb IAmb 18 58 06.2
comp=Z,29nm,0.8s
ARTI Arti 72.14 336 P **P 18 58 05.2 -0.4**
comp=Z,25nm,0.8s,baz=138,slow=2.9,SNR=48
ARTI LR LR 19 32 22.4
comp=Z,206nm,20.2s,baz=125,slow=38
comp=Z,25nm,0.8s
ARTI Arti 72.14 336 *d iP* **P 18 58 05.1 -0.5**
ARTI 19 00 46.3
ARTI S **S 19 07 30.9 +3.1**
ARTI SS **SS 19 12 08.1 +2.6**
ARTI pmax pmax
comp=Z,32nm,0.8s
NCK Nalchik 72.36 320 ⇓*e*P **P 18 58 06.3 -0.9**
NCK pmax pmax
comp=Z,19nm,0.8s
LSZ Lusaka 72.45 256 P **P 18 58 08.8 +0.3**
LSZ Lusaka 72.45 256 LR LR 19 24 49.5
comp=Z,239nm,20.7s,baz=97,slow=32
LSZ Lusaka 72.45 256 P **P 18 58 08.8 +0.3**
LSZ pmax pmax
comp=Z,7.0nm,1.0s
ASF Jabal al Asfar 72.69 306 LR LR 19 28 06.7
comp=Z,287nm,21.6s,baz=154,slow=34
KBZ Khabaz 72.91 320 P **P 18 58 10.4 0.0**
comp=Z,13nm,0.9s,baz=126,slow=5.2,SNR=16
comp=Z,13nm,0.9s
KBZ Khabaz 72.91 320 *d iP* **P 18 58 10.5 0.0**
KBZ pmax pmax
comp=Z,20nm,0.9s
SHA1 Shidzhatmaz 73.07 319 *d iP* **P 18 58 11.6 -0.2**
KIV Kislovodsk 73.15 320 P **P 18 58 10.9 -1.1**
KIV IAmb IAmb 18 58 13.5
comp=Z,18nm,0.9s
KIV Kislovodsk 73.15 320 *e*P P 18 58 10.2 -1.8
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,35nm,18.0s
KIV Kislovodsk 73.15 320 P **P 18 58 11.4 -0.6**
comp=Z,18nm,1.2s
EIL Elat 73.47 303 LR LR 19 28 04.9
comp=Z,137nm,20.6s,baz=69,slow=34
GHAJ Ghor Haditha 73.48 305 IAmb IAmb 18 58 16.0
comp=Z,33nm,0.9s
BALJ Balqa 73.67 306 IAmb IAmb 18 58 17.2
comp=Z,44nm,1.5s
BFZ Birch Farm 73.97 130 P **P 18 58 16.4 -0.5**
BKZ Black Stump Fm 74.04 129 P **P 18 58 16.8 -0.6**
BKZ IAmb IAmb 18 58 18.4
comp=Z,26nm,0.8s
BKZ Black Stump Fm 74.04 129 P **P 18 58 17.7 +0.3**

SYO	**Syowa Base**	**74.10 199**	⇑*e*PcP	**PcP**	**18 58 32.4**	**+0.3**
MMAI	**Mount Meron Ar**	**74.16 307**	P	**P**	**18 58 18.9**	**+0.7**
	comp=Z,14nm,0.8s,baz=104,slow=7.0,SNR=19					
MMAI			LR	LR	19 28 54.0	
	comp=Z,222nm,22.0s,baz=108,slow=34					
	comp=Z,14nm,0.8s					
GAZ	**Gaziantep**	**74.19 311**	IAmb	IAmb	18 58 19.8	
	comp=Z,21nm,0.9s					
RTZ	**Ruatahuna**	**74.38 128**	P	**P**	**18 58 18.1**	**-1.3**
URZ	**Urewera**	**74.45 128**	LR	LR	19 30 36.1	
	comp=Z,282nm,21.0s,baz=2.0,slow=35					
BELG	**Belogornoye**	**74.55 329**	LR	LR	19 35 16.8	
	comp=Z,118nm,18.0s,baz=120,slow=39					
BELG	**Belogornoye**	**74.55 329**	⇑*i*P	**P**	**18 58 19.4**	**-0.5**
BELG			pmax	pmax		
	comp=Z,5.0nm,1.3s					
LBTB	**Lobatse**	**74.69 246**	LR	LR	19 24 51.9	
	comp=Z,256nm,21.7s,baz=96,slow=31					
SOC	**Sochi**	**74.92 318**	*e*P	P	18 58 19.1	-3.2
SOC			*e*		19 01 03.4	
SOC			*e*PPP	PPP	19 02 52.3	
SOC			*e*S	**SKiKP**	**19 07 56.7**	**+9.4**
SOC			*e*SS	**SS**	**19 12 44.1**	**-4.4**
SOC			*e*SSS	SSS	19 15 59.3	
BOSA	**Boshof**	**75.01 242**	P	**P**	**18 58 23.5**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=84,slow=6.6,SNR=7.0					
BOSA			LR	LR	19 24 52.9	
	comp=Z,196nm,21.2s,baz=104,slow=31					
	comp=Z,4.9nm,0.9s					
PETK	**Petropavlovsk-**	**75.88 31**	P	**P**	**18 58 27.1**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=257,slow=0.8,SNR=4.8					
PETK			LR	LR	19 34 25.4	
	comp=Z,96nm,18.5s,baz=255,slow=38					
	comp=Z,2.6nm,0.8s					
PET	**Petropavlovsk**	**76.33 31**	P	**P**	**18 58 31.5**	**+1.4**
PET	**Petropavlovsk**	**76.33 31**	*e*P	**P**	**18 58 34.5**	**+4.4**
PET			pmax	pmax		
	comp=Z,35nm,0.9s					
PET			MLR	MLR		
	comp=Z,300nm,17.0s					
PET	**Petropavlovsk**	**76.33 31**	P	**P**	**18 58 29.4**	**-0.7**
	comp=Z,31nm,0.9s					
CSS	**Mathiatis**	**76.41 308**	P	**P**	**18 58 30.5**	**-0.5**
	comp=Z,47nm,0.9s					
NRIK	**Noril'sk**	**76.42 355**	IAmb	IAmb	18 58 51.0	
	comp=Z,16nm,1.1s					
NRIK	**Noril'sk**	**76.42 355**	P	**P**	**18 58 29.5**	**-0.8**
	comp=Z,6.6nm,0.8s,baz=142,slow=5.3,SNR=7.3					
NRIK			LR	LR	19 35 51.3	
	comp=Z,129nm,18.0s,baz=160,slow=39					
	comp=Z,6.6nm,0.8s					
NRIK	**Noril'sk**	**76.42 355**	*de*P	**P**	**18 58 29.4**	**-0.8**
NRIK			pmax	pmax		
	comp=Z,9.0nm,0.9s					
MA2	**Magadan**	**76.53 23**	P	**P**	**18 58 30.0**	**-1.1**
MA2			IAmb	IAmb	18 58 52.5	
	comp=Z,18nm,0.9s					
MA2	**Magadan**	**76.53 23**	LR	LR	19 32 10.8	
	comp=Z,108nm,22.0s,baz=236,slow=36					
MA2	**Magadan**	**76.53 23**	P	**P**	**18 58 31.4**	**+0.3**
MA2	**Magadan**	**76.53 23**	⇓*e*P	**P**	**18 58 32.2**	**+1.1**
MA2			pmax	pmax		
	comp=Z,19nm,0.9s					
MA2	**Magadan**	**76.53 23**	P	**P**	**18 58 30.4**	**-0.7**
	comp=Z,27nm,1.5s					
ANN	**Anapa**	**76.92 319**	*e*P	P	18 58 28.1	-5.5
ANN			*e**PP	pP	18 58 34.0	-1.0
ANN			*e*S	S	19 08 14.5	-7.2
ANN			*e*SS	**SS**	**19 13 15.9**	**-2.7**
ANN			pmax	pmax		
	comp=Z,22nm,0.9s					
VRH	**Novokhopyorsk**	**77.09 326**	*e*P	**P**	**18 58 33.0**	**-1.4**
VRH			pmax	pmax		
	comp=Z,13nm,0.6s					
KIRV	**Kirov**	**77.26 335**	P	**P**	**18 58 34.3**	**-0.9**
	comp=Z,13nm,0.8s,baz=141,slow=14,SNR=6.0					
KIRV			LR	LR	19 36 02.5	
	comp=Z,158nm,19.5s,baz=136,slow=38					
	comp=Z,13nm,0.8s					
KIRV	**Kirov**	**77.26 335**	⇓*i*P	**P**	**18 58 35.1**	**-0.1**
KIRS	**Kirsehir-Merke**	**77.31 312**	⇑P	**P**	**18 58 35.8**	**-0.3**
VNDA	**Vanda**	**77.33 169**	P	**P**	**18 58 35.8**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=315,slow=7.7,SNR=2.2					
VNDA			LR	LR	19 25 57.4	
	comp=Z,149nm,21.0s,baz=309,slow=30					
	comp=Z,5.3nm,0.9s					
BR104	**Keskin Array S**	**77.70 313**	P	**P**	**18 58 37.3**	**-1.0**
	comp=Z,101nmcomp=Z,13nm,0.9s					
BR131	**Keskin Array S**	**77.70 313**	IAmb	IAmb	18 58 38.5	
	comp=Z,12nm,0.8s					
BR131	**Keskin Array S**	**77.70 313**	*d i*P	**P**	**18 58 37.3**	**-1.1**
BRTR	**Keskin Array B**	**77.70 313**	P	P	18 58 36.8	-1.6
BRTR	**Keskin Array B**	**77.70 313**	P	**P**	**18 58 37.5**	**-0.9**
	comp=Z,7.2nm,0.7s,baz=136,slow=7.0,SNR=52					
BRTR			LR	LR	19 32 50.7	
	comp=Z,152nm,21.0s,baz=117,slow=36					
	comp=Z,7.2nm,0.7s					
BR105	**Keskin Array S**	**77.72 313**	P	**P**	**18 58 37.4**	**-1.1**
	comp=Z,104nmcomp=Z,13nm,0.9s					
BR106	**Keskin Array S**	**77.72 313**	P	**P**	**18 58 37.4**	**-1.1**
	comp=Z,91nmcomp=Z,12nm,0.9s					
ILGA	**Ilgaz**	**78.09 314**	IAmb	IAmb	18 58 41.5	
	comp=Z,47nm,1.3s					
VORD	**Divnogorie**	**78.35 325**	*e*P	**P**	**18 58 40.3**	**-1.2**
VORD			pmax	pmax		
	comp=Z,9.0nm,1.0s					
ANTO	**Ankara**	**78.37 313**	P	**P**	**18 58 45.6**	**+3.6**
ANTO			pmax	pmax		
	comp=Z,8.0nm,1.1s					
ANTO	**Ankara**	**78.37 313**	P	**P**	**18 58 41.6**	**-0.4**
	comp=Z,8.3nm,1.1s					
VSR	**Storozhevoye**	**78.53 325**	*e*P	P	18 58 39.5	-3.0
VSR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
VORR	**Voronezh**	**78.70 326**	*e*P	**P**	**18 58 42.5**	**-0.9**
VORR			pmax	pmax		
	comp=Z,14nm,0.3s					
SUR	**Sutherland**	**78.84 238**	LR	LR	19 29 21.5	
	comp=Z,91nm,18.5s,baz=115,slow=32					
SIM	**Simferopol'**	**79.16 318**	*e*P	**P**	**18 58 46.0**	**-0.1**
SIM			pmax	pmax		
	comp=Z,14nm,0.8s					
SEY	**Seymchan**	**79.25 21**	⇑*e*P	**P**	**18 58 46.6**	**+0.4**
SEY			pmax	pmax		
	comp=Z,15nm,1.0s					
LPSR	**Galich'ya Gora**	**79.27 326**	*e*P	**P**	**18 58 45.1**	**-1.4**
LPSR			pmax	pmax		
	comp=Z,21nm,1.3s					
TIXI	**Tiksi**	**80.12 8**	P	P	18 58 48.7	-2.1
TIXI			IAmb	IAmb	18 59 05.8	
	comp=Z,20nm,1.1s					
TIXI	**Tiksi**	**80.12 8**	P	**P**	**18 58 49.2**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=237,slow=4.1,SNR=14					
	comp=Z,2.9nm,0.7s					
TIXI	**Tiksi**	**80.12 8**	⇑*e*P	**P**	**18 58 49.5**	**-1.3**
TIXI			pmax	pmax		
	comp=Z,18nm,1.0s					
ELIB	**Princess Elisa**	**80.15 198**	*d*P	**P**	**18 58 51.7**	**+0.5**
	comp=Z,4.0nm,0.8s					
YLV	**Yalova**	**81.07 313**	P	**P**	**18 58 56.0**	**-0.6**
	comp=Z,571nmcomp=Z,62nm,0.9s					
MOS	**Moscow**	**81.32 329**	*e*P	**P**	**18 58 55.9**	**-1.6**
MOS			pmax	pmax		
	comp=Z,26nm,0.7s					
KARP	**Karpathos**	**81.42 307**	P	**P**	**18 58 58.0**	**-0.5**
	comp=Z,97nm,1.0s					
OBN	**Obninsk**	**81.60 328**	*e*P	**P**	**18 58 58.8**	**-0.2**
OBN			*e*		19 02 00.3	
OBN			*e*PPP	PPP	19 03 52.1	
OBN			pmax	pmax		
	comp=Z,16nm,1.0s					
OBN			MLR	MLR		
	comp=Z,118nm,17.0s					
BAND	**Balkesir-Ban**	**81.95 312**	⇑P	**P**	**18 59 01.2**	**0.0**
CTYL	**Yalikoy Yolu**	**82.11 313**	P	**P**	**18 59 01.5**	**-0.5**
	comp=Z,6μmcomp=Z,27nm,1.0s					
TSUM	**Tsumeb**	**82.35 252**	LR	LR	19 31 01.4	
	comp=Z,225nm,20.4s,baz=108,slow=32					
PURM	**Purcari**	**82.49 319**	P	**P**	**18 59 03.3**	**-0.5**
	comp=Z,33nm,1.1s					
KLMR	**Klimovskoe**	**82.71 334**	*e*P	**P**	**18 59 03.3**	**-1.4**
KLMR			pmax	pmax		
	comp=Z,39nm,1.5s					
APE	**Apeiranthos**	**83.06 309**	⇑P	**P**	**18 59 06.7**	**-0.5**
APE	**Apeiranthos**	**83.06 309**	P	**P**	**18 59 06.6**	**-0.5**
IDI	**Anoyia**	**83.16 307**	LR	LR	19 36 27.8	
	comp=Z,62nm,20.8s,baz=110,slow=36					
CFR	**Carcaliu**	**83.25 317**	⇑P	**P**	**18 59 07.2**	**-0.6**
CFR	**Carcaliu**	**83.25 317**	P	**P**	**18 59 07.2**	**-0.6**
QSPA	**South Pole Qui**	**83.38 180**	P	**P**	**18 59 07.6**	**-0.8**
QSPA			IAmb	IAmb	18 59 09.5	
	comp=Z,10nm,1.0s					
QSPA	**South Pole Qui**	**83.38 180**	P	**P**	**18 59 08.1**	**-0.2**
	comp=Z,6.9nm,0.9s,baz=254,slow=1.3,SNR=16					
	comp=Z,6.9nm,0.9s					
ALN	**Alexandroupoli**	**83.60 312**	IAmb	IAmb	18 59 10.3	
	comp=Z,25nm,1.6s					
SORM	**Soroca**	**83.95 320**	⇓P	**P**	**18 59 11.1**	**-0.3**
SORM	**Soroca**	**83.95 320**	P	**P**	**18 59 11.0**	**-0.3**
SORM	**Soroca**	**83.95 320**	P	**P**	**18 59 10.8**	**-0.6**
AKASG	**Malin Array Be**	**84.17 322**	P	**P**	**18 59 11.4**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=90,slow=4.6,SNR=17					
AKASG			LR	LR	19 38 25.2	
	comp=Z,78nm,21.8s,baz=78,slow=37					
	comp=Z,1.1nm,0.6s					
AKASG	**Malin Array Be**	**84.17 322**	*i* P	**P**	**18 59 11.3**	**-1.1**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKBB	**Malin Array Si**	**84.17 322**	⇑*i*P	**P**	**18 59 11.6**	**-0.8**
AKBB			pmax	pmax		
	comp=Z,17nm,1.8s					
KIEV	**Kiev**	**84.18 322**	⇑P	**P**	**18 59 11.7**	**-0.8**
KIEV	**Kiev**	**84.18 322**	P	**P**	**18 59 11.7**	**-0.8**
VRI	**Vrincioaia**	**84.39 317**	⇓P	**P**	**18 59 14.2**	**+0.5**
VRI	**Vrincioaia**	**84.39 317**	P	**P**	**18 59 14.2**	**+0.5**
PLOR	**Plostina**	**84.44 317**	⇓P	**P**	**18 59 14.4**	**+0.3**
PLOR	**Plostina**	**84.44 317**	P	**P**	**18 59 14.3**	**+0.3**
TESR	**Tescani**	**84.62 318**	⇑P	**P**	**18 59 15.3**	**+0.5**
MLR	**Muntele Rosu**	**84.83 317**	IAmb	IAmb	18 59 17.4	
	comp=Z,25nm,1.1s					
MLR	**Muntele Rosu**	**84.83 317**	LR	LR	19 38 37.8	
	comp=Z,89nm,21.9s,baz=90,slow=37					
MLR	**Muntele Rosu**	**84.83 317**	⇓P	**P**	**18 59 16.4**	**+0.3**
MLR	**Muntele Rosu**	**84.83 317**	P	**P**	**18 59 16.4**	**+0.3**
DOPR	**Dopca**	**85.32 317**	⇓P	**P**	**18 59 18.1**	**-0.3**
ARR	**Arges**	**85.69 316**	⇓P	**P**	**18 59 20.1**	**-0.2**
BURAR	**Bucovina Array**	**85.85 319**	P	**P**	**18 59 21.1**	**0.0**
BURAR	**Bucovina Array**	**85.85 319**	⇓P	**P**	**18 59 22.1**	**+1.0**
BURAR	**Bucovina Array**	**85.85 319**	P	**P**	**18 59 22.0**	**+1.0**
BUR08	**Bucovina Ar. S**	**85.86 319**	IAmb	IAmb	18 59 45.7	
	comp=Z,34nm,1.9s					
LIT	**Litokhoron**	**86.06 311**	IAmb	IAmb	18 59 22.2	
	comp=Z,14nm,0.7s					
MNK	**Minsk**	**86.09 326**	*i* P	P	18 59 15.3	-6.7
MNK			*i*		19 02 35.4	
MNK			*i* S	**SKSac**	**19 09 40.7**	**-7.3**
MNK			*i* SS	**SS**	**19 15 30.8**	**-4.0**
MNK			*i* SSS	SSS	19 19 01.2	
MNK			pmax	pmax		
	comp=N,13nm,0.8s					
MNK			pmax	pmax		
	comp=Z,11nm,0.8s					
MNK			pmax	pmax		
	comp=E,18nm,0.7s					
MNK			MLR	MLR		
	comp=Z,140nm,21.0s					
MNK			MLR	MLR		
	comp=N,194nm,31.0s					
LOT	**Lotru**	**86.30 316**	⇑P	**P**	**18 59 23.1**	**-0.3**
RNPP5	**Staryi Chortor**	**86.35 322**	P	**P**	**18 59 22.8**	**-0.5**
BILL	**Bilibino**	**86.87 20**	P	P	18 59 36.4	+11
GZR	**Gura Zlata**	**86.97 316**	⇑P	**P**	**18 59 26.9**	**+0.2**
GZR	**Gura Zlata**	**86.97 316**	P	**P**	**18 59 26.8**	**+0.2**
DEV	**Deva**	**86.99 317**	⇑P	**P**	**18 59 27.4**	**+0.7**
DEV	**Deva**	**86.99 317**	P	**P**	**18 59 27.3**	**+0.7**
MARR	**Marisel-Cluj**	**87.02 317**	⇑P	**P**	**18 59 27.7**	**+0.8**
HERR	**Herculane**	**87.11 316**	⇑P	**P**	**18 59 27.5**	**+0.3**
DRGR		**87.32 318**	⇑P	**P**	**18 59 28.2**	**-0.1**
DRGR		**87.32 318**	P	**P**	**18 59 28.2**	**-0.1**
BOVS	**Bovan**	**87.35 314**	⇑P	**P**	**18 59 27.8**	**-0.6**
SURR	**Surduc**	**87.49 316**	⇓P	**P**	**18 59 29.4**	**+0.3**
MDVR	**Moldovita**	**87.58 315**	⇓P	**P**	**18 59 29.8**	**+0.3**
BZS	**Buzias**	**87.81 316**	⇓P	**P**	**18 59 30.9**	**+0.2**
BZS	**Buzias**	**87.81 316**	P	**P**	**18 59 30.8**	**+0.2**
VSU	**Vasula**	**87.83 329**	⇓*e*P	**P**	**18 59 29.3**	**-1.0**
VSU			pmax	pmax		
	comp=Z,22nm,0.9s					
KOLS	**Kolonicke sedl**	**88.06 320**	*e*P	**P**	**18 59 32.2**	**+0.5**
KOLS			pmax	pmax		
	comp=Z,27nm,0.9s					
KOLS	**Kolonicke sedl**	**88.06 320**	*e*P	**P**	**18 59 32.2**	**+0.5**
KOLS			*e*PP	**PP**	**19 03 01.8**	**+3.3**
SNAA	**Sanae**	**88.31 198**	P	**P**	**18 59 32.5**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=108,slow=7.3,SNR=3.5					
	comp=Z,5.5nm,1.0s					
STHS	**Stebnicka Huta**	**88.83 320**	*e*P	**P**	**18 59 35.3**	**0.0**
STHS			pmax	pmax		
	comp=Z,9.0nm,0.8s					
STHS	**Stebnicka Huta**	**88.83 320**	*e*P	**P**	**18 59 35.3**	**0.0**
PDG	**Podgorica**	**88.89 313**	P	**P**	**18 59 34.9**	**-0.9**
PDG			IAmb	IAmb	18 59 36.5	
	comp=Z,12nm,1.1s					
PDG	**Podgorica**	**88.89 313**	⇓P	**P**	**18 59 35.7**	**0.0**
FINES	**FINESS Array B**	**88.97 332**	P	**P**	**18 59 35.6**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=101,slow=6.0,SNR=7.4					
FINES			LR	LR	19 42 11.4	
	comp=Z,98nm,21.3s,baz=100,slow=38					
	comp=Z,3.0nm,0.7s					
PSZ	**Piszkesteto**	**89.42 318**	⇑P	**P**	**18 59 38.9**	**+0.6**
PSZ	**Piszkesteto**	**89.42 318**	P	**P**	**18 59 38.8**	**+0.6**
LANS	**Liptovska Anna**	**89.92 319**	*e*P	**P**	**18 59 45.2**	**+4.7**
LANS			pmax	pmax		
	comp=Z,1.0nm,0.8s					
LANS	**Liptovska Anna**	**89.92 319**	*e*P	**P**	**18 59 45.2**	**+4.7**
LANS			*e*PP	**PP**	**19 03 15.6**	**+2.3**
MORH	**Mrgy, Hungar**	**89.97 316**	⇑P	**P**	**18 59 40.9**	**+0.2**
VYHS	**Vyhne**	**90.22 319**	*e*P	**P**	**18 59 41.8**	**-0.1**
VYHS			pmax	pmax		
	comp=Z,37nm,0.0s					
VYHS	**Vyhne**	**90.22 319**	*e*P	**P**	**18 59 41.8**	**-0.1**
TIP	**Timpagrande**	**90.25 309**	⇑P	**P**	**18 59 42.8**	**+0.5**
MATE	**Matera**	**90.50 311**	⇓P	**P**	**18 59 44.0**	**+0.7**
CEL	**Celeste**	**90.79 308**	IAmb	IAmb	18 59 46.7	
	comp=Z,18nm,1.0s					
GMB	**Gambarie**	**90.83 308**	P	**P**	**18 59 47.0**	**+1.9**
GMB			pmax	pmax		
	comp=Z,73nm,0.8s					
MODS	**Modra-Piesok**	**91.22 318**	*e*P	**P**	**18 59 46.3**	**-0.3**
MODS			pmax	pmax		
	comp=Z,255nm,3.1s					
MODS	**Modra-Piesok**	**91.22 318**	*e*P	**P**	**18 59 46.3**	**-0.3**
MORC	**Moravsky Berou**	**91.26 320**	⇑P	**P**	**18 59 47.4**	**+0.7**
MORC	**Moravsky Berou**	**91.26 320**	P	**P**	**18 59 47.4**	**+0.7**
ARCES	**ARCESS Array B**	**91.37 340**	P	**P**	**18 59 46.4**	**-0.3**
	comp=Z,7.9nm,0.8s,baz=94,slow=7.3,SNR=10					
ARCES			LR	LR	19 44 28.6	
	comp=Z,185nm,21.4s,baz=100,slow=38					
	comp=Z,7.9nm,0.8s					
VRAC	**Vranov**	**91.80 319**	LR	LR	19 44 55.4	
	comp=Z,23nm,20.5s,baz=70,slow=38					
GERES	**GERESS Array B**	**93.64 319**	P	**P**	**18 59 57.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=104,slow=5.6,SNR=7.7					
	comp=Z,1.2nm,0.7s					
BRG	**Berggiesshubel**	**93.69 321**	*e*P	**P**	**18 59 57.9**	**0.0**
BRG			Amp		18 59 58.6	
	comp=Z,2.1nm,0.7s					
HFS	**Hagfors**	**94.71 330**	LR	LR	19 46 08.7	
	comp=Z,126nm,18.9s,baz=82,slow=38					
SPITS	**Spitsbergen Ar**	**95.47 348**	LR	LR	19 50 53.7	
	comp=Z,181nm,18.9s,baz=56,slow=40					
RAR	**Rarotonga**	**95.49 112**	LR	LR	19 45 07.5	
	comp=Z,37nm,18.8s,baz=258,slow=37					
KEST	**Kesra**	**95.75 305**	LR	LR	19 46 30.3	
	comp=Z,64nm,18.0s,baz=357,slow=38					
NOA	**NORSAR Array B**	**95.99 331**	LR	LR	19 48 23.7	
	comp=Z,78nm,18.7s,baz=125,slow=39					
DAVOX	**Davos/Dischmat**	**96.04 316**	LR	LR	19 49 19.2	
	comp=Z,43nm,18.1s,baz=70,slow=39					
TBI	**Tubuai**	**104.43 116**	*e*LR	LR	19 34 58.0	
	comp=Z,1μm,27.0s					
PPT2	**Papeete2**	**105.62 110**	*e*LR	LR	19 35 33.3	
	comp=Z,88nm,22.5s					
PPT2			*e*LR	LR	19 35 37.1	
	comp=Z,160nm,36.5s					
TAOE	**Nuku Hiva Isla**	**116.43 103**	*e*LR	LR	19 40 40.8	
	comp=Z,162nm,25.7s					
YKA	**Yellowknife Ar**	**118.22 18**	PKP	**PKPdf**	**19 05 28.1**	**0.0**
	comp=Z,0.2nm,0.7s,baz=316,slow=1.9,SNR=4.1					
YKA			PKKPbc	**PKKPbc**	**19 15 47.5**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=139,slow=4.2,SNR=6.2					
NVAR	**Mina Array Bea**	**131.93 43**	PKP	**PKPdf**	**19 05 55.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=333,slow=22,SNR=2.5					
PDAR	**Pinedale Array**	**134.63 33**	PKP	**PKPdf**	**19 06 00.4**	**0.0**
	comp=Z,0.1nm,0.4s,baz=352,slow=32,SNR=2.4					
JFWS	**Jewell Farm**	**142.33 14**		PKPpre	19 06 06.1	
JFWS	**Jewell Farm**	**142.33 14**	PKHKP	PKPpre	19 06 06.1	
BDFB	**Brasilia**	**142.76 233**	PKP	**PKPdf**	**19 06 15.8**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=163,slow=8.4,SNR=3.7					
KAN01	**Argonia South**	**144.79 28**		**PKPab**	**19 06 16.4**	**-1.2**
KAN09	**Caldwell North**	**144.87 27**		**PKPab**	**19 06 16.7**	**-1.2**
M57A	**Sunshine Farm,**	**145.41 358**		**PKPbc**	**19 06 18.1**	**-1.4**
DKNS	**Dickens**	**145.86 35**		**PKPdf**	**19 06 19.5**	**-1.2**
CCM	**Cathedral Cave**	**146.56 19**	PKPdf	**PKPdf**	**19 06 20.7**	**-1.0**
CCM	**Cathedral Cave**	**146.56 19**	PKP2	**PKPdf**	**19 06 20.7**	**-1.0**
APMT	**Aspermont**	**146.57 34**		**PKPdf**	**19 06 22.7**	**+0.8**
MGMO	**Mountain Grove**	**147.03 21**		**PKPdf**	**19 06 23.3**	**+0.8**
TXAR	**Lajitas Array**	**147.07 44**	PKPbc	**PKPdf**	**19 06 25.6**	**+2.7**
	comp=Z,6.5nm,0.9s,baz=267,slow=1.4,SNR=22					
PB14	**IPOC Station P**	**148.02 194**		**PKPdf**	**19 06 26.7**	**+1.8**
BRDY	**Brady**	**148.71 36**		**PKPdf**	**19 06 28.3**	**+2.8**
WVT	**Waverly**	**149.34 15**		**PKPdf**	**19 06 27.3**	**+0.9**
WVT	**Waverly**	**149.34 15**	PKIKP	**PKPdf**	**19 06 27.3**	**+0.9**
LPAZ	**La Paz**	**155.13 204**	PKP	**PKPdf**	**19 06 35.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=291,slow=6.5,SNR=3.3					

WEL 19 18:49:38.9±0.7, 32°S±5°×17°9E±1°0, h33km, mB4.9/6, ML4.7/17, MLv4.6/10, Mw(mB)4.2/6, Error ellipse: s-maj=14.0km s-min=3.9km az=113.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**50**	P	Pn	18 50 32.7	-0.8
GLKZ				S	Sn	18 51 18.7	+2.8
OUZ	**Omahuta**	**5.63**	**230**	P	Pn	18 51 02.2	+1.9
MXZ	**Matakaoa Point**	**5.87**	**184**	P	Pn	18 51 04.2	+0.6
MXZ				S	Sn	18 52 10.0	+0.3
HAZ	**Te Kaha**	**6.11**	**188**	P	Pn	18 51 06.9	+0.1
HAZ				S	Sn	18 52 20.7	+5.1
WMGZ	**Waiomatatini S**	**6.12**	**183**	P	Pn	18 51 08.6	+1.6
PKGZ	**Pakihiroa**	**6.19**	**186**	P	Pn	18 51 09.9	+1.9
PKGZ				S	Sn	18 52 22.2	+4.6
RUGZ	**Raukumara Rang**	**6.33**	**188**	P	Pn	18 51 09.4	-0.6
RUGZ				S	Sn	18 52 22.2	+1.0
PUZ	**Puketiti**	**6.38**	**184**	P	Pn	18 51 12.2	+1.6
PUZ				S	Sn	18 52 24.1	+1.8
URZ	**Urewera**	**6.71**	**192**	P	Pn	18 51 15.9	+0.9
URZ				S	Sn	18 52 33.3	+3.1
MWZ	**Matawai**	**6.71**	**189**	P	Pn	18 51 16.3	+1.2
MWZ				S	Sn	18 52 31.6	+1.1
CNGZ	**Carnagh Statio**	**6.79**	**184**	P	Pn	18 51 11.1	-5.1
CNGZ				S	Sn	18 52 32.6	+0.1
MUGZ	**Murupara**	**6.98**	**194**	P	Pn	18 51 20.2	+1.4
MUGZ				S	Sn	18 52 38.5	+1.5
RIGZ	**Rimuhau**	**7.05**	**187**	P	Pn	18 51 19.4	-0.4
RIGZ				S	Sn	18 52 38.2	-0.6
RTZ	**Ruatahuna**	**7.07**	**192**	P	Pn	18 51 19.6	-0.5
RTZ				S	Sn	18 52 41.3	+1.9
SNGZ	**Shannon Statio**	**7.18**	**190**	S	Sn	18 52 43.4	+1.5
MTHZ	**Maungataniwha**	**7.33**	**192**	P	Pn	18 51 23.4	-0.2
MTHZ				S	Sn	18 52 45.6	-0.1
RAHZ	**Arahi**	**7.35**	**191**	P	Pn	18 51 22.3	-1.6
RAHZ				S	Sn	18 52 50.0	+3.9
KNZ	**Kokohu**	**7.38**	**187**	P	Pn	18 51 21.4	-2.8
KNZ				S	Sn	18 52 44.5	-2.2
MHGZ	**Mahia Peninsul**	**7.48**	**186**	P	Pn	18 51 24.2	-1.5
MHGZ				S	Sn	18 52 44.5	-4.9
NMHZ	**Naumai**	**7.57**	**192**	P	Pn	18 51 25.4	-1.6
NMHZ				S	Sn	18 52 53.9	+2.2
BKZ	**Black Stump Fm**	**7.70**	**194**	P	Pn	18 51 26.9	-1.8
BKZ				S	Sn	18 52 54.4	-0.3
ARHZ	**Aropaoanui**	**7.70**	**191**	P	Pn	18 51 26.7	-2.0
ARHZ				S	Sn	18 52 54.7	0.0
OTVZ	**Oturere**	**7.89**	**198**	P	Pn	18 51 30.2	-1.2
OTVZ				S	Sn	18 53 00.6	+0.9

*DJA **19** 19:00:33.8±0.3, 9°S±3°×11°0E±°, h10km, M4.4/25, mB5.0/2, mb4.7/6, MLv4.3/25, Mw(mB)4.3/2*
*NEIC **19** 19:00:35.0±1.4, 8°96S±0°06×110°34E±0°06, h57km±7km, mb4.2/31, Error ellipse: s-maj=8.5km s-min=8.0km az=185.0*
*IDC **19** 19:00:40.3±2.0, 8°53S×110°47E, h85km±20km, mb3.9/15, mbtmp4.2/17, Error ellipse: s-maj=31.4km s-min=11.3km az=45.0*

ISC 19 19:00:34.9±0.9, 8°97S±0°05×110°27E±0°04, h52km±9km, n112, σ1§94/114, mb4.2/26, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.08**	**13**		**Pn**	**19 00 53.5**	**-0.2**
UGM				Sn	**Sn**	**19 01 06.9**	**-0.8**
UGM	**Wan

FITZ S Sn 19 07 37.3 -11
comp=Z,0.9nm,0.3s,baz=177,slow=23,SNR=6.0
KNRA Kununurra 19.25 112 P **P** **19 04 51.3 -3.8**
MEEK Meekatharra 19.27 157 P **Pn** **19 04 57.6 +0.8**
MTN Manton Dam 20.84 103 P **P** **19 05 11.0 -1.4**
MTN Manton Dam 20.84 103 P Pn 19 05 14.8 -0.6
KDU Kakadu 22.11 102 P **P** **19 05 28.9 +2.8**
FAKI Fak Fak 22.66 76 P **P** **19 05 30.3 -1.8**
FAKI Fak Fak 22.66 76 P **P** **19 05 35.1 +3.1**
WB0 Warramunga Arr 25.68 117 P **P** **19 05 59.4 -0.8**
WB0 IAmb IAmb 19 06 18.8
comp=Z,14nm,1.4s
WRA Warramunga Arr 25.70 118 P **P** **19 05 58.7 -1.7**
WRA Warramunga Arr 25.70 118 P **P** **19 06 02.6 +2.3**
comp=Z,1.1nm,0.8s,baz=289,slow=12,SNR=9.0
comp=Z,1.1nm,0.8s
WRAB Tennant Creek 25.70 118 P **P** **19 05 59.1 -1.4**
WRAB IAmb IAmb 19 06 35.4
comp=Z,9.7nm,1.4s
WB2 Warramunga Arr 25.71 118 P **P** **19 05 59.3 -1.2**
WB2 IAmb IAmb 19 06 10.1
comp=Z,6.0nm,1.2s
WR0 Warramunga Arr 25.88 118 P **P** **19 06 00.7 -1.3**
WR0 IAmb IAmb 19 06 28.3
comp=Z,5.1nm,1.2s
ASAR Alice Springs 26.92 126 P **P** **19 06 09.5 -1.9**
ASAR Alice Springs 26.92 126 P **P** **19 06 13.9 +2.5**
comp=Z,0.8nm,0.7s,baz=303,slow=8.8,SNR=10
ASAR PcP **PcP** **19 09 35.0 +2.4**
comp=Z,0.7nm,0.7s,baz=306,slow=1.9,SNR=6.9
comp=Z,0.8nm,0.7s
AS01 Alice Springs 26.95 126 P **P** **19 06 14.5 +2.8**
CMAR Chiang Mai Arr 29.45 338 P **P** **19 06 32.9 -1.1**
comp=Z,0.5nm,0.6s,baz=176,slow=8.4,SNR=7.5
CMAR PcP **PcP** **19 09 40.0 +1.2**
comp=Z,0.3nm,0.7s,baz=190,slow=2.8,SNR=4.1
comp=Z,0.5nm,0.6s
COEN Coen 32.61 102 P **P** **19 06 59.9 -2.0**
COEN Coen 32.61 102 P **P** **19 07 04.8 +2.9**
MTSU Mount Surprise 34.28 109 P **P** **19 07 19.8 +3.4**
STKA Stephens Creek 36.93 133 P **P** **19 07 43.3 +4.3**
comp=Z,0.9nm,0.4s,baz=305,slow=8.0,SNR=3.9
STKA PcP **PcP** **19 10 01.8 +2.2**
comp=Z,1.9nm,0.5s,baz=319,slow=3.1,SNR=5.5
comp=Z,0.9nm,0.4s
H08S2 Diego Garcia H 37.39 269 T T 19 47 47.6
baz=94,slow=75,SNR=18
H08S3 Diego Garcia H 37.40 269 T T 19 47 48.0
baz=94,slow=75,SNR=18
H08S1 Diego Carcia H 37.41 269 T T 19 47 48.6
baz=94,slow=75,SNR=19
MGBR Mount Gambier 39.58 141 P **P** **19 08 01.0 -0.2**
ARPS Mount Arapiles 39.81 139 P **P** **19 08 05.2 +2.1**
MAJO Matsushiro 52.33 28 P **P** **19 09 39.5 -2.0**
MJAR Matsushiro Arr 52.33 28 P **P** **19 09 39.4 -2.1**
comp=Z,3.2nm,0.7s,baz=204,slow=8.1,SNR=5.7
comp=Z,3.2nm,0.7s
MJB9 Matsu-Tunnel 52.33 28 P **P** **19 09 39.9 -1.6**
USRK Ussuriysk Ar. 56.46 19 P **P** **19 10 11.5 +0.1**
comp=Z,1.9nm,0.7s,baz=193,slow=5.9,SNR=3.3
comp=Z,1.9nm,0.7s
ULN Ulaanbaatar 56.65 357 P **P** **19 10 11.5 -1.4**
SONM Songino Array 56.66 357 P **P** **19 10 11.1 -1.7**
SONM Songino Array 56.66 357 P **P** **19 10 12.2 -0.7**
comp=Z,0.6nm,0.5s,baz=177,slow=7.3,SNR=7.7
comp=Z,0.6nm,0.5s
JTM Tenmabayashi 57.07 28 P **P** **19 10 13.6 -2.1**
WUS Wushi 57.52 333 P **P** **19 10 17.9 -1.2**
WUS IAmb IAmb 19 10 20.0
comp=Z,3.1nm,0.9s
KBL Kabul 58.27 320 P **P** **19 10 23.1 -1.4**
KBL IAmb IAmb 19 10 24.0
comp=Z,1.5nm,0.9s
KDJ Kajisay 59.19 332 P **P** **19 10 30.0 -0.8**
KDJ IAmb IAmb 19 10 57.3
comp=Z,3.2nm,1.0s
BOOM Boomskoye usch 60.05 331 P **P** **19 10 34.8 -2.0**
BOOM IAmb IAmb 19 10 41.2
comp=Z,2.1nm,0.9s
JKA Kamikawa-asahi 60.41 26 P **P** **19 10 37.9 -1.0**
MK31 Makanchi Array 60.86 338 **P** **19 10 41.3 -0.7**
MK31 IAmb IAmb 19 10 42.7
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 60.86 338 P **P** **19 10 40.9 -1.1**
MKAR Makanchi Array 60.86 338 P **P** **19 10 41.4 -0.6**
comp=Z,1.9nm,0.4s,baz=152,slow=7.3,SNR=65
comp=Z,1.9nm,0.4s
H04N2 CROZET ISLANDS 61.94 222 T T 20 18 25.3
baz=69,slow=75,SNR=11
H04N1 CROZET ISLANDS 61.95 222 T T 20 18 28.1
baz=69,slow=75,SNR=10
H04N3 CROZET ISLANDS 61.95 222 T T 20 18 30.5
baz=69,slow=75,SNR=92
KURBB Kurchatov Arra 65.43 338 P **P** **19 11 11.7 -0.4**
comp=Z,3.9nm,0.2s,baz=156,slow=5.6,SNR=6.6
comp=Z,3.9nm,0.2s
KURK Kurchatov 65.47 338 P **P** **19 11 11.7 -0.7**
KURK IAmb IAmb 19 11 14.1
comp=Z,4.2nm,1.5s
ZALV Zalesovo Beam 66.27 344 P **P** **19 11 17.1 -0.3**
comp=Z,0.6nm,0.3s,baz=164,slow=6.5,SNR=5.9
comp=Z,0.6nm,0.3s
BVAR Borovoye Array 70.46 336 P **P** **19 11 42.3 -1.3**
comp=Z,1.8nm,0.6s,baz=134,slow=8.5,SNR=6.1
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 72.77 328 P **P** **19 11 57.2 -0.5**
PETK Petropavlovsk- 73.78 28 P **P** **19 12 02.5 -1.0**
PETK Petropavlovsk- 73.78 28 P **P** **19 12 03.0 -0.5**
comp=Z,1.7nm,0.7s,baz=221,slow=7.5,SNR=5.5
comp=Z,1.7nm,0.7s
ARTI Arti 77.85 333 P **P** **19 12 25.5 -1.2**
ARTI IAmb IAmb 19 12 27.5
comp=Z,4.1nm,1.0s
ARTI Arti 77.85 333 P **P** **19 12 26.3 -0.4**
comp=Z,3.3nm,0.6s,baz=166,slow=4.1,SNR=7.7
comp=Z,3.3nm,0.6s
TIXI Tiksi 81.39 6 P **P** **19 12 44.3 -1.3**
KIRV Kirov 83.10 333 P **P** **19 12 55.0 +0.2**
comp=Z,7.9nm,0.6s,baz=150,slow=1.7,SNR=4.9
comp=Z,7.9nm,0.6s
BRTR Keskin Array B 85.55 311 P **P** **19 13 07.5 -0.3**
BRTR Keskin Array B 85.55 311 P **P** **19 13 08.3 +0.4**
comp=Z,1.6nm,0.7s,baz=131,slow=6.5,SNR=11
comp=Z,1.6nm,0.7s
BR131 Keskin Array S 85.55 311 P **P** **19 13 06.9 -0.9**
BR131 IAmb IAmb 19 13 11.5
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 96.50 339 P **P** **19 13 58.4 +0.1**
comp=Z,6.0nm,1.1s,baz=104,slow=6.8,SNR=1.7
SPITS Spitsbergen Ar 99.52 348 P **Pdif** **19 14 11.1 -0.7**
comp=Z,9.4nm,1.0s,baz=100,slow=7.9,SNR=4.1

*IDC **19** 19:04:14.3±8.5, 20°.87S×177°.81W, h548km±89km, mb3.3/6, mbtmp4.2/6, Error ellipse: s-maj=107.0km s-min=45.5km az=158.0*
*NEIC **19** 19:04:15±1.4, 20°.7S±0°.1×178°.0W±0°.2, h536km±10km, mb4.4/21, Error ellipse: s-maj=25.4km s-min=19.2km az=80.0*
ISC 19 19:04:14.2±0.8, 20°.7S±0°.1×178°.0W±0°.1, h534km, n37, σ1.8 26/40, mb4.3/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.74**	**307**		**P**	**19 05 42.8**	**+1.8**
FUTU	**Fugatoga**	**6.31**	**359**		**P**	**19 05 55.8**	**+0.6**
DZM	**Mont Dzumac**	**14.57**	**262**	P	**P**	**19 07 22.1**	**+2.4**
BKZ	**Black Stump Fm**	**19.05**	**193**	P	**P**	**19 08 01.2**	**-1.1**
BKZ				IAmb	IAmb	19 08 24.1	
comp=Z,18nm,1.4s							
TCW	**Tory Channel**	**21.52**	**196**	P	**P**	**19 08 23.4**	**-1.2**
QRZ	**Quartz Range**	**21.67**	**200**	P	**P**	**19 08 25.6**	**-0.4**
EIDS	**Eidsvold**	**28.82**	**255**	P	**P**	**19 09 26.5**	**-2.9**
EIDS				IAmb	IAmb	19 10 08.3	
comp=Z,8.0nm,1.2s							
COEN	**Coen**	**37.60**	**274**	P	**P**	**19 10 43.7**	**-0.1**
COEN				IAmb	IAmb	19 10 45.5	
comp=Z,11nm,1.0s							
STKA	**Stephens Creek**	**37.73**	**244**	P	**P**	**19 10 44.1**	**-0.5**
STKA				IAmb	IAmb	19 11 26.1	
comp=Z,22nm,1.3s							
STKA	**Stephens Creek**	**37.73**	**244**	P	**P**	**19 10 44.7**	**+0.1**
comp=Z,1.3nm,0.5s,baz=80,slow=11,SNR=3.9							
comp=Z,1.3nm,0.5s							
BBOO	**Buckleboo**	**42.49**	**244**	P	**P**	**19 11 22.1**	**-0.5**
BBOO				IAmb	IAmb	19 11 39.6	
comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**44.40**	**262**	P	**P**	**19 11 37.3**	**-0.4**
AS31	**Alice Springs**	**44.49**	**257**	P	**P**	**19 11 37.8**	**-0.7**
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**19 11 37.9**	**-0.5**
ASAR				PcP	**PcP**	**19 13 09.7**	**-0.6**
ASAR	**Alice Springs**	**44.50**	**257**	P	**P**	**19 11 38.4**	**-0.1**
comp=Z,5.0nm,0.5s,baz=91,slow=7.9,SNR=122							
ASAR				PcP	**PcP**	**19 13 09.7**	**-0.6**
comp=Z,0.5nm,0.5s,baz=109,slow=3.5,SNR=3.1							
comp=Z,5.0nm,0.5s							
WB0	**Warramunga Arr**	**44.57**	**262**	P	**P**	**19 11 38.4**	**-0.6**
WRA	**Warramunga Arr**	**44.59**	**262**	P	**P**	**19 11 37.6**	**-1.6**
WRA				PcP	**PcP**	**19 13 08.3**	**-2.4**
WRA	**Warramunga Arr**	**44.59**	**262**	P	**P**	**19 11 38.6**	**-0.5**
comp=Z,2.9nm,0.3s,baz=97,slow=7.4,SNR=95							
comp=Z,2.9nm,0.3s							
MTN	**Manton Dam**	**49.18**	**271**	P	**P**	**19 12 12.4**	**-1.4**
FORT	**Forrest**	**49.25**	**247**	P	**P**	**19 12 13.2**	**-0.9**
FORT				IAmb	IAmb	19 12 31.1	
comp=Z,15nm,0.9s							
KNRA	**Kununurra**	**50.66**	**266**	P	**P**	**19 12 23.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.02**	**262**	P	**P**	**19 12 41.4**	**-0.3**
FITZ					**PcP**	**19 13 42.9**	**+1.3**
FITZ	**Fitzroy Crossi**	**53.02**	**262**	P	**P**	**19 12 41.2**	**-0.4**
comp=Z,1.7nm,0.5s,baz=109,slow=4.9,SNR=11							
comp=Z,1.7nm,0.5s							
SOEI	**Soe**	**56.52**	**272**	P	**P**	**19 13 07.3**	**+1.0**
SOEI				IAmb	IAmb	19 13 17.5	
comp=Z,17nm,0.8s							
SBA	**Scott Base**	**57.72**	**184**	P	**P**	**19 13 16.1**	**+2.7**
TOLI2	**Tolitoli**	**63.65**	**282**	P	**P**	**19 13 54.1**	**+0.6**
TOLI2				IAmb	IAmb	19 14 18.7	
comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**19 14 29.0**	**+0.5**
UGM	**Wanagama**	**69.97**	**269**	P	**P**	**19 14 32.0**	**-0.6**
JKA	**Kamikawa-asahi**	**73.86**	**332**	P	**P**	**19 14 55.3**	**+0.8**
JKA				IAmb	IAmb	19 14 56.2	
comp=Z,18nm,1.2s							
SSLB	**Suanglung**	**74.07**	**304**	P	**P**	**19 14 54.6**	**-1.5**
SSLB				IAmb	IAmb	19 15 12.0	
comp=Z,32nm,1.5s							
PDAR	**Pinedale Array**	**89.06**	**43**	P	**P**	**19 16 12.2**	**-0.5**
comp=Z,0.3nm,0.6s,baz=256,slow=4.1,SNR=2.6							
comp=Z,0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**90.18**	**290**	P	**P**	**19 16 19.5**	**+1.4**
comp=Z,0.5nm,0.8s,baz=100,slow=4.7,SNR=5.0							
comp=Z,0.5nm,0.8s							
BVAR	**Borovoye Array**	**119.20**	**320**	PKP	**PKPdf**	**19 22 00.3**	**-2.0**
comp=Z,1.0nm,0.4s,baz=118,slow=1.9,SNR=6.1							
AKASG	**Malin Array Be**	**143.15**	**331**	PKP	PKPab	19 22 43.6	-1.4
comp=Z,1.7nm,0.5s,baz=43,slow=4.3,SNR=18							
BRTR	**Keskin Array B**	**146.95**	**312**	PKPbc	**PKPdf**	**19 22 55.9**	**+1.5**
comp=Z,0.8nm,0.7s,baz=149,slow=5.6,SNR=4.8							
MMAI	**Mount Meron Ar**	**147.90**	**300**	PKPbc	**PKPbc**	**19 22 59.8**	**-0.1**
comp=Z,1.0nm,0.4s,baz=84,slow=3.8,SNR=4.4							
GERES	**GERESS Array B**	**150.35**	**344**	PKPbc	**PKPbc**	**19 23 04.3**	**-0.9**
comp=Z,0.2nm,0.4s,baz=97,slow=4.3,SNR=3.6							

*NEIC **19** 19:13:35.8±1.2, 61°.45N±0°.02×149°.96W±0°.05, h38km±4km, Error ellipse: s-maj=3.1km s-min=3.0km az=127.0*
AEIC 19 19:13:36.4±1.0, 61°.44N±0°.02×149°.96W±0°.05, h41km±3km, ML2.6, ML2.9/150(NEIC), Error ellipse: s-maj=3.5km s-min=3.2km az=157.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.32**	**204**		Pn	19 13 44.7	-0.2
FIS				IAML		19 13 52.6	
comp=E,1μm,0.3s							
FIS				IAML		19 13 52.7	
comp=N,763nm,0.7s							
M22K	**Willow**	**0.33**	**346**		Pn	19 13 43.6	-1.4
M22K					Sn	19 13 50.5	-0.6
M22K				IAML		19 13 51.3	
comp=N,996nm,0.4s							
M22K				IAML		19 13 55.4	
comp=E,935nm,0.4s							
RC01	**Rabbit Creek A**	**0.36**	**163**		Pn	19 13 44.1	-1.4
RC01					Sn	19 13 51.0	-0.8
RC01				IAML		19 13 52.2	
comp=N,1μm,0.4s							
RC01				IAML		19 13 53.0	
comp=E,661nm,0.3s							
PMR	**Palmer**	**0.42**	**68**		Pn	19 13 44.9	-1.2
PMR					Sn	19 13 52.2	-0.9
PMR				IAML		19 13 53.0	
comp=E,917nm,0.2s							
PMR				IAML		19 13 53.0	
comp=N,696nm,0.3s							
GHO	**Glory Hole Cre**	**0.60**	**55**		Pn	19 13 47.4	-1.2
GHO					Sn	19 13 56.5	-0.7
GHO				IAML		19 13 57.8	
comp=E,497nm,0.3s							
GHO				IAML		19 13 57.8	
comp=N,397nm,0.4s							
KNK	**Knik Glacier**	**0.72**	**91**		Pn	19 13 49.1	-1.0
KNK					Sn	19 13 59.3	-0.7
KNK				IAML		19 14 03.3	
comp=N,563nm,0.4s							
KNK				IAML		19 14 03.5	
comp=E,533nm,0.4s							
SML	**Sawmill**	**0.86**	**64**		Pn	19 13 51.1	-1.0
SML					Sn	19 14 03.0	-0.5
SML				IAML		19 14 07.3	
comp=N,258nm,0.3s							
CAPN	**Captain Cook N**	**0.89**	**222**		Pn	19 13 52.2	-0.1
CAPN					Sn	19 14 03.1	-0.9
CAPN				IAML		19 14 08.0	
comp=E,415nm,1.0s							
CAPN				IAML		19 14 16.0	
comp=N,393nm,1.0s							
STLK	**Strandline Lak**	**0.90**	**275**		Pn	19 13 50.8	-1.9
STLK					Sn	19 14 04.0	-0.6
STLK				IAML		19 14 04.7	
comp=N,490nm,0.3s							
SKT	**Skwentna**	**0.93**	**307**		Pn	19 13 51.8	-1.2
SKT					Sn	19 14 04.3	-0.8
SKT				IAML		19 14 05.3	
comp=E,266nm,0.4s							
SKT				IAML		19 14 05.4	
comp=N,513nm,0.2s							
SLKM	**Skilak Lake**	**0.94**	**188**		Pn	19 13 51.5	-1.7
SLKM					Sn	19 14 03.0	-2.4
SLKM				IAML		19 14 06.3	
comp=E,250nm,0.2s							
SLKM				IAML		19 14 07.2	
comp=N,227nm,0.3s							
O22K	**Cooper Landing**	**0.96**	**173**		Pn	19 13 52.2	-1.2
O22K					Sn	19 14 05.5	-0.4
PWL	**Port Wells**	**0.97**	**126**		Pn	19 13 52.8	-0.8
PWL				IAML		19 14 10.5	
comp=N,460nm,0.3s							
CUT	**Chulitna**	**0.98**	**351**		Pn	19 13 53.0	-0.7
CUT					Sn	19 14 04.9	-1.5
CUT				IAML		19 14 10.0	
comp=N,455nm,0.4s							
SPCG	**Spurr Capps Gl**	**1.00**	**263**		Pn	19 13 53.3	-0.8
SPU	**Mount Spurr**	**1.04**	**257**	Pn	Pn	19 13 53.4	-1.2
SPU					Sn	19 14 07.1	-0.9
SPU				IAML		19 14 07.6	
comp=N,233nm,0.6s							
SPCN	**Chakachatna No**	**1.09**	**260**		Pn	19 13 54.3	-1.0
M23K	**Glacier View**	**1.12**	**70**		Pn	19 13 55.1	-0.5
CKL	**Chakachamna La**	**1.17**	**259**		Pn	19 13 55.6	-0.8
SPBG	**Spurr Blockage**	**1.18**	**262**		Pn	19 13 55.8	-0.7
SCM	**Sheep Creek Mo**	**1.32**	**71**		Pn	19 13 58.2	-0.1
SCM				IAML		19 14 17.6	
comp=N,201nm,0.2s							
SCM	**Sheep Creek Mo**	**1.32**	**71**		Sn	19 14 16.0	+1.3
SPNN	**North Nagishla**	**1.32**	**268**		Pn	19 13 58.2	-0.3
SEW	**Seward**	**1.36**	**169**	Pn	Pn	19 13 57.9	-1.0
RDT	**Redoubt**	**1.47**	**235**		Pn	19 13 59.5	-1.0
GLI	**Glacier Island**	**1.49**	**111**	Pn	Pn	19 14 00.1	-0.7
GLI				IAML		19 14 23.5	
comp=N,147nm,0.6s							
GLI				IAML		19 14 24.8	
comp=E,181nm,0.4s							
DFR	**Drift River**	**1.58**	**239**		Pn	19 14 01.2	-0.7
M20K	**Styx River**	**1.58**	**288**		Pn	19 14 01.4	-0.5
RDJH	**Redoubt Jeurge**	**1.63**	**240**		Pn	19 14 02.0	-0.6
RDJH					Sn	19 14 22.1	-0.3
NCT	**North Crescent**	**1.69**	**240**		Pn	19 14 03.1	-0.5
RDWB	**Redoubt West**	**1.70**	**237**		Pn	19 14 03.2	-0.5
RED	**Redoubt Volcan**	**1.71**	**235**		Pn	19 14 03.1	-0.7
BRLK	**Bradley Lake**	**1.74**	**196**		Pn	19 14 03.4	-0.7
BRSE	**Bradley Lake S**	**1.74**	**193**		Pn	19 14 03.1	-1.0
PPLA	**Purkeypile**	**1.80**	**325**		Pn	19 14 04.9	-0.2
O20K	**Slope Mountain**	**1.89**	**225**		Pn	19 14 06.4	+0.3
P23K	**Montague Islan**	**1.91**	**138**		Pn	19 14 04.9	-1.5
M24K	**Tolsona, Glenn**	**1.92**	**68**		Pn	19 14 07.2	+0.6
KLU	**Klutina**	**1.94**	**87**		Pn	19 14 06.2	-0.6
KLU				IAML		19 14 32.8	
comp=N,114nm,0.4s							
KLU				IAML		19 14 41.1	
comp=E,80nm,0.5s							
HIN	**Hinchinbrook I**	**1.98**	**120**	Pn	Pn	19 14 06.8	-0.7
HIN				IAML		19 14 47.8	
comp=N,124nm,1.7s							
HIN				IAML		19 15 04.3	
comp=E,91nm,1.8s							
CNPM	**China Poot**	**2.02**	**199**	Pn	Pn	19 14 07.0	-1.0
CNPM				IAML		19 14 35.8	
comp=E,76nm,3.0s							
TRF	**Thorofare Moun**	**2.03**	**356**		Pn	19 14 07.9	-0.3
TRF				IAML		19 14 36.7	
comp=N,72nm,0.5s							
DIV	**Divide**	**2.04**	**97**		Pn	19 14 07.7	-0.6
RND	**Reindeer**	**2.04**	**14**		Pn	19 14 08.5	+0.1
L20K	**Farewell, AK**	**2.13**	**301**		Pn	19 14 09.3	-0.1
ILSW	**Iliamna Southw**	**2.14**	**228**		Pn	19 14 09.6	-0.1
ILSW				IAML		19 14 40.9	
comp=E,54nm,2.2s							
M19K	**Big River Lodg**	**2.17**	**284**		Pn	19 14 09.5	-0.5
KTH	**Kantishna Hill**	**2.17**	**348**		Pn	19 14 10.3	+0.2
KTH				IAML		19 14 39.1	
comp=E,100nm,0.6s							
KTH				IAML		19 14 39.5	
comp=N,95nm,0.5s							
CAST	**Castle Rocks**	**2.22**	**334**		Pn	19 14 10.6	-0.1
EYAK	**Cordova Ski Ar**	**2.23**	**112**	Pn	Pn	19 14 11.7	+0.9
N19K	**Bonanza Creek**	**2.29**	**256**		Pn	19 14 11.2	-0.4
MCK	**McKinley**	**2.35**	**11**	Pn	Pn	19 14 12.9	+0.3
P19K	**Oil Pt**	**2.41**	**224**	Pn	Pn	19 14 12.6	-0.7
P19K				IAML		19 14 45.6	
comp=E,78nm,1.6s							
L19K	**White Mountain**	**2.44**	**290**		Pn	19 14 13.7	-0.1
HARP	**HAARP**	**2.47**	**65**		Pn	19 14 14.6	+0.5
N25K	**Chitina, Valde**	**2.57**	**84**		Pn	19 14 14.9	-0.7
N25K				IAML		19 14 56.7	
comp=N,43nm,0.3s							
PAX	**Paxson**	**2.61**	**52**		Pn	19 14 16.7	+0.7
BMRM	**Bremner River**	**2.63**	**98**		Pn	19 14 15.3	-1.1
GOAT	**Goat Mountain**	**2.69**	**106**		Pn	19 14 16.1	-1.0
BPAW	**Bear Paw Mtn.**	**2.72**	**350**	Pn	Pn	19 14 17.1	-0.4
K20K	**Telida**	**2.72**	**317**		Pn	19 14 17.4	-0.2
RAGM	**Ragged Mountai**	**2.79**	**110**		Pn	19 14 18.7	+0.2
M18K	**Stony River**	**2.82**	**274**		Pn	19 14 18.6	-0.3
GLB	**Gilahina Butte**	**2.95**	**87**		Pn	19 14 21.2	+0.4
GLB				IAML		19 15 05.0	
comp=N,49nm,0.7s							
GLB				IAML		19 15 09.0	
comp=E,26nm,0.5s							
N18K	**Kilae Creek**	**2.98**	**258**	Pn	Pn	19 14 20.5	-0.7
N18K				IAML		19 14 57.3	
comp=N,26nm,3.9s							
HMT	**Hamilton**	**2.99**	**109**		Pn	19 14 20.1	-1.2
O18K	**Koktuh Hills**	**3.04**	**241**	Pn	Pn	19 14 20.6	-1.2
O18K				IAML		19 15 16.6	
comp=N,29nm,3.4s							
O18K				IAML		19 15 32.9	
comp=E,34nm,3.9s							
K24K	**Donnelly Dome**	**3.06**	**37**		Pn	19 14 20.1	-2.2
SYI	**Shuyak Island**	**3.09**	**204**	Pn	Pn	19 14 21.8	-0.7
KAIM	**Kayak Island**	**3.12**	**117**	Pn	Pn	19 14 23.9	+1.0
Q19K	**Cape Douglas,**	**3.12**	**218**	Pn	Pn	19 14 22.2	-0.8
VRDI	**Verde Repeater**	**3.14**	**91**		Pn	19 14 23.3	-0.2
VRDI				IAML		19 15 06.7	
comp=N,23nm,3.8s							
WRH	**Wood River Hil**	**3.17**	**15**		Pn	19 14 23.5	-0.1
TTA	**Tatalina**	**3.21**	**300**		Pn	19 14 23.8	-0.6
BERG	**Berg Lake**	**3.23**	**106**		Pn	19 14 22.9	-1.6
HDA	**Harding Lake**	**3.29**	**23**		Pn	19 14 26.0	+0.7
HDA				IAML		19 15 13.0	
comp=N,19nm,0.5s							
HDA				IAML		19 15 21.4	
comp=E,22nm,1.0s							
MENT	**Mentasta**	**3.29**	**60**		Pn	19 14 24.7	-0.7
L18K	**Granite Mounta**	**3.29**	**287**	Pn	Pn	19 14 24.9	-0.4
L18K				IAML		19 15 05.2	
comp=N,18nm,3.9s							
RIDG	**Independent Ri**	**3.31**	**43**		Pn	19 14 27.5	+1.9
RIDG				IAML		19 15 14.8	
comp=N,40nm,0.6s							
P18K	**Big Mountain,**	**3.32**	**234**		Pn	19 14 24.3	-1.5
P18K	**Big Mountain,**	**3.32**	**234**	IAML		19 14 56.8	
comp=E,25nm,2.8s							
P18K				IAML		19 15 34.1	
comp=N,27nm,2.9s							
J20K	**Nowinta River**	**3.36**	**327**		Pn	19 14 25.5	-0.8
J20K				IAML		19 15 06.7	
comp=N,33nm,0.7s							
J20K				IAML		19 15 07.1	
comp=E,27nm,0.5s							
CCB	**Clear Creek Bu**	**3.37**	**16**		Pn	19 14 26.3	-0.1
L26K	**Log Cabin Wild**	**3.48**	**60**		Pn	19 14 27.5	-0.5
L26K				IAML		19 15 29.6	
comp=E,32nm,0.4s							
L26K				IAML		19 15 31.1	
comp=N,26nm,0.5s							
M17K	**Holitna River**	**3.60**	**273**	Pn	Pn	19 14 29.1	-0.5
M17K				IAML		19 14 58.1	
comp=N,34nm,3.5s							
M17K				IAML		19 15 11.9	
comp=E,31nm,3.1s							
IL31		**3.63**	**21**		Pn	19 14 29.6	-0.3
N17K	**Nushagak Hills**	**3.64**	**259**		Pn	19 14 29.6	-0.5
N17K	**Nushagak Hills**	**3.64**	**259**	IAML		19 15 51.0	
comp=N,18nm,3.2s							
N17K				IAML		19 16 43.6	
comp=E,21nm,4.1s							
J19K	**Poorman**	**3.66**	**317**		Pn	19 14 30.0	-0.4
J19K				IAML		19 16 36.0	
comp=N,16nm,4.1s							
I23K	**Minto, Yukon-K**	**3.74**	**4**		Pn	19 14 30.9	-0.6
I23K				IAML		19 16 09.6	
comp=N,19nm,4.2s							
J18K	**Innoko River**	**3.74**	**306**		Pn	19 14 30.9	-0.7
J18K				IAML		19 15 22.2	
comp=N,14nm,3.7s							
J18K				IAML		19 16 26.0	
comp=E,14nm,3.5s							
SCRK	**Sand Creek**	**3.75**	**45**		Pn	19 14 32.7	+0.9
SCRK				IAML		19 15 35.1	
comp=N,14nm,1.0s							
SCRK				IAML		19 15 48.7	
comp=E,14nm,3.8s							
J25K	**Salcha River,**	**3.81**	**31**		Pn	19 14 33.6	+1.0
J25K				IAML		19 15 25.7	
comp=E,15nm,0.7s							
I21K	**Tanana**	**3.87**	**347**		Pn	19 14 33.3	+0.1
I21K				IAML		19 15 48.0	
comp=N,17nm,4.8s							

M15K	**Kasigluk River**	**5.27 267**		Pn	19 14 51.9	-0.6
J16K	**Anvik River**	**5.29 295**		Pn	19 14 52.3	-0.5
H18K	**Honhosa River**	**5.32 318**		Pn	19 14 53.4	+0.2
L15K	**Ungalak Mounta**	**5.52 278**		Pn	19 14 55.1	-0.8

*NEIC **19** 19:25:13.1±1.7, 38°.09N±0°.02×116°.85W±0°.01, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.1km az=215.0*

REN 19 19:25:13.1±1.8, 38°.09N±0°.02×116°.88W±0°.02, h14km±7km, ML2.5/4, ML2.2/44(NEIC), Error ellipse: s-maj=2.4km s-min=2.0km az=216.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZP	**Montezuma Peak**	**0.56 226**			Sg	19 25 32.1	+0.5
MZP	**Montezuma Peak**	**0.56 226**		Pg	Pg	19 25 23.6	-0.5
MZP	**Montezuma Peak**	**0.56 226**		IAML		19 25 33.5	
	comp=N,34nm,0.6s						
MZP				IAML		19 25 39.7	
	comp=E,42nm,0.4s						
Q09A	**Carvers**	**0.78 342**			Pg	19 25 28.2	-0.2
Q09A					Sb	19 25 39.4	+0.2
Q09A	**Carvers**	**0.78 342**		IAML		19 25 44.2	
	comp=N,137nm,0.6s						
GMN	**Gold Mountain**	**0.84 201**			Pg	19 25 27.5	-2.0
GMN				IAML		19 25 46.8	
	comp=E,64nm,0.4s						
S11A	**Rachel**	**1.00 116**			Sg	19 25 45.4	-0.1
LCH	**Last Change Ra**	**1.05 216**			Pn	19 25 34.3	+0.8
R11B	**Troy Canyon, C**	**1.05 75**			Pb	19 25 32.8	-0.4
R11B					Sb	19 25 45.9	-0.9
R11B	**Troy Canyon, C**	**1.05 75**			Pb	19 25 32.0	-1.2
NV11	**Mina Array Sit**	**1.06 289**			Pb	19 25 33.3	-0.1
NV11					Sg	19 25 47.7	0.0
NV11				IAML		19 25 52.0	
	comp=E,69nm,0.4s						
DSP	**Deep Springs**	**1.12 231**		Pn	Pn	19 25 34.5	+0.2
DSP					Sn	19 25 49.9	+0.3
DSP				IAML		19 25 53.6	
	comp=N,41nm,0.6s						
NVAR	**Mina Array Bea**	**1.18 287**			Pn	19 25 35.2	-0.1
NV08	**Mina Array Sit**	**1.18 286**			Pb	19 25 35.6	+0.2
NV09	**Mina Array Sit**	**1.20 287**			Pg	19 25 36.3	0.0
TPNV	**Topopah Spring**	**1.24 156**			Pn	19 25 36.2	+0.1
TPNV				IAML		19 25 59.4	
	comp=N,52nm,0.5s						
TPNV				IAML		19 25 59.7	
	comp=N,68nm,0.4s						
LHV	**Little Huntoon**	**1.29 278**			Pb	19 25 37.0	-0.2
WCT	**Wildcat Mounta**	**1.31 171**			Pb	19 25 37.3	-0.2
WCT					Sn	19 25 54.4	+0.1
WCT				IAML		19 25 58.1	
	comp=E,54nm,0.3s						
WCT				IAML		19 25 59.0	
	comp=N,34nm,0.2s						
CPY	**CP-1**	**1.32 150**			Pb	19 25 38.1	+0.3
RYN	**Ryan**	**1.40 293**			Pb	19 25 39.6	+0.5
RYN	**Ryan**	**1.40 293**		IAML		19 26 02.8	
	comp=N,55nm,0.6s						
NSP	**Numbskull Pass**	**1.46 159**			Pb	19 25 40.5	+0.4
SDH	**Striped Hills**	**1.50 163**			Pb	19 25 41.4	+0.6
MCY	**Mercury**	**1.60 153**			Pb	19 25 43.1	+0.6
PRN	**Pahroc Range**	**1.60 115**			Pn	19 25 41.3	+0.2
PRN				IAML		19 26 07.7	
	comp=N,38nm,0.4s						
AMDNV	**Amargosa**	**1.70 164**			Pg	19 25 45.1	-0.6
Q12A	**Willow Creek R**	**1.86 59**			Pb	19 25 46.0	-1.1
CWC	**Cottonwood Cre**	**1.90 211**			Pg	19 25 48.8	-0.9
GWY	**Greenwater Val**	**1.90 175**			Pn	19 25 45.3	0.0
GWY				IAML		19 26 18.9	
	comp=E,24nm,0.8s						
GWY				IAML		19 26 19.0	
	comp=N,24nm,0.7s						
WAKR	**Walker**	**2.06 282**			Pn	19 25 46.7	-0.7
WAKR				IAML		19 26 22.1	
	comp=N,12nm,3.7s						
SHPR	**Sheep Range**	**2.09 139**			Pn	19 25 47.4	-0.4
SPR3	**Spring Creek 3**	**2.19 65**			Pn	19 25 49.0	-0.4
SPR3				IAML		19 26 21.2	
	comp=N,14nm,0.3s						
SPR3				IAML		19 26 21.5	
	comp=E,18nm,0.7s						
PSUT	**Pine Spring**	**2.42 78**			Pn	19 25 52.1	-0.3
PSUT				IAML		19 26 28.5	
	comp=N,18nm,0.5s						
PSUT				IAML		19 26 30.1	
	comp=E,19nm,0.7s						
PAHR	**Pah Rah Range**	**2.54 310**		Pn	Pn	19 25 53.5	-0.5
PAHR				IAML		19 26 11.4	
	comp=E,7.4nm,5.0s						
PAHR				IAML		19 27 16.0	
	comp=N,7.0nm,4.6s						
MSU	**Marysvale**	**3.72 82**		Pn	Pn	19 26 08.0	-2.3

*IDC **19** 19:48:41.9±1.3, 40°.28N×27°.17E, h0km, mbtmp3.4/5, ML3.7/5, Error ellipse: s-maj=17.3km s-min=10.6km az=53.0*

*SOF **19** 19:48:42.7, 40°.44N±0°.02×27°.14E±0°.02, h8km±2km, MD4.0/4*

*ISK **19** 19:48:42.7, 40°.38N×27°.15E, h12km, ML4.0/25*

*AFAD **19** 19:48:42.8, 40°.38N×27°.15E, h7km±1km, MW3.9*

*THE **19** 19:48:43.8, 40°.42N×27°.13E, h7km±1km, ML4.0/8, Error ellipse: s-maj=1.3km s-min=0.7km az=332.0*

*CFUSG **19** 19:48:49.4, 40°.38N×35°.08E, h33km, mb3.3/4, Western Turkey Magtype MSH 3.4 from 5 stations*

ISC 19 19:48:43.3±0.8, 40°.37N±0°.02×27°.16E±0°.01, h12km±6km, n168, σ1§22/221, 28C-37D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.11 78**		Pg	**Pg**	**19 48 46.2**	**0.0**
KRBG				Sg	**Sg**	**19 48 48.2**	**-0.1**
LPK	**Lapseki**	**0.30 270**		Pg	**Pg**	**19 48 49.6**	**+0.1**
LPK				Sg	**Sg**	**19 48 54.5**	**+0.8**
RKY	**Sarkoy-Tekirda**	**0.32 2**		Pg	**Pg**	**19 48 49.4**	**-0.4**
RKY				Sg	**Sg**	**19 48 53.9**	**-0.2**
SART	**Tekirdag**	**0.32 3**		P	**Pg**	**19 48 49.6**	**-0.2**
SART				S	**Sg**	**19 48 53.7**	**-0.5**
CANM	**Can-anakkale**	**0.37 193**		Pg	**Pg**	**19 48 50.6**	**-0.1**
CANM				Sg	**Sg**	**19 48 56.2**	**+0.6**
YENI	**Yenice-Canakka**	**0.44 172**		Pg	**Pg**	**19 48 52.2**	**+0.2**
GONE	**Gonen-Balikesi**	**0.52 129**		Pg	**Pb**	**19 48 53.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.52 273**		Pg	**Pg**	**19 48 53.4**	**-0.2**
EDC	**Edincik**	**0.54 92**		Pg	**Pg**	**19 48 53.8**	**0.0**
ERIK	**Erikli-Kesan**	**0.58 301**		Pg	**Pg**	**19 48 54.2**	**-0.3**
COMU	**Canakkale**	**0.59 243**		Pg	**Pg**	**19 48 54.9**	**+0.1**
CNKL	**anakkale-Mer**	**0.67 243**		P	**Pg**	**19 48 55.9**	**-0.3**
CNKL				S	**Sg**	**19 49 03.2**	**-1.7**
TKR	**Tekirdag**	**0.68 25**		Pg	**Pg**	**19 48 56.4**	**-0.1**
BAND	**Balkesir-Ban**	**0.72 91**		P	**Pg**	**19 48 56.7**	**-0.5**
BAND				S	**Sb**	**19 49 07.0**	**-0.6**
BAND	**Balkesir-Ban**	**0.72 91**		⇓P	**Pg**	**19 48 57.2**	**0.0**
BAND				⇓S	**Sb**	**19 49 07.6**	**0.0**
BALY	**Balya**	**0.72 151**		P	**Pg**	**19 48 57.3**	**0.0**
BALY				S	**Sb**	**19 49 07.4**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.79 217**		P	**Pg**	**19 48 58.5**	**0.0**
BAYC				S	**Sg**	**19 49 07.4**	**-1.3**
ENZZ	**Sultanice-Enez**	**0.81 287**		Pg	**Pg**	**19 48 58.5**	**-0.5**
SUSR	**Susurluk-Balik**	**0.82 120**		Pg	**Pg**	**19 48 58.8**	**-0.3**
CAVK	**Edirne/Enez-Ca**	**0.82 293**		P	**Pg**	**19 48 58.7**	**-0.5**
CAVK	**Edirne/Enez-Ca**	**0.82 293**		⇑P	**Pg**	**19 48 58.9**	**-0.3**
CAVK				⇑S	**Sg**	**19 49 09.8**	**-0.1**
ECEA	**Canakkale, Ece**	**0.82 247**		P	**Pg**	**19 48 58.9**	**-0.3**
ECEA				S	**Sg**	**19 49 08.8**	**-1.1**
ENEZ	**Enez**	**0.85 296**		Pg	**Pg**	**19 48 59.2**	**-0.5**
ENEZ	**Enez**	**0.85 296**		P	**Pg**	**19 48 59.3**	**-0.5**
ENEZ				S	**Sg**	**19 49 10.8**	**0.0**
	13μm,0.4s						
UKOP	**Uzunkopru-Edir**	**0.86 332**		Pg	**Pg**	**19 48 59.9**	**+0.1**
EZNE	**Ezine-Canakkal**	**0.87 225**		Pg	**Pg**	**19 48 59.8**	**-0.2**
BKES	**Balkesir-Mer**	**0.87 137**		P	**Pb**	**19 49 00.1**	**-0.2**
BKES				S	**Sb**	**19 49 12.6**	**+0.6**
BUHA	**Balikesir, Bur**	**0.87 184**		P	**Pb**	**19 49 00.3**	**-0.1**
BUHA				S	**Sb**	**19 49 11.7**	**-0.3**
CRLT	**Corlu**	**0.87 30**		Pg	**Pg**	**19 49 00.1**	**-0.1**
KCTX	**Karacabey (Bur**	**0.92 96**		Pg	**Pg**	**19 49 00.3**	**-0.8**
GOKC	**Gokceada-Canak**	**0.96 260**		Pg	Pg	19 48 56.9	-5.0
GOAD	**anakkale-G¶**	**0.98 258**		P	**Pg**	**19 49 01.3**	**-0.9**
GOAD				S	**Sb**	**19 49 15.3**	**+0.2**
GADA	**Gvkgeada**	**0.98 260**		Pg	**Pg**	**19 49 01.3**	**-0.9**
ALN	**Alexandroupoli**	**1.00 302**		Pg	**Pb**	**19 49 01.5**	**-1.0**
ALN	**Alexandroupoli**	**1.00 302**		P	**Pb**	**19 49 01.5**	**-1.0**
ALN				S	**Sg**	**19 49 15.2**	**-0.3**
	6μm,0.5s						
BOZC	**Bozcaada**	**1.00 238**		Pg	**Pb**	**19 49 01.7**	**-0.8**
BOZC	**Bozcaada**	**1.00 238**		P	**Pb**	**19 49 01.8**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.08 156**		P	**Pg**	**19 49 04.0**	**-0.2**
AYVA	**Ayvalik**	**1.12 199**		P	**Pg**	**19 49 05.0**	**+0.1**
AYVA				S	**Sb**	**19 49 19.1**	**0.0**
KOCA	**Canakkale, Ayv**	**1.17 222**		P	**Pb**	**19 49 05.2**	**-0.2**
SLVT	**Silivri**	**1.17 43**		Pn	**Pb**	**19 49 04.9**	**-0.6**
GPNR	**Gulpinar-Canak**	**1.21 221**		Pn	**Pn**	**19 49 05.8**	**-0.2**
ELBA	**Catalca**	**1.24 51**		P	**Pn**	**19 49 05.6**	**-0.9**
ELBA				S	**Sb**	**19 49 21.8**	**-0.7**
SOMA	**Soma-Manisa**	**1.25 167**		Pn	**Pb**	**19 49 06.8**	**0.0**
SMTH	**Samothraki Isl**	**1.25 275**		P	**Pn**	**19 49 06.1**	**-0.5**
SMTH				S	**Sb**	**19 49 22.7**	**-0.2**
	6μm,0.4s						
YYLC	**Yaylacik**	**1.27 93**		P	**Pn**	**19 49 06.6**	**-0.3**
YYLC				S	**Sg**	**19 49 24.6**	**+0.4**
DURS	**Dursunbey**	**1.27 127**		P	**Pg**	**19 49 07.3**	**-0.4**
DURS				S	**Sg**	**19 49 24.8**	**+0.6**
PHSR	**Pinarhisar**	**1.29 12**		Pn	**Pn**	**19 49 06.5**	**-0.7**
VIZE	**Kirklareli, Vi**	**1.31 23**		P	**Pn**	**19 49 06.8**	**-0.7**
VIZE				S	**Sb**	**19 49 22.9**	**-1.8**
ARMT	**Armutlu**	**1.31 81**		Pn	**Pn**	**19 49 07.2**	**-0.3**
PRK	**Paraskevi**	**1.32 212**		P	**Pb**	**19 49 07.8**	**-0.1**
PRK				S	**Sg**	**19 49 26.6**	**+0.9**
	15μm,0.4s						
MDNY	**Mudanya-Bursa**	**1.32 90**		Pn	**Pn**	**19 49 07.5**	**0.0**
CTKS	**Kestanelik-??a**	**1.34 49**		Pn	**Pn**	**19 49 07.3**	**-0.5**
AVCI	**Avcilar-stanb**	**1.34 62**		Pn	**Pn**	**19 49 07.8**	**-0.1**
DST	**Dursunbey**	**1.36 124**		Pn	**Pb**	**19 49 08.5**	**-0.2**
ORLT	**Orhaneli**	**1.37 103**		Pn	**Pb**	**19 49 08.5**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.40 37**		Pn	**Pn**	**19 49 08.2**	**-0.4**
IZMD	**zmir-Dikili-**	**1.40 187**		P	**Pb**	**19 49 09.2**	**-0.1**
IZMD				P	**Pb**	**19 49 09.3**	**-0.1**
ZEDA	**zmir-Bergama**	**1.41 183**		P	**Pb**	**19 49 09.2**	**-0.2**
KIRK	**Kırklareli**	**1.41 358**		P	**Pn**	**19 49 08.4**	**-0.4**
RDO	**Rodhopi**	**1.46 303**		P	**Pn**	**19 49 09.0**	**-0.4**
RDO				S	**Sn**	**19 49 28.3**	**-0.1**
	3μm,0.5s						
ARMN	**Kirklareli, Me**	**1.50 8**		P	**Pn**	**19 49 09.9**	**-0.3**
EDRB	**Edirne**	**1.51 348**		P	**Pn**	**19 49 10.0**	**-0.2**
EDRB				S	**Sn**	**19 49 29.2**	**-0.5**
	2μm,0.7s						
ULDT	**Uludag**	**1.53 98**		P	**Pb**	**19 49 12.0**	**+0.3**
ULDT				S	**Sn**	**19 49 30.3**	**-0.2**
SIGR	**SIGRI**	**1.53 221**		P	**Pn**	**19 49 10.7**	**+0.2**
SIGR				S	**Sb**	**19 49 31.8**	**+0.8**
	7μm,0.5s						
AVDN	**Avdancik/Bursa**	**1.54 92**		P	**Pn**	**19 49 10.7**	**+0.1**
AVDN				S	**Sb**	**19 49 31.5**	**+0.4**
IGD	**Bursa**	**1.56 93**		P	**Pn**	**19 49 11.2**	**+0.2**
AKHS	**Akhisar**	**1.57 161**		P	**Pn**	**19 49 11.6**	**+0.5**
KURT	**Yalova, Merkez**	**1.58 81**		P	**Pb**	**19 49 12.1**	**-0.3**
LIA	**Limnos Island**	**1.59 253**		P	**Pn**	**19 49 11.6**	**+0.4**
LIA				S	**Sb**	**19 49 33.0**	**+0.4**
	5μm,0.5s						
ISK	**Istanbul-Kandi**	**1.60 64**		P	**Pn**	**19 49 10.8**	**-0.6**
KRSK	**Karsak**	**1.60 88**		P	**Pn**	**19 49 11.4**	**-0.1**
KRSK				S	**Sn**	**19 49 32.2**	**+0.1**
DEMI	**Demirci**	**1.79 137**		P	**Pb**	**19 49 15.3**	**-0.8**
DEMI				S	**Sn**	**19 49 35.9**	**-0.9**
KARB	**zmir-Karabur**	**1.80 199**		P	**Pn**	**19 49 14.2**	**+0.1**
KDZ	**Kurdzhali**	**1.86 313**		P	**Pn**	**19 49 15.6**	**+0.5**
KDZ				S	**Sb**	**19 49 40.7**	**+0.1**
THAS	**Thassos island**	**1.88 278**		P	**Pn**	**19 49 14.6**	**-0.6**
EMET	**Ktahya-Emet**	**1.94 120**		P	**Pb**	**19 49 17.8**	**-0.8**
SEMS	**Kocaeli-K¶rfe**	**2.03 75**		P	**Pn**	**19 49 17.1**	**-0.2**
DOMA	**Ktahya-Doman**	**2.03 106**		P	**Pb**	**19 49 20.0**	**-0.2**
DOMA				S	**Sn**	**19 49 42.2**	**-0.7**
URLA	**Izmir**	**2.06 192**		P	**Pn**	**19 49 17.7**	**0.0**
URLA				S	**Sn**	**19 49 41.5**	**-1.8**
BILE	**Bilecik/Merkez**	**2.09 95**		P	**Pb**	**19 49 20.0**	**-1.2**
KAVA	**Kavala**	**2.11 288**		P	**Pn**	**19 49 18.6**	**+0.2**
HISA	**Bilecik-Osmane**	**2.11 87**		P	**Pn**	**19 49 19.3**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**2.19 194**		P	**Pn**	**19 49 19.8**	**+0.3**
ZEYE				S	**Sn**	**19 49 46.2**	**-0.3**
USAK	**Uak-Merkez**	**2.19 138**		P	**Pn**	**19 49 21.0**	**+1.3**
GDZ	**Gediz**	**2.20 125**		P	**Pn**	**19 49 21.0**	**+1.1**
AUBOZ	**BOZOYUK**	**2.25 101**		P	**Pb**	**19 49 24.3**	**+0.3**
RZN	**Rozhen**	**2.26 307**		P	**Pn**	**19 49 21.6**	**+0.9**
RZN				S	**Sn**	**19 49 49.8**	**+1.3**
ANDZ	**Kutahya, Merke**	**2.27 111**		P	**Pn**	**19 49 21.7**	**+0.9**
DGB	**zmir**	**2.33 185**		P	**Pn**	**19 49 21.6**	**+0.2**
OUR	**Ouranopolis**	**2.43 270**		P	**Pn**	**19 49 22.5**	**-0.3**
KOKK	**Kokkinochori,**	**2.45 282**		P	**Pn**	**19 49 22.7**	**-0.4**
PAIG	**Paliouri**	**2.70 262**		P	**Pn**	**19 49 26.1**	**-0.5**
MMB	**Musomishta**	**2.84 296**		P	**Pn**	**19 49 29.1**	**+0.6**
MMB				S	**Sn**	**19 50 02.3**	**-0.3**
PLG	**Polygyros**	**2.84 271**		P	**Pn**	**19 49 28.4**	**-0.1**
SAHE	**Sakarya_HENDEK**	**2.85 79**		⇓S	**Sn**	**19 50 05.3**	**+2.4**
NEF	**NEVSHA**	**2.89 2**		P	**Pn**	**19 49 30.2**	**+1.0**
SZH	**Strazhitsa**	**3.02 343**		P	**Pn**	**19 49 31.4**	**+0.4**
KKB	**Krupnik**	**3.38 297**		P	**Pn**	**19 49 37.7**	**+1.8**
KDZE	**Karadeniz Ereo**	**3.38 72**		⇓P	**Pn**	**19 49 37.0**	**+1.0**
KDZE				⇓S	**Sn**	**19 50 18.3**	**+2.3**
APE	**Apeiranthos**	**3.54 202**		⇓P	**Pn**	**19 49 38.2**	**+0.1**
APE				⇑S	**Sn**	**19 50 20.2**	**+0.4**
MANR	**Mangalia**	**3.60 17**		⇓P	**Pn**	**19 49 40.1**	**+1.2**
VAY	**Valandovo**	**3.61 287**		*i* Pn	**Pn**	**19 49 40.3**	**+1.3**
ICOR	**Ion Corvin**	**3.77 7**		⇓P	**Pn**	**19 49 42.4**	**+1.1**
ICOR				⇓S	**Sn**	**19 50 28.6**	**+3.0**
MPEP	**Malo Peshtene**	**3.93 321**		P	**Pn**	**19 49 44.3**	**+0.9**
VLAD	**Vladila**	**4.16 331**		⇑P	**Pn**	**19 49 47.2**	**+0.6**
VLAD				⇑S	**Sn**	**19 50 37.1**	**+1.9**
TIRR	**Tirgusor**	**4.19 12**		⇑P	**Pn**	**19 49 48.3**	**+1.3**
TLBR	**Topalu**	**4.22 9**		⇓P	**Pn**	**19 49 48.3**	**+0.9**
AMRR	**Amara**	**4.24 2**		⇓P	**Pn**	**19 49 49.5**	**+1.9**
VALD	**Valchedram**	**4.32 321**		P	**Pn**	**19 49 49.6**	**+0.8**
HARR	**Harsova**	**4.35 7**		⇑P	**Pn**	**19 49 50.8**	**+1.6**
HUMR	**Humele**	**4.46 340**		⇓P	**Pn**	**19 49 51.3**	**+0.7**
TPGR	**Topolog**	**4.58 11**		⇑P	**Pn**	**19 49 54.2**	**+1.8**
CIDE	**Kastamonu/Cide**	**4.62 69**		⇓P	**Pn**	**19 49 55.0**	**+2.1**
BLKB	**Belogradchik**	**4.66 316**		⇑S	**Sn**	**19 50 47.7**	**+0.2**
ISR	**Istrita**	**4.77 355**		⇑P	**Pn**	**19 49 56.9**	**+1.9**
CFR	**Carcaliu**	**4.86 8**		⇓P	**Pn**	**19 49 56.8**	**+0.7**
OHR	**Ohrid**	**4.89 281**		*i* Pn	**Pn**	**19 49 58.9**	**+2.2**
TLCR		**4.96 14**		⇓P	**Pn**	**19 49 59.8**	**+2.2**
PUNG	**Punghina**	**5.00 323**		⇓P	**Pn**	**19 49 58.5**	**+0.3**
BRTR	**Keskin Array B**	**5.01 95**		Pn	**Pn**	**19 49 58.9**	**+0.4**
	0.8nm,0.3s,baz=271,slow=12,SNR=20						
BRTR				Sn	**Sn**	**19 50 56.0**	**-0.5**
	1.1nm,0.3s,baz=258,slow=18,SNR=4.2						
BRTR				Lg	Lg	19 51 22.4	
	1.3nm,0.3s,baz=276,slow=24,SNR=7.2						
	0.7nm,0.3s						
NEHR	**Nehoiu**	**5.09 353**		⇓P	**Pn**	**19 50 00.8**	**+1.4**
BISRR	**Bisoca**	**5.18 356**		⇓P	**Pn**	**19 50 02.7**	**+1.9**
SRE	**Strehaia**	**5.19 327**		⇑P	**Pn**	**19 50 01.0**	**+0.2**
MLR	**Muntele Rosu**	**5.19 351**		Pn	**Pn**	**19 50 03.0**	**+2.0**
	3.6nm,0.3s,baz=312,slow=3.7,SNR=52						
MLR				Sn	**Sn**	**19 51 02.0**	**+1.2**
	1.2nm,0.3s,baz=248,slow=21,SNR=3.6						
MLR				Lg	Lg	19 51 29.2	
	3.0nm,0.3s,baz=126,slow=17,SNR=4.9						
MLR	**Muntele Rosu**	**5.19 351**		⇓P	**Pn**	**19 50 02.5**	**+1.5**
BOVS	**Bovan**	**5.21 311**		⇑P	**Pn**	**19 50 02.0**	**+1.0**
BOVS				⇑S	**Sn**	**19 51 01.6**	**+0.5**
TATR	**Tatarca**	**5.26 7**		⇑P	**Pn**	**19 50 03.5**	**+1.7**
TATR				⇓S	**Sn**	**19 51 04.4**	**+2.1**
VOIR		**5.29 344**		⇑P	**Pn**	**19 50 03.0**	**+0.7**
KIRS	**Kirsehir-Merke**	**5.35 101**		⇓P	**Pn**	**19 50 05.7**	**+2.6**
IDI	**Anoyia**	**5.38 200**		Pn	**Pn**	**19 50 03.6**	**+0.1**
	2.6nm,0.3s,baz=14,slow=8.3,SNR=7.8						
IDI				Sn	**Sn**	**19 51 05.6**	**+0.2**
	2.6nm,0.3s,baz=261,slow=20,SNR=9.0						
SPBR	**Spulber**	**5.38 357**		⇓P	**Pn**	**19 50 05.3**	**+1.8**
ODBI	**Odobesti**	**5.39 359**		⇑P	**Pn**	**19 50 05.6**	**+2.1**
PLOR	**Plostina**	**5.49 356**		⇓P	**Pn**	**19 50 06.8**	**+1.8**
PANC	**Panciu**	**5.50 360**		⇓P	**Pn**	**19 50 07.0**	**+2.1**
VRI	**Vrincioaia**	**5.50 357**		⇑P	**Pn**	**19 50 06.8**	**+1.8**
VLDR	**Vladesti**	**5.51 7**		⇑P	**Pn**	**19 50 06.9**	**+1.7**
COVR	**Voineasa-Covas**	**5.52 353**		⇑P	**Pn**	**19 50 07.2**	**+1.9**
VARL	**Varlezi**	**5.55 5**		⇓P	**Pn**	**19 50 07.5**	**+1.8**
LOT	**Lotru**	**5.65 335**		⇓P	**Pn**	**19 50 07.6**	**+0.4**
HERR	**Herculane**	**5.71 324**		⇑P	**Pn**	**19 50 07.6**	**-0.2**
DOPR	**Dopca**	**5.74 348**		⇓P	**Pn**	**19 50 10.0**	**+1.6**
OZUR		**5.81 351**		⇑P	**Pn**	**19 50 11.1**	**+1.8**
GZR	**Gura Zlata**	**5.96 329**		⇑P	**Pn**	**19 50 11.4**	**0.0**
MDVR	**Moldovita**	**5.96 319**		⇑P	**Pn**	**19 50 11.9**	**+0.4**
ONER	**Baraj Valea Uz**	**5.99 355**		⇓P	**Pn**	**19 50 13.6**	**+1.9**
TESR	**Tescani**	**6.15 357**		⇑P	**Pn**	**19 50 14.9**	**+1.0**
TESR				⇓S	**Sn**	**19 51 26.8**	**+2.6**
DIKM	**Dikmen**	**6.26 76**		⇓P	**Pn**	**19 50 16.4**	**+1.0**
SEV	**Sevastopol'**	**6.37 47**		*e*P	**Pn**	**19 50 17.0**	**+0.1**
SEV				Pm		19 50 17.3	
	comp=Z,9.0nm,0.4s						
SEV				*e*S	**Sn**	**19 51 25.1**	**-4.4**
SEV				Sm		19 51 28.0	
	comp=N,1.0nm,0.4s						
SEV				Sm		19 51 28.0	
	comp=E,3.0nm,0.2s						
SURR	**Surduc**	**6.52 327**		⇓P	**Pn**	**19 50 19.3**	**+0.3**
YAL	**Yalta**	**6.61 49**		*e*P	**Pn**	**19 50 19.9**	**-0.3**
YAL				Pm		19 50 23.6	
	comp=Z,8.0nm,0.4s						
YAL				*e*S	**Sn**	**19 51 29.9**	**-5.6**
YAL				Sm		19 51 34.1	
	comp=N,4.0nm,0.4s						
YAL				Sm		19 51 34.2	
	comp=E,8.0nm,0.3s						
BZS	**Buzias**	**6.63 324**		⇓P	**Pn**	**19 50 20.4**	**-0.2**
MILM	**Milestii Mici**	**6.65 10**		⇑P	**Pn**	**19 50 21.7**	**+0.9**
BANR	**Banloc**	**6.68 321**		⇓P	**Pn**	**19 50 22.0**	**+0.8**
ALU	**Alushta**	**6.87 49**		*e*P	**Pn**	**19 50 23.3**	**-0.5**
ALU				Pm		19 50 30.5	
	comp=Z,5.0nm,0.3s						
ALU				*e*S	**Sn**	**19 51 35.7**	**-6.1**
ALU				Sm		19 51 41.9	
	comp=N,8.0nm,0.3s						
ALU				Sm		19 51 41.9	
	comp=E,5.0nm,0.4s						
SIM	**Simferopol'**	**6.87 46**		*e*P	**Pn**	**19 50 24.1**	**+0.3**
SIM				Pm		19 50 25.0	
	comp=Z,32nm,0.4s						
SIM				*e*S	**Sn**	**19 51 37.0**	**-4.9**
SIM				Sm		19 51 45.7	
	comp=N,10.0nm,0.3s						
SIM				Sm		19 51 45.7	
	comp=E,2.0nm,0.6s						
MARR	**Marisel-Cluj**	**6.95 336**		⇓P	**Pn**	**19 50 25.9**	**+0.8**
SIRR	**Siria**	**7.13 328**		⇓P	**Pn**	**19 50 27.2**	**-0.2**
DRGR		**7.18 335**		⇑P	**Pn**	**19 50 28.5**	**+0.3**
SUDU	**Sudak**	**7.33 49**		*e*P	Pn	19 50 24.1	-6.1
SUDU				Pm		19 50 25.0	
	comp=Z,32nm,0.4s						
SUDU				*e*S	Sn	19 51 37.0	-16
SUDU				Sm		19 51 45.7	
	comp=N,10.0nm,0.3s						
SUDU				Sm		19 51 45.7	
	comp=E,2.0nm,0.6s						
BURAR	**Bucovina Array**	**7.38 350**		⇑P	**Pn**	**19 50 33.0**	**+2.1**
SORM	**Soroca**	**7.81 6**		⇑P	**Pn**	**19 50 36.4**	**-0.2**
SORM				⇓S	**Sn**	**19 52 08.9**	**+3.9**
MORH	**Mrgy, Hungar**	**8.52 316**		⇓P	**Pn**	**19 50 46.5**	**+0.1**
MMAI	**Mount Meron Ar**	**9.88 135**		Pn	**Pn**	**19 51 05.5**	**+0.3**
	comp=E,0.8nm,0.3s,baz=325,slow=12,SNR=5.7						
	comp=E,2.5nm,0.6s						
AKASG	**Malin Array Be**	**10.43

comp=Z,200nm,5.3s
TYV A A 19 58 57.6
comp=Z,100nm,5.3s
JKA Kamikawa-asahi 8.57 252 Pn Pn 19 57 15.1 -1.3
JKA Kamikawa-asahi 8.57 252 *e*P **Pn 19 57 18.5 +2.1**
ASAJ Asahikawa 8.57 252 Pn **Pn 19 57 18.5 +2.1**
comp=Z,0.4nm,0.3s,baz=91,slow=16,SNR=6.5
comp=Z,10nm,0.9s
ERM Erimo 9.34 240 Pn **Pn 19 57 25.2 -1.7**
ERM Erimo 9.34 240‖ *e*PN **Pn 19 57 27.2 +0.3**
OKH Okha 9.43 316 *e*P Pn 19 57 32.2 +4.1
OKH *e*S Sn 19 59 18.0 +5.1
NKL Nikolayevsk 10.34 309 *e*P Pn 19 57 45.0 +4.4
KBG Krutoberegovo 10.47 28 *e*P **Pn 19 57 42.4 0.0**
MA2 Magadan 12.46 352 Pn **Pn 19 58 06.2 -3.3**
comp=Z,0.9nm,0.2s,baz=155,slow=14,SNR=7.0
MA2 LR LR 20 02 35.2
comp=Z,53nm,18.4s,baz=106,slow=37
MA2 Magadan 12.46 352‖ *e*PN Pn 19 58 12.1 +2.6
MA2 pmax pmax
comp=Z,2.0nm,1.3s
MA2 Magadan 12.46 352 *e*P Pn 19 58 12.1 +2.6
KLR Kul'dur 14.93 286 LR LR 20 04 50.9
comp=Z,54nm,19.4s,baz=95,slow=40
USRK Ussuriysk Ar. 15.65 267 Pn **P 19 58 53.6 -2.9**
comp=Z,0.2nm,0.3s,baz=74,slow=14,SNR=3.2
comp=Z,1.4nm,0.6s
ZEA Zeya 18.11 301 *e*P **P 19 59 28.0 +4.3**
ZEA Zeya 18.11 301 *e*P **P 19 59 27.7 +4.0**
KSRS Korea Array 21.52 252 P **P 20 00 01.6 +0.7**
comp=Z,1.3nm,0.7s,baz=62,slow=9.2,SNR=5.2
comp=Z,1.3nm,0.7s
JNU Nakatsue 22.50 239 LR LR 20 08 47.3
comp=Z,34nm,18.4s,baz=52,slow=36
TIXI Tiksi 27.12 343 LR LR 20 13 10.4
comp=Z,41nm,18.2s,baz=274,slow=41
H11N2 WAKE ISLAND Hy 29.44 155 T T 20 33 09.7
baz=341,slow=74
H11N1 WAKE ISLAND Hy 29.45 155 T T 20 32 27.8
baz=341
H11N3 WAKE ISLAND Hy 29.45 155 T T 20 33 19.1
baz=341,slow=74
H11S1 WAKE ISLAND Hy 30.54 156 T T 20 33 23.7
baz=343,slow=75,SNR=34
H11S3 WAKE ISLAND Hy 30.55 156 T T 20 33 22.6
baz=343,slow=75,SNR=36
H11S2 WAKE ISLAND Hy 30.56 156 T T 20 33 21.9
baz=343,slow=75,SNR=28
N17K Nushagak Hills 30.88 46 P **P 20 01 29.4 +1.6**
SONM Songino Array 31.72 289 P **P 20 01 33.5 -1.9**
SONM Songino Array 31.72 289 P **P 20 01 34.6 -0.9**
comp=Z,0.8nm,0.7s,baz=64,slow=8.3,SNR=6.5
SONM LR LR 20 14 55.0
comp=Z,62nm,18.7s,baz=14,slow=38
comp=Z,0.8nm,0.7s
SONM Songino Array 31.72 289 *e*P **P 20 01 35.1 -0.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
J19K Poorman 31.92 40 P **P 20 01 38.1 +1.1**
J19K IAmb IAmb 20 02 02.7
comp=Z,6.2nm,1.4s
B20K Meade River 32.67 29 P **P 20 01 43.4 0.0**
B20K IAmb IAmb 20 01 48.2
comp=Z,2.5nm,1.0s
E22K Anaktuvuk Pass 34.08 33 P **P 20 01 56.2 +0.5**
E22K IAmb IAmb 20 02 24.8
comp=Z,8.1nm,1.5s
SML Sawmill 35.17 44 P **P 20 02 06.5 +1.2**
F24K Squaw Lake 35.48 34 P **P 20 02 08.9 +1.1**
F24K IAmb IAmb 20 02 40.6
comp=Z,4.1nm,1.4s
ILAR Eielson Array 35.76 39 P **P 20 02 11.1 +0.9**
comp=Z,0.2nm,0.6s,baz=258,slow=6.6,SNR=5.0
comp=Z,0.2nm,0.6s
BMAR Burnt Mountain 36.74 35 P **P 20 02 18.7 0.0**
L27K Beaver Creek, 38.09 42 P **P 20 02 31.5 +1.4**
L27K IAmb IAmb 20 02 59.1
comp=Z,4.4nm,1.2s
E29M Blow River 39.26 33 P **P 20 02 40.7 +0.9**
I30M Mount Dempster 40.18 38 P **P 20 02 48.1 +0.5**
ZAA0 Zalesovo Array 42.78 306 P **P 20 03 07.5 -1.4**
ZALV Zalesovo Beam 42.78 306 P **P 20 03 06.8 -2.1**
ZALV Zalesovo Beam 42.78 306 P **P 20 03 07.6 -1.3**
comp=Z,1.9nm,0.6s,baz=62,slow=7.7,SNR=9.3
ZALV LR LR 20 19 55.9
comp=Z,21nm,21.8s,baz=54,slow=35
comp=Z,1.9nm,0.6s
ZALV Zalesovo Beam 42.78 306 *e*P **P 20 03 07.9 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
A36M Sachs Harbour 43.11 27 P **P 20 03 12.5 +1.2**
A36M IAmb IAmb 20 03 14.1
comp=Z,5.2nm,1.1s
PZH PanZhiHua 45.68 262 P **P 20 03 32.5 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.1s
MK31 Makanchi Array 47.22 297 P **P 20 03 42.7 -1.7**
MK31 Makanchi Array 47.22 297‖ *i*P **P 20 03 43.4 -1.0**
MKAR Makanchi Array 47.22 297 P **P 20 03 43.6 -0.7**
comp=Z,1.6nm,0.7s,baz=67,slow=8.0,SNR=17
comp=Z,1.6nm,0.7s
KURK Kurchatov 47.56 304 P **P 20 03 45.7 -1.2**
KURK Kurchatov 47.56 304*d i*P **P 20 03 45.8 -1.1**
KURK Kurchatov 47.56 304 *e*P **P 20 03 45.8 -1.1**
KURBB Kurchatov Arra 47.65 303 P **P 20 03 46.7 -0.9**
comp=Z,4.8nm,0.7s,baz=67,slow=8.3,SNR=35
comp=Z,4.8nm,0.7s
LSA Lhasa 50.83 273 P **P 20 04 12.8 +0.1**
LSA IAmb IAmb 20 04 15.1
comp=Z,3.8nm,0.8s
LSA Lhasa 50.83 273 P **P 20 04 12.8 +0.1**
LSA pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 50.98 309 P **P 20 04 12.3 -0.7**
comp=Z,1.1nm,0.4s,baz=55,slow=7.7,SNR=16
BVAR PcP **PcP 20 05 28.6 -0.1**
comp=Z,0.9nm,0.7s,baz=89,slow=2.5,SNR=4.4
comp=Z,1.1nm,0.4s
BRVK Borovoye 51.01 309 P **P 20 04 11.9 -1.3**
BRVK IAmb IAmb 20 04 13.2
comp=Z,2.3nm,0.8s
BRVK Borovoye 51.01 309‖ *i*P **P 20 04 12.7 -0.5**
BRVK pmax pmax
comp=Z,18nm,4.0s
BRVK Borovoye 51.01 309 *e*P **P 20 04 12.7 -0.5**
CMAR Chiang Mai Arr 53.07 257 P **P 20 04 29.8 +0.8**
comp=Z,0.6nm,0.8s,baz=36,slow=6.9,SNR=5.3
comp=Z,0.6nm,0.8s
AAK Ala-Archa 54.12 296 P **P 20 04 35.5 -1.1**
AAK IAmb IAmb 20 04 39.7
comp=Z,4.6nm,1.5s
AAK Ala-Archa 54.12 296 LR LR 20 28 59.7
comp=Z,40nm,19.1s,baz=29,slow=38
AAK Ala-Archa 54.12 296‖ *i*P **P 20 04 36.7 +0.1**
AAK pmax pmax
comp=Z,14nm,3.9s
AAK Ala-Archa 54.12 296 *e*P **P 20 04 36.7 +0.1**
ARTI Arti 55.12 318 P **P 20 04 41.3 -2.1**
ARTI IAmb IAmb 20 04 43.8
comp=Z,3.3nm,0.8s
ARTI Arti 55.12 318 LR LR 20 32 14.1
comp=Z,36nm,18.0s,baz=303,slow=41
ARTI Arti 55.12 318*d i*P **P 20 04 42.5 -0.9**
ARTI S **S 20 12 24.5 +0.6**
ARTI SS **SS 20 16 07.6 +0.3**
ARTI pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 58.54 310 P **P 20 05 07.0 -0.7**
ABKAR IAmb IAmb 20 05 08.2
comp=Z,4.8nm,1.2s
CHGR Chuyangaron 59.75 295 P **P 20 05 15.8 -0.7**
CHGR Chuyangaron 59.75 295 P **P 20 05 15.8 -0.7**
SIMJ Simiganj 59.84 296 P **P 20 05 15.1 -2.0**
FINES FINESS Array B 63.80 335 P **P 20 05 43.1 -0.1**
comp=Z,1.5nm,0.5s,baz=40,slow=7.1,SNR=14
comp=Z,1.5nm,0.5s
FINES FINESS Array B 63.80 335 *e*P **P 20 05 43.5 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 65.20 326 *e*P **P 20 05 52.4 0.0**
OBN *e**PP **sP 20 06 06.5 +1.9**
OBN *e* 20 06 24.5
OBN *e* 20 08 15.1
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN Obninsk 65.20 326 *e*P **P 20 05 52.4 0.0**
NB2 NORSAR Subarra 67.91 341 P **P 20 06 09.9 +0.2**
comp=Z,1.1nm,0.7s,baz=25,slow=6.5
NOA NORSAR Array B 67.91 341 P **P 20 06 10.3 +0.6**
comp=Z,2.6nm,0.8s,baz=27,slow=6.1,SNR=6.0
comp=Z,2.6nm,0.8s
HFS Hagfors 68.16 340 P **P 20 06 11.7 +0.5**
comp=Z,6.1nm,0.7s,baz=78,slow=8.2,SNR=9.0
comp=Z,6.1nm,0.7s
KBZ Khabaz 70.91 314 P **P 20 06 29.4 +1.0**
comp=Z,1.6nm,0.7s,baz=71,slow=5.0,SNR=5.1
comp=Z,1.6nm,0.7s
AKASG Malin Array Be 71.43 327 P **P 20 06 31.1 -0.3**
comp=Z,1.5nm,0.4s,baz=36,slow=6.2,SNR=11
AKASG LR LR 20 41 47.3
comp=Z,27nm,18.2s,baz=272,slow=40
comp=Z,1.5nm,0.4s
AKBB Malin Array Si 71.43 327‖ *e*P **P 20 06 30.2 -1.3**
CLL Collm 76.22 336 *i* P **P 20 07 00.2 +0.7**
CLL *e**PP **PcP 20 07 12.0 +0.5**
CLL Collm 76.22 336 *i* P **P 20 07 00.2 +0.7**
comp=Z,5.0nm,0.7s
CLL *ex* x 20 07 12.0
BR131 Keskin Array S 78.40 317‖ *e*P **P 20 07 12.0 -0.2**
BRTR Keskin Array B 78.40 317 P **P 20 07 13.7 +1.5**
comp=Z,1.2nm,0.8s,baz=86,slow=5.1,SNR=7.3
comp=Z,1.2nm,0.8s
H03N2 Juan Fernandez 138.16 90 T T 22 48 17.0
baz=310
H03N1 Juan Fernandez 138.18 90 T T 22 48 17.4
baz=310
H03N3 Juan Fernandez 138.18 90 T T 22 48 14.3
baz=310

SKHL ***19*** *20:12:52.5±0.3, 45°.60N×154°.60E, h41km±8km, mb4.4/2*
IDC ***19*** *20:12:53.4±3.9, 47°.89N×153°.14E, h0km, mb3.9/10, mbtmp3.8/12, ML3.0/2, MS2.8/3, Error ellipse: s-maj=84.8km s-min=28.1km az=137.0*
ISC 19 20:12:50.9±2.3, 46°.9N±0°.3×154°.2E±0°.2, h35km, n25, σ2S30/22, mb3.9/10, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.70**	**252**	*e*P	**Pn**	**20 14 02.5**	**+3.2**
KUR				AMB	AMB	20 14 11.5	
	30nm,0.4s						
KUR				*e*S	**Sn**	**20 14 54.8**	**+2.3**
KUR				A	A	20 15 24.3	
	40nm,0.5s						
KUR				A	A	20 15 24.3	
	50nm,0.5s						
SHO	**Shikotan**	**5.99**	**243**	*e*P	**Pn**	**20 14 17.4**	**+0.4**
SHO				AMB	AMB	20 14 21.4	
	20nm,0.4s						
SHO				*e*S	**Sn**	**20 15 21.3**	**-3.1**
SHO				A	A	20 15 26.9	
	20nm,0.2s						
SHO				A	A	20 15 26.9	
	10.0nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**6.51**	**247**	*e*P	**Pn**	**20 14 26.7**	**+2.6**
YUK				*e*S	**Sn**	**20 15 35.3**	**-1.8**
PETK	**Petropavlovsk-**	**6.64**	**19**	Pn	**Pn**	**20 14 25.0**	**-0.9**
	0.4nm,0.3s,baz=184,slow=12,SNR=2.8						
PETK				LR	LR	20 16 55.1	
	comp=Z,44nm,18.7s,baz=134,slow=40						
	1.4nm,0.5s						
NMR	**Nemuro--Hokkai**	**6.94**	**243**	*e*P	**Pn**	**20 14 30.2**	**+0.2**
NMR				*e*S	**Sn**	**20 15 44.1**	**-3.5**
AKK	**Akkeshi**	**7.67**	**243**	*e*P	**Pn**	**20 14 40.8**	**+0.7**
AKK				*e*S	**Sn**	**20 16 01.7**	**-4.0**
ASAJ	**Asahikawa**	**8.60**	**256**	Pn	**Pn**	**20 14 55.2**	**+2.4**
	0.3nm,0.3s,baz=130,slow=6.8,SNR=4.1						
	4.3nm,1.0s						
KLR	**Kul'dur**	**15.19**	**287**	LR	LR	20 21 44.9	
	comp=Z,30nm,18.4s,baz=114,slow=37						
H11N2	**WAKE ISLAND Hy**	**29.00**	**155**	T	T	20 49 35.4	
	baz=346,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.01**	**155**	T	T	20 49 45.3	
	baz=346,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.01**	**155**	T	T	20 50 27.3	
	baz=346						
H11S1	**WAKE ISLAND Hy**	**30.10**	**156**	T	T	20 50 56.5	
	baz=343,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.11**	**156**	T	T	20 51 04.6	
	baz=343,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**30.12**	**156**	T	T	20 51 27.1	
	baz=343,slow=75,SNR=12						
SONM	**Songino Array**	**31.99**	**290**	P	**P**	**20 19 12.6**	**-1.1**
	0.3nm,0.6s,baz=59,slow=8.5,SNR=2.3						
	0.3nm,0.6s						
GUMO	**Guam**	**34.09**	**196**	LR	LR	20 31 22.0	
	comp=Z,29nm,20.4s,baz=80,slow=32						
ZALV	**Zalesovo Beam**	**43.14**	**306**	P	**P**	**20 20 45.3**	**-2.4**
	0.9nm,0.5s,baz=63,slow=8.2,SNR=5.4						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**47.54**	**298**	P	**P**	**20 21 21.6**	**-1.0**
	0.8nm,0.8s,baz=69,slow=7.6,SNR=8.6						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**48.01**	**304**	P	**P**	**20 21 24.8**	**-1.4**
	2.2nm,0.7s,baz=68,slow=8.3,SNR=19						
	2.2nm,0.7s						
BVAR	**Borovoye Array**	**51.35**	**310**	P	**P**	**20 21 50.5**	**-1.0**
	0.5nm,0.3s,baz=56,slow=7.8,SNR=7.2						
	0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**53.12**	**257**	P	**P**	**20 22 09.2**	**+4.1**
	0.3nm,0.3s,baz=44,slow=7.9,SNR=2.2						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**64.25**	**335**	P	**P**	**20 23 21.2**	**-0.6**
	2.0nm,0.8s,baz=46,slow=5.5,SNR=5.3						
	2.0nm,0.8s						
HFS	**Hagfors**	**68.60**	**340**	P	**P**	**20 23 49.8**	**0.0**
	7.7nm,1.0s,baz=46,slow=10,SNR=4.5						
	7.7nm,1.0s						
AKASG	**Malin Array Be**	**71.86**	**327**	P	**P**	**20 24 09.2**	**-0.7**
	0.6nm,0.4s,baz=36,slow=6.1,SNR=6.0						
	0.6nm,0.4s						
BRTR	**Keskin Array B**	**78.81**	**317**	P	**P**	**20 24 51.5**	**+1.4**
	0.7nm,0.8s,baz=52,slow=6.4,SNR=4.9						
	0.7nm,0.8s						

IDC ***19*** *20:41:13.7±1.4, 36°.78S×179°.22E, h0km, mb4.5/4, mbtmp4.5/5, ML4.7/1, MS3.4/7, Error ellipse: s-maj=59.0km s-min=29.8km az=156.0*
NEIC ***19*** *20:41:16.3±2.9, 37°.09S±0°.06×179°.20E±0°.03, h10km±1km, mb4.5/13, Error ellipse: s-maj=10.6km s-min=3.1km az=20.0*
WEL ***19*** *20:41:18.6±0.9, 37°.5±6°×17°.9E±°, h12km, M4.5/16, ML4.7/15, MLv4.5/16, Error ellipse: s-maj=9.0km s-min=7.0km az=133.4, confirmed*
NOU ***19*** *20:41:21.4, 37°.54S×179°.15E, h33km, MLv4.6/17, Off E. Coast of N. Island, N.Z.*
ISC 19 20:41:13.7±0.7, 37°.28S±0°.05×179°.45E±0°.06, h10km, n111, σ1§76/117, mb4.5/10, MS3.5/5, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**253**		**Pn**	**20 41 34.4**	**+1.3**
MXZ					**Sg**	**20 41 44.3**	**-0.2**
MXZ	**Matakaoa Point**	**0.95**	**253**	P	**Pn**	**20 41 34.4**	**+1.3**
MXZ	**Matakaoa Point**	**0.95**	**253**	P	**Pn**	**20 41 34.5**	**+1.3**
MXZ				S	**Sb**	**20 41 44.7**	**-0.3**
WMGZ	**Waiomatatini S**	**0.98**	**237**	P	**Pn**	**20 41 37.5**	**+4.0**
WMGZ				S	**Sn**	**20 41 50.6**	**+3.0**
PUZ	**Puketiti**	**1.23**	**230**	P	**Pg**	**20 41 40.8**	**+3.4**
PKGZ	**Pakihiroa**	**1.23**	**241**	P	**Pg**	**20 41 40.4**	**+2.9**
PKGZ				S	**Sn**	**20 41 55.3**	**+1.5**
HAZ	**Te Kaha**	**1.41**	**250**	P	**Pg**	**20 41 41.3**	**+0.6**
HAZ				S	**Sb**	**20 41 57.9**	**-0.3**
TWGZ	**Tauwhareparae**	**1.47**	**232**	P	**Pg**	**20 41 43.9**	**+2.0**
CNGZ	**Carnagh Statio**	**1.55**	**219**	P	**Pg**	**20 41 46.2**	**+2.7**
RUGZ	**Raukumara Rang**	**1.56**	**244**	P	**Pg**	**20 41 44.9**	**+1.2**
RUGZ				S	**Sb**	**20 42 03.5**	**+0.7**
TKGZ	**Te Karaka**	**1.71**	**227**	P	**Pb**	**20 41 47.2**	**+1.9**
TKGZ				S	**Sb**	**20 42 08.6**	**+1.6**
WIZ	**White Island**	**1.82**	**262**	P	**Pb**	**20 41 45.9**	**-1.2**
MWZ	**Matawai**	**1.85**	**235**	P	**Pb**	**20 41 49.2**	**+1.5**
URZ	**Urewera**	**2.10**	**242**	Pn	**Pb**	**20 41 51.9**	**+0.1**
	196nm,0.3s,baz=342,slow=4.4,SNR=666						
URZ				Sn	**Sn**	**20 42 15.0**	**0.0**
	142nm,0.3s,baz=16,slow=13,SNR=7.5						
URZ				LR	LR	20 42 53.9	
	comp=Z,547nm,21.6s,baz=112,slow=45						
	494nm,0.3s						
URZ	**Urewera**	**2.10**	**242**	P	**Pb**	**20 41 51.3**	**-0.5**
URZ	**Urewera**	**2.10**	**242**	P	**Pb**	**20 41 51.8**	**0.0**
KNZ	**Kokohu**	**2.23**	**218**	P	**Pn**	**20 41 53.7**	**+3.0**
KNZ				S	**Sn**	**20 42 19.6**	**+1.2**
RTZ	**Ruatahuna**	**2.36**	**235**		**Pn**	**20 41 55.3**	**+2.6**
RTZ	**Ruatahuna**	**2.36**	**235**	P	**Pb**	**20 41 56.1**	**-0.4**
BKZ	**Black Stump Fm**	**2.99**	**230**		**Pn**	**20 42 03.6**	**+2.3**
BKZ				Sn	**Sn**	**20 42 34.4**	**-2.9**
BKZ	**Black Stump Fm**	**2.99**	**230**	P	**Pn**	**20 42 04.0**	**+2.7**
BKZ	**Black Stump Fm**	**2.99**	**230**	P	**Pn**	**20 42 04.1**	**+2.7**
BKZ				S	**Sn**	**20 42 36.0**	**-1.3**
TOZ	**Tahuroa Road**	**3.17**	**261**		**Pn**	**20 42 05.0**	**+1.4**
TOZ	**Tahuroa Road**	**3.17**	**261**	P	**Pn**	**20 42 05.2**	**+1.5**
GRZ	**Great Barrier**	**3.37**	**287**	P	**Pn**	**20 42 07.3**	**+0.9**
PXZ	**Pawanui**	**3.41**	**216**	P	**Pn**	**20 42 08.8**	**+1.8**
PXZ				S	**Sn**	**20 42 47.3**	**-0.1**
HIZ	**Hauiti**	**3.84**	**250**		**Pn**	**20 42 15.4**	**+2.6**
HIZ	**Hauiti**	**3.84**	**250**	P	**Pn**	**20 42 15.5**	**+2.6**
BFZ	**Birch Farm**	**4.21**	**215**		**Pn**	**20 42 18.9**	**+0.9**
BFZ				Sn	**Sn**	**20 43 04.8**	**-2.5**
BFZ	**Birch Farm**	**4.21**	**215**	P	**Pn**	**20 42 19.0**	**+0.9**
BFZ	**Birch Farm**	**4.21**	**215**	S	**Sn**	**20 43 05.2**	**-2.1**
MRZ	**Mangatainoka R**	**4.53**	**221**		**Pn**	**20 42 22.8**	**+0.4**
MRZ				Sn	**Sn**	**20 43 10.1**	**-4.9**
KHEZ	**Kahui Hut**	**4.72**	**243**	P	**Pn**	**20 42 26.5**	**+1.4**
OUZ	**Omahuta**	**5.16**	**292**	P	**Pn**	**20 42 33.0**	**+2.0**
OUZ	**Omahuta**	**5.16**	**292**	P	**Pn**	**20 42 32.8**	**+1.8**
MSWZ	**Moikau Station**	**5.26**	**217**		**Pn**	**20 42 32.1**	**-0.3**
MSWZ				Sn	**Sn**	**20 43 27.3**	**-5.7**
PLWZ	**Palliser**	**5.37**	**216**		**Pn**	**20 42 33.3**	**-0.7**
BHW	**Baring Head**	**5.44**	**219**		**Pn**	**20 42 34.1**	**-0.8**
SNZO	**South Karori**	**5.45**	**221**	Pn	**Pn**	**20 42 34.6**	**-0.4**
SNZO	**South Karori**	**5.45**	**221**	S	**Sn**	**20 43 32.9**	**-4.9**
SNZO	**South Karori**	**5.45**	**221**	P	**Pn**	**20 42 35.3**	**+0.3**
TCW	**Tory Channel**	**5.61**	**224**		**Pn**	**20 42 36.4**	**-0.9**
TUWZ	**Tuamarina**	**5.95**	**224**		**Pn**	**20 42 42.1**	**+0.3**
CMWZ	**Cape Campbell**	**6.02**	**221**	Pn	**Pn**	**20 42 43.5**	**+0.6**
NNZ	**Nelson**	**6.13**	**228**	Pn	**Pn**	**20 42 43.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**6.18**	**223**		**Pn**	**20 42 44.2**	**-0.8**
TKNZ	**Takaka Hill**	**6.28**	**231**		**Pn**	**20 42 45.6**	**-0.9**
QRZ	**Quartz Range**	**6.44**	**235**	Pn	**Pn**	**20 42 47.7**	**-1.0**
QRZ	**Quartz Range**	**6.44**	**235**	P	**Pn**	**20 42 48.9**	**+0.2**
MRNZ	**Matariki Terra**	**6.62**	**230**		**Pn**	**20 42 50.0**	**-1.1**
THZ	**Tophouse**	**6.75**	**226**		**Pn**	**20 42 52.3**	**-0.6**
KHZ	**Kahutara**	**6.85**	**220**		**Pn**	**20 42 53.2**	**-1.1**
KHZ	**Kahutara**	**6.85**	**220**	P	**Pn**	**20 42 53.9**	**-0.3**
KHZ	**Kahutara**	**6.85**	**220**	S	**Sn**	**20 44 06.3**	**-5.9**
CTZ	**Chatham Island**	**7.11**	**156**		**Pn**	20 43 04.7	+7.0
CTZ	**Chatham Island**	**7.11**	**156**	S	**Sn**	**20 44 19.8**	**+1.3**
CTZ	**Chatham Island**	**7.11**	**156**	P	**Pn**	20 43 04.8	+7.1
DSZ	**Denniston Nort**	**7.40**	**231**	Pn	**Pn**	**20 43 00.9**	**-0.9**
GVZ	**Greta Valley S**	**7.51**	**219**	Pn	**Pn**	**20 43 02.8**	**-0.5**
LTZ	**Lake Taylor**	**7.78**	**223**	Pn	**Pn**	**20 43 06.3**	**-0.7**
AMCZ	**Amberley**	**7.85**	**219**	Pn	**Pn**	**20 43 05.5**	**-2.5**
INZ	**Inchbonnie**	**8.20**	**226**	Pn	**Pn**	**20 43 11.8**	**-0.9**
MQZ	**McQueen's Vall**	**8.24**	**217**	Pn	**Pn**	**20 43 11.9**	**-1.4**
OXZ	**Oxford**	**8.28**	**221**	Pn	**Pn**	**20 43 13.1**	**-0.7**
RPZ	**Rata Peaks**	**9.06**	**222**	Pn	**Pn**	**20 43 24.3**	**-0.3**
RPZ	**Rata Peaks**	**9.06**	**222**	Pn	**Pn**	**20 43 24.5**	**-0.2**
	2.0nm,0.3s,baz=253,slow=2.3,SNR=13						
RPZ				Sn	Sn	20 44 57.1	-10
	4.9nm,0.3s,baz=338,slow=22,SNR=12						
RPZ				LR	LR	20 47 58.2	
	comp=Z,366nm,19.1s,baz=336,slow=43						
RPZ	**Rata Peaks**	**9.06**	**222**	P	**Pn**	**20 43 24.4**	**-0.2**
FOZ	**Fox Glacier**	**9.64**	**227**	Pn	**Pn**	**20 43 31.7**	**-0.7**
LBZ	**Lake Benmore**	**9.98**	**222**	Pn	**Pn**	**20 43 35.5**	**-1.7**
ODZ	**Otahua Downs**	**10.20**	**218**	Pn	**Pn**	**20 43 38.7**	**-1.4**
ODZ	**Otahua Downs**	**10.20**	**218**	P	**Pn**	**20 43 40.2**	**0.0**
WKZ	**Wanaka**	**10.89**	**223**	Pn	**Pn**	**20 43 47.6**	**-2.1**
MLZ	**Mavora Lakes**	**11.73**	**223**	Pn	**Pn**	**20 43 59.6**	**-1.5**
RAR	**Rarotonga**	**24.10**	**54**	LR	LR	20 54 31.0	
	comp=Z,26nm,19.4s,baz=178,slow=33						
STKA	**Stephens Creek**	**31.49**	**268**	P	**P**	**20 47 36.5**	**+0.7**
STKA	**Stephens Creek**	**31.49**	**268**	P	**P**	**20 47 34.8**	**-1.0**
	3.4nm,0.8s,baz=106,slow=8.5,SNR=7.4						
	3.4nm,0.8s						
PPT2	**Papeete2**	**33.54**	**63**	*e*LR	LR	20 56 55.8	
	117nm,27.5s						
PPT2				*e*LR	LR	20 56 56.4	
	85nm,26.8s						
BBOO	**Buckleboo**	**35.57**	**264**	P	**P**	**20 48 10.6**	**-0.7**
COEN	**Coen**	**39.75**	**296**	P	**P**	**20 48 46.6**	**-0.2**
COEN				IAmb	IAmb	20 48 48.5	
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**41.16**	**276**	P	**P**	**20 48 56.7**	**-1.7**
AS31				IAmb	IAmb	20 48 59.2	
	comp=Z,3.5nm,0.5s						
ASAR	**Alice Springs**	**41.16**	**276**	P	**P**	**20 48 56.9**	**-1.6**
ASAR	**Alice Springs**	**41.16**	**276**	P	**P**	**20 48 58.5**	**+0.1**
	comp=Z,6.8nm,0.5s,baz=120,slow=8.1,SNR=109						
ASAR				PcP	**PcP**	**20 50 59.0**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=108,slow=3.1,SNR=2.7						
	comp=Z,6.8nm,0.5s						
FORT	**Forrest**	**42.65**	**263**	P	**P**	**20 49 10.2**	**-0.3**
FORT				PcP	**PcP**	**20 51 02.5**	**0.0**
WB2	**Warramunga Arr**	**42.76**	**281**		**P**	**20 49 10.5**	**-1.1**
WB2				IAmb	IAmb	20 49 11.9	
	comp=Z,7.2nm,0.8s						
WB2				PcP	**PcP**	**20 51 05.5**	**+2.5**
WRAB	**Tennant Creek**	**42.77**	**281**	P	**P**	**20 49 10.5**	**-1.1**
WRAB				IAmb	IAmb	20 49 11.9	
	comp=Z,7.5nm,0.8s						
WRAB				PcP	**PcP**	**20 51 05.1**	**+2.1**
WRA	**Warramunga Arr**	**42.77**	**281**	P	**P**	**20 49 10.7**	**-0.9**
WRA				PcP	**PcP**	**20 51 02.1**	**-0.9**
WRA	**Warramunga Arr**	**42.77**	**281**	P	**P**	**20 49 10.9**	**-0.7**
	comp=Z,5.9nm,0.6s,baz=120,slow=7.7,SNR=65						
WRA				PcP	**PcP**	**20 51 04.9**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=126,slow=3.4,SNR=5.2						
	comp=Z,5.9nm,0.6s						
WB0	**Warramunga Arr**	**42.83**	**281**		**P**	**20 49 10.9**	**-1.2**
WB0				IAmb	IAmb	20 49 12.3	
	comp=Z,8.2nm,0.8s						
KNRA	**Kununurra**	**49.55**	**282**	P	**P**	**20 50 05.0**	**0.0**
KNRA				PcP	**PcP**	**20 51 28.4**	**+1.6**
NWAO	**Narrogin (SRO)**	**50.28**	**255**	LR	LR	21 10 38.4	
	comp=Z,38nm,18.1s,baz=214,slow=35						
FITZ	**Fitzroy Crossi**	**50.64**	**277**	P	**P**	**20 50 13.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.64**	**277**	LR	LR	21 12 58.0	
	comp=Z,51nm,18.1s,baz=140,slow=38						
MORW	**Morawa**	**52.84**	**259**	P	**P**	**20 50 28.7**	**-0.9**
GUMO	**Guam**	**60.15**	**320**	LR	LR	21 13 25.1	
	comp=Z,28nm,21.9s,baz=56,slow=32						
SYO	**Syowa Base**	**69.94**	**194**‖ *e*sP	P		20 52 32.8	+8.1
**

*DNK **19** 20:43:04.7±1.9, 51°40′N×16°31′E, h30km, ML2.2*
*IPEC **19** 20:43:05.1±0.2, 51°53′N×16°21′E, h1km, ML2.5/5, Error ellipse: s-maj=1.5km s-min=1.0km az=38.0*
*VIE **19** 20:43:05.2±0.7, 51°52′N×16°24′E, h0km, mb2.4/6, ml2.8/6, Error ellipse: s-maj=7.8km s-min=3.6km az=60.0, Suspected Mining induced.*
*PRU **19** 20:43:08.4, 51°41′N×16°12′E, h0km*

ISC 19 20:43:04.2±0.8, 51°59′N±0°03′×16°16′E±0°02, h0km, n37, σ1§14/72, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**174**	*e*Pg	**Pg**	**20 43 18.7**	**+0.1**
KSP				*e*Sg	**Sg**	**20 43 27.2**	**-1.1**
CHVC	**Chvalec**	**1.00**	**184**	*e*PG	**Pg**	**20 43 23.5**	**+0.1**
CHVC				*e*SG	**Sg**	**20 43 35.5**	**-0.9**
	comp=Z,40nm,0.5s						
OSTC	**Ostas**	**1.03**	**178**	*e*PG	**Pg**	**20 43 24.0**	**0.0**
OSTC				*e*SG	**Sg**	**20 43 36.5**	**-0.9**
	comp=Z,67nm,0.4s						
UPC	**Upice**	**1.09**	**185**	*e*PG	**Pg**	**20 43 24.9**	**-0.1**
UPC				*e*SG	**Sg**	**20 43 37.7**	**-1.3**
	comp=Z,133nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG	**Pg**	**20 43 27.4**	**-0.6**
DPC				*e*SG	**Sg**	**20 43 42.1**	**-2.0**
	comp=Z,35nm,0.5s						
PIVO	**Bartosovice**	**1.42**	**170**	*e*Pg	**Pn**	**20 43 30.9**	**-0.5**
	baz=351						
PIVO				*e*Sg	**Sg**	**20 43 47.8**	**-2.1**
	63nm,0.2s,baz=351						
PVCC	**Panska Ves**	**1.46**	**224**	*e*PG	**Pg**	**20 43 32.5**	**+0.3**
PVCC				*e*SG	**Sg**	**20 43 51.0**	**-0.1**
	comp=Z,142nm,0.2s						
KRLC	**Kraliky**	**1.56**	**165**	*e*PG	**Pn**	**20 43 33.0**	**-0.3**
KRLC				*e*SG	**Sn**	**20 43 52.0**	**-2.3**
	comp=Z,48nm,0.7s						
BRG	**Berggiesshubel**	**1.57**	**244**	Pn	**Pn**	**20 43 33.8**	**+0.5**
BRG				Pg	**Pg**	**20 43 34.5**	**+0.3**
BRG				Sg	**Sb**	**20 43 54.8**	**+0.4**
BRG				Amp		20 43 55.8	
	comp=Z,62nm,0.3s						
PRU	**Pruhonice**	**1.90**	**213**	*e*PG	**Pb**	**20 43 40.3**	**+0.5**
PRU				*e*SG	**Sn**	**20 44 03.2**	**+0.7**
	comp=Z,20nm,0.5s						
STEB	**Steborice**	**1.95**	**148**	*e*PG	**Pb**	**20 43 40.6**	**+0.1**
STEB				*e*SG	**Sb**	**20 44 05.2**	**-0.1**
HSKC	**Hora Svate Kat**	**1.98**	**241**	*e*PG	**Pb**	**20 43 41.1**	**0.0**
HSKC				*e*SG	**Sb**	**20 44 06.4**	**0.0**
	comp=Z,36nm,0.3s						
CLL	**Collm**	**2.00**	**263**	*e*Pg	**Pb**	**20 43 42.0**	**+0.6**
CLL				*e*Sg	**Sg**	**20 44 09.0**	**+0.7**
	comp=Z,25nm,0.5s						
MORC	**Moravsky Berou**	**2.02**	**154**	*e*Pn	**Pn**	**20 43 39.2**	**-0.3**
	baz=335						
MORC				*e*Sg	**Sn**	**20 44 06.1**	**+0.7**
	comp=Z,28nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**2.02**	**154**	*e*PN	**Pn**	**20 43 39.3**	**-0.3**
MORC				*e*SG	**Sn**	**20 44 06.2**	**+0.8**
VRAC	**Vranov**	**2.30**	**173**	*e*Pn	**Pn**	**20 43 43.2**	**-0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**20 44 15.4**	**-0.1**
	comp=Z,25nm,0.5s,baz=354						
VRAC	**Vranov**	**2.30**	**173**	*e*PN	**Pn**	**20 43 43.3**	**-0.1**
VRAC				*e*SG	**Sb**	**20 44 15.4**	**-0.1**
TREC	**Trest**	**2.33**	**191**	*e*SG	**Sb**	**20 44 16.6**	**0.0**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**20 43 46.6**	**0.0**
	baz=357						
KRUC				*e*Sg	**Sb**	**20 44 22.8**	**+0.6**
	comp=Z,30nm,0.7s,baz=357						
KRUC	**Moravsky**	**2.53**	**176**	*e*PN	**Pn**	**20 43 46.7**	**+0.1**
KRUC				*e*SG	**Sb**	**20 44 22.8**	**+0.6**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**20 43 56.5**	**+1.0**
OJC				*e*Sg	**Sg**	**20 44 31.3**	**+1.0**
NKC	**Novy Kostel**	**2.71**	**241**	*e*PN	**Pn**	**20 43 50.0**	**+0.9**
NKC				*e*PG	**Pg**	**20 43 55.4**	**-0.8**
NKC				*e*SG	**Sg**	**20 44 31.7**	**+0.4**
	comp=Z,25nm,0.3s						
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**20 43 52.4**	**-0.1**
KHC				*e*PG	**Pb**	**20 43 58.6**	**+0.7**
KHC				*e*SN	**Sn**	**20 44 26.9**	**-1.9**
KHC				*e*SG	**Sb**	**20 44 36.4**	**+1.8**
	comp=Z,13nm,0.6s						
CKRC	**Cesky Krumlov**	**3.02**	**204**	*e*PN	**Pn**	**20 43 53.7**	**+0.5**
CKRC				*e*PG	**Pb**	**20 43 59.6**	**+0.8**
CKRC				*e*SG	**Sb**	**20 44 37.8**	**+1.7**
	comp=Z,18nm,0.3s						
LANS	**Liptovska Anna**	**3.23**	**138**	*e*PG	**Pg**	**20 44 07.1**	**+1.0**
LANS				*e*SG	**Sg**	**20 44 46.9**	**-1.0**
LANS				*e*LG	Lg	20 44 57.4	
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**20 44 01.3**	**-0.1**
BSD				*i* S	**Sn**	**20 44 45.1**	**+0.5**
BSD				IAML		20 44 47.6	
	comp=Z,2.0nm,0.2s						
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn	**Pn**	**20 44 02.7**	**+0.4**
	comp=Z,0.8nm,0.3s						
RONA	**Rosalia, Austr**	**3.89**	**179**	*e*Pn	**Pn**	**20 44 06.2**	**+0.9**
	comp=Z,0.3nm,0.2s						
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PG	**Pg**	**20 44 17.4**	**-1.6**
STHS				*e*SG	**Sg**	**20 45 13.6**	**+4.0**
MOA	**Molln**	**3.94**	**199**	*e*Pn	**Pn**	**20 44 06.0**	**0.0**
	comp=Z,1.0nm,0.3s						
BIOA	**Bad Ischl, Aus**	**4.23**	**204**	*e*Pn	**Pn**	**20 44 10.1**	**+0.2**
	comp=Z,1.4nm,0.2s						
ARSA	**Arzberg**	**4.36**	**186**	*e*Pn	**Pn**	**20 44 11.8**	**+0.1**
	comp=Z,0.7nm,0.4s						
LUNU	**Lund**	**4.36**	**339**	*i* P	**Pn**	**20 44 12.3**	**+0.7**
LUNU				*e*S	**Sn**	**20 45 02.5**	**-0.7**
BLEU	**Blekinge**	**4.73**	**358**	*i* P	**Pn**	**20 44 18.4**	**+1.7**
BLEU				*e*S	**Sn**	**20 45 08.6**	**-3.6**
BJUU	**Bjuv**	**4.86**	**339**	*i* P	**Pn**	**20 44 18.6**	**+0.1**
BJUU				*e*S	**Sn**	**20 45 13.0**	**-2.5**
KBA	**Koelnbreinsper**	**4.87**	**203**	*e*Pn	**Pn**	**20 44 18.9**	**0.0**
	comp=Z,0.5nm,0.5s						
DEL	**Delary**	**5.08**	**345**	*i* P	**Pn**	**20 44 21.9**	**+0.4**
DEL				*e*S	**Sn**	**20 45 18.3**	**-2.4**

*NOU **19** 20:47:01.3, 38°82S×175°93E, h142km, MLv3.5/18, North Island, New Zealand*
*WEL **19** 20:47:03.9±0.8, 39°S±5°×17°6E±°, h121km±6km, M2.4/24, ML2.6/25, MLv2.4/24, Error ellipse: s-maj=7.6km s-min=6.0km az=135.5, confirmed*

ISC 19 20:46:59.7±1.8, 38°72S±0°06×175°86E±0°05, h159km±9km, n57, σ1§18/83, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.10**	**278**	P	**Pn**	**20 47 21.7**	**+0.8**
RATZ	**Rangitukua**	**0.16**	**206**	P	**Pn**	**20 47 21.6**	**+0.6**
RATZ				S	**Sn**	**20 47 36.0**	**-1.4**
KUTZ	**Kaahu Road**	**0.23**	**353**	P	**Pn**	**20 47 21.9**	**+0.8**
RITZ	**Rihia Road**	**0.25**	**180**	P	**Pn**	**20 47 22.4**	**+1.2**
RITZ				S	**Sn**	**20 47 37.0**	**-0.7**
KATZ	**Kakaramea**	**0.28**	**207**	P	**Pn**	**20 47 22.2**	**+0.8**
KATZ				S	**Sn**	**20 47 36.9**	**-1.1**
WPRZ	**Whakapapatarin**	**0.31**	**49**	P	**Pn**	**20 47 21.9**	**+0.6**
NTVZ	**North Tongarir**	**0.40**	**201**	P	**Pn**	**20 47 23.0**	**+1.2**
NTVZ				S	**Sn**	**20 47 37.7**	**-1.0**
KRVZ	**Karewarewa**	**0.41**	**205**	P	**Pn**	**20 47 22.8**	**+1.0**
KRVZ				S	**Sn**	**20 47 37.7**	**-1.1**
ALRZ	**Allen Road**	**0.41**	**67**	P	**Pn**	**20 47 22.3**	**+0.7**
ALRZ				S	**Sn**	**20 47 37.1**	**-1.3**
TMVZ	**Te Maari**	**0.41**	**197**	P	**Pn**	**20 47 23.0**	**+1.2**
TMVZ				S	**Sn**	**20 47 37.4**	**-1.3**
GRRZ	**Galatos Road**	**0.42**	**28**	P	**Pn**	**20 47 22.5**	**+0.8**
ETVZ	**East Tongariro**	**0.43**	**196**	P	**Pn**	**20 47 22.9**	**+1.1**
ETVZ				S	**Sn**	**20 47 38.0**	**-0.9**
WTVZ	**West Tongariro**	**0.45**	**208**	P	**Pn**	**20 47 23.0**	**+1.1**
WTVZ				S	**Sn**	**20 47 37.7**	**-1.3**
MRHZ	**Matea Rd**	**0.45**	**105**	P	**Pn**	**20 47 22.5**	**+0.7**
MRHZ				S	**Sn**	**20 47 36.5**	**-2.2**
NNVZ	**North Ngauruho**	**0.45**	**205**	P	**Pn**	**20 47 23.0**	**+1.1**
OTVZ	**Oturere**	**0.47**	**199**	P	**Pn**	**20 47 23.1**	**+1.1**
OTVZ				S	**Sn**	**20 47 38.6**	**-0.7**
TLZ	**Tolley Road**	**0.47**	**327**	P	**Pn**	**20 47 22.8**	**+0.9**
TLZ				S	**Sn**	**20 47 37.8**	**-1.1**
TWVZ	**Taurewa**	**0.48**	**223**	P	**Pn**	**20 47 23.0**	**+1.0**
TWVZ				S	**Sn**	**20 47 37.6**	**-1.6**
SNVZ	**South Ngauruho**	**0.49**	**200**	P	**Pn**	**20 47 23.2**	**+1.1**
SNVZ				S	**Sn**	**20 47 38.8**	**-0.7**
HSRZ	**Hossack Road**	**0.51**	**36**	P	**Pn**	**20 47 22.9**	**+0.8**
COVZ	**Chateau Observ**	**0.54**	**207**	P	**Pn**	**20 47 23.5**	**+1.2**
COVZ				S	**Sn**	**20 47 38.7**	**-1.0**
TUVZ	**Tukino**	**0.57**	**196**	P	**Pn**	**20 47 23.8**	**+1.3**
FWVZ	**Far West T-bar**	**0.58**	**204**	P	**Pn**	**20 47 23.6**	**+0.9**
FWVZ				S	**Sn**	**20 47 39.3**	**-1.1**
MAVZ	**Matarangi**	**0.59**	**203**	P	**Pn**	**20 47 24.1**	**+1.3**
WHVZ	**Whangaehu Hut**	**0.60**	**201**	P	**Pn**	**20 47 23.9**	**+1.1**
WHVZ				S	**Sn**	**20 47 39.5**	**-1.1**
TRVZ	**Turoa**	**0.62**	**203**	P	**Pn**	**20 47 24.1**	**+1.2**
TRVZ				S	**Sn**	**20 47 39.8**	**-1.0**
WNVZ	**Wahianoa**	**0.64**	**199**	P	**Pn**	**20 47 24.2**	**+1.3**
WNVZ				S	**Sn**	**20 47 39.7**	**-1.1**
RRRZ	**Republican Roa**	**0.64**	**53**	P	**Pn**	**20 47 23.6**	**+0.8**
BKZ	**Black Stump Fm**	**0.66**	**132**	P	**Pn**	**20 47 23.8**	**+0.9**
BKZ	**Black Stump Fm**	**0.66**	**132**	P	**Pn**	**20 47 24.1**	**+1.2**
BKZ				S	**Sn**	**20 47 39.2**	**-1.5**
MOVZ	**Moawhango**	**0.69**	**187**	P	**Pn**	**20 47 24.2**	**+1.1**
MOVZ				S	**Sn**	**20 47 39.2**	**-2.0**
PKVZ	**Pokaka**	**0.69**	**215**	P	**Pn**	**20 47 24.4**	**+1.3**
PKVZ				S	**Sn**	**20 47 40.6**	**-0.5**
TARZ	**Mount Tarawera**	**0.70**	**46**	P	**Pn**	**20 47 24.2**	**+0.9**
MTVZ	**Mangateitei**	**0.73**	**205**	P	**Pn**	**20 47 24.7**	**+1.4**
MKRZ	**Makatiti**	**0.75**	**39**	P	**Pn**	**20 47 25.0**	**+1.4**
MUGZ	**Murupara**	**0.75**	**71**	P	**Pn**	**20 47 24.0**	**+0.6**
MUGZ				S	**Sn**	**20 47 40.6**	**-1.0**
KARZ	**Kaharoa**	**0.76**	**23**	P	**Pn**	**20 47 24.5**	**+0.9**
HIZ	**Hauiti**	**0.81**	**285**	P	**Pn**	**20 47 24.8**	**+1.0**
HIZ	**Hauiti**	**0.81**	**285**	S	**Sn**	**20 47 41.8**	**-0.5**
KWHZ	**Kaweka Forest**	**0.83**	**148**	P	**Pn**	**20 47 25.6**	**+1.7**
KWHZ				S	**Sn**	**20 47 42.4**	**-0.3**
NMHZ	**Naumai**	**0.83**	**117**	P	**Pn**	**20 47 26.5**	**+2.5**
NMHZ				S	**Sn**	**20 47 43.4**	**+0.7**
KMRZ	**Kaimai**	**0.88**	**4**	P	**Pn**	**20 47 25.4**	**+1.0**
ARHZ	**Aropaoanui**	**1.04**	**122**	P	**Pn**	**20 47 27.7**	**+2.2**
ARHZ				S	**Sn**	**20 47 45.8**	**+0.5**
URZ	**Urewera**	**1.08**	**65**	P	**Pn**	**20 47 26.5**	**+0.6**
URZ	**Urewera**	**1.08**	**65**	P	**Sn**	**20 47 44.3**	**-1.7**
KHEZ	**Kahui Hut**	**1.55**	**248**	P	**Pn**	**20 47 32.5**	**+2.1**
KHEZ	**Kahui Hut**	**1.55**	**248**	P	**Sn**	**20 47 55.9**	**+1.8**
BFZ	**Birch Farm**	**1.98**	**171**	S	**Sn**	**20 48 00.5**	**-1.9**
BFZ	**Birch Farm**	**1.98**	**171**	P	**Pn**	**20 47 36.3**	**+1.3**
SNZO	**South Karori**	**2.73**	**199**	P	**Pn**	**20 47 44.4**	**+0.4**
SNZO	**South Karori**	**2.73**	**199**	S	**Sn**	**20 48 17.7**	**-0.7**
QRZ	**Quartz Range**	**3.32**	**230**	P	**Pn**	**20 47 51.6**	**+0.3**
QRZ	**Quartz Range**	**3.32**	**230**	S	**Sn**	**20 48 30.7**	**-0.8**
KHZ	**Kahutara**	**4.09**	**205**	P	**Pn**	**20 48 01.6**	**+0.4**
KHZ	**Kahutara**	**4.09**	**205**	S	**Sn**	**20 48 48.4**	**-0.9**
RPZ	**Rata Peaks**	**6.16**	**214**	P	**Pn**	**20 48 28.9**	**+0.4**
ODZ	**Otahua Downs**	**7.42**	**210**	P	**Pn**	**20 48 44.8**	**-0.4**

*UPA **19** 21:06:16.6±1.2, 8°69N×77°47W, h43km±21km, MW4.1*
*RSNC **19** 21:06:16.1±0.0, 9°N±1°×7°7W±°, h28km±2km, M2.9, mb3.9, ML2.7*

ISC 19 21:06:15.6±1.6, 8°79N±0°04×77°48W±0°02, h33km±3km, n31, σ1§42/55, 3D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.20**	**139**	P	**Pn**	**21 06 22.2**	**+0.9**
CAPC				S	**Sb**	**21 06 27.6**	**+0.9**
UPD2	**Meteti**	**0.58**	**246**	⇓*i* P	**Pn**	**21 06 26.8**	**-0.6**
UPD2				*i* S	**Sn**	**21 06 36.0**	**+0.2**
LCBC	**Los crdobas,**	**1.10**	**86**	P	**Pn**	**21 06 35.9**	**+1.2**
LCBC				S	**Sb**	**21 06 51.1**	**+0.8**
LCBC	**Los crdobas,**	**1.10**	**86**	*i* P	**Pn**	**21 06 36.0**	**+1.2**
LCBC				*i* S	**Sn**	**21 06 48.5**	**-0.2**
APAC	**Apartado, Choc**	**1.25**	**135**	P	**Pn**	**21 06 37.3**	**+0.5**
APAC				S	**Sn**	**21 06 54.2**	**+1.7**
CNTA3	**Canitas, Panam**	**1.46**	**287**	⇓*i* P	**Pn**	**21 06 39.6**	**0.0**
CNTA3				*i* S	**Sn**	**21 06 56.9**	**-0.6**
PTAC	**Punta Ardita,**	**1.66**	**191**	*i* P	**Pn**	**21 06 40.8**	**-1.6**
PTAC				*i* S	**Sn**	**21 06 59.9**	**-2.7**
UPA	**Univ. de Panam**	**2.04**	**276**	*e*P	**Pn**	**21 06 47.3**	**-0.3**
UPA				*i* S	**Sn**	**21 07 11.6**	**-0.3**
ARRA3	**Arraijan, Pana**	**2.16**	**275**	*e*P	**Pn**	**21 06 49.7**	**+0.5**
DBBC	**Dabeiba**	**2.16**	**144**	P	**Pn**	**21 06 48.8**	**-0.6**
DBBC				S	**Sn**	**21 07 14.4**	**-0.7**
UREC	**San Jos de Ur**	**2.19**	**118**	P	**Pn**	**21 06 48.9**	**-0.7**
UREC				S	**Sn**	**21 07 14.0**	**-1.6**
UREC	**San Jos de Ur**	**2.19**	**118**	*i* P	**Sn**	**21 06 49.1**	**-0.5**
UREC				*i* S	**Sn**	**21 07 12.5**	**-3.0**
CHOR3	**La Chorrera**	**2.26**	**273**	*e*P	**Pn**	**21 06 51.1**	**+0.5**
BCIP	**Isla Barro Col**	**2.36**	**279**	P	**Pn**	**21 06 52.3**	**+0.3**
BCIP				S	**Sn**	**21 07 20.7**	**+0.9**
BCIP	**Isla Barro Col**	**2.36**	**279**	⇓*e*P	**Pn**	**21 06 52.5**	**+0.5**
BCIP				*i* S	**Sn**	**21 07 20.2**	**+0.4**
SJCC	**San Jacinto, C**	**2.52**	**64**	P	**Pn**	**21 06 54.9**	**+0.6**
SJCC				S	**Sn**	**21 07 24.8**	**+0.8**
ZARC	**Zaragoza, Cauc**	**2.90**	**116**	P	**Pn**	**21 06 59.2**	**-0.2**
ZARC				S	**Sn**	**21 07 30.7**	**-2.4**
AZU	**Azuero**	**2.94**	**251**	*e*P	**Pn**	**21 06 59.9**	**0.0**
CHIT3	**Chitre**	**3.02**	**254**	*e*P	**Pn**	**21 07 01.1**	**0.0**
CRIS3	**El Cristo, Coc**	**3.15**	**261**	*e*P	**Pn**	**21 07 03.3**	**+0.5**
CBOC	**Ciudad Bolivar**	**3.25**	**153**	P	**Pn**	**21 07 03.4**	**-1.0**
CBOC				S	**Sn**	**21 07 45.9**	**+3.9**
ARGC	**Ariguani, Magd**	**3.37**	**71**	P	**Pn**	**21 07 05.3**	**-0.6**
ARGC				S	**Sn**	**21 07 44.7**	**0.0**
PTBC	**PUERTO BERRIO,**	**3.74**	**126**	P	**Pn**	**21 07 10.1**	**-0.9**
PTBC				S	**Sn**	**21 07 51.3**	**-2.6**
GUY2C	**Guyana, Caldas**	**4.12**	**149**	P	**Pn**	**21 07 18.9**	**+2.3**
NORC	**Norcasia**	**4.12**	**141**	P	**Pn**	**21 07 15.3**	**-1.0**
NORC				S	**Sn**	**21 08 02.4**	**-1.0**
BARC	**Barichara**	**4.79**	**117**	P	**Pn**	**21 07 26.4**	**+0.8**
BARC				S	**Sn**	**21 08 19.1**	**-1.0**
YOTC	**Yotoco, Valle**	**4.90**	**167**	P	**Pn**	**21 07 26.5**	**-0.6**
PAMC	**Pamplona, Colo**	**4.95**	**107**	P	**Pn**	**21 07 28.7**	**+0.6**
PAMC				S	**Sn**	**21 08 23.8**	**-0.6**
CRJC	**Cerrejon, Guaj**	**5.05**	**64**	P	**Pn**	**21 07 29.5**	**+0.4**
	8.9nm,0.9s						
CRJC				S	**Sn**	**21 08 22.6**	**-3.7**
	8.9nm,0.9s						
CHIC	**Chingaza**	**5.56**	**138**	P	**Pn**	**21 07 38.6**	**+2.2**
CHIC				S	**Sn**	**21 08 40.1**	**+0.7**
URIC	**Uribia, Colomb**	**6.13**	**61**	P	**Pn**	**21 07 44.9**	**+1.0**
URIC				S	**Sn**	**21 08 50.2**	**-2.7**

DMN 19 21:16:43.3±0.0, 29°74N×81°26E, h26km, Ml4.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**2.23**	**137**	Pn	Pn	21 17 16.8	-1.9
	baz=137,slow=0.0						
PYUN				Sn	Sn	21 17 42.3	-3.2
	baz=137,slow=0.0						
KOLN	**Koldanda**	**2.84**	**133**	Pn	Pn	21 17 25.3	-1.8
	baz=133,slow=0.0						
KOLN				Sn	Sn	21 17 56.5	-4.1
	baz=133,slow=0.0						
DMN	**Daman**	**3.99**	**121**	Pn	Pn	21 17 41.3	-1.7
	baz=121,slow=0.0						
DMN				Sn	Sn	21 18 24.6	-4.4
	baz=121,slow=0.0						
KKN	**Kakani**	**4.03**	**118**	Pn	Pn	21 17 42.3	-1.2
	baz=118,slow=0.0						
KKN				Sn	Sn	21 18 24.3	-5.6
	baz=118,slow=0.0						
PKIN	**Phulchoki**	**4.22**	**120**	Pn	Pn	21 17 43.9	-2.3
	baz=120,slow=0.0						
PKIN				Sn	Sn	21 18 29.7	-5.1
	baz=120,slow=0.0						
PKI	**Pulchoki**	**4.24**	**120**	Pn	Pn	21 17 44.6	-1.9
	baz=120,slow=0.0						
PKI				Sn	Sn	21 18 30.2	-5.0
	baz=120,slow=0.0						
RAMN	**Ramite**	**5.46**	**119**	Pn	Pn	21 18 01.5	-1.8
	baz=119,slow=0.0						
RAMN				Sn	Sn	21 18 58.9	-6.5
	baz=119,slow=0.0						
ODAN	**Odare**	**6.12**	**116**	Pn	Pn	21 18 09.9	-2.3
	baz=116,slow=0.0						
ODAN				Sn	Sn	21 19 14.2	-7.3
	27nm,0.2s,baz=116,slow=0.0						
TAPN	**Taplejung**	**6.15**	**111**	Pg	Pn	21 18 10.7	-2.0
	baz=111,slow=0.0						

*SOF **19** 21:33:54.4, 40°40N±0°02×27°16E±0°01, h2km±1km, MD3.9/13*
*ISK **19** 21:33:54.9, 40°39N×27°16E, h12km, ML4.1/31*
*IDC **19** 21:33:54.3±0.9, 40°33N×27°26E, h0km, mb3.4/6, mbtmp3.6/15, ML3.8/7, MS3.0/11, Error ellipse: s-maj=14.6km s-min=9.5km az=42.0*
*AFAD **19** 21:33:55.1, 40°35N×27°13E, h7km±1km, MW4.0*
*THE **19** 21:33:56.0, 40°41N×27°13E, h7km±1km, ML4.2/8, Error ellipse: s-maj=1.3km s-min=0.7km az=333.0*
*NEIC **19** 21:33:56.8±2.2, 40°38N±0°06×27°08E±0°06, h10km±2km, mb4.1/2, Error ellipse: s-maj=10.4km s-min=5.8km az=209.0*
*CFUSG **19** 21:33:59.4, 41°20N×26°77E, h33km, mb3.3/3, Western Turkey Magtype MSH 3.5 from 4 stations*

ISC 19 21:33:55.7±0.8, 40°38N±0°01×27°17E±0°01, h11km±5km, n249, σ1§19/310, mb3.5/8, MS3.0/5, 41C-31D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.10**	**79**	Pg	**Pg**	**21 33 58.3**	**-0.1**
KRBG				Sg	**Sg**	**21 34 00.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.31**	**1**	Pg	**Pg**	**21 34 01.6**	**-0.5**
RKY				Sg	**Sg**	**21 34 06.2**	**-0.1**
SART	**Tekirdag**	**0.31**	**1**	P	**Pg**	**21 34 01.8**	**-0.3**
SART				S	**Sg**	**21 34 05.9**	**-0.4**
LPK	**Lapseki**	**0.32**	**270**	Pg	**Pg**	**21 34 01.8**	**-0.3**
LPK				Sg	**Sg**	**21 34 06.3**	**-0.1**
CANM	**Can-anakkale**	**0.38**	**194**	Pg	**Pg**	**21 34 03.1**	**-0.1**
YENI	**Yenice-Canakka**	**0.44**	**173**	Pg	**Pg**	**21 34 04.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.51**	**130**	Pg	**Pg**	**21 34 05.9**	**+0.2**
EDC	**Edincik**	**0.53**	**93**	Pg	**Pg**	**21 34 05.9**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.54**	**273**	Pg	**Pg**	**21 34 05.6**	**-0.6**
ERIK	**Erikli-Kesan**	**0.58**	**301**	Pg	**Pg**	**21 34 06.5**	**-0.6**
COMU	**Canakkale**	**0.60**	**243**	Pg	**Pg**	**21 34 07.2**	**-0.3**
TKR	**Tekirdag**	**0.67**	**24**	Pg	**Pg**	**21 34 08.6**	**-0.2**
CNKL	**anakkale-Mer**	**0.68**	**243**	P	**Pg**	**21 34 08.2**	**-0.7**
CNKL				S	**Sg**	**21 34 16.7**	**-1.0**
BAND	**Balkesir-Ban**	**0.71**	**91**	P	**Pg**	**21 34 09.1**	**-0.3**
BAND				S	**Sb**	**21 34 19.6**	**-0.2**
BAND	**Balkesir-Ban**	**0.71**	**91**	⇓P	**Pg**	**21 34 09.4**	**-0.1**
BAND				⇑S	**Sb**	**21 34 19.8**	**0.0**
BALY	**Balya**	**0.72**	**152**	P	**Pg**	**21 34 09.6**	**-0.1**
BALY				S	**Sb**	**21 34 20.2**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.80**	**217**	P	**Pg**	**21 34 10.6**	**-0.5**
BAYC				S	**Sg**	**21 34 20.7**	**-0.8**
SUSR	**Susurluk-Balik**	**0.81**	**120**	Pg	**Pg**	**21 34 10.9**	**-0.5**
ENZZ	**Sultanice-Enez**	**0.82**	**287**	Pg	**Pg**	**21 34 11.2**	**-0.4**
CAVK	**Edirne/Enez-Ca**	**0.83**	**293**	P	**Pg**	**21 34 10.9**	**-0.8**
CAVK				S	**Sg**	**21 34 20.9**	**-1.7**
CAVK	**Edirne/Enez-Ca**	**0.83**	**293**	⇑P	**Pg**	**21 34 11.2**	**-0.6**
CAVK				⇑S	**Sg**	**21 34 22.3**	**-0.3**
ECEA	**Canakkale, Ece**	**0.83**	**247**	P	**Pg**	**21 34 11.2**	**-0.7**
ECEA				S	**Sg**	**21 34 21.8**	**-0.9**
ENEZ	**Enez**	**0.86**	**295**	Pg	**Pg**	**21 34 11.4**	**-0.9**
ENEZ	**Enez**	**0.86**	**295**	P	**Pg**	**21 34 11.4**	**-0.9**
ENEZ				S	**Sg**	**21 34 23.2**	**-0.3**
	16μm,0.4s						
UKOP	**Uzunkopru-Edir**	**0.86**	**332**	Pg	**Pg**	**21 34 12.1**	**-0.2**
BKES	**Balkesir-Mer**	**0.86**	**138**	P	**Pg**	**21 34 12.3**	**-0.1**
BKES				S	**Sb**	**21 34 24.2**	**-0.1**
CRLT	**Corlu**	**0.87**	**29**	Pg	**Pg**	**21 34 12.2**	**-0.2**
BUHA	**Balikesir, Bur**	**0.88**	**185**	P	**Pg**	**21 34 12.5**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.88**	**225**	Pg	**Pg**	**21 34 12.1**	**-0.5**
KCTX	**Karacabey (Bur**	**0.91**	**97**	Pg	**Pg**	**21 34 12.1**	**-1.2**
GOAD	**anakkale-G¶**	**0.99**	**258**	P	**Pg**	**21 34 13.6**	**-1.2**
GOAD				S	**Sg**	**21 34 27.0**	**-0.7**
GADA	**Gvkgeada**	**0.99**	**260**	Pg	**Pg**	**21 34 13.6**	**-1.2**
ALN	**Alexandroupoli**	**1.00**	**302**	Pg	**Pg**	**21 34 13.7**	**-1.4**
ALN	**Alexandroupoli**	**1.

PLD	Plovdiv	2.54	315	*i* P		Pn	21 34 37.4 +0.5
PLD				S		Sg	21 35 16.9 -0.6
BORA	Eskisehir	2.56	100	Pn		Pn	21 34 38.0 +0.7
PAIG	Paliouri	2.71	262	P		Pn	21 34 38.0 -1.2
PRD	Provadia	2.79	4	*e*P		Pn	21 34 41.0 +0.7
PRD				S		Sg	21 35 25.5 +0.2
AOS	Alonnisos	2.81	246	P		Pn	21 34 40.6 +0.1
SRS	Serrai	2.82	286	P		Pn	21 34 40.2 -0.5
MMB	Musomishta	2.84	295	*i* P		Pn	21 34 42.1 +1.0
MMB				S		Sg	21 35 27.6 +0.5
PLG	Polygyros	2.85	271	P		Pn	21 34 40.6 -0.5
NEF	NEVSHA	2.89	1	*e*P		Pn	21 34 42.9 +1.3
NEF				S		Sg	21 35 28.8 +0.3
SOH	Sokhos	2.94	280	P		Pn	21 34 42.2 -0.2
SZH	Strazhitsa	3.02	343	*i* P		Pn	21 34 44.1 +0.6
SZH				S		Sg	21 35 33.7 +0.9
MDUB	Mudurnu	3.07	87	Pn		Pn	21 34 45.5 +1.3
PGB	Panagyurishte	3.11	314	*i* P		Pn	21 34 45.7 +1.0
PGB				S		Sn	21 35 24.0 +2.2
PSN	Preselentsi	3.34	12	*i* P		Pn	21 34 49.4 +1.6
PSN				S		Sg	21 35 43.3 +0.4
KDZE	Karadeniz Ereo	3.37	72	⇑P		Pn	21 34 48.5 +0.2
KKB	Krupnik	3.39	297	*i* P		Pn	21 34 50.1 +1.6
KKB				S		Sb	21 35 39.6 +2.6
PLNA	Plana	3.51	308	S		Sg	21 35 48.6 0.0
APE	Apeiranthos	3.54	202	⇑P		Pn	21 34 50.5 -0.2
APE				⇑S		Sn	21 35 32.6 0.0
LIT	Litokhoron	3.60	267	Pn		Pn	21 34 50.4 -1.0
MANR	Mangalia	3.60	17	⇓P		Pn	21 34 52.0 +0.6
VAY	Valandovo	3.62	287	*i* Pn		Pn	21 34 52.3 +0.6
ISP	Isparta	3.64	133			Pn	21 34 52.8 +0.6
VTS	Vitosha	3.71	308	*i* P		Pg	21 35 06.9 +0.1
VTS				S		Sg	21 35 55.2 +0.3
ICOR	Ion Corvin	3.77	7	⇑P		Pn	21 34 54.7 +1.0
ICOR				⇑S		Sn	21 35 38.9 +0.9
MFTR	Murfatlar	3.91	13	⇓P		Pn	21 34 57.4 +1.7
MPEP	Malo Peshtene	3.93	320	*i* P		Pn	21 34 57.1 +1.1
MPEP				S		Sg	21 36 03.8 +1.9
SGRR	Singureni	3.95	347	⇓P		Pn	21 34 57.3 +1.1
LEHL	Lehliu	4.10	356	⇓P		Pn	21 34 59.1 +0.8
VLAD	Vladila	4.17	331	⇓P		Pn	21 34 59.6 +0.4
TIRR	Tirgusor	4.18	12	Pn		Pn	21 34 59.8 +0.4
TIRR	Tirgusor	4.18	12	⇓P		Pn	21 35 00.1 +0.7
ARG	Arkhangelos	4.22	169			Pn	21 35 01.1 +1.2
AMRR	Amara	4.23	2	⇓P		Pn	21 34 59.7 -0.5
VALD	Valchedram	4.33	321	*i* P		Pn	21 35 01.9 +0.5
ANTO	Ankara	4.34	95			Pn	21 35 03.2 +1.6
HARR	Harsova	4.35	7	⇓P		Pn	21 35 03.2 +1.5
SULR		4.35	351	⇑P		Pn	21 35 03.0 +1.3
FNA	Florina	4.43	277			Pn	21 35 03.0 0.0
HUMR	Humele	4.46	339	⇓P		Pn	21 35 03.1 0.0
AKAS	Kas	4.56	154			Pn	21 35 06.4 +1.7
TPGR	Topolog	4.57	11	⇑P		Pn	21 35 03.7 -1.1
CIDE	Kastamonu/Cide	4.61	69	⇑P		Pn	21 35 04.8 -0.5
ISR	Istrita	4.76	355	⇑P		Pn	21 35 07.5 +0.1
KARP	Karpathos	4.82	180	Pn		Pn	21 35 08.3 +0.1
CFR	Carcaliu	4.85	8	⇑P		Pn	21 35 09.1 +0.5
OHR	Ohrid	4.90	281	*i* Pn		Pn	21 35 11.2 +1.9
TLCR		4.96	14	⇑P		Pn	21 35 10.5 +0.4
BR131	Keskin Array S	5.00	95	Pn		Pn	21 35 12.6 +1.8
BRTR	Keskin Array B	5.00	95	Pn		Pn	21 35 12.2 +1.4
BRTR	Keskin Array B	5.00	95	Pn		Pn	21 35 11.6 +0.7
	0.5nm,0.3s,baz=264,slow=10,SNR=14						
BRTR				Pg		Pb	21 35 21.8 -1.6
	0.4nm,0.3s,baz=265,slow=15,SNR=7.9						
BRTR				Sn		Sn	21 36 07.3 -1.4
	0.6nm,0.3s,baz=293,slow=18,SNR=4.3						
BRTR				Lg		Lg	21 36 34.1
	0.7nm,0.3s,baz=274,slow=24,SNR=7.3						
BRTR				LR		LR	21 37 34.1
	comp=Z,162nm,20.9s,baz=303,slow=44						
	1.5nm,0.5s						
PUNG	Punghina	5.01	323	⇓P		Pn	21 35 10.5 -0.3
PUNG				⇓S		Sn	21 36 08.2 -0.4
ILGA	Ilgaz	5.02	80			Pn	21 35 13.6 +2.4
MTUR	Matau	5.09	343	⇑P		Pn	21 35 12.6 +0.6
NEHR	Nehoiu	5.09	353	⇑P		Pn	21 35 12.8 +0.8
BISRR	Bisoca	5.18	356	⇑P		Pn	21 35 14.4 +1.2
SRE	Strehaia	5.19	327	⇓P		Pn	21 35 13.5 +0.2
MLR	Muntele Rosu	5.19	350	Pn		Pn	21 35 15.0 +1.6
MLR	Muntele Rosu	5.19	350	Pn		Pn	21 35 15.6 +2.2
	9.0nm,0.3s,baz=241,slow=4.5,SNR=92						
MLR				Sn		Sn	21 36 14.7 +1.3
	1.8nm,0.3s,baz=239,slow=21,SNR=3.8						
MLR				Lg		Lg	21 36 39.8
	5.2nm,0.3s,baz=106,slow=17,SNR=4.6						
MLR				LR		LR	21 37 45.4
	comp=Z,222nm,18.4s,baz=189,slow=44						
MLR	Muntele Rosu	5.19	350	⇑P		Pn	21 35 14.8 +1.4
ITM	Ithomi	5.20	234			Pn	21 35 14.9 +1.5
BOVS	Bovan	5.21	310	⇓P		Pn	21 35 13.9 +0.3
TATR	Tatarca	5.26	7	⇑P		Pn	21 35 15.6 +1.5
TATR				⇑S		Sn	21 36 14.9 +0.2
VOIR		5.29	344	⇓P		Pn	21 35 15.3 +0.5
ARR	Arges	5.33	340	⇑P		Pn	21 35 15.2 0.0
SPBR	Spulber	5.38	357	⇑P		Pn	21 35 18.1 +2.2
ODBI	Odobesti	5.39	359	⇑P		Pn	21 35 18.2 +2.2
IDI	Anoyia	5.39	200	Pn		Pn	21 35 16.0 -0.1
IDI	Anoyia	5.39	200	Pn		Pn	21 35 16.2 +0.1
	3.8nm,0.4s,baz=19,slow=11,SNR=16						
IDI				Sn		Sn	21 36 18.0 -0.1
	2.5nm,0.3s,baz=259,slow=20,SNR=8.2						
BZK	Bozkurt	5.39	71	Pn		Pn	21 35 16.9 +0.8
PLOR	Plostina	5.49	356	⇑P		Pn	21 35 19.5 +2.1
PANC	Panciu	5.49	360	⇓P		Pn	21 35 18.7 +1.2
VRI	Vrincioaia	5.50	357	⇓P		Pn	21 35 18.9 +1.4
VLDR	Vladesti	5.51	7	⇑P		Pn	21 35 18.8 +1.2
COVR	Voineasa-Covas	5.51	353	⇑P		Pn	21 35 19.9 +2.2
VARL	Varlezi	5.54	5	⇓P		Pn	21 35 20.1 +2.0
LOT	Lotru	5.65	335	⇓P		Pn	21 35 19.9 +0.1
TNR	Turnu Rosu	5.69	339	⇓P		Pn	21 35 21.5 +1.4
KEK	Kerkira	5.70	266	Pn		Pn	21 35 21.9 +1.6
HERR	Herculane	5.71	324	⇓P		Pn	21 35 20.2 -0.2
PUK	Puka	5.74	289	Pn		Pn	21 35 21.7 +0.8
DOPR	Dopca	5.74	347	⇓P		Pn	21 35 22.4 +1.5
OZUR		5.81	350	⇓P		Pn	21 35 22.7 +0.9
BIR	Birlad	5.90	3	⇓P		Pn	21 35 23.6 +0.7
GZR	Gura Zlata	5.96	329	⇓P		Pn	21 35 23.4 -0.6
MDVR	Moldovita	5.97	319	⇑P		Pn	21 35 24.1 +0.1
ONER	Baraj Valea Uz	5.98	355	⇑P		Pn	21 35 24.9 +0.7
MDB	Medias	6.11	341	⇑P		Pn	21 35 26.2 +0.2
TESR	Tescani	6.15	357	⇑P		Pn	21 35 27.2 +0.8
PDG	Podgorica	6.30	292	Pn		Pn	21 35 29.5 +1.0
PDG	Podgorica	6.30	292	⇑P		Pn	21 35 29.4 +1.0
PDG				⇑S		Sn	21 36 41.8 +1.5
SEV	Sevastopol'	6.36	47	*e*P		Pn	21 35 29.0 -0.3
SEV				Pm			21 35 29.5
	comp=Z,12nm,0.4s						
SEV				*e*S		Sn	21 36 37.6 -4.2
SEV				Sm			21 36 44.0
	comp=N,13nm,0.4s						
SEV				Sm			21 36 44.1
	comp=E,11nm,0.4s						
PURM	Purcari	6.46	17	⇑P		Pn	21 35 29.5 -1.2
PURM				⇑S		Sn	21 36 42.5 -1.8
SURR	Surduc	6.52	327	⇓P		Pn	21 35 31.2 -0.4
YAL	Yalta	6.60	49	*e*P		Pn	21 35 29.0 -3.6
YAL				Pm			21 35 36.0
	comp=Z,7.0nm,0.3s						
YAL				*e*S		Sn	21 36 43.3 -4.4
YAL				Sm			21 36 50.4
	comp=N,1.0nm,0.2s						
YAL				Sm			21 36 50.4
	comp=E,11nm,0.4s						
BZS	Buzias	6.63	324	⇑P		Pn	21 35 32.6 -0.5
SCTE	Santa Cesarea	6.67	270			Pn	21 35 33.9 +0.3
BANR	Banloc	6.69	320	⇑P		Pn	21 35 34.1 +0.4
CJR	Cluj-Napoca	6.85	339	⇓P		Pn	21 35 37.0 +0.9
ALU	Alushta	6.86	49	⇓*i*P		Pn	21 35 35.4 -0.7
ALU				Pm			21 35 42.7
	comp=Z,10.0nm,0.5s						
ALU				*e*S		Sn	21 36 49.9 -4.2
ALU				Sm			21 36 55.8
	comp=N,15nm,0.6s						
ALU				Sm			21 36 55.9
	comp=E,6.0nm,0.6s						
SIM	Simferopol'	6.86	46	*e*S		Sn	21 36 48.4 -5.8
SIM				Sm			21 36 52.3
	comp=N,104nm,0.9s						
SIM				Sm			21 36 52.3
	comp=E,11nm,0.4s						
MARR	Marisel-Cluj	6.95	336	⇑P		Pn	21 35 37.9 +0.3
ARCR	ARCALIA	7.01	344	⇑P		Pn	21 35 39.7 +1.4
TOKA	Tokat	7.11	87	Pn		Pn	21 35 42.5 +2.8
SIRR	Siria	7.13	328	⇓P		Pn	21 35 39.7 -0.3
DRGR		7.18	335	⇓P		Pn	21 35 40.9 +0.1
SUDU	Sudak	7.32	49	*e*P		Pn	21 35 45.0 +2.5
SUDU				Pm			21 35 52.9
	comp=Z,26nm,0.6s						
SUDU				Sm			21 36 15.2
	comp=E,16nm,0.6s						
SUDU				*e*S		Sn	21 37 05.4 -0.2
SUDU				Sm			21 37 15.2
	comp=N,66nm,0.7s						
BURAR	Bucovina Array	7.37	350	⇑P		Pn	21 35 44.9 +1.5
BUR08	Bucovina Ar. S	7.40	350	Pn		Pn	21 35 45.4 +1.6
SORM	Soroca	7.80	6	⇑P		Pn	21 35 48.6 -0.5
TIP	Timpagrande	8.11	265	Pn		Pn	21 35 53.7 +0.3
TIP	Timpagrande	8.11	265	⇓P		Pn	21 35 53.9 +0.4
MORH	Mrgy, Hungar	8.53	316	⇑P		Pn	21 35 58.8 -0.2
CUC	Castrocucco	8.70	271	Pn		Pn	21 36 02.7 +1.1
SGRT	San Giovanni R	8.74	283	Pn		Pn	21 36 01.8 -0.3
CEL	Celeste	8.99	260	Pn		Pn	21 36 06.0 +0.4
PSZ	Piszkesteto	9.17	328	Pn		Pn	21 36 09.9 +1.9
KOLS	Kolonicke sedl	9.24	339	*e*PN		Pn	21 36 10.5 +1.7
KOLS				*e*SN		Sn	21 37 26.0 -27
KOLS				*e*SG			21 38 49.0
PAOL	Paolisi	9.60	278	Pn		Pn	21 36 14.0 +0.2
MMAI	Mount Meron Ar	9.88	135	Pn		Pn	21 36 18.1 +0.4
	comp=N,1.0nm,0.3s,baz=326,slow=13,SNR=8.5						
MMAI				LR		LR	21 41 36.1
	comp=N,34nm,18.9s,baz=184,slow=47						
	comp=N,6.3nm,0.7s						
VYHS	Vyhne	10.06	327	*e*PN		Pn	21 36 13.7 -6.4
VAE	Valguarnera	10.36	258	Pn		Pn	21 36 24.3 +0.1
	comp=N,3.1nm,0.8s,baz=140,slow=17,SNR=1.9						
VAE				Sn		Sn	21 38 20.3 +0.1
	comp=N,0.3nm,0.3s,baz=159,slow=11,SNR=3.6						
AKASG	Malin Array Be	10.43	7	Pn		Pn	21 36 24.1 -1.0
	comp=N,0.6nm,0.3s,baz=196,slow=13,SNR=4.2						
AKASG				Sn		Sn	21 38 13.9 -7.9
	comp=N,0.6nm,0.3s,baz=192,slow=25,SNR=1.3						
AKASG				Lg		Lg	21 39 21.8
	baz=189,slow=27						
	comp=N,0.4nm,0.4s						
AKBB	Malin Array Si	10.43	7	Pn		Pn	21 36 24.6 -0.4
RAFF	Raffo Rosso	10.48	257	Pn		Pn	21 36 26.1 +0.2
MODS	Modra-Piesok	10.67	322	*e*PN		Pn	21 36 21.6 -6.9
RONA	Rosalia, Austr	10.71	317	*e*Pn		Pn	21 36 29.5 +0.5
	comp=N,6.1nm,0.5s						
NRCA	Norcia	10.81	288			Pn	21 36 31.0 +0.5
SOKA	Soboth	10.83	310	*e*Pn		Pn	21 36 32.1 +1.4
	comp=N,0.1nm,0.2s						
ARSA	Arzberg	10.86	313	Pn		Pn	21 36 32.6 +1.6
CONA	Conrad Observa	11.08	317	*e*Pn		Pn	21 36 34.6 +0.4
	comp=N,4.7nm,0.5s						
ASF	Jabal al Asfar	11.33	133	Pn		Pn	21 36 35.8 -1.9
	comp=N,0.7nm,0.5s,baz=288,slow=6.4,SNR=1.2						
SABO	M.te Sabotino	11.38	304	Pn		Pn	21 36 39.0 +0.8
EIL	Elat	12.43	147	LR		LR	21 42 33.4
	comp=N,30nm,20.0s,baz=246,slow=42						
GEC2	GERESS Array S	12.79	316	Pn		Pn	21 36 58.0 +0.6
GERES	GERESS Array B	12.79	316	Pn		Pn	21 36 58.3 +0.9
	comp=N,0.2nm,0.3s,baz=126,slow=14,SNR=8.2						
	comp=N,1.3nm,0.6s						
GNI	Garni	13.42	85	LR		LR	21 42 29.7
	comp=N,66nm,20.8s,baz=207,slow=39						
DAVOX	Davos/Dischmat	14.06	303	Pn		Pn	21 37 16.2 +1.2
	comp=N,0.2nm,0.3s,baz=135,slow=9.0,SNR=5.2						
DAVOX				LR		LR	21 42 39.7
	comp=N,88nm,18.0s,baz=110,slow=37						
	comp=N,0.4nm,0.4s						
TUE	Stuetta	14.30	301	Pn		Pn	21 37 19.6 +1.3
SENIN	Lac Senin/Sane	15.63	299	Pn		Pn	21 37 36.5 +0.5
SENIN				IAmb		IAmb	21 37 41.5
	comp=Z,7.1nm,1.1s						
BELG	Belogornoye	18.46	43	P		P	21 38 10.7 -0.5
	comp=Z,0.5nm,0.3s,baz=236,slow=8.5,SNR=4.1						
	comp=Z,9.0nm,0.7s						
FINES	FINESS Array B	21.11	359	P		P	21 38 41.0 +1.0
	comp=Z,2.6nm,0.9s,baz=159,slow=13,SNR=1.9						
	comp=Z,2.6nm,0.9s						
HFS	Hagfors	21.49	341	P		P	21 38 45.0 +0.8
	comp=Z,1.7nm,0.8s,baz=155,slow=14,SNR=1.3						
HFS				LR		LR	21 48 35.2
	comp=Z,105nm,19.2s,baz=16,slow=41						
	comp=Z,1.7nm,0.8s						
NOA	NORSAR Array B	22.90	340	LR		LR	21 49 28.5
	comp=Z,40nm,18.7s,baz=140,slow=41						
AKTO	Aktyubinsk	23.72	55	LR		LR	21 49 49.8
	comp=Z,38nm,20.8s,baz=132,slow=40						
ESDC	Sonseca Array	23.80	278	P		P	21 39 09.5 +1.0
	comp=Z,0.4nm,0.8s,baz=74,slow=9.0,SNR=5.4						
	comp=Z,0.4nm,0.8s						
ABKAR	Akbulak array	24.72	58	P		P	21 39 17.3 +0.5
ARTI	Arti	25.89	41	P		P	21 39 28.6 +1.3
ARTI				IAmb		IAmb	21 39 31.0
	comp=Z,7.9nm,1.0s						
KURBB	Kurchatov Arra	36.74	56	P		P	21 41 02.1 -0.7
	comp=Z,0.3nm,0.3s,baz=280,slow=9.0,SNR=5.4						
	comp=Z,0.3nm,0.3s						
MKAR	Makanchi Array	39.73	62	P		P	21 41 29.4 +1.2
MKAR	Makanchi Array	39.73	62	P		P	21 41 28.1 0.0
	comp=Z,0.1nm,0.6s,baz=272,slow=8.0,SNR=5.1						
MKAR				LR		LR	22 00 39.8
	comp=Z,27nm,18.8s,baz=269,slow=40						
	comp=Z,0.1nm,0.6s						
ZALV	Zalesovo Beam	40.35	50	P		P	21 41 33.9 +0.8
ZALV	Zalesovo Beam	40.35	50	P		P	21 41 32.8 -0.3
	comp=Z,0.4nm,0.4s,baz=282,slow=8.7,SNR=4.5						
	comp=Z,0.4nm,0.4s						
CD2	Chengdu	61.17	73	P		P	21 44 11.3 +0.9
HHC	Hu-ho-hao-te	61.51	59	*e*P		P	21 44 13.4 +0.8
HHC				pmax		pmax	
	comp=Z,5.0nm,0.8s						
HHC				pmax		pmax	
	comp=Z,100nm,5.2s						
KSRS	Korea Array	73.90	54	LR		LR	22 25 28.1
	comp=Z,7.9nm,18.8s,baz=140,slow=42						

*IDC **19** 21:59:52.7±1.1, 33°.65N×141°.78E, h0km, mb3.6/6, mbtmp3.6/7, ML2.7/1, MS3.0/2, Error ellipse: s-maj=23.7km s-min=21.1km az=98.0*
*JMA **19** 21:59:55.7±0.4, 33°.7N±0°.9×14°.2E±°, h64km, MV3.4/30, E OFF HACHIJOJIMA ISLAND*
ISC 19 21:59:57.3±1.0, 33°.69N±0°.07×141°.79E±0°.10, h34km, n23, σ1s28/23, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.17	325	*e*P	Pn	22 00 16.1	-0.6
BSO1				S	Sn	22 00 33.0	+1.7
BSO3	Boso 3	1.53	317	P	Pn	22 00 21.4	-0.6
JHJ2	Mitsune	1.75	251	P	Pn	22 00 24.3	-0.8
JHJ2	Mitsune	1.75	251	P	Pn	22 00 24.4	-0.8
BSO4	Boso 4	1.76	318	P	Pn	22 00 25.6	+0.2
JHJ	Hachijo jima 2	1.77	252	Pn	Pn	22 00 24.2	-1.3
	124nm,0.3s,baz=322,slow=16,SNR=102						
JHJ				Sn	Sn	22 00 46.5	-0.3
	99nm,0.3s,baz=111,slow=22,SNR=7.8						
JHCJ	Hachijojimakas	1.77	250	*e*P	Pn	22 00 24.5	-1.0
JMKN	Mikurajimanish	1.84	277	*e*P	Pn	22 00 25.5	-0.9
JOD2	Odawara 2	2.72	306	P	Pn	22 00 37.4	-1.2
MJAR	Matsushiro Arr	4.08	315	Pn	Pn	22 00 57.0	-0.3
	0.4nm,0.3s,baz=176,slow=14,SNR=21						
MJAR				Sn	Sn	22 01 42.3	-1.7
	0.3nm,0.3s,baz=158,slow=13,SNR=5.3						
	1.9nm,0.3s						
JMM	Marumori	4.24	349	P	Pn	22 00 58.0	-1.5
JCJ	Chichijima	6.58	177	Pn	Pn	22 01 23.9	-7.8
	7.9nm,0.3s,baz=155,slow=23,SNR=9.4						
JCJ				Sn	Sn	22 02 33.4	-12
	5.6nm,0.3s,baz=118,slow=23,SNR=5.5						
JCJ	Chichijima	6.58	177	P	Pn	22 01 30.5	-1.2
ERM	Erimo	8.38	7	P	Pn	22 01 53.9	-2.4
JEM	Erimo	8.38	7	Pn	Pn	22 01 53.9	-2.4
SONM	Songino Array	30.01	309	P	P	22 06 04.2	+1.3
	0.4nm,0.7s,baz=110,slow=8.3,SNR=3.0						
	0.4nm,0.7s						
CMAR	Chiang Mai Arr	41.06	259	LR	LR	22 26 18.8	
	comp=Z,8.5nm,18.2s,baz=275,slow=39						
MKAR	Makanchi Array	46.21	305	P	P	22 08 19.1	+0.2
	0.3nm,0.6s,baz=88,slow=9.5,SNR=4.4						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	48.34	310	P	P	22 08 35.7	+0.3
	0.5nm,0.5s,baz=79,slow=7.4,SNR=3.7						
	0.5nm,0.5s						
ILAR	Eielson Array	52.17	31	P	P	22 09 04.8	+0.6
	0.5nm,0.6s,baz=269,slow=6.5,SNR=10.0						
	0.5nm,0.6s						
WRA	Warramunga Arr	53.80	189	P	P	22 09 15.9	-0.8
	0.8nm,0.4s,baz=2.6,slow=7.6,SNR=8.6						
	0.8nm,0.4s						
ASAR	Alice Springs	57.53	189	P	P	22 09 44.8	+1.3
	0.6nm,0.7s,baz=16,slow=12,SNR=5.9						
	0.6nm,0.7s						
KBZ	Khabaz	73.33	312	LR	LR	22 44 28.9	
	comp=Z,23nm,18.4s,baz=142,slow=36						

*IDC **19** 22:00:00.1±4.3, 14°.44S×167°.36E, h179km±41km, mb3.9/8, mbtmp4.4/9, Error ellipse: s-maj=32.8km s-min=24.5km az=163.0*
*NEIC **19** 22:00:03.2±1.6, 14°.6S±0°.1×167°.2E±0°.2, h192km±9km, mb4.6/18, Error ellipse: s-maj=25.5km s-min=16.0km az=58.0*
ISC 19 21:59:59.6±0.7, 14°.41S±0°.08×167°.3E±0°.1, h170km, n41, σ0s87/42, mb4.6/16, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.67	186		Pn	22 01 48.7	+0.1
DZM	Mont Dzumac	7.67	186	P	Pn	22 01 49.0	+0.4
	38nm,0.7s,baz=56,slow=12,SNR=25						
DZM				S	Sn	22 03 15.1	+0.4
	7.1nm,0.4s,baz=142,slow=19,SNR=1.4						
ONTNC	Ouen Toro	7.90	186	Pn	Pn	22 01 52.2	+0.6
PINNC	Pines Island,	8.16	179	Pn	Pn	22 01 55.5	+0.4
EIDS	Eidsvold	18.72	232	P	Pn	22 04 06.7	-1.1
EIDS				IAmb	IAmb	22 04 08.0	
	comp=Z,13nm,0.8s						
PMG	Port Moresby	20.31	282	P	P	22 04 23.7	+1.1
	comp=Z,27nm,0.8s,baz=97,slow=6.0,SNR=5.3						
	comp=Z,27nm,0.8s						
COEN	Coen	23.39	268	P	P	22 04 54.2	+0.9
COEN				IAmb	IAmb	22 04 56.4	
	comp=Z,21nm,1.1s						
BKZ	Black Stump Fm	25.96	164	P	P	22 05 15.3	-1.2
BKZ				IAmb	IAmb	22 05 19.7	
	comp=Z,20nm,1.3s						
STKA	Stephens Creek	29.22	229	P	P	22 05 46.1	+0.6
STKA	Stephens Creek	29.22	229	P	P	22 05 46.3	+0.8
	comp=Z,7.6nm,0.5s,baz=48,slow=9.3,SNR=24						
	comp=Z,7.6nm,0.5s						
WB0	Warramunga Arr	31.86	256	P	P	22 06 08.2	-0.8
WB0				IAmb	IAmb	22 06 08.8	
	comp=Z,13nm,0.6s						
WRA	Warramunga Arr	31.93	255	P	P	22 06 08.1	-1.4
WRA	Warramunga Arr	31.93	255	P	P	22 06 08.5	-1.0
	comp=Z,5.4nm,0.6s,baz=86,slow=9.3,SNR=76						
	comp=Z,5.4nm,0.6s						
AS31	Alice Springs	32.81	249	P	P	22 06 16.4	-0.8
ASAR	Alice Springs	32.81	249	P	P	22 06 16.1	-1.0
ASAR	Alice Springs	32.81	249	P	P	22 06 16.4	-0.8
	comp=Z,6.9nm,0.5s,baz=78,slow=9.2,SNR=135						
	comp=Z,6.9nm,0.5s						
BBOO	Buckleboo	33.79	232	P	P	22 06 25.5	0.0
BBOO				IAmb	IAmb	22 06 26.5	
	comp=Z,12nm,0.8s						
MTN	Manton Dam	35.16	268	P	P	22 06 38.3	+0.9
MTN				IAmb	IAmb	22 06 54.2	
	comp=Z,22nm,1.1s						
FAKI	Fak Fak	36.41	285	P	P	22 06 48.4	+0.3
KNRA	Kununurra	37.20	263	P	P	22 06 54.5	-0.3
KNRA				IAmb	IAmb	22 06 55.9	
	comp=Z,21nm,0.8s						
FORT	Forrest	39.48	239	P	P	22 07 13.3	-0.4
FITZ	Fitzroy Crossi	40.10	259	P	P	22 07 19.2	+0.3
SOEI	Soe	42.28	271	P	P	22 07 35.0	-1.9
SOEI				IAmb	IAmb	22 08 01.9	
	comp=Z,23nm,1.1s						
NWAO	Narrogin (SRO)	48.93	239	P	P	22 08 27.6	-1.2
NWAO				IAmb	IAmb	22 08 37.8	
	comp=Z,30nm,1.2s						
MORW	Morawa	49.43	244	P	P	22 08 32.2	-0.4
MORW				IAmb	IAmb	22 08 33.0	
	comp=Z,8.5nm,0.7s						
CMAR	Chiang Mai Arr	74.84	294	P	P	22 11 23.6	+1.6
	comp=Z,0.4nm,0.3s,baz=108,slow=5.7,SNR=2.2						
	comp=Z,0.4nm,0.3s		

ESAO			*e*S		Sb	22 04 00.8 +0.2
TWC	**Suao**	**0.23 351**	P		Pb	22 03 57.2 +0.2
TWC			S		Sb	22 04 01.6 +0.3
NDS	**Dongshan**	**0.29 328**	P		Pb	22 03 58.4 +0.6
NDS			S		Sn	22 04 03.7 -0.8
EOS2	**EOS2**	**0.32 84**	*e*P		Pn	22 03 58.8 -0.3
ETL	**Fush Village**	**0.33 227**	*e*P		Pb	22 03 58.8 +0.4
ETL			*e*S		Sn	22 04 05.3 -0.1
NACB	**Ninganchiao**	**0.34 232**	P		Pb	22 03 58.7 +0.2
NACB			*e*S		Sn	22 04 05.1 -0.4
LATG	**Datong**	**0.36 295**	P		Pb	22 03 59.3 +0.4
LATG			*e*S		Sb	22 04 05.4 +0.8
ENTT	**Nioudou**	**0.39 311**	*e*P		Pn	22 03 59.8 -0.5
ENTT			*e*S		Sn	22 04 06.1 -0.7
TWE	**Neicheng**	**0.39 329**	*e*P		Pb	22 03 59.7 +0.5
TWE			*e*S		Sb	22 04 05.9 +0.8
EOS3	**EOS3**	**0.40 104**	*e*P		Pn	22 04 00.1 -0.2
TWD	**Chiawan**	**0.40 222**	P		Pb	22 03 59.8 +0.4
TWD			*e*S		Sn	22 04 07.0 -0.1
ETLH	**Xiulin Townshi**	**0.41 245**	P		Pb	22 03 60.0 +0.4
ETLH			S		Sn	22 04 06.7 -0.7
FUSB	**Fushanzhiwuyua**	**0.46 324**	P		Pn	22 04 01.0 -0.4
FUSB			S		Sn	22 04 08.2 -0.6
NNSB	**Datong**	**0.46 276**	*e*P		Pn	22 04 01.0 -0.5
NNSB			*e*S		Sb	22 04 07.7 +0.6
EOS4	**EOS4**	**0.47 124**	*e*P		Pn	22 04 01.2 +0.2
NNS	**Nan Shan**	**0.47 277**	*e*P		Pb	22 04 00.9 +0.3
NNS			*e*S		Sb	22 04 08.1 +0.7
NWLT	**Wulai**	**0.53 318**	*e*P		Pn	22 04 02.1 -0.1
NWLT			*e*S		Sn	22 04 09.7 -0.5
YHNB	**Yeheng**	**0.55 301**	P		Pn	22 04 02.6 0.0
YHNB			*e*S		Sb	22 04 10.1 +0.7
ETM	**Tongmen**	**0.55 221**	*e*P		Pn	22 04 02.2 -0.3
NSK	**Sanguang**	**0.56 301**	*e*P		Pn	22 04 02.4 -0.3
NSK			*e*S		Sn	22 04 10.7 -0.5
LXIB	**Xiulin Townshi**	**0.56 230**	P		Pn	22 04 02.8 -0.1
LXIB			*e*S		Sn	22 04 11.1 -0.2
TIPB	**Shuangxi**	**0.59 354**	*e*P		Pn	22 04 03.0 -0.1
TIPB			*e*S		Sn	22 04 11.3 -0.4
FUSS	**Fushou**	**0.60 257**	*e*P		Pn	22 04 03.5 0.0
FUSS			*e*S		Sn	22 04 12.5 +0.1
WHF	**Hehuan Shan**	**0.62 247**	*e*P		Pb	22 04 03.3 +0.2
WHF			S		Sn	22 04 12.5 -0.5
TWT	**Tachien**	**0.66 259**	*e*S		Sn	22 04 14.6 +0.8
SXI1	**Grass Mountain**	**0.71 359**	P		Pn	22 04 05.1 +0.3
SXI1			*e*S		Sn	22 04 15.2 +0.5
OWD	**Renai**	**0.78 237**	*e*P		Pn	22 04 06.0 +0.2
OWD			*e*S		Sn	22 04 16.9 +0.3
WUSB	**Renai**	**0.81 241**	*e*P		Pn	22 04 06.5 +0.4
WUSB			*e*S		Sn	22 04 17.8 +0.5
WARBT	**Fenglin Townsh**	**0.81 215**	*e*P		Pb	22 04 06.5 +0.4
YM01	**YM01**	**0.81 339**	*e*P		Pb	22 04 07.0 +0.8
ZUZH	**Zhuzihu**	**0.84 338**	*e*P		Pb	22 04 07.0 +0.4
ZUZH			*e*S		Sn	22 04 19.0 +1.2
WHP	**Taichung City**	**0.87 263**	*e*P		Pb	22 04 08.7 +1.6
WHP			*e*S		Sn	22 04 20.3 +1.6
VWDT	**VWDT**	**0.93 228**	*e*P		Pb	22 04 08.5 +0.5
VWDT			*e*S		Sn	22 04 20.7 +0.7

JMA 19 22:04:22.4±0.4, 26°N±3°×12°3E±°, h212km, MV2.5/8, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.55**	**140**	*e*P	Pn	22 04 57.8	+0.2
JISG	**Ishigakijimahi**	**1.78**	**122**	*e*P	Pn	22 04 59.9	+0.3
JISG				*e*S	S	22 05 29.2	+0.8
JKRS	**Kuro-shima**	**1.79**	**136**	*e*P	Pn	22 05 00.1	+0.4
JKRS				*e*S	S	22 05 29.4	+0.8
JIJ	**Ishigaki jima**	**1.79**	**130**	*e*P	Pn	22 04 59.7	-0.1
JIJ				*e*S	S	22 05 28.4	-0.1
JTJ	**Tarama**	**2.07**	**115**	*e*S	S	22 05 34.1	+0.8

AFAD 19 22:18:31.1, 40°35N×27°12E, h6km±1km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNKL	**anakkale-Mer**	**0.63**	**243**	P	Pg	22 18 43.8	+0.6
CNKL				S	Sb	22 18 53.0	-0.5
CNKL				*i* AML	AML	22 19 07.0	
	comp=E,11nm,0.4s						

ISK 19 22:19:28.0, 40°37N×27°15E, h3km, ML1.5/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.12**	**78**	Pg	Pg	22 19 31.2	+0.8
KRBG				Sg	Sg	22 19 32.8	+0.9
LPK	**Lapseki**	**0.29**	**271**	Pg	Pg	22 19 34.4	+0.7
LPK				Sg	Sb	22 19 39.4	-1.8
RKY	**Sarkoy-Tekirda**	**0.32**	**4**	Pg	Pg	22 19 34.5	+0.3
CANM	**Can-anakkale**	**0.36**	**191**	Pg	Pb	22 19 36.2	-0.9
CANM				Sg	Sb	22 19 41.5	-1.7
GELI	**Tayfur-Gelibol**	**0.51**	**273**	Pg	Pg	22 19 38.4	+0.5
GELI				Sg	Sb	22 19 46.6	-0.9
EDC	**Edincik**	**0.55**	**92**	Pg	Pb	22 19 39.4	-0.9
ERIK	**Erikli-Kesan**	**0.57**	**302**	Pg	Pb	22 19 39.9	-0.7
SUSR	**Susurluk-Balik**	**0.83**	**119**	Pg	Pb	22 19 44.8	-0.2
EZN	**Ezine**	**0.83**	**229**	Pg	Pb	22 19 44.7	-0.3
ENEZ	**Enez**	**0.84**	**296**	Pg	Pb	22 19 44.9	-0.3
UKOP	**Uzunkopru-Edir**	**0.85**	**333**	Pg	Pb	22 19 45.2	-0.2
KCTX	**Karacabey (Bur**	**0.93**	**96**	Pg	Pb	22 19 46.4	-0.4
GADA	**Gvkgeada**	**0.97**	**260**	Pg	Pb	22 19 47.4	0.0
ALN	**Alexandroupoli**	**0.99**	**303**	Pg	Pb	22 19 47.7	-0.1
BOZC	**Bozcaada**	**0.99**	**238**	Pg	Pb	22 19 48.0	+0.2
SLVT	**Silivri**	**1.18**	**43**	Pn	Pn	22 19 51.6	+0.2

*DJA **19** 22:35:35.6±1.3, 8°S±3°×12°0E±°, h18km±11km, M3.4/8, MLv3.4/8*
*IDC **19** 22:35:37.1±6.1, 8°76S×119°63E, h159km±57km, mb3.5/2, mbtmp3.7/4, MS3.1/2, Error ellipse: s-maj=132.6km s-min=39.0km az=43.0*

ISC 19 22:35:35.2±1.7, 8°5S±0°2×119°64E±0°09, h150km, n15, σ2°02/17, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.15**	**192**	P	**Pn**	**22 36 03.2**	**+1.8**
WBSI				S	**Sn**	**22 36 24.1**	**+2.6**
WSI	**Waingapu**	**1.32**	**151**	P	**Pn**	**22 36 04.8**	**+1.8**
WSI				S	**Sn**	**22 36 26.6**	**+2.3**
PLAI	**Plampang**	**1.87**	**260**	P	**Pn**	**22 36 10.0**	**+1.2**
PLAI				S	**Sn**	**22 36 35.8**	**+1.2**
BASI	**Baing, Sumba**	**1.94**	**151**	P	**Pn**	**22 36 12.6**	**+3.0**
BSSI	**Bau Bau, Buton**	**2.50**	**20**	P	Pn	22 36 09.5	-6.9
TWSI	**Taliwang, Sumb**	**2.73**	**265**	P	**Pn**	**22 36 20.1**	**+0.8**
TWSI				S	**Sn**	**22 36 54.2**	**+1.0**
BKSI	**Bulukumba**	**3.20**	**9**	P	Pn	22 36 19.9	-5.3
SRBI	**Singaraja**	**4.40**	**275**	P	**Pn**	**22 36 41.1**	**+0.4**
SOEI	**Soe**	**4.74**	**106**	P	**Pn**	**22 36 46.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.18**	**149**	P	**Pn**	**22 38 11.2**	**+0.4**
	2.5nm,1.0s,baz=328,slow=15,SNR=1.5						
FITZ				S	**Sn**	**22 40 10.0**	**-4.4**
	2.7nm,0.7s,baz=176,slow=21,SNR=5.8						
WRA	**Warramunga Arr**	**18.21**	**130**	P	**P**	**22 39 36.0**	**-1.0**
	0.3nm,0.5s,baz=306,slow=13,SNR=12						
WRA				S	**S**	**22 42 56.3**	**-1.4**
	0.9nm,1.0s,baz=307,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**20.34**	**139**	P	**P**	**22 39 59.1**	**-0.9**
	1.3nm,0.5s,baz=312,slow=9.7,SNR=25						
	1.3nm,0.5s						
STKA	**Stephens Creek**	**30.94**	**142**	P	**P**	**22 41 37.4**	**-0.7**
	1.3nm,0.3s,baz=298,slow=11,SNR=4.1						
	1.3nm,0.3s						
MJAR	**Matsushiro Arr**	**48.09**	**20**	LR	LR	23 07 02.8	
	comp=Z,16nm,18.2s,baz=210,slow=39						
PETK	**Petropavlovsk-**	**69.38**	**23**	LR	LR	23 19 10.9	
	comp=Z,13nm,19.2s,baz=216,slow=38						

*SDD **19** 22:39:03.2±2.0, 17°50N×69°04W, h120km±80km, MD3.8, ML2.8, MW3.2*
*NEIC **19** 22:39:17.6±0.7, 18°1N±0°2×68°42W±0°05, h93km±18km, ML2.1/10, Md2.9/3(RSPR), Error ellipse: s-maj=24.6km s-min=5.4km az=187.0*
*RSPR **19** 22:39:20.0, 18°10N×68°41W, h65km±2km, MD2.9/3*

ISC 19 22:39:17.4±2.3, 18°1N±0°3×68°4W±0°1, h95km, n15, σ0°64/17, 7C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.42**	**5**	Pn	**Pn**	**22 39 31.9**	**-0.2**
PCDR				IAML		22 40 05.3	
	comp=E,51nm,1.3s						
PCDR	**Punta Cana, DR**	**0.42**	**5**	↑*e*Sg	**Sn**	**22 39 43.3**	**+0.3**
PCDR				IAML		22 39 43.9	
	comp=N,186nm,2.2s						
DR12	**Loma Pena Alta**	**1.15**	**307**	Pn	**Pn**	**22 39 39.3**	**+0.2**
DR12				IAML		22 39 55.1	
	comp=N,20nm,0.9s						
DR12				IAML		22 39 55.2	
	comp=E,24nm,0.4s						
CRPR	**Cabo Rojo, PR**	**1.25**	**94**		**Pn**	**22 39 40.5**	**+0.2**
CRPR					**Sn**	**22 39 57.0**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.25**	**94**	↑*e*Sg	**Sn**	**22 39 57.1**	**-0.5**
CRPR				IAML		22 40 18.4	
	comp=N,58nm,2.8s						
CRPR	**Cabo Rojo, PR**	**1.25**	**94**	↓*e*P	**Pn**	**22 39 40.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.25**	**94**	*e*S	**Sn**	**22 39 56.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.60**	**81**	Pn	**Pn**	**22 39 45.0**	**+0.3**
AOPR				IAML		22 39 58.3	
	comp=N,32nm,1.3s						
AOPR					**Sn**	**22 40 05.0**	**-0.4**
AOPR	**Arecibo Observ**	**1.60**	**81**	↑*e*Pg	Pn	22 39 41.0	-3.7
AOPR				↑*e*Sg	**Sn**	**22 40 05.5**	**+0.1**
AOPR				IAML		22 40 29.9	
	comp=N,38nm,1.3s						
AOPR	**Arecibo Observ**	**1.60**	**81**	*e*S	**Sn**	**22 40 05.2**	**-0.1**
CELP	**Cerrillos**	**1.75**	**90**		**Pn**	**22 39 47.3**	**+0.8**
CELP					**Sn**	**22 40 07.8**	**-0.9**
CELP				IAML		22 40 12.0	
	comp=E,13nm,0.9s						
CELP				IAML		22 41 00.7	
	comp=N,14nm,1.5s						
CELP	**Cerrillos**	**1.75**	**90**	↑*e*Sg	**Sn**	**22 40 07.4**	**-1.3**
CELP				IAML		22 40 42.3	
	comp=N,20nm,4.4s						
CELP	**Cerrillos**	**1.75**	**90**	↑*e*P	**Pn**	**22 39 47.5**	**+1.0**
CELP	**Cerrillos**	**1.75**	**90**	*e*S	**Sn**	**22 40 08.8**	**+0.1**
REDR	**Restauracion**	**3.02**	**291**	↑*e*Pg	Pn	22 39 48.2	-15
REDR				IAML		22 40 28.4	
	comp=N,50nm,1.1s						

IDC 19 23:18:06.7±5.4, 16°59S×176°14W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=174.2km s-min=106.0km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.16**	**240**	P	P	23 25 53.8	+0.7
	0.9nm,0.4s,baz=103,slow=11,SNR=3.8						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**47.02**	**258**	P	P	23 26 39.4	-0.8
	0.5nm,0.5s,baz=97,slow=7.6,SNR=9.0						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**47.24**	**253**	P	P	23 26 41.9	-0.1
	6.3nm,0.6s,baz=88,slow=8.1,SNR=91						
ASAR				PcP	PcP	23 28 13.2	-0.2
	0.2nm,0.4s,baz=94,slow=3.6,SNR=1.7						
	6.3nm,0.6s						

*NEIC **20** 00:10:35.9, 0°77N×126°29E, h30km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.21; $M_{\theta\theta}$0.65; $M_{\phi\phi}$-1.86; $M_{r\theta}$-1.23; $M_{\theta\phi}$-1.65; $M_{\phi r}$-0.19; Fault plane solution: $M_0$2.61000×10^{17} NP1: ϕ_s348.57000°, δ52.42000°, λ25.95000°. NP2: ϕ_s242.04000°, δ69.71000°, λ139.44000°. Principal axes: T 2.4095, Plg43.0000°, Azm199.0000°; N 0.4076, Plg45.0000°, Azm40.0000°; P -2.8170, Plg11.0000°, Azm299.0000°;*
*NEIC **20** 00:10:35.9, 0°77N×126°19E, h30km*
*MOS **20** 00:10:36.2±1.0, 0°72N×126°04E, h23km, mb5.8/74, MS4.8/15, Error ellipse: s-maj=7.1km s-min=3.9km az=112.9*
*IDC **20** 00:10:37.0±2.0, 0°72N×126°05E, h16km±12km, mb5.3/32, mbtmp5.5/37, ML5.4/5, MS4.5/53, Error ellipse: s-maj=15.6km s-min=8.7km az=79.0*
*BJI **20** 00:10:38.2, 0°67N×126°04E, h43km, mB5.4/65, mb5.1/91, Ms4.9/97, Ms7 4.9/95*
*NEIC **20** 00:10:38.4, 0°75N×126°19E, h26km*
*NEIC **20** 00:10:38.8±2.2, 0°76N±0°04×126°19E±0°04, h28km±3km, mb5.7/338, Ms_20 4.8/82, Mwb5.5/42, Mww5.5/26, Error ellipse: s-maj=6.9km s-min=6.0km az=134.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.30; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-1.42; $M_{r\theta}$-1.12; $M_{\theta\phi}$-0.87; $M_{\phi r}$-0.47; Fault plane solution: $M_0$2.03000×10^{17} NP1: ϕ_s356.72000°, δ37.21000°, λ42.58000°. NP2: ϕ_s230.52000°, δ65.85000°, λ119.21000°. Principal axes: T 1.9831, Plg58.0000°, Azm182.0000°; N 0.0861, Plg26.0000°, Azm38.0000°; P -2.0692, Plg16.0000°, Azm299.0000°;*
*RSNC **20** 00:10:39.0±0.3, 1°N±2°×12°6E±°, h36km, M4.6, mB5.5, mb4.5, ML3.4, Mw(mB)4.9, Hypocentre not reviewed by the ISC*
*DJA **20** 00:10:41.0±0.1, 1°N±1°×12°6E±°, h49km±2km, M5.5/132, mb5.8/132, mB6.0/94, MLv5.9/24, Mw(mB)5.7/94, MwMwp5.2/54, Mwp5.5/54*
*UCR **20** 00:10:41.8±2.1, 0°76N×126°19E, h28km, MW6.3, MW5.5(NEIC)*
*GCMT **20** 00:10:42.8±0.1, 0°81N±0°01×126°16E±0°01, h32km, MW5.6/145, Moment Tensor Solution. s137, c241; s145, c287; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}1.87±.04; $M_{\theta\theta}$0.80±.03; $M_{\phi\phi}$-2.67±.04; $M_{r\theta}$-1.52±.06; $M_{\theta\phi}$-1.76±.03; $M_{\phi r}$0.16±.06; Best double couple: $M_0$3.30800×10^{17} NP1:ϕ_s349.00000°, δ50.00000°, λ34.00000°. NP2:ϕ_s235.00000°, δ64.00000°, λ135.00000°. Principal axes: T 3.1030, Plg49.0000°, Azm195.0000°; N 0.4120, Plg40.0000°, Azm32.0000°; P -3.5120, Plg8.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 00:10:38.7±0.2, 0°74N±0°02×126°15E±0°03, h28km, h28km:pP-P, n1360, σ1°62/1390, mb5.7/327, MS4.7/129, 65C-42D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**88**		**Pn**	**00 10 59.4**	**-0.4**
TNTI				Sn	**Sn**	**00 11 14.3**	**-1.1**
TNTI	**Ternate**	**1.22**	**88**	P	**Pn**	**00 11 00.0**	**+0.2**
TNTI	**Ternate**	**1.22**	**88**	P	**Sn**	**00 11 15.0**	**-0.4**
TNTI	**Ternate**	**1.22**	**88**	P	**Pn**	**00 10 59.4**	**-0.4**
LBMI	**Labuha**	**1.92**	**135**	P	**Pn**	**00 11 09.8**	**+0.2**
KMSI	**Cibinong**	**2.18**	**266**	P	**Pn**	**00 11 13.4**	**+0.3**
SANI	**Sanana**	**2.77**	**183**	P	**Pn**	**00 11 22.2**	**+0.9**
SANI	**Sanana**	**2.77**	**183**	S	**Sn**	**00 11 54.1**	**+0.2**
SANI	**Sanana**	**2.77**	**183**	P	**Pn**	**00 11 21.4**	**+0.1**
SGSI	**Sangihe**	**2.99**	**348**	P	**Pn**	**00 11 24.8**	**+0.5**
LUWI	**Luwuk**	**3.81**	**242**	Pn	**Pn**	**00 11 38.5**	**+2.9**
LUWI	**Luwuk**	**3.81**	**242**	P	**Pn**	**00 11 38.5**	**+2.9**
LUWI	**Luwuk**	**3.81**	**242**	P	**Pn**	**00 11 38.9**	**+3.3**
NLAI	**Namlea**	**4.06**	**167**	P	**Pn**	**00 11 40.4**	**+1.4**
MRSI	**Marisa**	**4.22**	**266**	P	**Pn**	**00 11 42.9**	**+1.7**
APSI	**Ampana**	**4.79**	**250**	P	**Pn**	**00 11 51.8**	**+2.8**
AAI	**Ambon**	**4.85**	**155**	P	**Pn**	**00 11 52.1**	**+2.3**
MSAI	**Masohi**	**4.92**	**146**	P	**Pn**	**00 11 53.7**	**+2.9**
SWI	**Sorong**	**5.35**	**107**	P	**Pn**	**00 11 57.7**	**+1.0**
	4.2nm11μm1μm,0.8s						
TOLI2	**Tolitoli**	**5.38**	**274**	Pn	**Pn**	**00 11 57.2**	**0.0**
TOLI2	**Tolitoli**	**5.38**	**274**	P	**Pn**	**00 11 59.0**	**+1.8**
KDI	**Kendari**	**5.85**	**217**	P	**Pn**	**00 12 06.0**	**+2.4**
MPSI	**Mapaga**	**6.27**	**266**	P	**Pn**	**00 12 12.7**	**+3.4**
DAV	**Davao City (W)**	**6.32**	**355**	Pn	**Pn**	**00 12 10.0**	**0.0**
DAV	**Davao City (W)**	**6.32**	**355**	Pn	**Pn**	**00 12 11.2**	**+1.2**
	196nm,0.3s,baz=130,slow=11,SNR=4.9						
DAV				Sn	**Sn**	**00 13 21.7**	**+0.4**
	103nm,0.3s,baz=85,slow=18,SNR=1.6						
DAV				Lg	Lg	00 13 49.5	
	44nm,0.3s,baz=259,slow=22,SNR=1.6						
DAV				LR	LR	00 15 09.9	
	comp=Z,6μm,19.1s,baz=186,slow=43						
	389nm,0.4s						
DAV	**Davao City (W)**	**6.32**	**355**	P	**Pn**	**00 12 09.7**	**-0.3**
DAV				S	**Sn**	**00 13 22.2**	**+0.9**
DAV	**Davao City (W)**	**6.32**	**355**	P	**Pn**	**00 12 12.0**	**+2.0**
BNDI	**Bandanaira**	**6.43**	**144**	P	**Pn**	**00 12 13.5**	**+1.9**
BNDI	**Bandanaira**	**6.43**	**144**	P	**Pn**	**00 12 13.5**	**+1.9**
	7.9nm25μm2μm,1.3s						
PCI	**Palu**	**6.52**	**256**	P	**Pn**	**00 12 16.3**	**+3.4**
	6.2nm21μm14μm1μm,0.8s						
FAKI	**Fak Fak**	**7.10**	**121**	Pn	**Pn**	**00 12 21.1**	**+0.3**
FAKI	**Fak Fak**	**7.10**	**121**	P	**Pn**	**00 12 22.1**	**+1.4**
FAKI	**Fak Fak**	**7.10**	**121**	P	**Pn**	**00 12 21.6**	**+0.9**
	4.5nm28μm11μm1μm,0.9s						
BBSI	**Bau Bau**	**7.14**	**210**	P	**Pn**	**00 12 24.8**	**+3.4**
	7.3nm22μm3μm,1.2s						
TTSI	**Tana Toraja**	**7.36**	**239**	P	**Pn**	**00 12 27.3**	**+2.9**
	12μm20μm2μm,1.1s						
SPSI	**Sidrap Palu**	**7.91**	**234**	P	**Pn**	**00 12 35.1**	**+3.2**
RKPI	**Ransiki, Papua**	**8.33**	**106**	P	**Pn**	**00 12 39.8**	**+2.1**
	8μm627nm,0.8s						
BKSI	**Bulukumba**	**8.52**	**225**	P	**Pn**	**00 12 44.2**	**+4.0**
KAPI	**Kappang**	**8.57**	**228**	Pn	**Pn**	**00 12 43.9**	**+2.9**
KAPI	**Kappang**	**8.57**	**228**	Pn	**Pn**	**00 12 44.0**	**+2.9**
	141nm,0.3s,baz=43,slow=5.3,SNR=212						
KAPI				Sn	**Sn**	**00 14 14.7**	**-2.2**
	baz=26,slow=21						
KAPI	**Kappang**	**8.57**	**228**	P	**Pn**	**00 12 45.2**	**+4.2**
KAPI				S	**Sn**	**00 14 23.8**	**+6.9**
KAPI	**Kappang**	**8.57**	**228**	P	**Pn**	**00 12 43.7**	**+2.7**
KAPI	**Kappang**	**8.57**	**228**	*c iP*	**Pn**	**00 12 44.2**	**+3.2**
MYLDM	**Lahad Datu**	**8.82**	**300**	Pn	**Pn**	**00 12 47.7**	**+3.2**
MYLDM	**Lahad Datu**	**8.82**	**300**	P	**Pn**	**00 12 48.3**	**+3.9**
BSSI	**Bau Bau, Buton**	**8.87**	**220**	P	**Pn**	**00 12 47.8**	**+2.7**
	11μm907nm,0.7s						
SMKI	**Samarinda**	**9.02**	**263**	P	**Pn**	**00 12 50.6**	**+3.4**
	12μm373nm,0.8s						
BKB	**Balikpapan**	**9.46**	**258**	Pn	**Pn**	**00 12 56.7**	**+3.5**
BKB	**Balikpapan**	**9.46**	**258**	P	**Pn**	**00 12 55.4**	**+2.1**
BKB	**Balikpapan**	**9.46**	**258**	P	**Pn**	**00 12 56.3**	**+3.0**
	20μm7μm624nm,1.0s						
SAUI	**Saumlaki**	**10.07**	**149**	Pn	**Pn**	**00 13 02.1**	**+0.6**
SAUI	**Saumlaki**	**10.07**	**149**	P	**Pn**	**00 13 02.4**	**+0.9**
SAUI	**Saumlaki**	**10.07**	**149**	P	**Pn**	**00 13 02.5**	**+0.9**
MMRI	**Maumere**	**10.10**	**203**	Pn	**Pn**	**00 13 04.4**	**+2.4**
MMRI	**Maumere**	**10.10**	**203**	P	**Pn**	**00 13 02.5**	**+0.6**
MMRI	**Maumere**	**10.10**	**203**	P	**Pn**	**00 13 04.8**	**+2.9**
	5μm8μm399nm,1.0s						
SRPI	**Serui, Papua**	**10.41**	**104**	P	**Pn**	**00 13 08.5**	**+2.2**
	11μm7μm303nm,1.3s						
SOEI	**Soe**	**10.59**	**190**	Pn	Pn	00 13 14.1	+5.2
KKM	**Kota Kinabalu**	**11.23**	**298**	Pn	**Pn**	**00 13 21.9**	**+4.3**
KKM	**Kota Kinabalu**	**11.23**	**298**	P	**Pn**	**00 13 20.8**	**+3.3**
WSI	**Waingapu**	**11.87**	**209**	P	**Pn**	**00 13 29.3**	**+3.1**
	4μm9μm828nm,1.1s						
BASI	**Baing, Sumba**	**12.22**	**207**	P	**Pn**	**00 13 33.8**	**+2.8**
	5μm9μm809nm,1.1s						
WBSI	**Waikabubak, Su**	**12.31**	**213**	P	**Pn**	**00 13 34.8**	**+2.5**
	4μm522nm,0.9s						
PLAI	**Plampang**	**12.65**	**221**	P	**Pn**	**00 13 39.1**	**+2.2**
PLAI	**Plampang**	**12.65**	**221**	P	**Pn**	**00 13 39.3**	**+2.5**
	8μm745nm,1.1s						
SMPI	**Sarmi**	**12.85**	**102**	P	**Pn**	**00 13 42.5**	**+2.9**
TWSI	**Taliwang, Sumb**	**13.19**	**224**	P	**Pn**	**00 13 47.7**	**+3.4**
	3μm5μm456nm,0.9s						
DRS	**Darwin Rock St**	**13.91**	**160**	P	**Pn**	**00 13 54.9**	**+0.8**
SRBI	**Singaraja**	**13.99**	**231**	P	**Pn**	**00 13 57.8**	**+2.6**
	4μm5μm571nm,1.1s						
SBUM	**Sibu**	**14.03**	**277**	Pn	**Pn**	**00 13 57.1**	**+1.4**
SBUM	**Sibu**	**14.03**	**277**	P	**Pn**	**00 13 57.4**	**+1.7**
TGY	**Tagaytay City**	**14.24**	**339**	Pn	**Pn**	**00 13 59.1**	**+0.4**
	144nm,0.3s,baz=78,slow=2.4,SNR=4.9						
TGY				LR	LR	00 19 50.7	
	comp=Z,3μm,20.1s,baz=167,slow=39						
	243nm,0.3s						
MTN	**Manton Dam**	**14.37**	**160**	Pn	**Pn**	**00 13 59.5**	**-0.9**
MTN	**Manton Dam**	**14.37**	**160**	P	**Pn**	**00 14 00.1**	**-0.3**
	comp=Z,0.0nmcomp=Z,373nm,0.6s						
MTN	**Manton Dam**	**14.37**	**160**	P	**Pn**	**00 14 00.6**	**+0.2**
GENI	**Genyem**	**14.40**	**103**	P	**Pn**	**00 14 00.8**	**0.0**
GENI	**Genyem**	**14.40**	**103**	P	**Pn**	**00 14 02.4**	**+1.6**
	comp=Z,12μmcomp=Z,425nm,1.1s						
KMMI	**Kalianget**	**14.41**	**237**	P	**Pn**	**00 14 05.0**	**+4.1**
ABJI	**Asem Bagus**	**14.60**	**234**	P	**Pn**	**00 14 06.7**	**+3.2**
	comp=Z,5μmcomp=Z,7μmcomp=Z,481nm,1.1s						
STKI	**Sintang**	**14.69**	**267**	P	**Pn**	**00 14 06.7**	**+1.9**
	comp=Z,9μmcomp=Z,326nm,1.4s						
KDU	**Kakadu**	**14.74**	**155**	P	**Pn**	**00 14 03.5**	**-1.9**
JAY	**Jayapura**	**14.90**	**103**	Pn	**Pn**	**00 14 07.8**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=235,slow=10,SNR=9.7						
JAY				LR	LR	00 19 24.4	
	comp=Z,4μm,22.0s,baz=283,slow=35						
	comp=Z,21nm,0.9s						
JAY	**Jayapura**

BLSI	**Bandar Lampung**	**21.74 254**	P	**P**	**00 15 28.4**	**+0.2**
	comp=Z,179nm,0.5s					
WB9	**Warramunga Arr**	**21.94 159**	P	**P**	**00 15 29.7**	**-0.6**
WRAB	**Tennant Creek**	**22.06 159**	P	**P**	**00 15 29.7**	**-1.8**
WRAB	**Tennant Creek**	**22.06 159** *c*	*i*P	**P**	**00 15 31.0**	**-0.5**
WRAB			pmax	pmax		
	comp=Z,1μm,1.0s					
WRA	**Warramunga Arr**	**22.07 159**	P	**P**	**00 15 30.5**	**-1.1**
	comp=Z,434nm,0.8s,baz=339,slow=11,SNR=226					
WRA			S	**S**	**00 19 29.1**	**-4.5**
	comp=Z,58nm,0.9s,baz=340,slow=14,SNR=8.9					
WRA			ScS	**ScS**	**00 26 47.0**	**-2.6**
	comp=Z,2.6nm,1.1s,baz=278,slow=2.3,SNR=4.6					
WRA			P3KPbc		00 49 10.0	
	comp=Z,0.6nm,1.0s,baz=160,slow=4.4,SNR=2.0					
	comp=Z,434nm,0.8s					
WB2	**Warramunga Arr**	**22.07 159**	P	**P**	**00 15 30.3**	**-1.3**
COEN	**Coen**	**22.31 132**	P	**P**	**00 15 32.0**	**-2.2**
COEN			IAmb	IAmb	00 15 41.0	
	comp=Z,322nm,0.8s					
COEN	**Coen**	**22.31 132**	P	**P**	**00 15 33.1**	**-1.1**
MYKOM	**Kota Tinggi**	**22.32 273**	P	**P**	**00 15 33.2**	**-1.2**
MYKOM			IAmb	IAmb	00 15 40.3	
	comp=Z,148nm,0.7s					
MYKOM	**Kota Tinggi**	**22.32 273**	P	**P**	**00 15 36.2**	**+1.8**
TWGBT	**Beinan**	**22.49 348**	P	**P**	**00 15 36.3**	**+0.2**
TWG	**Pinlang**	**22.50 348**	IAmb	IAmb	00 15 42.7	
	comp=Z,151nm,0.6s					
TWG			IAMs_20	IAMs_20	00 24 37.8	
	comp=Z,3μm,20.0s					
LWLI	**Liwa**	**22.80 255**	P	**P**	**00 15 38.4**	**-1.2**
	comp=Z,3μmcomp=Z,445nm,0.7s					
YULB	**Yu-li**	**23.01 349**	IAMs_20	IAMs_20	00 25 47.4	
	comp=Z,2μm,22.0s					
PSA00	**Pilbara Seismi**	**23.02 195**	P	**P**	**00 15 39.7**	**-1.9**
PSA00			IAmb	IAmb	00 15 43.8	
	comp=Z,172nm,0.8s					
PSA00	**Pilbara Seismi**	**23.02 195**	P	**P**	**00 15 40.3**	**-1.3**
	comp=Z,271nm,0.8s					
PSA00	**Pilbara Seismi**	**23.02 195**	P	**P**	**00 15 41.2**	**-0.4**
XMI	**Christmas Isla**	**23.19 241**	P	**P**	**00 15 43.1**	**-0.4**
PMG	**Port Moresby**	**23.22 116**	LR	LR	00 26 13.5	
	comp=Z,2μm,20.9s,baz=313,slow=40					
XMIS	**Christmas Isla**	**23.24 241**	P	**P**	**00 15 42.4**	**-1.6**
XMIS	**Christmas Isla**	**23.24 241**	P	**P**	**00 15 43.2**	**-0.8**
SSLB	**Suanglung**	**23.46 348**	P	**P**	**00 15 44.3**	**-1.8**
SSLB			IAmb	IAmb	00 15 55.5	
	comp=Z,156nm,0.7s					
SSLB			IAMs_20	IAMs_20	00 24 30.4	
	comp=Z,4μm,22.0s					
SSLB	**Suanglung**	**23.46 348**	P	**P**	**00 15 46.2**	**+0.1**
NACB	**Ninganchiao**	**23.71 350**	P	**P**	**00 15 50.0**	**+1.6**
MNAI	**Manna**	**23.72 257**	P	**P**	**00 15 46.7**	**-2.0**
MNAI			IAMs_20	IAMs_20	00 26 20.4	
	comp=Z,3μm,22.0s					
MNAI	**Manna**	**23.72 257**	P	**P**	**00 15 48.2**	**-0.5**
MNAI	**Manna**	**23.72 257**	P	**P**	**00 15 48.1**	**-0.6**
	comp=Z,5μmcomp=Z,494nm,0.7s					
YOJ	**Yonaguni jima**	**23.78 353**	P	**P**	**00 15 49.2**	**+0.2**
YOJ			IAmb	IAmb	00 15 56.2	
	comp=Z,214nm,0.7s					
YOJ	**Yonaguni jima**	**23.78 353**	P	**P**	**00 15 51.9**	**+2.8**
YOJ	**Yonaguni jima**	**23.78 353**	P	**P**	**00 15 49.2**	**+0.2**
YOJ			pmax	pmax		
	comp=Z,215nm,0.7s					
YOJ			MLR	MLR		
	comp=Z,2μm,21.0s					
KSI	**Kapahiang**	**23.95 259**	P	**P**	**00 15 50.2**	**-0.7**
	comp=Z,407nm,0.7s					
JMJ	**Miyako jima 2**	**23.95 358**	P	**P**	**00 15 52.4**	**+1.7**
QIZ	**Qiongzhong**	**24.21 320**	IAMs_20	IAMs_20	00 24 18.5	
	comp=Z,3μm,22.0s					
QIZ	**Qiongzhong**	**24.21 320**	P	**P**	**00 15 52.9**	**-0.3**
QIZ			sP	**sP**	**00 16 06.8**	**+2.7**
QIZ			S	**S**	**00 20 11.5**	**+1.4**
QIZ			pmax	pmax		
	comp=Z,55nm,1.6s					
QIZ			pmax	pmax		
	comp=Z,600nm,3.9s					
QIZ			LR	LR		
	comp=Z,2μm,14.3s					
QIZ			LR	LR		
	comp=Z,2μm,19.4s					
QIZ			LR	LR		
	comp=Z,2μm,22.0s					
QIZ	**Qiongzhong**	**24.21 320**	P	**P**	**00 15 53.6**	**+0.4**
YHNB	**Yeheng**	**24.23 349**	IAmb	IAmb	00 16 01.6	
	comp=Z,310nm,1.1s					
YHNB			IAMs_20	IAMs_20	00 26 59.9	
	comp=Z,3μm,21.0s					
YHNB	**Yeheng**	**24.23 349**	P	**P**	**00 15 53.2**	**-0.2**
HKPS	**Hong Kong Po S**	**24.39 332**	P	**P**	**00 15 53.5**	**-1.4**
HKPS			IAMs_20	IAMs_20	00 24 02.3	
	comp=Z,2μm,22.0s					
HKPS	**Hong Kong Po S**	**24.39 332**	P	**P**	**00 15 55.9**	**+1.1**
TATO	**Taipei**	**24.51 350**	P	**P**	**00 15 55.8**	**-0.1**
TATO			IAmb	IAmb	00 15 59.2	
	comp=Z,319nm,1.4s					
TATO	**Taipei**	**24.51 350**	IAMs_20	IAMs_20	00 26 07.1	
	comp=Z,3μm,22.0s					
TATO	**Taipei**	**24.51 350**	P	**P**	**00 15 57.3**	**+1.4**
KNMB	**Chin-men Tao**	**24.75 343**	P	**P**	**00 15 56.3**	**-1.7**
KNMB			IAmb	IAmb	00 16 04.7	
	comp=Z,106nm,0.8s					
QIS	**Mount Isa**	**24.93 149**	P	**P**	**00 15 59.8**	**+0.1**
	comp=Z,0.0nmcomp=Z,531nm,1.0s					
QIS	**Mount Isa**	**24.93 149**	P	**P**	**00 15 59.5**	**-0.2**
UBPT	**Khong Chiam**	**25.02 306**	P	**P**	**00 15 59.6**	**-1.0**
UBPT	**Khong Chiam**	**25.02 306**	P	**P**	**00 16 02.5**	**+2.0**
BKNI	**Bangkinang**	**25.11 269**	IAmb	IAmb	00 16 05.1	
	comp=Z,306nm,1.1s					
BKNI	**Bangkinang**	**25.11 269**	P	**P**	**00 16 02.8**	**+1.3**
BKNI	**Bangkinang**	**25.11 269**	P	**P**	**00 16 01.5**	**0.0**
	comp=Z,3μmcomp=Z,4μmcomp=Z,286nm,1.6s					
QZH	**Quanzhou**	**25.15 344**	P	**P**	**00 16 00.0**	**-1.6**
QZH			S	**S**	**00 20 18.8**	**-6.2**
QZH			pmax	pmax		
	comp=Z,130nm,0.9s					
QZH			pmax	pmax		
	comp=Z,540nm,3.5s					
QZH			LR	LR		
	comp=Z,3μm,20.6s					
QZH			LR	LR		
	comp=Z,2μm,22.3s					
QZH			LR	LR		
	comp=Z,4μm,23.7s					
IPM	**Ipoh**	**25.37 279**	P	**P**	**00 16 02.0**	**-1.8**
IPM			IAmb	IAmb	00 16 08.3	
	comp=Z,239nm,0.8s					
IPM			PcP	**PcP**	**00 19 37.0**	**+0.8**
IPM	**Ipoh**	**25.37 279**	P	**P**	**00 16 05.3**	**+1.5**
AS15	**Alice Springs**	**25.38 163**	P	**P**	**00 16 04.1**	**+0.4**
	comp=Z,640nm,0.9s					
AS31	**Alice Springs**	**25.40 163**	P	**P**	**00 16 03.0**	**-1.0**
AS31			IAmb	IAmb	00 16 13.5	
	comp=Z,88nm,0.6s					
ASAR	**Alice Springs**	**25.40 163**	P	**P**	**00 16 03.8**	**-0.2**
	comp=Z,141nm,0.7s,baz=338,slow=7.2,SNR=276					
ASAR			PP	**PnPn**	**00 16 40.1**	**+0.4**
	comp=Z,89nm,0.8s,baz=350,slow=15,SNR=5.5					
ASAR			S	**S**	**00 20 26.1**	**-3.0**
	comp=Z,35nm,0.8s,baz=344,slow=17,SNR=11					
ASAR			ScP	**ScP**	**00 23 13.2**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=340,slow=2.6,SNR=6.2					
ASAR			ScS	**ScS**	**00 26 59.5**	**-3.2**
	comp=Z,1.1nm,0.8s,baz=336,slow=4.4,SNR=4.0					
	comp=Z,141nm,0.7s					
JMZ	**Minamidaito 2**	**25.41 11**	P	**P**	**00 16 05.0**	**+1.0**
AS01	**Alice Springs**	**25.41 163**	P	**P**	**00 16 04.3**	**+0.2**
GZH	**Guangzhou**	**25.46 332**	P	**P**	**00 16 07.4**	**+2.9**
GZH			S	**S**	**00 20 39.0**	**+9.0**
GZH			pmax	pmax		
	comp=Z,280nm,0.9s					
GZH			LR	LR		
	comp=Z,2μm,21.0s					
GZH			LR	LR		
	comp=Z,2μm,24.7s					
WRKA	**Warakurna**	**25.71 176**	P	**P**	**00 16 07.2**	**+0.4**
	comp=Z,0.0nmcomp=Z,498nm,1.3s					
WRKA	**Warakurna**	**25.71 176**	P	**P**	**00 16 07.0**	**+0.2**
PPI	**Padang Panjang**	**25.78 267**	P	**P**	**00 16 08.0**	**+0.5**
	comp=Z,3μmcomp=Z,3μmcomp=Z,266nm,0.8s					
KULM	**Kulim**	**25.86 281**	P	**P**	**00 16 06.6**	**-1.6**
KULM	**Kulim**	**25.86 281**	P	**P**	**00 16 10.0**	**+1.8**
MTSU	**Mount Surprise**	**25.91 137**	P	**P**	**00 16 08.4**	**-0.2**
	comp=Z,83nm,0.9s					
MTSU	**Mount Surprise**	**25.91 137**	P	**P**	**00 16 08.4**	**-0.2**
GIRL	**Giralia**	**25.98 206**	P	**P**	**00 16 08.2**	**-1.0**
GIRL			PcP	**PcP**	**00 19 36.7**	**-0.7**
GIRL			IAMs_20	IAMs_20	00 27 20.5	
	comp=Z,2μm,21.0s					
GIRL	**Giralia**	**25.98 206**	P	**P**	**00 16 08.8**	**-0.4**
	comp=Z,341nm,1.3s					
GIRL	**Giralia**	**25.98 206**	P	**P**	**00 16 08.9**	**-0.3**
JOW	**Kunigami**	**26.02 4**	P	**P**	**00 16 10.3**	**+0.7**
JOW	**Kunigami**	**26.02 4**	P	**P**	**00 16 11.3**	**+1.7**
PPSI	**Pulau Pagai**	**26.36 262**	P	**P**	**00 16 11.8**	**-1.0**
	comp=Z,3μmcomp=Z,300nm,1.4s					
RABL	**Rabaul**	**26.45 101**	P	**P**	**00 16 14.2**	**+0.6**
RABL			IAmb	IAmb	00 16 16.8	
	comp=Z,299nm,1.1s					
RABL			IAMs_20	IAMs_20	00 25 27.7	
	comp=Z,2μm,20.0s					
MNSI	**Mandailing Nat**	**26.57 270**	P	**P**	**00 16 14.5**	**-0.2**
	comp=Z,2μmcomp=Z,2μmcomp=Z,100nm,0.7s					
SISI	**Saibi**	**27.14 266**	P	**P**	**00 16 18.6**	**-1.2**
	comp=Z,2μmcomp=Z,125nm,0.7s					
RPSI	**Rantau Prapat**	**27.28 274**	P	**P**	**00 16 20.5**	**-0.6**
RPSI			IAmb	IAmb	00 16 23.8	
	comp=Z,277nm,1.1s					
RPSI			IAMs_20	IAMs_20	00 29 08.9	
	comp=Z,3μm,22.0s					
PSI	**Prapat**	**27.29 275**	P	**P**	**00 16 20.7**	**-0.6**
PSI	**Prapat**	**27.29 275**	P	**P**	**00 16 20.5**	**-0.8**
PSI			pmax	pmax		
	comp=Z,277nm,1.1s					
PSI			MLR	MLR		
	comp=Z,3μm,22.0s					
SRIT	**Nakonsritamara**	**27.57 287**	P	**P**	**00 16 22.1**	**-1.6**
SRIT	**Nakonsritamara**	**27.57 287**	P	**P**	**00 16 23.8**	**+0.2**
TSI	**Tuntungan**	**27.70 276**	P	**P**	**00 16 25.1**	**+0.3**
	comp=Z,3μmcomp=Z,188nm,1.0s					
PBSI	**Pulau Batu**	**27.88 268**	P	**P**	**00 16 27.1**	**+0.6**
	comp=Z,106nm,1.4s					
NAYO	**Nakonayok**	**28.02 300**	P	**P**	**00 16 28.6**	**+1.0**
MEEK	**Meekatharra**	**28.17 194**	P	**P**	**00 16 28.7**	**-0.3**
	comp=Z,193nm,0.8s					
MEEK	**Meekatharra**	**28.17 194**	P	**P**	**00 16 28.6**	**-0.3**
NONG	**Nongkai**	**28.41 309**	P	**P**	**00 16 30.5**	**-0.6**
GSI	**Gunungsitoli**	**28.58 271**	P	**P**	**00 16 30.1**	**-2.6**
GSI			IAmb	IAmb	00 16 34.3	
	comp=Z,152nm,0.9s					
GSI			PcP	**PcP**	**00 19 44.8**	**+1.0**
GSI			IAMs_20	IAMs_20	00 29 06.2	
	comp=Z,4μm,22.0s					
GSI	**Gunungsitoli**	**28.58 271**	P	**P**	**00 16 32.2**	**-0.5**
LHMI	**Lhok Sumawe**	**29.50 279**	IAmb	IAmb	00 16 42.6	
	comp=Z,96nm,0.7s					
LHMI	**Lhok Sumawe**	**29.50 279**	P	**P**	**00 16 41.2**	**+0.4**
LHMI	**Lhok Sumawe**	**29.50 279**	P	**P**	**00 16 40.9**	**+0.1**
	comp=Z,2μmcomp=Z,149nm,0.8s					
OOD	**Oodnadatta**	**29.81 163**	P	**P**	**00 16 43.2**	**-0.2**
SLVN	**Son La**	**29.84 315**	P	**P**	**00 16 43.5**	**-0.3**
SLVN			IAmb	IAmb	00 16 46.6	
	comp=Z,206nm,1.8s					
SLVN	**Son La**	**29.84 315**	P	**P**	**00 16 45.5**	**+1.7**
SNSI	**Sinabang, Aceh**	**29.86 274**	P	**P**	**00 16 44.4**	**+0.4**
	comp=Z,2μmcomp=Z,121nm,1.4s					
MLSI	**Meulaboh, Aceh**	**29.92 277**	P	**P**	**00 16 43.5**	**-1.1**
	comp=Z,2μmcomp=Z,3μmcomp=Z,280nm,1.2s					
SRDT	**SRDT**	**29.96 298**	P	**P**	**00 16 45.5**	**+0.6**
JCJ	**Chichijima**	**30.40 29**	IAmb	IAmb	00 16 58.7	
	comp=Z,166nm,0.9s					
JCJ	**Chichijima**	**30.40 29**	LR	LR	00 29 30.5	
	comp=Z,311nm,19.5s,baz=280,slow=37					
JCJ	**Chichijima**	**30.40 29**	P	**P**	**00 16 49.9**	**+1.3**
SSE	**Sheshan**	**30.56 352**	P	**P**	**00 16 50.8**	**+0.9**
SSE			S	**S**	**00 21 51.5**	**+1.4**
SSE			pmax	pmax		
	comp=Z,11nm,0.9s					
SSE			pmax	pmax		
	comp=Z,210nm,3.5s					
SSE			LR	LR		
	comp=Z,450nm,22.1s					
SSE			LR	LR		
	comp=Z,570nm,21.9s					
PHRA	**Phrae**	**30.97 306**	P	**P**	**00 16 53.5**	**-0.3**
MORW	**Morawa**	**31.18 197**	P	**P**	**00 16 54.8**	**-0.7**
MORW			IAmb	IAmb	00 16 57.9	
	comp=Z,106nm,0.8s					
MORW	**Morawa**	**31.18 197**	P	**P**	**00 16 55.3**	**-0.2**
	comp=Z,158nm,1.0s					
MORW	**Morawa**	**31.18 197**	P	**P**	**00 16 55.2**	**-0.3**
FORT	**Forrest**	**31.40 177**	IAMs_20	IAMs_20	00 31 43.4	
	comp=Z,1μm,20.0s					
FORT	**Forrest**	**31.40 177**	P	**P**	**00 16 57.4**	**+0.1**
	comp=Z,934nm,0.7s					
FORT	**Forrest**	**31.40 177**	P	**P**	**00 16 57.9**	**+0.5**
INKA	**Innaminka**	**31.60 155**	P	**P**	**00 17 00.2**	**+1.0**
WHN	**Wuhan**	**31.69 340**	⇑P	**P**	**00 17 00.8**	**+0.8**
WHN			sP	**sP**	**00 17 18.1**	**+7.2**
WHN			S	**S**	**00 22 07.1**	**-0.8**
WHN			pmax	pmax		
	comp=Z,100nm,1.0s					
WHN			LR	LR		
	comp=Z,10μm,24.0s					
WHN			LR	LR		
	comp=Z,2μm,13.2s					
WHN			LR	LR		
	comp=Z,10μm,23.5s					
GYA	**Guiyang**	**31.71 325**	⇑P	**P**	**00 17 00.8**	**+0.4**
GYA			pP	pwP	00 17 12.0	+1.2
GYA			PP	**PP**	**00 18 07.3**	**-5.0**
GYA			PcP	**PcP**	**00 19 53.6**	**+1.8**
GYA			S	**S**	**00 22 03.8**	**-4.8**
GYA			pmax	pmax		
	comp=Z,52nm,1.4s					
GYA			pmax	pmax		
	comp=Z,250nm,6.3s					
GYA			LR	LR		
	comp=Z,2μm,22.5s					
GYA			LR	LR		
	comp=Z,1μm,20.8s					
GYA			LR	LR		
	comp=Z,2μm,20.3s					
COCO	**West Island**	**31.81 245**	P	**P**	**00 17 00.3**	**-0.9**
COCO	**West Island**	**31.81 245**	IAMs_20	IAMs_20	00 30 53.5	
	comp=Z,1μm,20.0s					
COCO	**West Island**	**31.81 245**	P	**P**	**00 17 02.4**	**+1.1**
COCO	**West Island**	**31.81 245**	P	**P**	**00 17 02.4**	**+1.1**
COCO	**West Island**	**31.81 245**	P	**P**	**00 17 00.3**	**-0.9**
COCO			pmax	pmax		
	comp=Z,171nm,0.7s					
COCO			MLR	MLR		
	comp=Z,1μm,20.0s					
NJ2	**Nanjing**	**31.90 348**	⇓P	**P**	**00 17 03.6**	**+1.8**
NJ2			S	**S**	**00 22 15.3**	**+4.2**
NJ2			pmax	pmax		
	comp=Z,20nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,330nm,4.9s					
NJ2			LR	LR		
	comp=Z,820nm,22.5s					
NJ2			LR	LR		
	comp=Z,1μm,23.5s					
NJ2			LR	LR		
	comp=Z,2μm,23.6s					
CMAR	**Chiang Mai Arr**	**31.99 305**	P	**P**	**00 17 00.8**	**-2.0**
CMAR	**Chiang Mai Arr**	**31.99 305**	P	**P**	**00 17 02.7**	**-0.1**
	comp=Z,12nm,0.8s,baz=138,slow=8.5,SNR=35					
CMAR			PcP	**PcP**	**00 19 52.4**	**-0.2**
	comp=Z,20nm,0.8s,baz=166,slow=1.5,SNR=17					
	comp=Z,12nm,0.8s					
CHTO	**Chiang Mai**	**32.17 306**	P	**P**	**00 17 03.3**	**-1.1**
CHTO			PcP	**PcP**	**00 19 54.0**	**+1.0**
KMBL	**Kambalda**	**32.19 187**	P	**P**	**00 17 04.2**	**-0.2**
	comp=Z,394nm,0.8s					
KMBL	**Kambalda**	**32.19 187**	P	**P**	**00 17 04.4**	**+0.1**
QLP	**Quilpie**	**32.27 149**	P	**P**	**00 17 04.6**	**-0.6**
	comp=Z,152nm,0.9s					
QLP	**Quilpie**	**32.27 149**	P	**P**	**00 17 05.1**	**-0.1**
BLDU	**Ballidu**	**32.45 195**	P	**P**	**00 17 06.3**	**-0.4**
	comp=Z,147nm,0.9s					
BLDU	**Ballidu**	**32.45 195**	P	**P**	**00 17 06.4**	**-0.3**
JNU	**Nakatsue**	**32.52 7**	IAmb	IAmb	00 17 15.9	
	comp=Z,106nm,1.0s					
JNU	**Nakatsue**	**32.52 7**	P	**P**	**00 17 08.1**	**+0.8**
LCRK	**Leigh Creek**	**33.07 161**	P	**P**	**00 17 12.3**	**+0.2**
KLBR	**Kellerberrin**	**33.12 193**	P	**P**	**00 17 12.7**	**+0.1**
	comp=Z,420nm,0.8s					
KLBR	**Kellerberrin**	**33.12 193**	P	**P**	**00 17 12.5**	**-0.1**
KMI	**Kunming**	**33.16 319**	⇓P	**P**	**00 17 13.8**	**+0.6**
KMI			PP	**PP**	**00 18 26.3**	**-2.2**
KMI			PcP	**PcP**	**00 19 57.8**	**+1.8**
KMI			S	**S**	**00 22 24.4**	**-6.9**
KMI			sS	sS	00 22 45.3	+1.2
KMI			pmax	pmax		
	comp=Z,48nm,1.5s					
KMI			pmax	pmax		
	comp=Z,290nm,4.2s					
KMI			LR	LR		
	comp=Z,860nm,19.7s					
KMI			LR	LR		
	comp=Z,1μm,28.0s					
KMI			LR	LR		
	comp=Z,2μm,22.2s					
ENH	**Enshi**	**33.37 333**	IAmb	IAmb	00 17 19.4	
	comp=Z,73nm,0.8s					
ENH			IAMs_20	IAMs_20	00 32 19.8	
	comp=Z,2μm,21.0s					
ENH	**Enshi**	**33.37 333**	P	**P**	**00 17 15.2**	**+0.4**
ENH	**Enshi**	**33.37 333**	P	**P**	**00 17 14.0**	**-0.8**
ENH			PcP	**PcP**	**00 19 57.7**	**+1.5**
JMN	**Monobe**	**33.61 12**	IAMs_20	IAMs_20	00 30 00.0	
	comp=Z,1μm,22.0s					
JMN	**Monobe**	**33.61 12**	P	**P**	**00 17 18.3**	**+1.5**
MUN	**Mundaring**	**33.88 195**	P	**P**	**00 17 19.2**	**+0.1**
	comp=Z,99nm,0.6s					
MUN	**Mundaring**	**33.88 195**	P	**P**	**00 17 19.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 23.7**	**-1.0**
NWAO			IAmb	IAmb	00 17 27.5	
	comp=Z,75nm,0.8s					
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 24.9**	**+0.2**
	comp=Z,180nm,0.7s					
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 26.2**	**+1.4**
NWAO			S	**S**	**00 22 53.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 24.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 25.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**34.53 193**	P	**P**	**00 17 23.7**	**-1.0**
NWAO			pmax	pmax		
	comp=Z,75nm,0.8s					
NWAO			MLR	MLR		
	comp=Z,1μm,21.0s					
BBOO	**Buckleboo**	**34.66 165**	P	**P**	**00 17 25.7**	**-0.2**
	comp=Z,185nm,1.2s					
BBOO	**Buckleboo**	**34.66 165**	P	**P**	**00 17 25.6**	**-0.2**
TATA	**Tatamba Isabel**	**34.74 106**	P	**P**	**00 17 26.8**	**-0.1**
PZH	**PanZhiHua**	**34.75 319**	P	**P**	**00 17 26.8**	**-0.1**
PZH			pP	**pP**	**00 17 36.8**	**+2.2**
PZH			S	**S**	**00 22 51.8**	**-4.0**
PZH			SS	**SnSn**	**00 25 07.8**	**-2.6**
PZH			pmax	pmax		
	comp=Z,50nm,1.0s					
PZH			pmax	pmax		
	comp=Z,320nm,4.2s					
PZH			LR	LR		
	comp=Z,1μm,20.6s					
PZH			LR	LR		
	comp=Z,1μm,20.0s					
PZH			LR	LR		
	comp=Z,2μm,22.1s					
PBA	**Port Blair**	**34.89 289**	P	**P**	**00 17 29.4**	**+1.3**
SAVO	**Savo Central**	**34.94 107**	P	**P**	**00 17 28.4**	**-0.2**
HNR	**Honiara**	**35.14 108**	P	**P**	**00 17 28.9**	**-1.3**
HNR	**Honiara**	**35.14 108**	LR	LR	00 31 13.9	
	comp=Z,919nm,19.7s,baz=245,slow=35					
HNR	**Honiara**	**35.14 108**	P	**P**	**00 17 28.9**	**-1.3**
HNR			pmax	pmax		
	comp=Z,549nm,0.8s					
WHYH	**Whyalla**	**35.28 163**	P	**P**	**00 17 31.2**	**0.0**
EIDS	**Eidsvold**	**35.43 139**	IAmb	IAmb	00 17 35.3	
	comp=Z,62nm,1.0s					
EIDS			IAMs_20	IAMs_20	00 34 04.7	
	comp=Z,3μm,21.0s					
EIDS	**Eidsvold**	**35.43 139**	P	**P**	**00 17 32.2**	**-0.4**
	comp=Z,63nm,1.1s					
EIDS	**Eidsvold**	**35.43 139**	P	**P**	**00 17 32.1**	**-0.5**
TJN	**Taejon**	**35.48 2**	P	**P**	**00 17 34.7**	**+1.8**
TJN	**Taejon**	**35.48 2**	*i*⇓*i*P	**P**	**00 17 34.4**	**+1.5**
STKA	**Stephens Creek**	**35.59 157**	P	**P**	**00 17 33.2**	**-0.7**
STKA	**Stephens Creek**	**35.59 157**	P	**P**	**00 17 34.1**	**+0.2**
	comp=Z,31nm,0.9s					
STKA	**Stephens Creek**	**35.59 157**	P	**P**	**00 17 34.0**	**+0.2**
	comp=Z,48nm,0.4s,baz=333,slow=8.5,SNR=123					
STKA			PP	**PP**	**00 18 53.0**	**-2.1**
	comp=Z,35nm,0.8s,baz=324,slow=14,SNR=1.4					
STKA			S	**S**	**00 23 05.0**	**-3.3**
	comp=Z,10nm,0.7s,baz=298,slow=22,SNR=3.1					
STKA			ScS	**ScS**	**00 27 49.3**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=212,slow=23,SNR=0.8					
STKA			LR	LR	00 33 16.6	
	comp=Z,1μm,21.0s,baz=332,slow=38					
	comp=Z,48nm,0.4s					
STKA	**Stephens Creek**	**35.59 157**	P	**P**	**00 17 34.2**	**+0.3**
INU	**Inuyama**	**35.89 15**	IAmb	IAmb	00 17 40.9	
	comp=Z,108nm,0.8s					
INU	**Inuyama**	**35.89 15**	P	**P**	**00 17 37.3**	**+0.9**
LYN	**LuoYang**	**35.99 341**	P	**P**	**00 17 37.3**	**0.0**
LYN			sP	sP	00 17 53.8	+5.5
LYN			S	**S**	**00 23 10.5**	**-3.9**
LYN			sS	sS	00 23 30.8	+3.6
LYN			SS	**SS**	**00 25 39.3**	**-13**
LYN			pmax	pmax		
	comp=Z,40nm,1.3s					
LYN			pmax	pmax		
	comp=Z,300nm,5.6s					
LYN			LR	LR		
	comp=Z,2μm,23.0s					
LYN			LR	LR		
	comp=Z,2μm,23.4s					
LYN			LR	LR		
	comp=Z,5μm,24.4s					
TNCH	**TengChong**	**36.00 314**	⇓P	**P**	**00 17 37.3**	**-0.5**
TNCH			sP	sP	00 17 53.5	+4.8
TNCH			PP	**PP**	**00 18 58.8**	**-1.1**
TNCH			S	**S**	**00 23 13.0**	**-2.1**
TNCH			sS	sS	00 23 34.0	+6.0
TNCH			pmax	pmax		
	comp=Z,90nm,1.5s					
TNCH			LR	LR		
	comp=Z,510nm,22.8s					
TNCH			LR	LR		
	comp=Z,570nm,26.5s					
TNCH			LR	LR		
	comp=Z,2μm,30.2s					
HTT	**Hallett**	**36.05 162**	P	**P**	**00 17 38.4**	**+0.5**
	comp=Z,81nm,0.8s					
HTT	**Hallett**	**36.05 162**	P	**P**	**00 17 38.6**	**+0.7**
HTT	**Hallett**	**36.05 162**	P	**P**	**00 17 38.5**	**+0.5**
JGF	**Kuroka**	**36.22 16**	IAmb	IAmb	00 17 44.2	
	comp=Z,60nm,0.7s					
JGF	**Kuroka**	**36.22 16**	P	**P**	**00 17 39.8**	**+0.5**
TIA	**Tai'an**	**36.28 348**	P	**P**	**

CD2				sP	sP	00 17 56.1	+1.1
CD2				PP	**PP**	**00 19 04.1**	**-4.0**
CD2				S	**S**	**00 23 25.8**	**-0.6**
CD2				pmax	pmax		
	comp=Z,60nm,1.5s						
CD2				LR	LR		
	comp=Z,2μm,22.0s						
CD2				LR	LR		
	comp=Z,2μm,20.6s						
CD2				LR	LR		
	comp=Z,1μm,22.0s						
XAN	**Xi'an**	**36.85**	**336**	⇓P	**P**	**00 17 42.9**	**-1.8**
XAN				pP	pP	00 17 53.8	+1.2
XAN				sP	sP	00 18 00.0	+4.2
XAN				S	**S**	**00 23 26.9**	**-0.8**
XAN				pmax	pmax		
	comp=Z,120nm,0.7s						
XAN				pmax	pmax		
	comp=Z,260nm,3.6s						
XAN				LR	LR		
	comp=Z,2μm,21.3s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
XAN				LR	LR		
	comp=Z,3μm,22.0s						
CMSA	**Cobar Meteorol**	**37.06**	**152**	P	**P**	**00 17 46.8**	**+0.3**
	comp=Z,65nm,0.8s						
CMSA	**Cobar Meteorol**	**37.06**	**152**	P	**P**	**00 17 46.6**	**+0.1**
H01W3	**Cape Leeuwin H**	**37.18**	**196**	P	**P**	**00 17 49.6**	**+2.5**
	baz=35,slow=5.7,SNR=6.5						
H01W1	**Cape Leeuwin H**	**37.18**	**196**	P	**P**	**00 17 49.7**	**+2.5**
	baz=35,slow=5.7,SNR=5.6						
H01W2	**Cape Leeuwin H**	**37.19**	**196**	P	**P**	**00 17 49.7**	**+2.5**
	baz=35,slow=5.7,SNR=3.4						
MJAR	**Matsushiro Arr**	**37.34**	**16**	P	**P**	**00 17 48.0**	**-0.7**
	comp=Z,35nm,0.8s,baz=186,slow=8.1,SNR=32						
MJAR				PP	**PnPn**	**00 19 16.8**	**+1.7**
	comp=Z,11nm,1.0s,baz=196,slow=9.7,SNR=1.8						
MJAR				PcP	**PcP**	**00 20 07.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=186,slow=2.9,SNR=4.6						
MJAR				LR	LR	00 36 35.5	
	comp=Z,484nm,18.4s,baz=215,slow=42						
	comp=Z,35nm,0.8s						
MAJO	**Matsushiro**	**37.34**	**16**	P	**P**	**00 17 47.5**	**-1.2**
MAJO				IAmb	IAmb	00 17 51.5	
	comp=Z,161nm,1.4s						
MAJO	**Matsushiro**	**37.34**	**16**	IAMs_20	IAMs_20	00 35 31.6	
	comp=Z,1μm,21.0s						
MAJO	**Matsushiro**	**37.34**	**16**	P	**P**	**00 17 48.8**	**0.0**
MAJO	**Matsushiro**	**37.34**	**16**	*ce*P	**P**	**00 17 48.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,124nm,1.3s						
MAJO	**Matsushiro**	**37.34**	**16**	P	**P**	**00 17 48.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**37.34**	**16**	IAmb	IAmb	00 17 52.9	
	comp=Z,156nm,1.4s						
TW1H	**Toowoomba 1 Ha**	**37.50**	**141**	P	**P**	**00 17 50.5**	**+0.1**
HNS	**HongShan**	**37.98**	**345**	⇑P	**P**	**00 17 54.1**	**-0.1**
HNS				sP	**sP**	**00 18 11.3**	**+6.1**
HNS				PcP	**PcP**	**00 20 11.8**	**+2.2**
HNS				S	**S**	**00 23 40.9**	**-3.7**
HNS				pmax	pmax		
	comp=Z,58nm,1.1s						
HNS				pmax	pmax		
	comp=Z,360nm,6.3s						
HNS				LR	LR		
	comp=Z,1μm,23.5s						
HNS				LR	LR		
	comp=Z,680nm,23.0s						
HNS				LR	LR		
	comp=Z,2μm,23.9s						
DL2	**Dalian**	**38.21**	**354**	P	**P**	**00 17 56.3**	**+0.2**
DL2				S	**S**	**00 23 44.8**	**-3.2**
DL2				pmax	pmax		
	comp=Z,230nm,0.7s						
DL2				pmax	pmax		
	comp=Z,360nm,7.6s						
DL2				LR	LR		
	comp=Z,810nm,22.0s						
DL2				LR	LR		
	comp=Z,800nm,22.0s						
DL2				LR	LR		
	comp=Z,2μm,21.8s						
JSD	**Sado**	**38.75**	**15**	P	**P**	**00 17 59.3**	**-1.4**
JSD				IAmb	IAmb	00 18 04.2	
	comp=Z,85nm,0.9s						
JSD	**Sado**	**38.75**	**15**	P	**P**	**00 18 02.4**	**+1.7**
TIY	**Taiyuan**	**38.91**	**343**	*e*P	**P**	**00 18 02.5**	**+0.4**
TIY				S	**S**	**00 23 53.4**	**-5.4**
TIY				pmax	pmax		
	comp=Z,50nm,0.7s						
TIY				pmax	pmax		
	comp=Z,180nm,5.9s						
TIY				LR	LR		
	comp=Z,930nm,26.8s						
TIY				LR	LR		
	comp=Z,760nm,32.3s						
TIY				LR	LR		
	comp=Z,2μm,28.2s						
AUDCS	**Dubbo College**	**39.08**	**149**	P	**P**	**00 18 03.9**	**+0.4**
JMM	**Marumori**	**39.33**	**18**	P	**P**	**00 18 06.7**	**+1.2**
ARMA	**Armidale**	**39.35**	**144**	IAmb	IAmb	00 18 09.8	
	comp=Z,101nm,0.8s						
ARMA	**Armidale**	**39.35**	**144**	P	**P**	**00 18 06.7**	**+0.8**
	comp=Z,138nm,0.9s						
ARMA	**Armidale**	**39.35**	**144**	P	**P**	**00 18 06.7**	**+0.8**
AUPHS	**Peel High Scho**	**39.43**	**146**	P	**P**	**00 18 07.1**	**+0.6**
BRDH	**Bariadhala**	**40.01**	**306**	LR	LR	00 37 55.8	
	comp=Z,945nm,18.4s,baz=130,slow=41						
ARPS	**Mount Arapiles**	**40.06**	**160**	P	**P**	**00 18 12.4**	**+0.8**
	comp=Z,335nm,0.7s						
ARPS	**Mount Arapiles**	**40.06**	**160**	P	**P**	**00 18 12.1**	**+0.5**
BJT	**Baijiatuau**	**40.14**	**348**	P	**P**	**00 18 13.5**	**+1.3**
BJT	**Baijiatuau**	**40.14**	**348**	P	**P**	**00 18 12.1**	**-0.1**
BJI	**Beijing**	**40.16**	**348**	P	**P**	**00 18 12.9**	**+0.5**
BJI				PcP	**PcP**	**00 20 18.8**	**+2.4**
BJI				S	**S**	**00 24 19.4**	**+2.1**
BJI				pmax	pmax		
	comp=Z,20nm,0.7s						
BJI				LR	LR		
	comp=Z,260nm,25.9s						
BJI				LR	LR		
	comp=Z,320nm,19.5s						
BJI				LR	LR		
	comp=Z,660nm,27.0s						
YNG	**Young**	**40.62**	**151**	P	**P**	**00 18 17.1**	**+0.8**
	comp=Z,355nm,0.9s						
YNG	**Young**	**40.62**	**151**	P	**P**	**00 18 16.6**	**+0.3**
LZH	**Lanzhou**	**40.81**	**332**	*e*P	**P**	**00 18 18.0**	**-0.1**
LZH				sP	sP	00 18 30.8	+1.7
LZH				PcP	**PcP**	**00 20 19.9**	**+1.0**
LZH				PcS	**PcS**	**00 24 11.1**	**+1.2**
LZH				S	**S**	**00 24 24.3**	**-3.3**
LZH				sS	sS	00 24 42.8	+2.4
LZH				pmax	pmax		
	comp=Z,53nm,1.3s						
LZH				pmax	pmax		
	comp=Z,330nm,4.5s						
LZH				LR	LR		
	comp=Z,2μm,14.8s						
LZH				LR	LR		
	comp=Z,2μm,15.1s						
LZH				LR	LR		
	comp=Z,3μm,14.4s						
SNY	**Shenyang**	**40.97**	**357**	⇑P	**P**	**00 18 19.8**	**+0.8**
SNY				S	**S**	**00 24 28.0**	**-1.3**
SNY				pmax	pmax		
	comp=Z,110nm,0.7s						
SNY				pmax	pmax		
	comp=Z,510nm,3.5s						
SNY				LR	LR		
	comp=Z,630nm,24.0s						
SNY				LR	LR		
	comp=Z,590nm,18.6s						
SNY				LR	LR		
	comp=Z,1μm,22.6s						
MGCD	**Mangrove Creek**	**41.15**	**147**	P	**P**	**00 18 21.8**	**+1.1**
	comp=Z,78nm,0.7s						
MGCD	**Mangrove Creek**	**41.15**	**147**	P	**P**	**00 18 21.6**	**+0.9**
SHL	**Shillong**	**41.25**	**310**	P	**P**	**00 18 20.0**	**-1.9**
SHL				IAmb	IAmb	00 18 24.3	
	comp=Z,86nm,0.6s						
SHL	**Shillong**	**41.25**	**310**	P	**P**	**00 18 21.8**	**0.0**
	SNR=34						
SHL	**Shillong**	**41.25**	**310**	P	**P**	**00 18 20.0**	**-1.9**
SHL				pmax	pmax		
	comp=Z,86nm,0.6s						
CAN	**Canberra**	**41.74**	**152**	IAmb	IAmb	00 18 28.0	
	comp=Z,414nm,1.9s						
CAN	**Canberra**	**41.74**	**152**	P	**P**	**00 18 26.7**	**+1.2**
	comp=Z,86nm,0.9s						
CAN	**Canberra**	**41.74**	**152**	P	**P**	**00 18 26.8**	**+1.2**
MSHR	**Mys Shultsa**	**41.90**	**6**	*c i*P	**P**	**00 18 27.7**	**+1.1**
MSHR				pmax	pmax		
	comp=Z,138nm,1.0s						
CNB	**Canberra Magne**	**41.91**	**151**	P	**P**	**00 18 28.2**	**+1.2**
	comp=Z,60nm,1.2s						
CNB	**Canberra Magne**	**41.91**	**151**	P	**P**	**00 18 28.1**	**+1.2**
PSTR	**Posyet**	**41.93**	**5**	⇓*i*P	**P**	**00 18 28.5**	**+1.6**
HHC	**Hu-ho-hao-te**	**42.06**	**343**	⇑*i*P	**P**	**00 18 29.0**	**+0.8**
HHC				pP	pP	00 18 39.0	+2.9
HHC				S	**S**	**00 24 46.6**	**+0.8**
HHC				sS	sS	00 25 04.3	+5.4
HHC				pmax	pmax		
	comp=Z,26nm,1.5s						
HHC				pmax	pmax		
	comp=Z,340nm,4.8s						
HHC				LR	LR		
	comp=Z,700nm,19.6s						
HHC				LR	LR		
	comp=Z,360nm,22.6s						
HHC				LR	LR		
	comp=Z,2μm,22.1s						
JTM	**Tenmabayashi**	**42.10**	**17**	P	**P**	**00 18 27.7**	**-0.6**
JTM				IAmb	IAmb	00 18 35.6	
	comp=Z,188nm,1.1s						
JTM				IAMs_20	IAMs_20	00 39 19.7	
	comp=Z,811nm,18.0s						
JTM	**Tenmabayashi**	**42.10**	**17**	P	**P**	**00 18 29.6**	**+1.3**
TOO	**Toolangi**	**42.11**	**157**	P	**P**	**00 18 28.9**	**+0.4**
TOO	**Toolangi**	**42.11**	**157**	P	**P**	**00 18 29.9**	**+1.4**
	comp=Z,22nm,1.2s						
TOO	**Toolangi**	**42.11**	**157**	P	**P**	**00 18 28.9**	**+0.4**
TOO				pmax	pmax		
	comp=Z,42nm,1.4s						
BTO	**Baotou**	**42.30**	**342**	*e*P	**P**	**00 18 34.9**	**+4.8**
BTO				pP	**sP**	**00 18 47.1**	**+5.9**
BTO				PP	**PP**	**00 20 14.5**	**+6.0**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,470nm,4.3s						
BTO				LR	LR		
	comp=Z,2μm,20.4s						
BTO				LR	LR		
	comp=Z,2μm,16.1s						
BTO				LR	LR		
	comp=Z,4μm,24.7s						
VLA	**Vladivostok**	**42.51**	**6**	*c i*P	**P**	**00 18 33.6**	**+2.0**
VLA				pmax	pmax		
	comp=Z,91nm,1.8s						
CN2	**Changchun**	**42.88**	**359**	⇓P	**P**	**00 18 34.8**	**+0.2**
CN2				*e*pP	sP	00 18 47.0	+1.2
CN2				*e*S	**S**	**00 24 57.3**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
H11S3	**WAKE ISLAND Hy**	**43.51**	**64**	T	T	01 05 46.5	
	baz=252,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**43.53**	**64**	T	T	01 05 47.0	
	baz=252,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**43.53**	**64**	T	T	01 05 48.8	
	baz=252,slow=75,SNR=13						
USA0B	**Ussuriysk Arra**	**43.59**	**6**	*c i*P	**P**	**00 18 41.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**43.59**	**6**	P	**P**	**00 18 41.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**43.59**	**6**	P	**P**	**00 18 41.5**	**+1.2**
	comp=Z,61nm,0.7s,baz=190,slow=5.9,SNR=45						
USRK				PP	**PP**	**00 20 25.8**	**+3.7**
	comp=Z,11nm,0.9s,baz=179,slow=7.2,SNR=2.0						
	comp=Z,61nm,0.7s						
USRK	**Ussuriysk Ar.**	**43.59**	**6**	P	**P**	**00 18 41.3**	**+1.0**
MDJ	**Mudanjiang**	**43.80**	**4**	IAmb	IAmb	00 18 46.5	
	comp=Z,111nm,0.9s						
MDJ	**Mudanjiang**	**43.80**	**4**	P	**P**	**00 18 43.3**	**+1.3**
MDJ				pP	sP	00 18 55.3	+2.0
MDJ				PcP	**PcP**	**00 20 30.1**	**+1.8**
MDJ				S	**S**	**00 25 07.4**	**-3.6**
MDJ				ScS	**SS**	**00 28 32.5**	**+4.9**
MDJ				pmax	pmax		
	comp=Z,120nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,350nm,3.5s						
MDJ				LR	LR		
	comp=Z,700nm,22.4s						
MDJ				LR	LR		
	comp=Z,530nm,19.1s						
MDJ				LR	LR		
	comp=Z,1μm,23.0s						
MDJ	**Mudanjiang**	**43.80**	**4**	P	**P**	**00 18 43.1**	**+1.1**
MDJ	**Mudanjiang**	**43.80**	**4**	P	**P**	**00 18 42.9**	**+0.9**
MDJ				pP	**pP**	**00 18 51.2**	**+1.2**
MDJ				PcP	**PcP**	**00 20 29.0**	**+0.7**
ERM	**Erimo**	**43.85**	**18**	P	**P**	**00 18 42.0**	**-0.5**
ERM				IAMs_20	IAMs_20	00 38 40.1	
	comp=Z,914nm,22.0s						
ERM	**Erimo**	**43.85**	**18**	P	**P**	**00 18 44.1**	**+1.6**
ERM	**Erimo**	**43.85**	**18**	*ce*P	**P**	**00 18 43.5**	**+1.0**
ERM				pmax	pmax		
	comp=Z,110nm,1.8s						
JEM	**Erimo**	**43.86**	**18**	P	**P**	**00 18 43.9**	**+1.4**
XLT	**XiLinHaoTe**	**43.90**	**349**	*e*P	**P**	**00 18 43.5**	**+0.5**
XLT				pP	pP	00 18 49.9	-1.1
XLT				S	**S**	**00 25 07.6**	**-5.1**
XLT				ScS	**SS**	**00 28 30.5**	**+0.6**
XLT				pmax	pmax		
	comp=Z,74nm,0.9s						
XLT				LR	LR		
	comp=Z,830nm,18.7s						
XLT				LR	LR		
	comp=Z,790nm,20.7s						
LSA	**Lhasa**	**44.03**	**314**	IAmb	IAmb	00 18 52.6	
	comp=Z,56nm,0.7s						
LSA	**Lhasa**	**44.03**	**314**	P	**P**	**00 18 44.8**	**+0.1**
LSA				pmax	pmax		
	comp=Z,76nm,0.8s						
LSA				LR	LR		
	comp=Z,620nm,27.8s						
LSA				LR	LR		
	comp=Z,1μm,32.4s						
LSA	**Lhasa**	**44.03**	**314**	P	**P**	**00 18 45.2**	**+0.5**
LSA	**Lhasa**	**44.03**	**314**	*i* P	**P**	**00 18 45.0**	**+0.2**
	SNR=21						
H11N1	**WAKE ISLAND Hy**	**44.11**	**62**	T	T	01 06 53.9	
	baz=251						
H11N2	**WAKE ISLAND Hy**	**44.12**	**62**	T	T	01 06 51.0	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**44.12**	**62**	T	T	01 06 53.2	
	baz=251						
BNX	**BinXian**	**44.83**	**1**	⇓P	**P**	**00 18 50.6**	**+0.4**
BNX				pP	**pP**	**00 19 02.9**	**+4.7**
BNX				sP	**sP**	**00 19 07.1**	**+5.6**
BNX				S	**S**	**00 25 25.8**	**-0.1**
BNX				sS	**sS**	**00 25 46.9**	**+7.8**
BNX				pmax	pmax		
	comp=Z,58nm,1.2s						
BNX				pmax	pmax		
	comp=Z,270nm,4.1s						
BNX				LR	LR		
	comp=Z,740nm,23.5s						
BNX				LR	LR		
	comp=Z,410nm,19.7s						
BNX				LR	LR		
	comp=Z,1μm,24.1s						
TEY	**Ternei**	**45.07**	**10**	⇑*e*P	**P**	**00 18 53.2**	**+1.0**
TEY				*e*		00 28 51.0	
TEY				pmax	pmax		
	comp=N,70nm,2.7s						
TEY				pmax	pmax		
	comp=Z,90nm,2.7s						
DZM	**Mont Dzumac**	**45.36**	**123**	*e*P	**P**	**00 18 54.5**	**-0.5**
	comp=Z,302nm,1.4s						
DZM				*e*S	**S**	**00 25 29.8**	**-4.7**
	comp=Z,1μm,40.4s						
DZM				*e*SS	**ScS**	**00 28 54.6**	**+4.2**
	comp=Z,1μm,26.6s						
DZM				*e*LR	LR	00 31 39.7	
	comp=Z,2μm,23.9s						
DZM	**Mont Dzumac**	**45.36**	**123**	P	**P**	**00 18 54.0**	**-1.0**
DZM				IAmb	IAmb	00 18 56.7	
	comp=Z,152nm,1.2s						
DZM	**Mont Dzumac**	**45.36**	**123**	LR	LR	00 37 58.7	
	comp=Z,1μm,21.5s,baz=248,slow=36						
DZM	**Mont Dzumac**	**45.36**	**123**	P	**P**	**00 18 55.8**	**+0.8**
DZM	**Mont Dzumac**	**45.36**	**123**	P	**P**	**00 18 54.9**	**-0.1**
DZM				pP	**pP**	**00 19 03.3**	**+0.7**
GTA	**Gaotai**	**45.39**	**331**	*e*P	**P**	**00 18 55.3**	**+0.3**
GTA				sP	sP	00 19 07.6	+1.5
GTA				PcP	**PcP**	**00 20 35.3**	**+1.2**
GTA				ScP	**ScP**	**00 24 23.8**	**-1.3**
GTA				S	**S**	**00 25 30.3**	**-4.2**
GTA				SS	**ScS**	**00 28 46.3**	**-3.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,180nm,4.7s						
GTA				LR	LR		
	comp=Z,970nm,19.3s						
GTA				LR	LR		
	comp=Z,960nm,18.5s						
GTA				LR	LR		
	comp=Z,1μm,20.7s						
ASAJ	**Asahikawa**	**45.60**	**17**	LR	LR	00 37 13.2	
	comp=Z,251nm,19.9s,baz=194,slow=35						
ASAJ	**Asahikawa**	**45.60**	**17**	P	**P**	**00 18 57.6**	**+1.2**
JKA	**Kamikawa-asahi**	**45.60**	**17**	IAmb	IAmb	00 19 03.8	
	comp=Z,80nm,0.9s						
GOMU	**GeErMu**	**45.71**	**324**	P	**P**	**00 18 57.5**	**-0.4**
GOMU				S	**S**	**00 25 37.1**	**-2.6**
GOMU				pmax	pmax		
	comp=Z,25nm,1.5s						
GOMU				LR	LR		
	comp=Z,2μm,19.5s						
GOMU				LR	LR		
	comp=Z,1μm,19.1s						
GOMU				LR	LR		
	comp=Z,2μm,19.2s						
YATNC	**Mamie plateau,**	**45.73**	**122**	P	**P**	**00 18 58.8**	**+1.0**
PALK	**Pallekele**	**45.77**	**279**	P	**P**	**00 18 56.4**	**-2.0**
PALK				PcP	**PcP**	**00 20 35.8**	**-0.1**
PALK	**Pallekele**	**45.77**	**279**	IAMs_20	IAMs_20	00 39 06.5	
	comp=Z,1μm,21.0s						
PALK	**Pallekele**	**45.77**	**279**	LR	LR	00 39 27.8	
	comp=Z,999nm,19.7s,baz=93,slow=38						
PALK	**Pallekele**	**45.77**	**279**	P	**P**	**00 18 58.9**	**+0.6**
PALK				S	**S**	**00 25 36.0**	**-4.7**
PALK	**Pallekele**	**45.77**	**279**	P	**P**	**00 18 56.4**	**-2.0**
PALK				MLR	MLR		
	comp=Z,1μm,21.0s						
MARNC	**Mare, Loyalty**	**46.47**	**121**	P	**P**	**00 19 04.0**	**+0.4**
MOO	**Moorlands**	**46.98**	**159**	P	**P**	**00 19 08.1**	**+0.8**
	comp=Z,77nm,1.1s						
KLR	**Kul'dur**	**48.55**	**5**	*c i*P	**P**	**00 19 19.3**	**0.0**
KLR				pmax	pmax		
	comp=Z,83nm,1.2s						
HIA	**Hailar**	**48.66**	**354**	IAMs_20	IAMs_20	00 41 18.9	
	comp=Z,797nm,22.0s						
HIA	**Hailar**	**48.66**	**354**	P	**P**	**00 19 21.6**	**+1.3**
HIA	**Hailar**	**48.66**	**354**	P	**P**	**00 19 21.5**	**+1.3**
HIA	**Hailar**	**48.66**	**354**	P	**P**	**00 19 21.1**	**+0.9**
HIA				PcP	**PcP**	**00 20 46.1**	**+0.8**
HEH	**HeiHe**	**49.34**	**1**	*e*P	**P**	**00 19 25.4**	**0.0**
HEH				pP	**pP**	**00 19 38.4**	**+4.9**
HEH				sP	**sP**	**00 19 42.8**	**+6.1**
HEH				PcP	**PcP**	**00 20 48.3**	**+0.6**
HEH				S	**S**	**00 26 27.3**	**-2.9**
HEH				sS	**sS**	**00 26 49.8**	**+6.3**
HEH				pmax	pmax		
	comp=Z,81nm,1.3s						
HEH				pmax	pmax		
	comp=Z,520nm,5.9s						
HEH				LR	LR		
	comp=Z,680nm,19.0s						
HEH				LR	LR		
	comp=Z,350nm,15.5s						
HEH				LR	LR		
	comp=Z,1μm,22.6s						
HYB	**Hyderabad**	**49.64**	**292**	*e*P	**P**	**00 19 27.4**	**-0.9**
HYB				IVmB_BB		00 19 29.5	
	comp=Z,1μm,1.0s						
HYB				*e*PcP	**PcP**	**00 20 48.8**	**-0.8**
HYB				*e*S	**S**	**00 26 34.7**	**-0.8**
ULN	**Ulaanbaatar**	**49.78**	**343**	P	**P**	**00 19 28.3**	**-0.7**
ULN				IAmb	IAmb	00 19 42.3	
	comp=Z,70nm,1.1s						
ULN	**Ulaanbaatar**	**49.78**	**343**	P	**P**	**00 19 30.2**	**+1.2**
ULN				S	**S**	**00 26 35.1**	**-1.7**
ULN	**Ulaanbaatar**	**49.78**	**343**	*de*P	**P**	**00 19 29.4**	**+0.4**
ULN				pmax	pmax		
	comp=Z,65nm,1.1s						
SONM	**Songino Array**	**49.95**	**343**	P	**P**	**00 19 29.3**	**-0.9**
SONM	**Songino Array**	**49.95**	**343**	P	**P**	**00 19 30.4**	**+0.1**
	comp=Z,21nm,0.7s,baz=165,slow=7.8,SNR=38						
SONM				PcP	**PcP**	**00 20 50.5**	**+0.3**
	comp=Z,10nm,0.7s,baz=153,slow=5.1,SNR=3.8						
SONM				PP	**PP**	**00 21 28.0**	**+2.6**
	comp=Z,5.0nm,0.9s,baz=164,slow=12,SNR=1.2						
SONM				ScP	**ScP**	**00 24 46.3**	**+2.1**
	comp=Z,1.7nm,0.9s,baz=143,slow=3.1,SNR=1.7						
SONM				LR	LR	00 43 38.6	
	comp=Z,500nm,20.8s,baz=152,slow=40						
SONM				PKP2ab	**P'P'ab**	**00 51 15.4**	**+3.9**
	comp=Z,1.0nm,1.0s,baz=322,slow=2.6,SNR=4.2						
	comp=Z,21nm,0.7s						
UGL	**Uglegorsk**	**50.06**	**14**	*e*P	**P**	**00 19 32.1**	**+1.2**
UGL				pmax	pmax		
	comp=Z,3μm,2.3s						
UGL				pmax	pmax		
	comp=Z,90nm,0.9s						
GRNR	**Gornyy**	**50.60**	**8**	⇑*i*P	**P**	**00 19 36.2**	**+1.2**
GRNR				pmax	pmax		
	comp=N,20nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,40nm,1.2s						
TYV	**Tymovskoe**	**51.87**	**13**	*e*P	**P**	**00 19 45.7**	**+1.3**
TYV				pmax	pmax		
	comp=Z,300nm,3.0s						
TYV				pmax	pmax		
	comp=Z,19nm,1.1s						
CIT	**Chita**	**52.19**	**350**	*e*P	**P**	**00 19 48.8**	**+1.9**
CIT				*e*		00 19 55.2	
CIT				*e*		00 20 52.2	
CIT				pmax	pmax		
	comp=Z,465nm,1.3s						
ZEA	**Zeya**	**52.83**	**1**	*e*P	**P**	**00 19 52.0**	**+0.5**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,100nm,4.7s						
ZEA				MLR	MLR		
	comp=N,300nm,16.0s						
ZAK	**Zakamensk**	**53.15**	**342**	*e*P	**P**	**00 19 54.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YSA	**Yasawairara**	**53.57**	**111**	P	**P**	**00 19 59.0**	**+1.4**
NKL	**Nikolayevsk**	**53.61**	**11**	*e*P	P	00 19 52.8	-4.5
NKL				*e*S	**S**	**00 27 26.8**	**-2.2**
NKL				pmax	pmax		
	comp=E,801nm,1.0s						
NKL				pmax	pmax		
	comp=N,612nm,1.2s						
NKL				pmax	pmax		
	comp=Z,401nm,1.3s						
H08S2	**Diego Garcia H**	**54.15**	**260**	P	**P**	**00 20 00.3**	**-1.3**
	baz=48,slow=9.0,SNR=6.7						
H08S3	**Diego Garcia H**	**54.16**	**260**	P	**P**	**00 20 00.4**	**-1.3**
	baz=48,slow=9.0,SNR=9.3						
DGAR	**Diego Garcia**	**54.16**	**260**	P	**P**	**00 20 00.2**	**-1.8**
DGAR				IAMs_20	IAMs_20	00 42 11.9	
	comp=Z,1μm,21.0s						
DGAR	**Diego Garcia**	**54.16**	**260**	P	**P**	**00 20 01.6**	**-0.5**
DGAR	**Diego Garcia**	**54.16**	**260**	*de*P	**P**	**00 20 04.6**	**+2.5**
DGAR				pmax	pmax		
	comp=Z,221nm,0.9s						
H08S1	**Diego Carcia H**	**54.17**	**260**	P	**P**	**00 20 00.5**	**-1.3**
	baz=48,slow=9.0,SNR=7.2						
MSVF	**Nonsavu**	**54.26**	**112**	P	**P**	**00 20 02.0**	**-0.8**
MSVF				IAmb	IAmb	00 20 29.2	
	comp=Z,87nm,1.1s						
MSVF	**Nonsavu**	**54.26**	**112**	LR	LR	00 40 49.8	

comp=Z,735nm,21.7s,baz=308,slow=33
MSVF Nonsavu 54.26 112 P **P 00 20 04.1 +1.4**
MSVF Nonsavu 54.26 112 *ce*P **P 00 20 03.6 +0.9**
MSVF pmax pmax
comp=Z,130nm,1.8s
IRK Irkutsk 54.50 344 *e*P **P 00 20 04.7 +0.8**
IRK pmax pmax
comp=Z,100nm,2.2s
WMQ Urumqi 54.86 327 *e*P **P 00 20 06.8 +0.1**
WMQ sP sP 00 20 21.1 +3.2
WMQ S **S 00 27 48.6 +2.3**
WMQ ScS **ScS 00 29 52.9 -1.3**
WMQ pmax pmax
comp=Z,80nm,1.0s
WMQ pmax pmax
comp=Z,290nm,3.9s
WMQ LR LR
comp=Z,1μm,24.2s
WMQ LR LR
comp=Z,600nm,23.9s
WMQ LR LR
comp=Z,2μm,23.9s
MOY Mondy 54.99 341 *e*P **P 00 20 08.4 +0.8**
MOY pmax pmax
comp=Z,98nm,2.7s
DGTI Dogotuki 55.50 110 P **P 00 20 12.0 +0.3**
TAVE Taveuni 55.92 111 P **P 00 20 14.9 +0.2**
LKBA Tubou, Lakemba 57.27 112 P **P 00 20 24.5 +0.2**
BOD Bodaibo 57.73 352 ||*i*P **P 00 20 27.3 +0.5**
BOD pmax pmax
comp=Z,138nm,1.8s
PEA0B Petropavlovsk- 58.40 22 IAmb IAmb 00 20 37.5
comp=Z,53nm,0.7s
PEA0B Petropavlovsk- 58.40 22 *c i*P **P 00 20 32.4 +0.8**
PETK Petropavlovsk- 58.40 22 P **P 00 20 31.0 -0.7**
PETK Petropavlovsk- 58.40 22 P **P 00 20 32.1 +0.5**
comp=Z,55nm,0.8s,baz=192,slow=5.5,SNR=53
PETK LR LR 00 47 21.6
comp=Z,156nm,18.9s,baz=210,slow=38
comp=Z,55nm,0.8s
WUS Wushi 58.42 320 IAmb IAmb 00 20 35.4
comp=Z,142nm,1.4s
WUS Wushi 58.42 320 P **P 00 20 32.5 +0.3**
WUS pP **pP 00 20 41.1 +0.8**
WUS sP **pwP 00 20 44.5 +1.7**
DCZ Deep Cove 58.54 147 IAmb IAmb 00 20 37.0
comp=Z,76nm,1.3s
JCZ Jackson Bay 58.58 145 P **P 00 20 34.4 +1.3**
PET Petropavlovsk 58.69 22 P **P 00 20 33.5 -0.1**
PET IAmb IAmb 00 20 36.5
comp=Z,100nm,1.3s
PET IAMs_20 IAMs_20 00 49 07.2
comp=Z,615nm,20.0s
PET Petropavlovsk 58.69 22 P **P 00 20 34.7 +1.1**
PET Petropavlovsk 58.69 22 *e*P **P 00 20 34.6 +1.0**
PET *e* 00 21 23.1
PET *e*S **S 00 28 37.9 +1.4**
PET pmax pmax
comp=Z,68nm,1.3s
PET MLR MLR
comp=Z,400nm,16.0s
PET Petropavlovsk 58.69 22 P **P 00 20 34.8 +1.1**
comp=Z,62nm,1.2s
ZSN Zaisan 58.71 328 *e*P **P 00 20 33.3 -0.6**
ZSN pmax pmax
comp=Z,22nm,0.9s
ZSN Zaisan 58.71 328 *e*P **P 00 20 33.3 -0.6**
comp=Z,22nm,0.9s
WHZ Wether Hill Ro 59.24 147 IAmb IAmb 00 20 40.7
comp=Z,63nm,1.0s
SHLS Shalkode 59.29 322 *e*P **P 00 20 35.7 -2.5**
SHLS pmax pmax
comp=Z,39nm,0.9s
SHLS Shalkode 59.29 322 *e*P **P 00 20 35.8 -2.5**
comp=Z,39nm,0.9s
NIL Nilore 59.32 309 P **P 00 20 38.4 -0.1**
NIL Nilore 59.32 309 P **P 00 20 38.8 +0.4**
NIL Nilore 59.32 309 P **P 00 20 38.4 -0.1**
NIL pmax pmax
comp=Z,174nm,1.7s
HIZ Hauiti 59.35 137 P **P 00 20 37.9 -0.6**
HIZ IAmb IAmb 00 20 43.1
comp=Z,75nm,1.0s
INZ Inchbonnie 59.36 143 IAmb IAmb 00 20 42.5
comp=Z,49nm,1.0s
TOZ Tahuroa Road 59.42 136 P **P 00 20 39.0 0.0**
TOZ IAmb IAmb 00 20 42.9
comp=Z,58nm,1.2s
UZB Uzynbulak 59.56 322 *e*P **P 00 20 39.3 -0.7**
UZB pmax pmax
comp=Z,33nm,0.9s
UZB Uzynbulak 59.56 322 *e*P **P 00 20 39.3 -0.7**
comp=Z,33nm,0.9s
TARG Taragay, Kyrgy 59.61 320 IAmb IAmb 00 21 00.6
comp=Z,48nm,1.0s
RPZ Rata Peaks 59.69 144 IAmb IAmb 00 20 44.4
comp=Z,81nm,1.2s
RPZ Rata Peaks 59.69 144 LR LR 00 46 44.8
comp=Z,1μm,21.5s,baz=308,slow=36
MK31 Makanchi Array 59.69 327 *d i*P **P 00 20 40.1 -0.6**
comp=Z,61nm,0.8s
MK31 Makanchi Array 59.69 327 *d i*P **P 00 20 40.1 -0.6**
MKAR Makanchi Array 59.69 327 P **P 00 20 39.8 -0.9**
MKAR Makanchi Array 59.69 327 P **P 00 20 40.2 -0.6**
comp=Z,49nm,0.6s,baz=121,slow=7.8,SNR=702
MKAR PcP **PcP 00 21 27.7 +0.2**
comp=Z,20nm,0.6s,baz=139,slow=3.8,SNR=4.9
MKAR S **S 00 28 46.1 -3.6**
comp=Z,0.7nm,0.8s,baz=128,slow=14,SNR=5.9
MKAR ScS **ScS 00 30 25.9 -3.4**
comp=Z,0.5nm,0.8s,baz=232,slow=6.0,SNR=1.7
MKAR LR LR 00 46 58.0
comp=Z,1μm,21.1s,baz=132,slow=37
MKAR PKP2bc **P'P'bc 00 50 20.3 +0.9**
comp=Z,1.6nm,0.9s,baz=337,slow=2.8,SNR=7.1
comp=Z,49nm,0.6s
THZ Tophouse 59.73 141 P **P 00 20 39.8 -1.3**
THZ IAmb IAmb 00 20 43.5
comp=Z,43nm,0.9s
KSH Kashi 59.77 317 P **P 00 20 43.3 +1.7**
KSH sP sP 00 20 56.8 +4.0
KSH PcP **PcP 00 21 31.3 +3.1**
KSH pmax pmax
comp=Z,40nm,1.5s
KSH pmax pmax
comp=Z,240nm,5.8s
KSH LR LR
comp=Z,1μm,20.3s
KSH LR LR
comp=Z,360nm,19.9s
KSH LR LR
comp=Z,710nm,22.0s
MAKZ Makanchi 59.87 326 P **P 00 20 40.3 -1.7**
MAKZ PcP **PcP 00 21 27.8 -0.5**
MAKZ Makanchi 59.87 326 P **P 00 20 41.2 -0.7**
MAKZ PcP **PcP 00 21 28.0 -0.3**
LTZ Lake Taylor 59.89 142 IAmb IAmb 00 20 49.4
comp=Z,56nm,1.1s
SATY Saty 59.90 321 *e*P **P 00 20 41.4 -0.9**
SATY *e*S **S 00 28 51.3 -1.4**
SATY pmax pmax
comp=Z,42nm,0.8s
SATY Saty 59.90 321 *e*P **P 00 20 41.5 -0.9**
comp=Z,42nm,0.8s
SATY *e*S **S 00 28 51.4 -1.4**
KPKS Kokpek 59.94 322 *e*P **P 00 20 41.8 -0.7**
KPKS pmax pmax
comp=Z,33nm,0.7s
KPKS Kokpek 59.94 322 *e*P **P 00 20 41.9 -0.7**
comp=Z,33nm,0.7s
WTVZ West Tongariro 60.15 137 P **P 00 20 45.5 +1.3**
NNVZ North Ngauruho 60.17 137 P **P 00 20 45.5 +1.1**
NGZ Ngauruhoe 60.18 137 P **P 00 20 45.4 +1.0**
KDJ Kajisay 60.21 320 P **P 00 20 43.8 -0.8**
KDJ IAmb IAmb 00 20 47.9
comp=Z,63nm,1.0s
KDJ Kajisay 60.21 320 P **P 00 20 43.8 -0.8**
KDJ pmax pmax
comp=Z,63nm,1.0s
OTVZ Oturere 60.22 137 P **P 00 20 46.0 +1.3**
MOVZ Moawhango 60.40 137 P **P 00 20 45.4 -0.4**
KHZ Kahutara 60.48 141 IAmb IAmb 00 20 48.7
comp=Z,42nm,0.7s
BKZ Black Stump Fm 60.79 137 P **P 00 20 46.9 -1.5**
BKZ IAmb IAmb 00 20 50.3
comp=Z,44nm,0.7s
BKZ Black Stump Fm 60.79 137 P **P 00 20 47.9 -0.5**
BKZ Black Stump Fm 60.79 137 P **P 00 20 48.2 -0.2**
URZ Urewera 60.80 136 LR LR 00 48 26.9
comp=Z,934nm,20.9s,baz=38,slow=37
URZ Urewera 60.80 136 P **P 00 20 47.5 -0.9**
BHW Baring Head 60.80 140 IAmb IAmb 00 20 49.0
comp=Z,32nm,0.7s
BHW IAMs_20 IAMs_20 00 48 14.6
comp=Z,1μm,22.0s
MDOK Medeo 60.81 321 *e*P **P 00 20 47.8 -0.8**
MDOK *e*S **S 00 29 03.5 -1.0**
MDOK Medeo 60.81 321 *e*P **P 00 20 47.9 -0.8**
MDOK *e*S **S 00 29 03.5 -1.0**
TNSS Tian-Shan 60.81 321 *e*P **P 00 20 47.9 -1.0**
TNSS Tian-Shan 60.81 321 *e*P **P 00 20 47.9 -1.0**
KWHZ Kaweka Forest 60.86 137 P **P 00 20 49.5 +0.6**
RTZ Ruatahuna 60.87 136 P **P 00 20 47.6 -1.4**
RTZ IAMs_20 IAMs_20 00 49 01.4
comp=Z,1μm,21.0s
ULHL Ulahol 60.88 319 P **P 00 20 49.3 +0.1**
SNR=14
MTHZ Maungataniwha 60.88 136 P **P 00 20 48.8 -0.2**
MRZ Mangatainoka R 60.89 139 P **P 00 20 47.3 -1.7**
MRZ IAmb IAmb 00 20 54.3
comp=Z,36nm,0.9s
AAA Alma-Ata 60.92 321 *e*P **P 00 20 48.6 -0.6**
AAA pmax pmax
comp=Z,61nm,1.0s
AAA Alma-Ata 60.92 321 *e*P **P 00 20 48.6 -0.6**
comp=Z,61nm,1.0s
TDK Taldyqorghan 60.92 323 *e*P **P 00 20 48.6 -0.5**
TDK pmax pmax
comp=Z,36nm,0.7s
TDK Taldyqorghan 60.92 323 *e*P **P 00 20 48.6 -0.5**
comp=Z,36nm,0.7s
NMHZ Naumai 60.97 137 P **P 00 20 50.2 +0.6**
HAZ Te Kaha 61.04 135 P **P 00 20 50.0 0.0**
MCHZ McNeill Hill 61.06 137 P **P 00 20 50.5 +0.4**
RUGZ Raukumara Rang 61.06 135 P **P 00 20 50.8 +0.4**
RAHZ Arahi 61.08 136 P **P 00 20 50.8 +0.4**
RAO Raoul Island 61.10 124 LR LR 00 47 02.1
comp=Z,489nm,20.4s,baz=142,slow=36
MWZ Matawai 61.12 135 P **P 00 20 50.2 -0.5**
BOOM Boomskoye usch 61.19 320 P **P 00 20 50.9 -0.3**
BOOM IAmb IAmb 00 20 54.4
comp=Z,111nm,1.5s
BOOM Boomskoye usch 61.19 320 P **P 00 20 50.9 -0.3**
BOOM pmax pmax
comp=Z,111nm,1.5s
YAK Yakutsk 61.20 2 P **P 00 20 50.2 -0.4**
YAK Yakutsk 61.20 2 IAMs_20 IAMs_20 00 51 11.5
comp=Z,777nm,21.0s
YAK Yakutsk 61.20 2 P **P 00 20 51.1 +0.5**
comp=Z,156nm,0.8s,baz=178,slow=3.5,SNR=32
YAK S **S 00 29 07.6 -0.7**
comp=Z,10nm,0.3s,baz=87,slow=0.9,SNR=1.6
YAK ScS **SKKSac 00 30 36.7 -2.9**
comp=Z,12nm,0.4s,baz=359,slow=1.2,SNR=1.5
YAK LR LR 00 48 47.8
comp=Z,363nm,20.1s,baz=186,slow=37
comp=Z,156nm,0.8s
YAK Yakutsk 61.20 2 *c i*P **P 00 20 50.9 +0.2**
YAK *e**PP **pP 00 20 57.8 -1.0**
YAK *e* 00 21 32.6
YAK *e* 00 23 04.6
YAK *e*PPP PPP 00 24 32.6
YAK *e*S **S 00 29 07.4 -0.9**
YAK *e**SS sS 00 29 31.8 +10
YAK *e* 00 30 35.5
YAK *e*SS **SS 00 33 09.8 +1.0**
YAK pmax pmax
comp=Z,194nm,1.3s
YAK pmax pmax
comp=N,70nm,1.3s
YAK pmax pmax
comp=E,29nm,1.6s
YAK pmax pmax
comp=Z,147nm,2.7s
YAK pmax pmax
comp=N,59nm,2.1s
YAK pmax pmax
comp=E,78nm,3.3s
YAK smax smax
comp=E,305nm,4.3s
YAK smax smax
comp=N,135nm,2.0s
YAK Yakutsk 61.20 2 P **P 00 20 50.8 +0.2**
YAK pP **pP 00 20 59.3 +0.5**
KRAR Krasnoyarsk 61.31 339 ||*i*P **P 00 20 52.5 +1.0**
KAHZ Kahuranaki 61.34 137 P **P 00 20 52.4 +0.3**
TWGZ Tauwhareparae 61.37 135 P **P 00 20 53.8 +1.5**
WMGZ Waiomatatini S 61.52 135 P **P 00 20 53.0 -0.3**
KNZ Kokohu 61.53 136 P **P 00 20 53.3 -0.1**
TKM2 Tokmak 2 61.62 320 P **P 00 20 53.8 -0.4**
SNR=50
CNGZ Carnagh Statio 61.67 135 P **P 00 20 54.0 -0.3**
MA2 Magadan 61.73 14 P **P 00 20 54.8 +0.5**
MA2 Magadan 61.73 14 P **P 00 20 55.7 +1.4**
comp=N,67nm,0.8s,baz=203,slow=6.9,SNR=51
MA2 LR LR 00 49 21.9
comp=N,112nm,19.4s,baz=206,slow=38
comp=N,67nm,0.8s
MA2 Magadan 61.73 14 P **P 00 20 56.1 +1.8**
MA2 Magadan 61.73 14 *c i*P **P 00 20 55.4 +1.1**
MA2 pmax pmax
comp=Z,71nm,0.7s
MA2 Magadan 61.73 14 P **P 00 20 55.5 +1.1**
comp=Z,1μmcomp=Z,99nm,0.8s
MA2 Magadan 61.73 14 P **P 00 20 55.4 +1.1**
KBK Karagaybulak 61.91 319 P **P 00 20 57.1 +1.0**
SNR=40
UCH Uchtor 62.00 319 P **P 00 20 57.5 +0.4**
SNR=11
FRU1 Bishkek 62.19 319 IAmb IAmb 00 21 26.8
comp=Z,48nm,1.2s
FRU1 IAMs_20 IAMs_20 00 51 04.2
comp=Z,614nm,21.0s
AAK Ala-Archa 62.20 319 P **P 00 20 58.1 +0.1**
AAK IAmb IAmb 00 21 03.4
comp=Z,52nm,1.0s
AAK Ala-Archa 62.20 319 IAMs_20 IAMs_20 00 52 12.4
comp=Z,821nm,19.0s
AAK Ala-Archa 62.20 319 P **P 00 20 59.0 +0.9**
AAK S **S 00 29 17.8 -4.4**
AAK Ala-Archa 62.20 319 P **P 00 20 59.4 +1.3**
SNR=39
AAK Ala-Archa 62.20 319 *c i*P **P 00 20 58.7 +0.7**
AAK pmax pmax
comp=Z,72nm,1.1s
AAK Ala-Archa 62.20 319 *i*P **P 00 20 58.4 +0.4**
SNR=11
AAK Ala-Archa 62.20 319 P **P 00 20 59.0 +0.9**
AAK pP **pP 00 21 07.6 +1.4**
CHMS Chumysh 62.20 320 P **P 00 20 57.5 -0.4**
SNR=13
USP Ospenovka 62.49 320 P **P 00 20 59.3 -0.5**
SNR=71
SGDS Sogindy 62.49 320 *e*P **P 00 20 59.2 -0.6**
SGDS Sogindy 62.49 320 *e*P **P 00 20 59.3 -0.6**
AML Almayashu 62.50 318 P **P 00 21 00.1 -0.2**
SNR=39
DRK Karamyk 62.67 315 IAmb IAmb 00 21 07.1
comp=Z,68nm,0.8s
DRK Karamyk 62.67 315 P **P 00 21 00.9 -0.5**
EKS2 Erkin-Say 62.68 319 P **P 00 21 01.2 0.0**
SNR=50
KBL Kabul 62.90 309 P **P 00 21 01.0 -2.0**
KBL IAmb IAmb 00 21 05.2
comp=Z,124nm,1.4s
KBL Kabul 62.90 309 P **P 00 21 02.9 0.0**
SNR=41
KBL S **S 00 29 27.0 -4.5**
KBL Kabul 62.90 309 P **P 00 21 01.0 -2.0**
KBL pmax pmax
comp=Z,124nm,1.4s
SEM Semipalatinsk 62.93 329 *e*P **P 00 21 01.8 -1.0**
SEM Semipalatinsk 62.93 329 *e*P **P 00 21 01.9 -1.0**
ZAA0 Zalesovo Array 62.99 334 IAmb IAmb 00 21 29.4
comp=Z,52nm,0.9s
ZALV Zalesovo Beam 62.99 334 P **P 00 21 00.7 -2.1**
ZALV Zalesovo Beam 62.99 334 P **P 00 21 01.8 -1.0**
comp=Z,13nm,0.4s,baz=132,slow=6.9,SNR=66
ZALV LR LR 00 48 21.9
comp=Z,342nm,21.3s,baz=128,slow=36
ZALV PKPPKP 00 49 59.2
comp=Z,1.0nm,0.9s,baz=29,slow=3.4,SNR=3.7
ZALV PKP2bc **P'P'bc 00 50 10.5 -0.2**
comp=Z,2.6nm,0.9s,baz=236,slow=1.6,SNR=8.1
comp=Z,13nm,0.4s
ZALV Zalesovo Beam 62.99 334 *i*P **P 00 21 01.7 -1.1**
ZALV pmax pmax
comp=Z,13nm,0.4s
BTK Batken 63.59 315 IAmb IAmb 00 21 10.2
comp=Z,62nm,0.9s
BTK IAMs_20 IAMs_20 00 51 28.1
comp=Z,515nm,21.0s
BTK Batken 63.59 315 P **P 00 21 06.4 -0.9**
BTLS Baital 63.61 321 *e*P **P 00 21 06.4 -0.8**
BTLS Baital 63.61 321 *e*P **P 00 21 06.4 -0.8**
KURBB Kurchatov Arra 63.95 328 P **P 00 21 08.5 -0.7**
comp=Z,35nm,0.5s,baz=129,slow=6.3,SNR=329
KURBB S **S 00 29 40.0 -3.4**
comp=Z,0.8nm,1.0s,baz=137,slow=9.8,SNR=6.0
KURBB PKPPKP **P'P'df 00 50 00.9 -1.3**
comp=Z,1.1nm,1.0s,baz=275,slow=3.1,SNR=5.7
KURBB LR LR 00 50 28.8
comp=Z,353nm,21.7s,baz=153,slow=37
comp=Z,35nm,0.5s
KURK Kurchatov 63.95 329 P **P 00 21 07.9 -1.4**
KURK Kurchatov 63.95 329 P **P 00 21 09.1 -0.2**
KURK S **S 00 29 42.2 -1.2**
KURK Kurchatov 63.95 329 *d i*P **P 00 21 08.6 -0.7**
KURK pmax pmax
comp=Z,120nm,0.8s
KURK Kurchatov 63.95 329 P **P 00 21 08.8 -0.5**
KURK pP **pP 00 21 17.5 0.0**
CHGR Chuyangaron 64.25 313 IAMs_20 IAMs_20 00 50 06.0
comp=Z,1μm,21.0s
CHGR Chuyangaron 64.25 313 P **P 00 21 11.8 +0.2**
SIMJ Simiganj 64.36 313 P **P 00 21 10.7 -1.7**
SIMJ IAmb IAmb 00 21 14.8
comp=Z,105nm,1.1s
SIMJ Simiganj 64.36 313 P **P 00 21 11.2 -1.2**
DZA Taraz 64.40 318 *e*P **P 00 21 11.6 -0.8**
DZA pmax pmax
comp=Z,30nm,1.2s
DZA Taraz 64.40 318 *e*P **P 00 21 11.6 -0.8**
comp=Z,30nm,1.2s
KK31 Karatay Array 65.04 318 IAmb IAmb 00 21 22.1
comp=Z,48nm,0.8s
KKAR Karatay Array 65.04 318 P **P 00 21 15.6 -1.0**
KKAR Karatay Array 65.04 318 P **P 00 21 15.6 -1.0**
KKAR pmax pmax
comp=Z,33nm,0.9s
SEY Seymchan 65.06 13 P **P 00 21 17.3 +1.0**
comp=Z,22nm,0.9s,baz=214,slow=6.4,SNR=42
SEY PKPPKP **P'P'df 00 49 59.4 -0.2**
comp=Z,1.5nm,0.2s,baz=347,slow=21,SNR=3.5
comp=Z,22nm,0.9s
SEY Seymchan 65.06 13 ||*i*P **P 00 21 17.8 +1.5**
SEY pmax pmax
comp=Z,45nm,1.1s
SHEM Shemya Is, Ala 65.33 30 P **P 00 21 18.1 0.0**
comp=Z,68nm,0.8s,baz=72,slow=2.1,SNR=4.3
comp=Z,68nm,0.8s
BRLS Borolday 65.46 318 *e*P **P 00 21 18.5 -0.8**
BRLS pmax pmax
comp=Z,21nm,0.8s
BRLS Borolday 65.46 318 *e*P **P 00 21 18.5 -0.8**
comp=Z,21nm,0.8s
BRZS Berezniki 66.80 326 *e*P **P 00 21 27.3 -0.4**
BRZS Berezniki 66.80 326 *e*P **P 00 21 27.4 -0.4**
NGCH Negor - Chabah 67.20 297 P **P 00 21 31.4 +0.6**
CASY Casey 67.80 187 P **P 00 21 33.4 -0.3**
HRA Herat 68.23 307 IAmb IAmb 00 21 39.9
comp=Z,66nm,1.6s
WBK Wadi Bani Khal 68.70 294 P **P 00 21 40.6 +0.3**
JMDO Jabal Madar 69.46 294 P **P 00 21 45.3 +0.3**
BVAR Borovoye Array 69.51 328 P **P 00 21 44.2 -0.5**
comp=Z,27nm,0.6s,baz=130,slow=9.7,SNR=103
BVAR PKPPKP **P'P'df 00 49 52.2 -0.8**
comp=Z,0.4nm,0.5s,baz=318,slow=4.0,SNR=4.8
BVAR LR LR 00 53 03.6
comp=Z,563nm,21.7s,baz=129,slow=37
comp=Z,27nm,0.6s
BRVK Borovoye 69.58 328 P **P 00 21 44.2 -1.0**
BRVK IAmb IAmb 00 22 12.5
comp=Z,83nm,0.9s
BRVK IAMs_20 IAMs_20 00 52 32.3
comp=Z,687nm,21.0s
BRVK Borovoye 69.58 328 P **P 00 21 45.2 0.0**
BRVK S **S 00 30 48.7 -2.8**
BRVK Borovoye 69.58 328 *d i*P **P 00 21 44.6 -0.5**
BRVK pmax pmax
comp=Z,110nm,1.3s
BRVK Borovoye 69.58 328 P **P 00 21 44.8 -0.4**
BRVK pP **pP 00 21 53.6 +0.2**
BRVK sP **pwP 00 21 57.4 +1.7**
BRVK PcP **PcP 00 22 07.8 -0.2**
SMDO Samad 69.61 294 P **P 00 21 45.6 -0.4**
DQM DQM 69.67 291 P **P 00 21 46.9 +0.6**
SNR=5.4
ADK Adak 69.75 34 P **P 00 21 46.3 +0.1**
JASK Jask - Hormozg 70.19 297 P **P 00 21 50.2 +0.7**
HOQ Hoqain 70.35 295 P **P 00 21 51.1 +0.6**
MSEY Mahe Island 70.80 265 P **P 00 21 51.9 -1.6**
MSEY IAmb IAmb 00 21 56.6
comp=Z,129nm,1.6s
MSEY Mahe Island 70.80 265 P **P 00 21 54.3 +0.8**
MSEY Mahe Island 70.80 265 P **P 00 21 51.9 -1.6**
MSEY pmax pmax
comp=Z,129nm,1.6s
MSEY Mahe Island 70.80 265 *i*P **P 00 21 54.4 +0.9**
SNR=9.2
TIXI Tiksi 70.82 1 P **P 00 21 50.9 -1.5**
TIXI Tiksi 70.82 1 IAMs_20 IAMs_20 00 57 13.0
comp=Z,678nm,22.0s
TIXI Tiksi 70.82 1 P **P 00 21 51.7 -0.7**
comp=Z,33nm,0.6s,baz=180,slow=4.9,SNR=63
TIXI S **S 00 30 59.6 -5.7**
comp=Z,1.2nm,0.2s,baz=3.0,slow=17,SNR=4.1
TIXI LR LR 00 54 28.0
comp=Z,207nm,20.0s,baz=190,slow=37
comp=Z,33nm,0.6s
TIXI Tiksi 70.82 1 *ce*P **P 00 21 51.6 -0.7**
TIXI pmax pmax
comp=Z,143nm,1.6s
TIXI Tiksi 70.82 1 P **P 00 21 52.2 -0.1**
TIXI sP **sP 00 22 05.0 +1.1**
ARQ Araqi 71.04 294 P **P 00 21 55.0 +0.3**
SOHO SOHO 71.13 295 P **P 00 21 56.1 +0.9**
SOHO SOHO 71.13 295 P **P 00 21 55.1 -0.1**
ATKA Atka Island 71.28 34 P **P 00 21 56.9 +1.4**
MDH Madha 71.51 296 P **P 00 21 58.0 +0.5**
MDH Madha 71.51 296 P **P 00 21 56.3 -1.1**
UOSS Minazif 71.54 296 P **P 00 21 57.7 0.0**
UOSS Minazif 71.54 296 P **P 00 21 58.2 +0.6**
UOSS Minazif 71.54 296 P **P 00 21 56.9 -0.8**
HATD Hatta, Dubai 71.59 296 P **P 00 21 58.7 +0.7**
HATD Hatta, Dubai 71.59 296 *i*P **P 00 21 57.4 -0.6**
SNR=9.4
ASHO Ashiyiah 71.64 296 P **P 00 21 58.9 +0.6**
ASHO Ashiyiah 71.64 296 *i*P **P 00 21 58.8 +0.5**
SNR=8.0
MASF Masafi 71.64 296 P **P 00 21 59.0 +0.6**
SHME Shamm 71.75 297 P **P 00 21 59.9 +1.0**
ALNE Al Ain 71.83 295 P **P 00 21 60.0 +0.5**
SNR=7.0
ALNE Al Ain 71.83 295 *i*P **P 00 21 59.6 +0.1**
SNR=35
RER Riviere de l'E 72.04 248 P **P 00 22 00.5 -0.3**
RER IAmb IAmb 00 22 10.9
comp=Z,84nm,0.9s
FAQ Al Faqa, Dubai 72.06 296 P **P 00 22 01.6 +0.8**
FAQ Al Faqa, Dubai 72.06 296 *i*P **P 00 22 00.7 -0.1**
SNR=7.9
UMZA Um Al Zommool 72.20 294 P **P 00 22 02.2 +0.6**
ASUD Al Ashush, Dub 72.29 296 P **P 00 22 02.8 +0.6**
ASUD Al Ashush, Dub 72.29 296 P **P 00 22 02.3 +0.2**
RBK Rabkut 72.57 288 P **P 00 22 04.5 +0.5**
BILL Bilibino 72.57 15 P **P 00 22 02.2 -0.8**
BILL Bilibino 72.57 15 IAMs_20 IAMs_20 00 51 00.6
comp=Z,388nm,21.0s
BILL Bilibino 72.57 15 *ce*P **P 00 22 02.7 -0.3**
BILL *i**PP **pP 00 22 09.7 -1.5**
BILL *i* 00 22 19.5
BILL pmax pmax
comp=Z,29nm,1.4s
AJN Ajban 72.59 295 P **P 00 22 04.3 +0.3**
DOK Doka 72.74 289 P **P 00 22 04.2 -0.8**

	SNR=5.4					
NRIK	Noril'sk	73.18	347	IAmb	IAmb	00 22 08.9
	comp=Z,64nm,0.8s					
NRIK	Noril'sk	73.18	347	P	P	00 22 07.0 +0.5
	comp=Z,60nm,0.8s,baz=125,slow=6.0,SNR=129					
NRIK				S	S	00 31 27.3 -5.2
	comp=Z,1.5nm,0.6s,baz=6.1,slow=20,SNR=9.8					
NRIK				LR	LR	00 58 39.2
	comp=Z,280nm,18.1s,baz=148,slow=39					
	comp=Z,60nm,0.8s					
NRIK	Noril'sk	73.18	347	*c i* P	P	00 22 06.4 -0.2
NRIK				pmax	pmax	
	comp=Z,82nm,0.8s					
ABTO	Aybut	73.42	288	P	P	00 22 09.1 +0.1
MZWR	Madinat Zayed	73.50	294	P	P	00 22 10.4 +1.1
MZR	Muzera	73.78	294	P	P	00 22 11.6 +0.6
MZR	Muzera	73.78	294	*i* P	P	00 22 11.0 0.0
	SNR=20					
ABKAR	Akbulak array	74.10	321	P	P	00 22 11.2 -1.1
ABKAR				IAmb	IAmb	00 22 15.1
	comp=Z,82nm,1.2s					
GHWR	Ruwais	74.43	295	P	P	00 22 15.4 +0.7
SPIA	Saint Paul Isl	75.35	30	P	P	00 22 20.2 +0.8
	baz=248					
RAR	Rarotonga	75.44	112	LR	LR	00 54 24.1
	comp=Z,145nm,22.0s,baz=273,slow=35					
P08K	Saint George I	75.49	31	P	P	00 22 21.2 +0.9
	baz=248					
SLWR	Sila	75.52	295	P	P	00 22 21.6 +0.5
AKTO	Aktyubinsk	75.64	322	LR	LR	00 57 19.6
	comp=Z,632nm,20.8s,baz=109,slow=37					
TRNA	Turayna	76.02	295	P	P	00 22 24.6 +0.7
UNV	Unalaska Valle	76.20	34	P	P	00 22 25.7 +1.4
	baz=252					
SVE	Sverdlovsk	76.20	329	*de* P	P	00 22 24.5 +0.2
SVE				*e* S	S	00 32 03.1 -3.5
SVE				pmax	pmax	
	comp=Z,157nm,0.8s					
ARTI	Arti	77.23	328	P	P	00 22 28.8 -1.3
ARTI	Arti	77.23	328	LR	LR	00 57 35.7
	comp=Z,532nm,21.9s,baz=117,slow=36					
ARTI	Arti	77.23	328	*d i* P	P	00 22 29.9 -0.2
ARTI						00 22 43.1
ARTI						00 25 19.5
ARTI				S	S	00 32 18.5 +0.6
ARTI				pmax	pmax	
	comp=Z,151nm,1.5s					
ARTI				MLR	MLR	
	comp=Z,488nm,19.0s					
GAMB	Gambell	77.35	24	IAmb	IAmb	00 22 33.8
	comp=Z,126nm,1.6s					
GAMB	Gambell	77.35	24	P	P	00 22 31.7 +1.1
	baz=245,SNR=11					
FALS	False Pass	78.22	34	P	P	00 22 37.0 +1.3
	baz=254					
M11K	Mekoryuk	78.46	28	P	P	00 22 38.2 +1.3
	baz=251					
S12K	Black Hills	79.19	33	P	P	00 22 41.7 +0.6
	baz=255					
TNA	Tin City	79.55	23	P	P	00 22 43.7 +1.0
	baz=246,SNR=9.7					
K13K	Kusilvak Mount	79.67	27	IAmb	IAmb	00 22 47.1
	comp=Z,140nm,1.6s					
K13K	Kusilvak Mount	79.67	27	P	P	00 22 44.8 +1.4
	baz=252					
LKRN	Lenkeran, Azer	79.69	309	P	P	00 22 44.8 +0.7
ABPO	Ambohimpanom	79.77	251	P	P	00 22 44.5 -0.6
ABPO				IAmb	IAmb	00 22 50.9
	comp=Z,150nm,1.8s					
ABPO	Ambohimpanom	79.77	251	P	P	00 22 44.5 -0.6
ABPO				pmax	pmax	
	comp=Z,150nm,1.8s					
M13K	Dall Lake	79.82	28	IAmb	IAmb	00 23 16.1
	comp=Z,70nm,1.1s					
M13K	Dall Lake	79.82	28	P	P	00 22 45.3 +1.0
	baz=253					
F14K	Arctic Creek	80.14	23	P	P	00 22 47.4 +1.4
	baz=250					
ANM	Nome	80.21	24	P	P	00 22 47.4 +1.0
	baz=251,SNR=11					
CHNA	Chernabura Isl	80.36	34	P	P	00 22 47.8 +0.4
	baz=257					
L14K	Kuka Creek	80.40	28	IAmb	IAmb	00 22 51.0
	comp=Z,122nm,1.4s					
L14K	Kuka Creek	80.40	28	P	P	00 22 47.6 +0.2
	baz=254					
VOI	Vohitsoka	80.40	248	IAmb	IAmb	00 22 54.3
	comp=Z,204nm,1.7s					
J14K	Nanvaranak Lak	80.41	26	P	P	00 22 48.5 +1.0
	baz=253,SNR=9.9					
N14K	Kuskokwak Cree	80.48	29	P	P	00 22 48.6 +0.8
	baz=255					
O14K	Tigyukauivet M	80.52	30	P	P	00 22 49.0 +0.9
	baz=255					
VNDA	Vanda	80.55	173	P	P	00 22 47.2 -0.8
VNDA	Vanda	80.55	173	P	P	00 22 47.1 -0.8
	comp=Z,21nm,0.9s,baz=319,slow=7.1,SNR=19					
VNDA				LR	LR	00 57 37.2
	comp=Z,366nm,19.9s,baz=334,slow=35					
	comp=Z,21nm,0.9s					
VNDA	Vanda	80.55	173	P	P	00 22 47.2 -0.8
VNDA				pmax	pmax	
	comp=Z,45nm,1.0s					
M14K	Bethel	80.57	28	P	P	00 22 48.7 +0.3
M14K				IAmb	IAmb	00 22 51.9
	comp=Z,84nm,0.9s					
M14K	Bethel	80.57	28	P	P	00 22 49.2 +0.9
	baz=254,SNR=14					
MAW	Mawson	80.77	200	P	P	00 22 47.9 -1.3
	comp=Z,23nm,0.8s,baz=46,slow=5.6,SNR=4.5					
MAW				LR	LR	00 56 22.9
	comp=Z,428nm,20.7s,baz=64,slow=34					
	comp=Z,23nm,0.8s					
F15K	North Star Dit	80.88	23	IAmb	IAmb	00 22 52.8
	comp=Z,98nm,1.7s					
F15K	North Star Dit	80.88	23	P	P	00 22 51.2 +1.3
	baz=251					
G15K	Niukluk	80.89	24	P	P	00 22 50.8 +0.8
	baz=252					
L15K	Ungalak Mounta	81.04	27	P	P	00 22 51.7 +0.9
	baz=255,SNR=13					
RAYN	Ar Rayn	81.13	294	P	P	00 22 50.0 -2.1
RAYN				IAmb	IAmb	00 22 59.0
	comp=Z,48nm,0.7s					
RAYN	Ar Rayn	81.13	294	P	P	00 22 52.3 +0.1
RAYN	Ar Rayn	81.13	294	P	P	00 22 50.1 -2.1
RAYN				pmax	pmax	
	comp=Z,49nm,0.7s					
RAYN	Ar Rayn	81.13	294	*i* P	P	00 22 51.8 -0.5
	SNR=66					
M15K	Kasigluk River	81.16	28	P	P	00 22 52.5 +1.0
	baz=256					
K15K	Wolf Creek Mou	81.18	27	IAmb	IAmb	00 23 06.3
	comp=Z,43nm,0.8s					
K15K	Wolf Creek Mou	81.18	27	P	P	00 22 53.0 +1.4
	baz=255					
MAK	Makhachkala	81.19	313	*e* P	P	00 22 47.2 -4.8
MAK				*e* S	S	00 32 51.4 -9.1
MAK				*e* SS	SS	00 38 15.5 -0.6
MAK				pmax	pmax	
	comp=Z,164nm,0.8s					
MAK				MLR	MLR	
	comp=Z,375nm,18.0s					
SEKA	Sheki	81.20	311	P	P	00 22 52.9 +0.6
O15K	Ungalikthiuk R	81.22	30	P	P	00 22 52.9 +1.1
	baz=256					
MNGR	Mingechevir, A	81.24	311	P	P	00 22 53.4 +1.1
N15K	Kwethluk River	81.32	29	P	P	00 22 53.5 +1.1
	baz=256					
CHGN	Chignik	81.33	33	P	P	00 22 52.8 +0.4
	baz=258					
C16K	Lisburne Hills	81.47	21	IAmb	IAmb	00 22 56.3
	comp=Z,78nm,1.2s					
C16K	Lisburne Hills	81.47	21	P	P	00 22 53.8 +0.8
	baz=250,SNR=62					
H16K	Elim	81.52	24	P	P	00 22 54.4 +1.1
	baz=254,SNR=44					
G16K	Koyuk River	81.69	24	P	P	00 22 55.5 +1.3
	baz=253					
GANJ	Ganja	81.80	311	P	P	00 22 55.9 +0.5
J16K	Anvik River	81.85	26	IAmb	IAmb	00 22 59.1
	comp=Z,142nm,1.4s					
J16K	Anvik River	81.85	26	P	P	00 22 57.0 +1.9
	baz=255					
I17K	Unalakleet	81.97	25	IAmb	IAmb	00 22 59.8
	comp=Z,107nm,1.1s					
I17K	Unalakleet	81.97	25	P	P	00 22 57.5 +1.8
	baz=255,SNR=36					
L16K	Owhat River	81.98	28	P	P	00 22 56.9 +1.1
L16K				IAmb	IAmb	00 22 59.4
	comp=Z,56nm,1.0s					
L16K	Owhat River	81.98	28	P	P	00 22 57.3 +1.5
	baz=256,SNR=16					
R16K	Pilot Point	82.03	32	P	P	00 22 56.1 -0.1
	baz=259					
M16K	Timber Creek	82.06	28	P	P	00 22 57.4 +1.1
	baz=257					
D17K	Noatak River	82.09	21	P	P	00 22 58.2 +1.9
	baz=252,SNR=83					
P16K	Nushagak River	82.11	30	P	P	00 22 57.7 +1.2
	baz=258					
O16K	Kokwok River B	82.17	30	IAmb	IAmb	00 23 14.8
	comp=Z,73nm,1.4s					
O16K	Kokwok River B	82.17	30	P	P	00 22 58.1 +1.2
	baz=258,SNR=7.6					
RDOG	Red Dog Mine	82.26	21	IAmb	IAmb	00 23 00.9
	comp=Z,151nm,1.5s					
RDOG	Red Dog Mine	82.26	21	P	P	00 22 58.8 +1.6
	baz=252,SNR=16					
NAX	Nakhchivan	82.28	309	P	P	00 22 58.8 +0.8
C17K	DeLong Mountai	82.30	21	P	P	00 22 59.0 +1.6
	baz=252,SNR=41					
E17K	Hotham Inlet	82.38	22	P	P	00 22 59.6 +1.8
	baz=254					
BELG	Belogornoye	82.42	323	LR	LR	01 01 06.0
	comp=Z,300nm,21.8s,baz=92,slow=37					
BELG	Belogornoye	82.42	323	*d i* P	P	00 22 58.3 0.0
BELG				pmax	pmax	
	comp=Z,47nm,1.0s					
F17K	Baldwin Pennin	82.42	23	IAmb	IAmb	00 23 01.8
	comp=Z,109nm,1.3s					
F17K	Baldwin Pennin	82.42	23	P	P	00 22 59.7 +1.7
	baz=254					
KIRV	Kirov	82.47	329	S	S	00 33 08.1 -4.9
	comp=Z,5.3nm,0.5s,baz=358,slow=23,SNR=13					
KIRV				LR	LR	01 03 47.3
	comp=Z,331nm,19.4s,baz=100,slow=39					
KIRV	Kirov	82.47	329	*d i* P	P	00 22 58.6 +0.2
J17K	VABM Dome	82.55	26	P	P	00 22 60.0 +1.2
	baz=257,SNR=46					
H17K	Granite Mounta	82.56	24	P	P	00 23 00.7 +1.9
	baz=256					
L17K	Donlin	82.61	27	P	P	00 23 01.3 +2.1
	baz=258					
O17K	Koliganek Bris	82.71	30	P	P	00 23 01.1 +1.4
	baz=259,SNR=7.0					
K17K	Iditarod	82.74	27	P	P	00 23 01.4 +1.6
	baz=257					
CHIR	Chirikof Islan	82.78	34	P	P	00 23 01.3 +1.2
	baz=261					
N17K	Nushagak Hills	82.81	29	IAmb	IAmb	00 23 04.2
	comp=Z,164nm,1.6s					
N17K	Nushagak Hills	82.81	29	P	P	00 23 00.9 +0.7
	baz=259					
M17K	Holitna River	82.86	28	IAmb	IAmb	00 23 04.4
	comp=Z,154nm,1.6s					
M17K	Holitna River	82.86	28	P	P	00 23 01.8 +1.3
	baz=258,SNR=9.6					
P17K	Kvichak River	82.93	30	P	P	00 23 01.7 +0.9
	baz=260					
E18K	Tukpahlearik C	82.93	22	IAmb	IAmb	00 23 05.1
	comp=Z,79nm,0.8s					
E18K	Tukpahlearik C	82.93	22	P	P	00 23 02.1 +1.5
	baz=255					
GNI	Garni	82.95	310	P	P	00 23 01.2 -0.4
GNI				IAmb	IAmb	00 23 13.6
	comp=Z,82nm,0.8s					
GNI	Garni	82.95	310	LR	LR	01 06 44.0
	comp=Z,71nm,18.0s,baz=93,slow=41					
GNI	Garni	82.95	310	*de* P	P	00 23 02.9 +1.3
GNI				pmax	pmax	
	comp=Z,73nm,1.0s					
GNI	Garni	82.95	310	P	P	00 23 02.4 +0.7
GNI	Garni	82.95	310	P	P	00 23 02.2 +0.6
	comp=Z,4μmcomp=Z,104nm,0.8s					
B18K	Kokolik River	83.04	20	P	P	00 23 03.1 +2.0
	baz=253					
C18K	Utukok River	83.05	21	IAmb	IAmb	00 23 04.8
	comp=Z,93nm,1.2s					
C18K	Utukok River	83.05	21	P	P	00 23 02.7 +1.4
	baz=254					
F18K	Selawik	83.08	23	P	P	00 23 02.9 +1.4
	baz=256,SNR=30					
H18K	Honhosa River	83.25	24	P	P	00 23 03.8 +1.4
	baz=257					
G18K	Tagagawik	83.30	24	IAmb	IAmb	00 23 05.8
	comp=Z,64nm,1.1s					
G18K	Tagagawik	83.30	24	P	P	00 23 03.7 +1.0
	baz=257					
GUDG	Gudauri	83.35	313	P	P	00 23 01.5 -2.2
L18K	Granite Mounta	83.37	27	P	P	00 23 04.7 +1.6
	baz=259					
N18K	Kilae Creek	83.47	29	IAmb	IAmb	00 23 07.3
	comp=Z,40nm,1.0s					
N18K	Kilae Creek	83.47	29	P	P	00 23 05.1 +1.5
	baz=260,SNR=8.8					
A19K	Wainwright	83.52	19	P	P	00 23 05.7 +2.1
	baz=254					
TRLG	Trialeti	83.55	312	P	P	00 23 05.8 +1.1
P18K	Big Mountain,	83.57	30	P	P	00 23 04.1 -0.1
P18K				IAmb	IAmb	00 23 08.0
	comp=Z,107nm,1.7s					
P18K	Big Mountain,	83.57	30	P	P	00 23 04.2 0.0
	baz=260					
J18K	Innoko River	83.60	26	P	P	00 23 05.3 +1.1
	baz=259					
M18K	Stony River	83.64	28	P	P	00 23 05.4 +0.9
	baz=260,SNR=22					
O18K	Koktuh Hills	83.66	30	IAmb	IAmb	00 23 07.9
	comp=Z,44nm,1.0s					
O18K	Koktuh Hills	83.66	30	P	P	00 23 05.6 +0.9
	baz=260,SNR=5.8					
SII	Sitkinak Islan	83.69	33	P	P	00 23 06.0 +1.2
	baz=262					
GCSA	Galena City Sc	83.78	25	P	P	00 23 06.0 +0.9
	baz=258,SNR=11					
TTA	Tatalina	83.81	27	P	P	00 23 06.7 +1.2
	baz=259,SNR=27					
TTA	Tatalina	83.81	27	P	P	00 23 07.1 +1.7
F19K	Shaleruckik Mo	83.86	23	IAmb	IAmb	00 23 08.5
	comp=Z,62nm,1.4s					
F19K	Shaleruckik Mo	83.86	23	P	P	00 23 06.3 +0.9
	baz=257					
G19K	Purcell Mounta	83.98	23	P	P	00 23 07.6 +1.5
	baz=258					
NCK	Nalchik	84.08	313	⇓ *i* P	P	00 23 07.8 +0.6
NCK				pmax	pmax	
	comp=Z,64nm,1.0s					
D19K	Kuna River	84.10	21	P	P	00 23 08.0 +1.2
	baz=257					
H19K	Roundabout Mou	84.12	24	IAmb	IAmb	00 23 12.2
	comp=Z,68nm,0.9s					
H19K	Roundabout Mou	84.12	24	P	P	00 23 08.4 +1.7
	baz=259,SNR=42					
GEVA	Gevas	84.12	308	P	P	00 23 08.0 +0.3
O19K	Port Alsworth	84.15	30	IAmb	IAmb	00 23 09.0
	comp=Z,131nm,1.7s					
O19K	Port Alsworth	84.15	30	P	P	00 23 08.1 +1.0
	baz=261					
N19K	Bonanza Creek	84.17	29	P	P	00 23 08.5 +1.2
	baz=261					
J19K	Poorman	84.18	26	P	P	00 23 08.6 +1.4
	baz=260					
E19K	Redstone River	84.20	22	P	P	00 23 08.6 +1.4
	baz=258					
L19K	White Mountain	84.21	28	IAmb	IAmb	00 23 10.9
	comp=Z,102nm,1.4s					
L19K	White Mountain	84.21	28	P	P	00 23 08.7 +1.2
	baz=261,SNR=19					
KARS	Kars	84.25	311	P	P	00 23 09.7 +1.4
KARS				pmax	pmax	
	comp=Z,181nm,0.9s					
OHAK	Old Harbor	84.26	33	P	P	00 23 08.6 +1.0
	baz=262					
OHAK	Old Harbor	84.26	33	P	P	00 23 09.7 +2.0
Q19K	Cape Douglas,	84.31	31	P	P	00 23 09.1 +1.1
	baz=262					
M19K	Big River Lodg	84.38	28	IAmb	IAmb	00 23 22.3
	comp=Z,41nm,0.8s					
M19K	Big River Lodg	84.38	28	P	P	00 23 09.6 +1.4
	baz=261					
GOF	Gofitskoye	84.60	315	*ce* P	P	00 23 10.3 +0.6
KBZ	Khabaz	84.61	314	P	P	00 23 09.9 +0.2
	comp=Z,37nm,0.9s,baz=94,slow=4.2,SNR=37					
KBZ				LR	LR	01 05 00.1
	comp=Z,230nm,21.8s,baz=72,slow=39					
	comp=Z,37nm,0.9s					
KBZ	Khabaz	84.61	314	*ce* P	P	00 23 10.4 +0.7
KBZ				pmax	pmax	
	comp=Z,54nm,0.9s					
P19K	Oil Pt	84.62	30	P	P	00 23 10.1 +0.6
	baz=262					
D20K	Etivluk River	84.69	21	P	P	00 23 10.4 +0.7
	baz=258					
F20K	Avaraart Lake	84.69	23	IAmb	IAmb	00 23 31.2
	comp=Z,45nm,1.2s					
F20K	Avaraart Lake	84.69	23	P	P	00 23 10.7 +1.1
	baz=259					
ILSW	Iliamna Southw	84.71	30	IAmb	IAmb	00 23 33.5
	comp=Z,101nm,1.6s					
L20K	Farewell, AK	84.71	27	P	P	00 23 11.0 +1.1
	baz=261					
KDAK	Kodiak Island	84.71	32	P	P	00 23 10.3 +0.4
KDAK	Kodiak Island	84.71	32	P	P	00 23 10.9 +0.9
	baz=263					
KDAK	Kodiak Island	84.71	32	P	P	00 23 10.4 +0.4
KDAK				pmax	pmax	
	comp=Z,176nm,1.4s					
E20K	Nigu River	84.75	21	P	P	00 23 11.2 +1.2
	baz=259					
H20K	Anotleneega Mo	84.75	24	P	P	00 23 11.1 +1.1
	baz=260					
K20K	Telida	84.75	26	P	P	00 23 11.2 +1.1
	baz=261					
PPT	Papeete	84.76	108	LR	LR	00 57 56.1
	comp=Z,182nm,21.5s,baz=258,slow=34					
PPT2	Papeete2	84.76	108	*e* PKP2	P	00 23 08.2 -2.9
	comp=Z,171nm,28.5s					
PPT2	Papeete2	84.76	108	*e* PP	PP	00 26 29.1 +1.5
	comp=Z,217nm,31.2s					
PPT2				*e* S	SKSac	00 33 29.2 -5.0
	comp=Z,278nm,25.8s					
PPT2				*e* SS	SS	00 39 06.1 -4.2
	comp=Z,805nm,37.8s					
PPT2	Papeete2	84.76	108	*e* LR	LR	00 49 49.7
	comp=Z,572nm,24.2s					
PPT2				*e* LR	LR	00 49 51.9
	comp=Z,434nm,26.0s					
KIV	Kislovodsk	84.78	314	P	P	00 23 10.2 -0.5
KIV	Kislovodsk	84.78	314	P	P	00 23 11.6 +0.8
KIV	Kislovodsk	84.78	314	⇑ P	P	00 23 11.7 +0.9
KIV	Kislovodsk	84.78	314	*e* P	P	00 23 11.0 +0.2
KIV				*e*		00 26 25.1
KIV				pmax	pmax	
	comp=Z,26nm,3.1s					
KIV				pmax	pmax	
	comp=Z,43nm,1.0s					
KIV	Kislovodsk	84.78	314	*i* P	P	00 23 10.9 +0.1
	SNR=17					
KIV	Kislovodsk	84.78	314	P	P	00 23 11.0 +0.2
	comp=Z,834nmcomp=Z,64nm,1.5s					
SHA1	Shidzhatmaz	84.78	314	*ce* P	P	00 23 11.2 +0.2
I20K	Naaghedeneel	84.81	25	IAmb	IAmb	00 24 41.2
	comp=Z,79nm,1.4s					
I20K	Naaghedeneel	84.81	25	P	P	00 23 11.2 +0.9
	baz=261					
J20K	Nowinta River	84.85	26	IAmb	IAmb	00 23 29.7
	comp=Z,91nm,1.8s					
J20K	Nowinta River	84.85	26	P	P	00 23 11.4 +0.8
	baz=261					
Q20K	Shuyak Island	84.91	31	P	P	00 23 11.1 +0.2
	baz=263					
M20K	Styx River	84.97	28	IAmb	IAmb	00 23 35.7
	comp=Z,105nm,1.6s					
M20K	Styx River	84.97	28	P	P	00 23 12.2 +0.8
	baz=262,SNR=11					
O20K	Slope Mountain	84.98	30	P	P	00 23 12.1 +0.7
	baz=263					
TBI	Tubuai	85.13	113	*e* P	P	00 23 13.2 +0.4
	comp=Z,774nm,33.0s					
TBI	Tubuai	85.13	113	*e* S	S	00 33 40.0 -1.3
	comp=Z,1μm,28.2s					
TBI				*e* SS	SS	00 39 07.6 -7.9
	comp=Z,3μm,39.0s					
TBI				*e* LQ	LQ	00 46 29.1
	comp=Z,5μm,37.8s					
TBI				*e* LR	LR	00 50 03.6
	comp=Z,4μm,28.8s					
TBI				*e* LR	LR	00 50 05.1
	comp=Z,830nm,23.0s					
A21K	Barrow	85.22	18	P	P	00 23 13.4 +1.1
	baz=258					
SPCR	Spurr Chakacha	85.32	29	P	P	00 23 13.8 +0.8
	baz=263					
BCA	Borcka	85.41	311	⇑ P	P	00 23 15.3 +1.4
C21K	Knifeblade Rid	85.42	21	P	P	00 23 14.5 +1.1
	baz=260					
PPLA	Purkeypile	85.54	27	P	P	00 23 14.4 +0.2
	baz=263					
B21K	Ikpikpuk River	85.56	20	P	P	00 23 14.5 +0.6
	baz=260,SNR=20					
F21K	Alatna River	85.59	23	P	P	00 23 14.7 +0.4
	baz=261,SNR=7.8					
E21K	Killik River	85.59	21	P	P	00 23 15.2 +1.0
	baz=261					
CHUM	Lake Minchumin	85.60	26	P	P	00 23 15.1 +0.8
	baz=263					
H21K	Melozitna Rive	85.63	24	IAmb	IAmb	00 23 16.8
	comp=Z,62nm,1.9s					
H21K	Melozitna Rive	85.63	24	P	P	00 23 15.1 +0.7
	baz=262					
CAST	Castle Rocks	85.65	27	P	P	00 23 14.8 +0.2
CAST	Castle Rocks	85.65	27	P	P	00 23 15.2 +0.6
	baz=263					
SKT	Skwentna	85.73	28	P	P	00 23 15.5 +0.5
	baz=264,SNR=7.4					
CAPN	Captain Cook N	85.78	29	P	P	00 23 16.0 +0.8
	baz=264					
BRLK	Bradley Lake	85.81	30	IAmb	IAmb	00 23 16.8
	comp=Z,67nm,1.1s					
MARD	Mardin	85.87	307	IAmb	IAmb	00 23 22.4
	comp=Z,46nm,0.7s					
BRSE	Bradley Lake S	85.88	30	P	P	00 23 16.8 +0.9
	baz=264					
I21K	Tanana	85.91	25	P	P	00 23 16.2 +0.4
	baz=263,SNR=12					
VRH	Novokhopyorsk	85.93	321	*e* P	P	00 23 15.8 -0.4
VRH				*e* S	SKSac	00 33 36.8 -3.3
VRH				pmax	pmax	
	comp=Z,112nm,0.9s					
VRH				pmax	pmax	
	comp=Z,348nm,1.7s					
D22K	Ayikyak River	86.12	21	P	P	00 23 17.9 +1.1
	baz=262					
BPAW	Bear Paw Mtn.	86.21	26	P	P	00 23 17.4 0.0
	baz=264					
SLKM	Skilak Lake	86.21	30	IAmb	IAmb	00 23 22.2
	comp=Z,80nm,1.2s					
LABN	Labinsk	86.22	315	*e* P	P	00 23 15.9 -1.9
LABN				*e* S	SKSac	00 33 38.4 -3.9
LABN				*e*		00 33 47.9
LABN				pmax	pmax	
	comp=Z,90nm,1.4s					
H22K	Ishtalitna Cre	86.25	24	P	P	00 23 17.5 0.0
	baz=263					
G22K	Bettles	86.31	23	P	P	00 23 18.2 +0.4
	baz=263					
E22K	Anaktuvuk Pass	86.34	22	IAmb	IAmb	00 23 38.3
	comp=Z,31nm,0.9s					
E22K	Anaktuvuk Pass	86.34	22	P	P	00 23 18.8 +0.8
	baz=263,SNR=28					
CUT	Chulitna	86.36	28	P	P	00 23 18.5 +0.4
	baz=265					
M22K	Willow	86.38	28	IAmb	IAmb	00 23 25.1
	comp=Z,66nm,1.0s					
M22K	Willow	86.38	28	P	P	00 23 18.2 +0.1
	baz=265					
ERBR	Yeremizino-Bor	86.44	316	*e* P	P	00 23 17.9 -1.0
ERBR				*e** PP	pP	00 23 27.3 0.0
ERBR				*e*		00 26 44.9
ERBR				*e* PPP	PPP	00 28 31.9
ERBR				*e* S	SKSac	00 33 38.8 -4.8
ERBR				*e*		00 33 48.0
ERBR				*e* SS	SS	00 39 30.8 -2.9
ERBR				*e* SSS	SSS	00 42 59.3
ERBR				pmax	pmax	
	comp=Z,141nm,1.4s					
ERBR				MLR	MLR	
	comp=Z,834nm,17.0s					
TRF	Thorofare Moun	86.45	27	P	P	00 23 18.0 -0.8
TRF	Thorofare Moun	86.45	27	P	P	00 23 18.5 -0.3
	baz=264					

O22K	Cooper Landing	86.46	30	P	P	00 23 19.8	+1.2
	baz=265						
RC01	Rabbit Creek A	86.50	29	IAmb	IAmb	00 23 52.2	
	comp=Z,32nm,0.9s						
RC01	Rabbit Creek A	86.50	29	P	P	00 23 19.0	+0.2
	baz=265						
SEW	Seward	86.56	30	P	P	00 23 19.9	+0.8
	baz=266						
VSLR	Vesyoloye	86.67	313	*d* P	P	00 23 20.1	0.0
VSLR				pmax	pmax		
	comp=Z,215nm,1.2s						
KTUT	Trabzon	86.78	311	⇓P	P	00 23 20.4	-0.2
PMR	Palmer	86.83	28	P	P	00 23 21.0	+0.6
	baz=266						
PMR	Palmer	86.83	28	P	P	00 23 21.3	+0.9
D23K	Nanushuk River	86.85	21	P	P	00 23 21.4	+0.9
	baz=264,SNR=24						
COLD	Coldfoot	86.86	23	P	P	00 23 21.1	+0.7
	baz=264,SNR=37						
G23K	Bananza Creek	86.88	23	P	P	00 23 21.4	+0.8
	baz=265						
SOC	Sochi	86.91	313	*e* P	P	00 23 20.8	-0.4
SOC				*e*		00 26 42.0	
SOC				*e* PPP	PPP	00 28 36.3	
SOC				*e* S	SKSac	00 33 44.6	-1.9
SOC				*e* SS	SS	00 39 40.1	-0.4
SOC				*e* SSS	SSS	00 43 10.5	
SOC				pmax	pmax		
	comp=Z,51nm,0.9s						
SOC				MLR	MLR		
	comp=Z,296nm,21.0s						
C23K	Itkillik River	86.97	20	IAmb	IAmb	00 23 32.2	
	comp=Z,34nm,0.9s						
C23K	Itkillik River	86.97	20	P	P	00 23 22.3	+1.4
	baz=264						
I23K	Minto, Yukon-K	87.01	25	IAmb	IAmb	00 23 24.0	
	comp=Z,24nm,0.8s						
I23K	Minto, Yukon-K	87.01	25	P	P	00 23 21.8	+0.6
	baz=265,SNR=17						
MCK	McKinley	87.08	26	P	P	00 23 20.5	-1.2
MCK	McKinley	87.08	26	P	P	00 23 21.3	-0.3
	baz=266,SNR=8.7						
MCK	McKinley	87.08	26	P	P	00 23 20.5	-1.2
MCK				pmax	pmax		
	comp=Z,23nm,1.1s						
NEA2	Nenana	87.09	25	P	P	00 23 21.7	+0.1
	baz=266,SNR=7.0						
RND	Reindeer	87.09	27	P	P	00 23 20.7	-1.1
KNK	Knik Glacier	87.14	29	IAmb	IAmb	00 23 55.9	
	comp=Z,123nm,1.8s						
KNK	Knik Glacier	87.14	29	P	P	00 23 22.2	+0.2
	baz=266						
E23K	Chandalar	87.16	22	IAmb	IAmb	00 23 28.8	
	comp=Z,59nm,0.9s						
E23K	Chandalar	87.16	22	P	P	00 23 22.8	+0.8
	baz=265						
PWL	Port Wells	87.17	29	P	P	00 23 22.0	-0.1
	baz=266						
TOLK	Toolik Lake Re	87.22	21	P	P	00 23 22.6	+0.4
	baz=265,SNR=38						
SML	Sawmill	87.23	28	P	P	00 23 22.2	-0.2
	baz=266						
VORD	Divnogorie	87.45	321	*e* P	P	00 23 21.8	-1.8
VORD				pmax	pmax		
	comp=Z,80nm,0.9s						
M23K	Glacier View	87.51	28	P	P	00 23 25.0	+1.2
	baz=267,SNR=5.2						
VORR	Voronezh	87.52	322	*e* P	P	00 23 24.1	+0.1
VORR				pmax	pmax		
	comp=Z,130nm,0.8s						
VSR	Storozhevoye	87.53	321	*e* P	P	00 23 21.4	-2.6
VSR				pmax	pmax		
	comp=Z,50nm,0.8s						
D24K	Happy Valley	87.54	21	IAmb	IAmb	00 23 28.5	
	comp=Z,31nm,0.9s						
D24K	Happy Valley	87.54	21	P	P	00 23 24.4	+0.7
	baz=266						
E24K	Your Creek	87.58	22	P	P	00 23 25.0	+0.9
	baz=266						
P23K	Montague Islan	87.58	30	P	P	00 23 25.3	+1.2
	baz=267						
C24K	Franklin Bluff	87.62	20	IAmb	IAmb	00 23 29.0	
	comp=Z,37nm,1.1s						
C24K	Franklin Bluff	87.62	20	P	P	00 23 24.6	+0.6
	baz=266,SNR=17						
COLA	College	87.63	25	P	P	00 23 24.9	+0.7
COLA	College	87.63	25	⇓ *i* P	P	00 23 23.3	-0.9
COLA				pmax	pmax		
	comp=Z,15nm,1.4s						
H24K	Noodor Dome	87.67	24	P	P	00 23 24.9	+0.4
	baz=267,SNR=14						
SCM	Sheep Creek Mo	87.70	28	P	P	00 23 24.3	-0.5
SCM				IAmb	IAmb	00 24 01.7	
	comp=Z,73nm,1.4s						
SCM	Sheep Creek Mo	87.70	28	P	P	00 23 25.3	+0.5
	baz=267						
SCM	Sheep Creek Mo	87.70	28	P	P	00 23 24.3	-0.5
SCM				pmax	pmax		
	comp=Z,73nm,1.4s						
KLMR	Klimovskoe	87.71	331	*e* P	P	00 23 21.9	-2.8
KLMR				S	SKSac	00 33 45.5	-5.2
KLMR				pmax	pmax		
	comp=Z,114nm,1.3s						
LPSR	Galich'ya Gora	87.72	322	*e* P	P	00 23 24.5	-0.4
LPSR				pmax	pmax		
	comp=Z,130nm,0.9s						
GLI	Glacier Island	87.77	29	P	P	00 23 25.5	+0.5
	baz=268						
G24K	Hadweenzic Riv	87.89	23	IAmb	IAmb	00 23 28.0	
	comp=Z,62nm,1.6s						
G24K	Hadweenzic Riv	87.89	23	P	P	00 23 25.8	+0.4
	baz=267						
HDA	Harding Lake	87.99	26	P	P	00 23 26.4	+0.4
	baz=268,SNR=11						
ILAR	Eielson Array	88.03	25	P	P	00 23 23.9	-2.3
ILAR	Eielson Array	88.03	25	P	P	00 23 24.6	-1.5
	comp=Z,4.6nm,0.6s,baz=260,slow=4.1,SNR=69						
ILAR				PKKP	PKKPdf	00 41 07.8	-0.5
	comp=Z,1.0nm,0.7s,baz=56,slow=1.8,SNR=10						
ILAR				PKPPKP	P'P'df	00 49 18.6	-0.8
	comp=Z,1.5nm,1.2s,baz=103,slow=1.7,SNR=5.2						
ILAR				LR	LR	00 59 07.5	
	comp=Z,133nm,21.8s,baz=255,slow=33						
	comp=Z,4.6nm,0.6s						
Q23K	Middleton Isla	88.09	31	P	P	00 23 27.0	+0.5
	baz=268						
KIBK	Kibwezi	88.14	268	IAmb	IAmb	00 23 31.3	
	comp=Z,36nm,1.0s						
KIBK	Kibwezi	88.14	268	P	P	00 23 29.1	+1.2
	SNR=10						
M24K	Tolsona, Glenn	88.26	28	IAmb	IAmb	00 23 30.4	
	comp=Z,57nm,1.0s						
M24K	Tolsona, Glenn	88.26	28	P	P	00 23 27.6	+0.3
	baz=268,SNR=6.2						
KLU	Klutina	88.36	29	P	P	00 23 28.3	+0.4
	baz=268						
D25K	Kavik River	88.42	21	P	P	00 23 28.2	+0.2
	baz=268						
EYAK	Cordova Ski Ar	88.42	30	P	P	00 23 28.9	+0.9
	baz=269						
DIV	Divide	88.42	29	IAmb	IAmb	00 23 36.5	
	comp=Z,96nm,1.6s						
G25K	Bearman Lake	88.43	23	P	P	00 23 28.6	+0.7
	baz=268						
K24K	Donnelly Dome	88.49	26	P	P	00 23 28.5	+0.1
	baz=269,SNR=10						
H25L	Birch Creek	88.53	24	P	P	00 23 29.1	+0.7
	baz=268,SNR=9.3						
MOS	Moscow	88.56	326	*e* P	P	00 23 27.1	-1.7
MOS				*e*		00 33 52.1	
MOS				*e* S	S	00 34 06.0	-7.2
MOS				pmax	pmax		
	comp=Z,57nm,1.0s						
MOS				MLR	MLR		
	comp=Z,500nm,19.0s						
ANN	Anapa	88.57	315	*e* P	P	00 23 28.4	-0.7
ANN				*e* S	SKSac	00 33 54.1	-2.4
ANN				*e*		00 34 03.8	
ANN				*e* SSS	SSS	00 43 36.7	
ANN				pmax	pmax		
	comp=Z,131nm,0.8s						
ANN				MLR	MLR		
	comp=Z,1μm,20.0s						
PAX	Paxson	88.61	27	IAmb	IAmb	00 23 31.1	
	comp=Z,35nm,1.4s						
PAX	Paxson	88.61	27	P	P	00 23 29.5	+0.5
	baz=269,SNR=9.1						
F25K	Christian Rive	88.63	23	P	P	00 23 29.6	+0.6
	baz=269						
PRP	Porcupine Dome	88.64	25	P	P	00 23 29.5	+0.3
	baz=269						
E25K	Arctic Village	88.67	22	IAmb	IAmb	00 23 32.5	
	comp=Z,24nm,0.8s						
E25K	Arctic Village	88.67	22	P	P	00 23 29.7	+0.5
	baz=269						
J25K	Salcha River,	88.68	26	IAmb	IAmb	00 25 34.0	
	comp=Z,84nm,2.0s						
J25K	Salcha River,	88.68	26	P	P	00 23 28.4	-0.9
	baz=269						
HARP	HAARP	88.74	28	P	P	00 23 29.3	-0.3
	baz=269						
FYU	Fort Yukon	88.77	24	IAmb	IAmb	00 23 32.3	
	comp=Z,42nm,1.2s						
RIDG	Independent Ri	88.90	26	IAmb	IAmb	00 23 32.5	
	comp=Z,25nm,0.7s						
RIDG	Independent Ri	88.90	26	P	P	00 23 29.8	-0.5
	baz=269,SNR=10						
KMBO	Kilima Mbogo	88.91	269	P	P	00 23 31.4	-0.3
KMBO				IAmb	IAmb	00 23 52.6	
	comp=Z,52nm,1.2s						
KMBO	Kilima Mbogo	88.91	269	P	P	00 23 33.0	+1.3
	comp=Z,29nm,1.1s,baz=55,slow=6.7,SNR=46						
KMBO				LR	LR	01 00 12.5	
	comp=Z,834nm,22.0s,baz=94,slow=34						
	comp=Z,29nm,1.1s						
KMBO	Kilima Mbogo	88.91	269	P	P	00 23 33.0	+1.3
KMBO	Kilima Mbogo	88.91	269	*i* P	P	00 23 32.4	+0.7
	SNR=34						
C26K	Camden Bay	88.94	20	P	P	00 23 30.8	+0.5
	baz=269						
BMRM	Bremner River	88.99	29	P	P	00 23 31.1	+0.3
	baz=270						
N25K	Chitina, Valde	89.00	29	P	P	00 23 31.3	+0.4
	baz=270						
BMAR	Burnt Mountain	89.04	23	P	P	00 23 31.4	+0.4
KAIM	Kayak Island	89.08	30	P	P	00 23 32.0	+0.8
	baz=270						
OBN	Obninsk	89.16	325	P	P	00 23 30.1	-1.6
OBN	Obninsk	89.16	325	LR	LR	01 04 51.4	
	comp=Z,384nm,22.0s,baz=93,slow=36						
OBN	Obninsk	89.16	325	⇑P	P	00 23 31.6	-0.1
OBN	Obninsk	89.16	325	*d* P	P	00 23 30.9	-0.7
OBN				*e*		00 27 04.4	
OBN				*e* PPP	PPP	00 28 56.9	
OBN				pmax	pmax		
	comp=Z,84nm,1.2s						
OBN				MLR	MLR		
	comp=Z,506nm,21.0s						
OBN	Obninsk	89.16	325	P	P	00 23 31.0	-0.7
	comp=Z,59nm,1.3s						
F26K	Sheenjek River	89.21	22	P	P	00 23 32.1	+0.4
	baz=270						
SCRK	Sand Creek	89.28	26	P	P	00 23 32.6	+0.4
	baz=270,SNR=7.5						
G26K	Porcupine Rive	89.35	23	P	P	00 23 33.1	+0.9
	baz=270						
C27K	Jago River	89.36	21	IAmb	IAmb	00 23 35.7	
	comp=Z,23nm,0.7s						
C27K	Jago River	89.36	21	P	P	00 23 33.3	+1.0
	baz=270						
KHAM	Kharkiv	89.38	320	P	P	00 23 32.2	-0.7
MENT	Mentasta	89.41	27	P	P	00 23 33.8	+1.1
SYO	Syowa Base	89.45	201	⇑ *i* P	P	00 23 33.2	+0.5
J26L	Joseph Creek	89.46	26	P	P	00 23 33.4	+0.4
	baz=271,SNR=17						
L26K	Log Cabin Wild	89.58	27	IAmb	IAmb	00 23 35.9	
	comp=Z,44nm,1.7s						
L26K	Log Cabin Wild	89.58	27	P	P	00 23 33.7	+0.2
	baz=271,SNR=7.6						
I26K	Coal Creek Min	89.63	25	P	P	00 23 33.5	-0.1
	baz=271						
M26K	Nabesna, AK	89.75	28	IAmb	IAmb	00 23 37.6	
	comp=Z,53nm,1.8s						
M26K	Nabesna, AK	89.75	28	P	P	00 23 34.9	+0.5
	baz=271						
BNN	Bunyan	89.78	309	IAmb	IAmb	00 24 10.1	
	comp=Z,78nm,1.2s						
LVZ	Lovozero	89.89	338	⇓ *e* P	P	00 23 35.0	+0.1
LVZ				pmax	pmax		
	comp=Z,105nm,2.2s						
LVZ	Lovozero	89.89	338	P	P	00 23 33.9	-1.0
	comp=Z,49nm,1.7s						
GHAJ	Ghor Haditha	90.12	301	IAmb	IAmb	00 23 59.1	
	comp=Z,73nm,1.2s						
G27K	Doyon Strip	90.19	23	P	P	00 23 37.3	+1.0
	baz=272						
MMAI	Mount Meron Ar	90.23	303	P	P	00 23 37.6	+0.3
	comp=Z,7.6nm,0.7s,baz=64,slow=5.7,SNR=13						
MMAI				LR	LR	01 10 24.6	
	comp=Z,306nm,20.5s,baz=94,slow=40						
	comp=Z,7.6nm,0.7s						
I27K	Kandik River	90.26	25	P	P	00 23 37.5	+0.8
	baz=272						
L27K	Beaver Creek,	90.27	27	P	P	00 23 37.5	+0.8
	baz=272						
H27K	Steamboat Moun	90.27	24	P	P	00 23 37.5	+0.8
	baz=272						
M27K	Edge Creek, AK	90.27	28	P	P	00 23 37.0	+0.1
	baz=272						
BCAR	Beaver Creek A	90.29	27	P	P	00 23 36.6	-0.2
D27M	Malcolm River	90.34	21	P	P	00 23 37.3	+0.3
	baz=273						
APA	Apatity	90.38	337	⇓ *i* P	P	00 23 33.4	-3.7
APA				*i*		00 27 08.5	
APA				*i*		00 34 05.0	
APA				*i* S	S	00 34 22.0	-7.7
APA				*i* SS	SS	00 40 46.0	+16
APA				pmax	pmax		
	comp=Z,14nm,0.9s						
QSPA	South Pole Qui	90.67	180	P	P	00 23 38.7	+0.1
QSPA	South Pole Qui	90.67	180	P	P	00 23 38.7	+0.1
	comp=Z,18nm,0.7s,baz=319,slow=1.8,SNR=42						
QSPA				PKKP	PKKPdf	00 41 04.2	-0.1
	comp=Z,1.2nm,0.6s,baz=33,slow=22,SNR=1.9						
QSPA				LR	LR	01 04 10.9	
	comp=Z,400nm,20.7s,baz=356,slow=36						
	comp=Z,18nm,0.7s						
EIL	Elat	90.68	300	LR	LR	01 08 59.0	
	comp=Z,284nm,20.4s,baz=82,slow=39						
LODK	Lodwar	90.75	273	P	P	00 23 39.1	-0.9
LODK				IAMs_20	IAMs_20	01 06 38.6	
	comp=Z,373nm,22.0s						
LODK	Lodwar	90.75	273	P	P	00 23 41.0	+0.9
	SNR=11						
F28M	Old Crow	90.84	22	P	P	00 23 39.8	+0.5
	baz=274,SNR=19						
E28M	Babbage River	90.90	21	IAmb	IAmb	00 23 42.0	
	comp=Z,59nm,1.4s						
E28M	Babbage River	90.90	21	P	P	00 23 40.3	+0.8
	baz=274						
SIM	Simferopol'	90.93	315	*e* P	P	00 23 40.1	-0.1
SIM				*e*		00 34 13.0	
SIM				pmax	pmax		
	comp=Z,59nm,0.9s						
I28M	Miner Creek	90.97	25	IAmb	IAmb	00 23 42.8	
	comp=Z,21nm,0.8s						
I28M	Miner Creek	90.97	25	P	P	00 23 40.4	+0.4
	baz=274,SNR=22						
D28M	Stokes Point	91.13	21	P	P	00 23 41.2	+0.6
	baz=275						
O28M	Mount Upton	91.16	29	P	P	00 23 41.4	+0.1
	baz=274						
PINM	Pinnacle	91.17	30	P	P	00 23 41.3	+0.3
	baz=274						
KIRS	Kirsehir-Merke	91.28	309	⇓P	P	00 23 41.6	-0.4
DAWY	Dawson	91.30	26	IAmb	IAmb	00 23 43.9	
	comp=Z,58nm,1.7s						
DAWY	Dawson	91.30	26	P	P	00 23 41.6	+0.1
	baz=274,SNR=9.8						
YUK8	Steele Glacier	91.33	29	P	P	00 23 42.0	0.0
	baz=274						
ILGA	Ilgaz	91.36	311	IAmb	IAmb	00 23 49.6	
	comp=Z,44nm,1.0s						
BR104	Keskin Array S	91.47	310	P	P	00 23 41.8	-1.2
	comp=Z,104nmcomp=Z,13nm,0.8s						
BR131	Keskin Array S	91.47	310	*d* *i* P	P	00 23 42.2	-0.8
BRTR	Keskin Array B	91.47	310	P	P	00 23 41.5	-1.5
BRTR	Keskin Array B	91.47	310	P	P	00 23 42.0	-1.0
	comp=Z,5.2nm,0.6s,baz=123,slow=5.8,SNR=36						
BRTR				PKKPbc	PKKPbc	00 41 05.5	+0.6
	comp=Z,0.4nm,0.7s,baz=195,slow=3.9,SNR=3.6						
BRTR				LR	LR	01 11 52.6	
	comp=Z,108nm,19.7s,baz=92,slow=40						
	comp=Z,5.2nm,0.6s						
BRTR	Keskin Array B	91.47	310	P	P	00 23 42.0	-1.0
BR106	Keskin Array S	91.49	310	P	P	00 23 42.1	-1.0
	comp=Z,93nmcomp=Z,11nm,0.8s						
BR105	Keskin Array S	91.49	310	P	P	00 23 42.0	-1.1
	comp=Z,100nmcomp=Z,12nm,0.8s						
E29M	Blow River	91.52	22	P	P	00 23 42.6	+0.2
	baz=276						
H29M	Whitestone	91.55	24	IAmb	IAmb	00 23 44.8	
	comp=Z,35nm,1.4s						
H29M	Whitestone	91.55	24	P	P	00 23 43.0	+0.4
	baz=275						
G29M	Pine Creek	91.62	23	P	P	00 23 43.0	+0.1
	baz=276,SNR=17						
PNL	Peninsula	91.62	30	P	P	00 23 43.4	+0.3
	baz=274						
I29M	Ogilvie Camp,	91.65	25	IAmb	IAmb	00 23 45.3	
	comp=Z,36nm,1.4s						
I29M	Ogilvie Camp,	91.65	25	P	P	00 23 43.5	+0.4
	baz=275,SNR=12						
M29M	Somme Creek	91.85	28	P	P	00 23 44.5	+0.3
	baz=275						
YUK4	Talbot Arm	91.86	29	P	P	00 23 44.6	+0.2
	baz=275						
CSS	Mathiatis	91.90	305	P	P	00 23 43.9	-1.0
CSS				IAmb	IAmb	00 24 05.7	
	comp=Z,35nm,0.9s						
CSS	Mathiatis	91.90	305	P	P	00 23 43.7	-1.2
	comp=Z,45nm,0.9s						
L29M	L29M	91.94	27	P	P	00 23 45.3	+0.8
	baz=275,SNR=19						
O29M	Mount Kennedy	91.99	30	P	P	00 23 45.1	+0.2
	baz=275						
YUK6	Outpost Mounta	92.03	29	P	P	00 23 45.5	+0.3
	baz=275						
K29M	Barlow Dome	92.14	26	IAmb	IAmb	00 23 48.3	
	comp=Z,21nm,1.0s						
K29M	Barlow Dome	92.14	26	P	P	00 23 46.0	+0.5
	baz=276						
EPYK	Eagle Plains	92.19	24	P	P	00 23 45.5	-0.2
	baz=277,SNR=15						
PUL	Pulkovo	92.31	330	⇑ *e* P	P	00 23 46.2	0.0
PUL				pmax	pmax		
	comp=Z,40nm,0.6s						
G30M	tAoh Zraii Nji	92.32	23	IAmb	IAmb	00 23 47.7	
	comp=Z,42nm,1.3s						
G30M	tAoh Zraii Nji	92.32	23	P	P	00 23 46.2	+0.1
	baz=277,SNR=18						
F30M	Barrier River	92.40	22	P	P	00 23 46.7	+0.2
	baz=278						
HYT	Haines Junctio	92.46	29	P	P	00 23 47.4	+0.3
	baz=276						
I30M	Mount Dempster	92.47	25	P	P	00 23 47.1	+0.1
	baz=277						
J30M	Hart River	92.58	25	IAmb	IAmb	00 23 50.1	
	comp=Z,24nm,1.2s						
J30M	Hart River	92.58	25	P	P	00 23 47.9	+0.4
	baz=277						
N30M	Aishikik Lake	92.60	29	IAmb	IAmb	00 23 49.9	
	comp=Z,40nm,1.6s						
N30M	Aishikik Lake	92.60	29	P	P	00 23 48.3	+0.7
	baz=276						
M30M	Minto, Yukon	92.61	27	IAmb	IAmb	00 23 50.6	
	comp=Z,33nm,1.3s						
M30M	Minto, Yukon	92.61	27	P	P	00 23 48.2	+0.6
	baz=277,SNR=11						
P30M	Million Dollar	92.81	30	P	P	00 23 49.0	+0.4
	baz=276						
ARCES	ARCESS Array B	93.04	340	P	P	00 23 48.2	-1.2
ARCES				IAmb	IAmb	00 24 14.9	
	comp=Z,56nm,1.4s						
ARCES	ARCESS Array B	93.04	340	P	P	00 23 48.8	-0.6
	comp=Z,18nm,0.6s,baz=79,slow=6.3,SNR=26						
ARCES				PKKPbc	PKKPdf	00 41 01.4	+1.9
	comp=Z,2.8nm,0.9s,baz=267,slow=4.5,SNR=4.5						
ARCES				LR	LR	01 13 07.7	
	comp=Z,286nm,19.2s,baz=93,slow=40						
	comp=Z,18nm,0.6s						
NE56	Odesa	93.08	317	P	P	00 23 48.9	-1.1
G31M	Satah River	93.08	23	P	P	00 23 49.9	+0.3
	baz=279						
INK	Inuvik	93.14	21	IAmb	IAmb	00 23 51.5	
	comp=Z,44nm,1.2s						
INK	Inuvik	93.14	21	LR	LR	01 08 10.3	
	comp=Z,65nm,20.4s,baz=250,slow=37						
INK	Inuvik	93.14	21	P	P	00 23 49.7	-0.2
	baz=280,SNR=27						
INK	Inuvik	93.14	21	P	P	00 23 49.5	-0.3
O30N	Mendenhall	93.16	29	P	P	00 23 50.7	+0.5
	baz=277						
F31M	Tsiigehtchic	93.20	22	P	P	00 23 50.0	-0.2
	baz=280,SNR=27						
N31M	Braeburn, Yuko	93.22	28	P	P	00 23 51.1	+0.7
	baz=277,SNR=6.5						
H31M	Peel River	93.23	24	IAmb	IAmb	00 23 52.3	
	comp=Z,35nm,1.4s						
H31M	Peel River	93.23	24	P	P	00 23 51.2	+0.8
	baz=279						
SPB2	Spitsbergen Ar	93.28	349	IAmb	IAmb	00 23 51.6	
	comp=Z,37nm,0.9s						
SPITS	Spitsbergen Ar	93.28	349	P	P	00 23 49.4	-1.0
	comp=Z,29nm,0.9s,baz=96,slow=8.7,SNR=14						
SPITS				LR	LR	01 11 30.7	
	comp=Z,210nm,18.1s,baz=32,slow=39						
	comp=Z,29nm,0.9s						
S31K	Pelican	93.43	32	P	P	00 23 52.3	+0.9
	baz=277						
SKAG	Skagway	93.71	30	IAmb	IAmb	00 23 54.8	
	comp=Z,34nm,1.2s						
SKAG	Skagway	93.71	30	P	P	00 23 53.7	+1.0
	baz=278						
SKAG	Skagway	93.71	30	P	P	00 23 53.6	+1.0
WHY	Whitehorse	93.76	29	P	P	00 23 53.1	0.0
WHY	Whitehorse	93.76	29	P	P	00 23 53.9	+0.8
	baz=278,SNR=11						
M31M	Drury Creek, Y	93.77	28	IAmb	IAmb	00 24 09.9	
	comp=Z,22nm,1.1s						
M31M	Drury Creek, Y	93.77	28	P	P	00 23 53.9	+0.9
	baz=279,SNR=6.6						
TAOE	Nuku Hiva Isla	93.77	99	*e* LR	LR	00 54 03.0	
	comp=Z,788nm,23.1s						
PURM	Purcari	93.80	317	⇑P	P	00 23 53.3	0.0
PURM	Purcari	93.80	317	P	P	00 23 52.5	-0.8
	comp=Z,52nm,0.8s						
AK09	Malin Array Si	93.80	321	P	P	00 23 52.3	-1.0
AK10	Malin Array Si	93.82	321	P	P	00 23 52.4	-1.0
KBS	Kingsbay	93.83	350	IAMs_20	IAMs_20	01 11 03.9	
	comp=Z,548nm,22.0s						
KBS	Kingsbay	93.83	350	*i* P	P	00 23 49.6	-3.3
AKASG	Malin Array Be	93.83	321	P	P	00 23 51.4	-2.0
AKASG	Malin Array Be	93.83	321	P	P	00 23 52.3	-1.1
	comp=Z,4.3nm,0.7s,baz=72,slow=4.6,SNR=18						
AKASG				LR	LR	01 10 59.5	
	comp=Z,265nm,20.0s,baz=84,slow=39						
	comp=Z,4.3nm,0.7s						
AKASG	Malin Array Be	93.83	321	*i* P	P	00 23 54.0	+0.6
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKBB	Malin Array Si	93.83	321	IAmb	IAmb	00 24 05.8	
	comp=Z,29nm,1.3s						
AKBB	Malin Array Si	93.83	321	⇓ *e* P	P	00 23 52.0	-1.4
AKBB				pmax	pmax		
	comp=Z,17nm,1.1s						
AK01	Malin Array Si	93.84	321	P	P	00 23 52.6	-0.9
KIEV	Kiev	93.84	321	P	P	00 23 51.6	-1.8
KIEV				IAmb	IAmb	00 24 05.8	
	comp=Z,29nm,1.4s						
KIEV	Kiev	93.84	321	⇑P	P	00 23 52.7	-0.8
KIEV	Kiev	93.84	321	P	P	00 23 51.6	-1.8
KIEV				pmax	pmax		
	comp=Z,29nm,1.4s						
KIEV	Kiev	93.84	321	P	P	00 23 52.0	-1.5
	comp=Z,84nm,1.1s				

MNK comp=Z,40nm,0.9s,baz=83 *i* PP **PP** **00 27 40.1 -1.7**
MNK *i* PPP PPP 00 29 41.4
MNK *i* SSS SSS 00 45 06.9
MNK *i* LQ LQ 01 00 31.5
MNK *i* LR LR 01 06 01.2
MNK *i* LRM MLR 01 07 52.6
MNK comp=E,261nm,20.4s *i* LRM MLR 01 07 53.5
MNK comp=Z,550nm,22.3s *i* LRM MLR 01 08 02.1
MNK comp=N,357nm,22.1s
MNK Minsk 94.21 325 *i* P **P** **00 23 53.3 -1.8**
MNK *i* 00 27 40.1
MNK *i* PPP PPP 00 29 41.3
MNK *i* S **SKSac** **00 34 25.3 -2.9**
MNK *i* PS **PS** **00 36 22.0 -0.8**
MNK *i* SS **SS** **00 41 24.9 -0.6**
MNK *i* SSS SSS 00 45 06.9
MNK pmax pmax
MNK comp=N,26nm,0.9s pmax pmax
MNK comp=Z,40nm,0.9s pmax pmax
MNK comp=E,23nm,1.0s MLR MLR
MNK comp=E,261nm,20.0s MLR MLR
MNK comp=Z,550nm,22.0s MLR MLR
MNK comp=N,357nm,22.0s
FARO Faro, Yukon 94.25 28 P **P** **00 23 56.0 +0.9**
baz=280,SNR=35
POGA Pongola 94.29 243 IAmb IAmb 00 24 02.2
comp=Z,24nm,0.8s
R32K Eaglecrest 94.29 32 P **P** **00 23 55.9 +0.5**
baz=278
MILM Milestii Mici 94.49 317 ⇑P **P** **00 23 56.1 -0.4**
P32M Atlin 94.50 30 P **P** **00 23 56.6 +0.2**
baz=279
N32M Quiet Lake 94.55 29 P **P** **00 23 56.8 +0.2**
baz=280
TLCR 94.66 315 ⇓P P 00 24 03.0 +5.6
TLCR 94.66 315 ⇓P P 00 24 03.0 +5.6
ELIB Princess Elisa 94.66 198 *d*P **P** **00 23 58.0 +1.0**
comp=Z,22nm,0.9s
SORM Soroca 94.67 318 ⇓P **P** **00 23 56.4 -0.9**
SORM Soroca 94.67 318 P **P** **00 23 55.6 -1.7**
SORM Soroca 94.67 318 P **P** **00 23 55.6 -1.7**
comp=Z,22nm,1.0s
YLV Yalova 94.68 311 P **P** **00 23 56.1 -1.6**
comp=Z,15nm,0.7s
MI28 Mi28,Pidlybu 94.78 321 P **P** **00 23 57.3 -0.5**
NACGM Naroch 94.79 325 *e*P **P** **00 23 56.6 -1.1**
comp=E,1μm,1.4s
P33M Teslin, Yukon 94.84 29 P **P** **00 23 57.9 -0.1**
baz=280
LUBAR Lubar, Ukraine 94.85 320 P **P** **00 23 56.9 -1.2**
A36M Sachs Harbour 95.00 17 P **P** **00 23 57.5 -0.7**
A36M Sachs Harbour 95.00 17 P **P** **00 23 58.2 -0.1**
baz=288,SNR=11
VLDR Vladesti 95.11 316 ⇓P **P** **00 23 58.6 -0.7**
MMPY Sheldon Lake, 95.13 27 P **P** **00 23 59.6 +0.4**
baz=282
CFR Carcaliu 95.14 315 ⇑P **P** **00 24 02.7 +3.2**
CFR Carcaliu 95.14 315 ⇑P **P** **00 24 02.7 +3.2**
NDNU Novodnistrovsk 95.27 319 P **P** **00 23 58.9 -1.2**
Q32M Nakina River 95.34 31 P **P** **00 24 00.5 0.0**
baz=280
MBAR Mbarara 95.42 269 P **P** **00 24 01.8 +0.1**
ICOR Ion Corvin 95.49 314 ⇓P **P** **00 24 05.2 +4.0**
WRAK Wrangell Islan 95.75 33 P **P** **00 24 02.4 +0.4**
baz=280
PANC Panciu 95.75 316 ⇑P **P** **00 24 01.6 -0.7**
RNPP9 Sopachiv 95.83 322 P **P** **00 24 01.7 -0.9**
RNPP5 Staryi Chortor 95.86 322 P **P** **00 24 01.9 -0.8**
R33M Jenningsv River 95.92 30 P **P** **00 24 03.4 +0.4**
baz=282
NOR Nord 96.00 355 *i* P **P** **00 24 02.5 -0.2**
NOR IAmb IAmb 00 24 03.2
comp=Z,54nm,1.5s
TESR Tescani 96.01 317 ⇑P **P** **00 24 03.2 -0.4**
VRI Vrincioaia 96.04 316 ⇓P **P** **00 24 04.0 +0.3**
VRI Vrincioaia 96.04 316 ⇓P **P** **00 24 04.0 +0.3**
PLOR Plostina 96.10 316 ⇑P **P** **00 24 04.2 +0.2**
PLOR Plostina 96.10 316 ⇑P **P** **00 24 04.2 +0.2**
S34M Telegraph Cree 96.12 32 P **P** **00 24 04.2 +0.4**
baz=281
PRAR RASCA 96.19 318 ⇑P **P** **00 24 05.0 +0.7**
C36M Paulatuk 96.20 20 IAmb IAmb 00 24 05.9
comp=Z,25nm,0.8s
C36M Paulatuk 96.20 20 P **P** **00 24 03.7 -0.2**
baz=289,SNR=36
NEHR Nehoiu 96.40 316 ⇑P **P** **00 24 05.9 +0.5**
COVR Voineasa-Covas 96.41 316 ⇑P **P** **00 24 05.4 0.0**
SULR 96.53 315 ⇑P **P** **00 24 04.4 -1.5**
DLBC Dease Lake 96.59 31 LR LR 01 01 58.1
comp=Z,271nm,21.9s,baz=280,slow=32
DLBC Dease Lake 96.59 31 P **P** **00 24 06.3 +0.3**
baz=282
MLR Muntele Rosu 96.63 316 IAmb IAmb 00 24 28.2
comp=Z,17nm,0.9s
MLR Muntele Rosu 96.63 316 LR LR 01 13 11.5
comp=Z,450nm,21.9s,baz=68,slow=39
MLR Muntele Rosu 96.63 316 ⇑P **P** **00 24 06.2 -0.3**
MLR Muntele Rosu 96.63 316 ⇑P **P** **00 24 06.2 -0.3**
TGTN Hyland Airport 96.74 28 P **P** **00 24 07.2 +0.6**
baz=284
BURAR Bucovina Array 96.83 318 ⇑P **P** **00 24 07.3 -0.1**
BURAR Bucovina Array 96.83 318 ⇑P **P** **00 24 07.3 -0.1**
WTLY Watson Lake, Y 96.83 29 IAmb IAmb 00 24 09.2
comp=Z,33nm,1.2s
WTLY Watson Lake, Y 96.83 29 P **P** **00 24 07.8 +0.8**
baz=284,SNR=7.6
DOPR Dopca 96.95 316 ⇑P **P** **00 24 08.1 +0.3**
SUW Suwalki 97.02 325 *e*P **P** **00 24 07.0 -0.8**
EZN Ezine 97.08 310 P **P** **00 24 07.2 -1.3**
EZN Ezine 97.08 310 P **P** **00 24 07.2 -1.3**
comp=Z,513nmcomp=Z,19nm,0.9s
VOIR 97.27 316 ⇑P **P** **00 24 10.1 +0.8**
VOIR 97.27 316 ⇑P **P** **00 24 10.1 +0.8**
RAKU Rahkiv 97.46 319 P **P** **00 24 09.4 -0.7**
ARCR ARCALIA 97.49 318 ⇑P **P** **00 24 11.0 +0.8**
ARR Arges 97.57 316 ⇑P **P** **00 24 10.6 -0.1**
EUNU Eureka 97.69 5 IAmb IAmb 00 24 11.1
comp=Z,55nm,1.9s
LSZ Lusaka 97.88 255 P **P** **00 24 11.9 -0.9**
LSZ Lusaka 97.88 255 P **P** **00 24 12.7 -0.1**
LSZ Lusaka 97.88 255 P **P** **00 24 11.9 -0.9**
LSZ pmax pmax
LSZ comp=Z,13nm,1.0s MLR MLR
comp=Z,800nm,21.0s
BMR Baia Mare 97.97 318 ⇑P **P** **00 24 11.6 -0.8**
BMR Baia Mare 97.97 318 ⇑P **P** **00 24 11.6 -0.8**
KWP Kalwaria Pacla 98.13 320 *e*P **P** **00 24 13.4 +0.4**
KWP Kalwaria Pacla 98.13 320 P **P** **00 24 12.7 -0.4**
KWP Kalwaria Pacla 98.13 320 P **P** **00 24 12.7 -0.4**
comp=Z,35nm,2.0s
LOT Lotru 98.15 316 ⇑P **P** **00 24 13.6 +0.2**
MARR Marisel-Cluj 98.39 317 ⇑P **P** **00 24 14.1 -0.3**
WRGLY Wrigley 98.42 25 P **P** **00 24 14.8 +0.8**
baz=289
BERU Beregovo 98.43 319 P **P** **00 24 14.2 -0.2**
KOLS Kolonicke sedl 98.54 320 *e*P **P** **00 24 15.5 +0.6**
KOLS Kolonicke sedl 98.54 320 *e*PDIFF **P** **00 24 15.5 +0.6**
HOLU Holmets 98.55 319 P **P** **00 24 15.2 +0.3**
DRGR 98.65 317 ⇓P **P** **00 24 15.6 +0.1**
DRGR 98.65 317 ⇓P **P** **00 24 15.6 +0.1**
TOAD Toad River Com 98.92 30 P **P** **00 24 16.8 +0.4**
baz=286
BBB Bella Bella 99.03 37 LR LR 01 00 11.7
comp=Z,153nm,20.9s,baz=280,slow=30
STHS Stebnicka Huta 99.11 320 *e*P **Pdif** **00 24 19.0 +1.5**
STHS Stebnicka Huta 99.11 320 *e*PDIFF **Pdif** **00 24 19.0 +1.5**
KOTAN Kotaneelee Air 99.11 28 P **Pdif** **00 24 18.2 +1.0**
baz=288
HERR Herculane 99.19 316 ⇓P **Pdif** **00 24 17.6 -0.3**
SURR Surduc 99.24 317 ⇑P **Pdif** **00 24 18.3 +0.2**
SIRR Siria 99.46 317 ⇑P **Pdif** **00 24 18.0 -1.1**
MDVR Moldovita 99.70 316 ⇑P **Pdif** **00 24 20.4 +0.2**
NIE Niedzica 99.71 320 *e*P **Pdif** **00 24 21.2 +1.1**
NIE Niedzica 99.71 320 P **Pdif** **00 24 20.6 +0.4**
NIE Niedzica 99.71 320 P **Pdif** **00 24 20.6 +0.4**

LBTB Lobatse 99.88 245 LR LR 01 06 09.4
comp=Z,244nm,21.0s,baz=92,slow=33
BOSA Boshof 99.92 241 P **Pdif** **00 24 20.9 -0.8**
comp=Z,9.6nm,0.9s,baz=82,slow=4.7,SNR=12
BOSA LR LR 01 04 49.2
comp=Z,333nm,22.0s,baz=84,slow=33
comp=Z,9.6nm,0.9s
DAG Danmarks Havn 100.12 352 P **Pdif** **00 24 20.8 -0.5**
DAG pmax pmax
comp=Z,20nm,1.5s
DAG Danmarks Havn 100.12 352 *i* P **Pdif** **00 24 19.7 -1.7**
LANS Liptovska Anna 100.30 320 *e*P **Pdif** **00 24 23.4 +0.6**
LANS Liptovska Anna 100.30 320 *e*PDIFF **Pdif** **00 24 23.4 +0.6**
PSZ Piszkesteto 100.30 319 Pdif **Pdif** **00 24 22.5 -0.4**
PSZ Piszkesteto 100.30 319 P **Pdif** **00 24 22.5 -0.4**
HFS Hagfors 100.38 332 P **Pdif** **00 24 21.0 -1.8**
comp=Z,6.9nm,0.8s,baz=103,slow=2.0,SNR=7.7
HFS Hagfors 100.38 332 P **Pdif** **00 24 21.0 -1.8**
TROLL Troll, Antarti 100.62 195 P **Pdif** **00 24 23.6 -0.2**
TROLL Troll, Antarti 100.62 195 ⇑P **Pdif** **00 24 23.6 -0.2**
comp=Z,230nm,0.8s
RES Resolute Bay 100.84 10 P **Pdif** **00 24 24.3 -0.3**
comp=Z,6.1nm,0.7s,baz=292,slow=5.5,SNR=32
NB2 NORSAR Subarra101.19 333 P **Pdif** **00 24 24.8 -1.7**
comp=Z,9.5nm,0.9s,baz=67,slow=4.6
NB2 NORSAR Subarra101.19 333 P **Pdif** **00 24 24.8 -1.7**
baz=67,slow=4.6
NOA NORSAR Array B101.19 333 P **Pdif** **00 24 25.0 -1.5**
comp=Z,3.2nm,0.7s,baz=68,slow=4.6,SNR=11
NOA NORSAR Array B101.19 333 P **Pdif** **00 24 25.0 -1.5**
MORC Moravsky Berou 101.37 321 *e*PDIFF **Pdif** **00 24 26.6 -0.9**
MORH Mrgy, Hungar 101.52 317 ⇓P **Pdif** **00 24 28.0 -0.1**
MORH Mrgy, Hungar 101.52 317 P **Pdif** **00 24 27.8 -0.4**
comp=Z,4.8nm,3.0s
NEEM North Greenlan 101.89 359 *i* P **Pdif** **00 24 29.0 -0.6**
PDG Podgorica 101.92 314 IAMs_20 IAMs_20 01 14 20.7
comp=Z,516nm,21.0s
PDG Podgorica 101.92 314 ⇑P **Pdif** **00 24 29.7 -0.3**
VRAC Vranov 102.09 321 *e*PDIFF **Pdif** **00 24 30.7 0.0**
SNAA Sanae 102.19 195 P **Pdif** **00 24 31.9 +1.1**
SNAA Sanae 102.19 195 ⇑P **Pdif** **00 24 31.9 +1.1**
comp=Z,73nm,0.7s
SNAA Sanae 102.19 195 P **Pdif** **00 24 30.2 -0.5**
comp=Z,3.3nm,0.7s,baz=114,slow=4.2,SNR=6.2
SNAA **PP** **00 28 42.1 -0.4**
comp=Z,3.9nm,0.8s,baz=119,slow=6.7,SNR=4.0
KRUC Moravsky 102.28 321 *e*PDIFF **Pdif** **00 24 31.2 -0.3**
YKA Yellowknife Ar 102.44 25 P **Pdif** **00 24 32.4 +0.5**
comp=Z,2.6nm,0.9s,baz=295,slow=4.6,SNR=22
YKA PKiKP **PKiKP** **00 28 53.4 +0.1**
comp=Z,0.5nm,0.5s,baz=289,slow=2.3,SNR=8.7
YKA PKKPbc **PKKPbc** **00 40 32.8 -2.6**
comp=Z,1.6nm,0.7s,baz=124,slow=2.4,SNR=12
BRG Berggiesshubel 103.27 323⇓ *e*Pif 00 24 36.6
BRG Amp 00 24 38.4
comp=Z,4.6nm,0.8s
BRG PP **PKiKP** **00 29 02.6 +7.4**
BRG Amp 00 29 04.4
comp=Z,6.9nm,1.1s
CLL Collm 103.70 324 *e*Sdif Sdif 00 36 30.0 +4.9
CLL *e*PS PS 00 37 54.0 -11
CLL *e*PPS PPS 00 38 54.0
CLL *e*SS SS 00 43 24.0 -14
CLL *e*SSS SSS 00 47 30.0
CLL *e*SSSS 00 50 54.0
CLL AMS AMS 01 16 00.0
comp=Z,500nm,21.3s
MOA Molln 103.98 320 *e*Pdiff **Pdif** **00 24 39.5 +0.4**
comp=Z,2.5nm,1.0s
GERES GERESS Array B 104.04 321 Pdiff **Pdif** **00 24 39.2 -0.3**
comp=Z,1.0nm,0.7s,baz=51,slow=5.3,SNR=5.8
GERES PP **PKiKP** **00 28 57.0 +0.2**
comp=Z,0.4nm,0.4s,baz=57,slow=8.1,SNR=3.4
KBA Koelnbreinsper 104.81 319 *e*Pdiff **Pdif** **00 24 42.8 -0.2**
comp=Z,2.5nm,1.4s
LESA Schwarzleotal 105.13 320 *e*Pdiff **Pdif** **00 24 46.3 +1.9**
comp=Z,3.6nm,0.9s
ABTA Abfaltersbach 105.45 319 *e*Pdiff **Pdif** **00 24 47.5 +1.7**
comp=Z,1.5nm,0.9s
WTTA Wattenberg 105.86 320 *e*Pdiff **Pdif** **00 24 45.3 -2.4**
comp=Z,2.0nm,0.4s
SQTA Sankt Quirin 106.14 320 *e*Pdiff **Pdif** **00 24 51.2 +2.3**
comp=Z,1.3nm,0.4s
MOTA Moosalm 106.17 320 *e*Pdiff **Pdif** **00 24 47.9 -1.2**
comp=Z,2.0nm,0.7s
FETA Feichten 106.52 320 *e*Pdiff **Pdif** **00 24 50.3 -0.4**
comp=Z,0.8nm,0.6s
NVAR Mina Array Bea 109.31 49 Pdiff **Pdif** **00 25 05.5 +2.1**
comp=Z,0.5nm,0.6s,baz=289,slow=5.6,SNR=2.7
NVAR PKiKP **PKiKP** **00 29 07.8 +0.7**
comp=Z,1.3nm,0.8s,baz=289,slow=2.8,SNR=5.1
NVAR PP **PP** **00 29 33.5 -2.8**
comp=Z,0.5nm,0.7s,baz=273,slow=5.0,SNR=3.5
NVAR PKKPbc **PKKPbc** **00 40 13.8 0.0**
comp=Z,1.0nm,0.7s,baz=132,slow=3.9,SNR=4.9
NVAR PKKPab **PKKPab** **00 44 24.4 -1.0**
comp=Z,2.2nm,0.8s,baz=131,slow=5.7,SNR=7.5
EKA Eskdalemuir Ar 110.58 332 PKKPbc PKKPbc 00 40 08.9 -1.1
comp=Z,0.6nm,0.6s,baz=255,slow=2.5,SNR=3.5
KEST Kesra 111.07 309 PP **PP** **00 29 48.9 +0.1**
comp=Z,5.8nm,1.1s,baz=5.6,slow=5.0,SNR=3.9
KEST PKKPbc **PKKPbc** **00 40 07.6 -0.3**
comp=Z,2.6nm,0.7s,baz=273,slow=5.7,SNR=4.4
R11B Troy Canyon, C 111.37 48 P **PKiKP** **00 29 10.8 -0.1**
baz=289
PDAR Pinedale Array 113.97 42 PKP **PKiKP** **00 29 16.0 +0.2**
comp=Z,0.8nm,0.5s,baz=226,slow=0.8,SNR=8.8
PDAR PP **PP** **00 30 08.8 -0.6**
comp=Z,0.5nm,0.6s,baz=70,slow=1.7,SNR=1.9
PDAR PKKPbc **PKKPbc** **00 39 55.5 -3.1**
comp=Z,2.2nm,0.6s,baz=138,slow=5.0,SNR=22
RSSD Black Hills 116.89 38 PKPdf **PKPdf** **00 29 19.7 -1.6**
RSSD Black Hills 116.89 38 PKIKP **PKPdf** **00 29 19.7 -1.6**
N23A Red Feather La 117.22 42 P **PKPdf** **00 29 22.0 -0.1**
baz=298
ULM Lac du Bonnet 117.84 29 PKP **PKPdf** **00 29 20.9 -1.8**
comp=Z,7.7nm,0.8s,baz=319,slow=3.3,SNR=15
ULM PKKPbc **PKKPbc** **00 39 43.1 -2.0**
comp=Z,3.1nm,0.7s,baz=137,slow=3.0,SNR=9.5
S22A 4UR Ranch, Cre 118.00 46 P **PKPdf** **00 29 23.4 -0.3**
baz=295
CART Cartagena 118.16 314 IAMs_20 IAMs_20 01 23 05.6
comp=Z,336nm,21.0s
Q24A Divide 118.64 44 P **PKPdf** **00 29 25.1 +0.1**
baz=297
ESDC Sonseca Array 119.28 317 PKP **PKPdf** **00 29 23.3 -2.5**
comp=Z,2.3nm,1.1s,baz=9.6,slow=2.4,SNR=7.0
ESDC PP **PP** **00 30 42.8 -3.6**
comp=Z,2.3nm,1.1s,baz=54,slow=7.1,SNR=5.9
ESDC PKKPbc **PKKPbc** **00 39 38.9 -0.7**
comp=Z,1.2nm,0.8s,baz=236,slow=4.0,SNR=6.9
121A Cookes Peak, D 119.36 52 P **PKPdf** **00 29 26.0 -0.4**
baz=292
T25A Trinidad 119.99 45 P **PKPdf** **00 29 27.6 +0.1**
baz=297
PBRG Braganca 120.02 321 *e*PKPdf **PKPdf** **00 29 28.4 +1.3**
PCAB Cabril 120.88 321 *e*PKPdf **PKPdf** **00 29 30.0 +1.2**
PGAV Gavieira, Arco 120.89 322 *e*PKPdf **PKPdf** **00 29 29.5 +0.6**
POLO Lamas de Olo 120.92 321 *e*PKPdf **PKPdf** **00 29 30.0 +1.0**
PVRL Vila Real 120.92 321 *e*PKPdf **PKPdf** **00 29 30.0 +1.1**
MTE Manteigas 121.28 320 *e*PKPdf **PKPdf** **00 29 30.5 +0.8**
PVIS Viseu 121.34 320 *e*PKPdf **PKPdf** **00 29 30.0 +0.3**
PCBR Castelo Branco 121.54 319 *e*PKPdf **PKPdf** **00 29 31.3 +1.2**
PMRV Marv??o 121.70 319 *e*PKPdf **PiKiP** **00 29 32.2 +1.6**
BGNE Belgrade 122.00 38 **PKPdf** **00 29 30.2 -0.8**
PCAS Casmilo, Conde 122.08 320 *e*PKPdf **PiKiP** **00 29 32.9 +1.6**
PBAR Barrancos 122.11 317 *e*PKPdf **PKPdf** **00 29 31.5 +0.3**
PMTG Montargil 122.44 319 *e*PKPdf **PKPdf** **00 29 31.9 +0.1**
TPB11 China Draw 122.52 51 P **PKPdf** **00 29 32.7 +0.4**
EVO Evora 122.58 318 *e*PKPdf **PKPdf** **00 29 32.4 +0.3**
PBEJ Beja 122.74 318 *e*PKPdf **PiKiP** **00 29 34.5 +1.8**
PVAQ Vaqueiros 122.96 317 *e*PKPdf **PKPdf** **00 29 33.5 +0.7**
PCVE Castro Verde 123.06 317 *e*PKPdf **PKPdf** **00 29 33.3 +0.2**
MESJ Messejana 123.08 318 *e*PKPdf **PKPdf** **00 29 34.0 +0.9**
TPB01 Permian Basin 123.12 52 P **PiKiP** **00 29 35.4 +1.7**
PBDV Barranco-do-Ve 123.19 317 *e*PKPdf **PiKiP** **00 29 36.3 +2.7**
TORD Torodi Ar. Bea 123.24 286 PKP **PKPdf** **00 29 33.8 -0.2**
comp=Z,22nm,0.5s,baz=62,slow=1.9,SNR=1.5
TORD PKKPbc **PKKPbc** **00 39 24.1 +0.2**
comp=Z,31nm,0.3s,baz=281,slow=3.3,SNR=1.4
TPB06 Permian Basin 123.27 51 P **PKPdf** **00 29 35.4 +1.7**
TPB04 Verhalen 123.42 51 P **PKPdf** **00 29 34.9 +0.9**
TPB16 Coyonosa 123.46 51 P **PKPdf** **00 29 34.5 +0.3**
TPB05 Hovey Rd 123.49 52 P **PKPdf** **00 29 35.4 +1.1**
SCHQ Schefferville 123.59 9 PKP **PKPdf** **00 29 33.4 -0.3**
comp=Z,3.8nm,0.7s,baz=313,slow=2.3,SNR=9.5

SCHQ PKKPbc **PKKPab** **00 39 20.5 -1.8**
comp=Z,2.2nm,0.6s,baz=202,slow=5.2,SNR=5.9
MORF Marmelete 123.65 317 *e*PKPdf **PKPdf** **00 29 36.6 +2.1**
MNHN Monahans 123.76 51 P **PKPdf** **00 29 35.0 +0.3**
TPB08 Permian Basin 123.83 51 P **PKPdf** **00 29 36.6 +1.7**
TX31 Lajitas Ar. Si 123.85 53 P **PKPdf** **00 29 35.2 +0.3**
TXAR Lajitas Array 123.86 53 PKP **PKPdf** **00 29 35.5 +0.5**
comp=Z,4.6nm,0.8s,baz=208,slow=1.2,SNR=23
TXAR PKKPbc **PKKPab** **00 39 22.7 +1.1**
comp=Z,1.5nm,0.6s,baz=120,slow=5.8,SNR=11
PFVI Vila Bisbo 123.86 317 *e*PKPdf **PKPdf** **00 29 35.9 +1.2**
DKNS Dickens 124.12 48 P **PKPdf** **00 29 35.6 +0.3**
SN08 Arah 124.42 49 P **PKPdf** **00 29 35.8 -0.1**
SN02 Snyder 2 124.50 48 P **PKPdf** **00 29 36.3 +0.2**
SN05 Snyder 5 124.51 48 P **PKPdf** **00 29 36.5 +0.4**
SGCY Sterling City 124.76 50 P **PKPdf** **00 29 36.8 +0.2**
DRIO Del Rio 126.25 52 P **PKPdf** **00 29 39.8 +0.3**
JCT Junction City 126.42 50 P **PKPdf** **00 29 40.1 +0.4**
L44A Lake County Fo 127.38 32 P **PKPdf** **00 29 41.7 +0.4**
baz=315
833A Chaparral WMA, 127.69 53 P **PKPdf** **00 29 42.4 +0.2**
baz=296
435B Jarrell 127.97 49 P **PKPdf** **00 29 42.5 -0.2**
baz=299
CCM Cathedral Cave 128.26 38 PKPdf **PKPdf** **00 29 42.3 -0.7**
CCM Cathedral Cave 128.26 38 PKIKP **PKPdf** **00 29 42.3 -0.7**
DBIC Dimbokro 130.56 279 PKP **PKPdf** **00 29 48.5 +0.5**
comp=Z,22nm,0.9s,baz=101,slow=2.0,SNR=11
DBIC SKPbc **SKPbc** **00 33 10.8 +0.8**
comp=Z,17nm,0.8s,baz=94,slow=6.7,SNR=9.0
L61B Northampton 133.78 19 P **PKPdf** **00 29 53.4 +0.1**
baz=334
PLCA Paso Flores 137.40 161 PKP **PKPdf** **00 29 58.4 -1.8**
comp=Z,2.4nm,0.8s,baz=98,slow=3.2,SNR=4.2
PLCA SKPbc **SKPbc** **00 33 32.4 +0.4**
comp=Z,2.6nm,0.9s,baz=244,slow=3.2,SNR=4.0
PLCA Paso Flores 137.40 161 *e*P **PKPdf** **00 30 01.0 +0.8**
TRQA Tornquist 142.12 170 PKPpre 00 30 03.2
TRQA Tornquist 142.12 170 PKHKP PKPpre 00 30 03.2
MT02 Curacav 143.80 155 PKPdf PKPab 00 30 10.0 +1.1
CFA Coronel Fontan 146.42 157 PKPbc **PKPdf** **00 30 17.5 +1.0**
comp=Z,19nm,0.7s,baz=210,slow=2.6,SNR=20
ACON Acoyapa 146.43 67 *e*P **PKPdf** **00 30 17.9 +1.0**
ESPN Las Esperanzas 147.15 66 *e*P **PKPdf** **00 30 20.3 +2.2**
JTS Las Juntas de 147.17 70 **PKPdf** **00 30 18.3 +0.1**
JTS Las Juntas de 147.17 70 PKIKP **PKPdf** **00 30 18.3 +0.1**
JTS Las Juntas de 147.17 70 *e*P **PKPdf** **00 30 18.4 +0.1**
ARE1 Arenal 1 147.34 69 *e*P **PKPdf** **00 30 19.3 +0.8**
VARE2 V. Arenal 147.34 69 *e*P **PKPdf** **00 30 19.9 +1.4**
CEDE Laguna Cedeo 147.34 69 *e*P **PKPdf** **00 30 21.2 +2.7**
VACR Volcan Arenal 147.37 69 *e*P **PKPdf** **00 30 20.6 +2.0**
LCO Las Campanas 147.61 152 PKPbc **PKPdf** **00 30 19.3 +0.4**
LCO Las Campanas 147.61 152 PKP2 **PKPdf** **00 30 19.3 +0.4**
VBV1 V. Barva 148.03 70 *e*P **PKPdf** **00 30 20.5 +0.5**
HDC Heredia 148.04 70 *e*P **PKPdf** **00 30 19.6 -0.2**
LCR2 La Lucha 2 148.22 70 *e*P **PKPdf** **00 30 20.9 +0.7**
VICA Volcano Irazu 148.30 70 *e*P **PKPdf** **00 30 21.1 +0.5**
RAFA San Farael, Vo 148.34 70 *e*P **PKPdf** **00 30 20.8 +0.2**
CVTQ Turrialba Volc 148.37 70 *e*P **PKPdf** **00 30 22.4 +1.8**
VTCV VTCV, Calle Va 148.41 70 *e*P **PKPdf** **00 30 21.9 +1.4**
PLTB Pedras Altas 149.14 180 *e*P **PKPdf** **00 30 22.1 +1.1**
TBOT Tacuaremb 149.16 177 *e*P **PKPdf** **00 30 22.4 +1.4**
ALCO Alturas Coton, 149.56 71 *e*P **PKPdf** **00 30 23.6 +1.3**
BRU2 Volcan 149.74 71 *e*P **PKPdf** **00 30 23.1 +0.5**
CPSB Cacapava Do Su 150.49 181 *e*P **PKPdf** **00 30 24.2 +1.1**
PB14 IPOC Station P 151.35 147 PKPdf **PKPdf** **00 30 22.5 -2.6**
CNLB Canela 151.44 185 *e*P **PKPdf** **00 30 26.0 +1.3**
ITAB Concordia 153.60 183 *e*P **PKPdf** **00 30 29.2 +1.3**
CPUP Villa Florida 154.34 173 PKP **PKPdf** **00 30 28.8 -0.2**
comp=Z,7.3nm,1.0s,baz=108,slow=1.0,SNR=11
CPUP PKPbc **PKPbc** **00 30 38.2 +1.0**
comp=Z,26nm,1.1s,baz=260,slow=0.9,SNR=14
CPUP Villa Florida 154.34 173 *e*P **PKPdf** **00 30 28.8 -0.2**
NNA Nana 154.59 117 PKP **PKPdf** **00 30 30.3 +0.6**
comp=Z,6.2nm,0.7s,baz=201,slow=7.8,SNR=1.7
ATAH Atahualpa 154.71 105 PKP **PKPdf** **00 30 30.9 +0.6**
comp=Z,7.9nm,0.9s,baz=208,slow=3.8,SNR=6.6
ATAH PKPbc **PKiKP** **00 30 40.9 +2.0**
comp=Z,16nm,0.8s,baz=156,slow=0.7,SNR=9.1
ATAH PKPab **PKPab** **00 30 54.1 +0.3**
comp=Z,28nm,1.0s,baz=265,slow=4.8,SNR=10
OTAV Otavalo 155.38 88 *e*P **PKPdf** **00 30 31.7 +0.4**
SJPY San Joaquin 155.78 175 *e*P **PKPdf** **00 30 32.2 +1.2**
PTGB Pitanga 156.10 184 *e*P **PKPdf** **00 30 32.6 +1.1**
LDASE Londrina, Braz 157.32 187 *e*P **PKPdf** **00 30 34.3 +1.2**
BSFB Barra de Sao F 157.95 215 *e*P **PKPdf** **00 30 35.1 +1.2**
ROSC El Rosal 158.81 75 PKP **PKPdf** **00 30 36.3 +0.7**
comp=Z,5.9nm,0.3s,baz=360,slow=5.7,SNR=6.8
ROSC PKPab **PKPab** **00 31 12.3 +0.9**
comp=Z,26nm,0.9s,baz=47,slow=24,SNR=4.7
MURT Porto Murtinho 158.88 170 *e*P **PKPdf** **00 30 35.1 +0.2**
GUA01 Guaratinga, BA 159.04 221 *e*P **PKPdf** **00 30 35.3 +0.1**
LPAZ La Paz 159.10 138 PKP **PKPdf** **00 30 37.1 +1.0**
comp=Z,12nm,1.1s,baz=8.7,slow=2.0,SNR=21
LPAZ PKPab **PKPab** **00 31 12.9 +0.3**
comp=Z,11nm,0.8s,baz=214,slow=1.9,SNR=7.9
LPAZ PP **PP** **00 34 51.3 -1.5**
comp=Z,1.7nm,0.9s,baz=212,slow=5.8,SNR=2.2
LPAZ La Paz 159.10 138 *e*P **PKPdf** **00 30 37.0 +0.9**
CMC01 Camacan, BA 159.72 224 *e*P **PKPdf** **00 30 37.4 +1.3**
DIAM Diamantina, MG 159.89 209 *e*P **PKPdf** **00 30 36.8 +0.4**
CZSB Cruzeiro do Su 159.96 111 *e*P **PKPdf** **00 30 36.5 +0.1**
BDQN Bodoquena, MS 160.21 172 *e*P **PKPdf** **00 30 37.6 +1.1**
AQDB Aquidauana 160.30 175 *e*P **PKPdf** **00 30 37.2 +0.6**
RPRD Ribas do Rio P 160.38 180 *e*P **PKPdf** **00 30 38.0 +1.3**
SDV Santo Domingo 160.74 60 PKP **PKPdf** **00 30 37.4 -0.1**
comp=Z,25nm,1.0s,baz=344,slow=0.9,SNR=16
SDV PKPab **PKPab** **00 31 19.4 0.0**
comp=Z,7.1nm,0.7s,baz=36,slow=5.6,SNR=1.5
SDV PP **PP** **00 35 00.9 -1.0**
comp=Z,1.1nm,0.3s,baz=344,slow=13,SNR=1.7
SDV Santo Domingo 160.74 60 *e*P **PKPdf** **00 30 37.6 +0.1**
PMNB Patos De Minas 160.87 202 *e*P **PKPdf** **00 30 38.7 +1.3**
NBLA Lagarto - SE 161.07 237 *e*P **PKPdf** **00 30 38.4 +0.8**
SIV San Ignacio 163.25 155 PKP **PKPdf** **00 30 40.6 +0.8**
comp=Z,8.9nm,0.8s,baz=172,slow=0.9,SNR=29
SIV PKPab **PKPab** **00 31 30.7 +0.8**
comp=Z,6.8nm,0.6s,baz=235,slow=6.3,SNR=12
TBTG Tabatinga, AM 163.59 102 *e*P **PKPdf** **00 30 40.7 +0.5**
BDFB Brasilia 164.11 201 PKP **PKPdf** **00 30 40.5 -0.1**
comp=Z,5.8nm,0.8s,baz=30,slow=3.0,SNR=10
BDFB PKPab **PKPab** **00 31 34.2 +0.4**
comp=Z,7.9nm,0.8s,baz=235,slow=0.9,SNR=8.2
BDFB PP **PP** **00 35 18.8 +0.7**
comp=Z,5.0nm,1.0s,baz=106,slow=5.6,SNR=3.8
PTLB Pontes e Lacer 164.48 161 *e*P **PKPdf** **00 30 41.9 +1.1**
SALV Santo Antonio 164.82 173 *e*P **PKPdf** **00 30 41.9 +0.8**
ARAG Araguaiana, MT 164.99 188 *e*P **PKPdf** **00 30 42.4 +1.0**
VILB Vilhena 166.33 153 *e*P **PKPdf** **00 30 44.0 +1.5**
SNDB Serra Nova Dou 168.55 193 *e*P **PKPdf** **00 30 40.4 -3.7**
PDRB Porto dos Gac 168.82 165 *e*P **PKPdf** **00 30 44.1 -0.2**
TEFE Tefe 168.88 104 *e*P **PKPdf** **00 30 45.0 +0.7**
CLDB Colider 169.75 169 *e*P **PKPdf** **00 30 45.2 +0.4**
SMTB Santa Maria do 169.80 217 *e*P **PKPdf** **00 30 45.5 +0.6**
BOAV Boa Vista 172.64 65 *e*P **PKPdf** **00 30 46.5 +0.2**
NPGB Novo Progresso 173.56 167 *e*P **PKPdf** **00 30 47.1 +0.4**
ITTB Itaituba 175.93 152 *e*P **PKPdf** **00 30 47.9 +0.5**

RSPR **20** *00:15:27.5, 19°.03N×64°.71W, h94km±25km*
NEIC 20 00:15:25.6±1.4,**19°.48N**±0°.06×**65°.0W**±0°.1,**h35**km±2km,
ML2.4/22,**Md3.6**/2(RSPR),**1C-5D**,**Error ellipse:**
s-maj=16.7km s-min=10.5km az=75.0,**Virgin Islands**

| Code | Station Name | Δ° | A

IGPR	InterUniversit	1.85	216	Pn	Pn	00 15 54.8	0.0
IGPR				IAML		00 16 20.7	
	comp=N,20nm,1.3s						
IGPR				IAML		00 16 30.3	
	comp=E,24nm,0.3s						
AOPR	Arecibo Observ	2.03	236	Pn	Pn	00 15 58.1	+0.8
AOPR				IAML		00 16 20.7	
	comp=N,39nm,1.3s						
AOPR	Arecibo Observ	2.03	236‖	eP	Pn	00 16 01.1	+3.8
AOPR	Arecibo Observ	2.03	236	eS	Sn	00 16 25.7	+4.3
UUPR	Utuado, UPR, P	2.06	234	Pn	Pn	00 15 57.6	-0.1
UUPR				Sn	Sn	00 16 22.8	+0.7
UUPR				IAML		00 16 30.8	
	comp=N,50nm,0.4s						
UUPR				IAML		00 16 32.4	
	comp=E,41nm,0.4s						
UUPR	Utuado, UPR, P	2.06	234	eS	Sn	00 16 26.6	+4.4
CELP	Cerrillos	2.07	228	Pn	Pn	00 15 57.7	-0.1
CELP				Sn	Sn	00 16 22.1	-0.3
CELP				IAML		00 16 29.4	
	comp=N,19nm,2.8s						
CELP				IAML		00 16 29.7	
	comp=E,21nm,2.1s						
CELP	Cerrillos	2.07	228‖	eP	Pn	00 15 59.3	+1.5
CELP	Cerrillos	2.07	228	eS	Sn	00 16 25.2	+2.8
OBIP	Obispado Ponce	2.11	227	Pn	Pn	00 15 57.4	-1.0
OBIP				IAML		00 16 43.4	
	comp=N,26nm,3.1s						
OBIP				IAML		00 17 02.4	
	comp=E,24nm,3.3s						
CRPR	Cabo Rojo, PR	2.50	234	Pn	Pn	00 16 05.0	+1.3
CRPR	Cabo Rojo, PR	2.50	234‖	eP	Pn	00 16 07.7	+3.9
CRPR	Cabo Rojo, PR	2.50	234	eS	Sn	00 16 35.1	+2.1
BANI	BANI	5.21	259	Pn	Pn	00 16 40.3	-0.8

ATH 20 00:21:31.0, 37°.53N×20°.54E, h13km±4km, ML1.5/2, Manual Solution by A.Fokaefs First location: 2019/02/20 12:33:27, This location: 2019/02/20 12:32:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 7 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.30	53	P	Pg	00 21 37.0	-0.2
LTHK				S	Sg	00 21 42.0	+0.7
ORTH	Orthonies,Zaky	0.34	21	P	Pg	00 21 38.1	0.0
ORTH				S	Sb	00 21 43.8	-0.7
KYPS	Kipseli, Zakin	0.37	38	P	Pg	00 21 38.6	+0.2
KYPS				S	Sb	00 21 44.6	-0.5
PSDA	Pessada-Kefalo	0.58	4	P	Pg	00 21 42.7	+0.3
CLEM	Kyllini,Ilia,G	0.59	52	P	Pg	00 21 42.8	+0.2
VLS	Valsamata	0.65	4	P	Pg	00 21 43.0	-0.6
DMLN	Damoulianata-K	0.72	350	P	Pb	00 21 46.1	+0.6
EVGI	Lefkada island	1.09	5	P	Pb	00 21 51.1	-0.7
LKD2	Lefkada island	1.26	4	P	Pg	00 21 55.5	+0.3
TSLK	Tsoukalades, L	1.30	4	P	Pb	00 21 55.5	+0.2

ATH 20 00:22:12.5, 37°.57N×22°.37E, h16km±4km, ML1.3/5, Manual Solution by A.Fokaefs First location: 2019/02/20 00:23:16, This location: 2019/02/20 12:14:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUR	Goura	0.36	357	P	Pg	00 22 20.3	+0.2
GUR				S	Sg	00 22 25.6	+0.4
KLV	Kalavryta, Ach	0.50	340	P	Pb	00 22 22.8	-0.2
KLV				S	Sb	00 22 30.4	+0.3
AMT	Artemida-Makis	0.53	266	P	Pb	00 22 23.4	0.0
AMT				S	Sb	00 22 30.9	+0.2
ITM	Ithomi	0.53	222	P	Pg	00 22 23.0	0.0
ITM				S	Sb	00 22 30.6	-0.2
DRO	Drossia	0.64	306	P	Pb	00 22 25.4	0.0
KRND	KRANIDI	0.65	107	P	Pg	00 22 25.0	-0.3
LTK	Loutraki	0.65	46	P	Pg	00 22 25.4	0.0
LTK				S	Sg	00 22 34.1	+0.1
MET6	Megalochori,Me	0.79	88	P	Pg	00 22 27.2	-0.5
MET5	Makryloggos,Me	0.79	86	P	Pg	00 22 27.4	-0.5
MET4	Agioi Theodoro	0.82	86	P	Pb	00 22 28.1	-0.3
RLS	Riolos of Patr	0.86	304	P	Pb	00 22 29.0	-0.1
VIL2	Platees	0.96	48	P	Pn	00 22 31.3	-0.1
VLI	Veliai	0.97	152	P	Pb	00 22 30.4	-0.5
VLY	Voula,Athens	1.17	76	P	Pg	00 22 35.1	+0.1
DION	Dionisos Attik	1.34	67	P	Pg	00 22 38.0	-0.3

PRU 20 00:27:38.5, 50°.17N×19°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	Steborice	0.91	256	ePG	Pb	00 27 56.8	-0.4
STEB				eSG	Sg	00 28 08.2	+0.4
LANS	Liptovska Anna	1.04	168	ePG	Pg	00 27 57.2	-1.3
LANS				eSG	Sg	00 28 10.9	-1.0
LANS				eLG	Lg	00 28 13.1	
MORC	Moravsky Berou	1.10	250	ePG	Pg	00 27 59.0	-0.6
MORC				eSG	Sg	00 28 12.8	-1.1
MAUC	Maruska	1.17	227	ePG	Pg	00 28 00.1	-0.8
KRLC	Kraliky	1.52	267	ePG	Pn	00 28 05.7	-1.3
KRLC				eSG	Sg	00 28 25.4	-1.9
	comp=Z,3.8nm,0.3s						
VYHS	Vyhne	1.69	187	ePN	Pn	00 28 07.1	-2.2
VYHS				eSN	Sn	00 28 28.8	-2.8
DPC	Dobruska-Polom	1.82	277	ePG	Pn	00 28 10.9	-0.2
DPC				eSG	Sb	00 28 36.1	+0.1
VRAC	Vranov	1.86	243	eSG	Sn	00 28 36.3	+0.4
KRUC	Moravsky	2.10	239	eSG	Sb	00 28 43.8	-0.3
KHC	Kasperske Hory	3.76	256	eSG	Sg	00 29 37.2	-2.1

SOF ***20*** *00:27:57.3, 40°.49N±0°.02×27°.13E±0°.01, h8km±2km, MD3.4/12*
AFAD ***20*** *00:27:57.2, 40°.37N×27°.16E, h7km±1km, MW3.6*
ISK ***20*** *00:27:57.4, 40°.39N×27°.15E, h7km, ML3.6/52*
THE ***20*** *00:27:58.4, 40°.41N×27°.11E, h7km±1km, ML3.7/9, Error ellipse: s-maj=1.4km s-min=0.7km az=339.0*
ATH ***20*** *00:28:00.0, 40°.40N×27°.22E, h35km±10km, ML3.5/23, Manual Solution by G.Panopoulou First location: 2019/02/20 00:29:06, This location: 2020/08/22 19:15:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
CFUSG ***20*** *00:28:01.2, 41°.20N×26°.75E, h31km, mb3.0/2, Western Turkey Magtype MSH 3.3 from 3 stations*
ISC 20 00:27:57.6±0.8, 40°.38N±0°.01×27°.19E±0°.01, h13km±5km, n209, σ0s97/273, 17C-19D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	Karabiga-Canak	0.09	80	Pg	Pg	00 28 00.3	-0.1
KRBG				Sg	Sg	00 28 02.3	-0.1
RKY	Sarkoy-Tekirda	0.31	359	Pg	Pg	00 28 03.9	-0.1
RKY				Sg	Sg	00 28 08.5	+0.3
SART	Tekirdag	0.31	359	P	Pg	00 28 04.1	+0.1
SART				S	Sg	00 28 08.0	-0.3
LPK	Lapseki	0.33	269	Pg	Pg	00 28 03.9	-0.3
LPK				Sg	Sg	00 28 08.8	+0.1
CANM	Can-anakkale	0.38	196	Pg	Pg	00 28 05.4	+0.2
CANM				Sg	Sg	00 28 10.9	+0.6
YENI	Yenice-Canakka	0.44	175	Pg	Pb	00 28 06.7	-0.5
YENI				Sg	Sb	00 28 14.0	+0.2
GONE	Gonen-Balikesi	0.51	131	Pg	Pb	00 28 08.4	+0.1
GONE				Sg	Sb	00 28 15.9	+0.3
EDC	Edincik	0.52	93	Pg	Pb	00 28 08.2	-0.3
EDC				Sg	Sb	00 28 16.7	+0.8
GELI	Tayfur-Gelibol	0.55	272	Pg	Pg	00 28 08.0	-0.2
GELI				Sg	Sg	00 28 15.6	+0.1
ERIK	Erikli-Kesan	0.59	300	Pg	Pg	00 28 08.8	-0.3
ERIK				Sg	Sg	00 28 17.1	+0.2
COMU	Canakkale	0.61	243	Pg	Pg	00 28 09.5	0.0
COMU				Sg	Sb	00 28 18.3	-0.4
TKR	Tekirdag	0.67	23	Pg	Pb	00 28 10.7	-0.4
TKR				Sg	Sb	00 28 20.6	+0.4
CNKL	anakkale-Mer	0.69	243	P	Pg	00 28 10.3	-0.6
CNKL				S	Sg	00 28 18.9	-1.0
BAND	Balkesir-Ban	0.70	92	P	Pb	00 28 11.1	-0.5
BAND				S	Sb	00 28 20.9	-0.2
BAND	Balkesir-Ban	0.70	92	⇓P	Pn	00 28 12.1	-1.0
BAND				⇓S	Sn	00 28 22.0	-1.8
BALY	Balya	0.72	152	P	Pb	00 28 11.6	-0.4
BAYC	CANAKKALE_Bayr	0.80	218	P	Pg	00 28 12.6	-0.5
BAYC				S	Sg	00 28 22.4	-1.3
SUSR	Susurluk-Balik	0.80	121	Pg	Pn	00 28 13.8	-0.8
ENZZ	Sultanice-Enez	0.83	286	Pg	Pg	00 28 13.4	-0.2
CAVK	Edirne/Enez-Ca	0.84	292	P	Pg	00 28 13.2	-0.6
CAVK				S	Sg	00 28 23.5	-1.2
CAVK	Edirne/Enez-Ca	0.84	292	⇓P	Pg	00 28 13.2	-0.6
CAVK				⇓S	Sg	00 28 24.9	+0.2
ECEA	Canakkale, Ece	0.84	247	P	Pg	00 28 13.5	-0.4
ECEA				S	Sg	00 28 24.3	-0.6
CRLT	Corlu	0.86	29	Pg	Pn	00 28 14.7	-0.7
BKES	Balkesir-Mer	0.86	138	P	Pb	00 28 14.5	+0.2
UKOP	Uzunkopru-Edir	0.86	331	Pg	Pg	00 28 14.0	-0.2
ENEZ	Enez	0.86	295	Pg	Pg	00 28 14.1	-0.2
ENEZ	Enez	0.86	295	P	Pg	00 28 13.6	-0.7
ENEZ				S	Sg	00 28 24.7	-0.9
	6μm,0.5s						
BUHA	Balikesir, Bur	0.88	186	P	Pb	00 28 14.8	+0.1
BUHA				S	Sb	00 28 26.3	0.0
EZNE	Ezine-Canakkal	0.89	226	Pg	Pg	00 28 14.5	-0.1
KCTX	Karacabey (Bur	0.90	97	Pg	Pb	00 28 15.2	+0.1
GOAD	anakkale-G¶	1.00	258	P	Pb	00 28 15.9	-0.8
GOAD				S	Sb	00 28 29.7	-0.2
GADA	Gvkgeada	1.00	260	Pg	Pb	00 28 15.7	-1.1
ALN	Alexandroupoli	1.01	301	Pg	Pb	00 28 16.3	-0.6
ALN	Alexandroupoli	1.01	301	P	Pb	00 28 15.9	-1.0
ALN				S	Sb	00 28 29.6	-0.5
	2μm,0.4s						
ALN	Alexandroupoli	1.01	301	P	Pb	00 28 16.0	-0.9
ALN				S	Sb	00 28 29.9	-0.2
BOZC	Bozcaada	1.02	239	Pg	Pb	00 28 17.1	0.0
BOZC	Bozcaada	1.02	239	P	Pb	00 28 16.5	-0.6
BOZC				S	Sb	00 28 29.7	-0.7
SFL1	Soufli	1.05	321	P	Pb	00 28 17.5	-0.2
STEP	BALIKESIR_Sava	1.08	158	P	Pg	00 28 18.3	-0.1
STEP				S	Sn	00 28 33.5	+0.2
ALEX	Alexandroupoli	1.09	296	P	Pb	00 28 17.8	-0.4
ALEX				S	Sg	00 28 32.9	+0.2
AYVA	Ayvalik	1.13	200	P	Pg	00 28 19.6	+0.2
AYVA				S	Sb	00 28 33.5	-0.1
SLVT	Silivri	1.15	42	Pn	Pg	00 28 19.4	-0.3
KOCA	Canakkale, Ayv	1.19	223	P	Pb	00 28 20.0	0.0
KOCA				S	Sb	00 28 34.9	-0.3
ELBA	Catalca	1.22	50	P	Pb	00 28 20.2	-0.3
GPNR	Gulpinar-Canak	1.23	222	Pn	Pb	00 28 20.5	-0.1
SOMA	Soma-Manisa	1.25	168	Pn	Pg	00 28 22.1	+0.5
SMTH	Samothraki Isl	1.27	275	P	Pn	00 28 20.4	-0.6
SMTH				S	Sb	00 28 37.3	-0.2
	3μm,0.4s						
SMTH	Samothraki Isl	1.27	275	P	Pn	00 28 20.4	-0.6
SMTH				S	Sb	00 28 37.4	-0.2
PHSR	Pinarhisar	1.28	11	Pn	Pb	00 28 21.2	-0.3
ARMT	Armutlu	1.29	81	Pn	Pg	00 28 21.9	-0.5
MDNY	Mudanya-Bursa	1.30	90	Pn	Pg	00 28 22.2	-0.3
VIZE	Kirklareli, Vi	1.30	22	P	Pn	00 28 21.3	-0.1
VIZE				S	Sb	00 28 37.1	-1.3
CTKS	Kestanelik-??a	1.32	49	Pn	Pb	00 28 22.2	0.0
AVCI	Avcilar-stanb	1.32	62	Pn	Pg	00 28 22.7	-0.3
DKL	Dikili	1.32	190	Pn	Pg	00 28 22.8	-0.2
DKL	Dikili	1.32	190	P	Pb	00 28 22.4	+0.2
DKL				S	Sn	00 28 39.2	+0.1
PRK	Paraskevi	1.33	212	P	Pb	00 28 22.2	-0.2
PRK				S	Sg	00 28 40.1	-0.4
	6μm,0.6s						
PRK	Paraskevi	1.33	212	P	Pb	00 28 22.6	+0.2
PRK				S	Sb	00 28 39.1	-0.2
DST	Dursunbey	1.34	125	Pn	Pg	00 28 23.9	+0.5
ORLT	Orhaneli	1.35	104	Pn	Pg	00 28 23.8	+0.3
CTYL	Yalikoy Yolu	1.38	37	Pn	Pb	00 28 22.9	-0.3
BGKT	Bogazkoy	1.45	56	Pn	Pb	00 28 24.0	-0.4
CAND	Candarli	1.45	192	Pn	Pg	00 28 25.0	-0.4
RDO	Rodhopi	1.47	302	Pn	Pb	00 28 24.4	-0.3
RDO	Rodhopi	1.47	302	P	Pb	00 28 24.4	-0.3
RDO				S	Sn	00 28 42.6	-0.2
	1μm,0.3s						
RDO	Rodhopi	1.47	302	P	Pb	00 28 24.4	-0.3
RDO				S	Sn	00 28 42.6	-0.2
TRGA	Dikaia	1.49	333	P	Pb	00 28 24.5	-0.6
EDRB	Edirne	1.50	347	Pn	Pn	00 28 24.7	+0.4
EDRB	Edirne	1.50	347	P	Pn	00 28 24.5	+0.2
EDRB				S	Sb	00 28 44.1	-0.3
	1μm,0.5s						
KMT1	Komotini	1.54	299	P	Pn	00 28 25.2	+0.5
SIGR	SIGRI	1.55	222	Pn	Pn	00 28 25.3	+0.4
SIGR	SIGRI	1.55	222	P	Pn	00 28 25.3	+0.4
SIGR				S	Sb	00 28 46.1	+0.4
	2μm,0.5s						
SIGR	SIGRI	1.55	222	P	Pn	00 28 25.3	+0.4
SIGR				S	Sb	00 28 45.2	-0.4
AKS	Akhisar	1.57	162	Pn	Pb	00 28 26.3	-0.2
ISK	Istanbul-Kandi	1.58	64	Pn	Pn	00 28 25.6	+0.3
ISK	Istanbul-Kandi	1.58	64	P	Pn	00 28 25.4	+0.1
KAVV	Kandilli-Istan	1.58	64	Pn	Pb	00 28 26.8	+0.2
LIA	Limnos Island	1.61	253	P	Pn	00 28 26.2	+0.6
LIA				S	Sb	00 28 46.9	-0.4
	3μm,0.4s						
LIA	Limnos Island	1.61	253	P	Pb	00 28 26.4	-0.7
LIA				S	Sn	00 28 46.3	+0.1
GORD	Gordes-Manisa	1.65	152	Pn	Pb	00 28 28.0	+0.1
KLYT	Kilyos	1.66	58	Pn	Pb	00 28 27.0	-0.9
YLV	Yalova	1.68	83	Pn	Pb	00 28 28.1	-0.2
LMN1	MIRINA LIMNOU	1.71	254	P	Pb	00 28 27.9	-0.8
LMN1				S	Sn	00 28 48.4	-0.2
XANC	Avdira	1.80	290	P	Pn	00 28 29.2	+0.9
KDZ	Kurdzhali	1.88	312	Pn	Pn	00 28 30.1	+0.7
KDZ	Kurdzhali	1.88	312	eP	Pn	00 28 29.7	+0.3
KDZ				S	Sb	00 28 56.0	+1.0
EFSA	Agios Efstrati	1.89	244	P	Pb	00 28 30.6	-1.2
THAS	Thassos island	1.90	278	P	Pn	00 28 29.3	-0.3
THAS	Thassos island	1.90	278	P	Pn	00 28 29.1	-0.5
HRT	Hereke	1.94	76	Pn	Pb	00 28 32.2	-0.6
ADVT	Abdulvahap	1.95	88	Pn	Pb	00 28 32.4	-0.5
TVSB	Tavsanli	1.98	117	Pn	Pb	00 28 32.9	-0.6
BLCB	Balcova	1.99	183	Pn	Pb	00 28 32.8	-0.9
EAG2	Marmaro, Chios	2.01	205	P	Pn	00 28 31.5	+0.3
THS1	Thassos, Thass	2.02	281	P	Pn	00 28 31.9	+0.6
CAVI	Cavuskoy	2.04	94	Pn	Pb	00 28 33.9	-1.0
DIM	Dimitrovgrad	2.06	324	i P	Pn	00 28 32.6	+0.7
DIM				S	Sg	00 29 02.4	-1.4
SHAP	Saphane-Kutahy	2.07	130	Pn	Pb	00 28 34.3	-0.8
KAVA	Kavala	2.12	288	P	Pn	00 28 33.3	+0.5
KAVA	Kavala	2.12	288	P	Pn	00 28 33.2	+0.4
KAVA				S	Sn	00 28 57.6	-1.4
JMB	Yambol	2.17	347	eP	Pn	00 28 34.4	+1.0
JMB				S	Sg	00 29 05.7	-1.6
GEDZ	Gediz	2.17	127	Pn	Pb	00 28 35.2	-1.6
KULA	Kula-Manisa	2.18	148	Pn	Pb	00 28 35.7	-1.3
KVLA	Kavala	2.20	286	P	Pn	00 28 34.2	+0.3
KVLA				S	Sn	00 28 59.9	-1.0
ODEM	Odemis-Izmir	2.21	162	Pn	Pn	00 28 35.1	+1.1
RZN	Rozhen	2.27	306	eP	Pn	00 28 35.9	+0.9
RZN				S	Sn	00 29 03.7	+0.8
OUR	Ouranopolis	2.45	270	P	Pn	00 28 37.0	-0.2
OUR	Ouranopolis	2.45	270	P	Pn	00 28 36.9	-0.4
KOKK	Kokkinochori,	2.47	281	P	Pn	00 28 37.3	-0.1
KOKK				S	Sn	00 29 06.6	-0.9
	172nm,0.5s						
KOKK	Kokkinochori,	2.47	281	P	Pn	00 28 37.4	-0.1
SKY	Skiros Island	2.53	234	P	Pn	00 28 38.3	0.0
PLD	Plovdiv	2.55	315	i P	Pn	00 28 39.3	+0.7
PLD				S	Sn	00 29 10.6	+1.1
SMG	Samos	2.68	186	P	Pn	00 28 40.7	+0.3
SMG	Samos	2.68	186	P	Pn	00 28 40.6	+0.2
NVR	Nevrokopi	2.70	292	P	Pn	00 28 41.9	+1.2
PAIG	Paliouri	2.73	262	P	Pn	00 28 40.8	-0.2
PRD	Provadia	2.79	3	i P	Pn	00 28 41.9	+0.1
PRD				S	Sg	00 29 25.8	-1.2
AOS	Alonnisos	2.82	246	P	Pn	00 28 43.1	+0.8
SRS	Serrai	2.83	286	P	Pn	00 28 42.6	+0.1
SRS	Serrai	2.83	286	P	Pn	00 28 42.7	+0.3
MMB	Musomishta	2.85	295	i P	Pn	00 28 43.8	+1.0
MMB				S	Sn	00 29 18.1	+1.0
PLG	Polygyros	2.86	271	P	Pn	00 28 43.1	+0.2
PLG	Polygyros	2.86	271	P	Pn	00 28 42.9	0.0
SOH	Sokhos	2.95	280	P	Pn	00 28 44.5	+0.3
SOH	Sokhos	2.95	280	P	Pn	00 28 44.5	+0.3
KYMI	Kymi, Euboea I	2.96	235	P	Pn	00 28 44.0	-0.2
KYMI	Kymi, Euboea I	2.96	235	P	Pn	00 28 44.0	-0.2
SZH	Strazhitsa	3.02	343	i P	Pn	00 28 45.7	+0.6
SZH				S	Sb	00 29 28.8	+0.7
PGB	Panagyurishte	3.11	314	eP	Pn	00 28 47.1	+0.7
PGB				S	Sn	00 29 25.5	+2.1
HORT	Hortiatis	3.12	275	P	Pn	00 28 47.2	+0.6
KARY	Karystos	3.17	223	P	Pn	00 28 48.0	+0.9
THE	Thessaloniki	3.23	276	P	Pn	00 28 49.1	+1.2
NEO	Neokhori	3.23	252	P	Pn	00 28 47.5	-0.5
XOR	Xorichti	3.24	253	P	Pn	00 28 47.7	-0.4
XOR	Xorichti	3.24	253	P	Pn	00 28 47.6	-0.5
XOR				S	Sn	00 29 25.5	-1.0
KNT	Kendrikon	3.35	285	P	Pn	00 28 50.3	+0.7
KDZE	Karadeniz Ereo	3.36	72	⇑P	Pn	00 28 51.7	+2.0
KDZE				⇓S	Sb	00 29 34.4	-3.4
KKB	Krupnik	3.40	297	eP	Pn	00 28 51.3	+1.0
KKB				S	Sg	00 29 47.4	+0.8
DION	Dionisos Attik	3.41	229	P	Pn	00 28 50.7	+0.2
PTL	Penteli	3.47	229	P	Pn	00 28 51.9	+0.6
APE	Apeiranthos	3.55	202	P	Pn	00 28 52.4	0.0
APE	Apeiranthos	3.55	202	⇑P	Pn	00 28 52.5	+0.1
APE				⇓S	Sn	00 29 34.7	+0.5
APE	Apeiranthos	3.55	202	P	Pn	00 28 52.3	0.0
ATHU	Athens Univers	3.58	229	P	Pn	00 28 52.6	-0.1
VLY	Voula,Athens	3.65	227	P	Pn	00 28 53.9	+0.2
LKR	Lokris	3.67	243	P	Pn	00 28 54.5	+0.5
VTS	Vitosha	3.72	308	i P	Pg	00 29 09.5	+0.7
VTS				S	Sg	00 29 56.4	-0.5
VIL2	Platees	3.73	236	P	Pn	00 28 55.2	+0.4
AXAR	Agios Charalam	3.85	247	P	Pn	00 28 57.7	+1.2
TYRN	Tyrnavos	3.86	262	P	Pn	00 28 57.1	+0.5
MPEP	Malo Peshtene	3.93	320	i P	Pn	00 28 58.9	+1.3
MPEP				S	Sn	00 29 43.3	-0.4
LTK	Loutraki	4.03	236	P	Pn	00 28 58.9	-0.1
MET4	Agioi Theodoro	4.03	228	P	Pn	00 28 59.2	+0.2
MET5	Makryloggos,Me	4.06	229	P	Pn	00 28 59.2	-0.2
MET6	Megalochori,Me	4.08	228	P	Pn	00 29 00.3	+0.7
MAKR	Makrakomi, Fth	4.13	252	P	Pn	00 29 01.1	+0.8
VALD	Valchedram	4.33	321	i P	Pn	00 29 04.2	+1.1
KRND	KRANIDI	4.34	228	P	Pn	00 29 03.7	+0.4
KALE	Kalithea	4.38	245	P	Pn	00 29 04.6	+0.7
EVR	Evrytania	4.40	252	P	Pn	00 29 05.4	+1.3
FNA	Florina	4.44	277	P	Pn	00 29 05.8	+1.1
ANX	Ano Chora	4.45	248	P	Pn	00 29 05.9	+1.2
KPRO	Kipourio	4.48	266	P	Pn	00 29 06.0	+0.8
GUR	Goura	4.49	239	P	Pn	00 29 06.1	+0.8
EFP	Efpalio	4.53	246	P	Pn	00 29 06.5	+0.6
KLV	Kalavryta, Ach	4.55	241	P	Pn	00 29 07.1	+0.9
TPGR	Topolog	4.57	11	⇑S	Sn	00 30 02.4	+3.1
TETR	Tetrakomo, Epi	4.67	259	P	Pn	00 29 09.3	+1.6
NEST	Nestorio	4.69	272	P	Pn	00 29 08.9	+0.8
PVO	Paravola	4.72	250	P	Pn	00 29 10.2	+1.7
KARP	Karpathos	4.82	180	P	Pn	00 29 10.9	+1.0
DRO	Drossia	4.90	242	P	Pn	00 29 12.6	+1.7
VLI	Veliai	4.94	224	P	Pn	00 29 11.8	+0.2
AXS	Araxos	5.01	246	P	Pn	00 29 14.1	+1.8
RLS	Riolos of Patr	5.01	244	P	Pn	00 29 12.4	0.0
NEHR	Nehoiu	5.09	353	⇓P	Pn	00 29 15.6	+2.1
MLR	Muntele Rosu	5.19	350	⇓P	Pn	00 29 16.7	+1.7
ITM	Ithomi	5.20	234	P	Pn	00 29 16.6	+1.5
BOVS	Bovan	5.22	310	⇑P	Pn	00 29 16.4	+1.1
VOIR		5.29	343	⇑P	Pn	00 29 19.0	+2.6
IGT	Igoumenitsa	5.33	263	P	Pn	00 29 17.8	+0.9
SPBR	Spulber	5.38	357	⇑P	Pn	00 29 20.2	+2.7
ODBI	Odobesti	5.38	359	⇑P	Pn	00 29 20.2	+2.7
PLOR	Plostina	5.49	356	⇓P	Pn	00 29 21.0	+2.0
PANC	Panciu	5.49	360	⇑P	Pn	00 29 19.9	+0.9
VRI	Vrincioaia	5.50	357	⇑P	Pn	00 29 21.5	+2.4
COVR	Voineasa-Covas	5.51	353	⇑P	Pn	00 29 21.9	+2.5
LOT	Lotru	5.65	335	⇑P	Pn	00 29 22.1	+0.8
HERR	Herculane	5.71	324	⇓P	Pn	00 29 22.5	+0.4
DOPR	Dopca	5.74	347	⇑P	Pn	00 29 24.7	+2.2
OZUR		5.81	350	⇓P	Pn	00 29 25.5	+2.1
GZR	Gura Zlata	5.97	329	⇓P	Pn	00 29 26.4	+0.7
MDVR	Moldovita	5.97	319	⇑P	Pn	00 29 26.7	+1.0
ONER	Baraj Valea Uz	5.98	355	⇓P	Pn	00 29 28.5	+2.7
MDB	Medias	6.11	341	⇓P	Pn	00 29 29.7	+2.2
TESR	Tescani	6.14	357	⇓P	Pn	00 29 30.1	+2.1
SEV	Sevastopol'	6.35	47	eP	Pn	00 29 31.1	+0.3
SEV				Pm		00 29 29.5	
	comp=Z,12nm,0.4s						
S

HUMP	**Col San Antoni**	**1.63 199⇓**	*eP*	**Pn**	**00 38 37.3**	**+0.8**
HUMP	**Col San Antoni**	**1.63 199**	*eS*	**Sn**	**00 38 56.5**	**-0.2**
EMPR	**Esperanza - Ma**	**1.69 224**	Pn	**Pn**	**00 38 36.3**	**-0.9**
EMPR			Sn	**Sn**	**00 38 57.2**	**-0.7**
EMPR			IAML		00 39 16.8	
	comp=E,172nm,0.7s					
EMPR			IAML		00 39 25.1	
	comp=N,137nm,1.4s					
EMPR	**Esperanza - Ma**	**1.69 224⇓**	*eP*	**Pn**	**00 38 38.1**	**+0.9**
EMPR	**Esperanza - Ma**	**1.69 224**	*eS*	**Sn**	**00 38 57.8**	**-0.2**
ECPR	**Experimental S**	**1.71 217⇓**	*eP*	**Pn**	**00 38 38.1**	**+0.6**
ECPR	**Experimental S**	**1.71 217**	*eS*	**Sn**	**00 38 58.1**	**-0.3**
SJG	**San Juan**	**1.77 208**	Pn	Pn	00 38 35.2	-3.2
SJG			IAML		00 39 04.5	
	comp=N,70nm,0.4s					
SJG	**San Juan**	**1.77 208**	*eP*	**Pn**	**00 38 38.8**	**+0.4**
SJG			*eS*	**Sn**	**00 39 00.3**	**+0.2**
SJG	**San Juan**	**1.77 208⇑**	*eP*	**Pn**	**00 38 38.7**	**+0.4**
PDPR	**Patillas Dam,**	**1.81 203**	Pn	**Pn**	**00 38 38.8**	**0.0**
PDPR	**Patillas Dam,**	**1.81 203⇓**	*eP*	**Pn**	**00 38 39.6**	**+0.7**
PDPR	**Patillas Dam,**	**1.81 203**	*eS*	**Sn**	**00 39 02.1**	**+1.2**
IGPR	**InterUniversit**	**1.89 204**	Pn	**Pn**	**00 38 40.0**	**+0.1**
IGPR			Sn	**Sn**	**00 39 01.9**	**-1.0**
IGPR			IAML		00 39 06.8	
	comp=E,138nm,0.2s					
IGPR			IAML		00 39 07.0	
	comp=N,150nm,0.2s					
IGPR	**InterUniversit**	**1.89 204⇓**	*eP*	**Pn**	**00 38 40.8**	**+0.9**
IGPR	**InterUniversit**	**1.89 204**	*eS*	**Sn**	**00 39 02.6**	**-0.3**
AOPR	**Arecibo Observ**	**1.93 226**	Pn	**Pn**	**00 38 40.8**	**+0.3**
AOPR			IAML		00 39 16.0	
	comp=N,162nm,0.7s					
AOPR	**Arecibo Observ**	**1.93 226**	*eP*	**Pn**	**00 38 41.3**	**+0.7**
AOPR			*eS*	**Sb**	**00 39 07.4**	**-0.2**
AOPR	**Arecibo Observ**	**1.93 226⇓**	*eP*	**Pn**	**00 38 41.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.93 226**	*eS*	**Sn**	**00 39 03.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.97 224**	Pn	**Pn**	**00 38 41.4**	**+0.2**
UUPR			Sn	**Sn**	**00 39 04.9**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.97 224⇓**	*eP*	**Pn**	**00 38 41.9**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.97 224**	*eS*	**Sn**	**00 39 05.5**	**+0.4**
CELP	**Cerrillos**	**2.02 217**	Pn	**Pn**	**00 38 41.7**	**-0.1**
CELP			Sn	**Sn**	**00 39 06.1**	**-0.2**
CELP	**Cerrillos**	**2.02 217⇑**	*eP*	**Pn**	**00 38 42.5**	**+0.7**
CELP	**Cerrillos**	**2.02 217**	*eS*	**Sn**	**00 39 07.0**	**+0.7**
OBIP	**Obispado Ponce**	**2.06 217**	Pn	**Pn**	**00 38 41.7**	**-0.6**
OBIP			Sn	**Sn**	**00 39 05.3**	**-2.0**
OBIP			IAML		00 39 10.9	
	comp=E,48nm,0.6s					
OBIP	**Obispado Ponce**	**2.06 217⇑**	*eP*	**Pn**	**00 38 42.1**	**-0.3**
OBIP	**Obispado Ponce**	**2.06 217**	*eS*	**Sn**	**00 39 06.5**	**-0.8**
AGPR	**Aguadilla, PR**	**2.11 235**	Pn	**Pn**	**00 38 43.6**	**+0.6**
AGPR			Sn	**Sn**	**00 39 07.0**	**-1.5**
AGPR			IAML		00 39 23.3	
	comp=N,127nm,2.6s					
AGPR			IAML		00 39 36.6	
	comp=E,96nm,2.6s					
AGPR	**Aguadilla, PR**	**2.11 235**	*eS*	**Sn**	**00 39 08.7**	**+0.2**
LSP	**Las Mesas**	**2.28 229**		**Pn**	**00 38 46.3**	**+1.0**
LSP				**Sn**	**00 39 11.2**	**-1.3**
LSP	**Las Mesas**	**2.28 229⇓**	*eP*	**Pn**	**00 38 46.3**	**+1.0**
LSP	**Las Mesas**	**2.28 229**	*eS*	**Sn**	**00 39 11.2**	**-1.3**
GBPR	**Guanica, Bosqu**	**2.28 222**		**Pn**	**00 38 46.7**	**+1.4**
GBPR	**Guanica, Bosqu**	**2.28 222⇓**	*eP*	**Pn**	**00 38 46.7**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.41 226**	Pn	**Pn**	**00 38 47.4**	**+0.3**
CRPR			Sn	**Sn**	**00 39 15.0**	**-0.8**
CRPR			IAML		00 39 24.7	
	comp=E,45nm,2.5s					
CRPR			IAML		00 40 26.2	
	comp=N,42nm,1.9s					
CRPR	**Cabo Rojo, PR**	**2.41 226⇓**	*eP*	**Pn**	**00 38 48.0**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.41 226**	*eS*	**Sn**	**00 39 16.1**	**+0.3**
SMRT	**St. Maarten**	**2.66 128**	Pn	**Pn**	**00 38 48.9**	**-1.7**
PCDR	**Punta Cana, DR**	**3.15 249**	Pn	**Pn**	**00 38 57.9**	**+0.6**
PCDR			Sn	**Sn**	**00 39 34.2**	**+0.1**
PCDR	**Punta Cana, DR**	**3.15 249⇑**	*eP*	**Pn**	**00 38 56.9**	**-0.5**
PCDR	**Punta Cana, DR**	**3.15 249**	*eS*	**Sn**	**00 39 34.6**	**+0.4**
DR12	**Loma Pena Alta**	**3.97 258**	Pn	**Pn**	**00 39 08.1**	**-0.6**
DR12			IAML		00 39 52.8	
	comp=N,29nm,3.6s					
DR12			IAML		00 40 06.5	
	comp=E,31nm,2.1s					
ANBD	**Bethesda, Anti**	**4.26 128**	*eP*	**Pn**	**00 39 14.7**	**+2.1**
ANBD	**Bethesda, Anti**	**4.26 128**	*eS*	**Sn**	**00 40 03.2**	**+1.8**
SDDR	**Presa de Saban**	**5.71 264**	Pn	**Pn**	**00 39 34.8**	**+2.3**

UCR 20 00:51:39.7±0.9, 9°.42N×84°.61W, h21km±4km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICV	**PH. Pirrs**	**0.46**	**64**	*eP*	Pb	00 51 48.9	-0.1
CBL1	**Cabuya**	**0.50**	**289**	*eP*	Pb	00 51 49.5	-0.3
LLNJ	**Naranjito**	**0.50**	**84**	*eP*	Pb	00 51 49.4	-0.5
LLNJ				*eS*	Sb	00 51 57.8	+1.0
PISJ	**San Jernim**	**0.52**	**67**	*eP*	Pb	00 51 49.8	-0.5
ACOS	**Acosta**	**0.57**	**50**	*eP*	Pb	00 51 50.6	-0.6
ABE2	**San Pablo**	**0.61**	**63**	*eP*	Pb	00 51 51.4	-0.7
LCR2	**La Lucha 2**	**0.67**	**62**	*eP*	Pb	00 51 52.0	-1.0
BELE	**Belen**	**0.69**	**37**	*eP*	Pb	00 51 52.3	-0.9
VBV1	**V. Barva**	**0.85**	**36**	*eP*	Pb	00 51 55.6	-0.4
CVIMO	**Finca Echandi**	**0.89**	**48**	*eP*	Pb	00 51 56.1	-0.4
JUNT	**Juntas**	**0.92**	**338**	*eP*	Pb	00 51 56.4	-0.6
JTS	**Las Juntas de**	**0.93**	**339**	*eP*	Pb	00 51 56.2	-0.9
VICA	**Volcano Irazu**	**0.94**	**53**	*eP*	Pb	00 51 57.1	-0.4
RAFA	**San Farael, Vo**	**0.95**	**56**	*eP*	Pb	00 51 57.3	-0.4
SOCE	**Pocosol**	**0.95**	**359**	*eP*	Pb	00 51 57.5	-0.1
VTLA	**Turrialba Volc**	**1.00**	**55**	*eP*	Pb	00 51 58.3	-0.3
CVTR	**Volcan Turrial**	**1.03**	**55**	*eP*	Pn	00 51 59.3	0.0
CVTV	**Tajo**	**1.03**	**56**	*eP*	Pb	00 51 58.7	-0.2
VTCV	**VTCV, Calle Va**	**1.03**	**57**	*eP*	Pb	00 51 58.5	-0.5
ARE1	**Arenal 1**	**1.04**	**354**	*eP*	Pb	00 51 59.0	0.0
VARE2	**V. Arenal**	**1.04**	**354**	*eP*	Pb	00 51 59.0	0.0
VACR	**Volcan Arenal**	**1.05**	**356**	*eP*	Pb	00 51 59.1	0.0
EDPE	**Pejibaye, P**	**1.06**	**104**	*eP*	Pb	00 51 58.0	-1.4
CEDE	**Laguna Cedeo**	**1.06**	**355**	*eP*	Pb	00 51 59.4	-0.1
CVTG	**V. Turrialba,**	**1.09**	**49**	*eP*	Pn	00 51 59.6	-0.3
PLVR	**Palo Verde**	**1.17**	**322**	*eP*	Pn	00 52 00.2	-0.9
FIMO	**Fila Mora**	**1.31**	**109**	*eP*	Pn	00 52 02.2	-0.7
CUI	**Cuipilapa**	**1.34**	**336**	*eP*	Pn	00 52 03.4	+0.1
DRK0	**Durika**	**1.35**	**97**	*eP*	Pn	00 52 03.1	-0.5
HORNC	**Hornillas**	**1.40**	**336**	*eP*	Pn	00 52 04.4	+0.3
EDP2	**Potrero Grande**	**1.47**	**106**	*eP*	Pn	00 52 04.6	-0.4
ALIBA	**Liberia Airpor**	**1.48**	**322**	*eP*	Pb	00 52 06.5	-0.1
VRLE	**La Escondida,**	**1.55**	**331**	*eP*	Pn	00 52 06.6	+0.4
ALCO	**Alturas Coton,**	**1.81**	**105**	*eP*	Pn	00 52 09.2	-0.7

*NEIC **20** 01:14:38.6±2.2, 51°.42N±0°.05×176°.79W±0°.06, h35km±2km, mb4.1/88, ML3.7(AEIC), Error ellipse: s-maj=8.2km s-min=6.2km az=175.0*
*IDC **20** 01:14:39.3±3.0, 51°.63N×176°.91W, h45km±26km, mb3.7/16, mbtmp4.0/18, ML4.0/2, MS2.3/1, Error ellipse: s-maj=24.0km s-min=13.5km az=172.0*
*AEIC **20** 01:14:39.1±2.2, 51°.45N±0°.06×176°.79W±0°.06, h39km±5km, Error ellipse: s-maj=8.0km s-min=5.7km az=175.0*
ISC 20 01:14:39.1±0.6, 51°.47N±0°.08×176°.84W±0°.04, h48km, n145, σ1§04/142, mb4.1/41, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.38**	**320**		**Pn**	**01 14 48.9**	**0.0**
ADK	**Adak**	**0.42**	**13**	Pn	**Pn**	**01 14 49.1**	**-0.2**
ADK				Sn	**Sn**	**01 14 56.5**	**-0.1**
KIWB	**Kanaga Island**	**0.42**	**333**	Pn	**Pn**	**01 14 49.5**	**+0.1**
KIWB				Sn	**Sn**	**01 14 55.5**	**-1.2**
KIRH	**Kanaga Island**	**0.45**	**340**		**Pn**	**01 14 50.2**	**+0.5**
KICM	**Kanaga Island**	**0.50**	**334**		**Pn**	**01 14 50.7**	**+0.5**
GSCK	**Great Sitkin C**	**0.69**	**38**		**Pn**	**01 14 52.9**	**+0.3**
TAPA	**Tanaga Point A**	**0.69**	**300**		**Pn**	**01 14 53.1**	**+0.4**
GSMY	**Great Sitkin M**	**0.75**	**40**		**Pn**	**01 14 53.6**	**+0.2**
TASE	**Tanaga Southea**	**0.83**	**296**		**Pn**	**01 14 55.3**	**+0.8**
TAFP	**Tanaga Falls P**	**0.83**	**301**		**Pn**	**01 14 55.0**	**+0.5**
GAEA	**Gareloi East**	**1.23**	**285**		**Pn**	**01 15 01.1**	**+1.2**
GALAA	**Gareloi Lava P**	**1.24**	**284**		**Pn**	**01 15 01.2**	**+1.2**
GANO	**Gareloi North**	**1.27**	**287**		**Pn**	**01 15 01.2**	**+0.8**
ATKA	**Atka Island**	**1.80**	**65**		**Pn**	**01 15 07.5**	**-0.1**
ATKA	**Atka Island**	**1.80**	**65**		**Sn**	**01 15 28.5**	**-0.7**
SHEM	**Shemya Is, Ala**	**5.72**	**286**	P	**Pn**	**01 16 00.9**	**-0.5**
	10nm,0.3s,baz=70,slow=4.9,SNR=8.8						
SHEM				S	**Sn**	**01 17 03.7**	**-1.9**
	20nm,0.5s,baz=242,slow=20,SNR=1.2						
SHEM				LR	LR	01 17 29.9	
	comp=Z,34nm,21.4s,baz=164,slow=30 45nm,0.6s						
UNV	**Unalaska Valle**	**6.72**	**65**	Pn	**Pn**	**01 16 16.7**	**+1.6**
M11K	**Mekoryuk**	**10.73**	**30**	Pn	**Pn**	**01 17 10.7**	**+0.9**
O14K	**Tigyukauivet M**	**11.78**	**43**	Pn	**Pn**	**01 17 24.8**	**+0.6**
GAMB	**Gambell**	**12.63**	**10**	Pn	**Pn**	**01 17 34.8**	**-1.0**
M16K	**Timber Creek**	**13.74**	**39**		**P**	**01 17 57.1**	**-1.2**
ACHA	**Angle Creek He**	**14.07**	**53**	Pn	**Pn**	**01 17 54.9**	**-0.6**
N18K	**Kilae Creek**	**14.83**	**43**	Pn	**Pn**	**01 18 06.2**	**+0.7**
TNA	**Tin City**	**14.85**	**15**	Pn	**Pn**	**01 18 04.5**	**-1.1**
J17K	**VABM Dome**	**15.23**	**32**	P	**P**	**01 18 16.6**	**+1.8**
J17K				IAmb	IAmb	01 18 33.5	
	comp=Z,18nm,1.2s						
L18K	**Granite Mounta**	**15.33**	**38**	Pn	**Pn**	**01 18 12.7**	**+0.7**
L18K				IAmb	IAmb	01 18 48.1	
	comp=Z,26nm,1.5s						
KDAK	**Kodiak Island**	**15.35**	**56**	Pn	**Pn**	**01 18 09.9**	**-2.3**
KDAK	**Kodiak Island**	**15.35**	**56**	P	**Pn**	**01 18 09.1**	**-3.1**
	comp=Z,7.7nm,0.9s,baz=282,slow=1.7,SNR=17						
KDAK				S	**Sn**	**01 21 00.2**	**-0.7**
	comp=Z,14nm,1.1s,baz=294,slow=23,SNR=2.3						
PEA0B	**Petropavlovsk-**	**15.64**	**286**	Pn	**Pn**	**01 18 16.4**	**+0.4**
PEA0B				IAmb	IAmb	01 18 16.6	
	comp=Z,32nm,1.4s						
G16K	**Koyuk River**	**15.82**	**23**	Pn	**Pn**	**01 18 18.5**	**+0.3**
TTA	**Tatalina**	**16.00**	**36**	Pn	**Pn**	**01 18 21.2**	**+0.5**
M19K	**Big River Lodg**	**16.07**	**41**	Pn	**Pn**	**01 18 22.6**	**+1.2**
J18K	**Innoko River**	**16.07**	**34**	Pn	**Pn**	**01 18 22.4**	**+0.8**
CNPM	**China Poot**	**16.51**	**51**	Pn	**Pn**	**01 18 27.0**	**0.0**
BRLK	**Bradley Lake**	**16.75**	**50**	Pn	**Pn**	**01 18 29.8**	**-0.2**
STLK	**Strandline Lak**	**16.96**	**44**		**P**	**01 18 34.5**	**+0.4**
K20K	**Telida**	**16.97**	**37**		**Pn**	**01 18 34.4**	**+1.6**
SKT	**Skwentna**	**17.29**	**43**	P	**P**	**01 18 38.5**	**+0.8**
SKT				IAmb	IAmb	01 18 45.1	
	comp=Z,19nm,1.3s						
SLKM	**Skilak Lake**	**17.31**	**48**		**Pn**	**01 18 37.3**	**+0.3**
SLKM				IAmb	IAmb	01 18 50.0	
	comp=Z,19nm,1.2s						
J20K	**Nowinta River**	**17.41**	**34**		**Pn**	**01 18 39.5**	**+1.3**
PPLA	**Purkeypile**	**17.45**	**40**		**P**	**01 18 41.2**	**+1.6**
PPLA				IAmb	IAmb	01 18 49.1	
	comp=Z,20nm,1.3s						
SEW	**Seward**	**17.54**	**50**	Pn	**Pn**	**01 18 39.0**	**-0.8**
SEW				IAmb	IAmb	01 18 59.2	
	comp=Z,32nm,1.3s						
C16K	**Lisburne Hills**	**17.76**	**14**		**Pn**	**01 18 43.8**	**+1.5**
CAST	**Castle Rocks**	**17.76**	**38**	P	**P**	**01 18 44.3**	**+1.5**
G19K	**Purcell Mounta**	**17.78**	**27**		**Pn**	**01 18 43.3**	**+0.5**
E18K	**Tukpahlearik C**	**17.89**	**21**		**P**	**01 18 46.1**	**+1.9**
F19K	**Shaleruckik Mo**	**18.11**	**25**		**P**	**01 18 47.2**	**+0.7**
KTH	**Kantishna Hill**	**18.27**	**39**	P	**P**	**01 18 49.8**	**+1.2**
KTH				IAmb	IAmb	01 19 20.5	
	comp=Z,24nm,1.3s						
GHO	**Glory Hole Cre**	**18.34**	**45**	P	**P**	**01 18 49.7**	**+0.4**
GHO				IAmb	IAmb	01 19 26.5	
	comp=Z,12nm,1.2s						
TRF	**Thorofare Moun**	**18.47**	**39**	P	**P**	**01 18 51.1**	**+0.3**
TRF				IAmb	IAmb	01 19 17.3	
	comp=Z,12nm,1.2s						
C18K	**Utukok River**	**18.80**	**18**	P	**P**	**01 18 55.8**	**+1.5**
F20K	**Avaraart Lake**	**18.81**	**26**		**P**	**01 18 56.0**	**+1.7**
RND	**Reindeer**	**19.03**	**40**	P	**P**	**01 18 56.4**	**-0.4**
RND				IAmb	IAmb	01 19 08.9	
	comp=Z,6.1nm,0.7s						
SCM	**Sheep Creek Mo**	**19.07**	**46**	P	**P**	**01 18 57.4**	**+0.1**
D19K	**Kuna River**	**19.32**	**21**	P	**P**	**01 19 01.3**	**+1.4**
D19K				IAmb	IAmb	01 19 06.4	
	comp=Z,14nm,1.2s						
I23K	**Minto, Yukon-K**	**19.67**	**35**	P	**P**	**01 19 04.4**	**+0.8**
I23K				IAmb	IAmb	01 19 09.0	
	comp=Z,5.0nm,0.5s						
WRH	**Wood River Hil**	**19.81**	**38**	P	**P**	**01 19 04.1**	**-1.1**
CCB	**Clear Creek Bu**	**20.00**	**38**	P	**P**	**01 19 05.8**	**-1.5**
SEY	**Seymchan**	**20.00**	**317**	P	**P**	**01 19 08.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=5.7						
	comp=Z,1.0nm,0.2s						
HDA	**Harding Lake**	**20.23**	**39**	P	**P**	**01 19 11.1**	**+1.3**
HDA				IAmb	IAmb	01 19 41.0	
	comp=Z,11nm,1.2s						
E21K	**Killik River**	**20.28**	**24**	P	**P**	**01 19 11.2**	**+0.8**
IL31		**20.41**	**38**	P	**P**	**01 19 11.3**	**-0.4**
IL31				IAmb	IAmb	01 19 19.9	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**20.41**	**38**	P	**P**	**01 19 09.8**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=236,slow=10,SNR=14						
ILAR				PcP	**PcP**	**01 23 21.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=288,slow=3.3,SNR=8.2						
	comp=Z,0.5nm,0.6s						
COLD	**Coldfoot**	**20.55**	**30**	P	**P**	**01 19 14.9**	**+1.7**
H24K	**Noodor Dome**	**20.55**	**35**	P	**P**	**01 19 14.3**	**+1.0**
H24K				IAmb	IAmb	01 19 35.4	
	comp=Z,14nm,1.4s						
E22K	**Anaktuvuk Pass**	**20.65**	**27**	P	**P**	**01 19 15.1**	**+0.7**
RIDG	**Independent Ri**	**20.81**	**42**	P	**P**	**01 19 14.5**	**-1.6**
RIDG				IAmb	IAmb	01 19 26.0	
	comp=Z,14nm,1.3s						
J25K	**Salcha River,**	**20.93**	**39**	P	**P**	**01 19 15.8**	**-1.6**
J25K				IAmb	IAmb	01 19 30.6	
	comp=Z,6.8nm,1.2s						
B21K	**Ikpikpuk River**	**20.99**	**22**	P	**P**	**01 19 18.5**	**+0.6**
B21K				IAmb	IAmb	01 19 24.2	
	comp=Z,7.3nm,0.8s						
SCRK	**Sand Creek**	**21.25**	**41**	P	**P**	**01 19 19.7**	**-1.2**
SCRK				IAmb	IAmb	01 19 31.5	
	comp=Z,10nm,1.1s						
D23K	**Nanushuk River**	**21.52**	**26**	P	**P**	**01 19 24.4**	**+0.8**
D23K				IAmb	IAmb	01 19 29.9	
	comp=Z,4.4nm,0.6s						
J26L	**Joseph Creek**	**21.61**	**40**	P	**P**	**01 19 23.5**	**-1.2**
J26L				IAmb	IAmb	01 19 59.5	
	comp=Z,14nm,1.5s						
TOLK	**Toolik Lake Re**	**21.61**	**27**	P	**P**	**01 19 25.7**	**+1.0**
TOLK				IAmb	IAmb	01 19 47.1	
	comp=Z,11nm,1.4s						
M27K	**Edge Creek, AK**	**21.68**	**46**	P	**P**	**01 19 26.1**	**+0.5**
M27K				IAmb	IAmb	01 19 53.8	
	comp=Z,6.5nm,1.2s						
C23K	**Itkillik River**	**22.12**	**24**	P	**P**	**01 19 30.1**	**+0.1**
C23K				IAmb	IAmb	01 19 32.0	
	comp=Z,7.5nm,0.6s						
D24K	**Happy Valley**	**22.15**	**26**	P	**P**	**01 19 31.2**	**+0.9**
D24K				IAmb	IAmb	01 19 34.8	
	comp=Z,8.2nm,1.3s						
BMAR	**Burnt Mountain**	**22.49**	**33**	P	**P**	**01 19 33.4**	**-0.7**
C24K	**Franklin Bluff**	**22.54**	**25**	P	**P**	**01 19 35.5**	**+1.0**
C24K				IAmb	IAmb	01 19 35.7	
	comp=Z,7.2nm,1.0s						
DAWY	**Dawson**	**23.20**	**43**	P	**P**	**01 19 41.9**	**+0.5**
DAWY				IAmb	IAmb	01 20 10.4	
	comp=Z,9.7nm,1.5s						
I28M	**Miner Creek**	**23.38**	**39**	P	**P**	**01 19 42.0**	**-1.3**
K29M	**Barlow Dome**	**23.95**	**44**	P	**P**	**01 19 47.3**	**-1.3**
K29M				IAmb	IAmb	01 20 07.6	
	comp=Z,2.5nm,0.6s						
H29M	**Whitestone**	**24.24**	**38**	P	**P**	**01 19 49.8**	**-1.3**
H29M				IAmb	IAmb	01 20 17.6	
	comp=Z,7.1nm,1.2s						
I30M	**Mount Dempster**	**24.75**	**41**	P	**P**	**01 19 54.3**	**-1.6**
I30M				IAmb	IAmb	01 19 56.6	
	comp=Z,4.1nm,0.6s						
E29M	**Blow River**	**25.18**	**33**	P	**P**	**01 19 59.4**	**-0.2**
E29M				IAmb	IAmb	01 20 15.6	
	comp=Z,4.6nm,1.4s						
H31M	**Peel River**	**25.71**	**40**	P	**P**	**01 20 03.0**	**-1.4**
H31M				IAmb	IAmb	01 20 07.7	
	comp=Z,9.9nm,1.4s						
A36M	**Sachs Harbour**	**30.41**	**29**	P	**P**	**01 20 46.9**	**+0.7**
A36M				IAmb	IAmb	01 21 09.0	
	comp=Z,4.8nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**34.16**	**208**	T	T	01 57 46.5	
	baz=18,slow=76,SNR=1853						
H11N3	**WAKE ISLAND Hy**	**34.17**	**208**	T	T	01 57 47.2	
	baz=18,slow=76,SNR=1802						
H11N1	**WAKE ISLAND Hy**	**34.18**	**208**	T	T	01 57 47.9	
	baz=18,slow=76,SNR=1528						
YKA	**Yellowknife Ar**	**34.27**	**47**	P	**P**	**01 21 18.9**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=283,slow=9.4,SNR=5.7						
YKA				PcP	**PcP**	**01 23 56.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=282,slow=3.4,SNR=15						
	comp=Z,0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**34.50**	**278**	P	**P**	**01 21 21.5**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=52,slow=10,SNR=8.6						
	comp=Z,2.5nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**35.38**	**208**	T	T	01 59 18.9	
	baz=17,slow=76,SNR=978						
H11S2	**WAKE ISLAND Hy**	**35.39**	**208**	T	T	01 59 19.9	
	baz=17,slow=76,SNR=492						
H11S3	**WAKE ISLAND Hy**	**35.39**	**208**	T	T	01 59 17.7	
	baz=17,slow=76,SNR=384						
B08A	**Colville Reser**	**36.35**	**72**	P	**P**	**01 21 40.3**	**+2.1**
NEW	**Newport**	**37.70**	**71**	P	**P**	**01 21 50.1**	**+0.5**
I07A	**Izee**	**38.35**	**78**	P	**P**	**01 21 57.4**	**+2.1**
I07A				IAmb	IAmb	01 22 19.7	
	comp=Z,4.3nm,1.2s						
EUNU	**Eureka**	**39.86**	**16**	P	**P**	**01 22 10.1**	**+2.7**
PNTR	**Pine Nut**	**41.12**	**84**	P	**P**	**01 22 18.7**	**+0.2**
PNTR				IAmb	IAmb	01 22 46.6	
	comp=Z,3.6nm,0.7s						
YHL	**Hebgen Lake**	**42.96**	**72**	P	**P**	**01 22 33.6**	**+0.1**
YHL				IAmb	IAmb	01 23 01.8	
	comp=Z,8.1nm,1.5s						
YNE	**Yellowstone No**	**43.57**	**71**	P	**P**	**01 22 39.2**	**+0.9**
FLWY	**Flagg Ranch**	**43.68**	**73**	P	**P**	**01 22 39.7**	**+0.5**
FLWY				IAmb	IAmb	01 22 55.8	
	comp=Z,6.6nm,1.5s						
LAO	**LASA Array**	**44.86**	**67**	P	**P**	**01 22 49.4**	**+1.0**
FCC	**Fort Churchill**	**45.01**	**47**	P	**P**	**01 22 47.7**	**-1.5**
FCC				IAmb	IAmb	01 23 09.2	
	comp=Z,3.7nm,1.4s						
PD31	**Pinedale Array**	**45.11**	**73**	P	**P**	**01 22 50.8**	**+0.2**
PD31				IAmb	IAmb	01 22 53.3	
	comp=Z,1.9nm,0.5s						
PDAR	**Pinedale Array**	**45.11**	**73**	P	**P**	**01 22 51.5**	**+0.9**
PDAR	**Pinedale Array**	**45.11**	**73**	P	**P**	**01 22 51.8**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=333,slow=2.8,SNR=26						
	comp=Z,1.9nm,0.5s						
BSUT	**Blindstream Ca**	**45.70**	**77**	P	**P**	**01 22 56.3**	**+0.8**
BSUT				IAmb	IAmb	01 23 13.7	
	comp=Z,2.8nm,1.1s						
RDMU	**Red Mountain**	**46.40**	**76**	P	**P**	**01 23 02.2**	**+1.4**
RDMU				IAmb	IAmb	01 23 05.5	
	comp=Z,5.1nm,1.3s						
O20A	**White River Ci**	**47.47**	**76**	P	**P**	**01 23 09.2**	**0.0**
SONM	**Songino Array**	**47.69**	**298**	P	**P**	**01 23 11.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=55,slow=9.0,SNR=5.9						
SONM				PcP	**PcP**	**01 24 39.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=54,slow=2.7,SNR=6.4						
	comp=Z,0.8nm,0.7s						
PV11	**David Mesa, Pa**	**48.23**	**78**	P	**P**	**01 23 16.3**	**+1.2**
HHC	**Hu-ho-hao-te**	**48.84**	**287**	*eP*	**P**	**01 23 19.0**	**-0.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,74nm,4.3s						
ZALV	**Zalesovo Beam**	**54.85**	**314**	PcP	**PcP**	**01 25 05.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=48,slow=2.1,SNR=3.9						
GTA	**Gaotai**	**56.66**	**293**	*eP*	**P**	**01 24 17.9**	**+0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TX31	**Lajitas Ar. Si**	**57.43**	**83**	P	**P**	**01 24 24.1**	**+1.2**
TX31				IAmb	IAmb	01 24 35.2	
	comp=Z,2.4nm,1.1s						
TXAR	**Lajitas Array**	**57.43**	**83**	P	**P**	**01 24 23.7**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=303,slow=5.2,SNR=5.7						
	comp=Z,0.3nm,0.4s	

TA01				*e*S	**Sn**	**01 19 53.6**	**-1.0**
TA01				IAML		01 20 02.6	
comp=E,443nm,0.3s							
TA02	**Huaiquique**	**2.15**	**321**	*e*P	**Pn**	**01 19 31.3**	**-0.9**
TA02				*e*S	**Sn**	**01 20 03.9**	**+5.0**
TA02				IAML		01 20 07.3	
comp=Z,264nm,0.3s							
TA02	**Huaiquique**	**2.15**	**321**	*e*P	**Pn**	**01 19 31.1**	**-1.0**
TA02				*i* S	**Sn**	**01 19 58.0**	**-0.9**
YJA	**Yavi**	**2.96**	**95**	*e*P	**Pn**	**01 19 43.3**	**+0.1**
PB14	**IPOC Station P**	**3.08**	**210**	*e*P	**Pn**	**01 19 44.8**	**+0.1**
PB14				*e*S	**Sn**	**01 20 21.7**	**+0.5**
PB14				IAML		01 20 31.9	
comp=Z,76nm,0.6s							
PB14	**IPOC Station P**	**3.08**	**210**	*e*P	**Pn**	**01 19 46.2**	**+1.5**
PB14				IAML		01 20 32.6	
comp=N,58nm,0.2s							
GO02	**Mina Guanaco**	**3.29**	**194**	*e*P	**Pn**	**01 19 46.9**	**-0.6**
GO02				*e*S	Sn	01 20 12.7	-13
GO02				IAML		01 20 39.9	
comp=Z,59nm,0.1s							
GO02	**Mina Guanaco**	**3.29**	**194**	*e*P	**Pn**	**01 19 46.8**	**-0.6**
GO02				*i* S	**Sn**	**01 20 24.9**	**-1.2**
PB12	**IPOC Station P**	**3.66**	**335**	*e*P	**Pn**	**01 19 49.7**	**-2.6**
PB12				*e*S	**Sn**	**01 20 40.7**	**+5.9**
PB12				IAML		01 20 48.1	
comp=Z,62nm,0.3s							
PB12	**IPOC Station P**	**3.66**	**335**	*e*P	**Pn**	**01 19 49.6**	**-2.6**
PB12				*i* S	**Sn**	**01 20 34.7**	**0.0**
AC02	**Maricunga**	**4.87**	**185**	*e*P	**Pn**	**01 20 07.7**	**-1.1**
AC02				*e*S	Sn	01 20 49.7	-15
AC02				IAML		01 21 33.6	
comp=Z,12nm,0.6s							

*IDC **20** 01:24:12.7±5.0, 3°.65S×101°.56E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=250.5km s-min=20.8km az=52.0*
*DJA **20** 01:24:18.4±1.4, 4°.S±6°×10°.2E±°, h27km±13km, M4.0/8, mb4.3/1, MLv3.9/8*
ISC 20 01:24:19.4±1.0, 3°.7S±0°.1×101°.53E±0°.09, h50km, n19, σ0§48/15, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.06**	**89**	P	**Pn**	**01 24 37.9**	**-0.1**
MNAI	**Manna**	**1.58**	**116**	P	**Pn**	**01 24 44.4**	**-0.6**
PPSI	**Pulau Pagai**	**1.76**	**300**	P	**Pn**	**01 24 47.9**	**+0.4**
PPSI				S	**Sn**	**01 25 09.3**	**+0.5**
MDSI	**Maura Dua**	**2.76**	**107**	P	**Pn**	**01 25 01.4**	**+0.2**
MDSI				S	**Sn**	**01 25 34.3**	**+0.9**
SISI	**Saibi**	**3.37**	**314**	P	**Pn**	**01 25 08.9**	**-0.6**
PPI	**Padang Panjang**	**3.38**	**340**	P	**Pn**	**01 25 09.4**	**-0.3**
CGJI	**Cibinong**	**5.08**	**125**	P	**Pn**	**01 25 32.8**	**-0.2**
H08S2	**Diego Garcia H**	**29.16**	**261**	T	T	02 00 08.6	
baz=84,slow=76,SNR=15							
H08S3	**Diego Garcia H**	**29.17**	**261**	T	T	02 00 03.3	
baz=84,slow=76,SNR=18							
H08S1	**Diego Carcia H**	**29.18**	**261**	T	T	02 00 09.0	
baz=84,slow=76,SNR=18							
WRA	**Warramunga Arr**	**35.84**	**119**	P	**P**	**01 31 14.2**	**-0.3**
0.4nm,0.4s,baz=302,slow=8.8,SNR=12							
0.4nm,0.4s							
ASAR	**Alice Springs**	**37.04**	**125**	P	**P**	**01 31 24.6**	**-0.3**
0.8nm,0.4s,baz=295,slow=8.3,SNR=11							
0.8nm,0.4s							
MKAR	**Makanchi Array**	**53.04**	**344**	P	**P**	**01 33 31.3**	**-0.1**
0.8nm,0.7s,baz=154,slow=7.6,SNR=11							
0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**57.58**	**343**	P	**P**	**01 34 04.5**	**+0.6**
0.2nm,0.3s,baz=156,slow=6.1,SNR=1.2							
0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**59.08**	**349**	P	**P**	**01 34 14.4**	**0.0**
0.4nm,0.3s,baz=146,slow=7.1,SNR=4.0							
0.4nm,0.3s							
H04N2	**CROZET ISLANDS**	**60.40**	**218**	T	T	02 39 08.8	
baz=61,slow=75,SNR=31							
H04N1	**CROZET ISLANDS**	**60.41**	**218**	T	T	02 39 09.3	
baz=61,slow=75,SNR=33							
H04N3	**CROZET ISLANDS**	**60.41**	**218**	T	T	02 39 09.3	
baz=61,slow=75,SNR=42							
TXAR	**Lajitas Array**	**145.03**	**40**	PKPbc	**PKPab**	**01 43 51.3**	**-0.1**
0.5nm,0.5s,baz=225,slow=1.5,SNR=10							

*IDC **20** 01:26:54.3±1.8, 37°.84N×69°.07E, h0km, mb3.7/7, mbtmp3.6/13, ML3.1/6, Error ellipse: s-maj=26.8km s-min=14.4km az=163.0*
*NNC **20** 01:27:00.1±4.9, 38°.41N×68°.84E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=45.0km s-min=21.2km az=6.0*
ISC 20 01:26:58.4±1.5, 38°.2N±0°.1×68°.78E±0°.09, h10km, n19, σ1§55/24, mb3.5/7, 7C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.03**	**15**	Pn	**Pn**	**01 28 14.7**	**+0.8**
0.7nm,0.2s,baz=188,slow=15,SNR=37							
KK31				⇑Lg	Lg	01 29 32.8	
22nm,0.7s,baz=193,slow=30,SNR=4.4							
AAK	**Ala-Archa**	**6.18**	**43**	Pn	**Pn**	**01 28 30.6**	**+0.7**
1.0nm,0.3s,baz=224,slow=2.9,SNR=12							
AAK				Sn	**Sn**	**01 29 41.2**	**+0.4**
baz=187,slow=22							
AAK				Lg	Lg	01 30 08.8	
0.5nm,0.3s,baz=338,slow=2.6,SNR=4.5							
2.2nm,0.3s							
AAK	**Ala-Archa**	**6.18**	**43**	⇑Pn	**Pn**	**01 28 31.2**	**+1.2**
2.9nm,0.5s							
AAK				⇑Lg	Lg	01 30 08.3	
9.1nm,0.8s							
TKM2	**Tokmak 2**	**6.98**	**46**	⇓Pn	**Pn**	**01 28 41.3**	**+0.4**
1.8nm,0.5s							
TKM2				⇑Sn	**Sn**	**01 30 04.0**	**+3.5**
3.8nm,0.8s							
AB31	**Akbulak array**	**12.72**	**333**	⇑Pn	**Pn**	**01 29 59.5**	**+0.3**
0.5nm,0.3s,baz=158,slow=13,SNR=37							
AB31				⇓Sn	**Sn**	**01 32 20.4**	**-0.4**
1.6nm,0.7s,baz=153,slow=22,SNR=5.3							
MKAR	**Makanchi Array**	**13.11**	**45**	Pn	**Pn**	**01 30 03.5**	**-1.1**
baz=244,slow=13,SNR=8.5							
0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**14.18**	**26**	Pn	**Pn**	**01 30 15.8**	**-3.4**
baz=216,slow=9.3,SNR=1.1							
0.2nm,0.3s							
AKTO	**Aktyubinsk**	**14.40**	**331**	Pn	**Pn**	**01 30 21.5**	**-0.7**
0.5nm,0.3s,baz=134,slow=13,SNR=8.0							
AKTO				Sn	**Sn**	**01 33 02.5**	**+0.7**
0.1nm,0.3s,baz=234,slow=15,SNR=1.7							
AKTO				Lg	Lg	01 34 46.2	
0.1nm,0.3s,baz=21,slow=7.2,SNR=2.1							
0.8nm,0.3s							
AKTO	**Aktyubinsk**	**14.40**	**331**	⇑Pn	**Pn**	**01 30 23.8**	**+1.6**
2.2nm,0.7s							
AKTO				⇑Sn	**Sn**	**01 33 00.7**	**-1.1**
2.4nm,1.1s							
BVAR	**Borovoye Array**	**14.82**	**4**	Pn	**Pn**	**01 30 25.7**	**-2.3**
0.1nm,0.3s,baz=172,slow=8.5,SNR=9.3							
0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**19.17**	**30**	P	**P**	**01 31 20.1**	**-1.8**
0.2nm,0.3s,baz=220,slow=13,SNR=6.1							
0.6nm,0.3s							
ARTI	**Arti**	**19.43**	**342**	P	**P**	**01 31 24.1**	**-0.7**
0.4nm,0.3s,baz=168,slow=10,SNR=3.5							
BRTR	**Keskin Array B**	**27.25**	**284**	P	**P**	**01 32 43.2**	**+0.2**
0.4nm,0.6s,baz=95,slow=8.0,SNR=2.1							
0.4nm,0.6s							
FINES	**FINESS Array B**	**35.05**	**325**	P	**P**	**01 33 52.9**	**+1.8**
0.7nm,0.5s,baz=123,slow=7.0,SNR=6.4							
0.7nm,0.5s							
ARCES	**ARCESS Array B**	**38.86**	**337**	P	**P**	**01 34 23.8**	**+0.4**
1.8nm,0.9s,baz=120,slow=8.2,SNR=1.1							
1.8nm,0.9s							
HFS	**Hagfors**	**40.60**	**321**	P	**P**	**01 34 39.4**	**+1.4**
1.8nm,0.7s,baz=106,slow=11,SNR=4.2							
1.8nm,0.7s							
NOA	**NORSAR Array B**	**41.92**	**322**	P	**P**	**01 34 49.4**	**+0.5**
0.9nm,0.9s,baz=96,slow=8.0,SNR=2.0							
0.9nm,0.9s							
ILAR	**Eielson Array**	**73.57**	**15**	P	**P**	**01 38 30.0**	**-1.3**
0.3nm,0.9s,baz=328,slow=6.6,SNR=3.6							
0.3nm,0.9s							
YKA	**Yellowknife Ar**	**79.57**	**2**	P	**P**	**01 39 05.7**	**+0.5**
0.2nm,0.6s,baz=350,slow=5.5,SNR=5.2							
0.2nm,0.6s							

*AFAD **20** 01:27:40.9, 40°.37N×27°.11E, h8km±1km, ML3.2*
*SOF **20** 01:27:41.5, 40°.52N±0°.02×27°.18E±0°.02, h10km±2km, MD3.2/10*
*ISK **20** 01:27:41.2, 40°.40N×27°.14E, h6km, ML3.4/57*
*THE **20** 01:27:42.0, 40°.42N×27°.12E, h7km±2km, ML3.5/8, Error ellipse: s-maj=2.1km s-min=1.1km az=331.0*
*ATH **20** 01:27:43.2, 40°.39N×27°.11E, h24km±5km, ML3.2/19, Manual Solution by G.Panopoulou First location: 2019/02/20 01:28:18, This location: 2019/02/20 19:09:22*
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 8 km
ISC 20 01:27:41.7±0.9, 40°.39N±0°.01×27°.13E±0°.01, h10km±6km, n168, σ0§83/220, 14C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.13**	**88**	Pg	**Pg**	**01 27 44.6**	**-0.1**
KRBG				Sg	**Sg**	**01 27 46.5**	**-0.4**
LPK	**Lapseki**	**0.28**	**267**	Pg	**Pg**	**01 27 47.7**	**+0.4**
LPK				Sg	**Sb**	**01 27 52.2**	**-1.3**
RKY	**Sarkoy-Tekirda**	**0.30**	**7**	Pg	**Pg**	**01 27 47.7**	**-0.1**
RKY				Sg	**Sg**	**01 27 52.1**	**+0.2**
SART	**Tekirdag**	**0.30**	**8**	P	**Pg**	**01 27 47.9**	**+0.1**
SART				S	**Sg**	**01 27 51.8**	**-0.1**
SART				*i* AML	AML	01 27 53.0	
comp=E,3μm,0.3s							
SART				*i* AML	AML	01 27 54.0	
comp=N,2μm,0.4s							
CANM	**Can-anakkale**	**0.38**	**189**	Pg	**Pg**	**01 27 49.3**	**+0.1**
CANM				Sg	**Sg**	**01 27 54.9**	**+0.7**
YENI	**Yenice-Canakka**	**0.46**	**169**	Pg	**Pg**	**01 27 50.6**	**-0.1**
YENI				Sg	**Sg**	**01 27 57.6**	**+0.9**
GELI	**Tayfur-Gelibol**	**0.50**	**271**	Pg	**Pg**	**01 27 51.6**	**+0.2**
GELI				Sg	**Sb**	**01 27 59.3**	**-0.5**
ERIK	**Erikli-Kesan**	**0.55**	**301**	Pg	**Pg**	**01 27 52.4**	**+0.1**
ERIK				Sg	**Sb**	**01 28 00.4**	**-0.8**
GONE	**Gonen-Balikesi**	**0.55**	**128**	Pg	**Pg**	**01 27 52.5**	**+0.2**
GONE				Sg	**Sg**	**01 28 00.4**	**+0.9**
EDC	**Edincik**	**0.56**	**94**	Pg	**Pg**	**01 27 52.2**	**-0.4**
EDC				Sg	**Sg**	**01 28 00.4**	**+0.3**
COMU	**Canakkale**	**0.58**	**240**	Pg	**Pg**	**01 27 53.2**	**+0.3**
CNKL	**anakkale-Mer**	**0.65**	**241**	P	**Pg**	**01 27 53.9**	**-0.3**
CNKL				S	**Sg**	**01 28 02.3**	**-0.6**
TKR	**Tekirdag**	**0.68**	**27**	Pg	**Pg**	**01 27 54.7**	**-0.1**
BAND	**Balkesir-Ban**	**0.74**	**92**	P	**Pg**	**01 27 55.1**	**-1.0**
BAND				*i* AML	AML	01 28 10.0	
comp=N,1μm,0.2s							
BAND				*i* AML	AML	01 28 10.0	
comp=E,1μm,0.3s							
BAND	**Balkesir-Ban**	**0.74**	**92**	⇑P	**Pg**	**01 27 55.2**	**-0.8**
BAND				⇓S	**Sg**	**01 28 05.8**	**0.0**
BALY	**Balya**	**0.75**	**150**	P	**Pg**	**01 27 55.8**	**-0.4**
ENZZ	**Sultanice-Enez**	**0.78**	**287**	Pg	**Pb**	**01 27 57.6**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**0.79**	**293**	P	**Pg**	**01 27 56.8**	**-0.2**
CAVK				S	**Sg**	**01 28 06.8**	**-0.5**
CAVK				*i* AML	AML	01 28 12.0	
comp=E,993nm,0.3s							
CAVK	**Edirne/Enez-Ca**	**0.79**	**293**	⇓P	**Pb**	**01 27 56.9**	**-0.6**
CAVK				⇑S	**Sb**	**01 28 07.7**	**-0.5**
ECEA	**Canakkale, Ece**	**0.81**	**245**	P	**Pg**	**01 27 56.8**	**-0.4**
ECEA				S	**Sg**	**01 28 07.3**	**-0.4**
ECEA				*i* AML	AML	01 28 16.0	
comp=N,953nm,0.3s							
ECEA				*i* AML	AML	01 28 18.0	
comp=E,845nm,0.2s							
ENEZ	**Enez**	**0.82**	**295**	Pg	**Pg**	**01 27 57.4**	**-0.1**
ENEZ	**Enez**	**0.82**	**295**	P	**Pg**	**01 27 57.3**	**-0.2**
ENEZ				S	**Sb**	**01 28 08.2**	**-0.8**
5μm,0.3s							
UKOP	**Uzunkopru-Edir**	**0.83**	**333**	Pg	**Pb**	**01 27 58.1**	**0.0**
SUSR	**Susurluk-Balik**	**0.85**	**120**	Pg	**Pb**	**01 27 58.4**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.86**	**223**	Pg	**Pg**	**01 27 58.2**	**0.0**
CRLT	**Corlu**	**0.87**	**32**	Pg	**Pb**	**01 27 58.6**	**-0.3**
GOKC	**Gokceada-Canak**	**0.94**	**259**	Pg	**Pg**	**01 27 59.3**	**-0.5**
KCTX	**Karacabey (Bur**	**0.95**	**97**	Pg	**Pg**	**01 27 58.7**	**-1.2**
GADA	**Gvkgeada**	**0.96**	**259**	Pg	**Pg**	**01 27 59.6**	**-0.5**
ALN	**Alexandroupoli**	**0.97**	**302**	Pg	**Pg**	**01 27 59.8**	**-0.5**
ALN	**Alexandroupoli**	**0.97**	**302**	P	**Pg**	**01 27 59.6**	**-0.7**
ALN				S	**Sb**	**01 28 13.2**	**-0.1**
2μm,0.5s							
BOZC	**Bozcaada**	**0.99**	**237**	Pg	**Pg**	**01 28 00.5**	**-0.2**
BOZC	**Bozcaada**	**0.99**	**237**	P	**Pg**	**01 28 00.1**	**-0.6**
BOZC				S	**Sg**	**01 28 12.3**	**-1.2**
BOZC				*i* AML	AML	01 28 17.0	
comp=N,850nm,0.3s							
AYVA	**Ayvalik**	**1.13**	**197**	P	**Pg**	**01 28 03.3**	**-0.1**
AYVA				S	**Sg**	**01 28 17.6**	**-0.4**
SLVT	**Silivri**	**1.18**	**44**	Pn	**Pb**	**01 28 03.7**	**-0.4**
GPNR	**Gulpinar-Canak**	**1.21**	**220**	Pn	**Pg**	**01 28 04.8**	**0.0**
SMTH	**Samothraki Isl**	**1.22**	**274**	P	**Pb**	**01 28 03.7**	**-1.1**
SMTH				S	**Sb**	**01 28 20.5**	**-0.1**
2μm,0.4s							
SMTH	**Samothraki Isl**	**1.22**	**274**	P	**Pb**	**01 28 04.1**	**-0.7**
SMTH				S	**Sb**	**01 28 20.4**	**-0.2**
ELBA	**Catalca**	**1.25**	**52**	P	**Pn**	**01 28 04.1**	**-1.0**
ELBA				*i* AML	AML	01 28 24.0	
comp=N,351nm,0.3s							
SOMA	**Soma-Manisa**	**1.27**	**166**	Pn	**Pg**	**01 28 06.3**	**+0.3**
PHSR	**Pinarhisar**	**1.28**	**13**	Pn	**Pg**	**01 28 06.0**	**-0.2**
YYLC	**Yaylacik**	**1.29**	**93**	P	**Pn**	**01 28 04.9**	**-0.8**
DURS	**Dursunbey**	**1.30**	**127**	P	**Pn**	**01 28 05.8**	**-0.2**
DURS				S	**Sb**	**01 28 23.2**	**+0.3**
VIZE	**Kirklareli, Vi**	**1.31**	**24**	P	**Pn**	**01 28 05.0**	**-0.9**
VIZE				*i* AML	AML	01 28 25.0	
comp=N,730nm,0.5s							
VIZE				*i* AML	AML	01 28 25.0	
comp=E,432nm,0.4s							
PRK	**Paraskevi**	**1.32**	**210**	P	**Pn**	**01 28 06.0**	**-0.1**
PRK				S	**Sg**	**01 28 24.3**	**+0.3**
3μm,0.6s							
PRK	**Paraskevi**	**1.32**	**210**	P	**Pn**	**01 28 06.3**	**+0.3**
PRK				S	**Sb**	**01 28 23.7**	**+0.3**
DKL	**Dikili**	**1.33**	**187**	Pn	**Pg**	**01 28 07.3**	**+0.2**
DKL	**Dikili**	**1.33**	**187**	P	**Pn**	**01 28 06.5**	**+0.3**
DKL				S	**Sb**	**01 28 23.8**	**+0.2**
ARMT	**Armutlu**	**1.33**	**82**	Pn	**Pn**	**01 28 06.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.34**	**90**	Pn	**Pn**	**01 28 06.4**	**0.0**
CTKS	**Kestanelik-??a**	**1.35**	**51**	Pn	**Pn**	**01 28 06.3**	**-0.2**
AVCI	**Avcilar-stanb**	**1.36**	**63**	Pn	**Pn**	**01 28 06.7**	**+0.1**
DST	**Dursunbey**	**1.39**	**124**	Pn	**Pb**	**01 28 07.9**	**+0.2**
ORLT	**Orhaneli**	**1.40**	**104**	Pn	**Pn**	**01 28 07.6**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.40**	**39**	Pn	**Pn**	**01 28 06.6**	**-0.6**
IZMD	**zmir-Dikili-**	**1.41**	**186**	P	**Pn**	**01 28 07.8**	**+0.3**
IZMD				S	**Sb**	**01 28 25.3**	**-0.9**
IZMD				*i* AML	AML	01 28 28.0	
comp=E,306nm,0.4s							
RDO	**Rodhopi**	**1.43**	**303**	Pn	**Pb**	**01 28 08.0**	**-0.2**
RDO	**Rodhopi**	**1.43**	**303**	P	**Pb**	**01 28 08.0**	**-0.2**
RDO				S	**Sg**	**01 28 26.6**	**-0.9**
918nm,0.2s							
RDO	**Rodhopi**	**1.43**	**303**	P	**Pb**	**01 28 08.1**	**-0.2**
RDO				S	**Sn**	**01 28 25.6**	**-0.7**
CAND	**Candarli**	**1.45**	**190**	Pn	**Pn**	**01 28 08.3**	**+0.4**
BGKT	**Bogazkoy**	**1.48**	**57**	Pn	**Pn**	**01 28 07.9**	**-0.4**
EDRB	**Edirne**	**1.49**	**349**	Pn	**Pn**	**01 28 08.3**	**-0.1**
EDRB	**Edirne**	**1.49**	**349**	P	**Pn**	**01 28 08.1**	**-0.3**
EDRB				S	**Sn**	**01 28 26.9**	**-0.9**
765nm,0.6s							
ARMN	**Kirklareli, Me**	**1.49**	**9**	P	**Pn**	**01 28 08.4**	**-0.1**
ARMN				S	**Sn**	**01 28 24.7**	**-3.3**
SIGR	**SIGRI**	**1.53**	**220**	Pn	**Pb**	**01 28 10.3**	**+0.2**
SIGR	**SIGRI**	**1.53**	**220**	P	**Pn**	**01 28 08.8**	**-0.2**
SIGR				S	**Sb**	**01 28 30.0**	**+0.5**
1μm,0.6s							
SIGR	**SIGRI**	**1.53**	**220**	P	**Pn**	**01 28 08.9**	**0.0**
SIGR				S	**Sn**	**01 28 28.2**	**-0.7**
LIA	**Limnos Island**	**1.57**	**252**	P	**Pn**	**01 28 09.8**	**+0.3**
LIA				S	**Sg**	**01 28 31.6**	**-0.5**
2μm,0.4s							
LIA	**Limnos Island**	**1.57**	**252**	P	**Pn**	**01 28 09.7**	**+0.2**
LIA				S	**Sn**	**01 28 29.0**	**-0.9**
IGD	**Bursa**	**1.59**	**94**	P	**Pn**	**01 28 09.6**	**-0.3**
AKHS	**Akhisar**	**1.60**	**160**	P	**Pn**	**01 28 10.2**	**+0.3**
AKHS				S	**Sn**	**01 28 29.7**	**-0.9**
AKHS				*i* AML	AML	01 28 35.0	
comp=E,278nm,0.4s							
AKS	**Akhisar**	**1.60**	**160**	Pn	**Pb**	**01 28 11.2**	**-0.1**
KURT	**Yalova, Merkez**	**1.60**	**82**	P	**Pn**	**01 28 10.0**	**0.0**
KURT				S	**Sn**	**01 28 30.8**	**+0.1**
KURT				*i* AML	AML	01 28 37.0	
comp=N,249nm,0.7s							
ISK	**Istanbul-Kandi**	**1.62**	**65**	Pn	**Pn**	**01 28 09.8**	**-0.4**
ISK	**Istanbul-Kandi**	**1.62**	**65**	P	**Pn**	**01 28 09.1**	**-1.1**
KAVV	**Kandilli-Istan**	**1.62**	**65**	Pn	**Pn**	**01 28 10.4**	**+0.2**
KRSK	**Karsak**	**1.63**	**89**	P	**Pn**	**01 28 09.6**	**-0.8**
GORD	**Gordes-Manisa**	**1.69**	**151**	Pn	**Pn**	**01 28 12.2**	**+1.0**
KLYT	**Kilyos**	**1.69**	**59**	Pn	**Pn**	**01 28 11.1**	**-0.1**
FOCM	**Foa**	**1.70**	**190**	Pn	**Pb**	**01 28 12.5**	**-0.5**
YLV	**Yalova**	**1.72**	**83**	Pn	**Pn**	**01 28 12.5**	**+0.8**
GOMA	**Golmarmara-Man**	**1.79**	**160**	Pn	**Pn**	**01 28 13.1**	**+0.6**
KDZ	**Kurdzhali**	**1.83**	**313**	Pn	**Pn**	**01 28 13.6**	**+0.3**
KDZ	**Kurdzhali**	**1.83**	**313**	*i* P	**Pn**	**01 28 13.5**	**+0.3**
KDZ				S	**Sg**	**01 28 40.0**	**-0.7**
EFSA	**Agios Efstrati**	**1.85**	**243**	P	**Pn**	**01 28 13.6**	**+0.2**
THAS	**Thassos island**	**1.85**	**278**	P	**Pn**	**01 28 12.6**	**-0.8**
THAS	**Thassos island**	**1.85**	**278**	P	**Pn**	**01 28 12.8**	**-0.6**
THAS				S	**Sn**	**01 28 35.3**	**-1.5**
SMAA	**Simav-Kutahya**	**1.92**	**131**	Pn	**Pn**	**01 28 15.7**	**+1.2**
SIMA	**Simav-Kutahya**	**1.94**	**132**	Pn	**Pn**	**01 28 15.6**	**+0.9**
OSMT	**Osmaniye**	**1.97**	**83**	Pn	**Pn**	**01 28 15.9**	**+0.7**
HRT	**Hereke**	**1.98**	**77**	Pn	**Pn**	**01 28 16.1**	**+0.8**
ADVT	**Abdulvahap**	**2.00**	**88**	Pn	**Pn**	**01 28 16.2**	**+0.8**
BLCB	**Balcova**	**2.00**	**182**	Pn	**Pn**	**01 28 16.1**	**+0.6**
DIM	**Dimitrovgrad**	**2.03**	**325**	*i* P	**Pn**	**01 28 16.6**	**+0.8**
DIM				S	**Sg**	**01 28 46.8**	**0.0**
TVSB	**Tavsanli**	**2.03**	**117**	Pn	**Pn**	**01 28 16.5**	**+0.6**
KAVA	**Kavala**	**2.08**	**288**	P	**Pn**	**01 28 17.0**	**+0.5**
KAVA	**Kavala**	**2.08**	**288**	P	**Pn**	**01 28 16.9**	**+0.4**
KAVA				S	**Sn**	**01 28 40.7**	**-1.8**
CAVI	**Cavuskoy**	**2.08**	**94**	Pn	**Pn**	**01 28 18.1**	**+1.4**
SHAP	**Saphane-Kutahy**	**2.12**	**129**	Pn	**Pn**	**01 28 17.9**	**+0.8**
JMB	**Yambol**	**2.15**	**348**	*i* P	**Pn**	**01 28 18.3**	**+0.8**
JMB				S	**Sn**	**01 28 45.0**	**+0.8**
KVLA	**Kavala**	**2.16**	**286**	P	**Pn**	**01 28 17.6**	**0.0**
KVLA				S	**Sn**	**01 28 43.4**	**-1.0**
GEDZ	**Gediz**	**2.21**	**127**	Pn	**Pn**	**01 28 19.8**	**+1.3**
KULA	**Kula-Manisa**	**2.22**	**147**	Pn	**Pn**	**01 28 19.4**	**+0.9**
RZN	**Rozhen**	**2.23**	**307**	*i* P	**Pn**	**01 28 19.7**	**+0.9**
RZN				S	**Sb**	**01 28 48.4**	**-1.4**
ODEM	**Odemis-Izmir**	**2.23**	**160**	Pn	**Pn**	**01 28 20.2**	**+1.5**
OUR	**Ouranopolis**	**2.40**	**270**	P	**Pn**	**01 28 20.5**	**-0.5**
OUR	**Ouranopolis**	**2.40**	**270**	P	**Pn**	**01 28 20.5**	**-0.5**
KOKK	**Kokkinochori,**	**2.42**	**281**	P	**Pn**	**01 28 20.9**	**-0.3**
SKY	**Skiros Island**	**2.50**	**234**	P	**Pn**	**01 28 21.9**	**-0.4**
PLD	**Plovdiv**	**2.51**	**315**	*i* P	**Pn**	**01 28 23.1**	**+0.6**
PLD				S	**Sn**	**01 28 54.7**	**+1.6**
NVR	**Nevrokopi**	**2.66**	**292**	P	**Pn**	**01 28 25.3**	**+0.8**
NVR				S	**Sn**	**01 28 56.0**	**-0.8**
PAIG	**Paliouri**	**2.68**	**261**	P	**Pn**	**01 28 24.3**	**-0.5**
SMG	**Samos**	**2.69**	**185**	P	**Pn**	**01 28 24.6**	**-0.3**
AOS	**Alonnisos**	**2.78**	**245**	P	**Pn**	**01 28 26.6**	**+0.4**
MMB	**Musomishta**	**2.81**	**295**	*i* P	**Pn**	**01 28 28.0**	**+1.4**
MMB				S	**Sn**	**01 29 02.1**	**+1.6**
PLG	**Polygyros**	**2.81**	**271**	P	**Pn**	**01 28 26.3**	**-0.4**
KYMI	**Kymi, Euboea I**	**2.92**	**234**	P	**Pn**	**01 28 27.6**	**-0.6**
PGB	**Panagyurishte**	**3.07**	**315**	S	**Sn**	**01 29 09.3**	**+2.3**
HORT	**Hortiatis**	**3.08**	**275**	P	**Pn**	**01 28 30.6**	**+0.2**
KARY	**Karystos**	**3.15**	**222**	P	**Pn**	**01 28 31.6**	**+0.3**
NEO	**Neokhori**	**3.19**	**251**	P	**Pn**	**01 28 31.3**	**-0.6**
XOR	**Xorichti**	**3.19**	**253**	P	**Pn**	**01 28 31.1**	**-0.8**
KKB	**Krupnik**	**3.35**	**297**	*i* P	**Pn**	**01 28 35.7**	**+1.6**
KKB				S	**Sb**	**01 29 24.9**	**+3.0**
DION	**Dionisos Attik**	**3.39**	**228**	P	**Pn**	**01 28 34.1**	**-0.5**
PLNA	**Plana**	**3.48**	**308**	S	**Sg**	**01 29 35.1**	**+1.8**
APE	**Apeiranthos**	**3.54**	**201**	⇑P	**Pn**	**01 28 36.5**	**-0.2**
APE				⇓S	**Sn**	**01 29 18.2**	**-0.4**
APE	**

ellipse: s-maj=5.3km s-min=3.4km az=64.7
*NEIC **20** 01:35:44.4±1.3, 38°.53N±0°.05×68°.98E±0°.04, h10km±1km, mb4.6/83, Error ellipse: s-maj=9.2km s-min=5.2km az=340.0*
ISC 20 01:35:44.5±0.8, **38°.56N**±0°.04×**69°.05E**±0°.03, **h14**km±4km, **n322**, σ1°.89/325, **mb4.5**/93, **MS3.5**/11, **30C-30D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMJ	**Simiganj**	**0.10**	**341**	Pg	**Pg**	**01 35 47.2**	**-0.6**
SIMJ				Sg	**Sg**	**01 35 49.9**	**-0.2**
CHGR	**Chuyangaron**	**0.13**	**40**	Pg	**Pg**	**01 35 47.8**	**-0.2**
CHGR				Sg	**Sg**	**01 35 51.3**	**+0.9**
GAR	**Garm**	**1.08**	**66**		**Pb**	**01 36 04.8**	**-0.3**
BTK	**Batken**	**2.03**	**42**		**Pn**	**01 36 20.3**	**+1.9**
BTK	**Batken**	**2.03**	**42**	PN	**Pn**	**01 36 20.3**	**+1.9**
DRK	**Karamyk**	**2.33**	**66**	Pn	**Pn**	**01 36 24.4**	**+1.7**
DRK	**Karamyk**	**2.33**	**66**	PN	**Pn**	**01 36 24.4**	**+1.7**
TRKS	**Terek-Say**	**3.37**	**28**	PN	**Pn**	**01 36 39.7**	**+2.8**
KBL	**Kabul**	**4.01**	**180**	Pn	**Pn**	**01 36 45.9**	**+0.2**
KBL	**Kabul**	**4.01**	**180**	PN	**Pn**	**01 36 45.9**	**+0.2**
ARSB	**Arslanbob**	**4.09**	**46**	Pn	**Pn**	**01 36 48.9**	**+2.1**
ARSB	**Arslanbob**	**4.09**	**46**	PN	**Pn**	**01 36 48.9**	**+2.1**
BRLS	**Borolday**	**4.51**	**7**	*e*Pn	**Pn**	**01 36 51.1**	**-1.3**
BRLS				*e*		01 38 00.2	
BRLS	**Borolday**	**4.51**	**7**	*e*Pn	**Pn**	**01 36 51.1**	**-1.3**
BRLS				*e*Pg	**Pb**	**01 37 02.3**	**-1.1**
BRLS				*e*Lg	Lg	01 38 00.3	
DZA	**Taraz**	**4.66**	**21**	*e*PN	**Pn**	**01 36 57.6**	**+3.1**
DZA				*e*		01 37 09.8	
DZA	**Taraz**	**4.66**	**21**	*e*Pn	**Pn**	**01 36 57.6**	**+3.1**
DZA				*e*Pg	**Pg**	**01 37 09.9**	**-3.8**
KK31	**Karatay Array**	**4.67**	**13**	Pn	**Pn**	**01 36 57.1**	**+2.5**
KK31	**Karatay Array**	**4.67**	**13**	⇓Pn	**Pn**	**01 36 57.8**	**+3.2**
	6.8nm,0.5s,baz=199,slow=14,SNR=84						
KK31				⇑Pg	**Pg**	**01 37 11.3**	**-2.6**
	40nm,0.7s,baz=193,slow=16,SNR=11						
KK31				⇑Lg	Lg	01 38 21.9	
	142nm,0.7s,baz=192,slow=24						
KK31	**Karatay Array**	**4.67**	**13**	PN	**Pn**	**01 36 57.2**	**+2.5**
KKAR	**Karatay Array**	**4.67**	**13**	Pn	**Pn**	**01 36 56.5**	**+1.8**
KKAR	**Karatay Array**	**4.67**	**13**	Pn	**Pn**	**01 36 56.7**	**+2.1**
KKAR	**Karatay Array**	**4.67**	**13**	PN	**Pn**	**01 36 56.5**	**+1.8**
MNAS	**Manas**	**4.72**	**33**	PN	**Pn**	**01 36 58.7**	**+3.2**
AML	**Almayashu**	**5.03**	**43**	P	**Pn**	**01 37 00.1**	**+0.2**
SNR=6.6							
EKS2	**Erkin-Say**	**5.45**	**40**	P	Pn	01 37 12.1	+6.6
SNR=26							
AAK	**Ala-Archa**	**5.81**	**44**	Pn	**Pn**	**01 37 12.8**	**+2.5**
AAK	**Ala-Archa**	**5.81**	**44**	Pn	**Pn**	**01 37 14.0**	**+3.6**
	2.7nm,0.3s,baz=226,slow=6.4,SNR=41						
AAK				Sn	**Sn**	**01 38 24.4**	**+7.5**
	3.0nm,0.3s,baz=60,slow=19,SNR=1.4						
AAK				Lg	Lg	01 38 52.4	
	2.9nm,0.3s,baz=341,slow=5.7,SNR=5.1						
AAK				LR	LR	01 39 20.2	
	comp=Z,58nm,18.1s,baz=249,slow=36						
	15nm,0.5s						
AAK	**Ala-Archa**	**5.81**	**44**	P	**Pn**	**01 37 14.0**	**+3.6**
SNR=18							
AAK	**Ala-Archa**	**5.81**	**44**	⇑Pn	**Pn**	**01 37 13.9**	**+3.6**
	26nm,0.6s						
AAK				⇓Sn	**Sb**	**01 38 27.4**	**-7.7**
	22nm,0.5s						
AAK	**Ala-Archa**	**5.81**	**44**	*ce*PN	**Pn**	**01 37 13.8**	**+3.4**
AAK				pmax	pmax		
	comp=Z,14nm,0.6s						
NIL	**Nilore**	**5.96**	**144**	Pn	**Pn**	**01 37 13.3**	**+0.9**
NIL	**Nilore**	**5.96**	**144**	PN	**Pn**	**01 37 13.3**	**+0.9**
FRU1	**Bishkek**	**6.00**	**43**	Pn	**Pn**	**01 37 15.5**	**+2.6**
FRU1	**Bishkek**	**6.00**	**43**	PN	**Pn**	**01 37 15.5**	**+2.6**
KBK	**Karagaybulak**	**6.07**	**46**	P	Pn	01 37 07.7	-6.3
SNR=5.0							
CHMS	**Chumysh**	**6.19**	**42**	P	**Pn**	**01 37 20.3**	**+4.8**
SNR=19							
USP	**Ospenovka**	**6.25**	**40**	P	**Pn**	**01 37 19.1**	**+2.6**
SNR=33							
SGDS	**Sogindy**	**6.46**	**39**	*e*PN	**Pn**	**01 37 22.6**	**+3.4**
SGDS				*e*		01 37 42.9	
SGDS	**Sogindy**	**6.46**	**39**	*e*Pn	**Pn**	**01 37 22.6**	**+3.4**
SGDS				*e*Pg	Pg	01 37 43.0	-5.1
BOOM	**Boomskoye usch**	**6.55**	**51**	Pn	**Pn**	**01 37 23.1**	**+2.5**
BOOM	**Boomskoye usch**	**6.55**	**51**	PN	**Pn**	**01 37 23.1**	**+2.5**
ULHL	**Ulahol**	**6.61**	**54**	P	**Pn**	**01 37 25.0**	**+3.6**
SNR=7.3							
TKM2	**Tokmak 2**	**6.61**	**47**	P	**Pn**	**01 37 25.5**	**+4.1**
SNR=12							
TKM2	**Tokmak 2**	**6.61**	**47**	⇑Pn	**Pn**	**01 37 24.2**	**+2.8**
	comp=Z,1.3nm,0.3s						
TKM2				⇓Sn	**Sb**	**01 38 50.2**	**-8.0**
	comp=Z,49nm,0.8s						
TKM2	**Tokmak 2**	**6.61**	**47**	PN	**Pn**	**01 37 24.2**	**+2.8**
KDJ	**Kajisay**	**7.16**	**58**	Pn	**Pn**	**01 37 32.4**	**+3.4**
KDJ	**Kajisay**	**7.16**	**58**	P	**Pn**	**01 37 32.4**	**+3.4**
TARG	**Taragay, Kyrgy**	**7.41**	**62**		**Pn**	**01 37 34.3**	**+1.7**
TARG	**Taragay, Kyrgy**	**7.41**	**62**	P	**Pn**	**01 37 34.3**	**+1.7**
BTLS	**Baital**	**7.47**	**28**	*e*P	**Pn**	**01 37 36.3**	**+3.2**
BTLS				*e*		01 39 00.1	
BTLS	**Baital**	**7.47**	**28**	*e*Pn	**Pn**	**01 37 36.3**	**+3.2**
BTLS				*e*Pg	Pg	01 38 01.0	-6.5
BTLS				*e*Sn	**Sn**	**01 39 00.1**	**+2.5**
BTLS				*e*Lg	Lg	01 39 42.8	
TNSS	**Tian-Shan**	**7.47**	**51**	*e*P	**Pn**	**01 37 36.2**	**+2.8**
TNSS	**Tian-Shan**	**7.47**	**51**	*e*Pn	**Pn**	**01 37 36.3**	**+2.8**
TNSS				*e*Pg	Pb	01 38 01.4	+7.3
AAA	**Alma-Ata**	**7.55**	**50**	*e*P	**Pn**	**01 37 36.8**	**+2.6**
AAA	**Alma-Ata**	**7.55**	**50**	*e*Pn	**Pn**	**01 37 36.9**	**+2.6**
AAA				*e*Pg	Pb	01 38 03.1	+7.9
MDOK	**Medeo**	**7.61**	**50**	⇓P	**Pn**	**01 37 37.9**	**+2.9**
	comp=Z,23nm,0.6s						
MDOK	**Medeo**	**7.61**	**50**	*e*P	**Pn**	**01 37 38.4**	**+3.4**
MDOK				*e*		01 39 04.0	
MDOK	**Medeo**	**7.61**	**50**	*e*Pn	**Pn**	**01 37 38.5**	**+3.4**
MDOK				*e*Pg	Pb	01 38 04.1	+7.9
MDOK				*e*Sn	**Sn**	**01 39 04.0**	**+2.9**
MDOK				*e*Lg	Lg	01 39 48.3	
ANVS	**Anan'yevo**	**7.79**	**54**	P	**Pn**	**01 37 42.3**	**+4.7**
WUS	**Wushi**	**8.25**	**68**	Pn	**Pn**	**01 37 45.3**	**+1.4**
SATY	**Saty**	**8.40**	**55**	*e*P	**Pn**	**01 37 48.2**	**+2.3**
SATY				*e*		01 39 23.4	
SATY	**Saty**	**8.40**	**55**	*e*Pn	**Pn**	**01 37 48.2**	**+2.3**
SATY				*e*Pg	Pb	01 38 18.3	+8.6
SATY				*e*Sn	**Sn**	**01 39 23.4**	**+2.9**
SATY				*e*Lg	Lg	01 40 13.2	
DHRM	**DHARAMSHALA**	**8.64**	**135**	*e*P	**Pn**	**01 37 49.9**	**+0.6**
DHRM				*e*S	Sn	01 39 22.1	-4.5
DHRM				IAML		01 39 35.6	
	comp=N,235nm,0.9s						
DHRM				IAML		01 39 35.7	
	comp=E,201nm,0.6s						
KPKS	**Kokpek**	**8.78**	**53**	*e*P	**Pn**	**01 37 53.6**	**+2.6**
KPKS	**Kokpek**	**8.78**	**53**	*e*Pn	**Pn**	**01 37 53.6**	**+2.6**
KPKS				*e*Pg	Pg	01 38 24.9	-7.5
UZB	**Uzynbulak**	**8.83**	**56**	*e*P	**Pn**	**01 37 54.2**	**+2.3**
UZB	**Uzynbulak**	**8.83**	**56**	*e*Pn	**Pn**	**01 37 54.3**	**+2.3**
UZB				*e*Pg	Pg	01 38 26.4	-7.2
SHLS	**Shalkode**	**9.12**	**56**	*e*P	Pn	01 38 02.8	+6.9
SHLS	**Shalkode**	**9.12**	**56**	*e*Pn	Pn	01 38 02.9	+7.0
SHLS				*e*Pg		01 38 36.6	
PDGK	**Podgornoye**	**9.22**	**56**	⇑P	**Pn**	**01 37 58.3**	**+1.1**
	comp=E,14nm,0.8s						
PDGK	**Podgornoye**	**9.22**	**56**	P	**Pn**	**01 37 58.3**	**+1.1**
BHK	**Bhakra**	**9.34**	**138**	*e*S	**Sn**	**01 39 43.6**	**0.0**
BHK				IAML		01 39 48.1	
	comp=N,154nm,1.0s						
BHK				IAML		01 39 48.8	
	comp=E,161nm,1.2s						
TDK	**Taldyqorghan**	**9.50**	**44**	*e*P	**Pn**	**01 38 03.3**	**+2.5**
TDK	**Taldyqorghan**	**9.50**	**44**	*e*Pn	**Pn**	**01 38 03.4**	**+2.5**
SMLA	**Simla**	**9.97**	**136**	*e*P	**Pn**	**01 38 06.3**	**-1.0**
SMLA				*e*S	**Sn**	**01 39 55.0**	**-3.9**
SMLA				IAML		01 40 05.9	
	comp=N,150nm,0.6s						
SMLA				IAML		01 40 07.8	
	comp=E,142nm,0.5s						
OTUK	**Ortayu**	**9.97**	**13**	⇑P	**Pn**	**01 38 09.7**	**+2.4**
	comp=E,9.1nm,0.8s						
OTUK	**Ortayu**	**9.97**	**13**	P	**Pn**	**01 38 09.7**	**+2.4**
BRZS	**Berezniki**	**11.71**	**12**	*e*P	**Pn**	**01 38 32.5**	**+1.4**
BRZS	**Berezniki**	**11.71**	**12**	*e*Pn	**Pn**	**01 38 32.5**	**+1.4**
KUDL	**Kundal**	**12.10**	**147**	*e*P	**Pn**	**01 38 35.5**	**-1.0**
KUDL				*e*S	Sn	01 40 44.2	-7.0
KUDL				IAML		01 40 53.9	
	comp=N,77nm,0.5s						
KUDL				IAML		01 40 59.1	
	comp=E,65nm,1.0s						
AB31	**Akbulak array**	**12.54**	**331**	⇑Pn	**Pn**	**01 38 41.3**	**-1.1**
	comp=E,4.7nm,0.5s,baz=149,slow=13,SNR=152						
AB31				⇓Sn	**Sn**	**01 41 06.2**	**+4.4**
	comp=E,18nm,0.8s,baz=158,slow=22,SNR=6.4						
AB31	**Akbulak array**	**12.54**	**331**	P	**Pn**	**01 38 41.3**	**-1.1**
AB31				S	**Sn**	**01 41 06.2**	**+4.4**
ABKAR	**Akbulak array**	**12.54**	**331**	Pn	**Pn**	**01 38 41.0**	**-1.4**
MAKZ	**Makanchi**	**12.57**	**45**	Pn	**Pn**	**01 38 43.8**	**+0.9**
MAKZ	**Makanchi**	**12.57**	**45**	P	**Pn**	**01 38 43.8**	**+0.9**
MK31	**Makanchi Array**	**12.74**	**46**	Pn	**Pn**	**01 38 45.8**	**+0.6**
MK31	**Makanchi Array**	**12.74**	**46**	*d*P	**Pn**	**01 38 47.1**	**+1.9**
MKAR	**Makanchi Array**	**12.74**	**46**	Pn	**Pn**	**01 38 45.9**	**+0.7**
MKAR	**Makanchi Array**	**12.74**	**46**	Pn	**Pn**	**01 38 47.0**	**+1.8**
	comp=E,0.2nm,0.3s,baz=239,slow=13,SNR=50						
	comp=E,5.9nm,0.8s						
MKAR	**Makanchi Array**	**12.74**	**46**	P	**Pn**	**01 38 47.0**	**+1.8**
LGTI	**Lohaghat**	**12.98**	**131**	*e*P	**Pn**	**01 38 48.1**	**-0.4**
KURBB	**Kurchatov Arra**	**13.81**	**26**	Pn	**Pn**	**01 38 58.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=13						
KURBB				Lg	Lg	01 43 05.6	
	comp=E,0.2nm,0.3s,baz=209,slow=29,SNR=5.9						
	comp=E,0.9nm,0.7s						
KURK	**Kurchatov**	**13.92**	**26**	Pn	**Pn**	**01 39 02.6**	**+1.4**
KURK	**Kurchatov**	**13.92**	**26**	⇑*e*P	**Pn**	**01 39 04.3**	**+3.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AKTO	**Aktyubinsk**	**14.23**	**330**	Pn	**Pn**	**01 39 04.3**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=150,slow=13,SNR=13						
AKTO				Sn	**Sn**	**01 41 38.9**	**-4.1**
	comp=Z,0.4nm,0.3s,baz=46,slow=23,SNR=5.8						
AKTO				Lg	Lg	01 43 21.2	
	comp=Z,0.2nm,0.3s,baz=203,slow=12,SNR=1.6						
	comp=Z,12nm,1.0s						
AKTO	**Aktyubinsk**	**14.23**	**330**	⇑Pn	**Pn**	**01 39 04.6**	**-0.9**
	comp=Z,18nm,0.8s						
AKTO				⇓Sn	**Sn**	**01 41 47.5**	**+4.5**
	comp=Z,19nm,1.0s						
SEM	**Semipalatinsk**	**14.27**	**30**	*e*P	**Pn**	**01 39 07.9**	**+1.7**
SEM	**Semipalatinsk**	**14.27**	**30**	*e*Pn	**Pn**	**01 39 08.0**	**+1.7**
BVA0	**Borovoye Array**	**14.50**	**3**	⇑P	**P**	**01 39 13.9**	**-1.9**
	comp=Z,8.3nm,0.9s,baz=173,slow=14,SNR=43						
BVA0	**Borovoye Array**	**14.50**	**3**	P	**P**	**01 39 13.9**	**-1.9**
BVAR	**Borovoye Array**	**14.50**	**3**	Pn	**Pn**	**01 39 07.2**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=165,slow=13,SNR=8.4						
BVAR				Sn	**Sn**	**01 41 44.3**	**-5.3**
	baz=340,slow=30						
BVAR				Lg	Lg	01 43 30.9	
	baz=331,slow=39,SNR=1.9						
	comp=Z,0.8nm,0.6s						
BRVK	**Borovoye**	**14.53**	**3**	Pn	**Pn**	**01 39 10.4**	**+0.9**
BRVK	**Borovoye**	**14.53**	**3**	⇑P	**P**	**01 39 15.5**	**-0.6**
	comp=Z,11nm,0.6s						
BRVK	**Borovoye**	**14.53**	**3**	⇓*e*P	**Pn**	**01 39 10.3**	**+0.8**
ZSN	**Zaisan**	**14.57**	**47**	*e*P	**Pn**	**01 39 12.4**	**+2.3**
ZSN	**Zaisan**	**14.57**	**47**	*e*Pn	**Pn**	**01 39 12.4**	**+2.3**
WMQ	**Urumqi**	**14.98**	**64**	*e*P	**Pn**	**01 39 17.9**	**+2.1**
LKRN	**Lenkeran, Azer**	**15.85**	**277**	P	**P**	**01 39 32.5**	**+1.7**
BHPL	**Bhopal**	**16.86**	**152**	*e*P	**Pn**	**01 39 36.9**	**-3.3**
BHPL				IAmb	IAmb	01 39 45.3	
	comp=Z,21nm,0.5s						
BHPL				*e*S	Sn	01 42 35.0	-12
SEKA	**Sheki**	**16.98**	**286**	P	**P**	**01 39 44.2**	**+0.7**
MNGR	**Mingechevir, A**	**17.05**	**284**	P	**P**	**01 39 46.0**	**+1.8**
GANJ	**Ganja**	**17.63**	**284**	P	**P**	**01 39 52.3**	**+1.6**
NAX	**Nakhchivan**	**18.35**	**279**	P	**P**	**01 40 00.6**	**+1.9**
ZAA0	**Zalesovo Array**	**18.79**	**30**	P	**P**	**01 40 03.0**	**-0.3**
ZALV	**Zalesovo Beam**	**18.79**	**30**	P	**P**	**01 40 02.6**	**-0.7**
ZALV	**Zalesovo Beam**	**18.79**	**30**	P	**P**	**01 40 03.8**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=226,slow=12,SNR=48						
ZALV				Lg	Lg	01 45 46.9	
	baz=199,slow=30						
	comp=Z,7.3nm,0.5s						
GNI	**Garni**	**18.86**	**282**		**P**	**01 40 04.7**	**+0.4**
GNI	**Garni**	**18.86**	**282**	P	**Pn**	**01 40 06.1**	**+1.3**
	comp=Z,5.7nm,0.7s,baz=10,slow=8.3,SNR=6.3						
GNI	**Garni**	**18.86**	**282**	P	**P**	**01 40 04.7**	**+0.4**
GNI				pmax	pmax		
	comp=Z,13nm,1.1s						
SVE	**Sverdlovsk**	**19.11**	**346**	*e*P	**Pn**	**01 40 07.7**	**+0.1**
SVE				*e*S	**S**	**01 43 41.5**	**-1.5**
ARTI	**Arti**	**19.20**	**342**	P	**P**	**01 40 07.7**	**0.0**
ARTI	**Arti**	**19.20**	**342**	P	**Pn**	**01 40 08.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=161,slow=6.3,SNR=19						
ARTI				S	**Sn**	**01 43 41.0**	**-2.4**
	comp=Z,1.8nm,0.7s,baz=328,slow=22,SNR=1.7						
ARTI				Lg	Lg	01 46 01.7	
	comp=Z,0.2nm,0.3s,baz=132,slow=23,SNR=1.6						
ARTI				LR	LR	01 48 52.8	
	comp=Z,52nm,19.2s,baz=150,slow=41						
	comp=Z,7.4nm,0.7s						
ARTI	**Arti**	**19.20**	**342**	*i* P	**Pn**	**01 40 08.5**	**-0.2**
ARTI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NCK	**Nalchik**	**19.80**	**293**	⇑*e*P	**Pn**	**01 40 16.7**	**+0.7**
NCK				pmax	pmax		
	comp=Z,20nm,0.7s						
BELG	**Belogornoye**	**20.32**	**320**	P	Pn	01 40 21.1	-0.9
	comp=Z,13nm,0.7s,baz=121,slow=2.6,SNR=10.0						
BELG				S	**S**	**01 44 04.8**	**-2.4**
	comp=Z,5.3nm,0.7s,baz=124,slow=12,SNR=2.1						
BELG				LR	LR	01 49 16.1	
	comp=Z,124nm,19.4s,baz=97,slow=40						
	comp=Z,13nm,0.7s						
BELG	**Belogornoye**	**20.32**	**320**	⇓*e*P	**P**	**01 40 19.9**	**0.0**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KBZ	**Khabaz**	**20.32**	**293**	P	**P**	**01 40 20.5**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=104,slow=11,SNR=9.2						
KBZ				S	**S**	**01 44 03.1**	**-4.4**
	comp=Z,4.0nm,1.1s,baz=231,slow=17,SNR=3.0						
	comp=Z,3.3nm,0.7s						
KBZ	**Khabaz**	**20.32**	**293**	*c i* P	**P**	**01 40 20.0**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GOF	**Gofitskoye**	**20.40**	**297**	*ce*P	Pn	01 40 22.6	-0.4
KVAR	**Kislovodsk Arr**	**20.49**	**294**	P	Pn	01 40 23.8	-0.5
	comp=Z,2.0nm,0.4s,baz=339,slow=20,SNR=1.7						
KVAR				S	**S**	**01 44 10.0**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=4.1,slow=20,SNR=2.5						
	comp=Z,2.0nm,0.4s						
SHA1	**Shidzhatmaz**	**20.50**	**293**	*de*P	**P**	**01 40 23.3**	**+1.0**
KIV	**Kislovodsk**	**20.50**	**294**	P	**P**	**01 40 20.9**	**-1.2**
KIV	**Kislovodsk**	**20.50**	**294**	*e*P	**P**	**01 40 21.4**	**-0.7**
KIV				*e*S	**S**	**01 44 11.2**	**0.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,74nm,14.0s						
SIRT	**Sirnak**	**20.97**	**275**	P	**P**	**01 40 26.8**	**-0.4**
SIRT				IAmb	IAmb	01 40 56.3	
	comp=Z,22nm,0.9s						
SHL	**Shillong**	**23.21**	**117**	P	**P**	**01 40 51.0**	**-0.3**
SHL				IAmb	IAmb	01 41 03.1	
	comp=Z,13nm,0.4s						
SHL	**Shillong**	**23.21**	**117**	P	**P**	**01 40 51.0**	**-0.3**
SHL				pmax	pmax		
	comp=Z,13nm,0.4s						
KIRV	**Kirov**	**23.71**	**334**	⇓*e*P	**P**	**01 40 58.3**	**+2.5**
GTA	**Gaotai**	**23.88**	**78**	*e*P	**P**	**01 40 57.8**	**+0.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VSR	**Storozhevoye**	**24.48**	**311**	*e*P	**P**	**01 41 02.3**	**-0.7**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VORR	**Voronezh**	**24.61**	**312**	*e*P	**P**	**01 41 01.9**	**-2.3**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAYN	**Ar Rayn**	**25.04**	**240**	P	**P**	**01 41 07.5**	**-0.8**
RAYN	**Ar Rayn**	**25.04**	**240**	P	**P**	**01 41 07.5**	**-0.8**
RAYN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOY	**Mondy**	**25.84**	**49**	*e*P	**P**	**01 41 17.0**	**+1.5**
ZAK	**Zakamensk**	**26.89**	**53**	*e*P	**P**	**01 41 26.1**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIRS	**Kirsehir-Merke**	**27.27**	**282**	⇓P	**P**	**01 41 29.9**	**+1.4**
BR131	**Keskin Array S**	**27.39**	**284**	P	**P**	**01 41 29.1**	**-0.4**
BR131	**Keskin Array S**	**27.39**	**284**	*ce*P	**P**	**01 41 30.1**	**+0.5**
BRTR	**Keskin Array B**	**27.39**	**284**	P	**P**	**01 41 29.4**	**-0.2**
BRTR	**Keskin Array B**	**27.39**	**284**	P	**P**	**01 41 30.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=95,slow=6.5,SNR=11						
	comp=Z,1.1nm,0.5s						
ANTO	**Ankara**	**28.01**	**284**	P	**P**	**01 41 35.0**	**-0.1**
ANTO				IAmb	IAmb	01 41 38.0	
	comp=Z,5.6nm,0.7s						
ANTO	**Ankara**	**28.01**	**284**	P	**P**	**01 41 35.0**	**-0.1**
ANTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**28.52**	**59**	P	**P**	**01 41 40.8**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=259,slow=8.9,SNR=5.1						
	comp=Z,0.9nm,0.6s						
ULN	**Ulaanbaatar**	**28.96**	**59**	⇓*i*P	**P**	**01 41 44.6**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EIL	**Elat**	**29.46**	**263**	LR	LR	01 55 34.0	
	comp=Z,49nm,20.3s,baz=78,slow=41						
PZH	**PanZhiHua**	**29.91**	**104**	P	**P**	**01 41 53.3**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
AKASG	**Malin Array Be**	**30.46**	**307**	P	**P**	**01 41 56.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=84,slow=7.0,SNR=6.0						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**30.46**	**307**	*i* P	**P**	**01 41 55.2**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKBB	**Malin Array Si**	**30.46**	**307**	⇑*e*P	**P**	**01 41 59.2**	**+2.6**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIRR	**Tirgusor**	**30.76**	**294**	P	**P**	**01 41 58.5**	**-0.8**
TIRR				IAmb	IAmb	01 42 03.9	
	comp=Z,23nm,1.4s						
TIRR	**Tirgusor**	**30.76**	**294**	P	**P**	**01 41 58.5**	**-0.8**
TIRR				pmax	pmax		
	comp=Z,23nm,1.4s						
SORM	**Soroca**	**30.79**	**301**	⇓P	**P**	**01 42 00.1**	**+0.6**
SORM	**Soroca**	**30.79**	**301**	⇓P	**P**	**01 42 00.1**	**+0.6**
AKAS	**Kas**	**31.26**	**278**	P	**P**	**01 42 02.9**	**-1.2**
TESR	**Tescani**	**31.92**	**298**	⇓P	**P**	**01 42 10.6**	**+1.0**
PLOR	**Plostina**	**31.94**	**297**	⇑P	**P**	**01 42 11.4**	**+1.6**
PLOR	**Plostina**	**31.94**	**297**	⇑P	**P**	**01 42 11.4**	**+1.6**
MNK	**Minsk**	**31.95**	**313**	*i* P	**P**	**01 42 08.0**	**-1.7**
	comp=E,14nm,1.1s						
MNK				*i* P	**P**	**01 42 08.0**	**-1.7**
	comp=N,10.0nm,1.0s						
MNK				*i* P	**P**	**01 42 08.0**	**-1.7**
	comp=Z,8.0nm,0.6s,baz=103						
MNK				*i* PP	**PnPn**	**01 43 12.9**	**-1.7**
MNK				*i* PPP	PPP	01 43 22.3	
MNK				*i* S	**S**	**01 47 20.2**	**-0.3**
MNK				*i* SS	**SnSn**	**01 49 10.0**	**+0.9**
MNK				*i* SSS	SSS	01 49 25.2	
MNK				*i* LQ	LQ	01 52 05.6	
MNK				*i* LR	LR	01 56 16.1	
MNK				*i* LRM	MLR	01 57 19.2	
	comp=N,298nm,19.3s						
MNK				*i* LRM	MLR	01 57 20.1	
	comp=Z,93nm,17.6s						
MNK				*i* LRM	MLR	01 57 30.7	
	comp=E,165nm,16.8s						
MNK	**Minsk**	**31.95**	**313**	*i* P	**P**	**01 42 08.0**	**-1.7**
MNK				*i*		01 43 12.9	
MNK				*i*		01 44 57.8	
MNK				*i* S	**S**	**01 47 20.1**	**-0.3**
MNK				*i* SS	**SnSn**	**01 49 10.0**	**+0.9**
MNK				pmax	pmax		
	comp=E,14nm,1.1s						
MNK				pmax	pmax		
	comp=N,10.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MNK				MLR	MLR		
	comp=N,298nm,19.0s						
MNK				MLR	MLR		
	comp=Z,93nm,18.0s						
MNK				MLR	MLR		
	comp=E,165

comp=Z,40nm,19.0s,baz=235,slow=40
comp=Z,2.1nm,0.7s
ZEA Zeya 41.86 49⇓*e*P P 01 43 35.1 +1.2
WTTA Wattenberg 42.09 301 *e*pP P 01 43 36.7 +0.6
comp=Z,1.7nm,0.6s
MOTA Moosalm 42.43 301 *e*P P 01 43 38.7 -0.2
comp=Z,3.4nm,0.9s
YAK Yakutsk 43.22 37*de*P P 01 43 45.2 +0.4
YAK pmax pmax
comp=Z,14nm,0.6s
TUE Stuetta 43.78 300 P P 01 43 49.9 0.0
TIXI Tiksi 44.47 23 P P 01 43 55.2 +0.5
TIXI Tiksi 44.47 23⇑*e*P P 01 43 55.3 +0.5
TIXI pmax pmax
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 45.14 347 P P 01 44 01.9 +1.8
comp=Z,4.0nm,0.9s,baz=110,slow=12,SNR=4.7
comp=Z,4.0nm,0.9s
SENIN Lac Senin/Sane 45.19 301 P P 01 44 00.1 -1.0
KLR Kul'dur 45.21 55 P P 01 44 01.2 +0.2
comp=Z,1.6nm,0.7s,baz=290,slow=9.2,SNR=5.0
comp=Z,1.6nm,0.7s
KLR Kul'dur 45.21 55⇑*e*P P 01 44 01.8 +0.8
KLR pmax pmax
comp=Z,8.0nm,2.2s
KSRS Korea Array 45.70 72 LR LR 02 06 11.3
comp=Z,52nm,18.8s,baz=195,slow=40
USA0B Ussuriysk Arra 46.54 62 P **P 01 44 12.2 +0.6**
USA0B IAmb IAmb 01 44 51.9
comp=Z,4.8nm,0.9s
USA0B Ussuriysk Arra 46.54 62 P **P 01 44 12.2 +0.6**
USA0B pmax pmax
comp=Z,5.0nm,0.9s
USRK Ussuriysk Ar. 46.54 62 P **P 01 44 11.8 +0.2**
USRK Ussuriysk Ar. 46.54 62 P **P 01 44 11.0 -0.5**
comp=Z,1.7nm,0.7s,baz=277,slow=8.2,SNR=3.4
comp=Z,1.7nm,0.7s
USRK Ussuriysk Ar. 46.54 62 P **P 01 44 11.8 +0.2**
EKA Eskdalemuir Ar 49.74 315 P **P 01 44 36.1 0.0**
comp=Z,3.6nm,0.8s,baz=92,slow=7.5,SNR=5.8
comp=Z,3.6nm,0.8s
KIBK Kibwezi 49.74 222 P **P 01 44 36.8 +0.1**
DAG Danmarks Havn 52.32 343 *i* P **P 01 44 55.0 -0.2**
DAG IAmb IAmb 01 44 57.3
comp=Z,4.3nm,0.9s
SEY Seymchan 53.58 34⇓*e*P P 01 45 05.6 +0.9
SEY pmax pmax
comp=Z,2.0nm,0.8s
MA2 Magadan 53.71 39⇓*e*P P 01 45 06.5 +0.8
MA2 pmax pmax
comp=Z,15nm,2.6s
JMM Marumori 54.98 67 P **P 01 45 15.6 +0.3**
ESDC Sonseca Array 55.15 296 P **P 01 45 16.7 +0.2**
comp=Z,1.4nm,0.8s,baz=61,slow=7.4,SNR=13
comp=Z,1.4nm,0.8s
PAB San Pablo 55.47 296 P **P 01 45 18.3 -0.6**
PAB IAmb IAmb 01 45 29.4
comp=Z,12nm,1.5s
PAB San Pablo 55.47 296 P **P 01 45 18.3 -0.6**
PAB pmax pmax
comp=Z,12nm,1.5s
TAM Tamanrasset 55.83 273 P **P 01 45 22.3 +0.5**
TAM IAmb IAmb 01 45 24.6
comp=Z,5.6nm,1.4s
TAM Tamanrasset 55.83 273 P **P 01 45 22.3 +0.5**
TAM pmax pmax
comp=Z,6.0nm,1.4s
BILL Bilibino 57.45 26⇓*i*P P 01 45 34.1 +1.7
BILL pmax pmax
comp=Z,10.0nm,1.9s
SUMG Summit 58.61 340 P **P 01 45 42.7 +1.7**
SUMG Summit 58.61 340 P **P 01 45 42.7 +1.7**
SUMG Summit 58.61 340 *i* P **P 01 45 41.4 +0.4**
SUMG IAmb IAmb 01 45 43.7
comp=Z,9.1nm,0.8s
NEEM North Greenlan 58.69 347 *i* P **P 01 45 41.0 -0.4**
NEEM IAmb IAmb 01 45 43.6
comp=Z,9.2nm,1.1s
EUNU Eureka 60.84 355 P **P 01 45 58.6 +2.8**
KULLO Kullorsuaq 61.70 346 *i* P **P 01 45 58.3 -3.4**
KULLO IAmb IAmb 01 46 04.0
comp=Z,7.2nm,0.7s
UPNV Upernavik 62.74 344 *i* P **P 01 46 08.8 +0.2**
UPNV IAmb IAmb 01 46 11.0
comp=Z,7.8nm,0.8s
UMMG Uummannaq 63.24 341 *i* P **P 01 46 13.3 +1.4**
UMMG IAmb IAmb 01 46 16.9
comp=Z,23nm,1.3s
TORD Torodi Ar. Bea 64.26 266 P **P 01 46 18.0 -1.6**
DY2G Dye2 64.28 336 *i* P **P 01 46 18.1 -1.1**
DY2G IAmb IAmb 01 46 23.2
comp=Z,332nm,2.6s
TNA Tin City 67.25 22 P **P 01 46 37.7 -0.4**
TNA IAmb IAmb 01 46 39.9
comp=Z,4.1nm,1.1s
E18K Tukpahlearik C 67.88 19 IAmb IAmb 01 46 43.6
comp=Z,6.9nm,1.0s
F15K North Star Dit 68.09 21 IAmb IAmb 01 46 45.5
comp=Z,6.5nm,1.1s
C23K Itkillik River 68.10 14 P **P 01 46 44.5 +1.1**
F17K Baldwin Pennin 68.46 19 P **P 01 46 46.9 +1.3**
D22K Ayikyak River 68.50 15 P **P 01 46 47.1 +1.2**
D22K IAmb IAmb 01 46 48.3
comp=Z,6.7nm,1.1s
E21K Killik River 68.59 16 IAmb IAmb 01 46 48.0
comp=Z,4.9nm,0.8s
E19K Redstone River 68.66 17 IAmb IAmb 01 46 48.5
comp=Z,4.7nm,1.1s
A36M Sachs Harbour 69.29 5 P **P 01 46 51.3 +0.6**
TOLK Toolik Lake Re 69.32 14 P **P 01 46 51.8 +0.8**
C27K Jago River 69.48 12 P **P 01 46 53.6 +1.6**
C27K IAmb IAmb 01 46 54.6
comp=Z,5.0nm,0.8s
F21K Alatna River 69.71 16 IAmb IAmb 01 46 56.6
comp=Z,3.5nm,0.9s
H17K Granite Mounta 69.98 20 P **P 01 46 55.5 +0.4**
E24K Your Creek 70.01 14 IAmb IAmb 01 46 57.0
comp=Z,3.3nm,0.7s
COLD Coldfoot 70.40 15 P **P 01 46 58.3 +0.7**
COLD IAmb IAmb 01 46 59.6
comp=Z,6.4nm,0.8s
E25K Arctic Village 70.51 13 P **P 01 46 59.1 +0.8**
E25K IAmb IAmb 01 47 00.3
comp=Z,4.3nm,1.0s
G23K Bananza Creek 70.88 15 P **P 01 47 02.1 +1.4**
E28M Babbage River 71.04 11 IAmb IAmb 01 47 03.9
comp=Z,3.9nm,0.7s
H21K Melozitna Rive 71.16 17 P **P 01 47 02.2 -0.2**
BMAR Burnt Mountain 71.30 13 P **P 01 47 04.2 +1.0**
E29M Blow River 71.48 10 IAmb IAmb 01 47 06.5
comp=Z,4.7nm,0.7s
F28M Old Crow 71.91 11 P **P 01 47 08.1 +1.3**
F28M IAmb IAmb 01 47 09.1
comp=Z,5.0nm,1.0s
H24K Noodor Dome 72.08 15 P **P 01 47 08.8 +0.9**
H24K IAmb IAmb 01 47 10.4
comp=Z,3.8nm,1.0s
G27K Doyon Strip 72.36 12 IAmb IAmb 01 47 12.2
comp=Z,3.1nm,0.9s
TTA Tatalina 72.62 20 P **P 01 47 11.0 -0.3**
TTA IAmb IAmb 01 47 12.9
comp=Z,7.1nm,1.4s
TTA Tatalina 72.62 20 P **P 01 47 11.0 -0.3**
TTA pmax pmax
comp=Z,7.0nm,1.4s
L16K Owhat River 72.64 22 P **P 01 47 12.3 +1.1**
L18K Granite Mounta 73.02 21 P **P 01 47 14.4 +0.9**
L18K IAmb IAmb 01 47 16.6
comp=Z,4.5nm,0.9s
ILAR Eielson Array 73.21 15 P **P 01 47 14.0 -0.6**
ILAR Eielson Array 73.21 15 P **P 01 47 14.7 +0.1**
comp=Z,1.0nm,0.8s,baz=330,slow=4.8,SNR=15
comp=Z,1.0nm,0.8s
CAST Castle Rocks 73.22 18 P **P 01 47 15.3 +0.6**
CAST IAmb IAmb 01 47 23.5
comp=Z,13nm,1.4s
WRH Wood River Hil 73.22 16 P **P 01 47 14.5 -0.2**
KTH Kantishna Hill 73.38 17 P **P 01 47 16.0 +0.3**
KTH IAmb IAmb 01 47 39.9
comp=Z,16nm,1.5s
H29M Whitestone 73.43 11 IAmb IAmb 01 47 19.7
comp=Z,3.8nm,0.8s
PPLA Purkeypile 73.63 18 P **P 01 47 17.9 +0.6**
PPLA IAmb IAmb 01 47 21.4
comp=Z,12nm,1.2s
MCK McKinley 73.68 17 P **P 01 47 17.7 +0.3**
MCK IAmb IAmb 01 47 30.2
comp=Z,9.6nm,1.4s
MCK McKinley 73.68 17 P **P 01 47 17.7 +0.3**
MCK pmax pmax
comp=Z,10.0nm,1.4s
I28M Miner Creek 73.89 12 IAmb IAmb 01 47 21.3
comp=Z,3.5nm,0.8s
J26L Joseph Creek 74.11 14 IAmb IAmb 01 47 21.7
comp=Z,3.3nm,0.7s
H31M Peel River 74.39 10 P **P 01 47 22.1 +0.6**
H31M IAmb IAmb 01 47 23.4
comp=Z,4.1nm,0.8s
SCRK Sand Creek 74.50 14 P **P 01 47 22.8 +0.5**
SKT Skwentna 74.57 19 P **P 01 47 22.8 +0.2**
SKT IAmb IAmb 01 47 24.3
comp=Z,5.1nm,0.8s
N19K Bonanza Creek 74.78 20 P **P 01 47 25.1 +1.2**
N19K IAmb IAmb 01 48 03.6
comp=Z,8.0nm,1.1s
GHO Glory Hole Cre 75.39 18 P **P 01 47 27.4 0.0**
SML Sawmill 75.50 17 P **P 01 47 28.4 +0.4**
SCM Sheep Creek Mo 75.70 17 P **P 01 47 29.6 +0.4**
SCM Sheep Creek Mo 75.70 17 P **P 01 47 29.6 +0.4**
SCM pmax pmax
comp=Z,38nm,1.4s
M27K Edge Creek, AK 76.38 14 P **P 01 47 34.3 +1.1**
M27K IAmb IAmb 01 47 39.5
comp=Z,6.2nm,1.1s
M29M Somme Creek 76.93 13 P **P 01 47 37.6 +1.4**
M31M Drury Creek, Y 77.81 11 P **P 01 47 41.8 +0.7**
M31M IAmb IAmb 01 48 05.3
comp=Z,6.2nm,1.2s
BOSA Boshof 78.36 218 P **P 01 47 44.0 -0.5**
comp=Z,2.2nm,0.8s,baz=17,slow=10.0,SNR=3.3
comp=Z,2.2nm,0.8s
O30N Mendenhall 78.90 12 P **P 01 47 47.9 +0.8**
O30N IAmb IAmb 01 47 49.5
comp=Z,6.2nm,1.1s
YKA Yellowknife Ar 79.25 2 P **P 01 47 49.8 +0.8**
comp=Z,1.8nm,0.7s,baz=350,slow=5.5,SNR=35
comp=Z,1.8nm,0.7s
SCHQ Schefferville 79.59 336 P **P 01 47 51.2 +0.2**
SCHQ IAmb IAmb 01 48 26.6
comp=Z,11nm,1.4s
SCHQ Schefferville 79.59 336 P **P 01 47 51.5 +0.6**
comp=Z,3.4nm,0.7s,baz=38,slow=6.0,SNR=7.0
comp=Z,3.4nm,0.7s
WRA Warramunga Arr 84.38 121 P **P 01 48 15.0 -1.6**
comp=Z,1.1nm,0.8s,baz=320,slow=5.3,SNR=8.6
comp=Z,1.1nm,0.8s
WRA Warramunga Arr 84.38 121 *i* P **P 01 48 16.5 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
PMG Port Moresby 86.64 105 LR LR 02 29 43.5
comp=Z,36nm,21.9s,baz=1.5,slow=37
ASAR Alice Springs 86.69 124 P **P 01 48 26.6 -1.4**
comp=Z,0.4nm,0.5s,baz=311,slow=4.7,SNR=6.6
comp=Z,0.4nm,0.5s
HNR Honiara 96.50 97 LR LR 02 31 47.3
comp=Z,154nm,21.2s,baz=122,slow=35
QSPA South Pole Qui 128.35 180 PKPdf **PKPdf 01 54 49.5 -0.2**
LCO Las Campanas 145.45 274 **PKPbc 01 55 20.9 -1.7**
LCO Las Campanas 145.45 274 PKIKP **PKPbc 01 55 20.9 -1.7**

*NNC **20** 01:40:51.1±0.8, 46°.63N×83°.12E, h11km±7km, mb3.7, mpv3.0, Error ellipse: s-maj=8.5km s-min=4.6km az=170.0*
*SOME **20** 01:40:51.0, 46°.92N×83°.02E, h20km*
*ASRS **20** 01:40:53.2±0.3, 47°.N±3°.×8°.3E±°, h5km, MLh3.6/10, Error ellipse: s-maj=6.3km s-min=2.6km az=146.1, confirmed*
ISC 20 01:40:49.4±1.3, 46°.67N±0°.04×83°.20E±0°.03, h1km±11km, n23, σ2°36/47, 7C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.64**	**282**	⇑P	**Pg**	**01 41 03.0**	**+1.4**
	3.0nm,0.3s,baz=126,slow=5.9,SNR=1277						
MK31				⇑S	**Sb**	**01 41 12.4**	**-0.3**
	19nm,0.2s,baz=134,slow=7.6,SNR=51						
MKAR	**Makanchi Array**	**0.64**	**282**	Pg	**Pg**	**01 41 03.1**	**+1.5**
MKAR				Sg	**Sb**	**01 41 12.5**	**-0.3**
MAKZ	**Makanchi**	**0.85**	**280**	⇑P	**Pb**	**01 41 07.3**	**+0.3**
	1.6nm,0.3s						
MAKZ				⇑S	**Sb**	**01 41 18.5**	**-0.4**
	11nm,0.4s						
MAKZ	**Makanchi**	**0.85**	**280**	Pg	**Pg**	**01 41 06.9**	**+1.2**
MAKZ				Sg	**Sb**	**01 41 19.3**	**+0.3**
ZSN	**Zaisan**	**1.39**	**55**	P	**Pn**	**01 41 13.4**	**-2.5**
	13nm,0.4s						
ZSN				S	**Sb**	**01 41 30.3**	**-4.0**
	172nm,0.2s						
ZSN	**Zaisan**	**1.39**	**55**	*e*P	**Pn**	**01 41 14.8**	**-1.1**
	7.8nm,0.1s						
ZSN				*e*S	**Sb**	**01 41 31.4**	**-2.8**
	172nm,0.2s						
KAPS	**Kapalarasan**	**3.01**	**244**	Pg	**Pb**	**01 41 45.5**	**+1.6**
	7.7nm,0.4s						
KAPS				Lg	Lg	01 42 25.2	
	40nm,0.2s						
DJR	**Jarkent**	**3.34**	**227**	Pg	**Pb**	**01 41 51.6**	**+2.0**
	5.9nm,0.6s						
DJR				Lg	Lg	01 42 35.4	
	8.2nm,0.6s						
DJR	**Jarkent**	**3.34**	**227**	*e*P	**Pb**	**01 41 51.6**	**+2.0**
	5.9nm,0.6s						
DJR				*e*S	**Sg**	**01 42 35.4**	**-1.4**
	8.2nm,0.6s						
DGZ	**Jazzator, Alta**	**4.15**	**41**	Pn	**Pn**	**01 41 54.7**	**+0.7**
DGZ				Pg	**Pb**	**01 42 05.7**	**+2.4**
DGZ				Sg	**Sb**	**01 42 57.0**	**+3.0**
UKR	**Ust'-Kan**	**4.40**	**13**	Pn	**Pn**	**01 41 58.7**	**+1.4**
UKR				Sg	**Sg**	**01 43 05.9**	**-4.8**
KPKS	**Kokpek**	**4.52**	**227**	*e*P	**Pb**	**01 42 14.0**	**+4.4**
	5.1nm,0.2s						
KPKS				*e*S	**Sg**	**01 43 13.6**	**-1.0**
	16nm,0.3s						
UZB	**Uzynbulak**	**4.60**	**222**	*e*P	**Pg**	**01 42 15.8**	**-1.8**
	1.4nm,0.1s						
UZB				*e*S	**Sg**	**01 43 16.5**	**-0.7**
	4.8nm,0.2s						
CHBI	**Chibit, Altay**	**4.64**	**37**	Pn	**Pn**	**01 42 01.7**	**+1.0**
CHBI				S	**Sn**	**01 42 53.6**	**-1.6**
CHBI				Sg	**Sb**	**01 43 12.6**	**+4.6**
AKAR	**Aktash**	**4.69**	**37**	Pn	**Pn**	**01 42 02.7**	**+1.2**
AKAR				S	**Sn**	**01 42 56.2**	**-0.3**
AKAR				Sg	**Sg**	**01 43 16.2**	**-3.9**
CUR	**Chagan-Uzun**	**4.86**	**43**	Pn	**Pn**	**01 42 04.8**	**+1.1**
CUR				Pg	**Pb**	**01 42 18.0**	**+2.6**
CUR				S	**Sn**	**01 42 59.6**	**-1.0**
ELDR	**Elanda**	**4.94**	**22**	Pn	**Pn**	**01 42 05.9**	**+1.3**
ELDR				Pg	**Pb**	**01 42 19.6**	**+3.0**
ELDR				Sg	**Sb**	**01 43 21.6**	**+5.1**
KURBB	**Kurchatov Arra**	**5.03**	**324**	⇑Pn	**Pn**	**01 42 06.3**	**+0.5**
	2.9nm,0.5s						
KURBB				⇑Lg	Lg	01 43 28.1	
	46nm,0.8s						
KURK	**Kurchatov**	**5.06**	**325**	⇑Pn	**Pn**	**01 42 05.8**	**-0.5**
	0.8nm,0.5s						
KURK				⇓Lg	Lg	01 43 26.0	
	36nm,1.1s						
KURK	**Kurchatov**	**5.06**	**325**	S	**Sn**	**01 43 00.8**	**-4.5**
KURK				Sg	**Sg**	**01 43 28.5**	**-3.4**
ULGR	**Ulagan, Altay**	**5.07**	**37**	Pn	**Pn**	**01 42 06.3**	**-0.3**
ULGR				S	**Sn**	**01 43 04.5**	**-1.1**
ARTR	**Artybash**	**5.79**	**26**	Pn	**Pn**	**01 42 17.4**	**+1.0**
ARTR				S	**Sn**	**01 43 21.6**	**-1.8**
YALR	**Yailyu, Altay**	**5.87**	**28**	Pn	**Pn**	**01 42 17.9**	**+0.5**
YALR				S	**Sn**	**01 43 24.7**	**-0.6**

*IDC **20** 01:52:16.9±0.8, 0°.13N×119°.82E, h0km, mb3.9/9, mbtmp3.9/11, ML3.9/2, MS3.4/12, Error ellipse: s-maj=52.1km s-min=15.3km az=71.0*
*DJA **20** 01:52:17.9±0.3, 0°.N±3°.×12°.0E±°, h10km, M4.4/19, mB4.9/5, mb4.4/15, MLv4.5/19, Mw(mB)4.2/5*
*NEIC **20** 01:52:23.2±0.9, 0°.13N±0°.04×119°.71E±0°.10, h40km±11km, mb4.3/11, Error ellipse: s-maj=14.8km s-min=3.4km az=71.0*
ISC 20 01:52:18.4±0.6, 0°.04N±0°.05×119°.48E±0°.07, h10km, n55, σ1°21/48, mb4.2/15, MS3.3/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCI	**Palu**	**1.00**	**159**	P	**Pg**	**01 52 36.6**	**-1.1**
TOLI2	**Tolitoli**	**1.69**	**51**	Pn	**Pn**	**01 52 46.7**	**-1.2**
SMKI	**Samarinda**	**2.32**	**258**	P	**Pn**	**01 52 56.2**	**-0.4**
APSI	**Ampana**	**2.37**	**113**	P	**Pn**	**01 52 57.2**	**-0.1**
MRSI	**Marisa**	**2.50**	**80**	P	**Pn**	**01 52 59.2**	**+0.1**
BKB	**Balikpapan**	**2.88**	**243**	P	**Pn**	**01 53 02.9**	**-1.5**
TTSI	**Tana Toraja**	**3.08**	**174**	P	**Pn**	**01 53 07.1**	**0.0**
LUWI	**Luwuk**	**3.46**	**108**	Pn	**Pn**	**01 53 12.5**	**+0.1**
LUWI	**Luwuk**	**3.46**	**108**	P	**Pn**	**01 53 12.7**	**+0.3**
SPSI	**Sidrap Palu**	**3.98**	**176**	P	**Pn**	**01 53 18.9**	**-0.6**
KMSI	**Cibinong**	**4.54**	**83**	P	**Pn**	**01 53 24.4**	**-2.7**
KAPI	**Kappang**	**5.02**	**177**	Pn	**Pn**	**01 53 36.6**	**+2.8**
	6.5nm,0.3s,baz=324,slow=10,SNR=9.8						
KAPI				Sn	**Sn**	**01 54 34.5**	**+2.5**
	2.3nm,0.3s,baz=177,slow=21,SNR=1.2						
KAPI				LR	LR	01 55 57.3	
	comp=Z,1μm,19.1s,baz=3.0,slow=43						
	7.1nm,0.4s						
KDI	**Kendari**	**5.06**	**142**	P	**Pn**	**01 53 34.0**	**-0.3**
	0.3nm50nm,0.7s						
MYLDM	**Lahad Datu**	**5.20**	**349**	Pn	**Pn**	**01 53 38.0**	**+1.7**
BKSI	**Bulukumba**	**5.36**	**173**	P	**Pn**	**01 53 39.1**	**+0.6**
	0.2nm660nm32nm,0.6s						
BSSI	**Bau Bau, Buton**	**6.22**	**171**	P	**Pn**	**01 53 49.6**	**-0.7**
	0.2nm37nm,1.2s						
BBSI	**Bau Bau**	**6.30**	**151**	P	**Pn**	**01 53 50.3**	**-1.0**
	0.5nm54nm,1.4s						
SANI	**Sanana**	**6.83**	**108**	P	**Pn**	**01 53 57.5**	**-1.2**
	0.1nm28nm,0.8s						
NLAI	**Namlea**	**8.28**	**113**	P	**Pn**	**01 54 18.7**	**0.0**
PLAI	**Plampang**	**8.97**	**191**	P	**Pn**	**01 54 28.1**	**+0.1**
	11nm,0.9s						
DAV	**Davao City (W)**	**9.27**	**41**	LR	LR	01 58 58.6	
	comp=Z,244nm,18.0s,baz=218,slow=45						
GMJI	**Gumukmas**	**10.21**	**216**	P	**Pn**	**01 54 44.9**	**-0.2**
	9.9nm,1.0s						
TPI	**Tanjungpandan**	**12.14**	**257**	P	**Pn**	**01 55 11.7**	**+0.2**
CNJI	**Cibinong**	**14.31**	**239**	P	**Pn**	**01 55 40.6**	**-0.6**
	624nm15nm,1.4s						
CGJI	**Cibinong**	**15.26**	**244**	P	**P**	**01 55 57.0**	**-1.9**
MTN	**Manton Dam**	**17.24**	**138**		**P**	**01 56 22.4**	**+1.4**
MTN				IAmb	IAmb	01 56 54.6	
	comp=Z,40nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.01**	**162**	P	**Pn**	**01 56 41.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.01**	**162**	P	**Pn**	**01 56 40.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=1.6,slow=9.6,SNR=5.9						
FITZ				LR	LR	02 05 54.0	
	comp=Z,138nm,19.8s,baz=310,slow=43						
	comp=Z,3.6nm,1.0s						
RPSI	**Rantau Prapat**	**20.71**	**277**	P	Pn	01 57 02.7	+1.2
RPSI				IAmb	IAmb	01 57 06.1	
	comp=Z,12nm,1.0s						
WB0	**Warramunga Arr**	**24.52**	**144**	P	**P**	**01 57 36.0**	**-2.2**
WB0				IAmb	IAmb	01 57 50.5	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**24.62**	**145**	P	**P**	**01 57 37.0**	**-2.1**
	comp=Z,1.0nm,0.9s,baz=336,slow=9.2,SNR=4.9						
WRA				LR	LR	02 07 58.5	
	comp=Z,68nm,19.4s,baz=307,slow=38						
	comp=Z,1.0nm,0.9s						
WB2	**Warramunga Arr**	**24.63**	**145**	P	**P**	**01 57 37.0**	**-2.2**
WB2				IAmb	IAmb	01 57 42.1	
	comp=Z,10nm,1.2s						
CMAR	**Chiang Mai Arr**	**27.24**	**313**	LR	LR	02 11 58.7	
	comp=Z,52nm,18.2s,baz=110,slow=43						
ASAR	**Alice Springs**	**27.41**	**150**	P	**P**	**01 58 03.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=324,slow=7.8,SNR=2.0						
ASAR				LR	LR	02 11 03.1	
	comp=Z,84nm,18.1s,baz=288,slow=41						
	comp=Z,0.2nm,0.3s						
GUMO	**Guam**	**28.53**	**61**	LR	LR	02 06 52.0	
	comp=Z,35nm,21.6s,baz=79,slow=31						
NWAO	**Narrogin (SRO)**	**32.85**	**183**	LR	LR	02 13 47.8	
	comp=Z,56nm,18.3s,baz=180,slow=39						
JNU	**Nakatsue**	**34.62**	**17**	LR	LR	02 12 34.3	
	comp=Z,68nm,21.0s,baz=178,slow=35						
KSRS	**Korea Array**	**38.04**	**11**	LR	LR	02 15 56.1	
	comp=Z,67nm,20.2s,baz=195,slow=38						
MJAR	**Matsushiro Arr**	**40.27**	**24**	LR	LR	02 15 02.5	
	comp=Z,40nm,21.1s,baz=221,slow=34						
GTA	**Gaotai**	**43.12**	**338**	*e*P	**P**	**02 00 21.5**	**+2.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**48.95**	**348**	P	**P**	**02 01 05.7**	**+0.7**
SONM	**Songino Array**	**48.95**	**348**	P	**P**	**02 01 05.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=167,slow=7.1,SNR=6.4						
	comp=Z,0.9nm,0.7s						
MK31	**Makanchi Array**	**56.78**	**330**	P	**P**	**02 02 02.9**	**+0.1**
MK31				IAmb	IAmb	02 02 05.6	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**56.78**	**330**	P	**P**	**02 02 03.3**	**+0.5**
MKAR	**Makanchi Array**	**56.78**	**330**	P	**P**	**02 02 04.2**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=139,slow=8.0,SNR=11						
MKAR				LR	LR	02 28 00.5	
	comp=Z,66nm,18.9s,baz=75,slow=38						
	comp=Z,0.8nm,0.7s						
KBL	**Kabul**	**58.25**	**312**	P	**P**	**02 02 14.1**	**+0.4**
KBL				IAmb	IAmb	02 02 16.4	
	comp=Z,3.3nm,0.9s						
ZAA0	**Zalesovo Array**	**60.88**	**337**	P	**P**	**02 02 30.9**	**-0.1**
ZAA0				IAmb	IAmb	02 02 31.9	
	comp=Z,3.4nm,0.9s						
ZALV	**Zalesovo Beam**	**60.88**	**337**	P	**P**	**02 02 30.7**	**-0.4**
ZALV	**Zalesovo Beam**	**60.88**	**337**	P	**P**	**02 02 30.9**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=120,slow=6.0,SNR=9.2						
	comp=Z,2.8nm,0.9s						
KURBB	**Kurchatov Arra**	**61.21**	**332**	P	**P**	**02 02 33.8**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=142,slow=6.2,SNR=8.4						
	comp=Z,1.7nm,0.9s						
KURK	**Kurchatov**	**61.23**	**332**	P	**P**	**02 02 34.0**	**+0.5**
PETK	**Petropavlovsk-**	**61.70**	**25**	P	**P**	**02 02 36.0**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=251,slow=7.5,SNR=2.0						
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**66.67**	**330**	P	**P**	**02 03 09.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.5,SNR=4.6						
	comp=Z,0.6nm,0.5s						
NRIK	**Noril'sk**	**72.43**	**349**	P	**P**	**02 03 44.6**	**0.0**
	comp=Z,2.3nm,0.5s,baz=164,slow=4.3,SNR=4.4						
	comp=Z,2.3nm,0.5s						
C16K	**Lisburne Hills**	**84.50**	**21**	P	**P**	**02 04 50.5**	**-0.7**

*IDC **20** 01:58:33.3±2.0, 10°.11S×119°.23E, h0km, mb3.6/1, mbtmp3.5/5, ML3.3/4, MS3.5/2, Error ellipse: s-maj=68.1km s-min=22.5km az=63.0*
*DJA **20** 01:58:40.6±0.8, 10°S±6°×11°9E±°, h12km±5km, M4.1/7, mb4.4/1, MLv3.9/7*
ISC 20 01:58:36.1±0.8, 10°.25S±0°.06×119°.30E±0°.05, h10km, n16, σ3°46/20, Sumba region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.62**	**9**	P	**Pb**	**01 58 49.9**	**+0.9**
WBSI				S	**Sg**	**01 58 55.6**	**-0.6**
WSI	**Waingapu**	**1.14**	**60**	P	**Pn**	**01 59 00.7**	**+2.5**
BASI	**Baing, Sumba**	**1.26**	**89**	P	**Pg**	**01 59 05.0**	**+4.7**
PLAI	**Plampang**	**2.06**	**313**	P	**Pn**	**01 59 11.4**	**+0.5**
PLAI				S	**Sn**	**01 59 35.4**	**-1.3**
TWSI	**Taliwang, Sumb**	**2.82**	**302**	P	**Pn**	**01 59 22.3**	**+1.0**
TWSI				S	**Sn**	**01 59 54.6**	**-0.7**
BSSI	**Bau Bau, Buton**	**4.25**	**16**	P	**Pn**	**01 59 42.4**	**+1.4**
SRBI	**Singaraja**	**4.57**	**298**	P	**Pn**	**01 59 47.3**	**+1.9**
BKSI	**Bulukumba**	**4.97**	**10**	P	**Pn**	**01 59 52.7**	**+1.9**
KAPI	**Kappang**	**5.22**	**5**	Pn	**Pn**	**01 59 49.9**	**-4.4**
	4.0nm,0.3s,baz=171,slow=13,SNR=2.3						
KAPI				Sn	**Sn**	**02 00 53.2**	**-1.5**
	4.9nm,0.3s,baz=19,slow=19,SNR=3.5						
	7.7nm,0.3s						
JAGI	**Jajag, Banyuwa**	**5.38**	**289**	P	**Pn**	**01 59 59.5**	**+3.0**
FITZ	**Fitzroy Crossi**	**9.93**	**142**	Pn	**Pn**	**02 01 00.7**	**+1.8**
	0.1nm,0.3s,baz=324,slow=19,SNR=2.0						
FITZ				Sn	**Sn**	**02 02 46.2**	**-4.4**
	0.2nm,0.3s,baz=194,slow=21,SNR=5.9						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**17.41**	**125**	P	**Pn**	**02 02 39.5**	**+0.1**
	0.1nm,0.3s,baz=296,slow=14,SNR=2.3						
WRA				S	**Sn**	**02 05 43.2**	**-10**
	1.0nm,1.1s,baz=320,slow=25,SNR=2.5						
	0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**65.70**	**333**	P	**P**	**02 09 18.8**	**-2.1**
	0.6nm,0.9s,baz=134,slow=6.9,SNR=5.0						
	0.6nm,0.9s						
PPT	**Papeete**	**88.02**	**107**	LR	LR	02 50 24.9	
	comp=Z,48nm,19.1s,baz=78,slow=35						

NOU ***20*** *02:26:53.3, 15.°56S×129.°26E, h0km, mb4.1/18, Northern Territory, Australia*
AUST ***20*** *02:26:53.8±0.3, 16.°S±4.°×12.°9E±.°, h10km, mb4.0/7, ML3.6/4, Error ellipse: s-maj=8.2km s-min=5.1km az=160.5*
NEIC ***20*** *02:26:54.3±1.5, 15.°53S±0.°07×129.°27E±0.°03, h10km±2km, mb4.3/5, Error ellipse: s-maj=11.4km s-min=4.7km az=168.0*
IDC ***20*** *02:26:55.3±1.8, 15.°69S×129.°18E, h0km, mb3.5/1, mbtmp3.9/5, ML4.1/4, Error ellipse: s-maj=22.5km s-min=17.3km az=23.0*

ISC 20 02:26:53.7±0.6, 15.°50S±0.°06×129.°26E±0.°05, h10km, n52, σ1.9 46/59, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**0.51**	**249**		**Pg**	**02 27 04.2**	**+0.6**
KNRA				Sg	**Sg**	**02 27 10.3**	**-0.1**
KNRA	**Kununurra**	**0.51**	**249**	P	**Pg**	**02 27 04.4**	**+0.8**
KNRA				S	**Sg**	**02 27 10.5**	**+0.1**
MTN	**Manton Dam**	**3.20**	**35**	Pn	**Pn**	**02 27 44.5**	**+0.3**
MTN				Sn	**Sn**	**02 28 19.0**	**-3.3**
MTN	**Manton Dam**	**3.20**	**35**	P	**Pn**	**02 27 44.7**	**+0.6**
MTN	**Manton Dam**	**3.20**	**35**	P	**Pn**	**02 27 45.6**	**+1.5**
DRS	**Darwin Rock St**	**3.44**	**28**	P	**Pn**	**02 27 49.4**	**+2.1**
DRS	**Darwin Rock St**	**3.44**	**28**	P	**Pn**	**02 27 49.8**	**+2.4**
KDU	**Kakadu**	**4.18**	**49**	P	**Pn**	**02 27 58.9**	**+1.2**
KDU	**Kakadu**	**4.18**	**49**	P	**Pn**	**02 27 58.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**4.33**	**233**	Pn	**Pn**	**02 28 00.3**	**+0.7**
	3.8nm,0.3s,baz=53,slow=13,SNR=172						
FITZ				Pg	**Pg**	**02 28 14.2**	**-2.4**
	8.7nm,0.3s,baz=60,slow=16,SNR=6.6						
FITZ				Sn	**Sn**	**02 28 49.7**	**-0.4**
	15nm,0.3s,baz=137,slow=4.2,SNR=5.9						
FITZ				Lg	Lg	02 29 07.3	
	30nm,0.3s,baz=51,slow=14,SNR=6.6						
	14nm,0.2s						
WB0	**Warramunga Arr**	**6.48**	**132**	Pn	**Pn**	**02 28 29.4**	**+0.2**
WB3	**Warramunga Arr**	**6.56**	**133**	P	**Pn**	**02 28 30.5**	**+0.2**
WRA	**Warramunga Arr**	**6.56**	**133**	Pn	**Pn**	**02 28 29.9**	**-0.4**
WRA	**Warramunga Arr**	**6.56**	**133**	Pn	**Pn**	**02 28 30.4**	**0.0**
	2.4nm,0.3s,baz=314,slow=15,SNR=78						
WRA				Sn	**Sn**	**02 29 47.5**	**+2.3**
	9.4nm,0.3s,baz=307,slow=25,SNR=8.6						
WRA				Lg	Lg	02 30 23.1	
	11nm,0.3s,baz=313,slow=27,SNR=10						
	2.9nm,0.4s						
WRAB	**Tennant Creek**	**6.56**	**133**	Pn	**Pn**	**02 28 30.3**	**0.0**
WB2	**Warramunga Arr**	**6.57**	**133**	Pn	**Pn**	**02 28 30.5**	**0.0**
WR0	**Warramunga Arr**	**6.71**	**132**	Pn	**Pn**	**02 28 32.5**	**+0.1**
AS31	**Alice Springs**	**9.23**	**152**	Pn	**Pn**	**02 29 08.4**	**+1.4**
AS31	**Alice Springs**	**9.23**	**152**	P	**Pn**	**02 29 09.9**	**+2.9**
ASAR	**Alice Springs**	**9.23**	**152**	Pn	**Pn**	**02 29 09.2**	**+2.2**
	1.9nm,0.3s,baz=326,slow=10,SNR=106						
ASAR				Sn	**Sn**	**02 30 50.9**	**-0.1**
	1.6nm,0.3s,baz=325,slow=23,SNR=5.2						
ASAR				Lg	Lg	02 31 44.4	
	1.5nm,0.3s,baz=325,slow=28,SNR=4.9						
	4.1nm,0.5s						
AS01	**Alice Springs**	**9.25**	**152**	P	**Pn**	**02 29 08.9**	**+1.6**
AS01	**Alice Springs**	**9.25**	**152**	S	**Sn**	**02 30 52.2**	**+0.7**
WRKA	**Warakurna**	**9.54**	**185**	P	**Pn**	**02 29 12.6**	**+1.4**
WRKA	**Warakurna**	**9.54**	**185**	P	**Pn**	**02 29 12.3**	**+1.1**
PSA00	**Pilbara Seismi**	**10.78**	**234**		**Pn**	**02 29 26.4**	**-1.8**
PSA00	**Pilbara Seismi**	**10.78**	**234**	P	**Pn**	**02 29 26.7**	**-1.5**
	comp=Z,15nm,1.4s,comp=Z,0.1nm						
QIS	**Mount Isa**	**11.05**	**119**	P	**Pn**	**02 29 31.8**	**-0.2**
	comp=Z,3.7nm,0.5s						
QIS	**Mount Isa**	**11.05**	**119**	P	**Pn**	**02 29 32.2**	**+0.2**
COEN	**Coen**	**13.55**	**85**	Pn	**Pn**	**02 30 03.8**	**-2.3**
COEN	**Coen**	**13.55**	**85**	P	**Pn**	**02 30 05.8**	**-0.3**
	comp=Z,9.4nm,1.7s						
COEN	**Coen**	**13.55**	**85**	P	**Pn**	**02 30 05.2**	**-0.9**
OOD	**Oodnadatta**	**13.62**	**155**	P	**Pn**	**02 30 06.6**	**-0.3**
	comp=Z,26nm,0.6s						
OOD	**Oodnadatta**	**13.62**	**155**	P	**Pn**	**02 30 06.2**	**-0.8**
MEEK	**Meekatharra**	**14.88**	**220**	P	**Pn**	**02 30 23.4**	**-0.9**
	comp=Z,13nm,2.2s						
MEEK	**Meekatharra**	**14.88**	**220**	P	**Pn**	**02 30 22.5**	**-1.8**
FORT	**Forrest**	**15.25**	**184**	Pn	**Pn**	**02 30 26.7**	**-2.5**
FORT				IAmb	IAmb	02 30 30.4	
	comp=Z,13nm,0.9s						
FORT	**Forrest**	**15.25**	**184**	P	**Pn**	**02 30 26.7**	**-2.5**
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**15.25**	**184**	P	**Pn**	**02 30 27.2**	**-2.0**
LCRK	**Leigh Creek**	**17.00**	**153**	P	**Pn**	**02 30 49.9**	**-1.8**
QLP	**Quilpie**	**17.79**	**131**	P	**Pn**	**02 31 01.8**	**+0.3**
MORW	**Morawa**	**18.20**	**220**		**P**	**02 31 06.9**	**+0.1**
MORW	**Morawa**	**18.20**	**220**	P	**P**	**02 31 07.6**	**+0.8**
YAPP	**Yappala Statio**	**18.27**	**155**	P	**P**	**02 31 07.5**	**0.0**
	comp=Z,4.0nm,1.2s						
BBOO	**Buckleboo**	**18.31**	**161**		**Pn**	**02 31 06.8**	**-1.1**
BBOO				IAmb	IAmb	02 31 21.1	
	comp=Z,23nm,1.4s						
BBOO	**Buckleboo**	**18.31**	**161**	P	**P**	**02 31 08.7**	**+0.7**
STKA	**Stephens Creek**	**19.81**	**148**	P	**P**	**02 31 25.2**	**+0.7**
STKA				IAmb	IAmb	02 31 51.1	
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**19.81**	**148**	P	**Pn**	**02 31 25.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=319,slow=9.8,SNR=9.4						
	comp=Z,1.9nm,0.3s						
STKA	**Stephens Creek**	**19.81**	**148**	P	**Pn**	**02 31 25.6**	**-0.5**
HTT	**Hallett**	**19.88**	**156**	P	**Pn**	**02 31 26.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**20.50**	**210**	P	**P**	**02 31 32.2**	**+0.2**
CMSA	**Cobar Meteorol**	**21.91**	**140**	P	**P**	**02 31 47.6**	**+0.4**
MKAR	**Makanchi Array**	**74.98**	**329**	P	**P**	**02 38 39.5**	**+4.2**
	comp=Z,0.3nm,0.7s,baz=128,slow=7.1,SNR=2.7						
	comp=Z,0.3nm,0.7s						

IDC ***20*** *02:29:29.3±1.1, 29.°07N×77.°78E, h0km, mb3.8/9, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=31.7km s-min=19.3km az=56.0*
NDI ***20*** *02:29:32.2±3.2, 28.°95N×77.°31E, h9km±6km, ML3.8, MW3.6, mb4.0(NEIC)*
NEIC ***20*** *02:29:34.5±1.2, 29.°3N±0.°1×77.°3E±0.°1, h10km±2km, mb4.0/4, Error ellipse: s-maj=23.2km s-min=16.6km az=206.0*

ISC 20 02:29:31.1±1.0, 28.°98N±0.°02×77.°39E±0.°03, h19km±3km, n61, σ1.9 89/85, mb3.9/13, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**0.33**	**207**	*e*P	**Pb**	**02 29 38.3**	**-0.2**
NDI				*e*S	**Sg**	**02 29 42.5**	**-0.5**
NDI				IAML		02 29 48.7	
	3μm,0.3s						
NPLP	**NPLP New Delhi**	**0.39**	**209**	*e*P	**Pb**	**02 29 39.3**	**-0.2**
NPLP				*e*S	**Sg**	**02 29 44.0**	**-0.7**
NPLP				IAML		02 29 46.5	
	comp=E,9μm,0.2s						
NPLP				IAML		02 29 55.0	
	comp=E,9μm,0.2s						
ASOR	**Ausora**	**0.41**	**123**	*e*P	**Pn**	**02 29 41.3**	**-0.6**
ASOR				*e*S	**Sb**	**02 29 46.9**	**+1.3**
ASOR				IAML		02 29 47.9	
	comp=E,36μm,0.2s						
ASOR				IAML		02 29 48.0	
	comp=N,20μm,0.1s						
JMIU	**JAMIA UNIVERSI**	**0.42**	**191**	*e*P	**Pb**	**02 29 40.1**	**+0.1**
LDR	**Lodi Road**	**0.42**	**201**	*e*P	**Pb**	**02 29 39.7**	**-0.3**
LDR				*e*S	**Sg**	**02 29 44.9**	**-0.7**
LDR				IAML		02 29 46.2	
	comp=E,3μm,0.3s						
LDR				IAML		02 29 57.8	
	comp=E,3μm,0.3s						
RTK	**Rohtak**	**0.85**	**274**	*e*P	**Pb**	**02 29 47.5**	**+0.2**
RTK				*e*S	**Sg**	**02 29 57.4**	**-1.7**
RTK				IAML		02 30 00.2	
	comp=E,6μm,0.2s						
RTK				IAML		02 30 09.6	
	comp=E,7μm,0.1s						
KUDL	**Kundal**	**1.15**	**224**	*e*P	**Pn**	**02 29 52.5**	**+0.4**
KUDL				*e*S	**Sn**	**02 30 10.4**	**+3.1**
KUDL				IAML		02 30 12.1	
	comp=E,2μm,0.4s						
KUDL				IAML		02 30 15.7	
	comp=E,2μm,0.2s						
DDI	**Dehra Dun**	**1.46**	**23**	*e*P	**Pg**	**02 29 59.5**	**+0.1**
DDI				*e*S	**Sg**	**02 30 18.9**	**+0.4**
DDI				IAML		02 30 26.1	
	comp=N,3μm,0.3s						
DDI				IAML		02 30 28.0	
	comp=E,3μm,0.3s						
SMLA	**Simla**	**2.15**	**355**	*e*P	**Pb**	**02 30 08.8**	**-0.7**
SMLA				*e*S	**Sb**	**02 30 35.8**	**0.0**
SMLA				IAML		02 30 41.9	
	comp=E,1μm,0.5s						
SMLA				IAML		02 30 45.2	
	comp=N,2μm,0.5s						
JOSI	**Joshimath**	**2.46**	**50**	*e*P	**Pb**	**02 30 14.2**	**-0.7**
JOSI				*ex*	**Sb**	**02 30 45.9**	**+1.0**
JOSI				IAML		02 30 53.0	
	comp=E,2μm,0.3s						
JOSI				IAML		02 31 04.3	
	comp=E,2μm,0.3s						
FRKB	**FARRUKHABAD**	**2.49**	**129**	*e*S	**Sb**	**02 30 47.1**	**+1.4**
FRKB				IAML		02 30 53.0	
	comp=E,2μm,0.4s						
FRKB				IAML		02 30 53.8	
	comp=N,2μm,0.2s						
LGTI	**Lohaghat**	**2.54**	**79**	*e*P	**Pn**	**02 30 13.0**	**+1.5**
LGTI				*e*S	**Sn**	**02 30 42.1**	**+0.2**
LGTI				IAML		02 30 47.9	
	comp=E,358nm,0.3s						
LGTI				IAML		02 30 48.3	
	comp=E,363nm,0.2s						
BHK	**Bhakra**	**2.57**	**341**	*e*P	**Pb**	**02 30 14.9**	**-1.8**
BHK				*e*S	**Sn**	**02 30 43.8**	**+1.2**
BHK				IAML		02 30 47.9	
	comp=E,701nm,0.1s						
BHK				IAML		02 30 53.8	
	comp=E,843nm,0.2s						
SRGN	**SRI GANGA NAGA**	**3.19**	**288**	*e*S	**Sn**	**02 30 57.1**	**-0.9**
DHRM	**DHARAMSHALA**	**3.39**	**344**	*e*P	**Pn**	**02 30 26.4**	**+3.1**
DHRM				*e*S	**Sn**	**02 31 06.5**	**+3.3**
DHRM				IAML		02 31 22.8	
	comp=E,637nm,0.5s						
DHRM				IAML		02 31 28.9	
	comp=N,800nm,0.5s						
JHNI	**Jhansi**	**3.65**	**163**	*e*P	**Pn**	**02 30 27.8**	**+1.2**
JHNI				*ex*	**Sb**	**02 31 21.1**	**+2.2**
JHNI				IAML		02 31 26.1	
	comp=E,458nm,0.2s						
JHNI				IAML		02 31 37.5	
	comp=E,267nm,0.1s						
BKNR	**BIKANER**	**3.74**	**256**	*e*S	**Sn**	**02 31 10.7**	**-0.8**
HNLY	**HANLEY**	**4.03**	**19**	*e*P	**Pn**	**02 30 35.8**	**+3.5**
HNLY				*e*S	**Sn**	**02 31 19.7**	**+0.5**
HNLY				IAML		02 31 45.3	
	comp=E,38nm,0.5s						
HNLY				IAML		02 31 48.7	
	comp=E,30nm,0.3s						
JMU	**Jammu**	**4.30**	**331**	*e*P	**Pn**	**02 30 37.7**	**+2.2**
JMU				*e*S	**Sn**	**02 31 29.5**	**+4.3**
JMU				IAML		02 31 48.2	
	comp=E,533nm,0.6s						
JMU				IAML		02 32 00.1	
	comp=E,454nm,0.4s						
GUNA	**GUNA**	**4.31**	**181**	*e*P	**Pn**	**02 30 36.6**	**+0.8**
GUNA				*e*S	**Sn**	**02 31 23.8**	**-1.9**
GUNA				IAML		02 31 49.4	
	comp=E,418nm,0.3s						
GUNA				IAML		02 32 00.9	
	comp=E,267nm,0.5s						
PYUN	**Piuthan**	**5.01**	**99**	Pn	**Pn**	**02 30 47.8**	**+2.3**
	baz=109,slow=0.0						
PYUN				Sn	**Sn**	**02 31 43.6**	**+0.6**
	comp=E,181nm,0.3s,baz=109,slow=0.0						
ALBI	**Allahabad**	**5.37**	**132**	IAML		02 32 19.8	
	comp=E,142nm,0.3s						
ALBI				IAML		02 32 21.1	
	comp=N,160nm,0.4s						
KOLN	**Koldanda**	**5.61**	**101**	Pn	**Pn**	**02 30 56.3**	**+2.6**
	baz=110,slow=0.0						
KOLN				Sn	**Sn**	**02 31 58.4**	**+0.6**
	baz=110,slow=0.0						
BHPL	**Bhopal**	**5.71**	**180**	*e*P	**Pn**	**02 30 54.4**	**-0.6**
BHPL				*e*S	**Sn**	**02 31 58.5**	**-1.7**
BHPL				IAML		02 32 00.4	
	comp=E,110nm,0.2s						
BHPL				IAML		02 32 03.1	
	comp=N,64nm,0.1s						
NIL	**Nilore**	**5.85**	**324**	Pn	**Pn**	**02 30 57.9**	**+1.0**
DMN	**Daman**	**6.94**	**99**	Pn	**Pn**	**02 31 13.7**	**+1.6**
	baz=107,slow=0.0						
KKN	**Kakani**	**7.05**	**98**	Pn	**Pn**	**02 31 15.3**	**+1.7**
	baz=105,slow=0.0						
KKN				Sn	**Sn**	**02 32 30.7**	**-2.8**
	baz=105,slow=0.0						
PKIN	**Phulchoki**	**7.20**	**99**	Pn	**Pn**	**02 31 17.4**	**+1.7**
	baz=106,slow=0.0						
PKIN				Sn	**Sn**	**02 32 35.1**	**-2.0**
	comp=N,89nm,0.3s,baz=106,slow=0.0						
PKI	**Pulchoki**	**7.21**	**99**	Pn	**Pn**	**02 31 17.6**	**+1.7**
	baz=106,slow=0.0						
PKI				Sn	**Sn**	**02 32 34.7**	**-2.8**
	baz=106,slow=0.0						
RAMN	**Ramite**	**8.39**	**102**	Pn	**Pn**	**02 31 33.3**	**+1.2**
	baz=108,slow=0.0						
RAMN				Sn	**Sn**	**02 33 03.5**	**-3.0**
	comp=N,102nm,0.3s,baz=108,slow=0.0						
KBL	**Kabul**	**9.01**	**310**	Pn	**Pn**	**02 31 40.3**	**-0.1**
ODAN	**Odare**	**9.10**	**101**	Pn	**Pn**	**02 31 42.9**	**+1.2**
	baz=106,slow=0.0						
ODAN				Sn	**Sn**	**02 33 20.8**	**-3.0**
	baz=106,slow=0.0						
TAPN	**Taplejung**	**9.26**	**98**	Pn	**Pn**	**02 31 45.2**	**+1.3**
	baz=103,slow=0.0						
TAPN				Sn	**Sn**	**02 33 23.8**	**-3.9**
	comp=N,25nm,0.3s,baz=103,slow=0.0						
KSH	**Kashi**	**10.58**	**354**	Pn	**Pn**	**02 32 00.4**	**-1.4**
KSH				Sn	Sn	02 33 50.0	-10
KSH				smax	smax		
	comp=N,12nm,0.6s						
KSH				smax	smax		
	comp=E,14nm,0.5s						
DRK	**Karamyk**	**11.45**	**338**	Pn	**Pn**	**02 32 13.2**	**-0.7**
GAR	**Garm**	**11.59**	**331**	Pn	**Pn**	**02 32 14.0**	**-1.6**
CHGR	**Chuyangaron**	**11.82**	**327**	Pn	**Pn**	**02 32 17.4**	**-1.4**
SIMJ	**Simiganj**	**11.90**	**326**	Pn	**Pn**	**02 32 18.9**	**-1.0**
BTK	**Batken**	**12.30**	**336**	Pn	**Pn**	**02 32 24.9**	**-0.5**
ARSB	**Arslanbob**	**12.83**	**345**	Pn	**Pn**	**02 32 31.6**	**-1.0**
AAK	**Ala-Archa**	**13.83**	**351**	Pn	**Pn**	**02 32 45.8**	**-0.5**
AAK	**Ala-Archa**	**13.83**	**351**	Pn	**Pn**	**02 32 45.0**	**-1.3**
	comp=E,0.4nm,0.3s,baz=150,slow=11,SNR=4.0						
AAK				Sn	**Sn**	**02 35 12.4**	**-7.0**
	baz=195,slow=21						
	comp=E,0.8nm,0.3s						
KK31	**Karatay Array**	**15.14**	**340**	Pn	**Pn**	**02 33 02.1**	**-1.9**
KKAR	**Karatay Array**	**15.14**	**340**	Pn	**Pn**	**02 33 02.2**	**-1.9**
WMQ	**Urumqi**	**16.96**	**26**	*e*P	**P**	**02 33 30.3**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,16nm,0.6s						
MKAR	**Makanchi Array**	**18.20**	**11**	P	**Pn**	**02 33 42.9**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=198,slow=12,SNR=1.4						
KURBB	**Kurchatov Arra**	**21.64**	**2**	P	**P**	**02 34 20.5**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=192,slow=9.6,SNR=6.6						
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**21.73**	**2**	P	**P**	**02 34 21.3**	**+0.1**
KURK				IAmb	IAmb	02 34 25.7	
	comp=Z,7.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**22.31**	**113**	P	**P**	**02 34 24.7**	**-3.0**
	comp=Z,1.0nm,0.3s,baz=295,slow=7.7,SNR=4.6						
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	**24.25**	**331**	P	**P**	**02 34 48.2**	**+1.4**
BVAR	**Borovoye Array**	**24.57**	**350**	P	**P**	**02 34 50.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=149,slow=10.0,SNR=2.4						
	comp=Z,0.4nm,0.3s						
BRVK	**Borovoye**	**24.62**	**350**	P	**P**	**02 34 51.5**	**+1.3**
BRVK				IAmb	IAmb	02 35 30.2	
	comp=Z,3.7nm,1.3s						
ZALV	**Zalesovo Beam**	**25.53**	**10**	P	**P**	**02 34 59.8**	**+1.3**
ZALV	**Zalesovo Beam**	**25.53**	**10**	P	**P**	**02 34 57.3**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=195,slow=10,SNR=3.6						
	comp=Z,1.1nm,0.4s						
SONM	**Songino Array**	**29.26**	**42**	P	**P**	**02 35 31.0**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=233,slow=9.9,SNR=1.2						
	comp=Z,0.2nm,0.7s						
HHC	**Hu-ho-hao-te**	**30.24**	**58**	*e*P	P	02 35 46.0	+5.1
HHC				pmax	pmax		
	comp=E,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.7s						
FINES	**FINESS Array B**	**46.70**	**329**	P	**P**	**02 38 00.1**	**+1.7**
	comp=Z,3.7nm,1.1s,baz=108,slow=8.6,SNR=3.5						
	comp=Z,3.7nm,1.1s						
ARCES	**ARCESS Array B**	**50.10**	**339**	P	**P**	**02 38 26.4**	**+1.8**
	comp=Z,9.8nm,1.2s,baz=110,slow=7.8,SNR=8.5						
	comp=Z,9.8nm,1.2s						
HFS	**Hagfors**	**52.29**	**325**	P	**P**	**02 38 42.3**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=91,slow=5.8,SNR=1.6						
	comp=Z,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**71.34**	**275**	P	**P**	**02 40 53.9**	**+3.7**
	comp=Z,57nm,0.3s,baz=76,slow=6.9,SNR=2.6						
WRA	**Warramunga Arr**	**73.38**	**125**	P	**P**	**02 41 02.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=311,slow=6.3,SNR=6.7						
	comp=Z,0.3nm,0.5s						

SOME ***20*** *02:29:32.1, 43.°55N×85.°42E, h10km*
NNC ***20*** *02:29:52.5±4.0, 43.°90N×84.°62E, h12km±15km, mb3.4, mpv3.0, Error ellipse: s-maj=29.8km s-min=9.8km az=117.0*

ISC 20 02:29:46.5±2.3, 43.°76N±0.°09×84.°7E±0.°1, h10km, n13, σ2.9 02/21, 7C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.49**	**331**	Pn	**Pn**	**02 30 44.4**	**+3.5**
	0.1nm,0.1s,baz=148,slow=15,SNR=140						
MK31				Pg	**Pg**	**02 30 52.5**	**-0.8**
	2.1nm,0.3s,baz=148,slow=15,SNR=50						
MK31				⇓Lg	Lg	02 31 40.4	
	10.0nm,0.4s,baz=140,slow=30,SNR=6.5						
DJR	**Jarkent**	**3.61**	**281**	*e*P	**Pb**	**02 30 47.9**	**-2.7**
	3.5nm,0.2s						
DJR				*e*S	**Sg**	**02 31 42.5**	**0.0**
	18nm,0.5s						
MAKZ	**Makanchi**	**3.62**	**328**	⇑Pn	**Pb**	**02 30 47.2**	**-3.3**
	0.2nm,0.2s						
MAKZ				⇓Pg	**Pg**	**02 30 56.3**	**+0.6**
	1.6nm,0.3s						
MAKZ				⇑Lg	Lg	02 31 41.5	
	20nm,0.9s						
ZSN	**Zaisan**	**3.69**	**1**	*e*P	**Pn**	**02 30 44.5**	**+1.0**
	1.4nm,0.1s						
ZSN				*e*S	**Sb**	**02 31 36.5**	**0.0**
	9.4nm,0.3s						
PDGK	**Podgornoye**	**3.84**	**265**	⇑Pn	**Pb**	**02 30 51.6**	**-2.8**
	2.8nm,0.3s						
PDGK				⇑Pg	**Pg**	**02 31 01.8**	**+1.7**
	1.4nm,0.5s						
PDGK				⇓Lg	Lg	02 31 52.3	
	9.5nm,0.7s						
SHLS	**Shalkode**	**3.89**	**263**	*e*P	**Pn**	**02 30 47.1**	**+0.7**
	5.0nm,0.2s						
SHLS				*e*S	**Sb**	**02 31 41.2**	**-1.2**
	36nm,0.4s						
UZB	**Uzynbulak**	**4.21**	**264**	*e*P	**Pb**	**02 30 58.7**	**-2.0**
	4.7nm,0.2s						
UZB				*e*S	**Sg**	**02 32 01.0**	**-0.6**
	0.4nm,0.3s						
KPKS	**Kokpek**	**4.41**	**268**	*e*P	**Pb**	**02 31 02.1**	**-2.0**
	2.7nm,0.2s						
KPKS				*e*S	**Sg**	**02 32 06.6**	**-1.4**
	14nm,0.4s						
TDK	**Taldyqorghan**	**4.71**	**287**	*e*P	**Pb**	**02 31 08.7**	**-0.3**
	23nm,0.2s						
TDK				*e*S	**Sg**	**02 32 18.7**	**+1.1**
	64nm,0.5s						
MDOK	**Medeo**	**5.63**	**267**	Pn	**Pn**	**02 31 13.0**	**+2.6**
	2.0nm,0.6s						
MDOK				Lg	Lg	02 32 45.1	
	8.3nm,0.7s						
TKM2	**Tokmak 2**	**6.72**	**266**	⇓Pn	Pn	02 31 30.6	+5.2
	1.2nm,0.7s						
TKM2				⇑Lg	Lg	02 33 23.5	
	3.4nm,0.7s						
KURBB	**Kurchatov Arra**	**8.06**	**331**	⇓Pn	**Pn**	**02 31 46.1**	**+2.6**
	0.7nm,0.3s						
KURBB				⇓Lg	Lg	02 34 03.3	
	9.8nm,0.6s						
KURK	**Kurchatov**	**8.10**	**331**	⇑Pn	**Pn**	**02 31 46.1**	**+1.9**
	0.6nm,0.5s						
KURK				⇑Lg	Lg	02 34 03.3	
	6.5nm,0.6s						

TXNET 20 02:46:48.8, 31.°6N±0.°6×104.°3W±0.°8, h6km±2km, ML1.9/9, 1C, Error ellipse: s-maj=1.2km s-min=0.8km az=66.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	⇑P	Pg	02 46 55.4	-0.1
TPB11				S	Sg	02 47 00.0	-0.1
PECS	**Pecos**	**0.43**	**129**	P	Pg	02 46 57.1	+0.1
PECS				S	Sg	02 47 02.9	+0.3
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	02 46 58.5	+0.2
TPB12				S	Sg	02 47 05.2	+0.4
TPB07	**Mentone**	**0.50**	**97**	P	Pg	02 46 58.9	+0.5
TPB07				S	Sg	02 47 05.5	+0.5
TPB10	**Southeast of T**	**0.56**	**130**	P	Pg	02 46 60.0	+0.5
TPB10				S	Sg	02 47 07.4	+0.7
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	02 46 59.9	+0.2
CLNB	**Carlsbad**	**0.70**	**27**	P	Pg	02 47 02.3	+0.2
CLNB				S	Sg	02 47 12.1	+0.8
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	02 47 03.6	-0.6
TPB01				S	Sg	02 47 14.2	-0.4
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	02 47 04.7	-0.6
TPB06	**Permian Basin**	**0.88**	**89**	S	Sg	02 47 16.2	-0.9
TPB04	**Verhalen**	**0.95**	**118**	S	Sg	02 47 19.2	-0.2
MNTX	**

JOGS	**Gusukube**	**0.82**	**143**	A	A	02 49 19.5	
	comp=N,25nm,0.9s,comp=E,42nm,0.7s						
JISG	**Ishigakijimahi**	**0.97**	**211**	P	**Pb**	**02 49 21.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.24**	**212**	P	**Pn**	**02 49 25.8**	**-0.7**
JKRS	**Kuro-shima**	**1.41**	**213**	*e*P	**Pb**	**02 49 29.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.49**	**224**	*e*P	**Pb**	**02 49 30.3**	**-0.5**
YOJ	**Yonaguni jima**	**1.93**	**241**	P	**Pg**	**02 49 39.4**	**-0.5**
NACB	**Ninganchiao**	**3.22**	**248**	P	**Pb**	**02 49 57.8**	**-2.4**
YHNB	**Yeheng**	**3.25**	**257**	P	**Pb**	**02 49 59.7**	**-1.1**
JOW	**Kunigami**	**3.37**	**65**	Pn	**Pn**	**02 49 55.6**	**-0.3**
	comp=E,4.5nm,0.3s,baz=252,slow=12,SNR=9.9 comp=E,14nm,0.4s						
JOW	**Kunigami**	**3.37**	**65**	P	**Pn**	**02 49 55.7**	**-0.1**
YULB	**Yu-li**	**3.83**	**239**	P	**Pn**	**02 50 03.4**	**+1.3**
SSLB	**Suanglung**	**3.91**	**246**	P	**Pn**	**02 50 05.6**	**+2.3**
TPUB	**Ta-pu**	**4.40**	**242**	P	**Pn**	**02 50 12.4**	**+2.4**
JNU	**Nakatsue**	**9.29**	**33**	LR	LR	02 55 40.0	
	comp=E,56nm,18.9s,baz=172,slow=43						
KSRS	**Korea Array**	**12.27**	**12**	Pn	**Pn**	**02 52 00.7**	**+2.8**
	baz=187,slow=14						
KSRS				LR	LR	02 56 24.2	
	comp=E,71nm,19.2s,baz=155,slow=36						
GUMO	**Guam**	**22.20**	**118**	LR	LR	03 00 48.4	
	comp=E,27nm,20.8s,baz=40,slow=32						
ASAJ	**Asahikawa**	**23.57**	**33**	LR	LR	03 03 55.6	
	comp=E,58nm,20.0s,baz=196,slow=38						
SONM	**Songino Array**	**26.70**	**332**	P	**P**	**02 54 41.7**	**-0.9**
	comp=E,0.5nm,0.6s,baz=151,slow=10,SNR=4.8						
SONM				LR	LR	03 06 44.9	
	comp=E,79nm,18.8s,baz=20,slow=40 comp=E,0.5nm,0.6s						
LEM	**Lembang**	**36.18**	**210**	LR	LR	03 10 57.1	
	comp=E,58nm,20.7s,baz=168,slow=36						
MKAR	**Makanchi Array**	**39.85**	**313**	P	**P**	**02 56 36.5**	**-0.3**
	comp=E,0.2nm,0.5s,baz=96,slow=11,SNR=4.9						
MKAR				LR	LR	03 14 38.1	
	comp=E,44nm,20.5s,baz=78,slow=39 comp=E,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.10**	**325**	P	**P**	**02 56 46.7**	**-0.3**
	comp=E,0.7nm,0.5s,baz=125,slow=9.3,SNR=4.1 comp=E,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**43.38**	**318**	P	**P**	**02 57 05.2**	**-0.4**
	comp=E,0.3nm,0.6s,baz=108,slow=8.8,SNR=8.6 comp=E,0.3nm,0.6s						
SHEM	**Shemya Is, Ala**	**45.73**	**40**	LR	LR	03 16 07.1	
	comp=E,22nm,21.5s,baz=284,slow=36						
WRA	**Warramunga Arr**	**46.02**	**168**	P	**P**	**02 57 25.5**	**-1.5**
	comp=E,0.4nm,0.7s,baz=350,slow=8.1,SNR=2.3 comp=E,0.4nm,0.7s						
ASAR	**Alice Springs**	**49.58**	**169**	P	**P**	**02 57 55.1**	**+0.5**
	comp=E,0.2nm,0.6s,baz=348,slow=9.2,SNR=1.8 comp=E,0.2nm,0.6s						
ARTI	**Arti**	**56.25**	**322**	LR	LR	03 25 10.9	
	comp=E,52nm,18.6s,baz=88,slow=39						
KIRV	**Kirov**	**61.14**	**325**	LR	LR	03 28 03.5	
	comp=E,34nm,19.3s,baz=134,slow=38						
ILAR	**Eielson Array**	**66.57**	**28**	P	**P**	**02 59 52.6**	**-0.6**
	comp=E,0.2nm,0.8s,baz=267,slow=6.4,SNR=4.5 comp=E,0.2nm,0.8s						
GNI	**Garni**	**66.85**	**305**	LR	LR	03 33 58.6	
	comp=E,25nm,19.0s,baz=108,slow=40						
YKA	**Yellowknife Ar**	**80.51**	**24**	P	**P**	**03 01 15.2**	**0.0**
	comp=E,0.2nm,0.7s,baz=309,slow=5.0,SNR=4.6 comp=E,0.2nm,0.7s						

SJA ***20*** *02:58:06.0,30.°11S×71.°56W,h10km,ML3.4*
GUC ***20*** *02:58:09.2±0.6,30.°20S×71.°22W,h55km±2km,ML3.6*
ISC 20 02:58:09.9±1.4,30.°13S±0.°04×71.°39W±0.°05,h53km±9km, n45,σ1§11/54,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.25**	**31**	*e*P	**Pn**	**02 58 19.4**	**+0.5**
CO05				*e*S	**Sn**	**02 58 26.7**	**+1.4**
CO05				IAML		02 58 27.1	
	comp=N,4μm,0.3s						
GO04	**Tololo Observa**	**0.51**	**95**	*i* P	**Pn**	**02 58 20.2**	**-1.6**
GO04	**Tololo Observa**	**0.51**	**95**	*e*P	**Pn**	**02 58 21.1**	**-0.6**
GO04				*e*S	**Sn**	**02 58 29.7**	**-0.6**
CO06	**Fray Jorge**	**0.58**	**202**	*e*P	**Pn**	**02 58 22.7**	**+0.3**
CO06				*e*S	**Sn**	**02 58 32.7**	**+1.3**
CO03	**El Pedregal**	**0.93**	**140**	*i* P	**Pn**	**02 58 24.8**	**-2.0**
CO03	**El Pedregal**	**0.93**	**140**	*e*P	**Pn**	**02 58 25.6**	**-1.2**
CO03				*e*S	**Sn**	**02 58 37.8**	**-1.5**
CO03				IAML		02 58 38.2	
	comp=N,3μm,0.2s						
CO01	**Juntas del Tor**	**1.13**	**82**	*i* P	**Pn**	**02 58 28.3**	**-1.4**
CO01	**Juntas del Tor**	**1.13**	**82**	*e*P	**Pn**	**02 58 29.1**	**-0.7**
CO01				*e*S	**Sn**	**02 58 43.5**	**-0.8**
CO01				IAML		02 58 43.8	
	comp=N,4μm,0.1s						
LCO	**Las Campanas**	**1.27**	**28**	*i* P	**Pn**	**02 58 30.4**	**-1.1**
LCO	**Las Campanas**	**1.27**	**28**	IAML		02 58 50.2	
	comp=N,2μm,0.2s						
AROD	**Rodeo**	**1.66**	**92**	*i* P	**Pn**	**02 58 37.5**	**+0.6**
AC04	**Llanos de Chal**	**1.94**	**8**	*i* P	**Pn**	**02 58 40.1**	**-0.4**
AC04	**Llanos de Chal**	**1.94**	**8**	*e*P	**Pn**	**02 58 41.9**	**+1.4**
ACDV	**Cuesta del Vie**	**1.96**	**92**	*i* P	**Pn**	**02 58 42.6**	**+1.7**
ACCO	**Cerro Coronel**	**2.06**	**103**	*i* P	**Pn**	**02 58 44.0**	**+1.6**
VA06	**Catapilco**	**2.42**	**178**	*e*P	**Pn**	**02 58 46.5**	**-0.6**
VA06				*e*S	**Sn**	**02 59 15.9**	**+0.5**
VA06				IAML		02 59 25.3	
	comp=N,294nm,0.4s						
RTLS	**Leoncito**	**2.44**	**133**	*i* P	**Pn**	**02 58 48.8**	**+1.2**
AGUA	**GUANDACOL**	**2.60**	**76**	*i* P	**Pn**	**02 58 51.8**	**+2.3**
VA03	**San Esteban**	**2.72**	**165**	*i* P	**Pn**	**02 58 51.0**	**-0.2**
VA03	**San Esteban**	**2.72**	**165**	*e*P	**Pn**	**02 58 51.3**	**+0.1**
VA03				*e*S	**Sn**	**02 59 23.5**	**+0.6**
VA03				IAML		02 59 29.9	
	comp=N,297nm,0.1s						
ROCH	**El Roble**	**2.85**	**174**	*e*P	**Pn**	**02 58 52.5**	**-0.6**
ROCH				*e*S	**Sn**	**02 59 27.2**	**+0.9**
PEL	**Peldehue**	**3.06**	**169**	*e*P	**Pn**	**02 58 55.9**	**+0.1**
PEL				*e*S	**Sn**	**02 59 31.6**	**+0.4**
PEL				IAML		02 59 45.0	
	comp=E,93nm,0.2s						
VCA	**Vinchina**	**3.10**	**64**	*i* P	**Pn**	**02 58 58.3**	**+1.7**
MT02	**Curacav**	**3.12**	**176**	*i* P	**Pn**	**02 58 55.0**	**-1.7**
MT05	**Renca**	**3.30**	**171**	*i* P	**Pn**	**02 58 59.0**	**-0.1**
MT05	**Renca**	**3.30**	**171**	*e*P	**Pn**	**02 58 59.2**	**+0.1**
MT05				IAML		02 59 50.2	
	comp=E,186nm,0.5s						
FCH	**Farellones**	**3.32**	**164**	*e*P	**Pn**	**02 59 00.0**	**+0.4**
FCH				IAML		02 59 52.5	
	comp=E,73nm,0.2s						
MT16	**CCHEN**	**3.37**	**168**	*e*P	**Pn**	**02 58 59.4**	**-0.6**
MT04	**Ro Olivares**	**3.43**	**162**	*e*P	**Pn**	**02 59 01.5**	**+0.4**
MT03	**Universidad Ad**	**3.43**	**168**	*i* P	**Pn**	**02 59 00.8**	**-0.2**
MT03	**Universidad Ad**	**3.43**	**168**	*e*P	**Pn**	**02 59 01.0**	**0.0**
MT03				*e*S	**Sn**	**02 59 40.9**	**+0.4**
MT03				IAML		02 59 57.9	
	comp=N,146nm,0.2s						
AVFE	**Valle Fertil**	**3.44**	**100**	*i* P	**Pn**	**02 59 01.2**	**+0.2**
MT08	**Bocatoma Ro**	**3.50**	**161**	*i* P	**Pn**	**02 59 04.5**	**+2.4**
MT08	**Bocatoma Ro**	**3.50**	**161**	*e*P	**Pn**	**02 59 02.4**	**+0.3**
MT13	**San Alfonso**	**3.72**	**166**	*e*P	**Pn**	**02 59 05.3**	**+0.3**
MT13				IAML		03 00 00.9	
	comp=E,64nm,0.3s						
MT01	**Popeta**	**3.72**	**178**	*i* P	**Pn**	**02 59 04.0**	**-0.9**
LMEL	**Las Melosas**	**3.84**	**165**	*i* P	**Pn**	**02 59 08.6**	**+2.0**
AC02	**Maricunga**	**3.84**	**32**	*i* P	**Pn**	**02 59 06.9**	**-0.1**
ACLC	**CERRO LA CRUZ**	**3.92**	**81**	*i* P	**Pn**	**02 59 08.1**	**+0.4**
AC01	**Pan de Azucar**	**4.03**	**10**	*i* P	**Pn**	**02 59 07.1**	**-2.0**
APLL	**PUNTA DE LOS L**	**4.21**	**95**	*i* P	**Pn**	**02 59 11.7**	**0.0**
BO01	**Tunca**	**4.25**	**177**	*i* P	**Pn**	**02 59 10.7**	**-1.5**
BO02	**Sierra Bellavi**	**4.67**	**174**	*i* P	**Pn**	**02 59 17.5**	**-0.5**
CYA	**Choya**	**5.16**	**72**	*i* P	**Pn**	**02 59 23.4**	**-1.2**
RFA	**San Rafael**	**5.24**	**153**	*i* P	**Pn**	**02 59 25.2**	**-0.5**

BJI ***20*** *03:18:35.6,28.°10N×130.°64E,h10km,mB4.8/12,mb4.5/47, Ms4.4/41,Ms7 4.3/39*
IDC ***20*** *03:18:40.4±0.5,28.°45N×129.°92E,h0km,mb4.2/30, mbtmp4.2/33,ML3.6/3,MS3.7/14,Error ellipse: s-maj=16.2km s-min=12.4km az=100.0*
MOS ***20*** *03:18:41.5±1.2,28.°40N×130.°07E,h17km,mb5.0/42, MS4.2/6,Error ellipse: s-maj=8.7km s-min=5.0km az=112.8*
NIED ***20*** *03:18:42.3,28.°31N×130.°31E,h28km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.94; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-1.47; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.80; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.48000×10^{16} NP1:ϕ_s52.00000°, δ57.00000°,λ140.00000°. NP2:ϕ_s167.00000°,δ57.00000°, λ41.00000°.*
NEIC ***20*** *03:18:42.3±1.3,28.°29N±0.°06×130.°21E±0.°08,h10km±1km, mb4.9/100 Error ellipse: s-maj=11.6km s-min=9.5km az=110.0*
JMA ***20*** *03:18:42.3±0.2,28.°N±1.°×130.°3E±0.°9,h28km±1km, MD4.7/22,MV4.3/22,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
ISC 20 03:18:43.7±0.7,28.°30N±0.°04×130.°21E±0.°04,h24km±4km, n406,σ1§40/409,mb4.8/138,MS4.0/25,34C-41D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.21**	**274**	P	**Pb**	**03 18 49.4**	**0.0**
JZK				S	**Sb**	**03 18 54.8**	**+1.5**
JZK	**Kikaishima**	**0.21**	**274**	A	A	03 18 49.4	
	comp=N,242nm,1.4s,comp=E,197nm,0.9s						
JAM	**Amami Oshima**	**0.54**	**282**	P	**Pb**	**03 18 54.4**	**-0.2**
JAM				*e*S	**Sb**	**03 19 02.4**	**+0.4**
JAM	**Amami Oshima**	**0.54**	**282**	A	A	03 18 54.4	
	comp=N,69nm,1.2s,comp=E,46nm,0.6s						
JAMN	**Amaminishikomi**	**0.91**	**267**	P	**Pb**	**03 19 00.8**	**-0.1**
JAMN	**Amaminishikomi**	**0.91**	**267**	A	A	03 19 00.8	
	comp=N,56nm,1.8s,comp=E,29nm,1.1s						
JTK	**Tokunoshima**	**1.22**	**246**	P	**Pn**	**03 19 05.6**	**+0.3**
JTK	**Tokunoshima**	**1.22**	**246**	A	A	03 19 05.6	
	comp=N,17nm,1.4s,comp=E,15nm,1.5s						
JTAJ	**Takarajima**	**1.23**	**314**	P	**Pn**	**03 19 04.7**	**-0.7**
JTAJ				*e*S	**Sn**	**03 19 20.9**	**-0.2**
JTAJ	**Takarajima**	**1.23**	**314**	A	A	03 19 04.7	
	comp=N,39nm,3.7s,comp=E,40nm,2.4s						
JNN	**Nakanoshima**	**1.56**	**349**	A	A	03 19 09.1	
	comp=N,18nm,2.4s,comp=E,19nm,1.2s						
JOKE	**Okinoerabujima**	**1.72**	**238**	*e*P	**Pn**	**03 19 12.7**	**+0.5**
JYAK	**Yakushimahirau**	**1.95**	**8**	*e*P	**Pn**	**03 19 15.3**	**0.0**
JYRO	**Yoronjima**	**2.01**	**231**	*e*P	**Pn**	**03 19 16.6**	**+0.4**
JKC	**Kuchinoerabu**	**2.16**	**360**	*e*P	**Pn**	**03 19 18.3**	**+0.1**
JMTN	**Minamitane**	**2.18**	**16**	*e*P	**Pn**	**03 19 18.3**	**-0.2**
JOW	**Kunigami**	**2.25**	**230**	Pn	**Pn**	**03 19 19.7**	**+0.2**
	comp=E,96nm,0.3s,baz=101,slow=23,SNR=166						
JOW				Sn	**Sn**	**03 19 47.0**	**+0.4**
	comp=E,78nm,0.3s,baz=47,slow=30,SNR=5.9 comp=E,309nm,0.3s						
JOW	**Kunigami**	**2.25**	**230**	P	**Pn**	**03 19 19.9**	**+0.4**
JOW	**Kunigami**	**2.25**	**230**	P	**Pn**	**03 19 19.7**	**+0.2**
JOW	**Kunigami**	**2.25**	**230**	A	A	03 19 19.7	
	comp=N,8.0nm,3.3s,comp=E,10.0nm,2.1s						
JIH	**Iheya**	**2.35**	**238**	P	**Pn**	**03 19 21.1**	**+0.3**
JTN	**Tanegashima 3**	**2.44**	**16**	*e*P	**Pn**	**03 19 22.3**	**+0.2**
JKDJ	**Kitadaitoujima**	**2.53**	**157**	*e*P	**Pn**	**03 19 22.5**	**-0.8**
JKDJ				*e*S	**Sn**	**03 19 52.7**	**-0.7**
JMZ	**Minamidaito 2**	**2.63**	**160**	Pn	**Pn**	**03 19 24.5**	**-0.2**
JMZ	**Minamidaito 2**	**2.63**	**160**	P	**Pn**	**03 19 25.6**	**+0.9**
JMZ	**Minamidaito 2**	**2.63**	**160**	*e*P	**Pn**	**03 19 24.1**	**-0.6**
JMZ				*e*S	**Sn**	**03 19 55.2**	**-0.7**
JNTH	**Nagotoyohara**	**2.63**	**228**	P	**Pn**	**03 19 25.1**	**+0.4**
JAGN	**Aguni-jima**	**3.14**	**238**	*e*P	**Pn**	**03 19 31.8**	**+0.1**
JKE	**Kume jima 2**	**3.62**	**238**	*e*P	**Pn**	**03 19 38.2**	**-0.2**
JNU	**Nakatsue**	**4.84**	**7**		**Pn**	**03 19 56.2**	**+1.1**
JNU	**Nakatsue**	**4.84**	**7**	Pn	**Pn**	**03 19 55.7**	**+0.5**
	comp=E,7.2nm,0.3s,baz=328,slow=3.0,SNR=37						
JNU				Sn	**Sn**	**03 20 48.7**	**-1.8**
	comp=E,5.8nm,0.3s,baz=25,slow=23,SNR=8.6						
JNU	**Nakatsue**	**4.84**	**7**	P	**Pn**	**03 19 56.5**	**+1.3**
JMJ	**Miyako jima 2**	**5.60**	**233**	P	**Pn**	**03 20 05.6**	**0.0**
JTU	**Tsushima**	**6.25**	**354**	P	**Pn**	**03 20 17.4**	**+3.0**
JMN	**Monobe**	**6.26**	**29**	Pn	**Pn**	**03 20 14.8**	**+0.1**
JMN	**Monobe**	**6.26**	**29**	P	**Pn**	**03 20 16.9**	**+2.2**
YOJ	**Yonaguni jima**	**7.50**	**241**	Pn	**Pn**	**03 20 31.6**	**0.0**
YOJ	**Yonaguni jima**	**7.50**	**241**	P	**Pn**	**03 20 31.3**	**-0.3**
YOJ	**Yonaguni jima**	**7.50**	**241**	P	**Pn**	**03 20 31.7**	**0.0**
TJN	**Taejon**	**8.41**	**344**	⇑*i*P	Pn	03 20 49.6	+5.6
YHNB	**Yeheng**	**8.70**	**247**	Pn	**Pn**	**03 20 47.8**	**-0.3**
NACB	**Ninganchiao**	**8.76**	**244**	P	**Pn**	**03 20 47.0**	**-1.9**
INU	**Inuyama**	**9.11**	**38**		**Pn**	**03 20 54.2**	**+0.6**
KSAR	**Wonju Array Be**	**9.32**	**349**	Pn	**Pn**	**03 20 56.1**	**-0.5**
KSAR	**Wonju Array Be**	**9.32**	**349**	P	**Pn**	**03 20 56.1**	**-0.5**
KSRS	**Korea Array**	**9.33**	**349**	Pn	**Pn**	**03 20 56.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=165,slow=15,SNR=15						
KSRS				LR	LR	03 24 58.4	
	comp=E,708nm,18.9s,baz=170,slow=41						
KS19	**Wonju Array Si**	**9.38**	**349**		**Pn**	**03 20 59.4**	**+1.9**
YULB	**Yu-li**	**9.39**	**241**	P	**Pn**	**03 20 56.5**	**-1.2**
	comp=E,27nm,0.8s						
SSLB	**Suanglung**	**9.46**	**244**	P	**Pn**	**03 20 57.3**	**-1.2**
	comp=E,30nm,1.0s						
JGF	**Kuroka**	**9.48**	**38**	Pn	**Pn**	**03 20 59.2**	**+0.4**
JGF	**Kuroka**	**9.48**	**38**	P	**Pn**	**03 21 01.2**	**+2.4**
JHJ	**Hachijo jima 2**	**9.54**	**57**	LR	LR	03 24 12.1	
	comp=E,380nm,21.5s,baz=230,slow=34						
NJ2	**Nanjing**	**10.51**	**294**	⇓P	**Pn**	**03 21 16.1**	**+3.2**
NJ2				pmax	pmax		
	comp=E,27nm,0.9s						
NJ2				LR	LR		
	comp=E,1μm,14.2s						
NJ2				LR	LR		
	comp=E,1μm,12.8s						
NJ2				LR	LR		
	comp=E,2μm,13.3s						
MJAR	**Matsushiro Arr**	**10.64**	**37**	Pn	**Pn**	**03 21 14.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=217,slow=34,SNR=4.3						
MJAR				LR	LR	03 25 37.3	
	comp=E,284nm,20.7s,baz=214,slow=39 comp=E,1.0nm,0.5s						
JCJ	**Chichijima**	**10.68**	**94**	LR	LR	03 24 45.0	
	comp=E,433nm,21.1s,baz=330,slow=33						
DL2	**Dalian**	**12.76**	**328**	P	Pn	03 21 35.4	-8.2
DL2				S	Sn	03 23 49.6	-15
DL2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
DL2				pmax	pmax		
	comp=Z,130nm,8.4s						
DL2				LR	LR		
	comp=N,1μm,12.9s						
DL2				LR	LR		
	comp=E,1μm,13.0s						
DL2				LR	LR		
	comp=Z,2μm,13.5s						
TIA	**Tai'an**	**13.59**	**309**	P	**Pn**	**03 21 58.3**	**+3.4**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
TIA				LR	LR		
	comp=Z,800nm,15.1s						
TIA				LR	LR		
	comp=Z,990nm,14.9s						
TIA				LR	LR		
	comp=Z,2μm,15.4s						
HNS	**HongShan**	**15.86**	**309**	⇑P	**P**	**03 22 29.4**	**+0.5**
HNS				PP	**sP**	**03 22 37.6**	**-1.0**
HNS				*e*S	**Sn**	**03 25 22.9**	**+2.5**
HNS				pmax	pmax		
	comp=Z,44nm,1.0s						
HNS				LR	LR		
	comp=Z,410nm,15.2s						
HNS				LR	LR		
	comp=Z,950nm,16.5s						
HNS				LR	LR		
	comp=Z,890nm,15.7s						
CN2	**Changchun**	**15.94**	**347**	*e*P	**Pn**	**03 22 25.8**	**-0.5**
CN2				*e*sP	P	03 22 32.0	+2.2
CN2				*e*S	**Sn**	**03 25 21.1**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,800nm,11.0s						
CN2				LR	LR		
	comp=Z,300nm,11.0s						
CN2				LR	LR		
	comp=Z,600nm,10.0s						
LYN	**LuoYang**	**16.37**	**297**	P	**Pn**	**03 22 32.1**	**+0.2**
LYN				sP	pP	03 22 40.9	-0.2
LYN				PP	**sP**	**03 22 44.5**	**+0.3**
LYN				pmax	pmax		
	comp=Z,24nm,1.2s						
LYN				LR	LR		
	comp=Z,850nm,15.5s						
LYN				LR	LR		
	comp=Z,740nm,18.5s						
LYN				LR	LR		
	comp=Z,2μm,14.1s						
BJT	**Baijiatuau**	**16.46**	**319**	Pn	**Pn**	**03 22 33.0**	**0.0**
BJT	**Baijiatuau**	**16.46**	**319**	P	**Pn**	**03 22 33.0**	**0.0**
BJT				pmax	pmax		
	comp=Z,22nm,1.2s						
BJI	**Beijing**	**16.47**	**319**	P	**Pn**	**03 22 34.3**	**+1.2**
BJI				S	**S**	**03 25 47.6**	**+0.8**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BJI				LR	LR		
	comp=Z,500nm,13.6s						
BJI				LR	LR		
	comp=Z,270nm,13.4s						
BJI				LR	LR		
	comp=Z,580nm,15.2s						
ENH	**Enshi**	**18.18**	**281**		**Pn**	**03 22 53.6**	**-1.0**
ASAJ	**Asahikawa**	**18.65**	**29**	P	**Pn**	**03 23 01.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=196,slow=20,SNR=3.1						
ASAJ				LR	LR	03 31 07.2	
	comp=Z,157nm,20.2s,baz=288,slow=40 comp=Z,3.7nm,0.7s						
XAN	**Xi'an**	**19.08**	**293**	⇓P	**P**	**03 23 03.4**	**-1.2**
XAN				sP	sP	03 23 12.8	-1.4
XAN				S	**Sn**	**03 26 31.1**	**-7.5**
XAN				pmax	pmax		
	comp=Z,90nm,0.6s						
XAN				pmax	pmax		
	comp=Z,290nm,4.9s						
XAN				LR	LR		
	comp=Z,850nm,13.7s						
XAN				LR	LR		
	comp=Z,650nm,13.1s						
XAN				LR	LR		
	comp=Z,960nm,11.0s						
XLT	**XiLinHaoTe**	**19.26**	**328**	*e*P	**P**	**03 23 06.5**	**-0.1**
XLT				sP	pP	03 23 12.6	-0.3
XLT				SS	**SnSn**	**03 27 03.8**	**+6.6**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,210nm,4.7s						
XLT				LR	LR		
	comp=Z,72nm,16.9s						
XLT				LR	LR		
	comp=Z,430nm,13.6s						
XLT				LR	LR		
	comp=Z,980nm,15.8s						
HHC	**Hu-ho-hao-te**	**19.76**	**314**	*e*P	**Pn**	**03 23 14.4**	**+0.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,4.0s						
HHC				LR	LR		
	comp=Z,590nm,15.2s						
HHC				LR	LR		
	comp=Z,390nm,13.7s						
HHC				LR	LR		
	comp=Z,670nm,14.3s						
GUMO	**Guam**	**20.01**	**134**	LR	LR	03 29 42.4	
	comp=Z,98nm,20.6s,baz=42,slow=33						
BTO	**Baotou**	**20.63**	**312**	*e*P	Pn	03 23 23.3	-0.6
BTO				pP	pP	03 23 26.3	-1.8
BTO				sP	sP	03 23 30.1	-0.8
BTO				PP	**PnPn**	**03 23 44.1**	**+4.6**
BTO				S	Sn	03 27 15.6	-0.3
BTO				SS	SnSn	03 27 47.6	+17
BTO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BTO				pmax	pmax		
	comp=Z,260nm,5.0s						
BTO				LR	LR		
	comp=Z,1μm,13.4s						
BTO				LR	LR		
	comp=Z,890nm,11.5s						
BTO				LR	LR		
	comp=Z,1μm,13.6s						
QIZ	**Qiongzhong**	**20.79**	**248**	P	Pn	03 23 25.1	-0.6
QIZ				S	**S**	**03 27 15.5**	**+1.3**
QIZ				LR	LR		
	comp=Z,500nm,12.8s						
QIZ				LR	LR		
	comp=Z,460nm,16.7s						
QIZ				LR	LR		
	comp=Z,550nm,18.8s						
KLR	**Kul'dur**	**20.93**	**3**	P	**P**	**03 23 23.1**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=191,slow=6.6,SNR=8.3 comp=Z,2.1nm,0.6s						
KLR	**Kul'dur**	**20.93**	**3**	*de*P	**P**	**03 23 24.2**	**-0.4**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GYA	**Guiyang**	**20.98**	**271**	P	**P**	**03 23 26.6**	**+1.1**
GYA				S	**S**	**03 27 15.4**	**-2.9**
GYA				pmax	pmax		
	comp=Z,23nm,0.9s						
GYA				LR	LR		
	comp=Z,890nm,16.3s						
GYA				LR	LR		
	comp=Z,870nm,15.8s						
GYA				LR	LR		
	comp=Z,1μm,15.3s						
YSS	**Yuzhno-Sakhali**	**21.06**	**24**	P	**P**	**03 23 26.3**	**+0.4**
YSS	**Yuzhno-Sakhali**	**21.06**	**24**	*e*P	**P**	**03 23 27.3**	**+1.3**
YSS				*e*S	**S**	**03 27 18.4**	**-0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
DAV	**Davao City (W)**	**21.57**	**193**	LR	LR	03 32 11.2	
	comp=Z,236nm,19.9s,baz=342,slow=37						
CD2	**Chengdu**	**23.13**	**283**	P	**P**	**03 23 47.8**	**-0.4**
CD2				S	**S**	**03 27 57.4**	**-0.9**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
CD2				pmax	pmax		
	comp=Z,120nm,3.3s						
CD2				LR	LR		
	comp=Z,890nm,14.4s						
CD2				LR	LR		
	comp=Z,1μm,14.6s						
CD2				LR	LR		
	comp=Z,1μm,15.9s						
LZH	**Lanzhou**	**23.57**	**296**	*

comp=Z,20nm,1.2s
ZEA MLR MLR
comp=N,100nm,13.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
ULN Ulaanbaatar 26.54 324 P **P** **03 24 19.8 0.0**
ULN Ulaanbaatar 26.54 324⇑ *eP* **P** **03 24 17.3 -2.5**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 26.87 323 P **P** **03 24 21.2 -1.5**
SONM Songino Array 26.87 323 P **P** **03 24 20.0 -2.7**
comp=Z,1.2nm,0.5s,baz=130,slow=8.6,SNR=8.3
comp=Z,1.2nm,0.5s
SONM Songino Array 26.87 323 P **P** **03 24 21.2 -1.5**
SONM pmax pmax
comp=Z,4.0nm,0.8s
GTA Gaotai 27.44 302 *eP* **P** **03 24 27.8 -0.1**
GTA pP sP 03 24 36.3 -1.5
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA LR LR
comp=Z,500nm,15.3s
GTA LR LR
comp=Z,660nm,14.9s
GTA LR LR
comp=Z,1μm,15.3s
PHRA Phrae 29.12 257 P **P** **03 24 43.1 +0.2**
SKR Severo-Kuril's 29.72 34 *eP* P 03 24 41.8 -6.0
SKR *e* 03 25 52.8
SKR *eS* **S** **03 29 40.1 -2.3**
SKR pmax pmax
comp=Z,200nm,4.8s
SKR MLR MLR
comp=Z,300nm,17.0s
CHTO Chiang Mai 30.10 259 P **P** **03 24 51.4 -0.2**
CHTO IAmb IAmb 03 24 53.5
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 30.10 259 P **P** **03 24 51.4 -0.2**
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 30.25 258 P **P** **03 24 50.8 -2.1**
comp=Z,1.4nm,0.3s,baz=61,slow=8.4,SNR=6.0
CMAR PcP **PcP** **03 27 54.8 +1.4**
comp=Z,1.6nm,0.3s,baz=81,slow=1.7,SNR=4.8
CMAR LR LR 03 38 37.9
comp=Z,245nm,20.8s,baz=75,slow=40
comp=Z,1.4nm,0.3s
PETK Petropavlovsk- 32.02 32 P **P** **03 25 09.9 +1.8**
comp=Z,2.7nm,1.0s,baz=213,slow=7.9,SNR=4.9
PETK LR LR 03 39 46.2
comp=Z,155nm,18.6s,baz=224,slow=40
comp=Z,2.7nm,1.0s
JAY Jayapura 32.26 160 LR LR 03 37 00.6
comp=Z,166nm,18.3s,baz=324,slow=34
YAK Yakutsk 33.73 360 LR LR 03 41 09.6
comp=Z,135nm,18.5s,baz=130,slow=40
SHL Shillong 34.18 275 P **P** **03 25 26.4 -1.2**
SHL Shillong 34.18 275 P **P** **03 25 26.4 -1.2**
SHL pmax pmax
comp=Z,25nm,0.7s
MA2 Magadan 34.29 18 LR LR 03 40 38.7
comp=Z,76nm,18.7s,baz=214,slow=38
MA2 Magadan 34.29 18⇓ *eP* **P** **03 25 27.9 0.0**
MA2 pmax pmax
comp=Z,10.0nm,1.6s
H11N2 WAKE ISLAND Hy 34.48 96 T T 04 02 07.2
baz=290,slow=74,SNR=6.8
H11N1 WAKE ISLAND Hy 34.48 96 T T 04 02 05.3
baz=290,slow=74,SNR=6.1
H11N3 WAKE ISLAND Hy 34.49 96 T T 04 02 06.5
baz=290,slow=74,SNR=6.3
KAPI Kappang 34.62 199 LR LR 03 42 03.4
comp=Z,35nm,18.8s,baz=24,slow=40
H11S3 WAKE ISLAND Hy 34.76 98 T T 04 02 37.6
baz=290
H11S1 WAKE ISLAND Hy 34.76 98 T T 04 02 39.5
baz=290
H11S2 WAKE ISLAND Hy 34.78 98 T T 04 02 38.3
baz=290
WMQ Urumqi 37.26 306 *eP* **P** **03 25 56.0 +2.3**
WMQ LR LR
comp=Z,140nm,19.7s
SEY Seymchan 37.54 16⇑ *iP* **P** **03 25 55.9 +0.3**
SEY pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 41.52 310 P **P** **03 26 28.0 -1.1**
MK31 Makanchi Array 41.52 310 P **P** **03 26 28.0 -1.1**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 41.52 310 P **P** **03 26 27.4 -1.6**
MKAR Makanchi Array 41.52 310 P **P** **03 26 26.5 -2.6**
comp=Z,0.6nm,0.5s,baz=92,slow=10,SNR=15
MKAR PcP **PcP** **03 28 26.8 +0.4**
comp=Z,1.2nm,0.8s,baz=91,slow=5.0,SNR=4.5
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 41.52 310 P **P** **03 26 27.5 -1.6**
ZALV Zalesovo Beam 41.72 321 P **P** **03 26 30.0 -0.5**
ZALV Zalesovo Beam 41.72 321 P **P** **03 26 26.6 -3.9**
comp=Z,1.3nm,0.5s,baz=117,slow=8.6,SNR=5.8
comp=Z,1.3nm,0.5s
ZALV Zalesovo Beam 41.72 321 *iP* **P** **03 26 30.5 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 43.40 359 P **P** **03 26 44.4 +0.4**
TIXI IAmb IAmb 03 27 59.7
comp=Z,12nm,0.4s
TIXI Tiksi 43.40 359 LR LR 03 46 11.5
comp=Z,172nm,19.3s,baz=192,slow=38
TIXI Tiksi 43.40 359⇓ *eP* **P** **03 26 44.5 +0.5**
TIXI pmax pmax
comp=Z,22nm,4.0s
KURK Kurchatov 44.57 315 P **P** **03 26 52.7 -1.0**
KURK Kurchatov 44.57 315⇓ *iP* **P** **03 26 52.2 -1.5**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURBB Kurchatov Arra 44.61 315 P **P** **03 26 51.6 -2.4**
comp=Z,1.6nm,0.5s,baz=99,slow=9.1,SNR=18
KURBB PcP **PcP** **03 28 36.7 +0.2**
comp=Z,0.7nm,0.9s,baz=110,slow=4.1,SNR=2.4
comp=Z,1.6nm,0.5s
BILL Bilibino 45.16 18⇓ *iP* **P** **03 26 59.0 +0.9**
BILL pmax pmax
comp=Z,14nm,2.7s
FITZ Fitzroy Crossi 46.34 186 P **P** **03 27 09.0 +1.2**
AAK Ala-Archa 46.78 303⇑ *iP* **P** **03 27 10.3 -1.2**
AAK pmax pmax
comp=Z,11nm,3.9s
NRIK Noril'sk 47.85 341 P **P** **03 27 17.9 -1.2**
NRIK IAmb IAmb 03 27 19.2
comp=Z,11nm,1.4s
NRIK Noril'sk 47.85 341 P **P** **03 27 17.6 -1.6**
comp=Z,2.4nm,0.5s,baz=121,slow=8.6,SNR=4.6
comp=Z,2.4nm,0.5s
NRIK Noril'sk 47.85 341 *iP* **P** **03 27 18.0 -1.2**
NRIK pmax pmax
comp=Z,9.0nm,1.3s
ARSB Arslanbob 47.95 301 P **P** **03 27 20.8 +0.2**
ARSB IAmb IAmb 03 27 30.5
comp=Z,9.9nm,1.4s
ARSB Arslanbob 47.95 301 P **P** **03 27 20.8 +0.2**
ARSB pmax pmax
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 48.12 175 P **P** **03 27 23.2 +1.3**
WRA Warramunga Arr 48.12 175 P **P** **03 27 22.6 +0.8**
comp=Z,1.3nm,0.6s,baz=354,slow=8.3,SNR=12
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 48.12 175 P **P** **03 27 23.2 +1.3**
NIL Nilore 48.61 291 P **P** **03 27 25.2 -0.5**
NIL Nilore 48.61 291 P **P** **03 27 25.2 -0.5**
NIL pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 49.69 304 P **P** **03 27 32.8 -0.9**
KK31 Karatay Array 49.69 304 P **P** **03 27 32.8 -0.9**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 49.69 304 P **P** **03 27 33.2 -0.5**
KKAR Karatay Array 49.69 304 P **P** **03 27 33.3 -0.5**
KKAR IAmb IAmb 03 27 43.2
comp=Z,3.3nm,1.0s
KKAR Karatay Array 49.69 304 P **P** **03 27 33.3 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 49.94 317 P **P** **03 27 33.7 -1.8**
comp=Z,6.6nm,0.6s,baz=91,slow=9.9,SNR=29
BVAR PcP **PcP** **03 28 54.5 -1.0**
comp=Z,1.3nm,0.5s,baz=100,slow=4.1,SNR=2.2
comp=Z,6.6nm,0.6s

BRVK Borovoye 50.00 317 P **P** **03 27 36.4 +0.4**
BRVK IAmb IAmb 03 27 37.1
comp=Z,9.8nm,0.9s
BRVK Borovoye 50.00 317 *cP* **P** **03 27 35.4 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
GAR Garm 50.19 299 P **P** **03 27 37.9 +0.2**
GAR IAmb IAmb 03 27 47.8
comp=Z,11nm,1.0s
CHGR Chuyangaron 51.13 298 P **P** **03 27 44.5 -0.3**
CHGR IAmb IAmb 03 27 56.2
comp=Z,25nm,1.3s
CHGR Chuyangaron 51.13 298 P **P** **03 27 44.5 -0.3**
CHGR pmax pmax
comp=Z,25nm,1.3s
SIMJ Simiganj 51.24 298 P **P** **03 27 45.5 -0.2**
ASAR Alice Springs 51.79 176 P **P** **03 27 50.5 +0.9**
comp=Z,0.8nm,0.6s,baz=7.1,slow=14,SNR=18
comp=Z,0.8nm,0.6s
KBL Kabul 51.88 293 P **P** **03 27 50.5 -0.2**
KBL IAmb IAmb 03 27 51.8
comp=Z,10nm,0.8s
KBL Kabul 51.88 293 P **P** **03 27 50.5 -0.2**
KBL pmax pmax
comp=Z,11nm,0.8s
F15K North Star Dit 54.36 28 P **P** **03 28 09.5 +1.4**
F17K Baldwin Pennin 55.84 27 P **P** **03 28 20.2 +1.4**
ABKAR Abkulak array 56.54 312 P **P** **03 28 23.0 -1.1**
ARTI Arti 56.98 321 P **P** **03 28 26.9 -0.2**
ARTI IAmb IAmb 03 28 37.2
comp=Z,21nm,1.4s
ARTI Arti 56.98 321 *dP* **P** **03 28 26.2 -0.9**
ARTI 03 29 19.8
ARTI 03 30 30.9
ARTI S **S** **03 36 22.9 +3.1**
ARTI SS **SS** **03 40 08.4 +0.4**
ARTI pmax pmax
comp=Z,14nm,1.3s
ARTI MLR MLR
comp=Z,478nm,17.0s
D19K Kuna River 57.28 25 P **P** **03 28 30.1 +1.1**
D19K IAmb IAmb 03 28 49.3
comp=Z,11nm,1.2s
E19K Redstone River 57.52 26 P **P** **03 28 32.1 +1.3**
B21K Ikpikpuk River 58.62 23 P **P** **03 28 39.0 +0.7**
B21K IAmb IAmb 03 29 48.9
comp=Z,12nm,1.4s
E21K Killik River 58.80 25 P **P** **03 28 40.8 +1.1**
D22K Ayikyak River 59.28 24 P **P** **03 28 44.3 +1.3**
D22K IAmb IAmb 03 29 03.5
comp=Z,9.7nm,1.0s
E22K Anaktuvuk Pass 59.60 25 P **P** **03 28 46.6 +1.3**
E22K IAmb IAmb 03 29 05.8
comp=Z,7.1nm,0.9s
PPLA Purkeypile 59.61 31 P **P** **03 28 46.8 +1.3**
CAST Castle Rocks 59.63 31 P **P** **03 28 46.8 +1.3**
CAST IAmb IAmb 03 29 07.2
comp=Z,23nm,1.6s
D23K Nanushuk River 60.00 24 P **P** **03 28 49.6 +1.6**
D23K IAmb IAmb 03 28 50.8
comp=Z,20nm,1.4s
D24K Happy Valley 60.67 24 P **P** **03 28 53.9 +1.4**
D24K IAmb IAmb 03 28 54.8
comp=Z,13nm,1.1s
C24K Franklin Bluff 60.68 23 P **P** **03 28 53.6 +1.0**
STKA Stephens Creek 60.82 169 P **P** **03 28 55.1 +1.2**
comp=Z,1.9nm,0.7s,baz=2.3,slow=11,SNR=3.5
comp=Z,1.9nm,0.7s
E24K Your Creek 60.85 25 P **P** **03 28 55.1 +1.3**
E24K IAmb IAmb 03 28 58.0
comp=Z,18nm,1.8s
NEA2 Nenana 60.87 29 P **P** **03 28 54.5 +0.5**
NEA2 IAmb IAmb 03 28 56.0
comp=Z,13nm,1.1s
RND Reindeer 61.08 31 P **P** **03 28 55.9 +0.4**
RND Reindeer 61.08 31 P **P** **03 28 55.9 +0.4**
RND pmax pmax
comp=Z,17nm,1.0s
H24K Noodor Dome 61.26 28 P **P** **03 28 58.0 +1.4**
H24K IAmb IAmb 03 29 46.0
comp=Z,19nm,1.6s
D25K Kavik River 61.53 24 P **P** **03 28 59.5 +1.1**
D25K IAmb IAmb 03 29 00.6
comp=Z,10nm,1.3s
KIRV Kirov 61.60 324⇓ *iP* **P** **03 28 57.3 -1.6**
ILAR Eielson Array 61.79 29 P **P** **03 28 59.5 -0.6**
comp=Z,0.8nm,0.8s,baz=268,slow=4.9,SNR=9.8
comp=Z,0.8nm,0.8s
HDA Harding Lake 61.80 29 P **P** **03 28 59.5 -0.8**
HDA IAmb IAmb 03 29 24.4
comp=Z,8.6nm,1.0s
E25K Arctic Village 61.93 25 P **P** **03 29 02.5 +1.4**
F25K Christian Rive 61.96 26 P **P** **03 29 03.2 +1.8**
F25K IAmb IAmb 03 29 21.0
comp=Z,9.1nm,1.2s
C27K Jago River 62.43 23 P **P** **03 29 05.6 +1.2**
F26K Sheenjek River 62.52 25 P **P** **03 29 06.7 +1.6**
F26K IAmb IAmb 03 29 19.8
comp=Z,6.5nm,0.9s
SCRK Sand Creek 63.15 30 P **P** **03 29 09.8 +0.4**
SCRK IAmb IAmb 03 29 21.0
comp=Z,18nm,1.7s
J26L Joseph Creek 63.24 29 P **P** **03 29 10.2 +0.2**
J26L IAmb IAmb 03 29 22.2
comp=Z,6.7nm,1.1s
D27M Malcolm River 63.45 23 P **P** **03 29 12.9 +1.6**
D27M IAmb IAmb 03 29 24.2
comp=Z,11nm,1.2s
MENT Mentasta 63.45 31 P **P** **03 29 12.7 +1.4**
MENT IAmb IAmb 03 29 24.3
comp=Z,8.1nm,0.9s
BELG Belogornoye 63.74 317⇓ *eP* **P** **03 29 12.4 -0.9**
BELG pmax pmax
comp=Z,2.0nm,1.0s
M26K Nabesna, AK 63.88 31 P **P** **03 29 15.1 +0.9**
M26K IAmb IAmb 03 29 27.1
comp=Z,7.2nm,0.9s
E28M Babbage River 64.07 24 P **P** **03 29 16.7 +1.4**
E28M IAmb IAmb 03 29 29.7
comp=Z,7.0nm,1.1s
F28M Old Crow 64.14 25 P **P** **03 29 17.3 +1.5**
F28M IAmb IAmb 03 29 31.6
comp=Z,8.8nm,1.2s
E29M Blow River 64.71 24 P **P** **03 29 21.0 +1.5**
E29M IAmb IAmb 03 29 59.9
comp=Z,8.5nm,1.4s
G30M tAoh Zraii Nji 65.67 26 P **P** **03 29 26.3 +0.5**
L29M 65.90 30 P **P** **03 29 28.3 +1.0**
L29M IAmb IAmb 03 29 30.4
comp=Z,11nm,1.3s
KLMR Klimovskoe 66.04 328 *eP* **P** **03 29 24.4 -3.8**
KLMR pmax pmax
comp=Z,28nm,1.5s
APA Apatity 66.71 335⇓ *iP* **P** **03 29 29.7 -2.7**
APA pmax pmax
comp=Z,7.0nm,1.0s
SPITS Spitsbergen Ar 67.17 348 P **P** **03 29 34.4 -0.8**
comp=Z,1.2nm,0.4s,baz=66,slow=4.9,SNR=11
comp=Z,1.2nm,0.4s
VRH Novokhopyorsk 67.59 317 *eP* **P** **03 29 35.7 -2.5**
VRH pmax pmax
comp=Z,6.0nm,0.9s
A36M Sachs Harbour 67.71 19 P **P** **03 29 39.8 +1.2**
FARO Faro, Yukon 68.27 30 P **P** **03 29 43.6 +1.2**
FARO IAmb IAmb 03 29 56.0
comp=Z,12nm,1.1s
MOS Moscow 68.50 323 *eP* **P** **03 29 41.4 -2.5**
ARCES ARCESS Array B 68.73 339 P **P** **03 29 42.6 -2.5**
comp=Z,3.7nm,0.9s,baz=79,slow=6.3,SNR=4.1
comp=Z,3.7nm,0.9s
LPSR Galich'ya Gora 68.79 319 *eP* **P** **03 29 43.5 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 68.94 318 *eP* **P** **03 29 43.3 -3.3**
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 69.11 318 *eP* **P** **03 29 44.5 -3.2**
VSR pmax pmax
comp=Z,8.0nm,0.9s
C36M Paulatuk 69.14 21 P **P** **03 29 48.3 +0.8**
KBZ Khabaz 69.22 309 P **P** **03 29 48.3 -0.2**
comp=Z,9.3nm,0.8s,baz=116,slow=3.6,SNR=21
comp=Z,9.3nm,0.8s
KBZ Khabaz 69.22 309 *deP* **P** **03 29 48.8 +0.3**
KBZ pmax pmax

comp=Z,11nm,0.9s
OBN Obninsk 69.28 322⇑ *eP* **P** **03 29 48.5 -0.2**
OBN *e* 03 30 11.4
OBN *e* 03 32 25.2
OBN *e*PPP PPP 03 34 00.6
OBN *e*S **SKiKP** **03 39 34.8 -2.1**
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,276nm,16.0s
KIV Kislovodsk 69.28 310 P **P** **03 29 49.4 +0.2**
KIV IAmb IAmb 03 29 59.6
comp=Z,10nm,0.9s
KIV Kislovodsk 69.28 310 *eP* **P** **03 29 48.8 -0.3**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 69.28 310 P **P** **03 29 49.3 +0.2**
comp=Z,8.7nm,0.9s
SHA1 Shidzhatmaz 69.38 309⇑ *eP* **P** **03 29 50.0 +0.1**
PUL Pulkovo 70.72 328⇓ *eP* **P** **03 29 58.2 +0.7**
FINES FINESS Array B 71.93 331 P **P** **03 30 03.8 -0.9**
comp=Z,6.7nm,0.7s,baz=65,slow=7.4,SNR=20
comp=Z,6.7nm,0.7s
VSU Vasula 72.95 328⇑ *eP* **P** **03 30 09.9 -1.0**
VSU pmax pmax
comp=Z,22nm,0.8s
RES Resolute Bay 73.19 11 P **P** **03 30 12.7 +0.7**
RES IAmb IAmb 03 30 22.7
comp=Z,14nm,1.4s
RES Resolute Bay 73.19 11 P **P** **03 30 12.5 +0.5**
comp=Z,2.8nm,1.0s,baz=224,slow=5.9,SNR=7.0
comp=Z,2.8nm,1.0s
RES Resolute Bay 73.19 11 P **P** **03 30 12.7 +0.7**
RES pmax pmax
comp=Z,14nm,1.4s
DAG Danmarks Havn 73.44 353 *iP* **P** **03 30 12.3 -1.2**
DAG IAmb IAmb 03 30 13.4
comp=Z,3.5nm,0.6s
MNK Minsk 74.14 324 *iP* **P** **03 30 16.0 -2.0**
MNK *i* 03 30 30.5
MNK *i* 03 33 01.8
MNK *i*PPP PPP 03 34 47.0
MNK *i*S **S** **03 39 50.9 +1.4**
MNK *i* 03 40 26.7
MNK *i*SS **SS** **03 44 37.8 +3.7**
MNK pmax pmax
comp=E,23nm,1.0s
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.8s
MNK MLR MLR
comp=Z,230nm,17.0s
MNK MLR MLR
comp=E,602nm,17.0s
MNK MLR MLR
comp=N,555nm,18.0s
NEEM North Greenlan 74.50 0 *iP* **P** **03 30 20.7 +0.7**
NEEM IAmb IAmb 03 30 23.9
comp=Z,5.8nm,0.8s
SIM Simferopol' 74.60 313 *eP* **P** **03 30 21.5 +0.7**
SIM pmax pmax
comp=Z,23nm,1.2s
RAYN Ar Rayn 74.82 289 P **P** **03 30 22.2 -0.4**
RAYN IAmb IAmb 03 30 24.3
comp=Z,16nm,1.1s
RAYN Ar Rayn 74.82 289 ⇓P **P** **03 30 23.6 +1.0**
AK03 Malin Array Si 75.09 320 P **P** **03 30 22.7 -0.9**
AKASG Malin Array Be 75.10 320 P **P** **03 30 23.9 +0.3**
AKASG Malin Array Be 75.10 320 P **P** **03 30 22.6 -1.0**
comp=Z,7.9nm,0.5s,baz=58,slow=6.3,SNR=57
comp=Z,7.9nm,0.5s
AKASG Malin Array Be 75.10 320 *iP* **P** **03 30 23.3 -0.3**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKBB Malin Array Si 75.10 320 P **P** **03 30 23.0 -0.6**
AKBB Malin Array Si 75.10 320⇓ *iP* **P** **03 30 23.2 -0.4**
AKBB pmax pmax
comp=Z,15nm,0.6s
AKBB Malin Array Si 75.10 320 P **P** **03 30 22.2 -1.4**
AK09 Malin Array Si 75.10 320 P **P** **03 30 22.9 -0.7**
KIEV Kiev 75.11 320 P **P** **03 30 23.0 -0.7**
KIEV Kiev 75.11 320 ⇑P **P** **03 30 23.8 +0.1**
KIEV Kiev 75.11 320 ⇑P **P** **03 30 23.8 +0.1**
KIEV Kiev 75.11 320 P **P** **03 30 22.3 -1.4**
comp=Z,119nm,0.8s
AK02 Malin Array Si 75.13 320 P **P** **03 30 22.3 -1.5**
AK10 Malin Array Si 75.13 320 P **P** **03 30 22.6 -1.2**
AK11 Malin Array Si 75.14 320 P **P** **03 30 22.7 -1.2**
AK22 Malin Array Si 75.16 320 P **P** **03 30 23.0 -1.0**
AK18 Malin Array Si 75.18 320 P **P** **03 30 23.1 -1.0**
AK16 Malin Array Si 75.18 320 P **P** **03 30 23.3 -0.8**
AK19 Malin Array Si 75.21 320 P **P** **03 30 23.2 -1.1**
DBG Daneborg 75.81 352 *iP* **P** **03 30 26.0 -1.3**
DBG IAmb IAmb 03 30 28.6
comp=Z,7.9nm,1.0s
MI28 Mi28,Pidlybu 75.88 320 P **P** **03 30 26.6 -1.5**
YKA Yellowknife Ar 75.91 26 P **P** **03 30 29.1 +1.0**
comp=Z,1.6nm,0.8s,baz=299,slow=5.7,SNR=20
comp=Z,1.6nm,0.8s
BAL3X Bal3x, Balta 76.12 317 P **P** **03 30 29.3 -0.2**
LUBAR Lubar, Ukraine 76.29 319 P **P** **03 30 28.6 -1.9**
PURM Purcari 76.59 316 ⇓P **P** **03 30 33.0 +0.8**
PURM Purcari 76.59 316 P **P** **03 30 32.5 +0.3**
comp=Z,33nm,1.3s
RNPP9 Sopachiv 76.64 321 P **P** **03 30 32.2 -0.2**
RNPP8 Varash 76.69 321 P **P** **03 30 32.5 -0.2**
RNPP5 Staryi Chortor 76.73 321 P **P** **03 30 32.6 -0.3**
SORM Soroca 76.77 318 ⇓P **P** **03 30 32.9 -0.3**
SORM Soroca 76.77 318 ⇓P **P** **03 30 32.9 -0.3**
SORM Soroca 76.77 318 P **P** **03 30 32.0 -1.2**
comp=Z,14nm,1.2s
MILM Milestii Mici 77.06 316 ⇑P **P** **03 30 34.2 -0.6**
MILM Milestii Mici 77.06 316 ⇑P **P** **03 30 34.2 -0.6**
BR131 Keskin Array S 77.15 308 P **P** **03 30 36.0 +0.3**
BR131 IAmb IAmb 03 30 46.0
comp=Z,8.5nm,0.8s
BR131 Keskin Array S 77.15 308 *cP* **P** **03 30 35.2 -0.5**
BRTR Keskin Array B 77.15 308 P **P** **03 30 35.8 +0.1**
BRTR Keskin Array B 77.15 308 P **P** **03 30 35.5 -0.2**
comp=Z,4.3nm,0.9s,baz=97,slow=4.0,SNR=19
comp=Z,4.3nm,0.9s
BRTR Keskin Array B 77.15 308 P **P** **03 30 35.8 +0.1**
BR104 Keskin Array S 77.16 308 P **P** **03 30 35.0 -0.7**
comp=Z,52nmcomp=Z,7.0nm,0.9s
BR106 Keskin Array S 77.16 308 P **P** **03 30 35.1 -0.7**
comp=Z,62nmcomp=Z,8.3nm,0.8s
HORU Horodok 77.39 319 P **P** **03 30 36.4 -0.3**
HFS Hagfors 77.80 333 P **P** **03 30 37.5 -1.3**
comp=Z,3.5nm,0.9s,baz=100,slow=6.5,SNR=4.0
comp=Z,3.5nm,0.9s
TLCR 77.86 315 ⇓P **P** **03 30 39.7 +0.3**
TLCR 77.86 315 ⇓P **P** **03 30 39.7 +0.3**
VLDR Vladesti 78.01 316 ⇓P **P** **03 30 41.0 +0.8**
NB2 NORSAR Subarra 78.23 334 P **P** **03 30 39.9 -1.3**
comp=Z,1.9nm,0.7s,baz=52,slow=5.9
NOA NORSAR Array B 78.23 334 P **P** **03 30 40.2 -1.0**
comp=Z,2.3nm,0.8s,baz=50,slow=5.4,SNR=7.3
comp=Z,2.3nm,0.8s
TPGR Topolog 78.27 315 ⇓P **P** **03 30 41.4 -0.3**
CFR Carcaliu 78.29 315 ⇑P **P** **03 30 41.6 -0.1**
CFR Carcaliu 78.29 315 ⇑P **P** **03 30 41.6 -0.1**
TESR Tescani 78.56 317 ⇓P **P** **03 30 42.8 -0.4**
PANC Panciu 78.57 316 ⇑P **P** **03 30 44.5 +1.2**
HARR Harsova 78.65 315 ⇑P **P** **03 30 44.9 +1.1**
HARR Harsova 78.65 315 ⇑P **P** **03 30 44.9 +1.1**
STNU Starunia 78.74 319 P **P** **03 30 44.2 0.0**
VRI Vrincioaia 78.83 316 ⇑P **P** **03 30 46.8 +2.0**
VRI Vrincioaia 78.83 316 ⇑P **P** **03 30 46.8 +2.0**
MMAI Mount Meron Ar 78.83 301 P **P** **03 30 45.5 +0.4**
comp=Z,1.8nm,0.6s,baz=92,slow=4.9,SNR=2.2
comp=Z,1.8nm,0.6s
BUR08 Bucovina Ar. S 78.87 318 P **P** **03 30 45.4 +0.3**
BURAR Bucovina Array 78.88 318 ⇓P **P** **03 30 45.2 +0.1**
BURAR Bucovina Array 78.88 318 ⇓P **P** **03 30 45.2 +0.1**
PLOR Plostina 78.88 316 ⇓P **P** **03 30 45.1 0.0**
PLOR Plostina 78.88 316 ⇓P **P** **03 30 45.1 0.0**
SUMG Summit 79.09 357 P **P** **03 30 46.3 +0.1**
SUMG Summit 79.09 357 P **P** **03 30 46.3 +0.1**
SUMG pmax pmax
comp=Z,65nm,1.9s
SUMG Summit 79.09 357 *iP* **P** **03 30 46.0 -0.2**
SUMG IAmb IAmb 03 30 47.6
comp=Z,9.9nm,0.9s

UPNV	**Upernavik**	**79.09 2**	*i* P	**P**	**03 30 45.5**	**-0.1**
UPNV			IAmb	IAmb	03 30 49.3	
	comp=Z,4.5nm,0.6s					
COVR	**Voineasa-Covas**	**79.16 316**	⇓P	**P**	**03 30 47.2**	**+0.7**
BORA	**Eskisehir**	**79.27 309**	P	**P**	**03 30 47.5**	**+0.2**
KWP	**Kalwaria Pacla**	**79.29 321**	P	**P**	**03 30 47.8**	**+0.6**
KWP	**Kalwaria Pacla**	**79.29 321**	P	**P**	**03 30 47.8**	**+0.6**
KWP			pmax	pmax		
	comp=Z,136nm,0.9s					
KWP	**Kalwaria Pacla**	**79.29 321**	P	**P**	**03 30 47.5**	**+0.3**
	comp=Z,23nm,1.2s					
OZUR		**79.29 317**	⇑P	**P**	**03 30 48.3**	**+1.0**
NEHR	**Nehoiu**	**79.31 316**	⇓P	**P**	**03 30 47.4**	**0.0**
MLR	**Muntele Rosu**	**79.49 316**	P	**P**	**03 30 48.8**	**+0.3**
MLR	**Muntele Rosu**	**79.49 316**	⇑P	**P**	**03 30 49.6**	**+1.1**
MLR	**Muntele Rosu**	**79.49 316**	⇑P	**P**	**03 30 49.6**	**+1.1**
CSS	**Mathiatis**	**79.50 304**	P	**P**	**03 30 48.5**	**-0.1**
	comp=Z,19nm,1.6s					
SCO	**Scoresbysund**	**79.51 351**	*i* P	**P**	**03 30 47.4**	**-0.5**
SCO			IAmb	IAmb	03 30 49.8	
	comp=Z,17nm,1.2s					
KLYT	**Kilyos**	**79.57 311**	P	**P**	**03 30 48.3**	**-0.5**
	comp=Z,18nm,1.7s					
DOPR	**Dopca**	**79.59 317**	⇓P	**P**	**03 30 49.1**	**+0.1**
BRIU	**Brid**	**79.78 320**	P	**P**	**03 30 50.8**	**+1.0**
KOLS	**Kolonicke sedl**	**79.89 320**	*e*P	**P**	**03 30 51.6**	**+1.1**
KOLS			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KOLS	**Kolonicke sedl**	**79.89 320**	*e*P	**P**	**03 30 51.6**	**+1.1**
MUKU	**Mukachevo**	**79.91 320**	P	**P**	**03 30 50.8**	**+0.3**
CTYL	**Yalikoy Yolu**	**79.96 312**	P	**P**	**03 30 49.8**	**-1.2**
	comp=Z,13nm,1.3s					
HOLU	**Holmets**	**80.04 320**	P	**P**	**03 30 51.8**	**+0.5**
BERU	**Beregovo**	**80.05 320**	P	**P**	**03 30 51.9**	**+0.6**
ARR	**Arges**	**80.35 316**	⇓P	**P**	**03 30 53.6**	**+0.5**
OJC	**Ojcow**	**80.57 322**	P	**P**	**03 30 54.8**	**+0.7**
OJC			IAmb	IAmb	03 30 56.4	
	comp=Z,8.8nm,0.7s					
OJC	**Ojcow**	**80.57 322**	P	**P**	**03 30 54.8**	**+0.7**
OJC			pmax	pmax		
	comp=Z,9.0nm,0.7s					
OJC	**Ojcow**	**80.57 322**	P	**P**	**03 30 54.0**	**-0.1**
	comp=Z,13nm,0.8s					
MARR	**Marisel-Cluj**	**80.58 318**	⇓P	**P**	**03 30 54.3**	**-0.1**
NIE	**Niedzica**	**80.73 322**	P	**P**	**03 30 55.4**	**+0.4**
	comp=Z,3.8nm,1.2s					
DRGR		**80.76 318**	⇓P	**P**	**03 30 55.5**	**+0.2**
DRGR		**80.76 318**	⇓P	**P**	**03 30 55.5**	**+0.2**
LOT	**Lotru**	**80.83 317**	⇑P	**P**	**03 30 57.2**	**+1.5**
VLAD	**Vladila**	**81.19 315**	⇑P	P	03 30 51.6	-5.9
GZR	**Gura Zlata**	**81.46 317**	⇑P	**P**	**03 30 59.5**	**+0.5**
GZR	**Gura Zlata**	**81.46 317**	⇑P	**P**	**03 30 59.5**	**+0.5**
SURR	**Surduc**	**81.66 318**	⇓P	**P**	**03 31 00.2**	**+0.2**
ALN	**Alexandroupoli**	**81.72 312**	P	**P**	**03 31 00.7**	**+0.3**
ALN	**Alexandroupoli**	**81.72 312**	P	**P**	**03 31 00.7**	**+0.3**
ALN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
RDO	**Rodhopi**	**81.92 312**	P	**P**	**03 31 02.0**	**+0.6**
RDO			IAmb	IAmb	03 31 03.4	
	comp=Z,9.7nm,1.1s					
HERR	**Herculane**	**81.95 317**	⇓P	**P**	**03 31 01.3**	**-0.2**
MORC	**Moravsky Berou**	**82.02 323**	*e*P	**P**	**03 31 02.2**	**+0.3**
MORC	**Moravsky Berou**	**82.02 323**	⇓P	**P**	**03 31 02.4**	**+0.5**
MORC	**Moravsky Berou**	**82.02 323**	⇓P	**P**	**03 31 02.4**	**+0.5**
VYHS	**Vyhne**	**82.05 321**	*e*P	**P**	**03 31 03.2**	**+1.2**
VYHS			pmax	pmax		
	comp=Z,8.0nm,1.1s					
VYHS	**Vyhne**	**82.05 321**	*e*P	**P**	**03 31 03.2**	**+1.2**
KSP	**Ksiaz**	**82.06 324**	P	**P**	**03 31 01.5**	**-0.5**
	comp=Z,5.8nm,1.4s					
DPC	**Dobruska-Polom**	**82.33 324**	*e*P	**P**	**03 31 04.7**	**+1.2**
DPC	**Dobruska-Polom**	**82.33 324**	*e*P	**P**	**03 31 04.7**	**+1.2**
MDVR	**Moldovita**	**82.42 317**	⇑P	**P**	**03 31 04.1**	**0.0**
JAVC	**Velka Javorina**	**82.48 322**	*e*P	**P**	**03 31 05.1**	**+0.8**
ICESG	**Greenland Ices**	**82.61 356**	*i* P	**P**	**03 31 04.8**	**-0.2**
SRO	**Srobarova**	**82.72 321**	*e*P	**P**	**03 31 07.9**	**+2.4**
SRO	**Srobarova**	**82.72 321**	*e*P	**P**	**03 31 07.9**	**+2.4**
VRAC	**Vranov**	**82.80 323**	*e*P	**P**	**03 31 06.2**	**+0.3**
VRAC	**Vranov**	**82.80 323**	⇑P	**P**	**03 31 07.1**	**+1.2**
VRAC	**Vranov**	**82.80 323**	⇑P	**P**	**03 31 07.1**	**+1.2**
SMOL	**Smolenice**	**82.81 322**	*e*P	**P**	**03 31 07.6**	**+1.7**
SMOL			pmax	pmax		
	comp=Z,9.0nm,1.3s					
MODS	**Modra-Piesok**	**82.97 322**	*e*P	**P**	**03 31 09.1**	**+2.3**
MODS	**Modra-Piesok**	**82.97 322**	*e*P	**P**	**03 31 09.1**	**+2.3**
KRUC	**Moravsky**	**83.05 323**	*e*P	**P**	**03 31 08.0**	**+0.8**
MORH	**Mrgy, Hungar**	**83.44 319**	⇑P	**P**	**03 31 09.6**	**+0.4**
MORH	**Mrgy, Hungar**	**83.44 319**	P	**P**	**03 31 08.7**	**-0.5**
	comp=Z,8.5nm,1.2s					
CLL	**Collm**	**83.45 326**	P	**P**	**03 31 09.4**	**+0.2**
CLL			IAmb	IAmb	03 31 10.1	
	comp=Z,10nm,0.9s					
CLL	**Collm**	**83.45 326**	P	**P**	**03 31 09.4**	**+0.2**
CLL			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CLL	**Collm**	**83.45 326**	P	**P**	**03 31 09.2**	**0.0**
	comp=Z,17nm,2.4s					
CLL	**Collm**	**83.45 326**	*i* P	**P**	**03 31 09.3**	**+0.2**
	comp=Z,15nm,1.0s					
CLL			*i* x	x	03 31 19.2	
CLL			AMS	AMS	04 15 00.0	
	comp=N,300nm,21.9s					
CLL			AMS	AMS	04 15 00.0	
	comp=E,500nm,18.6s					
CLL			AMS	AMS	04 15 00.0	
	comp=Z,900nm,19.8s					
MPLH	**Magyarpolny**	**83.52 321**	P	**P**	**03 31 10.5**	**+0.9**
ZVC	**Zvikov**	**83.98 324**	*e*P	**P**	**03 31 12.5**	**+0.5**
CONA	**Conrad Observa**	**84.00 322**	*i* P	**P**	**03 31 12.0**	**-0.2**
	comp=Z,1.8nm,0.6s					
LIT	**Litokhoron**	**84.45 313**	P	**P**	**03 31 13.9**	**-0.6**
LIT			IAmb	IAmb	03 31 15.4	
	comp=Z,9.1nm,0.9s					
LIT	**Litokhoron**	**84.45 313**	P	**P**	**03 31 14.0**	**-0.6**
LIT			pmax	pmax		
	comp=Z,9.0nm,0.9s					
KHC	**Kasperske Hory**	**84.49 324**	*e*P	**P**	**03 31 12.2**	**-2.4**
KHC	**Kasperske Hory**	**84.49 324**	⇓*e*P	**P**	**03 31 15.0**	**+0.4**
KHC			pmax	pmax		
	comp=Z,15nm,1.7s					
KHC	**Kasperske Hory**	**84.49 324**	P	**P**	**03 31 14.6**	**0.0**
	comp=Z,6.0nm,2.5s					
GEC2	**GERESS Array S**	**84.60 324**	P	**P**	**03 31 15.2**	**-0.1**
GERES	**GERESS Array B**	**84.60 324**	P	**P**	**03 31 14.7**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=57,slow=4.9,SNR=10					
	comp=Z,2.7nm,0.9s					
FNA	**Florina**	**84.79 314**	P	**P**	**03 31 16.2**	**-0.1**
FNA	**Florina**	**84.79 314**	P	**P**	**03 31 16.2**	**-0.1**
FNA			pmax	pmax		
	comp=Z,4.0nm,0.8s					
MOA	**Molln**	**84.91 323**	*i* P	**P**	**03 31 16.8**	**+0.1**
	comp=Z,1.7nm,0.6s					
PUK	**Puka**	**85.03 315**	P	**P**	**03 31 17.1**	**-0.4**
PUK			IAmb	IAmb	03 31 24.9	
	comp=Z,17nm,1.6s					
PERS	**Pernice**	**85.17 321**	*i* P	**P**	**03 31 18.3**	**+0.2**
SOKA	**Soboth**	**85.20 321**	*e*P	**P**	**03 31 18.6**	**+0.4**
	comp=Z,2.5nm,0.8s					
PDG	**Podgorica**	**85.21 316**	P	**P**	**03 31 18.2**	**-0.1**
PDG	**Podgorica**	**85.21 316**	⇑P	**P**	**03 31 18.7**	**+0.5**
TIR	**Tirane**	**85.44 315**	P	**P**	**03 31 19.3**	**-0.2**
TIR	**Tirane**	**85.44 315**	⇓P	**P**	**03 31 21.2**	**+1.8**
TIR	**Tirane**	**85.44 315**	⇓P	**P**	**03 31 21.2**	**+1.8**
OBKA	**Obir**	**85.56 321**	*e*P	**P**	**03 31 20.2**	**+0.1**
	comp=Z,0.3nm,0.2s					
FCC	**Fort Churchill**	**85.78 21**	P	**P**	**03 31 21.3**	**+0.5**
FCC			IAmb	IAmb	03 31 45.5	
	comp=Z,11nm,1.4s					
FCC	**Fort Churchill**	**85.78 21**	P	**P**	**03 31 21.3**	**+0.5**
FCC			pmax	pmax		
	comp=Z,11nm,1.4s					
VISS	**Visnje**	**85.83 321**	*i* P	**P**	**03 31 21.5**	**+0.2**
KBA	**Koelnbreinsper**	**85.87 322**	*e*P	**P**	**03 31 20.9**	**-0.9**
	comp=Z,2.0nm,0.7s					
GBRS	**Gornja Briga**	**86.01 320**	*i* P	**P**	**03 31 22.8**	**+0.5**
LESA	**Schwarzleotal**	**86.02 323**	*e*P	**P**	**03 31 22.2**	**-0.2**
	comp=Z,5.3nm,0.7s					
ITM	**Ithomi**	**86.40 311**	P	**P**	**03 31 24.7**	**+0.3**
ABTA	**Abfaltersbach**	**86.53 322**	*e*P	**P**	**03 31 24.1**	**-0.8**
	comp=Z,2.9nm,0.5s					
WTTA	**Wattenberg**	**86.67 323**	*i* P	**P**	**03 31 25.7**	**0.0**
	comp=Z,0.7nm,0.4s					
MOTA	**Moosalm**	**86.90 323**	*e*P	**P**	**03 31 26.0**	**-0.7**
	comp=Z,2.4nm,0.6s					
FRB	**Frobisher Bay**	**87.07 8**	P	**P**	**03 31 26.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=331,slow=6.8,SNR=3.9					
	comp=Z,2.9nm,0.7s					
FETA	**Feichten**	**87.30 323**	*i* P	**P**	**03 31 28.2**	**-0.5**
	comp=Z,0.4nm,0.5s					
CTI	**Castel Tesino**	**87.43 322**	P	**P**	**03 31 29.8**	**+0.5**
CTI			IAmb	IAmb	03 31 31.4	
	comp=Z,5.5nm,0.9s					
CTI	**Castel Tesino**	**87.43 322**	P	**P**	**03 31 29.8**	**+0.5**
CTI			pmax	pmax		
	comp=Z,6.0nm,0.9s					
EKA	**Eskdalemuir Ar**	**87.65 335**	P	**P**	**03 31 27.4**	**-2.6**
	comp=Z,1.3nm,0.6s,baz=32,slow=5.1,SNR=2.4					
	comp=Z,1.3nm,0.6s					
FUORN	**Ofenpass-Fuorn**	**87.81 323**	P	**P**	**03 31 31.4**	**+0.1**
FUORN			IAmb	IAmb	03 31 47.5	
	comp=Z,6.0nm,1.0s					
NVAR	**Mina Array Bea**	**87.81 47**	P	**P**	**03 31 33.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=303,slow=4.5,SNR=2.4					
	comp=Z,0.2nm,0.6s					
TUE	**Stuetta**	**88.38 324**	P	**P**	**03 31 34.1**	**+0.2**
FDMO	**Fiordimonte**	**88.51 319**	P	**P**	**03 31 35.0**	**+0.5**
NRCA	**Norcia**	**88.62 319**	P	**P**	**03 31 36.2**	**+1.2**
NRCA			IAmb	IAmb	03 31 38.4	
	comp=Z,8.6nm,1.1s					
CAMP	**Campotosto**	**88.64 319**	P	**P**	**03 31 36.0**	**+0.9**
CEL	**Celeste**	**89.71 314**	P	**P**	**03 31 40.0**	**-0.2**
PDAR	**Pinedale Array**	**90.45 40**	P	**P**	**03 31 44.6**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=315,slow=7.3,SNR=2.0					
	comp=Z,0.1nm,0.4s					
ULM	**Lac du Bonnet**	**91.78 28**	P	**P**	**03 31 49.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=342,slow=5.3,SNR=3.2					
	comp=Z,2.4nm,0.9s					
TORD	**Torodi Ar. Bea**	**115.36 302**	PKP	**PKiKP**	**03 37 23.7**	**-0.5**
	comp=Z,68nm,0.3s,baz=111,slow=1.0,SNR=3.4					
QSPA	**South Pole Qui**	**118.07 180**	PKP	**PKPdf**	**03 37 27.8**	**0.0**
	comp=Z,1.5nm,1.0s,baz=352,slow=3.3,SNR=2.4					
DBIC	**Dimbokro**	**124.45 302**	PKP	**PKiKP**	**03 37 41.8**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=53,slow=4.3,SNR=4.0					

*JMA **20** 03:33:39.4±0.4,24°N±2°×12°7E±°,h107km,MV3.6/25, FAR S OFF OKINAWAJIMA*
ISC 20 03:33:35.8±1.8,**23°7N**±0°1×**127°67E**±0°06,**h35**km,**n28,**
σ1♀**78**/37,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**2.32**	**298**	*e*P	**Pn**	**03 34 13.3**	**+1.8**
JOGS				*e*S	**Sn**	**03 34 37.6**	**-1.2**
JMJ2	**Miyako jima3**	**2.38**	**297**	*e*P	**Pn**	**03 34 14.1**	**+1.8**
JMJ2				*e*S	**Sn**	**03 34 39.3**	**-1.0**
JJT3	**Tamagusuku3**	**2.44**	**2**	*e*P	**Pn**	**03 34 14.8**	**+1.6**
JJT3				*e*S	**Sn**	**03 34 41.0**	**-0.9**
JIKM	**Ikemajima**	**2.53**	**300**	*e*S	**Sn**	**03 34 42.6**	**-1.3**
JIRB	**Irabujima**	**2.54**	**297**	*e*P	**Pn**	**03 34 16.0**	**+1.5**
JIRB				*e*S	**Sn**	**03 34 42.1**	**-2.2**
JKE	**Kume jima 2**	**2.74**	**343**	*e*P	**Pn**	**03 34 18.5**	**+1.2**
JNTH	**Nagotoyohara**	**2.83**	**6**	*e*P	**Pn**	**03 34 19.5**	**+1.0**
JTJ	**Tarama**	**2.87**	**290**	*e*P	**Pn**	**03 34 20.6**	**+1.6**
JTJ				*e*S	**Sn**	**03 34 50.4**	**-2.0**
JAGN	**Aguni-jima**	**2.91**	**352**	*e*P	**Pn**	**03 34 21.1**	**+1.5**
JOW	**Kunigami**	**3.17**	**10**	*e*P	**Pn**	**03 34 24.8**	**+1.5**
JISG	**Ishigakijimahi**	**3.19**	**287**	*e*P	**Pn**	**03 34 24.8**	**+1.3**
JISG				*e*S	**Sn**	**03 34 58.0**	**-2.3**
JIJ	**Ishigaki jima**	**3.29**	**282**	*e*P	**Pn**	**03 34 26.4**	**+1.6**
JIH	**Iheya**	**3.34**	**5**	*e*P	**Pn**	**03 34 27.4**	**+1.9**
JKRS	**Kuro-shima**	**3.39**	**280**	*e*P	**Pn**	**03 34 27.8**	**+1.6**
JKRS				*e*S	**Sn**	**03 35 02.8**	**-2.4**
JYRO	**Yoronjima**	**3.39**	**12**	*e*P	**Pn**	**03 34 27.6**	**+1.3**
JOKE	**Okinoerabujima**	**3.74**	**12**	*e*P	**Pn**	**03 34 32.5**	**+1.5**
JMZ	**Minamidaito 2**	**3.86**	**56**	P	**Pn**	**03 34 34.2**	**+1.5**
JMZ				*e*S	**Sn**	**03 35 14.7**	**-2.2**
JKDJ	**Kitadaitoujima**	**3.99**	**55**	*e*P	**Pn**	**03 34 35.9**	**+1.5**
JTK	**Tokunoshima**	**4.24**	**16**	*e*P	**Pn**	**03 34 39.5**	**+1.7**
JTK				*e*S	**Sn**	**03 35 23.1**	**-3.0**
YOJ	**Yonaguni jima**	**4.33**	**281**	P	**Pn**	**03 34 40.8**	**+1.7**
JYNG	**Yonagunijimaku**	**4.38**	**281**	*e*P	**Pn**	**03 34 41.0**	**+1.2**
JAMN	**Amaminishikomi**	**4.73**	**16**	*e*P	**Pn**	**03 34 46.8**	**+2.1**
JAM	**Amami Oshima**	**5.01**	**20**	P	**Pn**	**03 34 50.8**	**+2.3**
NACB	**Ninganchiao**	**5.58**	**276**	P	**Pn**	**03 34 56.8**	**+0.5**
YHNB	**Yeheng**	**5.83**	**281**	P	**Pn**	**03 35 02.3**	**+2.5**
YULB	**Yu-li**	**5.85**	**268**	P	**Pn**	**03 35 00.6**	**+0.5**
SSLB	**Suanglung**	**6.15**	**272**	P	**Pn**	**03 35 05.5**	**+1.3**
TPUB	**Ta-pu**	**6.47**	**268**	P	**Pn**	**03 35 10.7**	**+2.1**

*MOS **20** 03:40:12.0±1.0,38°44N×97°30E,h10km,mb5.0/69, MS4.9/12,Error ellipse: s-maj=5.8km s-min=3.5km az=132.3*
*BJI **20** 03:40:12.3,38°49N×97°29E,h7km,mB4.8/31,mb4.8/62, ML5.0/18,Ms4.8/72,Ms7 4.8/69*
*IDC **20** 03:40:12.2±0.4,38°48N×97°40E,h0km,mb4.5/30, mbtmp4.5/36,ML4.1/6,MS4.3/78,Error ellipse: s-maj=13.1km s-min=8.0km az=55.0*
*NEIC **20** 03:40:14.0±1.4,38°47N±0°07×97°21E±0°10,h10km±4km, mb5.0/170,Error ellipse: s-maj=11.7km s-min=10.3km az=55.0*
*GCMT **20** 03:40:14.0±0.2,38°54N±0°01×97°37E±0°01,h17km, MW5.0/118,Moment Tensor Solution. s51,c66; s118,c199; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.64±.11; $M_{\theta\theta}$-0.13±.10; $M_{\phi\phi}$0.77±.09; $M_{r\theta}$-0.03±.23; $M_{\theta\phi}$4.08±.09; $M_{\phi r}$0.29±.23; Best double couple: $M_0$4.11600×10^{16} NP1:ϕ_s87.00000°,δ86.00000°, λ-1.00000°. NP2:ϕ_s177.00000°,δ89.00000°, λ-176.00000°. Principal axes: T 4.4320, Plg2.0000°, Azm312.0000°; N -0.6300, Plg85.0000°, Azm193.0000°; P -3.8010, Plg4.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 03:40:15.5±0.7,**38°62N**±0°04×**97°25E**±0°03,**h14**km±4km, **n726,**σ1♀**38**/616,**mb4.9**/190,**MS4.4**/95,**42C-36D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.15**	**68**	Pg	**Pn**	**03 40 51.4**	**+0.5**
GTA				Sg	**Sb**	**03 41 19.0**	**-1.7**
GTA				smax	smax		
	comp=N,6μm,1.0s						
GTA				smax	smax		
	comp=E,5μm,0.8s						
GOMU	**GeErMu**	**3.10**	**220**	Pn	Pn	03 41 03.6	-0.6
GOMU				Pg	Pb	03 41 09.3	-1.2
GOMU				Sn	**Sn**	**03 41 43.1**	**+1.9**
GOMU				Sg	Sb	03 41 49.8	+1.5
GOMU				smax	smax		
	comp=N,10μm,0.6s						
GOMU				smax	smax		
	comp=E,5μm,0.6s						
GOMU				LR	LR		
	comp=E,10μm,9.1s						
GOMU				LR	LR		
	comp=Z,16μm,10.0s						
LZH	**Lanzhou**	**5.83**	**114**	Pn	**Pn**	**03 41 40.3**	**-1.2**
LZH				Pg	**Pb**	**03 41 57.0**	**+0.1**
LZH				Sn	**Sn**	**03 42 48.8**	**+0.6**
LZH				Sg	**Sb**	**03 43 12.0**	**+5.4**
LZH				smax	smax		
	comp=N,2μm,1.3s						
LZH				smax	smax		
	comp=E,2μm,1.4s						
LZH				LR	LR		
	comp=E,12μm,8.2s						
LZH				LR	LR		
	comp=Z,10μm,7.6s						
WMQ	**Urumqi**	**8.88**	**309**	P	**Pn**	**03 42 25.0**	**+1.7**
WMQ				S	**Sn**	**03 44 06.6**	**+3.5**
WMQ				smax	smax		
	comp=N,440nm,1.1s						
WMQ				smax	smax		
	comp=E,460nm,1.1s						
WMQ				LR	LR		
	comp=N,6μm,12.1s						
WMQ				LR	LR		
	comp=Z,4μm,17.5s						
CD2	**Chengdu**	**9.36**	**143**	P	Pn	03 42 29.5	-0.5
CD2				S	**Sn**	**03 44 17.5**	**+2.4**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
CD2				LR	LR		
	comp=N,6μm,6.7s						
CD2				LR	LR		
	comp=Z,8μm,11.0s						
BTO	**Baotou**	**10.05**	**75**	*e*P	**Pn**	**03 42 36.8**	**-2.6**
BTO				pP		03 42 40.6	
BTO				sP		03 42 42.8	
BTO				PP	**PnPn**	**03 42 44.3**	**-2.6**
BTO				S	**Sn**	**03 44 28.3**	**-3.7**
BTO				SS	**SnSn**	**03 44 45.3**	**+1.8**
BTO				pmax	pmax		
	comp=Z,21nm,0.5s						
BTO				pmax	pmax		
	comp=Z,130nm,3.5s						
BTO				LR	LR		
	comp=E,6μm,6.1s						
BTO				LR	LR		
	comp=Z,6μm,9.3s						
LSA	**Lhasa**	**10.23**	**211**	P	**Pn**	**03 42 45.1**	**+2.9**
LSA				pmax	pmax		
	comp=Z,22nm,0.7s						
LSA				LR	LR		
	comp=N,2μm,16.2s						
LSA				LR	LR		
	comp=Z,3μm,13.7s						
XAN	**Xi'an**	**10.46**	**112**	⇓P	Pn	03 42 40.8	-4.2
XAN				pP		03 42 49.3	
XAN				S	**Sn**	**03 44 37.4**	**-4.6**
XAN				pmax	pmax		
	comp=Z,27nm,0.9s						
XAN				pmax	pmax		
	comp=Z,130nm,4.1s						
XAN				LR	LR		
	comp=N,6μm,9.3s						
XAN				LR	LR		
	comp=Z,12μm,11.7s						
HHC	**Hu-ho-hao-te**	**11.24**	**74**	*e*P	**Pn**	**03 42 59.5**	**+3.7**
HHC				pP		03 43 02.6	
HHC				sP		03 43 05.0	
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,88nm,4.0s						
HHC				LR	LR		
	comp=E,3μm,15.7s						
HHC				LR	LR		
	comp=Z,3μm,12.8s						
SONM	**Songino Array**	**11.37**	**33**	Pn	**Pn**	**03 42 57.7**	**+0.3**
	2.9nm,0.3s,baz=218,slow=15,SNR=128						
SONM				Lg	Lg	03 46 08.9	
	1.3nm,0.3s,baz=231,slow=28,SNR=4.0						
SONM				LR	LR	03 47 46.7	
	comp=Z,3μm,21.0s,baz=217,slow=40						
	35nm,0.8s						
ULN	**Ulaanbaatar**	**11.67**	**34**	Pn	**Pn**	**03 43 02.6**	**+0.9**
ULN	**Ulaanbaatar**	**11.67**	**34**	*c i*P	**Pn**	**03 43 02.5**	**+0.9**
TAWA	**Tawang**	**11.88**	**204**	*e*P	Pn	03 43 04.2	-0.5
TAWA				*ex*	x	03 45 06.9	
TAWA				*e*S	Sn	03 45 11.1	-6.1
TIY	**Taiyuan**	**11.99**	**90**	*e*P	**Pn**	**03 43 04.3**	**-1.6**
TIY				S	Sn	03 45 28.0	+8.6
TIY				pmax	pmax		
	comp=Z,26nm,0.7s						
TIY				LR	LR		
	comp=E,2μm,10.7s						
TIY				LR	LR		
	comp=Z,5μm,11.2s						
ZAK	**Zakamensk**	**12.52**	**18**	*e*P	**Pn**	**03 43 14.5**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZSN	**Zaisan**	**12.64**	**318**	*e*P	**Pn**	**03 43 15.0**	**+0.3**
ZSN				*e*S	**Sn**	**03 45 38.3**	**+3.2**
ZSN	**Zaisan**	**12.64**	**318**	*e*P	**Pn**	**03 43 15.0**	**+0.3**
ZSN				*e*S	**Sn**	**03 45 38.3**	**+3.2**
ZSN				*e*Lg	Lg	03 46 59.2	
PZH	**PanZhiHua**	**12.65**	**161**	P	Pn	03 43 14.0	-1.1
PZH				PP	**P**	**03 43 27.3**	**+0.8**
PZH				S	Sn	03 45 33.3	-2.6
PZH				pmax	pmax		
	comp=Z,50nm,1.0s						
PZH				pmax	pmax		
	comp=Z,360nm,3.5s						
PZH				LR	LR		
	comp=Z,3μm,12.5s						
PZH				LR	LR		
	comp=Z,3μm,9.6s						
LYN	**LuoYang**	**12.88**	**104**	P	Pn	03 43 14.9	-3.2
LYN				pP		03 43 17.5	
LYN				pmax	pmax		
	comp=Z,49nm,0.9s						
LYN				pmax	pmax		
	comp=Z,380nm,4.5s						
LYN				LR	LR		
	comp=Z,9μm,11.3s						
LYN				LR	LR		
	comp=Z,10μm,12.0s						
ENH	**Enshi**	**13.07**	**126**	Pn	Pn	03 43 16.3	-4.5
KOHI	**KOHIMA**	**13.13**	**193**	*e*P	Pn	03 43 18.7	-3.0
KOHI				*e*S	Sn	03 45 37.0	-11
MOY	**Mondy**	**13.31**	**10**	*e*P	Pn	03 43 26.6	+2.7
MK31	**Makanchi Array**	**13.69**	**311**		**Pn**	**03 43 27.4**	**-1.6**
MK31	**Makanchi Array**	**13.69**	**311**	*de*P	**Pn**	**03 43 27.7**	**-1.3**
MKAR	**Makanchi Array**	**13.69**	**311**		**Pn**	**03 43 27.6**	**-1.5**
MKAR	**Makanchi Array**	**13.69**	**311**	Pn	**Pn**	**03 43 26.3**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=115,slow=13,SNR=42						
MKAR				Sn	**Sn**	**03 45 54.1**	**-6.7**
	comp=Z,0.5nm,0.3s,baz=118,slow=23,SNR=5.6						
MKAR				Lg	Lg	03 47 25.8	
	baz=107,slow=20						
MKAR				LR	LR	03 49 24.9	
	comp=Z,3μm,19.4s,baz=125,slow=40						
	comp=Z,4.9nm,0.7s						
MKAR	**Makanchi Array**	**13.69**	**311**	P	**Pn**	**03 43 27.6**	**-1.5**
SHL	**Shillong**	**13.78**	**201**	Pn	Pn	03 43 27.0	-3.5
SHL	**Shillong**	**13.78**	**201**	*e*P	Pn	03 43 27.4	-3.1
SHL				IAmb	IAmb	03 43 29.3	
	comp=Z,49nm,1.4s						
SHL				*ex*	x	03

TARG Taragay, Kyrgy 15.19 288 Pn 03 43 46.1 -3.7
TARG Taragay, Kyrgy 15.19 288 P **Pn 03 43 46.1 -3.7**
TARG pmax pmax
comp=Z,13nm,0.8s
AZL Aizawl 15.33 196 *eP* Pn 03 43 46.6 -4.9
KDJ Kajisay 15.69 289 Pn **Pn 03 43 53.6 -2.6**
KDJ Kajisay 15.69 289 P **Pn 03 43 53.6 -2.6**
KDJ pmax pmax
comp=Z,46nm,1.0s
MDOK Medeo 15.93 293 *eP* **Pn 03 43 58.7 -0.5**
MDOK Medeo 15.93 293 *eP* **Pn 03 43 58.7 -0.5**
HNLY HANLEY 15.95 254 *eP* **Pn 03 43 59.4 -0.5**
HNLY IAmb IAmb 03 44 07.5
comp=Z,32nm,1.3s
TIA Tai'an 15.97 92 P **P 03 44 02.8 -0.3**
TIA pmax pmax
comp=Z,52nm,1.6s
TIA pmax pmax
comp=Z,190nm,3.9s
TIA LR LR
comp=Z,3μm,8.6s
TIA LR LR
comp=Z,4μm,11.8s
TNSS Tian-Shan 15.98 292 *eP* **Pn 03 43 59.5 -0.6**
TNSS Tian-Shan 15.98 292 *eP* **Pn 03 43 59.5 -0.6**
WHN Wuhan 16.20 115 P **Pn 03 44 04.0 +1.4**
WHN sP **pP 03 44 09.5 -1.6**
WHN PP **sP 03 44 16.3 +2.8**
WHN S **Sn 03 47 07.3 +5.2**
WHN pmax pmax
comp=Z,380nm,1.7s
WHN LR LR
comp=Z,8μm,8.3s
WHN LR LR
comp=Z,10μm,13.2s
ULHL Ulahol 16.40 289 P **P 03 44 07.8 -0.2**
SNR=5.2
SAIH SAIHA 16.49 194 *eP* Pn 03 44 03.4 -3.0
KSH Kashi 16.55 280 P **P 03 44 09.9 +0.2**
KSH pP pP 03 44 14.0 -1.0
KSH S **Sn 03 47 14.1 +3.4**
KSH pmax pmax
comp=Z,16nm,0.8s
KSH LR LR
comp=Z,3μm,14.4s
KSH LR LR
comp=Z,3μm,17.2s
BRDH Bariadhala 16.60 198 Pn Pn 03 44 03.6 -4.1
comp=Z,29nm,0.3s,baz=48,slow=11,SNR=22
BRDH LR LR 03 51 28.2
comp=Z,2μm,18.8s,baz=14,slow=41
JOSI Joshimath 16.63 246 *ex* x 03 47 02.2
BOOM Boomskoye usch 16.65 290 P **Pn 03 44 06.1 -2.3**
BOOM pmax pmax
comp=Z,22nm,0.9s
CNSH ChangSha 16.70 124 P Pn 03 44 04.8 -4.2
CNSH S **Sn 03 47 09.1 -5.1**
CNSH LR LR
comp=Z,2μm,6.9s
CNSH LR LR
comp=Z,1μm,10.4s
TKM2 Tokmak 2 16.95 292 P **Pn 03 44 11.1 -1.2**
SNR=39
KLP Kalpa 17.07 251 *eP* **Pn 03 44 14.4 +0.4**
KLP IAmb IAmb 03 44 22.8
comp=Z,67nm,0.9s
KBK Karagaybulak 17.39 290 P **Pn 03 44 16.5 -1.3**
SNR=34
ZAA0 Zalesovo Array 17.54 335 Pn 03 44 19.7 +0.4
ZALV Zalesovo Beam 17.54 335 Pn 03 44 19.7 +0.4
ZALV Zalesovo Beam 17.54 335 P **Pn 03 44 18.7 -0.6**
comp=Z,0.6nm,0.3s,baz=154,slow=10,SNR=33
ZALV S **S 03 47 40.1 -1.9**
comp=Z,0.3nm,0.3s,baz=303,slow=38,SNR=1.3
ZALV Lg Lg 03 49 22.0
comp=Z,0.1nm,0.3s,baz=151,slow=22,SNR=6.7
ZALV LR LR 03 50 43.4
comp=Z,540nm,21.9s,baz=146,slow=36
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 17.54 335 P **Pn 03 44 19.7 +0.4**
CIT Chita 17.58 35 *eP* **Pn 03 44 19.8 -0.1**
CIT pmax pmax
comp=Z,82nm,1.4s
BOK Bokaro 17.66 217 *eP* **Pn 03 44 20.3 -0.8**
SGDS Sogindy 17.72 293 *eP* **Pn 03 44 21.6 -0.1**
SGDS Sogindy 17.72 293 *eP* **Pn 03 44 21.7 -0.1**
AAK Ala-Archa 17.72 290 Pn **Pn 03 44 19.9 -2.0**
AAK Ala-Archa 17.72 290 P **Pn 03 44 21.0 -0.9**
comp=Z,0.3nm,0.3s,baz=102,slow=9.1,SNR=18
AAK Lg Lg 03 49 27.6
comp=Z,0.1nm,0.3s,baz=24,slow=22,SNR=0.8
AAK LR LR 03 51 36.1
comp=Z,2μm,19.6s,baz=90,slow=38
comp=Z,7.2nm,0.8s
AAK Ala-Archa 17.72 290 P **Pn 03 44 20.5 -1.3**
SNR=13
AAK Ala-Archa 17.72 290*d iP* **Pn 03 44 20.8 -1.1**
USP Ospenovka 17.79 292 P **Pn 03 44 21.3 -1.2**
SNR=11
ARLS Aral 17.79 288 P **P 03 44 25.1 +1.6**
ARLS pmax pmax
comp=Z,34nm,0.9s
KURBB Kurchatov Arra 17.88 318 P **Pn 03 44 22.7 -0.8**
comp=Z,0.2nm,0.3s,baz=124,slow=12,SNR=37
KURBB S **S 03 47 47.3 -1.7**
comp=Z,0.8nm,0.7s,baz=308,slow=51,SNR=1.0
KURBB PcP **PcP 03 48 59.9 +0.5**
comp=Z,1.1nm,0.7s,baz=117,slow=1.8,SNR=4.2
KURBB Lg Lg 03 49 39.9
baz=186,slow=17,SNR=4.5
KURBB LR LR 03 51 31.4
comp=Z,2μm,18.1s,baz=120,slow=38
comp=Z,35nm,0.9s
KURK Kurchatov 17.88 319 **Pn 03 44 21.2 -2.4**
KURK IAmb IAmb 03 44 28.8
comp=Z,148nm,1.2s
KURK Kurchatov 17.88 319*c iP* **Pn 03 44 22.3 -1.3**
KURK pmax pmax
comp=Z,87nm,1.0s
SMLA Simla 18.07 252 *eP* **P 03 44 27.5 +1.1**
SMLA IAmb IAmb 03 44 28.9
comp=Z,90nm,1.2s
SLVN Son La 18.15 160 P **Pn 03 44 24.9 -2.2**
DHRM DHARAMSHALA 18.20 256 *eP* **P 03 44 28.6 +0.5**
DHRM IAmb IAmb 03 44 34.8
comp=Z,107nm,1.3s
EKS2 Erkin-Say 18.25 290 P **Pn 03 44 28.2 -0.1**
SNR=6.5
AML Almayashu 18.28 289 P **P 03 44 29.7 +0.7**
SNR=20
BTLS Baital 18.42 298 *eP* **P 03 44 30.0 -0.1**
BTLS *eS* **S 03 47 58.0 -2.0**
BTLS Baital 18.42 298 *eP* **P 03 44 30.0 -0.1**
BTLS *eS* **S 03 47 58.0 -2.0**
BTLS *eLg* Lg 03 50 02.1
BHK Bhakra 18.50 253 *eP* **P 03 44 28.6 -2.5**
THN Thein Dam 18.57 257 *eP* **Pn 03 44 33.1 +1.0**
THN IAmb IAmb 03 44 35.3
comp=Z,65nm,0.8s
ALBI Allahabad 18.61 229 *eP* P 03 44 29.4 -2.9
ALBI IAmb IAmb 03 44 33.4
comp=Z,38nm,0.8s
NJ2 Nanjing 18.78 104 *eP* **Pn 03 44 35.3 +0.6**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,270nm,4.5s
NJ2 LR LR
comp=Z,3μm,12.3s
NJ2 LR LR
comp=Z,5μm,12.3s
ARSB Arslanbob 18.79 286 P **P 03 44 32.6 -1.8**
ARSB Arslanbob 18.79 286 P **P 03 44 32.6 -1.8**
ARSB pmax pmax
comp=Z,27nm,1.0s
DL2 Dalian 19.00 81 P **Pn 03 44 38.9 +1.6**
DL2 pmax pmax
comp=Z,28nm,0.9s
DL2 pmax pmax
comp=Z,290nm,4.7s
DL2 LR LR
comp=Z,3μm,13.1s
DL2 LR LR
comp=Z,2μm,10.6s
HIA Hailar 19.31 49 P **P 03 44 38.1 -1.7**
HIA Hailar 19.31 49⇓*eP* **P 03 44 40.3 +0.4**
HIA pmax pmax
comp=Z,11nm,0.6s
ARK Arkit 19.55 287 P **Pn 03 44 44.3 +0.2**
ARK pmax pmax
comp=Z,47nm,1.5s
DRK Karamyk 19.77 281 P **P 03 44 44.5 -0.9**
DRK Karamyk 19.77 281 P **P 03 44 44.5 -0.9**
DRK pmax pmax
comp=Z,29nm,0.9s
CHTO Chiang Mai 19.79 175 P P 03 44 42.6 -2.7
CHTO Chiang Mai 19.79 175 P P 03 44 42.6 -2.7
CHTO pmax pmax
comp=Z,32nm,1.4s
NIL Nilore 19.99 263 **P 03 44 46.4 -1.1**
NIL IAmb IAmb 03 44 52.5
comp=Z,50nm,0.8s
NIL Nilore 19.99 263 P **P 03 44 46.4 -1.1**
NIL pmax pmax
comp=Z,50nm,0.8s
DZA Taraz 20.07 291 *eP* **P 03 44 48.2 0.0**
DZA Taraz 20.07 291 *eP* **P 03 44 48.3 0.0**
CMAR Chiang Mai Arr 20.14 175 P P 03 44 46.1 -3.0
CMAR Chiang Mai Arr 20.14 175 P P 03 44 47.5 -1.6
comp=Z,1.1nm,0.3s,baz=352,slow=9.6,SNR=24
CMAR S **S 03 48 35.0 +0.1**
comp=Z,1.6nm,0.3s,baz=79,slow=12,SNR=1.4
CMAR LR LR 03 53 04.5
comp=Z,1μm,19.3s,baz=320,slow=39
comp=Z,8.1nm,0.7s
TRKS Terek-Say 20.17 287 P **P 03 44 50.0 +0.5**
TRKS pmax pmax
comp=Z,11nm,0.9s
KUDL Kundal 20.20 245 *eP* **P 03 44 48.6 -1.1**
KUDL IAmb IAmb 03 44 52.8
comp=Z,21nm,0.9s
PHRA Phrae 20.21 172 P P 03 44 47.6 -2.3
SNY Shenyang 20.33 73 ⇑P **P 03 44 50.8 -0.2**
SNY S Sn 03 48 41.4 -0.3
SNY pmax pmax
comp=Z,13nm,0.7s
SNY pmax pmax
comp=Z,86nm,3.9s
SNY LR LR
comp=Z,1μm,12.3s
SNY LR LR
comp=Z,690nm,11.3s
SNY LR LR
comp=Z,1μm,12.6s
BTK Batken 20.48 282 P **P 03 44 51.8 -1.0**
BTK Batken 20.48 282 P **P 03 44 51.8 -1.0**
BTK pmax pmax
comp=Z,61nm,1.7s
JHNI Jhansi 20.53 236 *eP* **P 03 44 53.0 -0.4**
JHNI IAmb IAmb 03 44 58.3
comp=Z,56nm,0.8s
KK31 Karatay Array 20.68 291 P **P 03 44 52.7 -2.2**
KK31 Karatay Array 20.68 291 P **P 03 44 52.7 -2.2**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 20.68 291 P **P 03 44 52.9 -2.0**
KKAR Karatay Array 20.68 291 P **P 03 44 53.1 -1.7**
KKAR IAmb IAmb 03 44 56.3
comp=Z,9.0nm,0.9s
KKAR Karatay Array 20.68 291 P **P 03 44 52.9 -2.0**
KKAR 03 44 53.1
KKAR pmax pmax
comp=Z,9.0nm,0.9s
BRZS Berezniki 20.84 311 *eP* **P 03 44 57.2 +0.7**
BRZS Berezniki 20.84 311 *eP* **P 03 44 57.2 +0.7**
GAR Garm 20.97 280 **P 03 44 57.2 -1.0**
GAR IAmb IAmb 03 45 03.7
comp=Z,57nm,0.9s
SSE Sheshan 20.99 104 P **P 03 44 58.0 -0.2**
SSE S **S 03 48 52.0 +0.4**
SSE pmax pmax
comp=Z,16nm,1.2s
SSE pmax pmax
comp=Z,170nm,4.4s
SSE LR LR
comp=Z,720nm,15.3s
BRLS Borolday 21.17 291 *eP* **P 03 45 01.4 +1.2**
BRLS *eS* Sn 03 48 59.2 -2.8
BRLS Borolday 21.17 291 *eP* **P 03 45 01.4 +1.2**
BRLS *eS* Sn 03 48 59.2 -2.8
BRLS *eLg* Lg 03 51 32.0
CN2 Changchun 21.78 67 *eP* **P 03 45 08.1 +1.4**
CN2 *es*P pP 03 45 14.0 +1.9
CN2 *eS* **S 03 49 03.8 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,700nm,10.0s
HKPS Hong Kong Po S 21.79 134 P **P 03 45 03.6 -3.2**
HKPS IAmb IAmb 03 45 05.5
comp=Z,80nm,0.9s
GUNA GUNA 21.88 236 *eP* **P 03 45 05.9 -2.0**
GUNA IAmb IAmb 03 45 11.4
comp=Z,82nm,0.8s
CHGR Chuyangaron 21.92 279 P **P 03 45 06.3 -2.0**
CHGR IAmb IAmb 03 45 17.0
comp=Z,53nm,0.8s
CHGR Chuyangaron 21.92 279 P **P 03 45 06.3 -2.0**
CHGR pmax pmax
comp=Z,53nm,0.8s
SIMJ Simiganj 22.03 279 P **P 03 45 08.0 -1.6**
BOD Bodaibo 22.11 24 *eP* **P 03 45 09.4 -0.6**
BOD pmax pmax
comp=Z,35nm,1.8s
DZET Dzherino 22.15 279 P **P 03 45 10.1 -0.7**
DZET pmax pmax
comp=Z,32nm,1.3s
QIZ Qiongzhong 22.37 147 P P 03 45 09.3 -3.9
QIZ IAmb IAmb 03 45 12.6
comp=Z,36nm,0.8s
QIZ Qiongzhong 22.37 147 P P 03 45 10.3 -2.9
QIZ S **S 03 49 15.6 -3.1**
QIZ pmax pmax
comp=Z,27nm,0.6s
QIZ LR LR
comp=Z,1μm,11.8s
QIZ LR LR
comp=Z,2μm,14.4s
QIZ LR LR
comp=Z,2μm,14.1s
AJM Ajmer 22.51 244 *eP* **P 03 45 14.2 -0.5**
AJM IAmb IAmb 03 45 21.1
comp=Z,37nm,0.6s
RAGD RAYAGADA 22.71 216 *eP* **P 03 45 16.5 -0.3**
RAGD IAmb IAmb 03 45 21.0
comp=Z,21nm,0.9s
BHPL Bhopal 22.82 234 *eP* P 03 45 15.3 -2.7
BHPL IAmb IAmb 03 45 21.5
comp=Z,184nm,1.4s
KBL Kabul 22.98 269 P **P 03 45 18.1 -1.7**
KBL Kabul 22.98 269 P **P 03 45 18.1 -1.7**
KBL pmax pmax
comp=Z,14nm,0.8s
BNX BinXian 23.36 63 ⇑P **P 03 45 22.8 -0.5**
BNX sP **pP 03 45 26.8 -2.0**
BNX S **S 03 49 38.0 +2.5**
BNX pmax pmax
comp=Z,11nm,1.1s
BNX pmax pmax
comp=Z,81nm,5.0s
BNX LR LR
comp=Z,1μm,10.0s
BNX LR LR
comp=Z,2μm,12.8s
NGP Nagpur 23.42 227 *eP* P 03 45 20.9 -3.2
NGP IAmb IAmb 03 45 26.2
comp=Z,31nm,0.7s
BVAR Borovoye Array 23.44 317 P **P 03 45 25.1 +1.0**
comp=Z,23nm,0.8s,baz=113,slow=9.6,SNR=101
BVAR PcP **PcP 03 49 09.4 -0.4**
comp=Z,1.2nm,0.6s,baz=79,slow=1.9,SNR=2.5
BVAR LR LR 03 54 58.8
comp=Z,1μm,21.9s,baz=120,slow=38
comp=Z,23nm,0.8s
BRVK Borovoye 23.51 317 P **P 03 45 24.7 -0.1**
BRVK IAmb IAmb 03 45 29.8
comp=Z,50nm,1.1s
BRVK Borovoye 23.51 317*c iP* **P 03 45 25.9 +1.1**
BRVK pmax pmax
comp=Z,108nm,2.5s
KS19 Wonju Array Si 24.08 83 P **P 03 45 30.0 -0.3**
KS19 IAmb IAmb 03 45 33.7
comp=Z,29nm,0.6s
KSAR Wonju Array Be 24.11 83 P **P 03 45 29.2 -1.3**
KSAR Wonju Array Be 24.11 83 P **P 03 45 29.2 -1.3**
VIS Vishakhapatnam 24.11 214 *eP* **P 03 45 30.7 0.0**
VIS IAmb IAmb 03 45 33.1
comp=Z,35nm,1.2s
KSRS Korea Array 24.13 83 P **P 03 45 29.4 -1.4**
comp=Z,15nm,0.6s,baz=276,slow=8.0,SNR=33
KSRS LR LR 03 55 41.8
comp=Z,957nm,19.6s,baz=280,slow=39
comp=Z,15nm,0.6s
HEH HeiHe 24.30 52 *eP* **P 03 45 32.0 -0.3**
HEH pmax pmax
comp=Z,10.0nm,1.0s
UBPT Khong Chiam 24.35 160 P P 03 45 28.4 -4.5
MDJ Mudanjiang 24.80 66 P **P 03 45 37.1 +0.2**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ LR LR
comp=Z,860nm,11.7s
MDJ LR LR
comp=Z,400nm,13.2s
AKL Akola 24.96 230 *eP* **P 03 45 37.8 -0.7**
NACB Ninganchiao 25.18 118 P **P 03 45 38.7 -1.7**
ZEA Zeya 25.44 44 *eP* **P 03 45 40.6 -1.9**
ZEA pmax pmax
comp=N,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=N,800nm,8.0s
ZEA MLR MLR
comp=Z,1μm,10.0s
DGPR DIGLIPUR 25.63 190 *eP* **P 03 45 42.9 -1.6**
DGPR IAmb IAmb 03 45 47.9
comp=Z,78nm,1.0s
TWG Pinlang 25.72 121 P **P 03 45 43.9 -1.4**
USA0B Ussuriysk Arra 26.51 67⇓*eP* **P 03 45 52.5 +0.2**
USRK Ussuriysk Ar. 26.51 67 P **P 03 45 50.0 -2.3**
comp=Z,2.9nm,0.8s,baz=270,slow=11,SNR=5.3
USRK LR LR 03 57 09.7
comp=Z,691nm,19.0s,baz=263,slow=38
comp=Z,2.9nm,0.8s
USRK Ussuriysk Ar. 26.51 67 P **P 03 45 50.0 -2.3**
KLR Kul'dur 26.80 55 LR LR 03 58 12.8
comp=Z,238nm,21.7s,baz=254,slow=40
KLR Kul'dur 26.80 55⇑*iP* **P 03 45 54.8 -0.1**
KLR pmax pmax
comp=Z,12nm,1.5s
JNU Nakatsue 27.70 91 LR LR 03 57 45.4
comp=Z,1μm,18.2s,baz=294,slow=38
JOW Kunigami 28.49 105 LR LR 03 58 10.9
comp=Z,1μm,19.3s,baz=308,slow=38
ABKAR Akbulak array 28.62 304 P **P 03 46 10.0 -1.2**
AKTO Aktyubinsk 30.02 306 P **P 03 46 24.9 +1.3**
comp=Z,2.7nm,0.8s,baz=86,slow=7.6,SNR=10
AKTO LR LR 03 59 26.0
comp=Z,2μm,18.3s,baz=102,slow=38
comp=Z,2.7nm,0.8s
SVE Sverdlovsk 30.13 319 *eP* **P 03 46 26.1 +1.6**
SVE pmax pmax
comp=Z,20nm,1.1s
YAK Yakutsk 30.70 30⇑*eP* **P 03 46 29.5 +0.1**
YAK pmax pmax
comp=Z,12nm,0.6s
ARTI Arti 31.16 318 P **P 03 46 33.3 -0.2**
ARTI IAmb IAmb 03 46 35.5
comp=Z,27nm,1.0s
ARTI Arti 31.16 318 P **P 03 46 34.8 +1.3**
comp=Z,21nm,0.9s,baz=119,slow=4.7,SNR=28
ARTI LR LR 03 58 34.6
comp=Z,261nm,21.5s,baz=102,slow=35
comp=Z,21nm,0.9s
ARTI Arti 31.16 318*c iP* **P 03 46 34.3 +0.8**
ARTI S **S 03 51 43.5 +4.8**
ARTI SS **SnSn 03 53 24.5 +4.1**
ARTI pmax pmax
comp=Z,30nm,1.0s
NRIK Noril'sk 31.23 353 P **P 03 46 34.3 +0.3**
NRIK Noril'sk 31.23 353 P **P 03 46 34.9 +0.9**
comp=Z,6.6nm,0.8s,baz=141,slow=6.5,SNR=13
NRIK LR LR 03 59 45.0
comp=Z,307nm,20.6s,baz=168,slow=37
comp=Z,6.6nm,0.8s
NRIK Noril'sk 31.23 353*c iP* **P 03 46 35.1 +1.1**
NRIK pmax pmax
comp=Z,26nm,1.4s
MJAR Matsushiro Arr 32.34 81 LR LR 04 00 02.6
comp=Z,334nm,19.0s,baz=294,slow=37
KOD Kodaikanal 33.36 217 *eP* P 03 46 53.2 -0.3
ASAJ Asahikawa 34.13 66 P **P 03 46 59.2 -0.4**
comp=Z,14nm,0.6s,baz=274,slow=7.6,SNR=4.4
ASAJ LR LR 04 01 43.0
comp=Z,304nm,19.0s,baz=179,slow=38
comp=Z,14nm,0.6s
ASAJ Asahikawa 34.13 66 P **P 03 46 59.3 -0.4**
ASAJ pmax pmax
comp=Z,15nm,0.7s
JKA Kamikawa-asahi 34.13 66 P **P 03 46 59.3 -0.4**
JKA IAmb IAmb 03 47 02.2
comp=Z,15nm,0.7s
PALK Pallekele 34.60 210 LR LR 04 02 11.6
comp=Z,387nm,20.4s,baz=38,slow=38
JHJ Hachijo jima 2 34.67 86 LR LR 04 02 08.2
comp=Z,824nm,18.6s,baz=16,slow=38
PSI Prapat 35.68 177 LR LR 04 02 34.5
comp=Z,386nm,19.8s,baz=339,slow=38
WSAR Wadi Sarin 36.21 256 LR LR 04 03 38.9
comp=Z,548nm,20.2s,baz=84,slow=39
KIRV Kirov 36.40 319 P **P 03 47 19.8 +0.8**
comp=Z,9.0nm,0.6s,baz=54,slow=1.8,SNR=5.4
comp=Z,9.0nm,0.6s
KIRV Kirov 36.40 319⇑*eP* **P 03 47 18.6 -0.4**
BELG Belogornoye 36.67 309 LR LR 04 03 24.5
comp=Z,1μm,20.3s,baz=129,slow=38
BELG Belogornoye 36.67 309*d iP* **P 03 47 22.2 +0.8**
BELG pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 36.79 16⇑*iP* **P 03 47 21.9 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
MAK Makhachkala 37.47 293 *eP* P 03 47 22.9 -5.5
MAK *e* 03 48 50.7
MAK *eS* **S 03 53 10.0 -6.4**
MAK *eSS* **SnSn 03 55 50.2 -3.6**
MAK pmax pmax
comp=Z,133nm,1.1s
MAK MLR MLR
comp=Z,791nm,16.0s
MYLDM Lahad Datu 38.47 145 P P 03 47 35.2 -1.8
SBUM Sibu 38.51 156 P P 03 47 35.7 -1.6
JCJ Chichijima 39.10 93 LR LR 04 04 03.4
comp=Z,330nm,18.8s,baz=352,slow=37
MA2 Magadan 39.46 40 LR LR 04 05 09.7
comp=Z,654nm,18.8s,baz=266,slow=38
MA2 Magadan 39.46 40⇑*eP* **P 03 47 44.7 -0.1**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
MA2 Magadan 39.46 40 P **P 03 47 44.7 -0.1**
comp=Z,5.7nm,0.9s
GNI Garni 40.13 289 LR LR 04 07 51.1
comp=Z,382nm,19.7s,baz=84,slow=41
VRH Novokhopyorsk 40.35 307 *eP* **P 03 47 51.6 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
DAV Davao City (W) 40.50 134 LR LR 04 06 05.5
comp=Z,598nm,18.9s,baz=348,slow=38
KBZ Khabaz 40.62 295 P **P 03 47 55.4 +0.7**
comp=Z,2.2nm,0.9s,baz=116,slow=5.8,SNR=4.5
KBZ LR LR 04 07 17.0
comp=Z,818nm,18.4s,baz=88,slow=40
comp=Z,2.2nm,0.9s
KIV Kislovodsk 40.72 296 *eP* **P 03 47 55.5 -0.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 40.72 296 P **P 03 47 54.1 -1.6**
comp=Z,6.9nm,0.7s
SEY Seymchan 40.75 35 P **P 03 47 56.1 +0.6**
comp=Z,1.1nm,0.4s,baz=264,slow=8.5,SNR=5.8
comp=Z,1.1nm,0.4s

SEY Seymchan 40.75 35⇑ eP P 03 47 55.9 +0.4
SEY pmax pmax
comp=Z,7.0nm,1.5s
SHA1 Shidzhatmaz 40.79 295⇓ iP P 03 47 56.8 +0.4
KLMR Klimovskoe 41.70 322 eP P 03 48 00.4 -2.9
KLMR pmax pmax
comp=Z,27nm,1.1s
VORR Voronezh 41.88 308 eP P 03 48 04.3 -0.7
VORR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 41.90 307 eP P 03 48 03.9 -1.2
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 41.95 307 eP P 03 48 03.7 -1.9
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 41.98 309 eP P 03 48 04.6 -1.1
LPSR pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 42.56 314 eP P 03 48 09.8 -0.6
MOS pmax pmax
comp=Z,59nm,0.9s
GURO Guroymak-BITLI 42.60 288 P P 03 48 09.2 -1.9
SOC Sochi 42.90 296 eP P 03 48 11.2 -2.2
SOC e 03 49 50.6
SOC ePPP PPP 03 50 25.4
SOC eS S 03 54 37.3 -0.3
SOC eSSS SSS 03 58 28.6
SOC MLR MLR
comp=Z,466nm,17.0s
OBN Obninsk 43.19 313 LR LR 04 07 17.1
comp=Z,1μm,21.1s,baz=84,slow=38
OBN Obninsk 43.19 313⇓ eP P 03 48 16.4 +0.9
OBN e 03 49 54.0
OBN ePPP PPP 03 50 27.1
OBN pmax pmax
comp=Z,76nm,2.5s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 43.19 313 P P 03 48 14.4 -1.1
comp=Z,30nm,0.5s
PETK Petropavlovsk- 43.21 50 LR LR 04 06 48.8
comp=Z,255nm,18.6s,baz=278,slow=37
MARD Mardin 43.94 287 P P 03 48 20.9 -1.0
APA Apatity 45.05 331⇓ iP P 03 48 30.0 -0.3
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,1μm,15.0s
APSI Ampana 45.29 144 P P 03 48 33.6 +0.9
comp=Z,82nm,1.2s
LEM Lembang 46.23 166 LR LR 04 09 11.6
comp=Z,413nm,20.7s,baz=306,slow=38
RAYN Ar Rayn 46.23 267 P P 03 48 38.3 -1.9
PUL Pulkovo 46.26 320⇑ eP P 03 48 39.9 0.0
TTSI Tana Toraja 46.40 148 P P 03 48 42.9 +1.4
comp=Z,14nm,1.1s
BILL Bilibino 47.05 29 ceP P 03 48 46.7 +0.7
BILL pmax pmax
comp=Z,12nm,1.4s
SPSI Sidrap Palu 47.21 149 P P 03 48 46.7 -1.2
ILGA Ilgaz 47.88 294 P P 03 48 53.3 +0.1
ARCES ARCESS Array B 48.08 333 P P 03 48 54.1 +0.1
comp=Z,3.7nm,1.0s,baz=80,slow=7.6,SNR=9.6
ARCES PcP PcP 03 50 20.8 -0.7
comp=Z,3.9nm,0.8s,baz=77,slow=4.0,SNR=10
ARCES LR LR 04 09 08.5
comp=Z,362nm,18.5s,baz=90,slow=36
comp=Z,3.7nm,1.0s
KAPI Kappang 48.16 149 LR LR 04 10 46.5
comp=Z,179nm,20.9s,baz=285,slow=38
FINES FINESS Array B 48.20 322 P P 03 48 55.1 +0.1
comp=Z,6.1nm,0.8s,baz=99,slow=4.8,SNR=15
FINES PcP PcP 03 50 21.0 -1.1
comp=Z,2.0nm,0.5s,baz=78,slow=4.6,SNR=4.7
FINES LR LR 04 11 16.8
comp=Z,288nm,18.7s,baz=81,slow=38
comp=Z,6.1nm,0.8s
FINES FINESS Array B 48.20 322 i P P 03 48 56.2 +1.2
FINES pmax pmax
comp=Z,6.0nm,0.8s
AK09 Malin Array Si 48.22 308 P P 03 48 54.2 -1.1
AK08 Malin Array Si 48.23 308 P P 03 48 54.3 -1.1
VSU Vasula 48.23 316⇓ eP P 03 48 55.2 -0.1
VSU pmax pmax
comp=Z,38nm,1.1s
AKASG Malin Array Be 48.24 308 P P 03 48 54.9 -0.6
comp=Z,6.7nm,0.8s,baz=67,slow=7.5,SNR=22
AKASG LR LR 04 10 28.1
comp=Z,1μm,19.3s,baz=85,slow=38
comp=Z,6.7nm,0.8s
AKASG Malin Array Be 48.24 308 i P P 03 48 55.7 +0.2
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 48.24 308 P P 03 48 55.2 -0.3
AKBB IAmb IAmb 03 48 56.7
comp=Z,14nm,1.1s
AKBB Malin Array Si 48.24 308⇑ eP P 03 48 55.7 +0.2
AKBB pmax pmax
comp=Z,16nm,1.1s
AKBB Malin Array Si 48.24 308 P P 03 48 54.3 -1.2
AK10 Malin Array Si 48.24 308 P P 03 48 54.4 -1.1
AK01 Malin Array Si 48.24 308 P P 03 48 54.4 -1.1
KIEV Kiev 48.25 308 P P 03 48 54.8 -0.7
KIEV IAmb IAmb 03 48 56.8
comp=Z,14nm,1.1s
KIEV Kiev 48.25 308 P P 03 48 54.8 -0.7
KIEV pmax pmax
comp=Z,14nm,1.1s
MNK Minsk 48.25 313 i P P 03 48 54.7 -0.9
comp=E,8.0nm,0.7s
MNK i P P 03 48 54.7 -0.9
comp=N,15nm,0.7s
MNK i P P 03 48 54.7 -0.9
comp=Z,15nm,1.0s,baz=80
MNK i PP PP 03 50 47.5 -0.2
MNK i PPP PPP 03 51 35.9
MNK i S S 03 55 56.2 +1.7
MNK i SS SS 03 59 27.6 +4.2
MNK i SSS SSS 04 00 37.7
MNK i LQ LQ 04 05 51.0
MNK i LR LR 04 09 06.2
MNK i LRM MLR 04 10 17.9
comp=N,739nm,17.5s
MNK i LRM MLR 04 10 19.8
comp=E,532nm,17.2s
MNK i LRM MLR 04 10 21.7
comp=Z,1μm,18.8s
MNK Minsk 48.25 313 i P P 03 48 54.6 -0.9
MNK i 03 50 20.7
MNK i 03 50 47.4
MNK i PPP PPP 03 51 35.8
MNK i S S 03 55 56.1 +1.7
MNK i 03 58 47.6
MNK i SS SS 03 59 27.6 +4.2
MNK i SSS SSS 04 00 37.7
MNK pmax pmax
comp=Z,15nm,1.0s
MNK pmax pmax
comp=E,8.0nm,0.7s
MNK pmax pmax
comp=N,15nm,0.7s
MNK MLR MLR
comp=N,739nm,18.0s
MNK MLR MLR
comp=E,532nm,17.0s
MNK MLR MLR
comp=Z,1μm,19.0s
AK02 Malin Array Si 48.26 308 P P 03 48 54.5 -1.1
AK04 Malin Array Si 48.27 308 P P 03 48 54.2 -1.5
AK05 Malin Array Si 48.27 308 P P 03 48 54.6 -1.1
AK11 Malin Array Si 48.28 308 P P 03 48 54.6 -1.2
AK06 Malin Array Si 48.28 308 P P 03 48 54.6 -1.2
AK07 Malin Array Si 48.28 308 P P 03 48 54.7 -1.1
BR131 Keskin Array S 48.38 292 P P 03 48 55.6 -1.4
BR131 IAmb IAmb 03 49 05.2
comp=Z,14nm,1.6s
BR131 Keskin Array S 48.38 292 d iP P 03 48 57.7 +0.7
BRTR Keskin Array B 48.38 292 P P 03 48 56.3 -0.7
BRTR Keskin Array B 48.38 292 P P 03 48 57.4 +0.4
comp=Z,2.0nm,0.7s,baz=95,slow=6.2,SNR=19
BRTR LR LR 04 12 32.9
comp=Z,189nm,20.6s,baz=82,slow=40
comp=Z,2.0nm,0.7s
NACGM Naroch 48.80 314 eP P 03 49 00.8 +1.0
baz=79
GUMO Guam 48.81 107 LR LR 04 11 08.7
comp=Z,138nm,18.1s,baz=10,slow=38
SORM Soroca 49.43 305 ⇓P P 03 49 04.9 +0.3
SORM Soroca 49.43 305 ⇓P P 03 49 04.9 +0.3
MMAI Mount Meron Ar 49.64 284 P P 03 49 07.8 +1.2
comp=Z,3.4nm,0.8s,baz=46,slow=12,SNR=3.3
comp=Z,3.4nm,0.8s
RNPP9 Sopachiv 50.11 309 P P 03 49 08.6 -1.2
PABE Paberze 50.26 315 P P 03 49 11.2 +0.4
VLDR Vladesti 50.27 302 ⇓P P 03 49 13.1 +2.0
CFR Carcaliu 50.44 301 ⇑P P 03 49 13.4 +1.0
CFR Carcaliu 50.44 301 ⇑P P 03 49 13.4 +1.0
SPITS Spitsbergen Ar 50.67 345 PcP PcP 03 50 30.8 -0.1
comp=Z,6.7nm,0.8s,baz=48,slow=2.3,SNR=2.2
ICOR Ion Corvin 51.01 300 ⇑P P 03 49 17.8 +1.1
TESR Tescani 51.01 303 ⇓P P 03 49 17.6 +0.9
SUW Suwalki 51.05 313 eP P 03 49 17.9 +1.1
SUW Suwalki 51.05 313 P P 03 49 16.1 -0.8
SUW Suwalki 51.05 313 P P 03 49 16.1 -0.8
SUW pmax pmax
comp=Z,45nm,0.4s
VRI Vrincioaia 51.16 302 ⇓P P 03 49 19.2 +1.3
VRI Vrincioaia 51.16 302 ⇓P P 03 49 19.2 +1.3
PLOR Plostina 51.22 302 ⇑P P 03 49 20.4 +2.1
PLOR Plostina 51.22 302 ⇑P P 03 49 20.4 +2.1
EIL Elat 51.46 280 LR LR 04 15 30.1
comp=Z,426nm,19.8s,baz=80,slow=41
COVR Voineasa-Covas 51.52 302 ⇑P P 03 49 22.3 +1.8
ISR Istrita 51.53 301 ⇑P P 03 49 22.5 +1.8
ISR Istrita 51.53 301 ⇑P P 03 49 22.5 +1.8
NEHR Nehoiu 51.59 302 ⇑P P 03 49 22.8 +1.6
BURAR Bucovina Array 51.60 305 ⇑P P 03 49 22.9 +1.7
BURAR Bucovina Array 51.60 305 ⇑P P 03 49 22.9 +1.7
BUR08 Bucovina Ar. S 51.60 305 P P 03 49 20.8 -0.5
MLR Muntele Rosu 51.80 302 P P 03 49 21.6 -1.2
MLR Muntele Rosu 51.80 302 LR LR 04 13 42.3
comp=Z,919nm,21.9s,baz=63,slow=39
MLR Muntele Rosu 51.80 302 ⇓P P 03 49 24.4 +1.6
MLR Muntele Rosu 51.80 302 ⇓P P 03 49 24.4 +1.6
DOPR Dopca 52.01 303 ⇑P P 03 49 25.7 +1.4
ELL Elmali 52.22 290 P P 03 49 24.8 -1.2
ELL Elmali 52.22 290 P P 03 49 24.8 -1.2
ELL pmax pmax
comp=Z,23nm,0.8s
WBSI Waikabubak, Su 52.26 152 P P 03 49 21.5 -4.8
VOIR 52.41 302 ⇓P P 03 49 27.9 +0.6
VOIR 52.41 302 ⇓P P 03 49 27.9 +0.6
KWP Kalwaria Pacla 52.56 308 eP P 03 49 29.4 +1.2
KWP Kalwaria Pacla 52.56 308 P P 03 49 28.2 0.0
KWP Kalwaria Pacla 52.56 308 P P 03 49 28.2 0.0
ARR Arges 52.71 302 ⇑P P 03 49 30.5 +1.0
TNR Turnu Rosu 52.85 303 ⇓P P 03 49 31.7 +1.2
TNR Turnu Rosu 52.85 303 ⇓P P 03 49 31.7 +1.2
SHEM Shemya Is, Ala 53.00 48 LR LR 04 12 51.5
comp=Z,127nm,21.4s,baz=282,slow=37
KOLS Kolonicke sedl 53.05 307 eP P 03 49 33.1 +1.2
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 53.05 307 eP P 03 49 33.1 +1.2
MARR Marisel-Cluj 53.26 304 ⇑P P 03 49 34.5 +0.9
DRGR 53.48 305 ⇓P P 03 49 36.8 +1.6
DRGR 53.48 305 ⇓P P 03 49 36.8 +1.6
STHS Stebnicka Huta 53.53 308 eP P 03 49 36.1 +0.7
STHS Stebnicka Huta 53.53 308 eP P 03 49 36.1 +0.7
RDO Rodhopi 53.63 297 P P 03 49 34.9 -1.3
NIE Niedzica 54.11 308 eP P 03 49 41.8 +2.1
NIE Niedzica 54.11 308 P P 03 49 41.7 +2.1
OJC Ojcow 54.15 309 eP P 03 49 40.9 +1.0
OJC Ojcow 54.15 309 P P 03 49 40.9 +1.0
OJC Ojcow 54.15 309 P P 03 49 40.9 +1.0
OJC pmax pmax
comp=Z,26nm,1.0s
SURR Surduc 54.23 303 ⇓P P 03 49 42.2 +1.7
SIRR Siria 54.35 304 ⇓P P 03 49 43.2 +1.8
HERR Herculane 54.35 302 ⇑P P 03 49 42.8 +1.4
HFS Hagfors 54.40 322 P P 03 49 40.9 -0.7
comp=Z,5.6nm,0.8s,baz=89,slow=6.5,SNR=6.0
HFS LR LR 04 14 12.5
comp=Z,451nm,18.4s,baz=68,slow=37
comp=Z,5.6nm,0.8s
BZS Buzias 54.61 303 ⇑P P 03 49 44.0 +0.7
BZS Buzias 54.61 303 ⇑P P 03 49 44.0 +0.7
MDVR Moldovita 54.86 303 ⇑P P 03 49 46.0 +0.8
PSZ Piszkesteto 54.88 307 ⇑P P 03 49 46.8 +1.4
PSZ Piszkesteto 54.88 307 ⇑P P 03 49 46.8 +1.4
NORES NORESS Array B 55.24 323 P P 03 49 49.5 +1.9
BOVS Bovan 55.30 301 ⇑P P 03 49 48.6 +0.3
NB2 NORSAR Subarra 55.30 324 P P 03 49 47.8 -0.3
comp=Z,11nm,1.1s,baz=73,slow=7.9
NOA NORSAR Array B 55.30 324 P P 03 49 47.5 -0.6
comp=Z,3.3nm,0.9s,baz=77,slow=7.8,SNR=6.8
NOA LR LR 04 14 43.6
comp=Z,342nm,18.9s,baz=75,slow=37
comp=Z,3.3nm,0.9s
VYHS Vyhne 55.34 308 eP P 03 49 50.0 +1.4
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS Vyhne 55.34 308 eP P 03 49 50.0 +1.4
STEB Steborice 55.48 310 eP P 03 49 50.7 +1.2
MORC Moravsky Berou 55.67 309 P P 03 49 52.2 +1.2
MORC IAmb IAmb 03 49 53.1
comp=Z,15nm,1.2s
MORC Moravsky Berou 55.67 309 eP P 03 49 52.1 +1.1
MORC Moravsky Berou 55.67 309 ⇑P P 03 49 51.3 +0.3
MORC Moravsky Berou 55.67 309 P P 03 49 52.2 +1.2
MORC pmax pmax
comp=Z,15nm,1.2s
JAVC Velka Javorina 55.93 308 eP P 03 49 54.8 +2.0
KRLC Kraliky 56.02 310 eP P 03 49 54.4 +0.9
KRLC AMS AMS 04 14 50.0
comp=Z,1μm,18.0s
KRLC Kraliky 56.02 310 eP P 03 49 54.4 +0.9
KRLC MLR MLR
comp=Z,1μm,18.0s
KSP Ksiaz 56.03 311 eP P 03 49 53.7 +0.2
KSP Ksiaz 56.03 311 P P 03 49 55.4 +1.9
OSTC Ostas 56.18 311 eP P 03 49 55.7 +1.1
OSTC AMS AMS 04 14 50.0
comp=Z,2μm,22.4s
OSTC Ostas 56.18 311 eP P 03 49 55.7 +1.1
OSTC MLR MLR
comp=Z,2μm,22.4s
DPC Dobruska-Polom 56.20 310 eP P 03 49 56.1 +1.4
DPC AMS AMS 04 14 50.0
comp=Z,2μm,16.0s
DPC Dobruska-Polom 56.20 310 eP P 03 49 56.1 +1.4
DPC MLR MLR
comp=Z,2μm,16.0s
SMOL Smolenice 56.20 308 eP P 03 49 56.6 +1.8
SMOL pmax pmax
comp=Z,13nm,1.7s
CHVC Chvalec 56.27 311 eP P 03 49 56.2 +1.0
CHVC AMS AMS 04 14 50.0
comp=Z,2μm,15.8s
CHVC Chvalec 56.27 311 eP P 03 49 56.2 +1.0
CHVC MLR MLR
comp=Z,2μm,15.8s
MORH Mrgy, Hungar 56.31 305 ⇓P P 03 49 56.5 +1.0
UPC Upice 56.32 311 eP P 03 49 57.0 +1.4
UPC AMS AMS 04 14 50.0
comp=Z,2μm,19.3s
UPC Upice 56.32 311 eP P 03 49 57.0 +1.4
UPC MLR MLR
comp=Z,2μm,19.3s
MODS Modra-Piesok 56.35 308 eP P 03 49 57.3 +1.5
MODS Modra-Piesok 56.35 308 eP P 03 49 57.3 +1.5
VRAC Vranov 56.42 309 LR LR 04 15 33.8
comp=Z,1μm,18.4s,baz=73,slow=38
VRAC Vranov 56.42 309 eP P 03 49 57.2 +0.9
VRAC Vranov 56.42 309 ⇓P P 03 49 57.1 +0.8
VRAC Vranov 56.42 309 ⇓P P 03 49 57.1 +0.8
IDI Anoyia 56.52 291 LR LR 04 20 08.0
comp=Z,106nm,18.4s,baz=94,slow=42
KRUC Moravsky 56.63 309 eP P 03 49 58.7 +0.9
TREC Trest 57.09 309 AMS AMS 04 15 10.0
comp=Z,1μm,18.2s
PUK Puka 57.15 300 P P 03 50 02.5 +0.8
PVCC Panska Ves 57.17 311 eP P 03 50 03.2 +1.6
PVCC Panska Ves 57.17 311 eP P 03 50 03.2 +1.6
RONA Rosalia, Austr 57.22 307 epP P 03 50 03.1 +1.0
comp=Z,2.6nm,0.6s
JAY Jayapura 57.24 125 LR LR 04 14 10.4
comp=Z,127nm,20.7s,baz=308,slow=36
GOPC GO Pecny, Ondr 57.27 310 AMS AMS 04 15 30.0
comp=Z,2μm,17.9s
C16K Lisburne Hills 57.37 26 P P 03 50 02.7 +0.1
C16K IAmb IAmb 03 50 03.7
comp=Z,8.2nm,0.8s
C16K Lisburne Hills 57.37 26 P P 03 50 02.8 +0.2
baz=293
PRU Pruhonice 57.39 311 eP P 03 50 05.0 +1.8
PRU AMS AMS 04 15 30.0
comp=Z,2μm,17.6s
PRU Pruhonice 57.39 311 eP P 03 50 05.0 +1.8
PRU MLR MLR
comp=Z,2μm,17.6s
CONA Conrad Observa 57.40 308 i pP P 03 50 04.6 +1.3
comp=Z,1.9nm,0.7s
BRG Berggiesshubel 57.41 312 eP P 03 50 04.3 +1.1
BRG Amp 03 50 05.9
comp=Z,13nm,1.1s
BRG ⇑PP PcP 03 51 04.2 +7.2
BRG Amp 03 51 04.7
comp=Z,5.1nm,1.0s
BRG PP PP 03 52 12.9 +2.6
BRG Amp 03 52 15.0
comp=Z,7.8nm,1.3s
PDG Podgorica 57.42 301 P P 03 50 04.3 +0.8
PDG IAmb IAmb 03 50 06.6
comp=Z,6.1nm,0.6s
PDG Podgorica 57.42 301 ⇓P P 03 50 03.6 +0.1
PRA Prague 57.43 311 AMS AMS 04 15 40.0
comp=Z,2μm,15.0s
TNA Tin City 57.47 29 P P 03 50 03.6 +0.2
baz=292
CLL Collm 57.78 312 P P 03 50 04.1 -1.8
CLL IAmb IAmb 03 50 08.1
comp=Z,8.6nm,0.8s
CLL Collm 57.78 312 i P P 03 50 06.5 +0.6
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 57.78 312 i P P 03 50 06.5 +0.6
comp=Z,11nm,0.9s
ZVC Zvikov 57.82 310 AMS AMS 04 15 50.0
comp=Z,2μm,17.7s
ARSA Arzberg 57.88 307 epP P 03 50 08.3 +1.6
comp=Z,2.8nm,0.7s
A19K Wainwright 57.97 23 P P 03 50 08.1 +1.2
baz=295
CKRC Cesky Krumlov 57.99 309 eP P 03 50 08.7 +1.3
CKRC AMS AMS 04 16 00.0
comp=Z,1μm,17.9s
CKRC Cesky Krumlov 57.99 309 eP P 03 50 08.7 +1.3
CKRC MLR MLR
comp=Z,1μm,17.9s
C17K DeLong Mountai 58.02 25 P P 03 50 07.5 +0.2
baz=294
B18K Kokolik River 58.10 24 P P 03 50 09.0 +1.2
baz=295
F14K Arctic Creek 58.11 29 P P 03 50 08.6 +0.6
baz=294
RDOG Red Dog Mine 58.29 26 P P 03 50 09.8 +0.6
baz=295
KHC Kasperske Hory 58.31 310 eP P 03 50 10.1 +0.4
KHC AMS AMS 04 16 00.0
comp=Z,2μm,17.9s
KHC Kasperske Hory 58.31 310 d iP P 03 50 11.1 +1.4
KHC pmax pmax
comp=Z,11nm,1.3s
GEC2 GERESS Array S 58.35 310 P P 03 50 08.5 -1.5
GERES GERESS Array B 58.35 310 P P 03 50 08.9 -1.1
GERES GERESS Array B 58.35 310 P P 03 50 10.5 +0.4
comp=Z,3.5nm,1.0s,baz=66,slow=6.4,SNR=13
comp=Z,3.5nm,1.0s
D17K Noatak River 58.38 26 P P 03 50 10.3 +0.6
baz=295,SNR=13
MOA Molln 58.41 308 i pP P 03 50 11.8 +1.4
comp=Z,0.7nm,0.3s
SOKA Soboth 58.41 307 epP P 03 50 10.7 +0.2
comp=Z,2.2nm,0.7s,SNR=6.8
C18K Utukok River 58.61 25 P P 03 50 10.9 -0.6
C18K IAmb IAmb 03 50 13.1
comp=Z,11nm,0.7s
C18K Utukok River 58.61 25 P P 03 50 12.3 +0.8
baz=296
F15K North Star Dit 58.65 29 P P 03 50 12.1 +0.3
baz=295
A21K Barrow 58.78 21 P P 03 50 13.0 +0.5
baz=298
ANM Nome 58.86 30 P P 03 50 13.5 +0.3
baz=295
BIOA Bad Ischl, Aus 58.86 308 epP P 03 50 14.5 +0.9
comp=Z,1.7nm,0.3s
E17K Hotham Inlet 59.08 27 P P 03 50 15.2 +0.5
baz=296
G15K Niukluk 59.19 29 P P 03 50 15.5 0.0
baz=296
KBA Koelnbreinsper 59.30 308 epP P 03 50 16.5 -0.3
comp=Z,0.7nm,0.4s
E18K Tukpahlearik C 59.36 26 P P 03 50 16.7 +0.1
E18K Tukpahlearik C 59.36 26 P P 03 50 17.4 +0.8
baz=297
GRA1 Grafenberg Arr 59.48 311 P P 03 50 17.9 +0.1
GRA1 IAmb IAmb 03 50 20.8
comp=Z,16nm,0.9s
GRF Grafenberg Arr 59.48 311 P P 03 50 17.9 +0.1
GRF pmax pmax
comp=Z,16nm,0.9s
GRFO Grafenberg 59.48 311 P P 03 50 18.7 +1.0
GRFO IAmb IAmb 03 50 20.8
comp=Z,15nm,0.9s
GRFO Grafenberg 59.48 311 P P 03 50 18.7 +1.0
GRFO pmax pmax
comp=Z,15nm,0.9s
LESA Schwarzleotal 59.56 308 epP P 03 50 19.6 +1.1
comp=Z,7.8nm,0.7s,SNR=14
F17K Baldwin Pennin 59.58 27 P P 03 50 18.5 +0.4
F17K IAmb IAmb 03 50 19.6
comp=Z,8.1nm,0.8s
F17K Baldwin Pennin 59.58 27 P P 03 50 18.6 +0.4
baz=297,SNR=8.4
SABO M.te Sabotino 59.61 307 P P 03 50 18.4 -0.3
SABO IAmb IAmb 03 50 19.7
comp=Z,9.6nm,1.0s
G16K Koyuk River 59.65 29 P P 03 50 19.0 +0.4
G16K Koyuk River 59.65 29 P P 03 50 19.1 +0.4
baz=297
D19K Kuna River 59.68 24 P P 03 50 19.8 +1.0
baz=299
ABTA Abfaltersbach 59.96 308 epP P 03 50 21.0 -0.2
comp=Z,2.1nm,0.7s
H16K Elim 60.04 29 P P 03 50 21.4 +0.1
baz=297
D20K Etivluk River 60.06 24 P P 03 50 22.2 +0.7
baz=300
F18K Selawik 60.07 27 P P 03 50 22.2 +0.7
baz=298,SNR=7.4
B21K Ikpikpuk River 60.21 23 IAmb IAmb 03 50 24.2
comp=Z,15nm,0.8s
B21K Ikpikpuk River 60.21 23 P P 03 50 23.3 +0.9
baz=301
WTTA Wattenberg 60.27 309 epP P 03 50 24.0 +0.5
comp=Z,3.6nm,0.5s,SNR=7.4
WATA Walderalm 60.28 309 epP P 03 50 23.4 -0.1
comp=Z,3.8nm,0.7s
C21K Knifeblade Rid 60.40 23 P P 03 50 24.8 +1.0
baz=301
E20K Nigu River 60.42 24 P P 03 50 24.7 +0.7
baz=300,SNR=13
E19K Redstone River 60.48 25 P P 03 50 24.9 +0.5
baz=300
SQTA Sankt Quirin 60.55 309 epP P 03 50 25.7 +0.4
comp=Z,6.0nm,0.9s,SNR=9.4
MOTA Moosalm 60.56 309 epP P 03 50 25.1 -0.3
comp=Z,5.7nm,0.7s
F19K Shaleruckik Mo 60.61 26 IAmb IAmb 03 50 25.7
comp=Z,9.6nm,0.7s
F19K Shaleruckik Mo 60.61 26 P P 03 50 25.3 +0.1
baz=300
RETA Reutte 60.71 309 epP P 03 50 26.7 +0.4
comp=Z,2.2nm,0.5s
G18K Tagagawik 60.77 27 P P 03 50 26.6 +0.3
baz=300
H17K Granite Mounta 60.78 28 IAmb IAmb 03 50 27.6
comp=Z,6.8nm,0.7s
H17K Granite Mounta 60.78 28 P P 03 50 26.7 +0.3
baz=299
FETA Feichten 60.94 309 epP P 03 50 28.3 +0.3
comp=Z,1.8nm,0.7s,SNR=7.1

I17K	**Unalakleet**	60.99	30	IAmb	IAmb	03 50 29.0
	comp=Z,9.1nm,0.8s					
I17K	**Unalakleet**	60.99	30	P	P	03 50 28.2 +0.4
	baz=299					
E21K	**Killik River**	61.03	24	IAmb	IAmb	03 50 34.5
	comp=Z,21nm,1.4s					
E21K	**Killik River**	61.03	24	P	P	03 50 28.5 +0.4
	baz=302					
GUMA	**Gualdo di Mace**	61.07	304	IAmb	IAmb	03 50 59.6
	comp=Z,10nm,0.8s					
D22K	**Ayikyak River**	61.19	23	IAmb	IAmb	03 50 30.8
	comp=Z,10.0nm,0.9s					
D22K	**Ayikyak River**	61.19	23	P	P	03 50 30.0 +0.8
	baz=303					
F20K	**Avaraart Lake**	61.20	25	IAmb	IAmb	03 50 29.9
	comp=Z,5.8nm,0.7s					
F20K	**Avaraart Lake**	61.20	25	P	P	03 50 29.0 -0.1
	baz=301					
G19K	**Purcell Mounta**	61.20	27	P	P	03 50 29.6 +0.4
	baz=301,SNR=5.1					
H18K	**Honhosa River**	61.24	28	P	P	03 50 29.4 -0.2
	baz=300					
FDMO	**Fiordimonte**	61.25	304	IAmb	IAmb	03 50 36.4
	comp=Z,10nm,1.0s					
C23K	**Itkillik River**	61.27	21	P	P	03 50 30.3 +0.7
	baz=304					
J16K	**Anvik River**	61.32	30	IAmb	IAmb	03 50 31.6
	comp=Z,8.9nm,0.9s					
J16K	**Anvik River**	61.32	30	P	P	03 50 30.6 +0.5
	baz=299					
FUORN	**Ofenpass-Fuorn**	61.40	308	P	P	03 50 31.1 -0.1
FUORN				IAmb	IAmb	03 50 41.1
	comp=Z,5.8nm,0.7s					
K15K	**Wolf Creek Mou**	61.43	31	P	P	03 50 31.2 +0.4
	baz=299					
KNRA	**Kununurra**	61.55	145	P	P	03 50 30.0 -2.1
DAVOX	**Davos/Dischmat**	61.56	309	LR	LR	04 18 50.4
	comp=Z,1um,18.5s,baz=54,slow=38					
H19K	**Roundabout Mou**	61.74	27	IAmb	IAmb	03 50 34.1
	comp=Z,7.0nm,0.8s					
H19K	**Roundabout Mou**	61.74	27	P	P	03 50 33.7 +0.9
	baz=302					
D23K	**Nanushuk River**	61.75	22	IAmb	IAmb	03 50 34.5
	comp=Z,8.9nm,0.7s					
D23K	**Nanushuk River**	61.75	22	P	P	03 50 33.8 +0.9
	baz=305					
L15K	**Ungalak Mounta**	61.75	32	P	P	03 50 33.5 +0.5
	baz=299					
BFO	**Black Forest**	61.79	311	P	P	03 50 33.8 +0.2
BFO				IAmb	IAmb	03 50 35.8
	comp=Z,16nm,1.4s					
BFO	**Black Forest**	61.79	311	P	P	03 50 33.8 +0.2
BFO				pmax	pmax	
	comp=Z,16nm,1.4s					
F21K	**Alatna River**	61.84	25	IAmb	IAmb	03 50 35.9
	comp=Z,12nm,0.9s					
F21K	**Alatna River**	61.84	25	P	P	03 50 34.3 +0.7
	baz=303					
J17K	**VABM Dome**	61.86	30	P	P	03 50 33.8 +0.1
	baz=300					
E22K	**Anaktuvuk Pass**	61.87	23	IAmb	IAmb	03 50 35.0
	comp=Z,6.1nm,0.8s					
E22K	**Anaktuvuk Pass**	61.87	23	P	P	03 50 34.2 +0.4
	baz=304,SNR=11					
C24K	**Franklin Bluff**	61.88	21	P	P	03 50 34.2 +0.4
	baz=306					
GCSA	**Galena City Sc**	61.99	28	P	P	03 50 34.8 +0.2
	baz=302					
M14K	**Bethel**	62.00	33	P	P	03 50 34.9 +0.2
	baz=299					
TUE	**Stuetta**	62.03	309	P	P	03 50 34.1 -1.3
TUE				IAmb	IAmb	03 50 41.8
	comp=Z,17nm,1.4s					
D24K	**Happy Valley**	62.18	22	IAmb	IAmb	03 50 36.9
	comp=Z,5.3nm,0.8s					
D24K	**Happy Valley**	62.18	22	P	P	03 50 36.2 +0.4
	baz=306					
TOLK	**Toolik Lake Re**	62.26	22	P	P	03 50 37.0 +0.6
	baz=306,SNR=11					
H20K	**Anotleneega Mo**	62.31	27	P	P	03 50 37.3 +0.6
	baz=303					
CDF	**Champ du Feu**	62.37	311	eP	P	03 50 37.8 +0.3
CDF				pmax	pmax	
	comp=Z,6.0nm,0.8s					
FITZ	**Fitzroy Crossi**	62.38	149	LR	LR	04 21 28.5
	comp=Z,106nm,18.5s,baz=332,slow=40					
K17K	**Iditarod**	62.51	30	P	P	03 50 38.4 +0.3
	baz=301					
N14K	**Kuskokwak Cree**	62.53	34	P	P	03 50 38.4 +0.2
	baz=300					
E23K	**Chandalar**	62.59	23	IAmb	IAmb	03 50 40.0
	comp=Z,7.8nm,0.7s					
E23K	**Chandalar**	62.59	23	P	P	03 50 38.8 +0.1
	baz=306					
G22K	**Bettles**	62.66	24	P	P	03 50 39.4 +0.4
	baz=305					
J18K	**Innoko River**	62.73	29	IAmb	IAmb	03 50 40.1
	comp=Z,7.3nm,0.8s					
J18K	**Innoko River**	62.73	29	P	P	03 50 39.9 +0.3
	baz=302					
D25K	**Kavik River**	62.78	21	IAmb	IAmb	03 50 40.9
	comp=Z,5.5nm,0.8s					
D25K	**Kavik River**	62.78	21	P	P	03 50 40.5 +0.7
	baz=308,SNR=8.9					
L17K	**Donlin**	62.82	31	P	P	03 50 40.9 +0.7
	baz=302					
I20K	**Naaghedeneel**	62.84	27	P	P	03 50 40.9 +0.8
	baz=303					
J19K	**Poorman**	62.86	28	IAmb	IAmb	03 52 49.2
	comp=Z,27nm,1.9s					
J19K	**Poorman**	62.86	28	P	P	03 50 40.7 +0.2
	baz=303					
COLD	**Coldfoot**	62.90	24	P	P	03 50 41.3 +0.7
	baz=306,SNR=16					
HINF	**Hinteralfeld**	62.90	311	eP	P	03 50 41.2 +0.2
HINF				pmax	pmax	
	comp=Z,27nm,1.6s					
E24K	**Your Creek**	62.92	23	IAmb	IAmb	03 50 42.3
	comp=Z,6.2nm,0.8s					
E24K	**Your Creek**	62.92	23	P	P	03 50 41.1 +0.3
	baz=307					
H21K	**Melozitna Rive**	62.94	26	IAmb	IAmb	03 50 42.5
	comp=Z,11nm,0.8s					
H21K	**Melozitna Rive**	62.94	26	P	P	03 50 41.6 +0.6
	baz=304,SNR=11					
VAE	**Valguarnera**	62.98	298	LR	LR	04 23 19.2
	comp=Z,217nm,18.4s,baz=104,slow=41					
GIVF	**Givet**	62.99	314	eP	P	03 50 42.3 +0.8
GIVF				pmax	pmax	
	comp=Z,16nm,1.0s					
HAU	**Haudompre**	63.11	311	eP	P	03 50 42.6 +0.2
HAU				pmax	pmax	
	comp=Z,53nm,1.9s					
G23K	**Bananza Creek**	63.26	24	IAmb	IAmb	03 52 16.4
	comp=Z,17nm,1.9s					
G23K	**Bananza Creek**	63.26	24	P	P	03 50 43.1 +0.1
	baz=306					
H22K	**Ishtalitna Cre**	63.29	25	P	P	03 50 43.7 +0.4
	baz=305					
J20K	**Nowinta River**	63.30	28	IAmb	IAmb	03 50 44.6
	comp=Z,6.3nm,0.8s					
J20K	**Nowinta River**	63.30	28	P	P	03 50 44.1 +0.8
	baz=304					
C27K	**Jago River**	63.32	20	P	P	03 50 43.9 +0.5
	baz=310,SNR=11					
I21K	**Tanana**	63.50	26	IAmb	IAmb	03 50 46.4
	comp=Z,21nm,1.6s					
I21K	**Tanana**	63.50	26	P	P	03 50 45.2 +0.6
	baz=305					
M17K	**Holitna River**	63.55	31	P	P	03 50 46.1 +1.0
	baz=302					
O15K	**Ungalikthiuk R**	63.73	34	P	P	03 50 47.5 +1.3
	baz=302					
E25K	**Arctic Village**	63.76	22	P	P	03 50 47.1 +0.8
	baz=309					
K20K	**Telida**	63.79	28	P	P	03 50 47.3 +0.7
	baz=304					
CABF	**La Chapelle**	63.94	310	eP	P	03 50 49.1 +1.1
CABF				pmax	pmax	
	comp=Z,56nm,2.0s					
F25K	**Christian Rive**	64.07	22	IAmb	IAmb	03 50 50.2
	comp=Z,7.7nm,0.8s					
F25K	**Christian Rive**	64.07	22	P	P	03 50 49.6 +1.2
	baz=309,SNR=10					
G24K	**Hadweenzic Riv**	64.07	24	IAmb	IAmb	03 50 49.8
	comp=Z,5.3nm,0.7s					
G24K	**Hadweenzic Riv**	64.07	24	P	P	03 50 49.0 +0.6
	baz=308					
LPG	**La Plagne**	64.09	309	eP	P	03 50 50.0 +0.8
LPG				pmax	pmax	
	comp=Z,10.0nm,0.8s					
LPL	**La Plagne**	64.09	309	eP	P	03 50 49.9 +0.8
LPL				pmax	pmax	
	comp=Z,9.0nm,0.9s					
PGF	**Pioggiola**	64.13	305	eP	P	03 50 49.8 +0.5
PGF				pmax	pmax	
	comp=Z,12nm,1.0s					
CHUM	**Lake Minchumin**	64.13	27	P	P	03 50 49.3 +0.5
	baz=305					
N17K	**Nushagak Hills**	64.13	32	P	P	03 50 49.6 +0.7
	baz=303					
L19K	**White Mountain**	64.15	30	P	P	03 50 49.7 +0.6
	baz=304					
D27M	**Malcolm River**	64.30	20	IAmb	IAmb	03 50 51.2
	comp=Z,6.4nm,0.7s					
D27M	**Malcolm River**	64.30	20	P	P	03 50 50.9 +0.9
	baz=312					
I23K	**Minto, Yukon-K**	64.41	25	P	P	03 50 50.9 +0.3
	baz=307					
F26K	**Sheenjek River**	64.45	22	P	P	03 50 51.5 +0.6
	baz=310					
MBDF	**Montbardon**	64.45	308	eP	P	03 50 53.3 +1.8
MBDF				pmax	pmax	
	comp=Z,3.0nm,0.6s					
G25K	**Bearman Lake**	64.46	23	P	P	03 50 51.6 +0.7
	baz=309					
SBF	**Sospel**	64.47	307	eP	P	03 50 51.7 +0.2
SBF				pmax	pmax	
	comp=Z,7.0nm,0.6s					
BPAW	**Bear Paw Mtn.**	64.48	27	IAmb	IAmb	03 50 52.5
	comp=Z,8.2nm,0.9s					
BPAW	**Bear Paw Mtn.**	64.48	27	P	P	03 50 51.6 +0.5
	baz=306,SNR=8.5					
H24K	**Noodor Dome**	64.48	24	IAmb	IAmb	03 50 59.8
	comp=Z,19nm,1.7s					
H24K	**Noodor Dome**	64.48	24	P	P	03 50 51.5 +0.4
	baz=308					
CAST	**Castle Rocks**	64.48	28	P	P	03 50 51.4 +0.3
CAST	**Castle Rocks**	64.48	28	P	P	03 50 51.5 +0.3
	baz=306					
M19K	**Big River Lodg**	64.49	30	P	P	03 50 52.0 +0.8
	baz=305					
BMAR	**Burnt Mountain**	64.49	22	P	P	03 50 51.9 +0.7
EKA	**Eskdalemuir Ar**	64.58	322	P	P	03 50 51.7 -0.2
	comp=Z,2.3nm,0.7s,baz=68,slow=4.6,SNR=4.0					
	comp=Z,2.3nm,0.7s					
P16K	**Nushagak River**	64.61	34	P	P	03 50 53.1 +1.2
	baz=303					
PPLA	**Purkeypile**	64.75	28	P	P	03 50 53.8 +0.7
	baz=306					
D28M	**Stokes Point**	64.82	19	P	P	03 50 53.8 +0.6
	baz=314					
NEA2	**Nenana**	64.85	26	IAmb	IAmb	03 50 54.2
	comp=Z,5.1nm,0.6s					
NEA2	**Nenana**	64.85	26	P	P	03 50 53.8 +0.3
	baz=308					
H25L	**Birch Creek**	64.86	23	P	P	03 50 53.1 -0.4
	baz=310					
ORIF	**Oris-en-Rattie**	64.91	308	eP	P	03 50 54.3 0.0
ORIF				pmax	pmax	
	comp=Z,5.0nm,0.6s					
M20K	**Styx River**	64.99	30	P	P	03 50 55.1 +0.6
	baz=306					
G26K	**Porcupine Rive**	65.04	22	P	P	03 50 55.4 +0.7
	baz=311					
POKR	**Poker Plat Res**	65.07	25	P	P	03 50 55.6 +0.6
	baz=309					
COLA	**College**	65.09	25	P	P	03 50 54.8 -0.2
COLA	**College**	65.09	25	P	P	03 50 54.9 -0.1
	baz=308					
COLA	**College**	65.09	25	ceP	P	03 50 55.1 +0.1
COLA				pmax	pmax	
	comp=Z,10.0nm,0.8s					
TRF	**Thorofare Moun**	65.12	27	P	P	03 50 55.4 -0.1
	baz=307					
E28M	**Babbage River**	65.12	20	IAmb	IAmb	03 50 56.4
	comp=Z,5.8nm,0.7s					
E28M	**Babbage River**	65.12	20	P	P	03 50 55.5 +0.3
	baz=314					
P17K	**Kvichak River**	65.18	33	P	P	03 50 55.5 -0.2
	baz=304					
SMF	**Signal de Mont**	65.27	311	eP	P	03 50 56.6 +0.1
SMF				pmax	pmax	
	comp=Z,15nm,1.2s					
Q16K	**King Salmon**	65.38	34	P	P	03 50 57.5 +0.5
	baz=304					
MCK	**McKinley**	65.42	27	P	P	03 50 57.8 +0.5
	baz=308					
PRP	**Porcupine Dome**	65.44	24	P	P	03 50 58.1 +0.6
	baz=310					
IL31		65.47	25	IAmb	IAmb	03 50 57.5
	comp=Z,5.3nm,0.8s					
ILAR	**Eielson Array**	65.47	25	P	P	03 50 56.8 -0.7
	comp=Z,3.3nm,0.7s,baz=296,slow=5.4,SNR=48					
ILAR				LR	LR	04 20 10.8
	comp=Z,286nm,18.3s,baz=298,slow=37					
	comp=Z,3.3nm,0.7s					
AVF	**Avril sur Loir**	65.48	311	eP	P	03 50 59.1 +1.2
AVF				pmax	pmax	
	comp=Z,22nm,1.5s					
O19K	**Port Alsworth**	65.50	31	P	P	03 50 58.5 +0.8
	baz=305					
SKT	**Skwentna**	65.54	29	P	P	03 50 58.2 +0.2
	baz=307					
VIVF	**Saint-Julien-l**	65.68	309	eP	P	03 50 59.6 +0.3
VIVF				pmax	pmax	
	comp=Z,15nm,1.4s					
E29M	**Blow River**	65.70	19	IAmb	IAmb	03 51 00.8
	comp=Z,11nm,0.8s					
E29M	**Blow River**	65.70	19	P	P	03 50 59.7 +0.8
	baz=315					
F28M	**Old Crow**	65.72	21	IAmb	IAmb	03 51 00.4
	comp=Z,5.9nm,0.8s					
F28M	**Old Crow**	65.72	21	P	P	03 50 59.6 +0.5
	baz=314,SNR=8.0					
STLK	**Strandline Lak**	65.72	29	IAmb	IAmb	03 51 00.1
	comp=Z,5.3nm,0.8s					
A36M	**Sachs Harbour**	65.73	13	P	P	03 50 59.7 +0.6
	baz=325,SNR=43					
G27K	**Doyon Strip**	65.76	22	IAmb	IAmb	03 51 07.1
	comp=Z,14nm,1.8s					
G27K	**Doyon Strip**	65.76	22	P	P	03 51 00.3 +0.8
	baz=313					
H27K	**Steamboat Moun**	66.20	22	P	P	03 51 03.2 +0.9
	baz=313					
P19K	**Oil Pt**	66.26	32	P	P	03 51 02.7 -0.1
	baz=306					
I26K	**Coal Creek Min**	66.33	24	P	P	03 51 03.1 +0.1
	baz=312					
BORG	**Borgarnes**	66.38	336	LR	LR	04 21 01.2
	comp=Z,104nm,20.9s,baz=126,slow=37					
TCF	**Toulx Ste Croi**	66.42	311	eP	P	03 51 04.4 +0.4
TCF				pmax	pmax	
	comp=Z,12nm,1.1s					
K24K	**Donnelly Dome**	66.47	26	P	P	03 51 03.0 -1.0
	baz=310					
Q19K	**Cape Douglas,**	66.52	32	P	P	03 51 03.5 -0.9
	baz=306					
LDF	**La Druitiere**	66.54	314	eP	P	03 51 06.6 +1.9
LDF				pmax	pmax	
	comp=Z,80nm,1.9s					
I27K	**Kandik River**	66.60	23	P	P	03 51 06.0 +1.1
	baz=313					
PMG	**Port Moresby**	66.61	125	LR	LR	04 22 33.3
	comp=Z,50nm,18.1s,baz=324,slow=38					
FLN	**La Foliniere**	66.66	314	eP	P	03 51 08.6 +3.2
FLN				pmax	pmax	
	comp=Z,120nm,2.0s					
PMR	**Palmer**	66.69	28	P	P	03 51 04.8 -0.6
	baz=309					
G29M	**Pine Creek**	66.72	21	P	P	03 51 05.6 0.0
	baz=316					
J26L	**Joseph Creek**	66.74	24	P	P	03 51 05.2 -0.6
	baz=312					
RC01	**Rabbit Creek A**	66.77	29	P	P	03 51 05.0 -1.0
	baz=308					
F30M	**Barrier River**	66.82	19	P	P	03 51 06.5 +0.4
	baz=317					
RIDG	**Independent Ri**	66.82	25	IAmb	IAmb	03 51 06.4
	comp=Z,7.4nm,0.7s					
RIDG	**Independent Ri**	66.82	25	P	P	03 51 05.8 -0.5
	baz=311					
SML	**Sawmill**	66.85	28	P	P	03 51 06.2 -0.2
	baz=309					
INK	**Inuvik**	66.87	18	IAmb	IAmb	03 51 07.7
	comp=Z,9.9nm,0.8s					
INK	**Inuvik**	66.87	18	LR	LR	04 25 28.1
	comp=Z,112nm,19.3s,baz=270,slow=41					
INK	**Inuvik**	66.87	18	P	P	03 51 06.8 +0.4
	baz=319,SNR=14					
SCRK	**Sand Creek**	66.95	25	P	P	03 51 06.4 -0.8
	baz=312					
R18K	**Karluk**	66.98	34	P	P	03 51 06.7 -0.6
	baz=306					
KNK	**Knik Glacier**	67.05	28	P	P	03 51 07.9 +0.1
	baz=309					
GRR	**Gorron**	67.07	314	eP	P	03 51 10.2 +2.2
GRR				pmax	pmax	
	comp=Z,118nm,2.0s					
M23K	**Glacier View**	67.08	28	P	P	03 51 08.0 +0.1
	baz=310					
PAX	**Paxson**	67.12	26	P	P	03 51 07.8 -0.4
	baz=311					
H29M	**Whitestone**	67.12	21	P	P	03 51 08.1 0.0
	baz=316					
O22K	**Cooper Landing**	67.15	30	P	P	03 51 08.3 0.0
	baz=309					
G30M	**tAoh Zraii Nji**	67.16	20	IAmb	IAmb	03 51 14.5
	comp=Z,15nm,1.3s					
G30M	**tAoh Zraii Nji**	67.16	20	P	P	03 51 08.4 0.0
	baz=317					
SCM	**Sheep Creek Mo**	67.20	28	P	P	03 51 08.6 -0.2
	baz=310					
I28M	**Miner Creek**	67.21	22	P	P	03 51 08.5 -0.3
	baz=314					
BRSE	**Bradley Lake S**	67.21	31	P	P	03 51 08.3 -0.5
	baz=308					
CAF	**Calviac**	67.22	310	eP	P	03 51 10.9 +1.7
CAF				pmax	pmax	
	comp=Z,11nm,1.2s					
KEST	**Kesra**	67.38	298	LR	LR	04 25 03.8
	comp=Z,191nm,18.1s,baz=38,slow=40					
M24K	**Tolsona, Glenn**	67.44	27	P	P	03 51 10.6 +0.4
	baz=311					
F31M	**Tsiigehtchic**	67.47	19	P	P	03 51 10.0 -0.3
	baz=319					
EPYK	**Eagle Plains**	67.47	21	P	P	03 51 10.0 -0.4
	baz=317					
CHIR	**Chirikof Islan**	67.48	36	P	P	03 51 09.7 -0.8
	baz=306					
SEW	**Seward**	67.50	30	P	P	03 51 09.9 -0.6
	baz=309					
HARP	**HAARP**	67.60	27	P	P	03 51 10.2 -1.0
	baz=311					
MFF	**Saint Martin d**	67.63	312	eP	P	03 51 12.0 +0.4
MFF				pmax	pmax	
	comp=Z,13nm,1.0s					
KDAK	**Kodiak Island**	67.66	33	LR	LR	04 20 57.6
	comp=Z,323nm,21.0s,baz=167,slow=36					
KDAK	**Kodiak Island**	67.66	33	P	P	03 51 10.7 -0.8
	baz=307					
OHAK	**Old Harbor**	67.69	34	P	P	03 51 10.6 -1.1
	baz=307					
KMBO	**Kilima Mbogo**	67.70	249	P	P	03 51 11.9 -0.9
KMBO				IAmb	IAmb	03 51 15.3
	comp=Z,7.1nm,1.1s					
KMBO	**Kilima Mbogo**	67.70	249	P	P	03 51 11.2 -1.6
	comp=Z,3.6nm,0.9s,baz=353,slow=7.7,SNR=3.2					
KMBO				LR	LR	04 21 01.5
	comp=Z,103nm,20.2s,baz=72,slow=36					
	comp=Z,3.6nm,0.9s					
KMBO	**Kilima Mbogo**	67.70	249	P	P	03 51 11.9 -0.9
KMBO				pmax	pmax	
	comp=Z,7.0nm,1.1s					
WB0	**Warramunga Arr**	67.72	142	IAmb	IAmb	03 51 16.6
	comp=Z,12nm,1.0s					
G31M	**Satah River**	67.72	19	IAmb	IAmb	03 51 12.3
	comp=Z,8.4nm,0.8s					
G31M	**Satah River**	67.72	19	P	P	03 51 11.5 -0.4
	baz=319					
I29M	**Ogilvie Camp,**	67.75	22	P	P	03 51 11.5 -0.7
	baz=316					
L26K	**Log Cabin Wild**	67.80	25	P	P	03 51 11.7 -0.8
	baz=313					
WRAB	**Tennant Creek**	67.84	142	P	P	03 51 11.4 -1.7
WRAB	**Tennant Creek**	67.84	142	eP	P	03 51 11.3 -1.9
WRAB				pmax	pmax	
	comp=Z,21nm,1.0s					
WRA	**Warramunga Arr**	67.84	142	P	P	03 51 10.7 -2.5
WRA	**Warramunga Arr**	67.84	142	P	P	03 51 10.6 -2.6
	comp=Z,6.2nm,0.8s,baz=340,slow=6.4,SNR=15					
WRA				LR	LR	04 22 12.8
	comp=Z,112nm,21.9s,baz=322,slow=37					
	comp=Z,6.2nm,0.8s					
WRA	**Warramunga Arr**	67.84	142	iP	P	03 51 11.1 -2.1
WRA				pmax	pmax	
	comp=Z,6.0nm,0.8s					
WB2	**Warramunga Arr**	67.85	142	IAmb	IAmb	03 51 15.1
	comp=Z,12nm,0.8s					
KLU	**Klutina**	67.93	28	P	P	03 51 13.5 +0.2
	baz=311					
KIBK	**Kibwezi**	67.94	248	P	P	03 51 12.4 -1.7
KIBK				IAmb	IAmb	03 51 16.7
	comp=Z,8.3nm,1.2s					
LFF	**La Frestale**	68.01	310	eP	P	03 51 16.1 +2.1
LFF				pmax	pmax	
	comp=Z,8.0nm,0.9s					
C36M	**Paulatuk**	68.14	15	IAmb	IAmb	03 51 14.7
	comp=Z,9.0nm,0.8s					
C36M	**Paulatuk**	68.14	15	P	P	03 51 14.3 -0.1
	baz=326,SNR=9.2					
L27K	**Beaver Creek,**	68.28	25	IAmb	IAmb	03 51 17.3
	comp=Z,28nm,1.8s					
L27K	**Beaver Creek,**	68.28	25	P	P	03 51 15.2 -0.4
	baz=314					
N25K	**Chitina, Valde**	68.33	27	P	P	03 51 15.6 -0.3
	baz=312					
M26K	**Nabesna, AK**	68.35	26	P	P	03 51 15.8 -0.2
	baz=313					
DAWY	**Dawson**	68.36	23	P	P	03 51 15.4 -0.6
	baz=315					
I30M	**Mount Dempster**	68.41	21	P	P	03 51 16.3 -0.1
	baz=317					
J29N	**Klondike Camp**	68.44	23	P	P	03 51 16.9 +0.4
	baz=316					
H31M	**Peel River**	68.55	20	IAmb	IAmb	03 51 20.8
	comp=Z,23nm,1.7s					
H31M	**Peel River**	68.55	20	P	P	03 51 16.7 -0.4
	baz=319					
EYAK	**Cordova Ski Ar**	68.62	28	P	P	03 51 17.6 +0.1
	baz=312					
BMRM	**Bremner River**	68.75	27	P	P	03 51 18.2 -0.3
	baz=312					
M27K	**Edge Creek, AK**	68.76	25	P	P	03 51 18.3 -0.3
	baz=314					
J30M	**Hart River**	68.91	22	IAmb	IAmb	03 51 20.5
	comp=Z,12nm,1.6s					
J30M	**Hart River**	68.91	22	P	P	03 51 19.1 -0.4
	baz=318					
K29M	**Barlow Dome**	69.09	23	IAmb	IAmb	03 51 21.6
	comp=Z,5.7nm,0.7s					
K29M	**Barlow Dome**	69.09	23	P	P	03 51 20.4 -0.3
	baz=317					
EPF	**Esparros**	69.30	309	eP	P	03 51 22.0 -0.2
EPF				pmax	pmax	
	comp=Z,5.0nm,1.1s					
L29M	**L29M**	69.44	24	P	P	03 51 23.5 +0.7
	baz=317					
M29M	**Somme Creek**	69.82	24	P	P	03 51 24.9 -0.3
	baz=316					
ETSF	**Etsaut**	69.92	309	eP	P	03 51 29.4 +3.3
ETSF				pmax	pmax	
	comp=Z,17nm,1.4s					
YUK4	**Talbot Arm**	70.56	25	P	P	03 51 29.1 -0.7
	baz=317					
ASAR	**Alice Springs**	70.84	145	P	P	03 51 29.6 -2.1
ASAR	**Alice Springs**	70.84	145	P	P	03 51 29.4 -2.3
	comp=Z,4.2nm,0.7s,baz=328,slow=6.2,SNR=23					
ASAR				LR	LR	04 24 55.1
	comp=Z,75nm,21.9s,baz=283,slow=38					
	comp=Z,4.2nm,0.7s					
ASAR	**Alice Springs**	70.84	145	P	P	03 51 29.6 -2.1
N30M	**Aishikik Lake**	70.98	24	P	P	03 51 32.0 -0.2
	baz=318					
M31M	**Drury Creek, Y**	71.27	23	P	P	03 51 33.5 -0.4
	baz=320					
HYT	**Haines Junctio**	71.32	25	P	P	03 51 33.8 -0.5
	baz=318					
O29M	**Mount Kennedy**	71.34	26	P	P	03 51 34.1 -0.4
	baz=317					
N31M	**Braeburn, Yuko**	71.38	24	P	P	03 51 34.4 -0.2
	baz=319					
PNL	**Peninsula**	71.52	27	P	P	03 51 35.3 -0.2
	baz=316					

FARO	Faro, Yukon	71.56	22	P	P	03 51 34.9	-0.8
	baz=320						
O30N	Mendenhall	71.82	24	P	P	03 51 37.2	-0.1
	baz=319						
SFJD	Kangerlussuaq	71.89	347	LR	LR	04 27 37.2	
	comp=Z,192nm,18.1s,baz=28,slow=40						
N32M	Quiet Lake	72.48	23	P	P	03 51 40.2	-1.0
	baz=321						
SKAG	Skagway	73.06	25	P	P	03 51 45.0	+0.4
	baz=320						
P33M	Teslin, Yukon	73.29	24	P	P	03 51 46.3	+0.2
	baz=321						
WRGLY	Wrigley	73.43	18	P	P	03 51 47.3	+0.6
	baz=328						
P32M	Atlin	73.49	24	P	P	03 51 47.7	+0.4
	baz=321						
NWAO	Narrogin (SRO)	73.56	163	LR	LR	04 25 60.0	
	comp=Z,104nm,19.9s,baz=269,slow=37						
TGTN	Hyland Airport	73.59	21	P	P	03 51 48.0	+0.2
	baz=324						
OPO	Ambohidratompo	73.72	229	LR	LR	04 21 51.8	
	comp=Z,234nm,19.4s,baz=192,slow=34						
ESDC	Sonseca Array	73.88	308	P	P	03 51 48.7	-1.2
ESDC	Sonseca Array	73.88	308	P	P	03 51 50.5	+0.6
	comp=Z,3.0nm,0.9s,baz=64,slow=5.5,SNR=12						
ESDC				LR	LR	04 26 39.2	
	comp=Z,459nm,18.9s,baz=36,slow=38						
	comp=Z,3.0nm,0.9s						
S31K	Pelican	73.89	26	P	P	03 51 48.0	-1.5
	baz=319						
R33M	Jennings River	74.52	23	P	P	03 51 53.4	+0.1
	baz=323						
WTLY	Watson Lake, Y	74.59	22	P	P	03 51 53.8	+0.2
	baz=324						
DLBC	Dease Lake	75.58	24	LR	LR	04 30 12.2	
	comp=Z,162nm,18.3s,baz=322,slow=40						
DLBC	Dease Lake	75.58	24	P	P	03 52 00.1	+0.7
	baz=324						
S34M	Telegraph Cree	75.65	24	P	P	03 52 00.5	+0.8
	baz=323						
YKA	Yellowknife Ar	76.02	15	P	P	03 52 01.6	-0.2
	comp=Z,2.2nm,0.9s,baz=332,slow=5.5,SNR=27						
	comp=Z,2.2nm,0.9s						
U33K	Whale Pass	76.41	26	P	P	03 52 03.0	-0.9
	baz=322						
TOAD	Toad River Com	76.66	21	P	P	03 52 05.3	-0.2
	baz=327						
T35M	Bob Quinn	76.68	25	P	P	03 52 05.0	-0.6
	baz=324						
FRB	Frobisher Bay	77.35	354	LR	LR	04 27 41.6	
	comp=Z,154nm,19.5s,baz=2.0,slow=37						
MDT	Midelt	78.48	303	LR	LR	04 29 33.6	
	comp=Z,102nm,18.8s,baz=39,slow=38						
BBB	Bella Bella	81.32	26	LR	LR	04 31 18.6	
	comp=Z,166nm,19.9s,baz=338,slow=38						
STKA	Stephens Creek	81.37	143	P	P	03 52 29.0	-2.5
	comp=Z,3.2nm,0.7s,baz=317,slow=5.4,SNR=6.7						
	comp=Z,3.2nm,0.7s						
STKA	Stephens Creek	81.37	143	*de*P	P	03 52 28.9	-2.6
LSZ	Lusaka	83.83	245	P	P	03 52 42.8	-2.0
LSZ	Lusaka	83.83	245	LR	LR	04 30 31.7	
	comp=Z,107nm,18.4s,baz=66,slow=36						
LSZ	Lusaka	83.83	245	P	P	03 52 42.8	-2.0
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FFC	Flin Flon	85.57	11	P	P	03 52 51.9	-1.0
FFC	Flin Flon	85.57	11	P	P	03 52 51.9	-1.0
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SCHQ	Schefferville	85.92	351	P	P	03 52 53.1	-1.6
	comp=Z,3.8nm,0.8s,baz=9.3,slow=5.5,SNR=4.5						
SCHQ				LR	LR	04 34 58.1	
	comp=Z,200nm,19.3s,baz=346,slow=38						
	comp=Z,3.8nm,0.8s						
NEW	Newport	88.26	22	LR	LR	04 36 00.2	
	comp=Z,281nm,18.1s,baz=335,slow=38						
C09A	Chrisman Ranch	88.33	23	IAmb	IAmb	03 53 08.2	
	comp=Z,6.5nm,0.8s						
DZM	Mont Dzumac	88.51	120	LR	LR	04 31 35.0	
	comp=Z,52nm,19.6s,baz=246,slow=35						
MXC	Moxie City	88.77	25	IAmb	IAmb	03 53 10.1	
	comp=Z,6.9nm,0.7s						
E07A	Sunnyside	88.92	25	IAmb	IAmb	03 53 11.5	
	comp=Z,7.4nm,0.8s						
E08A	Dider Farm, El	89.24	24	IAmb	IAmb	03 53 16.6	
	comp=Z,11nm,1.3s						
F10A	Beach Ranch, E	90.28	23	IAmb	IAmb	03 53 18.1	
	comp=Z,5.8nm,0.8s						
ULM	Lac du Bonnet	90.76	8	P	P	03 53 16.1	-1.7
	comp=Z,1.2nm,0.8s,baz=298,slow=3.1,SNR=3.3						
ULM				LR	LR	04 35 51.0	
	comp=Z,157nm,19.7s,baz=2.5,slow=37						
	comp=Z,1.2nm,0.8s						
PINE	Pine Mountain	90.99	27	IAmb	IAmb	03 53 21.8	
	comp=Z,7.9nm,0.9s						
LBTB	Lobatse	92.16	240	LR	LR	04 33 09.4	
	comp=Z,84nm,20.4s,baz=44,slow=34						
TSUM	Tsumeb	94.04	249	LR	LR	04 37 53.7	
	comp=Z,96nm,18.5s,baz=63,slow=37						
BOSA	Boshof	94.78	237	LR	LR	04 36 39.6	
	comp=Z,114nm,18.3s,baz=40,slow=36						
DBIC	Dimbokro	95.25	283	P	P	03 53 39.2	+0.1
	comp=Z,3.5nm,0.8s,baz=322,slow=6.4,SNR=3.5						
DBIC				LR	LR	04 43 46.5	
	comp=Z,162nm,18.3s,baz=46,slow=40						
	comp=Z,3.5nm,0.8s						
PDAR	Pinedale Array	95.41	19	P	P	03 53 39.5	-0.2
	comp=Z,0.4nm,0.8s,baz=57,slow=5.5,SNR=4.0						
PDAR				LR	LR	04 42 29.1	
	comp=Z,68nm,18.1s,baz=342,slow=39						
	comp=Z,0.4nm,0.8s						
NVAR	Mina Array Bea	96.65	27	LR	LR	04 38 59.1	
	comp=Z,170nm,18.9s,baz=2.5,slow=36						
SADO	Sadowa	96.93	357	LR	LR	04 38 32.7	
	comp=Z,214nm,19.8s,baz=39,slow=36						
BBTS	Babate	98.60	296	LR	LR	04 48 25.5	
	comp=Z,58nm,20.1s,baz=285,slow=41						
SYO	Syowa Base	115.39	200	‖ *e*P	diff	03 55 07.0	-0.5
QSPA	South Pole Qui	128.38	180	PKP	PKPdf	03 59 17.4	-3.1
	comp=Z,2.1nm,1.1s,baz=304,slow=2.4,SNR=2.7						

UPA ***20*** *03:42:22.4±1.3,8°.77N×77°.51W,h47km±26km, MD3.9, MW4.2*
RSNC ***20*** *03:42:23.1±0.0,9°N±1°×7°7W±°, h50km±3km,M3.1,mb3.9, ML2.9*
ISC 20 03:42:22.0±1.2,8°.79N±0°.03×77°.51W±0°.02,h53km±9km, n48,σ1°33/86,3C-6D,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	Capurgana	0.22	135	P	Pn	03 42 30.6	-0.2
CAPC				S	Sn	03 42 37.1	0.0
CAPC	Capurgana	0.22	135	P		03 42 30.6	
CAPC				S		03 42 37.1	
UPD2	Meteti	0.56	244	‖ *i*P	Pn	03 42 33.9	-0.2
LCBC	Los crdobas,	1.13	87	P	Pn	03 42 43.3	+1.7
LCBC				S	Sn	03 42 56.3	+0.2
LCBC	Los crdobas,	1.13	87	*e*P	Pn	03 42 42.4	+0.8
LCBC				*i* S	Sn	03 42 56.0	-0.1
LCBC	Los crdobas,	1.13	87	P		03 42 43.3	
LCBC				S		03 42 56.3	
APAC	Apartado, Choc	1.28	134	P	Pn	03 42 43.9	+0.3
APAC				S	Sn	03 43 01.6	+1.9
APAC	Apartado, Choc	1.28	134	P		03 42 43.9	
APAC				S		03 43 01.6	
CNTA3	Canitas, Panam	1.43	287	‖ *i*P	Pn	03 42 45.8	+0.2
CNTA3				*i* S	Sn	03 43 03.5	+0.3
PTAC	Punta Ardita,	1.66	190	P	Pn	03 42 48.0	-0.8
PTAC				S	Sn	03 43 08.6	-0.4
PTAC	Punta Ardita,	1.66	190	‖ *e*P	Pn	03 42 48.4	-0.4
PTAC				*i* S	Sn	03 43 08.7	-0.3
PTAC	Punta Ardita,	1.66	190	P		03 42 48.0	
PTAC				S		03 43 08.6	
UPA	Univ. de Panam	2.01	275	⇑ *e*P	Pn	03 42 53.8	+0.3
UPA				*i* S	Sn	03 43 16.6	-0.9
TABO3	Taboga, Panama	2.02	270	*e*P	Pn	03 42 54.0	+0.3
ARRA3	Arraijan, Pana	2.13	275	*e*P	Pn	03 42 55.3	+0.2
ARRA3				*e*S	Sn	03 43 22.9	+2.5
DBBC	Dabeiba	2.19	144	P	Pn	03 42 55.8	-0.2
DBBC				S	Sn	03 43 23.0	+1.0
DBBC	Dabeiba	2.19	144	P		03 42 55.8	
DBBC				S		03 43 23.0	
UREC	San Jos de Ur	2.21	118	P	Pn	03 42 55.9	-0.5
UREC				S	Sn	03 43 20.9	-1.7
UREC	San Jos de Ur	2.21	118	⇑ *i*P	Pn	03 42 56.1	-0.3
UREC				*i* S	Sn	03 43 22.3	-0.3
UREC	San Jos de Ur	2.21	118	P		03 42 55.9	
UREC				S		03 43 20.9	
CHOR3	La Chorrera	2.23	273	‖ *e*P	Pn	03 42 57.1	+0.5
CHOR3				*i* S	Sn	03 43 23.5	+0.5
BCIP	Isla Barro Col	2.33	279	P	Pn	03 42 58.4	+0.6
BCIP				S	Sn	03 43 26.5	+1.2
BCIP	Isla Barro Col	2.33	279	‖ *e*P	Pn	03 42 58.5	+0.6
BCIP				*e*S	Sn	03 43 24.0	-1.3
BCIP	Isla Barro Col	2.33	279	P		03 42 58.4	
BCIP				S		03 43 26.5	
SJCC	San Jacinto, C	2.55	64	P	Pn	03 43 01.7	+0.7
SJCC				S	Sn	03 43 30.2	-0.7
SJCC	San Jacinto, C	2.55	64	P		03 43 01.7	
SJCC				S		03 43 30.2	
SOLC	Bahia Solano	2.55	178	P	Pn	03 43 03.0	+2.0
SOLC				S	Sn	03 43 30.7	-0.1
SOLC	Bahia Solano	2.55	178	P		03 43 03.0	
SOLC				S		03 43 30.7	
PNME	Penonome	2.80	264	*e*P	Pn	03 43 03.5	-0.9
AZU	Azuero	2.91	250	P	Pn	03 43 06.3	+0.4
AZU				S	Sn	03 43 38.6	-1.0
AZU	Azuero	2.91	250	*i* P	Pn	03 43 06.2	+0.4
AZU				*e*S	Sn	03 43 33.6	-6.0
AZU	Azuero	2.91	250	P		03 43 06.3	
AZU				S		03 43 38.6	
ZARC	Zaragoza, Cauc	2.93	116	P	Pn	03 43 05.8	-0.3
ZARC				S	Sn	03 43 38.2	-1.9
ZARC	Zaragoza, Cauc	2.93	116	P		03 43 05.8	
ZARC				S		03 43 38.2	
CHIT3	Chitre	2.99	254	*e*P	Pn	03 43 07.4	+0.4
CRIS3	El Cristo, Coc	3.12	260	*e*P	Pn	03 43 08.4	-0.4
CBOC	Ciudad Bolivar	3.27	153	P	Pn	03 43 11.5	+0.5
CBOC				S	Sn	03 43 49.1	+0.4
CBOC	Ciudad Bolivar	3.27	153	P		03 43 11.5	
CBOC				S		03 43 49.1	
CALO3	Calobre, Verag	3.33	262	‖ *e*P	Pn	03 43 12.8	+1.2
ARGC	Ariguani, Magd	3.39	72	P	Pn	03 43 13.5	+1.0
ARGC				S	Sn	03 43 50.9	-0.6
ARGC	Ariguani, Magd	3.39	72	P		03 43 13.5	
ARGC				S		03 43 50.9	
CACAO	El Cacao, Vera	3.62	247	P	Pn	03 43 15.6	+0.1
CACAO				S	Sn	03 43 55.5	-1.5
CACAO	El Cacao, Vera	3.62	247	*e*P	Pn	03 43 15.2	-0.4
CACAO	El Cacao, Vera	3.62	247	P		03 43 15.6	
CACAO				S		03 43 55.5	
PTBC	PUERTO BERRIO,	3.77	126	P	Pn	03 43 16.7	-0.9
PTBC				S	Sn	03 43 59.0	-1.7
PTBC	PUERTO BERRIO,	3.77	126	P		03 43 16.7	
PTBC				S		03 43 59.0	
PIZC	Pizarro, Choco	3.81	178	P	Pn	03 43 20.1	+1.9
PIZC				S	Sn	03 44 01.7	0.0
PIZC	Pizarro, Choco	3.81	178	P		03 43 20.1	
PIZC				S		03 44 01.7	
GMAL	Guarumal, Vera	3.82	255	P	Pn	03 43 20.2	+1.8
GMAL				S	Sn	03 44 03.3	+1.2
GMAL	Guarumal, Vera	3.82	255	‖ *e*P	Pn	03 43 20.5	+2.1
GMAL	Guarumal, Vera	3.82	255	P		03 43 20.2	
GMAL				S		03 44 03.3	
SMRC	Santa Marta, M	4.00	54	P	Pn	03 43 21.9	+1.0
SMRC				S	Sn	03 44 06.0	-0.6
SMRC	Santa Marta, M	4.00	54	P		03 43 21.9	
SMRC				S		03 44 06.0	
GUY2C	Guyana, Caldas	4.14	149	P	Pn	03 43 25.4	+2.3
GUY2C				S	Sn	03 44 11.7	+1.2
GUY2C	Guyana, Caldas	4.14	149	P		03 43 25.4	
GUY2C				S		03 44 11.7	
NORC	Norcasia	4.14	141	P	Pn	03 43 24.0	+1.1
NORC				S	Sn	03 44 10.3	+0.2
NORC	Norcasia	4.14	141	P		03 43 24.0	
NORC				S		03 44 10.3	
BRJC	Barrancabermej	4.15	116	P	Pn	03 43 22.9	+0.1
BRJC				S	Sn	03 44 09.5	-0.6
BRJC	Barrancabermej	4.15	116	P		03 43 22.9	
BRJC				S		03 44 09.5	
OCAC	Ocana	4.18	97	P	Pn	03 43 24.4	+0.9
OCAC				S	Sn	03 44 09.6	-1.6
OCAC	Ocana	4.18	97	P		03 43 24.4	
OCAC				S		03 44 09.6	
MALC	Bahia Malaga	4.75	178	P	Pn	03 43 33.2	+2.0
MALC				S	Sn	03 44 24.8	-0.2
MALC	Bahia Malaga	4.75	178	P		03 43 33.2	
MALC				S		03 44 24.8	
BARC	Barichara	4.81	117	P	Pn	03 43 32.3	+0.1
BARC				S	Sn	03 44 28.2	+1.3
BARC	Barichara	4.81	117	P		03 43 32.3	
BARC				S		03 44 28.2	
YOTC	Yotoco, Valle	4.92	166	P	Pn	03 43 33.1	-0.4
YOTC				S	Sn	03 44 26.3	-2.9
YOTC	Yotoco, Valle	4.92	166	P		03 43 33.1	
YOTC				S		03 44 26.3	
PAMC	Pamplona, Colo	4.98	107	P	Pn	03 43 34.7	0.0
PAMC				S	Sn	03 44 30.5	-0.7
PAMC	Pamplona, Colo	4.98	107	P		03 43 34.7	
PAMC				S		03 44 30.5	
CRJC	Cerrejon, Guaj	5.07	64	P	Pn	03 43 35.9	+0.3
	19nm,0.9s						
CRJC				S	Sn	03 44 29.9	-3.0
	19nm,0.9s						
CRJC	Cerrejon, Guaj	5.07	64	P		03 43 35.9	
	19nm,0.9s						
CRJC				S		03 44 29.9	
	19nm,0.9s						
RUSC	La Rusia	5.25	123	P	Pn	03 43 38.2	-0.3
	7.1nm,0.8s						
RUSC				S	Sn	03 44 35.3	-2.7
	7.1nm,0.8s						
RUSC	La Rusia	5.25	123	P		03 43 38.2	
	7.1nm,0.8s						
RUSC				S		03 44 35.3	
	7.1nm,0.8s						
CHIC	Chingaza	5.58	138	P	Pn	03 43 44.5	+1.5
	4.2nm,0.5s						
CHIC				S	Sn	03 44 44.9	-1.2
	4.2nm,0.5s						
CHIC	Chingaza	5.58	138	P		03 43 44.5	
	4.2nm,0.5s						
CHIC				S		03 44 44.9	
	4.2nm,0.5s						
TAMC	Tame, Arauca	6.13	112	P	Pn	03 43 50.1	-0.1
	15nm,0.6s						
TAMC	Tame, Arauca	6.13	112	P		03 43 50.1	
	15nm,0.6s						
POPC	Popayan, Colom	6.27	172	P		03 43 53.4	
POPC	Popayan, Colom	6.27	172	P	Pn	03 43 53.4	+1.2

SJA ***20*** *03:44:38.0,30°.20S×71°.54W,h10km, ML3.1*
GUC ***20*** *03:44:40.8±0.6,30°.26S×71°.25W,h58km±3km, ML3.0*
ISC 20 03:44:42.0±1.6,30°.21S±0°.04×71°.41W±0°.06,h54km±11km, n34,σ1°14/40,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.33	27	*e*P	Pn	03 44 51.7	0.0
CO05				*e*S	Sn	03 44 59.7	+1.0
CO05				IAML		03 45 01.8	
	comp=N,2μm,0.2s						
CO06	Fray Jorge	0.50	203	*e*P	Pn	03 44 53.9	+0.4
CO06				*e*S	Sn	03 45 03.4	+1.6
CO06				IAML		03 45 04.8	
	comp=N,709nm,0.2s						
GO04	Tololo Observa	0.53	86	*i* P	Pn	03 44 52.3	-1.8
GO04	Tololo Observa	0.53	86	*e*P	Pn	03 44 53.2	-0.9
GO04				*e*S	Sn	03 45 02.2	-0.6
CO03	El Pedregal	0.88	135	*i* P	Pn	03 44 56.0	-2.4
CO03	El Pedregal	0.88	135	⇑ *e*P	Pn	03 44 56.9	-1.5
CO03				IAML		03 45 09.6	
	comp=E,842nm,0.5s						
CO01	Juntas del Tor	1.16	79	*i* P	Pn	03 45 00.6	-1.7
CO01	Juntas del Tor	1.16	79	⇑ *e*P	Pn	03 45 01.3	-0.9
CO01				IAML		03 45 16.6	
	comp=E,432nm,0.2s						
LCO	Las Campanas	1.35	27	*i* P	Pn	03 45 02.7	-2.0
AROD	Rodeo	1.68	89	*i* P	Pn	03 45 09.6	+0.3
AC04	Llanos de Chal	2.02	8	*i* P	Pn	03 45 12.6	-1.1
ACCO	Cerro Coronel	2.06	101	*i* P	Pn	03 45 15.7	+1.3
DOCA	Reserva Natura	2.14	111	*i* P	Pn	03 45 15.2	-0.3
VA06	Catapilco	2.34	178	*e*P	Pn	03 45 17.1	-0.9
VA06				IAML		03 45 54.3	
	comp=E,140nm,0.3s						
AGUA	GUANDACOL	2.64	75	*i* P	Pn	03 45 24.4	+2.2
VA03	San Esteban	2.65	164	*i* P	Pn	03 45 21.7	-0.6
VA03	San Esteban	2.65	164	*e*P	Pn	03 45 22.1	-0.2
VA03				*e*S	Sn	03 45 53.7	+0.5
PEL	Peldehue	2.99	168	*e*P	Pn	03 45 26.3	-0.6
PEL				*e*S	Sn	03 46 01.7	+0.2
PEL				IAML		03 46 17.2	
MT02	Curacav	3.05	176	*i* P	Pn	03 45 25.7	-1.9
MT02	Curacav	3.05	176	*e*P	Pn	03 45 27.1	-0.6
MT02				IAML		03 46 09.4	
	comp=E,50nm,0.8s						
VCA	Vinchina	3.16	63	*i* P	Pn	03 45 30.8	+1.4
MT03	Universidad Ad	3.36	167	*i* P	Pn	03 45 31.9	-0.1
MT03	Universidad Ad	3.36	167	*e*P	Pn	03 45 31.9	-0.1
MT04	Ro Olivares	3.36	162	*i* P	Pn	03 45 33.0	+0.8
MT08	Bocatoma Ro	3.43	160	*i* P	Pn	03 45 35.1	+1.9
AVFE	Valle Fertil	3.44	98	*i* P	Pn	03 45 33.1	-0.1
MT01	Popeta	3.64	178	*i* P	Pn	03 45 34.9	-0.9
MT01	Popeta	3.64	178	*e*P	Pn	03 45 34.6	-1.2
MT01				IAML		03 46 27.9	
	comp=E,30nm,0.4s						
LMEL	Las Melosas	3.77	165	*e*P	Pn	03 45 37.5	-0.2
LMEL				*e*S	Sn	03 46 20.8	-0.1
ACLC	CERRO LA CRUZ	3.95	80	*i* P	Pn	03 45 40.3	0.0
BO01	Tunca	4.18	176	*i* P	Pn	03 45 43.3	+0.1
APLL	PUNTA DE LOS L	4.22	94	*i* P	Pn	03 45 43.9	0.0
BO02	Sierra Bellavi	4.60	174	*i* P	Pn	03 45 48.7	-0.3
RFA	San Rafael	5.18	152	*i* P	Pn	03 45 56.0	-1.0

IDC ***20*** *03:46:58.0±1.1,54°.47N×165°.23E,h0km, mb3.7/9, mbtmp3.7/10,ML3.5/1,Error ellipse: s-maj=43.0km s-min=16.8km az=168.0*
KRSC ***20*** *03:46:58.4±2.2,54°.87N×164°.64E,h61km±29km,Ml4.3*
MOS ***20*** *03:47:00.4±0.7,54°.90N×164°.69E,h48km, mb3.9/1, Error ellipse: s-maj=8.6km s-min=7.6km az=53.4*
ISC 20 03:47:01.1±1.8,54°.88N±0°.04×164°.72E±0°.04,h32km±14km, n72,σ1°70/103,mb3.5/9,1C-1D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.79	66	PN	Pn	03 47 16.2	+0.3
BKI				S	Sb	03 47 26.8	+0.1
BKI	Bering	0.79	66	*e*P	Pn	03 47 16.2	+0.3
BKI				*e*S	Sb	03 47 26.9	+0.1
KBTR	Krutoberegovo	1.71	322	PN	Pn	03 47 26.7	-1.9
KBTR				S	Sn	03 47 45.3	-4.0
KBTR	Krutoberegovo	1.71	322	*e*P	Pn	03 47 26.7	-1.9
KBTR				*e*S	Sn	03 47 45.4	-4.0
KBG	Krutoberegovo	1.79	321	PN	Pn	03 47 27.9	-1.7
KBG				S	Sn	03 47 47.2	-4.0
KBG	Krutoberegovo	1.79	321	*e*P	Pn	03 47 27.9	-1.7
KBG				*e*S	Sn	03 47 47.2	-4.0
SMKR	Semkarok	2.50	314	PN	Pn	03 47 39.6	0.0
SMKR				S	Sn	03 48 09.2	+0.2
SMKR	Semkarok	2.50	314	*e*P	Pn	03 47 39.6	0.0
SMKR				*e*S	Sn	03 48 09.2	+0.2
TUMD	Tumrok D	2.51	279	*e*P	Pn	03 47 39.0	-0.6
TUMD				*e*S	Sn	03 48 09.2	+0.2
CIRR	Tsirk	2.57	300	PN	Pn	03 47 40.7	+0.1
CIRR				S	Sn	03 48 09.5	-1.3
CIRR	Tsirk	2.57	300	*e*P	Pn	03 47 40.7	+0.1
CIRR				*e*S	Sn	03 48 09.5	-1.3
LGNR	Loginova	2.59	299	PN	Pn	03 47 41.4	+0.5
LGNR				S	Sn	03 48 12.7	+1.3
LGNR	Loginova	2.59	299	*e*P	Pn	03 47 41.4	+0.5
LGNR				*e*S	Sn	03 48 12.8	+1.3
SRKR	Sorokina	2.68	313	*e*S	Sn	03 48 16.1	+2.8
KMNR	Kamenistaya	2.71	291	PN	Pn	03 47 43.8	+1.4
KMNR				S	Sn	03 48 15.7	+1.7
KMNR	Kamenistaya	2.71	291	*e*P	Pn	03 47 43.8	+1.4
KMNR				*e*S	Sn	03 48 15.7	+1.7
KRSR	Krestovskiy	2.71	301	PN	Pn	03 47 41.8	-0.6
KRSR				S	Sn	03 48 14.0	-0.1
KRSR	Krestovskiy	2.71	301	*e*P	Pn	03 47 41.9	-0.6
KRSR				*e*S	Sn	03 48 14.1	-0.1
KIRR	Kirishev	2.71	295	PN	Pn	03 47 43.1	+0.6
KIRR				S	Sn	03 48 15.9	+1.6
KIRR	Kirishev	2.71	295	*e*P	Pn	03 47 43.2	+0.6
KIRR				*e*S	Sn	03 48 15.9	+1.6
KLY	Klyuchi	2.72	303	PN	Pn	03 47 40.7	-1.7
KLY				S	Sn	03 48 11.2	-2.9
KLY	Klyuchi	2.72	303	*e*P	Pn	03 47 40.7	-1.7
KLY				*e*S	Sn	03 48 11.2	-2.9
SRDR	Sredinnyy	3.18	299	PN	Pn	03 47 50.2	+1.4
SRDR				S	Sn	03 48 27.8	+2.2
SRDR	Sredinnyy	3.18	299	*e*P	Pn	03 47 50.2	+1.4
SRDR				*e*S	Sn	03 48 27.9	+2.2
SPN	Mys Shipunski	3.30	239	PN	Pn	03 47 49.8	-0.6
SPN	Mys Shipunski	3.30	239	*e*P	Pn	03 47 49.8	-0.6
SPN				*e*S	Sn	03 48 24.2	-4.3
ESO	Esso	3.59	289	PN	Pn	03 47 54.3	0.0
ESO	Esso	3.59	289	*e*P	Pn	03 47 54.4	0.0
UGLR	Uglovaya	3.86	247	PN	Pn	03 47 58.6	+0.4
UGLR	Uglovaya	3.86	247	*e*P	Pn	03 47 58.6	+0.4
AVH	Avacha	3.88	248	PN	Pn	03 47 59.5	+1.1
AVH				S	Sn	03 48 41.1	-1.8
AVH	Avacha	3.88	248	*e*P	Pn	03 47 59.5	+1.1
AVH				*e*S	Sn	03 48 41.2	-1.8
KRX	Arik	3.88	249	PN	Pn	03 47 59.5	+0.9
KRX				S	Sn	03 48 40.7	-2.4
KRX	Arik	3.88	249	*e*P	Pn	03 47 59.5	+0.9
KRX				*e*S	Sn	03 48 40.8	-2.4
KOK	Koryaka	3.92	248	PN	Pn	03 47 59.5	+0.5
KOK				S	Sn	03 48 42.1	-1.9
KOK	Koryaka	3.92	248	*e*P	Pn	03 47 59.5	+0.5
KOK				*e*S	Sn	03 48 42.1	-1.9
DALK	Dalny	3.98	245	PN	Pn	03 47 59.5	-0.3
DALK	Dalny	3.98	245	*e*P	Pn	03 47 59.5

KURBB **Kurchatov Arra** 49.18 303 P P 03 55 51.3 +5.7
comp=Z,1.1nm,0.7s,baz=57,slow=7.7,SNR=5.6
comp=Z,1.1nm,0.7s
FFC **Flin Flon** 49.80 49 *i* P **P** **03 55 47.9 -2.3**
MKAR **Makanchi Array** 49.81 297 P P 03 55 56.2 +5.7
comp=Z,0.3nm,0.7s,baz=61,slow=8.5,SNR=3.5
comp=Z,0.3nm,0.7s
BVAR **Borovoye Array** 51.38 310 P P 03 56 09.1 +6.8
comp=Z,0.2nm,0.3s,baz=45,slow=7.7,SNR=1.7
comp=Z,0.2nm,0.3s
NVAR **Mina Array Bea** 52.59 74 P **P** **03 56 14.0 +2.3**
comp=Z,0.9nm,0.7s,baz=297,slow=7.3,SNR=5.8
comp=Z,0.9nm,0.7s
PDAR **Pinedale Array** 54.27 65 P **P** **03 56 25.5 +1.5**
comp=Z,0.3nm,0.8s,baz=296,slow=5.4,SNR=3.1
comp=Z,0.3nm,0.8s
TXAR **Lajitas Array** 67.44 71 P **P** **03 57 55.0 +1.4**
comp=Z,1.7nm,0.5s,baz=300,slow=5.2,SNR=23
comp=Z,1.7nm,0.5s
TXAR **Lajitas Array** 67.44 71 P **P** **03 57 55.0 +1.4**

---

*IDC **20** 03:59:36.6±1.0,51°.10N×30°.11W,h0km,mb3.7/16, mbtmp3.7/16,MS3.7/9,Error ellipse: s-maj=31.2km s-min=14.9km az=9.0*

ISC 20 03:59:38.7±0.8,51°.1N±0°.2×30°.15W±0°.10,h14km,n25, σ0°93/19,mb3.7/17,MS3.7/9,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**21.51**	**112**	P	**P**	**04 04 27.4**	**+0.4**
	1.1nm,0.9s,baz=308,slow=11,SNR=5.2						
	1.1nm,0.9s						
SCHQ	**Schefferville**	**22.26**	**294**	P	**P**	**04 04 33.7**	**-1.3**
	4.5nm,0.8s,baz=83,slow=9.8,SNR=4.8						
SCHQ				LR	LR	04 11 35.0	
	comp=Z,87nm,20.8s,baz=66,slow=32						
	4.5nm,0.8s						
NOA	**NORSAR Array B**	**24.75**	**50**	P	**P**	**04 04 59.3**	**-0.2**
	2.0nm,1.1s,baz=249,slow=10,SNR=3.2						
	2.0nm,1.1s						
GERES	**GERESS Array B**	**27.99**	**77**	P	**P**	**04 05 28.6**	**-0.2**
	1.4nm,1.0s,baz=294,slow=9.5,SNR=2.8						
	1.4nm,1.0s						
SADO	**Sadowa**	**32.92**	**279**	LR	LR	04 18 42.3	
	comp=Z,148nm,18.9s,baz=44,slow=35						
ULM	**Lac du Bonnet**	**40.42**	**296**	P	**P**	**04 07 15.3**	**-0.8**
	1.0nm,0.5s,baz=67,slow=3.1,SNR=3.2						
	1.0nm,0.5s						
YKA	**Yellowknife Ar**	**44.33**	**319**	P	**P**	**04 07 49.5**	**+1.7**
	0.3nm,0.8s,baz=62,slow=7.6,SNR=3.7						
YKA				LR	LR	04 24 26.5	
	comp=Z,182nm,19.3s,baz=272,slow=34						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**44.87**	**79**	P	**P**	**04 07 53.5**	**+0.9**
	1.2nm,0.9s,baz=294,slow=6.8,SNR=6.9						
	1.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**45.77**	**134**	P	**P**	**04 07 59.7**	**+0.1**
	91nm,0.3s,baz=340,slow=7.8,SNR=3.0						
BELG	**Belogornoye**	**45.98**	**56**	LR	LR	04 25 42.6	
	comp=Z,101nm,19.4s,baz=310,slow=34						
ARTI	**Arti**	**49.18**	**47**	LR	LR	04 27 28.6	
	comp=Z,61nm,19.1s,baz=288,slow=34						
GNI	**Garni**	**51.37**	**71**	LR	LR	04 32 20.4	
	comp=Z,39nm,18.1s,baz=304,slow=38						
PDAR	**Pinedale Array**	**52.40**	**294**	P	**P**	**04 08 50.1**	**-0.4**
	0.6nm,0.8s,baz=65,slow=7.7,SNR=6.1						
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**52.46**	**54**	P	**P**	**04 08 50.6**	**0.0**
	1.3nm,0.5s,baz=283,slow=7.1,SNR=4.1						
	1.3nm,0.5s						
ILAR	**Eielson Array**	**54.61**	**332**	P	**P**	**04 09 07.3**	**+1.1**
	0.3nm,1.1s,baz=90,slow=4.3,SNR=4.3						
	0.3nm,1.1s						
BVAR	**Borovoye Array**	**56.74**	**45**	P	**P**	**04 09 20.7**	**-0.9**
	0.7nm,0.5s,baz=299,slow=7.6,SNR=4.2						
BVAR				LR	LR	04 33 45.0	
	comp=Z,43nm,19.0s,baz=339,slow=36						
	0.7nm,0.5s						
TXAR	**Lajitas Array**	**57.70**	**278**	P	**P**	**04 09 29.3**	**+0.5**
	0.2nm,0.7s,baz=43,slow=6.7,SNR=3.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**62.02**	**43**	P	**P**	**04 09 56.6**	**-1.5**
	0.9nm,0.2s,baz=319,slow=7.5,SNR=1.2						
	0.9nm,0.2s						
ZALV	**Zalesovo Beam**	**62.08**	**37**	P	**P**	**04 09 58.4**	**0.0**
	0.4nm,0.4s,baz=328,slow=5.2,SNR=2.3						
	0.4nm,0.4s						
AAK	**Ala-Archa**	**66.06**	**51**	LR	LR	04 38 29.3	
	comp=Z,79nm,20.1s,baz=336,slow=35						
MKAR	**Makanchi Array**	**66.54**	**44**	P	**P**	**04 10 26.7**	**-1.1**
	0.3nm,0.5s,baz=339,slow=4.7,SNR=6.2						
	0.3nm,0.5s						
SONM	**Songino Array**	**74.66**	**29**	P	**P**	**04 11 17.7**	**+0.3**
	0.5nm,0.8s,baz=316,slow=8.2,SNR=2.4						
	0.5nm,0.8s						
KMBO	**Kilima Mbogo**	**76.86**	**109**	LR	LR	04 45 28.4	
	comp=Z,37nm,19.9s,baz=77,slow=36						
WRA	**Warramunga Arr**	**146.63**	**27**	PKPbc	**PKPab**	**04 19 19.8**	**-1.1**
	0.7nm,0.7s,baz=335,slow=3.8,SNR=2.0						
ASAR	**Alice Springs**	**150.00**	**30**	PKPbc	**PKPbc**	**04 19 27.9**	**-0.7**
	0.3nm,0.5s,baz=319,slow=2.0,SNR=4.1						

---

*NEIC **20** 04:06:51.2±1.5,9°.40N±0°.07×84°.49W±0°.02,h35km±2km, ML3.6/16,Error ellipse: s-maj=12.1km s-min=3.1km az=2.0*
*UCR **20** 04:06:51.3±0.8,9°.43N×84°.57W,h18km±3km,MW4.0*

ISC 20 04:06:50.6±1.2,9°.39N±0°.05×84°.57W±0°.03,h26km±11km, n80,σ0°42/86,2C-21D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVQ2	**Quepos**	**0.40**	**84**	*eP*	**Pb**	**04 06 59.3**	**+0.1**
SVQ2				*eS*	**Sb**	**04 07 05.4**	**+0.3**
PICV	**PH. Pirrs**	**0.44**	**57**	‖*eP*	**Pb**	**04 06 59.8**	**-0.1**
PICV				*eS*	**Sb**	**04 07 06.5**	**+0.2**
LLNJ	**Naranjito**	**0.47**	**80**	*eP*	**Pb**	**04 07 00.4**	**0.0**
LLNJ				*eS*	**Sb**	**04 07 07.5**	**+0.5**
PISJ	**San Jernim**	**0.50**	**61**	‖*eP*	**Pb**	**04 07 00.8**	**-0.2**
CBL1	**Cabuya**	**0.56**	**291**	*eP*	**Pb**	**04 07 02.1**	**+0.2**
ACOS	**Acosta**	**0.57**	**44**	‖*eP*	**Pb**	**04 07 01.7**	**-0.4**
ABE2	**San Pablo**	**0.59**	**58**	*eP*	**Pb**	**04 07 02.4**	**-0.3**
RAZU	**San Marcos de**	**0.60**	**63**	‖*eP*	**Pb**	**04 07 02.5**	**-0.2**
ARZA	**Esparza**	**0.61**	**350**	*eP*	**Pb**	**04 07 02.2**	**-0.5**
LCR2	**La Lucha 2**	**0.65**	**58**	*eP*	**Pb**	**04 07 03.1**	**-0.5**
SANTA	**Santa Ana**	**0.66**	**35**	*eP*	**Pb**	**04 07 03.1**	**-0.5**
BELE	**Belen**	**0.69**	**33**	‖*iP*	**Pb**	**04 07 03.7**	**-0.5**
SRA1	**San Ramn**	**0.70**	**7**	*eP*	**Pb**	**04 07 03.9**	**-0.4**
RAMO	**San Ramon**	**0.70**	**8**	‖*iP*	**Pb**	**04 07 04.0**	**-0.4**
AMPA	**Desamparados**	**0.71**	**45**	*eP*	**Pb**	**04 07 04.0**	**-0.5**
CENT	**San Jose**	**0.72**	**42**	*eP*	**Pb**	**04 07 04.2**	**-0.5**
LUJA	**Lujan**	**0.72**	**42**	‖*eP*	**Pn**	**04 07 05.2**	**-0.1**
GREC	**Grecia**	**0.73**	**20**	‖*eP*	**Pb**	**04 07 04.8**	**0.0**
SJS	**Escuela Geolog**	**0.74**	**43**	*eP*	**Pb**	**04 07 04.7**	**-0.4**
SJS3	**Mercedes San J**	**0.74**	**43**	*eP*	**Pb**	**04 07 04.8**	**-0.3**
LUPE	**Guadalupe**	**0.75**	**42**	*eP*	**Pb**	**04 07 04.8**	**-0.4**
DOMI	**Santo Domingo**	**0.75**	**38**	*eP*	**Pb**	**04 07 05.2**	**-0.1**
HDC	**Heredia**	**0.75**	**36**		**Pb**	**04 07 04.7**	**-0.6**
HDC					**Sb**	**04 07 14.8**	**-0.5**
HDC				IAML		04 07 20.3	
	comp=E,2μm,0.6s						
HDC	**Heredia**	**0.75**	**36**	*eP*	**Pb**	**04 07 05.1**	**-0.2**
TRIO	**Tres Rios**	**0.76**	**48**	*eP*	**Pb**	**04 07 04.5**	**-1.0**
TAGO	**Cartago**	**0.79**	**53**	*eP*	**Pb**	**04 07 05.3**	**-0.6**
CORON	**Coronado**	**0.80**	**44**	*eP*	**Pb**	**04 07 06.0**	**-0.1**
ZARE	**Zarcero**	**0.81**	**12**	‖*eP*	**Pb**	**04 07 06.4**	**+0.2**
REPA	**Paraso**	**0.81**	**58**	‖*eP*	**Pb**	**04 07 06.0**	**-0.3**
VBV1	**V. Barva**	**0.85**	**33**	‖*iP*	**Pb**	**04 07 06.9**	**-0.2**
CVIMO	**Finca Echandi**	**0.88**	**44**	‖*eP*	**Pb**	**04 07 07.3**	**-0.1**
PCAYA	**Pacayas**	**0.91**	**55**	*eP*	**Pb**	**04 07 07.8**	**-0.2**
VICA	**Volcano Irazu**	**0.93**	**50**	*eP*	**Pb**	**04 07 08.2**	**-0.2**
RAFA	**San Farael, Vo**	**0.93**	**53**	‖*eP*	**Pb**	**04 07 08.2**	**-0.3**
MTEVE	**Monteverde**	**0.96**	**344**	*eP*	**Pn**	**04 07 08.3**	**-0.2**
JUNT	**Juntas**	**0.97**	**336**	*eP*	**Pn**	**04 07 08.2**	**-0.3**
JTS	**Las Juntas de**	**0.97**	**337**		**Pn**	**04 07 08.0**	**-0.6**
JTS					**Sb**	**04 07 21.4**	**0.0**
JTS				IAML		04 07 23.1	
	comp=E,1μm,0.2s						
JTS				IAML		04 07 24.0	
	comp=E,2μm,0.2s						
JTS	**Las Juntas de**	**0.97**	**337**	*eP*	**Pn**	**04 07 08.2**	**-0.5**
SOCE	**Pocosol**	**0.99**	**357**		**Pn**	**04 07 09.0**	**+0.1**
SOCE					**Sn**	**04 07 22.4**	**+0.4**
SOCE	**Pocosol**	**0.99**	**357**	*eP*	**Pn**	**04 07 09.2**	**+0.3**
VTLA	**Turrialba Volc**	**0.99**	**52**	‖*eP*	**Pb**	**04 07 09.2**	**-0.1**
CVTQ	**Turrialba Volc**	**1.00**	**52**	*eP*	**Pb**	**04 07 09.3**	**-0.2**
EDPE	**Pejibaye, P**	**1.01**	**103**	*eP*	**Pb**	**04 07 09.7**	**+0.2**
TURIB	**Turrialba**	**1.01**	**59**	*eP*	**Pn**	**04 07 09.1**	**-0.1**
VTR0	**Volcan Turrial**	**1.01**	**52**	*eP*	**Pb**	**04 07 09.8**	**0.0**
CVTV	**Tajo**	**1.01**	**53**	‖*eP*	**Pb**	**04 07 09.6**	**-0.1**
CVTR	**Volcan Turrial**	**1.01**	**52**	‖*eP*	**Pb**	**04 07 09.7**	**-0.1**
VTCV	**VTCV, Calle Va**	**1.02**	**54**	‖*iP*	**Pb**	**04 07 09.7**	**0.0**
VERB	**Verbena**	**1.02**	**57**	*eP*	**Pb**	**04 07 09.8**	**0.0**
CMARA	**Lajas Hojancha**	**1.05**	**307**	‖*eP*	**Pn**	**04 07 09.1**	**-0.7**
ARE1	**Arenal 1**	**1.07**	**352**	*eP*	**Pb**	**04 07 10.7**	**+0.1**
FORC	**Fortuna**	**1.07**	**355**	‖*eP*	**Pb**	**04 07 10.9**	**+0.2**
VARE2	**V. Arenal**	**1.07**	**352**	‖*iP*	**Pn**	**04 07 10.7**	**+0.6**
RVSTA	**Santa Teresita**	**1.08**	**57**	*eP*	**Pb**	**04 07 10.7**	**0.0**
VACR	**Volcan Arenal**	**1.08**	**354**	‖*iP*	**Pn**	**04 07 10.6**	**+0.4**
CVTG	**V. Turrialba,**	**1.08**	**46**	*eP*	**Pb**	**04 07 10.8**	**0.0**
ITAL	**Pital**	**1.09**	**15**	*eP*	**Pb**	**04 07 10.8**	**-0.2**
CEDE	**Laguna Cedeo**	**1.10**	**353**	‖*eP*	**Pb**	**04 07 11.1**	**+0.1**
NICO	**Nicoya**	**1.14**	**311**	*eP*	**Pn**	**04 07 10.8**	**-0.1**
CNAS	**Canas**	**1.16**	**333**	*eP*	**Pn**	**04 07 11.8**	**+0.6**
RVLA	**Villa Bonita**	**1.20**	**53**	*eP*	**Pb**	**04 07 13.1**	**+0.4**
PLVR	**Palo Verde**	**1.23**	**321**	*eP*	**Pn**	**04 07 12.2**	**0.0**
BURE	**Buenos Aires**	**1.23**	**100**	*eP*	**Pb**	**04 07 13.5**	**+0.2**
IRES	**Siquirres**	**1.26**	**56**	*eP*	**Pb**	**04 07 14.1**	**+0.3**
FIMO	**Fila Mora**	**1.26**	**108**	*eP*	**Pb**	**04 07 13.5**	**-0.4**
CARI	**Cariari**	**1.27**	**40**	*eP*	**Pb**	**04 07 14.0**	**+0.1**
DRK0	**Durika**	**1.31**	**95**	*eP*	**Pb**	**04 07 14.3**	**-0.4**
TAAN	**Batan**	**1.39**	**60**	*eP*	**Pb**	**04 07 16.7**	**+0.8**
CUI	**Cuipilapa**	**1.39**	**335**	‖*eP*	**Pn**	**04 07 15.4**	**+1.0**
EDP2	**Potrero Grande**	**1.42**	**105**	*eP*	**Pb**	**04 07 15.9**	**-0.6**
HORNC	**Hornillas**	**1.45**	**335**	*eP*	**Pn**	**04 07 16.4**	**+1.2**
VERA	**Finca Concepci**	**1.48**	**348**	*eP*	**Pb**	**04 07 17.1**	**-0.5**
ALIBA	**Liberia Airpor**	**1.54**	**321**	*eP*	**Pb**	**04 07 18.5**	**0.0**
ACON	**Acoyapa**	**2.63**	**347**		**Pn**	**04 07 30.9**	**-0.5**
ACON				IAML		04 08 12.8	
	comp=N,184nm,0.6s						
ESPN	**Las Esperanzas**	**2.80**	**5**	Pn	**Pn**	**04 07 33.8**	**+0.1**
ESPN				IAML		04 08 18.3	
	comp=N,313nm,1.1s						
ESPN				IAML		04 08 28.4	
	comp=E,245nm,0.9s						
BOAB	**BOACO BROADBAN**	**3.23**	**341**		**Pn**	**04 07 39.5**	**-0.1**
BOAB				IAML		04 08 35.0	
	comp=N,139nm,0.6s						
BOAB				IAML		04 08 38.1	
	comp=E,184nm,0.6s						
HERN	**Volcan Telica**	**3.90**	**325**	Pn	**Pn**	**04 07 49.4**	**+0.5**
HERN				IAML		04 08 46.6	
	comp=E,179nm,0.4s						
HERN				IAML		04 08 46.9	
	comp=N,317nm,0.4s						
CRIN	**San Cristobal**	**4.09**	**324**	Pn	**Pn**	**04 07 51.0**	**-0.6**
BCIP	**Isla Barro Col**	**4.67**	**92**	Pn	**Pn**	**04 07 58.8**	**-0.7**
MTO3	**Montecristo**	**6.84**	**317**	Pn	**Pn**	**04 08 28.9**	**-0.6**

---

*NEIC **20** 04:34:53.3±0.8,19°.41N±0°.09×64°.7W±0°.1,h35km±2km, ML2.5/22,Md3.1/10(RSPR),Error ellipse: s-maj=21.1km s-min=13.5km az=120.0*
*SDD **20** 04:34:57.4±2.1,16°.35N×66°.52W,h20km±578km,MD3.6, ML2.8,MW2.8*

RSPR 20 04:34:54.7,19°.40N×64°.78W,h47km±18km,MD3.1/10, 19C-4D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.61**	**219**		Pn	04 35 19.6	-1.0
HUMP					Sn	04 35 39.1	-1.1
HUMP	**Col San Antoni**	**1.61**	**219**	IAML		04 35 42.3	
	comp=E,30nm,0.2s						
HUMP	**Col San Antoni**	**1.61**	**219**	‖*eP*	Pn	04 35 19.6	-1.0
HUMP	**Col San Antoni**	**1.61**	**219**	*eS*	Sn	04 35 39.1	-1.1
GCPR	**Guaynabo City**	**1.64**	**229**		Pn	04 35 19.7	-1.5
GCPR					Sn	04 35 39.5	-1.5
GCPR	**Guaynabo City**	**1.64**	**229**	IAML		04 36 06.3	
	comp=E,32nm,3.0s						
GCPR	**Guaynabo City**	**1.64**	**229**	‖*eP*	Pn	04 35 19.7	-1.5
GCPR	**Guaynabo City**	**1.64**	**229**	*eS*	Sn	04 35 39.5	-1.5
PDPR	**Patillas Dam,**	**1.81**	**221**	Pn	Pn	04 35 22.4	-1.0
PDPR	**Patillas Dam,**	**1.81**	**221**	‖*eP*	Pn	04 35 22.4	-1.0
PDPR	**Patillas Dam,**	**1.81**	**221**	*eS*	Sn	04 35 44.2	-0.8
SJG	**San Juan**	**1.82**	**226**	Pn	Pn	04 35 22.1	-1.4
SJG				IAML		04 35 46.0	
	comp=E,23nm,1.7s						
ECPR	**Experimental S**	**1.84**	**235**	‖*eP*	Pn	04 35 22.9	-1.0
ECPR	**Experimental S**	**1.84**	**235**	*eS*	Sn	04 35 46.7	+0.7
EMPR	**Esperanza - Ma**	**1.89**	**241**	Pn	Pn	04 35 23.5	-1.1
IGPR	**InterUniversit**	**1.90**	**222**		Pn	04 35 23.5	-1.1
IGPR				IAML		04 35 55.9	
	comp=E,65nm,0.3s						
IGPR				IAML		04 35 57.7	
	comp=N,36nm,0.2s						
IGPR	**InterUniversit**	**1.90**	**222**		Sn	04 35 46.6	-0.8
IGPR	**InterUniversit**	**1.90**	**222**	‖*eP*	Pn	04 35 24.3	-0.3
IGPR	**InterUniversit**	**1.90**	**222**	*eS*	Sn	04 35 46.6	-0.8
AOPR	**Arecibo Observ**	**2.14**	**241**		Pn	04 35 27.2	-0.8
AOPR				IAML		04 36 02.9	
	comp=E,66nm,2.1s						
AOPR	**Arecibo Observ**	**2.14**	**241**		Sn	04 35 52.7	-0.6
AOPR	**Arecibo Observ**	**2.14**	**241**	IAML		04 35 51.9	
	comp=N,40nm,2.3s						
AOPR	**Arecibo Observ**	**2.14**	**241**	*eP*	Pn	04 35 26.6	-1.4
AOPR				*eS*	Sn	04 35 52.9	-0.5
AOPR	**Arecibo Observ**	**2.14**	**241**	⇑*eP*g	Pn	04 35 30.4	+2.4
AOPR				⇑*eS*g	Sn	04 35 57.4	+4.0
AOPR				IAML		04 36 05.2	
	comp=N,33nm,0.4s						
AOPR	**Arecibo Observ**	**2.14**	**241**	⇑*eP*	Pn	04 35 27.2	-0.8
CELP	**Cerrillos**	**2.15**	**233**		Pn	04 35 27.1	-1.0
CELP					Sn	04 35 52.4	-1.2
CELP	**Cerrillos**	**2.15**	**233**	IAML		04 36 06.8	
	comp=N,26nm,1.4s						
CELP				IAML		04 36 20.6	
	comp=E,21nm,2.9s						
CELP	**Cerrillos**	**2.15**	**233**	‖*eP*g	Pn	04 35 27.3	-0.8
CELP				⇑*eS*g	Sn	04 35 47.9	-5.7
CELP				IAML		04 36 14.9	
	comp=N,29nm,2.9s						
CELP	**Cerrillos**	**2.15**	**233**	⇑*eP*	Pn	04 35 27.1	-1.0
CELP	**Cerrillos**	**2.15**	**233**	*eS*	Sn	04 35 52.4	-1.2
UUPR	**Utuado, UPR, P**	**2.16**	**239**		Pn	04 35 27.5	-0.7
UUPR					Sn	04 35 52.7	-1.1
UUPR	**Utuado, UPR, P**	**2.16**	**239**	‖*eP*	Pn	04 35 27.5	-0.7
UUPR	**Utuado, UPR, P**	**2.16**	**239**	*eS*	Sn	04 35 52.7	-1.1
OBIP	**Obispado Ponce**	**2.19**	**232**	Pn	Pn	04 35 26.9	-1.7
OBIP				IAML		04 36 50.6	
	comp=E,24nm,3.5s						
OBIP				IAML		04 36 54.3	
	comp=N,34nm,2.7s						
AGPR	**Aguadilla, PR**	**2.39**	**248**	⇑*eP*g	Pn	04 35 35.0	+3.6
AGPR				⇑*eS*g	Sn	04 36 04.1	+4.6
AGPR				IAML		04 36 25.9	
	comp=N,71nm,2.1s						
CRPR	**Cabo Rojo, PR**	**2.60**	**238**		Pn	04 35 34.6	+0.2
CRPR					Sn	04 36 04.4	-0.4
CRPR	**Cabo Rojo, PR**	**2.60**	**238**	IAML		04 36 32.5	
	comp=E,49nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.60**	**238**	‖*eP*g	Pn	04 35 28.0	-6.3
CRPR				⇑*eS*g	Sn	04 35 50.3	-14
CRPR				IAML		04 36 31.7	
	comp=N,44nm,2.5s						
CRPR	**Cabo Rojo, PR**	**2.60**	**238**	‖*eP*	Pn	04 35 34.6	+0.2
CRPR	**Cabo Rojo, PR**	**2.60**	**238**	*eS*	Sn	04 36 04.4	-0.4
PCDR	**Punta Cana, DR**	**3.52**	**256**	‖*eP*g	Pn	04 35 45.9	-1.0
PCDR				⇑*eS*g	Sn	04 36 20.9	-6.4
PCDR				IAML		04 36 36.3	
	comp=N,164nm,1.9s						
ANBD	**Bethesda, Anti**	**3.70**	**129**	*eP*	Pn	04 35 43.5	-5.9
ANBD	**Bethesda, Anti**	**3.70**	**129**	*eS*	Sn	04 36 32.2	+0.5
MIDR	**Miches**	**4.05**	**265**	‖*eP*g	Pn	04 35 59.1	+4.8
MIDR				⇑*eS*g	Sn	04 36 42.1	+1.7
MIDR				IAML		04 36 42.5	
	comp=N,36nm,2.7s						
HATOM	**Hato Mayor del**	**4.39**	**263**	⇑*eP*g	Pn	04 35 59.2	+0.3
HATOM				⇑*eS*g	Sn	04 36 45.3	-3.5
HATOM				IAML		04 37 03.3	
	comp=N,33nm,2.1s						

---

*JMA **20** 04:35:34.0±0.5,25°.N±2°.×124°.8E±0°.7,h8km,MD4.4/11, MV3.8/11,NW OFF MIYAKOJIMA ISLAND*

*NIED **20** 04:35:34.0,25°.43N×124°.82E,h8km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.24; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.11; $M_{r\theta}$0.28; $M_{\theta\phi}$1.08; $M_{\phi r}$-0.15; Fault plane solution: $M_0$1.12000×10^{15} NP1:φ0.00000°, δ76.00000°,λ-177.00000°. NP2:φ270.00000°, δ87.00000°,λ-14.00000°.*
*IDC **20** 04:35:35.3±1.1,25°.62N×124°.93E,h0km,mb3.5/6, mbtmp3.5/8,ML3.1/2,MS3.5/15 Error ellipse: s-maj=27.1km s-min=21.4km az=66.0*

ISC 20 04:35:34.3±1.9,25°.38N±0°.06×124°.89E±0°.04,h1km±13km, n41,σ1°34/31,mb3.5/6,MS3.5/13,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.56**	**145**	P	**Pb**	**04 35 46.5**	**-0.4**
JIKM				S	**Sb**	**04 35 55.2**	**-0.2**
JIKM	**Ikemajima**	**0.56**	**145**	A	A	04 35 46.5	
	comp=N,28nm,2.9s,comp=E,43nm,6.3s						
JIRB	**Irabujima**	**0.61**	**155**	P	**Pg**	**04 35 46.6**	**+0.7**
JIRB				*eS*	**Sb**	**04 35 56.2**	**-0.6**
JIRB	**Irabujima**	**0.61**	**155**	A	A	04 35 46.6	
	comp=N,27nm,0.5s,comp=E,25nm,1.9s						
JMJ	**Miyako jima 2**	**0.67**	**147**	P	**Pn**	**04 35 50.0**	**-1.0**
JMJ2	**Miyako jima3**	**0.75**	**148**	P	**Pb**	**04 35 49.9**	**-0.3**
JMJ2				*eS*	**Sb**	**04 36 01.1**	**+0.2**
JMJ2	**Miyako jima3**	**0.75**	**148**	A	A	04 35 49.9	
	comp=N,22nm,3.3s,comp=E,29nm,3.6s						
JTJ	**Tarama**	**0.76**	**193**	*eP*	**Pb**	**04 35 49.6**	**-0.7**
JTJ	**Tarama**	**0.76**	**193**	A	A	04 35 49.6	
	comp=N,13nm,1.6s,comp=E,21nm,1.7s						
JOGS	**Gusukube**	**0.77**	**143**	P	**Pb**	**04 35 50.4**	**-0.2**
JOGS				S	**Sb**	**04 36 01.8**	**+0.2**
JOGS	**Gusukube**	**0.77**	**143**	A	A	04 35 50.4	
	comp=N,22nm,2.3s,comp=E,29nm,1.1s						
JISG	**Ishigakijimahi**	**0.95**	**214**	*eP*	**Pg**	**04 35 52.3**	**-0.2**
JISG				S	**Sg**	**04 36 05.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.22**	**214**	P	**Pb**	**04 35 56.5**	**-1.8**
JIJ				*eS*	**Sb**	**04 36 12.7**	**-1.8**
JKRS	**Kuro-shima**	**1.39**	**215**	P	**Pn**	**04 35 59.7**	**-1.2**
IRIF	**Iriomote-Funau**	**1.48**	**226**	P	**Pn**	**04 36 00.6**	**-1.6**
HATJ	**Hateruma jima**	**1.65**	**217**	*eP*	**Pn**	**04 36 04.3**	**-0.1**
YOJ	**Yonaguni jima**	**1.94**	**242**	P	**Pb**	**04 36 09.6**	**-0.9**
YHNB	**Yeheng**	**3.27**	**258**	P	**Pn**	**04 36 28.7**	**+1.9**
JOW	**Kunigami**	**3.37**	**64**	Pn	**Pn**	**04 36 27.5**	**-0.6**
	comp=E,3.8nm,0.3s,baz=149,slow=14,SNR=8.4						
JOW				Sn	**Sn**	**04 37 06.5**	**-2.3**
	comp=E,2.7nm,0.3s,baz=300,slow=25,SNR=1.5						
	comp=E,9.0nm,0.3s						
YULB	**Yu-li**	**3.83**	**240**	P	**Pn**	**04 36 34.2**	**-0.3**
SSLB	**Suanglung**	**3.92**	**247**	P	**Pn**	**04 36 37.3**	**+1.5**
TPUB	**Ta-pu**	**4.41**	**243**	P	**Pn**	**04 36 44.2**	**+1.8**
JNU	**Nakatsue**	**9.31**	**33**	LR	LR	04 41 47.9	
	comp=E,106nm,18.1s,baz=196,slow=41						
MJAR	**Matsushiro Arr**	**15.93**	**43**	LR	LR	04 45 35.0	
	comp=E,69nm,18.3s,baz=220,slow=38						
USRK	**Ussurisk Ar.**	**19.64**	**15**	P	**P**	**04 40 04.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=214,slow=14,SNR=1.9						
	comp=E,0.8nm,0.6s						
ASAJ	**Asahikawa**	**23.59**	**33**	LR	LR	04 49 21.6	
	comp=E,55nm,18.6s,baz=334,slow=35						
CMAR	**Chiang Mai Arr**	**25.01**	**259**	LR	LR	04 50 49.8	
	comp=E,32nm,19.0s,baz=60,slow=36						
SONM	**Songino Array**	**26.75**	**332**	P	**P**	**04 41 15.0**	**-0.7**
	comp=E,0.5nm,0.3s,baz=124,slow=7.4,SNR=6.0						
SONM				LR	LR	04 53 10.2	
	comp=E,80nm,20.9s,baz=132,slow=

GMAL	**Guarumal, Vera**	**4.13 255**	*eP*	**Pn**	**05 26 31.1**	**+3.1**
BARC	**Barichara**	**4.58 119**	P	**Pn**	**05 26 35.3**	**+0.8**
BARC			S	**Sn**	**05 27 28.5**	**+0.7**
PAMC	**Pamplona, Colo**	**4.71 108**	P	**Pn**	**05 26 37.4**	**+0.9**
PAMC			S	**Sn**	**05 27 30.9**	**-0.5**
CRJC	**Cerrejon, Guaj**	**4.77 63**	P	**Pn**	**05 26 39.0**	**+2.1**
CRJC			S	**Sn**	**05 27 29.3**	**-2.9**
RUSC	**La Rusia**	**5.04 126**	P	**Pn**	**05 26 42.8**	**+1.8**
RUSC			S	**Sn**	**05 27 38.1**	**-1.5**

RSNC 20 05:25:25.8±0.0, 11°N±7°×7°3W±°, h160km±6km, M2.2, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.39**	**80**	P	Pn	05 25 49.4	+1.5
CRJC				S	Sn	05 26 03.8	-1.0
URIC	**Uribia, Colomb**	**1.46**	**59**	P	Pn	05 25 54.7	-1.0
URIC				S	Sn	05 26 13.5	-5.2
OCAC	**Ocana**	**2.69**	**181**	P	Pn	05 26 11.4	+1.4
OCAC				S	Sn	05 26 43.9	-0.3
PAMC	**Pamplona, Colo**	**3.63**	**171**	P	Pn	05 26 21.2	-0.9
PAMC				S	Sn	05 27 02.5	-3.3

KRSC 20 05:32:57.2±2.7, 49°24N×157°10E, h7km±43km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.58**	**337**	*eP*	Pn	05 33 23.8	-1.7
SKR				*eS*	Sn	05 33 44.7	-1.5
PAU	**Pauzhetka**	**2.24**	**355**	*eP*	Pn	05 33 35.9	+1.3
PAU				*eS*	Sb	05 34 05.9	+0.1
GRL	**Gorelyy**	**3.37**	**10**	*eP*	Pb	05 33 54.6	-2.7
UGLR	**Uglovaya**	**4.12**	**15**	*eP*	Pn	05 34 04.8	+4.2
AVH	**Avacha**	**4.16**	**14**	*eP*	Pn	05 34 05.8	+4.7
KOK	**Koryaka**	**4.17**	**13**	*eP*	Pb	05 34 06.2	-4.7
KRX	**Arik**	**4.24**	**13**	*eP*	Pn	05 34 06.4	+4.2
KBTR	**Krutoberegovo**	**7.79**	**24**	*eP*	Pn	05 34 55.9	+5.0

*GII **20** 05:35:20.2±0.0, 36°212N±0°003×35°781E±0°001, h1km, Mws4.2/6, confirmed*
*IDC **20** 05:35:20.1±0.7, 36°08N×35°70E, h0km, mb4.0/14, mbtmp4.0/20, ML3.6/5, MS3.2/16, Error ellipse: s-maj=15.2km s-min=11.3km az=80.0*
*NIC **20** 05:35:21.6, 36°19N×35°73E, h10km±1km, Ml4.0/11*
*ISK **20** 05:35:21.3, 36°07N×35°89E, h11km, ML4.1/46*
*AFAD **20** 05:35:23.9, 36°23N×35°93E, h26km±1km, MW4.0*
*NEIC **20** 05:35:23.1±2.1, 36°05N±0°06×35°87E±0°07, h10km±2km, mb4.0/11, Error ellipse: s-maj=10.5km s-min=8.2km az=138.0*
*HLW **20** 05:35:29.0, 35°72N×35°39E, h25km±22km, Md4.7, Ml4.3*
ISC 20 05:35:23.6±1.0, 36°15N±0°03×35°85E±0°02, h20km±9km, n222, σ1§56/250, mb4.0/18, MS3.1/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHAN	**Hatay/Reyhanl**	**0.62**	**79**	P	**Pb**	**05 35 34.8**	**-1.0**
RHAN				S	**Sb**	**05 35 43.5**	**-0.6**
HASA	**Hatay-Hassa-Ha**	**0.79**	**40**	P	**Pb**	**05 35 37.8**	**-0.9**
HASA				S	**Sb**	**05 35 47.8**	**-1.2**
CEYT	**Ceyhan**	**0.86**	**355**	Pg	**Pb**	**05 35 40.2**	**+0.3**
CEYT				Sg	**Sn**	**05 35 53.5**	**+0.8**
KUZU	**Kuzuini**	**1.17**	**57**	P	**Pn**	**05 35 44.4**	**-0.5**
KUZU				S	**Sn**	**05 36 00.3**	**0.0**
DED	**Mersin**	**1.17**	**314**	P	**Pn**	**05 35 43.2**	**-1.7**
DED				S	**Sb**	**05 35 59.3**	**-0.7**
KARA	**Karaisali**	**1.28**	**330**	Pn	**Pb**	**05 35 47.1**	**0.0**
KARA				Sn	**Sb**	**05 36 05.9**	**+2.8**
KOZT	**Kozan**	**1.33**	**359**	Pn	**Pn**	**05 35 46.7**	**-0.4**
KOZT				Sn	**Sb**	**05 36 06.3**	**+1.8**
AKO	**Adana**	**1.35**	**346**	P	**Pn**	**05 35 46.9**	**-0.5**
AKO				S	**Sn**	**05 36 02.8**	**-2.0**
KIZK	**Mersin**	**1.42**	**284**	Pn	**Pn**	**05 35 48.5**	**+0.2**
KIZK				Sn	**Sb**	**05 36 08.2**	**+1.2**
KIZK	**Mersin**	**1.42**	**284**	P	**Pn**	**05 35 46.4**	**-1.9**
KIZK				S	**Sn**	**05 36 04.0**	**-2.4**
GULE	**Gulek**	**1.42**	**323**	P	**Pn**	**05 35 48.8**	**+0.3**
GULE				S	**Sb**	**05 36 07.6**	**+0.2**
KHMR	**Kahramanmara**	**1.47**	**35**	P	**Pn**	**05 35 48.4**	**-0.5**
KHMR				S	**Sn**	**05 36 07.2**	**-0.4**
ANDN	**Andirin**	**1.48**	**15**	P	**Pn**	**05 35 49.1**	**-0.2**
ANDN				S	**Sb**	**05 36 08.8**	**-0.2**
GAZ	**Gaziantep**	**1.50**	**47**	Pn	**Pn**	**05 35 49.2**	**-0.3**
GAZ				Sn	**Sb**	**05 36 09.9**	**+0.5**
GAZ	**Gaziantep**	**1.50**	**47**	Pn	**Pn**	**05 35 49.1**	**-0.3**
GAZ	**Gaziantep**	**1.50**	**47**	P	**Pn**	**05 35 49.2**	**-0.3**
GAZ				S	**Sb**	**05 36 10.2**	**+0.8**
EREN	**Erenkoy**	**1.50**	**246**	Pn	**Pn**	**05 35 48.7**	**-0.7**
EREN				Sn	**Sn**	**05 36 08.8**	**+0.5**
EREN	**Erenkoy**	**1.50**	**246**	P	**Pn**	**05 35 48.4**	**-1.0**
SILI	**Silifke-Mersin**	**1.57**	**279**	Pn	**Pn**	**05 35 50.5**	**+0.1**
KHMN	**Narli-Kahraman**	**1.62**	**40**	Pn	**Pn**	**05 35 51.1**	**-0.1**
BEIL	**Beino**	**1.63**	**170**	*eP*	**Pn**	**05 35 50.8**	**-0.4**
KAHM	**Kahramanmaras,**	**1.64**	**33**	P	**Pn**	**05 35 50.7**	**-0.7**
KAHM				S	**Sn**	**05 36 11.5**	**-0.5**
CMRD	**Camardi-Nigde**	**1.66**	**336**	Pn	**Pn**	**05 35 52.3**	**+0.6**
NZIP	**Nizip/Gaziante**	**1.72**	**58**	P	**Pn**	**05 35 51.8**	**-0.7**
NZIP				S	**Sn**	**05 36 14.4**	**+0.5**
KARG	**Kargicak-Mersi**	**1.73**	**272**	Pn	**Pn**	**05 35 52.9**	**+0.3**
KEBE	**Keben-Mersin**	**1.75**	**280**	Pn	**Pn**	**05 35 53.3**	**+0.4**
IKL	**Isikli**	**1.75**	**274**	Pn	**Pn**	**05 35 52.9**	**0.0**
TISA	**Tisan-Mersin**	**1.76**	**271**	Pn	**Pn**	**05 35 52.7**	**-0.2**
YESI	**Yesilovacik-Me**	**1.79**	**272**	Pn	**Pn**	**05 35 53.1**	**-0.2**
GZT	**Gaziantep**	**1.83**	**48**	P	**Pn**	**05 35 53.3**	**-0.8**
SAIM	**ADANA**	**1.83**	**6**	P	**Pn**	**05 35 54.6**	**+0.5**
AKKU	**Akkuyu-Mersin**	**1.86**	**271**	Pn	**Pn**	**05 35 53.9**	**-0.5**
GULN	**MERSIN_Gulnar**	**1.87**	**272**	P	**Pn**	**05 35 53.3**	**-1.1**
GULN				S	**Sn**	**05 36 14.7**	**-2.7**
TEPK	**Tepekoy-MERSIN**	**1.87**	**273**	Pn	**Pn**	**05 35 54.2**	**-0.3**
HWQ	**Hawqa**	**1.87**	**178**	*eP*	**Pn**	**05 35 53.8**	**-0.8**
AKK1	**Akkuyu-Mersin**	**1.87**	**271**	Pn	**Pn**	**05 35 54.4**	**-0.1**
PARAL	**Paralimni**	**1.87**	**233**	P	**Pn**	**05 35 52.1**	**-2.4**
PARAL				S	**Sn**	**05 36 17.1**	**-0.4**
PARAL				AML	AML	05 36 34.7	
	7.1nm,1.0s						
PARAL				AML	AML	05 36 35.0	
	5.1nm,0.9s						
KERG	**Konya-Eregli**	**1.87**	**313**	P	**Pn**	**05 35 55.4**	**+0.7**
OREN	**Orenkoy-Mersin**	**1.94**	**272**	Pn	**Pn**	**05 35 55.4**	**0.0**
FKH	**Fakeheh**	**1.95**	**166**	*eP*	**Pn**	**05 35 55.7**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.96**	**279**	Pn	**Pn**	**05 35 56.3**	**+0.4**
YORU	**Yoruktepe-Mers**	**1.98**	**271**	Pn	**Pn**	**05 35 56.2**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**1.98**	**349**	P	**Pn**	**05 35 57.1**	**+0.9**
NIDE	**Nigde/Merkez-G**	**2.04**	**335**	P	**Pn**	**05 35 58.1**	**+1.1**
LFK	**Lefkose**	**2.08**	**246**	Pn	**Pn**	**05 35 56.2**	**-1.2**
MVOU	**Mavrovouni**	**2.13**	**239**	P	**Pn**	**05 35 56.2**	**-1.8**
MVOU				S	**Sn**	**05 36 24.1**	**+0.1**
MVOU				AML	AML	05 36 38.3	
	3.9nm,0.9s						
MVOU				AML	AML	05 36 41.8	
	4.6nm,1.0s						
BERE	**Bereket-Mersin**	**2.13**	**276**	Pn	**Pn**	**05 35 58.4**	**+0.2**
NIG	**Nigde**	**2.19**	**334**	Pn	**Pn**	**05 35 59.7**	**+0.5**
AKCA	**Adyaman/G¶l**	**2.21**	**41**	P	**Pn**	**05 35 58.8**	**-0.4**
AKCA				S	**Sb**	**05 36 30.2**	**+0.3**
ATHAL	**Athalassa**	**2.24**	**244**	S	**Sn**	**05 36 26.8**	**+0.2**
ATHAL				AML	AML	05 36 39.7	
	7.6nm,0.7s						
ATHAL				AML	AML	05 36 49.8	
	6.5nm,0.8s						
BHL	**Bhannes**	**2.25**	**184**	*eP*	**Pn**	**05 35 58.9**	**-0.9**
AKIN	**Akıncılar- Kıb**	**2.25**	**240**	Pn	**Pn**	**05 35 59.3**	**-0.4**
SARI	**SarD1z-Kayseri**	**2.30**	**11**	Pn	**Pn**	**05 36 01.1**	**+0.5**
BOZY	**Bozyazi-Mersin**	**2.33**	**270**	Pn	**Pn**	**05 36 00.8**	**+0.1**
SURC	**SANLIURFA_SURC**	**2.34**	**71**	P	**Pn**	**05 35 59.8**	**-1.3**
SURC				S	**Sn**	**05 36 30.0**	**+0.8**
YESY	**Yesilyurt**	**2.35**	**315**	Pn	**Pn**	**05 36 02.8**	**+1.6**
ATAB	**Bozova**	**2.36**	**55**	P	**Pn**	**05 36 01.1**	**-0.2**
ATAB				S	**Sb**	**05 36 37.1**	**+2.8**
CSS	**Mathiatis**	**2.37**	**241**	Pn	**Pn**	**05 36 02.0**	**+0.6**
CSS	**Mathiatis**	**2.37**	**241**		**Pn**	**05 35 59.4**	**-2.0**
CSS	**Mathiatis**	**2.37**	**241**	P	**Pn**	**05 35 59.4**	**-2.0**
CSS				AML	AML	05 36 50.5	
	1.6nm,0.7s						
CSS				AML	AML	05 36 55.9	
	1.7nm,0.7s						
CSS	**Mathiatis**	**2.37**	**241**	P	**Pn**	**05 36 00.6**	**-0.8**
ELBS	**KAHRAMANMARAS**	**2.40**	**25**	P	**Pn**	**05 36 02.5**	**+0.6**
DQRL	**Deir Qamar**	**2.45**	**185**	*eP*	**Pn**	**05 36 01.5**	**-1.0**
BSIR	**Belisirma, Guz**	**2.46**	**330**	P	**Pn**	**05 36 04.7**	**+2.0**
BSIR				S	**Sb**	**05 36 35.0**	**-2.0**
AKDN	**Akdeniz- Kıbrı**	**2.49**	**251**	Pn	**Pn**	**05 36 02.9**	**-0.2**
ASGA	**Asgata**	**2.52**	**238**	P	**Pn**	**05 36 02.1**	**-1.4**
ASGA				S	**Sn**	**05 36 33.5**	**-0.1**
ASGA				AML	AML	05 36 54.0	
	2.5nm,1.0s						
ASGA				AML	AML	05 36 55.7	
	3.2nm,0.8s						
AZEY	**Adyaman-Merk**	**2.54**	**48**	P	**Pn**	**05 36 03.5**	**-0.3**
KKBE	**Karaman, Kazim**	**2.57**	**295**	P	**Pn**	**05 36 05.1**	**+0.9**
QRWL	**Qaraoun**	**2.60**	**183**	*eP*	**Pn**	**05 36 04.0**	**-0.6**
LEF	**Lefka**	**2.62**	**248**	Pn	**Pn**	**05 36 05.7**	**+0.9**
RCY	**Rachaya**	**2.65**	**180**	*eP*	**Pn**	**05 36 04.8**	**-0.5**
BNN	**Bunyan**	**2.70**	**360**	Pn	**Pn**	**05 36 07.8**	**+1.8**
BNN	**Bunyan**	**2.70**	**360**		**Pn**	**05 36 06.9**	**+0.9**
AKCD	**Akcadag**	**2.71**	**37**	P	**Pn**	**05 36 06.4**	**+0.2**
AKCD				S	**Sb**	**05 36 42.1**	**-2.2**
SANL	**SANLIURFA_Merk**	**2.72**	**67**	P	**Pn**	**05 36 06.2**	**0.0**
SANL				S	**Sb**	**05 36 42.7**	**-2.0**
DARE	**Darende-Malaty**	**2.75**	**28**	Pn	**Pn**	**05 36 07.5**	**+0.9**
AVNS	**Nevsehir-Avano**	**2.77**	**344**	P	**Pn**	**05 36 09.8**	**+2.8**
AVNS				S	**Sn**	**05 36 41.4**	**+1.5**
SHBL	**Chebaa**	**2.79**	**182**	*eP*	**Pn**	**05 36 06.8**	**-0.5**
CUGUR	**Gurin_SVAS**	**2.81**	**23**	P	**Pn**	**05 36 08.7**	**+1.2**
HANM	**anlurfa/Hi**	**2.82**	**59**	P	**Pn**	**05 36 06.8**	**-0.8**
ALFC	**Alefka**	**2.83**	**250**	P	**Pn**	**05 36 05.5**	**-2.2**
ALFC				S	**Sn**	**05 36 39.8**	**-1.4**
ALFC				AML	AML	05 36 57.9	
	2.0nm,0.5s						
ALFC				AML	AML	05 36 59.2	
	2.3nm,0.5s						
HDMB	**Hadim**	**2.83**	**288**	Pn	**Pn**	**05 36 09.0**	**+1.1**
APOL	**The Sanctuary**	**2.85**	**240**	P	**Pn**	**05 36 06.7**	**-1.2**
APOL				AML	AML	05 37 03.2	
	1.9nm,1.2s						
APOL				AML	AML	05 37 07.6	
	2.6nm,1.4s						
GAZI	**Gazipasa**	**2.86**	**273**	Pn	**Pn**	**05 36 08.6**	**+0.5**
GAZI	**Gazipasa**	**2.86**	**273**	P	**Pn**	**05 36 08.5**	**+0.4**
NATI	**Neve Ativ**	**2.88**	**182**	P	**Pn**	**05 36 08.0**	**-0.4**
NATI	**Neve Ativ**	**2.88**	**182**	S	**Sn**	**05 36 44.8**	**+2.4**
NARI	**Adyaman-Kaht**	**2.90**	**53**	P	**Pn**	**05 36 08.5**	**-0.3**
NARI				S	**Sb**	**05 36 52.6**	**+2.8**
GEM	**Giv'at Ha'Em**	**2.94**	**183**	P	**Pn**	**05 36 08.6**	**-0.6**
GEM	**Giv'at Ha'Em**	**2.94**	**183**	S	**Sn**	**05 36 46.6**	**+2.8**
AKSY	**AKSARAY - Alti**	**3.00**	**327**	P	**Pn**	**05 36 12.0**	**+1.9**
AKMS	**Akamas**	**3.08**	**250**	P	**Pn**	**05 36 09.6**	**-1.5**
AKMS				AML	AML	05 36 59.1	
	2.5nm,1.3s						
AKMS				AML	AML	05 37 00.6	
	4.3nm,0.8s						
ALAN	**Alanya-ANTALYA**	**3.11**	**279**	Pn	**Pn**	**05 36 12.6**	**+1.1**
HNTI	**Hanita**	**3.11**	**191**	P	**Pn**	**05 36 10.5**	**-1.0**
MMC7	**Mount Meron ar**	**3.14**	**187**	P	**Pn**	**05 36 11.5**	**-0.6**
MMA0B	**Mount Meron ar**	**3.15**	**187**	P	**Pn**	**05 36 11.6**	**-0.6**
MMA0B	**Mount Meron ar**	**3.15**	**187**	S	**Sn**	**05 36 50.8**	**+1.7**
MMAI	**Mount Meron Ar**	**3.15**	**187**	Pn	**Pn**	**05 36 10.9**	**-1.2**
MMAI				Sn	**Sn**	**05 36 47.6**	**-1.6**
	72nm,0.3s,baz=3.5,slow=14,SNR=216						
	117nm,0.3s,baz=14,slow=28,SNR=12						
KSHT	**Keshet**	**3.16**	**181**	P	**Pn**	**05 36 12.3**	**0.0**
KSHT	**Keshet**	**3.16**	**181**	S	**Sn**	**05 36 51.3**	**+1.9**
MCUR	**KIREHR**	**3.19**	**341**	P	**Pn**	**05 36 13.4**	**+0.7**
CUAYA	**Sivas-Altinyay**	**3.19**	**13**	P	**Pn**	**05 36 14.0**	**+1.2**
CUAYA				S	**Sb**	**05 36 55.1**	**-3.1**
ALIN	**Konya, Altinte**	**3.20**	**313**	P	**Pn**	**05 36 14.6**	**+1.7**
HEKM	**Malatya_Hekimh**	**3.20**	**31**	P	**Pn**	**05 36 13.4**	**+0.4**
SIRC	**Yozgat**	**3.23**	**350**	P	**Pn**	**05 36 13.2**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**3.28**	**5**	P	**Pn**	**05 36 14.5**	**+0.5**
KONT	**Konya--Tatoy**	**3.32**	**304**	Pn	**Pn**	**05 36 15.6**	**+1.2**
KONT	**Konya--Tatoy**	**3.32**	**304**	P	**Pn**	**05 36 17.6**	**+3.2**
KONT				S	**Sn**	**05 36 54.5**	**+1.2**
SERE	**Sereflikochisa**	**3.33**	**328**	Pn	**Pn**	**05 36 15.9**	**+1.2**
KIRS	**Kirsehir-Merke**	**3.35**	**333**	P	**Pn**	**05 36 16.1**	**+1.1**
CHBY	**Cihanbeyli**	**3.38**	**317**	Pn	**Pn**	**05 36 17.3**	**+1.9**
CUKAN	**kangal_SIVAS**	**3.41**	**22**	P	**Pn**	**05 36 16.6**	**+0.7**
ELZG	**Elazig**	**3.43**	**46**	P	**Pn**	**05 36 16.1**	**0.0**
BLGI	**Bet Lehem HaGe**	**3.45**	**189**	P	**Pn**	**05 36 15.9**	**-0.3**
LADK	**Ladik-KONYA**	**3.46**	**307**	Pn	**Pn**	**05 36 18.1**	**+1.7**
SEYD	**Seydisehir-KON**	**3.46**	**292**	Pn	**Pn**	**05 36 17.7**	**+1.3**
YOZ	**Yozgat**	**3.51**	**353**	Pn	**Pn**	**05 36 19.2**	**+2.0**
HACI	**Hacifakili, Ak**	**3.55**	**359**	P	**Pn**	**05 36 17.1**	**-0.6**
OFRI	**`Ofer**	**3.59**	**192**	P	**Pn**	**05 36 17.8**	**-0.4**
KAMT	**Kaman**	**3.63**	**333**	Pn	**Pn**	**05 36 21.2**	**+2.4**
AKPI	**Kirsehir/Akpin**	**3.66**	**337**	P	**Pn**	**05 36 20.3**	**+1.2**
KULU	**Kulu**	**3.67**	**323**	Pn	**Pn**	**05 36 20.6**	**+1.3**
MMLI	**Mount Malkishu**	**3.72**	**186**	P	**Pn**	**05 36 19.9**	**0.0**
MMLI				S	**Sn**	**05 37 05.2**	**+2.0**
MMLI				AML	AML	05 37 10.2	
	0.8nm,0.6s						
MMLI				AML	AML	05 37 15.0	
	0.5nm,0.5s						
MMLI	**Mount Malkishu**	**3.72**	**186**	P	**Pn**	**05 36 19.7**	**-0.3**
YOZG	**Bozok Univ. Me**	**3.72**	**347**	P	**Pn**	**05 36 23.7**	**+3.7**
KEMA	**Kemaliye**	**3.75**	**33**	P	**Pn**	**05 36 19.9**	**-0.6**
HMDT	**Nahal Hemdat**	**3.90**	**184**	P	**Pn**	**05 36 22.6**	**+0.2**
BR131	**Keskin Array S**	**3.98**	**335**	Pn	**Pn**	**05 36 26.3**	**+2.7**
BR131	**Keskin Array S**	**3.98**	**335**		**Pn**	**05 36 26.3**	**+2.7**
BRTR	**Keskin Array B**	**3.98**	**335**		**Pn**	**05 36 25.2**	**+1.6**
BRTR	**Keskin Array B**	**3.98**	**335**	Pn	**Pn**	**05 36 24.9**	**+1.3**
	0.6nm,0.3s,baz=177,slow=15,SNR=13						
BRTR				Sn	**Sn**	**05 37 11.0**	**+1.3**
	1.5nm,0.3s,baz=165,slow=18,SNR=4.6						
BALJ	**Balqa**	**4.05**	**183**	Pn	**Pn**	**05 36 24.9**	**+0.4**
ASF	**Jabal al Asfar**	**4.06**	**167**	Pn	**Pn**	**05 36 23.8**	**-0.9**
	3.2nm,0.3s,baz=14,slow=3.9,SNR=22						
ASF				Lg	Lg	05 37 24.9	
	17nm,0.3s,baz=18,slow=20,SNR=8.1						
	6.9nm,0.2s						
SALP	**Salfit**	**4.11**	**188**	P	**Pn**	**05 36 25.2**	**-0.1**
MARD	**Mardin**	**4.13**	**72**		**Pn**	**05 36 25.8**	**+0.1**
KIZT	**Kizilcal**	**4.17**	**312**	Pn	**Pn**	**05 36 29.0**	**+2.8**
ANTB	**Antalya**	**4.25**	**282**	Pn	**Pn**	**05 36 28.9**	**+1.7**
ISP	**Isparta**	**4.58**	**293**		**Pn**	**05 36 35.1**	**+3.2**
DSI	**Dead Sea**	**4.58**	**185**	P	**Pn**	**05 36 31.8**	**0.0**
DSI	**Dead Sea**	**4.58**	**185**	S	**Sn**	**05 37 27.1**	**+2.6**
AMAZ	**Amatzia**	**4.67**	**190**	P	**Pn**	**05 36 33.6**	**+0.6**
AMAZ				S	**Sn**	**05 37 29.2**	**+2.6**
AMAZ				AML	AML	05 37 36.2	
	1.6nm,0.7s						
AMAZ				AML	AML	05 37 42.6	
	1.2nm,0.4s						
AMAZ	**Amatzia**	**4.67**	**190**	P	**Pn**	**05 36 33.8**	**+0.7**
AMAZ	**Amatzia**	**4.67**	**190**	S	**Sn**	**05 37 28.6**	**+2.0**
YTIR	**Yattir**	**4.81**	**188**	P	**Pn**	**05 36 35.2**	**+0.1**
YTIR	**Yattir**	**4.81**	**188**	S	**Sn**	**05 37 32.6**	**+2.4**
ELL	**Elmali**	**4.83**	**279**	Pn	**Pn**	**05 36 37.8**	**+2.5**
AKAS	**Kas**	**5.05**	**273**	Pn	**Pn**	**05 36 40.4**	**+2.1**
ILGA	**Ilgaz**	**5.17**	**342**		**Pn**	**05 36 42.7**	**+2.6**
KZIT	**Kziot**	**5.37**	**193**	P	**Pn**	**05 36 42.4**	**-0.2**
KZIT				S	**Sn**	**05 37 45.4**	**+1.6**
KZIT				AML	AML	05 37 46.6	
	0.5nm,0.4s						
KZIT				AML	AML	05 37 51.2	
	0.4nm,0.9s						
KZIT	**Kziot**	**5.37**	**193**	P	**Pn**	**05 36 42.6**	**0.0**
GURO	**Guroymak-BITLI**	**5.48**	**62**	Pn	**Pn**	**05 36 44.5**	**+0.3**
BORA	**Eskisehir**	**5.66**	**313**		**Pn**	**05 36 48.6**	**+1.9**
PRNI	**Paran**	**5.82**	**187**	P	**Pn**	**05 36 48.6**	**-0.3**
MANT	**Manisa**	**6.26**	**294**	Pn	**Pn**	**05 36 56.9**	**+1.8**
MBRI	**Mt Berech**	**6.39**	**187**	P	**Pn**	**05 36 56.5**	**-0.1**
EIL	**Elat**	**6.50**	**187**	Pn	**Pn**	**05 36 55.0**	**-3.2**
	2.9nm,0.3s,baz=352,slow=15,SNR=14						
EIL				Sn	**Sn**	**05 38 13.2**	**+1.3**
	3.4nm,0.3s,baz=52,slow=18,SNR=5.7						
EIL				LR	LR	05 39 47.6	
	comp=Z,148nm,21.6s,baz=66,slow=42						
	4.6nm,0.5s						
KARP	**Karpathos**	**7.08**	**268**	Pn	**Pn**	**05 37 06.8**	**+0.6**
ZAF	**Zafarana**	**7.39**	**203**	P	**Pn**	**05 37 08.2**	**-2.2**
HNAT	**Natroun**	**7.85**	**216**	P	**Pn**	**05 37 14.6**	**-2.0**
DB3	**El Dabaa**	**7.94**	**232**	P	**Pn**	**05 37 15.9**	**-2.0**
GNI	**Garni**	**8.06**	**58**	LR	LR	05 41 09.0	
	comp=Z,116nm,21.9s,baz=248,slow=42						
APE	**Apeiranthos**	**8.35**	**279**	P	**Pn**	**05 37 22.3**	**-1.3**
NBNS	**Bani Suef**	**8.43**	**208**	P	**Pn**	**05 37 22.8**	**-1.9**
NBNS				S	**Sn**	**05 38 52.8**	**-6.5**
RYAN	**Fayoum**	**8.47**	**215**	P	**Pn**	**05 37 23.0**	**-2.1**
IDI	**Anoyia**	**8.96**	**268**		**Pn**	**05 37 31.9**	**0.0**
IDI	**Anoyia**	**8.96**	**268**	Pn	**Pn**	**05 37 28.3**	**-3.6**
	9.4nm,0.6s,baz=89,slow=21,SNR=11						
IDI				Sn	**Sn**	**05 39 06.8**	**-5.4**
	2.2nm,0.3s,baz=162,slow=20,SNR=5.9						
HHRG	**Al Ghardaqah**	**9.11**	**193**	P	**Pn**	**05 37 34.9**	**+0.9**
KBZ	**Khabaz**	**9.30**	**33**	LR	LR	05 41 50.2	
	comp=Z,159nm,18.6s,baz=262,slow=41						
RDO	**Rodhopi**	**9.48**	**305**	Pn	**Pn**	**05 37 40.9**	**+1.9**
SLUM	**Salum**	**9.99**	**245**	P	**Pn**	**05 37 44.5**	**-1.6**
SWA2		**11.13**	**235**	P	**Pn**	**05 38 00.8**	**-0.8**
ITM	**Ithomi**	**11.23**	**279**	Pn	**Pn**	**05 38 05.1**	**+2.0**
PDG	**Podgorica**	**14.29**	**301**		**P**	**05 38 50.6**	**-1.2**
KIEV	**Kiev**	**15.31**	**344**	Pn	**P**	**05 39 02.6**	**-0.5**
KIEV				IAmb	IAmb	05 39 14.4	
	comp=Z,7.8nm,0.9s						
AKASG	**Malin Array Be**	**15.31**	**344**	Pn	**Pn**	**05 38 56.9**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=154,slow=12,SNR=9.6						
AKASG				LR	LR	05 44 48.0	
	comp=Z,38nm,18.3s,baz=96,slow=37						
	comp=Z,0.1nm,0.2s						
AKBB	**Malin Array Si**	**15.31**	**344**	P	**P**	**05 39 02.6**	**-0.5**
AKBB				IAmb	IAmb	05 39 14.4	
	comp=Z,8.7nm,0.9s						
INTR	**Introdacqua**	**18.00**	**296**		**P**	**05 39 35.3**	**+2.3**
INTR				IAmb	IAmb	05 39 40.7	
	comp=Z,10nm,0.7s						
BELG	**Belogornoye**	**18.26**	**24**	P	**Pn**	**05 39 35.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=3.7,SNR=3.5						
BELG				LR	LR	05 48 10.0	
	comp=Z,45nm,18.9s,baz=256,slow=42						
	comp=Z,8.1nm,0.8s						
ARSA	**Arzberg**	**18.74**	**313**	*eP*	**Pn**	**05 39 47.6**	**+6.0**
	comp=Z,3.1nm,0.9s						
NRCA	**Norcia**	**18.75**	**298**	IAmb	IAmb	05 39 58.5	
	comp=Z,7.8nm,1.0s						
SOKA	**Soboth**	**18.77**	**310**	*ep*P	**Pn**	**05 39 44.7**	**+2.7**
	comp=Z,2.3nm,1.1s						
FDMO	**Fiordimonte**	**18.81**	**298**	IAmb	IAmb	05 39 58.5	
	comp=Z,5.6nm,0.8s						
CONA	**Conrad Observa**	**18.88**	**315**	*eP*	**Pn**	**05 39 48.6**	**+5.2**
	comp=Z,2.8nm,0.9s						
OBKA	**Obir**	**19.00**	**310**	*eP*	**Pn**	**05 39 48.4**	**+3.6**
	comp=Z,2.2nm,0.9s						
MYKA	**Terra Mystica**	**19.62**	**309**	*e*Pn	**Pn**	**05 39 51.8**	**-0.3**
	comp=Z,4.2nm,1.1s						
MOA	**Molln**	**19.78**	**313**	*e*Pn	**Pn**	**05 39 53.5**	**-0.5**
	comp=Z,4.6nm,1.3s						
KBA	**Koelnbreinsper**	**19.99**	**310**	*e*Pn	**P**	**05 39 55.3**	**+0.4**
	comp=Z,4.9nm,1.1s						
BIOA	**Bad Ischl, Aus**	**20.08**	**312**	*e*Pn

IGPR	**InterUniversit**	**2.08 220**	IAML		06 01 47.8	
	comp=E,75nm,0.3s					
IGPR			IAML		06 01 49.6	
	comp=N,51nm,0.3s					
IGPR	**InterUniversit**	**2.08 220**⇓	*e*P	Pn	06 01 15.7	0.0
IGPR	**InterUniversit**	**2.08 220**	*e*S	Sn	06 01 39.2	-1.0
AOPR	**Arecibo Observ**	**2.29 238**		Pn	06 01 19.0	+0.4
AOPR				Sn	06 01 45.1	-0.4
AOPR	**Arecibo Observ**	**2.29 238**	IAML		06 02 01.3	
	comp=E,97nm,0.3s					
AOPR			IAML		06 02 16.1	
	comp=N,48nm,1.4s					
AOPR	**Arecibo Observ**	**2.29 238**	*e*Pg	Pn	06 01 18.7	+0.1
AOPR			IAML		06 01 44.6	
	comp=N,30nm,0.3s					
AOPR	**Arecibo Observ**	**2.29 238**⇑	*e*P	Pn	06 01 19.0	+0.4
AOPR	**Arecibo Observ**	**2.29 238**	*e*S	Sn	06 01 45.1	-0.4
UUPR	**Utuado, UPR, P**	**2.31 236**		Pn	06 01 19.4	+0.5
UUPR				Sn	06 01 45.7	-0.4
UUPR	**Utuado, UPR, P**	**2.31 236**⇑	*e*P	Pn	06 01 19.4	+0.5
UUPR	**Utuado, UPR, P**	**2.31 236**	*e*S	Sn	06 01 45.7	-0.4
CELP	**Cerrillos**	**2.31 230**		Pn	06 01 19.2	+0.3
CELP				Sn	06 01 44.7	-1.5
CELP	**Cerrillos**	**2.31 230**	IAML		06 01 56.2	
	comp=N,24nm,2.6s					
CELP			IAML		06 02 28.7	
	comp=E,24nm,3.2s					
CELP	**Cerrillos**	**2.31 230**	*e*Pg	Pn	06 01 18.7	-0.2
CELP			IAML		06 01 55.1	
	comp=N,23nm,4.0s					
CELP	**Cerrillos**	**2.31 230**⇓	*e*P	Pn	06 01 19.2	+0.3
CELP	**Cerrillos**	**2.31 230**	*e*S	Sn	06 01 44.7	-1.5
OBIP	**Obispado Ponce**	**2.35 230**		Sn	06 01 46.0	-1.1
OBIP	**Obispado Ponce**	**2.35 230**⇓	*e*P	Pn	06 01 18.8	-0.7
OBIP	**Obispado Ponce**	**2.35 230**	*e*S	Sn	06 01 46.0	-1.1
AGPR	**Aguadilla, PR**	**2.52 240**		Pn	06 01 21.9	+0.2
AGPR	**Aguadilla, PR**	**2.52 245**	IAML		06 01 43.8	
	comp=E,110nm,3.0s					
AGPR	**Aguadilla, PR**	**2.52 245**⇓	*e*P	Pn	06 01 21.9	+0.2
LSP	**Las Mesas**	**2.64 239**		Pn	06 01 24.5	+1.1
LSP				Sn	06 01 53.5	-0.8
LSP	**Las Mesas**	**2.64 239**⇓	*e*P	Pn	06 01 24.5	+1.1
LSP	**Las Mesas**	**2.64 239**	*e*S	Sn	06 01 53.5	-0.8
CRPR	**Cabo Rojo, PR**	**2.75 236**		Pn	06 01 25.7	+0.7
CRPR				Sn	06 01 56.5	-0.5
CRPR	**Cabo Rojo, PR**	**2.75 236**	IAML		06 02 11.0	
	comp=N,42nm,2.8s					
CRPR			IAML		06 02 34.3	
	comp=E,35nm,1.8s					
CRPR	**Cabo Rojo, PR**	**2.75 236**	*e*Pg	Pn	06 01 25.7	+0.7
CRPR			IAML		06 02 10.2	
	comp=N,47nm,2.7s					
CRPR	**Cabo Rojo, PR**	**2.75 236**⇓	*e*P	Pn	06 01 25.7	+0.7
CRPR	**Cabo Rojo, PR**	**2.75 236**	*e*S	Sn	06 01 56.5	-0.5
DR12	**Loma Pena Alta**	**4.48 261**	Pn	Pn	06 01 47.3	-1.5

*NEIC **20** 06:02:54.6±1.3, 19°.51N±0°.10×64°.7W±0°.1, h35km±2km, ML3.1/28, Md3.3/12(RSPR), Error ellipse: s-maj=19.9km s-min=14.7km az=123.0*
*RSPR **20** 06:02:55.8, 19°.54N×64°.82W, h75km±21km, MD3.3/12*
ISC 20 06:02:55.3±3.7, 19°.41N±0°.10×64°.84W±0°.04, h17km±26km, n55, σ0°76/61, 6C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.58 217**			**Pn**	**06 03 22.3**	**-0.3**
HUMP					**Sn**	**06 03 42.3**	**-0.3**
HUMP	**Col San Antoni**	**1.58 217**	IAML			06 03 47.0	
	comp=E,127nm,0.2s						
HUMP			IAML			06 03 51.7	
	comp=N,95nm,0.2s						
HUMP	**Col San Antoni**	**1.58 217**⇓	*e*P		**Pn**	**06 03 22.3**	**-0.3**
HUMP	**Col San Antoni**	**1.58 217**	*e*S		**Sn**	**06 03 42.3**	**-0.3**
GCPR	**Guaynabo City**	**1.61 227**			**Pn**	**06 03 22.3**	**-0.6**
GCPR					**Sb**	**06 03 44.6**	**+0.1**
GCPR	**Guaynabo City**	**1.61 227**⇑	*e*P		**Pn**	**06 03 22.3**	**-0.6**
GCPR	**Guaynabo City**	**1.61 227**	*e*S		**Sb**	**06 03 44.6**	**+0.1**
PDPR	**Patillas Dam,**	**1.78 219**			**Pn**	**06 03 25.2**	**-0.1**
PDPR			IAML			06 03 55.8	
	comp=E,81nm,0.5s						
PDPR	**Patillas Dam,**	**1.78 219**⇑	*e*P		**Pn**	**06 03 25.2**	**-0.1**
PDPR	**Patillas Dam,**	**1.78 219**	*e*S		**Sb**	**06 03 49.6**	**0.0**
SJG	**San Juan**	**1.79 224**			**Pn**	**06 03 23.6**	**-1.9**
SJG	**San Juan**	**1.79 224**⇑	*e*P		**Pn**	**06 03 23.6**	**-1.9**
SJG	**San Juan**	**1.79 224**	*e*S		**Sb**	**06 03 49.4**	**-0.5**
ECPR	**Experimental S**	**1.80 233**⇓	*e*P		**Pn**	**06 03 25.8**	**+0.1**
ECPR	**Experimental S**	**1.80 233**	*e*S		**Sn**	**06 03 47.9**	**-0.2**
EMPR	**Esperanza - Ma**	**1.85 240**			**Pn**	**06 03 25.8**	**-0.4**
EMPR					**Sn**	**06 03 50.6**	**+1.4**
EMPR	**Esperanza - Ma**	**1.85 240**	IAML			06 03 55.4	
	comp=N,164nm,0.7s						
EMPR			IAML			06 04 07.0	
	comp=E,204nm,0.8s						
EMPR	**Esperanza - Ma**	**1.85 240**⇓	*e*P		**Pn**	**06 03 25.8**	**-0.4**
EMPR	**Esperanza - Ma**	**1.85 240**	*e*S		**Sn**	**06 03 50.6**	**+1.4**
IGPR	**InterUniversit**	**1.87 220**			**Pn**	**06 03 26.5**	**-0.1**
IGPR					**Sn**	**06 03 50.6**	**+0.9**
IGPR	**InterUniversit**	**1.87 220**	IAML			06 03 57.6	
	comp=N,165nm,0.3s						
IGPR			IAML			06 03 58.8	
	comp=E,254nm,0.3s						
IGPR	**InterUniversit**	**1.87 220**⇑	*e*P		**Pn**	**06 03 26.5**	**-0.1**
IGPR	**InterUniversit**	**1.87 220**	*e*S		**Sn**	**06 03 50.6**	**+0.9**
AOPR	**Arecibo Observ**	**2.10 240**			**Pn**	**06 03 29.6**	**-0.1**
AOPR					**Sn**	**06 03 56.6**	**+1.2**
AOPR	**Arecibo Observ**	**2.10 240**	IAML			06 04 08.3	
	comp=N,147nm,0.5s						
AOPR	**Arecibo Observ**	**2.10 240**	*e*P		**Pn**	**06 03 29.3**	**-0.4**
AOPR			*e*S		**Sn**	**06 03 56.6**	**+1.2**
AOPR	**Arecibo Observ**	**2.10 240**⇓	*e*P		**Pn**	**06 03 29.6**	**-0.1**
CELP	**Cerrillos**	**2.12 231**			**Pn**	**06 03 30.1**	**+0.1**
CELP					**Sn**	**06 03 55.6**	**-0.2**
CELP	**Cerrillos**	**2.12 231**⇑	*e*P		**Pn**	**06 03 30.1**	**+0.1**
CELP	**Cerrillos**	**2.12 231**	*e*S		**Sn**	**06 03 55.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**2.12 237**			**Pn**	**06 03 29.9**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.12 237**⇓	*e*P		**Pn**	**06 03 29.9**	**-0.1**
OBIP	**Obispado Ponce**	**2.15 231**			**Pn**	**06 03 29.9**	**-0.6**
OBIP	**Obispado Ponce**	**2.15 231**	IAML			06 04 01.3	
	comp=E,68nm,0.6s						
OBIP			IAML			06 04 03.4	
	comp=N,59nm,0.8s						
OBIP	**Obispado Ponce**	**2.15 231**⇓	*e*P		**Pn**	**06 03 29.9**	**-0.6**
AGPR	**Aguadilla, PR**	**2.34 247**			**Pn**	**06 03 32.5**	**-0.6**
AGPR					**Sn**	**06 04 01.0**	**-0.4**
AGPR	**Aguadilla, PR**	**2.34 247**	IAML			06 04 10.2	
	comp=E,105nm,1.9s						
AGPR			IAML			06 05 00.1	
	comp=N,110nm,2.4s						
AGPR	**Aguadilla, PR**	**2.34 247**⇓	*e*P		**Pn**	**06 03 32.5**	**-0.6**
AGPR	**Aguadilla, PR**	**2.34 247**	*e*S		**Sn**	**06 04 01.0**	**-0.4**
GBPR	**Guanica, Bosqu**	**2.40 234**			**Pn**	**06 03 34.7**	**+0.9**
GBPR	**Guanica, Bosqu**	**2.40 234**⇓	*e*P		**Pn**	**06 03 34.7**	**+0.9**
LSP	**Las Mesas**	**2.46 240**			**Pn**	**06 03 35.1**	**+0.5**
LSP					**Sn**	**06 04 05.5**	**+1.2**
LSP	**Las Mesas**	**2.46 240**⇓	*e*P		**Pn**	**06 03 35.1**	**+0.5**
LSP	**Las Mesas**	**2.46 240**	*e*S		**Sn**	**06 04 05.5**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.56 237**			**Pn**	**06 03 36.1**	**0.0**
CRPR					**Sn**	**06 04 06.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.56 237**	IAML			06 04 09.1	
	comp=E,47nm,2.5s						
CRPR			IAML			06 04 21.8	
	comp=N,53nm,2.4s						
CRPR	**Cabo Rojo, PR**	**2.56 237**⇑	*e*P		**Pn**	**06 03 36.1**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.56 237**	*e*S		**Sn**	**06 04 06.8**	**-0.1**
SKI	**Saint Kitts**	**2.87 136**	*e*P		**Pb**	**06 03 46.1**	**0.0**
ANWB	**Willy Bob**	**3.38 120**	*e*P		**Pn**	**06 03 49.1**	**+1.9**
ANWB			*e*S		**Sn**	**06 04 25.4**	**-1.6**
PCDR	**Punta Cana, DR**	**3.47 256**			**Pn**	**06 03 48.9**	**+0.4**
PCDR					**Sn**	**06 04 28.6**	**-0.6**
PCDR	**Punta Cana, DR**	**3.47 256**⇓	*e*P		**Pn**	**06 03 48.9**	**+0.4**
PCDR	**Punta Cana, DR**	**3.47 256**	*e*S		**Sn**	**06 04 28.6**	**-0.6**
ANBD	**Bethesda, Anti**	**3.75 128**	*e*P		**Pn**	**06 03 52.5**	**+0.1**
ANBD			*e*S		**Sn**	**06 04 35.3**	**-0.9**
DR12	**Loma Pena Alta**	**4.34 263**	Pn		**Pn**	**06 03 59.6**	**-1.0**

*IDC **20** 06:11:04.5±1.7, 35°.81N×70°.95E, h0km, mb3.9/7, mbtmp3.7/12, ML3.5/5, MS2.9/1, Error ellipse: s-maj=29.0km s-min=25.7km az=164.0*
*NNC **20** 06:11:18.4±9.6, 36°.30N×70°.54E, h102km±167km, mb3.3, mpv3.9, Error ellipse: s-maj=71.7km s-min=59.9km az=26.0*
ISC 20 06:11:18.2±1.2, 36°.31N±0°.10×70°.8E±0°.1, h100km, n22, σ2°14/26, mb3.8/6, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.23**	**20**	P	**Pn**	**06 12 49.4**	**+1.5**
	SNR=83						
EKS2	**Erkin-Say**	**6.74**	**19**	P	**Pn**	**06 12 56.4**	**+1.8**
	SNR=8.8						
KK31	**Karatay Array**	**6.79**	**358**	⇑P	**Pn**	**06 12 55.9**	**+0.8**
	2.0nm,0.3s,baz=184,slow=13,SNR=27						
KK31				⇑S	**Sn**	**06 14 15.4**	**+4.4**
	8.5nm,0.6s,baz=185,slow=22,SNR=5.3						
AAK	**Ala-Archa**	**6.93**	**23**	Pn	**Pn**	**06 12 56.1**	**-1.1**
	3.3nm,0.3s,baz=162,slow=6.3,SNR=18						
AAK				Sn	**Sn**	**06 14 13.1**	**-1.4**
	1.6nm,0.3s,baz=36,slow=19,SNR=9.5						
	6.4nm,0.4s						
AAK	**Ala-Archa**	**6.93**	**23**	P	**Pn**	**06 12 58.7**	**+1.4**
	SNR=13						
AAK	**Ala-Archa**	**6.93**	**23**	P	**Pn**	**06 12 58.6**	**+1.4**
	6.2nm,0.6s						
AAK				S	**Sn**	**06 14 14.2**	**-0.4**
	19nm,0.8s						
ULHL	**Ulahol**	**7.27**	**34**	P	**Pn**	**06 13 04.0**	**+2.2**
	SNR=7.1						
USP	**Ospenovka**	**7.50**	**21**	P	**Pn**	**06 13 06.2**	**+1.2**
	SNR=10						
MKAR	**Makanchi Array**	**13.53**	**36**	Pn	Pn	06 14 22.1	-3.9
	0.1nm,0.3s,baz=216,slow=13,SNR=10						
	0.2nm,0.5s						
AB31	**Akbulak array**	**15.18**	**332**	P	**Pn**	**06 14 46.2**	**-0.8**
	0.5nm,0.3s,baz=157,slow=12,SNR=41						
AB31				⇓S	**Sn**	**06 17 31.8**	**-2.7**
	0.8nm,0.5s,baz=155,slow=24,SNR=4.2						
KURBB	**Kurchatov Arra**	**15.35**	**19**	Pn	**Pn**	**06 14 47.0**	**-2.1**
	0.1nm,0.3s,baz=206,slow=11,SNR=12						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**16.71**	**359**	Pn	**Pn**	**06 15 04.0**	**-2.1**
	0.1nm,0.3s,baz=163,slow=11,SNR=5.8						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**16.87**	**331**	Pn	**Pn**	**06 15 05.8**	**-2.3**
	0.3nm,0.3s,baz=139,slow=9.5,SNR=9.2						
AKTO				Sn	**Sn**	**06 18 11.4**	**-3.9**
	0.1nm,0.3s,baz=142,slow=16,SNR=3.7						
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**16.87**	**331**	⇑P	**P**	**06 15 08.2**	**-0.3**
	1.5nm,0.7s						
AKTO				⇑S	**Sn**	**06 18 12.1**	**-3.2**
	2.3nm,1.1s						
ZALV	**Zalesovo Beam**	**20.15**	**25**	P	**P**	**06 15 43.9**	**-0.3**
	4.4nm,0.4s,baz=220,slow=10,SNR=31						
	4.4nm,0.4s						
ASF	**Jabal al Asfar**	**28.26**	**272**	LR	LR	06 31 16.7	
	comp=Z,25nm,20.4s,baz=166,slow=43						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**06 17 43.6**	**+0.5**
	0.3nm,0.5s,baz=81,slow=7.5,SNR=4.7						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**37.56**	**326**	P	**P**	**06 18 23.4**	**+1.0**
	2.4nm,0.9s,baz=105,slow=30,SNR=1.4						
	2.4nm,0.9s						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**06 18 54.6**	**+1.5**
	2.7nm,1.0s,baz=101,slow=6.3,SNR=4.7						
	2.7nm,1.0s						
HFS	**Hagfors**	**43.12**	**322**	P	**P**	**06 19 10.8**	**+2.5**
	6.0nm,1.1s,baz=98,slow=10,SNR=7.4						
	6.0nm,1.1s						
NOA	**NORSAR Array B**	**44.44**	**323**	P	**P**	**06 19 20.7**	**+1.8**
	0.3nm,0.4s,baz=107,slow=9.4,SNR=1.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**06 23 25.1**	**-2.3**
	0.2nm,0.5s,baz=318,slow=5.3,SNR=1.4						
	0.2nm,0.5s						

*NEIC **20** 06:15:28.1±1.5, 61°.35N±0°.03×146°.94W±0°.04, h28km±10km, Error ellipse: s-maj=3.8km s-min=2.5km az=198.0*
*AEIC **20** 06:15:28.8±1.3, 61°.34N±0°.02×146°.94W±0°.04, h20km±7km, ML3.1, ML3.4/144(NEIC), Error ellipse: s-maj=3.3km s-min=2.3km az=215.0*
ISC 20 06:15:28.1±0.9, 61°.34N±0°.03×146°.95W±0°.02, h29km, n124, σ0°78/109, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	**Glacier Island**	**0.46**	**189**		**Pb**	**06 15 38.0**	**+0.1**
GLI				IAML		06 15 46.8	
	comp=E,2μm,0.3s						
GLI	**Glacier Island**	**0.46**	**189**		**Sb**	**06 15 45.9**	**+1.3**
KLU	**Klutina**	**0.52**	**72**		**Pb**	**06 15 38.5**	**-0.4**
KLU				IAML		06 15 46.9	
	comp=E,2μm,0.2s						
KLU				IAML		06 15 47.0	
	comp=N,2μm,0.4s						
KLU	**Klutina**	**0.52**	**72**		**Sb**	**06 15 46.2**	**-0.1**
SCM	**Sheep Creek Mo**	**0.53**	**340**		**Pb**	**06 15 38.6**	**-0.4**
SCM				IAML		06 15 47.1	
	comp=E,5μm,0.4s						
SCM				IAML		06 15 47.1	
	comp=N,3μm,0.2s						
SCM	**Sheep Creek Mo**	**0.53**	**340**		**Sb**	**06 15 46.6**	**0.0**
M23K	**Glacier View**	**0.59**	**322**		**Pb**	**06 15 39.3**	**-0.7**
M23K					**Sb**	**06 15 47.9**	**-0.2**
DIV	**Divide**	**0.61**	**109**		**Pb**	**06 15 39.6**	**-0.7**
DIV	**Divide**	**0.61**	**109**		**Sb**	**06 15 48.1**	**-0.5**
KNK	**Knik Glacier**	**0.73**	**277**		**Pb**	**06 15 41.8**	**-0.5**
KNK				IAML		06 15 52.9	
	comp=E,3μm,0.3s						
KNK				IAML		06 15 53.1	
	comp=N,4μm,0.4s						
KNK	**Knik Glacier**	**0.73**	**277**		**Sb**	**06 15 52.3**	**+0.3**
SML	**Sawmill**	**0.81**	**306**	Pg	**Pn**	**06 15 42.6**	**-1.1**
SML	**Sawmill**	**0.81**	**306**		**Sb**	**06 15 53.8**	**-0.5**
PWL	**Port Wells**	**0.82**	**235**	Pg	**Pn**	**06 15 43.1**	**-0.6**
PWL				IAML		06 15 55.6	
	comp=N,1μm,0.5s						
PWL				IAML		06 15 56.3	
	comp=E,796nm,0.3s						
PWL	**Port Wells**	**0.82**	**235**		**Sb**	**06 15 54.7**	**0.0**
M24K	**Tolsona, Glenn**	**0.86**	**25**		**Pn**	**06 15 43.8**	**-0.5**
M24K				IAML		06 15 56.6	
	comp=E,906nm,0.6s						
HIN	**Hinchinbrook I**	**0.97**	**167**		**Pn**	**06 15 45.8**	**+0.1**
HIN				IAML		06 16 01.2	
	comp=E,2μm,0.7s						
HIN				IAML		06 16 01.6	
	comp=N,876nm,0.5s						
EYAK	**Cordova Ski Ar**	**0.98**	**143**		**Pn**	**06 15 46.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**0.98**	**143**	P	**Pn**	**06 15 46.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**0.98**	**143**	S	**Sb**	**06 16 00.8**	**+1.7**
GHO	**Glory Hole Cre**	**1.04**	**296**		**Pn**	**06 15 46.1**	**-0.7**
GHO				IAML		06 16 01.4	
	comp=E,524nm,0.5s						
GHO				IAML		06 16 01.6	
	comp=N,626nm,0.4s						
GHO	**Glory Hole Cre**	**1.04**	**296**		**Sn**	**06 16 00.4**	**0.0**
PMR	**Palmer**	**1.08**	**285**		**Pn**	**06 15 46.7**	**-0.5**
PMR				IAML		06 16 02.5	
	comp=N,418nm,0.2s						
PMR	**Palmer**	**1.08**	**285**		**Sn**	**06 16 00.9**	**-0.2**
PMR	**Palmer**	**1.08**	**285**	P	**Pn**	**06 15 46.5**	**-0.7**
PMR	**Palmer**	**1.08**	**285**	S	**Sn**	**06 16 01.2**	**+0.1**
N25K	**Chitina, Valde**	**1.16**	**75**	Pn	**Pn**	**06 15 47.9**	**-0.7**
N25K				IAML		06 16 05.6	
	comp=E,428nm,0.4s						
N25K				IAML		06 16 06.8	
	comp=N,491nm,0.7s						
N25K	**Chitina, Valde**	**1.16**	**75**		**Sn**	**06 16 02.5**	**-1.0**
BMRM	**Bremner River**	**1.20**	**107**	Pn	**Pn**	**06 15 48.2**	**-0.7**
GOAT	**Goat Mountain**	**1.32**	**124**		**Pn**	**06 15 50.5**	**-0.2**
P23K	**Montague Islan**	**1.36**	**190**		**Pn**	**06 15 51.4**	**+0.2**
HARP	**HAARP**	**1.37**	**38**		**Pn**	**06 15 51.4**	**+0.2**
RC01	**Rabbit Creek A**	**1.37**	**261**	Pn	**Pn**	**06 15 51.8**	**+0.5**
RC01				IAML		06 16 12.1	
	comp=E,892nm,0.2s						
WACK	**Wrangell Chich**	**1.41**	**61**		**Pn**	**06 15 51.9**	**-0.2**
RAGM	**Ragged Mountai**	**1.47**	**129**		**Pn**	**06 15 52.5**	**-0.2**
RAGM				IAML		06 16 17.3	
	comp=E,965nm,0.4s						
GLB	**Gilahina Butte**	**1.52**	**85**	IAML		06 16 14.8	
	comp=N,313nm,0.4s						
GLB				IAML		06 16 14.9	
	comp=E,262nm,0.4s						
M22K	**Willow**	**1.57**	**287**		**Pn**	**06 15 54.2**	**+0.1**
M22K	**Willow**	**1.57**	**287**	IAML		06 16 19.4	
	comp=E,1μm,0.7s						
FIS	**Fire Island**	**1.59**	**265**		**Pn**	**06 15 55.0**	**+0.7**
FIS	**Fire Island**	**1.59**	**265**	IAML		06 16 28.1	
	comp=E,722nm,0.5s						
FIS				IAML		06 16 28.2	
	comp=N,434nm,0.6s						
O22K	**Cooper Landing**	**1.60**	**239**		**Pn**	**06 15 54.9**	**+0.4**
O22K				IAML		06 16 17.3	
	comp=N,960nm,0.6s						
HMT	**Hamilton**	**1.66**	**126**		**Pn**	**06 15 54.9**	**-0.3**
VRDI	**Verde Repeater**	**1.69**	**92**		**Pn**	**06 15 55.5**	**-0.4**
VRDI				IAML		06 16 18.6	
	comp=N,205nm,0.6s						
SEW	**Seward**	**1.74**	**226**		**Pn**	**06 15 57.3**	**+0.9**
PAX	**Paxson**	**1.78**	**22**	Pn	**Pn**	**06 15 57.1**	**+0.1**
SLKM	**Skilak Lake**	**1.80**	**244**	IAML		06 16 22.3	
	comp=N,620nm,0.5s						
SLKM				IAML		06 16 22.5	
	comp=E,692nm,0.5s						
NICHA	**Nichawak Mount**	**1.83**	**126**		**Pn**	**06 15 57.1**	**-0.6**
BERG	**Berg Lake**	**1.85**	**119**	Pn	**Pn**	**06 15 57.5**	**-0.4**
BERG				IAML		06 16 31.1	
	comp=N,478nm,0.4s						
BERG				IAML		06 16 31.4	
	comp=E,750nm,0.5s						
KAIM	**Kayak Island**	**1.89**	**137**		**Pn**	**06 15 57.7**	**-0.6**
KAIM	**Kayak Island**	**1.89**	**137**	IAML		06 16 31.4	
	comp=N,174nm,1.4s						
KAIM				IAML		06 16 32.7	
	comp=E,161nm,0.6s						
CUT	**Chulitna**	**1.90**	**306**	IAML		06 16 24.7	
	comp=N,624nm,0.3s						
SUCK	**Suckling Hills**	**2.01**	**128**	Pn	**Pn**	**06 15 60.0**	**-0.1**
SUCK				IAML		06 16 31.4	
	comp=N,409nm,0.4s						
SUCK				IAML		06 16 31.6	
	comp=E,234nm,0.3s						
CAPN	**Captain Cook N**	**2.12**	**256**		**Pn**	**06 16 03.2**	**+1.7**
CAPN	**Captain Cook N**	**2.12**	**256**	IAML		06 16 59.6	
	comp=N,369nm,0.7s						
CAPN				IAML		06 17 16.5	
	comp=E,311nm,1.1s						
M26K	**Nabesna, AK**	**2.16**	**59**		**Pn**	**06 16 02.7**	**+0.5**
BGLC	**Bering Glacier**	**2.18**	**122**		**Pn**	**06 16 02.8**	**+0.5**
MENT	**Mentasta**	**2.21**	**42**		**Pn**	**06 16 03.5**	**+0.6**
MENT	**Mentasta**	**2.21**	**42**	IAML		06 16 47.4	
	comp=E,166nm,0.4s						
MENT				IAML		06 16 50.3	
	comp=N,114nm,0.4s						
BALM	**Baldy**	**2.25**	**96**		**Pn**	**06 16 03.4**	**-0.2**
RND	**Reindeer**	**2.26**	**338**	Pn	**Pn**	**06 16 04.3**	**+0.8**
KIAG	**Kiagna River**	**2.27**	**98**		**Pn**	**06 16 03.5**	**-0.2**
SKT	**Skwentna**	**2.28**	**289**		**Pn**	**06 16 04.2**	**+0.5**
SKT				IAML		06 16 36.0	
	comp=N,444nm,0.4s						
SKT				IAML		06 16 36.5	
	comp=E,338nm,0.5s						
STLK	**Strandline Lak**	**2.35**	**276**		**Pn**	**06 16 05.3**	**+0.4**
STLK				IAML		06 16 37.6	
	comp=N,208nm,0.4s						
STLK				IAML		06 16 38.9	
	comp=E,137nm,0.6s						
L26K	**Log Cabin Wild**	**2.40**	**43**		**Pn**	**06 16 06.3**	**+0.9**
BRSE	**Bradley Lake S**	**2.46**	**231**		**Pn**	**06 16 06.4**	**+0.1**
SPU	**Mount Spurr**	**2.47**	**269**	Pn	**Pn**	**06 16 06.8**	**+0.4**
SPU				IAML		06 17 41.0	
	comp=E,154nm,0.4s						
SPU				IAML		06 17 42.3	
	comp=N,117nm,0.4s						
BRLK	**Bradley Lake**	**2.50**	**233**	Pn	**Pn**	**06 16 07.2**	**+0.4**
K24K	**Donnelly Dome**	**2.54**	**12**		**Pn**	**06 16 08.6**	**+1.2**
MCK	**McKinley**	**2.58**	**340**	Pn	**Pn**	**06 16 08.9**	**+1.0**
RIDG	**Independent Ri**	**2.60**	**21**	Pn	**Pn**	**06 16 09.9**	**+1.7**
CKL	**Chakachamna La**	**2.60**	**269**		**Pn**	**06 16 08.3**	**-0.1**
TRF	**Thorofare Mou**	**2.63**	**325**		**Pn**	**06 16 09.0**	**+0.3**
DOT	**Dot Lake**	**2.68**	**29**	Pn	**Pn**	**06 16 11.7**	**+2.4**
MESA	**MESA**	**2.72**	**113**	Pn	**Pn**	**06 16 10.1**	**+0.1**
MESA				IAML		06 16 55.7	
	comp=N,174nm,0.6s						
MESA				IAML		06 16 56.8	
	comp=E,215nm,0.5s						
CNPM	**China Poot**	**2.79**	**231**	Pn	**Pn**	**06 16 11.6**	**+0.8**
HOM	**Homer**	**2.87**	**236**		**Pn**	**06 16 12.3**	**+0.5**
KTH	**Kantishna Hill**	**2.89**	**322**		**Pn**	**06 16 12.8**	**+0.6**
PPLA	**Purkeypile**	**2.92**	**305**	Pn	**Pn**	**06 16 13.4**	**+0.8**
RKAV	**Rock Avalanche**	**2.94**	**108**		**Pn**	**06 16 12.9**	**0.0**
BCAR	**Beaver Creek A**	**2.98**	**52**	Pn	**Pn**	**06 16 14.1**	**+0.7**
RDWB	**Redoubt West**	**3.00**	**256**		**Pn**	**06 16 13.8**	**0.0**
**BWN

JIS	**Juneau Island**	**7.04 110**	P	**Pn**	**06 17 09.7**	**+0.6**

*IDC **20** 06:16:38.8±1.5, 59°.49N×153°.90W, h102km±14km, mb3.8/22, mbtmp4.2/26, Error ellipse: s-maj=15.2km s-min=10.0km az=26.0*
*NEIC **20** 06:16:40.2±1.2, 59°.30N±0°.05×153°.61W±0°.09, h114km±3km, Error ellipse: s-maj=7.1km s-min=6.3km az=156.0*
*AEIC **20** 06:16:41.1±1.6, 59°.31N±0°.05×153°.60W±0°.09, h110km±3km, ML3.8, mb4.1/7(NEIC), ML4.0/128(NEIC), Error ellipse: s-maj=7.0km s-min=6.5km az=155.0*
ISC 20 06:16:40.0±0.6, 59°.33N±0°.04×153°.67W±0°.04, h121km±5km, n354, σ1§01/348, mb4.0/27, 1C, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUCH	**Augustine Cone**	**0.12**	**74**		**Pn**	**06 16 56.2**	**-0.4**
AUCH					**Sn**	**06 17 08.0**	**-1.1**
AU22	**Augustine Moun**	**0.16**	**76**		**Pn**	**06 16 56.1**	**-0.5**
OPT	**Oil Point**	**0.39**	**34**		**Pn**	**06 16 57.1**	**-0.4**
OPT	**Oil Point**	**0.39**	**34**	P	**Pn**	**06 16 57.1**	**-0.4**
baz=209							
P19K	**Oil Pt**	**0.39**	**34**		**Pn**	**06 16 57.1**	**-0.4**
P19K	**Oil Pt**	**0.39**	**34**		**Sn**	**06 17 09.7**	**-1.0**
P19K	**Oil Pt**	**0.39**	**34**	P	**Pn**	**06 16 57.0**	**-0.4**
baz=209							
P19K				S	**Sn**	**06 17 09.7**	**-1.0**
baz=209							
Q19K	**Cape Douglas,**	**0.40**	**178**	Pn	**Pn**	**06 16 56.8**	**-0.7**
Q19K				IAML		06 17 13.7	
comp=N,8μm,0.7s							
Q19K	**Cape Douglas,**	**0.40**	**178**		**Sn**	**06 17 09.3**	**-1.4**
Q19K	**Cape Douglas,**	**0.40**	**178**	P	**Pn**	**06 16 56.8**	**-0.7**
baz=3.4							
Q19K				S	**Sn**	**06 17 09.3**	**-1.4**
baz=3.4							
Q19K				S	**Sn**	**06 17 09.3**	**-1.4**
baz=3.4							
ILS	**Iliamna Low So**	**0.70**	**26**		**Pn**	**06 16 58.9**	**-0.6**
ILS					**Sn**	**06 17 13.2**	**-1.1**
ILSW	**Iliamna Southw**	**0.71**	**22**	Pn	**Pn**	**06 16 59.1**	**-0.5**
ILSW	**Iliamna Southw**	**0.71**	**22**		**Sn**	**06 17 13.1**	**-1.3**
ILSW	**Iliamna Southw**	**0.71**	**22**	IAML		06 17 13.7	
comp=E,7μm,0.6s							
ILSW				IAML		06 17 14.0	
comp=N,4μm,0.8s							
P18K	**Big Mountain,**	**0.80**	**275**		**Pn**	**06 16 59.2**	**-1.1**
P18K				IAML		06 17 14.5	
comp=N,2μm,1.1s							
P18K				IAML		06 17 14.5	
comp=E,1μm,0.8s							
P18K	**Big Mountain,**	**0.80**	**275**		**Sn**	**06 17 14.0**	**-1.7**
P18K	**Big Mountain,**	**0.80**	**275**	P	**Pn**	**06 16 59.4**	**-0.9**
baz=95							
P18K				S	**Sn**	**06 17 14.0**	**-1.7**
baz=95							
O20K	**Slope Mountain**	**0.92**	**35**		**Sn**	**06 17 16.5**	**-1.0**
O20K	**Slope Mountain**	**0.92**	**35**	P	**Pn**	**06 17 01.0**	**-0.4**
baz=213							
O20K				S	**Sn**	**06 17 16.5**	**-1.0**
baz=213							
O20K				S	**Sn**	**06 17 16.5**	**-1.0**
baz=213							
O19K	**Port Alsworth**	**0.93**	**339**		**Pn**	**06 17 00.8**	**-0.5**
O19K					**Sn**	**06 17 16.3**	**-1.2**
O19K	**Port Alsworth**	**0.93**	**339**	IAML		06 17 17.4	
comp=N,4μm,0.5s							
O19K				IAML		06 17 23.9	
comp=E,4μm,0.4s							
O19K	**Port Alsworth**	**0.93**	**339**	P	**Pn**	**06 17 00.8**	**-0.5**
baz=157							
O19K				S	**Sn**	**06 17 16.3**	**-1.2**
baz=157							
O19K				S	**Sn**	**06 17 16.3**	**-1.2**
baz=157							
O18K	**Koktuh Hills**	**0.94**	**305**	Pn	**Pn**	**06 17 01.0**	**-0.5**
O18K				IAML		06 17 17.6	
comp=E,1μm,1.0s							
O18K	**Koktuh Hills**	**0.94**	**305**		**Sn**	**06 17 17.1**	**-0.8**
O18K	**Koktuh Hills**	**0.94**	**305**	P	**Pn**	**06 17 01.0**	**-0.5**
baz=123							
O18K				S	**Sn**	**06 17 17.0**	**-0.8**
baz=123							
O18K				S	**Sn**	**06 17 17.0**	**-0.8**
baz=123							
KAHG	**Katmai Hook Gl**	**0.95**	**209**		**Pn**	**06 17 01.2**	**-0.5**
KAHC	**Katmai Hardscr**	**0.97**	**226**		**Pn**	**06 17 01.3**	**-0.6**
KAHC	**Katmai Hardscr**	**0.97**	**226**	P	**Pn**	**06 17 01.3**	**-0.6**
baz=47							
Q20K	**Shuyak Island**	**0.98**	**137**	P	**Pn**	**06 17 00.9**	**-0.9**
baz=319							
Q20K				S	**Sn**	**06 17 16.8**	**-1.5**
baz=319							
SYI	**Shuyak Island**	**0.98**	**137**	Pn	**Pn**	**06 17 01.0**	**-0.8**
SYI				IAML		06 17 17.7	
comp=N,4μm,0.8s							
SYI				IAML		06 17 17.8	
comp=E,2μm,0.8s							
SYI	**Shuyak Island**	**0.98**	**137**		**Sn**	**06 17 16.8**	**-1.5**
HOM	**Homer**	**1.08**	**71**		**Pn**	**06 17 02.5**	**-0.4**
HOM	**Homer**	**1.08**	**71**		**Sn**	**06 17 19.6**	**-0.6**
HOM	**Homer**	**1.08**	**71**	P	**Pn**	**06 17 02.3**	**-0.5**
baz=252							
HOM				S	**Sn**	**06 17 19.6**	**-0.6**
baz=252							
CNPM	**China Poot**	**1.26**	**80**	Pn	**Pn**	**06 17 04.2**	**-0.6**
CNPM				IAML		06 17 23.7	
comp=E,1μm,0.3s							
CNPM				IAML		06 17 24.6	
comp=N,2μm,0.5s							
NCT	**North Crescent**	**1.29**	**16**		**Pn**	**06 17 05.0**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.34**	**19**		**Pn**	**06 17 05.5**	**-0.2**
KCE	**Katmai Mt Cerb**	**1.35**	**217**		**Pn**	**06 17 05.7**	**0.0**
ACHA	**Angle Creek He**	**1.42**	**218**		**Pn**	**06 17 06.0**	**-0.6**
P17K	**Kvichak River**	**1.43**	**266**		**Pn**	**06 17 06.4**	**-0.2**
P17K	**Kvichak River**	**1.43**	**266**	P	**Pn**	**06 17 06.4**	**-0.2**
baz=84							
BRLK	**Bradley Lake**	**1.48**	**72**	Pn	**Pn**	**06 17 06.3**	**-0.9**
BRLK				IAML		06 17 28.3	
comp=N,3μm,0.3s							
BRLK				IAML		06 17 29.5	
comp=E,2μm,0.3s							
N19K	**Bonanza Creek**	**1.54**	**345**	P	**Pn**	**06 17 07.8**	**-0.2**
baz=163							
BRSE	**Bradley Lake S**	**1.55**	**73**		**Pn**	**06 17 07.2**	**-0.7**
BRSE	**Bradley Lake S**	**1.55**	**73**	P	**Pn**	**06 17 07.2**	**-0.7**
baz=255							
BRSE				S	**Sn**	**06 17 28.1**	**-1.2**
baz=255							
KJL	**Kejulik**	**1.62**	**219**		**Pn**	**06 17 08.8**	**-0.1**
KDAK	**Kodiak Island**	**1.65**	**159**	Pn	**Pn**	**06 17 07.9**	**-1.3**
KDAK				IAML		06 17 31.8	
comp=E,2μm,0.6s							
KDAK				IAML		06 17 31.9	
comp=E,2μm,0.8s							
KDAK	**Kodiak Island**	**1.65**	**159**	P	**Pn**	**06 17 07.6**	**-1.6**
comp=E,380nm,0.3s,baz=271,slow=4.3,SNR=250							
KDAK				S	**Sn**	**06 17 29.1**	**-2.4**
comp=E,678nm,0.4s,baz=56,slow=18,SNR=5.6							
KDAK				LR	LR	06 17 48.2	
comp=E,228nm,20.4s,baz=159,slow=38							
Q16K	**King Salmon**	**1.68**	**248**		**Pn**	**06 17 09.5**	**0.0**
Q16K	**King Salmon**	**1.68**	**248**	P	**Pn**	**06 17 09.5**	**0.0**
baz=67							
N18K	**Kilae Creek**	**1.75**	**321**		**Pn**	**06 17 10.4**	**-0.1**
N18K	**Kilae Creek**	**1.75**	**321**	IAML		06 17 33.4	
comp=E,339nm,0.8s							
N18K				IAML		06 17 34.1	
comp=N,369nm,1.1s							
N18K	**Kilae Creek**	**1.75**	**321**	P	**Pn**	**06 17 10.4**	**-0.1**
baz=139							
O17K	**Koliganek Bris**	**1.80**	**286**		**Pn**	**06 17 11.0**	**+0.1**
O17K	**Koliganek Bris**	**1.80**	**286**	P	**Pn**	**06 17 11.0**	**+0.1**
baz=103							
R18K	**Karluk**	**1.82**	**193**		**Pn**	**06 17 09.8**	**-1.4**
R18K	**Karluk**	**1.82**	**193**	IAML		06 17 35.3	
comp=E,2μm,0.4s							
R18K	**Karluk**	**1.82**	**193**	P	**Pn**	**06 17 09.8**	**-1.4**
baz=14							
SPU	**Mount Spurr**	**2.02**	**23**		**Pn**	**06 17 13.5**	**-0.3**
SPU					**Sn**	**06 17 39.3**	**-0.3**
SPBG	**Spurr Blockage**	**2.04**	**18**		**Pn**	**06 17 13.9**	**-0.1**
SPBG					**Sn**	**06 17 38.6**	**-1.5**
SLKM	**Skilak Lake**	**2.10**	**54**		**Pn**	**06 17 14.7**	**0.0**
SLKM	**Skilak Lake**	**2.10**	**54**	IAML		06 17 41.0	
comp=N,1μm,0.6s							
SLKM				IAML		06 17 42.1	
comp=E,920nm,0.5s							
OHAK	**Old Harbor**	**2.12**	**174**	Pn	**Pn**	**06 17 13.4**	**-1.5**
OHAK				IAML		06 17 39.5	
comp=N,726nm,0.5s							
OHAK				IAML		06 17 40.0	
comp=E,616nm,0.7s							
OHAK	**Old Harbor**	**2.12**	**174**	P	**Pn**	**06 17 13.4**	**-1.5**
baz=356							
OHAK	**Old Harbor**	**2.12**	**174**	P	**Pn**	**06 17 13.3**	**-1.7**
OHAK	**Old Harbor**	**2.12**	**174**	S	**Sn**	**06 17 39.2**	**-2.5**
N17K	**Nushagak Hills**	**2.14**	**306**		**Pn**	**06 17 15.4**	**+0.3**
N17K	**Nushagak Hills**	**2.14**	**306**	IAML		06 17 43.2	
comp=N,335nm,1.1s							
N17K				IAML		06 17 43.4	
comp=E,504nm,0.9s							
N17K	**Nushagak Hills**	**2.14**	**306**	P	**Pn**	**06 17 15.4**	**+0.3**
baz=122							
PLK1	**Peulik 1**	**2.17**	**226**		**Pn**	**06 17 15.7**	**+0.2**
P16K	**Nushagak River**	**2.25**	**264**		**Pn**	**06 17 16.9**	**+0.5**
P16K	**Nushagak River**	**2.25**	**264**	P	**Pn**	**06 17 16.9**	**+0.5**
baz=81							
SEW	**Seward**	**2.27**	**68**		**Pn**	**06 17 16.5**	**-0.3**
SEW	**Seward**	**2.27**	**68**	P	**Pn**	**06 17 16.5**	**-0.3**
baz=251							
O16K	**Kokwok River B**	**2.27**	**279**		**Pn**	**06 17 17.1**	**+0.3**
O16K	**Kokwok River B**	**2.27**	**279**	P	**Pn**	**06 17 17.1**	**+0.3**
baz=95							
O22K	**Cooper Landing**	**2.30**	**58**		**Pn**	**06 17 17.1**	**0.0**
O22K	**Cooper Landing**	**2.30**	**58**	P	**Pn**	**06 17 17.1**	**0.0**
baz=241							
O22K				S	**Sn**	**06 17 44.8**	**-0.8**
baz=241							
PLBL	**Peulik Blue Cr**	**2.33**	**227**		**Pn**	**06 17 18.3**	**+0.7**
STLK	**Strandline Lak**	**2.36**	**22**	Pn	**Pn**	**06 17 18.7**	**+0.7**
M18K	**Stony River**	**2.42**	**335**		**Pn**	**06 17 18.8**	**+0.1**
M18K	**Stony River**	**2.42**	**335**	P	**Pn**	**06 17 18.8**	**+0.1**
baz=152							
M19K	**Big River Lodg**	**2.61**	**352**		**Pn**	**06 17 21.0**	**-0.1**
M19K	**Big River Lodg**	**2.61**	**352**	IAML		06 17 52.9	
comp=N,102nm,0.8s							
M19K				IAML		06 18 12.5	
comp=E,109nm,0.7s							
M19K	**Big River Lodg**	**2.61**	**352**	P	**Pn**	**06 17 21.0**	**-0.1**
baz=171							
RC01	**Rabbit Creek A**	**2.64**	**46**		**Pn**	**06 17 21.2**	**-0.3**
RC01	**Rabbit Creek A**	**2.64**	**46**	IAML		06 17 54.1	
comp=E,997nm,0.3s							
RC01				IAML		06 17 55.7	
comp=N,1μm,0.4s							
RC01	**Rabbit Creek A**	**2.64**	**46**	P	**Pn**	**06 17 21.2**	**-0.3**
baz=229							
SII	**Sitkinak Islan**	**2.79**	**186**		**Pn**	**06 17 22.1**	**-1.4**
SII				IAML		06 17 56.2	
comp=E,839nm,0.8s							
SII				IAML		06 18 08.2	
comp=N,954nm,0.7s							
SII	**Sitkinak Islan**	**2.79**	**186**	P	**Pn**	**06 17 22.1**	**-1.4**
baz=6.2							
SII	**Sitkinak Islan**	**2.79**	**186**	P	**Pn**	**06 17 22.2**	**-1.4**
SII	**Sitkinak Islan**	**2.79**	**186**	S	**Sn**	**06 17 54.2**	**-2.9**
M17K	**Holitna River**	**2.80**	**320**		**Pn**	**06 17 24.2**	**+0.7**
M17K	**Holitna River**	**2.80**	**320**	IAML		06 17 58.8	
comp=N,333nm,0.9s							
M17K				IAML		06 17 59.4	
comp=E,467nm,0.8s							
M17K	**Holitna River**	**2.80**	**320**	P	**Pn**	**06 17 24.2**	**+0.7**
baz=136							
L19K	**White Mountain**	**2.92**	**349**		**Pn**	**06 17 25.0**	**-0.1**
L19K	**White Mountain**	**2.92**	**349**	IAML		06 18 00.6	
comp=E,148nm,1.1s							
L19K				IAML		06 18 02.0	
comp=N,170nm,1.1s							
L19K	**White Mountain**	**2.92**	**349**	P	**Pn**	**06 17 25.0**	**-0.1**
baz=167							
PWL	**Port Wells**	**3.08**	**58**		**Pn**	**06 17 26.3**	**-0.9**
PWL	**Port Wells**	**3.08**	**58**	P	**Pn**	**06 17 26.3**	**-0.9**
baz=242							
M16K	**Timber Creek**	**3.14**	**305**		**Pn**	**06 17 28.9**	**+0.8**
M16K	**Timber Creek**	**3.14**	**305**	P	**Pn**	**06 17 28.9**	**+0.8**
baz=120							
L20K	**Farewell, AK**	**3.16**	**358**		**Pn**	**06 17 28.3**	**-0.1**
L20K	**Farewell, AK**	**3.16**	**358**	P	**Pn**	**06 17 28.3**	**-0.1**
baz=177							
O15K	**Ungalikthiuk R**	**3.17**	**270**		**Pn**	**06 17 29.2**	**+0.8**
O15K	**Ungalikthiuk R**	**3.17**	**270**	P	**Pn**	**06 17 29.2**	**+0.8**
baz=85							
PMR	**Palmer**	**3.19**	**43**	Pn	**Pn**	**06 17 28.4**	**-0.3**
PMR				IAML		06 18 05.3	
comp=N,244nm,0.4s							
PMR				IAML		06 18 08.1	
comp=E,261nm,0.7s							
PMR	**Palmer**	**3.19**	**43**	P	**Pn**	**06 17 27.8**	**-0.8**
baz=226							
P23K	**Montague Islan**	**3.25**	**75**	P	**Pn**	**06 17 28.9**	**-0.6**
baz=260							
L18K	**Granite Mounta**	**3.26**	**334**	IAML		06 18 08.0	
comp=N,149nm,0.9s							
KNK	**Knik Glacier**	**3.33**	**49**		**Pn**	**06 17 29.7**	**-0.8**
KNK	**Knik Glacier**	**3.33**	**49**	P	**Pn**	**06 17 29.7**	**-0.8**
baz=233							
N15K	**Kwethluk River**	**3.36**	**287**		**Pn**	**06 17 32.2**	**+1.3**
N15K	**Kwethluk River**	**3.36**	**287**	IAML		06 18 12.7	
comp=N,278nm,0.9s							
N15K				IAML		06 18 13.7	
comp=E,258nm,0.9s							
N15K	**Kwethluk River**	**3.36**	**287**	P	**Pn**	**06 17 32.2**	**+1.3**
baz=102							
GHO	**Glory Hole Cre**	**3.39**	**42**	Pn	**Pn**	**06 17 31.3**	**-0.1**
GHO				IAML		06 18 10.9	
comp=N,398nm,0.3s							
GHO				IAML		06 18 11.9	
comp=E,508nm,0.5s							
CUT	**Chulitna**	**3.50**	**27**		**Pn**	**06 17 33.3**	**+0.5**
CUT	**Chulitna**	**3.50**	**27**	IAML		06 18 15.9	
comp=E,441nm,0.4s							
CUT				IAML		06 18 17.3	
comp=N,477nm,0.4s							
CUT	**Chulitna**	**3.50**	**27**	P	**Pn**	**06 17 33.3**	**+0.5**
baz=209							
L17K	**Donlin**	**3.62**	**323**		**Pn**	**06 17 34.7**	**+0.4**
L17K	**Donlin**	**3.62**	**323**	P	**Pn**	**06 17 34.7**	**+0.4**
baz=139							
SML	**Sawmill**	**3.62**	**44**		**Pn**	**06 17 33.6**	**-0.8**
SML	**Sawmill**	**3.62**	**44**	IAML		06 18 15.3	
comp=E,249nm,1.0s							
SML				IAML		06 18 17.5	
comp=N,324nm,0.7s							
SML	**Sawmill**	**3.62**	**44**	P	**Pn**	**06 17 33.6**	**-0.8**
baz=228							
SML				P		06 17 36.6	
baz=228							
GLI	**Glacier Island**	**3.64**	**62**		**Pn**	**06 17 33.1**	**-1.5**
GLI	**Glacier Island**	**3.64**	**62**	IAML		06 18 14.5	
comp=N,410nm,0.5s							
GLI	**Glacier Island**	**3.64**	**62**	P	**Pn**	**06 17 33.1**	**-1.5**
baz=247							
CHIR	**Chirikof Islan**	**3.67**	**197**		**Pn**	**06 17 33.6**	**-1.5**
CHIR	**Chirikof Islan**	**3.67**	**197**	IAML		06 18 14.8	
comp=N,308nm,0.6s							
CHIR				IAML		06 18 15.9	
comp=E,379nm,0.6s							
CHIR	**Chirikof Islan**	**3.67**	**197**	P	**Pn**	**06 17 33.6**	**-1.5**
baz=16							
CHIR	**Chirikof Islan**	**3.67**	**197**	P	**Pn**	**06 17 33.8**	**-1.3**
L16K	**Owhat River**	**3.73**	**312**		**Pn**	**06 17 36.4**	**+0.6**
L16K	**Owhat River**	**3.73**	**312**	P	**Pn**	**06 17 36.4**	**+0.6**
baz=127							
HIN	**Hinchinbrook I**	**3.77**	**70**		**Pn**	**06 17 35.7**	**-0.7**
M15K	**Kasigluk River**	**3.78**	**294**		**Pn**	**06 17 37.2**	**+0.7**
M15K	**Kasigluk River**	**3.78**	**294**	P	**Pn**	**06 17 37.2**	**+0.7**
baz=108							
TTA	**Tatalina**	**3.79**	**344**	Pn	**Pn**	**06 17 36.4**	**-0.3**
TTA	**Tatalina**	**3.79**	**344**	P	**Pn**	**06 17 36.4**	**-0.3**
baz=161							
TTA	**Tatalina**	**3.79**	**344**	P	**Pn**	**06 17 36.4**	**-0.3**
M23K	**Glacier View**	**3.83**	**47**	P	**Pn**	**06 17 36.4**	**-0.8**
baz=232							
FID	**Port Fidalgo**	**3.88**	**65**		**Pn**	**06 17 36.0**	**-1.7**
O14K	**Tigyukauivet M**	**3.90**	**272**		**Pn**	**06 17 38.9**	**+0.9**
O14K	**Tigyukauivet M**	**3.90**	**272**	IAML		06 18 12.1	
comp=N,98nm,4.1s							
O14K	**Tigyukauivet M**	**3.90**	**272**	P	**Pn**	**06 17 38.9**	**+0.9**
baz=86							
SCM	**Sheep Creek Mo**	**4.01**	**49**		**Pn**	**06 17 39.0**	**-0.6**
SCM	**Sheep Creek Mo**	**4.01**	**49**	IAML		06 18 30.5	
comp=N,250nm,0.8s							
SCM	**Sheep Creek Mo**	**4.01**	**49**	P	**Pn**	**06 17 39.0**	**-0.6**
baz=234							
K17K	**Iditarod**	**4.08**	**328**		**Pn**	**06 17 41.2**	**+0.8**
K17K				IAML		06 18 30.1	
comp=N,78nm,1.5s							
K17K				IAML		06 19 13.9	
comp=E,83nm,1.1s							
K17K	**Iditarod**	**4.08**	**328**	P	**Pn**	**06 17 41.4**	**+0.9**
baz=144							
N14K	**Kuskokwak Cree**	**4.12**	**282**		**Pn**	**06 17 42.3**	**+1.3**
N14K	**Kuskokwak Cree**	**4.12**	**282**	P	**Pn**	**06 17 42.3**	**+1.3**
baz=95							
EYAK	**Cordova Ski Ar**	**4.17**	**70**	Pn	**Pn**	**06 17 41.0**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.17**	**70**	P	**Pn**	**06 17 40.9**	**-0.6**
baz=256							
EYAK	**Cordova Ski Ar**	**4.17**	**70**	P	**Pn**	**06 17 41.1**	**-0.6**
CAST	**Castle Rocks**	**4.17**	**10**	P	**Pn**	**06 17 42.2**	**+0.4**
baz=191							
DIV	**Divide**	**4.33**	**62**	Pn	**Pn**	**06 17 43.8**	**-0.1**
M14K	**Bethel**	**4.40**	**292**		**Pn**	**06 17 45.7**	**+1.0**
M14K				IAML		06 19 02.7	
comp=N,110nm,3.6s							
M14K				IAML		06 20 29.0	
comp=E,94nm,3.5s							
M14K	**Bethel**	**4.40**	**292**	P	**Pn**	**06 17 45.9**	**+1.2**
baz=105							
J18K	**Innoko River**	**4.40**	**342**	IAML		06 18 59.7	
comp=N,29nm,0.8s							
J18K				IAML		06 19 27.0	
comp=E,33nm,1.6s							
J18K	**Innoko River**	**4.40**	**342**	P	**Pn**	**06 17 44.7**	**-0.1**
baz=159							
KLU	**Klutina**	**4.41**	**57**	P	**Pn**	**06 17 44.1**	**-0.8**
baz=244							
TRF	**Thorofare Moun**	**4.44**	**20**		**Pn**	**06 17 45.3**	**-0.2**
TRF	**Thorofare Moun**	**4.44**	**20**	IAML		06 18 38.1	
comp=E,105nm,0.4s							
TRF				IAML		06 18 38.6	
comp=N,262nm,0.4s							
TRF	**Thorofare Moun**	**4.44**	**20**	P	**Pn**	**06 17 45.5**	**0.0**
baz=202							
L15K	**Ungalak Mounta**	**4.53**	**305**		**Pn**	**06 17 47.2**	**+0.8**
L15K	**Ungalak Mounta**	**4.53**	**305**	P	**Pn**	**06 17 47.2**	**+0.8**
baz=118							
CHUM	**Lake Minchumin**	**4.61**	**7**		**Pn**	**06 17 47.9**	**+0.3**
CHUM	**Lake Minchumin**	**4.61**	**7**	P	**Pn**	**06 17 47.9**	**+0.3**
baz=188							
M24K	**Tolsona, Glenn**	**4.61**	**50**		**Pn**	**06 17 47.5**	**-0.2**
M24K	**Tolsona, Glenn**	**4.61**	**50**	IAML		06 18 52.5	
comp=N,233nm,0.7s							
M24K	**Tolsona, Glenn**	**4.61**	**50**	P	**Pn**	**06 17 47.5**	**-0.2**
baz=236							
RAGM	**Ragged Mountai**	**4.66**	**73**		**Pn**	**06 17 47.6**	**-0.6**
GOAT	**Goat Mountain**	**4.67**	**71**		**Pn**	**06 17 47.8**	**-0.6**
RND	**Reindeer**	**4.70**	**27**		**Pn**	**06 17 48.4**	**-0.4**
RND	**Reindeer**	**4.70**	**27**	IAML		06 18 41.0	
comp=E,88nm,0.3s							
RND				IAML		06 18 41.5	
comp=N,103nm,0.6s							
KAIM	**Kayak Island**	**4.73**	**79**		**Pn**	**06 17 49.2**	**-0.1**
KAIM	**Kayak Island**	**4.73**	**79**	P	**Pn**	**06 17 49.0**	**-0.3**
baz=266							
BMRM	**Bremner River**	**4.82**	**66**		**Pn**	**06 17 49.6**	**-0.8**
BMRM	**Bremner River**	**4.82**	**66**	P	**Pn**	**06 17 49.6**	**-0.8**
baz=254							
J17K	**VABM Dome**	**4.84**	**330**		**Pn**	**06 17 51.0**	**+0.4**
J17K	**VABM Dome**	**4.84**	**330**	P	**Pn**	**06 17 51.0**	**+0.4**
baz=145							
K15K	**Wolf Creek Mou**	**4.86**	**311**		**Pn**	**06 17 52.0**	**+1.1**
K15K	**Wolf Creek Mou**	**4.86**	**311**	IAML		06 19 09.7	
comp=E,46nm,2.0s							
K15K				IAML		06 20 09.7	
comp=N,55nm,4.0s							
K15K	**Wolf Creek Mou**	**4.86**	**311**	P	**Pn**	**06 17 52.1**	**+1.1**
baz=124							
L14K	**Kuka Creek**	**4.91**	**298**		**Pn**	**06 17 52.9**	**+1.3**
L14K	**Kuka Creek**	**4.91**	**298**	IAML		06 19 14.5	
comp=E,84nm,3.1s							
L14K				IAML		06 19 22.9	
comp=N,62nm,2.0s							
L14K	**Kuka Creek**	**4.91**	**298**	P	**Pn**	**06 17 52.9**	**+1.3**
baz=110							
BPAW	**Bear Paw Mtn.**	**4.95**	**14**		**Pn**	**06 17 51.8**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.95**	**14**	IAML		06 18 48.6	
comp=N,42nm,0.8s							
BPAW	**Bear Paw Mtn.**	**4.95**	**14**	P	**Pn**	**06 17 51.8**	**-0.4**
baz=196							
MCK	**McKinley**	**4.96**	**25**		**Pn**	**06 17 52.0**	**-0.3**
MCK	**McKinley**	**4.96**	**25**	P	**Pn**	**06 17 52.0**	**-0.3**
baz=209							
NICHA	**Nichawak Mount**	**4.99**	**75**		**Pn**	**06 17 52.0**	**-0.7**
M13K	**Dall Lake**	**5.00**	**287**		**Pn**	**06 17 54.4**	**+1.7**
M13K	**Dall Lake**	**5.00**	**287**	IAML		06 19 54.8	
comp=E,191nm,3.4s							
M13K	**Dall Lake**	**5.00**	**287**	P	**Pn**	**06 17 54.4**	**+1.7**
baz=98							
N25K	**Chitina, Valde**	**5.03**	**59**		**Pn**	**06 17 52.6**	**-0.7**
N25K	**Chitina, Valde**	**5.03**	**59**	IAML		06 18 49.7	
comp=N,166nm,0.6s							
N25K				IAML		06 18 51.4	
comp=E,170nm,0.5s							
N25K	**Chitina, Valde**	**5.03**	**59**	P	**Pn**	**06 17 52.6**	**-0.7**
baz=247							
SUCK	**Suckling Hills**	**5.07**	**77**		**Pn**	**06 17 53.2**	**-0.5**
SUCK	**Suckling Hills**	**5.07**	**77**	IAML		06 18 53.3	
comp=N,166nm,0.5s							
SUCK				IAML		06 18 55.3	
comp=E,147nm,0.5s							
BERG	**Berg Lake**	**5.13**	**74**		**Pn**	**06 17 53.8**	**-0.8**
HARP	**HAARP**	**5.17**	**50**		**Pn**	**06 17 55.6**	**+0.4**
HARP	**HAARP**	**5.17**	**50**	P	**Pn**	**06 17 55.6**	**+0.4**
baz=237							
J16K	**Anvik River**	**5.18**	**323**		**Pn**	**06 17 56.0**	**+0.7**
**J16K

comp=E,14nm,0.6s,baz=218,slow=14,SNR=15
ILAR S Sn 06 19 14.5 -6.8
comp=E,13nm,0.6s,baz=216,slow=22,SNR=11
H17K Granite Mounta 6.34 335 Pn 06 18 10.8 0.0
H17K Granite Mounta 6.34 335 P Pn 06 18 10.8 0.0
baz=150
H21K Melozitna Rive 6.36 3 Pn 06 18 10.7 -0.5
H21K Melozitna Rive 6.36 3 P Pn 06 18 10.7 -0.5
baz=184
POKR Poker Plat Res 6.49 24 Pn 06 18 11.9 -1.0
POKR Poker Plat Res 6.49 24 P Pn 06 18 11.9 -1.0
baz=209
M27K Edge Creek, AK 6.51 57 Pn 06 18 13.5 +0.2
M27K Edge Creek, AK 6.51 57 P Pn 06 18 13.5 +0.2
baz=247
SCRK Sand Creek 6.55 41 Pn 06 18 13.1 -0.8
SCRK Sand Creek 6.55 41 P Pn 06 18 13.1 -0.8
baz=229
SAMH Samovar Hills 6.57 77 Pn 06 18 13.9 -0.1
J25K Salcha River, 6.58 33 Pn 06 18 13.8 -0.4
J25K Salcha River, 6.58 33 P Pn 06 18 13.8 -0.4
baz=220
PCA Pinnacle 6.83 78 Pn 06 18 17.1 -0.5
PINM Pinnacle 6.83 78 P Pn 06 18 17.1 -0.5
baz=269
L27K Beaver Creek, 6.83 52 Pn 06 18 17.7 +0.1
L27K Beaver Creek, 6.83 52 P Pn 06 18 17.7 +0.1
baz=242
BCAR Beaver Creek A 6.85 52 Pn Pn 06 18 17.9 +0.1
O28M Mount Upton 6.90 72 Pn 06 18 19.0 +0.3
O28M Mount Upton 6.90 72 P Pn 06 18 19.0 +0.3
baz=264
PRP Porcupine Dome 7.26 28 Pn 06 18 22.1 -1.3
PRP Porcupine Dome 7.26 28 P Pn 06 18 22.1 -1.3
baz=215
PNL Peninsula 7.27 81 Pn 06 18 22.9 -0.6
PNL Peninsula 7.27 81 P Pn 06 18 22.9 -0.6
baz=273
PNL Peninsula 7.27 81 P Pn 06 18 22.8 -0.6
PNL Peninsula 7.27 81 S Sn 06 19 43.1 -1.3
G16K Koyuk River 7.30 330 P Pn 06 18 24.1 +0.4
baz=142
G23K Bananza Creek 7.59 11 Pn 06 18 26.7 -1.0
G23K Bananza Creek 7.59 11 P Pn 06 18 26.7 -1.0
baz=194
ANM Nome 7.61 319 Pn Pn 06 18 29.7 +1.8
O29M Mount Kennedy 7.67 76 Pn 06 18 28.8 -0.1
O29M Mount Kennedy 7.67 76 P Pn 06 18 28.8 -0.1
baz=269
YUK4 Talbot Arm 7.72 68 P Pn 06 18 30.3 +0.6
baz=261
F18K Selawik 7.79 342 P Pn 06 18 30.2 -0.1
baz=157
F20K Avaraart Lake 7.80 354 Pn 06 18 30.3 -0.3
F20K Avaraart Lake 7.80 354 P Pn 06 18 30.3 -0.3
baz=172
YUK6 Outpost Mounta 7.81 72 Pn 06 18 30.7 -0.2
YUK6 Outpost Mounta 7.81 72 P Pn 06 18 30.7 -0.2
baz=265
G24K Hadweenzic Riv 7.91 18 Pn 06 18 30.7 -1.3
G24K Hadweenzic Riv 7.91 18 P Pn 06 18 30.7 -1.3
baz=203
F17K Baldwin Pennin 7.93 337 Pn 06 18 31.8 -0.4
F17K Baldwin Pennin 7.93 337 P Pn 06 18 31.8 -0.4
baz=150
YUK5 Granite Creek 8.07 70 Pn 06 18 34.3 -0.1
COLD Coldfoot 8.08 10 Pn 06 18 33.2 -1.0
COLD Coldfoot 8.08 10 P Pn 06 18 33.2 -1.0
baz=192
F15K North Star Dit 8.16 326 Pn 06 18 36.6 +1.2
F15K North Star Dit 8.16 326 P Pn 06 18 36.6 +1.2
baz=136
DAWY Dawson 8.27 49 Pn 06 18 37.1 +0.2
DAWY Dawson 8.27 49 P Pn 06 18 37.2 +0.2
baz=241
E19K Redstone River 8.31 350 Pn 06 18 38.2 +0.8
E19K Redstone River 8.31 350 P Pn 06 18 38.2 +0.8
baz=167
E23K Chandalar 8.94 10 Pn 06 18 44.9 -1.1
E23K Chandalar 8.94 10 P Pn 06 18 44.9 -1.1
baz=193
F25K Christian Rive 9.03 20 Pn 06 18 45.6 -1.6
F25K Christian Rive 9.03 20 P Pn 06 18 45.6 -1.6
baz=207
TNA Tin City 9.08 319 Pn 06 18 49.6 +1.9
N31M Braeburn, Yuko 9.11 69 Pn 06 18 48.3 +0.1
N31M Braeburn, Yuko 9.11 69 P Pn 06 18 48.3 +0.1
baz=264
SKAG Skagway 9.35 81 Pn 06 18 52.2 +0.7
SKAG Skagway 9.35 81 P Pn 06 18 51.4 -0.1
SKAG Skagway 9.35 81 S Sn 06 20 34.7 0.0
F26K Sheenjek River 9.40 23 Pn 06 18 50.4 -1.7
D19K Kuna River 9.40 350 Pn 06 18 53.1 +0.9
D19K Kuna River 9.40 350 P Pn 06 18 53.1 +0.9
baz=166
E25K Arctic Village 9.52 19 P Pn 06 18 52.0 -1.7
baz=206
TOLK Toolik Lake Re 9.52 9 Pn 06 18 53.5 -0.2
C21K Knifeblade Rid 9.88 358 Pn 06 18 58.3 -0.2
C21K Knifeblade Rid 9.88 358 P Pn 06 18 58.3 -0.2
baz=176
SIT Sitka 9.94 95 P Pn 06 18 59.6 +0.2
JIS Juneau Island 10.06 88 P Pn 06 19 01.0 0.0
D24K Happy Valley 10.08 10 Pn 06 18 59.5 -1.7
C16K Lisburne Hills 10.33 335 Pn Pn 06 19 04.3 -0.3
B21K Ikpikpuk River 10.34 358 Pn Pn 06 19 04.1 -0.6
EPYK Eagle Plains 10.45 40 Pn 06 19 08.0 +1.8
P33M Teslin, Yukon 10.54 76 Pn 06 19 08.0 +0.3
G31M Satah River 11.57 41 Pn 06 19 20.3 -0.8
CRAG Craig 11.72 100 P Pn 06 19 22.8 -0.4
S34M Telegraph Cree 11.82 87 Pn 06 19 25.6 +1.1
DLBC Dease Lake 12.24 84 P Pn 06 19 31.6 +1.4
comp=E,8.6nm,0.4s,baz=252,slow=9,0,SNR=30
DLBC S Sn 06 21 42.9 -1.9
comp=E,2.6nm,0.4s,baz=54,slow=10,SNR=6.3
INK Inuvik 12.58 36 Pn 06 19 34.6 +0.2
INK Inuvik 12.58 36 P Pn 06 19 33.8 -0.5
comp=E,4.9nm,0.8s,baz=246,slow=16,SNR=13
BBB Bella Bella 15.99 105 S Sn 06 23 13.4 -1.5
comp=E,36nm,1.2s,baz=326,slow=19,SNR=2.6
A36M Sachs Harbour 17.01 30 P P 06 20 28.7 -1.3
A36M IAmb IAmb 06 20 34.4
comp=Z,22nm,0.7s
YKA Yellowknife Ar 19.05 64 P P 06 20 53.0 +0.7
comp=Z,3.3nm,0.8s,baz=276,slow=10,SNR=50
YKA PcP PcP 06 25 12.1 +0.6
comp=Z,0.1nm,0.5s,baz=267,slow=2.2,SNR=4.2
YKA ScP ScP 06 28 37.3 +1.6
comp=Z,0.4nm,0.6s,baz=279,slow=2.7,SNR=7.2
BILL Bilibino 19.41 313 P P 06 20 56.8 +0.5
BILL IAmb IAmb 06 20 57.8
comp=Z,8.2nm,0.8s
NEW Newport 23.94 101 P P 06 21 44.5 +1.9
NEW IAmb IAmb 06 21 45.9
comp=Z,6.0nm,0.9s
NEW Newport 23.94 101 P P 06 21 43.7 +1.1
comp=Z,3.2nm,0.8s,baz=336,slow=5.3,SNR=9.6
comp=Z,3.2nm,0.8s
HAWA Hanford 24.02 107 P P 06 21 45.8 +2.4
HAWA IAmb IAmb 06 21 46.9
comp=Z,7.2nm,0.8s
G08A Pilot Rock 25.09 109 P P 06 21 55.6 +2.4
G08A IAmb IAmb 06 21 56.0
comp=Z,4.0nm,0.7s
YBH Yreka Blue Hor 26.05 119 P P 06 22 04.5 +2.7
comp=Z,2.2nm,0.6s,baz=355,slow=6.1,SNR=9.7
comp=Z,2.2nm,0.6s
RES Resolute Bay 26.05 31 P P 06 22 01.4 0.0
comp=Z,0.9nm,0.6s,baz=229,slow=12,SNR=6.1
comp=Z,0.9nm,0.6s
PLID Pearl Lake 26.69 105 P P 06 22 09.6 +1.8
PETK Petropavlovsk- 27.22 278 P P 06 22 11.8 -0.3
comp=Z,2.9nm,0.6s,baz=82,slow=11,SNR=4.8
comp=Z,2.9nm,0.6s
NVAR Mina Array Bea 30.71 117 P P 06 22 46.1 +2.7
comp=Z,1.6nm,0.6s,baz=315,slow=8.5,SNR=7.3
comp=Z,1.6nm,0.6s
PDAR Pinedale Array 31.58 102 P P 06 22 53.6 +2.6
comp=Z,1.4nm,0.8s,baz=313,slow=4.8,SNR=12
comp=Z,1.4nm,0.8s
ULM Lac du Bonnet 33.52 80 P P 06 23 08.3 +0.8
comp=Z,1.2nm,0.4s,baz=294,slow=8.2,SNR=5.4
comp=Z,1.2nm,0.4s
FRB Frobisher Bay 37.96 46 P P 06 23 45.5 +0.3
comp=Z,5.1nm,0.7s,baz=305,slow=9.3,SNR=14
comp=Z,5.1nm,0.7s

SPITS Spitsbergen Ar 42.60 3 P P 06 24 22.1 -1.3
comp=Z,4.9nm,0.9s,baz=21,slow=4.8,SNR=9.2
comp=Z,4.9nm,0.9s
HEH HeiHe 43.81 295 *e*P P 06 24 32.3 -1.1
HEH pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 44.35 334 P P 06 24 36.7 -0.7
comp=Z,6.4nm,0.5s,baz=30,slow=6.1,SNR=5.8
comp=Z,6.4nm,0.5s
TXAR Lajitas Array 45.07 109 P P 06 24 46.1 +2.3
comp=Z,1.4nm,0.5s,baz=308,slow=7.1,SNR=32
comp=Z,1.4nm,0.5s
USRK Ussuriysk Ar. 45.89 285 P P 06 24 48.6 -1.3
comp=Z,2.0nm,0.6s,baz=41,slow=11,SNR=4.9
comp=Z,2.0nm,0.6s
BNX BinXian 47.01 290 ⇑P P 06 24 58.8 +0.2
BNX pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 51.43 0 P P 06 25 32.2 +0.3
comp=Z,3.0nm,1.0s,baz=15,slow=5.1,SNR=4.1
comp=Z,3.0nm,1.0s
KSRS Korea Array 52.99 283 P P 06 25 44.9 +1.1
comp=Z,2.3nm,0.5s,baz=40,slow=7.2,SNR=7.2
comp=Z,2.3nm,0.5s
SONM Songino Array 54.91 306 P P 06 25 57.5 -0.3
comp=Z,9.4nm,0.8s,baz=45,slow=6.6,SNR=51
comp=Z,9.4nm,0.8s
ZALV Zalesovo Beam 57.71 323 P P 06 26 16.9 -0.5
comp=Z,1.4nm,0.3s,baz=32,slow=7.8,SNR=7.4
comp=Z,1.4nm,0.3s
HFS Hagfors 60.46 7 P P 06 26 36.1 -0.1
comp=Z,2.2nm,0.7s,baz=29,slow=12,SNR=2.1
comp=Z,2.2nm,0.7s
KURBB Kurchatov Arra 62.50 325 P P 06 26 49.7 -0.4
comp=Z,0.4nm,0.4s,baz=28,slow=6.2,SNR=3.7
comp=Z,0.4nm,0.4s
BVAR Borovoye Array 62.50 332 P P 06 26 49.5 -0.6
comp=Z,2.1nm,0.6s,baz=17,slow=5.9,SNR=11
comp=Z,2.1nm,0.6s
EKA Eskdalemuir Ar 63.28 18 P P 06 26 54.9 -0.3
comp=Z,1.0nm,0.6s,baz=326,slow=6.0,SNR=4.0
comp=Z,1.0nm,0.6s
GTA Gaotai 64.53 305 *e*P P 06 27 03.0 -0.8
GTA pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 64.74 321 P P 06 27 03.8 -1.2
comp=Z,0.3nm,0.5s,baz=35,slow=6.5,SNR=5.8
comp=Z,0.3nm,0.5s
AKASG Malin Array Be 70.30 358 P P 06 27 37.9 -1.8
comp=Z,1.5nm,0.6s,baz=5.9,slow=6.2,SNR=6.6
comp=Z,1.5nm,0.6s
BOSA Boshof 149.28 2 PKPbc PKPbc 06 36 13.6 -0.5
comp=Z,4.6nm,0.6s,baz=347,slow=2.5,SNR=17

*PDG **20** 06:32:00.1±0.1, 43.°11N×19.°97E, h7km±1km, MD2.5/3, ML2.4/13, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
*BEO **20** 06:32:00.6±0.2, 43.°11N×19.°99E, h3km±3km, ML2.5/16*
*RHSSO **20** 06:32:01.1±0.4, 43.°16N×19.°93E, h4km±1km, ML2.6/12*
ISC 20 06:31:59.9±0.9, 43.°12N±0.°01×19.°98E±0.°01, h8km±7km, n71, σ1°02/133, 12C-18D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.14**	**358**	⇓*i*Pg	**Pg**	**06 32 02.7**	**-0.3**
SJES				*e*Sg	**Sg**	**06 32 05.5**	**+0.3**
SJES	**Sjenica**	**0.14**	**358**	*e*Pg	**Pg**	**06 32 02.8**	**-0.3**
SJES				*e*Sg	**Sg**	**06 32 06.7**	**+1.5**
IVA	**Berane**	**0.26**	**195**	⇓*i*Pg	**Pg**	**06 32 04.8**	**-0.2**
IVA				*i* Sg	**Sg**	**06 32 08.9**	**+0.5**
KOME	**Kolasin**	**0.43**	**232**	*e*Pg	**Pg**	**06 32 08.1**	**-0.3**
KOME				*i* Sg	**Sg**	**06 32 14.6**	**+0.5**
IVAS	**Ivanjica**	**0.47**	**15**	*e*Pg	**Pg**	**06 32 08.3**	**-0.8**
IVAS				*e*Sg	**Sg**	**06 32 16.2**	**+0.8**
PLE	**Pljevlja**	**0.48**	**296**	⇓*i*Pg	**Pg**	**06 32 09.0**	**-0.3**
PLE				*i* Sg	**Sg**	**06 32 16.3**	**+0.7**
PVY	**Plav**	**0.52**	**182**	⇓*i*Pg	**Pg**	**06 32 09.6**	**-0.5**
PVY				*i* Sg	**Sb**	**06 32 17.7**	**-1.5**
RUDO	**Rudo**	**0.67**	**318**	⇓*i*Pg	**Pg**	**06 32 11.3**	**-1.5**
RUDO				*e*Sg	**Sg**	**06 32 21.0**	**-0.6**
GOCS	**Kraljevo Serbi**	**0.79**	**55**	*e*Pg	**Pg**	**06 32 14.9**	**-0.2**
GOCS				*e*Sg	**Sb**	**06 32 26.0**	**-0.8**
UPM	**Unac-Piva**	**0.79**	**277**	*e*Pg	**Pg**	**06 32 14.8**	**-0.4**
UPM				*e*Sg	**Sg**	**06 32 25.0**	**-0.5**
UPM	**Unac-Piva**	**0.79**	**277**	*e*Pg	**Pg**	**06 32 14.6**	**-0.6**
UPM				*i* Sg	**Sb**	**06 32 26.3**	**-0.7**
NKME	**Niksic**	**0.83**	**245**	*e*Pg	**Pg**	**06 32 14.9**	**-1.0**
NKME				*i* Sg	**Sb**	**06 32 28.2**	**+0.2**
SELS	**Selova**	**0.84**	**83**	*e*Pg	**Pg**	**06 32 15.8**	**-0.2**
SELS				*e*Sg	**Sg**	**06 32 27.3**	**+0.4**
BBLS	**Lazi&#263i**	**0.86**	**331**	⇓*i*Pg	**Pg**	**06 32 15.7**	**-0.7**
BBLS				*e*Sg	**Sg**	**06 32 27.1**	**-0.4**
BBLS	**Lazi&#263i**	**0.86**	**331**	*e*Pg	**Pg**	**06 32 15.9**	**-0.5**
BBLS				*e*Sg	**Sb**	**06 32 29.1**	**+0.3**
PDG	**Podgorica**	**0.87**	**218**	*e*Pg	**Pg**	**06 32 16.2**	**-0.4**
PDG				*e*Sg	**Sb**	**06 32 29.0**	**0.0**
PDG	**Podgorica**	**0.87**	**218**	⇓P	**Pb**	**06 32 16.9**	**-0.3**
PDG				⇑S	**Sb**	**06 32 28.5**	**-0.5**
PDG	**Podgorica**	**0.87**	**218**	*e*Pg	**Pg**	**06 32 16.5**	**-0.1**
PDG				*e*Sg	**Sb**	**06 32 28.4**	**-0.6**
PDG	**Podgorica**	**0.87**	**218**	*e*Pg	**Pg**	**06 32 16.0**	**-0.6**
PDG				*i* Sg	**Sb**	**06 32 29.6**	**+0.6**
GRUS	**Gruza**	**0.94**	**35**	*e*Pg	**Pb**	**06 32 18.0**	**-0.4**
GRUS				*e*Sg	**Sb**	**06 32 30.8**	**-0.2**
CEME	**Cevo**	**0.97**	**234**	*e*Pg	**Pg**	**06 32 17.9**	**-0.6**
CEME				*i* Sg	**Sn**	**06 32 32.8**	**-1.0**
DIVS	**Divibare**	**0.98**	**0**	*e*Pg	**Pg**	**06 32 18.1**	**-0.6**
DIVS				*e*Sg	**Sb**	**06 32 32.1**	**-0.2**
KLINJ	**Klinje**	**1.02**	**273**	*e*Pg	**Pg**	**06 32 19.3**	**-0.2**
KLINJ				*e*Sg	**Sg**	**06 32 31.9**	**-0.9**
BRY	**Bratogost**	**1.08**	**259**	⇓*i*Pg	**Pg**	**06 32 19.8**	**-0.8**
BRY				*e*Sg	**Sb**	**06 32 34.9**	**-0.3**
BRY	**Bratogost**	**1.08**	**259**	*e*Pg	**Pg**	**06 32 20.0**	**-0.6**
BRY				*i* Sg	**Sn**	**06 32 36.4**	**-0.3**
DRME	**Dracevica, Mon**	**1.10**	**213**	*e*Pg	**Pg**	**06 32 20.6**	**-0.4**
DRME				*e*Sg	**Sn**	**06 32 36.5**	**-0.5**
DRME	**Dracevica, Mon**	**1.10**	**213**	*e*Pg	**Pg**	**06 32 20.3**	**-0.7**
DRME				*i* Sg	**Sn**	**06 32 37.4**	**+0.4**
BUM	**Brajici-Budva**	**1.15**	**225**	*e*Pg	**Pg**	**06 32 21.1**	**-0.8**
BUM				*i* Sg	**Sn**	**06 32 38.8**	**+0.6**
KALIN	**Kalinovik**	**1.18**	**289**	⇓*i*Pg	**Pg**	**06 32 21.4**	**-1.2**
KALIN				*e*Sg	**Sg**	**06 32 37.1**	**-0.9**
HAPS	**Han Pijesak,BI**	**1.22**	**323**	⇑*i*Pg	**Pb**	**06 32 22.1**	**-1.2**
HAPS				*e*Sg	**Sg**	**06 32 37.7**	**-1.6**
HAPS	**Han Pijesak,BI**	**1.22**	**323**	*e*Pg	**Pb**	**06 32 22.3**	**-1.0**
HAPS				*e*Sg	**Sn**	**06 32 40.0**	**-0.2**
ULC	**Ulcinj**	**1.28**	**205**	*e*Pg	**Pn**	**06 32 23.6**	**-0.4**
ULC				*i* Sg	**Sn**	**06 32 43.5**	**+2.2**
HCY	**Herceg Novi**	**1.28**	**239**	*e*Pg	**Pg**	**06 32 24.6**	**+0.1**
HCY				*e*Sg	**Sn**	**06 32 41.5**	**0.0**
HCY	**Herceg Novi**	**1.28**	**239**	*e*Pg	**Pn**	**06 32 23.7**	**-0.4**
HCY				*i* Sg	**Sn**	**06 32 44.0**	**+2.5**
BOVS	**Bovan**	**1.36**	**67**	⇓P	**Pg**	**06 32 26.0**	**0.0**
BOVS				⇓S	**Sg**	**06 32 44.8**	**+1.1**
BOVS	**Bovan**	**1.36**	**67**	*e*Pg	**Pb**	**06 32 25.2**	**-0.4**
BOVS				*e*Sg	**Sg**	**06 32 44.7**	**+1.1**
BARS	**Barje**	**1.38**	**102**	*e*Pg	**Pb**	**06 32 25.8**	**-0.1**
BARS				*e*Sg	**Sg**	**06 32 44.1**	**-0.2**
DBRK	**Dubrovnik**	**1.42**	**252**	*e*Pn	**Pg**	**06 32 28.0**	**+0.8**
DBRK				Sg	**Sg**	**06 32 48.3**	**+2.7**
SVIS	**Svilajnac**	**1.46**	**38**	*e*Sg	**Sg**	**06 32 46.9**	**+0.2**
TEKS	**Tekeris**	**1.47**	**347**	*e*Pg	**Pb**	**06 32 27.2**	**-0.3**
TEKS				*e*Sg	**Sg**	**06 32 46.8**	**-0.3**
TEKS	**Tekeris**	**1.47**	**347**	*e*Pg	**Pg**	**06 32 28.0**	**0.0**
TEKS				*e*Sg	**Sg**	**06 32 48.4**	**+1.3**
AVAS	**Avala Beograd**	**1.62**	**14**	*e*Pg	**Pb**	**06 32 29.3**	**-0.8**
AVAS				*e*Sg	**Sg**	**06 32 52.6**	**+0.5**
STON	**Ston**	**1.69**	**262**	⇓*i*Pn	**Pb**	**06 32 31.0**	**-0.2**
STON				*e*Sn	**Sb**	**06 32 52.4**	**-0.2**
STON	**Ston**	**1.69**	**262**	*e*Pn	**Pg**	**06 32 33.0**	**+0.6**
STON				Sn	**Sg**	**06 32 55.5**	**+1.3**
BORS2	**Bor- Borsko je**	**1.77**	**56**	*e*Pg	**Pn**	**06 32 31.1**	**+0.3**
TIR	**Tirane**	**1.77**	**183**	⇑P	**Pn**	**06 32 31.2**	**+0.4**
TIR				⇓S	**Sb**	**06 32 54.3**	**-0.7**
ZAGS	**Zajecar**	**1.78**	**66**	*e*Sg	**Sg**	**06 32 57.0**	**-0.1**
KUBS	**Kucevo**	**1.78**	**43**	*e*Pg	**Pb**	**06 32 32.6**	**-0.2**
KUBS				*e*Sg	**Sg**	**06 32 57.3**	**+0.1**
BOSS	**Bosilegrad**	**1.94**	**108**	*e*Pg	**Pb**	**06 32 34.4**	**-1.1**
BOSS				*e*Sg	**Sg**	**06 33 01.0**	**-1.3**
ZAPS	**Zavoj**	**1.95**	**85**	*e*Pg	**Pb**	**06 32 34.6**	**-1.0**
ZAPS				*e*Sg	**Sg**	**06 33 02.8**	**+0.4**
BLKB	**Belogradchik**	**2.03**	**75**	⇑S	**Sb**	**06 33 01.2**	**-1.2**

FRGS Fruska Gora 2.04 357 *e*Pn Pn 06 32 35.6 +1.0
FRGS *e*Sn Sn 06 33 00.6 +0.3
MDVR Moldovita 2.08 36 ⇑P Pn 06 32 35.7 +0.6
MDVR ⇓S Sb 06 33 04.5 +0.5
OHR Ohrid 2.10 163 *i* Pn Pg 06 32 38.8 -1.3
RICI Ricice 2.11 281 *e*Pn Pg 06 32 39.9 -0.5
RICI Sn Sg 06 33 10.1 +2.3
LSTV Lastovo 2.29 262 *e*Pn Pg 06 32 42.4 -1.5
LSTV Sn Sb 06 33 10.5 +0.5
HERR Herculane 2.49 44 ⇓P Pn 06 32 41.1 +0.4
HERR ⇑S Sb 06 33 13.5 -2.1
HVAR Hvar 2.58 273 *e*Pn Pb 06 32 46.8 +0.3
HVAR Sn Sb 06 33 19.3 +0.9
BLY Banja Luka 2.60 310 *e*Pn Pn 06 32 43.5 +1.3
BLY *e*Sn Sn 06 33 14.3 +0.4
KIJV Kijevo 2.75 290 *i* Pn Pb 06 32 49.9 +0.7
KIJV Sn Sg 06 33 25.7 -2.4
BZS Buzias 2.76 25 ⇑P Pn 06 32 45.9 +1.5
A050A Klekovaca 2.84 300 *e*Pn Pn 06 32 46.5 +0.8
A050A *e*Sn Sn 06 33 19.9 -0.2
A051A Mrakovica 2.91 312 *e*Pn Pn 06 32 47.7 +1.1
A051A *e*Sn Sn 06 33 22.1 +0.3
GZR Gura Zlata 3.03 40 ⇓P Pn 06 32 49.0 +0.8
GZR ⇑S Sn 06 33 27.6 +2.8
SURR Surduc 3.05 29 ⇑S Sb 06 33 28.6 -3.2
MORI Morici 3.20 285 *e*Pn Pb 06 32 56.1 -0.8
MORI Sn Sb 06 33 36.1 +0.1
ZIRJ Zirje 3.21 281 *e*Pg Pg 06 33 01.3 0.0
ZIRJ Sn Sb 06 33 36.1 -0.1
MORH Mrgy, Hungar 3.24 343 ⇑P Pn 06 32 52.6 +1.6
MORH ⇓S Sb 06 33 34.1 -3.1
LOT Lotru 3.58 48 ⇑P Pn 06 32 56.6 +0.8
DUGI Dugi Otok 3.68 285 *i* Pn Pb 06 33 03.5 -1.7
VOIR 4.32 56 ⇓P Pn 06 33 07.3 +1.4
VOIR ⇑S Sn 06 33 58.7 +2.3

TXNET 20 06:41:44.9, 31.°7N±0.°5×104.°3W±0.°7, h7km±2km, ML2.0/6, Error ellipse: s-maj=1.2km s-min=0.7km az=67.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**33**	P	Pg	06 41 51.6	0.0
TPB11				S	Sg	06 41 56.2	+0.1
PECS	**Pecos**	**0.43**	**131**	P	Pg	06 41 53.4	+0.1
PECS				S	Sg	06 41 58.9	0.0
TPB07	**Mentone**	**0.50**	**98**	P	Pg	06 41 54.9	+0.3
TPB07				S	Sg	06 42 01.6	+0.4
TPB12	**Southwest of T**	**0.50**	**150**	S	Sg	06 42 01.8	+0.5
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	06 41 56.0	+0.3
TPB10	**Southeast of T**	**0.56**	**131**	P	Pg	06 41 55.8	0.0
TPB10				S	Sg	06 42 03.4	+0.4
PCOS	**Crockett Middl**	**0.67**	**111**	S	Sg	06 42 07.2	+0.5
CLNB	**Carlsbad**	**0.69**	**27**	P	Pg	06 41 58.1	-0.1
CLNB				S	Sg	06 42 07.7	+0.5
TPB01	**Permian Basin**	**0.81**	**150**	S	Sg	06 42 10.2	-0.9
TPB03	**Saragosa**	**0.84**	**132**	S	Sg	06 42 12.4	+0.2
CLN7	**Carlsbad 7**	**0.85**	**26**	P	Pg	06 42 01.4	+0.2
TPB06	**Permian Basin**	**0.88**	**90**	S	Sg	06 42 12.9	-0.3
TPB04	**Verhalen**	**0.96**	**119**	S	Sg	06 42 15.5	-0.3
MNTX	**Cornudas Mount**	**0.97**	**273**	P	Pg	06 42 03.6	0.0
MNTX				S	Sg	06 42 16.5	+0.4
HTMS	**Hat Mesa**	**0.97**	**32**	S	Sg	06 42 16.7	+0.5
HTMS	**Hat Mesa**	**0.97**	**32**	P	Pg	06 42 03.1	-0.5
TPB16	**Coyonosa**	**1.00**	**121**	S	Sg	06 42 17.1	-0.1
NM01	**Eunice**	**1.01**	**46**	S	Sg	06 42 17.5	+0.1
VHRN	**Van Horn**	**1.07**	**216**	P	Pg	06 42 05.0	-0.5
VHRN				S	Sb	06 42 19.8	-0.3
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	06 42 04.9	-0.7
TPB05				S	Sg	06 42 19.2	-0.3
MNHN	**Monahans**	**1.31**	**103**	P	Pn	06 42 08.4	-1.3
MNHN				S	Sb	06 42 25.8	-1.1
TPB08	**Permian Basin**	**1.38**	**123**	S	Sb	06 42 28.3	-0.5
ALPN	**Alpine**	**1.38**	**158**	P	Pn	06 42 09.6	-1.2
ALPN				S	Sb	06 42 27.0	-1.9
CPRX	**Cap Rock**	**1.41**	**13**	P	Pn	06 42 11.0	-0.2
ODSA	**Odessa**	**1.52**	**72**	P	Pn	06 42 12.3	-0.3
ODSA				S	Sn	06 42 32.0	-0.7
TX31	**Lajitas Ar. Si**	**2.36**	**168**	P	Pn	06 42 25.7	+1.4

*IDC **20** 06:50:46.2±1.6, 6.°84S×129.°11E, h210km±14km, mb3.9/15, mbtmp4.5/19, MS3.1/2, Error ellipse: s-maj=18.1km s-min=9.1km az=75.0*
*DJA **20** 06:50:46.9±0.2, 7.°S±3.°×12.°9E±.°, h240km±5km, M4.8/20, mb4.8/20, mB5.2/12, MLv5.2/13, Mw(mB)4.6/12*
*NEIC **20** 06:50:47.4±1.7, 6.°87S±0.°06×129.°21E±0.°08, h217km±4km, mb4.6/27, Error ellipse: s-maj=12.0km s-min=8.7km az=66.0*
ISC 20 06:50:45.4±0.4, 6.°90S±0.°05×129.°11E±0.°06, h200km, n113, σ1°65/117, mb4.3/27, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.42**	**116**		**Pn**	**06 51 31.8**	**+3.3**
SAUI	**Saumlaki**	**2.42**	**116**	P	**Pn**	**06 51 31.7**	**+3.3**
BNDI	**Bandanaira**	**2.50**	**19**	P	Pn	06 51 35.6	+6.3
AAI	**Ambon**	**3.32**	**344**	P	**Pn**	**06 51 42.1**	**+3.2**
MSAI	**Masohi**	**3.54**	**357**	P	**Pn**	**06 51 44.9**	**+3.3**
NLAI	**Namlea**	**4.15**	**331**	P	**Pn**	**06 51 52.4**	**+3.3**
FAKI	**Fak Fak**	**5.05**	**38**	Pn	**Pn**	**06 52 00.1**	**-0.4**
FAKI	**Fak Fak**	**5.05**	**38**	P	**Pn**	**06 52 00.5**	**0.0**
SOEI	**Soe**	**5.56**	**239**	Pn	**Pn**	**06 52 09.2**	**+2.0**
SOEI	**Soe**	**5.56**	**239**	P	**Pn**	**06 52 09.2**	**+2.0**
SOEI	**Soe**	**5.56**	**239**	P	**Pn**	**06 52 09.1**	**+2.0**
5.0nm4μm251nm,0.6s							
KMPI	**Kaimana, Papua**	**5.60**	**55**	P	**Pn**	**06 52 08.8**	**+1.3**
SANI	**Sanana**	**5.74**	**327**	P	**Pn**	**06 52 13.4**	**+4.1**
DRS	**Darwin Rock St**	**5.77**	**162**	P	**Pn**	**06 52 11.8**	**+2.1**
MTN	**Manton Dam**	**6.23**	**161**	Pn	**Pn**	**06 52 17.0**	**+1.3**
MTN	**Manton Dam**	**6.23**	**161**	P	**Pn**	**06 52 17.5**	**+1.8**
BATI	**Baumata**	**6.30**	**238**	P	**Pn**	**06 52 18.1**	**+1.4**
KDU	**Kakadu**	**6.63**	**150**	P	**Pn**	**06 52 22.1**	**+1.2**
BBSI	**Bau Bau**	**6.65**	**282**	P	**Pn**	**06 52 22.0**	**+0.9**
1.0nm3μm280nm,1.0s							
MMRI	**Maumere**	**7.02**	**255**	P	**Pn**	**06 52 27.3**	**+1.3**
0.6nm69nm,0.6s							
RKPI	**Ransiki, Papua**	**7.37**	**44**	P	**Pn**	**06 52 30.5**	**0.0**
KNRA	**Kununurra**	**8.72**	**182**	Pn	**Pn**	**06 52 48.9**	**+0.8**
BASI	**Baing, Sumba**	**9.05**	**

COEN Coen 15.50 118 Pn 06 54 13.7 -0.2
COEN IAmb IAmb 06 54 16.6
comp=Z,31nm,0.9s
COEN Coen 15.50 118 P P 06 54 15.5 +1.5
GMJI Gumukmas 15.59 264 P P 06 54 11.5 -3.4
MYLDM Lahad Datu 16.00 318 P Pn 06 54 22.6 +2.6
MYLDM IAmb IAmb 06 54 25.1
comp=Z,39nm,1.0s
MYLDM Lahad Datu 16.00 318 P Pn 06 54 23.8 +3.9
QIS Mount Isa 16.96 144 P Pn 06 54 31.8 +0.5
PSA00 Pilbara Seismi 17.11 211 P P 06 54 32.9 +1.3
PSA00 IAmb IAmb 06 54 41.1
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 17.11 211 P P 06 54 33.1 +1.5
AS31 Alice Springs 17.29 165 P Pn 06 54 35.2 0.0
AS31 IAmb IAmb 06 54 37.5
comp=Z,12nm,0.6s
ASAR Alice Springs 17.29 165 P Pn 06 54 35.5 +0.2
comp=Z,32nm,0.7s,baz=344,slow=11,SNR=246
ASAR S S 06 57 44.4 +1.1
comp=Z,8.8nm,0.7s,baz=343,slow=26,SNR=8.4
ASAR LR LR 07 02 00.2
comp=Z,49nm,18.8s,baz=174,slow=39
ASAR ScP ScP 07 02 19.0 -3.0
comp=Z,4.9nm,0.7s,baz=342,slow=1.9,SNR=6.7
AS01 Alice Springs 17.30 165 P Pn 06 54 36.0 +0.6
PCJI Pacitan 17.82 265 P P 06 54 36.9 -2.5
comp=Z,88nm,0.8s
WRKA Warakurna 18.05 182 P Pn 06 54 43.9 -0.2
MTSU Mount Surprise 18.56 128 P Pn 06 54 49.4 -0.7
SBUM Sibu 19.25 298 P P 06 54 56.7 +1.8
SBUM IAmb IAmb 06 54 59.9
comp=Z,18nm,0.9s
SBUM Sibu 19.25 298 P Pn 06 54 57.9 -0.4
KPJI Karang Pucung 20.02 268 P P 06 55 02.2 -1.0
KSM Kuching 20.52 293 P P 06 55 10.2 +1.7
KSM Kuching 20.52 293 P P 06 55 10.9 +2.3
LEM Lembang 21.34 269 P P 06 55 16.7 -0.6
comp=Z,45nm,0.8s,baz=98,slow=9.2,SNR=5.8
comp=Z,45nm,0.8s
OOD Oodnadatta 21.69 164 P P 06 55 21.2 +0.6
INKA Innaminka 23.48 153 P P 06 55 39.0 +1.9
FORT Forrest 23.77 182 P P 06 55 40.6 +0.8
FORT Forrest 23.77 182 P P 06 55 40.8 +1.0
QLP Quilpie 24.30 145 P P 06 55 46.4 +1.8
LCRK Leigh Creek 24.93 161 P P 06 55 51.3 +1.0
BBOO Buckleboo 26.57 167 P P 06 56 05.7 +0.7
STKA Stephens Creek 27.45 156 P P 06 56 13.8 +1.0
STKA Stephens Creek 27.45 156 P P 06 56 13.1 +0.3
comp=Z,5.9nm,0.5s,baz=326,slow=9.8,SNR=19
comp=Z,5.9nm,0.5s
STKA Stephens Creek 27.45 156 P P 06 56 13.8 +1.0
KULM Kulim 30.88 292 P P 06 56 45.0 +1.6
KULM IAmb IAmb 06 56 49.1
comp=Z,7.0nm,0.8s
ARMA Armidale 31.53 141 P P 06 56 50.7 +1.7
ARMA IAmb IAmb 06 57 21.2
comp=Z,17nm,1.2s
PSI Prapat 31.63 287 P P 06 56 51.2 +1.1
CMAR Chiang Mai Arr 38.99 311 P P 06 57 52.9 +0.1
comp=Z,4.2nm,0.7s,baz=142,slow=7.5,SNR=8.5
comp=Z,4.2nm,0.7s
NJ2 Nanjing 39.95 346 *eP* **P 06 58 01.8 +1.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
PZH PanZhiHua 42.51 322 P P 06 58 22.6 +1.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.3s
MJAR Matsushiro Arr 44.05 11 P P 06 58 31.7 -1.8
comp=Z,7.3nm,0.8s,baz=189,slow=9.0,SNR=11
comp=Z,7.3nm,0.8s
KSRS Korea Array 44.14 359 P P 06 58 33.8 -0.3
comp=Z,1.5nm,0.6s,baz=177,slow=9.2,SNR=4.9
comp=Z,1.5nm,0.6s
JMM Marumori 45.85 13 P P 06 58 46.4 -1.2
JMM IAmb IAmb 06 58 47.6
comp=Z,27nm,0.8s
JTM Tenmabayashi 48.72 12 P P 06 59 08.4 -1.2
JTM IAmb IAmb 06 59 33.1
comp=Z,22nm,1.1s
HHC Hu-ho-hao-te 50.18 343 *eP* **P 06 59 23.9 +3.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,47nm,4.5s
ERM Erimo 50.35 14 P P 06 59 22.1 +0.1
ERM IAmb IAmb 06 59 25.8
comp=Z,9.9nm,0.8s
USRK Ussuriysk Ar. 50.93 3 P P 06 59 25.8 -0.4
USRK Ussuriysk Ar. 50.93 3 P P 06 59 26.1 -0.2
comp=Z,3.4nm,0.6s,baz=195,slow=8.8,SNR=7.4
comp=Z,3.4nm,0.6s
FOZ Fox Glacier 51.00 142 P P 06 59 28.3 +1.4
SONM Songino Array 58.08 342 P P 07 00 17.4 -0.4
comp=Z,0.5nm,0.5s,baz=157,slow=8.0,SNR=4.3
SONM ScP ScP 07 04 46.2 -2.2
comp=Z,0.7nm,0.7s,baz=178,slow=3.3,SNR=3.8
comp=Z,0.5nm,0.5s
PETK Petropavlovsk- 64.51 19 P P 07 01 00.4 -0.3
comp=Z,8.0nm,0.6s,baz=171,slow=4.2,SNR=10
comp=Z,8.0nm,0.6s
NIL Nilore 66.48 311 P P 07 01 13.9 +0.1
MK31 Makanchi Array 67.66 327 P P 07 01 20.8 -0.1
MKAR Makanchi Array 67.66 327 P P 07 01 20.7 -0.2
MKAR Makanchi Array 67.66 327 P P 07 01 20.2 -0.7
comp=Z,2.0nm,0.5s,baz=117,slow=8.1,SNR=31
comp=Z,2.0nm,0.5s
MAKZ Makanchi 67.84 327 P P 07 01 22.0 0.0
MA2 Magadan 68.48 12 P P 07 01 25.3 -0.4
MA2 IAmb IAmb 07 01 26.9
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 71.11 334 P P 07 01 40.8 -1.0
comp=Z,1.2nm,0.5s,baz=130,slow=6.0,SNR=4.4
comp=Z,1.2nm,0.5s
KURBB Kurchatov Arra 71.97 329 P P 07 01 46.7 -0.4
comp=Z,1.9nm,0.5s,baz=129,slow=5.1,SNR=13
comp=Z,1.9nm,0.5s
KURK Kurchatov 71.98 329 P P 07 01 46.9 -0.2
KURK IAmb IAmb 07 01 48.9
comp=Z,8.0nm,1.4s
BVAR Borovoye Array 77.51 328 P P 07 02 17.7 -1.1
comp=Z,0.7nm,0.4s,baz=134,slow=10,SNR=4.2
comp=Z,0.7nm,0.4s
TIXI Tiksi 78.39 360 P P 07 02 22.0 -1.2
TIXI IAmb IAmb 07 02 23.1
comp=Z,5.9nm,0.5s
NRIK Noril'sk 81.25 346 P P 07 02 38.0 -0.6
comp=Z,2.2nm,0.6s,baz=111,slow=6.1,SNR=5.0
comp=Z,2.2nm,0.6s
QSPA South Pole Qui 83.07 180 P P 07 02 48.3 -0.1
QSPA South Pole Qui 83.07 180 P P 07 02 48.1 -0.3
comp=Z,1.6nm,0.5s,baz=263,slow=1.2,SNR=26
comp=Z,1.6nm,0.5s
TNA Tin City 85.46 22 P P 07 02 59.6 -0.6
L14K Kuka Creek 85.81 27 P P 07 03 02.2 +0.2
J18K Innoko River 89.15 26 P P 07 03 17.4 -0.5
J18K IAmb IAmb 07 03 39.1
comp=Z,7.4nm,1.5s
ILAR Eielson Array 93.64 25 P P 07 03 36.0 -2.6
comp=Z,0.7nm,0.8s,baz=241,slow=4.4,SNR=11
comp=Z,0.7nm,0.8s
CPUP Villa Florida 146.38 170 PKPbc PKPbc 07 10 03.3 -0.2
comp=Z,3.1nm,0.7s,baz=185,slow=3.4,SNR=14
LPAZ La Paz 151.33 144 PKPbc PKPbc 07 10 17.6 +0.5
comp=Z,0.6nm,0.4s,baz=141,slow=6.5,SNR=3.5
BDFB Brasilia 157.42 187 PKPab PKPab 07 10 51.5 +0.6
comp=Z,0.9nm,0.4s,baz=180,slow=14,SNR=4.9

IDC 20 07:05:26.0±4.3, 14°.19S×171°.87W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=283.2km s-min=31.5km az=148.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy 38.73**	**326**		T	T	07 53 28.0	
baz=145,slow=76,SNR=257							
H11S3	**WAKE ISLAND Hy 38.74**	**326**		T	T	07 53 29.0	
baz=145,slow=76,SNR=384							
H11S1	**WAKE ISLAND Hy 38.75**	**326**		T	T	07 53 29.3	
baz=145,slow=76,SNR=285							
H11N3	**WAKE ISLAND Hy 39.64**	**328**		T	T	07 54 37.2	
baz=146,slow=76,SNR=150							
H11N1	**WAKE ISLAND Hy 39.64**	**328**		T	T	07 54 37.5	
baz=146,slow=76,SNR=179							
H11N2	**WAKE ISLAND Hy 39.65**	**328**		T	T	07 54 38.4	
baz=146,slow=76,SNR=144							
WRA	**Warramunga Arr**	**51.57**	**256**	P	P	07 14 33.5	-0.8
0.3nm,0.8s,baz=89,slow=6.9,SNR=1.3							
0.3nm,0.8s							
ASAR	**Alice Springs**	**51.90**	**251**	P	P	07 14 37.1	+0.3
0.8nm,0.5s,baz=87,slow=7.9,SNR=13							
0.8nm,0.5s							
NVAR	**Mina Array Bea**	**72.44**	**42**	P	P	07 16 54.6	-0.1
0.4nm,0.7s,baz=226,slow=5.7,SNR=4.2							
0.4nm,0.7s							
BRTR	**Keskin Array B**	**146.11**	**323**	PKPbc	PKPdf	07 25 08.1	+0.3
1.5nm,0.8s,baz=76,slow=5.0,SNR=6.6							

---

*IDC **20** 07:05:34.6±0.6, 38°.73N×112°.58W, h0km, mb4.0/5, mbtmp3.7/12, ML3.1/7, MS2.8/6, Error ellipse: s-maj=9.2km s-min=7.2km az=127.0*
*NEIC **20** 07:05:35.6±1.1, 38°.745N±0°.008×112°.52W±0°.01, h8km±6km, Error ellipse: s-maj=1.7km s-min=1.0km az=68.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-1.16; Mθθ-0.17; Mφφ1.34; Mrθ-0.08; Mφφ0.04; Mθφ0.13; Fault plane solution: M0 1.27000×1015 NP1: φs5.99000°, δ42.26000°, λ-83.20000°. NP2: φs176.84000°, δ48.11000°, λ-96.14000°. Principal axes: T 1.3438, Plg3.0000°, Azm271.0000°; N -0.1687, Plg5.0000°, Azm181.0000°; P -1.1751, Plg85.0000°, Azm34.0000°;*
*UUSS **20** 07:05:35.4±1.3, 38°.74N±0°.01×112°.50W±0°.01, h8km±8km, ML4.0/22, ML4.0/70(NEIC), Mwr4.0/89(NEIC) Error ellipse: s-maj=1.9km s-min=1.5km az=132.0*
*NEIC **20** 07:05:35.2, 38°.75N×112°.54W, h5km*
ISC 20 07:05:35.4±1.3, 38°.75N±0°.02×112°.50W±0°.03, h3km±9km, n66, σ1§29/71, mb4.2/6, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCRU	**Three Creeks R**	**0.15**	**163**	Pg	**Pg**	**07 05 38.8**	**+0.4**
PEUT	**Richfield**	**0.32**	**86**		**Pg**	**07 05 42.1**	**+0.4**
MSU	**Marysvale**	**0.35**	**133**	Pg	**Pg**	**07 05 42.3**	**+0.1**
WCU	**Willow Creek**	**0.38**	**57**		**Pg**	**07 05 43.2**	**+0.3**
BHUT	**Beaver**	**0.49**	**193**		**Pg**	**07 05 45.0**	**+0.3**
FLU	**Fool Peak**	**0.68**	**22**		**Pg**	**07 05 48.8**	**+0.4**
MTPU	**Mount Pierson**	**0.75**	**161**	Pg	**Pb**	**07 05 50.5**	**-0.8**
MTPU				Sg	**Sg**	**07 05 58.7**	**-0.9**
MTPU				IAML		07 06 01.4	
comp=E,4μm,0.3s							
DWU	**Dry Willow Pea**	**0.76**	**211**		**Pb**	**07 05 50.1**	**-1.2**
SGU	**Sterling**	**0.79**	**57**		**Pg**	**07 05 51.2**	**+0.6**
OWUT	**Old Woman Plat**	**0.84**	**88**		**Pg**	**07 05 51.9**	**+0.3**
LEVU	**Levan**	**0.92**	**35**		**Pg**	**07 05 53.3**	**+0.2**
Q16A	**Castle Valley**	**1.05**	**81**	Pg	**Pg**	**07 05 55.5**	**0.0**
Q16A				Sg	**Sb**	**07 06 10.5**	**-0.1**
Q16A				IAML		07 06 12.7	
comp=N,7μm,0.6s							
Q16A				IAML		07 06 12.7	
comp=E,8μm,0.5s							
PSUT	**Pine Spring**	**1.08**	**259**	Pg	**Pb**	**07 05 56.1**	**-0.7**
PSUT				IAML		07 06 10.9	
comp=N,3μm,0.5s							
PSUT				IAML		07 06 14.5	
comp=E,2μm,0.9s							
BTU	**Barney Top**	**1.11**	**153**		**Pg**	**07 05 56.7**	**0.0**
TMUT	**Trail Mountain**	**1.14**	**61**	Pg	**Pg**	**07 05 57.3**	**0.0**
TMUT				Sg	**Sn**	**07 06 13.9**	**-1.0**
FSU	**Fish Springs**	**1.19**	**325**		**Pg**	**07 05 58.3**	**+0.1**
DBD	**Des Bee Dove**	**1.23**	**63**		**Pb**	**07 05 58.4**	**-1.1**
PKCU	**Pink Cliffs**	**1.32**	**173**	Pg	**Pg**	**07 06 00.8**	**+0.2**
PKCU				IAML		07 06 20.6	
comp=N,3μm,0.2s							
PKCU				IAML		07 06 20.6	
comp=E,4μm,0.3s							
ELU	**Electric Lake**	**1.34**	**48**		**Pb**	**07 06 01.2**	**-0.2**
WMUT	**West Mountain**	**1.42**	**21**		**Pn**	**07 06 01.8**	**-0.4**
MPU	**Maple Canyon**	**1.43**	**28**	Pn	**Pb**	**07 06 02.6**	**-0.2**
MPU				IAML		07 06 23.9	
comp=E,1μm,0.5s							
SPR3	**Spring Creek 3**	**1.45**	**280**		**Pn**	**07 06 02.0**	**-0.8**
SPR3				IAML		07 06 28.4	
comp=E,1μm,0.8s							
DUG	**Dugway, Tooele**	**1.46**	**351**		**Pn**	**07 06 01.8**	**-1.0**
DUG					**Sb**	**07 06 22.3**	**0.0**
DUG				IAML		07 06 25.2	
comp=E,2μm,0.8s							
DUG				IAML		07 06 26.4	
comp=E,2μm,0.9s							
ZNPU	**Zion National**	**1.48**	**200**		**Pb**	**07 06 03.1**	**-0.6**
SRU	**San Rafael Swe**	**1.58**	**76**		**Pn**	**07 06 04.6**	**+0.1**
SRU					**Sn**	**07 06 24.9**	**-0.7**
EMUT	**Emma Park**	**1.68**	**51**		**Pb**	**07 06 06.9**	**-0.2**
KNB	**Kanab**	**1.75**	**188**	Pn	**Pb**	**07 06 07.2**	**-1.1**
LCMT	**Little Creek M**	**1.83**	**199**	Pn	**Pb**	**07 06 08.6**	**-1.1**
LCMT				IAML		07 06 39.0	
comp=E,970nm,0.9s							
P18A	**Preston Nutter**	**1.96**	**63**		**Pb**	**07 06 11.5**	**-0.4**
P18A					**Sb**	**07 06 36.0**	**-0.8**
P18A				IAML		07 06 40.4	
comp=E,2μm,0.6s							
P18A				IAML		07 06 41.1	
comp=N,2μm,0.7s							
JLU	**Jordanelle**	**2.02**	**23**	IAML		07 06 42.1	
comp=N,832nm,0.7s							
JLU				IAML		07 06 42.8	
comp=E,1μm,0.5s							
SNUT	**Stansbury Nort**	**2.13**	**360**		**Pn**	**07 06 11.8**	**-0.2**
BGU	**Big Grassy Mou**	**2.21**	**350**		**Pn**	**07 06 11.9**	**-1.1**
BSUT	**Blindstream Ca**	**2.23**	**36**		**Pb**	**07 06 16.9**	**+0.3**
BSUT	**Blindstream Ca**	**2.23**	**36**		**Sb**	**07 06 46.0**	**+1.3**
BSUT				IAML		07 06 49.7	
comp=E,639nm,0.7s							
LHUT	**Little Humpy P**	**2.43**	**28**		**Pn**	**07 06 17.3**	**+1.0**
SPUT	**South Promonto**	**2.55**	**1**		**Pn**	**07 06 17.7**	**-0.1**
SPUT				IAML		07 06 58.5	
comp=E,564nm,0.8s							
SPUT				IAML		07 07 02.7	
comp=N,480nm,0.7s							
PV05	**Paradox Valley**	**2.76**	**103**		**Pb**	**07 06 26.5**	**+1.1**
PV11	**David Mesa, Pa**	**2.88**	**98**		**Pb**	**07 06 26.6**	**-0.9**
HVU	**Hansel Valley**	**3.03**	**356**	IAML		07 07 19.8	
comp=E,511nm,0.8s							
HVU				IAML		07 07 22.2	
comp=N,458nm,0.7s							
PV07	**Paradox Valley**	**3.04**	**95**		**Pb**	**07 06 28.1**	**-2.1**
PV07				IAML		07 07 16.4	
comp=N,658nm,1.0s							
PV15	**Paradox Valley**	**3.18**	**96**		**Pn**	**07 06 28.2**	**+1.7**
V12A	**Nelson**	**3.56**	**213**		**Pn**	**07 06 32.5**	**+0.9**
O20A	**White River Ci**	**3.58**	**66**		**Pb**	**07 06 35.4**	**-4.0**
Q09A	**Carvers**	**3.66**	**273**		**Pn**	**07 06 35.1**	**+2.1**
AHID	**Auburn Hatcher**	**4.15**	**14**		**Pn**	**07 06 42.0**	**+2.3**
AHID				IAML		07 07 49.1	
comp=N,323nm,0.8s							
AHID				IAML		07 07 54.3	
comp=N,311nm,0.7s							
NVAR	**Mina Array Bea**	**4.56**	**268**	Pn	**Pn**	**07 06 42.4**	**-3.0**
comp=N,0.9nm,0.3s,baz=80,slow=17,SNR=9.3							
NVAR				Pg	**Pb**	**07 06 56.0**	**-0.1**
comp=N,42nm,0.3s,baz=84,slow=16,SNR=92							
NVAR				Lg	Lg	07 07 56.0	
comp=N,7.0nm,0.3s,baz=81,slow=16,SNR=1.7							
comp=N,2.4nm,0.6s							
S22A	**4UR Ranch, Cre**	**4.58**	**101**	IAML		07 08 10.0	
comp=E,120nm,1.1s							
PDAR	**Pinedale Array**	**4.59**	**28**	Pn	**Pn**	**07 06 45.4**	**-0.4**
comp=E,0.3nm,0.3s,baz=202,slow=16,SNR=10.0							
PDAR				Pg	**Pb**	**07 06 56.0**	**-0.6**
comp=E,7.5nm,0.3s,baz=187,slow=13,SNR=34							
PDAR				Sn	**Sn**	**07 07 41.3**	**+1.5**
comp=E,1.9nm,0.3s,baz=196,slow=15,SNR=0.9							
PDAR				Lg	Lg	07 07 59.2	
comp=E,10nm,0.3s,baz=215,slow=32,SNR=0.9							
PDAR				LR	LR	07 08 32.7	
comp=E,14nm,22.0s,baz=274,slow=38							
GSC	**Goldstone, Bar**	**4.87**	**226**		**Pn**	**07 06 51.0**	**+1.4**
GSC				IAML		07 08 13.9	
comp=N,109nm,0.5s							
GSC				IAML		07 08 14.1	
comp=E,122nm,0.6s							
SNOW	**Snow King Moun**	**4.89**	**15**		**Pn**	**07 06 51.0**	**+1.0**
SNOW				IAML		07 08 14.0	
comp=E,87nm,0.8s							
SNOW				IAML		07 08 15.7	
comp=E,108nm,1.1s							
PFO	**Pinyon Flats O**	**6.05**	**213**	Pn	**Pn**	**07 07 05.8**	**0.0**
comp=E,0.7nm,0.3s,baz=31,slow=14,SNR=8.0							
PFO				Pg	Pb	07 07 15.7	-5.7
comp=E,0.9nm,0.3s,baz=25,slow=13,SNR=8.4							
PFO				Lg	Lg	07 08 45.6	
comp=E,0.4nm,0.3s,baz=60,slow=23,SNR=1.6							
comp=E,1.3nm,0.5s							
ANMO Albuquerque	**6.16**	**126**	Pn	**Pn**	**07 07 06.9**	**-0.5**	
comp=E,0.5nm,0.3s,baz=5.7,slow=18,SNR=12							
ANMO				Lg	Lg	07 08 44.7	
comp=E,8.8nm,0.3s,baz=344,slow=20,SNR=7.0							
ANMO				LR	LR	07 09 55.9	
comp=E,121nm,21.7s,baz=116,slow=42							
comp=E,2.0nm,0.5s							
ELS Elsinore Mount	**6.46**	**219**		**Pn**	**07 07 12.8**	**+1.3**	
YBH Yreka Blue Hor	**8.35**	**294**	Pn	**Pn**	**07 07 39.4**	**+1.9**	
comp=E,0.4nm,0.3s,baz=121,slow=11,SNR=12							
YBH				Pg	Pb	07 07 53.8	-6.9
comp=E,0.2nm,0.3s,baz=127,slow=17,SNR=8.0							
YBH				Lg	Lg	07 09 55.0	
comp=E,0.1nm,0.3s,baz=206,slow=19,SNR=1.7							
YBH				LR	LR	07 10 58.7	
comp=E,79nm,20.6s,baz=107,slow=39							
comp=E,1.8nm,0.6s							
NEW Newport	**10.08**	**342**	Pn	**Pn**	**07 08 01.7**	**+0.7**	
comp=E,0.1nm,0.3s,baz=164,slow=9.6,SNR=4.1							
NEW				Lg	Lg	07 10 50.6	
comp=E,0.1nm,0.3s,baz=93,slow=22,SNR=7.3							
comp=E,0.5nm,0.4s							
DGMT Dagmar	**11.42**	**29**		**Pn**	**07 08 18.2**	**-1.1**	
TXAR Lajitas Array	**11.91**	**139**	Pn	**Pn**	**07 08 29.4**	**+3.3**	
baz=327,slow=9.7,SNR=6.3							
TXAR				Pg		07 09 08.3	
comp=E,0.1nm,0.3s,baz=313,slow=13,SNR=5.0							
TXAR				Lg	Lg	07 11 50.0	
comp=E,0.2nm,0.3s,baz=330,slow=25,SNR=4.8							
TXAR				LR	LR	07 12 57.9	
comp=E,45nm,18.9s,baz=316,slow=37							
comp=E,0.5nm,0.8s							
ULM Lac du Bonnet	**16.47**	**40**	Pn	**Pn**	**07 09 24.6**	**-2.7**	
comp=E,0.2nm,0.3s,baz=229,slow=10,SNR=3.9							
ULM				Lg	Lg	07 14 09.1	
comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=3.3							
comp=E,1.6nm,0.7s							
TKL Tuckaleechee C	**23.05**	**89**	LR	LR	07 19 39.1		
comp=E,70nm,18.9s,baz=70,slow=36							
YKA Yellowknife Ar	**23.80**	**358**	P	**P**	**07 10 49.4**	**+0.3**	
comp=E,1.7nm,0.8s,baz=180,slow=9.8,SNR=26							
YKA			PcP	**PcP**	**07 14 32.5**	**+0.2**	
comp=E,0.2nm,0.7s,baz=176,slow=2.5,SNR=4.6							
comp=E,1.7nm,0.8s							
CMIG Matias Romero	**26.52**	**140**	LR	LR	07 23 41.7		
comp=E,40nm,18.1s,baz=358,slow=41							
ILAR Eielson Array	**32.88**	**334**	P	**P**	**07 12 10.6**	**+0.3**	
comp=E,0.7nm,0.9s,baz=146,slow=8.7,SNR=6.3							
comp=E,0.7nm,0.9s							
NOA NORSAR Array B	**70.53**	**25**	P	**P**	**07 16 53.1**	**+1.9**	
comp=E,1.4nm,0.9s,baz=317,slow=6.1,SNR=3.7							
comp=E,1.4nm,0.9s							
PLCA Paso Flores	**87.90**	**149**	P	**P**	**07 18 26.5**	**+0.3**	
comp=E,2.0nm,1.0s,baz=276,slow=5.8,SNR=2.9							
comp=E,2.0nm,1.0s							
BVAR Borovoye Array	**88.56**	**358**	P	**P**	**07 18 29.4**	**+0.1**	
comp=E,2.3nm,0.7s,baz=11,slow=3.0,SNR=11							
comp=E,2.3nm,0.7s							
HHC Hu-ho-hao-te	**91.15**	**328**	*eP*	**P**	**07 18 38.1**	**-3.7**	
HHC			pmax	pmax			
comp=Z,5.0nm,0.5s							
HHC			pmax	pmax			
comp=Z,110nm,4.6s							

---

*NEIC **20** 07:09:24.6±1.4, 18°.07N±0°.02×121°.8E±0°.1, h82km±9km, mb4.6/6, Error ellipse: s-maj=20.5km s-min=1.8km az=86.0*
*IDC **20** 07:09:26.0±3.0, 18°.03N×121°.51E, h88km±31km, mb3.6/11, mbtmp4.0/11, MS2.7/3, Error ellipse: s-maj=39.4km s-min=15.8km az=75.0*
ISC 20 07:09:18.7±0.6, 17°.84N±0°.06×121°.4E±0°.2, h28km, n33, σ1§52/24, mb4.2/14, MS2.3/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.75**	**187**	P	**Pb**	**07 10 24.0**	**-0.3**
199nm,0.4s,baz=47,slow=19,SNR=5.7							
TGY				S	**Sb**	**07 11 09.8**	**+0.4**
147nm,0.3s,baz=221,slow=20,SNR=1.4							
TPUB Ta-pu	**5.48**	**352**	Pn	**Pn**	**07 10 41.8**	**+3.2**	
YULB Yu-li	**5.52**	**359**	Pn	**Pn**	**07 10 40.7**	**+1.6**	
SSLB Suanglung	**5.93**	**356**	Pn	**Pn**	**07 10 47.0**	**+2.3**	
NACB Ninganchiao	**6.30**	**1**	Pn	**Pn**	**07 10 51.7**	**+1.9**	
YOJ Yonaguni jima	**6.75**	**12**	Pn	**Pn**	**07 10 56.9**	**+0.9**	
PHRA Phrae	**20.16**	**275**	P	Pn	07 13 55.4	+2.4	
KSRS Korea Array	**20.35**	**15**	P	**P**	**07 13 53.2**	**+0.3**	
3.5nm,0.8s,baz=186,slow=11,SNR=8.0							
KSRS				LR	LR	07 21 55.4	
comp=Z,13nm,20.3s,baz=180,slow=37							
3.5nm,0.8s							
CMAR Chiang Mai Arr	**21.38**	**275**	LR	LR	07 22 47.7		
comp=Z,7.0nm,19.1s,baz=105,slow=37							
SONM Songino Array	**32.35**	**341**	P	**P**	**07 15 46.3**	**+0.6**	
1.3nm,0.5s,baz=158,slow=10,SNR=10							
1.3nm,0.5s							
WRA Warramunga Arr	**39.63**	**161**	P	**P**	**07 16 50.3**	**+2.1**	
1.0nm,0.9s,baz=341,slow=8.4,SNR=2.1							
1.0nm,0.9s							
H11S3 WAKE ISLAND Hy 42.92	**82**	T	T	08 02 31.6			
baz=276,slow=75,SNR=29							
H11S1 WAKE ISLAND Hy 42.93	**82**	T	T	08 02 32.2			
baz=276,slow=75,SNR=14							
H11S2 WAKE ISLAND Hy 42.94	**82**	T	T	08 02 29.9			
baz=276,slow=75,SNR=15							
H11N1 WAKE ISLAND Hy 42.99	**80**	T	T	08 02 34.3			
baz=275							
H11N2 WAKE ISLAND Hy 42.99	**80**	T	T	08 02 34.3			
baz=275							
H11N3 WAKE ISLAND Hy 43.00	**80**	T	T	08 02 32.3			
baz=275							
ASAR Alice Springs	**43.02**	**163**	P	**P**	**07 17 18.8**	**+2.8**	
0.4nm,0.8s,baz=340,slow=8.5,SNR=4.5							
0.4nm,0.8s							
MK31 Makanchi Array	**43.21**	**321**	P	**P**	**07 17 17.8**	**+0.5**	
MKAR Makanchi Array	**43.21**	**321**	P	**P**	**07 17 17.9**	**+0.6**	
1.6nm,0.7s,baz=114,slow=9.2,SNR=21							
1.6nm,0.7s							
ZALV Zalesovo Beam	**45.77**	**331**	P	**P**	**07 17 36.9**	**-0.7**	
1.1nm,0.6s,baz=120,slow=8.5,SNR=1.3							
1.1nm,0.6s							
KURK Kurchatov	**47.21**	**324**	P	**P**	**07 17 49.3**	**+0.4**	
KURK				IAmb	IAmb	07 17 49.9	
comp=Z,4.3nm,0.8s							
KURBB Kurchatov Arra	**47.22**	**324**	P	**P**	**07 17 49.2**	**+0.2**	
comp=Z,3.4nm,0.7s,baz=121,slow=7.9,SNR=40							
comp=Z,3.4nm,0.7s							
GAR Garm	**48.94**	**306**	P	**P**	**07 18 02.4**	**-0.3**	
GAR			IAmb	IAmb	07 18 07.1		
comp=Z,12nm,1.4s							
BRVK Borovoye	**52.88**	**324**	P	**P**	**07 18 30.2**	**-1.8**	
BRVK			IAmb	IAmb	07 18 30.8		
comp=Z,2.7nm,0.8s							
NRIK Noril'sk	**55.57**	**346**	P	**P**	**07 18 50.5**	**-0.8**	
comp=Z,1.7nm,0.5s,baz=135,slow=9.6,SNR=5.8							
comp=Z,1.7nm,0.5s							

ISC 20 07:19:13.1±0.9, 49°.82N±0°.05×81°.75E±0°.06, h0km, n11, σ1§63/14, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.13**	**302**	P	Pn	07 19 41.4	+5.0
	5.0nm,0.1s						
SEM				S	**Sn**	**07 19 52.5**	**-0.2**
	59nm,0.2s						
KURK	**Kurchatov**	**2.20**	**295**	⇓Pn	**Pn**	**07 19 49.1**	**-1.7**
	4.0nm,0.6s						
KURK				⇑Sn	**Sn**	**07 20 18.9**	**+0.2**
	25nm,0.7s						
KURBB	**Kurchatov Arra**	**2.22**	**293**	Pg	**Pn**	**07 19 48.6**	**-2.5**
	0.2nm,0.3s,baz=111,slow=18,SNR=18						
KURBB				Lg	Lg	07 20 19.9	
	0.7nm,0.3s,baz=110,slow=31,SNR=25						
KURBB	**Kurchatov Arra**	**2.22**	**293**	⇓Pn	**Pn**	**07 19 49.6**	**-1.5**
	4.3nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 20 19.7**	**+0.5**
	31nm,0.7s						
MAKZ	**Makanchi**	**3.02**	**177**	⇑Pn	**Pn**	**07 20 01.6**	**-0.5**
	1.4nm,0.2s						
MAKZ				⇑Lg	Lg	07 20 43.7	
	9.0nm,1.1s						
MK31	**Makanchi Array**	**3.05**	**173**	Pn	**Pn**	**07 20 02.6**	**0.0**
	1.2nm,0.5s,baz=358,slow=13,SNR=16						
MK31				⇓Lg	Lg	07 20 43.8	
	4.4nm,0.6s,baz=1.5,slow=28,SNR=7.7						
MKAR	**Makanchi Array**	**3.05**	**173**	Pn	**Pn**	**07 20 00.9**	**-1.6**
	0.5nm,0.3s,baz=355,slow=14,SNR=20						
MKAR				Sn	**Sn**	**07 20 38.0**	**-1.7**
	1.0nm,0.3s,baz=354,slow=25,SNR=15						
	1.7nm,0.5s						
ZSN	**Zaisan**	**3.15**	**138**	Pg	**Pg**	**07 20 12.0**	**-1.3**
	5.0nm,0.2s						
ZSN				Lg	Lg	07 20 48.9	
	10.0nm,0.8s						
I46RU	**ZALESOVO INFRA**	**4.55**	**24**	I	I	07 45 55.0	
	0.1nm,1.0s,baz=206,slow=319,SNR=2.8						
ZALV	**Zalesovo Beam**	**4.55**	**24**	Pn	**Pn**	**07 20 21.8**	**-1.4**
	0.1nm,0.3s,baz=209,slow=18,SNR=2.0						
ZALV				Pg	**Pb**	**07 20 35.5**	**+1.7**
	0.2nm,0.3s,baz=202,slow=15,SNR=2.7						
ZALV				Lg	Lg	07 21 38.2	
	0.3nm,0.3s,baz=206,slow=22,SNR=9.5						
	0.4nm,0.4s						
KAPS	**Kapalarasan**	**4.81**	**201**	Pg	**Pb**	**07 20 40.6**	**+2.3**
	0.8nm,0.1s						
KAPS				Lg	Lg	07 21 37.1	
	2.8nm,0.1s						

IDC 20 07:22:14.3±2.4, 3°.75S×140°.50E, h0km, mb3.2/2, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=122.6km s-min=14.1km az=103.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.25**	**10**	Pg	Pg	07 22 38.2	-0.1
	5.9nm,0.3s,baz=162,slow=20,SNR=13						
JAY				Lg	Lg	07 22 54.8	
	19nm,0.3s,baz=135,slow=20,SNR=24						
WRA	**Warramunga Arr**	**17.17**	**200**	P	P	07 26 17.2	-0.4
	0.2nm,0.3s,baz=25,slow=12,SNR=9.3						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**20.80**	**197**	P	P	07 26 56.6	-0.7
	0.9nm,0.8s,baz=23,slow=9.1,SNR=9.4						
	0.9nm,0.8s						
SONM	**Songino Array**	**59.42**	**334**	P	P	07 32 19.0	0.0
	0.2nm,0.4s,baz=136,slow=7.5,SNR=1.7						
	0.2nm,0.4s						

IDC 20 07:23:26.8±999.0, 48°.47N×48°.78E, h0km, Error ellipse: s-maj=806.7km s-min=134.2km az=69.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.34**	**69**	I	I	08 01 30.0	
	0.2nm,0.6s,baz=256,slow=326,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**23.05**	**63**	I	I	09 44 40.0	
	baz=270,slow=323,SNR=1.4						
I34MN	**SONGINO INFRAS**	**37.68**	**69**	I	I	11 13 20.0	
	baz=294,slow=328,SNR=1.3						

*JMA **20** 07:35:26.9±0.3, 25°.N±1°.×122°.1E±0°.5, h74km±3km, MV2.6/11, TAIWAN REGION*
*TAP **20** 07:35:26.9, 24°.77N×122°.08E, h77km, ML3.4, C*
ISC 20 07:35:27.4±1.4, 24°.76N±0°.04×122°.14E±0°.03, h73km±7km, n94, σ0§78/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.20**	**294**	*e*P	**Pn**	**07 35 38.3**	**0.0**
TWB1	**Santiao Chiao**	**0.28**	**331**	*i* P	**Pn**	**07 35 38.6**	**-0.1**
TWB1				*i* S	**Sn**	**07 35 46.9**	**-0.2**
TWC	**Suao**	**0.30**	**240**	*i* P	**Pn**	**07 35 38.5**	**-0.3**
TWC				S	**Sn**	**07 35 46.5**	**-0.7**
ESAO	**Su ao**	**0.32**	**235**	*i* P	**Pn**	**07 35 38.8**	**-0.2**
ESAO				*e*S	**Sn**	**07 35 47.1**	**-0.4**
TIPB	**Shuangxi**	**0.35**	**307**	P	**Pn**	**07 35 39.1**	**-0.1**
TIPB				S	**Sn**	**07 35 47.5**	**-0.5**
EOS2	**EOS2**	**0.35**	**166**	*i* P	**Pn**	**07 35 39.6**	**+0.5**
EOS2				*i* S	**Sn**	**07 35 49.3**	**+1.7**
ILA	**Ilan**	**0.35**	**271**	*e*S	**Sn**	**07 35 48.1**	**+0.3**
NDS	**Dongshan**	**0.40**	**252**	*i* P	**Pn**	**07 35 39.6**	**0.0**
NDS				*e*S	**Sn**	**07 35 48.4**	**-0.2**
SXI1	**Grass Mountain**	**0.41**	**325**	P	**Pn**	**07 35 39.5**	**-0.2**
SXI1				*e*S	**Sn**	**07 35 48.8**	**0.0**
TWE	**Neicheng**	**0.43**	**265**	*i* P	**Pn**	**07 35 39.7**	**-0.1**
TWE				*e*S	**Sn**	**07 35 48.9**	**0.0**
NWF	**Wu-fen Shan**	**0.45**	**314**	*e*P	**Pn**	**07 35 39.9**	**-0.2**
NWF				*e*S	**Sn**	**07 35 49.0**	**-0.3**
WFSB	**Wu-fen Shan**	**0.45**	**314**	*e*P	**Pn**	**07 35 40.0**	**0.0**
WFSB				*e*S	**Sn**	**07 35 49.1**	**0.0**
EWUT	**Wuta**	**0.45**	**226**	P	**Pn**	**07 35 40.0**	**+0.1**
ENA	**Nanau**	**0.49**	**227**	*e*P	**Pn**	**07 35 40.4**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.50**	**270**	P	**Pn**	**07 35 40.4**	**-0.1**
FUSB				S	**Sn**	**07 35 49.4**	**-0.7**
EOS3	**EOS3**	**0.50**	**161**	*i* P	**Pn**	**07 35 41.1**	**+0.8**
EOS3				*e*S	**Sn**	**07 35 51.5**	**+1.8**
ENTT	**Nioudou**	**0.53**	**257**	P	**Pn**	**07 35 40.8**	**+0.1**
EAHA	**Aohua**	**0.56**	**220**	P	**Pn**	**07 35 40.9**	**-0.2**
NWLT	**Wulai**	**0.57**	**272**	*e*P	**Pn**	**07 35 41.6**	**+0.4**
NHDH	**Xindian Distri**	**0.59**	**290**	*i* S	**Sn**	**07 35 50.8**	**-0.8**
LATG	**Datong**	**0.60**	**248**	*i* P	**Pn**	**07 35 41.9**	**+0.4**
LATG				*i* S	**Sn**	**07 35 52.6**	**+0.7**
TATO	**Taipei**	**0.62**	**290**	P	Pn	07 35 47.4	+5.7
YM01	**YM01**	**0.64**	**307**	P	**Pn**	**07 35 41.6**	**-0.3**
YM01				*e*S	**Sn**	**07 35 52.0**	**-0.6**
EOS4	**EOS4**	**0.66**	**165**	*e*S	**Sn**	**07 35 52.5**	**+0.3**
YHNB	**Yeheng**	**0.70**	**263**	P	**Pn**	**07 35 44.7**	**+2.2**
YHNB	**Yeheng**	**0.70**	**263**	S	**Sn**	**07 35 54.2**	**+0.5**
YHNB	**Yeheng**	**0.70**	**263**	*e*P	**Pn**	**07 35 42.6**	**+0.1**
YHNB				*e*S	**Sn**	**07 35 53.7**	**0.0**
TWY	**Chenhua**	**0.71**	**317**	*e*P	**Pn**	**07 35 41.4**	**-1.1**
NSK	**Sanguang**	**0.71**	**263**	*e*P	**Pn**	**07 35 42.7**	**+0.1**
NSK				*e*S	**Sn**	**07 35 54.0**	**0.0**
TWS1	**Kuangyinshan**	**0.73**	**298**	P	**Pn**	**07 35 41.6**	**-1.2**
TWS1				S	**Sn**	**07 35 53.0**	**-1.3**
NTST	**Danshui**	**0.74**	**303**	*e*P	**Pn**	**07 35 42.7**	**-0.2**
NTST				*e*S	**Sn**	**07 35 53.8**	**-0.6**
ETL	**Fush Village**	**0.76**	**218**	*e*P	**Pn**	**07 35 42.4**	**-0.8**
NNSB	**Datong**	**0.76**	**244**	P	**Pn**	**07 35 43.3**	**0.0**
NNSB				S	**Sn**	**07 35 55.4**	**+0.3**
NNS	**Nan Shan**	**0.76**	**245**	*i* P	**Pn**	**07 35 43.5**	**+0.1**
NNS				*i* S	**Sn**	**07 35 55.2**	**+0.1**
NACB	**Ninganchiao**	**0.77**	**220**	P	**Pn**	**07 35 42.3**	**-0.9**
NACB	**Ninganchiao**	**0.77**	**220**	*e*P	**Pn**	**07 35 42.4**	**-0.9**
JYNG	**Yonaguni jima**	**0.80**	**113**	*e*P	**Pn**	**07 35 43.4**	**-0.1**
JYNG				*e*S	**Sn**	**07 35 55.3**	**-0.3**
ETLH	**Xiulin Townshi**	**0.81**	**227**	*i* P	**Pn**	**07 35 43.4**	**-0.5**
TWD	**Chiawan**	**0.84**	**216**	*i* P	**Pn**	**07 35 43.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.85**	**110**	P	**Pn**	**07 35 43.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.85**	**110**	*i* P	**Pn**	**07 35 43.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.85**	**110**	P	**Pn**	**07 35 44.0**	**-0.1**
YOJ				*e*S	**Sn**	**07 35 56.2**	**-0.4**
PCYT	**Pengchaiyu**	**0.87**	**356**	P	**Pn**	**07 35 44.5**	**+0.2**
NCUH	**Zhongli**	**0.89**	**284**	*e*S	**Sn**	**07 35 58.0**	**+0.6**
NFF	**Wufeng Townshi**	**0.94**	**262**	*e*P	**Pn**	**07 35 45.5**	**+0.2**
NFF				*i* S	**Sn**	**07 35 58.6**	**+0.1**
FUSS	**Fushou**	**0.96**	**238**	*e*P	**Pn**	**07 35 45.9**	**+0.1**
FUSS				S	**Sn**	**07 35 59.7**	**+0.3**
ETM	**Tongmen**	**0.99**	**217**	*e*P	**Pn**	**07 35 44.8**	**-1.0**
LXIB	**Xiulin Townshi**	**0.99**	**222**	P	**Pn**	**07 35 44.8**	**-1.2**
WHF	**Hehuan Shan**	**1.00**	**232**	P	**Pn**	**07 35 46.3**	**-0.2**
WHF				*e*S	**Sn**	**07 36 00.1**	**-0.6**
TWT	**Tachien**	**1.01**	**240**	*e*P	**Pn**	**07 35 46.9**	**+0.6**
TWT				*i* S	**Sn**	**07 36 00.9**	**+0.5**
TEYL	**Yanliau Villag**	**1.02**	**209**	*i* P	**Pn**	**07 35 45.4**	**-0.8**
TDCB	**Techi**	**1.02**	**241**	*e*P	**Pn**	**07 35 46.8**	**+0.3**
TDCB				*e*S	**Sn**	**07 36 00.8**	**+0.1**
LIOB	**Emei**	**1.02**	**264**	*i* P	**Pn**	**07 35 46.5**	**+0.1**
LIOB				*e*S	**Sn**	**07 36 00.6**	**+0.2**
SBCB	**Hsinchu**	**1.05**	**272**	*e*S	**Sn**	**07 36 01.6**	**+0.7**
SHUL	**Shoufeng**	**1.10**	**208**	*i* P	**Pn**	**07 35 46.5**	**-0.7**
ESL	**Shilin**	**1.14**	**214**	*e*P	**Pn**	**07 35 46.2**	**-1.6**
TEGC	**Jichi Village**	**1.18**	**208**	*e*P	**Pn**	**07 35 47.8**	**-0.5**
WHP	**Taichung City**	**1.19**	**246**	*e*P	**Pn**	**07 35 49.1**	**+0.7**
WHP				S	**Sn**	**07 36 04.8**	**+0.6**
OWD	**Renai**	**1.19**	**228**	*i* P	**Pn**	**07 35 48.2**	**-0.3**
OWD				*e*S	**Sn**	**07 36 04.0**	**-0.3**
WUSB	**Renai**	**1.20**	**231**	*e*P	**Pn**	**07 35 48.6**	**-0.1**
WUSB				*e*S	**Sn**	**07 36 04.8**	**+0.1**
NMLH	**Miaoli**	**1.24**	**260**	*e*S	**Sn**	**07 36 05.7**	**+0.3**
WARBT	**Fenglin Townsh**	**1.24**	**213**	P	**Pn**	**07 35 47.3**	**-1.9**
NSY	**Sanyi**	**1.30**	**255**	*e*S	**Sn**	**07 36 07.1**	**+0.5**
TWQ1	**Liyutan**	**1.31**	**252**	S	**Sn**	**07 36 06.8**	**0.0**
WCS	**Beigang Elemen**	**1.32**	**238**	*e*P	**Pn**	**07 35 50.9**	**+0.8**
VWDT	**VWDT**	**1.35**	**222**	P	**Pn**	**07 35 50.4**	**-0.1**
VWDT				*e*S	**Sn**	**07 36 07.7**	**-0.2**
HGSD	**Ruisui**	**1.42**	**207**	*e*P	**Pn**	**07 35 50.4**	**-1.0**
SMLT	**Sun Moon Lake**	**1.43**	**232**	*e*P	**Pn**	**07 35 51.2**	**-0.3**
SMLT				*i* S	**Sn**	**07 36 10.5**	**+0.7**
SSLB	**Suanglung**	**1.45**	**228**	P	**Pn**	**07 35 52.2**	**+0.4**
SSLB	**Suanglung**	**1.45**	**228**	*e*P	**Pn**	**07 35 52.0**	**+0.1**
SSLB				*e*S	**Sn**	**07 36 10.8**	**+0.6**
EHY	**Hungye**	**1.45**	**211**	*e*P	**Pn**	**07 35 50.0**	**-1.8**
YULB	**Yu-li**	**1.56**	**210**	P	**Pn**	**07 35 51.9**	**-1.4**
YULB	**Yu-li**	**1.56**	**210**	*e*P	**Pn**	**07 35 51.8**	**-1.5**
WHYT	**Xinyi Township**	**1.58**	**228**	*e*P	**Pn**	**07 35 54.4**	**+0.8**
WHYT				*e*S	**Sn**	**07 36 14.9**	**+1.7**
EYUL	**Yuli**	**1.59**	**208**	*e*P	**Pn**	**07 35 53.6**	**-0.1**
TWF1	**Yuli**	**1.60**	**209**	*e*P	**Pn**	**07 35 52.0**	**-1.8**
CHKH	**Chenggong**	**1.70**	**204**	*e*P	**Pn**	**07 35 54.1**	**-1.0**
CHKH				*e*S	**Sn**	**07 36 14.7**	**-1.5**
ALS	**Alishan**	**1.74**	**225**	*e*P	**Pn**	**07 35 56.4**	**+0.5**
JKRS	**Kuro-shima**	**1.79**	**107**	*e*P	**Pn**	**07 35 56.2**	**0.0**
WDLH	**Douliu**	**1.81**	**234**	*e*S	**Sn**	**07 36 19.4**	**+0.8**
EHD	**Haiduan**	**1.82**	**208**	*e*P	**Pn**	**07 35 56.8**	**+0.1**
WRL	**Guolierlin Hig**	**1.82**	**242**	*e*S	**Sn**	**07 36 17.8**	**-1.1**
ELDTW	**Lidau**	**1.87**	**213**	*e*P	**Pn**	**07 35 56.6**	**-0.8**
JIJ	**Ishigaki jima**	**1.87**	**102**	*e*P	**Pn**	**07 35 57.3**	**0.0**
JIJ				*e*S	**Sn**	**07 36 20.1**	**0.0**
WTK	**Tuku**	**1.92**	**237**	*e*S	**Sn**	**07 36 21.1**	**-0.2**
WCKO	**Fanlu**	**1.92**	**227**	*e*P	**Pn**	**07 35 59.2**	**+1.1**
WCKO				*i* S	**Sn**	**07 36 22.9**	**+1.5**
EDH	**Donghe**	**1.94**	**203**	*e*P	**Pn**	**07 35 56.8**	**-1.4**
EDH				*e*S	**Sn**	**07 36 18.8**	**-2.9**
JISG	**Ishigakijimahi**	**1.99**	**95**	P	**Pn**	**07 35 59.2**	**+0.3**
JISG				*e*S	**Sn**	**07 36 24.0**	**+1.1**
CHN4	**Tsaushan**	**1.99**	**225**	*e*P	**Pn**	**07 35 59.6**	**+0.6**
TPUB	**Ta-pu**	**2.00**	**224**	P	**Pn**	**07 35 59.9**	**+0.7**
TPUB	**Ta-pu**	**2.00**	**224**	*e*P	**Pn**	**07 35 59.6**	**+0.5**
TPUB				*e*S	**Sn**	**07 36 24.4**	**+1.1**
STYH	**Taoyuan**	**2.01**	**218**	*e*P	**Pn**	**07 35 59.8**	**+0.5**
STYH				*e*S	**Sn**	**07 36 24.7**	**+1.2**
WTP	**Ta-pu**	**2.05**	**223**	*e*P	**Pn**	**07 36 00.2**	**+0.3**
TWK	**Hsinying**	**2.12**	**226**	*e*P	**Pn**	**07 36 01.1**	**+0.4**

*ASRS **20** 07:39:45.0±1.7, 53°.72N×91°.13E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 20 07:39:46.9±4.6, 53°.85N×91°.10E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=46.5km s-min=26.6km az=30.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.72**	**274**	I	I	08 03 00.0	
	baz=87,slow=329,SNR=2.3						
ZALV	**Zalesovo Beam**	**3.72**	**274**	Pg	Pb	07 40 54.0	+0.6
	0.5nm,0.3s,baz=90,slow=19,SNR=6.9						
ZALV				Lg	Lg	07 41 42.8	
	0.3nm,0.3s,baz=93,slow=25,SNR=4.1						
KURBB	**Kurchatov Arra**	**8.36**	**252**	Pn	Pn	07 41 49.6	+0.3
	baz=65,slow=15,SNR=4.1						
KURBB				Sn	Sn	07 43 23.3	-1.0
	baz=67,slow=24,SNR=5.3						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**9.03**	**222**	Pn	Pn	07 41 58.7	+0.2
	0.1nm,0.3s,baz=42,slow=12,SNR=5.5						
	0.3nm,0.5s						

IDC 20 07:54:19.6±7.4, 22°.19S×148°.48E, h0km, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=77.9km s-min=44.7km az=35.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.43**	**211**	Pn	Pn	07 57 04.1	-0.1
	0.2nm,0.3s,baz=36,slow=13,SNR=6.7						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**13.39**	**277**	Pn	Pn	07 57 29.4	-1.7
	baz=95,slow=12,SNR=1.9						
WRA				Lg	Lg	08 01 24.9	
	0.1nm,0.3s,baz=108,slow=27,SNR=4.6						
	0.5nm,1.0s						
I07AU	**WARRAMUNGA INF**	**13.40**	**277**	I	I	09 17 42.4	
	baz=100,slow=309,SNR=1.7						
ASAR	**Alice Springs**	**13.52**	**261**	Pn	Pn	07 57 34.6	+1.8
	0.1nm,0.3s,baz=93,slow=13,SNR=2.1						
ASAR				Lg	Lg	08 01 29.1	
	0.1nm,0.3s,baz=80,slow=29,SNR=4.6						
	0.1nm,0.3s						

NDI 20 07:58:58.6±2.0, 19°.93N×72°.82E, h10km, ML3.5, MW3.7, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOM	**Bombay**	**1.03**	**180**	*e*P	Pn	07 59 19.1	0.0
BOM				*e*S	Sn	07 59 33.1	-0.4
BOM				IAML		07 59 36.2	
	comp=N,322nm,0.2s						
BOM				IAML		07 59 39.4	
	comp=E,456nm,0.2s						
BHV	**Bhavnagar**	**1.92**	**341**	*e*P	Pn	07 59 32.4	+1.0
BHV				*e*S	Sn	07 59 54.6	-0.9
BHV				IAML		08 00 00.7	
	comp=N,428nm,0.5s						
KAD	**Karad**	**2.91**	**153**	*e*P	Pn	07 59 46.0	+0.9
KAD				*e*S	Sn	08 00 17.8	-2.4
KAD				IAML		08 00 28.6	
	comp=N,206nm,0.4s						
KAD				IAML		08 00 31.9	
	comp=E,432nm,0.1s						
LATR	**Latur**	**3.84**	**112**	*e*P	Pn	07 59 58.3	+0.5
LATR				*e*S	Sn	08 00 39.6	-3.5
LATR				IAML		08 00 56.3	
	comp=E,239nm,1.2s						
LATR				IAML		08 00 59.1	
	comp=N,313nm,0.5s						
AKL	**Akola**	**4.01**	**78**	*e*P	Pn	08 00 01.4	+1.2
AKL				*e*S	Sn	08 00 45.0	-2.3
AKL				IAML		08 01 00.8	
	comp=N,272nm,0.1s						
AKL				IAML		08 01 01.6	
	comp=E,198nm,0.7s						
NGP	**Nagpur**	**5.96**	**77**	*e*S	Sn	08 01 31.5	-3.9

NEIC 20 08:30:01.6±0.9, 35°.11N±0°.01×97°.87W±0°.02, h5km±1km, mb_Lg2.6/55, ML2.5/34, Error ellipse: s-maj=2.9km s-min=2.5km az=274.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.41**	**68**		Pg	08 30 09.8	+0.3
OKCSW	**OKLAHOMA CITY**	**0.46**	**49**	Pg	Pg	08 30 11.2	+0.7
OKCSW				IAML		08 30 17.7	
	comp=N,242nm,0.3s						
OKCSW				IAML		08 30 17.8	
	comp=E,279nm,0.6s						
X34A	**Smith Ranch, M**	**0.50**	**177**		Pb	08 30 12.6	-0.3
X34A				Sg	Sg	08 30 18.1	+0.3
X34A				IAML		08 30 21.7	
	comp=N,407nm,0.5s						
X34A				IAML		08 30 21.9	
	comp=E,294nm,0.6s						
W35A	**Tecumseh**	**0.81**	**86**		Pg	08 30 17.6	+0.3
W35A				Sg	Sg	08 30 28.2	+0.5
W35A				IAML		08 30 29.0	
	comp=E,106nm,0.3s						
W35A				IAML		08 30 41.8	
	comp=N,87nm,0.3s						
WMOK	**Wichita Mounta**	**0.84**	**244**	Pg	Pg	08 30 17.7	+0.1
CSTR	**Hydro, Custer**	**0.86**	**309**		Pg	08 30 18.3	+0.1
OK031	**S. Brethren Rd**	**1.19**	**44**		Pg	08 30 24.0	-0.5
OK031				IAML		08 30 42.0	
	comp=N,104nm,0.5s						
DEOK	**Depew**	**1.34**	**56**		Pn	08 30 26.7	-0.2
DEOK				IAML		08 30 48.3	
	comp=N,74nm,0.3s						
DEOK				IAML		08 30 52.7	
	comp=E,79nm,0.2s						
CROK	**Carrier**	**1.40**	**356**		Pn	08 30 27.0	-0.9
QUOK	**Quay**	**1.42**	**41**		Pn	08 30 27.6	-0.5
WTFS	**Witchita Falls**	**1.43**	**201**		Pn	08 30 28.3	+0.1
ELIS	**Ellis County**	**1.59**	**308**	Pg	Pn	08 30 30.7	+0.3
NOKA	**Waynoka**	**1.75**	**331**		Pn	08 30 32.7	0.0
KAN14	**Manchester OK**	**1.85**	**358**	IAmb_Lg		08 31 01.3	
	comp=Z,33nm,1.0s						
KAN13	**South Haven SW**	**1.93**	**9**	IAmb_Lg		08 31 03.5	
	comp=Z,30nm,0.8s						
KAN17	**Caldwell West**	**1.94**	**2**	IAmb_Lg		08 31 04.6	
	comp=Z,36nm,1.1s						
SMWD	**Samnorwood**	**1.95**	**271**		Pn	08 30 36.3	+0.9
KAN09	**Caldwell North**	**2.04**	**6**		Pn	08 30 37.2	+0.6
KAN09				IAmb_Lg		08 31 07.4	
	comp=Z,23nm,0.8s						
KAN01	**Argonia South**	**2.05**	**2**		Pn	08 30 37.3	+0.6
KAN01				IAmb_Lg		08 31 06.7	
	comp=Z,23nm,1.0s						
FW03	**Perrin-Whitt E**	**2.07**	**185**		Pn	08 30 37.5	+0.5
FW03				IAmb_Lg		08 31 08.2	
	comp=Z,39nm,0.8s						
FW06	**Azle**	**2.14**	**173**		Pb	08 30 40.2	-0.7
KAN12	**Harper NE Stat**	**2.19**	**357**		Pn	08 30 39.3	+0.6
PLPT	**Palo Pinto**	**2.32**	**189**		Pn	08 30 41.9	+1.5
PLPT				IAmb_Lg		08 31 20.5	
	comp=Z,26nm,0.7s						
FW07	**Weatherford**	**2.40**	**178**	IAmb_Lg		08 31 20.8	
	comp=Z,20nm,0.8s						
APMT	**Aspermont**	**2.58**	**227**	Pn	Pn	08 30 45.0	+1.0
FW16	**Waxahatchie**	**2.74**	**163**	IAmb_Lg		08 31 32.7	
	comp=Z,31nm,0.9s						
FW13	**Cleburne**	**2.77**	**172**	IAmb_Lg		08 31 31.9	
	comp=Z,27nm,1.1s						
TREL	**Terrell**	**2.79**	**148**	IAmb_Lg		08 31 33.4	
	comp=Z,22nm,0.8s						
AMTX	**Amarillo**	**3.14**	**267**	IAmb_Lg		08 31 42.7	
	comp=Z,18nm,0.8s						
SN05	**Snyder 5**	**3.35**	**229**	IAmb_Lg		08 31 48.8	
	comp=Z,18nm,1.0s						
R32A	**Long Quarter,**	**3.38**	**349**	IAmb_Lg		08 31 57.6	
	comp=Z,22nm,1.0s						
MIAR	**Mount Ida**	**3.57**	**98**		Pn	08 30 58.8	+1.1
POST	**Post**	**3.64**	**237**	IAmb_Lg		08 32 04.4	
	comp=Z,14nm,0.9s						
BRDY	**Brady**	**3.93**	**194**	IAmb_Lg		08 32 08.0	
	comp=Z,16nm,0.8s						
WLAR	**White Oak Lake**	**4.18**	**108**	IAmb_Lg		08 32 22.9	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**4.18**	**97**	IAmb_Lg		08 32 20.7	
	comp=Z,14nm,1.2s						
SGCY	**Sterling City**	**4.19**	**221**	IAmb_Lg		08 32 17.3	
	comp=Z,12nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.45**	**317**	IAmb_Lg		08 33 00.7	
	comp=Z,13nm,0.8s						
MNHN	**Monahans**	**5.56**	**229**	IAmb_Lg		08 33 02.5	
	comp=Z,11nm,0.8s						
HNDO	**Hondo**	**5.69**	**193**	IAmb_Lg		08 33 12.9	
	comp=Z,12nm,0.7s						
SAND	**Sanderson**	**6.27**	**216**	IAmb_Lg		08 33 26.7	
	comp=Z,7.8nm,0.8s						
ALPN	**Alpine**	**6.78**	**227**	IAmb_Lg		08 33 48.7	
	comp=Z,6.5nm,1.0s						
Q24A	**Divide**	**6.98**	**306**	IAmb_Lg		08 33 51.3	
	comp=Z,10nm,0.8s						

*IDC **20** 09:05:06.5±1.3, 33°.68N×137°.27E, h349km±14km, mb3.0/6, mbtmp3.7/10, Error ellipse: s-maj=21.0km s-min=14.0km az=104.0*
*JMA **20** 09:05:06.0±0.2, 34°.N±3°.×13°.7E±°., h360km, MV2.9/27, SE OFF KII PENINSULA*
ISC 20 09:05:07.4±0.8, 33°.87N±0°.08×137°.22E±0°.05, h347km±6km, n42, σ1§53/49, mb3.3/8, Near south coast of eastern Honshu

| Code | Station

BRTR Keskin Array B 78.33 310 P **P 09 16 32.4 +2.3**
0.5nm,0.7s,baz=64,slow=6.6,SNR=2.0
PDAR Pinedale Array 82.32 43 P **P 09 16 51.1 -0.2**
0.2nm,0.8s,baz=301,slow=1.7,SNR=1.6
0.2nm,0.8s

---

*BJI **20** 09:05:40.2, 19°.07N×99°.60E, h12km, mB4.7/14, mb4.3/48, ML4.4/4, Ms4.6/49, Ms7 4.3/46*
*IDC **20** 09:05:40.7±0.6, 19°.21N×99°.72E, h0km, mb4.2/25, mbtmp4.1/26, ML4.7/2, MS3.8/51, Error ellipse: s-maj=14.6km s-min=8.8km az=121.0*
*BKK **20** 09:05:41.3±0.2, 19°N±2°×10°0E±°, h5km±2km, M5.0/24, mB4.8/3, mb4.8/5, Mjma4.9/23, ML5.1/19, MLv5.1/24, Mw(mB)4.0/3*
*GCMT **20** 09:05:42.3±0.4, 19°.24N±0°.03×99°.60E±0°.02, h16km±2km, MW4.7/72, Moment Tensor Solution. s10,c10; s72,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18±.07; $M_{\theta\theta}$-0.32±.06; $M_{\phi\phi}$0.49±.06; $M_{r\theta}$0.27±.18; $M_{\theta\phi}$1.06±.06; $M_{r\phi}$0.60±.21; Best double couple: $M_0$1.27100×10^{16} NP1:ϕ_s82.00000°, δ68.00000°, λ9.00000°. NP2: ϕ_s349.00000°, δ82.00000°, λ158.00000°. Principal axes: T 1.4780, Plg21.0000°, Azm303.0000°; N -0.4140, Plg67.0000°, Azm150.0000°; P -1.0650, Plg9.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 09:05:42.3±1.3, 19°.20N±0°.04×99°.62E±0°.02, h10km±1km, mb4.6/31 Error ellipse: s-maj=7.1km s-min=3.3km az=185.0*
ISC 20 09:05:42.1±0.3,**19°.19N**±0°.03×**99°.60E**±0°.03,**h10**km,**n153**, σ**1**§**90**/144,**mb4.3**/49,**MS3.9**/60,**4C-3D**,**Thailand**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMP	**Lampang**	**0.66**	**178**	P	**Pg**	**09 05 55.0**	**+0.1**
CHTO	**Chiang Mai**	**0.73**	**239**		**Pg**	**09 05 56.1**	**0.0**
CHTO				Sg	**Sg**	**09 06 05.8**	**+0.2**
PHRA	**Phrae**	**0.90**	**139**		**Pb**	**09 05 59.5**	**-0.4**
PHRA				Sg	**Sb**	**09 06 12.0**	**0.0**
PHRA	**Phrae**	**0.90**	**139**	P	**Pb**	**09 05 59.4**	**-0.5**
PHRA				Sg	**Sn**	**09 06 12.3**	**-1.7**
CM09	**Chiang Mai Arr**	**0.94**	**218**	P	**Pg**	**09 06 00.4**	**+0.2**
CM31	**Chiang Mai Arr**	**0.96**	**221**		**Pb**	**09 06 00.9**	**+0.1**
CM31	**Chiang Mai Arr**	**0.96**	**221**	P	**Pg**	**09 06 00.7**	**+0.1**
CM31				Sg	**Sb**	**09 06 14.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**0.96**	**221**	Pg	**Pg**	**09 06 00.6**	**0.0**
959nm,0.3s,baz=33,slow=15,SNR=2321
CMAR | | | | Lg | Lg | 09 06 15.4 |
2μm,0.3s,baz=114,slow=3.1,SNR=20
CM02 **Chiang Mai Arr** **0.97** **220** P **Pg** **09 06 00.9** **+0.1**
CM15 **Chiang Mai Arr** **0.97** **222** P **Pg** **09 06 00.9** **+0.1**
CM01 **Chiang Mai Arr** **0.98** **219** P **Pg** **09 06 01.1** **+0.2**
CM05 **Chiang Mai Arr** **1.00** **219** P **Pg** **09 06 01.5** **+0.1**
CM13 **Chiang Mai Arr** **1.01** **221** P **Pg** **09 06 01.5** **0.0**
NANT **Nan** **1.11** **110** P **Pn** **09 06 04.4** **+0.7**
UTHA **Uthaitani** **3.61** **182** P **Pn** **09 06 39.0** **+0.9**
KHON **Khomkaen** **4.17** **132** P **Pn** **09 06 46.4** **+0.5**
SLVN **Son La** **4.57** **61** Pn **Pn** **09 06 50.7** **-0.7**
SKNT **Sakolnakorn** **4.71** **117** P **Pn** **09 06 53.9** **+0.6**
SRDT **SRDT** **4.83** **186** P **Pn** **09 06 54.9** **0.0**
NAYO **Nakonayok** **5.12** **161** P **Pn** **09 06 58.9** **+0.1**
TNCH **TengChong** **5.90** **350** Pn **Pn** **09 07 11.4** **+1.6**
TNCH | | | | Sn | **Sn** | **09 08 19.6** | **+2.0**
TNCH | | | | Sg | **Sg** | **09 08 48.3** | **-3.4**
TNCH | | | | smax | smax |
comp=N,2μm,1.2s
TNCH | | | | smax | smax |
comp=E,3μm,1.6s
TNCH | | | | LR | LR |
comp=E,15μm,5.0s
TNCH | | | | LR | LR |
comp=Z,2μm,5.3s
KMI **Kunming** **6.58** **26** ⇑Pn **Pn** **09 07 20.8** **+1.5**
KMI | | | | Sn | **Sn** | **09 08 38.8** | **+4.2**
KMI | | | | smax | smax |
comp=N,110nm,1.7s
KMI | | | | smax | smax |
comp=E,95nm,1.5s
KMI | | | | LR | LR |
comp=N,4μm,5.4s
KMI | | | | LR | LR |
comp=E,950nm,8.9s
KMI | | | | LR | LR |
comp=Z,2μm,8.0s
UBPT **Khong Chiam** **6.82** **124** Pn **Pn** **09 07 22.5** **+0.2**
UBPT **Khong Chiam** **6.82** **124** P **Pn** **09 07 22.6** **+0.3**
0.8nm585nm43nm,0.7s
SAIH **SAIHA** **7.01** **299** *e*P **Pn** **09 07 25.5** **+0.6**
SAIH | | | | IAML | 09 07 42.9
comp=N,591nm,0.9s
SAIH | | | | IAML | 09 07 43.0
comp=E,657nm,0.3s
SAIH | | | | *e*S | **Sn** | **09 08 38.2** | **-6.6**
PZH **PanZhiHua** **7.55** **15** Pn **Pn** **09 07 31.3** **-1.1**
PZH | | | | Pg | Pg | 09 08 00.3 | -6.3
PZH | | | | Sg | **Sg** | **09 09 36.6** | **-7.8**
PZH | | | | smax | smax |
comp=E,110nm,1.0s
PZH | | | | smax | smax |
comp=E,140nm,1.2s
PZH | | | | LR | LR |
comp=E,2μm,6.9s
PZH | | | | LR | LR |
comp=E,3μm,6.6s
PZH | | | | LR | LR |
comp=E,2μm,6.9s
IMP **Imphal** **7.69** **318**⇓*e*P **Pn** **09 07 32.9** **-1.4**
IMP | | | | IAML | 09 08 00.2
comp=E,455nm,0.3s
IMP | | | | IAML | 09 08 01.3
comp=N,647nm,0.3s
IMP | | | | *e*S | **Sn** | **09 08 56.6** | **-4.9**
AZL **Aizawl** **7.87** **306** *e*P **Pn** **09 07 37.0** **+0.1**
BRDH **Bariadhala** **8.21** **296** Pn **Pn** **09 07 42.8** **+1.5**
comp=N,50nm,0.3s,baz=246,slow=17,SNR=2.2
BRDH | | | | LR | LR | 09 11 53.2
comp=N,1μm,21.3s,baz=125,slow=45
KOHI **KOHIMA** **8.25** **323** *e*P **Pn** **09 07 43.1** **+1.0**
KOHI | | | | IAML | 09 07 59.1
comp=E,835nm,0.3s
KOHI | | | | IAML | 09 08 02.6
comp=N,709nm,0.3s
KOHI | | | | *e*S | Sn | 09 09 06.8 | -8.7
DGPR **DIGLIPUR** **8.76** **228** *e*P **Pn** **09 07 49.2** **+0.3**
DGPR | | | | IAML | 09 08 15.6
comp=N,42nm,0.6s
DGPR | | | | IAML | 09 08 15.9
comp=E,65nm,0.6s
DGPR | | | | *e*S | Sn | 09 09 19.0 | -8.8
LKP **Lekhapani** **8.81** **338** *e*P **Pn** **09 07 49.2** **-0.4**
LKP | | | | IAML | 09 07 57.9
comp=N,556nm,0.1s
LKP | | | | IAML | 09 07 58.6
comp=E,616nm,0.3s
LKP | | | | *e*S | **Sn** | **09 09 23.1** | **-6.0**
SHL **Shillong** **9.56** **313** Pn **Pn** **09 07 58.6** **-1.4**
SHL **Shillong** **9.56** **313** *e*P **Pn** **09 07 59.4** **-0.6**
SHL | | | | IAML | 09 08 18.5
comp=E,96nm,0.3s
SHL | | | | IAML | 09 08 18.5
comp=N,101nm,0.4s
SHL | | | | *e*S | Sn | 09 09 37.4 | -10
QIZ **Qiongzhong** **9.68** **89** P **Pn** **09 08 01.0** **-0.6**
QIZ | | | | S | **Sn** | **09 09 50.5** | **0.0**
QIZ | | | | LR | LR |
comp=N,4μm,11.4s
QIZ | | | | LR | LR |
comp=N,1μm,11.6s
QIZ | | | | LR | LR |
comp=N,2μm,8.9s
PBA **Port Blair** **9.99** **222** *e*P **Pn** **09 08 07.6** **+1.8**
PBA | | | | IAML | 09 08 36.0
comp=E,359nm,0.2s
PBA | | | | IAML | 09 08 36.2
comp=N,272nm,0.3s
PBA | | | | *e*S | Sn | 09 09 47.6 | -10
CD2 **Chengdu** **12.26** **17** P **Pn** **09 08 40.3** **+3.4**
CD2 | | | | pmax | pmax |
comp=N,20nm,1.5s
CD2 | | | | LR | LR |
comp=N,2μm,9.2s
CD2 | | | | LR | LR |
comp=N,2μm,9.1s
GTK **Tadong** **12.95** **311** *e*P **Pn** **09 08 46.4** **0.0**
GTK | | | | IAML | 09 09 05.6
comp=E,247nm,0.1s
GTK | | | | IAML | 09 09 06.2
comp=N,188nm,0.3s
GTK | | | | *e*S | Sn | 09 10 59.0 | -12
LSA **Lhasa** **12.99** **325** Pn **Pn** **09 08 46.6** **-0.6**
LSA **Lhasa** **12.99** **325** P **Pn** **09 08 48.8** **+1.6**
LSA | | | | S | Sn | 09 11 21.3 | +9.2
LSA | | | | LR | LR |
comp=N,630nm,13.5s
LSA | | | | LR | LR |
comp=N,470nm,21.1s
CMBY **CAMPBELL BAY** **13.30** **205** *e*P **Pn** **09 08 50.5** **-0.7**
CMBY | | | | IAML | 09 09 13.1
comp=E,104nm,0.6s
CMBY | | | | IAML | 09 09 15.3
comp=N,235nm,0.5s
CMBY | | | | *e*S | Sn | 09 11 01.1 | -18
ENH **Enshi** **14.22** **37** Pn **Pn** **09 09 02.6** **-1.0**
PSI **Prapat** **16.30** **182** Pn **P** **09 09 34.0** **-0.3**
comp=N,0.4nm,0.3s,baz=335,slow=11,SNR=10
comp=N,2.6nm,0.5s
RPSI **Rantau Prapat** **16.40** **182** Pn **Pn** **09 09 31.3** **-1.3**
RPSI **Rantau Prapat** **16.40** **182** P **P** **09 09 34.0** **-1.4**
XAN **Xi'an** **16.96** **27** ⇓P **Pn** **09 09 38.0** **-1.7**
XAN | | | | pP | P | 09 09 42.8 | +1.2
XAN | | | | PP | **PnPn** | **09 09 52.8** | **+3.4**
XAN | | | | pmax | pmax |
comp=N,23nm,1.6s
XAN | | | | LR | LR |
comp=N,2μm,10.0s
XAN | | | | LR | LR |
comp=N,2μm,10.3s
XAN | | | | LR | LR |
comp=N,2μm,13.1s
LZH **Lanzhou** **17.25** **12** *e*P **P** **09 09 45.1** **+0.3**
LZH | | | | pP | sP | 09 09 50.3 | +1.0
LZH | | | | sS | S | 09 13 01.1 | -3.4
LZH | | | | pmax | pmax |
comp=N,27nm,1.3s
LZH | | | | LR | LR |
comp=N,500nm,15.1s
LZH | | | | LR | LR |
comp=N,2μm,13.4s
LZH | | | | LR | LR |
comp=N,610nm,17.5s
GOMU **GeErMu** **17.47** **347** P **Pn** **09 09 46.6** **+0.4**
GOMU | | | | pP | pP | 09 09 49.6 | -0.8
GOMU | | | | sP | sP | 09 09 53.8 | +2.0
GOMU | | | | S | **Sn** | **09 13 04.3** | **+3.4**
GOMU | | | | pmax | pmax |
comp=N,3.0nm,1.0s
GOMU | | | | LR | LR |
comp=N,750nm,10.1s
GOMU | | | | LR | LR |
comp=N,2μm,10.8s
GOMU | | | | LR | LR |
comp=N,630nm,10.6s
WHN **Wuhan** **17.50** **47** ⇑P **P** **09 09 47.8** **+0.4**
WHN | | | | PP | **PnPn** | **09 09 59.8** | **+3.2**
WHN | | | | S | **Sn** | **09 12 57.8** | **-3.4**
WHN | | | | LR | LR |
comp=N,2μm,12.4s
WHN | | | | LR | LR |
comp=N,2μm,7.1s
WHN | | | | LR | LR |
comp=N,2μm,7.5s
LYN **LuoYang** **19.10** **34** P **Pn** **09 10 06.8** **+0.9**
LYN | | | | pmax | pmax |
comp=N,28nm,0.8s
LYN | | | | LR | LR |
comp=N,800nm,7.6s
LYN | | | | LR | LR |
comp=N,1μm,7.6s
LYN | | | | LR | LR |
comp=N,790nm,10.0s
TPUB **Ta-pu** **20.02** **75** P **P** **09 10 15.1** **-0.1**
TPUB | | | | IAmb | IAmb | 09 10 24.7
comp=Z,72nm,1.5s
GTA **Gaotai** **20.16** **0** *e*P Pn 09 10 19.3 +0.7
GTA | | | | S | **S** | **09 14 03.5** | **+0.4**
GTA | | | | pmax | pmax |
comp=Z,11nm,1.1s
GTA | | | | LR | LR |
comp=Z,450nm,9.5s
GTA | | | | LR | LR |
comp=Z,530nm,8.4s
GTA | | | | LR | LR |
comp=Z,520nm,10.2s
KKM **Kota Kinabalu** **20.79** **127** P **P** **09 10 22.3** **-1.4**
KKM | | | | IAmb | IAmb | 09 10 51.2
comp=Z,28nm,0.7s
TGY **Tagaytay City** **21.05** **101** LR LR 09 18 33.3
comp=Z,358nm,19.5s,baz=330,slow=37
BHPL **Bhopal** **21.06** **285** *e*P P 09 10 35.0 +8.4
NJ2 **Nanjing** **21.53** **50** *e*P **P** **09 10 30.0** **-1.5**
NJ2 | | | | pmax | pmax |
comp=Z,10.0nm,0.5s
NJ2 | | | | LR | LR |
comp=Z,810nm,8.8s
NJ2 | | | | LR | LR |
comp=Z,720nm,7.9s
NJ2 | | | | LR | LR |
comp=Z,1μm,14.1s
PALK **Pallekele** **21.85** **240** LR LR 09 19 07.8
comp=Z,118nm,21.3s,baz=62,slow=37
HNS **HongShan** **22.44** **33** ⇓P **P** **09 10 41.8** **+0.6**
HNS | | | | S | **S** | **09 14 51.6** **+3.9**
HNS | | | | pmax | pmax |
comp=Z,40nm,1.0s
HNS | | | | LR | LR |
comp=Z,530nm,16.9s
HNS | | | | LR | LR |
comp=Z,510nm,10.8s
HNS | | | | LR | LR |
comp=Z,700nm,14.1s
SSE **Sheshan** **22.81** **54** P **P** **09 10 44.6** **-0.6**
SSE | | | | S | **S** | **09 14 53.6** **-0.9**
SSE | | | | pmax | pmax |
comp=Z,7.0nm,1.5s
SSE | | | | pmax | pmax |
comp=Z,95nm,5.8s
SSE | | | | LR | LR |
comp=Z,500nm,10.5s
SSE | | | | LR | LR |
comp=Z,390nm,10.6s
TIA **Tai'an** **22.92** **39** P **P** **09 10 45.5** **-0.8**
TIA | | | | S | **S** | **09 14 57.3** **+0.9**
TIA | | | | pmax | pmax |
comp=Z,12nm,1.5s
TIA | | | | LR | LR |
comp=Z,490nm,10.3s
TIA | | | | LR | LR |
comp=Z,580nm,16.7s
TIA | | | | LR | LR |
comp=Z,860nm,18.1s
BTO **Baotou** **23.14** **21** *e*P **P** **09 10 49.0** **+0.3**
BTO | | | | pP | **sP** | **09 10 53.3** **+0.2**
BTO | | | | sP | **pP** | **09 10 55.3** **+3.5**
BTO | | | | PP | **PnPn** | **09 11 18.1** **+4.1**
BTO | | | | S | **S** | **09 15 04.4** **+4.1**
BTO | | | | SS | **SnSn** | **09 15 38.3** **+4.9**
BTO | | | | pmax | pmax |
comp=Z,31nm,0.6s
BTO | | | | pmax | pmax |
comp=Z,220nm,4.0s
BTO | | | | LR | LR |
comp=Z,2μm,11.3s
BTO | | | | LR | LR |
comp=Z,1μm,9.4s
BTO | | | | LR | LR |
comp=Z,3μm,11.5s
HHC **Hu-ho-hao-te** **23.90** **23**⇑*i*P **P** **09 10 57.0** **+0.8**
HHC | | | | pP | sP | 09 11 02.3 | +1.6
HHC | | | | PP | **PnPn** | **09 11 34.4** | **+10**
HHC | | | | sS | S | 09 15 15.8 | +3.3
HHC | | | | pmax | pmax |
comp=Z,18nm,0.9s
HHC | | | | pmax | pmax |
comp=Z,67nm,4.4s
HHC | | | | LR | LR |
comp=Z,550nm,11.0s
HHC | | | | LR | LR |
comp=Z,240nm,12.4s
HHC | | | | LR | LR |
comp=Z,500nm,12.2s
BJT **Baijiatuau** **25.18** **31** P **P** **09 11 06.7** **-1.1**
BJT | | | | IAmb | IAmb | 09 11 09.8
comp=Z,9.1nm,1.1s
BJI **Beijing** **25.21** **31** P **P** **09 11 09.0** **+1.0**
BJI | | | | pmax | pmax |
comp=Z,4.0nm,1.1s
WMQ **Urumqi** **26.52** **340** *e*P **P** **09 11 20.8** **+0.9**
WMQ | | | | pmax | pmax |
comp=Z,11nm,0.8s
WMQ | | | | LR | LR |
comp=Z,430nm,13.1s
WMQ | | | | LR | LR |
comp=Z,570nm,18.7s
WMQ | | | | LR | LR |
comp=Z,150nm,22.1s
LEM **Lembang** **27.03** **162** LR LR 09 22 33.3
comp=Z,228nm,18.5s,baz=258,slow=38
JOW **Kunigami** **27.42** **69** LR LR 09 23 19.0
comp=Z,182nm,18.7s,baz=275,slow=39
NIL **Nilore** **27.55** **307** P **P** **09 11 28.7** **-0.6**
NIL | | | | IAmb | IAmb | 09 11 33.4
comp=Z,11nm,0.6s
WUS **Wushi** **28.01** **326** P **P** **09 11 32.9** **-0.5**
WUS | | | | IAmb | IAmb | 09 11 39.9
comp=Z,13nm,1.0s
XLT **XiLinHaoTe** **28.25** **26** *e*P **P** **09 11 35.8** **+0.3**
XLT | | | | pmax | pmax |
comp=Z,7.0nm,1.2s
XLT | | | | pmax | pmax |
comp=Z,110nm,5.2s
XLT | | | | LR | LR |
comp=Z,38nm,12.3s
XLT | | | | LR | LR |
comp=Z,300nm,12.5s
XLT | | | | LR | LR |
comp=Z,510nm,13.2s
KSH **Kashi** **28.74** **320** P P 09 11 46.9 +6.9
KSH | | | | pmax | pmax |
comp=Z,3.0nm,0.6s
KSH | | | | LR | LR |
comp=N,460nm,16.5s
KSH | | | | LR | LR |
comp=E,220nm,16.5s
KSH | | | | LR | LR |
comp=Z,210nm,12.4s
SONM **Songino Array** **29.11** **9** P **P** **09 11 43.3** **+0.2**
SONM **Songino Array** **29.11** **9** P **P** **09 11 43.4** **+0.2**
comp=Z,3.8nm,1.0s,baz=194,slow=11,SNR=15
comp=Z,3.8nm,1.0s
ULN **Ulaanbaatar** **29.24** **10** P **P** **09 11 43.7** **-0.7**
KDJ **Kajisay** **29.75** **325** P **P** **09 11 49.1** **+0.1**
KDJ | | | | IAmb | IAmb | 09 11 54.6
comp=Z,5.9nm,1.0s
KSRS **Korea Array** **30.69** **48** LR LR 09 23 36.6
comp=Z,79nm,19.8s,baz=230,slow=35
MK31 **Makanchi Array** **30.98** **337** P **P** **09 11 59.7** **0.0**
MKAR **Makanchi Array** **30.98** **337** P **P** **09 11 59.2** **-0.5**
MKAR **Makanchi Array** **30.98** **337** P **P** **09 12 00.3** **+0.7**
comp=Z,2.5nm,0.7s,baz=146,slow=9.6,SNR=15
comp=Z,2.5nm,0.7s
KAPI **Kappang** **31.18** **138** LR LR 09 27 15.8
comp=Z,120nm,18.0s,baz=316,slow=42
JNU **Nakatsue** **31.18** **57** LR LR 09 25 34.2
comp=Z,117nm,20.6s,baz=243,slow=38
AAK **Ala-Archa** **31.57** **323** P **P** **09 12 04.6** **-0.4**
AAK **Ala-Archa** **31.57** **323** P **P** **09 12 05.7** **+0.7**
comp=Z,3.5nm,1.0s,baz=140,slow=6.9,SNR=6.4
AAK | | | | LR | LR | 09 26 57.6
comp=Z,152nm,19.4s,baz=164,slow=40
comp=Z,3.5nm,1.0s
BTK **Batken** **32.31** **316** P **P** **09 12 11.9** **+0.4**
BTK | | | | IAmb | IAmb | 09 12 13.7
comp=Z,9.7nm,1.2s
BNX **BinXian** **35.05** **35** ⇑P **P** **09 12 34.3** **-0.8**
BNX | | | | pmax | pmax |
comp=Z,6.0nm,1.4s
KURBB **Kurchatov Arra** **35.55** **337** P **P** **09 12 39.6** **+0.2**
comp=Z,0.8nm,0.3s,baz=145,slow=9.1,SNR=6.9
comp=Z,0.8nm,0.3s
KURK **Kurchatov** **35.59** **337** P **P** **09 12 38.8** **-0.9**
KURK | | | | IAmb | IAmb | 09 12 45.4
comp=Z,4.5nm,0.9s
ZAA0 **Zalesovo Array** **36.52** **345** P **P** **09 12 47.8** **+0.2**
ZAA0 | | | | IAmb | IAmb | 09 13 03.0
comp=Z,7.4nm,1.0s
ZALV **Zalesovo Beam** **36.52** **345** P **P** **09 12 47.1** **-0.5**
ZALV **Zalesovo Beam** **36.52** **345** P **P** **09 12 47.9** **+0.3**
comp=Z,3.3nm,0.6s,baz=156,slow=11,SNR=9.6
ZALV | | | | LR | LR | 09 29 04.8
comp=Z,71nm,18.9s,baz=222,slow=38
comp=Z,3.3nm,0.6s
USRK **Ussuriysk Ar.** **36.77** **40** LR LR 09 28 20.0
comp=Z,44nm,20.6s,baz=229,slow=37
MJAR **Matsushiro Arr** **37.96** **55** LR LR 09 30 41.8
comp=Z,138nm,18.8s,baz=244,slow=40
KLR **Kul'dur** **39.53** **33** P **P** **09 13 12.6** **-0.5**
comp=Z,3.7nm,1.0s,baz=276,slow=8.4,SNR=7.9
KLR | | | | LR | LR | 09 29 46.7
comp=Z,68nm,21.3s,baz=228,slow=37
comp=Z,3.7nm,1.0s
BVAR **Borovoye Array** **40.66** **333** P **P** **09 13 22.1** **-0.3**
comp=Z,0.5nm,0.3s,baz=133,slow=10,SNR=6.0
BVAR | | | | LR | LR | 09 30 18.2
comp=Z,94nm,18.6s,baz=143,slow=36
comp=Z,0.5nm,0.3s
ASAJ **Asahikawa** **43.57** **45** P **P** **09 13 45.0** **-1.3**
comp=Z,1.6nm,0.3s,baz=270,slow=14,SNR=2.1
ASAJ | | | | LR | LR | 09 33 45.2
comp=Z,108nm,18.2s,baz=209,slow=39
comp=Z,1.6nm,0.3s
ABKAR **Akbulak array** **43.66** **323** P **P** **09 13 46.2** **-0.7**
ABKAR **Akbulak array** **43.66** **323** P **P** **09 13 46.6** **-0.3**
AKTO **Aktyubinsk** **45.31** **323** P **P** **09 14 00.3** **+0.1**
comp=Z,1.2nm,0.7s,baz=120,slow=2.2,SNR=4.0
AKTO | | | | LR | LR | 09 36 09.2
comp=Z,134nm,19.9s,baz=72,slow=40
comp=Z,1.2nm,0.7s
YAK **Yakutsk** **47.65** **19** LR LR 09 36 26.1
comp=Z,223nm,18.0s,baz=236,slow=39
ARTI **Arti** **48.17** **331** P **P** **09 14 23.4** **+0.9**
comp=Z,2.6nm,0.5s,baz=149,slow=6.3,SNR=3.3
ARTI | | | | LR | LR | 09 36 32.2
comp=Z,86nm,18.1s,baz=119,slow=38
comp=Z,2.6nm,0.5s
NRIK **Noril'sk** **50.70** **355** P **P** **09 14 41.1** **-0.4**
NRIK | | | | IAmb | IAmb | 09 14 42.3
comp=Z,8.6nm,1.3s
NRIK **Noril'sk** **50.70** **355** P **P** **09 14 41.0** **-0.4**
comp=Z,2.6nm,0.6s,baz=141,slow=8.0,SNR=4.3
NRIK | | | | LR | LR | 09 37 45.4
comp=Z,123nm,19.6s,baz=162,slow=38
comp=Z,2.6nm,0.6s
WRA **Warramunga Arr** **51.69** **137** P **P** **09 14 49.5** **-0.2**
comp=Z,1.0nm,0.7s,baz=318,slow=7.6,SNR=6.0
WRA | | | | LR | LR | 09 39 25.5
comp=Z,48nm,18.2s,baz=308,slow=39
comp=Z,1.0nm,0.7s
BELG **Belogornoye** **52.06** **322** LR LR 09 40 33.9
comp=Z,62nm,18.9s,baz=111,slow=40
SIRT **Sirnak** **52.73** **303** P **P** **09 14 57.1** **-0.3**
KBZ **Khabaz** **53.05** **311** LR LR 09 42 49.0
comp=Z,56nm,18.1s,baz=103,slow=42
GURO **Guroymak-BITLI** **53.12** **304** P **P** **09 15 00.8** **+0.5**
GURO | | | | IAmb | IAmb | 09 15 05.9
comp=Z,8.6nm,1.1s
KIRV **Kirov** **53.47** **330** LR LR 09 38 57.3
comp=Z,86nm,18.2s,baz=117,slow=37
MARD **Mardin** **54.04** **303** P **P** **09 15 06.6** **-0.5**
ASAR **Alice Springs** **54.16** **140** P **P** **09 15 08.2** **+0.3**
comp=Z,0.9nm,0.6s,baz=320,slow=7.4,SNR=11
comp=Z,0.9nm,0.6s
MA2 **Magadan** **54.35** **29** P **P** **09 15 08.3** **-0.4**
MA2 **Magadan** **54.35** **29** P **P** **09 15 08.9** **+0.1**
comp=Z,9.5nm,0.9s,baz=242,slow=8.0,SNR=15
MA2 | | | | LR | LR | 09 41 05.5
comp=Z,89nm,18.9s,baz=244,slow=39
comp=Z,9.5nm,0.9s
TIXI **Tiksi** **55.18** **11** P **P** **09 15 13.3** **-1.2**
comp=Z,2.4nm,0.3s,baz=272,slow=4.5,SNR=6.8
TIXI | | | | LR | LR | 09 41 40.7
comp=Z,93nm,19.6s,baz=360,slow=39
comp=Z,2.4nm,0.3s
PETK **Petropavlovsk-** **55.82** **38** P **P** **09 15 19.1** **-0.4**
comp=Z,1.4nm,0.8s,baz=243,slow=2.6,SNR=2.1
PETK | | | | LR | LR | 09 41 49.3

comp=Z,93nm,19.1s,baz=250,slow=39
comp=Z,1.4nm,0.8s
SEY Seymchan 56.49 26 P **P 09 15 23.4 -0.7**
comp=Z,1.4nm,0.8s,baz=144,slow=8.7,SNR=3.5
comp=Z,1.4nm,0.8s
MMAI Mount Meron Ar 58.48 297 LR LR 09 45 04.0
comp=Z,66nm,20.2s,baz=98,slow=40
EIL Elat 59.13 294 LR LR 09 45 08.2
comp=Z,45nm,21.5s,baz=70,slow=40
AKASG Malin Array Be 63.00 318 LR LR 09 47 00.2
comp=Z,68nm,18.7s,baz=60,slow=39
STKA Stephens Creek 64.79 141 P **P 09 16 20.1 -1.0**
comp=Z,2.0nm,0.7s,baz=343,slow=14,SNR=3.2
STKA LR LR 09 46 36.7
comp=Z,72nm,21.7s,baz=8.2,slow=38
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 65.21 312 LR LR 09 52 41.0
comp=Z,61nm,18.8s,baz=64,slow=43
FINES FINESS Array B 65.46 330 P **P 09 16 26.2 +1.1**
comp=Z,1.8nm,0.8s,baz=96,slow=7.2,SNR=3.5
FINES LR LR 09 49 04.8
comp=Z,120nm,19.3s,baz=80,slow=40
comp=Z,1.8nm,0.8s
SHEM Shemya Is, Ala 65.61 40 LR LR 09 48 37.5
comp=Z,39nm,18.1s,baz=280,slow=39
HNR Honiara 65.91 110 LR LR 09 42 41.1
comp=Z,58nm,21.5s,baz=351,slow=34
ARCES ARCESS Array B 66.62 338 LR LR 09 48 20.7
comp=Z,78nm,19.5s,baz=100,slow=38
VRAC Vranov 71.20 317 LR LR 09 51 50.5
comp=Z,74nm,19.6s,baz=69,slow=39
HFS Hagfors 71.55 328 P **P 09 17 05.5 +2.3**
comp=Z,1.3nm,0.7s,baz=86,slow=9.1,SNR=1.3
HFS LR LR 09 51 26.7
comp=Z,82nm,20.5s,baz=77,slow=38
comp=Z,1.3nm,0.7s
NOA NORSAR Array B 72.64 329 P **P 09 17 09.9 +0.1**
comp=Z,1.0nm,0.9s,baz=77,slow=5.5,SNR=2.1
NOA LR LR 09 52 45.1
comp=Z,62nm,19.1s,baz=55,slow=39
comp=Z,1.0nm,0.9s
GEC2 GERESS Array S 73.15 316 P **P 09 17 14.3 +1.2**
GEC2 IAmb IAmb 09 17 32.3
comp=Z,5.9nm,1.4s
GERES GERESS Array B 73.15 316 **P 09 17 13.8 +0.6**
GERES GERESS Array B 73.15 316 P **P 09 17 13.3 +0.2**
comp=Z,2.1nm,0.9s,baz=75,slow=6.9,SNR=5.2
GERES LR LR 09 53 01.0
comp=Z,88nm,18.8s,baz=84,slow=39
comp=Z,2.1nm,0.9s
DAVOX Davos/Dischmat 76.09 315 LR LR 09 53 56.2
comp=Z,85nm,20.4s,baz=77,slow=38
JMIC Jan Mayen 77.74 341 LR LR 09 56 51.8
comp=Z,30nm,18.9s,baz=80,slow=40
D25K Kavik River 80.29 19 P **P 09 17 52.8 -0.2**
D25K IAmb IAmb 09 17 54.1
comp=Z,6.3nm,0.9s
CAST Castle Rocks 80.90 26 P **P 09 17 56.1 -0.3**
CAST IAmb IAmb 09 17 57.6
comp=Z,8.7nm,1.0s
O18K Koktuh Hills 80.97 30 P **P 09 17 56.6 -0.2**
TRF Thorofare Moun 81.62 25 P **P 09 18 01.4 +1.0**
ILAR Eielson Array 82.33 23 P **P 09 18 04.3 +0.5**
comp=Z,0.4nm,1.0s,baz=328,slow=6.2,SNR=4.0
comp=Z,0.4nm,1.0s
E28M Babbage River 82.76 19 P **P 09 18 06.2 +0.1**
E28M IAmb IAmb 09 18 07.3
comp=Z,6.2nm,1.2s
KDAK Kodiak Island 83.05 31 P **P 09 18 07.1 -0.6**
KDAK Kodiak Island 83.05 31 LR LR 09 57 28.8
comp=Z,51nm,20.3s,baz=133,slow=38
E29M Blow River 83.38 18 P **P 09 18 08.7 -0.6**
E29M IAmb IAmb 09 18 23.2
comp=Z,11nm,1.4s
LBTB Lobatse 84.32 241 LR LR 09 55 41.9
comp=Z,43nm,20.5s,baz=112,slow=36
G30M tAoh Zraii Nji 84.75 19 P **P 09 18 15.4 -0.9**
G30M IAmb IAmb 09 18 17.4
comp=Z,8.7nm,1.2s
BOSA Boshof 86.07 238 P **P 09 18 23.9 +0.2**
comp=Z,4.9nm,1.0s,baz=167,slow=3.3,SNR=3.8
BOSA LR LR 09 50 26.4
comp=Z,40nm,21.4s,baz=175,slow=31
comp=Z,4.9nm,1.0s
H31M Peel River 86.08 20 P **P 09 18 22.6 -0.4**
TSUM Tsumeb 89.01 249 LR LR 09 56 52.6
comp=Z,44nm,18.1s,baz=335,slow=34
SUR Sutherland 91.07 236 LR LR 10 00 30.6
comp=Z,37nm,18.1s,baz=130,slow=36
MDT Midelt 91.10 305 LR LR 10 06 37.2
comp=Z,38nm,18.7s,baz=237,slow=40
SFJD Kangerlussuaq 91.26 349 LR LR 10 04 45.2
comp=Z,31nm,19.0s,baz=9.5,slow=39
URZ Urewera 92.32 130 LR LR 10 05 11.3
comp=Z,52nm,18.3s,baz=328,slow=39
YKA Yellowknife Ar 94.22 15 P **P 09 19 00.7 -0.5**
comp=Z,0.4nm,0.9s,baz=320,slow=5.3,SNR=4.3
comp=Z,0.4nm,0.9s
FRB Frobisher Bay 96.82 355 LR LR 10 04 50.7
comp=Z,39nm,18.8s,baz=306,slow=37
BBB Bella Bella 97.71 27 LR LR 10 07 16.8
comp=Z,53nm,20.1s,baz=333,slow=38

---

*IDC **20** 09:10:55.2±2.0,49°.41N×149°.46E,h430km±29km,mb2.7/3, mbtmp3.8/8,Error ellipse: s-maj=41.5km s-min=15.7km az=140.0*

ISC 20 09:10:53.7±1.1,49°.5N±0°.2×149°.3E±0°.1,h400km,n8, σ1°28/8,mb2.9/3,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.40**	**52**	P		**Pn 09 12 31.7**	**+1.1**
	6.3nm,0.8s,baz=227,slow=7.9,SNR=8.8						
MA2	**Magadan**	**10.19**	**4**	P		**Pn 09 13 15.3**	**+1.7**
	2.6nm,0.5s,baz=191,slow=7.2,SNR=6.2						
SEY	**Seymchan**	**13.62**	**6**	P		**Pn 09 13 53.5**	**+0.2**
	2.4nm,0.5s,baz=192,slow=8.2,SNR=17						
MJAR	**Matsushiro Arr**	**15.23**	**216**	P		**P 09 14 09.5**	**+0.8**
	2.3nm,0.6s,baz=22,slow=11,SNR=5.4						
KSRS	**Korea Array**	**19.55**	**240**	P		**P 09 14 54.9**	**+0.9**
	1.2nm,0.7s,baz=46,slow=11,SNR=2.5						
SONM	**Songino Array**	**28.14**	**283**	P		**P 09 16 10.0**	**-1.1**
	0.2nm,0.4s,baz=77,slow=6.2,SNR=1.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**36.09**	**41**	P		**P 09 17 17.9**	**-1.1**
	0.3nm,0.5s,baz=252,slow=6.2,SNR=13						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**50.70**	**251**	P		**P 09 19 14.4**	**-0.1**
	0.7nm,0.4s,baz=40,slow=7.7,SNR=1.8						
	0.7nm,0.4s						

---

*JMA **20** 09:14:47.6±0.1,24°.3N±0°.4×121°.6E±0°.7,h44km,MV3.3/15, TAIWAN REGION*
*TAP **20** 09:14:48.8,24°.33N×121°.72E,h32km,ML3.9,B*
*ASIES **20** 09:14:48.8,24°.33N×121°.72E,h32km,ML3.9,Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=0.72; $M_{\theta\theta}$=0.35; $M_{\phi\phi}$=1.08; $M_{r\theta}$=0.12; $M_{\theta\phi}$=-0.36; $M_{\phi r}$=1.73; Fault plane solution: M_0=2.00766×10^{21} NP1: ϕ_s=319.23000°,δ=18.27000°,λ=-133.27000°. NP2: ϕ_s=183.99000°,δ=76.81000°,λ=-77.25000°. Principal axes: T Plg=30.6670°, Azm=263.5270°; N Plg=12.4090°, Azm=1.0240°; P Plg=56.3950°, Azm=110.3590°;*

ISC 20 09:14:49.0±0.8,24°.32N±0°.01×121°.72E±0°.02,h31km±4km, n167,σ0°84/272,9C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.02**	**55**	⇑P		**Pb 09 14 54.2**	**+0.1**
EAHA				*i* S		**Sb 09 14 58.0**	**+0.4**
EHP	**Heping Village**	**0.02**	**121**	*e*P		**Pb 09 14 54.2**	**+0.1**
EHP				*e*S		**Sb 09 14 58.7**	**+1.1**
ENA	**Nanau**	**0.11**	**8**	⇑*i*P		**Pb 09 14 54.6**	**+0.1**
ENA				S		**Sb 09 14 58.8**	**+0.5**
EWUT	**Wuta**	**0.14**	**22**	⇑*i*P		**Pb 09 14 54.7**	**0.0**
EWUT				S		**Sb 09 14 58.8**	**+0.2**
ETL	**Fush Village**	**0.18**	**210**	P		**Pb 09 14 55.2**	**+0.1**
ETL				*e*S		**Sn 09 15 00.4**	**+0.5**
NACB	**Ninganchiao**	**0.19**	**219**	P		**Pb 09 14 55.1**	**-0.1**
NACB	**Ninganchiao**	**0.19**	**219**	⇓*i*P		**Pb 09 14 55.1**	**-0.1**
NACB				S		**Sn 09 14 59.8**	**-0.1**
ETLH	**Xiulin Townshi**	**0.25**	**243**	⇓*i*P		**Pb 09 14 56.0**	**0.0**
ETLH				S		**Sn 09 15 01.1**	**-0.3**
TWD	**Chiawan**	**0.27**	**206**	⇓*i*P		**Pb 09 14 56.0**	**0.0**
TWD				S		**Sn 09 15 01.5**	**-0.3**
ESAO	**Su ao**	**0.28**	**23**	⇑P		**Pb 09 14 56.1**	**-0.1**
ESAO				*e*S		**Sn 09 15 01.6**	**-0.5**
LATG	**Datong**	**0.28**	**320**	⇓*i*P		**Pb 09 14 56.1**	**-0.3**
LATG				S		**Sn 09 15 01.8**	**-0.6**
TWC	**Suao**	**0.31**	**22**	⇑*i*P		**Pn 09 14 56.7**	**-0.7**
TWC				*e*S		**Sn 09 15 02.2**	**-0.7**
NDS	**Dongshan**	**0.31**	**359**	⇓*i*P		**Pb 09 14 56.5**	**-0.2**
NDS				*e*S		**Sb 09 15 01.9**	**-0.1**
NNSB	**Datong**	**0.33**	**289**	⇓*i*P		**Pb 09 14 56.9**	**-0.1**
NNSB				*e*S		**Sb 09 15 02.4**	**-0.1**
NNS	**Nan Shan**	**0.34**	**291**	⇓*i*P		**Pb 09 14 57.0**	**-0.2**
NNS				*e*S		**Sn 09 15 02.9**	**-1.0**
ENTT	**Nioudou**	**0.35**	**336**	⇓*i*P		**Pb 09 14 57.0**	**-0.3**
ENTT				S		**Sn 09 15 02.9**	**-1.0**
HWA	**Hwalien**	**0.36**	**198**	*e*P		**Pn 09 14 57.9**	**-0.1**
HWA				S		**Sn 09 15 04.4**	**+0.3**
TWE	**Neicheng**	**0.40**	**353**	⇓*i*P		**Pb 09 14 57.9**	**-0.1**
TWE				*i* S		**Sn 09 15 04.3**	**-0.9**
ETM	**Tongmen**	**0.41**	**211**	⇓*i*P		**Pb 09 14 57.6**	**-0.5**
ETM				*e*S		**Sb 09 15 03.5**	**-0.8**
LXIB	**Xiulin Townshi**	**0.41**	**224**	⇓*i*P		**Pb 09 14 57.7**	**-0.5**
LXIB				*e*S		**Sb 09 15 04.2**	**-0.3**
FUSS	**Fushou**	**0.44**	**261**	⇓*i*P		**Pb 09 14 58.8**	**0.0**
FUSS				*i* S		**Sb 09 15 05.6**	**+0.1**
ILA	**Ilan**	**0.45**	**3**	*e*P		**Pn 09 14 58.9**	**-0.4**
ILA				*e*S		**Sn 09 15 06.0**	**-0.3**
WHF	**Hehuan Shan**	**0.45**	**248**	⇑*i*P		**Pb 09 14 59.0**	**0.0**
WHF				*i* S		**Sb 09 15 06.2**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.46**	**344**	⇓*i*P		**Pb 09 14 58.4**	**-0.4**
FUSB				S		**Sb 09 15 05.1**	**-0.4**
TEYL	**Yanliau Villag**	**0.46**	**194**	*e*P		**Pb 09 14 59.0**	**+0.1**
TEYL				*e*S		**Sn 09 15 06.4**	**-0.3**
YHNB	**Yeheng**	**0.47**	**318**	P		**Pb 09 14 58.8**	**-0.3**
YHNB	**Yeheng**	**0.47**	**318**	⇓*i*P		**Pb 09 14 58.8**	**-0.3**
YHNB				*i* S		**Sb 09 15 05.6**	**-0.4**
EOS2	**EOS2**	**0.47**	**78**	*e*P		**Pn 09 15 00.1**	**+0.6**
NSK	**Sanguang**	**0.49**	**317**	⇓*i*P		**Pb 09 14 59.0**	**-0.3**
NSK				*i* S		**Sb 09 15 05.8**	**-0.5**
NWLT	**Wulai**	**0.50**	**336**	⇓*i*P		**Pb 09 14 59.0**	**-0.4**
NWLT				S		**Sn 09 15 06.6**	**-1.0**
TWT	**Tachien**	**0.51**	**263**	⇓*i*P		**Pn 09 14 60.0**	**-0.2**
TWT				*i* S		**Pn 09 15 07.7**	**-0.2**
TDCB	**Techi**	**0.52**	**263**	⇓*i*P		**Pn 09 15 00.0**	**-0.4**
TDCB				S		**Sn 09 15 07.5**	**-0.8**
NTC	**Toucheng**	**0.54**	**10**	*e*P		**Pb 09 14 59.9**	**-0.2**
NTC				*e*S		**Sn 09 15 08.8**	**+0.2**
EOS3	**EOS3**	**0.54**	**93**	*e*P		**Pn 09 15 01.2**	**+0.8**
SHUL	**Shoufeng**	**0.55**	**196**	*i* P		**Pn 09 15 00.5**	**-0.2**
SHUL				S		**Sn 09 15 09.5**	**+0.7**
EGS		**0.56**	**20**	*e*P		**Pn 09 15 00.5**	**-0.3**
EGS				*e*S		**Sn 09 15 09.7**	**+0.7**
ESL	**Shilin**	**0.57**	**208**	*e*P		**Pn 09 14 59.5**	**-1.1**
ESL				*e*S		**Sb 09 15 07.8**	**-0.7**
EOS4	**EOS4**	**0.58**	**110**	*e*P		**Pn 09 15 00.7**	**0.0**
OWD	**Renai**	**0.62**	**234**	*e*P		**Pb 09 15 01.3**	**-0.2**
OWD				*e*S		**Sb 09 15 10.0**	**-0.1**
TEGC	**Jichi Village**	**0.63**	**196**	*e*P		**Pb 09 15 00.3**	**-1.3**
NFF	**Wufeng Townshi**	**0.63**	**300**	*i* P		**Pn 09 15 01.6**	**-0.3**
NFF				S		**Sn 09 15 10.3**	**-0.7**
WUSB	**Renai**	**0.64**	**240**	*e*P		**Pn 09 15 01.8**	**-0.3**
WUSB				*e*S		**Sn 09 15 11.4**	**+0.1**
TIPB	**Shuangxi**	**0.66**	**8**	*i* P		**Pn 09 15 01.9**	**-0.3**
TIPB				S		**Sn 09 15 11.2**	**-0.4**
WARBT	**Fenglin Townsh**	**0.67**	**207**	P		**Pn 09 15 00.7**	**-1.7**
WARBT				*e*S		**Sb 09 15 09.9**	**-1.5**
KSHI	**Guanxi Townshi**	**0.68**	**312**	*e*P		**Pb 09 15 02.6**	**+0.3**
KSHI				*e*S		**Sn 09 15 12.8**	**+0.9**
TATO	**Taipei**	**0.69**	**342**	P		**Pn 09 15 02.8**	**0.0**
TATO	**Taipei**	**0.69**	**342**	S		**Sn 09 15 11.6**	**-0.6**
EGFH	**Guangfu**	**0.70**	**203**	*e*P		**Pn 09 15 02.0**	**-0.7**
EGFH				S		**Sb 09 15 11.0**	**-1.2**
WHP	**Taichung City**	**0.71**	**267**	⇓P		**Pb 09 15 03.3**	**+0.3**
WHP				S		**Sn 09 15 12.8**	**-0.1**
LIOB	**Emei**	**0.72**	**297**	⇓P		**Pb 09 15 03.5**	**+0.3**
LIOB				S		**Sn 09 15 13.4**	**+0.3**
TWB1	**Santiao Chiao**	**0.73**	**19**	P		**Pb 09 15 02.9**	**-0.3**
TWB1				*e*S		**Sn 09 15 13.5**	**+0.3**
NSTT	**Nanjuang**	**0.73**	**295**	⇓P		**Pb 09 15 03.4**	**+0.2**
NSTT				*i* S		**Sn 09 15 13.1**	**-0.1**
TAP	**Taipei**	**0.74**	**345**	*e*P		**Pb 09 15 03.3**	**-0.2**
TAP				*e*S		**Sn 09 15 13.8**	**+0.2**
NWF	**Wu-fen Shan**	**0.75**	**4**	*e*P		**Pb 09 15 03.7**	**+0.1**
WFSB	**Wu-fen Shan**	**0.75**	**4**	*e*P		**Pb 09 15 03.7**	**+0.1**
WFSB				*e*S		**Sn 09 15 14.0**	**+0.2**
VWDT	**VWDT**	**0.78**	**224**	*e*P		**Pn 09 15 03.5**	**-0.2**
VWDT				*e*S		**Sn 09 15 14.8**	**-0.8**
SXI1	**Grass Mountain**	**0.78**	**10**	⇑P		**Pb 09 15 04.4**	**+0.2**
SXI1				*e*S		**Sb 09 15 15.5**	**+0.9**
WCS	**Beigang Elemen**	**0.79**	**251**	*i* P		**Pb 09 15 04.4**	**+0.2**
WCS				*e*S		**Sb 09 15 15.4**	**+0.8**
NCUH	**Zhongli**	**0.81**	**323**	*e*P		**Pb 09 15 04.7**	**+0.1**
NCUH				S		**Sb 09 15 16.6**	**+1.3**
SBCB	**Hsinchu**	**0.82**	**305**	*e*P		**Pb 09 15 05.2**	**+0.4**
SBCB				*i* S		**Sb 09 15 17.7**	**+2.1**
TWS1	**Kuangyinshan**	**0.83**	**340**	*e*P		**Pn 09 15 03.5**	**-1.0**
YM01	**YM01**	**0.83**	**350**	*e*P		**Pb 09 15 04.9**	**-0.1**
YM01				*e*S		**Sb 09 15 15.6**	**-0.4**
HSN	**Hsinchu**	**0.84**	**305**	*e*P		**Pb 09 15 05.1**	**0.0**
HSN				*e*S		**Sb 09 15 17.5**	**+1.5**
ZUZH	**Zhuzihu**	**0.85**	**349**	*e*P		**Pb 09 15 04.5**	**-0.4**
ZUZH				*i* S		**Sn 09 15 15.5**	**-0.9**
HGSD	**Ruisui**	**0.87**	**199**	*e*P		**Pn 09 15 04.4**	**-0.7**
HGSD				*e*S		**Sn 09 15 16.7**	**0.0**
TWQ1	**Liyutan**	**0.87**	**272**	P		**Pb 09 15 06.3**	**+0.8**
TWQ1				*e*S		**Sb 09 15 18.1**	**+1.2**
SMLT	**Sun Moon Lake**	**0.87**	**240**	*e*P		**Pn 09 15 04.6**	**-0.6**
SMLT				*e*S		**Sn 09 15 16.1**	**-0.8**
NMLH	**Miaoli**	**0.88**	**284**	*e*P		**Pb 09 15 06.4**	**+0.7**
NMLH				*e*S		**Sb 09 15 18.6**	**+1.5**
NTST	**Danshui**	**0.88**	**344**	*e*P		**Pb 09 15 05.4**	**-0.3**
NTST				S		**Sb 09 15 17.8**	**+0.7**
SSLB	**Suanglung**	**0.88**	**233**	P		**Pb 09 15 05.4**	**-0.4**
SSLB	**Suanglung**	**0.88**	**233**	⇑P		**Pn 09 15 05.2**	**-0.1**
SSLB				*e*S		**Sb 09 15 17.0**	**-0.3**
ANP	**Anpu**	**0.88**	**348**	*e*P		**Pb 09 15 05.4**	**-0.5**
EHY	**Hungye**	**0.89**	**205**	*e*P		**Pn 09 15 03.6**	**-1.8**
EHY				*e*S		**Sn 09 15 17.3**	**+0.1**
EHYH	**Wanrong**	**0.89**	**203**	*e*P		**Pn 09 15 03.6**	**-1.8**
TWY	**Chenhua**	**0.96**	**353**	*e*P		**Pn 09 15 05.8**	**-0.5**
TCU	**Taichung**	**0.97**	**260**	*e*P		**Pb 09 15 07.8**	**+0.6**
TCU				S		**Sb 09 15 21.9**	**+2.1**
WDJ	**Dajia District**	**0.99**	**272**	*e*P		**Pb 09 15 07.8**	**+0.2**
YULB	**Yu-li**	**1.00**	**203**	P		**Pn 09 15 06.9**	**0.0**
YULB	**Yu-li**	**1.00**	**203**	*e*P		**Pn 09 15 05.0**	**-2.0**
WHYT	**Xinyi Township**	**1.01**	**232**	*e*P		**Pb 09 15 07.8**	**-0.1**
WHYT				S		**Sb 09 15 22.1**	**+1.2**
ECBN	**Changbin**	**1.03**	**194**	*e*P		**Pn 09 15 06.6**	**-0.6**
ECBN				*e*S		**Sn 09 15 20.1**	**-0.5**
EYUL	**Yuli**	**1.04**	**201**	*e*P		**Pn 09 15 07.4**	**0.0**
WJS	**Zhushan**	**1.04**	**242**	*e*P		**Pb 09 15 08.8**	**+0.4**
WJS				S		**Sb 09 15 24.5**	**+2.9**
TWF1	**Yuli**	**1.04**	**202**	*e*P		**Pn 09 15 05.6**	**-1.9**
WNT	**Mingjian**	**1.05**	**245**	P		**Pb 09 15 09.5**	**+1.0**
WNT				S		**Sb 09 15 24.5**	**+2.5**
WCHH	**Zhanghua**	**1.09**	**258**	*e*P		**Pb 09 15 09.2**	**-0.1**
WCHH				*i* S		**Sb 09 15 24.5**	**+1.3**
WCH1	**Changhua City**	**1.10**	**257**	*e*P		**Pb 09 15 09.4**	**0.0**
WCH1				*e*S		**Sb 09 15 25.1**	**+1.6**
JYNG	**Yonaguni jima**	**1.12**	**83**	P		**Pn 09 15 08.6**	**0.0**
JYNG				S		**Sb 09 15 23.7**	**-0.4**
CHKH	**Chenggong**	**1.16**	**195**	*e*P		**Pn 09 15 09.0**	**-0.1**
CHKH				*e*S		**Sn 09 15 24.2**	**+0.3**
ALS	**Alishan**	**1.16**	**226**	⇑*i*P		**Pb 09 15 10.1**	**-0.7**
ALS				*e*S		**Sb 09 15 25.7**	**+0.1**
YOJ	**Yonaguni jima**	**1.18**	**83**	P		**Pn 09 15 09.5**	**+0.1**
YOJ	**Yonaguni jima**	**1.18**	**83**	*e*P		**Pn 09 15 09.2**	**-0.2**
YOJ				S		**Sb 09 15 26.1**	**+0.3**
YOJ	**Yonaguni jima**	**1.18**	**83**	P		**Pn 09 15 09.4**	**+0.1**
YOJ				S		**Sb 09 15 25.5**	**-0.3**
FULB	**Fuli**	**1.18**	**200**	*e*P		**Pn 09 15 09.3**	**-0.2**
FULB				*e*S		**Sb 09 15 24.8**	**+0.3**
CHN5	**Tsauling**	**1.20**	**233**	*e*P		**Pb 09 15 11.0**	**-0.1**
CHN5				*e*S		**Sb 09 15 26.9**	**+0.6**
WGK	**Gukeng**	**1.24**	**240**	*e*P		**Pb 09 15 12.3**	**+0.5**
WGK				S		**Sb 09 15 29.4**	**+2.1**
WDL	**Douliou City**	**1.24**	**241**	*e*P		**Pb 09 15 12.4**	**+0.6**
WDL				*e*S		**Sb 09 15 28.9**	**+1.4**
WDLH	**Douliu**	**1.25**	**240**	*e*P		**Pb 09 15 12.2**	**+0.2**
WDLH				*e*S		**Sb 09 15 29.7**	**+1.9**
CHKT	**Chengkung**	**1.26**	**195**	*e*P		**Pn 09 15 10.1**	**-0.4**
CHKT				*e*S		**Sn 09 15 26.6**	**+0.3**
EHD	**Haiduan**	**1.26**	**202**	*e*P		**Pn 09 15 10.3**	**-0.1**
ELDTW	**Lidau**	**1.30**	**210**	*e*P		**Pn 09 15 10.1**	**-1.0**
ELDTW				*e*S		**Sn 09 15 27.3**	**-0.2**
WRL	**Guolierlin Hig**	**1.30**	**252**	*e*P		**Pb 09 15 11.8**	**-1.0**
WRL				*e*S		**Sb 09 15 29.9**	**+0.8**
ECS	**Chishang**	**1.30**	**201**	*e*P		**Pb 09 15 13.3**	**+0.4**
PCYT	**Pengchaiyu**	**1.34**	**14**	*e*P		**Pb 09 15 11.9**	**+0.3**
WCKO	**Fanlu**	**1.35**	**230**	*e*P		**Pb 09 15 13.5**	**-0.1**
WCKO				*i* S		**Sb 09 15 32.0**	**+1.4**
WTK	**Tuku**	**1.37**	**243**	P		**Pb 09 15 13.6**	**-0.5**
WTK				S		**Sb 09 15 32.0**	**+0.8**
CHN2	**Minshiung**	**1.39**	**236**	*e*P		**Pb 09 15 13.5**	**-0.7**
EDH	**Donghe**	**1.40**	**196**	*e*P		**Pb 09 15 12.5**	**+0.2**
EDH				*e*S		**Sn 09 15 30.5**	**+0.8**
WTCT	**Ta-ch'eng**	**1.40**	**251**	*e*P		**Pn 09 15 12.5**	**+0.2**
WTCT				*e*S		**Sb 09 15 33.0**	**+1.2**
CHN4	**Tsaushan**	**1.42**	**227**	*e*P		**Pb 09 15 14.8**	**0.0**
CHN4				*e*S		**Sb 09 15 34.1**	**+1.7**
TPUB	**Ta-pu**	**1.43**	**225**	P		**Pb 09 15 14.8**	**-0.2**
TPUB	**Ta-pu**	**1.43**	**225**	*e*P		**Pb 09 15 14.5**	**-0.5**
TPUB				*e*S		**Sb 09 15 34.2**	**+1.4**
STYH	**Taoyuan**	**1.44**	**217**	*e*P		**Pn 09 15 13.7**	**+0.8**
STYH				*e*S		**Sb 09 15 33.0**	**0.0**
CHY	**Chiayi**	**1.44**	**236**	*e*P		**Pb 09 15 14.8**	**-0.5**
CHY				*i* S		**Sb 09 15 34.7**	**+1.4**
WTP	**Ta-pu**	**1.48**	**224**	*e*P		**Pb 09 15 15.1**	**-0.7**
WTP				S		**Sb 09 15 35.5**	**+1.3**
LONT	**Longtian**	**1.51**	**201**	*e*P		**Pb 09 15 15.1**	**-1.3**
WSF	**Szhu**	**1.53**	**244**	*e*P		**Pn 09 15 15.1**	**+0.9**
WSF				*e*S		**Sb 09 15 35.5**	**-0.3**
TWK	**Hsinying**	**1.54**	**227**	*e*P		**Pb 09 15 16.1**	**-0.8**
TWK				*e*S		**Sb 09 15 37.4**	**+1.2**
SNST	**Tainan City**	**1.57**	**226**	*e*P		**Pb 09 15 16.6**	**-0.8**
SNST				*e*S		**Sb 09 15 37.1**	**+0.3**
CHN1	**Nanshi**	**1.57**	**224**	*e*P		**Pb 09 15 17.0**	**-0.5**
CHN1				*e*S		**Sb 09 15 37.9**	**+0.9**
WSL	**Shuilin Townsh**	**1.58**	**240**	P		**Pb 09 15 16.5**	**-1.1**
WSL				S		**Sb 09 15 38.1**	**+0.9**
TWG	**Pinlang**	**1.61**	**202**	*e*P		**Pn 09 15 15.7**	**+0.4**
TWGBT	**Beinan**	**1.61**	**202**	P		**Pb 09 15 17.2**	**-0.8**
TWGBT	**Beinan**	**1.61**	**202**	*e*P		**Pn 09 15 14.7**	**-0.6**
SGST	**Jiashian**	**1.62**	**221**	P		**Pn 09 15 16.3**	**+0.9**
SGST				*i* S		**Sb 09 15 37.9**	**-0.3**
ICHU	**Yijhu**	**1.63**	**234**	P		**Pb 09 15 17.6**	**-0.8**
ICHU				*i* S		**Sb 09 15 39.2**	**+0.6**
LDUT	**Ludao**	**1.66**	**188**	*e*P		**Pn 09 15 14.9**	**-1.0**
LDUT				*e*S		**Sn 09 15 36.2**	**+0.1**
CHN8	**Yiju**	**1.69**	**235**	*e*P		**Pb 09 15 18.4**	**-1.0**
CHN8				*i* S		**Sb 09 15 41.4**	**+1.1**
SCLT	**Jiali**	**1.81**	**231**	*e*P		**Pn 09 15 19.0**	**+1.0**
SCLT				*e*S		**Sb 09 15 43.7**	**+0.1**
SHHT	**Tainan City**	**1.81**	**225**	*e*P		**Pb 09 15 20.9**	**-0.5**
SCST	**Cishan**	**1.82**	**219**	*e*P		**Pb 09 15 20.6**	**-1.0**
SCST				*e*S		**Sb 09 15 44.9**	**+0.9**
IRIF	**Iriomote-Funau**	**1.83**	**89**	P		**Pn 09 15 17.9**	**-0.3**
IRIF				S		**Sn 09 15 40.0**	**-0.4**
ECL	**Taimali**	**1.85**	**203**	*e*P		**Pn 09 15 18.2**	**-0.4**
TSMG	**Majia**	**1.89**	**212**	*e*P		**Pb 09 15 20.9**	**-1.9**
TSCK	**Chigu Township**	**1.90**	**232**	*e*P		**Pb 09 15 21.0**	**-2.0**
TWM1	**Shoushan**	**1.91**	**219**	*e*P		**Pn 09 15 20.6**	**+1.2**
HATJ	**Hateruma jima**	**1.92**	**97**	P		**Pn 09 15 20.1**	**+0.6**
HATJ				*e*S		**Sn 09 15 43.8**	**+1.2**
MASBT	**Mashibuluo**	**1.97**	**211**	*e*P		**Pn 09 15 21.8**	**+1.5**
JKRS	**Kuro-shima**	**2.09**	**92**	P		**Pn 09 15 22.2**	**+0.4**
EAST	**Anshuo**	**2.09**	**203**	*e*P		**Pn 09 15 23.4**	**+1.5**
TAWH	**Dawu Township**	**2.12**	**201**	*e*P		**Pn 09 15 23.4**	**+1.1**
PNG	**Penghu**	**2.12**	**250**	*e*P		**Pn 09 15 22.3**	**0.0**
PHUB	**P'eng-hu**	**2.13**	**248**	*e*P		**Pn 09 15 22.4**	**+0.1**
WSSB	**Gushan**	**2.14**	**219**	*e*P		**Pn 09 15 23.6**	**+1.0**
WDGT	**Dungji**	**2.17**	**241**	*e*P		**Pn 09 15 23.4**	**+0.5**

baz=271,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 41.16 79 T T 10 33 56.3
baz=271,slow=75,SNR=9.3
H11N1 WAKE ISLAND Hy 41.31 77 T T 10 34 08.8
baz=269,slow=75,SNR=4.2
H11N2 WAKE ISLAND Hy 41.32 77 T T 10 34 10.1
baz=269,slow=75,SNR=4.6
H11N3 WAKE ISLAND Hy 41.33 77 T T 10 34 11.0
baz=269,slow=75,SNR=3.8
MKAR Makanchi Array 46.92 321 P **P** **09 50 28.3 +0.3**
0.4nm,0.8s,baz=108,slow=9.4,SNR=2.4
0.4nm,0.8s
KURBB Kurchatov Arra 50.92 324 P **P** **09 50 58.4 -0.2**
0.6nm,0.6s,baz=122,slow=7.9,SNR=4.7
0.6nm,0.6s

TXNET 20 10:09:59.0, 31°.7N±0°.6×104°.3W±0°.7, h6km±2km, ML1.6/7, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=59.7, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**33**	⇑P	Pg	10 10 05.7	-0.1
TPB11				S	Sg	10 10 10.4	0.0
PECS	**Pecos**	**0.43**	**130**	P	Pg	10 10 07.5	+0.1
PECS				S	Sg	10 10 13.2	+0.2
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	10 10 08.9	+0.3
TPB12				S	Sg	10 10 15.5	+0.3
TPB07	**Mentone**	**0.51**	**97**	S	Sg	10 10 15.9	+0.5
TPB10	**Southeast of T**	**0.56**	**130**	P	Pg	10 10 10.0	+0.2
TPB10				S	Sg	10 10 17.6	+0.5
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	10 10 10.3	+0.4
CLNB	**Carlsbad**	**0.69**	**27**	S	Sg	10 10 21.8	+0.3
TPB01	**Permian Basin**	**0.81**	**150**	P	Pg	10 10 14.0	-0.6
TPB01				S	Sg	10 10 24.3	-0.7
TPB03	**Saragosa**	**0.84**	**131**	S	Sg	10 10 26.7	+0.4
TPB04	**Verhalen**	**0.96**	**118**	S	Sg	10 10 29.6	-0.3
MNTX	**Cornudas Mount**	**0.96**	**273**	P	Pg	10 10 17.6	+0.1
MNTX				S	Sg	10 10 30.6	+0.5
VHRN	**Van Horn**	**1.06**	**216**	P	Pg	10 10 19.1	-0.3
VHRN				S	Sb	10 10 34.0	0.0
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	10 10 33.3	-0.4
MNHN	**Monahans**	**1.31**	**103**	P	Pn	10 10 23.6	-0.3
MNHN				S	Sg	10 10 39.8	-1.4
ALPN	**Alpine**	**1.37**	**157**	⇓P	Pn	10 10 23.9	-1.0
ALPN				S	Sb	10 10 41.3	-1.8
CPRX	**Cap Rock**	**1.42**	**13**	P	Pn	10 10 25.6	0.0

---

*NNC **20** 10:14:09.7±0.7, 51°.49N×75°.56E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=14.4km s-min=4.6km az=19.0, Suspected Mining explosion.*
*IDC **20** 10:14:11.8±1.0, 51°.61N×75°.84E, h0km, mbtmp2.7/3, ML2.2/3, Error ellipse: s-maj=27.5km s-min=8.2km az=28.0*
ISC 20 10:14:10.7±1.0, 51°.49N±0°.08×75°.72E±0°.05, h0km, n11, σ1°.14/12, 9C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.98**	**115**	Pn	**Pn**	**10 14 45.9**	**+0.5**
KURBB	0.9nm,0.3s,baz=300,slow=18,SNR=19			Lg	Lg	10 15 13.7	
KURBB	**Kurchatov Arra**	**1.98**	**115**	⇑Pn	**Pb**	**10 14 46.8**	**-0.7**
KURBB	1.0nm,0.3s,baz=303,slow=28,SNR=9.0 8.4nm,0.4s			⇑Sn	**Sg**	**10 15 13.2**	**-1.0**
KURK	**Kurchatov**	**1.99**	**112**	⇓Pn	**Pn**	**10 14 46.3**	**+0.7**
KURK	25nm,0.6s 2.7nm,0.4s			⇑Sn	**Sb**	**10 15 12.7**	**-0.3**
BVA0	**Borovoye Array**	**3.62**	**297**	⇑Pg	**Pb**	**10 15 14.3**	**-1.2**
BVA0	5.1nm,0.6s 0.4nm,0.4s,baz=113,slow=16,SNR=6.4			⇑Lg	Lg	10 15 59.9	
BVAR	**Borovoye Array**	**3.62**	**297**	Pn	**Pn**	**10 15 09.1**	**+1.1**
BVAR	1.9nm,0.4s,baz=109,slow=23,SNR=7.2 0.1nm,0.3s,baz=122,slow=16,SNR=7.4			Sn	**Sn**	**10 15 51.3**	**-0.1**
BVAR	0.3nm,0.3s,baz=106,slow=24,SNR=9.8			Lg	Lg	10 16 07.7	
BRVK	**Borovoye**	**3.69**	**297**	⇑Pg	**Pb**	**10 15 15.2**	**-1.6**
BRVK	0.3nm,0.3s,baz=111,slow=29,SNR=5.2 0.5nm,0.4s			⇑Lg	Lg	10 16 02.9	
OTUK	**Ortayu**	**3.92**	**215**	⇑Pg	**Pb**	**10 15 19.9**	**-0.7**
OTUK	2.9nm,1.1s 0.4nm,0.3s			⇑Lg	Lg	10 16 11.6	
ZALV	**Zalesovo Beam**	**6.05**	**62**	Pn	**Pn**	**10 15 42.9**	**+1.5**
	4.4nm,0.9s 0.4nm,0.3s,baz=251,slow=14,SNR=5.4 1.3nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.05**	**62**	I	I	10 47 20.0	
MK31	**Makanchi Array**	**6.38**	**135**	⇓Lg	Lg	10 17 33.1	
MKAR	**Makanchi Array**	**6.38**	**135**	Pn	**Pn**	**10 15 47.1**	**+1.2**
MKAR	baz=250,slow=323,SNR=2.4 1.4nm,0.6s,baz=330,slow=28,SNR=4.9 0.1nm,0.3s,baz=317,slow=12,SNR=2.0			Lg	Lg	10 17 30.5	
	0.4nm,0.3s,baz=333,slow=27,SNR=5.8 0.1nm,0.4s						

---

*IDC **20** 10:22:32.2±1.5, 24°.15S×66°.94W, h167km±13km, mb3.7/9, mbtmp4.1/16, Error ellipse: s-maj=18.3km s-min=10.4km az=85.0*
*NEIC **20** 10:22:33.7±1.8, 24°.19S±0°.06×66°.99W±0°.10, h188km±6km, mb4.4/13, Error ellipse: s-maj=13.2km s-min=8.9km az=94.0*
*VAO **20** 10:22:34.5±0.6, 24°.12S×66°.88W, h187km, mb4.0*
*GUC **20** 10:22:34.5±0.6, 24°.14S×67°.33W, h225km±11km, ML4.3*
*SJA **20** 10:22:36.4±0.7, 24°.12S×67°.13W, h108km±10km, ML3.7, MW3.9*
ISC 20 10:22:33.1±0.6, 24°.16S±0°.04×67°.03W±0°.04, h182km±6km, n118, σ1°.43/140, mb4.1/14, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.64**	**96**	*e*P	**Pn**	**10 22 55.9**	**-3.5**
SALTA				*e*S	Sn	10 23 01.5	-18
SALTA				IAML		10 23 01.8	
	comp=Z,455nm,1.5s						
SLA	**San Lorenzo**	**1.50**	**112**	*e*P	**Pn**	**10 23 07.5**	**+2.0**
SLA				*e*S	**Sn**	**10 23 31.9**	**+1.4**
SLA				IAML		10 23 33.1	
	comp=Z,384nm,1.0s						
AF01	**San Pedro de A**	**1.60**	**319**		**Pn**	**10 23 08.7**	**+2.2**
AF01	**San Pedro de A**	**1.60**	**319**	*e*P	**Pn**	**10 23 09.2**	**+2.7**
AZAP	**Zapla**	**1.80**	**92**	*e*P	**Pn**	**10 23 09.8**	**+1.4**
AZAP				*e*S	**Sn**	**10 23 38.0**	**+2.2**
AZAP				IAML		10 23 40.3	
	comp=Z,412nm,0.8s						
FSA	**Cafayete**	**2.17**	**154**	*e*P	**Pn**	**10 23 13.9**	**+1.6**
FSA				*e*S	**Sn**	**10 23 42.2**	**-0.7**
YJA	**Yavi**	**2.42**	**36**	*e*P	**Pn**	**10 23 17.2**	**+1.8**
YJA				*e*S	**Sn**	**10 23 45.3**	**-3.0**
GO02	**Mina Guanaco**	**2.53**	**246**		**Pn**	**10 23 18.3**	**+1.7**
GO02				Sn	**Sn**	**10 23 52.0**	**+1.7**
GO02	**Mina Guanaco**	**2.53**	**246**	*e*P	**Pn**	**10 23 18.6**	**+2.0**
GO02				*e*S	**Sn**	**10 23 46.6**	**-3.8**
GO02	**Mina Guanaco**	**2.53**	**246**	*e*P	**Pn**	**10 23 18.5**	**+1.9**
GO02				*i* S	**Sn**	**10 23 51.7**	**+1.3**
PB06	**IPOC Station P**	**2.74**	**301**	*e*P	**Pn**	**10 23 20.7**	**+1.7**
PB06				*i* S	**Sn**	**10 23 55.0**	**+0.4**
PB06				IAML		10 23 57.4	
	comp=E,733nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.81**	**84**	*e*P	**Pn**	**10 23 21.4**	**+1.8**
AHML	**Horco Molle**	**3.03**	**150**	*e*P	**Pn**	**10 23 24.1**	**+1.8**
AHML				*e*S	**Sn**	**10 24 01.1**	**+0.4**
PB14	**IPOC Station P**	**3.11**	**261**		**Pn**	**10 23 24.4**	**+0.9**
PB14				Sn	**Sn**	**10 24 02.2**	**-0.4**
PB14	**IPOC Station P**	**3.11**	**261**	*e*P	**Pn**	**10 23 24.8**	**+1.3**
PB14				*e*S	**Sn**	**10 24 02.3**	**-0.4**
PB14				IAML		10 24 04.5	
	comp=Z,519nm,0.3s						
PB14	**IPOC Station P**	**3.11**	**261**	*e*P	**Pn**	**10 23 24.6**	**+1.1**
PB14				*i* S	**Sn**	**10 24 02.5**	**-0.2**
PB14				IAML		10 24 04.3	
	comp=E,569nm,0.5s						
PB09	**IPOC Station P**	**3.11**	**319**	Pn	**Pn**	**10 23 25.1**	**+1.7**
PB09	**IPOC Station P**	**3.11**	**319**	*e*S	**Sn**	**10 24 05.6**	**+3.1**
PB09				IAML		10 24 10.3	
	comp=Z,296nm,0.4s						
PB09	**IPOC Station P**	**3.11**	**319**	*e*P	**Pn**	**10 23 25.3**	**+1.9**
PB09				*e*S	**Sn**	**10 24 03.7**	**+1.2**
PB09				IAML		10 24 10.7	
	comp=E,223nm,0.5s						
AC02	**Maricunga**	**3.27**	**215**		**Pn**	**10 23 27.3**	**+1.7**
AC02	**Maricunga**	**3.27**	**215**	*e*P	**Pn**	**10 23 27.5**	**+1.9**
AC02				*e*S	**Sn**	**10 24 02.9**	**-3.7**
AC02				IAML		10 24 05.2	
	comp=Z,544nm,3.6s						
AC02	**Maricunga**	**3.27**	**215**	*e*P	**Pn**	**10 23 27.6**	**+1.9**
AC02				*i* S	**Sn**	**10 24 08.6**	**+2.0**
AC01	**Pan de Azucar**	**3.79**	**238**		**Pn**	**10 23 32.1**	**+0.5**
AC01	**Pan de Azucar**	**3.79**	**238**	*e*P	**Pn**	**10 23 32.0**	**+0.3**
AC01				*e*S	**Sn**	**10 24 16.2**	**-1.3**
AC01				IAML		10 24 19.9	
	comp=Z,324nm,0.3s						
AC01	**Pan de Azucar**	**3.79**	**238**	*e*P	**Pn**	**10 23 31.9**	**+0.3**
AC01				*i* S	**Sn**	**10 24 16.1**	**-1.3**
PB01	**IPOC Station P**	**3.84**	**323**	*e*P	**Pn**	**10 23 33.0**	**+0.6**
PB01				*i* S	**Sn**	**10 24 17.6**	**-1.1**
CYA	**Choya**	**4.41**	**166**	*e*P	**Pn**	**10 23 41.5**	**+2.0**
CYA				*e*S	**Sn**	**10 24 33.7**	**+2.1**
PX03	**IPOC Station P**	**4.44**	**327**	*e*P	**Pn**	**10 23 39.4**	**-0.7**
PB08	**IPOC Station P**	**4.46**	**333**		**Pn**	**10 23 41.6**	**+1.0**
TA01	**Diego Aracena**	**4.61**	**320**	Pn	**Pn**	**10 23 41.9**	**-0.2**
TA01	**Diego Aracena**	**4.61**	**320**	*e*P	**Pn**	**10 23 41.9**	**-0.2**
VCA	**Vinchina**	**4.68**	**193**	*e*P	**Pn**	**10 23 46.3**	**+3.2**
TA02	**Huaiquique**	**4.82**	**323**		**Pn**	**10 23 44.3**	**-0.5**
TA02	**Huaiquique**	**4.82**	**323**	*e*P	**Pn**	**10 23 45.2**	**+0.4**
TA02				*i* S	**Sn**	**10 24 38.7**	**-2.3**
ACLC	**CERRO LA CRUZ**	**5.25**	**179**	*e*P	**Pn**	**10 23 51.3**	**+0.8**
ACLC				*e*S	**Sn**	**10 24 51.7**	**+0.4**
ACLC				IAML		10 24 56.9	
	comp=Z,13nm,0.5s						
AC04	**Llanos de Chal**	**5.42**	**221**	Pn	**Pn**	**10 23 51.6**	**-1.0**
LCO	**Las Campanas**	**5.84**	**213**	Pn	**Pn**	**10 23 57.4**	**-0.9**
PB12	**IPOC Station P**	**6.31**	**330**	Pn	**Pn**	**10 24 02.7**	**-1.7**
CO01	**Juntas del Tor**	**6.41**	**205**	Pn	**Pn**	**10 24 06.5**	**+0.9**
GO04	**Tololo Observa**	**6.86**	**208**		**Pn**	**10 24 10.3**	**-1.4**
PB18	**Visviri**	**6.92**	**340**		**Pn**	**10 24 14.1**	**+1.3**
CO03	**El Pedregal**	**7.40**	**205**	Pn	**Pn**	**10 24 17.7**	**-0.9**
CFA	**Coronel Fontan**	**7.49**	**188**	P	**Pn**	**10 24 19.8**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=344,slow=8.9,SNR=34						
CFA				S	**Sn**	**10 25 39.5**	**-4.6**
	comp=Z,7.5nm,0.3s,baz=263,slow=24,SNR=15						
LPAZ	**La Paz**	**7.90**	**352**	Pn	**Pn**	**10 24 26.5**	**+0.7**
LPAZ	**La Paz**	**7.90**	**352**	P	**Pn**	**10 24 26.3**	**+0.6**
	comp=Z,10nm,0.4s,baz=171,slow=10,SNR=45						
LPAZ				S	**Sn**	**10 25 52.0**	**-2.8**
	comp=Z,3.4nm,0.5s,baz=353,slow=21,SNR=3.5						
LPAZ	**La Paz**	**7.90**	**352**	*e*P	**Pn**	**10 24 26.8**	**+1.1**
MURT	**Porto Murtinho**	**9.04**	**76**	*e*P	**Pn**	**10 24 39.9**	**-0.2**
CPUP	**Villa Florida**	**9.05**	**106**	P	**Pn**	**10 24 39.0**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=282,slow=13,SNR=6.5						
CPUP	**Villa Florida**	**9.05**	**106**	*e*P	**Pn**	**10 24 39.4**	**-0.8**
VA01	**Torpederas**	**9.72**	**204**	Pn	**Pn**	**10 24 49.5**	**+0.7**
SIV	**San Ignacio**	**9.87**	**36**	P	**Pn**	**10 24 49.2**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=202,slow=13,SNR=8.7						
SIV				S	Sn	10 26 26.5	-15
	comp=Z,0.6nm,0.4s,baz=229,slow=14,SNR=1.5						
SJPY	**San Joaquin**	**9.98**	**97**	*e*P	**Pn**	**10 24 52.1**	**-0.4**
BDQN	**Bodoquena, MS**	**10.21**	**71**	*e*P	**Pn**	**10 24 53.7**	**-1.8**
TBOT	**Tacuaremb**	**12.34**	**130**	*e*P	**Pn**	**10 25 23.0**	**+0.2**
CPSB	**Cacapava Do Su**	**13.59**	**120**	*e*P	**Pn**	**10 25 37.6**	**-1.1**
PTGB	**Pitanga**	**13.65**	**95**	*e*P	**P**	**10 25 41.0**	**-1.3**
ITAB	**Concordia**	**13.78**	**106**	*e*P	**Pn**	**10 25 41.6**	**+0.6**
PLTB	**Pedras Altas**	**14.07**	**126**	Pn	**Pn**	**10 25 43.3**	**-1.4**
PLTB	**Pedras Altas**	**14.07**	**126**	*e*P	**Pn**	**10 25 43.3**	**-1.4**
LDASE	**Londrina, Braz**	**14.59**	**90**	*e*P	**Pn**	**10 25 50.4**	**-0.8**
NNA	**Nana**	**15.27**	**321**	P	**P**	**10 26 01.4**	**+1.0**
	comp=Z,3.5nm,0.4s,baz=238,slow=6.1,SNR=1.7						
CNLB	**Canela**	**15.34**	**113**	*e*P	**Pn**	**10 25 59.4**	**-0.9**
PDRB	**Porto dos Gac**	**15.86**	**40**	*e*P	**Pn**	**10 26 05.7**	**-1.0**
FRTB	**Fartura**	**16.02**	**91**	*e*P	**Pn**	**10 26 08.7**	**0.0**
ITRB	**Iturama**	**16.09**	**77**	*e*P	**Pn**	**10 26 10.7**	**+1.2**
MAJ01	**Sao Joao Batis**	**16.55**	**105**	*e*P	**P**	**10 26 13.6**	**-0.8**
LR04	**Corral**	**16.58**	**197**	P	**Pn**	**10 26 15.4**	**+0.3**
LR04				IAmb	IAmb	10 26 43.4	
	comp=Z,33nm,1.4s						
ARAG	**Araguaiana, MT**	**16.59**	**62**	*e*P	**Pn**	**10 26 15.8**	**+0.3**
TER01	**Tubaro-SC**	**16.63**	**109**	*e*P	**P**	**10 26 15.1**	**-0.1**
PLCA	**Paso Flores**	**16.79**	**189**	P	**Pn**	**10 26 17.5**	**-0.3**
PLCA	**Paso Flores**	**16.79**	**189**	P	**Pn**	**10 26 18.4**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=24,slow=19,SNR=3.3						
CZSB	**Cruzeiro do Su**	**17.22**	**341**	P	**P**	**10 26 21.9**	**+0.2**
CZSB	**Cruzeiro do Su**	**17.22**	**341**	*e*P	**Pn**	**10 26 23.2**	**+0.2**
BB19B	**Bebedouro**	**17.36**	**83**	*e*P	**P**	**10 26 23.7**	**+0.4**
SPB	**Sao Paulo**	**17.94**	**92**	*e*P	**Pn**	**10 26 30.4**	**-1.1**
VAO	**Valinhos**	**18.43**	**90**	P	**P**	**10 26 33.9**	**-1.2**
VAO				IAmb	IAmb	10 26 35.8	
	comp=Z,26nm,1.1s						
VAO	**Valinhos**	**18.43**	**90**	*e*P	**P**	**10 26 34.5**	**-0.6**
IPMB	**Ipameri, GO**	**18.60**	**74**	*e*P	**P**	**10 26 36.7**	**-0.2**
SNDB	**Serra Nova Dou**	**19.23**	**54**	*e*P	**P**	**10 26 42.6**	**-1.0**
PARB	**Paraibuna**	**19.62**	**92**	*e*P	**P**	**10 26 47.5**	**-0.4**
BDFB	**Brasilia**	**19.77**	**68**	P	**P**	**10 26 49.2**	**-0.4**
BDFB				IAmb	IAmb	10 26 50.4	
	comp=Z,4.9nm,0.5s						
BDFB	**Brasilia**	**19.77**	**68**	P	**P**	**10 26 49.2**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=251,slow=12,SNR=7.8						
TBTG	**Tabatinga, AM**	**20.05**	**352**	*e*P	Pn	10 26 54.5	-2.0
TEFE	**Tefe**	**20.66**	**7**	*e*P	**P**	**10 26 59.3**	**+0.4**
ITTB	**Itaituba**	**22.49**	**31**	*e*P	**P**	**10 27 15.7**	**-1.9**
JANB	**Januaria**	**23.21**	**71**	*e*P	**P**	**10 27 22.4**	**-1.8**
CAM01	**Campos-RJ**	**23.47**	**89**	*e*P	**P**	**10 27 25.7**	**-0.7**
SDBA	**SAO DESIDERIO**	**24.00**	**65**	*e*P	**P**	**10 27 29.9**	**-1.6**
SMTB	**Santa Maria do**	**24.01**	**54**	*e*P	**P**	**10 27 31.8**	**+0.4**
GUA01	**Guaratinga, BA**	**26.58**	**79**	*e*P	**P**	**10 27 53.4**	**-1.2**
ABR01	**Abrolhos, BA**	**27.12**	**82**	*e*P	**P**	**10 27 59.8**	**+0.3**
BOAV	**Boa Vista**	**27.14**	**14**	P	**P**	**10 27 59.1**	**-0.5**
BOAV				IAmb	IAmb	10 28 35.0	
	comp=Z,5.9nm,1.1s						
BAUV	**El Baul**	**32.91**	**358**	P	**P**	**10 28 49.5**	**-0.9**
BAUV				IAmb	IAmb	10 28 50.6	
	comp=Z,10nm,0.9s						
PMSA	**Palmer Station**	**40.66**	**178**	P	**P**	**10 29 53.5**	**-1.7**
SNAA	**Sanae**	**59.21**	**161**	P	**P**	**10 32 14.1**	**-0.7**
SNAA				IAmb	IAmb	10 32 51.6	
	comp=Z,12nm,1.4s						
V55A	**Taylorsville**	**61.17**	**347**	P	**P**	**10 32 28.4**	**-0.1**
WVT	**Waverly**	**63.10**	**341**	P	**P**	**10 32 40.6**	**-0.6**
TXAR	**Lajitas Array**	**63.79**	**324**	P	**P**	**10 32 46.4**	**+0.8**
TXAR	**Lajitas Array**	**63.79**	**324**	P	**P**	**10 32 47.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=155,slow=7.5,SNR=8.3 comp=Z,0.7nm,0.7s						
CCM	**Cathedral Cave**	**65.93**	**339**	P	**P**	**10 32 59.8**	**+0.3**
CCM				IAmb	IAmb	10 33 00.3	
	comp=Z,6.5nm,0.7s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**10 33 01.2**	**+1.0**
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**10 33 01.4**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=302,slow=1.0,SNR=23 comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**74.54**	**190**	P	**P**	**10 33 53.2**	**+1.9**
	comp=Z,5.2nm,1.1s,baz=65,slow=5.5,SNR=3.0 comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**10 34 02.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**10 34 04.5**	**+0.1**
	comp=Z,20nm,0.4s,baz=250,slow=5.1,SNR=1.3						
PDAR	**Pinedale Array**	**77.27**	**329**	P	**P**	**10 34 08.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=8.3,SNR=10 comp=Z,0.5nm,0.5s						
ULM	**Lac du Bonnet**	**78.37**	**342**	P	**P**	**10 34 13.1**	**0.0**
	comp=Z,3.4nm,0.5s,baz=159,slow=6.0,SNR=14 comp=Z,3.4nm,0.5s						
NVAR	**Mina Array Bea**	**78.64**	**321**	P	**P**	**10 34 16.8**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=135,slow=5.1,SNR=4.6 comp=Z,0.6nm,0.7s						
SCHQ	**Schefferville**	**78.67**	**0**	P	**P**	**10 34 14.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=167,slow=5.2,SNR=4.7 comp=Z,1.4nm,0.6s						
BOSA	**Boshof**	**80.69**	**117**	P	**P**	**10 34 26.5**	**0.0**
	comp=Z,3.1nm,1.0s,baz=307,slow=5.1,SNR=2.0 comp=Z,3.1nm,1.0s						
YKA	**Yellowknife Ar**	**94.26**	**340**	P	**P**	**10 35 31.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=139,slow=4.3,SNR=15 comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**128.30**	**205**	PKP	**PKPdf**	**10 41 18.4**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=117,slow=1.9,SNR=12						
WRA	**Warramunga Arr**	**131.47**	**207**	PKP	**PKiKP**	**10 41 25.3**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=157,slow=1.8,SNR=16						
PETK	**Petropavlovsk-**	**135.72**	**323**	PKP	**PKiKP**	**10 41 32.9**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.2,SNR=1.6						
KURBB	**Kurchatov Arra**	**142.52**	**36**	PKhKP	PKPpre	10 41 39.7	
	comp=Z,0.1nm,0.3s,baz=301,slow=3.2,SNR=4.6						
KURBB				PKP	**PKPdf**	**10 41 45.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=301,slow=3.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP	PKPbc	10 41 43.9	+0.2
	comp=Z,2.4nm,0.6s,baz=305,slow=4.5,SNR=13						
MKAR	**Makanchi Array**	**146.67**	**40**	PKPbc	**PKPbc**	**10 41 52.5**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=322,slow=2.4,SNR=41						
SONM	**Songino Array**	**155.80**	**11**	PKP	**PKPdf**	**10 42 06.7**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=48,slow=2.1,SNR=1.7						
SONM				PKPab	**PKPab**	**10 42 32.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.2,SNR=3.1						

TXNET 20 10:25:11.6, 31°.6N±0°.9×104°.6W±0°.8, h3km±1km, ML1.6/7, Error ellipse: s-maj=1.5km s-min=1.2km az=29.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.54**	**57**	P	Pg	10 25 22.1	+0.1
TPB11				S	Sg	10 25 29.2	+0.2
GDL2	**Guadalupe Moun**	**0.58**	**17**	P	Pg	10 25 23.0	+0.2
PECS	**Pecos**	**0.66**	**114**	P	Pg	10 25 24.5	+0.4
PECS				S	Sg	10 25 33.3	+0.7
TPB12	**Southwest of T**	**0.67**	**129**	P	Pg	10 25 24.9	+0.4
TPB12				S	Sg	10 25 33.6	+0.4
MNTX	**Cornudas Mount**	**0.70**	**275**	P	Pg	10 25 25.4	+0.4
MNTX				S	Sg	10 25 34.5	+0.5
TPB07	**Mentone**	**0.77**	**94**	S	Sg	10 25 37.4	+1.1
TPB10	**Southeast of T**	**0.78**	**117**	S	Sg	10 25 37.5	+0.8
CLNB	**Carlsbad**	**0.85**	**43**	P	Pg	10 25 27.5	-0.4
CLNB				S	Sg	10 25 39.6	+0.6
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	10 25 29.1	-0.2
VHRN				S	Sg	10 25 41.8	+0.6
TPB01	**Permian Basin**	**0.97**	**136**	P	Pg	10 25 29.6	-0.5
TPB01				S	Sg	10 25 42.7	0.0
CLN7	**Carlsbad 7**	**1.00**	**40**	P	Pg	10 25 30.4	-0.4
TPB03	**Saragosa**	**1.06**	**121**	S	Sg	10 25 46.0	+0.5
HTMS	**Hat Mesa**	**1.15**	**43**	S	Sg	10 25 48.7	+0.3
HTMS	**Hat Mesa**	**1.15**	**43**	P	Pg	10 25 32.7	-0.9
TPB06	**Permian Basin**	**1.15**	**89**	S	Sg	10 25 48.0	-0.6
TPB16	**Coyonosa**	**1.24**	**114**	S	Sg	10 25 50.0	-1.3
TPB05	**Hovey Rd**	**1.28**	**124**	P	Pg	10 25 35.7	-0.5
TPB05				S	Sg	10 25 52.3	-0.5
ALPN	**Alpine**	**1.49**	**147**	P	Pn	10 25 38.9	-0.5
ALPN				S	Sb	10 25 58.1	-1.3
CPRX	**Cap Rock**	**1.51**	**23**	P	Pn	10 25 39.7	0.0
MNHN	**Monahans**	**1.57**	**100**	P	Pn	10 25 40.8	+0.4
MNHN				S	Sg	10 26 02.0	-0.1
TPB08	**Permian Basin**	**1.60**	**117**	S	Sg	10 26 04.5	+1.4
ODSA	**Odessa**	**1.78**	**74**	P	Pb	10 25 44.1	-0.8
ODSA				S	Sb	10 26 07.3	-0.4
TX31	**Lajitas Ar. Si**	**2.43**	**161**	P	Pn	10 25 53.8	+1.6

---

*IDC **20** 10:26:16.0±2.2, 19°.37N×145°.48E, h183km±22km, mb3.7/17, mbtmp4.2/20, Error ellipse: s-maj=19.5km s-min=11.4km az=80.0*
*NEIC **20** 10:26:17.5±0.6, 19°.38N±0°.10×145°.5E±0°.2, h186km±9km, mb4.1/29, Error ellipse: s-maj=27.2km s-min=13.8km az=92.0*
ISC 20 10:26:16.8±0.6, 19°.34N±0°.06×145°.5E±0°.1, h186km, n60, σ0°.85/55, mb4.0/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.75**	**186**	P	**Pn**	**10 27 41.2**	**+0.5**
GUMO	150nm,0.9s,baz=161,slow=8.9,SNR=2.4			S	**Sn**	**10 28 45.2**	**-1.6**
	137nm,1.0s,baz=268,slow=23,SNR=1.8						
JGF	**Kuroka**	**17.71**	**338**	P	**P**	**10 30 10.1**	**-0.3**
JGF				IAmb	IAmb	10 30 35.8	
	comp=Z,20nm,1.3s						
MJAR	**Matsushiro Arr**	**18.29**	**341**	P	**P**	**10 30 15.4**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=166,slow=9.1,SNR

KURBB	Kurchatov Arra	60.71	318	P		P		10 36 07.5 -1.0
	comp=Z,2.0nm,0.5s,baz=91,slow=7.4,SNR=19							
	comp=Z,2.0nm,0.5s							
ILAR	Eielson Array	63.16	26	P		P		10 36 23.4 -1.2
	comp=Z,0.4nm,0.4s,baz=269,slow=7.6,SNR=6.4							
	comp=Z,0.4nm,0.4s							
BVAR	Borovoye Array	65.85	320	P		P		10 36 41.5 -0.7
	comp=Z,3.4nm,0.5s,baz=94,slow=8.2,SNR=18							
	comp=Z,3.4nm,0.5s							
BRVK	Borovoye	65.91	320	P		P		10 36 42.9 +0.3
BRVK				IAmb		IAmb		10 36 43.0
	comp=Z,4.7nm,1.1s							
KKAR	Karatay Array	66.20	309	P		P		10 36 44.8 +0.1
DAWY	Dawson	66.28	28	P		P		10 36 45.3 +0.5
DAWY				IAmb		IAmb		10 37 06.8
	comp=Z,2.7nm,1.3s							
G31M	Satah River	68.55	25	P		P		10 36 59.5 +0.6
INK	Inuvik	68.86	23	P		P		10 37 01.2 +0.5
A36M	Sachs Harbour	71.54	19	P		P		10 37 17.6 +0.6
A36M				IAmb		IAmb		10 37 25.7
	comp=Z,4.4nm,1.4s							
YKA	Yellowknife Ar	77.52	28	P		P		10 37 51.7 +0.1
	comp=Z,0.7nm,0.7s,baz=290,slow=5.5,SNR=9.7							
	comp=Z,0.7nm,0.7s							
SPITS	Spitsbergen Ar	78.50	351	P		P		10 37 57.5 +0.7
	comp=Z,12nm,1.1s,baz=93,slow=7.8,SNR=5.5							
	comp=Z,12nm,1.1s							
ARCES	ARCESS Array B	81.82	342	P		P		10 38 13.9 -0.7
	comp=Z,3.1nm,0.9s,baz=77,slow=5.5,SNR=11							
	comp=Z,3.1nm,0.9s							
NVAR	Mina Array Bea	82.91	52	P		P		10 38 21.8 +0.6
	comp=Z,0.9nm,0.8s,baz=268,slow=5.5,SNR=5.5							
	comp=Z,0.9nm,0.8s							
FINES	FINESS Array B	86.22	335	P		P		10 38 35.0 -2.0
	comp=Z,3.0nm,0.4s,baz=70,slow=4.8,SNR=38							
	comp=Z,3.0nm,0.4s							
HFS	Hagfors	91.71	338	P		P		10 39 00.4 -2.5
	comp=Z,2.4nm,0.8s,baz=95,slow=4.8,SNR=4.6							
	comp=Z,2.4nm,0.8s							
BOSA	Boshof	125.08	248	PKP		PKPdf		10 44 55.0 -0.7
	comp=Z,2.5nm,0.9s,baz=101,slow=5.2,SNR=2.3							

*ISK **20** 10:43:23.8, 34°.82N×23°.97E, h64km±3km, ML4.4/24*
*NEIC **20** 10:43:24.9±1.9, 34°.65N±0°.09×24°.05E±0°.08, h43km±12km, mb4.4/22, Error ellipse: s-maj=12.9km s-min=9.3km az=184.0*
*MED_RC **20** 10:43:24.0±0.7, 34°.61N×24°.07E, h37km±3km, MW4.2/10, Moment Tensor Solution.Mantle waves: s10,c10; Duration: 1ꝑ0 Moment tensor: Scale 10^15^Nm; M_{rr}1.54±1.00; $M_{\theta\theta}$0.69±.56; $M_{\phi\phi}$-2.23±.60; $M_{r\theta}$1.05±.28; $M_{\theta\phi}$-1.83±.32; $M_{r\phi}$0.22±.34; Best double couple: $M_0$2.82000×10^15^ NP1:ϕs169.00000°, δ53.00000°, λ31.00000°. NP2:ϕs60.00000°, δ66.00000°, λ139.00000°. Principal axes: T 2.4400, Plg46.0000°, Azm19.0000°; N 0.7600, Plg43.0000°, Azm215.0000°; P -3.2000, Plg8.0000°, Azm117.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*AFAD **20** 10:43:25.0, 34°.90N×24°.15E, h15km, MW4.2*
*MCSM **20** 10:43:25.5±0.5, 35°N±4°×2°4E±°, h39km±4km, mb4.2, mB4.4, MLv4.6, Mw(mB)3.6*
*ATH **20** 10:43:26.7, 34°.76N×24°.15E, h48km±6km, ML4.2/13, Manual Solution by A.Papageorgiou First location: 2019/02/20 10:44:37, This location: 2021/03/24 12:46:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 3 km*
*NAO **20** 10:43:26.2, 35°.08N×24°.47E, h33km, mb4.4*
*MOS **20** 10:43:27.0±1.5, 34°.89N×24°.25E, h38km, mb4.7/17, Error ellipse: s-maj=7.3km s-min=3.7km az=80.7*
*THE **20** 10:43:27.7, 34°.77N×24°.14E, h44km±1km, ML4.3/3, Error ellipse: s-maj=2.5km s-min=1.3km az=173.0*
*IDC **20** 10:43:28.0±1.1, 34°.95N×24°.15E, h57km±6km, mb4.0/18, mbtmp4.2/25, MS3.0/10, Error ellipse: s-maj=19.6km s-min=10.6km az=176.0*
*GII **20** 10:43:29.5±0.0, 34°.795N±0°.004×24°.740E±0°.001, h40km, Mws4.2/8, confirmed*
*HLW **20** 10:43:31.4, 34°.47N×24°.78E, h25km±21km, Md4.6, Ml4.5*

ISC 20 10:43:25.0±0.6, 34°.70N±0°.04×24°.18E±0°.04, h43km±4km, n358, σ1ꝑ77/395, mb4.5/39, MS3.0/6, 20C-16D, Crete

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.16	332	Pg	Pn	10 43 34.1	+1.8
GVD				Sg	Sn	10 43 40.1	+2.7
GVD	Gavdhos	0.16	332	P	Pn	10 43 34.4	+2.1
GVD				S	Sn	10 43 39.6	+2.2
	180μm,0.6s						
GVD	Gavdhos	0.16	332	P	Pn	10 43 34.4	+2.1
GVD				S	Sn	10 43 39.7	+2.3
TMBK	Timbaki Herakl	0.61	52	P	Pn	10 43 39.6	+2.3
TMBK	Timbaki Herakl	0.61	52	P	Pn	10 43 39.7	+2.4
TMBK				S	Sn	10 43 49.4	+3.3
PRNS	Prines Rethymn	0.72	21	P	Pn	10 43 39.4	+0.7
PRNS				S	Sn	10 43 49.2	+0.6
PRNS	Prines Rethymn	0.72	21	P	Pn	10 43 39.4	+0.7
PRNS				S	Sn	10 43 48.9	+0.3
CHNB	Souda	0.79	353	P	Pn	10 43 41.3	+1.5
CHNB				S	Sn	10 43 51.6	+1.1
CHAN	Chania	0.83	352	P	Pn	10 43 41.8	+1.5
CHAN				S	Sn	10 43 52.1	+0.7
IDI	Anoyia	0.83	44	Pg	Pn	10 43 41.5	+1.1
IDI				Sg	Sn	10 43 54.1	+2.6
IDI	Anoyia	0.83	44		Pn	10 43 42.1	+1.8
IDI				Sn	Sn	10 43 54.2	+2.6
IDI	Anoyia	0.83	44	P	Pn	10 43 42.1	+1.8
IDI				S	Sn	10 43 53.9	+2.4
	11μm,0.6s						
IDI	Anoyia	0.83	44	P	Pn	10 43 42.6	+2.2
	1μm,0.4s,baz=233,slow=13,SNR=1717						
IDI				S	Sn	10 43 53.9	+2.4
	4μm,0.5s,baz=304,slow=23,SNR=14						
IDI				LR	LR	10 44 10.9	
	comp=Z,408nm,19.5s,baz=5.0,slow=62						
IDI	Anoyia	0.83	44	P	Pn	10 43 42.2	+1.9
IDI				S	Sn	10 43 52.8	+1.3
IACM	Heraklion	0.95	50	P	Pn	10 43 44.6	+2.7
IACM	Heraklion	0.95	50	P	Pn	10 43 44.6	+2.7
ANKY	Antikythira Is	1.37	329	P	Pn	10 43 49.9	+2.2
ANKY	Antikythira Is	1.37	329	P	Pn	10 43 49.4	+1.7
ANKY				S	Sn	10 44 05.8	+1.1
ZKR	Zakros	1.73	75	Pn	Pn	10 43 54.9	+2.4
ZKR				Sn	Sn	10 44 17.3	+3.9
ZKR	Zakros	1.73	75	P	Pn	10 43 56.3	+3.8
ZKR	Zakros	1.73	75	P	Pn	10 43 56.4	+3.8
ZKR				S	Sn	10 44 17.1	+3.8
THR9	Santorini-Faro	1.92	30	P	Pn	10 43 56.2	+1.1
THR6	Thira Island,	1.93	31	P	Pn	10 43 56.8	+1.4
THR3	Thira Island,	1.98	30	P	Pn	10 43 57.5	+1.5
SAP3	Santorini-Thir	1.98	28	P	Pn	10 43 57.2	+1.2
SAP3	Santorini-Thir	1.98	28	P	Pn	10 43 57.1	+1.1
MHLO	Agia Marina, M	2.00	5	P	Pn	10 43 57.0	+0.8
MHLO	Agia Marina, M	2.00	5	P	Pn	10 43 57.1	+0.8
THR8	Santorini-Mono	2.01	31	P	Pn	10 43 57.5	+1.1
CMBO	Columbo, Santo	2.03	29	P	Pn	10 43 58.2	+1.5
CMBO	Columbo, Santo	2.03	29	P	Pn	10 43 58.3	+1.5
VLI	Veliai	2.26	334	P	Pn	10 44 01.3	+1.4
VLI	Veliai	2.26	334	P	Pn	10 44 00.8	+1.0
ASTA	Astypalaia	2.56	43	P	Pn	10 44 04.8	+0.8
KARP	Karpathos	2.59	70	Pn	Pn	10 44 06.8	+2.4
KARP				Sn	Sn	10 44 37.8	+3.2
KARP	Karpathos	2.59	70	Pn	Pn	10 44 06.6	+2.2
KARP	Karpathos	2.59	70	P	Pn	10 44 07.2	+2.8
KARP				S	Sn	10 44 37.2	+2.6
	2μm,0.3s						
KARP	Karpathos	2.59	70	P	Pn	10 44 07.1	+2.7
APE	Apeiranthos	2.61	24	Pn	Pn	10 44 04.6	-0.1
APE				Sn	Sn	10 44 34.1	-1.1
APE	Apeiranthos	2.61	24	P	Pn	10 44 04.4	-0.3
APE				S	Sn	10 44 34.0	-1.1
APE	Apeiranthos	2.61	24	⇑P	Pn	10 44 04.9	+0.2
APE	Apeiranthos	2.61	24	*c iP*	Pn	10 44 04.9	+0.2
APE	Apeiranthos	2.61	24	P	Pn	10 44 05.0	+0.2
APE	Apeiranthos	2.61	24	P	Pn	10 44 05.0	+0.2
KRND	KRANIDI	2.81	343	P	Pn	10 44 08.6	+1.2
KRND	KRANIDI	2.81	343	P	Pn	10 44 08.4	+1.0
TNSA	Tinos	2.95	15	P	Pn	10 44 09.7	+0.4
MET6	Megalochori,Me	2.97	347	P	Pn	10 44 10.4	+0.9
MET4	Agioi Theodoro	2.99	348	P	Pn	10 44 09.9	0.0
MET5	Makryloggos,Me	2.99	347	P	Pn	10 44 10.8	+0.8
ITM	Ithomi	3.08	324	Pn	Pn	10 44 09.3	-1.9
ITM	Ithomi	3.08	324		Pn	10 44 11.7	+0.5
ITM	Ithomi	3.08	324	P	Pn	10 44 12.1	+1.0
ATH	Athens Observa	3.29	354	P	Pn	10 44 14.9	+0.9
SLUM	Salum	3.31	165	P	Pn	10 44 17.5	+3.2
SLUM				S	Sn	10 44 53.3	+0.9
YAZI	Mula-Dat§a-	3.32	52	P	Pn	10 44 15.1	+0.7
DAT	Datca	3.43	53	Pn	Pn	10 44 17.6	+1.6
DAT				Sn	Sn	10 44 55.7	+0.2
DAT	Datca	3.43	53	P	Pn	10 44 16.3	+0.2
AMT	Artemida-Makis	3.47	325	P	Pn	10 44 17.3	+0.8
BODT	Bodrum	3.47	46	Pn	Pn	10 44 17.8	+1.3
BODT	Bodrum	3.47	46	P	Pn	10 44 16.7	+0.2
YKAV	Yalikavak-Bodr	3.49	45	Pn	Pn	10 44 18.6	+1.8
BDRM	Kayabasi	3.55	47	P	Pn	10 44 18.0	+0.4
GUR	Goura	3.56	336	P	Pn	10 44 18.4	+0.6
ARG	Arkhangelos	3.56	64	Pn	Pn	10 44 20.3	+2.6
ARG	Arkhangelos	3.56	64		Pn	10 44 19.9	+2.2
ARG	Arkhangelos	3.56	64	P	Pn	10 44 19.9	+2.2
ARG	Arkhangelos	3.56	64	P	Pn	10 44 20.3	+2.6
VIL2	Platees	3.58	348	P	Pn	10 44 17.5	-0.6
SMG	Samos	3.69	35	P	Pn	10 44 20.5	+0.9
DDIM	Aydin, Didim	3.71	41	P	Pn	10 44 19.8	+0.1
KLV	Kalavryta, Ach	3.72	334	P	Pn	10 44 20.9	+0.9
MRSB	Marmaris-Mugla	3.84	57	Pn	Pn	10 44 23.7	+2.1
GCAM	G?zelcaml?	3.88	39	Pn	Pn	10 44 23.4	+1.2
GCAM	G?zelcaml?	3.88	39	P	Pn	10 44 22.4	+0.2
MLSB	Milas	3.90	47	Pn	Pn	10 44 23.8	+1.3
MLSB	Milas	3.90	47	P	Pn	10 44 21.9	-0.5
TURN	Turunc	3.90	57	Pn	Pn	10 44 23.9	+1.5
TURN	Turunc	3.90	57	P	Pn	10 44 24.3	+1.9
YER	Yerkesik	4.12	53	Pn	Pn	10 44 27.7	+2.2
YER	Yerkesik	4.12	53	P	Pn	10 44 28.8	+3.3
AYDN	Tasoluk	4.21	44	P	Pn	10 44 28.0	+1.3
DALY	Dalyan (Mula)	4.21	59	Pn	Pn	10 44 29.0	+2.4
MULA	Mugla, Merkez-	4.22	52	P	Pn	10 44 28.9	+2.1
BLCB	Balcova	4.34	31	Pn	Pn	10 44 29.7	+1.2
BLCB	Balcova	4.34	31	P	Pn	10 44 29.5	+1.0
KARB	zmir-Karabur	4.35	24	P	Pn	10 44 28.6	+0.1
AYDB	Zeytinkoy-Aydi	4.42	42	Pn	Pn	10 44 31.2	+1.6
SABU	Mula-Dalaman	4.43	60	P	Pn	10 44 31.4	+1.6
FETY	Fethiye	4.44	63	Pn	Pn	10 44 31.6	+1.8
FETY	Fethiye	4.44	63	P	Pn	10 44 32.6	+2.8
IZZE	Mula-Seydike	4.46	66	P	Pn	10 44 31.5	+1.4
ESEN	Aydn-Nazilli	4.57	46	P	Pn	10 44 33.9	+2.3
IZMR	zmir-demi	4.59	40	P	Pn	10 44 33.3	+1.5
NAZL	Nazilli-Aydin	4.65	44	Pn	Pn	10 44 34.6	+1.8
AKAS	Kas	4.69	69	Pn	Pn	10 44 35.0	+1.7
AKAS	Kas	4.69	69	Pn	Pn	10 44 35.4	+2.1
DNZT	Denizli-Tavas-	4.70	55	P	Pn	10 44 35.4	+1.9
TAVA	DENIZLI_Tavas	4.72	53	P	Pn	10 44 35.7	+1.9
CAME	Cameli-Denizli	4.73	60	Pn	Pn	10 44 35.9	+2.0
ODEM	Odemis-Izmir	4.75	40	Pn	Pn	10 44 35.7	+1.5
CAEL	Denizli, Camel	4.82	58	P	Pn	10 44 36.2	+0.9
PRK	Paraskevi	4.84	20	P	Pn	10 44 35.6	+0.3
DEMR	Demre-Antalya	4.92	70	Pn	Pn	10 44 39.1	+2.7
APMY	Acipayam-Deniz	4.99	55	Pn	Pn	10 44 39.3	+1.9
ELL	Elmali	5.09	65	Pn	Pn	10 44 41.3	+2.4
ELL	Elmali	5.09	65	Pn	Pn	10 44 40.7	+1.8
ELL	Elmali	5.09	65	P	Pn	10 44 40.7	+1.8
DB3	El Dabaa	5.18	134	S	Sn	10 45 34.5	-3.9
KORT	Korkueli	5.51	64	Pn	Pn	10 44 46.9	+2.2
KEMT	Kemer-ANTALYA	5.53	68	Pn	Pn	10 44 47.5	+2.8
SWA2		5.54	168	P	Pn	10 44 47.7	+2.7
LIT	Litokhoron	5.56	346		Pn	10 44 45.0	-0.2
LIT	Litokhoron	5.56	346	P	Pn	10 44 45.0	-0.2
OUR	Ouranopolis	5.63	358	P	Pn	10 44 47.0	+0.9
ANTB	Antalya	5.70	65	Pn	Pn	10 44 49.5	+2.4
IGT	Igoumenitsa	5.72	329	P	Pn	10 44 49.0	+1.6
IGT				pmax	pmax		
	comp=Z,24nm,0.5s						
KZN	Kozani	5.92	342	P	Pn	10 44 54.0	+3.8
KEK	Kerkira	6.11	326	Pn	Pn	10 44 52.8	+0.1
CAVK	Edirne/Enez-Ca	6.19	14	⇑P	Pn	10 44 54.8	+1.0
ALN	Alexandroupoli	6.36	13	Pn	Pn	10 44 56.3	+0.1
ALN	Alexandroupoli	6.36	13	P	Pn	10 44 56.3	+0.1
BAND	Balkesir-Ban	6.45	28	⇓P	Pn	10 44 58.7	+1.3
RDO	Rodhopi	6.53	9	Pn	Pn	10 44 58.4	0.0
OHR	Ohrid	6.94	338	*i* Pn	Pn	10 45 03.5	-0.7
SCTE	Santa Cesarea	7.03	321		Pn	10 45 04.9	-0.5
YLV	Yalova	7.16	34	P	Pn	10 45 08.2	+1.0
	comp=Z,0.1nmcomp=Z,12nm,0.9s						
BORA	Eskisehir	7.19	42	Pn	Pn	10 45 09.0	+1.3
HNAT	Natroun	7.43	131	P	Pn	10 45 11.7	+0.8
TIP	Timpagrande	7.44	309	Pn	Pn	10 45 09.7	-1.4
TIP	Timpagrande	7.44	309	⇑P	Pn	10 45 09.9	-1.1
TIP	Timpagrande	7.44	309	P	Pn	10 45 10.0	-1.1
	comp=Z,0.1nmcomp=Z,343nmcomp=Z,15nm,0.5s						
PLD	Plovdiv	7.45	3	P	Pn	10 45 12.7	+1.6
PLD				pmax	pmax		
	comp=Z,84nm,1.0s						
CTYL	Yalikoy Yolu	7.50	24	P	Pn	10 45 13.0	+1.2
	comp=Z,0.1nmcomp=Z,12nm,0.9s						
CSS	Mathiatis	7.53	85	Pn	Pn	10 45 11.6	-0.7
CSS	Mathiatis	7.53	85	P	Pn	10 45 11.6	-0.7
CEL	Celeste	7.56	300		Pn	10 45 11.6	-1.1
CEL	Celeste	7.56	300	P	Pn	10 45 12.3	-0.4
	comp=Z,0.4nmcomp=Z,806nmcomp=Z,21nm,0.6s						
KLYT	Kilyos	7.59	29	P	Pn	10 45 14.3	+1.3
	comp=Z,0.2nmcomp=Z,54nm,0.8s						
RYAN	Fayoum	7.63	136	P	Pn	10 45 14.9	+1.4
KOT	Kottamia	8.03	124	P	Pn	10 45 20.2	+1.0
PUK	Puka	8.07	337	P	Pn	10 45 18.2	-1.5
HHAG	Hagoal	8.20	123	P	Pn	10 45 21.7	+0.2
VAE	Valguarnera	8.38	292	P	Pn	10 45 26.5	+2.6
	comp=Z,12nm,0.4s,baz=56,slow=11,SNR=2.3						
VAE				S	Sn	10 46 59.0	+1.7
	comp=Z,31nm,0.4s,baz=227,slow=8.0,SNR=4.4						
MATE	Matera	8.39	317	⇓P	Pn	10 45 22.6	-1.3
CUC	Castrocucco	8.50	311	Pn	Pn	10 45 25.3	-0.3
NBNS	Bani Suef	8.57	133	P	Pn	10 45 27.9	+1.4
ANTO	Ankara	8.59	51	P	Pn	10 45 28.8	+2.0
	comp=Z,8.5nm,0.8s						
PDG	Podgorica	8.63	335	Pn	Pn	10 45 24.7	-2.5
PDG	Podgorica	8.63	335	⇓P	Pn	10 45 25.0	-2.2
ZAF	Zafarana	8.92	125	P	Pn	10 45 32.0	+0.7
BR105	Keskin Array S	9.04	54	P	Pn	10 45 35.4	+2.3
	comp=Z,67nmcomp=Z,8.5nm,0.9s						
BR106	Keskin Array S	9.05	53	P	Pn	10 45 35.2	+2.0
	comp=Z,50nmcomp=Z,6.1nm,0.8s						
BR104	Keskin Array S	9.05	54	P	Pn	10 45 35.6	+2.4
	comp=Z,59nmcomp=Z,5.7nm,0.8s						
BR131	Keskin Array S	9.06	54		Pn	10 45 34.0	+0.7
BR131	Keskin Array S	9.06	54	*d iP*	Pn	10 45 35.0	+1.7
BRTR	Keskin Array B	9.06	54		Pn	10 45 32.6	-0.7
BRTR	Keskin Array B	9.06	54	P	Pn	10 45 35.2	+1.9
	comp=Z,3.0nm,0.6s,baz=231,slow=14,SNR=18						
BRTR				S	Sn	10 47 10.4	-3.6
	comp=Z,3.4nm,0.8s,baz=216,slow=25,SNR=5.9						
BRTR				LR	LR	10 50 15.3	
	comp=Z,31nm,20.6s,baz=272,slow=46						
TAMRE	El Minia	9.06	139	P	Pn	10 45 34.7	+1.4
OFRI	`Ofer	9.24	100	P	Pn	10 45 35.7	0.0
OFRI	`Ofer	9.24	100	S	Sn	10 47 12.7	-5.7
KZIT	Kziot	9.39	111	P	Pn	10 45 37.6	-0.2
KZIT	Kziot	9.39	111	S	Sn	10 47 17.2	-4.8
MMAI	Mount Meron Ar	9.48	97	P	Pn	10 45 38.1	-0.9
	comp=Z,7.7nm,0.4s,baz=304,slow=12,SNR=20						
MMAI				S	Sn	10 47 19.6	-4.8
	comp=Z,9.1nm,0.3s,baz=288,slow=20,SNR=8.3						
AMAZ	Amatzia	9.54	106	P	Pn	10 45 39.7	-0.1
AMAZ	Amatzia	9.54	106	S	Sn	10 47 21.5	-4.2
SALP	Salfit	9.57	103	P	Pn	10 45 39.3	-1.0
QRWL	Qaraoun	9.61	94	*eP*	Pn	10 45 39.3	-1.4
ASUT		9.64	137	P	Pn	10 45 42.4	+1.2
MMLI	Mount Malkishu	9.65	100	P	Pn	10 45 39.9	-1.4
MMLI	Mount Malkishu	9.65	100	S	Sn	10 47 23.2	-5.1
GEM	Giv'at Ha'Em	9.65	96	P	Pn	10 45 39.7	-1.6
GEM	Giv'at Ha'Em	9.65	96	S	Sn	10 47 23.2	-5.2
SHBL	Chebaa	9.69	95	*eP*	Pn	10 45 40.2	-1.8
HWQ	Hawqa	9.72	89	*eP*	Pn	10 45 42.0	-0.4
RCY	Rachaya	9.74	94	*eP*	Pn	10 45 41.0	-1.6
GRB	Gharib	9.74	129	P	Pn	10 45 43.4	+0.8
YTIR	Yattir	9.76	107	P	Pn	10 45 41.7	-1.2
HMDT	Nahal Hemdat	9.79	101	P	Pn	10 45 41.4	-1.7
HMDT	Nahal Hemdat	9.79	101	S	Sn	10 47 26.7	-4.9
ILGA	Ilgaz	9.85	47		Pn	10 45 46.5	+2.3
DSI	Dead Sea	9.89	105	P	Pn	10 45 43.7	-1.0
BEIL	Beino	9.89	87	*eP*	Pn	10 45 43.3	-1.4
BALJ	Balqa	9.93	102		Pn	10 45 44.8	-0.3
FKH	Fakeheh	10.11	89	*eP*	Pn	10 45 46.8	-0.9
PRNI	Paran	10.11	112	P	Pn	10 45 47.8	+0.2
PRNI	Paran	10.11	112	S	Sn	10 47 35.2	-4.5
GHAJ	Ghor Haditha	10.14	106		Pn	10 45 48.7	+0.7
ZFRI	Zfri	10.15	111	P	Pn	10 45 47.5	-0.6
HDK1	Dakhla	10.18	152	P	Pn	10 45 49.4	+0.8
MDVR	Moldovita	10.25	350	⇑P	Pn	10 45 49.0	-0.5
HRFI	Mount Harif	10.29	114	P	Pn	10 45 50.7	+0.6
HRFI	Mount Harif	10.29	114	S	Sn	10 47 39.2	-4.8
MBRI	Mt Berech	10.32	115	P	Pn	10 45 49.9	-0.6
HKAT	Jabal Katrina	10.38	124	P	Pn	10 45 51.3	-0.2
EIL	Elat	10.41	116	P	Pn	10 45 51.8	+0.1
	comp=Z,21nm,0.6s,baz=329,slow=13,SNR=16						
EIL				S	Sn	10 47 43.5	-3.5
	comp=Z,16nm,0.3s,baz=307,slow=12,SNR=8.4						
EIL	Elat	10.41	116	P	Pn	10 45 51.5	-0.2
AKRG	Al Kharijah	10.67	148	P	Pn	10 45 56.3	+1.1
GTR	Jabal at Tayr	10.69	147	P	Pn	10 45 57.5	+1.9
GZR	Gura Zlata	10.74	355	⇑P	Pn	10 45 55.9	-0.3
GZR	Gura Zlata	10.74	355	⇑P	Pn	10 45 55.9	-0.3
VOIR		10.75	3	⇑P	Pn	10 45 56.9	+0.5
VOIR		10.75	3	⇑P	Pn	10 45 56.9	+0.5
MLR	Muntele Rosu	10.87	7	P	Pn	10 45 58.0	0.0
	comp=Z,4.8nm,0.7s,baz=170,slow=13,SNR=5.8						
MLR				LR	LR	10 50 32.6	
	comp=Z,79nm,21.1s,baz=238,slow=40						
MLR	Muntele Rosu	10.87	7	⇓P	Pn	10 45 58.2	+0.2
MLR	Muntele Rosu	10.87	7	⇓P	Pn	10 45 58.2	+0.2
INTR	Introdacqua	10.88	315	Pn	Pn	10 45 57.6	-0.5
ASF	Jabal al Asfar	10.92	100	P	Pn	10 45 57.9	-0.9
	comp=Z,3.4nm,0.3s,baz=328,slow=13,SNR=6.4						
ASF				S	Sn	10 47 53.5	-6.1
	comp=Z,5.8nm,0.3s,baz=339,slow=24,SNR=3.4						
HHRG	Al Ghardaqah	10.97	130	P	Pn	10 46 01.4	+2.0
DOPR	Dopca	11.30	4	⇓P	Pn	10 46 03.9	+0.2
VRI	Vrincioaia	11.32	9	⇑P	Pn	10 46 04.3	+0.1
VRI	Vrincioaia	11.32	9	⇑P	Pn	10 46 04.3	+0.1
NRCA	Norcia	11.85	317	Pn	Pn	10 46 10.8	-0.6
FDMO	Fiordimonte	11.99	317		Pn	10 46 13.5	+0.2
KEST	Kesra	12.18	279	P	Pn	10 46 17.4	+1.5
	comp=Z,2.2nm,0.7s,baz=96,slow=10,SNR=2.2						
KEST				S	Sn	10 48 22.8	-7.6
	comp=Z,1.9nm,0.6s,baz=339,slow=12,SNR=2.1						
MORH	Mrgy, Hungar	12.25	342	⇑P	Pn	10 46 15.7	-1.1
BURAR	Bucovina Array	12.93	3	Pn	Pn	10 46 27.9	+1.8
BURAR	Bucovina Array	12.93	3	⇓P	Pn	10 46 26.6	+0.5
BURAR	Bucovina Array	12.93	3	⇓P	Pn	10 46 26.6	+0.5
BUR08	Bucovina Ar. S	12.96	3		Pn	10 46 27.8	+1.2
OBKA	Obir	13.87	331	*e*Pn	Pn	10 46 38.8	-0.2
	comp=Z,0.9nm,0.5s						
MODS	Modra-Piesok	14.60	341	*eP*	P	10 46 54.8	+0.4
MODS	Modra-Piesok	14.60	341	*eP*	P	10 46 54.8	+0.4
KWP	Kalwaria Pacla	14.96	356	P	Pn	10 46 55.0	+1.5
	comp=Z,17nm,1.7s						
LESA	Schwarzleotal	15.37	329	*e*Pn	Pn	10 46 59.0	0.0
	comp=Z,0.5nm,0.1s						
LUBAR	Lubar, Ukraine	15.44	9	P	Pn	10 47 00.7	+1.0
GEVA	Gevas	15.60	71	Pn	Pn	10 47 04.5	+2.4
GEVA				IAmb	IAmb	10 47 14.5	
	comp=Z,17nm,1.4s						
VRAC	Vranov	15.64	341	P	Pn

BFO	**Black Forest**	**18.02**	**324**	P	**Pn**	**10 47 32.1**	**0.0**
BFO	**Black Forest**	**18.02**	**324**	P	**Pn**	**10 47 32.1**	**0.0**
BFO				pmax	pmax		
	comp=Z,13nm,1.3s						
CLL	**Collm**	**18.47**	**337**	*e*P	**P**	**10 47 38.0**	**+0.9**
CLL	**Collm**	**18.47**	**337**	*e*P	**P**	**10 47 38.0**	**+0.9**
CLL				*e*PPP	PPP	10 48 01.0	
SUW	**Suwalki**	**19.33**	**358**	P	**P**	**10 47 44.9**	**-1.5**
SUW	**Suwalki**	**19.33**	**358**	P	**P**	**10 47 44.9**	**-1.5**
SUW				pmax	pmax		
	comp=Z,106nm,0.8s						
MNK	**Minsk**	**19.97**	**6**	*i* P	**P**	**10 47 50.5**	**-3.0**
	comp=E,25nm,0.7s						
MNK				*i* P	**P**	**10 47 50.5**	**-3.0**
	comp=N,12nm,0.9s						
MNK				*i* P	**P**	**10 47 50.5**	**-3.0**
	comp=Z,14nm,0.6s,baz=189						
MNK				*i* pP	**pP**	**10 48 00.5**	**-3.0**
MNK				*i* PP	**sP**	**10 48 07.0**	**-1.7**
MNK				*i* S	**S**	**10 51 32.6**	**-3.0**
MNK				*i* sS	**sS**	**10 51 48.5**	**-3.0**
MNK				*i* SS	**SnSn**	**10 51 51.3**	**-2.5**
MNK				*i* LQ	LQ	10 52 26.6	
MNK				*i* LR	LR	10 54 49.1	
MNK				*i* LRM	MLR	10 55 43.6	
	comp=E,1μm,21.9s						
MNK				*i* LRM	MLR	10 55 52.2	
	comp=N,660nm,19.2s						
MNK				*i* LRM	MLR	10 56 19.9	
	comp=Z,58nm,13.6s						
MNK	**Minsk**	**19.97**	**6**	*i* P	**P**	**10 47 50.5**	**-3.0**
MNK				*i* S	**S**	**10 51 32.6**	**-3.0**
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=Z,14nm,0.6s						
MNK				pmax	pmax		
	comp=E,25nm,0.7s						
MNK				MLR	MLR		
	comp=E,1μm,22.0s						
MNK				MLR	MLR		
	comp=N,660nm,19.0s						
MNK				MLR	MLR		
	comp=Z,58nm,14.0s						
NACGM	**Naroch**	**20.29**	**4**	*e*P	**P**	**10 47 55.4**	**-1.5**
	baz=187						
PABE	**Paberze**	**20.81**	**360**	P	**P**	**10 48 00.3**	**-2.2**
OBN	**Obninsk**	**22.16**	**19**	*de*	**P**	**10 48 19.8**	**+2.8**
OBN				*e*		10 48 43.9	
OBN				pmax	pmax		
	comp=Z,17nm,0.7s						
OBN				MLR	MLR		
	comp=Z,37nm,16.0s						
BLEU	**Blekinge**	**22.36**	**348**	*i* P	**P**	**10 48 15.8**	**-3.4**
DEL	**Delary**	**22.89**	**345**	*i* P	**P**	**10 48 22.5**	**-2.3**
ESDC	**Sonseca Array**	**22.92**	**291**	P	**P**	**10 48 25.6**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=90,slow=9.6,SNR=6.9						
	comp=Z,0.8nm,0.8s						
FABU	**Falkenberg**	**23.63**	**344**	*i* P	**P**	**10 48 30.6**	**-1.3**
ONAU	**Onsala**	**24.17**	**344**	*i* P	**P**	**10 48 35.3**	**-1.7**
BELG	**Belogornoye**	**24.35**	**36**	*d* *i* P	**P**	**10 48 39.4**	**+0.7**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
STRU	**Stroemstad**	**25.82**	**345**	*i* P	**P**	**10 48 50.6**	**-1.4**
HFS	**Hagfors**	**26.35**	**348**	P	**P**	**10 48 55.5**	**-1.3**
	comp=Z,8.6nm,0.7s,baz=146,slow=10,SNR=5.9						
	comp=Z,8.6nm,0.7s						
FINES	**FINESS Array B**	**26.79**	**2**	P	**P**	**10 48 58.8**	**-1.9**
	comp=Z,6.0nm,0.7s,baz=164,slow=10,SNR=11						
FINES				PcP	**PcP**	**10 52 22.9**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=200,slow=3.7,SNR=3.3						
FINES				LR	LR	10 59 23.3	
	comp=Z,61nm,18.8s,baz=22,slow=36						
	comp=Z,6.0nm,0.7s						
FINES	**FINESS Array B**	**26.79**	**2**	*i* P	**P**	**10 48 58.9**	**-1.8**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NC602	**NORSAR Array S**	**27.31**	**346**	P	**P**	**10 49 04.3**	**-1.1**
NC602				IAmb	IAmb	10 49 07.7	
	comp=Z,13nm,0.9s						
NORES	**NORESS Array B**	**27.31**	**346**	P	**P**	**10 49 04.4**	**-1.0**
NB2	**NORSAR Subarra**	**27.65**	**346**	P	**P**	**10 49 07.4**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**27.65**	**346**	P	**P**	**10 49 07.2**	**-1.4**
	comp=Z,3.0nm,0.6s,baz=148,slow=9.9,SNR=24						
NOA				LR	LR	11 02 38.3	
	comp=Z,12nm,21.6s,baz=170,slow=42						
	comp=Z,3.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**27.96**	**326**	P	**P**	**10 49 12.0**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=127,slow=7.7,SNR=1.7						
	comp=Z,0.4nm,0.4s						
EKA	**Eskdalemuir Ar**	**27.96**	**326**	P	**P**	**10 49 12.0**	**+0.7**
KLMR	**Klimovskoe**	**27.98**	**16**	*e*P	**P**	**10 49 07.6**	**-3.8**
KLMR				pmax	pmax		
	comp=Z,16nm,0.8s						
AKTO	**Aktyubinsk**	**29.15**	**47**	LR	LR	11 06 07.0	
	comp=Z,27nm,18.1s,baz=200,slow=47						
TORD	**Torodi Ar. Bea**	**29.58**	**229**	P	**P**	**10 49 28.5**	**+2.5**
	comp=Z,56nm,0.8s,baz=37,slow=8.3,SNR=1.1						
ABKAR	**Akbulak array**	**29.99**	**50**	P	**P**	**10 49 29.0**	**-0.3**
ARTI	**Arti**	**31.80**	**36**	P	**P**	**10 49 44.2**	**-1.0**
ARTI				IAmb	IAmb	10 49 46.0	
	comp=Z,12nm,1.0s						
ARTI	**Arti**	**31.80**	**36**	*c* *i* P	**P**	**10 49 44.7**	**-0.5**
ARTI						10 50 47.5	
ARTI				S	**S**	**10 54 53.6**	**+1.3**
ARTI				SS	**SnSn**	**10 56 42.3**	**0.0**
ARTI				pmax	pmax		
	comp=Z,14nm,1.1s						
ARCES	**ARCESS Array B**	**34.90**	**1**	P	**P**	**10 50 10.1**	**-2.0**
	comp=Z,3.3nm,0.5s,baz=178,slow=8.9,SNR=12						
ARCES				LR	LR	11 05 30.0	
	comp=Z,34nm,19.8s,baz=242,slow=38						
	comp=Z,3.3nm,0.5s						
MBAR	**Mbarara**	**35.65**	**169**	*ce*P	P	10 50 15.6	-3.6
MBAR				pmax	pmax		
	comp=Z,11nm,2.5s						
KK31	**Karatay Array**	**36.63**	**63**		**P**	**10 50 28.0**	**+0.8**
KK31	**Karatay Array**	**36.63**	**63**	P	**P**	**10 50 28.0**	**+0.8**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KKAR	**Karatay Array**	**36.63**	**63**		**P**	**10 50 27.9**	**+0.6**
KKAR	**Karatay Array**	**36.63**	**63**		**P**	**10 50 28.0**	**+0.8**
KKAR				IAmb	IAmb	10 50 29.7	
	comp=Z,4.9nm,0.7s						
KKAR	**Karatay Array**	**36.63**	**63**	P	**P**	**10 50 28.0**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**37.19**	**46**	*d* *i* P	**P**	**10 50 31.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BVAR	**Borovoye Array**	**37.25**	**46**	P	**P**	**10 50 32.9**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=252,slow=8.7,SNR=11						
	comp=Z,2.7nm,0.5s						
ARSB	**Arslanbob**	**38.60**	**65**	P	**P**	**10 50 45.5**	**+1.4**
ARSB				IAmb	IAmb	10 50 52.5	
	comp=Z,8.0nm,1.2s						
ARSB	**Arslanbob**	**38.60**	**65**	P	**P**	**10 50 45.5**	**+1.4**
ARSB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	**Ala-Archa**	**39.58**	**63**	*d* *i* P	**P**	**10 50 54.4**	**+2.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**42.04**	**51**	P	**P**	**10 51 12.6**	**+0.4**
	comp=Z,13nm,0.5s,baz=277,slow=8.6,SNR=73						
	comp=Z,13nm,0.5s						
KURK	**Kurchatov**	**42.09**	**50**	P	**P**	**10 51 12.9**	**+0.2**
KURK				IAmb	IAmb	10 51 13.8	
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**42.09**	**50**	P	**P**	**10 51 12.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**43.72**	**358**	P	**P**	**10 51 25.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=146,slow=10,SNR=14						
	comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**44.70**	**56**	P	**P**	**10 51 34.3**	**+0.5**
MK31				IAmb	IAmb	10 51 35.5	
	comp=Z,6.6nm,0.9s						
MK31	**Makanchi Array**	**44.70**	**56**	*c* *i* P	**P**	**10 51 34.6**	**+0.8**
MKAR	**Makanchi Array**	**44.70**	**56**	P	**P**	**10 51 34.7**	**+0.9**
MKAR	**Makanchi Array**	**44.70**	**56**	P	**P**	**10 51 34.5**	**+0.7**
	comp=Z,3.4nm,0.3s,baz=269,slow=7.8,SNR=85						
	comp=Z,3.4nm,0.3s						
MKAR	**Makanchi Array**	**44.70**	**56**	P	**P**	**10 51 34.7**	**+0.9**
ZAA0	**Zalesovo Array**	**45.90**	**46**	P	**P**	**10 51 43.0**	**-0.2**
ZALV	**Zalesovo Beam**	**45.90**	**46**	P	**P**	**10 51 43.1**	**0.0**
ZALV	**Zalesovo Beam**	**45.90**	**46**	P	**P**	**10 51 43.0**	**-0.1**
	comp=Z,28nm,0.4s,baz=269,slow=8.9,SNR=127						
NRIK	**Noril'sk**	**48.64**	**25**	P	**P**	**10 52 04.5**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=224,slow=4.9,SNR=5.4						
	comp=Z,2.6nm,0.6s						
NRIK	**Noril'sk**	**48.64**	**25**	⇑*i* P	**P**	**10 52 03.4**	**-0.8**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAK	**Zakamensk**	**57.65**	**48**	*e*P	**P**	**10 53 11.4**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LBTB	**Lobatse**	**59.40**	**179**	LR	LR	11 18 34.2	
	comp=Z,25nm,18.4s,baz=176,slow=35						
SONM	**Songino Array**	**60.40**	**50**	P	**P**	**10 53 30.9**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=290,slow=7.1,SNR=17						
	comp=Z,2.8nm,0.6s						
ULN	**Ulaanbaatar**	**60.81**	**50**	P	**P**	**10 53 33.9**	**+1.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SCHQ	**Schefferville**	**63.02**	**320**	P	**P**	**10 53 47.9**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=84,slow=5.3,SNR=6.3						
	comp=Z,2.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**66.56**	**56**	*e*P	**P**	**10 54 11.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,99nm,5.6s						
YAK	**Yakutsk**	**66.68**	**30**	*e*P	**P**	**10 54 11.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BNX	**BinXian**	**74.19**	**45**	⇑P	**P**	**10 54 56.6**	**-0.6**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLR	**Kul'dur**	**74.64**	**40**	*e*P	**P**	**10 54 59.4**	**-0.3**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.7s						
YKA	**Yellowknife Ar**	**77.64**	**342**	P	**P**	**10 55 16.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.4,SNR=14						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**77.64**	**342**	P	**P**	**10 55 17.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**77.73**	**44**	P	**P**	**10 55 17.6**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=296,slow=4.6,SNR=6.9						
	comp=Z,3.3nm,0.8s						
KSRS	**Korea Array**	**79.20**	**52**	P	**P**	**10 55 26.4**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=306,slow=4.7,SNR=6.4						
	comp=Z,1.3nm,0.5s						
ILAR	**Eielson Array**	**80.61**	**356**	P	**P**	**10 55 33.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=4.5,slow=5.3,SNR=11						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**92.07**	**328**	P	**P**	**10 56 30.3**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=325,slow=4.2,SNR=2.0						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**117.34**	**96**	PKP	**PKPdf**	**11 02 06.6**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=302,slow=2.6,SNR=2.1						
ASAR	**Alice Springs**	**118.76**	**100**	PKP	**PKPdf**	**11 02 09.6**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=320,slow=2.2,SNR=4.2						

HEL 20 10:46:02.9±0.2, 62°.31N×25°.84E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.29**	**131**	PG	Pg	10 46 07.6	-0.8
KAF				SG	Sg	10 46 11.8	-0.4
SUF	**Sumiainen**	**0.44**	**19**	PG	Pg	10 46 10.2	-1.1
SUF				SG	Sg	10 46 16.2	-0.8
KEF	**Keuruu**	**0.48**	**254**	PG	Pg	10 46 11.0	-1.0
	baz=73						
KEF				SG	Sg	10 46 17.2	-1.0
KEF				MSG		10 46 18.5	
	comp=Z,4.3nm,0.2s						
FIA0	**FINESS Array S**	**0.87**	**173**	PB	Pg	10 46 18.4	-1.2
	baz=358						
FIA0				MSG		10 46 29.9	
	comp=Z,3.3nm,0.2s						
NIF	**Nilsia**	**1.41**	**39**	PG	Pn	10 46 28.2	-1.7
NIF				SG	Sg	10 46 46.9	-1.4
VAF	**Ylistaro**	**1.64**	**298**	PG	Pn	10 46 32.4	-0.6
VAF				MSG		10 46 52.1	
	comp=Z,2.0nm,0.2s						
VAF				SN	Sn	10 46 54.4	-0.3
RUF	**Ruokolahti**	**1.72**	**120**	PG	Pn	10 46 34.4	+0.4
RUF				MSG		10 46 54.2	
	comp=Z,1.5nm,0.2s						
PVF	**Pernaja**	**1.77**	**180**	MSG		10 46 55.5	
	comp=Z,1.7nm,0.2s						
PVF				SN	Sb	10 46 58.3	-0.4
KPF	**Kankaanpaa**	**1.84**	**257**	PG	Pn	10 46 36.3	+0.7
	baz=73						
KPF				SG	Sb	10 47 00.4	-0.5
OUF	**Merijarvi**	**2.13**	**347**	MSG		10 47 06.1	
	comp=Z,1.1nm,0.2s						
OUF				SG	Sb	10 47 09.1	-0.1
OBF0	**Syolatti, Pyha**	**2.32**	**343**	MSG		10 47 11.3	
	comp=Z,0.8nm,0.2s						
OBF0				SG	Sb	10 47 14.3	-0.3
RAF	**Rauma**	**2.33**	**238**	MSG		10 47 11.8	
	comp=Z,2.4nm,0.2s						
RAF				SG	Sb	10 47 14.7	-0.3
OBF4	**Vikkela, Lumij**	**2.54**	**353**	MSG		10 47 17.8	
	comp=Z,0.7nm,0.2s						
OBF4				SG	Sb	10 47 20.5	-0.5
JOF	**Joensuu**	**2.60**	**74**	SG	Sb	10 47 21.0	-1.9
RMF	**Romuvaara**	**2.67**	**42**	MSG		10 47 21.4	
	comp=Z,1.0nm,0.2s						
RMF				SG	Sb	10 47 23.1	-1.5

HEL 20 10:47:45.8±0.2, 67°.63N×20°.87E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.60**	**45**	PG	Pg	10 47 56.4	-0.8
LANU				SG	Sg	10 48 05.0	+0.1
PAJU	**Pajala**	**1.06**	**124**	PG	Pg	10 48 04.8	-1.3
	baz=306						
PAJU				SG	Sg	10 48 18.5	-1.3
ERTU	**Ertsjaerv**	**1.20**	**154**	SG	Sg	10 48 24.6	+0.4
ERTU	**Ertsjaerv**	**1.20**	**154**	PG	Pg	10 48 07.4	-1.3
ERTU				SB	Sg	10 48 24.6	+0.4
KLF	**Kolari**	**1.26**	**107**	PG	Pg	10 48 08.2	-1.6
	baz=291						
KLF				MSG		10 48 23.9	
	comp=Z,1.0nm,0.2s						
KLF				SG	Sg	10 48 24.2	-1.9
HEF	**Hetta**	**1.31**	**52**	*e*P	Pg	10 48 08.0	-2.8
HEF	**Hetta**	**1.31**	**52**	PG	Pg	10 48 08.7	-2.1
	baz=235						
HEF				MSG		10 48 25.2	
	comp=Z,3.6nm,0.2s						
HEF				SG	Sg	10 48 26.4	-1.4
KIF	**Kilpisjarvi**	**1.38**	**359**	*e*P	Pg	10 48 11.4	-0.8
KIF	**Kilpisjarvi**	**1.38**	**359**	PG	Pg	10 48 11.5	-0.8
KIF				MSG		10 48 28.6	
	comp=Z,5.7nm,0.2s						
KIF				SN	Sn	10 48 31.5	+0.3
KTK1	**Kautokeino**	**1.64**	**31**	PG	Pn	10 48 15.7	-0.2
KTK1				SN	Sg	10 48 39.1	+0.6
KALU	**Kalix**	**2.03**	**150**	PG	Pb	10 48 22.4	-1.1
KALU				SG	Sb	10 48 49.7	+0.4
TOF	**Tornio**	**2.07**	**137**	PG	Pb	10 48 23.1	-1.0
TOF				MSG		10 48 47.2	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	10 48 49.9	-0.5
RNF	**Rovaniemi**	**2.25**	**115**	SG	Sb	10 48 54.7	-1.0
RAJF	**Raja-Jooseppi**	**2.92**	**70**	PB	Pn	10 48 35.7	+2.3
RAJF				SG	Sb	10 49 14.3	-0.5
KEV	**Kevo**	**3.09**	**44**	PB	Pn	10 48 36.9	+1.1
KEV				SN	Sn	10 49 13.4	+0.1
KEV				MSG		10 49 16.8	
	comp=Z,0.5nm,0.2s						
OUF	**Merijarvi**	**3.64**	**153**	SG	Sb	10 49 36.9	+1.5

*IDC **20** 11:17:42.6±1.6, 47°.78N×145°.17E, h464km±19km, mb2.9/15, mbtmp3.7/19, Error ellipse: s-maj=15.6km s-min=14.8km az=79.0*
*SKHL **20** 11:17:43.2±0.7, 47°.40N×145°.70E, h444km±13km, mb4.6/11, msha4.7/7*
ISC 20 11:17:40.7±0.6, 47.49N±0°.06×145°.55E±0°.09, h450km, n29, σ1°.95/36, mb3.2/15, Sea of Okhotsk

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

YSS	**Yuzhno-Sakhali**	**1.98**	**255**	*e*P	**P**	**11 18 44.2**	**+3.2**
YSS				AMB	AMB	11 18 44.5	
	120nm,0.2s						
YSS				*e*S	**S**	**11 19 32.0**	**+2.0**
YSS				A	A	11 19 34.0	
	40nm,0.6s						
YSS				A	A	11 19 34.0	
	70nm,0.6s						
KUR	**Kuril'sk**	**2.77**	**144**	*e*P	**P**	**11 18 46.1**	**0.0**
KUR				AMB	AMB	11 18 47.2	
	40nm,0.6s						
KUR				*e*S	**S**	**11 19 36.8**	**-2.3**
KUR				A	A	11 19 45.6	
	30nm,0.6s						
KUR				A	A	11 19 45.6	
	30nm,0.6s						
UGL	**Uglegorsk**	**2.81**	**306**	*e*P	**P**	**11 18 48.0**	**+1.8**
UGL				AMB	AMB	11 18 48.6	
	60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.46**	**176**	*e*P	**P**	**11 18 53.5**	**+2.2**
YUK				AMB	AMB	11 18 56.5	
	90nm,0.8s						
YUK				*e*S	**S**	**11 19 49.6**	**+0.9**
YUK				A	A	11 19 59.2	
	80nm,0.7s						
YUK				A	A	11 19 59.2	
	100nm,0.7s						
SHO	**Shikotan**	**3.73**	**166**	*e*P	**P**	**11 18 55.0**	**+1.5**
SHO				AMB	AMB	11 18 55.6	
	20nm,0.3s						
SHO				*e*S	**S**	**11 19 52.0**	**-0.7**
SHO				A	A	11 19 54.8	
	100nm,0.3s						
SHO				A	A	11 19 54.8	
	120nm,0.3s						
TYV	**Tymovskoe**	**3.87**	**332**	*e*P	**P**	**11 18 58.6**	**+4.1**
TYV				*e*S	**S**	**11 19 57.5**	**+2.8**
ASAJ	**Asahikawa**	**3.96**	**212**	P	**P**	**11 18 58.8**	**+3.3**
	3.2nm,0.5s,baz=278,slow=4.8,SNR=7.9						
NMR	**Nemuro--Hokkai**	**4.12**	**178**	*e*P	**P**	**11 18 58.1**	**+1.2**
NMR				*e*S	**S**	**11 19 58.9**	**0.0**
AKK	**Akkeshi**	**4.50**	**187**	*e*P	**P**	**11 19 01.7**	**+1.3**
AKK				*e*S	**S**	**11 20 04.3**	**-0.9**
NKL	**Nikolayevsk**	**6.46**	**333**	*e*P	**P**	**11 19 19.9**	**+0.4**
NKL				AMB	AMB	11 19 20.3	
	20nm,0.4s						
SKR	**Severo-Kuril's**	**7.64**	**61**	*e*P	**P**	**11 19 33.2**	**+1.2**
SKR				AMB	AMB	11 19 34.3	
	40nm,0.8s						
KLR	**Kul'dur**	**9.35**	**286**	P	**P**	**11 19 50.6**	**0.0**
	0.9nm,0.6s,baz=96,slow=11,SNR=3.9						
USRK	**Ussuriysk Ar.**	**10.02**	**256**	P	**P**	**11 19 57.5**	**-0.4**
	1.3nm,0.7s,baz=61,slow=12,SNR=2.2						
SEY	**Seymchan**	**15.94**	**11**	P	**P**	**11 21 00.7**	**-0.7**
	0.6nm,0.4s,baz=177,slow=8.3,SNR=4.0						
SONM	**Songino Array**	**26.18**	**285**	P	**P**	**11 22 36.2**	**-1.2**
	0.3nm,0.4s,baz=79,slow=7.8,SNR=4.0						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**37.93**	**303**	P	**P**	**11 24 15.7**	**-2.0**
	0.6nm,0.4s,baz=60,slow=5.7,SNR=2.4						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**41.95**	**293**	P	**P**	**11 24 48.6**	**-1.8**
	0.6nm,0.6s,baz=69,slow=7.4,SNR=8.7						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**42.67**	**300**	P	**P**	**11 24 54.1**	**-1.8**
	1.0nm,0.6s,baz=71,slow=8.8,SNR=5.3						
	1.0nm,0.6s						
INK	**Inuvik**	**43.78**	**32**	P	**P**	**11 25 04.2**	**-0.1**
	0.3nm,0.4s,baz=305,slow=4.4,SNR=4.7						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**46.32**	**306**	P	**P**	**11 25 23.1**	**-1.2**
	0.9nm,0.5s,baz=52,slow=9.3,SNR=1.9						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**61.04**	**331**	P	**P**	**11 27 06.1**	**-2.7**
	5.5nm,1.0s,baz=48,slow=6.6,SNR=2.3						
	5.5nm,1.0s						
NOA	**NORSAR Array B**	**65.71**	**338**	P	**P**	**11 27 36.4**	**-2.6**
	0.7nm,0.7s,baz=28,slow=7.5,SNR=1.7						
	0.7nm,0.7s						
HFS	**Hagfors**	**65.81**	**336**	P	**P**	**11 27 37.2**	**-2.4**
	2.3nm,0.9s,baz=76,slow=6.1,SNR=4.1						
	2.3nm,0.9s						
NVAR	**Mina Array Bea**	**66.56**	**58**	P	**P**	**11 27 46.1**	**+1.1**
	0.2nm,0.5s,baz=310,slow=6.7,SNR=1.8						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**67.87**	**191**	P	**P**	**11 27 54.5**	**+1.6**
	0.2nm,0.4s,baz=10,slow=6.5,SNR=6.6						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**67.92**	**322**	P	**P**	**11 27 50.7**	**-2.1**
	0.7nm,0.6s,baz=40,slow=6.7,SNR=2.3						
	0.7nm,0.6s						
PDAR	**Pinedale Array**	**68.36**	**50**	P	**P**	**11 27 57.2**	**+1.2**
	0.3nm,0.8s,baz=282,slow=7.0,SNR=2.6						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**71.60**	**191**	P	**P**	**11 28 17.7**	**+2.5**
	0.3nm,0.5s,baz=358,slow=5.0,SNR=8.8						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**81.49**	**56**	P	**P**	**11 29 11.6**	**+1.6**
	0.2nm,0.5s,baz=279,slow=3.9,SNR=6.9						
	0.2nm,0.5s						

*IDC **20** 11:24:47.4±1.5, 36°.41N×140°.34E, h0km, mb3.5/6, mbtmp3.6/7, ML4.1/1, MS2.2/1, Error ellipse: s-maj=35.8km s-min=19.3km az=58.0*
*NIED **20** 11:24:56.5, 36°.07N×139°.85E, h43km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.49; $M_{\theta\theta}$-1.43; $M_{\phi\phi}$-1.06; $M_{r\theta}$0.80; $M_{\theta\phi}$-1.02; $M_{\phi r}$1.16; Fault plane solution: $M_0$2.77000×10^{14} NP1: ϕ_s236.00000°, δ31.00000°, λ102.00000°. NP2: ϕ_s43.00000°, δ60.00000°, λ83.00000°.*
*JMA **20** 11:24:56.5±0.1, 36°.1N±0°.4×139°.9E±0°.4, h43km±1km, MD3.5/26, MV3.7/26, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
ISC 20 11:24:55.6±0.9, 36°.07N±0°.04×139°.86E±0°.04, h35km, n26, σ2°.20/24, mb3.7/6, 4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.31**	**59**	*i* P	**Pn**	**11 25 05

comp=E,0.3nm,0.4s,baz=2.8,slow=7.4,SNR=6.4
comp=E,0.3nm,0.4s
ASAR Alice Springs 59.68 186 P P 11 34 55.8 -0.7
comp=E,0.2nm,0.8s,baz=8.7,slow=7.8,SNR=1.7
comp=E,0.2nm,0.8s

IDC 20 11:25:49.6±2.0, 7°52S×125°33E, h0km, mb3.3/1, mbtmp3.3/4, ML2.9/3, Error ellipse: s-maj=112.2km s-min=29.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.52**	**178**	Pn	Pn	11 28 21.9	+0.2
	baz=5.2,slow=11,SNR=1.4						
FITZ				Sn	Sn	11 30 10.1	-10
	0.2nm,0.3s,baz=122,slow=20,SNR=8.9						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**15.13**	**146**	Pn	Pn	11 29 26.7	+2.0
	0.1nm,0.3s,baz=320,slow=12,SNR=5.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**18.04**	**154**	P	Pn	11 30 00.9	-1.0
	0.1nm,0.3s,baz=329,slow=13,SNR=8.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**66.21**	**329**	P	P	11 36 39.3	0.0
	0.2nm,0.5s,baz=116,slow=5.6,SNR=2.1						
	0.2nm,0.5s						

*IDC **20** 11:26:16.7±1.3, 5°81N×126°03E, h100km±12km, mb3.2/6, mbtmp3.5/6, Error ellipse: s-maj=58.5km s-min=16.1km az=73.0*

ISC 20 11:26:16.9±1.0, 5°8N±0°2×126°0E±0°4, h100km, n7, σ0°73/8, mb3.4/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.32**	**342**	P	**Pn**	**11 26 41.1**	**0.0**
	161nm,0.3s,baz=274,slow=6.8,SNR=6.7						
DAV				S	**Sn**	**11 26 59.2**	**0.0**
	407nm,0.3s,baz=297,slow=14,SNR=8.8						
FITZ	**Fitzroy Crossi**	**23.76**	**181**	P	**P**	**11 31 21.2**	**+1.0**
	2.0nm,0.6s,baz=354,slow=10,SNR=2.2						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**26.87**	**162**	P	**P**	**11 31 47.6**	**-0.9**
	0.2nm,0.4s,baz=345,slow=9.2,SNR=7.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**30.30**	**166**	P	**P**	**11 32 18.4**	**-0.6**
	0.1nm,0.5s,baz=350,slow=7.3,SNR=5.1						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**55.44**	**325**	P	**P**	**11 35 40.9**	**-0.3**
	0.2nm,0.3s,baz=121,slow=8.2,SNR=8.8						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**59.60**	**327**	P	**P**	**11 36 09.9**	**-0.4**
	0.2nm,0.3s,baz=126,slow=6.2,SNR=2.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**83.56**	**26**	P	**P**	**11 38 34.2**	**+0.5**
	0.2nm,0.5s,baz=250,slow=5.6,SNR=6.2						
	0.2nm,0.5s						

*NEIC **20** 11:31:44.3±1.1, 61°33N±0°02×150°01W±0°04, h49km±3km, Error ellipse: s-maj=3.9km s-min=2.3km az=145.0*

AEIC 20 11:31:44.5±1.1, 61°33N±0°03×149°95W±0°05, h51km±3km, ML2.2, ML2.4/89(NEIC), Error ellipse: s-maj=4.1km s-min=3.7km az=161.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**215**		Pn	11 31 53.1	-0.1
FIS				IAML		11 32 01.5	
	comp=E,306nm,0.5s						
FIS				IAML		11 32 01.6	
	comp=N,388nm,0.7s						
RC01	**Rabbit Creek A**	**0.26**	**157**		Pn	11 31 52.7	-0.8
RC01	**Rabbit Creek A**	**0.26**	**157**		Sn	11 31 59.5	-0.3
RC01				IAML		11 32 00.5	
	comp=E,266nm,0.2s						
RC01				IAML		11 32 00.6	
	comp=N,521nm,0.2s						
M22K	**Willow**	**0.43**	**349**		Pn	11 31 53.8	-1.3
M22K					Sn	11 32 02.2	-0.4
M22K				IAML		11 32 02.8	
	comp=N,215nm,0.8s						
M22K				IAML		11 32 08.3	
	comp=E,151nm,0.5s						
PMR	**Palmer**	**0.47**	**56**		Pn	11 31 54.6	-0.9
PMR				IAML		11 32 03.7	
	comp=N,204nm,0.3s						
PMR					Sn	11 32 03.8	+0.4
PMR				IAML		11 32 04.9	
	comp=E,179nm,0.4s						
GHO	**Glory Hole Cre**	**0.66**	**47**		Pn	11 31 57.2	-0.7
GHO					Sn	11 32 08.9	+1.2
GHO				IAML		11 32 09.1	
	comp=E,222nm,0.4s						
GHO				IAML		11 32 11.1	
	comp=N,193nm,0.4s						
KNK	**Knik Glacier**	**0.72**	**83**		Pn	11 31 58.6	0.0
KNK					Sn	11 32 10.2	+1.3
KNK				IAML		11 32 11.5	
	comp=N,211nm,0.3s						
KNK				IAML		11 32 11.6	
	comp=E,235nm,0.2s						
CAPN	**Captain Cook N**	**0.81**	**227**	Pn	Pn	11 31 59.9	+0.2
SLKM	**Skilak Lake**	**0.83**	**189**		Pn	11 31 58.8	-1.3
SLKM				IAML		11 32 13.1	
	comp=N,106nm,0.3s						
SLKM				IAML		11 32 13.1	
	comp=E,158nm,0.3s						
O22K	**Cooper Landing**	**0.86**	**173**		Pn	11 31 59.3	-1.1
SML	**Sawmill**	**0.91**	**58**		Pn	11 32 00.9	-0.2
SML					Sn	11 32 13.9	+0.6
SML				IAML		11 32 15.2	
	comp=N,86nm,0.3s						
SML				IAML		11 32 15.3	
	comp=E,103nm,0.6s						
PWL	**Port Wells**	**0.92**	**120**		Pn	11 32 01.2	0.0
PWL					Sn	11 32 14.6	+1.3
STLK	**Strandline Lak**	**0.92**	**281**		Pn	11 32 00.4	-0.9
STLK					Sn	11 32 12.7	-0.9
STLK				IAML		11 32 13.8	
	comp=E,95nm,0.3s						
SKT	**Skwentna**	**1.00**	**312**		Pn	11 32 01.3	-1.0
SKT					Sn	11 32 14.9	-0.4
SKT				IAML		11 32 16.3	
	comp=N,126nm,0.3s						
SKT				IAML		11 32 16.7	
	comp=E,140nm,0.3s						
SPCG	**Spurr Capps Gl**	**1.00**	**269**		Pn	11 32 01.6	-0.8
SPU	**Mount Spurr**	**1.03**	**263**		Pn	11 32 01.4	-1.3
SPU				IAML		11 32 18.0	
	comp=N,47nm,0.3s						
SPCN	**Chakachatna No**	**1.08**	**265**		Pn	11 32 02.8	-0.7
CUT	**Chulitna**	**1.09**	**352**		Pn	11 32 03.1	-0.3
CKL	**Chakachamna La**	**1.16**	**264**		Pn	11 32 03.6	-0.9
M23K	**Glacier View**	**1.16**	**65**		Pn	11 32 04.8	+0.4
SPBG	**Spurr Blockage**	**1.17**	**268**		Pn	11 32 03.8	-0.8
SEW	**Seward**	**1.25**	**169**	Pn	Pn	11 32 04.9	-0.8
SPNN	**North Nagishla**	**1.33**	**273**		Pn	11 32 06.2	-0.6
SCM	**Sheep Creek Mo**	**1.35**	**67**		Pn	11 32 07.5	+0.4
SCM				IAML		11 32 27.6	
	comp=E,88nm,0.7s						
SCM				IAML		11 32 27.6	
	comp=N,89nm,1.0s						
RDT	**Redoubt**	**1.42**	**239**		Pn	11 32 07.1	-0.9
GLI	**Glacier Island**	**1.46**	**107**	Pn	Pn	11 32 08.3	-0.2
GLI				IAML		11 32 35.1	
	comp=E,72nm,0.6s						
GLI				IAML		11 32 36.3	
	comp=N,54nm,0.9s						
DFR	**Drift River**	**1.53**	**242**		Pn	11 32 08.7	-0.8
DFR					Sn	11 32 27.9	-0.3
RDJH	**Redoubt Jeurge**	**1.58**	**243**		Pn	11 32 09.6	-0.6
RDJH					Sn	11 32 29.0	-0.5
M20K	**Styx River**	**1.62**	**291**		Pn	11 32 10.8	+0.1
M20K				IAML		11 32 32.0	
	comp=E,24nm,0.9s						
BRLK	**Bradley Lake**	**1.64**	**197**		Pn	11 32 10.7	-0.2
BRLK				IAML		11 32 34.6	
	comp=E,38nm,0.4s						
BRLK				IAML		11 32 34.8	
	comp=N,29nm,0.1s						
BRSE	**Bradley Lake S**	**1.64**	**194**		Pn	11 32 10.1	-0.8
BRSE					Sn	11 32 31.6	+0.6
RDWB	**Redoubt West**	**1.65**	**240**		Pn	11 32 10.5	-0.6
RDWB					Sn	11 32 31.0	-0.3
NCT	**North Crescent**	**1.65**	**243**		Pn	11 32 10.6	-0.6
NCT					Sn	11 32 30.6	-0.6
RED	**Redoubt Volcan**	**1.66**	**238**		Pn	11 32 10.6	-0.6
RED					Sn	11 32 31.1	-0.2
P23K	**Montague Islan**	**1.83**	**136**		Pn	11 32 12.6	-0.9
HOM	**Homer**	**1.87**	**207**	Pn	Pn	11 32 13.6	-0.5
PPLA	**Purkeypile**	**1.89**	**327**	Pn	Pn	11 32 13.8	-0.7
CNPM	**China Poot**	**1.92**	**200**	Pn	Pn	11 32 14.0	-0.8
CNPM				IAML		11 32 42.2	
	comp=E,32nm,1.0s						
CNPM				IAML		11 32 44.9	
	comp=N,24nm,0.9s						
HIN	**Hinchinbrook I**	**1.93**	**117**	Pn	Pn	11 32 14.2	-0.7
HIN				IAML		11 32 47.1	
	comp=E,53nm,0.9s						
HIN				IAML		11 32 50.5	
	comp=N,33nm,0.8s						
KLU	**Klutina**	**1.94**	**83**		Pn	11 32 15.0	-0.1
KLU				IAML		11 32 47.4	
	comp=N,29nm,0.4s						
KLU				IAML		11 32 52.3	
	comp=E,22nm,0.5s						
M24K	**Tolsona, Glenn**	**1.96**	**65**		Pn	11 32 16.1	+0.7
M24K				IAML		11 32 43.0	
	comp=N,27nm,0.3s						
M24K				IAML		11 32 50.5	
	comp=E,37nm,0.5s						
DIV	**Divide**	**2.03**	**94**	Pn	Pn	11 32 16.1	-0.3
ILSW	**Iliamna Southw**	**2.07**	**231**	Pn	Pn	11 32 16.8	-0.2
ILSW				IAML		11 32 33.5	
	comp=N,14nm,1.2s						
ILSW				IAML		11 32 54.7	
	comp=E,15nm,1.2s						
RND	**Reindeer**	**2.15**	**13**	Pn	Pn	11 32 17.8	-0.1
L20K	**Farewell, AK**	**2.19**	**304**		Pn	11 32 18.1	-0.4
M19K	**Big River Lodg**	**2.20**	**287**		Pn	11 32 18.6	0.0
N19K	**Bonanza Creek**	**2.26**	**259**		Pn	11 32 19.4	-0.2
CAST	**Castle Rocks**	**2.32**	**336**	Pn	Pn	11 32 20.5	+0.3
CAST				IAML		11 32 51.7	
	comp=N,12nm,0.5s						
CAST				IAML		11 32 52.2	
	comp=E,16nm,0.7s						
O19K	**Port Alsworth**	**2.43**	**244**	Pn	Pn	11 32 21.2	-0.5
L19K	**White Mountain**	**2.48**	**292**		Pn	11 32 22.8	+0.3
HARP	**HAARP**	**2.51**	**63**		Pn	11 32 24.0	+1.1
N25K	**Chitina, Valde**	**2.58**	**81**	Pn	Pn	11 32 24.0	+0.1
N25K				IAML		11 33 08.8	
	comp=N,9.3nm,0.8s						
BMRM	**Bremner River**	**2.62**	**96**		Pn	11 32 23.8	-0.6
GOAT	**Goat Mountain**	**2.66**	**104**		Pn	11 32 24.3	-0.6
PAX	**Paxson**	**2.67**	**50**		Pn	11 32 27.2	+2.1
K20K	**Telida**	**2.80**	**318**	Pn	Pn	11 32 26.4	-0.4
K20K				IAML		11 33 05.3	
	comp=E,8.0nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.82**	**351**	Pn	Pn	11 32 27.0	-0.1
M18K	**Stony River**	**2.83**	**276**		Pn	11 32 26.7	-0.5
GLB	**Gilahina Butte**	**2.96**	**85**	Pn	Pn	11 32 28.7	-0.3
GLB				IAML		11 33 16.3	
	comp=N,11nm,0.8s						
GLB				IAML		11 33 23.4	
	comp=E,7.4nm,0.7s						
N18K	**Kilae Creek**	**2.96**	**260**		Pn	11 32 28.4	-0.7
O18K	**Koktuh Hills**	**2.99**	**243**		Pn	11 32 28.7	-0.7
O18K				IAML		11 33 25.7	
	comp=N,6.8nm,1.0s						
TTA	**Tatalina**	**3.27**	**302**	Pn	Pn	11 32 32.3	-1.0
M17K	**Holitna River**	**3.61**	**274**	Pn	Pn	11 32 37.5	-0.4
M17K				IAML		11 33 38.0	
	comp=N,9.1nm,0.9s						
M17K				IAML		11 33 53.3	
	comp=E,11nm,1.0s						
N17K	**Nushagak Hills**	**3.62**	**260**	Pn	Pn	11 32 37.4	-0.6
I21K	**Tanana**	**3.97**	**348**	Pn	Pn	11 32 43.3	+0.5

RSNC 20 11:39:51.7±0.0, 7°N±1°×7°3W±°, h149km±2km, M3.2, mB4.4, mb3.6, ML2.9, Mw(mB)3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**187**	P	Pn	11 40 11.7	-0.6
BARC				S	Sn	11 40 26.7	-1.3
BRJC	**Barrancabermej**	**0.60**	**282**	P	Pn	11 40 13.4	-0.1
BRJC				S	Sn	11 40 30.0	0.0
PAMC	**Pamplona, Colo**	**0.66**	**43**	P	Pn	11 40 14.5	+0.1
PAMC				S	Sn	11 40 31.7	0.0
RUSC	**La Rusia**	**0.95**	**176**	P	Pn	11 40 15.7	-0.9
RUSC				S	Sn	11 40 34.0	-1.5
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	P	Pn	11 40 18.3	-1.2
PTBC				S	Sn	11 40 39.6	-1.1
OCAC	**Ocana**	**1.39**	**353**	P	Pn	11 40 19.9	-0.3
OCAC				S	Sn	11 40 41.6	-0.5
TAMC	**Tame, Arauca**	**1.41**	**107**	P	Pn	11 40 20.0	-0.3
TAMC				S	Sn	11 40 41.4	-0.8
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	P	Pn	11 40 24.3	-0.3
ZARC				S	Sn	11 40 49.7	-0.1
NORC	**Norcasia**	**2.13**	**233**	P	Pn	11 40 27.9	-0.5
NORC				S	Sn	11 40 56.0	-0.6
CHIC	**Chingaza**	**2.28**	**195**	P	Pn	11 40 29.8	-0.8
CHIC				S	Sn	11 40 59.6	-0.8
ROSC	**El Rosal**	**2.31**	**210**	P	Pn	11 40 31.6	+0.7
ROSC				S	Sn	11 41 01.8	+0.8
UREC	**San Jos de Ur**	**2.53**	**291**	P	Pn	11 40 32.3	-0.8
UREC				S	Sn	11 41 02.6	-2.5
GUY2C	**Guyana, Caldas**	**2.73**	**234**	P	Pn	11 40 35.8	-0.3
GUY2C				S	Sn	11 41 11.3	+1.0
VILC	**Villavicencio,**	**2.77**	**191**	P	Pn	11 40 35.2	-1.1
VILC				S	Sn	11 41 09.7	-1.1
CBOC	**Ciudad Bolivar**	**3.01**	**251**	P	Pn	11 40 39.6	+0.3
CBOC				S	Sn	11 41 13.8	-2.3
ARGC	**Ariguani, Magd**	**3.18**	**340**	P	Pn	11 40 42.0	+0.7
ARGC				S	Sn	11 41 19.9	+0.1
SDV	**Santo Domingo**	**3.21**	**51**	P	Pn	11 40 41.1	-0.8
SDV				S	Sn	11 41 19.5	-1.3
APAC	**Apartado, Choc**	**3.56**	**287**	P	Pn	11 40 45.8	-0.4
APAC				S	Sn	11 41 27.6	-0.9
PRAC	**Prado**	**3.56**	**209**	P	Pn	11 40 45.7	-0.6
PRAC				P		11 40 45.8	
PRAC				S	Sn	11 41 28.0	-0.7
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	11 40 46.1	-0.6
ORTC				S	Sn	11 41 29.4	+0.1
SJCC	**San Jacinto, C**	**3.63**	**327**	P	Pn	11 40 45.6	-1.6
SJCC				S	Sn	11 41 27.2	-3.1
LCBC	**Los crdobas,**	**3.76**	**302**	P	Pn	11 40 48.0	-0.8
LCBC				S	Sn	11 41 33.5	+0.3
URMC	**La Uribe, Meta**	**3.78**	**199**	P	Pn	11 40 48.7	-0.5
URMC				S	Sn	11 41 32.5	-1.4
CRJC	**Cerrejon, Guaj**	**4.15**	**4**	P	Pn	11 40 52.2	-1.8
CRJC				S	Sn	11 41 40.7	-1.8
YOTC	**Yotoco, Valle**	**4.27**	**228**	P	Pn	11 40 54.9	-0.7
YOTC				S	Sn	11 41 51.3	+6.0
GUVC	**San Jose del G**	**4.31**	**173**	P	Pn	11 40 54.5	-1.5
GUVC				S	Sn	11 41 41.6	-4.5
SMRC	**Santa Marta, M**	**4.42**	**346**	P	Pn	11 40 56.9	-0.5
SMRC				S	Sn	11 41 44.9	-3.7
CAPC	**Capurgana**	**4.53**	**293**	P	Pn	11 40 57.0	-1.9
CAPC				S	Sn	11 41 42.9	-8.2
PIZC	**Pizarro, Choco**	**4.59**	**246**	P	Pn	11 41 00.3	+0.6
PIZC				S	Sn	11 41 52.9	+0.3
MACC	**Macarena, Meta**	**4.72**	**188**	P	Pn	11 40 58.5	-3.0
MACC				S	Sn	11 41 50.7	-5.3
URIC	**Uribia, Colomb**	**4.95**	**13**	P	Pn	11 41 02.3	-2.2
URIC				S	Sn	11 41 58.4	-2.9
MALC	**Bahia Malaga**	**5.03**	**236**	P	Pn	11 41 06.3	+0.8
MALC				S	Sn	11 42 04.6	+1.5
JAMC	**Jamundi, Valle**	**5.04**	**224**	P	Pn	11 41 05.4	-0.4
	674nm3.7nm,0.5s						
GARC	**Garzon, Huila**	**5.19**	**207**	P	Pn	11 41 05.9	-2.0
GARC				S	Sn	11 42 04.2	-3.1
POPC	**Popayan, Colom**	**5.54**	**220**	P	Pn	11 41 12.1	-0.4
	3.8nm,0.8s						
POPC				S	Sn	11 42 15.7	+0.1
	3.8nm,0.8s						
FLOC	**Florencia**	**5.80**	**206**	P	Pn	11 41 14.6	-1.2
	8.0nm,1.2s						
FLOC				S	Sn	11 42 21.6	+0.1
	8.0nm,1.2s						
GR1C	**Gorgona, Isla**	**6.29**	**233**	P	Pn	11 41 20.0	-2.3

WEL 20 11:42:22.8±1.8, 30°S±23°×17°8E±10°8, h371km±146km, M3.3/5, mB4.2/5, Mw(mB)3.3/5, Error ellipse: s-maj=143.4km s-min=16.5km az=100.2, confirmed, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.82**	**82**	S	S	11 44 27.1	+0.5
HAZ	**Te Kaha**	**7.86**	**180**	P	P	11 44 16.2	-0.1
WMGZ	**Waiomatatini S**	**7.94**	**176**	P	Pn	11 44 16.0	-0.3
WMGZ				S	S	11 45 49.6	+0.3
RUGZ	**Raukumara Rang**	**8.06**	**180**	P	Pn	11 44 18.8	+0.8
URZ	**Urewera**	**8.37**	**183**	P	Pn	11 44 20.9	-0.6
MWZ	**Matawai**	**8.43**	**181**	P	Pn	11 44 22.3	+0.1
RAGZ	**Rawiri**	**8.60**	**182**	P	P	11 44 25.0	-0.6
RIGZ	**Rimuhau**	**8.80**	**180**	P	P	11 44 27.3	-0.5
KNZ	**Kokohu**	**9.12**	**180**	P	P	11 44 31.0	-0.3
BKZ	**Black Stump Fm**	**9.32**	**186**	P	Pn	11 44 31.3	-1.4
OTVZ	**Oturere**	**9.42**	**190**	P	Pn	11 44 33.8	-0.1

*SFS **20** 11:44:01.5, 36°71N×7°54W, h26km, ML2.5/6, ML2.5/6, MLv2.5/6*
*IGIL **20** 11:44:03.9, 36°73N×7°57W, h26km, ML2.2*
*INMG **20** 11:44:04.1±1.7, 36°73N×7°57W, h28km±6km, ML2.3, Error ellipse: s-maj=4.3km s-min=4.1km az=26.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*MDD **20** 11:44:04.1±0.8, 36°77N×7°52W, h40km, mb_Lg2.6/6, Error ellipse: s-maj=7.4km s-min=3.6km az=4.0*
*CNRM **20** 11:44:07.1, 36°02N×7°65W, h10km*

ISC 20 11:44:01.1±1.2, 36°68N±0°03×7°54W±0°03, h33km±9km, n53, σ1°62/82, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.64**	**331**	*e*P	**Pn**	**11 44 15.4**	**+1.4**
PBDV				*e*S	**Sn**	**11 44 23.2**	**+0.2**
PBDV				*i* AML	AML	11 44 24.2	
PBDV				*i* AML	AML	11 44 24.8	
PBDV				*i* AML	AML	11 44 24.9	
PVAQ	**Vaqueiros**	**0.73**	**349**	*e*P	**Pn**	**11 44 16.4**	**+1.2**
PVAQ				*e*S	**Sn**	**11 44 25.5**	**+0.2**
PVAQ				*i* AML	AML	11 44 26.5	
PVAQ	**Vaqueiros**	**0.73**	**349**	S	**Sb**	**11 44 24.8**	**-0.5**
PVAQ				P	**Pn**	**11 44 16.4**	**+1.2**
ARNO	**Arenosillo**	**0.77**	**57**	S	**Sn**	**11 44 27.3**	**+1.1**
EGRO	**El Granado**	**0.85**	**3**	P	**Pb**	**11 44 18.2**	**+0.7**
EGRO				S	**Sb**	**11 44 28.1**	**-0.5**
EGRO	**El Granado**	**0.85**	**3**	P	**Pb**	**11 44 18.5**	**+1.0**
EGRO				S	**Sb**	**11 44 28.3**	**-0.4**
EGRO				*i* Vmb_Lg		11 44 29.6	
PCVE	**Castro Verde**	**1.03**	**337**	*e*P	**Pb**	**11 44 20.8**	**+0.3**
PCVE				*e*S	**Sb**	**11 44 33.0**	**-0.6**
PCVE				*i* AML	AML	11 44 33.6	
PCVE				*i* AML	AML	11 44 33.9	
PCVE				*i* AML	AML	11 44 34.1	
PCVE	**Castro Verde**	**1.03**	**337**	P	**Pb**	**11 44 20.7**	**+0.3**
PCVE				S	**Sn**	**11 44 32.6**	**+0.1**
MORF	**Marmelete**	**1.08**	**305**	*e*P	**Pb**	**11 44 21.3**	**-0.1**
MORF				*e*S	**Sn**	**11 44 34.1**	**+0.1**
MORF				IAML		11 44 35.8	
	comp=E,58nm,0.1s						
MORF	**Marmelete**	**1.08**	**305**	*e*P	**Pb**	**11 44 21.3**	**-0.1**
MORF				*e*S	**Sn**	**11 44 34.1**	**+0.1**
MORF				*i* AML	AML	11 44 34.7	
MORF				*i* AML	AML	11 44 35.9	
MORF				*i* AML	AML	11 44 35.9	
PFVI	**Vila Bisbo**	**1.12**	**294**	*e*P	**Pb**	**11 44 22.1**	**+0.1**
PFVI				*e*S	**Sn**	**11 44 35.2**	**+0.3**
PFVI				*i* AML	AML	11 44 36.2	
PFVI				*i* AML	AML	11 44 38.0	
PFVI				*i* AML	AML	11 44 39.2	
PFVI	**Vila Bisbo**	**1.12**	**294**	P	**Pb**	**11 44 21.7**	**-0.3**
PFVI				S	**Sn**	**11 44 34.7**	**-0.3**
MESJ	**Messejana**	**1.27**	**335**	*e*P	**Pb**	**11 44 24.1**	**-0.5**
MESJ				*e*S	**Sn**	**11 44 38.5**	**-0.2**
MESJ				IAML		11 44 40.9	
	comp=N,26nm,0.2s						
MESJ	**Messejana**	**1.27**	**335⇑**	*e*P	**Pb**	**11 44 24.1**	**-0.5**
MESJ				*e*S	**Sn**	**11 44 38.9**	**+0.2**
MESJ				*i* AML	AML	11 44 40.1	
MESJ				*i* AML	AML	11 44 40.8	
MESJ				*i* AML	AML	11 44 41.3	
PTEO	**Sao Teotonio**	**1.28**	**313**	*e*S	**Sb**	**11 44 39.6**	**-1.2**
PTEO				*i* AML	AML	11 44 40.3	
PTEO				*i* AML	AML	11 44 40.6	
PTEO				*i* AML	AML	11 44 45.9	
EMIN	**Mina Concepcio**	**1.29**	**32**	P	**Pb**	**11 44 25.0**	**+0.2**
EMIN	**Mina Concepcio**	**1.29**	**32**	P	**Pb**	**11 44 24.7**	**-0.1**
EMIN				S	**Sn**	**11 44 37.7**	**-1.2**
EMIN				*i* Vmb_Lg		11 44 46.9	
PBEJ	**Beja**	**1.37**	**349**	*e*S	**Sn**	**11 44 40.9**	**0.0**
PBEJ				*i* AML	AML	11 44 42.1	
PBEJ				*i* AML	AML	11 44 44.7	
PBEJ				*i* AML	AML	11 44 49.1	
ESPR	**Espera**	**1.37**	**82**	P	**Pn**	**11 44 25.7**	**+1.8**
ESPR				S	**Sn**	**11 44 41.9**	**+0.9**
ESPR	**Espera**	**1.37**	**82**	P	**Pn**	**11 44 25.7**	**+1.8**
ESPR				S	**Sn**	**11 44 41.0**	**+0.1**
ESPR				*i* Vmb_Lg		11 44 42.7	
PBAR	**Barrancos**	**1.54**	**15**	*e*P	**Pn**	**11 44 27.7**	**+1.4**
PBAR				*e*S	**Sn**	**11 44 45.7**	**+0.4**
PBAR				*i* AML	AML	11 44 51.5	
PBAR				*i* AML	AML	11 44 55.8	
PBAR				*i* AML	AML	11 44 57.4	
PBAR	**Barrancos**	**1.54**	**15**	P	**Pn**	**11 44 27.4**	**+1.1**
PBAR				S	**Sb**	**11 44 47.1**	**-1.2**
LIJA	**Lijar**	**1.73**	**82**	S	**Sn**	**11 44 49.3**	**-0.7**
EVO	**Evora**	**1.88**	**349**	*e*P	**Pn**	**11 44 32.4**	**+1.3**
EVO				*e*S	**Sn**	**11 44 53.1**	**-0.6**
EVO				*i* AML	AML	11 44 55.1	
EVO				*i* AML	AML	11 45 04.8	
EVO				*i* AML	AML	11 45 05.4	
EBAD	**Badajoz**	**2.11**	**11**	P	**Pn**	**11 44 35.6**	**+1.4**
EBAD				S	**Sn**	**11 45 01.1**	**+1.7**
EBAD	**Badajoz**	**2.11**	**11**	P	**Pn**	**11 44 36.3**	**+2.1**
EBAD				S	**Sn**	**11 44 58.9**	**-0.4**
EBAD				*i* Vmb_Lg		11 45 04.0	
ECAB	**El Cabril**	**2.19**	**50**	P	**Pn**	**11 44 37.3**	**+2.0**
ECAB				S	**Sn**	**11 44 59.3**	**-2.0**
ECAB				*i* Vmb_Lg		11 45 06.8	
PMTG	**Montargil**	**2.44**	**347⇑**	*e*P	**Pn**	**11 44 40.2**	**+1.4**
PMTG				*e*S	**Sn**	**11 45 07.4**	**-0.1**
PMTG				*i

MVO			*i* AML	AML	11 45 57.7		
MDT	**Midelt**	**4.55 147**	P	**Pn**	**11 45 09.6**	**+1.7**	
MDT	**Midelt**	**4.55 147**	S	**Sn**	**11 45 58.1**	**-1.6**	
POLO	**Lamas de Olo**	**4.69 358**	*e*P	**Pn**	**11 45 10.8**	**+1.1**	
POLO			*e*S	**Sn**	**11 45 59.9**	**-3.1**	
POLO			*i* AML	AML	11 46 02.7		
POLO			*i* AML	AML	11 46 02.7		
POLO			*i* AML	AML	11 46 02.8		
PCAB	**Cabril**	**5.04 356**	*e*S	**Sn**	**11 46 08.7**	**-2.8**	
PCAB			*i* AML	AML	11 46 11.2		
PCAB			*i* AML	AML	11 46 11.4		
PCAB			*i* AML	AML	11 46 13.0		
PBRG	**Braganca**	**5.15 7**	*e*S	**Sn**	**11 46 11.0**	**-3.4**	
PBRG			*i* AML	AML	11 46 13.5		
PBRG			*i* AML	AML	11 46 14.0		
PBRG			*i* AML	AML	11 46 14.9		
PGAV	**Gavieira, Arco**	**5.31 354**	*e*S	**Sn**	**11 46 15.4**	**-2.8**	
PGAV			*i* AML	AML	11 46 17.8		
PGAV			*i* AML	AML	11 46 17.9		
PGAV			*i* AML	AML	11 46 18.3		
OUK	**Oukaimeden**	**5.47 183**	P	**Pn**	**11 45 20.0**	**-0.7**	
OUK	**Oukaimeden**	**5.47 183**	S	**Sn**	**11 46 17.0**	**-5.7**	
OUZM	**OUZ**	**5.79 173**	P	**Pn**	**11 45 25.8**	**+0.8**	
OUZM	**OUZ**	**5.79 173**	S	**Sn**	**11 46 27.3**	**-3.1**	

*NEIC **20** 11:51:00.5±0.3, 31°.65N±0°.02×104°.36W±0°.01, h5km±1km, mb_Lg2.9/54, ML3.2/34, Error ellipse: s-maj=3.7km s-min=2.8km az=220.0*
*TXNET **20** 11:51:01.4, 31°.7N±0°.5×104°.4W±0°.6, h5km±1km, ML3.1/13, Error ellipse: s-maj=0.9km s-min=0.8km az=54.9, final*

ISC 20 11:51:01.2±1.2, 31°.65N±0°.02×104°.34W±0°.02, h3km±10km, n75, σ0.97/85, 8C-4D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.39**	**43**	⇑P	**Pg**	**11 51 09.0**	**+0.3**
TPB11				S	**Sg**	**11 51 14.4**	**+0.6**
PECS	**Pecos**	**0.49**	**124**		**Pg**	**11 51 10.4**	**-0.3**
PECS				Sg	**Sg**	**11 51 17.7**	**+0.6**
PECS	**Pecos**	**0.49**	**124**	⇑P	**Pg**	**11 51 11.3**	**+0.6**
PECS				S	**Sg**	**11 51 18.0**	**+0.9**
TPB12	**Southwest of T**	**0.55**	**143**	⇑P	**Pg**	**11 51 12.3**	**+0.6**
TPB12				S	**Sg**	**11 51 19.7**	**+0.9**
GDL2	**Guadalupe Moun**	**0.55**	**358**		**Pg**	**11 51 11.4**	**-0.3**
GDL2	**Guadalupe Moun**	**0.55**	**358**	P	**Pg**	**11 51 12.1**	**+0.3**
TPB07	**Mentone**	**0.58**	**97**	P	**Pb**	**11 51 13.4**	**-0.7**
TPB07				S	**Sb**	**11 51 21.5**	**-1.4**
TPB10	**Southeast of T**	**0.62**	**126**	⇓P	**Pg**	**11 51 13.8**	**+0.7**
TPB10				S	**Sg**	**11 51 22.2**	**+1.0**
CLNB	**Carlsbad**	**0.73**	**33**	P	**Pg**	**11 51 15.4**	**+0.1**
CLNB				S	**Sb**	**11 51 25.7**	**-1.4**
PCOS	**Crockett Middl**	**0.75**	**108**	S	**Sb**	**11 51 26.9**	**-0.8**
TPB01	**Permian Basin**	**0.85**	**145**	⇑P	**Pg**	**11 51 17.4**	**-0.2**
TPB01				S	**Sg**	**11 51 28.8**	**+0.1**
CLN7	**Carlsbad 7**	**0.89**	**31**		**Pg**	**11 51 17.5**	**-0.8**
CLN7	**Carlsbad 7**	**0.89**	**31**	P	**Pg**	**11 51 18.0**	**-0.3**
MNTX	**Cornudas Mount**	**0.89**	**273**	⇓P	**Pb**	**11 51 18.3**	**-1.0**
MNTX				S	**Sb**	**11 51 30.1**	**-1.5**
TPB03	**Saragosa**	**0.91**	**128**	⇑P	**Pg**	**11 51 18.9**	**+0.3**
TPB03				S	**Sb**	**11 51 31.2**	**-1.0**
TPB06	**Permian Basin**	**0.96**	**90**	P	**Pn**	**11 51 20.8**	**-0.9**
TPB06				S	**Sb**	**11 51 33.3**	**-0.4**
HTMS	**Hat Mesa**	**1.02**	**36**		**Pg**	**11 51 20.0**	**-0.8**
HTMS	**Hat Mesa**	**1.02**	**36**	P	**Pg**	**11 51 20.6**	**-0.2**
HTMS				S	**Sg**	**11 51 34.1**	**+0.1**
VHRN	**Van Horn**	**1.02**	**213**	Pg	**Pg**	**11 51 20.4**	**-0.4**
VHRN				IAML		11 51 43.6	
	362nm,0.3s						
VHRN	**Van Horn**	**1.02**	**213**	⇑P	**Pg**	**11 51 20.8**	**0.0**
VHRN				S	**Sb**	**11 51 34.9**	**-0.7**
TPB04	**Verhalen**	**1.03**	**116**	P	**Pg**	**11 51 21.1**	**+0.2**
NM01	**Eunice**	**1.07**	**49**	P	**Pg**	**11 51 21.4**	**-0.3**
NM01				S	**Sg**	**11 51 35.7**	**+0.2**
TPB16	**Coyonosa**	**1.07**	**119**	P	**Pg**	**11 51 21.9**	**+0.1**
TPB16				S	**Sb**	**11 51 36.7**	**-0.2**
TPB05	**Hovey Rd**	**1.14**	**130**	⇑P	**Pg**	**11 51 22.8**	**-0.2**
TPB05				S	**Sg**	**11 51 38.0**	**+0.3**
MNHN	**Monahans**	**1.39**	**102**		**Pn**	**11 51 26.5**	**-1.1**
MNHN				IAML		11 51 50.1	
	208nm,0.3s						
MNHN	**Monahans**	**1.39**	**102**	⇓P	**Pn**	**11 51 26.9**	**-0.7**
MNHN				S	**Sb**	**11 51 45.8**	**-0.2**
ALPN	**Alpine**	**1.41**	**154**		**Pn**	**11 51 26.7**	**-1.3**
ALPN				IAML		11 51 50.3	
	372nm,0.4s						
ALPN				IAML		11 51 51.3	
	413nm,0.3s						
ALPN	**Alpine**	**1.41**	**154**	⇑P	**Pn**	**11 51 26.9**	**-1.0**
ALPN				S	**Sb**	**11 51 45.5**	**-1.2**
CPRX	**Cap Rock**	**1.44**	**16**		**Pn**	**11 51 27.8**	**-0.6**
CPRX	**Cap Rock**	**1.44**	**16**	P	**Pn**	**11 51 27.9**	**-0.4**
TPB08	**Permian Basin**	**1.44**	**121**	P	**Pb**	**11 51 28.3**	**-0.5**
TPB08				S	**Sg**	**11 51 48.7**	**+1.1**
ODSA	**Odessa**	**1.60**	**72**		**Pn**	**11 51 30.3**	**-0.2**
ODSA				IAML		11 51 58.0	
	420nm,0.5s						
ODSA				IAML		11 51 58.6	
	612nm,0.3s						
ODSA	**Odessa**	**1.60**	**72**	⇓P	**Pb**	**11 51 30.6**	**-0.8**
ODSA				S	**Sn**	**11 51 51.3**	**-0.5**
EPT	**El Paso**	**1.85**	**274**	Pg	**Pb**	**11 51 35.3**	**-0.5**
TX31	**Lajitas Ar. Si**	**2.38**	**166**		**Pn**	**11 51 41.5**	**+0.2**
TX31	**Lajitas Ar. Si**	**2.38**	**166**	P	**Pn**	**11 51 42.4**	**+1.1**
TX31				Pg	**Pb**	**11 51 44.3**	**-0.5**
TXAR	**Lajitas Array**	**2.38**	**166**		**Pn**	**11 51 41.3**	**0.0**
SAND	**Sanderson**	**2.55**	**131**	Pn	**Pn**	**11 51 44.7**	**+1.1**
SAND				IAML		11 52 25.0	
	123nm,0.6s						
SAND				IAML		11 52 25.1	
	234nm,0.5s						
SAND	**Sanderson**	**2.55**	**131**	P	**Pn**	**11 51 45.3**	**+1.7**
MSTX	**Muleshoe**	**2.67**	**29**	P	**Pn**	**11 51 46.6**	**+1.3**
MSTX				S	**Sn**	**11 52 19.7**	**+1.5**
SGCY	**Sterling City**	**2.75**	**84**	Pn	**Pn**	**11 51 47.6**	**+1.2**
SGCY				IAML		11 52 28.7	
	120nm,0.5s						
SGCY				IAML		11 52 32.0	
	78nm,0.5s						
POST	**Post**	**2.79**	**59**		**Pn**	**11 51 46.5**	**-0.4**
POST				IAmb_Lg		11 52 35.2	
	comp=Z,47nm,0.8s						
OZNA	**Ozona**	**2.85**	**104**	Pn	**Pn**	**11 51 46.6**	**-1.1**
OZNA				IAML		11 52 35.9	
	comp=Z,62nm,0.6s						
OZNA				IAmb_Lg		11 52 36.9	
	comp=Z,38nm,0.9s						
OZNA				IAML		11 52 40.3	
	comp=Z,62nm,0.6s						
121A	**Cookes Peak, D**	**3.05**	**288**		**Pn**	**11 51 51.3**	**+0.7**
121A				IAmb_Lg		11 52 43.1	
	comp=Z,45nm,1.1s						
121A				IAML		11 52 47.8	
	comp=N,54nm,0.8s						
121A				IAML		11 52 50.6	
	comp=E,49nm,0.5s						
CRNM	**Carthage**	**3.05**	**319**		**Pn**	**11 51 51.7**	**+1.0**
SN05	**Snyder 5**	**3.18**	**66**	IAmb_Lg		11 52 48.1	
	comp=Z,31nm,0.8s						
Y22D	**IRIS PASSCAL I**	**3.25**	**319**		**Pn**	**11 51 53.8**	**+0.5**
SN07	**Snyder 07**	**3.25**	**63**	IAmb_Lg		11 52 43.1	
	comp=Z,42nm,0.7s						
SBM	**South Baldy**	**3.33**	**315**		**Pn**	**11 51 55.9**	**+1.3**
DKNS	**Dickens**	**3.52**	**54**	IAmb_Lg		11 52 53.9	
	comp=Z,37nm,0.7s						
DKNS	**Dickens**	**3.52**	**54**	P	**Pn**	**11 51 58.9**	**+2.0**
DKNS				S	**Sb**	**11 52 48.5**	**+1.1**
ANMO	**Albuquerque**	**3.73**	**332**	IAmb_Lg		11 53 07.9	
	comp=Z,29nm,0.9s						
DRIO	**Del Rio**	**3.91**	**124**		**Pn**	**11 52 04.0**	**+1.8**
DRIO				IAmb_Lg		11 53 13.2	
	comp=Z,30nm,0.7s						
AMTX	**Amarillo**	**3.92**	**34**		**Pn**	**11 52 02.2**	**-0.3**
AMTX				IAmb_Lg		11 53 05.7	
	comp=Z,31nm,0.8s						
AMTX	**Amarillo**	**3.92**	**34**	P	**Pn**	**11 52 03.5**	**+1.1**
AMTX				S	**Sb**	**11 52 58.3**	**-0.8**
APMT	**Aspermont**	**3.94**	**64**		**Pn**	**11 52 03.7**	**+1.0**
DUN6	**Lazy B Ranch**	**4.13**	**284**	IAmb_Lg		11 53 19.0	
	comp=Z,25nm,0.8s						
319A	**Douglas**	**4.22**	**268**		**Pn**	**11 52 06.7**	**0.0**
319A				IAML		11 53 21.0	
	comp=N,51nm,0.7s						
319A				IAML		11 53 24.1	
	comp=E,27nm,0.8s						
PH02	**Texas Public H**	**4.23**	**28**	P	**Pb**	**11 52 13.4**	**-3.0**
PH02				S	**Sb**	**11 53 10.3**	**+2.3**
BRDY	**Brady**	**4.58**	**93**		**Pn**	**11 52 12.0**	**+0.5**
BRDY				IAmb_Lg		11 53 32.3	
	comp=Z,25nm,0.7s						
SMWD	**Samnorwood**	**4.86**	**44**		**Pn**	**11 52 16.6**	**+1.3**
RTBA	**Rita Blanca**	**4.96**	**15**		**Pn**	**11 52 18.3**	**+1.5**
RTBA				IAmb_Lg		11 53 52.4	
	comp=Z,24nm,0.9s						
RTBA	**Rita Blanca**	**4.96**	**15**	P	**Pn**	**11 52 18.5**	**+1.7**
RTBA				S	**Sn**	**11 53 15.5**	**+0.8**
PLPT	**Palo Pinto**	**5.24**	**76**		**Pn**	**11 52 20.1**	**-0.4**
PLPT				IAmb_Lg		11 53 57.4	
	comp=Z,26nm,1.1s						
T25A	**Trinidad**	**5.48**	**359**	IAmb_Lg		11 54 02.0	
	comp=Z,24nm,1.0s						
FW03	**Perrin-Whitt E**	**5.49**	**74**	IAmb_Lg		11 54 01.2	
	comp=Z,17nm,0.8s						
FW07	**Weatherford**	**5.66**	**78**	IAmb_Lg		11 54 13.8	
	comp=Z,18nm,1.0s						
435B	**Jarrell**	**5.85**	**97**	IAmb_Lg		11 54 13.7	
	comp=Z,21nm,0.8s						
ELIS	**Ellis County**	**6.01**	**42**	IAmb_Lg		11 54 28.9	
	comp=Z,19nm,0.8s						
X34A	**Smith Ranch, M**	**6.20**	**60**	IAmb_Lg		11 54 23.4	
	comp=Z,20nm,1.0s						
NOKA	**Waynoka**	**6.70**	**41**	IAmb_Lg		11 54 39.9	
	comp=Z,16nm,0.9s						
FNO	**Franklin**	**6.83**	**56**	IAmb_Lg		11 54 48.0	
	comp=Z,15nm,0.7s						
KSCO	**Kaye Shedlock'**	**7.48**	**10**	IAmb_Lg		11 55 08.8	
	comp=Z,16nm,0.7s						
KAN12	**Harper NE Stat**	**7.69**	**41**	IAmb_Lg		11 55 17.3	
	comp=Z,19nm,1.2s						
R32A	**Long Quarter,**	**8.18**	**33**	IAmb_Lg		11 55 41.0	
	comp=Z,11nm,0.8s						

GUC 20 12:08:02.5±0.7, 37°.35S×72°.97W, h20km, ML3.1, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.63**	**343**	*e*P	Pb	12 08 13.4	-1.4
BI05				*i* S	Sb	12 08 22.3	-0.8
BI05				IAML		12 08 23.7	
	comp=E,3μm,0.3s						
BI05	**Punta Hualpn**	**0.63**	**343**	*e*P	Pb	12 08 13.4	-1.4
BI05				*e*S	Sb	12 08 21.9	-1.1
BI05				IAML		12 08 23.5	
	comp=E,3μm,0.3s						
BI04	**Isla Mocha**	**1.29**	**214**	*i* S	Sn	12 08 40.8	-1.2
BI04				IAML		12 08 45.5	
	comp=E,1μm,0.2s						
BI04	**Isla Mocha**	**1.29**	**214**	*e*P	Pn	12 08 21.3	-4.0
BI04				IAML		12 08 45.6	
	comp=E,1μm,0.2s						
LC02	**Puerto Saavedr**	**1.48**	**193**	*e*P	Pn	12 08 27.4	-0.5
BI02	**San Fabin de**	**1.52**	**64**	*e*P	Pn	12 08 27.2	-1.4
BI02				*i* S	Sn	12 08 47.3	-0.5
BI02				IAML		12 08 50.8	
	comp=N,237nm,0.2s						
BI02	**San Fabin de**	**1.52**	**64**	*e*P	Pn	12 08 27.2	-1.4
BI02				*e*S	Sn	12 08 47.4	-0.5
BI02				IAML		12 08 50.7	
	comp=N,243nm,0.1s						
LC01	**Cunco**	**1.77**	**151**	*e*P	Pn	12 08 31.4	-0.6
LC01				*i* S	Sn	12 08 54.3	+0.3
ML02	**Panimavida**	**2.01**	**39**	*e*P	Pn	12 08 35.1	-0.2
ML02				*i* S	Sn	12 09 01.1	+1.1
ML02				IAML		12 09 05.2	
	comp=E,365nm,0.5s						
GO05	**Hualane**	**2.48**	**20**	*e*P	Pn	12 08 42.4	+0.7
GO05				*i* S	Sn	12 09 13.1	+1.6

TXNET 20 12:17:32.1, 31°.7N±0°.6×104°.4W±0°.7, h5km±2km, ML1.8/7, Error ellipse: s-maj=1.1km s-min=0.9km az=50.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.39**	**45**	P	Pg	12 17 39.6	0.0
TPB11				S	Sg	12 17 44.9	+0.2
PECS	**Pecos**	**0.51**	**125**	P	Pg	12 17 42.2	+0.2
PECS				S	Sg	12 17 49.0	+0.3
GDL2	**Guadalupe Moun**	**0.54**	**359**	P	Pg	12 17 42.8	+0.3
TPB12	**Southwest of T**	**0.56**	**143**	P	Pg	12 17 43.1	+0.1
TPB12				S	Sg	12 17 50.4	+0.1
TPB07	**Mentone**	**0.59**	**98**	S	Sg	12 17 52.0	+0.7
TPB10	**Southeast of T**	**0.64**	**126**	P	Pg	12 17 44.5	+0.1
TPB10				S	Sg	12 17 53.4	+0.7
CLNB	**Carlsbad**	**0.72**	**34**	S	Sg	12 17 56.2	+0.7
TPB01	**Permian Basin**	**0.87**	**145**	P	Pg	12 17 48.0	-0.9
TPB01				S	Sg	12 17 59.4	-0.7
MNTX	**Cornudas Mount**	**0.87**	**273**	P	Pg	12 17 49.0	0.0
MNTX				S	Sg	12 18 00.8	+0.5
TPB03	**Saragosa**	**0.92**	**128**	S	Sg	12 18 02.1	+0.2
HTMS	**Hat Mesa**	**1.01**	**37**	P	Pb	12 17 52.1	-0.2
HTMS				S	Sg	12 18 05.2	+0.5
VHRN	**Van Horn**	**1.03**	**212**	P	Pg	12 17 51.6	-0.3
VHRN				S	Sb	12 18 05.8	-0.6
TPB04	**Verhalen**	**1.04**	**117**	P	Pg	12 17 52.1	-0.1
TPB04				S	Sg	12 18 06.2	+0.5
NM01	**Eunice**	**1.07**	**49**	S	Sg	12 18 06.9	+0.4
TPB16	**Coyonosa**	**1.09**	**119**	S	Sb	12 18 08.1	0.0
TPB05	**Hovey Rd**	**1.15**	**130**	P	Pg	12 17 53.6	-0.7
TPB05				S	Sg	12 18 08.9	-0.4
MNHN	**Monahans**	**1.40**	**103**	P	Pn	12 17 58.0	-0.4
MNHN				S	Sb	12 18 15.9	-1.2
ALPN	**Alpine**	**1.43**	**154**	P	Pn	12 17 57.7	-1.1
ALPN				S	Sb	12 18 16.1	-1.7
CPRX	**Cap Rock**	**1.43**	**17**	P	Pn	12 17 58.7	-0.2
TPB08	**Permian Basin**	**1.46**	**121**	S	Sg	12 18 19.3	+0.2
ODSA	**Odessa**	**1.60**	**73**	S	Sn	12 18 22.2	-0.2
TX31	**Lajitas Ar. Si**	**2.40**	**165**	P	Pn	12 18 12.9	+0.7
TX31				S	Sb	12 18 46.9	+1.1

IDC 20 12:17:46.9±999.0, 50°.91N×46°.69E, h0km, Error ellipse: s-maj=1215.0km s-min=151.9km az=87.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.23**	**90**	I	I	13 01 30.0	
	0.3nm,0.7s,baz=279,slow=322,SNR=3.8						
I46RU	**ZALESOVO INFRA**	**23.26**	**68**	I	I	14 40 40.0	
	baz=277,slow=321,SNR=2.0						
I34MN	**SONGINO INFRAS**	**38.10**	**71**	I	I	16 10 00.0	
	baz=296,slow=334,SNR=2.8						

IDC 20 12:24:12.9±940.0, 54°.10N×4°.01E, h0km, Error ellipse: s-maj=420.5km s-min=155.9km az=114.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.02**	**127**	I	I	13 11 10.0	
	baz=315,slow=320,SNR=0.8						
I43RU	**DUBNA INFRASONI**	**8.93**	**69**	I	I	14 21 20.0	
	baz=276,slow=314,SNR=1.9						
I31KZ	**AKTYUBINSK INF**	**32.60**	**74**	I	I	15 42 40.0	
	baz=300,slow=324,SNR=0.7						

*SJA **20** 12:29:05.5±0.6, 24°.02S×66°.71W, h224km±8km, ML3.4, MW3.3*
*GUC **20** 12:29:07.8±0.5, 23°.99S×66°.86W, h208km±10km, ML3.6*

ISC 20 12:29:04.4±2.2, 24°.06S±0°.04×66°.75W±0°.06, h231km±18km, n21, σ1.78/32, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.41**	**114**	*e*P	**Pn**	**12 29 35.7**	**+0.3**
SALTA				*e*P		12 29 36.5	
SLA	**San Lorenzo**	**1.31**	**121**	*e*P	**Pn**	**12 29 41.4**	**+1.8**
SLA	**San Lorenzo**	**1.31**	**121**	*e*P	**Pn**	**12 29 41.4**	**+1.8**
AZAP	**Zapla**	**1.54**	**97**	*e*P	**Pn**	**12 29 42.6**	**+1.2**
AF01	**San Pedro de A**	**1.71**	**310**	*e*P	**Pn**	**12 29 45.1**	**+2.1**
ASTB	**Santa Barbara**	**2.10**	**88**	*e*P	Pn	12 29 41.4	-5.0
FSA	**Cafayete**	**2.16**	**161**	*e*P	**Pn**	**12 29 47.6**	**+0.6**
FSA				*e*S	**S**	**12 30 20.2**	**-0.3**
YJA	**Yavi**	**2.19**	**31**	*e*P	**Pn**	**12 29 49.0**	**+1.4**
YJA				*e*S	**S**	**12 30 20.8**	**-0.6**
GO02	**Mina Guanaco**	**2.81**	**246**	*e*P	**Pn**	**12 29 55.8**	**+1.8**
GO02				*e*S	**S**	**12 30 33.1**	**+0.3**
GO02	**Mina Guanaco**	**2.81**	**246**	*e*P	**Pn**	**12 29 55.7**	**+1.8**
GO02				*e*S	**S**	**12 30 32.2**	**-0.5**
GO02				IAML		12 30 33.0	
	comp=N,184nm,0.4s						
PB06	**IPOC Station P**	**2.92**	**297**	⇑*i*P	**Pn**	**12 29 56.2**	**+1.2**
PB06				*e*S	**S**	**12 30 32.0**	**-2.7**
PB06				IAML		12 30 33.4	
	comp=N,125nm,0.3s						
AHML	**Horco Molle**	**3.00**	**155**	*e*P	**Pn**	**12 29 54.3**	**-1.4**
PB09	**IPOC Station P**	**3.22**	**314**	*e*P	**Pn**	**12 29 59.9**	**+1.6**
PB09				*e*S	**S**	**12 30 39.4**	**-1.3**
PB09				IAML		12 30 41.6	
	comp=Z,66nm,0.4s						
PB09	**IPOC Station P**	**3.22**	**314**	*e*P	**Pn**	**12 29 59.7**	**+1.3**
PB09				*i* S	**S**	**12 30 39.1**	**-1.7**
PB09				IAML		12 30 40.1	
	comp=E,44nm,0.5s						
PB14	**IPOC Station P**	**3.38**	**260**	*e*P	**Pn**	**12 30 01.9**	**+1.5**
PB14				*e*S	**S**	**12 30 42.9**	**-1.5**
PB14				IAML		12 30 44.2	
	comp=Z,65nm,0.4s						
PB14	**IPOC Station P**	**3.38**	**260**	*e*P	**Pn**	**12 30 01.7**	**+1.3**
AC02	**Maricunga**	**3.51**	**217**	*e*P	**Pn**	**12 30 04.7**	**+2.8**
PB01	**IPOC Station P**	**3.93**	**319**	*e*P	**Pn**	**12 30 07.4**	**+0.8**
PB01				*i* S	**S**	**12 30 52.3**	**-3.3**
AC01	**Pan de Azucar**	**4.07**	**238**	*e*P	**Pn**	**12 30 09.2**	**+1.1**
AC01				*e*S	**S**	**12 30 56.3**	**-2.2**
AC01				IAML		12 30 56.9	
	comp=Z,28nm,0.3s						
AC01	**Pan de Azucar**	**4.07**	**238**	*e*P	**Pn**	**12 30 09.2**	**+1.1**
AC01				*i* S	**S**	**12 30 56.3**	**-2.2**
PB08	**IPOC Station P**	**4.49**	**330**	*e*P	**Pn**	**12 30 16.3**	**+2.5**
PB08				*i* S	**S**	**12 31 06.4**	**-2.1**

*IDC **20** 12:33:02.0±1.5, 17°.55S×179°.00W, h557km±10km, mb3.2/8, mbtmp4.0/9, Error ellipse: s-maj=50.8km s-min=15.3km az=146.0*

ISC 20 12:33:01.0±1.2, 17°.6S±0°.3×178°.9W±0°.2, h550km, n11, σ0.93/14, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.91**	**268**	P	**P**	**12 34 14.9**	**-0.8**
	14nm,0.7s,baz=73,slow=3.3,SNR=18						
MSVF				S	**S**	**12 35 18.6**	**+2.3**
	2.5nm,0.6s,baz=288,slow=22,SNR=5.6						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**12 39 35.3**	**-0.1**
	1.4nm,0.5s,baz=91,slow=11,SNR=5.9						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.22**	**259**	P	**P**	**12 40 21.3**	**-0.8**
	0.6nm,0.6s,baz=85,slow=7.2,SNR=14						
WRA				PcP	**PcP**	**12 41 54.6**	**-0.1**
	0.2nm,0.7s,baz=96,slow=4.6,SNR=1.5						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**44.41**	**254**	P	**P**	**12 40 23.3**	**-0.2**
	5.2nm,0.4s,baz=88,slow=8.2,SNR=159						
ASAR				PcP	**PcP**	**12 41 55.6**	**+0.3**
	0.3nm,0.5s,baz=109,slow=3.9,SNR=4.5						
	5.2nm,0.4s						
PETK	**Petropavlovsk-**	**73.31**	**346**	P	**P**	**12 43 36.9**	**+0.3**
	2.2nm,0.8s,baz=106,slow=9.9,SNR=4.7						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**12 44 11.8**	**+0.3**
	0.8nm,0.6s,baz=227,slow=9.8,SNR=5.8						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**12 44 40.6**	**-1.1**
	0.5nm,0.4s,baz=224,slow=5.2,SNR=27						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.25**	**58**	P	**P**	**12 44 46.2**	**+1.1**
	0.8nm,0.8s,baz=230,slow=5.5,SNR=9.2						
	0.8nm,0.8s						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**12 44 50.5**	**-0.2**
	0.5nm,0.5s,baz=224,slow=3.8,SNR=11						
	0.5nm,0.5s						
BRTR	**Keskin Array B**	**144.26**	**315**	PKP	**PKPdf**	**12 51 35.2**	**+0.2**
	0.4nm,0.4s,baz=41,slow=2.9,SNR=1.9						
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc	**PKPbc**	**12 51 42.6**	**-0.3**
	1.2nm,0.9s,baz=49,slow=3.0,SNR=3.8						

*IDC **20** 12:33:13.9±0.6, 14°.50N×53°.85E, h0km, mb4.3/26, mbtmp4.3/27, ML3.6/1, MS4.5/77, Error ellipse: s-maj=15.2km s-min=13.9km az=174.0*
*BJI **20** 12:33:13.1, 14°.30N×53°.66E, h10km, mB5.1/20, mb4.5/53, Ms4.8/41, Ms7 4.6/41*
*GCMT **20** 12:33:15.4±0.1, 14°.59N±0°.01×53°.74E±0°.01, h12km, MW5.3/143, Moment Tensor Solution. s110, c186; s143, c270; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$0.78±.01; $M_{\phi\phi}$-0.70±.01; $M_{r\theta}$0.49±.03; $M_{\theta\phi}$0.75±.01; $M_{\phi r}$0.33±.04; Best double couple: $M_0$1.18200×10^{17} NP1:ϕ_s115.00000°, δ68.00000°, λ10.00000°. NP2:ϕ_s21.00000°, δ80.00000°, λ158.00000°. Principal axes: T 1.3290, Plg22.0000°, Azm336.0000°; N -0.2930, Plg66.0000°, Azm179.0000°; P -1.0350, Plg8.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 12:33:17.6, 14°.70N×53°.73E, h10km*
*NEIC **20** 12:33:17.6, 14°.70N×53°.73E, h18km*
*NEIC **20** 12:33:17.6, 14°.70N×54°.35E, h18km, Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22; $M_{\theta\theta}$0.80; $M_{\phi\phi

DQM	**DQM**	**6.33**	**35**	P	**Pn**	**12 34 49.9**	**-0.4**
MHTO	**MHTO**	**7.43**	**32**	P	**Pn**	**12 35 03.3**	**-2.0**
MHTO				S	**Sn**	**12 36 29.2**	**-0.5**
MZR	**Muzera**	**8.25**	**358**	P	**Pn**	**12 35 17.9**	**+1.3**
MZR				P	**Pn**	**12 35 17.9**	**+1.3**
BSY	**Bisya**	**8.64**	**22**	P	**Pn**	**12 35 21.1**	**-0.8**
JMDO	**Jabal Madar**	**8.67**	**28**	P	**Pn**	**12 35 25.2**	**+2.8**
ARQ	**Araqi**	**8.97**	**17**	P	**Pn**	**12 35 27.3**	**+0.7**
ARQ				P	**Pn**	**12 35 27.3**	**+0.7**
MZWR	**Madinat Zayed**	**9.00**	**1**	P	**Pn**	**12 35 24.5**	**-2.4**
JLN	**Jalan Bani Buh**	**9.15**	**35**	P	**Pn**	**12 35 31.3**	**+2.3**
JLN				S	**Sn**	**12 37 12.0**	**-0.1**
SMDO	**Samad**	**9.25**	**26**	P	**Pn**	**12 35 30.6**	**+0.1**
WBK	**Wadi Bani Khal**	**9.29**	**32**	P	**Pn**	**12 35 30.9**	**0.0**
WBK				S	**Sn**	**12 37 17.1**	**+1.5**
HOQ	**Hoqain**	**9.45**	**20**	P	**Pn**	**12 35 35.3**	**+2.2**
SLWR	**Sila**	**9.50**	**349**	P	**Pn**	**12 35 35.5**	**+1.7**
WSAR	**Wadi Sarin**	**9.66**	**28**	Pn	**Pn**	**12 35 38.1**	**+2.1**
	0.5nm,0.3s,baz=212,slow=17,SNR=4.2						
WSAR				Sn	Sn	12 37 15.5	-9.2
	1.7nm,0.3s,baz=87,slow=7.9,SNR=6.7						
	7.5nm,0.8s						
BIDO	**Bidbid**	**9.70**	**25**	P	**Pn**	**12 35 36.7**	**+0.3**
SOHO	**SOHO**	**9.74**	**15**	P	**Pn**	**12 35 39.5**	**+2.5**
SOHO				P	**Pn**	**12 35 39.5**	**+2.5**
AJN	**Ajban**	**9.87**	**7**	P	**Pn**	**12 35 39.4**	**+0.6**
ASHO	**Ashiyiah**	**10.16**	**12**	P	**Pn**	**12 35 43.3**	**+0.5**
ASHO				S	**Sn**	**12 37 34.9**	**-2.0**
TRNA	**Turayna**	**10.25**	**347**	P	**Pn**	**12 35 42.4**	**-1.5**
SMRA	**Abu-Samra**	**10.35**	**345**	P	**Pn**	**12 35 46.8**	**+1.5**
UOSS	**Minazif**	**10.44**	**12**	Pn	**Pn**	**12 35 47.8**	**+1.2**
UOSS	**Minazif**	**10.44**	**12**	P	**Pn**	**12 35 47.2**	**+0.5**
UOSS				S	**Sn**	**12 37 48.8**	**+5.0**
MDH	**Madha**	**10.80**	**13**	P	**Pn**	**12 35 49.2**	**-2.4**
MASF	**Masafi**	**10.85**	**12**	P	**Pn**	**12 35 50.5**	**-1.8**
ATD	**Arta Tunnel**	**11.06**	**255**	Pn	**Pn**	**12 35 59.2**	**+4.0**
	0.2nm,0.3s,baz=67,slow=9.8,SNR=34						
ATD				LR	LR	12 39 07.0	
	comp=Z,389nm,20.2s,baz=82,slow=32						
SHMA	**Al-Shehemyia**	**11.38**	**347**	P	**Pn**	**12 35 57.8**	**-1.8**
BANOM	**Banah**	**11.41**	**12**	P	**Pn**	**12 36 01.6**	**+1.6**
SHME	**Shamm**	**11.50**	**11**	P	**Pn**	**12 36 01.9**	**+0.7**
RAYN	**Ar Rayn**	**11.71**	**320**	Pn	**Pn**	**12 36 02.8**	**-1.3**
RAYN	**Ar Rayn**	**11.71**	**320**	P	**Pn**	**12 36 02.9**	**-1.1**
RAYN				S	**Sn**	**12 38 10.6**	**-4.3**
NGCH	**Negor - Chabah**	**12.67**	**32**	P	**Pn**	**12 36 18.9**	**+1.8**
MSEY	**Mahe Island**	**19.34**	**175**	P	**P**	**12 37 41.3**	**-1.3**
MSEY				IAmb	IAmb	12 37 42.8	
	comp=Z,53nm,0.9s						
MSEY	**Mahe Island**	**19.34**	**175**	P	**P**	**12 37 41.1**	**-1.4**
MSEY				P	**P**	**12 37 41.1**	**-1.4**
MSEY				P	**P**	**12 37 41.1**	**-1.4**
HRA	**Herat**	**21.04**	**20**	P	**P**	**12 38 02.0**	**+0.9**
LODK	**Lodwar**	**21.30**	**240**	P	**P**	**12 38 02.9**	**-1.0**
LODK				IAmb	IAmb	12 38 11.0	
	comp=Z,177nm,1.7s						
KMBO	**Kilima Mbogo**	**22.66**	**227**	P	**P**	**12 38 17.4**	**-1.4**
KMBO				IAmb	IAmb	12 38 26.6	
	comp=Z,41nm,1.1s						
KMBO	**Kilima Mbogo**	**22.66**	**227**	IAMs_20	IAMs_20	12 46 31.8	
	comp=Z,2μm,20.0s						
KMBO	**Kilima Mbogo**	**22.66**	**227**	P	**P**	**12 38 17.4**	**-1.4**
	comp=Z,11nm,0.8s,baz=41,slow=12,SNR=41						
KMBO				LR	LR	12 46 53.4	
	comp=Z,2μm,19.0s,baz=39,slow=36						
	comp=Z,11nm,0.8s						
KMBO	**Kilima Mbogo**	**22.66**	**227**	P	**P**	**12 38 18.2**	**-0.5**
KMBO				P	**P**	**12 38 18.2**	**-0.5**
EIL	**Elat**	**22.84**	**314**	LR	LR	12 46 45.2	
	comp=Z,3μm,18.6s,baz=130,slow=35						
KIBK	**Kibwezi**	**22.99**	**224**	P	**P**	**12 38 20.4**	**-1.6**
KIBK				IAmb	IAmb	12 38 23.6	
	comp=Z,52nm,1.4s						
KIBK				IAMs_20	IAMs_20	12 47 30.8	
	comp=Z,2μm,18.0s						
KIBK	**Kibwezi**	**22.99**	**224**	P	**P**	**12 38 20.8**	**-1.2**
ASF	**Jabal al Asfar**	**23.19**	**321**	LR	LR	12 47 58.9	
	comp=Z,4μm,19.0s,baz=166,slow=38						
KBL	**Kabul**	**24.10**	**32**	P	**P**	**12 38 33.3**	**+0.4**
KBL	**Kabul**	**24.10**	**32**	P	**P**	**12 38 35.7**	**+2.8**
KBL				P	**P**	**12 38 35.7**	**+2.8**
MMAI	**Mount Meron Ar**	**24.68**	**321**	P	**P**	**12 38 40.1**	**+1.9**
	comp=Z,11nm,0.7s,baz=122,slow=12,SNR=15						
MMAI				LR	LR	12 48 22.5	
	comp=Z,2μm,21.9s,baz=136,slow=36						
	comp=Z,11nm,0.7s						
MARD	**Mardin**	**25.28**	**335**	P	**P**	**12 38 43.7**	**+0.2**
GEVA	**Gevas**	**25.33**	**340**	P	**P**	**12 38 44.4**	**+0.3**
NIL	**Nilore**	**25.85**	**40**	P	**P**	**12 38 47.7**	**-0.9**
GURO	**Guroymak-BITLI**	**25.89**	**339**	P	**P**	**12 38 49.3**	**+0.2**
GNI	**Garni**	**26.53**	**344**	P	**P**	**12 38 58.2**	**+3.3**
GNI				P	**P**	**12 38 58.2**	**+3.3**
GAZ	**Gaziantep**	**26.76**	**330**	P	**P**	**12 38 57.1**	**+0.2**
GAZ				IAmb	IAmb	12 39 04.9	
	comp=Z,21nm,1.0s						
CSS	**Mathiatis**	**27.27**	**321**	P	**P**	**12 39 01.3**	**-0.1**
CSS				IAmb	IAmb	12 39 29.9	
	comp=Z,26nm,1.2s						
CSS				IAMs_20	IAMs_20	12 49 45.2	
	comp=Z,2μm,20.0s						
MBAR	**Mbarara**	**27.37**	**238**	P	**P**	**12 39 00.8**	**-1.8**
SIMJ	**Simiganj**	**27.40**	**27**	P	**P**	**12 39 03.2**	**+0.5**
KARS	**Kars**	**27.44**	**342**	P	**P**	**12 39 03.6**	**+0.6**
CHGR	**Chuyangaron**	**27.46**	**27**	P	**P**	**12 39 04.3**	**+1.1**
PALK	**Pallekele**	**27.47**	**103**	LR	LR	12 47 29.6	
	comp=Z,1μm,21.5s,baz=282,slow=31						
PALK	**Pallekele**	**27.47**	**103**	P	**P**	**12 39 03.6**	**+0.2**
KOPT	**Kop Dagi**	**27.74**	**338**	P	**P**	**12 39 06.2**	**+0.3**
KOPT				IAmb	IAmb	12 39 28.9	
	comp=Z,38nm,1.1s						
SBV	**Sambava**	**28.24**	**188**	P	**P**	**12 39 09.3**	**-0.9**
GAR	**Garm**	**28.26**	**28**	P	**P**	**12 39 10.6**	**+0.2**
GAR				IAmb	IAmb	12 39 32.6	
	comp=Z,69nm,1.8s						
BNN	**Bunyan**	**28.75**	**330**	P	**P**	**12 39 16.6**	**+1.8**
BNN				IAmb	IAmb	12 39 43.4	
	comp=Z,36nm,1.1s						
BTK	**Batken**	**29.35**	**27**	P	**P**	**12 39 20.6**	**+0.7**
BTK				IAmb	IAmb	12 39 49.8	
	comp=Z,22nm,1.0s						
KIRS	**Kirsehir-Merke**	**29.93**	**328**	⇑P	**P**	**12 39 27.9**	**+2.7**
KBZ	**Khabaz**	**30.36**	**344**	P	**P**	**12 39 30.0**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=182,slow=5.6,SNR=6.3						
KBZ				LR	LR	12 53 51.4	
	comp=Z,2μm,20.3s,baz=153,slow=40						
	comp=Z,2.2nm,0.7s						
AKAS	**Kas**	**30.40**	**319**	P	**P**	**12 39 27.7**	**-1.7**
BR131	**Keskin Array S**	**30.51**	**329**	P	**P**	**12 39 29.6**	**-0.8**
BRTR	**Keskin Array B**	**30.51**	**329**	P	**P**	**12 39 28.4**	**-2.0**
BRTR	**Keskin Array B**	**30.51**	**329**	P	**P**	**12 39 31.6**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=142,slow=10,SNR=8.7						
BRTR				LR	LR	12 53 34.9	
	comp=Z,2μm,18.6s,baz=114,slow=40						
	comp=Z,1.3nm,0.8s						
KVAR	**Kislovodsk Arr**	**30.63**	**344**	LR	LR	12 54 06.8	
	comp=Z,2μm,19.1s,baz=80,slow=41						
IUG	**Iuzhnay**	**30.75**	**24**	*e*P	**P**	**12 39 33.4**	**+1.0**
	comp=Z,6.1nm,0.5s						
ISP	**Isparta**	**30.86**	**323**	IAMs_20	IAMs_20	12 52 16.1	
	comp=Z,2μm,21.0s						
ANTO	**Ankara**	**31.05**	**328**	IAMs_20	IAMs_20	12 53 44.5	
	comp=Z,1μm,21.0s						
ARSB	**Arslanbob**	**31.34**	**29**	P	**P**	**12 39 38.0**	**+0.3**
BRLS	**Borolday**	**31.43**	**23**	*e*P	**P**	**12 39 37.1**	**-1.2**
ILGA	**Ilgaz**	**31.49**	**330**	P	**P**	**12 39 37.5**	**-1.5**
KSH	**Kashi**	**31.49**	**34**	P	**P**	**12 39 36.8**	**-2.2**
KSH				pP	sP	12 39 43.3	+1.0
KSH				S	**S**	**12 44 42.3**	**-4.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH				LR	LR		
	comp=Z,600nm,19.6s						
KSH				LR	LR		
	comp=Z,770nm,18.2s						
KSH				LR	LR		
	comp=Z,920nm,13.4s						
KARP	**Karpathos**	**31.59**	**316**	P	**P**	**12 39 38.5**	**-1.3**
KARP				IAMs_20	IAMs_20	12 54 49.6	
	comp=Z,996nm,18.0s						
DZA	**Taraz**	**31.90**	**25**	*e*P	**P**	**12 39 43.6**	**+1.1**
BZK	**Bozkurt**	**32.06**	**332**	P	**P**	**12 39 44.9**	**+1.1**
BZK	**Bozkurt**	**32.06**	**332**	P	**P**	**12 39 45.6**	**+1.8**
	comp=Z,21nm,1.8s						
BORA	**Eskisehir**	**32.31**	**325**	P	**P**	**12 39 46.4**	**+0.2**

IDI	**Anoyia**	**33.01**	**314**	P	**P**	**12 39 52.2**	**-0.1**
IDI	**Anoyia**	**33.01**	**314**	LR	LR	12 55 35.4	
	comp=Z,738nm,20.4s,baz=102,slow=40						
AAK	**Ala-Archa**	**33.07**	**29**	P	**P**	**12 39 53.4**	**+0.6**
AAK				IAmb	IAmb	12 40 07.7	
	comp=Z,31nm,1.7s						
AAK	**Ala-Archa**	**33.07**	**29**	LR	LR	12 55 10.2	
	comp=Z,563nm,20.7s,baz=247,slow=40						
AAK	**Ala-Archa**	**33.07**	**29**	P	**P**	**12 39 55.5**	**+2.6**
AAK				P	**P**	**12 39 55.5**	**+2.6**
YLV	**Yalova**	**33.38**	**325**	P	**P**	**12 39 57.4**	**+1.9**
	comp=Z,9.7nm,1.2s						
APE	**Apeiranthos**	**33.53**	**317**	⇑P	**P**	**12 39 58.8**	**+1.9**
BOOM	**Boomskoye usch**	**33.65**	**30**	P	**P**	**12 39 57.7**	**-0.2**
BOOM				IAmb	IAmb	12 40 08.6	
	comp=Z,26nm,1.8s						
OPO	**Ambohidratompo**	**33.70**	**191**	LR	LR	12 50 54.6	
	comp=Z,981nm,20.8s,baz=180,slow=32						
SGDS	**Sogindy**	**33.77**	**28**	*e*P	**P**	**12 40 00.2**	**+1.4**
KDJ	**Kajisay**	**34.00**	**32**	P	**P**	**12 40 00.4**	**-0.6**
KDJ				IAmb	IAmb	12 40 19.4	
	comp=Z,21nm,1.4s						
TARG	**Taragay, Kyrgy**	**34.04**	**33**	P	**P**	**12 40 01.0**	**-0.6**
TARG				IAmb	IAmb	12 40 11.8	
	comp=Z,48nm,1.8s						
ABPO	**Ambohimpanom**	**34.12**	**191**	P	**P**	**12 40 01.0**	**-1.2**
ABPO				IAmb	IAmb	12 40 03.0	
	comp=Z,42nm,1.4s						
WUS	**Wushi**	**34.44**	**35**	IAMs_20	IAMs_20	12 56 13.9	
	comp=Z,977nm,18.0s						
WUS	**Wushi**	**34.44**	**35**	IAmb	IAmb	12 40 09.4	
	comp=Z,55nm,1.7s						
EZN	**Ezine**	**34.66**	**321**	P	**P**	**12 40 06.0**	**-0.5**
	comp=Z,1μmcomp=Z,20nm,1.2s						
MDOK	**Medeo**	**34.69**	**31**	*e*P	**P**	**12 40 08.1**	**+1.1**
BTLS	**Baital**	**34.78**	**26**	*e*P	**P**	**12 40 08.8**	**+1.4**
ABKAR	**Akbulak array**	**34.82**	**7**	P	**P**	**12 40 07.8**	**+0.1**
ABKAR	**Akbulak array**	**34.82**	**7**	P	**P**	**12 40 07.7**	**-0.1**
ABKAR				IAmb	IAmb	12 40 17.7	
	comp=Z,17nm,1.0s						
SATY	**Saty**	**35.30**	**32**	*e*P	**P**	**12 40 13.4**	**+1.2**
	comp=Z,7.7nm,1.2s						
ALN	**Alexandroupoli**	**35.50**	**323**	P	**P**	**12 40 14.5**	**+0.8**
ALN				IAmb	IAmb	12 40 17.4	
	comp=Z,24nm,1.3s						
KPKS	**Kokpek**	**35.73**	**32**	*e*P	**P**	**12 40 17.2**	**+1.4**
	comp=Z,9.6nm,1.1s						
AKTO	**Aktyubinsk**	**35.80**	**5**	LR	LR	12 58 28.7	
	comp=Z,935nm,18.9s,baz=172,slow=42						
SHLS	**Shalkode**	**35.92**	**33**	*e*P	**P**	**12 40 20.9**	**+3.4**
RDO	**Rodhopi**	**35.95**	**323**	P	**P**	**12 40 18.8**	**+1.2**
RDO				IAmb	IAmb	12 40 21.3	
	comp=Z,16nm,1.0s						
TIRR	**Tirgusor**	**36.63**	**329**	P	**P**	**12 40 24.9**	**+1.6**
TIRR				IAmb	IAmb	12 40 40.5	
	comp=Z,19nm,1.1s						
TIRR				IAMs_20	IAMs_20	12 57 55.1	
	comp=Z,824nm,18.0s						
TIRR	**Tirgusor**	**36.63**	**329**	P	**P**	**12 40 24.4**	**+1.1**
	comp=Z,19nm,1.2s						
BRDH	**Bariadhala**	**36.69**	**72**	LR	LR	12 55 05.5	
	comp=Z,1μm,21.2s,baz=246,slow=36						
TLBR	**Topalu**	**36.87**	**329**	⇓P	**P**	**12 40 27.0**	**+1.6**
TPGR	**Topolog**	**36.91**	**330**	⇑P	**P**	**12 40 27.5**	**+1.7**
VOI	**Vohitsoka**	**37.02**	**191**	P	**P**	**12 40 26.8**	**-0.3**
VOI	**Vohitsoka**	**37.02**	**191**	P	**P**	**12 40 27.6**	**+0.5**
HARR	**Harsova**	**37.03**	**329**	⇑P	**P**	**12 40 28.7**	**+1.9**
NE56	**Odesa**	**37.15**	**334**	P	**P**	**12 40 27.8**	**+0.1**
LIT	**Litokhoron**	**37.20**	**319**	P	**P**	**12 40 29.7**	**+1.4**
CFR	**Carcaliu**	**37.28**	**330**	⇓P	**P**	**12 40 31.3**	**+2.4**
SHL	**Shillong**	**37.29**	**67**	P	**P**	**12 40 29.1**	**-0.3**
SHL				IAmb	IAmb	12 40 58.5	
	comp=Z,20nm,1.1s						
BELG	**Belogornoye**	**37.90**	**354**	LR	LR	13 01 53.7	
	comp=Z,539nm,18.1s,baz=157,slow=45						
BRZS	**Berezniki**	**38.41**	**20**	*e*P	**P**	**12 40 39.7**	**+1.3**
VRI	**Vrincioaia**	**38.47**	**329**	⇓P	**P**	**12 40 41.4**	**+2.5**
PLOR	**Plostina**	**38.49**	**329**	⇓P	**P**	**12 40 41.4**	**+2.2**
MLR	**Muntele Rosu**	**38.59**	**328**	P	**P**	**12 40 42.0**	**+1.8**
MLR				IAmb	IAmb	12 40 44.5	
	comp=Z,68nm,2.0s						
MLR				IAMs_20	IAMs_20	12 59 13.2	
	comp=Z,1μm,21.0s						
MLR	**Muntele Rosu**	**38.59**	**328**	LR	LR	12 59 33.0	
	comp=Z,1μm,18.5s,baz=136,slow=41						
MLR	**Muntele Rosu**	**38.59**	**328**	⇑P	**P**	**12 40 42.0**	**+1.8**
COVR	**Voineasa-Covas**	**38.71**	**329**	⇓P	**P**	**12 40 42.9**	**+1.9**
TESR	**Tescani**	**38.96**	**330**	⇑P	**P**	**12 40 45.4**	**+2.3**
VOIR		**39.02**	**328**	⇑P	**P**	**12 40 46.2**	**+2.6**
LSZ	**Lusaka**	**39.06**	**221**	P	**P**	**12 40 44.9**	**+0.6**
LSZ	**Lusaka**	**39.06**	**221**	IAMs_20	IAMs_20	12 56 54.2	
	comp=Z,1μm,21.0s						
LSZ	**Lusaka**	**39.06**	**221**	LR	LR	12 57 13.9	
	comp=Z,1μm,18.8s,baz=52,slow=37						
OZUR		**39.09**	**329**	⇑P	**P**	**12 40 46.5**	**+2.2**
ARR	**Arges**	**39.19**	**327**	⇑P	**P**	**12 40 47.3**	**+2.2**
DOPR	**Dopca**	**39.21**	**328**	⇓P	**P**	**12 40 47.2**	**+2.1**
SORM	**Soroca**	**39.37**	**333**	P	**P**	**12 40 46.2**	**-0.3**
MAKZ	**Makanchi**	**39.74**	**31**	P	**P**	**12 40 50.9**	**+1.3**
MK31	**Makanchi Array**	**39.89**	**31**	P	**P**	**12 40 50.7**	**-0.1**
MKAR	**Makanchi Array**	**39.89**	**31**	P	**P**	**12 40 50.9**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=218,slow=7.9,SNR=29						
MKAR				LR	LR	12 58 51.9	
	comp=Z,704nm,21.1s,baz=224,slow=38						
	comp=Z,2.2nm,0.7s						
PUK	**Puka**	**39.91**	**320**	P	**P**	**12 40 51.6**	**+0.5**
HERR	**Herculane**	**40.07**	**325**	⇑P	**P**	**12 40 53.8**	**+1.4**
NDNU	**Novodnistrovsk**	**40.15**	**333**	P	**P**	**12 40 53.8**	**+0.8**
GZR	**Gura Zlata**	**40.20**	**326**	⇑P	**P**	**12 40 55.1**	**+1.6**
MDVR	**Moldovita**	**40.41**	**324**	⇓P	**P**	**12 40 56.5**	**+1.3**
BURAR	**Bucovina Array**	**40.44**	**330**	P	**P**	**12 40 56.6**	**+1.2**
BURAR	**Bucovina Array**	**40.44**	**330**	⇑P	**P**	**12 40 58.0**	**+2.5**
BVAR	**Borovoye Array**	**40.44**	**15**	P	**P**	**12 40 55.0**	**-0.2**
	comp=Z,7.9nm,0.6s,baz=198,slow=6.4,SNR=34						
BVAR				PcP	**PcP**	**12 42 58.1**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=212,slow=5.1,SNR=2.1						
	comp=Z,7.9nm,0.6s						
BRVK	**Borovoye**	**40.44**	**15**	P	**P**	**12 40 55.7**	**+0.4**
BRVK	**Borovoye**	**40.44**	**15**	P	**P**	**12 40 55.7**	**+0.4**
BRVK				P	**P**	**12 40 55.7**	**+0.4**
BRVK				S	**S**	**12 47 04.2**	**+0.5**
BRVK				S	**S**	**12 47 04.2**	**+0.5**
BUR08	**Bucovina Ar. S**	**40.46**	**330**	P	**P**	**12 40 57.3**	**+1.6**
ARCR	**ARCALIA**	**40.49**	**329**	⇑P	**P**	**12 40 58.0**	**+2.2**
PDG	**Podgorica**	**40.51**	**320**	IAMs_20	IAMs_20	13 00 54.8	
	comp=Z,708nm,19.0s						
SURR	**Surduc**	**40.78**	**326**	⇑P	**P**	**12 41 00.4**	**+2.2**
MARR	**Marisel-Cluj**	**40.85**	**328**	⇓P	**P**	**12 41 00.9**	**+2.1**
WDD	**Wied Dalam**	**40.85**	**308**	IAMs_20	IAMs_20	12 57 38.8	
	comp=Z,796nm,19.0s						
AK08	**Malin Array Si**	**40.94**	**336**	P	**P**	**12 40 58.8**	**-0.6**
AK05	**Malin Array Si**	**40.95**	**336**	P	**P**	**12 40 59.3**	**-0.2**
WMQ	**Urumqi**	**40.97**	**38**	*e*P	**P**	**12 41 02.3**	**+2.4**
WMQ				LR	LR		
	comp=Z,690nm,18.3s						
WMQ				LR	LR		
	comp=Z,860nm,17.1s						
WMQ				LR	LR		
	comp=Z,480nm,17.1s						
BZS	**Buzias**	**40.97**	**325**	⇑P	**P**	**12 41 01.6**	**+1.8**
AKASG	**Malin Array Be**	**41.00**	**336**	P	**P**	**12 41 00.4**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=144,slow=7.8,SNR=27						
AKASG				LR	LR	13 00 43.2	
	comp=Z,592nm,20.1s,baz=155,slow=40						
	comp=Z,3.2nm,0.7s						
AKBB	**Malin Array Si**	**41.00**	**336**	P	**P**	**12 41 00.5**	**+0.6**
AKBB				IAmb	IAmb	12 41 02.1	
	comp=Z,61nm,1.8s						
AKBB	**Malin Array Si**	**41.00**	**336**	P	**P**	**12 41 00.7**	**+0.8**
KIEV	**Kiev**	**41.00**	**336**	P	**P**	**12 41 00.6**	**+0.7**
KIEV				IAmb	IAmb	12 41 02.1	
	comp=Z,54nm,1.8s						
KIEV	**Kiev**	**41.00**	**336**	⇓P	**P**	**12 41 01.2**	**+1.3**
KIEV	**Kiev**	**41.00**	**336**	P	**P**	**12 40 59.2**	**-0.7**
	comp=Z,72nm,1.2s						
KURBB	**Kurchatov Arra**	**41.06**	**24**	P	**P**	**12 41 00.4**	**0.0**
	comp=Z,2.4nm,0.9s,baz=225,slow=8.0,SNR=18						
KURBB				LR	LR	12 59 51.5	
	comp=Z,631nm,19.7s,baz=224,slow=39						
	comp=Z,2.4nm,0.9s						
KURK	**Kurchatov**	**41.16**	**24**	P	**P**	**12 41 02.2**	**+0.9**
SIRR	**Siria**	**41.36**	**326**	⇓P	**P**	**12 41 05.2**	**+2.2**
VAE	**Valguarnera**	**41.54**	**311**	LR	LR	12 59 12.4	
	comp=Z,451nm,18.0s,baz=124,slow=37						
CUC	**Castrocucco**	**41.58**	**315**	P	**P**	**12 41 05.8**	**+0.9**

SEM	**Semipalatinsk**	**41.59**	**25**	*e*P	**P**	**12 41 06.0**	**+1.0**
	comp=Z,11nm,1.0s						
ZSN	**Zaisan**	**41.63**	**32**	*e*P	**P**	**12 41 06.4**	**+1.2**
ARTI	**Arti**	**41.74**	**4**	P	**P**	**12 41 06.4**	**+0.4**
ARTI				IAmb	IAmb	12 41 25.2	
	comp=Z,28nm,1.6s						
ARTI	**Arti**	**41.74**	**4**	IAMs_20	IAMs_20	13 01 43.8	
	comp=Z,774nm,19.0s						
ARTI	**Arti**	**41.74**	**4**	LR	LR	13 01 54.8	
	comp=Z,722nm,19.5s,baz=190,slow=41						
BSI	**Banda Aceh**	**41.87**	**98**	P	**P**	**12 41 07.3**	**-0.3**
	comp=Z,29nm,1.5s						
MORS	**Morshin**	**42.13**	**331**	P	**P**	**12 41 11.3**	**+2.1**
GOMU	**GeErMu**	**42.41**	**52**	P	**P**	**12 41 13.6**	**+1.4**
GOMU				pP	pwP	12 41 17.9	-0.2
GOMU				sP	sP	12 41 21.8	+6.5
GOMU				PP	**PP**	**12 42 56.1**	**+5.7**
GOMU				S	**S**	**12 47 36.8**	**+2.6**
GOMU				pmax	pmax		
	comp=Z,5.0nm,1.4s						
GOMU				LR	LR		
	comp=Z,480nm,17.6s						
GOMU				LR	LR		
	comp=Z,700nm,17.4s						
GOMU				LR	LR		
	comp=Z,1μm,17.5s						
SHIU	**Shidnytsya**	**42.44**	**331**	P	**P**	**12 41 13.0**	**+1.2**
OBN	**Obninsk**	**42.46**	**345**	LR	LR	13 01 42.3	
	comp=Z,1μm,21.2s,baz=161,slow=40						
RNPP5	**Staryi Chortor**	**42.76**	**334**	P	**P**	**12 41 15.2**	**+0.9**
KOLS	**Kolonicke sedl**	**42.77**	**330**	*e*P	**P**	**12 41 17.8**	**+3.3**
MATP	**Matopo**	**42.83**	**216**	LR	LR	12 58 36.5	
	comp=Z,780nm,20.6s,baz=56,slow=36						
MORH	**Mrgy, Hungar**	**42.99**	**324**	⇑P	**P**	**12 41 17.6**	**+1.3**
MORH	**Mrgy, Hungar**	**42.99**	**324**	P	**P**	**12 41 16.7**	**+0.4**
	comp=Z,8.3nm,1.6s						
TNCH	**TengChong**	**43.18**	**69**	*e*P	**P**	**12 41 19.8**	**+1.4**
TNCH				S	**S**	**12 47 46.0**	**+0.6**
TNCH				ScS	**ScS**	**12 51 18.4**	**-1.3**
TNCH				pmax	pmax		
	comp=Z,34nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,170nm,4.3s						
TNCH				LR	LR		
	comp=Z,190nm,14.7s						
TNCH				LR	LR		
	comp=Z,330nm,15.6s						
TNCH				LR	LR		
	comp=Z,500nm,25.7s						
PSZ	**Piszkesteto**	**43.33**	**327**	⇑P	**P**	**12 41 20.7**	**+1.6**
KECS	**Kecovo**	**43.38**	**328**	*e*P	**P**	**12 41 22.3**	**+2.9**
CMAR	**Chiang Mai Arr**	**43.41**	**79**	P	**P**	**12 41 19.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**43.41**	**79**	P	**P**	**12 41 18.3**	**-1.8**
	comp=Z,3.8nm,0.9s,baz=277,slow=9.0,SNR=17						
CMAR				LR	LR	12 59 50.1	
	comp=Z,308nm,18.9s,baz=270,slow=37						
	comp=Z,3.8nm,0.9s						
INTR	**Introdacqua**	**43.77**	**316**	P	**P**	**12 41 22.3**	**-0.5**
INTR				IAmb	IAmb	12 41 32.3	
	comp=Z,27nm,1.5s						
KIRV	**Kirov**	**43.91**	**357**	LR	LR	13 03 37.7	
	comp=Z,631nm,19.4s,baz=174,slow=41						
SRO	**Srobarova**	**44.11**	**326**	*e*P	**P**	**12 41 27.7**	**+2.4**
MPLH	**Magyarpolny**	**44.16**	**325**	P	**P**	**12 41 27.0**	**+1.3**
	comp=Z,35nm,1.6s						
VYHS	**Vyhne**	**44.24**	**327**	*e*P	**P**	**12 41 27.4**	**+1.0**
LANS	**Liptovska Anna**	**44.32**	**328**	*e*P	**P**	**12 41 28.6**	**+1.6**
MNK	**Minsk**	**44.52

comp=Z,310nm,15.5s
PZH LR LR
comp=Z,450nm,20.1s
MOA Molln 46.39 324 *i* P **P 12 41 44.6 +1.2**
comp=Z,23nm,0.8s,SNR=9.6
KBA Koelnbreinsper 46.53 322 *i* P **P 12 41 45.5 +0.7**
comp=Z,10nm,0.8s,SNR=7.4
DPC Dobruska-Polom 46.67 328 *e*P **P 12 41 47.0 +1.4**
DPC Dobruska-Polom 46.67 328 P **P 12 41 44.9 -0.7**
comp=Z,15nm,1.6s
BIOA Bad Ischl, Aus 46.67 323 *e*P **P 12 41 46.4 +0.7**
comp=Z,11nm,0.7s
OSTC Ostas 46.85 328 *e*P **P 12 41 47.9 +0.9**
ABTA Abfaltersbach 46.86 322 *e*P **P 12 41 48.1 +0.9**
comp=Z,13nm,0.9s,SNR=7.4
CKRC Cesky Krumlov 46.88 325 *e*P **P 12 41 48.2 +0.9**
UPC Upice 46.92 328 *e*P **P 12 41 49.0 +1.5**
CTI Castel Tesino 47.05 320 P **P 12 41 50.3 +1.5**
CTI IAmb IAmb 12 41 51.3
comp=Z,11nm,0.8s
KULM Kulim 47.06 97 IAMs_20 IAMs_20 12 58 47.0
comp=Z,776nm,21.0s
LESA Schwarzleotal 47.10 322 *e*P **P 12 41 49.3 +0.3**
comp=Z,13nm,0.7s,SNR=6.0
GTA Gaotai 47.19 50 *e*P **P 12 41 51.1 +1.1**
GTA S **S 12 48 44.3 +1.3**
GTA SS **SS 12 52 08.3 -1.9**
GTA pmax pmax
comp=Z,1.0nm,1.2s
GTA LR LR
comp=Z,370nm,17.8s
GTA LR LR
comp=Z,650nm,19.6s
GTA LR LR
comp=Z,990nm,20.4s
GEC2 GERESS Array S 47.24 325 P **P 12 41 50.9 +0.7**
GERES GERESS Array B 47.24 325 P **P 12 41 50.1 0.0**
comp=Z,4.4nm,0.7s,baz=123,slow=7.0,SNR=18
GERES LR LR 13 03 04.1
comp=Z,494nm,21.3s,baz=130,slow=38
comp=Z,4.4nm,0.7s
ZVC Zvikov 47.29 326 *e*P **P 12 41 50.2 -0.2**
PRU Pruhonice 47.40 326 *e*P **P 12 41 51.6 +0.3**
KHC Kasperske Hory 47.46 325 *e*P **P 12 41 51.8 0.0**
KHC AMS AMS 13 02 20.0
comp=Z,700nm,23.1s
KHC Kasperske Hory 47.46 325 P **P 12 41 51.2 -0.6**
comp=Z,9.3nm,2.3s
WTTA Wattenberg 47.63 322 *i* P **P 12 41 53.7 +0.3**
comp=Z,18nm,0.9s,SNR=6.3
MSSA Maissana 47.66 317 P **P 12 41 53.5 +0.1**
WATA Walderalm 47.70 322 *i* P **P 12 41 54.3 +0.4**
comp=Z,24nm,1.1s,SNR=5.7
SQTA Sankt Quirin 47.87 322 *e*P **P 12 41 55.4 +0.3**
comp=Z,20nm,0.6s
MOTA Moosalm 47.99 322 *i* P **P 12 41 55.9 -0.2**
comp=Z,24nm,0.7s
SLVN Son La 48.01 74 IAMs_20 IAMs_20 13 05 55.4
comp=Z,475nm,18.0s
FETA Feichten 48.07 321 *e*P **P 12 41 57.3 +0.6**
comp=Z,10nm,0.8s
LBTB Lobatse 48.08 215 P **P 12 41 56.5 -0.5**
LBTB Lobatse 48.08 215 LR LR 13 02 46.8
comp=Z,616nm,18.1s,baz=44,slow=37
BRG Berggiesshubel 48.21 327 *e*P **P 12 41 57.8 +0.2**
BRG Amp 12 41 59.6
comp=Z,7.4nm,1.0s
BRG Berggiesshubel 48.21 327 S **S 12 49 00.0 +3.2**
RETA Reutte 48.26 322 *i* P **P 12 41 57.7 -0.5**
comp=Z,12nm,0.7s,SNR=5.5
DAVOX Davos/Dischmat 48.48 321 LR LR 13 08 10.4
comp=Z,233nm,18.2s,baz=84,slow=43
DAVA Damuels 48.70 321 *i* P **P 12 42 01.4 -0.2**
comp=Z,16nm,0.7s
CLL Collm 48.95 327 P **P 12 42 04.9 +1.7**
CLL Collm 48.95 327 *i* P **P 12 42 03.9 +0.7**
comp=Z,73nm,2.3s
CLL *i* x x 12 42 10.8
comp=Z,60nm,2.4s
CLL *e*PP **PP 12 43 57.0 +0.4**
CLL *e*PPPP 12 45 02.0
CLL *e*S **S 12 49 01.0 -6.2**
CLL *e*SS SS 12 52 54.0 +16
CLL AMS AMS 13 05 00.0
comp=Z,500nm,21.5s
TSUM Tsumeb 49.01 228 LR LR 13 03 54.4
comp=Z,2μm,18.6s,baz=4.0,slow=38
GRA1 Grafenberg Arr 49.07 324 P **P 12 42 05.5 +1.4**
GRA1 IAmb IAmb 12 42 05.6
comp=Z,25nm,1.1s
GRFO Grafenberg 49.07 324 P **P 12 42 05.4 +1.3**
GRFO IAmb IAmb 12 42 05.6
comp=Z,22nm,1.1s
LZH Lanzhou 49.41 55 *e*P **P 12 42 06.1 -1.1**
LZH pP pwP 12 42 13.1 -0.1
LZH S **S 12 49 13.9 -0.7**
LZH pmax pmax
comp=Z,10.0nm,1.3s
LZH LR LR
comp=Z,400nm,14.4s
LZH LR LR
comp=Z,430nm,15.5s
LZH LR LR
comp=Z,750nm,14.4s
SENIN Lac Senin/Sane 49.91 319 P **P 12 42 10.2 -0.7**
BFO Black Forest 50.10 322 P **P 12 42 12.3 +0.1**
BFO IAmb IAmb 12 42 20.9
comp=Z,34nm,1.3s
TORD Torodi Ar. Bea 50.44 275 P **P 12 42 14.3 -0.8**
GYA Guiyang 50.60 68 ⇑P **P 12 42 16.0 -0.4**
GYA S **S 12 49 26.3 -5.1**
GYA SS **SS 12 53 03.0 -2.6**
GYA pmax pmax
comp=Z,12nm,1.4s
GYA LR LR
comp=Z,310nm,15.0s
GYA LR LR
comp=Z,350nm,24.4s
GYA LR LR
comp=Z,730nm,24.0s
FINES FINESS Array B 50.71 343 P **P 12 42 16.7 +0.2**
comp=Z,4.1nm,0.5s,baz=145,slow=8.0,SNR=12
FINES LR LR 13 08 12.3
comp=Z,441nm,18.5s,baz=156,slow=41
comp=Z,4.1nm,0.5s
BOSA Boshof 51.13 213 P **P 12 42 19.7 -0.5**
BOSA IAmb IAmb 12 42 28.1
comp=Z,12nm,0.8s
BOSA Boshof 51.13 213 P **P 12 42 18.9 -1.3**
comp=Z,5.0nm,0.8s,baz=48,slow=8.5,SNR=6.5
BOSA LR LR 13 04 54.7
comp=Z,500nm,18.1s,baz=42,slow=37
comp=Z,5.0nm,0.8s
SSB Saint Sauveur 51.30 317 P **P 12 42 20.9 -0.3**
XAN Xi'an 53.18 58 ⇑P **P 12 42 35.4 0.0**
XAN pP sP 12 42 39.8 +1.2
XAN S **S 12 50 08.3 +1.8**
XAN SS **SS 12 53 44.1 -1.9**
XAN pmax pmax
comp=Z,5.0nm,0.6s
XAN pmax pmax
comp=Z,110nm,4.3s
DLV Lat 53.25 86 P **P 12 42 35.4 -0.9**
DLV IAMs_20 IAMs_20 13 03 10.0
comp=Z,460nm,19.0s
ENH Enshi 53.30 63 IAMs_20 IAMs_20 13 09 06.6
comp=Z,426nm,19.0s
PMBI Palembang 53.50 105 IAMs_20 IAMs_20 13 00 42.6
comp=Z,467nm,19.0s
QIZ Qiongzhong 53.69 77 P **P 12 42 39.3 0.0**
QIZ S **S 12 50 11.3 -2.3**
QIZ SS **SKiKP 12 53 56.3 +1.5**
QIZ LR LR
comp=Z,190nm,14.9s
QIZ LR LR
comp=Z,390nm,17.1s
QIZ LR LR
comp=Z,360nm,18.5s
HFS Hagfors 53.89 337 P **P 12 42 40.8 +0.7**
comp=Z,7.1nm,0.8s,baz=132,slow=8.8,SNR=11
HFS LR LR 13 09 12.8
comp=Z,561nm,18.8s,baz=132,slow=40
comp=Z,7.1nm,0.8s
SONM Songino Array 54.42 41 P **P 12 42 44.5 +0.2**
SONM Songino Array 54.42 41 P **P 12 42 45.1 +0.8**
comp=Z,4.3nm,1.1s,baz=246,slow=7.2,SNR=13
comp=Z,4.3nm,1.1s
ULN Ulaanbaatar 54.85 41 P **P 12 42 47.9 +0.4**
BTO Baotou 55.08 51 *e*P **P 12 42 49.6 +0.4**
BTO pP **pwP 12 42 54.3 -0.9**
BTO sP **sP 12 42 56.8 +4.4**
BTO PP **PP 12 44 58.5 +6.1**
BTO S **S 12 50 32.5 +0.5**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,260nm,6.4s
BTO LR LR
comp=Z,750nm,15.4s
BTO LR LR
comp=Z,740nm,17.5s
BTO LR LR
comp=Z,2μm,13.5s
NB2 NORSAR Subarra 55.41 336 P **P 12 42 51.4 +0.2**
comp=Z,14nm,1.2s,baz=124,slow=7.4
NOA NORSAR Array B 55.41 336 P **P 12 42 51.0 -0.2**
comp=Z,2.3nm,0.9s,baz=127,slow=5.8,SNR=4.7
NOA LR LR 13 11 30.3
comp=Z,453nm,18.2s,baz=125,slow=41
comp=Z,2.3nm,0.9s
MDT Midelt 55.68 300 LR LR 13 07 53.8
comp=Z,1μm,18.7s,baz=102,slow=37
ESBB Sonseca Array 55.97 308 IAmb IAmb 12 43 06.1
comp=Z,11nm,1.0s
ESDC Sonseca Array 55.97 308 P **P 12 42 54.9 -0.7**
ESDC Sonseca Array 55.97 308 P **P 12 42 55.5 -0.1**
comp=Z,1.8nm,0.7s,baz=86,slow=6.6,SNR=16
ESDC LR LR 13 08 11.9
comp=Z,386nm,18.3s,baz=104,slow=37
comp=Z,1.8nm,0.7s
PAB San Pablo 56.24 308 P **P 12 42 56.9 -0.7**
PAB IAmb IAmb 12 43 19.9
comp=Z,19nm,1.4s
HHC Hu-ho-hao-te 56.27 51 *e*P **P 12 42 58.1 +0.3**
HHC S **S 12 50 43.5 -4.5**
HHC SS **SS 12 54 34.3 -0.4**
HHC pmax pmax
comp=Z,5.0nm,1.0s
HHC pmax pmax
comp=Z,80nm,4.3s
HHC LR LR
comp=Z,340nm,15.9s
HHC LR LR
comp=Z,560nm,22.0s
HHC LR LR
comp=Z,800nm,20.6s
SUR Sutherland 56.44 213 LR LR 13 07 51.7
comp=Z,452nm,18.0s,baz=36,slow=37
TIY Taiyuan 56.47 54 *e*P **P 12 43 03.9 +4.7**
TIY S **S 12 50 50.9 +0.3**
TIY SS **SS 12 54 39.1 +1.3**
TIY pmax pmax
comp=Z,12nm,1.1s
TIY LR LR
comp=Z,330nm,15.7s
TIY LR LR
comp=Z,500nm,20.0s
TIY LR LR
comp=Z,780nm,18.2s
HKPS Hong Kong Po S 57.48 73 IAMs_20 IAMs_20 13 09 23.1
comp=Z,378nm,19.0s
LEM Lembang 57.55 108 LR LR 13 04 42.1
comp=Z,405nm,19.1s,baz=277,slow=33
ARCES ARCESS Array B 57.58 349 P **P 12 43 05.3 -1.1**
comp=Z,3.3nm,0.7s,baz=145,slow=4.4,SNR=11
ARCES LR LR 13 11 12.7
comp=Z,872nm,19.6s,baz=142,slow=39
comp=Z,3.3nm,0.7s
DBIC Dimbokro 57.99 269 P **P 12 43 10.1 -0.1**
comp=Z,4.2nm,0.8s,baz=45,slow=2.9,SNR=5.4
DBIC LR LR 13 07 45.8
comp=Z,392nm,18.0s,baz=59,slow=36
comp=Z,4.2nm,0.8s
NRIK Noril'sk 58.58 13 P **P 12 43 14.1 +0.6**
NRIK IAmb IAmb 12 43 23.1
comp=Z,7.3nm,0.9s
NRIK Noril'sk 58.58 13 P **P 12 43 13.9 +0.4**
comp=Z,3.8nm,0.8s,baz=213,slow=4.5,SNR=6.9
NRIK LR LR 13 12 46.7
comp=Z,542nm,18.4s,baz=219,slow=40
comp=Z,3.8nm,0.8s
KPJI Karang Pucung 58.95 108 P P 12 43 24.4 +7.5
EKA Eskdalemuir Ar 59.39 326 P **P 12 43 18.9 -0.4**
comp=Z,2.8nm,0.6s,baz=115,slow=7.0,SNR=12
comp=Z,2.8nm,0.6s
BJT Baijiatuau 59.64 52 IAMs_20 IAMs_20 13 10 08.9
comp=Z,406nm,19.0s
XLT XiLinHaoTe 60.07 48 *e*P **P 12 43 26.0 +1.7**
XLT S **S 12 51 38.9 +1.5**
XLT pmax pmax
comp=Z,6.0nm,1.5s
XLT pmax pmax
comp=Z,120nm,4.4s
XLT LR LR
comp=Z,290nm,11.5s
XLT LR LR
comp=Z,420nm,17.6s
TIA Tai'an 60.07 57 P P 12 43 29.6 +5.2
TIA S **S 12 51 29.4 -8.2**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA LR LR
comp=Z,240nm,19.9s
TIA LR LR
comp=Z,340nm,17.3s
TIA LR LR
comp=Z,370nm,17.4s
NJ2 Nanjing 61.38 61 *e*P **P 12 43 34.3 +1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KKM Kota Kinabalu 61.90 91 IAMs_20 IAMs_20 13 13 44.5
comp=Z,358nm,19.0s
DL2 Dalian 63.77 54 P **P 12 43 50.4 +1.2**
DL2 S **S 12 52 22.8 -1.4**
DL2 pmax pmax
comp=Z,19nm,0.9s
DL2 pmax pmax
comp=Z,230nm,4.6s
DL2 LR LR
comp=Z,320nm,19.0s
DL2 LR LR
comp=Z,230nm,15.3s
DL2 LR LR
comp=Z,420nm,15.1s
TGY Tagaytay City 64.86 81 LR LR 13 09 34.9
comp=Z,189nm,21.9s,baz=256,slow=34
SPITS Spitsbergen Ar 66.07 352 LR LR 13 18 43.8
comp=Z,503nm,18.6s,baz=107,slow=41
CN2 Changchun 66.81 48 ⇑P **P 12 44 09.8 +1.0**
CN2 *es*P pwP 12 44 15.0 +0.2
CN2 *e*S **S 12 53 00.3 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,400nm,12.0s
JMIC Jan Mayen 67.28 342 LR LR 13 16 24.8
comp=Z,349nm,19.8s,baz=119,slow=38
BBTS Babate 67.68 280 LR LR 13 14 55.4
comp=Z,908nm,18.1s,baz=317,slow=37
BNX BinXian 68.25 46 ⇓P **P 12 44 16.8 -1.0**
BNX S **S 12 53 18.0 -0.5**
BNX pmax pmax
comp=Z,5.0nm,1.5s
BNX LR LR
comp=Z,240nm,20.1s
BNX LR LR
comp=Z,370nm,16.8s
BNX LR LR
comp=Z,470nm,19.6s
KAPI Kappang 68.30 102 LR LR 13 12 20.5
comp=Z,173nm,18.9s,baz=280,slow=34
HEH HeiHe 68.41 41 *e*P **P 12 44 20.3 +1.5**
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH LR LR
comp=Z,190nm,12.5s
HEH LR LR
comp=Z,330nm,12.2s
HEH LR LR
comp=Z,380nm,14.3s
KSRS Korea Array 68.74 55 P **P 12 44 20.4 -0.7**
comp=Z,2.2nm,0.8s,baz=269,slow=7.0,SNR=6.7
KSRS LR LR 13 16 16.2
comp=Z,146nm,18.2s,baz=270,slow=38
comp=Z,2.2nm,0.8s
WBSI Waikabubak, Su 69.44 106 P P 12 44 32.0 +6.2
JOW Kunigami 69.90 67 LR LR 13 15 42.6
comp=Z,230nm,21.1s,baz=286,slow=36
YAK Yakutsk 70.53 29 LR LR 13 18 36.1
comp=Z,590nm,19.1s,baz=268,slow=38
KLR Kul'dur 71.20 43 LR LR 13 19 42.2
comp=Z,265nm,18.0s,baz=284,slow=39
TIXI Tiksi 71.46 19 IAMs_20 IAMs_20 13 18 59.3
comp=Z,456nm,21.0s
TIXI Tiksi 71.46 19 LR LR 13 20 49.1
comp=Z,380nm,18.0s,baz=234,slow=40
JNU Nakatsue 71.47 60 LR LR 13 18 12.3
comp=Z,227nm,19.8s,baz=283,slow=38
USRK Ussuriysk Ar. 71.52 48 LR LR 13 17 07.4
comp=Z,225nm,20.0s,baz=290,slow=37
DAG Danmarks Havn 71.76 347 *i* P **P 12 44 38.0 -0.9**
DAG IAmb IAmb 12 44 40.3
comp=Z,5.4nm,0.9s
NOR Nord 72.70 352 *i* P **P 12 44 44.5 0.0**
NOR IAmb IAmb 12 44 50.9
comp=Z,7.1nm,1.4s
SOEI Soe 74.02 105 IAMs_20 IAMs_20 13 12 59.5
comp=Z,480nm,22.0s
H01W3 Cape Leeuwin H 75.57 132 T T 14 07 16.4
baz=300,slow=75,SNR=56
H01W2 Cape Leeuwin H 75.58 132 T T 14 07 16.8
baz=300,slow=75,SNR=63
H01W1 Cape Leeuwin H 75.59 132 T T 14 07 17.6
baz=300,slow=75,SNR=66
SUMG Summit 76.73 342 *i* P **P 12 45 09.4 +1.0**
SUMG IAmb IAmb 12 45 20.0
comp=Z,9.7nm,0.8s
NWAO Narrogin (SRO) 76.91 129 LR LR 13 11 11.4
comp=Z,136nm,21.2s,baz=248,slow=30
MJAR Matsushiro Arr 77.02 55 P **P 12 45 09.4 -0.9**
comp=Z,2.6nm,1.0s,baz=268,slow=8.0,SNR=2.8
MJAR LR LR 13 21 59.3
comp=Z,171nm,19.5s,baz=278,slow=38
comp=Z,2.6nm,1.0s
ICESG Greenland Ices 77.58 338 *i* P **P 12 45 15.2 +1.9**
FITZ Fitzroy Crossi 78.00 112 LR LR 13 14 38.4
comp=Z,163nm,18.3s,baz=300,slow=32
NEEM North Greenlan 78.92 348 *i* P **P 12 45 20.3 -0.2**
NEEM IAmb IAmb 12 45 21.8
comp=Z,5.4nm,0.7s
ASAJ Asahikawa 79.11 47 LR LR 13 23 05.5
comp=Z,243nm,19.7s,baz=307,slow=38
DY2G Dye2 80.57 336 *i* P **P 12 45 29.9 +0.4**
MA2 Magadan 80.97 31 LR LR 13 24 24.7
comp=Z,278nm,20.5s,baz=282,slow=38
KULLO Kullorsuaq 81.34 345 *i* P P 12 45 27.9 -5.2
UPNV Upernavik 81.78 344 *i* P **P 12 45 35.6 +0.2**
UPNV IAmb IAmb 12 45 38.5
comp=Z,10nm,1.0s
SFJD Kangerlussuaq 82.08 337 LR LR 13 25 45.8
comp=Z,328nm,19.9s,baz=68,slow=38
JCJ Chichijima 82.09 64 LR LR 13 24 13.9
comp=Z,61nm,19.4s,baz=112,slow=37
MAW Mawson 82.36 176 LR LR 13 14 09.8
comp=Z,352nm,20.8s,baz=344,slow=30
EUNU Eureka 83.14 354 P **P 12 45 42.3 -0.3**
EUNU IAmb IAmb 12 46 14.4
comp=Z,12nm,1.3s
SYO Syowa Base 84.11 185⇓*e*P **P 12 45 49.0 +1.6**
WRA Warramunga Arr 86.39 112 P **P 12 45 59.1 -0.9**
WRA Warramunga Arr 86.39 112 P **P 12 45 56.9 -3.1**
comp=Z,1.6nm,0.8s,baz=296,slow=4.1,SNR=9.4
comp=Z,1.6nm,0.8s
PETK Petropavlovsk- 86.53 36 LR LR 13 27 48.1
comp=Z,214nm,20.9s,baz=289,slow=38
ASAR Alice Springs 87.10 115 P **P 12 46 02.7 -0.7**
ASAR Alice Springs 87.10 115 P **P 12 46 00.1 -3.3**
comp=Z,1.2nm,0.6s,baz=292,slow=4.9,SNR=17
ASAR LR LR 13 25 08.1
comp=Z,122nm,18.4s,baz=294,slow=36
comp=Z,1.2nm,0.6s
AS31 Alice Springs 87.10 115 P **P 12 46 03.6 +0.2**
GUMO Guam 87.69 77 LR LR 13 23 24.2
comp=Z,58nm,20.6s,baz=12,slow=34
JAY Jayapura 87.71 93 LR LR 13 26 28.8
comp=Z,66nm,20.7s,baz=335,slow=36
RES Resolute Bay 88.64 352 LR LR 13 32 22.9
comp=Z,243nm,18.5s,baz=19,slow=40
FRB Frobisher Bay 90.21 338 LR LR 13 30 46.9
comp=Z,233nm,18.8s,baz=76,slow=38
RCBR Riachuelo 91.10 264 LR LR 13 26 26.6
comp=Z,59nm,18.4s,baz=69,slow=35
A36M Sachs Harbour 93.50 360 P **P 12 46 33.5 +1.1**
A36M IAmb IAmb 12 46 44.3
comp=Z,5.1nm,0.9s
SCHQ Schefferville 94.52 330 LR LR 13 32 24.0
comp=Z,114nm,19.7s,baz=77,slow=38
SHEM Shemya Is, Ala 95.58 32 LR LR 13 34 09.6
comp=Z,178nm,18.8s,baz=303,slow=38
PMG Port Moresby 95.63 98 LR LR 13 32 59.5
comp=Z,34nm,19.0s,baz=300,slow=38
STKA Stephens Creek 95.85 121 LR LR 13 27 28.7
comp=Z,228nm,18.4s,baz=252,slow=34
INK Inuvik 97.04 3 LR LR 13 37 59.1
comp=Z,151nm,19.8s,baz=3.0,slow=40
ILAR Eielson Array 99.21 9 LR LR 13 35 59.7
comp=Z,119nm,20.9s,baz=313,slow=38
DZM Mont Dzumac 116.16 108 *e*LR LR 13 27 04.8
comp=Z,242nm,22.6s
PDAR Pinedale Array 120.78 346 PKP **PKiKP 12 52 10.0 0.0**
comp=Z,0.3nm,0.7s,baz=9.1,slow=2.4,SNR=1.6
NVAR Mina Array Bea 126.61 352 PKP **PKPdf 12 52 19.7 -1.5**
comp=Z,0.4nm,0.6s,baz=22,slow=2.3,SNR=4.1
TXAR Lajitas Array 131.07 334 PKP **PKPdf 12 52 28.9 -0.8**
comp=Z,0.1nm,0.3s,baz=16,slow=5.0,SNR=1.7
TBI Tubuai 156.48 115 *e*LR LR 13 45 44.1
comp=Z,696nm,29.8s
PPT2 Papeete2 157.44 100 *e*LR LR 13 46 07.4
comp=Z,176nm,25.0s
PPT2 *e*LR LR 13 46 13.4
comp=Z,187nm,28.2s
TAOE Nuku Hiva Isla 165.22 68 *e*LR LR 13 49 47.6
comp=Z,222nm,25.2s

---

*IDC **20** 12:53:23.9±1.1,0.°19N×123.°97E,h0km,mb3.4/7,*
mbtmp3.5/8,ML4.3/1,Error ellipse: s-maj=49.2km
s-min=19.4km az=67.0
*DJA **20** 12:53:36.6±0.3,0.°S±3.°×12.°4E±.°,h80km±9km,M4.2/17,*
mB4.8/2,mb4.6/3,MLv4.0/17,Mw(mB)4.1/2
ISC 20 12:53:35.8±0.8,**0.°12S**±0.°06×**123.°55E**±0.°05,**h100**km,**n21,**
σ0.°99/24,mb3.5/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**32**	P		**Pn**		**12 53 54.4**	**+0.1**
LUWI	**Luwuk**	**1.20**	**220**	P		**Pn**		**12 53 58.1**	**-0.3**
LUWI				S		**Sn**		**12 54 14.1**	**-1.4**
MRSI	**Marisa**	**1.71**	**290**	P		**Pn**		**12 54 03.6**	**-1.1**
APSI	**Ampana**	**2.05**	**248**	P		**Pn**		**12 54 09.4**	**+0.4**
SANI	**Sanana**	**3.10**	**128**	P		**Pn**		**12 54 22.1**	**-0.8**
MPSI	**Mapaga**	**3.68**	**277**	P		**Pn**		**12 54 31.6**	**+1.0**
PCI	**Palu**	**3.79**	**258**	P		**Pn**		**12 54 30.7**	**-1.5**
KDI	**Kendari**	**3.92**	**194**	P		**Pn**		**12 54 34.0**	**+0.1**
LBMI	**Labuha**	**3.99**	**97**	P		**Pn**		**12 54 33.8**	**-1.0**
NLAI	**Namlea**	**4.71**	**131**	P		**Pn**		**12 54 45.4**	**+0.8**
TTSI	**Tana Toraja**	**4.72**	**232**	P		**Pn**		**12 54 45.2**	**+0.4**
SPSI	**Sidrap Palu**	**5.37**	**225**	P		**Pn**		**12 54 54.2**	**+0.7**
	1μm71nm,0.5s								
KAPI	**Kappang**	**6.16**	**218**	Pn		**Pn**		**12 55 02.9**	**-1.4**
	5.4nm,0.3s,baz=56,slow=11,SNR=5.2								
KAPI				Sn		**Sn**		**12 56 12.2**	**-1.2**
	0.3nm,0.3s,baz=100,slow=22,SNR=1.7								
BSSI	**Bau Bau, Buton**	**6.71**	**207**	P		**Pn**		**12 55 12.9**	**+1.1**
WRA	**Warramunga Arr**	**22.35**	**152**	P		**P**		**12 58 24.7**	**-1.0**
	1.1nm,1.1s,baz=334,slow=9.2,SNR=2.1								
	1.1nm,1.1s								
ASAR	**Alice Springs**	**25.47**	**157**	P		**P**		**12 58 56.4**	**+1.7**
	0.2nm,0.6s,baz=342,slow=8.9,SNR=2.2								
ASAR				PcP		**PcP**		**13 02 24.8**	**+0.5**
	0.3nm,0.4s,baz=346,slow=2.4,SNR=9.4								
	0.2nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.42**	**309**	P		**P**		**12 59 40.3**	**+1.3**

0.7nm,0.6s,baz=123,slow=7.7,SNR=6.8
0.7nm,0.6s
SONM Songino Array 50.04 345 P **P 13 02 20.4 +0.1**
0.3nm,0.5s,baz=164,slow=8.0,SNR=2.8
0.3nm,0.5s
MKAR Makanchi Array 59.01 328 P **P 13 03 24.5 -0.6**
0.1nm,0.3s,baz=122,slow=8.9,SNR=3.6
0.1nm,0.3s
ZALV Zalesovo Beam 62.65 335 P **P 13 03 48.9 -0.7**
0.5nm,0.6s,baz=139,slow=7.7,SNR=1.8
0.5nm,0.6s
KURBB Kurchatov Arra 63.34 330 P **P 13 03 54.0 -0.2**
0.2nm,0.3s,baz=116,slow=7.4,SNR=4.0
0.2nm,0.3s

---

*NEIC **20** 12:59:23.3±1.1,21°.8S±0°.1×173°.9W±0°.1,h10km±1km, mb4.2/11,Error ellipse: s-maj=23.0km s-min=20.7km az=132.0*
*IDC **20** 12:59:25.2±1.2,21°.75S×174°.46W,h0km,mb4.0/8, mbtmp4.0/9,ML3.8/1,MS3.9/7,Error ellipse: s-maj=45.8km s-min=22.2km az=143.0*
ISC 20 12:59:24.2±0.6,21°.9S±0°.1×173°.84W±0°.08,h10km,n34, σ1s94/27,mb4.2/15,MS4.3/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.62**	**53**		**Pn**	**13 00 34.2**	**0.0**
AFI	**Afiamalu**	**8.19**	**14**	Pn	**Pn**	**13 01 20.8**	**-2.4**
MSVF	**Nonsavu**	**8.69**	**297**	Pn	Pn	13 01 33.8	+3.7
MSVF	**Nonsavu**	**8.69**	**297**	Pn	**Pn**	**13 01 32.5**	**+2.4**
1.1nm,0.3s,baz=134,slow=9.5,SNR=14
MSVF LR LR 13 04 34.9
comp=Z,318nm,18.3s,baz=84,slow=38
RAR Rarotonga 13.11 90 Pn **Pn 13 02 28.3 -2.2**
RAR Rarotonga 13.11 90 Pn **Pn 13 02 30.6 +0.1**
4.9nm,0.3s,baz=263,slow=10,SNR=16
URZ Urewera 18.07 204 P **P 13 03 38.6 +2.8**
0.3nm,0.3s,baz=7.1,slow=8.1,SNR=2.4
URZ S Sn 13 06 36.9 -20
24nm,1.2s,baz=87,slow=13,SNR=3.0
7.1nm,0.8s
DZM Mont Dzumac 18.29 266 LR LR 13 09 11.3
comp=Z,118nm,18.3s,baz=186,slow=33
PPT Papeete 23.23 84 LR LR 13 12 24.4
comp=Z,60nm,19.1s,baz=276,slow=33
STKA Stephens Creek 40.73 246 P **P 13 07 04.2 -1.2**
STKA IAmb IAmb 13 07 28.6
comp=Z,4.2nm,0.7s
AS31 Alice Springs 47.99 257 P **P 13 08 02.0 -1.7**
AS31 IAmb IAmb 13 08 20.3
comp=Z,0.6nm,0.7s
ASAR Alice Springs 47.99 257 P **P 13 08 02.6 -1.1**
ASAR Alice Springs 47.99 257 P **P 13 08 01.7 -2.0**
comp=Z,1.2nm,0.6s,baz=104,slow=8.2,SNR=32
ASAR PcP **PcP 13 09 32.9 +1.0**
comp=Z,0.3nm,0.8s,baz=94,slow=2.9,SNR=4.2
comp=Z,1.2nm,0.6s
WR0 Warramunga Arr 48.07 262 P **P 13 08 02.5 -1.8**
WR0 IAmb IAmb 13 08 21.1
comp=Z,1.1nm,0.8s
WB0 Warramunga Arr 48.24 263 P **P 13 08 03.4 -2.3**
WB2 Warramunga Arr 48.25 262 P **P 13 08 03.5 -2.2**
WB2 IAmb IAmb 13 08 31.6
comp=Z,2.9nm,0.9s
WRAB Tennant Creek 48.25 262 P **P 13 08 03.5 -2.2**
WRAB IAmb IAmb 13 08 12.7
comp=Z,1.9nm,0.8s
WRA Warramunga Arr 48.26 262 P **P 13 08 03.8 -2.0**
WRA Warramunga Arr 48.26 262 P **P 13 08 03.0 -2.8**
comp=Z,0.9nm,0.6s,baz=102,slow=8.3,SNR=16
WRA PcP **PcP 13 09 33.8 +1.0**
comp=Z,0.4nm,0.5s,baz=96,slow=3.3,SNR=2.2
comp=Z,0.9nm,0.6s
FORT Forrest 52.33 247 P **P 13 08 35.2 -1.2**
KNRA Kununurra 54.44 266 P **P 13 08 50.0 -2.1**
KNRA IAmb IAmb 13 09 08.6
comp=Z,3.2nm,0.8s
FITZ Fitzroy Crossi 56.69 262 P **P 13 09 06.9 -1.4**
FITZ Fitzroy Crossi 56.69 262 P **P 13 09 06.7 -1.6**
comp=Z,1.4nm,0.6s,baz=130,slow=7.9,SNR=6.2
comp=Z,1.4nm,0.6s
VNDA Vanda 56.90 186 P **P 13 09 08.8 -0.1**
VNDA IAmb IAmb 13 09 22.0
comp=Z,1.9nm,0.8s
VNDA Vanda 56.90 186 LR LR 13 30 03.0
comp=Z,318nm,21.0s,baz=254,slow=32
QSPA South Pole Qui 68.18 180 P **P 13 10 23.6 -1.1**
MJAR Matsushiro Arr 73.67 321 P **P 13 10 58.9 +0.7**
comp=Z,1.7nm,0.6s,baz=135,slow=6.7,SNR=5.0
comp=Z,1.7nm,0.6s
PETK Petropavlovsk- 78.67 343 P **P 13 11 27.1 +0.8**
comp=Z,1.2nm,0.6s,baz=153,slow=5.4,SNR=10.0
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 79.44 41 P P 13 11 35.1 +3.9
comp=Z,0.7nm,0.9s,baz=223,slow=9.2,SNR=3.5
comp=Z,0.7nm,0.9s
TXAR Lajitas Array 84.59 56 P **P 13 12 01.5 +3.2**
comp=Z,1.0nm,1.1s,baz=204,slow=14,SNR=3.9
comp=Z,1.0nm,1.1s
NEW Newport 86.29 34 LR LR 13 46 22.3
comp=Z,180nm,18.4s,baz=8.0,slow=33
SNAA Sanae 86.47 177 LR LR 13 51 45.5
comp=Z,60nm,18.1s,baz=338,slow=36
ILAR Eielson Array 88.87 11 P P 13 12 22.1 +4.0
comp=Z,0.5nm,1.1s,baz=213,slow=4.5,SNR=1.9
comp=Z,0.5nm,1.1s
JTS Las Juntas de 92.75 80 LR LR 13 46 47.7
comp=Z,104nm,21.3s,baz=52,slow=30

TXNET 20 13:02:18.3,31°.7N±0°.5×104°.3W±0°.7,h4km±2km,ML2.1/8, Error ellipse: s-maj=1.1km s-min=0.7km az=72.8,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**33**	P	Pg	13 02 25.0	0.0
TPB11 S Sg 13 02 29.7 +0.2
PECS Pecos 0.43 130 P Pg 13 02 26.8 +0.1
PECS S Sg 13 02 32.5 +0.2
TPB12 Southwest of T 0.50 149 P Pg 13 02 28.1 +0.1
TPB12 S Sg 13 02 35.0 +0.4
TPB07 Mentone 0.51 98 S Sg 13 02 35.0 +0.3
TPB10 Southeast of T 0.56 130 P Pg 13 02 29.3 +0.2
TPB10 S Sg 13 02 37.0 +0.6
PCOS Crockett Middl 0.68 110 S Sg 13 02 41.1 +0.8
CLNB Carlsbad 0.69 28 P Pg 13 02 31.1 -0.6
CLNB S Sg 13 02 40.8 +0.2
TPB01 Permian Basin 0.81 150 P Pg 13 02 33.2 -0.7
TPB01 S Sb 13 02 45.9 -0.6
TPB03 Saragosa 0.85 131 P Pg 13 02 34.3 -0.3
TPB03 S Sg 13 02 45.9 +0.3
CLN7 Carlsbad 7 0.85 26 P Pg 13 02 34.4 -0.3
TPB06 Permian Basin 0.89 90 S Sg 13 02 46.4 -0.4
MNTX Cornudas Mount 0.96 273 P Pg 13 02 36.8 +0.1
MNTX S Sg 13 02 49.7 +0.5
TPB04 Verhalen 0.96 118 P Pg 13 02 36.6 -0.1
TPB04 S Sg 13 02 49.0 -0.2
HTMS Hat Mesa 0.98 33 P Pg 13 02 37.0 -0.1
HTMS S Sg 13 02 50.5 +0.7
TPB16 Coyonosa 1.00 121 S Sg 13 02 50.3 -0.4
NM01 Eunice 1.01 46 S Sg 13 02 51.1 +0.1
VHRN Van Horn 1.06 216 P Pg 13 02 38.5 -0.3
VHRN S Sg 13 02 52.7 +0.2
TPB05 Hovey Rd 1.08 132 P Pg 13 02 38.4 -0.6
TPB05 S Sg 13 02 52.5 -0.5
MNHN Monahans 1.31 103 P Pg 13 02 42.0 -1.5
MNHN S Sg 13 02 59.4 -1.2
ALPN Alpine 1.38 157 P Pn 13 02 42.9 -1.6
ALPN S Sg 13 03 00.6 -2.0
TPB08 Permian Basin 1.38 123 S Sg 13 03 02.0 -0.7
CPRX Cap Rock 1.42 13 P Pn 13 02 44.9 -0.2
ODSA Odessa 1.53 72 P Pn 13 02 45.6 -1.0
ODSA S Sn 13 03 05.6 -1.3
EPT El Paso 1.92 274 S Sg 13 03 21.0 +1.0
TX31 Lajitas Ar. Si 2.36 167 P Pn 13 02 59.2 +1.2
TX31 Lajitas Ar. Si 2.36 167 S Sb 13 03 32.1 +1.0
SAND Sanderson 2.49 132 P Pn 13 03 01.7 +1.9
SAND S Sb 13 03 34.2 -0.7
MSTX Muleshoe 2.63 28 S Sb 13 03 39.3 +0.5
MSTX Muleshoe 2.63 28 P Pb 13 03 04.4 -1.8

---

*IDC **20** 13:03:57.0±11.0,0°.38N×96°.83E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=616.5km s-min=31.0km az=56.0*
*DJA **20** 13:04:02.4±1.2,1°.N±8°.×9°.7E±1°.0,h28km±8km,M3.4/6, MLv3.4/6*
ISC 20 13:04:01.4±1.3,0°.65N±0°.10×97°.2E±0°.1,h23km,n17, σ0s33/9,mb3.9/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.77**	**32**	P	**Pb**	**13 04 16.1**	**-0.1**
PBSI	**Pulau Batu**	**1.32**	**122**	P	**Pb**	**13 04 25.4**	**-0.1**
PBSI S **Sb** **13 04 42.1** **+0.1**
SNSI Sinabang, Aceh 1.94 334 P **Pn 13 04 32.6 -0.4**
MNSI Mandailing Nat 2.42 87 P **Pn 13 04 39.4 -0.2**
H08S2 Diego Garcia H 25.95 251 T T 13 36 27.1
baz=72,slow=76,SNR=201
H08S3 Diego Garcia H 25.95 251 T T 13 36 24.4
baz=72,slow=76,SNR=205
H08S1 Diego Carcia H 25.96 251 T T 13 36 27.3
baz=72,slow=76,SNR=234
ASAR Alice Springs 43.10 127 P **P 13 12 00.1 -0.1**
0.2nm,7.5s,baz=296,slow=8.7,SNR=2.0
0.2nm,0.7s
MKAR Makanchi Array 47.76 346 P **P 13 12 37.3 +0.5**
0.5nm,0.5s,baz=159,slow=8.3,SNR=8.5
0.5nm,0.5s
KURBB Kurchatov Arra 52.25 345 P **P 13 13 11.1 +0.3**
0.9nm,0.2s,baz=155,slow=7.2,SNR=1.3
0.9nm,0.2s
ZALV Zalesovo Beam 54.09 351 P **P 13 13 24.5 +0.3**
0.6nm,0.4s,baz=165,slow=6.0,SNR=3.8
0.6nm,0.4s
H04N2 CROZET ISLANDS 61.30 214 T T 14 20 47.5
baz=55,slow=75,SNR=960
H04N1 CROZET ISLANDS 61.31 214 T T 14 20 48.5
baz=55,slow=75,SNR=827
H04N3 CROZET ISLANDS 61.32 214 T T 14 20 47.2
baz=55,slow=75,SNR=788
H04S1 CROZET ISLANDS 61.64 214 T T 14 21 13.4
baz=53,slow=76,SNR=7.6
H04S3 CROZET ISLANDS 61.65 214 T T 14 21 09.1
baz=53,slow=76,SNR=11
H04S2 CROZET ISLANDS 61.66 214 T T 14 21 11.2
baz=53,slow=76,SNR=9.4

---

*KEA **20** 13:14:46.9,36°.75N×125°.43E,h3km,ML2.9/3*
*KMA **20** 13:14:47.4±0.3,36°.51N×125°.50E,h14km±1km,Error ellipse: s-maj=2.2km s-min=1.1km az=74.0*
ISC 20 13:14:46.2±2.2,36°.50N±0°.04×125°.38E±0°.09,h2km±16km, n16,σ1s51/27,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECDB	**Euchungdo**	**0.61**	**128**	P	**Pg**	**13 14 58.5**	**+0.5**
ECDB S **Sg** **13 15 06.0** **+0.1**
OYDB Oeyeondo 0.62 116 P **Pg 13 14 58.4 +0.3**
OYDB
P **Pg 13 14 58.4 +0.3**
SNR=243
OYDB S **Sg 13 15 05.8 -0.3**
OYDB S **Sg 13 15 05.8 -0.3**
TANB Taean 0.63 74 P **Pg 13 14 58.3 +0.1**
SNR=745
TANB P **Pg 13 14 58.3 +0.1**
SNR=745
TANB S **Sg 13 15 05.7 -0.8**
TANB S **Sg 13 15 05.7 -0.8**
KSANM Anmyeondo 0.74 90 P **Pg 13 15 00.7 +0.4**
SNR=306
KSSES Seosan 0.91 71 P **Pg 13 15 03.3 -0.3**
SNR=105
KSSES P **Pg 13 15 03.3 -0.3**
SNR=105
PORA Boryeong 0.96 100 P **Pg 13 15 04.3 -0.4**
SNR=68
NJDA Nanjido 0.99 56 P **Pg 13 15 04.9 -0.2**
SNR=124
MNYD Munyeodo 1.09 129 P **Pg 13 15 06.9 -0.2**
SNR=674
MNYD P **Pg 13 15 06.9 -0.2**
SNR=674
NACA Naecho 1.12 119 P **Pg 13 15 07.3 -0.3**
SNR=26
YPDB Yeonpyeongdo 1.14 13 P **Pg 13 15 07.8 -0.2**
SNR=49
YPDB P **Pg 13 15 07.8 -0.2**
SNR=49
YSAB Yesan 1.18 78 P **Pg 13 15 07.9 -0.8**
SNR=57
YSAB P **Pg 13 15 07.9 -0.8**
SNR=57
KSGUS GUNSAN 1.22 112 P **Pg 13 15 07.9 -1.6**
SNR=74
HJU Haeju 1.56 10 Pg Pn 13 15 12.1 -2.9
HJU Sg **Sn** **13 15 32.4** **-3.4**
HJU AML AML
comp=N,268nm,0.2s
HJU AML AML
comp=E,405nm,0.2s
HJU AML AML
comp=Z,172nm,0.2s
PYAG Pyongyang 2.56 7 Pg Pn 13 15 32.2 +3.5
PYAG Sg **Sb** **13 16 05.6** **+0.8**
PYAG AML AML
comp=N,72nm,0.6s
PYAG AML AML
comp=E,167nm,0.6s
PYAG AML AML
comp=Z,54nm,0.8s
PYS Pyongsong 2.77 8 Pg Pn 13 15 35.8 +4.2
PYS Sg **Sb** **13 16 12.6** **+1.7**
PYS AML AML
comp=N,69nm,0.3s
PYS AML AML
comp=E,186nm,0.6s
PYS AML AML
comp=Z,106nm,0.5s
HHU Hamhung 3.82 26 Sg **Sb 13 16 46.4 +5.5**

---

*IDC **20** 13:22:26.7±0.7,11°.29N×126°.90E,h0km,mb4.0/13, mbtmp4.0/13,MS3.1/2,Error ellipse: s-maj=62.3km s-min=14.4km az=68.0*
*NEIC **20** 13:22:29.6±1.0,11°.05N±0°.09×126°.2E±0°.1,h10km±1km, mb4.7/24,Error ellipse: s-maj=24.4km s-min=15.6km az=83.0*
ISC 20 13:22:28.5±0.5,11°.08N±0°.07×126°.4E±0°.1,h10km,n45, σ0s91/45,mb4.5/23,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.06**	**191**	Pn	**Pn**	**13 23 30.6**	**-0.2**
DAV Davao City (W) 4.06 191 LR LR 13 25 09.7
comp=Z,214nm,21.5s,baz=324,slow=37
HKPS Hong Kong Po S 16.14 315 **Pn 13 26 17.2 +1.5**
HKPS IAmb IAmb 13 26 21.4
comp=Z,97nm,1.4s
KAPI Kappang 17.29 203 LR LR 13 35 23.5
comp=Z,52nm,18.6s,baz=358,slow=44
KSM Kuching 18.58 240 P **P 13 26 44.6 -1.4**
SOEI Soe 20.81 186 P **P 13 27 10.5 +0.2**
SOEI IAmb IAmb 13 27 23.1
comp=Z,23nm,0.7s
JCJ Chichijima 21.81 41 P **P 13 27 21.2 +0.3**
JAGI Jajag, Banyuwa 22.91 213 P **P 13 27 32.7 -0.2**
JAGI IAmb IAmb 13 27 36.7
comp=Z,39nm,1.2s
SMRI Semarang 23.99 222 P **P 13 27 43.6 0.0**
MYKOM Kota Tinggi 24.18 249 P **P 13 27 44.5 -0.8**
KNRA Kununurra 26.69 175 P **P 13 28 09.4 +1.4**
KNRA IAmb IAmb 13 28 30.5
comp=Z,18nm,1.2s
FITZ Fitzroy Crossi 29.00 181 P **P 13 28 28.1 -0.6**
WB0 Warramunga Arr 31.66 165 P **P 13 28 51.1 -1.1**
WB0 IAmb IAmb 13 28 55.6
comp=Z,5.2nm,0.7s
WRA Warramunga Arr 31.81 166 P **P 13 28 54.0 +0.3**
WRA Warramunga Arr 31.81 166 P **P 13 28 52.8 -0.8**
comp=Z,2.2nm,0.6s,baz=344,slow=9.4,SNR=13
comp=Z,2.2nm,0.6s
PSA00 Pilbara Seismi 33.08 191 P **P 13 29 04.3 -0.4**
AS31 Alice Springs 35.31 168 P **P 13 29 24.2 +0.1**
ASAR Alice Springs 35.31 168 P **P 13 29 24.0 -0.1**
ASAR Alice Springs 35.31 168 P **P 13 29 23.8 -0.3**
comp=Z,2.4nm,0.7s,baz=345,slow=7.4,SNR=32
ASAR PcP **PcP 13 31 55.1 +0.5**
comp=Z,0.8nm,0.7s,baz=333,slow=2.6,SNR=5.5
comp=Z,2.4nm,0.7s
SHL Shillong 35.63 299 P **P 13 29 25.5 -1.5**
SHL IAmb IAmb 13 29 26.9
comp=Z,7.2nm,0.9s
SONM Songino Array 40.30 339 P **P 13 30 06.3 +0.2**
comp=Z,0.2nm,0.3s,baz=163,slow=6.7,SNR=4.4
comp=Z,0.2nm,0.3s
MORW Morawa 41.14 194 P **P 13 30 12.7 -0.4**
MORW IAmb IAmb 13 30 16.1
comp=Z,12nm,0.9s
NWAO Narrogin (SRO) 44.62 191 P **P 13 30 41.1 -0.2**
NWAO IAmb IAmb 13 30 42.1
comp=Z,17nm,1.2s
STKA Stephens Creek 45.14 162 P **P 13 30 46.1 +0.7**
STKA Stephens Creek 45.14 162 P **P 13 30 46.4 +1.0**
comp=Z,6.5nm,0.7s,baz=334,slow=8.9,SNR=10
comp=Z,6.5nm,0.7s
MK31 Makanchi Array 51.44 322 P **P 13 31 34.8 +0.7**
MKAR Makanchi Array 51.44 322 P **P 13 31 34.9 +0.9**
MKAR Makanchi Array 51.44 322 P **P 13 31 35.4 +1.4**
comp=Z,0.7nm,0.6s,baz=119,slow=7.6,SNR=11
MKAR PcP **PcP 13 32 48.6 +0.2**
comp=Z,1.2nm,0.7s,baz=111,slow=5.7,SNR=4.3
comp=Z,0.7nm,0.6s
MAKZ Makanchi 51.64 322 P **P 13 31 35.8 +0.3**
ZALV Zalesovo Beam 53.96 331 P **P 13 31 52.4 -0.1**
ZALV Zalesovo Beam 53.96 331 P **P 13 31 52.8 +0.3**
comp=Z,1.0nm,0.7s,baz=114,slow=6.6,SNR=4.0
comp=Z,1.0nm,0.7s
KURK Kurchatov 55.45 325 **P 13 32 04.2 +0.8**
KURBB Kurchatov Arra 55.46 325 P **P 13 32 03.5 +0.1**
comp=Z,0.6nm,0.3s,baz=124,slow=7.4,SNR=7.6
comp=Z,0.6nm,0.3s
GAR Garm 56.84 309 P **P 13 32 13.3 -0.4**
GAR IAmb IAmb 13 32 20.4
comp=Z,11nm,1.2s
KKAR Karatay Array 57.75 314 P **P 13 32 19.8 -0.1**
BVAR Borovoye Array 61.05 325 P **P 13 32 43.1 +0.6**
comp=Z,1.9nm,0.8s,baz=132,slow=6.2,SNR=8.1
comp=Z,1.9nm,0.8s
BRVK Borovoye 61.12 325 P **P 13 32 43.5 +0.5**
BRVK IAmb IAmb 13 32 50.2
comp=Z,3.4nm,0.8s
ABKAR Akbulak array 66.32 319 P **P 13 33 17.5 +0.1**
ABKAR IAmb IAmb 13 33 24.0
comp=Z,2.2nm,0.7s
BKZ Black Stump Fm 68.34 140 P **P 13 33 30.7 +0.4**
BKZ IAmb IAmb 13 33 47.1
comp=Z,7.2nm,1.2s
ILAR Eielson Array 78.67 26 P **P 13 34 27.6 -3.1**
comp=Z,0.2nm,0.8s,baz=256,slow=5.7,SNR=1.7
comp=Z,0.2nm,0.8s
ARCES ARCESS Array B 83.47 340 P **P 13 34 56.5 +0.3**
comp=Z,2.3nm,0.9s,baz=61,slow=4.7,SNR=3.9
comp=Z,2.3nm,0.9s
BRTR Keskin Array B 85.09 309 P **P 13 35 07.5 +2.3**
comp=Z,0.3nm,0.4s,baz=90,slow=5.8,SNR=2.6
comp=Z,0.3nm,0.4s
FINES FINESS Array B 85.22 332 P **P 13 35 04.3 -0.8**
comp=Z,3.4nm,0.9s,baz=64,slow=3.2,SNR=3.7
comp=Z,3.4nm,0.9s
AKASG Malin Array Be 86.00 321 P **P 13 35 08.7 -0.6**
comp=Z,0.2nm,0.3s,baz=74,slow=2.7,SNR=4.6
comp=Z,0.2nm,0.3s
PLCA Paso Flores 146.91 156 PKPbc **PKPbc 13 42 12.2 +0.4**
comp=Z,1.5nm,0.8s,baz=355,slow=0.1,SNR=3.2

IDC 20 13:26:20.1±2.1,13°.72S×72°.13W,h72km±45km,mb3.1/1, mbtmp3.7/4,ML3.7/3,MS2.5/1,Error ellipse: s-maj=125.3km s-min=11.6km az=26.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.63**	**124**	P	Pn	13 27 28.0	-0.1
2.3nm,0.3s,baz=287,slow=7.3,SNR=31
LPAZ S Sn 13 28 21.9 +0.9
8.0nm,0.7s,baz=145,slow=6.3,SNR=4.0
LPAZ LR LR 13 29 28.6
comp=Z,60nm,20.2s,baz=131,slow=41
6.7nm,0.4s
NNA Nana 4.91 290 P Pn 13 27 30.3 -1.2
5.2nm,0.3s,baz=125,slow=12,SNR=4.2
NNA S Sn 13 28 28.0 +1.0
17nm,0.4s,baz=151,slow=10,SNR=3.8
6.6nm,0.3s
SIV San Ignacio 10.92 103 P Pn 13 28 54.0 +0.4
baz=279,slow=12,SNR=7.4
1.4nm,0.5s
TORD Torodi Ar. Bea 77.85 73 P P 13 38 09.8 -0.6
45nm,0.4s,baz=268,slow=6.3,SNR=2.2
YKA Yellowknife Ar 82.87 342 P P 13 38 36.8 +0.5
0.3nm,0.7s,baz=138,slow=5.6,SNR=5.2
0.3nm,0.7s

IDC 20 13:37:14.1±2.2,6°.37S×129°.17E,h0km,mb3.3/1, mbtmp3.1/3,ML2.9/2,Error ellipse: s-maj=133.6km s-min=32.5km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.39**	**160**	Pn	Pn	13 40 38.9	-0.4
0.1nm,0.3s,baz=339,slow=14,SNR=2.0
WRA Sn Sn 13 43 06.2 -14
0.1nm,0.3s,baz=321,slow=11,SNR=5.6
0.3nm,0.8s
ASAR Alice Springs 17.79 166 P Pn 13 41 23.4 +0.2
baz=348,slow=12,SNR=5.5
0.2nm,0.5s
MKAR Makanchi Array 67.25 327 P P 13 48 10.5 0.0
0.1nm,0.4s,baz=132,slow=6.4,SNR=4.6
0.1nm,0.4s

---

*AZER **20** 13:49:08.8,38°.10N×48°.68E,h5km,ml3.4*
*TEH **20** 13:49:08.8,38°.12N×48°.60E,h7km±47km*
ISC 20 13:49:09.2±1.2,38°.11N±0°.02×48°.58E±0°.03,h6km±11km, n46,σ1s65/68,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASTR	**Astara**	**0.48**	**20**	P	**Pb**	**13 49 20.3**	**+0.3**
ASTR S **Sb** **13 49 28.5** **+1.1**
LRK Lerik 0.57 341 P **Pb 13 49 21.7 +0.1**
LRK S **Sb** **13 49 30.3** **+0.3**
LKRN Lenkeran, Azer 0.62 14 P **Pb 13 49 22.7 +0.3**
LKRN S **Sn** **13 49 32.8** **-2.0**
CSN1 Caspian 0.68 143 Pg **Pg 13 49 22.2 0.0**
ISRB Sarab 0.77 249 Pg **Pg 13 49 24.0 0.0**
YRD Yardimli 0.85 342 P **Pn 13 49 26.9 -0.9**
YRD S **Sn** **13 49 39.8** **-1.0**
GLBA Clilabad 1.14 353 P **Pn 13 49 32.9 +1.2**
GLBA S **Sn** **13 49 50.6** **+2.9**
IHRS Heris 1.23 280 Pg **Pg 13 49 32.7 -0.1**
IHSH Hashtrud 1.31 233 Pg **Pn 13 49 33.5 -0.8**
IHSH Sg **Sg** **13 49 51.1** **-0.3**
LHJ2 Lahijan - Gila 1.50 128 Pg **Pn 13 49 36.4 -0.2**
QRD Qoradiz 1.67 324 Pn **Pg 13 49 42.0 +0.8**
QRD Sn **Sg** **13 50 06.0** **+3.0**
JIR1 Jirandeh 1.70 145 Pg **Pn 13 49 39.8 +0.3**
SAAT Saatly 1.76 356 Sn **Sg 13 50 09.8 +4.2**
BLQ Beylaqan 1.80 334 Pn **Pg 13 49 43.7 0.0**
BLQ Sn **Sg** **13 50 09.1** **+2.1**
ITBZ Tabriz 1.92 275 Pn **Pb 13 49 44.2 -0.4**
IGZV Ghazvin 2.16 142 Pn **Pn 13 49 46.9 +1.0**
ORD Ordubad 2.19 293 Pn **Pg 13 49 50.1 -1.0**
ORD Sn **Sg** **13 50 20.8** **+1.3**
ZRD Zardab 2.28 342 Sn **Sg 13 50 23.2 +0.9**
KDMR Kurdemir 2.29 352 Sn **Sg 13 50 23.9 +1.2**
AGDM Agdam 2.30 331 Pn **Pg 13 49 52.4 -0.9**
AGDM S **Sg** **13 50 23.9** **+0.7**
ISHB Shabestar 2.34 275 Pn **Pb 13 49 50.0 -1.9**
BRDA Brd 2.41 334 Sn **Sg 13 50 26.9 +0.2**
QABG Abgarm-Qazvin 2.52 161 Pn **Pb 13 49 52.8 -2.2**
KLST Kelardasht - M 2.53 128 Pn **Pn 13 49 51.3 +0.2**
HGHA Hamedan- Ghaye 2.62 175 Pn **Pb 13 49 54.7 -2.0**
NAX Nakhchivan 2.64 295 Pn **Pb 13 49 56.8 -0.1**
NAX Sn **Sg** **13 50 34.3** **+0.3**
PQL Pirkuli 2.68 0 Pn **Pb 13 49 57.3 -0.3**
PQL Sn **Sg** **13 50 32.3** **-3.0**

SBZ	**Shahbuz**	**2.69 300**	Pn	**Pb**	**13 49 58.2**	**+0.4**
SBZ			Sn	**Sg**	**13 50 36.3**	**+0.6**
IML	**Ismayilli**	**2.70 354**	Pn	**Pb**	**13 49 57.3**	**-0.6**
IML			Sn	**Sg**	**13 50 34.5**	**-1.5**
QBL	**Gabala**	**2.89 349**	Pn	**Pb**	**13 49 58.9**	**-2.3**
QBL			Sn	**Sb**	**13 50 37.7**	**+0.8**
MNGR	**Mingechevir, A**	**2.91 337**	Pn	**Pb**	**13 50 00.4**	**-0.9**
MNGR			Sn	**Sg**	**13 50 41.1**	**-1.4**
MZPU	**Pul - Mazandar**	**2.91 124**	Pn	**Pn**	**13 49 56.8**	**+0.7**
SIZA	**Siyzn**	**2.98 5**	Pn	**Pb**	**13 50 00.5**	**-2.1**
SIZA			Sn	**Sb**	**13 50 39.7**	**+0.4**
XNQ	**Khinaliq**	**3.08 354**	Pn	**Pb**	**13 50 03.2**	**-1.3**
XNQ			Sn	**Sb**	**13 50 44.1**	**+1.7**
QUBA	**Quba, Azerbaij**	**3.25 359**	Sn	**Sb**	**13 50 46.4**	**-0.6**
SEKA	**Sheki**	**3.28 341**	Pn	**Pb**	**13 50 04.0**	**-3.7**
SEKA			Sn	**Sb**	**13 50 46.3**	**-1.6**
HAGD	**Aghdareh**	**3.31 172**	Pn	**Pn**	**13 50 03.7**	**+2.1**
HYR	**Heyderabad**	**3.32 300**	Pn	**Pb**	**13 50 05.8**	**-2.8**
HYR			Sn	**Sb**	**13 50 49.8**	**+0.6**
GDB	**GEDABAY**	**3.41 321**	Pn	**Pb**	**13 50 06.9**	**-3.2**
GDB			Sn	**Sb**	**13 50 50.8**	**-1.0**
QSAR	**Qusar**	**3.41 356**	Pn	**Pb**	**13 50 07.0**	**-3.0**
QSAR			Sn	**Sb**	**13 50 51.5**	**-0.3**
ILIN	**Lien**	**3.44 203**	Pn	**Pn**	**13 50 06.1**	**+2.6**
IPRN	**Peran**	**3.53 121**	Pn	**Pn**	**13 50 05.6**	**+1.0**
HSAM	**Samen**	**3.89 180**	Pn	**Pn**	**13 50 12.4**	**+2.8**
IGLO	**Ghaloghah**	**4.48 109**	Pn	**Pn**	**13 50 19.0**	**+1.2**
ILBA	**Ilam Banvizeh**	**4.87 204**	Pn	**Pn**	**13 50 25.5**	**+2.6**
MRVT	**Maraveh tapeh**	**5.96 92**	Pn	**Pn**	**13 50 38.8**	**+0.9**

*IDC **20** 13:49:46.7±19.0, 31°.74N×138°.07E, h369km±97km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=264.5km s-min=111.7km az=170.0*
*JMA **20** 13:49:48.5±0.4, 32°.N±4°×13°.8E±°, h367km, MV3.2/21, FAR S OFF TOKAI DISTRICT*

ISC 20 13:49:48.7±1.5, 32°.3N±0°.2×138°.0E±0°.1, h350km, n13, σ1§42/17, mb3.2/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.79**	**61**	P	**Pn**	**13 50 40.1**	**+1.6**
JOD2	**Odawara 2**	**3.14**	**17**	*e*P	**Pn**	**13 50 50.3**	**+1.0**
JOD2				*e*S	**S**	**13 51 39.2**	**+1.2**
BSO3	**Boso 3**	**3.31**	**39**	*e*S	**S**	**13 51 41.0**	**+0.5**
BSO1	**Boso 1**	**3.48**	**46**	*e*S	**S**	**13 51 42.9**	**+0.1**
JRY	**Ryogami san**	**3.83**	**12**	P	**Pn**	**13 50 58.0**	**+2.1**
JRY				*e*S	**S**	**13 51 52.3**	**+2.2**
JAG	**Ashikaga**	**4.33**	**16**	P	**Pn**	**13 51 01.6**	**+0.5**
JAG				S	**S**	**13 51 59.2**	**-0.4**
JYT	**Yasato**	**4.37**	**25**	P	**Pn**	**13 51 01.4**	**0.0**
JYT				*e*S	**S**	**13 51 57.1**	**-3.1**
KSRS	**Korea Array**	**9.73**	**305**	P	**P**	**13 52 05.8**	**+0.8**
	1.8nm,0.9s,baz=115,slow=11,SNR=4.1						
SONM	**Songino Array**	**28.48**	**312**	P	**P**	**13 55 13.1**	**+0.3**
	0.4nm,0.4s,baz=104,slow=7.5,SNR=2.5						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**43.20**	**316**	P	**P**	**13 57 15.8**	**-0.4**
	0.7nm,0.5s,baz=77,slow=7.6,SNR=3.0						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.41**	**306**	P	**P**	**13 57 25.1**	**-0.8**
	0.5nm,0.6s,baz=90,slow=9.3,SNR=7.8						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**71.69**	**332**	P	**P**	**14 00 32.0**	**-0.9**
	3.1nm,0.8s,baz=57,slow=7.0,SNR=6.4						
	3.1nm,0.8s						
AKASG	**Malin Array Be**	**76.29**	**322**	P	**P**	**14 00 58.3**	**-1.2**
	0.3nm,0.3s,baz=56,slow=5.4,SNR=2.7						
	0.3nm,0.3s						

IDC 20 14:11:43.5±2.7, 4°.14N×123°.93E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=357.6km s-min=27.0km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.03**	**157**	P	P	14 17 18.5	-0.1
	0.2nm,0.4s,baz=336,slow=9.2,SNR=2.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**29.30**	**161**	P	P	14 17 48.0	0.0
	0.1nm,0.3s,baz=339,slow=9.1,SNR=8.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**55.65**	**326**	P	P	14 21 21.4	0.0
	0.1nm,0.3s,baz=126,slow=7.0,SNR=5.8						
	0.1nm,0.3s						

*IDC **20** 14:13:38.0±0.6, 53°.53N×161°.47E, h0km, mb4.1/28, mbtmp4.2/34, ML3.8/5, MS3.8/39, Error ellipse: s-maj=13.9km s-min=11.1km az=162.0*
*KRSC **20** 14:13:39.1±1.1, 53°.33N×161°.82E, h49km±21km, Ml4.7*
*MOS **20** 14:13:42.2±1.2, 53°.42N×161°.55E, h44km, mb4.9/35, MS3.9/6, Error ellipse: s-maj=6.4km s-min=4.0km az=96.1*
*NEIC **20** 14:13:44.6±1.4, 53°.60N±0°.10×161°.3E±0°.2, h40km±7km, mb4.6/67, Error ellipse: s-maj=15.8km s-min=11.2km az=136.0*

ISC 20 14:13:41.7±0.8, 53°.41N±0°.05×161°.57E±0°.04, h26km±5km, n361, σ1§47/375, mb4.6/117, MS4.0/42, 30C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98 252**		PN	**Pn**	**14 13 59.5**	**-0.2**
SPN				S	**Sb**	**14 14 13.8**	**+1.3**
SPN	**Mys Shipunski**	**0.98 252**		*e*P	**Pn**	**14 13 59.6**	**-0.2**
SPN				*e*S	**Sb**	**14 14 13.8**	**+1.3**
NLC	**Nalytchevo**	**1.36 261**		PN	**Pn**	**14 14 05.2**	**+0.3**
NLC				S	**Sb**	**14 14 24.1**	**+0.8**
NLC	**Nalytchevo**	**1.36 261**		*e*P	**Pn**	**14 14 05.2**	**+0.3**
NLC				*e*S	**Sb**	**14 14 24.1**	**+0.8**
KII	**Karymskiy**	**1.41 297**		PN	**Pn**	**14 14 05.9**	**+0.2**
KII				S	**Sn**	**14 14 25.2**	**+1.8**
KII	**Karymskiy**	**1.41 297**		*e*P	**Pn**	**14 14 05.9**	**+0.2**
KII				*e*S	**Sn**	**14 14 25.3**	**+1.8**
UGLR	**Uglovaya**	**1.66 264**		PN	**Pn**	**14 14 10.3**	**+1.1**
UGLR	**Uglovaya**	**1.66 264**		*e*P	**Pn**	**14 14 10.3**	**+1.1**
AVH	**Avacha**	**1.70 266**		PN	**Pn**	**14 14 10.9**	**+1.1**
AVH				S	**Sb**	**14 14 33.4**	**0.0**
AVH	**Avacha**	**1.70 266**		*e*P	**Pn**	**14 14 10.9**	**+1.1**
AVH				*e*S	**Sb**	**14 14 33.4**	**0.0**
DALK	**Dalny**	**1.73 258**		PN	**Pn**	**14 14 10.4**	**+0.3**
DALK				S	**Sn**	**14 14 33.0**	**+1.7**
DALK	**Dalny**	**1.73 258**		*e*P	**Pn**	**14 14 10.5**	**+0.3**
DALK				*e*S	**Sn**	**14 14 33.1**	**+1.7**
KRX	**Arik**	**1.75 269**		PN	**Pn**	**14 14 11.2**	**+0.8**
KRX				S	**Sn**	**14 14 34.1**	**+2.2**
KRX	**Arik**	**1.75 269**		*e*P	**Pn**	**14 14 11.3**	**+0.8**
KRX				*e*S	**Sn**	**14 14 34.1**	**+2.2**
PET	**Petropavlovsk**	**1.79 259**			**Pn**	**14 14 11.0**	**+0.1**
PET	**Petropavlovsk**	**1.79 259**		*e*PN	**Pn**	**14 14 11.4**	**+0.5**
PET				*e*S	**Sn**	**14 14 33.4**	**+0.6**
PET				pmax	pmax		
	comp=Z,363nm,0.8s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET	**Petropavlovsk**	**1.79 259**		P	**Pn**	**14 14 10.5**	**-0.4**
PET	**Petropavlovsk**	**1.79 259**		*e*P	**Pn**	**14 14 11.4**	**+0.5**
PET				*e*S	**Sn**	**14 14 34.0**	**+1.1**
TUMD	**Tumrok D**	**1.92 340**		*e*P	**Pn**	**14 14 13.4**	**+0.7**
TUMD				*e*S	**Sn**	**14 14 38.3**	**+2.3**
RUS	**Russkaya**	**2.09 243**		PN	**Pn**	**14 14 15.3**	**+0.3**
RUS	**Russkaya**	**2.09 243**		*e*P	**Pn**	**14 14 15.4**	**+0.3**
KRMR	**Karymshinskiy**	**2.15 256**		PN	**Pn**	**14 14 16.3**	**+0.5**
KRMR				S	**Sn**	**14 14 43.2**	**+1.6**
KRMR	**Karymshinskiy**	**2.15 256**		*e*P	**Pn**	**14 14 16.4**	**+0.5**
KRMR				*e*S	**Sn**	**14 14 43.3**	**+1.6**
GNL	**Ganaly**	**2.18 279**		PN	**Pn**	**14 14 18.4**	**+2.1**
GNL	**Ganaly**	**2.18 279**		*e*P	**Pn**	**14 14 18.5**	**+2.1**
GRL	**Gorelyy**	**2.28 249**		PN	**Pn**	**14 14 19.1**	**+1.4**
GRL	**Gorelyy**	**2.28 249**		*e*P	**Pn**	**14 14 19.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**2.34 264**			**Pn**	**14 14 19.8**	**+1.3**
PEA0B	**Petropavlovsk-**	**2.34 264**		*ce*PN	**Pn**	**14 14 20.2**	**+1.7**
PETK	**Petropavlovsk-**	**2.34 264**		Pn	**Pn**	**14 14 19.3**	**+0.8**
	comp=N,28nm,0.3s,baz=84,slow=18,SNR=337						
PETK				LR	LR	14 14 43.7	
	comp=N,176nm,20.8s,baz=89,slow=28						
PETK				Sn	**Sn**	**14 14 48.0**	**+1.6**
	comp=N,21nm,0.3s,baz=90,slow=24,SNR=7.8						
	comp=N,228nm,0.7s						
PETK	**Petropavlovsk-**	**2.34 264**		PN	**Pn**	**14 14 19.4**	**+0.9**
KMNR	**Kamenistaya**	**2.47 342**		PN	**Pn**	**14 14 22.6**	**+2.2**
KMNR				S	**Sn**	**14 14 53.1**	**+3.4**
KMNR	**Kamenistaya**	**2.47 342**		*e*P	**Pn**	**14 14 22.6**	**+2.2**
KMNR				*e*S	**Sn**	**14 14 53.1**	**+3.4**
KIRR	**Kirishev**	**2.64 345**		PN	**Pn**	**14 14 24.5**	**+1.7**
KIRR				S	**Sn**	**14 14 57.8**	**+3.8**
KIRR	**Kirishev**	**2.64 345**		*e*P	**Pn**	**14 14 24.5**	**+1.7**
KIRR				*e*S	**Sn**	**14 14 57.9**	**+3.8**
APC	**Apacha**	**2.70 261**		PN	**Pn**	**14 14 25.6**	**+2.3**
APC				S	**Sb**	**14 15 00.3**	**-1.6**
APC	**Apacha**	**2.70 261**		*e*P	**Pn**	**14 14 25.7**	**+2.3**
APC				*e*S	**Sb**	**14 15 00.3**	**-1.6**
CIRR	**Tsirk**	**2.75 350**		PN	**Pn**	**14 14 26.5**	**+2.3**
CIRR	**Tsirk**	**2.75 350**		*e*P	**Pn**	**14 14 26.5**	**+2.3**
KOZ	**Kozyrevsk**	**2.83 340**		PN	**Pn**	**14 14 26.9**	**+1.8**
KOZ				S	**Sn**	**14 15 02.3**	**+4.0**
KOZ	**Kozyrevsk**	**2.83 340**		*e*P	**Pn**	**14 14 27.0**	**+1.8**
KOZ				*e*S	**Sn**	**14 15 02.4**	**+4.0**
KRSR	**Krestovskiy**	**2.87 349**		PN	**Pn**	**14 14 28.0**	**+2.2**
KRSR	**Krestovskiy**	**2.87 349**		*e*P	**Pn**	**14 14 28.0**	**+2.2**
KBTR	**Krutoberegovo**	**2.89 14**		PN	**Pn**	**14 14 26.3**	**+0.3**
KBTR	**Krutoberegovo**	**2.89 14**		*e*P	**Pn**	**14 14 26.3**	**+0.3**
KBG	**Krutoberegovo**	**2.92 13**		PN	**Pn**	**14 14 27.1**	**+0.7**
KBG	**Krutoberegovo**	**2.92 13**		*e*P	**Pn**	**14 14 27.2**	**+0.7**
KLY	**Klyuchi**	**2.96 350**		PN	**Pn**	**14 14 27.4**	**+0.5**
KLY	**Klyuchi**	**2.96 350**		*e*P	**Pn**	**14 14 27.4**	**+0.5**
ESO	**Esso**	**3.02 328**		PN	**Pn**	**14 14 29.1**	**+1.3**
ESO	**Esso**	**3.02 328**		*e*P	**Pn**	**14 14 29.2**	**+1.3**
SRDR	**Sredinnyy**	**3.10 341**		PN	**Pn**	**14 14 30.2**	**+1.3**
SRDR	**Sredinnyy**	**3.10 341**		*e*P	**Pn**	**14 14 30.3**	**+1.3**
PAU	**Pauzhetka**	**3.50 238**		PN	**Pn**	**14 14 35.1**	**+0.7**
PAU	**Pauzhetka**	**3.50 238**		*e*P	**Pn**	**14 14 35.1**	**+0.7**
SKR	**Severo-Kuril's**	**4.33 233**		*i* PN	**Pn**	**14 14 45.7**	**-0.1**
OSSR	**Ossora**	**5.91 7**		PN	**Pn**	**14 15 07.4**	**0.0**
OSSR	**Ossora**	**5.91 7**		*e*P	**Pn**	**14 15 07.4**	**0.0**
SHEM	**Shemya Is, Ala**	**7.58 90**		Pn	**Pn**	**14 15 30.0**	**-0.4**
	comp=N,8.0nm,0.3s,baz=240,slow=5.5,SNR=17						
SHEM				Sn	**Sn**	**14 16 48.1**	**-7.3**
	baz=142,slow=18						
SHEM				LR	LR	14 17 35.4	
	comp=N,77nm,20.5s,baz=276,slow=31						
	comp=N,30nm,0.4s						
MA2	**Magadan**	**8.59 320**		Pn	**Pn**	**14 15 45.5**	**+1.4**
MA2	**Magadan**	**8.59 320**		Pn	**Pn**	**14 15 46.0**	**+1.9**
	comp=N,0.4nm,0.3s,baz=124,slow=9.0,SNR=28						
MA2				LR	LR	14 19 45.3	
	comp=N,767nm,18.1s,baz=156,slow=43						
	comp=N,12nm,0.8s						
MA2	**Magadan**	**8.59 320**		*ce*PN	**Pn**	**14 15 45.8**	**+1.7**
MA2				pmax	pmax		
	comp=Z,23nm,1.0s						
MA2	**Magadan**	**8.59 320**		P	**Pn**	**14 15 44.0**	**-0.1**
	comp=Z,29nm,1.1s						
SEY	**Seymchan**	**10.69 337**		Pn	**Pn**	**14 16 12.5**	**-0.4**
	baz=150,slow=14,SNR=2.0						
SEY	**Seymchan**	**10.69 337**		*e*PN	**Pn**	**14 16 12.7**	**-0.3**
SEY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TYV	**Tymovskoe**	**11.89 265**		*e*PN	**Pn**	**14 16 33.3**	**+3.9**
TYV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TYV				pmax	pmax		
	comp=Z,200nm,3.7s						
YSS	**Yuzhno-Sakhali**	**13.66 249**			**Pn**	**14 16 53.4**	**-0.1**
YSS	**Yuzhno-Sakhali**	**13.66 249**		*e*P	**Pn**	**14 16 55.2**	**+1.7**
YSS				*e*S	**Sn**	**14 19 21.6**	**-2.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=N,300nm,13.0s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
BILL	**Bilibino**	**14.85 7**			**Pn**	**14 17 10.5**	**+0.9**
BILL	**Bilibino**	**14.85 7**		*ce*P	**Pn**	**14 17 09.4**	**-0.2**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
JKA	**Kamikawa-asahi**	**15.54 241**		Pn	**Pn**	**14 17 18.5**	**-0.4**
JKA				IAmb	IAmb	14 17 27.7	
	comp=Z,35nm,1.1s						
ASAJ	**Asahikawa**	**15.54 241**		Pn	**Pn**	**14 17 19.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=58,slow=10,SNR=16						
ASAJ				LR	LR	14 23 14.5	
	comp=Z,228nm,20.1s,baz=40,slow=37						
	comp=Z,19nm,0.9s						
ASAJ	**Asahikawa**	**15.54 241**		P	**Pn**	**14 17 18.5**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,35nm,1.1s						
GRNR	**Gornyy**	**15.65 270**		⇓*i* P	**P**	**14 17 26.0**	**+1.8**
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GRNR				MLR	MLR		
	comp=E,110nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,190nm,15.0s						
ERM	**Erimo**	**16.78 235**		Pn	**P**	**14 17 35.5**	**-1.2**
ERM				IAmb	IAmb	14 18 13.4	
	comp=Z,38nm,1.4s						
ERM	**Erimo**	**16.78 235**		P	**P**	**14 17 35.5**	**-1.2**
ERM				pmax	pmax		
	comp=Z,38nm,1.4s						
JTM	**Tenmabayashi**	**18.73 236**		P	**P**	**14 17 57.5**	**-0.7**
JTM				IAmb	IAmb	14 18 14.0	
	comp=Z,97nm,1.4s						
YAK	**Yakutsk**	**18.91 310**		P	**P**	**14 17 57.7**	**-2.3**
YAK				IAmb	IAmb	14 17 59.0	
	comp=Z,48nm,0.8s						
YAK	**Yakutsk**	**18.91 310**		P	**P**	**14 17 58.1**	**-1.9**
	comp=Z,49nm,0.7s,baz=110,slow=4.4,SNR=25						
YAK				LR	LR	14 26 24.6	
	comp=Z,492nm,18.1s,baz=104,slow=41						
YAK	**Yakutsk**	**18.91 310**		*c i* P	**P**	**14 17 56.9**	**-3.1**
YAK				*e*S	**Sn**	**14 21 21.9**	**-9.4**
YAK				pmax	pmax		
	comp=Z,66nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,26nm,1.5s						
YAK				smax	smax		
	comp=E,144nm,5.7s						
YAK				smax	smax		
	comp=N,110nm,4.3s						
YAK				MLR	MLR		
	comp=Z,656nm,17.0s						
YAK				MLR	MLR		
	comp=N,184nm,17.0s						
YAK				MLR	MLR		
	comp=E,292nm,17.0s						
KLR	**Kul'dur**	**19.02 269**		P	**Pn**	**14 18 02.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=67,slow=11,SNR=22						
KLR				LR	LR	14 26 16.3	
	comp=E,256nm,18.1s,baz=76,slow=40						
	comp=E,10.0nm,1.0s						
KLR	**Kul'dur**	**19.02 269**		*ce*P	**Pn**	**14 18 02.3**	**0.0**
KLR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TNA	**Tin City**	**19.44 39**		P	**Pn**	**14 18 07.7**	**+0.6**
ZEA	**Zeya**	**20.27 285**		*e*P	**P**	**14 18 14.3**	**-0.6**
ZEA				*e*		14 22 44.9	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ZEA				MLR	MLR		
	comp=E,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
F15K	**North Star Dit**	**20.76 40**		P	Pn	14 18 22.0	-0.7
JMM	**Marumori**	**21.16 231**		P	**P**	**14 18 26.1**	**+1.4**
JMM				IAmb	IAmb	14 18 34.6	
	comp=Z,37nm,1.2s						
HEH	**HeiHe**	**21.22 275**		*e*P	**P**	**14 18 24.5**	**-0.7**
HEH				pmax	pmax		
	comp=Z,29nm,1.0s						
HEH				LR	LR		
	comp=N,230nm,15.1s						
HEH				LR	LR		
	comp=E,440nm,15.5s						
HEH				LR	LR		
	comp=Z,490nm,15.2s						
USRK	**Ussuriysk Ar.**	**21.41 257**		P	**P**	**14 18 26.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**21.41 257**		P	**P**	**14 18 28.3**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=52,slow=12,SNR=5.7						
USRK				LR	LR	14 26 28.4	
	comp=Z,181nm,21.4s,baz=89,slow=36						
	comp=Z,3.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**21.41 257**		P	**P**	**14 18 26.5**	**-0.9**
C16K	**Lisburne Hills**	**21.54 34**			**P**	**14 18 28.4**	**-0.1**
C16K				IAmb	IAmb	14 18 41.8	
	comp=Z,25nm,1.4s						
N15K	**Kwethluk River**	**21.80 57**		P	**P**	**14 18 32.9**	**+1.4**
E18K	**Tukpahlearik C**	**22.86 38**		P	**P**	**14 18 44.3**	**+1.7**
C18K	**Utukok River**	**23.09 34**		P	**P**	**14 18 44.9**	**-0.2**
M17K	**Holitna River**	**23.13 53**		P	**P**	**14 18 46.0**	**+0.6**
M17K				IAmb	IAmb	14 19 02.3	
	comp=Z,42nm,1.4s						
H18K	**Honhosa River**	**23.14 44**		P	**P**	**14 18 46.2**	**+0.7**
H18K				IAmb	IAmb	14 19 17.2	
	comp=Z,20nm,1.5s						
TIXI	**Tiksi**	**23.17 334**		P	**P**	**14 18 43.9**	**-1.8**
TIXI	**Tiksi**	**23.17 334**		LR	LR	14 28 51.8	
	comp=Z,165nm,18.4s,baz=173,slow=40						
TIXI	**Tiksi**	**23.17 334**	*ce*	P	**P**	**14 18 45.0**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s						
BNX	**BinXian**	**23.27 265**	⇓	P	**P**	**14 18 45.3**	**-1.6**
BNX				pmax	pmax		
	comp=Z,15nm,1.0s						
MJB9	**Matsu-Tunnel**	**23.44 233**		P	**P**	**14 18 49.8**	**+1.0**
MJB9				IAmb	IAmb	14 18 55.1	
	comp=Z,35nm,1.1s						
MAJO	**Matsushiro**	**23.44 233**		P	**P**	**14 18 49.8**	**+1.0**
MAJO				IAmb	IAmb	14 18 53.8	
	comp=Z,38nm,1.1s						
MAJO	**Matsushiro**	**23.44 233**		P	**P**	**14 18 49.8**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,38nm,1.2s						
MJAR	**Matsushiro Arr**	**23.44 233**		P	**P**	**14 18 49.5**	**+0.7**
	comp=Z,16nm,1.0s,baz=21,slow=10,SNR=17						
MJAR				LR	LR	14 28 48.4	
	comp=Z,155nm,21.9s,baz=41,slow=39						
	comp=Z,16nm,1.0s						
F19K	**Shaleruckik Mo**	**23.75 40**		P	**P**	**14 18 52.3**	**+0.9**
N18K	**Kilae Creek**	**23.89 55**		P	**P**	**14 18 53.9**	**+1.1**
N18K				IAmb	IAmb	14 19 24.6	
	comp=Z,18nm,1.2s						
H19K	**Roundabout Mou**	**24.00 43**		P	**P**	**14 18 54.0**	**+0.3**
H19K				IAmb	IAmb	14 19 12.5	
	comp=Z,34nm,1.4s						
D19K	**Kuna River**	**24.09 36**		P	**P**	**14 18 55.5**	**+0.8**
D19K				IAmb	IAmb	14 19 30.8	
	comp=Z,15nm,1.4s						
E19K	**Redstone River**	**24.11 38**			**P**	**14 18 55.6**	**+0.8**
F20K	**Avaraart Lake**	**24.58 40**		P	**P**	**14 19 00.0**	**+0.9**
JGF	**Kuroka**	**24.61 233**		P	**P**	**14 19 00.1**	**+0.4**
JGF				IAmb	IAmb	14 19 26.4	
	comp=Z,40nm,1.3s						
K20K	**Telida**	**24.78 49**		P	**P**	**14 19 02.1**	**+1.1**
K20K				IAmb	IAmb	14 19 20.7	
	comp=Z,25nm,1.4s						
J20K	**Nowinta River**	**24.80 47**		P	**P**	**14 19 02.0**	**+0.9**
J20K				IAmb	IAmb	14 19 12.8	
	comp=Z,14nm,1.1s						
M20K	**Styx River**	**25.19 52**		P	**P**	**14 19 05.7**	**+1.0**
M20K				IAmb	IAmb	14 19 40.2	
	comp=Z,19nm,1.4s						
PPLA	**Purkeypile**	**25.62 50**		P	**P**	**14 19 10.5**	**+1.7**
PPLA				IAmb	IAmb	14 19 31.9	
	comp=Z,27nm,1.3s						
B21K	**Ikpikpuk River**	**25.64 34**		P	**P**	**14 19 08.5**	**-0.1**
B21K				IAmb	IAmb	14 19 27.3	
	comp=Z,37nm,1.5s						
SPU	**Mount Spurr**	**25.73 54**		P	**P**	**14 19 12.6**	**+3.0**
SPU				IAmb	IAmb	14 19 23.8	
	comp=Z,12nm,1.2s						
D22K	**Ayikyak River**	**26.11 36**		P	**P**	**14 19 12.9**	**-0.1**
HIA	**Hailar**	**26.18 278**		P	**P**	**14 19 11.9**	**-1.9**
HIA				IAmb	IAmb	14 19 14.0	
	comp=Z,21nm,1.2s						
HIA	**Hailar**	**26.18 278**		P	**P**	**14 19 11.9**	**-1.9**
HIA				pmax	pmax		
	comp=Z,21nm,1.2s						
E22K	**Anaktuvuk Pass**	**26.27 38**		P	**P**	**14 19 14.4**	**-0.1**
BOD	**Bodaibo**	**26.77 299**		*e*P	**P**	**14 19 16.5**	**-2.5**
BOD				pmax	pmax		
	comp=Z,12nm,1.6s						
RC01	**Rabbit Creek A**	**26.86 54**		P	**P**	**14 19 21.6**	**+1.8**
RC01				IAmb	IAmb	14 19 43.8	
	comp=Z,14nm,1.4s						
C23K	**Itkillik River**	**27.04 34**		P	**P**	**14 19 21.5**	**+0.2**
C23K				IAmb	IAmb	14 20 00.4	
	comp=Z,12nm,1.2s						
E23K	**Chandalar**	**27.07 38**		P	**P**	**14 19 22.1**	**+0.4**
E24K	**Your Creek**	**27.49 39**		P	**P**	**14 19 26.9**	**+1.4**
COLA	**College**	**27.55 45**		P	**P**	**14 19 24.4**	**-1.5**
G24K	**Hadweenzic Riv**	**27.76 42**		P	**P**	**14 19 28.5**	**+0.7**
G24K				IAmb	IAmb	14 19 46.8	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**27.96 46**		P	**P**	**14 19 29.2**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=262,slow=8.1,SNR=9.0						
	comp=Z,1.0nm,0.9s						
KSRS	**Korea Array**	**28.16 249**		P	**P**	**14 19 31.6**	**0.0**
	comp=Z,2.0nm,1.0s,baz=38,slow=9.2,SNR=4.0						
KSRS				LR	LR	14 32 13.2	
	comp=Z,144nm,18.7s,baz=60,slow=40						
	comp=Z,2.0nm,1.0s					

comp=Z,1.0nm,0.6s
GTA Gaotai 43.45 277 *e*P **P 14 21 41.8 -0.6**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=N,120nm,14.5s
GTA LR LR
comp=E,150nm,15.3s
GTA LR LR
comp=Z,240nm,16.0s
SPITS Spitsbergen Ar 46.97 351 P **P 14 22 09.0 -0.7**
comp=Z,30nm,1.0s,baz=66,slow=8.3,SNR=9.5
comp=Z,30nm,1.0s
SPITS Spitsbergen Ar 46.97 351 P **P 14 22 09.0 -0.7**
SPB2 Spitsbergen Ar 46.97 351 P **P 14 22 09.4 -0.3**
NEEM North Greenlan 47.83 9 *i* P **P 14 22 15.6 -1.1**
NEEM IAmb IAmb 14 22 18.4
comp=Z,11nm,0.8s
KURK Kurchatov 48.31 302 P **P 14 22 18.9 -1.5**
KURK IAmb IAmb 14 22 19.6
comp=Z,11nm,1.2s
KURK Kurchatov 48.31 302 P **P 14 22 18.9 -1.5**
KURK pmax pmax
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 48.42 302 P **P 14 22 18.8 -2.4**
comp=Z,2.4nm,0.6s,baz=56,slow=7.8,SNR=23
KURBB PcP **PcP 14 23 46.6 -0.5**
comp=Z,1.0nm,0.9s,baz=44,slow=3.0,SNR=4.3
KURBB LR LR 14 44 10.0
comp=Z,248nm,19.0s,baz=186,slow=38
comp=Z,2.4nm,0.6s
MK31 Makanchi Array 48.81 296 P **P 14 22 22.9 -1.4**
MK31 Makanchi Array 48.81 296*ce*P **P 14 22 22.0 -2.4**
MKAR Makanchi Array 48.81 296 P **P 14 22 22.1 -2.3**
comp=Z,1.5nm,0.8s,baz=58,slow=7.1,SNR=19
MKAR PcP **PcP 14 23 47.9 -0.8**
comp=Z,0.5nm,0.8s,baz=52,slow=4.2,SNR=1.5
comp=Z,1.5nm,0.8s
MAKZ Makanchi 48.97 296 P **P 14 22 24.1 -1.4**
MAKZ IAmb IAmb 14 22 25.3
comp=Z,7.1nm,1.3s
MAKZ Makanchi 48.97 296 P **P 14 22 24.2 -1.4**
MAKZ pmax pmax
comp=Z,7.0nm,1.3s
NEW Newport 48.98 61 LR LR 14 43 05.4
comp=Z,65nm,19.8s,baz=268,slow=36
KULLO Kullorsuaq 49.69 13 *i* P **P 14 22 29.5 -1.1**
KULLO IAmb IAmb 14 22 33.9
comp=Z,38nm,1.2s
DAG Danmarks Havn 50.09 0 P **P 14 22 34.0 +0.4**
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG Danmarks Havn 50.09 0 *i* P **P 14 22 33.0 -0.6**
DAG IAmb IAmb 14 22 36.2
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 50.88 309 P **P 14 22 37.7 -2.3**
comp=Z,2.4nm,0.7s,baz=58,slow=9.6,SNR=10
BVAR LR LR 14 46 48.9
comp=Z,237nm,18.1s,baz=38,slow=39
comp=Z,2.4nm,0.7s
BRVK Borovoye 50.91 309 P **P 14 22 38.8 -1.4**
BRVK Borovoye 50.91 309*ce*P **P 14 22 40.2 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
PZH PanZhiHua 51.30 263 P **P 14 22 43.4 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.9s
ARCES ARCESS Array B 53.26 342 P **P 14 22 56.5 -0.9**
comp=Z,5.9nm,0.8s,baz=32,slow=9.0,SNR=6.6
comp=Z,5.9nm,0.8s
SUMG Summit 53.53 7 P **P 14 23 01.3 +1.4**
SUMG Summit 53.53 7 P **P 14 23 01.3 +1.4**
SUMG pmax pmax
comp=Z,41nm,1.4s
SUMG Summit 53.53 7 *i* P **P 14 23 00.0 +0.1**
SUMG IAmb IAmb 14 23 01.2
comp=Z,18nm,0.9s
ARTI Arti 53.86 318 LR LR 14 49 04.3
comp=Z,157nm,19.4s,baz=36,slow=40
ARTI Arti 53.86 318*c i*P **P 14 23 01.2 -0.8**
ARTI S **S 14 30 37.6 +2.7**
ARTI SS **SS 14 34 19.8 +4.5**
ARTI pmax pmax
comp=Z,5.0nm,1.2s
KDJ Kajisay 54.63 295 P **P 14 23 06.8 -1.2**
KDJ Kajisay 54.63 295 P **P 14 23 06.8 -1.2**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 54.80 71 P **P 14 23 10.7 +1.3**
comp=Z,0.4nm,0.6s,baz=329,slow=7.0,SNR=2.7
comp=Z,0.4nm,0.6s
KIRV Kirov 55.66 324 LR LR 14 50 14.5
comp=Z,216nm,18.5s,baz=31,slow=40
KIRV Kirov 55.66 324*ce*P **P 14 23 14.8 -0.1**
JMIC Jan Mayen 55.70 356 LR LR 14 46 43.1
comp=Z,31nm,20.0s,baz=10,slow=36
AAK Ala-Archa 55.73 297 P **P 14 23 15.3 -0.6**
AAK IAmb IAmb 14 23 29.8
comp=Z,3.2nm,0.9s
AAK Ala-Archa 55.73 297 LR LR 14 48 28.0
comp=Z,119nm,18.3s,baz=41,slow=38
AAK Ala-Archa 55.73 297*ce*P **P 14 23 14.9 -1.0**
AAK pmax pmax
comp=Z,2.0nm,1.1s
PDAR Pinedale Array 56.59 62 P **P 14 23 23.8 +1.6**
comp=Z,0.4nm,0.8s,baz=309,slow=3.4,SNR=6.7
comp=Z,0.4nm,0.8s
ICESG Greenland Ices 56.82 9 *i* P **P 14 23 22.9 -0.6**
KSH Kashi 57.10 293 P P 14 23 29.8 +4.1
KSH pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 57.11 330 *e*P **P 14 23 23.6 -1.7**
KLMR pmax pmax
comp=Z,8.0nm,0.6s
AKTO Aktyubinsk 58.26 313 LR LR 14 51 43.9
comp=Z,117nm,19.1s,baz=44,slow=39
CHTO Chiang Mai 58.83 259 P **P 14 23 37.8 -0.1**
CHTO Chiang Mai 58.83 259 P **P 14 23 37.8 -0.1**
CHTO pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 59.11 259 P **P 14 23 41.0 +1.1**
comp=Z,7.1nm,0.8s,baz=22,slow=7.1,SNR=42
CMAR LR LR 14 52 43.9
comp=Z,70nm,18.4s,baz=100,slow=40
comp=Z,7.1nm,0.8s
CMAR Chiang Mai Arr 59.11 259 *i* P **P 14 23 41.4 +1.5**
CMAR pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 60.17 337 P **P 14 23 46.1 -0.5**
comp=Z,7.2nm,0.8s,baz=48,slow=5.7,SNR=8.5
FINES LR LR 14 53 44.4
comp=Z,76nm,18.1s,baz=26,slow=40
comp=Z,7.2nm,0.8s
FINES FINESS Array B 60.17 337 *i* P **P 14 23 46.5 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.7s
BELG Belogornoye 61.05 320 LR LR 14 53 30.2
comp=Z,304nm,18.4s,baz=310,slow=39
BELG Belogornoye 61.05 320 *i* P **P 14 23 52.0 -0.6**
BELG pmax pmax
comp=Z,3.0nm,0.9s
CHGR Chuyangaron 61.41 297 P **P 14 23 54.8 -0.7**
CHGR Chuyangaron 61.41 297 P **P 14 23 54.8 -0.7**
CHGR pmax pmax
comp=Z,10.0nm,0.8s
DZET Dzherino 61.47 297 P **P 14 23 55.8 -0.1**
DZET pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 62.72 328⇑*e*P **P 14 24 02.5 -1.3**
OBN *e* 14 26 26.0
OBN *e*S S 14 32 19.0 -11
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,130nm,18.0s
NIL Nilore 62.84 290 P **P 14 24 04.7 -0.3**
NIL Nilore 62.84 290 P **P 14 24 04.7 -0.3**
NIL pmax pmax
comp=Z,18nm,1.0s
NC204 NORSAR Array S 63.33 345 P **P 14 24 07.6 -0.2**
NB2 NORSAR Subarra 63.48 344 P **P 14 24 08.4 -0.5**
comp=Z,1.9nm,0.7s,baz=21,slow=6.5
NOA NORSAR Array B 63.48 344 P **P 14 24 08.4 -0.5**
comp=Z,2.6nm,0.7s,baz=21,slow=6.6,SNR=14
NOA LR LR 14 54 42.1
comp=Z,43nm,19.3s,baz=35,slow=39
comp=Z,2.6nm,0.7s
HFS Hagfors 63.91 343 P **P 14 24 10.7 -1.0**
comp=Z,1.3nm,0.5s,baz=45,slow=8.6,SNR=5.1
comp=Z,1.3nm,0.5s
KBL Kabul 64.51 294 P **P 14 24 14.7 -1.6**
KBL Kabul 64.51 294 P **P 14 24 14.7 -1.6**
KBL pmax pmax
comp=Z,11nm,1.0s
KONO Kongsberg 65.06 345 P **P 14 24 18.6 -0.5**
MNK Minsk 65.83 332 *i* P **P 14 24 21.3 -2.9**
MNK *i* 14 24 51.8
MNK *i* 14 26 46.2
MNK *i* S **S 14 33 09.4 +0.5**
MNK *i* SS **SS 14 37 25.4 +2.8**
MNK pmax pmax
comp=N,14nm,0.7s
MNK pmax pmax
comp=E,27nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK MLR MLR
comp=Z,160nm,18.0s
MNK MLR MLR
comp=E,417nm,24.0s
MNK MLR MLR
comp=N,402nm,21.0s
AK03 Malin Array Si 68.77 330 P **P 14 24 42.2 -0.7**
AK21 Malin Array Si 68.78 330 P **P 14 24 42.6 -0.4**
AK22 Malin Array Si 68.78 330 P **P 14 24 42.5 -0.5**
AK04 Malin Array Si 68.79 330 P **P 14 24 41.9 -1.1**
AKASG Malin Array Be 68.79 330 P **P 14 24 42.7 -0.3**
AKASG IAmb IAmb 14 24 43.8
comp=Z,5.3nm,1.1s
AKASG Malin Array Be 68.79 330 P **P 14 24 42.3 -0.7**
comp=Z,12nm,1.0s,baz=31,slow=6.0,SNR=22
AKASG LR LR 14 58 57.5
comp=Z,149nm,18.6s,baz=50,slow=40
comp=Z,12nm,1.0s
AKBB Malin Array Si 68.79 330 P **P 14 24 42.2 -0.9**
AKBB Malin Array Si 68.79 330*ce*P **P 14 24 41.5 -1.5**
AKBB pmax pmax
comp=Z,13nm,1.0s
AKBB Malin Array Si 68.79 330 P **P 14 24 41.8 -1.2**
KIEV Kiev 68.80 330 P **P 14 24 42.4 -0.7**
KIEV Kiev 68.80 330⇑P **P 14 24 43.1 0.0**
KIEV Kiev 68.80 330 P **P 14 24 42.4 -0.7**
KIEV pmax pmax
comp=Z,15nm,1.1s
KIEV Kiev 68.80 330 P **P 14 24 41.8 -1.3**
comp=Z,56nm,1.1s
AK01 Malin Array Si 68.80 330 P **P 14 24 42.9 -0.2**
AK12 Malin Array Si 68.86 330 P **P 14 24 43.0 -0.5**
MI28 Mi28,Pidlybu 69.05 331 P **P 14 24 44.2 -0.4**
RNPP9 Sopachiv 69.13 332 P **P 14 24 44.9 -0.2**
TXAR Lajitas Array 69.70 68 P **P 14 24 49.4 +0.3**
comp=Z,0.5nm,0.5s,baz=281,slow=4.0,SNR=7.1
TXAR LR LR 14 55 59.4
comp=Z,28nm,18.3s,baz=334,slow=36
comp=Z,0.5nm,0.5s
KIV Kislovodsk 69.80 318 *e*P **P 14 24 49.6 0.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,91nm,17.0s
KBZ Khabaz 69.91 317 P **P 14 24 50.9 +0.9**
comp=Z,6.5nm,0.9s,baz=60,slow=5.8,SNR=13
KBZ LR LR 15 00 47.9
comp=Z,192nm,18.3s,baz=16,slow=41
comp=Z,6.5nm,0.9s
KBZ Khabaz 69.91 317*ce*P **P 14 24 49.5 -0.5**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
LUBAR Lubar, Ukraine 69.92 330 P **P 14 24 49.6 -0.4**
LUBAR pP **pP 14 24 55.0 -2.1**
LPIG La Paz 69.93 77 LR LR 14 53 07.6
comp=Z,9.1nm,18.8s,baz=320,slow=34
EKA Eskdalemuir Ar 70.89 351 P **P 14 24 55.9 +0.1**
comp=Z,2.3nm,0.7s,baz=30,slow=6.8,SNR=3.7
comp=Z,2.3nm,0.7s
HORU Horodok 70.94 331 P **P 14 24 56.4 +0.1**
HORU Horodok 70.94 331 P **P 14 24 56.4 +0.1**
NDNU Novodnistrovsk 71.22 330 P **P 14 24 58.0 0.0**
SORM Soroca 71.33 329⇑P **P 14 24 59.0 +0.4**
SORM Soroca 71.33 329 P **P 14 24 59.0 +0.4**
SORM Soroca 71.33 329 P **P 14 24 58.4 -0.2**
comp=Z,22nm,1.1s
KMPD K-Podol'skiy 71.52 330 P **P 14 24 59.5 -0.3**
KWP Kalwaria Pacla 71.61 333 P **P 14 25 01.6 +1.2**
KWP pmax pmax
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 71.61 333 P **P 14 25 00.7 +0.3**
comp=Z,27nm,1.4s
MORS Morshin 71.74 332 P **P 14 25 01.7 +0.6**
MORS Morshin 71.74 332 P **P 14 25 01.7 +0.6**
KSP Ksiaz 72.09 338 P **P 14 25 03.5 +0.3**
KSP pmax pmax
comp=Z,12nm,0.8s
KSP Ksiaz 72.09 338 P **P 14 25 04.1 +0.9**
comp=Z,12nm,0.8s
KSV Kosov 72.15 331 P **P 14 25 03.1 -0.5**
KSV Kosov 72.15 331 P **P 14 25 03.1 -0.5**
CLL Collm 72.36 340 *i* P **P 14 25 05.1 +0.3**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 72.36 340 P **P 14 25 05.0 +0.3**
comp=Z,12nm,0.9s
CLL Collm 72.36 340 *i* P **P 14 25 05.1 +0.3**
comp=Z,11nm,0.9s
CLL *i* x x 14 25 10.0
CLL *i* pP **sP 14 25 16.9 +2.3**
OSTC Ostas 72.38 338 *e*P **P 14 25 05.9 +1.0**
OSTC Ostas 72.38 338 *e*P **P 14 25 05.9 +1.0**
DPC Dobruska-Polom 72.54 337 *e*P **P 14 25 07.5 +1.5**
DPC Dobruska-Polom 72.54 337 *e*P **P 14 25 07.5 +1.5**
DPC Dobruska-Polom 72.54 337 P **P 14 25 06.0 0.0**
comp=Z,9.4nm,1.3s
BRG Berggiesshubel 72.58 339 *e*P **P 14 25 06.5 +0.4**
BRG Amp 14 25 08.2
comp=Z,7.0nm,1.0s
KRLC Kraliky 72.69 337 P **P 14 25 06.9 0.0**
KRLC pmax pmax
comp=Z,11nm,1.3s
BUR08 Bucovina Ar. S 72.71 331 P **P 14 25 07.1 0.0**
BUR08 IAmb IAmb 14 25 20.3
comp=Z,4.0nm,0.8s
BUR08 Bucovina Ar. S 72.71 331⇓P **P 14 25 07.5 +0.4**
BURAR Bucovina Array 72.74 331 P **P 14 25 07.5 +0.2**
BURAR Bucovina Array 72.74 331⇓P **P 14 25 07.4 +0.2**
BURAR Bucovina Array 72.74 331 P **P 14 25 07.4 +0.2**
MORC Moravsky Berou 72.79 337 P **P 14 25 07.1 -0.4**
MORC Moravsky Berou 72.79 337 *e*P **P 14 25 08.3 +0.8**
MORC Moravsky Berou 72.79 337 P **P 14 25 07.1 -0.4**
MORC pmax pmax
comp=Z,15nm,1.2s
LANS Liptovska Anna 72.90 335 *e*P **P 14 25 10.5 +2.4**
LANS Liptovska Anna 72.90 335 *e*P **P 14 25 10.5 +2.4**
HSKC Hora Svate Kat 72.94 339 *e*P **P 14 25 09.9 +1.6**
MOX Moxa 73.28 341 P **P 14 25 11.2 +0.9**
MOX pmax pmax
comp=Z,10.0nm,1.3s
PRU Pruhonice 73.28 338 *e*P **P 14 25 11.7 +1.4**
PRU Pruhonice 73.28 338 *e*P **P 14 25 11.7 +1.4**
TESR Tescani 73.30 329⇑P **P 14 25 11.2 +0.8**
VRAC Vranov 73.45 337 LR LR 14 59 56.6
comp=Z,72nm,21.9s,baz=16,slow=38
VRAC Vranov 73.45 337 *e*P **P 14 25 12.5 +1.2**
VRAC Vranov 73.45 337⇓P **P 14 25 11.6 +0.3**
VRAC Vranov 73.45 337 P **P 14 25 11.6 +0.3**
JAVC Velka Javorina 73.62 336 *e*P **P 14 25 14.1 +1.7**
VYHS Vyhne 73.67 335 *e*P **P 14 25 14.6 +2.0**
VYHS Vyhne 73.67 335 *e*P **P 14 25 14.6 +2.0**
KRUC Moravsky 73.73 337 *e*P **P 14 25 13.4 +0.4**
VRI Vrincioaia 73.86 329⇓P **P 14 25 14.7 +0.9**
VRI Vrincioaia 73.86 329 P **P 14 25 14.6 +0.9**
PLOR Plostina 73.89 329⇑P **P 14 25 15.3 +1.3**
PLOR Plostina 73.89 329 P **P 14 25 15.3 +1.3**
OZUR 73.94 330⇑P **P 14 25 15.0 +0.7**
CFR Carcaliu 74.03 328⇓P **P 14 25 16.0 +1.2**
CFR Carcaliu 74.03 328 P **P 14 25 15.9 +1.2**
MODS Modra-Piesok 74.17 336 *e*P **P 14 25 17.4 +1.9**
MODS Modra-Piesok 74.17 336 *e*P **P 14 25 17.4 +1.9**
TPGR Topolog 74.22 327⇓P **P 14 25 16.9 +1.0**
KHC Kasperske Hory 74.30 339 *e*P **P 14 25 13.0 -3.3**
KHC *ex* x 14 25 17.5
KHC Kasperske Hory 74.30 339*ce*P **P 14 25 16.1 -0.2**
KHC pmax pmax
comp=Z,14nm,0.9s
KHC Kasperske Hory 74.30 339 P **P 14 25 17.2 +0.9**
comp=Z,9.4nm,1.0s
MEM Membach 74.33 344 P **P 14 25 13.4 -3.0**
MEM pmax pmax
comp=Z,22nm,1.0s
MLR Muntele Rosu 74.43 329 P **P 14 25 16.9 -0.4**
MLR IAmb IAmb 14 25 19.8
comp=Z,9.0nm,0.8s
MLR Muntele Rosu 74.43 329 LR LR 15 02 07.2
comp=Z,157nm,19.4s,baz=52,slow=39
MLR Muntele Rosu 74.43 329⇑P **P 14 25 18.6 +1.4**
MLR Muntele Rosu 74.43 329 P **P 14 25 16.9 -0.4**
MLR pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 74.55 339 P **P 14 25 18.3 +0.5**
comp=Z,3.6nm,0.8s,baz=34,slow=5.3,SNR=14
GERES LR LR 15 03 53.4
comp=Z,64nm,19.1s,baz=20,slow=40
comp=Z,3.6nm,0.8s
VOIR 74.75 330⇑P **P 14 25 20.4 +1.4**
VOIR 74.75 330 P **P 14 25 20.4 +1.4**
TKL Tuckaleechee C 74.84 50 LR LR 15 00 35.8
comp=Z,79nm,18.1s,baz=52,slow=38
EFOR EFORIE 74.85 327⇑P **P 14 25 21.2 +1.8**
CONA Conrad Observa 74.92 337 *ep*P **P 14 25 21.6 +1.6**
comp=Z,4.1nm,0.9s
ARR Arges 74.94 330⇓P **P 14 25 20.7 +0.5**
RONA Rosalia, Austr 75.03 337 pP **P 14 25 22.5 +2.0**
comp=Z,3.2nm,0.9s
GZR Gura Zlata 75.46 331⇑P **P 14 25 23.8 +0.7**
GZR Gura Zlata 75.46 331 P **P 14 25 23.8 +0.7**
BZS Buzias 75.58 332⇓P **P 14 25 24.2 +0.5**
BZS Buzias 75.58 332 P **P 14 25 24.2 +0.5**
ARSA Arzberg 75.63 337 pP **P 14 25 26.0 +1.9**
comp=Z,3.7nm,1.1s
MORH Mrgy, Hungar 75.83 334⇑P **P 14 25 25.7 +0.6**
HERR Herculane 76.03 331⇓P **P 14 25 26.9 +0.6**
LESA Schwarzleotal 76.11 339 *ep*P **P 14 25 28.6 +1.7**
comp=Z,3.8nm,0.9s
SOKA Soboth 76.29 337 pP **P 14 25 29.0 +1.1**
comp=Z,4.5nm,0.9s
KBA Koelnbreinsper 76.29 338 *ep*P **P 14 25 29.3 +1.3**
comp=Z,15nm,0.9s
KBA Koelnbreinsper 76.29 338 P **P 14 25 29.4 +1.4**
KBA pmax pmax
comp=Z,25nm,1.1s
WATA Walderalm 76.43 340 *ep*P **P 14 25 30.3 +1.6**
comp=Z,6.1nm,0.8s
ECH Echery 76.44 343 P **P 14 25 31.5 +2.9**
ECH pmax pmax
comp=Z,60nm,1.1s
RETA Reutte 76.45 340 *e*P **P 14 25 28.7 -0.1**
comp=Z,4.2nm,0.8s
WTTA Wattenberg 76.49 339 *ep*P **P 14 25 30.7 +1.6**
comp=Z,5.6nm,0.8s
MOTA Moosalm 76.52 340 *ep*P **P 14 25 30.0 +0.8**
comp=Z,8.4nm,1.1s
OBKA Obir 76.56 337 *ep*P **P 14 25 30.4 +1.0**
comp=Z,9.6nm,0.8s
SQTA Sankt Quirin 76.62 340 *ep*P **P 14 25 31.5 +1.8**
comp=Z,7.7nm,1.1s
WRA Warramunga Arr 76.75 206 P **P 14 25 29.9 -0.6**
comp=Z,0.6nm,0.8s,baz=27,slow=5.9,SNR=4.7
comp=Z,0.6nm,0.8s
ABTA Abfaltersbach 76.79 339 *ep*P **P 14 25 32.0 +1.3**
comp=Z,9.5nm,0.9s
DAVA Damuels 76.82 341 *ep*P **P 14 25 33.4 +2.4**
comp=Z,6.3nm,0.8s
FETA Feichten 76.91 340 *ep*P **P 14 25 32.6 +1.2**
comp=Z,6.8nm,0.9s
BR106 Keskin Array S 76.93 321 P **P 14 25 30.4 -1.3**
comp=Z,40nmcomp=Z,4.3nm,1.1s
BR131 Keskin Array S 76.93 321 P **P 14 25 31.8 +0.1**
BR131 IAmb IAmb 14 25 32.9
comp=Z,6.1nm,1.0s
BR131 Keskin Array S 76.93 321 P **P 14 25 31.8 +0.1**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 76.93 321 P **P 14 25 31.7 +0.1**
comp=Z,2.4nm,0.8s,baz=30,slow=2.8,SNR=12
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 76.93 321 *i* P **P 14 25 32.2 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR105 Keskin Array S 76.95 321 P **P 14 25 31.5 -0.3**
comp=Z,45nmcomp=Z,4.8nm,1.1s
ANTO Ankara 77.12 322 P **P 14 25 33.4 +0.7**
ANTO Ankara 77.12 322 P **P 14 25 33.4 +0.7**
comp=Z,4.2nm,0.8s
DAVOX Davos/Dischmat 77.31 340 LR LR 15 03 03.6
comp=Z,52nm,20.9s,baz=264,slow=38
KIRS Kirsehir-Merke 77.34 321⇑P **P 14 25 35.2 +1.2**
BOVS Bovan 77.38 331⇓P **P 14 25 34.3 +0.4**
BAND Balkesir-Ban 78.35 326⇑P **P 14 25 40.2 +0.8**
RDO Rodhopi 78.48 328 P **P 14 25 39.7 -0.4**
PALK Pallekele 78.75 267 LR LR 15 04 20.2
comp=Z,44nm,19.7s,baz=95,slow=39
PDG Podgorica 79.18 333 P **P 14 25 43.3 -0.6**
PDG Podgorica 79.18 333⇑P **P 14 25 44.2 +0.3**
SSB Saint Sauveur 79.74 344 P **P 14 25 47.4 +0.4**
TIR Tirane 80.01 332 P **P 14 25 49.2 +0.7**
TIR Tirane 80.01 332 P **P 14 25 49.2 +0.7**
comp=Z,28nm,0.8s
FDMO Fiordimonte 80.18 337 P **P 14 25 49.2 -0.2**
FDMO IAmb IAmb 14 25 52.9
comp=Z,10nm,1.1s
ASAR Alice Springs 80.42 206 P **P 14 25 51.6 +0.9**
comp=Z,0.7nm,0.6s,baz=19,slow=5.3,SNR=5.8
comp=Z,0.7nm,0.6s
MMAI Mount Meron Ar 82.09 317 P **P 14 26 00.3 +0.5**
comp=Z,0.7nm,0.4s,baz=16,slow=9.9,SNR=4.6
MMAI LR LR 15 06 00.1
comp=Z,31nm,18.0s,baz=11,slow=38
comp=Z,0.7nm,0.4s
TIP Timpagrande 82.89 333 P **P 14 26 03.9 0.0**
TIP Timpagrande 82.89 333⇑P **P 14 26 04.3 +0.5**
TIP Timpagrande 82.89 333 P **P 14 26 04.1 +0.3**
comp=Z,10nm,1.2s
EIL Elat 85.20 315 LR LR 15 09 37.1
comp=Z,60nm,18.2s,baz=68,slow=40
RAYN Ar Rayn 85.61 304 P **P 14 26 18.9 +1.0**
ESDC Sonseca Array 86.45 349 P **P 14 26 22.0 +0.2**
comp=Z,1.2nm,0.8s,baz=360,slow=6.0,SNR=9.4
comp=Z,1.2nm,0.8s
SJG San Juan 97.79 45 LR LR 15 16 03.8
comp=Z,35nm,18.0s,baz=172,slow=38

IDC 20 14:15:53.9±2.3, 7°.51S×129°.46E, h0km, mb3.3/1, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=78.5km s-min=30.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.17**	**199**	Pn	Pn	14 18 35.5	+0.6
	0.4nm,0.3s,baz=19,slow=11,SNR=28						
FITZ				Sn	Sn	14 20 30.7	-10
	0.7nm,0.3s,baz=124,slow=20,SNR=7.7						
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**13.24**	**160**	Pn	Pn	14 19 03.4	+0.1
	0.4nm,0.3s,baz=338,slow=11,SNR=14						
WRA				Sn	Sn	14 21 21.1	-10
	0.9nm,0.3s,baz=334,slow=22,SNR=17						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**16.63**	**166**	Pn	Pn	14 19 47.8	-0.7
	0.1nm,0.3s,baz=339,slow=8.7,SNR=13						
ASAR				Sn	Sn	14 22 39.6	-14
	0.2nm,0.3s,baz=332,slow=13,SNR=6.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**68.35**	**327**	P	P	14 26 57.2	0.0
	0.2nm,0.5s,baz=120,slow=5.7,SNR=2.2						
	0.2nm,0.5s						

*NOU **20** 14:18:42.7, 37°.08S×178°.11E, h201km, MLv4.9/14, Off E. Coast of N. Island, N.Z.*
*IDC **20** 14:18:49.6±1.2, 37°.08S×177°.63E, h133km±9km, mb4.2/10, mbtmp4.6/11, Error ellipse: s-maj=21.3km s-min=15.2km az=53.0*
*NEIC **20** 14:18:49.7±1.6, 37°.1S±0°.1×177°.6E±0°.1, h126km±8km,*

mb4.7/19, Error ellipse: s-maj=15.6km s-min=11.6km az=198.0
*WEL **20** 14:18:50.8±0.7, 37°S±5°×17°8E±°, h113km±8km, M4.2/31, ML4.8/18, MLv4.2/31, Error ellipse: s-maj=7.1km s-min=4.1km az=39.7, confirmed*
*WEL **20** 14:18:51.3, 37.03S×177.52E, h118km, ML4.7, Mw4.3, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}3.39; $M_{\theta\theta}$-2.34; $M_{\phi\phi}$-1.05; $M_{r\theta}$-0.71; $M_{\theta\phi}$-2.34; $M_{r\phi}$1.08; Fault plane solution: $M_0$4.02000×10^{15} NP1: ϕ_s32.00000°, δ50.00000°, λ61.00000°. NP2:ϕ_s253.00000°, δ48.00000°, λ120.00000°. Principal axes: T -4.1211, Plg68.0000°, Azm235.0000°; N 0.2080, Plg22.0000°, Azm51.0000°; P 3.9131, Plg1.0000°, Azm142.0000°; Stations used: HAZ OPRZ MWZ RTZ MKAZ WCZ REVERSE FAULTING*

ISC 20 14:18:50.4±0.7, 37.12S±0.05×177.52E±0.05, h138km±5km, n259, σ1§93/260, mb4.6/22, 5C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.48**	**214**	P	**Pn**	**14 19 08.4**	**-1.8**
WSRZ				S	**Sn**	**14 19 25.4**	**0.0**
WIZ	**White Island**	**0.48**	**213**	P	**Pn**	**14 19 08.4**	**-1.8**
HAZ	**Te Kaha**	**0.67**	**162**	P	**Pn**	**14 19 10.3**	**-1.0**
HAZ				S	**Sn**	**14 19 25.9**	**-1.4**
MXZ	**Matakaoa Point**	**0.77**	**125**	Pn	**Pn**	**14 19 10.5**	**-1.5**
MXZ	**Matakaoa Point**	**0.77**	**125**	P	**Pn**	**14 19 10.8**	**-1.2**
MXZ	**Matakaoa Point**	**0.77**	**125**	P	**Pn**	**14 19 11.1**	**-1.0**
RUGZ	**Raukumara Rang**	**0.85**	**172**	P	**Pn**	**14 19 11.5**	**-1.3**
WHRZ	**Whale Island**	**0.85**	**210**	P	**Pn**	**14 19 12.4**	**-0.3**
PKGZ	**Pakihiroa**	**0.87**	**149**	P	**Pn**	**14 19 12.7**	**-0.1**
WMGZ	**Waiomatatini S**	**1.00**	**135**	P	**Pn**	**14 19 13.6**	**-0.4**
MYRZ	**Mayor Island**	**1.03**	**261**	P	**Pn**	**14 19 13.1**	**-1.2**
OPRZ	**Ohinepanea**	**1.06**	**226**	P	**Pn**	**14 19 13.6**	**-0.9**
OPRZ				S	**Sn**	**14 19 30.7**	**-2.2**
MARZ	**Manawahe**	**1.09**	**218**	P	**Pn**	**14 19 14.4**	**-0.5**
PUZ	**Puketiti**	**1.12**	**149**	P	**Pn**	**14 19 14.6**	**-0.5**
TWGZ	**Tauwhareparae**	**1.12**	**161**	P	**Pn**	**14 19 15.2**	**+0.1**
TGRZ	**Tauranga**	**1.17**	**238**	P	**Pn**	**14 19 14.7**	**-0.9**
URZ	**Urewera**	**1.18**	**196**	P	**Pn**	**14 19 14.9**	**-0.8**
	2μm,0.4s,baz=340,slow=3.5						
URZ				S	**Sn**	**14 19 34.7**	**-0.4**
	4μm,0.5s,baz=306,slow=21,SNR=12						
URZ				LR	LR	14 19 50.9	
	comp=Z,310nm,20.0s,baz=294,slow=49						
URZ	**Urewera**	**1.18**	**196**	P	**Pn**	**14 19 15.3**	**-0.4**
URZ	**Urewera**	**1.18**	**196**	P	**Pn**	**14 19 15.3**	**-0.4**
URZ				S	**Sn**	**14 19 34.5**	**-0.6**
MWZ	**Matawai**	**1.21**	**180**	P	**Pn**	**14 19 15.6**	**-0.5**
MWZ				S	**Sn**	**14 19 35.3**	**-0.4**
LIRZ	**Lichensteins R**	**1.26**	**225**	P	**Pn**	**14 19 16.2**	**-0.3**
MKRZ	**Makatiti**	**1.32**	**219**	P	**Pn**	**14 19 17.6**	**+0.5**
OMRZ	**Omania**	**1.34**	**222**	P	**Pn**	**14 19 17.1**	**-0.3**
TKGZ	**Te Karaka**	**1.34**	**169**	P	**Pn**	**14 19 17.0**	**-0.3**
KARZ	**Kaharoa**	**1.36**	**228**	P	**Pn**	**14 19 17.2**	**-0.3**
TARZ	**Mount Tarawera**	**1.38**	**216**	P	**Pn**	**14 19 17.9**	**+0.1**
NGRZ	**Ngongotaha**	**1.44**	**227**	P	**Pn**	**14 19 18.2**	**-0.3**
KMRZ	**Kaimai**	**1.45**	**240**	P	**Pn**	**14 19 18.0**	**-0.6**
RRRZ	**Republican Roa**	**1.46**	**213**	P	**Pn**	**14 19 18.3**	**-0.3**
HLRZ	**Highlands Stat**	**1.46**	**219**	P	**Pn**	**14 19 18.6**	**-0.1**
CNGZ	**Carnagh Statio**	**1.47**	**158**	P	**Pn**	**14 19 18.6**	**0.0**
MUGZ	**Murupara**	**1.48**	**203**	P	**Pn**	**14 19 18.5**	**-0.3**
UTU	**Utuhina**	**1.49**	**225**	P	**Pn**	**14 19 19.0**	**+0.1**
RTZ	**Ruatahuna**	**1.55**	**196**	Pn	**Pn**	**14 19 18.4**	**-1.3**
RTZ	**Ruatahuna**	**1.55**	**196**	P	**Pn**	**14 19 19.0**	**-0.7**
HSRZ	**Hossack Road**	**1.56**	**220**	P	**Pn**	**14 19 20.1**	**+0.4**
RIGZ	**Rimuhau**	**1.59**	**173**	P	**Pn**	**14 19 19.6**	**-0.5**
HRRZ	**Handcock Road**	**1.60**	**217**	P	**Pn**	**14 19 20.2**	**0.0**
PRRZ	**Plateau Road**	**1.64**	**213**	P	**Pn**	**14 19 20.6**	**+0.1**
GRRZ	**Galatos Road**	**1.66**	**222**	P	**Pn**	**14 19 21.0**	**+0.1**
SNGZ	**Shannon Statio**	**1.67**	**185**	P	**Pn**	**14 19 20.5**	**-0.4**
SNGZ				S	**Sn**	**14 19 45.1**	**+0.9**
ALRZ	**Allen Road**	**1.72**	**213**	P	**Pn**	**14 19 21.6**	**+0.1**
TOZ	**Tahuroa Road**	**1.72**	**249**	Pn	**Pn**	**14 19 20.6**	**-0.8**
TOZ	**Tahuroa Road**	**1.72**	**249**	P	**Pn**	**14 19 21.1**	**-0.3**
TOZ				S	**Sn**	**14 19 44.1**	**-1.1**
WPRZ	**Whakapapatarin**	**1.76**	**217**	P	**Pn**	**14 19 22.4**	**+0.4**
MTHZ	**Maungataniwha**	**1.81**	**197**	P	**Pn**	**14 19 22.0**	**-0.6**
PRGZ	**Paritu Road**	**1.82**	**171**	P	**Pn**	**14 19 22.0**	**-0.6**
RAHZ	**Arahi**	**1.83**	**191**	P	**Pn**	**14 19 22.4**	**-0.3**
GRZ	**Great Barrier**	**1.87**	**297**	P	**Pn**	**14 19 21.6**	**-1.6**
GRZ				S	**Sn**	**14 19 45.3**	**-3.1**
MKAZ	**Moumakai**	**1.89**	**270**	P	**Pn**	**14 19 22.6**	**-0.7**
MKAZ				S	**Sn**	**14 19 46.6**	**-2.0**
KNZ	**Kokohu**	**1.90**	**176**	P	**Pn**	**14 19 22.8**	**-0.7**
KNZ				S	**Sn**	**14 19 48.6**	**-0.5**
KUTZ	**Kaahu Road**	**1.92**	**224**	P	**Pn**	**14 19 24.2**	**+0.4**
MRHZ	**Matea Rd**	**1.92**	**207**	P	**Pn**	**14 19 23.4**	**-0.4**
WIAZ	**Waiheke Island**	**1.94**	**279**	P	**Pn**	**14 19 23.1**	**-1.0**
WHHZ	**Waihua**	**1.97**	**187**	P	**Pn**	**14 19 24.0**	**-0.4**
WHTZ	**Whakaora**	**1.98**	**218**	P	**Pn**	**14 19 25.2**	**+0.7**
TLZ	**Tolley Road**	**1.98**	**232**	P	**Pn**	**14 19 24.9**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.05**	**172**	P	**Pn**	**14 19 24.9**	**-0.5**
NMHZ	**Naumai**	**2.05**	**196**	P	**Pn**	**14 19 25.5**	**0.0**
ETAZ	**East Tamaki Re**	**2.08**	**274**	P	**Pn**	**14 19 25.3**	**-0.4**
HAHZ	**Hinemaiaia**	**2.10**	**212**	P	**Pn**	**14 19 25.8**	**-0.2**
HATZ				S	**Sn**	**14 19 53.7**	**+0.4**
KBAZ	**Karaka Road Bo**	**2.10**	**270**	P	**Pn**	**14 19 25.9**	**-0.1**
WATZ	**Wairara**	**2.12**	**221**	P	**Pn**	**14 19 26.8**	**+0.5**
MBAZ	**Motutapu North**	**2.13**	**279**	P	**Pn**	**14 19 25.7**	**-0.7**
ARHZ	**Aropaoanui**	**2.18**	**191**	P	**Pn**	**14 19 26.4**	**-0.5**
BKZ	**Black Stump Fm**	**2.20**	**201**	Pn	**Pn**	**14 19 26.1**	**-1.2**
BKZ	**Black Stump Fm**	**2.20**	**201**	P	**Pn**	**14 19 26.6**	**-0.6**
BKZ	**Black Stump Fm**	**2.20**	**201**	P	**Pn**	**14 19 26.2**	**-1.0**
ABAZ	**Army Bay**	**2.22**	**283**	P	**Pn**	**14 19 26.8**	**-0.6**
RATZ	**Rangitukua**	**2.23**	**218**	P	**Pn**	**14 19 28.1**	**+0.6**
EPAZ	**Eden Park BICE**	**2.24**	**275**	P	**Pn**	**14 19 27.5**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.25**	**276**	P	**Pn**	**14 19 27.7**	**0.0**
RITZ	**Rihia Road**	**2.27**	**215**	P	**Pn**	**14 19 28.6**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.30**	**271**	P	**Pn**	**14 19 28.3**	**-0.1**
KATZ	**Kakaramea**	**2.35**	**217**	P	**Pn**	**14 19 29.6**	**+0.5**
RVAZ	**Riverhead Bore**	**2.38**	**278**	P	**Pn**	**14 19 29.1**	**-0.3**
MCHZ	**McNeill Hill**	**2.41**	**195**	P	**Pn**	**14 19 29.0**	**-0.7**
NTVZ	**North Tongarir**	**2.45**	**216**	P	**Pn**	**14 19 30.7**	**+0.2**
TMVZ	**Te Maari**	**2.46**	**215**	P	**Pn**	**14 19 30.5**	**0.0**
KWHZ	**Kaweka Forest**	**2.46**	**200**	P	**Pn**	**14 19 29.5**	**-1.0**
KRVZ	**Karewarewa**	**2.47**	**216**	P	**Pn**	**14 19 30.5**	**-0.1**
ETVZ	**East Tongariro**	**2.47**	**215**	P	**Pn**	**14 19 30.5**	**-0.1**
WTVZ	**West Tongariro**	**2.51**	**217**	P	**Pn**	**14 19 31.0**	**-0.1**
NNVZ	**North Ngauruho**	**2.51**	**216**	P	**Pn**	**14 19 31.2**	**+0.1**
OTVZ	**Oturere**	**2.51**	**215**	P	**Pn**	**14 19 31.1**	**-0.1**
HIZ	**Hauiti**	**2.53**	**236**		**Pn**	**14 19 31.7**	**+0.5**
HIZ	**Hauiti**	**2.53**	**236**	P	**Pn**	**14 19 32.2**	**+1.0**
HIZ	**Hauiti**	**2.53**	**236**	P	**Pn**	**14 19 32.0**	**+0.8**
SNVZ	**South Ngauruho**	**2.54**	**215**	P	**Pn**	**14 19 31.7**	**+0.1**
TWVZ	**Taurewa**	**2.55**	**220**	P	**Pn**	**14 19 31.6**	**0.0**
NGZ	**Ngauruhoe**	**2.55**	**216**	P	**Pn**	**14 19 31.6**	**-0.1**
CKHZ	**Cape Kidnapper**	**2.56**	**188**	P	**Pn**	**14 19 30.5**	**-1.1**
COVZ	**Chateau Observ**	**2.60**	**216**	P	**Pn**	**14 19 32.3**	**+0.1**
TUVZ	**Tukino**	**2.60**	**214**	P	**Pn**	**14 19 31.6**	**-0.7**
FWVZ	**Far West T-bar**	**2.64**	**215**	P	**Pn**	**14 19 32.4**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.64**	**215**	P	**Pn**	**14 19 32.2**	**-0.7**
MAVZ	**Matarangi**	**2.64**	**215**	P	**Pn**	**14 19 32.4**	**-0.5**
MOVZ	**Moawhango**	**2.67**	**211**	P	**Pn**	**14 19 32.1**	**-1.1**
TRVZ	**Turoa**	**2.67**	**215**	P	**Pn**	**14 19 32.8**	**-0.5**
WNVZ	**Wahianoa**	**2.67**	**214**	P	**Pn**	**14 19 32.7**	**-0.5**
KRHZ	**Kereru**	**2.68**	**199**	P	**Pn**	**14 19 31.6**	**-1.5**
KAHZ	**Kahuranaki**	**2.72**	**191**	P	**Pn**	**14 19 32.4**	**-1.2**
PKVZ	**Pokaka**	**2.76**	**218**	P	**Pn**	**14 19 33.9**	**-0.3**
MTVZ	**Mangateitei**	**2.78**	**215**	P	**Pn**	**14 19 34.4**	**0.0**
WCZ	**Waipu Caves**	**2.82**	**294**	P	**Pn**	**14 19 33.8**	**-1.1**
PXZ	**Pawanui**	**2.95**	**190**	P	**Pn**	**14 19 34.7**	**-1.9**
VRZ	**Vera Road**	**2.96**	**227**	P	**Pn**	**14 19 37.6**	**+0.9**
PNHZ	**Pukenui**	**2.98**	**200**	P	**Pn**	**14 19 34.9**	**-2.1**
WPHZ	**Waipukurau**	**3.06**	**196**	P	**Pn**	**14 19 36.0**	**-2.0**
TSZ	**Takapari Road**	**3.18**	**202**	P	**Pn**	**14 19 37.3**	**-2.3**
PRHZ	**Porangahau**	**3.22**	**192**	P	**Pn**	**14 19 37.8**	**-2.3**
WAZ	**Wanganui**	**3.30**	**216**	P	**Pn**	**14 19 40.9**	**-0.2**
DREZ	**Durham Road**	**3.33**	**231**	P	**Pn**	**14 19 43.4**	**+1.8**
DVHZ	**Dannevirke**	**3.35**	**198**	P	**Pn**	**14 19 38.9**	**-2.9**
LREZ	**Lake Rotokare**	**3.39**	**225**	P	**Pn**	**14 19 43.2**	**+0.9**
ANWZ	**Angora Road**	**3.43**	**193**	P	**Pn**	**14 19 40.7**	**-2.2**
NEZ	**North Egmont**	**3.45**	**230**	P	**Pn**	**14 19 44.9**	**+1.8**
PREZ	**Palmer Road**	**3.45**	**229**	P	**Pn**	**14 19 45.3**	**+2.2**
PKE	**Pukeiti**	**3.47**	**232**	P	**Pn**	**14 19 44.9**	**+1.6**
KHEZ	**Kahui Hut**	**3.51**	**231**	P	**Pn**	**14 19 44.2**	**+0.2**
KHEZ	**Kahui Hut**	**3.51**	**231**	P	**Pn**	**14 19 46.0**	**+2.1**
OHWZ	**Ohakea**	**3.53**	**209**	P	**Pn**	**14 19 43.7**	**-0.4**
POWZ	**Post Office Ro**	**3.54**	**202**	P	**Pn**	**14 19 41.8**	**-2.4**
NBEZ	**Newall Road No**	**3.59**	**232**	P	**Pn**	**14 19 46.5**	**+1.7**
PRWZ	**Pori Road**	**3.64**	**199**	P	**Pn**	**14 19 43.2**	**-2.3**
NMEZ	**Namu Road**	**3.67**	**230**	P	**Pn**	**14 19 47.6**	**+1.7**
BFZ	**Birch Farm**	**3.69**	**195**		**Pn**	**14 19 42.9**	**-3.3**
BFZ	**Birch Farm**	**3.69**	**195**	P	**Pn**	**14 19 43.6**	**-2.6**
BFZ	**Birch Farm**	**3.69**	**195**	P	**Pn**	**14 19 43.3**	**-2.9**
OUZ	**Omahuta**	**3.70**	**300**	P	**Pn**	**14 19 45.4**	**-0.9**
OUZ	**Omahuta**	**3.70**	**300**	P	**Pn**	**14 19 45.3**	**-0.9**
MRZ	**Mangatainoka R**	**3.85**	**203**	Pn	**Pn**	**14 19 45.3**	**-3.0**
MRZ	**Mangatainoka R**	**3.85**	**203**	P	**Pn**	**14 19 45.2**	**-3.0**
TIWZ	**Tintock**	**3.87**	**199**	P	**Pn**	**14 19 45.8**	**-2.7**
CPWZ	**Castlepoint**	**3.92**	**195**	P	**Pn**	**14 19 47.0**	**-2.2**
HOWZ	**Holdsworth Sta**	**4.08**	**202**	P	**Pn**	**14 19 47.8**	**-3.5**
OGWZ	**Otaki Gorge**	**4.12**	**206**	P	**Pn**	**14 19 48.8**	**-3.1**
TMWZ	**Te Maipa**	**4.18**	**197**	P	**Pn**	**14 19 49.4**	**-3.2**
KIW	**Kapiti Island**	**4.25**	**208**	P	**Pn**	**14 19 50.6**	**-3.1**
MTW	**Mount Morrison**	**4.33**	**201**	P	**Pn**	**14 19 50.9**	**-3.7**
CAW	**Cannon Point**	**4.42**	**205**	P	**Pn**	**14 19 52.4**	**-3.3**
TRWZ	**Traveller**	**4.50**	**198**	P	**Pn**	**14 19 53.4**	**-3.6**
PAWZ	**Paruwai Farm**	**4.56**	**200**	P	**Pn**	**14 19 53.6**	**-4.1**
DUWZ	**D'Urville Isla**	**4.62**	**216**	P	**Pn**	**14 19 55.3**	**-3.3**
MSWZ	**Moikau Station**	**4.64**	**202**		**Pn**	**14 19 54.5**	**-4.2**
MSWZ	**Moikau Station**	**4.64**	**202**	P	**Pn**	**14 19 54.5**	**-4.2**
WEL	**Wellington**	**4.68**	**206**	P	**Pn**	**14 19 55.8**	**-3.4**
SNZO	**South Karori**	**4.72**	**207**	Pn	**Pn**	**14 19 56.0**	**-3.8**
SNZO	**South Karori**	**4.72**	**207**	P	**Pn**	**14 19 55.9**	**-3.9**
BHW	**Baring Head**	**4.75**	**205**	Pn	**Pn**	**14 19 56.1**	**-4.0**
BHW	**Baring Head**	**4.75**	**205**	P	**Pn**	**14 19 56.1**	**-4.0**
PLWZ	**Palliser**	**4.78**	**201**		Pn	14 19 56.0	-4.7
PLWZ	**Palliser**	**4.78**	**201**	P	**Pn**	**14 19 56.3**	**-4.3**
TCW	**Tory Channel**	**4.80**	**211**		**Pn**	**14 19 57.4**	**-3.5**
TCW	**Tory Channel**	**4.80**	**211**	P	**Pn**	**14 19 57.0**	**-3.9**
TUWZ	**Tuamarina**	**5.12**	**212**		**Pn**	**14 20 01.2**	**-3.9**
NNZ	**Nelson**	**5.21**	**217**		**Pn**	**14 20 03.0**	**-3.2**
NNZ	**Nelson**	**5.21**	**217**	P	**Pn**	**14 20 02.7**	**-3.6**
TKNZ	**Takaka Hill**	**5.28**	**221**		**Pn**	**14 20 04.2**	**-3.0**
TKNZ	**Takaka Hill**	**5.28**	**221**	P	**Pn**	**14 20 04.1**	**-3.2**
QRZ	**Quartz Range**	**5.37**	**225**	Pn	**Pn**	**14 20 05.6**	**-2.9**
QRZ	**Quartz Range**	**5.37**	**225**	P	**Pn**	**14 20 05.5**	**-2.9**
QRZ	**Quartz Range**	**5.37**	**225**	P	**Pn**	**14 20 05.4**	**-3.0**
BSWZ	**Blackbirch Sta**	**5.39**	**210**		**Pn**	**14 20 04.9**	**-3.8**
BSWZ	**Blackbirch Sta**	**5.39**	**210**	P	**Pn**	**14 20 04.8**	**-3.8**
MRNZ	**Matariki Terra**	**5.65**	**219**	P	**Pn**	**14 20 08.7**	**-3.5**
THZ	**Tophouse**	**5.85**	**216**	Pn	**Pn**	**14 20 12.2**	**-2.8**
THZ	**Tophouse**	**5.85**	**216**	P	**Pn**	**14 20 11.2**	**-3.7**
KHZ	**Kahutara**	**6.11**	**209**		**Pn**	**14 20 14.1**	**-4.2**
KHZ	**Kahutara**	**6.11**	**209**	P	Pn	14 20 13.6	-4.8
KHZ	**Kahutara**	**6.11**	**209**	P	Pn	14 20 13.8	-4.6
GVZ	**Greta Valley S**	**6.78**	**209**	Pn	**Pn**	**14 20 23.1**	**-4.2**
LTZ	**Lake Taylor**	**6.94**	**214**	Pn	**Pn**	**14 20 26.1**	**-3.5**
AMCZ	**Amberley**	**7.11**	**210**	P	**Pn**	**14 20 27.8**	**-3.9**
INZ	**Inchbonnie**	**7.29**	**218**	P	Pn	14 20 29.8	-4.4
OKCZ	**Okains Bay**	**7.42**	**206**	P	Pn	14 20 30.8	-5.2
AKCZ	**Akaroa Harbour**	**7.60**	**206**	P	Pn	14 20 33.2	-5.2
MHCZ	**Mount Hutt**	**7.85**	**214**	P	Pn	14 20 36.8	-4.9
WVZ	**Waitaha Valley**	**7.90**	**219**	P	**Pn**	**14 20 39.8**	**-2.5**
CTZ	**Chatham Island**	**7.98**	**148**	Pn	**Pn**	**14 20 41.7**	**-1.6**
WACZ	**Wakanui South**	**8.07**	**211**	P	**Pn**	**14 20 40.4**	**-4.2**
RPZ	**Rata Peaks**	**8.23**	**215**	P	**Pn**	**14 20 42.5**	**-4.2**
	12nm,0.4s,baz=255,slow=1.3,SNR=23						
RPZ				S	Sn	14 22 09.4	-8.7
	76nm,0.3s,baz=300,slow=22,SNR=15						
RPZ	**Rata Peaks**	**8.23**	**215**	P	**Pn**	**14 20 42.6**	**-4.2**
RPZ	**Rata Peaks**	**8.23**	**215**	P	**Pn**	**14 20 42.5**	**-4.2**
GCSZ	**Gaunt Creek Bo**	**8.28**	**219**	P	Pn	14 20 42.5	-4.9
ARCZ	**Arundel**	**8.36**	**213**	P	Pn	14 20 44.0	-4.5
FOZ	**Fox Glacier**	**8.70**	**220**	P	**Pn**	**14 20 49.0**	**-4.0**
TMZ	**Timaru**	**8.78**	**212**	P	Pn	14 20 48.6	-5.6
LBZ	**Lake Benmore**	**9.14**	**215**	P	**Pn**	**14 20 54.8**	**-4.2**
ODZ	**Otahua Downs**	**9.46**	**211**	P	Pn	14 20 57.8	-5.5
ODZ	**Otahua Downs**	**9.46**	**211**	P	Pn	14 20 58.0	-5.2
JCZ	**Jackson Bay**	**9.61**	**221**	P	**Pn**	**14 21 02.0**	**-3.3**
JCZ	**Jackson Bay**	**9.61**	**221**	P	Pn	14 21 01.0	-4.3
WKZ	**Wanaka**	**10.03**	**217**	P	Pn	14 21 06.6	-4.3
HHSZ	**Highcliff Hill**	**10.18**	**208**	P	**Pn**	**14 21 08.9**	**-3.9**
EAZ	**Earnscleugh**	**10.19**	**215**	P	Pn	14 21 08.5	-4.5
MSZ	**Milford Sound**	**10.47**	**221**	P	**Pn**	**14 21 14.3**	**-2.3**
TUZ	**Tuapeka**	**10.62**	**211**	P	Pn	14 21 14.2	-4.5
MLZ	**Mavora Lakes**	**10.86**	**218**	P	**Pn**	**14 21 19.0**	**-2.8**
SYZ	**Scrubby Hill**	**11.29**	**211**	P	Pn	14 21 23.1	-4.4
SYZ	**Scrubby Hill**	**11.29**	**211**	P	**Pn**	**14 21 23.6**	**-3.9**
WHZ	**Wether Hill Ro**	**11.32**	**216**	P	**Pn**	**14 21 24.0**	**-4.0**
APZ	**The Paps**	**12.01**	**213**	P	**Pn**	**14 21 34.9**	**-2.1**
MSVF	**Nonsavu**	**19.32**	**2**		**P**	**14 23 04.9**	**-0.1**
MSVF	**Nonsavu**	**19.32**	**2**	P	**Pn**	**14 23 05.7**	**-1.8**
	4.7nm,0.6s,baz=134,slow=12,SNR=7.3						
ARMA	**Armidale**	**22.50**	**280**	P	**P**	**14 23 42.5**	**+4.0**
CAN	**Canberra**	**23.05**	**266**	P	**P**	**14 23 46.0**	**+2.4**
CAN				IAmb	IAmb	14 24 09.7	
	comp=Z,36nm,1.3s						
TOO	**Toolangi**	**25.41**	**259**	P	**P**	**14 24 06.4**	**+1.3**
STKA	**Stephens Creek**	**29.95**	**269**	P	**P**	**14 24 46.1**	**+0.6**
STKA	**Stephens Creek**	**29.95**	**269**	P	**P**	**14 24 47.1**	**+1.5**
	comp=Z,6.5nm,0.8s,baz=104,slow=9.9,SNR=13						
	comp=Z,6.5nm,0.8s						
BBOO	**Buckleboo**	**34.06**	**265**	P	**P**	**14 25 21.1**	**-0.3**
BBOO				IAmb	IAmb	14 25 23.3	
	comp=Z,18nm,1.2s						
COEN	**Coen**	**38.30**	**298**	P	**P**	**14 25 59.2**	**+1.5**
COEN				IAmb	IAmb	14 25 59.8	
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**38.91**	**307**	P	**P**	**14 26 03.0**	**+0.3**
	comp=Z,15nm,0.8s,baz=170,slow=12,SNR=3.9						
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**39.61**	**277**		**P**	**14 26 08.8**	**+0.2**
AS31				IAmb	IAmb	14 26 09.8	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**39.61**	**277**	P	**P**	**14 26 08.5**	**0.0**
ASAR	**Alice Springs**	**39.61**	**277**	P	**P**	**14 26 09.1**	**+0.5**
	comp=Z,9.0nm,0.7s,baz=123,slow=8.4,SNR=87						
ASAR				PcP	**PcP**	**14 28 11.8**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=110,slow=4.3,SNR=3.0						
ASAR				ScP	**ScP**	**14 31 48.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=122,slow=3.8,SNR=5.8						
	comp=Z,9.0nm,0.7s						
WR0	**Warramunga Arr**	**41.06**	**283**	P	**P**	**14 26 20.6**	**+0.1**
WR0				IAmb	IAmb	14 26 21.8	
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**41.07**	**185**	P	**P**	**14 26 20.4**	**+0.6**
VNDA				IAmb	IAmb	14 26 22.5	
	comp=Z,14nm,1.4s						
SBA	**Scott Base**	**41.10**	**183**	P	**P**	**14 26 20.2**	**+0.2**
WRA	**Warramunga Arr**	**41.23**	**282**	P	**P**	**14 26 21.9**	**+0.1**
WRA	**Warramunga Arr**	**41.23**	**282**	P	**P**	**14 26 22.0**	**+0.1**
	comp=Z,7.4nm,0.6s,baz=127,slow=6.3,SNR=62						
WRA				PcP	**PcP**	**14 28 17.9**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=127,slow=3.5,SNR=2.9						
WRA				ScP	**ScP**	**14 31 56.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.5,SNR=2.0						
	comp=Z,7.4nm,0.6s						
MTN	**Manton Dam**	**47.90**	**288**	P	**P**	**14 27 15.0**	**+0.2**
MTN				IAmb	IAmb	14 27 30.0	
	comp=Z,30nm,1.2s						
KNRA	**Kununurra**	**48.01**	**283**	P	**P**	**14 27 15.1**	**-0.6**
KNRA				IAmb	IAmb	14 27 32.4	
	comp=Z,32nm,1.4s						
FITZ	**Fitzroy Crossi**	**49.09**	**278**	P	**P**	**14 27 24.2**	**+0.3**
	comp=Z,15nm,0.7s,baz=131,slow=6.6,SNR=27						
	comp=Z,15nm,0.7s						
MORW	**Morawa**	**51.35**	**260**	P	**P**	**14 27 41.3**	**+0.4**
MORW				IAmb	IAmb	14 27 41.8	
	comp=Z,9.9nm,0.8s						
QSPA	**South Pole Qui**	**53.00**	**180**	P	**P**	**14 27 55.5**	**+2.8**
FAKI	**Fak Fak**	**53.69**	**298**	P	**P**	**14 27 57.4**	**-0.7**
SYO	**Syowa Base**	**69.71**	**195**	⇑*e*P	**P**	**14 29 45.0**	**+0.3**
TROLL	**Troll, Antarti**	**71.11**	**182**	P	**P**	**14 29 54.5**	**+1.1**
TROLL	**Troll, Antarti**	**71.11**	**182**	⇑P	**P**	**14 29 54.5**	**+1.1**
	comp=Z,206nm,0.4s						
SNAA	**Sanae**	**71.51**	**180**	P	**P**	**14 29 56.6**	**+0.9**
SNAA	**Sanae**	**71.51**	**180**	P	**P**	**14 29 56.0**	**+0.3**
SNAA				IAmb	IAmb	14 29 57.0	
	comp=Z,18nm,1.5s						
SNAA	**Sanae**	**71.51**	**180**	⇑P	**P**	**14 29 56.6**	**+0.9**
	comp=Z,99nm,0.8s						
SNAA	**Sanae**	**71.51**	**180**	P	**P**	**14 29 56.8**	**+1.1**
	comp=Z,6.0nm,0.9s,baz=189,slow=9.7,SNR=12						
	comp=Z,6.0nm,0.9s						
VNA3	**Neumayer Olymp**	**71.82**	**178**	P	**P**	**14 29 59.3**	**+1.8**
VNA3	**Neumayer Olymp**	**71.82**	**178**	⇑P	**P**	**14 29 59.3**	**+1.8**
	comp=Z,13nm,0.8s						
VNA2	**Neumayer--Watz**	**72.20**	**178**	P	**P**	**14 30 00.7**	**+1.0**
	baz=175,slow=5.4						
VNA2	**Neumayer--Watz**	**72.20**	**178**	⇑P	**P**	**14 30 00.7**	**+1.0**
	comp=Z,12nm,0.6s,baz=175,slow=5.4						
PLCA	**Paso Flores**	**80.58**	**134**	P	**P**	**14 30 49.0**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=237,slow=2.9,SNR=4.0						
	comp=Z,0.8nm,0.5s						
KSRS	**Korea Array**	**87.22**	**323**	P	**P**	**14 31 22.1**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=141,slow=5.7,SNR=7.5						
	comp=Z,1.8nm,0.7s						
PETK	**Petropavlovsk-**	**91.49**	**348**	P	**P**	**14 31 41.2**	**+0.7**
PETK	**Petropavlovsk-**	**91.49**	**348**	P	**P**	**14 31 41.5**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=127,slow=6.3,SNR=5.8						
	comp=Z,1.0nm,0.7s						
GO02	**Mina Guanaco**	**91.58**	**123**	P	**P**	**14 31 44.8**	**+2.5**
GO02				IAmb	IAmb	14 32 28

MSVF Nonsavu 28.56 117 LR LR 15 02 32.1
comp=Z,124nm,19.4s,baz=321,slow=36
DAV Davao City (W) 28.82 295 LR LR 15 02 46.6
comp=Z,122nm,18.4s,baz=322,slow=36
WRKA Warakurna 29.66 227 P **P** **14 51 26.7 0.0**
CAN Canberra 29.81 184 P **P** **14 51 27.9 0.0**
BBOO Buckleboo 30.84 206 P **P** **14 51 35.8 -1.3**
BBOO IAmb IAmb 14 52 36.4
comp=Z,47nm,1.6s
WSI Waingapu 31.32 260 P **P** **14 51 41.7 +0.2**
KAPI Kappang 31.74 269 LR LR 15 07 27.6
comp=Z,53nm,18.4s,baz=102,slow=42
WBSI Waikabubak, Su 32.21 261 P **P** **14 51 49.2 -0.2**
FORT Forrest 33.54 219 P **P** **14 51 59.9 -0.8**
FORT IAmb IAmb 14 52 19.9
comp=Z,26nm,0.8s
JCJ Chichijima 33.63 345 LR LR 15 04 03.1
comp=Z,60nm,21.8s,baz=120,slow=33
PSA00 Pilbara Seismi 34.69 239 P **P** **14 52 09.4 -1.4**
PSA00 IAmb IAmb 14 52 15.6
comp=Z,8.4nm,0.8s
JAGI Jajag, Banyuwa 37.31 263 P **P** **14 52 31.0 -2.4**
JAGI IAmb IAmb 14 52 32.9
comp=Z,20nm,0.7s
JAGI Jajag, Banyuwa 37.31 263 P **P** **14 52 32.6 -0.7**
HIZ Hauiti 39.08 151 P **P** **14 52 48.6 +0.7**
HIZ IAmb IAmb 14 53 15.1
comp=Z,32nm,1.3s
JOW Kunigami 39.27 326 LR LR 15 05 51.9
comp=Z,107nm,19.8s,baz=125,slow=31
URZ Urewera 40.02 148 LR LR 15 07 35.7
comp=Z,179nm,19.1s,baz=44,slow=33
RTZ Ruatahuna 40.22 149 P **P** **14 52 57.5 0.0**
RTZ IAmb IAmb 14 52 59.8
comp=Z,20nm,0.7s
KLBR Kellerberrin 41.00 226 P **P** **14 53 03.3 -0.7**
MORW Morawa 41.02 231 P **P** **14 53 03.6 -0.6**
MORW IAmb IAmb 14 53 59.7
comp=Z,73nm,1.9s
NWAO Narrogin (SRO) 42.09 225 LR LR 15 10 02.8
comp=Z,94nm,18.8s,baz=308,slow=35
MUN Mundaring 42.33 227 P **P** **14 53 16.3 +1.5**
JNU Nakatsue 43.13 334 P **P** **14 53 20.1 -1.2**
JNU Nakatsue 43.13 334 LR LR 15 11 06.3
comp=Z,29nm,19.1s,baz=148,slow=36
MJAR Matsushiro Arr 43.63 344 LR LR 15 10 34.9
comp=Z,52nm,19.6s,baz=165,slow=35
BBJI Bungbulang 43.73 265 P **P** **14 53 25.6 -0.9**
XMIS Christmas Isla 45.77 261 P **P** **14 53 41.6 -1.1**
JTM Tenmabayashi 47.03 349 P **P** **14 53 51.1 -1.0**
QIZ Qiongzhong 47.81 302 P **P** **14 53 57.8 -0.7**
QIZ pP **pP** **14 54 11.3 -1.1**
KSRS Korea Array 48.08 335 P **P** **14 54 01.2 +0.9**
comp=Z,1.9nm,0.9s,baz=130,slow=9.0,SNR=5.4
KSRS LR LR 15 15 27.3
comp=Z,23nm,18.1s,baz=145,slow=38
comp=Z,1.9nm,0.9s
NJ2 Nanjing 48.63 322 *e*P **P** **14 54 06.6 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
RAR Rarotonga 49.59 113 LR LR 15 12 47.3
comp=Z,41nm,19.9s,baz=190,slow=33
XMAS Kiritimati 51.41 83 P **P** **14 54 24.5 -1.6**
XMAS pP **pP** **14 54 38.0 -1.8**
XMAS sP **sP** **14 54 44.3 -1.3**
XMAS PcP **PcP** **14 55 38.0 -2.2**
USA0B Ussuriysk Arra 52.51 342 P **P** **14 54 31.8 -1.8**
USRK Ussuriysk Ar. 52.51 342 P **P** **14 54 32.4 -1.3**
ENH Enshi 53.76 314 P **P** **14 54 43.0 -0.2**
ENH IAmb IAmb 14 54 45.4
comp=Z,16nm,1.1s
ENH Enshi 53.76 314 P **P** **14 54 44.1 +1.0**
HNS HongShan 54.78 324 ⇓P **P** **14 54 52.8 +2.4**
HNS pmax pmax
comp=Z,9.0nm,1.1s
BNX BinXian 55.37 340 ⇑P **P** **14 54 56.3 +1.8**
BNX pmax pmax
comp=Z,6.0nm,0.9s
PHRA Phrae 55.97 297 P **P** **14 54 59.2 -0.1**
XAN Xi'an 56.30 317 ⇑P **P** **14 55 01.6 +0.1**
XAN pP pP 14 55 11.3 -4.3
XAN pmax pmax
comp=Z,8.0nm,0.7s
KMI Kunming 56.40 305 ⇑P **P** **14 55 03.8 +1.3**
KMI pmax pmax
comp=Z,9.0nm,0.7s
CM31 Chiang Mai Arr 57.11 296 P **P** **14 55 07.1 -0.3**
CM31 IAmb IAmb 14 55 09.7
comp=Z,4.9nm,0.7s
CMAR Chiang Mai Arr 57.11 296 P **P** **14 55 07.1 -0.3**
CMAR Chiang Mai Arr 57.11 296 P **P** **14 55 08.6 +1.1**
comp=Z,4.6nm,1.0s,baz=122,slow=5.3,SNR=19
CMAR LR LR 15 18 13.5
comp=Z,20nm,21.9s,baz=110,slow=34
comp=Z,4.6nm,1.0s
KLR Kul'dur 57.16 345 LR LR 15 16 49.6
comp=Z,29nm,21.7s,baz=170,slow=33
CHTO Chiang Mai 57.22 296 P **P** **14 55 07.9 -0.3**
PZH PanZhiHua 57.80 306 P **P** **14 55 16.0 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.5s
CD2 Chengdu 58.29 311 P **P** **14 55 15.9 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
PEA0B Petropavlovsk- 58.58 4 P **P** **14 55 17.4 +0.3**
PETK Petropavlovsk- 58.58 4 P **P** **14 55 16.6 -0.5**
PETK Petropavlovsk- 58.58 4 P **P** **14 55 17.7 +0.6**
comp=Z,1.8nm,0.7s,baz=155,slow=6.4,SNR=7.4
PETK LR LR 15 16 52.8
comp=Z,32nm,19.7s,baz=175,slow=32
comp=Z,1.8nm,0.7s
PPT2 Papeete2 58.65 107 *e*LR LR 15 12 37.6
comp=Z,61nm,21.8s
XLT XiLinHaoTe 58.66 331 *e*P **P** **14 55 18.8 +0.9**
XLT pP pP 14 55 28.8 -3.3
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,78nm,5.6s
HHC Hu-ho-hao-te 58.91 325 *e*P **P** **14 55 22.5 +2.7**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.4s
TBI Tubuai 59.36 114 *e*LR LR 15 12 52.0
comp=Z,504nm,28.5s
LZH Lanzhou 60.90 317 *e*P **P** **14 55 35.0 +1.4**
LZH pP pP 14 55 43.0 -4.8
LZH sP sP 14 55 47.1 -6.5
LZH pmax pmax
comp=Z,18nm,1.2s
SHEM Shemya Is, Ala 61.03 15 LR LR 15 16 23.7
comp=Z,60nm,20.7s,baz=112,slow=30
MA2 Magadan 64.84 360 LR LR 15 19 45.3
comp=Z,18nm,21.9s,baz=163,slow=32
BRDH Bariadhala 64.93 298 LR LR 15 24 37.1
comp=Z,24nm,20.0s,baz=186,slow=36
GTA Gaotai 65.35 318 *e*P **P** **14 56 04.8 +1.7**
GTA sP PcP 14 56 33.3 -1.6
GTA pmax pmax
comp=Z,4.0nm,1.0s
SHL Shillong 65.64 301 P **P** **14 56 04.2 -1.1**
SHL IAmb IAmb 14 56 05.8
comp=Z,12nm,0.9s
ULN Ulaanbaatar 65.95 329 P **P** **14 56 06.3 -0.4**
ULN Ulaanbaatar 65.95 329 P **P** **14 56 08.0 +1.2**
SONM Songino Array 66.27 328 P **P** **14 56 08.5 -0.3**
SONM Songino Array 66.27 328 P **P** **14 56 09.4 +0.6**
comp=Z,2.8nm,0.6s,baz=141,slow=5.4,SNR=17
SONM LR LR 15 23 28.7
comp=Z,38nm,20.7s,baz=124,slow=34
comp=Z,2.8nm,0.6s
LSA Lhasa 67.65 305 P **P** **14 56 16.6 -1.7**
CCD Concordia, Ant 71.46 187 P **P** **14 56 41.5 +0.6**
VNDA Vanda 72.22 178 P **P** **14 56 45.2 +0.3**
VNDA IAmb IAmb 14 57 11.0
comp=Z,48nm,1.9s
VNDA Vanda 72.22 178 P **P** **14 56 45.0 +0.1**
comp=Z,2.1nm,0.5s,baz=6.9,slow=7.5,SNR=6.1
comp=Z,2.1nm,0.5s
BILL Bilibino 74.06 6 P **P** **14 56 57.1 +1.3**
WMQ Urumqi 75.44 318 *e*P **P** **14 57 04.8 +0.3**
WMQ pP PcP 14 57 15.6 -1.8
WMQ pmax pmax
comp=Z,11nm,0.7s
ACHA Angle Creek He 76.32 26 P **P** **14 57 09.5 +0.3**
K15K Wolf Creek Mou 76.43 21 P **P** **14 57 08.9 -0.7**
ILSW Iliamna Southw 78.25 25 P **P** **14 57 19.4 -0.6**
L19K White Mountain 78.81 23 P **P** **14 57 24.0 +1.1**
L19K IAmb IAmb 15 00 20.1
comp=Z,37nm,1.7s
CNPM China Poot 78.82 26 P **P** **14 57 23.0 0.0**
MK31 Makanchi Array 80.06 319 P **P** **14 57 29.8 -0.3**
MKAR Makanchi Array 80.06 319 P **P** **14 57 29.6 -0.5**
MKAR Makanchi Array 80.06 319 P **P** **14 57 29.7 -0.4**
comp=Z,1.7nm,0.5s,baz=97,slow=8.0,SNR=27
MKAR LR LR 15 31 27.7
comp=Z,32nm,21.9s,baz=66,slow=34
comp=Z,1.7nm,0.5s
MAKZ Makanchi 80.27 319 P **P** **14 57 30.4 -0.7**
WUS Wushi 80.50 313 P **P** **14 57 32.4 -0.3**
ZAA0 Zalesovo Array 81.06 327 P **P** **14 57 34.1 -1.1**
ZALV Zalesovo Beam 81.06 327 P **P** **14 57 33.5 -1.7**
ZALV Zalesovo Beam 81.06 327 P **P** **14 57 34.1 -1.1**
comp=Z,2.9nm,0.4s,baz=113,slow=6.4,SNR=20
ZALV LR LR 15 33 10.4
comp=Z,38nm,20.8s,baz=103,slow=35
comp=Z,2.9nm,0.4s
RND Reindeer 81.79 23 P **P** **14 57 37.9 -1.1**
RND IAmb IAmb 14 58 15.9
comp=Z,37nm,1.9s
KDJ Kajisay 82.22 314 P **P** **14 57 41.7 -0.2**
KDJ IAmb IAmb 14 57 43.4
comp=Z,9.5nm,0.9s
KSH Kashi 82.48 311 P **P** **14 57 45.3 +2.1**
KSH pmax pmax
comp=Z,3.0nm,0.8s
IL31 83.21 22 P **P** **14 57 46.2 0.0**
IL31 IAmb IAmb 14 57 53.5
comp=Z,22nm,1.9s
ILAR Eielson Array 83.21 22 P **P** **14 57 45.1 -1.2**
comp=Z,1.2nm,0.6s,baz=259,slow=4.8,SNR=21
ILAR LR LR 15 31 05.3
comp=Z,24nm,22.0s,baz=194,slow=33
comp=Z,1.2nm,0.6s
NIL Nilore 83.39 305 P **P** **14 57 46.8 -1.1**
NIL IAmb IAmb 14 57 49.0
comp=Z,14nm,0.8s
KURK Kurchatov 83.57 322 P **P** **14 57 47.7 -0.7**
KURK IAmb IAmb 14 57 50.0
comp=Z,10.0nm,1.1s
KURBB Kurchatov Arra 83.60 322 P **P** **14 57 47.6 -0.9**
comp=Z,2.6nm,0.8s,baz=112,slow=4.4,SNR=17
KURBB LR LR 15 36 05.4
comp=Z,27nm,19.6s,baz=173,slow=36
comp=Z,2.6nm,0.8s
J25K Salcha River, 83.72 23 P **P** **14 57 47.9 -1.0**
J25K IAmb IAmb 14 58 15.9
comp=Z,19nm,1.7s
D23K Nanushuk River 84.04 18 P **P** **14 57 50.9 +0.5**
D23K IAmb IAmb 14 58 18.3
comp=Z,17nm,1.4s
AAK Ala-Archa 84.27 314 P **P** **14 57 51.9 -0.5**
QSPA South Pole Qui 84.50 180 P **P** **14 57 53.2 +0.2**
QSPA IAmb IAmb 14 57 54.3
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 84.50 180 P **P** **14 57 53.3 +0.2**
comp=Z,7.5nm,0.7s,baz=344,slow=1.4,SNR=46
comp=Z,7.5nm,0.7s
ARSB Arslanbob 85.10 312 P **P** **14 57 55.7 -0.9**
ARSB IAmb IAmb 14 57 58.8
comp=Z,10nm,1.0s
NRIK Noril'sk 86.21 341 P **P** **14 58 01.1 -0.2**
comp=Z,1.1nm,0.4s,baz=104,slow=7.0,SNR=4.0
NRIK LR LR 15 38 15.3
comp=Z,22nm,18.1s,baz=98,slow=37
comp=Z,1.1nm,0.4s
KKAR Karatay Array 87.24 314 P **P** **14 58 05.6 -1.3**
CHGR Chuyangaron 87.52 309 P **P** **14 58 09.2 +0.8**
CHGR IAmb IAmb 14 58 10.8
comp=Z,7.6nm,0.8s
BVAR Borovoye Array 89.07 323 P **P** **14 58 13.8 -1.5**
comp=Z,4.4nm,0.7s,baz=111,slow=5.3,SNR=19
comp=Z,4.4nm,0.7s
BRVK Borovoye 89.14 323 P **P** **14 58 13.8 -1.9**
SYO Syowa Base 92.66 200⇑ *e*P **P** **14 58 30.9 -0.8**
NVAR Mina Array Bea 93.41 52 P **P** **14 58 36.9 +0.7**
comp=Z,2.0nm,0.7s,baz=260,slow=5.6,SNR=8.5
comp=Z,2.0nm,0.7s
MZP Montezuma Peak 94.08 53 P **P** **14 58 38.8 -0.5**
MZP IAmb IAmb 14 58 41.8
comp=Z,2.0nm,0.7s
TPNV Topopah Spring 94.94 53 P **P** **14 58 41.6 -1.5**
TPNV IAmb IAmb 14 58 45.4
comp=Z,6.4nm,1.1s
ARTI Arti 96.31 326 LR LR 15 41 30.5
comp=Z,42nm,21.7s,baz=72,slow=35
YKA Yellowknife Ar 96.55 28 P **P** **14 58 50.6 +0.9**
comp=Z,0.1nm,0.6s,baz=264,slow=5.1,SNR=1.9
comp=Z,0.1nm,0.6s
LPIG La Paz 99.56 67 LR LR 15 42 11.8
comp=Z,23nm,18.1s,baz=232,slow=34
PDAR Pinedale Array 100.16 48 P **Pdif** **14 59 07.0 +0.3**
comp=Z,0.5nm,0.5s,baz=228,slow=2.3,SNR=7.2
GERES GERESS Array B 124.00 328 PKP **PKPdf** **15 04 18.4 -0.3**
comp=Z,1.3nm,0.4s,baz=48,slow=2.0,SNR=7.3
EKA Eskdalemuir Ar 126.32 342 PKP **PKPdf** **15 04 22.6 -0.1**
comp=Z,0.7nm,0.4s,baz=1.6,slow=2.4,SNR=4.5
TORD Torodi Ar. Bea 149.39 287 PKPbc **PKPbc** **15 05 10.1 -0.1**
comp=Z,39nm,0.4s,baz=92,slow=2.7,SNR=2.2
BDFB Brasilia 151.40 137 PKPbc **PKPbc** **15 05 14.6 -0.5**
comp=Z,3.3nm,0.5s,baz=220,slow=7.9,SNR=5.0
DBIC Dimbokro 156.58 274 PKPab **PKPab** **15 05 44.7 -0.7**
comp=Z,6.2nm,0.9s,baz=90,slow=6.1,SNR=5.3

---

*TIR **20** 14:49:07.2, 37.°57N×20.°05E, h1km±1km, Md3.6/5, Ml3.2/5*
*ATH **20** 14:49:08.9, 37.°49N×20.°60E, h15km±1km, ML3.1/14,*
Manual Solution by A.Agalos First location: 2019/02/20 14:50:05, This location: 2019/02/20 15:16:52 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
*THE **20** 14:49:09.0, 37.°49N×20.°62E, h5km, ML3.1/14, Error ellipse: s-maj=0.9km s-min=0.4km az=40.0*
ISC 20 14:49:09.1±1.4, 37.°49N±0.°04×20.°62E±0.°04, h9km±8km, n55, σ0°70/92, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.28**	**39**	P	**Pg**	**14 49 14.9**	**+0.1**
LTHK				S	**Sg**	**14 49 18.8**	**+0.2**
5μm,0.1s							
LTHK	**Lithakia**	**0.28**	**39**	P	**Pg**	**14 49 14.9**	**+0.1**
LTHK				S	**Sg**	**14 49 19.1**	**+0.6**
ORTH	**Orthonies,Zaky**	**0.36**	**10**	P	**Pg**	**14 49 16.8**	**+0.4**
ORTH				S	**Sg**	**14 49 21.1**	**-0.1**
KYPS	**Kipseli, Zakin**	**0.37**	**27**	P	**Pg**	**14 49 16.9**	**+0.5**
KYPS				S	**Sg**	**14 49 22.2**	**+0.9**
CLEM	**Kyllini,Ilia,G**	**0.57**	**46**	P	**Pg**	**14 49 20.4**	**+0.1**
CLEM				S	**Sg**	**14 49 28.1**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.60**	**12**	P	**Pg**	**14 49 20.5**	**-0.2**
RTZL				S	**Sg**	**14 49 28.9**	**+0.3**
2μm,0.1s							
PSDA	**Pessada-Kefalo**	**0.62**	**358**	P	**Pg**	**14 49 21.2**	**0.0**
PSDA				S	**Sg**	**14 49 29.9**	**+0.5**
4μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.62**	**358**	P	**Pg**	**14 49 21.3**	**+0.1**
PSDA				S	**Sg**	**14 49 29.8**	**+0.4**
LCHA	**Lechaina**	**0.68**	**49**	P	**Pg**	**14 49 22.4**	**+0.1**
VLS	**Valsamata**	**0.69**	**358**	P	**Pg**	**14 49 22.1**	**-0.3**
VLS				S	**Sg**	**14 49 31.8**	**+0.4**
3μm,0.2s							
VLS	**Valsamata**	**0.69**	**358**	P	**Pg**	**14 49 22.3**	**-0.1**
VLS				S	**Sg**	**14 49 31.8**	**+0.4**
SMHA	**Samh**	**0.76**	**2**	P	**Pg**	**14 49 23.1**	**-0.7**
SMHA				S	**Sg**	**14 49 34.1**	**+0.4**
DMLN	**Damoulianata-K**	**0.77**	**346**	P	**Pg**	**14 49 23.7**	**-0.3**
DMLN				S	**Sb**	**14 49 34.8**	**-0.5**
5μm,0.6s							
DMLN	**Damoulianata-K**	**0.77**	**346**	P	**Pb**	**14 49 24.2**	**-0.5**
DMLN				S	**Sg**	**14 49 34.2**	**+0.1**
ZARO	**Zacharo**	**0.82**	**90**	P	**Pb**	**14 49 25.4**	**-0.2**
ZARO				S	**Sb**	**14 49 37.0**	**+0.3**
AMT	**Artemida-Makis**	**0.87**	**87**	P	**Pg**	**14 49 25.7**	**-0.2**
AMT				S	**Sb**	**14 49 38.2**	**0.0**
RLS	**Riolos of Patr**	**0.88**	**50**	P	**Pg**	**14 49 25.5**	**-0.6**
RLS				S	**Sb**	**14 49 38.3**	**-0.1**
580nm,0.4s							
RLS	**Riolos of Patr**	**0.88**	**50**	P	**Pg**	**14 49 25.4**	**-0.7**
RLS				S	**Sg**	**14 49 37.8**	**+0.2**
AXS	**Araxos**	**0.93**	**40**	P	**Pg**	**14 49 26.3**	**-0.7**
FSK	**Fiskardo**	**0.97**	**358**	P	**Pg**	**14 49 27.1**	**-0.6**
FSK				S	**Sb**	**14 49 40.9**	**0.0**
2μm,0.2s							
FSK	**Fiskardo**	**0.97**	**358**	P	**Pg**	**14 49 27.1**	**-0.6**
FSK				S	**Sg**	**14 49 40.3**	**-0.1**
DRO	**Drossia**	**0.98**	**62**	P	**Pg**	**14 49 27.5**	**-0.6**
DRO				S	**Sb**	**14 49 41.7**	**+0.3**
1μm,0.6s							
DRO	**Drossia**	**0.98**	**62**	P	**Pg**	**14 49 27.5**	**-0.6**
ITM	**Ithomi**	**1.09**	**106**	P	**Pg**	**14 49 29.2**	**-0.9**
ITM				S	**Sg**	**14 49 44.6**	**+0.3**
408nm,0.3s							
ITM	**Ithomi**	**1.09**	**106**	P	**Pg**	**14 49 29.6**	**-0.5**
ITM				S	**Sg**	**14 49 44.7**	**+0.3**
MTHA	**Methoni**	**1.10**	**127**	P	**Pb**	**14 49 30.4**	**+0.1**
EVGI	**Lefkada island**	**1.13**	**2**	P	**Pg**	**14 49 30.0**	**-0.8**
EVGI				S	**Sb**	**14 49 46.5**	**+0.9**
1μm,0.4s							
EVGI	**Lefkada island**	**1.13**	**2**	P	**Pg**	**14 49 29.9**	**-0.9**
EVGI				S	**Sg**	**14 49 45.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.19**	**358**	P	**Pg**	**14 49 30.8**	**-1.3**
DRAG				S	**Sn**	**14 49 48.7**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.19**	**358**	P	**Pg**	**14 49 30.7**	**-1.3**
DRAG				S	**Sg**	**14 49 46.8**	**-0.8**
UPR	**University Cam**	**1.22**	**49**	P	**Pg**	**14 49 31.7**	**-0.9**
UPR				S	**Sn**	**14 49 50.1**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.22**	**3**	P	**Pg**	**14 49 31.5**	**-1.1**
NYDR				S	**Sn**	**14 49 49.9**	**+0.9**
568nm,0.5s							
LKD2	**Lefkada island**	**1.30**	**1**	Pg	**Pn**	**14 49 33.4**	**0.0**
LKD2				Sg	**Sn**	**14 49 53.1**	**+2.2**
LKD2				AML	AML	14 49 58.9	
3.9nm,0.5s							
LKD2				AMd		14 51 11.4	
LKD2	**Lefkada island**	**1.30**	**1**	P	**Pn**	**14 49 32.8**	**-0.6**
LKD2				S	**Sn**	**14 49 51.8**	**+0.9**
918nm,0.5s							
LKD2	**Lefkada island**	**1.30**	**1**	P	**Pn**	**14 49 32.9**	**-0.6**
TSLK	**Tsoukalades, L**	**1.33**	**1**	P	**Pn**	**14 49 33.7**	**-0.2**
TSLK				S	**Sn**	**14 49 52.5**	**+0.8**
585nm,0.7s							
TSLK	**Tsoukalades, L**	**1.33**	**1**	P	**Pn**	**14 49 33.4**	**-0.5**
PVO	**Paravola**	**1.33**	**32**	P	**Pn**	**14 49 33.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.34**	**65**	P	**Pn**	**14 49 33.6**	**-0.4**
KLV				S	**Sn**	**14 49 52.7**	**+0.8**
KLV	**Kalavryta, Ach**	**1.34**	**65**	P	**Pn**	**14 49 33.2**	**-0.8**
EFP	**Efpalio**	**1.38**	**47**	P	**Pn**	**14 49 33.8**	**-0.8**
ALIK	**Aliki, Aigiali**	**1.41**	**57**	P	**Pn**	**14 49 34.2**	**-0.8**
ALIK				S	**Sb**	**14 49 53.7**	**0.0**
GUR	**Goura**	**1.44**	**72**	P	**Pn**	**14 49 35.2**	**-0.3**
GUR				S	**Sb**	**14 49 54.9**	**+0.3**
495nm,0.4s							
GUR	**Goura**	**1.44**	**72**	P	**Pn**	**14 49 34.9**	**-0.6**
KALE	**Kalithea**	**1.50**	**53**	P	**Pn**	**14 49 35.7**	**-0.6**
ANX	**Ano Chora**	**1.51**	**43**	P	**Pn**	**14 49 36.3**	**-0.1**
ANX	**Ano Chora**	**1.51**	**43**	P	**Pn**	**14 49 36.1**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.92**	**15**	P	**Pn**	**14 49 41.8**	**-0.3**
LTK	**Loutraki**	**1.94**	**73**	P	**Pn**	**14 49 42.2**	**0.0**
IGT	**Igoumenitsa**	**2.05**	**354**	Pg	**Pn**	**14 49 45.3**	**+1.5**
IGT				Sg	**Sg**	**14 50 13.8**	**-1.2**
IGT				AML	AML	14 50 21.4	
0.4nm,0.4s							
IGT				AMd		14 51 20.3	
IGT	**Igoumenitsa**	**2.05**	**354**	P	**Pn**	**14 49 44.5**	**+0.7**
SRN	**Sarande**	**2.43**	**349**	Pn	**Pn**	**14 49 50.7**	**+1.7**
SRN				Sn	**Sb**	**14 50 23.3**	**+0.2**
SRN				AML	AML	14 50 34.7	
0.1nm,0.6s							
SRN				AMd		14 51 31.8	
LSK	**Leskovik**	**2.66**	**360**	Pn	**Pg**	**14 50 00.9**	**+0.8**
LSK				Sn	**Sb**	**14 50 30.3**	**+0.7**
LSK				AML	AML	14 50 54.4	
0.4nm,0.6s							
NEST	**Nestorio**	**2.94**	**6**	Pn	**Pb**	**14 49 59.7**	**-2.0**
NEST				AMd		14 52 00.7	
SCTE	**Santa Cesarea**	**3.08**	**328**	Pn	**Pn**	**14 49 57.4**	**-0.5**
SCTE				AML	AML	14 50 42.9	
0.2nm,0.3s							
SCTE				AMd		14 51 48.8	

---

*IDC **20** 14:57:34.7±4.5, 17.°73S×65.°11E, h0km, mb3.5/6, mbtmp3.5/6, MS3.5/2, Error ellipse: s-maj=131.2km s-min=31.7km az=62.0*
ISC 20 14:57:36.8±4.3, 17.°7S±0.°5×65.°2E±0.°7, h10km, n17, σ0°86/6, mb3.6/6, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**12.23**	**36**	T	T	15 13 21.1	
baz=214,slow=75,SNR=12							
H08S2	**Diego Garcia H**	**12.24**	**36**	T	T	15 13 18.3	
baz=214,slow=75,SNR=14							
H08S3	**Diego Garcia H**	**12.25**	**36**	T	T	15 13 28.7	
baz=214,slow=75,SNR=12							
H04N2	**CROZET ISLANDS**	**30.51**	**198**	T	T	15 35 53.4	
baz=27,slow=75,SNR=55							
H04N1	**CROZET ISLANDS**	**30.51**	**199**	T	T	15 35 52.6	
baz=27,slow=75,SNR=54							
H04N3	**CROZET ISLANDS**	**30.52**	**199**	T	T	15 35 55.7	
baz=27,slow=75,SNR=81							
H01W2	**Cape Leeuwin H**	**46.63**	**122**	T	T	15 55 60.0	
baz=279,slow=75,SNR=10							
H01W3	**Cape Leeuwin H**	**46.63**	**121**	T	T	15 56 00.6	
baz=279,slow=75,SNR=9.1							
H01W1	**Cape Leeuwin H**	**46.65**	**122**	T	T	15 56 00.2	
baz=279,slow=75,SNR=11							
CMAR	**Chiang Mai Arr**	**48.89**	**44**	P	**P**	**15 06 22.9**	**-0.2**
0.2nm,0.4s,baz=231,slow=7.2,SNR=4.5							
0.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**57.28**	**100**	LR	LR	15 30 07.6	
comp=Z,40nm,18.3s,baz=330,slow=34							
ASAR	**Alice Springs**	**64.03**	**108**	P	**P**	**15 08 11.2**	**0.0**
0.5nm,0.6s,baz=264,slow=5.6,SNR=14							
0.5nm,0.6s							
WRA	**Warramunga Arr**	**65.05**	**104**	P	**P**	**15 08 17.8**	**-0.2**
0.7nm,0.8s,baz=263,slow=5.6,SNR=5.5							
0.7nm,0.8s							
MKAR	**Makanchi Array**	**66.00**	**13**	P	**P**	**15 08 22.8**	**-0.6**
0.2nm,0.7s,baz=188,slow=7.3,SNR=2.5							
0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**69.01**	**9**	P	**P**	**15 08 41.7**	**-0.6**
0.1nm,0.4s,baz=205,slow=6.5,SNR=2.3							
0.1nm,0.4s							
BVAR	**Borovoye Array**	**70.55**	**3**	LR	LR	15 36 49.0	
comp=Z,27nm,21.4s,baz=155,slow=33							
SONM	**Songino Array**	**74.91**	**27**	P	**P**	**15 09 19.2**	**+1.2**
0.6nm,0.6s,baz=222,slow=6.0,SNR=5.2							
0.6nm,0.6s							

IDC 20 15:05:08.7±1.4, 1.°54S×120.°32E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=335.4km s-min=24.0km az=58.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**144**	P	P	15 10 13.6	-0.3
0.7nm,0.8s,baz=323,slow=11,SNR=4.6							
0.7nm,0.8s							
ASAR	**Alice Springs**	**25.63**	**150**	P	P	15 10 40.5	+0.2
0.3nm,0.7s,baz=327,slow=7.8,SNR=4.8							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**58.56**	**330**	P	P	15 15 06.0	-1.3
0.2nm,0.6s,baz=134,slow=6.2,SNR=2.9							
0.2nm,0.6s							
BVAR	**Borovoye Array**	**68.44**	**330**	P	P	15 16 13.7	+1.1
0.8nm,0.9s,baz=119,slow=5.1,SNR=2.7							
0.8nm,0.9s							

---

*RSNC **20** 15:42:41.9±0.0, 11.°N±3.°×7.°2W±.°, h30km±6km, M2.7, mb3.8, ML2.5*
*FUNV **20** 15:42:42.8, 11.°12N×72.°28W, h26km, MW3.4*
ISC 20 15:42:39.9±1.6, 11.°28N±0.°07×72.°28W±0.°04, h70km±15km, n19, σ1°27/38, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.51**	**33**	P	**Pn**	**15 42 52.7**	**-0.1**

URIC			S	Sn	15 43 02.6	+0.3
CRJC	**Cerrejon, Guaj**	**0.65 247**	P	Pn	15 42 54.4	+0.1
CRJC			S	Sn	15 43 05.6	+0.6
SMRC	**Santa Marta, M**	**1.91 267**	P	Pn	15 43 10.4	0.0
SMRC			S	Sn	15 43 32.0	-1.6
ARGC	**Ariguani, Magd**	**2.39 234**	P	Pn	15 43 15.8	-1.1
ARGC			S	Sn	15 43 45.4	+0.1
SDV	**Santo Domingo**	**2.88 146**	P	Pn	15 43 24.1	+0.5
SDV			S	Sn	15 43 57.7	+0.5
SJCC	**San Jacinto, C**	**3.17 245**	P	Pn	15 43 28.1	+0.7
SJCC			S	Sn	15 44 04.7	+0.6
OCAC	**Ocana**	**3.19 199**	P	Pn	15 43 27.1	-0.8
OCAC			S	Sn	15 44 04.5	-0.3
SOCV	**Socops**	**3.29 155**	*e*P	Pn	15 43 30.5	+1.4
SOCV			*e*S	Sn	15 44 04.5	-2.6
CAPV	**Capacho**	**3.39 181**	*e*P	Pn	15 43 31.1	+0.4
CAPV			*e*S	Sn	15 44 07.0	-2.9
PAMC	**Pamplona, Colo**	**3.93 186**	P	Pn	15 43 37.8	-0.5
PAMC			S	Sn	15 44 23.1	-0.4
ZARC	**Zaragoza, Cauc**	**4.54 214**	P	Pn	15 43 45.2	-1.0
ZARC			S	Sn	15 44 36.3	-1.4
BARC	**Barichara**	**4.74 191**	P	Pn	15 43 50.0	+0.9
BARC			S	Sn	15 44 45.2	+2.3
UREC	**San Jos de Ur**	**4.75 223**	P	Pn	15 43 48.1	-1.0
UREC			S	Sn	15 44 44.9	+2.0
BAUV	**El Baul**	**4.77 119**	*e*P	Pn	15 43 50.8	+1.5
BAUV			*e*S	Sn	15 44 40.8	-2.6
BENV	**Beln**	**4.78 105**	*e*P	Pn	15 43 51.1	+1.6
BENV			*e*S	Sn	15 44 42.0	-1.7
TAMC	**Tame, Arauca**	**4.83 174**	P	Pn	15 43 49.8	-0.4
TAMC			S	Sn	15 44 44.8	-0.2
PTBC	**PUERTO BERRIO,** 4.7nm,0.4s	**5.18 205**	P	Pn	15 43 55.4	+0.5
PTBC			S	Sn	15 44 54.0	+0.7
RUSC	**La Rusia** 6.2nm,0.5s	**5.41 189**	P	Pn	15 43 58.9	+0.4
RUSC			S	Sn	15 45 00.2	+0.5
NORC	**Norcasia**	**6.23 205**	P	Pn	15 44 09.5	+0.2
NORC			S	Sn	15 45 20.3	+1.1

*IDC **20** 15:50:30.1±1.0, 1˚.22S×120˚.74E, h0km, mb3.8/6, mbtmp3.8/7, ML3.5/1, MS3.0/2, Error ellipse: s-maj=64.5km s-min=17.3km az=63.0*
*DJA **20** 15:50:32.6±0.3, 1˚S±2˚×12˚0E±˚, h10km, M4.3/11, mb4.9/1, MLv4.0/11*
ISC 20 15:50:31.0±0.8,**1˚.50S**±0˚.04×**120˚.12E**±0˚.07,**h10**km,**n19,** σ1º**84**/18,**mb3.9**/6,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.65 334**		P	**Pg**	15 50 43.9	+0.3
TTSI	**Tana Toraja**	**1.57 191**		P	**Pb**	15 50 59.7	-0.4
APSI	**Ampana**	**1.63 69**		P	**Pn**	15 51 00.5	+0.7
MPSI	**Mapaga**	**1.83 353**		P	**Pn**	15 51 02.5	-0.1
SPSI	**Sidrap Palu**	**2.48 188**		P	**Pb**	15 51 14.0	-1.7
MRSI	**Marisa**	**2.67 43**		P	**Pn**	15 51 14.7	+0.5
LUWI	**Luwuk**	**2.69 80**		P	**Pb**	15 51 18.3	-0.9
KDI	**Kendari**	**3.49 134**		P	**Pb**	15 51 27.3	+1.9
KAPI	**Kappang** 3.4nm,0.3s,baz=23,slow=14,SNR=7.0	**3.52 186**		Pn	**Pb**	15 51 30.6	-2.8
KAPI	4.8nm,0.3s,baz=9.8,slow=23,SNR=4.3 10.0nm,0.3s			Sn	**Sb**	15 52 12.3	-3.9
BKSI	**Bulukumba**	**3.80 180**		P	**Pn**	15 51 32.4	+2.7
BSSI	**Bau Bau, Buton**	**4.63 175**		P	**Pn**	15 51 43.9	+2.8
DAV	**Davao City (W)**	**10.10 33**		LR	LR	15 55 54.2	
	comp=Z,70nm,20.9s,baz=344,slow=34						
PSI	**Prapat**	**21.62 281**		LR	LR	16 03 56.7	
	comp=Z,60nm,19.2s,baz=174,slow=36						
WRA	**Warramunga Arr** 3.2nm,0.9s,baz=325,slow=10,SNR=17 3.2nm,0.9s	**23.01 144**		P	**P**	15 55 35.4	-0.9
ASAR	**Alice Springs** 0.5nm,0.7s,baz=331,slow=8.2,SNR=8.8 0.5nm,0.7s	**25.77 150**		P	**P**	15 56 02.4	+0.1
STKA	**Stephens Creek** 2.4nm,0.7s,baz=322,slow=10,SNR=4.7 2.4nm,0.7s	**36.38 148**		P	**P**	15 57 35.6	-0.1
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=137,slow=8.6,SNR=7.4 0.8nm,0.7s	**58.42 330**		P	**P**	16 00 28.2	+1.3
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=144,slow=6.3,SNR=5.2 0.6nm,0.3s	**62.85 332**		P	**P**	16 00 58.4	+1.3
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=140,slow=7.0,SNR=2.6 0.2nm,0.3s	**68.31 330**		P	**P**	16 01 33.2	+0.9

*IDC **20** 15:53:20.4±18.0, 36˚.11N×72˚.58E, h214km±109km, mb3.3/3, mbtmp3.7/6, MS3.7/1, Error ellipse: s-maj=275.8km s-min=57.8km az=157.0*
*NNC **20** 15:53:28.5±5.1, 37˚.47N×71˚.62E, h249km±63km, mb2.6, mpv3.9, Error ellipse: s-maj=52.0km s-min=33.8km az=22.0*
ISC 20 15:53:30.4±1.8,**37˚.5N**±0˚.1×**71˚.6E**±0˚.1,**h200**km,**n19,** σ1º**39**/21,**mb3.8**/3,**5C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=44	**4.91**	**18**	P	**Pn**	**15 54 43.5**	**-0.4**
UCH	**Uchtor** SNR=5.1	**5.23**	**24**	P	**Pn**	**15 54 47.5**	**-0.6**
EKS2	**Erkin-Say** SNR=36	**5.43**	**17**	P	**Pn**	**15 54 51.1**	**+0.8**
AAK	**Ala-Archa** SNR=29	**5.60**	**22**	P	**Pn**	**15 54 52.4**	**-0.1**
AAK	**Ala-Archa** 16nm,0.7s	**5.60**	**22**	⇓P	**Pn**	**15 54 51.9**	**-0.6**
AAK	6.7nm,0.6s			S	**Sn**	**15 55 58.2**	**+0.8**
KK31	**Karatay Array** 1.8nm,0.3s,baz=160,slow=11,SNR=31	**5.68**	**352**	⇑P	**Pn**	**15 54 54.2**	**+0.8**
KK31	4.0nm,0.3s,baz=165,slow=14,SNR=13			⇓S	**Sn**	**15 55 59.7**	**+0.5**
KBK	**Karagaybulak** SNR=6.1	**5.76**	**25**	P	**Pn**	**15 54 55.4**	**+0.8**
ULHL	**Ulahol** SNR=9.9	**5.93**	**35**	P	**Pn**	**15 54 54.9**	**-2.0**
TKM2	**Tokmak 2** SNR=9.9	**6.22**	**28**	P	**Pn**	**15 55 00.0**	**-0.6**
TKM2	**Tokmak 2** 7.9nm,0.6s	**6.22**	**28**	⇑P	**Pn**	**15 54 58.7**	**-1.9**
TKM2	4.6nm,1.2s			⇓S	**Sn**	**15 56 14.8**	**+2.7**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=206,slow=12,SNR=6.0	**12.20**	**37**	P	**Pn**	**15 56 15.8**	**-1.9**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=203,slow=10,SNR=4.3	**14.03**	**18**	P	**P**	**15 56 42.6**	**+0.3**
AB31	**Akbulak array** 0.6nm,0.7s,baz=132,slow=12,SNR=9.1	**14.50**	**328**	⇑P	**Pn**	**15 56 44.0**	**-2.2**
AB31	1.3nm,0.9s,baz=264,slow=8.4,SNR=3.6			⇑S	**S**	**15 59 25.3**	**-2.0**
AKTO	**Aktyubinsk** 0.9nm,0.6s	**16.21**	**327**	⇑P	P	15 56 57.8	-8.6
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=209,slow=10,SNR=6.0	**18.81**	**25**	P	**P**	**15 57 34.4**	**-0.3**
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=107,slow=9.0,SNR=1.8 0.1nm,0.3s	**28.74**	**308**	P	**P**	**15 59 45.4**	**+1.3**
ARCES	**ARCESS Array B** 3.1nm,0.9s,baz=119,slow=8.4,SNR=4.4 3.1nm,0.9s	**40.44**	**337**	P	**P**	**16 00 49.7**	**+0.9**
HFS	**Hagfors** 1.4nm,0.4s,baz=105,slow=9.1,SNR=11 1.4nm,0.4s	**42.62**	**321**	P	**P**	**16 01 07.3**	**+0.7**
JMIC	**Jan Mayen** comp=Z,68nm,18.1s,baz=297,slow=34	**51.90**	**336**	LR	LR	16 23 51.0	

*IDC **20** 15:55:31.7±1.2, 1˚.28S×120˚.69E, h0km, mb3.7/5, mbtmp3.7/6, ML3.6/1, MS2.9/3, Error ellipse: s-maj=65.8km s-min=20.1km az=64.0*
*DJA **20** 15:55:34.6±0.3, 1˚S±2˚×12˚0E±˚, h10km, M4.1/13, mB4.9/1, mb4.5/2, MLv4.0/13, Mw(mB)4.2/1*
ISC 20 15:55:32.5±0.8,**1˚.46S**±0˚.04×**120˚.13E**±0˚.05,**h10**km,**n20,** σ2º**03**/21,**mb3.6**/5,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.63 332**		P	**Pb**	**15 55 44.8**	**-0.8**
TTSI	**Tana Toraja**	**1.60 191**		P	**Pn**	**15 56 01.0**	**+0.1**
APSI	**Ampana**	**1.61 70**		P	**Pb**	**15 56 01.9**	**-0.4**
MPSI	**Mapaga**	**1.80 353**		P	**Pn**	**15 56 03.6**	**0.0**
SPSI	**Sidrap Palu**	**2.51 188**		P	**Pb**	**15 56 16.0**	**-1.7**
MRSI	**Marisa**	**2.64 43**		P	**Pn**	**15 56 16.7**	**+1.5**
MRSI				S	**Sb**	**15 56 50.7**	**-1.8**
LUWI	**Luwuk**	**2.67 81**		P	**Pb**	**15 56 20.0**	**-0.4**
LUWI				S	**Sb**	**15 56 53.6**	**+0.3**
KDI	**Kendari**	**3.51 135**		P	**Pn**	**15 56 26.5**	**-0.6**
KAPI	**Kappang** 4.8nm,0.3s,baz=355,slow=14,SNR=5.4	**3.55 186**		Pn	**Pn**	**15 56 30.9**	**+3.3**
KAPI	3.5nm,0.3s,baz=349,slow=23,SNR=1.9			Sn	**Sn**	**15 57 10.1**	**+0.5**
KAPI	comp=Z,41nm,19.6s,baz=334,slow=45 11nm,0.3s			LR	LR	15 58 24.9	
BKSI	**Bulukumba**	**3.83 180**		P	**Pn**	**15 56 34.5**	**+2.9**
KMSI	**Cibinong**	**4.35 62**		P	**Pn**	**15 56 41.6**	**+3.0**
BSSI	**Bau Bau, Buton**	**4.66 176**		P	**Pn**	**15 56 46.7**	**+3.7**
FITZ	**Fitzroy Crossi** 1.2nm,0.5s,baz=357,slow=18,SNR=7.5	**17.39 162**		P	**Pn**	**15 59 31.6**	**-3.8**
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=325,slow=10,SNR=11 1.8nm,0.8s	**23.03 144**		P	**P**	**16 00 36.9**	**-1.1**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=325,slow=8.5,SNR=8.1 0.6nm,0.7s	**25.79 150**		P	**P**	**16 01 03.8**	**-0.1**
GUMO	**Guam** comp=Z,21nm,18.1s,baz=73,slow=37	**28.72 58**		LR	LR	16 12 44.9	
STKA	**Stephens Creek** 1.4nm,0.7s,baz=333,slow=6.8,SNR=3.1 1.4nm,0.7s	**36.40 148**		P	**P**	**16 02 36.9**	**-0.4**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=127,slow=6.8,SNR=4.7 0.4nm,0.7s	**58.40 330**		P	**P**	**16 05 29.7**	**+1.4**
ZALV	**Zalesovo Beam** comp=Z,38nm,18.8s,baz=9.5,slow=37	**62.50 337**		LR	LR	16 33 49.2	
KURBB	**Kurchatov Arra** 0.5nm,0.3s,baz=123,slow=6.5,SNR=1.9 0.5nm,0.3s	**62.83 332**		P	**P**	**16 06 00.5**	**+2.1**

*IDC **20** 15:59:56.6±1.4, 34˚.71N×138˚.57E, h0km, mb3.4/2, mbtmp3.4/2, MS3.0/1, Error ellipse: s-maj=61.8km s-min=18.1km az=75.0*
*JMA **20** 15:59:58.3±0.2, 35˚.2N±0˚.5×139˚.9E±0˚.5, h33km±1km, MV2.8/39, SOUTHERN BOSO PENINSULA*
JMA Felt I J1 at SOUTHERN BOSO PENINSULA .
ISC 20 15:59:58.2±1.0,**35˚.14N**±0˚.05×**139˚.93E**±0˚.03,**h33**km±3km, **n23,** σ0º**67**/25,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.11 196**		P	**Pb**	**16 00 04.5**	**+0.4**
JKUC	**kamogawauchiur**	**0.22 84**		*i* P	**Pb**	**16 00 04.7**	**-0.4**
JKUC				*e*S	**Sb**	**16 00 09.9**	**+0.2**
JYO	**Yokosk**	**0.23 292**		*i* P	**Pn**	**16 00 05.4**	**+0.3**
JYO				S	**Sb**	**16 00 11.0**	**+1.2**
KTR	**Katsuura**	**0.32 88**		*i* P	**Pb**	**16 00 05.9**	**-0.3**
KTR				*e*S	**Sn**	**16 00 11.9**	**+0.1**
BSO4	**Boso 4**	**0.37 114**		*i* P	**Pn**	**16 00 07.3**	**+0.1**
BSO3	**Boso 3**	**0.58 125**		P	**Pb**	**16 00 10.3**	**+0.3**
JIM2	**Oshima 3**	**0.58 224**		P	**Pn**	**16 00 09.7**	**-0.5**
JIM2				S	**Sb**	**16 00 18.0**	**-0.4**
JOD2	**Odawara 2**	**0.70 281**		*i* P	**Pn**	**16 00 11.1**	**-0.7**
JOD2				S	**Sb**	**16 00 20.9**	**-0.6**
JIZS	**Izushimoda**	**0.96 244**		P	**Pn**	**16 00 15.2**	**-0.2**
JIZS				S	**Sn**	**16 00 27.7**	**-0.2**
BSO1	**Boso 1**	**0.99 119**		P	**Pn**	**16 00 14.9**	**-0.4**
JYN	**Shimob**	**1.19 288**		*i* P	**Pn**	**16 00 18.4**	**-0.2**
JYN				S	**Sn**	**16 00 33.9**	**+0.3**
JRY	**Ryogami san**	**1.21 317**		P	**Pn**	**16 00 18.7**	**-0.2**
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=151,slow=12,SNR=88	**1.98 316**		Pn	**Pn**	**16 00 29.2**	**-0.2**
MJAR	1.4nm,0.3s,baz=146,slow=14,SNR=5.3			Sn	**Sn**	**16 00 54.9**	**+1.8**
JHJ	**Hachijo jima 2** 31nm,0.3s,baz=104,slow=22,SNR=6.1	**2.02 183**		Pn	**Pn**	**16 00 30.3**	**+0.3**
JHJ	41nm,0.3s,baz=228,slow=23,SNR=15			Sn	**Sn**	**16 00 55.4**	**+1.3**
JOW	**Kunigami** comp=Z,68nm,20.4s,baz=135,slow=36	**12.97 234**		LR	LR	16 07 03.7	
H11N2	**WAKE ISLAND Hy 28.31 116** baz=309,slow=75,SNR=20			T	T	16 35 18.0	
H11N1	**WAKE ISLAND Hy 28.32 116** baz=309,slow=75,SNR=18			T	T	16 35 18.6	
H11N3	**WAKE ISLAND Hy 28.33 116** baz=309,slow=75,SNR=21			T	T	16 35 19.4	
H11S3	**WAKE ISLAND Hy 28.94 118** baz=310			T	T	16 36 05.3	
H11S1	**WAKE ISLAND Hy 28.94 118** baz=310			T	T	16 36 08.1	
H11S2	**WAKE ISLAND Hy 28.95 118** baz=310			T	T	16 36 10.1	
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=3.4,slow=7.7,SNR=5.1 0.2nm,0.4s	**55.03 186**		P	**P**	**16 09 26.1**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=352,slow=5.5,SNR=5.2 0.3nm,0.8s	**58.76 186**		P	**P**	**16 09 52.8**	**-0.3**

*IDC **20** 16:02:40.8±0.6, 67˚.64N×18˚.59W, h0km, mb3.6/14, mbtmp3.7/20, ML3.3/6, MS3.6/41, Error ellipse: s-maj=18.2km s-min=13.4km az=14.0*
*NAO **20** 16:02:41.2, 67˚.64N×18˚.59W, h0km, mb3.5*
ISC 20 16:02:42.0±0.5,**67˚.69N**±0˚.07×**18˚.65W**±0˚.07,**h10**km,**n58,** σ1º**10**/32,**mb3.6**/14,**MS3.6**/35,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**3.05 339**		*i* P	Pn	16 03 25.0	-5.2
SCO				*i* S	**Pn**	**16 03 28.2**	**-2.0**
SCO	comp=Z,4.9nm,0.4s			IAML		16 03 35.1	
BORG	**Borgarnes** comp=Z,4.9nm,0.3s,baz=353,slow=6.3,SNR=21	**3.15 201**		Pn	**Pn**	**16 03 31.3**	**-0.2**
BORG	comp=Z,6.2nm,0.3s,baz=60,slow=20,SNR=7.4 comp=Z,53nm,0.8s			Sn	**Sn**	**16 04 08.0**	**-1.1**
JMIC	**Jan Mayen** comp=Z,113nm,20.1s,baz=204,slow=30	**4.88 43**		LR	LR	16 05 05.4	
DBG	**Daneborg**	**6.67 356**		*i* P	**Pn**	**16 04 17.1**	**-2.8**
SUMG	**Summit**	**8.30 315**		*i* P	**Pn**	**16 04 40.5**	**-2.1**
SFJD	**Kangerlussuaq** comp=Z,406nm,20.9s,baz=66,slow=35	**12.27 282**		LR	LR	16 09 47.1	
SPITS	**Spitsbergen Ar** baz=225,slow=13 comp=Z,14nm,1.0s	**14.34 29**		Pn	**Pn**	**16 06 05.9**	**+1.1**
EKA	**Eskdalemuir Ar** baz=337,slow=11 comp=Z,2.0nm,0.9s	**14.36 142**		Pn	**Pn**	**16 06 04.8**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,2.3nm,0.9s,baz=310,slow=11	**14.41 103**		P	**P**	**16 06 14.0**	**+1.2**
NOA	**NORSAR Array B** baz=295,slow=9.8,SNR=3.7	**14.41 103**		Pn	**Pn**	**16 06 04.8**	**-1.0**
NOA	comp=Z,84nm,18.8s,baz=315,slow=35 comp=Z,0.5nm,0.8s			LR	LR	16 11 09.9	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=311,slow=9.3,SNR=10	**15.93 103**		Pn	**P**	**16 06 30.1**	**+0.6**
HFS	comp=Z,83nm,21.8s,baz=286,slow=34			LR	LR	16 11 47.9	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=307,slow=11,SNR=5.9	**15.95 63**		Pn	**Pn**	**16 06 26.7**	**+0.6**
ARCES	comp=Z,143nm,20.2s,baz=280,slow=32 comp=Z,2.3nm,0.7s			LR	LR	16 11 10.3	
FINES	**FINESS Array B** comp=Z,0.3nm,0.3s,baz=303,slow=10,SNR=9.3	**19.80 87**		P	**Pn**	**16 07 13.0**	**-0.7**
FINES	comp=Z,286nm,18.8s,baz=266,slow=35 comp=Z,2.8nm,0.6s			LR	LR	16 14 16.1	
FRB	**Frobisher Bay** comp=Z,4.7nm,0.7s,baz=39,slow=12,SNR=5.9	**20.41 283**		P	**P**	**16 07 20.0**	**+1.2**
FRB	comp=Z,135nm,18.2s,baz=60,slow=35 comp=Z,4.7nm,0.7s			LR	LR	16 14 43.0	
RES	**Resolute Bay** comp=Z,105nm,20.5s,baz=28,slow=35	**23.78 320**		LR	LR	16 16 35.9	
GERES	**GERESS Array B** comp=Z,3.2nm,0.8s,baz=318,slow=7.7,SNR=12	**24.91 123**		P	**P**	**16 08 06.2**	**+1.3**
GERES				LR	LR	16 18 14.5	
	comp=Z,75nm,18.9s,baz=318,slow=38 comp=Z,3.2nm,0.8s						
VRAC	**Vranov** comp=Z,81nm,19.6s,baz=324,slow=35	**25.46 119**		LR	LR	16 17 40.2	
DAVOX	**Davos/Dischmat** comp=Z,206nm,18.2s,baz=268,slow=41	**25.59 131**		LR	LR	16 19 57.4	
SCHQ	**Schefferville** comp=Z,163nm,20.8s,baz=78,slow=35	**25.69 264**		LR	LR	16 17 38.6	
OBN	**Obninsk** comp=Z,250nm,18.3s,baz=314,slow=36	**28.16 89**		LR	LR	16 19 27.1	
AKASG	**Malin Array Be** comp=Z,1.0nm,0.6s,baz=330,slow=9.3,SNR=7.8	**28.82 102**		P	**P**	**16 08 39.2**	**-0.7**
AKASG	comp=Z,134nm,21.3s,baz=302,slow=35 comp=Z,1.0nm,0.6s			LR	LR	16 19 30.2	
ESDC	**Sonseca Array** comp=Z,75nm,18.1s,baz=323,slow=36	**29.22 156**		LR	LR	16 20 14.0	
KIRV	**Kirov** comp=Z,91nm,19.3s,baz=316,slow=34	**30.46 73**		LR	LR	16 19 50.9	
MLR	**Muntele Rosu** comp=Z,92nm,18.4s,baz=353,slow=39	**31.98 111**		LR	LR	16 23 13.6	
NRIK	**Noril'sk** comp=Z,57nm,18.3s,baz=344,slow=39	**34.29 37**		LR	LR	16 25 01.6	
ARTI	**Arti** comp=Z,151nm,19.4s,baz=322,slow=34	**35.34 70**		LR	LR	16 22 54.7	
VAE	**Valguarnera** comp=Z,42nm,20.7s,baz=315,slow=33	**35.45 132**		LR	LR	16 22 14.9	
MDT	**Midelt** comp=Z,54nm,21.7s,baz=346,slow=34	**35.86 160**		LR	LR	16 23 14.0	
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.4s,baz=44,slow=7.9,SNR=7.5	**36.85 310**		P	**P**	**16 09 50.1**	**+0.3**
YKA	comp=Z,0.5nm,0.9s,baz=39,slow=2.8,SNR=3.6			PcP	**PcP**	**16 12 12.3**	**+1.1**
YKA	comp=Z,78nm,20.7s,baz=292,slow=35 comp=Z,0.2nm,0.4s			LR	LR	16 24 08.9	
SADO	**Sadowa** comp=Z,136nm,18.1s,baz=48,slow=35	**38.49 265**		LR	LR	16 25 16.7	
KBZ	**Khabaz** comp=Z,71nm,19.5s,baz=328,slow=36	**39.78 95**		LR	LR	16 26 26.5	
BRTR	**Keskin Array B** comp=Z,0.4nm,0.7s,baz=307,slow=9.2,SNR=3.6 comp=Z,0.4nm,0.7s	**39.78 108**		P	**P**	**16 10 15.2**	**+0.2**
AKTO	**Aktyubinsk** comp=Z,112nm,18.2s,baz=300,slow=35	**39.93 76**		LR	LR	16 25 53.4	
ULM	**Lac du Bonnet** comp=Z,124nm,18.6s,baz=26,slow=36	**40.28 284**		LR	LR	16 26 43.4	
BVAR	**Borovoye Array** comp=Z,0.6nm,0.7s,baz=328,slow=7.1,SNR=2.8 comp=Z,0.6nm,0.7s	**42.23 64**		P	**P**	**16 10 34.7**	**-0.1**
ILAR	**Eielson Array** comp=Z,0.9nm,1.0s,baz=12,slow=5.9,SNR=6.5	**42.80 330**		P	**P**	**16 10 40.2**	**+1.0**
ILAR	comp=Z,74nm,18.5s,baz=22,slow=40 comp=Z,0.9nm,1.0s			LR	LR	16 31 10.9	
ZALV	**Zalesovo Beam** comp=Z,0.2nm,0.3s,baz=336,slow=6.3,SNR=1.7	**46.14 53**		P	**P**	**16 11 06.4**	**+0.4**
ZALV	comp=Z,1.1nm,0.6s,baz=352,slow=5.1,SNR=5.4 comp=Z,0.2nm,0.3s			PcP	**PcP**	**16 12 40.5**	**-1.3**
MMAI	**Mount Meron Ar** comp=Z,35nm,19.4s,baz=5.5,slow=39	**46.41 110**		LR	LR	16 32 37.8	
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.4s,baz=326,slow=7.2,SNR=1.9 comp=Z,0.4nm,0.4s	**46.99 60**		P	**P**	**16 11 12.9**	**+0.1**
TKL	**Tuckaleechee C** comp=Z,190nm,18.2s,baz=21,slow=36	**48.15 263**		LR	LR	16 31 08.4	
NEW	**Newport** comp=Z,106nm,21.5s,baz=28,slow=36	**49.46 300**		LR	LR	16 32 32.3	
BBB	**Bella Bella** comp=Z,82nm,18.6s,baz=2.0,slow=39	**49.46 310**		LR	LR	16 35 02.0	
KDAK	**Kodiak Island** comp=Z,54nm,18.0s,baz=254,slow=41	**50.32 330**		LR	LR	16 37 00.8	
MKAR	**Makanchi Array** comp=Z,0.6nm,0.9s,baz=325,slow=6.2,SNR=5.3	**51.56 59**		P	**P**	**16 11 47.5**	**-0.2**
MKAR	comp=Z,0.3nm,0.7s,baz=357,slow=5.8,SNR=2.2 comp=Z,0.6nm,0.9s			PcP	**PcP**	**16 13 01.9**	**+0.3**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,baz=32,slow=5.8,SNR=4.5	**51.62 290**		P	**P**	**16 11 48.5**	**0.0**
PDAR	comp=Z,59nm,19.0s,baz=90,slow=36 comp=Z,0.6nm,0.8s			LR	LR	16 33 49.0	
TORD	**Torodi Ar. Bea** comp=Z,34nm,0.5s,baz=344,slow=9.6,SNR=1.8	**56.11 156**		P	**P**	**16 12 20.3**	**-0.9**
YBH	**Yreka Blue Hor** comp=Z,86nm,21.3s,baz=116,slow=36	**57.08 300**		LR	LR	16 37 31.2	
ANMO	**Albuquerque** comp=Z,89nm,19.5s,baz=209,slow=36	**57.38 283**		LR	LR	16 37 04.6	
SONM	**Songino Array** comp=Z,0.7nm,1.0s,baz=332,slow=5.0,SNR=4.9 comp=Z,0.7nm,1.0s	**57.64 41**		P	**P**	**16 12 32.3**	**+0.4**
SJG	**San Juan** comp=Z,27nm,21.8s,baz=136,slow=31	**57.93 236**		LR	LR	16 32 44.5	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.3s,baz=355,slow=7.2,SNR=1.8	**58.55 295**		P	**P**	**16 12 40.3**	**+1.8**
NVAR	comp=Z,130nm,18.2s,baz=349,slow=37 comp=Z,0.2nm,0.3s			LR	LR	16 38 25.2	
TXAR	**Lajitas Array** comp=Z,54nm,21.0s,baz=16,slow=36	**61.35 278**		LR	LR	16 39 28.0	
PFO	**Pinyon Flats O** comp=Z,86nm,21.3s,baz=116,slow=36	**62.23 291**		LR	LR	16 39 52.7	
CMIG	**Matias Romero** comp=Z,48nm,18.2s,baz=358,slow=37	**69.09 264**		LR	LR	16 45 15.2	
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.4s,baz=318,slow=5.7,SNR=6.9 comp=Z,0.4nm,0.4s	**82.94 58**		P	**P**	**16 15 06.0**	**-0.9**
PSI	**Prapat** comp=Z,35nm,18.2s,baz=192,slow=40	**97.57 63**		LR	LR	17 07 11.1	
WRA	**Warramunga Arr** comp=Z,0.5nm,1.0s,baz=14,slow=1.0,SNR=1.8	**129.30 34**		PKP	**PKPdf**	**16 21 50.4**	**+0.2**
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,baz=354,slow=2.2,SNR=6.0	**132.81 35**		PKP	**PKPdf**	**16 21 56.6**	**-0.1**

*IDC **20** 16:05:59.0±1.0, 54˚.96S×31˚.94W, h0km, mb3.9/4, mbtmp4.0/4, MS3.8/4, Error ellipse: s-maj=47.4km s-min=23.7km az=65.0*
ISC 20 16:06:00.6±1.1,**55˚.0S**±0˚.2×**31˚.9W**±0˚.3,**h10**km,**n11,** σ0º**94**/6,**mb4.1**/4,**MS3.9**/4,**South Georgia Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae** 3.1nm,0.9s,baz=316,slow=16,SNR=2.8 3.1nm,0.9s	**20.82 154**		P	Pn	16 10 43.2	-1.1
CPUP	**Villa Florida** 0.6nm,0.3s,baz=131,slow=9.3,SNR=3.2 0.6nm,0.3s	**34.16 317**		P	**P**	**16 12 45.5**	**-0.3**
QSPA	**South Pole Qui** 2.5nm,1.0s,baz=196,slow=2.1,SNR=5.8 2.5nm,1.0s	**35.26 180**		P	**P**	**16 12 54.7**	**-0.4**
VNDA	**Vanda** comp=Z,85nm,18.4s,baz=252,slow=34	**47.47 184**		LR	LR	16 32 43.6	
LPAZ	**La Paz** 1.5nm,0.7s,baz=168,slow=9.3,SNR=5.5 1.5nm,0.7s	**47.62 310**		P	**P**	**16 14 37.5**	**+0.1**
TORD	**Torodi Ar. Bea** 56nm,0.4s,baz=212,slow=7.0,SNR=2.0	**73.56 34**		P	**P**	**16 17 33.0**	**-0.6**
KMBO	**Kilima Mbogo**

21nm,1.1s
HFS Hagfors 15.81 103 Pn **P 16 09 59.7 +1.4**
baz=308,slow=16
FINES FINESS Array B 19.70 87 P **Pn 16 10 42.3 -0.2**
0.1nm,0.3s,baz=322,slow=10,SNR=2.7
6.0nm,1.0s
GERES GERESS Array B 24.78 123 P **P 16 11 36.0 +2.3**
1.2nm,0.8s,baz=342,slow=8.4,SNR=5.4
1.2nm,0.8s
YKA Yellowknife Ar 36.99 310 P **P 16 13 19.8 -1.2**
0.2nm,0.6s,baz=38,slow=7.5,SNR=2.3
0.2nm,0.6s
KURBB Kurchatov Arra 46.96 60 P **P 16 14 41.9 -0.5**
0.2nm,0.3s,baz=309,slow=5.9,SNR=1.8
0.2nm,0.3s
PETK Petropavlovsk- 59.59 3 LR LR 16 42 23.5
comp=Z,18nm,18.5s,baz=53,slow=36
CMAR Chiang Mai Arr 82.90 58 P **P 16 18 35.0 -1.7**
0.3nm,0.4s,baz=313,slow=7.5,SNR=5.4
0.3nm,0.4s

---

*IDC **20** 16:07:10.7±1.1, 67.73N×18.57W, h0km, mb3.5/7, mbtmp3.6/11, ML3.3/4, Error ellipse: s-maj=27.4km s-min=20.3km az=25.0*
ISC 20 16:07:11.3±0.7, 67.71N±0.08×18.73W±0.10, h10km, n14, σ1§32/15, mb3.5/9, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.16**	**201**	Pn	**Pn**	**16 08 01.8**	**+0.9**
	6.9nm,0.3s,baz=356,slow=7.0,SNR=5.1						
BORG				Sn	**Sn**	**16 08 38.4**	**-0.3**
	2.7nm,0.3s,baz=49,slow=19,SNR=6.5						
	24nm,0.5s						
SPITS	**Spitsbergen Ar**	**14.33**	**29**	Pn	**Pn**	**16 10 35.4**	**+1.5**
	baz=230,slow=13						
	8.2nm,0.9s						
ARCES	**ARCESS Array B**	**15.96**	**63**	Pn	**Pn**	**16 10 55.4**	**-0.2**
	0.1nm,0.3s,baz=268,slow=13,SNR=3.2						
	3.6nm,0.9s						
HFS	**Hagfors**	**15.96**	**103**	Pn	**P**	**16 10 58.9**	**-0.4**
	0.2nm,0.3s,baz=311,slow=14,SNR=5.3						
FINES	**FINESS Array B**	**19.83**	**87**	P	**Pn**	**16 11 43.1**	**-0.1**
	0.2nm,0.3s,baz=311,slow=12,SNR=5.0						
	2.1nm,0.6s						
GERES	**GERESS Array B**	**24.95**	**123**	P	**P**	**16 12 35.9**	**+1.3**
	1.5nm,0.6s,baz=335,slow=9.0,SNR=6.4						
	1.5nm,0.6s						
AKASG	**Malin Array Be**	**28.85**	**102**	P	**P**	**16 13 09.6**	**+0.1**
	0.1nm,0.2s,baz=331,slow=9.5,SNR=1.7						
	0.1nm,0.2s						
YKA	**Yellowknife Ar**	**36.81**	**310**	P	**P**	**16 14 20.5**	**+1.7**
	0.2nm,0.3s,baz=43,slow=7.9,SNR=7.5						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**42.76**	**330**	P	**P**	**16 15 09.2**	**+1.0**
	0.7nm,1.1s,baz=13,slow=6.3,SNR=4.9						
	0.7nm,1.1s						
KURBB	**Kurchatov Arra**	**47.01**	**60**	P	**P**	**16 15 42.7**	**+0.6**
	0.5nm,0.8s,baz=320,slow=7.1,SNR=1.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**51.57**	**59**	P	**P**	**16 16 16.6**	**-0.5**
	0.2nm,0.7s,baz=357,slow=5.9,SNR=2.3						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**51.59**	**290**	P	**P**	**16 16 15.5**	**-2.0**
	0.5nm,0.7s,baz=46,slow=6.4,SNR=4.3						
MJAR	**Matsushiro Arr**	**74.61**	**19**	P	**P**	**16 18 47.8**	**-2.4**
	0.8nm,0.6s,baz=358,slow=7.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**82.95**	**58**	P	**P**	**16 19 35.0**	**-1.2**
	0.4nm,0.5s,baz=347,slow=5.2,SNR=4.9						
	0.4nm,0.5s						

IDC 20 16:15:51.3±21.0, 21.06N×145.49E, h0km, mb3.6/3, mbtmp3.6/3, MS2.9/1, Error ellipse: s-maj=501.0km s-min=343.0km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.20**	**320**	P	P	16 23 37.9	-0.1
	0.8nm,0.8s,baz=135,slow=9.1,SNR=5.3						
	0.8nm,0.8s						
TIXI	**Tiksi**	**51.52**	**353**	LR	LR	16 45 59.7	
	comp=Z,12nm,20.9s,baz=9.0,slow=35						
ZALV	**Zalesovo Beam**	**56.05**	**322**	P	P	16 25 31.6	-0.3
	1.2nm,0.8s,baz=110,slow=7.7,SNR=6.5						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**56.71**	**313**	P	P	16 25 36.9	+0.1
	0.2nm,0.4s,baz=98,slow=8.9,SNR=4.7						
	0.2nm,0.4s						

---

*SJA **20** 16:16:29.8±0.6, 35.34S×70.44W, h10km, ML2.5, MW2.5*
ISC 20 16:16:30.1±1.2, 35.34S±0.03×70.45W±0.04, h10km±10km, n20, σ0§53/36, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.61**	**333**	*eP*	**Pg**	**16 16 42.0**	**0.0**
BO02				*eS*	**Sb**	**16 16 51.8**	**+0.3**
BO02				IAML		16 16 52.3	
	comp=Z,304nm,0.1s						
BO02	**Sierra Bellavi**	**0.61**	**333**	⇑*iP*	**Pg**	**16 16 42.1**	**+0.2**
BO02				*eS*	**Sg**	**16 16 50.3**	**+0.4**
BO02				IAML		16 16 50.7	
	comp=N,564nm,0.1s						
ML02	**Panimavida**	**0.90**	**241**	*eP*	**Pn**	**16 16 48.8**	**0.0**
ML02				*eS*	**Sn**	**16 17 01.6**	**-0.3**
ML02				IAML		16 17 04.8	
	comp=E,56nm,0.2s						
EDS3	**Malargue**	**0.96**	**117**	*eP*	**Pb**	**16 16 48.4**	**-0.6**
BO01	**Tunca**	**1.08**	**331**	*eP*	**Pg**	**16 16 50.4**	**-0.5**
BO01				*eS*	**Sb**	**16 17 05.1**	**+0.1**
BO01	**Tunca**	**1.08**	**331**	⇑*iP*	**Pg**	**16 16 50.3**	**-0.6**
BO01				*eS*	**Sg**	**16 17 04.6**	**-0.2**
BO01				IAML		16 17 05.4	
	comp=N,95nm,0.3s						
GO05	**Hualane**	**1.26**	**285**	⇑*iP*	**Pb**	**16 16 53.8**	**-0.1**
GO05				*eS*	**Sn**	**16 17 10.8**	**+0.1**
GO05				IAML		16 17 12.1	
	comp=N,190nm,0.5s						
BO04	**La Punta**	**1.35**	**354**	⇑*iP*	**Pb**	**16 16 55.1**	**-0.4**
BO04				*eS*	**Sn**	**16 17 13.0**	**0.0**
BO04				IAML		16 17 14.8	
	comp=E,52nm,0.1s						
BI02	**San Fabin de**	**1.48**	**207**	*eP*	**Pg**	**16 16 59.1**	**+0.4**
LMEL	**Las Melosas**	**1.50**	**8**	*eP*	**Pb**	**16 16 57.9**	**-0.2**
LMEL				*eS*	**Sg**	**16 17 19.2**	**+0.9**
LMEL	**Las Melosas**	**1.50**	**8**	*eP*	**Pb**	**16 16 58.3**	**+0.1**
LMEL				*eS*	**Sg**	**16 17 17.9**	**-0.4**
LMEL				IAML		16 17 22.0	
	comp=N,55nm,0.1s						
BO03	**Pichilemu**	**1.50**	**303**	*eP*	**Pn**	**16 16 57.2**	**+0.2**
BO03				IAML		16 17 18.6	
	comp=N,110nm,0.4s						
MT01	**Popeta**	**1.61**	**335**	*eP*	**Pb**	**16 16 59.3**	**-0.6**
MT01				*eS*	**Sg**	**16 17 21.2**	**-0.7**
MT01				IAML		16 17 22.2	
	comp=Z,49nm,0.2s						
MT01	**Popeta**	**1.61**	**335**	⇑*iP*	**Pb**	**16 16 59.2**	**-0.8**
MT01				*eS*	**Sb**	**16 17 20.4**	**+0.1**
MT01				IAML		16 17 22.9	
	comp=E,93nm,0.2s						
MT09	**Talagante**	**1.62**	**344**	⇑*iP*	**Pb**	**16 16 59.5**	**-0.7**
MT09				*eS*	**Sb**	**16 17 20.7**	**0.0**
MT09				IAML		16 17 22.6	
	comp=N,156nm,0.1s						
RFA	**San Rafael**	**1.72**	**71**	*eP*	**Pb**	**16 17 01.5**	**-0.4**
RFA				*eS*	**Sb**	**16 17 23.5**	**-0.1**
RFA				IAML		16 17 24.1	
	comp=Z,43nm,0.5s						
MT03	**Universidad Ad**	**1.84**	**358**	*eP*	**Pb**	**16 17 04.0**	**+0.1**
MT03				*eS*	**Sg**	**16 17 30.0**	**+0.8**
MT03				IAML		16 17 30.2	
	comp=Z,38nm,0.2s						
MT03	**Universidad Ad**	**1.84**	**358**	*eP*	**Pb**	**16 17 03.9**	**0.0**
MT03				IAML		16 17 31.3	
	comp=E,66nm,0.2s						
MT05	**Renca**	**1.95**	**353**	*eP*	**Pb**	**16 17 05.8**	**0.0**
MT05				*eS*	**Sg**	**16 17 33.3**	**+0.4**
MT05				IAML		16 17 43.1	
	comp=Z,28nm,0.6s						
MT02	**Curacav**	**2.15**	**344**	*eP*	**Pb**	**16 17 08.2**	**-0.9**
MT02				*eS*	**Sb**	**16 17 37.4**	**+1.6**

---

*PRE **20** 16:31:00.3±1.1, 26.21S×29.82E, h0km, ML2.1, Suspected explosion*
*IDC **20** 16:31:07.8±8.3, 26.07S×29.27E, h0km, mbtmp2.7/1, ML2.2/1, Error ellipse: s-maj=85.7km s-min=56.9km az=144.0*
ISC 20 16:31:00.6±0.9, 26.21S±0.03×29.80E±0.03, h0km, n15, σ0§82/26, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.29**	**44**	*eP*	**Pg**	**16 31 05.9**	**-0.2**
CRLN				*eS*	**Sg**	**16 31 08.8**	**-1.1**
CRLN				IAML		16 31 11.6	
	comp=Z,179nm,0.4s						
NWCL	**Newcastle**	**1.53**	**177**	*eP*	**Pg**	**16 31 30.1**	**+0.2**
NWCL				*eS*	**Sn**	**16 31 50.3**	**+0.4**
NWCL				IAML		16 31 53.5	
	comp=Z,56nm,0.3s						
HRAO	**HartRAO**	**1.93**	**279**	*eP*	**Pn**	**16 31 35.9**	**+1.1**
HRAO				*eS*	**Sb**	**16 32 01.3**	**0.0**
HRAO				IAML		16 32 04.5	
	comp=Z,34nm,0.3s						
POGA	**Pongola**	**2.05**	**124**	*eP*	**Pn**	**16 31 37.0**	**+0.7**
POGA				*eS*	**Sn**	**16 32 03.1**	**+0.5**
POGA				IAML		16 32 14.3	
	comp=Z,11nm,0.3s						
PRYS	**Parys**	**2.30**	**251**	*eP*	**Pn**	**16 31 39.8**	**-0.1**
PRYS				*eS*	**Sn**	**16 32 09.4**	**+0.4**
PRYS				IAML		16 32 16.5	
	comp=Z,6.6nm,0.2s						
SNKL	**Senekal, Frees**	**2.74**	**221**	*eP*	**Pn**	**16 31 46.9**	**+0.9**
SNKL				*eS*	**Sn**	**16 32 19.8**	**-0.1**
SNKL				IAML		16 32 34.8	
	comp=Z,17nm,0.3s						
LEPH	**Lephalale, Lim**	**2.96**	**322**	*eP*	**Pn**	**16 31 50.2**	**+1.3**
LEPH				*eS*	**Sn**	**16 32 24.9**	**-0.3**
LEPH				IAML		16 32 36.7	
	comp=Z,12nm,0.8s						
MOPA	**Mopani**	**3.04**	**29**	*eP*	**Pn**	**16 31 50.8**	**+0.7**
MOPA				*eS*	**Sn**	**16 32 26.8**	**-0.4**
MOPA				IAML		16 32 39.1	
	comp=Z,32nm,1.2s						
PMBG	**Pietermaritzbu**	**3.35**	**169**	*eP*	**Pn**	**16 31 54.2**	**-0.1**
PMBG				*eS*	**Sn**	**16 32 35.1**	**+0.2**
PMBG				IAML		16 32 50.8	
	comp=Z,8.8nm,0.6s						
MUSN	**Musina, Limpop**	**3.90**	**1**	*eP*	**Pn**	**16 32 03.0**	**+1.2**
MUSN				*eS*	**Sn**	**16 32 47.7**	**-0.7**
MUSN				IAML		16 33 04.6	
	comp=Z,5.3nm,0.3s						
LBTB	**Lobatse**	**3.98**	**286**	*eP*	**Pn**	**16 32 03.3**	**+0.4**
LBTB				*eS*	**Sn**	**16 32 50.2**	**-0.1**
LBTB				IAML		16 33 12.1	
	comp=Z,6.1nm,0.3s						
KSTD	**Kokstad**	**4.42**	**186**	*eP*	**Pn**	**16 32 09.3**	**+0.3**
KSTD				*eS*	**Sn**	**16 32 59.8**	**-1.4**
KSTD				IAML		16 33 30.2	
	comp=Z,3.8nm,0.3s						
BOSA	**Boshof**	**4.70**	**238**	Pn	**Pn**	**16 32 14.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=52,slow=14,SNR=1.7						
BOSA				Pg	**Pg**	**16 32 29.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=58,slow=16,SNR=5.4						
BOSA				Lg	Lg	16 33 26.1	
	comp=Z,1.2nm,0.3s,baz=159,slow=19,SNR=7.3						
	comp=Z,1.4nm,0.8s						
I47ZA	**BOSHOF INFRASO**	**4.72**	**238**	I	I	16 58 50.0	
	baz=54,slow=342,SNR=1.5						
I35NA	**TSUMEB INFRASO**	**13.26**	**299**	I	I	17 51 19.5	
	baz=124,slow=307,SNR=5.7						

---

*IDC **20** 16:49:58.3±3.4, 7.53S×129.69E, h67km±29km, mb3.6/4, mbtmp3.8/7, ML3.6/3, Error ellipse: s-maj=69.2km s-min=24.8km az=69.0*
*DJA **20** 16:50:01.1±1.1, 8.3S×129.9E±°, h15km±8km, M4.2/11, mB5.0/3, mb4.2/6, MLv4.2/11, Mw(mB)4.3/3*
ISC 20 16:50:02.0±0.6, 7.59S±0.06×129.38E±0.05, h79km, n30, σ1§79/33, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**102**	P	**Pn**	**16 50 32.4**	**-0.7**
SAUI	**Saumlaki**	**1.94**	**102**	S	**Sn**	**16 50 56.5**	**-0.2**
SAUI	**Saumlaki**	**1.94**	**102**	P	**Pn**	**16 50 35.1**	**+2.0**
SAUI				S	**Sn**	**16 50 59.7**	**+3.0**
BNDI	**Bandanaira**	**3.09**	**10**	P	**Pn**	**16 50 49.0**	**+0.5**
BNDI	**Bandanaira**	**3.09**	**10**	P	**Pn**	**16 50 49.1**	**+0.5**
DRS	**Darwin Rock St**	**5.04**	**163**	P	**Pn**	**16 51 15.5**	**+0.4**
FAKI	**Fak Fak**	**5.44**	**32**	P	**Pn**	**16 51 19.7**	**-0.9**
FAKI	**Fak Fak**	**5.44**	**32**	P	**Pn**	**16 51 19.9**	**-0.7**
SOEI	**Soe**	**5.50**	**247**	P	**Pn**	**16 51 22.4**	**+0.9**
SOEI	**Soe**	**5.50**	**247**	P	**Pn**	**16 51 22.2**	**+0.7**
	23nm,0.5s						
SOEI				S	**Sn**	**16 52 24.8**	**+1.3**
	23nm,0.5s						
MTN	**Manton Dam**	**5.50**	**162**	P	**Pn**	**16 51 22.2**	**+0.8**
KDU	**Kakadu**	**5.91**	**149**	P	**Pn**	**16 51 26.0**	**-1.0**
SANI	**Sanana**	**6.46**	**328**	P	**Pn**	**16 51 36.1**	**+1.6**
	0.1nm14nm,1.2s						
SWI	**Sorong**	**6.94**	**16**	P	**Pn**	**16 51 42.0**	**+1.0**
	0.1nm14nm,0.7s						
WSI	**Waingapu**	**9.22**	**256**	P	**Pn**	**16 52 12.4**	**+0.2**
WBSI	**Waikabubak, Su**	**10.09**	**258**	P	**Pn**	**16 52 25.0**	**+0.9**
	14nm,1.0s						
MRSI	**Marisa**	**10.92**	**317**	P	**Pn**	**16 52 37.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.07**	**199**	P	**Pn**	**16 52 34.5**	**-2.9**
	0.5nm,0.3s,baz=26,slow=12,SNR=20						
FITZ				S	Sn	16 54 28.1	-11
	3.7nm,0.4s,baz=22,slow=19,SNR=10.0						
	1.2nm,0.3s						
PLAI	**Plampang**	**11.55**	**263**	P	**Pn**	**16 52 47.0**	**+2.9**
PLAI	**Plampang**	**11.55**	**263**	P	**Pn**	**16 52 44.5**	**+0.4**
WRA	**Warramunga Arr**	**13.19**	**159**	P	**Pn**	**16 53 01.8**	**-4.4**
	0.3nm,0.3s,baz=344,slow=13,SNR=14						
WRA				S	Sn	16 55 19.5	-12
	5.4nm,0.7s,baz=328,slow=23,SNR=10						
	0.4nm,0.3s						
COEN	**Coen**	**14.95**	**116**	P	**Pn**	**16 53 30.4**	**+1.3**
QIS	**Mount Isa**	**16.25**	**144**	P	**P**	**16 53 49.0**	**+1.7**
ASAR	**Alice Springs**	**16.57**	**165**	P	**Pn**	**16 53 47.6**	**-1.9**
	0.3nm,0.3s,baz=345,slow=10,SNR=15						
ASAR				S	Sn	16 56 41.0	-12
	1.2nm,0.6s,baz=347,slow=26,SNR=7.3						
ASAR				ScP	**ScP**	**17 02 01.9**	**-2.0**
	0.2nm,0.5s,baz=4.6,slow=1.8,SNR=4.2						
	0.4nm,0.6s						
AS01	**Alice Springs**	**16.58**	**165**	P	**P**	**16 53 52.3**	**+1.4**
	3.1nm,0.9s						
WRKA	**Warakurna**	**17.39**	**183**	P	**P**	**16 54 02.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.64**	**311**	P	**P**	**16 57 25.1**	**-1.3**
	0.3nm,0.6s,baz=140,slow=6.5,SNR=4.8						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.38**	**327**	P	**P**	**17 00 54.1**	**-1.1**
	0.8nm,0.4s,baz=113,slow=7.1,SNR=34						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**71.84**	**334**	P	**P**	**17 01 13.3**	**-2.8**
	0.9nm,0.6s,baz=116,slow=6.6,SNR=4.7						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**72.69**	**329**	P	**P**	**17 01 20.1**	**-1.1**
	0.5nm,0.2s,baz=132,slow=4.1,SNR=1.4						
	0.5nm,0.2s						

---

*IDC **20** 17:04:48.7±1.2, 1.41S×120.24E, h0km, mb3.4/5, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=57.0km s-min=19.3km az=71.0*
*DJA **20** 17:04:51.1±0.2, 1.3S×12.0E±°, h10km, M4.2/19, mB5.1/1, mb4.3/6, MLv4.1/19, Mw(mB)4.4/1*
ISC 20 17:04:50.3±0.7, 1.42S±0.04×120.19E±0.06, h10km, n21, σ1§49/23, mb3.6/6, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.62**	**325**	P	**Pg**	**17 05 02.1**	**-0.1**
APSI	**Ampana**	**1.54**	**71**	P	**Pb**	**17 05 18.8**	**-0.1**
TTSI	**Tana Toraja**	**1.66**	**193**	P	**Pn**	**17 05 17.3**	**-2.2**
MPSI	**Mapaga**	**1.77**	**350**	P	**Pn**	**17 05 20.5**	**-0.4**
MRSI	**Marisa**	**2.57**	**43**	P	**Pb**	**17 05 33.7**	**-2.7**
MRSI				S	**Sb**	**17 06 06.2**	**-1.9**
SPSI	**Sidrap Palu**	**2.57**	**189**	P	**Pn**	**17 05 32.0**	**+0.1**
LUWI	**Luwuk**	**2.61**	**82**	P	**Pb**	**17 05 36.1**	**-1.0**
BKB	**Balikpapan**	**3.30**	**273**	P	**Pn**	**17 05 42.1**	**+0.1**
KDI	**Kendari**	**3.50**	**136**	P	**Pn**	**17 05 43.3**	**-1.5**
KAPI	**Kappang**	**3.60**	**187**	Pn	**Pn**	**17 05 46.4**	**+0.2**
	5.9nm,0.3s,baz=4.8,slow=7.2,SNR=15						
KAPI				Sn	**Sn**	**17 06 29.9**	**+1.1**
	2.5nm,0.3s,baz=36,slow=19,SNR=4.4						
	15nm,0.2s						
BKSI	**Bulukumba**	**3.88**	**181**	P	**Pn**	**17 05 49.5**	**-0.5**
KMSI	**Cibinong**	**4.27**	**62**	P	**Pn**	**17 05 58.1**	**+2.7**
BBSI	**Bau Bau**	**4.69**	**150**	P	**Pn**	**17 06 03.0**	**+1.8**
BSSI	**Bau Bau, Buton**	**4.71**	**176**	P	**Pn**	**17 06 01.9**	**+0.5**
SANI	**Sanana**	**5.83**	**96**	P	**Pn**	**17 06 15.0**	**-1.8**
	0.1nm8.2nm,0.6s						
WRA	**Warramunga Arr**	**23.04**	**144**	P	**P**	**17 09 54.4**	**-1.4**
	1.1nm,0.8s,baz=319,slow=12,SNR=8.0						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**25.81**	**150**	P	**P**	**17 10 21.5**	**-0.3**
	0.4nm,0.7s,baz=319,slow=9.2,SNR=8.3						
	0.4nm,0.7s						
STKA	**Stephens Creek**	**36.41**	**148**	P	**P**	**17 11 56.2**	**+1.0**
	1.4nm,0.7s,baz=317,slow=11,SNR=3.9						
	1.4nm,0.7s						
BNX	**BinXian**	**47.38**	**7**	⇓P	**P**	**17 13 27.0**	**+2.4**
BNX				pmax	pmax		
	comp=Z,5.0nm,2.0s						
SONM	**Songino Array**	**50.51**	**348**	P	**P**	**17 13 48.3**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=162,slow=7.3,SNR=1.6						
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.39**	**330**	P	**P**	**17 14 46.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=127,slow=7.8,SNR=4.0						
	comp=Z,0.4nm,0.6s						

---

*IDC **20** 17:09:46.5±1.6, 1.37S×120.51E, h0km, mb3.4/3, mbtmp3.4/4, ML3.7/1, MS3.1/2, Error ellipse: s-maj=55.8km s-min=24.1km az=71.0*
*DJA **20** 17:09:48.8±0.2, 1.3S±2.3×12.0E±°, h10km, M3.9/14, mb4.0/3, MLv3.8/14*
ISC 20 17:09:48.0±0.8, 1.40S±0.04×120.18E±0.05, h10km, n18, σ1§27/19, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.60**	**325**	P	**Pg**	**17 09 59.6**	**-0.1**
PCI				S	**Sb**	**17 10 09.6**	**+0.4**
APSI	**Ampana**	**1.55**	**72**	P	**Pn**	**17 10 16.6**	**+0.9**
APSI				S	**Sg**	**17 10 38.9**	**+1.0**
TTSI	**Tana Toraja**	**1.67**	**192**	P	**Pn**	**17 10 16.1**	**-1.3**
MPSI	**Mapaga**	**1.75**	**351**	P	**Pn**	**17 10 18.7**	**+0.3**
MRSI	**Marisa**	**2.56**	**43**	P	**Pn**	**17 10 30.2**	**+0.5**
SPSI	**Sidrap Palu**	**2.58**	**189**	P	**Pn**	**17 10 30.7**	**+0.8**
LUWI	**Luwuk**	**2.62**	**82**	P	**Pb**	**17 10 33.4**	**-1.6**
KDI	**Kendari**	**3.52**	**136**	P	**Pn**	**17 10 44.6**	**+1.8**
KAPI	**Kappang**	**3.62**	**187**	Pn	**Pn**	**17 10 45.2**	**+1.0**
	5.5nm,0.3s,baz=10,slow=19,SNR=6.3						
KAPI				Sn	**Sn**	**17 11 28.6**	**+1.6**
	2.3nm,0.3s,baz=35,slow=19,SNR=1.5						
	8.3nm,0.3s						
BKSI	**Bulukumba**	**3.90**	**181**	P	**Pn**	**17 10 47.9**	**-0.1**
BBSI	**Bau Bau**	**4.71**	**150**	P	**Pn**	**17 11 01.0**	**+1.8**
BSSI	**Bau Bau, Buton**	**4.72**	**176**	P	**Pn**	**17 10 59.5**	**+0.1**
SANI	**Sanana**	**5.84**	**96**	P	**Pn**	**17 11 13.7**	**-1.1**
	0.1nm6.0nm,1.1s						
DAV	**Davao City (W)**	**9.99**	**33**	LR	LR	17 15 46.2	
	comp=Z,68nm,18.2s,baz=318,slow=37						
WRA	**Warramunga Arr**	**23.05**	**144**	P	**P**	**17 14 51.6**	**-2.2**
	1.1nm,0.8s,baz=324,slow=10.0,SNR=6.6						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**25.82**	**150**	P	**P**	**17 15 18.7**	**-1.1**
	0.4nm,0.6s,baz=334,slow=8.3,SNR=4.3						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.37**	**330**	P	**P**	**17 19 44.7**	**+1.0**
	0.4nm,0.8s,baz=128,slow=7.8,SNR=4.6						
	0.4nm,0.8s						
URZ	**Urewera**	**63.62**	**133**	LR	LR	17 51 25.8	
	comp=Z,26nm,19.6s,baz=156,slow=39						

---

*MOS **20** 17:13:46.8±1.3, 50.27N×154.21E, h36km, mb4.0/3, Error ellipse: s-maj=23.3km s-min=7.1km az=59.9*
*KRSC **20** 17:13:46.3±2.5, 49.38N×157.25E, h40km±26km, Ml4.1*
*IDC **20** 17:13:48.8±2.9, 49.94N×155.28E, h130km±23km, mb3.4/9, mbtmp3.8/12, Error ellipse: s-maj=41.5km s-min=17.4km az=162.0*
*NEIC **20** 17:13:50.1±0.8, 50.1N±0.2×155.0E±0.3, h132km±14km, mb4.0/22, Error ellipse: s-maj=41.5km s-min=5.6km az=129.0*
ISC 20 17:13:43.9±0.9, 49.4N±0.1×155.8E±0.1, h100km, n81, σ2§39/88, mb4.0/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.26**	**10**	*e*PN	**Pn**	**17 14 10.6**	**+3.4**
SKR				*eS*	**Sn**	**17 14 27.3**	**+2.4**
SKR				pmax	pmax		
	comp=Z,22nm,0.3s						
SKR				smax	smax		
	comp=N,222nm,0.2s						
SKR				smax	smax		
	comp=E,317nm,0.3s						
SKR	**Severo-Kuril's**	**1.26**	**10**	*eP*	**Pn**	**17 14 10.6**	**+3.4**
SKR				*eS*	**Sn**	**17 14 28.2**	**+3.3**
PAU	**Pauzhetka**	**2.13**	**18**	PN	**Pn**	**17 14 20.7**	**+2.6**
PAU				S	**Sn**	**17 14 45.7**	**+1.4**
PAU	**Pauzhetka**	**2.13**	**18**	*eP*	**Pn**	**17 14 20.8**	**+2.6**
PAU				*eS*	**Sn**	**17 14 45.7**	**+1.4**
GRL	**Gorelyy**	**3.44**	**24**	PN	**Pn**	**17 14 38.8**	**+3.3**
GRL				S	**Sn**	**17 15 17.3**	**+2.0**
GRL	**Gorelyy**	**3.44**	**24**	*eP*	**Pn**	**17 14 38.9**	**+3.3**
GRL				*eS*	**Sn**	**17 15 17.4**	**+2.0**
RUS	**Russkaya**	**3.46**	**29**	PN	**Pn**	**17 14 37.5**	**+1.8**
RUS				S	**Sn**	**17 15 14.9**	**-0.8**
RUS	**Russkaya**	**3.46**	**29**	*eP*	**Pn**	**17 14 37.5**	**+1.8**
RUS				*eS*	**Sn**	**17 15 14.9**	**-0.8**
KRMR	**Karymshinskiy**	**3.70**	**23**	PN	**Sn**	**17 14 43.0**	**+4.0**
KRMR				S	**Sn**	**17 15 25.5**	**+4.0**
KRMR	**Karymshinskiy**	**3.70**	**23**	*eP*	**Pn**	**17 14 43.0**	**+4.0**
KRMR				*eS*	**Sn**	**17 15 25.6**	**+4.0**
PETK

J20K IAmb IAmb 17 19 47.1
comp=Z,5.0nm,1.2s
B21K Ikpikpuk River 30.93 31 P **P 17 19 51.3 +0.6**
B21K IAmb IAmb 17 20 21.8
comp=Z,4.1nm,1.4s
H11N2 WAKE ISLAND Hy 30.95 159 T T 17 52 40.4
baz=343
H11N1 WAKE ISLAND Hy 30.97 159 T T 17 52 37.3
baz=343
H11N3 WAKE ISLAND Hy 30.97 159 T T 17 52 48.0
baz=343
D22K Ayikyak River 31.44 33 P **P 17 19 56.4 +1.1**
D22K IAmb IAmb 17 20 11.0
comp=Z,5.9nm,1.4s
E22K Anaktuvuk Pass 31.61 34 P **P 17 19 57.8 +1.0**
E22K IAmb IAmb 17 20 18.5
comp=Z,2.5nm,1.2s
H11S1 WAKE ISLAND Hy 32.09 160 T T 17 54 08.2
baz=351,slow=76
H11S3 WAKE ISLAND Hy 32.10 160 T T 17 54 44.5
baz=351
H11S2 WAKE ISLAND Hy 32.10 160 T T 17 54 14.5
baz=351,slow=76
C23K Itkillik River 32.34 31 P **P 17 20 03.6 +0.5**
C23K IAmb IAmb 17 20 45.5
comp=Z,4.0nm,1.2s
E24K Your Creek 32.84 35 P **P 17 20 08.8 +1.2**
HDA Harding Lake 33.31 42 P **P 17 20 13.1 +1.4**
ILAR Eielson Array 33.33 41 P **P 17 20 12.4 +0.6**
comp=Z,0.3nm,0.4s,baz=265,slow=5.8,SNR=8.7
comp=Z,0.3nm,0.4s
D25K Kavik River 33.74 33 P **P 17 20 16.1 +0.8**
D25K IAmb IAmb 17 20 20.7
comp=Z,3.8nm,1.1s
SCRK Sand Creek 34.63 42 P **P 17 20 23.9 +0.7**
C27K Jago River 34.70 32 P **P 17 20 24.4 +0.8**
C27K IAmb IAmb 17 20 42.5
comp=Z,4.4nm,1.4s
BCAR Beaver Creek A 35.70 44 P **P 17 20 34.1 +1.8**
F28M Old Crow 36.09 36 P **P 17 20 37.5 +1.9**
F28M IAmb IAmb 17 20 42.5
comp=Z,3.1nm,1.3s
I28M Miner Creek 36.23 40 P **P 17 20 38.7 +1.8**
I28M IAmb IAmb 17 20 40.3
comp=Z,5.1nm,1.4s
E29M Blow River 36.79 35 P **P 17 20 42.4 +1.0**
K29M Barlow Dome 37.48 42 P **P 17 20 49.2 +1.7**
G30M tAoh Zraii Nji 37.56 37 P **P 17 20 49.5 +1.5**
I30M Mount Dempster 37.74 40 P **P 17 20 51.4 +1.8**
I30M IAmb IAmb 17 21 23.3
comp=Z,2.7nm,1.4s
INK Inuvik 38.42 34 P **P 17 20 56.4 +1.3**
INK IAmb IAmb 17 20 57.5
comp=Z,3.1nm,1.2s
INK Inuvik 38.42 34 P **P 17 20 56.4 +1.3**
INK pmax pmax
comp=Z,3.0nm,1.2s
H31M Peel River 38.48 38 P **P 17 20 57.6 +1.8**
H31M IAmb IAmb 17 21 09.6
comp=Z,2.9nm,1.2s
MKAR Makanchi Array 47.32 296 P **P 17 22 04.4 -2.9**
comp=Z,0.1nm,0.4s,baz=58,slow=6.3,SNR=4.1
comp=Z,0.1nm,0.4s
KURK Kurchatov 47.39 303 P **P 17 22 06.1 -1.6**
KURBB Kurchatov Arra 47.49 303 P **P 17 22 06.1 -2.3**
comp=Z,0.9nm,0.2s,baz=60,slow=8.1,SNR=1.8
comp=Z,0.9nm,0.2s
YKA Yellowknife Ar 47.70 39 P P 17 22 09.8 -0.1
comp=Z,0.3nm,0.6s,baz=294,slow=8.5,SNR=3.5
comp=Z,0.3nm,0.6s
RES Resolute Bay 47.70 20 P **P 17 22 09.3 -0.5**
RES Resolute Bay 47.70 20 P **P 17 22 09.3 -0.5**
RES pmax pmax
comp=Z,1.0nm,0.9s
SPITS Spitsbergen Ar 50.28 350 P **P 17 22 26.1 -3.3**
comp=Z,9.7nm,1.0s,baz=64,slow=9.8,SNR=1.5
comp=Z,9.7nm,1.0s
BVAR Borovoye Array 50.55 309 P **P 17 22 29.1 -2.6**
comp=Z,0.5nm,0.3s,baz=55,slow=8.0,SNR=4.8
comp=Z,0.5nm,0.3s
PDAR Pinedale Array 61.74 56 P **P 17 23 53.7 +2.0**
comp=Z,0.3nm,0.6s,baz=310,slow=4.2,SNR=2.3
comp=Z,0.3nm,0.6s
SCHQ Schefferville 70.12 25 P **P 17 24 44.9 -0.2**
comp=Z,1.3nm,0.5s,baz=336,slow=7.4,SNR=3.9
comp=Z,1.3nm,0.5s
MMAI Mount Meron Ar 82.33 313 P **P 17 25 53.2 -1.3**
comp=Z,0.6nm,0.4s,baz=46,slow=8.3,SNR=2.1
comp=Z,0.6nm,0.4s
H03N2 Juan Fernandez 136.95 89 T T 20 05 25.3
baz=313,slow=77,SNR=5.3
H03N1 Juan Fernandez 136.97 89 T T 20 05 26.0
baz=313,slow=77,SNR=7.6
H03N3 Juan Fernandez 136.97 89 T T 20 05 23.5
baz=313,slow=77,SNR=7.0

---

*NEIC **20** 17:19:55.7±0.6, 18°.2N±0°.2×67°.64W±0°.08, h142km±8km, ML2.5/14, Md3.0/7(RSPR), Error ellipse: s-maj=26.2km s-min=7.8km az=197.0*
*RSPR **20** 17:19:56.7, 18°.21N×67°.61W, h137km±2km, MD3.0/7*
*SDD **20** 17:19:56.4±1.1, 18°.05N×67°.56W, h154km±11km, MD3.3, ML2.5, MW3.3*
ISC 20 17:19:56.7±2.5, 18°.2N±0°.1×67°.60W±0°.06, h137km±16km, n38, σ0s55/41, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.22**	**34**		**Sn**	**17 20 29.1**	**-0.5**
IDE	**Isla Desecheo**	**0.22**	**34**	*e*S	**Sn**	**17 20 29.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.51**	**112**		**Pn**	**17 20 16.5**	**0.0**
CRPR				IAML		17 20 58.7	
	comp=N,36nm,2.0s						
CRPR	**Cabo Rojo, PR**	**0.51**	**112**		**Sn**	**17 20 31.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.51**	**112**	IAML		17 20 29.2	
	comp=E,32nm,2.2s						
CRPR	**Cabo Rojo, PR**	**0.51**	**112**	⇑*e*Pg	**Pn**	**17 20 16.6**	**0.0**
CRPR				⇑*e*Sg	**Sn**	**17 20 31.8**	**+0.2**
CRPR				IAML		17 20 31.9	
	comp=N,42nm,1.1s						
CRPR	**Cabo Rojo, PR**	**0.51**	**112**	⇑*e*P	**Pn**	**17 20 16.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.51**	**112**	*e*S	**Sn**	**17 20 31.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.54**	**60**		**Pn**	**17 20 16.0**	**-0.7**
AGPR					**Sn**	**17 20 32.7**	**+0.8**
AGPR	**Aguadilla, PR**	**0.54**	**60**	IAML		17 20 45.2	
	comp=E,92nm,2.1s						
AGPR				IAML		17 20 58.5	
	comp=N,108nm,2.6s						
AGPR	**Aguadilla, PR**	**0.54**	**60**	⇑*e*P	**Pn**	**17 20 16.0**	**-0.7**
AGPR	**Aguadilla, PR**	**0.54**	**60**	*e*S	**Sn**	**17 20 32.7**	**+0.8**
AOPR	**Arecibo Observ**	**0.82**	**80**	IAML		17 20 38.2	
	comp=N,155nm,0.3s						
AOPR	**Arecibo Observ**	**0.82**	**80**		**Pn**	**17 20 18.5**	**-0.2**
AOPR					**Sn**	**17 20 35.6**	**+0.2**
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*Pg	**Pn**	**17 20 18.4**	**-0.2**
AOPR				⇑*e*Sg	**Sn**	**17 20 35.5**	**+0.1**
AOPR				IAML		17 20 38.1	
	comp=N,143nm,0.3s						
AOPR	**Arecibo Observ**	**0.82**	**80**	⇑*e*P	**Pn**	**17 20 18.5**	**-0.2**
AOPR	**Arecibo Observ**	**0.82**	**80**	*e*S	**Sn**	**17 20 35.6**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.84**	**86**		**Sn**	**17 20 36.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**0.84**	**86**	*e*S	**Sn**	**17 20 36.4**	**+0.8**
OBIP	**Obispado Ponce**	**0.96**	**99**		**Pn**	**17 20 19.5**	**-0.4**
OBIP				IAML		17 21 09.7	
	comp=N,34nm,3.0s						
OBIP	**Obispado Ponce**	**0.96**	**99**		**Sn**	**17 20 36.9**	**-0.5**
OBIP	**Obispado Ponce**	**0.96**	**99**	IAML		17 20 36.7	
	comp=E,24nm,2.0s						
OBIP	**Obispado Ponce**	**0.96**	**99**	⇑*e*P	**Pn**	**17 20 19.5**	**-0.4**
OBIP	**Obispado Ponce**	**0.96**	**99**	*e*S	**Sn**	**17 20 36.9**	**-0.5**
CELP	**Cerrillos**	**0.98**	**97**		**Pn**	**17 20 20.2**	**+0.1**
CELP					**Sn**	**17 20 38.0**	**+0.3**
CELP	**Cerrillos**	**0.98**	**97**	IAML		17 20 41.1	
	comp=N,25nm,0.3s						
CELP	**Cerrillos**	**0.98**	**97**	⇑*e*Pg	**Pn**	**17 20 20.0**	**0.0**
CELP				⇓*e*Sg	**Sn**	**17 20 38.1**	**+0.3**
CELP				IAML		17 20 40.6	
	comp=N,24nm,0.5s						
CELP	**Cerrillos**	**0.98**	**97**	⇑*e*P	**Pn**	**17 20 20.2**	**+0.1**
CELP	**Cerrillos**	**0.98**	**97**	*e*S	**Sn**	**17 20 38.0**	**+0.3**
EMPR	**Esperanza - Ma**	**1.06**	**75**		**Pn**	**17 20 20.4**	**-0.2**
EMPR	**Esperanza - Ma**	**1.06**	**75**		**Sn**	**17 20 38.9**	**0.0**
EMPR	**Esperanza - Ma**	**1.06**	**75**	⇓*e*P	**Pn**	**17 20 20.4**	**-0.2**
EMPR	**Esperanza - Ma**	**1.06**	**75**	*e*S	**Sn**	**17 20 38.9**	**0.0**
ECPR	**Experimental S**	**1.19**	**84**	⇑*e*P	**Pn**	**17 20 21.7**	**-0.2**
ECPR	**Experimental S**	**1.19**	**84**	*e*S	**Sn**	**17 20 41.2**	**0.0**
MIDR	**Miches**	**1.58**	**300**	⇑*e*Pg	**Pn**	**17 20 27.5**	**+1.4**
MIDR				IAML		17 21 27.6	
	comp=N,22nm,1.4s						
DR12	**Loma Pena Alta**	**1.78**	**289**	Pn	**Pn**	**17 20 27.4**	**-1.1**
DR12				Sn	**Sn**	**17 20 51.6**	**-1.3**
DR12				IAML		17 20 54.4	
	comp=E,28nm,3.1s						
DR12				IAML		17 20 59.0	
	comp=N,31nm,2.5s						
HATOM	**Hato Mayor del**	**1.79**	**289**	⇑*e*Pg	**Pn**	**17 20 29.0**	**+0.5**
HATOM				⇑*e*Sg	**Sn**	**17 20 53.2**	**+0.3**
HATOM				IAML		17 20 59.5	
	comp=N,30nm,2.9s						

---

*STR **20** 17:20:53.3±1.7, 49°N±7°×1°0E±°, h0km, MLv2.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=57.8, preliminary*
*PRU **20** 17:20:56.5, 49°.15N×10°.17E, h30km*
ISC 20 17:20:51.1±1.0, 49°.09N±0°.08×9°.99E±0°.04, h6km, n12, σ0s81/16, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**1.17**	**210**	Pg	**Pn**	**17 21 13.4**	**-0.7**
GUT				Pn	**Pb**	**17 21 14.4**	**+0.7**
GUT	**Gutenstein**	**1.17**	**210**	Sg	**Sb**	**17 21 29.3**	**+0.1**
GUT				Sn	**Sn**	**17 21 30.3**	**0.0**
BABA	**Baden-Baden-Ne**	**1.24**	**253**	Pg	**Pg**	**17 21 14.5**	**-0.4**
BABA	**Baden-Baden-Ne**	**1.24**	**253**	Sg	**Sg**	**17 21 30.9**	**-0.1**
NEEW	**Neewiller pres**	**1.25**	**265**	Pg	**Pg**	**17 21 15.3**	**+0.3**
NEEW				Sg	**Sn**	**17 21 32.7**	**+0.5**
KIZ	**Kirchzarten**	**1.79**	**231**	Pg	**Pg**	**17 21 24.9**	**-0.3**
KIZ	**Kirchzarten**	**1.79**	**231**	Sg	**Sb**	**17 21 47.6**	**+0.8**
FELD	**Feldberg im Sc**	**1.79**	**228**	Pg	**Pg**	**17 21 25.3**	**-0.1**
FELD	**Feldberg im Sc**	**1.79**	**228**	Sn	**Sb**	**17 21 47.4**	**+0.2**
NKC	**Novy Kostel**	**1.96**	**53**	*e*PG	**Pg**	**17 21 29.4**	**+0.7**
KHC	**Kasperske Hory**	**2.36**	**88**	*e*PN	**Pb**	**17 21 32.1**	**-1.8**
KHC				*e*SG	**Sg**	**17 22 07.6**	**+0.9**
CKRC	**Cesky Krumlov**	**2.86**	**94**	*e*SG	**Sg**	**17 22 24.1**	**+1.3**

---

*IDC **20** 17:28:12.6±0.9, 43°.90N×148°.41E, h0km, mb3.6/12, mbtmp3.6/18, ML3.6/5, Error ellipse: s-maj=23.7km s-min=15.1km az=129.0*
*JMA **20** 17:28:17.7±0.3, 44°N±1°×14°8E±°, h0km, MV4.6/32, SE OFF ETOROFU*
*NIED **20** 17:28:17.7, 43°.77N×148°.07E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.12; $M_{\theta\theta}$7.35; $M_{\phi\phi}$-6.24; $M_{r\theta}$1.33; $M_{\theta\phi}$-1.86; $M_{\phi r}$0.44; Fault plane solution: $M_0$7.17000×10^{14} NP1: ϕ_s143.00000°, δ80.00000°, λ1.00000°. NP2:ϕ_s53.00000°, δ89.00000°, λ170.00000°.*
*MOS **20** 17:28:17.8±1.2, 44°.02N×148°.36E, h58km, mb4.2/7 Error ellipse: s-maj=10.3km s-min=7.6km az=97.6*
*SKHL **20** 17:28:19.1±0.7, 44°.00N×148°.40E, h67km±8km, mb5.3/3*
ISC 20 17:28:18.3±1.2, 43°.93N±0°.06×148°.36E±0°.07, h41km±11km, n74, σ1s39/83, mb3.7/18, 2C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.35**	**345**	*i*PN	**Pn**	**17 28 39.9**	**-0.7**
KUR				*e*S	**Sn**	**17 28 56.6**	**-0.7**
KUR				pmax	pmax		
	comp=E,871nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,4μm,0.3s						
KUR	**Kuril'sk**	**1.35**	**345**	*i*P	**Pn**	**17 28 40.2**	**-0.4**
KUR				AMB	AMB	17 28 41.2	
	comp=E,2μm,0.5s						
KUR				*e*S	**Sn**	**17 28 56.7**	**-0.6**
KUR				A	A	17 28 57.9	
	comp=E,2μm,0.3s						
KUR				A	A	17 28 57.9	
	comp=E,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**274**	*d*iPN	**Pn**	**17 28 47.1**	**+0.2**
YUK				*e*S	**Sn**	**17 29 08.2**	**-0.3**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,334nm,0.1s						
YUK				pmax	pmax		
	comp=E,178nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**274**	*i*P	**Pn**	**17 28 47.2**	**+0.3**
YUK				AMB	AMB	17 28 48.3	
	comp=E,1μm,0.2s						
YUK				*e*S	**Sn**	**17 29 07.8**	**-0.7**
YUK				A	A	17 29 10.6	
	comp=E,2μm,0.4s						
YUK				A	A	17 29 10.6	
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**1.98**	**254**	P	**Pn**	**17 28 49.4**	**+0.2**
NEM2				*e*S	**Sn**	**17 29 12.4**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.99**	**255**	⇓*i*PN	**Pn**	**17 28 49.4**	**0.0**
NMR				*e*S	**Sn**	**17 29 12.2**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.99**	**255**	*i* P	**Pn**	**17 28 49.4**	**0.0**
NMR				*e*S	**Sn**	**17 29 12.2**	**-0.9**
RUSJ	**Misakicho**	**2.25**	**275**	⇓*i*PN	**Pn**	**17 28 54.3**	**+1.3**
RUSJ				*e*S	**Sn**	**17 29 19.9**	**+0.4**
JRA	**Rausu**	**2.34**	**271**	P	**Pn**	**17 28 55.3**	**+1.1**
JRA				*e*S	**Sn**	**17 29 22.9**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.43**	**267**	P	**Pn**	**17 28 56.7**	**+1.2**
JKHN	**Kushirohamanak**	**2.48**	**251**	P	**Pn**	**17 28 56.9**	**+0.8**
JKHN				*e*S	**Sn**	**17 29 25.0**	**-0.1**
JNK	**Nakash**	**2.66**	**264**	P	**Pn**	**17 28 59.6**	**+1.0**
JNK				S	**Sn**	**17 29 30.2**	**+0.6**
AKK	**Akkeshi**	**2.72**	**252**	*e*P	**Pn**	**17 28 59.9**	**+0.5**
JAK	**Akkeshi**	**2.83**	**252**	P	**Pn**	**17 29 01.4**	**+0.5**
JTKR	**Abashiri--Toko**	**3.21**	**272**	P	**Pn**	**17 29 07.9**	**+1.7**
JAR	**Ashorobuto**	**3.39**	**261**	P	**Pn**	**17 29 10.2**	**+1.5**
JAR				S	**Sn**	**17 29 49.3**	**+1.6**
JOB	**Onbets**	**3.45**	**254**	P	**Pn**	**17 29 10.8**	**+1.3**
JCH	**Churui**	**3.88**	**252**	*e*P	**Pn**	**17 29 16.2**	**+0.9**
JKK2	**Kamakawa 2**	**4.06**	**271**	*e*P	**Pn**	**17 29 20.3**	**+2.5**
ASAJ	**Asahikawa**	**4.16**	**275**	Pn	**Pn**	**17 29 21.4**	**+2.1**
	comp=E,2.4nm,0.3s,baz=78,slow=17,SNR=27						
ASAJ				Sn	Sn	17 30 16.0	+9.4
	comp=E,2.3nm,0.3s,baz=6.0,slow=16,SNR=4.7						
ERM	**Erimo**	**4.27**	**245**	*i* PN	**Pn**	**17 29 23.5**	**+2.8**
JNBK	**Urakawa-nobuka**	**4.42**	**250**	*e*P	**Pn**	**17 29 23.9**	**+1.1**
YSS	**Yuzhno-Sakhali**	**4.97**	**309**	*e*PN	**Pn**	**17 29 31.8**	**+1.5**
YSS				*e*S	**Sn**	**17 30 24.9**	**-1.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS				smax	smax		
	comp=N,30nm,0.7s						
YSS				smax	smax		
	comp=E,70nm,0.8s						
YSS	**Yuzhno-Sakhali**	**4.97**	**309**	*e*P	**Pn**	**17 29 31.6**	**+1.3**
JOT	**Ohata**	**5.96**	**247**	*e*P	**Pn**	**17 29 44.8**	**+0.9**
JOT				*e*S	**Sn**	**17 30 47.1**	**-3.8**
JANG	**Nango**	**6.21**	**237**	P	**Pn**	**17 29 46.9**	**-0.4**
JANG				*e*S	**Sn**	**17 30 51.4**	**-5.6**
UGL	**Uglegorsk**	**6.73**	**322**	*e*P	**Pn**	**17 29 55.6**	**+1.1**
TYV	**Tymovskoe**	**7.94**	**333**	*e*PN	**Pn**	**17 30 12.8**	**+1.8**
TYV				pmax	pmax		
	comp=Z,200nm,4.1s						
TYV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TYV	**Tymovskoe**	**7.94**	**333**	*e*P	**Pn**	**17 30 12.8**	**+1.8**
TYV				*e*S	**Sn**	**17 31 37.6**	**-1.8**
TEY	**Ternei**	**8.48**	**282**	*e*PN	Pn	17 30 34.7	+16
SKR	**Severo-Kuril's**	**8.56**	**35**	*i* PN	**Pn**	**17 30 20.8**	**+1.3**
SKR	**Severo-Kuril's**	**8.56**	**35**	*e*P	**Pn**	**17 30 20.8**	**+1.3**
SKR				*e*S	**Sn**	**17 31 52.9**	**-1.8**
OKH	**Okha**	**10.27**	**342**	*e*P	**Pn**	**17 30 41.9**	**-1.0**
NKL	**Nikolayevsk**	**10.53**	**334**	*e*P	**Pn**	**17 30 47.8**	**+1.4**
MJAR	**Matsushiro Arr**	**10.70**	**230**	Pn	**Pn**	**17 30 47.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=71,slow=7.0,SNR=4.4						
MJAR				Sn	**Sn**	**17 32 48.0**	**+0.6**
	baz=86,slow=12,SNR=1.8						
	comp=Z,1.0nm,0.5s						
PETK	**Petropavlovsk-**	**11.07**	**31**	Pn	**Pn**	**17 30 53.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=195,slow=9.7,SNR=4.1						
PETK				Sn	**Sn**	**17 32 55.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=190,slow=28,SNR=1.7						
	comp=Z,1.2nm,0.5s						
KLR	**Kul'dur**	**12.59**	**301**	Pn	**Pn**	**17 31 15.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=115,slow=16,SNR=3.9						
	comp=Z,0.6nm,0.7s						
MA2	**Magadan**	**15.74**	**5**	Pn	**Pn**	**17 31 56.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=3.6						
	comp=Z,0.7nm,0.4s						
KSRS	**Korea Array**	**16.78**	**254**	Pn	**Pn**	**17 32 10.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=75,slow=11,SNR=2.5						
SEY	**Seymchan**	**19.18**	**6**	P	**P**	**17 32 36.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=15						
	comp=Z,2.1nm,0.7s						
HIA	**Hailar**	**20.31**	**295**	*i* P	**P**	**17 32 49.5**	**-1.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YAK	**Yakutsk**	**21.19**	**335**	*i* P	**P**	**17 32 58.4**	**-1.4**
YAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL	**Bilibino**	**25.95**	**15**	*i* P	**P**	**17 33 45.4**	**-1.0**
BILL				pmax	pmax		
	comp=Z,11nm,2.8s						
BILL	**Bilibino**	**25.95**	**15**	*e*P	**P**	**17 33 45.4**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**28.68**	**141**	T	T	18 05 21.7	
	baz=332,slow=76,SNR=71						
H11N1	**WAKE ISLAND Hy**	**28.69**	**141**	T	T	18 05 09.6	
	baz=332,slow=76,SNR=121						
H11N3	**WAKE ISLAND Hy**	**28.70**	**141**	T	T	18 05 05.2	
	baz=332,slow=76,SNR=108						
SONM	**Songino Array**	**29.21**	**293**	P	**P**	**17 34 16.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=96,slow=8.8,SNR=2.5						
	comp=Z,0.3nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**29.67**	**143**	T	T	18 06 14.7	
	baz=333,slow=76,SNR=331						
H11S3	**WAKE ISLAND Hy**	**29.68**	**143**	T	T	18 06 10.2	
	baz=333,slow=76,SNR=258						
H11S2	**WAKE ISLAND Hy**	**29.69**	**143**	T	T	18 06 18.8	
	baz=333,slow=76,SNR=100						
ILAR	**Eielson Array**	**40.82**	**36**	P	**P**	**17 35 56.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=267,slow=7.4,SNR=12						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**40.82**	**36**	*e*P	**P**	**17 35 56.5**	**+1.1**
MKAR	**Makanchi Array**	**45.27**	**298**	P	**P**	**17 36 31.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=77,slow=8.3,SNR=14						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**45.27**	**298**	*e*P	**P**	**17 36 32.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**45.27**	**298**	*e*P	**P**	**17 36 32.0**	**+0.4**
KURK	**Kurchatov**	**46.15**	**304**	*i* P	**P**	**17 36 36.2**	**-2.2**
KURK				pmax	pmax		
	comp=Z,13nm,2.7s						
KURBB	**Kurchatov Arra**	**46.24**	**304**	P	**P**	**17 36 39.0**	**-0.1**
	comp=Z,0.5nm,0.2s,baz=76,slow=8.5,SNR=1.4						
	comp=Z,0.5nm,0.2s						
CMAR	**Chiang Mai Arr**	**48.42**	**255**	P	**P**	**17 36 58.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=43,slow=8.3,SNR=1.3						
	comp=Z,0.2nm,0.6s						
BRVK	**Borovoye**	**50.11**	**310**	*i* P	**P**	**17 37 08.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
BRVK	**Borovoye**	**50.11**	**310**	*e*P	**P**	**17 37 08.0**	**-0.9**
ARTI	**Arti**	**54.92**	**317**	*i* P	**P**	**17 37 43.1**	**-1.3**
ARTI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
YKA	**Yellowknife Ar**	**55.16**	**34**	P	**P**	**17 37 46.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=298,slow=7.6,SNR=1.9						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**64.85**	**195**	P	**P**	**17 38 51.3**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=9.6,slow=6.6,SNR=1.8						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**17 38 53.6**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=8.6,slow=6.6,SNR=2.1						
	comp=Z,3.2nm,0.9s						
OBN	**Obninsk**	**65.68**	**324**	⇑*e*P	**P**	**17 38 57.2**	**-0.8**
OBN				*e*S	S	17 47 54.1	+14
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,37nm,15.0s						
OBN	**Obninsk**	**65.68**	**324**	*e*P	**P**	**17 38 57.2**	**-0.8**
ASAR	**Alice Springs**	**68.56**	**194**	P	**P**	**17 39 17.4**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=3.0,slow=4.1,SNR=4.6						
	comp=Z,0.2nm,0.8s						
PDAR	**Pinedale Array**	**69.12**	**50**	P	**P**	**17 39 21.4**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=297,slow=6.3,SNR=1.4						
	comp=Z,0.1nm,0.6s						
HFS	**Hagfors**	**69.86**	**338**	P	**P**	**17 39 23.4**	**-0.8**
	comp=Z,3.6nm,1.0s,baz=29,slow=3.3,SNR=1.8						
	comp=Z,3.6nm,1.0s						
AKASG	**Malin Array Be**	**71.95**	**324**	P	**P**	**17 39 38.7**	**+1.7**
	comp=Z,0.2nm,0.2s,baz=39,slow=5.1,SNR=2.0						
	comp=Z,0.2nm,0.2s						
H03N2	**Juan Fernandez**	**142.09**	**90**	T	T	20 26 49.5	
	baz=304,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**142.10**	**90**	T	T	20 26 48.0	
	baz=304,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**142.10**	**90**	T	T	20 26 53.6	
	baz=304,slow=77,SNR=17						

---

*JMA **20** 17:36:47.2±0.2, 36°.3N±0°.5×14°2E±°, h71km, MV2.9/29, FAR E OFF KANTO*
*IDC **20** 17:36:47.9±5.9, 36°.66N×142°.20E, h0km, mb3.4/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=95.3km s-min=32.4km az=136.0*
ISC 20 17:36:46.7±1.4, 36°.46N±0°.06×142°.32E±0°.08, h15km, n21, σ1s73/25, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.38**	**298**	*e*P	**Pg**	**17 37 13.0**	**-0.3**
JHYU	**Hitachinakayam**	**1.40**	**266**	*e*P	**Pg**	**17 37 12.7**	**-1.0**
JHYU				*e*S	**Sg**	**17 37 31.6**	**-0.3**
JHO	**Hitachi**	**1.42**	**277**	P	**Pg**	**17 37 13.0**	**-1.0**
JHO				*e*S	**Sg**	**17 37 32.2**	**-0.3**
**J

STEB	**Steborice**	**0.41 251**	*e*PG	Pg	17 39 54.7	-0.1
STEB			*e*SG	Sg	17 40 00.7	+0.6
MORC	**Moravsky Berou**	**0.61 242**	*e*Pg	Pg	17 39 57.9	-0.8
MORC	baz=62		*e*Sg	Sg	17 40 06.6	0.0
MORC	**Moravsky Berou**	**0.61 242**	*e*PG	Pg	17 39 58.0	-0.7
MORC	10nm,0.3s,baz=62		*e*SG	Sg	17 40 06.6	0.0
OJC	**Ojcow**	**0.93 80**	*e*Pg	Pg	17 40 01.9	-3.0
OJC			*e*Sg	Sg	17 40 13.9	-2.9
KRLC	**Kraliky**	**1.02 271**	*e*P	Pg	17 40 05.0	-1.6
KRLC	**Kraliky**	**1.02 271**	*e*PG	Pg	17 40 05.0	-1.6
KRLC	comp=Z,8.3nm,0.6s		*e*SG	Sg	17 40 19.0	-0.9
KRLC	**Kraliky**	**1.02 271**	*e*	Sg	17 40 19.0	-0.9
LANS	**Liptovska Anna**	**1.17 142**	*e*P	Pg	17 40 07.5	-1.8
LANS	**Liptovska Anna**	**1.17 142**	*e*	Sg	17 40 23.5	-0.9
LANS	**Liptovska Anna**	**1.17 142**	*e*PG	Pg	17 40 07.5	-1.8
LANS			*e*SG	Sg	17 40 23.5	-0.9
LANS			*e*LG	Lg	17 40 26.6	
JAVC	**Velka Javorina**	**1.29 201**	*e*Pg	Pg	17 40 10.3	-1.5
JAVC	baz=23 **Velka Javorina**	**1.29 201**	*e*PG	Pg	17 40 10.3	-1.5
DPC	**Dobruska-Polom**	**1.34 283**	*e*P	Pg	17 40 11.5	-1.3
DPC	**Dobruska-Polom**	**1.34 283**	*e*PG	Pg	17 40 11.5	-1.3
DPC	comp=Z,5.8nm,0.5s		*e*SG	Sg	17 40 29.7	-0.5
DPC	**Dobruska-Polom**	**1.34 283**	*e*	Sg	17 40 29.7	-0.5
VRAC	**Vranov**	**1.38 237**	*e*Pg	Pg	17 40 11.7	-1.8
VRAC	baz=57 3.2nm,0.2s,baz=57		*e*Sg	Sg	17 40 30.7	-0.7
VRAC	**Vranov**	**1.38 237**	*e*PG	Pg	17 40 11.8	-1.7
VRAC			*e*SG	Sg	17 40 30.7	-0.7
OSTC	**Ostas**	**1.47 290**	*e*SG	Sg	17 40 34.0	0.0
VYHS	**Vyhne**	**1.61 169**	*e*	Sn	17 40 36.5	-1.6
VYHS	**Vyhne**	**1.61 169**	*e*P	Pn	17 40 16.5	-0.1
VYHS	**Vyhne**	**1.61 169**	*e*PG	Pn	17 40 16.5	-0.1
VYHS			*e*SG	Sn	17 40 36.5	-1.6
KRUC	**Moravsky**	**1.63 233**	*e*Pn	Pn	17 40 16.1	-0.9
KRUC	baz=52 1.8nm,0.3s,baz=52		*e*Sg	Sn	17 40 38.1	-0.6
KRUC	**Moravsky**	**1.63 233**	*e*PN	Pn	17 40 16.2	-0.8
KRUC			*e*SG	Sn	17 40 38.1	-0.6
KHC	**Kasperske Hory**	**3.26 255**	*e*SG	Sg	17 41 29.7	-1.8

DSN ***20*** *17:45:25.8±3.9, 27.°77N×57.°62E, h10km, ML2.4/3, Error ellipse: s-maj=86.4km s-min=21.3km az=141.0*
OMAN ***20*** *17:45:27.9±0.4, 27.°89N×57.°16E, h15km±18km, ml2.8/3, Error ellipse: s-maj=36.3km s-min=4.4km az=4.0*
TEH ***20*** *17:45:27.0, 27.°64N×57.°53E, h12km±54km*
ISC 20 17:45:27.4±1.4, **27.°78N**±0.°04×**57.°42E**±0.°06, **h9**km±12km, **n28**, σ1°**09**/36, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.31**	**57**	Pg	**Pg**	**17 45 34.0**	**+0.4**
KHNJ				Sg	**Sb**	**17 45 39.6**	**-0.8**
IBND	**Bandar-abas**	**0.84**	**247**	Pg	**Pb**	**17 45 44.8**	**+0.6**
GENO	**Geno**	**1.17**	**251**	Pg	**Pn**	**17 45 49.7**	**-0.4**
KBAM	**BAM**	**1.63**	**34**	Pg	**Pg**	**17 45 59.2**	**+0.4**
JASK	**Jask - Hormozg**	**1.95**	**168**	Pg	**Pn**	**17 46 00.2**	**-0.5**
JASK	**Jask - Hormozg**	**1.95**	**168**	P	**Pb**	**17 46 02.7**	**-0.4**
JASK	SNR=8.2			S	**Sg**	**17 46 29.7**	**-0.3**
NGRK	**Negar Kerman**	**1.95**	**342**	Pn	**Pn**	**17 46 02.2**	**+1.1**
SHME	**Shamm**	**2.06**	**214**	P	**Pn**	**17 46 01.9**	**-0.4**
SHME				S	**Sn**	**17 46 27.9**	**-0.2**
SHME	**Shamm**	**2.06**	**214**	P	**Pn**	**17 46 01.8**	**-0.4**
SHME				S	**Sn**	**17 46 29.6**	**+1.4**
CHMN	**Cheshme madani**	**2.08**	**3**	Pn	**Pb**	**17 46 05.6**	**+0.1**
MASF	**Masafi**	**2.65**	**205**	P	**Pn**	**17 46 10.3**	**-0.1**
MASF				S	**Sn**	**17 46 43.1**	**+0.5**
MSFE	**Esma-Masafi**	**2.66**	**205**	P	**Pn**	**17 46 10.0**	**-0.5**
MDH	**Madha**	**2.67**	**202**	P	**Pn**	**17 46 09.3**	**-1.2**
MDH				S	**Sn**	**17 46 42.8**	**-0.2**
MDH	**Madha**	**2.67**	**202**	P	**Pn**	**17 46 08.0**	**-2.6**
KHGB	**Koh Gabri**	**2.71**	**343**	Pn	**Pb**	**17 46 14.8**	**-1.5**
UOSS	**Minazif**	**3.02**	**201**	P	**Pn**	**17 46 15.8**	**+0.3**
UOSS	**Minazif**	**3.02**	**201**	P	**Pn**	**17 46 13.4**	**-2.2**
HATD	**Hatta, Dubai**	**3.16**	**202**	P	**Pn**	**17 46 18.0**	**+0.7**
HATD	**Hatta, Dubai**	**3.16**	**202**	P	**Pn**	**17 46 17.5**	**+0.1**
ASHO	**Ashiyiah**	**3.31**	**202**	P	**Pn**	**17 46 20.8**	**+1.3**
ASHO	**Ashiyiah**	**3.31**	**202**	P	**Pn**	**17 46 20.4**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.66**	**211**	P	**Pn**	**17 46 25.0**	**+0.8**
ASUD				S	**Sn**	**17 47 08.5**	**+1.0**
SOHO	**SOHO**	**3.71**	**193**	P	**Pn**	**17 46 26.5**	**+1.5**
ALNE	**Al Ain**	**4.00**	**202**	P	**Pn**	**17 46 31.0**	**+2.1**
HOQ	**Hoqain**	**4.18**	**181**	P	**Pn**	**17 46 31.5**	**0.0**
ARQ	**Araqi**	**4.50**	**191**	P	**Pn**	**17 46 36.8**	**+1.0**
ARQ	SNR=9.2			S	**Sn**	**17 47 28.2**	**0.0**
UMZA	**Um Al Zommool**	**5.44**	**203**	P	**Pn**	**17 46 49.0**	**+0.2**
GHWR	**Ruwais**	**5.58**	**228**	P	**Pn**	**17 46 48.5**	**-2.2**

IDC ***20*** *17:51:35.5±1.2, 3.°45S×100.°86E, h0km, mb4.1/12, mbtmp4.1/14, ML4.1/2, MS4.8/2, Error ellipse: s-maj=43.8km s-min=14.2km az=56.0*
DJA ***20*** *17:51:40.9±1.3, 4.°S±3.°×10.°1E±.°, h27km±14km, M4.1/13, mB4.6/4, mb4.2/11, MLv4.2/13, Mw(mB)3.8/4*
NEIC ***20*** *17:51:40.8±1.3, 3.°33S±0.°10×101.°0E±0.°1, h28km±7km, mb4.4/14, Error ellipse: s-maj=22.4km s-min=4.9km az=51.0*
ISC 20 17:51:40.8±0.6, **3.°37S**±0.°09×**100.°97E**±0.°06, **h32**km, **n65**, σ0°**99**/58, **mb4.2**/18, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.13**	**302**	P	**Pb**	**17 52 01.7**	**-0.2**
PPSI				S	**Sb**	**17 52 16.4**	**+0.1**
KSI	**Kapahiang**	**1.64**	**100**	P	**Pb**	**17 52 09.6**	**-0.9**
KSI				S	**Sb**	**17 52 33.1**	**+2.2**
MNAI	**Manna**	**2.21**	**117**		**Pn**	**17 52 15.9**	**+0.6**
MNAI	**Manna**	**2.21**	**117**	P	**Pn**	**17 52 17.2**	**+1.9**
SISI	**Saibi**	**2.77**	**317**	P	**Pn**	**17 52 23.4**	**+0.5**
SISI				S	**Sn**	**17 52 55.9**	**+0.7**
MDSI	**Maura Dua**	**3.39**	**109**	P	**Pn**	**17 52 33.5**	**+2.0**
LWLI	**Liwa**	**3.49**	**118**	P	**Pn**	**17 52 35.1**	**+2.1**
PBSI	**Pulau Batu**	**4.25**	**321**	P	**Pn**	**17 52 43.9**	**+0.5**
PPBI	**Pangkal Pinang**	**5.29**	**77**	P	**Pn**	**17 52 59.3**	**+1.5**
CGJI	**Cibinong**	**5.70**	**125**	P	**Pn**	**17 53 02.7**	**-0.7**
GSI	**Gunungsitoli**	**5.75**	**324**		**Pn**	**17 53 03.0**	**-1.1**
GSI	**Gunungsitoli**	**5.75**	**324**	P	**Pn**	**17 53 05.8**	**+1.8**
MYKOM	0.1nm12nm,0.7s **Kota Tinggi**	**5.87**	**29**	Pn	**Pn**	**17 53 04.4**	**-1.3**
PSI	**Prapat**	**6.46**	**341**	LR	LR	17 55 22.5	
TPI	**Tanjungpandan**	**6.70**	**85**	P	**Pn**	**17 53 18.6**	**+1.5**
LEM	**Lembang**	**7.46**	**118**	**Pn**	**Pn**	**17 53 27.9**	**+0.2**
LEM	comp=Z,30nm,19.0s,baz=144,slow=35			LR	LR	17 57 04.9	
KULM	**Kulim**	**8.60**	**358**	Pn	**Pn**	**17 53 42.5**	**-0.7**
CMJI	**Cimerak**	**8.64**	**121**	P	**Pn**	**17 53 43.3**	**-0.4**
BSI	**Banda Aceh**	**10.47**	**327**	P	**Pn**	**17 54 09.2**	**+0.3**
UGM	**Wanagama**	**10.52**	**116**	Pn	**Pn**	**17 54 08.1**	**-1.5**
PCJI	**Pacitan**	**11.23**	**116**	P	**Pn**	**17 54 20.6**	**+1.4**
GMJI	**Gumukmas**	**13.33**	**112**	P	**Pn**	**17 54 49.5**	**+1.6**
TWSI	**Taliwang, Sumb**	**16.69**	**109**	P	**P**	**17 55 35.1**	**+0.5**
KAPI	**Kappang**	**18.80**	**96**	P	**Pn**	**17 55 59.2**	**+0.7**
KAPI	comp=Z,63nm,18.7s,baz=255,slow=38			LR	LR	18 03 42.6	
CMAR	**Chiang Mai Arr**	**21.78**	**355**	P	**P**	**17 56 28.6**	**-1.5**
CMAR	comp=Z,21nm,19.3s,baz=185,slow=35			LR	LR	18 04 22.1	
FITZ	**Fitzroy Crossi**	**28.25**	**123**	P	**P**	**17 57 31.0**	**-0.3**
H08S2	**Diego Garcia H**	**28.66**	**260**	T	T	18 27 07.2	
H08S3	**Diego Garcia H**	**28.66**	**260**	T	T	18 27 07.6	
H08S1	**Diego Carcia H**	**28.68**	**260**	T	T	18 27 08.6	
KNRA	**Kunounrra**	**29.96**	**116**	P	**P**	**17 57 45.2**	**-1.3**
WB0	**Warramunga Arr**	**36.45**	**119**	P	**P**	**17 58 42.6**	**-0.6**
WB0				IAmb	IAmb	17 59 07.3	
WRA	**Warramunga Arr**	**36.47**	**119**	P	**P**	**17 58 43.4**	**0.0**
WRA	**Warramunga Arr**	**36.47**	**119**	P	**P**	**17 58 42.4**	**-0.9**
WRA	comp=Z,1.0nm,0.4s,baz=310,slow=8.9,SNR=22			PcP	**PcP**	**18 01 06.7**	**-0.3**
WB2	**Warramunga Arr**	**36.48**	**119**	P	**P**	**17 58 42.3**	**-1.1**
WB2	comp=Z,0.3nm,0.6s,baz=298,slow=2.1,SNR=2.1			IAmb	IAmb	17 59 14.1	
WR0	**Warramunga Arr**	**36.66**	**119**	P	**P**	**17 58 44.1**	**-0.8**
WR0	comp=Z,1.0nm,0.4s			IAmb	IAmb	17 59 09.0	
ASAR	**Alice Springs**	**37.67**	**125**	P	**P**	**17 58 54.2**	**+0.8**
ASAR	**Alice Springs**	**37.67**	**125**	P	**P**	**17 58 53.3**	**-0.2**
ASAR	comp=Z,1.6nm,0.6s,baz=299,slow=2.7,SNR=5.1			PcP	**PcP**	**18 01 10.9**	**+0.4**
AS31	**Alice Springs**	**37.67**	**125**	P	**P**	**17 58 53.4**	**-0.1**
STKA	**Stephens Creek**	**47.52**	**131**	P	**P**	**18 00 13.0**	**-0.3**
STKA	**Stephens Creek**	**47.52**	**131**	P	**P**	**18 00 12.4**	**-0.9**
KSRS	**Korea Array**	**47.71**	**29**	P	**P**	**18 00 14.7**	**0.0**
KSH	**Kashi**	**48.48**	**334**	P	**P**	**18 00 20.6**	**-0.1**
KSH				pmax	pmax		
SONM	**Songino Array**	**51.21**	**5**	P	**P**	**18 00 42.5**	**+1.1**
SONM				IAmb	IAmb	18 00 43.6	
SONM	**Songino Array**	**51.21**	**5**	P	**P**	**18 00 42.4**	**+1.1**
SONM	comp=Z,2.7nm,0.6s,baz=188,slow=10.0,SNR=20			PcP	**PcP**	**18 01 56.3**	**-0.1**
MKAR	**Makanchi Array**	**52.60**	**344**	P	**P**	**18 00 51.5**	**-0.1**
MKAR	**Makanchi Array**	**52.60**	**344**	P	**P**	**18 00 52.1**	**+0.5**
MAKZ	**Makanchi**	**52.70**	**344**	P	**P**	**18 00 52.6**	**+0.3**
MAKZ				IAmb	IAmb	18 01 13.0	
USRK	**Ussuriysk Ar.**	**54.91**	**27**	P	**P**	**18 01 09.3**	**+0.8**
KURBB	**Kurchatov Arra**	**57.13**	**343**	P	**P**	**18 01 24.4**	**+0.2**
ZAA0	**Zalesovo Array**	**58.68**	**349**	P	**P**	**18 01 35.5**	**+0.4**
ZAA0				IAmb	IAmb	18 01 36.1	
ZALV	**Zalesovo Beam**	**58.68**	**349**	P	**P**	**18 01 35.4**	**+0.3**
ZALV	**Zalesovo Beam**	**58.68**	**349**	P	**P**	**18 01 34.5**	**-0.6**
H04N2	**CROZET ISLANDS**	**60.29**	**217**	T	T	19 06 42.7	
H04N1	**CROZET ISLANDS**	**60.31**	**217**	T	T	19 06 43.1	
H04N3	**CROZET ISLANDS**	**60.31**	**217**	T	T	19 06 41.6	
H04S1	**CROZET ISLANDS**	**60.56**	**217**	T	T	19 06 59.9	
H04S3	**CROZET ISLANDS**	**60.58**	**217**	T	T	19 07 00.3	
H04S2	**CROZET ISLANDS**	**60.58**	**217**	T	T	19 07 02.9	
BVAR	**Borovoye Array**	**61.79**	**340**	P	**P**	**18 01 55.9**	**-0.6**
ABKAR	**Akbulak array**	**63.30**	**331**	P	**P**	**18 02 06.5**	**0.0**
KBZ	**Khabaz**	**69.97**	**319**	LR	LR	18 34 33.9	
KVAR	**Kislovodsk Arr**	**70.20**	**319**	LR	LR	18 34 11.4	
BELG	**Belogornoye**	**71.39**	**329**	LR	LR	18 36 54.0	
PETK	**Petropavlovsk-**	**73.52**	**32**	P	**P**	**18 03 09.2**	**-1.2**
TXAR	**Lajitas Array**	**145.16**	**40**	PKPbc	**PKPdf**	**18 11 16.0**	**-0.1**

comp=Z,3.3nm,1.0s,baz=233,slow=8.6,SNR=3.6
comp=Z,2.1nm,0.6s,baz=319,slow=1.5,SNR=22

IDC ***20*** *18:23:26.8±0.4, 39.°61N×26.°38E, h0km, mb4.8/31, mbtmp4.8/48, ML4.4/15, MS4.4/81, Error ellipse: s-maj=8.3km s-min=7.8km az=141.0*
MOS ***20*** *18:23:27.2±1.0, 39.°68N×26.°45E, h8km, mb5.2/60, MS4.5/23, Error ellipse: s-maj=3.3km s-min=2.1km az=107.1*
ISK ***20*** *18:23:27.9, 39.°62N×26.°41E, h8km, ML5.4/20*
BJI ***20*** *18:23:27.0, 39.°60N×26.°40E, h8km, mB5.2/30, mb4.8/76, Ms4.9/55, Ms7 4.6/54*
NAO ***20*** *18:23:27.9, 39.°63N×26.°45E, h10km, mb4.8*
MED_RC ***20*** *18:23:28.0±0.1, 39.°59N×26.°48E, h10km, MW5.1/37, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s37,c53; Duration: 1*$\mathfrak{s}$*4 Moment tensor: Scale 10*^{16}*Nm; Mrr-3.48±.07; Mθθ4.11±.07; Mφφ-0.63±.07; Mrθ-2.40±.25; Mrφ-3.37±.06; Mθr-2.04±.22; Best double couple: M0*$^{6.00000\times10^{16}}$ *NP1:*ϕ_s*330.00000°, δ50.00000°, λ-36.00000°. NP2:*ϕ_s*85.00000°, δ63.0000°, λ-134.00000°. Principal axes: T 6.0300, Plg8.0000°, Azm205.0000°; N -0.0600, Plg38.0000°, Azm108.0000°; P -5.9700, Plg51.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*
PDG ***20*** *18:23:28.4±0.6, 39.°61N×26.°43E, h18km, ML5.1/13 Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
AFAD ***20*** *18:23:28.6, 39.°60N×26.°43E, h6km±1km, MW5.0*
RSNC ***20*** *18:23:29.0±0.0, 39.°70N×26.°38E, h10km, M3.0, ML3.0, Hypocentre not reviewed by the ISC*
THE ***20*** *18:23:29.3, 39.°57N×26.°41E, h17km, ML5.2/10, Error ellipse: s-maj=0.7km s-min=0.3km az=175.0*
NEIC ***20*** *18:23:29.5±1.5, 39.°69N±0.°05×26.°40E±0.°06, h10km±1km, mb5.2/406, Mwr5.0/42, Mww5.1/32, Error ellipse: s-maj=8.4km s-min=7.8km az=59.0, Moment Tensor Solution. Moment tensor: Scale 10*^{16}*Nm; Mrr-3.17; Mθθ4.14; Mφφ-0.97; Mrθ1.27; Mφφ-1.43; Mθr-1.43; Fault plane solution: M0*$^{4.44000\times10^{16}}$ *NP1:*ϕ_s*81.71000°, δ38.35000°, λ-125.73000°. NP2:*ϕ_s*304.24000°, δ59.76000°, λ-65.20000°. Principal axes: T 4.8324, Plg11.0000°, Azm17.0000°; N -0.9246, Plg21.0000°, Azm111.0000°; P -3.9078, Plg66.0000°, Azm260.0000°;*
NEIC ***20*** *18:23:29.5, 39.°70N×26.°37E, h12km*
NEIC ***20*** *18:23:29.6, 39.°70N×26.°37E, h10km*
NEIC ***20*** *18:23:29.5, 39.°70N×26.°37E, h12km, Moment Tensor Solution. Duration: 1*$\mathfrak{s}$*8 Moment tensor: Scale 10*^{16}*Nm; Mrr-3.17; Mθθ4.05; Mφφ-0.89; Mrθ0.04; Mφφ-3.13; Mθr-1.98; Fault plane solution: M0*$^{5.15000\times10^{16}}$ *NP1:*ϕ_s*83.11000°, δ51.08000°, λ-142.01000°. NP2:*ϕ_s*326.98000°, δ61.39000°, λ-45.70000°. Principal axes: T 5.6616, Plg6.0000°, Azm27.0000°; N -1.0199, Plg38.0000°, Azm122.0000°; P -4.6418, Plg52.0000°, Azm290.0000°;*
BGR ***20*** *18:23:29.5, 39.°40N×26.°63E, h33km*
MCSM ***20*** *18:23:29.7±0.3, 40.°N±2.°×2.°6E±.°, h9km±2km, mb5.2, mB5.5, MLv5.7, Mw(mB)4.9*
ATH ***20*** *18:23:29.7, 39.°56N×26.°40E, h21km, Mw4.9, Moment Tensor Solution. s12 Moment tensor: Mrr-1.56; Mθθ1.90; Mφφ-0.34; Mrθ-0.33; Mφφ-1.69; Mθr-1.11; Fault plane solution: NP1:*ϕ_s*331.00000°, δ60.00000°, λ-41.00000°. NP2:*ϕ_s*85.00000°, δ55.00000°, λ-143.00000°.*
SOF ***20*** *18:23:30.5, 39.°79N±0.°03×26.°32E±0.°03, h10km±2km, MD5.1/6*
GCMT ***20*** *18:23:30.5±0.1, 39.°63N±0.°01×26.°35E±0.°01, h12km, MW5.1/143, Moment Tensor Solution. s71,c101; s143,c246; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr-3.70±.09; Mθθ4.08±.08; Mφφ-0.37±.08; Mrθ-1.34±.23; Mφφ-3.78±.07; Mθr-1.76±.24; Best double couple: M0*$^{5.82000\times10^{16}}$ *NP1:*ϕ_s*331.00000°, δ54.00000°, λ-42.00000°. NP2:*ϕ_s*89.00000°, δ57.00000°, λ-136.00000°. Principal axes: T 6.2500, Plg2.0000°, Azm209.0000°; N -0.8510, Plg37.0000°, Azm118.0000°; P -5.3900, Plg52.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
CFUSG ***20*** *18:23:33.3, 39.°55N×27.°24E, h33km, Western Turkey Magtype MSH 4.2 from 7 stations*
GII ***20*** *18:23:33.7±0.0, 39.°08N±0.°02×26.°525E±0.°006, h8km, Md4.9/3, confirmed*
ISC 20 18:23:29.5±0.4, **39.°62N**±0.°01×**26.°41E**±0.°01, **h13**km±2km, **h13**km:**pP-P, n1850**, σ1°**50**/1808, **mb5.2**/313, **MS4.5**/97, **131C-102D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	**Ezine-Canakkal**	**0.14 347**		Pg	**Pg**	**18 23 31.9**	**-1.1**
EZNE				Sg	**Sg**	**18 23 33.9**	**-1.5**
BAYC	**CANAKKALE_Bayr**	**0.16**	**43**	P	**Pg**	**18 23 32.0**	**-1.4**
BAYC				S	**Sg**	**18 23 34.6**	**-1.5**
BAYC	comp=N,28μm,1.2s			*i* AML	AML	18 23 37.0	
BAYC	comp=E,17μm,0.6s			*i* AML	AML	18 23 38.0	
EZN	**Ezine**	**0.21 343**		P	**Pg**	**18 23 30.9**	**-3.3**
EZN				S	**Sg**	**18 23 36.3**	**-1.1**
EZN	**Ezine**	**0.21 343**		P	**Pg**	**18 23 31.4**	**-2.8**
KOCA	**Canakkale, Ayv**	**0.24 240**		P	**Pg**	**18 23 34.0**	**-0.6**
KOCA				S	**Sg**	**18 23 36.9**	**-1.2**
KOCA	comp=N,46μm,0.4s			*i* AML	AML	18 23 38.0	
KOCA	comp=E,30μm,0.7s			*i* AML	AML	18 23 38.0	
GPNR	**Gulpinar-Canak**	**0.27 232**		Pg	**Pg**	**18 23 34.4**	**-0.7**
BOZC	**Bozcaada**	**0.35 309**		Pg	**Pg**	**18 23 36.1**	**-0.5**
BOZC				Sg	**Sg**	**18 23 40.7**	**-0.7**
BOZC	**Bozcaada**	**0.35 309**		P	**Pg**	**18 23 36.2**	**-0.4**
BOZC				S	**Sg**	**18 23 41.7**	**+0.3**
BOZC	comp=E,17μm,0.3s			*i* AML	AML	18 23 42.0	
BOZC	comp=N,7μm,0.8s			*i* AML	AML	18 23 44.0	
AYVA	**Ayvalik**	**0.38 145**		P	**Pg**	**18 23 36.3**	**-0.9**
AYVA				S	**Sg**	**18 23 41.4**	**-1.0**
AYVA	comp=N,51μm,0.4s			*i* AML	AML	18 23 43.0	
AYVA	comp=E,21μm,1.0s			*i* AML	AML	18 23 45.0	
PRK	**Paraskevi**	**0.39 195**		P	**Pg**	**18 23 36.0**	**-1.3**
PRK	599μm,0.9s			S	**Sg**	**18 23 41.8**	**-0.8**
PRK	**Paraskevi**	**0.39 195**		P	**Pg**	**18 23 36.4**	**-1.0**
PRK				S	**Sg**	**18 23 42.3**	**-0.3**
CNKL	**anakkale-Mer**	**0.44 358**		P	**Pg**	**18 23 37.9**	**-0.5**
CNKL				S	**Sg**	**18 23 44.1**	**-0.1**
CNKL	comp=E,19μm,1.3s			*i* AML	AML	18 23 47.0	
CNKL	comp=N,20μm,1.2s			*i* AML	AML	18 23 51.0	
ECEA	**Canakkale, Ece**	**0.46 337**		P	**Pg**	**18 23 38.5**	**-0.1**
ECEA				S	**Sb**	**18 23 45.6**	**-0.5**
ECEA	comp=N,11μm,0.8s			*i* AML	AML	18 23 46.0	
ECEA	comp=E,20μm,0.8s			*i* AML	AML	18 23 48.0	
COMU	**Canakkale**	**0.48**	**6**	Pg	**Pg**	**18 23 38.2**	**-0.8**
COMU				Sg	**Sg**	**18 23 45.1**	**-0.3**
BUHA	**Balikesir, Bur**	**0.53 103**		P	**Pg**	**18 23 39.0**	**-1.0**
BUHA				S	**Sg**	**18 23 46.3**	**-0.8**
BUHA	comp=N,23μm,0.5s			*i* AML	AML	18 23 47.0	
BUHA	comp=E,21μm,0.7s			*i* AML	AML	18 23 47.0	
SIGR	**SIGRI**	**0.59 226**		Pg	**Pg**	**18 23 39.9**	**-1.2**
SIGR				Sg	**Sg**	**18 23 48.2**	**-0.7**
SIGR	**SIGRI**	**0.59 226**		P	**Pg**	**18 23 39.8**	**-1.3**
SIGR	157μm,0.5s			S	**Sg**	**18 23 48.8**	**-0.1**
SIGR	**SIGRI**	**0.59 226**		P	**Pg**	**18 23 40.0**	**-1.2**
SIGR				S	**Sg**	**18 23 48.0**	**-0.9**
CANM	**Can-anakkale**	**0.63**	**52**	Pg	**Pg**	**18 23 40.1**	**-1.8**
GOAD	**anakkale-G¶**	**0.66 325**		P	**Pg**	**18 23 42.2**	**-0.2**
GOAD				S	**Sg**	**18 23 49.4**	**-1.7**
GOAD	comp=N,6μm,0.7s			*i* AML	AML	18 23 55.0	
GOAD	comp=E,9μm,0.6s			*i* AML	AML	18 23 56.0	
DKL	**Dikili**	**0.67 145**		Pg	**Pg**	**18 23 41.3**	**-1.3**
DKL				Sg	**Sg**	**18 23 51.1**	**-0.4**
DKL	**Dikili**	**0.67 145**		⇓P	**Pg**	**18 23 41.1**	**-1.5**
DKL	**Dikili**	**0.67 145**		P	**Pg**	**18 23 41.6**	**-1.0**
DKL				S	**Sg**	**18 23 50.6**	**-1.0**
GADA	**Gvkgeada**	**0.69 326**		Pg	**Pg**	**18 23 41.8**	**-1.1**
GADA				Sg	**Sg**	**18 23 51.5**	**-0.5**
YENI	**Yenice-Canakka**	**0.72**	**64**	Pg	**Pg**	**18 23 42.2**	**-1.2**
CAND	**Candarli**	**0.74 155**		Pg	**Pg**	**18 23 42.3**	**-1.5**
IZMD	**zmir-Dikili-**	**0.76 147**		P	**Pg**	**18 23 43.3**	**-1.0**
IZMD				S	**Sg**	**18 23 53.1**	**-1.0**
IZMD	comp=N,4μm,1.4s			*i* AML	AML	18 23 56.0	
IZMD	comp=E,5μm,0.6s			*i* AML	AML	18 23 56.0	
GELI	**Tayfur-Gelibol**	**0.78**	**4**	Pg	**Pg**	**18 23 43.6**	**-1.0**
LPK	**Lapseki**	**0.80**	**20**	Pg	**Pg**	**18 23 43.9**	**-1.1**
LPK				Sg	**Sg**	**18 23 55.2**	**-0.2**
ZEDA	**zmir-Bergama**	**0.84 141**		P	**Pg**	**18 23 44.7**	**-1.0**
ZEDA				S	**Sg**	**18 23 55.8**	**-0.9**
ZEDA	comp=N,7μm,0.4s			*i* AML	AML	18 23 58.0	
ZEDA	comp=E,5μm,0.7s			*i* AML	AML	18 23 59.0	
BALY	**Balya**	**0.94**	**83**	P	**Pg**	**18 23 47.0**	**-0.8**
BALY				S	**Sg**	**18 23 58.9**	**-1.3**
BALY	comp=N,19μm,0.6s			*i* AML	AML	18 24 01.0	
BALY	comp=E,16μm,0.6s			*i* AML	AML	18 24 04.0	
FOCM	**Foa**	**0.94 164**		Pg	**Pg**	**18 23 46.4**	**-1.3**
FOCM				Sg	**Sb**	**18 24 00.0**	**-0.1**
KARB	**zmir-Karabur**	**0.96 180**		P	**Pg**	**18 23 46.8**	**-1.2**
KARB				S	**Sg**	**18 24 00.0**	**-0.5**
KARB	comp=E,11μm,0.6s			*i* AML	AML	18 24 01.0	
KARB	comp=N,7μm,0.3s			*i* AML	AML	18 24 02.0	
LIA	**Limnos Island**	**0.98 287**		P	**Pb**	**18 23 47.4**	**-0.9**
LIA	169μm,0.5s			S	**Sb**	**18 24 01.7**	**+0.5**
LIA	**Limnos Island**	**0.98 287**		P	**Pb**	**18 23 47.8**	**-0.5**
LIA				S	**Sg**	**18 24 00.8**	**-0.4**
SOMA	**Soma-Manisa**	**0.99 118**		Pg	**Pb**	**18 23 47.3**	**-1.2**
ENZZ	**Sultanice-Enez**	**1.00 348**		Pg	**Pb**	**18 23 47.8**	**-0.9**
KRBG	**Karabiga-Canak**	**1.03**	**41**	Pg	**Pb**	**18 23 47.5**	**-1.7**
STEP	**BALIKESIR_Sava**	**1.04 103**		P	**Pb**	**18 23 48.6**	**-0.8**
STEP				S	**Sg**	**18 24 03.4**	**+0.1**
STEP	comp=N,16μm,0.8s			*i* AML	AML	18 24 05.0	
STEP	comp=E,15μm,0.7s			*i* AML	AML	18 24 07.0	
ERIK	**Erikli-Kesan**	**1.05**	**4**	Pg	**Pb**	**18 23 48.3**	**-1.2**
GONE	**Gonen-Balikesi**	**1.07**	**66**	Pg	**Pb**	**18 23 48.8**	**-1.1**
SMTH	**Samothraki Isl**	**1.08 322**		P	**Pb**	**18 23 49.2**	**-0.9**
SMTH	207μm,0.7s			S	**Sn**	**18 24 05.2**	**0.0**
SMTH	**Samothraki

BKES	**Balkesir-Mer**	**1.18 84**	P	**Pn**	**18 23 51.1**	**-0.6**
BKES			S	**Sb**	**18 24 06.6**	**-0.4**
BKES			*i* AML	AML	18 24 10.0	
	comp=N,24µm,0.7s					
BKES			*i* AML	AML	18 24 13.0	
	comp=E,11µm,0.4s					
RKY	**Sarkoy-Tekirda**	**1.22 29**	Pn	**Pn**	**18 23 50.7**	**-1.6**
SART	**Tekirdag**	**1.22 29**	P	**Pn**	**18 23 51.2**	**-1.1**
SART			*i* AML	AML	18 24 09.0	
	comp=N,10µm,0.4s					
SART			S	**Sg**	**18 24 09.1**	**+0.2**
SART			*i* AML	AML	18 24 10.0	
	comp=E,15µm,0.5s					
URLA	**Izmir**	**1.27 173**	P	**Pn**	**18 23 51.4**	**-1.5**
URLA			S	**Sb**	**18 24 08.8**	**-0.8**
URLA			*i* AML	AML	18 24 12.0	
	comp=N,8µm,0.6s					
URLA			*i* AML	AML	18 24 12.0	
	comp=E,8µm,0.6s					
ALEX	**Alexandroupoli**	**1.29 343**	P	**Pn**	**18 23 53.4**	**+0.2**
ALEX			S	**Sg**	**18 24 11.4**	**+0.3**
CESE	**eme**	**1.29 184**	Pn	**Pn**	**18 23 51.8**	**-1.4**
ALN	**Alexandroupoli**	**1.30 348**	Pn	**Pn**	**18 23 52.9**	**-0.5**
ALN	**Alexandroupoli**	**1.30 348**	Pn	**Pn**	**18 23 52.6**	**-0.8**
ALN	**Alexandroupoli**	**1.30 348**	P	**Pn**	**18 23 52.9**	**-0.5**
ALN			S	**Sb**	**18 24 09.7**	**-0.7**
	104µm,0.9s					
ALN	**Alexandroupoli**	**1.30 348**	P	**Pn**	**18 23 52.6**	**-0.8**
AKHS	**Akhisar**	**1.32 124**	P	**Pn**	**18 23 53.0**	**-0.6**
AKHS			S	**Sb**	**18 24 09.5**	**-1.5**
AKHS			*i* AML	AML	18 24 20.0	
	comp=N,12nm,0.6s					
AKHS			*i* AML	AML	18 24 20.0	
	comp=E,3µm,0.5s					
AKS	**Akhisar**	**1.32 124**	Pn	**Pn**	**18 23 53.0**	**-0.7**
BLCB	**Balcova**	**1.33 158**	Pn	**Pn**	**18 23 52.5**	**-1.3**
EDC	**Edincik**	**1.33 57**	Pn	**Pn**	**18 23 52.6**	**-1.2**
EDC	**Edincik**	**1.33 57**	P	**Pn**	**18 23 52.4**	**-1.4**
SUSR	**Susurluk-Balik**	**1.34 75**	Pn	**Pn**	**18 23 53.3**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**1.39 177**	P	**Pn**	**18 23 52.9**	**-1.6**
ZEYE			S	**Sn**	**18 24 11.7**	**-1.0**
ZEYE			*i* AML	AML	18 24 16.0	
	comp=N,5µm,0.6s					
ZEYE			*i* AML	AML	18 24 16.0	
	comp=E,5µm,0.5s					
GOMA	**Golmarmara-Man**	**1.49 127**	Pn	**Pn**	**18 23 55.7**	**-0.2**
BAND	**Balkesir-Ban**	**1.49 60**	P	**Pn**	**18 23 56.0**	**0.0**
BAND			S	**Sb**	**18 24 15.7**	**-0.3**
BAND			*i* AML	AML	18 24 19.0	
	comp=N,6µm,0.4s					
BAND			*i* AML	AML	18 24 19.0	
	comp=E,4µm,0.3s					
BAND	**Balkesir-Ban**	**1.49 60**	⇓P	**Pn**	**18 23 55.8**	**-0.2**
BAND			⇓S	**Sb**	**18 24 16.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**1.51 7**	Pn	**Pn**	**18 23 56.1**	**-0.2**
GORD	**Gordes-Manisa**	**1.55 117**	Pn	**Pn**	**18 23 56.4**	**-0.4**
GMLD	**Gumuldur**	**1.59 165**	Pn	**Pn**	**18 23 56.6**	**-0.8**
DURS	**Dursunbey**	**1.60 90**	P	**Pb**	**18 23 58.6**	**-0.4**
DURS			S	**Sn**	**18 24 17.4**	**-0.6**
DURS			*i* AML	AML	18 24 22.0	
	comp=E,7µm,0.5s					
DURS			*i* AML	AML	18 24 27.0	
	comp=N,8µm,0.5s					
DGB	**zmir**	**1.61 166**	P	**Pn**	**18 23 56.1**	**-1.5**
DGB			S	**Sn**	**18 24 16.7**	**-1.6**
DGB			*i* AML	AML	18 24 21.0	
	comp=N,2µm,0.6s					
DGB			*i* AML	AML	18 24 27.0	
	comp=E,1µm,1.0s					
TKR	**Tekirdag**	**1.62 32**	Pn	**Pn**	**18 23 57.2**	**-0.5**
SKY	**Skiros Island**	**1.62 243**	P	**Pn**	**18 23 56.2**	**-1.6**
SKY			S	**Sn**	**18 24 16.8**	**-1.7**
	42µm,0.8s					
SKY	**Skiros Island**	**1.62 243**	P	**Pn**	**18 23 56.4**	**-1.4**
THAS	**Thassos island**	**1.62 308**	P	**Pn**	**18 23 56.8**	**-1.0**
THAS			S	**Sn**	**18 24 17.8**	**-0.7**
	20µm,0.6s					
THAS	**Thassos island**	**1.62 308**	P	**Pn**	**18 23 57.0**	**-0.8**
THAS			S	**Sn**	**18 24 17.7**	**-0.9**
KCTX	**Karacabey (Bur**	**1.63 66**	Pn	**Pn**	**18 23 57.2**	**-0.7**
RDO	**Rodhopi**	**1.66 337**	Pn	**Pn**	**18 23 57.9**	**-0.3**
RDO	**Rodhopi**	**1.66 337**		**Pn**	**18 23 58.0**	**-0.3**
RDO	**Rodhopi**	**1.66 337**	P	**Pn**	**18 23 58.0**	**-0.3**
RDO	**Rodhopi**	**1.66 337**	P	**Pn**	**18 23 58.7**	**+0.4**
RDO			S	**Sn**	**18 24 19.4**	**0.0**
KMT1	**Komotini**	**1.68 333**	P	**Pn**	**18 23 59.0**	**+0.5**
DST	**Dursunbey**	**1.71 90**	Pn	**Pn**	**18 23 58.9**	**-0.1**
XANC	**Avdira**	**1.75 321**	P	**Pn**	**18 23 59.5**	**-0.1**
CRLT	**Corlu**	**1.81 34**	Pn	**Pn**	**18 24 00.0**	**-0.4**
ODEM	**Odemis-Izmir**	**1.87 135**	Pn	**Pn**	**18 24 00.9**	**-0.4**
DEMI	**Demirci**	**1.88 107**	P	**Pb**	**18 24 03.5**	**-0.3**
DEMI			S	**Sg**	**18 24 28.7**	**-1.4**
DEMI			*i* AML	AML	18 24 30.0	
	comp=N,5µm,0.5s					
DEMI			*i* AML	AML	18 24 30.0	
	comp=E,7µm,0.5s					
IZMR	**zmir-demi**	**1.91 140**	P	**Pn**	**18 24 01.3**	**-0.5**
IZMR			*i* AML	AML	18 24 30.0	
	comp=E,1µm,0.9s					
IZMR			*i* AML	AML	18 24 32.0	
	comp=N,8µm,0.6s					
SMG	**Samos**	**1.94 170**	P	**Pn**	**18 24 00.3**	**-1.9**
SMG			S	**Sn**	**18 24 23.4**	**-3.0**
	53µm,0.6s					
SMG	**Samos**	**1.94 170**	P	**Pn**	**18 24 00.5**	**-1.6**
ORLT	**Orhaneli**	**1.96 77**	Pn	**Pn**	**18 24 02.5**	**0.0**
YYLC	**Yaylacik**	**1.97 69**	P	**Pn**	**18 24 01.9**	**-0.8**
YYLC			S	**Sb**	**18 24 30.5**	**+0.7**
KAVA	**Kavala**	**1.99 314**	P	**Pn**	**18 24 02.3**	**-0.6**
KAVA	**Kavala**	**1.99 314**	P	**Pn**	**18 24 02.7**	**-0.1**
KAVA			S	**Sn**	**18 24 27.4**	**-0.3**
OUR	**Ouranopolis**	**1.99 292**	Pn	**Pn**	**18 24 02.7**	**-0.2**
OUR	**Ouranopolis**	**1.99 292**	P	**Pn**	**18 24 02.0**	**-0.9**
OUR	**Ouranopolis**	**1.99 292**	P	**Pn**	**18 24 02.6**	**-0.2**
OUR			S	**Sn**	**18 24 26.5**	**-1.2**
AOS	**Alonnisos**	**2.01 258**	P	**Pn**	**18 24 02.5**	**-0.6**
MANT	**Manisa**	**2.02 123**	Pn	**Pn**	**18 24 02.9**	**-0.6**
GCAM	**G?zelcaml?**	**2.03 161**	Pn	**Pn**	**18 24 03.0**	**-0.3**
GCAM	**G?zelcaml?**	**2.03 161**	P	**Pn**	**18 24 02.0**	**-1.3**
GCAM			S	**Sg**	**18 24 33.5**	**-1.1**
GCAM			*i* AML	AML	18 24 34.0	
	comp=E,3µm,0.5s					
GCAM			*i* AML	AML	18 24 36.0	
	comp=N,2µm,0.5s					
KVLA	**Kavala**	**2.03 311**	P	**Pn**	**18 24 02.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.04 145**	Pn	**Pn**	**18 24 02.8**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.04 68**	Pn	**Pn**	**18 24 03.5**	**-0.1**
KYMI	**Kymi, Euboea I**	**2.05 242**	P	**Pn**	**18 24 02.0**	**-1.6**
KYMI	**Kymi, Euboea I**	**2.05 242**	P	**Pn**	**18 24 02.4**	**-1.2**
SMAA	**Simav-Kutahya**	**2.06 104**	Pn	**Pn**	**18 24 03.8**	**-0.1**
SIMA	**Simav-Kutahya**	**2.07 104**	Pn	**Pn**	**18 24 03.9**	**-0.1**
KULA	**Kula-Manisa**	**2.08 122**	Pn	**Pn**	**18 24 03.8**	**-0.3**
TRGA	**Dikaia**	**2.08 358**	P	**Pn**	**18 24 04.2**	**+0.1**
ARMT	**Armutlu**	**2.11 63**	Pn	**Pn**	**18 24 04.3**	**-0.2**
KIRA	**zmir-Kiraz**	**2.11 132**	P	**Pn**	**18 24 03.9**	**-0.7**
KIRA			S	**Sn**	**18 24 32.0**	**+1.3**
SLVT	**Silivri**	**2.12 40**	Pn	**Pn**	**18 24 04.1**	**-0.5**
PAIG	**Paliouri**	**2.12 279**	Pn	**Pn**	**18 24 04.3**	**-0.3**
PAIG	**Paliouri**	**2.12 279**	P	**Pn**	**18 24 03.7**	**-0.9**
KDZ	**Kurdzhali**	**2.16 338**	Pn	**Pn**	**18 24 04.9**	**-0.3**
KDZ	**Kurdzhali**	**2.16 338**	*i* P	**Pn**	**18 24 05.6**	**+0.4**
KDZ			*i* S	**Sn**	**18 24 31.5**	**-0.4**
ULDT	**Uludag**	**2.16 75**	P	**Pn**	**18 24 05.5**	**+0.1**
ULDT			S	**Sg**	**18 24 37.5**	**-1.6**
ULDT			*i* AML	AML	18 24 39.0	
	comp=N,8µm,0.7s					
ULDT			*i* AML	AML	18 24 39.0	
	comp=E,7µm,0.6s					
ELBA	**Catalca**	**2.17 45**	P	**Pn**	**18 24 04.9**	**-0.5**
ELBA			S	**Sn**	**18 24 30.9**	**-1.2**
ELBA			*i* AML	AML	18 24 38.0	
	comp=E,1µm,0.7s					
ELBA			*i* AML	AML	18 24 42.0	
	comp=N,1µm,0.5s					
PHSR	**Pinarhisar**	**2.18 23**	Pn	**Pn**	**18 24 05.3**	**-0.1**
KOKK	**Kokkinochori,**	**2.19 304**	P	**Pn**	**18 24 04.9**	**-0.8**
KARY	**Karystos**	**2.21 225**	P	**Pn**	**18 24 04.1**	**-1.8**
KARY	**Karystos**	**2.21 225**	P	**Pn**	**18 24 04.2**	**-1.6**
NAZL	**Nazilli-Aydin**	**2.22 138**	Pn	**Pn**	**18 24 05.5**	**-0.5**
KIRK	**Kırklareli**	**2.22 13**	P	**Pn**	**18 24 05.0**	**-1.0**
KIRK			S	**Sb**	**18 24 38.8**	**+2.0**
KIRK			*i* AML	AML	18 24 42.0	
	comp=E,8µm,0.9s					
KIRK			*i* AML	AML	18 24 54.0	
	comp=N,5µm,0.8s					
AVDN	**Avdancik/Bursa**	**2.22 72**	P	**Pn**	**18 24 05.4**	**-0.7**
USAK	**Uak-Merkez**	**2.23 113**	P	**Pn**	**18 24 06.4**	**+0.2**
USAK			*i* AML	AML	18 24 42.0	
	comp=N,9µm,0.5s					
USAK			*i* AML	AML	18 24 54.0	
	comp=E,8µm,0.8s					
EDRB	**Edirne**	**2.24 6**	Pn	**Pn**	**18 24 06.1**	**-0.1**
EDRB	**Edirne**	**2.24 6**	P	**Pn**	**18 24 05.4**	**-0.8**
VIZE	**Kirklareli, Vi**	**2.24 29**	P	**Pn**	**18 24 05.5**	**-0.8**
VIZE			*i* AML	AML	18 24 43.0	
	comp=N,9µm,0.9s					
VIZE			*i* AML	AML	18 24 43.0	
	comp=E,9µm,0.4s					
AVCI	**Avcilar-stanb**	**2.24 52**	Pn	**Pn**	**18 24 06.1**	**-0.2**
IGD	**Bursa**	**2.24 73**	P	**Pn**	**18 24 06.1**	**-0.2**
IGD			S	**Sg**	**18 24 39.8**	**-1.8**
IGD			*i* AML	AML	18 24 42.0	
	comp=E,2µm,0.5s					
IGD			*i* AML	AML	18 24 45.0	
	comp=N,1µm,0.6s					
DDIM	**Aydin, Didim**	**2.26 163**	P	**Pn**	**18 24 05.6**	**-0.9**
DDIM			S	**Sg**	**18 24 41.1**	**-1.1**
DDIM			*i* AML	AML	18 24 49.0	
	comp=E,1µm,0.8s					
DDIM			*i* AML	AML	18 24 57.0	
	comp=N,8µm,0.6s					
SHAP	**Saphane-Kutahy**	**2.27 104**	Pn	**Pn**	**18 24 06.7**	**0.0**
EMET	**Ktahya-Emet**	**2.27 95**	P	**Pn**	**18 24 06.6**	**-0.2**
EMET			S	**Sb**	**18 24 39.7**	**+1.3**
CTKS	**Kestanelik-??a**	**2.27 44**	Pn	**Pn**	**18 24 06.7**	**0.0**
AYDN	**Tasoluk**	**2.27 149**	P	**Pn**	**18 24 05.6**	**-1.3**
TNSA	**Tinos**	**2.30 205**	P	**Pn**	**18 24 05.2**	**-1.8**
TNSA			S	**Sn**	**18 24 32.6**	**-2.6**
KRSK	**Karsak**	**2.33 69**	P	**Pn**	**18 24 06.7**	**-0.7**
DIDI	**Didim-Aydin**	**2.34 163**	Pn	**Pn**	**18 24 07.4**	**-0.2**
CTYL	**Yalikoy Yolu**	**2.34 37**	Pn	**Pn**	**18 24 07.3**	**-0.4**
CTYL	**Yalikoy Yolu**	**2.34 37**	P	**Pn**	**18 24 06.8**	**-0.9**
KURT	**Yalova, Merkez**	**2.36 65**	P	**Pn**	**18 24 06.4**	**-1.4**
ARMN	**Kirklareli, Me**	**2.37 19**	P	**Pn**	**18 24 07.5**	**-0.6**
ARMN			*i* AML	AML	18 24 49.0	
	comp=E,1µm,0.9s					
ARMN			*i* AML	AML	18 24 50.0	
	comp=N,6µm,1.1s					
TVSB	**Tavsanli**	**2.37 93**	Pn	**Pn**	**18 24 08.2**	**0.0**
BGKT	**Bogazkoy**	**2.38 49**	Pn	**Pn**	**18 24 08.2**	**-0.1**
PLG	**Polygyros**	**2.39 289**	P	**Pn**	**18 24 07.8**	**-0.6**
PLG	**Polygyros**	**2.39 289**	P	**Pn**	**18 24 08.4**	**0.0**
GEDZ	**Gediz**	**2.40 103**	Pn	**Pn**	**18 24 08.6**	**0.0**
RZN	**Rozhen**	**2.43 329**	*i* P	**Pn**	**18 24 09.6**	**+0.6**
RZN			*i* S	**Sn**	**18 24 38.6**	**-0.1**
GDZ	**Gediz**	**2.44 102**	P	**Pn**	**18 24 09.4**	**+0.2**
GDZ			S	**Sb**	**18 24 44.9**	**+1.4**
YLV	**Yalova**	**2.46 67**	Pn	**Pn**	**18 24 09.4**	**0.0**
YLV	**Yalova**	**2.46 67**	P	**Pn**	**18 24 08.6**	**-0.8**
DION	**Dionisos Attik**	**2.47 232**	P	**Pn**	**18 24 07.8**	**-1.7**
DION	**Dionisos Attik**	**2.47 232**	P	**Pn**	**18 24 07.9**	**-1.6**
DION			S	**Sn**	**18 24 36.5**	**-3.1**
NEO	**Neokhori**	**2.48 264**	P	**Pn**	**18 24 08.4**	**-1.3**
NEO	**Neokhori**	**2.48 264**	P	**Pn**	**18 24 08.7**	**-0.9**
KAVV	**Kandilli-Istan**	**2.49 54**	Pn	**Pn**	**18 24 09.8**	**+0.1**
ISK	**Istanbul-Kandi**	**2.49 54**	Pn	**Pn**	**18 24 10.0**	**+0.3**
ISK	**Istanbul-Kandi**	**2.49 54**	P	**Pn**	**18 24 08.4**	**-1.3**
DIM	**Dimitrovgrad**	**2.50 346**	*i* P	**Pn**	**18 24 10.7**	**+0.9**
DIM			*i* S	**Sn**	**18 24 41.8**	**+1.6**
XOR	**Xorichti**	**2.50 265**	P	**Pn**	**18 24 08.7**	**-1.1**
XOR			S	**Sn**	**18 24 37.5**	**-2.7**
	7µm,0.7s					
XOR	**Xorichti**	**2.50 265**	P	**Pn**	**18 24 08.8**	**-1.1**
PTL	**Penteli**	**2.53 232**	P	**Pn**	**18 24 08.7**	**-1.6**
PTL	**Penteli**	**2.53 232**	P	**Pn**	**18 24 08.9**	**-1.4**
DOMA	**Ktahya-Doman**	**2.54 85**	P	**Pn**	**18 24 12.1**	**+1.5**
DOMA			S	**Sb**	**18 24 47.7**	**+1.4**
MLSB	**Milas**	**2.56 155**	Pn	**Pn**	**18 24 09.6**	**-1.1**
KLYT	**Kilyos**	**2.59 50**	Pn	**Pn**	**18 24 10.6**	**-0.5**
KLYT	**Kilyos**	**2.59 50**	P	**Pn**	**18 24 10.5**	**-0.5**
YKAV	**Yalikavak-Bodr**	**2.59 164**	Pn	**Pn**	**18 24 10.8**	**-0.3**
ACHAR	**Athens-Acharne**	**2.59 234**	P	**Pn**	**18 24 10.0**	**-1.1**
NVR	**Nevrokopi**	**2.59 312**	P	**Pn**	**18 24 12.0**	**+0.8**
NVR	**Nevrokopi**	**2.59 312**	P	**Pn**	**18 24 12.2**	**+0.9**
NVR			S	**Sn**	**18 24 42.9**	**+0.3**
SRS	**Serrai**	**2.62 306**	P	**Pn**	**18 24 11.0**	**-0.5**
SRS	**Serrai**	**2.62 306**	P	**Pn**	**18 24 10.4**	**-1.1**
SRS	**Serrai**	**2.62 306**	P	**Pn**	**18 24 11.0**	**-0.5**
ATHP	**Athens-Neo Psi**	**2.62 233**	P	**Pn**	**18 24 10.6**	**-0.8**
SOH	**Sokhos**	**2.62 298**	P	**Pn**	**18 24 11.2**	**-0.4**
ATHU	**Athens Univers**	**2.63 232**	P	**Pn**	**18 24 10.2**	**-1.5**
APE	**Apeiranthos**	**2.64 195**	Pn	**Pn**	**18 24 10.2**	**-1.6**
APE	**Apeiranthos**	**2.64 195**	P	**Pn**	**18 24 09.6**	**-2.2**
APE	**Apeiranthos**	**2.64 195**	⇑P	**Pn**	**18 24 10.3**	**-1.6**
APE	**Apeiranthos**	**2.64 195**	*i* P	**Pn**	**18 24 09.6**	**-2.2**
APE	**Apeiranthos**	**2.64 195**	⇑P	**Pn**	**18 24 09.6**	**-2.2**
APE	**Apeiranthos**	**2.64 195**	P	**Pn**	**18 24 09.7**	**-2.2**
APE	**Apeiranthos**	**2.64 195**	P	**Pn**	**18 24 09.9**	**-2.0**
BODT	**Bodrum**	**2.65 164**	Pn	**Pn**	**18 24 11.5**	**-0.5**
NOAC	**Athens-Thissio**	**2.67 233**	P	**Pn**	**18 24 11.4**	**-0.7**
ATH	**Athens Observa**	**2.67 233**	P	**Pn**	**18 24 11.1**	**-1.1**
ATH	**Athens Obseerva**	**2.67 233**	P	**Pn**	**18 24 11.0**	**-1.2**
ADVT	**Abdulvahap**	**2.68 71**	Pn	**Pn**	**18 24 12.6**	**+0.2**
KLNA	**Kalymnos**	**2.70 170**	P	**Pn**	**18 24 11.5**	**-1.1**
VLY	**Voula,Athens**	**2.70 230**	P	**Pn**	**18 24 11.0**	**-1.6**
VLY	**Voula,Athens**	**2.70 230**	P	**Pn**	**18 24 11.2**	**-1.5**
VLY			S	**Sn**	**18 24 42.4**	**-2.8**
ANDZ	**Kutahya, Merke**	**2.70 91**	P	**Pn**	**18 24 12.1**	**-0.7**
CAVI	**Cavuskoy**	**2.71 77**	Pn	**Pn**	**18 24 12.8**	**+0.1**
OSMT	**Osmaniye**	**2.71 68**	Pn	**Pn**	**18 24 12.8**	**0.0**
HORT	**Hortiatis**	**2.71 292**	Pn	**Pn**	**18 24 12.6**	**-0.3**
HORT	**Hortiatis**	**2.71 292**	P	**Pn**	**18 24 12.3**	**-0.6**
HORT	**Hortiatis**	**2.71 292**	P	**Pn**	**18 24 12.4**	**-0.5**
AIDA	**Aidipsos**	**2.72 255**	P	**Pn**	**18 24 12.0**	**-0.8**
BILE	**Bilecik/Merkez**	**2.72 78**	P	**Pn**	**18 24 11.2**	**-1.8**
BILE			S	**Sg**	**18 24 54.6**	**-2.4**
KHL	**Karahalli**	**2.75 117**	Pn	**Pn**	**18 24 13.4**	**-0.1**
HRT	**Hereke**	**2.77 63**	Pn	**Pn**	**18 24 13.8**	**+0.2**
MMB	**Musomishta**	**2.79 314**	*i* P	**Pn**	**18 24 14.5**	**+0.6**
AUKUT	**KUTAHYA**	**2.81 82**	P	**Pn**	**18 24 14.3**	**+0.1**
AMGA	**Amorgos Island**	**2.82 188**	P	**Pn**	**18 24 12.2**	**-2.0**
PLD	**Plovdiv**	**2.82 334**	Pn	**Pn**	**18 24 14.3**	**+0.1**
PLD	**Plovdiv**	**2.82 334**	*i* P	**Pn**	**18 24 15.0**	**+0.8**
PLD	**Plovdiv**	**2.82 334**	P	**Pn**	**18 24 14.3**	**+0.1**
VILL	**Villia**	**2.82 240**	P	**Pn**	**18 24 13.1**	**-1.2**
LKR	**Lokris**	**2.82 251**	P	**Pn**	**18 24 13.3**	**-0.9**
THE	**Thessaloniki**	**2.82 292**	P	**Pn**	**18 24 14.0**	**-0.3**
THE	**Thessaloniki**	**2.82 292**	P	**Pn**	**18 24 14.6**	**+0.3**
VIL2	**Platees**	**2.82 241**	P	**Pn**	**18 24 13.1**	**-1.2**
BNAZ	**Uak-Banaz**	**2.86 108**	P	**Pn**	**18 24 14.4**	**-0.5**
JMB	**Yambol**	**2.87 2**	Pn	**Pn**	**18 24 14.9**	**0.0**
DNIZ	**Denizli-Tavas-**	**2.87 133**	P	**Pn**	**18 24 14.4**	**-0.6**
YER	**Yerkesik**	**2.89 149**	Pn	**Pn**	**18 24 15.3**	**0.0**
TAVA	**DENIZLI_Tavas**	**2.92 137**	P	**Pn**	**18 24 14.3**	**-1.4**
AXAR	**Agios Charalam**	**3.03 255**	P	**Pn**	**18 24 16.7**	**-0.5**
AXAR	**Agios Charalam**	**3.03 255**	P	**Pn**	**18 24 17.0**	**-0.2**
DAT	**Datca**	**3.03 162**	Pn	**Pn**	**18 24 16.8**	**-0.5**
LIT	**Litokhoron**	**3.05 280**		**Pn**	**18 24 16.6**	**-0.8**
LIT	**Litokhoron**	**3.05 280**	P	**Pn**	**18 24 17.0**	**-0.5**
LIT	**Litokhoron**	**3.05 280**	P	**Pn**	**18 24 16.6**	**-0.8**
LIT	**Litokhoron**	**3.05 280**	⇓P	**Pn**	**18 24 16.7**	**-0.7**
LIT	**Litokhoron**	**3.05 280**	P	**Pn**	**18 24 17.2**	**-0.3**
NISR	**Nisiros**	**3.06 169**	P	**Pn**	**18 24 16.4**	**-1.1**
ASTA	**Astypalaia**	**3.07 181**	P	**Pn**	**18 24 16.0**	**-1.7**
GPA	**Golpazari**	**3.07 76**	Pn	**Pn**	**18 24 18.3**	**+0.5**
MET4	**Agioi Theodoro**	**3.09 231**	P	**Pn**	**18 24 16.2**	**-1.7**
LRSO	**Larissa Observ**	**3.10 272**	P	**Pn**	**18 24 18.4**	**+0.4**
MET5	**Makryloggos,Me**	**3.11 231**	P	**Pn**	**18 24 17.3**	**-1.0**
LTK	**Loutraki**	**3.12 240**	P	**Pn**	**18 24 17.1**	**-1.4**
LTK			S	**Sn**	**18 24 53.9**	**-1.7**
APMY	**Acipayam-Deniz**	**3.13 133**	Pn	**Pn**	**18 24 18.7**	**+0.2**
BORA	**Eskisehir**	**3.13 84**		**Pn**	**18 24 18.0**	**-0.7**
TURN	**Turunc**	**3.19 152**	Pn	**Pn**	**18 24 19.4**	**+0.1**
SAUV	**Serdivan-Sakar**	**3.21 68**	Pn	**Pn**	**18 24 19.9**	**+0.4**
TYRN	**Tyrnavos**	**3.22 273**	P	**Pn**	**18 24 19.7**	**-0.1**
TYRN	**Tyrnavos**	**3.22 273**	P	**Pn**	**18 24 19.8**	**+0.1**
MRSB	**Marmaris-Mugla**	**3.23 154**	Pn	**Pn**	**18 24 20.2**	**+0.3**
YDRA	**Hydra**	**3.24 226**	P	**Pn**	**18 24 18.8**	**-1.2**
CMBO	**Columbo, Santo**	**3.25 194**	P	**Pn**	**18 24 18.5**	**-1.6**
CMBO	**Columbo, Santo**	**3.25 194**	P	**Pn**	**18 24 18.2**	**-1.8**
DLFA	**Delphi**	**3.25 251**	P	**Pn**	**18 24 19.0**	**-1.2**
GULT	**Gulveren**	**3.26 74**	Pn	**Pn**	**18 24 20.9**	**+0.6**
SAP3	**Santorini-Thir**	**3.29 195**	P	**Pn**	**18 24 18.5**	**-2.2**
THR8	**Santorini-Mono**	**3.29 193**	P	**Pn**	**18 24 18.5**	**-2.2**
THR3	**Thira Island,**	**3.31 194**	P	**Pn**	**18 24 18.8**	**-2.1**
DALY	**Dalyan (Mula)**	**3.31 147**	Pn	**Pn**	**18 24 21.5**	**+0.5**
BASM	**Basmaki-Afyon**	**3.32 120**	Pn	**Pn**	**18 24 21.6**	**+0.4**
MHLO	**Agia Marina, M**	**3.33 209**	P	**Pn**	**18 24 19.3**	**-1.9**
MHLO	**Agia Marina, M**	**3.33 209**	P	**Pn**	**18 24 19.9**	**-1.3**
GRG	**Griva**	**3.34 295**	Pn	**Pn**	**18 24 21.6**	**+0.2**
GRG	**Griva**	**3.34 295**	P	**Pn**	**18 24 21.7**	**+0.3**
GRG	**Griva**	**3.34 295**	P	**Pn**	**18 24 22.0**	**+0.6**
THR6	**Thira Island,**	**3.36 194**	P	**Pn**	**18 24 19.4**	**-2.2**
THR9	**Santorini-Faro**	**3.36 195**	P	**Pn**	**18 24 19.4**	**-2.3**
MAKR	**Makrakomi, Fth**	**3.37 261**	P	**Pn**	**18 24 22.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.37 261**	P	**Pn**	**18 24 21.9**	**+0.1**
VAY	**Valandovo**	**3.38 301**	*i* Pn	**Pn**	**18 24 23.1**	**+1.1**
VAY	**Valandovo**	**3.38 301**	P	**Pn**	**18 24 22.5**	**+0.5**
THL	**Klokotos Trika**	**3.39 270**	P	**Pn**	**18 24 21.9**	**-0.2**
THL	**Klokotos Trika**	**3.39 270**	P	**Pn**	**18 24 21.8**	**-0.4**
KRND	**KRANIDI**	**3.40 230**	P	**Pn**	**18 24 20.8**	**-1.4**
KRND	**KRANIDI**	**3.40 230**	P	**Pn**	**18 24 20.8**	**-1.4**
SHUT	**Suhut-Afyon**	**3.40 107**	Pn	**Pn**	**18 24 22.8**	**+0.5**
KALE	**Kalithea**	**3.54 251**	P	**Pn**	**18 24 23.8**	**-0.5**
KALE	**Kalithea**	**3.54 251**	P	**Pn**	**18 24 23.6**	**-0.7**
GUR	**Goura**	**3.59 243**	P	**Pn**	**18 24 24.1**	**-0.9**
GUR	**Goura**	**3.59 243**	P	**Pn**	**18 24 23.9**	**-1.1**
ALIK	**Aliki, Aigiali**	**3.61 249**	P	**Pn**	**18 24 25.2**	**0.0**
PVL	**Pavlikeni**	**3.62 346**	*i* P	**Pn**	**18 24 26.0**	**+0.8**
KZN	**Kozani**	**3.63 282**	P	**Pn**	**18 24 26.8**	**+1.4**
ANX	**Ano Chora**	**3.64 255**	P	**Pn**	**18 24 25.4**	**-0.2**
ANX	**Ano Chora**	**3.64 255**	P	**Pn**	**18 24 25.4**	**-0.2**
EVR	**Evrytania**	**3.64 260**	P	**Pn**	**18 24 26.9**	**+1.3**
SZH	**Strazhitsa**	**3.65 355**	*i* P	**Pn**	**18 24 26.4**	**+0.7**
ARG	**Arkhangelos**	**3.66 158**		**Pn**	**18 24 24.7**	**-1.1**
ARG	**Arkhangelos**	**3.66 158**	P	**Pn**	**18 24 25.0**	**-0.8**
ARG	**Arkhangelos**	**3.66 158**	P	**Pn**	**18 24 25.1**	**-0.8**
ARG	**Arkhangelos**	**3.66 158**	⇑P	**Pn**	**18 24 24.9**	**-0.8**
ARG	**Arkhangelos**	**3.66 158**	P	**Pn**	**18 24 25.1**	**-0.8**
KLV	**Kalavryta, Ach**	**3.68 246**	P	**Pn**	**18 24 25.4**	**-0.7**
KLV	**Kalavryta, Ach**	**3.68 246**	P	**Pn**	**18 24 25.1**	**-1.0**
ISP	**Isparta**	**3.69 118**		**Pn**	**18 24 24.5**	**-1.8**
ISP	**Isparta**	**3.69 118**	*ce*P	**Pn**	**18 24 26.7**	**+0.4**
ISP			pmax	pmax		
	comp=Z,528nm,0.7s					
ISP	**Isparta**

comp=Z,5.7nmcomp=Z,6μmcomp=Z,715nm,0.9s
BR106 Keskin Array S 5.57 87 P **Pn 18 24 52.4 +0.3**
comp=Z,3.8nmcomp=Z,5μmcomp=Z,632nm,0.7s
SRE Strehaia 5.57 336 ⇓P **Pn 18 24 52.2 +0.1**
SRE Strehaia 5.57 336 P **Pn 18 24 52.1 +0.1**
BR131 Keskin Array S 5.58 87 Pn 18 24 52.0 -0.3
BR131 Keskin Array S 5.58 87 *i* P **Pn 18 24 52.3 -0.1**
BRTR Keskin Array B 5.58 87 Pn 18 24 52.0 -0.3
BRTR Keskin Array B 5.58 87 Pn **Pn 18 24 52.4 0.0**
comp=Z,55nm,0.3s,baz=260,slow=12,SNR=689
BRTR Pg **Pb 18 25 11.3 +4.5**
comp=Z,17nm,0.3s,baz=281,slow=15,SNR=6.4
BRTR Sn **Sn 18 25 53.3 -3.1**
baz=97,slow=35
BRTR Lg Lg 18 26 26.6
comp=Z,23nm,0.3s,baz=272,slow=22,SNR=9.6
BRTR LR LR 18 27 28.0
comp=Z,4μm,18.4s,baz=264,slow=43
comp=Z,130nm,0.4s
BR104 Keskin Array S 5.58 87 P **Pn 18 24 52.4 0.0**
comp=Z,3.7nmcomp=Z,5μmcomp=Z,666nm,0.7s
PVY Plav 5.70 303 ⇑*i*Pn **Pn 18 24 55.7 +1.7**
PVY *i* Sn **Sn 18 25 59.4 +0.1**
RMGR Halanga-Turnu 5.74 332 ⇑P **Pn 18 24 54.6 +0.2**
ILGA Ilgaz 5.77 73 Pn 18 24 54.6 -0.4
GRER 5.77 4 ⇑P **Pn 18 24 56.3 +1.6**
NEHR Nehoiu 5.80 359 ⇑P **Pn 18 24 56.8 +1.6**
DJES Djerdap 5.81 331 ⇓P **Pn 18 24 54.8 -0.5**
TLCR 5.84 17 ⇓P **Pn 18 24 55.9 +0.2**
TLCR 5.84 17 P **Pn 18 24 55.9 +0.2**
KIRS Kirsehir-Merke 5.84 92 ⇑P **Pn 18 24 56.5 +0.6**
MLR Muntele Rosu 5.87 357 Pn 18 24 57.3 +1.0
MLR Muntele Rosu 5.87 357 Pn **Pn 18 24 57.7 +1.4**
comp=Z,20nm,0.3s,baz=222,slow=3.1,SNR=67
MLR Sn **Sn 18 26 00.7 -2.8**
comp=Z,35nm,0.3s,baz=95,slow=23,SNR=4.0
MLR Lg Lg 18 26 33.2
comp=Z,47nm,0.3s,baz=113,slow=21,SNR=3.1
MLR LR LR 18 27 44.5
comp=Z,4μm,18.5s,baz=143,slow=44
comp=Z,393nm,0.9s
MLR Muntele Rosu 5.87 357 ⇓P **Pn 18 24 57.9 +1.6**
MLR Muntele Rosu 5.87 357 P **Pn 18 24 57.9 +1.6**
IVA Berane 5.88 306 ⇓*i*Pn **Pn 18 24 57.6 +1.2**
IVA *i* Sn **Sn 18 26 04.4 +0.7**
ARR Arges 5.89 348 ⇓P **Pn 18 24 56.8 +0.3**
VOIR 5.90 351 ⇑P **Pn 18 24 57.0 +0.3**
VOIR 5.90 351 P **Pn 18 24 56.9 +0.3**
ULC Ulcinj 5.92 296 ⇑*i*Pn **Pn 18 24 57.6 +0.8**
ULC *i* Sn **Sn 18 26 04.4 -0.1**
BISRR Bisoca 5.92 2 ⇓P **Pn 18 24 57.9 +0.9**
SCHLR Schela 5.94 10 ⇓P **Pn 18 24 57.0 0.0**
SCHLR Schela 5.94 10 ⇓P **Pn 18 24 57.0 0.0**
SCHL Schela 5.97 10 ⇓P **Pn 18 24 58.1 +0.7**
IZVR Izvoarele 6.00 9 ⇓P **Pn 18 24 59.0 +1.1**
GIUM Giurgiulesti 6.01 12 ⇑P **Pn 18 24 58.7 +0.7**
NEGRR Negrea 6.01 10 ⇑P **Pn 18 24 58.1 +0.1**
HERR Herculane 6.03 332 ⇓P **Pn 18 24 58.1 -0.3**
TUDR 6.04 8 ⇓P **Pn 18 24 58.5 +0.1**
DRME Dracevica, Mon 6.04 297 *e*Pn **Pn 18 25 01.4 +2.9**
DRME Dracevica, Mon 6.04 297 ⇓*i*Pn **Pn 18 25 00.6 +2.1**
DRME *i* Sn **Sn 18 26 07.0 -0.5**
SJES Sjenica 6.05 309 *e*Pn **Pn 18 24 59.8 +1.1**
SLCR Slobozia Conac 6.05 9 ⇓P **Pn 18 24 58.5 0.0**
PDG Podgorica 6.09 300 Pn 18 25 01.4 +2.3
PDG Podgorica 6.09 300 *e*Pn **Pn 18 25 01.9 +2.7**
PDG Podgorica 6.09 300 ⇑P **Pn 18 25 01.3 +2.1**
PDG Podgorica 6.09 300 ⇑P **Pn 18 25 01.5 +2.3**
PDG Podgorica 6.09 300 ⇑*i*Pn **Pn 18 25 01.4 +2.3**
PDG *i* Sn **Sn 18 26 08.9 +0.2**
TATR Tatarca 6.09 11 ⇑P **Pn 18 24 59.5 +0.3**
KOME Kolasin 6.11 304 ⇑*i*Pn **Pn 18 25 00.2 +0.6**
KOME *i* Sn **Sn 18 26 08.9 -0.5**
SCTE Santa Cesarea 6.12 277 Pn 18 25 00.4 +0.8
SPBR Spulber 6.13 2 ⇑P **Pn 18 25 01.3 +1.5**
LOT Lotru 6.14 342 ⇓P **Pn 18 24 60.0 0.0**
ODBI Odobesti 6.16 4 ⇑P **Pn 18 25 01.7 +1.7**
BZK Bozkurt 6.22 66 Pn 18 25 00.9 -0.1
BZK Bozkurt 6.22 66 ⇓P **Pn 18 25 00.8 -0.1**
BZK Bozkurt 6.22 66 P **Pn 18 25 00.9 -0.1**
comp=Z,4.0nmcomp=Z,9μmcomp=Z,973nm,0.8s
BZK Bozkurt 6.22 66 ⇑P **Pn 18 25 01.0 0.0**
COVR Voineasa-Covas 6.22 359 ⇑P **Pn 18 25 02.3 +1.3**
MDVR Moldovita 6.22 327 ⇓P **Pn 18 25 01.1 +0.1**
TNR Turnu Rosu 6.23 346 ⇓P **Pn 18 25 01.7 +0.6**
TNR Turnu Rosu 6.23 346 P **Pn 18 25 01.7 +0.6**
PLOR Plostina 6.23 2 ⇑P **Pn 18 25 02.2 +1.0**
PLOR Plostina 6.23 2 P **Pn 18 25 02.1 +1.0**
VRI Vrincioaia 6.24 2 ⇑P **Pn 18 25 02.5 +1.2**
VRI Vrincioaia 6.24 2 P **Pn 18 25 02.5 +1.2**
COSR Cosmesti PH 6.26 6 ⇓P **Pn 18 25 03.0 +1.5**
PANC Panciu 6.27 5 ⇓P **Pn 18 25 02.2 +0.6**
BUM Brajici-Budva 6.28 298 ⇓*i*Pn **Pn 18 25 04.6 +2.7**
BUM *i* Sn **Sn 18 26 13.3 -0.3**
VLDR Vladesti 6.34 11 ⇑P **Pn 18 25 03.3 +0.7**
GZR Gura Zlata 6.36 336 ⇑P **Pn 18 25 02.7 -0.2**
GZR Gura Zlata 6.36 336 P **Pn 18 25 02.7 -0.2**
VARL Varlezi 6.36 9 ⇑P **Pn 18 25 04.0 +1.1**
CEME Cevo 6.37 300 ⇓*i*Pn **Pn 18 25 05.8 +2.8**
CEME *i* Sn **Sn 18 26 15.8 +0.2**
DOPR Dopca 6.38 354 ⇓P **Pn 18 25 04.2 +1.0**
NKME Niksic 6.44 302 ⇓*i*Pn **Pn 18 25 06.1 +2.1**
NKME *i* Sn **Sn 18 26 17.2 -0.1**
PLE Pljevlja 6.44 307 ⇓*i*Pn **Pn 18 25 05.8 +1.7**
PLE *i* Sn **Sn 18 26 17.6 +0.1**
GHRR 6.48 6 ⇑P **Pn 18 25 04.9 +0.4**
OZUR 6.49 356 ⇓P **Pn 18 25 05.9 +1.3**
RUDO Rudo 6.61 309 *e*Pn **Pn 18 25 06.3 0.0**
HCY Herceg Novi 6.61 298 *e*Pn **Pn 18 25 08.5 +2.1**
HCY Herceg Novi 6.61 298 ⇑*i*Pn **Pn 18 25 07.1 +0.7**
HCY *i* Sn **Sn 18 26 21.8 +0.2**
UPM Unac-Piva 6.68 305 *e*Pn **Pn 18 25 09.3 +1.9**
UPM Unac-Piva 6.68 305 ⇓*i*Pn **Pn 18 25 08.6 +1.2**
UPM *i* Sn **Sn 18 26 22.8 -0.6**
MDB Medias 6.68 348 ⇓P **Pn 18 25 09.2 +1.9**
MDB Medias 6.68 348 P **Pn 18 25 09.2 +1.9**
BIR Birlad 6.70 7 ⇑P **Pn 18 25 07.5 -0.1**
BIR Birlad 6.70 7 P **Pn 18 25 07.4 -0.1**
ONER Baraj Valea Uz 6.71 360 ⇑P **Pn 18 25 09.5 +1.8**
BBLS Lazi&#263i 6.74 311 *e*Pn **Pn 18 25 08.9 +0.8**
DEV Deva 6.76 339 ⇑P **Pn 18 25 09.1 +0.6**
DEV Deva 6.76 339 P **Pn 18 25 09.0 +0.6**
BRY Bratogost 6.77 301 *e*Pn **Pn 18 25 11.5 +2.8**
BRY Bratogost 6.77 301 ⇓*i*Pn **Pn 18 25 11.5 +2.8**
BRY *i* Sn **Sn 18 26 25.1 -0.6**
TESR Tescani 6.89 1 ⇑P **Pn 18 25 10.4 +0.2**
SURR Surduc 6.89 334 ⇓P **Pn 18 25 10.2 +0.1**
BANR Banloc 6.95 328 ⇓P **Pn 18 25 11.0 +0.1**
BZS Buzias 6.95 331 ⇓P **Pn 18 25 10.9 -0.1**
BZS Buzias 6.95 331 P **Pn 18 25 10.9 -0.1**
BZS Buzias 6.95 331 ⇓P **Pn 18 25 10.3 -0.7**
DIKM Dikmen 7.03 70 ⇓P **Pn 18 25 12.3 +0.2**
DIKM Dikmen 7.03 70 P **Pn 18 25 12.7 +0.6**
comp=Z,2.9nmcomp=Z,5μmcomp=Z,275nm,0.9s
TGMR Targu Mures 7.04 349 ⇓P **Pn 18 25 13.9 +1.8**
TEKS Tekeris 7.10 316 *e*Pn **Pn 18 25 12.8 -0.2**
JOSR Joseni 7.11 355 ⇓P **Pn 18 25 13.9 +0.7**
HAPS Han Pijesak,BI 7.13 311 *e*Pn **Pn 18 25 14.5 +0.9**
CSS Mathiatis 7.22 128 Pn 18 25 14.8 +0.1
CSS Mathiatis 7.22 128 P **Pn 18 25 16.2 +1.5**
comp=Z,0.5nmcomp=Z,1μmcomp=Z,117nm,0.6s
CSS Mathiatis 7.22 128 ⇑P **Pn 18 25 15.4 +0.7**
CSS Mathiatis 7.22 128 P **Pn 18 25 15.4 +0.7**
SEV Sevastopol' 7.30 45 *e*P **Pn 18 25 15.0 -0.8**
SEV Pm 18 25 21.4
comp=Z,102nm,0.5s
SEV *e*S **Sn 18 26 33.0 -5.5**
SEV Sm 18 26 39.3
comp=N,51nm,0.3s
SEV Sm 18 26 39.3
comp=E,262nm,0.7s
TARU Tarkhankut 7.32 36 *e*P **Pn 18 25 15.6 -0.4**
TARU Pm 18 25 19.7
comp=Z,433nm,0.6s
TARU *e*S **Sn 18 26 33.8 -5.0**
TARU Sm 18 26 37.9
comp=N,257nm,0.4s
TARU Sm 18 26 37.9
comp=E,960nm,0.8s
STON Ston 7.32 299 *e*Pn **Pn 18 25 16.5 +0.5**
GIRR Girov 7.33 1 ⇓P **Pn 18 25 16.8 +0.6**
PURM Purcari 7.35 19 ⇓P **Pn 18 25 16.5 +0.1**

PURM Purcari 7.35 19 P **Pn 18 25 15.2 -1.3**
comp=E,3.0nmcomp=E,9μmcomp=E,826nm,1.0s
BNN Bunyan 7.37 93 ⇓P **Pn 18 25 18.5 +1.6**
FRGS Fruska Gora 7.38 321 *e*Pn **Pn 18 25 16.4 -0.4**
CJR Cluj-Napoca 7.38 345 ⇓P **Pn 18 25 17.9 +1.0**
CJR Cluj-Napoca 7.38 345 P **Pn 18 25 17.9 +1.0**
CBBR Cluj-Babes-Bol 7.44 345 ⇑P **Pn 18 25 19.3 +1.6**
MARR Marisel-Cluj 7.45 342 ⇓P **Pn 18 25 17.8 -0.1**
TIP Timpagrande 7.48 270 Pn 18 25 18.2 -0.2
TIP Timpagrande 7.48 270 ⇓P **Pn 18 25 19.1 +0.7**
TIP Timpagrande 7.48 270 P **Pn 18 25 18.7 +0.3**
comp=E,0.9nmcomp=E,2μmcomp=E,229nm,1.1s
TIP Timpagrande 7.48 270 ⇓P **Pn 18 25 18.8 +0.4**
SIRR Siria 7.50 334 ⇓P **Pn 18 25 18.2 -0.3**
MILM Milestii Mici 7.50 13 ⇑*i*P **Pn 18 25 17.9 -0.6**
comp=E,500nm,1.1s
MILM *e*S **Sn 18 26 45.0 +1.7**
MILM *e*Lq LQ 18 27 06.0
comp=E,12μm,5.5s
MILM LRM MLR 18 27 48.0
comp=E,6μm,11.0s
MILM Milestii Mici 7.50 13 ⇑P **Pn 18 25 19.2 +0.7**
MILM Milestii Mici 7.50 13 *i* P **Pn 18 25 17.9 -0.6**
MILM *e*S **Sn 18 26 45.0 +1.7**
MILM pmax pmax
comp=Z,500nm,1.1s
MILM pmax pmax
comp=N,1μm,1.9s
MILM MLR MLR
comp=Z,6μm,11.0s
MILM MLR MLR
comp=E,12μm,11.5s
MATE Matera 7.50 281 ⇓P **Pn 18 25 18.9 +0.3**
MATE Matera 7.50 281 ⇓P **Pn 18 25 18.8 +0.2**
YAL Yalta 7.54 47 *e*P **Pn 18 25 18.2 -0.8**
YAL *e*S **Sn 18 26 38.8 -5.5**
YAL Yalta 7.54 47 *e*P **Pn 18 25 18.2 -0.8**
YAL Pm 18 25 20.2
comp=Z,136nm,0.4s
YAL *e*S **Sn 18 26 38.8 -5.5**
YAL Sm 18 26 40.4
comp=E,215nm,0.5s
YAL Sm 18 26 40.5
comp=N,41nm,0.3s
KIS Kishinev 7.58 13 ⇑*i*P **Pn 18 25 19.0 -0.6**
comp=N,330nm,1.4s
KIS *e*S **Sn 18 26 46.0 +0.7**
KIS *e*L L 18 27 08.0
KIS LqM 18 27 36.0
comp=N,6μm,5.0s
KIS LRM MLR 18 28 35.0
comp=N,2μm,10.0s
KIS Kishinev 7.58 13 ⇑P **Pn 18 25 21.1 +1.5**
KIS Kishinev 7.58 13*c i*P **Pn 18 25 19.0 -0.6**
KIS *e*S **Sn 18 26 46.0 +0.7**
KIS pmax pmax
comp=Z,330nm,1.4s
KIS MLR MLR
comp=N,4μm,10.0s
KIS MLR MLR
comp=Z,2μm,10.0s
KIS Kishinev 7.58 13 P **Pn 18 25 20.2 +0.6**
comp=Z,1.8nmcomp=Z,4μmcomp=Z,468nm,0.7s
IASR Iasi 7.60 6 ⇓P **Pn 18 25 21.5 +1.6**
ARCR ARCALIA 7.61 349 ⇑P **Pn 18 25 21.0 +1.0**
DRGR 7.66 341 ⇑P **Pn 18 25 21.7 +1.0**
DRGR 7.66 341 P **Pn 18 25 21.7 +1.0**
PRAR RASCA 7.74 359 ⇓P **Pn 18 25 23.2 +1.4**
NE56 Odesa 7.78 24 P **Pn 18 25 21.6 -0.7**
ALU Alushta 7.80 47 ⇑*i*P **Pn 18 25 20.9 -1.7**
ALU *e*S **Sn 18 26 43.6 -7.1**
ALU Alushta 7.80 47 *i* P **Pn 18 25 20.9 -1.7**
ALU Pm 18 25 30.0
comp=Z,82nm,0.4s
ALU *e*S **Sn 18 26 43.6 -7.1**
ALU Sm 18 26 52.2
comp=E,33nm,0.4s
ALU Sm 18 26 52.3
comp=N,123nm,0.4s
SIM Simferopol' 7.81 45 *e*P **Pn 18 25 22.2 -0.5**
SIM S **Sn 18 26 45.2 -5.8**
SIM pmax pmax
comp=Z,552nm,1.0s
SIM smax smax
comp=N,1μm,0.9s
SIM smax smax
comp=E,1μm,1.3s
SIM Simferopol' 7.81 45 *e*P **Pn 18 25 22.2 -0.5**
SIM Pm 18 25 28.7
comp=Z,239nm,0.5s
SIM *e*S **Sn 18 26 45.5 -5.5**
SIM Sm 18 26 46.7
comp=N,1μm,1.0s
SIM Sm 18 26 46.7
comp=E,176nm,0.4s
MRVN Minervino Murg 7.93 284 ⇓P **Pn 18 25 24.6 +0.1**
MESR Meseseni 7.93 343 ⇓P **Pn 18 25 25.5 +1.1**
BURAR Bucovina Array 8.04 354 ⇑P **Pn 18 25 27.2 +1.2**
BURAR Bucovina Array 8.04 354 P **Pn 18 25 27.1 +1.2**
BUR08 Bucovina Ar. S 8.06 354 Pn 18 25 26.6 +0.2
CUC Castrocucco 8.16 276 Pn 18 25 27.9 +0.2
CUC Castrocucco 8.16 276 ⇑P **Pn 18 25 29.0 +1.3**
BORR Bors 8.19 337 ⇑P **Pn 18 25 28.8 +0.9**
SUDU Sudak 8.26 48 ⇑*i*P **Pn 18 25 26.9 -2.1**
SUDU *e*S **Sn 18 26 54.2 -7.9**
SUDU Sudak 8.26 48 *i* P **Pn 18 25 26.9 -2.1**
SUDU Pm 18 25 30.7
comp=Z,239nm,0.8s
SUDU *e*S **Sn 18 26 54.2 -7.9**
SUDU Sm 18 26 58.6
comp=N,310nm,0.6s
SUDU Sm 18 26 58.6
comp=E,84nm,0.4s
CEL Celeste 8.30 264 P **Pn 18 25 29.4 -0.2**
comp=E,3μmcomp=E,233nm,0.7s
CEL Celeste 8.30 264 ⇓P **Pn 18 25 29.6 0.0**
BMR Baia Mare 8.32 346 ⇑P **Pn 18 25 30.6 +0.9**
BMR Baia Mare 8.32 346 P **Pn 18 25 30.6 +0.9**
GMB Gambarie 8.38 263 P **Pn 18 25 30.8 +0.1**
GMB pmax pmax
comp=Z,759nm,0.8s
BLY Banja Luka 8.55 310 *e*Pn **Pn 18 25 34.2 +1.3**
BLY Banja Luka 8.55 310 ⇓P **Pn 18 25 34.2 +1.3**
RAKU Rahkiv 8.55 350 P **Pn 18 25 34.7 +1.7**
FEO Feodosiya 8.56 48 *e*P **Pn 18 25 31.6 -1.5**
FEO *e*S **Sn 18 27 03.0 -6.5**
FEO Feodosiya 8.56 48 *e*P **Pn 18 25 31.6 -1.5**
FEO Pm 18 25 37.5
comp=Z,160nm,0.6s
FEO Sm 18 26 09.4
comp=N,125nm,0.4s
FEO Sm 18 26 09.4
comp=E,16nm,0.4s
FEO *e*S **Sn 18 27 03.0 -6.5**
DRBR Darabani 8.58 1 ⇓P **Pn 18 25 34.6 +1.2**
SORM Soroca 8.62 9 ⇑P **Pn 18 25 33.0 -0.9**
SORM Soroca 8.62 9 P **Pn 18 25 33.0 -0.9**
SORM Soroca 8.62 9 P **Pn 18 25 31.9 -2.0**
comp=E,2μmcomp=E,211nm,0.8s
CHRU Chernivtsi 8.68 358 P **Pn 18 25 34.0 -0.7**
comp=E,2μmcomp=E,250nm,0.7s
NSLU Nyzhne Selyshc 8.69 351 P **Pn 18 25 37.3 +2.5**
MORH Mrgy, Hungar 8.70 322 ⇓P **Pn 18 25 34.6 -0.4**
MORH Mrgy, Hungar 8.70 322 P **Pn 18 25 34.1 -0.9**
comp=E,1μmcomp=E,163nm,1.0s
KSV Kosov 8.74 354 P **Pn 18 25 36.9 +1.3**
KSV Kosov 8.74 354 P **Pn 18 25 36.5 +0.9**
A050A Klekovaca 8.80 307 *e*Pn **Pn 18 25 38.5 +2.0**
TRSU Trosnyk 8.83 345 P **Pn 18 25 37.8 +1.1**
TRSU Trosnyk 8.83 345 P **Pn 18 25 36.8 +0.1**
KORU Korolevo 8.85 346 P **Pn 18 25 37.2 +0.2**
A051A Mrakovica 8.86 311 *e*Pn **Pn 18 25 37.9 +0.7**
KOVH Kovagotottos 8.88 319 ⇓P **Pn 18 25 36.9 -0.6**
KMPD K-Podol'skiy 8.94 0 P **Pn 18 25 38.6 +0.4**
KMPD P **Pn 18 25 38.6 +0.4**
NDNU Novodnistrovsk 9.00 4 P **Pn 18 25 37.6 -1.4**
BERU Beregovo 9.02 344 P **Pn 18 25 39.3 -0.1**
BRIU Brid 9.05 345 P **Pn 18 25 39.6 -0.1**
PAOL Paolisi 9.15 283 Pn 18 25 41.7 +0.4
MUKU Mukachevo 9.22 344 P **Pn 18 25 42.3 +0.2**
HWQ Hawqa 9.31 122 *e*P **Pn 18 25 43.6 +0.1**
BEIL Beino 9.31 120 *e*P **Pn 18 25 43.0 -0.5**
BHL Bhannes 9.36 125 *e*P **Pn 18 25 42.8 -1.3**

HOLU Holmets 9.36 343 P **Pn 18 25 44.3 +0.3**
DQRL Deir Qamar 9.44 126 *e*P **Pn 18 25 45.0 -0.1**
UZHM Uzhgorod 9.47 343 P **Pn 18 25 46.3 +0.7**
BUD Budapest 9.51 328 P **Pn 18 25 45.9 -0.1**
BUD pmax pmax
comp=Z,221nm,0.7s
PSZ Piszkesteto 9.53 333 Pn 18 25 45.1 -1.4
PSZ Piszkesteto 9.53 333 P **Pn 18 25 45.1 -1.4**
PSZ Piszkesteto 9.53 333 ⇑P **Pn 18 25 45.5 -1.0**
ZAHL Zahle 9.54 124 *e*P **Pn 18 25 46.5 -0.1**
HORU Horodok 9.59 0 P **Pn 18 25 47.3 +0.1**
QRWL Qaraoun 9.61 126 *e*P **Pn 18 25 47.0 -0.5**
HNTI Hanita 9.62 130 P **Pn 18 25 46.2 -1.4**
VAE Valguarnera 9.64 261 Pn **Pn 18 25 48.4 +0.5**
comp=Z,20nm,0.6s,baz=202,slow=3.8,SNR=6.2
VAE Sn **Sn 18 27 32.7 -3.3**
baz=11,slow=19
FKH Fakeheh 9.64 121 *e*P **Pn 18 25 48.1 +0.1**
MORS Morshin 9.68 350 P **Pn 18 25 50.2 +1.9**
MORS Morshin 9.68 350 P **Pn 18 25 48.9 +0.6**
ANN Anapa 9.68 54 *e*P **Pn 18 25 46.9 -1.4**
ANN *i* S **Sn 18 27 33.6 -3.2**
ANN pmax pmax
comp=Z,70nm,0.7s
ANN MLR MLR
comp=Z,543nm,11.0s
RCY Rachaya 9.74 126 *e*P **Pn 18 25 48.4 -1.0**
KOLS Kolonicke sedl 9.77 344 *e*P **Pn 18 25 50.8 +1.2**
KOLS Kolonicke sedl 9.77 344 *e*PN **Pn 18 25 50.8 +1.2**
INTR Introdacqua 9.77 288 Pn 18 25 47.9 -1.9
SHBL Chebaa 9.78 127 *e*P **Pn 18 25 49.6 -0.4**
MMAI Mount Meron Ar 9.80 129 Pn **Pn 18 25 48.5 -1.8**
comp=Z,11nm,0.3s,baz=321,slow=12,SNR=45
MMAI Sn **Sn 18 27 32.4 -7.7**
comp=Z,2.9nm,0.3s,baz=307,slow=27,SNR=1.8
comp=Z,51nm,0.8s
GEM Giv'at Ha'Em 9.82 128 ⇓P **Pn 18 25 49.4 -1.1**
GEM Giv'at Ha'Em 9.82 128 P **Pn 18 25 49.3 -1.1**
GEM Giv'at Ha'Em 9.82 128 S **Sn 18 27 36.8 -3.8**
KECS Kecovo 9.82 336 *e*P **Pn 18 25 50.5 +0.1**
KECS *e* 18 27 38.8
KECS Kecovo 9.82 336 *e*PN **Pn 18 25 50.5 +0.1**
KECS *e*SN **Sn 18 27 38.8 -1.7**
NATI Neve Ativ 9.84 127 P **Pn 18 25 49.6 -1.0**
SHIU Shidnytsya 9.84 348 P **Pn 18 25 50.6 0.0**
OFRI `Ofer 9.84 133 P **Pn 18 25 49.3 -1.4**
OFRI `Ofer 9.84 133 S **Sn 18 27 35.8 -5.3**
ZAG Zagreb 9.85 312 P **Pn 18 25 52.2 +1.4**
ZAG pmax pmax
comp=Z,265nm,0.8s
BLGI Bet Lehem HaGe 9.88 131 P **Pn 18 25 49.6 -1.6**
PTJ Puntijarka 9.91 313 P **Pn 18 25 52.3 +0.6**
MPLH Magyarpolny 9.92 322 P **Pn 18 25 51.7 0.0**
comp=Z,5μmcomp=Z,585nm,1.0s
SRO Srobarova 10.06 327 *e*P **Pn 18 25 56.2 +2.6**
SRO Srobarova 10.06 327 *e*PN **Pn 18 25 56.2 +2.6**
KSHT Keshet 10.07 128 P **Pn 18 25 53.2 -0.7**
BOJS Bojanci 10.11 309 *e*Pn **Pn 18 25 54.9 +0.6**
BOJS Bojanci 10.11 309 *e*Pn **Pn 18 25 55.0 +0.8**
WDD Wied Dalam 10.14 252 Pn 18 25 52.8 -1.9
WDD Wied Dalam 10.14 252 ⇓P **Pn 18 25 53.7 -1.1**
MMLI Mount Malkishu 10.23 132 P **Pn 18 25 55.2 -0.8**
MMLI Mount Malkishu 10.23 132 S **Sn 18 27 46.6 -3.9**
LVV L'vov 10.33 351 P **Pn 18 25 57.9 +0.6**
LVV L'vov 10.33 351 P **Pn 18 25 58.0 +0.6**
LUBAR Lubar, Ukraine 10.34 5 P **Pn 18 25 56.5 -0.9**
KWP Kalwaria Pacla 10.35 346 *e*P **Pn 18 25 59.5 +1.9**
KWP *e*S 18 29 02.8
KWP Kalwaria Pacla 10.35 346 P **Pn 18 25 59.4 +1.9**
KWP Kalwaria Pacla 10.35 346 ⇓P **Pn 18 26 01.2 +3.7**
SALP Salfit 10.37 134 ⇑P **Pn 18 25 57.3 -0.7**
GBRS Gornja Briga 10.39 308 *i* Pn **Pn 18 25 58.8 +0.7**
VYHS Vyhne 10.40 331 *e*P **Pn 18 25 57.7 -0.6**
VYHS *e* 18 27 51.8
VYHS Vyhne 10.40 331 *e*PN **Pn 18 25 57.7 -0.6**
VYHS *e*SN **Sn 18 27 51.8 -2.8**
HMDT Nahal Hemdat 10.42 132 P **Pn 18 25 57.8 -0.9**
HMDT Nahal Hemdat 10.42 132 S **Sn 18 27 50.4 -4.8**
STHS Stebnicka Huta 10.46 341 *e*P **Pn 18 25 59.9 +0.8**
STHS Stebnicka Huta 10.46 341 *e*PN **Pn 18 25 59.9 +0.8**
CLTB Caltabellotta 10.52 263 ⇑P **Pn 18 26 01.6 +1.6**
BALJ Balqa 10.61 132 Pn 18 25 59.1 -2.2
UJAP Al Uja 10.61 133 P **Pn 18 26 00.8 -0.4**
AMAZ Amatzia 10.63 137 ⇑P **Pn 18 26 02.6 +1.0**
NIE Niedzica 10.71 338 *e*P **Pn 18 26 04.2 +1.5**
NIE *e*S 18 29 24.0
NIE Niedzica 10.71 338 P **Pn 18 26 04.1 +1.5**
NIE Niedzica 10.71 338 P **Pn 18 26 03.6 +1.0**
comp=Z,25nm,0.9s
CEY Cerknica 10.72 309 *e*Pn **Pn 18 26 02.3 -0.4**
SOC Sochi 10.72 64 *e*P **Pn 18 26 01.7 -1.0**
SOC *e* 18 28 03.3
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,1μm,18.0s
LANS Liptovska Anna 10.73 335 *e*P **Pn 18 26 04.6 +1.7**
LANS *e* 18 28 05.9
LANS Liptovska Anna 10.73 335 *e*PN **Pn 18 26 04.6 +1.7**
LANS Liptovska Anna 10.73 335 *e*SN **Sn 18 28 05.9 +3.0**
VNDS Vrh nad Dolski 10.75 311 *i* Pn **Pn 18 26 04.1 +1.0**
SOP Sopron 10.75 322 P **Pn 18 26 03.5 +0.4**
SOP pmax pmax
comp=Z,73nm,0.7s
LJU Ljubljana 10.82 310 *e*Pn **Pn 18 26 03.4 -0.6**
LJU Ljubljana 10.82 310 P **Pn 18 26 06.1 +2.0**
LJU pmax pmax
comp=Z,356nm,0.7s
KOPT Kop Dagi 10.85 83 Pn 18 26 06.4 +1.7
DSI Dead Sea 10.85 135 P **Pn 18 26 03.6 -0.9**
DSI Dead Sea 10.85 135 S **Sn 18 28 01.8 -4.0**
KZIT Kziot 10.87 141 ⇑P **Pn 18 26 03.7 -1.1**
KZIT Kziot 10.87 141 P **Pn 18 26 03.2 -1.6**
KZIT Kziot 10.87 141 S **Sn 18 27 59.8 -6.5**
YTIR Yattir 10.87 137 P **Pn 18 26 03.4 -1.5**
YTIR Yattir 10.87 137 S **Sn 18 27 58.9 -7.5**
SOKA Soboth 10.89 314 *i* Pn **Pn 18 26 05.5 +0.4**
comp=Z,37nm,1.0s,SNR=25
RONA Rosalia, Austr 10.89 321 *i* Pn **Pn 18 26 05.7 +0.7**
comp=Z,79nm,1.0s,SNR=33
MODS Modra-Piesok 10.93 326 *e*P **Pn 18 26 05.2 -0.4**
MODS Modra-Piesok 10.93 326 *e*PN **Pn 18 26 05.2 -0.4**
ARSA Arzberg 10.98 318 *i* Pn **Pn 18 26 06.6 +0.4**
comp=Z,16nm,0.6s,SNR=15
ARSA Arzberg 10.98 318 ⇑P **Pn 18 26 06.8 +0.6**
ARSA Arzberg 10.98 318 *e*P **Pn 18 26 06.9 +0.6**
baz=128,slow=14
OBKA Obir 11.06 312 *i* P **Pn 18 26 08.5 +1.0**
comp=Z,36nm,0.7s,SNR=24
OBKA Obir 11.06 312 *e*Pn **Pn 18 26 06.8 -0.7**
OBKA Obir 11.06 312 *e*P **Pn 18 26 08.7 +1.2**
baz=128,slow=14
AK07 Malin Array Si 11.10 9 P **Pn 18 26 06.7 -1.2**
AK06 Malin Array Si 11.14 9 P **Pn 18 26 07.2 -1.1**
AK13 Malin Array Si 11.15 9 P **Pn 18 26 07.3 -1.1**
JAVC Velka Javorina 11.15 329 *e*PN **Pn 18 26 08.5 -0.1**
AK10 Malin Array Si 11.16 9 P **Pn 18 26 07.4 -1.2**
GHAJ Ghor Haditha 11.16 135 Pn 18 26 06.4 -2.3
AK14 Malin Array Si 11.17 9 P **Pn 18 26 07.6 -1.2**
AK05 Malin Array Si 11.17 9 P **Pn 18 26 07.4 -1.4**
VOJS Vojsko 11.20 309 *e*Pn **Pn 18 26 09.4 +0.1**
AK02 Malin Array Si 11.21 9 P **Pn 18 26 08.0 -1.3**
AK16 Malin Array Si 11.21 9 P **Pn 18 26 07.9 -1.4**
KIEV Kiev 11.24 9 Pn 18 26 07.8 -2.0
KIEV Kiev 11.24 9 ⇓P **Pn 18 26 10.3 +0.4**
KIEV Kiev 11.24 9 P **Pn 18 26 10.2 +0.4**
KIEV Kiev 11.24 9 *i* P **Pn 18 26 08.9 -0.9**
SNR=11
MGAB Montegabbione 11.25 292 ⇓P **Pn 18 26 09.6 -0.4**
AKASG Malin Array Be 11.25 9 Pn 18 26 05.8 -4.1
AKASG Malin Array Be 11.25 9 Pn **Pn 18 26 07.7 -2.3**
comp=Z,4.0nm,0.3s,baz=201,slow=11,SNR=25
AKASG Sn Sn 18 28 04.5 -11
comp=Z,5.2nm,0.3s,baz=202,slow=21,SNR=4.5
AKASG LR LR 18 30 31.0
comp=Z,2μm,21.8s,baz=186,slow=38
comp=Z,1.5nm,0.3s
AKASG Malin Array Be 11.25 9 *i* P **Pn 18 26 07.6 -2.3**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 11.25 9 Pn 18 26 07.6 -2.3
AKBB Malin Array Si 11.25 9*ce*P **Pn 18 26 09.5 -0.4**

AKBB Malin Array Si 11.25 9 P **Pn 18 26 08.5 -1.4**
AK18 Malin Array Si 11.26 9 P **Pn 18 26 08.6 -1.3**
CONA Conrad Observa 11.26 321 *i* Pn **Pn 18 26 10.5 +0.4**
comp=Z,84nm,1.1s,SNR=30
AK04 Malin Array Si 11.27 9 P **Pn 18 26 08.7 -1.4**
AK20 Malin Array Si 11.27 8 P **Pn 18 26 08.8 -1.3**
AK03 Malin Array Si 11.28 9 P **Pn 18 26 09.6 -0.6**
ASF Jabal al Asfar 11.29 128 Pn **Pn 18 26 10.6 0.0**
comp=Z,1.1nm,0.3s,baz=336,slow=8.2,SNR=14
ASF Sn **Sn 18 28 09.2 -7.5**
baz=352,slow=19
ASF LR LR 18 31 23.5
comp=Z,1μm,19.4s,baz=335,slow=42
comp=Z,4.7nm,0.5s
AK22 Malin Array Si 11.29 9 P **Pn 18 26 09.4 -1.1**
MI28 Mi28,Pidlybu 11.34 4 P **Pn 18 26 09.8 -1.3**
MAUC Maruska 11.50 331 *e*P **Pn 18 26 13.5 +0.2**
ZFRI Zfri 11.55 139 P **Pn 18 26 13.5 -0.5**
OJC Ojcow 11.58 338 *e*P **Pn 18 26 15.1 +0.8**
OJC *e*S Sn 18 29 23.3 +60
OJC Ojcow 11.58 338 **Pn 18 26 12.3 -2.1**
OJC Ojcow 11.58 338 P **Pn 18 26 12.3 -2.1**
OJC Ojcow 11.58 338 P **Pn 18 26 14.9 +0.5**
comp=Z,30nm,1.0s
OJC Ojcow 11.58 338 ⇑P **Pn 18 26 15.8 +1.4**
RNPP5 Staryi Chortor 11.61 358 P **Pn 18 26 13.9 -0.9**
PRNI Paran 11.62 140 P **Pn 18 26 14.4 -0.7**
MYKA Terra Mystica 11.65 311 *i* P **Pn 18 26 16.4 +1.0**
comp=Z,34nm,0.8s,SNR=18
PTCC Patocco-Chiusa 11.71 310 ⇑P **Pn 18 26 18.1 +1.9**
RNPP8 Varash 11.72 358 P **Pn 18 26 15.9 -0.4**
BCA Borcka 11.72 76 ⇑P **Pn 18 26 17.3 +0.8**
LABN Labinsk 11.75 60 *e*P **Pn 18 26 15.8 -0.9**
LABN *e*S **Sn 18 28 26.3 -1.4**
LABN pmax pmax
comp=Z,69nm,0.7s
LABN MLR MLR
comp=Z,1μm,10.0s
OKC Ostrava-Krasne 11.77 333 *e*P **Pn 18 26 18.3 +1.3**
OKC AMS AMS 18 31 30.0
comp=Z,5μm,11.6s
OKC Ostrava-Krasne 11.77 333 *e*P **Pn 18 26 18.3 +1.3**
OKC MLR MLR
comp=Z,5μm,11.6s
RNPP9 Sopachiv 11.79 358 P **Pn 18 26 16.3 -1.0**
KRUC Moravsky 11.84 326 *e*PN **Pn 18 26 16.7 -1.2**
KRUC Moravsky 11.84 326 P **Pn 18 26 17.1 -0.8**
KRUC pmax pmax
comp=Z,38nm,1.1s
HRFI Mount Harif 11.90 141 P **Pn 18 26 17.6 -1.3**
HRFI Mount Harif 11.90 141 S **Sn 18 28 24.3 -7.2**
MORC Moravsky Berou 11.94 331 **Pn 18 26 18.7 -0.6**
MORC Moravsky Berou 11.94 331 *e*PN **Pn 18 26 18.3 -1.1**
MORC Moravsky Berou 11.94 331 ⇓P **Pn 18 26 19.7 +0.3**
MORC Moravsky Berou 11.94 331 P **Pn 18 26 19.6 +0.3**
MORC Moravsky Berou 11.94 331 ⇑P **Pn 18 26 19.1 -0.3**
VRAC Vranov 11.94 327 Pn **Pn 18 26 17.9 -1.4**
comp=Z,1.2nm,0.3s,baz=151,slow=13,SNR=21
VRAC Sn **Sn 18 28 23.9 -8.5**
comp=Z,0.2nm,0.3s,baz=122,slow=19,SNR=1.6
comp=Z,20nm,0.8s
VRAC Vranov 11.94 327 *e*PN **Pn 18 26 18.4 -1.0**
STEB Steborice 11.99 332 *e*P **Pn 18 26 19.9 0.0**
ERBR Yeremizino-Bor 12.01 55 *e*P **Pn 18 26 18.7 -1.6**
ERBR *e*S **Sn 18 28 31.7 -2.4**
ERBR pmax pmax
comp=Z,104nm,1.0s
ERBR MLR MLR
comp=Z,351nm,7.0s
MOA Molln 12.02 317 *i* P **Pn 18 26 22.1 +1.7**
comp=Z,43nm,1.1s,SNR=23
MOA Molln 12.02 317 *e*P **Pn 18 26 20.9 +0.5**
baz=128,slow=14
MBRI Mt Berech 12.04 142 P **Pn 18 26 19.0 -1.8**
KBA Koelnbreinsper 12.07 312 *e*P **Pn 18 26 22.4 +1.1**
comp=Z,31nm,0.8s,SNR=17
KBA Koelnbreinsper 12.07 312 P **Pn 18 26 21.5 +0.2**
KBA pmax pmax
comp=Z,66nm,1.3s
KBA Koelnbreinsper 12.07 312 ⇑P **Pn 18 26 21.8 +0.5**
KBA Koelnbreinsper 12.07 312 *e*P **Pn 18 26 22.2 +0.9**
baz=128,slow=14
EIL Elat 12.16 142 Pn **Pn 18 26 20.8 -1.7**
comp=Z,2.5nm,0.3s,baz=236,slow=4.7,SNR=22
EIL Sn **Sn 18 28 29.2 -8.7**
comp=Z,1.6nm,0.3s,baz=15,slow=18,SNR=1.0
comp=Z,11nm,0.5s
EIL Elat 12.16 142 ⇑P **Pn 18 26 20.8 -1.7**
EIL Elat 12.16 142 P **Pn 18 26 21.5 -1.0**
GURO Guroymak-BITLI 12.19 90 **Pn 18 26 26.8 +3.8**
BIOA Bad Ischl, Aus 12.26 315 *i* Pn **Pn 18 26 24.4 +0.7**
comp=Z,36nm,1.1s,SNR=17
ABTA Abfaltersbach 12.38 310 *i* Pn **Pn 18 26 25.4 -0.1**
comp=Z,60nm,0.7s,SNR=41
TREC Trest 12.41 325 AMS AMS 18 31 50.0
comp=Z,6μm,10.3s
TREC Trest 12.41 325 P **Pn 18 26 25.9 +0.1**
KRLC Kraliky 12.47 330 *e*P **Pn 18 26 26.8 +0.2**
KRLC AMS AMS 18 32 20.0
comp=Z,5μm,11.0s
KRLC Kraliky 12.47 330 *e*P **Pn 18 26 26.8 +0.2**
KRLC MLR MLR
comp=Z,5μm,11.0s
PII Pisa 12.56 294 P **Pn 18 26 29.5 +1.7**
PII pmax pmax
comp=Z,21nm,0.9s
CTI Castel Tesino 12.58 305 **Pn 18 26 27.4 -0.8**
CTI Castel Tesino 12.58 305 P **Pn 18 26 27.4 -0.8**
CKRC Cesky Krumlov 12.63 321 *e*P **Pn 18 26 30.0 +1.3**
CKRC *e*x x 18 26 36.4
CKRC AMS AMS 18 32 00.0
comp=Z,7μm,10.4s
CKRC Cesky Krumlov 12.63 321 *e*P **Pn 18 26 30.0 +1.3**
CKRC MLR MLR
comp=Z,7μm,10.4s
LESA Schwarzleotal 12.64 313 *i* P **Pn 18 26 29.9 +1.0**
comp=Z,45nm,0.9s,SNR=22
RJOB Jochberg 12.75 314 *e*P **Pn 18 26 31.2 +0.8**
baz=128,slow=14
VLC Villacollemand 12.76 296 P **Pn 18 26 30.3 -0.3**
VLC Villacollemand 12.76 296 ⇑P **Pn 18 26 30.6 0.0**
SHA1 Shidzhatmaz 12.82 66 *i* P **Pn 18 26 30.8 -0.8**
DPC Dobruska-Polom 12.87 330 *e*P **Pn 18 26 32.0 -0.1**
DPC *e*x x 18 26 39.2
DPC AMS AMS 18 32 20.0
comp=Z,5μm,9.5s
DPC Dobruska-Polom 12.87 330 *e*P **Pn 18 26 32.0 -0.1**
DPC MLR MLR
comp=Z,5μm,9.5s
DPC Dobruska-Polom 12.87 330 P **Pn 18 26 31.9 -0.1**
comp=Z,24nm,1.2s
KIV Kislovodsk 12.89 65 **Pn 18 26 29.1 -3.4**
KIV Kislovodsk 12.89 65 P **Pn 18 26 31.6 -0.9**
KIV Kislovodsk 12.89 65 *e*P **Pn 18 26 31.1 -1.4**
KIV *e*S **Sn 18 28 55.8 -0.1**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,534nm,13.0s
KIV Kislovodsk 12.89 65 P **Pn 18 26 31.2 -1.3**
KIV Kislovodsk 12.89 65 P **Pn 18 26 31.5 -0.9**
comp=Z,36nm,1.0s
KIV Kislovodsk 12.89 65 ⇑P **Pn 18 26 31.6 -0.9**
KVAR Kislovodsk Arr 12.90 65 Pn **Pn 18 26 32.7 +0.1**
baz=88,slow=24
KVAR Sn **Sn 18 28 53.0 -3.1**
baz=286,slow=20
comp=Z,2.7nm,0.5s
GEC2 GERESS Array S 12.94 320 *e*P **Pn 18 26 34.0 +0.9**
baz=128,slow=14
GERES GERESS Array B 12.94 320 **Pn 18 26 32.7 -0.4**
GERES GERESS Array B 12.94 320 Pn **Pn 18 26 33.3 +0.2**
comp=Z,0.5nm,0.3s,baz=130,slow=12,SNR=32
GERES Sn Sn 18 28 47.2 -10
baz=144,slow=24
GERES Lg Lg 18 30 07.7
comp=Z,0.1nm,0.3s,baz=125,slow=22,SNR=1.2
GERES LR LR 18 31 09.4
comp=Z,837nm,21.7s,baz=135,slow=36
GERES PcP **PcP 18 32 05.4 -1.4**
comp=Z,2.2nm,0.6s,baz=94,slow=2.9,SNR=5.5
comp=Z,5.7nm,0.8s
KBZ Khabaz 12.99 66 Pn **Pn 18 26 33.8 +0.1**
comp=Z,0.3nm,0.3s,baz=279,slow=9.5,SNR=11
KBZ Sn **Sn 18 28 56.5 -1.6**
comp=Z,0.2nm,0.3s,baz=356,slow=16,SNR=1.1
comp=Z,22nm,1.2s
KBZ Khabaz 12.99 66 *ce*P **Pn 18 26 33.6 -0.1**
GEVA Gevas 13.03 90 Pn **Pn 18 26 35.4 +0.9**
OSTC Ostas 13.07 330 *e*P **Pn 18 26 36.0 +1.2**
OSTC AMS AMS 18 32 40.0
comp=Z,4μm,11.0s
OSTC Ostas 13.07 330 *e*P **Pn 18 26 36.0 +1.2**
OSTC MLR MLR
comp=Z,4μm,11.0s
ZVC Zvikov 13.11 322 *e*P **Pn 18 26 35.6 +0.4**
ZVC *e*x x 18 26 43.0
ZVC AMS AMS 18 32 10.0
comp=Z,3μm,12.0s
UPC Upice 13.11 329 AMS AMS 18 32 30.0
comp=Z,3μm,11.2s
VSL Villasalto 13.14 275 **Pn 18 26 35.1 -0.7**
VSL Villasalto 13.14 275 ⇓P **Pn 18 26 35.4 -0.5**
WTTA Wattenberg 13.16 310 *i* P **Pn 18 26 37.2 +1.0**
comp=Z,41nm,0.5s,SNR=29
WTTA Wattenberg 13.16 310 P **Pn 18 26 37.1 +1.0**
WTTA pmax pmax
comp=Z,79nm,0.7s
WTTA Wattenberg 13.16 310 *e*P **Pn 18 26 38.1 +2.0**
baz=128,slow=14
CHVC Chvalec 13.16 330 *e*P **Pn 18 26 37.3 +1.3**
CHVC AMS AMS 18 32 30.0
comp=Z,3μm,10.3s
CHVC Chvalec 13.16 330 *e*P **Pn 18 26 37.3 +1.3**
CHVC MLR MLR
comp=Z,3μm,10.3s
KHC Kasperske Hory 13.19 320 *e*P **Pn 18 26 36.8 +0.3**
KHC *e*x x 18 26 45.8
KHC AMS AMS 18 32 20.0
comp=Z,9μm,10.4s
KHC Kasperske Hory 13.19 320 *e*P **Pn 18 26 36.8 +0.3**
KHC MLR MLR
comp=Z,9μm,10.4s
KHC Kasperske Hory 13.19 320 P **Pn 18 26 36.3 -0.2**
comp=Z,43nm,1.2s
KHC Kasperske Hory 13.19 320 ⇑P **Pn 18 26 37.0 +0.5**
WATA Walderalm 13.23 310 *i* P **Pn 18 26 37.8 +0.8**
comp=Z,93nm,1.1s,SNR=29
PRU Pruhonice 13.34 325 *e*P **Pn 18 26 38.2 -0.2**
PRU AMS AMS 18 32 20.0
comp=Z,6μm,9.7s
PRU Pruhonice 13.34 325 *e*P **Pn 18 26 38.2 -0.2**
PRU MLR MLR
comp=Z,6μm,9.7s
SQTA Sankt Quirin 13.39 310 *i* Pn **Pn 18 26 39.8 +0.6**
comp=Z,37nm,0.6s,SNR=22
PRA Prague 13.44 325 AMS AMS 18 32 30.0
comp=Z,5μm,10.3s
GOF Gofitskoye 13.45 61 *ce*P **Pn 18 26 41.8 +1.9**
PGF Pioggiola 13.45 288 P **Pn 18 26 41.1 +1.0**
PGF pmax pmax
comp=Z,30nm,0.8s
PGF Pioggiola 13.45 288 ⇓P **Pn 18 26 40.3 +0.2**
MOTA Moosalm 13.51 310 *e*Pn **Pn 18 26 41.3 +0.4**
comp=Z,86nm,0.8s
WET Wettzell 13.55 319 P **Pn 18 26 41.3 0.0**
WET pmax pmax
comp=Z,68nm,1.7s
WET Wettzell 13.55 319 *e*P **Pn 18 26 41.6 +0.2**
baz=128,slow=14
BOB Bobbio (Coli) 13.58 298 P **Pn 18 26 42.1 +0.3**
BOB pmax pmax
comp=Z,151nm,1.0s
FETA Feichten 13.58 308 *e*P **Pn 18 26 42.6 +0.7**
comp=Z,63nm,0.9s,SNR=30
PVCC Panska Ves 13.72 327 *e*P **Pn 18 26 43.8 +0.2**
PVCC AMS AMS 18 32 40.0
comp=Z,5μm,9.3s
PVCC Panska Ves 13.72 327 *e*P **Pn 18 26 43.8 +0.2**
PVCC MLR MLR
comp=Z,5μm,9.3s
RETA Reutte 13.78 310 *e*Pn **Pn 18 26 44.8 +0.2**
comp=Z,8.9nm,0.7s
FUR Furstenfeldbru 13.83 313 P **Pn 18 26 44.9 -0.3**
FUR pmax pmax
comp=Z,88nm,0.8s
RICC Richard 13.94 326 AMS AMS 18 32 50.0
comp=Z,5μm,9.8s
DAVOX Davos/Dischmat 14.00 306 Pn **Pn 18 26 47.3 -0.4**
comp=Z,2.8nm,0.3s,baz=131,slow=11,SNR=39
DAVOX LR LR 18 33 30.4
comp=Z,705nm,21.5s,baz=110,slow=43
comp=Z,20nm,0.7s
KEST Kesra 14.06 259 **Pn 18 26 48.5 +0.1**
KEST Kesra 14.06 259 Pn **Pn 18 26 49.1 +0.7**
comp=Z,0.8nm,0.3s,baz=90,slow=3.4,SNR=24
KEST LR LR 18 33 50.7
comp=Z,1μm,18.3s,baz=47,slow=44
comp=Z,29nm,1.0s
GNI Garni 14.09 82 P **Pn 18 26 51.9 +3.0**
GNI Garni 14.09 82 Pn **Pn 18 26 52.3 +3.4**
comp=Z,0.4nm,0.3s,baz=244,slow=2.3,SNR=29
GNI Lg Lg 18 30 58.6
comp=Z,0.4nm,0.3s,baz=9.5,slow=18,SNR=1.4
GNI LR LR 18 32 13.0
comp=Z,2μm,21.8s,baz=288,slow=37
comp=Z,67nm,1.1s
GNI Garni 14.09 82 P **Pn 18 26 51.6 +2.7**
GNI Garni 14.09 82 *i* P **Pn 18 26 49.6 +0.7**
GNI Garni 14.09 82 P **Pn 18 26 51.2 +2.3**
PCP Piancastagn 14.14 296 P **Pn 18 26 49.1 -0.3**
PCP pmax pmax
comp=Z,48nm,1.0s
TUE Stuetta 14.21 304 **Pn 18 26 50.0 -0.5**
TUE Stuetta 14.21 304 P **Pn 18 26 50.1 -0.5**
comp=Z,426nm,0.9s
TUE Stuetta 14.21 304 ⇑P **Pn 18 26 50.7 +0.1**
DAVA Damuels 14.22 308 *e*P **Pn 18 26 52.0 +1.4**
comp=Z,21nm,0.9s,SNR=11
DAVA Damuels 14.22 308 ⇓P **Pn 18 26 51.7 +1.1**
BRG Berggiesshubel 14.24 326 *e*P **Pn 18 26 50.4 -0.4**
BRG Amp 18 26 54.5
comp=Z,14nm,1.1s
BRG Berggiesshubel 14.24 326 P **P 18 26 59.7 +1.6**
BRG Amp 18 27 00.6
comp=Z,94nm,1.3s
BRG Berggiesshubel 14.24 326 P P 18 27 05.1 +7.0
BRG Amp 18 27 06.7
comp=Z,24nm,0.9s
BRG Berggiesshubel 14.24 326 S **Sn 18 29 25.0 -3.5**
BRG Berggiesshubel 14.24 326 P **Pn 18 26 52.6 +1.8**
BRG pmax pmax
comp=Z,60nm,1.6s
BRG Berggiesshubel 14.24 326 *e*P **P 18 26 59.7 +1.6**
baz=128,slow=14
UBR Ueberruh 14.27 310 *e*P **Pn 18 26 51.0 -0.2**
baz=128,slow=14
HSKC Hora Svate Kat 14.28 325 *e*P **Pn 18 26 50.4 -0.9**
HSKC *e*x x 18 26 59.5
HSKC AMS AMS 18 32 50.0
comp=Z,5μm,10.2s
ROTZ Rotzenmuhle 14.29 320 *e*P **P 18 26 59.8 +1.2**
baz=128,slow=14
PLONS Plons/SG 14.43 307 *e*P **Pn 18 26 55.1 +1.7**
baz=128,slow=14
NKC Novy Kostel 14.47 322 AMS AMS 18 33 10.0
comp=Z,3μm,11.1s
MANZ Manzenberg 14.48 320 *e*P **Pn 18 26 54.0 0.0**
baz=128,slow=14
VORD Divnogorie 14.50 34 *e*P **Pn 18 26 52.1 -2.1**
VORD pmax pmax
comp=Z,130nm,1.0s
SUW Suwalki 14.56 352 *e*P **Pn 18 26 54.0 -1.1**
SUW *e*S S 18 31 33.4 +98
SUW Suwalki 14.56 352 *e*P **P 18 27 01.0 -0.6**
TANN Tannenbergstha 14.59 322 *e*P **Pn 18 26 54.9 -0.6**
baz=128,slow=14
VSR Storozhevoye 14.62 33 *e*P **Pn 18 26 53.2 -2.8**
VSR pmax pmax
comp=Z,100nm,0.8s
VSR MLR MLR
comp=Z,2μm,18.0s
MONC Moncucco Torin 14.70 298 ⇑P **Pn 18 26 56.8 -0.3**
GRF Grafenberg Arr 14.74 318 *e*P **P 18 27 04.7 +1.0**
baz=128,slow=14
GRFO Grafenberg 14.74 318 **Pn 18 26 56.3 -1.3**
GRFO Grafenberg 14.74 318 P **Pn 18 26 56.3 -1.3**
PLN Plauen 14.78 322 *e*P **P 18 27 05.7 +1.6**
baz=128,slow=14
WILA Wila 14.87 307 *e*P **Pn 18 27 00.6 +1.2**
baz=128,slow=14
MNK Minsk 14.92 3 *i* P **Pn 18 26 56.2 -3.7**
comp=E,49nm,0.9s
MNK *i* P **Pn 18 26 56.2 -3.7**
comp=N,24nm,0.8s
MNK *i* P **Pn 18 26 56.2 -3.7**
comp=Z,34nm,0.7s,baz=185
MNK *i* PP **P 18 27 04.2 -1.4**
MNK *i* PPP PPP 18 27 11.9
MNK *i* S **Sn 18 29 40.7 -4.2**
MNK *i* SS **SnSn 18 29 54.5 -3.0**
MNK *i* SSS SSS 18 30 07.1
MNK *i* LR LR 18 31 54.4
MNK *i* LRM MLR 18 32 55.6
comp=N,1μm,13.5s
MNK *i* LRM MLR 18 33 02.3
comp=Z,1μm,13.3s
MNK *i* LRM MLR 18 33 10.9
comp=E,2μm,15.8s
MNK Minsk 14.92 3 *i* P **Pn 18 26 56.2 -3.7**
MNK *i* S **Sn 18 29 40.7 -4.2**
MNK pmax pmax
comp=Z,34nm,0.7s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,49nm,0.9s
MNK MLR MLR
comp=N,1μm,13.0s
MNK MLR MLR
comp=Z,1μm,13.0s
MNK MLR MLR
comp=E,2μm,16.0s
CLL Collm 14.97 326 *i* P **Pn 18 27 00.0 -0.6**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 14.97 326 P **Pn 18 26 59.7 -0.9**
comp=Z,72nm,1.3s
CLL Collm 14.97 326 *i* P **Pn 18 27 00.0 -0.6**
comp=Z,16nm,1.2s
CLL *i* pP **Pn 18 27 02.7 +2.1**
CLL *i* PP **PnPn 18 27 06.8 -1.8**
comp=Z,157nm,1.6s
CLL *i* sPP 18 27 12.7
CLL *i* x x 18 27 18.0
CLL *e*S **Sn 18 29 42.0 -4.1**
CLL *e*SS **SnSn 18 30 00.0 +1.3**
CLL AMS AMS 18 34 00.0
CLL Collm 14.97 326 *e*P **Pn 18 27 02.6 +2.1**
baz=128,slow=14
VORR Voronezh 14.98 32 *e*P **Pn 18 26 59.0 -1.8**
VORR pmax pmax
comp=Z,69nm,0.7s
VORR MLR MLR
comp=Z,3μm,21.0s
GKP Gorka Klasztor 15.02 338 *e*P **Pn 18 27 03.9 +2.6**
ISO Isola 15.11 294 P **Pn 18 27 03.9 +1.3**
ISO pmax pmax
comp=Z,44nm,1.0s
MOX Moxa 15.15 322 *e*P **P 18 27 11.0 +2.9**
baz=128,slow=14
CMAH Djebel Manchou 15.24 265 P **P 18 27 08.1 -1.2**
NACGM Naroch 15.29 1 ⇑*i*P **Pn 18 27 02.4 -2.5**
STU Stuttgart 15.33 312 *e*P **P 18 27 09.8 -0.4**
LMR La Mourre 15.36 290 *e*P **Pn 18 27 05.9 0.0**
LMR pmax pmax
comp=Z,192nm,1.5s
NEUB Neuenburg 15.45 323 *e*P **P 18 27 13.2 +1.7**
baz=128,slow=14
RUE Ruedersdorf 15.53 330 *e*P **P 18 27 11.7 -0.6**
BNI Bardonecchia 15.55 297 **Pn 18 27 06.7 -1.8**
BNI Bardonecchia 15.55 297 P **Pn 18 27 06.7 -1.8**
BNI pmax pmax
comp=Z,34nm,0.9s
BNI Bardonecchia 15.55 297 ⇑P **Pn 18 27 07.4 -1.1**
LPSR Galich'ya Gora 15.58 29 *e*P **Pn 18 27 05.6 -3.1**
LPSR pmax pmax
comp=Z,115nm,1.1s
LPSR MLR MLR
comp=Z,2μm,19.0s
BALST Balsthal 15.59 306 *e*P **Pn 18 27 09.3 +0.3**
baz=128,slow=14
BFO Black Forest 15.62 310 **Pn 18 27 06.8 -2.6**
BFO Black Forest 15.62 310 P **Pn 18 27 06.8 -2.6**
BFO pmax pmax
comp=Z,29nm,0.9s
BFO Black Forest 15.62 310 ⇓P **Pn 18 27 08.3 -1.0**
BFO Black Forest 15.62 310 *e*P **P 18 27 11.9 -1.6**
baz=128,slow=14
IIGN Ignalina 15.74 360 *e*P **Pn 18 27 10.8 +0.1**
RSL Roselend 15.75 299 P **Pn 18 27 11.5 +0.4**
RSL pmax pmax
comp=Z,130nm,1.3s
VRH Novokhopyorsk 15.76 38 *e*P **Pn 18 27 09.2 -1.9**
VRH pmax pmax
comp=Z,255nm,0.8s
VRH MLR MLR
comp=Z,1μm,21.0s
CKFL Kef-Lekhel 15.85 264 P **Pn 18 27 11.1 -1.2**
PABE Paberze 15.97 355 P **Pn 18 27 12.0 -1.7**
PABE IAmb IAmb 18 27 15.7
comp=Z,278nm,1.1s
PABE Paberze 15.97 355 *e*P **Pn 18 27 14.2 +0.5**
CASM Ain Smara 16.06 264 P **Pn 18 27 14.7 -0.4**
ORIF Oris-en-Rattie 16.07 296 P **Pn 18 27 16.5 +1.3**
ORIF pmax pmax
comp=Z,103nm,1.5s
RUSF Rustrel 16.18 292 ⇑P **P 18 27 20.1 +0.4**
MAK Makhachkala 16.20 71 *d i*P **Pn 18 27 11.2 -5.5**
MAK *e*S **Sn 18 30 08.0 -8.2**
MAK pmax pmax
comp=Z,151nm,1.1s
MAK MLR MLR
comp=Z,2μm,11.0s
ECH Echery 16.28 308 P **Pn 18 27 17.6 -0.1**
ECH pmax pmax
comp=Z,207nm,1.1s
ECH Echery 16.28 308 ⇓P **Pn 18 27 16.8 -0.9**
CABF La Chapelle 16.37 302 *e*P **Pn 18 27 18.3 -0.7**
CABF pmax pmax
comp=Z,122nm,1.2s
DFRA Djebel Bou Aff 16.45 266 P **Pn 18 27 19.4 -0.7**
FLTG Flechtingen 16.47 325 *e*P **Pn 18 27 20.2 +0.2**
baz=128,slow=14
TNS Taunus Mts 16.51 316 P **P 18 27 22.4 -0.9**
TNS pmax pmax
comp=Z,120nm,1.5s
TNS Taunus Mts 16.51 316 *e*P **P 18 27 25.2 +1.9**
baz=128,slow=14
CLZ Clausthal 16.52 323 *e*P **P 18 27 24.7 +1.2**
baz=128,slow=14
ASSE Asse, Remlinge 16.58 324 *e*P **P 18 27 24.9 +1.0**
baz=128,slow=14
PBUR Paburge 16.68 351 *e*P **P 18 27 24.9 -0.2**
HAU Haudompre 16.69 307 *e*P **Pn 18 27 22.1 -0.9**
HAU pmax pmax
comp=Z,42nm,0.9s
VIVF Saint-Julien-l 16.90 295 *e*P **Pn 18 27 23.9 -1.8**
VIVF pmax pmax
comp=Z,154nm,1.2s
GORT1 Trebel 16.91 327 *e*P **P 18 27 28.4 +0.8**
baz=128,slow=14
OBN Obninsk 16.93 20 P **Pn 18 27 21.9 -3.9**
OBN IAmb IAmb 18 27 32.8
comp=Z,185nm,1.0s
OBN Obninsk 16.93 20 Pn **Pn 18 27 21.6 -4.2**
comp=Z,2.2nm,0.3s,baz=202,slow=11,SNR=9.4
OBN Sn Sn 18 30 22.3 -11
comp=Z,3.3nm,0.3s,baz=299,slow=19,SNR=2.2
OBN LR LR 18 34 32.3
comp=Z,2μm,19.1s,baz=202,slow=39
comp=Z,20nm,0.6s
OBN Obninsk 16.93 20 *c i*P **Pn 18 27 20.8 -5.0**
OBN pmax pmax
comp=Z,188nm,1.0s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 16.93 20 ⇑P **Pn 18 27 26.6 +0.8**
SSB Saint Sauveur 17.08 296 P **Pn 18 27 27.6 -0.3**
SSB pmax pmax
comp=Z,25nm,1.1s
SSB Saint Sauveur 17.08 296 ⇑P **Pn 18 27 27.1 -0.8**
KASTN Kahler Asten 17.08 319 *e*P **P 18 27 31.2 +1.6**
baz=128,slow=14
NRDL Niedersach Rie 17.08 324 *e*P **Pn 18 27 28.0 +0.2**
baz=128,slow=14

WLF Walferdange 17.51 312 P **Pn 18 27 32.5 -0.7**
WLF Walferdange 17.51 312 P **P 18 27 33.8 -0.5**
WLF pmax pmax
comp=Z,71nm,1.9s
WLF Walferdange 17.51 312 ⇑P **P 18 27 34.6 +0.3**
WLF Walferdange 17.51 312 *e*P **P 18 27 34.4 +0.1**
baz=128,slow=14
RETH Rethem/Aller, 17.58 324 *e*P **P 18 27 36.7 +1.7**
baz=128,slow=14
MOS Moscow 17.77 21 *e*P **Pn 18 27 32.4 -3.9**
MOS *e*S **Sn 18 30 57.3 +3.3**
MOS pmax pmax
comp=Z,568nm,1.2s
MOS pmax pmax
comp=Z,800nm,1.5s
MOS pmax pmax
comp=N,378nm,1.2s
MOS pmax pmax
comp=N,500nm,1.4s
MOS pmax pmax
comp=E,400nm,1.3s
MOS pmax pmax
comp=E,284nm,1.2s
MOS MLR MLR
comp=Z,2μm,13.0s
MOS MLR MLR
comp=E,2μm,12.0s
BUG Bochum--Univer 17.81 318 P **P 18 27 38.8 +1.2**
BUG pmax pmax
comp=Z,35nm,1.5s
SMF Signal de Mont 17.87 300 *e*P **Pn 18 27 37.8 +0.1**
SMF pmax pmax
comp=Z,98nm,1.3s
EJON La Jonquera 17.95 287 P **Pn 18 27 36.3 -2.5**
BTNL Ternell 17.96 314 *d*P **P 18 27 40.1 +0.8**
comp=Z,15nm,1.1s
LBL Lubilhac 17.97 296 P **P 18 27 39.8 +0.3**
LBL pmax pmax
comp=Z,47nm,1.0s
BSEG Bad Segeberg 18.00 328 P **P 18 27 39.8 +0.1**
BSEG pmax pmax
comp=Z,149nm,1.3s
BSEG Bad Segeberg 18.00 328 *e*P **P 18 27 41.5 +1.8**
baz=128,slow=14
LOR Lormes 18.03 302 *e*P **P 18 27 40.2 +0.1**
LOR pmax pmax
comp=Z,53nm,0.9s
LOR Lormes 18.03 302 ⇑P **P 18 27 40.5 +0.4**
MEM Membach 18.04 314 *d*P **P 18 27 42.4 +2.2**
comp=Z,40nm,1.0s
MEM Membach 18.04 314 P **P 18 27 41.9 +1.7**
MEM pmax pmax
comp=Z,93nm,1.0s
BLEU Blekinge 18.10 341 *i* P **Pn 18 27 38.3 -2.1**
ETOS Mallorca 18.15 278 P **Pn 18 27 38.0 -3.2**
LUNU Lund 18.19 336 *i* P **P 18 27 42.2 +0.4**
SSF Saint Saulge 18.20 302 *e*P **Pn 18 27 40.7 -1.0**
SSF pmax pmax
comp=Z,38nm,1.0s
AVF Avril sur Loir 18.23 301 *e*P **P 18 27 42.5 +0.2**
AVF pmax pmax
comp=Z,42nm,1.0s
RCHB Rochefort 18.27 312 *d*P **P 18 27 42.9 +0.3**
BSTI Sart Tilman 18.28 314 *d*P **P 18 27 43.9 +1.1**
comp=Z,11nm,1.3s
BEBN Eben Emael 18.32 314 *d*P **P 18 27 45.3 +2.1**
comp=Z,45nm,1.0s
BCLA Clavier 18.35 313 *d*P **P 18 27 45.1 +1.6**
comp=Z,32nm,1.1s
BGES Gesves 18.45 313 *d*P **Pn 18 27 46.0 +1.2**
comp=Z,39nm,1.0s
MTLF Montolieu 18.48 289 ⇑P **Pn 18 27 46.1 +0.9**
BGF Bois d'Agland 18.51 300 *e*P **Pn 18 27 47.6 +2.1**
BGF pmax pmax
comp=Z,80nm,1.0s
BMRD Maredsous 18.60 312 *d*P **Pn 18 27 47.1 +0.6**
comp=Z,28nm,0.9s
DOU Dourbes 18.61 311 *d*P **Pn 18 27 46.8 +0.1**
comp=Z,24nm,0.8s
DOU Dourbes 18.61 311 P **Pn 18 27 47.9 +1.3**
DOU pmax pmax
comp=Z,43nm,0.8s
DEL Delary 18.77 338 *i* P **P 18 27 48.3 +0.2**
VSU Vasula 18.86 1 *ce*P **P 18 27 47.9 -1.1**
VSU pmax pmax
comp=Z,118nm,1.3s
VSU Vasula 18.86 1 *e*P **P 18 27 47.8 -1.2**
VSU Vasula 18.86 1 ⇑P **P 18 27 48.4 -0.6**
UCC Uccle 19.06 313 *d*P **Pn 18 27 53.2 +1.1**
comp=Z,36nm,1.3s
CLF Chambon-Foret 19.28 304 IAmb IAmb 18 27 57.2
comp=Z,243nm,1.3s
CLF Chambon-Foret 19.28 304 ⇑P **Pn 18 27 56.3 +1.5**
SSRD Sdr. Stenderup 19.41 330 *i* P **P 18 27 54.9 -0.2**
SSRD IAmb IAmb 18 27 56.3
comp=Z,80nm,0.8s
BELG Belogornoye 19.41 42 P **P 18 27 55.0 -0.2**
comp=Z,2.5nm,0.3s,baz=58,slow=3.8,SNR=57
BELG S Sn 18 31 22.7 -11
comp=Z,10nm,0.7s,baz=202,slow=19,SNR=1.1
comp=Z,356nm,1.2s
BELG Belogornoye 19.41 42 P **P 18 27 55.0 -0.2**
FABU Falkenberg 19.56 337 *i* P **P 18 27 56.9 +0.2**
ARBE Arbavere 19.84 359 *e*P **Pn 18 28 01.7 +0.4**
BORU Boraas 20.08 338 *i* P **P 18 28 02.6 +0.1**
ONAU Onsala 20.13 337 *i* P **P 18 28 03.4 +0.4**
MUD Monsted U'grnd 20.31 332 P Pn 18 28 07.3 +0.4
MUD pmax pmax
comp=Z,50nm,1.1s
MUD Monsted U'grnd 20.31 332 *i* P Pn 18 28 06.0 -0.9
MUD IAmb IAmb 18 28 12.6
comp=Z,43nm,1.0s
PUL Pulkovo 20.32 6 *ce*P Pn 18 28 07.0 -0.1
PUL pmax pmax
comp=Z,70nm,0.8s
ETSF Etsaut 20.50 288 *e*P **P 18 28 07.2 0.0**
ETSF pmax pmax
comp=Z,27nm,0.6s
MFF Saint Martin d 20.54 299 ⇑P Pn 18 28 08.9 -0.8
MEF Metsahovi 20.66 357 *e*P **P 18 28 08.2 -0.4**
TJOU Tjoern 20.75 337 *i* P **P 18 28 07.7 -1.9**
LDF La Druitiere 20.97 304 *e*P **P 18 28 12.0 -0.1**
LDF pmax pmax
comp=Z,98nm,0.8s
SJPF Ste Jean 20.99 289 *e*P **P 18 28 13.6 +1.1**
SJPF pmax pmax
comp=Z,38nm,0.6s
ECHE Chera 21.07 279 P **P 18 28 13.0 -0.3**
FLN La Foliniere 21.24 304 *e*P **P 18 28 14.9 -0.2**
FLN pmax pmax
comp=Z,367nm,1.5s
GRR Gorron 21.39 303 *e*P **P 18 28 16.4 -0.3**
GRR pmax pmax
comp=Z,135nm,1.1s
HMNX Herstmonceux 21.41 310 *e*P **P 18 28 18.5 +1.7**
HMNX IAmb IAmb 18 28 19.1
comp=Z,550nm,0.9s
CART Cartagena 21.49 273 P **P 18 28 15.7 -2.1**
EMUR La Murta 21.61 274 P **P 18 28 16.0 -3.2**
STRU Stroemstad 21.71 338 *i* P **P 18 28 17.8 -2.2**
FINES FINESS Array B 21.85 360 P **P 18 28 20.2 -1.3**
FINES FINESS Array B 21.85 360 P **P 18 28 20.4 -1.0**
comp=Z,16nm,0.8s,baz=167,slow=10,SNR=22
FINES PcP **PcP 18 32 19.1 -1.5**
comp=Z,7.0nm,0.8s,baz=158,slow=4.1,SNR=7.7
FINES LR LR 18 37 22.7
comp=Z,2μm,18.4s,baz=180,slow=38
comp=Z,16nm,0.8s
FINES FINESS Array B 21.85 360 *i* P **P 18 28 20.6 -0.9**
FINES pmax pmax
comp=Z,17nm,0.8s
HOMB Homborsund 21.93 334 *i* P **P 18 28 20.5 -1.8**
HFS Hagfors 22.03 343 P **P 18 28 21.9 -1.5**
comp=Z,14nm,0.7s,baz=143,slow=13,SNR=16
HFS PcP **PcP 18 32 19.9 -1.2**
comp=Z,7.5nm,1.0s,baz=172,slow=2.9,SNR=2.6
HFS LR LR 18 37 22.6
comp=Z,1μm,18.6s,baz=158,slow=38
comp=Z,14nm,0.7s
SNART Snartemo 22.43 333 *i* P **P 18 28 27.6 -0.1**
JSA Saint Aubin 22.43 305 *e*P **P 18 28 27.3 -0.5**
JSA IAmb IAmb 18 28 28.1
comp=Z,77nm,1.0s
SGMF Saint Gilles 22.46 302 *e*P **P 18 28 28.2 0.0**
SGMF pmax pmax
comp=Z,93nm,0.7s
WOL Wolverton 22.48 310 *e*P **P 18 28 28.5 +0.1**
WOL IAmb IAmb 18 28 29.1
comp=Z,296nm,1.3s
ENIJ Nijar 22.57 272 P **P 18 28 29.3 -0.3**
KEF Keuruu 22.59 358 *e*P **P 18 28 28.7 -0.7**
KONO Kongsberg 22.68 338 P **P 18 28 28.7 -1.7**
KONO IAmb IAmb 18 28 37.8
comp=Z,76nm,1.1s
KONO Kongsberg 22.68 338 P **P 18 28 28.7 -1.7**
KONO pmax pmax
comp=Z,77nm,1.2s
UCM Universidad Co 22.69 281 P **P 18 28 28.4 -2.4**
KLMR Klimovskoe 22.76 17 *e*P **P 18 28 29.5 -1.7**
KLMR S **S 18 32 37.4 -2.1**
KLMR pmax pmax
comp=Z,266nm,1.4s
KLMR MLR MLR
comp=Z,2μm,9.0s
RAYN Ar Rayn 22.78 129 P **P 18 28 33.1 +1.3**
RAYN Ar Rayn 22.78 129 P **P 18 28 34.7 +2.9**
RAYN S Sn 18 32 48.9 -6.3
RAYN Ar Rayn 22.78 129 P **P 18 28 33.1 +1.3**
RAYN pmax pmax
comp=Z,26nm,0.9s
RAYN Ar Rayn 22.78 129 *i* P **P 18 28 32.0 +0.2**
SNR=41
RAYN Ar Rayn 22.78 129 ⇓P **P 18 28 32.8 +1.0**
QUIF Quistinic 22.80 301 *e*P **P 18 28 30.7 -1.0**
QUIF pmax pmax
comp=Z,147nm,0.9s
SWN1 Swindon 22.89 311 *e*P **P 18 28 33.0 +0.3**
SWN1 IAmb IAmb 18 28 33.6
comp=Z,494nm,0.8s
ROSF Rostrenen 22.95 302 P **P 18 28 33.2 -0.1**
ROSF pmax pmax
comp=Z,99nm,2.1s
ROSF Rostrenen 22.95 302 ⇓P **P 18 28 32.9 -0.4**
CWF Charnwood Fore 23.07 314 *e*P **P 18 28 33.7 -0.8**
CWF IAmb IAmb 18 28 35.6
comp=Z,133nm,1.0s
NC602 NORSAR Array S 23.07 341 IAmb IAmb 18 28 56.3
comp=Z,52nm,0.9s
NORES NORESS Array B 23.07 341 P **P 18 28 35.6 +1.1**
EBER Berja 23.12 273 P **P 18 28 31.1 -4.3**
STRD Stroud 23.20 311 *e*P **P 18 28 35.5 -0.3**
STRD IAmb IAmb 18 28 37.0
comp=Z,221nm,0.8s
NAO01 NORSAR Array S 23.33 341 IAmb IAmb 18 28 37.7
comp=Z,104nm,0.8s
ESBB Sonseca Array 23.33 280 P **P 18 28 35.8 -1.6**
ESBB IAmb IAmb 18 28 39.7
comp=Z,103nm,1.6s
ESDC Sonseca Array 23.33 280 P **P 18 28 36.2 -1.3**
ESDC Sonseca Array 23.33 280 P **P 18 28 36.0 -1.4**
comp=Z,14nm,0.8s,baz=73,slow=9.6,SNR=43
ESDC PcP **PcP 18 32 23.0 -1.2**
comp=Z,1.7nm,0.9s,baz=52,slow=1.4,SNR=1.8
ESDC LR LR 18 38 14.0
comp=Z,410nm,19.0s,baz=78,slow=38
comp=Z,14nm,0.8s
NC405 NORSAR Array S 23.36 342 IAmb IAmb 18 28 45.4
comp=Z,96nm,1.5s
NB201 NORSAR Array S 23.40 341 IAmb IAmb 18 28 48.4
comp=Z,50nm,1.0s
NB2 NORSAR Subarra 23.41 341 P **P 18 28 36.6 -1.4**
comp=Z,53nm,1.1s,baz=149,slow=11
NB2 NORSAR Subarra 23.41 341 P **P 18 28 37.2 -0.8**
NB2 pmax pmax
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 23.41 341 P **P 18 28 36.4 -1.6**
comp=Z,9.3nm,0.9s,baz=147,slow=9.1,SNR=53
NOA PcP **PcP 18 32 22.6 -1.4**
comp=Z,2.2nm,0.7s,baz=134,slow=2.4,SNR=3.8
NOA LR LR 18 38 14.0
comp=Z,832nm,18.0s,baz=150,slow=38
comp=Z,9.3nm,0.9s
JOF Joensuu 23.51 6 *e*P **P 18 28 38.6 -0.3**
NBO00 NORSAR Array S 23.52 341 IAmb IAmb 18 28 47.8
comp=Z,130nm,1.1s
NC303 NORSAR Array S 23.54 342 IAmb IAmb 18 28 55.9
comp=Z,188nm,2.0s
VAF Ylistaro 23.56 356 *e*P **P 18 28 38.6 -0.7**
MONM Monmouth 23.59 311 *e*P **P 18 28 39.5 -0.3**
MONM IAmb IAmb 18 28 40.3
comp=Z,419nm,1.0s
PAB San Pablo 23.65 280 P **P 18 28 39.7 -0.9**
PAB San Pablo 23.65 280 P **P 18 28 39.7 -0.9**
PAB pmax pmax
comp=Z,46nm,1.1s
STNC Stoke 23.71 314 *e*P **P 18 28 41.7 +0.8**
STNC IAmb IAmb 18 28 42.2
comp=Z,193nm,1.0s
NC204 NORSAR Array S 23.73 341 P **P 18 28 39.8 -1.3**
NC204 IAmb IAmb 18 28 48.5
comp=Z,99nm,1.6s
HPK Haverah Park 23.75 316 *e*P **P 18 28 40.7 -0.6**
HPK IAmb IAmb 18 28 41.4
comp=Z,88nm,0.8s
MCH1 Michaelchurch 23.76 311 *e*P **P 18 28 40.6 -0.8**
MCH1 IAmb IAmb 18 28 41.9
comp=Z,317nm,1.1s
MCH1 Michaelchurch 23.76 311 ⇑P **P 18 28 41.3 -0.1**
HLM1 Long Mynd 23.87 312 *e*P **P 18 28 42.1 -0.4**
HLM1 IAmb IAmb 18 28 42.8
comp=Z,190nm,1.3s
KIRV Kirov 24.01 30 P **P 18 28 43.3 -0.4**
comp=Z,42nm,0.8s,baz=235,slow=1.6,SNR=18
comp=Z,42nm,0.8s
KIRV Kirov 24.01 30 *ce*P **P 18 28 42.9 -0.8**
FOEL Foel Wylfa 24.19 313 *e*P **P 18 28 45.6 +0.1**
SAKB Bahrain 24.33 117 P **P 18 28 48.4 +1.4**
SAKB S **S 18 33 13.8 +8.0**
EMAL Malaga-Limoner 24.34 273 P **P 18 28 45.2 -1.8**
TAM Tamanrasset 24.41 233 P **P 18 28 48.3 +0.4**
TAM Tamanrasset 24.41 233 P **P 18 28 48.3 +0.4**
TAM pmax pmax
comp=Z,33nm,0.9s
TAM Tamanrasset 24.41 233 ⇑P **P 18 28 50.5 +2.5**
AKTO Aktyubinsk 24.64 54 P **P 18 28 49.7 +0.1**
comp=Z,17nm,0.7s,baz=262,slow=9.5,SNR=36
AKTO LR LR 18 41 20.5
comp=Z,621nm,18.3s,baz=277,slow=44
comp=Z,17nm,0.7s
SHMA Al-Shehemyia 24.70 116 P **P 18 28 53.6 +3.3**
KESW Keswick, Cumbr 24.81 317 *e*P **P 18 28 50.6 -0.4**
KESW IAmb IAmb 18 28 52.5
comp=Z,46nm,0.8s
LIJA Lijar 25.05 274 P **P 18 28 51.8 -1.7**
PBRG Braganca 25.14 286 *e*P **P 18 28 54.2 0.0**
PBRG *i* Amb 18 29 01.3
comp=Z,110nm,1.5s
EKA Eskdalemuir Ar 25.16 318 P **P 18 28 52.8 -1.4**
comp=Z,30nm,0.8s,baz=118,slow=9.4,SNR=39
EKA PcP **PcP 18 32 26.6 -1.2**
comp=Z,3.1nm,0.8s,baz=90,slow=2.8,SNR=3.6
comp=Z,30nm,0.8s
ESK Eskdalemuir 25.17 318 P **P 18 28 54.4 +0.1**
ESK Eskdalemuir 25.17 318 P **P 18 28 54.4 +0.1**
ESK pmax pmax
comp=Z,297nm,1.9s
ESK Eskdalemuir 25.17 318 ⇑P **P 18 28 54.8 +0.4**
SMRA Abu-Samra 25.33 119 P **P 18 28 59.6 +3.6**
SMRA S **S 18 33 26.0 +4.1**
ALJ Aljibe 25.35 273 P **P 18 28 55.9 -0.2**
MVO Moncorvo 25.43 284 *e*P **P 18 28 55.8 -1.0**
MVO *i* Amb 18 29 03.1
comp=Z,75nm,1.7s
MVO *i* AMs_20 18 41 49.0
comp=Z,519nm,16.0s
TARIF Tarifa 25.44 272 P **P 18 28 57.0 +0.1**
OUL Oulu 25.50 359 P **P 18 28 57.1 -0.1**
OUL pmax pmax
comp=Z,41nm,1.3s
TRNA Turayna 25.60 118 P **P 18 29 01.2 +2.7**
TRNA S **S 18 33 30.2 +4.0**
ABKAR Akbulak array 25.62 57 P **P 18 28 58.1 -0.4**
ABKAR Akbulak array 25.62 57 ⇑P **P 18 28 58.7 +0.3**
MDT Midelt 25.84 264 LR LR 18 39 32.6
comp=Z,346nm,21.9s,baz=77,slow=37
PVRL Vila Real 25.93 285 *e*P **P 18 29 01.0 -0.4**
MTE Manteigas 25.93 283 P **P 18 29 01.1 -0.3**
MTE IAmb IAmb 18 29 02.8
comp=Z,49nm,0.9s
MTE Manteigas 25.93 283 *e*P **P 18 29 01.9 +0.5**
MTE *i* Amb 18 29 08.8
comp=Z,88nm,1.9s
MTE *i* AMs_20 18 42 30.5
comp=Z,375nm,16.0s
MTE Manteigas 25.93 283 *e*P **P 18 29 01.1 -0.3**
MTE Manteigas 25.93 283 ⇑P **P 18 29 01.0 -0.4**
IFR Ifrane 25.96 266 P **P 18 29 01.9 -0.1**
POLO Lamas de Olo 25.97 285 *e*P **P 18 29 02.0 +0.2**
POLO *i* Amb 18 29 10.8
comp=Z,24nm,1.7s
PCBR Castelo Branco 25.97 281 *e*P **P 18 29 02.0 +0.3**
PCBR *i* Amb 18 29 09.2
comp=Z,83nm,2.0s
PMRV Marv??o 25.98 280 *e*P **P 18 29 01.9 -0.1**
PMRV *i* Amb 18 29 08.3
comp=Z,81nm,1.6s
PMRV *i* AMs_20 18 41 16.4
comp=Z,432nm,16.0s
PBAR Barrancos 25.99 278 *e*P **P 18 29 02.0 +0.1**
PBAR *i* Amb 18 29 09.9
comp=Z,93nm,2.0s
IWEX Carrickbyrne, 26.09 310 *e*P **P 18 29 02.9 +0.2**
IWEX Carrickbyrne, 26.09 310 P **P 18 29 02.9 +0.2**
PCAB Cabril 26.10 286 *e*P **P 18 29 03.5 +0.6**
DSB Dublin 26.11 312 P **P 18 29 03.0 +0.2**
DSB Dublin 26.11 312 ⇑P **P 18 29 03.1 +0.2**
PVIS Viseu 26.14 284 *e*P **P 18 29 03.6 +0.3**
PGAV Gavieira, Arco 26.25 286 *e*P **P 18 29 05.1 +0.8**
PGAV *i* Amb 18 29 14.2
comp=Z,87nm,1.6s
PGAV *i* AMs_20 18 41 25.9
comp=Z,417nm,18.0s
MCD Coleburn Disti 26.27 323 *e*P **P 18 29 04.1 -0.2**
ILTH Belurgan, Co L 26.34 314 P **P 18 29 06.5 +1.6**
SLWR Sila 26.37 118 P **P 18 29 07.9 +2.5**
SLWR P **P 18 29 07.9 +2.5**
COI Coimbra 26.61 283 P **P 18 29 07.4 -0.1**
COI IAmb IAmb 18 29 09.9
comp=Z,43nm,0.9s
COI Coimbra 26.61 283 *e*P **P 18 29 09.2 +1.7**
COI *i* Amb 18 29 12.9
comp=Z,100nm,2.5s
COI Coimbra 26.61 283 P **P 18 29 07.4 -0.1**
COI pmax pmax
comp=Z,43nm,0.9s
EVO Evora 26.65 279 *e*P **P 18 29 07.8 -0.1**
EVO Evora 26.65 279 P **P 18 29 06.9 -0.9**
PBEJ Beja 26.66 278 *e*P **P 18 29 08.2 +0.2**
PBEJ *i* Amb 18 29 14.5
comp=Z,64nm,1.6s
PMTG Montargil 26.69 280 *e*P **P 18 29 07.9 -0.4**
PMTG *i* Amb 18 29 14.5
comp=Z,78nm,1.9s
PVAQ Vaqueiros 26.70 276 IAmb IAmb 18 29 13.3
comp=Z,37nm,1.0s
PVAQ Vaqueiros 26.70 276 *e*P **P 18 29 08.4 +0.1**
PVAQ *i* Amb 18 29 14.9
comp=Z,78nm,1.8s
PVAQ *i* AMs_20 18 41 04.1
comp=Z,289nm,18.0s
PVAQ Vaqueiros 26.70 276 ⇑P **P 18 29 08.5 +0.1**
PCAS Casmilo, Conde 26.70 282 *e*P **P 18 29 09.2 +0.9**
PCAS *i* Amb 18 29 17.6
comp=Z,85nm,1.6s
LRW Lerwick 26.81 329 *e*P **P 18 29 08.9 -0.2**
ARTI Arti 26.84 41 P **P 18 29 08.3 -1.2**
ARTI IAmb IAmb 18 29 14.2
comp=Z,75nm,0.9s
ARTI Arti 26.84 41 LR LR 18 41 02.3
comp=Z,1μm,19.5s,baz=248,slow=39
ARTI Arti 26.84 41 *c i* P **P 18 29 10.5 +1.1**
ARTI PPP PPP 18 29 59.9
ARTI S **S 18 33 46.6 +1.3**
ARTI SS **SnSn 18 34 49.1 -0.6**
ARTI pmax pmax
comp=Z,94nm,1.0s
ARTI MLR MLR
comp=Z,925nm,14.0s
ARTI Arti 26.84 41 ⇑P **P 18 29 09.7 +0.2**
PCVE Castro Verde 26.89 277 *e*P **P 18 29 10.0 0.0**
PCVE *i* Amb 18 29 15.8
comp=Z,63nm,1.7s
PBDV Barranco-do-Ve 26.91 276 *e*P **P 18 29 10.6 +0.3**
PBDV *i* Amb 18 29 17.0
comp=Z,218nm,1.6s
MESJ Messejana 26.97 277 IAmb IAmb 18 29 12.1
comp=Z,38nm,1.0s
MESJ Messejana 26.97 277 *e*P **P 18 29 10.4 -0.4**
MESJ IAmb IAmb 18 29 11.8
comp=Z,33nm,0.9s
MESJ Messejana 26.97 277 *e*P **P 18 29 10.8 0.0**
MESJ *i* Amb 18 29 19.5
comp=Z,102nm,1.7s
MESJ Messejana 26.97 277 ⇑P **P 18 29 11.2 +0.4**
GHWR Ruwais 27.25 117 P **P 18 29 16.8 +3.4**
IDGL Inch Island, C 27.34 316 *e*P **P 18 29 16.1 +2.2**
IDGL Inch Island, C 27.34 316 P **P 18 29 16.6 +2.7**
PTEO Sao Teotonio 27.44 277 *e*P **P 18 29 15.3 +0.3**
PTEO *i* Amb 18 29 22.0
comp=Z,134nm,2.1s
MORF Marmelete 27.45 276 *e*P **P 18 29 15.7 +0.6**
MORF *i* Amb 18 29 23.9
comp=Z,82nm,1.5s
PFVI Vila Bisbo 27.63 276 *e*P **P 18 29 17.0 +0.3**
AVE Averroes 27.81 268 P **P 18 29 18.9 +0.5**
SGF Sodankyl 27.87 0 P **P 18 29 20.5 +2.0**
SGF pmax pmax
comp=Z,26nm,0.9s
SVE Sverdlovsk 28.16 41 *e*P **P 18 29 23.4 +2.2**
SVE *e*S **S 18 34 07.5 +1.5**
SVE pmax pmax
comp=Z,64nm,1.2s
SVE MLR MLR
comp=Z,987nm,17.0s
UMQ Umm Al-Quwin 28.23 111 P **P 18 29 25.5 +3.3**
ASUD Al Ashush, Dub 28.54 113 P **P 18 29 28.5 +3.6**
ASUD Al Ashush, Dub 28.54 113 P **P 18 29 24.5 -0.5**
NAZ Nazwa, Dubai 28.56 112 P **P 18 29 28.1 +3.0**
NAZ Nazwa, Dubai 28.56 112 *i* P **P 18 29 25.0 -0.1**
SNR=6.7
FAQ Al Faqa, Dubai 28.66 112 P **P 18 29 29.1 +3.2**
MASF Masafi 28.68 111 P **P 18 29 29.1 +2.9**
TIO Tiouine 28.69 263 P **P 18 29 27.0 +0.6**
MDH Madha 28.83 111 P **P 18 29 30.1 +2.6**
HRA Herat 28.97 89 IAmb IAmb 18 29 46.9
comp=Z,48nm,1.8s
UOSS Minazif 28.97 111 P **P 18 29 28.1 -0.6**
UOSS IAmb IAmb 18 30 23.5
comp=Z,48nm,1.1s
UOSS Minazif 28.97 111 P **P 18 29 31.0 +2.2**
UOSS Minazif 28.97 111 P **P 18 29 29.6 +0.8**
HATD Hatta, Dubai 29.00 112 P **P 18 29 31.4 +2.4**
HATD Hatta, Dubai 29.00 112 *i* P **P 18 29 29.1 +0.1**
SNR=6.2
ASHO Ashiyiah 29.03 112 P **P 18 29 33.0 +3.7**
SNR=5.4
ASHO Ashiyiah 29.03 112 *i* P **P 18 29 28.9 -0.5**
SNR=8.6
ALNE Al Ain 29.20 113 P **P 18 29 33.7 +2.9**
ALNE Al Ain 29.20 113 *i* P **P 18 29 30.5 -0.4**
SNR=8.0
JASK Jask - Hormozg 29.64 108 P **P 18 29 37.4 +2.8**
UMZA Um Al Zommool 29.65 116 P **P 18 29 37.3 +2.5**
SOHO SOHO 29.71 112 P **P 18 29 37.1 +1.8**
SOHO P **P 18 29 37.1 +1.8**
SOHO SOHO 29.71 112 *i* P **P 18 29 35.1 -0.2**
SNR=17
ARCES ARCESS Array B 29.98 359 P **P 18 29 36.6 -0.7**
comp=Z,3.0nm,0.7s,baz=170,slow=8.9,SNR=20
ARCES PcP **PcP 18 32 37.7 -1.5**
comp=Z,4.6nm,0.9s,baz=183,slow=3.3,SNR=1.7
ARCES LR LR 18 42 04.4
comp=Z,1μm,18.4s,baz=172,slow=37
comp=Z,3.0nm,0.7s
ARQ Araqi 30.20 114 P **P 18 29 43.1 +3.4**
SNR=5.1
HOQ Hoqain 30.61 112 P **P 18 29 45.9 +2.6**
HOQ P **P 18 29 45.9 +2.6**
SMDO Samad 31.46 112 P **P 18 29 52.4 +1.4**
WSAR Wadi Sarin 31.77 111 LR LR 18 45 46.2
comp=Z,614nm,19.3s,baz=330,slow=42
DOK Doka 31.80 123 P **P 18 29 57.0 +3.2**
SNR=7.2
JMDO Jabal Madar 31.94 113 P **P 18 29 57.1 +2.1**

ABTO Aybut 32.20 126 P **P 18 30 00.0 +2.6**
CHM Chimkent 32.47 71 *e*P **P 18 30 00.1 +0.6**
CHM Chimkent 32.47 71 *e*P **P 18 30 00.1 +0.6**
BRLS Borolday 32.52 70 *e*P **P 18 29 59.8 -0.2**
BRLS Borolday 32.52 70 *e*P **P 18 29 59.9 -0.2**
BRVK Borovoye 32.60 51 P **P 18 30 00.0 -0.5**
BRVK Borovoye 32.60 51 P **P 18 29 59.5 -0.9**
BRVK P **P 18 29 59.5 -0.9**
BRVK Borovoye 32.60 51 *ce*P **P 18 30 01.2 +0.7**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 32.60 51 ⇑P **P 18 30 01.5 +1.0**
BVAR Borovoye Array 32.66 51 P **P 18 30 01.9 +0.9**
comp=Z,6.9nm,0.5s,baz=301,slow=8.1,SNR=26
BVAR LR LR 18 45 31.4
comp=Z,464nm,19.8s,baz=269,slow=40
comp=Z,6.9nm,0.5s
RBK Rabkut 32.66 124 P **P 18 30 03.5 +2.0**
IUG Iuzhnay 32.81 71 *e*P **P 18 30 02.9 +0.2**
IUG pmax pmax
comp=Z,19nm,1.2s
IUG Iuzhnay 32.81 71 *e*P **P 18 30 02.9 +0.2**
comp=Z,18nm,1.2s
SIMJ Simiganj 32.83 78 P **P 18 30 03.8 +0.9**
CHGR Chuyangaron 32.95 78 IAmb IAmb 18 30 07.8
comp=Z,46nm,1.0s
DMTO DMTO 32.98 123 P **P 18 30 05.9 +1.7**
KKAR Karatay Array 33.00 69 P **P 18 30 04.3 +0.1**
KKAR Karatay Array 33.00 69 IAmb IAmb 18 30 09.6
comp=Z,15nm,1.3s
KKAR Karatay Array 33.00 69 P **P 18 30 04.3 +0.1**
KKAR Karatay Array 33.00 69 ⇑P **P 18 30 05.2 +1.0**
DZA Taraz 33.63 70 *e*P **P 18 30 10.0 +0.4**
DZA Taraz 33.63 70 *e*P **P 18 30 10.1 +0.4**
BRZS Berezniki 33.93 57 *e*P **P 18 30 12.9 +0.8**
BRZS Berezniki 33.93 57 *e*P **P 18 30 12.9 +0.8**
KBL Kabul 34.15 85 P **P 18 30 15.5 +1.0**
KBL Kabul 34.15 85 P **P 18 30 16.5 +2.0**
SNR=5.7
KBL Kabul 34.15 85 P **P 18 30 15.5 +1.0**
KBL pmax pmax
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 34.20 226 P **P 18 30 14.9 0.0**
TORD Torodi Ar. Bea 34.20 226 P **P 18 30 15.0 +0.2**
comp=Z,36nm,0.6s,baz=33,slow=9.3,SNR=1.4
TORD PcP **PcP 18 32 50.6 -1.0**
comp=Z,30nm,0.3s,baz=37,slow=2.0,SNR=2.0
comp=Z,36nm,0.6s
PMPST Porto Santo, M 34.78 273 *e*P **P 18 30 21.2 +1.5**
PMPS Porto Santo 34.79 273 *e*P **P 18 30 21.6 +1.9**
ARSB Arslanbob 35.14 72 IAmb IAmb 18 30 28.4
comp=Z,60nm,1.4s
BTLS Baital 35.22 65 *e*P **P 18 30 24.1 +0.7**
BTLS Baital 35.22 65 *e*P **P 18 30 24.1 +0.7**
SGDS Sogindy 35.90 68 *e*P **P 18 30 29.9 +0.6**
SGDS Sogindy 35.90 68 *e*P **P 18 30 30.0 +0.6**
AAK Ala-Archa 35.96 69 P **P 18 30 31.1 +1.1**
AAK IAmb IAmb 18 30 35.5
comp=Z,36nm,1.2s
AAK Ala-Archa 35.96 69 *ce*P **P 18 30 31.3 +1.3**
AAK pmax pmax
comp=Z,48nm,1.7s
AAK Ala-Archa 35.96 69 *i*P **P 18 30 30.8 +0.8**
SNR=32
AAK Ala-Archa 35.96 69 ⇓P **P 18 30 31.4 +1.3**
JMIC Jan Mayen 36.13 341 LR LR 18 44 57.5
comp=Z,250nm,18.7s,baz=116,slow=36
LODK Lodwar 36.94 165 P **P 18 30 39.0 +0.6**
LODK Lodwar 36.94 165 P **P 18 30 43.0 +4.6**
SNR=8.5
MACI Morro de la Ar 37.05 266 P **P 18 30 40.6 +1.2**
BORG Borgarnes 37.19 328 LR LR 18 48 44.4
comp=Z,842nm,18.3s,baz=110,slow=41
AAA Alma-Ata 37.58 68 *e*P **P 18 30 44.2 +0.5**
AAA pmax pmax
comp=Z,26nm,1.0s
AAA Alma-Ata 37.58 68 *e*P **P 18 30 44.2 +0.5**
comp=Z,26nm,1.0s
TNSS Tian-Shan 37.64 68 *e*P **P 18 30 44.6 0.0**
TNSS Tian-Shan 37.64 68 *e*P **P 18 30 44.6 0.0**
KURBB Kurchatov Arra 37.66 55 P **P 18 30 44.8 +0.7**
comp=Z,17nm,0.6s,baz=281,slow=9.0,SNR=110
KURBB PP **PP 18 32 10.2 +0.3**
comp=Z,7.8nm,1.1s,baz=279,slow=9.8,SNR=5.6
KURBB PcP **PcP 18 33 00.7 -0.6**
comp=Z,7.7nm,1.0s,baz=275,slow=3.8,SNR=5.6
KURBB LR LR 18 49 01.5
comp=Z,806nm,19.9s,baz=243,slow=41
comp=Z,17nm,0.6s
MDOK Medeo 37.69 68 *e*P **P 18 30 45.1 +0.5**
MDOK Medeo 37.69 68 *e*P **P 18 30 45.2 +0.5**
KURK Kurchatov 37.71 55 P **P 18 30 45.1 +0.6**
KURK IAmb IAmb 18 30 47.1
comp=Z,58nm,1.4s
KURK Kurchatov 37.71 55 P **P 18 30 44.4 -0.1**
KURK P **P 18 30 44.4 -0.1**
KURK Kurchatov 37.71 55 *ce*P **P 18 30 44.9 +0.4**
KURK pmax pmax
comp=Z,55nm,1.7s
KURK Kurchatov 37.71 55 ⇑P **P 18 30 45.1 +0.6**
NIL Nilore 37.72 84 P **P 18 30 45.8 +0.9**
NIL IAmb IAmb 18 30 49.0
comp=Z,31nm,0.8s
NIL Nilore 37.72 84 P **P 18 30 46.3 +1.4**
NIL Nilore 37.72 84 P **P 18 30 45.8 +0.9**
NIL pmax pmax
comp=Z,31nm,0.8s
KSH Kashi 37.81 74 P **P 18 30 45.4 -0.3**
KSH pmax pmax
comp=Z,17nm,1.0s
KSH LR LR
comp=Z,560nm,18.9s
KSH LR LR
comp=Z,490nm,18.2s
KSH LR LR
comp=Z,570nm,20.6s
TDK Taldyqorghan 38.28 64 *e*P **P 18 30 50.1 +0.6**
TDK Taldyqorghan 38.28 64 *e*P **P 18 30 50.1 +0.6**
SATY Saty 38.68 68 *e*P **P 18 30 53.5 +0.5**
SATY pmax pmax
comp=Z,29nm,1.2s
SATY Saty 38.68 68 *e*P **P 18 30 53.5 +0.5**
comp=Z,29nm,1.2s
KPKS Kokpek 38.79 67 *e*P **P 18 30 54.3 +0.5**
KPKS Kokpek 38.79 67 *e*P **P 18 30 54.4 +0.5**
SPITS Spitsbergen Ar 38.89 357 P **P 18 30 53.4 -0.7**
comp=Z,19nm,1.0s,baz=146,slow=9.1,SNR=7.2
comp=Z,19nm,1.0s
UZB Uzynbulak 39.10 67 *e*P **P 18 30 57.0 +0.5**
UZB Uzynbulak 39.10 67 *e*P **P 18 30 57.0 +0.5**
SHLS Shalkode 39.41 67 *e*P **P 18 31 02.1 +3.0**
SHLS Shalkode 39.41 67 *e*P **P 18 31 02.2 +3.0**
SCO Scoresbysund 39.58 337 *i*P **P 18 31 01.1 +1.2**
SCO IAmb IAmb 18 31 02.6
comp=Z,16nm,0.8s
WUS Wushi 39.73 70 IAmb IAmb 18 31 06.9
comp=Z,62nm,1.2s
MBAR Mbarara 40.23 173 P **P 18 31 06.7 +0.6**
MBAR IAmb IAmb 18 31 11.2
comp=Z,36nm,0.9s
MBAR Mbarara 40.23 173 P **P 18 31 10.0 +3.9**
MBAR Mbarara 40.23 173 *i*P **P 18 31 06.2 +0.1**
MBAR pmax pmax
comp=Z,36nm,1.0s
MBAR Mbarara 40.23 173 ⇑P **P 18 31 08.8 +2.7**
MAKZ Makanchi 40.40 61 P **P 18 31 07.5 +0.4**
MAKZ Makanchi 40.40 61 P **P 18 31 07.5 +0.4**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MK31 Makanchi Array 40.61 61 P **P 18 31 08.5 -0.4**
MK31 Makanchi Array 40.61 61 *i*P **P 18 31 09.2 +0.3**
MKAR Makanchi Array 40.61 61 P **P 18 31 08.8 -0.1**
MKAR Makanchi Array 40.61 61 P **P 18 31 09.2 +0.4**
comp=Z,21nm,0.8s,baz=281,slow=6.7,SNR=122
MKAR PcP **PcP 18 33 09.7 -1.0**
comp=Z,5.6nm,0.8s,baz=290,slow=6.0,SNR=3.4
MKAR LR LR 18 50 15.5
comp=Z,756nm,20.3s,baz=260,slow=40
comp=Z,21nm,0.8s
MKAR Makanchi Array 40.61 61 P **P 18 31 08.8 -0.1**
ZAA0 Zalesovo Array 41.28 50 P **P 18 31 13.9 -0.4**
ZALV Zalesovo Beam 41.28 50 P **P 18 31 14.1 -0.1**
ZALV Zalesovo Beam 41.28 50 P **P 18 31 14.4 +0.2**
comp=Z,18nm,0.6s,baz=269,slow=9.0,SNR=70
ZALV PP **PP 18 32 49.6 +0.2**
comp=Z,2.2nm,0.6s,baz=285,slow=11,SNR=1.3
ZALV LR LR 18 50 22.8
comp=Z,480nm,21.7s,baz=272,slow=39
comp=Z,18nm,0.6s
KMBO Kilima Mbogo 41.76 164 P **P 18 31 18.8 0.0**
KMBO Kilima Mbogo 41.76 164 P **P 18 31 21.0 +2.2**
comp=Z,8.7nm,0.8s,baz=354,slow=8.2,SNR=22
KMBO Kilima Mbogo 41.76 164 P **P 18 31 18.8 0.0**
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 41.76 164 *i*P **P 18 31 22.4 +3.6**
SNR=9.9
DAG Danmarks Havn 41.95 346 P **P 18 31 20.5 +1.1**
DAG pmax pmax
comp=Z,12nm,1.8s
DAG Danmarks Havn 41.95 346 *i*P **P 18 31 19.0 -0.4**
ZSN Zaisan 42.21 59 *e*P **P 18 31 22.2 +0.2**
ZSN pmax pmax
comp=Z,26nm,0.9s
ZSN Zaisan 42.21 59 *e*P **P 18 31 22.3 +0.2**
comp=Z,26nm,0.9s
DBIC Dimbokro 43.19 229 P **P 18 31 30.2 0.0**
DBIC IAmb IAmb 18 31 34.5
comp=Z,28nm,0.8s
DBIC Dimbokro 43.19 229 P **P 18 31 30.2 0.0**
comp=Z,17nm,0.6s,baz=24,slow=9.0,SNR=43
DBIC PcP **PcP 18 33 18.2 -1.4**
comp=Z,9.8nm,0.9s,baz=31,slow=5.3,SNR=3.2
DBIC LR LR 18 52 43.0
comp=Z,558nm,18.9s,baz=24,slow=41
comp=Z,17nm,0.6s
DBIC Dimbokro 43.19 229 P **P 18 31 30.2 0.0**
DBIC pmax pmax
comp=Z,28nm,0.9s
NRIK Noril'sk 43.44 27 P **P 18 31 32.1 +0.5**
NRIK IAmb IAmb 18 31 38.7
comp=Z,83nm,1.9s
NRIK Noril'sk 43.44 27 P **P 18 31 31.3 -0.3**
comp=Z,7.9nm,0.6s,baz=251,slow=4.6,SNR=16
NRIK LR LR 18 51 05.7
comp=Z,829nm,21.6s,baz=260,slow=38
comp=Z,7.9nm,0.6s
NRIK Noril'sk 43.44 27 *i*P **P 18 31 32.4 +0.8**
NRIK pmax pmax
comp=Z,45nm,1.8s
ANGG Ammassalik, Gr 44.09 328 *i*P **P 18 31 34.1 -2.8**
ISOG Isortoq, Green 44.65 327 *i*P **P 18 31 41.1 -0.2**
ISOG IAmb IAmb 18 31 43.1
comp=Z,58nm,0.9s
NOR Nord 44.66 352 *i*P **P 18 31 40.5 -0.8**
NOR IAmb IAmb 18 31 42.2
comp=Z,28nm,1.3s
BBTS Babate 45.01 249 P **P 18 31 43.9 -0.9**
comp=Z,19nm,0.6s,baz=71,slow=2.2,SNR=3.6
BBTS LR LR 18 52 51.5
comp=Z,547nm,18.1s,baz=296,slow=39
comp=Z,19nm,0.6s
WMQ Urumqi 45.02 64 *e*P **P 18 31 46.3 +1.5**
WMQ pmax pmax
comp=Z,45nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,1μm,15.3s
WMQ LR LR
comp=Z,770nm,16.7s
ICESG Greenland Ices 45.14 332 *i*P **P 18 31 45.3 -0.4**
ICESG IAmb IAmb 18 31 47.7
comp=Z,67nm,0.8s
SUMG Summit 45.21 337 P **P 18 31 46.2 0.0**
SUMG IAmb IAmb 18 31 54.0
comp=Z,38nm,1.2s
SUMG Summit 45.21 337 P **P 18 31 46.2 0.0**
SUMG pmax pmax
comp=Z,38nm,1.2s
SUMG Summit 45.21 337 *i*P **P 18 31 46.0 -0.2**
SUMG IAmb IAmb 18 31 48.7
comp=Z,63nm,1.4s
SUMG Summit 45.21 337 ⇑P **P 18 31 47.2 +1.0**
DY2G Dye2 47.61 329 *i*P **P 18 32 04.4 -0.6**
DY2G IAmb IAmb 18 32 07.1
comp=Z,81nm,0.8s
NEEM North Greenlan 48.97 344 *i*P **P 18 32 14.6 -0.8**
NEEM IAmb IAmb 18 32 17.0
comp=Z,25nm,1.1s
ILULI Ilulissat 49.23 333 *i*P **P 18 32 16.1 -1.0**
ILULI IAmb IAmb 18 32 18.2
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 49.29 330 P **P 18 32 17.0 -0.6**
SFJD IAmb IAmb 18 32 18.1
comp=Z,24nm,0.9s
SFJD Kangerlussuaq 49.29 330 LR LR 18 53 05.6
comp=Z,345nm,20.0s,baz=92,slow=36
SFJD Kangerlussuaq 49.29 330 P **P 18 32 17.0 -0.6**
SFJD pmax pmax
comp=Z,24nm,1.0s
SFJD Kangerlussuaq 49.29 330 *i*P **P 18 32 16.3 -1.3**
SFJD IAmb IAmb 18 32 18.2
comp=Z,21nm,0.6s
UMMG Uummannaq 49.45 335 *i*P **P 18 32 18.6 -0.1**
UMMG IAmb IAmb 18 32 20.5
comp=Z,36nm,1.1s
HYB Hyderabad 50.10 101 *e*P **P 18 32 23.9 -0.6**
UPNV Upernavik 50.49 337 *i*P **P 18 32 26.0 -0.6**
UPNV IAmb IAmb 18 32 28.1
comp=Z,32nm,1.0s
KULLO Kullorsuaq 50.58 340 *i*P **P 18 32 26.1 -1.2**
KULLO IAmb IAmb 18 32 28.4
comp=Z,32nm,0.9s
KULLO Kullorsuaq 50.58 340 ⇑P **P 18 32 28.0 +0.7**
MOY Mondy 51.33 50 *e*P **P 18 32 35.2 +1.8**
MOY pmax pmax
comp=Z,31nm,2.2s
MSEY Mahe Island 51.58 142 P **P 18 32 37.3 +1.7**
MSEY IAmb IAmb 18 32 39.7
comp=Z,24nm,1.1s
MSEY Mahe Island 51.58 142 P **P 18 32 37.3 +1.7**
MSEY pmax pmax
comp=Z,24nm,1.1s
MSEY Mahe Island 51.58 142 P **P 18 32 38.8 +3.2**
GOMU GeErMu 52.89 71 P **P 18 32 46.3 +0.7**
GOMU pP pP 18 32 50.1 +0.2
GOMU sP sP 18 32 53.8 +2.3
GOMU S **S 18 40 17.5 +3.0**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU LR LR
comp=Z,490nm,14.1s
GOMU LR LR
comp=Z,450nm,14.7s
GOMU LR LR
comp=Z,560nm,14.7s
IRK Irkutsk 53.08 49 *e*P **P 18 32 45.9 -0.4**
IRK *e* 18 34 45.6
IRK *e* 18 35 57.6
IRK pmax pmax
comp=Z,45nm,1.9s
ZAK Zakamensk 53.11 51 *e*P **P 18 32 47.0 +0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.5s
LSA Lhasa 53.14 80 IAmb IAmb 18 32 51.4
comp=Z,41nm,1.1s
LSA Lhasa 53.14 80 P **P 18 32 47.8 +0.2**
LSA pmax pmax
comp=Z,37nm,1.2s
LSA Lhasa 53.14 80 P **P 18 32 47.8 +0.2**
LSA Lhasa 53.14 80 *i*P **P 18 32 47.6 -0.1**
SNR=9.0
LSZ Lusaka 54.64 178 P **P 18 32 59.7 +1.6**
LSZ IAmb IAmb 18 33 02.6
comp=Z,18nm,0.9s
LSZ Lusaka 54.64 178 LR LR 18 57 03.3
comp=Z,333nm,18.9s,baz=358,slow=37
LSZ Lusaka 54.64 178 P **P 18 32 59.7 +1.6**
LSZ pmax pmax
comp=Z,18nm,0.9s
EUNU Eureka 55.01 349 IAmb IAmb 18 33 06.6
comp=Z,25nm,1.1s
GTA Gaotai 55.08 65 *e*P **P 18 33 00.8 -0.4**
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA LR LR
comp=Z,310nm,16.7s
GTA LR LR
comp=Z,200nm,20.0s
GTA LR LR
comp=Z,290nm,18.5s
SHL Shillong 55.80 84 P **P 18 33 05.2 -1.4**
SHL Shillong 55.80 84 P **P 18 33 06.5 -0.1**
SNR=27
SHL Shillong 55.80 84 P **P 18 33 05.2 -1.4**
SHL pmax pmax
comp=Z,86nm,1.4s
SONM Songino Array 55.95 53 P **P 18 33 07.7 +0.3**
SONM IAmb IAmb 18 33 11.4
comp=Z,27nm,1.5s
SONM Songino Array 55.95 53 P **P 18 33 07.7 +0.3**
comp=Z,4.7nm,0.8s,baz=289,slow=7.1,SNR=23
SONM LR LR 18 59 46.4
comp=Z,250nm,19.4s,baz=314,slow=39
comp=Z,4.7nm,0.8s
SONM Songino Array 55.95 53 P **P 18 33 07.7 +0.3**
SONM pmax pmax
comp=Z,27nm,1.5s
ULN Ulaanbaatar 56.35 53 P **P 18 33 10.2 -0.1**
ULN Ulaanbaatar 56.35 53 *i*P **P 18 33 10.7 +0.4**
ULN pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 56.65 22 P **P 18 33 12.1 +0.3**
TIXI IAmb IAmb 18 33 22.1
comp=Z,14nm,0.8s
TIXI Tiksi 56.65 22 LR LR 19 00 58.2
comp=Z,1μm,18.1s,baz=338,slow=40
TIXI Tiksi 56.65 22 *i*P **P 18 33 13.2 +1.4**
TIXI pmax pmax
comp=Z,14nm,0.8s
BRDH Bariadhala 57.16 87 LR LR 19 00 42.6
comp=Z,386nm,18.1s,baz=340,slow=39
SBV Sambava 57.17 152 P **P 18 33 20.4 +4.2**
SNR=5.1
FRB Frobisher Bay 57.37 328 LR LR 18 59 05.1
comp=Z,293nm,18.5s,baz=72,slow=37
DRLN Deer Lake 57.75 310 P **P 18 33 19.9 -0.1**
PALK Pallekele 58.20 109 P **P 18 33 24.1 +0.5**
PALK Pallekele 58.20 109 LR LR 19 01 06.0
comp=Z,300nm,18.9s,baz=314,slow=39
PALK Pallekele 58.20 109 P **P 18 33 25.4 +1.9**
PALK Pallekele 58.20 109 P **P 18 33 24.1 +0.5**
PALK pmax pmax
comp=Z,121nm,1.4s
CIT Chita 58.45 46 *e*P P 18 33 15.0 -10
CIT *e* 18 34 16.8
CIT *e* 18 35 38.4
QNGWA Qangwa 59.05 186 *i*P **P 18 33 31.7 +2.4**
TSUM Tsumeb 59.10 190 P **P 18 33 30.8 +1.1**
TSUM Tsumeb 59.10 190 LR LR 19 00 11.5
comp=Z,506nm,20.4s,baz=4.0,slow=37
LZH Lanzhou 59.43 67 *e*P **P 18 33 32.8 +0.7**
LZH sP sP 18 33 39.4 +1.3
LZH pmax pmax
comp=Z,52nm,1.2s
LZH LR LR
comp=Z,420nm,13.1s
LZH LR LR
comp=Z,360nm,13.7s
LZH LR LR
comp=Z,460nm,13.4s
RES Resolute Bay 59.62 345 P **P 18 33 32.3 -0.2**
RES Resolute Bay 59.62 345 LR LR 19 00 20.1
comp=Z,360nm,18.2s,baz=32,slow=37
RES Resolute Bay 59.62 345 P **P 18 33 32.3 -0.2**
RES pmax pmax
comp=Z,7.0nm,0.9s
BROLN Tlhalogang 60.41 179 *i*P **P 18 33 41.4 +2.7**
SCHQ Schefferville 60.47 318 IAmb IAmb 18 33 39.4
comp=Z,21nm,0.9s
SCHQ Schefferville 60.47 318 P **P 18 33 37.9 -0.9**
comp=Z,16nm,0.8s,baz=55,slow=6.2,SNR=22
SCHQ LR LR 19 00 17.0
comp=Z,279nm,18.0s,baz=80,slow=37
comp=Z,16nm,0.8s
TNCH TengChong 61.16 80 P **P 18 33 44.3 +0.3**
TNCH pP pP 18 33 46.9 -1.5
TNCH S **S 18 42 01.4 -2.0**
TNCH pmax pmax
comp=Z,41nm,1.0s
TNCH pmax pmax
comp=Z,160nm,3.8s
TNCH LR LR
comp=Z,190nm,16.2s
TNCH LR LR
comp=Z,190nm,13.8s
TNCH LR LR
comp=Z,290nm,18.1s
KHWEE KHWEE 61.25 181 *i*P **P 18 33 47.0 +2.6**
BTO Baotou 61.50 59 *e*P **P 18 33 46.3 +0.3**
BTO pP **pP 18 33 50.5 +0.1**
BTO sP **sP 18 33 52.5 +0.4**
BTO PP **PP 18 36 05.3 +4.2**
BTO S **S 18 42 07.4 +0.2**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,290nm,5.6s
BTO LR LR
comp=Z,730nm,18.9s
BTO LR LR
comp=Z,360nm,6.6s
BTO LR LR
comp=Z,420nm,10.5s
YAK Yakutsk 61.54 31 P **P 18 33 44.7 -1.1**
YAK Yakutsk 61.54 31 LR LR 19 03 59.6
comp=Z,379nm,19.1s,baz=290,slow=40
YAK Yakutsk 61.54 31 *e*P **P 18 33 45.4 -0.4**
YAK *e**PP **pP 18 33 48.9 -1.3**
YAK *e* 18 34 26.3
YAK *e* 18 36 01.9
YAK *e*S **S 18 42 07.8 +1.0**
YAK *e**SS **sS 18 42 18.4 +4.5**
YAK *e* 18 43 36.9
YAK *e*SS **SS 18 46 07.7 +0.6**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,122nm,6.4s
YAK pmax pmax
comp=N,153nm,4.1s
YAK pmax pmax
comp=E,72nm,4.7s
YAK smax smax
comp=E,146nm,4.7s
YAK smax smax
comp=N,72nm,4.3s
GBN Guysborough 61.93 307 P **P 18 33 48.1 -0.6**
CD2 Chengdu 61.96 72 P **P 18 33 49.0 -0.3**
CD2 S **S 18 42 13.4 +0.1**
CD2 pmax pmax
comp=N,20nm,1.4s
CD2 LR LR
comp=N,380nm,17.9s
CD2 LR LR
comp=N,310nm,24.0s
KGCAE Kacgae 62.27 184 *i*P **P 18 33 52.8 +1.5**
HHC Hu-ho-hao-te 62.40 59 *e*P **P 18 33 51.1 -1.0**
HHC S **S 18 42 15.8 -2.8**
HHC pmax pmax
comp=N,15nm,0.6s
HHC pmax pmax
comp=N,180nm,6.1s
HHC LR LR
comp=N,190nm,17.7s
HHC LR LR
comp=N,510nm,16.5s
HHC LR LR
comp=N,650nm,19.6s
WIN Windhoek 62.47 190 P **P 18 33 56.0 +3.3**
WIN pmax pmax
comp=Z,39nm,1.1s
KOOLE Kule 62.56 186 *i*P **P 18 33 54.4 +1.2**
LPHEP Lephephe 62.66 181 *i*P **P 18 33 56.0 +2.2**
KDWAN Kaudwane 62.70 182 *i*P **P 18 33 55.5 +1.4**
PZH PanZhiHua 62.80 77 P **P 18 33 54.3 -0.7**
PZH S **S 18 42 21.1 -2.9**
PZH pmax pmax
comp=Z,40nm,1.1s
PZH pmax pmax

comp=Z,160nm,5.7s
PZH LR LR
comp=Z,260nm,17.7s
PZH LR LR
comp=Z,180nm,17.2s
PZH LR LR
comp=Z,270nm,23.5s
ICQ Pointe Anglais 63.29 313 P **P 18 33 57.6 -0.1**
BATG Bathurst New B 63.73 311 P **P 18 34 01.0 +0.3**
XLT XiLinHaoTe 63.76 54 *e*P **P 18 34 00.3 -0.8**
XLT pmax pmax
comp=Z,5.0nm,1.2s
XLT pmax pmax
comp=Z,88nm,4.5s
XLT LR LR
comp=Z,280nm,16.8s
XLT LR LR
comp=Z,250nm,18.8s
SKOMA Sekoma 63.85 183 *i* P **P 18 34 02.9 +1.2**
XAN Xi'an 64.06 66 ⇑P **P 18 34 03.3 +0.2**
XAN pP sP 18 34 08.8 -0.4
XAN pmax pmax
comp=Z,45nm,1.3s
VOI Vohitsoka 64.11 159 P **P 18 34 05.1 +1.6**
KMI Kunming 64.30 78 ⇑P **P 18 34 05.9 +0.8**
KMI S **S 18 42 43.3 +0.3**
KMI pmax pmax
comp=Z,15nm,1.6s
KMI pmax pmax
comp=Z,190nm,5.3s
KMI LR LR
comp=Z,200nm,21.0s
KMI LR LR
comp=Z,190nm,20.2s
KMI LR LR
comp=Z,290nm,20.4s
LBTB Lobatse 64.31 181 LR LR 19 05 18.8
comp=Z,192nm,18.3s,baz=356,slow=39
TIY Taiyuan 64.57 61 *e*P **P 18 34 10.8 +4.3**
TIY LR LR
comp=Z,390nm,15.3s
TIY LR LR
comp=Z,310nm,10.8s
TIY LR LR
comp=Z,510nm,18.0s
PHPEN Phepeng 64.85 184 *i* P **P 18 34 11.0 +2.8**
ZEA Zeya 64.87 40 *e*P **P 18 34 08.6 +0.5**
ZEA *e*S **S 18 42 52.4 +3.7**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZEA smax smax
comp=E,100nm,6.9s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=E,300nm,15.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
CHTO Chiang Mai 64.97 86 P **P 18 34 08.4 -0.8**
CHTO IAmb IAmb 18 34 11.8
comp=Z,23nm,1.1s
CHTO Chiang Mai 64.97 86 P **P 18 34 08.4 -0.8**
CHTO pmax pmax
comp=Z,23nm,1.1s
MAKGR Makgori 65.11 182 *i* P **P 18 34 13.0 +3.0**
CM31 Chiang Mai Arr 65.17 86 IAmb IAmb 18 34 13.2
comp=Z,19nm,1.1s
CMAR Chiang Mai Arr 65.17 86 P **P 18 34 09.8 -0.8**
comp=Z,8.6nm,0.9s,baz=301,slow=7.4,SNR=44
CMAR LR LR 19 08 56.0
comp=Z,160nm,20.7s,baz=295,slow=42
comp=Z,8.6nm,0.9s
CMAR Chiang Mai Arr 65.17 86 *i* P **P 18 34 12.8 +2.2**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
BJI Beijing 65.83 57 P **P 18 34 15.3 +0.8**
BJI S **S 18 43 05.0 +4.1**
BJI pmax pmax
comp=Z,5.0nm,1.6s
BJI LR LR
comp=Z,180nm,15.0s
BJI LR LR
comp=Z,200nm,17.3s
BJI LR LR
comp=Z,310nm,17.9s
HNS HongShan 66.27 60 ⇑P **P 18 34 18.9 +1.5**
HNS S **S 18 43 09.4 +3.1**
HNS pmax pmax
comp=Z,15nm,1.8s
HNS LR LR
comp=Z,400nm,18.8s
HNS LR LR
comp=Z,320nm,12.2s
HNS LR LR
comp=Z,450nm,19.4s
LYN LuoYang 66.27 64 P **P 18 34 20.3 +2.9**
LYN pP sP 18 34 24.6 +1.1
LYN S **S 18 43 08.9 +2.4**
LYN sS pS 18 43 12.4 +0.5
LYN pmax pmax
comp=Z,18nm,1.0s
LYN LR LR
comp=Z,450nm,19.2s
LYN LR LR
comp=Z,540nm,17.2s
LYN LR LR
comp=Z,810nm,21.0s
LDAQ Lac Daran 66.34 313 IAmb IAmb 18 34 18.7
comp=Z,18nm,0.8s
RER Riviere de l'E 66.39 150 P **P 18 34 18.7 +0.4**
ENH Enshi 66.48 69 IAmb IAmb 18 34 26.1
comp=Z,27nm,1.0s
HEH HeiHe 66.90 43 *e*P **P 18 34 21.3 +0.1**
HEH pmax pmax
comp=Z,13nm,1.2s
HEH LR LR
comp=Z,430nm,17.5s
HEH LR LR
comp=Z,620nm,15.6s
HEH LR LR
comp=Z,960nm,17.7s
A36M Sachs Harbour 66.91 351 IAmb IAmb 18 34 22.1
comp=Z,22nm,0.9s
A36M Sachs Harbour 66.91 351 P **P 18 34 21.0 +0.2**
baz=24,SNR=13
SLVN Son La 67.32 81 IAmb IAmb 18 34 27.5
comp=Z,24nm,1.1s
SLVN Son La 67.32 81 P **P 18 34 26.2 +1.8**
SRDT SRDT 67.74 90 P **P 18 34 28.9 +1.9**
BOSA Boshof 67.89 181 P **P 18 34 28.0 +0.3**
BOSA Boshof 67.89 181 P **P 18 34 28.1 +0.4**
comp=Z,26nm,0.8s,baz=1.2,slow=6.5,SNR=30
BOSA LR LR 19 06 25.3
comp=Z,251nm,18.3s,baz=2.5,slow=38
comp=Z,26nm,0.8s
BILL Biiibino 68.50 15 P **P 18 34 30.7 -0.3**
BILL Biiibino 68.50 15 *i* P **P 18 34 30.2 -0.8**
BILL pmax pmax
comp=Z,15nm,1.4s
BILL MLR MLR
comp=Z,278nm,22.0s
TIA Tai'an 68.55 60 P **P 18 34 32.9 +1.1**
TIA S S 18 43 43.3 +10
TIA pmax pmax
comp=Z,14nm,1.7s
TIA LR LR
comp=Z,250nm,21.0s
TIA LR LR
comp=Z,460nm,19.1s
TIA LR LR
comp=Z,580nm,16.4s
NONG Nongkai 68.64 84 P **P 18 34 34.1 +1.5**
LBNH Lisbon 68.83 310 IAmb IAmb 18 34 35.3
comp=Z,33nm,1.1s
SEY Seymchan 69.07 23 *i* P **P 18 34 35.1 +0.5**
SEY pmax pmax
comp=Z,2.0nm,0.4s
C36M Paulatuk 69.18 349 P **P 18 34 34.8 -0.3**
baz=24
NAYO Nakonayok 69.46 88 P **P 18 34 40.0 +2.3**
BNX BinXian 69.50 47 ⇓P **P 18 34 36.4 -1.2**
BNX pmax pmax
comp=Z,5.0nm,0.8s
CN2 Changchun 69.50 50 *e*P **P 18 34 36.3 -1.3**
CN2 *e*S **S 18 43 40.3 -4.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
CN2 LR LR
comp=Z,400nm,13.0s
HRV Adam Dziewonsk 69.61 309 P **P 18 34 38.9 +0.6**
HRV Adam Dziewonsk 69.61 309 P **P 18 34 38.9 +0.6**
HRV pmax pmax
comp=Z,33nm,1.0s
VLDQ Val d'Or 69.67 316 IAmb IAmb 18 34 40.5
comp=Z,30nm,1.0s
J61A Chester 69.71 310 IAmb IAmb 18 34 41.3
comp=Z,34nm,1.3s
KLR Kul'dur 69.78 42 LR LR 19 09 27.9
comp=Z,374nm,18.2s,baz=311,slow=40
KLR Kul'dur 69.78 42 *i* P **P 18 34 39.1 -0.1**
KLR pmax pmax
comp=Z,16nm,1.8s
WHN Wuhan 69.81 67 P **P 18 34 42.4 +2.7**
WHN pmax pmax
comp=Z,65nm,1.2s
GULI GuiLin 69.91 73 P **P 18 34 43.8 +3.3**
DL2 Dalian 69.97 56 P P 18 34 28.3 -12
DL2 S S 18 43 30.8 -20
DL2 pmax pmax
comp=Z,25nm,1.2s
DL2 pmax pmax
comp=Z,280nm,5.0s
DL2 LR LR
comp=N,390nm,18.0s
DL2 LR LR
comp=E,300nm,17.1s
DL2 LR LR
comp=Z,640nm,19.0s
BSI BandAceh 70.28 99 P **P 18 34 43.6 +0.7**
comp=Z,718nmcomp=Z,50nm,1.2s
L61B Northampton 70.31 309 IAmb IAmb 18 34 44.4
comp=Z,26nm,1.0s
L61B Northampton 70.31 309 P **P 18 34 43.4 +0.8**
baz=54
A19K Wainwright 70.35 3 P **P 18 34 43.5 +1.2**
baz=354
UCCT U. Connecticut 70.42 308 IAmb IAmb 18 34 45.5
comp=Z,32nm,1.0s
C26K Camden Bay 70.59 357 P **P 18 34 44.4 +0.6**
baz=7.1
J59A Piesco 70.79 311 IAmb IAmb 18 34 47.2
comp=Z,24nm,0.9s
D28M Stokes Point 70.81 354 P **P 18 34 46.1 +1.0**
baz=12
C27K Jago River 70.82 356 P **P 18 34 46.0 +0.7**
baz=8.1
C23K Itkillik River 70.83 359 IAmb IAmb 18 34 47.7
comp=Z,32nm,1.4s
C23K Itkillik River 70.83 359 P **P 18 34 45.9 +0.6**
baz=2.4
C24K Franklin Bluff 70.91 358 IAmb IAmb 18 35 28.0
comp=Z,57nm,1.9s
C24K Franklin Bluff 70.91 358 P **P 18 34 46.4 +0.6**
baz=4.0
MA2 Magadan 71.04 26 P **P 18 34 47.1 +0.3**
MA2 IAmb IAmb 18 34 52.8
comp=Z,16nm,1.0s
MA2 Magadan 71.04 26 LR LR 19 09 27.5
comp=Z,435nm,18.3s,baz=311,slow=39
MA2 Magadan 71.04 26 P **P 18 34 47.4 +0.6**
MA2 Magadan 71.04 26 *i* P **P 18 34 46.6 -0.2**
MA2 pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 71.04 26 P **P 18 34 47.3 +0.5**
comp=Z,17nm,0.9s
MA2 pP **pP 18 34 51.5 +0.3**
comp=Z,17nm,0.9s
D27M Malcolm River 71.05 355 P **P 18 34 47.2 +0.5**
baz=10
B21K Ikpikpuk River 71.07 0 IAmb IAmb 18 34 53.7
comp=Z,16nm,1.2s
B21K Ikpikpuk River 71.07 0 P **P 18 34 47.5 +0.7**
baz=359,SNR=9.7
B18K Kokolik River 71.16 3 P **P 18 34 48.3 +0.9**
baz=353
GRNR Gornyy 71.17 39 ⇓*i* P **P 18 34 47.7 0.0**
GRNR pmax pmax
comp=Z,5.0nm,1.2s
GRNR MLR MLR
comp=N,170nm,11.0s
D25K Kavik River 71.24 357 P **P 18 34 48.6 +0.7**
baz=5.9
INK Inuvik 71.34 352 P **P 18 34 47.2 -1.2**
INK Inuvik 71.34 352 LR LR 19 07 56.0
comp=N,146nm,21.5s,baz=12,slow=37
INK Inuvik 71.34 352 P **P 18 34 48.2 -0.2**
baz=16,SNR=5.6
INK Inuvik 71.34 352 P **P 18 34 47.2 -1.2**
INK pmax pmax
comp=Z,17nm,1.5s
MDJ Mudanjiang 71.41 47 P **P 18 34 44.8 -4.5**
MDJ pmax pmax
comp=Z,13nm,2.1s
WSPT Westport, CT 71.46 308 IAmb IAmb 18 34 51.5
comp=Z,24nm,1.1s
D24K Happy Valley 71.48 358 P **P 18 34 50.0 +0.7**
baz=3.9
C21K Knifeblade Rid 71.53 0 P **P 18 34 50.5 +0.9**
baz=359
SRIT Nakonsritamara 71.63 94 IAmb IAmb 18 34 53.1
comp=Z,16nm,0.8s
SRIT Nakonsritamara 71.63 94 P **P 18 34 53.0 +2.0**
E29M Blow River 71.67 354 IAmb IAmb 18 34 51.9
comp=Z,29nm,1.1s
E29M Blow River 71.67 354 P **P 18 34 50.7 +0.3**
baz=13
J57A Williamstown 71.69 311 IAmb IAmb 18 34 52.3
comp=Z,18nm,0.8s
D23K Nanushuk River 71.71 359 IAmb IAmb 18 34 52.8
comp=Z,26nm,1.3s
D23K Nanushuk River 71.71 359 P **P 18 34 51.8 +1.1**
baz=2.4
D22K Ayikyak River 71.81 360 IAmb IAmb 18 35 32.5
comp=Z,14nm,1.1s
D22K Ayikyak River 71.81 360 P **P 18 34 52.2 +0.9**
baz=0.7
SUR Sutherland 71.83 185 P **P 18 34 52.9 +1.0**
SUR Sutherland 71.83 185 LR LR 19 09 44.6
comp=Z,320nm,18.4s,baz=360,slow=39
C18K Utukok River 71.90 3 IAmb IAmb 18 34 57.2
comp=Z,17nm,0.9s
C18K Utukok River 71.90 3 P **P 18 34 52.5 +0.6**
baz=354
PAL Palisades 71.91 308 IAmb IAmb 18 34 53.2
comp=Z,21nm,0.8s
MLSI Meulaboh, Aceh 71.92 100 P **P 18 34 53.4 +0.7**
DELO Deloro Mine 71.94 313 IAmb IAmb 18 34 54.4
comp=Z,52nm,1.4s
D20K Etivluk River 71.96 1 P **P 18 34 52.3 +0.1**
baz=358
C17K DeLong Mountai 71.98 4 P **P 18 34 53.2 +0.9**
baz=352
TOLK Toolik Lake Re 72.01 358 IAmb IAmb 18 34 55.6
comp=Z,30nm,1.7s
TOLK Toolik Lake Re 72.01 358 P **P 18 34 53.4 +0.8**
baz=3.3
TRNY Table Rock, Ra 72.02 309 IAmb IAmb 18 34 54.7
comp=Z,15nm,0.8s
C16K Lisburne Hills 72.06 5 IAmb IAmb 18 35 15.2
comp=Z,38nm,1.5s
C16K Lisburne Hills 72.06 5 P **P 18 34 52.9 +0.2**
baz=350
UBPT Khong Chiam 72.08 85 IAmb IAmb 18 34 56.5
comp=Z,20nm,1.0s
UBPT Khong Chiam 72.08 85 P **P 18 34 55.8 +2.1**
NJ2 Nanjing 72.09 63 *e*P **P 18 34 53.4 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
D19K Kuna River 72.15 2 IAmb IAmb 18 34 55.1
comp=Z,34nm,1.4s
D19K Kuna River 72.15 2 P **P 18 34 53.8 +0.4**
baz=356
F31M Tsiigehtchic 72.20 352 IAmb IAmb 18 34 54.4
comp=Z,20nm,0.8s
F31M Tsiigehtchic 72.20 352 P **P 18 34 53.4 -0.1**
baz=16,SNR=18
F30M Barrier River 72.24 353 P **P 18 34 53.3 -0.6**
baz=14
ODNJ Ogdensburg 72.28 309 IAmb IAmb 18 34 56.3
comp=Z,34nm,1.0s
E25K Arctic Village 72.41 357 P **P 18 34 55.0 +0.1**
baz=6.5,SNR=6.8
RDOG Red Dog Mine 72.42 4 IAmb IAmb 18 35 23.6
comp=Z,34nm,1.6s
RDOG Red Dog Mine 72.42 4 P **P 18 34 55.0 +0.1**
baz=352
E20K Nigu River 72.42 1 P **P 18 34 55.6 +0.6**
baz=358
BINY Binghamton 72.43 310 IAmb IAmb 18 34 57.3
comp=Z,27nm,0.8s
E24K Your Creek 72.56 358 P **P 18 34 56.1 +0.2**
baz=4.1
E22K Anaktuvuk Pass 72.56 359 P **P 18 34 55.9 +0.1**
baz=1.4,SNR=7.0
F28M Old Crow 72.58 355 IAmb IAmb 18 35 04.7
comp=Z,25nm,1.6s
F28M Old Crow 72.58 355 P **P 18 34 56.1 +0.2**
baz=11,SNR=5.8
E23K Chandalar 72.60 358 IAmb IAmb 18 34 58.2
comp=Z,33nm,1.6s
E23K Chandalar 72.60 358 P **P 18 34 56.8 +0.7**
baz=3.2
SADO Sadowa 72.64 314 LR LR 19 07 50.5
comp=Z,291nm,18.7s,baz=74,slow=37
G31M Satah River 72.76 352 P **P 18 34 56.5 -0.4**
baz=16,SNR=8.4
D17K Noatak River 72.76 4 P **P 18 34 56.8 -0.1**
baz=352,SNR=14
F26K Sheenjek River 72.77 356 P **P 18 34 57.2 +0.2**
baz=7.6
G30M tAoh Zraii Nji 72.89 353 IAmb IAmb 18 35 21.7
comp=Z,22nm,1.4s
G30M tAoh Zraii Nji 72.89 353 P **P 18 34 57.5 -0.4**
baz=14,SNR=7.1
F25K Christian Rive 72.94 357 P **P 18 34 58.8 +0.7**
baz=6.4
RCBR Riachuelo 72.96 247 LR LR 19 08 40.6
comp=Z,94nm,18.1s,baz=57,slow=37
USRK Ussuriysk Ar. 73.02 46 P **P 18 34 57.7 -1.2**
comp=Z,5.3nm,0.9s,baz=131,slow=1.3,SNR=6.7
USRK LR LR 19 09 29.8
comp=Z,142nm,20.9s,baz=299,slow=38
comp=Z,5.3nm,0.9s
BMAR Burnt Mountain 73.05 356 P **P 18 34 59.5 +0.7**
SNSI Sinabang, Aceh 73.06 101 P **P 18 35 01.5 +2.0**
comp=Z,102nm,1.1s
F24K Squaw Lake 73.09 358 P **P 18 34 60.0 +0.9**
baz=4.6
G29M Pine Creek 73.12 354 IAmb IAmb 18 35 05.6
comp=Z,15nm,0.8s
G29M Pine Creek 73.12 354 P **P 18 34 59.0 -0.2**
baz=12
E18K Tukpahlearik C 73.15 3 P **P 18 34 59.8 +0.6**
baz=354
QIZ Qiongzhong 73.18 79 P **P 18 35 00.1 -0.1**
QIZ S **S 18 44 27.0 -1.1**
QIZ LR LR
comp=Z,200nm,21.2s
QIZ LR LR
comp=Z,230nm,22.7s
QIZ LR LR
comp=Z,200nm,19.6s
E19K Redstone River 73.21 1 IAmb IAmb 18 35 01.2
comp=Z,17nm,0.8s
E19K Redstone River 73.21 1 P **P 18 35 00.2 +0.5**
baz=357
E17K Hotham Inlet 73.44 3 P **P 18 35 00.6 -0.3**
baz=353
COLD Coldfoot 73.44 359 P **P 18 35 01.5 +0.4**
baz=2.7
F21K Alatna River 73.48 360 IAmb IAmb 18 35 03.2
comp=Z,24nm,1.2s
F21K Alatna River 73.48 360 P **P 18 35 01.8 +0.6**
baz=0.1,SNR=8.0
G26K Porcupine Rive 73.49 356 P **P 18 35 02.5 +1.3**
baz=7.9
G27K Doyon Strip 73.50 355 P **P 18 35 02.1 +0.7**
baz=9.6
YKA Yellowknife Ar 73.51 342 P **P 18 35 01.0 -0.4**
comp=Z,4.7nm,0.9s,baz=27,slow=5.7,SNR=52
YKA LR LR 19 07 19.9
comp=Z,268nm,19.0s,baz=12,slow=36
comp=Z,4.7nm,0.9s
EPYK Eagle Plains 73.54 353 P **P 18 35 01.3 -0.3**
baz=14,SNR=5.0
MSHR Mys Shultsa 73.56 48 *i* P **P 18 35 03.2 +1.1**
MSHR pmax pmax
comp=Z,14nm,1.1s
F20K Avaraart Lake 73.64 1 IAmb IAmb 18 35 26.6
comp=Z,28nm,1.5s
F20K Avaraart Lake 73.64 1 P **P 18 35 02.7 +0.6**
baz=358
G22K Bettles 73.77 359 P **P 18 35 03.1 +0.2**
baz=1.7
G25K Bearman Lake 73.78 357 P **P 18 35 03.4 +0.5**
baz=6.0
F19K Shaleruckik Mo 73.82 2 IAmb IAmb 18 35 04.2
comp=Z,19nm,1.2s
F19K Shaleruckik Mo 73.82 2 P **P 18 35 03.2 0.0**
baz=357
H29M Whitestone 73.83 354 IAmb IAmb 18 35 25.5
comp=Z,64nm,1.9s
H29M Whitestone 73.83 354 P **P 18 35 03.3 0.0**
baz=12
H31M Peel River 73.84 352 P **P 18 35 03.2 -0.2**
baz=15
G24K Hadweenzic Riv 73.90 357 IAmb IAmb 18 35 42.1
comp=Z,41nm,1.9s
G24K Hadweenzic Riv 73.90 357 P **P 18 35 04.4 +0.6**
baz=4.9
FYU Fort Yukon 73.94 357 IAmb IAmb 18 35 42.4
comp=Z,38nm,1.5s
G23K Bananza Creek 73.96 359 P **P 18 35 04.9 +0.8**
baz=2.9
F18K Selawik 74.00 3 P **P 18 35 04.4 +0.1**
baz=355,SNR=6.6
TYV Tymovskoe 74.05 36 *e*P **P 18 35 07.9 +3.1**
TYV pmax pmax
comp=Z,5.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,5.2s
TSI Tuntungan 74.06 99 P **P 18 35 06.1 +0.7**
comp=Z,120nm,1.0s
H27K Steamboat Moun 74.06 355 P **P 18 35 05.7 +0.9**
baz=9.7
F17K Baldwin Pennin 74.10 3 P **P 18 35 05.2 +0.4**
baz=354
H25L Birch Creek 74.27 357 P **P 18 35 07.2 +1.4**
baz=6.2
E46A Sault Ste Mari 74.39 318 IAmb IAmb 18 35 08.3
comp=Z,36nm,1.0s
KULM Kulim 74.51 96 P **P 18 35 09.9 +1.8**
SSPA Standing Stone 74.52 310 P **P 18 35 08.2 +0.5**
SSPA IAmb IAmb 18 35 09.5
comp=Z,41nm,1.0s
G19K Purcell Mounta 74.53 1 P **P 18 35 08.3 +0.9**
baz=357
TNA Tin City 74.56 6 P **P 18 35 07.7 +0.2**
baz=349
I30M Mount Dempster 74.62 353 IAmb IAmb 18 35 09.0
comp=Z,14nm,0.8s
I30M Mount Dempster 74.62 353 P **P 18 35 08.3 +0.1**
baz=14
F15K North Star Dit 74.65 5 P **P 18 35 07.2 -0.8**
SDMD Soldier's Deli 74.66 309 IAmb IAmb 18 35 10.0
comp=Z,24nm,0.9s
I29M Ogilvie Camp, 74.67 353 IAmb IAmb 18 35 09.0
comp=Z,18nm,1.0s
I29M Ogilvie Camp, 74.67 353 P **P 18 35 08.2 -0.1**
baz=12,SNR=12
I27K Kandik River 74.69 355 P **P 18 35 09.2 +0.8**
baz=9.6
NBCA Caruaru-PE 74.71 245 *e*P **P 18 35 09.7 +0.5**
GSI Gunungsitoli 74.72 101 P **P 18 35 11.8 +2.5**
GSI Gunungsitoli 74.72 101 P **P 18 35 11.2 +1.9**
comp=Z,64nm,1.1s
I28M Miner Creek 74.72 354 IAmb IAmb 18 35 09.7
comp=Z,26nm,1.6s
I28M Miner Creek 74.72 354 P **P 18 35 08.6 -0.1**
baz=11
G18K Tagagawik 74.74 2 IAmb IAmb 18 35 09.9
comp=Z,22nm,1.1s
G18K Tagagawik 74.74 2 P **P 18 35 08.6 0.0**
baz=356
NBLV Livramento - P 74.75 247 *e*P **P 18 35 10.0 +0.5**

F14K	**Arctic Creek**	74.77	5	P	P	18 35 09.1 +0.3
	baz=350					
PSI	**Prapat**	74.78	99	LR	LR	19 12 12.8
	comp=Z,59nm,18.9s,baz=307,slow=39					
PSI	**Prapat**	74.78	99	P	P	18 35 11.8 +2.0
H24K	**Noodor Dome**	74.78	358	IAmb	IAmb	18 35 16.9
	comp=Z,28nm,1.8s					
H24K	**Noodor Dome**	74.78	358	P	P	18 35 09.6 +0.7
	baz=4.6					
KSAR	**Wonju Array Be**	74.80	54	P	P	18 35 08.7 -0.7
KSAR	**Wonju Array Be**	74.80	54	P	P	18 35 08.7 -0.7
H22K	**Ishtalitna Cre**	74.80	359	P	P	18 35 10.3 +1.3
	baz=1.8					
KSRS	**Korea Array**	74.82	54	P	P	18 35 09.2 -0.4
	comp=Z,7.5nm,1.0s,baz=308,slow=5.2,SNR=12					
KSRS				LR	LR	19 12 05.5
	comp=Z,506nm,19.0s,baz=320,slow=39					
	comp=Z,7.5nm,1.0s					
PRP	**Porcupine Dome**	75.00	357	P	P	18 35 10.6 +0.3
	baz=6.4,SNR=7.6					
H21K	**Melozitna Rive**	75.05	360	IAmb	IAmb	18 35 12.8
	comp=Z,24nm,1.2s					
H21K	**Melozitna Rive**	75.05	360	P	P	18 35 11.6 +1.2
	baz=0.6					
I26K	**Coal Creek Min**	75.09	355	P	P	18 35 11.0 +0.4
	baz=8.3					
G16K	**Koyuk River**	75.09	4	P	P	18 35 11.3 +0.7
	baz=353					
H19K	**Roundabout Mou**	75.16	1	P	P	18 35 11.6 +0.6
	baz=358,SNR=9.7					
H20K	**Anotleneega Mo**	75.21	1	P	P	18 35 11.7 +0.3
	baz=359					
J30M	**Hart River**	75.25	352	IAmb	IAmb	18 35 13.2
	comp=Z,22nm,0.8s					
J30M	**Hart River**	75.25	352	P	P	18 35 12.3 +0.6
	baz=14					
IPM	**Ipoh**	75.31	96	IAmb	IAmb	18 35 15.2
	comp=Z,42nm,1.1s					
IPM	**Ipoh**	75.31	96	P	P	18 35 14.4 +1.6
G15K	**Niukluk**	75.40	5	P	P	18 35 13.0 +0.6
	baz=352					
POKR	**Poker Plat Res**	75.48	357	IAmb	IAmb	18 35 14.6
	comp=Z,15nm,0.9s					
POKR	**Poker Plat Res**	75.48	357	P	P	18 35 13.6 +0.7
	baz=4.9,SNR=6.3					
H18K	**Honhosa River**	75.49	2	P	P	18 35 13.4 +0.4
	baz=356					
I23K	**Minto, Yukon-K**	75.51	358	P	P	18 35 13.6 +0.6
	baz=3.4					
I21K	**Tanana**	75.53	359	P	P	18 35 13.6 +0.5
	baz=1.3					
ANM	**Nome**	75.74	5	IAmb	IAmb	18 35 20.9
	comp=Z,23nm,1.2s					
ANM	**Nome**	75.74	5	P	P	18 35 14.4 +0.1
	baz=351					
COLA	**College**	75.74	357	P	P	18 35 14.7 +0.3
	baz=4.6					
ILAR	**Eielson Array**	75.81	357	P	P	18 35 14.4 -0.4
ILAR	**Eielson Array**	75.81	357	P	P	18 35 14.2 -0.6
	comp=Z,2.5nm,0.8s,baz=341,slow=4.1,SNR=27					
ILAR				LR	LR	19 09 53.0
	comp=Z,74nm,20.2s,baz=5.0,slow=37					
	comp=Z,2.5nm,0.8s					
ILAR	**Eielson Array**	75.81	357	P	P	18 35 14.4 -0.4
H16K	**Elim**	75.85	4	P	P	18 35 15.6 +0.6
	baz=353,SNR=7.6					
J25K	**Salcha River,**	75.90	356	P	P	18 35 15.6 +0.2
	baz=6.5					
J26L	**Joseph Creek**	75.91	356	P	P	18 35 15.7 +0.2
	baz=8.0					
I20K	**Naaghedeneel**	75.92	0	P	P	18 35 15.6 +0.3
	baz=359					
M52A	**Chesterland**	75.95	313	IAmb	IAmb	18 35 17.3
	comp=Z,34nm,0.9s					
DAWY	**Dawson**	76.04	354	P	P	18 35 16.4 +0.3
	baz=11,SNR=8.6					
NEA2	**Nenana**	76.06	358	IAmb	IAmb	18 35 17.4
	comp=Z,24nm,1.2s					
NEA2	**Nenana**	76.06	358	P	P	18 35 16.2 0.0
	baz=3.6					
K29M	**Barlow Dome**	76.09	353	P	P	18 35 17.2 +0.7
	baz=13					
N53A	**Lisbon**	76.13	312	IAmb	IAmb	18 35 17.9
	comp=Z,21nm,0.7s					
PBSI	**Pulau Batu**	76.13	102	P	P	18 35 19.8 +2.4
	comp=Z,89nm,1.1s					
WRH	**Wood River Hil**	76.15	358	IAmb	IAmb	18 35 17.7
	comp=Z,17nm,0.8s					
FFC	**Flin Flon**	76.16	332	P	P	18 35 16.3 -0.6
FFC	**Flin Flon**	76.16	332	P	P	18 35 16.3 -0.6
FFC				pmax	pmax	
	comp=Z,14nm,1.1s					
HDA	**Harding Lake**	76.17	357	IAmb	IAmb	18 35 17.6
	comp=Z,13nm,0.8s					
HDA	**Harding Lake**	76.17	357	P	P	18 35 16.8 -0.1
	baz=5.3,SNR=11					
R58B	**Mineral**	76.20	308	IAmb	IAmb	18 36 02.6
	comp=Z,53nm,1.5s					
O54A	**Avella**	76.27	311	IAmb	IAmb	18 35 18.7
	comp=Z,21nm,0.8s					
SCRK	**Sand Creek**	76.46	356	P	P	18 35 19.1 +0.4
	baz=7.6,SNR=7.2					
MMPY	**Sheldon Lake,**	76.53	350	P	P	18 35 19.7 +0.7
	baz=18					
J20K	**Nowinta River**	76.54	0	IAmb	IAmb	18 35 26.4
	comp=Z,33nm,1.5s					
J20K	**Nowinta River**	76.54	0	P	P	18 35 19.6 +0.7
	baz=360					
BPAW	**Bear Paw Mtn.**	76.60	359	P	P	18 35 19.2 -0.1
	baz=2.1					
I17K	**Unalakleet**	76.68	3	P	P	18 35 20.3 +0.6
	baz=354					
J19K	**Poorman**	76.71	1	IAmb	IAmb	18 35 25.5
	comp=Z,24nm,1.1s					
J19K	**Poorman**	76.71	1	P	P	18 35 20.1 +0.2
	baz=358					
K24K	**Donnelly Dome**	76.73	356	P	P	18 35 20.0 -0.1
	baz=6.2					
RIDG	**Independent Ri**	76.74	356	IAmb	IAmb	18 35 21.6
	comp=Z,61nm,1.9s					
RIDG	**Independent Ri**	76.74	356	P	P	18 35 20.6 +0.4
	baz=6.9,SNR=5.3					
YSS	**Yuzhno-Sakhali**	76.83	39	P	P	18 35 20.9 0.0
YSS				IAmb	IAmb	18 35 40.4
	comp=Z,22nm,0.9s					
YSS	**Yuzhno-Sakhali**	76.83	39	P	P	18 35 21.7 +0.9
YSS	**Yuzhno-Sakhali**	76.83	39	*e*P	P	18 35 21.0 +0.2
YSS				*e*		18 38 15.0
YSS				*e*S	S	18 45 09.5 +1.7
YSS				*e*		18 45 32.0
YSS				*e*SSS	SSS	18 53 28.2
YSS				pmax	pmax	
	comp=Z,20nm,0.9s					
CHUM	**Lake Minchumin**	76.83	359	P	P	18 35 20.9 +0.3
	baz=1.0					
EYMN	**Ely**	76.86	322	IAmb	IAmb	18 35 22.0
	comp=Z,38nm,1.6s					
L29M	**L29M**	76.86	353	P	P	18 35 21.5 +0.7
	baz=12					
MCK	**McKinley**	76.92	358	IAmb	IAmb	18 35 21.9
	comp=Z,23nm,1.2s					
MCK	**McKinley**	76.92	358	P	P	18 35 21.0 -0.1
	baz=3.7,SNR=6.3					
COWI	**Conover**	77.03	320	IAmb	IAmb	18 35 22.9
	comp=Z,24nm,0.9s					
TGTN	**Hyland Airport**	77.12	348	P	P	18 35 22.9 +0.6
	baz=20,SNR=8.9					
KTH	**Kantishna Hill**	77.14	359	IAmb	IAmb	18 35 24.4
	comp=Z,22nm,1.4s					
O52A	**Adamsville**	77.16	312	IAmb	IAmb	18 35 23.9
	comp=Z,26nm,0.8s					
ULM	**Lac du Bonnet**	77.16	326	IAmb	IAmb	18 35 23.4
	comp=Z,49nm,1.4s					
ULM	**Lac du Bonnet**	77.16	326	P	P	18 35 22.1 -0.6
	comp=Z,12nm,0.7s,baz=44,slow=5.2,SNR=19					
ULM				LR	LR	19 10 21.5
	comp=Z,530nm,18.8s,baz=36,slow=36					
	comp=Z,12nm,0.7s					
FARO	**Faro, Yukon**	77.19	350	P	P	18 35 22.9 +0.2
	baz=16					
BCAR	**Beaver Creek A**	77.22	355	P	P	18 35 22.6 -0.3
J18K	**Innoko River**	77.22	1	IAmb	IAmb	18 35 30.2
	comp=Z,18nm,1.1s					
J18K	**Innoko River**	77.22	1	P	P	18 35 23.6 +0.7
	baz=358					
L27K	**Beaver Creek,**	77.22	355	P	P	18 35 23.6 +0.7
	baz=9.3					
J17K	**VABM Dome**	77.23	3	IAmb	IAmb	18 35 24.9
	comp=Z,33nm,1.4s					
J17K	**VABM Dome**	77.23	3	P	P	18 35 23.3 +0.4
	baz=356					
TRF	**Thorofare Moun**	77.24	358	IAmb	IAmb	18 36 24.1
	comp=Z,52nm,1.8s					
TRF	**Thorofare Moun**	77.24	358	P	P	18 35 23.2 +0.1
	baz=2.6					
RND	**Reindeer**	77.24	358	IAmb	IAmb	18 35 23.2
	comp=Z,49nm,2.0s					
M30M	**Minto, Yukon**	77.25	352	P	P	18 35 23.2 +0.1
	baz=13					
J16K	**Anvik River**	77.28	3	P	P	18 35 23.3 +0.2
	baz=354					
CAST	**Castle Rocks**	77.29	359	IAmb	IAmb	18 35 28.6
	comp=Z,15nm,1.0s					
CAST	**Castle Rocks**	77.29	359	P	P	18 35 23.5 +0.3
	baz=1.2,SNR=12					
M31M	**Drury Creek, Y**	77.34	351	IAmb	IAmb	18 35 25.3
	comp=Z,16nm,1.1s					
M31M	**Drury Creek, Y**	77.34	351	P	P	18 35 24.3 +0.8
	baz=15,SNR=6.3					
K20K	**Telida**	77.36	0	P	P	18 35 23.9 +0.3
	baz=360					
L26K	**Log Cabin Wild**	77.37	355	P	P	18 35 24.1 +0.5
	baz=8.1					
MENT	**Mentasta**	77.48	355	P	P	18 35 25.5 +1.2
PAX	**Paxson**	77.54	356	P	P	18 35 25.1 +0.4
	baz=6.4					
M29M	**Somme Creek**	77.55	353	IAmb	IAmb	18 35 26.6
	comp=Z,22nm,0.8s					
M29M	**Somme Creek**	77.55	353	P	P	18 35 25.6 +0.8
	baz=12					
SISI	**Saibi**	77.57	102	P	P	18 35 27.8 +2.3
	comp=Z,45nm,1.1s					
KOTAN	**Kotaneelee Air**	77.67	345	P	P	18 35 26.0 +0.6
	baz=23					
ACSO	**Alum Creek Sta**	77.74	312	IAmb	IAmb	18 35 27.0
	comp=Z,25nm,1.1s					
TTA	**Tatalina**	77.77	1	P	P	18 35 26.4 +0.4
	baz=358					
TTA	**Tatalina**	77.77	1	P	P	18 35 27.4 +1.4
PPLA	**Purkeypile**	77.82	359	IAmb	IAmb	18 35 43.3
	comp=Z,58nm,1.6s					
PPLA	**Purkeypile**	77.82	359	P	P	18 35 26.6 +0.2
	baz=1.1					
E38A	**The Farm, Brul**	77.85	321	IAmb	IAmb	18 35 26.5
	comp=Z,17nm,1.1s					
NBLA	**Lagarto - SE**	77.89	245	*e*P	P	18 35 26.7 -0.5
M27K	**Edge Creek, AK**	77.93	354	P	P	18 35 27.7 +0.8
	baz=9.2					
K17K	**Iditarod**	77.94	2	P	P	18 35 27.7 +0.9
	baz=356					
N49A	**Columbus Grove**	77.96	314	IAmb	IAmb	18 35 28.0
	comp=Z,28nm,0.8s					
M26K	**Nabesna, AK**	77.96	355	P	P	18 35 27.4 +0.3
	baz=8.3,SNR=6.1					
HARP	**HAARP**	78.10	356	P	P	18 35 28.0 +0.2
	baz=6.6					
G40A	**Rib Lake**	78.14	320	IAmb	IAmb	18 35 29.2
	comp=Z,23nm,1.2s					
N32M	**Quiet Lake**	78.19	350	IAmb	IAmb	18 36 02.1
	comp=Z,19nm,0.9s					
N32M	**Quiet Lake**	78.19	350	P	P	18 35 29.0 +0.7
	baz=16					
N31M	**Braeburn, Yuko**	78.20	351	P	P	18 35 28.4 +0.1
	baz=14					
K15K	**Wolf Creek Mou**	78.23	4	P	P	18 35 29.3 +0.9
	baz=354					
L20K	**Farewell, AK**	78.25	0	P	P	18 35 29.1 +0.6
	baz=360					
MDP	**Montagnes des**	78.33	267	LR	LR	19 08 16.7
	comp=Z,136nm,20.8s,baz=108,slow=34					
N30M	**Aishikik Lake**	78.38	352	P	P	18 35 29.5 +0.2
	baz=13					
M24K	**Tolsona, Glenn**	78.44	356	P	P	18 35 30.0 +0.3
	baz=5.8					
L18K	**Granite Mounta**	78.47	1	IAmb	IAmb	18 35 35.1
	comp=Z,45nm,1.5s					
L18K	**Granite Mounta**	78.47	1	P	P	18 35 30.9 +1.1
	baz=358					
PETK	**Petropavlovsk-**	78.49	28	LR	LR	19 12 23.1
	comp=Z,473nm,21.1s,baz=314,slow=37					
L17K	**Donlin**	78.52	2	P	P	18 35 30.8 +0.8
	baz=356					
L19K	**White Mountain**	78.54	1	IAmb	IAmb	18 35 37.4
	comp=Z,19nm,1.1s					
L19K	**White Mountain**	78.54	1	P	P	18 35 30.0 -0.2
	baz=359					
WTLY	**Watson Lake, Y**	78.54	348	IAmb	IAmb	18 35 32.1
	comp=Z,19nm,1.0s					
WTLY	**Watson Lake, Y**	78.54	348	P	P	18 35 30.9 +0.6
	baz=19,SNR=5.4					
YUK4	**Talbot Arm**	78.65	353	P	P	18 35 30.7 -0.3
	baz=12					
SKT	**Skwentna**	78.73	359	IAmb	IAmb	18 35 36.6
	comp=Z,31nm,1.2s					
SKT	**Skwentna**	78.73	359	P	P	18 35 30.6 -0.6
	baz=1.6,SNR=9.9					
ASAJ	**Asahikawa**	78.75	41	LR	LR	19 14 02.7
	comp=Z,478nm,18.1s,baz=340,slow=38					
SCM	**Sheep Creek Mo**	78.77	357	IAmb	IAmb	18 36 05.8
	comp=Z,30nm,1.1s					
SCM	**Sheep Creek Mo**	78.77	357	P	P	18 35 31.9 +0.4
	baz=4.9					
U56A	**King**	78.77	308	IAmb	IAmb	18 35 32.7
	comp=Z,27nm,1.0s					
YUK8	**Steele Glacier**	78.81	353	P	P	18 35 32.6 +0.6
	baz=11					
M19K	**Big River Lodg**	78.82	0	P	P	18 35 32.3 +0.6
	baz=359					
M23K	**Glacier View**	78.82	357	P	P	18 35 31.8 +0.1
	baz=4.6,SNR=8.8					
SML	**Sawmill**	78.83	357	IAmb	IAmb	18 35 45.4
	comp=Z,19nm,1.0s					
SML	**Sawmill**	78.83	357	P	P	18 35 31.7 -0.1
	baz=4.1					
M20K	**Styx River**	78.84	360	IAmb	IAmb	18 35 32.7
	comp=Z,19nm,1.0s					
M20K	**Styx River**	78.84	360	P	P	18 35 32.0 +0.1
	baz=0.4					
L15K	**Ungalak Mounta**	78.84	4	P	P	18 35 31.9 +0.1
	baz=354					
N25K	**Chitina, Valde**	78.86	356	P	P	18 35 32.1 +0.1
	baz=7.1					
GHO	**Glory Hole Cre**	78.88	358	IAmb	IAmb	18 35 38.7
	comp=Z,20nm,0.9s					
SSFO	**Shawnee State**	78.89	311	IAmb	IAmb	18 35 33.2
	comp=Z,30nm,1.0s					
WHY	**Whitehorse**	78.90	351	P	P	18 35 32.0 -0.3
	baz=15					
L16K	**Owhat River**	78.90	3	P	P	18 35 32.6 +0.4
	baz=355					
O30N	**Mendenhall**	78.94	351	P	P	18 35 32.1 -0.3
	baz=14					
YUK6	**Outpost Mounta**	79.01	352	P	P	18 35 33.3 +0.2
	baz=12					
HYT	**Haines Junctio**	79.04	352	IAmb	IAmb	18 35 34.7
	comp=Z,21nm,1.2s					
HYT	**Haines Junctio**	79.04	352	P	P	18 35 33.3 +0.2
	baz=13,SNR=6.7					
KLU	**Klutina**	79.04	356	P	P	18 35 33.2 +0.2
	baz=6.0					
P33M	**Teslin, Yukon**	79.06	350	P	P	18 35 33.1 -0.1
	baz=16					
PMR	**Palmer**	79.07	358	P	P	18 35 33.2 +0.2
	baz=3.5					
PMR	**Palmer**	79.07	358	P	P	18 35 33.6 +0.6
TOAD	**Toad River Com**	79.09	345	P	P	18 35 34.1 +0.8
	baz=22,SNR=6.9					
L14K	**Kuka Creek**	79.11	4	P	P	18 35 34.1 +0.8
	baz=353					
MYKOM	**Kota Tinggi**	79.19	97	IAmb	IAmb	18 35 37.6
	comp=Z,27nm,1.1s					
M18K	**Stony River**	79.22	1	P	P	18 35 35.0 +1.1
	baz=358					
KNK	**Knik Glacier**	79.23	357	IAmb	IAmb	18 35 40.3
	comp=Z,30nm,1.1s					
KNK	**Knik Glacier**	79.23	357	P	P	18 35 34.2 +0.3
	baz=4.0					
M17K	**Holitna River**	79.28	2	IAmb	IAmb	18 35 40.1
	comp=Z,34nm,1.1s					
M17K	**Holitna River**	79.28	2	P	P	18 35 35.4 +1.2
	baz=357					
O28M	**Mount Upton**	79.36	353	P	P	18 35 35.6 +0.6
	baz=10					
JNU	**Nakatsue**	79.43	56	LR	LR	19 15 25.2
	comp=Z,256nm,18.1s,baz=302,slow=39					
SPMN	**Marine on St.**	79.45	321	IAmb	IAmb	18 35 44.0
	comp=Z,23nm,1.2s					
BMRM	**Bremner River**	79.49	356	P	P	18 35 35.7 +0.2
	baz=7.0					
SPCR	**Spurr Chakacha**	79.52	359	P	P	18 35 36.1 +0.4
	baz=1.1					
U54A	**Nelsons Funny**	79.53	309	IAmb	IAmb	18 35 37.0
	comp=Z,24nm,0.8s					
R33M	**Jennings River**	79.57	348	IAmb	IAmb	18 35 38.4
	comp=Z,26nm,1.1s					
R33M	**Jennings River**	79.57	348	P	P	18 35 36.6 +0.6
	baz=18					
RC01	**Rabbit Creek A**	79.59	358	IAmb	IAmb	18 35 37.0
	comp=Z,30nm,0.9s					
RC01	**Rabbit Creek A**	79.59	358	P	P	18 35 36.2 +0.3
	baz=3.0,SNR=9.1					
M16K	**Timber Creek**	79.61	3	P	P	18 35 36.7 +0.6
	baz=356					
O29M	**Mount Kennedy**	79.67	352	P	P	18 35 36.7 +0.2
	baz=12					
GLI	**Glacier Island**	79.71	357	P	P	18 35 36.8 +0.3
	baz=5.1					
M14K	**Bethel**	79.74	4	P	P	18 35 37.0 +0.4
	baz=354					
PWL	**Port Wells**	79.78	357	IAmb	IAmb	18 35 43.2
	comp=Z,28nm,1.1s					
PWL	**Port Wells**	79.78	357	P	P	18 35 37.3 +0.4
	baz=4.1					
P32M	**Atlin**	79.78	350	P	P	18 35 37.2 +0.1
	baz=15					
M15K	**Kasigluk River**	79.87	4	P	P	18 35 37.8 +0.4
	baz=354					
N19K	**Bonanza Creek**	79.91	0	IAmb	IAmb	18 35 42.8
	comp=Z,28nm,1.1s					
N19K	**Bonanza Creek**	79.91	0	P	P	18 35 38.1 +0.3
	baz=359					
CAPN	**Captain Cook N**	79.94	359	P	P	18 35 37.7 -0.1
	baz=1.9					
SFIN	**Lafayette**	79.94	315	IAmb	IAmb	18 35 38.7
	comp=Z,61nm,1.4s					
EYAK	**Cordova Ski Ar**	79.97	356	P	P	18 35 38.1 +0.1
	baz=6.1					
M13K	**Dall Lake**	80.00	5	P	P	18 35 38.5 +0.5
	baz=352					
PINM	**Pinnacle**	80.03	353	P	P	18 35 38.5 +0.1
	baz=10					
N18K	**Kilae Creek**	80.03	1	P	P	18 35 39.1 +0.7
	baz=358					
SKAG	**Skagway**	80.12	351	P	P	18 35 39.1 +0.3
	baz=14					
KMSC	**Kings Mountain**	80.15	308	IAmb	IAmb	18 35 40.4
	comp=Z,18nm,0.9s					
N17K	**Nushagak Hills**	80.16	2	P	P	18 35 39.5 +0.5
	baz=357					
L42A	**Oliver, Polo**	80.18	317	IAmb	IAmb	18 35 40.1
	comp=Z,26nm,0.9s					
SLKM	**Skilak Lake**	80.18	358	IAmb	IAmb	18 35 47.8
	comp=Z,26nm,1.1s					
Q32M	**Nakina River**	80.19	349	P	P	18 35 40.0 +0.6
	baz=16					
BGLC	**Bering Glacier**	80.25	355	P	P	18 35 39.6 +0.1
	baz=8.1					
DLBC	**Dease Lake**	80.34	348	LR	LR	19 13 21.3
	comp=Z,256nm,19.2s,baz=16,slow=37					
DLBC	**Dease Lake**	80.34	348	P	P	18 35 41.1 +1.0
	baz=18					
PNL	**Peninsula**	80.37	353	P	P	18 35 40.6 +0.4
	baz=11					
KAIM	**Kayak Island**	80.52	355	P	P	18 35 41.0 0.0
	baz=7.2					
O19K	**Port Alsworth**	80.53	0	P	P	18 35 41.2 +0.2
	baz=359					
PDPR	**Patillas Dam,**	80.55	285	IAmb	IAmb	18 35 43.3
	comp=Z,18nm,0.8s					
SEW	**Seward**	80.57	358	IAmb	IAmb	18 35 45.3
	comp=Z,26nm,1.2s					
SEW	**Seward**	80.57	358	P	P	18 35 41.2 0.0
	baz=3.2					
SJG	**San Juan**	80.59	286	LR	LR	19 07 26.3
	comp=Z,37nm,21.8s,baz=156,slow=33					
P23K	**Montague Islan**	80.60	357	P	P	18 35 41.8 +0.4
	baz=4.8					
I37A	**Lemond, Waseca**	80.63	321	IAmb	IAmb	18 35 42.6
	comp=Z,27nm,0.9s					
O20K	**Slope Mountain**	80.65	360	P	P	18 35 42.0 +0.3
	baz=0.8					
PAULI	**Pauline**	80.66	308	IAmb	IAmb	18 35 42.8
	comp=Z,18nm,0.7s					
O18K	**Koktuh Hills**	80.87	1	IAmb	IAmb	18 35 49.7
	comp=Z,34nm,1.1s					
O18K	**Koktuh Hills**	80.87	1	P	P	18 35 43.0 +0.2
	baz=359					
O17K	**Koliganek Bris**	80.92	2	P	P	18 35 43.3 +0.2
	baz=357					
BRSE	**Bradley Lake S**	80.96	359	P	P	18 35 43.5 +0.2
	baz=2.2					
WCI	**Wyandotte Cave**	80.98	313	P	P	18 35 43.7 -0.1
WCI				IAmb	IAmb	18 35 44.8
	comp=Z,36nm,0.9s					
WCI	**Wyandotte Cave**	80.98	313	P	P	18 35 43.7 -0.1
WCI				pmax	pmax	
	comp=Z,36nm,0.9s					
HDIL	**Hopedale**	81.01	316	IAmb	IAmb	18 35 47.8
	comp=Z,29nm,0.7s					
S34M	**Telegraph Cree**	81.02	348	P	P	18 35 43.9 +0.3
	baz=17					
O16K	**Kokwok River B**	81.07	2	P	P	18 35 44.3 +0.4
	baz=356					
P19K	**Oil Pt**	81.08	360	P	P	18 35 43.7 -0.3
	baz=0.3					
Q23K	**Middleton Isla**	81.12	356	P	P	18 35 44.9 +0.8
	baz=5.7					
R32K	**Eaglecrest**	81.17	350	P	P	18 35 44.7 +0.3
	baz=15					
O14K	**Tigyukauivet M**	81.28	4	P	P	18 35 45.1 +0.2
	baz=354					
TKL	**Tuckaleechee C**	81.28	309	IAmb	IAmb	18 35 46.5
	comp=Z,24nm,0.9s					
TKL	**Tuckaleechee C**	81.28	309	LR	LR	19 12 09.3
	comp=Z,266nm,19.6s,baz=90,slow=36					
P18K	**Big Mountain,**	81.33	1	P	P	18 35 46.1 +0.8
	baz=359					
O15K	**Ungalikthiuk R**	81.42	3	P	P	18 35 46.4 +0.6
	baz=355					
P17K	**Kvichak River**	81.51	1	P	P	18 35 46.6 +0.3
	baz=358					
MJAR	**Matsushiro Arr**	81.63	49	P	P	18 35 45.8 -1.6
	comp=Z,4.7nm,0.8s,baz=319,slow=4.1,SNR=7.2					
MJAR				LR	LR	19 14 49.6
	comp=Z,214nm,21.9s,baz=308,slow=38					
	comp=Z,4.7nm,0.8s					
P16K	**Nushagak River**	81.64	2	P	P	18 35 47.4 +0.5
	baz=357					
S31K	**Pelican**	81.69	351	P	P	18 35 47.3 +0.1
	baz=13					
KSI	**Kapahiang**	81.73	102	P	P	18 35 49.8 +1.6
	comp=Z,53nm,0.7s					
JOW	**Kunigami**	81.77	62	LR	LR	19 15 17.2
	comp=Z,590nm,21.6s,baz=271,slow=38					
Q20K	**Shuyak Island**	82.12	359	P	P	18 35 49.2 -0.2
	baz=0.9					
CMC01	**Camacan, BA**	82.14	243	*e*P	P	18 35 47.4 -2.7
ECSD	**EROS Data Cent**	82.39	322	IAmb	IAmb	18 35 51.9
	comp=Z,14nm,1.0s					
KDAK	**Kodiak Island**	82.95	359	LR	LR	19 16 48.0
	comp=Z,102nm,18.8s,baz=214,slow=39					
KDAK	**Kodiak Island**	82.95	359	P	P	18 35 54.1 +0.3
	baz=0.8					
SIUC	**Southern Illin**	82.99	314	IAmb	IAmb	18 35 55.1
	comp=Z,27nm,0.9s					
V48A	**Smith Brothers**	83.02	311	IAmb	IAmb	18 35 55.0
	comp=Z,16nm,0.9s					
U33K	**Whale Pass**	83.05	349	P	P	18 35 54.9 +0.6
	baz=16					
FPAL	**Fort Paine**	83.14	310	IAmb	IAmb	18 35 56.4
	comp=Z,13nm,1.0s					
GUA01	**

SMTB	Santa Maria do	83.50	253	eP	P	18 35 57.7 +0.4
OHAK	Old Harbor	83.52	360	P	P	18 35 56.5 -0.2
	baz=0.2					
CRAG	Craig	83.68	348	P	P	18 35 58.3 +0.7
	baz=16					
LWLI	Liwa	83.72	102	P	P	18 36 00.0 +1.4
SHEM	Shemya Is, Ala	83.84	19	LR	LR	19 18 17.0
	comp=Z,156nm,18.2s,baz=308,slow=39					
CCM	Cathedral Cave	83.86	315	P	P	18 35 58.1 -0.8
CCM				IAmb	IAmb	18 35 59.4
	comp=Z,14nm,0.8s					
CCM	Cathedral Cave	83.86	315	P	P	18 35 58.1 -0.8
CCM				pmax	pmax	
	comp=Z,14nm,0.8s					
SDBA	SAO DESIDERIO	83.90	249	eP	P	18 35 59.7 +0.3
SII	Sitkinak Islan	84.18	0	P	P	18 36 00.7 +0.5
	baz=360					
TGY	Tagaytay City	84.57	76	LR	LR	19 17 48.1
	comp=Z,189nm,21.0s,baz=240,slow=39					
CHIR	Chirikof Islan	84.91	1	P	P	18 36 03.7 -0.1
	baz=358					
TPI	Tanjungpandan	85.01	98	P	P	18 36 08.0 +3.0
	comp=Z,33nm,1.0s					
LCAR	Lake Charles	85.25	314	IAmb	IAmb	18 36 07.0
	comp=Z,28nm,1.0s					
JANB	Januaria	85.27	246	eP	P	18 36 06.9 +0.7
RSSD	Black Hills	85.42	327	P	P	18 36 06.7 -0.2
RSSD				IAmb	IAmb	18 36 08.0
	comp=Z,14nm,1.1s					
RSSD	Black Hills	85.42	327	P	P	18 36 06.7 -0.2
RSSD				pmax	pmax	
	comp=Z,14nm,1.2s					
KSU1	Kansas State U	85.90	319	IAmb	IAmb	18 36 10.8
	comp=Z,15nm,0.9s					
BBB	Bella Bella	85.91	345	LR	LR	19 16 11.9
	comp=Z,192nm,18.3s,baz=10.0,slow=37					
CGJI	Cibinong	85.99	102	P	P	18 36 11.2 +1.4
	comp=Z,38nm,1.0s					
STKI	Sintang	86.15	93	P	P	18 36 13.9 +3.2
	comp=Z,46nm,1.2s					
WHAR	Wooly Hollow	86.45	314	IAmb	IAmb	18 36 12.7
	comp=Z,24nm,1.1s					
NEW	Newport	86.70	337	IAmb	IAmb	18 36 14.1
	comp=Z,15nm,1.1s					
NEW	Newport	86.70	337	LR	LR	19 15 43.9
	comp=Z,155nm,18.1s,baz=29,slow=36					
RLMT	Red Lodge	86.71	330	IAmb	IAmb	18 37 18.8
	comp=Z,8.2nm,0.5s					
ITTB	Itaituba	86.72	262	eP	P	18 36 13.9 +0.4
DIAM	Diamantina, MG	87.03	243	eP	P	18 36 15.9 +0.9
YNE	Yellowstone No	87.09	331	IAmb	IAmb	18 36 16.6
	comp=Z,18nm,1.0s					
BOZ	Bozeman (W)	87.19	332	IAmb	IAmb	18 36 16.8
	comp=Z,9.6nm,0.9s					
X40A	Basin Creek Fa	87.34	314	IAmb	IAmb	18 36 16.9
	comp=Z,11nm,1.0s					
LEM	Lembang	87.58	101	LR	LR	19 21 13.3
	comp=Z,100nm,18.1s,baz=344,slow=40					
YHL	Hebgen Lake	87.66	331	IAmb	IAmb	18 36 19.7
	comp=Z,19nm,1.3s					
K22A	Casper	87.67	327	IAmb	IAmb	18 36 17.2
	comp=Z,8.0nm,0.9s					
YMR	Madison River	87.73	331	IAmb	IAmb	18 36 20.2
	comp=Z,12nm,1.0s					
DLMT	Dillon	87.73	332	IAmb	IAmb	18 36 19.5
	comp=Z,28nm,1.4s					
YFT	Old Faithful	87.87	331	IAmb	IAmb	18 36 43.6
	comp=Z,17nm,1.2s					
SNDB	Serra Nova Dou	88.28	253	eP	P	18 36 21.1 +0.2
BDFB	Brasilia	88.30	248	P	P	18 36 21.7 +0.6
BDFB				IAmb	IAmb	18 36 23.4
	comp=Z,16nm,0.9s					
BDFB	Brasilia	88.30	248	P	P	18 36 21.1 0.0
	comp=Z,10.0nm,0.7s,baz=66,slow=5.0,SNR=15					
BDFB				LR	LR	19 15 16.8
	comp=Z,400nm,21.4s,baz=60,slow=35					
	comp=Z,10.0nm,0.7s					
BDFB	Brasilia	88.30	248	P	P	18 36 21.7 +0.6
BDFB				pmax	pmax	
	comp=Z,16nm,0.9s					
MOOW	Moose Ponds	88.43	330	IAmb	IAmb	18 36 24.5
	comp=Z,16nm,1.9s					
PDAR	Pinedale Array	88.80	329	P	P	18 36 22.0 -1.4
	comp=Z,1.1nm,0.6s,baz=56,slow=4.7,SNR=10					
PDAR				PP	PP	18 39 51.3 -0.3
	comp=Z,1.0nm,0.9s,baz=52,slow=9.7,SNR=3.7					
PDAR				LR	LR	19 18 35.3
	comp=Z,196nm,18.5s,baz=89,slow=37					
	comp=Z,1.1nm,0.6s					
N23A	Red Feather La	88.86	326	IAmb	IAmb	18 36 24.4
	comp=Z,18nm,1.2s					
N23A	Red Feather La	88.86	326	P	P	18 36 23.2 -0.5
	baz=35					
PMNB	Patos De Minas	89.12	245	eP	P	18 36 24.9 +0.1
SDV	Santo Domingo	89.77	281	P	P	18 36 27.8 -0.5
SDV				IAmb	IAmb	18 36 33.9
	comp=Z,13nm,1.2s					
SDV	Santo Domingo	89.77	281	LR	LR	19 12 01.8
	comp=Z,65nm,20.4s,baz=78,slow=32					
SDV	Santo Domingo	89.77	281	eP	P	18 36 28.2 0.0
Q24A	Divide	90.09	324	P	P	18 36 28.8 -0.8
	baz=35					
WMOK	Wichita Mounta	90.36	318	IAmb	IAmb	18 36 31.6
	comp=Z,24nm,1.6s					
HWUT	Hardware Ranch	90.58	330	IAmb	IAmb	18 36 32.0
	comp=Z,31nm,1.6s					
JCJ	Chichijima	90.67	53	LR	LR	19 20 57.9
	comp=Z,190nm,21.0s,baz=321,slow=38					
HVU	Hansel Valley	90.89	331	IAmb	IAmb	18 36 33.9
	comp=Z,12nm,1.3s					
RTBA	Rita Blanca	91.00	321	IAmb	IAmb	18 39 07.6
	comp=Z,38nm,1.9s					
T25A	Trinidad	91.24	323	IAmb	IAmb	18 36 35.3
	comp=Z,12nm,1.0s					
T25A	Trinidad	91.24	323	P	P	18 36 34.5 -0.3
	baz=36					
SDCO	Great Sand Dun	91.25	324	IAmb	IAmb	18 36 35.0
	comp=Z,10nm,1.3s					
BGU	Big Grassy Mou	91.72	330	IAmb	IAmb	18 36 37.9
	comp=Z,14nm,1.4s					
S22A	4UR Ranch, Cre	91.84	325	P	P	18 36 37.2 -0.5
	baz=34					
DAV	Davao City (W)	92.55	79	LR	LR	19 22 18.0
	comp=Z,102nm,21.9s,baz=334,slow=38					
SPR3	Spring Creek 3	93.89	330	IAmb	IAmb	18 36 49.1
	comp=Z,16nm,1.6s					
ANMO	Albuquerque	93.98	323	LR	LR	19 20 22.6
	comp=Z,194nm,19.2s,baz=205,slow=36					
YBH	Yreka Blue Hor	94.30	337	LR	LR	19 21 31.1
	comp=Z,306nm,18.6s,baz=11,slow=37					
R11B	Troy Canyon, C	94.93	331	P	P	18 36 51.6 -0.2
	baz=28					
833A	Chaparral WMA,	95.65	314	P	P	18 36 55.1 +0.1
	baz=39					
KAPI	Kappang	95.74	92	LR	LR	19 26 32.8
	comp=Z,37nm,19.5s,baz=298,slow=40					
NVAR	Mina Array Bea	95.85	333	P	P	18 36 55.3 -0.7
	comp=Z,1.1nm,0.8s,baz=42,slow=9.3,SNR=4.1					
NVAR				PP	PP	18 40 46.9 -0.1
	comp=Z,0.4nm,0.5s,baz=40,slow=7.7,SNR=3.5					
NVAR				LR	LR	19 22 48.6
	comp=Z,428nm,18.8s,baz=36,slow=37					
	comp=Z,1.1nm,0.8s					
LHV	Little Huntoon	96.08	333	IAmb	IAmb	18 36 58.5
	comp=Z,11nm,1.1s					
ALPN	Alpine	96.31	318	IAmb	IAmb	18 36 58.5
	comp=Z,11nm,1.3s					
121A	Cookes Peak, D	96.59	322	P	P	18 36 58.5 -1.0
	baz=34					
TX31	Lajitas Ar. Si	97.16	318	IAmb	IAmb	18 37 05.4
	comp=Z,9.8nm,1.4s					
TXAR	Lajitas Array	97.16	318	P	P	18 37 01.2 -0.7
TXAR	Lajitas Array	97.16	318	P	P	18 37 00.6 -1.3
	comp=Z,2.7nm,0.9s,baz=72,slow=4.1,SNR=13					
TXAR				LR	LR	19 22 38.7
	comp=Z,120nm,18.3s,baz=42,slow=37					
	comp=Z,2.7nm,0.9s					
TXAR	Lajitas Array	97.16	318	P	P	18 37 01.3 -0.7
GWY	Greenwater Val	97.25	331	IAmb	IAmb	18 37 06.8
	comp=Z,5.2nm,1.0s					
SIV	San Ignacio	98.12	256	LR	LR	19 21 25.4
	comp=Z,199nm,21.0s,baz=108,slow=36					
PFO	Pinyon Flats O	99.43	329	LR	LR	19 25 03.8
	comp=Z,304nm,18.3s,baz=48,slow=37					
JTS	Las Juntas de	99.44	292	LR	LR	19 17 52.6
	comp=Z,85nm,21.7s,baz=52,slow=33					
SYO	Syowa Base	108.76	175	↑ePKiKP	PKiKP	18 41 59.0 +1.9
WRA	Warramunga Arr	116.05	95		PKPdf	18 42 12.4 -0.1
WRA	Warramunga Arr	116.05	95	PKP	PKPdf	18 42 10.7 -1.8
	comp=Z,3.4nm,1.1s,baz=297,slow=2.3,SNR=6.9					
WRA	Warramunga Arr	116.05	95	PKIKP	PKPdf	18 42 12.4 -0.1
ASAR	Alice Springs	117.81	99		PKPdf	18 42 14.1 -1.7
ASAR	Alice Springs	117.81	99	PKP	PKPdf	18 42 14.6 -1.2
	comp=Z,7.6nm,0.9s,baz=318,slow=1.3,SNR=48					
PLCA	Paso Flores	118.94	240	PKP	PKPdf	18 42 17.3 -0.2
	comp=Z,4.9nm,0.7s,baz=348,slow=1.4,SNR=8.5					
STKA	Stephens Creek	127.84	103	PKP	PKPdf	18 42 33.5 -1.3
	comp=Z,11nm,1.0s,baz=337,slow=2.3,SNR=8.2					
QSPA	South Pole Qui	129.47	180		PKPdf	18 42 35.0 -1.8
QSPA	South Pole Qui	129.47	180	PKP	PKPdf	18 42 36.1 -0.8
	comp=Z,8.0nm,1.0s,baz=254,slow=0.7,SNR=8.7					
DZM	Mont Dzumac	141.85	75	eLR	LR	19 29 06.5
	comp=Z,183nm,23.7s					
MSVF	Nonsavu	147.15	57		PKPbc	18 43 12.8 0.0
MSVF	Nonsavu	147.15	57	PKP2	PKPbc	18 43 12.8 0.0
QRZ	Quartz Range	154.19	104		PKiKP	18 43 29.7 +0.8
PPT2	Papeete2	157.77	350	eLR	LR	19 36 28.3
	comp=Z,198nm,24.2s					
PPT2				eLR	LR	19 36 31.1
	comp=Z,159nm,29.5s					
TBI	Tubuai	163.40	347	eLR	LR	19 38 57.9
	comp=Z,974nm,35.0s					
TBI				eLR	LR	19 39 06.9
	comp=Z,774nm,29.0s					

DNK 20 18:24:18.7±0.4, 58°.07N×7°.78E, h0km, ML1.1(UPP), Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	Snartemo	0.40	312	i P	Pg	18 24 26.5	0.0
SNART				eS	Sg	18 24 27.9	-3.8
HOMB	Homborsund	0.44	62	i P	Pb	18 24 28.2	-1.0
HOMB				i S	Sg	18 24 30.2	-2.5
STRU	Stroemstad	2.03	60	P	Pn	18 24 54.1	0.0
TJOU	Tjoern	2.05	89	P	Pn	18 24 54.4	0.0
TJOU				S	Sn	18 25 20.6	+0.1
VANU	Vaenersborg	2.31	78	P	Pn	18 24 58.4	+0.5
FINU	Finntorp	2.79	59	P	Pn	18 25 04.9	+0.3
NASU	Vaermlandsnaes	2.97	71	P	Pn	18 25 07.2	+0.2

KRSC 20 18:32:51.4±2.1, 51°.04N×158°.30E, h50km±25km, Ml3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.03	295	eP	Pn	18 33 10.0	+0.5
RUS	Russkaya	1.40	5	eP	Pn	18 33 16.5	+2.0
RUS				eS	Sn	18 33 32.2	+0.4
SKR	Severo-Kuril's	1.43	256	eP	Pn	18 33 16.4	+1.4
SKR				eS	Sn	18 33 32.2	-0.4
GRL	Gorelyy	1.52	355	eP	Pn	18 33 18.8	+2.5
GRL				eS	Sn	18 33 35.8	+0.9
KRMR	Karymshinskiy	1.79	357	eP	Pn	18 33 22.9	+3.1
KRMR				eS	Sn	18 33 44.3	+2.9
PET	Petropavlovsk	2.00	6	eP	Pn	18 33 25.4	+2.8
PET				eS	Sn	18 33 48.2	+1.8
DALK	Dalny	2.01	8	eP	Pn	18 33 25.6	+2.8
DALK				eS	Sn	18 33 48.5	+1.7
APC	Apacha	2.02	340	eP	Pn	18 33 25.0	+2.1
UGLR	Uglovaya	2.19	8	eP	Pn	18 33 29.1	+3.6
NLC	Nalytchevo	2.23	16	eP	Pn	18 33 28.8	+3.0
AVH	Avacha	2.24	7	eP	Pn	18 33 30.2	+4.1
KOK	Koryaka	2.26	5	eP	Pn	18 33 30.5	+4.1
SPN	Mys Shipunski	2.32	27	eP	Pn	18 33 30.9	+3.9
SPN				eS	Sn	18 33 57.7	+3.4
KRX	Arik	2.33	5	eP	Pn	18 33 31.4	+4.0
GNL	Ganaly	2.67	355	eP	Pn	18 33 36.5	+4.6
TUMD	Tumrok D	4.36	16	eP	Pn	18 33 59.5	+4.5
KMNR	Kamenistaya	4.86	13	eP	Pn	18 34 04.5	+2.5
KBTR	Krutoberegovo	5.83	26	eP	Pn	18 34 20.8	+5.6
BKI	Bering	6.22	45	eP	Pn	18 34 23.9	+3.5
BKI				eS	Sn	18 35 29.6	-0.5

IDC 20 18:37:58.8±3.7, 47°.44N×92°.70W, h0km, mbtmp2.7/2, ML0.9/1, Error ellipse: s-maj=66.8km s-min=26.7km az=54.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	Lac du Bonnet	3.51	324	Pn	Pn	18 38 53.4	-1.2
	0.2nm,0.3s,baz=141,slow=6.9,SNR=1.0						
ULM				Pg	Pb	18 39 01.6	-0.1
	0.4nm,0.3s,baz=142,slow=16,SNR=5.9						
ULM				Lg	Lg	18 39 46.8	
	4.8nm,0.3s,baz=60,slow=22,SNR=27						
	0.7nm,0.4s						
I10CA	LAC DU BONNET	3.53	323	I	I	18 57 40.0	
	0.1nm,0.9s,baz=140,slow=335,SNR=8.4						
YKA	Yellowknife Ar	19.48	329	P	P	18 42 25.4	-1.5
	0.3nm,0.8s,baz=136,slow=12,SNR=2.7						

AFAD 20 18:38:38.8, 39°.61N×26°.43E, h7km±1km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	CANAKKALE_Bayr	0.17	35	P	Pg	18 38 42.1	-0.1
BAYC				i AML	AML	18 38 45.0	
	comp=N,446nm,0.1s						
BAYC				i AML	AML	18 38 45.0	
	comp=E,566nm,0.3s						
KOCA	Canakkale, Ayv	0.24	245	P	Pg	18 38 44.0	+0.3
KOCA				i AML	AML	18 38 48.0	
	comp=N,540nm,0.2s						
KOCA				i AML	AML	18 38 48.0	
	comp=E,294nm,0.2s						
KOCA				S	Sg	18 38 48.1	+1.2
BOZC	Bozcaada	0.37	310	P	Pg	18 38 46.3	+0.3
BOZC				i AML	AML	18 38 52.0	
	comp=N,110nm,0.2s						
BOZC				i AML	AML	18 38 52.0	
	comp=E,94nm,0.3s						
CNKL	anakkale-Mer	0.46	356	P	Pg	18 38 47.7	0.0
CNKL				i AML	AML	18 38 54.0	
	comp=N,69nm,0.2s						
CNKL				S	Sg	18 38 54.4	+0.6
CNKL				i AML	AML	18 38 56.0	
	comp=E,46nm,0.3s						
ECEA	Canakkale, Ece	0.48	336	P	Pg	18 38 48.8	+0.7
ECEA				S	Sg	18 38 55.5	+1.1
ECEA				i AML	AML	18 38 58.0	
	comp=E,59nm,0.4s						
ECEA				i AML	AML	18 39 02.0	
	comp=N,58nm,0.3s						
BUHA	Balikesir, Bur	0.52	101	P	Pg	18 38 49.1	+0.4
BUHA				S	Sg	18 38 56.4	+0.9
BUHA				i AML	AML	18 38 57.0	
	comp=N,45nm,0.3s						
BUHA				i AML	AML	18 38 59.0	
	comp=E,42nm,0.5s						
GOAD	anakkale-G¶	0.68	325	P	Pb	18 38 53.7	+0.6
GOAD				S	Sg	18 39 01.4	+0.5

*ATH **20** 18:39:32.6, 39°.62N×26°.41E, h12km±5km, ML2.6/13, Manual Solution by G.Panopoulou First location: 2019/02/20 18:40:58, This location: 2019/02/20 18:57:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*

*THE **20** 18:39:34.0, 39°.56N×26°.38E, h19km±1km, ML2.5/11, Error ellipse: s-maj=1.6km s-min=0.4km az=149.0*

ISK 20 18:39:32.1, 39°.62N×26°.42E, h4km, ML3.0/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	Ezine-Canakkal	0.15	344	Pg	Pg	18 39 36.2	+1.2
EZNE				Sg	Sg	18 39 38.7	+1.7
GPNR	Gulpinar-Canak	0.27	234	Pg	Pg	18 39 38.2	+0.8
GPNR				Sg	Sg	18 39 42.4	+1.5
BOZC	Bozcaada	0.36	309	Pg	Pg	18 39 39.9	+0.8
BOZC				Sg	Sb	18 39 45.6	-1.5
PRK	Paraskevi	0.39	197	P	Pg	18 39 40.3	+0.8
PRK				S	Sb	18 39 46.3	-1.5
	1μm,0.4s						
PRK	Paraskevi	0.39	197	P	Pg	18 39 40.4	+0.8
PRK				S	Sb	18 39 46.3	-1.5
COMU	Canakkale	0.48	5	Pg	Pg	18 39 42.2	+0.8
COMU				Sg	Sb	18 39 49.7	-1.0
SIGR	SIGRI	0.59	227	Pg	Pg	18 39 44.0	+0.5
SIGR				Sg	Sb	18 39 53.3	-0.5
SIGR	SIGRI	0.59	227	P	Pg	18 39 44.1	+0.6
SIGR				S	Sb	18 39 52.6	-1.2
	568nm,0.2s						
SIGR	SIGRI	0.59	227	P	Pg	18 39 44.1	+0.6
SIGR				S	Sb	18 39 52.8	-1.0
CANM	Can-anakkale	0.63	51	Pg	Pg	18 39 44.8	+0.6
DKL	Dikili	0.66	145	Pg	Pb	18 39 45.9	-0.3
DKL	Dikili	0.66	145	P	Pb	18 39 45.6	-0.6
DKL				S	Sb	18 39 54.9	-0.9
GADA	Gvkgeada	0.70	325	Pg	Pg	18 39 45.8	+0.3
YENI	Yenice-Canakka	0.71	63	Pg	Pg	18 39 46.2	+0.5
CAND	Candarli	0.72	156	Pg	Pg	18 39 46.8	-0.5
GELI	Tayfur-Gelibol	0.78	3	Pg	Pb	18 39 47.9	-0.4
LPK	Lapseki	0.80	19	Pg	Pg	18 39 47.9	+0.4
FOCM	Foa	0.93	165	Pg	Pb	18 39 50.8	0.0
SOMA	Soma-Manisa	0.98	118	Pg	Pn	18 39 52.5	-0.1
LIA	Limnos Island	0.99	287	P	Pb	18 39 51.7	-0.1
LIA				S	Sb	18 40 05.5	+0.2
	538nm,0.4s						
LIA	Limnos Island	0.99	287	P	Pg	18 39 51.5	+0.3
LIA				S	Sg	18 40 04.5	+0.4
ENZZ	Sultanice-Enez	1.01	348	Pg	Pb	18 39 52.6	+0.4
KRBG	Karabiga-Canak	1.03	41	Pg	Pg	18 39 51.8	0.0
ERIK	Erikli-Kesan	1.06	4	Pg	Pg	18 39 52.4	0.0
GONE	Gonen-Balikesi	1.07	66	Pg	Pb	18 39 52.9	-0.2
SMTH	Samothraki Isl	1.09	322	P	Pb	18 39 53.5	-0.1
SMTH				S	Sb	18 40 08.7	+0.5
	638nm,0.4s						
SMTH	Samothraki Isl	1.09	322	P	Pb	18 39 53.4	-0.2
SMTH				S	Sg	18 40 06.9	-0.3
EAG2	Marmaro, Chios	1.10	193	P	Pn	18 39 54.6	+0.4
EFSA	Agios Efstrati	1.11	267	P	Pb	18 39 54.0	+0.2
EFSA				S	Sb	18 40 09.1	+0.6
ENEZ	Enez	1.14	350	Pn	Pb	18 39 54.5	+0.2
ENEZ	Enez	1.14	350	P	Pb	18 39 54.5	+0.2
ENEZ				S	Sb	18 40 09.9	+0.4
	812nm,0.3s						
RKY	Sarkoy-Tekirda	1.22	28	Pn	Pg	18 39 55.3	-0.2
ALEX	Alexandroupoli	1.30	342	P	Pb	18 39 57.4	+0.3
ALN	Alexandroupoli	1.31	348	Pn	Pb	18 39 57.8	+0.5
ALN	Alexandroupoli	1.31	348	P	Pb	18 39 57.4	+0.1
ALN				S	Sb	18 40 14.4	-0.1
	230nm,0.4s						
EDC	Edincik	1.33	56	Pn	Pb	18 39 58.1	+0.5
SUSR	Susurluk-Balik	1.33	74	Pn	Pb	18 39 57.8	+0.2
SKY	Skiros Island	1.63	244	P	Pn	18 40 00.5	-1.0
THAS	Thassos island	1.64	308	P	Pn	18 40 01.0	-0.6
THAS				S	Sn	18 40 21.6	-1.5
THAS	Thassos island	1.64	308	P	Pn	18 40 01.1	-0.5
THAS				S	Sn	18 40 21.3	-1.8
RDO	Rodhopi	1.67	337	P	Pn	18 40 02.2	+0.1
RDO				S	Sn	18 40 23.7	-0.3
	88nm,0.5s						
RDO	Rodhopi	1.67	337	P	Pn	18 40 02.5	+0.4
RDO				S	Sn	18 40 23.5	-0.5
SMG	Samos	1.93	170	P	Pn	18 40 04.0	-1.7
SMG				S	Sn	18 40 28.4	-2.0
	82nm,0.3s						
SMG	Samos	1.93	170	P	Pn	18 40 05.0	-0.7
OUR	Ouranopolis	2.00	292	P	Pn	18 40 06.3	-0.4
OUR				S	Sn	18 40 30.4	-1.8
OUR	Ouranopolis	2.00	292	P	Pn	18 40 06.8	+0.1
KAVA	Kavala	2.01	314	P	Pn	18 40 06.3	-0.4
KAVA				S	Sn	18 40 31.1	-1.2
	65nm,0.4s						
KAVA	Kavala	2.01	314	P	Pn	18 40 06.7	-0.1
AOS	Alonnisos	2.02	258	P	Pn	18 40 06.6	-0.3
AOS				S	Sn	18 40 30.9	-1.6
	55nm,0.7s						
KYMI	Kymi, Euboea I	2.05	242	P	Pn	18 40 06.5	-0.9
KYMI				S	Sn	18 40 30.6	-2.8
PAIG	Paliouri	2.13	279	P	Pn	18 40 08.1	-0.4
KOKK	Kokkinochori,	2.21	304	P	Pn	18 40 09.3	-0.2
KOKK				S	Sn	18 40 36.0	-1.3
KARY	Karystos	2.21	225	P	Pn	18 40 10.5	+0.9
EDRB	Edirne	2.24	6	P	Pn	18 40 10.1	+0.1
EDRB				S	Sn	18 40 38.2	+0.1
	45nm,0.4s						
PLG	Polygyros	2.41	289	P	Pn	18 40 11.8	-0.5
PLG	Polygyros	2.41	289	P	Pn	18 40 12.4	+0.1
DION	Dionisos Attik	2.48	232	P	Pn	18 40 12.8	-0.4
XOR	Xorichti	2.51	265	P	Pn	18 40 13.1	-0.6
SRS	Serrai	2.63	306	P	Pn	18 40 14.9	-0.4
APE	Apeiranthos	2.64	196	P	Pn	18 40 14.0	-1.5
APE	Apeiranthos	2.64	196	P	Pn	18 40 14.2	-1.2
VIL2	Platees	2.83	241	P	Pn	18 40 16.8	-1.3
TYRN	Tyrnavos	3.23	273	P	Pn	18 40 24.0	+0.4
VLI	Veliai	3.99	225	P	Pn	18 40 33.4	-0.5

*JMA **20** 19:12:23.0±0.1, 41°.4N±0°.2×139°.2E±0°.5, h21km, MV3.5/37, W OFF AOMORI PREF*

*IDC **20** 19:12:24.9±1.5, 41°.39N×138°.89E, h0km, mb3.9/2, mbtmp3.6/4, ML2.3/3, MS3.8/1, Error ellipse: s-maj=30.8km s-min=21.3km az=89.0*

ISC 20 19:12:23.6±1.4, 41°.39N±0°.03×139°.34E±0°.05, h9km±9km, n18, σ1°62/30, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOMM	Oshimamatsumae	0.52	75	P	Pg	19 12 34.6	+0.9
JOMM				eS	Sg	19 12 42.6	+2.1
JOSM	Okushiri--Mats	0.70	8	P	Pg	19 12 37.3	+0.2
JOSM				eS	Sg	19 12 47.1	+0.9
JSR	Shiriuchi	0.82	80	eP	Pg	19 12 39.4	-0.1
JSR				S	Sg	19 12 51.6	+1.4
JSI2	Shiura 2	0.87	112	⇓P	Pg	19 12 40.1	-0.3
JSI2				⇓eS	Sg	19 12 51.9	+0.1
JIW	Iwasaki	0.94	147	⇓P	Pb	19 12 40.4	-1.8
JIW				⇓eS	Sg	19 12 53.1	-1.0
JYM2	Yakumo 2	1.06	46	P	Pb	19 12 43.5	-0.6
JYM2				eS	Sb	19 12 58.3	+0.3
JHST	Hiyamasetana	1.10	21	P	Pb	19 12 43.6	-1.3
JHST				eS	Sb	19 12 58.7	-0.6
JOT	Ohata	1.28	90	eP	Pn	19 12 46.9	-0.7
JOT				eS	Sb	19 13 04.2	-0.4
JSH	Shimam	1.36	23	eP	Pn	19 12 47.4	-1.3
JSH				eS	Sn	19 13 05.2	-1.6
JKB	Kayabe	1.36	68	eP	Pn	19 12 48.3	-0.5
JTM	Tenmabayashi	1.44

CBIJ	Chichi jima	4.28	177	eP	Pn	19 28 53.6	+1.3
CBIJ				eS	Sn	19 29 41.0	-1.3
JOD2	Odawara 2	4.55	329	eP	Pn	19 28 55.0	-1.1
JRY	Ryogami san	5.28	332	eP	Pn	19 29 07.3	+1.2
JHO	Hitachi	5.34	348	eP	Pn	19 29 07.2	+0.3
JHO				eS	Sn	19 30 04.2	-4.4
JAG	Ashikaga	5.44	338	eP	Pn	19 29 09.0	+0.6
MJAR	Matsushiro Arr	6.01	330	Pn	Pn	19 29 17.9	+1.6
	0.1nm,0.3s,baz=158,slow=12,SNR=8.7						
MJAR				Sn	Sn	19 30 27.0	+1.9
	0.1nm,0.3s,baz=116,slow=34,SNR=2.0						
	0.9nm,0.4s						
SONM	Songino Array	31.60	312	P	P	19 34 11.8	+1.6
	0.1nm,0.3s,baz=111,slow=7.9,SNR=2.0						
	0.1nm,0.3s						
ZALV	Zalesovo Beam	46.19	317	P	P	19 36 12.1	+0.2
	0.5nm,0.4s,baz=97,slow=9.7,SNR=2.5						
	0.5nm,0.4s						
MKAR	Makanchi Array	47.68	307	P	P	19 36 24.6	+0.9
	0.2nm,0.3s,baz=86,slow=9.6,SNR=11						
MKAR				PcP	PcP	19 37 54.1	+0.9
	0.1nm,0.4s,baz=81,slow=4.8,SNR=1.6						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	49.97	312	P	P	19 36 41.9	+0.6
	0.4nm,0.4s,baz=88,slow=6.9,SNR=7.8						
	0.4nm,0.4s						
WRA	Warramunga Arr	51.55	189	P	P	19 36 53.6	+0.1
	0.3nm,0.4s,baz=6.8,slow=7.4,SNR=7.6						
	0.3nm,0.4s						
AKASG	Malin Array Be	79.06	323	P	P	19 39 51.1	-0.4
	0.1nm,0.2s,baz=55,slow=5.3,SNR=1.8						
	0.1nm,0.2s						
NOA	NORSAR Array B	79.57	338	P	P	19 39 53.8	-0.4
	0.4nm,0.7s,baz=39,slow=4.7,SNR=1.8						
	0.4nm,0.7s						

*NEIC **20** 19:31:13.1±2.5, 45°.74N±0°.04×107°.07W±0°.05, h0km±1km, ML2.7/42, Error ellipse: s-maj=7.1km s-min=3.9km az=322.0*
*IDC **20** 19:31:16.8±1.9, 45°.68N×107°.20W, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=59.9km s-min=9.9km az=131.0*
ISC 20 19:31:13.2±0.9, **45°.66N**±0°.05×**107°.05W**±0°.04, **h0**km, **n28**, σ1♀**74**/**29**, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	LASA Array	1.18	29		Pg	19 31 34.4	-1.5
LAO				IAML		19 32 13.5	
	116nm,2.6s						
RLMT	Red Lodge	1.65	252		Pg	19 31 45.0	+0.1
RLMT					Sg	19 32 07.8	+1.6
RLMT				IAML		19 32 13.3	
	70nm,0.3s						
YNE	Yellowstone No	2.18	254	Pn	Pb	19 31 51.8	-2.0
YNE				IAML		19 32 28.6	
	comp=N,65nm,0.3s						
YMP	Mirror Lake Pl	2.38	248	Pn	Pb	19 31 55.3	-1.9
YMP				IAML		19 32 50.3	
	comp=E,56nm,0.8s						
RSSD	Black Hills	2.64	125	Pn	Pb	19 31 59.5	-2.0
RSSD	Black Hills	2.64	125	IAML		19 32 45.8	
	comp=E,20nm,0.5s						
YNR	Norris Junctio	2.73	251		Pn	19 31 58.8	+0.2
YNR				IAML		19 32 47.4	
	comp=E,19nm,1.1s						
YNR				IAML		19 32 47.8	
	comp=N,20nm,1.4s						
H17A	Grant Village	2.80	244		Pn	19 32 00.4	+0.9
YMR	Madison River	2.94	252		Pg	19 32 08.3	-1.3
YFT	Old Faithful	2.94	247	Pn	Pn	19 32 01.9	+0.5
YFT					Pg	19 32 09.2	-0.4
YFT				IAML		19 32 19.2	
	comp=E,21nm,1.4s						
YFT				IAML		19 33 02.5	
	comp=N,16nm,4.8s						
EGMT	Eagleton	3.01	323		Pn	19 32 01.5	-0.7
YHL	Hebgen Lake	3.03	256		Pg	19 32 09.2	-2.1
YHL				IAML		19 33 08.0	
	comp=N,28nm,1.1s						
YHL				IAML		19 33 22.8	
	comp=E,25nm,1.3s						
K22A	Casper	3.03	173		Pb	19 32 06.2	-2.0
K22A				IAML		19 32 56.5	
	comp=N,28nm,0.4s						
K22A				IAML		19 33 01.4	
	comp=E,22nm,0.3s						
FLWY	Flagg Ranch	3.03	240		Pg	19 32 10.5	-0.9
FLWY				IAML		19 33 12.1	
	comp=E,29nm,2.3s						
YHB	Horse Butte	3.07	254		Pg	19 32 10.4	-1.6
YHB				IAML		19 32 21.5	
	comp=E,18nm,1.4s						
YHB				IAML		19 33 09.3	
	comp=N,15nm,1.1s						
BOZ	Bozeman (W)	3.21	271		Pg	19 32 12.7	-2.1
BOZ				IAML		19 33 04.5	
	comp=N,14nm,1.2s						
MOOW	Moose Ponds	3.25	235		Pb	19 32 12.1	+0.2
LOHW	Long Hollow	3.26	232		Pg	19 32 14.1	-1.5
LOHW				IAML		19 32 59.6	
	comp=N,14nm,5.0s						
LOHW				IAML		19 34 04.3	
	comp=N,16nm,4.2s						
PD31	Pinedale Array	3.41	213		Pg	19 32 15.8	-2.7
PDAR	Pinedale Array	3.41	213		Pg	19 32 16.2	-2.3
PDAR	Pinedale Array	3.41	213	Pn	Pb	19 32 13.4	-1.2
	comp=N,0.6nm,0.3s,baz=41,slow=18,SNR=14						
PDAR				Pg	Pg	19 32 20.2	+1.7
	comp=N,0.5nm,0.3s,baz=48,slow=17,SNR=17						
PDAR				Lg	Lg	19 33 02.2	
	comp=N,1.5nm,0.3s,baz=33,slow=32,SNR=4.2						
	comp=N,0.2nm,0.4s						
SNOW	Snow King Moun	3.44	232		Pg	19 32 18.0	-1.1
SNOW				IAML		19 34 04.5	
	comp=N,22nm,0.4s						
FXWY	Fox Creek	3.48	236		Pg	19 32 17.8	-2.1
AHID	Auburn Hatcher	4.10	227		Pb	19 32 24.3	-2.2
AHID				IAML		19 33 42.8	
	comp=N,9.4nm,2.7s						
AHID				IAML		19 34 38.9	
	comp=N,12nm,4.6s						
MSO	Missoula	4.92	286	Pn	Pn	19 32 30.3	+1.8
P18A	Preston Nutter	6.47	202		Pn	19 32 51.0	+1.0
I10CA	LAC DU BONNET	8.69	54	I	I	20 24 30.0	
	comp=N,0.1nm,1.0s,baz=243,slow=314,SNR=2.5						
ULM	Lac du Bonnet	8.79	54	Pn	Pn	19 33 24.7	+3.1
	comp=N,0.1nm,0.3s,baz=252,slow=9.6,SNR=1.5						
ULM				Lg	Lg	19 35 48.5	
	comp=N,0.3nm,0.3s,baz=128,slow=15,SNR=4.9						
	comp=N,0.7nm,0.3s						

*NEIC **20** 19:41:50.8±0.9, 18°.0S±0°.2×178°.6W±0°.2, h594km±13km, mb4.2/17, Error ellipse: s-maj=30.7km s-min=26.4km az=199.0*
*IDC **20** 19:41:50.6±3.4, 17°.57S×178°.69W, h602km±20km, mb3.3/3, mbtmp4.2/4, Error ellipse: s-maj=110.0km s-min=39.5km az=144.0*
ISC 20 19:41:49.7±0.9, **18°.1S**±0°.1×**178°.6W**±0°.1, **h579**km, **n27**, σ1♀**26**/**29**, **mb4.2**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.23	275	P	P	19 43 10.4	+1.9
MSVF	Nonsavu	3.23	275	P	P	19 43 10.6	+2.0
	31nm,0.7s,baz=122,slow=12,SNR=34						
FUTU	Fugatoga	3.77	7	P	P	19 43 13.7	+1.6
FUTU				S	S	19 44 19.1	0.0
AMCZ	Amberley	26.11	195	P	P	19 46 37.0	-1.5
EIDS	Eidsvold	29.06	250	P	P	19 47 05.0	+0.5
EIDS				IAmb	IAmb	19 47 37.2	
	comp=Z,20nm,1.4s						
ARMA	Armidale	29.72	240	P	P	19 47 11.3	+1.0
ARMA				IAmb	IAmb	19 47 12.4	
	comp=Z,11nm,1.1s						
COEN	Coen	36.94	271	P	P	19 48 11.9	+0.9
COEN				IAmb	IAmb	19 48 13.0	
	comp=Z,6.9nm,0.9s						
STKA	Stephens Creek	38.41	241	P	P	19 48 22.9	+0.2
STKA	Stephens Creek	38.41	241	P	P	19 48 23.5	+0.8
	comp=Z,2.1nm,0.6s,baz=82,slow=10,SNR=5.7						
	comp=Z,2.1nm,0.6s						
BBOO	Buckleboo	43.19	241	P	P	19 49 00.6	+0.1
WR0	Warramunga Arr	44.25	260	P	P	19 49 08.4	-0.5
WR0				IAmb	IAmb	19 49 49.9	
	comp=Z,8.6nm,1.5s						
WB0	Warramunga Arr	44.41	260	P	P	19 49 09.8	-0.4
WB0				IAmb	IAmb	19 49 19.5	
	comp=Z,9.6nm,1.4s						
WB2	Warramunga Arr	44.43	260	P	P	19 49 09.6	-0.8
WB2				IAmb	IAmb	19 49 10.3	
	comp=Z,3.8nm,0.9s						
WRA	Warramunga Arr	44.44	260	P	P	19 49 09.1	-1.4
WRA	Warramunga Arr	44.44	260	P	P	19 49 09.3	-1.1
	comp=Z,1.4nm,0.5s,baz=95,slow=7.3,SNR=53						
	comp=Z,1.4nm,0.5s						
AS31	Alice Springs	44.59	254	P	P	19 49 11.1	-0.4
ASAR	Alice Springs	44.59	254	P	P	19 49 10.3	-1.3
ASAR	Alice Springs	44.59	254	P	P	19 49 11.5	-0.1
	comp=Z,5.4nm,0.6s,baz=87,slow=8.7,SNR=101						
ASAR				PcP	PcP	19 50 39.5	-2.3
	comp=Z,0.4nm,0.4s,baz=84,slow=3.4,SNR=5.1						
	comp=Z,5.4nm,0.6s						
FORT	Forrest	49.79	245	P	P	19 49 49.5	-0.9
KNRA	Kununurra	50.31	264	P	P	19 49 52.3	-2.0
KNRA				IAmb	IAmb	19 50 11.9	
	comp=Z,17nm,1.4s						
FITZ	Fitzroy Crossi	52.84	261	P	P	19 50 12.8	+0.3
VNDA	Vanda	60.27	185	P	P	19 51 03.3	+0.9
VNDA				IAmb	IAmb	19 51 05.1	
	comp=Z,12nm,1.4s						
UGM	Wanagama	69.48	268	P	P	19 52 00.6	-0.8
QSPA	South Pole Qui	71.98	180	P	P	19 52 16.2	+0.9
SNAA	Sanae	90.44	179	P	P	19 53 50.0	+0.2
SNAA				IAmb	IAmb	19 54 04.8	
	comp=Z,10nm,1.4s						
BRTR	Keskin Array B	144.78	315	PKP	PKPdf	20 00 19.0	-2.6
	comp=Z,0.7nm,0.8s,baz=53,slow=2.0,SNR=4.3						
MMAI	Mount Meron Ar	146.09	303	PKPbc	PKPdf	20 00 23.5	-0.5
	comp=Z,0.8nm,0.5s,baz=55,slow=5.8,SNR=2.1						

*ISK **20** 19:42:06.6, 39°.63N×26°.42E, h7km, ML3.8/50*
*AFAD **20** 19:42:07.1, 39°.62N×26°.45E, h7km±1km, MW3.6*
*ATH **20** 19:42:07.4, 39°.59N×26°.41E, h16km±2km, ML3.3/19, Manual Solution by A.Agalos First location: 2019/02/20 19:43:16, This location: 2019/02/20 19:51:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*IDC **20** 19:42:08.1±1.9, 39°.70N×26°.71E, h0km, mb3.3/3, mbtmp3.3/5, ML3.5/2, Error ellipse: s-maj=53.8km s-min=22.6km az=4.0*
*THE **20** 19:42:08.1, 39°.59N×26°.37E, h14km, ML3.4/12, Error ellipse: s-maj=1.0km s-min=0.3km az=163.0*
ISC 20 19:42:07.2±0.9, **39°.61N**±0°.01×**26°.43E**±0°.02, **h9**km±6km, **n164**, σ0♀**76**/**207**, **mb3.4**/3, **23C-3D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	Ezine-Canakkal	0.15	341	Pg	Pg	19 42 10.2	-0.2
EZNE				Sg	Sg	19 42 12.6	-0.1
BAYC	CANAKKALE_Bayr	0.16	36	P	Pg	19 42 10.3	-0.3
BAYC				S	Sg	19 42 12.3	-0.6
BAYC				*i* AML	AML	19 42 13.0	
	comp=E,7μm,0.4s						
BAYC				*i* AML	AML	19 42 15.0	
	comp=N,7μm,0.4s						
KOCA	Canakkale, Ayv	0.25	244	P	Pb	19 42 12.9	-1.0
KOCA				*i* AML	AML	19 42 17.0	
	comp=N,2μm,0.2s						
KOCA				S	Sb	19 42 17.0	-1.3
KOCA				*i* AML	AML	19 42 18.0	
	comp=E,2μm,0.7s						
GPNR	Gulpinar-Canak	0.28	235	Pg	Pg	19 42 12.8	+0.1
GPNR				Sg	Sg	19 42 17.1	+0.7
AYVA	Ayvalik	0.37	146	P	Pg	19 42 14.6	+0.3
AYVA				*i* AML	AML	19 42 20.0	
	comp=E,4μm,0.2s						
AYVA				*i* AML	AML	19 42 21.0	
	comp=N,8μm,0.4s						
BOZC	Bozcaada	0.37	308	Pg	Pg	19 42 14.8	+0.3
BOZC				Sg	Sg	19 42 19.5	+0.2
BOZC	Bozcaada	0.37	308	P	Pg	19 42 14.8	+0.3
BOZC				*i* AML	AML	19 42 20.0	
	comp=E,5μm,0.3s						
BOZC				S	Sg	19 42 20.2	+0.9
BOZC				*i* AML	AML	19 42 21.0	
	comp=N,4μm,0.3s						
PRK	Paraskevi	0.39	198	P	Pg	19 42 14.9	+0.1
PRK				S	Sg	19 42 20.5	+0.6
	9μm,0.6s						
PRK	Paraskevi	0.39	198	P	Pg	19 42 14.9	+0.1
PRK				S	Sg	19 42 20.0	+0.1
CNKL	anakkale-Mer	0.45	356	P	Pg	19 42 16.0	-0.1
CNKL				S	Sg	19 42 22.1	+0.1
CNKL				*i* AML	AML	19 42 23.0	
	comp=N,4μm,0.3s						
CNKL				*i* AML	AML	19 42 25.0	
	comp=E,2μm,0.4s						
ECEA	Canakkale, Ece	0.47	336	P	Pb	19 42 16.9	-0.8
ECEA				S	Sb	19 42 23.7	-1.1
ECEA				*i* AML	AML	19 42 25.0	
	comp=N,3μm,0.3s						
ECEA				*i* AML	AML	19 42 26.0	
	comp=E,3μm,0.2s						
COMU	Canakkale	0.49	4	Pg	Pg	19 42 16.8	+0.1
COMU				Sg	Sg	19 42 23.4	+0.3
BUHA	Balikesir, Bur	0.51	102	P	Pg	19 42 17.2	0.0
BUHA				S	Sg	19 42 24.2	+0.3
BUHA				*i* AML	AML	19 42 25.0	
	comp=N,3μm,0.4s						
BUHA				*i* AML	AML	19 42 26.0	
	comp=E,4μm,0.4s						
SIGR	SIGRI	0.60	228	Pg	Pb	19 42 18.9	-0.9
SIGR				Sg	Sb	19 42 27.3	-1.1
SIGR	SIGRI	0.60	228	P	Pg	19 42 18.8	0.0
SIGR				S	Sg	19 42 27.1	+0.5
	8μm,0.5s						
SIGR	SIGRI	0.60	228	P	Pg	19 42 18.8	0.0
CANM	Can-anakkale	0.62	50	Pg	Pg	19 42 18.9	-0.4
DKL	Dikili	0.66	146	Pg	Pb	19 42 20.2	-0.6
DKL	Dikili	0.66	146	P	Pb	19 42 20.1	-0.6
DKL				S	Sg	19 42 28.6	+0.2
GOAD	anakkale-G¶	0.68	324	P	Pb	19 42 20.4	-0.8
GOAD				S	Sb	19 42 29.9	-0.8
GOAD				*i* AML	AML	19 42 32.0	
	comp=N,2μm,0.5s						
GOAD				*i* AML	AML	19 42 34.0	
	comp=E,2μm,0.4s						
GOKC	Gokceada-Canak	0.70	326	Pg	Pg	19 42 20.2	-0.6
YENI	Yenice-Canakka	0.70	63	Pg	Pg	19 42 20.3	-0.5
GADA	Gvkgeada	0.71	325	Pg	Pg	19 42 20.5	-0.3
CAND	Candarli	0.72	156	Pg	Pb	19 42 21.3	-0.6
IZMD	zmir-Dikili-	0.74	148	P	Pb	19 42 21.6	-0.7
IZMD				*i* AML	AML	19 42 38.0	
	comp=E,585nm,0.8s						
IZMD				*i* AML	AML	19 42 41.0	
	comp=N,446nm,0.8s						
GELI	Tayfur-Gelibol	0.78	3	Pg	Pg	19 42 21.4	-0.9
LPK	Lapseki	0.80	18	Pg	Pg	19 42 22.1	-0.5
ZEDA	zmir-Bergama	0.82	142	P	Pb	19 42 22.9	-0.6
ZEDA				S	Sb	19 42 34.4	-0.3
ZEDA				*i* AML	AML	19 42 37.0	
	comp=E,1μm,0.4s						
ZEDA				*i* AML	AML	19 42 39.0	
	comp=N,1μm,0.3s						
BALY	Balya	0.93	82	P	Pg	19 42 24.9	-0.2
BALY				S	Sg	19 42 37.0	-0.1
BALY				*i* AML	AML	19 42 39.0	
	comp=N,4μm,0.5s						
BALY				*i* AML	AML	19 42 39.0	
	comp=E,2μm,0.2s						
FOCM	Foa	0.93	165	Pg	Pb	19 42 25.2	-0.3
KARB	zmir-Karabur	0.95	181	P	Pb	19 42 25.6	-0.2
KARB				S	Sn	19 42 39.2	-1.2
KARB				*i* AML	AML	19 42 41.0	
	comp=N,5μm,0.3s						
KARB				*i* AML	AML	19 42 41.0	
	comp=E,4μm,0.3s						
SOMA	Soma-Manisa	0.97	118	Pg	Pb	19 42 25.9	-0.3
LIA	Limnos Island	1.00	287	P	Pg	19 42 26.1	-0.3
LIA				S	Sb	19 42 40.0	0.0
	5μm,0.4s						
LIA	Limnos Island	1.00	287	P	Pb	19 42 26.2	-0.5
LIA				S	Sb	19 42 40.2	+0.2
ENZZ	Sultanice-Enez	1.02	348	Pg	Pb	19 42 26.5	-0.5
KRBG	Karabiga-Canak	1.03	40	Pg	Pg	19 42 26.1	-0.8
ERIK	Erikli-Kesan	1.06	3	Pg	Pg	19 42 26.6	-0.9
GONE	Gonen-Balikesi	1.06	66	Pg	Pg	19 42 27.1	-0.5
CAVK	Edirne/Enez-Ca	1.09	350	P	Pb	19 42 28.0	-0.3
CAVK				S	Sb	19 42 42.8	+0.1
CAVK				*i* AML	AML	19 42 44.0	
	comp=N,2μm,0.5s						
CAVK				*i* AML	AML	19 42 46.0	
	comp=E,2μm,0.4s						
CAVK	Edirne/Enez-Ca	1.09	350	⇑P	Pg	19 42 27.9	-0.4
CAVK				⇑S	Sb	19 42 42.6	-0.1
EAG2	Marmaro, Chios	1.10	193	P	Pb	19 42 27.9	-0.4
EAG2				S	Sg	19 42 41.9	-0.6
SMTH	Samothraki Isl	1.10	321	P	Pg	19 42 27.8	-0.5
SMTH				S	Sb	19 42 43.1	+0.2
	7μm,0.4s						
SMTH	Samothraki Isl	1.10	321	P	Pg	19 42 28.0	-0.3
SMTH				S	Sb	19 42 42.5	-0.4
EFSA	Agios Efstrati	1.11	267	P	Pn	19 42 28.6	-0.3
EFSA				S	Sb	19 42 42.9	-0.3
ENEZ	Enez	1.14	349	Pn	Pg	19 42 28.6	-0.6
ENEZ	Enez	1.14	349	P	Pg	19 42 28.5	-0.6
ENEZ				S	Sn	19 42 45.1	0.0
RKY	Sarkoy-Tekirda	1.22	28	Pn	Pb	19 42 29.3	-1.1
SART	Tekirdag	1.22	28	P	Pb	19 42 29.4	-1.0
SART				S	Sb	19 42 46.1	-0.3
SART				*i* AML	AML	19 42 50.0	
	comp=E,1μm,0.4s						
SART				*i* AML	AML	19 42 53.0	
	comp=N,1μm,0.3s						
CESE	eme	1.28	185	Pn	Pn	19 42 30.5	-0.8
AKS	Akhisar	1.30	124	Pn	Pg	19 42 31.9	-0.3
ALEX	Alexandroupoli	1.30	342	P	Pb	19 42 31.7	-0.2
ALEX				S	Sn	19 42 49.1	0.0
ALN	Alexandroupoli	1.31	347	Pn	Pn	19 42 31.4	-0.3
ALN	Alexandroupoli	1.31	347	P	Pn	19 42 31.3	-0.4
ALN				S	Sn	19 42 49.3	-0.1
	2μm,0.5s						
BLCB	Balcova	1.32	159	Pn	Pb	19 42 31.7	-0.4
SUSR	Susurluk-Balik	1.32	74	Pn	Pb	19 42 31.8	-0.4
EDC	Edincik	1.32	56	Pn	Pn	19 42 31.4	-0.5
GOMA	Golmarmara-Man	1.47	128	Pn	Pb	19 42 34.4	-0.3
BAND	Balkesir-Ban	1.48	59	⇑P	Pn	19 42 34.1	0.0
BAND				⇑S	Sg	19 42 54.5	-0.3
UKOP	Uzunkopru-Edir	1.52	6	Pn	Pb	19 42 35.0	-0.6
GORD	Gordes-Manisa	1.53	117	Pn	Pb	19 42 35.5	-0.2
GMLD	Gumuldur	1.58	166	Pn	Pb	19 42 35.7	-0.9
TKR	Tekirdag	1.61	31	Pn	Pn	19 42 35.9	0.0
KCTX	Karacabey (Bur	1.62	66	Pn	Pn	19 42 35.9	-0.1
SKY	Skiros Island	1.63	244	P	Pn	19 42 35.0	-1.1
THAS	Thassos island	1.64	308	P	Pn	19 42 35.5	-0.8
THAS				S	Sn	19 42 55.8	-1.7
	700nm,0.3s						
THAS	Thassos island	1.64	308	P	Pn	19 42 35.6	-0.6
THAS				S	Sn	19 42 55.5	-2.0
RDO	Rodhopi	1.68	336	Pn	Pn	19 42 36.7	0.0
RDO	Rodhopi	1.68	336	P	Pn	19 42 36.5	-0.2
RDO				S	Sn	19 42 58.2	-0.1
	578nm,0.5s						
RDO	Rodhopi	1.68	336	P	Pn	19 42 36.7	0.0
RDO				S	Sn	19 42 57.4	-0.9
DST	Dursunbey	1.69	90	Pn	Pb	19 42 37.7	-0.8
CRLT	Corlu	1.81	33	Pn	Pn	19 42 38.8	+0.2
ODEM	Odemis-Izmir	1.85	136	Pn	Pn	19 42 39.3	+0.1
SMG	Samos	1.93	170	P	Pn	19 42 39.3	-0.9
SMG				S	Sn	19 43 04.3	-0.3
	1μm,0.4s						
SMG	Samos	1.93	170	P	Pn	19 42 39.4	-0.8
ORLT	Orhaneli	1.95	76	Pn	Pn	19 42 41.3	+0.8
GCAM	G?zelcaml?	2.01	161	Pn	Pn	19 42 41.4	+0.1
KAVA	Kavala	2.01	314	P	Pn	19 42 41.1	-0.3
KAVA				S	Sn	19 43 05.4	-1.2
	545nm,0.4s						
KAVA	Kavala	2.01	314	P	Pn	19 42 41.0	-0.3
OUR	Ouranopolis	2.01	292	Pn	Pn	19 42 40.9	-0.4
OUR	Ouranopolis	2.01	292	P	Pn	19 42 40.7	-0.6
OUR				S	Sn	19 43 05.2	-1.4
	350nm,0.5s						
OUR	Ouranopolis	2.01	292	P	Pn	19 42 40.9	-0.4
AYDB	Zeytinkoy-Aydi	2.02	145	Pn	Pn	19 42 41.5	-0.1
AOS	Alonnisos	2.02	258	P	Pn	19 42 41.2	-0.3
AOS				S	Sn	19 43 05.9	-1.0
	470nm,0.6s						
MDNY	Mudanya-Bursa	2.03	67	Pn	Pn	19 42 42.6	+1.0
SMAA	Simav-Kutahya	2.04	104	Pn	Pn	19 42 42.2	+0.4
KVLA	Kavala	2.05	311	P	Pn	19 42 41.6	-0.2
SIMA	Simav-Kutahya	2.05	104	Pn	Pn	19 42 42.4	+0.5
KULA	Kula-Manisa	2.06	122	Pn	Pn	19 42 42.9	+0.9
KYMI	Kymi, Euboea I	2.06	242	P	Pn	19 42 41.0	-1.0
KYMI				S	Sn	19 43 06.3	-1.5
	292nm,0.8s						
KYMI	Kymi, Euboea I	2.06	242	P	Pn	19 42 40.9	-1.1
ARMT	Armutlu	2.10	62	Pn	Pn	19 42 43.1	+0.6
SLVT	Silivri	2.11	40	Pn	Pn	19 42 42.8	+0.1
PAIG	Paliouri	2.14	279	Pn	Pn	19 42 42.7	-0.4
PAIG	Paliouri	2.14	279	P	Pn	19 42 42.5	-0.6
KDZ	Kurdzhali	2.18	338	Pn	Pn	19 42 44.0	+0.4
PHSR	Pinarhisar	2.18	22	Pn	Pn	19 42 44.4	+0.7
KOKK	Kokkinochori,	2.21	304	P	Pn	19 42 43.7	-0.4
KARY	Karystos	2.22	225	P	Pn	19 42 43.0	-1.1
KARY	Karystos	2.22	225	P	Pn	19 42 43.0	-1.1
AVCI	Avcilar-stanb	2.23	51	Pn	Pn	19 42 45.5	+1.2
EDRB	Edirne	2.24	6	Pn	Pn	19 42 44.4	-0.1
EDRB	Edirne	2.24	6	P	Pn	19 42 44.3	-0.2
CTKS	Kestanelik-??a	2.27	44	Pn	Pn	19 42 44.5	-0.3
PLG	Polygyros	2.41	289	P	Pn	19 42 46.5	-0.4
PLG	Polygyros	2.41	289	P	Pn	19 42 46.8	-0.1
ISK	Istanbul-Kandi	2.48	53	P	Pn	19 42 46.8	-0.9
DION	Dionisos Attik	2.48	233	P	Pn	19 42 46.7	-1.1
DION	Dionisos Attik	2.48	233	P	Pn	19 42 46.7	-1.1
NEO	Neokhori	2.50	264	P	Pn	19 42 47.3	-0.8
NEO	Neokhori	2.50	264	P	Pn	19 42 47.2	-0.8
XOR	Xorichti	2.52	265	P	Pn	19 42 47.4	-0.9
XOR	Xorichti	2.52	265	P	Pn	19 42 47.6	-0.7
PTL	Penteli	2.54	233	P	Pn	19 42 47.7	-0.9
NVR	Nevrokopi	2.62	312	P	Pn	19 42 48.9	-0.8
NVR	Nevrokopi	2.62	312	P	Pn	19 42 50.0

VRI	Vrincioaia	6.25	2	⇑P	Pn	19 43 40.1 +0.5
GZR	Gura Zlata	6.37	336	⇑P	Pn	19 43 41.2 -0.1
DOPR	Dopca	6.40	353	⇑P	Pn	19 43 42.6 +1.0
SURR	Surduc	6.91	334	⇑P	Pn	19 43 49.3 +0.7
BZS	Buzias	6.97	331	⇑P	Pn	19 43 49.3 -0.1
MARR	Marisel-Cluj	7.46	342	⇑P	Pn	19 43 56.5 +0.2
TIP	Timpagrande	7.50	270	⇑P	Pn	19 43 56.6 -0.2
SIRR	Siria	7.51	334	⇑P	Pn	19 43 56.6 -0.3
BURAR	Bucovina Array	8.05	354	⇑P	Pn	19 44 05.8 +1.5
MMAI	Mount Meron Ar	9.78	130	Pn	Pn	19 44 28.7 +0.5
	0.5nm,0.3s,baz=314,slow=11,SNR=4.2					
	0.3nm,0.3s					
ESDC	Sonseca Array	23.35	280	P	P	19 47 19.9 +4.0
	0.3nm,0.6s,baz=74,slow=14,SNR=2.1					
	0.3nm,0.6s					
KURBB	Kurchatov Arra	37.65	55	P	P	19 49 22.8 +0.4
	0.5nm,0.6s,baz=279,slow=9.0,SNR=4.5					
	0.5nm,0.6s					
MKAR	Makanchi Array	40.60	61	P	P	19 49 47.4 +0.2
	0.5nm,0.6s,baz=273,slow=8.5,SNR=8.3					
	0.5nm,0.6s					

*NEIC **20** 19:47:39.6±2.4, 44°.43N±0°.05×105°.56W±0°.05, h0km±1km, ML2.6/20, Error ellipse: s-maj=8.8km s-min=5.9km az=352.0*
*IDC **20** 19:47:43.9±1.5, 44°.54N×105°.86W, h0km, mbtmp3.0/2, ML2.9/2, Error ellipse: s-maj=56.1km s-min=9.9km az=143.0*

ISC 20 19:47:40.2±1.1, 44°.35N±0°.07×105°.61W±0°.05, h0km, n15, σ1§47/14, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.15	101	Pg	Pg	19 48 01.9	-0.4
K22A	Casper	1.83	202	Pn	Pg	19 48 15.2	0.0
K22A				IAML		19 48 45.0	
	comp=E,52nm,0.4s						
K22A				IAML		19 48 46.2	
	comp=N,68nm,0.4s						
LAO	LASA Array	2.38	350	Pn	Pn	19 48 19.1	-1.4
LAO				IAML		19 49 04.5	
	comp=N,38nm,0.8s						
LAO				IAML		19 49 37.3	
	comp=N,42nm,4.3s						
RLMT	Red Lodge	2.72	288	Pn	Pb	19 48 29.2	-0.7
YNE	Yellowstone No	3.21	283	Pn	Pb	19 48 35.8	-2.5
YNE				IAML		19 49 32.9	
	comp=N,13nm,0.6s						
YNE				IAML		19 49 38.6	
	comp=E,12nm,0.5s						
YMP	Mirror Lake Pl	3.28	278		Pn	19 48 34.5	+1.3
YMP				IAML		19 49 37.1	
	comp=E,20nm,0.6s						
PD31	Pinedale Array	3.28	242		Pb	19 48 38.7	-0.8
PDAR	Pinedale Array	3.28	242	Pn	Pn	19 48 34.6	+1.5
PDAR	Pinedale Array	3.28	242	Pn	Pb	19 48 38.5	-0.9
	comp=E,1.1nm,0.3s,baz=66,slow=17,SNR=20						
PDAR				Lg	Lg	19 49 24.3	
	comp=E,3.1nm,0.3s,baz=58,slow=32,SNR=17						
	comp=E,0.9nm,0.3s						
FLWY	Flagg Ranch	3.67	268		Pn	19 48 39.5	+1.0
LOHW	Long Hollow	3.68	260		Pg	19 48 50.7	-0.1
LOHW				IAML		19 50 31.4	
	comp=E,11nm,5.0s						
LOHW				IAML		19 50 48.0	
	comp=E,6.1nm,4.9s						
MOOW	Moose Ponds	3.75	263		Pg	19 48 53.0	+0.9
MOOW				IAML		19 49 21.2	
	comp=E,6.0nm,4.3s						
YMR	Madison River	3.85	277	Pn	Pn	19 48 41.1	+0.2
I10CA	LAC DU BONNET	8.75	45	I	I	20 40 30.0	
	baz=228,slow=332,SNR=0.3						
ULM	Lac du Bonnet	8.86	45	Pn	Pn	19 49 52.2	+2.8
	comp=E,0.3nm,0.3s,baz=225,slow=11,SNR=1.9						
ULM				Lg	Lg	19 52 13.7	
	comp=E,0.2nm,0.3s,baz=122,slow=12,SNR=2.4						
	comp=E,0.5nm,0.3s						

*IDC **20** 19:51:02.3±0.9, 30°.15N×87°.62E, h0km, mb3.7/12, mbtmp3.7/14, ML3.4/2, MS3.3/12, Error ellipse: s-maj=33.0km s-min=16.5km az=55.0*

ISC 20 19:51:07.3±0.9, 30°.2N±0°.1×87.7E±0°.2, h35km, n25, σ1§12/16, mb3.7/12, MS3.2/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.56	136	Pn	Pn	19 54 43.2	-0.9
	0.1nm,0.3s,baz=321,slow=10,SNR=15						
	1.0nm,1.0s						
AAK	Ala-Archa	16.29	323	Pn	P	19 54 54.6	-1.6
	0.1nm,0.3s,baz=134,slow=14,SNR=3.7						
AAK				LR	LR	20 01 51.7	
	comp=Z,60nm,19.0s,baz=129,slow=40						
MKAR	Makanchi Array	17.09	347	P	Pn	19 55 01.7	-1.7
	0.1nm,0.3s,baz=149,slow=12,SNR=5.3						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	21.52	344	P	P	19 55 51.9	-1.2
	1.3nm,0.9s,baz=160,slow=9.9,SNR=8.2						
	1.3nm,0.9s						
SONM	Songino Array	22.75	34	P	P	19 56 07.0	+0.5
	1.3nm,1.0s,baz=225,slow=11,SNR=8.8						
SONM				LR	LR	20 05 53.0	
	comp=Z,61nm,21.9s,baz=284,slow=39						
	1.3nm,1.0s						
ZALV	Zalesovo Beam	23.82	356	P	P	19 56 17.3	+0.5
	0.8nm,0.5s,baz=187,slow=8.4,SNR=5.6						
	0.8nm,0.5s						
BVAR	Borovoye Array	26.07	336	P	P	19 56 37.0	-0.4
	1.6nm,0.8s,baz=139,slow=9.2,SNR=8.8						
	1.6nm,0.8s						
WSAR	Wadi Sarin	26.78	262	LR	LR	20 07 54.3	
	comp=Z,75nm,21.1s,baz=59,slow=38						
ARTI	Arti	33.28	330	LR	LR	20 11 58.0	
	comp=Z,48nm,20.8s,baz=185,slow=38						
KSRS	Korea Array	34.03	67	LR	LR	20 12 52.1	
	comp=Z,30nm,18.0s,baz=65,slow=38						
JOW	Kunigami	35.72	85	LR	LR	20 13 55.7	
	comp=Z,33nm,20.1s,baz=307,slow=38						
GNI	Garni	36.15	298	LR	LR	20 17 38.0	
	comp=Z,27nm,18.8s,baz=94,slow=44						
KBZ	Khabaz	37.77	304	LR	LR	20 16 24.6	
	comp=Z,48nm,18.4s,baz=66,slow=40						
YAK	Yakutsk	41.88	28	LR	LR	20 17 36.1	
	comp=Z,44nm,18.3s,baz=120,slow=38						
BRTR	Keskin Array B	44.69	297	P	P	19 59 17.2	+0.2
	0.5nm,0.6s,baz=105,slow=8.6,SNR=4.6						
	0.5nm,0.6s						
AKASG	Malin Array Be	47.58	313	P	P	19 59 40.0	+0.6
	0.2nm,0.3s,baz=82,slow=7.3,SNR=4.1						
	0.2nm,0.3s						
FINES	FINESS Array B	50.44	327	P	P	20 00 02.7	+1.6
	4.0nm,0.9s,baz=103,slow=8.0,SNR=2.1						
	4.0nm,0.9s						
ARCES	ARCESS Array B	52.35	337	P	P	20 00 16.9	+1.5
	1.2nm,0.6s,baz=114,slow=7.9,SNR=5.6						
	1.2nm,0.6s						
HFS	Hagfors	56.42	325	P	P	20 00 46.0	+1.0
	2.1nm,0.8s,baz=88,slow=10,SNR=4.9						
	2.1nm,0.8s						
NOA	NORSAR Array B	57.59	326	P	P	20 00 53.7	+0.3
	0.6nm,0.6s,baz=85,slow=7.2,SNR=3.5						
NOA				LR	LR	20 26 46.4	
	comp=Z,20nm,19.5s,baz=275,slow=37						
	0.6nm,0.6s						
GERES	GERESS Array B	57.73	311	LR	LR	20 29 48.5	
	comp=Z,74nm,21.7s,baz=201,slow=40						
WRA	Warramunga Arr	67.11	132	P	P	20 01 57.8	+0.3
	0.7nm,0.8s,baz=318,slow=6.6,SNR=4.1						
	0.7nm,0.8s						
ASAR	Alice Springs	69.57	135	P	P	20 02 13.3	+0.4
	0.9nm,0.8s,baz=318,slow=6.1,SNR=8.8						
	0.9nm,0.8s						
FRB	Frobisher Bay	84.49	350	LR	LR	20 44 13.8	
	comp=Z,12nm,18.5s,baz=305,slow=38						
CPUP	Villa Florida	148.99	268	PKPbc	PKPbc	20 10 50.5	-1.4
	0.9nm,0.4s,baz=149,slow=8.8,SNR=3.6						

*NEIC **20** 20:11:53.7±0.5, 24°.50S±0°.05×176°.6W±0°.2, h62km±10km, mb4.8/10, Error ellipse: s-maj=20.8km s-min=7.8km az=95.0*
*IDC **20** 20:12:02.7±3.8, 23°.72S×176°.91W, h136km±30km, mb3.8/6, mbtmp4.2/9, Error ellipse: s-maj=29.4km s-min=21.4km az=114.0*

ISC 20 20:11:55.1±0.6, 23°.98S±0°.10×176°.60W±0°.09, h82km, n43, σ1§60/43, mb4.5/12, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.90	53	Pn	Pn	20 13 50.3	+3.0
NIUE					Sn	20 15 14.1	-1.0
MSVF	Nonsavu	7.98	320		Pn	20 13 51.6	+3.2
MSVF	Nonsavu	7.98	320	P	Pn	20 13 51.5	+3.1
	18nm,0.8s,baz=139,slow=12,SNR=22						
URZ	Urewera	15.21	199	P	P	20 15 32.7	+4.3
	2.8nm,0.4s,baz=358,slow=5.6,SNR=8.6						
URZ				S	Sn	20 18 15.2	+2.3
	4.9nm,0.6s,baz=159,slow=22,SNR=5.5						
DZM	Mont Dzumac	15.72	274	P	P	20 15 33.3	-1.0
	7.4nm,0.8s,baz=86,slow=19,SNR=7.5						
STKA	Stephens Creek	37.58	248	P	P	20 19 02.0	+0.2
	1.2nm,0.5s,baz=117,slow=11,SNR=5.2						
	1.2nm,0.5s						
AS31	Alice Springs	45.09	260	P	P	20 20 01.2	-2.2
ASAR	Alice Springs	45.09	260	P	P	20 20 03.2	-0.1
	2.2nm,0.7s,baz=89,slow=8.4,SNR=31						
ASAR				PcP	PcP	20 21 43.4	+0.5
	0.6nm,0.5s,baz=107,slow=3.9,SNR=8.0						
	2.2nm,0.7s						
WR0	Warramunga Arr	45.31	265	P	P	20 20 04.3	-0.9
WR0				IAmb	IAmb	20 20 11.2	
	comp=Z,8.2nm,0.6s						
WB2	Warramunga Arr	45.49	265	P	P	20 20 05.4	-1.2
WB2				IAmb	IAmb	20 20 06.6	
	comp=Z,6.5nm,0.7s						
WRAB	Tennant Creek	45.49	265	P	P	20 20 05.5	-1.1
WRAB				IAmb	IAmb	20 20 07.4	
	comp=Z,4.6nm,0.6s						
WB0	Warramunga Arr	45.49	265	P	P	20 20 05.6	-1.0
WB0				IAmb	IAmb	20 20 06.5	
	comp=Z,7.4nm,0.9s						
WRA	Warramunga Arr	45.50	265	P	P	20 20 05.4	-1.3
WRA	Warramunga Arr	45.50	265	P	P	20 20 06.0	-0.7
	comp=Z,4.4nm,0.6s,baz=90,slow=6.0,SNR=75						
WRA				PcP	PcP	20 21 45.0	+0.6
	comp=Z,0.8nm,0.7s,baz=98,slow=2.9,SNR=3.6						
	comp=Z,4.4nm,0.6s						
KNRA	Kununurra	51.80	269	P	P	20 20 54.4	-0.6
SOEI	Soe	57.95	273	P	P	20 21 39.1	-0.4
SOEI				IAmb	IAmb	20 21 49.9	
	comp=Z,28nm,1.1s						
MMRI	Maumere	60.23	274	P	P	20 21 53.9	-1.2
MMRI				IAmb	IAmb	20 23 30.5	
	comp=Z,19nm,1.0s						
QSPA	South Pole Qui	66.11	180	P	P	20 22 37.1	+3.7
	comp=Z,1.8nm,0.7s,baz=332,slow=2.4,SNR=5.6						
	comp=Z,1.8nm,0.7s						
SYO	Syowa Base	83.63	192	‖eP	P	20 24 13.0	-1.1
TRF	Thorofare Moun	89.57	11	P	P	20 24 43.1	0.0
ILAR	Eielson Array	91.41	12	P	P	20 24 51.2	-0.3
	comp=Z,0.4nm,0.4s,baz=222,slow=5.2,SNR=9.8						
	comp=Z,0.4nm,0.4s						
CMAR	Chiang Mai Arr	92.48	289	P	P	20 24 58.5	+1.0
	comp=Z,1.4nm,0.9s,baz=142,slow=3.2,SNR=9.6						
	comp=Z,1.4nm,0.9s						
COHC	Cochancay	95.72	95		pP	20 25 30.1	-4.3
MKAR	Makanchi Array	114.50	319	PKP	PKiKP	20 30 24.6	-0.9
	comp=Z,0.2nm,0.7s,baz=119,slow=1.8,SNR=1.9						
SCHQ	Schefferville	120.57	39	PKP	PKiKP	20 30 36.0	-1.1
	comp=Z,1.6nm,0.6s,baz=189,slow=12,SNR=3.6						
BVAR	Borovoye Array	122.55	319	PKP	PKPdf	20 30 39.7	-1.1
	comp=Z,0.6nm,0.5s,baz=140,slow=2.5,SNR=5.8						
FINES	FINESS Array B	139.46	343	PKhKP	PKPpre	20 31 06.8	
	comp=Z,2.7nm,0.9s,baz=29,slow=3.2,SNR=3.7						
HFS	Hagfors	143.16	351	PKhKP	PKPpre	20 31 14.9	
	comp=Z,1.8nm,0.5s,baz=54,slow=2.6,SNR=14						
AKASG	Malin Array Be	146.66	330	PKPbc	PKPbc	20 31 26.1	-1.1
	comp=Z,5.1nm,0.4s,baz=43,slow=4.1,SNR=43						
EKA	Eskdalemuir Ar	148.31	7	PKPbc	PKiKP	20 31 32.4	-0.8
	comp=Z,0.9nm,0.5s,baz=316,slow=3.2,SNR=6.2						
BNN	Bunyan	148.78	306	PKPdf	PKPdf	20 31 28.8	-0.8
BZK	Bozkurt	148.91	313	PKPdf	PKPdf	20 31 29.2	-0.3
ASF	Jabal al Asfar	149.43	293	PKPbc	PKiKP	20 31 35.5	-0.9
	comp=Z,2.3nm,0.7s,baz=107,slow=10,SNR=4.9						
ILGA	Ilgaz	149.49	311	PKPdf	PKPdf	20 31 27.9	-2.8
BR131	Keskin Array S	150.08	309	PKPbc	PKiKP	20 31 36.0	-1.5
BRTR	Keskin Array B	150.08	309	PKPbc	PKPbc	20 31 35.8	-0.9
BRTR	Keskin Array B	150.08	309	PKPbc	PKiKP	20 31 36.5	-1.0
	comp=Z,1.8nm,0.7s,baz=134,slow=4.8,SNR=11						
MMAI	Mount Meron Ar	150.56	295	PKPbc	PKiKP	20 31 39.0	+0.3
	comp=Z,2.5nm,0.4s,baz=74,slow=6.5,SNR=12						
BUR08	Bucovina Ar. S	150.69	329	PKPbc	PKiKP	20 31 37.7	-0.8
BURAR	Bucovina Array	150.71	329	PKPbc	PKiKP	20 31 38.7	+0.2
EIL	Elat	151.33	288	PKPbc	PKiKP	20 31 40.5	+0.3
	comp=Z,2.9nm,0.7s,baz=100,slow=6.1,SNR=3.8						
CSS	Mathiatis	151.84	300	PKPdf	PKPdf	20 31 30.9	-3.4
GERES	GERESS Array B	153.88	344	PKPbc	PKiKP	20 31 44.6	-0.4
	comp=Z,0.3nm,0.4s,baz=349,slow=3.0,SNR=5.0						

*IDC **20** 20:20:35.5±1.1, 37°.92N×20°.92E, h0km, mb3.7/12, mbtmp3.5/19, ML3.3/5, MS3.0/8, Error ellipse: s-maj=20.7km s-min=15.0km az=11.0*
*THE **20** 20:20:36.0, 37°.58N×20°.80E, h11km, ML3.5/18, Error ellipse: s-maj=0.9km s-min=0.4km az=218.0*
*ATH **20** 20:20:36.3, 37°.58N×20°.78E, h6km±1km, ML3.6/49, Manual Solution by G.Panopoulou First location: 2019/02/20 20:20:53, This location: 2020/09/16 15:10:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*TIR **20** 20:20:37.3, 37°.74N×20°.25E, h18km±1km, Md3.9/7, Ml3.8/7*
*NAO **20** 20:20:43.6, 39°.63N×26°.45E, h10km, mb3.3*

ISC 20 20:20:35.9±0.8, 37°.61N±0°.02×20°.79E±0°.02, h13km±4km, n173, σ1§30/230, mb3.6/12, MS3.1/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.06	26	P	Pg	20 20 38.5	0.0
KRI1				S	Sg	20 20 40.0	-0.3
LTHK	Lithakia	0.10	22	P	Pg	20 20 39.0	0.0
LTHK				S	Sg	20 20 41.1	0.0
	177μm,0.4s						
LTHK	Lithakia	0.10	22	P	Pg	20 20 39.1	+0.1
LTHK				S	Sg	20 20 41.2	+0.1
KYPS	Kipseli, Zakin	0.21	8	P	Pb	20 20 41.7	+0.1
ORTH	Orthonies,Zaky	0.25	343	P	Pb	20 20 42.4	+0.1
ORTH				S	Sb	20 20 46.7	+0.2
CLEM	Kyllini,Ilia,G	0.39	45	P	Pg	20 20 44.1	+0.4
CLEM				S	Sb	20 20 50.4	-0.1
RTZL	Ratzakli, Kefa	0.46	358	P	Pg	20 20 45.6	+0.5
RTZL				S	Sb	20 20 53.4	+0.7
	7μm,0.4s						
LCHA	Lechaina	0.50	49	P	Pg	20 20 46.4	+0.7
LCHA				S	Sb	20 20 53.7	+0.1
PSDA	Pessada-Kefalo	0.53	342	P	Pg	20 20 46.7	+0.5
PSDA				S	Sb	20 20 55.0	+0.5
	8μm,0.6s						
PSDA	Pessada-Kefalo	0.53	342	P	Pg	20 20 47.0	+0.7
PSDA				S	Sb	20 20 55.0	+0.5
ANDM	Andravida	0.53	46	P	Pb	20 20 47.4	+0.3
ANDM				S	Sb	20 20 56.1	+1.4
VLS	Valsamata	0.58	345	P	Pg	20 20 47.6	+0.2
VLS				S	Sb	20 20 56.5	+0.3
	5μm,0.4s						
VLS	Valsamata	0.58	345	P	Pg	20 20 47.8	+0.4
VLS				S	Sb	20 20 56.5	+0.3
ARG2	Argostoli	0.61	337	P	Pb	20 20 49.0	+0.6
ARG2				S	Sb	20 20 57.7	+0.7
YRMI	Loutra Irminis	0.66	42	P	Pg	20 20 49.0	+0.2
YRMI				S	Sb	20 20 58.7	+0.3
ZARO	Zacharo	0.70	100	P	Pb	20 20 50.0	+0.2
ZARO				S	Sb	20 20 59.5	+0.2
RLS	Riolos of Patr	0.70	50	P	Pg	20 20 49.5	0.0
RLS				S	Sb	20 21 00.0	+0.6
	3μm,0.4s						
RLS	Riolos of Patr	0.70	50	P	Pg	20 20 49.4	0.0
RLS				S	Sb	20 21 00.1	+0.6
DMLN	Damoulianata-K	0.71	333	P	Pg	20 20 50.2	+0.6
DMLN				S	Sb	20 21 01.1	+1.4
	8μm,0.6s						
DMLN	Damoulianata-K	0.71	333	P	Pg	20 20 50.3	+0.6
AMT	Artemida-Makis	0.74	96	P	Pg	20 20 50.0	-0.2
AMT				S	Sg	20 21 00.2	+0.3
AXS	Araxos	0.75	38	P	Pg	20 20 50.5	+0.1
AXS				S	Sb	20 21 01.2	+0.4
DRO	Drossia	0.81	65	P	Pg	20 20 50.9	-0.6
DRO				S	Sg	20 21 02.6	+0.5
	6μm,0.5s						
DRO	Drossia	0.81	65	P	Pg	20 20 51.5	0.0
FSK	Fiskardo	0.86	348	P	Pg	20 20 52.5	-0.1
FSK				S	Sn	20 21 06.0	-0.2
	3μm,0.6s						
FSK	Fiskardo	0.86	348	P	Pg	20 20 52.5	-0.1
MSL1	Messolongi	0.91	33	P	Pg	20 20 54.2	+0.7
MSL1				S	Sn	20 21 07.1	-0.2
PATG	Patra B	0.97	50	P	Pn	20 20 55.6	+0.4
ITM	Ithomi	1.00	115	P	Pb	20 20 54.4	-0.7
ITM				S	Sn	20 21 09.3	-0.4
	2μm,0.8s						
ITM	Ithomi	1.00	115	P	Pb	20 20 54.4	-0.7
ITM				S	Sb	20 21 08.3	+0.1
PYL1	Pylos	1.00	134	P	Pb	20 20 54.6	-0.5
PYL1				S	Sg	20 21 08.7	+0.3
PATC	Patra C	1.01	49	P	Pn	20 20 56.5	+0.8
EVGI	Lefkada island	1.01	354	P	Pb	20 20 55.1	-0.2
EVGI				S	Sn	20 21 11.2	+1.3
	2μm,0.5s						
EVGI	Lefkada island	1.01	354	P	Pb	20 20 55.3	0.0
EVGI				S	Sn	20 21 10.7	+0.8
PDO	Prodromos	1.03	17	P	Pb	20 20 55.2	-0.4
PDO				S	Sg	20 21 10.3	+0.9
UPR	University Cam	1.04	49	P	Pb	20 20 55.7	0.0
UPR				S	Sn	20 21 10.7	+0.2
UPR	University Cam	1.04	49	P	Pn	20 20 56.9	+0.8
UPR				S	Sn	20 21 10.6	+0.2
RIOA	Rio	1.05	49	P	Pg	20 20 56.9	+0.8
MTHA	Methoni	1.08	137	P	Pg	20 20 57.1	+0.4
DRAG	Dragano-Lefkad	1.08	351	P	Pb	20 20 56.2	-0.3
DRAG				S	Sn	20 21 12.8	+1.2
DRAG	Dragano-Lefkad	1.08	351	P	Pb	20 20 56.5	0.0
NYDR	Nydri-Lefkada	1.10	356	P	Pb	20 20 56.3	-0.5
NYDR				S	Sn	20 21 13.2	+1.2
	1μm,0.7s						
NYDR	Nydri-Lefkada	1.10	356	P	Pn	20 20 57.3	+0.4
NYDR				S	Sn	20 21 13.2	+1.2
KLV1	Kalavrita	1.13	68	P	Pg	20 20 58.3	+0.6
KLV1				S	Sn	20 21 13.5	+0.7
VVK	Vomvokou	1.14	45	P	Pb	20 20 57.4	-0.2
VVK				S	Sg	20 21 13.5	+0.6
PVO	Paravola	1.16	30	P	Pb	20 20 58.4	+0.6
PVO				S	Sg	20 21 14.2	+0.8
KLV	Kalavryta, Ach	1.16	68	P	Pn	20 20 57.6	-0.3
KLV				S	Sn	20 21 13.9	+0.3
	938nm,0.7s						
KLV	Kalavryta, Ach	1.16	68	P	Pn	20 20 57.6	-0.3
LKD2	Lefkada island	1.18	355	Pg	Pn	20 20 58.4	+0.3
LKD2				Sg	Sn	20 21 14.4	+0.4
LKD2				AML	AML	20 21 22.5	
	13nm,0.7s						
LKD2				AMd		20 22 46.6	
LKD2	Lefkada island	1.18	355	P	Pn	20 20 57.9	-0.2
LKD2				S	Sg	20 21 15.2	+1.2
	4μm,0.7s						
LKD2	Lefkada island	1.18	355	P	Pg	20 20 59.3	+0.6
EFP	Efpalio	1.20	47	P	Pn	20 20 58.0	-0.3
EFP				S	Sg	20 21 15.5	+0.9
	2μm,1.1s						
EFP	Efpalio	1.20	47	P	Pn	20 20 58.4	0.0
EFP				S	Sg	20 21 15.6	+0.9
TSLK	Tsoukalades, L	1.22	355	P	Pn	20 20 58.5	-0.1
TSLK				S	Sg	20 21 15.8	+0.7
	3μm,0.7s						
TSLK	Tsoukalades, L	1.22	355	P	Pn	20 20 58.9	+0.3
TSLK				S	Sg	20 21 17.4	+2.3
ALIK	Aliki, Aigiali	1.23	58	P	Pn	20 20 58.4	-0.3
GUR	Goura	1.27	75	P	Pn	20 20 58.2	-1.3
GUR				S	Sn	20 21 16.6	+0.1
	2μm,0.5s						
GUR	Goura	1.27	75	P	Pn	20 20 59.7	+0.2
GUR				S	Sg	20 21 17.4	+0.4
SERG	Sergoula	1.28	51	P	Pn	20 20 59.2	-0.3
SERG				S	Sn	20 21 17.3	+0.7
KALE	Kalithea	1.32	54	S	Sn	20 21 18.1	+0.5
	1μm,0.9s						
KALE	Kalithea	1.32	54	P	Pn	20 21 00.2	+0.1
ANX	Ano Chora	1.33	42	P	Pn	20 21 00.3	+0.1
ANX				S	Sn	20 21 18.4	+0.6
	3μm,0.8s						
ANX	Ano Chora	1.33	42	P	Pb	20 21 00.8	+0.1
ANX				S	Sg	20 21 19.0	+0.3
EVR	Evrytania	1.53	31	P	Pb	20 21 04.9	+0.7
EVR				S	Sb	20 21 23.9	+0.4
ART2	Arta	1.54	6	P	Pb	20 21 04.6	+0.3
DLFA	Delphi	1.60	57	P	Pb	20 21 05.4	+0.1
PRGA	Parga	1.70	350	P	Pb	20 21 06.4	-0.5
MAKR	Makrakomi, Fth	1.75	37	P	Pb	20 21 07.8	-0.2
TETR	Tetrakomo, Epi	1.77	12	P	Pb	20 21 08.1	-0.2
AXAR	Agios Charalam	1.87	51	P	Pb	20 21 10.8	+0.9
AXAR	Agios Charalam	1.87	51	P	Pb	20 21 09.5	-0.5
KRND	KRANIDI	1.89	96	P	Pb	20 21 11.1	+0.8
KRND	KRANIDI	1.89	96	P	Pb	20 21 09.3	-0.9
KRND	KRANIDI	1.89	96	P	Pb	20 21 11.8	+0.8
VLI	Veliai	1.94	117	P	Pb	20 21 10.1	-0.9
VLI	Veliai	1.94	117	P	Pb	20 21 11.9	-0.4
IGT	Igoumenitsa	1.95	350	Pn	Pb	20 21 39.4	+0.7
IGT				Sn	Sb	20 21 36.1	+0.7
IGT				AML	AML	20 21 48.8	
	1.1nm,0.5s						
IGT				AMd		20 23 21.4	
IGT	Igoumenitsa	1.95	350	P	Pb	20 21 10.7	-0.5
IGT	Igoumenitsa	1.95	350	P	Pb	20 21 10.7	-0.5
LKR	Lokris	2.03	59	P	Pb	20 21 11.8	-0.8
MET6	Megalochori,Me	2.04	90	P	Pn	20 21 11.4	+1.5
MET5	Makryloggos,Me	2.04	89

SCTE	**Santa Cesarea**	**3.05**	**324**	P	**Pn**	**20 21 24.7**	**+0.9**
OHR	**Ohrid**	**3.50**	**0**	*i* Pn	**Pn**	**20 21 33.3**	**+3.4**
TIP	**Timpagrande**	**3.53**	**298**	P	**Pn**	**20 21 31.9**	**+1.4**
MESG	**Mesagne**	**3.75**	**323**	P	**Pn**	**20 21 34.4**	**+1.1**
APE	**Apeiranthos**	**3.82**	**97**	P	**Pn**	**20 21 34.9**	**+0.5**
CEL	**Celeste**	**3.92**	**281**	P	**Pn**	**20 21 36.8**	**+0.9**
IDI	**Anoyia**	**4.04**	**124**	Pn	**Pn**	**20 21 39.2**	**+1.7**
	3.4nm,0.6s,baz=190,slow=11,SNR=0.9						
IDI				Sn	**Sn**	**20 22 25.9**	**+1.3**
	0.9nm,0.3s,baz=248,slow=20,SNR=5.7						
NOCI	**Noci**	**4.29**	**319**	Pn	**Pn**	**20 21 42.0**	**+1.1**
NOCI				Sn	**Sn**	**20 22 30.6**	**-0.2**
NOCI				AML	AML	20 23 19.3	
	0.7nm,0.6s						
NOCI				AMd		20 24 28.9	
DRME	**Dracevica, Mon**	**4.73**	**345**	*e*Pn	**Pn**	**20 21 47.7**	**+0.8**
PDG	**Podgorica**	**4.95**	**347**	*e*Pn	**Pn**	**20 21 50.2**	**+0.3**
VAE	**Valguarnera**	**5.07**	**270**	Pn	**Pn**	**20 21 54.2**	**+2.6**
	3.8nm,0.5s,baz=217,slow=2.9,SNR=5.3						
VAE				Sn	**Sn**	**20 22 49.4**	**-0.5**
	1.1nm,0.3s,baz=343,slow=23,SNR=2.5						
HCY	**Herceg Novi**	**5.14**	**341**	*e*Pn	**Pn**	**20 21 51.9**	**-0.6**
BRY	**Bratogost**	**5.56**	**343**	*e*Pn	**Pn**	**20 21 58.0**	**-0.3**
SJES	**Sjenica**	**5.68**	**354**	*e*Pn	**Pn**	**20 22 01.0**	**+1.0**
STON	**Ston**	**5.76**	**337**	*e*Pn	**Pn**	**20 22 00.4**	**-0.6**
UPM	**Unac-Piva**	**5.77**	**346**	*e*Pn	**Pn**	**20 22 02.1**	**+0.8**
RUDO	**Rudo**	**6.09**	**350**	*e*Pn	**Pn**	**20 22 07.7**	**+2.1**
BBLS	**Lazi&#263i**	**6.33**	**351**	*e*Pn	**Pn**	**20 22 13.7**	**+4.7**
HAPS	**Han Pijesak,BI**	**6.62**	**348**	*e*Pn	**Pn**	**20 22 14.2**	**+1.3**
A050A	**Klekovaca**	**7.58**	**336**	*e*Pn	**Pn**	**20 22 27.5**	**+1.5**
BLY	**Banja Luka**	**7.63**	**340**	*e*Pn	**Pn**	**20 22 28.8**	**+2.1**
A051A	**Mrakovica**	**7.95**	**340**	*e*Pn	**Pn**	**20 22 29.8**	**-1.3**
MLR	**Muntele Rosu**	**8.77**	**25**	Pn	**Pn**	**20 22 39.2**	**-3.2**
	baz=201,slow=17,SNR=1.3						
MLR				LR	LR	20 27 09.0	
	comp=Z,108nm,20.8s,baz=218,slow=47						
	1.0nm,0.5s						
BOJS	**Bojanci**	**8.91**	**334**	*e*Pn	**Pn**	**20 22 44.4**	**+0.2**
CEY	**Cerknica**	**9.41**	**332**	*e*Pn	**Pn**	**20 22 51.4**	**+0.3**
SOKA	**Soboth**	**10.01**	**337**	*e*Pn	**Pn**	**20 22 59.8**	**+0.4**
	2.5nm,0.6s						
SOKA				*e*Sn	**Sn**	**20 24 46.7**	**-4.9**
	1.1nm,0.6s						
OBKA	**Obir**	**10.02**	**334**	*e*Pn	**Pn**	**20 23 01.2**	**+1.6**
	2.3nm,0.4s						
OBKA				*e*Sn	**Sn**	**20 24 50.8**	**-1.1**
	3.9nm,0.5s						
OBKA	**Obir**	**10.02**	**334**	*e*Pn	**Pn**	**20 23 00.0**	**+0.4**
BRTR	**Keskin Array B**	**10.27**	**74**	Pn	**Pn**	**20 23 04.8**	**+1.8**
	0.1nm,0.3s,baz=256,slow=13,SNR=1.6						
	0.2nm,0.4s						
KBA	**Koelnbreinsper**	**10.94**	**332**	*e*Pn	**Pn**	**20 23 16.9**	**+4.7**
	0.7nm,0.4s						
KBA				*e*Sn	**Sn**	**20 25 11.3**	**-3.2**
	0.9nm,0.5s						
LESA	**Schwarzleotal**	**11.48**	**331**	*e*Pn	**Pn**	**20 23 21.3**	**+1.8**
	5.6nm,0.5s						
VRAC	**Vranov**	**12.08**	**347**	Sn	Sn	20 25 28.5	-14
	0.3nm,0.3s,baz=115,slow=10,SNR=1.7						
DAVOX	**Davos/Dischmat**	**12.21**	**322**	Sn	**Sn**	**20 25 40.4**	**-5.2**
	0.1nm,0.3s,baz=252,slow=10,SNR=2.0						
GERES	**GERESS Array B**	**12.35**	**338**	Pn	**Pn**	**20 23 30.3**	**-1.2**
	0.1nm,0.3s,baz=141,slow=14,SNR=1.5						
GERES				Sn	**Sn**	**20 25 42.9**	**-6.0**
	0.2nm,0.3s,baz=161,slow=25,SNR=2.4						
	0.3nm,0.5s						
EIL	**Elat**	**14.20**	**120**	LR	LR	20 30 01.2	
	comp=Z,19nm,19.1s,baz=249,slow=40						
AKASG	**Malin Array Be**	**14.40**	**22**	Pn	**Pn**	**20 23 56.5**	**-2.8**
	0.6nm,0.3s,baz=213,slow=10.0,SNR=1.7						
AKASG				LR	LR	20 30 19.9	
	comp=Z,62nm,19.0s,baz=238,slow=42						
	0.2nm,0.3s						
ESDC	**Sonseca Array**	**19.43**	**284**	P	**Pn**	**20 25 03.3**	**+0.1**
	0.1nm,0.3s,baz=79,slow=11,SNR=5.6						
	0.8nm,0.9s						
MDT	**Midelt**	**21.27**	**265**	P	**P**	**20 25 24.2**	**+2.2**
	1.3nm,0.7s,baz=61,slow=7.2,SNR=3.8						
	1.3nm,0.7s						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**20 25 38.1**	**-2.0**
	1.3nm,0.5s,baz=181,slow=10,SNR=2.3						
HFS				LR	LR	20 35 07.4	
	comp=Z,46nm,20.9s,baz=107,slow=38						
	1.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.01**	**325**	P	**P**	**20 25 50.8**	**+0.6**
	3.7nm,0.7s,baz=127,slow=9.1,SNR=8.4						
	3.7nm,0.7s						
FINES	**FINESS Array B**	**24.09**	**6**	P	**P**	**20 25 50.4**	**-0.3**
	2.1nm,0.8s,baz=186,slow=15,SNR=3.3						
	2.1nm,0.8s						
NB2	**NORSAR Subarra**	**24.21**	**349**	P	**P**	**20 25 52.0**	**0.0**
	comp=Z,1.3nm,0.8s,baz=149,slow=11						
NOA	**NORSAR Array B**	**24.21**	**349**	P	**P**	**20 25 52.1**	**0.0**
	comp=Z,0.9nm,0.8s,baz=151,slow=10,SNR=5.3						
NOA				LR	LR	20 36 21.1	
	comp=Z,16nm,18.7s,baz=260,slow=40						
	comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**32.08**	**3**	LR	LR	20 41 22.9	
	comp=Z,44nm,19.1s,baz=126,slow=39						
BVAR	**Borovoye Array**	**37.32**	**49**	P	**P**	**20 27 46.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=255,slow=4.3,SNR=3.2						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**42.40**	**53**	P	**P**	**20 28 28.5**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=270,slow=8.3,SNR=2.1						
	comp=Z,0.9nm,0.3s						
MKAR	**Makanchi Array**	**45.42**	**58**	P	**P**	**20 28 53.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=276,slow=7.8,SNR=8.2						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.91**	**48**	P	**P**	**20 28 57.2**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=277,slow=8.4,SNR=4.1						
	comp=Z,0.8nm,0.4s						
NRIK	**Noril'sk**	**47.21**	**26**	LR	LR	20 49 07.0	
	comp=Z,20nm,19.1s,baz=198,slow=36						
YAK	**Yakutsk**	**65.50**	**29**	LR	LR	21 00 49.8	
	comp=Z,23nm,19.1s,baz=210,slow=37						
CMAR	**Chiang Mai Arr**	**69.76**	**82**	P	**P**	**20 31 48.1**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=300,slow=3.2,SNR=1.7						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**73.99**	**340**	P	**P**	**20 32 11.4**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=32,slow=5.1,SNR=3.1						
	comp=Z,0.2nm,0.4s						
ULM	**Lac du Bonnet**	**76.28**	**324**	P	**P**	**20 32 25.2**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=43,slow=2.9,SNR=3.0						
	comp=Z,1.0nm,0.5s						

*SKHL **20** 20:25:53.5±0.3, 43.°60N×134.°20E, h439km±9km, mb4.3/7, msha3.9/2*
*IDC **20** 20:25:53.2±1.0, 43.°60N×134.°09E, h444km±13km, mb2.7/5, mbtmp3.6/11, Error ellipse: s-maj=25.6km s-min=14.5km az=54.0*
*JMA **20** 20:25:56.0±0.4, 43°N±2.°×13°5E±.°, h473km, MV3.5/34, NEAR VLADIVOSTOK*
ISC 20 20:25:52.7±0.8, **43.°51N**±0.°09×**134.°34E**±0.°07, **h450**km, **n37**, σ1§**78**/42, **mb3.1/5, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRTR	**Gornotajezhnoj**	**1.59**	**278**	*e*P	**P**	**20 26 50.3**	**-0.8**
USRK	**Ussuriysk Ar.**	**1.83**	**293**	P	**P**	**20 26 51.4**	**-0.8**
	2.2nm,0.5s,baz=102,slow=4.3,SNR=16						
TEY	**Ternei**	**2.23**	**46**	*e*P	**P**	**20 26 55.2**	**+0.9**
TEY				AMB	AMB	20 26 55.3	
	10.0nm,0.5s						
TEY				*e*S	**S**	**20 27 44.2**	**-0.4**
TEY				A	A	20 27 44.8	
	20nm,0.9s						
JSH	**Shimam**	**4.27**	**100**	*e*P	**P**	**20 27 11.4**	**+1.3**
JSK	**Shakotan**	**4.47**	**90**	*e*P	**P**	**20 27 13.8**	**+1.9**
JIW	**Iwasaki**	**5.13**	**123**	*e*P	**P**	**20 27 19.8**	**+1.5**
JKB	**Kayabe**	**5.19**	**106**	*e*P	**P**	**20 27 20.1**	**+1.3**
JHR	**Hokuryu**	**5.37**	**85**	P	**P**	**20 27 22.5**	**+2.0**
JOT	**Ohata**	**5.40**	**111**	*e*P	**P**	**20 27 21.7**	**+0.8**
JWK2	**Keihoku**	**5.71**	**69**	P	**P**	**20 27 26.4**	**+2.5**
KLR	**Kul'dur**	**6.00**	**344**	P	**P**	**20 27 25.6**	**-1.2**
	12nm,0.3s,baz=164,slow=11,SNR=79						
KLR	**Kul'dur**	**6.00**	**344**	*e*P	**P**	**20 27 25.5**	**-1.2**
KLR				AMB	AMB	20 27 26.5	
	10.0nm,0.3s						
ASAJ	**Asahikawa**	**6.01**	**81**	P	**P**	**20 27 28.9**	**+1.9**
	10nm,0.4s,baz=264,slow=6.0,SNR=46						
ASAJ	**Asahikawa**	**6.01**	**81**	*e*P	**P**	**20 27 28.9**	**+1.9**
ASAJ				AMB	AMB	20 27 30.0	
	10.0nm,0.4s						
JRG	**Rokugo**	**6.27**	**129**	*e*P	**P**	**20 27 31.0**	**+1.3**
JCH	**Churui**	**6.67**	**95**	P	**P**	**20 27 33.9**	**0.0**
JCH				*e*S	**S**	**20 28 52.3**	**-4.4**
JMK	**Ichinoseki**	**6.90**	**129**	*e*P	**P**	**20 27 36.5**	**+0.2**
JTKR	**Abashiri--Toko**	**6.95**	**83**	P	**P**	**20 27 38.2**	**+1.5**
MJAR	**Matsushiro Arr**	**7.57**	**156**	P	**P**	**20 27 46.3**	**+2.8**
	2.1nm,0.7s,baz=345,slow=8.6,SNR=4.2						
AKK	**Akkeshi**	**7.69**	**90**	*e*P	**P**	**20 27 47.0**	**+2.4**
AKK				*e*S	**S**	**20 29 15.2**	**-1.2**
KSRS	**Korea Array**	**7.77**	**221**	P	**P**	**20 27 45.7**	**0.0**
	1.1nm,0.6s,baz=47,slow=9.9,SNR=3.5						
JAG	**Ashikaga**	**8.09**	**149**	*e*P	**P**	**20 27 50.2**	**+1.1**
JWT	**Wachi**	**8.26**	**174**	*e*P	**P**	**20 27 53.6**	**+2.7**
JRY	**Ryogami san**	**8.27**	**153**	*e*P	**P**	**20 27 52.5**	**+1.4**
NMR	**Nemuro--Hokkai**	**8.29**	**87**	*e*P	**P**	**20 27 52.4**	**+1.3**
NMR				AMB	AMB	20 27 54.8	
	10.0nm,0.3s						
NMR				*e*S	**S**	**20 29 27.5**	**-0.9**
NEM2	**Nemuro 2**	**8.30**	**87**	*e*P	**P**	**20 27 51.9**	**+0.7**
JHO	**Hitachi**	**8.38**	**143**	*e*P	**P**	**20 27 53.0**	**+0.8**
JHO				*e*S	**S**	**20 29 26.1**	**-4.3**
JHS	**Saijyo**	**8.55**	**187**	P	**P**	**20 27 56.8**	**+2.7**
JOD2	**Odawara 2**	**9.02**	**154**	*e*P	**P**	**20 28 01.1**	**+1.9**
BSO1	**Boso 1**	**10.24**	**148**	*e*P	**P**	**20 28 12.5**	**+0.7**
JNU	**Nakatsue**	**10.72**	**196**	P	**P**	**20 28 18.9**	**+1.1**
	4.5nm,0.7s,baz=62,slow=1.2,SNR=5.8						
SONM	**Songino Array**	**19.95**	**292**	P	**P**	**20 29 52.7**	**-0.8**
	0.3nm,0.5s,baz=104,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**36.30**	**294**	P	**P**	**20 32 15.6**	**-0.9**
	0.2nm,0.5s,baz=82,slow=9.5,SNR=4.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**37.88**	**301**	P	**P**	**20 32 28.6**	**-0.7**
	0.9nm,0.6s,baz=79,slow=8.7,SNR=6.4						
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.84**	**241**	P	**P**	**20 32 37.5**	**-0.2**
	0.3nm,0.4s,baz=43,slow=9.2,SNR=2.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**63.14**	**180**	P	**P**	**20 35 36.6**	**+1.5**
	0.4nm,0.8s,baz=357,slow=6.8,SNR=5.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**66.84**	**180**	P	**P**	**20 36 00.5**	**+1.9**
	0.4nm,0.6s,baz=353,slow=6.9,SNR=8.2						
	0.4nm,0.6s						

*IDC **20** 20:30:16.6±3.0, 43.°16N×105.°25W, h0km, mb2.5/1, mbtmp3.0/3, ML2.0/1, Error ellipse: s-maj=57.5km s-min=10.9km az=154.0*
*NEIC **20** 20:30:18.9±0.7, 43.°64N±0.°04×105.°31W±0.°05, h0km±1km, ML3.4/60, Error ellipse: s-maj=8.8km s-min=3.1km az=224.0*
ISC 20 20:30:18.8±0.9, **43.°57N**±0.°05×**105.°52W**±0.°04, **h0**km, **n40**, σ1§**99**/39, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.18**	**219**		**Pg**	**20 30 42.0**	**+0.5**
RSSD	**Black Hills**	**1.20**	**62**	Pn	**Pg**	**20 30 41.8**	**0.0**
N23A	**Red Feather La**	**2.70**	**187**		**Pn**	**20 31 05.7**	**+2.0**
N23A				IAML		20 31 50.8	
	comp=N,83nm,0.8s						
PD31	**Pinedale Array**	**3.06**	**256**	Pn	**Pb**	**20 31 12.5**	**-1.9**
PDAR	**Pinedale Array**	**3.06**	**256**		**Pb**	**20 31 13.1**	**-1.3**
PDAR	**Pinedale Array**	**3.06**	**256**	Pn	**Pn**	**20 31 11.2**	**+2.4**
	comp=N,2.3nm,0.3s,baz=75,slow=16,SNR=25						
PDAR				Lg	Lg	20 31 56.1	
	comp=N,5.0nm,0.3s,baz=78,slow=29,SNR=3.2						
LAO	**LASA Array**	**3.15**	**351**	Pn	**Pn**	**20 31 07.3**	**-2.5**
LAO				IAML		20 32 16.8	
	comp=N,83nm,0.8s						
LAO				IAML		20 32 17.1	
	comp=N,84nm,1.1s						
YNE	**Yellowstone No**	**3.53**	**296**	Pn	**Pn**	**20 31 18.2**	**+3.1**
YNE				IAML		20 32 19.2	
	comp=N,49nm,0.8s						
YMP	**Mirror Lake Pl**	**3.54**	**291**		**Pn**	**20 31 18.6**	**+3.3**
YMP				IAML		20 32 19.8	
	comp=N,74nm,0.8s						
YMP				IAML		20 32 25.1	
	comp=E,82nm,0.9s						
OGNE	**Ogallala**	**3.69**	**134**	Pn	**Pn**	**20 31 17.9**	**+0.8**
OGNE				IAML		20 32 27.0	
	comp=E,100nm,1.4s						
OGNE				IAML		20 32 28.7	
	comp=E,85nm,1.4s						
LOHW	**Long Hollow**	**3.70**	**272**		**Pn**	**20 31 20.6**	**+3.2**
H17A	**Grant Village**	**3.74**	**284**		**Pn**	**20 31 21.1**	**+3.0**
H17A				IAML		20 32 26.7	
	comp=N,38nm,2.3s						
FLWY	**Flagg Ranch**	**3.79**	**280**		**Pg**	**20 31 30.4**	**-1.0**
FLWY				IAML		20 32 28.8	
	comp=N,108nm,2.3s						
FLWY				IAML		20 32 32.4	
	comp=N,48nm,1.9s						
MOOW	**Moose Ponds**	**3.80**	**274**		**Pn**	**20 31 19.0**	**+0.2**
SNOW	**Snow King Moun**	**3.81**	**270**	Pn	**Pn**	**20 31 18.8**	**-0.2**
SNOW				IAML		20 32 41.9	
	comp=N,76nm,2.4s						
SNOW				IAML		20 32 50.3	
	comp=N,74nm,1.9s						
YNR	**Norris Junctio**	**3.89**	**289**	Pn	**Pn**	**20 31 19.5**	**-0.5**
YNR				IAML		20 32 09.3	
	comp=N,34nm,0.1s						
YFT	**Old Faithful**	**3.94**	**285**	Pn	**Pn**	**20 31 21.0**	**+0.3**
YFT				IAML		20 32 39.0	
	comp=N,34nm,2.2s						
TPAW	**Teton Pass**	**3.95**	**271**		**Pn**	**20 31 23.9**	**+2.9**
TPAW				IAML		20 32 54.6	
	comp=N,48nm,1.1s						
O20A	**White River Ci**	**3.99**	**212**		**Pn**	**20 31 22.1**	**+0.6**
O20A				IAML		20 33 06.4	
	comp=E,64nm,2.1s						
O20A				IAML		20 33 12.7	
	comp=N,74nm,2.0s						
FXWY	**Fox Creek**	**4.00**	**273**		**Pn**	**20 31 25.3**	**+3.6**
YMR	**Madison River**	**4.07**	**287**		**Pn**	**20 31 23.2**	**+0.6**
YMR				IAML		20 32 04.7	
	comp=E,78nm,0.3s						
AHID	**Auburn Hatcher**	**4.16**	**261**		**Pn**	**20 31 25.3**	**+1.5**
YHB	**Horse Butte**	**4.25**	**288**		**Pn**	**20 31 24.7**	**-0.3**
RDMU	**Red Mountain**	**4.25**	**227**		**Pn**	**20 31 25.3**	**+0.3**
RDMU				IAML		20 32 44.2	
	comp=E,29nm,2.3s						
RDMU				IAML		20 32 48.0	
	comp=N,28nm,1.7s						
YHL	**Hebgen Lake**	**4.27**	**289**		**Pn**	**20 31 24.8**	**-0.5**
YHL				IAML		20 32 05.2	
	comp=N,74nm,0.2s						
BOZ	**Bozeman (W)**	**4.81**	**297**		**Pn**	**20 31 34.7**	**+2.0**
BOZ				IAML		20 33 12.2	
	comp=N,18nm,1.9s						
BOZ				IAML		20 33 51.0	
	comp=N,18nm,4.0s						
HWUT	**Hardware Ranch**	**4.88**	**248**		**Pn**	**20 31 34.4**	**+0.8**
HWUT				IAML		20 33 10.1	
	comp=N,27nm,2.0s						
HWUT				IAML		20 33 26.2	
	comp=N,26nm,2.9s						
BSUT	**Blindstream Ca**	**4.95**	**234**		**Pn**	**20 31 38.0**	**+3.3**
BSUT				IAML		20 33 11.8	
	comp=N,18nm,1.5s						
BSUT				IAML		20 33 12.3	
	comp=E,18nm,2.0s						
DGMT	**Dagmar**	**4.98**	**10**	Pg	**Pb**	**20 31 47.9**	**+1.0**
TCUT	**Toone Canyon**	**5.01**	**243**		**Pn**	**20 31 36.1**	**+0.6**
KSCO	**Kaye Shedlock'**	**5.05**	**154**		**Pn**	**20 31 35.8**	**-0.1**
P18A	**Preston Nutter**	**5.30**	**224**		**Pn**	**20 31 43.9**	**+4.4**
JLU	**Jordanelle**	**5.32**	**238**	Pn	**Pn**	**20 31 40.3**	**+0.5**
EGMT	**Eagleton**	**5.35**	**328**	Pn	**Pn**	**20 31 42.2**	**+2.2**
DLMT	**Dillon**	**5.37**	**292**		**Pn**	**20 31 40.7**	**+0.3**
PV15	**Paradox Valley**	**5.69**	**204**		**Pn**	**20 31 46.3**	**+1.5**
ECSD	**EROS Data Cent**	**6.46**	**86**		**Pn**	**20 31 53.1**	**-2.1**
I10CA	**LAC DU BONNET**	**9.28**	**41**	I	I	21 25 10.0	
	comp=E,0.1nm,1.4s,baz=225,slow=320,SNR=5.0						
ULM	**Lac du Bonnet**	**9.38**	**41**	Pn	**Pn**	**20 32 33.7**	**-1.5**
	comp=E,0.2nm,0.3s,baz=226,slow=13,SNR=1.9						
ULM				Lg	Lg	20 35 09.0	
	comp=E,0.2nm,0.3s,baz=319,slow=20,SNR=6.6						
	comp=E,0.6nm,0.3s						
YKA	**Yellowknife Ar**	**19.69**	**347**	P	**Pn**	**20 34 52.6**	**+1.9**
	comp=E,0.1nm,0.3s,baz=157,slow=11,SNR=4.1						
	comp=E,0.1nm,0.3s						

*IDC **20** 21:00:30.8±2.2, 6.°41S×130.°00E, h0km, mb3.3/1, mbtmp3.7/4, ML4.0/3, Error ellipse: s-maj=88.5km s-min=28.4km az=77.0*
ISC 20 21:00:45.4±1.2, **6.°98S**±0.°07×**129.°9E**±0.°1, **h150**km, **n12**, σ3§**17**/14, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.74**	**125**	P	**Pn**	**21 01 20.5**	**+2.9**
SAUI	**Saumlaki**	**1.74**	**125**	S	**Sn**	**21 01 44.9**	**+2.6**
FAKI	**Fak Fak**	**4.68**	**31**	P	**Pn**	**21 01 53.1**	**-1.5**
DRS	**Darwin Rock St**	**5.52**	**169**	P	**Pn**	**21 02 08.6**	**+2.9**
DRS	**Darwin Rock St**	**5.52**	**169**	S	**Sn**	**21 03 10.0**	**+1.5**
MTN	**Manton Dam**	**5.96**	**168**	P	**Pn**	**21 02 13.1**	**+1.4**
MTN	**Manton Dam**	**5.96**	**168**	S	**Sn**	**21 03 20.2**	**+1.0**
KDU	**Kakadu**	**6.23**	**156**	P	**Pn**	**21 02 16.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.79**	**200**	Pn	**Pn**	**21 03 27.6**	**-1.5**
	0.6nm,0.3s,baz=16,slow=8.0,SNR=27						
FITZ				Sn	Sn	21 05 29.7	-10
	1.0nm,0.3s,baz=151,slow=20,SNR=9.7						
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**13.60**	**162**	Pn	**Pn**	**21 03 52.0**	**-0.4**
	0.9nm,0.3s,baz=347,slow=13,SNR=33						
WRA				Sn	**Sn**	**21 06 16.1**	**-6.9**
	1.8nm,0.3s,baz=336,slow=22,SNR=12						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**17.04**	**167**	P	**Pn**	**21 04 37.8**	**+2.9**
	0.5nm,0.3s,baz=341,slow=9.6,SNR=13						
ASAR				S	**S**	**21 07 40.2**	**-4.2**
	0.7nm,0.4s,baz=346,slow=26,SNR=6.9						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**21 11 30.3**	**+1.1**
	0.1nm,0.4s,baz=112,slow=6.9,SNR=5.5						
	0.1nm,0.4s						

IDC 20 21:06:58.3±7.6, **19.°61S**×**176.°86W**, **h0**km, **mb3.4**/2, **mbtmp3.4**/2, **Error ellipse: s-maj=410.8km s-min=107.2km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.77**	**256**	P	P	21 15 21.7	-0.2
	0.5nm,0.6s,baz=91,slow=8.0,SNR=6.4						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**45.79**	**261**	P	P	21 15 22.1	0.0
	0.1nm,0.3s,baz=98,slow=7.8,SNR=7.8						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**142.74**	**332**	PKP	PKPdf	21 26 32.6	-0.8
	0.7nm,0.4s,baz=46,slow=4.5,SNR=7.4						

IDC 20 21:07:35.2±2.9, **57.°09N**×**111.°14W**, **h0**km, **mbtmp3.3**/2, **ML2.6**/2, **Error ellipse: s-maj=66.9km s-min=13.5km az=57.0, Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**5.70**	**344**	Pn	Pn	21 09 00.3	-0.7
	0.3nm,0.3s,baz=166,slow=14,SNR=12						
YKA				Sn	Sn	21 10 02.6	-4.5
	0.6nm,0.3s,baz=162,slow=23,SNR=8.7						
YKA				Lg	Lg	21 10 33.7	
	0.6nm,0.3s,baz=160,slow=28,SNR=5.5						
	0.4nm,0.4s						
I10CA	**LAC DU BONNET**	**11.30**	**121**	I	I	22 17 00.0	
	baz=316,slow=332,SNR=2.7						
ULM	**Lac du Bonnet**	**11.33**	**121**	Pn	Pn	21 10 14.6	-3.6
	0.3nm,0.3s,baz=304,slow=12,SNR=2.8						
	1.1nm,0.4s						

*IDC **20** 21:26:58.9±1.1, 44.°99N×106.°71W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=49.9km s-min=8.4km az=137.0*
*NEIC **20** 21:26:58.6±1.4, 45.°16N±0.°04×106.°94W±0.°05, h0km±1km, ML2.8/34, Error ellipse: s-maj=9.2km s-min=2.7km az=144.0*
ISC 20 21:26:57.6±0.9, **45.°17N**±0.°05×**106.°90W**±0.°04, **h0**km, **n20**, σ1§**36**/20, **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.59**	**17**		**Pg**	**21 27 29.3**	**+1.3**
RLMT	**Red Lodge**	**1.68**	**269**		**Pg**	**21 27 30.3**	**+0.7**
YNE	**Yellowstone No**	**2.21**	**267**	Pn	**Pb**	**21 27 37.9**	**-0.6**
YNE				IAML		21 28 12.2	
	comp=N,47nm,0.5s						
YNE				IAML		21 28 12.6	
	comp=E,49nm,0.5s						
RSSD	**Black Hills**	**2.30**	**116**	Pn	**Pb**	**21 27 40.0**	**0.0**
YMP	**Mirror Lake Pl**	**2.35**	**261**	Pn	**Pb**	**21 27 39.9**	**-1.1**
K22A	**Casper**	**2.54**	**174**	Pn	**Pb**	**21 27 43.4**	**-0.6**
K22A				IAML		21 28 21.1	
	comp=E,51nm,0.7s						
K22A				IAML		21 28 37.4	
	comp=N,56nm,1.0s						
YNR	**Norris Junctio**

PBEJ	**Beja**	**0.45 178**	⇓*e*Pg	**Pg**	**21 29 20.4 +0.8**
PBEJ			*e*Sg	**Sg**	**21 29 26.8 +0.9**
PBEJ			*i* AML	AML	21 29 27.1
PMTG	**Montargil**	**0.65 336**	⇓*i*Pg	**Pb**	**21 29 23.3 +0.2**
PMTG			*e*Sg	**Sb**	**21 29 31.6 -0.2**
PMTG			*i* AML	AML	21 29 33.4
PMTG			*i* AML	AML	21 29 33.6
PMTG			*i* AML	AML	21 29 33.9
MESJ	**Messejana**	**0.69 203**	*e*P	**Pb**	**21 29 24.7 +0.8**
MESJ			*e*S	**Sb**	**21 29 33.2 +0.1**
MESJ			IAML		21 29 34.7
	comp=N,381nm,0.2s				
MESJ	**Messejana**	**0.69 203**	*e*Pg	**Pb**	**21 29 24.8 +0.8**
MESJ			*e*Sg	**Sb**	**21 29 33.9 +0.8**
MESJ			*i* AML	AML	21 29 34.3
MESJ			*i* AML	AML	21 29 34.7
MESJ			*i* AML	AML	21 29 34.9
PBAR	**Barrancos**	**0.73 114**	*e*P	**Pb**	**21 29 25.2 +0.7**
PBAR			*e*S	**Sb**	**21 29 35.2 +1.1**
PBAR			*i* AML	AML	21 29 36.7
PBAR			*i* AML	AML	21 29 38.0
PBAR			*i* AML	AML	21 29 38.0
PBAR	**Barrancos**	**0.73 114**	Sg	**Sg**	**21 29 35.4 +0.9**
PBAR			Pg	**Pb**	**21 29 25.2 +0.7**
EBAD	**Badajoz**	**0.73 68**	Sg	**Sb**	**21 29 35.2 +0.8**
EBAD			Pg	**Pb**	**21 29 25.4 +0.8**
EBAD	**Badajoz**	**0.73 68**	Pg	**Pb**	**21 29 25.2 +0.5**
EBAD			Sg	**Sb**	**21 29 35.0 +0.6**
EBAD			*i* Vmb_Lg		21 29 36.5
PCVE	**Castro Verde**	**0.85 188**	⇑*e*P	**Pb**	**21 29 27.4 +0.7**
PCVE			*e*S	**Sb**	**21 29 38.8 +1.1**
PCVE			*i* AML	AML	21 29 39.1
PCVE			*i* AML	AML	21 29 39.6
PCVE			*i* AML	AML	21 29 40.0
PCVE	**Castro Verde**	**0.85 188**	Sg	**Sb**	**21 29 38.2 +0.4**
PCVE			Pg	**Pb**	**21 29 27.6 +0.9**
PSINE	**Sines**	**0.93 236**	*e*P	**Pb**	**21 29 29.2 +1.2**
PSINE			*e*S	**Sg**	**21 29 41.7 +0.9**
PSINE			*i* AML	AML	21 29 42.4
PSINE			*i* AML	AML	21 29 42.6
EGRO	**El Granado**	**0.99 161**	Sn	**Sb**	**21 29 42.3 +0.4**
EGRO			Pn	**Pb**	**21 29 30.2 +1.2**
EGRO	**El Granado**	**0.99 161**	Pg	**Pb**	**21 29 30.0 +1.0**
EGRO			Sg	**Sb**	**21 29 42.0 +0.2**
EGRO			*i* Vmb_Lg		21 29 46.5
LIS	**Lisbon**	**1.02 284**	*e*S	**Sb**	**21 29 41.9 -0.7**
LIS			IAML		21 29 45.2
	comp=N,191nm,0.3s				
LIS	**Lisbon**	**1.02 284**	*e*S	**Sb**	**21 29 44.1 +1.5**
LIS			*i* AML	AML	21 29 44.5
LIS			*i* AML	AML	21 29 45.6
LIS			*i* AML	AML	21 29 45.7
PMRV	**Marv??o**	**1.02 22**	*e*P	**Pb**	**21 29 29.7 +0.1**
PMRV			*e*S	**Sb**	**21 29 43.0 +0.4**
PMRV			*i* AML	AML	21 29 43.4
PMRV			*i* AML	AML	21 29 43.4
PMRV			*i* AML	AML	21 29 43.4
PVAQ	**Vaqueiros**	**1.08 173**	*e*P	**Pb**	**21 29 30.8 +0.2**
PVAQ			*i* AML	AML	21 29 47.0
PVAQ	**Vaqueiros**	**1.08 173**	Pn	**Pb**	**21 29 30.8 +0.2**
PTEO	**Sao Teotonio**	**1.15 216**	⇑*e*Pn	**Pn**	**21 29 31.1 -0.4**
PTEO			*e*Pg	**Pb**	**21 29 32.5 +0.9**
PTEO			*e*Sg	**Sb**	**21 29 46.9 +0.8**
PTEO			*i* AML	AML	21 29 48.8
PTEO			*i* AML	AML	21 29 49.3
PTEO			*i* AML	AML	21 29 54.3
EMIN	**Mina Concepcio**	**1.19 126**	Pn	**Pn**	**21 29 33.1 +1.0**
EMIN			Sn	**Sn**	**21 29 49.2 +1.4**
EMIN	**Mina Concepcio**	**1.19 126**	Pg	**Pn**	**21 29 32.2 +0.1**
EMIN			Sg	**Sb**	**21 29 48.7 +1.2**
EMIN			*i* Vmb_Lg		21 29 50.6
PMAFR	**Mafra**	**1.19 294**	⇓*e*Pn	**Pn**	**21 29 31.6 -0.6**
PMAFR			*e*Pg	**Pb**	**21 29 32.8 +0.3**
PMAFR			*e*Sg	**Sb**	**21 29 48.3 +0.7**
PMAFR			*i* AML	AML	21 29 49.4
PMAFR			*i* AML	AML	21 29 49.5
PMAFR			*i* AML	AML	21 29 49.5
PMAFR	**Mafra**	**1.19 294**	Sn	**Sb**	**21 29 48.3 +0.7**
PMAFR			Pn	**Pn**	**21 29 31.6 -0.6**
PBDV	**Barranco-do-Ve**	**1.23 182**	*e*Pn	**Pn**	**21 29 33.2 +0.5**
PBDV			*e*Pg	**Pb**	**21 29 34.4 +1.2**
PBDV			*e*Sg	**Sn**	**21 29 50.1 +1.1**
PBDV			*i* AML	AML	21 29 51.8
PBDV			*i* AML	AML	21 29 53.4
PBDV			*i* AML	AML	21 29 53.7
PSBE	**So Bento**	**1.25 326**	*e*Pn	**Pn**	**21 29 32.7 -0.3**
PSBE			*e*Pg	**Pb**	**21 29 34.1 +0.5**
MORF	**Marmelete**	**1.32 208**	*e*P	**Pn**	**21 29 33.5 -0.4**
MORF			*e*Sg	**Sn**	**21 29 51.3 +0.2**
MORF			IAML		21 29 54.6
	comp=N,127nm,0.2s				
MORF	**Marmelete**	**1.32 208**	⇑*e*Pn	**Pn**	**21 29 33.5 -0.4**
MORF			*e*Pg	**Pb**	**21 29 36.2 +1.6**
MORF			*e*Sn	**Sn**	**21 29 51.1 0.0**
MORF			*e*Sg	**Sb**	**21 29 53.3 +2.0**
MORF			*i* AML	AML	21 29 54.0
MORF			*i* AML	AML	21 29 54.8
MORF			*i* AML	AML	21 29 55.6
PALJ	**Aljezur**	**1.37 212**	*e*Sg	**Sg**	**21 29 55.5 +0.9**
PCBR	**Castelo Branco**	**1.40 13**	*e*Pn	**Pn**	**21 29 34.8 -0.1**
PCBR			*e*Pg	**Pb**	**21 29 36.3 +0.4**
PCBR			*e*Sn	**Sn**	**21 29 51.6 -1.3**
PCBR			*e*Sg	**Sb**	**21 29 53.8 +0.4**
PCBR			*i* AML	AML	21 29 54.4
PCBR			*i* AML	AML	21 29 54.5
PCBR			*i* AML	AML	21 29 55.0
PALBU	**Albufeira**	**1.41 192**	*e*Sg	**Sg**	**21 29 56.9 +0.9**
PFARO	**Faro**	**1.45 181**	*e*Sg	**Sb**	**21 29 57.2 +2.2**
PLAGO	**Lagos**	**1.52 205**	*e*Sg	**Sg**	**21 30 00.3 +0.7**
PFVI	**Vila Bisbo**	**1.54 209**	*e*Pn	**Pn**	**21 29 36.4 -0.5**
PFVI			*e*Pg	**Pg**	**21 29 41.1 +1.0**
PFVI			*e*Sn	**Sn**	**21 29 55.1 -1.3**
PFVI			*e*Sg	**Sb**	**21 29 58.8 +1.3**
PFVI			*i* AML	AML	21 30 01.2
PFVI			*i* AML	AML	21 30 01.8
PFVI			*i* AML	AML	21 30 06.7
PFVI	**Vila Bisbo**	**1.54 209**	Sn	**Sb**	**21 29 58.8 +1.3**
PFVI			Pn	**Pn**	**21 29 36.3 -0.6**
PCAS	**Casmilo, Conde**	**1.64 343**	*e*Pn	**Pn**	**21 29 38.2 -0.2**
PCAS			*e*Pg	**Pb**	**21 29 40.9 +0.7**
PCAS			*e*Sg	**Sb**	**21 30 01.9 +1.4**
PCAS			*i* AML	AML	21 30 04.5
PCAS			*i* AML	AML	21 30 06.1
PCAS			*i* AML	AML	21 30 06.3
COI	**Coimbra**	**1.77 347**	*e*Sg	**Sb**	**21 30 06.3 +2.0**
MTE	**Manteigas**	**1.94 8**	*e*Pg	**Pb**	**21 29 46.0 +0.8**
MTE			*e*Sn	**Sn**	**21 30 04.2 -2.2**
MTE			*e*Sg	**Sb**	**21 30 09.9 +0.9**
MTE			*i* AML	AML	21 30 15.3
MTE			*i* AML	AML	21 30 15.5
MTE			*i* AML	AML	21 30 16.7
ECAB	**El Cabril**	**1.98 101**	Pn	**Pn**	**21 29 43.8 +0.8**
ECAB			Sn	**Sn**	**21 30 09.8 +2.4**
ECAB	**El Cabril**	**1.98 101**	Pn	**Pn**	**21 29 43.6 +0.6**
ECAB			Pg	**Pb**	**21 29 46.8 +0.9**
ECAB			Sn	**Sn**	**21 30 06.0 -1.4**
ECAB			Sg	**Sg**	**21 30 13.6 -0.6**
ECAB			*i* Vmb_Lg		21 30 16.2
EXCBR	**El Cabril**	**1.98 101**	Pn	**Pn**	**21 29 43.1 0.0**
EXCBR			Pg	**Pb**	**21 29 47.1 +1.1**
EXCBR			Sn	**Sn**	**21 30 05.8 -1.7**
EXCBR			Sg	**Sb**	**21 30 13.3 +3.0**
EPLA	**Plasencia**	**2.11 41**	Pn	**Pn**	**21 29 44.7 -0.1**
EPLA			Sn	**Sn**	**21 30 09.6 -1.0**
EPLA			Sg	**Sb**	**21 30 16.6 +2.6**
EPLA			*i* Vmb_Lg		21 30 20.7
PVIS	**Viseu**	**2.23 360**	*e*Pn	**Pn**	**21 29 46.3 -0.2**
PVIS			*e*Sg	**Sb**	**21 30 20.4 +2.8**
ESPR	**Espera**	**2.27 134**	Pg	**Pg**	**21 29 54.2 +0.1**
ESPR	**Espera**	**2.27 134**	Pn	**Pn**	**21 29 46.7 -0.4**
ESPR			Sn	**Sn**	**21 30 12.5 -2.0**
ESPR			Sg	**Sb**	**21 30 21.2 +2.5**
ESPR			*i* Vmb_Lg		21 30 31.8
EADA	**Adamuz**	**2.62 96**	Pn	**Pn**	**21 29 51.2 -0.6**
EADA			Sn	**Sn**	**21 30 24.4 +1.3**
EADA	**Adamuz**	**2.62 96**	Pn	**Pn**	**21 29 52.5 +0.7**
EADA			Sn	**Sn**	**21 30 21.4 -1.7**
EADA			Sg	**Sg**	**21 30 33.0 -1.6**
EADA			*i* Vmb_Lg		21 30 38.7
MVO	**Moncorvo**	**2.76 14**	*e*Pn	**Pn**	**21 29 53.9 +0.1**
MVO			*e*Pg	**Pb**	**21 30 01.9 +2.6**
MVO			*e*Sn	**Sn**	**21 30 24.6 -2.1**
MVO			*e*Sg	**Sb**	**21 30 36.1 +3.3**
MVO			*i* AML	AML	21 30 39.4
MVO			*i* AML	AML	21 30 41.1
MVO			*i* AML	AML	21 30 46.9
EJIF	**Jimena Fronter**	**2.79 136**	Pn	**Pn**	**21 29 53.7 -0.5**
EJIF			Sn	**Sn**	**21 30 25.7 -1.6**
EJIF			Sg	**Sb**	**21 30 36.1 +2.5**
PVRL	**Vila Real**	**2.80 3**	*e*Pn	**Pn**	**21 29 54.2 0.0**
PVRL			*e*Sn	**Sn**	**21 30 26.2 -1.3**
PVRL			*e*Sg	**Sb**	**21 30 36.5 +2.8**
PVRL			*i* AML	AML	21 30 40.8
PVRL			*i* AML	AML	21 30 41.1
PVRL			*i* AML	AML	21 30 45.3
POLO	**Lamas de Olo**	**2.89 1**	*e*Pn	**Pn**	**21 29 55.2 -0.4**
POLO			*e*Sn	**Sn**	**21 30 27.2 -2.7**
POLO			*e*Sg	**Sg**	**21 30 41.6 -1.8**
POLO			*i* AML	AML	21 30 46.0
PAB	**San Pablo**	**2.95 68**	Pn	**Pn**	**21 29 56.7 +0.2**
PAB			Pg	**Pb**	**21 30 03.4 +0.9**
PAB			Sn	**Sn**	**21 30 30.3 -1.1**
PAB			Sg	**Sb**	**21 30 41.9 +3.7**
PAB			*i* Vmb_Lg		21 30 47.5
EJUZ	**Juzbado, Salam**	**3.02 30**	Pn	**Pn**	**21 29 57.3 -0.1**
EJUZ			Sn	**Sn**	**21 30 31.2 -2.0**
EJUZ			Sg	**Sb**	**21 30 43.8 +3.6**
PCAB	**Cabril**	**3.23 358**	*e*Pn	**Pn**	**21 29 59.7 -0.5**
PCAB			*e*Sn	**Sn**	**21 30 34.9 -3.3**
PCAB			*e*Sg	**Sg**	**21 30 52.7 -1.4**
PCAB			*i* AML	AML	21 30 55.4
PCAB			*i* AML	AML	21 30 56.7
PCAB			*i* AML	AML	21 30 57.9
PSIM	**Granatula de C**	**3.25 83**	Pn	**Pn**	**21 30 00.1 -0.4**
PSIM			Sn	**Sn**	**21 30 36.6 -2.1**
PSIM			Sg	**Sb**	**21 30 51.7 +4.9**
ESDC	**Sonseca Array**	**3.27 67**	Pn	**Pn**	**21 30 00.3 -0.5**
ESDC			Sn	**Sn**	**21 30 37.5 -1.9**
ESDC			Sg	**Sb**	**21 30 52.4 +4.8**
ESBB	**Sonseca Array**	**3.28 67**	Pn	**Pn**	**21 30 00.7 -0.2**
ESBB			Sn	**Sn**	**21 30 37.5 -1.9**
ESBB			Sg	**Sb**	**21 30 51.9 +4.3**
EGOR	**Sierra Gorda,**	**3.29 113**	Pn	**Pn**	**21 30 00.7 -0.4**
EGOR			Sn	**Sn**	**21 30 37.5 -2.3**
EGOR			Sg	**Sg**	**21 30 53.5 -2.5**
EGOR			*i* Vmb_Lg		21 31 01.9
ELOB	**Lobios**	**3.39 358**	Pn	**Pn**	**21 30 01.7 -0.7**
ELOB			Sn	**Sn**	**21 30 38.9 -3.3**
ELOB			Sg	**Sb**	**21 30 55.4 +4.7**
ELOB			*i* Vmb_Lg		21 31 01.6
PBRG	**Braganca**	**3.44 14**	*e*Pn	**Pn**	**21 30 03.4 +0.4**
PBRG			*e*Sn	**Sn**	**21 30 40.6 -2.7**
PBRG			*e*Sg	**Sg**	**21 30 58.6 -2.2**
PBRG			*i* AML	AML	21 31 03.5
PBRG			*i* AML	AML	21 31 03.6
PBRG			*i* AML	AML	21 31 04.1
PGAV	**Gavieira, Arco**	**3.49 355**	*e*Pn	**Pn**	**21 30 03.5 -0.4**
PGAV			*e*Sn	**Sn**	**21 30 41.7 -3.1**
PGAV			*e*Sg	**Sb**	**21 30 59.0 +5.1**
PGAV			*i* AML	AML	21 31 04.8
PGAV			*i* AML	AML	21 31 07.1
PGAV			*i* AML	AML	21 31 08.8
E0803	**Jimena (Jaen)**	**3.54 99**	Pn	**Pn**	**21 30 03.7 -0.7**
E0803			Sn	**Sn**	**21 30 43.3 -2.5**
E0803			Sg	**Sb**	**21 31 00.2 +5.1**
E0802	**Ubeda,Jaen**	**3.58 96**	Pn	**Pn**	**21 30 05.6 +0.6**
E0802			Sn	**Sn**	**21 30 44.6 -2.2**
E0802			Sg	**Sg**	**21 31 02.2 -3.1**
GUD	**Guadarrama**	**3.60 52**	Pn	**Pn**	**21 30 04.9 -0.5**
GUD			Sn	**Sn**	**21 30 45.7 -1.8**
GUD			*i* Vmb_Lg		21 31 10.2
ELGU	**Los Guajares,**	**3.74 114**	Pn	**Pn**	**21 30 08.0 +0.8**
ELGU			Sn	**Sn**	**21 30 48.4 -2.5**
ELGU			Sg	**Sg**	**21 31 07.0 -3.6**
ELGU			*i* Vmb_Lg		21 31 23.6
EQUE	**Quentar**	**3.74 109**	Pn	**Pn**	**21 30 07.7 +0.4**
EQUE			Sn	**Sn**	**21 30 48.4 -2.5**
EQUE			Sg	**Sg**	**21 31 10.6 +0.1**
EQUE			*i* Vmb_Lg		21 31 21.5
UCM	**Universidad Co**	**4.03 62**	Pn	**Pn**	**21 30 11.2 0.0**
UCM			Sn	**Sn**	**21 30 56.9 -1.1**
EAGO	**Agolada(Pontev**	**4.32 358**	Pn	**Pn**	**21 30 14.8 -0.4**
EAGO			Sn	**Sn**	**21 30 59.8 -5.3**
EAGO			Sg	**Sb**	**21 31 24.1 +6.5**
EAGO			*i* Vmb_Lg		21 31 43.2
EPON	**Pontenova**	**4.87 6**	Pn	**Pn**	**21 30 22.7 -0.1**
EPON			Sn	**Sn**	**21 31 15.8 -2.9**
EPON			Sg	**Sg**	**21 31 44.3 -2.6**
EPON			*i* Vmb_Lg		21 31 53.9
EZAR	**Zarzadilla de**	**4.91 95**	Pn	**Pn**	**21 30 23.3 -0.1**
EZAR			Sn	**Sn**	**21 31 18.6 -1.2**
EZAR			Sg	**Sg**	**21 31 46.2 -2.0**
EZAR			*i* Vmb_Lg		21 31 55.7
ETOR	**Torete**	**5.07 61**	Pn	**Pn**	**21 30 25.0 -0.5**
ETOR			Sn	**Sn**	**21 31 19.7 -3.9**
ETOR			Sg	**Sg**	**21 31 50.5 -2.6**
ZHG	**ZHG**	**5.12 168**	P	**Pn**	**21 30 27.7 +1.4**
ZHG	**ZHG**	**5.12 168**	S	**Sn**	**21 31 18.1 -6.8**
EVIV	**Cofrentes, Val**	**5.34 79**	Pn	**Pn**	**21 30 28.6 -0.6**
EVIV			Sn	**Sn**	**21 31 26.7 -3.4**
EVIV			Sg	**Sg**	**21 31 59.7 -2.0**
EVIV			*i* Vmb_Lg		21 32 06.9
ECHE	**Chera**	**5.50 76**	Pn	**Pn**	**21 30 30.3 -1.1**
ECHE			Sn	**Sn**	**21 31 30.1 -4.0**
ECHE			Sg	**Sg**	**21 32 05.5 -1.3**
ECHE			*i* Vmb_Lg		21 32 16.7
MD31	**MD31**	**6.15 155**	P	**Pn**	**21 30 40.3 -0.1**
MD31	**MD31**	**6.15 155**	S	**Sn**	**21 31 45.5 -4.8**
MDT	**Midelt**	**6.25 154**	P	**Pn**	**21 30 41.9 +0.1**
MDT	**Midelt**	**6.25 154**	S	**Sn**	**21 31 47.4 -5.3**
TIO	**Tiouine**	**7.55 176**	P	**Pn**	**21 30 58.9 -0.8**
TIO	**Tiouine**	**7.55 176**	S	Sn	21 32 14.2 -11
OUZM	**OUZ**	**7.61 173**	P	**Pn**	**21 31 00.4 -0.1**
OUZM	**OUZ**	**7.61 173**	S	**Sn**	**21 32 18.7 -7.6**
TTIG	**Tnine Tigouga,**	**7.93 183**	P	**Pn**	**21 31 03.0 -1.8**
TTIG	**Tnine Tigouga,**	**7.93 183**	S	Sn	21 32 24.2 -10

*SOME **20** 21:37:06.3, 40°.82N×78°.43E, h15km*
*NNC **20** 21:37:06.1±1.3, 40°.80N×78°.40E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=8.6km s-min=6.2km az=169.0
*KRNET **20** 21:37:07.1±0.1, 40°.83N×78°.39E, mb2.7*
ISC 20 21:37:08.3±2.9, 40°.6N±0°.1×78°.30E±0°.07, h6km±13km, n39, σ2§53/57, 16C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.75**	**331**	⇑*i*P	**Pn**	**21 37 36.5**	**-2.8**
KDJ				⇑*i*S	**Sn**	**21 37 58.4**	**-3.6**
PRZ	**Przheval'sk**	**1.89**	**2**	⇓*e*P	**Pn**	**21 37 38.4**	**-2.8**
PRZ				⇓*e*S	**Sn**	**21 38 00.9**	**-4.5**
ANVS	**Anan'yevo**	**2.23**	**348**	⇑*i*P	**Pn**	**21 37 44.7**	**-1.3**
ANVS				⇑*i*S	**Sn**	**21 38 11.6**	**-2.4**
ULHL	**Ulahol**	**2.26**	**317**	⇑*i*P	**Pn**	**21 37 45.9**	**-0.5**
ULHL				⇑*i*S	**Sn**	**21 38 14.2**	**-0.5**
SATY	**Saty**	**2.46**	**2**	Pg	**Pn**	**21 37 49.1**	**0.0**
	9.7nm,0.4s						
SATY				Lg	Lg	21 38 19.6	
	40nm,0.5s						
BOOM	**Boomskoye usch**	**2.59**	**318**	⇑*i*P	**Pn**	**21 37 50.5**	**-0.4**
BOOM				⇑*i*S	**Sn**	**21 38 22.1**	**-0.7**
TNSS	**Tian-Shan**	**2.64**	**338**	Pg	**Pn**	**21 37 52.4**	**+0.6**
	17nm,0.1s						
TNSS				Lg	Lg	21 38 26.1	
	13nm,0.4s						
TNSS	**Tian-Shan**	**2.64**	**338**	*e*P	**Pn**	**21 37 52.4**	**+0.6**
	17nm,0.1s						
TNSS				*e*S	**Sn**	**21 38 25.4**	**+1.1**
	14nm,0.4s						
SHLS	**Shalkode**	**2.70**	**18**	Pg	**Pn**	**21 37 53.5**	**+1.1**
	3.2nm,0.3s						
SHLS				Lg	Lg	21 38 27.8	
	51nm,0.4s						
SHLS	**Shalkode**	**2.70**	**18**	*e*P	**Pn**	**21 37 53.1**	**+0.8**
	2.4nm,0.2s						
SHLS				*e*S	**Sn**	**21 38 26.7**	**+1.3**
	51nm,0.4s						
MDOK	**Medeo**	**2.73**	**340**	Pg	**Pn**	**21 37 52.6**	**-0.2**
	11nm,0.6s						
MDOK				Pg	**Pb**	**21 37 53.8**	**-3.8**
	12nm,0.1s						
MDOK				Lg	Lg	21 38 28.0	
	19nm,0.7s						
MDOK				Lg	Lg	21 38 28.6	
	22nm,0.4s						
MDOK	**Medeo**	**2.73**	**340**	*e*P	**Pn**	**21 37 53.2**	**+0.4**
	12nm,0.1s						
MDOK				*e*S	**Sn**	**21 38 26.7**	**+0.5**
	22nm,0.4s						
IZV	**Izvestkoviy**	**2.74**	**333**	Pg	**Pn**	**21 37 54.2**	**+1.1**
	5.2nm,0.3s						
IZV				Lg	Lg	21 38 29.5	
	22nm,0.3s						
IZV	**Izvestkoviy**	**2.74**	**333**	*e*P	**Pn**	**21 37 54.1**	**+1.1**
	3.1nm,0.1s						
IZV				*e*S	**Sn**	**21 38 28.3**	**+1.7**
	6.5nm,0.1s						
KOTS	**Kotyrbulak**	**2.78**	**342**	Pg	**Pn**	**21 37 55.1**	**+1.6**
	19nm,0.2s						
KOTS				Lg	Lg	21 38 30.8	
	27nm,0.3s						
KOTS	**Kotyrbulak**	**2.78**	**342**	*e*P	**Pn**	**21 37 54.3**	**+0.9**
	19nm,0.2s						
KOTS				*e*S	**Sn**	**21 38 28.6**	**+1.2**
	35nm,0.5s						
KNDC	**Almaty**	**2.80**	**340**	⇑Pg	**Pn**	**21 37 53.4**	**-0.3**
	18nm,0.8s						
KNDC				⇑Lg	Lg	21 38 30.6	
	33nm,0.7s						
PDGK	**Podgornoye**	**2.87**	**18**	⇑Pg	**Pn**	**21 37 52.6**	**-2.1**
	3.3nm,0.4s						
PDGK				⇓Lg	Lg	21 38 27.7	
	25nm,0.9s						
KPKS	**Kokpek**	**2.88**	**6**	Pg	**Pn**	**21 37 55.8**	**+1.0**
	7.0nm,0.2s						
KPKS				Lg	Lg	21 38 31.8	
	34nm,0.3s						
KPKS	**Kokpek**	**2.88**	**6**	*e*P	**Pn**	**21 37 55.1**	**+0.3**
	4.9nm,0.2s						
KPKS				*e*S	**Sn**	**21 38 30.1**	**+0.3**
	35nm,0.5s						
KPKS	**Kokpek**	**2.88**	**6**	*e*P	**Pg**	**21 38 03.6**	**+0.1**
	3.4nm,0.3s						
KPKS				*e*S	**Sg**	**21 38 45.0**	**+4.2**
	14nm,0.4s						
KURS	**Kuram**	**2.89**	**358**	Pg	**Pn**	**21 37 56.2**	**+1.3**
	9.9nm,0.6s						
KURS				Lg	Lg	21 38 31.9	
	12nm,0.5s						
MTBS	**Maitube**	**2.89**	**332**	Pg	**Pn**	**21 37 56.4**	**+1.5**
	5.3nm,0.2s						
MTBS				Lg	Lg	21 38 33.2	
	10nm,0.3s						
MTBS	**Maitube**	**2.89**	**332**	*e*P	**Pn**	**21 37 56.4**	**+1.5**
	5.3nm,0.1s						
MTBS				*e*S	**Sn**	**21 38 32.1**	**+2.1**
	14nm,0.5s						
KST	**Kastek**	**3.00**	**325**	Pg	**Pn**	**21 37 58.9**	**+2.4**
	5.6nm,0.5s						
KST				Lg	Lg	21 38 37.7	
	16nm,0.6s						
KST	**Kastek**	**3.00**	**325**	*e*P	**Pn**	**21 37 58.9**	**+2.4**
	2.9nm,0.2s						
KST				*e*S	**Sn**	**21 38 36.7**	**+3.8**
	10nm,0.4s						
TKM2	**Tokmak 2**	**3.08**	**320**	⇑Pg	**Pn**	**21 38 00.4**	**+2.8**
	2.3nm,0.3s						
TKM2				⇓Lg	Lg	21 38 39.9	
	9.4nm,0.8s						
TKM2	**Tokmak 2**	**3.08**	**320**	⇑*i*P	**Pn**	**21 37 57.2**	**-0.4**
TKM2				⇑*i*S	**Sn**	**21 38 33.5**	**-1.4**
DGS	**Degeres**	**3.25**	**325**	Pg	**Pn**	**21 38 03.6**	**+3.7**
	3.4nm,0.3s						
DGS				Lg	Lg	21 38 45.0	
	14nm,0.4s						
ARLS	**Aral**	**3.26**	**294**	⇑*e*P	**Pn**	**21 38 01.3**	**+1.3**
ARLS				⇑*e*S	**Sn**	**21 38 40.4**	**+1.2**
KTBS	**Karatobe**	**3.34**	**339**	Pg	**Pn**	**21 38 04.0**	**+3.0**
	4.0nm,0.3s						
KTBS				Lg	Lg	21 38 45.3	
	8.3nm,0.3s						
BLB	**Baldybastay**	**3.50**	**2**	Pg	**Pb**	**21 38 07.6**	**-3.1**
	15nm,0.3s						
BLB				Lg	Lg	21 38 51.2	
	8.0nm,0.3s						
AAK	**Ala-Archa**	**3.51**	**307**	Pg	**Pn**	**21 38 07.2**	**+3.7**
	2.0nm,0.7s						
AAK				Lg	Lg	21 38 53.4	
	7.1nm,1.1s						
ARXS	**Arharly**	**3.63**	**355**	Pg	**Pn**	**21 38 09.2**	**+4.1**
	0.4nm,0.1s						
ARXS				Lg	Lg	21 38 54.9	
	8.1nm,0.4s						
KRBS	**Karabastau**	**3.66**	**329**	Pg	**Pn**	**21 38 10.1**	**+4.6**
	1.4nm,0.3s						
KRBS				Lg	Lg	21 38 55.8	
	3.2nm,0.5s						
KNOS	**Konyrlen**	**3.81**	**9**	Pg	**Pb**	**21 38 12.4**	**-3.6**
	1.4nm,0.4s						
KNOS				Lg	Lg	21 39 00.1	
	9.3nm,0.2s						
DJR	**Jarkent**	**3.89**	**16**	Pg	**Pn**	**21 38 12.8**	**+4.2**
	1.1nm,0.3s						
DJR				Lg	Lg	21 39 00.3	
	3.6nm,0.4s						
DJR	**Jarkent**	**3.89**	**16**	*e*P	**Pn**	**21 38 12.8**	**+4.2**
	1.1nm,0.3s						
DJR				*e*S	**Sn**	**21 39 00.3**	**+5.6**
	3.6nm,0.4s						
KAPS	**Kapalarasan**	**4.75**	**9**	Pg	**Pb**	**21 38 28.1**	**-3.8**
	0.6nm,0.1s						
KAPS				Lg	Lg	21 39 26.6	
	4.4nm,0.5s						

*CNRM **20** 21:43:46.8, 36°.10N×3°.09W, h62km, ML1.9*
*MDD **20** 21:44:04.3±0.9, 35°.72N×4°.63W, h84km±22km, Mb2.4/11,*
Error ellipse: s-maj=6.0km s-min=4.3km az=111.0
INMG 20 21:44:05.8±0.8, 35°.68N×4°.71W, h42km, ML1.6, 8C, Error ellipse: s-maj=3.8km s-min=2.5km az=84.0.
#DIST_RANGE: REGIONAL #IPMA_REGION: Alboran, Strait of Gibraltar

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

PSIM	Granatula de C	3.23	13	P	Pn	21 44 51.2	-2.8
PSIM				S	Sn	21 45 26.3	-5.0
EBAD	Badajoz	3.58	330	P	Pn	21 44 58.0	-0.8
EBAD				⇑*i*Vmb_V		21 44 59.1	
	80nm,SNR=0.8						
EBAD				S	Sn	21 45 35.7	-4.1
PFVI	Vila Bisbo	3.62	295	*e*S	Sn	21 45 38.7	-2.1
PTEO	Sao Teotonio	3.73	301	*e*P	Pn	21 45 01.3	+0.5
PTEO				*e*S	Sn	21 45 41.7	-1.7
PAB	San Pablo	3.87	4	⇑*i*Vmb_V		21 45 01.5	
	72nm,SNR=1.5						
PAB				S	Sn	21 45 41.2	-6.0
EPLA	Plasencia	4.51	347	P	Pn	21 45 08.5	-3.1
EPLA				⇑*i*Vmb_V		21 45 09.5	
	55nm,SNR=0.6						
EPLA				S	Sn	21 45 56.7	-6.1

IDC 20 22:04:23.5±2.3, 5°91S×130°48E, h0km, mb3.6/1, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=100.2km s-min=28.0km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.00	201	Pn	Pn	22 07 30.1	+0.5
	0.2nm,0.3s,baz=41,slow=11,SNR=14						
FITZ				Sn	Sn	22 09 40.9	-14
	0.3nm,0.3s,baz=52,slow=22,SNR=1.8						
	0.8nm,0.3s						
WRA	Warramunga Arr	14.44	165	Pn	Pn	22 07 49.1	-0.3
	baz=345,slow=9.2,SNR=1.1						
WRA				Sn	Sn	22 10 15.1	-15
	0.3nm,0.3s,baz=355,slow=25,SNR=8.3						
	0.4nm,0.9s						
ASAR	Alice Springs	17.96	170	P	Pn	22 08 34.4	-0.4
	0.1nm,0.3s,baz=345,slow=10,SNR=4.3						
	0.2nm,0.5s						
MKAR	Makanchi Array	67.58	326	P	P	22 15 22.0	0.0
	0.3nm,0.4s,baz=111,slow=8.2,SNR=10						
	0.3nm,0.4s						

IDC 20 22:28:55.0±2.2, 4°08S×150°70E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=94.1km s-min=29.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.42	224	P	P	22 33 55.9	+0.3
	0.7nm,0.7s,baz=52,slow=10.0,SNR=6.3						
	0.7nm,0.7s						
ASAR	Alice Springs	25.34	218	P	P	22 34 23.7	-0.2
	0.2nm,0.4s,baz=48,slow=9.5,SNR=1.9						
	0.2nm,0.4s						
MKAR	Makanchi Array	78.41	319	P	P	22 40 57.0	-0.7
	0.2nm,0.7s,baz=118,slow=5.5,SNR=2.9						
	0.2nm,0.7s						
ILAR	Eielson Array	82.29	23	P	P	22 41 19.0	+0.8
	0.5nm,1.0s,baz=238,slow=5.9,SNR=3.1						
	0.5nm,1.0s						

*NEIC **20** 22:32:00.3±0.6, 31°65N±0°01×104°21W±0°02, h5km±1km, mb_Lg2.7/30, ML2.8/18, Error ellipse: s-maj=2.9km s-min=1.9km az=287.0*
*TXNET **20** 22:32:00.6, 31°7N±0°4×104°3W±0°6, h5km±2km, ML3.0/11, Error ellipse: s-maj=0.9km s-min=0.6km az=70.2, final*
ISC 20 22:32:00.7±1.0, 31°64N±0°02×104°23W±0°02, h11km±9km, n59, σ0§77/80, 4C-3D, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.34	30	⇑P	Pg	22 32 07.3	-0.2
TPB11				S	Sg	22 32 12.0	-0.1
PECS	Pecos	0.41	131	Pg	Pg	22 32 08.9	0.0
PECS				Sg	Sg	22 32 14.7	+0.3
PECS				IAML		22 32 15.2	
	866nm,0.3s						
PECS	Pecos	0.41	131	P	Pg	22 32 09.1	+0.2
PECS				S	Sg	22 32 14.8	+0.4
PECS	Pecos	0.41	131	P	Pg	22 32 09.1	+0.2
TPB07	Mentone	0.48	97	P	Pb	22 32 10.8	-0.5
TPB07				S	Sg	22 32 17.2	+0.5
TPB07	Mentone	0.48	97	P	Pb	22 32 10.8	-0.4
TPB07				S	Sg	22 32 17.3	+0.6
TPB12	Southwest of T	0.49	151	⇓P	Pg	22 32 10.4	+0.1
TPB12				S	Sg	22 32 17.2	+0.4
TPB12	Southwest of T	0.49	151	P	Pg	22 32 10.4	+0.1
TPB12				S	Sg	22 32 17.2	+0.4
TPB10	Southeast of T	0.54	131	P	Pg	22 32 11.4	+0.1
TPB10				S	Sg	22 32 19.2	+0.7
GDL2	Guadalupe Moun	0.57	348	Pg	Pg	22 32 11.7	-0.2
GDL2	Guadalupe Moun	0.57	348	P	Pg	22 32 11.7	-0.2
PCOS	Crockett Middl	0.66	111	S	Sb	22 32 22.9	-0.5
CLNB	Carlsbad	0.69	26	P	Pg	22 32 13.8	-0.4
CLNB				S	Sb	22 32 23.7	-0.6
TPB01	Permian Basin	0.80	151	P	Pg	22 32 15.6	-0.5
TPB01				S	Sg	22 32 26.0	-0.6
TPB03	Saragosa	0.83	132	S	Sg	22 32 28.1	+0.5
CLN7	Carlsbad 7	0.85	25	Pg	Pg	22 32 16.5	-0.7
CLN7	Carlsbad 7	0.85	25	P	Pg	22 32 16.6	-0.5
TPB06	Permian Basin	0.86	89	S	Sg	22 32 28.3	-0.4
TPB04	Verhalen	0.94	119	⇑P	Pg	22 32 18.7	-0.2
TPB04				S	Sg	22 32 31.1	0.0
HTMS	Hat Mesa	0.97	31		Pg	22 32 18.5	-1.0
HTMS	Hat Mesa	0.97	31	P	Pg	22 32 19.0	-0.4
HTMS				S	Sb	22 32 32.3	-0.2
TPB16	Coyonosa	0.98	121	P	Pg	22 32 19.5	-0.2
TPB16				S	Sg	22 32 32.7	+0.2
MNTX	Cornudas Mount	0.98	274	P	Pg	22 32 19.3	-0.4
MNTX				S	Sg	22 32 32.3	-0.3
NM01	Eunice	1.00	45	P	Pg	22 32 19.6	-0.4
NM01				S	Sb	22 32 33.3	-0.1
TPB05	Hovey Rd	1.06	133	P	Pg	22 32 20.6	-0.5
TPB05				S	Sg	22 32 34.9	0.0
VHRN	Van Horn	1.07	217	Pg	Pg	22 32 20.6	-0.8
VHRN				Sg	Sg	22 32 34.7	-0.6
VHRN	Van Horn	1.07	217	⇑P	Pg	22 32 20.7	-0.8
VHRN				S	Sb	22 32 35.7	+0.3
MNHN	Monahans	1.29	103	Pg	Pn	22 32 23.9	-0.8
MNHN	Monahans	1.29	103	⇑P	Pn	22 32 24.2	-0.5
MNHN				S	Sg	22 32 40.7	-1.6
TPB08	Permian Basin	1.36	123	S	Sg	22 32 43.9	-0.5
ALPN	Alpine	1.36	158		Pn	22 32 25.0	-0.8
ALPN	Alpine	1.36	158	⇓P	Pn	22 32 25.3	-0.5
ALPN				S	Sg	22 32 42.8	-1.8
CPRX	Cap Rock	1.42	12		Pn	22 32 26.6	0.0
CPRX	Cap Rock	1.42	12	P	Pn	22 32 26.7	+0.2
ODSA	Odessa	1.51	71		Pn	22 32 27.8	0.0
ODSA	Odessa	1.51	71	⇓P	Pn	22 32 28.1	+0.4
ODSA				S	Sn	22 32 47.6	+0.3
TMB04	Seminole	1.77	56	P	Pn	22 32 32.6	+1.2
TMB04				S	Sg	22 32 56.9	-0.9
TMB02	Rankin	1.93	103	P	Pn	22 32 35.0	+1.5
TMB02				S	Sb	22 33 00.2	+0.3
EPT	El Paso	1.94	274	Pg	Pb	22 32 36.5	+0.3
TX31	Lajitas Ar. Si	2.35	168	Pn	Pn	22 32 40.6	+1.3
SAND	Sanderson	2.47	132	Pn	Pn	22 32 42.6	+1.6
SAND				IAmb_Lg		22 33 24.2	
	comp=Z,27nm,0.8s						
SGCY	Sterling City	2.66	83	Pn	Pn	22 32 45.0	+1.5
SGCY				IAmb_Lg		22 33 26.2	
	comp=Z,33nm,0.8s						
POST	Post	2.71	58	Pn	Pn	22 32 45.5	+1.2
POST				IAmb_Lg		22 33 29.7	
	comp=Z,29nm,0.8s						
OZNA	Ozona	2.75	104	Pn	Pn	22 32 45.5	+0.7
121A	Cookes Peak, D	3.15	287	Pn	Pn	22 32 49.7	-0.6
121A				IAML		22 33 43.0	
	comp=N,25nm,0.5s						
121A				IAML		22 33 44.2	
	comp=E,22nm,0.5s						
SN07	Snyder 07	3.17	62	Pn	Pn	22 32 51.0	+0.4
SN07				IAmb_Lg		22 33 38.4	
	comp=Z,24nm,0.8s						
BNM	Barren Site	3.21	322	Pn	Pn	22 32 53.8	+2.5
DKNS	Dickens	3.44	53	Pn	Pn	22 32 55.7	+1.4
ANMO	Albuquerque	3.79	331	Pn	Pn	22 33 01.1	+1.9
APMT	Aspermont	3.86	63	Pn	Pn	22 33 00.4	+0.5
APMT				IAmb_Lg		22 34 10.9	
	comp=Z,23nm,0.9s						
AMTX	Amarillo	3.87	33	Pn	Pn	22 33 01.1	+0.8
AMTX				IAmb_Lg		22 34 08.2	
	comp=Z,18nm,0.7s						
JCT	Junction City	3.97	106	Pn	Pn	22 33 01.8	+0.2
BRDY	Brady	4.48	93	Pn	Pn	22 33 09.4	+0.8
BRDY				IAmb_Lg		22 34 27.8	
	comp=Z,19nm,0.8s						
HNDO	Hondo	4.76	115	IAmb_Lg		22 34 42.7	
	comp=Z,16nm,0.9s						
RTBA	Rita Blanca	4.94	14	Pn	Pn	22 33 15.4	+0.4
RTBA				IAmb_Lg		22 34 42.3	
	comp=Z,16nm,0.9s						
PLPT	Palo Pinto	5.15	75	Pn	Pn	22 33 17.8	+0.1
FW03	Perrin-Whitt E	5.40	73	IAmb_Lg		22 34 60.0	
	comp=Z,12nm,0.9s						
T25A	Trinidad	5.49	358	Pn	Pn	22 33 23.3	+0.7
WMOK	Wichita Mounta	5.51	54	Pn	Pn	22 33 22.9	+0.1

ATH 20 22:32:12.0, 38°86N×25°62E, h20km±8km, ML2.3/6, Manual Solution by K.Orfanogiannaki First location: 2019/02/20 22:33:29, This location: 2019/02/21 07:40:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 7 km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.39	28	P	Pb	22 32 20.4	+0.1
SIGR				S	Sb	22 32 26.6	+0.7
PRK	Paraskevi	0.64	53	P	Pb	22 32 23.7	-0.8
PRK				S	Sb	22 32 33.2	+0.3
DKL	Dikili	1.02	78	P	Pn	22 32 31.1	-0.1
LIA	Limnos Island	1.09	342	P	Pb	22 32 32.9	+0.7
LIA				S	Sb	22 32 45.4	-0.5
SMG	Samos	1.50	140	P	Pn	22 32 37.5	-0.2
DION	Dionisos Attik	1.54	240	P	Pn	22 32 38.4	+0.1
SMTH	Samothraki Isl	1.61	358	P	Pn	22 32 39.8	+0.5

*AFAD **20** 22:32:26.2, 39°60N×26°44E, h7km±1km, ML2.2*
ISK 20 22:32:25.8, 39°62N×26°43E, h7km, ML2.5/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	Ezine-Canakkal	0.14	341	Pg	Pg	22 32 29.9	+1.1
EZNE				Sg	Sg	22 32 32.1	+1.3
BAYC	CANAKKALE_Bayr	0.15	38	P	Pg	22 32 29.8	+0.8
BAYC				*i* AML	AML	22 32 32.0	
	comp=N,858nm,0.1s						
BAYC				*i* AML	AML	22 32 32.0	
	comp=E,840nm,0.1s						
BAYC				S	Sg	22 32 32.2	+1.1
KOCA	Canakkale, Ayv	0.25	242	P	Pg	22 32 31.7	+0.9
KOCA				*i* AML	AML	22 32 35.0	
	comp=N,622nm,0.2s						
KOCA				S	Sg	22 32 35.6	+1.4
KOCA				*i* AML	AML	22 32 36.0	
	comp=E,515nm,0.4s						
GPNR	Gulpinar-Canak	0.28	234	Pg	Pg	22 32 31.7	+0.4
GPNR				Sg	Sg	22 32 36.4	+1.3
BOZC	Bozcaada	0.36	307	Pg	Pb	22 32 33.8	-0.7
BOZC				Sg	Sb	22 32 39.1	-1.3
BOZC	Bozcaada	0.36	307	P	Pb	22 32 33.8	-0.7
BOZC				*i* AML	AML	22 32 39.0	
	comp=N,185nm,0.2s						
BOZC				*i* AML	AML	22 32 39.0	
	comp=E,219nm,0.3s						
BOZC				S	Sb	22 32 39.2	-1.2
CNKL	anakkale-Mer	0.44	356	P	Pb	22 32 35.2	-0.7
CNKL				S	Sb	22 32 42.0	-0.8
CNKL				*i* AML	AML	22 32 42.0	
	comp=N,165nm,0.2s						
CNKL				*i* AML	AML	22 32 43.0	
	comp=E,119nm,0.3s						
ECEA	Canakkale, Ece	0.46	335	P	Pb	22 32 36.2	0.0
ECEA				S	Sb	22 32 43.0	-0.4
COMU	Canakkale	0.48	4	Pg	Pb	22 32 36.1	-0.4
COMU				Sg	Sb	22 32 43.2	-0.6
CANM	Can-anakkale	0.62	51	Pg	Pb	22 32 38.4	-0.5
CANM				Sg	Sb	22 32 47.7	-0.1
DKL	Dikili	0.66	146	Pg	Pb	22 32 39.2	-0.5
GADA	Gvkgeada	0.70	325	Pg	Pg	22 32 39.7	+0.5
GADA				Sg	Sg	22 32 49.2	+0.9
YENI	Yenice-Canakka	0.70	63	Pg	Pb	22 32 39.9	-0.4
CAND	Candarli	0.73	156	Pg	Pb	22 32 40.4	-0.4
GELI	Tayfur-Gelibol	0.78	3	Pg	Pg	22 32 40.9	+0.2
LPK	Lapseki	0.79	19	Pg	Pg	22 32 41.1	+0.1
ENZZ	Sultanice-Enez	1.01	348	Pg	Pg	22 32 45.3	+0.1
KRBG	Karabiga-Canak	1.02	41	Pg	Pb	22 32 45.6	-0.2
ERIK	Erikli-Kesan	1.05	4	Pg	Pg	22 32 46.0	+0.1
GONE	Gonen-Balikesi	1.06	66	Pg	Pb	22 32 46.5	+0.1
ENEZ	Enez	1.13	349	Pn	Pn	22 32 47.9	-0.1
RKY	Sarkoy-Tekirda	1.21	28	Pn	Pg	22 32 48.8	-0.2
ALN	Alexandroupoli	1.31	347	Pn	Pb	22 32 50.7	+0.1
EDC	Edincik	1.32	56	Pn	Pb	22 32 50.9	0.0
SUSR	Susurluk-Balik	1.32	75	Pn	Pb	22 32 50.8	-0.1
BLCB	Balcova	1.32	159	Pn	Pb	22 32 50.9	-0.1
UKOP	Uzunkopru-Edir	1.51	6	Pn	Pb	22 32 53.9	-0.3
GORD	Gordes-Manisa	1.54	117	Pn	Pb	22 32 54.4	-0.2
TKR	Tekirdag	1.61	31	Pn	Pb	22 32 55.2	-0.6
KCTX	Karacabey (Bur	1.62	66	Pn	Pn	22 32 54.8	+0.1
RDO	Rodhopi	1.67	336	Pn	Pn	22 32 55.9	+0.5
CRLT	Corlu	1.81	33	Pn	Pn	22 32 57.7	+0.4
ODEM	Odemis-Izmir	1.86	136	Pn	Pn	22 32 58.9	+0.8
OUR	Ouranopolis	2.01	292	Pn	Pb	22 33 01.8	-0.8
AYDB	Zeytinkoy-Aydi	2.03	145	Pn	Pn	22 33 00.1	-0.4
MDNY	Mudanya-Bursa	2.03	68	Pn	Pn	22 33 00.9	+0.5
SIMA	Simav-Kutahya	2.05	104	Pn	Pn	22 33 01.6	+0.8
ARMT	Armutlu	2.09	62	Pn	Pn	22 33 02.1	+0.9
SLVT	Silivri	2.10	40	Pn	Pn	22 33 01.5	+0.1
PAIG	Paliouri	2.14	279	Pn	Pn	22 33 02.1	+0.3
KDZ	Kurdzhali	2.17	338	Pn	Pn	22 33 02.8	+0.5
EDRB	Edirne	2.23	6	Pn	Pn	22 33 03.9	+0.7
CTKS	Kestanelik-??a	2.26	44	Pn	Pn	22 33 04.1	+0.6
CTYL	Yalikoy Yolu	2.33	37	Pn	Pn	22 33 05.5	+1.0

ISC 20 22:34:12.0±1.1, 60°48N±0°03×139°10W±0°03, h8km±11km, n12, σ0§35/21, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O29M	Mount Kennedy	0.31	124	P	Pg	22 34 18.1	-0.1
O29M	baz=302			S	Sg	22 34 22.5	+0.1
YUK6	Outpost Mounta	0.59	38	P	Pg	22 34 23.6	+0.1
YUK6	baz=219,SNR=17			S	Sg	22 34 31.5	+0.3
O28M	Mount Upton	0.61	299	P	Pg	22 34 23.5	-0.4
O28M	baz=120			S	Sg	22 34 32.2	+0.2
PINM	Pinnacle	0.69	237	P	Pg	22 34 25.4	+0.1
PINM	baz=56			S	Sb	22 34 35.5	-0.4
PNL	Peninsula	0.83	191	P	Pg	22 34 27.7	-0.1
HYT	Haines Junctio	0.86	65	P	Pg	22 34 28.1	-0.4
HYT	baz=246,SNR=13			S	Sg	22 34 39.4	-0.3
YUK8	Steele Glacier	0.87	338	P	Pg	22 34 28.3	-0.5
YUK8	baz=159,SNR=16			S	Sg	22 34 40.3	+0.2
YUK4	Talbot Arm	0.90	14	Pn	Pn	22 34 31.1	0.0
YUK4	baz=197,SNR=18			Sb	Sn	22 34 44.3	0.0
P30M	Million Dollar	1.12	108	P	Pg	22 34 32.8	-0.7
P30M	baz=289			S	Sb	22 34 48.4	0.0
O30N	Mendenhall	1.51	78	Pg	Pb	22 34 40.5	+0.2
O30N	baz=260,SNR=22			Sb	Sb	22 34 59.5	-0.1
N31M	Braeburn, Yuko	1.91	57	Sg	Sg	22 35 13.5	+0.3
WHY	Whitehorse	2.09	83	Sb	Sb	22 35 16.8	+0.5
	baz=267						

TRN 20 23:01:41.6, 17°24N×62°51W, h156km, MD3.5, Near East of Nevis., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKOC	St. Kitts, UWI	0.22	285	*e*P	Pn	23 02 02.5	-0.1
SKOC				*e*S	Sn	23 02 18.8	+0.1
SKOC	St. Kitts, UWI	0.22	285	*e*P	Pn	23 02 02.5	-0.1
SKOC				*e*S	Sn	23 02 18.8	+0.1
SKI	Saint Kitts	0.23	294	*e*P	Pn	23 02 03.1	+0.4
SKI				*e*S	Sn	23 02 20.0	+1.2
SKI	Saint Kitts	0.23	294	*e*P	Pn	23 02 03.1	+0.4
SKI				*e*S	Sn	23 02 20.0	+1.2
MBFL	Flemmings, Mon	0.57	149	*e*P	Pn	23 02 04.3	+0.3
MBFL				*e*S	Sn	23 02 22.1	+1.0
MBFL	Flemmings, Mon	0.57	149	*e*P	Pn	23 02 04.3	+0.3
MBFL				*e*S	Sn	23 02 22.1	+1.0
MBWH		0.58	148	*e*P	Pn	23 02 04.4	+0.3
MBWH				*e*S	Sn	23 02 21.9	+0.6
MBWH		0.58	148	*e*P	Pn	23 02 04.4	+0.3
MBWH				*e*S	Sn	23 02 21.9	+0.6
ANBD	Bethesda, Anti	0.74	105	*e*P	Pn	23 02 05.6	+0.6
ANBD				*e*S	Sn	23 02 22.6	-0.2
ANWB	Bethesda, Anti	0.74	105	*e*P	Pn	23 02 05.6	+0.6
ANBD				*e*S	Sn	23 02 22.6	-0.2
ANWB	Willy Bob	0.82	58	*e*P	Pn	23 02 07.0	+1.5
ANWB				*e*S	Sn	23 02 24.6	+0.7
ANWB	Willy Bob	0.82	58	*e*P	Pn	23 02 07.0	+1.5
ANWB				*e*S	Sn	23 02 24.6	+0.7
TBG	Guadaloupe-3	1.61	149	*e*P	Pn	23 02 13.7	+0.9
TBG				*e*S	Sn	23 02 37.1	+0.4
TBG	Guadaloupe-3	1.61	149	*e*P	Pn	23 02 13.7	+0.9
TBG				*e*S	Sn	23 02 37.1	+0.4
DSLB	Salisbury	2.07	149	*e*P	Pn	23 02 19.6	+1.6
DSLB				*e*S	Sn	23 02 46.1	+0.1
DSLB	Salisbury	2.07	149	*e*P	Pn	23 02 19.6	+1.6
DSLB				*e*S	Sn	23 02 46.1	+0.1
AOPR	Arecibo Observ	4.19	286	*e*P	Pn	23 02 44.5	+0.1
AOPR	Arecibo Observ	4.19	286	*e*P	Pn	23 02 44.5	+0.1

ATH 20 23:16:40.9, 37°43N×20°92E, h5km±2km, ML1.7/6, Manual Solution by K.Orfanogiannaki First location: 2019/02/20 23:17:44, This location: 2020/09/22 12:57:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.29	347	P	Pg	23 16 47.1	+0.6
KYPS	Kipseli, Zakin	0.40	349	P	Pg	23 16 49.0	+0.4
ORTH	Orthonies,Zaky	0.46	337	P	Pg	23 16 49.8	0.0
ORTH				S	Sg	23 16 56.8	+1.0
CLEM	Kyllini,Ilia,G	0.49	20	P	Pg	23 16 50.4	0.0
CLEM				S	Sg	23 16 56.9	+0.1
AMT	Artemida-Makis	0.64	80	P	Pg	23 16 53.2	+0.1
AMT				S	Sg	23 17 02.4	+1.0
PSDA	Pessada-Kefalo	0.74	339	P	Pg	23 16 54.5	-0.5
PSDA				S	Sg	23 17 05.5	+0.8
RLS	Riolos of Patr	0.77	34	P	Pg	23 16 55.4	-0.2
RLS				S	Sg	23 17 05.4	-0.1
VLS	Valsamata	0.80	341	P	Pg	23 16 56.0	-0.2
VLS				S	Sb	23 17 07.4	-0.9
DRO	Drossia	0.82	50	P	Pg	23 16 56.0	-0.6
DRO				S	Sg	23 17 07.8	+0.6
ITM	Ithomi	0.84	107	P	Pb	23 16 57.8	-0.2
AXS	Araxos	0.85	25	P	Pg	23 16 56.5	-0.7
AXS				S	Sg	23 17 08.6	+0.4
DMLN	Damoulianata-K	0.92	332	P	Pg	23 16 58.9	+0.3
FSK	Fiskardo	1.07	345	P	Pg	23 17 01.6	+0.2
EVGI	Lefkada island	1.21	350	P	Pg	23 17 03.8	-0.4
EFP	Efpalio	1.27	38	P	Pg	23 17 05.2	0.0
KALE	Kalithea	1.36	45	P	Pg	23 17 07.5	+0.5
ANX	Ano Chora	1.41	34	P	Pb	23 17 07.8	+0.1

*IDC **20** 23:17:39.1±1.0, 3°25S×129°78E, h0km, mb4.0/9, mbtmp4.0/11, ML4.1/1, MS3.1/6, Error ellipse: s-maj=49.3km s-min=17.5km az=68.0*
*NEIC **20** 23:17:40.9±1.2, 3°59S±0°08×129°31E±0°03, h10km±1km, mb4.2/15, Error ellipse: s-maj=13.5km s-min=5.5km az=180.0*
*DJA **20** 23:17:42.8±0.2, 3°S±3°×12°9E±°, h10km, M4.6/13, mb4.8/6, mB5.3/5, MLv4.5/13, Mw(mB)4.8/5*
ISC 20 23:17:41.3±0.5, 3°52S±0°05×129°28E±0°05, h10km, n52, σ1§47/51, mb4.2/14, MS3.1/4, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.39	296	P	Pg	23 17 48.8	-0.3
AAI	Ambon	1.10	261	P	Pg	23 18 03.5	+1.1
BNDI	Bandanaira	1.17	148	P	Pg	23 18 05.9	+2.1
NLAI	Namlea	2.20	277	P	Pb	23 18 20.7	-0.4
FAKI	Fak Fak	3.02	79	Pn	Pn	23 18 29.9	+0.7
FAKI				Sn	Sn	23 19 05.3	-0.2
FAKI	Fak Fak	3.02	79	P	Pn	23 18 30.5	+1.3
SWI	Sorong	3.29	37	P	Pn	23 18 31.8	-1.2
SANI	Sanana	3.60	294	P	Pn	23 18 36.7	-0.5
TNTI	Ternate	4.67	336	Pn	Pn	23 18 50.8	-1.1
KDI	Kendari	6.67	266	P	Pn	23 19 21.4	+2.1
LUWI	Luwuk	6.96	291	Pn	Pn	23 19 23.1	-0.3
LUWI	Luwuk	6.96	291	P	Pn	23 19 23.2	-0.1
	0.3nm2μm42nm,0.7s						
APSI	Ampana	8.06	289	P	Pn	23 19 39.7	+1.2
	1μm105nm,0.9s						
BSSI	Bau Bau, Buton	9.14	253	P	Pn	23 19 56.0	+2.6
	36nm,0.6s						
KAPI	Kappang	9.62	261	Pn	Pn	23 20 06.6	+6.6
	8.0nm,0.7s,baz=90,slow=9.6,SNR=5.0						
KAPI				LR	LR	23 24 16.3	
	comp=Z,98nm,20.3s,baz=78,slow=39						
TOLI2	Tolitoli	9.66	298	Pn	Pn	23 20 01.8	+1.3
DAV	Davao City (W)	11.15	341	LR	LR	23 25 16.4	
	comp=Z,97nm,21.9s,baz=322,slow=41						
MYLDM	Lahad Datu	13.81	309	Pn	Pn	23 20 57.8	+0.5
FITZ	Fitzroy Crossi	14.92	194	Pn	Pn	23 21 10.6	-1.9
FITZ	Fitzroy Crossi	14.92	194	Pn	Pn	23 21 13.7	+1.3
	0.3nm,0.3s,baz=55,slow=18,SNR=4.3						
WB0	Warramunga Arr	16.90	163	Pn	Pn	23 21 35.7	-2.4
WB0				IAmb	IAmb	23 21 52.2	
	comp=Z,18nm,1.5s						
WRA	Warramunga Arr	17.05	164	Pn	Pn	23 21 37.9	-2.1
WRA	Warramunga Arr	17.05	164	P	Pn	23 21 38.9	-1.1
	comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=10						
WRA				S	Sn	23 24 47.8	-2.0
	comp=Z,1.0nm,0.8s,baz=350,slow=23,SNR=2.7						

PZH pmax pmax
comp=Z,140nm,5.5s
ONTNC Ouen Toro 40.58 121 P P 23 25 19.5 -1.9
BNX BinXian 49.07 358 ⇓P **P 23 26 31.9 +3.3**
BNX pmax pmax
comp=Z,3.0nm,1.2s
SONM Songino Array 54.94 341 P **P 23 27 12.6 +0.1**
SONM Songino Array 54.94 341 P **P 23 27 12.3 -0.3**
comp=Z,0.3nm,0.4s,baz=148,slow=8.7,SNR=3.6
SONM LR LR 23 51 22.8
comp=Z,19nm,19.1s,baz=306,slow=37
comp=Z,0.3nm,0.4s
MK31 Makanchi Array 64.95 326 P **P 23 28 21.1 -0.1**
MK31 IAmb IAmb 23 28 46.4
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 64.95 326 P **P 23 28 20.6 -0.6**
MKAR Makanchi Array 64.95 326 P **P 23 28 21.0 -0.2**
comp=Z,0.4nm,0.5s,baz=121,slow=8.9,SNR=5.9
comp=Z,0.4nm,0.5s
MAKZ Makanchi 65.13 326 P **P 23 28 21.3 -1.1**
AAK Ala-Archa 67.45 319 LR LR 00 02 54.4
comp=Z,19nm,18.1s,baz=178,slow=40
ZALV Zalesovo Beam 68.17 334 P **P 23 28 40.3 -1.4**
ZALV Zalesovo Beam 68.17 334 P **P 23 28 40.5 -1.1**
comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=2.3
comp=Z,0.4nm,0.5s
KURBB Kurchatov Arra 69.19 328 P **P 23 28 47.8 -0.3**
comp=Z,1.1nm,0.7s,baz=128,slow=5.7,SNR=14
comp=Z,1.1nm,0.7s
KURK Kurchatov 69.20 328 P **P 23 28 47.2 -0.9**
KURK IAmb IAmb 23 28 58.2
comp=Z,3.2nm,0.9s
BVAR Borovoye Array 74.76 328 P **P 23 29 20.7 -0.7**
comp=Z,1.3nm,0.8s,baz=127,slow=9.4,SNR=6.2
comp=Z,1.3nm,0.8s
ABKAR Akbulak array 79.36 321 P **P 23 29 46.7 -0.7**
ABKAR Akbulak array 79.36 321 P **P 23 29 47.5 +0.1**
ABKAR IAmb IAmb 23 29 52.2
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 86.44 180 P **P 23 30 25.1 +1.1**
comp=Z,2.0nm,1.1s,baz=256,slow=5.4,SNR=3.4
comp=Z,2.0nm,1.1s
BMAR Burnt Mountain 91.73 23 P **P 23 30 48.5 -0.4**

---

*RHSSO **20** 23:18:11.5±0.2, 43°.56N×17°.31E, h5km±1km, ML2.4/14*
*BEO **20** 23:18:12.4±0.6, 43°.58N×17°.25E, h0km, ML2.3/7*
*VIE **20** 23:18:13.1±0.8, 43°.68N×17°.62E, h8km±9km, mb2.5/9, ml2.2/9, ms3.9/1, Error ellipse: s-maj=10.1km s-min=6.7km az=15.0*
*PDG **20** 23:18:14.2±0.2, 43°.33N×17°.40E, h9km, ML2.5/10, Error ellipse: s-maj=1.5km s-min=1.9km az=0.0*

ISC 20 23:18:10.4±1.0, **43°.54N**±0°.02×**17°.29E**±0°.01, **h3km**±9km, **n79**, σ1°.**36**/136, **6C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.12**	**249**	*i* Pg		**Pg**		**23 18 13.2**	**+0.4**
RICI					Sg		**Sg**	**23 18 15.1**	**+0.8**
MAKA	**Makarska**	**0.32**	**218**	*e*Pg		**Pg**		**23 18 16.8**	**+0.3**
MAKA	**Makarska**	**0.32**	**218**	Sg		**Sg**		**23 18 19.8**	**-0.8**
HVAR	**Hvar**	**0.71**	**240**	*i* Pg		**Pg**		**23 18 23.3**	**-0.6**
HVAR					Sg		**Sg**	**23 18 33.9**	**+0.7**
STON	**Ston**	**0.73**	**155**	*i* Pg		**Pg**		**23 18 24.6**	**+0.2**
STON	**Ston**	**0.73**	**155**	⇑*i*Pg		**Pg**		**23 18 24.2**	**-0.2**
STON					*e*Sg		**Sb**	**23 18 36.0**	**-0.1**
STON	**Ston**	**0.73**	**155**	Sg		**Sn**		**23 18 36.9**	**-2.3**
KIJV	**Kijevo**	**0.79**	**307**	*e*Pg		**Pg**		**23 18 24.4**	**-1.1**
KIJV					Sg		**Sg**	**23 18 35.6**	**-0.2**
LSTV	**Lastovo**	**0.82**	**201**	*i* Pg		**Pg**		**23 18 25.8**	**-0.3**
LSTV					Sg		**Sb**	**23 18 39.0**	**+0.3**
KLINJ	**Klinje**	**1.02**	**111**	*e*Pg		**Pg**		**23 18 29.7**	**-0.2**
KLINJ					*e*Sg		**Sb**	**23 18 43.6**	**-0.9**
DBRK	**Dubrovnik**	**1.07**	**144**	*e*Pg		**Pg**		**23 18 30.9**	**-0.1**
DBRK					Sg		**Sn**	**23 18 48.9**	**+1.3**
A050A	**Klekovaca**	**1.09**	**330**	⇑*i*Pg		**Pg**		**23 18 30.3**	**-1.0**
A050A					*e*Sg		**Sg**	**23 18 45.5**	**+0.1**
BRY	**Bratogost**	**1.11**	**124**	⇑*i*Pg		**Pg**		**23 18 31.1**	**-0.7**
BRY					*e*Sg		**Sn**	**23 18 47.5**	**-1.4**
BRY	**Bratogost**	**1.11**	**124**	⇑*i*Pg		**Pg**		**23 18 31.7**	**-0.1**
BRY					*i* Sg		**Sb**	**23 18 47.1**	**-0.2**
MORI	**Morici**	**1.19**	**287**	*i* Pg		**Pb**		**23 18 32.0**	**-1.6**
MORI	**Morici**	**1.19**	**287**	Sg		**Sn**		**23 18 49.4**	**-1.2**
ZIRJ	**Zirje**	**1.20**	**276**	*e*Pg		**Pb**		**23 18 32.8**	**-0.8**
ZIRJ					Sg		**Sn**	**23 18 51.0**	**+0.2**
BLY	**Banja Luka**	**1.21**	**357**	⇑*i*Pg		**Pn**		**23 18 32.7**	**-1.5**
BLY					*e*Sg		**Sb**	**23 18 49.2**	**-0.8**
BLY	**Banja Luka**	**1.21**	**357**	*e*Pg		**Pn**		**23 18 32.9**	**-1.3**
BLY					*e*Sg		**Sn**	**23 18 51.7**	**+0.6**
UPM	**Unac-Piva**	**1.23**	**105**	*e*Pg		**Pn**		**23 18 33.7**	**-0.9**
UPM					*e*Sg		**Sb**	**23 18 49.7**	**-0.9**
UPM	**Unac-Piva**	**1.23**	**105**	*e*Pg		**Pb**		**23 18 34.0**	**-0.3**
UPM					*i* Sg		**Sn**	**23 18 52.6**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.32**	**65**	⇑*i*Pg		**Pn**		**23 18 35.1**	**-0.7**
HAPS					*e*Sg		**Sn**	**23 18 52.8**	**-1.2**
HAPS	**Han Pijesak,Bl**	**1.32**	**65**	*e*Pg		**Pg**		**23 18 35.7**	**-0.1**
HAPS					*e*Sg		**Sg**	**23 18 54.8**	**+1.9**
DOB	**Doboj**	**1.33**	**26**	*e*Pg		**Pn**		**23 18 34.6**	**-1.2**
DOB					*e*Sg		**Sn**	**23 18 52.7**	**-1.3**
HCY	**Herceg Novi**	**1.41**	**140**	*e*Pg		**Pn**		**23 18 36.3**	**-0.6**
HCY					*e*Sg		**Sg**	**23 18 56.7**	**+1.2**
HCY	**Herceg Novi**	**1.41**	**140**	⇓*i*Pg		**Pn**		**23 18 36.2**	**-0.6**
HCY					*i* Sg		**Sg**	**23 18 55.4**	**-0.1**
NKME	**Niksic**	**1.44**	**122**	⇓*i*Pg		**Pg**		**23 18 37.9**	**-0.1**
NKME					*i* Sg		**Sg**	**23 18 58.3**	**+1.6**
UDBI	**Udbina**	**1.48**	**313**	*e*Pn		**Pn**		**23 18 38.9**	**+0.2**
UDBI					Sn		**Sg**	**23 18 59.5**	**+1.7**
PRIJ	**Prijedor**	**1.50**	**344**	*e*Pg		**Pb**		**23 18 38.2**	**-0.6**
PRIJ					*e*Sg		**Sg**	**23 18 58.1**	**-0.3**
A051A	**Mrakovica**	**1.50**	**350**	*e*Pg		**Pb**		**23 18 38.1**	**-0.8**
A051A					*e*Sg		**Sg**	**23 18 58.3**	**-0.3**
RUDO	**Rudo**	**1.52**	**86**	*e*Pg		**Pn**		**23 18 38.1**	**-0.3**
RUDO					*e*Sg		**Sg**	**23 18 59.5**	**+0.4**
CEME	**Cevo**	**1.55**	**129**	*e*Pg		**Pb**		**23 18 38.9**	**-0.9**
CEME					*i* Sg		**Sg**	**23 19 00.6**	**+0.3**
BBLS	**Lazi&#263i**	**1.57**	**77**	*e*Pn		**Pb**		**23 18 39.7**	**-0.4**
BBLS					*e*Sg		**Sg**	**23 19 01.0**	**+0.1**
BBLS	**Lazi&#263i**	**1.57**	**77**	*e*Pg		**Pg**		**23 18 40.6**	**+0.1**
BBLS					*e*Sg		**Sg**	**23 19 03.6**	**+2.7**
DUGI	**Dugi Otok**	**1.68**	**286**	*e*Pn		**Pb**		**23 18 41.0**	**-0.9**
DUGI					Sn		**Sg**	**23 19 05.3**	**+1.1**
BUM	**Brajici-Budva**	**1.71**	**136**	⇓*i*Pg		**Pb**		**23 18 41.7**	**-0.8**
BUM					*i* Sg		**Sg**	**23 19 05.5**	**+0.2**
VIRC	**Vir**	**1.78**	**296**	*e*Pn		**Pb**		**23 18 42.4**	**-1.2**
VIRC					Sn		**Sg**	**23 19 08.0**	**+0.4**
PLIT	**Plitvice**	**1.80**	**319**	*e*Pn		**Pb**		**23 18 44.0**	**+0.1**
PLIT	**Plitvice**	**1.80**	**319**	Sn		**Sg**		**23 19 08.4**	**+0.3**
PDG	**Podgorica**	**1.82**	**127**	*e*Pn		**Pb**		**23 18 43.1**	**-1.2**
PDG					*e*Sn		**Sb**	**23 19 06.6**	**-0.9**
PDG	**Podgorica**	**1.82**	**127**	*e*Pg		**Pg**		**23 18 45.9**	**+0.6**
PDG					*e*Sg		**Sg**	**23 19 11.8**	**+3.0**
TEKS	**Tekeris**	**1.91**	**57**	*e*Pn		**Pb**		**23 18 44.7**	**-1.1**
TEKS					*e*Sn		**Sb**	**23 19 08.7**	**-1.3**
TEKS	**Tekeris**	**1.91**	**57**	*e*Pg		**Pg**		**23 18 46.9**	**0.0**
TEKS					*e*Sg		**Sg**	**23 19 12.9**	**+1.2**
DRME	**Dracevica, Mon**	**1.94**	**133**	*e*Pn		**Pb**		**23 18 45.6**	**-0.8**
DRME					*e*Sn		**Sb**	**23 19 09.9**	**-1.1**
DRME	**Dracevica, Mon**	**1.94**	**133**	*e*Pn		**Pb**		**23 18 45.9**	**-0.5**
DRME					*i* Sn		**Sb**	**23 19 10.6**	**-0.4**
SJES	**Sjenica**	**1.98**	**97**	⇓*i*Pn		**Pb**		**23 18 45.7**	**-1.4**
SJES					*e*Sn		**Sb**	**23 19 10.4**	**-1.7**
SJES	**Sjenica**	**1.98**	**97**	*e*Pg		**Pg**		**23 18 47.7**	**-0.6**
SJES					*e*Sg		**Sg**	**23 19 15.8**	**+1.9**
IVA	**Berane**	**2.02**	**108**	⇓*i*Pn		**Pb**		**23 18 48.1**	**+0.4**
IVA					*i* Sn		**Sb**	**23 19 13.9**	**+0.6**
NVLJ	**Novalja**	**2.02**	**301**	*e*Pn		**Pb**		**23 18 47.3**	**-0.4**
NVLJ					Sn		**Sg**	**23 19 14.6**	**-0.7**
DIVS	**Divibare**	**2.04**	**73**	*e*Pg		**Pg**		**23 18 50.5**	**+1.1**
DIVS					*e*Sg		**Sg**	**23 19 16.8**	**+1.0**
IVAS	**Ivanjica**	**2.08**	**88**	*e*Pg		**Pg**		**23 18 51.5**	**+1.2**
IVAS					*e*Sg		**Sg**	**23 19 18.6**	**+1.3**
MOSL	**Moslavina**	**2.11**	**350**	*e*Pn		**Pb**		**23 18 48.2**	**-1.1**
MOSL	**Moslavina**	**2.11**	**350**	Sn		**Sb**		**23 19 15.2**	**-0.6**
ULC	**Ulcinj**	**2.13**	**137**	⇓*i*Pn		**Pb**		**23 18 48.1**	**-1.6**
ULC					*i* Sn		**Sb**	**23 19 15.1**	**-1.4**
RABC	**Rab**	**2.17**	**305**	*e*Pn		**Pb**		**23 18 50.2**	**-0.1**
RABC					Sn		**Sb**	**23 19 17.8**	**+0.3**
PVY	**Plav**	**2.17**	**115**	*e*Pn		**Pb**		**23 18 49.3**	**-1.1**
PVY					*i* Sn		**Sb**	**23 19 17.1**	**-0.7**
FRGS	**Fruska Gora**	**2.43**	**47**	*e*Pn		**Pn**		**23 18 50.9**	**-0.1**
FRGS					*e*Sn		**Sn**	**23 19 20.7**	**-0.5**
BOJS	**Bojanci**	**2.44**	**324**	⇓*i*Pn		**Pn**		**23 18 52.3**	**+1.2**
BOJS					*e*Sn		**Sn**	**23 19 22.2**	**+0.7**
OZLJ	**Ozalj**	**2.45**	**329**	*e*Pn		**Pb**		**23 18 53.1**	**-2.0**
OZLJ	**Ozalj**	**2.45**	**329**	Sn		**Sb**		**23 19 24.9**	**-0.6**
KALN	**Kalnik**	**2.66**	**347**	*i* Pn		**Pn**		**23 18 55.1**	**+1.0**
KALN					Sn		**Sn**	**23 19 28.1**	**+1.2**
RIY	**Rijeka**	**2.69**	**313**	Sn		**Sb**		**23 19 30.8**	**-1.6**
LOBO	**Lobor**	**2.76**	**342**	*i* Pn		**Pn**		**23 18 56.4**	**+1.0**
LOBO					Sn		**Sn**	**23 19 30.2**	**+0.9**
SELS	**Selova**	**2.81**	**95**	*e*Pn		**Pb**		**23 18 59.7**	**-1.5**
MORH	**Mrgy, Hungar**	**2.85**	**19**	*e*Pn		**Pn**		**23 18 57.1**	**+0.5**
MORH					*e*Sn		**Sn**	**23 19 31.1**	**-0.3**
BRJN	**Brijuni**	**2.89**	**300**	*i* Pg		**Pg**		**23 19 03.9**	**-1.7**
BRJN					Sn		**Sb**	**23 19 35.0**	**-3.1**
CEY	**Cerknica**	**3.00**	**318**	*e*Pn		**Pn**		**23 19 00.0**	**+1.2**
CEY					*e*Sn		**Sn**	**23 19 35.5**	**+0.2**
SOKA	**Soboth**	**3.52**	**334**	*i* Pn		**Pn**		**23 19 07.9**	**+1.9**
0.9nm,0.3s									
SOKA					*e*Sn		**Sn**	**23 19 50.2**	**+2.0**
0.9nm,0.3s									
OBKA	**Obir**	**3.55**	**328**	*e*Sn		**Sb**		**23 19 53.3**	**-4.0**
3.9nm,0.6s									
OBKA	**Obir**	**3.55**	**328**	*e*Pn		**Pn**		**23 19 06.7**	**+0.3**
OBKA					*e*Sn		**Sn**	**23 19 48.5**	**-0.4**
ARSA	**Arzberg**	**3.92**	**342**	*i* Pn		**Pn**		**23 19 12.8**	**+1.4**
2.8nm,0.4s									
ARSA	**Arzberg**	**3.92**	**342**	*e*Pn		**Pn**		**23 19 12.0**	**+0.6**
RONA	**Rosalia, Austr**	**4.22**	**351**	*i* Pn		**Pn**		**23 19 16.8**	**+1.2**
0.4nm,0.2s									
KBA	**Koelnbreinsper**	**4.50**	**323**	*e*Pn		Pn		23 19 24.0	+4.5
0.6nm,0.3s									
CONA	**Conrad Observa**	**4.50**	**348**	*e*Pn		**Pn**		**23 19 21.2**	**+1.7**
0.7nm,0.2s									
ABTA	**Abfaltersbach**	**4.66**	**315**	*i* Pn		**Pn**		**23 19 23.8**	**+2.2**
0.4nm,0.2s									
ABTA					*e*Sn		**Sn**	**23 20 19.4**	**+3.2**
2.5nm,0.5s									
MOA	**Molln**	**4.80**	**335**	*i* Pn		**Pn**		**23 19 25.9**	**+2.4**
1.3nm,0.2s									
LESA	**Schwarzleotal**	**5.06**	**322**	*i* Pn		**Pn**		**23 19 30.0**	**+2.9**
4.0nm,0.4s,SNR=8.3									
LESA					*e*Sn		**Sn**	**23 20 30.9**	**+4.8**
WTTA	**Wattenberg**	**5.45**	**315**	*i* Pn		**Pn**		**23 19 35.0**	**+2.4**
3.0nm,0.4s,SNR=4.9									
WTTA					*e*Sn		**Sn**	**23 20 41.1**	**+5.2**
0.9nm,0.3s									

---

*HLW **20** 23:30:48.3, 32°.30N×26°.18E, h15km±16km, Md3.1, Ml2.7*
*ISK **20** 23:30:49.6, 32°.69N×26°.50E, h57km, ML3.0/14*

ISC 20 23:30:47.4±1.4, **32°.50N**±0°.04×**26°.23E**±0°.07, **h35**km, **n19**, σ1°.**63**/24, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLUM	**Salum**	**1.32**	**221**	P		**Pn**		**23 31 09.2**	**-0.2**
MATC	**Matruh**	**1.43**	**143**	P		**Pn**		**23 31 12.5**	**+1.7**
DB3	**El Dabaa**	**2.45**	**126**	P		**Pn**		**23 31 26.8**	**+1.9**
ZKR	**Zakros**	**2.61**	**360**	Pn		**Pn**		**23 31 28.5**	**+1.3**
ZKR				Sn		**Sn**		**23 31 56.4**	**-1.3**
IDI	**Anoyia**	**3.00**	**339**	Pn		**Pn**		**23 31 35.1**	**+2.6**
IDI				Sn		**Sn**		**23 32 08.9**	**+1.6**
KARP	**Karpathos**	**3.14**	**14**	Pn		**Pn**		**23 31 34.3**	**-0.1**
KARP				Sn		**Sn**		**23 32 08.3**	**-2.4**
SWA2		**3.31**	**192**	P		**Pn**		**23 31 36.4**	**-0.3**
ARG	**Arkhangelos**	**4.03**	**22**	Pn		**Pn**		**23 31 47.3**	**+0.7**
ARG				Sn		**Sn**		**23 32 29.4**	**-3.2**
DAT	**Datca**	**4.37**	**14**	Pn		**Pn**		**23 31 52.1**	**+0.7**
DAT				Sn		**Sn**		**23 32 38.5**	**-2.6**
TURN	**Turunc**	**4.58**	**21**	Pn		**Pn**		**23 31 55.2**	**+1.0**
AKAS	**Kas**	**4.66**	**36**	Pn		**Pn**		**23 31 55.9**	**+0.5**
DALY	**Dalyan (Mula)**	**4.75**	**24**	Pn		**Pn**		**23 31 57.5**	**+1.0**
FETY	**Fethiye**	**4.75**	**29**	Pn		**Pn**		**23 31 58.1**	**+1.5**
RYAN	**Fayoum**	**4.87**	**133**	P		**Pn**		**23 31 59.5**	**+1.3**
MLSB	**Milas**	**4.95**	**14**	Pn		**Pn**		**23 32 00.9**	**+1.5**
CAME	**Cameli-Denizli**	**5.11**	**29**	Pn		**Pn**		**23 32 02.7**	**+1.1**
ELL	**Elmali**	**5.21**	**35**	Pn		**Pn**		**23 32 03.9**	**+0.9**
APMY	**Acipayam-Deniz**	**5.57**	**26**	Pn		**Pn**		**23 32 08.7**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**5.61**	**14**	Pn		**Pn**		**23 32 09.7**	**+1.3**

---

*IDC **20** 23:34:23.6±0.7, 12°.83S×45°.41E, h0km, mb3.8/9, mbtmp3.9/12, ML4.4/4, MS3.3/8, Error ellipse: s-maj=22.8km s-min=18.6km az=117.0*
*NEIC **20** 23:34:24.2±1.7, 12°.73S±0°.09×45°.4E±0°.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=17.0km s-min=14.6km az=272.0*

ISC 20 23:34:24.0±0.5, **12°.85S**±0°.06×**45°.36E**±0°.06, **h10**km, **n36**, σ1°.**84**/36, **mb4.2**/10, **MS3.1**/7, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.95**	**163**	Pn		**Pn**		**23 35 53.8**	**+1.4**
9.7nm,0.3s,baz=337,slow=12,SNR=688									
OPO					Sn		**Sn**	**23 36 55.7**	**-5.0**
8.6nm,0.3s,baz=268,slow=21,SNR=8.9									
ABPO	**Ambohimpanom**	**6.39**	**164**			**Pn**		**23 35 59.6**	**+1.2**
VOI	**Vohitsoka**	**9.11**	**172**			**Pn**		**23 36 36.8**	**+1.1**
ZOMB	**Zomba**	**10.03**	**254**	*i* PN		**Pn**		**23 36 50.5**	**+2.2**
ZOMB				*i* SN		**Sn**		**23 38 36.2**	**-4.9**
FOMA	**Nahampoana Res**	**12.15**	**173**	Pn		**Pn**		**23 37 16.2**	**-1.1**
KIBK	**Kibwezi**	**12.71**	**325**			**Pn**		**23 37 22.8**	**-2.2**
MSEY	**Mahe Island**	**12.88**	**52**	Pn		**Pn**		**23 37 25.0**	**-2.3**
RER	**Riviere de l'E**	**12.91**	**131**	Pn		**Pn**		**23 37 26.8**	**-1.0**
KMBO	**Kilima Mbogo**	**14.15**	**325**			**Pn**		**23 37 42.9**	**-2.0**
KMBO	**Kilima Mbogo**	**14.15**	**325**	Pn		**Pn**		**23 37 44.2**	**-0.7**
0.6nm,0.3s,baz=132,slow=12,SNR=8.7									
KMBO					Sn		Sn	23 40 12.1	-10
0.5nm,0.3s,baz=216,slow=23,SNR=2.3									
2.3nm,0.5s									
LSZ	**Lusaka**	**16.83**	**260**			**Pn**		**23 38 20.3**	**+0.2**
LSZ					IAmb		IAmb	23 38 23.4	
comp=Z,5.9nm,0.8s									
LSZ	**Lusaka**	**16.83**	**260**	Pn		**Pn**		**23 38 21.5**	**+1.4**
comp=Z,0.5nm,0.3s,baz=86,slow=9.8,SNR=12									
LSZ					Sn		Sn	23 41 16.6	-11
comp=Z,0.2nm,0.3s,baz=358,slow=10,SNR=5.3									
LSZ					LR		LR	23 44 37.0	
comp=Z,134nm,19.0s,baz=106,slow=36									
comp=Z,3.6nm,0.6s									
MATP	**Matopo**	**17.81**	**243**	P		**Pn**		**23 38 33.8**	**+1.4**
comp=Z,0.3nm,0.3s,baz=88,slow=11,SNR=6.6									
MATP					S		**Sn**	**23 41 50.0**	**-1.1**
comp=Z,1.5nm,0.5s,baz=261,slow=17,SNR=2.0									
comp=Z,1.4nm,0.6s									
MBAR	**Mbarara**	**18.93**	**309**	P		**P**		**23 38 43.0**	**-2.4**
LODK	**Lodwar**	**18.98**	**328**	P		**P**		**23 38 44.7**	**-1.1**
LODK					IAmb		IAmb	23 39 11.7	
comp=Z,9.7nm,1.5s									
LBTB	**Lobatse**	**22.23**	**234**	P		**P**		**23 39 21.3**	**+0.1**
LBTB					IAmb		IAmb	23 39 39.1	
comp=Z,23nm,1.4s									
LBTB	**Lobatse**	**22.23**	**234**	P		**P**		**23 39 22.6**	**+1.5**
comp=Z,3.3nm,0.8s,baz=54,slow=8.1,SNR=6.1									
LBTB					S		**S**	**23 43 25.6**	**-0.4**
comp=Z,1.1nm,0.6s,baz=163,slow=22,SNR=1.5									
LBTB					LR		LR	23 48 05.9	
comp=Z,114nm,19.6s,baz=62,slow=37									
comp=Z,3.3nm,0.8s									
BOSA	**Boshof**	**24.42**	**227**	P		**P**		**23 39 43.8**	**+0.7**
BOSA					IAmb		IAmb	23 40 18.8	
comp=Z,24nm,1.4s									
BOSA	**Boshof**	**24.42**	**227**	P		**P**		**23 39 44.5**	**+1.4**
comp=Z,2.4nm,0.6s,baz=45,slow=9.6,SNR=6.6									
BOSA					LR		LR	23 48 30.2	
comp=Z,66nm,18.8s,baz=31,slow=35									
comp=Z,2.4nm,0.6s									
TSUM	**Tsumeb**	**27.41**	**253**	LR		LR		23 49 57.4	
comp=Z,46nm,18.6s,baz=138,slow=34									
SUR	**Sutherland**	**29.72**	**225**	P		**P**		**23 40 32.8**	**+2.0**
PALK	**Pallekele**	**40.41**	**62**	LR		LR		23 54 46.8	
comp=Z,26nm,20.1s,baz=314,slow=30									
BRTR	**Keskin Array B**	**53.43**	**349**	P		**P**		**23 43 45.4**	**+1.1**
comp=Z,0.3nm,0.7s,baz=134,slow=6.2,SNR=3.6									
comp=Z,0.3nm,0.7s									
DBIC	**Dimbokro**	**53.53**	**288**	LR		LR		00 06 43.5	
comp=Z,36nm,18.8s,baz=114,slow=36									
KKAR	**Karatay Array**	**60.26**	**21**	P		**P**		**23 44 32.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**61.31**	**61**	LR		LR		00 08 43.8	
comp=Z,10nm,19.2s,baz=260,slow=34									
ABKAR	**Akbulak array**	**63.17**	**11**	P		**P**		**23 44 52.6**	**+0.6**
ABKAR					IAmb		IAmb	23 44 53.8	
comp=Z,4.7nm,1.0s									
ABKAR	**Akbulak array**	**63.17**	**11**	P		**P**		**23 44 52.3**	**+0.3**
MKAR	**Makanchi Array**	**67.97**	**26**	P		**P**		**23 45 23.2**	**-0.1**
MKAR	**Makanchi Array**	**67.97**	**26**	P		**P**		**23 45 24.0**	**+0.8**
comp=Z,0.4nm,0.9s,baz=224,slow=7.1,SNR=10									
MKAR					LR		LR	00 15 42.3	
comp=Z,22nm,18.1s,baz=149,slow=36									
comp=Z,0.4nm,0.9s									
ESDC	**Sonseca Array**	**69.51**	**321**	P		**P**		**23 45 35.3**	**+2.2**
comp=Z,0.6nm,0.8s,baz=115,slow=6.1,SNR=1.8									
comp=Z,0.6nm,0.8s									
ZALV	**Zalesovo Beam**	**74.53**	**23**	P		**P**		**23 46 04.2**	**+1.5**
comp=Z,0.2nm,0.4s,baz=235,slow=5.1,SNR=1.3									
comp=Z,0.2nm,0.4s									
QSPA	**South Pole Qui**	**77.24**	**180**	P		**P**		**23 46 20.1**	**+1.8**
comp=Z,2.5nm,1.0s,baz=286,slow=4.9,SNR=4.4									
comp=Z,2.5nm,1.0s									
ASAR	**Alice Sprgs**	**83.63**	**113**	P		**P**		**23 46 54.5**	**+1.0**
comp=Z,1.2nm,0.7s,baz=262,slow=4.7,SNR=10									
comp=Z,1.2nm,0.7s									
WRA	**Warramunga Arr**	**84.76**	**109**	P		**P**		**23 46 59.8**	**+0.6**
comp=Z,1.9nm,0.9s,baz=259,slow=4.2,SNR=7.1									
comp=Z,1.9nm,0.9s									
TXAR	**Lajitas Array**	**146.92**	**305**	PKPbc		**PKPbc**		**23 54 07.5**	**-0.1**
comp=Z,0.2nm,0.5s,baz=67,slow=5.3,SNR=2.8									

IDC 21 00:02:22.5±1.9, **2°.35S×141°.58E, h0km, mb3.5**/2, **mbtmp3.6**/3, **ML3.8**/1, **Error ellipse: s-maj=30.6km s-min=15.1km az=172.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.89**	**259**		Pg		Pb	00 02 41.1	+0.3
261nm,0.3s,baz=253,slow=11,SNR=1166									
JAY					Lg		Lg	00 02 51.0	
521nm,0.3s,baz=143,slow=18,SNR=19									
JAY					LR		LR	00 03 20.5	
comp=Z,390nm,18.7s,baz=308,slow=65									
WRA	**Warramunga Arr**	**18.86**	**202**		P		P	00 06 43.5	-0.9
0.3nm,0.3s,baz=20,slow=12,SNR=7.1									
1.9nm,0.9s									
ASAR	**Alice Springs**	**22.46**	**199**		P		P	00 07 23.6	+0.1
1.3nm,0.6s,baz=22,slow=11,SNR=15									
1.3nm,0.6s									
H11S3	**WAKE ISLAND Hy**	**32.25**	**49**		T		T	00 44 17.4	
baz=230,slow=75,SNR=28									
H11S2	**WAKE ISLAND Hy**	**32.26**	**49**		T		T	00 44 18.1	
baz=230,slow=75,SNR=13									
H11S1	**WAKE ISLAND Hy**	**32.26**	**49**		T		T	00 44 21.6	
baz=230,slow=75,SNR=13									
H11N1	**WAKE ISLAND Hy**	**33.14**	**47**		T		T	00 45 20.4	
baz=234,slow=75,SNR=36									
H11N2	**WAKE ISLAND Hy**	**33.16**	**47**		T		T	00 45 24.1

GO02	**Mina Guanaco**	**2.39**	**248**	*eP*	**Pn**	**00 43 09.4**	**+1.9**
GO02				*eS*	**Sn**	**00 43 42.0**	**+2.2**
GO02	**Mina Guanaco**	**2.39**	**248**	*eP*	**Pn**	**00 43 09.5**	**+1.9**
GO02				IAML		00 43 43.0	
	comp=N,2μm,0.2s						
ASTB	**Santa Barbara**	**2.48**	**82**	*eP*	Pn	00 42 51.3	-17
YJA	**Yavi**	**2.59**	**36**	*eP*	**Pn**	**00 43 12.3**	**+2.1**
YJA				*eS*	**Sn**	**00 43 45.4**	**+1.1**
PB06	**IPOC Station P**	**2.74**	**305**	*eP*	**Pn**	**00 43 13.2**	**+1.7**
PB06				*eS*	**Sn**	**00 43 47.1**	**+0.1**
PB06	**IPOC Station P**	**2.74**	**305⇑**	*eP*	**Pn**	**00 43 13.3**	**+1.7**
PB06				*eS*	**Sn**	**00 43 47.1**	**+0.1**
ALOL	**LOMAS DE OLMED**	**2.93**	**81**	*eP*	**Pn**	**00 43 16.2**	**+2.5**
AHML	**Horco Molle**	**2.96**	**147**	*eP*	**Pn**	**00 43 11.7**	**-2.5**
AHML				*eP*		00 43 16.5	
AHML				*eS*	**Sn**	**00 43 53.2**	**+1.5**
PB14	**IPOC Station P**	**2.99**	**263**	Pn	**Pn**	**00 43 15.8**	**+1.1**
PB14				Sn	**Sn**	**00 43 51.5**	**-1.1**
PB14	**IPOC Station P**	**2.99**	**263**	*eP*	**Pn**	**00 43 15.9**	**+1.1**
PB14				*eS*	**Sn**	**00 43 53.0**	**+0.4**
PB14				IAML		00 43 56.1	
	comp=Z,594nm,1.0s						
PB14	**IPOC Station P**	**2.99**	**263⇑**	*eP*	**Pn**	**00 43 15.8**	**+1.1**
PB14				*eS*	**Sn**	**00 43 52.2**	**-0.5**
PB14				IAML		00 43 56.6	
	comp=E,454nm,0.3s						
AC02	**Maricunga**	**3.10**	**215**	Pn	**Pn**	**00 43 18.3**	**+2.1**
AC02	**Maricunga**	**3.10**	**215**	*eP*	**Pn**	**00 43 18.5**	**+2.3**
AC02				*eS*	**Sn**	**00 43 53.5**	**-1.8**
AC02	**Maricunga**	**3.10**	**215⇑**	*eP*	**Pn**	**00 43 18.3**	**+2.1**
AC02				*eS*	**Sn**	**00 43 57.6**	**+2.2**
PB09	**IPOC Station P**	**3.15**	**322**		**Pn**	**00 43 18.8**	**+2.1**
PB09	**IPOC Station P**	**3.15**	**322**	*eP*	**Pn**	**00 43 18.8**	**+2.1**
PB09				*eS*	**Sn**	**00 43 50.9**	**-5.2**
PB09	**IPOC Station P**	**3.15**	**322⇑**	*eP*	**Pn**	**00 43 18.6**	**+1.9**
AC01	**Pan de Azucar**	**3.63**	**239**	Pn	**Pn**	**00 43 22.8**	**+0.3**
AC01	**Pan de Azucar**	**3.63**	**239**	*eP*	**Pn**	**00 43 22.7**	**+0.3**
AC01				*eS*	**Sn**	**00 44 05.7**	**-0.7**
AC01				IAML		00 44 08.4	
	comp=Z,314nm,0.3s						
AC01	**Pan de Azucar**	**3.63**	**239⇑**	*eP*	**Pn**	**00 43 22.8**	**+0.3**
AC01				*i* S	**Sn**	**00 44 05.2**	**-1.3**
PB01	**IPOC Station P**	**3.90**	**326**		**Pn**	**00 43 26.8**	**+0.8**
PB01	**IPOC Station P**	**3.90**	**326**	*eP*	**Pn**	**00 43 26.6**	**+0.6**
PB01				*eS*	**Sn**	**00 44 11.7**	**-1.0**
PB01				IAML		00 44 13.5	
	comp=Z,970nm,0.4s						
PB01	**IPOC Station P**	**3.90**	**326**	*eP*	**Pn**	**00 43 26.7**	**+0.8**
CYA	**Choya**	**4.30**	**164**	*eP*	**Pn**	**00 43 33.6**	**+2.7**
CYA				*eS*	**Sn**	**00 44 24.5**	**+2.7**
PX03	**IPOC Station P**	**4.51**	**329**	*eP*	**Pn**	**00 43 35.5**	**+1.7**
PX03				*i* S	**Sn**	**00 44 24.5**	**-2.3**
VCA	**Vinchina**	**4.52**	**192**	*eP*	**Pn**	**00 43 36.7**	**+2.8**
VCA				*eS*	**Sn**	**00 44 24.6**	**-2.5**
PB08	**IPOC Station P**	**4.54**	**335**		**Pn**	**00 43 35.2**	**+0.8**
PB08	**IPOC Station P**	**4.54**	**335**	*eP*	**Pn**	**00 43 35.8**	**+1.4**
PB08				*eS*	**Sn**	**00 44 25.9**	**-2.0**
PB08				IAML		00 44 31.9	
	comp=Z,160nm,0.2s						
TA01	**Diego Aracena**	**4.66**	**322**	Pn	**Pn**	**00 43 36.1**	**+0.5**
TA01	**Diego Aracena**	**4.66**	**322**	*eP*	**Pn**	**00 43 35.6**	**0.0**
TA01				*eS*	Sn	00 44 17.0	-13
TA01				IAML		00 44 30.5	
	comp=Z,385nm,0.5s						
TA01	**Diego Aracena**	**4.66**	**322**	*eP*	**Pn**	**00 43 35.9**	**+0.3**
TA02	**Huaiquique**	**4.87**	**325**		**Pn**	**00 43 38.4**	**0.0**
PB11	**IPOC Station P**	**5.08**	**332**		**Pn**	**00 43 40.9**	**-0.4**
PB11	**IPOC Station P**	**5.08**	**332**	*eP*	**Pn**	**00 43 40.7**	**-0.6**
PB11				*eS*	Sn	00 44 28.0	-12
PB11				IAML		00 45 16.3	
	comp=Z,236nm,0.8s						
AC04	**Llanos de Chal**	**5.25**	**221**	Pn	**Pn**	**00 43 42.3**	**-1.0**
AC04	**Llanos de Chal**	**5.25**	**221**	*eS*	**Sn**	**00 44 38.1**	**-5.8**
AC04				IAML		00 44 46.5	
	comp=Z,164nm,0.8s						
AC04	**Llanos de Chal**	**5.25**	**221**	*eP*	**Pn**	**00 43 42.1**	**-1.1**
AC04				*i* S	**Sn**	**00 44 41.7**	**-2.2**
AGUA	**GUANDACOL**	**5.31**	**193**	*eP*	**Pn**	**00 43 45.6**	**+1.5**
AGUA				*eS*	**Sn**	**00 44 41.3**	**-4.0**
LCO	**Las Campanas**	**5.67**	**213**	Pn	**Pn**	**00 43 48.5**	**-0.5**
CO01	**Juntas del Tor**	**6.24**	**204**		**Pn**	**00 43 56.7**	**+0.3**
PB12	**IPOC Station P**	**6.39**	**332**		**Pn**	**00 43 57.3**	**-1.0**
CO05	**La Serena**	**6.68**	**212**	Pn	**Pn**	**00 44 00.8**	**-1.2**
GO04	**Tololo Observa**	**6.70**	**208**		**Pn**	**00 44 00.3**	**-2.1**
PB18	**Visviri**	**7.03**	**341**		**Pn**	**00 44 09.2**	**+2.1**
CO03	**El Pedregal**	**7.24**	**205**		**Pn**	**00 44 08.1**	**-1.3**
CFA	**Coronel Fontan**	**7.34**	**187**	P	**Pn**	**00 44 10.9**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=7.5,slow=14,SNR=9.5						
CFA				S	**Sn**	**00 45 29.3**	**-4.1**
	comp=Z,6.2nm,0.5s,baz=273,slow=22,SNR=6.8						
CO06	**Fray Jorge**	**7.50**	**211**		**Pn**	**00 44 11.0**	**-1.7**
LPAZ	**La Paz**	**8.03**	**353**	P	**Pn**	**00 44 21.3**	**+0.9**
	comp=Z,11nm,0.4s,baz=156,slow=7.4,SNR=95						
LPAZ				S	**Sn**	**00 45 49.2**	**-1.4**
	comp=Z,12nm,0.8s,baz=190,slow=12,SNR=8.4						
LPAZ	**La Paz**	**8.03**	**353**	*eP*	**Pn**	**00 44 21.0**	**+0.6**
LPAZ				*eS*	**Sn**	**00 45 47.8**	**-2.8**
PAPY	**Pozo Azul**	**8.14**	**90**	*eP*	**Pn**	**00 44 22.5**	**+1.3**
VA03	**San Esteban**	**8.95**	**199**	Pn	**Pn**	**00 44 31.4**	**-0.5**
CPUP	**Villa Florida**	**9.10**	**105**	Pn	**Pn**	**00 44 32.7**	**-1.2**
CPUP	**Villa Florida**	**9.10**	**105**	P	**Pn**	**00 44 34.0**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=279,slow=14,SNR=6.6						
CPUP	**Villa Florida**	**9.10**	**105**	*eP*	**Pn**	**00 44 34.4**	**+0.5**
MT08	**Bocatoma Ro**	**9.46**	**195**		**Pn**	**00 44 39.6**	**+0.9**
MT02	**Curacav**	**9.59**	**201**	Pn	**Pn**	**00 44 37.3**	**-2.9**
MT09	**Talagante**	**10.02**	**199**	Pn	**Pn**	**00 44 43.2**	**-2.9**
SIV	**San Ignacio**	**10.04**	**36**	P	**Pn**	**00 44 44.5**	**-1.8**
	comp=Z,12nm,0.6s,baz=210,slow=13,SNR=49						
SJPY	**San Joaquin**	**10.06**	**96**	*eP*	**Pn**	**00 44 45.7**	**-0.9**
BO04	**La Punta**	**10.12**	**197**		**Pn**	**00 44 45.7**	**-1.5**
BDQN	**Bodoquena, MS**	**10.35**	**70**	*eP*	**Pn**	**00 44 48.8**	**-1.5**
AQDB	**Aquidauana**	**11.25**	**72**		**Pn**	**00 44 58.6**	**-3.4**
AQDB	**Aquidauana**	**11.25**	**72**	*eP*	**Pn**	**00 45 00.7**	**-1.2**
PTLB	**Pontes e Lacer**	**11.58**	**42**	Pn	**Pn**	**00 45 03.5**	**-2.8**
PTLB	**Pontes e Lacer**	**11.58**	**42**	*eP*	**Pn**	**00 45 05.3**	**-1.0**
TBOT	**Tacuaremb**	**12.33**	**129**	*eP*	**Pn**	**00 45 17.6**	**+1.9**
BI02	**San Fabin de**	**12.83**	**195**	Pn	**Pn**	**00 45 22.4**	**+0.3**
RPRD	**Ribas do Rio P**	**13.00**	**76**	*eP*	**Pn**	**00 45 24.7**	**+0.2**
VILB	**Vilhena**	**13.06**	**31**	Pn	**Pn**	**00 45 25.1**	**-0.1**
VILB	**Vilhena**	**13.06**	**31**	*eP*	**Pn**	**00 45 26.5**	**+1.3**
CPSB	**Cacapava Do Su**	**13.61**	**120**	*eP*	**Pn**	**00 45 31.8**	**-0.2**
SALV	**Santo Antonio**	**13.61**	**54**	*eP*	**Pn**	**00 45 31.2**	**-0.9**
PTGB	**Pitanga**	**13.73**	**95**	*eP*	**P**	**00 45 35.4**	**-1.2**
PLTB	**Pedras Altas**	**14.07**	**125**	Pn	**Pn**	**00 45 37.1**	**-0.6**
PLTB	**Pedras Altas**	**14.07**	**125**	*eP*	**P**	**00 45 40.7**	**+0.6**
C2SB	**Chapadao do Su**	**14.40**	**70**	*eP*	**P**	**00 45 43.8**	**-0.1**
TRQA	**Tornquist**	**14.40**	**163**	Pn	**Pn**	**00 45 41.1**	**-0.8**
LDASE	**Londrina, Braz**	**14.69**	**90**	*eP*	**Pn**	**00 45 45.6**	**0.0**
CNLB	**Canela**	**15.37**	**112**	*eP*	**Pn**	**00 45 53.6**	**-0.4**
PDRB	**Porto dos Gac**	**16.03**	**40**	*eP*	**P**	**00 46 01.0**	**-1.0**
FRTB	**Fartura**	**16.11**	**90**	*eP*	**P**	**00 46 02.3**	**-0.6**
ITRB	**Iturama**	**16.22**	**77**	*eP*	**Pn**	**00 46 04.6**	**+0.4**
LR05	**Currie**	**16.40**	**193**		**Pn**	**00 46 06.4**	**+0.1**
LR05				IAmb	IAmb	00 46 11.2	
	comp=Z,23nm,1.1s						
MAJ01	**Sao Joao Batis**	**16.61**	**105**	*eP*	**Pn**	**00 46 08.9**	**0.0**
PLCA	**Paso Flores**	**16.64**	**189**	P	**Pn**	**00 46 10.4**	**+1.2**
	comp=Z,3.6nm,0.9s,baz=3.6,slow=12,SNR=7.0						
PLCA	**Paso Flores**	**16.64**	**189**	*eP*	**Pn**	**00 46 10.6**	**+1.5**
TER01	**Tubaro-SC**	**16.67**	**109**	*eP*	**Pn**	**00 46 09.5**	**-0.2**
ARAG	**Araguaiana, MT**	**16.74**	**62**	*eP*	**Pn**	**00 46 10.3**	**-0.2**
LL04	**Puerto Octay**	**17.14**	**194**	P	**P**	**00 46 13.2**	**-0.8**
LL04				IAmb	IAmb	00 46 19.1	
	comp=Z,19nm,1.2s						
CLDB	**Colider**	**17.16**	**41**	*eP*	**Pn**	**00 46 14.9**	**-0.8**
BB19B	**Bebedouro**	**17.47**	**83**	*eP*	**Pn**	**00 46 19.0**	**-0.3**
SPB	**Sao Paulo**	**18.03**	**92**	P	**P**	**00 46 21.8**	**-2.1**
SPB				IAmb	IAmb	00 46 26.1	
	comp=Z,22nm,1.3s						
SPB	**Sao Paulo**	**18.03**	**92**	*eP*	**P**	**00 46 24.6**	**+0.7**
VAO	**Valinhos**	**18.53**	**90**		**P**	**00 46 28.8**	**-0.6**
VAO	**Valinhos**	**18.53**	**90**	*eP*	**P**	**00 46 29.4**	**0.0**
IPMB	**Ipameri, GO**	**18.73**	**74**	*eP*	**P**	**00 46 31.9**	**+0.2**
SNDB	**Serra Nova Dou**	**19.39**	**54**	*eP*	**P**	**00 46 38.2**	**-0.5**
PARB	**Paraibuna**	**19.71**	**92**	*eP*	**P**	**00 46 42.6**	**+0.4**
BDFB	**Brasilia**	**19.91**	**68**	P	**P**	**00 46 44.2**	**-0.2**
BDFB	**Brasilia**	**19.91**	**68**	P	**P**	**00 46 44.5**	**0.0**
	comp=Z,15nm,0.4s,baz=245,slow=10.0,SNR=43						
PMNB	**Patos De Minas**	**20.10**	**77**	*eP*	**P**	**00 46 46.1**	**-0.3**
NPGB	**Novo Progresso**	**20.54**	**35**	*eP*	**P**	**00 46 49.1**	**-2.0**
AY01	**Puyuhuapi**	**20.57**	**191**	P	**P**	**00 46 50.3**	**-0.7**
AY01				IAmb	IAmb	00 47 04.2	
	comp=Z,19nm,1.3s						
TEFE	**Tefe**	**20.81**	**7**	*eP*	**P**	**00 46 54.0**	**+0.2**
BSCB	**Bom Sucesso**	**20.90**	**85**	*eP*	**P**	**00 46 54.2**	**-0.7**
MACA	**Manacapuru-AM**	**21.92**	**18**	P	**P**	**00 47 03.9**	**-1.7**
MACA				IAmb	IAmb	00 47 06.8	
	comp=Z,16nm,1.0s						
MACA	**Manacapuru-AM**	**21.92**	**18**	*eP*	**P**	**00 47 04.3**	**-1.2**
DIAM	**Diamantina, MG**	**22.65**	**79**	*eP*	**P**	**00 47 12.6**	**0.0**
ITTB	**Itaituba**	**22.66**	**31**	*eP*	**P**	**00 47 11.4**	**-1.1**
DUB01	**Friburgo-RJ**	**22.86**	**89**	*eP*	**P**	**00 47 15.1**	**+0.7**
JANB	**Januaria**	**23.35**	**71**	*eP*	**P**	**00 47 18.1**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.15**	**65**	*eP*	**P**	**00 47 25.9**	**-0.2**
SMTB	**Santa Maria do**	**24.17**	**54**	*eP*	**P**	**00 47 26.2**	**-0.1**
MAL2	**Monte Alegre,**	**25.45**	**31**	P	**P**	**00 47 36.3**	**-1.5**
MAL2				IAmb	IAmb	00 47 54.5	
	comp=Z,27nm,1.4s						
BOAV	**Boa Vista**	**27.30**	**15**	P	**P**	**00 47 54.0**	**-0.4**
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**00 52 08.5**	**+0.9**
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**00 52 07.7**	**+0.1**
SNAA				IAmb	IAmb	00 52 49.8	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**59.11**	**161**	⇑P	**P**	**00 52 08.5**	**+0.9**
	comp=Z,63nm,0.6s						
SNAA	**Sanae**	**59.11**	**161**	P	**P**	**00 52 08.3**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=264,slow=10,SNR=13						
	comp=Z,2.2nm,0.5s						
TROLL	**Troll, Antarti**	**60.83**	**161**	P	**P**	**00 52 21.3**	**+2.0**
TROLL	**Troll, Antarti**	**60.83**	**161**	⇑P	**P**	**00 52 21.3**	**+2.0**
	comp=Z,199nm,0.5s						
WVT	**Waverly**	**63.20**	**341**	P	**P**	**00 52 34.8**	**-0.6**
TXAR	**Lajitas Array**	**63.85**	**325**	P	**P**	**00 52 41.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=134,slow=4.8,SNR=5.3						
	comp=Z,0.2nm,0.6s						
Q54A	**Coxs Mills**	**64.24**	**348**	P	**P**	**00 52 41.1**	**-1.1**
PBMO	**Poplar Bluff**	**64.60**	**339**	P	**P**	**00 52 43.6**	**-0.9**
PBMO				IAmb	IAmb	00 53 00.9	
	comp=Z,8.3nm,1.2s						
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**00 52 54.4**	**+1.6**
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**00 52 54.7**	**+1.9**
	comp=Z,4.3nm,0.5s,baz=64,slow=0.3,SNR=61						
	comp=Z,4.3nm,0.5s						
DBIC	**Dimbokro**	**68.02**	**71**	P	**P**	**00 53 06.4**	**-0.4**
DBIC				IAmb	IAmb	00 53 08.2	
	comp=Z,14nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**00 53 59.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**00 53 59.6**	**+0.9**
	comp=Z,28nm,0.3s,baz=253,slow=4.4,SNR=1.6						
PDAR	**Pinedale Array**	**77.34**	**329**	P	**P**	**00 54 02.7**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=133,slow=7.6,SNR=6.4						
	comp=Z,0.6nm,0.8s						
ELK	**Elko**	**78.64**	**325**	P	**P**	**00 54 10.6**	**+1.9**
	comp=Z,1.8nm,1.0s,baz=135,slow=4.3,SNR=4.9						
	comp=Z,1.8nm,1.0s						
BOSA	**Boshof**	**80.71**	**117**	P	**P**	**00 54 20.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=245,slow=2.2,SNR=11						
	comp=Z,1.2nm,0.5s						
PLID	**Pearl Lake**	**82.16**	**327**	P	**P**	**00 54 28.5**	**+1.2**
YKA	**Yellowknife Ar**	**94.36**	**340**	P	**P**	**00 55 25.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=138,slow=4.4,SNR=10						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**128.13**	**205**	PKP	**PKiKP**	**01 01 12.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=138,slow=1.6,SNR=10						
WRA	**Warramunga Arr**	**131.30**	**207**	PKP	**PKiKP**	**01 01 19.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=154,slow=1.7,SNR=13						
PETK	**Petropavlovsk-**	**135.77**	**322**	PKP	**PKiKP**	**01 01 26.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=90,slow=4.3,SNR=1.0						
BVAR	**Borovoye Array**	**137.11**	**37**	PKP	**PKiKP**	**01 01 29.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=299,slow=4.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**142.69**	**36**	PKP	**PKiKP**	**01 01 39.6**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=313,slow=2.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**143.72**	**28**	PKP	**PKPdf**	**01 01 38.8**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=312,slow=3.9,SNR=9.6						
MKAR	**Makanchi Array**	**146.84**	**40**	PKPbc	**PKPbc**	**01 01 46.9**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=295,slow=3.5,SNR=45						

TXNET 21 00:44:14.7, 31°.6N±0°.8×104°.2W±0°.9, h7km±2km, ML1.1/6, Error ellipse: s-maj=1.5km s-min=1.1km az=59.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.33**	**28**	P	Pg	00 44 21.9	+0.6
TPB11				S	Sg	00 44 26.6	+0.9
PECS	**Pecos**	**0.40**	**132**	P	Pb	00 44 23.9	-0.4
PECS				S	Sg	00 44 29.2	+1.3
TPB07	**Mentone**	**0.47**	**97**	S	Sb	00 44 31.8	-0.8
TPB12	**Southwest of T**	**0.48**	**152**	P	Pb	00 44 25.1	-0.5
TPB12				S	Sg	00 44 31.6	+1.3
TPB10	**Southeast of T**	**0.53**	**132**	S	Sb	00 44 33.7	-0.7
GDL2	**Guadalupe Moun**	**0.57**	**348**	P	Pb	00 44 26.6	-0.5
CLNB	**Carlsbad**	**0.69**	**25**	S	Sb	00 44 38.8	-0.1
TPB01	**Permian Basin**	**0.79**	**152**	P	Pg	00 44 30.0	+0.1
TPB01				S	Sg	00 44 40.8	+0.7
CLN7	**Carlsbad 7**	**0.85**	**24**	P	Pn	00 44 32.9	-0.2
TPB06	**Permian Basin**	**0.85**	**89**	S	Sb	00 44 43.3	-0.3
TPB04	**Verhalen**	**0.93**	**119**	S	Sb	00 44 46.0	+0.2
HTMS	**Hat Mesa**	**0.97**	**31**	S	Sb	00 44 47.6	+0.6
MNTX	**Cornudas Mount**	**0.99**	**274**	P	Pg	00 44 33.9	+0.1
MNTX				S	Sg	00 44 46.9	+0.2
TPB05	**Hovey Rd**	**1.05**	**133**	S	Sb	00 44 49.5	+0.2
VHRN	**Van Horn**	**1.07**	**218**	P	Pg	00 44 35.4	0.0
VHRN				S	Sb	00 44 50.4	+0.4
MNHN	**Monahans**	**1.28**	**103**	S	Sn	00 44 58.1	+1.5
TPB08	**Permian Basin**	**1.35**	**123**	S	Sn	00 45 00.1	+1.9
ALPN	**Alpine**	**1.36**	**158**	P	Pn	00 44 40.0	-0.3
ALPN				S	Sb	00 44 57.6	-0.6
CPRX	**Cap Rock**	**1.42**	**12**	P	Pg	00 44 41.9	0.0
ODSA	**Odessa**	**1.50**	**71**	S	Sg	00 45 03.2	+0.3
TMB04	**Seminole**	**1.77**	**56**	S	Sg	00 45 11.5	0.0
TMB02	**Rankin**	**1.92**	**103**	P	Pb	00 44 50.3	+0.3
TMB02				S	Sb	00 45 15.0	+0.8
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	00 44 57.3	-0.1
TX31				S	Sg	00 45 28.8	-1.3

TXNET 21 00:54:04.3, 31°.6N±0°.7×104°.6W±0°.7, h4km±2km, ML1.5/6, Error ellipse: s-maj=1.1km s-min=1.0km az=11.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**56**	P	Pg	00 54 15.1	+0.3
TPB11				S	Sg	00 54 22.0	+0.2
GDL2	**Guadalupe Moun**	**0.59**	**17**	P	Pg	00 54 15.8	+0.1
PECS	**Pecos**	**0.65**	**113**	P	Pg	00 54 17.2	+0.4
PECS				S	Sg	00 54 26.0	+0.6
TPB12	**Southwest of T**	**0.67**	**129**	P	Pg	00 54 17.2	+0.1
TPB12				S	Sg	00 54 26.5	+0.7
MNTX	**Cornudas Mount**	**0.70**	**276**	P	Pg	00 54 17.7	+0.1
MNTX				S	Sg	00 54 27.0	+0.3
CLNB	**Carlsbad**	**0.86**	**43**	S	Sg	00 54 32.5	+0.6
VHRN	**Van Horn**	**0.92**	**203**	P	Pg	00 54 21.8	0.0
VHRN				S	Sg	00 54 34.2	+0.5
PCOS	**Crockett Middl**	**0.93**	**104**	S	Sg	00 54 34.7	+0.6
TPB01	**Permian Basin**	**0.96**	**135**	S	Sg	00 54 35.5	+0.3
HTMS	**Hat Mesa**	**1.15**	**43**	S	Sb	00 54 42.1	-0.2
HTMS	**Hat Mesa**	**1.15**	**43**	P	Pg	00 54 26.0	-0.4
TPB04	**Verhalen**	**1.20**	**111**	S	Sg	00 54 43.0	+0.3
TPB16	**Coyonosa**	**1.23**	**114**	S	Sb	00 54 44.8	+0.3
TPB05	**Hovey Rd**	**1.28**	**123**	S	Sb	00 54 45.7	-0.1
ALPN	**Alpine**	**1.49**	**147**	P	Pn	00 54 31.3	-0.7
ALPN				S	Sb	00 54 51.1	-0.8
MNHN	**Monahans**	**1.57**	**100**	P	Pb	00 54 33.6	-0.4
MNHN				S	Sg	00 54 54.7	-0.1
ODSA	**Odessa**	**1.79**	**74**	S	Sg	00 55 01.1	-0.5
TMB04	**Seminole**	**2.02**	**60**	S	Sb	00 55 06.4	-0.9
TMB02	**Rankin**	**2.21**	**101**	P	Pb	00 54 43.6	-1.1
TMB02				S	Sn	00 55 10.9	+1.3
TX31	**Lajitas Ar. Si**	**2.42**	**161**	P	Pn	00 54 46.3	+1.5
TX31				S	Sn	00 55 16.7	+1.8
SAND	**Sanderson**	**2.69**	**128**	S	Sb	00 55 25.9	-0.5

*IDC **21** 01:06:46.5±0.9, 35°.74N×29°.50E, h0km, mb4.0/7, mbtmp4.0/15, ML3.7/5, MS2.7/4, Error ellipse: s-maj=20.7km s-min=14.0km az=172.0*
*ISK **21** 01:06:49.2, 35°.55N×29°.45E, h21km, ML3.7/52*
*GII **21** 01:06:49.8±0.0, 35°.422N±0°.003×29°.423E±0°.001, h40km, Mws3.8, confirmed*
*AFAD **21** 01:06:50.8, 35°.64N×29°.33E, h40km±1km, MW3.7*

*ATH **21** 01:06:50.6, 35°.65N×29°.50E, h23km±4km, ML3.6/13, Manual Solution by A.Fokaefs First location: 2019/02/21 01:08:25, This location: 2019/02/21 09:43:10 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 4 km
*NIC **21** 01:06:51.2, 35°.51N×29°.50E, h37km±57km, Ml3.5/9*
*NEIC **21** 01:06:52.0±1.4, 35°.62N±0°.05×29°.45E±0°.04, h35km±2km, mb4.3/35, Error ellipse: s-maj=8.1km s-min=5.7km az=185.0*
*HLW **21** 01:06:53.3, 35°.41N×29°.42E, h27km±21km, Md4.5, Ml4.2*
ISC 21 01:06:50.0±1.2, 35°.54N±0°.03×29°.48E±0°.03, h26km±9km, n261, σ1§18/285, mb4.3/25, 5C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.70**	**8**	Pg	**Pb**	**01 07 03.8**	**+0.1**
AKAS				Sg	**Sb**	**01 07 13.9**	**+0.8**
AKAS	**Kas**	**0.70**	**8**		**Pb**	**01 07 03.9**	**+0.1**
AKAS				Sn	**Sb**	**01 07 13.3**	**+0.3**
AKAS	**Kas**	**0.70**	**8**	P	**Pn**	**01 07 04.2**	**-0.2**
AKAS				S	**Sb**	**01 07 13.9**	**+0.8**
AKAS				*i* AML	AML	01 07 20.0	
	comp=N,5μm,0.7s						
AKAS				*i* AML	AML	01 07 27.0	
	comp=E,3μm,0.6s						
DEMR	**Demre-Antalya**	**0.78**	**26**	Pg	**Pn**	**01 07 05.3**	**-0.1**
DEMR				Sg	**Sb**	**01 07 15.6**	**+0.5**
IZZE	**Mula-Seydike**	**0.92**	**347**	P	**Pb**	**01 07 06.8**	**-0.6**
IZZE				S	**Sb**	**01 07 18.6**	**-0.6**
IZZE				*i* AML	AML	01 07 27.0	
	comp=N,2μm,0.6s						
IZZE				*i* AML	AML	01 07 31.0	
	comp=E,1μm,0.9s						
AKUM	**Antalya-Kumluc**	**1.05**	**41**	P	**Pn**	**01 07 09.3**	**+0.2**
AKUM				*i* AML	AML	01 07 35.0	
	comp=N,756nm,0.7s						
AKUM				*i* AML	AML	01 07 36.0	
	comp=E,654nm,0.4s						
FETY	**Fethiye**	**1.14**	**344**	Pn	**Pn**	**01 07 10.2**	**-0.2**
ELL	**Elmali**	**1.25**	**16**	Pn	**Pn**	**01 07 12.1**	**0.0**
ELL	**Elmali**	**1.25**	**16**		**Pn**	**01 07 12.4**	**+0.3**
ELL	**Elmali**	**1.25**	**16⇑**	*eP*	**Pn**	**01 07 12.4**	**+0.3**
ELL				S	**Sb**	**01 07 30.5**	**+1.5**
ELL	**Elmali**	**1.25**	**16**	P	**Pn**	**01 07 12.3**	**+0.3**
ARG	**Arkhangelos**	**1.29**	**302**	Pn	**Pn**	**01 07 12.4**	**0.0**
ARG	**Arkhangelos**	**1.29**	**302**		**Pn**	**01 07 12.2**	**-0.3**

LEF	Lefka	2.82	98	Pn	Pn	01 07 33.8	+0.4
APOL	The Sanctuary	2.90	106	P	Pn	01 07 35.9	+1.3
APOL				S	Sn	01 08 08.3	-0.3
APOL				AML	AML	01 08 19.5	
	0.5nm,0.5s						
APOL				AML	AML	01 08 21.9	
	0.4nm,0.7s						
ODEM	Odemis-Izmir	2.96	338	Pn	Pn	01 07 36.3	+0.9
SMG	Samos	3.04	316	P	Pn	01 07 36.2	-0.2
MANT	Manisa	3.04	346	Pn	Pn	01 07 36.6	-0.1
KULA	Kula-Manisa	3.04	348	Pn	Pn	01 07 37.1	+0.5
SHUT	Suhut-Afyon	3.13	16	Pn	Pn	01 07 39.1	+1.3
BERE	Bereket-Mersin	3.14	74	Pn	Pn	01 07 39.5	+1.5
ASGA	Asgata	3.17	103	P	Pn	01 07 39.6	+1.2
ASGA				S	Sn	01 08 16.2	+0.8
ASGA				AML	AML	01 08 24.1	
	0.5nm,0.4s						
ASGA				AML	AML	01 08 24.3	
	0.8nm,0.4s						
ASGA	Asgata	3.17	103	P	Pn	01 07 39.3	+1.0
CSS	Mathiatis	3.20	99	Pn	Pn	01 07 39.6	+0.9
CSS	Mathiatis	3.20	99	Pn	Pn	01 07 39.3	+0.6
CSS	Mathiatis	3.20	99	eP	Pn	01 07 39.7	+0.9
CSS				S	Sn	01 08 14.9	-1.1
CSS				AML	AML	01 08 18.7	
	0.4nm,0.9s						
CSS				AML	AML	01 08 23.0	
	0.4nm,0.4s						
CSS	Mathiatis	3.20	99	P	Pn	01 07 38.3	-0.4
CSS	Mathiatis	3.20	99	S	Sn	01 08 16.1	+0.1
CSS	Mathiatis	3.20	99	P	Pn	01 07 39.3	+0.6
ATHAL	Athalassa	3.22	96	P	Pn	01 07 41.0	+2.0
ATHAL				S	Sn	01 08 17.2	+0.7
ATHAL				AML	AML	01 08 29.8	
	0.9nm,0.7s						
ATHAL				AML	AML	01 08 39.6	
	0.6nm,0.5s						
YORU	Yoruktepe-Mers	3.25	78	Pn	Pn	01 07 40.9	+1.6
GMLD	Gumuldur	3.27	322	Pn	Pn	01 07 40.8	+1.3
LFK	Lefkose	3.32	93	Pn	Pn	01 07 42.5	+2.2
KONT	Konya--Tatoy	3.33	43	Pn	Pn	01 07 42.1	+1.6
TEVE	Tevekalti-Mers	3.33	73	Pn	Pn	01 07 42.3	+1.7
AKK1	Akkuyu-Mersin	3.35	78	Pn	Pn	01 07 42.8	+2.1
AKKU	Akkuyu-Mersin	3.36	78	Pn	Pn	01 07 42.1	+1.2
CMBO	Columbo, Santo	3.43	287	P	Pn	01 07 42.4	+0.5
MVOU	Mavrovouni	3.43	98	P	Pn	01 07 42.9	+1.0
MVOU				S	Sn	01 08 19.5	-2.3
MVOU				AML	AML	01 08 28.7	
	0.3nm,0.5s						
MVOU				AML	AML	01 08 35.3	
	0.3nm,0.8s						
MVOU	Mavrovouni	3.43	98	P	Pn	01 07 42.4	+0.5
YESI	Yesilovacik-Me	3.44	78	Pn	Pn	01 07 43.9	+1.9
BLCB	Balcova	3.45	326	Pn	Pn	01 07 42.5	+0.4
TISA	Tisan-Mersin	3.46	78	Pn	Pn	01 07 44.2	+1.9
IKL	Isikli	3.48	77	Pn	Pn	01 07 44.5	+2.0
KARG	Kargicak-Mersi	3.50	78	Pn	Pn	01 07 44.7	+2.0
LADK	Ladik-KONYA	3.52	40	Pn	Pn	01 07 44.8	+1.6
GORD	Gordes-Manisa	3.52	343	Pn	Pn	01 07 44.2	+1.0
APE	Apeiranthos	3.54	297	Pn	Pn	01 07 44.0	+0.6
APE	Apeiranthos	3.54	297	P	Pn	01 07 43.2	-0.2
APE	Apeiranthos	3.54	297	S	Sn	01 08 22.6	-1.8
APE	Apeiranthos	3.54	297	P	Pn	01 07 43.7	+0.3
KEBE	Keben-Mersin	3.55	74	Pn	Pn	01 07 45.3	+1.8
SIMA	Simav-Kutahya	3.56	354	Pn	Pn	01 07 44.7	+1.0
SILI	Silifke-Mersin	3.70	76	Pn	Pn	01 07 47.3	+1.8
PAR1C	Paralimni Civi	3.71	97	P	Pn	01 07 48.6	+2.9
PAR1C				S	Sn	01 08 11.5	-17
IDI	Anoyia	3.76	268	Pn	Pn	01 07 47.2	+0.7
	63nm,0.6s,baz=86,slow=14,SNR=84						
IDI				Sn	Sn	01 08 27.7	-2.2
	13nm,0.3s,baz=143,slow=20,SNR=10						
IDI	Anoyia	3.76	268	P	Pn	01 07 47.3	+0.9
PARAL	Paralimni	3.77	97	P	Pn	01 07 50.1	+3.6
PARAL				S	Sn	01 08 33.3	+3.3
PARAL				AML	AML	01 08 40.7	
	0.3nm,0.8s						
PARAL				AML	AML	01 08 44.8	
	0.3nm,1.2s						
KIZT	Kizilcal	3.84	29	Pn	Pn	01 07 48.4	+0.7
TMBK	Timbaki Herakl	3.89	264	P	Pn	01 07 50.1	+2.0
TVSB	Tavsanli	3.90	360	Pn	Pn	01 07 48.1	-0.4
CIFT	Cifteler, Eski	4.02	18	Pn	Pn	01 07 50.4	+0.4
CHBY	Cihanbeyli	4.08	41	Pn	Pn	01 07 52.6	+1.7
BORA	Eskisehir	4.40	10	Pn	Pn	01 07 55.6	+0.3
GVD	Gavdhos	4.47	263	P	Pn	01 07 57.8	+1.6
PRK	Paraskevi	4.50	326	P	Pn	01 07 55.9	-0.6
DB3	El Dabaa	4.56	190	P	Pn	01 07 58.7	+1.4
MATC	Matruh	4.59	205	P	Pn	01 07 59.1	+1.4
ANTO	Ankara	5.06	30		Pn	01 08 04.4	+0.2
HNTI	Hanita	5.31	116	P	Pn	01 08 06.9	-0.7
HNTI	Hanita	5.31	116	S	Sn	01 09 06.9	-1.1
BR131	Keskin Array S	5.32	37	Pn	Pn	01 08 05.5	+0.5
BRTR	Keskin Array B	5.32	37	Pn	Pn	01 08 08.9	+0.9
BRTR	Keskin Array B	5.32	37	Pn	Pn	01 08 08.6	+0.5
	1.5nm,0.3s,baz=219,slow=16,SNR=64						
BRTR				Sn	Sn	01 09 06.2	-2.3
	1.7nm,0.3s,baz=211,slow=26,SNR=11						
	5.4nm,0.5s						
BHL	Bhannes	5.34	106	eP	Pn	01 08 07.3	-0.8
DQRL	Deir Qamar	5.34	108	eP	Pn	01 08 08.4	+0.2
SLUM	Salum	5.39	223	P	Pn	01 08 09.9	+1.1
OFRI	`Ofer	5.41	121	P	Pn	01 08 08.4	-0.8
OFRI	`Ofer	5.41	121	S	Sn	01 09 09.2	-1.5
HWQ	Hawqa	5.46	101	eP	Pn	01 08 10.6	+0.7
QRWL	Qaraoun	5.49	109	eP	Pn	01 08 11.1	+0.9
BLGI	Bet Lehem HaGe	5.50	119	P	Pn	01 08 09.5	-0.8
BLGI	Bet Lehem HaGe	5.50	119	S	Sn	01 09 11.9	-0.8
MMAI	Mount Meron Ar	5.51	115	Pn	Pn	01 08 10.7	+0.2
	10nm,0.4s,baz=318,slow=12,SNR=101						
MMAI				Sn	Sn	01 09 10.9	-2.2
	28nm,0.3s,baz=308,slow=27,SNR=25						
MMAI				LR	LR	01 11 47.4	
	comp=Z,42nm,20.7s,baz=22,slow=54						
ZAHL	Zahle	5.53	106	eP	Pn	01 08 11.1	+0.2
BEIL	Beino	5.59	98	eP	Pn	01 08 11.7	+0.2
GEM	Giv'at Ha'Em	5.61	113	P	Pn	01 08 11.4	-0.5
GEM	Giv'at Ha'Em	5.61	113	S	Sn	01 09 14.4	-1.1
SHBL	Chebaa	5.62	111	eP	Pn	01 08 12.8	+0.8
RCY	Rachaya	5.63	109	eP	Pn	01 08 12.9	+0.8
NATI	Neve Ativ	5.65	112	P	Pn	01 08 11.8	-0.5
NATI	Neve Ativ	5.65	112	S	Sn	01 09 15.9	-0.4
MMLI	Mount Malkishu	5.82	120	P	Pn	01 08 13.9	-0.8
MMLI	Mount Malkishu	5.82	120	S	Sn	01 09 19.7	-1.0
KSHT	Keshet	5.83	114	P	Pn	01 08 14.6	-0.2
KSHT	Keshet	5.83	114	S	Sn	01 09 19.9	-1.0
FKH	Fakeheh	5.84	101	eP	Pn	01 08 15.9	+0.9
SALP	Salfit	5.88	124	P	Pn	01 08 14.8	-0.7
SALP	Salfit	5.88	124	S	Sn	01 09 20.9	-1.2
KOT	Kottamia	5.93	160	P	Pn	01 08 18.6	+2.3
HNAT	Natroun	5.97	170	P	Pn	01 08 18.8	+2.1
HHAG	Hagoal	5.99	158	P	Pn	01 08 19.3	+2.2
ALN	Alexandroupoli	6.00	334	Pn	Pn	01 08 16.5	-0.6
HMDT	Nahal Hemdat	6.00	121	P	Pn	01 08 16.5	-0.7
HMDT	Nahal Hemdat	6.00	121	S	Sn	01 09 23.7	-1.3
AMAZ	Amatzia	6.04	130	P	Pn	01 08 16.9	-0.9
AMAZ	Amatzia	6.04	130	S	Sn	01 09 24.5	-1.6
BNN	Bunyan	6.06	55	Pn	Pn	01 08 19.9	+1.8
UJAP	Al Uja	6.13	124	P	Pn	01 08 18.2	-0.8
UJAP	Al Uja	6.13	124	S	Sn	01 09 26.7	-1.6
BALJ	Balqa	6.17	122	Pn	Pn	01 08 21.5	+1.9
KZIT	Kziot	6.19	137	P	Pn	01 08 20.4	+0.6
KZIT	Kziot	6.19	137	S	Sn	01 09 27.4	-2.3
YTIR	Yattir	6.28	130	P	Pn	01 08 20.5	-0.6
YTIR	Yattir	6.28	130	S	Sn	01 09 30.7	-1.5
ITM	Ithomi	6.31	287		Pn	01 08 23.2	+1.7
DSI	Dead Sea	6.32	127	P	Pn	01 08 20.7	-0.8
DSI	Dead Sea	6.32	127	S	Sn	01 09 31.2	-1.6
GAZ	Gaziantep	6.45	73	Pn	Pn	01 08 23.5	+0.1
RYAN	Fayoum	6.47	174	P	Pn	01 08 24.9	+1.2
GHAJ	Ghor Haditha	6.61	128	Pn	Pn	01 08 26.5	+1.0
GHAJ	Ghor Haditha	6.61	128	P	Pn	01 08 24.9	-0.6
GHAJ	Ghor Haditha	6.61	128	S	Sn	01 09 38.4	-1.6
ZAF	Zafarana	6.75	157	P	Pn	01 08 28.2	+0.6
PRNI	Paran	6.95	137	P	Pn	01 08 29.0	-1.2
PRNI	Paran	6.95	137	S	Sn	01 09 45.4	-3.0
ASF	Jabal al Asfar	7.02	116	Pn	Pn	01 08 32.6	+1.3
	0.8nm,0.3s,baz=323,slow=15,SNR=14						
ASF				Sn	Sn	01 09 48.7	-1.6
	1.7nm,0.3s,baz=319,slow=19,SNR=5.6						
	2.6nm,0.5s						
NBNS	Bani Suef	7.07	167	P	Pn	01 08 32.8	+1.0
SWA2		7.14	210	P	Pn	01 08 32.9	+0.1
HRFI	Mount Harif	7.21	138	P	Pn	01 08 32.9	-0.9
HRFI	Mount Harif	7.21	138	S	Sn	01 09 52.7	-2.1
MBRI	Mt Berech	7.33	140	P	Pn	01 08 34.9	-0.7
MBRI	Mt Berech	7.33	140	S	Sn	01 09 55.9	-2.0
EIL	Elat	7.45	140	Pn	Pn	01 08 37.8	+0.7
	1.7nm,0.3s,baz=321,slow=6.5,SNR=21						
EIL				Sn	Sn	01 09 57.3	-3.5
	4.3nm,0.3s,baz=333,slow=11,SNR=10						
EIL				LR	LR	01 13 45.5	
	comp=Z,48nm,19.6s,baz=62,slow=55						
	5.3nm,0.4s						
EIL	Elat	7.45	140	P	Pn	01 08 37.7	+0.6
EIL	Elat	7.45	140	S	Sn	01 09 58.7	-2.1
HRDS	Abu Rudays	7.54	154	P	Pn	01 08 40.7	+2.4
TAMRE	El Minia	7.93	171	P	Pn	01 08 44.6	+0.9
ASUT		8.31	167	P	Pn	01 08 50.8	+1.9
SCTE	Santa Cesarea	9.82	301	Pn	Pn	01 09 09.7	+0.2
PUK	Puka	9.91	314	Pn	Pn	01 09 14.8	+4.1
TIP	Timpagrande	10.76	293		Pn	01 09 20.8	-1.7
CEL	Celeste	11.21	288		Pn	01 09 26.8	-2.0
CUC	Castrocucco	11.69	296	Pn	Pn	01 09 34.2	-1.0
VAE	Valguarnera	12.28	283	Pn	Pn	01 09 43.1	-0.2
	2.9nm,0.4s,baz=73,slow=11,SNR=6.4						
VAE				Sn	Sn	01 11 48.2	-11
	1.6nm,0.3s,baz=79,slow=16,SNR=6.0						
RAFF	Raffo Rosso	12.30	282	Pn	Pn	01 09 42.1	-1.5
SGRT	San Giovanni R	12.40	304	Pn	Pn	01 09 43.7	-1.2
KIV	Kislovodsk	13.17	46	Pn	P	01 10 06.7	+1.4
INTR	Introdacqua	13.76	303	Pn	Pn	01 10 01.4	-2.0
NRCA	Norcia	14.62	305	Pn	Pn	01 10 15.4	+0.2
KEST	Kesra	16.38	277	Pn	Pn	01 10 38.4	+0.2
KEST				IAmb	IAmb	01 10 43.1	
	comp=Z,14nm,1.1s						
KEST	Kesra	16.38	277	Pn	Pn	01 10 38.0	-0.2
	comp=Z,0.2nm,0.3s,baz=68,slow=11,SNR=11						
	comp=Z,7.7nm,0.8s						
KBA	Koelnbreinsper	16.69	319	ePn	Pn	01 10 43.1	+0.9
	comp=Z,0.4nm,0.3s						
VRAC	Vranov	16.70	329	LR	LR	01 17 16.9	
	comp=Z,26nm,21.1s,baz=160,slow=38						
LESA	Schwarzleotal	17.27	319	ePn	P	01 10 51.1	+0.5
	comp=Z,2.1nm,0.6s						
GERES	GERESS Array B	17.66	324	P	Pn	01 10 52.2	-2.0
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=7.7						
	comp=Z,1.1nm,0.6s						
WATA	Walderalm	17.82	317	ePn	P	01 10 59.6	+2.8
	comp=Z,1.8nm,0.4s						
SQTA	Sankt Quirin	17.96	316	ePn	Pn	01 10 56.5	-1.5
	comp=Z,0.9nm,0.4s						
MOTA	Moosalm	18.09	316	i Pn	P	01 11 00.6	+0.8
	comp=Z,2.0nm,0.7s						
FETA	Feichten	18.12	315	i Pn	P	01 11 01.3	+1.1
	comp=Z,5.2nm,0.9s						
FUORN	Ofenpass-Fuorn	18.18	313	P	P	01 11 01.8	+0.8
RETA	Reutte	18.36	316	Pn	P	01 11 02.3	-0.4
	comp=Z,0.5nm,0.4s						
BNI	Bardonecchia	19.77	306	P	P	01 11 18.2	0.0
SENIN	Lac Senin/Sane	19.88	310	P	P	01 11 18.9	-0.6
SENIN				IAmb	IAmb	01 11 20.0	
	comp=Z,31nm,0.7s						
BELG	Belogornoye	21.22	32	P	P	01 11 32.4	-1.3
	comp=Z,6.8nm,0.5s,baz=217,slow=20,SNR=9.5						
	comp=Z,6.8nm,0.5s						
CEST	Esterri de Car	22.95	296	P	P	01 11 52.3	-0.2
CEST				IAmb	IAmb	01 12 24.6	
	comp=Z,6.9nm,1.2s						
TAM	Tamanrasset	24.40	245	P	P	01 12 06.6	0.0
TAM				IAmb	IAmb	01 12 19.3	
	comp=Z,8.5nm,1.3s						
ABKAR	Akbulak array	26.13	49	P	P	01 12 22.8	+0.9
ABKAR				IAmb	IAmb	01 12 32.2	
	comp=Z,6.8nm,1.5s						
ABKAR	Akbulak array	26.13	49	P	P	01 12 22.7	+0.9
HFS	Hagfors	26.65	342	P	P	01 12 25.5	-0.9
	comp=Z,4.7nm,1.0s,baz=163,slow=15,SNR=3.2						
	comp=Z,4.7nm,1.0s						
ESBB	Sonseca Array	26.72	289	P	P	01 12 26.9	-0.5
ESBB				IAmb	IAmb	01 12 47.4	
	comp=Z,12nm,1.4s						
ESDC	Sonseca Array	26.73	289	P	P	01 12 27.1	-0.3
	comp=Z,1.9nm,0.6s,baz=85,slow=9.3,SNR=26						
	comp=Z,1.9nm,0.6s						
PAB	San Pablo	27.03	289	P	P	01 12 30.0	-0.2
PAB				IAmb	IAmb	01 12 58.9	
	comp=Z,6.3nm,1.3s						
PVAQ	Vaqueiros	29.85	285	P	P	01 12 54.6	-0.7
PVAQ				IAmb	IAmb	01 13 38.1	
	comp=Z,25nm,1.4s						
TORD	Torodi Ar. Bea	33.53	235	P	P	01 13 27.1	-0.6
TORD	Torodi Ar. Bea	33.53	235	P	P	01 13 29.4	+1.7
	comp=Z,31nm,0.3s,baz=29,slow=9.7,SNR=1.6						
ARSB	Arslanbob	34.29	67	P	P	01 13 34.7	+0.4
ARSB				IAmb	IAmb	01 13 47.8	
	comp=Z,8.3nm,1.4s						
BOOM	Boomskoye usch	36.39	65	P	P	01 13 51.2	-1.2
KURBB	Kurchatov Arra	38.13	51	P	P	01 14 06.0	-0.9
	comp=Z,0.4nm,0.5s,baz=273,slow=8.8,SNR=12						
	comp=Z,0.4nm,0.5s						
KURK	Kurchatov	38.20	51	P	P	01 14 06.9	-0.5
KURK				IAmb	IAmb	01 14 16.0	
	comp=Z,2.2nm,0.9s						
MAKZ	Makanchi	40.39	57	P	P	01 14 25.3	-0.5
MK31	Makanchi Array	40.61	57	P	P	01 14 27.2	-0.4
MKAR	Makanchi Array	40.61	57	P	P	01 14 27.6	0.0
MKAR	Makanchi Array	40.61	57	P	P	01 14 26.9	-0.7
	comp=Z,0.9nm,0.6s,baz=274,slow=7.2,SNR=15						
	comp=Z,0.9nm,0.6s						
BORG	Borgarnes	41.95	330	P	P	01 14 36.8	-1.4
ZALV	Zalesovo Beam	42.19	46	P	P	01 14 38.1	-2.3
	comp=Z,0.5nm,0.4s,baz=270,slow=9.8,SNR=3.8						
	comp=Z,0.5nm,0.4s						
SUMG	Summit	49.90	339	P	P	01 15 41.2	-0.2
SUMG				IAmb	IAmb	01 15 54.8	
	comp=Z,7.8nm,1.3s						
SACV	Santiago Islan	51.54	261	P	P	01 15 55.6	+1.5
SONM	Songino Array	56.49	52	P	P	01 16 30.5	+0.5
DRLN	Deer Lake	62.27	312	P	P	01 17 09.1	-0.6
YAK	Yakutsk	63.75	31	LR	LR	01 50 12.2	
	comp=Z,19nm,19.9s,baz=270,slow=41						
BOSA	Boshof	63.93	184	P	P	01 17 22.2	+1.3
SCHQ	Schefferville	65.16	321	P	P	01 17 27.6	-1.0
SCHQ	Schefferville	65.16	321	P	P	01 17 26.9	-1.7
	comp=Z,1.9nm,0.7s,baz=76,slow=4.2,SNR=4.0						
	comp=Z,1.9nm,0.7s						
GBN	Guysborough	66.38	310	P	P	01 17 36.2	-0.3
BATG	Bathurst New B	68.28	313	P	P	01 17 48.4	-0.2
D62A	Allapoint, All	70.14	314	P	P	01 18 00.5	+0.3
D62A				IAmb	IAmb	01 18 12.1	
	comp=Z,16nm,1.5s						
E62A	Clayton Lake	70.66	314	P	P	01 18 03.4	+0.1
E62A				IAmb	IAmb	01 18 26.5	
	comp=Z,14nm,1.3s						
A36M	Sachs Harbour	71.31	352	P	P	01 18 07.4	+0.6
A36M				IAmb	IAmb	01 18 08.6	
	comp=Z,3.6nm,0.9s						
E21K	Killik River	76.30	1	P	P	01 18 36.5	+0.3
E21K				IAmb	IAmb	01 18 37.6	
	comp=Z,2.1nm,1.1s						
F26K	Sheenjek River	76.97	358	P	P	01 18 40.5	+0.5
F25K	Christian Rive	77.12	358	P	P	01 18 42.0	+1.1
BMAR	Burnt Mountain	77.25	358	P	P	01 18 43.2	+1.7
G29M	Pine Creek	77.42	355	P	P	01 18 42.7	+0.2
G29M				IAmb	IAmb	01 18 42.9	
	comp=Z,6.8nm,1.5s						
H29M	Whitestone	78.13	355	P	P	01 18 45.9	-0.6
H29M				IAmb	IAmb	01 19 12.4	
	comp=Z,7.0nm,1.5s						
I30M	Mount Dempster	78.96	354	P	P	01 18 51.0	-0.2
I30M				IAmb	IAmb	01 19 04.0	
	comp=Z,3.4nm,1.4s						
J30M	Hart River	79.59	354	P	P	01 18 55.0	+0.3
J30M				IAmb	IAmb	01 18 56.3	
	comp=Z,3.9nm,1.1s						
BPAW	Bear Paw Mtn.	80.69	0	P	P	01 19 00.8	+0.3

IDC 21 01:39:13.4±2.2, 1°.95N×127°.48E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=197.4km s-min=23.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.77	163	P	P	01 44 16.6	-1.1
	1.0nm,0.5s,baz=342,slow=10,SNR=5.9						
	1.0nm,0.5s						
ASAR	Alice Springs	26.22	167	P	P	01 44 51.1	+0.9
	0.2nm,0.4s,baz=344,slow=9.6,SNR=1.8						
	0.2nm,0.4s						
MKAR	Makanchi Array	59.44	326	P	P	01 49 17.6	-0.5
	0.2nm,0.4s,baz=115,slow=7.5,SNR=7.3						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.63	328	P	P	01 49 46.9	+0.6
	0.4nm,0.5s,baz=130,slow=6.3,SNR=2.2						
	0.4nm,0.5s						

SJA 21 01:57:10.0, 30°.14S×71°.67W, h10km, ML2.9
GUC 21 01:57:13.4±0.8, 30°.21S×71°.32W, h68km±3km, ML2.8

ISC 21 01:57:13.3±1.5, 30°.16S±0°.04×71°.48W±0°.06, h56km±11km, n27, σ1§47/33, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.32	40	⇓iP	Pn	01 57 23.9	+0.7
CO05				i S	Sn	01 57 31.5	+1.2
CO05				IAML		01 57 31.9	
	comp=E,472nm,0.4s						
CO06	Fray Jorge	0.53	195	i P	Pn	01 57 26.3	+1.0
CO06				i S	Sn	01 57 35.6	+1.6
CO06				IAML		01 57 36.1	
	comp=E,503nm,0.3s						
GO04	Tololo Observa	0.59	91	i P	Pn	01 57 24.8	-1.4
GO04	Tololo Observa	0.59	91	i P	Pn	01 57 25.4	-0.8
GO04				i S	Sn	01 57 33.8	-1.7
GO04				IAML		01 57 35.8	
	comp=E,2μm,0.5s						
CO03	El Pedregal	0.96	135	i P	Pn	01 57 28.7	-2.0
CO03	El Pedregal	0.96	135	⇑iP	Pn	01 57 29.5	-1.2
CO03				i S	Sn	01 57 41.3	-2.3
CO03				IAML		01 57 41.7	
	comp=E,1μm,0.1s						
CO01	Juntas del Tor	1.21	82	i P	Pn	01 57 33.8	-0.5
CO01				eS	Sn	01 57 48.5	-1.4
CO01				IAML		01 57 49.8	
	comp=N,224nm,0.1s						
LCO	Las Campanas	1.33	31	i P	Pn	01 57 35.4	-0.5
LCO	Las Campanas	1.33	31	eP	Pn	01 57 35.9	+0.1
LCO				eS	Sn	01 57 53.0	+0.2
AROD	Rodeo	1.73	91	i P	Pn	01 57 42.4	+1.0
AC04	Llanos de Chal	1.98	10	i P	Pn	01 57 44.5	0.0
ACCO	Cerro Coronel	2.13	102	i P	Pn	01 57 48.7	+2.0
DOCA	Reserva Natura	2.21	111	i P	Pn	01 57 48.3	+0.5
AGUA	GUANDACOL	2.68	76	i P	Pn	01 57 57.4	+3.3
VA03	San Esteban	2.71	163	i P	Pn	01 57 54.3	-0.2
MT02	Curacav	3.10	175	i P	Pn	01 57 58.9	-0.9
VCA	Vinchina	3.19	64	i P	Pn	01 58 03.3	+2.2
MT05	Renca	3.28	169	i P	Pn	01 58 03.8	+1.6
ASAL	Salagasta	3.31	138	i P	Pn	01 58 05.3	+2.6
MT03	Universidad Ad	3.42	166	i P	Pn	01 58 04.9	+0.7
AVFE	Valle Fertil	3.51	99	i P	Pn	01 58 06.3	+0.9
MT01	Popeta	3.69	177	i P	Pn	01 58 06.8	-1.0
AC02	Maricunga	3.91	32	i P	Pn	01 58 11.1	-0.1
AC01	Pan de Azucar	4.08	11	i P	Pn	01 58 11.3	-1.8
BO01	Tunca	4.23	176	i P	Pn	01 58 14.2	-0.9
APLL	PUNTA DE LOS L	4.29	94	i P	Pn	01 58 16.5	+0.4
BO02	Sierra Bellavi	4.65	173	i P	Pn	01 58 22.0	+1.0

NEIC 21 01:57:55.7±1.2, 23°.9S±0°.1×176°.4W±0°.2, h70km±7km, mb4.6/29, Error ellipse: s-maj=23.0km s-min=15.1km az=127.0
IDC 21 01:58:00.9±2.7, 23°.65S×176°.63W, h107km±23km, mb3.8/10, mbtmp4.3/13, MS3.5/14, Error ellipse: s-maj=21.4km s-min=17.5km az=122.0

ISC 21 01:57:59.7±0.5, 23°.76S±0°.07×176°.5W±0°.1, h100km, n86, σ1§23/70, mb4.4/23, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.61	192	P	Pn	01 59 23.4	+2.8
	150nm,0.3s,baz=73,slow=20,SNR=1.4						
RAO				S	Sn	02 00 22.2	-1.5
	161nm,0.3s,baz=90,slow=20,SNR=1.9						
RAO				LR	LR	02 00 39.9	
	comp=Z,202nm,20.4s,baz=118,slow=28						
NIUE	Niue	7.72	54		Pn	01 59 38.4	-11
MSVF	Nonsavu	7.84	319		Pn	01 59 50.3	-0.9
MSVF	Nonsavu	7.84	319	P	Pn	01 59 51.9	+0.8
	52nm,0.5s,baz=133,slow=14,SNR=63						
MSVF				LR	LR	02 02 46.1	
	comp=Z,202nm,20.7s,baz=75,slow=37						
FUTU	Fugatoga	9.52

TUC	**Tucson**	**83.95**	**51**	P	**P**	**02 10 18.2**	**-0.7**
TUC				IAmb	IAmb	02 10 21.2	
comp=Z,4.8nm,1.0s							
X16A	**Lo Mia Camp, P**	**84.64**	**49**	P	**P**	**02 10 21.2**	**-1.3**
X16A				IAmb	IAmb	02 10 24.8	
comp=Z,5.5nm,1.1s							
SNAA	**Sanae**	**84.73**	**178**	P	**P**	**02 10 24.0**	**+1.8**
comp=Z,1.7nm,0.7s,baz=198,slow=16,SNR=1.5							
comp=Z,1.7nm,0.7s							
LCMT	**Little Creek M**	**84.87**	**46**	P	**P**	**02 10 22.9**	**-0.7**
U15A	**North Rim**	**85.17**	**47**	P	**P**	**02 10 24.1**	**-1.2**
U15A				IAmb	IAmb	02 10 27.0	
comp=Z,6.7nm,1.1s							
DUN6	**Lazy B Ranch**	**85.29**	**52**	P	**P**	**02 10 24.1**	**-1.6**
ELK	**Elko**	**85.77**	**42**	P	**P**	**02 10 26.7**	**-1.4**
PLCA	**Paso Flores**	**86.07**	**133**	LR	LR	02 42 09.9	
comp=Z,22nm,19.1s,baz=126,slow=31							
VHRN	**Van Horn**	**87.40**	**55**	P	**P**	**02 10 34.4**	**-1.7**
TMUT	**Trail Mountain**	**87.48**	**45**	P	**P**	**02 10 34.2**	**-2.3**
TMUT				IAmb	IAmb	02 10 38.4	
comp=Z,3.3nm,0.8s							
TX31	**Lajitas Ar. Si**	**87.69**	**57**	P	**P**	**02 10 36.6**	**-0.9**
TX31				IAmb	IAmb	02 10 39.4	
comp=Z,3.3nm,0.9s							
TXAR	**Lajitas Array**	**87.69**	**57**	P	**P**	**02 10 37.0**	**-0.5**
TXAR	**Lajitas Array**	**87.69**	**57**	P	**P**	**02 10 38.0**	**+0.5**
comp=Z,2.2nm,0.9s,baz=243,slow=5.3,SNR=19							
comp=Z,2.2nm,0.9s							
J18K	**Innoko River**	**88.33**	**9**	P	**P**	**02 10 39.7**	**+0.1**
J18K				IAmb	IAmb	02 10 42.6	
comp=Z,7.3nm,1.4s							
ANMO	**Albuquerque**	**88.40**	**51**	P	**P**	**02 10 39.4**	**-1.5**
ANMO				IAmb	IAmb	02 10 42.7	
comp=Z,4.7nm,1.2s							
ANMO	**Albuquerque**	**88.40**	**51**	LR	LR	02 45 04.8	
comp=Z,18nm,18.4s,baz=108,slow=32							
CAST	**Castle Rocks**	**89.00**	**11**	P	**P**	**02 10 42.2**	**-0.6**
CAST				IAmb	IAmb	02 10 43.8	
comp=Z,2.9nm,0.8s							
NEW	**Newport**	**89.23**	**35**	LR	LR	02 47 42.2	
comp=Z,57nm,18.4s,baz=252,slow=33							
TRF	**Thorofare Moun**	**89.35**	**11**	P	**P**	**02 10 44.2**	**-0.3**
RND	**Reindeer**	**89.58**	**12**	P	**P**	**02 10 45.9**	**+0.4**
PDAR	**Pinedale Array**	**90.42**	**43**	P	**P**	**02 10 49.5**	**-0.6**
comp=Z,0.5nm,0.8s,baz=207,slow=2.9,SNR=4.9							
comp=Z,0.5nm,0.8s							
BOZ	**Bozeman (W)**	**90.72**	**39**	P	**P**	**02 10 50.7**	**-0.6**
BOZ				IAmb	IAmb	02 10 52.9	
comp=Z,2.5nm,0.8s							
HDA	**Harding Lake**	**90.85**	**12**	P	**P**	**02 10 51.5**	**+0.2**
CCB	**Clear Creek Bu**	**90.90**	**12**	P	**P**	**02 10 50.9**	**-0.6**
CCB				IAmb	IAmb	02 11 23.2	
comp=Z,5.7nm,1.4s							
ILAR	**Eielson Array**	**91.19**	**12**	P	**P**	**02 10 52.0**	**-0.8**
comp=Z,0.8nm,0.7s,baz=225,slow=5.0,SNR=12							
comp=Z,0.8nm,0.7s							
F19K	**Shaleruckik Mo**	**91.42**	**7**	P	**P**	**02 10 54.0**	**+0.2**
J26L	**Joseph Creek**	**91.63**	**14**	P	**P**	**02 10 56.2**	**+1.2**
MKAR	**Makanchi Array**	**114.39**	**312**	PKP	PKPdf	02 16 26.3	-1.4
comp=Z,0.4nm,0.7s,baz=70,slow=1.7,SNR=5.4							
SOE	**Somerset East**	**120.01**	**201**	PKPdf	**PKPdf**	**02 16 37.3**	**-1.8**
BVAR	**Borovoye Array**	**122.42**	**319**	PKP	**PKPdf**	**02 16 42.7**	**-0.2**
comp=Z,1.0nm,0.5s,baz=86,slow=2.5,SNR=4.7							
KBL	**Kabul**	**122.60**	**297**	PKPdf	**PKPdf**	**02 16 43.6**	**-0.5**
ARCES	**ARCESS Array B**	**132.35**	**350**	PKP	**PKPdf**	**02 17 00.9**	**-0.4**
comp=Z,2.8nm,0.8s,baz=30,slow=2.7,SNR=4.1							
NB2	**NORSAR Subarra**	**142.36**	**354**	PKP	PKPpre	02 17 15.9	
comp=Z,0.6nm,0.7s,baz=8.4,slow=3.4							
NOA	**NORSAR Array B**	**142.36**	**354**	PKhKP	PKPpre	02 17 15.6	
comp=Z,1.0nm,0.7s,baz=8.0,slow=2.3,SNR=4.7							
HFS	**Hagfors**	**142.95**	**352**	PKhKP	PKPpre	02 17 17.4	
comp=Z,3.7nm,0.9s,baz=92,slow=4.5,SNR=4.7							
AKASG	**Malin Array Be**	**146.50**	**330**	PKPbc	**PKPdf**	**02 17 29.0**	**+1.5**
comp=Z,2.0nm,0.5s,baz=44,slow=4.2,SNR=30							
EKA	**Eskdalemuir Ar**	**148.08**	**7**	PKPbc	**PKPdf**	**02 17 32.2**	**+2.2**
comp=Z,2.0nm,0.7s,baz=297,slow=2.2,SNR=3.6							
BRTR	**Keskin Array B**	**149.98**	**309**	PKPbc	**PKPbc**	**02 17 39.0**	**+0.3**
comp=Z,1.4nm,0.6s,baz=146,slow=4.6,SNR=14							
MMAI	**Mount Meron Ar**	**150.51**	**295**	PKPbc	**PKPbc**	**02 17 41.3**	**+1.1**
comp=Z,6.6nm,0.7s,baz=77,slow=5.5,SNR=22							
EIL	**Elat**	**151.31**	**289**	PKPbc	**PKPbc**	**02 17 42.3**	**+0.2**
comp=Z,3.9nm,0.7s,baz=135,slow=7.1,SNR=4.0							
OSTC	**Ostas**	**151.47**	**343**	*e*PKP	**PKiKP**	**02 17 43.0**	**+0.8**
CHVC	**Chvalec**	**151.48**	**343**	*e*PKP	**PKPbc**	**02 17 42.9**	**+1.1**
UPC	**Upice**	**151.57**	**343**	*e*PKP	**PKPbc**	**02 17 43.1**	**+1.1**
STEB	**Steborice**	**151.57**	**340**	*e*PKP	**PKPbc**	**02 17 42.5**	**+0.5**
DPC	**Dobruska-Polom**	**151.62**	**343**	*e*PKP	**PKPbc**	**02 17 43.2**	**+1.0**
MLR	**Muntele Rosu**	**151.67**	**325**	PKPbc	**PKPbc**	**02 17 41.8**	**-0.8**
comp=Z,2.4nm,0.8s,baz=121,slow=1.0,SNR=4.3							
PVCC	**Panska Ves**	**151.91**	**345**	*e*PKP	**PKiKP**	**02 17 43.9**	**+0.8**
KHC	**Kasperske Hory**	**153.45**	**345**	*e*PKP	**PKPbc**	**02 17 46.3**	**0.0**
CKRC	**Cesky Krumlov**	**153.56**	**344**	*e*PKP	**PKPbc**	**02 17 47.3**	**+0.8**
GERES	**GERESS Array B**	**153.69**	**345**	PKPbc	**PKPbc**	**02 17 46.6**	**-0.2**
comp=Z,0.3nm,0.3s,baz=19,slow=3.5,SNR=2.3							
ESDC	**Sonseca Array**	**162.94**	**20**	PKPab	**PKPab**	**02 18 39.7**	**-0.4**
comp=Z,0.8nm,0.9s,baz=322,slow=1.7,SNR=5.5							

MOS ***21*** *02:11:35.5±1.0, 28°.54N×129°.96E, h11km, mb4.9/36, MS4.2/4, Error ellipse: s-maj=9.6km s-min=5.3km az=104.1*

IDC ***21*** *02:11:35.8±0.5, 28°.59N×129°.98E, h0km, mb4.4/24, mbtmp4.3/29, ML3.8/5, MS4.0/50, Error ellipse: s-maj=16.0km s-min=12.3km az=100.0*

BJI ***21*** *02:11:37.8, 28°.31N×130°.36E, h49km, mB4.8/24, mb4.5/57, Ms4.3/50, Ms7 4.2/51*

NEIC ***21*** *02:11:38.0±1.7, 28°.56N±0°.05×129°.98E±0°.05, h10km±1km, mb5.0/142, Error ellipse: s-maj=8.8km s-min=7.6km az=20.0*

JMA ***21*** *02:11:40.2±0.2, 29°N±1°×130°.0E±0°.7, h30km±2km, MD4.5/23, MV4.3/23, NEAR AMAMI-OSHIMA ISLAND*

JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.

NIED ***21*** *02:11:40.2, 28°.56N×129°.99E, h30km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}4.33; $M_{\theta\theta}$-0.79; $M_{\phi\phi}$-3.54; $M_{r\theta}$6.58; $M_{\theta\phi}$-1.87; $M_{\phi r}$1.30; Fault plane solution: $M_0$7.85000×10^15^ NP1: ϕ_s192.00000°, δ24.00000°, λ39.00000°. NP2: ϕ_s65.00000°, δ75.00000°, λ109.00000°.*

ISC 21 02:11:40.2±0.8, 28°.53N±0°.04×130°.01E±0°.04, h32km±5km, n535, σ1§62/477, mb4.9/130, MS4.0/56, 22C-6D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.22**	**189**	*i* P	**Pn**	**02 11 46.6**	**-0.7**
JZK				*e*S	**Sb**	**02 11 52.3**	**+1.0**
JZK	**Kikaishima**	**0.22**	**189**	A	A	02 11 46.6	
comp=N,496nm,2.6s,comp=E,470nm,1.3s							
JAM	**Amami Oshima**	**0.38**	**252**	*i* P	**Pb**	**02 11 48.4**	**-0.5**
JAM				S	**Sb**	**02 11 54.1**	**-0.7**
JAM	**Amami Oshima**	**0.38**	**252**	A	A	02 11 48.4	
comp=N,48nm,2.8s,comp=E,136nm,1.3s							
JAMN	**Amaminishikomi**	**0.79**	**249**	*i* P	**Pn**	**02 11 54.9**	**-0.2**
JAMN				*e*S	**Sn**	**02 12 06.0**	**+0.1**
JAMN	**Amaminishikomi**	**0.79**	**249**	A	A	02 11 54.9	
comp=N,23nm,2.0s,comp=E,16nm,0.9s							
JTAJ	**Takarajima**	**0.94**	**311**	*i* P	**Pn**	**02 11 57.0**	**-0.2**
JTAJ	**Takarajima**	**0.94**	**311**	A	A	02 11 57.0	
comp=N,17nm,3.5s,comp=E,15nm,5.5s							
JTK	**Tokunoshima**	**1.19**	**232**	P	**Pn**	**02 12 01.4**	**+0.7**
JTK	**Tokunoshima**	**1.19**	**232**	A	A	02 12 01.4	
comp=N,14nm,3.5s,comp=E,11nm,2.2s							
JNN	**Nakanoshima**	**1.31**	**355**	P	**Pn**	**02 12 03.2**	**+0.8**
JNN	**Nakanoshima**	**1.31**	**355**	A	A	02 12 03.2	
comp=N,31nm,1.5s,comp=E,34nm,1.1s							
JOKE	**Okinoerabujima**	**1.73**	**228**	P	**Pn**	**02 12 09.1**	**+1.1**
JYAK	**Yakushimahirau**	**1.76**	**14**	P	**Pn**	**02 12 09.3**	**+0.8**
JYAK	**Yakushimahirau**	**1.76**	**14**	A	A	02 12 09.3	
comp=N,9.0nm,2.7s,comp=E,7.0nm,1.0s							
JKC	**Kuchinoerabu**	**1.93**	**5**	*e*P	**Pn**	**02 12 11.7**	**+0.8**
JMTN	**Minamitane**	**2.02**	**22**	P	**Pn**	**02 12 13.0**	**+1.0**
JMTN	**Minamitane**	**2.02**	**22**	A	A	02 12 13.0	
comp=N,12nm,2.9s,comp=E,9.0nm,1.6s							
JYRO	**Yoronjima**	**2.04**	**223**	P	**Pn**	**02 12 13.1**	**+0.7**
JYRO				*e*S	**Sn**	**02 12 38.2**	**+1.5**
JTN	**Tanegashima 3**	**2.28**	**22**	P	**Pn**	**02 12 16.6**	**+0.9**
JTN	**Tanegashima 3**	**2.28**	**22**	A	A	02 12 16.6	
comp=N,6.0nm,1.4s,comp=E,10.0nm,3.8s							
JOW	**Kunigami**	**2.29**	**223**		**Pn**	**02 12 16.3**	**+0.5**
JOW				Sn	**Sn**	**02 12 43.9**	**+1.0**
JOW	**Kunigami**	**2.29**	**223**	Pn	**Pn**	**02 12 16.2**	**+0.4**
comp=E,34nm,0.3s,baz=138,slow=26,SNR=76							
JOW				LR	LR	02 12 42.0	
comp=E,291nm,18.4s,baz=51,slow=29							
JOW				Sn	**Sn**	**02 12 44.0**	**+1.1**
comp=E,60nm,0.3s,baz=90,slow=20,SNR=8.1							
comp=E,68nm,0.3s							
JOW	**Kunigami**	**2.29**	**223**	P	**Pn**	**02 12 16.3**	**+0.5**
JIH	**Iheya**	**2.34**	**231**	*e*P	**Pn**	**02 12 17.2**	**+0.6**
JNTH	**Nagotoyohara**	**2.67**	**222**	P	**Pn**	**02 12 21.8**	**+0.7**
JKDJ	**Kitadaitoujima**	**2.81**	**156**	*e*P	**Pn**	**02 12 21.8**	**-1.3**
JKDJ				*e*S	**Sn**	**02 12 53.2**	**-2.7**
JMZ	**Minamidaito 2**	**2.91**	**158**		**Pn**	**02 12 25.8**	**+1.4**
JMZ				Sn	**Sn**	**02 12 59.4**	**+1.2**
JKE	**Kume jima 2**	**3.61**	**233**	*e*P	**Pn**	**02 12 34.7**	**+0.7**
JNU	**Nakatsue**	**4.64**	**9**	Pn	**Pn**	**02 12 49.8**	**+1.7**
comp=E,28nm,0.3s,baz=231,slow=2.4,SNR=97							
JNU				Sn	**Sn**	**02 13 41.4**	**+0.5**
comp=E,1.8nm,0.3s,baz=73,slow=4.3,SNR=0.9							
JMN	**Monobe**	**6.15**	**32**		**Pn**	**02 13 09.5**	**+0.5**
SSE	**Sheshan**	**8.08**	**291**	P	**Pn**	**02 13 35.8**	**+0.4**
SSE				S	**Sn**	**02 15 05.5**	**-0.1**
SSE				pmax	pmax		
comp=E,16nm,0.7s							
SSE				pmax	pmax		
comp=E,140nm,3.5s							
SSE				LR	LR		
comp=E,420nm,14.3s							
SSE				LR	LR		
comp=E,340nm,14.6s							
TJN	**Taejon**	**8.14**	**345**	Pn	**Pn**	**02 13 37.7**	**+1.6**
TJN	**Taejon**	**8.14**	**345**	P	**Pn**	**02 13 37.7**	**+1.6**
YHNB	**Yeheng**	**8.63**	**246**	Pn	**Pn**	**02 13 44.6**	**+1.6**
INU	**Inuyama**	**9.03**	**39**	Pn	**Pn**	**02 13 49.8**	**+1.4**
KSAR	**Wonju Array Be**	**9.06**	**349**		**Pn**	**02 13 50.6**	**+1.7**
KSAR	**Wonju Array Be**	**9.06**	**349**	P	**Pn**	**02 13 50.6**	**+1.7**
KSRS	**Korea Array**	**9.07**	**349**	Pn	**Pn**	**02 13 49.0**	**+0.1**
comp=E,0.7nm,0.3s,baz=167,slow=13,SNR=26							
KSRS				LR	LR	02 17 40.4	
comp=E,958nm,18.0s,baz=175,slow=40							
comp=E,3.3nm,0.7s							
KS19	**Wonju Array Si**	**9.12**	**349**		**Pn**	**02 13 52.8**	**+3.1**
SSLB	**Suanglung**	**9.40**	**242**	Pn	**Pn**	**02 13 55.2**	**+1.5**
JGF	**Kuroka**	**9.41**	**40**	Pn	**Pn**	**02 13 54.9**	**+1.2**
JHJ	**Hachijo jima 2**	**9.56**	**59**	LR	LR	02 17 10.6	
comp=E,667nm,21.6s,baz=305,slow=35							
NJ2	**Nanjing**	**10.26**	**293**	⇓P	**Pn**	**02 14 09.8**	**+4.5**
NJ2				pP		02 14 15.5	
NJ2				pmax	pmax		
comp=E,25nm,0.7s							
NJ2				pmax	pmax		
comp=E,250nm,3.8s							
NJ2				LR	LR		
comp=E,540nm,11.8s							
NJ2				LR	LR		
comp=E,840nm,12.3s							
NJ2				LR	LR		
comp=E,620nm,12.7s							
MJAR	**Matsushiro Arr**	**10.56**	**39**	Pn	**Pn**	**02 14 10.2**	**+0.8**
comp=E,0.2nm,0.3s,baz=208,slow=13,SNR=7.1							
comp=E,2.7nm,0.5s							
JCJ	**Chichijima**	**10.87**	**95**	Pn	**Pn**	**02 14 14.5**	**+0.8**
JCJ	**Chichijima**	**10.87**	**95**	Pn	Pn	02 14 08.7	-5.0
comp=E,31nm,0.3s,baz=306,slow=17,SNR=14							
JCJ				LR	LR	02 18 05.6	
comp=E,378nm,18.1s,baz=313,slow=36							
DL2	**Dalian**	**12.47**	**328**	P	P	02 14 41.3	-5.6
DL2				S	**Sn**	**02 17 01.8**	**+8.5**
DL2				pmax	pmax		
comp=E,25nm,1.4s							
DL2				pmax	pmax		
comp=E,310nm,4.3s							
DL2				LR	LR		
comp=E,1μm,16.1s							
DL2				LR	LR		
comp=E,940nm,17.1s							
DL2				LR	LR		
comp=E,2μm,13.5s							
TIA	**Tai'an**	**13.30**	**308**	P	**Pn**	**02 14 51.3**	**+4.4**
TIA				pmax	pmax		
comp=E,13nm,1.3s							
TIA				LR	LR		
comp=E,570nm,17.0s							
TIA				LR	LR		
comp=E,660nm,19.2s							
TIA				LR	LR		
comp=E,1μm,16.1s							
HNS	**HongShan**	**15.58**	**308**	⇓P	**P**	**02 15 23.3**	**+1.9**
HNS				S	**S**	**02 18 21.1**	**-2.6**
HNS				pmax	pmax		
comp=E,21nm,1.1s							
HNS				LR	LR		
comp=E,580nm,16.7s							
HNS				LR	LR		
comp=E,680nm,16.7s							
HNS				LR	LR		
comp=E,900nm,15.9s							
USRK	**Ussuriysk Ar.**	**15.72**	**5**	Pn	**Pn**	**02 15 19.1**	**-0.1**
comp=E,0.3nm,0.3s,baz=170,slow=9.5,SNR=6.2							
USRK				LR	LR	02 21 38.8	
comp=E,352nm,18.1s,baz=197,slow=38							
comp=E,2.1nm,0.8s							
LYN	**LuoYang**	**16.11**	**296**	P	**P**	**02 15 26.4**	**-0.9**
LYN				pP	pP	02 15 37.0	+1.4
LYN				S	**Sn**	**02 18 22.3**	**+0.4**
LYN				pmax	pmax		
comp=E,11nm,0.7s							
LYN				pmax	pmax		
comp=E,230nm,5.8s							
LYN				LR	LR		
comp=E,310nm,15.5s							
LYN				LR	LR		
comp=E,640nm,13.7s							
LYN				LR	LR		
comp=E,1μm,14.9s							
BJT	**Baijiatuau**	**16.17**	**319**	Pn	**Pn**	**02 15 25.1**	**0.0**
BJT	**Baijiatuau**	**16.17**	**319**	P	**Pn**	**02 15 25.1**	**0.0**
BJT				pmax	pmax		
comp=Z,33nm,1.3s							
BJI	**Beijing**	**16.18**	**319**	P	**P**	**02 15 27.8**	**-0.3**
BJI				pmax	pmax		
comp=Z,11nm,1.1s							
BJI				LR	LR		
comp=Z,390nm,13.7s							
BJI				LR	LR		
comp=Z,200nm,12.1s							
BJI				LR	LR		
comp=Z,460nm,14.4s							
BNX	**BinXian**	**17.30**	**354**	⇓P	**P**	**02 15 40.0**	**-0.5**
BNX				pmax	pmax		
comp=Z,8.0nm,1.0s							
ASAJ	**Asahikawa**	**18.53**	**30**	P	**P**	**02 15 52.5**	**-1.6**
comp=Z,1.2nm,0.3s,baz=222,slow=13,SNR=13							
ASAJ				LR	LR	02 23 11.3	
comp=Z,349nm,20.8s,baz=266,slow=38							
comp=Z,9.9nm,0.5s							
ASAJ	**Asahikawa**	**18.53**	**30**	P	**P**	**02 15 53.0**	**-1.1**
ASAJ				pmax	pmax		
comp=Z,19nm,0.8s							
JKA	**Kamikawa-asahi**	**18.53**	**30**	P	**P**	**02 15 53.0**	**-1.0**
XAN	**Xi'an**	**18.83**	**292**	P	**Pn**	**02 15 58.5**	**+0.3**
XAN				pP	sP	02 16 09.3	-0.6
XAN				S	**S**	**02 19 29.8**	**-0.1**
XAN				pmax	pmax		
comp=Z,49nm,0.9s							
XAN				pmax	pmax		
comp=Z,520nm,6.4s							
XAN				LR	LR		
comp=Z,300nm,11.0s							
XAN				LR	LR		
comp=Z,490nm,11.0s							
XAN				LR	LR		
comp=Z,610nm,11.0s							
XLT	**XiLinHaoTe**	**18.97**	**328**	*e*P	**Pn**	**02 16 00.1**	**+0.3**
XLT				pP	sP	02 16 10.8	-0.4
XLT				PP	**PnPn**	**02 16 18.0**	**+5.4**
XLT				SS	S	02 19 53.8	+21
XLT				pmax	pmax		
comp=Z,5.0nm,0.9s							
XLT				pmax	pmax		
comp=Z,110nm,3.2s							
XLT				LR	LR		
comp=Z,670nm,15.3s							
XLT				LR	LR		
comp=Z,980nm,14.9s							
HHC	**Hu-ho-hao-te**	**19.47**	**314**	*e*P	**Pn**	**02 16 07.3**	**+1.4**
HHC				pmax	pmax		
comp=Z,4.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,110nm,4.5s							
HHC				LR	LR		
comp=Z,400nm,14.9s							
HHC				LR	LR		
comp=Z,250nm,13.8s							
HHC				LR	LR		
comp=Z,510nm,15.3s							
GUMO	**Guam**	**20.30**	**134**	LR	LR	02 23 01.6	
comp=Z,180nm,18.4s,baz=81,slow=34							
BTO	**Baotou**	**20.34**	**312**	*e*P	Pn	02 16 17.0	+0.8
BTO				pP	pP	02 16 24.3	+1.9
BTO				sP	sP	02 16 32.5	+6.1
BTO				PP	**PnPn**	**02 16 38.1**	**+6.7**
BTO				S	Sn	02 20 05.1	+0.6
BTO				SS	**SnSn**	**02 20 33.1**	**+14**
BTO				pmax	pmax		
comp=Z,20nm,0.8s							
BTO				pmax	pmax		
comp=Z,190nm,3.6s							
BTO				LR	LR		
comp=Z,1μm,15.7s							
BTO				LR	LR		
comp=Z,930nm,11.0s							
BTO				LR	LR		
comp=Z,1μm,13.5s							
QIZ	**Qiongzhong**	**20.71**	**247**	P	**P**	**02 16 18.5**	**+0.5**
QIZ				S	**S**	**02 20 06.6**	**-1.2**
QIZ				LR	LR		
comp=Z,400nm,15.9s							
QIZ				LR	LR		
comp=Z,370nm,18.0s							
QIZ				LR	LR		
comp=Z,410nm,20.6s							
KLR	**Kul'dur**	**20.71**	**3**	P	**P**	**02 16 17.0**	**-0.8**
comp=Z,6.8nm,0.7s,baz=189,slow=6.3,SNR=26							
KLR				LR	LR	02 24 36.9	
comp=Z,198nm,19.0s,baz=202,slow=38							
comp=Z,6.8nm,0.7s							
KLR	**Kul'dur**	**20.71**	**3**	*ce*P	**P**	**02 16 17.1**	**-0.7**
KLR				pmax	pmax		
comp=Z,6.0nm,0.7s							
YSS	**Yuzhno-Sakhali**	**20.92**	**25**	*e*P	Pn	02 16 22.0	-0.7
YSS				*e*S	**S**	**02 20 09.1**	**-2.4**
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
YSS				pmax	pmax		
comp=Z,300nm,4.9s							
YSS				MLR	MLR		
comp=Z,400nm,19.0s							
YSS				MLR	MLR		
comp=N,300nm,21.0s							
YSS				MLR	MLR		
comp=E,300nm,17.0s							
HEH	**HeiHe**	**21.78**	**356**	*e*P	**P**	**02 16 28.6**	**-0.7**
HEH				pmax	pmax		
comp=E,8.0nm,0.9s							
HEH				LR	LR		
comp=E,520nm,11.6s							
HEH				LR	LR		
comp=E,170nm,12.2s							
HEH				LR	LR		
comp=E,730nm,11.4s							
CD2	**Chengdu**	**22.91**	**282**	P	**P**	**02 16 42.1**	**+0.6**
CD2				pmax	pmax		
comp=E,20nm,0.6s							
CD2				LR	LR		
comp=E,620nm,16.5s							
CD2				LR	LR		
comp=E,590nm,12.6s							
LZH	**Lanzhou**	**23.32**	**296**	*e*P	**P**	**02 16 46.8**	**+1.0**
LZH				pP	sP	02 16 58.3	-0.1
LZH				pmax	pmax		
comp=E,18nm,1.3s							
LZH				LR	LR		
comp=E,400nm,12.0s							
LZH				LR	LR		
comp=E,590nm,11.7s							
LZH				LR	LR		
comp=E,700nm,12.7s							
TYV	**Tymovskoe**	**24.27**	**20**	*e*P	**P**	**02 16 56.7**	**+2.3**
TYV				pmax	pmax		
comp=Z,11nm,0.7s							
TYV				pmax	pmax		
comp=Z,200nm,3.6s							
KMI	**Kunming**	**24.55**	**268**	⇑P	**P**	**02 16 58.9**	**+1.4**
KMI				pP	pP	02 17 09.1	+2.5
KMI				pmax	pmax		
comp=Z,19nm,1.0s							
KMI				LR	LR		
comp=Z,220nm,14.0s							
KMI				LR	LR		
comp=Z,200nm,14.9s							
KMI				LR	LR		
comp=Z,260nm,10.9s							
PZH	**PanZhiHua**	**25.13**	**272**	P	**P**	**02 17 02.5**	**-0.1**
PZH				S	**S**	**02 21 27.8**	**+2.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,140nm,5.5s							
PZH				LR	LR		
comp=Z,230nm,15.0s							
PZH				LR	LR		
comp=Z,340nm,16.5s							
PZH				LR	LR		
comp=Z,320nm,16.7s							
ZEA	**Zeya**	**25.27**	**356**	*e*P	**P**	**02 17 03.8**	**+0.4**
ZEA				pmax	pmax		
comp=Z,20nm,1.1s							
ZEA				MLR	MLR		
comp=Z,100nm,13.0s							
UBPT	**Khong Chiam**	**26.24**	**245**	P	**P**	**02 17 13.9**	**+1.2**
ULN	**Ulaanbaatar**	**26.25**	**324**	P	**P**	**02 17 12.8**	**+0.2**
ULN	**Ulaanbaatar**	**26.25**	**324**	*i* P	**P**	**02 17 12.6**	**0.0**
ULN				pmax	pmax		
comp=Z,6.0nm,1.1s							
SONM	**Songino Array**	**26.58**	**323**	P	**P**	**02 17 15.1**	**-0.4**
comp=Z,2.7nm,1.0s,baz=137,slow=8.8,SNR=12							
SONM				LR	LR	02 29 08.4	
comp=Z,393nm,19.1s,baz=128,slow=40							
comp=Z,2.7nm,1.0s							
GTA	**Gaotai**	**27.17**	**301**	*e*P	**P**	**02 17 21.4**	**+0.4**
GTA				pP	pP	02 17 30.8	+0.7
GTA				pmax	pmax		
comp=Z,3.0nm,1.3s							
GTA				LR	LR		
comp=Z,350nm,16.3s							
GTA				LR	LR		
comp=Z,420nm,15.9s							
GTA				LR	LR		
comp=Z,690nm,14.7s							
PHRA	**Phrae**	**29.00**	**256**	P	**P**	**02 17 37.0**	**-0.4**
CHTO	**Chiang Mai**	**29.98**	**258**	P	**P**	**02 17 46.3**	**+0.3**
CHTO	**Chiang Mai**	**29.98**	**258**	P	**P**	**02 17 46.3**	**+0.3**
CHTO				pmax	pmax		
comp=Z,7.0n

comp=Z,8.0nm,1.0s
SHL Shillong 33.99 274 P **P 02 18 20.7 -0.7**
SHL IAmb IAmb 02 18 21.4
comp=Z,15nm,0.6s
SHL Shillong 33.99 274 P **P 02 18 20.7 -0.7**
SHL pmax pmax
comp=Z,15nm,0.6s
MA2 Magadan 34.13 19 P **P 02 18 22.0 0.0**
MA2 Magadan 34.13 19 LR LR 02 34 03.4
comp=Z,112nm,18.7s,baz=236,slow=40
MA2 Magadan 34.13 19*ce*P **P 02 18 22.3 +0.3**
MA2 pmax pmax
comp=Z,15nm,2.5s
MA2 Magadan 34.13 19 P **P 02 18 21.8 -0.2**
H11N2 WAKE ISLAND Hy 34.67 96 T T 02 55 17.2
baz=290,slow=74,SNR=16
H11N1 WAKE ISLAND Hy 34.67 96 T T 02 55 19.0
baz=290,slow=74,SNR=12
H11N3 WAKE ISLAND Hy 34.69 96 T T 02 55 19.2
baz=290,slow=74,SNR=13
KAPI Kappang 34.78 198 LR LR 02 34 16.5
comp=Z,71nm,19.1s,baz=30,slow=39
H11S3 WAKE ISLAND Hy 34.97 98 T T 02 55 40.4
baz=291,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 34.97 98 T T 02 55 41.1
baz=291,slow=75,SNR=9.4
H11S2 WAKE ISLAND Hy 34.98 98 T T 02 55 49.0
baz=291,slow=75,SNR=12
IPM Ipoh 36.46 234 P **P 02 18 41.9 -0.7**
IPM IAmb IAmb 02 18 54.3
comp=Z,44nm,1.5s
WMQ Urumqi 36.98 306 *e*P **P 02 18 50.0 +3.2**
WMQ LR LR
comp=Z,260nm,19.9s
SEY Seymchan 37.37 17*ce*P **P 02 18 50.6 +0.9**
SEY pmax pmax
comp=Z,10.0nm,1.3s
PMG Port Moresby 41.20 154 LR LR 02 34 21.3
comp=Z,232nm,19.7s,baz=345,slow=33
MK31 Makanchi Array 41.24 310 P **P 02 19 22.2 -0.1**
MK31 Makanchi Array 41.24 310*ce*P **P 02 19 22.5 +0.2**
MKAR Makanchi Array 41.24 310 P **P 02 19 22.2 -0.1**
MKAR PcP **PcP 02 21 20.1 -0.7**
MKAR Makanchi Array 41.24 310 P **P 02 19 21.7 -0.6**
comp=Z,1.4nm,0.6s,baz=97,slow=9.9,SNR=20
MKAR PcP **PcP 02 21 20.9 +0.2**
comp=Z,1.8nm,0.8s,baz=83,slow=3.8,SNR=8.6
MKAR LR LR 02 38 10.7
comp=Z,224nm,18.3s,baz=106,slow=39
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 41.24 310*ce*P **P 02 19 22.2 -0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 41.43 321 P **P 02 19 23.5 -0.1**
ZALV Zalesovo Beam 41.43 321 P **P 02 19 23.7 +0.1**
ZALV PcP **PcP 02 21 20.7 -0.4**
ZALV Zalesovo Beam 41.43 321 P **P 02 19 22.9 -0.8**
comp=Z,3.2nm,0.6s,baz=106,slow=8.6,SNR=16
ZALV PcP **PcP 02 21 19.9 -1.2**
comp=Z,2.7nm,1.0s,baz=129,slow=2.1,SNR=5.1
ZALV LR LR 02 38 10.6
comp=Z,226nm,18.4s,baz=92,slow=39
comp=Z,3.2nm,0.6s
ZALV Zalesovo Beam 41.43 321 *i* P **P 02 19 23.5 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 43.17 359 P **P 02 19 37.4 -0.2**
TIXI Tiksi 43.17 359 LR LR 02 38 35.8
comp=Z,173nm,18.2s,baz=190,slow=38
TIXI Tiksi 43.17 359*ce*P **P 02 19 38.3 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
KNRA Kununurra 43.96 182 P **P 02 19 45.0 +0.4**
KURK Kurchatov 44.29 315 P **P 02 19 46.7 -0.2**
KURK Kurchatov 44.29 315*ce*P **P 02 19 47.4 +0.5**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 44.33 315 P **P 02 19 46.5 -0.7**
comp=Z,3.4nm,0.9s,baz=102,slow=8.8,SNR=16
KURBB PcP **PP 02 21 30.3 -0.4**
comp=Z,1.0nm,0.6s,baz=110,slow=2.9,SNR=4.8
KURBB LR LR 02 39 51.8
comp=Z,371nm,19.9s,baz=156,slow=38
comp=Z,3.4nm,0.9s
BILL Bilibino 45.00 18 P **P 02 19 52.5 +0.2**
BILL Bilibino 45.00 18*ce*P **P 02 19 53.2 +0.9**
BILL pmax pmax
comp=Z,9.0nm,1.3s
FITZ Fitzroy Crossi 46.55 186 P **P 02 20 06.0 +1.0**
FITZ Fitzroy Crossi 46.55 186 LR LR 02 40 40.9
comp=Z,43nm,20.3s,baz=38,slow=37
NRIK Noril'sk 47.57 341 P **P 02 20 13.9 +1.4**
NRIK Noril'sk 47.57 341 P **P 02 20 11.8 -0.7**
comp=Z,1.2nm,0.4s,baz=109,slow=8.4,SNR=3.7
NRIK LR LR 02 40 22.9
comp=Z,90nm,21.1s,baz=125,slow=36
comp=Z,1.2nm,0.4s
NRIK Noril'sk 47.57 341*ce*P **P 02 20 12.3 -0.2**
NRIK pmax pmax
comp=Z,5.0nm,1.3s
WB0 Warramunga Arr 48.20 174 P **P 02 20 18.5 +0.5**
WB0 IAmb IAmb 02 20 29.4
comp=Z,21nm,1.2s
HYB Hyderabad 48.33 268 *e*P **P 02 20 19.2 +0.1**
NIL Nilore 48.36 291 P **P 02 20 18.8 -0.4**
NIL IAmb IAmb 02 20 29.2
comp=Z,15nm,0.9s
NIL Nilore 48.36 291 P **P 02 20 18.8 -0.4**
NIL pmax pmax
comp=Z,15nm,0.9s
WRA Warramunga Arr 48.37 175 P **P 02 20 19.8 +0.5**
WRA Warramunga Arr 48.37 175 P **P 02 20 19.6 +0.4**
comp=Z,4.4nm,0.9s,baz=350,slow=8.4,SNR=17
comp=Z,4.4nm,0.9s
WRA Warramunga Arr 48.37 175 *i* P **P 02 20 20.1 +0.9**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WB2 Warramunga Arr 48.37 175 P **P 02 20 19.8 +0.6**
WB2 IAmb IAmb 02 20 20.9
comp=Z,10nm,1.0s
KK31 Karatay Array 49.41 304 P **P 02 20 26.3 -0.8**
KK31 Karatay Array 49.41 304 P **P 02 20 26.3 -0.8**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 49.41 304 P **P 02 20 26.2 -0.9**
KKAR Karatay Array 49.41 304 P **P 02 20 26.3 -0.8**
KKAR Karatay Array 49.41 304 P **P 02 20 26.3 -0.8**
BVAR Borovoye Array 49.65 317 P **P 02 20 29.4 +0.6**
comp=Z,9.3nm,0.7s,baz=93,slow=8.9,SNR=38
BVAR PcP **PcP 02 21 49.5 -0.3**
comp=Z,3.9nm,0.8s,baz=93,slow=5.8,SNR=4.0
BVAR LR LR 02 43 11.6
comp=Z,296nm,20.3s,baz=143,slow=38
comp=Z,9.3nm,0.7s
BRVK Borovoye 49.72 317 P **P 02 20 28.8 -0.4**
BRVK IAmb IAmb 02 20 31.0
comp=Z,13nm,0.8s
BRVK Borovoye 49.72 317*ce*P **P 02 20 29.6 +0.4**
BRVK pmax pmax
comp=Z,17nm,1.0s
GAR Garm 49.92 298 P **P 02 20 31.4 +0.2**
GAR IAmb IAmb 02 20 32.3
comp=Z,18nm,1.1s
P08K Saint George I 50.51 39 P **P 02 20 35.8 +0.6**
baz=263
SIMJ Simiganj 50.98 298 P **P 02 20 39.4 +0.2**
SIMJ IAmb IAmb 02 20 40.9
comp=Z,17nm,1.1s
KBL Kabul 51.63 293 P **P 02 20 43.5 -0.7**
KBL IAmb IAmb 02 20 46.1
comp=Z,16nm,1.0s
KBL Kabul 51.63 293 P **P 02 20 43.5 -0.7**
KBL pmax pmax
comp=Z,16nm,1.0s
ASAR Alice Springs 52.03 175 P **P 02 20 46.8 -0.1**
ASAR Alice Springs 52.03 175 P **P 02 20 47.6 +0.7**
comp=Z,2.8nm,1.0s,baz=354,slow=6.8,SNR=14
ASAR LR LR 02 41 20.0
comp=Z,58nm,21.9s,baz=352,slow=34
comp=Z,2.8nm,1.0s
M11K Mekoryuk 52.74 34 P **P 02 20 52.7 +1.0**
baz=263
TNA Tin City 52.87 27 P **P 02 20 53.9 +1.3**
baz=257
F14K Arctic Creek 53.51 28 P **P 02 20 59.0 +1.7**
baz=259

K13K Kusilvak Mount 53.68 32 P **P 02 20 59.9 +1.3**
baz=263
ANM Nome 53.74 29 P **P 02 21 00.5 +1.4**
baz=260
F15K North Star Dit 54.24 28 P **P 02 21 03.9 +1.2**
baz=260
G15K Niukluk 54.37 29 P **P 02 21 04.9 +1.2**
baz=261
C16K Lisburne Hills 54.46 24 P **P 02 21 05.4 +1.2**
baz=258
L14K Kuka Creek 54.55 33 P **P 02 21 05.9 +0.8**
baz=265
S12K Black Hills 54.63 40 P **P 02 21 05.6 -0.1**
baz=270
M14K Bethel 54.86 34 P **P 02 21 07.5 +0.3**
baz=266
N14K Kuskokwak Cree 54.95 35 P **P 02 21 07.7 -0.2**
baz=267
H16K Elim 55.09 29 P **P 02 21 10.4 +1.5**
baz=263,SNR=7.9
G16K Koyuk River 55.13 28 P **P 02 21 10.2 +1.1**
baz=263
D17K Noatak River 55.19 25 P **P 02 21 10.9 +1.3**
baz=260,SNR=5.9
C17K DeLong Mountai 55.29 24 P **P 02 21 11.6 +1.3**
baz=260
RDOG Red Dog Mine 55.31 25 P **P 02 21 11.3 +0.8**
baz=260
SVE Sverdlovsk 55.44 321 *e*P **P 02 21 11.8 +0.3**
SVE pmax pmax
comp=Z,13nm,1.3s
M15K Kasigluk River 55.48 34 P **P 02 21 13.2 +1.5**
baz=267
J16K Anvik River 55.68 31 P **P 02 21 14.7 +1.6**
baz=266
I17K Unalakleet 55.68 30 P **P 02 21 14.7 +1.5**
baz=265
F17K Baldwin Pennin 55.71 27 P **P 02 21 15.4 +2.1**
baz=263
N15K Kwethluk River 55.76 35 P **P 02 21 15.4 +1.6**
baz=268
O15K Ungalikthiuk R 55.87 36 P **P 02 21 16.1 +1.5**
baz=269
B18K Kokolik River 55.93 23 P **P 02 21 16.5 +1.7**
baz=260
C18K Utukok River 56.03 24 P **P 02 21 16.9 +1.2**
baz=262
CHNA Chernabura Isl 56.06 41 P **P 02 21 17.1 +1.2**
baz=272
E18K Tukpahlearik C 56.09 26 P **P 02 21 18.0 +2.0**
baz=263
H17K Granite Mounta 56.11 29 P **P 02 21 18.2 +1.9**
baz=265
L16K Owhat River 56.11 33 P **P 02 21 17.8 +1.6**
baz=268
ABKAR Akbulak array 56.25 312 P **P 02 21 17.5 0.0**
ABKAR Akbulak array 56.25 312 P **P 02 21 17.3 -0.2**
A19K Wainwright 56.32 22 P **P 02 21 19.5 +1.9**
baz=261,SNR=6.8
M16K Timber Creek 56.34 34 P **P 02 21 19.2 +1.3**
baz=269
F18K Selawik 56.37 27 P **P 02 21 20.1 +2.1**
baz=264,SNR=13
J17K VABM Dome 56.37 31 P **P 02 21 19.8 +1.7**
baz=267
L17K Donlin 56.68 32 P **P 02 21 22.4 +2.1**
baz=269
ARTI Arti 56.69 321 LR LR 02 48 16.9
comp=Z,326nm,18.8s,baz=78,slow=39
ARTI Arti 56.69 321*c i*P **P 02 21 20.0 -0.5**
ARTI 02 22 17.5
ARTI S **S 02 29 10.9 +0.2**
ARTI SS **SS 02 32 56.4 -1.9**
ARTI pmax pmax
comp=Z,14nm,0.7s
ARTI MLR MLR
comp=Z,392nm,15.0s
K17K Iditarod 56.70 32 P **P 02 21 21.7 +1.3**
baz=268
G18K Tagagawik 56.71 28 P **P 02 21 21.6 +1.1**
baz=266
O16K Kokwok River B 56.76 35 P **P 02 21 21.9 +1.0**
baz=270
H18K Honhosa River 56.78 29 P **P 02 21 22.5 +1.4**
baz=267
P16K Nushagak River 56.82 36 P **P 02 21 22.7 +1.4**
baz=271
M17K Holitna River 57.08 33 P **P 02 21 24.9 +1.8**
baz=270
F19K Shaleruckik Mo 57.13 27 P **P 02 21 24.4 +1.0**
F19K Shaleruckik Mo 57.13 27 P **P 02 21 24.8 +1.4**
baz=266
D19K Kuna River 57.14 25 P **P 02 21 25.2 +1.7**
baz=265
N17K Nushagak Hills 57.20 34 P **P 02 21 25.7 +1.6**
baz=271
O17K Koliganek Bris 57.26 35 P **P 02 21 25.8 +1.3**
baz=271
G19K Purcell Mounta 57.37 27 P **P 02 21 26.5 +1.4**
baz=267
AKTO Aktyubinsk 57.37 314 LR LR 02 47 46.5
comp=Z,263nm,20.5s,baz=60,slow=38
E19K Redstone River 57.39 26 P **P 02 21 27.1 +1.8**
baz=266
L18K Granite Mounta 57.44 32 P **P 02 21 27.4 +1.8**
baz=270
Q16K King Salmon 57.52 36 P **P 02 21 28.0 +1.8**
baz=272
H19K Roundabout Mou 57.60 28 P **P 02 21 28.9 +2.2**
baz=268,SNR=9.5
P17K Kvichak River 57.61 36 P **P 02 21 28.6 +1.6**
baz=272
B20K Meade River 57.62 23 P **P 02 21 28.6 +1.7**
baz=265,SNR=7.4
D20K Etivluk River 57.71 24 P **P 02 21 29.0 +1.5**
baz=266
TTA Tatalina 57.75 31 P **P 02 21 28.8 +0.9**
baz=270
E20K Nigu River 57.83 25 P **P 02 21 30.2 +1.7**
baz=267
N18K Kilae Creek 57.84 34 P **P 02 21 30.3 +1.7**
baz=272
M18K Stony River 57.85 33 P **P 02 21 30.8 +2.2**
baz=271
J19K Poorman 57.93 30 P **P 02 21 30.6 +1.5**
J19K IAmb IAmb 02 21 31.6
comp=Z,12nm,0.9s
J19K Poorman 57.93 30 P **P 02 21 30.7 +1.7**
baz=270
A21K Barrow 57.93 21 P **P 02 21 30.6 +1.7**
baz=264
F20K Avaraart Lake 57.95 26 P **P 02 21 31.0 +1.8**
baz=268
O18K Koktuh Hills 58.21 35 P **P 02 21 33.0 +1.8**
O18K Koktuh Hills 58.21 35 P **P 02 21 33.1 +1.9**
baz=273
P18K Big Mountain, 58.23 36 P **P 02 21 32.6 +1.3**
baz=273
H20K Anotleneega Mo 58.25 28 P **P 02 21 32.9 +1.5**
baz=270
CHIR Chirikof Islan 58.26 40 P **P 02 21 33.7 +2.1**
baz=275
L19K White Mountain 58.30 32 P **P 02 21 33.7 +1.9**
baz=272
C21K Knifeblade Rid 58.39 24 P **P 02 21 34.1 +1.8**
baz=267,SNR=6.3
B21K Ikpikpuk River 58.48 23 P **P 02 21 34.8 +2.0**
baz=267
M19K Big River Lodg 58.52 33 P **P 02 21 35.1 +1.8**
baz=272
N19K Bonanza Creek 58.53 34 P **P 02 21 34.8 +1.4**
baz=273
J20K Nowinta River 58.57 30 P **P 02 21 34.7 +1.1**
J20K IAmb IAmb 02 21 37.3
comp=Z,28nm,1.4s
J20K Nowinta River 58.57 30 P **P 02 21 35.9 +2.3**
baz=271
K20K Telida 58.63 31 P **P 02 21 36.5 +2.5**
baz=272
O19K Port Alsworth 58.64 35 P **P 02 21 35.7 +1.6**
baz=273
E21K Killik River 58.66 25 P **P 02 21 35.5 +1.3**
baz=269,SNR=18
L20K Farewell, AK 58.74 32 P **P 02 21 36.5 +1.7**
baz=272
F21K Alatna River 58.83 26 P **P 02 21 36.7 +1.3**
baz=270
H21K Melozitna Rive 59.12 28 P **P 02 21 39.0 +1.6**
baz=271
M20K Styx River 59.12 33 P **P 02 21 39.4 +1.8**
baz=273
D22K Ayikyak River 59.14 24 P **P 02 21 38.9 +1.4**
D22K Ayikyak River 59.14 24 P **P 02 21 39.3 +1.8**
baz=270
CHUM Lake Minchumin 59.39 30 P **P 02 21 41.5 +2.3**
baz=273,SNR=8.9
E22K Anaktuvuk Pass 59.46 25 P **P 02 21 41.2 +1.4**
E22K IAmb IAmb 02 21 42.5
comp=Z,16nm,0.9s
E22K Anaktuvuk Pass 59.46 25 P **P 02 21 41.6 +1.8**
baz=271,SNR=18
I21K Tanana 59.48 29 P **P 02 21 40.9 +1.1**
I21K IAmb IAmb 02 21 43.0
comp=Z,17nm,1.1s
I21K Tanana 59.48 29 P **P 02 21 42.2 +2.3**
baz=272,SNR=8.9
PPLA Purkeypile 59.50 31 P **P 02 21 41.9 +1.7**
PPLA Purkeypile 59.50 31 P **P 02 21 41.7 +1.4**
baz=274
CAST Castle Rocks 59.52 31 P **P 02 21 42.1 +1.9**
baz=273,SNR=9.3
G22K Bettles 59.61 27 P **P 02 21 42.0 +1.3**
baz=272
SPCR Spurr Chakacha 59.61 33 P **P 02 21 43.0 +2.0**
baz=274,SNR=6.7
SPU Mount Spurr 59.69 33 P **P 02 21 42.7 +1.3**
SPU IAmb IAmb 02 21 44.7
comp=Z,17nm,1.0s
H22K Ishtalitna Cre 59.70 28 P **P 02 21 43.3 +2.0**
baz=272
KDAK Kodiak Island 59.73 37 P **P 02 21 42.7 +1.0**
baz=276
Q20K Shuyak Island 59.75 36 P **P 02 21 43.2 +1.4**
baz=276
STLK Strandline Lak 59.77 33 P **P 02 21 43.0 +1.0**
STLK IAmb IAmb 02 21 44.0
comp=Z,6.5nm,0.7s
D23K Nanushuk River 59.87 24 P **P 02 21 44.8 +2.3**
D23K IAmb IAmb 02 21 45.4
comp=Z,18nm,1.1s
D23K Nanushuk River 59.87 24 P **P 02 21 44.4 +1.9**
baz=271,SNR=12
SKT Skwentna 59.87 32 P **P 02 21 43.3 +0.7**
SKT IAmb IAmb 02 21 44.4
comp=Z,13nm,1.0s
SKT Skwentna 59.87 32 P **P 02 21 43.2 +0.6**
baz=275,SNR=5.7
C23K Itkillik River 59.87 23 P **P 02 21 43.7 +1.3**
C23K IAmb IAmb 02 21 45.1
comp=Z,13nm,1.1s
C23K Itkillik River 59.87 23 P **P 02 21 44.1 +1.6**
baz=271
BPAW Bear Paw Mtn. 59.96 30 P **P 02 21 44.5 +1.3**
BPAW Bear Paw Mtn. 59.96 30 P **P 02 21 45.2 +1.9**
baz=274
KTH Kantishna Hill 60.03 30 P **P 02 21 45.0 +1.3**
KTH IAmb IAmb 02 21 48.9
comp=Z,12nm,1.1s
COLD Coldfoot 60.11 26 P **P 02 21 45.4 +1.3**
COLD IAmb IAmb 02 21 47.0
comp=Z,23nm,1.9s
COLD Coldfoot 60.11 26 P **P 02 21 46.0 +1.9**
baz=273
G23K Bananza Creek 60.20 27 P **P 02 21 44.9 0.0**
G23K IAmb IAmb 02 21 47.7
comp=Z,14nm,1.1s
G23K Bananza Creek 60.20 27 P **P 02 21 47.0 +2.1**
baz=273,SNR=9.7
TOLK Toolik Lake Re 60.28 25 P **P 02 21 45.9 +0.6**
TOLK IAmb IAmb 02 21 48.6
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 60.28 25 P **P 02 21 47.4 +2.0**
baz=272,SNR=9.6
E23K Chandalar 60.29 25 P **P 02 21 47.5 +2.0**
baz=273
TRF Thorofare Moun 60.32 31 P **P 02 21 46.7 +0.8**
baz=275
BRSE Bradley Lake S 60.47 35 P **P 02 21 48.2 +1.4**
baz=277
D24K Happy Valley 60.53 24 P **P 02 21 47.8 +0.8**
D24K Happy Valley 60.53 24 P **P 02 21 48.9 +1.9**
baz=273,SNR=21
C24K Franklin Bluff 60.54 23 P **P 02 21 48.4 +1.4**
baz=273
M22K Willow 60.56 33 P **P 02 21 48.6 +1.3**
baz=276
I23K Minto, Yukon-K 60.58 29 P **P 02 21 48.0 +0.6**
I23K Minto, Yukon-K 60.58 29 P **P 02 21 48.9 +1.5**
baz=275
E24K Your Creek 60.71 25 P **P 02 21 49.8 +1.5**
baz=274
NEA2 Nenana 60.75 29 P **P 02 21 49.3 +0.7**
NEA2 Nenana 60.75 29 P **P 02 21 50.2 +1.6**
baz=275,SNR=12
RC01 Rabbit Creek A 60.81 33 P **P 02 21 49.7 +0.7**
RC01 Rabbit Creek A 60.81 33 P **P 02 21 50.7 +1.7**
baz=277
MCK McKinley 60.90 30 P **P 02 21 51.3 +1.7**
baz=276,SNR=9.8
F24K Squaw Lake 60.98 26 P **P 02 21 52.1 +1.9**
baz=275
PMR Palmer 61.04 33 P **P 02 21 51.7 +1.1**
baz=277,SNR=5.3
SEW Seward 61.07 34 P **P 02 21 51.5 +0.7**
baz=277
STKA Stephens Creek 61.08 169 P **P 02 21 51.8 +0.7**
comp=Z,2.0nm,0.7s,baz=316,slow=10.0,SNR=4.6
comp=Z,2.0nm,0.7s
GHO Glory Hole Cre 61.12 32 IAmb IAmb 02 21 54.1
comp=Z,14nm,1.0s
H24K Noodor Dome 61.14 28 IAmb IAmb 02 21 54.4
comp=Z,10nm,0.9s
H24K Noodor Dome 61.14 28 P **P 02 21 53.5 +2.2**
baz=276
WRH Wood River Hil 61.19 29 P **P 02 21 52.8 +1.3**
WRH IAmb IAmb 02 21 54.7
comp=Z,15nm,1.2s
G24K Hadweenzic Riv 61.21 27 IAmb IAmb 02 21 54.8
comp=Z,12nm,0.9s
G24K Hadweenzic Riv 61.21 27 P **P 02 21 54.0 +2.3**
baz=276,SNR=7.0
CCB Clear Creek Bu 61.29 29 P **P 02 21 52.9 +0.6**
CCB IAmb IAmb 02 22 07.2
comp=Z,14nm,1.6s
KIRV Kirov 61.31 324 LR LR 02 51 20.0
comp=Z,286nm,20.9s,baz=84,slow=39
KIRV Kirov 61.31 324*ce*P **P 02 21 52.9 +0.5**
DZM Mont Dzumac 61.37 141 LR LR 02 44 30.6
comp=Z,104nm,21.1s,baz=260,slow=32
D25K Kavik River 61.38 24 P **P 02 21 54.5 +1.6**
baz=275,SNR=13
KNK Knik Glacier 61.39 33 P **P 02 21 54.5 +1.5**
baz=278,SNR=6.5
SML Sawmill 61.40 32 P **P 02 21 54.0 +0.9**
baz=277
POKR Poker Plat Res 61.40 29 P **P 02 21 55.0 +2.0**
baz=276,SNR=9.2
PWL Port Wells 61.52 33 P **P 02 21 54.9 +1.0**
baz=278
ILAR Eielson Array 61.67 29 P **P 02 21 54.9 0.0**
comp=Z,3.4nm,0.9s,baz=272,slow=5.5,SNR=28
ILAR LR LR 02 49 24.3
comp=Z,70nm,20.6s,baz=298,slow=37
comp=Z,3.4nm,0.9s
M23K Glacier View 61.68 32 P **P 02 21 56.0 +1.1**
baz=278
HDA Harding Lake 61.69 29 P **P 02 21 55.6 +0.7**
baz=277,SNR=9.5
G25K Bearman Lake 61.75 27 P **P 02 21 57.6 +2.3**
baz=277
E25K Arctic Village 61.80 25 IAmb IAmb 02 21 59.3
comp=Z,12nm,1.1s
E25K Arctic Village 61.80 25 P **P 02 21 58.0 +2.3**
baz=276,SNR=10
F25K Christian Rive 61.83 26 P **P 02 21 58.4 +2.5**
baz=277
C26K Camden Bay 61.84 23 P **P 02 21 58.2 +2.4**
baz=276
SCM Sheep Creek Mo 61.86 32 P **P 02 21 57.5 +1.2**
baz=278
H25L Birch Creek 61.92 27 P **P 02 21 58.8 +2.3**
baz=277
P23K Montague Islan 62.11 34 P **P 02 21 58.9 +1.1**
baz=279
GLI Glacier Island 62.12 33 P **P 02 21 58.9 +1.0**

baz=279
PRP Porcupine Dome 62.14 28 IAmb IAmb 02 22 01.0
comp=Z,13nm,1.0s
PRP Porcupine Dome 62.14 28 P **P** **02 21 59.6 +1.4**
baz=278
BMAR Burnt Mountain 62.26 26 P **P** **02 22 00.6 +1.8**
K24K Donnelly Dome 62.28 30 P **P** **02 22 00.4 +1.4**
baz=279
C27K Jago River 62.29 23 IAmb IAmb 02 22 01.9
comp=Z,14nm,0.8s
C27K Jago River 62.29 23 P **P** **02 22 01.0 +2.1**
baz=277,SNR=18
J25K Salcha River, 62.34 29 P **P** **02 22 01.0 +1.6**
baz=278
M24K Tolsona, Glenn 62.36 32 P **P** **02 22 01.2 +1.6**
baz=279
F26K Sheenjek River 62.39 25 P **P** **02 22 02.2 +2.6**
baz=278,SNR=27
PAX Paxson 62.55 31 P **P** **02 22 01.8 +1.0**
baz=279,SNR=5.2
KLU Klutina 62.58 33 P **P** **02 22 02.1 +1.0**
baz=280
G26K Porcupine Rive 62.63 26 P **P** **02 22 03.2 +2.0**
baz=279
RIDG Independent Ri 62.70 30 IAmb IAmb 02 22 04.2
comp=Z,7.0nm,0.9s
RIDG Independent Ri 62.70 30 P **P** **02 22 03.1 +1.3**
baz=279
Q23K Middleton Isla 62.73 35 P **P** **02 22 03.3 +1.4**
baz=280
HARP HAARP 62.78 31 P **P** **02 22 03.7 +1.4**
baz=280
SCRK Sand Creek 63.03 30 P **P** **02 22 04.0 -0.1**
SCRK IAmb IAmb 02 22 05.8
comp=Z,12nm,1.0s
SCRK Sand Creek 63.03 30 P **P** **02 22 05.0 +0.9**
baz=280,SNR=13
J26L Joseph Creek 63.12 29 IAmb IAmb 02 22 06.0
comp=Z,13nm,0.8s
J26L Joseph Creek 63.12 29 P **P** **02 22 05.2 +0.5**
baz=280,SNR=13
I26K Coal Creek Min 63.15 28 P **P** **02 22 05.4 +0.7**
baz=280
N25K Chitina, Valde 63.18 32 P **P** **02 22 06.2 +1.1**
baz=281
BMRM Bremner River 63.30 33 P **P** **02 22 07.3 +1.5**
baz=281,SNR=5.9
D27M Malcolm River 63.30 24 P **P** **02 22 07.7 +2.0**
baz=280
BELG Belogornoye 63.45 317 LR LR 02 51 37.7
comp=Z,210nm,20.1s,baz=73,slow=38
G27K Doyon Strip 63.48 26 P **P** **02 22 09.4 +2.5**
baz=281,SNR=7.0
L26K Log Cabin Wild 63.49 31 IAmb IAmb 02 22 09.6
comp=Z,8.6nm,0.8s
L26K Log Cabin Wild 63.49 31 P **P** **02 22 08.9 +1.9**
baz=281
GLB Gilahina Butte 63.59 32 IAmb IAmb 02 22 10.1
comp=Z,15nm,1.0s
KAIM Kayak Island 63.59 34 P **P** **02 22 09.5 +1.8**
baz=282
H27K Steamboat Moun 63.65 27 P **P** **02 22 10.2 +2.2**
baz=281,SNR=8.2
I27K Kandik River 63.73 28 P **P** **02 22 10.4 +1.8**
baz=281,SNR=22
M26K Nabesna, AK 63.77 31 P **P** **02 22 10.5 +1.6**
baz=282
F28M Old Crow 64.01 25 IAmb IAmb 02 22 13.9
comp=Z,16nm,1.1s
F28M Old Crow 64.01 25 P **P** **02 22 12.5 +2.1**
baz=282,SNR=17
D28M Stokes Point 64.06 23 P **P** **02 22 12.6 +2.0**
baz=282
L27K Beaver Creek, 64.16 30 P **P** **02 22 13.0 +1.6**
baz=282
BCAR Beaver Creek A 64.18 30 P **P** **02 22 12.6 +1.1**
M27K Edge Creek, AK 64.29 31 P **P** **02 22 14.0 +1.6**
baz=283
I28M Miner Creek 64.45 28 P **P** **02 22 15.4 +2.0**
baz=283,SNR=11
E29M Blow River 64.57 24 IAmb IAmb 02 22 16.8
comp=Z,7.9nm,0.9s
E29M Blow River 64.57 24 P **P** **02 22 16.1 +2.2**
baz=283,SNR=9.6
MESA MESA 64.75 34 P **P** **02 22 17.1 +1.6**
baz=284
G29M Pine Creek 64.87 26 P **P** **02 22 18.1 +2.1**
baz=284,SNR=8.0
H29M Whitestone 64.90 27 P **P** **02 22 18.1 +1.9**
baz=284
DAWY Dawson 64.99 29 P **P** **02 22 18.3 +1.4**
baz=284,SNR=5.4
I29M Ogilvie Camp, 65.13 28 IAmb IAmb 02 22 20.4
comp=Z,11nm,1.0s
I29M Ogilvie Camp, 65.13 28 P **P** **02 22 19.4 +1.6**
baz=284
J29N Klondike Camp 65.40 28 IAmb IAmb 02 22 22.4
comp=Z,13nm,0.9s
J29N Klondike Camp 65.40 28 P **P** **02 22 21.6 +2.1**
baz=285,SNR=8.0
EPYK Eagle Plains 65.51 26 P **P** **02 22 21.7 +1.5**
baz=285,SNR=8.7
YUK8 Steele Glacier 65.52 32 P **P** **02 22 22.6 +2.0**
baz=285
F30M Barrier River 65.53 25 P **P** **02 22 21.7 +1.4**
baz=285
G30M tAoh Zraii Nji 65.54 26 P **P** **02 22 21.8 +1.5**
baz=285
PINM Pinnacle 65.59 33 P **P** **02 22 22.6 +1.7**
baz=285
KLMR Klimovskoe 65.75 328 *e*P **P** **02 22 20.1 -1.7**
KLMR pmax pmax
comp=Z,24nm,1.8s
L29M L29M 65.78 30 P **P** **02 22 24.1 +2.1**
baz=285,SNR=7.7
M29M Somme Creek 65.81 31 P **P** **02 22 24.2 +1.9**
baz=285
K29M Barlow Dome 65.85 29 P **P** **02 22 24.3 +1.8**
baz=286
I30M Mount Dempster 65.95 27 IAmb IAmb 02 22 25.9
comp=Z,18nm,1.3s
I30M Mount Dempster 65.95 27 P **P** **02 22 24.7 +1.6**
baz=286,SNR=10
YUK4 Talbot Arm 66.02 32 P **P** **02 22 25.3 +1.5**
baz=286
PNL Peninsula 66.12 34 P **P** **02 22 25.8 +1.6**
baz=286
J30M Hart River 66.15 28 P **P** **02 22 26.1 +1.7**
baz=286
INK Inuvik 66.16 24 IAmb IAmb 02 22 26.3
comp=Z,7.6nm,0.9s
INK Inuvik 66.16 24 LR LR 02 52 40.5
comp=Z,52nm,20.0s,baz=239,slow=37
INK Inuvik 66.16 24 P **P** **02 22 25.4 +1.2**
baz=287,SNR=10
YUK6 Outpost Mounta 66.27 32 P **P** **02 22 26.9 +1.5**
baz=286
G31M Satah River 66.29 25 P **P** **02 22 26.0 +0.9**
baz=287
F31M Tsiigehtchic 66.33 25 P **P** **02 22 26.4 +1.0**
baz=287
O29M Mount Kennedy 66.34 33 P **P** **02 22 27.8 +2.0**
baz=286
M30M Minto, Yukon 66.52 30 P **P** **02 22 28.9 +2.1**
baz=287
H31M Peel River 66.59 27 IAmb IAmb 02 22 29.4
comp=Z,13nm,0.9s
H31M Peel River 66.59 27 P **P** **02 22 28.9 +1.7**
baz=288
HYT Haines Junctio 66.70 32 IAmb IAmb 02 22 31.0
comp=Z,10nm,1.0s
HYT Haines Junctio 66.70 32 P **P** **02 22 29.7 +1.7**
baz=287
N30M Aishikik Lake 66.71 31 P **P** **02 22 29.6 +1.6**
baz=287
SPITS Spitsbergen Ar 66.91 348 LR LR 02 53 45.0
comp=Z,127nm,20.1s,baz=354,slow=38
P30M Million Dollar 67.17 33 P **P** **02 22 32.4 +1.5**
baz=288
VRH Novokhopyorsk 67.30 317 *e*P **P** **02 22 31.6 -0.2**
VRH pmax pmax
comp=Z,13nm,0.6s
N31M Braeburn, Yuko 67.30 31 IAmb IAmb 02 22 34.7
comp=Z,10nm,0.9s
N31M Braeburn, Yuko 67.30 31 P **P** **02 22 33.4 +1.7**
baz=288
O30N Mendenhall 67.38 32 P **P** **02 22 34.2 +2.0**
baz=288

A36M Sachs Harbour 67.55 19 P **P** **02 22 34.7 +1.7**
baz=293,SNR=35
M31M Drury Creek, Y 67.70 30 P **P** **02 22 35.9 +1.6**
baz=289,SNR=5.4
WHY Whitehorse 67.98 32 P **P** **02 22 37.9 +1.8**
baz=289,SNR=5.7
FARO Faro, Yukon 68.15 30 P **P** **02 22 39.0 +1.9**
baz=290,SNR=15
SKAG Skagway 68.16 33 P **P** **02 22 38.8 +1.7**
baz=289
S31K Pelican 68.21 35 P **P** **02 22 39.1 +1.7**
baz=289
MOS Moscow 68.21 323 *e*P **P** **02 22 36.3 -1.2**
MOS *e* 02 23 01.9
MOS *e* 02 25 04.2
MOS *e*S **S** **02 31 33.3 -2.2**
R31K City Hall, Gus 68.30 34 P **P** **02 22 40.5 +2.5**
baz=289
LPSR Galich'ya Gora 68.50 319 *e*P **P** **02 22 38.4 -1.0**
LPSR pmax pmax
comp=Z,31nm,0.9s
N32M Quiet Lake 68.64 31 P **P** **02 22 42.0 +1.8**
baz=290
VORR Voronezh 68.65 318 *e*P **P** **02 22 39.1 -1.2**
VORR pmax pmax
comp=Z,32nm,0.4s
VSR Storozhevoye 68.82 318 *e*P **P** **02 22 39.0 -2.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
P32M Atlin 68.89 33 P **P** **02 22 43.2 +1.5**
baz=290
MMPY Sheldon Lake, 68.92 29 P **P** **02 22 43.6 +1.7**
baz=291
KBZ Khabaz 68.93 309 P **P** **02 22 43.0 +0.8**
comp=Z,6.8nm,0.8s,baz=63,slow=2.3,SNR=14
comp=Z,6.8nm,0.8s
KBZ Khabaz 68.93 309 *ce*P **P** **02 22 43.4 +1.2**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
R32K Eaglecrest 68.96 34 P **P** **02 22 44.2 +2.1**
baz=290
SIT Sitka 68.97 36 P **P** **02 22 42.5 +0.3**
baz=290
C36M Paulatuk 68.98 21 P **P** **02 22 43.4 +1.4**
baz=295,SNR=28
OBN Obninsk 68.99 322 LR LR 02 55 46.9
comp=Z,273nm,18.4s,baz=19,slow=38
OBN Obninsk 68.99 322 *e*P **P** **02 22 41.2 -1.1**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,244nm,16.0s
KIV Kislovodsk 69.00 309 P **P** **02 22 42.2 -0.5**
KIV IAmb IAmb 02 22 53.0
comp=Z,15nm,1.1s
KIV Kislovodsk 69.00 309 *e*P **P** **02 22 40.5 -2.3**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,86nm,17.0s
KIV Kislovodsk 69.00 309 P **P** **02 22 42.0 -0.8**
comp=Z,9.3nm,1.0s
P33M Teslin, Yukon 69.09 32 IAmb IAmb 02 22 46.4
comp=Z,8.8nm,1.1s
P33M Teslin, Yukon 69.09 32 P **P** **02 22 44.5 +1.4**
baz=291
S32K Killisnoo 69.21 35 P **P** **02 22 45.0 +1.4**
baz=290
Q32M Nakina River 69.81 33 P **P** **02 22 48.9 +1.3**
baz=292
EUNU Eureka 69.83 6 IAmb IAmb 02 22 48.7
comp=Z,7.7nm,0.9s
R33M Jennings River 70.27 32 P **P** **02 22 51.6 +1.3**
baz=293
TGTN Hyland Airport 70.65 30 P **P** **02 22 54.4 +1.9**
baz=294,SNR=7.1
WTLY Watson Lake, Y 70.99 31 P **P** **02 22 56.8 +2.1**
baz=294,SNR=5.6
GURO Guroymak-BITLI 71.38 304 IAmb IAmb 02 22 59.6
comp=Z,9.6nm,1.0s
T35M Bob Quinn 71.57 35 P **P** **02 23 00.2 +2.0**
baz=294
FINES FINESS Array B 71.64 331 P **P** **02 22 57.9 -0.6**
comp=Z,2.1nm,0.7s,baz=78,slow=5.8,SNR=7.9
FINES LR LR 02 57 12.9
comp=Z,180nm,18.4s,baz=52,slow=38
comp=Z,2.1nm,0.7s
FINES FINESS Array B 71.64 331 *ce*P **P** **02 22 58.5 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
WRGLY Wrigley 71.92 27 P **P** **02 23 02.0 +1.9**
baz=298
KOPT Kop Dagi 71.94 306 P **P** **02 23 01.9 +0.9**
KOPT IAmb IAmb 02 23 14.3
comp=Z,9.5nm,1.0s
MARD Mardin 72.77 303 IAmb IAmb 02 23 07.4
comp=Z,14nm,0.8s
RES Resolute Bay 72.99 11 IAmb IAmb 02 23 08.3
comp=Z,11nm,1.1s
RES Resolute Bay 72.99 11 LR LR 02 59 51.3
comp=Z,42nm,18.3s,baz=8.5,slow=40
TOAD Toad River Com 73.18 32 P **P** **02 23 08.9 +1.2**
baz=297
DAG Danmarks Havn 73.18 353 *i* P **P** **02 23 05.2 -2.1**
DAG IAmb IAmb 02 23 08.5
comp=Z,35nm,2.0s
NEEM North Greenlan 74.27 0 *i* P **P** **02 23 11.9 -2.2**
NEEM IAmb IAmb 02 23 14.7
comp=Z,8.3nm,0.8s
SIM Simferopol' 74.31 313 *e*P **P** **02 23 14.9 +0.3**
SIM pmax pmax
comp=Z,18nm,0.9s
RAYN Ar Rayn 74.58 289 P **P** **02 23 17.0 +0.4**
RAYN IAmb IAmb 02 23 18.5
comp=Z,14nm,1.0s
RAYN Ar Rayn 74.58 289 ⇑P **P** **02 23 18.0 +1.4**
AK03 Malin Array Si 74.80 320 P **P** **02 23 16.6 -0.7**
AKASG Malin Array Be 74.81 320 P **P** **02 23 17.6 +0.2**
comp=Z,6.2nm,0.7s,baz=58,slow=6.4,SNR=24
AKASG LR LR 02 59 18.6
comp=Z,213nm,19.1s,baz=58,slow=38
comp=Z,6.2nm,0.7s
AKASG Malin Array Be 74.81 320 *ce*P **P** **02 23 17.7 +0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 74.81 320 IAmb IAmb 02 23 18.4
comp=Z,10nm,0.8s
AKBB Malin Array Si 74.81 320 *ce*P **P** **02 23 18.1 +0.8**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 74.81 320 P **P** **02 23 17.2 -0.1**
AK09 Malin Array Si 74.81 320 P **P** **02 23 17.2 -0.2**
AK01 Malin Array Si 74.82 320 P **P** **02 23 17.3 -0.1**
AK08 Malin Array Si 74.82 320 P **P** **02 23 17.3 -0.1**
KIEV Kiev 74.82 320 P **P** **02 23 17.0 -0.4**
KIEV IAmb IAmb 02 23 18.4
comp=Z,9.2nm,0.8s
KIEV Kiev 74.82 320 ⇑P **P** **02 23 17.9 +0.5**
KIEV Kiev 74.82 320 P **P** **02 23 17.2 -0.2**
comp=Z,59nm,1.1s
AK04 Malin Array Si 74.83 320 P **P** **02 23 17.3 -0.2**
YKA Yellowknife Ar 75.78 26 P **P** **02 23 23.7 +1.1**
comp=Z,3.7nm,0.8s,baz=300,slow=5.6,SNR=50
YKA LR LR 02 59 01.7
comp=Z,51nm,19.1s,baz=273,slow=38
comp=Z,3.7nm,0.8s
LUBAR Lubar, Ukraine 76.00 319 P **P** **02 23 23.6 -0.6**
RNPP9 Sopachiv 76.35 321 P **P** **02 23 25.9 -0.2**
RNPP5 Staryi Chortor 76.44 321 P **P** **02 23 26.4 -0.3**
BR131 Keskin Array S 76.87 308 *i* P **P** **02 23 29.7 +0.2**
BRTR Keskin Array B 76.87 308 P **P** **02 23 29.7 +0.2**
BRTR Keskin Array B 76.87 308 P **P** **02 23 30.6 +1.1**
comp=Z,11nm,0.8s,baz=81,slow=5.0,SNR=16
comp=Z,11nm,0.8s
BRTR Keskin Array B 76.87 308 P **P** **02 23 29.7 +0.2**
KULLO Kullorsuaq 77.04 2 *i* P **P** **02 23 29.2 -0.5**
KULLO IAmb IAmb 02 23 30.3
comp=Z,24nm,1.1s
HFS Hagfors 77.52 333 P **P** **02 23 32.9 +0.3**
comp=Z,1.2nm,0.6s,baz=33,slow=3.4,SNR=4.1
HFS LR LR 03 02 06.5
comp=Z,164nm,20.4s,baz=44,slow=39
comp=Z,1.2nm,0.6s
NB2 NORSAR Subarra 77.95 334 P **P** **02 23 34.1 -1.0**
comp=Z,11nm,1.2s,baz=51,slow=5.6
NOA NORSAR Array B 77.95 334 P **P** **02 23 34.0 -1.0**
comp=Z,1.5nm,0.8s,baz=50,slow=5.3,SNR=4.8

NOA LR LR 03 01 15.9
comp=Z,113nm,20.8s,baz=35,slow=38
comp=Z,1.5nm,0.8s
NOA NORSAR Array B 77.95 334 P **P** **02 23 34.0 -1.0**
SUMG Summit 78.85 356 P **P** **02 23 40.6 +0.4**
SUMG Summit 78.85 356 P **P** **02 23 40.6 +0.4**
SUMG pmax pmax
comp=Z,71nm,1.5s
SUMG Summit 78.85 356 *i* P **P** **02 23 40.0 -0.2**
SUMG IAmb IAmb 02 23 42.4
comp=Z,18nm,0.9s
MLR Muntele Rosu 79.20 316 LR LR 03 02 30.6
comp=Z,143nm,20.5s,baz=54,slow=39
SCO Scoresbysund 79.25 351 *i* P **P** **02 23 39.1 -2.8**
VYHS Vyhne 81.76 321 *e*P **P** **02 23 56.0 +0.1**
VYHS Vyhne 81.76 321 *e*P **P** **02 23 56.0 +0.1**
ICESG Greenland Ices 82.37 356 *i* P **P** **02 23 57.1 -2.0**
ICESG IAmb IAmb 02 24 01.1
comp=Z,32nm,1.2s
D08A Wollman Farm, 82.50 40 IAmb IAmb 02 24 02.1
comp=Z,8.7nm,0.9s
VRAC Vranov 82.51 323 LR LR 03 04 22.0
comp=Z,202nm,19.5s,baz=68,slow=38
MODS Modra-Piesok 82.68 322 *e*P **P** **02 24 03.5 +2.8**
MODS Modra-Piesok 82.68 322 *e*P **P** **02 24 03.5 +2.8**
NEW Newport 82.82 38 IAmb IAmb 02 24 11.8
comp=Z,20nm,1.9s
PINE Pine Mountain 83.12 44 IAmb IAmb 02 24 06.4
comp=Z,10nm,0.9s
CLL Collm 83.16 326 ⇓ *i* P **P** **02 24 03.7 +0.6**
comp=Z,12nm,1.0s
CLL Collm 83.16 326 *i* x x 02 24 17.3
CLL Collm 83.16 326 ⇓ *i* P **P** **02 24 03.7 +0.6**
CLL *i* 02 24 11.6
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 83.16 326 P **P** **02 24 03.5 +0.4**
comp=Z,13nm,1.1s
CLL Collm 83.16 326 *i* x x 02 24 11.6
J05D Fort Rock, OR 83.22 44 P **P** **02 24 03.6 -0.1**
J05D IAmb IAmb 02 24 06.7
comp=Z,10nm,0.9s
E09A Wood Farm, Sta 83.25 40 IAmb IAmb 02 24 06.2
comp=Z,8.6nm,1.0s
RAR Rarotonga 83.86 118 LR LR 02 53 57.9
comp=Z,56nm,21.8s,baz=230,slow=30
KHC Kasperske Hory 84.20 324 *i* P **P** **02 24 08.9 +0.4**
KHC pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 84.31 323 LR LR 03 05 49.1
comp=Z,160nm,21.6s,baz=46,slow=39
SFJD Kangerlussuaq 84.77 0 LR LR 03 04 36.0
comp=Z,45nm,18.2s,baz=248,slow=38
J08A Circle Bar Ran 84.86 43 IAmb IAmb 02 24 14.8
comp=Z,6.4nm,0.9s
FCC Fort Churchill 85.63 21 IAmb IAmb 02 24 17.0
comp=Z,9.3nm,1.1s
FFC Flin Flon 85.83 27 P **P** **02 24 16.7 +0.2**
FFC Flin Flon 85.83 27 P **P** **02 24 16.7 +0.2**
FFC pmax pmax
comp=Z,6.0nm,0.9s
PAHR Pah Rah Range 86.36 46 IAmb IAmb 02 24 22.6
comp=Z,11nm,1.3s
EGMT Egleton 86.86 36 IAmb IAmb 02 24 24.6
comp=Z,11nm,1.0s
FRB Frobisher Bay 86.87 8 LR LR 03 05 40.9
comp=Z,95nm,19.6s,baz=310,slow=37
DLMT Dillon 87.05 39 IAmb IAmb 02 24 25.4
comp=Z,9.5nm,0.9s
HLID Hailey 87.12 41 P **P** **02 24 24.0 +0.6**
DAVOX Davos/Dischmat 87.61 323 P **P** **02 24 26.7 +1.0**
comp=Z,2.5nm,0.7s,baz=63,slow=11,SNR=3.7
DAVOX LR LR 03 07 45.0
comp=Z,293nm,18.9s,baz=75,slow=38
comp=Z,2.5nm,0.7s
BMRD Maredsous 87.76 328 *d*P **P** **02 24 28.8 +2.8**
comp=Z,8.9nm,0.9s
NVAR Mina Array Bea 87.78 47 P **P** **02 24 28.1 +1.4**
comp=Z,1.1nm,0.8s,baz=295,slow=4.8,SNR=7.0
NVAR LR LR 03 00 31.2
comp=Z,51nm,18.1s,baz=246,slow=33
comp=Z,1.1nm,0.8s
YHL Hebgen Lake 88.14 39 IAmb IAmb 02 24 31.7
comp=Z,6.9nm,1.1s
LAO LASA Array 89.54 35 IAmb IAmb 02 24 37.2
comp=Z,9.0nm,0.9s
R11B Troy Canyon, C 89.56 46 P **P** **02 24 36.5 +1.5**
baz=307
HWUT Hardware Ranch 89.99 41 IAmb IAmb 02 24 40.6
comp=Z,7.2nm,1.1s
DUG Dugway, Tooele 90.14 43 P **P** **02 24 38.0 +0.4**
DUG Dugway, Tooele 90.14 43 P **P** **02 24 38.0 +0.4**
DUG pmax pmax
comp=Z,5.0nm,1.1s
PDAR Pinedale Array 90.39 39 P **P** **02 24 39.5 +0.6**
comp=Z,1.9nm,0.8s,baz=329,slow=0.9,SNR=16
comp=Z,1.9nm,0.8s
ULM Lac du Bonnet 91.66 27 IAmb IAmb 02 24 46.5
comp=Z,8.4nm,1.1s
ULM Lac du Bonnet 91.66 27 P **P** **02 24 44.4 +0.1**
comp=Z,5.1nm,0.9s,baz=313,slow=6.1,SNR=9.4
comp=Z,5.1nm,0.9s
PFO Pinyon Flats O 91.80 50 LR LR 03 05 18.8
comp=Z,22nm,18.4s,baz=210,slow=35
KNB Kanab 92.11 45 IAmb IAmb 02 24 50.1
comp=Z,7.9nm,1.0s
RSSD Black Hills 92.43 36 P **P** **02 24 48.2 -0.1**
RSSD Black Hills 92.43 36 P **P** **02 24 48.2 -0.1**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
N23A Red Feather La 93.64 39 P **P** **02 24 55.3 +1.3**
baz=313
Y14A Wickenburg 93.89 48 IAmb IAmb 02 24 58.2
comp=Z,5.9nm,1.2s
S22A 4UR Ranch, Cre 95.27 42 P **P** **02 25 02.4 +0.9**
baz=312
Q24A Divide 95.41 40 P **P** **02 25 01.8 -0.4**
baz=314
SCHQ Schefferville 95.72 10 LR LR 03 10 38.9
comp=Z,70nm,20.1s,baz=352,slow=37
ESDC Sonseca Array 99.75 326 LR LR 03 16 14.6
comp=Z,112nm,21.9s,baz=30,slow=39
SYO Syowa Base 116.46 204 ⇑ *e*Pdiff **Pdif** **02 26 37.0 +2.3**
SYO Syowa Base 116.46 204 ⇑ *ep*Pdiff pPdif 02 26 40.6 -4.1

ISK 21 02:19:08.4, 37°.82N×28°.97E, h7km, ML2.0/17
AFAD 21 02:19:08.2, 37°.82N×29°.00E, h7km±2km, ML1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNIZ	**Denizli-Tavas-**	**0.20**	**170**	P	Pg	02 19 13.2	+1.0
DNIZ				S	Sg	02 19 16.4	+1.5
DNIZ				*i* AML	AML	02 19 17.0	
	comp=N,998nm,0.1s						
DNIZ				*i* AML	AML	02 19 17.0	
	comp=E,1μm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.36**	**191**	P	Pg	02 19 15.7	+0.5
TAVA				S	Sg	02 19 21.1	+1.2
TAVA				*i* AML	AML	02 19 22.0	
	comp=E,117nm,0.2s						
TAVA				*i* AML	AML	02 19 23.0	
	comp=N,170nm,0.1s						
APMY	**Acipayam-Deniz**	**0.42**	**145**	Pg	Pb	02 19 17.5	-0.5
ESEN	**Aydn-Nazilli**	**0.51**	**268**	P	Pg	02 19 18.5	+0.4
ESEN				S	Sg	02 19 24.8	0.0
ESEN				*i* AML	AML	02 19 26.0	
	comp=N,68nm,0.1s						
ESEN				*i* AML	AML	02 19 26.0	
	comp=E,73nm,0.1s						
NAZL	**Nazilli-Aydin**	**0.57**	**285**	Pg	Pg	02 19 19.9	+0.6
NAZL				Sg	Sg	02 19 27.9	+1.1
KIRA	**zmir-Kiraz**	**0.60**	**309**	P	Pg	02 19 20.2	+0.4
KIRA				S	Sb	02 19 29.0	-0.9
KIRA				*i* AML	AML	02 19 29.0	
	comp=N,37nm,0.1s						
KIRA				*i* AML	AML	02 19 29.0	
	comp=E,37nm,0.2s						
PASA	**Karahalli, USA**	**0.66**	**36**	P	Pg	02 19 20.5	-0.4
PASA				*i* AML	AML	02 19 34.0	
	comp=N,27nm,0.2s						
PASA				*i* AML	AML	02 19 35.0	
	comp=E,32nm,0.4s						
KULA	**Kula-Manisa**	**0.74**	**339**	Pg	Pb	02 19 23.2	-0.3
KULA				Sg	Sb	02 19 33.4	-0.5
BASM	**Basmaki-Afyon**	**0.84**	**83**	Pg	Pb	02 19 25.1	-0.1
ODEM	**Odemis-Izmir**	**0.86**	**302**	Pg	Pb	02 19 25.1	-0.4

AYDB	Zeytinkoy-Aydi	0.88	279	Pg	Pg	02 19 25.3	+0.1
IZMR	zmir-demi	0.88	291	P	Pg	02 19 25.4	+0.2
IZMR				S	Sb	02 19 38.3	+0.5
IZMR				*i* AML	AML	02 19 39.0	
	comp=N,16nm,0.3s						
IZMR				*i* AML	AML	02 19 40.0	
	comp=E,21nm,0.6s						
YER	Yerkesik	0.89	220	Pg	Pg	02 19 25.5	+0.3
USAK	Uak-Merkez	0.89	1	P	Pg	02 19 25.1	-0.3
USAK				S	Sb	02 19 38.0	-0.3
USAK				*i* AML	AML	02 20 07.0	
	comp=N,63nm,1.8s						
USAK				*i* AML	AML	02 20 07.0	
	comp=E,48nm,1.6s						
CAME	Cameli-Denizli	0.91	164	Pg	Pb	02 19 26.9	+0.6
DALY	Dalyan (Mula)	1.04	195	Pg	Pn	02 19 28.8	-0.3
MLSB	Milas	1.10	242	Pn	Pb	02 19 29.8	+0.2
FETY	Fethiye	1.18	177	Pn	Pn	02 19 31.4	+0.2
TURN	Turunc	1.20	210	Pn	Pn	02 19 31.4	0.0
ISP	Isparta	1.21	89	Pn	Pn	02 19 32.2	+0.6
SIMA	Simav-Kutahya	1.26	360	Pn	Pg	02 19 32.8	+0.4
GORD	Gordes-Manisa	1.26	330	Pn	Pg	02 19 33.0	+0.5
GEDZ	Gediz	1.27	15	Pn	Pg	02 19 33.2	+0.7
GCAM	G?zelcaml?	1.40	266	Pn	Pg	02 19 34.9	-0.2
BODT	Bodrum	1.54	241	Pn	Pb	02 19 36.7	-0.3
DAT	Datca	1.57	227	Pn	Pb	02 19 37.3	-0.3

NEIC ***21*** *02:19:32.0±2.0, 32°.57N±0°.05×21°.62E±0°.09, h10km±1km, mb4.3/38, Error ellipse: s-maj=12.2km s-min=8.4km az=265.0*
IDC ***21*** *02:19:33.4±1.1, 32°.82N×21°.63E, h0km, mb4.3/14, mbtmp4.2/24, ML3.9/8, MS3.5/19, Error ellipse: s-maj=18.0km s-min=15.0km az=1.0*
HLW ***21*** *02:19:34.3, 32°.10N×21°.76E, h16km±20km, Md4.4, Ml4.5*
MED_RC ***21*** *02:19:35.0±1.4, 32°.38N×21°.51E, h15km±2km, MW4.4/22, Moment Tensor Solution.Mantle waves: s22,c29; Duration: 1!0 Moment tensor: Scale 10^15Nm; Mrr=0.52±.27; Mθθ0.75±.19; Mφφ-0.22±.26; Mrθ=0.37±.50; Mθφ-4.35±.36; Mφr0.42±.30; Best double couple: Mo4.41000×10^15 NP1:φs267.00000°, δ85.00000°, λ177.00000°. NP2:φs357.00000°, δ87.00000°, λ5.00000°. Principal axes: T 4.7000, Plg6.0000°, Azm222.0000°; N -0.5800, Plg84.0000°, Azm31.0000°; P -4.1200, Plg1.0000°, Azm132.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GII ***21*** *02:19:37.4±0.0, 32°.639N±0°.001×22°.323E±0°.001, h10km, Mws4.5, confirmed*
ISC 21 02:19:31.8±0.5, 32°.62N±0°.05×21°.74E±0°.04, h10km, n320, σ2s63/341, mb4.4/30, MS3.6/13, 16C-8D, Near coast of Libya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	2.95	41	*e*P	Pn	02 20 21.5	+2.8
SLUM	Salum	3.16	110	P	Pn	02 20 21.1	-0.5
ANKY	Antikythira Is	3.48	21	P	Pn	02 20 29.7	+3.6
ANKY				S	Sn	02 21 07.9	+0.5
IDI	Anoyia	3.73	44	*e*P	Pn	02 20 33.4	+3.9
IDI	Anoyia	3.73	44	Pn	Pn	02 20 30.8	+1.2
IDI	Anoyia	3.73	44	P	Pn	02 20 32.3	+2.8
IDI				S	Sn	02 21 17.4	+3.8
IDI	Anoyia	3.73	44	Pn	Pn	02 20 30.1	+0.6
	5.8nm,0.3s,baz=238,slow=7.4,SNR=37						
IDI				Sn	Sn	02 21 17.6	+4.0
	9.3nm,0.3s,baz=266,slow=18,SNR=3.9						
VLI	Veliai	4.20	13	P	Pn	02 20 39.4	+3.5
VLI				S	Sn	02 21 23.8	-1.3
ZKR	Zakros	4.48	55	*e*P	Pn	02 20 42.7	+3.0
ZKR	Zakros	4.48	55	P	Pn	02 20 43.0	+3.3
ITM	Ithomi	4.55	2	*e*P	Pn	02 20 42.9	+2.2
ITM	Ithomi	4.55	2		Pn	02 20 41.2	+0.5
ITM	Ithomi	4.55	2	P	Pn	02 20 43.0	+2.2
SWA2		4.64	136	P	Pn	02 20 39.3	-2.6
THR9	Santorini-Faro	4.78	38	P	Pn	02 20 47.1	+3.3
THR6	Thira Island,	4.79	38	P	Pn	02 20 46.6	+2.5
MATC	Matruh	4.84	104	P	Pn	02 20 45.2	+0.6
THR3	Thira Island,	4.84	38	P	Pn	02 20 47.2	+2.6
THR8	Santorini-Mono	4.88	38	P	Pn	02 20 46.3	+1.1
CMBO	Columbo, Santo	4.89	37	P	Pn	02 20 47.4	+2.1
KRND	KRANIDI	4.89	13	P	Pn	02 20 47.5	+2.1
KRND				S	Sn	02 21 42.3	+0.3
DRO	Drossia	5.32	360	P	Pn	02 20 53.3	+2.0
GUR	Goura	5.33	5	P	Pn	02 20 54.1	+2.6
KARP	Karpathos	5.36	56	*e*P	Pn	02 20 54.9	+3.0
KARP	Karpathos	5.36	56	Pn	Pn	02 20 54.1	+2.2
KARP	Karpathos	5.36	56	P	Pn	02 20 55.1	+3.2
KARP	Karpathos	5.36	56	P	Pn	02 20 54.9	+3.0
APE	Apeiranthos	5.42	34	*e*P	Pn	02 20 54.9	+2.2
APE	Apeiranthos	5.42	34	P	Pn	02 20 53.8	+1.1
RLS	Riolos of Patr	5.43	358	P	Pn	02 20 54.7	+1.9
VLY	Voula,Athens	5.48	17	P	Pn	02 20 55.0	+1.5
PSDA	Pessada-Kefalo	5.56	351	P	Pn	02 20 55.2	+0.6
VLS	Valsamata	5.62	351	P	Pn	02 20 55.7	+0.3
PTL	Penteli	5.69	17	P	Pn	02 20 57.9	+1.6
DB3	El Dabaa	6.01	103	P	Pn	02 20 59.9	-0.9
DAT	Datca	6.32	48	*e*P	Pn	02 21 07.6	+2.5
BODT	Bodrum	6.37	44	*e*P	Pn	02 21 08.0	+2.3
ARG	Arkhangelos	6.38	54	*e*P	Pn	02 21 08.9	+3.1
ARG	Arkhangelos	6.38	54		Pn	02 21 07.5	+1.7
DATC	Datca-Mugla	6.39	48	*e*P	Pn	02 21 08.0	+2.0
MRSB	Marmaris-Mugla	6.71	51	*e*P	Pn	02 21 13.1	+2.7
TURN	Turunc	6.77	50	*e*P	Pn	02 21 13.2	+2.0
GCAM	G?zelcaml?	6.77	40	*e*P	Pn	02 21 13.5	+2.3
WDD	Wied Dalam	6.78	300	Pn	Pn	02 21 09.6	-1.7
MLSB	Milas	6.80	45	*e*P	Pn	02 21 13.8	+2.1
YER	Yerkesik	7.01	48	*e*P	Pn	02 21 17.1	+2.5
DALY	Dalyan (Mula)	7.06	52	*e*P	Pn	02 21 17.1	+1.9
BLCB	Balcova	7.19	35	*e*P	Pn	02 21 19.0	+2.0
KEK	Kerkira	7.25	348	Pn	Pn	02 21 16.7	-1.1
FETY	Fethiye	7.26	54	*e*P	Pn	02 21 19.6	+1.7
AYDB	Zeytinkoy-Aydi	7.31	42	*e*P	Pn	02 21 20.8	+2.0
CEL	Celeste	7.37	321		Pn	02 21 17.9	-1.6
SIGR	SIGRI	7.37	26	*e*P	Pn	02 21 21.7	+2.2
AKAS	Kas	7.43	59	*e*P	Pn	02 21 21.6	+1.2
AKAS	Kas	7.43	59	Pn	Pn	02 21 21.6	+1.2
PAIG	Paliouri	7.46	12	*e*P	Pn	02 21 21.4	+0.8
LIT	Litokhoron	7.49	4	Pn	Pn	02 21 20.6	-0.5
NAZL	Nazilli-Aydin	7.55	43	*e*P	Pn	02 21 24.2	+2.2
CAME	Cameli-Denizli	7.57	53	*e*P	Pn	02 21 23.9	+1.6
RAFF	Raffo Rosso	7.60	309	Pn	Pn	02 21 21.8	-0.8
DEMR	Demre-Antalya	7.65	60	*e*P	Pn	02 21 25.4	+2.1
ODEM	Odemis-Izmir	7.65	41	*e*P	Pn	02 21 24.8	+1.4
DKL	Dikili	7.68	32	*e*P	Pn	02 21 26.0	+2.3
TIP	Timpagrande	7.69	330		Pn	02 21 22.8	-1.1
TIP	Timpagrande	7.69	330	P	Pn	02 21 25.0	+1.1
	0.1nm7.6nm,1.1s						
VAE	Valguarnera	7.72	311	Pn	Pn	02 21 24.8	+0.5
	8.4nm,0.5s,baz=134,slow=17,SNR=18						
VAE				Sn	Sn	02 22 55.1	+3.4
	4.2nm,0.3s,baz=124,slow=15,SNR=6.2						
VAE				LR	LR	02 24 31.9	
	comp=Z,214nm,18.1s,baz=168,slow=40						
APMY	Acipayam-Deniz	7.86	50	*e*P	Pn	02 21 28.5	+2.2
ELL	Elmali	7.89	56	*e*P	Pn	02 21 28.5	+1.8
ELL	Elmali	7.89	56	Pn	Pn	02 21 28.1	+1.5
SCTE	Santa Cesarea	7.89	341	Pn	Pn	02 21 26.2	-0.4
MANT	Manisa	8.07	42	Pn	Pn	02 21 31.8	+2.5
EZN	Ezine	8.09	26	P	Pn	02 21 28.0	-1.2
	0.0nm307nm11nm,1.0s						
RYAN	Fayoum	8.14	113	P	Pn	02 21 29.7	-0.4
GORD	Gordes-Manisa	8.17	38	*e*P	Pn	02 21 33.6	+3.2
HNAT	Natroun	8.17	109	P	Pn	02 21 31.0	+0.5
OHR	Ohrid	8.51	355	*i* Pn	Pn	02 21 36.8	+1.7
VAY	Valandovo	8.71	4	*i* Pn	Pn	02 21 38.7	+0.9
CUC	Castrocucco	8.77	329	Pn	Pn	02 21 38.9	+0.2
CAVK	Edirne/Enez-Ca	8.80	23	⇑P	Pn	02 21 43.3	+4.2
TIR	Tirane	8.84	351	Pn	Pn	02 21 39.6	+0.1
TIR	Tirane	8.84	351	⇑P	Pn	02 21 39.6	+0.1
TIR	Tirane	8.84	351	P	Pn	02 21 39.4	-0.2
	1μm68nm,0.6s						
ISP	Isparta	8.86	52		Pn	02 21 41.6	+1.6
ALN	Alexandroupoli	8.95	21	Pn	Pn	02 21 42.7	+1.6
RDO	Rodhopi	9.03	19	Pn	Pn	02 21 43.3	+1.1
NBNS	Bani Suef	9.15	113	P	Pn	02 21 43.1	-0.7
BAND	Balkesir-Ban	9.26	32	⇑P	Pn	02 21 49.8	+4.5
PUK	Puka	9.52	352	Pn	Pn	02 21 48.1	-0.9
HDK1	Dakhla	9.73	135	P	Pn	02 21 48.4	-3.5
DRME	Dracevica, Mon	9.76	349	*e*Pn	Pn	02 21 50.8	-1.4
CSS	Mathiatis	9.93	73	Pn	Pn	02 21 54.6	+0.1
PDG	Podgorica	9.99	349		Pn	02 21 53.8	-1.5
PDG	Podgorica	9.99	349	*e*Pn	Pn	02 21 51.8	-3.5
PDG	Podgorica	9.99	349	⇓P	Pn	02 21 54.1	-1.2
YLV	Yalova	10.02	36	P	Pn	02 21 57.2	+1.3
	26nm,1.0s						
BORA	Eskisehir	10.09	42	Pn	Pn	02 21 57.4	+0.5
HCY	Herceg Novi	10.14	346	*e*Pn	Pn	02 21 56.5	-0.9
PAOL	Paolisi	10.17	328	Pn	Pn	02 21 57.3	-0.6
SGRT	San Giovanni R	10.29	334	Pn	Pn	02 21 58.3	-1.2
KLYT	Kilyos	10.40	32	P	Pn	02 22 00.4	-0.6
	27nm,0.8s						
BRY	Bratogost	10.57	347	*e*Pn	Pn	02 22 01.3	-2.1
SJES	Sjenica	10.71	353	*e*Pn	Pn	02 22 04.1	-1.2
STON	Ston	10.72	344	*e*Pn	Pn	02 22 01.5	-3.8
KEST	Kesra	10.72	290	Pn	Pn	02 22 04.2	-1.3
	0.3nm,0.3s,baz=272,slow=1.4,SNR=15						
KEST				Sn	Sn	02 24 02.9	-2.7
	0.2nm,0.3s,baz=127,slow=20,SNR=1.7						
KEST				LR	LR	02 26 30.3	
	comp=Z,215nm,21.0s,baz=197,slow=39						
	0.7nm,0.3s						
KZIT	Kziot	10.91	96	P	Pn	02 22 07.2	-0.8
KZIT	Kziot	10.91	96	S	Sn	02 24 03.7	-6.5
MDUB	Mudurnu	10.91	41		Pn	02 22 08.7	+0.6
RUDO	Rudo	11.13	351	*e*Pn	Pn	02 22 08.8	-2.2
OFRI	`Ofer	11.17	86	P	Pn	02 22 10.3	-1.3
OFRI	`Ofer	11.17	86	S	Sn	02 24 10.4	-6.2
AMAZ	Amatzia	11.23	92	P	Pn	02 22 11.5	-0.9
AMAZ	Amatzia	11.23	92	S	Sn	02 24 11.9	-6.1
INTR	Introdacqua	11.25	329		Pn	02 22 12.0	-0.7
BBLS	Lazi&#263i	11.37	351	*e*Pn	Pn	02 22 11.4	-3.0
YTIR	Yattir	11.43	93	P	Pn	02 22 14.3	-0.8
YTIR	Yattir	11.43	93	S	Sn	02 24 16.9	-6.0
ANTO	Ankara	11.48	48		Pn	02 22 17.0	+1.2
ANTO	Ankara	11.48	48	⇑P	Pn	02 22 18.3	+2.4
ANTO	Ankara	11.48	48	P	Pn	02 22 17.5	+1.7
	17nm,0.8s						
MMC7	Mount Meron ar	11.49	84	P	Pn	02 22 15.2	-0.9
MMA0B	Mount Meron ar	11.50	84	P	Pn	02 22 15.2	-1.0
MMA0B	Mount Meron ar	11.50	84	S	Sn	02 24 18.9	-5.9
MMAI	Mount Meron Ar	11.50	84	Pn	Pn	02 22 15.3	-0.9
	5.9nm,0.3s,baz=265,slow=11,SNR=39						
MMAI				Sn	Sn	02 24 17.4	-7.4
	9.2nm,0.3s,baz=260,slow=23,SNR=13						
MMAI				LR	LR	02 29 00.7	
	comp=Z,104nm,18.9s,baz=290,slow=49						
PRNI	Paran	11.55	98	P	Pn	02 22 16.0	-0.8
PRNI	Paran	11.55	98	S	Sn	02 24 19.7	-6.2
MMLI	Mount Malkishu	11.55	87	P	Pn	02 22 15.8	-1.0
MMLI	Mount Malkishu	11.55	87	S	Sn	02 24 19.2	-6.7
DSI	Dead Sea	11.62	92	P	Pn	02 22 16.8	-0.8
DSI	Dead Sea	11.62	92	S	Sn	02 24 21.9	-5.6
MBRI	Mt Berech	11.63	101	P	Pn	02 22 17.3	-0.6
MBRI	Mt Berech	11.63	101	S	Sn	02 24 22.4	-5.4
DQRL	Deir Qamar	11.64	81	*e*P	Pn	02 22 17.1	-1.0
ZFRI	Zfri	11.64	97	P	Pn	02 22 16.8	-1.2
ZFRI	Zfri	11.64	97	S	Sn	02 24 21.7	-6.4
HAPS	Han Pijesak,BI	11.65	350	*e*Pn	Pn	02 22 15.3	-2.9
HMDT	Nahal Hemdat	11.66	88	P	Pn	02 22 16.8	-1.4
HMDT	Nahal Hemdat	11.66	88	S	Sn	02 24 22.2	-6.2
HRFI	Mount Harif	11.66	99	P	Pn	02 22 17.6	-0.7
HRFI	Mount Harif	11.66	99	S	Sn	02 24 22.7	-5.9
EIL	Elat	11.70	101	Pn	Pn	02 22 18.0	-0.8
	0.6nm,0.3s,baz=312,slow=12,SNR=10						
EIL				LR	LR	02 27 51.1	
	comp=Z,298nm,18.6s,baz=65,slow=42						
EIL	Elat	11.70	101	P	Pn	02 22 18.0	-0.8
EIL	Elat	11.70	101	S	Sn	02 24 22.9	-6.5
GEM	Giv'at Ha'Em	11.72	83	P	Pn	02 22 18.1	-1.0
GEM	Giv'at Ha'Em	11.72	83	S	Sn	02 24 23.4	-6.5
QRWL	Qaraoun	11.73	82	*e*P	Pn	02 22 18.0	-1.4
NATI	Neve Ativ	11.78	83	P	Pn	02 22 18.9	-0.9
NATI	Neve Ativ	11.78	83	S	Sn	02 24 25.7	-5.7
SHBL	Chebaa	11.78	83	*e*P	Pn	02 22 19.1	-1.0
KIRS	Kirsehir-Merke	11.82	53	⇑P	Pn	02 22 21.9	+1.5
GHAJ	Ghor Haditha	11.82	93	Pn	Pn	02 22 20.2	-0.2
KSHT	Keshet	11.85	84	P	Pn	02 22 19.9	-1.0
KSHT	Keshet	11.85	84	S	Sn	02 24 27.2	-6.0
RCY	Rachaya	11.86	82	*e*P	Pn	02 22 20.8	-0.4
CAMP	Campotosto	11.89	329		Pn	02 22 22.2	+0.7
BR105	Keskin Array S	11.92	50	P	Pn	02 22 22.8	+0.9
	338nm49nm,0.8s						
BR106	Keskin Array S	11.93	50	P	Pn	02 22 23.1	+1.0
	287nm42nm,0.9s						
BR104	Keskin Array S	11.93	50	P	Pn	02 22 23.0	+0.9
	359nm49nm,1.0s						
BR131	Keskin Array S	11.94	50	Pn	Pn	02 22 24.2	+2.0
BRTR	Keskin Array B	11.94	50	Pn	Pn	02 22 23.7	+1.5
BRTR	Keskin Array B	11.94	50	Pn	Pn	02 22 23.9	+1.7
	2.7nm,0.3s,baz=225,slow=14,SNR=208						
BRTR				Sn	Sn	02 24 36.6	+1.1
	0.2nm,0.3s,baz=224,slow=24,SNR=4.1						
BRTR				LR	LR	02 28 20.1	
	comp=Z,79nm,18.9s,baz=224,slow=44						
	25nm,0.7s						
HWQ	Hawqa	11.98	78	*e*P	Pn	02 22 21.8	-1.0
TEKS	Tekeris	12.03	352	*e*Pn	Pn	02 22 20.1	-3.2
MDVR	Moldovita	12.14	360	⇑P	Pn	02 22 26.0	+1.1
BEIL	Beino	12.20	77	*e*P	Pn	02 22 25.3	-0.4
HERR	Herculane	12.25	2	⇓P	Pn	02 22 25.6	-0.7
NRCA	Norcia	12.26	329		Pn	02 22 26.9	+0.4
FDMO	Fiordimonte	12.44	329		Pn	02 22 30.1	+1.3
A050A	Klekovaca	12.52	343	*e*Pn	Pn	02 22 29.1	-0.9
FRGS	Fruska Gora	12.61	354	*e*Pn	Pn	02 22 28.4	-2.8
BLY	Banja Luka	12.62	345	*e*Pn	Pn	02 22 29.5	-1.8
GZR	Gura Zlata	12.78	3	⇑P	Pn	02 22 33.9	+0.4
ASF	Jabal al Asfar	12.82	88	Pn	Pn	02 22 34.3	+0.1
	0.5nm,0.3s,baz=304,slow=6.3,SNR=9.4						
ASF				Sn	Sn	02 24 51.9	-5.2
	0.7nm,0.3s,baz=210,slow=20,SNR=1.9						
LOT	Lotru	12.90	6	⇓P	Pn	02 22 35.7	+0.4
ARR	Arges	12.92	9	⇓P	Pn	02 22 35.1	-0.4
A051A	Mrakovica	12.93	345	*e*Pn	Pn	02 22 33.0	-2.6
BZS	Buzias	12.98	360	⇑P	Pn	02 22 36.1	-0.1
BNN	Bunyan	13.03	58	Pn	Pn	02 22 38.8	+1.7
VOIR		13.05	10	⇑P	Pn	02 22 38.3	+1.0
MLR	Muntele Rosu	13.26	13	Pn	Pn	02 22 39.3	-0.8
	baz=171,slow=19,SNR=3.3						
	1.2nm,0.7s						
MLR	Muntele Rosu	13.26	13	⇓P	Pn	02 22 44.7	+4.6
GAZ	Gaziantep	13.48	66		Pn	02 22 45.0	+1.8
PLOR	Plostina	13.74	15	⇑P	Pn	02 22 51.0	+4.3
VRI	Vrincioaia	13.77	15	⇓P	P	02 22 54.4	-1.3
MORH	Mrgy, Hungar	13.78	351	⇑P	Pn	02 22 45.2	-1.9
BOJS	Bojanci	13.81	341	*e*Pn	Pn	02 22 46.2	-1.3
MARR	Marisel-Cluj	14.08	4	⇑P	Pn	02 22 51.7	+0.5
TOKA	Tokat	14.12	53	Pn	Pn	02 22 53.5	+1.6
DRGR		14.17	3	⇑P	Pn	02 22 52.4	-0.2
CEY	Cerknica	14.26	339	*e*Pn	Pn	02 22 52.1	-1.7
MESR	Meseseni	14.54	3	⇑P	P	02 23 01.9	-2.3
SABO	Il Sabotino	14.74	337	Pn	Pn	02 22 58.0	-2.3
TEOL	Teolo	14.92	331	Pn	Pn	02 23 02.0	-0.7
OBKA	Obir	14.93	340	*e*Pn	Pn	02 23 02.9	0.0
	2.2nm,0.3s						
OBKA				*e*Sn	Sn	02 25 41.2	-7.1
	14nm,0.9s						
OBKA	Obir	14.93	340	*e*Pn	Pn	02 23 01.9	-1.0
SOKA	Soboth	14.95	342	*e*Pn	Pn	02 23 01.7	-1.5
	1.9nm,0.3s						
BURAR	Bucovina Array	15.21	9	Pn	Pn	02 23 07.9	+1.2
BURAR	Bucovina Array	15.21	9	⇓P	Pn	02 23 07.6	+0.9
BUR08	Bucovina Ar. S	15.23	9	Pn	Pn	02 23 07.7	+0.7
MILM	Milestii Mici	15.27	19	⇓P	P	02 23 11.1	-1.2
ARSA	Arzberg	15.36	344	*e*Pn	Pn	02 23 08.0	-0.5
	2.1nm,0.3s						
ARSA				*e*Sn	Sn	02 25 51.7	-7.0
	1.8nm,0.5s						
CTI	Castel Tesino	15.49	333	Pn	Pn	02 23 09.6	-0.8
CTI				IAmb	IAmb	02 23 19.0	
	comp=Z,9.7nm,0.7s						
RONA	Rosalia, Austr	15.62	346	*e*Pn	P	02 23 14.3	-1.9
	comp=Z,1.3nm,0.4s						
ABTA	Abfaltersbach	15.78	336	*e*Pn	Pn	02 23 14.3	+0.2
	comp=Z,1.3nm,0.4s						
ABTA				*e*Sn	Sn	02 26 01.1	-7.8
	comp=Z,6.7nm,0.8s						
KBA	Koelnbreinsper	15.80	338	*e*Pn	P	02 23 17.1	-1.2
	comp=Z,5.3nm,0.8s						
KBA				*e*Sn	Sn	02 26 01.8	-7.8
	comp=Z,3.0nm,0.5s						
CONA	Conrad Observa	15.92	345	*e*Pn	P	02 23 18.0	-1.6
	comp=Z,0.7nm,0.3s						
CONA				*e*Sn	Sn	02 26 05.5	-7.0
	comp=Z,1.0nm,0.4s						
MOA	Molln	16.23	342	*e*Pn	P	02 23 21.6	-1.3
	comp=Z,1.0nm,0.2s						
MOA				*e*Sn	Sn	02 26 11.7	-8.2
	comp=Z,1.1nm,0.4s						
BIOA	Bad Ischl, Aus	16.26	340	*e*Pn	P	02 23 21.8	-1.5
	comp=Z,3.3nm,0.3s						
BIOA				*e*Sn	Sn	02 26 12.2	-8.4
	comp=Z,6.7nm,0.7s						
SORM	Soroca	16.28	16	⇑P	Pn	02 23 21.8	+1.3
LESA	Schwarzleotal	16.31	338	*e*Pn	P	02 23 22.7	-1.2
	comp=Z,3.2nm,0.8s						
LESA				*e*Sn	Sn	02 26 14.9	-7.1
	comp=Z,4.2nm,0.5s						
FUORN	Ofenpass-Fuorn	16.51	331	Pn	Pn	02 23 23.0	-0.7
WTTA	Wattenberg	16.53	335	*e*Pn	P	02 23 25.6	-0.8
	comp=Z,2.1nm,0.5s						
WATA	Walderalm	16.61	335	*i* Pn	P	02 23 27.4	+0.1
	comp=Z,3.0nm,0.6s						
SQTA	Sankt Quirin	16.64	334	*e*Pn	P	02 23 29.3	+1.6
	comp=Z,12nm,0.8s						
FETA	Feichten	16.66	333	*e*Pn	P	02 23 28.2	+0.3
	comp=Z,7.2nm,1.0s						
FETA				*e*Sn	Sn	02 26 22.2	-8.3
	comp=Z,1.9nm,0.7s						
MOTA	Moosalm	16.79	334	*e*Pn	P	02 23 30.1	+0.8
	comp=Z,3.7nm,0.8s						
MOTA				*e*Sn	Sn	02 26 28.9	-4.7
	comp=Z,4.3nm,0.9s						
DAVOX	Davos/Dischmat	16.80	331	Pn	P	02 23 29.0	-0.4
	comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=2.4						
	comp=Z,0.7nm,0.4s						
KOPT	Kop Dagi	16.80	59	Pn	P	02 23 28.9	-0.7
KOPT				IAmb	IAmb	02 23 41.2	
	comp=Z,30nm,1.1s						
KRUC	Moravsky	16.91	348	*e*PN	Pn	02 23 29.3	+0.9
HORU	Horodok	16.94	11	P	P	02 23 30.3	-0.5
KWP	Kalwaria Pacla	17.01	2	Pn	Pn	02 23 29.1	-0.6
RETA	Reutte	17.03	334	*e*Pn	P	02 23 33.3	+1.4
	comp=Z,1.9nm,0.7s						
RETA				*e*Sn	Sn	02 26 34.8	-4.6
	comp=Z,1.1nm,0.5s						
BNI	Bardonecchia	17.04	321	Pn	Pn	02 23 29.5	-0.8
VRAC	Vranov	17.11	348	*e*PN	Pn	02 23 31.5	+0.5
GEC2	GERESS Array S	17.30	342	Pn	Pn	02 23 32.7	-0.7
GERES	GERESS Array B	17.30	342	P	P	02 23 34.7	-0.1
	comp=Z,0.3nm,0.3s,baz=167,slow=15,SNR=6.3						
GERES				S	Sn	02 26 37.8	-8.0
	comp=Z,3.3nm,0.9s,baz=150,slow=24,SNR=6.2						
GERES				LR	LR	02 31 20.2	
	comp=Z,37nm,19.7s,baz=134,slow=41						
	comp=Z,0.7nm,0.4s						
MORC	Moravsky Berou	17.42	351	*e*PN	P	02 23 37.8	+1.6
GURO	Guroymak-BITLI	17.52	65	Pn	Pn	02 23 36.1	-0.2
KHC	Kasperske Hory	17.59	342	*e*SG	P	02 23 38.9	+0.9
KHC	Kasperske Hory	17.59	342	*e*PN	P	02 23 39.0	+0.9
KHC				*e*SN	Sn	02 26 44.2	-8.7
SIRT	Sirnak	17.62	68		P	02 23 38.2	-0.3
SIRT				IAmb	IAmb	02 23 55.5	
	comp=Z,48nm,1.0s						
LUBAR	Lubar, Ukraine	17.85	13	P	Pn	02 23 39.4	-0.8
SSB	Saint Sauveur	18.35	318		Pn	02 23 45.3	-1.1
AK07	Malin Array Si	18.75	15	P	P	02 23 50.6	-0.1
AK13	Malin Array Si	18.77	15	P	P	02 23 50.5	-0.

COI	**Coimbra**	**25.33**	**296**	*e*P	**P**	**02 25 03.3**	**+4.6**
TORD	**Torodi Ar. Bea**	**26.68**	**228**	P	**P**	**02 25 09.8**	**-1.4**
TORD				IAmb	IAmb	02 25 11.8	
	comp=Z,5.8nm,1.4s						
BELG	**Belogornoye**	**27.22**	**36**	P	**P**	**02 25 16.6**	**+1.0**
	comp=Z,19nm,0.8s,baz=227,slow=7.5,SNR=6.9						
	comp=Z,19nm,0.8s						
HFS	**Hagfors**	**28.03**	**351**	P	**P**	**02 25 25.2**	**+2.4**
	comp=Z,2.8nm,0.8s,baz=151,slow=19,SNR=5.2						
	comp=Z,2.8nm,0.8s						
FINES	**FINESS Array B**	**28.97**	**4**	P	**P**	**02 25 32.5**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=186,slow=13,SNR=7.6						
FINES				LR	LR	02 39 25.8	
	comp=Z,93nm,18.4s,baz=205,slow=41						
	comp=Z,2.5nm,0.7s						
NOA	**NORSAR Array B**	**29.25**	**350**	P	**P**	**02 25 36.7**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=133,slow=11,SNR=2.0						
	comp=Z,0.8nm,0.8s						
ABKAR	**Akbulak array**	**32.88**	**48**	P	**P**	**02 26 07.2**	**+1.4**
ABKAR				IAmb	IAmb	02 26 14.2	
	comp=Z,2.2nm,0.9s						
WSAR	**Wadi Sarin**	**33.77**	**97**	LR	LR	02 42 33.8	
	comp=Z,110nm,19.1s,baz=304,slow=41						
ARTI	**Arti**	**34.67**	**36**	P	**P**	**02 26 22.8**	**+1.5**
ARTI				IAmb	IAmb	02 26 27.6	
	comp=Z,8.4nm,1.3s						
DBIC	**Dimbokro**	**35.76**	**230**	P	**P**	**02 26 29.7**	**-1.4**
DBIC				IAmb	IAmb	02 27 05.2	
	comp=Z,9.2nm,1.2s						
DBIC	**Dimbokro**	**35.76**	**230**	LR	LR	02 41 43.7	
	comp=Z,95nm,19.7s,baz=40,slow=37						
LVZ	**Lovozero**	**36.11**	**8**	P	**P**	**02 26 36.5**	**+2.9**
	comp=Z,52nm,1.8s						
ARCES	**ARCESS Array B**	**37.02**	**2**	P	**P**	**02 26 43.4**	**+2.1**
	comp=Z,2.4nm,0.8s,baz=186,slow=11,SNR=5.9						
ARCES				LR	LR	02 45 21.9	
	comp=Z,81nm,19.9s,baz=183,slow=42						
	comp=Z,2.4nm,0.8s						
CHGR	**Chuyangaron**	**38.66**	**67**	P	**P**	**02 26 54.7**	**-1.0**
BBTS	**Babate**	**39.09**	**252**	LR	LR	02 44 54.0	
	comp=Z,98nm,18.3s,baz=314,slow=39						
KK31	**Karatay Array**	**39.41**	**60**	P	**P**	**02 27 02.7**	**+0.9**
KK31				IAmb	IAmb	02 27 10.9	
	comp=Z,5.1nm,0.8s						
KKAR	**Karatay Array**	**39.41**	**60**	P	**P**	**02 27 02.3**	**+0.5**
KKAR	**Karatay Array**	**39.41**	**60**	P	**P**	**02 27 02.7**	**+0.9**
KKAR				IAmb	IAmb	02 27 10.8	
	comp=Z,3.3nm,0.8s						
BRVK	**Borovoye**	**40.09**	**45**	P	**P**	**02 27 08.1**	**+0.7**
BRVK				IAmb	IAmb	02 27 13.4	
	comp=Z,3.7nm,0.8s						
BVAR	**Borovoye Array**	**40.15**	**45**	P	**P**	**02 27 10.1**	**+2.3**
	comp=Z,2.8nm,0.7s,baz=256,slow=5.8,SNR=11						
	comp=Z,2.8nm,0.7s						
DRK	**Karamyk**	**40.62**	**66**	P	**P**	**02 27 12.4**	**+0.1**
KURBB	**Kurchatov Arra**	**44.93**	**49**	P	**P**	**02 27 49.2**	**+2.6**
	comp=Z,3.7nm,0.6s,baz=278,slow=8.5,SNR=16						
	comp=Z,3.7nm,0.6s						
KURK	**Kurchatov**	**44.99**	**49**	P	**P**	**02 27 47.7**	**+0.6**
KURK				IAmb	IAmb	02 27 56.3	
	comp=Z,7.4nm,0.8s						
MAKZ	**Makanchi**	**47.34**	**54**	P	**P**	**02 28 07.9**	**+2.2**
MAKZ				IAmb	IAmb	02 28 19.0	
	comp=Z,1.8nm,0.7s						
MK31	**Makanchi Array**	**47.55**	**54**	P	**P**	**02 28 09.1**	**+1.6**
MK31				IAmb	IAmb	02 28 18.4	
	comp=Z,4.3nm,1.1s						
MKAR	**Makanchi Array**	**47.55**	**54**	P	**P**	**02 28 09.1**	**+1.6**
MKAR	**Makanchi Array**	**47.55**	**54**	P	**P**	**02 28 10.2**	**+2.7**
	comp=Z,2.6nm,0.8s,baz=267,slow=7.1,SNR=20						
	comp=Z,2.6nm,0.8s						
ZAA0	**Zalesovo Array**	**48.81**	**44**	P	**P**	**02 28 18.9**	**+1.9**
ZALV	**Zalesovo Beam**	**48.81**	**44**	P	**P**	**02 28 18.8**	**+1.8**
ZALV	**Zalesovo Beam**	**48.81**	**44**	P	**P**	**02 28 19.0**	**+2.1**
	comp=Z,3.6nm,0.4s,baz=270,slow=8.9,SNR=18						
	comp=Z,3.6nm,0.4s						
GOMU	**GeErMu**	**59.06**	**64**	P	**P**	**02 29 33.8**	**+1.2**
GOMU				pP	sP	02 29 40.4	+3.0
GOMU				sP	pP	02 29 41.6	+5.5
GOMU				PcP	PP	02 31 24.4	-19
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOSA	**Boshof**	**60.99**	**176**	P	**P**	**02 29 44.8**	**-0.7**
SONM	**Songino Array**	**63.29**	**49**	P	**P**	**02 30 02.1**	**+1.2**
SONM				IAmb	IAmb	02 30 09.6	
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**63.29**	**49**	P	**P**	**02 30 05.1**	**+4.2**
	comp=Z,3.4nm,0.9s,baz=284,slow=8.4,SNR=18						
SONM				LR	LR	03 00 50.2	
	comp=Z,34nm,19.7s,baz=139,slow=39						
	comp=Z,3.4nm,0.9s						
ULN	**Ulaanbaatar**	**63.70**	**48**	P	**P**	**02 30 06.3**	**+2.7**
CMAR	**Chiang Mai Arr**	**69.74**	**81**	P	**P**	**02 30 44.8**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=309,slow=6.6,SNR=6.1						
	comp=Z,1.1nm,0.3s						
XLT	**XiLinHaoTe**	**71.06**	**50**	*e*P	**P**	**02 30 51.8**	**+1.6**
XLT				pP	sP	02 30 55.8	+0.8
XLT				PcP	**PcP**	**02 31 12.4**	**+1.9**
XLT				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CN2	**Changchun**	**76.98**	**46**	*e*P	**P**	**02 31 25.1**	**+0.4**
YKA	**Yellowknife Ar**	**78.95**	**341**	P	**P**	**02 31 36.8**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=32,slow=5.1,SNR=4.4						
	comp=Z,0.4nm,0.9s						
KSRS	**Korea Array**	**82.08**	**50**	LR	LR	03 13 40.2	
	comp=Z,16nm,18.5s,baz=10.0,slow=40						
BDFB	**Brasilia**	**82.09**	**246**	LR	LR	03 06 32.6	
	comp=Z,71nm,18.8s,baz=328,slow=34						
JHJ	**Hachijo jima 2**	**92.36**	**48**	LR	LR	03 19 13.7	
	comp=Z,118nm,18.6s,baz=122,slow=39						
YBH	**Yreka Blue Hor**	**99.10**	**334**	LR	LR	03 21 26.1	
	comp=Z,60nm,18.2s,baz=349,slow=38						

*PRU **21** 02:21:40.4,50°.23N×19°.08E, h0km*

IPEC 21 02:21:39.9±0.1,50°.13N×19°.12E,h1km,ML1.8/4,1C,
Error ellipse: s-maj=1.8km s-min=0.8km az=1.0,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.44**	**78**	*e*Pg	Pg	02 21 48.6	+0.2
OJC				*e*Sg	Sg	02 21 55.1	+1.0
OKC	**Ostrava-Krasne**	**0.69**	**246**	*e*SG	Sg	02 22 03.0	+0.8
	comp=Z,9.6nm,0.4s						
STEB	**Steborice**	**0.89**	**258**	*e*PG	Pg	02 21 56.8	-0.2
STEB				*e*SG	Sb	02 22 09.6	-1.0
LANS	**Liptovska Anna**	**1.00**	**167**	*e*PG	Pg	02 21 59.4	+0.3
LANS				*e*SG	Sb	02 22 13.4	-0.4
LANS				eLg	Lg	02 22 17.5	
NIE	**Niedzica**	**1.04**	**133**	*e*Pg	Pg	02 21 59.8	-0.1
NIE				*e*Sg	Sb	02 22 15.1	+0.2
MORC	**Moravsky Berou**	**1.08**	**252**	*e*Pg	Pg	02 22 00.7	+0.1
	baz=70						
MORC				*e*Sg	Sg	02 22 13.8	-0.8
	21nm,0.5s,baz=70						
MORC	**Moravsky Berou**	**1.08**	**252**	*e*PG	Pg	02 22 00.7	+0.1
MORC				*e*SG	Sg	02 22 13.8	-0.8
MORC	**Moravsky Berou**	**1.08**	**252**	∥P	Pb	02 22 01.0	-0.4
MAUC	**Maruska**	**1.14**	**228**	*e*PG	Pb	02 22 02.2	-0.1
MAUC				*e*SG	Sb	02 22 17.5	-0.1
KRLC	**Kraliky**	**1.51**	**269**	*e*PG	Pn	02 22 06.9	-1.2
KRLC				*e*SG	Sg	02 22 27.7	-0.6
	comp=Z,7.2nm,0.5s						
STHS	**Stebnicka Huta**	**1.55**	**117**	*e*PG	Pn	02 22 08.2	-0.4
STHS				*e*SG	Sn	02 22 28.8	-0.6
JAVC	**Velka Javorina**	**1.58**	**217**	*e*Pn	Pn	02 22 08.9	-0.3
	baz=36						
JAVC	**Velka Javorina**	**1.58**	**217**	*e*PN	Pn	02 22 08.9	-0.3
VYHS	**Vyhne**	**1.65**	**187**	*e*PG	Pn	02 22 09.4	-0.6
VYHS				*e*SG	Sn	02 22 30.9	-0.9
DPC	**Dobruska-Polom**	**1.81**	**278**	*e*PG	Pn	02 22 12.6	+0.3
DPC				*e*SG	Sn	02 22 36.3	+0.4
	comp=Z,5.9nm,0.6s						
VRAC	**Vranov**	**1.84**	**244**	*e*Pn	Pn	02 22 12.5	-0.1
	baz=62						
VRAC				*e*Sg	Sb	02 22 37.5	-0.2
	5.2nm,0.5s,baz=62						
VRAC	**Vranov**	**1.84**	**244**	*e*PN	Pn	02 22 12.5	-0.1
VRAC				*e*SG	Sb	02 22 37.5	-0.2
OSTC	**Ostas**	**1.91**	**284**	*e*PG	Pn	02 22 14.1	+0.5
OSTC				*e*SG	Sn	02 22 38.8	+0.5
KRUC	**Moravsky**	**2.07**	**240**	*e*Pn	Pn	02 22 15.9	+0.1
	baz=58						
KRUC				*e*Sg	Sb	02 22 44.9	+0.4
	4.8nm,0.5s,baz=58						
KRUC	**Moravsky**	**2.07**	**240**	*e*PN	Pn	02 22 16.0	+0.2
KRUC				*e*SG	Sb	02 22 44.9	+0.4

ISC 21 02:23:35.9±1.1,60°.98N±0°.03×139°.77W±0°.03,h4km±11km,
n18,σ0°.49/32,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O28M	**Mount Upton**	**0.29**	**225**	P	**Pg**	**02 23 41.5**	**-0.2**
	baz=41						
O28M				S	**Sg**	**02 23 45.9**	**+0.4**
	baz=41						
YUK8	**Steele Glacier**	**0.30**	**0**	P	**Pg**	**02 23 41.6**	**-0.3**
	baz=184,SNR=635						
YUK8				S	**Sg**	**02 23 45.7**	**-0.3**
	baz=184						
YUK4	**Talbot Arm**	**0.66**	**56**	P	**Pb**	**02 23 50.1**	**0.0**
	baz=234,SNR=83						
YUK4				S	**Sb**	**02 24 00.3**	**+0.7**
	baz=234						
YUK6	**Outpost Mounta**	**0.69**	**92**	P	**Pg**	**02 23 49.0**	**-0.1**
	baz=274,SNR=195						
YUK6				S	**Sg**	**02 23 58.4**	**+0.4**
	baz=274						
O29M	**Mount Kennedy**	**0.90**	**139**	P	**Pg**	**02 23 52.5**	**-0.6**
	baz=319						
O29M				S	**Sg**	**02 24 05.3**	**+0.6**
	baz=319						
PINM	**Pinnacle**	**0.92**	**195**	P	**Pg**	**02 23 53.3**	**-0.2**
	baz=14,SNR=71						
PINM				S	**Sb**	**02 24 06.5**	**-0.5**
	baz=14						
HYT	**Haines Junctio**	**1.12**	**97**	P	**Pg**	**02 23 56.2**	**-1.1**
	baz=279,SNR=29						
HYT				S	**Sg**	**02 24 11.8**	**+0.1**
	baz=279						
MESA	**MESA**	**1.34**	**234**	S	**Sn**	**02 24 19.5**	**-0.6**
	baz=52						
N30M	**Aishikik Lake**	**1.38**	**68**	Pg	**Pn**	**02 24 01.6**	**-0.5**
	baz=251						
N30M				S	**Sg**	**02 24 19.7**	**-0.5**
	baz=251						
M29M	**Somme Creek**	**1.59**	**22**	Pb	**Pn**	**02 24 04.9**	**-0.1**
	baz=204						
M29M				Sb	**Sb**	**02 24 26.6**	**+0.1**
	baz=204						
P30M	**Million Dollar**	**1.63**	**121**	Pb	**Pn**	**02 24 05.6**	**+0.1**
	baz=303						
P30M				Sg	**Sg**	**02 24 28.9**	**+0.6**
	baz=303						
M27K	**Edge Creek, AK**	**1.71**	**325**	Pb	**Pn**	**02 24 06.8**	**+0.1**
	baz=144						
M27K				Sb	**Sb**	**02 24 29.7**	**-0.2**
	baz=144						
M27K				Sb	**Sb**	**02 24 29.7**	**-0.2**
	baz=144						
O30N	**Mendenhall**	**1.81**	**95**	Pb	**Pn**	**02 24 08.4**	**+0.5**
	baz=278						
O30N				Sb	**Sb**	**02 24 33.4**	**+0.7**
	baz=278						
N31M	**Braeburn, Yuko**	**1.99**	**74**	Sg	**Sg**	**02 24 40.4**	**+0.5**
	baz=257						
M26K	**Nabesna, AK**	**2.10**	**314**	Sg	**Sg**	**02 24 43.9**	**+0.7**
	baz=132						
M30M	**Minto, Yukon**	**2.14**	**40**	Pg	**Pb**	**02 24 15.1**	**-0.1**
	baz=223						
M30M				Sb	**Sb**	**02 24 42.6**	**+0.5**
	baz=223						
L29M	**L29M**	**2.27**	**19**	Pg	**Pb**	**02 24 17.9**	**+0.4**
	baz=201						
L27K	**Beaver Creek,**	**2.30**	**336**	Sb	**Sb**	**02 24 47.4**	**+0.5**
	baz=155						

*NEIC **21** 02:32:09.3±1.5,5°.80S±0°.08×152°.5E±0°.2,h10km±2km,*
mb4.9/32,Error ellipse: s-maj=35.4km s-min=13.0km
az=83.0
*IDC **21** 02:32:15.1±6.1,5°.70S×152°.07E,h65km±51km,mb3.8/10,*
mbtmp4.2/11,ML2.6/1,MS3.3/2,Error ellipse:
s-maj=41.3km s-min=23.5km az=90.0

ISC 21 02:32:13.2±0.7,5°.73S±0°.07×152°.3E±0°.1,h40km,n48,
σ1°.30/48,mb4.8/26,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.53**	**357**		**Pn**	**02 32 36.9**	**-1.2**
RABL				Sn	**Sn**	**02 32 59.9**	**+3.1**
PMG	**Port Moresby**	**6.23**	**234**	P	**Pn**	**02 33 43.6**	**+0.9**
	8.5nm,0.3s,baz=42,slow=8.3,SNR=11						
PMG				S	**Sn**	**02 34 51.5**	**-1.3**
	90nm,0.7s,baz=90,slow=19,SNR=8.8						
	41nm,0.6s						
WB0	**Warramunga Arr**	**22.28**	**230**	P	**P**	**02 37 06.2**	**-1.1**
WB2	**Warramunga Arr**	**22.42**	**229**	P	**P**	**02 37 07.7**	**-1.0**
WRA	**Warramunga Arr**	**22.43**	**229**	P	**P**	**02 37 06.5**	**-2.3**
	3.4nm,0.9s,baz=53,slow=10,SNR=11						
	3.4nm,0.9s						
KNRA	**Kununurra**	**25.08**	**245**	P	**P**	**02 37 36.6**	**+2.3**
AS31	**Alice Springs**	**25.10**	**223**	P	**P**	**02 37 32.8**	**-1.6**
ASAR	**Alice Springs**	**25.10**	**223**	P	**P**	**02 37 35.1**	**+0.7**
ASAR	**Alice Springs**	**25.10**	**223**	P	**P**	**02 37 33.0**	**-1.5**
	7.0nm,0.9s,baz=47,slow=10.0,SNR=45						
	7.0nm,0.9s						
STKA	**Stephens Creek**	**27.86**	**200**	P	**P**	**02 37 59.7**	**+0.6**
	1.9nm,0.5s,baz=41,slow=11,SNR=4.2						
	1.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.74**	**242**	P	**P**	**02 38 09.9**	**+2.7**
FITZ	**Fitzroy Crossi**	**28.74**	**242**	LR	LR	02 51 16.1	
	comp=Z,111nm,18.6s,baz=56,slow=40						
ODZ	**Otahua Downs**	**42.32**	**161**	P	**P**	**02 40 02.3**	**-0.9**
MJAR	**Matsushiro Arr**	**44.06**	**344**	LR	LR	02 57 03.3	
	comp=Z,24nm,21.5s,baz=180,slow=34						
CMAR	**Chiang Mai Arr**	**57.79**	**296**	P	**P**	**02 41 59.8**	**-1.1**
	0.8nm,0.3s,baz=109,slow=6.7,SNR=4.0						
	0.8nm,0.3s						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**02 42 59.4**	**-1.6**
	0.8nm,0.6s,baz=131,slow=7.9,SNR=4.7						
	0.8nm,0.6s						
J17K	**VABM Dome**	**78.03**	**20**	P	**P**	**02 44 08.3**	**+1.0**
L19K	**White Mountain**	**78.81**	**22**	P	**P**	**02 44 12.4**	**+0.7**
J18K	**Innoko River**	**78.90**	**21**	P	**P**	**02 44 13.2**	**+1.0**
J18K				IAmb	IAmb	02 44 23.4	
	comp=Z,9.4nm,0.8s						
F17K	**Baldwin Pennin**	**79.37**	**17**	P	**P**	**02 44 15.6**	**+1.0**
F17K				IAmb	IAmb	02 44 16.6	
	comp=Z,16nm,0.9s						
G18K	**Tagagawik**	**79.79**	**18**	P	**P**	**02 44 17.5**	**+0.6**
G18K				IAmb	IAmb	02 44 18.5	
	comp=Z,11nm,1.1s						
J20K	**Nowinta River**	**80.24**	**21**	P	**P**	**02 44 20.4**	**+1.0**
J20K				IAmb	IAmb	02 44 30.7	
	comp=Z,10nm,0.7s						
H19K	**Roundabout Mou**	**80.27**	**19**	P	**P**	**02 44 20.6**	**+1.1**
H19K				IAmb	IAmb	02 44 30.6	
	comp=Z,11nm,0.9s						
G19K	**Purcell Mounta**	**80.45**	**19**	P	**P**	**02 44 20.5**	**0.0**
G19K				IAmb	IAmb	02 44 22.5	
	comp=Z,14nm,1.1s						
CAST	**Castle Rocks**	**80.56**	**22**	P	**P**	**02 44 21.4**	**+0.2**
CAST				IAmb	IAmb	02 44 31.7	
	comp=Z,9.1nm,0.8s						
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**02 44 20.9**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=126,slow=3.7,SNR=5.4						
	comp=Z,0.8nm,0.9s						
F19K	**Shaleruckik Mo**	**80.67**	**18**	P	**P**	**02 44 21.5**	**-0.1**
E19K	**Redstone River**	**81.23**	**18**	P	**P**	**02 44 25.3**	**+0.6**
E19K				IAmb	IAmb	02 44 26.1	
	comp=Z,11nm,0.8s						
I21K	**Tanana**	**81.58**	**21**	P	**P**	**02 44 27.3**	**+0.8**
I21K				IAmb	IAmb	02 44 39.7	
	comp=Z,13nm,1.1s						
RND	**Reindeer**	**81.79**	**23**	P	**P**	**02 44 27.6**	**-0.2**
RND				IAmb	IAmb	02 44 37.5	
	comp=Z,8.7nm,0.7s						
NEA2	**Nenana**	**82.32**	**22**	P	**P**	**02 44 30.2**	**-0.2**
NEA2				IAmb	IAmb	02 44 40.1	
	comp=Z,8.2nm,0.9s						
E21K	**Killik River**	**82.81**	**17**	P	**P**	**02 44 33.3**	**+0.4**
IL31		**83.22**	**22**	P	**P**	**02 44 34.5**	**-0.5**
IL31				IAmb	IAmb	02 44 44.7	
	comp=Z,7.0nm,0.8s						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**02 44 34.0**	**-1.0**
	comp=Z,3.5nm,0.8s,baz=254,slow=5.3,SNR=12						
	comp=Z,3.5nm,0.8s						
E22K	**Anaktuvuk Pass**	**83.29**	**18**	P	**P**	**02 44 36.0**	**+0.6**
E22K				IAmb	IAmb	02 44 36.7	
	comp=Z,5.9nm,0.9s						
J25K	**Salcha River,**	**83.72**	**23**	P	**P**	**02 44 37.3**	**-0.5**
E23K	**Chandalar**	**83.94**	**19**	P	**P**	**02 44 38.8**	**0.0**
E23K				IAmb	IAmb	02 44 50.1	
	comp=Z,11nm,1.3s						
D23K	**Nanushuk River**	**84.10**	**18**	P	**P**	**02 44 40.0**	**+0.5**
KURBB	**Kurchatov Arra**	**84.19**	**322**	P	**P**	**02 44 38.4**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=112,slow=3.8,SNR=6.9						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**84.24**	**180**	P	**P**	**02 44 39.4**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=348,slow=1.1,SNR=3.9						
	comp=Z,2.1nm,0.9s						
D25K	**Kavik River**	**85.60**	**18**	P	**P**	**02 44 47.5**	**+0.3**
C27K	**Jago River**	**86.58**	**18**	P	**P**	**02 44 52.0**	**+0.1**
C27K				IAmb	IAmb	02 45 03.3	
	comp=Z,6.1nm,0.8s						
J30M	**Hart River**	**87.28**	**24**	P	**P**	**02 44 55.9**	**+0.3**
J30M				IAmb	IAmb	02 45 07.2	
	comp=Z,7.6nm,0.8s						
I30M	**Mount Dempster**	**87.48**	**24**	P	**P**	**02 44 56.4**	**-0.1**
EPYK	**Eagle Plains**	**87.73**	**22**	P	**P**	**02 44 57.7**	**+0.1**
BVAR	**Borovoye Array**	**89.66**	**323**	P	**P**	**02 45 04.7**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=96,slow=3.0,SNR=6.0						
	comp=Z,1.0nm,0.6s						
SYO	**Syowa Base**	**92.62**	**199**	∥*e*pP	**P**	**02 45 23.4**	**+3.1**
A36M	**Sachs Harbour**	**93.09**	**18**	P	**P**	**02 45 23.3**	**+0.9**

*NEIC **21** 02:37:13.9±1.9,51°.8N±0°.2×175°.8E±0°.2,h35km±2km,*
mb4.2/18,Error ellipse: s-maj=29.9km s-min=18.5km
az=176.0
*IDC **21** 02:37:20.6±4.3,52°.10N×176°.12E,h89km±38km,mb3.6/15,*
mbtmp3.9/17,Error ellipse: s-maj=24.7km s-min=17.4km
az=167.0

ISC 21 02:37:14.6±0.8,52°.0N±0°.1×175°.87E±0°.07,h33km,n55,
σ0°.87/46,mb4.2/21,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**4.32**	**89**	Pn	**Pn**	**02 38 19.2**	**+1.3**
ADK	**Adak**	**4.61**	**88**	Pn	**Pn**	**02 38 21.7**	**-0.2**
ATKA	**Atka Island**	**6.13**	**84**	Pn	**Pn**	**02 38 44.1**	**+1.4**
UNV	**Unalaska Valle**	**10.81**	**73**	Pn	**Pn**	**02 39 48.8**	**+2.0**
PETK	**Petropavlovsk-**	**11.13**	**283**	P	Pn	02 39 58.5	+7.2
	2.1nm,0.9s,baz=80,slow=16,SNR=1.6						
PETK				S	**Sn**	**02 41 55.3**	**+0.9**
	1.0nm,0.4s,baz=85,slow=35,SNR=6.2						
L14K	**Kuka Creek**	**14.99**	**43**		**P**	**02 40 48.2**	**-0.7**
L14K				IAmb	IAmb	02 40 50.4	
	comp=Z,16nm,1.4s						
N15K	**Kwethluk River**	**15.65**	**49**	P	**P**	**02 40 56.9**	**+0.6**
N15K				IAmb	IAmb	02 41 32.6	
	comp=Z,27nm,1.3s						
ANM	**Nome**	**15.93**	**30**		**P**	**02 40 59.8**	**+0.6**
G16K	**Koyuk River**	**17.44**	**31**	P	**P**	**02 41 17.2**	**+1.3**
ACHA	**Angle Creek He**	**17.53**	**58**		**P**	**02 41 17.1**	**-0.1**
P18K	**Big Mountain,**	**17.79**	**54**		**P**	**02 41 21.0**	**+1.1**
OHAK	**Old Harbor**	**18.52**	**61**	P	**P**	**02 41 26.6**	**-1.4**
OHAK				IAmb	IAmb	02 42 00.6	
	comp=Z,31nm,1.3s						
KDAK	**Kodiak Island**	**18.94**	**60**	P	**P**	**02 41 31.4**	**-1.1**
KDAK				IAmb	IAmb	02 41 35.8	
	comp=Z,12nm,1.1s						
KDAK	**Kodiak Island**	**18.94**	**60**	P	**P**	**02 41 31.2**	**-1.2**
	comp=Z,6.6nm,0.7s,baz=307,slow=16,SNR=25						
F21K	**Alatna River**	**21.42**	**33**	P	**P**	**02 42 00.1**	**+0.7**
F21K				IAmb	IAmb	02 42 03.1	
	comp=Z,8.5nm,0.8s						
ILAR	**Eielson Array**	**22.93**	**42**	P	**P**	**02 42 15.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=271,slow=8.4,SNR=0.8						
	comp=Z,0.7nm,0.6s						
PCA	**Pinnacle**	**25.39**	**54**	P	**P**	**02 42 39.8**	**+1.1**
R33M	**Jennings River**	**30.14**	**55**	P	**P**	**02 43 21.2**	**0.0**
R33M				IAmb	IAmb	02 44 02.8	
	comp=Z,7.4nm,1.5s						
A36M	**Sachs Harbour**	**32.20**	**30**	P	**P**	**02 43 39.2**	**+0.2**
A36M				IAmb	IAmb	02 44 01.5	
	comp=Z,3.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**32.94**	**196**	T	T	03 19 12.1	
	baz=11,slow=76,SNR=202						
H11N3	**WAKE ISLAND Hy**	**32.95**	**196**	T	T	03 19 12.9	
	baz=11,slow=76,SNR=162						
H11N1	**WAKE ISLAND Hy**	**32.95**	**196**	T	T	03 19 13.5	
	baz=11,slow=76,SNR=153						
H11S1	**WAKE ISLAND Hy**	**34.17**	**196**	T	T	03 20 42.5	
	baz=11,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**34.18**	**196**	T	T	03 20 43.9	
	baz=11,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**34.18**	**196**	T	T	03 20 45.6	
	baz=11,slow=76,SNR=17						
SONM	**Songino Array**	**43.39**	**293**	P	**P**	**02 45 15.3**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=62,slow=7.9,SNR=7.4						
	comp=Z,1.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**49.51**	**355**	P	**P**	**02 46 00.7**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=43,slow=6.2,SNR=21						
	comp=Z,1.2nm,0.3s						
KURK	**Kurchatov**	**56.16**	**311**	P	**P**	**02 46 50.9**	**+0.2**
KURBB	**Kurchatov Arra**	**56.27**	**311**	P	**P**	**02 46 51.6**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=46,slow=6.5,SNR=22						
	comp=Z,2.4nm,0.8s						
MK31	**Makanch

s-min=1.4km az=196.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.02**	**207**		Pg	02 37 44.0	+0.2
CWU	**Camp Williams**	**0.13**	**257**		Pg	02 37 45.3	+0.2
GMU	**Granite Mounta**	**0.17**	**53**		Pg	02 37 46.0	+0.2
GMU					Sg	02 37 48.7	+0.4
MHD	**Mile High Driv**	**0.21**	**30**		Pg	02 37 46.9	+0.2
MHD	**Mile High Driv**	**0.21**	**30**		Sg	02 37 50.2	+0.6
NOQ	**North Oquirrh**	**0.23**	**323**		Pg	02 37 47.2	+0.5
NOQ					Sg	02 37 50.5	+0.6
AAU	**Alta**	**0.26**	**63**		Pg	02 37 47.7	+0.2
AAU					Sg	02 37 51.4	+0.4
DCU	**Deer Creek Res**	**0.32**	**101**		Pg	02 37 48.9	+0.3
RBU	**Red Butte Cany**	**0.32**	**18**		Pg	02 37 48.7	+0.1
RBU	**Red Butte Cany**	**0.32**	**18**		Sg	02 37 53.3	+0.3
JLU	**Jordanelle**	**0.40**	**71**	Pg	Pg	02 37 50.1	0.0
JLU				Sg	Sg	02 37 55.2	0.0
JLU				IAML		02 37 55.9	
	comp=N,154nm,0.4s						
WMUT	**West Mountain**	**0.41**	**168**		Pg	02 37 50.5	+0.3
SAIU	**Southern Antel**	**0.42**	**334**		Pg	02 37 50.6	+0.1
RCJ	**Ross Creek**	**0.42**	**64**		Pg	02 37 50.9	+0.3
MPU	**Maple Canyon**	**0.52**	**153**	Pg	Pg	02 37 52.2	0.0
MPU				Sg	Sg	02 37 59.5	+0.5
DAU	**Daniels Canyon**	**0.53**	**96**		Pg	02 37 53.1	+0.6
FPU	**Francis Peak**	**0.56**	**8**		Pg	02 37 53.2	+0.1
N16A	**Rees Ranch, Co**	**0.56**	**43**		Pg	02 37 53.9	+0.7
NAIU	**Northern Antel**	**0.58**	**338**		Pg	02 37 53.5	-0.1
HTU	**Hoyt Peak**	**0.58**	**70**		Pg	02 37 54.3	+0.7
SNUT	**Stansbury Nort**	**0.60**	**314**		Pg	02 37 54.2	+0.4
DUG	**Dugway, Tooele**	**0.72**	**248**	Pg	Pg	02 37 55.5	-0.7
TCUT	**Toone Canyon**	**0.76**	**32**	Pg	Pg	02 37 57.1	+0.2
TCUT				Sg	Sb	02 38 08.2	-0.5
LHUT	**Little Humpy P**	**0.83**	**60**		Pb	02 37 59.0	-0.2
BSUT	**Blindstream Ca**	**0.90**	**86**	Pg	Pg	02 37 59.6	0.0
BSUT				Sg	Sg	02 38 11.3	0.0
SPUT	**South Promonto**	**0.92**	**335**	Pg	Pg	02 37 59.6	-0.3
SPUT				Sg	Sb	02 38 12.5	-0.6
SPUT				IAML		02 38 14.2	
	comp=E,63nm,0.6s						
SPUT				IAML		02 38 14.6	
	comp=N,104nm,0.3s						
BGU	**Big Grassy Mou**	**0.94**	**299**	Pg	Pg	02 38 00.0	-0.4
BGU				Sg	Sg	02 38 12.5	-0.1
BGU				IAML		02 38 15.0	
	comp=N,62nm,0.4s						
LEVU	**Levan**	**0.97**	**174**		Pg	02 38 01.2	+0.3
EPU	**East Promontor**	**0.98**	**339**		Pg	02 38 00.9	-0.3
EMUT	**Emma Park**	**1.09**	**127**		Pg	02 38 03.3	+0.2
FLU	**Fool Peak**	**1.11**	**189**		Pg	02 38 03.5	0.0
WVUT	**Wellsville**	**1.14**	**359**		Pg	02 38 03.7	-0.3
HWUT	**Hardware Ranch**	**1.17**	**14**	Pg	Pg	02 38 04.0	-0.7
HWUT				Sg	Sg	02 38 19.4	-0.4
HWUT				IAML		02 38 21.2	
	comp=N,43nm,0.4s						
HWUT				IAML		02 38 23.2	
	comp=N,38nm,0.3s						
ARGU	**Argyle Ridge**	**1.25**	**121**		Pn	02 38 06.5	0.0
TMUT	**Trail Mountain**	**1.30**	**154**		Pn	02 38 06.7	-0.5
TMUT				IAML		02 38 32.5	
	comp=N,23nm,0.8s						
FSU	**Fish Springs**	**1.34**	**236**		Pn	02 38 07.2	-0.3
HVU	**Hansel Valley**	**1.45**	**334**		Pn	02 38 07.7	-1.4
HVU				IAML		02 38 32.4	
	comp=N,35nm,0.6s						
HVU				IAML		02 38 37.5	
	comp=E,32nm,0.6s						
ROA	**Roan Cliffs**	**1.46**	**123**		Pb	02 38 09.8	-0.1
P18A	**Preston Nutter**	**1.55**	**122**		Pb	02 38 11.3	-0.2
P18A				IAML		02 38 34.6	
	comp=N,18nm,0.4s						
P18A				IAML		02 38 35.7	
	comp=E,17nm,0.4s						
BMUT	**Black Mountain**	**1.58**	**20**		Pn	02 38 10.9	0.0
BEI	**Bear River Ran**	**1.65**	**4**		Pn	02 38 11.7	-0.1
Q16A	**Castle Valley**	**1.66**	**159**		Pn	02 38 10.9	-1.2
SRU	**San Rafael Swe**	**1.75**	**141**	Pn	Pn	02 38 11.7	-1.4
SRU				IAML		02 38 40.1	
	comp=E,15nm,0.4s						
SRU				IAML		02 38 41.2	
	comp=N,14nm,0.6s						
RDMU	**Red Mountain**	**1.81**	**86**	Pn	Pn	02 38 13.5	-0.6
TCRU	**Three Creeks R**	**1.90**	**192**	Pn	Pn	02 38 14.6	-0.7
TCRU				IAML		02 38 52.3	
	comp=E,14nm,1.0s						
TCRU				IAML		02 38 53.9	
	comp=N,14nm,2.5s						
AHID	**Auburn Hatcher**	**2.38**	**15**	Pn	Pn	02 38 21.5	-0.3
PSUT	**Pine Spring**	**2.44**	**218**	Pn	Pn	02 38 22.5	-0.2
PSUT				IAML		02 39 06.3	
	comp=E,9.8nm,4.6s						
PD31	**Pinedale Array**	**2.91**	**37**	Pn	Pn	02 38 28.8	-0.3
PDAR	**Pinedale Array**	**2.91**	**37**	Pn	Pn	02 38 28.6	-0.5
PV23	**Carpenter Ridg**	**3.04**	**131**	Pn	Pn	02 38 30.5	-0.4
PV10	**Paradox Valley**	**3.07**	**132**	Pn	Pn	02 38 32.3	+0.9
TPAW	**Teton Pass**	**3.10**	**13**	Pn	Pn	02 38 31.5	-0.4
TPAW				IAML		02 39 29.6	
	comp=E,7.3nm,1.7s						
FXWY	**Fox Creek**	**3.23**	**12**	Pn	Pn	02 38 34.0	+0.3
FXWY				IAML		02 39 24.8	
	comp=E,4.1nm,3.0s						
FXWY				IAML		02 40 36.5	
	comp=E,7.1nm,4.6s						
LOHW	**Long Hollow**	**3.29**	**17**	Pn	Pn	02 38 35.4	+1.0
LOHW				IAML		02 39 27.2	
	comp=E,10nm,0.5s						
LOHW				IAML		02 39 37.0	
	comp=E,9.7nm,5.0s						
MOOW	**Moose Ponds**	**3.39**	**15**	Pn	Pn	02 38 36.1	+0.3
MOOW				IAML		02 39 39.6	
	comp=E,4.9nm,4.5s						
MOOW				IAML		02 39 41.4	
	comp=E,5.5nm,4.6s						
HLID	**Hailey**	**3.59**	**330**	Pn	Pn	02 38 36.5	-2.1
HLID				IAML		02 40 07.6	
	comp=E,5.2nm,4.5s						
HLID				IAML		02 40 33.5	
	comp=E,4.4nm,4.6s						

AEIC ***21*** *02:38:15.2±1.9, 69.°57N±0.°06×144.°5W±0.°1, h12km±6km, ML3.3, ML3.5/110(NEIC), Error ellipse: s-maj=8.7km s-min=5.0km az=187.0*

IDC ***21*** *02:38:16.1±1.3, 69.°72N×144.°15W, h0km, mb3.6/5, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=26.6km s-min=18.5km az=76.0*

NEIC ***21*** *02:38:17.1±1.9, 69.°62N±0.°05×144.°40W±0.°08, h15km±7km, Error ellipse: s-maj=7.8km s-min=3.8km az=191.0*

ISC 21 02:38:15.2±1.1, 69.°63N±0.°03×144.°44W±0.°02, h3km±9km, n190, σ0.96/187, mb3.5/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.25**	**89**		**Sg**	**02 38 24.6**	**+1.2**
C27K	**Jago River**	**0.25**	**89**	P	**Pg**	**02 38 20.6**	**+0.5**
	baz=257						
C27K				S	**Sg**	**02 38 24.6**	**+1.2**
	baz=257						
C26K	**Camden Bay**	**0.34**	**331**		**Pb**	**02 38 24.3**	**+0.5**
C26K					**Sb**	**02 38 30.1**	**+0.5**
C26K	**Camden Bay**	**0.34**	**331**	P	**Pb**	**02 38 24.3**	**+0.5**
	baz=156						
C26K				S	**Sb**	**02 38 30.1**	**+0.5**
	baz=156						
D25K	**Kavik River**	**0.75**	**247**		**Pg**	**02 38 28.8**	**-0.7**
D25K					**Sg**	**02 38 37.7**	**-1.5**
D25K	**Kavik River**	**0.75**	**247**	P	**Pg**	**02 38 28.8**	**-0.7**
	baz=69						
D25K				S	**Sg**	**02 38 37.7**	**-1.5**
	baz=69						
D27M	**Malcolm River**	**1.28**	**106**		**Pn**	**02 38 39.1**	**-1.0**
D27M					**Sg**	**02 38 57.1**	**+0.7**
D27M	**Malcolm River**	**1.28**	**106**	P	**Pn**	**02 38 39.1**	**-1.0**
	baz=286						
D27M				S	**Sg**	**02 38 57.1**	**+0.7**
	baz=286						
C24K	**Franklin Bluff**	**1.49**	**276**		**Pb**	**02 38 44.2**	**+0.7**
C24K					**Sb**	**02 39 02.7**	**-0.1**
C24K	**Franklin Bluff**	**1.49**	**276**	IAML		02 39 06.5	
	comp=N,646nm,0.8s						
C24K				IAML		02 39 11.3	
	comp=E,761nm,0.7s						
C24K	**Franklin Bluff**	**1.49**	**276**	P	**Pb**	**02 38 44.2**	**+0.7**
	baz=94						
C24K				S	**Sb**	**02 39 02.7**	**-0.1**
	baz=94						
E25K	**Arctic Village**	**1.57**	**196**		**Pb**	**02 38 44.7**	**-0.1**
E25K					**Sg**	**02 39 06.5**	**+1.0**
E25K	**Arctic Village**	**1.57**	**196**	IAML		02 39 08.8	
	comp=E,534nm,0.8s						
E25K	**Arctic Village**	**1.57**	**196**	P	**Pb**	**02 38 44.7**	**-0.1**
	baz=15						
E25K				S	**Sg**	**02 39 06.5**	**+1.0**
	baz=15						
D24K	**Happy Valley**	**1.62**	**255**		**Pn**	**02 38 45.2**	**+0.6**
D24K					**Sg**	**02 39 08.6**	**+1.3**
D24K	**Happy Valley**	**1.62**	**255**	P	**Pn**	**02 38 45.2**	**+0.6**
	baz=73						
D24K				S	**Sg**	**02 39 08.6**	**+1.3**
	baz=73						
F26K	**Sheenjek River**	**1.94**	**177**		**Pn**	**02 38 49.7**	**+0.6**
F26K	**Sheenjek River**	**1.94**	**177**	IAML		02 39 19.8	
	comp=E,471nm,0.7s						
F26K	**Sheenjek River**	**1.94**	**177**	P	**Pn**	**02 38 49.7**	**+0.6**
	baz=357						
D28M	**Stokes Point**	**2.03**	**96**		**Pn**	**02 38 51.0**	**+0.8**
D28M	**Stokes Point**	**2.03**	**96**	P	**Pn**	**02 38 51.0**	**+0.8**
	baz=279						
F25K	**Christian Rive**	**2.09**	**193**		**Pn**	**02 38 52.0**	**+0.9**
F25K	**Christian Rive**	**2.09**	**193**	IAML		02 39 22.8	
	comp=N,283nm,0.6s						
F25K	**Christian Rive**	**2.09**	**193**	P	**Pn**	**02 38 52.0**	**+0.9**
	baz=12						
TOLK	**Toolik Lake Re**	**2.09**	**244**		**Pn**	**02 38 52.3**	**+1.2**
TOLK	**Toolik Lake Re**	**2.09**	**244**	IAML		02 39 30.6	
	comp=N,333nm,0.7s						
TOLK	**Toolik Lake Re**	**2.09**	**244**	P	**Pn**	**02 38 52.3**	**+1.2**
	baz=61						
E24K	**Your Creek**	**2.14**	**225**		**Pn**	**02 38 53.1**	**+1.3**
E24K	**Your Creek**	**2.14**	**225**	IAML		02 39 27.0	
	comp=E,301nm,0.9s						
E24K	**Your Creek**	**2.14**	**225**	P	**Pn**	**02 38 53.1**	**+1.3**
	baz=42						
C23K	**Itkillik River**	**2.16**	**279**		**Pn**	**02 38 53.2**	**+1.2**
C23K	**Itkillik River**	**2.16**	**279**	IAML		02 39 28.5	
	comp=E,406nm,0.5s						
C23K	**Itkillik River**	**2.16**	**279**	P	**Pn**	**02 38 53.2**	**+1.2**
	baz=94						
BMAR	**Burnt Mountain**	**2.21**	**181**		**Pn**	**02 38 52.5**	**-0.2**
D23K	**Nanushuk River**	**2.32**	**256**		**Pn**	**02 38 54.6**	**+0.4**
D23K				IAML		02 39 38.3	
	comp=E,213nm,0.7s						
D23K				IAML		02 39 55.3	
	comp=N,215nm,0.9s						
E23K	**Chandalar**	**2.45**	**233**		**Pn**	**02 38 56.4**	**+0.3**
E23K				IAML		02 39 37.3	
	comp=E,224nm,0.6s						
E23K				IAML		02 39 37.8	
	comp=N,209nm,0.8s						
F24K	**Squaw Lake**	**2.47**	**213**	Pn	**Pn**	**02 38 55.8**	**-0.5**
F24K				IAML		02 39 38.6	
	comp=E,191nm,0.6s						
F28M	**Old Crow**	**2.62**	**138**	Pn	**Pn**	**02 38 58.3**	**-0.1**
F28M	**Old Crow**	**2.62**	**138**	P	**Pn**	**02 38 58.5**	**+0.1**
	baz=322						
E29M	**Blow River**	**2.66**	**115**		**Pn**	**02 38 59.8**	**+0.9**
E29M				IAML		02 39 47.0	
	comp=N,145nm,0.7s						
E29M				IAML		02 39 47.9	
	comp=E,152nm,0.6s						
G25K	**Bearman Lake**	**2.94**	**193**		**Pn**	**02 39 04.0**	**+1.2**
G25K	**Bearman Lake**	**2.94**	**193**	P	**Pn**	**02 39 04.0**	**+1.2**
	baz=12						
G27K	**Doyon Strip**	**3.01**	**159**		**Pn**	**02 39 03.7**	**-0.1**
D22K	**Ayikyak River**	**3.03**	**260**		**Pn**	**02 39 05.0**	**+0.9**
D22K	**Ayikyak River**	**3.03**	**260**	P	**Pn**	**02 39 05.0**	**+0.9**
	baz=73						
E22K	**Anaktuvuk Pass**	**3.06**	**244**	Pn	**Pn**	**02 39 04.7**	**+0.2**
E22K	**Anaktuvuk Pass**	**3.06**	**244**	P	**Pn**	**02 39 04.8**	**+0.2**
	baz=58						
FYU	**Fort Yukon**	**3.09**	**186**		**Pn**	**02 39 06.3**	**+1.5**
FYU	**Fort Yukon**	**3.09**	**186**	IAML		02 39 56.9	
	comp=E,142nm,1.2s						
G24K	**Hadweenzic Riv**	**3.15**	**203**		**Pn**	**02 39 05.5**	**-0.1**
G24K	**Hadweenzic Riv**	**3.15**	**203**	IAML		02 39 59.9	
	comp=N,140nm,1.1s						
G24K				IAML		02 40 00.3	
	comp=E,121nm,0.8s						
G24K	**Hadweenzic Riv**	**3.15**	**203**	P	**Pn**	**02 39 05.5**	**-0.1**
	baz=20						
COLD	**Coldfoot**	**3.21**	**224**	Pn	**Pn**	**02 39 07.3**	**+0.8**
COLD	**Coldfoot**	**3.21**	**224**	P	**Pn**	**02 39 07.3**	**+0.8**
	baz=40						
H25L	**Birch Creek**	**3.41**	**189**		**Pn**	**02 39 09.8**	**+0.6**
H25L	**Birch Creek**	**3.41**	**189**	P	**Pn**	**02 39 09.8**	**+0.6**
	baz=8.2						
B21K	**Ikpikpuk River**	**3.56**	**275**		**Pn**	**02 39 12.5**	**+1.2**
B21K	**Ikpikpuk River**	**3.56**	**275**	P	**Pn**	**02 39 12.5**	**+1.2**
	baz=86						
G23K	**Bananza Creek**	**3.59**	**218**		**Pn**	**02 39 10.8**	**-1.0**
G23K				IAML		02 40 13.5	
	comp=N,87nm,0.9s						
G23K				IAML		02 40 15.2	
	comp=E,114nm,1.1s						
G29M	**Pine Creek**	**3.62**	**136**		**Pn**	**02 39 12.3**	**+0.2**
G29M	**Pine Creek**	**3.62**	**136**	P	**Pn**	**02 39 12.3**	**+0.2**
	baz=321						
E21K	**Killik River**	**3.63**	**255**		**Pn**	**02 39 12.7**	**+0.4**
E21K	**Killik River**	**3.63**	**255**	IAML		02 40 26.2	
	comp=E,109nm,0.7s						
E21K	**Killik River**	**3.63**	**255**	P	**Pn**	**02 39 12.7**	**+0.4**
	baz=67						
H24K	**Noodor Dome**	**4.02**	**201**		**Pn**	**02 39 17.7**	**0.0**
H24K	**Noodor Dome**	**4.02**	**201**	IAML		02 40 30.6	
	comp=E,56nm,1.5s						
H24K				IAML		02 40 33.2	
	comp=N,69nm,0.8s						
H24K	**Noodor Dome**	**4.02**	**201**	P	**Pn**	**02 39 17.7**	**0.0**
	baz=18						
G30M	**tAoh Zraii Nji**	**4.04**	**127**	Pn	**Pn**	**02 39 18.6**	**+0.7**
G30M				IAML		02 40 31.2	
	comp=N,61nm,0.7s						
G30M				IAML		02 40 40.4	
	comp=E,60nm,1.0s						
G30M	**tAoh Zraii Nji**	**4.04**	**127**	P	**Pn**	**02 39 18.9**	**+1.0**
	baz=314						
H29M	**Whitestone**	**4.12**	**143**		**Pn**	**02 39 19.6**	**+0.7**
H29M	**Whitestone**	**4.12**	**143**	IAML		02 40 11.4	
	comp=E,68nm,0.8s						
H29M				IAML		02 40 40.1	
	comp=N,53nm,1.2s						
H29M	**Whitestone**	**4.12**	**143**	P	**Pn**	**02 39 19.6**	**+0.7**
	baz=328						
F21K	**Alatna River**	**4.12**	**238**		**Pn**	**02 39 19.6**	**+0.6**
F21K	**Alatna River**	**4.12**	**238**	IAML		02 40 12.5	
	comp=E,67nm,0.9s						
F21K				IAML		02 40 34.0	
	comp=N,62nm,0.8s						
F21K	**Alatna River**	**4.12**	**238**	P	**Pn**	**02 39 19.6**	**+0.6**
	baz=51						
PRP	**Porcupine Dome**	**4.15**	**186**	Pn	**Pn**	**02 39 19.7**	**+0.2**
PRP	**Porcupine Dome**	**4.15**	**186**	P	**Pn**	**02 39 20.4**	**+0.9**
	baz=5.2						
INK	**Inuvik**	**4.15**	**103**		**Pn**	**02 39 19.8**	**+0.5**
INK	**Inuvik**	**4.15**	**103**	Pn	**Pn**	**02 39 19.4**	**+0.1**
	comp=N,1.0nm,0.3s,baz=311,slow=11,SNR=28						
INK				Sn	**Sn**	**02 40 07.2**	**-1.1**
	comp=N,1.3nm,0.3s,baz=240,slow=20,SNR=3.1						
	comp=N,2.0nm,0.4s						
INK	**Inuvik**	**4.15**	**103**	P	**Pn**	**02 39 19.8**	**+0.5**
	baz=293						
I27K	**Kandik River**	**4.18**	**164**		**Pn**	**02 39 20.8**	**+1.0**
I27K	**Kandik River**	**4.18**	**164**	P	**Pn**	**02 39 20.8**	**+1.0**
	baz=346						
I26K	**Coal Creek Min**	**4.37**	**173**		**Pn**	**02 39 23.1**	**+0.8**
I26K	**Coal Creek Min**	**4.37**	**173**	IAML		02 40 35.2	
	comp=E,48nm,0.8s						
I26K	**Coal Creek Min**	**4.37**	**173**	P	**Pn**	**02 39 23.1**	**+0.8**
	baz=354						
EPYK	**Eagle Plains**	**4.37**	**135**	IAML		02 40 35.9	
	comp=N,54nm,0.7s						
EPYK	**Eagle Plains**	**4.37**	**135**		**Pn**	**02 39 23.2**	**+0.8**
EPYK	**Eagle Plains**	**4.37**	**135**	P	**Pn**	**02 39 23.2**	**+0.8**
	baz=321						
B20K	**Meade River**	**4.42**	**281**		**Pn**	**02 39 23.8**	**+0.7**
B20K	**Meade River**	**4.42**	**281**	P	**Pn**	**02 39 23.8**	**+0.7**
	baz=90						
A21K	**Barrow**	**4.43**	**298**		**Pn**	**02 39 24.1**	**+1.0**
A21K	**Barrow**	**4.43**	**298**	P	**Pn**	**02 39 24.1**	**+1.0**
	baz=108						
D20K	**Etivluk River**	**4.44**	**264**		**Pn**	**02 39 24.7**	**+1.3**
D20K	**Etivluk River**	**4.44**	**264**	P	**Pn**	**02 39 24.7**	**+1.3**
	baz=73						
E20K	**Nigu River**	**4.46**	**258**		**Pn**	**02 39 25.0**	**+1.4**
E20K	**Nigu River**	**4.46**	**258**	P	**Pn**	**02 39 25.0**	**+1.4**
	baz=67						
F31M	**Tsiigehtchic**	**4.50**	**114**		**Pn**	**02 39 25.1**	**+1.0**
F31M	**Tsiigehtchic**	**4.50**	**114**	IAML		02 40 47.7	
	comp=N,44nm,1.1s						
F31M	**Tsiigehtchic**	**4.50**	**114**	P	**Pn**	**02 39 25.1**	**+1.0**
	baz=303						
I28M	**Miner Creek**	**4.54**	**156**		**Pn**	**02 39 25.3**	**+0.6**
G31M	**Satah River**	**4.65**	**121**		**Pn**	**02 39 27.0**	**+0.9**
G31M	**Satah River**	**4.65**	**121**	IAML		02 40 45.7	
	comp=N,49nm,0.9s						
G31M	**Satah River**	**4.65**	**121**	P	**Pn**	**02 39 27.0**	**+0.9**
	baz=310						
POKR	**Poker Plat Res**	**4.67**	**196**		**Pn**	**02 39 27.7**	**+1.1**
POKR	**Poker Plat Res**	**4.67**	**196**	IAML		02 40 25.5	
	comp=E,46nm,1.0s						
POKR	**Poker Plat Res**	**4.67**	**196**	P	**Pn**	**02 39 27.7**	**+1.1**
	baz=13						
I23K	**Minto, Yukon-K**	**4.88**	**205**		**Pn**	**02 39 29.5**	**+0.1**
I23K				IAML		02 41 05.7	
	comp=E,38nm,1.2s						
I23K				IAML		02 41 13.7	
	comp=N,30nm,3.4s						
I23K	**Minto, Yukon-K**	**4.88**	**205**	P	**Pn**	**02 39 30.1**	**+0.7**
	baz=21						
I29M	**Ogilvie Camp,**	**4.89**	**148**	Pn	**Pn**	**02 39 28.5**	**-1.0**
I29M				IAML		02 40 29.3	
	comp=N,26nm,0.5s						
I29M				IAML		02 41 03.9	
	comp=E,26nm,1.0s						
F20K	**Avaraart Lake**	**4.92**	**244**		**Pn**	**02 39 31.0**	**+1.2**
F20K				IAML		02 40 54.8	
	comp=N,36nm,1.6s						
COLA	**College**	**4.95**	**197**		**Pn**	**02 39 29.3**	**-1.1**
IL31		**4.97**	**192**		**Pn**	**02 39 31.7**	**+1.1**
ILAR	**Eielson Array**	**4.97**	**192**	Pn	**Pn**	**02 39 31.6**	**+1.0**
ILAR	**Eielson Array**	**4.97**	**192**	Pn	**Pn**	**02 39 31.2**	**+0.7**
	comp=N,0.7nm,0.3s,baz=12,slow=12,SNR=40						
ILAR				Sn	**Sn**	**02 40 29.4**	**+1.0**
	comp=N,2.0nm,0.3s,baz=10,slow=28,SNR=13						
	comp=N,4.2nm,0.8s						
D19K	**Kuna River**	**5.04**	**263**		**Pn**	**02 39 32.7**	**+1.1**
D19K				IAML		02 40 34.6	
	comp=N,40nm,0.6s						
J25K	**Salcha River,**	**5.05**	**185**		**Pn**	**02 39 32.2**	**+0.4**
J25K				IAML		02 40 36.0	
	comp=N,28nm,0.8s						
J25K				IAML		02 41 08.1	
	comp=E,27nm,1.1s						
H21K	**Melozitna Rive**	**5.11**	**223**		**Pn**	**02 39 32.9**	**+0.5**
H21K				IAML		02 41 03.4	
	comp=E,38nm,1.9s						
H21K				IAML		02 41 04.9	
	comp=N,37nm,1.4s						
J26L	**Joseph Creek**	**5.16**	**176**		**Pn**	**02 39 33.8**	**+0.5**
J26L				IAML		02 40 36.5	
	comp=E,24nm,1.0s						
J26L				IAML		02 40 40.2	
	comp=N,21nm,0.6s						
CCB	**Clear Creek Bu**	**5.17**	**196**	Pn	**Pn**	**02 39 33.7**	**+0.3**
E19K	**Redstone River**	**5.17**	**251**		**Pn**	**02 39 33.3**	**-0.1**
E19K				IAML		02 41 10.7	
	comp=E,34nm,1.0s						
I21K	**Tanana**	**5.33**	**217**		**Pn**	**02 39 35.6**	**+0.1**
HDA	**Harding Lake**	**5.33**	**192**		**Pn**	**02 39 35.5**	**-0.1**
HDA				IAML		02 41 09.8	
	comp=E,27nm,1.0s						
HDA				IAML		02 41 20.0	
	comp=N,31nm,1.5s						
NEA2	**Nenana**	**5.37**	**202**		**Pn**	**02 39 36.1**	**0.0**
NEA2				IAML		02 40 41.1	
	comp=N,24nm,1.1s						
WRH	**Wood River Hil**	**5.37**	**197**	Pn	**Pn**	**02 39 35.7**	**-0.4**
WRH				IAML		02 40 37.4	
	comp=N,22nm,4.5s						
WRH				IAML		02 41 13.0	
	comp=E,24nm,1.2s						
I30M	**Mount Dempster**	**5.40**	**141**		**Pn**	**02 39 36.7**	**+0.1**
I30M				IAML		02 40 41.3	
	comp=E,29nm,0.5s						
I30M				IAML		02 41 22.7	
	comp=N,22nm,3.0s						
H31M	**Peel River**	**5.42**	**130**	Pn	**Pn**	**02 39 36.4**	**-0.4**
H31M				IAML		02 41 05.8	
	comp=N,28nm,2.2s						
H31M				IAML		02 41 10.8	
	comp=E,27nm,1.3s						
SCRK	**Sand Creek**	**5.68**	**178**	Pn	**Pn**	**02 39 40.2**	**-0.2**
SCRK	**Sand Creek**	**5.68**	**178**	P	**Pn**	**02 39 41.5**	**+1.1**
	baz=358						
F19K	**Shaleruckik Mo**	**5.70**	**247**		**Pn**	**02 39 41.7**	**+1.1**
F19K	**Shaleruckik Mo**	**5.70**	**247**	P	**Pn**	**02 39 41.7**	**+1.1**
	baz=55						
J29N	**Klondike Camp**	**5.73**	**152**	Pn	**Pn**	**02 39 41.5**	**+0.4**
K24K	**Donnelly Dome**	**5.87**	**186**		**Pn**	**02 39 44.4**	**+1.4**
K24K	**Donnelly Dome**	**5.87**	**186**	P	**Pn**	**02 39 44.4**	**+1.4**
	baz=4.6						
G19K	**Purcell Mounta**	**5.91**	**240**		**Pn**	**02 39 42.9**	**-0.7**
RIDG	**Independent Ri**	**5.91**	**182**		**Pn**	**02 39 44.8**	**+1.1**
RIDG	**Independent Ri**	**5.91**	**182**	P	**Pn**	**02 39 44.8**	**+1.1**
	baz=1.3						
DAWY	**Dawson**	**5.93**	**158**		**Pn**	**02 39 44.7**	**+1.0**
DAWY	**Dawson**	**5.93**	**158**	P	**Pn**	**02 39 44.7**	**+1.0**
	baz=342						
J30M	**Hart River**	**5.97**	**144**		**Pn**	**02 39 43.0**	**-1.5**
DOT	**Dot Lake**	**6.00**	**178**		**Pn**	**02 39 45.8**	**+1.0**
C18K	**Utukok River**	**6.06**	**269**	Pn	**Pn**	**02 39 45.0**	**-0.6**
B18K	**Kokolik River**	**6.11**	**276**		**Pn**	**02 39 46.5**	**+0.4**
B18K	**Kokolik River**	**6.11**	**276**	P	**Pn**	**02 39 46.5**

MMPY **Sheldon Lake,** 8.81 137 Pn Pn 02 40 24.3 +1.0
MMPY **Sheldon Lake,** 8.81 137 P Pn 02 40 24.3 +1.0
baz=328
YKA **Yellowknife Ar** 13.92 106 Pn Pn 02 41 29.1 -3.9
comp=E,0.2nm,0.3s,baz=312,slow=13,SNR=9.8
YKA Sn Sn 02 43 55.3 -12
comp=E,0.2nm,0.3s,baz=312,slow=23,SNR=7.4
comp=E,0.4nm,0.5s
RES **Resolute Bay** 15.55 49 Pn Pn 02 41 51.8 -3.1
comp=E,0.5nm,0.3s,baz=276,slow=10,SNR=14
RES Sn Sn 02 44 33.9 -14
comp=E,0.3nm,0.3s,baz=323,slow=20,SNR=9.9
PDAR **Pinedale Array** 32.30 128 P P 02 44 46.5 +1.3
comp=E,0.5nm,0.8s,baz=348,slow=7.0,SNR=4.4
comp=E,0.5nm,0.8s
NVAR **Mina Array Bea** 34.23 142 P P 02 45 04.9 +2.8
comp=E,0.4nm,0.8s,baz=347,slow=8.1,SNR=2.6
comp=E,0.4nm,0.8s
TXAR **Lajitas Array** 46.52 128 P P 02 46 43.3 -0.3
comp=E,0.2nm,0.5s,baz=340,slow=8.1,SNR=2.7
comp=E,0.2nm,0.5s
FINES **FINESS Array B** 49.05 6 P P 02 47 03.5 +0.9
comp=E,1.3nm,0.7s,baz=7.9,slow=7.0,SNR=5.9
comp=E,1.3nm,0.7s
AKASG **Malin Array Be** 59.90 5 P P 02 48 22.1 +0.4
comp=E,0.7nm,0.5s,baz=358,slow=7.1,SNR=6.4
comp=E,0.7nm,0.5s

---

*SOME **21** 02:42:10.8, 42°.95N×77°.30E, h0km*
*NNC **21** 02:42:10.5±0.5, 43°.00N×77°.36E, h0km, mb2.6, mpv2.3,*
Error ellipse: s-maj=5.6km s-min=1.6km az=17.0
*KRNET **21** 02:42:11.2±0.1, 42°.90N×77°.31E, h17km, mb2.5*
ISC 21 02:42:10.0±0.9, 42°.97N±0°.03×77°.32E±0°.03, h17km±8km, n16, σ0§46/31, 10C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.28**	**313**	Pg	**Pb**	**02 42 16.3**	**-0.4**
	0.8nm,0.2s						
MDOK				Lg	Lg	02 42 20.3	
	10nm,0.2s						
MDOK	**Medeo**	**0.28**	**313**	*e*P	**Pb**	**02 42 16.7**	**0.0**
	1.3nm,0.1s						
MDOK				*e*S	**Sb**	**02 42 20.8**	**-0.3**
	5.5nm,0.1s						
TNSS	**Tian-Shan**	**0.28**	**283**	P	**Pb**	**02 42 16.8**	**-0.1**
	1.3nm,0.1s						
TNSS				S	**Sg**	**02 42 20.0**	**-0.8**
	9.9nm,0.2s						
TNSS	**Tian-Shan**	**0.28**	**283**	*e*P	**Pb**	**02 42 16.8**	**-0.1**
	2.9nm,0.1s						
TNSS				*e*S	**Sg**	**02 42 21.0**	**+0.2**
	10nm,0.1s						
KOTS	**Kotyrbulak**	**0.30**	**329**	P	**Pb**	**02 42 17.1**	**0.0**
	2.2nm,0.1s						
KOTS				S	**Sb**	**02 42 21.6**	**-0.3**
	24nm,0.2s						
KOTS	**Kotyrbulak**	**0.30**	**329**	*e*P	**Pb**	**02 42 17.4**	**+0.4**
	3.0nm,0.1s						
KOTS				*e*S	**Sb**	**02 42 22.1**	**+0.2**
	16nm,0.2s						
ANVS	**Anan'yevo**	**0.32**	**127**	⇑*e*P	**Pg**	**02 42 17.2**	**+0.4**
ANVS				⇑*e*S	**Sg**	**02 42 21.5**	**0.0**
KNDC	**Almaty**	**0.36**	**313**	⇑P	**Pb**	**02 42 17.7**	**-0.3**
	12nm,0.4s						
KNDC				⇓S	**Sb**	**02 42 22.9**	**-0.5**
	13nm,0.3s						
KDJ	**Kajisay**	**0.85**	**187**	⇑*e*P	**Pb**	**02 42 26.2**	**-0.2**
KDJ				⇑*e*S	**Sb**	**02 42 36.4**	**-1.2**
KTBS	**Karatobe**	**0.87**	**328**	P	**Pg**	**02 42 26.9**	**-0.1**
	0.6nm,0.2s						
KTBS				S	**Sg**	**02 42 38.7**	**+0.1**
	3.3nm,0.3s						
PRZ	**Przheval'sk**	**0.93**	**121**	⇑*e*P	**Pb**	**02 42 27.8**	**0.0**
PRZ				⇑*e*S	**Sb**	**02 42 39.9**	**-0.1**
ULHL	**Ulahol**	**1.08**	**228**	⇓*i*P	**Pb**	**02 42 30.0**	**-0.4**
ULHL				⇓*i*S	**Sb**	**02 42 43.9**	**-0.4**
BOOM	**Boomskoye usch**	**1.13**	**245**	⇑*e*P	**Pb**	**02 42 31.7**	**+0.5**
BOOM				⇑*e*S	**Sb**	**02 42 46.1**	**+0.5**
TKM2	**Tokmak 2**	**1.27**	**268**	⇓*e*P	**Pg**	**02 42 34.6**	**+0.1**
TKM2				⇓*i*S	**Sg**	**02 42 51.6**	**+0.5**
TARG	**Taragay, Kyrgy**	**1.29**	**164**	⇓*i*P	**Pn**	**02 42 34.1**	**+0.4**
TARG				⇓*i*S	**Sb**	**02 42 50.7**	**+0.1**
PDGK	**Podgornoye**	**1.62**	**77**	⇓P	**Pb**	**02 42 39.8**	**+0.3**
	8.3nm,1.4s						
PDGK				⇑S	**Sg**	**02 43 01.3**	**-1.1**
	6.2nm,1.4s						

---

*ISN **21** 03:01:00.2±1.1, 32°.90N×47°.46E, h8km±5km, ML3.5*
*IDC **21** 03:01:00.2±1.3, 32°.89N×47°.44E, h0km, mb3.8/11,*
mbtmp3.8/16, ML3.3/5, MS3.3/15, Error ellipse:
s-maj=28.0km s-min=13.3km az=2.0
*TEH **21** 03:01:01.4, 32°.94N×47°.44E, h16km±31km*
ISC 21 03:01:02.9±0.6, 32°.90N±0°.04×47°.44E±0°.04, h15km, n63, σ1§10/58, mb4.0/10, MS3.2/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.08**	**35**	Pg	**Pb**	**03 01 22.5**	**-1.0**
ILBA	**Ilam Banvizeh**	**1.26**	**305**	Pg	**Pn**	**03 01 25.9**	**-0.2**
IBDR	**Badra**	**1.29**	**280**	*e*Pg	**Pn**	**03 01 26.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**03 01 43.0**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.42**	**346**	Pg	**Pn**	**03 01 28.9**	**+0.6**
IGHG	**Ghaleghazi**	**1.60**	**333**	Pg	**Pn**	**03 01 30.6**	**-0.4**
RAFI	**Al-Rafai**	**1.62**	**224**	*e*Pn	**Pn**	**03 01 31.0**	**+0.1**
RAFI				*e*Sn	**Sb**	**03 01 54.0**	**+1.3**
HSAM	**Samen**	**1.63**	**36**	Pg	**Pn**	**03 01 32.1**	**+0.7**
GLG1	**Gilan-e-Gharb**	**1.76**	**314**	Pg	**Pn**	**03 01 38.7**	**+0.7**
AHWZ	**Ahwaz**	**1.87**	**146**	Pn	**Pn**	**03 01 36.5**	**+2.2**
SNQR	**Sonqor, Kerman**	**1.96**	**5**	Pn	**Pn**	**03 01 37.2**	**+1.3**
IDHR	**Dehrash**	**2.00**	**334**	Pn	**Pn**	**03 01 37.1**	**+0.8**
ILIN	**Lien**	**2.06**	**349**	Pn	**Pn**	**03 01 38.0**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**2.23**	**317**	Pn	**Pn**	**03 01 40.7**	**+1.4**
HAGD	**Aghdareh**	**2.39**	**36**	Pn	**Pn**	**03 01 42.9**	**+1.3**
BHD	**Baghdad**	**2.60**	**279**	*e*Pn	**Pn**	**03 01 44.0**	**-0.3**
BHD				*e*Sn	**Sn**	**03 02 17.0**	**+1.4**
BHD				AML	AML	03 02 38.1	
	comp=E,354nm,0.4s						
HGHA	**Hamedan- Ghaye**	**2.84**	**24**	Pn	**Pn**	**03 01 49.5**	**+1.6**
IPIR	**Pirpir**	**2.92**	**93**	Pn	**Pn**	**03 01 50.7**	**+1.7**
ZNGN	**Zangian**	**2.99**	**104**	Pn	**Pn**	**03 01 51.2**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.32**	**32**	Pn	**Pn**	**03 01 56.1**	**+1.6**
IKLH	**Kolahrood**	**3.50**	**82**	Pn	**Pn**	**03 01 58.4**	**+1.4**
IKRK	**Kirkuk**	**3.58**	**315**	*e*Pn	**Pn**	**03 01 58.0**	**+0.1**
IKRK				*e*Sn	**Sn**	**03 02 41.0**	**+1.0**
IKRK				AML	AML	03 03 20.6	
	comp=E,154nm,0.5s						
IKRK				AML	AML	03 03 35.0	
	comp=N,131nm,0.5s						
IQOM	**Qom**	**3.59**	**56**	Pn	**Pn**	**03 01 59.5**	**+1.2**
SDS1	**Sardasht. Az.**	**3.62**	**334**	Pn	**Pn**	**03 01 59.9**	**+1.2**
KLNJ	**Kolanjah**	**4.00**	**117**	Pn	**Pn**	**03 02 05.6**	**+1.6**
IZEF	**Zefreh**	**4.11**	**89**	Pn	**Pn**	**03 02 06.7**	**+1.3**
MAHB	**Mahabad**	**4.12**	**340**	Pn	**Pn**	**03 02 06.5**	**+1.2**
IVRN	**Varamin**	**4.13**	**58**	Pn	**Pn**	**03 02 06.7**	**+1.2**
ISFB	**Sefidab**	**4.26**	**69**	Pn	**Pn**	**03 02 08.1**	**+0.8**
JIR1	**Jirandeh**	**4.27**	**26**	Pn	**Pn**	**03 02 08.9**	**+1.4**
IRAM	**Ramesheh**	**4.32**	**103**	Pn	**Pn**	**03 02 09.4**	**+1.1**
KLST	**Kelardasht - M**	**4.68**	**39**	Pn	**Pn**	**03 02 14.8**	**+1.5**
IPRN	**Peran**	**5.24**	**49**	Pn	**Pn**	**03 02 22.8**	**+1.9**
IMEH	**Mehriz**	**6.27**	**102**	Pn	**Pn**	**03 02 36.7**	**+1.6**
GNI	**Garni**	**7.56**	**344**	Pg	**Pb**	**03 03 14.3**	**+0.6**
	comp=N,0.3nm,0.3s,baz=77,slow=4.0,SNR=4.3						
TNSJ	**Nastanj**	**7.74**	**80**	Pn	**Pn**	**03 02 56.4**	**+1.3**
TPRV	**Parvadeh(Tabas**	**7.77**	**87**	Pn	**Pn**	**03 02 56.7**	**+1.2**
ASF	**Jabal al Asfar**	**8.93**	**268**	Pn	**Pn**	**03 03 10.7**	**-0.7**
	comp=N,0.3nm,0.3s,baz=91,slow=7.2,SNR=4.0						
ASF				Sn	**Sn**	**03 04 53.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=103,slow=17,SNR=1.0						
ASF				Lg	Lg	03 05 44.5	
	baz=142,slow=19,SNR=2.3						
ASF				LR	LR	03 07 32.2	
	comp=N,82nm,19.3s,baz=155,slow=44						
	comp=N,0.6nm,0.3s						
MMAI	**Mount Meron Ar**	**10.12**	**274**	Pn	**Pn**	**03 03 26.9**	**-0.7**
	comp=N,0.2nm,0.3s,baz=93,slow=19,SNR=1.9						
MMAI				Lg	Lg	03 06 21.5	
	comp=N,0.5nm,0.3s,baz=108,slow=32,SNR=2.4						
MMAI				LR	LR	03 08 19.4	
	comp=N,71nm,19.1s,baz=72,slow=43						
EIL	**Elat**	**11.16**	**257**	Lg	Lg	03 06 54.8	
	baz=96,slow=20						
EIL				LR	LR	03 09 02.1	
	comp=N,86nm,20.2s,baz=68,slow=43						
KBZ	**Khabaz**	**11.39**	**343**	LR	LR	03 08 43.8	
	comp=N,83nm,19.4s,baz=152,slow=41						
BRTR	**Keskin Array B**	**13.04**	**305**	Pn	**Pn**	**03 04 09.0**	**+1.3**
	baz=126,slow=17,SNR=4.0						
	comp=N,0.6nm,0.9s						
WSAR	**Wadi Sarin**	**13.78**	**131**	Pn	**Pn**	**03 04 16.4**	**-1.3**
	comp=N,0.8nm,0.3s,baz=316,slow=9.4,SNR=6.7						
WSAR				Sn	Sn	03 06 42.3	-8.3
	comp=N,0.8nm,0.3s,baz=16,slow=18,SNR=6.2						
	comp=N,4.4nm,0.8s						
IDI	**Anoyia**	**18.82**	**284**	P	**P**	**03 05 21.6**	**-0.6**
	comp=N,6.7nm,0.9s,baz=84,slow=14,SNR=3.1						
AKTO	**Aktyubinsk**	**19.19**	**21**	P	**P**	**03 05 25.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=190,slow=13,SNR=4.1						
	comp=N,0.6nm,0.5s						
BELG	**Belogornoye**	**19.49**	**0**	LR	LR	03 15 28.5	
	comp=N,77nm,20.7s,baz=63,slow=44						
MLR	**Muntele Rosu**	**20.80**	**313**	P	**P**	**03 05 44.3**	**+0.6**
	comp=N,0.9nm,0.6s,baz=198,slow=6.5,SNR=8.9						
	comp=N,0.9nm,0.6s						
AKASG	**Malin Array Be**	**22.28**	**328**	P	**P**	**03 05 58.8**	**-0.5**
	comp=N,0.1nm,0.2s,baz=140,slow=9.8,SNR=5.9						
	comp=N,0.1nm,0.2s						
AAK	**Ala-Archa**	**23.41**	**58**	LR	LR	03 16 40.1	
	comp=N,73nm,19.1s,baz=267,slow=40						
KIRV	**Kirov**	**25.73**	**2**	LR	LR	03 18 41.0	
	comp=N,73nm,19.7s,baz=158,slow=41						
BVAR	**Borovoye Array**	**26.00**	**32**	P	**P**	**03 06 34.8**	**-0.3**
	comp=N,2.4nm,0.7s,baz=232,slow=6.6,SNR=11						
BVAR				LR	LR	03 18 44.5	
	comp=N,50nm,18.7s,baz=137,slow=41						
	comp=N,2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**28.88**	**43**	P	**P**	**03 07 00.2**	**-0.7**
	comp=N,0.9nm,0.7s,baz=247,slow=9.3,SNR=7.5						
	comp=N,0.9nm,0.7s						
MKAR	**Makanchi Array**	**29.88**	**52**	P	**P**	**03 07 09.8**	**0.0**
	comp=N,0.6nm,0.7s,baz=251,slow=6.0,SNR=7.9						
MKAR				LR	LR	03 20 59.9	
	comp=N,58nm,18.6s,baz=223,slow=40						
	comp=N,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**33.78**	**40**	P	**P**	**03 07 43.8**	**-0.1**
	comp=N,1.6nm,0.6s,baz=240,slow=8.8,SNR=6.5						
ZALV				LR	LR	03 24 53.2	
	comp=N,34nm,18.8s,baz=216,slow=42						
	comp=N,1.6nm,0.6s						
HFS	**Hagfors**	**35.10**	**331**	P	**P**	**03 07 54.9**	**-0.4**
	comp=N,2.5nm,0.7s,baz=111,slow=7.9,SNR=4.3						
	comp=N,2.5nm,0.7s						
KMBO	**Kilima Mbogo**	**35.18**	**198**	LR	LR	03 21 51.5	
	comp=N,40nm,18.7s,baz=86,slow=36						
NRIK	**Noril'sk**	**42.80**	**20**	LR	LR	03 31 05.1	
	comp=N,31nm,19.9s,baz=205,slow=42						
SONM	**Songino Array**	**46.23**	**53**	P	**P**	**03 09 27.5**	**0.0**
	comp=N,0.2nm,0.4s,baz=263,slow=11,SNR=1.2						
	comp=N,0.2nm,0.4s						
SPITS	**Spitsbergen Ar**	**47.35**	**352**	P	**P**	**03 09 35.1**	**-0.6**
	comp=N,11nm,0.9s,baz=233,slow=9.3,SNR=2.2						
	comp=N,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**48.15**	**94**	P	**P**	**03 09 42.1**	**-0.5**
	comp=N,1.2nm,0.3s,baz=288,slow=7.5,SNR=4.4						
	comp=N,1.2nm,0.3s						
TIXI	**Tiksi**	**56.47**	**22**	LR	LR	03 39 43.9	
	comp=N,35nm,20.1s,baz=6.5,slow=41						
SFJD	**Kangerlussuaq**	**63.21**	**334**	LR	LR	03 38 37.2	
	comp=N,35nm,19.2s,baz=152,slow=36						
KSRS	**Korea Array**	**64.02**	**61**	P	**P**	**03 11 35.3**	**-0.6**
	comp=N,0.8nm,0.5s,baz=294,slow=6.7,SNR=2.5						
	comp=N,0.8nm,0.5s						
JCJ	**Chichijima**	**79.46**	**65**	LR	LR	03 50 19.1	
	comp=N,76nm,19.5s,baz=150,slow=37						

---

*DJA **21** 03:06:06.6±0.5, 10°.5S±4°.×113°.3E±°, h10km, M3.7/12,*
MLv3.7/12
*IDC **21** 03:06:06.3±4.7, 9°.84S×113°.22E, h0km, mb3.2/3,*
mbtmp3.2/3, Error ellipse: s-maj=282.7km s-min=29.9km
az=47.0
ISC 21 03:06:07.9±1.5, 9°.7S±0°.1×112°.87E±0°.06, h36km, n13, σ1§39/14, mb3.2/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.50**	**22**	P	**Pn**	**03 06 30.1**	**-2.1**
GMJI				S	**Sn**	**03 06 50.2**	**-0.3**
JAGI	**Jajag, Banyuwa**	**1.73**	**47**	P	**Pn**	**03 06 34.0**	**-1.5**
JAGI				S	**Sn**	**03 06 57.3**	**+0.9**
PCJI	**Pacitan**	**2.23**	**311**	P	**Pn**	**03 06 40.8**	**-1.5**
ABJI	**Asem Bagus**	**2.29**	**36**	P	**Pn**	**03 06 43.3**	**+0.1**
NGJI	**Ngawi**	**2.68**	**328**	P	**Pn**	**03 06 50.1**	**+1.6**
SRBI	**Singaraja**	**2.80**	**56**	P	**Pn**	**03 06 50.8**	**+0.7**
KMMI	**Kalianget**	**2.82**	**23**	P	**Pn**	**03 06 50.2**	**-0.2**
UGM	**Wanagama**	**2.91**	**307**	P	**Pn**	**03 06 50.7**	**-1.0**
CMJI	**Cimerak**	**4.76**	**293**	P	**Pn**	**03 07 19.2**	**+2.1**
PLAI	**Plampang**	**4.91**	**81**	P	**Pn**	**03 07 21.0**	**+1.8**
WRA	**Warramunga Arr**	**23.10**	**119**	P	**P**	**03 11 10.7**	**-0.1**
	0.6nm,0.8s,baz=288,slow=12,SNR=2.5						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**24.44**	**127**	P	**P**	**03 11 23.2**	**-0.2**
	0.5nm,0.7s,baz=309,slow=9.7,SNR=6.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**62.49**	**337**	P	P	03 16 33.4	+5.7
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.0						
	0.2nm,0.6s						

---

*NEIC **21** 03:08:37.7±1.2, 40°.47N±0°.01×111°.95W±0°.02, h13km±6km,*
Error ellipse: s-maj=2.9km s-min=1.0km az=130.0
UUSS 21 03:08:38.1±1.7, 40°.47N±0°.02×111°.94W±0°.02, h8km±5km, ML2.5/12, ML2.6/99(NEIC), Error ellipse: s-maj=2.2km s-min=2.1km az=146.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	**Western Traver**	**0.02**	**208**		Pg	03 08 39.8	+0.1
CWU	**Camp Williams**	**0.12**	**259**		Pg	03 08 41.2	+0.3
GMU	**Granite Mounta**	**0.17**	**52**		Pg	03 08 41.9	+0.2
GMU					Sg	03 08 44.4	+0.1
MHD	**Mile High Driv**	**0.22**	**29**		Pg	03 08 42.7	+0.2
NOQ	**North Oquirrh**	**0.23**	**324**		Pg	03 08 43.2	+0.5
NOQ					Sg	03 08 46.6	+0.8
AAU	**Alta**	**0.26**	**62**		Pg	03 08 43.5	+0.1
DCU	**Deer Creek Res**	**0.32**	**100**		Pg	03 08 44.7	+0.2
RBU	**Red Butte Cany**	**0.33**	**18**		Pg	03 08 44.6	0.0
RBU	**Red Butte Cany**	**0.33**	**18**		Sg	03 08 49.2	+0.2
JLU	**Jordanelle**	**0.40**	**70**		Pg	03 08 46.1	+0.1
JLU	**Jordanelle**	**0.40**	**70**	Sg	Sg	03 08 51.3	+0.1
JLU				IAML		03 08 51.8	
	comp=N,569nm,0.6s						
JLU				IAML		03 08 52.4	
	comp=E,430nm,0.3s						
WMUT	**West Mountain**	**0.40**	**168**		Pg	03 08 46.3	+0.3
LDJ	**Lady**	**0.42**	**74**		Pg	03 08 47.0	+0.6
SAIU	**Southern Antel**	**0.43**	**335**		Pg	03 08 46.6	+0.2
RCJ	**Ross Creek**	**0.43**	**64**		Pg	03 08 46.8	+0.3
HLJ	**Hailstone**	**0.44**	**71**		Pg	03 08 47.0	+0.3
KLJ	**Keetly**	**0.44**	**68**		Pg	03 08 47.0	+0.3
HEB	**Heber**	**0.47**	**86**		Pg	03 08 47.7	+0.6
MPU	**Maple Canyon**	**0.51**	**152**		Pg	03 08 48.2	+0.3
MPU	**Maple Canyon**	**0.51**	**152**	Sg	Sg	03 08 54.9	+0.2
MPU				IAML		03 08 57.6	
	comp=N,76nm,0.2s						
MPU				IAML		03 08 58.9	
	comp=E,93nm,0.3s						
DAU	**Daniels Canyon**	**0.53**	**96**		Pg	03 08 48.9	+0.6
FPU	**Francis Peak**	**0.56**	**8**		Pg	03 08 49.2	+0.1
N16A	**Rees Ranch, Co**	**0.57**	**43**		Pb	03 08 49.8	-0.6
HTU	**Hoyt Peak**	**0.59**	**69**		Pg	03 08 50.1	+0.6
NAIU	**Northern Antel**	**0.59**	**339**		Pg	03 08 49.4	0.0
SNUT	**Stansbury Nort**	**0.60**	**314**		Pg	03 08 49.9	+0.3
DUG	**Dugway, Tooele**	**0.72**	**248**		Pg	03 08 51.8	-0.1
DUG				IAML		03 09 05.2	
	comp=E,430nm,0.5s						
DUG				IAML		03 09 05.7	
	comp=E,366nm,0.2s						
TCUT	**Toone Canyon**	**0.77**	**32**		Pg	03 08 53.3	+0.5
TCUT	**Toone Canyon**	**0.77**	**32**	IAML		03 09 14.3	
	comp=E,479nm,0.4s						
LHUT	**Little Humpy P**	**0.83**	**59**		Pb	03 08 55.0	0.0
BSUT	**Blindstream Ca**	**0.90**	**85**		Pg	03 08 55.6	+0.1
BGU	**Big Grassy Mou**	**0.94**	**299**		Pg	03 08 56.2	0.0
BGU	**Big Grassy Mou**	**0.94**	**299**	IAML		03 09 10.1	
	comp=N,110nm,0.5s						
BGU				IAML		03 09 10.9	
	comp=E,221nm,0.5s						
LEVU	**Levan**	**0.97**	**174**		Pg	03 08 56.8	+0.2
EPU	**East Promontor**	**0.99**	**339**		Pg	03 08 57.0	-0.1
MCU	**Monte Cristo P**	**1.05**	**18**		Pb	03 08 58.5	-0.1
EMUT	**Emma Park**	**1.08**	**127**		Pb	03 08 59.2	-0.1
FLU	**Fool Peak**	**1.10**	**189**		Pg	03 08 59.1	-0.2
WVUT	**Wellsville**	**1.14**	**359**		Pg	03 08 59.7	-0.3
HWUT	**Hardware Ranch**	**1.17**	**14**		Pg	03 09 00.4	-0.2
HWUT				IAML		03 09 17.9	
	comp=E,165nm,0.7s						
HWUT				IAML		03 09 22.3	
	comp=E,87nm,0.6s						
SNO	**Snow College**	**1.19**	**165**		Pn	03 09 01.3	-0.1
ARGU	**Argyle Ridge**	**1.25**	**121**		Pn	03 09 02.3	+0.1
DCM	**Dugout Coal Mi**	**1.30**	**126**		Pn	03 09 02.7	-0.1
TMUT	**Trail Mountain**	**1.30**	**154**		Pn	03 09 02.4	-0.4
TMUT				IAML		03 09 22.3	
	comp=E,79nm,0.5s						
TMUT				IAML		03 09 27.6	
	comp=N,69nm,0.6s						
SGU	**Sterling**	**1.30**	**170**		Pg	03 09 04.0	+0.9
FSU	**Fish Springs**	**1.34**	**237**		Pn	03 09 03.0	-0.2
HDU	**Hyde Park**	**1.34**	**6**		Pn	03 09 03.1	-0.2
HVU	**Hansel Valley**	**1.45**	**335**		Pn	03 09 03.8	-1.1
HVU				IAML		03 09 28.7	
	comp=N,77nm,0.6s						
HVU				IAML		03 09 35.2	
	comp=E,71nm,0.5s						
ROA	**Roan Cliffs**	**1.46**	**123**		Pb	03 09 05.6	0.0
BCE	**Book Cliffs Ea**	**1.46**	**125**		Pb	03 09 05.6	0.0
P18A	**Preston Nutter**	**1.55**	**122**		Pn	03 09 06.7	+0.4
P18A				IAML		03 09 38.1	
	comp=E,49nm,0.9s						
P18A				IAML		03 09 38.9	
	comp=N,46nm,0.7s						
MLI	**Malad Range**	**1.56**	**355**		Pn	03 09 05.9	-0.5
BMUT	**Black Mountain**	**1.58**	**20**		Pb	03 09 07.8	0.0
BEI	**Bear River Ran**	**1.65**	**4**		Pn	03 09 07.8	+0.2
Q16A	**Castle Valley**	**1.66**	**159**		Pn	03 09 08.0	+0.2
SRU	**San Rafael Swe**	**1.74**	**141**		Pn	03 09 08.5	-0.3
SRU				IAML		03 09 44.5	
	comp=N,44nm,0.5s						
SRU				IAML		03 09 56.1	
	comp=E,72nm,0.7s						
RDMU	**Red Mountain**	**1.81**	**86**		Pn	03 09 10.4	+0.6
RDMU				IAML		03 09 38.6	
	comp=E,34nm,0.4s						
TCRU	**Three Creeks R**	**1.90**	**192**		Pn	03 09 10.6	-0.4
TCRU				IAML		03 09 43.9	
	comp=E,29nm,1.1s						
MSU	**Marysvale**	**1.96**	**185**		Pn	03 09 12.4	+0.5
SPR3	**Spring Creek 3**	**2.35**	**232**		Pn	03 09 18.9	+1.5
AHID	**Auburn Hatcher**	**2.38**	**15**	Pn	Pn	03 09 18.6	+0.9
MTPU	**Mount Pierson**	**2.43**	**184**	Pn	Pn	03 09 18.9	+0.4
PSUT	**Pine Spring**	**2.43**	**218**		Pn	03 09 18.7	+0.4
ELK	**Elko**	**2.52**	**277**		Pn	03 09 19.1	-0.6
O20A	**White River Ci**	**2.85**	**96**	Pn	Pn	03 09 23.6	-0.4
O20A				IAML		03 10 10.0	
	comp=N,39nm,0.3s						
PD31	**Pinedale Array**	**2.91**	**37**	Pn	Pn	03 09 24.5	-0.5
PDAR	**Pinedale Array**	**2.91**	**37**		Pn	03 09 25.4	+0.4
PV23	**Carpenter Ridg**	**3.03**	**131**		Pn	03 09 27.0	+0.3
PV10	**Paradox Valley**	**3.07**	**132**	Pn	Pn	03 09 28.2	+1.1
TPAW	**Teton Pass**	**3.11**	**13**		Pn	03 09 27.1	-0.6
TPAW				IAML		03 10 23.3	
	comp=N,11nm,0.8s						
TPAW				IAML		03 10 30.5	
	comp=N,17nm,1.8s						
SNOW	**Snow King Moun**	**3.12**	**16**	Pn	Pn	03 09 27.7	-0.2
SNOW				IAML		03 10 18.3	
	comp=N,22nm,0.6s						
SNOW				IAML		03 10 21.7	
	comp=N,32nm,0.7s						
PV11	**David Mesa, Pa**	**3.22**	**131**	Pn	Pn	03 09 29.4	+0.2
FXWY	**Fox Creek**	**3.24**	**12**		Pn	03 09 29.8	+0.3
FXWY				IAML		03 10 23.1	
	comp=N,11nm,4.8s						
FXWY				IAML		03 10 24.0	
	comp=N,8.7nm,3.3s						
PV07	**Paradox Valley**	**3.26**	**127**	Pn	Pn	03 09 30.6	+0.9
PV07				IAML		03 10 21.6	
	comp=N,30nm,0.7s						
LOHW	**Long Hollow**	**3.30**	**17**	Pn	Pn	03 09 31.8	+1.6
LOHW				IAML		03 10 23.2	
	comp=N,18nm,0.5s						
LOHW				IAML		03 10 48.8	
	comp=N,14nm,4.9s						
PV13	**Radium Mtn., P**	**3.34**	**133**		Pn	03 09 30.9	-0.1
PV13				IAML		03 10 28.0	
	comp=N,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU				eS	Sn	03 32 43.5	-0.2
MLIR3	**Monte Lirio, C**	**2.63**	**350**	eP	**Pn**	03 32 12.5	+0.5
MLIR3				eS	Sn	03 32 43.6	-0.4
CRIS3	**El Cristo, Coc**	**2.70**	**40**	eP	**Pn**	03 32 13.8	+1.1
ALCO	**Alturas Coton,**	**2.79**	**351**	eP	**Pn**	03 32 14.2	0.0
EDP2	**Potrero Grande**	**2.93**	**344**	eP	**Pn**	03 32 16.3	+0.4
DRK0	**Durika**	**3.18**	**344**	eP	**Pn**	03 32 19.8	+0.3
EDPE	**Pejibaye, P**	**3.19**	**338**	eP	**Pn**	03 32 19.7	+0.2
PISJ	**San Jernim**	**3.84**	**333**	eP	**Pn**	03 32 28.6	0.0
PICV	**PH. Pirrs**	**3.87**	**332**	iP	**Pn**	03 32 29.1	+0.1
ABE2	**San Pablo**	**3.88**	**335**	eP	**Pn**	03 32 29.5	+0.4
BCIP	**Isla Barro Col**	**3.89**	**40**	eP	**Pn**	03 32 29.2	+0.1
BCIP				eS	Sn	03 33 14.0	-0.9
LCR2	**La Lucha 2**	**3.89**	**336**	eP	**Pn**	03 32 29.6	+0.3
UPA	**Univ. de Panam**	**3.96**	**45**	eP	**Pn**	03 32 30.0	0.0
UPA				eS	Sn	03 33 16.3	-0.3
CVTQ	**Turrialba Volc**	**4.04**	**340**	eP	**Pn**	03 32 31.9	+0.3
VICA	**Volcano Irazu**	**4.05**	**339**	eP	**Pn**	03 32 32.8	+1.1
VBV1	**V. Barva**	**4.26**	**336**	eP	**Pn**	03 32 35.3	+0.8
ARE1	**Arenal 1**	**4.84**	**332**	eP	**Pn**	03 32 43.5	+1.2

IDC 21 03:33:50.0±2.3, 8°.34S×129°.55E, h0km, mb3.1/1, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=154.8km s-min=29.4km az=67.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrarmunga Arr**	**12.43**	**159**	Pn	Pn	03 36 48.3	0.0
	0.3nm,0.3s,baz=337,slow=14,SNR=7.0						
WRA				Sn	Sn	03 39 08.9	+1.2
	0.3nm,0.3s,baz=338,slow=22,SNR=5.6 0.3nm,0.4s						
ASAR	**Alice Springs**	**15.80**	**165**	Pn	Pn	03 37 34.1	+0.1
	0.2nm,0.3s,baz=339,slow=9.9,SNR=7.6 0.5nm,0.6s						
MKAR	**Makanchi Array**	**69.10**	**327**	P	P	03 44 58.0	0.0
	0.1nm,0.3s,baz=122,slow=5.2,SNR=1.7 0.1nm,0.3s						

*IDC **21** 03:47:11.7±1.0, 32°.16N×141°.81E, h0km, mb3.7/8, mbtmp3.7/11, ML3.8/2, MS2.9/3, Error ellipse: s-maj=28.4km s-min=17.1km az=69.0*
*JMA **21** 03:47:12.7±0.7, 32°N±2°×14°2E±°, h0km, MV3.7/16, E OFF HACHIJOJIMA ISLAND*
*NIED **21** 03:47:12.7, 32°.43N×141°.83E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}5.09; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-5.18; $M_{r\theta}$0.81; $M_{r\phi}$0.25; $M_{\theta\phi}$3.03; Fault plane solution: $M_0$6.03000×10^14 NP1: ϕ_s168.00000°, δ31.00000°, λ74.00000°. NP2: ϕ_s6.00000°, δ61.00000°, λ99.00000°.*
*NEIC **21** 03:47:13.7±1.6, 32°.25N±0°.07×141°.83E±0°.09, h10km±1km, mb4.3/14 Error ellipse: s-maj=15.6km s-min=9.7km az=48.0*

ISC 21 03:47:17.0±0.7, 32°.26N±0°.06×141°.89E±0°.09, h39km, n44, σ1§45/45, mb4.1/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.94**	**295**	eP	**Pn**	03 47 45.7	-1.7
JHJ2	**Mitsune**	**1.94**	**297**	Pn	**Pn**	03 47 45.8	-1.6
JHJ2	**Mitsune**	**1.94**	**297**	eP	**Pn**	03 47 45.9	-1.6
JHJ	**Hachijo jima 2**	**1.97**	**296**	Pn	**Pn**	03 47 45.5	-2.3
	42nm,0.3s,baz=87,slow=23,SNR=14						
JHJ				Sn	**Sn**	03 48 09.9	-1.4
	38nm,0.3s,baz=75,slow=22,SNR=2.3						
BSO1	**Boso 1**	**2.51**	**343**	eP	**Pn**	03 47 53.2	-1.6
BSO1				eS	**Sn**	03 48 24.9	+1.1
JMYK	**Miyake Tsubota**	**2.66**	**313**	eP	**Pn**	03 47 56.5	-0.8
BSO3	**Boso 3**	**2.79**	**336**	eP	**Pn**	03 47 57.6	-1.2
JHO	**Hitachi**	**4.48**	**346**	eP	**Pn**	03 48 20.2	-2.1
JHO				eS	**Sn**	03 49 08.8	-4.3
JAG	**Ashikaga**	**4.62**	**335**	eP	**Pn**	03 48 23.6	-0.7
JAG				eS	**Sn**	03 49 14.2	-2.4
JGF	**Kuroka**	**5.03**	**313**	Pn	**Pn**	03 48 29.8	-0.1
CBIJ	**Chichi jima**	**5.15**	**177**	eS	**Sn**	03 49 28.8	-1.0
JCJ	**Chichijima**	**5.15**	**177**	Pn	**Pn**	03 48 29.9	-1.6
JCJ	**Chichijima**	**5.15**	**177**	Pn	Pn	03 48 27.0	-4.6
	6.7nm,0.3s,baz=300,slow=20,SNR=1.2						
JCJ				Sn	Sn	03 49 20.8	-9.0
	14nm,0.3s,baz=312,slow=21,SNR=4.2 25nm,0.4s						
MJAR	**Matsushiro Arr**	**5.25**	**326**	Pn	**Pn**	03 48 32.5	-0.3
	2.6nm,0.6s,baz=152,slow=11,SNR=6.9						
MJAR				LR	LR	03 50 58.5	
	comp=Z,80nm,18.1s,baz=151,slow=43						
JMM	**Marumori**	**5.67**	**351**		**Pn**	03 48 37.2	-1.4
JNU	**Nakatsue**	**9.32**	**278**	LR	LR	03 53 23.3	
	comp=Z,79nm,18.1s,baz=174,slow=40						
ERM	**Erimo**	**9.79**	**6**	Pn	**Pn**	03 49 33.8	-1.4
ASAJ	**Asahikawa**	**11.85**	**2**	Pn	**Pn**	03 50 01.9	-1.5
	0.6nm,0.3s,baz=180,slow=20,SNR=2.0 1.4nm,0.3s						
KSRS	**Korea Array**	**12.58**	**298**	LR	LR	03 55 09.6	
	comp=Z,50nm,19.2s,baz=105,slow=38						
SONM	**Songino Array**	**30.99**	**311**	P	**P**	**03 53 32.4**	**+1.8**
	0.9nm,0.6s,baz=113,slow=9.7,SNR=5.5 0.9nm,0.6s						
ANM	**Nome**	**45.53**	**29**	P	**P**	**03 55 33.0**	**+0.6**
F15K	**North Star Dit**	**46.19**	**27**	P	**P**	**03 55 39.0**	**+1.4**
F15K				IAmb	IAmb	03 55 47.9	
	comp=Z,8.4nm,1.3s						
MK31	**Makanchi Array**	**47.11**	**306**	P	**P**	**03 55 45.1**	**-0.1**
MKAR	**Makanchi Array**	**47.11**	**306**	P	**P**	**03 55 45.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=90,slow=9.5,SNR=8.5 comp=Z,1.0nm,0.8s						
I17K	**Unalakleet**	**47.30**	**30**	P	**P**	**03 55 48.8**	**+2.5**
KURK	**Kurchatov**	**49.28**	**311**	P	**P**	**03 56 03.8**	**+2.0**
KURK				IAmb	IAmb	03 56 27.2	
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**49.35**	**311**	P	**P**	**03 56 01.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=90,slow=7.6,SNR=12 comp=Z,1.0nm,0.6s						
F20K	**Avaraart Lake**	**50.01**	**27**	P	**P**	**03 56 06.8**	**-0.2**
F20K				IAmb	IAmb	03 56 18.3	
	comp=Z,4.8nm,1.5s						
B20K	**Meade River**	**50.19**	**23**	P	**P**	**03 56 10.1**	**+1.7**
H21K	**Melozitna Rive**	**50.95**	**29**	P	**P**	**03 56 15.7**	**+1.5**
H21K				IAmb	IAmb	03 56 41.1	
	comp=Z,3.9nm,1.4s						
STLK	**Strandline Lak**	**50.98**	**34**	P	**P**	**03 56 14.7**	**0.0**
STLK				IAmb	IAmb	03 56 43.0	
	comp=Z,2.9nm,1.2s						
WB0	**Warramunga Arr**	**52.22**	**189**	P	**P**	**03 56 24.1**	**0.0**
WB0				IAmb	IAmb	03 56 45.0	
	comp=Z,8.1nm,1.4s						
WB2	**Warramunga Arr**	**52.40**	**189**	P	**P**	**03 56 26.0**	**+0.5**
WB2				IAmb	IAmb	03 56 26.6	
	comp=Z,9.7nm,1.3s						
WRA	**Warramunga Arr**	**52.40**	**189**	P	**P**	**03 56 25.7**	**+0.2**
WRA	**Warramunga Arr**	**52.40**	**189**	P	**P**	**03 56 25.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=5.1,slow=7.6,SNR=11 comp=Z,1.3nm,0.6s						
ILAR	**Eielson Array**	**53.36**	**30**	P	**P**	**03 56 32.3**	**+0.2**
ILAR	**Eielson Array**	**53.36**	**30**	P	**P**	**03 56 33.5**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=274,slow=5.6,SNR=2.3 comp=Z,0.2nm,0.8s						
KKAR	**Karatay Array**	**55.96**	**303**	P	**P**	**03 56 51.6**	**+0.3**
ASAR	**Alice Springs**	**56.13**	**189**	P	**P**	**03 56 51.8**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=4.9,slow=6.8,SNR=1.6 comp=Z,0.2nm,0.5s						
CHGR	**Chuyangaron**	**58.17**	**298**	P	**P**	**03 57 06.9**	**-0.2**
ABKAR	**Akbulak array**	**61.38**	**312**	P	**P**	**03 57 28.6**	**-0.3**
RES	**Resolute Bay**	**67.13**	**14**	P	**P**	**03 58 07.3**	**+1.2**
RES				IAmb	IAmb	03 58 22.0	
	comp=Z,2.0nm,1.0s						
RES	**Resolute Bay**	**67.13**	**14**	P	**P**	**03 58 07.2**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=331,slow=3.6,SNR=2.5 comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**82.33**	**312**	P	**P**	**03 59 35.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=62,slow=2.9,SNR=3.7 comp=Z,0.4nm,0.7s						

*DJA **21** 04:12:36.5±2.2, 11°S±15°×12°4E±1°0, h15km±23km, M3.0/5, MLv3.0/5*
*IDC **21** 04:12:39.0±2.8, 11°.46S×123°.31E, h0km, mb3.2/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=234.7km s-min=34.7km az=50.0*

ISC 21 04:12:42.0±1.2, 11°.19S±0°.08×123°.8E±0°.1, h35km, n6, σ2§58/10, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.99**	**351**	P	**Pn**	**04 12 58.1**	**-1.4**
BATI				S	**Sn**	**04 13 10.1**	**-2.2**
SOEI	**Soe**	**1.49**	**17**	P	**Pn**	**04 13 04.8**	**-1.6**
SOEI				S	**Sn**	**04 13 26.7**	**+1.9**
MMRI	**Maumere**	**2.98**	**328**	P	**Pn**	**04 13 25.3**	**-1.6**
WRA	**Warramunga Arr**	**13.35**	**132**	Pn	**Pn**	**04 15 51.8**	**+2.7**
	0.2nm,0.3s,baz=303,slow=13,SNR=10.0						
WRA				Sn	**Sn**	**04 18 13.2**	**-3.1**
	0.3nm,0.3s,baz=7.3,slow=19,SNR=7.4 0.3nm,0.3s						
ASAR	**Alice Springs**	**15.69**	**144**	Pn	**P**	**04 16 23.6**	**-0.6**
	0.1nm,0.3s,baz=323,slow=13,SNR=8.9						
ASAR				Sn	**Sn**	**04 19 10.4**	**-2.9**
	0.1nm,0.3s,baz=313,slow=22,SNR=2.0 0.9nm,0.6s						
MKAR	**Makanchi Array**	**68.62**	**331**	P	**P**	**04 23 43.9**	**+2.3**
	0.2nm,0.6s,baz=145,slow=5.3,SNR=1.8 0.2nm,0.6s						

UCR 21 04:26:32.6±1.2, 12°.40N×86°.88W, h121km±8km, MW3.5, 1C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.34**	**331**	iP	Pn	04 26 50.2	+0.3
CRIN				eS	Sn	04 27 04.1	+1.1
MGAN	**Managua**	**0.67**	**112**	eP	Pn	04 26 52.1	+0.4
MGAN				eS	Sn	04 27 06.2	0.0
CSGN	**Cosiguina Volc**	**0.88**	**311**	eP	Pn	04 26 53.1	-0.5
ACON	**Acoyapa**	**1.72**	**104**	eP	Pn	04 27 03.6	+0.9
LCRUZ	**La Cruz**	**1.79**	**137**	iP	Pn	04 27 04.9	+1.3
LCRUZ				eS	Sn	04 27 27.9	+0.6
ELI1	**Hacienda Flor**	**2.17**	**143**	eP	Pn	04 27 08.8	+0.5
ALIBA	**Liberia Airpor**	**2.22**	**144**	eP	Pn	04 27 09.6	+0.8
CMARA	**Lajas Hojancha**	**2.76**	**149**	iP	Pn	04 27 16.1	+0.2
JTS	**Las Juntas de**	**2.82**	**138**	eP	Pn	04 27 16.8	+0.2
JUNT	**Juntas**	**2.82**	**138**	eP	Pn	04 27 16.9	+0.2
CEDE	**Laguna Cedeo**	**2.86**	**131**	eP	Pn	04 27 18.4	+1.2
CBL1	**Cabuya**	**3.30**	**148**	eP	Pn	04 27 23.0	+0.2
PICV	**PH. Pirrs**	**3.81**	**136**	eP	Pn	04 27 30.8	+1.1
ABE2	**San Pablo**	**3.85**	**134**	eP	Pn	04 27 31.4	+0.9
LCR2	**La Lucha 2**	**3.86**	**133**	eP	Pn	04 27 31.1	+0.5

IDC 21 04:52:56.0±5.1, 41°.66N×127°.09E, h0km, mbtmp2.5/1, ML2.2/1, Error ellipse: s-maj=59.0km s-min=18.4km az=115.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.25**	**171**	Pn	Pn	04 54 01.9	-0.1
	0.1nm,0.3s,baz=17,slow=13,SNR=1.4						
KSRS				Pg	Pb	04 54 13.9	+2.3
	0.6nm,0.3s,baz=355,slow=18,SNR=4.2						
KSRS				Lg	Lg	04 55 11.7	
	1.4nm,0.3s,baz=351,slow=30,SNR=7.5 0.3nm,0.2s						
I45RU	**USSURIYSK INFR**	**4.39**	**53**	I	I	05 24 10.0	
	0.1nm,1.1s,baz=234,slow=286,SNR=0.9						
USRK	**Ussuriysk Ar.**	**4.40**	**53**	Pg	Pb	04 54 15.9	+1.7
	0.3nm,0.3s,baz=236,slow=12,SNR=1.1						
USRK				Lg	Lg	04 55 15.8	
	0.5nm,0.3s,baz=249,slow=26,SNR=4.4						

TRN 21 04:58:31.6, 10°.66N×62°.42W, h68km, MD3.5, Paria peninsula., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.87**	**89**	eP	Pn	04 58 49.3	+0.8
PSMG				eS	Sn	04 59 00.8	-0.1
PSMG	**Mucurapo Girls**	**0.87**	**89**	eP	Pn	04 58 49.3	+0.8
PSMG				eS	Sn	04 59 00.8	-0.1
PSGH	**Port of Spain**	**0.90**	**90**	eP	Pn	04 58 49.5	+0.7
PSGH				eS	Sn	04 59 01.6	+0.2
PSGH	**Port of Spain**	**0.90**	**90**	eP	Pn	04 58 49.5	+0.7
PSGH				eS	Sn	04 59 01.6	+0.2
TRN	**Trinidad (W)**	**1.00**	**91**	eP	Pn	04 58 50.6	+0.5
TRN				eS	Sn	04 59 03.3	-0.4
TRN	**Trinidad (W)**	**1.00**	**91**	eP	Pn	04 58 50.6	+0.5
TRN				eS	Sn	04 59 03.3	-0.4
TBH	**Brigand Hill**	**1.34**	**97**	eP	Pn	04 58 55.1	+0.6
TBH				eS	Sn	04 59 10.9	-0.8
TBH	**Brigand Hill**	**1.34**	**97**	eP	Pn	04 58 55.1	+0.6
TBH				eS	Sn	04 59 10.9	-0.8
GRFF	**Grenada Fort F**	**1.53**	**26**	eP	Pn	04 58 57.6	+0.6
GRFF				eS	Sn	04 59 16.1	-0.1
GRFF	**Grenada Fort F**	**1.53**	**26**	eP	Pn	04 58 57.6	+0.6
GRFF				eS	Sn	04 59 16.1	-0.1
GRGR	**Grenville**	**1.64**	**27**	eP	Pn	04 58 58.6	+0.1
GRGR				eS	Sn	04 59 19.0	+0.2
GRGR	**Grenville**	**1.64**	**27**	eP	Pn	04 58 58.6	+0.1
GRGR				eS	Sn	04 59 19.0	+0.2
GRHS	**Sauteurs**	**1.73**	**26**	eP	Pn	04 58 59.5	-0.2
GRHS				eS	Sn	04 59 20.6	-0.3
GRHS	**Sauteurs**	**1.73**	**26**	eP	Pn	04 58 59.5	-0.2
GRHS				eS	Sn	04 59 20.6	-0.3
TOSP	**Speyside**	**1.96**	**71**	eP	Pn	04 59 03.8	+1.1
TOSP				eS	Sn	04 59 25.4	-0.9
TOSP	**Speyside**	**1.96**	**71**	eP	Pn	04 59 03.8	+1.1
TOSP				eS	Sn	04 59 25.4	-0.9
GCMP	**Grenada, Carri**	**2.06**	**28**	eP	Pn	04 59 04.4	+0.3
GCMP				eS	Sn	04 59 27.8	-1.0
GCMP	**Grenada, Carri**	**2.06**	**28**	eP	Pn	04 59 04.4	+0.3
GCMP				eS	Sn	04 59 27.8	-1.0
PCRV	**Puerto La Cruz**	**2.23**	**258**	eP	Pn	04 59 06.7	+0.3
PCRV				eS	Sn	04 59 32.3	-0.8
PCRV	**Puerto La Cruz**	**2.23**	**258**	eP	Pn	04 59 06.7	+0.3
PCRV				eS	Sn	04 59 32.3	-0.8
SVB	**Belmont**	**2.83**	**24**	eP	Pn	04 59 15.7	+1.1
SVB				eS	Sn	04 59 46.2	-1.4
SVB	**Belmont**	**2.83**	**24**	eP	Pn	04 59 15.7	+1.1
SVB				eS	Sn	04 59 46.2	-1.4
BAUV	**El Baul**	**5.80**	**253**	eP	Pn	04 59 55.0	-0.2
BAUV				eS	Sn	05 00 57.4	-2.9
BAUV	**El Baul**	**5.80**	**253**	eP	Pn	04 59 55.0	-0.2

RSNC 21 05:05:39.0±0.0, 7°N±1°×7°3W±°, h148km±1km, M2.7, mb3.2, mB4.6, ML2.5, Mw(mB)3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**183**	P	Pn	05 05 58.8	-0.7
BARC				S	Sn	05 06 13.8	-1.2
BRJC	**Barrancabermej**	**0.59**	**284**	P	Pn	05 06 00.3	-0.3
BRJC				S	Sn	05 06 17.2	+0.2
PAMC	**Pamplona, Colo**	**0.69**	**43**	P	Pn	05 06 01.5	-0.3
PAMC				S	Sn	05 06 18.6	-0.5
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	05 06 02.8	-0.8
RUSC				S	Sn	05 06 21.8	-0.6
PTBC	**PUERTO BERRIO,**	**1.31**	**257**	P	Pn	05 06 05.2	-1.3
PTBC				S	Sn	05 06 26.5	-1.0
OCAC	**Ocana**	**1.41**	**354**	P	Pn	05 06 07.2	-0.4
OCAC				S	Sn	05 06 28.6	-1.0
TAMC	**Tame, Arauca**	**1.43**	**106**	P	Pn	05 06 07.1	-0.6
TAMC				S	Sn	05 06 29.0	-0.6
ZARC	**Zaragoza, Cauc**	**1.80**	**292**	P	Pn	05 06 11.2	-0.5
ZARC				S	Sn	05 06 36.6	-0.2
NORC	**Norcasia**	**2.11**	**233**	P	Pn	05 06 14.9	-0.4
NORC				S	Sn	05 06 43.3	+0.1
CHIC	**Chingaza**	**2.26**	**194**	P	Pn	05 06 16.7	-0.8
CHIC				S	Sn	05 06 46.3	-0.8
ROSC	**El Rosal**	**2.28**	**210**	P	Pn	05 06 18.6	+0.8
ROSC				S	Sn	05 06 50.1	+2.5
UREC	**San Jos de Ur**	**2.52**	**291**	P	Pn	05 06 19.2	-1.1
UREC				S	Sn	05 06 49.9	-2.1
GUY2C	**Guyana, Caldas**	**2.70**	**234**	P	Pn	05 06 24.2	+1.2
GUY2C				S	Sn	05 06 59.7	+2.8
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	05 06 22.5	-0.8
VILC				S	Sn	05 06 56.9	-0.6
NIZA	**Niza - Manizal**	**2.89**	**233**	P	Pn	05 06 24.7	-0.5
NIZA				S	Sn	05 07 05.2	+4.4
CBOC	**Ciudad Bolivar**	**2.98**	**251**	P	Pn	05 06 26.8	+0.5
CBOC				S	Sn	05 07 02.6	-0.1
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	05 06 26.1	-0.6
DBBC				S	Sn	05 07 01.8	-1.7
ARGC	**Ariguani, Magd**	**3.19**	**341**	P	Pn	05 06 29.5	+0.7
ARGC				S	Sn	05 07 08.3	+1.0
SDV	**Santo Domingo**	**3.24**	**51**	P	Pn	05 06 28.3	-1.2
SDV				S	Sn	05 07 05.8	-2.8
PRAC	**Prado**	**3.54**	**209**	P	Pn	05 06 32.6	-0.7
PRAC				S	Sn	05 07 15.9	+0.6
APAC	**Apartado, Choc**	**3.54**	**288**	P	Pn	05 06 32.6	-0.7
APAC				S	Sn	05 07 16.1	+0.7
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	05 06 33.1	-0.5
ORTC				S	Sn	05 07 16.8	+0.9
SJCC	**San Jacinto, C**	**3.64**	**327**	P	Pn	05 06 32.8	-1.8
SJCC				S	Sn	05 07 13.6	-4.1
PLMC	**San Jos del P**	**3.64**	**238**	P	Pn	05 06 33.3	-1.3
PLMC				S	Sn	05 07 17.0	-0.7
LCBC	**Los crdobas,**	**3.75**	**303**	P	Pn	05 06 36.7	+0.7
LCBC				S	Sn	05 07 21.2	+0.9
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	05 06 35.7	-0.5
URMC				S	Sn	05 07 20.2	-0.3
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	05 06 39.6	-2.0
CRJC				S	Sn	05 07 27.1	-3.2
YOTC	**Yotoco, Valle**	**4.24**	**228**	P	Pn	05 06 41.8	-0.7
YOTC				S	Sn	05 07 32.3	+0.4
GUVC	**San Jose del G**	**4.29**	**173**	P	Pn	05 06 41.5	-1.6
GUVC				S	Sn	05 07 30.8	-2.2
SMRC	**Santa Marta, M**	**4.43**	**346**	P	Pn	05 06 44.3	-0.6
SMRC				S	Sn	05 07 32.0	-4.2
MACC	**Macarena, Meta**	**4.70**	**188**	P	Pn	05 06 46.0	-2.5
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	05 06 48.9	-3.2
URIC				S	Sn	05 07 46.2	-3.0
GARC	**Garzon, Huila**	**5.16**	**207**	P	Pn	05 06 52.9	-1.9
GARC				S	Sn	05 07 49.9	-4.0
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	05 06 59.1	-0.3
POPC				S	Sn	05 08 00.7	-1.5
FLOC	**Florencia**	**5.77**	**206**	P	Pn	05 07 01.9	-0.8
FLOC				S	Sn	05 08 06.7	-1.4

*NEIC **21** 05:05:49.9±1.9, 6°.7S±0°.1×149°.27E±0°.04, h10km±2km, mb4.0/11, Error ellipse: s-maj=18.3km s-min=6.8km az=349.0*
*IDC **21** 05:05:55.9±2.0, 6°.31S×148°.82E, h82km±16km, mb3.5/6, mbtmp3.9/8, MS3.2/5, Error ellipse: s-maj=40.1km s-min=11.3km az=122.0*

ISC 21 05:05:52.6±0.7, 6°.4S±0°.1×149°.0E±0°.1, h53km, n28, σ1§40/27, mb3.8/8, MS3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**211**	P	**Pn**	**05 06 47.3**	**+2.3**
	88nm,0.3s,baz=40,slow=6.0,SNR=24						
PMG				S	**Sn**	**05 07 28.6**	**+3.1**
	318nm,0.5s,baz=18,slow=20,SNR=12						
RABL	**Rabaul**	**3.81**	**55**		**Pn**	**05 06 48.5**	**-0.4**
MANU	**Manus Island**	**4.61**	**339**	Pn	Pn	05 07 04.7	+5.0
COEN	**Coen**	**9.48**	**217**	Pn	**Pn**	**05 08 04.9**	**-1.7**
MTN	**Manton Dam**	**18.76**	**249**	P	**Pn**	**05 10 08.3**	**-0.1**
MTN				IAmb	IAmb	05 10 36.1	
	comp=Z,18nm,1.1s						
EIDS	**Eidsvold**	**18.99**	**174**	P	**P**	**05 10 06.8**	**-3.2**
EIDS				IAmb	IAmb	05 10 32.1	
	comp=Z,14nm,1.1s						
WB0	**Warramunga Arr**	**19.47**	**226**	P	**Pn**	**05 10 16.5**	**-0.4**
WB0				IAmb	IAmb	05 10 17.7	
	comp=Z,5.2nm,0.7s						
WR0	**Warramunga Arr**	**19.50**	**225**	P	**Pn**	**05 10 17.0**	**-0.2**
WB2	**Warramunga Arr**	**19.62**	**225**	P	**Pn**	**05 10 18.1**	**-0.5**
WB2				IAmb	IAmb	05 10 19.2	
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**19.63**	**225**	P	**P**	**05 10 17.7**	**+0.7**
WRA	**Warramunga Arr**	**19.63**	**225**	P	**Pn**	**05 10 18.3**	**-0.4**
	comp=Z,4.6nm,0.6s,baz=51,slow=11,SNR=35						
WRA				S	**S**	**05 13 52.8**	**-2.9**
	comp=Z,0.8nm,0.9s,baz=49,slow=18,SNR=3.6						
WRA				LR	LR	05 18 33.8	
	comp=Z,60nm,19.6s,baz=187,slow=39						
KNRA	**Kununurra**	**21.90**	**243**	P	**P**	**05 10 41.3**	**-0.3**
AS31	**Alice Springs**	**22.51**	**219**	P	**P**	**05 10 47.8**	**-0.3**
AS31				IAmb	IAmb	05 11 18.1	
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**22.51**	**219**	P	**P**	**05 10 48.2**	**+0.1**
ASAR	**Alice Springs**	**22.51**	**219**	P	**P**	**05 10 49.1**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=55,slow=10.0,SNR=11						
ASAR				PcP	**PcP**	**05 14 41.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=62,slow=3.1,SNR=2.5						
ASAR				S	**S**	**05 14 50.5**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=36,slow=22,SNR=10 comp=Z,1.5nm,0.8s						
DZM	**Mont Dzumac**	**22.95**	**135**	LR	LR	05 19 07.3	
	comp=Z,87nm,18.2s,baz=254,slow=34						
FITZ	**Fitzroy Crossi**	**25.61**	**241**	P	**P**	**05 11 18.3**	**+1.1**
FITZ				IAmb	IAmb	05 11 36.2	
	comp=Z,1.7nm,0.7s						
STKA	**Stephens Creek**	**26.30**	**194**	P	**P**	**05 11 23.9**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=17,slow=11,SNR=1.9 comp=Z,0.7nm,

MDOK Medeo 0.78 286 *eP* **Pb 05 39 56.9 -0.8**
0.8nm,0.1s
MDOK *eS* **Sb 05 40 07.9 -0.6**
4.1nm,0.1s
TNSS Tian-Shan 0.83 276 P **Pb 05 39 57.5 -1.2**
1.2nm,0.1s
TNSS S **Sb 05 40 09.1 -1.1**
4.7nm,0.2s
TNSS Tian-Shan 0.83 276 *eP* **Pb 05 39 57.5 -1.2**
1.2nm,0.1s
TNSS *eS* **Sb 05 40 09.0 -1.2**
4.4nm,0.1s
KNDC Almaty 0.85 288 ⇑P **Pb 05 39 58.2 -0.7**
12nm,0.4s
KNDC ⇑S **Sb 05 40 10.0 -0.5**
6.1nm,0.5s
SHLS Shalkode 1.04 78 P **Pg 05 40 06.5 +4.6**
1.7nm,0.1s
SHLS S **Sn 05 40 24.5 +6.6**
7.4nm,0.3s
SHLS Shalkode 1.04 78 *eP* **Pg 05 40 06.5 +4.6**
2.0nm,0.1s
SHLS *eS* **Sn 05 40 24.4 +6.6**
5.9nm,0.1s
KDJ Kajisay 1.05 219 ⇑*iP* **Pb 05 40 01.7 -0.8**
KDJ ⇑*iS* **Sb 05 40 15.6 -0.9**
PDGK Podgornoye 1.11 70 ⇓P **Pb 05 40 01.8 -1.6**
3.3nm,0.8s
PDGK ⇓S **Sb 05 40 15.5 -2.6**
3.0nm,0.3s
BLB Baldybastay 1.18 15 P **Pn 05 40 03.3 -1.6**
9.2nm,0.2s
BLB S **Sb 05 40 18.9 -1.3**
15nm,0.2s
MTBS Maitube 1.21 279 P **Pn 05 40 04.8 -0.5**
1.1nm,0.1s
MTBS S **Sn 05 40 21.5 -0.5**
5.5nm,0.3s
MTBS Maitube 1.21 279 *eP* **Pn 05 40 04.8 -0.5**
1.0nm,0.1s
MTBS *eS* **Sn 05 40 21.5 -0.5**
5.5nm,0.1s
TARG Taragay, Kyrgy 1.24 189 ⇓*iP* **Pn 05 40 05.0 -0.9**
TARG ⇓*iS* **Sn 05 40 21.1 -2.0**
KTBS Karatobe 1.26 307 P **Pn 05 40 05.5 -0.4**
6.2nm,0.2s
KTBS S **Sn 05 40 22.5 -0.7**
5.6nm,0.3s
ARXS Arharly 1.27 352 P **Pn 05 40 05.3 -0.7**
1.0nm,0.1s
ARXS S **Sn 05 40 22.0 -1.5**
14nm,0.2s
ULHL Ulahol 1.52 243 ⇑*eP* **Pb 05 40 10.2 -0.3**
ULHL ⇑*iS* **Sg 05 40 30.4 -0.4**
KST Kastek 1.55 274 P **Pb 05 40 11.2 +0.3**
0.7nm,0.2s
KST S **Sg 05 40 32.3 +0.8**
3.2nm,0.4s
BOOM Boomskoye usch 1.63 254 ⇓*eP* **Pb 05 40 12.2 -0.2**
BOOM ⇓*iS* **Sg 05 40 34.2 -0.1**
DGS Degeres 1.71 280 P **Pb 05 40 14.0 +0.5**
1.0nm,0.2s
DGS S **Sg 05 40 37.2 +0.6**
4.8nm,0.3s
TKM2 Tokmak 2 1.81 270 ⇑*iP* **Pb 05 40 15.5 0.0**
TKM2 ⇑*iS* **Sg 05 40 40.0 -0.1**
DJR Jarkent 1.86 42 P **Pn 05 40 15.2 +1.0**
2.1nm,0.1s
DJR S **Sb 05 40 39.2 -0.5**
3.4nm,0.4s
DJR Jarkent 1.86 42 *eP* **Pb 05 40 15.5 -0.7**
1.9nm,0.1s
DJR *eS* **Sb 05 40 39.4 -0.3**
5.8nm,0.1s
KRBS Karabastau 1.90 294 P **Pb 05 40 16.8 0.0**
3.1nm,0.3s
KRBS S **Sb 05 40 41.9 +1.2**
11nm,0.3s

*KRSC **21** 05:41:56.3±2.1, 52°.04N×160°.88E, h60km, 22km, Ml4.3*
*IDC **21** 05:41:56.4±0.7, 52°.29N×160°.52E, h0km, mb4.0/25, mbtmp4.1/30, ML3.7/4, MS3.4/11, Error ellipse: s-maj=17.4km s-min=11.8km az=166.0*
*NEIC **21** 05:41:58.4±1.6, 52°.26N±0°.03×160°.5E±0°.1, h10km±1km, mb4.4/45, Error ellipse: s-maj=11.0km s-min=3.7km az=106.0*
*MOS **21** 05:42:00.5±0.9, 52°.17N×160°.57E, h51km, mb4.7/21, MS3.4/4, Error ellipse: s-maj=7.8km s-min=4.3km az=103.2*
ISC 21 05:41:57.8±0.5, 52°.19N±0°.04×160°.59E±0°.04, h10km, n208, σ1°33/218, mb4.4/67, MS3.6/14, 9C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**340**	PN		**Pn**	**05 42 17.4**	**-0.1**
SPN				S		**Sn**	**05 42 32.1**	**+0.7**
SPN	**Mys Shipunski**	**0.98**	**340**	*eP*		**Pn**	**05 42 17.4**	**-0.1**
SPN				*eS*		**Sn**	**05 42 32.1**	**+0.7**
NLC	**Nalytchevo**	**1.24**	**323**	PN		**Pn**	**05 42 22.0**	**+0.9**
NLC				S		**Sn**	**05 42 40.6**	**+2.7**
NLC	**Nalytchevo**	**1.24**	**323**	*eP*		**Pn**	**05 42 22.1**	**+0.9**
NLC				*eS*		**Sn**	**05 42 40.6**	**+2.7**
RUS	**Russkaya**	**1.30**	**282**	PN		**Pg**	**05 42 22.5**	**-0.1**
RUS	**Russkaya**	**1.30**	**282**	*eP*		**Pg**	**05 42 22.6**	**-0.1**
DALK	**Dalny**	**1.40**	**308**	PN		**Pg**	**05 42 24.6**	**0.0**
DALK	**Dalny**	**1.40**	**308**	*eP*		**Pg**	**05 42 24.6**	**0.0**
PET	**Petropavlovsk**	**1.45**	**306**			**Pg**	**05 42 24.7**	**-0.9**
PET	**Petropavlovsk**	**1.45**	**306**	*e*PN		**Pg**	**05 42 25.4**	**-0.1**
PET				pmax		pmax		
	comp=Z,403nm,0.8s							
PET	**Petropavlovsk**	**1.45**	**306**	P		**Pg**	**05 42 25.5**	**-0.1**
PET	**Petropavlovsk**	**1.45**	**306**	*eP*		**Pg**	**05 42 25.5**	**0.0**
UGLR	**Uglovaya**	**1.48**	**314**	PN		**Pg**	**05 42 26.4**	**+0.2**
UGLR	**Uglovaya**	**1.48**	**314**	*eP*		**Pg**	**05 42 26.4**	**+0.2**
INSR	**Institute**	**1.50**	**307**	PN		**Pg**	**05 42 26.1**	**-0.3**
INSR	**Institute**	**1.50**	**307**	*eP*		**Pg**	**05 42 26.2**	**-0.3**
AVH	**Avacha**	**1.56**	**315**	PN		**Pg**	**05 42 27.5**	**-0.1**
AVH	**Avacha**	**1.56**	**315**	*eP*		**Pg**	**05 42 27.6**	**-0.1**
GRL	**Gorelyy**	**1.59**	**284**	PN		**Pg**	**05 42 27.9**	**-0.2**
GRL	**Gorelyy**	**1.59**	**284**	*eP*		**Pg**	**05 42 28.0**	**-0.2**
KOK	**Koryaka**	**1.62**	**314**	PN		**Pg**	**05 42 28.4**	**-0.5**
KOK	**Koryaka**	**1.62**	**314**	*eP*		**Pg**	**05 42 28.5**	**-0.5**
KRMR	**Karymshinskiy**	**1.64**	**294**	PN		**Pg**	**05 42 28.0**	**-1.1**
KRMR	**Karymshinskiy**	**1.64**	**294**	*eP*		**Pg**	**05 42 28.1**	**-1.1**
KRX	**Arik**	**1.66**	**316**	PN		**Pg**	**05 42 28.7**	**-0.9**
KRX	**Arik**	**1.66**	**316**	*eP*		**Pg**	**05 42 28.8**	**-0.9**
KII	**Karymskiy**	**1.98**	**340**	PN		**Pb**	**05 42 32.5**	**-1.3**
KII	**Karymskiy**	**1.98**	**340**	*eP*		**Pb**	**05 42 32.5**	**-1.3**
PEA0B	**Petropavlovsk-**	**1.99**	**299**	Pn		**Pn**	**05 42 31.0**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.99**	**299**	*ce*PN		**Pb**	**05 42 33.3**	**-0.7**
PETK	**Petropavlovsk-**	**1.99**	**299**	Pn		**Pn**	**05 42 31.3**	**-0.1**
PETK	**Petropavlovsk-**	**1.99**	**299**	Pn		**Pb**	**05 42 32.3**	**-1.7**
	comp=Z,10nm,0.3s,baz=104,slow=21,SNR=141							
PETK				Sn		**Sb**	**05 42 56.5**	**-2.3**
	comp=Z,27nm,0.3s,baz=109,slow=26,SNR=3.5							
PETK				LR		LR	05 43 06.0	
	comp=Z,295nm,19.1s,baz=40,slow=36							
GNL	**Ganaly**	**2.20**	**314**	PN		**Pb**	**05 42 36.9**	**-0.8**
GNL	**Ganaly**	**2.20**	**314**	*eP*		**Pb**	**05 42 36.9**	**-0.8**
APC	**Apacha**	**2.22**	**291**	PN		**Pb**	**05 42 37.1**	**-0.8**
APC	**Apacha**	**2.22**	**291**	*eP*		**Pb**	**05 42 37.1**	**-0.8**
PAU	**Pauzhetka**	**2.45**	**254**	PN		**Pn**	**05 42 38.2**	**+0.5**
PAU	**Pauzhetka**	**2.45**	**254**	*eP*		**Pn**	**05 42 38.3**	**+0.5**
TUMD	**Tumrok D**	**3.02**	**358**	*eP*		**Pn**	**05 42 46.6**	**+0.9**
TUMD				*eS*		**Sn**	**05 43 21.7**	**-0.2**
SKR	**Severo-Kuril's**	**3.18**	**243**	*e*PN		**Pn**	**05 42 47.7**	**0.0**
SKR				*eS*		**Sn**	**05 43 24.3**	**-1.3**
SKR				pmax		pmax		
	comp=Z,60nm,0.6s							
SKR				smax		smax		
	comp=E,632nm,0.7s							
SKR				smax		smax		
	comp=N,554nm,0.7s							
SKR				MLR		MLR		
	comp=Z,800nm,13.0s							
SKR	**Severo-Kuril's**	**3.18**	**243**	*eP*		**Pn**	**05 42 47.6**	**-0.2**
SKR				*eS*		**Sn**	**05 43 25.1**	**-0.5**
KMNR	**Kamenistaya**	**3.58**	**357**	PN		**Pn**	**05 42 55.9**	**+2.5**
KMNR	**Kamenistaya**	**3.58**	**357**	*eP*		**Pn**	**05 42 55.9**	**+2.5**
KIRR	**Kirishev**	**3.78**	**358**	PN		**Pn**	**05 42 58.0**	**+1.9**
KIRR	**Kirishev**	**3.78**	**358**	*eP*		**Pn**	**05 42 58.1**	**+1.9**
BZWR	**Bezymyannyi-We**	**3.79**	**359**	PN		**Pn**	**05 42 59.2**	**+3.0**
BZWR	**Bezymyannyi-We**	**3.79**	**359**	*eP*		**Pn**	**05 42 59.3**	**+3.0**
KPT	**Kopyto**	**3.79**	**357**	PN		**Pn**	**05 42 58.3**	**+2.0**
KPT	**Kopyto**	**3.79**	**357**	*eP*		**Pn**	**05 42 58.3**	**+2.0**
LGNR	**Loginova**	**3.91**	**1**	PN		**Pn**	**05 43 01.5**	**+3.5**
LGNR	**Loginova**	**3.91**	**1**	*eP*		**Pn**	**05 43 01.5**	**+3.5**
ESO	**Esso**	**3.91**	**344**	PN		**Pn**	**05 42 59.9**	**+2.1**
ESO	**Esso**	**3.91**	**344**	*eP*		**Pn**	**05 42 60.0**	**+2.1**
KRSR	**Krestovskiy**	**4.04**	**360**	PN		**Pn**	**05 43 01.7**	**+2.0**
KRSR	**Krestovskiy**	**4.04**	**360**	*eP*		**Pn**	**05 43 01.7**	**+2.0**
KBTR	**Krutoberegovo**	**4.24**	**17**	PN		**Pn**	**05 43 02.3**	**0.0**
KBTR	**Krutoberegovo**	**4.24**	**17**	*eP*		**Pn**	**05 43 02.4**	**0.0**
KBG	**Krutoberegovo**	**4.26**	**16**	PN		**Pn**	**05 43 03.3**	**+0.7**
KBG	**Krutoberegovo**	**4.26**	**16**	*eP*		**Pn**	**05 43 03.4**	**+0.7**
BKI	**Bering**	**4.40**	**44**	*eS*		**Sn**	**05 43 50.4**	**-5.4**
SHEM	**Shemya Is, Ala**	**8.27**	**81**	Pn		**Pn**	**05 43 58.8**	**+1.1**
	comp=Z,4.9nm,0.3s,baz=282,slow=20,SNR=2.5							
SHEM				Sn		Sn	05 45 23.3	-7.7
	comp=Z,8.1nm,0.3s,baz=255,slow=16,SNR=2.6							
	comp=Z,125nm,1.1s							
MA2	**Magadan**	**9.23**	**327**	Pn		**Pn**	**05 44 09.7**	**-1.1**
MA2	**Magadan**	**9.23**	**327**	LR		LR	05 48 06.7	
	comp=Z,48nm,20.7s,baz=160,slow=41							
MA2	**Magadan**	**9.23**	**327**	PN		**Pn**	**05 44 09.7**	**-1.1**
SEY	**Seymchan**	**11.63**	**341**	Pn		**Pn**	**05 44 43.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=140,slow=19,SNR=1.2							
	comp=Z,0.8nm,0.2s							
SEY	**Seymchan**	**11.63**	**341**	*ce*PN		**Pn**	**05 44 44.4**	**+0.9**
SEY				pmax		pmax		
	comp=Z,9.0nm,2.5s							
YSS	**Yuzhno-Sakhali**	**12.69**	**253**	Pn		**Pn**	**05 44 58.6**	**+0.4**
YSS	**Yuzhno-Sakhali**	**12.69**	**253**	*e*PN		**Pn**	**05 44 59.9**	**+1.7**
YSS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
YSS				MLR		MLR		
	comp=Z,300nm,17.0s							
JKA	**Kamikawa-asahi**	**14.44**	**243**	Pn		**Pn**	**05 45 22.7**	**+0.7**
ASAJ	**Asahikawa**	**14.44**	**243**	Pn		**Pn**	**05 45 22.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=77,slow=13,SNR=8.2							
	comp=Z,6.6nm,0.6s							
ERM	**Erimo**	**15.59**	**236**	Pn		**Pn**	**05 45 37.7**	**+0.3**
ERM				IAmb		IAmb	05 45 48.5	
	comp=Z,32nm,1.0s							
ERM	**Erimo**	**15.59**	**236**	P		**Pn**	**05 45 37.7**	**+0.3**
ERM				pmax		pmax		
	comp=Z,32nm,1.0s							
BILL	**Bilibino**	**16.14**	**8**	Pn		**Pn**	**05 45 43.9**	**-0.5**
BILL	**Bilibino**	**16.14**	**8**	*ce*P		**Pn**	**05 45 44.3**	**-0.1**
BILL				pmax		pmax		
	comp=Z,17nm,1.3s							
JTM	**Tenmabayashi**	**17.56**	**237**	P		**P**	**05 46 04.0**	**+0.5**
KLR	**Kul'dur**	**18.45**	**272**	P		**Pn**	**05 46 12.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=65,slow=11,SNR=7.9							
KLR				LR		LR	05 54 15.6	
	comp=Z,125nm,19.4s,baz=246,slow=40							
	comp=Z,2.6nm,0.8s							
KLR	**Kul'dur**	**18.45**	**272**	*ce*P		**P**	**05 46 13.6**	**+0.3**
KLR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
YAK	**Yakutsk**	**19.27**	**313**	P		**P**	**05 46 20.8**	**-1.3**
YAK				IAmb		IAmb	05 46 22.7	
	comp=Z,51nm,0.9s							
YAK	**Yakutsk**	**19.27**	**313**	P		**P**	**05 46 19.8**	**-2.3**
	comp=Z,44nm,0.7s,baz=292,slow=4.1,SNR=10							
YAK	**Yakutsk**	**19.27**	**313**	*eP*		**P**	**05 46 20.5**	**-1.7**
YAK				*eS*		**Sn**	**05 49 56.0**	**-2.9**
YAK				pmax		pmax		
	comp=Z,51nm,0.9s							
YAK				pmax		pmax		
	comp=N,8.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,17nm,1.5s							
YAK				pmax		pmax		
	comp=Z,395nm,7.4s							
YAK				pmax		pmax		
	comp=N,128nm,5.0s							
YAK				pmax		pmax		
	comp=E,160nm,5.8s							
YAK				smax		smax		
	comp=E,117nm,7.0s							
YAK				smax		smax		
	comp=N,105nm,4.5s							
USA0B	**Ussuriysk Arra**	**20.57**	**259**	P		**P**	**05 46 36.7**	**+0.3**
USA0B	**Ussuriysk Arra**	**20.57**	**259**	*i P*		**P**	**05 46 35.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**20.57**	**259**	P		**P**	**05 46 35.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**20.57**	**259**	P		**P**	**05 46 35.2**	**-1.2**
	comp=N,6.5nm,0.9s,baz=65,slow=9.1,SNR=8.6							
	comp=N,6.5nm,0.9s							
HEH	**HeiHe**	**20.77**	**278**	*eP*		**P**	**05 46 38.5**	**-0.1**
HEH				pmax		pmax		
	comp=Z,17nm,0.8s							
HEH				LR		LR		
	comp=N,160nm,10.4s							
HEH				LR		LR		
	comp=E,460nm,10.3s							
HEH				LR		LR		
	comp=Z,490nm,13.8s							
TNA	**Tin City**	**20.77**	**38**	P		**P**	**05 46 38.6**	**+0.1**
MJAR	**Matsushiro Arr**	**22.24**	**234**	P		**P**	**05 46 55.1**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=27,slow=10.0,SNR=7.6							
	comp=Z,2.8nm,0.5s							
BNX	**BinXian**	**22.58**	**267**	⇓P		**P**	**05 46 56.3**	**-1.8**
BNX				pmax		pmax		
	comp=Z,8.0nm,1.1s							
J16K	**Anvik River**	**23.11**	**46**	P		**P**	**05 47 04.4**	**+1.0**
L16K	**Owhat River**	**23.40**	**50**	P		**P**	**05 47 06.5**	**+0.1**
L16K				IAmb		IAmb	05 47 07.4	
	comp=Z,20nm,1.4s							
TIXI	**Tiksi**	**24.03**	**336**	P		**P**	**05 47 11.2**	**-1.2**
TIXI				IAmb		IAmb	05 47 12.1	
	comp=Z,8.0nm,0.7s							
TIXI	**Tiksi**	**24.03**	**336**	*ce*P		**P**	**05 47 11.3**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,12nm,1.0s							
K17K	**Iditarod**	**24.06**	**48**	P		**P**	**05 47 13.6**	**+0.8**
K17K				IAmb		IAmb	05 47 14.1	
	comp=Z,15nm,1.3s							
CN2	**Changchun**	**24.76**	**264**	*eP*		**P**	**05 47 15.3**	**-4.1**
J18K	**Innoko River**	**24.87**	**46**	P		**P**	**05 47 21.2**	**+1.1**
J18K				IAmb		IAmb	05 47 35.6	
	comp=Z,18nm,1.4s							
TTA	**Tatalina**	**25.13**	**48**	P		**P**	**05 47 21.1**	**-1.5**
TTA	**Tatalina**	**25.13**	**48**	P		**P**	**05 47 21.1**	**-1.5**
TTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
J19K	**Poorman**	**25.41**	**45**	P		**P**	**05 47 24.7**	**-0.4**
J19K				IAmb		IAmb	05 47 40.3	
	comp=Z,8.5nm,1.4s							
E19K	**Redstone River**	**25.45**	**37**	IAmb		IAmb	05 47 53.8	
	comp=Z,5.4nm,1.0s							
HIA	**Hailar**	**25.78**	**280**	P		**P**	**05 47 27.0**	**-1.6**
HIA				IAmb		IAmb	05 47 28.8	
	comp=Z,9.8nm,0.7s							
HIA	**Hailar**	**25.78**	**280**	P		**P**	**05 47 27.0**	**-1.6**
HIA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
J20K	**Nowinta River**	**26.08**	**45**	P		**P**	**05 47 31.2**	**+0.1**
J20K				IAmb		IAmb	05 47 51.6	
	comp=Z,9.9nm,1.3s							
B21K	**Ikpikpuk River**	**26.99**	**33**	P		**P**	**05 47 39.8**	**+0.6**
B21K				IAmb		IAmb	05 48 01.4	
	comp=Z,11nm,1.1s							
KSRS	**Korea Array**	**27.17**	**250**	P		**P**	**05 47 42.0**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=40,slow=12,SNR=2.2							
	comp=Z,0.6nm,0.4s							
E22K	**Anaktuvuk Pass**	**27.61**	**37**	P		**P**	**05 47 45.0**	**+0.2**
SML	**Sawmill**	**28.70**	**50**	P		**P**	**05 47 54.0**	**-0.7**
SML				IAmb		IAmb	05 48 08.5	
	comp=Z,12nm,1.1s							
SCM	**Sheep Creek Mo**	**29.17**	**50**	P		**P**	**05 47 58.6**	**-0.3**
SCM				IAmb		IAmb	05 48 04.6	
	comp=Z,17nm,1.3s							
SCM	**Sheep Creek Mo**	**29.17**	**50**	P		**P**	**05 47 58.6**	**-0.3**
SCM				pmax		pmax		
	comp=Z,17nm,1.3s							
ILAR	**Eielson Array**	**29.25**	**44**	P		**P**	**05 47 58.0**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=271,slow=7.9,SNR=6.2							
	comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**29.25**	**44**	P		**P**	**05 47 58.0**	**-1.5**
E25K	**Arctic Village**	**29.92**	**37**	P		**P**	**05 48 05.7**	**+0.2**
BMAR	**Burnt Mountain**	**30.25**	**39**	P		**P**	**05 48 08.6**	**+0.2**
N25K	**Chitina, Valde**	**30.49**	**50**	P		**P**	**05 48 10.1**	**-0.5**
N25K				IAmb		IAmb	05 48 16.8	
	comp=Z,11nm,1.4s							
BCAR	**Beaver Creek A**	**31.61**	**47**	P		**P**	**05 48 21.2**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**32.76**	**169**	T		T	06 24 32.8	
	baz=354,slow=74							
H11N3	**WAKE ISLAND Hy**	**32.78**	**169**	T		T	06 24 21.3	
	baz=354							
H11N1	**WAKE ISLAND Hy**	**32.78**	**169**	T		T	06 24 36.7	
	baz=354,slow=74							
ULN	**Ulaanbaatar**	**34.01**	**284**	*i* P		**P**	**05 48 40.1**	**-1.5**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
INK	**Inuvik**	**34.41**	**37**	P		**P**	**05 48 44.6**	**-0.1**
INK				IAmb		IAmb	05 49 00.4	
	comp=Z,5.2nm,1.4s							
INK	**Inuvik**	**34.41**	**37**	P		**P**	**05 48 44.6**	**-0.1**
INK				pmax		pmax		
	comp=Z,5.0nm,1.5s							
SONM	**Songino Array**	**34.41**	**285**	P		**P**	**05 48 43.9**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=61,slow=8.8,SNR=1.0							
SONM				PcP		**PcP**	**05 51 20.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=73,slow=4.8,SNR=3.9							
SONM				LR		LR	06 04 33.9	
	comp=Z,192nm,18.2s,baz=42,slow=40							
	comp=Z,0.4nm,0.4s							
F31M	**Tsiigehtchic**	**34.43**	**38**	P		**P**	**05 48 44.2**	**-0.6**
F31M				IAmb		IAmb	05 49 00.3	
	comp=Z,4.9nm,1.3s							
HHC	**Hu-ho-hao-te**	**34.95**	**271**	*eP*		**P**	**05 48 51.3**	**+1.5**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,96nm,4.2s							
HHC				LR		LR		
	comp=N,160nm,13.8s							
HHC				LR		LR		
	comp=E,140nm,14.7s							
HHC				LR		LR		
	comp=Z,230nm,13.8s							
M31M	**Drury Creek, Y**	**35.12**	**48**	P		**P**	**05 48 52.1**	**+1.2**
M31M				IAmb		IAmb	05 48 54.5	
	comp=Z,5.1nm,1.4s							
P33M	**Teslin, Yukon**	**36.40**	**51**	P		**P**	**05 49 02.4**	**+0.4**
P33M				IAmb		IAmb	05 49 21.4	
	comp=Z,6.1nm,1.4s							
A36M	**Sachs Harbour**	**36.76**	**30**	P		**P**	**05 49 05.9**	**+1.1**
A36M				IAmb		IAmb	05 49 07.7	
	comp=Z,4.5nm,1.1s							
NRIK	**Noril'sk**	**36.83**	**326**	LR		LR	06 05 14.6	
	comp=Z,44nm,18.5s,baz=62,slow=38							
NRIK	**Noril'sk**	**36.83**	**326**	*ce*P		**P**	**05 49 04.8**	**-0.6**
NRIK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
C36M	**Paulatuk**	**37.62**	**34**	P		**P**	**05 49 12.2**	**0.0**
EUNU	**Eureka**	**42.76**	**14**	P		**P**	**05 49 56.0**	**+1.3**
EUNU				IAmb		IAmb	05 49 59.7	
	comp=Z,8.7nm,0.7s							
ZALV	**Zalesovo Beam**	**43.53**	**304**	P		**P**	**05 49 59.5**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=75,slow=22,SNR=1.9							
ZALV				PcP		**PcP**	**05 51 48.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=56,slow=5.7,SNR=2.1							
ZALV				LR		LR	06 10 11.6	
	comp=Z,72nm,18.8s,baz=51,slow=39							
	comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**43.63**	**42**	P		**P**	**05 50 01.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=294,slow=8.2,SNR=4.7							
	comp=Z,0.4nm,0.8s							
RES	**Resolute Bay**	**44.05**	**22**	P		**P**	**05 50 05.4**	**+0.3**
RES	**Resolute Bay**	**44.05**	**22**	P		**P**	**05 50 05.4**	**+0.3**
RES				pmax		pmax		
	comp=Z,3.0nm,1.3s							
WMQ	**Urumqi**	**47.56**	**290**	*eP*		**P**	**05 50 35.5**	**+2.2**
WMQ				LR		LR		
	comp=Z,100nm,15.7s							
SPB1	**Spitsbergen Ar**	**48.08**	**351**	P		**P**	**05 50 36.8**	**+0.1**
SPB5	**Spitsbergen Ar**	**48.08**	**351**	P		**P**	**05 50 35.8**	**-1.0**
SPITS	**Spitsbergen Ar**	**48.08**	**351**	P		**P**	**05 50 36.8**	**0.0**
	comp=Z,4.5nm,0.6s,baz=57,slow=9.1,SNR=17							
	comp=Z,4.5nm,0.6s							
SPA2	**Spitsbergen Ar**	**48.08**	**351**	P		**P**	**05 50 37.3**	**+0.5**
KURK	**Kurchatov**	**48.47**	**303**	P		**P**	**05 50 38.7**	**-1.5**
KURK	**Kurchatov**	**48.47**	**303**	*ce*P		**P**	**05 50 38.3**	**-1.8**
KURK				pmax		pmax		
	comp=Z,12nm,1.1s							
KURBB	**Kurchatov Arra**	**48.58**	**303**	P		**P**	**05 50 39.0**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=59,slow=7.8,SNR=20							
KURBB				PcP		**PcP**	**05 52 06.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=290,slow=22,SNR=2.0							
	comp=Z,2.8nm,0.8s							
MK31	**Makanchi Array**	**48.83**	**297**	P		**P**	**05 50 42.1**	**-0.8**
MK31	**Makanchi Array**	**48.83**	**297**	P		**P**	**05 50 42.1**	**-0.8**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**48.83**	**297**	P		**P**	**05 50 42.1**	**-0.8**
MKAR	**Makanchi Array**	**48.83**	**297**	P		**P**	**05 50 41.4**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=57,slow=7.6,SNR=12							
MKAR				LR		LR	06 13 04.3	
	comp=Z,58nm,19.4s,baz=87,slow=38							
	comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**51.19**	**309**	P		**P**	**05 50 59.6**	**-1.2**
	comp=Z,5.6nm,0.7s,baz=56,slow=7.7,SNR=22							
	comp=Z,5.6nm,0.7s							
BRVK	**Borovoye**	**51.22**	**309**	P		**P**	**05 51 00.2**	**-0.8**
BRVK				IAmb		IAmb	05 51 01.6	
	comp=Z,5.1nm,0.7s							
BRVK	**Borovoye**	**51.22**	**309**	*ce*P		**P**	**05 51 00.1**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PLID	**Pearl Lake**	**52.68**	**62**	P		**P**	**05 51 12.5**	**+0.2**
ARCES	**ARCESS Array B**	**54.24**	**342**	P		**P**	**05 51 23.6**	**+0.4**
ARCES	**ARCESS Array B**	**54.24**	**342**	P		**P**	**05 51 22.8**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=24,slow=8.1,SNR=5.2							
ARCES				LR		LR	06 17 45.9	

AKASG Malin Array Be 69.55 329 P P 05 53 05.8 -0.5
comp=Z,2.8nm,0.6s,baz=32,slow=6.5,SNR=12
comp=Z,2.8nm,0.6s
AKASG Malin Array Be 69.55 329 *i* P **P 05 53 06.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 69.55 329 P **P 05 53 06.0 -0.3**
AKBB Malin Array Si 69.55 329 P **P 05 53 06.0 -0.3**
AKBB pmax pmax
comp=Z,12nm,1.3s
KIEV Kiev 69.56 329 P **P 05 53 05.9 -0.4**
KIEV Kiev 69.56 329 P **P 05 53 05.9 -0.4**
KIEV pmax pmax
comp=Z,11nm,1.3s
KIEV Kiev 69.56 329 P **P 05 53 06.2 -0.2**
KIEV pP **pwP 05 53 17.3 +4.2**
AK13 Malin Array Si 69.68 329 P **P 05 53 06.8 -0.3**
MI28 Mi28,Pidlybu 69.83 330 P **P 05 53 08.2 +0.2**
MI28 pP **pwP 05 53 19.3 +4.5**
RNPP9 Sopachiv 69.93 332 P **P 05 53 08.8 +0.1**
RNPP9 pP **pwP 05 53 20.0 +4.6**
KIV Kislovodsk 70.31 317 *eP* **P 05 53 09.8 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,26nm,18.0s
KBZ Khabaz 70.40 317 P **P 05 53 11.2 -0.5**
comp=Z,3.0nm,0.8s,baz=76,slow=10,SNR=4.9
comp=Z,3.0nm,0.8s
LUBAR Lubar, Ukraine 70.69 330 P **P 05 53 12.9 -0.4**
TX31 Lajitas Ar. Si 70.71 67 P **P 05 53 14.2 +0.2**
TX31 IAmb IAmb 05 53 19.0
comp=Z,3.2nm,1.1s
TXAR Lajitas Array 70.72 67 P **P 05 53 14.1 +0.1**
comp=Z,0.7nm,0.7s,baz=300,slow=4.6,SNR=10.0
comp=Z,0.7nm,0.7s
NDNU Novodnistrovsk 71.98 329 P **P 05 53 20.9 -0.2**
KMPD K-Podol'skiy 72.29 330 P **P 05 53 22.8 -0.2**
STHS Stebnicka Huta 73.04 334 *eP* **P 05 53 26.3 -1.2**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 73.04 334 *eP* **P 05 53 26.3 -1.2**
KOLS Kolonicke sedl 73.19 333 *eP* **P 05 53 28.7 +0.3**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 73.19 333 *eP* **P 05 53 28.7 +0.3**
CLL Collm 73.31 339 *eP* **P 05 53 30.0 +1.0**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 73.31 339 *eP* **P 05 53 30.0 +1.0**
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 73.76 335 *eP* **P 05 53 33.4 +1.6**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 73.76 335 *eP* **P 05 53 33.4 +1.6**
VRAC Vranov 74.35 336 LR LR 06 30 45.6
comp=Z,26nm,19.3s,baz=358,slow=40
MODS Modra-Piesok 75.04 336 *eP* **P 05 53 39.5 +0.3**
MODS pmax pmax
comp=Z,4.0nm,0.9s
MODS Modra-Piesok 75.04 336 *eP* **P 05 53 39.5 +0.3**
MLR Muntele Rosu 75.18 329 LR LR 06 29 30.3
comp=Z,36nm,18.4s,baz=297,slow=38
GERES GERESS Array B 75.47 338 P **P 05 53 42.2 +0.4**
comp=Z,0.9nm,0.7s,baz=12,slow=6.8,SNR=3.8
comp=Z,0.9nm,0.7s
SOKA Soboth 77.18 336 *eP* **P 05 53 51.9 +0.4**
comp=Z,5.7nm,1.6s
KBA Koelnbreinsper 77.21 338 *eP* **P 05 53 49.2 -2.6**
comp=Z,12nm,1.0s
BRTR Keskin Array B 77.52 321 P **P 05 53 53.2 -0.4**
comp=Z,1.7nm,1.0s,baz=27,slow=1.6,SNR=5.5
comp=Z,1.7nm,1.0s
ASAR Alice Springs 79.06 205 P **P 05 54 02.4 +0.4**
comp=Z,0.6nm,0.9s,baz=28,slow=4.2,SNR=4.1
comp=Z,0.6nm,0.9s
ESDC Sonseca Array 87.53 348 P **P 05 54 45.9 +0.2**
comp=Z,0.8nm,0.9s,baz=2.9,slow=4.2,SNR=4.8
comp=Z,0.8nm,0.9s

---

*IDC **21** 05:44:17.9±0.9, 27°.30S×176°.24W, h0km, mb4.0/7, mbtmp4.0/9, ML4.4/2, MS3.3/5, Error ellipse: s-maj=29.2km s-min=21.5km az=121.0*
*NEIC **21** 05:44:18.4±0.9, 27°.2S±0°.1×176°.06W±0°.06, h10km±2km, mb4.2/9, Error ellipse: s-maj=25.3km s-min=9.5km az=352.0*

ISC 21 05:44:19.1±0.8, 27°.20S±0°.09×176°.2W±0°.1, h10km, n27, σ0 94/23, mb4.2/12, MS3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.52**	**215**	Pn	**Pn**	**05 45 01.2**	**+1.1**
RAO	**Raoul Island**	**2.52**	**215**	Pn	**Pn**	**05 44 58.4**	**-1.7**
	54nm,0.3s,baz=75,slow=23,SNR=2.2						
RAO				Sn	**Sn**	**05 45 32.2**	**+1.2**
	135nm,0.3s,baz=65,slow=22,SNR=5.1						
	250nm,0.3s						
MSVF	**Nonsavu**	**10.80**	**330**	Pn	**Pn**	**05 46 53.4**	**-0.5**
	0.1nm,0.3s,baz=182,slow=21,SNR=1.8						
	2.9nm,0.8s						
URZ	**Urewera**	**12.36**	**205**	Pn	Pn	05 47 10.6	-4.5
	0.2nm,0.3s,baz=248,slow=16,SNR=1.4						
URZ				Sn	Sn	05 49 22.0	-11
	0.4nm,0.3s,baz=285,slow=14,SNR=2.2						
RAR	**Rarotonga**	**16.16**	**72**	LR	LR	05 54 04.9	
	comp=Z,96nm,19.1s,baz=262,slow=36						
DZM	**Mont Dzumac**	**16.55**	**284**	LR	LR	05 52 48.1	
	comp=Z,65nm,20.6s,baz=83,slow=31						
PPT	**Papeete**	**26.41**	**74**	LR	LR	05 58 39.2	
	comp=Z,61nm,19.3s,baz=258,slow=33						
ARMA	**Armidale**	**28.28**	**256**	P	**P**	**05 50 13.2**	**+0.3**
ARMA				IAmb	IAmb	05 50 14.3	
	comp=Z,4.1nm,0.8s						
EIDS	**Eidsvold**	**29.31**	**266**	P	**P**	**05 50 21.2**	**-0.8**
EIDS				IAmb	IAmb	05 50 25.8	
	comp=Z,4.1nm,0.9s						
STKA	**Stephens Creek**	**36.81**	**252**	LR	LR	06 04 19.1	
	comp=Z,64nm,19.3s,baz=340,slow=33						
COEN	**Coen**	**40.03**	**281**	P	**P**	**05 51 54.1**	**-0.5**
COEN				IAmb	IAmb	05 52 13.9	
	comp=Z,4.1nm,0.8s						
ASAR	**Alice Springs**	**44.93**	**263**	P	**P**	**05 52 34.5**	**0.0**
ASAR	**Alice Springs**	**44.93**	**263**	P	**P**	**05 52 34.1**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=114,slow=8.0,SNR=7.2						
ASAR				LR	LR	06 11 21.9	
	comp=Z,44nm,18.1s,baz=109,slow=36						
	comp=Z,0.8nm,0.9s						
WB2	**Warramunga Arr**	**45.62**	**268**	P	**P**	**05 52 39.6**	**-0.4**
WRA	**Warramunga Arr**	**45.63**	**268**	P	**P**	**05 52 40.0**	**-0.1**
WRA	**Warramunga Arr**	**45.63**	**268**	P	**P**	**05 52 39.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=107,slow=7.4,SNR=8.1						
	comp=Z,1.0nm,0.6s						
WB0	**Warramunga Arr**	**45.64**	**268**	P	**P**	**05 52 40.3**	**+0.2**
MORW	**Morawa**	**58.98**	**251**	P	**P**	**05 54 18.3**	**-0.8**
MORW				IAmb	IAmb	05 54 20.0	
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**62.90**	**180**	P	**P**	**05 54 45.3**	**0.0**
QSPA	**South Pole Qui**	**62.90**	**180**	P	**P**	**05 54 45.1**	**-0.3**
	comp=Z,3.7nm,0.9s,baz=8.9,slow=5.6,SNR=8.7						
	comp=Z,3.7nm,0.9s						
BELA	**Belgrano 2**	**72.73**	**172**	P	**P**	**05 55 46.3**	**-0.6**
BELA				IAmb	IAmb	05 55 59.1	
	comp=Z,1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**76.54**	**324**	P	**P**	**05 56 11.0**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=174,slow=6.7,SNR=4.3						
	comp=Z,1.1nm,0.4s						
NVAR	**Mina Array Bea**	**84.84**	**42**	P	**P**	**05 56 54.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=224,slow=9.3,SNR=4.0						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**89.35**	**56**	P	**P**	**05 57 16.1**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=199,slow=4.1,SNR=3.4						
	comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.82**	**289**	P	**P**	**05 57 39.4**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=120,slow=5.3,SNR=4.5						
	comp=Z,0.8nm,0.3s						
HFS	**Hagfors**	**146.38**	**351**	PKPbc	**PKPab**	**06 03 59.6**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=8.5,slow=2.9,SNR=2.8						
AKASG	**Malin Array Be**	**149.57**	**327**	PKPbc	**PKiKP**	**06 04 08.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=42,slow=3.4,SNR=7.2						

IDC 21 05:57:22.9±7.2, 44°.93S×78°.84W, h0km, mb3.8/3, mbtmp3.7/4, ML3.5/1, MS3.7/3, Ertrar ellipse: s-maj=168.5km s-min=45.2km az=174.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**7.39**	**58**	Pn	Pn	05 59 11.6	-0.6
	0.2nm,0.3s,baz=227,slow=12,SNR=7.7						
PLCA				LR	LR	06 01 47.1	
	comp=Z,470nm,19.6s,baz=241,slow=36						
	3.7nm,0.9s						
H03S1	**Juan Fernandez**	**11.07**	**360**	T	T	06 11 36.3	
	baz=175,slow=73,SNR=32						
H03S2	**Juan Fernandez**	**11.08**	**360**	T	T	06 11 35.3	
	baz=175,slow=73,SNR=28						
H03S3	**Juan Fernandez**	**11.09**	**360**	T	T	06 11 39.0	
	baz=175,slow=73,SNR=38						
CPUP	**Villa Florida**	**25.37**	**50**	P	P	06 02 52.0	+0.3
	1.9nm,0.8s,baz=226,slow=11,SNR=7.6						
CPUP				LR	LR	06 13 06.2	
	comp=Z,76nm,19.7s,baz=212,slow=37						
	1.9nm,0.8s						
LPAZ	**La Paz**	**29.95**	**21**	P	P	06 03 33.4	-0.1
	2.0nm,0.8s,baz=174,slow=9.7,SNR=3.7						
	2.0nm,0.8s						
BDFB	**Brasilia**	**39.08**	**52**	LR	LR	06 21 54.3	
	comp=Z,196nm,18.0s,baz=173,slow=38						
TXAR	**Lajitas Array**	**77.30**	**338**	P	P	06 09 19.1	0.0
	0.2nm,0.8s,baz=161,slow=4.2,SNR=2.7						
	0.2nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**20.06**	**267**	T	T	08 28 22.3	
	baz=132,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hyl**	**20.08**	**267**	T	T	08 28 23.6	
	baz=132,slow=75,SNR=6.8						
H11S3	**WAKE ISLAND Hyl**	**20.08**	**267**	T	T	08 28 21.6	
	baz=132,slow=75,SNR=8.2						

---

*BJI **21** 06:34:37.2, 20°.41S×178°.45W, h607km, mB5.3/36, mb5.7/76*
*NOU **21** 06:34:38.8, 20°.93S×178°.81W, h614km, ML5.5/188, Fiji Islands Region*
*MOS **21** 06:34:38.0±0.9, 20°.83S×178°.91W, h613km, mb5.5/38, Error ellipse: s-maj=9.0km s-min=7.1km az=112.3*
*IDC **21** 06:34:39.4±0.4, 20°.87S×178°.93W, h615km±3km, mb4.9/24, mbtmp5.8/28, Error ellipse: s-maj=7.9km s-min=7.5km az=16.0*
*GCMT **21** 06:34:39.7±0.2, 20°.81S±0°.02×179°.01W±0°.02, h629km±1km, MW5.5/121, Moment Tensor Solution. s121,c184; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.35±.04; $M_{\theta\theta}$0.77±.06; $M_{\phi\phi}$0.58±.06; $M_{r\theta}$-1.64±.06; $M_{r\phi}$0.47±.05; $M_{\theta\phi}$-1.49±.06; Best double couple: $M_0$2.54400×10^{17} NP1:ϕ_s232.00000°, δ15.00000°, λ-87.00000°. NP2:ϕ_s48.00000°, δ75.00000°, λ-91.00000°. Principal axes: T 2.4430, Plg30.0000°, Azm139.0000°; N 0.2050, Plg1.0000°, Azm48.0000°; P -2.6450, Plg60.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*NEIC **21** 06:34:39.4, 20°.84S×178°.85W, h620km*
*NEIC **21** 06:34:39.7±1.7, 20°.85S±0°.09×178°.84W±0°.09, h615km±4km, mb5.4/530, Mwb5.6/16, Mww5.5/19, Error ellipse: s-maj=13.1km s-min=12.8km az=156.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.94; $M_{\theta\theta}$0.89; $M_{\phi\phi}$1.05; $M_{r\theta}$-2.34; $M_{\theta\phi}$0.10; $M_{\phi r}$-1.55; Fault plane solution: $M_0$3.27000×10^{17} NP1: ϕ_s225.70000°, δ14.14000°, λ-98.93000°. NP2:ϕ_s54.90000°, δ76.04000°, λ-87.76000°. Principal axes: T 2.7258, Plg31.0000°, Azm143.0000°; N 0.9012, Plg2.0000°, Azm234.0000°; P -3.6270, Plg59.0000°, Azm328.0000°;*
*NEIC **21** 06:34:39.4, 20°.84S×178°.85W, h620km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.31; $M_{\theta\theta}$1.04; $M_{\phi\phi}$0.27; $M_{r\theta}$-1.66; $M_{\theta\phi}$0.02; $M_{\phi r}$-1.50; Fault plane solution: $M_0$2.49000×10^{17} NP1: ϕ_s269.94000°, δ15.66000°, λ-54.45000°. NP2:ϕ_s53.36000°, δ77.32000°, λ-99.26000°. Principal axes: T 2.2226, Plg32.0000°, Azm151.0000°; N 0.5428, Plg9.0000°, Azm55.0000°; P -2.7654, Plg57.0000°, Azm311.0000°;*
*NEIC **21** 06:34:39.9, 20°.84S×178°.86W, h616km*

ISC 21 06:34:39.1±0.2, 20°.94S±0°.03×178°.81W±0°.03, h620km±2km, h621km:pP-P, n1768, σ1 9 24/1747, mb5.5/386, 117C-110D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.69**	**360**	P	**P**	**06 35 58.1**	**-0.3**
LKBA	**Tubou, Lakemba**	**2.69**	**360**	S	**S**	**06 37 02.9**	**+0.1**
TAVE	**Taveuni**	**4.33**	**346**	P	**P**	**06 36 08.0**	**-0.4**
MSVF	**Nonsavu**	**4.35**	**317**	P	**P**	**06 36 08.7**	**+0.1**
MSVF	**Nonsavu**	**4.35**	**317**	P	**P**	**06 36 08.8**	**+0.2**
	5μm,0.8s,baz=149,slow=5.7,SNR=1891						
MSVF				S	**S**	**06 37 20.5**	**-1.0**
	95nm,0.6s,baz=336,slow=22,SNR=0.4						
MSVF	**Nonsavu**	**4.35**	**317**	P	**P**	**06 36 08.3**	**-0.3**
MSVF	**Nonsavu**	**4.35**	**317**	*c iP*	**P**	**06 36 08.5**	**-0.1**
MSVF				pmax	pmax		
	comp=Z,4μm,0.8s						
DGTI	**Dogotuki**	**4.81**	**343**	P	**P**	**06 36 11.1**	**-0.9**
DGTI	**Dogotuki**	**4.81**	**343**	S	**S**	**06 37 27.5**	**-0.1**
FUTU	**Fugatoga**	**6.63**	**6**	P	**P**	**06 36 26.9**	**+0.1**
FUTU	**Fugatoga**	**6.63**	**6**	P	**P**	**06 36 26.2**	**-0.6**
RIZ	**Raoul Island**	**8.31**	**175**	P	**P**	**06 36 39.5**	**-2.3**
RIZ				S	**S**	**06 38 16.6**	**-5.9**
RAO	**Raoul Island**	**8.32**	**175**	P	**P**	**06 36 41.2**	**-0.7**
	comp=Z,389nm,0.3s,baz=91,slow=7.5,SNR=4.9						
RAO				S	**S**	**06 38 20.4**	**-2.3**
	comp=Z,1μm,0.5s,baz=276,slow=23,SNR=12						
RAO	**Raoul Island**	**8.32**	**175**	P	**P**	**06 36 41.1**	**-0.8**
RAO	**Raoul Island**	**8.32**	**175**	S	**S**	**06 38 21.3**	**-1.4**
RAO	**Raoul Island**	**8.32**	**175**	P	**P**	**06 36 41.0**	**-0.9**
GLKZ	**Green Lake**	**8.33**	**175**	P	**P**	**06 36 40.6**	**-1.4**
GLKZ				S	**S**	**06 38 14.5**	**-8.3**
NIUE	**Niue**	**8.56**	**79**	P	**P**	**06 36 43.6**	**-0.7**
NIUE	**Niue**	**8.56**	**79**	P	**P**	**06 36 43.6**	**-0.7**
	comp=Z,1μm,1.2s						
NIUE	**Niue**	**8.56**	**79**	P	**P**	**06 36 43.7**	**-0.7**
AFI	**Afiamalu**	**9.69**	**45**	P	**P**	**06 36 52.6**	**-2.9**
AFI	**Afiamalu**	**9.69**	**45**	P	**P**	**06 36 52.5**	**-2.9**
AFI	**Afiamalu**	**9.69**	**45**	P	**P**	**06 36 52.6**	**-2.9**
AFI	**Afiamalu**	**9.69**	**45**	P	**P**	**06 36 52.3**	**-3.2**
AFI				S	**S**	**06 38 40.0**	**-7.2**
MARNC	**Mare, Loyalty**	**12.28**	**265**	P	**P**	**06 37 20.2**	**-0.4**
MARNC	**Mare, Loyalty**	**12.28**	**265**	S	**S**	**06 39 33.2**	**+0.1**
DVP	**Devils Point**	**12.68**	**282**	P	**P**	**06 37 24.5**	**0.0**
DVP	**Devils Point**	**12.68**	**282**	S	**S**	**06 39 42.4**	**+2.2**
PINNC	**Pines Island,**	**12.87**	**260**		**P**	**06 37 26.4**	**0.0**
PINNC	**Pines Island,**	**12.87**	**260**	P	**P**	**06 37 26.7**	**+0.4**
PINNC	**Pines Island,**	**12.87**	**260**	P	**S**	**06 39 43.1**	**-0.4**
DZM	**Mont Dzumac**	**13.77**	**263**	*eP*	**P**	**06 37 34.0**	**-1.2**
	comp=Z,199nm,1.0s						
DZM				*e*S	**S**	**06 39 58.3**	**-0.9**
	comp=Z,278nm,1.3s						
DZM	**Mont Dzumac**	**13.77**	**263**		**P**	**06 37 35.0**	**-0.2**
DZM	**Mont Dzumac**	**13.77**	**263**	P	**P**	**06 37 34.9**	**-0.3**
	comp=Z,60nm,0.4s,baz=95,slow=14,SNR=59						
DZM				S	**S**	**06 40 00.3**	**+1.1**
	comp=Z,89nm,1.1s,baz=47,slow=22,SNR=3.5						
DZM	**Mont Dzumac**	**13.77**	**263**	P	**P**	**06 37 35.2**	**0.0**
DZM	**Mont Dzumac**	**13.77**	**263**	S	**S**	**06 39 59.3**	**+0.1**
ONTNC	**Ouen Toro**	**13.77**	**262**		**P**	**06 37 33.9**	**-1.1**
ONTNC	**Ouen Toro**	**13.77**	**262**	P	**P**	**06 37 35.3**	**+0.2**
ONTNC	**Ouen Toro**	**13.77**	**262**	S	**S**	**06 39 59.5**	**+0.5**
OUZ	**Omahuta**	**15.71**	**204**	P	**P**	**06 37 55.8**	**+3.1**
KOUNC	**Koumac, New Ca**	**15.81**	**268**	P	**P**	**06 37 54.9**	**+1.0**
KOUNC	**Koumac, New Ca**	**15.81**	**268**	P	**S**	**06 40 33.7**	**+1.1**
GRZ	**Great Barrier**	**16.06**	**197**	P	**P**	**06 37 57.7**	**+1.9**
ABAZ	**Army Bay**	**16.56**	**198**	P	**P**	**06 38 03.2**	**+2.8**
WIAZ	**Waiheke Island**	**16.66**	**197**	P	**P**	**06 38 03.6**	**+2.2**
MBAZ	**Motutapu North**	**16.70**	**198**	P	**P**	**06 38 04.3**	**+2.6**
MXZ	**Matakaoa Point**	**16.75**	**188**		**P**	**06 38 01.3**	**-0.9**
MXZ	**Matakaoa Point**	**16.75**	**188**	P	**P**	**06 38 01.2**	**-1.0**
MXZ				S	**S**	**06 40 41.8**	**-5.6**
HBAZ	**Herne Bay Bore**	**16.82**	**198**	P	**P**	**06 38 05.4**	**+2.5**
EPAZ	**Eden Park BICE**	**16.84**	**198**	P	**P**	**06 38 05.6**	**+2.5**
ETAZ	**East Tamaki Re**	**16.86**	**198**	P	**P**	**06 38 05.8**	**+2.6**
WTAZ	**Waiatarua**	**16.95**	**198**	P	**P**	**06 38 06.6**	**+2.5**
WMGZ	**Waiomatatini S**	**16.99**	**188**	P	**P**	**06 38 03.8**	**-0.6**
WMGZ				S	**S**	**06 40 46.5**	**-4.8**
KBAZ	**Karaka Road Bo**	**17.00**	**197**	P	**P**	**06 38 07.2**	**+2.7**
HAZ	**Te Kaha**	**17.02**	**189**	P	**P**	**06 38 02.6**	**-2.0**
HAZ				S	**S**	**06 40 46.5**	**-5.2**
PKGZ	**Pakihiroa**	**17.08**	**188**	P	**P**	**06 38 04.7**	**-0.6**
PKGZ				S	**S**	**06 40 47.1**	**-5.7**
RUGZ	**Raukumara Rang**	**17.24**	**189**	P	**P**	**06 38 04.6**	**-2.2**
RUGZ				S	**S**	**06 40 49.7**	**-5.9**
WHRZ	**Whale Island**	**17.25**	**191**	P	**P**	**06 38 08.4**	**+1.7**
PUZ	**Puketiti**	**17.26**	**188**	P	**P**	**06 38 06.8**	**-0.1**
PUZ				S	**S**	**06 40 52.7**	**-3.0**
TGRZ	**Tauranga**	**17.27**	**193**	P	**P**	**06 38 08.9**	**+1.9**
OPRZ	**Ohinepanea**	**17.32**	**192**	P	**P**	**06 38 08.2**	**+0.9**
MARZ	**Manawahe**	**17.43**	**192**	P	**P**	**06 38 09.1**	**+0.6**
TOZ	**Tahuroa Road**	**17.44**	**195**		**P**	**06 38 10.4**	**+1.9**
TOZ	**Tahuroa Road**	**17.44**	**195**	P	**P**	**06 38 10.3**	**+1.8**
KARZ	**Kaharoa**	**17.55**	**193**	P	**P**	**06 38 09.8**	**+0.3**
OMRZ	**Omania**	**17.61**	**193**	P	**P**	**06 38 10.5**	**+0.4**
URZ	**Urewera**	**17.62**	**191**	P	**P**	**06 38 08.3**	**-1.8**
	comp=Z,136nm,0.3s,baz=354,slow=2.4,SNR=202						
URZ				S	**S**	**06 40 56.2**	**-5.2**
	comp=Z,83nm,0.7s,baz=136,slow=23,SNR=9.3						
URZ				ScP	**ScP**	**06 44 52.0**	**+0.4**
	comp=Z,36nm,0.7s,baz=235,slow=4.0,SNR=4.8						
URZ	**Urewera**	**17.62**	**191**	P	**P**	**06 38 07.5**	**-2.6**
URZ				S	**S**	**06 40 55.4**	**-6.0**
MKRZ	**Makatiti**	**17.62**	**192**	P	**P**	**06 38 11.9**	**+1.6**
MWZ	**Matawai**	**17.62**	**190**	P	**P**	**06 38 08.6**	**-1.6**
MWZ				S	**S**	**06 40 55.8**	**-5.8**
NGRZ	**Ngongotaha**	**17.64**	**193**	P	**P**	**06 38 13.0**	**+2.6**
CNGZ	**Carnagh Statio**	**17.67**	**188**	P	**P**	**06 38 10.4**	**-0.2**
CNGZ				S	**S**	**06 41 00.5**	**-1.8**
TKGZ	**Te Karaka**	**17.68**	**189**	P	**P**	**06 38 10.2**	**-0.5**
TKGZ				S	**S**	**06 41 00.3**	**-2.1**
TARZ	**Mount Tarawera**	**17.70**	**192**	P	**P**	**06 38 10.7**	**-0.4**
UTU	**Utuhina**	**17.71**	**193**	P	**P**	**06 38 13.0**	**+2.0**
HLRZ	**Highlands Stat**	**17.75**	**193**	P	**P**	**06 38 12.2**	**+0.8**
RAR	**Rarotonga**	**17.77**	**94**	P	**P**	**06 38 12.8**	**+1.0**
RAR	**Rarotonga**	**17.77**	**94**	P	**P**	**06 38 12.6**	**+0.8**
	comp=Z,125nm,0.8s,baz=246,slow=6.0,SNR=21						
RAR	**Rarotonga**	**17.77**	**94**	P	**P**	**06 38 12.6**	**+0.8**
RAR	**Rarotonga**	**17.77**	**94**	S	**S**	**06 41 05.0**	**+0.6**
RAR	**Rarotonga**	**17.77**	**94**	P	**P**	**06 38 12.8**	**+1.0**
RRRZ	**Republican Roa**	**17.80**	**192**	P	**P**	**06 38 11.4**	**-0.4**
HSRZ	**Hossack Road**	**17.83**	**193**	P	**P**	**06 38 13.0**	**+1.0**
LUES	**Luesalemba Tem**	**17.88**	**303**	P	**P**	**06 38 12.7**	**-0.2**
MUGZ	**Murupara**	**17.89**	**191**	P	**P**	**06 38 11.8**	**-0.7**
GRRZ	**Galatos Road**	**17.90**	**193**	P	**P**	**06 38 13.9**	**+1.2**
HRRZ	**Handcock Road**	**17.90**	**193**	P	**P**	**06 38 12.8**	**+0.1**
PRRZ	**Plateau Road**	**17.98**	**192**	P	**P**	**06 38 13.2**	**-0.3**
RTZ	**Ruatahuna**	**17.99**	**191**		**P**	**06 38 12.4**	**-1.2**
RTZ	**Ruatahuna**	**17.99**	**191**	P	**P**	**06 38 12.4**	**-1.2**
TLZ	**Tolley Road**	**18.00**	**195**	P	**P**	**06 38 15.9**	**+2.2**
WPRZ	**Whakapapatarin**	**18.05**	**193**	P	**P**	**06 38 15.4**	**+1.3**
ALRZ	**Allen Road**	**18.05**	**192**	P	**P**	**06 38 13.1**	**-1.0**
SNGZ	**Shannon Statio**	**18.09**	**190**	P	**P**	**06 38 12.3**	**-2.1**
SNGZ				S	**S**	**06 41 04.7**	**-4.4**
KUTZ	**Kaahu Road**	**18.09**	**194**	P	**P**	**06 38 15.6**	**+1.1**
PRGZ	**Paritu Road**	**18.15**	**188**	P	**P**	**06 38 14.4**	**-0.5**
MTHZ	**Maungataniwha**	**18.24**	**191**	P	**P**	**06 38 14.8**	**-1.0**
RAHZ	**Arahi**	**18.26**	**190**	P	**P**	**06 38 13.9**	**-2.1**
KNZ	**Kokohu**	**18.27**	**189**	P	**P**	**06 38 14.9**	**-1.2**
MRHZ	**Matea Rd**	**18.30**	**192**	P	**P**	**06 38 15.1**	**-1.3**
WATZ	**Wairara**	**18.32**	**194**	P	**P**	**06 38 17.1**	**+0.5**
HIZ	**Hauiti**	**18.35**	**196**	P	**P**	**06 38 18.8**	**+2.0**
HIZ	**Hauiti**	**18.35**	**196**	P	**P**	**06 38 18.5**	**+1.8**
HIZ	**Hauiti**	**18.35**	**196**	S	**S**	**06 41 14.7**	**+1.5**
HIZ	**Hauiti**	**18.35**	**196**	P	**P**	**06 38 18.7**	**+2.0**
MHGZ	**Mahia Peninsul**	**18.37**	**188**	P	**P**	**06 38 17.1**	**+0.1**
WHHZ	**Waihua**	**18.39**	**190**	P	**P**	**06 38 16.6**	**-0.6**
HATZ	**Hinemaiaia**	**18.42**	**193**	P	**P**	**06 38 16.6**	**-0.8**
RATZ	**Rangitukua**	**18.46**	**193**	P	**P**	**06 38 17.2**	**-0.7**
NMHZ	**Naumai**	**18.48**	**191**	P	**P**	**06 38 17.5**	**-0.6**
RITZ	**Rihia Road**	**18.55**	**193**	P	**P**	**06 38 18.7**	**+0.1**
KATZ	**Kakaramea**	**18.59**	**194**	P	**P**	**06 38 19.6**	**+0.5**
BKZ	**Black Stump Fm**	**18.61**	**192**		**P**	**06 38 16.4**	**-2.7**
BKZ	**Black Stump Fm**	**18.61**	**192**	P	**P**	**06 38 17.7**	**-1.5**
BKZ	**Black Stump Fm**	**18.61**	**192**	P	**P**	**06 38 17.3**	**-1.8**
ARHZ	**Aropaoanui**	**18.61**	**190**	P	**P**	**06 38 18.4**	**-0.7**
NTVZ	**North Tongarir**	**18.71**	**193**	P	**P**	**06 38 19.4**	**-0.7**
KRVZ	**Karewarewa**	**18.71**	**194**	P	**P**	**06 38 19.9**	**-0.3**
TMVZ	**Te Maari**	**18.72**	**193**	P	**P**	**06 38 19.0**	**-1.3**
TWVZ	**Taurewa**	**18.73**	**194**	P	**P**	**06 38 20.0**	**-0.4**
ETVZ	**East Tongariro**	**18.74**	**193**	P	**P**	**06 38 20.1**	**-0.3**
WTVZ	**West Tongariro**	**18.74**	**194**	P	**P**	**06 38 18.9**	**-1.6**
NNVZ	**North Ngauruho**	**18.75**	**194**	P	**P**	**06 38 21.3**	**+0.7**
OTVZ	**Oturere**	**18.77**	**193**	P	**P**	**06 38 19.1**	**-1.7**
NGZ	**Ngauruhoe**	**18.80**	**194**	P	**P**	**06 38 20.7**	**-0.3**
SNVZ	**South Ngauruho**	**18.80**	**

WHZ Wether Hill Ro 27.16 201 P **P** **06 39 34.9 0.0**
SYZ Scrubby Hill 27.36 198 P **P** **06 39 37.1 +0.4**
TW1H Toowoomba 1 Ha 27.40 250 P **P** **06 39 38.4 +1.0**
PAE Paea 27.77 88 *e*P **P** **06 39 41.2 +0.6**
comp=Z,76nm,1.1s
PPT2 Papeete2 27.78 88 *e*pP **pP** **06 41 14.4 -0.9**
comp=Z,117nm,28.8s
PPT2 *e*S **S** **06 43 45.9 +3.7**
comp=Z,2µm,39.0s
PPT2 *es*S sS 06 46 38.3 -4.3
comp=Z,746nm,24.0s
PPT2 *es*S **SS** **06 46 39.1 -9.0**
comp=Z,707nm,26.2s
PPT Papeete 27.79 88 P **P** **06 39 42.0 +1.2**
comp=Z,234nm,0.9s,baz=12,slow=3.1,SNR=12
PPT ScP **ScP** **06 45 20.1 +1.0**
comp=Z,128nm,0.9s,baz=93,slow=2.6,SNR=7.5
comp=Z,234nm,0.9s
PPTF Pamatai, Papee 27.79 88 P **P** **06 39 41.8 +0.9**
PPTF Pamatai, Papee 27.79 88 P **P** **06 39 42.2 +1.3**
EIDS Eidsvold 28.00 255 P **P** **06 39 42.9 +0.4**
EIDS Eidsvold 28.00 255 P **P** **06 39 42.6 0.0**
comp=Z,197nm,1.1s
EIDS Eidsvold 28.00 255 P **P** **06 39 42.5 0.0**
TVO Taravao 28.05 89 *e*P **P** **06 39 43.8 +0.7**
comp=Z,42nm,0.8s
ARMA Armidale 28.19 244 P **P** **06 39 45.9 +1.6**
ARMA IAmb IAmb 06 39 46.4
comp=Z,123nm,0.7s
ARMA Armidale 28.19 244 P **P** **06 39 45.3 +1.1**
comp=Z,195nm,0.7s
ARMA Armidale 28.19 244 P **P** **06 39 45.4 +1.1**
AUPHS Peel High Scho 28.96 243 P **P** **06 39 51.3 +0.5**
MGCD Mangrove Creek 29.33 239 P **P** **06 39 52.0 -1.9**
comp=Z,141nm,0.9s
MGCD Mangrove Creek 29.33 239 P **P** **06 39 54.3 +0.4**
SYDH Sydney Hard Ro 29.79 238 P **P** **06 39 58.5 +0.7**
PMOR Pomariorio Ree 29.96 84 *e*P **P** **06 40 00.2 +0.6**
comp=Z,261nm,0.9s
RMQ Roma 30.15 253 P **P** **06 40 01.4 +0.3**
comp=Z,69nm,1.3s
VAH Vaihoa 30.15 84 *e*P **P** **06 40 01.4 +0.2**
comp=Z,317nm,1.0s
AUUHS Ulladulla High 30.51 235 P **P** **06 40 05.0 +1.0**
AUDCS Dubbo College 31.09 242 P **P** **06 40 09.3 +0.2**
AULRC Lightning Ridg 31.13 248 P **P** **06 40 10.6 +1.2**
CNB Canberra Magne 31.35 236 P **P** **06 40 12.3 +1.0**
comp=Z,173nm,1.0s
CNB Canberra Magne 31.35 236 P **P** **06 40 12.6 +1.3**
CAN Canberra 31.63 236 P **P** **06 40 14.5 +0.8**
CAN IAmb IAmb 06 40 15.5
comp=Z,64nm,0.9s
CAN Canberra 31.63 236 P **P** **06 40 14.3 +0.7**
comp=Z,79nm,1.0s
CAN Canberra 31.63 236 P **P** **06 40 13.5 -0.1**
CAN Canberra 31.63 236 P **P** **06 40 14.5 +0.8**
CAN pmax pmax
comp=Z,64nm,0.9s
CAN Canberra 31.63 236 P **P** **06 40 14.4 +0.8**
CAN PcP **PcP** **06 42 47.2 +1.2**
CAN ScP **ScP** **06 45 32.6 +1.0**
AUAYR Ayr State High 31.68 266 P **P** **06 40 14.4 +0.2**
YNG Young 31.80 238 P **P** **06 40 15.6 +0.5**
comp=Z,124nm,2.3s
YNG Young 31.80 238 P **P** **06 40 15.3 +0.2**
MILA Mila 32.10 233 P **P** **06 40 17.9 +0.4**
comp=Z,19nm,1.1s
CMSA Cobar Meteorol 33.41 244 P **P** **06 40 29.2 +0.6**
comp=Z,278nm,0.9s
CMSA Cobar Meteorol 33.41 244 P **P** **06 40 29.0 +0.4**
QLP Quilpie 34.20 253 P **P** **06 40 35.4 +0.2**
comp=Z,849nm,1.0s
QLP Quilpie 34.20 253 P **P** **06 40 35.3 +0.1**
PMG Port Moresby 34.70 284 P **P** **06 40 39.4 -0.1**
PMG pP **pP** **06 42 19.4 +0.1**
PMG PcP **PcP** **06 42 54.4 -0.8**
MTSU Mount Surprise 34.81 268 P **P** **06 40 40.7 +0.2**
comp=Z,289nm,0.8s
MTSU Mount Surprise 34.81 268 P **P** **06 40 40.9 +0.5**
TOO Toolangi 35.02 234 P **P** **06 40 42.7 +0.8**
TOO Toolangi 35.02 234 P **P** **06 40 42.5 +0.6**
comp=Z,49nm,0.9s
TOO Toolangi 35.02 234 P **P** **06 40 42.7 +0.8**
TOO pmax pmax
comp=Z,31nm,0.7s
GEXS Deakin Univers 36.12 233 P **P** **06 40 52.0 +1.1**
COEN Coen 36.85 275 P **P** **06 40 57.8 +0.6**
COEN Coen 36.85 275 P **P** **06 40 57.5 +0.3**
comp=Z,422nm,0.9s
COEN Coen 36.85 275 P **P** **06 40 57.8 +0.6**
STKA Stephens Creek 36.91 245 P **P** **06 40 58.4 +0.9**
STKA Stephens Creek 36.91 245 P **P** **06 40 58.2 +0.8**
comp=Z,53nm,1.5s
STKA Stephens Creek 36.91 245 P **P** **06 40 58.3 +0.9**
comp=Z,153nm,0.7s,baz=90,slow=9.6,SNR=270
STKA PcP **PcP** **06 43 02.7 +1.1**
comp=Z,34nm,0.7s,baz=72,slow=5.2,SNR=3.8
STKA ScP **ScP** **06 45 53.8 +3.1**
comp=Z,27nm,1.0s,baz=86,slow=5.4,SNR=6.5
comp=Z,153nm,0.7s
STKA Stephens Creek 36.91 245 P **P** **06 40 58.3 +0.8**
STKA Stephens Creek 36.91 245 *d* iP **P** **06 40 57.4 -0.1**
INKA Innaminka 37.34 251 P **P** **06 41 02.4 +1.4**
ARPS Mount Arapiles 37.61 237 P **P** **06 41 03.3 +0.3**
comp=Z,203nm,0.8s
ARPS Mount Arapiles 37.61 237 P **P** **06 41 03.9 +0.9**
MANU Manus Island 37.94 295 P **P** **06 41 06.8 +0.8**
JOHN Johnston Islan 38.53 14 P **P** **06 41 11.0 +0.4**
QIS Mount Isa 38.81 263 P **P** **06 41 12.4 -0.6**
comp=Z,112nm,1.3s
QIS Mount Isa 38.81 263 P **P** **06 41 12.6 -0.4**
MGBR Mount Gambier 38.82 235 P **P** **06 41 13.6 +0.8**
TAOE Nuku Hiva Isla 39.14 78 ⇑ *i*P **P** **06 41 16.5 +0.8**
comp=Z,727nm,1.1s
TAOE *e*S **S** **06 46 34.7 +1.5**
comp=Z,110nm,26.3s
TAOE Nuku Hiva Isla 39.14 78 P **P** **06 41 16.8 +1.0**
TAOE Nuku Hiva Isla 39.14 78 P **P** **06 41 17.3 +1.5**
TAOE Nuku Hiva Isla 39.14 78 P **P** **06 41 16.6 +0.8**
AUMBR Murray Bridge 39.30 240 P **P** **06 41 17.3 +0.6**
HTT Hallett 39.35 243 P **P** **06 41 17.6 +0.4**
comp=Z,288nm,0.8s
HTT Hallett 39.35 243 P **P** **06 41 17.7 +0.5**
LCRK Leigh Creek 39.66 247 P **P** **06 41 20.3 +0.6**
PTPS Port Pirie 40.09 243 P **P** **06 41 23.5 +0.5**
WHYH Whyalla 40.42 243 P **P** **06 41 25.9 +0.3**
BBOO Buckleboo 41.67 244 P **P** **06 41 35.8 +0.3**
BBOO Buckleboo 41.67 244 P **P** **06 41 35.5 0.0**
OOD Oodnadatta 41.82 251 P **P** **06 41 37.6 +0.9**
WAKE Wake Island 42.43 339 P **P** **06 41 41.2 -0.3**
WAKE Wake Island 42.43 339 P **P** **06 41 41.2 -0.3**
WAKE Wake Island 42.43 339 P **P** **06 41 40.8 -0.7**
H11N3 WAKE ISLAND Hy 42.76 340 P **P** **06 41 43.4 -0.4**
baz=174,slow=9.5,SNR=13
H11N1 WAKE ISLAND Hy 42.76 340 P **P** **06 41 42.7 -1.1**
baz=174,slow=9.5,SNR=12
H11N2 WAKE ISLAND Hy 42.77 340 P **P** **06 41 43.5 -0.3**
baz=174,slow=9.5,SNR=12
WR0 Warramunga Arr 43.60 263 P **P** **06 41 50.4 -0.2**
AS17 Alice Springs 43.60 257 P **P** **06 41 50.7 0.0**
comp=Z,1µm,0.7s
AS01 Alice Springs 43.63 257 P **P** **06 41 51.0 +0.1**
AS31 Alice Springs 43.68 257 P **P** **06 41 51.6 +0.3**
AS31 IAmb IAmb 06 41 52.1
comp=Z,165nm,0.7s
ASAR Alice Springs 43.68 257 P **P** **06 41 53.2 +2.0**
ASAR Alice Springs 43.68 257 P **P** **06 41 51.3 0.0**
comp=Z,553nm,0.6s,baz=97,slow=7.6,SNR=4943
ASAR PcP **PcP** **06 43 24.6 +0.4**
comp=Z,65nm,0.6s,baz=104,slow=3.9,SNR=9.6
ASAR ScP **ScP** **06 46 20.6 +2.9**
comp=Z,25nm,0.7s,baz=97,slow=4.2,SNR=9.8
ASAR S **S** **06 47 35.7 -2.2**
comp=Z,95nm,0.8s,baz=94,slow=15,SNR=51
ASAR PKiKP **PKiKP** **06 50 22.3 -1.3**
comp=Z,1.3nm,0.6s,baz=56,slow=1.1,SNR=1.8
ASAR ScS **ScS** **06 50 44.1 +2.0**
comp=Z,6.6nm,0.9s,baz=88,slow=6.8,SNR=5.9
ASAR P4KPbc 07 19 36.9
comp=Z,0.5nm,0.4s,baz=104,slow=4.5,SNR=7.0
comp=Z,553nm,0.6s
WB0 Warramunga Arr 43.77 263 P **P** **06 41 52.0 0.0**
WB2 Warramunga Arr 43.78 263 P **P** **06 41 52.1 0.0**
WRAB Tennant Creek 43.78 263 P **P** **06 41 51.9 -0.2**
WRAB Tennant Creek 43.78 263 *d* iP **P** **06 41 51.1 -0.9**

WRAB pmax pmax
comp=Z,451nm,0.9s
WRA Warramunga Arr 43.79 263 P **P** **06 41 51.9 -0.2**
comp=Z,407nm,0.6s,baz=97,slow=7.7,SNR=708
WRA PcP **PcP** **06 43 25.0 +0.5**
comp=Z,35nm,0.9s,baz=96,slow=4.1,SNR=7.2
WRA ScP **ScP** **06 46 19.2 +1.1**
comp=Z,7.4nm,0.8s,baz=93,slow=4.4,SNR=5.4
WRA S **S** **06 47 35.9 -3.7**
comp=Z,51nm,0.9s,baz=98,slow=14,SNR=17
WRA PKiKP **PKiKP** **06 50 22.5 -1.3**
comp=Z,2.1nm,1.1s,baz=113,slow=1.6,SNR=6.1
WRA ScS **ScS** **06 50 43.6 +0.8**
comp=Z,8.8nm,1.1s,baz=94,slow=8.5,SNR=5.6
comp=Z,407nm,0.6s
GENI Genyem 43.90 289 P **P** **06 41 53.5 +0.5**
HUH Hualalai 46.22 31 IAmb IAmb 06 42 12.0
comp=Z,96nm,0.8s
STCH Stem Cracks 46.30 32 IAmb IAmb 06 42 12.4
comp=Z,208nm,0.9s
JOKA Jonika Flow 46.40 32 IAmb IAmb 06 42 12.9
comp=Z,106nm,0.9s
KIP Kipapa 46.75 27 P **P** **06 42 14.9 +0.4**
KIP Kipapa 46.75 27 P **P** **06 42 14.4 -0.1**
KIP Kipapa 46.75 27 ⇓ *i*P **P** **06 42 14.2 -0.2**
KIP pmax pmax
comp=Z,99nm,1.8s
KIP Kipapa 46.75 27 P **P** **06 42 14.4 -0.1**
KIP PcP **PcP** **06 43 34.9 +0.1**
KHLH Kahului Airpor 46.99 29 IAmb IAmb 06 42 17.8
comp=Z,205nm,0.9s
KDU Kakadu 47.20 272 P **P** **06 42 17.6 -0.4**
comp=Z,696nm,0.9s
KDU Kakadu 47.20 272 P **P** **06 42 17.9 -0.1**
MTN Manton Dam 48.41 271 P **P** **06 42 26.4 -0.5**
MTN Manton Dam 48.41 271 P **P** **06 42 26.1 -0.8**
comp=Z,925nm,0.7s
MTN Manton Dam 48.41 271 P **P** **06 42 26.9 -0.1**
FORT Forrest 48.42 247 P **P** **06 42 26.8 0.0**
FORT Forrest 48.42 247 P **P** **06 42 26.6 -0.3**
comp=Z,895nm,0.8s
FORT Forrest 48.42 247 P **P** **06 42 27.1 +0.3**
WRKA Warakurna 48.61 255 P **P** **06 42 28.5 +0.1**
comp=Z,1µm,0.8s
WRKA Warakurna 48.61 255 P **P** **06 42 28.6 +0.2**
DRS Darwin Rock St 48.74 272 P **P** **06 42 28.7 -0.7**
MIDW Midway 48.89 2 P **P** **06 42 30.0 -0.2**
MIDW IAmb IAmb 06 42 30.5
comp=Z,164nm,0.8s
GUMO Guam 49.50 311 P **P** **06 42 34.6 -0.3**
KNRA Kununurra 49.87 267 P **P** **06 42 37.8 +0.1**
KNRA Kununurra 49.87 267 P **P** **06 42 37.6 -0.1**
comp=Z,560nm,0.7s
FAKI Fak Fak 50.86 284 P **P** **06 42 44.2 -0.7**
FAKI Fak Fak 50.86 284 P **P** **06 42 45.1 +0.2**
FAKI Fak Fak 50.86 284 P **P** **06 42 44.2 -0.7**
comp=Z,4µmcomp=Z,283nm,1.2s
FITZ Fitzroy Crossi 52.22 263 P **P** **06 42 55.1 +0.5**
FITZ Fitzroy Crossi 52.22 263 P **P** **06 42 54.6 0.0**
FITZ Fitzroy Crossi 52.22 263 S **S** **06 49 34.1 -0.6**
comp=Z,9.4nm,0.8s,baz=271,slow=20,SNR=12
BNDI Bandanaira 52.36 281 P **P** **06 42 55.3 -0.3**
BNDI Bandanaira 52.36 281 P **P** **06 42 55.0 -0.6**
SWI Sorong 52.63 286 P **P** **06 42 57.4 -0.1**
DRV Dumont d'Urvil 52.69 199 P **P** **06 42 58.0 +1.0**
KMBL Kambalda 53.69 246 P **P** **06 43 04.1 -0.6**
comp=Z,184nm,1.0s
KMBL Kambalda 53.69 246 P **P** **06 43 04.7 -0.1**
MSAI Masohi 53.72 282 P **P** **06 43 04.4 -0.8**
AAI Ambon 54.25 281 P **P** **06 43 08.0 -1.0**
comp=Z,8µmcomp=Z,711nm,1.1s
NLAI Namlea 55.43 281 P **P** **06 43 16.3 -0.9**
comp=Z,8µmcomp=Z,731nm,0.8s
SOEI Soe 55.76 272 P **P** **06 43 21.2 +1.7**
SOEI Soe 55.76 272 P **P** **06 43 20.5 +1.0**
SOEI Soe 55.76 272 P **P** **06 43 20.0 +0.5**
LBMI Labuha 56.12 284 P **P** **06 43 22.2 +0.3**
comp=Z,5µmcomp=Z,696nm,1.0s
BATI Baumata 56.18 272 P **P** **06 43 23.1 +0.8**
comp=Z,5µmcomp=Z,639nm,0.8s
PSAD2 Pilbara Seismi 56.71 257 P **P** **06 43 24.9 -1.0**
comp=Z,540nm,0.8s
PSAC2 Pilbara Seismi 56.78 257 P **P** **06 43 25.8 -0.5**
comp=Z,612nm,0.9s
PSAB3 Pilbara Seismi 56.81 257 P **P** **06 43 26.1 -0.5**
comp=Z,680nm,0.9s
PSA00 Pilbara Seismi 56.83 257 P **P** **06 43 26.7 +0.1**
PSA00 Pilbara Seismi 56.83 257 P **P** **06 43 26.2 -0.4**
TNTI Ternate 56.84 285 P **P** **06 43 27.0 +0.2**
TNTI Ternate 56.84 285 P **P** **06 43 27.6 +0.8**
TNTI Ternate 56.84 285 P **P** **06 43 26.3 -0.5**
comp=Z,5µmcomp=Z,685nm,0.9s
SANI Sanana 56.92 282 P **P** **06 43 27.4 0.0**
SANI Sanana 56.92 282 P **P** **06 43 25.9 -1.5**
comp=Z,4µmcomp=Z,433nm,0.8s
MEEK Meekatharra 57.06 251 P **P** **06 43 27.4 -0.7**
comp=Z,296nm,0.8s
MEEK Meekatharra 57.06 251 P **P** **06 43 27.6 -0.6**
KLBR Kellerberrin 57.18 245 P **P** **06 43 28.8 -0.1**
comp=Z,1µm,0.8s
KLBR Kellerberrin 57.18 245 P **P** **06 43 29.0 +0.1**
SBA Scott Base 57.38 184 P **P** **06 43 32.7 +3.3**
SBA Scott Base 57.38 184 P **P** **06 43 32.7 +3.3**
SBA pmax pmax
comp=Z,127nm,1.0s
VNDA Vanda 57.41 185 P **P** **06 43 31.9 +2.3**
comp=Z,26nm,0.7s,baz=1.4,slow=8.0,SNR=52
VNDA ScP **ScP** **06 47 17.8 +2.1**
comp=Z,18nm,1.0s,baz=27,slow=4.5,SNR=6.4
comp=Z,26nm,0.7s
NWAO Narrogin (SRO) 57.49 244 P **P** **06 43 31.3 +0.3**
NWAO IAmb IAmb 06 43 32.1
comp=Z,380nm,1.4s
NWAO Narrogin (SRO) 57.49 244 P **P** **06 43 31.0 0.0**
NWAO Narrogin (SRO) 57.49 244 P **P** **06 43 31.1 0.0**
NWAO Narrogin (SRO) 57.49 244 P **P** **06 43 31.3 +0.3**
NWAO pmax pmax
comp=Z,380nm,1.4s
NWAO Narrogin (SRO) 57.49 244 P **P** **06 43 30.9 0.0**
MMRI Maumere 58.01 273 P **P** **06 43 34.5 -0.2**
MMRI Maumere 58.01 273 P **P** **06 43 34.6 -0.2**
MMRI Maumere 58.01 273 P **P** **06 43 33.9 -0.8**
comp=Z,6µmcomp=Z,637nm,0.9s
BLDU Ballidu 58.18 246 P **P** **06 43 35.4 -0.2**
comp=Z,0.0nmcomp=Z,310nm,0.9s
BLDU Ballidu 58.18 246 P **P** **06 43 35.6 0.0**
MUN Mundaring 58.45 245 P **P** **06 43 37.5 0.0**
comp=Z,386nm,0.8s
MUN Mundaring 58.45 245 P **P** **06 43 37.8 +0.4**
BBSI Bau Bau 58.78 276 P **P** **06 43 44.3 +4.4**
MTKN Mount Kenneth 58.82 245 P **P** **06 43 40.6 +0.8**
comp=Z,1µm,0.7s
MTKN Mount Kenneth 58.82 245 P **P** **06 43 40.7 +0.8**
MORW Morawa 58.96 248 P **P** **06 43 41.1 +0.3**
MORW IAmb IAmb 06 43 41.7
comp=Z,405nm,1.3s
MORW Morawa 58.96 248 P **P** **06 43 40.7 -0.2**
comp=Z,300nm,1.0s
MORW Morawa 58.96 248 P **P** **06 43 40.8 -0.1**
BASI Baing, Sumba 59.06 270 P **P** **06 43 41.5 -0.2**
comp=Z,8µmcomp=Z,912nm,1.0s
KDI Kendari 59.29 278 P **P** **06 43 42.5 -0.8**
comp=Z,3µmcomp=Z,258nm,1.1s
WSI Waingapu 59.49 271 P **P** **06 43 44.3 -0.3**
SGSI Sangihe 59.76 287 P **P** 06 43 52.4 +6.0
KMSI Cibinong 59.82 283 P **P** **06 43 46.4 -0.4**
comp=Z,656nm,1.0s
H01W1 Cape Leeuwin H 59.86 241 P **P** **06 43 48.3 +1.9**
baz=112,slow=7.1,SNR=50
H01W2 Cape Leeuwin H 59.87 241 P **P** **06 43 48.5 +1.9**
baz=112,slow=7.1,SNR=24
H01W3 Cape Leeuwin H 59.87 241 P **P** **06 43 48.5 +1.9**
baz=112,slow=7.1,SNR=53
LUWI Luwuk 60.27 281 P **P** **06 43 50.1 +0.4**
LUWI Luwuk 60.27 281 P **P** **06 43 50.4 +0.7**
LUWI Luwuk 60.27 281 P **P** **06 43 49.8 +0.1**
comp=Z,7µmcomp=Z,823nm,1.0s
WBSI Waikabubak, Su 60.35 271 P **P** **06 43 49.8 -0.5**
comp=Z,3µmcomp=Z,329nm,0.8s
BSSI Bau Bau, Buton 60.48 275 P **P** **06 43 50.1 -1.1**
comp=Z,2µmcomp=Z,164nm,0.8s
JCJ Chichijima 60.88 320 P **P** **06 43 53.2 -0.2**
JCJ IAmb IAmb 06 43 53.8
comp=Z,215nm,0.7s
BKSI Bulukumba 61.11 276 P **P** **06 43 54.0 -1.3**

comp=Z,156nm,0.9s
APSI Ampana 61.35 281 P **P** **06 43 57.1 +0.3**
comp=Z,4µmcomp=Z,496nm,0.8s
KAPI Kappang 61.57 276 P **P** **06 43 58.2 0.0**
KAPI Kappang 61.57 276 P **P** **06 43 57.8 -0.4**
KAPI Kappang 61.57 276 *d* iP **P** **06 43 57.9 -0.3**
KAPI pmax pmax
comp=Z,75nm,0.7s
KAPI Kappang 61.57 276 P **P** **06 43 57.7 -0.5**
KAPI pP **pP** **06 45 58.0 +0.9**
MRSI Marisa 61.64 282 P **P** **06 43 57.6 -1.1**
comp=Z,3µmcomp=Z,270nm,0.7s
GIRL Giralia 61.70 255 P **P** **06 44 00.2 +1.2**
GIRL Giralia 61.70 255 P **P** **06 43 59.1 +0.1**
comp=Z,765nm,0.8s
GIRL Giralia 61.70 255 P **P** **06 44 00.0 +1.0**
CCD Concordia, Ant 61.85 194 P **P** **06 44 00.7 +1.2**
CCD pP **pwP** **06 46 02.0 +0.2**
SPSI Sidrap Palu 61.93 277 P **P** **06 43 58.7 -1.9**
comp=Z,3µmcomp=Z,226nm,0.8s
PLAI Plampang 62.12 271 P **PKiKP** **06 50 47.6 +3.2**
PLAI Plampang 62.12 271 P **P** **06 44 01.5 -0.3**
PLAI Plampang 62.12 271 P **P** **06 44 00.6 -1.2**
comp=Z,7µmcomp=Z,872nm,1.0s
TTSI Tana Toraja 62.22 278 P **P** **06 44 01.4 -1.1**
TOLI2 Tolitoli 62.95 283 P **P** **06 44 07.1 -0.1**
TOLI2 Tolitoli 62.95 283 P **P** **06 44 07.2 0.0**
TWSI Taliwang, Sumb 62.98 271 P **P** **06 44 06.6 -0.7**
comp=Z,5µmcomp=Z,704nm,1.0s
PCI Palu 63.02 280 P **P** **06 44 08.6 +1.0**
comp=Z,977nm,1.0s
RPN Rapa Nui 63.05 111 P **P** **06 44 10.1 +2.5**
RPN IAmb IAmb 06 44 11.0
comp=Z,141nm,0.8s
RPN Rapa Nui 63.05 111 P **P** **06 44 10.1 +2.5**
RPN pmax pmax
comp=Z,141nm,0.8s
MPSI Mapaga 63.45 281 P **P** **06 44 09.6 -0.7**
DNP Denpasar 64.56 270 P **P** **06 44 17.6 +0.3**
SRBI Singaraja 64.75 271 P **P** **06 44 17.7 -0.8**
comp=Z,4µmcomp=Z,439nm,0.9s
SMKI Samarinda 65.62 279 P **P** **06 44 26.4 +2.4**
JAGI Jajag, Banyuwa 65.62 270 P **P** **06 44 23.0 -1.0**
JAGI Jajag, Banyuwa 65.62 270 P **P** **06 44 23.5 -0.5**
JAGI Jajag, Banyuwa 65.62 270 P **P** **06 44 22.4 -1.6**
ABJI Asem Bagus 65.76 271 P **P** **06 44 24.9 +0.1**
KMMI Kalianget 66.26 271 P **P** **06 44 28.3 +0.4**
GMJI Gumukmas 66.35 270 P **P** **06 44 27.3 -1.1**
JHJ2 Mitsune 66.70 323 P **P** **06 44 30.7 +0.6**
JHJ2 Mitsune 66.70 323 P **P** **06 44 30.7 +0.6**
MYLDM Lahad Datu 66.71 286 P **P** **06 44 32.9 +2.3**
MYLDM IAmb IAmb 06 44 50.9
comp=Z,174nm,0.8s
MYLDM Lahad Datu 66.71 286 P **P** **06 44 32.4 +1.7**
GRJI Gresik 67.70 271 P **P** **06 44 37.1 +0.4**
TBJI Tambak Boyo 68.32 271 P **P** **06 44 41.1 +0.6**
PCJI Pacitan 68.49 269 P **P** **06 44 41.2 -0.3**
NGJI Ngawi 68.50 270 P **P** **06 44 42.9 +1.4**
JSG Sagara 68.76 323 P **P** **06 44 43.3 +0.7**
QSPA South Pole Qui 69.13 180 P **P** **06 44 46.2 +1.7**
QSPA IAmb IAmb 06 44 47.2
comp=Z,169nm,1.0s
QSPA South Pole Qui 69.13 180 P **P** **06 44 46.0 +1.5**
comp=Z,133nm,0.9s,baz=12,slow=0.7,SNR=579
QSPA S **S** **06 53 04.9 +2.9**
comp=Z,6.1nm,1.0s,baz=300,slow=22,SNR=18
comp=Z,133nm,0.9s
QSPA South Pole Qui 69.13 180 P **P** **06 44 46.0 +1.5**
QSPA pP **pP** **06 46 48.8 +0.8**
KKM Kota Kinabalu 69.14 285 P **P** **06 44 45.9 +0.5**
KKM Kota Kinabalu 69.14 285 P **P** **06 44 46.2 +0.7**
UGM Wanagama 69.19 269 P **P** **06 44 45.8 0.0**
UGM Wanagama 69.19 269 S **SKiKP** **06 53 30.1 +0.4**
UGM Wanagama 69.19 269 P **P** **06 44 45.8 0.0**
UGM Wanagama 69.19 269 P **P** **06 44 45.3 -0.5**
YOGI Yogyakarta 69.44 269 P **P** **06 44 46.9 -0.3**
SMRI Semarang 69.56 270 P **P** **06 44 48.6 +0.7**
SMRI Semarang 69.56 270 P **P** **06 44 48.4 +0.5**
SMRI Semarang 69.56 270 P **P** **06 44 48.2 +0.3**
JMM Marumori 69.74 327 P **P** **06 44 48.6 +0.3**
JMM IAmb IAmb 06 44 49.5
comp=Z,174nm,1.0s
JMM Marumori 69.74 327 P **P** **06 44 48.7 +0.3**
JOW Kunigami 69.87 311 P **P** **06 44 50.0 +0.6**
JOW Kunigami 69.87 311 P **P** **06 44 50.3 +0.9**
JGF Kuroka 69.90 323 P **P** **06 44 49.6 +0.1**
JGF IAmb IAmb 06 44 50.2
comp=Z,101nm,0.7s
JGF Kuroka 69.90 323 P **P** **06 44 49.5 0.0**
INU Inuyama 69.91 323 P **P** **06 44 49.5 +0.1**
INU IAmb IAmb 06 44 50.5
comp=Z,106nm,0.9s
INU Inuyama 69.91 323 P **P** **06 44 49.6 +0.1**
MJAR Matsushiro Arr 70.12 324 P **P** **06 44 50.3 -0.4**
comp=Z,106nm,0.7s,baz=155,slow=5.6,SNR=168
comp=Z,106nm,0.7s
MAJO Matsushiro 70.12 324 P **P** **06 44 50.9 +0.2**
MAJO IAmb IAmb 06 44 51.5
comp=Z,131nm,0.8s
MAJO Matsushiro 70.12 324 P **P** **06 44 50.9 +0.2**
MAJO Matsushiro 70.12 324 *d* iP **P** **06 44 50.2 -0.4**
MAJO pmax pmax
comp=Z,117nm,0.9s
MAJO Matsushiro 70.12 324 P **P** **06 44 50.3 -0.4**
MAJO PcP **PcP** **06 45 07.3 -0.4**
MJB9 Matsu-Tunnel 70.12 324 P **P** **06 44 52.3 +1.5**
MJB9 IAmb IAmb 06 44 52.8
comp=Z,129nm,0.8s
JMN Monobe 70.62 320 P **P** **06 44 54.1 +0.4**
JMN IAmb IAmb 06 44 55.5
comp=Z,212nm,1.0s
JMN Monobe 70.62 320 P **P** **06 44 53.9 +0.2**
KPJI Karang Pucung 70.87 269 P **P** **06 44 55.0 -0.6**
STKI Sintang 71.11 278 P **P** **06 44 57.7 +0.7**
CMJI Cimerak 71.18 269 P **P** **06 44 56.0 -1.4**
JSD Sado 71.19 325 IAmb IAmb 06 44 58.3
comp=Z,254nm,1.3s
JSD Sado 71.19 325 P **P** **06 44 57.2 +0.3**
SBUM Sibu 71.33 280 P **P** **06 44 59.1 +0.8**
SBUM Sibu 71.33 280 P **P** **06 44 58.8 +0.5**
JCJI Jatiwangi 71.78 270 P **P** **06 45 00.8 -0.1**
ERM Erimo 71.83 331 P **P** **06 45 01.6 +1.1**
ERM IAmb IAmb 06 45 03.7
comp=Z,65nm,0.8s
ERM Erimo 71.83 331 *d* iP **P** **06 45 00.5 0.0**
ERM pmax pmax
comp=Z,75nm,0.8s
JTM Tenmabayashi 71.85 329 P **P** **06 45 01.1 +0.5**
JTM IAmb IAmb 06 45 02.0
comp=Z,149nm,0.8s
JTM Tenmabayashi 71.85 329 P **P** **06 45 01.1 +0.5**
BBJI Bungbulang 72.03 269 P **P** **06 45 01.6 -0.8**
JNU Nakatsue 72.08 317 P **P** **06 45 02.4 +0.1**
JNU Nakatsue 72.08 317 P **P** **06 45 02.0 -0.2**
comp=Z,135nm,0.9s,baz=100,slow=3.3,SNR=50
comp=Z,135nm,0.9s
JNU Nakatsue 72.08 317 P **P** **06 45 02.3 +0.1**
YOJ Yonaguni jima 72.37 306 P **P** **06 45 04.5 +0.5**
KIWB Kanaga Island 72.49 1 P **P** **06 45 04.5 +0.4**
KUR Kuril'sk 72.51 336 ⇑ *i*P **P** **06 45 04.8 +0.5**
KUR pmax pmax
comp=Z,257nm,1.0s
ADK Adak 72.53 1 P **P** **06 45 04.0 -0.3**
ADK Adak 72.53 1 P **P** **06 45 04.0 -0.3**
ADK Adak 72.53 1 P **P** **06 45 04.0 -0.3**
ADK pmax pmax
comp=Z,306nm,0.7s
CNJI Cibinong 72.57 269 P **P** **06 45 04.3 -1.1**
KSM Kuching 72.72 278 P **P** **06 45 07.1 +0.7**
KSM Kuching 72.72 278 P **P** **06 45 07.0 +0.7**
XMI Christmas Isla 72.89 265 P **P** **06 45 07.6 +0.3**
XMIS Christmas Isla 72.91 265 IAmb IAmb 06 45 08.5
comp=Z,220nm,1.1s
XMIS Christmas Isla 72.91 265 P **P** **06 45 07.6 +0.2**
ATKA Atka Island 72.94 3 P **P** **06 45 06.1 -0.5**
ATKA Atka Island 72.94 3 P **P** **06 45 05.7 -0.9**
TWGBT Beinan 72.97 303 P **P** **06 45 06.5 -1.0**
YULB Yu-li 73.11 304 P **P** **06 45 07.4 -0.9**
SKJI Sukabumi 73.20 269 P **P** **06 45 09.3 +0.2**
NACB Ninganchiao 73.30 305 P **P** **06 45 09.1 -0.2**
NACB Ninganchiao 73.30 305 P **P** **06 45 08.8 -0.5**
TPUB Ta-pu 73.58 303 P **P** **06 45 10.1 -0.9**
SSLB Suanglung 73.58 304 P **P** **06 45 10.1 -0.9**

TPI	Tanjungpandan	73.64	273	P	P	06 45 11.6	+0.1
YHNB	Yeheng	73.73	305	P	P	06 45 11.9	0.0
JKA	Kamikawa-asahi	73.75	332	IAmb	IAmb	06 45 14.1	
	comp=Z,202nm,0.9s						
TATO	Taipei	73.81	305	P	P	06 45 12.2	0.0
TATO	Taipei	73.81	305	P	P	06 45 12.1	-0.1
SBJI	Serang	73.90	270	P	P	06 45 12.8	-0.2
CGJI	Cibinong	74.14	269	P	P	06 45 13.2	-1.1
SKR	Severo-Kuril's	74.66	344*ce*	P	P	06 45 16.2	-0.2
BLSI	Bandar Lampung	74.98	270	P	P	06 45 18.4	-0.7
UNV	Unalaska Valle	75.23	8	P	P	06 45 19.1	-0.3
UNV				IAmb	IAmb	06 45 19.6	
	comp=Z,148nm,0.7s						
UNV	Unalaska Valle	75.23	8	P	P	06 45 18.6	-0.8
	baz=192,SNR=9.1						
PPBI	Pangkal Pinang	75.27	273	P	P	06 45 21.7	+1.0
KNMB	Chin-men Tao	75.93	303	IAmb	IAmb	06 45 25.4	
	comp=Z,164nm,0.8s						
YSS	Yuzhno-Sakhali	75.95	334	P	P	06 45 24.4	+0.8
YSS	Yuzhno-Sakhali	75.95	334	P	P	06 45 24.4	+0.8
YSS	Yuzhno-Sakhali	75.95	334κ	*iP*	P	06 45 24.6	+1.0
YSS				*e**PP	pwP	06 47 33.1	-0.4
YSS				*e**SP	sP	06 48 36.1	+3.2
YSS				*e*S	S	06 54 18.6	+1.3
YSS				*e*SS	SS	06 59 36.6	+7.6
YSS				pmax	pmax		
	comp=Z,90nm,1.1s						
YSS				pmax	pmax		
	comp=Z,300nm,4.4s						
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				smax	smax		
	comp=N,20nm,0.6s						
YSS				smax	smax		
	comp=N,40nm,0.5s						
YSS				smax	smax		
	comp=E,40nm,0.5s						
QZH	Quanzhou	76.02	304	P	P	06 45 23.9	-0.6
QZH				pmax	pmax		
	comp=E,350nm,0.8s						
QZH				pmax	pmax		
	comp=E,390nm,4.0s						
PET	Petropavlovsk	76.21	346	P	P	06 45 24.8	-0.1
PET				IAmb	IAmb	06 45 25.0	
	comp=Z,83nm,0.8s						
PET	Petropavlovsk	76.21	346	P	P	06 45 24.5	-0.3
PET	Petropavlovsk	76.21	346	*eP*	P	06 45 23.8	-1.0
PET				*e**SP	sP	06 48 33.7	-0.7
PET				*e*S	S	06 54 21.1	+1.3
PET				pmax	pmax		
	comp=Z,130nm,0.7s						
PET				pmax	pmax		
	comp=Z,100nm,12.6s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
LWLI	Liwa	76.21	270	P	P	06 45 25.1	-0.9
PMBI	Palembang	76.27	272	P	P	06 45 26.3	+0.1
PMBI	Palembang	76.27	272	P	P	06 45 27.3	+1.1
MDSI	Maura Dua	76.28	270	P	P	06 45 24.5	-1.7
TJN	Taejon	76.38	318	IAmb	IAmb	06 45 29.0	
	comp=Z,203nm,0.9s						
TJN	Taejon	76.38	318	P	P	06 45 26.4	+0.2
TJN	Taejon	76.38	318	*dP*	P	06 45 25.7	-0.5
PEA0B	Petropavlovsk-	76.50	346	P	P	06 45 26.9	+0.4
PEA0B	Petropavlovsk-	76.50	346	*dP*	P	06 45 26.3	-0.2
PETK	Petropavlovsk-	76.50	346	P	P	06 45 26.0	-0.5
PETK	Petropavlovsk-	76.50	346	P	P	06 45 26.4	-0.1
	comp=Z,143nm,0.7s,baz=121,slow=6.5,SNR=169						
PETK				PKiKP	PKiKP	06 51 02.8	-0.6
	comp=Z,3.8nm,0.7s,baz=143,slow=2.0,SNR=3.7						
	comp=Z,143nm,0.7s						
FALS	False Pass	76.63	9	P	P	06 45 26.5	-0.6
	baz=195						
KSRS	Korea Array	76.72	319	P	P	06 45 28.8	+0.8
	comp=Z,32nm,0.8s,baz=133,slow=6.2,SNR=126						
	comp=Z,32nm,0.8s						
KSAR	Wonju Array Be	76.73	319	P	P	06 45 29.2	+1.1
KSAR	Wonju Array Be	76.73	319	P	P	06 45 29.2	+1.1
KS19	Wonju Array Si	76.78	319	P	P	06 45 28.9	+0.5
KS19				IAmb	IAmb	06 45 30.1	
	comp=Z,396nm,2.0s						
TEY	Ternei	77.20	329	*eP*	P	06 45 31.1	+0.7
CNBA	Chernabura Isl	77.23	11	P	P	06 45 30.3	0.0
CNBA				IAmb	IAmb	06 45 31.1	
	comp=Z,216nm,1.2s						
CHNA	Chernabura Isl	77.24	11	P	P	06 45 30.0	-0.4
	baz=198						
CHNA	Chernabura Isl	77.24	11	P	P	06 45 30.2	-0.2
MNAI	Manna	77.47	270	P	P	06 45 32.1	-0.6
MNAI	Manna	77.47	270	P	P	06 45 34.1	+1.4
MNAI	Manna	77.47	270	P	P	06 45 32.3	-0.4
INCN	Inchon	77.53	318	P	P	06 45 33.0	+0.5
INCN				IAmb	IAmb	06 45 34.3	
	comp=Z,120nm,1.1s						
INCN	Inchon	77.53	318	P	P	06 45 33.3	+0.8
INCN	Inchon	77.53	318	P	P	06 45 33.0	+0.5
INCN				pmax	pmax		
	comp=Z,120nm,1.1s						
S12K	Black Hills	77.66	10	P	P	06 45 32.1	-0.6
	baz=196,SNR=7.0						
TPRI	Tanjung Pinang	77.88	276	P	P	06 45 35.6	+0.7
UGL	Uglegorsk	77.93	335⇓	*iP*	P	06 45 34.8	+0.6
UGL				pmax	pmax		
	comp=Z,300nm,0.9s						
KSI	Kapahiang	78.06	271	P	P	06 45 35.0	-0.9
SPIA	Saint Paul Isl	78.14	5	P	P	06 45 35.4	+0.1
	baz=188						
VLA	Vladivostok	78.21	325*c*	*iP*	P	06 45 36.5	+0.6
VLA				pmax	pmax		
	comp=Z,54nm,1.0s						
MSHR	Mys Shultsa	78.23	325*d*	*iP*	P	06 45 36.9	+0.9
MSHR				pmax	pmax		
	comp=Z,255nm,0.9s						
HKPS	Hong Kong Po S	78.24	299	P	P	06 45 38.0	+1.4
PSTR	Posyet	78.47	325*d*	*iP*	P	06 45 37.9	+0.6
DLV	Lat	78.52	288	IAmb	IAmb	06 45 40.6	
	comp=Z,197nm,0.9s						
DLV	Lat	78.52	288	P	P	06 45 39.4	+0.9
MYKOM	Kota Tinggi	78.83	276	P	P	06 45 40.9	+1.0
MYKOM	Kota Tinggi	78.83	276	P	P	06 45 41.0	+1.1
CHGN	Chignik	78.85	11	P	P	06 45 39.0	+0.1
CHGN				IAmb	IAmb	06 45 39.8	
	comp=Z,195nm,0.8s						
CHGN	Chignik	78.85	11	P	P	06 45 38.8	-0.2
	baz=199						
USA0B	Ussuriysk Arra	78.90	326	P	P	06 45 40.9	+1.4
USA0B				IAmb	IAmb	06 45 41.7	
	comp=Z,210nm,0.9s						
USA0B	Ussuriysk Arra	78.90	326*d*	*iP*	P	06 45 40.2	+0.6
USRK	Ussuriysk Ar.	78.90	326	P	P	06 45 40.9	+1.4
USRK	Ussuriysk Ar.	78.90	326	P	P	06 45 40.3	+0.8
	comp=Z,181nm,0.9s,baz=128,slow=3.2,SNR=140						
	comp=Z,181nm,0.9s						
USRK	Ussuriysk Ar.	78.90	326	P	P	06 45 40.9	+1.4
CHIR	Chirikof Islan	78.95	13	P	P	06 45 39.8	+0.3
	baz=202						
PMPB	Monarch Peak	78.96	44	IAmb	IAmb	06 45 43.2	
	comp=Z,112nm,1.3s						
TYV	Tymovskoe	79.13	336	*eP*	P	06 45 41.4	+0.8
TYV				pmax	pmax		
	comp=Z,700nm,1.8s						
TYV				pmax	pmax		
	comp=Z,214nm,1.0s						
BELA	Belgrano 2	79.22	173	P	P	06 45 41.3	+0.5
BELA				IAmb	IAmb	06 45 42.3	
	comp=Z,95nm,0.9s						
KCPM	Cahto Peak	79.32	40	IAmb	IAmb	06 45 45.0	
	comp=Z,113nm,1.0s						
KMPM	Mount Pierce	79.45	39	IAmb	IAmb	06 45 45.9	
	comp=Z,246nm,1.0s						
NJ2	Nanjing	79.58	310⇓	*iP*	P	06 45 44.1	+0.7
NJ2				PcP	PcP	06 45 48.8	0.0
NJ2				PP	PP	06 48 51.0	-5.3
NJ2				pmax	pmax		
	comp=Z,130nm,0.9s						
SII	Sitkinak Islan	79.95	14	P	P	06 45 45.2	+0.4
	baz=203						
SII	Sitkinak Islan	79.95	14	P	P	06 45 45.1	+0.4
KHMM	Horse Mountain	79.97	39	IAmb	IAmb	06 45 48.6	
	comp=Z,88nm,0.9s						
O02D	Mt. Diablo Mer	80.10	40	IAmb	IAmb	06 45 49.4	
	comp=Z,148nm,1.1s						
R16K	Pilot Point	80.20	11	P	P	06 45 46.1	+0.1
	baz=200						
QIZ	Qiongzhong	80.34	295	P	P	06 45 48.1	+0.4
QIZ				sP	sP	06 48 58.0	0.0
QIZ				S	SKSac	06 55 07.6	0.0
QIZ				pmax	pmax		
	comp=Z,42nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,210nm,11.3s						
PFO	Pinyon Flats O	80.43	49	P	P	06 45 48.4	+0.4
PFO	Pinyon Flats O	80.43	49*ce*	P	P	06 45 47.3	-0.7
PFO				pmax	pmax		
	comp=Z,19nm,0.9s						
MDJ	Mudanjiang	80.44	325	P	P	06 45 48.4	+0.8
MDJ				IAmb	IAmb	06 45 49.7	
	comp=Z,183nm,0.9s						
MDJ	Mudanjiang	80.44	325	P	P	06 45 48.6	+1.0
MDJ				PP	PP	06 49 03.5	+0.4
MDJ				S	SKSac	06 55 07.3	+0.1
MDJ				pmax	pmax		
	comp=Z,250nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,960nm,3.5s						
MDJ	Mudanjiang	80.44	325	P	P	06 45 48.6	+1.0
COCO	West Island	80.53	261	P	P	06 45 49.1	+0.3
CPBX	Cerro Prieto	80.61	50	IAmb	IAmb	06 45 53.9	
	comp=Z,92nm,1.2s						
OHAK	Old Harbor	80.75	14	P	P	06 45 49.3	+0.4
	baz=204						
PPSI	Pulau Pagai	80.78	271	P	P	06 45 51.0	+0.9
L02F	Cave Junction	80.85	38	P	P	06 45 51.9	+2.1
L02F				IAmb	IAmb	06 45 52.9	
	comp=Z,95nm,1.2s						
BKNI	Bangkinang	80.91	274	P	P	06 45 50.7	-0.1
BKNI	Bangkinang	80.91	274	P	P	06 45 51.2	+0.4
YBH	Yreka Blue Hor	81.11	39	P	P	06 45 53.4	+2.1
YBH				IAmb	IAmb	06 45 54.2	
	comp=Z,96nm,0.8s						
YBH	Yreka Blue Hor	81.11	39	P	P	06 45 53.4	+2.1
YBH				pmax	pmax		
	comp=Z,96nm,0.9s						
GSC	Goldstone, Bar	81.11	47	P	P	06 45 53.1	+1.7
GSC	Goldstone, Bar	81.11	47	P	P	06 45 53.1	+1.7
GSC				pmax	pmax		
	comp=Z,47nm,1.1s						
WAKR	Walker	81.18	43	IAmb	IAmb	06 45 54.7	
	comp=Z,114nm,1.2s						
PMSA	Palmer Station	81.19	157	P	P	06 45 53.0	+1.9
PMSA				IAmb	IAmb	06 45 53.6	
	comp=Z,79nm,0.8s						
PMSA	Palmer Station	81.19	157	*eP*	P	06 45 53.0	+1.9
O14K	Tigyukauivet M	81.19	9	IAmb	IAmb	06 46 17.1	
	comp=Z,94nm,1.2s						
O14K	Tigyukauivet M	81.19	9	P	P	06 45 51.2	+0.1
	baz=197						
PPI	Padang Panjang	81.23	273	P	P	06 45 51.4	-1.0
ACHA	Angle Creek He	81.23	12	IAmb	IAmb	06 45 53.6	
	comp=Z,183nm,1.6s						
GLA	Glamis	81.29	50	IAmb	IAmb	06 45 55.5	
	comp=Z,76nm,0.8s						
J01E	Myrtle Point	81.30	37	IAmb	IAmb	06 45 54.4	
	comp=Z,125nm,1.1s						
O15K	Ungalikthiuk R	81.34	10	P	P	06 45 51.7	-0.2
	baz=198						
Q16K	King Salmon	81.41	11	P	P	06 45 52.4	+0.2
	baz=201,SNR=33						
PNTR	Pine Nut	81.42	43	IAmb	IAmb	06 45 55.7	
	comp=Z,153nm,0.8s						
KDAK	Kodiak Island	81.42	14	P	P	06 45 52.8	+0.5
KDAK				IAmb	IAmb	06 45 53.7	
	comp=Z,320nm,1.7s						
KDAK	Kodiak Island	81.42	14	P	P	06 45 52.6	+0.3
	baz=205						
KDAK	Kodiak Island	81.42	14⇑	*eP*	P	06 45 51.8	-0.5
KDAK				pmax	pmax		
	comp=Z,187nm,1.5s						
DSP	Deep Springs	81.48	45	P	P	06 45 55.0	+2.0
P16K	Nushagak River	81.51	11	P	P	06 45 52.7	0.0
	baz=200,SNR=50						
DL2	Dalian	81.53	317	P	P	06 45 53.8	+0.5
DL2				pP	pwP	06 48 06.9	+1.1
DL2				PP	PP	06 49 14.9	+2.9
DL2				S	SKSac	06 55 12.5	-2.1
DL2				pmax	pmax		
	comp=Z,110nm,1.0s						
DL2				pmax	pmax		
	comp=Z,560nm,4.9s						
GRNR	Gornyy	81.55	333⇓	*iP*	P	06 45 54.2	+1.0
GRNR				pmax	pmax		
	comp=N,20nm,1.3s						
GRNR				pmax	pmax		
	comp=Z,110nm,1.0s						
LHV	Little Huntoon	81.64	44	IAmb	IAmb	06 45 56.7	
	comp=Z,70nm,1.0s						
L04D	Klamath Falls	81.65	39	IAmb	IAmb	06 45 56.6	
	comp=Z,171nm,0.9s						
DBO	Dodson Butte	81.66	38	IAmb	IAmb	06 45 56.9	
	comp=Z,106nm,1.1s						
M11K	Mekoryuk	81.68	6	P	P	06 45 54.9	+1.4
	baz=192,SNR=7.5						
N14K	Kuskokwak Cree	81.78	9	P	P	06 45 54.8	+0.7
	baz=196						
RYN	Ryan	81.84	43	IAmb	IAmb	06 45 57.6	
	comp=Z,118nm,1.6s						
NVAR	Mina Array Bea	81.87	44	P	P	06 45 56.9	+1.6
NVAR	Mina Array Bea	81.87	44	P	P	06 45 56.6	+1.3
	comp=Z,42nm,0.8s,baz=223,slow=8.3,SNR=234						
NVAR				pP	pP	06 48 05.8	+1.2
	comp=Z,2.7nm,1.0s,baz=254,slow=5.8,SNR=3.1						
NVAR				PKiKP	PKiKP	06 51 13.7	+1.2
	comp=Z,0.3nm,0.6s,baz=225,slow=1.3,SNR=2.3						
NVAR				PKKPbc	PKKPbc	07 04 22.6	+0.7
	comp=Z,2.0nm,0.7s,baz=76,slow=3.0,SNR=15						
NVAR				PKPPKP	P'P'df	07 12 26.1	+1.6
	comp=Z,2.6nm,0.9s,baz=114,slow=2.6,SNR=9.9						
	comp=Z,42nm,0.8s						
PAHR	Pah Rah Range	81.91	42	IAmb	IAmb	06 45 57.9	
	comp=Z,77nm,0.9s						
P17K	Kvichak River	81.94	11	P	P	06 45 54.8	-0.1
	baz=201,SNR=61						
NV11	Mina Array Sit	81.96	44	IAmb	IAmb	06 45 58.1	
	comp=Z,88nm,1.1s						
O16K	Kokwok River B	82.02	10	IAmb	IAmb	06 45 55.7	
	comp=Z,152nm,0.9s						
O16K	Kokwok River B	82.02	10	P	P	06 45 54.9	-0.4
	baz=200						
CNSH	ChangSha	82.02	304	P	P	06 45 56.6	+0.5
CNSH				pmax	pmax		
	comp=Z,62nm,1.0s						
M13K	Dall Lake	82.03	8	IAmb	IAmb	06 45 57.6	
	comp=Z,175nm,1.0s						
M13K	Dall Lake	82.03	8	P	P	06 45 56.4	+1.1
	baz=195,SNR=6.5						
SNY	Shenyang	82.06	320	⇓P	P	06 45 56.0	+0.1
SNY				pmax	pmax		
	comp=Z,100nm,0.7s						
WHN	Wuhan	82.09	307	P	P	06 45 56.9	+0.5
WHN				S	SKSac	06 55 16.9	-1.8
WHN				pmax	pmax		
	comp=Z,460nm,1.2s						
WHN				pmax	pmax		
	comp=Z,1μm,2.8s						
SISI	Saibi	82.14	272	P	P	06 45 57.5	+0.5
CN2	Changchun	82.19	323	*eP*	P	06 45 56.8	+0.3
CN2				*ep*P	pP	06 48 04.9	-1.1
CN2				SKS	SKSac	06 55 18.3	-0.4
CN2				*es*S	sS	06 59 09.0	-4.4
CN2				pmax	pmax		
	comp=Z,150nm,1.2s						
Q20K	Shuyak Island	82.22	14	P	P	06 45 56.6	+0.3
	baz=205,SNR=6.9						
SYI	Shuyak Island	82.22	14	IAmb	IAmb	06 45 57.7	
	comp=Z,183nm,1.1s						
Q19K	Cape Douglas,	82.24	13	P	P	06 45 56.5	0.0
	baz=204,SNR=7.1						
N15K	Kwethluk River	82.25	9	P	P	06 45 57.2	+0.8
	baz=198						
BNX	BinXian	82.35	325	⇓P	P	06 45 57.3	0.0
BNX				pmax	pmax		
	comp=Z,280nm,0.8s						
P18K	Big Mountain,	82.35	12	IAmb	IAmb	06 45 57.7	
	comp=Z,118nm,0.8s						
P18K	Big Mountain,	82.35	12	P	P	06 45 56.6	-0.5
	baz=202,SNR=22						
O17K	Koliganek Bris	82.36	11	P	P	06 45 56.7	-0.3
	baz=200,SNR=22						
TPNV	Topopah Spring	82.39	46	IAmb	IAmb	06 46 00.4	
	comp=Z,66nm,0.9s						
IPM	Ipoh	82.43	278	P	P	06 45 59.2	+0.7
MNSI	Mandailing Nat	82.44	274	P	P	06 45 57.5	-1.0
BUCK	Buck Mountain	82.48	37	IAmb	IAmb	06 46 01.6	
	comp=Z,192nm,1.1s						
KLR	Kul'dur	82.52	330	P	P	06 45 58.9	+0.8
	comp=Z,61nm,0.9s,baz=114,slow=4.1,SNR=145						
	comp=Z,61nm,0.9s						
KLR	Kul'dur	82.52	330*d*	*iP*	P	06 45 58.6	+0.5
KLR				pmax	pmax		
	comp=Z,75nm,0.9s						
M14K	Bethel	82.54	8	IAmb	IAmb	06 45 59.7	
	comp=Z,174nm,0.9s						
M14K	Bethel	82.54	8	P	P	06 45 58.6	+0.8
	baz=196,SNR=19						
UBPT	Khong Chiam	82.56	289	IAmb	IAmb	06 46 01.0	
	comp=Z,119nm,1.0s						
M15K	Kasigluk River	82.66	9	P	P	06 45 59.3	+0.8
	baz=197						
HEBO	Mount Hebo	82.70	36	IAmb	IAmb	06 46 02.0	
	comp=Z,236nm,1.1s						
GULI	GuiLin	82.70	300	P	P	06 46 02.0	+2.5
GULI				pmax	pmax		
	comp=Z,210nm,1.2s						
O18K	Koktuh Hills	82.78	12	P	P	06 45 59.1	0.0
	baz=202,SNR=42						
Q09A	Carvers	82.82	44	IAmb	IAmb	06 46 02.4	
	comp=Z,89nm,0.9s						
H04D	Lebanon	82.83	37	IAmb	IAmb	06 46 02.5	
	comp=Z,137nm,1.0s						
SHPR	Sheep Range	82.89	47	P	P	06 46 02.2	+1.7
G03D	McMinnville, O	82.97	36	IAmb	IAmb	06 46 03.1	
	comp=Z,227nm,1.4s						
P19K	Oil Pt	82.99	13	IAmb	IAmb	06 46 01.2	
	comp=Z,196nm,0.9s						
P19K	Oil Pt	82.99	13	P	P	06 46 00.2	0.0
	baz=204,SNR=9.8						
TIA	Tai'an	83.01	313	P	P	06 46 01.3	+0.4
TIA				pmax	pmax		
	comp=Z,140nm,1.2s						
TIA				pmax	pmax		
	comp=Z,440nm,3.7s						
L14K	Kuka Creek	83.02	8	IAmb	IAmb	06 46 02.0	
	comp=Z,145nm,0.9s						
L14K	Kuka Creek	83.02	8	P	P	06 46 01.0	+0.7
	baz=195						
N17K	Nushagak Hills	83.06	11	P	P	06 46 00.6	+0.1
	baz=200						
KULM	Kulim	83.08	278	IAmb	IAmb	06 46 03.6	
	comp=Z,161nm,0.9s						
KULM	Kulim	83.08	278	P	P	06 46 02.6	+0.9
H04A	Detroit Lake	83.23	37	IAmb	IAmb	06 46 03.9	
	comp=Z,101nm,1.0s						
M16K	Timber Creek	83.23	10	P	P	06 46 02.6	+1.3
	baz=199						
O19K	Port Alsworth	83.27	12	P	P	06 46 01.2	-0.3
	baz=203,SNR=75						
CNPM	China Poot	83.30	14	IAmb	IAmb	06 46 03.0	
	comp=Z,159nm,0.8s						
HOM	Homer	83.33	13	P	P	06 46 02.1	+0.2
	baz=205						
PBSI	Pulau Batu	83.35	272	P	P	06 46 03.7	+0.6
K13K	Kusilvak Mount	83.36	7	P	P	06 46 02.9	+1.0
	baz=193						
PINE	Pine Mountain	83.40	38	IAmb	IAmb	06 46 05.7	
	comp=Z,175nm,0.9s						
MG05	Puerto Natales	83.42	143	P	P	06 46 04.3	+1.7
MG05				IAmb	IAmb	06 46 05.0	
	comp=Z,57nm,0.8s						
N18K	Kilae Creek	83.43	11	P	P	06 46 02.2	-0.1
	baz=202						
L15K	Ungalak Mounta	83.50	8	P	P	06 46 02.9	+0.3
	baz=196						
I05D	Terrebonne, OR	83.50	38	IAmb	IAmb	06 46 05.7	
	comp=Z,94nm,0.8s						
O20K	Slope Mountain	83.51	13	P	P	06 46 02.5	-0.3
	baz=204,SNR=5.5						
R11B	Troy Canyon, C	83.60	45	P	P	06 46 04.7	+0.7
	baz=237						
BRSE	Bradley Lake S	83.61	14	P	P	06 46 03.5	+0.3
	baz=206,SNR=22						
PSI	Prapat	83.77	275	P	P	06 46 05.1	-0.2
L16K	Owhat River	83.81	9	IAmb	IAmb	06 46 06.2	
	comp=Z,79nm,1.1s						
L16K	Owhat River	83.81	9	P	P	06 46 04.8	+0.6
	baz=198,SNR=18						
N19K	Bonanza Creek	83.81	12	IAmb	IAmb	06 46 04.8	
	comp=Z,96nm,1.0s						
N19K	Bonanza Creek	83.81	12	P	P	06 46 03.7	-0.6
	baz=203,SNR=24						
M17K	Holitna River	83.84	10	P	P	06 46 05.4	+1.1
	baz=200						
TUC	Tucson	83.85	52	P	P	06 46 07.7	+2.5
TUC	Tucson	83.85	52	P	P	06 46 07.7	+2.5
TUC				pmax	pmax		
	comp=Z,45nm,1.0s						
WISH	Wishkah	83.90	34	IAmb	IAmb	06 46 08.0	
	comp=Z,126nm,1.0s						
HOOD	Mount Hood Mea	83.93	37	IAmb	IAmb	06 46 07.6	
	comp=Z,73nm,1.0s						
WVOR	Wild Horse Val	83.96	40	IAmb	IAmb	06 46 08.1	
	comp=Z,66nm,1.0s						
DIB	Dawson Inlet,	84.01	26	IAmb	IAmb	06 46 10.2	
	comp=Z,67nm,1.1s						
H02S1	DAWSON INLET T	84.01	26	P	P	06 46 06.0	+0.7
MA2	Magadan	84.01	345	P	P	06 46 05.0	-0.2
MA2				IAmb	IAmb	06 46 05.8	
	comp=Z,113nm,0.9s						
MA2	Magadan	84.01	345	P	P	06 46 04.7	-0.5
MA2	Magadan	84.01	345*d*	*iP*	P	06 46 04.5	-0.7
MA2				pmax	pmax		
	comp=Z,87nm,0.9s						
MA2	Magadan	84.01	345	P	P	06 46 04.7	-0.5
	comp=Z,2μmcomp=Z,171nm,1.1s						
NLWA	Neilton Lookou	84.03	34	IAmb	IAmb	06 46 08.3	
	comp=Z,99nm,1.0s						
K15K	Wolf Creek Mou	84.08	8	P	P	06 46 06.4	+0.9
	baz=196						
M18K	Stony River	84.20	11	P	P	06 46 06.4	+0.4
	baz=202						
SEW	Seward	84.23	14	IAmb	IAmb	06 46 07.1	
	comp=Z,99nm,0.9s						
SEW	Seward	84.23	14	P	P	06 46 06.0	-0.2
	baz=207,SNR=12						
J14K	Nanvaranak Lak	84.28	7	IAmb	IAmb	06 46 08.1	
	comp=Z,126nm,1.6s						
J14K	Nanvaranak Lak	84.28	7	P	P	06 46 06.7	+0.3
	baz=194,SNR=5.6						
TSI	Tuntungan	84.36	276	P	P	06 46 08.8	+0.8
Q23K	Middleton Isla	84.39	16	P	P	06 46 07.4	+0.4
	baz=210						
L17K	Donlin	84.39	10	P	P	06 46 08.0	+1.0
	baz=199						
I07A	Izee	84.40	39	IAmb	IAmb	06 46 10.3	
	comp=Z,77nm,1.0s						
CAPN	Captain Cook N	84.44	13	P	P	06 46 08.1	+0.8
	baz=206						
G06A	Carlson Farm,	84.44	37	IAmb	IAmb	06 46 10.1	
	comp=Z,87nm,1.3s						
GSI	Gunungsitoli	84.49	273	P	P	06 46 09.8	+1.1
GSI	Gunungsitoli	84.49	273	P	P	06 46 09.5	+0.8
O22K	Cooper Landing	84.50	14	P	P	06 46 07.3	-0.3
	baz=207,SNR=19						
319A	Douglas	84.52	54	IAmb	IAmb	06 46 11.9	

M19K	**Big River Lodg**	84.84	11	P	P	06 46 09.0	-0.2
	baz=203						
D05A	**Enumclaw**	84.89	35	IAmb	IAmb	06 46 12.7	
	comp=Z,205nm,1.2s						
K17K	**Iditarod**	84.94	9	IAmb	IAmb	06 46 11.4	
	comp=Z,132nm,1.4s						
K17K	**Iditarod**	84.94	9	P	P	06 46 10.2	+0.5
	baz=199						
STLK	**Strandline Lak**	84.96	13	IAmb	IAmb	06 46 09.8	
	comp=Z,68nm,0.8s						
CBB	**Campbell River**	84.98	31	IAmb	IAmb	06 46 12.7	
	comp=Z,122nm,1.3s						
L19K	**White Mountain**	85.01	11	IAmb	IAmb	06 46 11.6	
	comp=Z,170nm,1.1s						
L19K	**White Mountain**	85.01	11	P	P	06 46 10.3	+0.3
	baz=202						
RC01	**Rabbit Creek A**	85.04	14	P	P	06 46 10.1	-0.1
	baz=207,SNR=38						
PGC	**Sidney**	85.04	33	IAmb	IAmb	06 46 12.7	
	comp=Z,72nm,0.9s						
M20K	**Styx River**	85.06	12	P	P	06 46 09.4	-0.9
	baz=204						
ELK	**Elko**	85.12	43	P	P	06 46 12.6	+1.2
ELK	**Elko**	85.12	43	P	P	06 46 12.6	+1.2
ELK				pmax	pmax		
	comp=Z,17nm,1.0s						
PWL	**Port Wells**	85.16	14	P	P	06 46 10.5	-0.2
	baz=208,SNR=27						
J16K	**Anvik River**	85.16	8	IAmb	IAmb	06 46 12.4	
	comp=Z,138nm,1.4s						
J16K	**Anvik River**	85.16	8	P	P	06 46 11.1	+0.4
	baz=197,SNR=17						
HIN	**Hinchinbrook I**	85.19	15	IAmb	IAmb	06 46 12.0	
	comp=Z,111nm,1.1s						
DUN6	**Lazy B Ranch**	85.22	53	IAmb	IAmb	06 46 15.2	
	comp=Z,115nm,0.9s						
SRIT	**Nakonsritamara**	85.27	281	P	P	06 46 14.7	+2.3
HNS	**HongShan**	85.28	313	⇓P	P	06 46 12.8	+0.9
HNS				pmax	pmax		
	comp=Z,170nm,1.0s						
HEH	**HeiHe**	85.29	329	⇓*i*P	P	06 46 11.9	+0.3
HEH				pmax	pmax		
	comp=Z,210nm,0.6s						
PKCU	**Pink Cliffs**	85.32	47	IAmb	IAmb	06 46 15.9	
	comp=Z,69nm,1.0s						
KAIM	**Kayak Island**	85.33	17	IAmb	IAmb	06 46 13.9	
	comp=Z,100nm,0.9s						
CRAG	**Craig**	85.43	24	IAmb	IAmb	06 46 14.7	
	comp=Z,92nm,1.0s						
CRAG	**Craig**	85.43	24	P	P	06 46 13.6	+1.5
	baz=222,SNR=5.5						
CRAG	**Craig**	85.43	24	P	P	06 46 12.1	0.0
G08A	**Pilot Rock**	85.43	38	IAmb	IAmb	06 46 15.0	
	comp=Z,103nm,1.1s						
MXC	**Moxie City**	85.44	36	IAmb	IAmb	06 46 14.9	
	comp=Z,58nm,0.9s						
LYN	**LuoYang**	85.44	310	⇓P	P	06 46 13.9	+1.2
LYN				pP	pP	06 48 21.4	-1.8
LYN				sP	sP	06 49 21.8	-3.2
LYN				S	S	06 56 00.5	+6.9
LYN				pmax	pmax		
	comp=Z,370nm,0.8s						
LYN				pmax	pmax		
	comp=Z,1μm,4.6s						
SKT	**Skwentna**	85.46	13	IAmb	IAmb	06 46 12.1	
	comp=Z,59nm,1.1s						
SKT	**Skwentna**	85.46	13	P	P	06 46 10.7	-1.5
	baz=205,SNR=14						
L20K	**Farewell, AK**	85.46	11	P	P	06 46 12.0	-0.2
	baz=203						
GLI	**Glacier Island**	85.47	15	P	P	06 46 12.1	-0.1
	baz=210,SNR=25						
J17K	**VABM Dome**	85.48	9	IAmb	IAmb	06 46 13.9	
	comp=Z,72nm,1.3s						
J17K	**VABM Dome**	85.48	9	P	P	06 46 12.6	+0.4
	baz=198,SNR=14						
TTA	**Tatalina**	85.51	10	IAmb	IAmb	06 46 14.0	
	comp=Z,129nm,1.3s						
TTA	**Tatalina**	85.51	10	P	P	06 46 12.7	+0.2
	baz=201,SNR=27						
TTA	**Tatalina**	85.51	10	P	P	06 46 12.5	0.0
EYAK	**Cordova Ski Ar**	85.51	16	IAmb	IAmb	06 46 13.7	
	comp=Z,158nm,1.1s						
EYAK	**Cordova Ski Ar**	85.51	16	P	P	06 46 12.5	+0.1
	baz=211,SNR=14						
EYAK	**Cordova Ski Ar**	85.51	16	P	P	06 46 12.7	+0.3
GRNB	**Grenville Isla**	85.51	27	IAmb	IAmb	06 46 15.0	
	comp=Z,72nm,1.0s						
M22K	**Willow**	85.55	13	P	P	06 46 12.3	-0.3
	baz=207						
KNK	**Knik Glacier**	85.61	14	IAmb	IAmb	06 46 14.0	
	comp=Z,114nm,0.8s						
KNK	**Knik Glacier**	85.61	14	P	P	06 46 13.1	+0.1
	baz=208,SNR=36						
PMR	**Palmer**	85.62	14	P	P	06 46 12.8	-0.1
	baz=208,SNR=45						
PMR	**Palmer**	85.62	14	P	P	06 46 13.0	+0.1
LTY	**Liberty**	85.64	35	IAmb	IAmb	06 46 15.6	
	comp=Z,57nm,1.1s						
ENH	**Enshi**	85.66	305	P	P	06 46 14.6	+0.7
ENH	**Enshi**	85.66	305	P	P	06 46 13.9	0.0
BJT	**Baijiatuau**	85.66	316	P	P	06 46 14.2	+0.6
BJT				IAmb	IAmb	06 46 14.8	
	comp=Z,67nm,0.8s						
BJT	**Baijiatuau**	85.66	316	P	P	06 46 15.2	+1.5
BJT	**Baijiatuau**	85.66	316	P	P	06 46 14.2	+0.6
BJT				pmax	pmax		
	comp=Z,67nm,0.8s						
BJI	**Beijing**	85.67	316	P	P	06 46 14.3	+0.6
BJI				pmax	pmax		
	comp=Z,49nm,0.7s						
E07A	**Sunnyside**	85.67	36	IAmb	IAmb	06 46 16.1	
	comp=Z,102nm,0.9s						
NONG	**Nongkai**	85.71	291	P	P	06 46 15.0	+0.6
HMT	**Hamilton**	85.72	16	IAmb	IAmb	06 46 14.8	
	comp=Z,96nm,0.9s						
I17K	**Unalakleet**	85.72	8	P	P	06 46 13.8	+0.5
	baz=197,SNR=11						
HAWA	**Hanford**	85.75	37	IAmb	IAmb	06 46 16.5	
	comp=Z,103nm,0.9s						
BGLC	**Bering Glacier**	85.80	17	P	P	06 46 14.2	+0.5
	baz=213						
SIT	**Sitka**	85.82	22	P	P	06 46 14.3	+0.4
	baz=220						
GHO	**Glory Hole Cre**	85.83	14	P	P	06 46 14.1	+0.1
ANM	**Nome**	85.86	6	P	P	06 46 14.4	+0.4
	baz=193,SNR=6.5						
NAYO	**Nakonayok**	85.86	287	P	P	06 46 17.3	+2.2
J18K	**Innoko River**	85.90	10	IAmb	IAmb	06 46 15.6	
	comp=Z,108nm,0.9s						
J18K	**Innoko River**	85.90	10	P	P	06 46 14.4	+0.2
	baz=201,SNR=56						
U33K	**Whale Pass**	85.91	24	IAmb	IAmb	06 46 16.9	
	comp=Z,134nm,0.9s						
U33K	**Whale Pass**	85.91	24	P	P	06 46 15.6	+1.2
	baz=222,SNR=15						
V35K	**Ketchikan**	85.91	25	IAmb	IAmb	06 46 16.8	
	comp=Z,109nm,0.9s						
V35K	**Ketchikan**	85.91	25	P	P	06 46 15.7	+1.3
	baz=223						
SML	**Sawmill**	85.99	14	IAmb	IAmb	06 46 29.2	
	comp=Z,83nm,1.2s						
SML	**Sawmill**	85.99	14	P	P	06 46 14.4	-0.3
	baz=208,SNR=13						
E08A	**Dider Farm, El**	86.08	37	IAmb	IAmb	06 46 17.9	
	comp=Z,75nm,0.9s						
CUT	**Chulitna**	86.10	13	P	P	06 46 14.9	-0.3
	baz=207,SNR=11						
M23K	**Glacier View**	86.12	14	P	P	06 46 15.2	-0.1
	baz=209,SNR=22						
ELIB	**Princess Elisa**	86.12	187	*d*P	P	06 46 15.8	+0.3
	comp=Z,42nm,0.8s						
ELIB				*d*pP	pP	06 48 26.9	+0.2
SYO	**Syowa Base**	86.13	193	⇑*e*P	P	06 46 15.0	-0.4
BMO	**Blue Mountains**	86.13	39	IAmb	IAmb	06 46 18.0	
	comp=Z,38nm,0.8s						
BMRM	**Bremner River**	86.16	16	P	P	06 46 15.7	+0.1
	baz=212,SNR=27						
PPLA	**Purkeypile**	86.16	12	IAmb	IAmb	06 46 16.0	
	comp=Z,68nm,1.4s						
PPLA	**Purkeypile**	86.16	12	P	P	06 46 14.1	-1.6
	baz=205,SNR=8.7						
121A	**Cookes Peak, D**	86.19	53	P	P	06 46 18.4	+1.8
	baz=242,SNR=16						
S31K	**Pelican**	86.20	21	IAmb	IAmb	06 46 18.0	
	comp=Z,84nm,1.0s						
S31K	**Pelican**	86.20	21	P	P	06 46 16.9	+1.2
	baz=219,SNR=7.1						
GYA	**Guiyang**	86.21	300	P	P	06 46 17.9	+1.2
GYA				pmax	pmax		
	comp=Z,98nm,0.9s						
MESA	**MESA**	86.21	17	P	P	06 46 16.9	+0.9
	baz=214,SNR=15						
MFID	**Camas Ranch**	86.21	41	IAmb	IAmb	06 46 18.8	
	comp=Z,65nm,1.1s						
K20K	**Telida**	86.24	11	IAmb	IAmb	06 46 17.0	
	comp=Z,147nm,1.2s						
K20K	**Telida**	86.24	11	P	P	06 46 15.8	0.0
	baz=203						
SCM	**Sheep Creek Mo**	86.25	14	P	P	06 46 16.2	+0.2
	baz=209,SNR=63						
H16K	**Elim**	86.26	7	P	P	06 46 16.0	+0.1
	baz=196,SNR=53						
KLU	**Klutina**	86.28	15	IAmb	IAmb	06 46 17.4	
	comp=Z,65nm,0.8s						
KLU	**Klutina**	86.28	15	P	P	06 46 16.3	+0.1
	baz=211,SNR=27						
COYC	**Coyhaique**	86.34	138	IAmb	IAmb	06 46 20.3	
	comp=Z,122nm,0.9s						
SLVN	**Son La**	86.37	294	IAmb	IAmb	06 46 21.4	
	comp=Z,86nm,1.4s						
SLVN	**Son La**	86.37	294	P	P	06 46 19.2	+1.7
H03S2	**Juan Fernandez**	86.37	125	P	P	06 46 18.7	+1.8
	baz=328,slow=12,SNR=100						
H03S1	**Juan Fernandez**	86.38	125	P	P	06 46 18.8	+1.8
	baz=328,slow=12,SNR=4.6						
H03S3	**Juan Fernandez**	86.39	125	P	P	06 46 18.7	+1.7
	baz=328,slow=12,SNR=6.0						
S32K	**Killisnoo**	86.39	22	IAmb	IAmb	06 46 18.8	
	comp=Z,71nm,1.2s						
S32K	**Killisnoo**	86.39	22	P	P	06 46 17.7	+1.0
	baz=221,SNR=6.9						
G15K	**Niukluk**	86.41	6	P	P	06 46 16.7	+0.1
	baz194						
WRAK	**Wrangell Islan**	86.42	24	IAmb	IAmb	06 46 19.2	
	comp=Z,110nm,0.9s						
WRAK	**Wrangell Islan**	86.42	24	P	P	06 46 18.1	+1.3
	baz=223,SNR=16						
D08A	**Wollman Farm,**	86.48	36	IAmb	IAmb	06 46 19.9	
	comp=Z,106nm,1.0s						
LHMI	**Lhok Sumawe**	86.49	277	P	P	06 46 20.2	+2.0
T33K	**Petersburg**	86.49	23	P	P	06 46 18.1	+1.0
	baz=222						
H03N2	**Juan Fernandez**	86.52	124	P	P	06 46 19.4	+1.7
H03N3	**Juan Fernandez**	86.52	124	P	P	06 46 19.5	+1.7
H03N1	**Juan Fernandez**	86.53	124	P	P	06 46 19.5	+1.8
PNL	**Peninsula**	86.54	19	P	P	06 46 18.0	+0.7
	baz=216,SNR=17						
PNL	**Peninsula**	86.54	19	P	P	06 46 17.2	-0.2
J19K	**Poorman**	86.57	10	IAmb	IAmb	06 46 18.9	
	comp=Z,58nm,0.9s						
J19K	**Poorman**	86.57	10	P	P	06 46 17.8	+0.5
	baz=202,SNR=28						
E09A	**Wood Farm, Sta**	86.60	37	IAmb	IAmb	06 46 20.1	
	comp=Z,106nm,1.1s						
TNA	**Tin City**	86.63	5	IAmb	IAmb	06 46 18.8	
	comp=Z,44nm,0.8s						
TNA	**Tin City**	86.63	5	P	P	06 46 17.7	+0.2
	baz=190,SNR=17						
PCA	**Pinnacle**	86.63	18	IAmb	IAmb	06 46 19.3	
	comp=Z,124nm,0.9s						
PINM	**Pinnacle**	86.63	18	P	P	06 46 18.2	+0.3
	baz=216,SNR=13						
SEY	**Seymchan**	86.63	347	*d i*P	P	06 46 17.7	0.0
SEY				pmax	pmax		
	comp=Z,163nm,1.0s						
CAST	**Castle Rocks**	86.66	12	P	P	06 46 16.5	-1.3
	baz=205,SNR=101						
F14K	**Arctic Creek**	86.67	5	P	P	06 46 18.0	+0.2
	baz=192						
BCPM	**Bancas Point**	86.70	19	IAmb	IAmb	06 46 19.7	
	comp=Z,95nm,0.9s						
N25K	**Chitina, Valde**	86.71	16	IAmb	IAmb	06 46 19.5	
	comp=Z,107nm,0.8s						
N25K	**Chitina, Valde**	86.71	16	P	P	06 46 18.5	+0.3
	baz=212,SNR=53						
M24K	**Tolsona, Glenn**	86.75	15	P	P	06 46 19.0	+0.7
	baz=210,SNR=19						
GLB	**Gilahina Butte**	86.77	16	IAmb	IAmb	06 46 19.7	
	comp=Z,79nm,0.8s						
H17K	**Granite Mounta**	86.83	8	P	P	06 46 18.5	-0.1
	baz=198						
Q16A	**Castle Valley**	86.84	46	IAmb	IAmb	06 46 22.7	
	comp=Z,76nm,1.6s						
U35K	**Hyder**	86.96	25	IAmb	IAmb	06 46 26.1	
	comp=Z,172nm,1.5s						
U35K	**Hyder**	86.96	25	P	P	06 46 20.4	+1.1
	baz=225						
G16K	**Koyuk River**	86.98	7	P	P	06 46 19.3	+0.1
	baz=195						
J20K	**Nowinta River**	86.98	11	IAmb	IAmb	06 46 20.4	
	comp=Z,96nm,1.1s						
J20K	**Nowinta River**	86.98	11	P	P	06 46 19.4	+0.1
	baz=203,SNR=48						
KTH	**Kantishna Hill**	87.00	12	IAmb	IAmb	06 46 19.5	
	comp=Z,123nm,0.9s						
TIY	**Taiyuan**	87.01	312	*e*P	P	06 46 21.3	+1.1
TIY				pmax	pmax		
	comp=Z,130nm,0.7s						
TMUT	**Trail Mountain**	87.01	46	IAmb	IAmb	06 46 23.3	
	comp=Z,52nm,1.0s						
R32K	**Eaglecrest**	87.03	22	P	P	06 46 20.5	+0.9
	baz=221						
B08A	**Colville Reser**	87.03	35	IAmb	IAmb	06 46 21.6	
	comp=Z,90nm,0.8s						
PLID	**Pearl Lake**	87.03	39	IAmb	IAmb	06 46 22.4	
	comp=Z,120nm,1.3s						
TRF	**Thorofare Moun**	87.04	12	P	P	06 46 19.3	-0.5
	baz=207,SNR=197						
CHUM	**Lake Minchumin**	87.04	11	P	P	06 46 18.8	-0.7
	baz=205,SNR=43						
F15K	**North Star Dit**	87.05	6	P	P	06 46 19.6	0.0
	baz=193						
LLLB	**Lillooet**	87.07	32	IAmb	IAmb	06 46 22.2	
	comp=Z,90nm,1.1s						
JIS	**Juneau Island**	87.07	22	P	P	06 46 19.7	-0.1
GCSA	**Galena City Sc**	87.08	9	P	P	06 46 19.9	+0.2
	baz=200,SNR=37						
BESE	**Bessie Mountai**	87.14	21	IAmb	IAmb	06 46 22.5	
	comp=Z,98nm,1.0s						
HLID	**Hailey**	87.16	41	IAmb	IAmb	06 46 23.5	
	comp=Z,59nm,1.0s						
O28M	**Mount Upton**	87.20	18	P	P	06 46 21.3	+0.6
	baz=216						
H18K	**Honhosa River**	87.25	8	P	P	06 46 20.1	-0.4
	baz=199						
HARP	**HAARP**	87.25	15	P	P	06 46 20.9	+0.3
	baz=211,SNR=26						
C09A	**Chrisman Ranch**	87.28	36	IAmb	IAmb	06 46 23.1	
	comp=Z,87nm,0.9s						
TROLL	**Troll, Antarti**	87.29	180	P	P	06 46 21.0	0.0
TROLL				SKSac	SKSac	06 55 51.8	+1.8
TROLL				S	S	06 56 09.3	-0.8
TROLL	**Troll, Antarti**	87.29	180	⇑P	P	06 46 21.0	0.0
	comp=Z,991nm,0.6s						
TROLL				⇑pP	pP	06 48 32.7	-0.5
	comp=Z,1μm,0.9s						
TROLL				⇓SKSac	SKSac	06 55 51.8	+1.8
	comp=Z,23μm,4.8s						
TROLL				⇓S	S	06 56 09.3	-0.8
O29M	**Mount Kennedy**	87.30	19	P	P	06 46 21.9	+0.9
	baz=217						
PLBC	**Pleasant Camp**	87.32	20	P	P	06 46 22.0	+1.1
	baz=219						
BPAW	**Bear Paw Mtn.**	87.49	12	P	P	06 46 20.4	-1.3
	baz=206,SNR=18						
I20K	**Naaghedeneel**	87.50	10	P	P	06 46 22.1	+0.5
	baz=203,SNR=13						
VHRN	**Van Horn**	87.53	56	IAmb	IAmb	06 46 25.8	
	comp=Z,50nm,1.1s						
Y22D	**IRIS PASSCAL I**	87.53	52	P	P	06 46 24.6	+1.8
	baz=243						
LL02	**Futaleuf**	87.55	136	IAmb	IAmb	06 46 25.7	
	comp=Z,90nm,1.1s						
MCK	**McKinley**	87.57	13	P	P	06 46 21.7	-0.4
	baz=208,SNR=83						
SNAA	**Sanae**	87.59	179	P	P	06 46 22.0	-0.4
SNAA				SKSac	SKSac	06 55 47.9	-3.8
SNAA				S	S	06 56 08.7	-4.0
SNAA	**Sanae**	87.59	179	P	P	06 46 22.5	+0.2
SNAA	**Sanae**	87.59	179	⇑P	P	06 46 22.0	-0.4
	comp=Z,117nm,0.5s						
SNAA				⇑pP	pP	06 48 36.0	+1.6
	comp=Z,223nm,0.8s						
SNAA				⇑SKSac	SKSac	06 55 47.9	-3.8
	comp=Z,11μm,4.9s						
SNAA				⇑S	S	06 56 08.7	-4.0
SNAA	**Sanae**	87.59	179	P	P	06 46 22.1	-0.2
	comp=Z,4.9nm,0.5s,baz=206,slow=9.2,SNR=36						
SNAA				pP	pP	06 48 35.9	+1.6
	comp=Z,13nm,1.0s,baz=169,slow=5.3,SNR=5.9						
	comp=Z,4.9nm,0.5s						
SNAA	**Sanae**	87.59	179	⇑*e*P	P	06 46 22.0	-0.4
SNAA				pmax	pmax		
	comp=Z,14nm,1.7s						
T35M	**Bob Quinn**	87.63	24	IAmb	IAmb	06 46 25.2	
	comp=Z,52nm,1.2s						
T35M	**Bob Quinn**	87.63	24	P	P	06 46 24.1	+1.5
	baz=224,SNR=12						
ZEA	**Zeya**	87.64	331	*e*P	P	06 46 23.2	+0.6
ZEA				pmax	pmax		
	comp=N,50nm,0.7s						
ZEA				pmax	pmax		
	comp=E,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,90nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,3.5s						
P30M	**Million Dollar**	87.65	20	P	P	06 46 23.9	+1.3
	baz=219						
SKAG	**Skagway**	87.66	21	IAmb	IAmb	06 46 25.2	
	comp=Z,141nm,1.4s						
SKAG	**Skagway**	87.66	21	P	P	06 46 24.1	+1.6
	baz=220,SNR=18						
SKAG	**Skagway**	87.66	21	P	P	06 46 23.8	+1.3
PAX	**Paxson**	87.67	15	IAmb	IAmb	06 46 23.3	
	comp=Z,51nm,1.0s						
PAX	**Paxson**	87.67	15	P	P	06 46 22.2	-0.4
	baz=211,SNR=33						
YUK8	**Steele Glacier**	87.74	18	P	P	06 46 24.0	+0.7
	baz=216,SNR=97						
VNA3	**Neumayer Olymp**	87.75	177	P	P	06 46 23.0	0.0
VNA3				SKSac	SKSac	06 55 53.5	+1.0
VNA3				S	S	06 56 11.3	-2.9
VNA3	**Neumayer Olymp**	87.75	177	⇑P	P	06 46 23.0	0.0
	comp=Z,84nm,0.7s						
VNA3				⇑pP	pP	06 48 34.9	-0.2
	comp=Z,20nm,0.7s						
VNA3				⇑SKSac	SKSac	06 55 53.5	+1.0
	comp=Z,0.1nm,0.2s						
VNA3				⇑S	S	06 56 11.3	-2.9
XLT	**XiLinHaoTe**	87.77	319	⇓*i*P	P	06 46 23.6	0.0
XLT				pP	pP	06 48 33.3	-2.1
XLT				pmax	pmax		
	comp=Z,73nm,0.8s						
XLT				pmax	pmax		
	comp=Z,160nm,5.5s						
M26K	**Nabesna, AK**	87.79	16	P	P	06 46 23.6	+0.4
	baz=213						
TCUT	**Toone Canyon**	87.79	44	IAmb	IAmb	06 46 26.4	
	comp=Z,72nm,1.0s						
XAN	**Xi'an**	87.80	308	⇓P	P	06 46 24.9	+1.0
XAN				pP	pP	06 48 31.4	-4.1
XAN				SKS	SKSac	06 55 54.0	0.0
XAN				pmax	pmax		
	comp=Z,350nm,1.0s						
SRDT	**SRDT**	87.85	286	P	P	06 46 26.4	+1.9
YUK6	**Outpost Mounta**	87.87	18	P	P	06 46 24.3	+0.5
	baz=217,SNR=22						
H19K	**Roundabout Mou**	87.87	9	IAmb	IAmb	06 46 24.8	
	comp=Z,111nm,0.9s						
H19K	**Roundabout Mou**	87.87	9	P	P	06 46 23.7	+0.3
	baz=201						
G18K	**Tagagawik**	87.91	8	P	P	06 46 23.4	-0.2
	baz=199						
BSUT	**Blindstream Ca**	87.92	45	IAmb	IAmb	06 46 27.3	
	comp=Z,62nm,1.0s						
TXAR	**Lajitas Array**	87.93	58	P	P	06 46 26.5	+1.8
	comp=Z,27nm,0.8s,baz=220,slow=5.8,SNR=259						
TXAR				pP	pP	06 48 36.8	+0.2
	comp=Z,9.3nm,1.1s,baz=251,slow=4.4,SNR=7.3						
TXAR				PKiKP	PKiKP	06 51 22.5	+0.1
	comp=Z,0.7nm,1.0s,baz=243,slow=1.6,SNR=2.8						
TXAR				PKKPbc	PKKPbc	07 04 06.4	-0.6
	comp=Z,0.8nm,0.7s,baz=120,slow=24,SNR=23						
TXAR				PKPPKP	P'P'df	07 12 14.4	+0.2
	comp=Z,0.4nm,0.8s,baz=63,slow=2.6,SNR=4.2						
	comp=Z,27nm,0.8s						
LR04	**Corral**	87.93	132	IAmb	IAmb	06 46 27.8	
	comp=Z,118nm,1.4s						
S34M	**Telegraph Cree**	87.97	23	IAmb	IAmb	06 46 26.6	
	comp=Z,112nm,0.9s						
S34M	**Telegraph Cree**	87.97	23	P	P	06 46 25.6	+1.5
	baz=224,SNR=54						
PV10	**Paradox Valley**	88.03	48	IAmb	IAmb	06 46 26.9	
	comp=Z,44nm,1.0s						
HYT	**Haines Junctio**	88.03	19	IAmb	IAmb	06 46 26.3	
	comp=Z,72nm,0.9s						
HYT	**Haines Junctio**	88.03	19	P	P	06 46 25.3	+0.8
	baz=218,SNR=35						
M27K	**Edge Creek, AK**	88.04	16	P	P	06 46 25.2	+0.8
	baz=214						
MENT	**Mentasta**	88.06	15	IAmb	IAmb	06 46 25.9	
	comp=Z,83nm,0.9s						
MENT	**Mentasta**	88.06	15	P	P	06 46 25.0	+0.6
H20K	**Anotleneega Mo**	88.08	10	P	P	06 46 24.8	+0.3
	baz=202						
LL03	**Petrohue**	88.09	134	IAmb	IAmb	06 46 27.7	
	comp=Z,60nm,0.8s						
PV23	**Carpenter Ridg**	88.09	48	IAmb	IAmb	06 46 27.6	
	comp=Z,47nm,0.9s						
YUK4	**Talbot Arm**	88.11	18	P	P	06 46 25.9	+1.0
	baz=217,SNR=39						
F17K	**Baldwin Pennin**	88.12	7	P	P	06 46 24.7	+0.2
	baz=196						
VNA2	**Neumayer--Watz**	88.19	177	P	P	06 46 25.1	+0.1
	baz=188,slow=4.4						
VNA2	**Neumayer--Watz**	88.19	177	⇑P	P	06 46 25.1	+0.1
	comp=Z,50nm,0.8s,baz=188,slow=4.4						
VNA2				⇑pP	pP	06 48 38.4	+1.1
	comp=Z,14nm,0.8s,baz=255,slow=22						
L26K	**Log Cabin Wild**	88.22	15	IAmb	IAmb	06 46 26.6	
	comp=Z,96nm,1.2s						
L26K	**Log Cabin Wild**	88.22	15	P	P	06 46 25.6	+0.4
	baz=213,SNR=56						
NVL	**N'lazarevskaya**	88.24	184	*e*P	P	06 46 24.4	-0.8
NVL				*e*PP	pP	06 48 36.8	-1.0
NVL				*e*S	SKSac	06 55 51.9	-3.4
NVL				pmax	pmax		
	comp=Z,50nm,0.8s						
ANMO	**Albuquerque**	88.27	52	P	P	06 46 27.4	+1.1
ANMO	**Albuquerque**	88.27	52	*d i*P	P	06 46 27.2	+0.9
ANMO				pmax	pmax		
	comp=Z,16nm,1.1s						
I21K	**Tanana**	88.28	11	P	P	06 46 25.4	+0.1
	baz=205						
P32M	**Atlin**	88.29	21	IAmb	IAmb

baz=204
HDA Harding Lake 88.58 13 P P 06 46 26.4 -0.3
baz=210,SNR=136
CCB Clear Creek Bu 88.61 13 P P 06 46 26.3 -0.5
HIA Hailar 88.61 325 P P 06 46 27.5 +0.2
HIA IAmb IAmb 06 46 28.4
comp=Z,52nm,0.9s
HIA Hailar 88.61 325 P P 06 46 27.5 +0.2
HIA Hailar 88.61 325 P P 06 46 27.5 +0.2
HIA pmax pmax
comp=Z,52nm,0.9s
L27K Beaver Creek, 88.64 16 P P 06 46 27.4 +0.3
baz=214
BCAR Beaver Creek A 88.65 16 P P 06 46 27.6 +0.4
WHY Whitehorse 88.72 20 IAmb IAmb 06 46 29.6
comp=Z,59nm,0.8s
WHY Whitehorse 88.72 20 P P 06 46 28.3 +0.7
baz=220,SNR=36
I23K Minto, Yukon-K 88.74 12 P P 06 46 26.7 -0.8
baz=207,SNR=49
DLBC Dease Lake 88.75 23 IAmb IAmb 06 46 30.0
comp=Z,48nm,0.9s
DLBC Dease Lake 88.75 23 P P 06 46 28.9 +1.2
baz=225,SNR=23
LR05 Currie 88.76 133 IAmb IAmb 06 46 31.1
comp=Z,47nm,0.8s
COLA College 88.80 13 P P 06 46 27.8 +0.1
COLA College 88.80 13 P P 06 46 27.2 -0.5
baz=209
COLA College 88.80 13 P P 06 46 26.9 -0.8
COLA College 88.80 13 *d iP* **P 06 46 26.8 -0.9**
COLA pmax pmax
comp=Z,200nm,0.9s
AHID Auburn Hatcher 88.81 43 IAmb IAmb 06 46 31.6
comp=Z,46nm,0.9s
KMI Kunming 88.87 297 ⇓P **P 06 46 30.8 +1.5**
KMI pmax pmax
comp=Z,190nm,0.9s
KMI pmax pmax
comp=Z,360nm,3.1s
SCRK Sand Creek 88.88 15 IAmb IAmb 06 46 29.5
comp=Z,59nm,0.9s
SCRK Sand Creek 88.88 15 P P 06 46 28.4 +0.1
baz=212,SNR=73
ILAR Eielson Array 88.91 13 P P 06 46 28.0 -0.3
ILAR Eielson Array 88.91 13 P P 06 46 27.4 -0.8
comp=Z,48nm,0.8s,baz=223,slow=5.2,SNR=512
ILAR pP **pP 06 48 41.2 +0.2**
comp=Z,8.2nm,1.1s,baz=229,slow=5.4,SNR=6.0
ILAR PKiKP **PKiKP 06 51 22.1 -0.7**
comp=Z,1.0nm,0.5s,baz=195,slow=2.8,SNR=14
comp=Z,48nm,0.8s
F19K Shaleruckik Mo 88.92 8 IAmb IAmb 06 46 29.2
comp=Z,82nm,0.8s
F19K Shaleruckik Mo 88.92 8 P P 06 46 28.2 0.0
baz=200
H22K Ishtalitna Cre 89.04 11 P P 06 46 28.9 0.0
baz=206
M29M Somme Creek 89.04 18 P P 06 46 29.8 +0.7
baz=217,SNR=77
P33M Teslin, Yukon 89.06 21 P P 06 46 29.9 +0.7
baz=222,SNR=20
N31M Braeburn, Yuko 89.08 19 P P 06 46 29.9 +0.7
baz=220,SNR=28
POKR Poker Plat Res 89.10 13 IAmb IAmb 06 46 29.4
comp=Z,72nm,0.9s
POKR Poker Plat Res 89.10 13 P P 06 46 28.4 -0.7
baz=209,SNR=30
R33M Jennings River 89.10 22 IAmb IAmb 06 46 31.8
comp=Z,68nm,1.2s
R33M Jennings River 89.10 22 P P 06 46 30.6 +1.1
baz=224,SNR=23
J25K Salcha River, 89.10 14 P P 06 46 29.2 -0.1
baz=211
HHC Hu-ho-hao-te 89.12 315 *eP* **P 06 46 30.8 +0.8**
HHC pmax pmax
comp=Z,95nm,0.8s
HHC pmax pmax
comp=Z,300nm,4.2s
E18K Tukpahlearik C 89.13 7 P P 06 46 29.6 +0.3
baz=197
D17K Noatak River 89.14 6 P P 06 46 29.6 +0.4
baz=195,SNR=64
DLMT Dillon 89.21 40 IAmb IAmb 06 46 32.7
comp=Z,34nm,0.9s
TPAW Teton Pass 89.27 42 IAmb IAmb 06 46 32.3
comp=Z,37nm,0.9s
S22A 4UR Ranch, Cre 89.28 49 P P 06 46 32.4 +1.3
baz=243
SNOW Snow King Moun 89.38 42 IAmb IAmb 06 46 33.8
comp=Z,69nm,0.9s
BILL Bilibino 89.40 354 P P 06 46 30.7 +0.3
BILL IAmb IAmb 06 46 31.7
comp=Z,71nm,1.0s
BILL Bilibino 89.40 354 *d iP* **P 06 46 30.4 -0.1**
BILL pmax pmax
comp=Z,61nm,0.9s
F20K Avaraart Lake 89.41 9 P P 06 46 30.8 +0.3
baz=202
O20A White River Ci 89.41 46 IAmb IAmb 06 46 33.5
comp=Z,42nm,0.9s
J26L Joseph Creek 89.42 14 P P 06 46 31.5 +0.7
baz=213
C16K Lisburne Hills 89.50 5 IAmb IAmb 06 46 32.1
comp=Z,73nm,1.1s
C16K Lisburne Hills 89.50 5 P P 06 46 31.0 +0.1
baz=193
RDOG Red Dog Mine 89.50 6 IAmb IAmb 06 46 32.3
comp=Z,64nm,0.9s
RDOG Red Dog Mine 89.50 6 P P 06 46 31.3 +0.3
baz=195,SNR=16
PLCA Paso Flores 89.52 134 P P 06 46 34.1 +2.1
PLCA IAmb IAmb 06 46 34.7
comp=Z,30nm,0.8s
PLCA Paso Flores 89.52 134 P P 06 46 34.0 +2.1
comp=Z,21nm,0.7s,baz=226,slow=5.1,SNR=66
PLCA PKKPbc **PKKPbc 07 04 03.2 -0.3**
comp=Z,3.5nm,0.7s,baz=44,slow=1.9,SNR=8.3
PLCA PKPPKP **P'P'df 07 12 08.1 -4.2**
comp=Z,2.6nm,1.0s,baz=258,slow=1.1,SNR=5.0
comp=Z,21nm,0.7s
PLCA Paso Flores 89.52 134 P **P 06 46 34.1 +2.1**
PLCA pmax pmax
comp=Z,31nm,0.9s
PLCA Paso Flores 89.52 134 *eP* **P 06 46 34.4 +2.5**
MOOW Moose Ponds 89.53 42 IAmb IAmb 06 46 34.2
comp=Z,62nm,1.8s
CMAR Chiang Mai Arr 89.55 290 P P 06 46 34.5 +2.2
CMAR Chiang Mai Arr 89.55 290 P P 06 46 34.0 +1.7
comp=Z,112nm,0.9s,baz=126,slow=3.0,SNR=383
CMAR pP **pP 06 48 44.9 +0.6**
comp=Z,0.9nm,0.3s,baz=111,slow=5.3,SNR=1.6
CMAR PP **PP 06 50 10.8 -5.1**
comp=Z,3.9nm,0.7s,baz=118,slow=7.7,SNR=4.3
comp=Z,112nm,0.9s
E19K Redstone River 89.58 8 P P 06 46 31.8 +0.4
baz=200
M30M Minto, Yukon 89.62 18 P P 06 46 32.1 +0.5
baz=219,SNR=113
H24K Noodor Dome 89.64 12 P P 06 46 30.0 -1.7
baz=209
L29M L29M 89.66 17 P P 06 46 32.8 +0.9
baz=218
N32M Quiet Lake 89.67 20 P P 06 46 32.7 +0.7
baz=222
CHTO Chiang Mai 89.68 290 P P 06 46 34.8 +1.9
CHTO Chiang Mai 89.68 290 P P 06 46 34.8 +1.9
CHTO pmax pmax
comp=Z,134nm,0.8s
FLWY Flagg Ranch 89.73 42 IAmb IAmb 06 46 35.6
comp=Z,54nm,1.1s
YHB Horse Butte 89.75 41 IAmb IAmb 06 46 35.9
comp=Z,46nm,1.3s
PD31 Pinedale Array 89.80 44 IAmb IAmb 06 46 34.9
comp=Z,34nm,0.8s
PDAR Pinedale Array 89.80 44 P P 06 46 34.4 +1.1
PDAR Pinedale Array 89.80 44 P P 06 46 33.7 +0.4
comp=Z,23nm,0.7s,baz=210,slow=3.1,SNR=227
PDAR PKKPbc **PKKPbc 07 04 01.5 -1.7**
comp=Z,1.7nm,0.7s,baz=84,slow=3.6,SNR=14
PDAR PKPPKP **P'P'df 07 12 09.9 0.0**
comp=Z,0.7nm,0.8s,baz=68,slow=4.0,SNR=5.1
comp=Z,23nm,0.7s
YHL Hebgen Lake 89.81 41 IAmb IAmb 06 46 36.3
comp=Z,125nm,1.7s
YFT Old Faithful 89.83 42 IAmb IAmb 06 46 36.9
comp=Z,30nm,1.0s
PRP Porcupine Dome 89.85 13 IAmb IAmb 06 46 34.2
comp=Z,107nm,1.4s
PRP Porcupine Dome 89.85 13 P P 06 46 32.2 -0.6
baz=211,SNR=34
YMR Madison River 89.85 41 IAmb IAmb 06 46 36.4
comp=Z,79nm,1.6s
C17K DeLong Mountai 89.89 6 P P 06 46 32.7 0.0
baz=195
F21K Alatna River 89.90 10 P P 06 46 32.6 -0.2
baz=204
BOZ Bozeman (W) 89.92 40 IAmb IAmb 06 46 36.0
comp=Z,32nm,1.0s
G22K Bettles 89.95 10 P P 06 46 33.3 +0.3
baz=205
H17A Grant Village 89.96 42 IAmb IAmb 06 46 37.4
comp=Z,31nm,1.1s
ODSA Odessa 89.98 56 IAmb IAmb 06 46 36.1
comp=Z,44nm,1.1s
G23K Bananza Creek 90.02 11 IAmb IAmb 06 46 34.8
comp=Z,57nm,1.2s
G23K Bananza Creek 90.02 11 P P 06 46 33.4 0.0
baz=207
BTO Baotou 90.03 314 *eP* **P 06 46 35.8 +1.6**
BTO pP **pP 06 48 43.3 -3.2**
BTO sP **sP 06 49 45.4 -2.0**
BTO PP **PP 06 50 17.6 -1.9**
BTO S **S 06 56 28.6 -7.3**
BTO pmax pmax
comp=Z,190nm,1.2s
BTO pmax pmax
comp=Z,380nm,4.4s
M31M Drury Creek, Y 90.05 19 P P 06 46 33.5 -0.1
baz=221,SNR=11
DAWY Dawson 90.09 16 P P 06 46 34.3 +0.5
baz=216
I26K Coal Creek Min 90.19 14 P P 06 46 34.5 +0.3
baz=213,SNR=51
PZH PanZhiHua 90.24 298 P P 06 46 36.4 +0.9
PZH pmax pmax
comp=Z,120nm,0.8s
PZH pmax pmax
comp=Z,170nm,4.4s
C18K Utukok River 90.25 6 IAmb IAmb 06 46 35.5
comp=Z,67nm,1.1s
C18K Utukok River 90.25 6 P P 06 46 34.3 -0.1
baz=196
CD2 Chengdu 90.39 303 P P 06 46 36.9 +0.9
CD2 SKS **SKSac 06 56 07.8 -1.2**
CD2 S **ScS 06 56 40.8 -0.5**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,470nm,4.7s
WTLY Watson Lake, Y 90.39 23 IAmb IAmb 06 46 37.1
comp=Z,30nm,0.9s
WTLY Watson Lake, Y 90.39 23 P P 06 46 35.9 +0.7
baz=226,SNR=14
DRIO Del Rio 90.39 59 IAmb IAmb 06 46 38.1
comp=Z,48nm,0.8s
FARO Faro, Yukon 90.39 20 IAmb IAmb 06 46 36.6
comp=Z,98nm,1.9s
FARO Faro, Yukon 90.39 20 P P 06 46 35.3 +0.1
baz=222,SNR=9.7
K29M Barlow Dome 90.41 17 P P 06 46 36.1 +0.7
baz=218
H25L Birch Creek 90.43 13 P P 06 46 35.0 -0.3
baz=211
COLD Coldfoot 90.45 11 IAmb IAmb 06 46 37.0
comp=Z,74nm,1.0s
COLD Coldfoot 90.45 11 P P 06 46 35.9 +0.6
baz=207,SNR=57
D19K Kuna River 90.45 7 P P 06 46 35.4 0.0
baz=199,SNR=136
E20K Nigu River 90.47 8 P P 06 46 35.8 +0.2
baz=201
G24K Hadweenzic Riv 90.48 12 IAmb IAmb 06 46 36.2
comp=Z,31nm,1.2s
G24K Hadweenzic Riv 90.48 12 P P 06 46 35.0 -0.5
baz=209
MAYO Mayo, Yukon 90.67 18 P P 06 46 37.4 +0.9
baz=220,SNR=46
J29N Klondike Camp 90.71 16 P P 06 46 37.6 +0.9
baz=218,SNR=56
T25A Trinidad 90.73 50 P P 06 46 38.3 +0.6
baz=244,SNR=8.5
I27K Kandik River 90.80 15 P P 06 46 37.1 +0.1
baz=214
G25K Bearman Lake 90.81 12 P P 06 46 36.6 -0.4
baz=210
D20K Etivluk River 90.84 8 P P 06 46 37.4 +0.3
baz=201
TOAD Toad River Com 90.86 25 P P 06 46 38.1 +0.6
baz=229,SNR=45
BI02 San Fabin de 90.88 130 IAmb IAmb 06 46 40.4
comp=Z,51nm,0.8s
B18K Kokolik River 90.88 6 P P 06 46 37.6 +0.3
baz=196
833A Chaparral WMA, 90.94 60 IAmb IAmb 06 46 40.7
comp=Z,23nm,0.8s
833A Chaparral WMA, 90.94 60 P P 06 46 39.6 +1.0
baz=247
E21K Killik River 90.95 9 P P 06 46 37.6 -0.1
baz=203
E22K Anaktuvuk Pass 91.00 10 P P 06 46 38.0 +0.1
baz=205,SNR=77
Q24A Divide 91.01 48 P P 06 46 40.0 +0.9
baz=244,SNR=15
HBVL Hebbronville 91.04 61 IAmb IAmb 06 46 42.3
comp=Z,31nm,1.1s
I28M Miner Creek 91.07 15 IAmb IAmb 06 46 39.3
comp=Z,42nm,0.8s
I28M Miner Creek 91.07 15 P P 06 46 38.5 +0.1
baz=216
EFI East Falkland 91.12 148 ⇑ *iP* **P 06 46 39.6 +0.6**
EFI pmax pmax
comp=Z,65nm,1.4s
F24K Squaw Lake 91.12 11 P P 06 46 39.0 +0.5
baz=209
ML02 Panimavida 91.18 129 IAmb IAmb 06 46 41.5
comp=Z,49nm,0.9s
E23K Chandalar 91.29 11 IAmb IAmb 06 46 40.7
comp=Z,43nm,1.0s
E23K Chandalar 91.29 11 P P 06 46 39.6 +0.2
baz=207,SNR=33
J30M Hart River 91.31 17 P P 06 46 39.8 +0.3
baz=219
N23A Red Feather La 91.32 46 IAmb IAmb 06 46 43.1
comp=Z,31nm,0.9s
N23A Red Feather La 91.32 46 P P 06 46 41.4 +1.0
baz=243,SNR=21
H27K Steamboat Moun 91.34 14 P P 06 46 40.0 +0.5
baz=214
I29M Ogilvie Camp, 91.41 16 P P 06 46 39.7 -0.2
baz=217,SNR=37
G26K Porcupine Rive 91.44 13 P P 06 46 40.4 +0.5
baz=212,SNR=66
C21K Knifeblade Rid 91.50 8 P P 06 46 40.8 +0.6
baz=202
HNDO Hondo 91.50 59 IAmb IAmb 06 46 43.6
comp=Z,39nm,0.8s
E24K Your Creek 91.51 11 P P 06 46 40.4 +0.1
baz=208
D22K Aylyak River 91.55 9 P P 06 46 41.1 +0.7
baz=204
TGTN Hyland Airport 91.56 22 P P 06 46 41.4 +0.8
baz=226,SNR=18
F25K Christian Rive 91.61 12 P P 06 46 41.5 +0.7
baz=211
BMAR Burnt Mountain 91.69 13 P P 06 46 42.1 +1.0
K22A Casper 91.72 45 IAmb IAmb 06 46 43.8
comp=Z,32nm,1.2s
A19K Wainwright 91.76 6 P P 06 46 41.7 +0.4
baz=197
G27K Doyon Strip 91.79 14 P P 06 46 41.9 +0.3
baz=214
I30M Mount Dempster 91.80 17 IAmb IAmb 06 46 42.9
comp=Z,55nm,0.9s
I30M Mount Dempster 91.80 17 P P 06 46 41.9 +0.1
baz=219
TOLK Toolik Lake Re 91.82 10 IAmb IAmb 06 46 43.0
comp=Z,91nm,1.6s
TOLK Toolik Lake Re 91.82 10 P P 06 46 41.9 +0.2
baz=207,SNR=17
D23K Nanushuk River 91.93 10 P P 06 46 42.7 +0.6
baz=206
B21K Ikpikpuk River 91.96 8 IAmb IAmb 06 46 43.5
comp=Z,52nm,1.1s
B21K Ikpikpuk River 91.96 8 P P 06 46 42.4 +0.2
baz=203,SNR=33
F26K Sheenjek River 92.00 13 P P 06 46 43.3 +0.7
baz=212
H29M Whitestone 92.08 15 P P 06 46 43.1 +0.2
baz=217
BO02 Sierra Bellavi 92.08 128 IAmb IAmb 06 46 45.8
comp=Z,23nm,0.7s
E25K Arctic Village 92.08 12 P P 06 46 43.4 +0.4
baz=211,SNR=21
KOTAN Kotaneelee Air 92.16 24 P P 06 46 43.9 +0.5
baz=230,SNR=12
MT01 Popeta 92.16 127 IAmb IAmb 06 46 46.0
comp=Z,49nm,0.8s
YAK Yakutsk 92.24 338 P P 06 46 43.5 -0.1
YAK Yakutsk 92.24 338 P P 06 46 43.0 -0.6
comp=Z,164nm,0.8s,baz=107,slow=2.0,SNR=36
comp=Z,164nm,0.8s
YAK Yakutsk 92.24 338 ⇓ *iP* **P 06 46 42.7 -0.9**
YAK *e*PPP PPP 06 52 39.3
YAK *e*S **SKSac 06 56 13.4 -4.3**
YAK *e* 06 56 51.8
YAK *e*SS **SS 07 03 23.9 -0.9**
YAK *e*SSS SSS 07 07 09.7
YAK pmax pmax
comp=Z,230nm,1.3s
YAK pmax pmax
comp=N,27nm,1.5s
YAK pmax pmax
comp=E,27nm,1.6s
YAK pmax pmax
comp=Z,464nm,6.0s
YAK pmax pmax
comp=N,200nm,6.3s
YAK pmax pmax
comp=E,268nm,6.4s
YAK smax smax
comp=N,305nm,6.5s
YAK smax smax
comp=E,195nm,8.4s
VA01 Torpederas 92.24 127 IAmb IAmb 06 46 46.3
comp=Z,20nm,0.7s
APMT Aspermont 92.34 55 IAmb IAmb 06 49 02.6
comp=Z,78nm,1.8s
D24K Happy Valley 92.40 10 P P 06 46 44.7 +0.4
baz=208
LZH Lanzhou 92.43 308 ⇓P **P 06 46 46.4 +1.0**
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,190nm,5.2s
EPYK Eagle Plains 92.61 16 IAmb IAmb 06 46 46.4
comp=Z,52nm,0.8s
EPYK Eagle Plains 92.61 16 P P 06 46 45.2 -0.1
baz=219,SNR=29
G29M Pine Creek 92.72 15 P P 06 46 45.6 -0.2
baz=218
C23K Itkillik River 92.73 9 IAmb IAmb 06 46 46.8
comp=Z,35nm,0.8s
C23K Itkillik River 92.73 9 P P 06 46 46.3 +0.5
baz=206
MT05 Renca 92.75 127 IAmb IAmb 06 46 48.5
comp=Z,21nm,0.8s
H31M Peel River 92.80 17 P P 06 46 45.8 -0.4
baz=221,SNR=9.7
KSCO Kaye Shedlock' 92.80 49 IAmb IAmb 06 46 49.0
comp=Z,45nm,0.9s
F28M Old Crow 92.85 14 P P 06 46 46.5 +0.1
baz=216,SNR=17
MT03 Universidad Ad 92.88 127 IAmb IAmb 06 46 49.6
comp=Z,28nm,1.3s
MT16 CCHEN 92.89 127 IAmb IAmb 06 46 49.6
comp=Z,19nm,0.8s
PEL Peldehue 92.90 127 IAmb IAmb 06 46 49.7
comp=Z,26nm,0.8s
MT13 San Alfonso 92.93 128 IAmb IAmb 06 46 50.2
comp=Z,23nm,0.8s
C24K Franklin Bluff 92.93 10 P P 06 46 47.0 +0.3
baz=208
D25K Kavik River 92.98 11 P P 06 46 46.5 -0.4
baz=210
VA03 San Esteban 93.18 127 IAmb IAmb 06 50 43.5
comp=Z,26nm,1.2s
G30M tAoh Zraii Nji 93.21 15 P P 06 46 47.9 -0.2
baz=219
A21K Barrow 93.30 7 P P 06 46 48.3 0.0
baz=201
CIT Chita 93.41 325 *eP* **P 06 46 47.6 -1.8**
CIT pmax pmax
comp=Z,87nm,2.0s
PLPT Palo Pinto 93.54 56 IAmb IAmb 06 46 52.1
comp=Z,19nm,1.1s
C27K Jago River 93.73 12 P P 06 46 50.6 +0.2
baz=213
LAO LASA Array 93.74 41 IAmb IAmb 06 46 53.5
comp=Z,26nm,0.9s
C26K Camden Bay 93.75 11 P P 06 46 51.0 +0.6
baz=212
F30M Barrier River 93.81 15 P P 06 46 50.6 -0.2
baz=220
E29M Blow River 93.92 14 P P 06 46 50.8 -0.4
baz=218
D27M Malcolm River 93.95 13 IAmb IAmb 06 46 53.0
comp=Z,39nm,1.2s
D27M Malcolm River 93.95 13 P P 06 46 51.9 +0.5
baz=215
RSSD Black Hills 94.00 44 P P 06 46 53.0 +0.5
RSSD IAmb IAmb 06 46 53.7
comp=Z,21nm,1.0s
RSSD Black Hills 94.00 44 P P 06 46 53.0 +0.5
RSSD pmax pmax
comp=Z,21nm,1.0s
F31M Tsiigehtchic 94.19 16 P P 06 46 52.7 +0.2
F31M Tsiigehtchic 94.19 16 P P 06 46 52.4 0.0
baz=222,SNR=44
WRGLY Wrigley 94.37 22 P P 06 46 53.3 0.0
baz=230,SNR=8.8
HKT Hockley 94.44 60 ⇓ *eP* **P 06 46 53.7 -0.7**
HKT pmax pmax
comp=Z,15nm,1.7s
D28M Stokes Point 94.48 13 P P 06 46 53.1 -0.6
baz=217,SNR=43
INK Inuvik 94.89 15 P P 06 46 55.4 -0.2
INK IAmb IAmb 06 46 56.2
comp=Z,41nm,1.1s
INK Inuvik 94.89 15 PKPPKP 07 12 00.8
comp=Z,0.4nm,0.4s,baz=114,slow=30,SNR=15
INK Inuvik 94.89 15 P P 06 46 55.2 -0.4
baz=222,SNR=32
INK Inuvik 94.89 15 P P 06 46 55.4 -0.2
INK pmax pmax
comp=Z,41nm,1.2s
HNVL Huntsville, TX 95.02 59 IAmb IAmb 06 49 16.5
comp=Z,27nm,1.0s
FNO Franklin 95.16 54 IAmb IAmb 06 49 16.6
comp=Z,41nm,1.5s
ULN Ulaanbaatar 95.20 319 P P 06 46 58.0 +0.3
ULN IAmb IAmb 06 46 58.4
comp=Z,17nm,0.9s
ULN Ulaanbaatar 95.20 319 *d iP* **P 06 46 57.1 -0.6**
ULN pmax pmax
comp=Z,14nm,0.8s
R32A Long Quarter, 95.38 51 IAmb IAmb 06 47 01.2
comp=Z,31nm,0.8s
CFA Coronel Fontan 95.45 127 P P 06 47 00.2 +1.0
comp=Z,5.9nm,1.0s,baz=236,slow=4.8,SNR=14
CFA PP **PP 06 50 59.2 -1.4**
comp=Z,5.4nm,1.1s,baz=246,slow=11,SNR=7.8
CFA S **SKSac 06 56 35.6 -1.1**
comp=Z,0.4nm,0.4s,baz=51,slow=19,SNR=5.5
CFA PKKPbc **PKKPbc 07 03 47.6 -0.6**
comp=Z,1.5nm,0.4s,baz=9.5,slow=3.4,SNR=8.1
comp=Z,5.9nm,1.0s
W35A Tecumseh 95.52 55 IAmb IAmb 06 49 18.3
comp=Z,34nm,1.3s
SONM Songino Array 95.59 319 P P 06 46 59.4 -0.1
SONM Songino Array 95.59 319 P P 06 46 59.0 -0.4
comp=Z,3.6nm,0.6s,baz=111,slow=3.0,SNR=27
SONM PP **PP 06 50 58.6 -3.4**
comp=Z,5.0nm,1.0s,baz=120,slow=8.7,SNR=6.9
SONM PKiKP **PKiKP 06 51 35.2 +0.2**
comp=Z,1.7nm,0.7s,baz=114,slow=1.7,SNR=1.6
comp=Z,3.6nm,0.6s
DGMT Dagmar 95.75 40 IAmb IAmb 06 47 02.0
comp=Z,27nm,0.9s
K30B Basset 96.36 47 IAmb IAmb 06 47 04.8
comp=Z,22nm,0.9s
GTA Gaotai 96.66 310 *eP* **P 06 47 05.0 +0.5**
GTA SKS **SKSac 06 56 41.8 -0.7**

GTA pmax pmax
comp=Z,16nm,1.2s
YKA Yellowknife Ar 97.23 25 P Pdif 06 47 06.1 -0.1
comp=Z,5.3nm,0.7s,baz=246,slow=4.8,SNR=98
YKA pP pP 06 49 19.8 +0.4
comp=Z,1.4nm,0.9s,baz=242,slow=4.7,SNR=4.1
YKA PP **PP 06 51 09.1 -4.8**
comp=Z,2.3nm,1.0s,baz=241,slow=8.1,SNR=8.3
YKA PKiKP **PKiKP 06 51 36.7 -0.5**
comp=Z,1.0nm,0.8s,baz=242,slow=1.8,SNR=9.1
YKA PKKPbc **PKKPbc 07 03 41.0 -3.3**
comp=Z,0.3nm,0.4s,baz=37,slow=2.1,SNR=7.4
comp=Z,5.3nm,0.7s
C36M Paulatuk 98.09 17 P Pdif 06 47 09.2 -0.7
baz=230,SNR=13
ZAK Zakamensk 98.49 321 *e*P Pdif 06 47 11.1 -1.2
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 98.98 345‖ *e*P Pdif 06 47 12.6 -1.2
TIXI pmax pmax
comp=Z,14nm,1.4s
GOMU GeErMu 99.27 305 P **Pdif 06 47 16.5 0.0**
A36M Sachs Harbour 99.50 15 P **Pdif 06 47 16.2 +0.2**
baz=230
LSA Lhasa 100.12 298 P **Pdif 06 47 20.8 +0.3**
LSA Lhasa 100.12 298 Pdiff **Pdif 06 47 21.3 +0.8**
ULM Lac du Bonnet 101.46 41 P **Pdif 06 47 26.8 +1.5**
comp=Z,1.0nm,0.7s,baz=230,slow=7.0,SNR=3.2
ULM PP **PKiKP 06 51 42.0 -3.2**
comp=Z,2.6nm,0.7s,baz=260,slow=5.1,SNR=4.7
LPAZ La Paz 102.59 113 P **Pdif 06 47 34.1 +2.1**
comp=Z,2.9nm,0.7s,baz=234,slow=3.6,SNR=14
LPAZ PP **PP 06 51 54.6 -0.5**
comp=Z,6.8nm,1.2s,baz=245,slow=4.3,SNR=8.8
LPAZ S **SKSac 06 57 13.0 -0.3**
comp=Z,1.1nm,0.9s,baz=92,slow=10,SNR=3.6
LPAZ PKKPbc **PKKPbc 07 03 28.6 -0.2**
comp=Z,3.7nm,0.7s,baz=42,slow=3.6,SNR=11
CPUP Villa Florida 106.34 127 PP **PP 06 52 20.7 -0.4**
comp=Z,3.9nm,1.1s,baz=252,slow=6.2,SNR=5.3
CPUP PKKPbc **PKKPbc 07 03 11.1 -6.3**
comp=Z,1.0nm,0.7s,baz=60,slow=3.0,SNR=4.5
WMQ Urumqi 106.64 311 Pdif **Pdif 06 47 49.8 +1.1**
SIV San Ignacio 108.74 116 S **SKSac 06 57 38.7 -0.3**
comp=Z,0.5nm,0.8s,baz=256,slow=24,SNR=1.6
ZSN Zaisan 109.32 314 *e*PKiKP **PKiKP 06 51 59.2 -0.7**
ZALV Zalesovo Beam 110.36 321 Pdiff **Pdif 06 48 03.8 -1.0**
comp=Z,0.9nm,0.7s,baz=72,slow=4.8,SNR=4.1
ZALV PKiKP **PKiKP 06 52 00.5 -1.2**
comp=Z,19nm,0.6s,baz=105,slow=2.3,SNR=47
ZALV PP **PP 06 52 45.1 -4.7**
comp=Z,5.4nm,0.8s,baz=99,slow=6.4,SNR=4.6
ZALV S **SKSac 06 57 42.9 -0.9**
comp=Z,2.3nm,0.9s,baz=90,slow=4.3,SNR=2.4
NRIK Noril'sk 110.68 338 PKiKP **PKiKP 06 52 01.3 -0.5**
comp=Z,9.3nm,0.6s,baz=90,slow=3.6,SNR=16
NRIK PP **PP 06 52 47.3 -4.3**
comp=Z,3.6nm,0.7s,baz=106,slow=5.6,SNR=7.1
NRIK Noril'sk 110.68 338*d* iPKIKP **PKiKP 06 52 01.1 -0.7**
MK31 Makanchi Array 110.94 313*d* iPKIKP **PKiKP 06 52 01.8 -1.3**
MKAR Makanchi Array 110.94 313 Pdiff **Pdif 06 48 08.0 +0.3**
comp=Z,3.9nm,0.8s,baz=90,slow=5.3,SNR=28
MKAR PKiKP **PKiKP 06 52 02.0 -1.0**
comp=Z,8.6nm,0.4s,baz=95,slow=2.4,SNR=73
MKAR PP **PP 06 52 49.9 -4.4**
comp=Z,3.8nm,0.8s,baz=91,slow=10,SNR=4.4
MKAR PKKPbc **PKKPbc 07 03 03.0 -0.2**
comp=Z,1.7nm,0.7s,baz=274,slow=4.3,SNR=8.6
MKAR PKKPab **PKKPab 07 03 14.9 +1.0**
comp=Z,1.2nm,0.7s,baz=288,slow=3.3,SNR=5.6
MKAR SKKPbc SKKPbc 07 05 46.6 -3.5
comp=Z,0.8nm,0.7s,baz=278,slow=2.7,SNR=4.7
SHLS Shalkode 112.41 309 *i* PKIKP **PKiKP 06 52 04.6 -1.5**
SHLS Shalkode 112.41 309 *e*PKiKP **PKiKP 06 52 04.6 -1.5**
PDGK Podgornoye 112.41 309 PKIKP **PKiKP 06 52 04.7 -1.4**
UZB Uzynbulak 112.72 309 *i* PKIKP **PKiKP 06 52 05.8 -0.9**
UZB Uzynbulak 112.72 309 *e*PKiKP **PKiKP 06 52 05.8 -0.9**
KPKS Kokpek 113.01 309 *i* PKIKP **PKiKP 06 52 06.4 -0.8**
KPKS Kokpek 113.01 309 *e*PKiKP **PKiKP 06 52 06.4 -0.8**
SATY Saty 113.16 309 PKIKP **PKiKP 06 52 06.4 -1.1**
SATY Saty 113.16 309 *e*PKiKP **PKiKP 06 52 06.4 -1.1**
KURK Kurchatov 113.80 317*d* iPKIKP **PKiKP 06 52 06.9 -1.4**
KURK pmax pmax
comp=Z,48nm,1.3s
KURBB Kurchatov Arra 113.85 317 Pdiff **Pdif 06 48 21.9 +1.5**
comp=Z,0.3nm,0.2s,baz=68,slow=4.8,SNR=1.6
KURBB PKiKP **PKiKP 06 52 07.5 -0.9**
comp=Z,19nm,0.6s,baz=95,slow=1.9,SNR=76
KURBB PP **PP 06 53 09.6 -4.8**
comp=Z,8.4nm,0.9s,baz=100,slow=6.6,SNR=9.3
KURBB SKP 06 54 46.3
comp=Z,3.1nm,0.6s,baz=101,slow=2.3,SNR=6.2
KURBB PKKPbc **PKKPbc 07 02 52.8 -0.9**
comp=Z,0.7nm,0.2s,baz=45,slow=2.8,SNR=4.5
KURBB PKKPab **PKKPab 07 03 02.4 +1.6**
comp=Z,2.5nm,0.7s,baz=271,slow=5.0,SNR=8.2
KURBB SKKPbc SKKPbc 07 05 38.9 -2.7
comp=Z,1.6nm,0.6s,baz=278,slow=3.8,SNR=8.7
MDOK Medeo 114.16 309 *e*PKIKP PKPdf 06 52 08.3 -1.2
MDOK Medeo 114.16 309 *e*PKP PKPdf 06 52 08.3 -1.1
TNSS Tian-Shan 114.22 309 *e*PKIKP PKPdf 06 52 08.8 -1.1
TNSS Tian-Shan 114.22 309 *e*PKP PKPdf 06 52 08.8 -1.1
AAA Alma-Ata 114.26 309 *e*PKIKP PKPdf 06 52 08.7 -0.9
AAA Alma-Ata 114.26 309 *e*PKP PKPdf 06 52 08.7 -0.8
KSH Kashi 114.51 305 PKP **PKiKP 06 52 10.8 +0.6**
KSH PP **PP 06 53 21.0 +1.5**
L61B Northampton 115.54 52 P **PKPdf 06 52 11.5 -0.4**
baz=264
SGDS Sogindy 115.94 309 *e*PKIKP **PKPdf 06 52 11.8 -1.0**
SGDS Sogindy 115.94 309 *e*PKP **PKPdf 06 52 11.8 -1.0**
AAK Ala-Archa 115.97 308 **PKPdf 06 52 12.6 -0.5**
AAK Ala-Archa 115.97 308 PKKPab PKKPab 07 02 52.9 +0.9
comp=Z,5.6nm,0.8s,baz=219,slow=4.0,SNR=9.2
AAK Ala-Archa 115.97 308*d* iPKIKP **PKPdf 06 52 12.3 -0.7**
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 115.97 308 PKPdf **PKPdf 06 52 12.0 -1.0**
BTLS Baital 116.48 311 *e*PKIKP **PKPdf 06 52 12.9 -0.8**
BTLS Baital 116.48 311 *e*PKP **PKPdf 06 52 12.9 -0.8**
OTUK Ortayu 117.78 314 PKIKP **PKPdf 06 52 14.9 -1.2**
NEEM North Greenlan 118.16 11 *i* P **PKPdf 06 52 15.4 -1.0**
KULLO Kullorsuaq 118.25 15 *i* P **PKPdf 06 52 14.8 -1.4**
DZA Taraz 118.31 308 *e*PKIKP **PKPdf 06 52 16.6 -0.7**
DZA Taraz 118.31 308 *e*PKP **PKPdf 06 52 16.7 -0.7**
NOR Nord 118.83 3 *i* P **PKPdf 06 52 15.3 -1.9**
KK31 Karatay Array 118.92 308 **PKPdf 06 52 18.2 -0.3**
KK31 Karatay Array 118.92 308 PKIKP **PKPdf 06 52 18.2 -0.3**
KKAR Karatay Array 118.92 308 **PKPdf 06 52 17.9 -0.5**
KKAR Karatay Array 118.92 308 PKIKP **PKPdf 06 52 18.0 -0.5**
BVAR Borovoye Array 118.92 320 PKP **PKPdf 06 52 17.4 -0.7**
comp=Z,58nm,0.4s,baz=120,slow=2.1,SNR=212
BVAR PP **PP 06 53 45.2 -3.8**
comp=Z,4.2nm,0.7s,baz=90,slow=7.4,SNR=3.6
BVAR SKP 06 54 56.6
comp=Z,8.1nm,0.9s,baz=110,slow=1.7,SNR=4.1
BVAR PKKPab **PKKPab 07 02 39.4 +0.9**
comp=Z,1.7nm,0.8s,baz=264,slow=4.3,SNR=3.8
BRVK Borovoye 118.98 320 **PKPdf 06 52 18.0 -0.2**
BRVK Borovoye 118.98 320*d* iPKIKP **PKPdf 06 52 17.2 -1.0**
BRVK pmax pmax
comp=Z,67nm,1.0s
IUG luzhnay 119.24 307 *e*PKIKP **PKPdf 06 52 18.2 -1.0**
IUG luzhnay 119.24 307 *e*PKP **PKPdf 06 52 18.2 -1.0**
UPNV Upernavik 119.31 17 *i* P **PKPdf 06 52 16.5 -1.8**
G65A Princeton 119.39 49 **PKPdf 06 52 19.1 -0.1**
BRLS Borolday 119.42 308 *e*PKIKP **PKPdf 06 52 18.8 -0.6**
BRLS Borolday 119.42 308 *e*PKP **PKPdf 06 52 18.8 -0.6**
KBL Kabul 119.43 299 **PKiKP 06 52 20.3 +0.2**
KBL Kabul 119.43 299 PKIKP **PKiKP 06 52 20.3 +0.2**
SCHQ Schefferville 119.49 38 PKP **PKPdf 06 52 18.6 -0.6**
comp=Z,7.3nm,0.8s,baz=249,slow=5.7,SNR=9.8
SCHQ SKP 06 54 58.0
comp=Z,6.4nm,1.0s,baz=266,slow=1.1,SNR=3.7
SCHQ PKKPbc **PKKPbc 07 02 33.9 -0.5**
comp=Z,3.2nm,0.9s,baz=273,slow=2.1,SNR=3.9
ICQ Pointe Anglais 119.55 44 **PKPdf 06 52 18.6 -0.8**
BDFB Brasilia 119.55 123 PKP **PKPdf 06 52 20.2 -0.4**
comp=Z,2.8nm,0.6s,baz=199,slow=0.5,SNR=6.3
BDFB PKKPbc **PKKPbc 07 02 34.3 +0.4**
comp=Z,11nm,0.7s,baz=81,slow=2.9,SNR=21
SIMJ Simiganj 119.82 303 **PKPdf 06 52 20.5 0.0**
BATG Bathurst New B 120.42 47 **PKPdf 06 52 21.0 -0.2**
NUUG Nuugaatsiaq 120.68 18 *i* P **PKPdf 06 52 18.4 -2.5**
MSEY Mahe Island 121.00 251 PKiKP **PKPdf 06 52 23.5 +0.1**
LMN Caledonia Moun 121.33 48 **PKPdf 06 52 22.7 -0.2**

UMMG Uummannaq 121.40 18 *i* P **PKPdf 06 52 21.1 -1.3**
KBS Kingsbay 121.75 358 **PKiKP 06 52 23.2 +0.1**
KBS Kingsbay 121.75 358 *e*PKPdf **PKiKP 06 52 23.2 +0.1**
KBS Kingsbay 121.75 358 PKIKP **PKiKP 06 52 23.2 +0.1**
KBS Kingsbay 121.75 358 *i* P **PKPdf 06 52 22.2 -0.7**
SPA0 Spitsbergen Ar 122.25 356 *e*PKPdf **PKPdf 06 52 23.6 -0.3**
SPITS Spitsbergen Ar 122.25 356 PKP **PKPdf 06 52 23.4 -0.5**
comp=Z,72nm,0.7s,baz=82,slow=6.0,SNR=77
SPITS Spitsbergen Ar 122.25 356 PKIKP **PKPdf 06 52 23.9 0.0**
ILULI Ilulissat 122.41 20 *i* P **PKPdf 06 52 22.5 -1.9**
BSFB Barra de Sao F 122.93 131 *e*P **PKiKP 06 52 29.4 +2.3**
HOPEN Hopen 123.10 354 *e*PKPdf **PKPdf 06 52 24.6 -0.9**
DAG Danmarks Havn 123.25 5 *i* P **PKPdf 06 52 23.3 -2.5**
SFJD Kangerlussuaq 123.63 22 **PKPdf 06 52 26.5 -0.2**
SFJD Kangerlussuaq 123.63 22 PKIKP **PKPdf 06 52 26.5 -0.2**
SFJD Kangerlussuaq 123.63 22 *i* P **PKPdf 06 52 25.1 -1.6**
GBN Guysborough 123.66 49 **PKiKP 06 52 27.9 +0.1**
SUR Sutherland 123.75 200 **PKiKP 06 52 29.5 +0.7**
SUMG Summit 123.76 13 **PKiKP 06 52 27.7 0.0**
SUMG Summit 123.76 13 PKIKP **PKiKP 06 52 27.7 0.0**
SUMG Summit 123.76 13 *i* P **PKPdf 06 52 25.8 -1.6**
SVE Sverdlovsk 123.92 325 *e*PKIKP **PKPdf 06 52 27.2 -0.4**
SVE pmax pmax
comp=Z,99nm,0.8s
NUUK Nuuk 124.49 25 *i* P **PKPdf 06 52 27.2 -1.2**
ARTI Arti 125.23 325 **PKiKP 06 52 30.4 -0.1**
ARTI Arti 125.23 325 *i* PKIKP **PKPdf 06 52 30.2 +0.1**
ARTI 06 54 27.2
ARTI 06 58 43.3
DBG Daneborg 125.36 7 *i* P **PKPdf 06 52 28.6 -1.3**
DY2G Dye2 125.39 21 *i* P **PKPdf 06 52 28.7 -1.7**
BOSA Boshof 125.53 206 PKP **PKiKP 06 52 32.8 +0.5**
comp=Z,12nm,0.9s,baz=195,slow=2.7,SNR=18
BOSA PKKPab **PKKPbc 07 02 09.8 -2.4**
comp=Z,1.6nm,0.6s,baz=358,slow=4.2,SNR=5.7
ICESG Greenland Ices 125.84 17 *i* P **PKPdf 06 52 29.5 -1.9**
AB31 Akbulak array 125.88 316 *i* PKIKP **PKPdf 06 52 31.1 -0.5**
ABKAR Akbulak array 125.88 316 **PKPdf 06 52 31.6 +0.1**
AKTO Aktyubinsk 126.89 318 PKIKP **PKPdf 06 52 33.0 -0.5**
VADS Vadso 128.00 348 *e*PKPdf **PKiKP 06 52 35.4 -0.3**
ISOG Isortoq, Green 128.34 20 *i* P **PKPdf 06 52 35.0 -0.8**
NRS Narsarsuaq 128.47 27 *i* P **PKPdf 06 52 34.6 -1.6**
HAMF Hammerfest 128.53 351 *e*PKPdf **PKPdf 06 52 35.4 -0.6**
SCO Scoresbysund 128.57 10 **PKiKP 06 52 36.9 +0.1**
SCO Scoresbysund 128.57 10 PKIKP **PKiKP 06 52 36.9 +0.1**
SCO Scoresbysund 128.57 10 *i* P **PKPdf 06 52 35.3 -0.8**
LVZ Lovozero 128.61 345 **PKPdf 06 52 36.1 -0.1**
LVZ Lovozero 128.61 345 PKIKP **PKPdf 06 52 36.2 -0.1**
KEV Kevo 128.75 349 **PKPdf 06 52 36.3 -0.1**
KEV Kevo 128.75 349 PKIKP **PKPdf 06 52 36.3 -0.1**
KIRV Kirov 128.96 330 PKP **PKPdf 06 52 37.0 -0.1**
comp=Z,139nm,0.7s,baz=91,slow=1.6,SNR=39
KIRV pPKP **pPKPdf 06 54 59.5 +0.5**
comp=Z,64nm,0.8s,baz=63,slow=1.4,SNR=11
KIRV Kirov 128.96 330*de*PKIKP **PKPdf 06 52 36.8 -0.3**
SOHO SOHO 129.05 285 *i* PKPdf **PKPdf 06 52 37.6 -0.8**
SNR=5.5
APA Apatity 129.17 345‖ *i* PKPdf **PKPdf 06 52 35.2 -2.1**
APA *i* 06 55 00.2
APA pmax pmax
comp=Z,34nm,0.7s
ARA0 ARCESS Array S 129.21 349 *e*PKPdf **PKPdf 06 52 36.7 -0.7**
ARCES ARCESS Array B 129.21 349 PKP **PKPdf 06 52 37.0 -0.4**
comp=Z,0.8nm,0.3s,baz=37,slow=1.8,SNR=12
ARCES pPKP **pPKPdf 06 55 00.2 +0.8**
comp=Z,28nm,0.9s,baz=38,slow=1.9,SNR=9.1
MDH Madha 129.42 286 PKPdf **PKPdf 06 52 38.8 -0.3**
UOSS Minazif 129.46 286 **PKPdf 06 52 39.0 -0.2**
UOSS Minazif 129.46 286 PKPdf **PKPdf 06 52 38.3 -0.9**
BANOM Banah 129.49 287 PKPdf **PKPdf 06 52 38.4 -0.9**
HATD Hatta, Dubai 129.51 285 *i* PKPdf **PKPdf 06 52 38.9 -0.4**
SNR=11
MSFE Esma-Masafi 129.55 286 *i* PKPdf **PKPdf 06 52 38.3 -1.1**
SNR=7.4
ASHO Ashiyiah 129.56 285 *i* PKIKP **PKiKP 06 52 40.0 -0.3**
SNR=10
JNW Jan Mayen West 129.58 4 *e*PKPdf **PKPdf 06 52 38.3 +0.3**
SHME Shamm 129.65 287 PKPdf **PKPdf 06 52 39.0 -0.5**
ALNE Al Ain 129.75 284 *i* PKIKP **PKiKP 06 52 40.8 +0.1**
SNR=7.2
NAZ Nazwa, Dubai 129.95 286 *i* PKIKP **PKiKP 06 52 41.0 0.0**
SNR=6.8
FAQ Al Faqa, Dubai 129.99 285 PKPdf **PKPdf 06 52 39.8 -0.4**
JETT Jettan, Norway 130.00 351 *e*PKPdf **PKPdf 06 52 38.9 0.0**
KTK1 Kautokeino 130.06 350 *e*PKPdf **PKPdf 06 52 38.0 -1.0**
TRO Tromso 130.13 352 *e*PKPdf **PKPdf 06 52 38.3 -0.7**
MZR Muzera 131.67 283 *i* PKPdf **PKPdf 06 52 42.6 -0.8**
SNR=9.6
KLMR Klimovskoe 131.97 336 *e*PKIKP **PKPdf 06 52 41.5 -1.3**
KLMR pmax pmax
comp=Z,98nm,1.1s
LOF Lofoten 132.18 354 *e*PKPdf **PKiKP 06 52 43.6 -0.6**
STEI Steigen 132.19 353 *e*PKPdf **PKPdf 06 52 42.6 -0.4**
NBAN Anadia - AL 132.24 126 *e*P **PKiKP 06 52 47.2 +1.3**
BELG Belogornoye 132.50 323 PKP **PKPdf 06 52 43.8 -0.2**
comp=Z,306nm,0.9s,baz=88,slow=1.0,SNR=77
BELG SKPbc **SKPbc 06 55 14.2 0.0**
comp=Z,158nm,1.0s,baz=153,slow=1.3,SNR=22
FAUS Fauske 132.71 353 *e*PKPdf **PKPdf 06 52 44.3 +0.3**
KONS Konsvik 133.81 353 *e*PKPdf **PKiKP 06 52 47.0 -0.5**
MOR8 Moi Rana 133.97 353 *e*PKPdf **PKPdf 06 52 46.7 +0.2**
STOK Stokkvaagen 133.98 353 *e*PKPdf **PKPdf 06 52 46.0 -0.4**
LEIR Leirfjorden 134.18 353 *e*PKPdf **PKiKP 06 52 47.8 -0.5**
MOS Moscow 135.92 331 *i* PKIKP **PKPdf 06 52 49.0 -1.3**
MOS pmax pmax
comp=Z,116nm,0.8s
FINES FINESS Array B 135.97 343 PKhKP PKPpre 06 52 36.7
FINES PKP **PKPdf 06 52 49.2 -1.1**
comp=Z,33nm,0.6s,baz=38,slow=1.9,SNR=19
FINES SKPbc **SKPbc 06 55 26.5 +1.6**
comp=Z,45nm,0.9s,baz=49,slow=5.8,SNR=20
PUL Pulkovo 136.02 339*de*PKIKP **PKiKP 06 52 52.5 +0.3**
VRH Novokhopyorsk 136.31 324 *e*PKIKP **PKPdf 06 52 50.2 -1.0**
VRH pmax pmax
comp=Z,115nm,0.6s
OBN Obninsk 136.77 331 PKPdf **PKPdf 06 52 51.9 -0.1**
OBN Obninsk 136.77 331 PKP **PKPdf 06 52 51.6 -0.3**
comp=Z,70nm,0.6s,baz=62,slow=3.7,SNR=11
OBN SKPbc **SKPbc 06 55 28.6 +1.1**
comp=Z,38nm,0.4s,baz=88,slow=3.9,SNR=11
OBN Obninsk 136.77 331 *e*PKIKP **PKPdf 06 52 51.2 -0.7**
OBN pmax pmax
comp=Z,63nm,0.8s
OBN Obninsk 136.77 331 PKP **PKPdf 06 52 51.8 -0.1**
TSUM Tsumeb 137.00 203 PKPdf **PKPdf 06 52 54.5 +0.8**
LPSR Galich'ya Gora 137.09 327 *e*PKIKP **PKPdf 06 52 50.8 -1.8**
LPSR pmax pmax
comp=Z,50nm,1.1s
VORR Voronezh 137.44 325 *e*PKIKP **PKPdf 06 52 51.0 -2.2**
VORR pmax pmax
comp=Z,181nm,0.7s
VSR Storozhevoye 137.70 325 *e*PKIKP **PKPdf 06 52 51.8 -1.9**
VSR pmax pmax
comp=Z,40nm,1.0s
VORD Divnogorie 137.76 325 *e*PKIKP **PKPdf 06 52 52.6 -1.3**
VORD pmax pmax
comp=Z,40nm,0.9s
GNI Garni 138.37 307 PKPpre 06 52 49.5
GNI Garni 138.37 307 PKhKP PKPpre 06 52 46.9
comp=Z,7.3nm,0.5s,baz=337,slow=3.1,SNR=4.8
GNI PKP **PKPdf 06 52 55.9 +0.3**
comp=Z,27nm,0.8s,baz=182,slow=6.0,SNR=9.0
GNI SKPbc **SKPbc 06 55 33.8 +1.1**
comp=Z,6.0nm,0.4s,baz=194,slow=8.0,SNR=3.6
GNI Garni 138.37 307 PKP **PKPdf 06 52 56.1 +0.5**
KMBO Kilima Mbogo 138.46 243 PKPpre 06 52 49.8
KMBO Kilima Mbogo 138.46 243 PKhKP PKPpre 06 52 48.2
comp=Z,5.9nm,0.6s,baz=80,slow=4.8,SNR=15
KMBO PKP **PKPdf 06 52 56.2 -0.4**
comp=Z,9.3nm,0.6s,baz=250,slow=8.9,SNR=7.3
KMBO SKPbc **SKiKP 06 55 36.0 -1.2**
comp=Z,17nm,0.9s,baz=53,slow=3.4,SNR=14
DOMB Dombas 138.57 354 *e*PKPdf PKPpre 06 52 47.0
AKN Aaknes 138.60 356 *e*PKPdf PKPpre 06 52 47.3
KBZ Khabaz 138.64 313 PKhKP PKPpre 06 52 47.0
comp=Z,3.7nm,0.7s,baz=97,slow=4.4,SNR=8.8
KBZ PKP **PKPdf 06 52 55.8 +0.1**
comp=Z,13nm,0.8s,baz=47,slow=5.3,SNR=9.5
KBZ SKPbc **SKPbc 06 55 33.1 0.0**
comp=Z,4.2nm,0.9s,baz=283,slow=6.4,SNR=2.6
KBZ Khabaz 138.64 313‖ *e*PKIKP **PKiKP 06 52 58.0 0.0**
KVAR Kislovodsk Arr 138.70 314 PKhKP PKPpre 06 52 47.2
comp=Z,2.4nm,0.4s,baz=268,slow=22,SNR=1.7

KIV Kislovodsk 138.71 314 *i* PKIKP **PKPdf 06 52 55.9 -0.1**
KIV *e* 06 55 51.9
KIV *e*SS SS 07 13 18.0 -5.5
KIV pmax pmax
comp=Z,22nm,1.1s
KIV Kislovodsk 138.71 314 PKP **PKPdf 06 52 56.1 +0.1**
NB2 NORSAR Subarra 139.32 353 PKP PKPpre 06 52 48.1
comp=Z,6.4nm,0.5s,baz=16,slow=3.2
NB2 pPKP pPKPdf 06 55 35.8 +17
comp=Z,71nm,1.1s,baz=11,slow=2.8
NOA NORSAR Array B 139.32 353 PKhKP PKPpre 06 52 48.2
comp=Z,19nm,0.6s,baz=16,slow=4.7,SNR=67
NOA PKP **PKPdf 06 52 56.9 +0.4**
comp=Z,6.8nm,0.6s,baz=59,slow=1.5,SNR=15
NOA SKPbc **SKiKP 06 55 35.9 -1.3**
comp=Z,21nm,0.9s,baz=16,slow=4.3,SNR=13
ERBR Yeremizino-Bor 139.49 317 *i* PKHKP PKPpre 06 52 50.7
ERBR pmax pmax
comp=Z,102nm,1.0s
NC602 NORSAR Array S 139.57 352 *e*PKPdf PKPpre 06 52 48.8
LABN Labinsk 139.77 315 *i* PKIKP **PKiKP 06 53 05.0 +4.6**
LABN pmax pmax
comp=Z,33nm,0.4s
SUE Sulen 139.84 357 *e*PKPdf PKPpre 06 52 49.7
HFS Hagfors 139.85 350 PKhKP PKPpre 06 52 49.3
comp=Z,31nm,0.4s,baz=66,slow=5.0,SNR=136
HFS PKP **PKPdf 06 52 58.0 +0.6**
comp=Z,19nm,0.7s,baz=85,slow=1.3,SNR=6.5
HFS SKPbc **SKiKP 06 55 37.3 -1.0**
comp=Z,24nm,0.8s,baz=352,slow=3.3,SNR=11
HFS SKKPbc **SKKPbc 07 04 10.9 -2.0**
comp=Z,14nm,1.2s,baz=146,slow=11,SNR=4.5
SKAR Skarslia 139.98 355 *e*PKPdf PKPpre 06 52 49.7
BCA Borcka 140.28 310 ‖P PKPpre 06 52 52.0
ASK Askoy 140.39 357 *e*PKPdf PKPpre 06 52 52.8
OSL Oslo 140.45 352 *e*PKPdf PKPpre 06 52 51.5
KONO Kongsberg 140.87 353 *e*PKPdf PKPpre 06 52 53.4
MNK Minsk 140.87 335 *i* PKHKP PKPpre 06 52 54.9
MNK *i* 06 53 00.2
MNK *i* 06 56 07.8
MNK *i* 06 56 17.3
MNK *i* PPP PPP 06 59 28.3
MNK *i* SS SS 07 13 44.4 -2.4
MNK pmax pmax
comp=N,23nm,0.7s
MNK pmax pmax
comp=E,25nm,0.9s
MNK pmax pmax
comp=Z,110nm,0.8s
MNK pmax pmax
comp=Z,111nm,0.9s
ODD1 Odda 140.87 356 *e*PKPdf PKPpre 06 52 53.8
STRU Stroemstad 141.27 352 *i* P PKPpre 06 52 53.9
BLS5 Blasjo 141.37 356 *e*PKPdf PKPpre 06 52 55.3
KMY Karmoy 141.66 357 *e*PKPdf PKPpre 06 52 56.5
KTUT Trabzon 141.75 310 ‖P PKPpre 06 52 55.8
ANN Anapa 141.83 317 *i* PKHKP PKPpre 06 52 57.6
ANN pmax pmax
comp=Z,89nm,0.9s
TJOU Tjoern 142.18 351 *i* P PKPpre 06 52 56.3
BIGH Upper Bighouse 142.31 4 *e*P PKPpre 06 52 58.4
HOMB Homborsund 142.34 354 *e*PKPdf PKPpre 06 52 58.7
HOMB Homborsund 142.34 354 *i* P PKPpre 06 52 57.7
LEWI Lewis, Hebride 142.38 7 *e*P PKPpre 06 52 58.2
BORU Boraas 142.38 350 *i* P PKPpre 06 52 56.9
SNART Snartemo 142.39 355 *e*PKPdf PKPpre 06 52 58.7
SNART Snartemo 142.39 355 *i* P PKPpre 06 52 58.1
LODK Lodwar 142.47 247 PKPdf **PKPdf 06 53 01.7 -1.9**
LINV Loch Inver, As 142.55 6 *e*P PKPpre 06 52 58.6
SHEL Horse Pasture 142.71 169 PKPdf **PKPdf 06 53 03.4 -0.5**
SHEL Horse Pasture 142.71 169 PKIKP **PKPdf 06 53 03.4 -0.5**
ONAU Onsala 142.74 350 *i* P PKPpre 06 52 58.1
SUW Suwalki 142.97 338 *e*PKP **PKPdf 06 53 01.1 -2.1**
FABU Falkenberg 142.99 350 *i* P PKPpre 06 52 59.1
AKASG Malin Array Be 143.02 330 PKhKP PKPpre 06 53 01.1
comp=Z,329nm,0.5s,baz=44,slow=4.3,SNR=2029
AKASG SKPbc **SKiKP 06 55 45.4 +0.3**
comp=Z,18nm,1.0s,baz=46,slow=2.3,SNR=12
AKASG SKKPbc **SKKPab 07 03 56.7 -2.3**
comp=Z,0.9nm,0.6s,baz=239,slow=3.5,SNR=4.7
KIEV Kiev 143.03 330 PKPpre 06 53 00.6
KIEV Kiev 143.03 330 PKHKP PKPpre 06 53 00.6
KIEV Kiev 143.03 330 *i* PKPbc PKPab 06 53 00.6 -0.7
SNR=388
BLEU Blekinge 143.04 346 *i* P PKPab 06 52 59.2 -1.9
OVD Ostervraa, Den 143.07 352 *i* P PKPab 06 53 00.1 -1.1
MCD Coleburn Disti 143.26 4 *e*P PKPab 06 53 01.0 -0.9
DEL Delary 143.29 348 *i* P PKPab 06 53 01.0 -1.1
KPL Plockton 143.30 6 *e*P PKPab 06 53 01.5 -0.6
GOET G??ttrup 143.47 353 *i* P PKPab 06 53 02.1 -0.7
BJUU Bjuv 143.82 349 *i* P PKPbc 06 53 02.4 -1.5
SIM Simferopol' 143.83 319 *e*PKIKP **PKPdf 06 53 04.9 0.0**
SIM pmax pmax
comp=Z,1μm,0.9s
DRUM Mains of Drumt 143.97 3 *e*P PKPbc 06 53 03.6 -0.8
RNPP9 Sopachiv 143.98 334 PKP PKPbc 06 53 04.3 -0.3
MBAR Mbarara 144.04 237*d* iPKIKP **PKPdf 06 53 06.7 +0.2**
MUD Monsted U'grnd 144.04 352 *i* P PKPbc 06 53 03.1 -1.5
LUNU Lund 144.16 348 *i* P PKPbc 06 53 03.4 -1.6
COP Copenhagen 144.30 349 *i* P **PKPdf 06 53 04.4 -0.9**
BSD Bornholm Skovb 144.34 346 *i* P **PKPdf 06 53 04.1 -1.4**
INVG Invergeldie, C 144.35 5 *e*P **PKPdf 06 53 04.9 -0.6**
LAWE Loch Awe, Argy 144.39 6 *e*P **PKPdf 06 53 04.8 -0.7**
DIKM Dikmen 144.64 313‖ P **PKPdf 06 53 05.9 -0.5**
DIKM Dikmen 144.64 313 PKP PKPbc 06 53 07.1 +0.2
EDI Edinburgh 144.91 4 *e*P PKPbc 06 53 07.0 -0.2
PGBU Glenifferbraes 144.92 6 *e*P **PKPdf 06 53 05.7 -0.8**
SSRD Sdr. Stenderup 144.93 352 *i* P PKPbc 06 53 07.0 -0.4
ESY Stoneypath 144.96 4 *e*P **PKPdf 06 53 06.1 -0.4**
R9F13 Warsaw-Wawer 145.15 338 *e*PKP **PKPbc 06 53 07.9 -0.2**
SORM Soroca 145.17 328 ‖P **PKPdf 06 53 06.4 -0.7**
SORM Soroca 145.17 328 ‖PKIKP **PKPdf 06 53 06.4 -0.7**
SORM Soroca 145.17 328 PKP **PKPdf 06 53 06.5 -0.7**
IDGL Inch Island, C 145.29 9 PKP **PKPbc 06 53 08.3 -0.1**
BZK Bozkurt 145.34 315 ‖P **PKPbc 06 53 08.6 -0.4**
PURM Purcari 145.41 324‖ P **PKPbc 06 53 09.5 +0.5**
GKP Gorka Klasztor 145.45 343 *e*PKP **PKPbc 06 53 09.1 +0.2**
EKA Eskdalemuir Ar 145.50 4 **PKPbc PKPbc 06 53 08.6 -0.4**
comp=Z,100nm,0.7s,baz=346,slow=2.7,SNR=168
EKA SKKPbc SKKPbc 07 03 49.0 -1.0
comp=Z,5.4nm,0.9s,baz=201,slow=27,SNR=5.3
ESK Eskdalemuir 145.52 4 **PKPbc 06 53 08.6 -0.5**
ESK Eskdalemuir 145.52 4 *e*P **PKPdf 06 53 07.8 +0.3**
ESK Eskdalemuir 145.52 4 PKIKP **PKPbc 06 53 08.6 -0.5**
BEL Belsk 145.59 338 *e*PKP **PKPdf 06 53 08.4 +0.7**
NEWG New Galloway 145.63 6 *e*P **PKPdf 06 53 08.0 +0.3**
KIS Kishinev 145.68 326‖ *i* PKP **PKPbc 06 53 09.0 -0.8**
comp=Z,400nm,2.0s
KIS Kishinev 145.68 326*d* iPKIKP **PKPbc 06 53 09.0 -0.8**
KIS pmax pmax
comp=Z,400nm,2.0s
MILM Milestii Mici 145.73 326 *e*PKHKP PKPpre 06 53 07.0
MILM Milestii Mici 145.73 326 *i* PKiKP **PKPdf 06 53 09.0 +0.9**
MILM Milestii Mici 145.73 326 PKPM 06 53 10.0
comp=Z,840nm,1.1s
MILM Milestii Mici 145.73 326 ‖P **PKPdf 06 53 08.1 0.0**
**MIL

IGLA Glengowla, Co 146.58 11 PKP PKPbc 06 53 10.7 -1.3
KIRS Kirsehir-Merke 146.61 310 ⇑P PKPdf 06 53 09.4 -0.5
HWQ Hawqa 146.63 301 eP PKPbc 06 53 13.0 +0.1
KWP Kalwaria Pacla 146.65 334 ePKP PKPbc 06 53 12.4 0.0
PRAR RASCA 146.75 328 ⇓P PKPbc 06 53 12.9 +0.1
BIR Birlad 146.78 326 ⇑P PKPbc 06 53 12.6 -0.2
BIR Birlad 146.78 326 ⇑PKP2 PKPbc 06 53 12.6 -0.2
VLDR Vladesti 146.81 325 ⇑P PKPbc 06 53 12.3 -0.6
TLCR 146.81 323 ⇑P PKPbc 06 53 12.5 -0.4
TLCR 146.81 323 ⇑PKIKP PKPbc 06 53 12.5 -0.4
RCY Rachaya 146.90 300 eP PKPbc 06 53 14.1 +0.3
BHL Bhannes 146.95 300 eP PKPbc 06 53 14.0 +0.2
HPK Haverah Park 146.97 3 eP PKPbc 06 53 12.8 -0.3
SHBL Chebaa 147.01 299 eP PKPbc 06 53 14.4 +0.3
QRWL Qaraoun 147.01 300 eP PKPbc 06 53 14.3 +0.3
GHRR 147.03 326 ⇑P PKPbc 06 53 14.0 +0.6
JURR Jurilovca 147.03 323 ⇑P PKPbc 06 53 13.7 +0.2
BURAR Bucovina Array 147.06 330 PKPdf 06 53 10.5 0.0
BURAR Bucovina Array 147.06 330 ⇑P PKPbc 06 53 13.5 -0.2
BURAR Bucovina Array 147.06 330 ⇑PKP2 PKPbc 06 53 13.5 -0.2
DQRL Deir Qamar 147.07 300 eP PKPbc 06 53 14.8 +0.7
ANTO Ankara 147.09 312 PKPdf 06 53 10.8 +0.1
ANTO Ankara 147.09 312 ⇑P PKPbc 06 53 13.9 -0.1
ANTO Ankara 147.09 312 ⇑PKP2 PKPbc 06 53 13.9 -0.1
NEGRR Negrea 147.11 324 ⇓P PKPbc 06 53 14.0 +0.3
TESR Tescani 147.12 327 ⇑P PKPbc 06 53 13.1 -0.7
SCHL Schela 147.16 324 ⇑P PKPbc 06 53 14.5 +0.7
SCHLR Schela 147.18 324 ⇑P PKPbc 06 53 14.3 +0.4
SCHLR Schela 147.18 324 ⇑P PKPbc 06 53 14.3 +0.4
TUDR 147.19 325 ⇑P PKPbc 06 53 14.7 +0.8
CFR Carcaliu 147.19 324 ⇑P PKPbc 06 53 13.2 -0.7
CFR Carcaliu 147.19 324 ⇑PKIKP PKPbc 06 53 13.2 -0.7
DSB Dublin 147.23 8 PKP PKPbc 06 53 13.1 -0.7
TPGR Topolog 147.24 323 ⇑P PKPbc 06 53 14.0 -0.1
OJC Ojcow 147.28 338 ePKP PKPbc 06 53 14.0 0.0
PANC Panciu 147.29 326 ⇓P PKPbc 06 53 14.6 +0.5
WPS Cemaes, Angles 147.30 6 eP PKPbc 06 53 13.4 -0.5
MMAI Mount Meron Ar 147.36 299 PKP PKPdf 06 53 11.1 -0.3
comp=Z,234nm,0.6s,baz=5.7,slow=1.7,SNR=31
MMAI PKPbc PKPbc 06 53 15.1 +0.2
comp=Z,240nm,0.6s,baz=86,slow=3.0,SNR=267
MMAI pPKPbc pPKPab 06 55 35.0 +0.4
comp=Z,15nm,0.8s,baz=77,slow=5.2,SNR=3.4
ONER Baraj Valea Uz 147.38 327 ⇑P PKPbc 06 53 15.0 +0.5
KOLS Kolonicke sedl 147.38 334 ePKP2 PKiKP 06 53 15.2 -0.7
KOLS Kolonicke sedl 147.38 334 ePKP PKiKP 06 53 15.2 -0.7
KOLS e 06 53 19.5
STHS Stebnicka Huta 147.41 335 ePKP2 PKPbc 06 53 14.2 -0.2
STHS Stebnicka Huta 147.41 335 ePKP PKPbc 06 53 14.2 -0.2
STHS e 06 53 18.1
ODBI Odobesti 147.41 325 ⇓P PKiKP 06 53 15.8 -0.2
WLF1 Llynfaes 147.42 6 eP PKPbc 06 53 13.5 -0.7
TIRR Tirgusor 147.48 322 ⇑P PKPbc 06 53 14.9 +0.2
TIRR Tirgusor 147.48 322 ⇑PKP2 PKPbc 06 53 14.9 +0.2
H10N3 ASCENSION HYDR 147.51 150 PKPbc PKPdf 06 53 12.4 +0.7
VRI Vrincioaia 147.51 326 ⇑P PKPbc 06 53 14.6 -0.2
VRI Vrincioaia 147.51 326 ⇑PKP2 PKPbc 06 53 14.6 -0.2
H10N1 ASCENSION HYDR 147.51 150 PKPbc PKPdf 06 53 12.4 +0.7
SNR=4.4
LBWR Ladybower, Pea 147.52 3 eP PKPdf 06 53 11.4 +0.5
LMK Market Rasen 147.52 2 eP PKPbc 06 53 13.9 -0.6
H10N2 ASCENSION HYDR 147.53 150 PKPbc PKPdf 06 53 12.4 +0.7
PLOR Plostina 147.56 326 ⇑P PKPbc 06 53 13.7 -1.2
PLOR Plostina 147.56 326 ⇑PKIKP PKPbc 06 53 13.7 -1.2
EFOR EFORIE 147.58 322 ⇑P PKPdf 06 53 09.4 -1.8
HARR Harsova 147.61 323 ⇑P PKPbc 06 53 14.7 -0.3
HARR Harsova 147.61 323 ⇑PKP2 PKPbc 06 53 14.7 -0.3
TLBR Topalu 147.64 323 ⇑P PKPbc 06 53 14.4 -0.6
MFTR Murfatlar 147.65 322 ⇑P PKPbc 06 53 15.3 +0.1
BISRR Bisoca 147.73 325 ⇓P PKPbc 06 53 15.1 -0.3
MANR Mangalia 147.76 321 ⇑P PKPbc 06 53 15.7 +0.3
NIE Niedzica 147.76 336 ePKP PKPbc 06 53 15.3 0.0
TSMN Mangalia Port- 147.77 321 ⇓P PKPbc 06 53 15.6 +0.1
COVR Voineasa-Covas 147.80 326 ⇑P PKPbc 06 53 15.8 +0.3
VAL Valentia 147.80 13 PKP PKPbc 06 53 14.6 -0.6
BMR Baia Mare 147.81 331 ⇑P PKPbc 06 53 14.5 -1.0
BMR Baia Mare 147.81 331 ⇑PKIKP PKPbc 06 53 14.5 -1.0
OZUR 147.84 327 ⇓P PKPbc 06 53 15.9 +0.2
ARCR ARCALIA 147.85 330 ⇓P PKPbc 06 53 16.0 +0.5
KSP Ksiaz 147.88 342 ePKP PKPbc 06 53 16.0 +0.5
FOEL Foel Wylfa 147.93 5 eP PKPdf 06 53 12.2 +0.6
AMRR Amara 147.99 324 ⇓P PKiKP 06 53 16.8 -0.4
AMRR Amara 147.99 324 ⇓PKP2 PKiKP 06 53 16.8 -0.4
PGOR Pogoanele 148.00 324 ⇑P PKiKP 06 53 16.8 -0.4
IWEX Carrickbyrne, 148.02 9 PKP PKPab 06 53 20.6 -0.3
NEHR Nehoiu 148.03 326 ⇓P PKPbc 06 53 16.3 +0.1
ICOR Ion Corvin 148.04 322 ⇑P PKPbc 06 53 16.0 -0.2
ISR Istrita 148.10 325 ⇑P PKPbc 06 53 16.0 -0.3
DOPR Dopca 148.13 327 ⇑P PKPbc 06 53 16.7 +0.4
OSTC Ostas 148.16 342 ePKPDF PKPdf 06 53 12.5 +0.4
OSTC ⇑ePKP PKiKP 06 53 17.1 -0.4
OSTC ePKPAB PKPab 06 53 22.5 +0.9
OSTC Ostas 148.16 342 ePKHKP PKPpre 06 53 12.5
OSTC e 06 53 22.5
TGMR Targu Mures 148.17 329 ⇑P PKPbc 06 53 16.3 -0.1
MLR Muntele Rosu 148.17 326 PKP PKPdf 06 53 11.5 -0.9
comp=Z,89nm,1.0s,baz=7.7,slow=2.6,SNR=16
MLR PKPbc PKPbc 06 53 16.4 -0.2
comp=Z,130nm,0.6s,baz=349,slow=4.3,SNR=45
MLR Muntele Rosu 148.17 326 ⇑P PKPbc 06 53 16.2 -0.4
MLR Muntele Rosu 148.17 326 ⇑PKHKP PKPpre 06 53 16.2
CHVC Chvalec 148.17 342 ⇑ePKP PKiKP 06 53 17.0 -0.5
CHVC Chvalec 148.17 342 ePKP2 PKiKP 06 53 17.0 -0.5
OKC Ostrava-Krasne 148.18 339 ⇑ePKP PKPbc 06 53 16.8 +0.5
OKC Ostrava-Krasne 148.18 339 ePKP2 PKPbc 06 53 16.8 +0.5
STEB Steborice 148.22 339 ePKPDF PKPdf 06 53 12.3 +0.1
STEB ⇑ePKP PKPbc 06 53 16.9 +0.5
STEB ePKPAB PKPab 06 53 22.2 +0.3
UPC Upice 148.26 342 ⇑ePKP PKiKP 06 53 17.3 -0.3
UPC Upice 148.26 342 ePKP2 PKiKP 06 53 17.3 -0.3
WACR West Acre 148.27 1 eP PKPbc 06 53 15.1 -1.3
LANS Liptovska Anna 148.29 337 ePKP2 PKiKP 06 53 18.3 +0.5
LANS Liptovska Anna 148.29 337 ePKP PKiKP 06 53 18.3 +0.5
LANS e 06 53 23.9
DPC Dobruska-Polom 148.31 341 ePKPDF PKPdf 06 53 13.0 +0.6
DPC ⇑ePKP PKiKP 06 53 17.4 -0.4
CLL Collm 148.31 346 i PKPab 06 53 22.2 0.0
CLL pmax pmax
comp=Z,34nm,1.1s
CLL pmax pmax
comp=Z,292nm,1.0s
CLL pmax pmax
comp=Z,130nm,0.8s
CLL Collm 148.31 346 ePKPdf PKPdf 06 53 12.0 -0.2
comp=Z,34nm,1.1s
CLL ⇓iPKPbc PKPbc 06 53 16.9 +0.3
comp=Z,292nm,1.0s
CLL i PKPab PKPab 06 53 22.2 0.0
comp=Z,130nm,0.8s
CLL i pPKPab pPKPab 06 55 41.0 +3.1
CLL eSKPbc SKiKP 06 55 57.0 +1.0
CLL esPKPab sPKPab 06 56 42.0 +4.1
CLL ePKSdf PKSdf 06 56 48.0 +1.0
comp=Z,35nm,1.5s
CLL esPP 07 00 00.0
HLM1 Long Mynd 148.32 5 eP PKPdf 06 53 12.0 -0.3
EIL Elat 148.35 293 PKP PKPdf 06 53 12.6 -0.4
comp=Z,20nm,1.0s,baz=245,slow=2.1,SNR=9.0
EIL PKPbc PKPbc 06 53 17.8 +0.4
comp=Z,106nm,0.7s,baz=358,slow=1.8,SNR=74
KRLC Kraliky 148.41 341 ePKPDF PKPdf 06 53 12.6 +0.1
KRLC ⇑ePKP PKiKP 06 53 17.6 -0.4
MORC Moravsky Berou 148.43 340 ePKP PKPdf 06 53 12.4 -0.2
MORC e 06 53 17.4
MESR Meseseni 148.45 331 ⇑P PKPbc 06 53 15.4 -1.7
KECS Kecovo 148.45 335 ePKP2 PKiKP 06 53 18.1 0.0
KECS Kecovo 148.45 335 ePKP PKiKP 06 53 18.1 0.0
KECS e 06 53 23.7
CBBR Cluj-Babes-Bol 148.46 330 ⇓P PKPbc 06 53 16.8 -0.3
CJR Cluj-Napoca 148.48 330 ⇑P PKPbc 06 53 16.3 -0.9
BRG Berggiesshubel 148.49 344 ⇓iPKPf 06 53 12.9
BRG Berggiesshubel 148.49 344 Amp 06 53 14.0
comp=Z,32nm,1.2s
BRG Berggiesshubel 148.49 344 ⇑PKP PKiKP 06 53 17.6 -0.5
BRG Berggiesshubel 148.49 344 Amp 06 53 19.3
comp=Z,104nm,0.7s
BRG Berggiesshubel 148.49 344 PKPab PKPab 06 53 23.2 +0.2
BRG Berggiesshubel 148.49 344 Amp 06 53 24.7
comp=Z,87nm,0.8s
BRG Berggiesshubel 148.49 344 pPKP pPKPdf 06 55 40.5 +5.5
BRG Berggiesshubel 148.49 344 Amp 06 55 46.6
comp=Z,14nm,1.0s
CSS Mathiatis 148.51 303 PKPdf PKPdf 06 53 12.7 -0.4
MDB Medias 148.51 328 ⇑P PKiKP 06 53 17.9 -0.4
MDB Medias 148.51 328 ⇑PKP2 PKiKP 06 53 17.9 -0.4
SULR 148.54 325 ⇑P PKPbc 06 53 17.3 -0.1
PVCC Panska Ves 148.64 344 ⇑ePKP PKiKP 06 53 18.2 -0.2
PVCC Panska Ves 148.64 344 ePKP2 PKiKP 06 53 18.2 -0.2
VOIR 148.67 327 ⇑P PKPbc 06 53 17.1 -0.7
MAUC Maruska 148.69 339 ⇑ePKP PKiKP 06 53 18.7 +0.1
MARR Marisel-Cluj 148.73 330 ⇑P PKPbc 06 53 17.3 -0.6
RICC Richard 148.75 344 ⇑ePKP PKiKP 06 53 18.4 -0.2
DRGR 148.83 331 ⇑P PKPbc 06 53 17.9 -0.2
HSKC Hora Svate Kat 148.86 345 ⇑ePKP PKiKP 06 53 18.5 -0.4
TNR Turnu Rosu 148.91 328 ⇑P PKiKP 06 53 18.8 -0.4
TNR Turnu Rosu 148.91 328 ⇑PKP2 PKiKP 06 53 18.8 -0.4
ARR Arges 148.93 327 ⇓P PKiKP 06 53 19.3 0.0
ISK Istanbul-Kandi 149.02 317 P PKPbc 06 53 18.1 -0.5
VYHS Vyhne 149.07 337 ePKHKP PKPbc 06 53 19.1 +0.5
VYHS e 06 53 26.2
VYHS Vyhne 149.07 337 ePKP PKPbc 06 53 19.1 +0.5
VYHS e 06 53 26.2
GOPC GO Pecny, Ondr 149.14 343 ⇑ePKP PKiKP 06 53 19.3 -0.2
GOPC GO Pecny, Ondr 149.14 343 ePKHKP PKiKP 06 53 19.3 -0.2
PRU Pruhonice 149.14 343 ⇑ePKP PKiKP 06 53 19.2 -0.3
PRU Pruhonice 149.14 343 ePKHKP PKiKP 06 53 19.2 -0.3
VRAC Vranov 149.14 340 PKP PKPdf 06 53 14.7 +1.1
comp=Z,78nm,1.0s,baz=168,slow=6.6,SNR=4.7
VRAC PKPbc PKPbc 06 53 19.1 +0.4
comp=Z,73nm,0.9s,baz=42,slow=1.2,SNR=61
VRAC PKPab PKPab 06 53 26.1 +0.3
comp=Z,123nm,0.9s,baz=27,slow=2.0,SNR=30
VRAC Vranov 149.14 340 ePKP PKPdf 06 53 13.3 -0.4
VRAC e 06 53 18.9
VRAC Vranov 149.14 340 ⇓P PKPbc 06 53 18.6 -0.1
VRAC Vranov 149.14 340 ⇓PKHKP PKPbc 06 53 18.6 -0.1
PSZ Piszkesteto 149.14 335 ⇑P PKPbc 06 53 18.8 0.0
PSZ Piszkesteto 149.14 335 ⇑PKHKP PKPbc 06 53 18.8 0.0
JAVC Velka Javorina 149.18 339 ePKP PKPdf 06 53 14.6 +0.8
JAVC e 06 53 20.3
LOT Lotru 149.31 328 ⇓P PKPbc 06 53 18.2 -1.1
HUMR Humele 149.32 326 ⇓P PKPdf 06 53 16.7 +2.6
DEV Deva 149.41 329 ⇓P PKPbc 06 53 18.9 -0.5
DEV Deva 149.41 329 ⇓PKHKP PKPbc 06 53 18.9 -0.5
KRUC Moravsky 149.42 340 ePKP PKPdf 06 53 13.7 -0.4
KRUC e 06 53 19.6
NKC Novy Kostel 149.44 346 ⇑ePKP PKiKP 06 53 19.9 -0.2
NKC ePKPAB PKPab 06 53 27.4 +0.5
NKC Novy Kostel 149.44 346 ePKHKP PKiKP 06 53 19.9 -0.2
NKC e 06 53 27.4
SMOL Smolenice 149.56 338 ePKP2 PKiKP 06 53 21.1 +0.7
ISP Isparta 149.57 310 PKPbc 06 53 19.3 -0.9
ISP Isparta 149.57 310 PKHKP PKPbc 06 53 19.3 -0.9
MODS Modra-Piesok 149.73 338 ⇑ePKHKP PKPbc 06 53 21.2 +1.1
MODS Modra-Piesok 149.73 338 ⇑ePKP PKiKP 06 53 21.1 +0.3
MODS e 06 53 29.6
ZVC Zvikov 149.73 343 ⇑ePKPDF PKPdf 06 53 14.9 +0.3
ZVC ⇑ePKP PKiKP 06 53 20.5 -0.2
ZVC ePKPAB PKPab 06 53 28.7 +0.5
GZR Gura Zlata 149.83 329 ⇑P PKPbc 06 53 19.5 -1.0
GZR Gura Zlata 149.83 329 ⇑PKHKP PKPbc 06 53 19.5 -1.0
SRO Srobarova 149.83 337 ⇑ePKHKP PKPbc 06 53 21.2 +0.9
SRO e 06 53 29.6
SRO Srobarova 149.83 337 ⇑ePKP PKPbc 06 53 21.2 +0.9
SRO e 06 53 29.6
ELSH Elham, Standar 149.85 0 eP PKPbc 06 53 20.0 -0.3
SURR Surduc 149.88 330 ⇑P PKPbc 06 53 19.9 -0.6
VLAD Vladila 149.99 325 ⇑P PKPbc 06 53 20.8 -0.1
BEBN Eben Emael 150.00 354 dPKP PKPbc 06 53 20.6 0.0
BEBN dPKPab PKPab 06 53 29.0 -0.1
BAND Balkesir-Ban 150.01 316 ⇓P PKPbc 06 53 20.6 -0.5
EDRB Edirne 150.02 320 ⇑P PKPbc 06 53 20.6 -0.4
SBD Saint Breward 150.07 8 eP PKPdf 06 53 15.1 +0.1
UCC Uccle 150.10 356 dPKP PKPbc 06 53 20.7 -0.1
SRE Strehaia 150.15 327 ⇓P PKPbc 06 53 20.5 -0.7
SRE Strehaia 150.15 327 ⇓PKIKP PKPbc 06 53 20.5 -0.7
MEM Membach 150.15 354 dPKPdf PKPdf 06 53 15.4 +0.2
MEM dPKP PKPbc 06 53 21.0 0.0
MEM dPKPab PKPab 06 53 29.8 0.0
BTNL Ternell 150.16 354 dPKPdf PKPdf 06 53 15.4 +0.2
BTNL dPKP PKPbc 06 53 21.0 0.0
KHC Kasperske Hory 150.18 344 ⇑ePKPDF PKPdf 06 53 15.9 +0.6
KHC ⇑ePKP PKPbc 06 53 21.4 +0.2
KHC ePKPAB PKPab 06 53 30.3 +0.2
KHC ex x 06 55 44.0
KHC Kasperske Hory 150.18 344 ⇑ePKIKP PKPdf 06 53 15.9 +0.6
KHC e 06 53 30.3
BZS Buzias 150.21 330 ⇑P PKPbc 06 53 19.8 -1.5
BZS Buzias 150.21 330 ⇑PKIKP PKPbc 06 53 19.8 -1.5
BSTI Sart Tilman 150.22 354 dPKP PKiKP 06 53 21.4 -0.3
BSTI dPKPab PKPab 06 53 30.0 -0.1
GRFO Grafenberg 150.22 347 PKiKP 06 53 22.0 +0.3
GRFO Grafenberg 150.22 347 PKIKP PKiKP 06 53 22.0 +0.3
CKRC Cesky Krumlov 150.26 342 ⇑ePKPDF PKPdf 06 53 16.1 +0.7
CKRC ⇑ePKP PKiKP 06 53 21.9 0.0
CKRC Cesky Krumlov 150.26 342 ⇑ePKIKP PKPdf 06 53 16.1 +0.7
TIM Timisoara 150.30 331 ⇑P PKiKP 06 53 21.9 0.0
TIM Timisoara 150.30 331 ⇑PKIKP PKiKP 06 53 21.9 0.0
HERR Herculane 150.38 329 ⇓P PKPbc 06 53 21.3 -0.4
BHOU Houvegnez 150.40 354 dPKPdf PKPdf 06 53 16.0 +0.4
BHOU dPKP PKiKP 06 53 22.0 -0.1
BHOU dPKPab PKPab 06 53 31.1 +0.1
BCLA Clavier 150.40 355 dPKP PKPbc 06 53 21.6 0.0
BCLA dPKPab PKPab 06 53 30.4 -0.5
GERES GERESS Array B 150.41 343 PKP PKPdf 06 53 15.7 0.0
comp=Z,4.8nm,0.8s,baz=45,slow=1.6,SNR=18
GERES PKPbc PKPbc 06 53 21.9 +0.1
comp=Z,82nm,0.8s,baz=45,slow=2.1,SNR=142
BGES Gesves 150.46 355 dPKP PKPbc 06 53 21.5 -0.2
BGES dPKPab PKPab 06 53 30.7 -0.5
PUNG Punghina 150.56 327 ⇓P PKPbc 06 53 20.8 -1.3
BMRD Maredsous 150.56 355 dPKPdf PKPdf 06 53 16.2 +0.4
BMRD dPKP PKPbc 06 53 22.1 +0.2
BMRD dPKPab PKPab 06 53 31.2 -0.4
CONA Conrad Observa 150.59 340 i PKP PKPdf 06 53 15.9 -0.1
comp=Z,11nm,1.1s,SNR=84
CONA ePKP PKiKP 06 53 22.7 +0.1
comp=Z,153nm,0.7s
CONA ePKP PKPab 06 53 32.9 +1.0
comp=Z,97nm,0.9s
CONA epPKiKP pPKiKP 06 55 45.5 +1.2
comp=Z,20nm,1.0s
BANR Banloc 150.61 331 ⇑P PKPbc 06 53 22.2 0.0
RONA Rosalia, Austr 150.64 339 i PKP PKPdf 06 53 16.0 -0.1
comp=Z,16nm,1.6s,SNR=99
RONA ePKP PKiKP 06 53 22.7 0.0
comp=Z,203nm,0.6s
RONA ePKP PKPab 06 53 33.2 +1.2
comp=Z,124nm,0.9s
RONA epPKP pPKPab 06 55 46.9 -0.2
comp=Z,15nm,1.1s
RCHB Rochefort 150.67 355 dPKPdf PKPdf 06 53 16.3 +0.3
RCHB dPKP PKPbc 06 53 22.2 0.0
DOU Dourbes 150.78 356 dPKPdf PKPdf 06 53 16.6 +0.4
DOU dPKP PKPbc 06 53 22.4 0.0
MDVR Moldovita 150.79 329 ⇓P PKPbc 06 53 21.7 -1.1
AKAS Kas 150.90 308 PKPdf 06 53 16.9 -0.1
ALN Alexandroupoli 151.00 319 P PKPbc 06 53 22.4 -0.8
MORH Mrgy, Hungar 151.03 335 ⇓P PKPbc 06 53 21.7 -1.5
CAVK Edirne/Enez-Ca 151.05 318 ⇑P PKPbc 06 53 22.3 -1.1
WLF Walferdange 151.07 353 dPKPdf PKPdf 06 53 17.7 +1.1
WLF dPKP PKiKP 06 53 23.7 +0.3
WLF dPKPab PKPab 06 53 32.9 -0.9
MOA Molln 151.15 342 ePKP PKPdf 06 53 16.5 -0.3
comp=Z,8.6nm,1.0s
MOA i PKP PKPbc 06 53 23.2 -0.2
comp=Z,51nm,0.6s,SNR=16
RDO Rodhopi 151.17 320 P PKPbc 06 53 23.2 -0.4
ARSA Arzberg 151.29 339 ePKP PKPdf 06 53 16.6 -0.4
comp=Z,12nm,1.5s
ARSA i PKP PKPbc 06 53 23.5 -0.3
comp=Z,32nm,1.0s,SNR=11
FRGS Fruska Gora 151.38 332 eP PKPbc 06 53 22.8 -1.2
EZN Ezine 151.44 317 P PKPbc 06 53 21.6 -2.7
BIOA Bad Ischl, Aus 151.47 342 i PKP PKPdf 06 53 16.8 -0.5
comp=Z,13nm,1.0s,SNR=5.7
BIOA ePKP PKPbc 06 53 23.9 -0.2
comp=Z,74nm,0.9s
SMTH Samothraki Isl 151.57 319 P PKPbc 06 53 23.7 -0.9
BOVS Bovan 151.63 328 ⇓P PKPbc 06 53 23.0 -1.6
JSA Saint Aubin 151.69 5 eP PKPbc 06 53 23.4 -1.1
PRK Paraskevi 151.79 316 P PKPbc 06 53 24.6 -0.5
KAVA Kavala 151.87 321 P PKPbc 06 53 24.8 -0.4
SOKA Soboth 151.95 339 i PKP PKPdf 06 53 17.2 -1.0
comp=Z,14nm,1.2s,SNR=9.6
SOKA ePKP PKPbc 06 53 24.8 -0.5
comp=Z,73nm,0.9s
SOKA epPKP pPKPab 06 53 38.0 +0.3
comp=Z,101nm,1.2s
SOKA epPKP pPKPab 06 55 50.7 -1.9
comp=Z,8.9nm,0.9s
PERS Pernice 151.96 339 i PKPbc PKPbc 06 53 24.7 -0.6
PERS i PKPab PKPab 06 53 37.4 -0.3
TEKS Tekeris 151.98 331 eP PKPbc 06 53 24.4 -1.0
LESA Schwarzleotal 151.99 343 i PKP PKPdf 06 53 17.7 -0.4
comp=Z,18nm,1.2s,SNR=7.4
LESA ePKP PKPbc 06 53 25.1 -0.2
comp=Z,56nm,0.6s
LESA ePKP PKPab 06 53 38.7 +0.9
comp=Z,168nm,1.5s
LESA i pPKiKP pPKiKP 06 55 49.0 +1.7
comp=Z,15nm,1.3s
THAS Thassos island 151.99 320 P PKPbc 06 53 24.6 -0.8
NVR Nevrokopi 152.03 322 P PKiKP 06 53 26.0 +0.2
BFO Black Forest 152.07 350 PKPdf PKPdf 06 53 18.1 -0.1
BFO PKPbc 06 53 25.4 -0.1
BFO Black Forest 152.07 350 PKIKP PKPbc 06 53 25.4 -0.1
SIGR SIGRI 152.08 316 P PKPbc 06 53 25.1 -0.6
KBA Koelnbreinsper 152.12 342 i PKP PKPdf 06 53 17.6 -0.8
comp=Z,16nm,1.2s,SNR=5.5
KBA ePKP PKPbc 06 53 25.1 -0.7
comp=Z,58nm,0.7s
KBA ePKP PKPab 06 53 39.7 +1.2
comp=Z,39nm,0.6s
LIA Limnos Island 152.12 318 P PKPbc 06 53 24.9 -0.9
SMG Samos 152.22 313 P PKPbc 06 53 25.5 -0.6
OBKA Obir 152.26 340 ePKP PKPdf 06 53 18.3 -0.3
comp=Z,6.8nm,1.0s
OBKA i PKP PKPbc 06 53 25.2 -0.8
comp=Z,29nm,0.8s,SNR=11
OBKA ePKP PKPab 06 53 38.9 -0.2
comp=Z,32nm,0.9s
OBKA Obir 152.26 340 eP PKPdf 06 53 22.3 +3.7
KOKK Kokkinochori, 152.29 321 P PKPbc 06 53 25.3 -0.8
SRS Serrai 152.34 322 P PKPbc 06 53 25.0 -1.2
WATA Walderalm 152.35 345 i PKP PKPdf 06 53 18.5 -0.3
comp=Z,17nm,1.1s
WATA i PKP PKPbc 06 53 26.0 -0.2
comp=Z,53nm,0.6s,SNR=11
WATA ePKP PKPab 06 53 40.1 +0.6
comp=Z,126nm,1.4s
RETA Reutte 152.40 346 i PKP PKPdf 06 53 18.5 -0.2
comp=Z,8.2nm,1.0s
RETA i PKP PKPbc 06 53 26.1 -0.2
comp=Z,36nm,0.7s,SNR=9.1
RETA ePKP PKPab 06 53 39.7 +0.1
comp=Z,126nm,1.1s
WTTA Wattenberg 152.40 345 i PKP PKPdf 06 53 18.8 -0.1
comp=Z,20nm,0.9s,SNR=7.1
WTTA ePKP PKPbc 06 53 26.4 0.0
comp=Z,91nm,0.5s
WTTA ePKP PKPab 06 53 40.2 +0.5
comp=Z,104nm,0.6s
MYKA Terra Mystica 152.43 341 ePKP PKPdf 06 53 18.3 -0.5
comp=Z,7.9nm,1.1s
MYKA i PKP PKPbc 06 53 25.7 -0.7
comp=Z,55nm,0.5s,SNR=21
MYKA ePKP PKPab 06 53 39.4 -0.3
comp=Z,46nm,0.7s
MOTA Moosalm 152.46 345 i PKP PKPdf 06 53 18.5 -0.4
comp=Z,30nm,1.2s
MOTA ePKP PKPbc 06 53 26.3 -0.2
comp=Z,130nm,1.1s
MOTA ePKP PKPab 06 53 40.2 +0.2
comp=Z,134nm,1.0s
SQTA Sankt Quirin 152.55 345 i PKP PKPdf 06 53 18.9 -0.2
comp=Z,19nm,0.8s,SNR=6.0
SQTA ePKP PKPbc 06 53 26.6 0.0
comp=Z,82nm,0.8s
SQTA ePKP PKPab 06 53 40.5 +0.2
comp=Z,64nm,0.9s
CRES Cresnjevec Ost 152.55 338 eP PKPbc 06 53 24.8 -1.8
BBLS Lazi&#263i 152.57 331 eP PKPbc 06 53 26.3 -0.4
OUR Ouranopolis 152.60 320 P PKPbc 06 53 25.8 -1.0
HAPS Han Pijesak,Bl 152.60 331 eP PKPbc 06 53 26.7 -0.2
ABTA Abfaltersbach 152.65 343 i PKP PKPdf 06 53 18.5 -0.7
comp=Z,43nm,1.0s,SNR=14
ABTA ePKP PKPbc 06 53 26.4 -0.5
comp=Z,116nm,0.6s
ABTA ePKP PKPab 06 53 40.4 -0.3
comp=Z,60nm,0.7s
ABTA epPKiKP pPKiKP 06 55 50.2 +1.5
comp=Z,17nm,1.0s
SOH Sokhos 152.66 321 P PKPbc 06 53 25.4 -1.6
LJU Ljubljana 152.68 340 ePKPdf PKPdf 06 53 18.5 -0.6
LJU i PKPbc PKPbc 06 53 26.7 -0.1
LJU i 06 55 51.7
KNT Kendrikon 152.71 322 P PKPbc 06 53 25.8 -1.2
A051A Mrakovica 152.71 335 eP PKPbc 06 53 25.8 -1.2
SJES Sjenica 152.76 329 eP PKPbc 06 53 26.2 -1.0
RUDO Rudo 152.78 330 ⇑iP PKPbc 06 53 26.4 -0.7
DAVA Damuels 152.79 347 ePKP PKPdf 06 53 19.3 -0.1
comp=Z,16nm,0.9s
DAVA i PKP PKPbc 06 53 27.2 -0.1
comp=Z,82nm,1.0s,SNR=8.0
DAVA ePKP PKPab 06 53 41.5 +0.1
comp=Z,90nm,0.8s
VAY Valandovo 152.79 323 i P PKPbc 06 53 26.5 -0.7
BLY Banja Luka 152.82 335 eP PKPbc 06 53 26.9 -0.2
FETA Feichten 152.85 346 i PKP PKPdf 06 53 19.1 -0.4
comp=Z,34nm,0.9s,SNR=14
FETA ePKP PKiKP 06 53 27.5 +0.1
comp=Z,68nm,0.8s
FETA PKP PKPab 06 53 41.7 +0.1
comp=Z,80nm,1.2s
PLG Polygyros 152.89 321 P PKPbc 06 53 26.1 -1.4
BOJS Bojanci 152.91 338 eP PKPbc 06 53 25.9 -1.4
HORT Hortiatis 152.96 321 P PKPbc 06 53 26.3 -1.4
CEY Cerknica 152.98 339 ePKPdf PKPdf 06 53 18.9 -0.6
CEY i PKPbc PKPbc 06 53 27.2 -0.3
CEY ePKPab PKPab 06 53 41.2 -0.8
CEY Cerknica 152.98 339 eP PKPbc 06 53 26.0 -1.5
KARP Karpathos 152.99 308 PKPdf 06 53 19.0 -0.9
KARP Karpathos 152.99 308 P PKPbc 06 53 27.5 -0.4
DAVOX Davos/Dischmat 153.27 347 PKP PKPdf 06 53 20.3 +0.1
comp=Z,16nm,0.8s,baz=347,slow=1.9,SNR=19
DAVOX PKPbc PKiKP 06 53 28.4 +0.1
comp=Z,99nm,0.7s,baz=242,slow=2.2,SNR=71
DAVOX PKPab PKPab 06 53 43.9 +0.4
comp=Z,76nm,0.7s,baz=1.4,slow=8.5,SNR=15
SKDS Skadanscina 153.29 340 eP PKPbc 06 53 26.9 -1.3
A050A Klekovaca 153.30 335 eP PKPbc 06 53 27.2 -1.1
UPM Unac-Piva 153.31 330 eP PKPbc 06 53 27.5 -1.0
LIT Litokhoron 153.63 321 P PKPbc 06 53 27.9 -1.2
KARY Karystos 153.66 315 P PKPab 06 53 46.2 +1.0
PHP Peshkopia 153.69 326 P PKPbc 06 53 28.7 -0.5
PDG Podgorica 153.74 329 eP PKPbc 06 53 28.1 -1.0
THR3 Thira Island, 153.86 311 P PKPbc 06 53 28.6 -1.0
OHR Ohrid 153.91 325 i P PKPdf 06 53 20.9 -0.2
KZN Kozani 153.91 322 P PKPbc 06 53 29.2 -0.5
DRME Dracevica, Mon 153.95 328 eP PKPdf 06 53 18.9 -2.1
HCY Herceg Novi 154.09 330 eP PKPbc 06 53 29.3 -0.6
STON Ston 154.12 331 eP PKPbc 06 53 27.6 -2.3
VLY Voula,Athens 154.18 316 P PKiKP 06 53 28.9 -1.4
NEST Nestorio 154.25 323 P PKiKP 06 53 30.1 -0.4
VILL Villia 154.32 317 P PKiKP 06 53 30.2 -0.4
PENT Pentalofos 154.35 323 P PKiKP 06 53 30.0 -0.7
AXAR Agios Charalam 154.37 319 P PKPbc 06 53 30.7 0.0
KPRO Kipourio 154.38 322 P PKiKP 06 53 29.9 -0.8
LSK Leskovik 154.68 323 P PKiKP 06 53 31.3 0.0
IDI Anoyia 154.76 310 PKP PKPdf 06 53 22.6 +0.1
comp=Z,25nm,0.9s,baz=13,slow=7.4,SNR=11
IDI PKPbc PKiKP 06 53 30.9 -0.7
comp=Z,23nm,0.6s,baz=133,slow=5.1,SNR=15
JAN Janina 154.87 322 P PKiKP 06 53 31.7 0.0
ANX Ano Chora 154.93 319 P PKPbc 06 53 33.0 +1.0
GUR Goura 155.07 317 P PKPdf 06 53 31.7 +8.9
TIP Timpagrande 157.43 327 ⇑P PKPdf 06 53 32.7 +6.9
PGAV Gavieira, Arco 157.57 19 ePKPdf PKPdf 06 53 26.7 +0.8
PGAV ePKPab PKPab 06 54 02.9 +0.9
PCAB Cabril 157.88 19 ePKPab PKPab 06 54 04.3 +1.0
PBRG Braganca 158.15 16 ePKPab PKPab 06 54 04.8 +0.3
PTO Porto 158.22 20 ePKPab PKPab 06 54 04.5 -0.2
POLO Lamas de Olo 158.25 18 ePKPab PKPab 06 54 05.5 +0.5
PVRL Vila Real 158.37 18 ePKPab PKPab 06 54 05.7 +0.3
MVO Moncorvo 158.67 17 ePKPdf PKPdf 06 53 27.6 +0.4

MVO ePKPab **PKPab** 06 54 07.2 +0.5
PVIS Viseu 158.82 19 ePKPdf **PKPdf** 06 53 27.4 +0.1
PVIS ePKPab **PKPab** 06 54 07.5 +0.1
COI Coimbra 159.12 21 ePKPab **PKPab** 06 54 08.9 +0.3
MTE Manteigas 159.22 19 ePKPdf **PKPdf** 06 53 28.3 +0.4
MTE ePKPab **PKPab** 06 54 09.4 +0.2
PCAS Casmilo, Conde 159.23 21 ePKPab **PKPab** 06 54 09.3 +0.1
PSBE So Bento 159.60 23 ePKPab **PKPab** 06 54 11.2 +0.3
PCBR Castelo Branco 159.75 20 ePKPdf **PKPdf** 06 53 29.0 +0.6
PCBR ePKPab **PKPab** 06 54 11.5 0.0
PMRV Marv??o 160.16 20 ePKPdf **PKPdf** 06 53 29.5 +0.7
PMRV ePKPab **PKPab** 06 54 13.5 +0.2
PMTG Montargil 160.20 22 ePKPab **PKPab** 06 54 13.2 -0.3
PMPST Porto Santo, M 160.29 49 ePKPab **PKPab** 06 54 15.2 +1.0
PESTR Estremoz 160.60 21 ePKPdf **PKPdf** 06 53 29.9 +0.5
PESTR ePKPab **PKPab** 06 54 15.1 -0.1
EVO Evora 160.75 22 ePKPdf **PKPdf** 06 53 30.2 +0.7
EVO ePKPab **PKPab** 06 54 15.8 -0.1
ESDC Sonseca Array 160.81 12 **PKPdf** 06 53 30.0 +0.4
ESDC **PKPab** 06 54 16.0 -0.2
ESDC Sonseca Array 160.81 12 PKP **PKPdf** 06 53 30.2 +0.6
comp=Z,3.8nm,1.0s,baz=350,slow=3.0,SNR=18
ESDC PKPab **PKPab** 06 54 16.3 +0.1
comp=Z,31nm,1.0s,baz=341,slow=4.2,SNR=49
ESDC PP **PP** 06 58 00.7 +0.3
comp=Z,3.5nm,1.1s,baz=358,slow=5.6,SNR=5.8
PAB San Pablo 160.86 13 **PKPdf** 06 53 30.5 +0.8
PAB San Pablo 160.86 13 ⇑PKIKP **PKPdf** 06 53 26.8 -2.9
MAHO Mahon 160.92 353 **PKPab** 06 54 16.6 +0.1
PBEJ Beja 161.26 23 ePKPdf **PKPdf** 06 53 30.0 0.0
PBEJ ePKPab **PKPab** 06 54 18.3 +0.1
MESJ Messejana 161.29 24 **PKPab** 06 54 18.7 +0.4
MESJ Messejana 161.29 24 ePKPdf **PKPdf** 06 53 30.6 +0.5
MESJ Messejana 161.29 24 ePKPdf **PKPdf** 06 53 31.2 +1.2
MESJ ePKPab **PKPab** 06 54 18.2 -0.1
MESJ Messejana 161.29 24 PKP2 **PKPab** 06 54 18.7 +0.4
PTEO Sao Teotonio 161.35 25 ePKPdf **PKPdf** 06 53 31.1 +1.0
PTEO ePKPab **PKPab** 06 54 19.0 +0.5
PBAR Barrancos 161.41 21 ePKPdf **PKPdf** 06 53 31.0 +0.9
PBAR ePKPab **PKPab** 06 54 19.0 +0.2
PCVE Castro Verde 161.54 24 ePKPab **PKPab** 06 54 19.6 +0.2
MORF Marmelete 161.59 26 ePKPdf **PKPdf** 06 53 30.9 +0.5
MORF Marmelete 161.59 26 ePKPdf **PKPdf** 06 53 31.6 +1.2
MORF ePKPab **PKPab** 06 54 20.1 +0.4
PVAQ Vaqueiros 161.86 23 **PKPab** 06 54 21.4 +0.6
PVAQ Vaqueiros 161.86 23 ePKPab **PKPab** 06 54 21.4 +0.6
PBDV Barranco-do-Ve 161.92 24 ePKPab **PKPab** 06 54 21.7 +0.6
KEST Kesra 163.62 336 **PKPab** 06 54 29.1 +0.5
KEST Kesra 163.62 336 PKP **PKPdf** 06 53 32.8 +0.3
comp=Z,7.6nm,1.1s,baz=210,slow=5.4,SNR=6.4
KEST PKPab **PKPab** 06 54 29.0 +0.3
comp=Z,68nm,0.9s,baz=7.0,slow=0.9,SNR=36
CRHA Rehia 164.18 340 P **PKPdf** 06 53 33.9 +0.9
CTEI Djebel Teioual 164.25 344 P **PKPdf** 06 53 33.4 +0.3
CAZD Ain Tagrout 164.43 348 P **PKPdf** 06 53 34.0 +0.8
DBIC Dimbokro 164.65 157 PKP **PKPdf** 06 53 33.5 -0.4
comp=Z,26nm,0.9s,baz=142,slow=1.3,SNR=24
DBIC PKPab **PKPab** 06 54 34.9 +1.3
comp=Z,23nm,0.8s,baz=182,slow=4.9,SNR=12
ADJB Djebel Djouab 164.71 353 P **PKPdf** 06 53 35.1 +1.6
CBBAR Babar 164.90 341 P **PKPdf** 06 53 34.3 +0.6
ADCK Dar Chioukh 165.94 352 P **PKPdf** 06 53 36.0 +1.4
EZEK Zmalet El Emir 166.09 356 P PKPdf 06 53 53.9 +19
EADEB Ain Deheb 166.13 359 P **PKPdf** 06 53 36.1 +1.4
ADJF Tadmit 166.67 353 P **PKPdf** 06 53 36.3 +1.2
TORD Torodi Ar. Bea 172.24 184 **PKPdf** 06 53 38.2 -0.6
TORD PKPab **PKPab** 06 55 06.6 -0.4
TORD Torodi Ar. Bea 172.24 184 PKP **PKPdf** 06 53 38.3 -0.4
comp=Z,19nm,0.3s,baz=170,slow=1.2,SNR=1.2
TORD PKPab **PKPab** 06 55 08.2 +1.1
comp=Z,33nm,0.3s,baz=182,slow=2.6,SNR=1.8
TAM Tamanrasset 175.57 295 **PKPab** 06 55 23.2 +0.8
TAM Tamanrasset 175.57 295 PKP2 **PKPab** 06 55 23.2 +0.8

IDC 21 06:40:56.6±17.0, 3°.01N×93°.00E, h0km, mb4.0/3, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=361.8km s-min=107.9km az=146.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.42**	**20**	Pn	Pn	06 44 48.4	-0.3
	0.6nm,0.3s,baz=212,slow=12,SNR=6.5						
	1.4nm,0.3s						
MKAR	**Makanchi Array**	**44.60**	**350**	P	P	06 49 11.2	+0.5
	1.7nm,0.7s,baz=173,slow=7.4,SNR=4.9						
	1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**48.99**	**348**	P	P	06 49 44.3	-0.6
	0.8nm,0.3s,baz=176,slow=7.1,SNR=6.3						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**51.22**	**354**	P	P	06 50 01.6	-0.1
	1.0nm,0.3s,baz=174,slow=6.7,SNR=4.6						
	1.0nm,0.3s						

*NEIC **21** 06:48:09.5±1.2, 18°.00S±0°.09×173°.81W±0°.07, h152km±10km, mb4.6/16, Error ellipse: s-maj=14.7km s-min=6.7km az=211.0*
*IDC **21** 06:48:17.4±4.0, 18°.50S×174°.44W, h179km±33km, mb3.9/7, mbtmp4.4/9, MS3.3/1, Error ellipse: s-maj=28.7km s-min=19.9km az=94.0*

ISC 21 06:48:09.4±0.7, 18°.08S±0°.1×173°.84W±0°.09, h150km, n40, σ1§58/31, mb4.6/14, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.85**	**106**		**Pn**	**06 49 07.4**	**-0.3**
AFI	**Afiamalu**	**4.57**	**26**		**Pn**	**06 49 16.1**	**-1.1**
MSVF	**Nonsavu**	**7.73**	**271**	Pn	**Pn**	**06 49 59.4**	**+0.2**
MSVF	**Nonsavu**	**7.73**	**271**	P	**Pn**	**06 50 01.3**	**+2.1**
	15nm,0.3s,baz=117,slow=15,SNR=24						
PINNC	**Pines Island,**	**18.12**	**252**	P	**P**	**06 52 09.4**	**-0.7**
PINNC				IAmb	IAmb	06 52 17.9	
	comp=Z,47nm,1.0s						
DZM	**Mont Dzumac**	**18.94**	**255**	P	**P**	**06 52 19.0**	**-0.1**
	comp=Z,12nm,0.9s,baz=89,slow=17,SNR=4.0						
URZ	**Urewera**	**21.64**	**200**	P	**P**	**06 52 46.8**	**-1.0**
	comp=Z,19nm,0.7s,baz=60,slow=3.4,SNR=14						
	comp=Z,19nm,0.7s						
TOZ	**Tahuroa Road**	**21.73**	**203**	P	**P**	**06 52 48.2**	**-0.5**
TOZ				IAmb	IAmb	06 52 50.0	
	comp=Z,21nm,1.0s						
HIZ	**Hauiti**	**22.65**	**204**	P	**P**	**06 52 58.3**	**+0.5**
HNR	**Honiara**	**26.83**	**285**	LR	LR	07 03 16.9	
	comp=Z,65nm,18.5s,baz=354,slow=34						
EIDS	**Eidsvold**	**33.32**	**251**	P	**P**	**06 54 31.4**	**-1.7**
ARMA	**Armidale**	**33.67**	**242**	P	**P**	**06 54 35.8**	**-0.5**
BBOO	**Buckleboo**	**47.16**	**242**	P	**P**	**06 56 25.9**	**-1.0**
BBOO				IAmb	IAmb	06 56 30.8	
	comp=Z,28nm,1.5s						
WR0	**Warramunga Arr**	**48.69**	**259**	P	**P**	**06 56 38.0**	**-0.8**
WR0				IAmb	IAmb	06 56 39.2	
	comp=Z,5.9nm,0.9s						
WB0	**Warramunga Arr**	**48.85**	**259**	P	**P**	**06 56 39.5**	**-0.6**
WB0				IAmb	IAmb	06 56 39.7	
	comp=Z,8.7nm,0.6s						
WB2	**Warramunga Arr**	**48.87**	**259**	P	**P**	**06 56 39.5**	**-0.7**
WRAB	**Tennant Creek**	**48.87**	**259**	P	**P**	**06 56 39.8**	**-0.4**
WRAB				IAmb	IAmb	06 56 39.8	
	comp=Z,8.3nm,0.6s						
WRA	**Warramunga Arr**	**48.88**	**259**	P	**P**	**06 56 39.7**	**-0.5**
WRA	**Warramunga Arr**	**48.88**	**259**	P	**P**	**06 56 39.3**	**-0.9**
	comp=Z,4.5nm,0.3s,baz=97,slow=7.3,SNR=37						
	comp=Z,4.5nm,0.3s						
AS31	**Alice Springs**	**48.93**	**254**	P	**P**	**06 56 40.4**	**-0.3**
AS31				IAmb	IAmb	06 56 41.1	
	comp=Z,5.4nm,1.0s						
ASAR	**Alice Springs**	**48.94**	**254**	P	**P**	**06 56 39.6**	**-1.1**
ASAR	**Alice Springs**	**48.94**	**254**	P	**P**	**06 56 40.2**	**-0.5**
	comp=Z,13nm,0.7s,baz=87,slow=8.7,SNR=89						
ASAR				PcP	**PcP**	**06 58 06.0**	**+3.3**
	comp=Z,1.5nm,0.8s,baz=117,slow=4.0,SNR=4.2						
	comp=Z,13nm,0.7s						
KNRA	**Kununurra**	**54.79**	**263**	P	**P**	**06 57 24.0**	**-0.1**
KNRA				IAmb	IAmb	06 57 24.7	
	comp=Z,7.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**57.29**	**260**	P	**P**	**06 57 42.2**	**+0.4**
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**06 59 16.0**	**-0.7**
QSPA	**South Pole Qui**	**72.01**	**180**	P	**P**	**06 59 19.1**	**+2.4**
	comp=Z,2.1nm,1.0s,baz=45,slow=8.6,SNR=5.6						
	comp=Z,2.1nm,1.0s						
PETK	**Petropavlovsk-**	**75.01**	**343**	P	P	06 59 39.5	+5.4
	comp=Z,1.1nm,0.6s,baz=108,slow=9.0,SNR=6.0						
	comp=Z,1.1nm,0.6s						
N17K	**Nushagak Hills**	**79.45**	**8**	P	**P**	**06 59 57.6**	**-1.1**
H03S2	**Juan Fernandez**	**84.10**	**124**	T	T	08 33 30.6	
	baz=250,slow=75,SNR=48						
H03S1	**Juan Fernandez**	**84.11**	**124**	T	T	08 33 32.3	
	baz=250,slow=75,SNR=49						
H03S3	**Juan Fernandez**	**84.12**	**124**	T	T	08 33 30.8	
	baz=250,slow=75,SNR=60						
H03N2	**Juan Fernandez**	**84.22**	**123**	T	T	08 33 34.3	
	baz=257,slow=72,SNR=13						
H03N3	**Juan Fernandez**	**84.22**	**123**	T	T	08 33 35.5	
	baz=257,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**84.23**	**123**	T	T	08 33 39.0	
	baz=257,slow=72,SNR=12						
PDAR	**Pinedale Array**	**84.51**	**42**	P	P	07 00 33.2	+7.5
	comp=Z,0.4nm,0.6s,baz=232,slow=5.0,SNR=3.8						
	comp=Z,0.4nm,0.6s						
SEY	**Seymchan**	**84.95**	**345**	P	P	07 00 33.1	+5.9
	comp=Z,3.6nm,0.9s,baz=152,slow=6.7,SNR=11						
	comp=Z,3.6nm,0.9s						
SYO	**Syowa Base**	**89.94**	**191**	⇓eP	**P**	**07 00 49.4**	**-1.8**
BVAR	**Borovoye Array**	**119.68**	**321**	PKP	**PKiKP**	**07 06 46.5**	**+5.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=1.4,SNR=2.7						
BRTR	**Keskin Array B**	**147.88**	**318**	PKPbc	**PKPab**	**07 07 42.3**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=58,slow=3.1,SNR=8.6						
MMAI	**Mount Meron Ar**	**149.82**	**305**	PKPbc	**PKPab**	**07 07 46.7**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=53,slow=4.1,SNR=4.5						

IDC 21 06:49:14.2±8.6, 17°.90S×176°.84W, h506km±53km, mb3.3/4, mbtmp4.1/5, Error ellipse: s-maj=334.0km s-min=25.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.87**	**271**	P	P	06 50 40.5	0.0
	22nm,0.5s,baz=119,slow=10,SNR=17						
WRA	**Warramunga Arr**	**46.10**	**259**	P	P	06 56 52.4	-0.4
	1.3nm,0.5s,baz=97,slow=7.5,SNR=4.9						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**46.23**	**254**	P	P	06 56 53.9	+0.1
	8.3nm,0.5s,baz=88,slow=8.7,SNR=4.4						
	8.3nm,0.5s						
NVAR	**Mina Array Bea**	**78.39**	**43**	P	P	07 00 21.9	-0.5
	0.7nm,0.8s,baz=226,slow=7.2,SNR=3.7						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**86.32**	**43**	P	P	07 01 03.1	+0.6
	0.7nm,0.9s,baz=190,slow=2.6,SNR=4.5						
	0.7nm,0.9s						

*IDC **21** 06:49:56.0±12.0, 8°.95S×120°.48E, h229km±82km, mb3.6/1, mbtmp4.0/4, Error ellipse: s-maj=129.1km s-min=94.9km az=75.0*

ISC 21 06:49:48.4±2.2, 8°.6S±0°.2×120°.2E±0°.2, h200km, n11, σ1§53/12, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.01**	**91**	P	**Pn**	**06 50 25.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.80**	**151**	P	**Pn**	**06 52 19.8**	**+1.7**
	7.1nm,0.8s,baz=335,slow=10,SNR=34						
FITZ				S	**Sn**	**06 54 16.9**	**-1.7**
	3.6nm,0.4s,baz=160,slow=23,SNR=6.5						
GIRL	**Giralia**	**15.08**	**202**	P	**Pn**	**06 53 09.8**	**-1.8**
WRA	**Warramunga Arr**	**17.71**	**131**	P	**Pn**	**06 53 42.6**	**-0.6**
	0.9nm,0.6s,baz=309,slow=12,SNR=18						
ASAR	**Alice Springs**	**19.90**	**140**	P	**P**	**06 54 05.9**	**+1.0**
	1.7nm,0.4s,baz=316,slow=10,SNR=18						
AS01	**Alice Springs**	**19.93**	**140**	P	**P**	**06 54 06.4**	**+1.2**
COEN	**Coen**	**23.13**	**105**	P	**P**	**06 54 37.0**	**-0.2**
OOD	**Oodnadatta**	**24.03**	**144**	P	**P**	**06 54 46.2**	**+1.0**
LCRK	**Leigh Creek**	**27.48**	**145**	P	**P**	**06 55 18.3**	**+2.1**
	17nm,2.6s						
BBOO	**Buckleboo**	**28.19**	**151**	P	**P**	**06 55 23.0**	**+0.5**
STKA	**Stephens Creek**	**30.50**	**142**	P	**P**	**06 55 44.3**	**+1.4**
	1.2nm,0.3s,baz=330,slow=10,SNR=3.2						
	1.2nm,0.3s						

*IDC **21** 06:57:07.9±4.1, 12°.56S×166°.85E, h76km±34km, mb4.2/19, mbtmp4.5/20, MS3.4/14, Error ellipse: s-maj=21.7km s-min=13.1km az=84.0*
*NOU **21** 06:57:12.8, 12°.56S×166°.52E, h70km, mb4.8/12, Santa Cruz Islands*
*NEIC **21** 06:57:12.3±1.3, 12°.48S±0°.10×166°.8E±0°.1, h111km±8km, mb4.7/44, Error ellipse: s-maj=17.2km s-min=13.4km az=64.0*

ISC 21 06:57:10.8±0.4, 12°.53S±0°.05×166°.73E±0°.06, h100km, n138, σ0§95/136, mb4.6/40, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**2.02**	**337**	P	**Pn**	**06 57 44.4**	**+0.8**
LUES	**Luesalemba Tem**	**2.02**	**337**	S	**Sn**	**06 58 08.6**	**-0.1**
LUES	**Luesalemba Tem**	**2.02**	**337**	P	**Pn**	**06 57 44.1**	**+0.5**
HURO	**Huro Makira**	**5.15**	**293**	P	**Pn**	**06 58 25.5**	**-0.1**
NGOA	**Tingoa Renbel**	**6.59**	**278**	P	**Pn**	**06 58 44.4**	**-0.8**
ALEG	**Aligegeo Malai**	**7.01**	**302**	P	**Pn**	**06 58 50.9**	**0.0**
ALEG	**Aligegeo Malai**	**7.01**	**302**	S	**Sn**	**07 00 07.6**	**-1.6**
HNR	**Honiara**	**7.33**	**294**	Pn	**Pn**	**06 58 56.7**	**+1.4**
HNR	**Honiara**	**7.33**	**294**	P	**Pn**	**06 58 55.2**	**-0.1**
	76nm,0.4s,baz=205,slow=13,SNR=2.1						
HNR				S	**Sn**	**07 00 15.2**	**-1.7**
	225nm,0.4s,baz=233,slow=21,SNR=8.1						
SAVO	**Savo Central**	**7.58**	**296**	P	**Pn**	**06 58 59.1**	**+0.5**
SAVO	**Savo Central**	**7.58**	**296**	S	**Sn**	**07 00 21.4**	**-1.5**
TATA	**Tatamba Isabel**	**7.95**	**300**	P	**Pn**	**06 59 03.8**	**+0.1**
KOUNC	**Koumac, New Ca**	**8.32**	**196**	P	**Pn**	**06 59 10.2**	**+1.6**
DZM	**Mont Dzumac**	**9.50**	**182**	Pn	**Pn**	**06 59 26.6**	**+1.8**
DZM	**Mont Dzumac**	**9.50**	**182**	P	**Pn**	**06 59 26.4**	**+1.6**
DZM				S	**Sn**	**07 01 06.2**	**-3.6**
	7.6nm,0.8s,baz=162,slow=22,SNR=1.1						
DZM				LR	LR	07 02 12.0	
	comp=Z,81nm,18.9s,baz=314,slow=32						
DZM	**Mont Dzumac**	**9.50**	**182**	P	**Pn**	**06 59 26.1**	**+1.3**
ONTNC	**Ouen Toro**	**9.73**	**182**	Pn	**Pn**	**06 59 29.8**	**+1.9**
PINNC	**Pines Island,**	**10.05**	**176**	Pn	**Pn**	**06 59 34.0**	**+1.7**
MSVF	**Nonsavu**	**12.09**	**117**	LR	LR	07 03 51.6	
	comp=Z,244nm,19.4s,baz=276,slow=34						
FUTU	**Fugatoga**	**14.85**	**99**	Pn	**Pn**	**07 00 34.7**	**-1.0**
PMG	**Port Moresby**	**19.46**	**277**	LR	LR	07 08 51.0	
	comp=Z,103nm,18.7s,baz=88,slow=36						
EIDS	**Eidsvold**	**19.52**	**227**	P	**P**	**07 01 32.3**	**+1.9**
EIDS				IAmb	IAmb	07 01 38.2	
	comp=Z,29nm,1.0s						
ARMA	**Armidale**	**22.64**	**216**	P	**P**	**07 02 05.5**	**+1.8**
ARMA				IAmb	IAmb	07 02 06.3	
	comp=Z,24nm,0.7s						
COEN	**Coen**	**22.97**	**264**	P	**P**	**07 02 07.3**	**+0.2**
TOZ	**Tahuroa Road**	**26.30**	**164**	P	**P**	**07 02 38.1**	**+1.1**
HAZ	**Te Kaha**	**27.00**	**160**	P	**P**	**07 02 44.0**	**+0.7**
URZ	**Urewera**	**27.25**	**162**	P	**P**	**07 02 44.9**	**-0.7**
	comp=Z,5.1nm,0.6s,baz=352,slow=4.2,SNR=5.9						
URZ				LR	LR	07 11 33.2	
	comp=Z,70nm,18.4s,baz=66,slow=32						
	comp=Z,5.1nm,0.6s						
URZ	**Urewera**	**27.25**	**162**	P	**P**	**07 02 45.8**	**+0.2**
RTZ	**Ruatahuna**	**27.54**	**162**	P	**P**	**07 02 48.5**	**+0.2**
RTZ				IAmb	IAmb	07 02 54.5	
	comp=Z,13nm,1.0s						
TMVZ	**Te Maari**	**27.65**	**165**	P	**P**	**07 02 51.5**	**+2.2**
CAN	**Canberra**	**27.79**	**212**	P	**P**	**07 02 50.8**	**+0.3**
WNVZ	**Wahianoa**	**27.83**	**165**	P	**P**	**07 02 54.0**	**+3.1**
BKZ	**Black Stump Fm**	**27.91**	**164**	P	**P**	**07 02 51.3**	**-0.3**
BKZ				IAmb	IAmb	07 02 54.7	
	comp=Z,7.5nm,0.5s						
BKZ	**Black Stump Fm**	**27.91**	**164**	P	**P**	**07 02 51.4**	**-0.1**
KWHZ	**Kaweka Forest**	**28.13**	**164**	P	**P**	**07 02 53.7**	**+0.2**
KRHZ	**Kereru**	**28.32**	**164**	P	**P**	**07 02 55.0**	**-0.2**
PNHZ	**Pukenui**	**28.53**	**165**	P	**P**	**07 02 56.3**	**-0.8**
QRZ	**Quartz Range**	**28.65**	**171**	P	**P**	**07 03 00.0**	**+2.0**
DUWZ	**D'Urville Isla**	**28.87**	**169**	P	**P**	**07 03 01.5**	**+1.6**
DVHZ	**Dannevirke**	**28.89**	**165**	P	**P**	**07 03 00.0**	**-0.1**
MRZ	**Mangatainoka R**	**29.09**	**166**	P	**P**	**07 03 02.1**	**+0.2**
KIW	**Kapiti Island**	**29.13**	**167**	P	**P**	**07 03 02.8**	**+0.6**
BFZ	**Birch Farm**	**29.27**	**165**	P	**P**	**07 03 03.1**	**-0.4**
TCW	**Tory Channel**	**29.33**	**168**	P	**P**	**07 03 04.5**	**+0.5**
MTW	**Mount Morrison**	**29.54**	**166**	P	**P**	**07 03 05.4**	**-0.5**
THZ	**Tophouse**	**29.62**	**171**	P	**P**	**07 03 07.1**	**+0.4**
THZ				IAmb	IAmb	07 03 07.3	
	comp=Z,15nm,0.9s						
THZ	**Tophouse**	**29.62**	**171**	P	**P**	**07 03 07.6**	**+0.9**
MSWZ	**Moikau Station**	**29.73**	**167**	P	**P**	**07 03 07.0**	**-0.6**
PAWZ	**Paruwai Farm**	**29.74**	**167**	P	**P**	**07 03 04.9**	**-2.7**
TRWZ	**Traveller**	**29.81**	**166**	P	**P**	**07 03 08.2**	**-0.1**
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**07 03 12.0**	**+1.2**
STKA	**Stephens Creek**	**30.07**	**226**	P	**P**	**07 03 11.7**	**+0.9**
	comp=Z,7.3nm,0.6s,baz=59,slow=9.3,SNR=14						
STKA				LR	LR	07 14 11.5	
	comp=Z,91nm,18.8s,baz=28,slow=34						
	comp=Z,7.3nm,0.6s						
KHZ	**Kahutara**	**30.36**	**170**	P	**P**	**07 03 12.8**	**-0.3**
KHZ				IAmb	IAmb	07 03 33.2	
	comp=Z,13nm,1.0s						
INZ	**Inchbonnie**	**30.36**	**173**	P	**P**	**07 03 13.7**	**+0.5**
INZ				IAmb	IAmb	07 03 19.6	
	comp=Z,13nm,0.8s						
LTZ	**Lake Taylor**	**30.53**	**172**	P	**P**	**07 03 14.9**	**+0.3**
LTZ				IAmb	IAmb	07 03 19.8	
	comp=Z,21nm,1.0s						
LTZ	**Lake Taylor**	**30.53**	**172**	P	**P**	**07 03 15.3**	**+0.7**
RPZ	**Rata Peaks**	**31.30**	**174**	P	**P**	**07 03 22.5**	**+1.1**
TOO	**Toolangi**	**31.34**	**214**	P	**P**	**07 03 23.1**	**+1.1**
WR0	**Warramunga Arr**	**31.73**	**252**	P	**P**	**07 03 24.9**	**-0.7**
WB0	**Warramunga Arr**	**31.84**	**253**	P	**P**	**07 03 25.9**	**-0.5**
LBZ	**Lake Benmore**	**31.89**	**175**	P	**P**	**07 03 26.5**	**-0.1**
WB2	**Warramunga Arr**	**31.91**	**252**	P	**P**	**07 03 26.2**	**-0.8**
WRAB	**Tennant Creek**	**31.91**	**252**	P	**P**	**07 03 26.2**	**-0.9**
WRA	**Warramunga Arr**	**31.92**	**252**	P	**P**	**07 03 26.3**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=81,slow=8.7,SNR=9.6						
WRA				PcP	**PcP**	**07 06 15.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=79,slow=3.3,SNR=2.1						
	comp=Z,2.0nm,0.6s						
TMZ	**Timaru**	**31.96**	**174**	P	**P**	**07 03 26.6**	**-0.6**
WKZ	**Wanaka**	**32.25**	**177**	P	**P**	**07 03 29.5**	**-0.2**
WKZ				IAmb	IAmb	07 03 38.3	
	comp=Z,27nm,1.1s						
EAZ	**Earnscleugh**	**32.67**	**177**	P	**P**	**07 03 33.6**	**+0.3**
AS31	**Alice Springs**	**33.03**	**246**	P	**P**	**07 03 35.8**	**-1.0**
ASAR	**Alice Springs**	**33.03**	**246**	P	**P**	**07 03 35.8**	**-1.0**
ASAR	**Alice Springs**	**33.03**	**246**	P	**P**	**07 03 36.0**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=69,slow=10.0,SNR=37						
ASAR				PcP	**PcP**	**07 06 17.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=74,slow=1.5,SNR=5.5						
ASAR				LR	LR	07 15 52.2	
	comp=Z,81nm,20.5s,baz=90,slow=34						
	comp=Z,2.2nm,0.4s						
WHZ	**Wether Hill Ro**	**33.27**	**178**	P	**P**	**07 03 38.4**	**-0.2**
TUZ	**Tuapeka**	**33.41**	**176**	P	**P**	**07 03 40.2**	**+0.4**
GUMO	**Guam**	**33.80**	**319**	LR	LR	07 19 12.8	
	comp=Z,20nm,18.4s,baz=96,slow=39						
BBOO	**Buckleboo**	**34.56**	**229**	P	**P**	**07 03 50.3**	**+0.4**
BBOO				IAmb	IAmb	07 03 54.7	
	comp=Z,7.7nm,0.9s						
KNRA	**Kununurra**	**36.92**	**261**	P	**P**	**07 04 10.3**	**-0.1**
KNRA				IAmb	IAmb	07 04 33.2	
	comp=Z,8.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.95**	**257**	P	**P**	**07 04 36.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**39.95**	**257**	LR	LR	07 19 36.8	
	comp=Z,68nm,19.5s,baz=68,slow=34						
FORT	**Forrest**	**40.01**	**237**	P	**P**	**07 04 36.5**	**+0.4**
FORT				IAmb	IAmb	07 04 49.3	
	comp=Z,23nm,0.9s						
MBWA	**Marble Bar**	**45.65**	**253**	P	**P**	**07 05 22.3**	**+0.5**
MBWA				IAmb	IAmb	07 05 23.1	
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**49.46**	**237**	P	**P**	**07 05 51.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**49.46**	**237**	LR	LR	07 26 23.8	
	comp=Z,78nm,18.5s,baz=220,slow=35						
MORW	**Morawa**	**49.78**	**243**	P	**P**	**07 05 53.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**51.79**	**269**	P	**P**	**07 06 08.2**	**-0.7**
JGF	**Kuroka**	**55.35**	**331**	P	**P**	**07 06 34.9**	**+0.4**
JGF				IAmb	IAmb	07 06 36.1	
	comp=Z,11nm,1.0s						
JMN	**Monobe**	**55.63**	**327**	P	**P**	**07 06 37.6**	**+1.1**
MJAR	**Matsushiro Arr**	**55.72**	**332**	P	**P**	**07 06 36.8**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=168,slow=8.2,SNR=9.0						
	comp=Z,4.3nm,0.7s						
MAJO	**Matsushiro**	**55.72**	**332**	P	**P**	**07 06 36.9**	**-0.2**
MAJO				IAmb	IAmb	07 06 37.2	
	comp=Z,8.0nm,0.6s						
JNU	**Nakatsue**	**56.84**	**324**	P	**P**	**07 06 45.5**	**+0.4**
KSRS	**Korea Array**	**61.63**	**325**	P	**P**	**07 07 18.7**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=134,slow=7.3,SNR=15						
	comp=Z,3.5nm,0.7s						
USRK	**Ussu

BELG Belogornoye 117.47 323 PKP **PKPdf 07 15 44.8 +0.1**
comp=Z,7.3nm,0.6s,baz=1.3,slow=3.6,SNR=5.7
ARCES ARCESS Array B 118.00 346 PKP **PKPdf 07 15 45.0 -0.3**
comp=Z,1.7nm,0.3s,baz=76,slow=2.0,SNR=69
CPUP Villa Florida 122.32 132 PKP **PKPdf 07 15 53.8 -1.1**
comp=Z,1.7nm,0.8s,baz=89,slow=0.7,SNR=6.4
KBZ Khabaz 122.86 314 PKP **PKPdf 07 15 55.6 +0.3**
comp=Z,2.7nm,0.8s,baz=129,slow=5.1,SNR=4.2
FINES FINESS Array B 123.49 339 PKP **PKPdf 07 15 55.9 -0.2**
comp=Z,2.2nm,0.8s,baz=72,slow=1.6,SNR=5.4
BOSA Boshof 124.68 222 PKP **PKPdf 07 15 59.0 -0.6**
comp=Z,4.3nm,1.1s,baz=135,slow=9.6,SNR=3.4
NOA NORSAR Array B 128.37 345 PKP **PKPdf 07 16 05.8 +0.3**
comp=Z,1.3nm,0.8s,baz=32,slow=1.9,SNR=3.8
AKASG Malin Array Be 128.62 327 PKP **PKPdf 07 16 06.7 +0.5**
comp=Z,0.3nm,0.3s,baz=72,slow=1.5,SNR=4.5
BRTR Keskin Array B 130.67 312 PKP **PKPdf 07 16 10.8 +0.2**
comp=Z,0.7nm,0.5s,baz=80,slow=2.3,SNR=4.0
BDFB Brasília 135.67 128 PKP **PKPdf 07 16 20.3 -0.4**
comp=Z,1.7nm,0.7s,baz=208,slow=3.6,SNR=5.4
EKA Eskdalemuir Ar 136.56 352 PKP **PKPdf 07 16 20.8 -0.2**
comp=Z,0.2nm,0.4s,baz=29,slow=1.8,SNR=3.5
GERES GERESS Array B 137.45 334 PKP **PKPdf 07 16 23.5 +0.5**
comp=Z,0.2nm,0.3s,baz=41,slow=1.8,SNR=3.7
KEST Kesra 149.17 322 PKPbc **PKPbc 07 16 48.9 +0.7**
comp=Z,19nm,0.6s,baz=307,slow=0.3,SNR=22
ESDC Sonseca Array 151.73 345 PKPbc **PKPbc 07 16 54.7 +0.6**
comp=Z,2.9nm,0.8s,baz=16,slow=2.3,SNR=20
ESDC PKPab **PKPab 07 17 04.0 +0.8**
comp=Z,1.3nm,0.6s,baz=9.7,slow=3.7,SNR=7.4
TORD Torodi Ar. Bea 165.39 274 PKPab **PKPab 07 18 03.0 0.0**
comp=Z,23nm,0.3s,baz=79,slow=4.6,SNR=1.3

---

*NEIC **21** 06:57:25.4±1.4, 66°.32N±0°.02×157°.18W±0°.04, h11km±5km, Error ellipse: s-maj=2.7km s-min=2.2km az=117.0*
*AEIC **21** 06:57:25.0±1.2, 66°.33N±0°.01×157°.17W±0°.02, h3km±6km, ML3.3, ML3.5/96(NEIC), Error ellipse: s-maj=2.0km s-min=0.8km az=221.0*

ISC 21 06:57:25.2±0.9, 66°.31N±0°.02×157°.17W±0°.02, h10km±8km, n130, σ0=91/148, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.17**	**169**		**Pg**	**06 57 28.9**	**0.0**
G19K				Sg	**Sg**	**06 57 31.6**	**+0.2**
G19K	**Purcell Mounta**	**0.17**	**169**	P	**Pg**	**06 57 28.9**	**0.0**
baz=350							
G19K				S	**Sg**	**06 57 31.6**	**+0.2**
baz=350							
F19K	**Shaleruckik Mo**	**0.58**	**335**		**Pg**	**06 57 36.0**	**-0.4**
F19K					**Sg**	**06 57 44.0**	**0.0**
F19K	**Shaleruckik Mo**	**0.58**	**335**	P	**Pg**	**06 57 36.0**	**-0.4**
baz=154							
F19K				S	**Sg**	**06 57 44.2**	**+0.3**
baz=154							
G18K	**Tagagawik**	**0.74**	**236**		**Pg**	**06 57 38.8**	**-0.6**
G18K					**Sg**	**06 57 48.9**	**-0.1**
G18K	**Tagagawik**	**0.74**	**236**	P	**Pg**	**06 57 39.0**	**-0.4**
baz=53							
G18K				S	**Sg**	**06 57 49.2**	**+0.3**
baz=53							
H19K	**Roundabout Mou**	**0.84**	**159**		**Pg**	**06 57 41.1**	**-0.2**
H19K				IAML		06 57 57.0	
comp=E,1μm,0.5s							
H19K	**Roundabout Mou**	**0.84**	**159**	P	**Pg**	**06 57 41.1**	**-0.2**
baz=340							
H19K				S	**Sb**	**06 57 54.6**	**+1.3**
baz=340							
F20K	**Avaraart Lake**	**0.94**	**37**		**Pg**	**06 57 43.0**	**-0.3**
F20K					**Sb**	**06 57 55.8**	**-0.2**
F20K	**Avaraart Lake**	**0.94**	**37**	P	**Pg**	**06 57 42.9**	**-0.3**
baz=219							
F20K				S	**Sb**	**06 57 55.8**	**-0.2**
baz=219							
F18K	**Selawik**	**1.04**	**287**		**Pg**	**06 57 44.7**	**-0.5**
F18K					**Sb**	**06 57 59.3**	**+0.4**
F18K	**Selawik**	**1.04**	**287**	P	**Pg**	**06 57 44.7**	**-0.5**
baz=104							
F18K				S	**Sb**	**06 57 59.3**	**+0.4**
baz=104							
E19K	**Redstone River**	**1.15**	**359**		**Pg**	**06 57 47.0**	**-0.3**
E19K				Sn	**Sb**	**06 58 02.1**	**-0.1**
E19K				IAML		06 58 05.0	
comp=N,1μm,0.4s							
E19K				IAML		06 58 08.5	
comp=E,1μm,0.4s							
E19K	**Redstone River**	**1.15**	**359**	P	**Pg**	**06 57 46.6**	**-0.7**
baz=179							
E19K				S	**Sg**	**06 58 01.9**	**-0.3**
baz=179							
H20K	**Anotleneega Mo**	**1.25**	**130**		**Pn**	**06 57 48.9**	**+0.1**
H20K					**Sb**	**06 58 05.7**	**+0.7**
H20K	**Anotleneega Mo**	**1.25**	**130**	P	**Pn**	**06 57 48.9**	**+0.1**
baz=313							
H20K				S	**Sb**	**06 58 05.7**	**+0.7**
baz=313							
H18K	**Honhosa River**	**1.27**	**204**		**Pn**	**06 57 48.4**	**-0.6**
H18K				IAML		06 58 08.2	
comp=E,1μm,1.0s							
H18K				IAML		06 58 09.0	
comp=N,1μm,0.8s							
H18K	**Honhosa River**	**1.27**	**204**	P	**Pn**	**06 57 48.2**	**-0.8**
baz=22							
GCSA	**Galena City Sc**	**1.58**	**176**		**Pn**	**06 57 53.4**	**+0.2**
GCSA	**Galena City Sc**	**1.58**	**176**	P	**Pn**	**06 57 53.4**	**+0.2**
baz=356							
F17K	**Baldwin Pennin**	**1.65**	**276**		**Pn**	**06 57 54.2**	**0.0**
F17K				IAML		06 58 20.9	
comp=N,418nm,1.0s							
F17K	**Baldwin Pennin**	**1.65**	**276**	P	**Pn**	**06 57 54.2**	**0.0**
baz=92							
F17K				S	**Sg**	**06 58 18.4**	**+0.2**
baz=92							
F21K	**Alatna River**	**1.72**	**56**		**Pn**	**06 57 55.9**	**+0.6**
F21K				IAML		06 58 23.3	
comp=N,748nm,0.7s							
F21K	**Alatna River**	**1.72**	**56**	P	**Pn**	**06 57 55.4**	**+0.1**
baz=240							
E18K	**Tukpahlearik C**	**1.76**	**311**		**Pb**	**06 57 57.2**	**-0.2**
E18K	**Tukpahlearik C**	**1.76**	**311**	P	**Pn**	**06 57 56.7**	**+1.0**
baz=127							
H17K	**Granite Mounta**	**1.79**	**221**		**Pn**	**06 57 56.0**	**-0.2**
H17K				IAML		06 58 26.1	
comp=N,483nm,0.7s							
H17K	**Granite Mounta**	**1.79**	**221**	P	**Pn**	**06 57 56.1**	**-0.2**
baz=38							
I20K	**Naaghedeneel**	**1.89**	**142**		**Pn**	**06 57 58.0**	**+0.5**
H21K	**Melozitna Rive**	**1.90**	**108**		**Pn**	**06 57 58.0**	**+0.2**
H21K				IAML		06 58 27.6	
comp=E,329nm,0.5s							
H21K				IAML		06 58 33.6	
comp=N,253nm,1.1s							
H21K	**Melozitna Rive**	**1.90**	**108**	P	**Pn**	**06 57 57.9**	**+0.1**
baz=293							
H21K				S	**Sg**	**06 58 25.8**	**-0.5**
baz=293							
H21K				S	**Sg**	**06 58 25.8**	**-0.5**
baz=293							
E20K	**Nigu River**	**1.99**	**11**		**Pb**	**06 58 00.7**	**-0.8**
E20K	**Nigu River**	**1.99**	**11**	P	**Pb**	**06 58 00.7**	**-0.8**
baz=192							
D19K	**Kuna River**	**2.22**	**351**		**Pn**	**06 58 03.9**	**+1.7**
D19K				IAML		06 58 39.3	
comp=E,348nm,0.6s							
D19K				IAML		06 58 40.9	
comp=N,444nm,0.8s							
D19K	**Kuna River**	**2.22**	**351**	P	**Pn**	**06 58 03.9**	**+1.7**
baz=170							
G16K	**Koyuk River**	**2.32**	**249**		**Pn**	**06 58 02.6**	**-0.9**
G16K				IAML		06 58 43.0	
comp=N,195nm,0.8s							
G16K				IAML		06 58 43.0	
comp=E,169nm,0.5s							
H22K	**Ishtalitna Cre**	**2.40**	**97**		**Pn**	**06 58 05.0**	**+0.5**
H22K	**Ishtalitna Cre**	**2.40**	**97**	P	**Pn**	**06 58 05.0**	**+0.5**
baz=283							
J19K	**Poorman**	**2.42**	**164**	Pn	**Pn**	**06 58 05.5**	**+0.7**
D20K	**Etivluk River**	**2.42**	**5**		**Pn**	**06 58 06.3**	**+1.4**
D20K	**Etivluk River**	**2.42**	**5**	P	**Pn**	**06 58 06.3**	**+1.4**
baz=185							
I21K	**Tanana**	**2.42**	**116**		**Pn**	**06 58 05.4**	**+0.5**
I21K				IAML		06 58 48.7	
comp=N,290nm,0.9s							
I21K				IAML		06 58 50.8	
comp=E,267nm,0.5s							
I21K	**Tanana**	**2.42**	**116**	P	**Pn**	**06 58 05.2**	**+0.4**
baz=301							
E21K	**Killik River**	**2.47**	**29**		**Pn**	**06 58 06.8**	**+1.2**
E21K				IAML		06 58 51.2	
comp=N,310nm,0.9s							
E21K				IAML		06 58 53.3	
comp=E,322nm,0.7s							
E21K	**Killik River**	**2.47**	**29**	P	**Pn**	**06 58 06.4**	**+0.8**
baz=212							
D17K	**Noatak River**	**2.71**	**304**	P	**Pn**	**06 58 09.2**	**+0.4**
baz=118							
E22K	**Anaktuvuk Pass**	**2.77**	**46**		**Pn**	**06 58 11.6**	**+1.9**
E22K				IAML		06 58 57.6	
comp=E,137nm,0.8s							
E22K				IAML		06 59 09.7	
comp=N,149nm,0.9s							
E22K	**Anaktuvuk Pass**	**2.77**	**46**	P	**Pn**	**06 58 10.7**	**+0.9**
baz=232							
RDOG	**Red Dog Mine**	**2.84**	**311**	P	**Pn**	**06 58 11.9**	**+1.3**
baz=125							
I17K	**Unalakleet**	**2.86**	**213**	P	**Pn**	**06 58 11.6**	**+0.8**
baz=30							
J18K	**Innoko River**	**2.87**	**176**		**Pn**	**06 58 11.5**	**+0.5**
J18K	**Innoko River**	**2.87**	**176**	P	**Pn**	**06 58 11.4**	**+0.5**
baz=356							
G23K	**Bananza Creek**	**2.89**	**79**	Pn	**Pn**	**06 58 11.2**	**-0.1**
G23K				IAML		06 59 08.9	
comp=E,152nm,0.7s							
COLD	**Coldfoot**	**2.91**	**68**	Pn	**Pn**	**06 58 11.9**	**+0.3**
COLD	**Coldfoot**	**2.91**	**68**	P	**Pn**	**06 58 11.6**	**+0.1**
baz=255							
J17K	**VABM Dome**	**3.04**	**196**		**Pn**	**06 58 13.6**	**+0.3**
J17K				IAML		06 59 05.8	
comp=N,91nm,0.9s							
J17K				IAML		06 59 05.8	
comp=E,121nm,1.1s							
J17K	**VABM Dome**	**3.04**	**196**	P	**Pn**	**06 58 13.9**	**+0.5**
baz=15							
D22K	**Ayikyak River**	**3.10**	**32**		**Pn**	**06 58 15.7**	**+1.5**
D22K	**Ayikyak River**	**3.10**	**32**	P	**Pn**	**06 58 15.5**	**+1.4**
baz=216							
C17K	**DeLong Mountai**	**3.18**	**316**		**Pn**	**06 58 15.8**	**+0.5**
C17K	**DeLong Mountai**	**3.18**	**316**	P	**Pn**	**06 58 15.8**	**+0.5**
baz=130							
CHUM	**Lake Minchumin**	**3.19**	**138**		**Pn**	**06 58 16.7**	**+1.3**
CHUM	**Lake Minchumin**	**3.19**	**138**	P	**Pn**	**06 58 16.7**	**+1.3**
baz=322							
K20K	**Telida**	**3.25**	**155**	P	**Pn**	**06 58 17.6**	**+1.4**
baz=338							
J16K	**Anvik River**	**3.38**	**207**	Pn	**Pn**	**06 58 19.2**	**+1.2**
J16K				IAML		06 59 15.6	
comp=N,129nm,1.1s							
BPAW	**Bear Paw Mtn.**	**3.42**	**128**		**Pn**	**06 58 20.0**	**+1.4**
BPAW				IAML		06 59 22.5	
comp=N,83nm,0.8s							
BPAW	**Bear Paw Mtn.**	**3.42**	**128**	P	**Pn**	**06 58 20.0**	**+1.4**
baz=314							
I23K	**Minto, Yukon-K**	**3.43**	**106**	P	**Pn**	**06 58 19.6**	**+1.0**
baz=294							
TTA	**Tatalina**	**3.43**	**171**	Pn	**Pn**	**06 58 19.6**	**+0.8**
TTA	**Tatalina**	**3.43**	**171**	P	**Pn**	**06 58 19.6**	**+0.8**
baz=352							
B21K	**Ikpikpuk River**	**3.46**	**15**	Pn	**Pn**	**06 58 20.9**	**+1.8**
CAST	**Castle Rocks**	**3.62**	**141**	Pn	**Pn**	**06 58 23.1**	**+1.7**
CAST	**Castle Rocks**	**3.62**	**141**	P	**Pn**	**06 58 23.0**	**+1.6**
baz=326							
D23K	**Nanushuk River**	**3.64**	**40**	Pn	**Pn**	**06 58 23.3**	**+1.7**
K17K	**Iditarod**	**3.64**	**188**	Pn	**Pn**	**06 58 21.9**	**+0.3**
K17K				IAML		06 59 31.3	
comp=E,58nm,0.9s							
K17K				IAML		06 59 47.4	
comp=N,62nm,0.9s							
TOLK	**Toolik Lake Re**	**3.74**	**48**		**Pn**	**06 58 24.6**	**+1.6**
TOLK				IAML		06 59 42.1	
comp=N,108nm,1.2s							
TOLK	**Toolik Lake Re**	**3.74**	**48**	P	**Pn**	**06 58 24.1**	**+1.1**
baz=235							
NEA2	**Nenana**	**3.79**	**113**		**Pn**	**06 58 24.4**	**+0.7**
NEA2	**Nenana**	**3.79**	**113**	P	**Pn**	**06 58 24.5**	**+0.7**
baz=301							
KTH	**Kantishna Hill**	**3.84**	**133**	Pn	**Pn**	**06 58 26.2**	**+1.9**
KTH				IAML		06 59 31.1	
comp=E,48nm,1.1s							
KTH				IAML		06 59 44.9	
comp=N,68nm,0.9s							
BWN	**Browne**	**3.89**	**120**		**Pn**	**06 58 26.7**	**+1.7**
BWN				IAML		06 59 31.9	
comp=E,98nm,1.0s							
PPLA	**Purkeypile**	**4.04**	**146**	Pn	**Pn**	**06 58 28.7**	**+1.4**
PPLA	**Purkeypile**	**4.04**	**146**	P	**Pn**	**06 58 28.9**	**+1.6**
baz=330							
TRF	**Thorofare Moun**	**4.10**	**131**		**Pn**	**06 58 29.5**	**+1.4**
TRF				IAML		06 59 37.9	
comp=E,73nm,0.9s							
TRF				IAML		06 59 45.1	
comp=N,52nm,0.9s							
TRF	**Thorofare Moun**	**4.10**	**131**	P	**Pn**	**06 58 29.5**	**+1.4**
baz=318							
L18K	**Granite Mounta**	**4.12**	**177**	Pn	**Pn**	**06 58 28.7**	**+0.6**
L18K				IAML		06 59 40.8	
comp=E,38nm,0.9s							
COLA	**College**	**4.13**	**106**		**Pn**	**06 58 29.1**	**+0.9**
POKR	**Poker Plat Res**	**4.20**	**102**		**Pn**	**06 58 30.5**	**+1.3**
POKR				IAML		06 59 41.0	
comp=N,62nm,0.8s							
POKR				IAML		06 59 42.2	
comp=E,57nm,0.7s							
POKR	**Poker Plat Res**	**4.20**	**102**	P	**Pn**	**06 58 30.6**	**+1.3**
baz=291							
CCB	**Clear Creek Bu**	**4.25**	**109**	Pn	**Pn**	**06 58 30.2**	**+0.4**
CCB				IAML		06 59 45.8	
comp=N,43nm,0.6s							
MCK	**McKinley**	**4.34**	**123**		**Pn**	**06 58 32.2**	**+0.9**
MCK	**McKinley**	**4.34**	**123**	P	**Pn**	**06 58 32.3**	**+0.9**
baz=310							
TNA	**Tin City**	**4.47**	**265**	P	**Pn**	**06 58 34.0**	**+1.1**
baz=75							
IL31		**4.54**	**105**		**Pn**	**06 58 34.6**	**+0.7**
ILAR	**Eielson Array**	**4.54**	**105**		**Pn**	**06 58 34.4**	**+0.3**
RND	**Reindeer**	**4.59**	**126**	Pn	**Pn**	**06 58 36.1**	**+1.4**
HDA	**Harding Lake**	**4.68**	**109**		**Pn**	**06 58 35.4**	**-0.5**
HDA				IAML		07 00 00.4	
comp=E,32nm,0.6s							
HDA				IAML		07 00 02.9	
comp=N,34nm,0.7s							
F25K	**Christian Rive**	**4.71**	**69**		**Pn**	**06 58 37.5**	**+1.2**
F25K				IAML		07 00 02.9	
comp=N,46nm,0.9s							
L16K	**Owhat River**	**4.73**	**193**	Pn	**Pn**	**06 58 36.0**	**-0.6**
L16K				IAML		07 00 05.6	
comp=E,31nm,1.1s							
FYU	**Fort Yukon**	**4.80**	**81**	Pn	**Pn**	**06 58 38.0**	**+0.6**
PRP	**Porcupine Dome**	**4.84**	**94**		**Pn**	**06 58 39.1**	**+0.9**
PRP				IAML		07 00 04.4	
comp=N,41nm,1.1s							
PRP	**Porcupine Dome**	**4.84**	**94**	P	**Pn**	**06 58 39.0**	**+0.8**
baz=285							
E25K	**Arctic Village**	**4.86**	**63**		**Pn**	**06 58 38.6**	**+0.3**
E25K				IAML		07 00 02.6	
comp=N,50nm,0.7s							
E25K				IAML		07 00 12.6	
comp=E,43nm,0.8s							
E25K	**Arctic Village**	**4.86**	**63**	P	**Pn**	**06 58 38.3**	**-0.1**
baz=254							
SKT	**Skwentna**	**5.00**	**148**		**Pn**	**06 58 42.2**	**+2.0**
SKT				IAML		07 00 11.9	
comp=N,21nm,1.2s							
SKT				IAML		07 00 20.5	
comp=E,24nm,1.1s							
SKT	**Skwentna**	**5.00**	**148**	P	**Pn**	**06 58 42.2**	**+2.0**
baz=333							
A21K	**Barrow**	**5.04**	**2**		**Pn**	**06 58 41.0**	**+0.3**
A21K	**Barrow**	**5.04**	**2**	P	**Pn**	**06 58 41.0**	**+0.3**
baz=183							
BMAR	**Burnt Mountain**	**5.09**	**72**		**Pn**	**06 58 42.9**	**+1.4**
SPNN	**North Nagishla**	**5.34**	**156**		**Pn**	**06 58 46.1**	**+1.0**
M16K	**Timber Creek**	**5.37**	**189**	Pn	**Pn**	**06 58 45.2**	**-0.1**
M16K				IAML		07 00 21.0	
comp=N,16nm,0.9s							
M16K				IAML		07 00 21.4	
comp=E,17nm,0.9s							
CKL	**Chakachamna La**	**5.56**	**155**		**Pn**	**06 58 49.1**	**+1.0**
N18K	**Kilae Creek**	**5.68**	**174**	Pn	**Pn**	**06 58 50.5**	**+0.8**
I26K	**Coal Creek Min**	**5.85**	**93**		**Pn**	**06 58 52.2**	**+0.3**
I26K	**Coal Creek Min**	**5.85**	**93**	P	**Pn**	**06 58 52.3**	**+0.4**
baz=286							
SML	**Sawmill**	**5.95**	**135**		**Pn**	**06 58 54.7**	**+1.4**
J26L	**Joseph Creek**	**5.96**	**101**	Pn	**Pn**	**06 58 54.5**	**+1.0**
SCRK	**Sand Creek**	**6.03**	**107**		**Pn**	**06 58 54.7**	**+0.2**
C27K	**Jago River**	**6.05**	**51**	Pn	**Pn**	**06 58 56.5**	**+1.8**
I28M	**Miner Creek**	**7.11**	**89**	Pn	**Pn**	**06 59 10.1**	**+0.8**
BCAR	**Beaver Creek A**	**7.35**	**109**	Pn	**Pn**	**06 59 13.2**	**+0.7**
G29M	**Pine Creek**	**7.64**	**77**		**Pn**	**06 59 17.1**	**+0.7**
DAWY	**Dawson**	**7.80**	**99**	Pn	**Pn**	**06 59 19.1**	**+0.4**
G30M	**tAoh Zraii Nji**	**8.34**	**76**	Pn	**Pn**	**06 59 26.1**	**0.0**
I30M	**Mount Dempster**	**8.61**	**88**	Pn	**Pn**	**06 59 30.1**	**+0.3**
M29M	**Somme Creek**	**8.97**	**107**	Pn	**Pn**	**06 59 35.0**	**+0.3**
F31M	**Tsiigehtchic**	**9.27**	**72**	Pn	**Pn**	**06 59 38.8**	**+0.2**
INK	**Inuvik**	**9.33**	**67**	Pn	**Pn**	**06 59 40.5**	**+1.0**
A36M	**Sachs Harbour**	**12.57**	**49**		**Pn**	**07 00 22.8**	**-1.0**
C36M	**Paulatuk**	**12.75**	**61**	Pn	**Pn**	**07 00 25.1**	**-1.2**

---

*IDC **21** 07:05:12.9±3.0, 53°.64N×87°.99E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=25.7km s-min=16.2km az=66.0*

ASRS 21 07:05:11.0±1.2, 53°.62N×88°.04E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**281**	I	I	07 18 23.9	
baz=94,slow=344,SNR=4.2							
ZALV	**Zalesovo Beam**	**1.94**	**281**	Pn	Pb	07 05 46.9	-0.3
1.4nm,0.3s,baz=101,slow=16,SNR=16							
ZALV				Lg	Lg	07 06 13.4	
3.3nm,0.3s,baz=100,slow=31,SNR=26							
KURBB	**Kurchatov Arra**	**6.58**	**247**	Pn	Pn	07 06 50.9	+2.0
0.1nm,0.3s,baz=63,slow=14,SNR=2.1							
KURBB				Lg	Lg	07 08 40.5	
0.1nm,0.3s,baz=61,slow=30,SNR=6.0							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**7.76**	**211**	Pn	Pn	07 07 08.5	+3.3
0.1nm,0.3s,baz=23,slow=12,SNR=4.3							
MKAR				Sn	Sn	07 08 35.4	+1.6
0.1nm,0.3s,baz=27,slow=24,SNR=3.3							
MKAR				Lg	Lg	07 09 17.7	
0.1nm,0.3s,baz=28,slow=28,SNR=5.2							
0.4nm,0.8s							

---

*IDC **21** 07:06:14.4±2.4, 8°.53S×74°.36W, h144km±24km, mb3.0/4, mbtmp3.7/8, Error ellipse: s-maj=29.5km s-min=12.7km az=58.0*

ISC 21 07:06:14.6±0.9, 8°.53S±0°.08×74°.34W±0°.10, h147km, n10, σ0=84/12, mb3.3/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.23**	**215**	P	**Pn**	**07 07 19.0**	**+1.0**
8.9nm,0.3s,baz=34,slow=7.3,SNR=10.0							
NNA				S	**Sn**	**07 08 06.0**	**-1.1**
120nm,0.3s,baz=177,slow=17,SNR=26							
ATAH	**Atahualpa**	**4.25**	**289**	P	**Pn**	**07 07 18.6**	**+0.1**
82nm,0.4s,baz=117,slow=4.5,SNR=181							
ATAH				S	**Sn**	**07 08 07.8**	**-0.3**
81nm,0.5s,baz=160,slow=16,SNR=11							
LPAZ	**La Paz**	**9.81**	**142**	P	**Pn**	**07 08 31.4**	**-1.3**
0.8nm,0.5s,baz=255,slow=4.7,SNR=5.2							
SIV	**San Ignacio**	**14.93**	**121**	P	**Pn**	**07 09 38.4**	**-0.1**
3.3nm,0.4s,baz=298,slow=10,SNR=32							
CFA	**Coronel Fontan**	**23.66**	**167**	P	**P**	**07 11 13.8**	**+1.1**
0.7nm,0.6s,baz=104,slow=6.7,SNR=2.3							
0.7nm,0.6s							
TXAR	**Lajitas Array**	**47.06**	**324**	P	**P**	**07 14 32.1**	**+0.3**
0.3nm,0.5s,baz=154,slow=8.8,SNR=9.3							
0.3nm,0.5s							
PDAR	**Pinedale Array**	**60.30**	**331**	P	**P**	**07 16 08.1**	**0.0**
0.2nm,0.5s,baz=138,slow=6.9,SNR=4.0							
0.2nm,0.5s							
YKA	**Yellowknife Ar**	**77.29**	**342**	P	**P**	**07 17 51.8**	**-0.6**
0.3nm,0.5s,baz=146,slow=6.3,SNR=7.3							
0.3nm,0.5s							
ASAR	**Alice Springs**	**137.75**	**220**	pPKP	pPKPdf	07 26 02.0	+0.5
0.1nm,0.3s,baz=120,slow=2.5,SNR=1.6							
WRA	**Warramunga Arr**	**140.04**	**225**	PKP	**PKPdf**	**07 25 26.8**	**+0.2**
0.3nm,0.5s,baz=118,slow=2.1,SNR=2.0							
WRA				pPKP	**pPKPdf**	**07 26 06.3**	**+0.6**
0.8nm,0.8s,baz=127,slow=2.1,SNR=3.6							

IDC 21 07:16:49.0±6.3, 18°.08S×177°.29W, h528km±49km, mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=310.4km s-min=29.0km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.45**	**274**	P	P	07 18 13.0	0.0
2.1nm,0.3s,baz=146,slow=3.6,SNR=6.9							
WRA	**Warramunga Arr**	**45.65**	**260**	P	P	07 24 21.7	-0.7
0.2nm,0.4s,baz=98,slow=7.1,SNR=5.6							
0.2nm,0.4s							
ASAR	**Alice Springs**	**45.77**	**254**	P	P	07 24 23.6	+0.2
1.7nm,0.4s,baz=88,slow=8.1,SNR=36							
1.7nm,0.4s							
TXAR	**Lajitas Array**	**85.19**	**57**	P	P	07 28 29.9	0.0
0.3nm,0.8s,baz=243,slow=4.4,SNR=4.7							
0.3nm,0.8s							

---

*NEIC **21** 07:22:37.0±1.5, 55°.95S±0°.1×28°.6W±0°.2, h190km±7km, mb4.4/17, Error ellipse: s-maj=15.7km s-min=12.2km az=217.0*
*IDC **21** 07:22:39.7±4.8, 55°.95S×28°.37W, h213km±46km, mb3.9/3, mbtmp4.4/4, Error ellipse: s-maj=26.6km s-min=18.0km az=64.0*

ISC 21 07:22:37.5±0.5, 55°.92S±0°.09×28°.71W±0°.08, h200km, n42, σ0=91/47, mb4.2/9, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.76**	**287**		**Pn**	**07 23 49.1**	**+0.4**
HOPE				Sn	**Sn**	**07 24 42.3**	**-2.5**
ESPZ	**Base Esperanza**	**16.01**	**231**	P	**P**	**07 26 09.7**	**-1.5**
VNA3	**Neumayer Olymp**	**17.40**	**159**	P	**P**	**07 26 25.9**	**-0.6**
VNA3	**Neumayer Olymp**	**17.40**	**159**	⇑P	**P**	**07 26 25.9**	**-0.6**
comp=Z,0.8nm,0.2s							
VNA2	**Neumayer--Watz**	**17.64**	**157**	P	**P**	**07 26 28.2**	**-0.7**
baz=314,slow=13							
VNA2	**Neumayer--Watz**	**17.64**	**157**	⇑P	**P**	**07 26 28.2**	**-0.7**
comp=Z

comp=Z,11nm,1.3s
TSUM Tsumeb 50.38 62 P **P** **07 31 14.1 -0.3**
BOAV Boa Vista 63.67 324 P **P** **07 32 46.8 -0.6**
BOAV PcP **PcP** **07 33 23.2 +1.4**
DBIC Dimbokro 65.42 26 P **P** **07 32 58.5 -0.1**
DBIC IAmb IAmb 07 33 16.2
comp=Z,12nm,1.4s
DBIC Dimbokro 65.42 26 P **P** **07 32 59.4 +0.7**
comp=Z,3.5nm,0.4s,baz=164,slow=7.1,SNR=9.0
comp=Z,3.5nm,0.4s
TORD Torodi Ar. Bea 73.38 31 P **P** **07 33 47.9 +0.6**
TORD IAmb IAmb 07 33 49.0
comp=Z,4.3nm,0.6s
TORD PcP **PcP** **07 34 00.9 -1.6**
TORD Torodi Ar. Bea 73.38 31 P **P** **07 33 48.4 +1.0**
comp=Z,26nm,0.4s,baz=200,slow=6.7,SNR=1.5
FINES FINESS Array B 124.67 29 PKP **PKPdf** **07 41 10.9 -0.7**
comp=Z,2.4nm,0.8s,baz=201,slow=2.4,SNR=6.3
ARCES ARCESS Array B 131.15 22 PKP **PKPdf** **07 41 23.3 -0.5**
comp=Z,1.7nm,0.7s,baz=219,slow=2.7,SNR=11
YKA Yellowknife Ar 135.51 319 PKP **PKPdf** **07 41 32.5 +0.3**
comp=Z,0.3nm,0.6s,baz=139,slow=2.1,SNR=7.7
ZALV Zalesovo Beam 143.08 64 PKhKP PKPpre 07 41 42.7
comp=Z,0.5nm,0.3s,baz=117,slow=0.7,SNR=3.5
HYT Haines Junctio 144.03 308 PKPdf **PKPdf** **07 41 47.1 -0.7**
M30M Minto, Yukon 144.44 311 PKPdf **PKPdf** **07 41 48.2 -0.1**
H31M Peel River 144.65 317 **PKPdf** **07 41 48.5 -0.1**
F31M Tsiigehtchic 144.97 320 **PKPab** **07 41 49.4 +0.3**
INK Inuvik 145.16 321 **PKPab** **07 41 50.1 +0.3**
L29M L29M 145.21 311 **PKPab** **07 41 50.5 +0.3**
ILAR Eielson Array 149.39 312 PKPbc **PKiKP** **07 42 01.6 -0.5**
comp=Z,3.3nm,0.8s,baz=105,slow=2.8,SNR=38
SONM Songino Array 151.57 87 PKPbc **PKiKP** **07 42 07.0 -0.4**
comp=Z,1.2nm,0.6s,baz=224,slow=3.8,SNR=8.9

---

*FUNV **21** 07:34:17.2, 10.96N×61.99W, h18km, MW4.2*
ISC 21 07:34:16.1±1.4, 10.99N±0.04×62.04W±0.05,
h121km±10km, n33, σ1§62/55, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.59**	**123**	*eP*	**Pn**	**07 34 35.9**	**+1.2**
PSMG				*eS*	**Sn**	**07 34 48.1**	**-0.6**
PSKH	**Kent House, Po**	**0.59**	**122**	*eP*	**Pn**	**07 34 35.9**	**+1.2**
PSKH				*eS*	**Sn**	**07 34 47.6**	**-1.1**
PSQC	**Port of Spain**	**0.60**	**122**	*eP*	**Pn**	**07 34 36.1**	**+1.3**
PSQC				*eS*	**Sn**	**07 34 47.7**	**-1.1**
PSGH	**Port of Spain**	**0.62**	**122**	*eP*	**Pn**	**07 34 36.1**	**+1.2**
PSGH				*eS*	**Sn**	**07 34 47.8**	**-1.3**
TRN	**Trinidad (W)**	**0.71**	**119**	*eP*	**Pn**	**07 34 36.7**	**+1.1**
TRN				*eS*	**Sn**	**07 34 49.3**	**-1.0**
TBH	**Brigand Hill**	**1.08**	**118**	*eP*	Pn	07 34 45.5	+6.5
TBH				*eS*	**Sn**	**07 34 57.9**	**+1.6**
GRFF	**Grenada Fort F**	**1.09**	**16**	*eP*	**Pn**	**07 34 39.2**	**+0.1**
GRFF				*eS*	**Sn**	**07 34 55.1**	**-1.4**
GRGR	**Grenville**	**1.19**	**18**	*eP*	**Pn**	**07 34 40.2**	**+0.1**
GRGR				*eS*	**Sn**	**07 34 56.9**	**-1.6**
GRHS	**Sauteurs**	**1.28**	**18**	*eP*	**Pn**	**07 34 41.0**	**-0.2**
GRHS				*eS*	**Sn**	**07 34 58.4**	**-1.8**
GRIC	**Isle de Caille**	**1.36**	**19**	*eP*	**Pn**	**07 34 43.3**	**+1.3**
GRIC				*eS*	**Sn**	**07 35 01.5**	**-0.1**
TOSP	**Speyside**	**1.50**	**78**	*eP*	**Pn**	**07 34 44.1**	**+0.5**
TOSP				*eS*	**Sn**	**07 35 03.6**	**-0.9**
GCMP	**Grenada, Carri**	**1.60**	**22**	*eP*	**Pn**	**07 34 44.7**	**0.0**
GCMP				*eS*	**Sn**	**07 35 04.6**	**-1.9**
SVOC	**Richmond Hill,**	**2.29**	**20**	*eP*	**Pn**	**07 34 53.9**	**+0.6**
SVOC				*eS*	**Sn**	**07 35 20.0**	**-1.7**
SVT	**Saint Vincent**	**2.30**	**20**	*eP*	**Pn**	**07 34 53.4**	**+0.1**
SVT				*eS*	**Sn**	**07 35 20.2**	**-1.7**
SVB	**Belmont**	**2.39**	**19**	*eP*	**Pn**	**07 34 55.3**	**+0.7**
SVB				*eS*	**Sn**	**07 35 23.0**	**-1.1**
PCRV	**Puerto La Cruz**	**2.68**	**253**	*eP*	**Pn**	**07 34 60.0**	**+1.6**
PCRV				*eS*	**Sn**	**07 35 29.5**	**-1.3**
PCRV	**Puerto La Cruz**	**2.68**	**253**	*eP*	**Pn**	**07 34 59.7**	**+1.4**
PCRV				*eS*	**Sn**	**07 35 31.1**	**+0.3**
SLB	**Belfond**	**2.98**	**19**	*eP*	**Pn**	**07 35 04.6**	**+2.4**
SLB				*eS*	**Sn**	**07 35 40.1**	**+2.3**
SLAC	**Saint Lucia, A**	**3.09**	**21**	*eP*	**Pn**	**07 35 05.1**	**+1.4**
SLAC				*eS*	**Sn**	**07 35 39.4**	**-1.0**
SLBI	**Saint Lucia, B**	**3.18**	**19**	*eP*	**Pn**	**07 35 05.6**	**+0.7**
SLBI				*eS*	**Sn**	**07 35 40.2**	**-2.3**
BIM	**Bigot**	**3.63**	**15**	*eP*	**Pn**	**07 35 12.4**	**+1.6**
BIM				*eS*	**Sn**	**07 35 51.2**	**-1.8**
MDN	**Morne-Daniel**	**4.34**	**8**	*eP*	**Pn**	**07 35 23.1**	**+2.9**
DSLB	**Salisbury**	**4.46**	**8**	*eP*	**Pn**	**07 35 20.2**	**-1.6**
TACV	**Tcata**	**4.98**	**261**	*eP*	**Pn**	**07 35 30.0**	**+1.1**
TACV				*eS*	**Sn**	**07 36 23.3**	**-2.1**
LUEV	**Luepa**	**5.15**	**174**	*eP*	**Pn**	**07 35 31.7**	**+0.4**
LUEV				*eS*	**Sn**	**07 36 26.2**	**-3.6**
BENV	**Beln**	**5.56**	**260**	*eP*	**Pn**	**07 35 37.9**	**+1.1**
BENV				*eS*	**Sn**	**07 36 38.3**	**-1.4**
CACV	**CAICARA DEL OR**	**5.60**	**233**	*eP*	Pn	07 35 33.0	-4.2
CACV				*eS*	Sn	07 36 28.8	-12
MBWH		**5.72**	**359**	*eP*	**Pn**	**07 35 38.0**	**-0.7**
MBFL	**Flemmings, Mon**	**5.72**	**358**	*eP*	**Pn**	**07 35 41.7**	**+2.9**
ANBD	**Bethesda, Anti**	**6.02**	**2**	*eP*	**Pn**	**07 35 46.4**	**+3.6**
BAUV	**El Baul**	**6.26**	**252**	*eP*	**Pn**	**07 35 46.9**	**+0.9**
BAUV				*eS*	**Sn**	**07 36 53.7**	**-2.5**
BAUV	**El Baul**	**6.26**	**252**	*eP*	**Pn**	**07 35 47.3**	**+1.3**
ANWB	**Willy Bob**	**6.64**	**2**	*eP*	Pn	07 35 56.2	+5.0

---

*SJA **21** 07:37:49.0, 20.86S×70.63W, h10km, ML4.7*
*NEIC **21** 07:37:49.5±0.6, 20.86S±0.03×70.67W±0.05, h14km±4km, mb4.6/18, Mwr4.5/29, Error ellipse: s-maj=6.6km s-min=4.6km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.07; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-3.15; $M_{r\theta}$0.27; $M_{\theta\phi}$1.74; $M_{\phi r}$-5.37; Fault plane solution: $M_0$6.45000×10^{15} NP1:ϕ_s174.43000°, δ74.41000°, λ102.68000°. NP2:ϕ_s314.51000°, δ19.99000°, λ51.81000°. Principal axes: T 6.2313, Plg59.0000°, Azm102.0000°; N 0.4147, Plg12.0000°, Azm351.0000°; P -6.6460, Plg28.0000°, Azm254.0000°;*
*NEIC **21** 07:37:49.3, 20.87S×70.68W, h13km*
*GUC **21** 07:37:50.9±0.7, 20.79S×70.66W, h21km±5km, ML4.6*
*VAO **21** 07:37:51.9±0.4, 20.65S×70.29W, h10km, mb4.4*
*IDC **21** 07:37:55.9±2.1, 20.83S×70.52W, h64km±18km, mb3.8/9, mbtmp4.0/15, MS3.8/22, Error ellipse: s-maj=19.2km s-min=14.1km az=81.0*
ISC 21 07:37:48.3±1.5, 20.89S±0.03×70.65W±0.05, h8km±9km,
n152, σ1§46/135, mb4.6/15, MS3.9/18, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.54**	**54**	Pg	**Pb**	**07 38 00.3**	**+0.2**
TA01	**Diego Aracena**	**0.54**	**54**	*i* P	**Pb**	**07 37 60.0**	**-0.2**
TA01	**Diego Aracena**	**0.54**	**54**	*eP*	**Pb**	**07 38 00.8**	**+0.7**
TA01				*eS*	**Sb**	**07 38 07.8**	**-0.3**
TA02	**Huaiquique**	**0.78**	**39**		**Pg**	**07 38 04.0**	**+0.6**
TA02				Sg	**Sb**	**07 38 14.6**	**-0.4**
TA02	**Huaiquique**	**0.78**	**39**	*i* P	**Pg**	**07 38 03.7**	**+0.4**
TA02	**Huaiquique**	**0.78**	**39**	*eP*	**Pb**	**07 38 04.3**	**+0.1**
TA02				*eS*	**Sb**	**07 38 14.6**	**-0.4**
TA02				IAML		07 38 16.8	
comp=E,56μm,0.1s							
PB01	**IPOC Station P**	**1.10**	**98**		**Pn**	**07 38 10.5**	**+0.4**
PB01				Sn	**Sn**	**07 38 25.8**	**+0.2**
PB01	**IPOC Station P**	**1.10**	**98**	*i* P	**Pn**	**07 38 10.1**	**-0.1**
PB01	**IPOC Station P**	**1.10**	**98**	*eP*	**Pn**	**07 38 10.9**	**+0.8**
PB01				*eS*	**Sn**	**07 38 26.3**	**+0.7**
PB01				IAML		07 38 27.0	
comp=N,33μm,0.4s							
PB11	**IPOC Station P**	**1.46**	**40**		**Pn**	**07 38 15.4**	**+0.2**
PB11				Sn	**Sn**	**07 38 34.8**	**+0.2**
PB11	**IPOC Station P**	**1.46**	**40**	*i* P	**Pn**	**07 38 14.2**	**-0.9**
PB11	**IPOC Station P**	**1.46**	**40**	*eP*	**Pn**	**07 38 15.1**	**0.0**
PB11				*eS*	**Sb**	**07 38 34.6**	**-0.1**
PB08	**IPOC Station P**	**1.59**	**62**		**Pn**	**07 38 17.6**	**+0.4**
PB08	**IPOC Station P**	**1.59**	**62**	*i* P	**Pn**	**07 38 17.3**	**+0.2**
PB08	**IPOC Station P**	**1.59**	**62**	*eP*	**Pb**	**07 38 18.2**	**0.0**
PB08				*eS*	**Sg**	**07 38 39.5**	**0.0**
PB08				IAML		07 38 43.1	
comp=E,14μm,0.3s							
PB09	**IPOC Station P**	**1.60**	**125**		**Pg**	**07 38 19.3**	**+0.3**
PB09	**IPOC Station P**	**1.60**	**125**	*i* P	**Pg**	**07 38 18.8**	**-0.1**
PB09	**IPOC Station P**	**1.60**	**125**	*eP*	**Pg**	**07 38 19.4**	**+0.5**
PB09				*eS*	**Sg**	**07 38 41.5**	**+1.8**
PB06	**IPOC Station P**	**2.07**	**151**	*i* P	**Pn**	**07 38 23.8**	**+0.2**
PB06	**IPOC Station P**	**2.07**	**151**	*eP*	**Pn**	**07 38 24.4**	**+0.9**
PB06				IAML		07 39 04.1	
comp=N,4μm,0.2s							
PB12	**IPOC Station P**	**2.28**	**8**	Pn	**Pn**	**07 38 26.6**	**+0.2**
PB12	**IPOC Station P**	**2.28**	**8**	*eP*	**Pn**	**07 38 27.2**	**+0.8**
PB12				*eS*	**Sn**	**07 38 55.8**	**+1.1**
AP01	**Chacalluta**	**2.52**	**7**	Pn	**Pn**	**07 38 29.6**	**+0.1**
AP01	**Chacalluta**	**2.52**	**7**	*i* P	**Pn**	**07 38 32.5**	**+2.9**
AP01	**Chacalluta**	**2.52**	**7**	*eP*	**Pn**	**07 38 30.6**	**+1.0**
AP01				IAML		07 39 10.8	
comp=E,6μm,0.8s							
AF01	**San Pedro de A**	**3.08**	**132**		**Pn**	**07 38 40.0**	**+2.4**
AF01	**San Pedro de A**	**3.08**	**132**	*i* P	**Pb**	**07 38 41.2**	**-2.4**
AF01	**San Pedro de A**	**3.08**	**132**	*eP*	**Pb**	**07 38 41.1**	**-2.4**
PB18	**Visviri**	**3.46**	**19**		**Pn**	**07 38 44.0**	**+1.0**
PB14	**IPOC Station P**	**3.73**	**177**	Pn	**Pn**	**07 38 45.8**	**-0.8**
PB14	**IPOC Station P**	**3.73**	**177**	*i* P	**Pn**	**07 38 45.7**	**-0.8**
GO02	**Mina Guanaco**	**4.37**	**167**	Pn	**Pn**	**07 38 56.3**	**+1.0**
GO02	**Mina Guanaco**	**4.37**	**167**	*i* P	**Pn**	**07 38 55.4**	**+0.1**
LPAZ	**La Paz**	**5.16**	**28**	Pn	**Pn**	**07 39 10.3**	**+3.8**
LPAZ	**La Paz**	**5.16**	**28**	P	**Pn**	**07 39 11.2**	**+4.7**
comp=E,11nm,0.3s,baz=287,slow=3.1,SNR=47							
LPAZ				LR	LR	07 41 13.1	
comp=E,778nm,18.9s,baz=228,slow=39							
AC01	**Pan de Azucar**	**5.24**	**179**	Pn	**Pn**	**07 39 05.2**	**-1.8**
AC02	**Maricunga**	**6.08**	**167**	Pn	**Pn**	**07 39 20.4**	**+1.3**
AC04	**Llanos de Chal**	**7.30**	**183**	Pn	**Pn**	**07 39 31.8**	**-3.5**
CO03	**El Pedregal**	**9.91**	**180**		**Pn**	**07 40 09.3**	**-1.9**
SIV	**San Ignacio**	**10.31**	**63**	P	**Pn**	**07 40 18.2**	**+1.5**
comp=E,29nm,0.6s,baz=251,slow=11,SNR=66							
SIV				S	**Sn**	**07 42 14.1**	**+1.5**
comp=E,7.3nm,1.1s,baz=247,slow=19,SNR=3.0							
SIV				LR	LR	07 44 52.4	
comp=E,622nm,19.5s,baz=289,slow=41							
NNA	**Nana**	**10.65**	**325**	P	Pn	07 40 26.4	+4.9
comp=E,3.0nm,0.4s,baz=116,slow=11,SNR=1.7							
NNA				S	Sn	07 42 13.4	-7.7
comp=E,14nm,0.7s,baz=356,slow=16,SNR=4.3							
CFA	**Coronel Fontan**	**10.89**	**169**	P	**Pn**	**07 40 27.9**	**+3.3**
comp=E,0.6nm,0.3s,baz=352,slow=14,SNR=13							
CFA				S	**Sn**	**07 42 32.3**	**+5.5**
comp=E,2.6nm,0.7s,baz=214,slow=2.1,SNR=1.8							
VA03	**San Esteban**	**11.83**	**180**	Pn	**Pn**	**07 40 38.7**	**+1.1**
MURT	**Porto Murtinho**	**12.19**	**96**	*eP*	**Pn**	**07 40 40.8**	**-1.6**
PTLB	**Pontes e Lacer**	**12.20**	**66**	Pn	**Pn**	**07 40 43.0**	**+0.4**
PTLB	**Pontes e Lacer**	**12.20**	**66**	*eP*	**Pn**	**07 40 40.8**	**-1.8**
MT02	**Curacav**	**12.33**	**182**	Pn	**Pn**	**07 40 44.7**	**+0.4**
VILB	**Vilhena**	**12.73**	**53**	Pn	**Pn**	**07 40 52.0**	**+2.1**
VILB	**Vilhena**	**12.73**	**53**	*eP*	**Pn**	**07 40 46.3**	**-3.6**
MT09	**Talagante**	**12.84**	**181**	Pn	**Pn**	**07 40 52.4**	**+1.0**
BDQN	**Bodoquena, MS**	**13.02**	**91**	*eP*	**Pn**	**07 40 53.0**	**-0.8**
CZSB	**Cruzeiro do Su**	**13.23**	**351**	Pn	**Pn**	**07 40 56.5**	**-0.1**
CZSB	**Cruzeiro do Su**	**13.23**	**351**	*eP*	**Pn**	**07 40 58.2**	**+1.5**
CPUP	**Villa Florida**	**13.36**	**116**	Pn	**Pn**	**07 40 58.9**	**+0.5**
CPUP	**Villa Florida**	**13.36**	**116**	P	**Pn**	**07 41 00.6**	**+2.3**
comp=E,0.8nm,0.7s,baz=291,slow=12,SNR=3.5							
CPUP				LR	LR	07 46 52.8	
comp=E,326nm,19.8s,baz=298,slow=40							
CPUP	**Villa Florida**	**13.36**	**116**	*eP*	**Pn**	**07 40 57.7**	**-0.6**
SJPY	**San Joaquin**	**14.01**	**110**	*eP*	**Pn**	**07 41 08.3**	**+1.1**
H03N1	**Juan Fernandez**	**14.50**	**209**	T	T	07 56 15.5	
baz=34,slow=72,SNR=546							
H03N2	**Juan Fernandez**	**14.51**	**209**	T	T	07 56 11.2	
baz=34,slow=72,SNR=476							
H03N3	**Juan Fernandez**	**14.51**	**209**	T	T	07 56 15.6	
baz=34,slow=72,SNR=626							
SALV	**Santo Antonio**	**15.03**	**73**	*eP*	**Pn**	**07 41 20.0**	**-1.3**
ATAH	**Atahualpa**	**15.59**	**330**	LR	LR	07 47 10.9	
comp=E,142nm,21.8s,baz=181,slow=36							
BI02	**San Fabin de**	**15.73**	**182**		**Pn**	**07 41 28.6**	**-1.8**
BI02				IAmb	IAmb	07 41 50.0	
comp=Z,15nm,1.1s							
RPRD	**Ribas do Rio P**	**15.87**	**92**	*eP*	**Pn**	**07 41 32.9**	**+0.6**
PDRB	**Porto dos Gac**	**16.23**	**58**	*eP*	**Pn**	**07 41 36.1**	**-0.8**
CLDB	**Colider**	**17.40**	**57**	*eP*	**Pn**	**07 41 50.9**	**-0.8**
PTGB	**Pitanga**	**17.55**	**106**	*eP*	**P**	**07 41 55.1**	**+0.3**
ITAB	**Concordia**	**18.05**	**114**	P	**Pn**	**07 41 59.5**	**-0.2**
ITAB	**Concordia**	**18.05**	**114**	*eP*	**Pn**	**07 41 59.4**	**-0.2**
CPSB	**Cacapava Do Su**	**18.16**	**125**	*eP*	**Pn**	**07 42 01.0**	**-0.1**
TEFE	**Tefe**	**18.24**	**20**	*eP*	**Pn**	**07 41 59.7**	**-2.3**
LDASE	**Londrina, Braz**	**18.27**	**101**	*eP*	**Pn**	**07 42 02.6**	**+0.2**
ARAG	**Araguaiana, MT**	**18.61**	**77**	*eP*	**P**	**07 42 05.6**	**-0.8**
TRQA	**Tornquist**	**18.68**	**158**	P	**P**	**07 42 07.1**	**+0.1**
ITRB	**Iturama**	**19.07**	**90**	*eP*	**Pn**	**07 42 12.3**	**+0.1**
FRTB	**Fartura**	**19.69**	**101**	*eP*	**Pn**	**07 42 19.4**	**-0.2**
CNLB	**Canela**	**19.78**	**119**	*eP*	**Pn**	**07 42 20.3**	**-0.3**
PLCA	**Paso Flores**	**19.79**	**180**	P	**P**	**07 42 19.0**	**-0.1**
PLCA	**Paso Flores**	**19.79**	**180**	P	**Pn**	**07 42 21.8**	**+1.2**
comp=Z,1.8nm,0.5s,baz=352,slow=15,SNR=6.2							
PLCA	**Paso Flores**	**19.79**	**180**	*eP*	**Pn**	**07 42 25.7**	**+5.1**
MACA	**Manacapuru-AM**	**20.11**	**30**	*eP*	**P**	**07 42 22.4**	**-0.5**
NPGB	**Novo Progresso**	**20.21**	**49**	*eP*	**P**	**07 42 23.7**	**-0.1**
SNDB	**Serra Nova Dou**	**20.55**	**67**	*eP*	**P**	**07 42 27.1**	**-0.5**
BB19B	**Bebedouro**	**20.66**	**94**	*eP*	**P**	**07 42 28.7**	**-0.1**
MAJ01	**Sao Joao Batis**	**20.77**	**112**	*eP*	Pn	07 42 31.5	-0.8
IPMB	**Ipameri, GO**	**21.36**	**86**	*eP*	**P**	**07 42 36.0**	**-0.3**
ITTB	**Itaituba**	**21.91**	**43**	*eP*	**P**	**07 42 39.9**	**-2.3**
VAO	**Valinhos**	**22.07**	**100**	P	**P**	**07 42 42.2**	**-1.8**
VAO				IAmb	IAmb	07 43 16.9	
comp=Z,21nm,1.2s							
VAO	**Valinhos**	**22.07**	**100**	*eP*	**P**	**07 42 42.7**	**-1.3**
BDFB	**Brasilia**	**22.11**	**80**	P	**P**	**07 42 43.9**	**-0.7**
BDFB				IAmb	IAmb	07 42 49.4	
comp=Z,10nm,1.1s							
BDFB	**Brasilia**	**22.11**	**80**	P	**P**	**07 42 44.8**	**+0.3**
comp=Z,4.5nm,1.0s,baz=288,slow=9.6,SNR=3.3							
BDFB				LR	LR	07 53 05.9	
comp=Z,713nm,18.0s,baz=302,slow=41							
comp=Z,4.5nm,1.0s							
OTAV	**Otavalo**	**22.34**	**339**	P	**P**	**07 42 46.3**	**-1.0**
OTAV	**Otavalo**	**22.34**	**339**	*eP*	**P**	**07 42 49.8**	**+2.5**
FLOC	**Florencia**	**22.86**	**347**	P	**P**	**07 42 51.8**	**-0.6**
FLOC				IAmb	IAmb	07 43 06.0	
comp=Z,50nm,1.4s							
PMNB	**Patos De Minas**	**22.91**	**88**	*eP*	**P**	**07 42 52.6**	**-0.4**
PARB	**Paraibuna**	**23.31**	**101**	*eP*	**P**	**07 42 56.4**	**-0.7**
BSCB	**Bom Sucesso**	**24.16**	**95**	*eP*	**P**	**07 43 04.7**	**-0.7**
MAL2	**Monte Alegre,**	**24.69**	**43**	P	**P**	**07 43 09.2**	**-1.0**
MAN01	**Angra dos Reis**	**24.83**	**99**	*eP*	**P**	**07 43 11.5**	**+0.1**
BOAV	**Boa Vista**	**25.18**	**24**	P	**P**	**07 43 13.8**	**-0.6**
BOAV				IAmb	IAmb	07 43 16.5	
comp=Z,17nm,1.1s							
BOAV	**Boa Vista**	**25.18**	**24**	*eP*	**P**	**07 43 13.8**	**-0.6**
SMTB	**Santa Maria do**	**25.25**	**65**	*eP*	**P**	**07 43 14.2**	**-1.0**
DIAM	**Diamantina, MG**	**25.54**	**89**	*eP*	**P**	**07 43 16.8**	**-1.2**
JANB	**Januaria**	**25.70**	**81**	*eP*	**P**	**07 43 18.1**	**-1.2**
SDBA	**SAO DESIDERIO**	**26.04**	**75**	*eP*	**P**	**07 43 20.7**	**-1.7**
RUSC	**La Rusia**	**26.72**	**355**	P	**P**	**07 43 28.2**	**-0.8**
RUSC				IAmb	IAmb	07 43 51.5	
comp=Z,17nm,0.9s							
BAUV	**El Baul**	**29.75**	**5**	P	**P**	**07 43 54.5**	**-1.0**
MDP	**Montagnes des**	**31.30**	**36**	LR	LR	07 57 02.0	
comp=Z,141nm,21.6s,baz=199,slow=37							
PCRV	**Puerto La Cruz**	**31.43**	**11**	LR	LR	07 57 54.4	
comp=Z,513nm,18.5s,slow=38							
JTS	**Las Juntas de**	**34.02**	**334**	LR	LR	07 58 47.5	
comp=Z,79nm,18.6s,baz=145,slow=37							
NBAN	**Anadia - AL**	**34.91**	**77**	*eP*	**P**	**07 44 39.2**	**-1.6**
RCBR	**Riachuelo**	**36.86**	**71**	LR	LR	08 01 10.7	
comp=Z,136nm,18.3s,baz=228,slow=38							
SJG	**San Juan**	**39.01**	**7**	LR	LR	08 02 27.8	
comp=Z,86nm,19.9s,baz=158,slow=38							
PMSA	**Palmer Station**	**44.09**	**176**	LR	LR	08 04 47.0	
comp=Z,74nm,18.3s,baz=5.5,slow=36							
TKL	**Tuckaleechee C**	**57.59**	**347**	LR	LR	08 14 45.5	
comp=Z,47nm,18.0s,baz=171,slow=38							
TXAR	**Lajitas Array**	**59.21**	**326**	P	**P**	**07 47 50.2**	**-0.1**
comp=Z,0.3nm,0.8s,baz=141,slow=7.2,SNR=2.2							
TXAR				LR	LR	08 10 20.2	
comp=Z,31nm,20.7s,baz=119,slow=33							
comp=Z,0.3nm,0.8s							
SNAA	**Sanae**	**63.39**	**161**	P	**P**	**07 48 18.3**	**+0.3**
SNAA	**Sanae**	**63.39**	**161**	P	**P**	**07 48 18.5**	**+0.5**
comp=Z,4.7nm,1.0s,baz=350,slow=9.4,SNR=3.3							
comp=Z,4.7nm,1.0s							
SADO	**Sadowa**	**65.80**	**353**	LR	LR	08 17 58.9	
comp=Z,29nm,20.4s,baz=252,slow=36							
QSPA	**South Pole Qui**	**69.30**	**180**	P	**P**	**07 48 57.4**	**+1.3**
QSPA	**South Pole Qui**	**69.30**	**180**	P	**P**	**07 48 56.9**	**+0.8**
comp=Z,2.8nm,0.7s,baz=180,slow=1.7,SNR=15							
comp=Z,2.8nm,0.7s							
DBIC	**Dimbokro**	**70.13**	**74**	P	**P**	**07 49 00.3**	**-1.6**
DBIC				IAmb	IAmb	07 49 09.2	
comp=Z,8.2nm,1.1s							
DBIC	**Dimbokro**	**70.13**	**74**	P	**P**	**07 49 01.3**	**-0.6**
comp=Z,5.1nm,0.9s,baz=218,slow=7.4,SNR=5.3							
comp=Z,5.1nm,0.9s							
PDAR	**Pinedale Array**	**72.78**	**331**	P	**P**	**07 49 18.1**	**+0.5**
comp=Z,0.4nm,0.9s,baz=155,slow=6.1,SNR=2.6							
comp=Z,0.4nm,0.9s							
NVAR	**Mina Array Bea**	**74.02**	**323**	P	**P**	**07 49 25.7**	**+0.8**
comp=Z,0.5nm,0.8s,baz=174,slow=7.0,SNR=5.0							
comp=Z,0.5nm,0.8s							
YNE	**Yellowstone No**	**74.75**	**332**	P	**P**	**07 49 28.7**	**-0.4**
YNE				IAmb	IAmb	07 49 40.1	
comp=Z,7.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**78.69**	**71**	P	**P**	**07 49 50.1**	**-1.6**
TORD				IAmb	IAmb	07 49 51.4	
comp=Z,6.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**78.69**	**71**	P	**P**	**07 49 50.8**	**-0.9**
comp=Z,23nm,0.3s,baz=252,slow=4.9,SNR=1.5							
TSUM	**Tsumeb**	**81.77**	**107**	P	**P**	**07 50 07.6**	**-0.9**
TSUM				IAmb	IAmb	07 50 10.2	
comp=Z,8.5nm,0.9s							
TSUM	**Tsumeb**	**81.77**	**107**	P	**P**	**07 50 07.8**	**-0.7**
comp=Z,6.6nm,0.8s,baz=226,slow=3.8,SNR=8.0							
comp=Z,6.6nm,0.8s							
RAR	**Rarotonga**	**81.90**	**250**	LR	LR	08 18 46.5	
comp=Z,65nm,20.3s,baz=172,slow=30							
MDT	**Midelt**	**82.61**	**51**	LR	LR	08 27 55.5	
comp=Z,52nm,18.5s,baz=224,slow=36							
BOSA	**Boshof**	**85.17**	**119**	LR	LR	08 25 19.8	
comp=Z,75nm,20.3s,baz=194,slow=33							
ESDC	**Sonseca Array**	**86.55**	**45**	LR	LR	08 25 21.4	
comp=Z,66nm,19.3s,baz=236,slow=33							
LBTB	**Lobatse**	**86.75**	**115**	LR	LR	08 27 30.1	
comp=Z,54nm,18.3s,baz=216,slow=34							
YKA	**Yellowknife Ar**	**90.08**	**341**	P	**P**	**07 50 47.8**	**-0.6**
comp=Z,1.1nm,0.8s,baz=143,slow=4.7,SNR=25							
comp=Z,1.1nm,0.8s							
LSZ	**Lusaka**	**92.63**	**107**	LR	LR	08 29 40.1	
comp=Z,84nm,21.1s,baz=142,slow=34							
URZ	**Urewera**	**93.44**	**227**	LR	LR	08 25 32.1	
comp=Z,115nm,18.3s,baz=258,slow=30							
DAVOX	**Davos/Dischmat**	**98.73**	**43**	LR	LR	08 34 10.9	
comp=Z,31nm,19.4s,baz=262,slow=34							
H11S2	**WAKE ISLAND Hyl26.19**	**278**		T	T	10 16 05.5	
baz=102,slow=74,SNR=370							
H11S1	**WAKE ISLAND Hyl26.19**	**278**		T	T	10 16 06.3	
baz=102,slow=74,SNR=173							
H11S3	**WAKE ISLAND Hyl26.20**	**278**		T	T	10 16 07.0	
baz=102,slow=74,SNR=180							
H11N3	**WAKE ISLAND Hyl26.26**	**280**		T	T	10 16 16.7	
baz=102,slow=75,SNR=68							
H11N2	**WAKE ISLAND Hyl26.27**

12nm,0.1s
KST Kastek 0.58 266 P **Pg 07 52 39.1 -0.3**
0.5nm,0.1s
KST S **Sg 07 52 47.0 +0.1**
5.0nm,0.1s
KST Kastek 0.58 266 *eP* **Pg 07 52 39.1 -0.3**
1.6nm,0.1s
KST *eS* **Sg 07 52 47.0 +0.1**
3.6nm,0.1s
KTBS Karatobe 0.63 356 P **Pg 07 52 39.9 -0.5**
0.6nm,0.2s
KTBS S **Sg 07 52 48.4 -0.1**
1.2nm,0.2s
DGS Degeres 0.73 283 P **Pg 07 52 41.7 -0.6**
0.8nm,0.2s
DGS S **Sg 07 52 51.5 -0.3**
3.0nm,0.3s
PDGK Podgornoye 2.02 82 ⇑Pn **Pn 07 53 03.2 +0.4**
5.8nm,1.3s
PDGK ⇑Sn **Sg 07 53 32.8 -0.3**
5.0nm,1.3s

*IDC **21** 08:00:36.2±2.0,20°81'S×178°62'W,h583km±24km,mb2.9/7, mbtmp3.8/9,Error ellipse: s-maj=25.7km s-min=18.1km az=122.0*

ISC 21 08:00:35.7±0.8,20°8'S±0°2'×178°6'W±0°2,h579km,n10, σ1§31/10,mb3.3/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**314**	**P**	**P**	**08 02 03.0**	**+0.3**
	3.3nm,0.5s,baz=151,slow=21,SNR=5.0						
URZ	**Urewera**	**17.77**	**191**	**P**	**P**	**08 04 09.4**	**-0.5**
	3.1nm,0.3s,baz=360,slow=2.9,SNR=9.9						
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**08 07 52.8**	**+0.6**
	0.6nm,0.8s,baz=94,slow=7.2,SNR=6.1						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**43.98**	**262**	P	**P**	**08 07 53.3**	**+0.4**
	0.4nm,0.5s,baz=97,slow=7.5,SNR=8.2						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**08 10 45.7**	**+0.5**
	1.2nm,0.7s,baz=209,slow=1.6,SNR=10						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**81.65**	**44**	P	**P**	**08 11 55.1**	**+0.7**
	0.4nm,0.5s,baz=224,slow=8.2,SNR=4.4						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**87.71**	**58**	P	**P**	**08 12 24.6**	**+0.6**
	0.5nm,0.8s,baz=210,slow=6.6,SNR=5.3						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**08 12 27.2**	**-0.6**
	0.3nm,0.5s,baz=218,slow=5.4,SNR=13						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**89.59**	**43**	P	**P**	**08 12 33.2**	**+0.6**
	0.5nm,0.7s,baz=206,slow=2.3,SNR=4.3						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**143.00**	**330**	PKP	**PKPdf**	**08 19 00.9**	**-3.1**
	2.1nm,0.5s,baz=43,slow=4.4,SNR=14						

*DJA **21** 08:06:18.0±4.6,2°S±21'×13°7E±3°7,h10km,M4.7/4, mb4.7/4,mB5.7/2,MLv4.7/1,Mw(mB)5.2/2*
*IDC **21** 08:06:19.7±2.1,6°01S×130°15E,h0km,mb3.8/1, mbtmp4.1/4,ML4.3/3,Error ellipse: s-maj=91.7km s-min=27.2km az=77.0*

ISC 21 08:06:30.8±1.0,6°46S±0°07×129°8E±0°1,h100km,n15, σ2§45/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.27**	**35**	P	**Pn**	**08 07 32.0**	**-1.8**
FAKI	**Fak Fak**	**4.27**	**35**	P	**Pn**	**08 07 31.9**	**-1.8**
	0.6nm3µm33nm,0.6s						
SWI	**Sorong**	**5.74**	**15**	P	**Pn**	**08 07 52.5**	**-1.1**
	21nm,0.5s						
DRS	**Darwin Rock St**	**6.03**	**170**	P	**Pn**	**08 08 01.2**	**+3.6**
MTN	**Manton Dam**	**6.48**	**168**	P	**Pn**	**08 08 06.6**	**+3.0**
KDU	**Kakadu**	**6.72**	**157**	P	**Pn**	**08 08 08.8**	**+1.8**
FITZ	**Fitzroy Crossi**	**12.27**	**199**	Pn	**Pn**	**08 09 23.6**	**+1.6**
	1.6nm,0.3s,baz=35,slow=13,SNR=35						
FITZ				Sn	**Sn**	**08 11 33.6**	**-3.4**
	1.0nm,0.3s,baz=93,slow=21,SNR=6.1						
	4.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.27**	**199**	P	**Pn**	**08 09 23.8**	**+1.8**
WRA	**Warramunga Arr**	**14.11**	**162**	Pn	**Pn**	**08 09 44.6**	**-1.6**
	1.6nm,0.3s,baz=346,slow=13,SNR=39						
WRA				Sn	Sn	08 12 12.4	-9.3
	1.3nm,0.3s,baz=333,slow=22,SNR=6.3						
	2.3nm,0.4s						
COEN	**Coen**	**15.11**	**121**	P	**Pn**	**08 10 00.1**	**+1.0**
QIS	**Mount Isa**	**16.93**	**147**	P	**P**	**08 10 23.5**	**+1.4**
ASAR	**Alice Springs**	**17.56**	**167**	P	**Pn**	**08 10 30.4**	**+1.1**
	0.7nm,0.3s,baz=340,slow=10,SNR=30						
ASAR				S	**Sn**	**08 13 40.5**	**-4.5**
	1.3nm,0.6s,baz=354,slow=27,SNR=5.5						
	2.3nm,0.5s						
AS01	**Alice Springs**	**17.57**	**167**	P	**Pn**	**08 10 31.2**	**+1.8**
WRKA	**Warakurna**	**18.53**	**184**	P	**Pn**	**08 10 43.0**	**+2.0**
MKAR	**Makanchi Array**	**67**	**327**	P	**P**	**08 17 17.6**	**+0.4**
	0.6nm,0.5s,baz=126,slow=7.3,SNR=9.8						
	0.6nm,0.5s						

STR 21 08:18:50.7±0.3,50°N±4°×°±°,h0km,MLv3.3/46,Error ellipse: s-maj=0.0km s-min=0.0km az=21.4,preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.94**	**332**	P	Pg	08 19 08.7	0.0
ELSH	**Elham, Standar**	**1.11**	**3**	P	Pg	08 19 11.3	-0.7
LOUF	**Saint-Loup**	**2.05**	**229**	P	Pn	08 19 25.2	-1.2
JSA	**Saint Aubin**	**2.26**	**249**	P	Pn	08 19 28.0	-1.3
PLEF	**Pleven - 22200**	**2.70**	**236**	P	Pn	08 19 34.4	-1.0
PLEF				S	Sn	08 20 07.8	-0.9
SAVF	**Savonnieres en**	**3.03**	**117**	P	Pn	08 19 38.5	-1.4
DYA	**Yadsworthy**	**3.21**	**279**	P	Pn	08 19 41.1	-1.4
LOR	**Lormes**	**3.35**	**145**	Pg	Pn	08 19 42.5	-1.9
MANO	**Manonville**	**3.41**	**109**	P	Pn	08 19 43.6	-1.6
MFF	**Saint Martin d**	**3.54**	**193**	P	Pn	08 19 44.2	-2.7
HTL	**Hartland**	**3.65**	**287**	P	Pn	08 19 46.9	-1.5
ETNF	**Estrennes**	**3.74**	**117**	P	Pn	08 19 47.8	-1.9
ETNF	**Estrennes**	**3.74**	**117**	S	Sn	08 20 29.1	-5.3
XAFF	**Xaffevillers**	**4.01**	**112**	P	Pn	08 19 51.1	-2.3
CCA1	**Carnmenellis**	**4.04**	**274**	P	Pn	08 19 52.3	-1.4
VOEL	**Voellerdingen**	**4.11**	**103**	P	Pn	08 19 52.7	-2.0
ABH	**Alteburg**	**4.21**	**90**	P	Pn	08 19 54.2	-1.9
AGO	**Saint Agoulin**	**4.23**	**160**	Pg	Pn	08 19 54.2	-2.3
VERF	**Verneugheol**	**4.41**	**167**	Pg	Pn	08 19 56.5	-2.4
ECH	**Echery**	**4.42**	**112**	P	Pn	08 19 56.5	-2.5
PLDF	**La Plantade**	**4.43**	**156**	Pg	Pn	08 19 56.6	-2.7
WLS	**Welschbruch**	**4.45**	**109**	P	Pn	08 19 56.9	-2.6
LEMB	**Lembach**	**4.49**	**100**	P	Pn	08 19 57.8	-2.2
RIVEL	**MONT RIVEL**	**4.62**	**133**	P	Pn	08 19 59.9	-2.0
CHMF	**Charmoille**	**4.66**	**125**	P	Pn	08 20 00.6	-1.7
BRANT	**Les Verrieres**	**4.77**	**129**	P	Pn	08 20 02.5	-1.4
FRNF	**Fournols**	**4.77**	**167**	Pg	Pn	08 20 01.6	-2.3
COLF	**Collangettes**	**4.87**	**157**	Pg	Pn	08 20 02.9	-2.4
BOURR	**Bourrignon**	**4.88**	**121**	P	Pn	08 20 03.6	-1.9
OPP	**Oppenau**	**4.93**	**106**	P	Pn	08 20 03.6	-2.5
GIMEL	**St. Georges /**	**4.95**	**133**	P	Pn	08 20 04.3	-2.1
KIZ	**Kirchzarten**	**4.99**	**112**	P	Pn	08 20 05.0	-1.9
OG35	**Corcelles**	**5.03**	**141**	Pg	Pn	08 20 05.6	-1.8
LBL	**Lubilhac**	**5.04**	**162**	Pg	Pn	08 20 05.6	-2.1
BFO	**Black Forest**	**5.08**	**107**	P	Pn	08 20 05.7	-2.4
TORNY	**Torny/Romont**	**5.12**	**127**	P	Pn	08 20 07.1	-1.6
BALST	**Balsthal**	**5.17**	**119**	P	Pn	08 20 08.0	-1.5
OGMY	**Moye**	**5.29**	**140**	P	Pn	08 20 08.5	-2.5
SSB	**Saint Sauveur**	**5.32**	**152**	P	Pn	08 20 08.7	-2.8
LEUC	**Leucamp**	**5.39**	**168**	Pg	Pn	08 20 09.5	-2.8
SLE	**Schleitheim**	**5.42**	**112**	P	Pn	08 20 10.7	-2.1
OGSM	**Saint Maurice**	**5.43**	**143**	P	Pn	08 20 11.2	-1.7
OGSI	**Sixt**	**5.52**	**134**	P	Pn	08 20 12.5	-1.7
GUT	**Gutenstein**	**5.66**	**107**	P	Pn	08 20 13.9	-2.2
MONQ	**Montcuq**	**5.68**	**179**	P	Pn	08 20 14.1	-2.3
RSL	**Roselend**	**5.75**	**137**	P	Pn	08 20 15.6	-1.9
ORIF	**Oris-en-Rattie**	**6.09**	**146**	P	Pn	08 20 20.5	-1.6
TRAV	**Traversella**	**6.40**	**133**	P	Pn	08 20 26.2	-0.1
RRL	**Rocca Remolon**	**6.44**	**141**	P	Pn	08 20 25.9	-1.1
RSP	**Reno Superiore**	**6.46**	**137**	P	Pn	08 20 26.5	-0.6
SURF	**Saint Ours**	**6.81**	**143**	P	Pn	08 20 31.8	-0.2
JAUF	**Jausiers**	**6.83**	**143**	P	Pn	08 20 31.7	-0.6
OSSF	**Osses**	**6.97**	**194**	P	Pn	08 20 30.9	-3.2
SALF	**Salau**	**7.29**	**179**	P	Pn	08 20 35.1	-3.4
CANF	**Canfranc**	**7.36**	**189**	P	Pn	08 20 38.2	-1.3
ECHI	**Chisagues Biel**	**7.41**	**185**	P	Pn	08 20 39.7	-0.5
GBOS	**Grotte di Boss**	**7.43**	**139**	P	Pn	08 20 40.0	-0.4
PIAF	**les Granges de**	**7.44**	**140**	P	Pn	08 20 39.8	-0.7
TURF	**col de Turini**	**7.46**	**142**	P	Pn	08 20 41.2	+0.3
CALF	**Calern**	**7.47**	**145**	P	Pn	08 20 40.6	-0.4
MGRO	**Montegrosso**	**7.58**	**140**	P	Pn	08 20 42.1	-0.5

IDC 21 08:48:29.4±32.0,19°55N×144°11E,h0km,mb3.7/3, mbtmp3.7/3,MS3.0/1,Error ellipse: s-maj=610.8km s-min=199.3km az=179.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.71**	**344**	LR	LR	08 58 23.6	
	comp=Z,48nm,20.9s,baz=71,slow=34						
WRA	**Warramunga Arr**	**40.40**	**194**	P	P	08 56 09.7	+0.3
	0.8nm,0.6s,baz=15,slow=9.2,SNR=11						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**44.09**	**194**	P	P	08 56 39.1	-0.4
	0.3nm,0.6s,baz=19,slow=7.8,SNR=1.4						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**51.19**	**183**	P	P	08 57 34.0	-0.5
	1.3nm,0.6s,baz=21,slow=6.7,SNR=3.6						
	1.3nm,0.6s						

*IDC **21** 08:49:54.2±1.1,6°98S×145°18E,h0km,mb3.8/5, mbtmp3.7/8,ML3.5/2,Error ellipse: s-maj=28.0km s-min=19.6km az=92.0*

ISC 21 08:49:59.3±0.9,7°0S±0°1×145°1E±0°1,h35km,n9, σ1§19/10,mb3.8/6,Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**140**	Pn	**Pn**	**08 50 44.6**	**-1.4**
	12nm,0.8s,baz=312,slow=15,SNR=1.7						
PMG				Sn	**Sn**	**08 51 23.7**	**+1.6**
	1.5nm,0.3s,baz=341,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**16.56**	**218**	Pn	**Pn**	**08 53 48.9**	**-0.1**
	0.2nm,0.3s,baz=30,slow=13,SNR=8.5						
WRA				Lg	Lg	08 58 44.5	
	baz=52,slow=48,SNR=1.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**19.74**	**212**	P	**P**	**08 54 27.6**	**+1.3**
	0.1nm,0.3s,baz=38,slow=10,SNR=27						
ASAR				Lg	Lg	09 00 22.1	
	baz=356,slow=29						
	3.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.94**	**238**	P	**P**	**08 54 48.5**	**-1.5**
	1.5nm,0.7s,baz=68,slow=11,SNR=3.6						
FITZ				Lg	Lg	09 01 28.4	
	baz=63,slow=22,SNR=1.7						
	1.5nm,0.7s						
TGY	**Tagaytay City**	**31.87**	**311**	P	**P**	**08 56 21.8**	**+0.3**
	493nm,0.4s,baz=112,slow=14,SNR=6.0						
MKAR	**Makanchi Array**	**77.10**	**321**	P	**P**	**09 01 50.0**	**+0.8**
	1.1nm,0.8s,baz=104,slow=6.7,SNR=12						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**78.88**	**328**	P	**P**	**09 01 59.4**	**+0.6**
	0.4nm,0.3s,baz=99,slow=8.9,SNR=1.1						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**80.93**	**324**	P	**P**	**09 02 10.4**	**+0.4**
	0.6nm,0.7s,baz=117,slow=5.3,SNR=5.8						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**87.15**	**23**	P	**P**	**09 02 41.0**	**-0.5**
	0.3nm,0.7s,baz=246,slow=4.6,SNR=4.6						
	0.3nm,0.7s						

*GCG **21** 08:52:02.9±1.0,13°46N×89°76W,h62km±6km,MD4.7, MW3.7,Hypocentre not reviewed by the ISC*
*NEIC **21** 08:52:03.6±1.8,13°46N±0°06×89°71W±0°06,h58km±17km, mb4.1/17,Error ellipse: s-maj=8.9km s-min=7.8km az=192.0*
*IDC **21** 08:52:03.8±1.8,13°79N×89°45W,h82km±18km,mb3.4/6, mbtmp3.8/8,MS3.1/14,Error ellipse: s-maj=34.2km s-min=12.5km az=38.0*
*CATAC **21** 08:52:03.4±0.8,13°N±5°×9°0W±°,h41km±6km,M4.5/40, MLv4.5/40,Error ellipse: s-maj=17.0km s-min=6.6km az=62.0,confirmed*

ISC 21 08:52:03.4±0.7,13°51N±0°05×89°72W±0°04,h69km±5km, n228,σ0§96/228,mb4.2/9,1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.30**	**61**	S	**Sn**	**08 52 23.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.30**	**61**	P	**Pn**	**08 52 14.1**	**-0.7**
JAYA	**Jayaque - finc**	**0.30**	**61**	P	**Pn**	**08 52 14.0**	**-0.7**
JAYA	**Jayaque - finc**	**0.30**	**61**	*eP*		08 52 14.0	
JAYA				*i* S		08 52 22.9	
CEVE	**Cerro Verde**	**0.33**	**17**	*eP*	**Pn**	**08 52 14.4**	**-0.5**
CEVE	**Cerro Verde**	**0.33**	**17**	S	**Sn**	**08 52 24.3**	**+0.8**
CEVE	**Cerro Verde**	**0.33**	**17**	P	**Pn**	**08 52 14.6**	**-0.4**
CEVE	**Cerro Verde**	**0.33**	**17**	P	**Pn**	**08 52 14.5**	**-0.5**
SBLS	**San Blas**	**0.34**	**16**	*i* P	**Pn**	**08 52 14.5**	**-0.6**
SNJE	**San Jose**	**0.38**	**18**	*eP*	**Pn**	**08 52 14.8**	**-0.5**
LALI	**Alcalda de L**	**0.39**	**93**	*eP*	**Pn**	**08 52 14.3**	**-0.8**
LALI	**Alcalda de L**	**0.39**	**93**	S	**Sn**	**08 52 23.8**	**+0.1**
LALI	**Alcalda de L**	**0.39**	**93**	P	**Pn**	**08 52 14.4**	**-0.7**
LALI	**Alcalda de L**	**0.39**	**93**	P	**Pn**	**08 52 14.2**	**-0.8**
LALI	**Alcalda de L**	**0.39**	**93**	*eP*		08 52 14.2	
NUBE	**Las Nubes**	**0.40**	**352**	*eP*	**Pn**	**08 52 14.6**	**-0.7**
NUBE	**Las Nubes**	**0.40**	**352**	S	**Sn**	**08 52 24.5**	**+0.3**
NUBE	**Las Nubes**	**0.40**	**352**	P	**Pn**	**08 52 14.8**	**-0.6**
NUBE	**Las Nubes**	**0.40**	**352**	P	**Pn**	**08 52 14.7**	**-0.7**
NUBE	**Las Nubes**	**0.40**	**352**	*i* P		08 52 14.7	
NUBE				*i* S		08 52 24.4	
CEDA	**San Andres**	**0.43**	**47**	*eP*	**Pn**	**08 52 14.7**	**-0.9**
CEDA	**San Andres**	**0.43**	**47**	P	**Pn**	**08 52 14.9**	**-0.6**
CEDA	**San Andres**	**0.43**	**47**	P	**Pn**	**08 52 14.8**	**-0.7**
PMON	**Piamonte**	**0.45**	**63**	*eP*	**Pn**	**08 52 15.7**	**-0.1**
PMON	**Piamonte**	**0.45**	**63**	P	**Pn**	**08 52 15.4**	**-0.3**
PMON	**Piamonte**	**0.45**	**63**	P	**Pn**	**08 52 15.3**	**-0.3**
ITCA	**Escuela Especi**	**0.46**	**69**	*eP*	**Pn**	**08 52 15.5**	**-0.4**
ITCA				*eS*	**Sn**	**08 52 25.7**	**+0.6**
ITCA	**Escuela Especi**	**0.46**	**69**	P	**Pn**	**08 52 15.6**	**-0.3**
ITCA	**Escuela Especi**	**0.46**	**69**	P	**Pn**	**08 52 15.5**	**-0.4**
BOQS	**Boqueron**	**0.49**	**62**	*eP**	**Pn**	**08 52 15.8**	**-0.5**
LOAL	**Lomas de Alarc**	**0.49**	**354**	*eP**	**Pn**	**08 52 15.6**	**-0.5**
LOAL	**Lomas de Alarc**	**0.49**	**354**	P	**Pn**	**08 52 15.7**	**-0.4**
LOAL	**Lomas de Alarc**	**0.49**	**354**	P	**Pn**	**08 52 15.6**	**-0.5**
UNIC	**Universidad Ca**	**0.50**	**20**	*eP**	**Pn**	**08 52 15.5**	**-0.7**
UNIC	**Universidad Ca**	**0.50**	**20**	P	**Pn**	**08 52 15.6**	**-0.7**
UNIC	**Universidad Ca**	**0.50**	**20**	P	**Pn**	**08 52 15.5**	**-0.7**
PIC2	**El Picacho**	**0.51**	**62**	*eP**	**Pn**	**08 52 16.1**	**-0.4**
UEES	**Universidad Ev**	**0.52**	**66**	*eP**	**Pn**	**08 52 16.1**	**-0.3**
UEES	**Universidad Ev**	**0.52**	**66**	P	**Pn**	**08 52 16.1**	**-0.3**
UEES	**Universidad Ev**	**0.52**	**66**	P	**Pn**	**08 52 15.9**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.52**	**354**	*eP**	**Pn**	**08 52 15.7**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.52**	**354**	P	**Pn**	**08 52 15.8**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.52**	**354**	P	**Pn**	**08 52 15.7**	**-0.7**
SEMO	**Seminario San**	**0.52**	**68**	P	**Pn**	**08 52 16.1**	**-0.4**
SEMO	**Seminario San**	**0.52**	**68**	P	**Pn**	**08 52 16.0**	**-0.4**
PANCS	**Alcalda de**	**0.54**	**79**	*eP**	**Pn**	**08 52 16.0**	**-0.5**
PANCS	**Alcalda de**	**0.54**	**79**	P	**Pn**	**08 52 16.2**	**-0.4**
PANCS	**Alcalda de**	**0.54**	**79**	P	**Pn**	**08 52 16.1**	**-0.4**
UTEC	**Universidad Te**	**0.54**	**69**	P	**Pn**	**08 52 16.2**	**-0.4**
UTEC	**Universidad Te**	**0.54**	**69**	P	**Pn**	**08 52 16.4**	**-0.2**
UESS	**Universidad de**	**0.55**	**67**	*eP**	**Pn**	**08 52 16.3**	**-0.4**
LOMA	**Loma Larga**	**0.55**	**76**	*eS**	**Sn**	**08 52 27.6**	**+1.0**
UDBS	**Universidad Do**	**0.59**	**69**	P	**Pn**	**08 52 16.7**	**-0.5**
UDBS	**Universidad Do**	**0.59**	**69**	P	**Pn**	**08 52 16.6**	**-0.5**
LFU	**La Fuente**	**0.64**	**68**	*eP**	**Pn**	**08 52 17.3**	**-0.3**
LFRS	**El Faro**	**0.65**	**80**	*i* P	**Pn**	**08 52 17.5**	**-0.3**
PAVA	**Las Pavas**	**0.79**	**75**	*eP**	**Pn**	**08 52 18.9**	**-0.5**
PAVA	**Las Pavas**	**0.79**	**75**	P	**Pn**	**08 52 19.2**	**-0.2**
PAVA	**Las Pavas**	**0.79**	**75**	P	**Pn**	**08 52 19.1**	**-0.2**
COEG	**Centro de Oper**	**0.83**	**82**	*i* P	**Pn**	**08 52 19.5**	**-0.3**
COEG				*eS*	**Sn**	**08 52 32.4**	**+0.5**
COEG	**Centro de Oper**	**0.83**	**82**	P	**Pn**	**08 52 19.5**	**-0.3**
COEG	**Centro de Oper**	**0.83**	**82**	P	**Pn**	**08 52 19.5**	**-0.3**
SNVI	**San Vicente**	**0.87**	**83**	*eP**	**Pn**	**08 52 20.0**	**-0.3**
TECO	**Alcaldia de Te**	**0.92**	**88**	*i* P	**Pn**	**08 52 20.4**	**-0.4**
TECO				*eS*	**Sn**	**08 52 33.7**	**-0.1**
TECO	**Alcaldia de Te**	**0.92**	**88**	P	**Pn**	**08 52 20.4**	**-0.4**
TECO	**Alcaldia de Te**	**0.92**	**88**	P	**Pn**	**08 52 20.4**	**-0.4**
UESV	**Universidad de**	**0.92**	**82**	P	**Pn**	**08 52 20.4**	**-0.4**
UESV	**Universidad de**	**0.92**	**82**	P	**Pn**	**08 52 20.5**	**-0.4**
MTO3	**Montecristo**	**0.95**	**22**	Pn	**Pn**	**08 52 21.4**	**-0.1**
MTO3				Sn	**Sn**	**08 52 35.6**	**+0.8**
MTO3	**Montecristo**	**0.95**	**22**	*i* P	**Pn**	**08 52 21.3**	**-0.1**
MTO3	**Montecristo**	**0.95**	**22**	P	**Pn**	**08 52 21.4**	**-0.1**
MTO3	**Montecristo**	**0.95**	**22**	P	**Pn**	**08 52 21.3**	**-0.1**
MTO3	**Montecristo**	**0.95**	**22**	*i* P		08 52 21.3	
SCLA	**Alcaldia de Sa**	**0.99**	**79**	*i* P	**Pn**	**08 52 21.3**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.99**	**79**	P	**Pn**	**08 52 21.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.99**	**79**	P	**Pn**	**08 52 21.6**	**-0.1**
LLGN	**La Laguna**	**1.00**	**49**	P	**Pn**	**08 52 21.6**	**-0.3**
LLGN	**La Laguna**	**1.00**	**49**	P	**Pn**	**08 52 21.6**	**-0.3**
ESQI	**Esquipulas**	**1.11**	**19**		**Pn**	**08 52 23.2**	**-0.1**
ESQI				Sn	**Sn**	**08 52 39.7**	**+1.5**
ESQI	**Esquipulas**	**1.11**	**19**	*i* P	**Pn**	**08 52 23.5**	**+0.2**
ESQI				*eS*	**Sn**	**08 52 39.9**	**+1.7**
ESQI	**Esquipulas**	**1.11**	**19**	P	**Pn**	**08 52 23.7**	**+0.3**
ALJI	**Alcalda de J**	**1.14**	**99**	*eP**	**Pn**	**08 52 22.8**	**-0.7**
ALJI	**Alcalda de J**	**1.14**	**99**	P	**Pn**	**08 52 23.4**	**-0.2**
ALJI	**Alcalda de J**	**1.14**	**99**	P	**Pn**	**08 52 23.6**	**+0.1**
PQSS	**Presa 15 de Se**	**1.14**	**84**	P	**Pn**	**08 52 23.1**	**-0.4**
PQSS	**Presa 15 de Se**	**1.14**	**84**	P	**Pn**	**08 52 23.2**	**-0.4**
TECA	**Tecapa**	**1.19**	**90**	*eP**	**Pn**	**08 52 23.9**	**-0.5**
GCG4	**OSOP**	**1.33**	**324**	*eP**		08 52 26.1	
GCG4				*i* S		08 52 45.1	
PACA	**Pacayal**	**1.36**	**91**	P	**Pn**	**08 52 26.6**	**0.0**
PACA	**Pacayal**	**1.36**	**91**	P	**Pn**	**08 52 26.9**	**+0.3**
ESSG	**Sabana Grande**	**1.38**	**309**	*eP**		08 52 25.9	
ESSG				*i* S		08 52 44.8	
LCY	**Lacayo**	**1.39**	**93**	*eP**	**Pn**	**08 52 26.9**	**-0.1**
RANC	**El Ranchito**	**1.40**	**93**	*eP**	**Pn**	**08 52 27.1**	**0.0**
RANC	**El Ranchito**	**1.40**	**93**	P	**Pn**	**08 52 26.8**	**-0.3**
RANC	**El Ranchito**	**1.40**	**93**	P	**Pn**	**08 52 27.2**	**0.0**
GUMI	**Mixco**	**1.41**	**322**	*i* P		08 52 27.3	
BLLM	**Bellamira**	**1.45**	**92**	*eP**	**Pn**	**08 52 27.5**	**-0.2**
CAHU	**Cacacuatique**	**1.49**	**80**	*eP**	**Pn**	**08 52 28.1**	**-0.3**
CNRM	**Centro Naciona**	**1.51**	**91**	P	**Pn**	**08 52 28.3**	**-0.2**
INTHN	**La Esperanza I**	**1.77**	**63**	P	**Pn**	**08 52 32.4**	**+0.2**
INTHN	**La Esperanza I**	**1.77**	**63**	P	**Pn**	**08 52 32.3**	**+0.2**
LCND	**La Caada**	**1.79**	**96**	*eP**	**Pn**	**08 52 31.9**	**-0.3**
LCND	**La Caada**	**1.79**	**96**	P	**Pn**	**08 52 32.1**	**-0.1**
LCND	**La Caada**	**1.79**	**96**	P	**Pn**	**08 52 32.0**	**-0.2**
CNCH	**Conchagua**	**1.85**	**97**	*eP**	**Pn**	**08 52 32.9**	**-0.2**
CNCH	**Conchagua**	**1.85**	**97**	P	**Pn**	**08 52 32.9**	**-0.2**
CNCH	**Conchagua**	**1.85**	**97**	P	**Pn**	**08 52 33.0**	**-0.1**
SOKI	**Kika Raxquin**	**2.09**	**309**	*eP**		08 52 37.4	
RTAL	**Retalhuleu**	**2.16**	**298**	Pn	**Pn**	**08 52 37.6**	**+0.4**
RTAL				Sn	**Sn**	**08 53 04.0**	**+0.9**
QUIS	**Sacapulas**	**2.21**	**323**	*eP**		08 52 38.6	
COMHN	**El Horno**	**2.30**	**66**	P	**Pn**	**08 52 38.9**	**-0.5**
COMHN	**El Horno**	**2.30**	**66**	P	**Pn**	**08 52 38.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.44**	**77**	Pn	**Pn**	**08 52 41.1**	**0.0**
HUEH	**Huehuetenango**	**2.49**	**316**		**Pn**	**08 52 43.0**	**+1.2**
HUEH	**Huehuetenango**	**2.49**	**316**	P	**Pn**	**08 52 42.6**	**+0.7**
HUEH	**Huehuetenango**	**2.49**	**316**	*eP**		08 52 43.0	
CHOHN	**Orocuina**	**2.50**	**90**	P	**Pn**	**08 52 41.4**	**-0.4**
CHOHN	**Orocuina**	**2.50**	**90**	P	**Pn**	**08 52 41.3**	**-0.5**
SMCA	**Catarina**	**2.65**	**301**	*eP**		08 52 43.3	
SMCA				*i* S		08 53 14.8	
CRIN	**San Cristobal**	**2.73**	**107**		**Pn**	**08 52 45.1**	**+0.2**
PKGN	**Cerro Pekin**	**2.80**	**107**	P	**Pn**	**08 52 46.0**	**+0.1**
PKGN	**Cerro Pekin**	**2.80**	**107**	P	**Pn**	**08 52 45.9**	**0.0**
THIG		**2.83**

SOR	Soroa	11.22	34			Pn	08 54 41.8	+0.8
HKT	Hockley	17.31	342	P		Pn	08 56 01.8	+1.3
HNDO	Hondo	18.24	332	P		P	08 56 11.6	+0.4
FLOC	Florencia	18.28	129			P	08 56 12.2	+0.4
FLOC				IAmb	IAmb		08 56 36.5	
comp=Z,7.3nm,0.7s								
DRIO	Del Rio	18.78	329	P		P	08 56 17.3	+0.1
COHC	Cochancay	18.97	146	P		P	08 56 20.1	+0.8
SDV	Santo Domingo	19.28	102	P		P	08 56 22.4	-0.5
SDV				IAmb	IAmb		08 56 39.1	
comp=Z,4.1nm,0.8s								
SDV	Santo Domingo	19.28	102	LR	LR		09 05 18.0	
comp=Z,19nm,19.6s,baz=264,slow=42								
BRDY	Brady	19.64	336	P		P	08 56 26.0	-0.6
BRDY				IAmb	IAmb		08 56 26.6	
comp=Z,7.5nm,1.1s								
FW14	Alvarado	20.01	341	P		P	08 56 30.4	-0.2
FW13	Cleburne	20.04	341	P		P	08 56 30.7	-0.2
FW13				IAmb	IAmb		08 56 31.6	
comp=Z,10.0nm,0.8s								
TXAR	Lajitas Array	20.38	323	P		P	08 56 35.0	+0.4
comp=Z,1.4nm,0.5s,baz=138,slow=9.7,SNR=41								
TXAR				LR	LR		09 06 52.5	
comp=Z,7.7nm,19.5s,baz=154,slow=44								
comp=Z,1.4nm,0.5s								
PLPT	Palo Pinto	20.76	339	P		P	08 56 37.8	-0.8
PLPT				IAmb	IAmb		08 56 39.1	
comp=Z,9.4nm,0.9s								
SGCY	Sterling City	21.10	332	P		P	08 56 44.1	+1.8
SGCY				IAmb	IAmb		08 57 11.4	
comp=Z,6.0nm,0.5s								
UALR	University of	21.31	354	P		P	08 56 46.3	+1.8
UALR				IAmb	IAmb		08 56 46.4	
comp=Z,12nm,1.1s								
TKL	Tuckaleechee C	22.70	13	LR	LR		09 06 17.5	
comp=Z,79nm,19.0s,baz=185,slow=38								
FNO	Franklin	22.74	344	P		P	08 56 57.9	-1.9
HICK	Hickman	22.94	1	P		P	08 57 01.1	-0.8
SJG	San Juan	23.13	76	LR	LR		09 05 54.9	
comp=Z,62nm,19.6s,baz=190,slow=36								
ATAH	Atahualpa	23.39	151	LR	LR		09 05 13.5	
comp=Z,56nm,21.2s,baz=348,slow=34								
SMWD	Samnorwood	23.51	338	P		P	08 57 06.2	-1.1
SMWD				IAmb	IAmb		08 57 23.2	
comp=Z,12nm,1.2s								
MGMO	Mountain Grove	23.66	355	P		P	08 57 09.6	+1.0
MGMO				IAmb	IAmb		08 57 27.2	
comp=Z,22nm,1.5s								
CCM	Cathedral Cave	24.49	357	P		P	08 57 17.2	+1.1
SADO	Sadowa	32.44	14	LR	LR		09 11 58.0	
comp=Z,53nm,20.4s,baz=307,slow=37								
NVAR	Mina Array Bea	35.46	320	P		P	08 58 53.1	-0.3
comp=Z,1.4nm,0.8s,baz=138,slow=9.5,SNR=8.0								
NVAR				PcP		PcP	09 01 19.2	-2.6
comp=Z,0.3nm,0.7s,baz=169,slow=3.0,SNR=4.0								
comp=Z,1.4nm,0.8s								
ULM	Lac du Bonnet	36.98	353	P		P	08 59 02.2	-3.8
comp=Z,2.1nm,0.8s,baz=155,slow=9.3,SNR=4.4								
ULM				LR	LR		09 14 59.6	
comp=Z,42nm,19.5s,baz=182,slow=38								
comp=Z,2.1nm,0.8s								
SCHQ	Schefferville	44.95	19	P		P	09 00 08.1	-3.3
comp=Z,1.1nm,0.3s,baz=227,slow=8.0,SNR=7.5								
SCHQ				LR	LR		09 20 18.9	
comp=Z,31nm,18.7s,baz=84,slow=38								
comp=Z,1.1nm,0.3s								
YKA	Yellowknife Ar	52.03	346	P		P	09 01 02.9	-2.8
comp=Z,0.3nm,0.4s,baz=149,slow=8.2,SNR=16								
comp=Z,0.3nm,0.4s								
SFJD	Kangerlussuaq	59.33	17	LR	LR		09 27 34.3	
comp=Z,46nm,19.3s,baz=214,slow=36								
ILAR	Eielson Array	64.17	336	P		P	09 02 27.0	-3.5
comp=Z,0.1nm,0.5s,baz=122,slow=4.9,SNR=4.9								
ILAR				LR	LR		09 36 23.9	
comp=Z,26nm,19.2s,baz=102,slow=42								
comp=Z,0.1nm,0.5s								
BORG	Borgarnes	68.70	25	LR	LR		09 32 40.6	
comp=Z,30nm,18.3s,baz=176,slow=36								
NOA	NORSAR Array B	83.52	29	LR	LR		09 42 18.6	
comp=Z,8.2nm,18.1s,baz=250,slow=36								
CN2	Changchun	114.56	333	*e*P		PKiKP	09 10 34.8	-1.1
WRA	Warramunga Arr	137.41	255	PKP		PKPdf	09 11 20.8	+0.7
comp=Z,0.3nm,0.5s,baz=22,slow=0.9,SNR=5.9								
FITZ	Fitzroy Crossi	145.70	258	PKPbc		PKPdf	09 11 34.2	-0.7
comp=Z,2.0nm,0.5s,baz=359,slow=3.8,SNR=7.5								
CMAR	Chiang Mai Arr	147.11	345	PKPbc		PKPdf	09 11 37.6	+0.3
comp=Z,0.7nm,0.3s,baz=310,slow=2.3,SNR=6.2								

*IDC **21** 08:52:16.2±0.8, 52°.62N×168°.73W, h0km, mb4.2/24, mbtmp4.2/25, ML3.7/1, MS3.3/10, Error ellipse: s-maj=21.2km s-min=12.1km az=162.0*
*AEIC **21** 08:52:21.1±3.0, 52°.52N±0°.06×168°.56W±0°.09, h26km±5km, Error ellipse: s-maj=8.7km s-min=7.5km az=156.0*
*NEIC **21** 08:52:23.0±2.1, 52°.63N±0°.06×168°.62W±0°.10, h47km±6km, mb4.1/99, ML4.2/10, ML3.9(AEIC), Error ellipse: s-maj=10.3km s-min=7.2km az=141.0*

ISC 21 08:52:22.7±1.3, 52°.60N±0°.09×168°.59W±0°.06, h48km±10km, n221, σ1§28/217, mb4.2/43, MS3.2/9, 1C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	0.68	15		Pn	08 52 35.1	-1.0
OKTU	Okmok Mt. Tuli	0.85	23		Pn	08 52 37.7	-0.7
OKCE	Okmok Cone E	0.87	17		Pn	08 52 38.1	-0.5
OKCE					Sn	08 52 51.7	+1.4
OKWE	Okmok W'ng Wal	0.90	13		Pn	08 52 38.7	-0.3
OKNC	Okmok New Cone	0.91	18		Pn	08 52 39.0	-0.1
OKNC					Sn	08 52 52.1	+1.0
OKFG	Magazine Ridge	0.91	26		Pn	08 52 38.4	-0.7
OKRE	Okmok R'deer P	0.96	15		Pn	08 52 39.6	-0.3
MAPS	Pakushin South	1.57	39		Pn	08 52 47.1	-0.9
MAPS					Sn	08 53 07.6	+0.5
MGOD	Makushin Gods	1.58	40		Pn	08 52 48.0	-0.3
MSW	Makushin Switc	1.71	39		Pn	08 52 49.9	-0.1
MSW					Sn	08 53 11.3	+0.6
UNV	Unalaska Valle	1.77	44	Pn	Pn	08 52 50.3	-0.5
AKMO	Akutan Morgan	2.15	45		Pn	08 52 57.3	+1.3
AKMO					Sn	08 53 24.2	+2.7
AKRB	Akutan Reef Bi	2.15	44		Pn	08 52 57.7	+1.6
LVA	Lava Point	2.19	43		Pn	08 52 57.2	+0.6
LVA				IAML		08 53 39.9	
comp=E,2μm,0.6s							
AKV	Akutan Volcano	2.19	45		Pn	08 52 58.2	+1.5
AKGG	Akutan Green G	2.23	43		Pn	08 52 58.0	+0.8
AKSA	Akutan Strait	2.32	47		Pn	08 52 59.3	+1.0
WECS	Westdahl Cape	2.99	48		Pn	08 53 08.6	+1.1
ATKA	Atka Island	3.46	266	Pn	Pn	08 53 13.6	-0.3
ISNN	Isanotski Nort	3.63	50		Pn	08 53 18.2	+1.8
FALS	False Pass	3.81	52	Pn	Pn	08 53 19.2	+0.4
P08K	Saint George I	4.05	352	Pn	Pn	08 53 22.9	+0.8
P08K				IAML		08 54 25.8	
comp=E,326nm,2.2s							
P08K				IAML		08 56 06.3	
comp=N,394nm,1.9s							
GSTR	Great Sitkin T	4.61	267	Pn	Pn	08 53 28.9	-0.8
SPIA	Saint Paul Isl	4.69	349	Pn	Pn	08 53 31.5	+0.8
S12K	Black Hills	4.94	48	Pn	Pn	08 53 32.6	-1.6
S12K				IAML		08 55 04.1	
comp=E,137nm,1.3s							
S12K				IAML		08 55 05.2	
comp=N,126nm,1.7s							
ADAG	Mount Adagdak	4.96	266		Pn	08 53 35.0	+0.5
ADK	Adak	5.03	265	Pn	Pn	08 53 34.3	-1.2
ADK				IAML		08 54 56.7	
comp=N,156nm,0.8s							
KIWB	Kanaga Island	5.32	265		Pn	08 53 38.4	-1.0
TASE	Tanaga Southea	5.86	266		Pn	08 53 47.0	+0.1
CHGN	Chignik	7.00	54	Pn	Pn	08 54 03.8	+1.4
O14K	Tigyukauivet M	7.83	29	Pn	Pn	08 54 15.3	+1.5
M11K	Mekoryuk	7.92	9	Pn	Pn	08 54 17.1	+2.2
CHIR	Chirikof Islan	8.26	62	Pn	Pn	08 54 17.7	-2.0
N15K	Kwethluk River	8.93	28	Pn	Pn	08 54 30.6	+1.7
M14K	Bethel	8.95	21	Pn	Pn	08 54 30.8	+1.7
O16K	Kokwok River B	9.13	36	Pn	Pn	08 54 33.7	+2.1
ACHA	Angle Creek He	9.40	48	Pn	Pn	08 54 35.4	0.0
M16K	Timber Creek	9.95	28	Pn	Pn	08 54 42.7	-0.1
OHAK	Old Harbor	9.95	56	Pn	Pn	08 54 42.1	-0.7
P18K	Big Mountain,	10.10	42	Pn	Pn	08 54 47.2	+2.2
N17K	Nushagak Hills	10.12	34	Pn	Pn	08 54 47.4	+2.3
L16K	Owhat River	10.38	25		Pn	08 54 49.8	+1.1
O18K	Koktuh Hills	10.39	40		Pn	08 54 49.2	+0.3
K15K	Wolf Creek Mou	10.43	18	Pn	Pn	08 54 51.4	+2.0
KDAK	Kodiak Island	10.51	54	Pn	Pn	08 54 49.6	-0.9
KDAK	Kodiak Island	10.51	54	Pn	Pn	08 54 49.7	-0.7
comp=N,2.7nm,0.3s,baz=56,slow=1.5,SNR=77							
KDAK				Sn	Sn	08 56 42.1	-4.5
comp=N,0.2nm,0.3s,baz=160,slow=16,SNR=2.0							
Q19K	Cape Douglas,	10.53	47	Pn	Pn	08 54 50.3	-0.4
SYI	Shuyak Island	10.95	50	Pn	Pn	08 54 55.9	-0.5
GAMB	Gambell	11.33	353		Pn	08 55 04.2	+2.6
K17K	Iditarod	11.52	24	Pn	Pn	08 55 06.0	+1.7
CNPM	China Poot	11.90	47	Pn	Pn	08 55 09.9	+0.5
M19K	Big River Lodg	12.05	34	Pn	Pn	08 55 14.0	+2.4
ANM	Nome	12.12	7		Pn	08 55 14.3	+1.9
BRLK	Bradley Lake	12.17	47	Pn	Pn	08 55 12.9	-0.2
TTA	Tatalina	12.31	28	Pn	Pn	08 55 17.8	+2.6
SPU	Mount Spurr	12.44	40	Pn	Pn	08 55 19.2	+2.4
M20K	Styx River	12.48	36	Pn	Pn	08 55 19.4	+2.0
J18K	Innoko River	12.55	25	Pn	Pn	08 55 20.1	+1.8
STLK	Strandline Lak	12.72	39	Pn	Pn	08 55 22.8	+2.2
SLKM	Skilak Lake	12.82	45	Pn	Pn	08 55 22.7	+0.6
SEW	Seward	12.97	47	Pn	Pn	08 55 24.0	+0.1
O22K	Cooper Landing	13.02	45		Pn	08 55 24.4	-0.3
SKT	Skwentna	13.12	38	Pn	Pn	08 55 28.3	+2.2
RC01	Rabbit Creek A	13.32	43	Pn	Pn	08 55 28.4	-0.5
H18K	Honhosa River	13.63	19		Pn	08 55 35.9	+2.9
PWL	Port Wells	13.81	45	Pn	Pn	08 55 33.9	-1.6
J20K	Nowinta River	13.81	27		Pn	08 55 37.7	+2.2
PMR	Palmer	13.84	42	Pn	Pn	08 55 35.9	+0.1
CAST	Castle Rocks	13.88	32	Pn	Pn	08 55 37.0	+0.5
GHO	Glory Hole Cre	14.02	41	Pn	Pn	08 55 37.5	-0.8
KNK	Knik Glacier	14.02	43	Pn	Pn	08 55 37.7	-0.7
SML	Sawmill	14.28	42	Pn	Pn	08 55 40.1	-1.7
GLI	Glacier Island	14.36	46	Pn	Pn	08 55 40.2	-2.6
HIN	Hinchinbrook I	14.42	49	Pn	Pn	08 55 41.5	-2.3
SCM	Sheep Creek Mo	14.70	43		Pn	08 55 45.7	-1.8
EYAK	Cordova Ski Ar	14.83	49	Pn	Pn	08 55 47.2	-1.8
KLU	Klutina	15.14	45		Pn	08 55 51.2	-1.9
KLU				IAmb	IAmb	08 55 52.2	
comp=Z,12nm,0.8s							
M24K	Tolsona, Glenn	15.31	43	Pn	Pn	08 55 54.3	-1.0
H21K	Melozitna Rive	15.32	25	P	P	08 55 59.2	-0.3
H21K				IAmb	IAmb	08 56 17.7	
comp=Z,9.7nm,1.1s							
BMRM	Bremner River	15.51	48	Pn	Pn	08 55 56.7	-1.2
BMRM				IAmb	IAmb	08 55 58.1	
comp=Z,16nm,1.0s							
N25K	Chitina, Valde	15.76	46	Pn	Pn	08 56 00.1	-1.0
N25K				IAmb	IAmb	08 56 12.9	
comp=Z,14nm,1.1s							
F20K	Avaraart Lake	15.81	19	P	P	08 56 05.1	+0.4
E19K	Redstone River	15.90	16	P	Pn	08 56 04.4	+1.5
E19K				IAmb	IAmb	08 56 13.3	
comp=Z,9.0nm,1.0s							
GLB	Gilahina Butte	16.04	47	Pn	Pn	08 56 03.5	-1.3
GLB				IAmb	IAmb	08 56 04.7	
comp=Z,10nm,1.1s							
CCB	Clear Creek Bu	16.11	33	Pn	Pn	08 56 05.4	-0.1
VRDI	Verde Repeater	16.12	48	Pn	Pn	08 56 04.8	-1.0
VRDI				IAmb	IAmb	08 56 28.8	
comp=Z,6.3nm,0.8s							
COLA	College	16.23	33		Pn	08 56 07.5	+0.4
COLA				IAmb	IAmb	08 56 08.5	
comp=Z,18nm,1.1s							
HDA	Harding Lake	16.25	35		Pn	08 56 07.2	-0.2
F21K	Alatna River	16.43	21	P	Pn	08 56 09.9	+0.4
C18K	Utukok River	16.48	10	P	Pn	08 56 10.0	-0.3
ILAR	Eielson Array	16.49	34	Pn	Pn	08 56 09.2	-1.1
comp=Z,0.3nm,0.3s,baz=229,slow=11,SNR=21							
ILAR				Sn	Sn	08 59 03.0	-9.2
baz=232,slow=5.3							
ILAR				LR	LR	09 02 59.4	
comp=Z,79nm,20.5s,baz=219,slow=39							
comp=Z,1.5nm,0.9s							
MENT	Mentasta	16.70	42	Pn	Pn	08 56 11.8	-1.2
D19K	Kuna River	16.71	13	Pn	Pn	08 56 13.2	+0.1
M26K	Nabesna, AK	16.77	44		Pn	08 56 12.7	-1.3
M26K				IAmb	IAmb	08 56 16.8	
comp=Z,14nm,1.0s							
H24K	Noodor Dome	16.86	30	P	Pn	08 56 15.4	+0.4
H24K				IAmb	IAmb	08 56 19.2	
comp=Z,13nm,1.1s							
L26K	Log Cabin Wild	16.90	42	P	Pn	08 56 16.2	+0.8
L26K				IAmb	IAmb	08 56 23.2	
comp=Z,6.6nm,0.8s							
J25K	Salcha River,	16.93	36		Pn	08 56 15.1	-0.8
J25K				IAmb	IAmb	08 56 16.7	
comp=Z,10.0nm,1.1s							
COLD	Coldfoot	17.21	25	P	Pn	08 56 19.6	+0.4
M27K	Edge Creek, AK	17.24	45	P	Pn	08 56 19.6	-0.1
M27K				IAmb	IAmb	08 56 23.9	
comp=Z,13nm,1.0s							
J26L	Joseph Creek	17.53	37		Pn	08 56 22.5	-0.8
J26L				IAmb	IAmb	08 56 26.1	
comp=Z,10nm,0.8s							
L27K	Beaver Creek,	17.54	43	P	Pn	08 56 22.7	-0.7
E22K	Anaktuvuk Pass	17.54	21	P	P	08 56 25.1	+1.1
G24K	Hadweenzic Riv	17.56	28	P	P	08 56 24.2	0.0
D22K	Ayikyak River	17.98	19	P	P	08 56 28.7	-0.1
E23K	Chandalar	17.99	23	P	P	08 56 28.8	-0.2
F24K	Squaw Lake	18.03	26	P	P	08 56 29.2	-0.1
F24K				IAmb	IAmb	08 56 48.7	
comp=Z,9.1nm,1.1s							
I26K	Coal Creek Min	18.10	36	P	P	08 56 28.1	-2.0
FYU	Fort Yukon	18.15	31	P	Pn	08 56 32.2	+1.5
FYU				IAmb	IAmb	08 56 46.9	
comp=Z,7.6nm,0.7s							
O29M	Mount Kennedy	18.16	53	P	Pn	08 56 31.8	+0.7
O29M				IAmb	IAmb	08 56 46.2	
comp=Z,9.8nm,0.8s							
B21K	Ikpikpuk River	18.28	16	P	Pn	08 56 33.0	+0.8
E24K	Your Creek	18.28	24	P	Pn	08 56 32.8	+0.4
TOLK	Toolik Lake Re	18.45	22	P	Pn	08 56 35.4	+0.9
F25K	Christian Rive	18.70	28	P	P	08 56 36.7	0.0
F25K				IAmb	IAmb	08 56 40.9	
comp=Z,8.4nm,1.0s							
M29M	Somme Creek	18.76	47	P	P	08 56 37.6	+0.2
M29M				IAmb	IAmb	08 56 41.0	
comp=Z,9.4nm,1.1s							
HYT	Haines Junctio	18.78	52	Pn	Pn	08 56 39.4	+0.7
HYT				IAmb	IAmb	08 56 44.4	
comp=Z,18nm,0.8s							
DAWY	Dawson	18.94	41		P	08 56 39.8	+0.4
DAWY				IAmb	IAmb	08 56 41.8	
comp=Z,9.2nm,1.1s							
D24K	Happy Valley	19.02	22	P	P	08 56 39.9	-0.3
D24K				IAmb	IAmb	08 56 59.9	
comp=Z,5.0nm,0.8s							
L29M	L29M	19.12	45	P	P	08 56 41.6	+0.2
L29M				IAmb	IAmb	08 57 02.6	
comp=Z,10nm,0.9s							
C23K	Itkillik River	19.19	19	P	Pn	08 56 42.9	-0.3
C23K				IAmb	IAmb	08 56 49.5	
comp=Z,4.6nm,0.6s							
F26K	Sheenjek River	19.20	29	P	P	08 56 40.8	-1.3
I28M	Miner Creek	19.34	37	P	P	08 56 43.8	0.0
I28M				IAmb	IAmb	08 56 49.1	
comp=Z,5.0nm,0.6s							
G27K	Doyon Strip	19.44	33	P	P	08 56 44.7	-0.1
O30N	Mendenhall	19.45	52	P	Pn	08 56 46.8	+0.3
O30N				IAmb	IAmb	08 57 08.1	
comp=Z,20nm,0.9s							
C24K	Franklin Bluff	19.49	21	P	P	08 56 45.4	+0.2
C24K				IAmb	IAmb	08 57 10.4	
comp=Z,5.7nm,0.9s							
M30M	Minto, Yukon	19.54	47	P	P	08 56 46.6	+0.7
K29M	Barlow Dome	19.63	43	P	P	08 56 47.1	+0.1
SKAG	Skagway	19.65	56	P	Pn	08 56 48.9	+0.2
SKAG				IAmb	IAmb	08 57 04.5	
comp=Z,13nm,1.0s							
N31M	Braeburn, Yuko	19.74	50		Pn	08 56 49.9	-0.1
WHY	Whitehorse	20.02	53		Pn	08 56 53.4	+0.1
WHY				IAmb	IAmb	08 56 56.9	
comp=Z,10nm,0.8s							
MAYO	Mayo, Yukon	20.23	44	P	P	08 56 54.0	+0.7
MAYO				IAmb	IAmb	08 57 08.3	
comp=Z,11nm,0.8s							
PETK	Petropavlovsk-	20.26	285	P	P	08 56 52.6	-1.2
comp=Z,7.3nm,0.5s,baz=82,slow=14,SNR=39							
PETK				LR	LR	09 04 10.3	
comp=Z,35nm,21.6s,baz=93,slow=35							
comp=Z,7.3nm,0.5s							
H29M	Whitestone	20.27	36	P	P	08 56 52.9	-0.9
H29M				IAmb	IAmb	08 57 04.2	
comp=Z,12nm,0.8s							
J30M	Hart River	20.37	41	P	P	08 56 54.8	-0.2
F28M	Old Crow	20.46	32	P	P	08 56 55.4	-0.5
P32M	Atlin	20.48	56		P	08 56 57.0	+0.9
P32M				IAmb	IAmb	08 57 14.0	
comp=Z,19nm,1.1s							
M31M	Drury Creek, Y	20.53	49	P	P	08 56 57.1	+0.4
M31M				IAmb	IAmb	08 57 20.8	
comp=Z,10.0nm,0.8s							
I30M	Mount Dempster	20.59	40	P	P	08 56 56.0	-1.4
I30M				IAmb	IAmb	08 56 58.7	
comp=Z,6.0nm,0.8s							
C27K	Jago River	20.60	25	P	P	08 56 57.8	+0.4
C27K				IAmb	IAmb	08 56 59.5	
comp=Z,5.4nm,0.5s							
G29M	Pine Creek	20.72	35	P	P	08 56 57.8	-0.9
EPYK	Eagle Plains	20.93	37	P	P	08 57 00.2	-0.7
N32M	Quiet Lake	20.96	52	P	P	08 57 02.0	+0.7
P33M	Teslin, Yukon	20.98	55		P	08 57 01.8	+0.2
P33M				IAmb	IAmb	08 57 22.2	
comp=Z,15nm,1.1s							
FARO	Faro, Yukon	21.02	49	P	P	08 57 02.6	+0.7
FARO				IAmb	IAmb	08 57 08.4	
comp=Z,10nm,0.9s							
G30M	tAoh Zraii Nji	21.38	35	P	P	08 57 04.6	-1.1
G30M				IAmb	IAmb	08 57 24.6	
comp=Z,12nm,1.1s							
E29M	Blow River	21.51	31	P	P	08 57 06.4	-0.7
H31M	Peel River	21.60	39	P	P	08 57 06.4	-1.7
H31M				IAmb	IAmb	08 57 08.5	
comp=Z,15nm,0.9s							
F31M	Tsiigehtchic	22.45	35	P	P	08 57 15.8	-1.3
F31M				IAmb	IAmb	08 57 31.3	
comp=Z,3.1nm,0.8s							
INK	Inuvik	22.89	33	P	P	08 57 20.7	-1.0
INK				IAmb	IAmb	08 57 21.7	
comp=Z,5.2nm,0.6s							
MA2	Magadan	23.41	303	LR	LR	09 06 00.1	
comp=Z,60nm,20.1s,baz=88,slow=35							
C36M	Paulatuk	26.47	34	P	P	08 57 55.2	+0.5
C36M				IAmb	IAmb	08 57 57.9	
comp=Z,3.9nm,0.4s							
A36M	Sachs Harbour	26.99	28	P	P	08 58 00.3	+0.9
A36M				IAmb	IAmb	08 58 25.0	
comp=Z,3.6nm,0.9s							
YKA	Yellowknife Ar	29.73	49	P	P	08 58 24.5	+0.6
comp=Z,0.9nm,0.6s,baz=274,slow=8.1,SNR=22							
comp=Z,0.9nm,0.6s							
TIXI	Tiksi	32.79	329	LR	LR	09 12 19.6	
comp=Z,52nm,19.7s,baz=200,slow=37							
KLR	Kul'dur	36.83	289	LR	LR	09 15 17.2	
comp=Z,44nm,19.1s,baz=24,slow=38							
EGMT	Eagleton	36.94	73	P	P	08 59 25.7	-1.1
BOZ	Bozeman (W)	37.08	77	P	P	08 59 28.8	+0.7
BOZ				IAmb	IAmb	08 59 49.0	
comp=Z,1.4nm,1.0s							
H11N2	WAKE ISLAND Hy	37.93	219	T	T	09 40 08.6	
baz=24,slow=76,SNR=164							
H11N3	WAKE ISLAND Hy	37.94	219	T	T	09 40 04.8	
baz=24,slow=76,SNR=314							
H11N1	WAKE ISLAND Hy	37.95	219	T	T	09 40 06.8	
baz=24,slow=76,SNR=194							
H11S1	WAKE ISLAND Hy	39.12	219	T	T	09 41 31.4	
baz=23,slow=76,SNR=606							
H11S2	WAKE ISLAND Hy	39.13	219	T	T	09 41 29.7	
baz=23,slow=76,SNR=286							
H11S3	WAKE ISLAND Hy	39.14	219	T	T	09 41 27.5	
baz=23,slow=76,SNR=308							
USRK	Ussuriysk Ar.	39.31	282	P	P	08 59 45.2	-1.5
comp=Z,0.9nm,0.5s,baz=68,slow=8.9,SNR=2.2							
comp=Z,0.9nm,0.5s							
PDAR	Pinedale Array	39.89	80	P	P	08 59 53.2	+1.4
comp=Z,0.6nm,0.5s,baz=288,slow=3.1,SNR=10							
comp=Z,0.6nm,0.5s							
MJAR	Matsushiro Arr	40.18	268	P	P	08 59 53.5	-0.5
comp=Z,2.6nm,0.7s,baz=38,slow=6.7,SNR=5.5							
comp=Z,2.6nm,0.7s							
MAJO	Matsushiro	40.18	268	P	P	08 59 53.9	-0.1
FCC	Fort Churchill	40.43	51	P	P	08 59 56.5	+0.7
FCC				IAmb	IAmb	08 59 58.6	
comp=Z,6.7nm,1.0s							
TMUT	Trail Mountain	40.98	85	P	P	09 00 01.6	+0.6
TMUT				IAmb	IAmb	09 00 15.9	
comp=Z,4.2nm,0.9s							
BNX	BinXian	41.16	287	⇑P	P	09 00 00.5	-1.5
BNX				pmax	pmax		
comp=Z,5.0nm,1.0s							
P18A	Preston Nutter	41.35	84	P	P	09 00 04.5	+0.5
P18A				IAmb	IAmb	09 00 19.0	
comp=Z,6.1nm,1.0s							
O20A	White River Ci	42.26	82	P	P	09 00 12.1	+0.8
O20A				IAmb	IAmb	09 00 33.3	
comp=Z,7.1nm,0.9s							
PV23	Carpenter Ridg	42.84	85	P	P	09 00 16.6	+0.6
PV10	Paradox Valley	42.87	85	P	P	09 00 17.9	+1.6
PV11	David Mesa, Pa	43.02	85	P	P	09 00 18.4	+0.9
PV13	Radium Mtn., P

AKTO Aktyubinsk 70.05 330 P P 09 03 28.4 -0.7
comp=Z,1.6nm,0.7s,baz=15,slow=5.0,SNR=4.1
comp=Z,1.6nm,0.7s
BOOM Boomskoye usch 70.17 315 P P 09 03 30.7 +0.5
ABKAR Akbulak array 70.49 329 P P 09 03 32.0 +0.3
ARSB Arslanbob 72.39 316 P P 09 03 43.6 0.0
ARSB IAmb IAmb 09 04 06.1
comp=Z,2.5nm,1.0s
GAR Garm 75.45 316 P P 09 04 01.1 -0.4
AK21 Malin Array Si 75.93 349 P P 09 04 03.6 -0.2
AK20 Malin Array Si 75.97 349 P P 09 04 03.7 -0.3
AKASG Malin Array Be 75.98 348 P P 09 04 03.5 -0.6
comp=Z,1.8nm,0.5s,baz=13,slow=5.8,SNR=9.3
comp=Z,1.8nm,0.5s
AKBB Malin Array Si 75.98 348 P P 09 04 04.0 0.0
AKBB Malin Array Si 75.98 348 P P 09 04 03.8 -0.3
KIEV Kiev 75.99 348 P P 09 04 03.9 -0.2
comp=Z,36nm,2.6s
AK09 Malin Array Si 76.06 348 P P 09 04 04.2 -0.3
CHGR Chuyangaron 76.23 317 P P 09 04 06.3 +0.5
SIMJ Simiganj 76.29 317 P P 09 04 06.1 -0.1
SIMJ IAmb IAmb 09 04 07.4
comp=Z,3.9nm,0.8s
LUBAR Lubar, Ukraine 76.92 349 P P 09 04 08.9 -0.5
CMAR Chiang Mai Arr 77.03 283 P P 09 04 11.2 +0.7
comp=Z,2.5nm,0.6s,baz=25,slow=6.7,SNR=12
comp=Z,2.5nm,0.6s
KMPD K-Podol'skiy 78.40 350 P P 09 04 18.1 +0.4
BUR08 Bucovina Ar. S 79.44 351 P P 09 04 24.0 +0.4
BUR08 IAmb IAmb 09 04 24.8
comp=Z,2.3nm,1.1s
ESDC Sonseca Array 87.14 12 P P 09 05 03.1 -0.1
comp=Z,1.6nm,1.0s,baz=351,slow=4.9,SNR=5.7
comp=Z,1.6nm,1.0s
WRA Warramunga Arr 87.52 232 P P 09 05 03.6 -1.5
comp=Z,0.7nm,0.7s,baz=34,slow=5.6,SNR=4.7
comp=Z,0.7nm,0.7s
ASAR Alice Springs 90.91 231 P P 09 05 20.8 -0.2
comp=Z,0.9nm,0.7s,baz=26,slow=4.3,SNR=12
comp=Z,0.9nm,0.7s

ASRS 21 08:59:36.0±0.8,54°.95N×88°.46E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

ASRS 21 09:00:11.0±1.2,53°.62N×87°.95E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

*DSN **21** 09:01:33.6±0.5,34°.80N×45°.98E,h8km,mb4.8/1,Error ellipse: s-maj=14.3km s-min=4.1km az=61.0*
*ISN **21** 09:01:34.5±0.6,34°.96N×46°.21E,h25km±42km,ML4.3*
*TEH **21** 09:01:34.7,34°.87N×46°.10E,h8km±28km*
*IDC **21** 09:01:35.6±0.8,34°.89N×45°.87E,h0km,mb4.1/20, mbtmp4.0/31,ML4.2/8,MS3.2/17,Error ellipse: s-maj=15.2km s-min=12.1km az=162.0*
*NEIC **21** 09:01:36.7±1.7,34°.78N±0°.08×46°.06E±0°.09,h10km±1km, mb4.3/20,Error ellipse: s-maj=13.3km s-min=12.2km az=194.0*
ISC 21 09:01:35.7±0.4,**34°.83N**±0°.02×**46°.10E**±0°.02,**h10km,n223,** σ2.71/238,**mb4.2**/37,**MS3.1**/10,**19C-2D,Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.27**	**119**	Pg	**Pg**	**09 01 42.0**	**+0.8**
IDHR				Sg	**Sb**	**09 01 47.2**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.53**	**232**	Pg	**Pb**	**09 01 46.6**	**-0.5**
IGHG	**Ghaleghazi**	**0.63**	**142**	Pg	**Pb**	**09 01 48.8**	**-0.2**
ILIN	**Lien**	**0.71**	**83**	Pg	**Pg**	**09 01 49.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.73**	**192**	Pg	**Pb**	**09 01 50.5**	**-0.1**
KCHF	**Cheshme Sefid,**	**0.96**	**125**	Pg	**Pb**	**09 01 54.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.21**	**176**	Pg	**Pg**	**09 01 59.2**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.26**	**88**	Pg	**Pg**	**09 01 59.9**	**0.0**
SDS1	**Sardasht. Az.**	**1.41**	**339**	Pg	**Pg**	**09 02 01.5**	**-1.2**
IKRK	**Kirkuk**	**1.55**	**292**	*e*Pg	**Pb**	**09 02 03.0**	**-1.5**
IKRK				*e*Sg	**Sg**	**09 02 24.0**	**-1.5**
IKRK				AML	AML	09 02 31.9	
	comp=E,7μm,0.3s						
IKRK				AML	AML	09 02 32.1	
	comp=N,7μm,0.5s						
IBDR	**Badra**	**1.72**	**185**	*e*Pn	**Pb**	**09 02 07.0**	**-0.4**
IBDR				*e*Sn	**Sb**	**09 02 30.0**	**+0.9**
IBDR				AML	AML	09 02 45.0	
	comp=N,2μm,0.3s						
IBDR				AML	AML	09 02 46.0	
	comp=E,3μm,0.2s						
MAHB	**Mahabad**	**1.96**	**351**	Pn	**Pb**	**09 02 10.6**	**-0.9**
IDOB	**Doab**	**2.01**	**121**	Pn	**Pb**	**09 02 13.0**	**+0.5**
BHD	**Baghdad**	**2.11**	**223**	*e*Pn	**Pb**	**09 02 12.0**	**-2.1**
BHD				*e*Sn	**Sb**	**09 02 40.0**	**-0.3**
HSAM	**Samen**	**2.16**	**106**	Pn	**Pb**	**09 02 15.3**	**+0.3**
NGD1	**Naghade .Az. G**	**2.18**	**345**	Pn	**Pg**	**09 02 15.5**	**-2.0**
HGHA	**Hamedan- Ghaye**	**2.35**	**73**	Pn	**Pb**	**09 02 18.0**	**-0.3**
BDRS	**Dareh Seyedi**	**2.46**	**110**	Pn	**Pb**	**09 02 19.9**	**-0.3**
HAGD	**Aghdareh**	**2.50**	**89**	Pn	**Pb**	**09 02 20.8**	**-0.1**
IHSH	**Hashtrud**	**2.64**	**21**	Pn	**Pb**	**09 02 21.1**	**-2.2**
IAZR	**Azarshahr**	**2.84**	**358**	Pn	**Pb**	**09 02 23.0**	**-3.6**
QABG	**Abgarm-Qazvin**	**2.98**	**72**	Pn	**Pb**	**09 02 26.5**	**-2.6**
ISRB	**Sarab**	**3.24**	**23**	Pn	**Pb**	**09 02 30.0**	**-3.5**
ITBZ	**Tabriz**	**3.39**	**1**	Pn	**Pn**	**09 02 30.6**	**+1.7**
ISHB	**Shabestar**	**3.47**	**354**	Pn	**Pn**	**09 02 31.5**	**+1.6**
IHRS	**Heris**	**3.56**	**12**	Pn	**Pn**	**09 02 33.5**	**+2.3**
IMRD	**Marand**	**3.89**	**355**	Pn	**Pn**	**09 02 38.4**	**+2.8**
SIRT	**Sirnak**	**3.98**	**313**		**Pn**	**09 02 37.9**	**+1.1**
IQOM	**Qom**	**4.09**	**88**	Pn	**Pn**	**09 02 41.6**	**+3.0**
GAS1	**Astara - Iran**	**4.18**	**31**	Pn	**Pn**	**09 02 42.6**	**+3.2**
GRMI	**Germi**	**4.22**	**19**	Pn	**Pn**	**09 02 43.0**	**+2.8**
GEVA	**Gevas**	**4.25**	**326**		**Pn**	**09 02 43.4**	**+2.8**
KLST	**Kelardasht - M**	**4.37**	**66**	Pn	**Pn**	**09 02 46.3**	**+3.9**
IPIR	**Pirpir**	**4.53**	**117**	Pn	**Pn**	**09 02 47.1**	**+2.4**
MAKU	**Maku**	**4.65**	**346**	Pn	**Pn**	**09 02 49.0**	**+2.8**
MZPU	**Pul - Mazandar**	**4.74**	**69**	Pn	**Pn**	**09 02 51.1**	**+3.8**
GURO	**Guroymak-BITLI**	**4.94**	**320**	Pn	**Pn**	**09 02 52.1**	**+2.0**
MARD	**Mardin**	**4.97**	**301**		**Pn**	**09 02 51.6**	**+1.2**
ISFB	**Sefidab**	**5.09**	**94**	Pn	**Pn**	**09 02 54.5**	**+2.4**
IBRJ	**Brojen**	**5.21**	**123**	Pn	**Pn**	**09 02 56.7**	**+2.7**
GNI	**Garni**	**5.42**	**349**		**Pn**	**09 02 58.3**	**+1.7**
GNI	**Garni**	**5.42**	**349**	Pn	**Pn**	**09 02 57.9**	**+1.3**
	comp=E,2.5nm,0.3s,baz=184,slow=12,SNR=3.6						
GNI				Lg	Lg	09 04 29.4	
	comp=E,0.9nm,0.3s,baz=258,slow=22,SNR=3.4						
	comp=E,4.0nm,0.4s						
GNI	**Garni**	**5.42**	**349**	P	**Pb**	**09 03 11.3**	**+0.8**
GNI	**Garni**	**5.42**	**349**	P	**Pn**	**09 02 54.8**	**-1.9**
IFIR	**Firoozkooh**	**5.51**	**80**	Pn	**Pn**	**09 03 01.3**	**+3.3**
ILAS	**Lasjerd**	**5.65**	**82**	Pn	**Pn**	**09 03 02.8**	**+2.8**
KLNJ	**Kolanjah**	**5.99**	**128**	Pn	**Pn**	**09 03 06.6**	**+1.9**
IRAM	**Ramesheh**	**6.06**	**118**	Pn	**Pn**	**09 03 08.4**	**+2.8**
ANAR	**Anarak**	**6.54**	**102**	Pn	**Pn**	**09 03 14.8**	**+2.7**
KOPT	**Kop Dagi**	**6.83**	**321**	Pn	**Pn**	**09 03 17.1**	**+0.9**
AHBU	**AHRAM**	**7.41**	**142**	Pn	**Pn**	**09 03 26.0**	**+2.1**
DSBU	**Dashti - Bushe**	**7.81**	**144**	Pn	**Pn**	**09 03 31.0**	**+1.6**
ASF	**Jabal al Asfar**	**8.13**	**254**	Pn	**Pn**	**09 03 34.5**	**+0.6**
	comp=E,1.7nm,0.3s,baz=100,slow=12,SNR=11						
ASF				Sn	**Sn**	**09 05 08.4**	**+2.6**
	comp=E,0.9nm,0.3s,baz=41,slow=4.0,SNR=3.5						
ASF				Lg	Lg	09 05 46.8	
	comp=E,1.7nm,0.3s,baz=287,slow=17,SNR=3.9						
ASF				LR	LR	09 07 35.8	
	comp=E,116nm,21.0s,baz=99,slow=45						
	comp=E,4.4nm,0.4s						
MMAI	**Mount Meron Ar**	**9.07**	**261**	Pn	**Pn**	**09 03 46.9**	**+0.2**
	comp=E,2.2nm,0.3s,baz=82,slow=18,SNR=7.2						
MMAI				Sn	**Sn**	**09 05 34.1**	**+5.1**
	comp=E,0.8nm,0.3s,baz=108,slow=18,SNR=1.3						
MMAI				Lg	Lg	09 06 31.4	
	comp=E,3.6nm,0.3s,baz=105,slow=33,SNR=4.5						
MMAI				LR	LR	09 08 04.2	
	comp=E,136nm,19.0s,baz=67,slow=44						
	comp=E,2.0nm,0.4s						
KBZ	**Khabaz**	**9.22**	**345**	Pn	**Pn**	**09 03 49.6**	**+1.0**
	comp=E,2.5nm,0.9s,baz=165,slow=4.8,SNR=4.1						
KBZ				LR	LR	09 08 05.2	
	comp=E,72nm,20.0s,baz=148,slow=43						
SHMA	**Al-Shehemyia**	**9.88**	**154**	P	**Pn**	**09 03 59.8**	**+2.0**
SHMA				S	**Sn**	**09 05 42.5**	**-6.3**
EIL	**Elat**	**10.75**	**244**	Pn	**Pn**	**09 04 08.8**	**-0.8**
	comp=E,0.7nm,0.3s,baz=26,slow=14,SNR=2.1						
EIL				Lg	Lg	09 07 15.9	
	comp=E,0.6nm,0.3s,baz=35,slow=21,SNR=3.6						
EIL				LR	LR	09 09 08.7	
	comp=E,69nm,19.7s,baz=70,slow=43						
	comp=E,1.7nm,0.4s						
SMRA	**Abu-Samra**	**10.86**	**157**	P	**Pn**	**09 04 11.0**	**-0.2**
SMRA				S	**Sn**	**09 06 04.9**	**-7.8**
TRNA	**Turayna**	**11.00**	**155**	P	**Pn**	**09 04 12.5**	**-0.5**
TRNA				S	**Sn**	**09 06 09.7**	**-6.4**
BRTR	**Keskin Array B**	**11.06**	**300**	Pn	**Pn**	**09 04 14.9**	**+0.9**
	comp=E,1.4nm,0.8s,baz=127,slow=14,SNR=7.6						
BRTR				LR	LR	09 08 36.5	
	comp=E,92nm,20.0s,baz=118,slow=39						
RAYN	**Ar Rayn**	**11.28**	**183**	Pn	**Pn**	**09 04 16.4**	**-0.7**
RAYN	**Ar Rayn**	**11.28**	**183**	*i* P	**Pn**	**09 04 14.9**	**-2.1**
	SNR=7.2						
SHME	**Shamm**	**12.31**	**133**	P	**Pn**	**09 04 30.3**	**-0.7**
SHME				S	**Sn**	**09 06 41.1**	**-7.2**
SHME	**Shamm**	**12.31**	**133**	P	**Pn**	**09 04 29.6**	**-1.5**
GHWR	**Ruwais**	**12.33**	**150**	P	**Pn**	**09 04 31.2**	**-0.2**
GHWR				S	**Sn**	**09 06 44.1**	**-4.7**
BANOM	**Banah**	**12.50**	**133**	P	**Pn**	**09 04 32.8**	**-0.8**
BANOM				S	**Sn**	**09 06 45.8**	**-7.2**
BANOM	**Banah**	**12.50**	**133**	*i* P	**Pn**	**09 04 32.1**	**-1.6**
	SNR=36						
AJN	**Ajban**	**12.81**	**141**	P	**Pn**	**09 04 39.5**	**+1.5**
MASF	**Masafi**	**12.83**	**135**	P	**Pn**	**09 04 38.0**	**-0.2**
	SNR=7.8						
MASF				S	**Sn**	**09 06 53.1**	**-8.0**
MSFE	**Esma-Masafi**	**12.84**	**135**	*i* P	**Pn**	**09 04 37.3**	**-1.0**
	SNR=7.7						
NAZ	**Nazwa, Dubai**	**12.84**	**137**	P	**Pn**	**09 04 39.0**	**+0.7**
	SNR=23						
NAZ	**Nava, Dubai**	**12.84**	**137**	*i* P	**Pn**	**09 04 38.2**	**-0.1**
	SNR=23						
ASUD	**Al Ashush, Dub**	**12.95**	**139**	P	**Pn**	**09 04 41.0**	**+1.3**
	SNR=8.2						
ASUD				S	**Sn**	**09 06 58.9**	**-4.9**
ASUD	**Al Ashush, Dub**	**12.95**	**139**	P	**Pn**	**09 04 39.8**	**+0.1**
MZWR	**Madinat Zayed**	**12.95**	**146**	P	**Pn**	**09 04 41.8**	**+2.0**
MDH	**Madha**	**12.96**	**134**	P	**Pn**	**09 04 39.5**	**-0.5**
	SNR=10						
MDH				S	Sn	09 06 54.9	-9.4
MDH	**Madha**	**12.96**	**134**	*i* P	**Pn**	**09 04 39.0**	**-1.0**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**12.99**	**138**	P	**Pn**	**09 04 40.4**	**+0.1**
FAQ				S	**Sn**	**09 06 58.8**	**-6.2**
UOSS	**Minazif**	**13.18**	**136**		**Pn**	**09 04 42.5**	**-0.4**
UOSS	**Minazif**	**13.18**	**136**	*i* P	**Pn**	**09 04 41.7**	**-1.3**
	SNR=8.6						
HATD	**Hatta, Dubai**	**13.23**	**136**	P	**Pn**	**09 04 44.0**	**+0.3**
	SNR=18						
HATD	**Hatta, Dubai**	**13.23**	**136**	*i* P	**Pn**	**09 04 42.8**	**-0.8**
	SNR=18						
ASHO	**Ashiyiah**	**13.30**	**137**	P	**Pn**	**09 04 45.0**	**+0.4**
	SNR=47						
ASHO	**Ashiyiah**	**13.30**	**137**	*i* P	**Pn**	**09 04 43.5**	**-1.1**
	SNR=40						
MZR	**Muzera**	**13.44**	**149**	P	**Pn**	**09 04 46.3**	**-0.1**
MZR				S	**Sn**	**09 07 07.8**	**-8.1**
MZR	**Muzera**	**13.44**	**149**	*i* P	**Pn**	**09 04 44.9**	**-1.6**
	SNR=10						
JASK	**Jask - Hormozg**	**13.52**	**128**	P	**Pn**	**09 04 45.7**	**-1.9**
ALNE	**Al Ain**	**13.63**	**139**	P	**Pn**	**09 04 49.2**	**+0.1**
	SNR=11						
ALNE				S	**Sn**	**09 07 13.7**	**-6.9**
ALNE	**Al Ain**	**13.63**	**139**	*i* P	**Pn**	**09 04 47.9**	**-1.2**
	SNR=11						
SOHO	**SOHO**	**14.00**	**137**	P	**Pn**	**09 04 53.5**	**-0.6**
SOHO				S	**Sn**	**09 07 21.4**	**-8.2**
SOHO	**SOHO**	**14.00**	**137**	*i* P	**Pn**	**09 04 52.5**	**-1.6**
	SNR=8.0						
YLV	**Yalova**	**14.42**	**298**	P	**Pn**	**09 04 57.5**	**-2.4**
YLV				pP	**P**	**09 05 07.8**	**+1.0**
UMZA	**Um Al Zommool**	**14.44**	**144**	P	**Pn**	**09 04 58.5**	**-1.7**
UMZA				S	Sn	09 07 31.6	-8.9
MANT	**Manisa**	**14.54**	**290**	P	**Pn**	**09 05 02.7**	**+0.9**
ARQ	**Araqi**	**14.62**	**139**	P	**Pn**	**09 05 01.5**	**-1.2**
	SNR=8.8						
ARQ				P	**Pn**	**09 05 01.5**	**-1.2**
	SNR=8.8						
ARQ				S	**Sn**	**09 07 36.5**	**-8.4**
ARQ				S	**Sn**	**09 07 36.5**	**-8.4**
HOQ	**Hoqain**	**14.87**	**136**	P	**Pn**	**09 05 04.5**	**-1.5**
HOQ				P	**Pn**	**09 05 04.5**	**-1.5**
HOQ				S	**Sn**	**09 07 43.2**	**-7.7**
HOQ				S	**Sn**	**09 07 43.2**	**-7.7**
BAND	**Balkesir-Ban**	**15.29**	**296**	⇑P	**P**	**09 05 18.3**	**+1.9**
BIDO	**Bidbid**	**15.39**	**134**	P	**Pn**	**09 05 11.7**	**-1.3**
BSY	**Bisya**	**15.47**	**138**	P	**Pn**	**09 05 12.0**	**-2.0**
	SNR=9.1						
BSY				S	**Sn**	**09 07 56.8**	**-8.7**
KARP	**Karpathos**	**15.50**	**278**	P	**P**	**09 05 17.4**	**-1.5**
KARP	**Karpathos**	**15.50**	**278**	P	**P**	**09 05 21.3**	**+2.4**
	comp=E,33nm,0.8s						
SMDO	**Samad**	**15.70**	**135**	P	**Pn**	**09 05 14.8**	**-2.3**
WSAR	**Wadi Sarin**	**15.91**	**133**	Pn	**Pn**	**09 05 17.4**	**-2.3**
	comp=E,2.4nm,0.3s,baz=316,slow=9.5,SNR=21						
WSAR				Sn	**Sn**	**09 08 07.3**	**-8.8**
	comp=E,0.1nm,0.3s,baz=173,slow=3.7,SNR=2.1						
WSAR				LR	LR	09 11 41.2	
	comp=E,103nm,19.4s,baz=344,slow=38						
NGCH	**Negor - Chabah**	**16.06**	**122**	P	**Pn**	**09 05 19.1**	**-2.5**
JMDO	**Jabal Madar**	**16.27**	**137**	P	**Pn**	**09 05 22.6**	**-1.7**
WBK	**Wadi Bani Khal**	**16.59**	**134**	P	**Pn**	**09 05 26.6**	**-1.8**
TPGR	**Topolog**	**16.84**	**312**	⇑P	**P**	**09 05 33.1**	**-0.4**
ALN	**Alexandroupoli**	**16.94**	**297**	P	**Pn**	**09 05 31.5**	**-1.2**
CFR	**Carcaliu**	**17.17**	**312**	⇑P	**P**	**09 05 37.8**	**+0.6**
JLN	**Jalan Bani Buh**	**17.20**	**134**	P	**Pn**	**09 05 35.9**	**-0.2**
MHTO	**MHTO**	**17.31**	**140**	P	**Pn**	**09 05 34.5**	**-3.0**
	SNR=8.9						
IDI	**Anoyia**	**17.37**	**278**	P	**Pn**	**09 05 36.9**	**-1.3**
	comp=E,4.0nm,0.8s,baz=258,slow=6.8,SNR=3.0						
RDO	**Rodhopi**	**17.37**	**297**	P	**P**	**09 05 38.0**	**-1.5**
BELG	**Belogornoye**	**17.59**	**3**	P	**P**	**09 05 40.2**	**-1.6**
	comp=E,0.8nm,0.3s,baz=287,slow=0.8,SNR=3.8						
BELG				S	**Sn**	**09 08 58.1**	**+1.6**
	comp=E,1.9nm,0.5s,baz=288,slow=23,SNR=1.0						
BELG				LR	LR	09 14 15.3	
	comp=E,53nm,20.8s,baz=173,slow=43						
	comp=E,7.5nm,0.8s						
DOK	**Doka**	**17.66**	**154**	P	**Pn**	**09 05 39.3**	**-2.5**
ABKAR	**Akbulak array**	**17.66**	**31**	P	**P**	**09 05 42.0**	**-0.6**
AKTO	**Aktyubinsk**	**17.85**	**26**	P	**P**	**09 05 46.3**	**+1.5**
	comp=E,0.4nm,0.3s,baz=240,slow=7.9,SNR=3.7						
AKTO				LR	LR	09 15 11.2	
	comp=E,56nm,18.6s,baz=111,slow=46						
	comp=E,2.7nm,0.6s						
DQM	**DQM**	**17.97**	**143**	P	**Pn**	**09 05 43.8**	**-1.8**
DQM				S	**Sn**	**09 08 58.0**	**-8.1**
	SNR=7.0						
WHFO	**Wadi Hawf**	**18.18**	**156**	P	**Pn**	**09 05 45.2**	**-3.1**
	SNR=14						
PLOR	**Plostina**	**18.41**	**313**	⇑P	**P**	**09 05 51.1**	**+0.1**
ABTO	**Aybut**	**18.56**	**158**	P	**P**	**09 05 49.9**	**-2.8**
ABTO				P	**P**	**09 05 49.9**	**-2.8**
MLR	**Muntele Rosu**	**18.67**	**311**	P	**Pn**	**09 05 54.0**	**-0.3**
	comp=E,0.3nm,0.3s,baz=124,slow=12,SNR=1.7						
	comp=E,1.1nm,0.4s						
MLR	**Muntele Rosu**	**18.67**	**311**	⇑P	**Pn**	**09 05 54.3**	**0.0**
COVR	**Voineasa-Covas**	**18.68**	**312**	⇑P	**Pn**	**09 05 53.8**	**-0.5**
RBK	**Rabkut**	**18.71**	**155**	P	**P**	**09 05 52.1**	**-2.4**
SORM	**Soroca**	**18.74**	**321**	⇑P	**P**	**09 05 53.2**	**-1.3**
SORM	**Soroca**	**18.74**	**321**	P	**Pn**	**09 05 56.0**	**+1.1**
	comp=E,15nm,1.0s						
TESR	**Tescani**	**18.75**	**314**	⇑P	**Pn**	**09 05 54.3**	**-0.8**
DMTO	**DMTO**	**18.79**	**153**	P	**P**	**09 05 54.0**	**-1.2**
OZUR		**19.06**	**312**	⇑P	**Pn**	**09 05 58.2**	**-0.6**
VOIR		**19.21**	**310**	⇑P	**Pn**	**09 06 00.8**	**0.0**
DOPR	**Dopca**	**19.24**	**312**	⇓P	**Pn**	**09 06 00.7**	**-0.3**
LIT	**Litokhoron**	**19.44**	**293**		**Pn**	**09 06 03.7**	**+0.2**
LIT				IAmb	IAmb	09 06 08.8	
	comp=Z,17nm,1.0s						
ARR	**Arges**	**19.45**	**309**	⇑P	**Pn**	**09 06 02.9**	**-0.6**
NDNU	**Novodnistrovsk**	**19.54**	**320**	P	**Pn**	**09 06 03.6**	**-0.9**
ITM	**Ithomi**	**19.68**	**284**	P	**Pn**	**09 06 05.8**	**-0.6**
ITM				IAmb	IAmb	09 06 09.7	
	comp=Z,9.1nm,0.7s						
AK07	**Malin Array Si**	**19.95**	**327**	P	**Pn**	**09 06 07.5**	**-1.9**
AK10	**Malin Array Si**	**19.96**	**327**	P	**Pn**	**09 06 07.7**	**-1.8**
AK06	**Malin Array Si**	**19.98**	**327**	P	**Pn**	**09 06 07.7**	**-2.0**
AK02	**Malin Array Si**	**20.02**	**327**	P	**Pn**	**09 06 08.3**	**-2.0**
LOT	**Lotru**	**20.03**	**309**	⇑P	**Pn**	**09 06 09.1**	**-1.5**
AK01	**Malin Array Si**	**20.05**	**327**	P	**Pn**	**09 06 08.4**	**-2.1**
AKASG	**Malin Array Be**	**20.05**	**327**	P	**Pn**	**09 06 08.7**	**-1.9**
	comp=Z,2.8nm,0.3s,baz=138,slow=10.0,SNR=21						
AKASG				LR	LR	09 15 26.0	
	comp=Z,70nm,19.0s,baz=65,slow=42						
	comp=Z,3.1nm,0.5s						
AKBB	**Malin Array Si**	**20.05**	**327**	P	**Pn**	**09 06 09.2**	**-1.3**
AKBB				IAmb	IAmb	09 06 12.7	
	comp=Z,11nm,0.9s						
KIEV	**Kiev**	**20.05**	**327**		**Pn**	**09 06 08.8**	**-1.7**
KIEV				IAmb	IAmb	09 06 12.6	
	comp=Z,10.0nm,0.9s						
KIEV	**Kiev**	**20.05**	**327**	⇓P	**P**	**09 06 05.2**	**-3.6**
KIEV	**Kiev**	**20.05**	**327**	*i* P	**P**	**09 06 07.5**	**-1.2**
	SNR=8.7						
KIEV	**Kiev**	**20.05**	**327**	P	**Pn**	**09 06 08.7**	**-1.9**
	comp=Z,54nm,0.8s						
AK11	**Malin Array Si**	**20.06**	**327**	P	**P**	**09 06 08.3**	**-0.6**
BURAR	**Bucovina Array**	**20.16**	**316**	⇑P	**P**	**09 06 09.6**	**-0.6**
BUR08	**Bucovina Ar. S**	**20.19**	**316**	P	Pn	09 06 11.5	-0.9
LUBAR	**Lubar, Ukraine**	**20.19**	**324**	P	Pn	09 06 11.0	-1.2
MI29	**MI29, Kamyanyy**	**20.48**	**325**	P	Pn	09 06 13.5	-2.1
	comp=Z,146nm,0.6s						
MI30	**MI30,Zelenitsa**	**20.55**	**326**	P	**P**	**09 06 13.7**	**-0.5**
	comp=Z,51nm,0.8s						
KSV	**Kosov**	**20.62**	**317**	P	Pn	09 06 15.3	-2.1
GZR	**Gura Zlata**	**20.65**	**308**	⇑P	Pn	09 06 16.5	-1.2
BOVS	**Bovan**	**20.78**	**302**	⇑P	Pn	09 06 17.5	-1.7
MI28	**Mi28,Pidlybu**	**20.91**	**326**	P	**P**	**09 06 17.8**	**-0.4**
MARR	**Marisel-Cluj**	**20.96**	**311**	⇑P	**P**	**09 06 18.1**	**-0.8**
MDVR	**Moldovita**	**21.14**	**305**	⇑P	**P**	**09 06 21.6**	**+0.9**
DRGR		**21.27**	**311**	⇑P	**P**	**09 06 21.8**	**-0.3**
OBN	**Obninsk**	**21.33**	**345**	P	**P**	**09 06 24.3**	**+1.7**
	comp=Z,22nm,0.5s,baz=156,slow=19,SNR=5.4						
	comp=Z,22nm,0.5s						
KEK	**Kerkira**	**21.45**	**291**	P	**P**	**09 06 25.9**	**+1.8**
PUK	**Puka**	**21.70**	**297**		**P**	**09 06 27.5**	**+0.6**
PUK				IAmb	IAmb	09 06 33.2	
	comp=Z,9.3nm,0.9s						
SIRR	**Siria**	**21.71**	**309**	⇑P	**P**	**09 06 26.8**	**0.0**
BRIU	**Brid**	**21.80**	**315**	P	**P**	**09 06 28.1**	**+0.3**
RNPP5	**Staryi Chortor**	**21.95**	**324**	P	**P**	**09 06 30.5**	**+1.2**
BERU	**Beregovo**	**21.97**	**315**	P	**P**	**09 06 31.0**	**+1.5**
SHIU	**Shidnytsya**	**22.07**	**318**	P	**P**	**09 06 31.8**	**+1.2**
SHIU				pP	**sP**	**09 06 34.5**	**-0.7**
RNPP9	**Sopachiv**	**22.07**	**325**	P	**P**	**09 06 31.8**	**+1.2**
HOLU	**Holmets**	**22.27**	**315**	P	**P**	**09 06 34.9**	**+2.2**
KOLS	**Kolonicke sedl**	**22.53**	**316**	*e*P	**P**	**09 06 39.0**	**+3.4**
ARTI	**Arti**	**23.14**	**18**	P	**P**	**09 06 44.6**	**+2.8**
	comp=Z,2.3nm,0.4s,baz=216,slow=7.9,SNR=11						
	comp=Z,2.3nm,0.4s						
STHS	**Stebnicka Huta**	**23.36**	**316**	*e*P	**P**	**09 06 47.4**	**+3.2**
AAK	**Ala-Archa**	**23.40**	**62**	LR	LR	09 18 22.3	
	comp=Z,43nm,19.1s,baz=242,slow=43						
KIRV	**Kirov**	**23.86**	**4**	LR	LR	09 17 35.5	
	comp=Z,64nm,19.4s,baz=180,slow=40						
BOOM	**Boomskoye usch**	**24.43**	**63**	P	**P**	**09 06 56.4**	**+1.6**
OJC	**Ojcow**	**24.56**	**317**	P	**P**	**09 06 56.4**	**+0.8**
OJC	**Ojcow**	**24.56**	**317**	P	**P**	**09 06 56.1**	**+0.5**
	comp=Z,20nm,0.8s						
BVAR	**Borovoye Array**	**25.03**	**36**	P	**P**	**09 07 03.6**	**+3.8**
	comp=Z,6.4nm,0.6s,baz=238,slow=8.4,SNR=9.6						
BVAR				LR	LR	09 17 27.2	
	comp=Z,62nm,18.0s,baz=139,slow=38						
	comp=Z,6.4nm,0.6s						
JAVC	**Velka Javorina**	**25.21**	**312**	*e*P	**P**	**09 07 03.8**	**+2.3**
MODS	**Modra-Piesok**	**25.27**	**311**	*e*P	**P**	**09 07 07.2**	**+5.2**
RONA	**Rosalia, Austr**	**25.65**	**309**	*e*P	**P**	**09 07 07.

comp=Z,0.5nm,0.8s,baz=9.2,slow=4.9,SNR=6.9
comp=Z,0.5nm,0.8s

IDC 21 09:08:26.4±2.3, 4°.33N×123°.32E, h0km, mb3.5/3, mbtmp3.5/3, MS3.3/4, Error ellipse: s-maj=309.7km s-min=26.9km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.53	40	LR	LR	09 10 50.8	
	comp=Z,88nm,20.7s,baz=146,slow=41						
LEM	Lembang	19.20	235	LR	LR	09 20 28.8	
	comp=Z,49nm,19.0s,baz=342,slow=38						
WRA	Warramunga Arr	26.45	156	P	P	09 14 05.3	+0.1
	0.3nm,0.3s,baz=335,slow=9.6,SNR=7.5						
	0.3nm,0.3s						
ASAR	Alice Springs	29.68	160	P	P	09 14 34.1	-0.1
	0.2nm,0.3s,baz=336,slow=7.2,SNR=7.9						
	0.2nm,0.3s						
PALK	Pallekele	42.48	276	LR	LR	09 34 29.7	
	comp=Z,145nm,18.2s,baz=261,slow=37						
MKAR	Makanchi Array	55.15	327	P	P	09 18 00.7	-0.1
	0.2nm,0.4s,baz=122,slow=7.3,SNR=4.9						
	0.2nm,0.4s						
ARTI	Arti	72.70	328	LR	LR	09 55 30.3	
	comp=Z,34nm,18.2s,baz=209,slow=39						

TXNET 21 09:26:14.2, 31°.1N±0°.7×103°.3W±0°.5, h6km, ML2.2/12, Error ellipse: s-maj=1.1km s-min=0.7km az=164.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	Coyonosa	0.05	72	P	Pg	09 26 16.1	+0.3
TPB16				S	Sg	09 26 17.4	+0.5
TPB04	Verhalen	0.09	25	P	Pg	09 26 16.5	+0.3
TPB03	Saragosa	0.18	262	P	Pg	09 26 18.2	+0.5
TPB03				S	Sg	09 26 21.4	+1.2
TPB05	Hovey Rd	0.19	184	P	Pg	09 26 18.7	+0.7
TPB05				S	Sg	09 26 22.5	+2.0
PCOS	Crockett Middl	0.34	330	P	Pb	09 26 22.5	-0.4
PCOS				S	Sb	09 26 28.1	-0.6
TPB08	Permian Basin	0.41	122	P	Pb	09 26 24.5	+0.5
TPB08				S	Sb	09 26 30.5	0.0
TPB10	Southeast of T	0.42	295	P	Pg	09 26 23.2	+0.8
TPB10				S	Sb	09 26 30.0	-0.7
TPB01	Permian Basin	0.44	248	P	Pg	09 26 23.3	+0.6
TPB01				S	Sb	09 26 31.4	+0.1
MNHN	Monahans	0.52	64	P	Pg	09 26 25.1	+0.8
MNHN				S	Sb	09 26 33.0	-0.9
PECS	Pecos	0.54	299	P	Pg	09 26 25.2	+0.5
PECS				S	Sb	09 26 33.4	-1.0
TPB06	Permian Basin	0.54	8	S	Sb	09 26 33.7	-0.7
TPB07	Mentone	0.56	327	S	Sb	09 26 34.8	-0.1
TPB12	Southwest of T	0.56	281	P	Pg	09 26 25.7	+0.6
TPB12				S	Sb	09 26 34.1	-0.9
ALPN	Alpine	0.78	201	P	Pg	09 26 29.7	+0.4
ALPN				S	Sb	09 26 40.6	-0.7
TPB11	China Draw	1.03	323	P	Pb	09 26 34.4	-0.2
TPB11				S	Sb	09 26 48.3	-0.2
TMB02	Rankin	1.09	85	P	Pb	09 26 35.5	-0.2
TMB02				S	Sb	09 26 50.8	+0.6
ODSA	Odessa	1.20	33	P	Pb	09 26 37.4	-0.1
ODSA				S	Sn	09 26 53.9	-0.5
NM01	Eunice	1.25	357	S	Sb	09 26 55.1	+0.4
CLNB	Carlsbad	1.25	337	S	Sb	09 26 55.1	+0.4
CLN7	Carlsbad 7	1.37	342	P	Pg	09 26 40.9	+0.4
HTMS	Hat Mesa	1.39	349	P	Pg	09 26 41.2	+0.3
HTMS				S	Sn	09 26 59.9	+0.9
HTMS	Hat Mesa	1.39	349	P	Pg	09 26 40.8	-0.1
VHRN	Van Horn	1.47	258	P	Pb	09 26 41.9	-0.3
VHRN				S	Sg	09 27 02.2	+0.5
SAND	Sanderson	1.54	138	P	Pg	09 26 43.5	-0.2
SAND				S	Sg	09 27 05.4	+1.7
TMB04	Seminole	1.67	25	P	Pb	09 26 45.1	-0.3
TMB04				S	Sg	09 27 08.0	+0.2
TX31	Lajitas Ar. Si	1.79	190	P	Pb	09 26 47.6	0.0
TX31				S	Sg	09 27 12.0	+0.1
MNTX	Cornudas Mount	1.87	289	P	Pb	09 26 48.3	-0.5
MNTX				S	Sb	09 27 13.2	+0.8
OZNA	Ozona	1.88	95	P	Pb	09 26 49.6	+0.5
OZNA				S	Sg	09 27 15.3	+0.6
CPRX	Cap Rock	1.97	346	P	Pb	09 26 50.1	-0.6
SGCY	Sterling City	2.03	66	P	Pb	09 26 52.2	+0.5
SGCY				S	Sg	09 27 18.9	-0.7
POST	Post	2.48	38	P	Pb	09 26 58.0	-1.4
POST				S	Sb	09 27 30.0	-0.3

*IDC **21** 09:44:32.2±1.0, 29°.34N×130°.26E, h0km, mb3.7/10, mbtmp3.6/14, ML3.0/4, MS3.4/6, Error ellipse: s-maj=29.4km s-min=15.5km az=90.0*
*JMA **21** 09:44:36.8±0.1, 29°.3N±0°.5×130°.5E±0°.8, h54km, MV3.3/30, NEAR AMAMI-OSHIMA ISLAND*
ISC 21 09:44:36.4±1.1, 29°.21N±0°.04×130°.54E±0°.06, h37km±1km, n35, σ1§75/39, mb3.5/10, MS3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.85	318	eP	Pn	09 44 51.7	-0.1
JNN				S	Sn	09 45 03.6	+0.4
JZK	Kikaishima	1.02	209	P	Pn	09 44 55.4	+1.2
JYAK	Yakushimahirau	1.02	359	P	Pn	09 44 54.5	+0.3
JYAK				eS	Sn	09 45 08.4	+1.1
JAM	Amami Oshima	1.14	226	P	Pn	09 44 56.3	+0.5
JAM				eS	Sn	09 45 12.6	+2.5
JTAJ	Takarajima	1.17	268	eP	Pn	09 44 56.7	+0.6
JMTN	Minamitane	1.22	15	eP	Pn	09 44 57.3	+0.4
JMTN				eS	Sn	09 45 14.6	+2.4
JKC	Kuchinoerabu	1.28	347	P	Pn	09 44 58.5	+0.8
JTN	Tanegashima 3	1.49	15	P	Pn	09 45 01.2	+0.6
JTN				eS	Sn	09 45 21.6	+2.8
JAMN	Amaminishikomi	1.54	231	P	Pn	09 45 02.4	+1.2
JTK	Tokunoshima	1.99	225	P	Pn	09 45 08.6	+1.1
JSU	Suzuyama	2.29	358	P	Pn	09 45 12.3	+0.7
JOKE	Okinoerabujima	2.53	224	eP	Pn	09 45 15.7	+0.8
JYRO	Yoronjima	2.85	221	eP	Pn	09 45 19.6	+0.3
JOW	Kunigami	3.10	221	Pn	Pn	09 45 22.2	-0.5
	3.9nm,0.3s,baz=23,slow=13,SNR=16						
JOW				Sn	Sn	09 46 01.1	+2.6
	10.0nm,0.3s,baz=218,slow=29,SNR=5.7						
	28nm,0.8s						
JKDJ	Kitadaitoujima	3.32	168	P	Pn	09 45 25.1	-0.6
JKDJ				eS	Sn	09 46 01.2	-2.7
JMZ	Minamidaito 2	3.43	170	eP	Pn	09 45 26.9	-0.4
JNU	Nakatsue	3.91	4	Pn	Pn	09 45 33.6	-0.3
	1.9nm,0.3s,baz=196,slow=14,SNR=12						
JNU				Sn	Sn	09 46 18.1	-0.5
	1.0nm,0.3s,baz=169,slow=5.4,SNR=4.1						
	19nm,0.7s						
JKE	Kume jima 2	4.39	230	eP	Pn	09 45 40.7	+0.2
KSRS	Korea Array	8.51	346	Pn	Pn	09 46 33.9	-3.0
	baz=148,slow=17,SNR=4.4						
KSRS				Sn	Sn	09 48 06.0	-5.6
	baz=57,slow=39,SNR=1.2						
KSRS				LR	LR	09 50 10.9	
	comp=Z,83nm,19.8s,baz=195,slow=41						
	0.2nm,0.3s						
KLR	Kul'dur	20.01	2	P	P	09 49 05.3	-0.5
	0.1nm,0.3s,baz=184,slow=15,SNR=4.6						
	1.1nm,0.7s						
SONM	Songino Array	26.33	322	P	P	09 50 06.4	-2.4
	0.4nm,0.4s,baz=123,slow=7.1,SNR=2.0						
	0.4nm,0.4s						
CMAR	Chiang Mai Arr	30.73	257	LR	LR	10 04 25.8	
	comp=Z,40nm,18.2s,baz=255,slow=39						
JAY	Jayapura	33.02	161	LR	LR	10 04 24.3	
	comp=Z,44nm,18.2s,baz=316,slow=36						
MKAR	Makanchi Array	41.17	309	P	P	09 52 15.8	-1.4
	0.4nm,0.5s,baz=93,slow=10,SNR=6.4						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	41.20	320	P	P	09 52 16.1	-1.1
	0.5nm,0.4s,baz=106,slow=10,SNR=2.3						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	44.19	314	P	P	09 52 40.4	-1.1
	2.5nm,0.6s,baz=99,slow=9.0,SNR=25						
	2.5nm,0.6s						
WRA	Warramunga Arr	49.00	175	P	P	09 53 20.7	+1.2
	0.3nm,0.7s,baz=352,slow=8.2,SNR=1.9						
	0.3nm,0.7s						
BVAR	Borovoye Array	49.48	316	P	P	09 53 22.6	-0.3
	2.7nm,0.6s,baz=95,slow=9.2,SNR=12						
	2.7nm,0.6s						
ASAR	Alice Springs	52.67	176	P	P	09 53 49.8	+2.6
	0.2nm,0.6s,baz=8.8,slow=12,SNR=6.9						
	0.2nm,0.6s						
ARTI	Arti	56.46	321	LR	LR	10 21 25.9	
	comp=Z,48nm,20.1s,baz=156,slow=39						
AKTO	Aktyubinsk	57.24	314	LR	LR	10 21 07.2	
	comp=Z,77nm,19.7s,baz=170,slow=38						
ILAR	Eielson Array	60.85	29	P	P	09 54 46.3	+1.6
	0.3nm,0.9s,baz=310,slow=6.6,SNR=4.2						
	0.3nm,0.9s						
MSVF	Nonsavu	65.43	129	LR	LR	10 21 41.3	
	comp=Z,46nm,18.6s,baz=161,slow=34						
AKASG	Malin Array Be	74.59	320	P	P	09 56 10.7	-0.8
	0.6nm,0.5s,baz=62,slow=6.2,SNR=3.7						
	0.6nm,0.5s						
BRTR	Keskin Array B	76.82	308	P	P	09 56 25.8	+1.1
	0.8nm,0.7s,baz=108,slow=3.5,SNR=4.8						
	0.8nm,0.7s						

AUST 21 09:56:16.9±0.4, 32°.5S±5°.×12°.6E±°., h10km, mb3.9/1, ML3.5/9, Error ellipse: s-maj=11.3km s-min=4.7km az=166.5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	Forrest	2.46	60	P	Pn	09 56 58.3	+1.2
FORT	Forrest	2.46	60	S	Sb	09 57 30.0	-1.5
KMBL	Kambalda	3.23	281	P	Pn	09 57 10.0	+2.3
KMBL	Kambalda	3.23	281	S	Sn	09 57 46.7	+0.5
KLBR	Kellerberrin	6.69	272	P	Pn	09 57 56.2	+1.1
KLBR	Kellerberrin	6.69	272	S	Sn	09 59 06.7	-4.7
NWAO	Narrogin (SRO)	7.12	261	S	Sn	09 59 18.3	-3.7
WRKA	Warakurna	7.38	19	P	Pn	09 58 02.6	-2.1
WRKA	Warakurna	7.38	19	S	Sn	09 59 29.2	+0.6
BLDU	Ballidu	7.73	278	P	Pn	09 58 08.5	-1.0
BLDU	Ballidu	7.73	278	S	Sn	09 59 30.7	-6.4
MUN	Mundaring	7.97	268	P	Pn	09 58 11.8	-1.0
MUN	Mundaring	7.97	268	S	Sn	09 59 37.7	-5.3
MEEK	Meekatharra	8.13	310	P	Pn	09 58 15.3	+0.3
BBOO	Buckleboo	8.88	98	P	Pn	09 58 24.2	-1.1
	comp=Z,0.1nmcomp=Z,14nm,2.1s						
OOD	Oodnadatta	9.73	67	P	Pn	09 58 35.7	-1.2
OOD	Oodnadatta	9.73	67	S	Sn	10 00 19.4	-6.9

TXNET 21 10:08:50.0, 31°.7N±0°.5×104°.3W±0°.6, h5km±2km, ML2.4/13, Error ellipse: s-maj=0.9km s-min=0.8km az=70.2, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.38	43	P	Pg	10 08 57.3	0.0
TPB11				S	Sg	10 09 02.6	+0.3
PECS	Pecos	0.49	126	P	Pg	10 08 59.7	+0.1
PECS				S	Sg	10 09 06.1	+0.2
PECS	Pecos	0.49	126	P	Pg	10 08 59.7	+0.1
GDL2	Guadalupe Moun	0.54	357	P	Pg	10 09 00.7	+0.3
TPB12	Southwest of T	0.55	144	P	Pg	10 09 00.6	0.0
TPB12				S	Sg	10 09 08.2	+0.4
TPB07	Mentone	0.58	98	P	Pg	10 09 01.2	+0.1
TPB07				S	Sg	10 09 09.0	+0.4
TPB10	Southeast of T	0.62	127	P	Pg	10 09 02.0	0.0
TPB10				S	Sg	10 09 10.7	+0.6
CLNB	Carlsbad	0.71	33	P	Pg	10 09 03.6	-0.2
CLNB				S	Sg	10 09 13.6	+0.5
PCOS	Crockett Middl	0.75	109	P	Pg	10 09 04.6	+0.2
PCOS				S	Sg	10 09 14.7	+0.6
TPB01	Permian Basin	0.86	146	P	Pg	10 09 05.7	-0.8
TPB01				S	Sg	10 09 16.8	-0.9
CLN7	Carlsbad 7	0.87	31	P	Pg	10 09 06.3	-0.5
MNTX	Cornudas Mount	0.89	273	P	Pg	10 09 07.2	+0.1
MNTX				S	Sg	10 09 19.5	+0.7
MNTX	Cornudas Mount	0.89	273	P	Pg	10 09 07.3	+0.1
TPB03	Saragosa	0.91	129	P	Pg	10 09 07.2	-0.3
TPB03				S	Sg	10 09 19.4	+0.1
TPB06	Permian Basin	0.95	91	P	Pb	10 09 09.1	0.0
TPB06				S	Sg	10 09 21.2	+0.5
HTMS	Hat Mesa	1.00	36	P	Pg	10 09 08.7	-0.6
HTMS				S	Sg	10 09 22.8	+0.4
TPB04	Verhalen	1.03	117	P	Pg	10 09 09.8	0.0
TPB04				S	Sg	10 09 23.0	0.0
VHRN	Van Horn	1.03	213	P	Pg	10 09 09.5	-0.4
VHRN				S	Sb	10 09 24.2	-0.2
VHRN	Van Horn	1.03	213	P	Pg	10 09 09.6	-0.3
NM01	Eunice	1.05	49	P	Pg	10 09 09.7	-0.6
NM01				S	Sg	10 09 23.6	-0.3
TPB16	Coyonosa	1.07	120	S	Sg	10 09 24.3	-0.2
TPB05	Hovey Rd	1.14	130	P	Pg	10 09 11.1	-0.8
TPB05				S	Sg	10 09 26.1	-0.5
MNHN	Monahans	1.38	103	P	Pn	10 09 15.0	-1.1
MNHN				S	Sb	10 09 34.1	-0.3
MNHN	Monahans	1.38	103	P	Pn	10 09 15.3	-0.8
ALPN	Alpine	1.42	155	P	Pn	10 09 15.4	-1.2
ALPN				S	Sb	10 09 33.7	-1.8
ALPN	Alpine	1.42	155	P	Pn	10 09 15.4	-1.1
CPRX	Cap Rock	1.42	16	P	Pn	10 09 16.5	-0.2
TPB08	Permian Basin	1.44	122	P	Pg	10 09 17.8	+0.1
TPB08				S	Sg	10 09 36.5	+0.1
ODSA	Odessa	1.59	73	P	Pn	10 09 19.1	+0.2
ODSA				S	Sn	10 09 39.3	-0.6
ODSA	Odessa	1.59	73	P	Pn	10 09 19.2	+0.3
TMB04	Seminole	1.84	58	P	Pn	10 09 23.0	+0.7
TMB04				S	Sg	10 09 48.5	-0.6
EPT	El Paso	1.85	274	S	Sg	10 09 50.4	+0.8
TMB02	Rankin	2.02	103	P	Pn	10 09 25.9	+1.0
TMB02				S	Sb	10 09 52.2	-0.5
TX31	Lajitas Ar. Si	2.39	166	P	Pn	10 09 29.6	-0.3
TX31	Lajitas Ar. Si	2.39	166	S	Sb	10 10 04.5	+1.1
SAND	Sanderson	2.55	131	P	Pn	10 09 34.0	+1.8
POST	Post	2.78	59	P	Pb	10 09 38.0	-2.2
OZNA	Ozona	2.84	104	P	Pb	10 09 40.4	-1.0
BRDY	Brady	4.57	93	P	Pn	10 10 01.3	+1.4
RTBA	Rita Blanca	4.95	15	P	Pn	10 10 07.7	+2.6

*NNC **21** 10:11:08.2±0.3, 43°.19N×78°.45E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=4.2km s-min=1.5km az=177.0*
*SOME **21** 10:11:09.6, 43°.22N×78°.45E, h10km*
ISC 21 10:11:09.1±1.1, 43°.21N±0°.04×78°.44E±0°.02, h8km±10km, n14, σ0§29/28, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	Kokpek	0.31	34	P	Pg	10 11 15.3	0.0
	4.9nm,0.1s						
KPKS				S	Sg	10 11 19.4	0.0
	28nm,0.2s						
KPKS	Kokpek	0.31	34	eP	Pg	10 11 15.3	0.0
	4.9nm,0.1s						
KPKS				eS	Sg	10 11 19.4	0.0
	23nm,0.1s						
KURS	Kuram	0.34	324	P	Pg	10 11 16.0	+0.1
	2.0nm,0.1s						
KURS				S	Sg	10 11 20.5	0.0
	4.9nm,0.2s						
UZB	Uzynbulak	0.43	98	P	Pg	10 11 17.5	0.0
	8.1nm,0.1s						
UZB				S	Sg	10 11 23.0	-0.1
	11nm,0.1s						
UZB	Uzynbulak	0.43	98	eP	Pg	10 11 17.6	+0.1
	3.4nm,0.0s						
UZB				eS	Sg	10 11 23.2	+0.1
	9.9nm,0.1s						
PDGK	Podgornoye	0.77	81	⇑P	Pg	10 11 23.5	-0.5
	2.1nm,0.8s						
PDGK				⇑S	Sg	10 11 33.7	-0.4
	3.1nm,0.5s						
BLB	Baldybastay	0.89	2	P	Pg	10 11 25.9	-0.4
	14nm,0.1s						
BLB				S	Sg	10 11 37.4	-0.4
	3.6nm,0.1s						
KOTS	Kotyrbulak	0.97	272	eP	Pg	10 11 27.9	+0.1
	3.8nm,0.1s						
KOTS				eS	Sg	10 11 40.9	+0.4
	8.7nm,0.2s						
KNDC	Almaty	1.08	271	⇓P	Pg	10 11 29.2	-0.6
	19nm,0.5s						
KNDC				⇑S	Sg	10 11 43.7	-0.2
	6.5nm,0.3s						
TNSS	Tian-Shan	1.11	262	P	Pg	10 11 30.1	-0.3
	2.0nm,0.1s						
TNSS				S	Sg	10 11 45.1	+0.2
	1.6nm,0.2s						
TNSS	Tian-Shan	1.11	262	eP	Pg	10 11 30.1	-0.3
	0.9nm,0.1s						
TNSS				eS	Sg	10 11 45.0	+0.2
	2.2nm,0.1s						
KTBS	Karatobe	1.38	292	P	Pn	10 11 34.9	+0.1
	1.3nm,0.1s						
KTBS				S	Sb	10 11 53.0	0.0
	7.6nm,0.2s						
DJR	Jarkent	1.49	41	P	Pn	10 11 36.7	+0.4
	1.2nm,0.2s						
DJR				S	Sn	10 11 56.0	0.0
	5.4nm,0.4s						
DJR	Jarkent	1.49	41	eP	Pn	10 11 36.7	+0.4
	0.5nm,0.1s						
DJR				eS	Sn	10 11 56.0	0.0
	3.0nm,0.1s						

IDC 21 10:14:23.1±2.9, 20°.15S×179°.10W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=286.9km s-min=36.2km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.59	257	P	P	10 22 29.2	-0.2
	0.5nm,0.7s,baz=93,slow=7.6,SNR=6.7						
	0.5nm,0.7s						
WRA	Warramunga Arr	43.63	262	P	P	10 22 29.6	-0.1
	0.2nm,0.3s,baz=97,slow=8.2,SNR=20						
	0.2nm,0.3s						
TXAR	Lajitas Array	87.74	58	P	P	10 27 14.4	0.0
	0.1nm,0.6s,baz=235,slow=5.0,SNR=1.7						
	0.1nm,0.6s						

*IDC **21** 10:50:41.2±0.6, 11°.18S×162°.00E, h0km, mb4.5/16, mbtmp4.5/18, ML4.2/2, MS4.0/51, Error ellipse: s-maj=20.4km s-min=15.7km az=94.0*
*BJI **21** 10:50:45.6, 10°.75S×162°.22E, h33km, mB5.2/14, mb4.8/48, Ms4.8/6, Ms7 4.5/8*
*NOU **21** 10:50:45.7, 11°.25S×162°.15E, h25km, mb5.0/41, Solomon Islands*
*GCMT **21** 10:50:46.3±0.3, 11°.21S±0°.02×162°.21E±0°.02, h32km±1km, MW5.0/75, Moment Tensor Solution. s24,c29; s75,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.86±.22; $M_{\theta\theta}$-2.14±.19; $M_{\phi\phi}$1.28±.19; $M_{r\theta}$1.63±.18; $M_{\theta\phi}$3.11±.12; $M_{\phi r}$0.38±.20; Best double couple: $M_0$3.95500×10^{16} NP1:ϕ_s345.00000°, δ83.00000°, λ27.00000°. Principal axes: T 3.6360, Plg24.0000°, Azm305.0000°; N 0.6410, Plg62.0000°, Azm91.0000°; P -4.2750, Plg14.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 10:50:46.3±1.2, 11°.15S±0°.09×162°.02E±0°.04, h27km±6km, mb5.0/107, Mww4.9/7 Error ellipse: s-maj=12.6km s-min=5.2km az=171.0*
*MOS **21** 10:50:46.0±0.7, 11°.14S×161°.84E, h40km, mb5.1/18, Error ellipse: s-maj=12.2km s-min=8.1km az=110.5*
*NEIC **21** 10:50:47.4, 11°.17S×162°.08E, h26km*
*NEIC **21** 10:50:47.4, 11°.47S×161°.67E, h26km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.18; $M_{\theta\theta}$0.72; $M_{\phi\phi}$-0.54; $M_{r\theta}$2.22; $M_{\theta\phi}$0.60; $M_{\phi r}$-0.51; Fault plane solution: $M_0$2.43000×10^{16} NP1:ϕ_s22.96000°, δ19.99000°, λ-170.82000°. NP2:ϕ_s284.32000°, δ86.87000°, λ-70.25000°. Principal axes: T 2.5371, Plg39.0000°, Azm356.0000°; N -0.2118, Plg20.0000°, Azm103.0000°; P -2.3253, Plg45.0000°, Azm214.0000°;*
ISC 21 10:50:46.3±0.8, 11°.20S±0°.04×162°.12E±0°.05, h33km±4km, n415, σ1§31/343, mb5.0/113, MS4.1/50, 15C-9D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	Huro Makira	0.76	343	P	Pn	10 51 00.6	-0.2
HURO	Huro Makira	0.76	343	S	Sb	10 51 11.4	+0.1
HNR	Honiara	2.77	309		Pn	10 51 29.1	+0.7
HNR	Honiara	2.77	309	Pn	Pn	10 51 26.8	-1.6
	68nm,0.3s,baz=173,slow=9.4,SNR=36						
HNR				Sn	Sn	10 51 59.7	-1.1
	133nm,0.3s,baz=115,slow=23,SNR=6.7						
	476nm,0.6s						
HNR	Honiara	2.77	309	P	Pn	10 51 29.3	+0.9
HNR	Honiara	2.77	309	S	Sn	10 52 01.5	+0.7
ALEG	Aligegeo Malai	2.81	330	P	Pn	10 51 31.9	+2.9
ALEG	Aligegeo Malai	2.81	330	S	Sb	10 52 06.4	-3.4
SAVO	Savo Central	3.05	312	P	Pn	10 51 33.2	+0.8
TATA	Tatamba Isabel	3.61	321	P	Pn	10 51 42.6	+2.6
LUES	Luesalemba Tem	3.76	82	P	Pn	10 51 42.5	+0.4
DZM	Mont Dzumac	11.57	160	eLR	LR	10 56 09.4	
	3μm,24.4s						
DZM	Mont Dzumac	11.57	160	Pn	Pn	10 53 30.7	+1.3
DZM	Mont Dzumac	11.57	160	Pn	Pn	10 53 30.2	+0.8
	1.2nm,0.3s,baz=32,slow=7.0,SNR=18						
DZM				Sn	Sn	10 55 33.3	-4.3
	2.5nm,0.3s,baz=37,slow=20,SNR=7.1						
DZM				LR	LR	10 57 12.1	
	comp=Z,2μm,21.1s,baz=356,slow=34						
	3.8nm,0.4s						
PMG	Port Moresby	14.83	276	LR	LR	10 59 20.4	
	comp=Z,464nm,20.5s,baz=124,slow=35						
MSVF	Nonsavu	16.73	115	LR	LR	10 59 56.2	
	comp=Z,284nm,20.0s,baz=300,slow=33						
EIDS	Eidsvold	17.55	215	P	P	10 54 49.3	0.0
EIDS	Eidsvold	17.55	215	P	Pn	10 54 48.5	0.0
	comp=Z,60nm,2.9s						
EIDS	Eidsvold	17.55	215	P	P	10 54 49.9	+0.5
MTSU	Mount Surprise	18.55	246	P	P	10 55 00.0	-0.4
	comp=Z,33nm,1.0s						
MTSU	Mount Surprise	18.55	246	P	Pn	10 55 01.7	+0.9
COEN	Coen	18.70	260		P	10 55 02.2	+0.1
COEN	Coen	18.70	260	P	Pn	10 55 02.5	-0.1
	comp=Z,36nm,1.0s						
COEN	Coen	18.70	260	P	Pn	10 55 03.4	+0.8
TW1H	Toowoomba 1 Ha	18.85	209	P	P	10 55 04.0	+0.2
RMQ	Roma	19.75	218	P	Pn	10 55 15.7	+5.5
	comp=Z,58nm,1.3s						
ARMA	Armidale	21.47	205	P	P	10 55 32.6	+0.4
ARMA	Armidale	21.47	205	P	P	10 55 32.4	+0.2
	comp=Z,41nm,1.1s						
ARMA	Armidale	21.47	205	P	P	10 55 32.6	+0.4
TABU	Tabubil	21.50	284	P	P	10 55 33.5	+0.8
QLP	Quilpie	22.77	225	P	P	10 55 45.6	-0.5
	comp=Z,69nm,1.6s						
QLP	Quilpie	22.77	225

WRA PcP **PcP** **10 59 49.9 +0.4**
comp=Z,4.1nm,0.9s,baz=79,slow=2.2,SNR=10.0
WRA LR LR 11 07 37.8
comp=Z,306nm,18.1s,baz=76,slow=36
comp=Z,3.3nm,0.9s
LCRK Leigh Creek 29.31 226 P **P** **10 56 45.7 -0.3**
AS31 Alice Springs 29.57 241 P **P** **10 56 47.1 -1.4**
ASAR Alice Springs 29.57 241 P **P** **10 56 46.9 -1.5**
comp=Z,2.6nm,0.8s,baz=67,slow=9.5,SNR=20
ASAR PcP **PcP** **10 59 53.1 0.0**
comp=Z,1.5nm,0.8s,baz=83,slow=3.2,SNR=6.2
ASAR LR LR 11 07 46.5
comp=Z,214nm,21.7s,baz=76,slow=35
comp=Z,2.6nm,0.8s
OOD Oodnadatta 29.79 233 P **P** **10 56 50.0 -0.2**
H11S2 WAKE ISLAND Hy 29.85 9 T T 11 27 47.2
baz=188,slow=76,SNR=720
H11S3 WAKE ISLAND Hy 29.85 9 T T 11 27 43.5
baz=188,slow=76,SNR=585
H11S1 WAKE ISLAND Hy 29.86 9 T T 11 27 45.7
baz=188,slow=76,SNR=743
GUMO Guam 29.99 325 LR LR 11 08 08.3
comp=Z,400nm,21.6s,baz=142,slow=35
URZ Urewera 30.10 156 LR LR 11 07 32.2
comp=Z,291nm,20.4s,baz=58,slow=34
TOO Toolangi 30.21 207 P **P** **10 56 54.5 +0.6**
TOO Toolangi 30.21 207 P **P** **10 56 54.5 +0.6**
TOO pmax pmax
comp=Z,30nm,2.0s
BKZ Black Stump Fm 30.65 158 P **P** **10 56 59.0 +1.3**
HTT Hallett 30.68 220 P **P** **10 56 57.7 -0.5**
comp=Z,26nm,1.3s
HTT Hallett 30.68 220 P **P** **10 56 58.1 -0.1**
H11N1 WAKE ISLAND Hy 31.08 9 T T 11 29 19.4
baz=188,slow=76,SNR=459
H11N3 WAKE ISLAND Hy 31.08 9 T T 11 29 16.6
baz=188,slow=76,SNR=396
H11N2 WAKE ISLAND Hy 31.09 9 T T 11 29 17.0
baz=188,slow=76,SNR=271
AUMBR Murray Bridge 31.60 217 P **P** **10 57 06.4 +0.3**
TUWZ Tuamarina 31.85 163 P **P** **10 57 10.0 +1.7**
BBOO Buckleboo 32.19 224 P **P** **10 57 10.8 -0.5**
BBOO IAmb IAmb 10 57 11.1
comp=Z,18nm,0.8s
BBOO Buckleboo 32.19 224 P **P** **10 57 10.4 -1.0**
comp=Z,41nm,1.9s
BBOO Buckleboo 32.19 224 P **P** **10 57 10.9 -0.5**
KNRA Kununurra 32.73 258 P **P** **10 57 15.4 -0.9**
KNRA Kununurra 32.73 258 P **P** **10 57 16.2 -0.1**
comp=Z,26nm,0.9s
FITZ Fitzroy Crossi 35.91 255 LR LR 11 12 34.6
comp=Z,332nm,18.5s,baz=82,slow=37
SANI Sanana 36.98 282 P **P** **10 57 52.8 -0.3**
FORT Forrest 37.08 233 P **P** **10 57 53.2 -0.5**
FORT Forrest 37.08 233 P **P** **10 57 53.0 -0.7**
comp=Z,77nm,1.9s
FORT Forrest 37.08 233 P **P** **10 57 53.8 +0.1**
RAR Rarotonga 37.83 110 LR LR 11 11 23.8
comp=Z,52nm,20.5s,baz=168,slow=33
KMSI Cibinong 39.67 285 P **P** **10 58 19.2 +3.5**
DAV Davao City (W) 40.64 295 LR LR 11 14 25.0
comp=Z,30nm,19.3s,baz=10.0,slow=35
APSI Ampana 41.47 281 P **P** **10 58 31.4 +0.9**
comp=Z,922nmcomp=Z,49nm,1.2s
KAPI Kappang 42.36 275⇑ *eP* **P** **10 58 36.5 -1.3**
KAPI pmax pmax
comp=Z,16nm,1.5s
JCJ Chichijima 42.70 333 LR LR 11 16 26.2
comp=Z,167nm,19.2s,baz=341,slow=36
PCI Palu 43.21 281 P **P** **10 58 47.2 +2.4**
comp=Z,85nm,1.1s
MEEK Meekatharra 43.70 243 P **P** **10 58 49.3 +0.7**
MYLDM Lahad Datu 46.36 288 P **P** **10 59 07.6 -2.3**
MYLDM Lahad Datu 46.36 288 P **P** **10 59 11.1 +1.3**
NWAO Narrogin (SRO) 46.45 235 LR LR 11 18 11.8
comp=Z,246nm,21.0s,baz=56,slow=36
PPT2 Papeete2 47.11 104 *e*LR LR 11 12 39.6
comp=Z,100nm,22.8s
KKM Kota Kinabalu 48.79 288 P **P** **10 59 28.8 0.0**
JHJ Hachijo jima 2 48.95 335 LR LR 11 19 00.2
comp=Z,114nm,21.8s,baz=128,slow=35
SBUM Sibu 51.45 282 P **P** **10 59 47.9 -1.0**
SBUM Sibu 51.45 282 P **P** **10 59 49.2 +0.3**
MJAR Matsushiro Arr 52.56 336 P **P** **10 59 55.0 -1.7**
comp=Z,3.2nm,0.9s,baz=160,slow=6.5,SNR=4.0
MJAR LR LR 11 20 49.7
comp=Z,85nm,21.8s,baz=122,slow=34
comp=Z,3.2nm,0.9s
MAJO Matsushiro 52.56 336⇑ *eP* **P** **10 59 56.0 -0.8**
MAJO pmax pmax
comp=Z,7.0nm,1.2s
KSM Kuching 53.03 280 P **P** **10 59 59.1 -1.6**
KSM Kuching 53.03 280 P **P** **11 00 00.3 -0.3**
JNU Nakatsue 53.20 327 P **P** **11 00 01.0 -0.6**
JNU IAmb IAmb 11 00 02.0
comp=Z,17nm,0.8s
JNU Nakatsue 53.20 327 LR LR 11 22 14.4
comp=Z,71nm,19.1s,baz=148,slow=36
JNU Nakatsue 53.20 327 P **P** **11 00 01.3 -0.3**
TJN Taejon 57.55 327 P **P** **11 00 33.7 +0.9**
TJN Taejon 57.55 327 *de*P **P** **11 00 32.9 +0.1**
MDSI Maura Dua 57.71 272 P **P** **11 00 33.5 -0.9**
JKA Kamikawa-asahi 57.84 343 P **P** **11 00 35.5 +0.8**
ASAJ Asahikawa 57.85 343 LR LR 11 24 14.2
comp=Z,261nm,20.6s,baz=164,slow=35
ASAJ Asahikawa 57.85 343 P **P** **11 00 35.5 +0.8**
ASAJ pmax pmax
comp=Z,25nm,1.0s
KSRS Korea Array 58.06 328 P **P** **11 00 35.7 -0.7**
comp=Z,6.4nm,1.0s,baz=142,slow=7.1,SNR=21
KSRS LR LR 11 23 34.6
comp=Z,144nm,20.9s,baz=135,slow=34
comp=Z,6.4nm,1.0s
INCN Inchon 58.76 327 P **P** **11 00 41.5 +0.2**
QIZ Qiongzhong 59.65 300 P **P** **11 00 48.0 +0.2**
QIZ S **S** **11 08 56.8 +0.4**
QIZ LR LR
comp=Z,140nm,16.2s
NJ2 Nanjing 59.68 318 *eP* **P** **11 00 49.3 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzhno-Sakhali 60.43 345 P **P** **11 00 53.2 +0.7**
USA0B Ussuriysk Arra 61.56 336 *ce*P **P** **11 01 00.3 0.0**
USRK Ussuriysk Ar. 61.56 336 P **P** **11 01 00.1 -0.2**
comp=Z,15nm,0.9s,baz=143,slow=6.6,SNR=20
USRK LR LR 11 27 02.9
comp=Z,102nm,19.9s,baz=167,slow=36
comp=Z,15nm,0.9s
WHN Wuhan 61.88 314 P P 11 01 12.3 +10
WHN pmax pmax
comp=Z,130nm,1.7s
IPM Ipoh 62.75 281 P **P** **11 01 07.8 -1.1**
IPM Ipoh 62.75 281 P **P** **11 01 08.9 -0.1**
MDJ Mudanjiang 62.89 334 IAmb IAmb 11 01 10.4
comp=Z,20nm,1.2s
MDJ Mudanjiang 62.89 334 P **P** **11 01 09.0 -0.2**
MDJ sP pwP 11 01 26.3 +2.5
MDJ PcP **PcP** **11 01 45.9 -1.3**
MDJ S **S** **11 09 36.9 +0.2**
MDJ sS sS 11 09 54.3 +2.7
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ LR LR
comp=Z,140nm,5.8s
MDJ LR LR
comp=Z,190nm,6.1s
MDJ Mudanjiang 62.89 334 P **P** **11 01 09.5 +0.3**
MNSI Mandailing Nat 63.27 277 P **P** **11 01 11.6 -0.8**
KULM Kulim 63.32 282 P **P** **11 01 12.3 -0.4**
KULM IAmb IAmb 11 01 13.3
comp=Z,16nm,1.0s
TYV Tymovskoe 64.09 346 *eP* **P** **11 01 17.3 +0.3**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.5s
CN2 Changchun 64.11 331 *eP* **P** **11 01 16.5 -0.8**
CN2 sP pwP 11 01 34.8 +3.0
CN2 pmax pmax
comp=Z,10.0nm,1.2s
PETK Petropavlovsk- 64.16 357 P **P** **11 01 16.8 -0.7**
comp=Z,12nm,0.9s,baz=168,slow=7.6,SNR=12
PETK LR LR 11 25 41.7
comp=Z,123nm,20.5s,baz=173,slow=33
comp=Z,12nm,0.9s
PSI Prapat 64.37 279 LR LR 11 33 48.0
comp=Z,130nm,19.0s,baz=148,slow=40
BNX BinXian 64.72 334 ⇓P **P** **11 01 20.9 -0.3**
BNX pmax pmax
comp=Z,14nm,0.9s
GSI Gunungsitoli 65.34 277 P **P** **11 01 24.8 -1.1**
GSI Gunungsitoli 65.34 277 P **P** **11 01 25.9 -0.1**
GSI Gunungsitoli 65.34 277 P **P** **11 01 25.8 -0.2**
HNS HongShan 65.67 320 ⇑P **P** **11 01 26.8 -0.8**
HNS pmax pmax
comp=Z,13nm,1.2s
KLR Kul'dur 65.84 339 LR LR 11 26 39.8
comp=Z,63nm,21.6s,baz=162,slow=33
KLR Kul'dur 65.84 339 *c iP* **P** **11 01 28.5 0.0**
KLR pmax pmax
comp=Z,17nm,1.3s
VNDA Vanda 66.31 180 LR LR 11 25 56.7
comp=Z,138nm,19.1s,baz=352,slow=32
XAN Xi'an 67.63 314 P **P** **11 01 39.4 -0.9**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN LR LR
comp=Z,200nm,22.0s
XAN LR LR
comp=Z,280nm,19.6s
XAN LR LR
comp=Z,310nm,18.6s
KMI Kunming 68.19 303 ⇑P **P** **11 01 44.5 +0.3**
KMI pP pwP 11 01 56.8 -1.0
KMI pmax pmax
comp=Z,22nm,0.9s
HEH HeiHe 68.30 337 *eP* **P** **11 01 43.4 -0.6**
HEH pmax pmax
comp=Z,23nm,1.0s
CMAR Chiang Mai Arr 68.93 295 P **P** **11 01 48.2 -0.5**
comp=Z,3.2nm,1.0s,baz=115,slow=4.2,SNR=17
CMAR LR LR 11 33 10.6
comp=Z,28nm,19.2s,baz=120,slow=37
comp=Z,3.2nm,1.0s
XLT XiLinHaoTe 68.96 326⇑ *i P* **P** **11 01 48.0 -0.4**
XLT sP pwP 11 02 07.0 +4.2
XLT PcP **PcP** **11 02 14.3 +1.7**
XLT pmax pmax
comp=Z,25nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.8s
CHTO Chiang Mai 69.05 295 P **P** **11 01 48.5 -0.9**
CHTO Chiang Mai 69.05 295 P **P** **11 01 48.5 -0.9**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
PZH PanZhiHua 69.58 304 P **P** **11 01 56.4 +3.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.7s
HHC Hu-ho-hao-te 69.69 321 *eP* **P** **11 01 55.8 +2.8**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,80nm,4.7s
CD2 Chengdu 69.90 309 P **P** **11 01 53.8 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
BTO Baotou 70.50 320 *eP* **P** **11 02 02.5 +4.5**
BTO pmax pmax
comp=Z,8.0nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.8s
BTO LR LR
comp=Z,260nm,5.0s
BTO LR LR
comp=Z,310nm,6.0s
HIA Hailar 70.79 332 IAmb IAmb 11 02 00.4
comp=Z,17nm,1.0s
HIA Hailar 70.79 332 P **P** **11 01 59.8 +0.3**
HIA Hailar 70.79 332 P **P** **11 01 59.6 +0.1**
MA2 Magadan 71.13 354 P **P** **11 02 01.2 -0.1**
MA2 Magadan 71.13 354 LR LR 11 29 36.4
comp=Z,74nm,20.9s,baz=162,slow=33
MA2 Magadan 71.13 354 P **P** **11 02 01.2 -0.1**
MA2 Magadan 71.13 354 *c iP* **P** **11 02 01.0 -0.3**
MA2 pmax pmax
comp=Z,53nm,2.5s
MA2 Magadan 71.13 354 P **P** **11 02 01.2 -0.1**
comp=Z,23nm,0.9s
ZEA Zeya 71.16 339 *eP* **P** **11 02 02.1 +0.5**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.9s
P08K Saint George I 71.53 16 P **P** **11 02 03.5 -0.2**
baz=209
LZH Lanzhou 72.26 314 *eP* **P** **11 02 08.5 -0.3**
LZH pP sP 11 02 21.6 +1.5
LZH pmax pmax
comp=Z,18nm,1.2s
CHNA Chernabura Isl 73.25 22 P **P** **11 02 14.0 0.0**
baz=219
SEY Seymchan 74.29 355⇑ *eP* **P** **11 02 20.4 +0.4**
SEY pmax pmax
comp=Z,22nm,1.1s
CHIR Chirikof Islan 75.49 23 P **P** **11 02 26.0 -1.0**
baz=223
ULN Ulaanbaatar 76.37 325 P **P** **11 02 32.4 -0.1**
ULN IAmb IAmb 11 02 33.9
comp=Z,16nm,0.9s
ULN Ulaanbaatar 76.37 325 *c iP* **P** **11 02 32.4 -0.1**
ULN pmax pmax
comp=Z,16nm,1.0s
GTA Gaotai 76.63 315 P **P** **11 02 34.4 +0.3**
GTA pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 76.72 325 P **P** **11 02 34.3 -0.1**
comp=Z,9.6nm,0.8s,baz=138,slow=6.1,SNR=46
SONM LR LR 11 36 20.5
comp=Z,101nm,20.5s,baz=127,slow=36
comp=Z,9.6nm,0.8s
YAK Yakutsk 77.28 345 P **P** **11 02 37.0 -0.1**
YAK Yakutsk 77.28 345 LR LR 11 34 24.9
comp=Z,83nm,21.4s,baz=114,slow=34
YAK Yakutsk 77.28 345 *eP* **P** **11 02 37.0 -0.1**
YAK *e**PP **PcP** **11 02 48.6 +1.0**
YAK *e* 11 05 28.4
YAK *e*PPP PPP 11 07 19.3
YAK *e*S **S** **11 12 23.9 -0.5**
YAK *e**SS **SKSac** **11 12 44.4 -2.8**
YAK *e*SS **SS** **11 17 22.5 -0.8**
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,181nm,7.8s
YAK pmax pmax
comp=N,178nm,6.8s
YAK pmax pmax
comp=E,236nm,7.1s
YAK smax smax
comp=E,92nm,4.1s
YAK smax smax
comp=N,89nm,4.1s
GAMB Gambell 77.39 12 P **P** **11 02 38.5 +0.8**
baz=206
K13K Kusilvak Mount 77.40 15 P **P** **11 02 39.5 +1.8**
baz=213
KDAK Kodiak Island 78.06 23 LR LR 11 33 24.2
comp=N,121nm,19.4s,baz=78,slow=33
M16K Timber Creek 78.28 18 P **P** **11 02 45.3 +2.6**
baz=219
N17K Nushagak Hills 78.45 19 P **P** **11 02 45.5 +1.9**
baz=221
Q19K Cape Douglas, 78.48 22 P **P** **11 02 45.8 +1.9**
baz=224
K15K Wolf Creek Mou 78.53 16 P **P** **11 02 46.0 +1.9**
baz=216
L16K Owhat River 78.66 18 P **P** **11 02 46.8 +2.1**
baz=218
QSPA South Pole Qui 78.80 180 P **P** **11 02 45.9 +0.1**
comp=N,3.2nm,1.0s,baz=344,slow=4.0,SNR=5.0
QSPA LR LR 11 34 05.0
comp=N,59nm,19.8s,baz=7.5,slow=33
comp=N,3.2nm,1.0s
N18K Kilae Creek 78.99 20 P **P** **11 02 48.9 +2.3**
baz=222
BILL Bilibino 79.09 2 P **P** **11 02 47.2 +0.2**
BILL Bilibino 79.09 2 *c iP* **P** **11 02 47.5 +0.5**
BILL pmax pmax
comp=Z,34nm,1.3s
ANM Nome 79.44 14 P **P** **11 02 49.6 +0.6**
baz=212
J16K Anvik River 79.59 16 P **P** **11 02 50.2 +0.4**
baz=217
M18K Stony River 79.62 19 P **P** **11 02 50.2 +0.2**
baz=222
TNA Tin City 79.73 12 P **P** **11 02 51.1 +0.5**
baz=210
ZAK Zakamensk 79.82 326 *eP* **P** **11 02 50.4 -1.1**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
L18K Granite Mounta 79.89 18 P **P** **11 02 53.2 +1.7**
baz=221
F14K Arctic Creek 80.00 13 P **P** **11 02 52.8 +0.8**
baz=211
I17K Unalakleet 80.04 16 P **P** **11 02 53.0 +0.8**
baz=217
J17K VABM Dome 80.10 17 P **P** **11 02 53.2 +0.6**
baz=219
G15K Niukluk 80.11 14 P **P** **11 02 51.4 -1.2**
baz=214
BRSE Bradley Lake S 80.12 22 P **P** **11 02 51.8 -0.9**
baz=227
M19K Big River Lodg 80.38 19 P **P** **11 02 55.2 +1.0**
baz=223
L19K White Mountain 80.44 19 P **P** **11 02 55.9 +1.4**
baz=223
F15K North Star Dit 80.57 13 P **P** **11 02 56.7 +1.6**
baz=213
TTA Tatalina 80.64 18 P **P** **11 02 55.6 0.0**
baz=222
TTA Tatalina 80.64 18 P **P** **11 02 56.9 +1.3**
J18K Innoko River 80.83 17 IAmb IAmb 11 02 58.8
comp=Z,19nm,1.4s
J18K Innoko River 80.83 17 P **P** **11 02 57.0 +0.5**
baz=221
G16K Koyuk River 80.84 14 IAmb IAmb 11 02 59.1
comp=Z,14nm,1.1s
G16K Koyuk River 80.84 14 P **P** **11 02 56.6 +0.1**
baz=215
L20K Farewell, AK 80.97 19 P **P** **11 02 57.5 +0.2**
baz=224
H17K Granite Mounta 81.09 15 P **P** **11 02 58.1 +0.3**
baz=218
K20K Telida 81.55 18 P **P** **11 03 00.9 +0.5**
baz=223
J19K Poorman 81.55 17 IAmb IAmb 11 03 02.6
comp=Z,20nm,1.4s
J19K Poorman 81.55 17 P **P** **11 03 01.2 +0.9**
baz=222
H18K Honhosa River 81.67 16 P **P** **11 03 02.5 +1.6**
baz=219
GCSA Galena City Sc 81.76 17 P **P** **11 03 01.7 +0.4**
baz=221
PMR Palmer 81.96 21 P **P** **11 03 02.7 +0.2**
baz=228
F17K Baldwin Pennin 81.96 14 IAmb IAmb 11 03 05.0
comp=Z,13nm,1.1s
F17K Baldwin Pennin 81.96 14 P **P** **11 03 03.1 +0.7**
baz=216
CUT Chulitna 82.11 20 P **P** **11 03 03.0 -0.2**
baz=227
J20K Nowinta River 82.12 18 P **P** **11 03 04.1 +0.8**
baz=223
G18K Tagagawik 82.17 15 P **P** **11 03 04.8 +1.2**
baz=219
CAST Castle Rocks 82.22 19 P **P** **11 03 04.4 +0.5**
CAST Castle Rocks 82.22 19 P **P** **11 03 04.3 +0.4**
baz=225
E17K Hotham Inlet 82.35 13 P **P** **11 03 06.5 +2.0**
baz=216
H19K Roundabout Mou 82.47 16 IAmb IAmb 11 03 08.4
comp=Z,16nm,1.2s
H19K Roundabout Mou 82.47 16 P **P** **11 03 06.6 +1.5**
baz=221
CHUM Lake Minchumin 82.47 19 P **P** **11 03 06.5 +1.4**
baz=225
F18K Selawik 82.48 14 P **P** **11 03 06.2 +1.1**
baz=218
D17K Noatak River 82.58 13 P **P** **11 03 06.6 +1.0**
baz=214
M23K Glacier View 82.59 22 P **P** **11 03 07.0 +1.1**
baz=229
C16K Lisburne Hills 82.59 12 IAmb IAmb 11 03 19.2
comp=Z,15nm,1.5s
C16K Lisburne Hills 82.59 12 P **P** **11 03 06.9 +1.2**
baz=212
G19K Purcell Mounta 82.77 16 IAmb IAmb 11 03 09.3
comp=Z,19nm,1.2s
G19K Purcell Mounta 82.77 16 P **P** **11 03 07.5 +0.8**
baz=220
TRF Thorofare Moun 82.82 20 P **P** **11 03 07.7 +0.5**
baz=227
H20K Anotleneega Mo 82.88 17 P **P** **11 03 07.9 +0.6**
baz=222
E18K Tukpahlearik C 82.91 14 IAmb IAmb 11 03 09.8
comp=Z,9.0nm,0.9s
E18K Tukpahlearik C 82.91 14 P **P** **11 03 08.6 +1.3**
baz=217
RDOG Red Dog Mine 82.91 13 IAmb IAmb 11 03 09.6
comp=Z,11nm,0.6s
RDOG Red Dog Mine 82.91 13 P **P** **11 03 08.2 +0.8**
baz=215
BPAW Bear Paw Mtn. 83.04 19 P **P** **11 03 08.6 +0.4**
baz=226
PALK Pallekele 83.05 279 LR LR 11 44 10.8
comp=Z,41nm,18.6s,baz=112,slow=39
F19K Shaleruckik Mo 83.12 15 IAmb IAmb 11 03 10.7
comp=Z,17nm,1.2s
F19K Shaleruckik Mo 83.12 15 P **P** **11 03 09.6 +1.2**
baz=220
C17K DeLong Mountai 83.20 12 P **P** **11 03 09.8 +0.9**
baz=214
MAW Mawson 83.23 202 LR LR 11 36 42.2
comp=Z,56nm,19.2s,baz=111,slow=33
BMRM Bremner River 83.24 23 P **P** **11 03 09.6 +0.3**
baz=232
MCK McKinley 83.46 20 IAmb IAmb 11 03 11.8
comp=Z,13nm,1.1s
MCK McKinley 83.46 20 P **P** **11 03 10.8 +0.5**
baz=228
I21K Tanana 83.50 18 P **P** **11 03 11.2 +0.7**
baz=225
H21K Melozitna Rive 83.59 17 IAmb IAmb 11 03 13.6
comp=Z,24nm,1.6s
H21K Melozitna Rive 83.59 17 P **P** **11 03 11.8 +0.8**
baz=224
E19K Redstone River 83.74 15 IAmb IAmb 11 03 14.3
comp=Z,15nm,1.1s
E19K Redstone River 83.74 15 P **P** **11 03 12.0 +0.4**
baz=220,SNR=12
C18K Utukok River 83.77 13 IAmb IAmb 11 03 13.8
comp=Z,20nm,1.2s
C18K Utukok River 83.77 13 P **P** **11 03 12.6 +0.7**
baz=216
F20K Avaraart Lake 83.81 15 IAmb IAmb 11 03 14.6
comp=Z,9.7nm,1.2s
F20K Avaraart Lake 83.81 15 P **P** **11 03 12.4 +0.4**
baz=222
HARP HAARP 83.91 22 P **P** **11 03 13.3 +0.6**
baz=232
NEA2 Nenana 83.99 19 P **P** **11 03 13.6 +0.6**
baz=228
H22K Ishtalitna Cre 84.18 17 P **P** **11 03 15.0 +1.0**
baz=226
B18K Kokolik River 84.22 12 P **P** **11 03 14.9 +0.9**
baz=216
I23K Minto, Yukon-K 84.27 19 P **P** **11 03 15.7 +1.3**
baz=228
D19K Kuna River 84.33 14 P **P** **11 03 16.0 +1.3**
baz=219
F21K Alatna River 84.53 16 P **P** **11 03 16.4 +0.7**
baz=224
HDA Harding Lake 84.56 20 IAmb IAmb 11 03 17.5
comp=Z,12nm,0.9s
HDA Harding Lake 84.56 20 P **P** **11 03 17.3 +1.4**
baz=230
COLA College 84.57 19 P **P** **11 03 15.8 0.0**
COLA IAmb IAmb 11 03 16.5
comp=Z,8.9nm,0.8s
COLA College 84.57 19 P **P** **11 03 16.9 +1.0**
baz=229
COLA College 84.57 19 P **P** **11 03 16.1 +0.2**
COLA College 84.57 19⇓ *eP* **P** **11 03 16.4 +0.5**
COLA pmax pmax

comp=Z,7.0nm,0.9s
K24K Donnelly Dome 84.57 21 P **P 11 03 17.2 +1.1**
baz=231
PNL Peninsula 84.60 26 P **P 11 03 18.3 +2.1**
baz=237
E20K Nigu River 84.61 14 P **P 11 03 17.6 +1.4**
baz=221
M26K Nabesna, AK 84.72 22 P **P 11 03 17.9 +1.1**
baz=234
H02S1 DAWSON INLET T 84.75 33 T T 12 36 24.4
SNR=34
ILAR Eielson Array 84.82 20 P **P 11 03 17.4 +0.2**
comp=Z,1.2nm,0.7s,baz=248,slow=3.9,SNR=25
ILAR LR LR 11 36 53.0
comp=Z,170nm,19.0s,baz=233,slow=33
comp=Z,1.2nm,0.7s
D20K Etivluk River 84.86 14 P **P 11 03 18.9 +1.5**
baz=221
RIDG Independent Ri 84.86 21 P **P 11 03 18.6 +1.1**
baz=232
G22K Bettles 84.86 17 P **P 11 03 18.2 +0.8**
baz=226
O28M Mount Upton 84.88 25 P **P 11 03 19.4 +1.5**
baz=236
L26K Log Cabin Wild 84.96 22 IAmb IAmb 11 03 20.8
comp=Z,9.6nm,1.1s
L26K Log Cabin Wild 84.96 22 P **P 11 03 18.7 +0.8**
baz=233
A19K Wainwright 85.05 12 P **P 11 03 20.0 +1.8**
baz=216
M27K Edge Creek, AK 85.11 23 IAmb IAmb 11 03 21.7
comp=Z,12nm,1.0s
M27K Edge Creek, AK 85.11 23 P **P 11 03 20.3 +1.4**
baz=235
G23K Bananza Creek 85.14 17 P **P 11 03 20.3 +1.5**
baz=227
J25K Salcha River, 85.22 20 P **P 11 03 20.4 +1.1**
baz=231
E21K Killik River 85.30 15 P **P 11 03 20.7 +1.1**
baz=223
SCRK Sand Creek 85.30 21 P **P 11 03 20.3 +0.5**
SCRK Sand Creek 85.30 21 P **P 11 03 21.4 +1.6**
baz=233
YUK8 Steele Glacier 85.33 24 P **P 11 03 21.4 +1.2**
baz=237
COLD Coldfoot 85.44 17 P **P 11 03 22.2 +1.9**
baz=227
L27K Beaver Creek, 85.54 22 P **P 11 03 22.5 +1.6**
baz=235
TIXI Tiksi 85.59 350 P **P 11 03 19.9 -1.0**
TIXI Tiksi 85.59 350 LR LR 11 39 14.4
comp=Z,57nm,21.9s,baz=187,slow=34
TIXI Tiksi 85.59 350⇓*eP* **P 11 03 20.7 -0.2**
TIXI pmax pmax
comp=Z,22nm,1.7s
C21K Knifeblade Rid 85.63 14 P **P 11 03 22.9 +1.7**
baz=222
E22K Anaktuvuk Pass 85.64 16 P **P 11 03 23.6 +2.3**
baz=225
J26L Joseph Creek 85.77 21 P **P 11 03 23.9 +1.8**
baz=233
YUK4 Talbot Arm 85.82 25 P **P 11 03 24.6 +2.0**
baz=238
P30M Million Dollar 85.89 26 P **P 11 03 25.1 +2.4**
baz=239
G24K Hadweenzic Riv 85.89 18 IAmb IAmb 11 03 24.4
G24K Hadweenzic Riv 85.89 18 P **P 11 03 24.8 +2.3**
baz=229
D22K Ayikyak River 85.94 15 P **P 11 03 24.5 +1.7**
baz=224,SNR=7.4
B21K Ikpikpuk River 86.01 14 P **P 11 03 25.2 +2.2**
baz=222
E23K Chandalar 86.18 16 IAmb IAmb 11 03 36.8
comp=Z,12nm,1.2s
E23K Chandalar 86.18 16 P **P 11 03 25.3 +1.3**
baz=227
F24K Squaw Lake 86.30 17 P **P 11 03 26.6 +2.0**
baz=229
G25K Bearman Lake 86.35 18 P **P 11 03 26.6 +1.9**
baz=231
I26K Coal Creek Min 86.39 20 P **P 11 03 26.8 +1.8**
baz=233
M29M Somme Creek 86.48 24 P **P 11 03 27.5 +1.9**
baz=238
E24K Your Creek 86.50 17 P **P 11 03 27.6 +2.1**
baz=228
D23K Nanushuk River 86.52 15 IAmb IAmb 11 03 29.0
comp=Z,19nm,1.2s
D23K Nanushuk River 86.52 15 P **P 11 03 27.4 +1.9**
baz=226
YBH Yreka Blue Hor 86.56 46 LR LR 11 35 35.1
comp=Z,92nm,18.8s,baz=254,slow=31
TOLK Toolik Lake Re 86.59 16 P **P 11 03 27.1 +1.1**
baz=227
WMQ Urumqi 86.70 316 *eP* **P 11 03 29.3 +2.2**
WMQ pmax pmax
comp=Z,13nm,0.9s
L29M L29M 86.97 23 P **P 11 03 29.7 +1.8**
baz=238
AFDM Forest Hills D 86.99 50 IAmb IAmb 11 03 31.0
comp=Z,9.3nm,1.3s
DAWY Dawson 87.01 22 P **P 11 03 29.7 +1.6**
DAWY IAmb IAmb 11 03 31.0
comp=Z,18nm,1.4s
DAWY Dawson 87.01 22 P **P 11 03 30.2 +2.1**
baz=237
F25K Christian Rive 87.01 18 P **P 11 03 30.0 +2.0**
baz=231
I27K Kandik River 87.09 20 P **P 11 03 30.3 +1.8**
baz=235
D24K Happy Valley 87.14 16 P **P 11 03 30.4 +1.9**
baz=228
C23K Itkillik River 87.14 15 IAmb IAmb 11 03 31.7
comp=Z,18nm,1.2s
C23K Itkillik River 87.14 15 P **P 11 03 30.2 +1.7**
baz=226
G26K Porcupine Rive 87.18 19 P **P 11 03 30.7 +1.9**
baz=233,SNR=15
M30M Minto, Yukon 87.21 24 P **P 11 03 31.0 +1.9**
baz=239
HYB Hyderabad 87.28 288 *eP* **P 11 03 29.4 -1.0**
HYB *ep*P **pP 11 03 38.3 -0.5**
HYB *es*P **sP 11 03 42.0 0.0**
HYB *e*SKSac **SKSac 11 13 53.8 -2.4**
HYB *e*SS **SS 11 19 59.2 +5.4**
E25K Arctic Village 87.37 17 IAmb IAmb 11 03 32.9
comp=Z,18nm,1.4s
E25K Arctic Village 87.37 17 P **P 11 03 31.3 +1.6**
baz=231
H27K Steamboat Moun 87.48 20 P **P 11 03 32.2 +1.9**
baz=235
F26K Sheenjek River 87.52 18 IAmb IAmb 11 03 34.0
comp=Z,15nm,1.6s
F26K Sheenjek River 87.52 18 P **P 11 03 32.7 +2.2**
baz=232
C24K Franklin Bluff 87.55 15 IAmb IAmb 11 03 33.5
comp=Z,13nm,0.9s
C24K Franklin Bluff 87.55 15 P **P 11 03 32.2 +1.7**
baz=228
I28M Miner Creek 87.58 21 P **P 11 03 32.2 +1.3**
baz=236
K29M Barlow Dome 87.59 23 P **P 11 03 31.8 +0.8**
baz=239
J29N Klondike Camp 87.65 22 IAmb IAmb 11 03 34.5
comp=Z,6.4nm,0.8s
J29N Klondike Camp 87.65 22 P **P 11 03 32.2 +0.9**
baz=238
G27K Doyon Strip 87.77 19 IAmb IAmb 11 03 34.6
comp=Z,9.7nm,1.4s
G27K Doyon Strip 87.77 19 P **P 11 03 33.7 +1.9**
baz=235
D25K Kavik River 87.91 16 IAmb IAmb 11 03 34.6
comp=Z,12nm,1.4s
D25K Kavik River 87.91 16 P **P 11 03 33.9 +1.6**
baz=230
I29M Ogilvie Camp, 88.10 21 IAmb IAmb 11 03 35.8
comp=Z,11nm,1.1s
I29M Ogilvie Camp, 88.10 21 P **P 11 03 35.3 +2.0**
baz=236
FARO Faro, Yukon 88.44 25 P **P 11 03 36.5 +1.5**
baz=242
C26K Camden Bay 88.68 16 P **P 11 03 37.7 +1.8**
baz=232
I30M Mount Dempster 88.72 22 IAmb IAmb 11 03 39.0
comp=Z,4.9nm,0.8s
I30M Mount Dempster 88.72 22 P **P 11 03 37.8 +1.4**
baz=240

F28M Old Crow 88.80 19 P **P 11 03 38.5 +1.9**
baz=236
C27K Jago River 88.83 16 IAmb IAmb 11 03 39.7
comp=Z,14nm,1.4s
C27K Jago River 88.83 16 P **P 11 03 38.6 +2.0**
baz=233
DSP Deep Springs 88.83 52 P **P 11 03 38.9 +1.5**
DSP IAmb IAmb 11 03 40.5
comp=Z,6.9nm,1.1s
NVAR Mina Array Bea 88.85 51 P **P 11 03 38.9 +1.2**
comp=Z,2.3nm,0.8s,baz=236,slow=7.0,SNR=15
NVAR LR LR 11 37 30.6
comp=Z,107nm,19.1s,baz=284,slow=32
comp=Z,2.3nm,0.8s
G29M Pine Creek 89.03 20 P **P 11 03 39.5 +1.9**
baz=238
PFO Pinyon Flats O 89.09 56 LR LR 11 37 38.7
comp=Z,65nm,19.9s,baz=206,slow=32
EPYK Eagle Plains 89.19 21 P **P 11 03 40.3 +1.9**
baz=239
D27M Malcolm River 89.39 17 P **P 11 03 41.6 +2.3**
baz=235
WVOR Wild Horse Val 89.66 47 IAmb IAmb 11 03 50.6
comp=Z,13nm,1.2s
G30M tAoh Zraii Nji 89.67 20 IAmb IAmb 11 03 44.1
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 89.67 20 P **P 11 03 42.7 +2.0**
baz=240
H31M Peel River 89.75 22 P **P 11 03 42.5 +1.4**
baz=242
J08A Circle Bar Ran 90.02 46 IAmb IAmb 11 03 45.7
comp=Z,10nm,1.1s
D28M Stokes Point 90.10 18 P **P 11 03 44.1 +1.6**
baz=237
F30M Barrier River 90.13 20 P **P 11 03 44.2 +1.4**
baz=240
E08A Dider Farm, El 90.46 43 IAmb IAmb 11 06 09.4
comp=Z,16nm,1.4s
SYO Syowa Base 90.58 198⇓*eP* **P 11 03 46.0 +1.1**
SYO Syowa Base 90.58 198⇑*ep*P pP 11 03 54.0 +1.0
F31M Tsiigehtchic 90.74 20 P **P 11 03 46.6 +1.1**
baz=242
SHPR Sheep Range 90.81 53 P **P 11 03 48.0 +1.2**
R11B Troy Canyon, C 90.90 51 P **P 11 03 48.4 +1.1**
baz=256
MK31 Makanchi Array 91.22 317 *de*P **P 11 03 46.1 -2.2**
MKAR Makanchi Array 91.22 317 LR LR 11 45 29.9
comp=Z,59nm,20.7s,baz=80,slow=36
INK Inuvik 91.22 20 P **P 11 03 48.5 +0.8**
baz=242
BMO Blue Mountains 91.22 45 IAmb IAmb 11 03 50.9
comp=Z,6.0nm,1.1s
F10A Beach Ranch, E 91.55 44 IAmb IAmb 11 03 52.2
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 91.62 325 P **P 11 03 49.2 -0.8**
comp=Z,0.7nm,0.5s,baz=101,slow=4.6,SNR=2.0
ZALV LR LR 11 45 35.5
comp=Z,49nm,19.9s,baz=72,slow=36
comp=Z,0.7nm,0.5s
ELK Elko 91.72 49 IAmb IAmb 11 03 53.8
comp=Z,5.9nm,1.1s
ELK Elko 91.72 49 LR LR 11 39 06.5
comp=Z,52nm,18.9s,baz=186,slow=32
ELK Elko 91.72 49 P **P 11 03 52.2 +1.1**
SPR3 Spring Creek 3 92.01 51 IAmb IAmb 11 03 55.2
comp=Z,8.1nm,1.3s
PLID Pearl Lake 92.18 45 P **P 11 03 52.8 -0.3**
PLID IAmb IAmb 11 03 55.0
comp=Z,5.4nm,0.9s
NEW Newport 92.19 41 LR LR 11 41 16.3
comp=Z,81nm,18.5s,baz=272,slow=33
LPIG La Paz 92.31 66 LR LR 11 40 03.6
comp=Z,83nm,18.4s,baz=228,slow=32
KSH Kashi 94.09 309 P **P 11 04 05.8 +3.9**
KSH pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 94.50 321⇑*eP* **P 11 04 02.7 -0.6**
KURK pmax pmax
comp=Z,3.0nm,1.1s
KURBB Kurchatov Arra 94.53 321 P **P 11 04 03.0 -0.5**
comp=Z,0.2nm,0.5s,baz=108,slow=2.4,SNR=4.1
KURBB LR LR 11 47 29.9
comp=Z,100nm,20.6s,baz=166,slow=36
comp=Z,0.2nm,0.5s
C36M Paulatuk 94.78 20 IAmb IAmb 11 04 05.1
comp=Z,4.9nm,1.0s
C36M Paulatuk 94.78 20 P **P 11 04 05.1 +0.9**
baz=251
NRIK Noril'sk 95.03 340 P **P 11 04 03.7 -1.6**
comp=Z,1.4nm,0.3s,baz=134,slow=7.6,SNR=4.5
NRIK LR LR 11 47 21.4
comp=Z,94nm,20.1s,baz=112,slow=36
comp=Z,1.4nm,0.3s
NRIK Noril'sk 95.03 340*de*P **P 11 04 04.4 -0.9**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
A36M Sachs Harbour 95.29 17 IAmb IAmb 11 04 08.5
comp=Z,6.5nm,1.1s
A36M Sachs Harbour 95.29 17 P **P 11 04 08.3 +1.8**
baz=250
AAK Ala-Archa 95.76 312 LR LR 11 47 58.0
comp=Z,40nm,21.3s,baz=73,slow=36
PDAR Pinedale Array 96.28 48 LR LR 11 41 35.6
comp=Z,47nm,20.6s,baz=281,slow=32
SNAA Sanae 96.70 185 LR LR 11 45 35.3
comp=Z,74nm,18.8s,baz=208,slow=34
PMSA Palmer Station 96.71 162 LR LR 11 44 28.6
comp=Z,72nm,18.2s,baz=210,slow=33
YKA Yellowknife Ar 96.75 28 P **P 11 04 12.9 -0.4**
comp=Z,1.3nm,0.8s,baz=256,slow=5.0,SNR=21
YKA LR LR 11 43 02.7
comp=Z,59nm,19.6s,baz=306,slow=32
comp=Z,1.3nm,0.8s
ANMO Albuquerque 97.47 56 LR LR 11 43 07.7
comp=Z,63nm,19.2s,baz=81,slow=32
TXAR Lajitas Array 99.03 62 LR LR 11 43 43.5
comp=Z,60nm,19.1s,baz=266,slow=32
BVAR Borovoye Array 99.89 322 P **Pdif 11 04 26.6 -1.1**
comp=Z,5.0nm,0.6s,baz=175,slow=12,SNR=25
BVAR LR LR 11 48 40.0
comp=Z,73nm,21.7s,baz=142,slow=35
BRVK Borovoye 99.96 322*de*P **Pdif 11 04 26.6 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 115.56 344 PKP **PKiKP 11 09 24.0 -0.5**
comp=Z,2.0nm,0.8s,baz=64,slow=2.8,SNR=7.1
ARCES ARCESS Array B 115.56 344 PKIKP **PKiKP 11 09 24.0 -0.5**
BOSA Boshof 122.52 225 PKP **PKiKP 11 09 39.5 -0.1**
comp=Z,1.3nm,0.7s,baz=86,slow=1.9,SNR=3.6
KMBO Kilima Mbogo 123.86 261⇑*i*PKIKP **PKPdf 11 09 41.9 -0.5**
AK01 Malin Array Si 125.02 325 PKP **PKiKP 11 09 43.5 0.0**
NOA NORSAR Array B 125.87 343 PKP **PKPdf 11 09 43.5 -1.0**
comp=Z,1.4nm,0.9s,baz=37,slow=1.6,SNR=3.2
BRTR Keskin Array B 126.42 311 PKP **PKPdf 11 09 46.1 -0.4**
comp=Z,0.4nm,0.5s,baz=353,slow=5.8,SNR=1.6
CPUP Villa Florida 126.50 135 PKP **PKPdf 11 09 47.0 +0.2**
comp=Z,2.3nm,0.8s,baz=260,slow=3.4,SNR=5.2
CPUP Villa Florida 126.50 135 PKIKP **PKPdf 11 09 47.0 +0.2**
KEST Kesra 145.29 319 PKPbc **PKPbc 11 10 20.6 -0.5**
comp=Z,3.2nm,0.5s,baz=25,slow=3.7,SNR=3.9
PBRG Braganca 147.99 344 *e*PKP **PKPbc 11 10 29.6 +0.9**
MVO Moncorvo 148.66 344 *e*PKP **PKPdf 11 10 23.0 -3.8**
POLO Lamas de Olo 148.66 345 *e*PKP **PKiKP 11 10 31.8 -0.3**
ESDC Sonseca Array 149.07 339 PKPbc **PKPbc 11 10 31.7 +0.1**
comp=Z,1.9nm,1.0s,baz=26,slow=4.1,SNR=8.5
PVIS Viseu 149.31 345 *e*PKP **PKPbc 11 10 32.1 -0.1**
MTE Manteigas 149.51 344 *e*PKP **PKPbc 11 10 32.7 0.0**
PCBR Castelo Branco 150.02 344 *e*PKP **PKPdf 11 10 30.7 +1.8**
PMRV Marv??o 150.38 343 *e*PKP **PKPbc 11 10 33.3 -1.5**
PMTG Montargil 150.94 344 *e*PKP **PKiKP 11 10 36.8 +0.1**

*IDC **21** 10:59:51.6±1.1, 33°.13N×70°.59E, h0km, mb3.7/8, mbtmp3.7/12, ML3.8/4, MS3.0/2, Error ellipse: s-maj=27.7km s-min=20.8km az=64.0*
*NNC **21** 10:59:56.6±5.6, 33°.44N×70°.24E, h0km, mb4.1, Error ellipse: s-maj=71.5km s-min=41.1km az=120.0*
ISC 21 10:59:56.7±1.1, 33°.2N±0°.1×70°.5E±0°.1, h35km, n15, σ1º08/18, mb3.6/8, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**9.94**	**0**	⇓P	**Pn**	**11 02 17.8**	**+0.8**
	1.7nm,0.3s,baz=183,slow=12,SNR=26						
KK31				⇑S	**Sn**	**11 04 08.1**	**+0.7**
	2.8nm,0.6s,baz=189,slow=23,SNR=4.0						
AAK	**Ala-Archa**	**9.99**	**17**	Pn	**Pn**	**11 02 19.7**	**+1.9**
	1.6nm,0.3s,baz=191,slow=7.3,SNR=23						
AAK				Sn	**Sn**	**11 04 08.3**	**-0.4**
	0.2nm,0.3s,baz=195,slow=12,SNR=1.1						
AAK				LR	LR	11 06 35.4	
	comp=Z,71nm,19.4s,baz=232,slow=40						
	4.6nm,0.4s						
AAK	**Ala-Archa**	**9.99**	**17**	P	**Pn**	**11 02 18.7**	**+0.8**
	3.9nm,0.5s						
AAK				⇓S	**Sn**	**11 04 09.2**	**+0.4**
	11nm,0.9s						
MKAR	**Makanchi Array**	**16.33**	**30**	Pn	**Pn**	**11 03 43.0**	**-0.3**
	0.2nm,0.3s,baz=214,slow=11,SNR=8.6						
MKAR				LR	LR	11 10 30.8	
	comp=Z,50nm,18.9s,baz=180,slow=39						
	1.3nm,0.9s						
AB31	**Akbulak array**	**17.91**	**337**	⇓P	**Pn**	**11 04 01.6**	**-1.4**
	1.7nm,0.6s,baz=148,slow=12,SNR=27						
KURBB	**Kurchatov Arra**	**18.44**	**16**	P	**P**	**11 04 06.9**	**-2.2**
	0.1nm,0.3s,baz=208,slow=11,SNR=5.9						
	0.7nm,0.5s						
AKTO	**Aktyubinsk**	**19.57**	**336**	P	**Pn**	**11 04 22.3**	**-0.7**
	0.8nm,0.3s,baz=156,slow=9.9,SNR=12						
	2.1nm,0.3s						
ZALV	**Zalesovo Beam**	**23.16**	**22**	P	**P**	**11 04 59.1**	**-0.7**
	1.1nm,0.3s,baz=216,slow=9.4,SNR=7.6						
	1.1nm,0.3s						
BRTR	**Keskin Array B**	**30.21**	**293**	P	**P**	**11 06 04.2**	**+0.1**
	0.3nm,0.4s,baz=107,slow=7.7,SNR=2.9						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**40.07**	**329**	P	**P**	**11 07 27.4**	**-0.9**
	1.6nm,0.8s,baz=78,slow=7.7,SNR=1.7						
	1.6nm,0.8s						
HFS	**Hagfors**	**45.49**	**324**	P	**P**	**11 08 13.3**	**+1.0**
	2.3nm,0.8s,baz=55,slow=7.6,SNR=2.7						
	2.3nm,0.8s						
NOA	**NORSAR Array B**	**46.84**	**325**	P	**P**	**11 08 23.7**	**+0.7**
	0.5nm,0.6s,baz=104,slow=7.6,SNR=1.8						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**80.60**	**121**	P	**P**	**11 12 06.2**	**+0.3**
	0.6nm,0.8s,baz=323,slow=4.9,SNR=5.8						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**82.70**	**124**	P	**P**	**11 12 16.5**	**-0.5**
	0.3nm,0.7s,baz=306,slow=5.4,SNR=6.6						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**84.61**	**2**	P	**P**	**11 12 27.2**	**+1.1**
	0.1nm,0.6s,baz=349,slow=5.3,SNR=4.5						
	0.1nm,0.6s						

*ISN **21** 11:29:32.3±1.5, 32°.84N×47°.31E, h1km±7km, ML3.2*
*TEH **21** 11:29:32.5, 32°.86N×47°.48E, h8km±76km*
ISC 21 11:29:34.4±1.2, 32°.86N±0°.08×47°.43E±0°.04, h15km, n18, σ1º01/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.12**	**34**	Pg	**Pb**	**11 29 53.6**	**-1.9**
ILBA	**Ilam Banvizeh**	**1.28**	**307**	Pg	**Pb**	**11 29 57.7**	**-0.5**
IBDR	**Badra**	**1.29**	**282**	*e*Pg	**Pn**	**11 29 57.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**11 30 14.0**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.45**	**347**	Pg	**Pn**	**11 30 00.3**	**0.0**
BDRS	**Dareh Seyedi**	**1.63**	**48**	Pg	**Pn**	**11 30 03.1**	**+0.2**
IGHG	**Ghaleghazi**	**1.63**	**334**	Pg	**Pb**	**11 30 03.6**	**-0.8**
HSAM	**Samen**	**1.67**	**36**	Pg	**Pn**	**11 30 03.1**	**-0.2**
GLG1	**Gilan-e-Gharb**	**1.79**	**315**	Pn	**Pb**	**11 30 05.6**	**-1.3**
BHD	**Baghdad**	**2.60**	**280**	*e*Pn	**Pn**	**11 30 16.0**	**+0.2**
BHD				*e*Sn	**Sn**	**11 30 49.0**	**+1.9**
HGHA	**Hamedan- Ghaye**	**2.88**	**24**	Pn	**Pn**	**11 30 20.7**	**+0.8**
IPIR	**Pirpir**	**2.92**	**92**	Pn	**Pn**	**11 30 21.6**	**+1.1**
ZNGN	**Zangian**	**2.98**	**103**	Pn	**Pn**	**11 30 21.7**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.35**	**31**	Pn	**Pn**	**11 30 27.5**	**+1.0**
IBRJ	**Brojen**	**3.37**	**105**	Pn	**Pn**	**11 30 26.8**	**0.0**
IKLH	**Kolahrood**	**3.51**	**81**	Pn	**Pn**	**11 30 29.2**	**+0.6**
IKRK	**Kirkuk**	**3.61**	**316**	*e*Pn	**Pn**	**11 30 30.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**11 31 14.0**	**+1.9**
IKRK				AML	AML	11 31 43.5	
	comp=N,78nm,0.4s						
IKRK				AML	AML	11 31 48.4	
	comp=E,86nm,0.5s						
IZEF	**Zefreh**	**4.12**	**88**	Pn	**Pn**	**11 30 37.6**	**+0.6**
IVRN	**Varamin**	**4.16**	**58**	Pn	**Pn**	**11 30 37.4**	**0.0**

HEL 21 11:37:52.0±0.1, 60°.36N×24°.89E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.18**	**181**	PG	Pg	11 37 55.2	-0.2
	baz=359						
HEL1				SG	Sg	11 37 57.7	0.0
NUR	**Nurmijarvi**	**0.19**	**323**	PG	Pg	11 37 55.0	-0.7
	baz=139						
NUR				SG	Sg	11 37 57.7	-0.5
MEF	**Metsahovi**	**0.28**	**241**	PG	Pg	11 37 57.0	-0.4
MEF				SG	Sg	11 38 00.9	-0.1
PVF	**Pernaja**	**0.52**	**68**	PG	Pg	11 38 00.9	-1.1
PVF				SG	Sg	11 38 07.4	-1.3
PVF				MSG		11 38 08.9	
	comp=Z,3.2nm,0.2s						
FIA0	**FINESS Array S**	**1.24**	**28**	PN	Pg	11 38 15.1	-0.6
FIA0				MSG		11 38 29.3	
	comp=Z,2.6nm,0.2s						
FIA0				SN	Sn	11 38 35.2	+1.3
VJF	**Virojoki**	**1.33**	**81**	PG	Pg	11 38 15.9	-1.7
VJF				MSG		11 38 32.2	
	comp=Z,4.2nm,0.2s						
VJF				SG	Sg	11 38 33.6	-1.3
RAF	**Rauma**	**1.68**	**295**	PG	Pn	11 38 22.0	-0.5
	baz=115						
RAF				MSG		11 38 42.0	
	comp=Z,1.7nm,0.2s						
RAF				SN	Sn	11 38 44.7	0.0
MTSE	**Matsula**	**1.73**	**199**	SN	Sg	11 38 47.6	0.0
KEF	**Keuruu**	**1.82**	**360**	PG	Pn	11 38 25.2	+0.7
KEF				MSG		11 38 46.2	
	comp=Z,3.0nm,0.2s						
KEF				SG	Sn	11 38 48.5	+0.2
KAF	**Kangasniemi**	**1.89**	**21**	PG	Pn	11 38 26.1	+0.6
	baz=200						
KAF				MSG		11 38 48.2	
	comp=Z,1.2nm,0.2s						
KAF				SG	Sn	11 38 50.6	+0.5
KPF	**Kankaanpaa**	**2.02**	**319**	PG	Pn	11 38 28.0	+0.7
KPF				SG	Sb	11 38 54.5	-0.6
SUF	**Sumiainen**	**2.45**	**14**	MSG		11 39 04.3	
	comp=Z,0.7nm,0.2s						
SUF				SG	Sb	11 39 07.5	0.0

HEL 21 11:39:15.1±0.1, 63°.14N×27°.79E, h0km, ML1.6, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.25**	**2**	SN	Sg	11 39 24.0	+0.9
NIF	**Nilsia**	**0.25**	**2**	PG	Pg	11 39 18.8	-1.1
	baz=182						
NIF				SG	Sg	11 39 19.7	-3.4
SUF	**Sumiainen**	**0.86**	**241**	PG	Pg	11 39 30.6	-1.0
	baz=57						
SUF				MSG		11 39 41.8	
	comp=Z,3.0nm,0.2s						
KAF	**Kangasniemi**	**1.24**	**214**	PG	Pg	11 39 37.3	-1.5
KAF				MSG		11 39 52.7	
	comp=Z,5.1nm,0.2s						
KAF				SB	Sg	11 39 53.9	-1.0
RMF	**Romuvaara**	**1.44**	**41**	PN	Pn	11 39 42.0	-0.5
RMF				MSG		11 39 58.4	
	comp=Z,2.6nm,0.2s						
RMF				SN	Sn	11 40 02.2	+0.1
JOF	**Joensuu**	**1.62**	**96**	PN	Pn	11 39 44.8	-0.1
JOF				SN	Sn	11 40 06.4	-0.1
KEF	**Keuruu**	**1.67**	**235**	PG	Pn	11 39 45.1	-0.4
	baz=52						
KEF				MSG		11 40 04.9	
	comp=Z,4.8nm,0.2s						
KEF				SG	Sn	11 40 06.6	-0.9
RUF	**Ruokolahti**	**1.81**	**162**	PG	Pn	11 39 47.7	+0.3
	baz=345						
RUF				MSG		11 40 09.0	
	comp=Z,3.8nm,0.2s						
RUF				SG	Sn	11 40 10.9	-0.1
OUF	**Merijarvi**	**1.83**	**314**	PG	Pn	11 39 48.1	+0.3
OUF				MSG		11 40 09.8	
	comp=Z,5.7nm,0.2s						

OUF				SG	Sb	11 40 12.7	-0.2
FIA0	**FINESS Array S**	**1.88**	**206**	PG	Pn	11 39 48.8	+0.3
	baz=22						
FIA0				MSG		11 40 11.1	
	comp=Z,3.7nm,0.2s						
FIA0				SG	Sn	11 40 13.0	+0.1
OBF4	**Vikkela, Lumij**	**2.05**	**326**	SN	Pb	11 39 52.2	-1.0
OBF4	**Vikkela, Lumij**	**2.05**	**326**	PG	Pb	11 39 52.2	-1.0
OBF4				MSG		11 40 16.0	
	comp=Z,2.9nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.08**	**312**	SB	Pn	11 39 52.3	+1.1
OBF0	**Syolatti, Pyha**	**2.08**	**312**	PG	Pn	11 39 52.3	+1.1
OBF0				MSG		11 40 16.8	
	comp=Z,2.6nm,0.2s						
OBF0				SG	Sg	11 40 21.1	-0.7
OUL	**Oulu**	**2.12**	**338**	PG	Pb	11 39 53.2	-1.2
OUL				SG	Sb	11 40 21.4	+0.3
VAF	**Ylistaro**	**2.33**	**270**	PG	Pn	11 39 56.2	+1.6
	baz=84						
VAF				MSG		11 40 24.0	
	comp=Z,6.2nm,0.2s						
VAF				SG	Sb	11 40 26.7	-0.5
KU1	**Kurvinen**	**2.55**	**17**	PG	Pb	11 39 60.0	-1.7
	baz=198						
KU1				SG	Sb	11 40 33.4	-0.1
KU2	**Taivalkoski**	**2.59**	**4**	SG	Sb	11 40 34.2	-0.3
VJF	**Virojoki**	**2.62**	**183**	MSG		11 40 32.3	
	comp=Z,2.2nm,0.2s						
VJF				SB	Sb	11 40 33.2	-2.1
PVF	**Pernaja**	**2.76**	**200**	MSG		11 40 36.5	
	comp=Z,1.6nm,0.2s						
PVF				SG	Sb	11 40 38.8	-0.7
MSF	**Maaselka**	**2.83**	**10**	SG	Sb	11 40 40.3	-1.4
RANF	**Ranua**	**2.92**	**352**	PG	Pb	11 40 06.2	-1.7
RANF				SG	Sb	11 40 43.0	-1.1
KPF	**Kankaanpaa**	**2.96**	**246**	PB	Pn	11 40 05.3	+2.1
	baz=61						
KPF				SB	Sb	11 40 42.6	-2.7
KU6	**Riekki**	**3.03**	**16**	PB	Pn	11 40 06.7	+2.4
KU6				MSG		11 40 44.2	
	comp=Z,0.9nm,0.2s						
KU6				SB	Sb	11 40 45.4	-2.0
BURU	**Burvik**	**3.19**	**300**	SG	Pb	11 40 09.8	-2.6
BURU	**Burvik**	**3.19**	**300**	PB	Pb	11 40 09.8	-2.6
OLKF	**Oulanka, Finla**	**3.27**	**12**	SB	Sb	11 40 52.0	-2.1
RNF	**Rovaniemi**	**3.56**	**349**	PN	Pn	11 40 13.3	+1.7
RNF				SN	Sn	11 40 54.2	-0.1
KLF	**Kolari**	**4.41**	**340**	PN	Pn	11 40 24.6	+1.4
HEMU	**Hemsoen**	**4.48**	**268**	PN	Pn	11 40 24.6	+0.4
HEMU				SN	Sn	11 41 17.0	0.0

IDC 21 11:41:52.0±5.3, 18°.03S×178°.26W, h577km±26km, mb2.7/3, mbtmp3.6/4, Error ellipse: s-maj=173.7km s-min=32.4km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.53**	**274**	P	P	11 43 12.7	0.0
	7.8nm,0.6s,baz=142,slow=17,SNR=9.9						
WRA	**Warramunga Arr**	**44.75**	**260**	P	P	11 49 14.9	-0.4
	0.2nm,0.5s,baz=98,slow=7.0,SNR=6.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**44.89**	**254**	P	P	11 49 16.4	0.0
	1.4nm,0.5s,baz=88,slow=9.3,SNR=37						
ASAR				PcP	PcP	11 50 45.4	0.0
	0.2nm,0.5s,baz=105,slow=3.5,SNR=4.8						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**85.98**	**13**	P	P	11 53 31.1	-0.3
	0.6nm,1.1s,baz=205,slow=3.9,SNR=4.4						
	0.6nm,1.1s						

*CATAC **21** 11:44:19.6±0.2, 12°.N±2°×8°.8W±°, h18km, M4.6/43, MLv4.6/43, Error ellipse: s-maj=4.0km s-min=1.4km az=29.0, confirmed*
*NEIC **21** 11:44:22.8±1.7, 12°.61N±0°.07×87°.82W±0°.07, h64km±10km, mb4.4/41, Error ellipse: s-maj=13.0km s-min=7.3km az=222.0*
*UCR **21** 11:44:23.2±1.1, 12°.61N×87°.82W, h64km, MB4.4(NEIC)*
*GCG **21** 11:44:23.9±1.4, 12°.59N×88°.08W, h50km±14km, MD4.7, Hypocentre not reviewed by the ISC*
*IDC **21** 11:44:24.0±2.5, 12°.65N×87°.50W, h109km±24km, mb3.6/8, mbtmp3.9/10, MS3.0/5, Error ellipse: s-maj=35.5km s-min=16.1km az=62.0*

ISC 21 11:44:20.2±0.8, 12°.47N±0°.04×87°.92W±0°.03, h63km±8km, n273, σ1§45/276, mb4.4/27, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**6**	*eP*	**Pn**	**11 44 36.5**	**+0.4**
CNCH				*eS*	**Sn**	**11 44 48.0**	**+0.3**
CNCH	**Conchagua**	**0.81**	**6**	S	**Sn**	**11 44 49.0**	**+1.3**
CNCH	**Conchagua**	**0.81**	**6**	P	**Pn**	**11 44 36.9**	**+0.8**
CNCH	**Conchagua**	**0.81**	**6**	P	**Pn**	**11 44 36.8**	**+0.7**
CNCH	**Conchagua**	**0.81**	**6**	P	**Pn**	**11 44 36.7**	**+0.6**
LCND	**La Caada**	**0.83**	**2**	*eP*	**Pn**	**11 44 37.1**	**+0.7**
LCND	**La Caada**	**0.83**	**2**	P	**Pn**	**11 44 36.8**	**+0.5**
LCND	**La Caada**	**0.83**	**2**	P	**Pn**	**11 44 37.0**	**+0.7**
LCND	**La Caada**	**0.83**	**2**	P	**Pn**	**11 44 36.9**	**+0.6**
CRIN	**San Cristobal**	**0.88**	**75**		**Pn**	**11 44 38.3**	**+1.4**
PKGN	**Cerro Pekin**	**0.94**	**78**	P	**Pn**	**11 44 38.6**	**+1.0**
PKGN				S	**Sn**	**11 44 52.1**	**+1.6**
PKGN	**Cerro Pekin**	**0.94**	**78**	P	**Pn**	**11 44 38.6**	**+1.0**
PKGN	**Cerro Pekin**	**0.94**	**78**	P	**Pn**	**11 44 38.5**	**+0.9**
BLLM	**Bellamira**	**1.02**	**342**	*eP*	**Pn**	**11 44 39.2**	**+0.5**
LCY	**Lacayo**	**1.02**	**339**	*eP*	**Pn**	**11 44 39.2**	**+0.5**
RANC	**El Ranchito**	**1.02**	**339**	*eP*	**Pn**	**11 44 39.4**	**+0.5**
RANC	**El Ranchito**	**1.02**	**339**	P	**Pn**	**11 44 39.5**	**+0.5**
RANC	**El Ranchito**	**1.02**	**339**	S	**Sn**	**11 44 53.3**	**+0.6**
RANC	**El Ranchito**	**1.02**	**339**	P	**Pn**	**11 44 39.5**	**+0.5**
RANC	**El Ranchito**	**1.02**	**339**	P	**Pn**	**11 44 39.3**	**+0.5**
CNRM	**Centro Naciona**	**1.03**	**346**	P	**Pn**	**11 44 39.6**	**+0.8**
CNRM	**Centro Naciona**	**1.03**	**346**	S	**Sn**	**11 44 53.2**	**+0.7**
CNRM	**Centro Naciona**	**1.03**	**346**	P	**Pn**	**11 44 39.6**	**+0.8**
ALJI	**Alcalda de J**	**1.06**	**323**	*eP*	**Pn**	**11 44 39.7**	**+0.5**
ALJI	**Alcalda de J**	**1.06**	**323**	S	**Sn**	**11 44 53.5**	**+0.2**
ALJI	**Alcalda de J**	**1.06**	**323**	P	**Pn**	**11 44 39.7**	**+0.5**
ALJI	**Alcalda de J**	**1.06**	**323**	P	**Pn**	**11 44 39.8**	**+0.5**
ALJI	**Alcalda de J**	**1.06**	**323**	P	**Pn**	**11 44 39.6**	**+0.5**
HERN	**Volcan Telica**	**1.07**	**82**	Pn	**Pn**	**11 44 39.7**	**+0.4**
PACA	**Pacayal**	**1.07**	**338**	*eP*	**Pn**	**11 44 40.2**	**+0.8**
PACA	**Pacayal**	**1.07**	**338**	P	**Pn**	**11 44 40.4**	**+0.9**
PACA	**Pacayal**	**1.07**	**338**	S	**Sn**	**11 44 54.5**	**+0.9**
PACA	**Pacayal**	**1.07**	**338**	P	**Pn**	**11 44 40.2**	**+0.8**
PACA	**Pacayal**	**1.07**	**338**	P	**Pn**	**11 44 40.0**	**+0.6**
POLN	**Al Sur del Vol**	**1.09**	**81**	P	**Pn**	**11 44 40.0**	**+0.4**
POLN				S	**Sn**	**11 44 54.1**	**+0.1**
POLN	**Al Sur del Vol**	**1.09**	**81**	P	**Pn**	**11 44 40.3**	**+0.7**
POLN	**Al Sur del Vol**	**1.09**	**81**	P	**Pn**	**11 44 40.2**	**+0.6**
PACN	**Al O del Volca**	**1.10**	**88**	P	**Pn**	**11 44 40.8**	**+1.1**
PACN				S	**Sn**	**11 44 55.3**	**+1.2**
PACN	**Al O del Volca**	**1.10**	**88**	P	**Pn**	**11 44 40.7**	**+1.1**
PACN	**Al O del Volca**	**1.10**	**88**	P	**Pn**	**11 44 40.5**	**+0.8**
ROCN	**Rota Cerro Neg**	**1.15**	**87**	P	**Pn**	**11 44 35.8**	**-4.5**
TECA	**Tecapa**	**1.17**	**331**	*eP*	**Pn**	**11 44 41.3**	**+0.6**
CNGA	**Al SSO del Vol**	**1.19**	**89**	P	**Pn**	**11 44 41.4**	**+0.5**
CNGA				S	**Sn**	**11 44 57.1**	**+0.8**
CNGA	**Al SSO del Vol**	**1.19**	**89**	P	**Pn**	**11 44 41.7**	**+0.8**
CNGA	**Al SSO del Vol**	**1.19**	**89**	P	**Pn**	**11 44 41.6**	**+0.7**
CNGN	**Cerro Negro**	**1.19**	**88**		**Pn**	**11 44 41.4**	**+0.5**
ILCN	**San Idelfonso**	**1.19**	**85**	P	**Pn**	**11 44 41.3**	**+0.4**
ILCN				S	**Sn**	**11 44 56.3**	**-0.1**
ILCN	**San Idelfonso**	**1.19**	**85**	P	**Pn**	**11 44 41.3**	**+0.4**
ILCN	**San Idelfonso**	**1.19**	**85**	P	**Pn**	**11 44 41.2**	**+0.4**
MACN	**El Madrono**	**1.21**	**90**	P	**Pn**	**11 44 41.9**	**+0.7**
MACN				S	**Sn**	**11 44 57.1**	**+0.2**
MACN	**El Madrono**	**1.21**	**90**	P	**Pn**	**11 44 41.7**	**+0.5**
MACN	**El Madrono**	**1.21**	**90**	P	**Pn**	**11 44 41.7**	**+0.5**
CHOHN	**Orocuina**	**1.25**	**36**	P	**Pn**	**11 44 42.4**	**+0.7**
CHOHN	**Orocuina**	**1.25**	**36**	S	**Sn**	**11 44 58.4**	**+0.6**
CHOHN	**Orocuina**	**1.25**	**36**	P	**Pn**	**11 44 42.4**	**+0.7**
CHOHN	**Orocuina**	**1.25**	**36**	P	**Pn**	**11 44 42.3**	**+0.6**
LEVN	**Ruinas Leon Vi**	**1.27**	**93**	P	**Pn**	**11 44 43.0**	**+1.1**
LEVN				S	**Sn**	**11 44 59.8**	**+1.6**
LEVN	**Ruinas Leon Vi**	**1.27**	**93**	P	**Pn**	**11 44 43.3**	**+1.4**
LEVN	**Ruinas Leon Vi**	**1.27**	**93**	P	**Pn**	**11 44 42.8**	**+0.9**
PQSS	**Presa 15 de Se**	**1.31**	**331**	*eP*	**Pn**	**11 44 43.5**	**+1.1**
CAHU	**Cacacuatique**	**1.32**	**347**	*eP*	**Pn**	**11 44 44.0**	**+1.2**
COPN	**Copaltepe**	**1.33**	**102**	P	**Pn**	**11 44 43.7**	**+1.1**
COPN	**Copaltepe**	**1.33**	**102**	P	**Pn**	**11 44 43.5**	**+0.8**
COPN	**Copaltepe**	**1.33**	**102**	P	**Pn**	**11 44 43.1**	**+0.4**
BC84	**Volcan Momotom**	**1.35**	**93**	S	**Sn**	**11 45 00.0**	**+0.1**
BC84	**Volcan Momotom**	**1.35**	**93**	P	**Pn**	**11 44 43.5**	**+0.6**
BC84	**Volcan Momotom**	**1.35**	**93**	P	**Pn**	**11 44 44.2**	**+1.3**
MOMN	**Momotombo**	**1.35**	**92**	P	**Pn**	**11 44 43.7**	**+0.8**
MOMN				S	**Sn**	**11 45 00.3**	**+0.3**
MOMN	**Momotombo**	**1.35**	**92**	P	**Pn**	**11 44 43.6**	**+0.7**
MOMN	**Momotombo**	**1.35**	**92**	P	**Pn**	**11 44 43.5**	**+0.5**
TECO	**Alcaldia de Te**	**1.35**	**322**	*eP*	**Pn**	**11 44 43.4**	**+0.3**
TECO	**Alcaldia de Te**	**1.35**	**322**	P	**Pn**	**11 44 43.4**	**+0.3**
TECO	**Alcaldia de Te**	**1.35**	**322**	S	**Sn**	**11 44 59.3**	**-0.9**
TECO	**Alcaldia de Te**	**1.35**	**322**	P	**Pn**	**11 44 43.6**	**+0.5**
TECO	**Alcaldia de Te**	**1.35**	**322**	P	**Pn**	**11 44 43.7**	**+0.6**
MOM2	**El Cardon**	**1.40**	**91**	P	**Pn**	**11 44 44.8**	**+1.1**
MOM2				S	**Sn**	**11 45 01.6**	**+0.3**
MOM2	**El Cardon**	**1.40**	**91**	P	**Pn**	**11 44 44.7**	**+1.1**
MOM2	**El Cardon**	**1.40**	**91**	P	**Pn**	**11 44 44.4**	**+0.8**
UESV	**Universidad de**	**1.44**	**324**	*eP*	**Pn**	**11 44 45.1**	**+0.9**
UESV	**Universidad de**	**1.44**	**324**	P	**Pn**	**11 44 45.1**	**+0.9**
UESV	**Universidad de**	**1.44**	**324**	S	**Sn**	**11 45 02.6**	**+0.4**
UESV	**Universidad de**	**1.44**	**324**	P	**Pn**	**11 44 45.1**	**+0.9**
UESV	**Universidad de**	**1.44**	**324**	P	**Pn**	**11 44 45.1**	**+0.9**
SCLA	**Alcaldia de Sa**	**1.46**	**327**	*eP*	**Pn**	**11 44 45.4**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.46**	**327**	S	**Sn**	**11 45 04.5**	**+1.8**
SCLA	**Alcaldia de Sa**	**1.46**	**327**	P	**Pn**	**11 44 46.1**	**+1.6**
SCLA	**Alcaldia de Sa**	**1.46**	**327**	P	**Pn**	**11 44 45.7**	**+1.2**
SCLA	**Alcaldia de Sa**	**1.46**	**327**	P	**Pn**	**11 44 45.5**	**+1.0**
COEG	**Centro de Oper**	**1.48**	**321**	*eP*	**Pn**	**11 44 45.4**	**+0.7**
COEG				*eS*	**Sn**	**11 45 03.5**	**+0.2**
COEG	**Centro de Oper**	**1.48**	**321**	S	**Sn**	**11 45 03.5**	**+0.2**
COEG	**Centro de Oper**	**1.48**	**321**	P	**Pn**	**11 44 45.7**	**+0.8**
COEG	**Centro de Oper**	**1.48**	**321**	P	**Pn**	**11 44 45.5**	**+0.7**
COEG	**Centro de Oper**	**1.48**	**321**	P	**Pn**	**11 44 45.6**	**+0.8**
MSHP	**Masachapa**	**1.49**	**115**	P	**Pn**	**11 44 45.2**	**+0.3**
MSHP				S	**Sn**	**11 45 03.5**	**0.0**
MSHP	**Masachapa**	**1.49**	**115**	P	**Pn**	**11 44 46.0**	**+1.1**
MSHP	**Masachapa**	**1.49**	**115**	P	**Pn**	**11 44 45.1**	**+0.3**
APYN	**Apoyeque**	**1.55**	**99**	P	**Pn**	**11 44 46.7**	**+1.0**
APYN				S	**Sn**	**11 45 04.3**	**-0.5**
APYN	**Apoyeque**	**1.55**	**99**	P	**Pn**	**11 44 46.6**	**+1.0**
APQ2	**Apoyeque**	**1.58**	**100**	P	**Pn**	**11 44 46.6**	**+0.6**
APQ2				S	**Sn**	**11 45 05.9**	**+0.4**
APQ2	**Apoyeque**	**1.58**	**100**	P	**Pn**	**11 44 47.1**	**+1.1**
APQ2	**Apoyeque**	**1.58**	**100**	P	**Pn**	**11 44 46.7**	**+0.7**
PAVA	**Las Pavas**	**1.59**	**321**	*eP*	**Pn**	**11 44 47.4**	**+1.1**
PAVA	**Las Pavas**	**1.59**	**321**	S	**Sn**	**11 45 07.5**	**+1.6**
PAVA	**Las Pavas**	**1.59**	**321**	P	**Pn**	**11 44 47.7**	**+1.4**
PAVA	**Las Pavas**	**1.59**	**321**	P	**Pn**	**11 44 47.4**	**+1.1**
PAVA	**Las Pavas**	**1.59**	**321**	P	**Pn**	**11 44 43.8**	**-2.5**
LFRS	**El Faro**	**1.60**	**316**	*i P*	**Pn**	**11 44 47.2**	**+0.8**
ABCN	**Banco Central**	**1.61**	**102**	P	**Pn**	**11 44 47.9**	**+1.5**
ABCN	**Banco Central**	**1.61**	**102**	S	**Sn**	**11 45 07.3**	**+1.0**
ABCN	**Banco Central**	**1.61**	**102**	P	**Pn**	**11 44 48.0**	**+1.5**
TISN	**Laguna Tiscapa**	**1.64**	**101**	P	**Pn**	**11 44 47.7**	**+0.8**
TISN	**Laguna Tiscapa**	**1.64**	**101**	P	**Pn**	**11 44 48.0**	**+1.1**
TISN	**Laguna Tiscapa**	**1.64**	**101**	P	**Pn**	**11 44 47.7**	**+0.8**
USIM	**UNAN**	**1.64**	**102**	Pn	**Pn**	**11 44 48.0**	**+1.1**
USIM	**UNAN**	**1.64**	**102**	P	**Pn**	**11 44 48.3**	**+1.4**
USIM	**UNAN**	**1.64**	**102**	S	**Sn**	**11 45 07.4**	**+0.2**
USIM	**UNAN**	**1.64**	**102**	P	**Pn**	**11 44 48.6**	**+1.7**
ENAN	**Enatrel Managu**	**1.66**	**102**	P	**Pn**	**11 44 46.1**	**-1.0**
ENAN	**Enatrel Managu**	**1.66**	**102**	S	**Sn**	**11 45 08.1**	**+0.7**
ENAN	**Enatrel Managu**	**1.66**	**102**	P	**Pn**	**11 44 45.8**	**-1.3**
MGAN	**Managua**	**1.66**	**101**		**Pn**	**11 44 48.1**	**+0.9**
MGAN	**Managua**	**1.66**	**101**	P	**Pn**	**11 44 48.2**	**+1.1**
MGAN	**Managua**	**1.66**	**101**	S	**Sn**	**11 45 08.1**	**+0.6**
MGAN	**Managua**	**1.66**	**101**	P	**Pn**	**11 44 48.3**	**+1.2**
MAFN	**Magfor**	**1.68**	**103**	P	**Pn**	**11 44 48.6**	**+1.1**
MAFN	**Magfor**	**1.68**	**103**	S	**Sn**	**11 45 07.8**	**-0.3**
MAFN	**Magfor**	**1.68**	**103**	P	**Pn**	**11 44 48.5**	**+1.1**
LOMA	**Loma Larga**	**1.69**	**314**	*eP*	**Pn**	**11 44 48.2**	**+0.6**
LOMA	**Loma Larga**	**1.69**	**314**	P	**Pn**	**11 44 48.6**	**+0.9**
LOMA	**Loma Larga**	**1.69**	**314**	S	**Sn**	**11 45 09.0**	**+0.5**
LOMA	**Loma Larga**	**1.69**	**314**	P	**Pn**	**11 44 48.4**	**+0.7**
LOMA	**Loma Larga**	**1.69**	**314**	P	**Pn**	**11 44 48.5**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.70**	**22**	Pn	**Pn**	**11 44 49.0**	**+1.3**
LALI	**Alcalda de L**	**1.70**	**307**	P	**Pn**	**11 44 49.0**	**+1.3**
LALI	**Alcalda de L**	**1.70**	**307**	*eP*		11 44 48.3	
LALI				*eS*		11 45 06.9	
ITCA	**Escuela Especi**	**1.79**	**312**	P	**Pn**	**11 44 49.7**	**+0.8**
ITCA	**Escuela Especi**	**1.79**	**312**	S	**Sn**	**11 45 11.2**	**+0.4**
ITCA	**Escuela Especi**	**1.79**	**312**	P	**Pn**	**11 44 49.5**	**+0.5**
UEES	**Universidad Ev**	**1.79**	**314**	S	**Sn**	**11 45 10.8**	**+0.1**
UEES	**Universidad Ev**	**1.79**	**314**	P	**Pn**	**11 44 50.0**	**+1.1**
UEES	**Universidad Ev**	**1.79**	**314**	P	**Pn**	**11 44 50.1**	**+1.1**
SABN	**Sabanita**	**1.79**	**106**	P	**Pn**	**11 44 49.1**	**+0.2**
MASN	**Masaya**	**1.79**	**105**	P	**Pn**	**11 44 50.8**	**+1.9**
MASN				S	**Sn**	**11 45 11.9**	**+1.2**
MASN	**Masaya**	**1.79**	**105**	P	**Pn**	**11 44 50.8**	**+1.9**
YUSH	**Yuscaran**	**1.81**	**35**	P	**Pn**	**11 44 50.5**	**+1.3**
YUSH	**Yuscaran**	**1.81**	**35**	S	**Sn**	**11 45 12.5**	**+1.3**
YUSH	**Yuscaran**	**1.81**	**35**	S	**Sn**	**11 45 12.3**	**+1.1**
YUSH	**Yuscaran**	**1.81**	**35**	P	**Pn**	**11 44 50.5**	**+1.3**
YUSH	**Yuscaran**	**1.81**	**35**	P	**Pn**	**11 44 50.4**	**+1.1**
PIC2	**El Picacho**	**1.82**	**314**	*eP*	**Pn**	**11 44 50.7**	**+1.2**
PMON	**Piamonte**	**1.84**	**312**	P	**Pn**	**11 44 50.8**	**+1.2**
PMON	**Piamonte**	**1.84**	**312**	S	**Sn**	**11 45 13.9**	**+1.9**
PMON	**Piamonte**	**1.84**	**312**	P	**Pn**	**11 44 50.9**	**+1.2**
PMON	**Piamonte**	**1.84**	**312**	P	**Pn**	**11 44 50.6**	**+0.9**
INTHN	**La Esperanza I**	**1.84**	**354**	P	**Pn**	**11 44 51.3**	**+1.5**
INTHN	**La Esperanza I**	**1.84**	**354**	P	**Pn**	**11 44 51.5**	**+1.6**
INTHN	**La Esperanza I**	**1.84**	**354**	S	**Sn**	**11 45 15.0**	**+2.7**
INTHN	**La Esperanza I**	**1.84**	**354**	P	**Pn**	**11 44 51.2**	**+1.4**
JAYA	**Jayaque - finc**	**1.90**	**308**	P	**Pn**	**11 44 52.2**	**+1.7**
JAYA	**Jayaque - finc**	**1.90**	**308**	P	**Pn**	**11 44 51.4**	**+0.8**
JAYA	**Jayaque - finc**	**1.90**	**308**	P	**Pn**	**11 44 52.4**	**+1.8**
JAYA	**Jayaque - finc**	**1.90**	**308**	*eP*		11 44 51.5	
LLGN	**La Laguna**	**1.96**	**329**	P	**Pn**	**11 44 52.3**	**+1.0**
LLGN	**La Laguna**	**1.96**	**329**	P	**Pn**	**11 44 52.2**	**+1.0**
RCFN	**Al S de San Ju**	**1.97**	**57**	P	**Pn**	**11 44 52.8**	**+1.4**
RCFN	**Al S de San Ju**	**1.97**	**57**	S	**Sn**	**11 45 16.6**	**+1.4**
RCFN	**Al S de San Ju**	**1.97**	**57**	P	**Pn**	**11 44 52.9**	**+1.4**
RCFN	**Al S de San Ju**	**1.97**	**57**	P	**Pn**	**11 44 52.8**	**+1.4**
COMHN	**El Horno**	**1.99**	**10**	P	**Pn**	**11 44 52.8**	**+0.9**
COMHN	**El Horno**	**1.99**	**10**	P	**Pn**	**11 44 52.6**	**+0.8**
COMHN	**El Horno**	**1.99**	**10**	P	**Pn**	**11 44 52.6**	**+0.8**
RCVN	**Varilla#2**	**2.01**	**56**	P	**Pn**	**11 44 53.4**	**+1.4**
RCVN	**Varilla#2**	**2.01**	**56**	S	**Sn**	**11 45 17.8**	**+1.6**
RCVN	**Varilla#2**	**2.01**	**56**	P	**Pn**	**11 44 53.5**	**+1.4**
RCVN	**Varilla#2**	**2.01**	**56**	P	**Pn**	**11 44 53.4**	**+1.4**
RCPN	**Sur Rio San Ju**	**2.06**	**59**	P	**Pn**	**11 44 54.4**	**+1.6**
RCPN	**Sur Rio San Ju**	**2.06**	**59**	P	**Pn**	**11 44 54.2**	**+1.5**
RCPN	**Sur Rio San Ju**	**2.06**	**59**	S	**Sn**	**11 45 19.6**	**+2.2**
RCPN	**Sur Rio San Ju**	**2.06**	**59**	P	**Pn**	**11 44 54.2**	**+1.5**
CEVE	**Cerro Verde**	**2.14**	**309**	P	**Pn**	**11 44 55.6**	**+1.7**
CEVE	**Cerro Verde**	**2.14**	**309**	P	**Pn**	**11 44 55.5**	**+1.6**
CEVE	**Cerro Verde**	**2.14**	**309**	P	**Pn**	**11 44 55.5**	**+1.6**
UNIC	**Universidad Ca**	**2.19**	**314**	P	**Pn**	**11 44 56.2**	**+1.8**
UNIC	**Universidad Ca**	**2.19**	**314**	S	**Sn**	**11 45 22.3**	**+1.9**
UNIC	**Universidad Ca**	**2.19**	**314**	P	**Pn**	**11 44 56.5**	**+2.1**
BOAB	**BOACO BROADBAN**	**2.20**	**90**	Pn	**Pn**	**11 44 55.1**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.20**	**90**	P	**Pn**	**11 44 55.0**	**+0.7**
NUBE	**Las Nubes**	**2.31**	**308**	P	**Pn**	**11 44 57.6**	**+1.6**
NUBE	**Las Nubes**	**2.31**	**308**	S	**Sn**	**11 45 24.1**	**+0.7**
NUBE	**Las Nubes**	**2.31**	**308**	P	**Pn**	**11 44 57.7**	**+1.6**
NUBE	**Las Nubes**	**2.31**	**308**	P	**Pn**	**11 44 57.2**	**+1.2**
NUBE	**Las Nubes**	**2.31**	**308**	*eP*		11 44 57.2	
NUBE				*i S*		11 45 24.2	
LOAL	**Lomas de Alarc**	**2.37**	**310**	P	**Pn**	**11 45 00.7**	**+4.0**
LOAL	**Lomas de Alarc**	**2.37**	**310**	P	**Pn**	**11 45 01.0**	**+4.2**
MTO3	**Montecristo**	**2.38**	**324**	Pn	**Pn**	**11 44 58.4**	**+1.4**
MTO3	**Montecristo**	**2.38**	**324**	P	**Pn**	**11 44 58.4**	**+1.4**
MTO3	**Montecristo**	**2.38**	**324**	P	**Pn**	**11 44 58.5**	**+1.4**
MTO3	**Montecristo**	**2.38**	**324**	P	**Pn**	**11 44 59.2**	**+2.2**
MTO3	**Montecristo**	**2.38**	**324**	*eP*		11 44 58.1	
JAPN	**Al SSO del Vol**	**2.38**	**113**	P	**Pn**	**11 44 60.0**	**+3.0**
JAPN	**Al SSO del Vol**	**2.38**	**113**	P	**Pn**	**11 44 59.3**	**+2.3**
JAPN	**Al SSO del Vol**	**2.38**	**113**	P	**Pn**	**11 44 59.6**	**+2.6**
SLOZ	**Alcaldia de Sa**	**2.39**	**311**	P	**Pn**	**11 44 58.9**	**+1.9**
SLOZ	**Alcaldia de Sa**	**2.39**	**311**	P	**Pn**	**11 44 58.7**	**+1.7**
CONN	**Concepcion**	**2.42**	**112**	P	**Pn**	**11 44 57.7**	**+0.3**
CONN	**Concepcion**	**2.42**	**112**	P	**Pn**	**11 44 58.1**	**+0.7**
ESQI	**Esquipulas**	**2.50**	**326**		**Pn**	**11 45 00.3**	**+1.7**
ACON	**Acoyapa**	**2.73**	**100**		**Pn**	**11 45 02.2**	**+0.6**
NISHN	**Nisperales Com**	**3.29**	**1**	P	**Pn**	**11 45 11.1**	**+1.8**
NISHN	**Nisperales Com**	**3.29**	**1**	P	**Pn**	**11 45 11.6**	**+2.2**
NISHN	**Nisperales Com**	**3.29**	**1**	*eP*		11 45 11.5	
INDI	**Punta indio, G**	**3.51**	**137**	P	**Pn**	**11 45 14.1**	**+1.8**
INDI	**Punta indio, G**	**3.51**	**137**	S	**Sn**	**11 45 50.5**	**-2.1**
INDI	**Punta indio, G**	**3.51**	**137**	P	**Pn**	**11 45 14.5**	**+2.2**
ESPN	**Las Esperanzas**	**3.54**	**94**		**Pn**	**11 45 14.3**	**+1.5**
JTS	**Las Juntas de**	**3.62**	**126**	Pn	**Pn**	**11 45 17.8**	**+3.8**
JTS	**Las Juntas de**	**3.62**	**126**	P	**Pn**	**11 45 15.1**	**+1.2**
	9.1nm,0.3s,baz=304,slow=15,SNR=11						
JTS				LR	LR	11 46 09.3	
	comp=Z,51nm,21.0s,baz=276,slow=31						
SOCE	**Pocosol**	**3.84**	**122**		**Pn**	**11 45 19.9**	**+3.0**
CBL1	**Cabuya**	**3.99**	**136**	*eP*	**Pn**	**11 45 21.9**	**+3.0**
PICV	**PH. Pirrs**	**4.62**	**127**	*eP*	**Pn**	**11 45 30.7**	**+3.1**
PISJ	**San Jernim**	**4.67**	**127**	*eP*	**Pn**	**11 45 31.8**	**+3.4**
ABE2	**San Pablo**	**4.68**	**126**	*eP*	**Pn**	**11 45 32.8**	**+4.2**
VICA	**Volcano Irazu**	**4.70**	**121**	*eP*	**Pn**	**11 45 32.9**	**+3.9**
LCR2	**La Lucha 2**	**4.70**	**125**	*eP*	**Pn**	**11 45 32.6**	**+3.7**
PETF	**Flores**	**4.81**	**337**		**Pn**	**11 45 32.5**	**+2.4**
PETF	**Flores**	**4.81**	**337**	*eP*		11 45 33.6	
EDPE	**Pejibaye, P**	**5.39**	**127**	*eP*	**Pn**	**11 45 41.7**	**+3.6**
DRK0	**Durika**	**5.59**	**124**	*eP*	**Pn**	**11 45 44.8**	**+3.9**
FIMO	**Fila Mora**	**5.66**	**127**	*eP*	**Pn**	**11 45 45.5**	**+

NGRZ	Ngongotaha	0.48	34	P		Pn	11 59 47.7 -0.2
RITZ	Rihia Road	0.48	179	P		Pn	11 59 48.5 +0.6
KATZ	Kakaramea	0.49	194	P		Pn	11 59 48.4 +0.4
RRRZ	Republican Roa	0.55	73	P		Pn	11 59 47.8 -0.4
MRHZ	Matea Rd	0.56	127	P		Pn	11 59 48.1 -0.1
OMRZ	Omania	0.57	47	P		Pn	11 59 47.9 -0.4
KARZ	Kaharoa	0.57	33	P		Pn	11 59 47.9 -0.4
TARZ	Mount Tarawera	0.58	63	P		Pn	11 59 48.1 -0.3
MKRZ	Makatiti	0.60	54	P		Pn	11 59 48.7 +0.1
NTVZ	North Tongariro	0.61	193	P		Pn	11 59 48.9 +0.3
KRVZ	Karewarewa	0.62	195	P		Pn	11 59 48.8 +0.2
TMVZ	Te Maari	0.63	190	P		Pn	11 59 49.0 +0.4
ETVZ	East Tongariro	0.65	190	P		Pn	11 59 49.2 +0.4
WTVZ	West Tongariro	0.65	198	P		Pn	11 59 49.1 +0.3
KMRZ	Kaimai	0.66	6	P		Pn	11 59 48.4 -0.4
KMRZ				S		Sn	12 00 07.0 -2.1
TWVZ	Taurewa	0.66	209	P		Pn	11 59 49.1 +0.4
NNVZ	North Ngauruho	0.66	196	P		Pn	11 59 49.3 +0.5
NGZ	Ngauruhoe	0.70	196	P		Pn	11 59 49.4 +0.3
SNVZ	South Ngauruho	0.71	193	P		Pn	11 59 49.4 +0.3
MUGZ	Murupara	0.72	89	P		Pn	11 59 48.4 -0.5
MUGZ				S		Sn	12 00 07.3 -2.3
COVZ	Chateau Observ	0.74	199	P		Pn	11 59 49.5 +0.3
HIZ	Hauiti	0.78	269			Pn	11 59 49.6 +0.3
HIZ	Hauiti	0.78	269	P		Pn	11 59 49.5 +0.2
HIZ	Hauiti	0.78	269	P		Sn	12 00 10.1 0.0
HIZ	Hauiti	0.78	269	P		Pn	11 59 49.6 +0.3
HIZ				S		Sn	12 00 08.6 -1.5
TUVZ	Tukino	0.78	191	P		Pn	11 59 50.1 +0.6
FWVZ	Far West T-bar	0.79	197	P		Pn	11 59 50.0 +0.4
MAVZ	Matarangi	0.80	196	P		Pn	11 59 50.2 +0.4
WHVZ	Whangaehu Hut	0.81	195	P		Pn	11 59 50.3 +0.6
TOZ	Tahuroa Road	0.81	340			Pn	11 59 49.5 -0.1
TOZ	Tahuroa Road	0.81	340	P		Pn	11 59 49.4 -0.2
TOZ				S		Sn	12 00 09.1 -1.4
MARZ	Manawahe	0.83	52	P		Pn	11 59 49.4 -0.3
TGRZ	Tauranga	0.83	23	P		Pn	11 59 49.2 -0.5
TGRZ				S		Sn	12 00 09.0 -1.7
TRVZ	Turoa	0.83	196	P		Pn	11 59 50.5 +0.6
BKZ	Black Stump Fm	0.83	143			Pn	11 59 50.0 +0.3
BKZ	Black Stump Fm	0.83	143	P		Pn	11 59 49.2 -0.5
BKZ	Black Stump Fm	0.83	143	P		Pn	12 00 10.7 +21
BKZ	Black Stump Fm	0.83	143	P		Pn	11 59 50.0 +0.3
BKZ				S		Sn	12 00 08.9 -2.1
WNVZ	Wahianoa	0.85	193	P		Pn	11 59 50.5 +0.6
MTHZ	Maungataniwha	0.85	115	P		Pn	11 59 50.0 +0.2
MTHZ				S		Sn	12 00 09.3 -1.7
OPRZ	Ohinepanea	0.86	41	P		Pn	11 59 49.2 -0.6
OPRZ				S		Sn	12 00 08.9 -2.0
PKVZ	Pokaka	0.88	206	P		Pn	11 59 50.6 +0.6
RTZ	Ruatahuna	0.89	98			Pn	11 59 50.0 -0.1
RTZ	Ruatahuna	0.89	98	P		Pn	11 59 49.9 -0.1
RTZ				S		Sn	12 00 09.1 -2.4
MOVZ	Moawhango	0.91	185	P		Pn	11 59 50.5 +0.3
MTVZ	Mangateitei	0.93	198	P		Pn	11 59 51.0 +0.7
NMHZ	Naumai	0.96	129	P		Pn	11 59 51.6 +1.1
URZ	Urewera	1.02	77	P		Pn	11 59 50.0 -0.9
	1μm,0.3s,baz=327,slow=7.5,SNR=3184						
URZ				S		Sn	12 00 09.5 -3.4
	485nm,0.4s,baz=197,slow=19,SNR=37						
URZ	Urewera	1.02	77	P		Pn	11 59 49.9 -0.9
URZ	Urewera	1.02	77	P		Pn	11 59 50.1 -0.8
KWHZ	Kaweka Forest	1.03	154	P		Pn	11 59 51.7 +0.7
RAHZ	Arahi	1.05	114	P		Pn	11 59 51.8 +0.6
MCHZ	McNeill Hill	1.15	145	P		Pn	11 59 53.2 +1.3
ARHZ	Aropaoanui	1.18	131	P		Pn	11 59 53.0 +1.0
SNGZ	Shannon Statio	1.20	104	P		Pn	11 59 52.7 +0.4
SNGZ				S		Sn	12 00 13.6 -1.9
KRHZ	Kereru	1.21	161	P		Pn	11 59 53.2 +0.8
WHHZ	Waihua	1.23	119	P		Pn	11 59 53.2 +0.7
RAGZ	Rawiri	1.23	90	P		Pn	11 59 52.5 -0.1
MYRZ	Mayor Island	1.25	14	P		Pn	11 59 51.7 -1.0
MWZ	Matawai	1.33	83	P		Pn	11 59 53.0 -0.4
WAZ	Wanganui	1.42	208	P		Pn	11 59 54.9 +0.7
WIZ	White Island	1.44	48	P		Pn	11 59 53.4 -0.9
PNHZ	Pukenui	1.44	169	P		Pn	11 59 55.0 +0.6
DREZ	Durham Road	1.46	241	P		Pn	11 59 55.7 +1.2
LREZ	Lake Rotokare	1.48	229	P		Pn	11 59 55.9 +1.3
MKAZ	Moumakai	1.50	338	P		Pn	11 59 54.6 -0.2
CKHZ	Cape Kidnapper	1.50	141	P		Pn	11 59 56.0 +1.2
RIGZ	Rimuhau	1.51	98	P		Pn	11 59 55.3 +0.3
KNZ	Kokohu	1.52	111	P		Pn	11 59 55.4 +0.4
KAHZ	Kahuranaki	1.52	149	P		Pn	11 59 56.3 +1.2
RUGZ	Raukumara Rang	1.53	70	P		Pn	11 59 54.0 -1.3
TSZ	Takapari Road	1.56	177	P		Pn	11 59 56.2 +0.7
TKGZ	Te Karaka	1.57	88	P		Pn	11 59 55.8 +0.3
NEZ	North Egmont	1.57	240	P		Pn	11 59 56.9 +1.3
KBAZ	Karaka Road Bo	1.59	331	P		Pn	11 59 55.7 -0.1
PKE	Pukeiti	1.61	244	P		Pn	11 59 57.1 +1.1
WPHZ	Waipukurau	1.63	164	P		Pn	11 59 56.9 +0.8
KHEZ	Kahui Hut	1.64	240	P		Pn	11 59 57.2 +1.0
KHEZ	Kahui Hut	1.64	240	P		Pn	11 59 57.4 +1.1
PRGZ	Paritu Road	1.65	106	P		Pn	11 59 56.6 +0.3
ETAZ	East Tamaki Re	1.71	334	P		Pn	11 59 56.5 -0.4
TWGZ	Tauwhareparae	1.71	80	P		Pn	11 59 57.0 +0.1
PXZ	Pawanui	1.72	153	P		Pn	11 59 57.8 +0.9
AWAZ	Awhitu Peninsu	1.72	326	P		Pn	11 59 56.9 -0.1
NBEZ	Newall Road No	1.73	243	P		Pn	11 59 58.3 +1.3
MHGZ	Mahia Peninsul	1.73	113	P		Pn	11 59 57.9 +0.8
OHWZ	Ohakea	1.75	193	P		Pn	11 59 58.4 +1.1
DVHZ	Dannevirke	1.81	172	P		Pn	11 59 58.4 +0.4
EPAZ	Eden Park BICE	1.84	331	P		Pn	11 59 58.0 -0.3
CNGZ	Carnagh Statio	1.85	90	P		Pn	11 59 58.8 +0.5
PKGZ	Pakihiroa	1.87	71	P		Pn	11 59 58.1 -0.4
PRHZ	Porangahau	1.87	161	P		Pn	11 59 59.2 +0.7
POWZ	Post Office Ro	1.89	182	P		Pn	11 59 59.1 +0.4
ANWZ	Angora Road	2.02	166	P		Pn	12 00 00.8 +0.8
PRWZ	Pori Road	2.06	177	P		Pn	12 00 01.0 +0.6
ABAZ	Army Bay	2.06	337	P		Pn	12 00 00.4 -0.1
MXZ	Matakaoa Point	2.15	65			Pn	12 00 01.6 0.0
MXZ	Matakaoa Point	2.15	65	P		Pn	12 00 01.1 -0.4
MXZ	Matakaoa Point	2.15	65	P		Pn	12 00 01.1 -0.4
MRZ	Mangatainoka R	2.17	185			Pn	12 00 01.9 +0.2
BFZ	Birch Farm	2.20	172			Pn	12 00 02.5 +0.4
BFZ	Birch Farm	2.20	172	P		Pn	12 00 02.2 +0.2
BFZ	Birch Farm	2.20	172	S		Sn	12 00 31.7 -1.4
SNZO	South Karori	2.94	197			Pn	12 00 10.1 -0.4
SNZO	South Karori	2.94	197	P		Pn	12 00 09.7 -0.8
MSWZ	Moikau Station	2.95	189			Pn	12 00 10.2 -0.4
TCW	Tory Channel	2.97	204			Pn	12 00 10.5 -0.3
BHW	Baring Head	3.00	194			Pn	12 00 10.7 -0.5
PLWZ	Palliser	3.10	188			Pn	12 00 11.9 -0.6
TUWZ	Tuamarina	3.27	206			Pn	12 00 14.2 -0.3
NNZ	Nelson	3.31	214			Pn	12 00 14.4 -0.7
TKNZ	Takaka Hill	3.37	220			Pn	12 00 14.7 -1.0
QRZ	Quartz Range	3.46	227	Pn		Pn	12 00 16.6 -0.2
QRZ	Quartz Range	3.46	227	P		Pn	12 00 15.7 -1.1
CMWZ	Cape Campbell	3.48	201	Pn		Pn	12 00 17.2 +0.1
BSWZ	Blackbirch Sta	3.55	205	Pn		Pn	12 00 17.6 -0.4
OUZ	Omahuta	3.74	330	P		Pn	12 00 20.3 -0.1
THZ	Tophouse	3.96	214			Pn	12 00 23.5 +0.3
KHZ	Kahutara	4.29	204	Pn		Pn	12 00 26.7 -0.5
KHZ	Kahutara	4.29	204	P		Pn	12 00 26.5 -0.7
KHZ	Kahutara	4.29	204	S		Sn	12 01 16.8 -1.5
LTZ	Lake Taylor	5.07	211	Pn		Pn	12 00 18.4 -1.0
RPZ	Rata Peaks	6.34	213	Pn		Pn	12 00 51.6 -2.3
RPZ	Rata Peaks	6.34	213	P		Pn	12 00 50.6 -3.2
	6.6nm,0.4s,baz=40,slow=16,SNR=16						
RPZ				S		Sn	12 01 59.5 -6.6
	25nm,0.6s,baz=357,slow=20,SNR=14						
RPZ	Rata Peaks	6.34	213	P		Pn	12 00 52.9 -0.9
ODZ	Otahua Downs	7.61	209	P		Pn	12 01 09.1 -1.2
MSVF	Nonsavu	20.78	6	P		P	12 03 50.1 +1.1
	4.0nm,0.7s,baz=269,slow=23,SNR=5.8						
	4.0nm,0.7s						
AS31	Alice Springs	38.51 280		P		P	12 06 28.1 +1.5
AS31				IAmb		IAmb	12 06 29.6
	comp=Z,1.7nm,0.8s						
ASAR	Alice Springs	38.51 280		P		P	12 06 28.2 +1.6
	comp=Z,4.1nm,0.9s,baz=124,slow=7.2,SNR=39						
	comp=Z,4.1nm,0.9s						
WR0	Warramunga Arr	40.11 285		P		P	12 06 41.5 +1.6
WR0				IAmb		IAmb	12 07 02.5
	comp=Z,6.5nm,1.5s						
WB2	Warramunga Arr	40.27 285		P		P	12 06 42.3 +1.2
WB2				IAmb		IAmb	12 06 53.9
	comp=Z,6.4nm,1.3s						
WRAB	Tennant Creek	40.27 285		P		P	12 06 43.1 +1.9
WRAB				IAmb		IAmb	12 06 52.8
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	40.27 285		P		P	12 06 42.4 +1.1
WRA	Warramunga Arr	40.27 285		P		P	12 06 42.4 +1.1
	comp=Z,0.9nm,0.8s,baz=123,slow=8.2,SNR=12						
WRA				ScP		ScP	12 12 10.4 -2.1
	comp=Z,0.4nm,0.8s,baz=137,slow=2.7,SNR=1.7						
	comp=Z,0.9nm,0.8s						
WB0	Warramunga Arr	40.34 286		P		P	12 06 42.9 +1.2
WB0				IAmb		IAmb	12 06 44.6
	comp=Z,12nm,1.4s						
FITZ	Fitzroy Crossi	48.01 280		P		P	12 07 43.1 +0.5
PSA00	Pilbara Seismi	50.58 273		P		P	12 08 02.0 -0.1
BELA	Belgrano 2	62.42 173		P		P	12 09 27.3 +2.5
KSRS	Korea Array	87.53 324		P		P	12 11 50.9 +2.2
	comp=Z,0.9nm,0.8s,baz=133,slow=7.2,SNR=4.7						
	comp=Z,0.9nm,0.8s						
MKAR	Makanchi Array	118.94 308		PKP		PKPdf	12 17 47.1 -0.9
	comp=Z,0.2nm,0.5s,baz=148,slow=1.7,SNR=4.4						
KURBB	Kurchatov Arra	122.79 311		PKP		PKPdf	12 17 54.3 -1.0
	comp=Z,0.3nm,0.4s,baz=133,slow=1.9,SNR=4.4						
ARCES	ARCESS Array B	145.10 342		PKPbc		PKPab	12 18 36.4 0.0
	comp=Z,2.2nm,0.7s,baz=25,slow=3.2,SNR=5.5						
FINES	FINESS Array B	150.39 331		PKPbc		PKPbc	12 18 49.1 -1.4
	comp=Z,0.9nm,0.5s,baz=44,slow=2.9,SNR=8.5						
BRTR	Keskin Array B	150.79 284		PKPbc		PKPbc	12 18 51.7 -0.7
	comp=Z,0.8nm,0.6s,baz=155,slow=4.1,SNR=5.2						

*GII **21** 12:15:16.0±0.0, 33°.355N±0°.003×35°.135E±0°.001, h5km, Mws2.1, confirmed*
*JSO **21** 12:15:16, 33°.33N×35°.10E, h4km, ML2.2/16, Mw2.1/16*
*GRAL **21** 12:15:16.2±0.4, 33°.33N×35°.05E, h15km±5km, MD3.0*
ISC 21 12:15:15.9±1.2, 33°.39N±0°.04×35°.08E±0°.06, h12km, n31, σ0°57/33, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	Hanita	0.31	165	P	Pg	12 15 22.0	-0.2
HNTI	Hanita	0.31	165	S	Sg	12 15 27.1	+0.6
HNTI	Hanita	0.31	165	P		12 15 22.2	
MMC7	Mount Meron ar	0.45	144	P	Pg	12 15 24.6	-0.1
MMA0B	Mount Meron ar	0.46	143	P	Pg	12 15 24.9	0.0
MMA0B	Mount Meron ar	0.46	143	S	Sg	12 15 31.5	+0.5
DQRL	Deir Qamar	0.52	52	eP	Pg	12 15 26.7	+0.6
DQRL				eS	Sb	12 15 34.3	-0.2
GEM	Giv'at Ha'Em	0.52	109	P	Pg	12 15 26.1	0.0
GEM	Giv'at Ha'Em	0.52	109	S	Sg	12 15 32.8	-0.2
GEM	Giv'at Ha'Em	0.52	109	P		12 15 26.2	
QRWL	Qaraoun	0.53	72	eP	Pg	12 15 26.3	0.0
SHBL	Chebaa	0.56	94	eP	Pg	12 15 26.8	0.0
SHBL				eS	Sg	12 15 34.5	+0.2
NATI	Neve Ativ	0.57	102	P	Pg	12 15 26.8	0.0
NATI	Neve Ativ	0.57	102	S	Sg	12 15 34.9	+0.5
NATI	Neve Ativ	0.57	102	P		12 15 26.9	
NATI				S		12 15 34.7	
RCY	Rachaya	0.64	80	eP	Pg	12 15 28.4	0.0
BLGI	Bet Lehem HaGe	0.66	172	P	Pg	12 15 28.6	0.0
BLGI	Bet Lehem HaGe	0.66	172	S	Sg	12 15 38.1	+0.8
BLGI	Bet Lehem HaGe	0.66	172	P		12 15 28.2	
BHL	Bhannes	0.71	43	eP	Pg	12 15 29.6	0.0
KSHT	Keshet	0.73	123	P	Pg	12 15 29.9	-0.2
KSHT	Keshet	0.73	123	S	Sg	12 15 40.0	+0.2
OFRI	`Ofer	0.77	186	P	Pg	12 15 30.0	-0.7
OFRI	`Ofer	0.77	186	S	Sg	12 15 41.2	+0.5
OFRI	`Ofer	0.77	186	P		12 15 30.1	
SHMJ	Saham	0.87	139	P		12 15 32.0	
MMLI	Mount Malkishu	0.99	163	P	Pg	12 15 33.8	-1.1
MMLI	Mount Malkishu	0.99	163	S	Sg	12 15 47.4	-0.4
MMLI	Mount Malkishu	0.99	163	P		12 15 33.8	
QRNJ	Al-Qirein	1.13	158	P		12 15 36.3	
HWQ	Hawqa	1.15	39	eP	Pb	12 15 36.9	-0.8
HMDT	Nahal Hemdat	1.19	161	P	Pn	12 15 37.2	-1.1
HMDT	Nahal Hemdat	1.19	161	S	Sb	12 15 53.7	0.0
HMDT	Nahal Hemdat	1.19	161	P		12 15 37.2	
SALP	Salfit	1.32	176	P		12 15 39.1	
BALJ	Balqa	1.38	160	P		12 15 40.5	
FKH	Fakeheh	1.40	52	eP	Pn	12 15 41.0	-0.4
DSI	Dead Sea	1.83	172	P	Pn	12 15 47.1	0.0
DSI	Dead Sea	1.83	172	S	Sn	12 16 11.0	+0.9
DSI	Dead Sea	1.83	172	P		12 15 47.2	
AMAZ	Amatzia	1.85	184	P	Pn	12 15 48.0	+0.5
AMAZ	Amatzia	1.85	184	S	Sn	12 16 12.3	+1.5
GHAJ	Ghor Haditha	2.12	169	P	Pn	12 15 51.5	+0.5
GHAJ	Ghor Haditha	2.12	169	P		12 15 51.8	
KARJ	KARJ	2.31	168	P		12 15 42.7	

*NEIC **21** 12:17:34.2±2.6, 19°.0S±0°.1×172°.83W±0°.04, h10km±1km, mb4.9/28, Error ellipse: s-maj=18.1km s-min=5.2km az=346.0*
*IDC **21** 12:17:49.5±4.5, 19°.12S×173°.58W, h120km±40km, mb3.8/9, mbtmp4.2/10, MS3.7/2, Error ellipse: s-maj=27.8km s-min=18.1km az=126.0*
ISC 21 12:17:34.8±0.6, 19°.08S±0°.10×172°.93W±0°.07, h10km, n47, σ2°37/42, mb4.8/20, 1C-1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.84	90	Pn	Pn	12 18 18.2	-2.0
AFI	Afiamalu	5.26	12		Pn	12 18 51.9	-1.8
MSVF	Nonsavu	8.66	277	Pn	Pn	12 19 40.9	+0.5
MSVF	Nonsavu	8.66	277	P	Pn	12 19 45.1	+4.7
	19nm,0.9s,baz=124,slow=15,SNR=12						
MSVF				LR	LR	12 22 30.5	
	comp=Z,481nm,20.3s,baz=117,slow=35						
RAR	Rarotonga	12.54	102	Pn	Pn	12 20 31.6	-1.8
RAR	Rarotonga	12.54	102	P	Pn	12 20 44.1	+11
	42nm,0.7s,baz=230,slow=5.9,SNR=6.7						
URZ	Urewera	20.98	202	P		P	12 22 18.8	+0.6
	12nm,0.7s,baz=16,slow=4.0,SNR=18						
	12nm,0.7s						
TOZ	Tahuroa Road	21.15	206	P		P	12 22 20.9	+0.8
RTZ	Ruatahuna	21.35	202	P		P	12 22 22.3	0.0
HIZ	Hauiti	22.08	206	P		P	12 22 31.5	+1.4
HIZ				IAmb		IAmb	12 22 34.7	
	comp=Z,84nm,1.4s						
PPT	Papeete	22.22	90	LR		LR	12 29 41.8	
	comp=Z,176nm,18.9s,baz=238,slow=31						
THZ	Tophouse	25.62	205	P		P	12 23 08.7	+4.1
THZ				IAmb		IAmb	12 23 20.1	
	comp=Z,11nm,0.7s						
INZ	Inchbonnie	27.02	206	P		P	12 23 20.7	+3.6
OXZ	Oxford	27.29	204	P		P	12 23 22.9	+3.4
OXZ				IAmb		IAmb	12 23 26.2	
	comp=Z,18nm,0.7s						
FOZ	Fox Glacier	28.37	207	P		P	12 23 33.8	+4.7
EIDS	Eidsvold	33.82	253	P		P	12 24 15.0	-2.5
EIDS				IAmb		IAmb	12 24 36.9	
	comp=Z,16nm,1.2s						
ARMA	Armidale	33.97	244	P		P	12 24 17.8	-1.1
ARMA				IAmb		IAmb	12 24 29.1	
	comp=Z,23nm,1.3s						
TOO	Toolangi	40.59	234	P		P	12 25 14.1	-0.7
TAU	Tasmania Unive	41.00	226	P		P	12 25 19.1	+1.0
COEN	Coen	42.31	270	P		P	12 25 27.3	-1.9
COEN				IAmb		IAmb	12 25 55.7	
	comp=Z,31nm,1.4s						
STKA	Stephens Creek	42.69	243	P		P	12 25 30.0	-2.1
STKA				IAmb		IAmb	12 25 47.5	
	comp=Z,55nm,1.5s						
STKA	Stephens Creek	42.69	243	P		P	12 25 29.3	-2.8
	comp=Z,1.3nm,0.5s,baz=50,slow=10,SNR=4.7						
	comp=Z,1.3nm,0.5s						
BBOO	Buckleboo	47.44	243	P		P	12 26 06.6	-3.3
BBOO				IAmb		IAmb	12 26 30.8	
	comp=Z,10nm,1.1s						
WR0	Warramunga Arr	49.34	260	P		P	12 26 22.6	-2.2
AS31	Alice Springs	49.49	255	P		P	12 26 23.8	-2.1
ASAR	Alice Springs	49.49	255	P		P	12 26 24.3	-1.6
ASAR	Alice Springs	49.49	255	P		P	12 26 24.1	-1.7
	comp=Z,7.9nm,0.7s,baz=90,slow=8.2,SNR=47						
	comp=Z,7.9nm,0.7s						
WB0	Warramunga Arr	49.51	260	P		P	12 26 23.6	-2.5
WB0				IAmb		IAmb	12 26 26.2	
	comp=Z,5.9nm,0.7s						
WB2	Warramunga Arr	49.52	260	P		P	12 26 23.9	-2.2
WB2				IAmb		IAmb	12 26 24.9	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	49.53	260	P		P	12 26 23.6	-2.6
WRA	Warramunga Arr	49.53	260	P		P	12 26 23.3	-2.9
	comp=Z,2.8nm,0.5s,baz=97,slow=7.6,SNR=50						
	comp=Z,2.8nm,0.5s						
MTN	Manton Dam	53.95	268	P		P	12 26 58.2	-1.1
FORT	Forrest	54.23	245	P		P	12 26 59.5	-1.5
KNRA	Kununurra	55.53	264	P		P	12 27 09.7	-1.1
KNRA				IAmb		IAmb	12 27 12.2	
	comp=Z,10nm,0.7s						
FITZ	Fitzroy Crossi	57.96	260	P		P	12 27 26.9	-1.0
SOEI	Soe	61.26	269	P		P	12 27 50.4	-0.5
PSA00	Pilbara Seismi	62.64	255	P		P	12 27 59.6	-0.4
PSA00				IAmb		IAmb	12 28 19.4	
	comp=Z,10nm,1.1s						
MBWA	Marble Bar	62.82	256	P		P	12 28 00.3	-0.9
MORW	Morawa	64.77	246	P		P	12 28 13.6	-0.4
MORW				IAmb		IAmb	12 28 20.0	
	comp=Z,16nm,1.2s						
QSPA	South Pole Qui	70.98	180	P		P	12 28 55.5	+3.0
QSPA				IAmb		IAmb	12 29 11.7	
	comp=Z,7.7nm,1.4s						
QSPA	South Pole Qui	70.98	180	P		P	12 28 54.7	+2.1
	comp=Z,2.4nm,0.7s,baz=83,slow=0.7,SNR=23						
	comp=Z,2.4nm,0.7s						
NVAR	Mina Array Bea	76.77	41	P		P	12 29 30.2	+3.3
	comp=Z,0.8nm,0.6s,baz=225,slow=9.2,SNR=6.9						
	comp=Z,0.8nm,0.6s						
TXAR	Lajitas Array	82.30	55	P		P	12 30 01.1	+4.0
	comp=Z,0.8nm,0.9s,baz=210,slow=5.8,SNR=5.8						
	comp=Z,0.8nm,0.9s						
PDAR	Pinedale Array	84.71	41	P		P	12 30 12.6	+3.2
	comp=Z,0.5nm,0.6s,baz=209,slow=3.3,SNR=7.6						
	comp=Z,0.5nm,0.6s						
ILAR	Eielson Array	85.95	11	P		P	12 30 16.1	+1.4
	comp=Z,1.1nm,0.8s,baz=226,slow=5.2,SNR=17						
	comp=Z,1.1nm,0.8s						
SYO	Syowa Base	89.09 191	⇑	pP		pP	12 30 33.4	+2.6
SYO	Syowa Base	89.09 191	⇓	esP		sP	12 30 35.8	+4.7

*GII **21** 12:20:20.8±0.0, 33°.386N±0°.003×35°.105E±0°.001, h8km, Mws2.1, confirmed*
*GRAL **21** 12:20:20.5±0.3, 33°.33N×35°.03E, h14km±999km, MD2.8*
*JSO **21** 12:20:21, 33°.31N×35°.11E, h7km, ML2.2/9, Mw2.1/9*
ISC 21 12:20:20.4±1.4, 33°.36N±0°.04×35°.07E±0°.06, h12km, n24, σ0°39/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	Hanita	0.29	162	P	Pb	12 20 27.2	-0.3
HNTI	Hanita	0.29	162	S	Sb	12 20 32.3	0.0
MMC7	Mount Meron ar	0.43	141	P	Pg	12 20 29.2	+0.2
MMA0B	Mount Meron ar	0.44	141	P	Pg	12 20 29.4	+0.2
MMA0B	Mount Meron ar	0.44	141	S	Sb	12 20 36.5	-0.3
DQRL	Deir Qamar	0.54	50	eP	Pg	12 20 31.1	+0.1
DQRL				eS	Sg	12 20 38.9	+0.6
QRWL	Qaraoun	0.55	70	eP	Pg	12 20 31.1	0.0
SHBL	Chebaa	0.56	91	eP	Pg	12 20 31.3	-0.2
SHBL				eS	Sg	12 20 39.3	+0.3
NATI	Neve Ativ	0.57	100	P	Pg	12 20 31.4	0.0
NATI	Neve Ativ	0.57	100	S	Sg	12 20 39.3	+0.4
NATI	Neve Ativ	0.57	100	P		12 20 31.7	
NATI				S		12 20 39.4	
BLGI	Bet Lehem HaGe	0.63	171	P	Pb	12 20 33.5	+0.2
BLGI	Bet Lehem HaGe	0.63	171	S	Sb	12 20 42.8	+0.7
RCY	Rachaya	0.66	78	eP	Pg	12 20 32.9	-0.2
KSHT	Keshet	0.73	121	P	Pb	12 20 34.9	-0.1
KSHT	Keshet	0.73	121	S	Sb	12 20 44.8	-0.1
BHL	Bhannes	0.73	42	eP	Pg	12 20 34.1	-0.4
OFRI	`Ofer	0.74	186	P	Pg	12 20 34.7	0.0
OFRI	`Ofer	0.74	186	S	Sb	12 20 45.9	+0.6
OFRI	`Ofer	0.74	186	P		12 20 34.8	
SHMJ	Saham	0.86	137	P		12 20 36.2	
MMLI	Mount Malkishu	0.97	162	P	Pg	12 20 38.4	-0.5
MMLI	Mount Malkishu	0.97	162	S	Sn

comp=N,44µm,0.6s,comp=E,58µm,0.7s
JBT2 **Biratori 2** 0.27 90 P Pn 12 22 47.4 0.0
JBT2 eS Sn 12 22 52.8 +1.4
JBT2 **Biratori 2** 0.27 90 A A 12 22 47.4
comp=N,1µm,2.8s,comp=E,4µm,1.0s
JEW **Eniwo** 0.41 279 ⇓P Pn 12 22 49.8 +0.1
JEW ⇓S Sb 12 22 56.7 +1.0
JEW **Eniwo** 0.41 279 A A 12 22 49.8
comp=N,5µm,2.1s,comp=E,6µm,1.1s
JSHD **Hidakashinhida** 0.51 137 P Pn 12 22 51.3 +0.3
JSHD eS Sb 12 23 00.4 +2.3
JSHD **Hidakashinhida** 0.51 137 A A 12 22 51.3
comp=N,4µm,2.0s,comp=E,4µm,2.3s
JFR **Furan** 0.58 48 P Pn 12 22 52.1 +0.1
JFR eS Sb 12 23 00.9 +0.7
JFR **Furan** 0.58 48 A A 12 22 52.1
comp=N,456nm,3.8s,comp=E,362nm,1.3s
JISS **Ishikarishitsu** 0.66 320 P Pb 12 22 53.6 +0.4
JISS S Sb 12 23 03.6 +1.4
JISS **Ishikarishitsu** 0.66 320 A A 12 22 53.6
comp=N,3µm,1.6s,comp=E,3µm,1.0s
JAB **Ashibetsu** 0.74 13 P Pb 12 22 55.7 +1.0
JAB **Ashibetsu** 0.74 13 A A 12 22 55.7
comp=N,857nm,1.0s,comp=E,2µm,2.3s
JNBK **Urakawa-nobuka** 0.75 132 ⇓P Pn 12 22 54.4 +0.1
JNBK ⇓eS Sb 12 23 05.7 +1.1
JNBK **Urakawa-nobuka** 0.75 132 A A 12 22 54.4
comp=N,906nm,1.1s,comp=E,990nm,0.9s
JNB **Noboribetsu** 0.77 247 P Pn 12 22 54.3 -0.4
JNB eS Sn 12 23 04.4 -0.7
JNB **Noboribetsu** 0.77 247 A A 12 22 54.3
comp=N,388nm,3.3s,comp=E,316nm,0.6s
JHR **Hokuryu** 0.98 348 P Pb 12 22 58.6 -0.1
JHR eS Sb 12 23 11.8 +0.4
JHR **Hokuryu** 0.98 348 A A 12 22 58.6
comp=N,853nm,1.0s,comp=E,517nm,2.2s
JCH **Churui** 1.02 99 ⇓P Pn 12 22 58.2 +0.2
JCH ⇓S Sn 12 23 12.1 +1.0
JCH **Churui** 1.02 99 A A 12 22 58.2
comp=N,405nm,1.2s,comp=E,610nm,1.0s
JTHR **Tokachihiroo** 1.08 116 A A 12 22 59.5
comp=N,228nm,3.9s,comp=E,221nm,3.7s
JKB **Kayabe** 1.14 219 A A 12 23 00.5
comp=N,749nm,1.4s,comp=E,949nm,1.1s
JKB **Kayabe** 1.14 219 P Pn 12 22 59.7 0.0
JKB S Sn 12 23 14.2 0.0
ERM **Erimo** 1.15 131 Pn 12 23 01.0 +1.2
ERM **Erimo** 1.15 131 P Pn 12 23 00.6 +0.8
ERM **Erimo** 1.15 131 *d* iPN Pn 12 23 00.3 +0.5
JEM **Erimo** 1.15 131 P Pn 12 23 00.7 +0.9
JEM **Erimo** 1.15 131 A A 12 23 00.5
comp=N,411nm,2.0s,comp=E,635nm,1.4s
JEM **Erimo** 1.15 131 ⇓P Pn 12 23 00.3 +0.6
JKK2 **Kamakawa 2** 1.22 26 A A 12 23 02.0
comp=N,207nm,4.9s,comp=E,281nm,2.9s
JKK2 **Kamakawa 2** 1.22 26 ⇓P Pb 12 23 02.0 -0.7
JKK2 ⇓S Sb 12 23 19.2 +1.0
JSK **Shakotan** 1.25 298 A A 12 23 02.5
comp=N,516nm,1.2s,comp=E,430nm,1.1s
JSK **Shakotan** 1.25 298 P Pb 12 23 02.0 -1.2
JOB **Onbets** 1.36 84 A A 12 23 03.7
comp=N,318nm,5.6s,comp=E,396nm,1.6s
JOB **Onbets** 1.36 84 ⇓P Pn 12 23 03.4 +0.7
JYM2 **Yakumo 2** 1.38 242 A A 12 23 04.1
comp=N,358nm,1.2s,comp=E,478nm,1.6s
JYM2 **Yakumo 2** 1.38 242 P Pn 12 23 03.7 +0.8
JAR **Ashorobuto** 1.40 68 A A 12 23 04.4
comp=N,241nm,1.5s,comp=E,252nm,1.9s
JAR **Ashorobuto** 1.40 68 ⇓P Pn 12 23 03.9 +0.7
ASAJ **Asahikawa** 1.41 18 Pn Pn 12 23 04.2 +0.8
comp=E,2µm,0.3s,baz=232,slow=15,SNR=4133
ASAJ Sn Sb 12 23 21.9 -1.5
comp=E,2µm,0.3s,baz=270,slow=20,SNR=7.5
ASAJ **Asahikawa** 1.41 18 PN Pb 12 23 05.2 -0.6
ASAJ **Asahikawa** 1.41 18 A A 12 23 04.7
comp=N,147nm,3.7s,comp=E,320nm,2.8s
ASAJ **Asahikawa** 1.41 18 ⇓P Pb 12 23 05.0 -0.8
JKA **Kamikawa-asahi** 1.41 18 Pn Pb 12 23 05.2 -0.6
JKA **Kamikawa-asahi** 1.41 18 *eP* Pb 12 23 05.2 -0.6
JSH **Shimam** 1.45 265 A A 12 23 05.2
comp=N,135nm,4.2s,comp=E,225nm,2.2s
JSH **Shimam** 1.45 265 P Pn 12 23 04.4 +0.6
JOT **Ohata** 1.56 207 A A 12 23 06.7
comp=N,132nm,5.1s,comp=E,123nm,2.2s
JOT **Ohata** 1.56 207 P Pn 12 23 05.5 0.0
JMP **Maruseppu** 1.58 38 A A 12 23 07.2
comp=N,151nm,1.8s,comp=E,142nm,3.5s
JMP **Maruseppu** 1.58 38 ⇓P Pn 12 23 07.3 +1.5
JAHD **Aomorihigashid** 1.59 198 A A 12 23 07.1
comp=N,429nm,2.3s,comp=E,536nm,1.2s
JHST **Hiyamasetana** 1.61 258 A A 12 23 07.5
comp=N,278nm,3.0s,comp=E,320nm,1.2s
JHST **Hiyamasetana** 1.61 258 P Pn 12 23 07.0 +0.9
JSS **Shosan** 1.62 356 A A 12 23 08.0
comp=N,212nm,5.1s,comp=E,254nm,3.4s
JSS **Shosan** 1.62 356 P Pb 12 23 08.3 -1.2
JYG **Yagishiri** 1.70 346 A A 12 23 09.1
comp=N,166nm,1.8s,comp=E,192nm,2.0s
JYG **Yagishiri** 1.70 346 P Pb 12 23 08.7 -2.0
JSR **Shiriuchi** 1.71 224 A A 12 23 09.0
comp=N,226nm,3.1s,comp=E,156nm,2.8s
JSR **Shiriuchi** 1.71 224 P Pn 12 23 08.6 +1.0
JARK **Aomorirokkasho** 1.83 195 A A 12 23 10.6
comp=N,198nm,2.1s,comp=E,190nm,1.9s
JTKR **Abashiri--Toko** 1.83 49 A A 12 23 10.8
comp=N,72nm,3.1s,comp=E,102nm,2.0s
JTKR **Abashiri--Toko** 1.83 49 ⇓P Pn 12 23 10.5 +1.3
JOMM **Oshimamatsumae** 1.94 230 A A 12 23 12.2
comp=N,105nm,4.5s,comp=E,150nm,1.8s
JOMM **Oshimamatsumae** 1.94 230 P Pn 12 23 11.6 +1.0
JAK **Akkeshi** 1.99 83 A A 12 23 13.0
comp=N,142nm,4.1s,comp=E,197nm,3.9s
JAK **Akkeshi** 1.99 83 ⇓P Pn 12 23 11.0 -0.4
JOSM **Okushiri--Mats** 1.99 250 A A 12 23 13.1
comp=N,94nm,2.7s,comp=E,124nm,5.4s
JOSM **Okushiri--Mats** 1.99 250 P Pn 12 23 12.2 +0.8
JSI2 **Shiura 2** 2.09 215 A A 12 23 14.3
comp=N,103nm,1.5s,comp=E,101nm,3.9s
AKK **Akkeshi** 2.10 83 *eP* Pn 12 23 12.5 -0.4
JTM **Tenmabayashi** 2.11 200 Pn Pn 12 23 13.9 +0.9
JTM **Tenmabayashi** 2.11 200 P Pn 12 23 14.5 +1.5
JTM **Tenmabayashi** 2.11 200 A A 12 23 14.6
comp=N,86nm,2.3s,comp=E,102nm,3.7s
JTM **Tenmabayashi** 2.11 200 P Pn 12 23 13.5 +0.5
JNK **Nakash** 2.15 67 A A 12 23 15.3
comp=N,75nm,3.3s,comp=E,65nm,7.6s
JNK **Nakash** 2.15 67 ⇓P Pn 12 23 14.3 +0.8
JSE **Soyaes** 2.22 11 A A 12 23 16.5
comp=N,120nm,1.9s,comp=E,129nm,2.1s
JSE **Soyaes** 2.22 11 ⇓P Pn 12 23 16.5 +2.0
JKHN **Kushirohamanak** 2.34 81 A A 12 23 18.1
comp=N,105nm,1.7s,comp=E,127nm,3.5s
JKHN **Kushirohamanak** 2.34 81 ⇓P Pn 12 23 15.8 -0.3
JNSB **Nemuroshibetsu** 2.41 65 A A 12 23 19.1
comp=N,405nm,2.3s,comp=E,210nm,4.5s
JRR **Rishiri** 2.41 348 A A 12 23 19.3
comp=N,356nm,3.5s,comp=E,380nm,3.4s
JANG **Nango** 2.43 189 A A 12 23 19.2
comp=N,48nm,4.4s,comp=E,141nm,2.0s
JANG **Nango** 2.43 189 P Pn 12 23 17.8 +0.3
JHHS **Hirosakihyakuz** 2.45 211 A A 12 23 19.6
comp=N,410nm,2.6s,comp=E,245nm,1.8s
JWK2 **Keihoku** 2.54 358 A A 12 23 21.1
comp=N,132nm,6.7s,comp=E,207nm,3.9s
JRA **Rausu** 2.56 62 A A 12 23 21.2
comp=N,99nm,3.1s,comp=E,95nm,3.3s
JRA **Rausu** 2.56 62 ⇓P Pn 12 23 20.8 +1.7
JKEN **Kujiedanarisaw** 2.58 185 A A 12 23 21.3
comp=N,181nm,0.8s,comp=E,185nm,0.6s
JIW **Iwasaki** 2.65 215 A A 12 23 22.3
comp=N,107nm,3.3s,comp=E,106nm,2.5s
JIW **Iwasaki** 2.65 215 P Pn 12 23 21.6 +1.2
RUSJ **Misakicho** 2.71 60 ⇓*i* PN Pn 12 23 22.9 +1.6
RUSJ *i* S Sn 12 23 56.0 +3.1
JRBN **Rebuntou** 2.73 346 A A 12 23 23.8
comp=N,39nm,2.6s,comp=E,38nm,4.2s
JRBN **Rebuntou** 2.73 346 P Pn 12 23 22.9 +1.5
JAH **Hinai** 2.78 202 A A 12 23 24.2
comp=N,98nm,2.3s,comp=E,93nm,4.5s
JAH **Hinai** 2.78 202 P Pn 12 23 23.6 +1.4
NMR **Nemuro--Hokkai** 2.79 77 ⇓*i* PN Pn 12 23 21.8 -0.6
NMR *i* S Sn 12 23 54.6 -0.3
NMR **Nemuro--Hokkai** 2.79 77 *i* P Pn 12 23 22.7 +0.3
NMR *i* S Sn 12 23 54.7 -0.2
NEM2 **Nemuro 2** 2.81 77 A A 12 23 24.7
comp=N,37nm,3.7s,comp=E,49nm,2.7s
NEM2 **Nemuro 2** 2.81 77 P Pn 12 23 22.6 0.0
JKZ **Kuzumaki** 2.84 190 A A 12 23 25.0
comp=N,35nm,2.3s,comp=E,58nm,2.9s
JTH **Tanohata** 2.84 182 A A 12 23 25.0
comp=N,28nm,3.0s,comp=E,40nm,2.5s
JNTW **Noshirotokiwa** 2.86 209 A A 12 23 25.4
comp=N,255nm,2.7s,comp=E,336nm,3.2s
YUK **Yuzh-Kuril'sk** 3.08 65 *d* iPN Pn 12 23 28.3 +2.0
YUK *i* S Sn 12 24 06.5 +4.5
YUK pmax pmax
comp=Z,3µm,0.5s
YUK pmax pmax
comp=Z,11µm,1.5s
YUK smax smax
comp=E,28µm,1.4s
YUK smax smax
comp=N,21µm,1.5s
YUK smax smax
comp=E,13µm,0.5s
YUK smax smax
comp=N,12µm,0.7s
YUK MLR MLR
comp=N,49µm,12.0s
YUK MLR MLR
comp=Z,64µm,12.0s
YUK MLR MLR
comp=E,52µm,11.0s
YUK **Yuzh-Kuril'sk** 3.08 65 *i* P Pn 12 23 28.1 +1.8
YUK AMB AMB 12 23 33.0
comp=E,3µm,0.5s
YUK AMB AMB 12 23 33.9
comp=E,11µm,2.0s
YUK eS Sn 12 24 04.1 +2.1
YUK A A 12 24 11.3
comp=E,21µm,2.0s
YUK A A 12 24 11.3
comp=E,28µm,2.0s
YUK A A 12 24 12.9
comp=E,12µm,0.6s
YUK A A 12 24 12.9
comp=E,13µm,0.6s
YUK AMS AMS 12 25 00.0
comp=E,49µm,12.0s
YUK AMS AMS 12 25 00.0
comp=E,52µm,12.0s
JSZI **Iwateshizukuis** 3.13 195 A A 12 23 29.2
comp=N,144nm,2.4s,comp=E,160nm,3.3s
MIYJ **Miyakonagasawa** 3.20 182 A A 12 23 30.2
comp=N,43nm,1.0s,comp=E,63nm,1.0s
JOM **Ohasama** 3.34 189 A A 12 23 32.2
comp=N,28nm,0.8s,comp=E,89nm,3.2s
JOM **Ohasama** 3.34 189 P Pn 12 23 30.7 +0.7
JYW **Yuwa** 3.51 203 A A 12 23 34.5
comp=N,139nm,5.5s,comp=E,98nm,2.4s
JRG **Rokugo** 3.53 197 A A 12 23 34.9
comp=N,73nm,1.9s,comp=E,69nm,3.9s
JRG **Rokugo** 3.53 197 P Pn 12 23 34.6 +2.0
JOG3 **Oga3** 3.60 219 A A 12 23 31.6
comp=N,85nm,3.5s,comp=E,76nm,2.7s
OFUJ **Ofunato** 3.70 184 A A 12 23 37.2
comp=N,24nm,3.2s,comp=E,49nm,1.8s
JMK **Ichinoseki** 3.87 189 A A 12 23 39.6
comp=N,18nm,2.5s,comp=E,57nm,3.6s
JMK **Ichinoseki** 3.87 189 P Pn 12 23 37.7 +0.5
JKMT **Kesennumamotoy** 3.98 186 A A 12 23 41.2
comp=N,16nm,1.1s,comp=E,48nm,2.4s
JTB **Tobi-shima** 4.03 208 A A 12 23 41.9
comp=N,61nm,6.0s,comp=E,48nm,6.6s
JYK **Kaneyama** 4.05 198 A A 12 23 42.2
comp=N,45nm,2.4s,comp=E,40nm,4.6s
JYK **Kaneyama** 4.05 198 P Pn 12 23 41.4 +1.6
JYYZ **Yamagatayuza** 4.07 203 A A 12 23 42.5
comp=N,115nm,3.0s,comp=E,107nm,5.1s
YSS **Yuzhno-Sakhali** 4.21 7 Pn Pn 12 23 44.4 +2.5
YSS **Yuzhno-Sakhali** 4.21 7 P Pn 12 23 44.9 +3.1
YSS **Yuzhno-Sakhali** 4.21 7 *ce* PN Pn 12 23 44.1 +2.3
YSS eS Sn 12 24 30.9 +1.1
YSS pmax pmax
comp=Z,2µm,2.6s
YSS pmax pmax
comp=Z,670nm,0.8s
YSS smax smax
comp=N,4µm,1.9s
YSS smax smax
comp=E,4µm,2.5s
YSS smax smax
comp=N,2µm,0.8s
YSS smax smax
comp=E,850nm,0.7s
YSS MLR MLR
comp=E,23µm,15.0s
YSS MLR MLR
comp=Z,28µm,15.0s
YSS MLR MLR
comp=N,26µm,12.0s
YSS **Yuzhno-Sakhali** 4.21 7 *eP* Pn 12 23 44.1 +2.3
YSS AMB AMB 12 23 46.0
comp=N,2µm,3.0s
YSS eS Sn 12 24 30.9 +1.1
YSS A A 12 24 32.1
comp=N,4µm,2.0s
YSS A A 12 24 32.1
comp=N,4µm,2.0s
YSS A A 12 24 35.6
comp=N,2µm,0.8s
YSS A A 12 24 35.6
comp=N,850nm,0.8s
YSS AMS AMS 12 25 08.2
comp=N,23µm,13.0s
YSS AMS AMS 12 25 08.2
comp=N,27µm,13.0s
JOFO **Osakifurukawao** 4.25 192 A A 12 23 45.0
comp=N,194nm,2.6s,comp=E,264nm,2.8s
JIO **Ouri** 4.35 187 A A 12 23 46.3
comp=N,21nm,3.5s,comp=E,42nm,4.5s
JIO **Ouri** 4.35 187 P Pn 12 23 45.5 +1.7
JIKH **Ishinomakikobu** 4.48 185 A A 12 23 48.2
comp=N,18nm,2.8s,comp=E,40nm,4.8s
TEY **Ternei** 4.50 302 *eP* PN Pn 12 23 45.9 0.0
TEY eS Sn 12 24 42.2 +5.1
TEY pmax pmax
comp=N,320nm,0.7s
TEY pmax pmax
comp=E,730nm,0.7s
TEY pmax pmax
comp=Z,710nm,0.7s
TEY MLR MLR
comp=E,14µm,12.0s
TEY MLR MLR
comp=N,18µm,10.0s
TEY MLR MLR
comp=Z,15µm,14.0s
TEY **Ternei** 4.50 302 *eP* Pn 12 23 45.9 0.0
TEY AMB AMB 12 23 47.3
comp=Z,710nm,0.7s
TEY AMS AMS 12 25 48.0
comp=Z,18µm,13.0s
TEY AMS AMS 12 25 48.0
comp=Z,15µm,13.0s
JOU **Okura** 4.52 193 A A 12 23 48.8
comp=N,49nm,1.8s,comp=E,44nm,3.1s
JOU **Okura** 4.52 193 P Pn 12 23 48.1 +1.9
JYA **Atsumi** 4.53 203 A A 12 23 48.9
comp=N,40nm,2.5s,comp=E,34nm,3.9s
JYA **Atsumi** 4.53 203 P Pn 12 23 48.4 +2.2
JYS **Shirataka** 4.79 199 A A 12 23 52.5
comp=N,47nm,2.8s,comp=E,51nm,4.9s
JYS **Shirataka** 4.79 199 P Pn 12 23 52.5 +2.7
JAW **Awa shima** 4.80 207 A A 12 23 52.7
comp=N,26nm,4.8s,comp=E,38nm,5.0s
JAW **Awa shima** 4.80 207 P Pn 12 23 53.5 +3.5
KUR **Kuril'sk** 4.89 58 *de* PN Pn 12 23 50.6 -0.6
KUR eS Sn 12 24 52.9 +6.3
KUR pmax pmax
comp=Z,3µm,0.7s
KUR pmax pmax
comp=N,1µm,0.5s
KUR pmax pmax
comp=E,661nm,0.8s
KUR pmax pmax
comp=Z,15µm,5.3s
KUR smax smax
comp=E,2µm,0.7s
KUR smax smax
comp=N,771nm,0.4s
KUR MLR MLR
comp=Z,93µm,16.0s
KUR **Kuril'sk** 4.89 58 *i* P Pn 12 23 54.9 +3.7
KUR AMB AMB 12 23 58.1
comp=Z,3µm,0.5s
KUR eS Sn 12 24 49.1 +2.5
KUR A A 12 25 08.8
comp=Z,4µm,0.7s
KUR A A 12 25 08.8
comp=Z,4µm,0.7s
KUR AMS AMS 12 26 01.3
comp=Z,74µm,13.0s
KUR AMS AMS 12 26 01.3
comp=Z,42µm,13.0s
JMM **Marumori** 4.99 191 Pn Pn 12 23 53.6 +1.0
JMM **Marumori** 4.99 191 A A 12 23 55.4
comp=N,18nm,2.0s,comp=E,24nm,5.1s
JMM **Marumori** 4.99 191 P Pn 12 23 53.7 +1.0
JYAR **Yonezawaarcadi** 5.06 197 A A 12 23 56.4
comp=N,38nm,1.4s,comp=E,47nm,3.2s
JMST **Minamisoumatoc** 5.12 190 A A 12 23 57.2
comp=N,23nm,2.4s,comp=E,33nm,5.0s
JNS **Sasagawa** 5.36 203 A A 12 24 00.6
comp=N,14nm,3.4s,comp=E,16nm,3.7s
JNS **Sasagawa** 5.36 203 P Pn 12 24 00.8 +3.1
JOTO **OTAMA OYAMA** 5.37 194 A A 12 24 00.6
comp=N,25nm,3.3s,comp=E,35nm,3.2s
JFK **Kawauchi** 5.47 189 A A 12 24 02.1
comp=N,15nm,2.4s,comp=E,23nm,2.6s
JSD **Sado** 5.53 212 Pn Pn 12 24 01.8 +1.8
JSD **Sado** 5.53 212 A A 12 24 02.9
comp=N,7.0nm,4.4s,comp=E,7.0nm,9.9s
JFY **Yanaizu** 5.65 199 A A 12 24 04.5
comp=N,13nm,5.9s,comp=E,20nm,3.2s
JFY **Yanaizu** 5.65 199 P Pn 12 24 04.3 +2.7
ONAJ **Iwakimizuishiy** 5.74 190 A A 12 24 05.9
comp=N,21nm,2.0s,comp=E,38nm,2.9s
JFFD **Fukushimafurud** 5.79 191 A A 12 24 06.5
comp=N,13nm,3.1s,comp=E,22nm,3.1s
JIZZ **Izumozaki** 5.81 207 A A 12 24 06.9
comp=N,68nm,4.2s,comp=E,51nm,5.7s
JUON **Uonuma** 6.00 203 A A 12 24 09.6
comp=N,8.0nm,4.2s,comp=E,9.0nm,12.2s
JSB **Shiboa** 6.02 196 A A 12 24 09.7
comp=N,39nm,4.3s,comp=E,40nm,3.3s
JHO **Hitachi** 6.26 191 A A 12 24 13.1
comp=N,14nm,4.0s,comp=E,22nm,5.0s
JHG **Hegura jima** 6.27 220 A A 12 24 13.3
comp=N,12nm,3.7s,comp=E,9.0nm,8.9s
UGL **Uglegorsk** 6.30 0 ⇓*e* PN Pn 12 24 14.0 +3.5
UGL eS Sn 12 25 24.0 +2.7
UGL pmax pmax
comp=Z,201nm,0.9s
UGL smax smax
comp=N,3µm,3.3s
UGL smax smax
comp=E,3µm,3.2s
UGL MLR MLR
comp=N,15µm,12.0s
UGL MLR MLR
comp=Z,14µm,12.0s
UGL MLR MLR
comp=E,10µm,6.6s
UGL **Uglegorsk** 6.30 0 *eP* Pn 12 24 14.0 +3.5
UGL AMB AMB 12 24 16.1
comp=E,200nm,0.9s
UGL eS Sn 12 25 24.0 +2.7
UGL A A 12 25 27.9
comp=E,3µm,3.2s
UGL A A 12 25 27.9
comp=E,3µm,3.2s
UGL AMS AMS 12 27 41.0
comp=E,15µm,8.0s
UGL AMS AMS 12 27 41.0
comp=E,10µm,8.0s
JKT **Katashina** 6.37 200 A A 12 24 14.6
comp=N,12nm,3.4s,comp=E,11nm,3.7s
JJN **Nakama** 6.39 209 A A 12 24 14.9
comp=N,16nm,2.9s,comp=E,15nm,4.9s
JSZ **Suzu** 6.40 215 A A 12 24 15.1
comp=N,9.0nm,13.4s,comp=E,6.0nm,4.7s
JSZ **Suzu** 6.40 215 P Pn 12 24 14.7 +2.8
JHYU **Hitachinakayam** 6.52 190 A A 12 24 16.8
comp=N,19nm,4.5s,comp=E,29nm,3.4s
JAG **Ashikaga** 6.64 198 A A 12 24 18.4
comp=N,15nm,8.4s,comp=E,13nm,6.8s
JAG **Ashikaga** 6.64 198 P Pn 12 24 16.6 +1.2
JYT **Yasato** 6.69 193 A A 12 24 19.1
comp=N,15nm,3.1s,comp=E,25nm,2.7s
JGK **Kuni** 6.73 204 A A 12 24 19.7
comp=N,15nm,3.3s,comp=E,15nm,3.8s
MJB9 **Matsu-Tunnel** 6.88 206 Pn Pn 12 24 23.2 +4.7
MAJO **Matsushiro** 6.88 206 Pn Pn 12 24 21.9 +3.3
MAJO **Matsushiro** 6.88 206 P Pn 12 24 22.1 +3.5
MAJO **Matsushiro** 6.88 206 *c* iPN Pn 12 24 21.2 +2.6
MAJO MLR MLR
comp=Z,32µm,15.0s
MAT **Matsushiro** 6.88 206 P Pn 12 24 22.9 +4.3
MJAR **Matsushiro Arr** 6.88 206 Pn Pn 12 24 21.0 +2.4
comp=Z,4.1nm,0.3s,baz=23,slow=16,SNR=148
MJAR LR LR 12 27 18.0
comp=Z,35µm,20.2s,baz=15,slow=40
comp=Z,66nm,0.6s
MJAR **Matsushiro Arr** 6.88 206 PN Pn 12 24 21.0 +2.4
JIHU **Itakohorinouch** 6.90 190 A A 12 24 22.1
comp=N,75nm,2.9s,comp=E,135nm,4.4s
JNG **Nsakai** 7.04 207 A A 12 24 24.0
comp=N,6.0nm,3.4s,comp=E,6.0nm,7.1s
JJH **Hakui** 7.09 216 A A 12 24 24.8
comp=N,11nm,2.8s,comp=E,8.0nm,2.8s
JTT **Ttatey** 7.14 212 A A 12 24 25.4
comp=N,11nm,6.7s,comp=E,15nm,3.8s
JTT **Ttatey** 7.14 212 P Pn 12 24 25.4 +3.3
JRY **Ryogami san** 7.17 201 A A 12 24 25.8
comp=N,10.0nm,5.3s,comp=E,14nm,5.5s
JRY **Ryogami san** 7.17 201 P Pn 12 24 24.3 +1.8
JSMT **Sammumatsuo** 7.23 190 A A 12 24 26.6
comp=N,43nm,4.4s,comp=E,71nm,5.1s
TOK **Tokyo** 7.29 195 A A 12 24 27.5
comp=N,63nm,8.4s,comp=E,62nm,4.0s
USA0B **Ussuriysk Arra** 7.42 284 Pn Pn 12 24 26.7 +0.8
USA0B **Ussuriysk Arra** 7.42 284 *c* iPN Pn 12 24 26.2 +0.3
USRK **Ussuriysk Ar.** 7.42 284 Pn Pn 12 24 26.4 +0.5
USRK **Ussuriysk Ar.** 7.42 284 Pn Pn 12 24 26.9 +0.9
comp=E,8.2nm,0.3s,baz=85,slow=15,SNR=107
USRK Sn Sn 12 25 53.9 +5.1
comp=E,3.7nm,0.3s,baz=96,slow=24,SNR=1.6
USRK LR LR 12 27 15.2
comp=E,26µm,19.6s,baz=115,slow=37
comp=E,66nm,0.7s
I45RU **USSURIYSK INFR** 7.43 284 I I 13 10 30.0
baz=96,slow=333,SNR=0.4
VLA **Vladivostok** 7.43 276 *ce* PN Pn 12 24 26.8 +0.7
VLA MLR MLR
comp=Z,14µm,15.0s
JCN **Nagara** 7.48 191 A A 12 24 30.1
comp=N,57nm,3.4s,comp=E,77nm,3.9s
I30JP **ISUMI INFRASON** 7.57 191 I I 13 08 10.0
baz=10,slow=323,SNR=1.0
JKUC **kamogawauchiur** 7.74 191 A A 12 24 33.7
comp=N,18nm,3.2s,comp=E,21nm,3.6s
JYN **Shimob** 7.75 201 A A 12 24 33.9
comp=N,10.0nm,3.2s,comp=E,17nm,5.6s
JYO **Yokosk** 7.76 194 A A 12 24 34.0
comp=N,38nm,5.0s,comp=E,30nm,5.0s
JOD2 **Odawara 2** 7.84 198 A A 12 24 35.1
comp=N,15nm,3.5s,comp=E,11nm,2.9s
TATJ **Tateyama 2** 7.91 193 A A 12 24 36.1
comp=N,37nm,4.0s,comp=E,41nm,3.8s
MSHR **Mys Shultsa** 7.99 272 *d* iPN Pn 12 24 34.8 +1.0
MSHR pmax pmax
comp=Z,201nm,1.0s
MSHR MLR MLR
comp=Z,23µm,18.0s
JFNN **Fujinakano** 8.00 200 A A 12 24 37.4
comp=N,23nm,5.4s,comp=E,44nm,5.3s
JGF **Kuroka** 8.02 208 Pn Pn 12 24 37.1 +2.8
JGF **Kuroka** 8.02 208 P Pn 12 24 36.9 +2.6
JNY **Yasuok** 8.08 205 A A 12 24 38.4
comp=N,8.0nm,7.8s,comp=E,8.0nm,3.8s
TYV **Tymovskoe** 8.10 3 *e* PN Pn 12 24 39.2 +4.0
TYV eS Sn 12 26 12.6 +7.1
TYV pmax pmax
comp=Z,80nm,0.7s
TYV pmax pmax
comp=Z,700nm,2.0s
TYV smax smax
comp=N,87nm,1.0s

TYV				smax	smax	
	comp=E,138nm,1.0s					
TYV	**Tymovskoe**	**8.10**	**3**	*e*P	**Pn**	**12 24 39.2 +4.0**
TYV				AMB	AMB	12 24 40.1
	comp=E,80nm,0.7s					
TYV				AMB	AMB	12 24 47.1
	comp=E,700nm,2.0s					
TYV				*e*S	**Sn**	**12 26 07.8 +2.3**
TYV				A	A	12 26 17.7
	comp=E,90nm,0.9s					
TYV				A	A	12 26 17.7
	comp=E,140nm,0.9s					
TYV				AMS	AMS	12 27 52.2
	comp=E,24μm,16.0s					
TYV				AMS	AMS	12 27 52.2
	comp=E,19μm,16.0s					
JHTM	**Izuhatsuma**	**8.15 198**		A	A	12 24 39.4
	comp=N,17nm,4.7s,comp=E,17nm,2.5s					
PSTR	**Posyet**	**8.25 273**	*i*	PN	**Pn**	**12 24 38.4 +1.1**
PSTR	**Posyet**	**8.25 273**	*e*	P	**Pn**	**12 24 38.4 +1.1**
SHZ3	**Shizuoka 3**	**8.25 202**		A	A	12 24 40.8
	comp=N,9.0nm,3.7s,comp=E,10.0nm,6.3s					
JYTA	**Yamagatataniai**	**8.26 211**		P	**Pn**	**12 24 40.9 +3.5**
JIM2	**Oshima 3**	**8.29 195**		A	A	12 24 41.4
	comp=N,15nm,5.3s,comp=E,15nm,4.2s					
JAO	**Obara**	**8.36 208**		A	A	12 24 42.3
	comp=N,5.0nm,3.3s,comp=E,5.0nm,24.8s					
INU	**Inuyama**	**8.37 209**		Pn	**Pn**	**12 24 40.9 +1.9**
INU	**Inuyama**	**8.37 209**		P	**Pn**	**12 24 41.5 +2.5**
JIZS	**Izushimoda**	**8.41 198**		A	A	12 24 43.0
	comp=N,9.0nm,5.5s,comp=E,7.0nm,6.0s					
JICN	**Ichinomiyachia**	**8.47 210**		A	A	12 24 43.9
	comp=N,7.0nm,4.0s,comp=E,8.0nm,4.1s					
HMMJ	**Hamamatsu 2**	**8.59 204**		A	A	12 24 45.4
	comp=N,4.0nm,6.0s,comp=E,5.0nm,8.5s					
JKKS	**Kakegawashinom**	**8.61 203**		A	A	12 24 45.7
	comp=N,14nm,6.1s,comp=E,31nm,3.9s					
JSG	**Sagara**	**8.62 201**			**Pn**	**12 24 43.2 +0.8**
JSG	**Sagara**	**8.62 201**		P	**Pn**	**12 24 44.0 +1.5**
JSG	**Sagara**	**8.62 201**		A	A	12 24 45.9
	comp=N,18nm,4.5s,comp=E,24nm,5.0s					
JEG	**Eigenji**	**8.79 212**		A	A	12 24 48.3
	comp=N,4.0nm,5.7s,comp=E,4.0nm,5.3s					
GRNR	**Gornyy**	**8.86 336**	⇑	*i*PN	**Pn**	**12 24 47.4 +1.7**
GRNR				pmax	pmax	
	comp=E,20nm,0.6s					
GRNR				pmax	pmax	
	comp=N,20nm,0.5s					
GRNR				pmax	pmax	
	comp=Z,30nm,0.6s					
GRNR				MLR	MLR	
	comp=E,5μm,15.0s					
GRNR				MLR	MLR	
	comp=N,10μm,12.0s					
GRNR				MLR	MLR	
	comp=Z,14μm,15.0s					
GRNR	**Gornyy**	**8.86 336**		*e*P	**Pn**	**12 24 47.4 +1.7**
GRNR				AMS	AMS	12 28 32.0
	comp=Z,10μm,14.0s					
GRNR				AMS	AMS	12 28 32.0
	comp=Z,5μm,14.0s					
JKY	**Yasaka**	**8.92 219**		A	A	12 24 50.1
	comp=N,4.0nm,8.3s,comp=E,4.0nm,2.6s					
JWT	**Wachi**	**9.07 217**		A	A	12 24 52.2
	comp=N,5.0nm,4.8s					
TTO5	**TONANKAI O.B.S**	**9.15 203**		A	A	12 24 53.2
	comp=N,32nm,5.6s,comp=E,32nm,4.0s					
MDJ	**Mudanjiang**	**9.18 286**			**Pn**	**12 24 50.6 +0.6**
MDJ	**Mudanjiang**	**9.18 286**		P	**Pn**	**12 24 51.3 +1.3**
MDJ				pP		12 24 57.8
MDJ				S	Sn	12 26 46.5 +14
MDJ				pmax	pmax	
	comp=E,120nm,1.0s					
MDJ				pmax	pmax	
	comp=E,2μm,3.7s					
MDJ				LR	LR	
	comp=E,16μm,10.8s					
MDJ				LR	LR	
	comp=E,20μm,15.9s					
MDJ				LR	LR	
	comp=E,34μm,15.6s					
MDJ	**Mudanjiang**	**9.18 286**		P	**Pn**	**12 24 51.9 +1.9**
JIE	**Ise**	**9.34 208**		A	A	12 24 55.9
	comp=N,4.0nm,4.5s,comp=E,3.0nm,6.4s					
JHE	**Heguri**	**9.49 213**		A	A	12 24 58.0
	comp=N,3.0nm,3.9s,comp=E,3.0nm,6.3s					
TTO3	**TONANKAI O.B.S**	**9.61 204**		A	A	12 24 59.5
	comp=N,36nm,9.5s,comp=E,32nm,4.3s					
KLR	**Kul'dur**	**9.61 316**		Pn	**Pn**	**12 24 56.9 +0.9**
	comp=E,3.3nm,0.3s,baz=124,slow=15,SNR=187					
KLR				Sn	Sn	12 26 51.3 +8.6
	comp=E,1.7nm,0.3s,baz=52,slow=12,SNR=1.7					
KLR				LR	LR	12 28 58.7
	comp=E,18μm,18.5s,baz=138,slow=40					
	comp=E,57nm,0.8s					
KLR	**Kul'dur**	**9.61 316**	*c*	*i*PN	**Pn**	**12 24 57.1 +1.1**
KLR				pmax	pmax	
	comp=Z,284nm,1.3s					
KLR				MLR	MLR	
	comp=Z,17μm,15.0s					
KLR	**Kul'dur**	**9.61 316**		*e*P	**Pn**	**12 24 57.1 +1.1**
JKR	**Kurayoshi**	**9.74 223**		A	A	12 25 01.5
	comp=N,6.0nm,2.6s,comp=E,3.0nm,2.5s					
JHJ	**Hachijo jima 2**	**9.80 191**		Pn	**Pn**	**12 24 58.9 +0.2**
	comp=E,430nm,0.3s,baz=274,slow=17,SNR=29					
JHJ				Sn	**Sn**	**12 26 40.1 -7.3**
	comp=E,250nm,0.3s,baz=53,slow=23,SNR=6.6					
JHJ				LR	LR	12 28 53.7
	comp=E,4μm,19.2s,baz=42,slow=38					
JHJ2	**Mitsune**	**9.80 191**		Pn	**Pn**	**12 24 57.1 -1.6**
JHJ2	**Mitsune**	**9.80 191**		P	**Pn**	**12 24 59.4 +0.8**
NKL	**Nikolayevsk**	**10.42 356**		*e*PN	**Pn**	**12 25 11.0 +4.1**
NKL				pmax	pmax	
	comp=N,262nm,1.3s					
NKL				pmax	pmax	
	comp=E,627nm,1.3s					
NKL				pmax	pmax	
	comp=Z,978nm,1.3s					
NKL				MLR	MLR	
	comp=E,13μm,12.0s					
NKL				MLR	MLR	
	comp=N,22μm,14.0s					
NKL				MLR	MLR	
	comp=Z,33μm,14.0s					
NKL	**Nikolayevsk**	**10.42 356**		*e*P	**Pn**	**12 25 11.0 +4.1**
NKL				AMB	AMB	12 25 12.9
	comp=Z,980nm,2.0s					
NKL				*e*S	**Sn**	**12 27 00.0 -2.3**
NKL				AMS	AMS	12 30 19.3
	comp=Z,22μm,13.0s					
NKL				AMS	AMS	12 30 19.3
	comp=Z,13μm,13.0s					
JJG	**Jouge**	**10.66 223**		A	A	12 25 13.9
	comp=N,4.0nm,6.0s,comp=E,7.0nm,4.5s					
OKH	**Okha**	**10.80**	**3**	*c* *i*PN	**Pn**	**12 25 14.5 +2.4**
OKH				*i* S	Sn	12 27 23.9 +12
OKH				pmax	pmax	
	comp=Z,400nm,16.2s					
OKH				smax	smax	
	comp=E,3μm,10.6s					
OKH				smax	smax	
	comp=N,1μm,7.3s					
OKH				MLR	MLR	
	comp=N,20μm,19.0s					
OKH				MLR	MLR	
	comp=Z,11μm,17.0s					
OKH	**Okha**	**10.80**	**3**	*e*P	**Pn**	**12 25 13.2 +1.1**
OKH				AMB	AMB	12 25 19.7
	comp=Z,400nm,16.0s					
OKH				*e*S	**Sn**	**12 27 13.1 +1.4**
OKH				A	A	12 27 33.9
	comp=Z,1μm,9.0s					
OKH				A	A	12 27 33.9
	comp=Z,3μm,9.0s					
OKH				AMS	AMS	12 30 19.9
	comp=Z,20μm,18.0s					
OKH				AMS	AMS	12 30 19.9
	comp=Z,11μm,18.0s					
BNX	**BinXian**	**10.88 291**	⇓	P	**Pn**	**12 25 14.5 +1.2**
BNX				S	**Sn**	**12 27 15.1 +1.3**
BNX				pmax	pmax	
	comp=Z,36nm,1.0s					
BNX				pmax	pmax	
	comp=Z,3μm,6.0s					
BNX				LR	LR	
	comp=Z,9μm,18.4s					
BNX				LR	LR	
	comp=Z,20μm,15.0s					
BNX				LR	LR	
	comp=Z,27μm,16.6s					
JMN	**Monobe**	**11.06 218**			**Pn**	**12 25 18.2 +2.4**
JMN	**Monobe**	**11.06 218**		P	**Pn**	**12 25 18.6 +2.7**
KSRS	**Korea Array**	**12.01 248**		Pn	**Pn**	**12 25 31.2 +2.4**
	comp=Z,3.6nm,0.3s,baz=59,slow=12,SNR=215					
KSRS				Sn	**Sn**	**12 27 43.7 +2.1**
	baz=19,slow=35					
KSRS				LR	LR	12 29 38.4
	comp=Z,21μm,19.2s,baz=55,slow=35					
KSRS				PcP	**PcP**	**12 31 14.3 +1.4**
	comp=Z,5.1nm,0.9s,baz=17,slow=1.1,SNR=4.3					
KSRS				ScP	**ScP**	**12 34 44.9 +1.7**
	comp=Z,5.6nm,0.8s,baz=32,slow=0.3,SNR=12					
	comp=Z,127nm,0.9s					
KS19	**Wonju Array Si**	**12.03 249**			**Pn**	**12 25 33.3 +4.2**
KSAR	**Wonju Array Be**	**12.04 248**			**Pn**	**12 25 33.2 +3.9**
KSAR	**Wonju Array Be**	**12.04 248**		PN	**Pn**	**12 25 33.2 +3.9**
CN2	**Changchun**	**12.11 280**		*e*P	**Pn**	**12 25 32.8 +2.7**
CN2				*e*PP	**P**	**12 25 43.3 +0.9**
CN2				*e*S	**Sn**	**12 27 46.4 +2.5**
CN2				pmax	pmax	
	comp=Z,260nm,1.0s					
CN2				pmax	pmax	
	comp=Z,2μm,4.0s					
CN2				LR	LR	
	comp=Z,9μm,15.0s					
CN2				LR	LR	
	comp=Z,30μm,15.0s					
CN2				LR	LR	
	comp=Z,35μm,16.0s					
JKI	**Kunimi**	**12.27 225**		A	A	12 25 35.5
	comp=N,6.0nm,2.9s,comp=E,4.0nm,4.8s					
SKR	**Severo-Kuril's**	**12.49**	**46**	*d* *i*PN	**Pn**	**12 25 36.6 +1.4**
SKR				pmax	pmax	
	comp=Z,350nm,0.9s					
SKR				MLR	MLR	
	comp=Z,32μm,19.0s					
SKR	**Severo-Kuril's**	**12.49**	**46**	*i* P	**Pn**	**12 25 36.6 +1.4**
SKR				AMB	AMB	12 25 38.8
	comp=Z,350nm,0.9s					
SKR				*e*S	**Sn**	**12 27 51.0 -2.0**
HEH	**HeiHe**	**12.51 312**		*e*P	**Pn**	**12 25 36.3 +0.7**
HEH				pP	**P**	**12 25 44.5 -2.3**
HEH				S	Sn	12 28 07.0 +13
HEH				pmax	pmax	
	comp=Z,160nm,1.3s					
HEH				pmax	pmax	
	comp=Z,2μm,5.8s					
HEH				LR	LR	
	comp=Z,17μm,12.8s					
HEH				LR	LR	
	comp=Z,8μm,12.3s					
HEH				LR	LR	
	comp=Z,18μm,15.6s					
JUS	**Usuki**	**12.62 223**		A	A	12 25 40.2
	comp=N,3.0nm,3.3s,comp=E,3.0nm,3.7s					
JTU	**Tsushima**	**12.83 234**		P	**Pn**	**12 25 43.4 +3.4**
JTU	**Tsushima**	**12.83 234**		A	A	12 25 43.1
	comp=N,2.0nm,4.1s,comp=E,3.0nm,12.8s					
INCN	**Inchon**	**12.89 251**			**Pn**	**12 25 45.0 +4.1**
INCN	**Inchon**	**12.89 251**		P	Pn	12 25 45.7 +4.8
INCN				S	Sn	12 28 12.5 +9.5
INCN	**Inchon**	**12.89 251**		PN	**Pn**	**12 25 45.0 +4.1**
TJN	**Taejon**	**12.97 245**			**Pn**	**12 25 45.3 +3.4**
TJN	**Taejon**	**12.97 245**		P	**Pn**	**12 25 45.3 +3.4**
TJN	**Taejon**	**12.97 245**	*c*	*i*PN	**Pn**	**12 25 44.9 +3.0**
JNU	**Nakatsue**	**13.02 226**			**Pn**	**12 25 44.7 +1.9**
JNU	**Nakatsue**	**13.02 226**		Pn	**Pn**	**12 25 44.2 +1.4**
	comp=E,1.5nm,0.3s,baz=47,slow=4.1,SNR=18					
JNU				LR	LR	12 30 17.1
	comp=E,11μm,21.6s,baz=52,slow=35					
	comp=E,31nm,0.7s					
JNU	**Nakatsue**	**13.02 226**		P	**Pn**	**12 25 46.1 +3.3**
SNY	**Shenyang**	**13.67 272**	⇑	P	**Pn**	**12 25 54.9 +3.4**
SNY				S	**Sn**	**12 28 19.1 -3.0**
SNY				pmax	pmax	
	comp=E,270nm,1.1s					
SNY				pmax	pmax	
	comp=E,2μm,5.0s					
SNY				LR	LR	
	comp=E,6μm,16.2s					
SNY				LR	LR	
	comp=E,8μm,18.1s					
SNY				LR	LR	
	comp=E,11μm,20.6s					
ZEA	**Zeya**	**14.69 323**		*e*P	**Pn**	**12 26 06.6 +1.4**
ZEA				*e*S	**Sn**	**12 28 42.0 -4.7**
ZEA				pmax	pmax	
	comp=N,400nm,4.3s					
ZEA				pmax	pmax	
	comp=Z,1μm,6.4s					
ZEA				pmax	pmax	
	comp=N,280nm,0.9s					
ZEA				pmax	pmax	
	comp=E,160nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,490nm,1.0s					
ZEA				smax	smax	
	comp=N,700nm,6.3s					
ZEA				smax	smax	
	comp=E,800nm,5.6s					
ZEA				MLR	MLR	
	comp=E,6μm,18.0s					
ZEA				MLR	MLR	
	comp=N,8μm,12.0s					
ZEA				MLR	MLR	
	comp=Z,10μm,13.0s					
ZEA	**Zeya**	**14.69 323**		*e*P	**Pn**	**12 26 04.2 -1.0**
PEA0B	**Petropavlovsk-**	**14.71**	**40**		**Pn**	**12 26 05.1 -0.5**
PEA0B	**Petropavlovsk-**	**14.71**	**40**	*de*P	**Pn**	**12 26 05.8 +0.2**
PETK	**Petropavlovsk-**	**14.71**	**40**		**Pn**	**12 26 05.0 -0.6**
PETK	**Petropavlovsk-**	**14.71**	**40**	Pn	**Pn**	**12 26 05.6 0.0**
	comp=Z,1.7nm,0.3s,baz=218,slow=6.6,SNR=72					
PETK				Sn	**Sn**	**12 28 53.7 +6.3**
	baz=232,slow=35					
PETK				LR	LR	12 31 41.0
	comp=Z,23μm,20.6s,baz=222,slow=37					
PETK				ScP	**ScP**	**12 34 48.4 +1.1**
	comp=Z,20nm,0.9s,baz=203,slow=3.3,SNR=15					
	comp=Z,106nm,0.9s					
I44RU	**PETROPAVLOVSK**	**14.72**	**40**	I	I	13 51 20.0
	baz=230,slow=339,SNR=1.0					
PET	**Petropavlovsk**	**15.12**	**42**		**Pn**	**12 26 10.1 -0.9**
PET	**Petropavlovsk**	**15.12**	**42**	P	**Pn**	**12 26 10.8 -0.2**
PET	**Petropavlovsk**	**15.12**	**42**	*e*P	**Pn**	**12 26 09.3 -1.7**
PET				*e*S	**Sn**	**12 28 49.0 -8.2**
PET				pmax	pmax	
	comp=Z,1μm,6.8s					
PET				pmax	pmax	
	comp=Z,2μm,12.0s					
PET				pmax	pmax	
	comp=Z,157nm,1.1s					
PET				MLR	MLR	
	comp=Z,21μm,18.0s					
PET				MLR	MLR	
	comp=Z,20μm,18.0s					
PET	**Petropavlovsk**	**15.12**	**42**	*e*P	**Pn**	**12 26 09.3 -1.7**
PET				AMB	AMB	12 26 13.8
	comp=Z,1μm,7.0s					
JCJ	**Chichijima**	**15.65 179**		Pn	**Pn**	**12 26 14.4 -3.6**
JCJ				IAmb	IAmb	12 26 23.9
	comp=Z,460nm,0.9s					
JCJ	**Chichijima**	**15.65 179**		Pn	Pn	12 26 07.5 -11
	comp=Z,68nm,0.3s,baz=85,slow=20,SNR=29					
JCJ				Sn	Sn	12 28 52.3 -18
	comp=Z,20nm,0.3s,baz=283,slow=21,SNR=3.3					
JCJ				LR	LR	12 38 17.5
	comp=Z,783nm,18.2s,baz=358,slow=60					
DL2	**Dalian**	**15.89 263**	⇑	*i*P	**Pn**	**12 26 22.4 +1.3**
DL2				S	**Sn**	**12 29 19.5 +3.4**
DL2				pmax	pmax	
	comp=Z,420nm,1.5s					
DL2				pmax	pmax	
	comp=Z,5μm,7.1s					
DL2				LR	LR	
	comp=Z,9μm,15.2s					
DL2				LR	LR	
	comp=Z,12μm,18.0s					
DL2				LR	LR	
	comp=Z,14μm,17.9s					
HIA	**Hailar**	**16.73 300**		P	**Pn**	**12 26 32.0 +0.2**
HIA	**Hailar**	**16.73 300**		P	**P**	**12 26 33.0 -0.8**
HIA	**Hailar**	**16.73 300**		P	**Pn**	**12 26 32.0 +0.2**
HIA				pmax	pmax	
	comp=Z,155nm,1.0s					
MA2	**Magadan**	**17.67**	**15**	P	**P**	**12 26 44.2 +0.2**
MA2				IAmb	IAmb	12 26 47.3
	comp=Z,888nm,1.5s					
MA2	**Magadan**	**17.67**	**15**	P	**P**	**12 26 43.7 -0.3**
	comp=Z,125nm,0.6s,baz=200,slow=9.5,SNR=206					
MA2				S	**Sn**	**12 29 57.8 -1.1**
	comp=Z,3.3nm,0.4s,baz=231,slow=20,SNR=0.9					
MA2				LR	LR	12 33 39.3
	comp=Z,7μm,20.9s,baz=200,slow=38					
MA2				ScP	**ScP**	**12 34 53.6 +0.8**
	comp=Z,3.6nm,0.4s,baz=157,slow=4.6,SNR=4.7					
MA2	**Magadan**	**17.67**	**15**	P	**P**	**12 26 45.7 +1.7**
MA2	**Magadan**	**17.67**	**15**	*d* *i*P	**P**	**12 26 44.4 +0.5**
MA2				pmax	pmax	
	comp=Z,440nm,1.3s					
MA2				MLR	MLR	
	comp=Z,6μm,14.0s					
MA2	**Magadan**	**17.67**	**15**	P	**P**	**12 26 44.5 +0.5**
	comp=Z,5μmcomp=Z,340nm,0.8s					
MA2	**Magadan**	**17.67**	**15**	*e*P	**P**	**12 26 44.4 +0.5**
XLT	**XiLinHaoTe**	**18.87 282**	⇑	*i*P	**P**	**12 26 56.3 -1.1**
XLT				pP	pP	12 27 07.9 +1.7
XLT				sP	sP	12 27 12.8 +2.2
XLT				S	**S**	**12 30 31.1 +1.1**
XLT				sS	sS	12 30 36.6 -7.4
XLT				SS	**SnSn**	**12 30 48.9 +6.8**
XLT				pmax	pmax	
	comp=Z,71nm,1.4s					
XLT				pmax	pmax	
	comp=Z,3μm,7.5s					
XLT				LR	LR	
	comp=Z,21μm,14.9s					
XLT				LR	LR	
	comp=Z,25μm,15.3s					
JMZ	**Minamidaito 2**	**19.09 211**		P	**Pn**	**12 27 01.6 +0.8**
JOW	**Kunigami**	**19.45 220**		P	**P**	**12 27 01.3 -2.6**
JOW	**Kunigami**	**19.45 220**		P	**P**	**12 27 03.6 -0.2**
	comp=Z,2.5nm,0.3s,baz=45,slow=6.0,SNR=4.1					
JOW				LR	LR	12 34 39.8
	comp=Z,6μm,22.0s,baz=46,slow=37					
JOW	**Kunigami**	**19.45 220**		P	**Pn**	**12 27 06.1 +0.9**
BJI	**Beijing**	**19.54 271**		P	**P**	**12 27 03.5 -1.2**
BJI				pmax	pmax	
	comp=Z,130nm,1.4s					
BJI				pmax	pmax	
	comp=Z,870nm,3.5s					
BJI				LR	LR	
	comp=Z,3μm,15.1s					
BJI				LR	LR	
	comp=Z,5μm,19.8s					
BJI				LR	LR	
	comp=Z,7μm,17.8s					
BJT	**Baijiatuau**	**19.55 271**		IAmb	IAmb	12 27 17.0
	comp=Z,812nm,1.7s					
BJT	**Baijiatuau**	**19.55 271**		P	**Pn**	**12 27 05.3 -1.0**
TIA	**Tai'an**	**20.25 259**		P	**P**	**12 27 11.1 -1.3**
TIA				pmax	pmax	
	comp=Z,380nm,0.9s					
TIA				pmax	pmax	
	comp=Z,1μm,4.2s					
TIA				LR	LR	
	comp=Z,6μm,16.9s					
TIA				LR	LR	
	comp=Z,4μm,24.9s					
TIA				LR	LR	
	comp=Z,9μm,21.8s					
SSE	**Sheshan**	**20.26 242**		P	**P**	**12 27 12.6 +0.1**
SSE				S	**S**	**12 30 57.6 -0.3**
SSE				pmax	pmax	
	comp=Z,31nm,1.1s					
SSE				pmax	pmax	
	comp=Z,740nm,3.8s					
SSE				LR	LR	
	comp=Z,4μm,16.8s					
SSE				LR	LR	
	comp=Z,4μm,16.8s					
YAK	**Yakutsk**	**20.63 343**		P	**P**	**12 27 15.6 -0.7**
YAK	**Yakutsk**	**20.63 343**		P	**P**	**12 27 15.3 -1.0**
	comp=Z,179nm,0.6s,baz=142,slow=5.0,SNR=40					
YAK				S	**S**	**12 30 56.8 -8.0**
	comp=Z,18nm,0.7s,baz=165,slow=17,SNR=1.3					
YAK				LR	LR	12 35 41.5
	comp=Z,7μm,21.2s,baz=147,slow=38					
	comp=Z,179nm,0.6s					
YAK	**Yakutsk**	**20.63 343**		*e*P	**P**	**12 27 15.3 -1.0**
YAK				*e**PP	**pP**	**12 27 27.2 +2.0**
YAK				*e*		12 27 34.4
YAK				*e*S	**S**	**12 31 04.3 -0.4**
YAK				*e*		12 38 38.0
YAK				pmax	pmax	
	comp=Z,219nm,1.2s					
YAK				pmax	pmax	
	comp=N,165nm,2.0s					
YAK				pmax	pmax	
	comp=E,99nm,1.5s					
YAK				pmax	pmax	
	comp=Z,676nm,0.9s					
YAK				pmax	pmax	
	comp=N,503nm,2.2s					
YAK				pmax	pmax	
	comp=E,626nm,2.0s					
YAK				smax	smax	
	comp=N,2μm,3.7s					
YAK				smax	smax	
	comp=E,1μm,4.1s					
YAK				MLR	MLR	
	comp=Z,11μm,26.0s					
YAK				MLR	MLR	
	comp=N,4μm,12.0s					
YAK				MLR	MLR	
	comp=E,2μm,14.0s					
SEY	**Seymchan**	**21.09**	**13**	P	**P**	**12 27 20.7 -0.6**
	comp=E,156nm,1.0s,baz=202,slow=7.6,SNR=368					
SEY				S	**S**	**12 31 09.2 -4.6**
	comp=E,7.6nm,0.8s,baz=176,slow=19,SNR=1.3					
SEY				ScP	**ScP**	**12 35 01.8 +1.2**
	comp=E,7.8nm,0.9s,baz=174,slow=4.3,SNR=6.0					
SEY				LR	LR	12 35 50.0
	comp=E,7μm,21.6s,baz=197,slow=38					
	comp=E,156nm,1.0s					
SEY	**Seymchan**	**21.09**	**13**	*de*P	**P**	**12 27 21.0 -0.3**
SEY				pmax	pmax	
	comp=Z,250nm,1.3s					
SEY				MLR	MLR	
	comp=Z,6μm,16.0s					
NJ2	**Nanjing**	**21.21 247**	⇑	P	**P**	**12 27 20.8 -2.0**
NJ2				pP	**pP**	**12 27 29.8 -1.9**
NJ2				PP	**PnPn**	**12 27 43.6 +0.9**
NJ2				S	S	12 31 05.3 -11
NJ2				pmax	pmax	
	comp=Z,76nm,1.2s					
NJ2				LR	LR	
	comp=Z,9μm,15.6s					
NJ2				LR	LR	
	comp=Z,16μm,16.6s					
NJ2				LR	LR	
	comp=Z,20μm,16.1s					
CIT	**Chita**	**21.24 306**		*e*P	**P**	**12 27 20.0 -3.1**
CIT				*e*		12 27 35.4
CIT				*e*		12 27 51.6
CIT				*e*		12 28 00.6
CIT				*e*		12 31 22.2
CIT				pmax	pmax	
	comp=Z,1μm,2.2s					
HNS	**HongShan**	**21.51 265**	⇑	P	**P**	**12 27 23.8 -2.2**
HNS				pP	**pP**	**12 27 32.8 -2.2**
HNS				PP	**PnPn**	**12 27 47.0 +0.2**
HNS				S	**S**	**12 31 18.3 -4.4**
HNS				sS	**pS**	**12 31 34.3 -1.4**
HNS				SS	**SnSn**	**12 31 55.9 +8.9**
HNS				ScP	**ScP**	**12 35 03.3 +1.2**
HNS				pmax	pmax	
	comp=Z,110nm,1.1s					
HNS				LR	LR	
	comp=Z,8μm,15.1s					
HNS				LR	LR	
	comp=Z,9μm,15.5s					
HNS				LR	LR	
	comp=Z,12μm,15.3s					
JMJ	**Miyako jima 2**	**22.59 223**		P	**P**	**12 27 39.8 +2.1**
HHC	**Hu-ho-hao-te**	**22.71 276**		*e*P	**P**	**12 27 36.6 -2.4**
HHC				sP	sP	12 27 52.0 -0.4
HHC				S	**S**	**12 31 41.4 -3.9**
HHC				sS	pS	12 31 55.3 -0.4
HHC				pmax	pmax	

comp=Z,690nm,8.4s
HHC LR LR
comp=Z,4μm,12.2s
HHC LR LR
comp=Z,6μm,14.5s
HHC LR LR
comp=Z,10μm,15.3s
TIY Taiyuan 23.06 267 *e*P **P 12 27 40.8 -1.8**
TIY pP **pP 12 27 50.3 -1.4**
TIY PP **PnPn 12 28 11.6 +3.5**
TIY pmax pmax
comp=Z,78nm,1.0s
TIY pmax pmax
comp=Z,1μm,7.8s
TIY LR LR
comp=Z,3μm,17.0s
TIY LR LR
comp=Z,5μm,16.2s
TIY LR LR
comp=Z,7μm,17.7s
BOD Bodaibo 23.14 320 *e*P **P 12 27 39.6 -3.5**
BOD pmax pmax
comp=Z,183nm,1.7s
SHEM Shemya Is, Ala 23.58 54 LR LR 12 36 13.7
comp=Z,4μm,21.6s,baz=303,slow=35
BTO Baotou 23.91 276 *e*P **P 12 27 49.0 -1.8**
BTO pP **pP 12 27 59.6 -0.7**
BTO sP **sP 12 28 06.1 +1.5**
BTO PP **PnPn 12 28 25.3 +5.7**
BTO S **S 12 32 02.6 -2.3**
BTO SS **SnSn 12 32 58.0 +12**
BTO pmax pmax
comp=Z,59nm,0.9s
BTO pmax pmax
comp=Z,1μm,4.7s
BTO LR LR
comp=Z,10μm,10.6s
BTO LR LR
comp=Z,12μm,15.9s
BTO LR LR
comp=Z,14μm,12.7s
YOJ Yonaguni jima 24.07 227 P **P 12 27 48.5 -3.8**
YOJ IAmb IAmb 12 27 59.3
comp=Z,259nm,0.7s
YOJ Yonaguni jima 24.07 227 P **P 12 27 53.7 +1.4**
YOJ Yonaguni jima 24.07 227 P **P 12 27 48.5 -3.8**
YOJ pmax pmax
comp=Z,259nm,0.7s
LYN LuoYang 24.39 260 P **P 12 27 52.0 -3.2**
LYN pP pP 12 28 03.4 -1.4
LYN sP sP 12 28 07.0 -2.0
LYN PP **PnPn 12 28 28.4 +2.2**
LYN S **S 12 32 07.8 -4.7**
LYN sS sS 12 32 28.4 0.0
LYN pmax pmax
comp=Z,130nm,1.0s
LYN pmax pmax
comp=Z,850nm,7.0s
LYN LR LR
comp=Z,5μm,16.1s
LYN LR LR
comp=Z,8μm,18.6s
LYN LR LR
comp=Z,8μm,19.9s
TATO Taipei 24.50 230 P **P 12 27 55.1 -1.1**
TATO Taipei 24.50 230 P **P 12 27 57.6 +1.4**
TATO Taipei 24.50 230 P **P 12 27 56.3 +0.1**
YHNB Yeheng 24.80 230 P **P 12 27 56.6 -2.5**
YHNB IAmb IAmb 12 28 08.7
comp=Z,339nm,0.8s
YHNB Yeheng 24.80 230 P **P 12 27 58.1 -0.9**
ULN Ulaanbaatar 24.95 294 P **P 12 27 59.2 -1.2**
ULN Ulaanbaatar 24.95 294 P **P 12 27 59.4 -1.0**
ULN S **S 12 32 21.5 -0.2**
ULN Ulaanbaatar 24.95 294 *c i*P **P 12 27 58.9 -1.5**
ULN pmax pmax
comp=Z,47nm,1.1s
ULN MLR MLR
comp=Z,13μm,16.0s
ULN Ulaanbaatar 24.95 294 *e*P **P 12 27 58.9 -1.5**
NACB Ninganchiao 25.07 229 P **P 12 28 02.2 +0.8**
WHN Wuhan 25.20 250 P **P 12 27 59.6 -2.9**
WHN pP **pP 12 28 10.0 -2.1**
WHN sP **sP 12 28 17.3 +0.9**
WHN S **S 12 32 19.8 -5.8**
WHN pmax pmax
comp=Z,250nm,0.7s
WHN pmax pmax
comp=Z,1μm,4.1s
WHN LR LR
comp=Z,13μm,13.1s
WHN LR LR
comp=Z,19μm,13.6s
WHN LR LR
comp=Z,25μm,14.6s
SONM Songino Array 25.39 294 P **P 12 28 03.1 -1.3**
SONM Songino Array 25.39 294 P **P 12 28 02.7 -1.6**
comp=Z,71nm,0.8s,baz=93,slow=7.3,SNR=207
SONM S **S 12 32 33.4 +4.6**
comp=Z,2.4nm,0.9s,baz=81,slow=3.7,SNR=1.4
SONM ScP **ScP 12 35 12.4 -0.1**
comp=Z,8.8nm,1.0s,baz=134,slow=1.5,SNR=7.7
SONM LR LR 12 38 49.0
comp=Z,10μm,18.9s,baz=92,slow=38
comp=Z,71nm,0.8s
SSLB Suanglung 25.73 229 P **P 12 28 08.3 +0.9**
YULB Yu-li 25.85 228 P **P 12 28 07.6 -0.9**
QZH Quanzhou 26.21 235 P **P 12 28 12.5 +0.8**
QZH pP **pP 12 28 21.1 -0.2**
QZH S **S 12 32 43.6 +2.0**
QZH pmax pmax
comp=Z,510nm,0.9s
QZH pmax pmax
comp=Z,1μm,5.2s
QZH LR LR
comp=Z,3μm,16.6s
QZH LR LR
comp=Z,3μm,14.0s
QZH LR LR
comp=Z,5μm,14.7s
TPUB Ta-pu 26.29 229 IAmb IAmb 12 28 25.5
comp=Z,200nm,0.8s
TPUB Ta-pu 26.29 229 P **P 12 28 11.4 -1.1**
TWGBT Beinan 26.43 228 P **P 12 28 15.8 +2.0**
TWG Pinlang 26.43 228 IAmb IAmb 12 28 25.4
comp=Z,194nm,0.6s
KNMB Chin-men Tao 26.69 234 P **P 12 28 14.8 -1.3**
IRK Irkutsk 26.91 304 *e*P **P 12 28 16.9 -1.0**
IRK pmax pmax
comp=Z,287nm,2.2s
XAN Xi'an 27.21 262 ⇑P **P 12 28 18.9 -1.9**
XAN pP pP 12 28 30.3 -0.1
XAN PP **PnPn 12 29 11.8 +7.0**
XAN S **S 12 32 53.1 -4.4**
XAN sS sS 12 33 17.1 +3.7
XAN pmax pmax
comp=Z,170nm,0.9s
XAN pmax pmax
comp=Z,890nm,3.6s
XAN LR LR
comp=Z,5μm,19.1s
XAN LR LR
comp=Z,7μm,21.1s
XAN LR LR
comp=Z,9μm,17.5s
ZAK Zakamensk 27.43 300 *e*P **P 12 28 21.8 -0.8**
ZAK pmax pmax
comp=Z,94nm,1.2s
CNSH ChangSha 27.62 248 P **P 12 28 22.9 -1.6**
CNSH S **S 12 32 59.4 -4.6**
CNSH pmax pmax
comp=Z,31nm,1.0s
CNSH LR LR
comp=Z,10μm,16.4s
CNSH LR LR
comp=Z,12μm,16.6s
CNSH LR LR
comp=Z,18μm,16.0s
BILL Bilibino 28.42 19 P **P 12 28 29.2 -1.9**
BILL Bilibino 28.42 19 *c i*P **P 12 28 30.5 -0.7**
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,7μm,15.0s
ENH Enshi 28.77 255 P **P 12 28 32.4 -2.3**

MOY Mondy 28.90 302 *e*P **P 12 28 35.4 -0.4**
MOY pmax pmax
comp=Z,361nm,1.8s
ADK Adak 29.10 57 P **P 12 28 36.7 -0.6**
ADK IAmb IAmb 12 28 41.1
comp=Z,311nm,1.4s
ADK Adak 29.10 57 P **P 12 28 36.7 -0.6**
ADK pmax pmax
comp=Z,311nm,1.5s
GUMO Guam 29.19 174 LR LR 12 39 48.3
comp=Z,5μm,21.7s,baz=14,slow=35
TIXI Tiksi 29.66 352 P **P 12 28 39.5 -2.6**
TIXI Tiksi 29.66 352 LR LR 12 41 00.2
comp=Z,1μm,20.3s,baz=170,slow=37
TIXI Tiksi 29.66 352⇑*e*P **P 12 28 39.6 -2.5**
TIXI pmax pmax
comp=Z,17nm,0.6s
TIXI MLR MLR
comp=Z,3μm,15.0s
LZH Lanzhou 30.03 270 ⇑P **P 12 28 45.4 -0.6**
LZH pP pP 12 28 56.6 +1.0
LZH sP sP 12 29 05.1 +5.2
LZH PP **PnPn 12 29 43.0 -0.3**
LZH S **S 12 33 38.0 -4.0**
LZH sS sS 12 33 56.0 -2.2
LZH pmax pmax
comp=Z,120nm,1.2s
LZH LR LR
comp=Z,5μm,14.1s
LZH LR LR
comp=Z,6μm,14.4s
LZH LR LR
comp=Z,9μm,14.8s
GZH Guangzhou 30.82 240 P P 12 28 47.3 -5.5
GZH S **S 12 33 50.9 -3.3**
GZH pmax pmax
comp=Z,69nm,1.6s
GZH LR LR
comp=Z,10μm,15.7s
GZH LR LR
comp=Z,6μm,15.5s
GZH LR LR
comp=Z,15μm,16.5s
HKPS Hong Kong Po S 30.91 237 P **P 12 28 55.8 +2.2**
H11N2 WAKE ISLAND Hy 31.11 130 T T 13 02 19.8
baz=322,slow=75,SNR=1185
H11N1 WAKE ISLAND Hy 31.12 130 T T 13 02 23.1
baz=322,slow=75,SNR=1803
H11N3 WAKE ISLAND Hy 31.12 130 T T 13 02 19.8
baz=322,slow=75,SNR=1359
GULI GuiLin 31.24 246 P **P 12 28 56.4 -0.2**
GULI pmax pmax
comp=Z,40nm,0.9s
GULI LR LR
comp=Z,4μm,17.4s
GULI LR LR
comp=Z,5μm,18.1s
GULI LR LR
comp=Z,7μm,17.4s
GTA Gaotai 31.73 278 P **P 12 29 00.5 -0.4**
GTA pP pP 12 29 10.3 -0.3
GTA PP **PP 12 30 11.4 -1.4**
GTA PcP **PcP 12 31 53.3 +1.5**
GTA S **S 12 34 05.5 -3.0**
GTA sS sS 12 34 23.6 -1.2
GTA ScP **ScP 12 35 33.3 +0.8**
GTA PcS **PcS 12 35 37.3 +0.8**
GTA ScS **ScS 12 39 31.0 +0.3**
GTA pmax pmax
comp=Z,21nm,1.3s
GTA pmax pmax
comp=Z,470nm,9.2s
GTA LR LR
comp=Z,4μm,17.1s
GTA LR LR
comp=Z,4μm,17.9s
GTA LR LR
comp=Z,7μm,17.1s
H11S1 WAKE ISLAND Hy 31.98 132 T T 13 03 26.2
baz=324,slow=76,SNR=2441
H11S3 WAKE ISLAND Hy 31.98 132 T T 13 03 26.2
baz=324,slow=76,SNR=2016
H11S2 WAKE ISLAND Hy 32.00 132 T T 13 03 28.6
baz=324,slow=76,SNR=2081
CD2 Chengdu 32.55 261 P **P 12 29 06.1 -2.0**
CD2 pP pP 12 29 18.8 +1.0
CD2 PP **PP 12 30 20.9 -1.0**
CD2 S **S 12 34 20.5 -0.8**
CD2 sS sS 12 34 39.5 +2.0
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,430nm,7.4s
CD2 LR LR
comp=Z,4μm,14.5s
CD2 LR LR
comp=Z,6μm,14.6s
GYA Guiyang 33.04 252 ⇓P **P 12 29 10.8 -1.7**
GYA sP sP 12 29 30.8 +4.4
GYA S **S 12 34 36.9 +7.9**
GYA pmax pmax
comp=Z,32nm,1.0s
GYA LR LR
comp=Z,6μm,15.2s
GYA LR LR
comp=Z,4μm,13.7s
GYA LR LR
comp=Z,9μm,14.7s
SPIA Saint Paul Isl 33.16 47 P **P 12 29 13.0 0.0**
baz=265
P08K Saint George I 33.50 49 P **P 12 29 15.9 -0.2**
baz=267
GAMB Gambell 33.67 35 P **P 12 29 16.0 -1.4**
GAMB Gambell 33.67 35 P **P 12 29 17.2 -0.2**
baz=254,SNR=6.2
KRAR Krasnoyarsk 33.85 310⇑*i*P **P 12 29 18.9 -0.2**
TGY Tagaytay City 33.85 219 LR LR 12 45 34.8
comp=Z,2μm,18.2s,baz=18,slow=41
UNV Unalaska Valle 35.24 53 P **P 12 29 30.6 -0.5**
baz=273
M11K Mekoryuk 35.56 42 P **P 12 29 34.4 +0.7**
baz=264
TNA Tin City 35.71 33 P **P 12 29 35.2 +0.2**
TNA IAmb IAmb 12 29 36.5
comp=Z,125nm,1.0s
TNA Tin City 35.71 33 P **P 12 29 35.1 +0.1**
baz=255,SNR=44
QIZ Qiongzhong 36.00 239 P **P 12 29 38.8 +0.8**
QIZ PP **PP 12 31 03.5 +3.3**
QIZ S **S 12 35 14.3 -0.3**
QIZ pmax pmax
comp=Z,60nm,1.2s
QIZ pmax pmax
comp=Z,670nm,5.0s
QIZ LR LR
comp=Z,5μm,17.8s
QIZ LR LR
comp=Z,3μm,14.8s
QIZ LR LR
comp=Z,7μm,16.0s
QIZ Qiongzhong 36.00 239 P **P 12 29 39.8 +1.8**
F14K Arctic Creek 36.34 34 P **P 12 29 41.2 +0.8**
baz=257
K13K Kusilvak Mount 36.48 40 P **P 12 29 42.4 +0.8**
baz=264
PZH PanZhiHua 36.50 257 P **P 12 29 40.8 -1.6**
PZH pP **pP 12 29 51.3 -0.8**
PZH PP **PP 12 31 06.8 +1.1**
PZH S **S 12 35 20.1 -2.3**
PZH pmax pmax
comp=Z,90nm,0.9s
PZH pmax pmax
comp=Z,430nm,7.7s
PZH LR LR
comp=Z,2μm,18.0s
PZH LR LR
comp=Z,2μm,18.0s
PZH LR LR
comp=Z,3μm,21.6s
ANM Nome 36.55 35 P **P 12 29 42.8 +0.6**
baz=259,SNR=28
GOMU GeErMu 36.62 276 P **P 12 29 42.8 -0.8**
GOMU pP pP 12 29 50.5 -2.8
GOMU sP sP 12 29 53.1 -4.5
GOMU PP **PP 12 31 07.6 +0.5**
GOMU S **S 12 35 29.6 +5.1**

GOMU pmax pmax
comp=Z,170nm,0.9s
GOMU LR LR
comp=Z,11μm,18.7s
GOMU LR LR
comp=Z,9μm,18.3s
GOMU LR LR
comp=Z,17μm,18.8s
KMI Kunming 36.63 254 ⇑P **P 12 29 42.3 -1.3**
KMI pP pP 12 29 53.3 -0.1
KMI PP **PP 12 31 09.0 +1.7**
KMI PcP **PcP 12 32 07.0 +0.8**
KMI S **S 12 35 18.4 -6.2**
KMI sS pS 12 35 36.3 +0.5
KMI SS **SnSn 12 37 51.5 -4.4**
KMI pmax pmax
comp=Z,100nm,1.0s
KMI pmax pmax
comp=Z,480nm,7.4s
KMI LR LR
comp=Z,7μm,15.7s
KMI LR LR
comp=Z,8μm,16.3s
KMI LR LR
comp=Z,8μm,15.9s
KMI Kunming 36.63 254 P **P 12 29 42.4 -1.2**
M13K Dall Lake 36.98 42 P **P 12 29 46.8 +1.0**
baz=267
FALS False Pass 36.98 52 P **P 12 29 46.8 +0.8**
baz=274
F15K North Star Dit 37.07 33 P **P 12 29 47.2 +0.6**
baz=259
J14K Nanvaranak Lak 37.08 38 IAmb IAmb 12 29 57.8
comp=Z,226nm,1.4s
J14K Nanvaranak Lak 37.08 38 P **P 12 29 47.8 +1.1**
baz=264,SNR=11
G15K Niukluk 37.19 35 P **P 12 29 48.3 +0.7**
baz=260,SNR=50
L14K Kuka Creek 37.36 41 P **P 12 29 50.7 +1.6**
baz=266,SNR=29
C16K Lisburne Hills 37.41 29 P **P 12 29 48.6 -0.8**
baz=255
M14K Bethel 37.68 42 P **P 12 29 53.4 +1.6**
baz=268,SNR=16
S12K Black Hills 37.70 50 P **P 12 29 52.9 +0.9**
baz=274
N14K Kuskokwak Cree 37.79 43 P **P 12 29 54.2 +1.4**
baz=269
H16K Elim 37.90 35 P **P 12 29 54.0 +0.4**
baz=262,SNR=104
L15K Ungalak Mounta 37.95 40 P **P 12 29 55.0 +0.9**
baz=267,SNR=12
G16K Koyuk River 37.95 34 IAmb IAmb 12 29 56.0
comp=Z,111nm,0.9s
G16K Koyuk River 37.95 34 P **P 12 29 54.2 +0.1**
baz=261,SNR=65
K15K Wolf Creek Mou 37.97 39 P **P 12 29 55.9 +1.6**
baz=266
O14K Tigyukauivet M 38.00 44 IAmb IAmb 12 30 06.2
comp=Z,141nm,1.1s
O14K Tigyukauivet M 38.00 44 P **P 12 29 56.1 +1.6**
baz=270,SNR=6.6
D17K Noatak River 38.09 30 P **P 12 29 55.3 +0.1**
baz=258,SNR=68
C17K DeLong Mountai 38.24 29 P **P 12 29 55.6 -0.9**
baz=257,SNR=47
RDOG Red Dog Mine 38.24 30 P **P 12 29 55.7 -0.8**
baz=257,SNR=15
M15K Kasigluk River 38.30 42 P **P 12 29 58.0 +1.0**
baz=269
NRIK Noril'sk 38.32 332 P **P 12 29 55.7 -1.4**
NRIK Noril'sk 38.32 332 P **P 12 29 55.0 -2.1**
comp=Z,20nm,0.6s,baz=123,slow=5.2,SNR=46
NRIK PP **PP 12 31 24.6 -0.2**
comp=Z,26nm,0.9s,baz=107,slow=8.6,SNR=6.5
NRIK ScP **ScP 12 35 55.5 +0.1**
comp=Z,29nm,1.1s,baz=111,slow=2.0,SNR=10.0
NRIK LR LR 12 46 50.7
comp=Z,6μm,19.1s,baz=103,slow=38
NRIK PKKP **PKKPdf 12 54 04.9 -2.7**
comp=Z,1.6nm,0.5s,baz=223,slow=4.9,SNR=4.4
comp=Z,20nm,0.6s
NRIK Noril'sk 38.32 332*ce*P **P 12 29 54.8 -2.3**
NRIK pmax pmax
comp=Z,94nm,1.9s
NRIK MLR MLR
comp=Z,6μm,20.0s
DAV Davao City (W) 38.40 207 LR LR 12 46 17.1
comp=Z,3μm,18.0s,baz=58,slow=37
E17K Hotham Inlet 38.45 32 P **P 12 29 57.7 -0.5**
baz=260
J16K Anvik River 38.47 38 P **P 12 29 59.2 +0.7**
baz=266,SNR=9.7
I17K Unalakleet 38.48 37 IAmb IAmb 12 30 09.7
comp=Z,159nm,1.0s
I17K Unalakleet 38.48 37 P **P 12 29 59.2 +0.7**
baz=265,SNR=24
F17K Baldwin Pennin 38.57 33 P **P 12 29 59.3 +0.1**
baz=261
ZAA0 Zalesovo Array 38.58 307 P **P 12 29 59.8 +0.3**
ZAA0 IAmb IAmb 12 30 10.2
comp=Z,186nm,0.8s
ZALV Zalesovo Beam 38.58 307 P **P 12 29 59.9 +0.4**
ZALV Zalesovo Beam 38.58 307 P **P 12 29 59.3 -0.2**
comp=Z,55nm,0.7s,baz=87,slow=8.5,SNR=141
ZALV PcP **PcP 12 32 12.1 +0.7**
comp=Z,35nm,0.8s,baz=73,slow=2.4,SNR=6.5
ZALV ScP **ScP 12 35 57.1 +0.4**
comp=Z,9.4nm,0.5s,baz=80,slow=3.9,SNR=11
ZALV LR LR 12 46 46.2
comp=Z,4μm,18.3s,baz=82,slow=38
comp=Z,55nm,0.7s
ZALV Zalesovo Beam 38.58 307 *i*P **P 12 29 59.5 0.0**
ZALV pmax pmax
comp=Z,55nm,0.7s
N15K Kwethluk River 38.59 43 IAmb IAmb 12 30 12.9
comp=Z,164nm,0.8s
N15K Kwethluk River 38.59 43 P **P 12 30 00.6 +1.0**
baz=270,SNR=19
O15K Ungalikthiuk R 38.74 44 P **P 12 30 01.5 +0.8**
baz=272,SNR=13
L16K Owhat River 38.91 40 P **P 12 30 03.1 +0.9**
L16K Owhat River 38.91 40 P **P 12 30 03.2 +1.1**
baz=269,SNR=29
H17K Granite Mounta 38.92 35 IAmb IAmb 12 30 14.1
comp=Z,483nm,1.9s
H17K Granite Mounta 38.92 35 P **P 12 30 03.0 +0.8**
baz=264
B18K Kokolik River 38.93 28 P **P 12 30 02.0 -0.2**
baz=257,SNR=97
WMQ Urumqi 38.94 291 ⇑P **P 12 30 03.3 +0.5**
WMQ pP pP 12 30 12.9 +0.4
WMQ PP **PnPn 12 31 37.3 +2.7**
WMQ pmax pmax
comp=Z,100nm,1.1s
WMQ pmax pmax
comp=Z,780nm,3.6s
WMQ LR LR
comp=Z,7μm,16.7s
WMQ LR LR
comp=Z,15μm,15.7s
WMQ LR LR
comp=Z,9μm,19.3s
WMQ Urumqi 38.94 291 P **P 12 30 03.2 +0.5**
WMQ pP **pP 12 30 12.5 0.0**
E18K Tukpahlearik C 38.98 31 P **P 12 30 02.5 -0.2**
baz=260
C18K Utukok River 38.98 29 P **P 12 30 01.6 -1.2**
baz=258,SNR=70
M16K Timber Creek 39.15 41 IAmb IAmb 12 30 16.7
comp=Z,343nm,1.3s
M16K Timber Creek 39.15 41 P **P 12 30 05.2 +1.0**
baz=270
J17K VABM Dome 39.16 38 IAmb IAmb 12 30 16.5
comp=Z,336nm,1.2s
J17K VABM Dome 39.16 38 P **P 12 30 05.6 +1.3**
baz=267,SNR=39
CHNA Chernabura Isl 39.19 51 P **P 12 30 03.5 -1.1**
baz=277
CNBA Chernabura Isl 39.19 51 P **P 12 30 04.2 -0.4**
CNBA IAmb IAmb 12 30 05.5
comp=Z,161nm,1.1s
F18K Selawik 39.22 33 P **P 12 30 04.7 0.0**
baz=262,SNR=68
A19K Wainwright 39.37 27 P **P 12 30 05.2 -0.7**
baz=257,SNR=55
L17K Donlin 39.48 40 P **P 12 30 08.6 +1.7**

baz=269,SNR=42
K17K Iditarod 39.49 39 IAmb IAmb 12 30 18.8
comp=Z,296nm,1.1s
K17K Iditarod 39.49 39 P **P** **12 30 08.2 +1.3**
baz=268,SNR=31
G18K Tagagawik 39.54 34 P **P** **12 30 07.5 +0.1**
baz=264
H18K Honhosa River 39.59 35 IAmb IAmb 12 30 19.4
comp=Z,546nm,1.9s
H18K Honhosa River 39.59 35 P **P** **12 30 08.2 +0.3**
baz=265
O16K Kokwok River B 39.61 44 P **P** **12 30 09.1 +1.1**
baz=272,SNR=13
CHGN Chignik 39.68 49 P **P** **12 30 08.2 -0.4**
baz=276
P16K Nushagak River 39.69 45 P **P** **12 30 10.0 +1.3**
baz=273,SNR=9.6
TNCH TengChong 39.70 258 P **P** **12 30 09.3 -0.1**
TNCH pP pP 12 30 19.1 -0.2
TNCH PP **PnPn** **12 31 47.1 +3.0**
TNCH S **S** **12 36 09.8 -1.2**
TNCH sS sS 12 36 28.5 +1.1
TNCH SS **SS** **12 38 59.5 -7.6**
TNCH pmax pmax
comp=Z,82nm,1.0s
TNCH pmax pmax
comp=Z,810nm,3.2s
TNCH LR LR
comp=Z,2µm,14.9s
TNCH LR LR
comp=Z,2µm,13.8s
TNCH LR LR
comp=Z,3µm,14.7s
ZSN Zaisan 39.81 297 *e*P **P** **12 30 10.1 +0.2**
ZSN Zaisan 39.81 297 *e*P **P** **12 30 10.1 +0.2**
M17K Holitna River 39.89 41 P **P** **12 30 11.8 +1.5**
baz=271
F19K Shaleruckik Mo 39.99 32 IAmb IAmb 12 30 22.0
comp=Z,188nm,1.2s
F19K Shaleruckik Mo 39.99 32 P **P** **12 30 10.7 -0.4**
baz=264,SNR=73
R16K Pilot Point 40.02 47 P **P** **12 30 11.7 +0.3**
baz=275
N17K Nushagak Hills 40.03 42 IAmb IAmb 12 30 25.1
comp=Z,223nm,1.6s
N17K Nushagak Hills 40.03 42 P **P** **12 30 12.8 +1.2**
baz=272,SNR=9.5
D19K Kuna River 40.07 30 IAmb IAmb 12 30 28.7
comp=Z,150nm,1.1s
D19K Kuna River 40.07 30 P **P** **12 30 11.3 -0.5**
baz=262,SNR=93
O17K Koliganek Bris 40.11 43 P **P** **12 30 13.2 +1.0**
baz=273,SNR=29
GCSA Galena City Sc 40.20 36 P **P** **12 30 12.4 -0.4**
baz=267,SNR=29
G19K Purcell Mounta 40.20 33 P **P** **12 30 12.5 -0.4**
baz=266,SNR=55
J18K Innoko River 40.23 38 P **P** **12 30 13.8 +0.6**
baz=269,SNR=26
L18K Granite Mounta 40.23 40 IAmb IAmb 12 30 25.2
comp=Z,355nm,1.2s
L18K Granite Mounta 40.23 40 P **P** **12 30 15.0 +1.8**
baz=270
E19K Redstone River 40.27 31 P **P** **12 30 13.2 -0.3**
baz=264,SNR=106
Q16K King Salmon 40.41 45 P **P** **12 30 15.9 +1.3**
baz=275
H19K Roundabout Mou 40.42 34 IAmb IAmb 12 30 25.4
comp=Z,212nm,1.0s
H19K Roundabout Mou 40.42 34 P **P** **12 30 15.0 +0.4**
baz=267
P17K Kvichak River 40.48 44 P **P** **12 30 16.0 +0.8**
baz=274,SNR=10
TTA Tatalina 40.54 38 P **P** **12 30 16.5 +0.7**
TTA Tatalina 40.54 38 P **P** **12 30 16.6 +0.8**
baz=270,SNR=23
TTA Tatalina 40.54 38 P **P** **12 30 16.7 +0.8**
TTA Tatalina 40.54 38 P **P** **12 30 16.5 +0.7**
TTA pmax pmax
comp=Z,153nm,1.2s
B20K Meade River 40.64 27 IAmb IAmb 12 30 17.3
comp=Z,142nm,0.8s
D20K Etivluk River 40.65 29 P **P** **12 30 16.1 -0.5**
baz=263
M18K Stony River 40.66 41 P **P** **12 30 18.3 +1.6**
baz=272,SNR=15
N18K Kilae Creek 40.66 42 IAmb IAmb 12 30 29.7
comp=Z,491nm,1.6s
N18K Kilae Creek 40.66 42 P **P** **12 30 18.6 +1.8**
baz=273,SNR=19
J19K Poorman 40.72 37 IAmb IAmb 12 30 28.0
comp=Z,157nm,1.1s
J19K Poorman 40.72 37 P **P** **12 30 17.6 +0.4**
baz=269,SNR=41
E20K Nigu River 40.75 30 P **P** **12 30 16.9 -0.6**
baz=264,SNR=154
F20K Avaraart Lake 40.81 32 P **P** **12 30 17.3 -0.6**
baz=266
A21K Barrow 41.04 26 P **P** **12 30 18.5 -1.2**
baz=260,SNR=124
O18K Koktuh Hills 41.05 43 P **P** **12 30 21.3 +1.3**
O18K Koktuh Hills 41.05 43 P **P** **12 30 21.1 +1.0**
baz=274,SNR=13
H20K Anotleneega Mo 41.07 34 P **P** **12 30 20.5 +0.4**
baz=268
P18K Big Mountain, 41.08 44 P **P** **12 30 21.3 +1.0**
baz=275,SNR=18
L19K White Mountain 41.09 40 P **P** **12 30 21.4 +1.0**
baz=272
I20K Naaghedeneel 41.23 36 IAmb IAmb 12 30 59.7
comp=Z,189nm,1.2s
I20K Naaghedeneel 41.23 36 P **P** **12 30 22.1 +0.8**
baz=270
CHIR Chirikof Islan 41.30 49 P **P** **12 30 23.5 +1.4**
baz=279
M19K Big River Lodg 41.32 40 IAmb IAmb 12 30 34.1
comp=Z,190nm,1.3s
M19K Big River Lodg 41.32 40 P **P** **12 30 23.8 +1.6**
baz=273
N19K Bonanza Creek 41.34 42 P **P** **12 30 23.9 +1.4**
baz=274,SNR=9.0
C21K Knifeblade Rid 41.36 29 P **P** **12 30 22.2 -0.2**
baz=264
J20K Nowinta River 41.37 37 IAmb IAmb 12 30 33.8
comp=Z,192nm,1.1s
J20K Nowinta River 41.37 37 P **P** **12 30 23.5 +0.9**
baz=270,SNR=45
K20K Telida 41.42 38 IAmb IAmb 12 30 34.4
comp=Z,245nm,1.2s
K20K Telida 41.42 38 P **P** **12 30 24.0 +1.0**
baz=272
B21K Ikpikpuk River 41.47 28 P **P** **12 30 22.7 -0.5**
baz=264,SNR=80
O19K Port Alsworth 41.47 43 P **P** **12 30 24.4 +1.0**
baz=275,SNR=6.7
L20K Farewell, AK 41.54 39 P **P** **12 30 24.7 +0.8**
baz=273
UBPT Khong Chiam 41.57 240 P **P** **12 30 25.0 +0.4**
UBPT Khong Chiam 41.57 240 P **P** **12 30 25.8 +1.2**
E21K Killik River 41.59 30 P **P** **12 30 23.7 -0.6**
baz=266
MK31 Makanchi Array 41.68 297 P **P** **12 30 25.5 +0.1**
MK31 Makanchi Array 41.68 297*c i*P **P** **12 30 25.0 -0.4**
MK31 pmax pmax
comp=Z,116nm,0.8s
MKAR Makanchi Array 41.68 297 P **P** **12 30 25.6 +0.2**
MKAR Makanchi Array 41.68 297 P **P** **12 30 25.4 0.0**
comp=Z,76nm,0.8s,baz=82,slow=9.4,SNR=596
MKAR PcP **PcP** **12 32 21.9 +0.4**
comp=Z,9.6nm,0.7s,baz=58,slow=2.3,SNR=4.4
MKAR ScP **ScP** **12 36 09.7 +0.6**
comp=Z,4.1nm,0.5s,baz=69,slow=3.2,SNR=8.0
MKAR LR LR 12 48 10.1
comp=Z,2µm,21.1s,baz=75,slow=37
comp=Z,76nm,0.8s
F21K Alatna River 41.70 32 P **P** **12 30 25.0 -0.2**
baz=268,SNR=52
MAKZ Makanchi 41.88 297 P **P** **12 30 27.3 +0.3**
MAKZ IAmb IAmb 12 30 28.3
comp=Z,136nm,0.9s
MAKZ Makanchi 41.88 297 P **P** **12 30 27.3 +0.3**
MAKZ pmax pmax
comp=Z,136nm,1.0s
M20K Styx River 41.92 40 IAmb IAmb 12 30 39.4
comp=Z,293nm,1.2s
M20K Styx River 41.92 40 P **P** **12 30 28.8 +1.6**
baz=274
H21K Melozitna Rive 41.94 34 P **P** **12 30 27.2 0.0**
baz=270,SNR=32
Q19K Cape Douglas, 41.94 44 P **P** **12 30 27.3 0.0**
baz=277
SII Sitkinak Islan 41.98 48 P **P** **12 30 28.1 +0.5**
baz=279
P19K Oil Pt 42.07 43 P **P** **12 30 28.7 +0.3**
baz=276
D22K Ayikyak River 42.09 29 P **P** **12 30 28.5 +0.1**
baz=266,SNR=69
CHUM Lake Minchumin 42.18 37 P **P** **12 30 30.5 +1.3**
baz=272,SNR=34
DLV Lat 42.28 233 P **P** **12 30 31.0 +0.4**
DLV IAmb IAmb 12 30 42.0
comp=Z,214nm,1.5s
I21K Tanana 42.29 35 P **P** **12 30 30.9 +0.9**
baz=271,SNR=20
PPLA Purkeypile 42.29 38 P **P** **12 30 31.7 +1.4**
baz=274,SNR=42
CAST Castle Rocks 42.31 38 P **P** **12 30 31.7 +1.5**
CAST IAmb IAmb 12 30 41.9
comp=Z,209nm,1.0s
CAST Castle Rocks 42.31 38 P **P** **12 30 31.1 +0.9**
baz=273,SNR=70
O20K Slope Mountain 42.33 43 P **P** **12 30 30.0 -0.5**
baz=276
OHAK Old Harbor 42.36 47 P **P** **12 30 30.7 0.0**
baz=279
E22K Anaktuvuk Pass 42.37 31 P **P** **12 30 30.7 0.0**
baz=268,SNR=113
SPCR Spurr Chakacha 42.42 41 P **P** **12 30 32.9 +1.7**
baz=276,SNR=19
LSA Lhasa 42.44 269 P **P** **12 30 33.3 +1.0**
LSA S **S** **12 36 51.8 -0.3**
LSA pmax pmax
comp=Z,130nm,1.4s
LSA LR LR
comp=Z,2µm,17.2s
LSA LR LR
comp=Z,6µm,15.9s
LSA Lhasa 42.44 269 *i* P **P** **12 30 33.0 +0.7**
SNR=31
LSA Lhasa 42.44 269 P **P** **12 30 33.2 +1.0**
G22K Bettles 42.47 32 P **P** **12 30 31.3 -0.1**
baz=270
SPU Mount Spurr 42.49 41 IAmb IAmb 12 30 45.3
comp=Z,480nm,1.8s
H22K Ishtalitna Cre 42.53 34 P **P** **12 30 32.8 +0.8**
baz=271,SNR=33
STLK Strandline Lak 42.57 40 IAmb IAmb 12 30 44.2
comp=Z,282nm,1.5s
Q20K Shuyak Island 42.63 45 P **P** **12 30 34.0 +1.2**
baz=278
KDAK Kodiak Island 42.65 46 P **P** **12 30 32.9 -0.1**
KDAK IAmb IAmb 12 30 34.8
comp=Z,229nm,1.3s
KDAK Kodiak Island 42.65 46 LR LR 12 49 51.3
comp=Z,3µm,20.3s,baz=94,slow=38
KDAK Kodiak Island 42.65 46 P **P** **12 30 32.3 -0.8**
baz=279
KDAK Kodiak Island 42.65 46*de*P **P** **12 30 31.6 -1.4**
KDAK pmax pmax
comp=Z,267nm,1.4s
KDAK MLR MLR
comp=Z,6µm,20.0s
SKT Skwentna 42.67 40 P **P** **12 30 33.5 +0.3**
baz=275,SNR=8.7
BPAW Bear Paw Mtn. 42.76 37 IAmb IAmb 12 30 50.3
comp=Z,441nm,1.8s
BPAW Bear Paw Mtn. 42.76 37 P **P** **12 30 34.3 +0.4**
baz=273,SNR=38
D23K Nanushuk River 42.81 29 P **P** **12 30 34.5 +0.3**
baz=268,SNR=57
MYLDM Lahad Datu 42.85 216 IAmb IAmb 12 31 11.1
comp=Z,205nm,1.2s
HOM Homer 42.87 43 P **P** **12 30 35.4 +0.6**
baz=278
C23K Itkillik River 42.87 28 P **P** **12 30 34.2 -0.5**
baz=268,SNR=50
KURK Kurchatov 42.94 303 P **P** **12 30 35.8 +0.4**
KURK Kurchatov 42.94 303 P **P** **12 30 35.2 -0.3**
KURK S **S** **12 36 55.8 -2.3**
KURK Kurchatov 42.94 303*c i*P **P** **12 30 35.4 -0.1**
KURK pmax pmax
comp=Z,242nm,1.0s
KURK MLR MLR
comp=Z,2µm,15.0s
KURK Kurchatov 42.94 303 *e*P **P** **12 30 35.4 -0.1**
CAPN Captain Cook N 42.97 41 P **P** **12 30 36.0 +0.4**
baz=277
COLD Coldfoot 42.98 32 P **P** **12 30 35.5 -0.1**
baz=271,SNR=61
KURBB Kurchatov Arra 43.02 303 P **P** **12 30 36.2 +0.1**
comp=Z,168nm,0.7s,baz=76,slow=8.8,SNR=505
KURBB ScP **ScP** **12 36 14.3 0.0**
comp=Z,6.6nm,1.1s,baz=85,slow=3.2,SNR=6.2
KURBB S **S** **12 36 55.9 -3.4**
comp=Z,1.2nm,0.9s,baz=54,slow=4.7,SNR=1.1
KURBB LR LR 12 49 13.9
comp=Z,2µm,19.4s,baz=62,slow=37
comp=Z,168nm,0.7s
KURBB Kurchatov Arra 43.02 303 P **P** **12 30 35.6 -0.5**
G23K Bananza Creek 43.06 33 P **P** **12 30 36.2 -0.1**
baz=271
CNPM China Poot 43.09 43 IAmb IAmb 12 30 49.0
comp=Z,174nm,1.0s
TRF Thorofare Moun 43.11 37 P **P** **12 30 37.5 +0.6**
baz=275,SNR=20
E23K Chandalar 43.20 31 P **P** **12 30 37.6 +0.1**
baz=270
TOLK Toolik Lake Re 43.21 30 P **P** **12 30 37.0 -0.5**
baz=270,SNR=17
CUT Chulitna 43.22 39 P **P** **12 30 37.7 +0.2**
baz=276,SNR=17
BRSE Bradley Lake S 43.31 43 P **P** **12 30 38.8 +0.4**
baz=278
M22K Willow 43.35 40 P **P** **12 30 38.6 -0.1**
baz=277
I23K Minto, Yukon-K 43.40 35 P **P** **12 30 39.9 +1.0**
baz=274,SNR=28
CHTO Chiang Mai 43.41 250 P **P** **12 30 40.1 +0.5**
CHTO IAmb IAmb 12 30 50.3
comp=Z,219nm,1.1s
CHTO Chiang Mai 43.41 250 P **P** **12 30 40.1 +0.5**
CHTO pmax pmax
comp=Z,219nm,1.1s
D24K Happy Valley 43.48 29 IAmb IAmb 12 30 49.9
comp=Z,120nm,0.8s
D24K Happy Valley 43.48 29 P **P** **12 30 39.2 -0.5**
baz=270,SNR=98
C24K Franklin Bluff 43.53 28 IAmb IAmb 12 30 56.1
comp=Z,161nm,1.0s
C24K Franklin Bluff 43.53 28 P **P** **12 30 39.7 -0.3**
baz=269
NEA2 Nenana 43.56 36 IAmb IAmb 12 30 42.0
comp=Z,128nm,0.8s
NEA2 Nenana 43.56 36 P **P** **12 30 40.8 +0.5**
baz=274,SNR=81
E24K Your Creek 43.62 31 P **P** **12 30 40.8 0.0**
baz=271
RC01 Rabbit Creek A 43.62 41 IAmb IAmb 12 30 51.4
comp=Z,177nm,1.2s
RC01 Rabbit Creek A 43.62 41 P **P** **12 30 41.1 +0.3**
baz=278,SNR=24
CM31 Chiang Mai Arr 43.65 250 P **P** **12 30 42.4 +0.9**
CM31 IAmb IAmb 12 30 52.6
comp=Z,132nm,1.1s
CMAR Chiang Mai Arr 43.65 250 P **P** **12 30 42.1 +0.6**
comp=Z,36nm,0.8s,baz=40,slow=7.7,SNR=162
CMAR PcP **PcP** **12 32 29.9 +1.4**
comp=Z,6.2nm,0.7s,baz=22,slow=0.8,SNR=6.5
CMAR ScP **ScP** **12 36 18.0 +0.7**
comp=Z,3.9nm,0.8s,baz=20,slow=3.2,SNR=6.1
CMAR S S 12 36 58.2 -11
comp=Z,0.2nm,0.4s,baz=106,slow=26,SNR=1.5
CMAR LR LR 12 50 16.0
comp=Z,7µm,18.1s,baz=55,slow=38
comp=Z,36nm,0.8s
MCK McKinley 43.69 37 IAmb IAmb 12 30 52.8
comp=Z,291nm,1.2s
MCK McKinley 43.69 37 P **P** **12 30 42.0 +0.5**
baz=276,SNR=32
O22K Cooper Landing 43.71 42 P **P** **12 30 41.5 0.0**
baz=278
RND Reindeer 43.76 37 IAmb IAmb 12 30 52.5
comp=Z,164nm,1.0s
TNTI Ternate 43.83 201 P **P** **12 30 43.6 +0.6**
comp=Z,2µmcomp=Z,124nm,0.8s
PMR Palmer 43.84 40 P **P** **12 30 42.7 +0.1**
baz=278,SNR=15
PMR Palmer 43.84 40 P **P** **12 30 43.9 +1.3**
F24K Squaw Lake 43.87 31 P **P** **12 30 42.2 -0.5**
baz=272
SEW Seward 43.90 42 P **P** **12 30 43.4 +0.3**
SEW IAmb IAmb 12 30 55.0
comp=Z,199nm,1.0s
SEW Seward 43.90 42 P **P** **12 30 42.5 -0.6**
baz=279,SNR=14
H24K Noodor Dome 43.97 34 P **P** **12 30 44.4 +0.8**
baz=274,SNR=67
WRH Wood River Hil 43.99 36 P **P** **12 30 44.0 +0.2**
WRH IAmb IAmb 12 30 60.0
comp=Z,149nm,1.1s
COLA College 44.05 35 P **P** **12 30 44.5 +0.3**
COLA IAmb IAmb 12 30 55.3
comp=Z,276nm,1.1s
COLA College 44.05 35 P **P** **12 30 45.0 +0.7**
baz=275
COLA College 44.05 35 P **P** **12 30 45.0 +0.7**
COLA College 44.05 35*d i*P **P** **12 30 44.6 +0.3**
COLA MLR MLR
comp=Z,4µm,20.0s
COLA College 44.05 35 P **P** **12 30 44.9 +0.6**
COLA pP **pP** **12 30 54.2 -0.1**
G24K Hadweenzic Riv 44.07 33 IAmb IAmb 12 30 55.4
comp=Z,150nm,1.3s
G24K Hadweenzic Riv 44.07 33 P **P** **12 30 44.9 +0.5**
baz=274
BAKI Biak 44.09 188 P **P** **12 30 47.0 +1.9**
comp=Z,3µmcomp=Z,165nm,1.8s
KNK Knik Glacier 44.19 40 P **P** **12 30 46.0 +0.6**
baz=278,SNR=24
SML Sawmill 44.19 40 P **P** **12 30 46.3 +0.8**
SML Sawmill 44.19 40 P **P** **12 30 46.3 +0.8**
baz=278,SNR=37
SHL Shillong 44.20 264 P **P** **12 30 46.0 -0.2**
SHL Shillong 44.20 264 P **P** **12 30 46.0 -0.2**
SNR=34
SHL Shillong 44.20 264 P **P** **12 30 46.0 -0.2**
SHL pmax pmax
comp=Z,715nm,1.6s
POKR Poker Plat Res 44.21 35 P **P** **12 30 46.4 +0.9**
baz=275,SNR=30
PWL Port Wells 44.33 41 IAmb IAmb 12 30 57.1
comp=Z,125nm,1.0s
PWL Port Wells 44.33 41 P **P** **12 30 46.6 0.0**
baz=279,SNR=9.1
D25K Kavik River 44.36 29 P **P** **12 30 46.0 -0.7**
baz=272
IL31 44.48 35 IAmb IAmb 12 30 58.1
comp=Z,156nm,1.1s
ILAR Eielson Array 44.48 35 P **P** **12 30 47.7 0.0**
ILAR Eielson Array 44.48 35 P **P** **12 30 47.5 -0.1**
comp=Z,75nm,0.8s,baz=273,slow=6.6,SNR=310
ILAR ScP **ScP** **12 36 19.1 -0.9**
comp=Z,1.9nm,1.0s,baz=313,slow=1.8,SNR=4.8
ILAR LR LR 12 49 28.3
comp=Z,4µm,21.3s,baz=266,slow=36
comp=Z,75nm,0.8s
ILAR Eielson Array 44.48 35 P **P** **12 30 47.7 0.0**
M23K Glacier View 44.48 40 P **P** **12 30 47.8 0.0**
baz=278,SNR=11
HDA Harding Lake 44.49 36 IAmb IAmb 12 31 03.2
comp=Z,295nm,1.5s
HDA Harding Lake 44.49 36 P **P** **12 30 47.7 0.0**
baz=276,SNR=23
SWI Sorong 44.51 195 P **P** **12 30 49.4 +1.0**
comp=Z,2µmcomp=Z,3µmcomp=Z,191nm,0.7s
G25K Bearman Lake 44.61 32 P **P** **12 30 49.4 +0.8**
baz=275
SCM Sheep Creek Mo 44.66 40 P **P** **12 30 50.1 +0.9**
baz=279,SNR=17
SMPI Sarmi 44.66 185 P **P** **12 30 51.0 +1.4**
comp=Z,183nm,1.0s
E25K Arctic Village 44.71 31 P **P** **12 30 50.1 +0.6**
baz=274,SNR=34
F25K Christian Rive 44.72 31 P **P** **12 30 50.3 +0.6**
baz=274,SNR=53
SRPI Serui, Papua 44.75 188 P **P** **12 30 50.6 +0.3**
comp=Z,82nm,0.9s
H25L Birch Creek 44.77 33 P **P** **12 30 51.3 +1.3**
baz=276
SHLS Shalkode 44.79 293*c i*P **P** **12 30 48.2 -2.4**
SHLS pmax pmax
comp=Z,43nm,0.7s
SHLS Shalkode 44.79 293⇑*i*P **P** **12 30 48.2 -2.4**
comp=Z,43nm,0.7s
TDK Taldyqorghan 44.83 296 *e*P **P** **12 30 50.9 +0.2**
TDK pmax pmax
comp=Z,64nm,0.8s
TDK MLR MLR
comp=Z,4µm,17.0s
TDK Taldyqorghan 44.83 296 *e*P **P** **12 30 51.0 +0.2**
comp=Z,64nm,0.8s
TDK LR LR 12 50 27.3
comp=Z,4µm,16.5s
C26K Camden Bay 44.84 28 P **P** **12 30 50.9 +0.4**
baz=273,SNR=30
GLI Glacier Island 44.92 41 IAmb IAmb 12 31 03.7
comp=Z,92nm,0.8s
GLI Glacier Island 44.92 41 P **P** **12 30 51.7 +0.4**
baz=280
P23K Montague Islan 44.93 42 P **P** **12 30 51.8 +0.5**
baz=281
PRP Porcupine Dome 44.97 34 IAmb IAmb 12 30 53.6
comp=Z,137nm,0.9s
PRP Porcupine Dome 44.97 34 P **P** **12 30 52.5 +0.8**
baz=277,SNR=66
NAYO Nakonayok 44.97 243 P **P** **12 30 53.2 +1.1**
KMSI Cibinong 45.02 206 P **P** **12 30 57.2 +4.7**
K24K Donnelly Dome 45.08 37 P **P** **12 30 52.3 -0.2**
baz=278,SNR=46
UZB Uzynbulak 45.09 293 *e*P **P** **12 30 52.9 -0.2**
UZB Uzynbulak 45.09 293 *e*P **P** **12 30 52.1 -1.0**
JAY Jayapura 45.10 182 LR LR 12 48 44.1
comp=Z,962nm,20.9s,baz=342,slow=35
JAY Jayapura 45.10 182 P **P** **12 30 54.2 +1.0**
comp=Z,88nm,0.9s
BMAR Burnt Mountain 45.14 31 P **P** **12 30 53.9 +0.9**
J25K Salcha River, 45.14 35 P **P** **12 30 52.1 -1.0**
baz=278
LBMI Labuha 45.15 201 P **P** **12 30 54.1 +0.6**
comp=Z,4µmcomp=Z,272nm,1.2s
M24K Tolsona, Glenn 45.15 39 P **P** **12 30 54.3 +1.1**
baz=280,SNR=17
GENI Genyem 45.19 183 P **P** **12 30 55.3 +1.5**
comp=Z,218nm,1.0s
KPKS Kokpek 45.20 294*c i*P **P** **12 30 53.9 +0.1**
KPKS *e*S **S** **12 37 31.2 -0.2**
KPKS pmax pmax
comp=Z,47nm,1.0s
KPKS Kokpek 45.20 294⇑*i*P **P** **12 30 53.9 +0.1**
comp=Z,47nm,1.0s
KPKS *e*S **S** **12 37 31.3 -0.2**
C27K Jago River 45.28 28 IAmb IAmb 12 31 15.4
comp=Z,311nm,1.6s
C27K Jago River 45.28 28 P **P** **12 30 54.0 0.0**
baz=274
F26K Sheenjek River 45.28 31 IAmb IAmb 12 31 15.5
comp=Z,91nm,0.9s
F26K Sheenjek River 45.28 31 P **P** **12 30 55.0 +0.9**
baz=276
PAX Paxson 45.34 38 P **P** **12 30 54.8 +0.1**
baz=279,SNR=13
KLU Klutina 45.38 40 IAmb IAmb 12 30 57.7
comp=Z,212nm,1.2s
KLU Klutina 45.38 40 P **P** **12 30 55.7 +0.7**
baz=280,SNR=39
RIDG Independent Ri 45.49 37 IAmb IAmb 12 31 06.8
comp=Z,149nm,1.0s
RIDG Independent Ri 45.49 37 P **P** **12 30 55.7 -0.2**
baz=279,SNR=34
ARXS Arharly 45.50 295 *e*P **P** **12 30 56.1 -0.1**
G26K Porcupine Rive 45.50 32 P **P** **12 30 56.6 +0.9**
baz=277
DIV Divide 45.52 40 IAmb IAmb 12 30 58.9
comp=Z,240nm,1.2s
SATY Saty 45.54 293 *e*P **P** **12 30 56.4 -0.2**
SATY pmax pmax
comp=Z,33nm,0.7s
SATY Saty 45.54 293 *e*P **P** **12 30 56.5 -0.2**
comp=Z,33nm,0.7s
Q23K Middleton Isla 45.56 43 P **P** **12 30 57.1 +0.8**
baz=282
HARP HAARP 45.58 39 P **P** **12 30 57.8 +1.4**

baz=280,SNR=36
TOLI2 Tolitoli 45.63 210 P **P** **12 30 57.2 -0.1**
TOLI2 IAmb IAmb 12 31 13.8
comp=Z,336nm,1.8s
TOLI2 Tolitoli 45.63 210 P **P** **12 30 58.4 +1.1**
EYAK Cordova Ski Ar 45.64 41 IAmb IAmb 12 31 08.9
comp=Z,142nm,0.9s
EYAK Cordova Ski Ar 45.64 41 P **P** **12 30 58.2 +1.4**
baz=281,SNR=7.5
EYAK Cordova Ski Ar 45.64 41 P **P** **12 30 58.3 +1.4**
MRSI Marisa 45.80 209 P **P** **12 30 59.2 +0.5**
comp=Z,2µmcomp=Z,4µmcomp=Z,403nm,1.3s
SCRK Sand Creek 45.83 36 P **P** **12 30 58.7 +0.1**
SCRK IAmb IAmb 12 31 08.9
comp=Z,148nm,1.0s
SCRK Sand Creek 45.83 36 P **P** **12 30 58.5 0.0**
baz=279,SNR=84
J26L Joseph Creek 45.93 35 P **P** **12 30 58.3 -1.0**
baz=279,SNR=14
I26K Coal Creek Min 45.98 34 P **P** **12 30 59.1 -0.5**
baz=279,SNR=17
N25K Chitina, Valde 45.98 40 IAmb IAmb 12 31 13.3
comp=Z,219nm,1.5s
N25K Chitina, Valde 45.98 40 P **P** **12 31 00.7 +0.9**
baz=281,SNR=8.7
BMRM Bremner River 46.10 40 IAmb IAmb 12 31 09.7
comp=Z,146nm,1.0s
BMRM Bremner River 46.10 40 P **P** **12 31 01.4 +0.7**
baz=282,SNR=18
BRDH Bariadhala 46.11 261 LR LR 12 50 36.4
comp=Z,2µm,21.2s,baz=51,slow=36
MENT Mentasta 46.13 38 P **P** **12 31 01.4 +0.6**
D27M Malcolm River 46.28 29 P **P** **12 31 02.2 +0.3**
baz=277
L26K Log Cabin Wild 46.28 37 IAmb IAmb 12 31 13.7
comp=Z,142nm,0.9s
L26K Log Cabin Wild 46.28 37 P **P** **12 31 03.3 +1.3**
baz=281,SNR=62
FAKI Fak Fak 46.33 194 P **P** **12 31 03.6 +0.8**
FAKI Fak Fak 46.33 194 P **P** **12 31 03.2 +0.3**
FAKI Fak Fak 46.33 194 P **P** **12 31 03.5 +0.6**
G27K Doyon Strip 46.35 32 P **P** **12 31 03.5 +1.0**
baz=279,SNR=41
GLB Gilahina Butte 46.38 40 IAmb IAmb 12 31 23.5
comp=Z,128nm,1.2s
HMT Hamilton 46.40 41 IAmb IAmb 12 31 48.8
comp=Z,123nm,1.0s
KAIM Kayak Island 46.42 42 P **P** **12 31 04.4 +1.4**
baz=283
MDOK Medeo 46.42 294 *e*P **P** **12 31 03.3 -0.2**
MDOK MLR MLR
comp=Z,3µm,17.0s
MDOK Medeo 46.42 294 *e*P **P** **12 31 03.4 -0.2**
MDOK LR LR 12 51 45.2
comp=Z,3µm,16.9s
TARG Taragay, Kyrgy 46.48 292 IAmb IAmb 12 31 06.1
comp=Z,90nm,0.9s
AAA Alma-Ata 46.49 294 *e*P **P** **12 31 04.0 0.0**
AAA pmax pmax
comp=Z,84nm,0.8s
AAA Alma-Ata 46.49 294 *e*P **P** **12 31 04.1 0.0**
comp=Z,84nm,0.8s
AAA LR LR 12 51 57.5
H27K Steamboat Moun 46.49 33 P **P** **12 31 05.0 +1.3**
baz=279,SNR=53
TNSS Tian-Shan 46.54 294 *e*P **P** **12 31 04.5 -0.3**
TNSS Tian-Shan 46.54 294 *e*P **P** **12 31 04.5 -0.3**
I27K Kandik River 46.56 34 P **P** **12 31 05.3 +1.1**
baz=280,SNR=44
M26K Nabesna, AK 46.56 38 P **P** **12 31 05.9 +1.6**
baz=282,SNR=81
VRDI Verde Repeater 46.60 40 IAmb IAmb 12 31 18.7
comp=Z,138nm,1.2s
KDJ Kajisay 46.74 292 IAmb IAmb 12 31 19.0
comp=Z,148nm,1.0s
BRZS Berezniki 46.79 304*c i*P **P** **12 31 06.3 +0.1**
BRZS pmax pmax
comp=Z,55nm,1.0s
BRZS Berezniki 46.79 304⇑ *i*P **P** **12 31 06.4 +0.1**
comp=Z,55nm,1.0s
SANI Sanana 46.91 202 P **P** **12 31 07.1 -0.2**
SANI Sanana 46.91 202 P **P** **12 31 06.9 -0.4**
comp=Z,2µmcomp=Z,3µmcomp=Z,298nm,1.2s
F28M Old Crow 46.91 31 P **P** **12 31 08.0 +1.1**
baz=280,SNR=49
LUWI Luwuk 46.93 207 P **P** **12 31 06.4 -1.2**
LUWI Luwuk 46.93 207 P **P** **12 31 05.9 -1.7**
comp=Z,350nm,1.4s
L27K Beaver Creek, 46.95 37 P **P** **12 31 08.8 +1.5**
baz=282,SNR=103
BCAR Beaver Creek A 46.97 37 P **P** **12 31 08.9 +1.4**
D28M Stokes Point 47.05 28 P **P** **12 31 08.0 +0.1**
baz=279
M27K Edge Creek, AK 47.08 38 P **P** **12 31 09.9 +1.5**
baz=283,SNR=73
BVAR Borovoye Array 47.19 309 P **P** **12 31 09.6 +0.3**
comp=Z,65nm,0.6s,baz=72,slow=8.0,SNR=242
BVAR PcP **PcP** **12 32 40.9 +0.6**
comp=Z,29nm,0.6s,baz=79,slow=2.7,SNR=5.3
BVAR S **S** **12 37 51.0 -8.5**
comp=Z,1.0nm,0.7s,baz=21,slow=17,SNR=1.0
BVAR LR LR 12 52 12.8
comp=Z,3µm,19.7s,baz=73,slow=38
comp=Z,65nm,0.6s
APSI Ampana 47.19 208 P **P** **12 31 09.3 -0.3**
comp=Z,3µmcomp=Z,228nm,1.1s
BRVK Borovoye 47.24 309 P **P** **12 31 10.1 +0.5**
BRVK IAmb IAmb 12 31 21.4
comp=Z,138nm,0.9s
BRVK Borovoye 47.24 309 P **P** **12 31 10.4 +0.9**
BRVK S **S** **12 37 59.4 -0.8**
BRVK Borovoye 47.24 309*c i*P **P** **12 31 09.9 +0.3**
BRVK pmax pmax
comp=Z,91nm,1.0s
BRVK MLR MLR
comp=Z,3µm,18.0s
BRVK Borovoye 47.24 309 *e*P **P** **12 31 09.9 +0.3**
I28M Miner Creek 47.28 34 P **P** **12 31 11.0 +1.1**
baz=281
MSAI Masohi 47.41 198 P **P** **12 31 13.2 +1.9**
comp=Z,3µmcomp=Z,247nm,0.9s
E29M Blow River 47.51 30 P **P** **12 31 12.5 +1.0**
baz=280
MESA MESA 47.56 41 IAmb IAmb 12 31 50.1
comp=Z,134nm,0.9s
MESA MESA 47.56 41 P **P** **12 31 13.3 +1.1**
baz=285
OTUK Ortayu 47.59 302 P **P** **12 31 12.5 0.0**
BTLS Baital 47.69 297*c i*P **P** **12 31 13.0 -0.2**
BTLS Baital 47.69 297⇑ *i*P **P** **12 31 13.1 -0.2**
NLAI Namlea 47.75 200 P **P** **12 31 15.1 +1.2**
comp=Z,2µmcomp=Z,159nm,1.1s
G29M Pine Creek 47.75 32 IAmb IAmb 12 31 35.4
comp=Z,114nm,1.0s
G29M Pine Creek 47.75 32 P **P** **12 31 14.5 +1.1**
baz=282
DAWY Dawson 47.80 36 P **P** **12 31 14.0 +0.1**
baz=283
PCI Palu 47.84 211 P **P** **12 31 16.7 +2.0**
comp=Z,4µmcomp=Z,227nm,1.2s
AAI Ambon 47.91 199 P **P** **12 31 16.3 +1.2**
comp=Z,2µmcomp=Z,3µmcomp=Z,273nm,0.9s
SGDS Sogindy 47.93 295 *e*P **P** **12 31 15.2 0.0**
SGDS pmax pmax
comp=Z,28nm,0.9s
SGDS Sogindy 47.93 295 *e*P **P** **12 31 15.3 0.0**
comp=Z,28nm,0.9s
I29M Ogilvie Camp, 47.97 34 IAmb IAmb 12 31 37.2
comp=Z,115nm,1.0s
I29M Ogilvie Camp, 47.97 34 P **P** **12 31 15.9 +0.8**
baz=283
KBK Karagaybulak 48.04 294 P **P** **12 31 16.7 +0.6**
SNR=104
USP Ospenovka 48.09 295 P **P** **12 31 16.8 +0.4**
SNR=39
SBUM Sibu 48.15 222 P **P** **12 31 17.8 +0.8**
FRU1 Bishkek 48.19 294 IAmb IAmb 12 31 29.9
comp=Z,90nm,0.8s
J29N Klondike Camp 48.21 35 P **P** **12 31 18.0 +0.9**
baz=284
O28M Mount Upton 48.25 40 P **P** **12 31 18.6 +0.9**
baz=285,SNR=16
YUK8 Steele Glacier 48.31 39 P **P** **12 31 19.3 +1.2**
baz=285,SNR=10
BNDI Bandanaira 48.34 196 P **P** **12 31 19.4 +0.9**
BNDI Bandanaira 48.34 196 P **P** **12 31 19.1 +0.6**
comp=Z,351nm,1.4s

AAK Ala-Archa 48.35 294 P **P** **12 31 18.9 +0.3**
AAK IAmb IAmb 12 31 31.7
comp=Z,262nm,1.7s
AAK Ala-Archa 48.35 294 LR LR 12 53 36.8
comp=Z,8µm,18.9s,baz=72,slow=38
AAK Ala-Archa 48.35 294 P **P** **12 31 18.3 -0.2**
AAK S **S** **12 38 17.9 +1.3**
AAK Ala-Archa 48.35 294 P **P** **12 31 18.9 +0.3**
SNR=8.9
AAK Ala-Archa 48.35 294*c i*P **P** **12 31 18.5 -0.1**
AAK pmax pmax
comp=Z,61nm,1.2s
AAK MLR MLR
comp=Z,7µm,19.0s
AAK Ala-Archa 48.35 294 *i*P **P** **12 31 18.7 +0.1**
SNR=12
AAK Ala-Archa 48.35 294 *e*P **P** **12 31 18.5 -0.1**
AAK Ala-Archa 48.35 294 P **P** **12 31 18.8 +0.3**
EPYK Eagle Plains 48.37 32 IAmb IAmb 12 31 43.0
comp=Z,137nm,0.8s
EPYK Eagle Plains 48.37 32 P **P** **12 31 19.3 +1.1**
baz=283,SNR=52
PINM Pinnacle 48.40 41 P **P** **12 31 19.3 +0.7**
baz=286
G30M tAoh Zraii Nji 48.43 31 IAmb IAmb 12 31 40.7
comp=Z,160nm,1.1s
G30M tAoh Zraii Nji 48.43 31 P **P** **12 31 19.3 +0.7**
baz=283
F30M Barrier River 48.45 30 P **P** **12 31 19.9 +1.1**
baz=283,SNR=91
L29M L29M 48.58 37 P **P** **12 31 21.9 +2.0**
baz=285,SNR=101
M29M Somme Creek 48.60 38 P **P** **12 31 21.6 +1.4**
baz=285,SNR=22
K29M Barlow Dome 48.66 36 IAmb IAmb 12 31 32.3
comp=Z,125nm,1.1s
K29M Barlow Dome 48.66 36 P **P** **12 31 21.8 +1.2**
baz=285,SNR=54
KSH Kashi 48.68 290 P **P** **12 31 25.0 +3.9**
KSH sP sP 12 31 41.5 +6.3
KSH PP **PP** **12 33 19.8 +5.8**
KSH S **S** **12 38 24.8 +3.6**
KSH sS sS 12 38 45.6 +7.6
KSH pmax pmax
comp=Z,49nm,1.3s
KSH pmax pmax
comp=Z,370nm,5.2s
KSH LR LR
comp=Z,5µm,18.5s
KSH LR LR
comp=Z,6µm,17.5s
KSH LR LR
comp=Z,8µm,16.5s
I30M Mount Dempster 48.79 34 P **P** **12 31 22.6 +1.1**
baz=285
YUK4 Talbot Arm 48.82 39 P **P** **12 31 23.4 +1.4**
baz=286,SNR=29
EKS2 Erkin-Say 48.82 294 P **P** **12 31 22.4 +0.2**
SNR=29
PNL Peninsula 48.94 41 P **P** **12 31 22.9 +0.2**
baz=287
PNL Peninsula 48.94 41 P **P** **12 31 23.8 +1.2**
J30M Hart River 48.97 34 IAmb IAmb 12 31 34.7
comp=Z,104nm,1.1s
J30M Hart River 48.97 34 P **P** **12 31 23.9 +0.9**
baz=285,SNR=39
YUK6 Outpost Mounta 49.06 39 P **P** **12 31 25.1 +1.3**
baz=287,SNR=15
AML Almayashu 49.10 294 P **P** **12 31 25.4 +0.8**
SNR=31
INK Inuvik 49.11 29 IAmb IAmb 12 31 45.5
comp=Z,108nm,1.2s
INK Inuvik 49.11 29 LR LR 12 55 25.7
comp=Z,3µm,18.8s,baz=272,slow=40
INK Inuvik 49.11 29 P **P** **12 31 24.2 +0.4**
baz=284,SNR=44
O29M Mount Kennedy 49.15 40 IAmb IAmb 12 31 44.3
comp=Z,85nm,1.1s
O29M Mount Kennedy 49.15 40 P **P** **12 31 26.1 +1.7**
baz=287,SNR=18
F31M Tsiigehtchic 49.25 30 IAmb IAmb 12 31 26.2
comp=Z,89nm,1.0s
F31M Tsiigehtchic 49.25 30 P **P** **12 31 24.9 0.0**
baz=285,SNR=31
M30M Minto, Yukon 49.31 37 IAmb IAmb 12 31 37.9
comp=Z,221nm,1.4s
M30M Minto, Yukon 49.31 37 P **P** **12 31 27.4 +1.8**
baz=286,SNR=61
MAYO Mayo, Yukon 49.42 36 P **P** **12 31 27.4 +1.2**
baz=286,SNR=27
H31M Peel River 49.45 33 IAmb IAmb 12 31 28.5
comp=Z,148nm,0.9s
H31M Peel River 49.45 33 P **P** **12 31 27.2 +0.7**
baz=286,SNR=80
HYT Haines Junctio 49.50 39 P **P** **12 31 29.2 +2.1**
baz=287,SNR=126
KDI Kendari 49.72 206 P **P** **12 31 29.9 +0.9**
comp=Z,2µmcomp=Z,100nm,1.5s
KSM Kuching 49.94 223 IAmb IAmb 12 31 46.2
comp=Z,179nm,1.1s
P30M Million Dollar 49.97 40 P **P** **12 31 32.3 +1.8**
baz=288
N31M Braeburn, Yuko 50.09 38 IAmb IAmb 12 31 35.2
comp=Z,159nm,1.1s
N31M Braeburn, Yuko 50.09 38 P **P** **12 31 33.4 +1.9**
baz=288,SNR=45
O30N Mendenhall 50.17 39 P **P** **12 31 33.7 +1.6**
baz=288,SNR=32
DZA Taraz 50.35 296 *e*P **P** **12 31 33.9 +0.2**
DZA pmax pmax
comp=Z,44nm,0.7s
DZA Taraz 50.35 296 *e*P **P** **12 31 33.9 +0.2**
comp=Z,44nm,0.7s
PLBC Pleasant Camp 50.47 41 P **P** **12 31 35.9 +1.6**
baz=289,SNR=5.1
M31M Drury Creek, Y 50.49 37 P **P** **12 31 35.6 +1.1**
baz=289
SPSI Sidrap Palu 50.70 209 P **P** **12 31 35.3 -1.1**
WHY Whitehorse 50.77 39 IAmb IAmb 12 31 56.3
comp=Z,133nm,1.4s
WHY Whitehorse 50.77 39 P **P** **12 31 38.4 +1.7**
baz=289,SNR=30
A36M Sachs Harbour 50.79 24 IAmb IAmb 12 31 49.3
comp=Z,138nm,0.9s
A36M Sachs Harbour 50.79 24 P **P** **12 31 37.3 +0.8**
baz=288,SNR=108
KK31 Karatay Array 50.80 296 IAmb IAmb 12 31 51.0
comp=Z,108nm,1.0s
KK31 Karatay Array 50.80 296 *i*P **P** **12 31 36.0 -1.1**
KKAR Karatay Array 50.80 296 P **P** **12 31 37.2 +0.1**
KKAR Karatay Array 50.80 296 P **P** **12 31 37.2 +0.1**
FARO Faro, Yukon 50.95 37 P **P** **12 31 39.4 +1.5**
baz=289,SNR=50
SKAG Skagway 50.97 41 P **P** **12 31 39.6 +1.6**
baz=290,SNR=7.3
S31K Pelican 51.04 43 P **P** **12 31 39.7 +1.1**
baz=290
R31K City Hall, Gus 51.13 42 P **P** **12 31 40.0 +0.8**
baz=290
BBSI Bau Bau 51.18 205 P **P** **12 31 41.1 +1.1**
comp=Z,3µmcomp=Z,4µmcomp=Z,317nm,1.1s
SVE Sverdlovsk 51.24 316*d i*P **P** **12 31 40.9 +0.8**
SVE pmax pmax
comp=Z,242nm,0.9s
SVE MLR MLR
comp=Z,5µm,17.0s
BRLS Borolday 51.28 297*c i*P **P** **12 31 42.1 +1.4**
BRLS Borolday 51.28 297⇑ *i*P **P** **12 31 42.1 +1.4**
N32M Quiet Lake 51.43 38 P **P** **12 31 42.1 +0.5**
baz=290
BESE Bessie Mountai 51.51 42 IAmb IAmb 12 31 45.6
comp=Z,98nm,1.1s
IUG Iuzhnay 51.55 295 *e*P **P** **12 31 42.7 0.0**
IUG pmax pmax
comp=Z,56nm,0.8s
IUG Iuzhnay 51.55 295 *e*P **P** **12 31 42.8 0.0**
comp=Z,56nm,0.8s
KAPI Kappang 51.67 209 P **P** **12 31 43.6 -0.1**
KAPI Kappang 51.67 209 LR LR 12 54 20.7
comp=Z,743nm,19.9s,baz=16,slow=37
KAPI Kappang 51.67 209 P **P** **12 31 44.8 +1.0**
KAPI S **S** **12 39 03.2 +0.3**
KAPI Kappang 51.67 209*c i*P **P** **12 31 43.7 -0.1**
KAPI pmax pmax
comp=Z,67nm,1.0s
P32M Atlin 51.69 40 P **P** **12 31 44.4 +0.8**
baz=291,SNR=13

CHM Chimkent 51.75 296 *e*P **P** **12 31 44.3 +0.1**
CHM pmax pmax
comp=Z,31nm,0.6s
CHM Chimkent 51.75 296 *e*P **P** **12 31 44.3 +0.1**
comp=Z,31nm,0.6s
CHM LR LR 12 55 30.5
R32K Eaglecrest 51.78 42 IAmb IAmb 12 31 58.3
comp=Z,106nm,1.0s
R32K Eaglecrest 51.78 42 P **P** **12 31 45.8 +1.7**
baz=292
SIT Sitka 51.83 44 IAmb IAmb 12 31 48.4
comp=Z,161nm,1.2s
SIT Sitka 51.83 44 P **P** **12 31 46.8 +2.4**
baz=292,SNR=5.4
SIT Sitka 51.83 44 P **P** **12 31 45.3 +0.9**
BKSI Bulukumba 51.83 208 P **P** **12 31 44.4 -0.5**
comp=Z,98nm,1.0s
JIS Juneau Island 51.85 42 P **P** **12 31 45.4 +0.8**
P33M Teslin, Yukon 51.89 39 IAmb IAmb 12 32 04.7
comp=Z,104nm,1.0s
P33M Teslin, Yukon 51.89 39 P **P** **12 31 46.6 +1.6**
baz=291,SNR=53
S32K Killisnoo 52.05 43 P **P** **12 31 47.3 +1.2**
baz=292,SNR=5.9
C36M Paulatuk 52.06 27 IAmb IAmb 12 32 07.2
comp=Z,153nm,1.2s
C36M Paulatuk 52.06 27 P **P** **12 31 46.3 +0.3**
baz=291,SNR=136
PMG Port Moresby 52.15 174 LR LR 12 51 36.4
comp=Z,596nm,21.6s,baz=344,slow=33
KULM Kulim 52.24 236 IAmb IAmb 12 31 59.2
comp=Z,127nm,0.9s
KULM Kulim 52.24 236 P **P** **12 31 48.9 +0.8**
BSSI Bau Bau, Buton 52.47 207 P **P** **12 31 48.8 -0.9**
comp=Z,1µmcomp=Z,89nm,0.8s
ARTI Arti 52.56 316 P **P** **12 31 50.4 +0.5**
ARTI Arti 52.56 316 LR LR 12 56 54.3
comp=Z,5µm,18.1s,baz=70,slow=39
ARTI Arti 52.56 316*c i*P **P** **12 31 50.1 +0.2**
ARTI *PP **pP** **12 32 01.0 +0.9**
ARTI 12 33 01.4
ARTI 12 33 47.9
ARTI S **S** **12 39 15.0 +0.7**
ARTI *SS **sS** **12 39 31.9 +0.9**
ARTI 12 41 31.4
ARTI pmax pmax
comp=Z,235nm,0.9s
ARTI MLR MLR
comp=Z,6µm,17.0s
Q32M Nakina River 52.62 41 P **P** **12 31 52.2 +1.6**
baz=293,SNR=12
IPM Ipoh 52.65 235 P **P** **12 31 51.0 -0.1**
GAR Garm 52.81 292 IAmb IAmb 12 32 13.7
comp=Z,152nm,0.8s
R33M Jennings River 53.06 40 P **P** **12 31 55.8 +2.0**
baz=293
T33K Petersburg 53.12 43 P **P** **12 31 55.8 +1.7**
baz=294
MYKOM Kota Tinggi 53.15 230 IAmb IAmb 12 32 09.2
comp=Z,108nm,1.2s
MYKOM Kota Tinggi 53.15 230 P **P** **12 31 56.0 +1.2**
U33K Whale Pass 53.32 44 P **P** **12 31 56.1 +0.6**
baz=294
NIL Nilore 53.43 285 P **P** **12 31 57.6 +0.9**
NIL Nilore 53.43 285 P **P** **12 31 57.6 +0.9**
NIL pmax pmax
comp=Z,568nm,1.8s
NIL Nilore 53.43 285 P **P** **12 31 57.3 +0.6**
NIL pP **pP** **12 32 06.8 -0.1**
NIL sP **sP** **12 32 10.7 -0.2**
TATA Tatamba Isabel 53.45 158 P **P** **12 31 56.7 -0.2**
CRAG Craig 53.58 45 P **P** **12 31 57.8 +0.3**
baz=294
CRAG Craig 53.58 45 P **P** **12 31 58.6 +1.2**
S34M Telegraph Cree 53.58 41 P **P** **12 31 59.1 +1.7**
baz=294,SNR=23
WRAK Wrangell Islan 53.59 44 P **P** **12 31 58.8 +1.4**
baz=294
WTLY Watson Lake, Y 53.78 38 P **P** **12 32 00.5 +1.6**
baz=294,SNR=26
SIMJ Simiganj 53.87 292 P **P** **12 31 59.7 -0.3**
DLBC Dease Lake 53.90 41 IAmb IAmb 12 32 14.3
comp=Z,114nm,1.3s
DLBC Dease Lake 53.90 41 LR LR 12 56 45.9
comp=Z,2µm,18.5s,baz=304,slow=38
DLBC Dease Lake 53.90 41 P **P** **12 32 01.6 +1.8**
baz=294,SNR=25
KIP Kipapa 53.92 93 P **P** **12 32 02.4 +2.0**
KIP IAmb IAmb 12 32 19.1
comp=Z,110nm,0.9s
KIP Kipapa 53.92 93*ce*P **P** **12 32 02.5 +2.0**
KIP pmax pmax
comp=Z,56nm,1.7s
MMRI Maumere 54.25 204 P **P** **12 32 02.7 -0.1**
MMRI Maumere 54.25 204 P **P** **12 32 02.5 -0.3**
comp=Z,2µmcomp=Z,4µmcomp=Z,314nm,1.1s
ALE Alert 54.36 4 P **P** **12 32 02.5 -0.3**
ALE pP **pP** **12 32 12.3 -0.7**
T35M Bob Quinn 54.40 42 IAmb IAmb 12 32 07.9
comp=Z,159nm,1.1s
T35M Bob Quinn 54.40 42 P **P** **12 32 06.0 +2.5**
baz=295,SNR=59
V35K Ketchikan 54.42 45 P **P** **12 32 04.8 +1.2**
baz=296
EUNU Eureka 54.45 9 IAmb IAmb 12 32 05.6
comp=Z,105nm,0.8s
HOPEN Hopen 54.59 345 *e*P **P** **12 32 04.9 +0.3**
HOPEN IAmb IAmb 12 32 05.8
comp=Z,87nm,0.6s
HOPEN *e*S **S** **12 39 43.1 +1.8**
HOPEN *i* 12 51 44.2
HOPEN IAMs_20 IAMs_20 12 58 30.6
comp=Z,3µm,15.7s
LHMI Lhok Sumawe 54.60 240 P **P** **12 32 07.0 +1.6**
comp=Z,3µmcomp=Z,140nm,1.6s
AB31 Akbulak array 54.70 307 *i*P **P** **12 32 06.2 +0.5**
ABKAR Akbulak array 54.70 307 P **P** **12 32 06.3 +0.6**
ABKAR Akbulak array 54.70 307 IAmb IAmb 12 32 18.0
comp=Z,108nm,0.7s
SOEI Soe 54.73 202 P **P** **12 32 07.5 +1.1**
SOEI Soe 54.73 202 P **P** **12 32 06.1 -0.3**
WRGLY Wrigley 54.77 34 IAmb IAmb 12 32 09.2
comp=Z,150nm,1.3s
WRGLY Wrigley 54.77 34 P **P** **12 32 07.4 +1.5**
baz=296,SNR=33
DIB Dawson Inlet, 54.89 47 IAmb IAmb 12 32 26.1
comp=Z,133nm,1.2s
TPI Tanjungpandan 54.91 224 P **P** **12 32 07.9 +0.3**
comp=Z,3µmcomp=Z,1µmcomp=Z,80nm,1.3s
TSI Tuntungan 54.92 237 P P 12 32 18.0 +10
U35K Hyder 54.98 43 P **P** **12 32 08.4 +0.8**
baz=296,SNR=9.2
SPA0 Spitsbergen Ar 54.99 348 *e*P **P** **12 32 07.2 -0.2**
SPA0 IAmb IAmb 12 32 08.8
comp=Z,26nm,0.8s
SPA0 *e*S **S** **12 39 45.8 -0.9**
SPA0 *i* 12 52 40.7
SPA0 IAMs_20 IAMs_20 12 58 23.7
comp=Z,2µm,16.6s
SPITS Spitsbergen Ar 54.99 348 P **P** **12 32 06.8 -0.6**
comp=Z,24nm,0.6s,baz=68,slow=9.1,SNR=76
SPITS LR LR 12 58 41.5
comp=Z,2µm,18.5s,baz=6.5,slow=39
comp=Z,24nm,0.6s
SPITS Spitsbergen Ar 54.99 348 P **P** **12 32 07.2 -0.2**
SPITS pmax pmax
comp=Z,58nm,1.2s
KBS Kingsbay 55.09 350 *e*P **P** **12 32 08.6 +0.5**
KBS IAmb IAmb 12 32 13.1
comp=Z,111nm,1.6s
KBS *e*S **S** **12 39 47.8 -0.1**
KBS IAMs_20 IAMs_20 12 58 09.9
comp=Z,2µm,20.9s
KBS Kingsbay 55.09 350 *i*P **P** **12 32 07.8 -0.3**
PPBI Pangkal Pinang 55.19 225 P **P** **12 32 11.1 +1.5**
MOBC Moresby Island 55.19 47 IAmb IAmb 12 32 11.6
comp=Z,126nm,1.2s
PSI Prapat 55.25 236 LR LR 12 55 38.9
comp=Z,1µm,21.7s,baz=347,slow=36
AKTO Aktyubinsk 55.28 309 LR LR 12 57 20.9
comp=Z,3µm,19.2s,baz=50,slow=38
AKTO Aktyubinsk 55.28 309 P **P** **12 32 09.1 -0.8**
RPSI Rantau Prapat 55.33 236 IAmb IAmb 12 32 20.6
comp=Z,69nm,0.8s
NOR Nord 55.35 356 *i*P **P** **12 32 08.7 -1.3**
NOR IAmb IAmb 12 32 10.2

comp=Z,6.9nm,0.4s
BSI Banda Aceh 55.46 242 P **P 12 32 10.7 -0.9**
HLK Haleakala 55.63 93 P **P 12 32 14.6 +1.5**
MLSI Meulaboh, Aceh 55.68 240 P **P 12 32 13.3 +0.1**
comp=Z,2μmcomp=Z,105nm,1.2s
KMMI Kalianget 55.77 214 P **P 12 32 14.2 +0.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,97nm,1.0s
WSI Waingapu 55.84 206 P **P 12 32 16.3 +2.1**
comp=Z,138nm,1.1s
DRS Darwin Rock St 55.87 193 P **P 12 32 14.8 +0.4**
KDU Kakadu 55.88 191 P **P 12 32 14.4 0.0**
comp=Z,165nm,1.0s
KDU Kakadu 55.88 191 P **P 12 32 15.1 +0.6**
KOTAN Kotaneelee Air 55.91 37 P **P 12 32 15.4 +1.2**
baz=298,SNR=14
PLAI Plampang 55.91 209 P **P 12 32 13.4 -1.4**
PLAI Plampang 55.91 209 P **P 12 32 13.0 -1.8**
comp=Z,2μmcomp=Z,4μmcomp=Z,158nm,0.7s
HSPB Hornsund (broa 55.94 347 *e*P **P 12 32 13.3 -0.9**
HSPB *e*L L 12 58 01.2
comp=Z,2μm,19.9s
HSPB Hornsund (broa 55.94 347 *e*P **P 12 32 15.2 +1.0**
KBL Kabul 55.94 288 P **P 12 32 14.0 -1.1**
KBL IAmb IAmb 12 32 15.1
comp=Z,62nm,0.8s
KBL Kabul 55.94 288 P **P 12 32 14.2 -0.9**
SNR=29
KBL S **S 12 39 59.4 -1.5**
KBL Kabul 55.94 288 P **P 12 32 14.0 -1.1**
KBL pmax pmax
comp=Z,62nm,0.8s
GRNB Grenville Isla 55.94 46 IAmb IAmb 12 32 17.4
comp=Z,124nm,1.3s
BKNI Bangkinang 55.96 232 P **P 12 32 13.6 -1.5**
TOAD Toad River Com 55.97 39 P **P 12 32 15.3 +0.6**
baz=298,SNR=50
HG4B Hotspring 56.00 48 IAmb IAmb 12 32 16.9
comp=Z,81nm,1.0s
KIRV Kirov 56.01 321 LR LR 12 58 42.7
comp=Z,4μm,18.2s,baz=57,slow=39
KIRV Kirov 56.01 321*c i*P **P 12 32 15.0 +0.1**
WBSI Waikabubak, Su 56.11 207 P **P 12 32 15.4 -0.8**
comp=Z,4μmcomp=Z,77nm,0.6s
TWSI Taliwang, Sumb 56.16 210 P **P 12 32 15.2 -1.3**
comp=Z,2μmcomp=Z,148nm,0.9s
SRBI Singaraja 56.20 212 P **P 12 32 19.3 +2.5**
comp=Z,3μmcomp=Z,111nm,1.0s
MTN Manton Dam 56.24 193 P **P 12 32 17.1 +0.1**
comp=Z,262nm,0.9s
MTN Manton Dam 56.24 193 P **P 12 32 16.9 -0.1**
BASI Baing, Sumba 56.26 206 P **P 12 32 16.5 -0.7**
comp=Z,2μmcomp=Z,318nm,0.9s
GRJI Gresik 56.28 216 P **P 12 32 18.0 +0.6**
comp=Z,3μmcomp=Z,215nm,1.0s
ABJI Asem Bagus 56.33 214 P P 12 32 26.8 +9.0
MNSI Mandailing Nat 56.44 234 P **P 12 32 19.2 +0.6**
comp=Z,2μmcomp=Z,63nm,0.7s
COEN Coen 56.47 179 P **P 12 32 19.4 +0.8**
COEN Coen 56.47 179 P **P 12 32 19.4 +0.8**
comp=Z,156nm,0.9s
COEN Coen 56.47 179 P **P 12 32 19.3 +0.7**
POHA Pohakuloa 56.77 93 P **P 12 32 22.5 +1.2**
RES Resolute Bay 56.94 15 LR LR 12 59 34.4
comp=Z,2μm,20.6s,baz=319,slow=39
PPI Padang Panjang 56.96 232 P **P 12 32 23.9 +1.6**
JAGI Jajag, Banyuwa 56.98 213 P **P 12 32 23.9 +1.5**
comp=Z,48nm,0.9s
BJO1 Bjornoya 57.05 344 *e*P **P 12 32 23.1 +1.0**
BJO1 IAmb IAmb 12 32 25.6
comp=Z,77nm,1.0s
BJO1 *e*S **S 12 40 14.0 0.0**
BJO1 IAMs_20 IAMs_20 13 00 14.0
comp=Z,3μm,14.2s
GMJI Gumukmas 57.09 214 P **P 12 32 22.8 -0.3**
LVZ Lovozero 57.09 335 P **P 12 32 22.5 -0.1**
LVZ Lovozero 57.09 335*de*P **P 12 32 23.1 +0.5**
LVZ pmax pmax
comp=Z,56nm,1.0s
LVZ MLR MLR
comp=Z,2μm,16.0s
LVZ Lovozero 57.09 335 P **P 12 32 22.3 -0.3**
LVZ pP **pP 12 32 32.6 -0.3**
NGJI Ngawi 57.13 217 P **P 12 32 25.8 +2.4**
comp=Z,2μmcomp=Z,115nm,1.1s
SNSI Sinabang, Aceh 57.16 238 P P 12 32 34.4 +11
GSI Gunungsitoli 57.25 236 P **P 12 32 25.6 +1.2**
SMRI Semarang 57.30 218 P **P 12 32 25.9 +1.2**
comp=Z,3μmcomp=Z,173nm,0.9s
VADS Vadso 57.39 338 *e*P **P 12 32 24.4 -0.2**
VADS IAmb IAmb 12 32 26.1
comp=Z,181nm,1.1s
VADS *e*S **S 12 40 18.0 -0.6**
VADS IAMs_20 IAMs_20 13 01 02.3
comp=Z,3μm,18.4s
APA Apatity 57.67 335 *i*P **P 12 32 24.7 -1.9**
APA *i*S S 12 40 11.0 -11
APA *i*SS **SS 12 44 13.0 +0.9**
APA MLR MLR
comp=Z,2μm,15.0s
BBB Bella Bella 57.72 47 IAmb IAmb 12 32 29.2
comp=Z,141nm,1.1s
PCJI Pacitan 57.99 217 P **P 12 32 30.8 +1.3**
UGM Wanagama 58.03 218 P **P 12 32 29.7 -0.1**
UGM Wanagama 58.03 218 P **P 12 32 29.3 -0.5**
comp=Z,3μmcomp=Z,290nm,1.1s
YOGI Yogyakarta 58.05 218 P **P 12 32 29.1 -0.8**
comp=Z,2μmcomp=Z,175nm,1.0s
MDSI Maura Dua 58.18 226 P **P 12 32 30.5 -0.3**
comp=Z,2μmcomp=Z,125nm,1.2s
KPJI Karang Pucung 58.25 220 P **P 12 32 30.5 -0.8**
comp=Z,2μmcomp=Z,161nm,0.8s
KEV Kevo 58.26 338 P **P 12 32 30.1 -0.6**
KEV IAmb IAmb 12 32 32.6
comp=Z,76nm,0.9s
KEV Kevo 58.26 338 P **P 12 32 30.1 -0.6**
KEV pmax pmax
comp=Z,76nm,0.9s
SISI Saibi 58.43 233 P **P 12 32 32.2 -0.4**
comp=Z,1μmcomp=Z,126nm,1.2s
LEM Lembang 58.44 221 LR LR 12 58 23.7
comp=Z,1μm,21.6s,baz=40,slow=37
HAMF Hammerfest 58.56 340 *e*P **P 12 32 32.7 -0.1**
HAMF IAmb IAmb 12 32 34.0
comp=Z,54nm,0.8s
HAMF *e*S **S 12 40 35.3 +1.3**
HAMF IAMs_20 IAMs_20 13 02 37.3
comp=Z,2μm,18.3s
YKA Yellowknife Ar 58.66 32 P **P 12 32 33.5 -0.1**
comp=Z,39nm,1.0s,baz=304,slow=7.0,SNR=252
YKA ScP **ScP 12 37 21.9 +0.8**
comp=Z,2.7nm,0.9s,baz=303,slow=4.6,SNR=3.5
YKA comp=Z,2μm,18.1s,baz=289,slow=40 LR LR 13 02 01.3
YKA PKPPKP P'P'df 13 02 04.8 -12
comp=Z,0.3nm,0.8s,baz=131,slow=2.6,SNR=5.4
YKA P4KPbc 13 09 35.4
comp=Z,0.3nm,0.8s,baz=300,slow=4.8,SNR=3.7
comp=Z,39nm,1.0s
MNAI Manna 58.73 227 P **P 12 32 36.2 +1.5**
MNAI Manna 58.73 227 P **P 12 32 35.3 +0.6**
comp=Z,3μmcomp=Z,250nm,0.9s
ARA0 ARCESS Array S 58.80 338 IAmb IAmb 12 32 34.0
comp=Z,200nm,1.9s
ARA0 *e*P **P 12 32 34.2 -0.3**
ARA0 *e*S **S 12 40 35.6 -1.6**
ARA0 IAMs_20 IAMs_20 13 02 54.8
comp=Z,3μm,17.3s
ARCES ARCESS Array B 58.80 338 P **P 12 32 34.0 -0.6**
ARCES ARCESS Array B 58.80 338 P **P 12 32 34.3 -0.3**
comp=Z,15nm,0.5s,baz=46,slow=7.1,SNR=70
ARCES LR LR 13 03 11.8
comp=Z,3μm,18.0s,baz=42,slow=41
comp=Z,15nm,0.5s
HYB Hyderabad 58.97 265⇑ *e*P **P 12 32 36.1 -0.3**
HYB IVmB_BB 12 32 36.5
comp=Z,820nm,2.1s
HYB *e*S **S 12 40 41.3 +0.7**
HYB IVMs_BB IVMs_BB 13 00 38.2
comp=Z,490nm,16.8s
PPSI Pulau Pagai 59.06 231 P P 12 32 46.3 +9.3
CNJI Cibinong 59.09 221 P **P 12 32 34.3 -2.8**
KLMR Klimovskoe 59.19 326 *e*P **P 12 32 33.7 -3.6**
KLMR pmax pmax
comp=Z,295nm,1.4s
KLMR MLR MLR
comp=Z,3μm,16.0s

CGJI Cibinong 59.20 223 P **P 12 32 34.9 -3.0**
comp=Z,64nm,0.7s
TULEG Thule 59.35 8 IAmb IAmb 12 32 39.8
comp=Z,125nm,1.0s
TULEG Thule 59.35 8 *i*P **P 12 32 37.8 -0.4**
TULEG IAmb IAmb 12 32 39.5
comp=Z,117nm,1.0s
KNRA Kununurra 59.43 195 P **P 12 32 39.7 +0.3**
KNRA Kununurra 59.43 195 P **P 12 32 39.7 +0.3**
comp=Z,167nm,0.7s
KTK1 Kautokeino 59.76 339 *e*P **P 12 32 41.1 -0.1**
KTK1 IAmb IAmb 12 32 42.8
comp=Z,91nm,0.8s
KTK1 *e*S **S 12 40 49.2 -0.3**
KTK1 IAMs_20 IAMs_20 13 03 39.0
comp=Z,3μm,15.8s
NEEM North Greenlan 59.77 3 *i*P **P 12 32 40.1 -1.4**
NEEM IAmb IAmb 12 32 43.2
comp=Z,207nm,1.2s
BELG Belogornoye 59.98 315 LR LR 13 01 06.4
comp=Z,5μm,19.8s,baz=57,slow=38
BELG Belogornoye 59.98 315*c i*P **P 12 32 43.0 +0.2**
BELG pmax pmax
comp=Z,46nm,1.2s
BELG MLR MLR
comp=Z,943nm,17.0s
DAG Danmarks Havn 60.10 355 *i*P **P 12 32 42.0 -1.3**
DAG IAmb IAmb 12 32 44.8
comp=Z,53nm,0.8s
JETT Jettan, Norway 60.13 340 *e*P **P 12 32 44.8 +1.1**
JETT IAmb IAmb 12 32 45.4
comp=Z,111nm,0.9s
JETT *e*S **S 12 41 00.2 +5.9**
JETT IAMs_20 IAMs_20 13 04 01.6
comp=Z,3μm,17.7s
CBB Campbell River 60.31 48 P **P 12 32 45.8 +0.6**
TRO Tromso 60.45 340 *e*P **P 12 32 45.6 -0.2**
TRO IAmb IAmb 12 32 47.3
comp=Z,118nm,0.8s
TRO *e*S **S 12 40 58.1 -0.1**
TRO IAMs_20 IAMs_20 13 04 05.5
comp=Z,3μm,13.5s
MTSU Mount Surprise 60.65 177 P **P 12 32 48.0 +0.3**
comp=Z,39nm,0.9s
MTSU Mount Surprise 60.65 177 P **P 12 32 48.2 +0.5**
HRA Herat 60.74 291 P **P 12 32 48.8 +0.1**
HRA IAmb IAmb 12 32 49.5
comp=Z,59nm,0.8s
JOF Joensuu 61.14 331 *e*P **P 12 32 50.8 +0.2**
CLRS Cowichan Lake 61.64 49 IAmb IAmb 12 32 56.9
comp=Z,100nm,1.1s
LLLB Lillooet 61.87 46 IAmb IAmb 12 32 58.0
comp=Z,124nm,1.2s
PGC Sidney 62.11 48 P **P 12 32 57.8 +0.4**
PGC IAmb IAmb 12 32 59.4
comp=Z,169nm,1.4s
KULLO Kullorsuaq 62.22 6 *i*P **P 12 32 57.1 -0.6**
KULLO IAmb IAmb 12 32 59.8
comp=Z,68nm,0.8s
SANVU Saraoutou 62.40 152 P **P 12 32 60.0 +0.4**
SANVU pP **pP 12 33 09.8 -0.1**
FITZ Fitzroy Crossi 62.42 198 P **P 12 33 00.3 +0.6**
FITZ Fitzroy Crossi 62.42 198 P **P 12 33 00.0 +0.4**
comp=Z,25nm,1.4s
FITZ Fitzroy Crossi 62.42 198 LR LR 12 59 05.9
comp=Z,419nm,21.9s,baz=23,slow=35
FITZ Fitzroy Crossi 62.42 198 P **P 12 33 00.1 +0.4**
XMIS Christmas Isla 62.55 221 P **P 12 32 59.0 -1.8**
XMIS IAmb IAmb 12 33 26.7
comp=Z,140nm,1.2s
DBG Daneborg 62.59 355 *i*P **P 12 32 58.3 -2.0**
DBG IAmb IAmb 12 33 02.1
comp=Z,36nm,0.8s
STEI Steigen 62.61 340 *e*P **P 12 33 00.5 +0.1**
STEI IAmb IAmb 12 33 01.8
comp=Z,53nm,0.8s
STEI *e*S **S 12 41 26.9 +1.2**
STEI IAMs_20 IAMs_20 13 04 24.7
comp=Z,3μm,18.2s
WB9 Warramunga Arr 62.65 188 P **P 12 33 00.9 -0.4**
WB8 Warramunga Arr 62.67 188 P **P 12 33 00.9 -0.4**
WB7 Warramunga Arr 62.70 188 P **P 12 33 01.2 -0.4**
WRAB Tennant Creek 62.80 188 P **P 12 33 01.2 -1.0**
WRAB IAmb IAmb 12 33 14.7
comp=Z,137nm,1.3s
WRAB Tennant Creek 62.80 188*c i*P **P 12 33 01.7 -0.5**
WRAB pmax pmax
comp=Z,45nm,0.9s
WR0 Warramunga Arr 62.80 188 P **P 12 33 01.6 -0.7**
WB2 Warramunga Arr 62.80 188 P **P 12 33 01.4 -0.8**
WRA Warramunga Arr 62.80 188 P **P 12 33 01.9 -0.4**
comp=Z,66nm,0.5s,baz=5.8,slow=6.9,SNR=428
WRA S **S 12 41 25.7 -3.5**
comp=Z,4.2nm,0.9s,baz=6.6,slow=12,SNR=8.8
WRA LR LR 13 00 11.3
comp=Z,866nm,21.6s,baz=8.0,slow=36
WRA PKP2bc 13 02 12.0
comp=Z,3.1nm,0.9s,baz=200,slow=2.5,SNR=8.6
comp=Z,66nm,0.5s
LOF Lofoten 62.88 341 *e*P **P 12 33 02.7 +0.5**
LOF IAmb IAmb 12 33 07.8
comp=Z,44nm,0.8s
LOF *e*S **S 12 41 24.4 -4.7**
LOF IAMs_20 IAMs_20 13 05 07.6
comp=Z,2μm,19.5s
MOS Moscow 62.95 322 *e*P **P 12 32 59.1 -3.8**
MOS *e*S **S 12 41 27.2 -3.1**
MOS *e* 12 41 43.6
MOS pmax pmax
comp=Z,500nm,1.9s
MOS pmax pmax
comp=Z,208nm,1.5s
MOS smax smax
comp=E,800nm,3.5s
MOS MLR MLR
comp=Z,4μm,16.0s
FAUS Fauske 63.01 340 *e*P **P 12 33 03.1 0.0**
FAUS IAmb IAmb 12 33 04.7
comp=Z,134nm,1.0s
FAUS *e*S **S 12 41 31.8 +1.0**
FAUS IAMs_20 IAMs_20 13 04 49.3
comp=Z,3μm,16.0s
QIS Mount Isa 63.06 183 P **P 12 33 03.7 -0.2**
comp=Z,50nm,0.7s
QIS Mount Isa 63.06 183 P **P 12 33 03.5 -0.4**
GNW Green Mountain 63.07 49 IAmb IAmb 12 33 06.5
comp=Z,86nm,1.2s
PUL Pulkovo 63.51 328*de*P **P 12 33 07.2 +0.7**
PUL pmax pmax
comp=Z,133nm,0.8s
PUL MLR MLR
comp=Z,1μm,15.0s
PUL Pulkovo 63.51 328 *e*P **P 12 33 07.2 +0.7**
VRH Novokhopyorsk 63.68 316 *e*P **P 12 33 07.2 -0.6**
VRH pmax pmax
comp=Z,243nm,1.9s
OBN Obninsk 63.81 322 P **P 12 33 08.1 -0.4**
OBN Obninsk 63.81 322 LR LR 13 03 17.9
comp=Z,3μm,20.2s,baz=45,slow=38
OBN Obninsk 63.81 322⇑ *i*P **P 12 33 08.6 +0.1**
OBN Obninsk 63.81 322*c i*P **P 12 33 08.1 -0.4**
OBN *i* 12 33 16.4
OBN *i* 12 33 29.3
OBN *i*S S 12 41 30.7 -10
OBN *i*SSS SSS 12 48 36.0
OBN pmax pmax
comp=Z,119nm,1.1s
OBN MLR MLR
comp=Z,4μm,16.0s
OBN Obninsk 63.81 322 P **P 12 33 08.6 +0.1**
comp=Z,2μmcomp=Z,162nm,1.0s
OBN Obninsk 63.81 322 *e*P **P 12 33 08.1 -0.4**
KEF Keuruu 63.90 332 *e*P **P 12 33 08.8 -0.3**
FINES FINESS Array B 63.97 331 P **P 12 33 09.2 -0.3**
comp=Z,109nm,0.5s,baz=48,slow=7.0,SNR=332
FINES LR LR 13 03 31.0
comp=Z,3μm,18.7s,baz=48,slow=38
comp=Z,109nm,0.5s
VAF Ylistaro 64.03 334 *e*P **P 12 33 10.1 +0.3**
UPNV Upernavik 64.05 6 *i*P **P 12 33 09.4 -0.5**
UPNV IAmb IAmb 12 33 12.6
comp=Z,98nm,1.3s
MOR8 Moi Rana 64.15 339 *e*P **P 12 33 09.4 -1.3**
MOR8 IAmb IAmb 12 33 19.1
comp=Z,105nm,0.8s

MOR8 *e*S **S 12 41 42.9 -2.1**
MOR8 IAMs_20 IAMs_20 13 05 17.3
comp=Z,4μm,17.6s
PALK Pallekele 64.16 255 P **P 12 33 10.8 -0.7**
PALK IAmb IAmb 12 33 22.6
comp=Z,116nm,1.1s
PALK Pallekele 64.16 255 LR LR 13 02 38.1
comp=Z,1μm,20.3s,baz=38,slow=37
PALK Pallekele 64.16 255 P **P 12 33 12.6 +1.1**
PALK Pallekele 64.16 255*c i*P **P 12 33 11.3 -0.2**
PALK pmax pmax
comp=Z,74nm,1.3s
PALK MLR MLR
comp=Z,2μm,20.0s
LPSR Galich'ya Gora 64.23 319 *e*P **P 12 33 10.6 -0.8**
LPSR pmax pmax
comp=Z,430nm,1.6s
LPSR pmax pmax
comp=Z,160nm,0.8s
LPSR MLR MLR
comp=Z,2μm,14.0s
KONS Konsvik 64.24 340 *e*P **P 12 33 11.6 +0.4**
STOK Stokkvaagen 64.40 340 *e*P **P 12 33 12.5 +0.3**
STOK *e*S **S 12 41 49.6 +1.6**
STOK IAMs_20 IAMs_20 13 05 37.6
comp=Z,4μm,17.2s
LTY Liberty 64.44 48 IAmb IAmb 12 33 15.0
comp=Z,146nm,1.2s
COR Corvallis 64.51 52 P **P 12 33 15.7 +2.3**
COR Corvallis 64.51 52 P **P 12 33 15.7 +2.3**
COR pmax pmax
comp=Z,324nm,1.1s
COR Corvallis 64.51 52 P **P 12 33 15.3 +1.9**
COR pP **pP 12 33 24.6 +0.9**
B08A Colville Reser 64.52 47 IAmb IAmb 12 33 16.1
comp=Z,101nm,1.1s
LEIR Leirfjorden 64.54 339 *e*P **P 12 33 13.2 0.0**
LEIR IAmb IAmb 12 33 26.2
comp=Z,227nm,2.0s
LEIR *e*S **S 12 41 52.8 +3.1**
LEIR *i* 12 49 05.1
LEIR IAMs_20 IAMs_20 13 06 38.1
comp=Z,2μm,16.2s
JMIC Jan Mayen 64.58 350 LR LR 13 05 23.1
comp=Z,517nm,18.2s,baz=306,slow=40
VORR Voronezh 64.66 318 *e*P **P 12 33 14.2 0.0**
VORR pmax pmax
comp=Z,278nm,1.3s
SUMG Summit 64.95 0 P **P 12 33 16.8 +0.5**
SUMG IAmb IAmb 12 33 31.9
comp=Z,117nm,0.9s
SUMG Summit 64.95 0 P **P 12 33 16.8 +0.5**
SUMG pmax pmax
comp=Z,117nm,0.9s
SUMG Summit 64.95 0 *i*P **P 12 33 16.0 -0.3**
SUMG IAmb IAmb 12 33 19.7
comp=Z,70nm,0.7s
VSR Storozhevoye 64.96 317 *e*P **P 12 33 15.0 -1.2**
VSR pmax pmax
comp=Z,490nm,1.9s
VSR pmax pmax
comp=Z,120nm,0.8s
VSR MLR MLR
comp=Z,3μm,14.0s
VORD Divnogorie 65.05 317 *e*P **P 12 33 16.3 -0.4**
VORD pmax pmax
comp=Z,350nm,1.8s
VORD pmax pmax
comp=Z,70nm,0.7s
VORD MLR MLR
comp=Z,3μm,17.0s
H04A Detroit Lake 65.10 51 P **P 12 33 18.4 +1.1**
MAK Makhachkala 65.34 306*c i*P **P 12 33 16.6 -2.2**
MAK *e* 12 35 42.1
MAK *e*S **S 12 41 57.1 -3.2**
MAK *e*SS **SS 12 46 18.6 +5.6**
MAK pmax pmax
comp=Z,338nm,1.8s
MAK MLR MLR
comp=Z,5μm,15.0s
ARBE Arbavere 65.38 330 *e*P **P 12 33 18.1 -0.6**
DBO Dodson Butte 65.41 53 IAmb IAmb 12 33 36.8
comp=Z,81nm,1.1s
K02D Willamette Mer 65.41 54 IAmb IAmb 12 33 22.5
comp=Z,124nm,1.1s
MEF Metsahovi 65.42 331 *e*P **P 12 33 19.5 +0.6**
NUUG Nuugaatsiaq 65.47 5 *i*P **P 12 33 18.9 -0.2**
NUUG IAmb IAmb 12 33 21.6
comp=Z,17nm,0.8s
G06A Carlson Farm, 65.66 50 IAmb IAmb 12 33 23.4
comp=Z,120nm,1.1s
NEW Newport 65.76 46 IAmb IAmb 12 33 23.4
comp=Z,106nm,1.1s
RAF Rauma 65.76 333 *e*P **P 12 33 21.3 +0.2**
VSU Vasula 65.76 329*ce*P **P 12 33 19.9 -1.3**
VSU pmax pmax
comp=Z,142nm,0.8s
VSU MLR MLR
comp=Z,1μm,14.0s
VSU Vasula 65.76 329 *e*P **P 12 33 20.9 -0.3**
KSXB Camp Six Broad 65.79 55 IAmb IAmb 12 33 24.6
comp=Z,130nm,1.1s
I05D Terrebonne, OR 65.79 51 IAmb IAmb 12 33 24.1
comp=Z,132nm,1.1s
L02F Cave Junction 65.80 54 IAmb IAmb 12 33 24.4
comp=Z,88nm,1.1s
KRMB Red Mountain 65.95 55 IAmb IAmb 12 33 26.4
comp=Z,104nm,1.2s
NSS Namsos 66.08 339 *e*P **P 12 33 22.7 -0.5**
NSS *e*S **S 12 42 11.0 +2.3**
NSS IAMs_20 IAMs_20 13 07 08.1
comp=Z,4μm,16.4s
UMMG Uummannaq 66.39 5 *i*P **P 12 33 24.9 -0.2**
UMMG IAmb IAmb 12 33 26.6
comp=Z,35nm,0.7s
SCO Scoresbysund 66.45 354 P **P 12 33 25.1 -0.4**
SCO IAmb IAmb 12 33 27.4
comp=Z,143nm,1.6s
SCO Scoresbysund 66.45 354 P **P 12 33 25.1 -0.4**
SCO pmax pmax
comp=Z,143nm,1.6s
SCO Scoresbysund 66.45 354 *i*P **P 12 33 25.1 -0.4**
SCO IAmb IAmb 12 33 28.6
comp=Z,58nm,1.2s
AS15 Alice Springs 66.50 188 P **P 12 33 26.6 +0.2**
comp=Z,52nm,0.9s
AS16 Alice Springs 66.50 188 P **P 12 33 26.6 +0.2**
comp=Z,41nm,0.9s
AS01 Alice Springs 66.53 188 P **P 12 33 26.7 +0.2**
ASAR Alice Springs 66.53 188 P **P 12 33 26.5 0.0**
comp=Z,29nm,0.8s,baz=3.3,slow=5.8,SNR=305
ASAR S **S 12 42 12.8 -2.2**
comp=Z,1.5nm,0.8s,baz=18,slow=10,SNR=10
ASAR PKPPKP **P'P'df 13 01 56.5 +4.9**
comp=Z,4.9nm,1.0s,baz=161,slow=1.8,SNR=6.2
ASAR LR LR 13 02 26.1
comp=Z,1μm,21.6s,baz=4.5,slow=36
comp=Z,29nm,0.8s
YBH Yreka Blue Hor 66.55 54 IAmb IAmb 12 33 29.5
comp=Z,82nm,1.1s
YBH Yreka Blue Hor 66.55 54 LR LR 12 58 32.3
comp=Z,795nm,21.4s,baz=318,slow=32
G08A Pilot Rock 66.57 49 IAmb IAmb 12 33 29.1
comp=Z,68nm,1.1s
SEKA Sheki 66.57 305 P **P 12 33 26.0 -0.8**
K04D Chiloquin, OR 66.58 53 IAmb IAmb 12 33 29.4
comp=Z,130nm,1.0s
GOF Gofitskoye 66.66 310*c i*P **P 12 33 27.8 +0.5**
MTSE Matsula 66.69 330 *e*P **P 12 33 27.6 +0.5**
NGCH Negor - Chabah 66.80 284 P **P 12 33 29.9 +1.6**
MBWA Marble Bar 66.85 203 P **P 12 33 28.1 -0.5**
MBWA IAmb IAmb 12 33 30.0
comp=Z,60nm,0.6s
MBWA Marble Bar 66.85 203 P **P 12 33 28.5 0.0**
comp=Z,87nm,0.7s
MBWA Marble Bar 66.85 203 P **P 12 33 28.2 -0.4**
MBWA Marble Bar 66.85 203 P **P 12 33 28.5 0.0**
MBWA pP **pP 12 33 38.8 -0.2**
MNGR Mingechevir, A 66.90 305 P **P 12 33 29.5 +0.7**
I07A Izee 67.00 51 IAmb IAmb 12 33 31.9
comp=Z,74nm,1.0s
LKRN Lenkeran, Azer 67.10 302 P **P 12 33 30.9 +0.8**
PSAD1 Pilbara Seismi 67.10 202 P **P 12 33 30.1 -0.1**
comp=Z,37nm,0.8s
F10A Beach Ranch, E 67.11 48 IAmb IAmb 12 34 02.9
comp=Z,70nm,1.0s

PSA00 Pilbara Seismi 67.21 202 P **P** **12 33 31.0 +0.2**
KCPM Cahto Peak 67.25 57 IAmb IAmb 12 33 33.7
comp=Z,125nm,1.1s
XMAS Kiritimati 67.31 109 P **P** **12 33 32.9 +1.1**
GANJ Ganja 67.44 305 P **P** **12 33 32.9 +0.6**
O02D Mt. Diablo Mer 67.44 56 IAmb IAmb 12 33 35.2
comp=Z,94nm,1.1s
KVAR Kislovodsk Arr 67.54 310 LR LR 13 08 21.3
comp=Z,2µm,19.4s,baz=280,slow=41
KIV Kislovodsk 67.54 310 P **P** **12 33 33.5 +0.5**
KIV Kislovodsk 67.54 310 P **P** **12 33 34.3 +1.3**
KIV Kislovodsk 67.54 310 ⇑P **P** **12 33 33.3 +0.3**
KIV Kislovodsk 67.54 310 *e*P **P** **12 33 31.8 -1.2**
KIV *e*S **S** **12 42 25.5 -1.7**
KIV *e*SS **SS** **12 46 47.3 0.0**
KIV pmax pmax
comp=Z,140nm,4.3s
KIV pmax pmax
comp=Z,311nm,1.1s
KIV Kislovodsk 67.54 310 *i* P **P** **12 33 33.7 +0.7**
SNR=30
KIV Kislovodsk 67.54 310 P **P** **12 33 34.0 +1.0**
comp=Z,3µmcomp=Z,288nm,0.8s
KIV Kislovodsk 67.54 310 *e*P **P** **12 33 33.7 +0.7**
KBZ Khabaz 67.56 309 P **P** **12 33 33.1 +0.2**
comp=Z,64nm,0.7s,baz=52,slow=4.8,SNR=128
KBZ LR LR 13 08 02.7
comp=Z,1µm,19.9s,baz=39,slow=40
comp=Z,64nm,0.7s
KBZ Khabaz 67.56 309*c* *i*P **P** **12 33 33.5 +0.6**
KBZ pmax pmax
comp=Z,64nm,0.9s
KBZ Khabaz 67.56 309 *e*P **P** **12 33 33.5 +0.6**
FUTU Fugatoga 67.57 138 P **P** **12 33 35.2 +2.0**
ERBR Yeremizino-Bor 67.67 312 *e*P **P** **12 33 34.2 +0.5**
ERBR *e**PP **sP** **12 33 46.5 -1.5**
ERBR *e*S **S** **12 42 26.7 -1.8**
ERBR pmax pmax
comp=Z,240nm,0.7s
ERBR MLR MLR
comp=Z,4µm,18.0s
SHA1 Shidzhatmaz 67.69 309*c* *i*P **P** **12 33 34.8 +0.7**
BMO Blue Mountains 67.76 49 IAmb IAmb 12 33 36.6
comp=Z,104nm,1.1s
ILULI Ilulissat 67.91 5 IAmb IAmb 12 33 49.9
comp=Z,61nm,0.8s
ILULI Ilulissat 67.91 5 *i* P **P** **12 33 34.0 -0.7**
ILULI IAmb IAmb 12 33 36.7
comp=Z,58nm,0.6s
MNK Minsk 68.02 325 *i* P **P** **12 33 36.5 +0.8**
comp=E,46nm,0.8s
MNK *i* P **P** **12 33 36.5 +0.8**
comp=N,50nm,0.9s
MNK *i* P **P** **12 33 36.5 +0.8**
comp=Z,74nm,0.7s,baz=46
MNK *i* PcP **PcP** **12 34 03.5 +1.7**
MNK *i* PP **PP** **12 36 11.6 +6.2**
MNK *i* PPP PPP 12 38 25.5
MNK *i* S **S** **12 42 32.6 +0.2**
MNK *i* SS **SS** **12 46 57.1 +3.2**
MNK *i* LQ LQ 12 58 48.1
MNK *i* LR LR 13 03 59.4
MNK *i* LRM MLR 13 06 00.8
comp=N,2µm,15.8s
MNK *i* LRM MLR 13 06 06.6
comp=Z,3µm,14.3s
MNK *i* LRM MLR 13 06 12.5
comp=E,2µm,14.4s
MNK Minsk 68.02 325 *i* P **P** **12 33 36.5 +0.8**
MNK *i* 12 34 03.4
MNK *i* 12 36 11.5
MNK *i* S **S** **12 42 32.5 +0.2**
MNK *i* SS **SS** **12 46 57.1 +3.2**
MNK pmax pmax
comp=Z,74nm,0.7s
MNK pmax pmax
comp=E,46nm,0.8s
MNK pmax pmax
comp=N,50nm,0.9s
MNK MLR MLR
comp=N,2µm,16.0s
MNK MLR MLR
comp=Z,3µm,14.0s
MNK MLR MLR
comp=E,2µm,14.0s
SLIT Slitere, Latvi 68.03 330 *e*P **P** **12 33 35.8 +0.1**
J08A Circle Bar Ran 68.03 51 IAmb IAmb 12 33 39.2
comp=Z,131nm,1.0s
IIGN Ignalina 68.12 326 *e*P **P** **12 33 37.2 +0.9**
NACGM Naroch 68.20 326 *e*P **P** **12 33 37.2 +0.4**
LABN Labinsk 68.22 311 *e*P **P** **12 33 38.4 +1.3**
LABN pmax pmax
comp=Z,158nm,0.6s
LABN MLR MLR
comp=Z,4µm,21.0s
EIDS Eidsvold 68.32 171 P **P** **12 33 38.3 +0.5**
comp=Z,53nm,0.9s
EIDS Eidsvold 68.32 171 P **P** **12 33 38.0 +0.2**
PLID Pearl Lake 68.33 48 IAmb IAmb 12 33 39.8
comp=Z,113nm,1.2s
MSO Missoula 68.34 46 IAmb IAmb 12 33 40.4
comp=Z,165nm,1.2s
DZM Mont Dzumac 68.35 156 *e*P **P** **12 33 39.4 +1.3**
comp=Z,368nm,1.4s
DZM *e*S **S** **12 42 29.7 -7.3**
comp=Z,353nm,24.4s
DZM *e*SS **SS** **12 46 56.0 -5.4**
comp=Z,259nm,25.4s
DZM *e*LR LR 12 54 18.3
comp=Z,2µm,23.9s
DZM Mont Dzumac 68.35 156 P **P** **12 33 38.8 +0.6**
comp=Z,119nm,1.3s,baz=64,slow=8.0,SNR=7.8
DZM LR LR 13 00 29.8
comp=Z,844nm,21.8s,baz=346,slow=33
comp=Z,119nm,1.3s
DZM Mont Dzumac 68.35 156 P **P** **12 33 38.3 +0.2**
ICESG Greenland Ices 68.44 1 *i* P **P** **12 33 39.2 +0.6**
ICESG IAmb IAmb 12 33 40.8
comp=Z,103nm,0.8s
WVOR Wild Horse Val 68.52 52 IAmb IAmb 12 33 41.5
comp=Z,114nm,1.1s
VSVD Vaisvydziai 68.59 328 *e*P **P** **12 33 39.2 0.0**
WRKA Warakurna 68.65 193 P **P** **12 33 40.0 +0.1**
comp=Z,85nm,1.3s
WRKA Warakurna 68.65 193 P **P** **12 33 40.3 +0.4**
FFC Flin Flon 68.66 34 P **P** **12 33 39.3 -0.4**
FFC IAmb IAmb 12 33 41.8
comp=Z,96nm,0.9s
FFC Flin Flon 68.66 34 P **P** **12 33 39.3 -0.4**
FFC pmax pmax
comp=Z,96nm,1.0s
FFC Flin Flon 68.66 34 P **P** **12 33 40.1 +0.4**
FFC pP **pP** **12 33 49.6 -0.6**
GNI Garni 68.70 305 P **P** **12 33 41.4 +0.9**
GNI Garni 68.70 305 LR LR 13 08 16.8
comp=Z,1µm,18.4s,baz=50,slow=40
GNI Garni 68.70 305 P **P** **12 33 41.8 +1.4**
GNI Garni 68.70 305*c* *i*P **P** **12 33 41.3 +0.9**
GNI pmax pmax
comp=Z,42nm,1.2s
GNI Garni 68.70 305 P **P** **12 33 41.8 +1.4**
comp=Z,1µmcomp=Z,73nm,1.6s
MSVF Nonsavu 68.75 143 P **P** **12 33 42.3 +1.6**
MSVF IAmb IAmb 12 33 45.4
comp=Z,116nm,1.2s
MSVF Nonsavu 68.75 143 P **P** **12 33 43.2 +2.5**
comp=Z,44nm,1.0s,baz=318,slow=6.7,SNR=14
MSVF LR LR 12 59 16.2
comp=Z,727nm,21.2s,baz=334,slow=32
comp=Z,44nm,1.0s
MSVF Nonsavu 68.75 143 P **P** **12 33 41.6 +0.9**
MSVF Nonsavu 68.75 143*ce*P **P** **12 33 43.0 +2.3**
MSVF pmax pmax
comp=Z,122nm,1.3s
MSVF MLR MLR
comp=Z,765nm,19.0s
JASK Jask - Hormozg 68.81 286 P **P** **12 33 42.3 +1.2**
MOL Molde 68.84 339 *e*P **P** **12 33 41.3 +0.7**
DOMB Dombas 68.87 338 *e*P **P** **12 33 41.0 +0.1**
DOMB *e*S **S** **12 42 43.6 +1.3**
DOMB IAMs_20 IAMs_20 13 08 22.6
comp=Z,4µm,18.1s
NC405 NORSAR Array S 68.87 337 IAmb IAmb 12 33 42.8
comp=Z,84nm,0.7s
NC303 NORSAR Array S 68.89 337 IAmb IAmb 12 33 42.9
comp=Z,80nm,0.7s

PABE Paberze 68.92 327 *e*P **P** **12 33 41.6 +0.4**
QLP Quilpie 69.05 178 P **P** **12 33 42.7 +0.5**
comp=Z,187nm,1.6s
QLP Quilpie 69.05 178 P **P** **12 33 42.7 +0.5**
HFS Hagfors 69.06 335 P **P** **12 33 41.7 -0.4**
comp=Z,88nm,0.5s,baz=51,slow=5.9,SNR=226
HFS LR LR 13 06 57.5
comp=Z,2µm,18.7s,baz=42,slow=38
comp=Z,88nm,0.5s
NB2 NORSAR Subarra 69.08 337 P **P** **12 33 42.1 -0.1**
comp=Z,85nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.08 337 P **P** **12 33 42.1 -0.1**
baz=36,slow=6.5
NOA NORSAR Array B 69.08 337 P **P** **12 33 41.9 -0.3**
comp=Z,59nm,0.6s,baz=36,slow=6.3,SNR=300
NOA LR LR 13 09 21.9
comp=Z,2µm,18.2s,baz=35,slow=41
comp=Z,59nm,0.6s
NC602 NORSAR Array S 69.23 336 IAmb IAmb 12 34 14.1
comp=Z,149nm,1.6s
NC602 NORSAR Array S 69.23 336 *e*P **P** **12 33 42.7 -0.4**
NC602 *e*S **S** **12 42 49.4 +2.9**
NC602 IAMs_20 IAMs_20 13 04 45.1
comp=Z,2µm,20.9s
AKN Aaknes 69.31 339 *e*P **P** **12 33 44.0 +0.4**
NAO01 NORSAR Array S 69.33 337 IAmb IAmb 12 33 45.4
comp=Z,59nm,0.8s
PBUR Paburge 69.34 329 *e*P **P** **12 33 44.2 +0.4**
VSLR Vesyoloye 69.35 310*c* *i*P **P** **12 33 44.8 +0.6**
VSLR pmax pmax
comp=Z,151nm,1.0s
SOC Sochi 69.45 311 *e*P **P** **12 33 43.4 -1.4**
SOC *e**PP **pP** **12 33 54.4 -0.8**
SOC *e**SP **sP** **12 33 59.3 +0.2**
SOC *e*PPP PPP 12 37 57.8
SOC *e*S **S** **12 42 48.1 -1.5**
SOC *e*SS **SS** **12 47 15.3 -1.1**
SOC pmax pmax
comp=Z,94nm,0.7s
SOC MLR MLR
comp=Z,3µm,18.0s
MFID Camas Ranch 69.49 50 IAmb IAmb 12 33 47.4
comp=Z,132nm,1.3s
BCA Borcka 69.72 308 ⇑P **P** **12 33 46.5 -0.1**
PAHR Pah Rah Range 69.79 54 IAmb IAmb 12 33 49.2
comp=Z,93nm,1.1s
BANOM Banah 69.88 287 P **P** **12 33 48.1 +0.3**
BANOM Banah 69.88 287 *i* P **P** **12 33 47.6 -0.1**
SNR=21
WSAR Wadi Sarin 69.90 283 LR LR 13 10 07.2
comp=Z,1µm,18.1s,baz=73,slow=41
SHME Shamm 69.92 287 P **P** **12 33 48.2 +0.3**
SNR=6.3
SHME Shamm 69.92 287 *i* P **P** **12 33 47.6 -0.3**
SNR=44
ANN Anapa 69.92 313 *e*P **P** **12 33 46.6 -1.0**
ANN *e**PP **pP** **12 33 59.8 +1.8**
ANN *e*S **S** **12 42 53.4 -1.6**
ANN pmax pmax
comp=Z,125nm,0.9s
ANN MLR MLR
comp=E,2µm,17.0s
ANN MLR MLR
comp=Z,2µm,17.0s
ANN MLR MLR
comp=N,2µm,13.0s
ANN Anapa 69.92 313 *e*P **P** **12 33 47.5 -0.1**
GIRL Giralia 69.95 207 P **P** **12 33 48.9 +1.0**
comp=Z,119nm,1.6s
GIRL Giralia 69.95 207 P **P** **12 33 48.9 +1.0**
JLN Jalan Bani Buh 70.02 282 P **P** **12 33 50.0 +1.4**
SNR=5.1
WBK Wadi Bani Khal 70.05 283 P **P** **12 33 51.1 +2.3**
SNR=5.7
PNTR Pine Nut 70.05 55 IAmb IAmb 12 34 03.2
comp=Z,150nm,1.4s
AKASG Malin Array Be 70.06 321 P **P** **12 33 48.0 -0.4**
AKASG IAmb IAmb 12 34 03.2
comp=Z,105nm,0.9s
AKASG Malin Array Be 70.06 321 P **P** **12 33 48.2 -0.1**
comp=Z,49nm,0.6s,baz=44,slow=6.0,SNR=267
AKASG S **S** **12 42 56.9 +0.3**
comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=7.8
AKASG LR LR 13 07 11.8
comp=Z,4µm,18.6s,baz=36,slow=38
comp=Z,49nm,0.6s
AKBB Malin Array Si 70.06 321 IAmb IAmb 12 34 03.2
comp=Z,104nm,0.9s
AKBB Malin Array Si 70.06 321*c* *i*P **P** **12 33 48.1 -0.3**
KIEV Kiev 70.07 321 P **P** **12 33 48.1 -0.4**
KIEV IAmb IAmb 12 34 03.2
comp=Z,93nm,0.9s
KIEV Kiev 70.07 321 ⇑P **P** **12 33 48.5 0.0**
KIEV Kiev 70.07 321 P **P** **12 33 48.4 0.0**
KIEV Kiev 70.07 321 *i* P **P** **12 33 48.0 -0.4**
SNR=10
KIEV Kiev 70.07 321 P **P** **12 33 48.3 -0.2**
comp=Z,6µmcomp=Z,518nm,1.0s
KIEV Kiev 70.07 321 P **P** **12 33 48.0 -0.5**
KIEV pP **pP** **12 33 57.5 -1.4**
KIEV sP **sP** **12 34 02.0 -0.8**
BIDO Bidbid 70.08 284 P **P** **12 33 51.0 +2.1**
SNR=6.5
OSL Oslo 70.11 336 *e*P **P** **12 33 49.0 +0.5**
SFJD Kangerlussuaq 70.13 5 P **P** **12 33 48.5 0.0**
SFJD IAmb IAmb 12 34 01.8
comp=Z,157nm,1.6s
SFJD Kangerlussuaq 70.13 5 LR LR 13 06 08.3
comp=Z,2µm,20.0s,baz=348,slow=37
SFJD Kangerlussuaq 70.13 5 P **P** **12 33 48.5 0.0**
SFJD Kangerlussuaq 70.13 5 *i* P **P** **12 33 47.8 -0.7**
SFJD IAmb IAmb 12 33 50.0
comp=Z,30nm,0.5s
INKA Innaminka 70.18 181 P **P** **12 33 50.6 +1.4**
SKAR Skarslia 70.20 338 *e*P **P** **12 33 49.7 +0.6**
CMB Columbia Colle 70.23 56 IAmb IAmb 12 33 51.8
comp=Z,94nm,1.1s
MDH Madha 70.27 286 P **P** **12 33 50.2 +0.1**
FOO Floro 70.30 340 *e*P **P** **12 33 49.9 +0.3**
SUW Suwalki 70.32 327 *e*P **P** **12 33 49.5 -0.4**
SUW *e*L L 13 06 53.2
comp=Z,3µm,16.9s
SUW Suwalki 70.32 327 *e*P **P** **12 33 50.4 +0.5**
MASF Masafi 70.33 287 P **P** **12 33 51.1 +0.6**
SNR=5.3
MSFE Esma-Masafi 70.33 287 *i* P **P** **12 33 50.4 -0.1**
SNR=13
HYA Hoyanger 70.37 339 *e*P **P** **12 33 50.1 0.0**
HYA *e*S **S** **12 43 00.1 +0.3**
HYA IAMs_20 IAMs_20 13 08 32.9
comp=Z,4µm,21.3s
SMDO Samad 70.43 284 P **P** **12 33 53.0 +1.7**
SNR=8.2
OOD Oodnadatta 70.46 186 P **P** **12 33 52.1 +1.2**
UOSS Minazif 70.56 286 P **P** **12 33 51.4 -0.5**
UOSS IAmb IAmb 12 33 52.7
comp=Z,94nm,0.8s
UOSS Minazif 70.56 286 P **P** **12 33 52.1 +0.3**
UOSS Minazif 70.56 286 *i* P **P** **12 33 51.4 -0.5**
SNR=29
UOSS Minazif 70.56 286 P **P** **12 33 51.1 -0.8**
UOSS pP **pP** **12 34 01.3 -1.0**
HOQ Hoqain 70.63 284 P **P** **12 33 53.0 +0.6**
SNR=9.8
KONO Kongsberg 70.68 337 P **P** **12 33 52.1 +0.1**
KONO Kongsberg 70.68 337 *e*P **P** **12 33 52.1 +0.1**
KONO IAmb IAmb 12 33 55.0
comp=Z,351nm,2.1s
KONO *e*S **S** **12 43 04.5 +1.0**
KONO IAMs_20 IAMs_20 13 10 02.2
comp=Z,4µm,18.5s
KONO Kongsberg 70.68 337*c* *i*P **P** **12 33 51.8 -0.2**
KONO pmax pmax
comp=Z,25nm,0.8s
KONO MLR MLR
comp=Z,3µm,18.0s
HATD Hatta, Dubai 70.69 286 P **P** **12 33 53.1 +0.5**
SNR=17
HATD Hatta, Dubai 70.69 286 *i* P **P** **12 33 52.5 -0.2**
SNR=49
STRU Stroemstad 70.71 336 *i* P **P** **12 33 51.3 -0.9**
BBGB Big Mountain B 70.75 58 IAmb IAmb 12 33 55.9
comp=Z,144nm,1.1s
JMDO Jabal Madar 70.82 283 P **P** **12 33 55.1 +1.5**
SNR=7.3
ASHO Ashiyiah 70.83 286 P **P** **12 33 54.0 +0.4**

SNR=16
ASHO Ashiyiah 70.83 286 *i* P **P** **12 33 54.0 +0.4**
SNR=33
SOHO SOHO 70.83 285 P **P** **12 33 53.8 +0.3**
SOHO SOHO 70.83 285 *i* P **P** **12 33 54.0 +0.4**
SNR=21
DY2G Dye2 70.89 4 *i* P **P** **12 33 53.7 +0.2**
DY2G IAmb IAmb 12 33 57.0
comp=Z,122nm,0.6s
NAZ Nazwa, Dubai 70.92 287 P **P** **12 33 55.0 +0.9**
SNR=6.8
NAZ Nazwa, Dubai 70.92 287 *i* P **P** **12 33 53.5 -0.5**
SNR=15
RYN Ryan 70.99 55 IAmb IAmb 12 34 08.0
comp=Z,79nm,1.2s
YHL Hebgen Lake 71.09 46 IAmb IAmb 12 33 58.0
comp=Z,130nm,1.0s
FRB Frobisher Bay 71.09 14 LR LR 13 07 13.1
comp=Z,2µm,21.2s,baz=328,slow=38
FAQ Al Faqa, Dubai 71.12 286 P **P** **12 33 55.1 -0.2**
SNR=8.9
FAQ Al Faqa, Dubai 71.12 286 *i* P **P** **12 33 54.9 -0.4**
SNR=12
ASK Askoy 71.21 339 *e*P **P** **12 33 55.8 +0.6**
ASK IAmb IAmb 12 34 00.0
comp=Z,94nm,1.1s
ASK *e*S **S** **12 43 10.6 +1.1**
ASK IAMs_20 IAMs_20 13 08 51.8
comp=Z,3µm,17.1s
BSY Bisya 71.23 284 P **P** **12 33 57.0 +0.9**
SNR=11
NVAR Mina Array Bea 71.25 55 P **P** **12 33 57.0 +0.8**
NVAR Mina Array Bea 71.25 55 P **P** **12 33 56.7 +0.5**
comp=Z,38nm,0.9s,baz=290,slow=5.8,SNR=153
NVAR LR LR 13 01 36.6
comp=Z,410nm,22.0s,baz=314,slow=33
comp=Z,38nm,0.9s
BER Bergen 71.26 339 *e*P **P** **12 33 55.9 +0.4**
BER *e*S **S** **12 43 13.0 +2.8**
KOPT Kop Dagi 71.30 307 IAmb IAmb 12 34 16.3
comp=Z,57nm,0.9s
ODD1 Odda 71.31 338 *e*P **P** **12 33 56.1 +0.2**
YMR Madison River 71.33 46 IAmb IAmb 12 33 58.9
comp=Z,104nm,1.0s
BORU Boraas 71.34 334 *i* P **P** **12 33 54.8 -1.2**
ARQ Araqi 71.34 285 P **P** **12 33 58.0 +1.3**
SNR=9.6
BLEU Blekinge 71.36 332 *i* P **P** **12 33 55.0 -1.2**
ASUD Al Ashush, Dub 71.38 287 P **P** **12 33 59.0 +2.2**
SNR=6.6
ASUD Al Ashush, Dub 71.38 287 *i* P **P** **12 33 57.2 +0.3**
SNR=20
TJOU Tjoern 71.38 335 *i* P **P** **12 33 55.3 -1.0**
YNM Yellowstone No 71.42 46 IAmb IAmb 12 34 00.6
comp=Z,100nm,1.2s
ALNE Al Ain 71.44 286 P **P** **12 33 57.5 +0.3**
SNR=17
ALNE Al Ain 71.44 286 *i* P **P** **12 33 57.0 -0.3**
SNR=25
YNR Norris Junctio 71.44 46 IAmb IAmb 12 34 00.8
comp=Z,108nm,1.2s
YFT Old Faithful 71.54 46 IAmb IAmb 12 34 02.8
comp=Z,120nm,1.0s
ELK Elko 71.55 51 LR LR 13 01 16.1
comp=Z,700nm,21.9s,baz=334,slow=32
SIM Simferopol' 71.58 315 *e*P P 12 34 08.1 +10
SIM S **S** **12 43 14.0 -0.5**
SIM pmax pmax
comp=Z,86nm,0.7s
SIM MLR MLR
comp=Z,2µm,18.0s
YNE Yellowstone No 71.60 45 IAmb IAmb 12 34 00.8
comp=Z,72nm,1.0s
AJN Ajban 71.66 287 P **P** **12 34 00.1 +1.6**
SNR=5.9
AJN Ajban 71.66 287 *i* P **P** **12 33 58.0 -0.5**
SNR=8.9
Q09A Carvers 71.66 54 IAmb IAmb 12 34 00.8
comp=Z,102nm,1.1s
YMP Mirror Lake Pl 71.70 46 IAmb IAmb 12 34 01.4
comp=Z,86nm,1.1s
BLS5 Blasjo 71.76 338 *e*P **P** **12 33 59.3 +0.6**
BLS5 *e*S **S** **12 43 19.5 +3.3**
BLS5 IAMs_20 IAMs_20 13 05 32.4
comp=Z,2µm,20.1s
MHTO MHTO 71.79 282 P **P** **12 33 60.0 +0.6**
SNR=30
ONAU Onsala 71.80 334 *i* P **P** **12 33 57.9 -0.9**
FABU Falkenberg 71.86 334 *i* P **P** **12 33 58.2 -0.9**
FLWY Flagg Ranch 71.86 46 IAmb IAmb 12 34 19.9
comp=Z,162nm,1.4s
DEL Delary 71.90 333 *i* P **P** **12 33 58.0 -1.4**
ANGG Ammassalik, Gr 71.94 360 IAmb IAmb 12 34 24.1
comp=Z,148nm,1.3s
ANGG Ammassalik, Gr 71.94 360 *i* P **P** **12 33 59.4 -0.1**
ISOG Isortoq, Green 72.01 0 *i* P **P** **12 33 59.6 -0.3**
BORG Borgarnes 72.02 353 LR LR 13 05 47.4
comp=Z,447nm,20.7s,baz=358,slow=36
MOOW Moose Ponds 72.06 47 IAmb IAmb 12 34 04.3
comp=Z,118nm,1.1s
TPAW Teton Pass 72.12 47 IAmb IAmb 12 34 03.9
comp=Z,181nm,1.3s
DSP Deep Springs 72.13 56 IAmb IAmb 12 34 03.9
comp=Z,102nm,1.1s
HOMB Homborsund 72.14 336 *e*P **P** **12 34 01.1 +0.2**
HOMB IAmb IAmb 12 34 03.1
comp=Z,81nm,1.3s
HOMB *e*S **S** **12 43 20.3 0.0**
HOMB IAMs_20 IAMs_20 13 08 37.4
comp=Z,2µm,20.5s
HOMB Homborsund 72.14 336 *i* P **P** **12 34 00.2 -0.7**
LOHW Long Hollow 72.23 47 IAmb IAmb 12 34 15.9
comp=Z,175nm,1.6s
SNOW Snow King Moun 72.25 47 IAmb IAmb 12 34 04.9
comp=Z,95nm,1.2s
SORM Soroca 72.27 320 ⇑P **P** **12 34 01.6 -0.2**
SORM Soroca 72.27 320 P **P** **12 34 01.6 -0.2**
SORM Soroca 72.27 320 P **P** **12 34 01.6 -0.2**
comp=Z,4µmcomp=Z,159nm,0.8s
HVU Hansel Valley 72.27 49 IAmb IAmb 12 34 05.0
comp=Z,84nm,1.1s
MEEK Meekatharra 72.36 202 P **P** **12 34 02.4 0.0**
MEEK Meekatharra 72.36 202 P **P** **12 34 02.7 +0.2**
LAO LASA Array 72.37 42 IAmb IAmb 12 34 05.3
comp=Z,163nm,1.1s
OVD Ostervraa, Den 72.41 335 *i* P **P** **12 34 02.2 -0.2**
OVD IAmb IAmb 12 34 04.5
comp=Z,130nm,0.7s
SNART Snartemo 72.46 337 *e*P **P** **12 34 03.0 +0.2**
SNART Snartemo 72.46 337 *i* P **P** **12 34 02.4 -0.3**
BJUU Bjuv 72.50 333 *i* P **P** **12 34 02.6 -0.4**
BSD Bornholm Skovb 72.61 331 *e*P **P** **12 34 04.0 +0.3**
BSD Bornholm Skovb 72.61 331 *i* P **P** **12 34 03.3 -0.4**
BSD IAmb IAmb 12 34 05.2
comp=Z,131nm,1.0s
UMZA Um Al Zommool 72.70 285 P **P** **12 34 04.9 0.0**
LUNU Lund 72.71 332 *i* P **P** **12 34 03.6 -0.7**
DQM DQM 72.77 281 P **P** **12 34 06.0 +0.7**
SNR=5.1
BCW Bitter Crk WRg 72.81 58 IAmb IAmb 12 34 19.8
comp=Z,122nm,1.1s
NUUK Nuuk 72.83 6 *i* P **P** **12 34 04.7 -0.2**
NUUK IAmb IAmb 12 34 07.5
comp=Z,60nm,0.7s
KIS Kishinev 72.84 319 ⇑*i*P **P** **12 34 04.0 -1.2**
comp=Z,130nm,0.4s
KIS Kishinev 72.84 319 *e*PcP **PcP** **12 34 22.0 -0.3**
KIS *e*L L 13 05 13.0
KIS LRM MLR 13 09 22.0
comp=Z,900nm,14.0s
KIS Kishinev 72.84 319*c* *i*P **P** **12 34 04.0 -1.2**
KIS *e* 12 34 22.0
KIS pmax pmax
comp=Z,130nm,0.4s
KIS MLR MLR
comp=Z,900nm,14.0s
MARD Mardin 72.89 305 IAmb IAmb 12 34 08.8
comp=Z,82nm,0.7s
MILM Milestii Mici 72.90 319 ⇑*i*P **P** **12 34 05.0 -0.6**
comp=Z,140nm,0.6s
MILM Milestii Mici 72.90 319 *e*PcP **PcP** **12 34 23.0 +0.5**
MILM *e*S **S** **12 43 24.0 -5.5**
MILM Milestii Mici 72.90 319 ⇑P **P** **12 34 05.6 0.0**
MILM Milestii Mici 72.90 319*c* *i*P **P** **12 34 05.0 -0.6**
MILM *e* 12 34 23.0
MILM *e*S **S** **12 43 24.0 -5.5**

MILM pmax pmax
comp=Z,140nm,0.6s
MILM MLR MLR
comp=Z,2μm,14.5s
BEL Belsk 72.91 326 *e*P **P 12 34 06.2 +0.7**
BEL *e*L L 13 08 16.7
comp=Z,9μm,20.1s
JRN Qarnain Island 72.92 288 P **P 12 34 05.7 -0.3**
R11B Troy Canyon, C 72.92 53 P **P 12 34 07.1 +1.0**
baz=311
GOET G??ttrup 72.95 335 *i* P **P 12 34 05.5 -0.1**
GOET IAmb IAmb 12 34 07.2
comp=Z,78nm,0.7s
MZWR Madinat Zayed 72.95 287 P **P 12 34 05.9 -0.3**
LCRK Leigh Creek 72.95 183 P **P 12 34 07.6 +1.8**
COP Copenhagen 73.01 333 *i* P **P 12 34 05.9 -0.2**
COP IAmb IAmb 12 34 07.7
comp=Z,162nm,0.6s
HWUT Hardware Ranch 73.06 49 IAmb IAmb 12 34 09.2
comp=Z,108nm,1.1s
LRW Lerwick 73.09 342 *e*P **P 12 34 07.3 +0.8**
DIKM Dikmen 73.20 311 ⇓P **P 12 34 08.5 +1.0**
DIKM Dikmen 73.20 311 P **P 12 34 08.7 +1.3**
comp=Z,4μmcomp=Z,122nm,0.9s
GKP Gorka Klasztor 73.21 329 *e*P **P 12 34 07.5 +0.3**
GKP *e*L L 13 09 27.4
comp=Z,3μm,17.3s
GKP Gorka Klasztor 73.21 329 *e*P **P 12 34 07.2 -0.1**
SPR3 Spring Creek 3 73.23 52 IAmb IAmb 12 34 11.6
comp=Z,122nm,1.2s
DUG Dugway, Tooele 73.31 51 IAmb IAmb 12 34 10.7
comp=Z,154nm,1.1s
PD31 Pinedale Array 73.36 47 IAmb IAmb 12 34 11.0
comp=Z,105nm,1.1s
PDAR Pinedale Array 73.36 47 P **P 12 34 09.2 +0.4**
comp=Z,98nm,1.1s,baz=290,slow=1.4,SNR=229
PDAR PKPPKP **P'P'df 13 01 44.1 -7.4**
comp=Z,0.3nm,0.8s,baz=145,slow=5.4,SNR=3.9
PDAR LR LR 13 07 13.3
comp=Z,586nm,21.6s,baz=328,slow=36
comp=Z,98nm,1.1s
ARMA Armidale 73.37 171 IAmb IAmb 12 34 11.8
comp=Z,124nm,1.6s
ARMA Armidale 73.37 171 P **P 12 34 09.9 +1.4**
ARMA Armidale 73.37 171 P **P 12 34 09.0 +0.5**
MUD Monsted U'grnd 73.44 335 *i* P **P 12 34 08.8 +0.3**
MUD IAmb IAmb 12 34 10.3
comp=Z,56nm,0.7s
TPNV Topopah Spring 73.45 55 IAmb IAmb 12 34 11.3
comp=Z,120nm,1.0s
TCUT Toone Canyon 73.47 49 IAmb IAmb 12 34 22.9
comp=Z,158nm,1.0s
GHWR Ruwais 73.52 287 P **P 12 34 09.3 -0.3**
CCAC Calif City Air 73.55 57 IAmb IAmb 12 34 11.5
comp=Z,102nm,1.0s
SHMA Al-Shehemyia 73.65 290 P **P 12 34 10.0 -0.3**
BZK Bozkurt 73.67 312 ⇑P **P 12 34 11.2 +1.0**
BZK Bozkurt 73.67 312 P **P 12 34 11.0 +0.8**
comp=Z,1μmcomp=Z,115nm,0.8s
GWY Greenwater Val 73.69 56 IAmb IAmb 12 34 12.6
comp=Z,125nm,1.2s
MZR Muzera 73.71 286 P **P 12 34 10.6 -0.2**
SNR=18
MZR Muzera 73.71 286 *i* P **P 12 34 10.2 -0.6**
SNR=56
KWP Kalwaria Pacla 73.75 324 *e*P **P 12 34 11.1 +0.6**
KWP *e*L L 13 09 27.4
comp=Z,5μm,16.3s
KWP Kalwaria Pacla 73.75 324 P **P 12 34 11.6 +1.0**
comp=Z,3μmcomp=Z,273nm,0.6s
JLU Jordanelle 73.80 49 IAmb IAmb 12 34 14.2
comp=Z,83nm,1.1s
PRAR RASCA 73.82 320 ⇓P **P 12 34 11.6 +0.5**
SAKB Bahrain 73.86 290 P **P 12 34 11.3 -0.3**
VLDR Vladesti 74.02 318 ⇓P **P 12 34 12.2 0.0**
CMSA Cobar Meteorol 74.03 177 P **P 12 34 12.3 +0.1**
comp=Z,80nm,1.3s
CMSA Cobar Meteorol 74.03 177 P **P 12 34 13.7 +1.5**
BUR08 Bucovina Ar. S 74.09 321 IAmb IAmb 12 34 17.5
comp=Z,65nm,0.8s
MPU Maple Canyon 74.09 50 IAmb IAmb 12 34 15.2
comp=Z,142nm,1.1s
BURAR Bucovina Array 74.11 321 ⇑P **P 12 34 13.4 +0.6**
BURAR Bucovina Array 74.11 321 P **P 12 34 13.4 +0.6**
TLCR 74.13 317 ⇑P **P 12 34 13.4 +0.5**
TLCR 74.13 317 P **P 12 34 13.3 +0.5**
TRNA Turayna 74.19 289 P **P 12 34 12.9 -0.6**
GHRR 74.19 319 ⇑P **P 12 34 13.8 +0.6**
BSUT Blindstream Ca 74.23 49 IAmb IAmb 12 34 17.4
comp=Z,94nm,1.1s
TESR Tescani 74.23 320 ⇑P **P 12 34 13.1 -0.3**
STKA Stephens Creek 74.29 180 P **P 12 34 13.5 -0.2**
comp=Z,7.4nm,1.0s
STKA Stephens Creek 74.29 180 P **P 12 34 14.0 +0.3**
comp=Z,11nm,0.7s,baz=339,slow=7.5,SNR=23
STKA LR LR 13 06 38.3
comp=Z,641nm,21.9s,baz=355,slow=36
comp=Z,11nm,0.7s
STKA Stephens Creek 74.29 180 P **P 12 34 14.2 +0.5**
STKA Stephens Creek 74.29 180 *c i* P **P 12 34 14.6 +0.9**
CIDE Kastamonu/Cide 74.30 313 ⇑P **P 12 34 13.1 -0.7**
FORT Forrest 74.31 192 P **P 12 34 14.2 +0.4**
comp=Z,372nm,0.6s
FORT Forrest 74.31 192 P **P 12 34 14.8 +1.0**
KAAM Kaadhehdhoo 74.36 256 P **P 12 34 16.4 +1.8**
JURR Jurilovca 74.40 317 ⇑P **P 12 34 14.8 +0.4**
KOLS Kolonicke sedl 74.46 324 *e*P **P 12 34 15.2 +0.5**
KOLS pmax pmax
comp=Z,41nm,0.7s
KOLS Kolonicke sedl 74.46 324 *e*P **P 12 34 15.2 +0.5**
SMRA Abu-Samra 74.46 289 P **P 12 34 15.0 -0.1**
SNR=5.2
CFR Carcaliu 74.47 318 ⇑P **P 12 34 15.0 +0.1**
CFR Carcaliu 74.47 318 P **P 12 34 14.9 +0.1**
ONER Baraj Valea Uz 74.48 320 ⇑P **P 12 34 16.0 +1.1**
ULM Lac du Bonnet 74.48 34 P **P 12 34 13.9 -0.9**
comp=Z,56nm,1.0s,baz=318,slow=6.7,SNR=69
ULM LR LR 13 09 31.4
comp=Z,2μm,19.3s,baz=324,slow=38
comp=Z,56nm,1.0s
ULM Lac du Bonnet 74.48 34 *d i* P **P 12 34 14.3 -0.5**
OJC Ojcow 74.54 326 *e*P **P 12 34 15.9 +0.8**
OJC *e*L L 13 09 44.2
comp=Z,4μm,18.8s
OJC Ojcow 74.54 326 P **P 12 34 16.0 +0.8**
comp=Z,2μmcomp=Z,209nm,0.8s
TPGR Topolog 74.56 317 ⇑P **P 12 34 16.0 +0.6**
ODBI Odobesti 74.58 319 ⇑P **P 12 34 16.7 +1.3**
VRI Vrincioaia 74.67 319 ⇑P **P 12 34 16.9 +0.8**
VRI Vrincioaia 74.67 319 P **P 12 34 16.8 +0.8**
PLOR Plostina 74.71 319 ⇑P **P 12 34 15.5 -0.8**
PLOR Plostina 74.71 319 P **P 12 34 15.5 -0.8**
TMUT Trail Mountain 74.82 50 IAmb IAmb 12 34 20.1
comp=Z,78nm,0.9s
TIRR Tirgusor 74.85 317 IAmb IAmb 12 34 18.8
comp=Z,132nm,1.7s
TIRR Tirgusor 74.85 317 ⇑P **P 12 34 16.6 -0.4**
TIRR Tirgusor 74.85 317 P **P 12 34 16.6 -0.4**
TIRR Tirgusor 74.85 317 P **P 12 34 17.4 +0.4**
comp=Z,736nmcomp=Z,45nm,1.1s
BMR Baia Mare 74.85 322 ⇑P **P 12 34 18.1 +1.0**
BMR Baia Mare 74.85 322 P **P 12 34 18.0 +1.0**
ARCR ARCALIA 74.89 321 ⇑P **P 12 34 17.4 +0.2**
HARR Harsova 74.92 318 ⇓P **P 12 34 17.5 0.0**
HARR Harsova 74.92 318 P **P 12 34 17.4 0.0**
NIE Niedzica 74.94 325 *e*P **P 12 34 18.8 +1.3**
NIE *e*L L 13 10 09.1
comp=Z,2μm,18.3s
NIE Niedzica 74.94 325 P **P 12 34 18.8 +1.3**
comp=Z,50nm,0.8s
OZUR 74.95 320 ⇑P **P 12 34 17.9 +0.2**
TLBR Topalu 74.97 317 ⇓P **P 12 34 18.2 +0.5**
K22A Casper 75.05 45 IAmb IAmb 12 34 37.6
comp=Z,235nm,1.6s
Q16A Castle Valley 75.10 51 IAmb IAmb 12 34 21.9
comp=Z,130nm,1.2s
E28A Huff 75.11 39 IAmb IAmb 12 34 20.8
comp=Z,154nm,1.1s
MTPU Mount Pierson 75.12 52 IAmb IAmb 12 34 21.9
comp=Z,112nm,1.3s
RUE Ruedersdorf 75.12 330 *e*P **P 12 34 19.1 +0.7**
RUE Ruedersdorf 75.12 330 *e*P **P 12 34 19.1 +0.7**
comp=Z,74nm,0.7s,baz=34,slow=5.6
RUE *e*pP **pP 12 34 29.3 +0.3**
P18A Preston Nutter 75.14 50 IAmb IAmb 12 34 22.1
comp=Z,142nm,1.1s
BSEG Bad Segeberg 75.15 333 *e*P **P 12 34 19.3 +0.7**
comp=Z,58nm,0.7s,baz=34,slow=5.6
BSEG *e*pP **PcP 12 34 30.7 -1.3**
BIGH Upper Bighouse 75.19 342 *e*P **P 12 34 19.1 +0.4**
NEHR Nehoiu 75.19 319 ⇑P **P 12 34 20.4 +1.4**
DOPR Dopca 75.23 320 ⇑P **P 12 34 20.8 +1.6**
RSSD Black Hills 75.28 43 P **P 12 34 19.6 -0.2**
RSSD IAmb IAmb 12 34 21.3
comp=Z,107nm,1.1s
RSSD Black Hills 75.28 43 P **P 12 34 19.6 -0.2**
RSSD pmax pmax
comp=Z,107nm,1.2s
ISR Istrita 75.30 319 ⇑P **P 12 34 20.8 +1.1**
ISR Istrita 75.30 319 P **P 12 34 20.8 +1.1**
MLR Muntele Rosu 75.31 319 IAmb IAmb 12 34 55.1
comp=Z,140nm,1.5s
MLR Muntele Rosu 75.31 319 LR LR 13 10 23.7
comp=Z,2μm,20.1s,baz=44,slow=38
MLR Muntele Rosu 75.31 319 ⇑P **P 12 34 20.4 +0.5**
MLR Muntele Rosu 75.31 319 P **P 12 34 20.4 +0.5**
SRU San Rafael Swe 75.34 50 IAmb IAmb 12 34 22.7
comp=Z,159nm,1.0s
MORW Morawa 75.38 203 IAmb IAmb 12 34 22.3
comp=Z,80nm,0.7s
MORW Morawa 75.38 203 P **P 12 34 20.7 +0.6**
ICOR Ion Corvin 75.40 317 ⇑P **P 12 34 21.4 +1.2**
BR131 Keskin Array S 75.41 311 *c i* P **P 12 34 20.7 +0.2**
BRTR Keskin Array B 75.41 311 P **P 12 34 20.8 +0.2**
BRTR Keskin Array B 75.41 311 P **P 12 34 20.3 -0.3**
comp=Z,20nm,0.7s,baz=82,slow=3.5,SNR=109
BRTR LR LR 13 12 10.1
comp=Z,1μm,20.6s,baz=38,slow=39
comp=Z,20nm,0.7s
BR106 Keskin Array S 75.42 311 P **P 12 34 21.0 +0.4**
comp=Z,286nmcomp=Z,36nm,0.8s
BBOO Buckleboo 75.42 185 P **P 12 34 21.4 +1.2**
BR105 Keskin Array S 75.43 311 P **P 12 34 21.0 +0.3**
comp=Z,328nmcomp=Z,41nm,0.8s
KNB Kanab 75.44 53 IAmb IAmb 12 34 23.5
comp=Z,89nm,1.2s
PKCU Pink Cliffs 75.45 52 IAmb IAmb 12 34 23.9
comp=Z,81nm,1.1s
KSP Ksiaz 75.47 328 *e*P **P 12 34 21.3 +0.8**
KSP *e*L L 13 08 29.4
comp=Z,1μm,22.0s
KSP Ksiaz 75.47 328 P **P 12 34 21.4 +0.9**
comp=Z,82nm,1.2s
LANS Liptovska Anna 75.50 325 *e*P **P 12 34 22.3 +1.5**
LANS pmax pmax
comp=Z,29nm,0.7s
LANS Liptovska Anna 75.50 325 *e*P **P 12 34 22.3 +1.5**
CBBR Cluj-Babes-Bol 75.50 321 ⇑P **P 12 34 21.4 +0.6**
KDZE Karadeniz Ereo 75.50 313 ⇑P **P 12 34 21.2 +0.3**
OKC Ostrava-Krasne 75.51 326 *e*P **P 12 34 21.7 +0.9**
OKC AMS AMS 13 10 30.0
comp=Z,2μm,14.9s
OKC Ostrava-Krasne 75.51 326 *e*P **P 12 34 21.7 +0.9**
OKC MLR MLR
comp=Z,2μm,14.9s
CJR Cluj-Napoca 75.52 321 ⇓P **P 12 34 22.2 +1.2**
CJR Cluj-Napoca 75.52 321 P **P 12 34 22.1 +1.2**
PFO Pinyon Flats O 75.53 58 P **P 12 34 21.8 +0.5**
PFO Pinyon Flats O 75.53 58 LR LR 13 03 43.0
comp=Z,774nm,20.6s,baz=255,slow=33
PFO Pinyon Flats O 75.53 58 *c i* P **P 12 34 22.0 +0.7**
PFO pmax pmax
comp=Z,85nm,1.1s
KECS Kecovo 75.57 324 *e*P **P 12 34 22.0 +0.9**
KECS pmax pmax
comp=Z,27nm,0.8s
KECS Kecovo 75.57 324 *e*P **P 12 34 22.0 +0.9**
GORT1 Trebel 75.59 332 *e*P **P 12 34 21.9 +0.9**
comp=Z,186nm,1.5s,baz=34,slow=5.6
GORT1 *e*pP **pP 12 34 32.3 +0.7**
STEB Steborice 75.59 327 *e*P **P 12 34 22.2 +1.0**
KIRS Kirsehir-Merke 75.66 310 ⇑P **P 12 34 22.2 +0.3**
OSTC Ostas 75.73 328 *e*P **P 12 34 22.6 +0.6**
OSTC AMS AMS 13 10 40.0
comp=Z,2μm,13.1s
OSTC Ostas 75.73 328 *e*P **P 12 34 22.6 +0.6**
OSTC MLR MLR
comp=Z,2μm,13.1s
CHVC Chvalec 75.76 328 *e*P **P 12 34 23.0 +0.8**
CHVC AMS AMS 13 11 00.0
comp=Z,2μm,12.1s
CHVC Chvalec 75.76 328 *e*P **P 12 34 23.0 +0.8**
CHVC MLR MLR
comp=Z,2μm,12.1s
MARR Marisel-Cluj 75.77 322 ⇑P **P 12 34 22.8 +0.3**
ANTO Ankara 75.78 311 P **P 12 34 22.3 -0.3**
ANTO IAmb IAmb 12 34 24.3
comp=Z,64nm,0.7s
ANTO Ankara 75.78 311 P **P 12 34 23.8 +1.2**
ANTO Ankara 75.78 311 ⇑P **P 12 34 23.1 +0.5**
ANTO Ankara 75.78 311 P **P 12 34 22.3 -0.3**
ANTO pmax pmax
comp=Z,64nm,0.7s
ANTO Ankara 75.78 311 P **P 12 34 23.5 +0.9**
comp=Z,552nmcomp=Z,52nm,0.9s
VOIR 75.78 320 ⇓P **P 12 34 23.0 +0.4**
VOIR 75.78 320 P **P 12 34 22.9 +0.4**
LINV Loch Inver, As 75.79 343 *e*P **P 12 34 22.4 +0.3**
MORC Moravsky Berou 75.81 327 IAmb IAmb 12 34 37.5
comp=Z,65nm,0.8s
MORC Moravsky Berou 75.81 327 *e*P **P 12 34 23.1 +0.6**
MORC Moravsky Berou 75.81 327 ⇑P **P 12 34 23.2 +0.6**
MORC Moravsky Berou 75.81 327 P **P 12 34 23.1 +0.6**
UPC Upice 75.84 328 *e*P **P 12 34 23.6 +0.9**
UPC AMS AMS 13 10 40.0
comp=Z,2μm,13.5s
UPC Upice 75.84 328 *e*P **P 12 34 23.6 +0.9**
UPC MLR MLR
comp=Z,2μm,13.5s
DPC Dobruska-Polom 75.85 328 *e*P **P 12 34 23.8 +1.1**
DPC AMS AMS 13 10 40.0
comp=Z,2μm,15.4s
DPC Dobruska-Polom 75.85 328 *e*P **P 12 34 23.8 +1.1**
DPC MLR MLR
comp=Z,2μm,15.4s
DPC Dobruska-Polom 75.85 328 P **P 12 34 23.9 +1.2**
comp=Z,1μmcomp=Z,71nm,1.2s
MCD Coleburn Disti 75.86 342 *e*P **P 12 34 22.8 +0.2**
MCD IAmb IAmb 12 34 25.1
comp=Z,78nm,1.3s
DRGR 75.87 322 ⇑P **P 12 34 22.7 -0.3**
DRGR 75.87 322 P **P 12 34 22.6 -0.3**
KRLC Kraliky 75.88 327 *e*P **P 12 34 23.7 +0.8**
KRLC AMS AMS 13 15 40.0
comp=Z,2μm,13.0s
KRLC Kraliky 75.88 327 *e*P **P 12 34 23.7 +0.8**
KRLC MLR MLR
comp=Z,2μm,13.0s
HTT Hallett 75.89 183 P **P 12 34 23.9 +0.9**
O20A White River Ci 75.90 48 IAmb IAmb 12 34 25.8
comp=Z,104nm,1.1s
TNR Turnu Rosu 75.99 320 ⇑P **P 12 34 24.8 +1.2**
TNR Turnu Rosu 75.99 320 P **P 12 34 24.8 +1.2**
MAUC Maruska 76.01 326 *e*P **P 12 34 24.6 +0.9**
MAUC *e*S **SKiKP 12 43 48.6 +8.0**
ARR Arges 76.03 320 ⇑P **P 12 34 25.2 +1.3**
KMBL Kambalda 76.06 198 P **P 12 34 24.7 +0.8**
DMTO DMTO 76.07 281 P **P 12 34 23.8 -0.6**
DOK Doka 76.07 282 P **P 12 34 24.2 -0.3**
SNR=7.7
MGCD Mangrove Creek 76.08 172 P **P 12 34 24.3 +0.3**
TKX Tecate 76.13 58 IAmb IAmb 12 35 06.3
comp=Z,145nm,2.0s
U15A North Rim 76.15 53 IAmb IAmb 12 34 27.6
comp=Z,124nm,1.1s
FLTG Flechtingen 76.16 331 *e*P **P 12 34 24.3 0.0**
comp=Z,73nm,0.7s,baz=34,slow=5.6
PSZ Piszkesteto 76.26 324 IAmb IAmb 12 34 30.5
comp=Z,81nm,0.9s
PSZ Piszkesteto 76.26 324 ⇓P **P 12 34 25.1 -0.1**
PSZ Piszkesteto 76.26 324 P **P 12 34 25.1 -0.1**
PSZ Piszkesteto 76.26 324 *e*P **P 12 34 26.4 +1.2**
VYHS Vyhne 76.27 325 *e*P **P 12 34 26.0 +0.9**
VYHS pmax pmax
comp=Z,104nm,1.7s
VYHS Vyhne 76.27 325 *e*P **P 12 34 26.0 +0.9**
DRUM Mains of Drumt 76.28 341 *e*P **P 12 34 25.0 0.0**
DRUM IAmb IAmb 12 34 26.3
comp=Z,20nm,0.7s
BRG Berggiesshubel 76.35 329 *e*P **P 12 34 26.0 +0.4**
BRG Amp 12 34 30.2
comp=Z,26nm,1.0s
BRG Berggiesshubel 76.35 329 P P 12 34 36.1 +11
BRG Amp 12 34 37.3
comp=Z,12nm,0.7s
BRG Berggiesshubel 76.35 329 S **S 12 44 09.0 +1.1**
BRG r 13 08 21.6
BRG Berggiesshubel 76.35 329 *e*P **P 12 34 25.6 +0.1**
comp=Z,18nm,0.8s,baz=34,slow=5.6
CLL Collm 76.35 330 IAmb IAmb 12 34 44.3
comp=Z,71nm,0.8s
CLL Collm 76.35 330 ⇑*i*P **P 12 34 25.6 +0.1**
CLL *i* *SP **sP 12 34 42.8 +2.8**
CLL *e*S **S 12 44 11.0 +3.1**
CLL pmax pmax
comp=Z,57nm,0.8s
CLL MLR MLR
comp=Z,3μm,19.5s
CLL Collm 76.35 330 P **P 12 34 25.8 +0.3**
comp=Z,76nm,0.7s
CLL Collm 76.35 330 ⇑*i*P **P 12 34 25.6 +0.1**
comp=Z,57nm,0.8s
CLL *i* pP **pP 12 34 35.0 -1.1**
CLL *i* x x 12 34 42.8
CLL *e*PP **PP 12 37 16.0 -0.5**
CLL *e*PPP PPP 12 39 06.0
CLL *e*S **S 12 44 11.0 +3.1**
CLL *e*(pS) 12 44 24.0
CLL *e*SS SS 12 49 30.0 +29
CLL *e*x x 12 50 42.0
CLL *e*SSS SSS 12 52 24.0
CLL *e*x x 12 53 18.0
CLL *e*SSSS 12 54 54.0
CLL AMS AMS 13 08 00.0
comp=N,2μm,20.2s
CLL AMS AMS 13 08 00.0
comp=E,2μm,19.5s
CLL AMS AMS 13 10 00.0
comp=Z,3μm,19.5s
CLL Collm 76.35 330 *e*P **P 12 34 25.7 +0.3**
comp=Z,50nm,0.8s,baz=34,slow=5.6
LOT Lotru 76.38 320 ⇓P **P 12 34 26.3 +0.4**
PVCC Panska Ves 76.39 329 *e*P **P 12 34 26.8 +1.1**
PVCC AMS AMS 13 11 40.0
comp=Z,3μm,14.4s
PVCC Panska Ves 76.39 329 *e*P **P 12 34 26.8 +1.1**
PVCC MLR MLR
comp=Z,3μm,14.4s
NRDL Niedersach Rie 76.41 332 *e*P **P 12 34 26.1 +0.4**
comp=Z,34nm,0.8s,baz=34,slow=5.6
RETH Rethem/Aller, 76.47 333 *e*P **P 12 34 26.6 +0.5**
comp=Z,263nm,1.0s,baz=34,slow=5.6
JAVC Velka Javorina 76.47 326 *e*P **P 12 34 28.0 +1.7**
ASSE Asse, Remlinge 76.52 332 *e*P **P 12 34 26.8 +0.5**
baz=34,slow=5.6
ASSE *e*pP **pP 12 34 37.1 +0.2**
RICC Richard 76.56 329 *e*P **P 12 34 27.9 +1.2**
RICC AMS AMS 13 12 00.0
comp=Z,2μm,13.6s
VRAC Vranov 76.56 327 LR LR 13 09 52.7
comp=Z,1μm,18.6s,baz=28,slow=37
VRAC Vranov 76.56 327 *e*P **P 12 34 27.7 +1.0**
VRAC Vranov 76.56 327 ⇑P **P 12 34 27.8 +1.0**
VRAC Vranov 76.56 327 P **P 12 34 27.8 +1.0**
N23A Red Feather La 76.60 46 IAmb IAmb 12 34 29.8
comp=Z,108nm,1.2s
N23A Red Feather La 76.60 46 P **P 12 34 28.3 +0.8**
baz=316
KPL Plockton 76.62 343 *e*P **P 12 34 27.5 +0.6**
BLYC Blythe 76.63 56 IAmb IAmb 12 34 29.6
comp=Z,118nm,1.1s
BLDU Ballidu 76.64 202 P **P 12 34 27.8 +0.6**
SIRR Siria 76.74 322 ⇓P **P 12 34 28.6 +0.8**
RBK Rabkut 76.74 282 P **P 12 34 28.5 +0.2**
HSKC Hora Svate Kat 76.76 329 *e*P **P 12 34 28.7 +0.8**
HSKC *e*S **S 12 44 08.2 -4.2**
HSKC AMS AMS 13 12 10.0
comp=Z,3μm,13.5s
WHFO Wadi Hawf 76.78 282 P **P 12 34 27.9 -0.6**
GOPC GO Pecny, Ondr 76.80 328 *e*P **P 12 34 28.9 +0.8**
GOPC AMS AMS 13 11 40.0
comp=Z,3μm,14.6s
GOPC GO Pecny, Ondr 76.80 328 *e*P **P 12 34 28.9 +0.8**
GOPC MLR MLR
comp=Z,3μm,14.6s
PRA Prague 76.81 328 *e*P **P 12 34 29.4 +1.3**
PRA AMS AMS 13 12 00.0
comp=Z,4μm,15.5s
PRA Prague 76.81 328 *e*P **P 12 34 29.4 +1.3**
PRA MLR MLR
comp=Z,4μm,15.5s
PRU Pruhonice 76.83 328 *e*P **P 12 34 28.9 +0.6**
PRU *e*S **S 12 44 09.3 -3.9**
PRU AMS AMS 13 11 50.0
comp=Z,4μm,15.8s
PRU Pruhonice 76.83 328 *e*P **P 12 34 28.9 +0.6**
PRU *e*S **S 12 44 09.3 -3.9**
PRU MLR MLR
comp=Z,4μm,15.8s
KRUC Moravsky 76.83 327 *e*P **P 12 34 29.1 +0.8**
SMOL Smolenice 76.84 326 *e*P **P 12 34 30.0 +1.6**
SMOL pmax pmax
comp=Z,23nm,0.9s
PV07 Paradox Valley 76.86 50 IAmb IAmb 12 34 31.4
comp=Z,86nm,1.0s
CLZ Clausthal 76.86 332 *e*P **P 12 34 29.2 +0.7**
comp=Z,71nm,0.7s,baz=34,slow=5.6
CLZ *e*pP **pP 12 34 39.0 0.0**
NEUB Neuenburg 76.88 330 *e*P **P 12 34 29.0 +0.5**
comp=Z,71nm,0.8s,baz=34,slow=5.6
GZR Gura Zlata 76.89 321 ⇑P **P 12 34 28.5 -0.2**
GZR Gura Zlata 76.89 321 P **P 12 34 28.5 -0.2**
GLA Glamis 76.91 57 IAmb IAmb 12 34 31.2
comp=Z,92nm,1.1s
SURR Surduc 76.91 321 ⇓P **P 12 34 28.6 -0.2**
ESJX Sierra Juarez 76.92 59 IAmb IAmb 12 34 32.0
comp=Z,82nm,1.1s
TREC Trest 77.01 327 *e*P **P 12 34 30.3 +1.0**
TREC AMS AMS 13 12 10.0
comp=Z,2μm,13.3s
TREC Trest 77.01 327 *e*P **P 12 34 30.3 +1.0**
TREC MLR MLR
comp=Z,2μm,13.3s
MODS Modra-Piesok 77.01 326 *e*P **P 12 34 30.6 +1.2**
MODS pmax pmax
comp=Z,79nm,1.0s
MODS Modra-Piesok 77.01 326 *e*P **P 12 34 30.6 +1.2**
SRO Srobarova 77.02 325 *e*P **P 12 34 31.7 +2.4**
SRO pmax pmax
comp=Z,143nm,1.5s
SRO Srobarova 77.02 325 *e*P **P 12 34 31.7 +2.4**
PV15 Paradox Valley 77.02 50 IAmb IAmb 12 34 32.4
comp=Z,116nm,1.1s
CPBX Cerro Prieto 77.04 58 IAmb IAmb 12 34 31.8
comp=Z,98nm,1.2s
INVG Invergeldie, C 77.09 341 *e*P **P 12 34 29.7 +0.1**
INVG IAmb IAmb 12 34 32.5
comp=Z,7.3nm,0.6s
VLAD Vladila 77.16 319 ⇓P **P 12 34 31.1 +1.0**
SRE Strehaia 77.23 320 ⇑P **P 12 34 31.2 +0.6**
SRE Strehaia 77.23 320 P **P 12 34 31.2 +0.6**
GTTG Gottingen 77.25 332 *e*P **P 12 34 31.3 +0.7**
comp=Z,46nm,0.8s,baz=34,slow=5.6
BZS Buzias 77.25 322 ⇑P **P 12 34 30.8 +0.1**
BZS Buzias 77.25 322 P **P 12 34 30.8 +0.1**
TANN Tannenbergstha 77.28 330 *e*P **P 12 34 31.0 +0.2**
comp=Z,26nm,1.2s,baz=34,slow=5.6
KLBR Kellerberrin 77.28 201 P **P 12 34 31.8 +1.0**
WUAZ Wupatki 77.32 53 IAmb IAmb 12 34 34.6
comp=Z,109nm,1.1s
PLN Plauen 77.33 330 *e*P **P 12 34 31.4 +0.4**
comp=Z,8.3nm,0.8s,baz=34,slow=5.6
IBBN Ibbenburen 77.37 333 *e*P **P 12 34 31.6 +0.4**
comp=Z,64nm,0.7s,baz=34,slow=5.6
IBBN *e*pP **pP 12 34 41.7 -0.1**
MOX Moxa 77.40 330 *e*P **P 12 34 31.8 +0.3**
comp=Z,29nm,1.0s,baz=34,slow=5.6
MOX *e*L L 13 11 52.4
comp=Z,2μm,18.7s
ZVC Zvikov 77.41 328 *e*P **P 12 34 32.3 +0.8**
ZVC AMS AMS 13 12 00.0
comp=Z,3μm,15.0s
Y14A Wickenburg 77.43 55 IAmb IAmb 12 34 34.1
comp=Z,93nm,1.1s

NKC Novy Kostel 77.43 330 *e*P P 12 34 32.5 +0.8
NKC AMS AMS 13 12 30.0
comp=Z,2µm,15.9s
NKC Novy Kostel 77.43 330 *e*P P 12 34 32.5 +0.8
NKC MLR MLR
comp=Z,2µm,15.9s
HERR Herculane 77.44 321 ⇑P P 12 34 31.2 -0.5
ABTO Aybut 77.50 282 P P 12 34 33.0 +0.4
SNR=6.7
BEIL Beino 77.51 306 *e*P P 12 34 33.1 +0.7
LAWE Loch Awe, Argy 77.56 342 *e*P P 12 34 32.6 +0.4
LAWE IAmb IAmb 12 34 36.5
comp=Z,85nm,1.1s
ISCO Idaho Springs 77.56 47 IAmb IAmb 12 34 48.1
comp=Z,172nm,1.6s
FKH Fakeheh 77.58 305 *e*P P 12 34 33.7 +0.8
F33A 5 Mile Ranch, 77.68 37 IAmb IAmb 12 34 34.8
comp=Z,87nm,1.0s
BRIGG Briggsdale 77.69 46 IAmb IAmb 12 34 35.6
comp=Z,121nm,1.1s
PGBU Glenifferbraes 77.76 341 *e*P P 12 34 33.8 +0.5
PGBU IAmb IAmb 12 34 34.7
comp=Z,1µm,1.9s
MANZ Manzenberg 77.76 330 *e*P P 12 34 34.0 +0.4
comp=Z,11nm,1.2s,baz=34,slow=5.6
MVCO Mesa Verde 77.80 50 IAmb IAmb 12 34 36.3
comp=Z,130nm,1.2s
HWQ Hawqa 77.83 306 *e*P P 12 34 33.5 -0.8
UBBA Unterbreizbach 77.84 331 *e*P P 12 34 33.7 0.0
comp=Z,24nm,0.7s,baz=34,slow=5.6
MDVR Moldovita 77.84 321 ⇑P P 12 34 34.3 +0.3
MPLH Magyarpolny 77.85 325 P P 12 34 34.8 +0.8
comp=Z,147nm,1.2s
CKRC Cesky Krumlov 77.86 328 *e*P P 12 34 34.6 +0.5
CKRC *e*S S 12 44 17.1 -7.3
CKRC AMS AMS 13 12 50.0
comp=Z,3µm,13.1s
CKRC Cesky Krumlov 77.86 328 *e*P P 12 34 34.6 +0.5
CKRC *e*S S 12 44 17.1 -7.3
CKRC MLR MLR
comp=Z,3µm,13.1s
EKA Eskdalemuir Ar 77.87 340 P P 12 34 34.2 +0.2
comp=Z,24nm,0.5s,baz=20,slow=5.0,SNR=124
comp=Z,24nm,0.5s
KHC Kasperske Hory 77.89 328 *e*P P 12 34 35.0 +0.7
KHC *e*pP PcP 12 34 43.0 -1.1
KHC AMS AMS 13 12 40.0
comp=Z,4µm,14.6s
KHC Kasperske Hory 77.89 328*c* *i*P P 12 34 34.9 +0.7
KHC pmax pmax
comp=Z,79nm,1.0s
KHC MLR MLR
comp=Z,4µm,16.0s
KHC Kasperske Hory 77.89 328 P P 12 34 35.1 +0.7
comp=Z,54nm,1.4s
ESK Eskdalemuir 77.90 341 P P 12 34 33.6 -0.5
ESK IAmb IAmb 12 34 56.9
comp=Z,186nm,1.6s
ESK Eskdalemuir 77.90 341 *e*P P 12 34 34.2 +0.1
ESK IAmb IAmb 12 34 35.5
comp=Z,28nm,0.5s
ESK Eskdalemuir 77.90 341 P P 12 34 33.6 -0.5
ESK pmax pmax
comp=Z,186nm,1.7s
ROTZ Rotzenmuhle 77.90 329 *e*P P 12 34 34.9 +0.7
comp=Z,34nm,1.8s,baz=34,slow=5.6
CONA Conrad Observa 77.95 326 *i*P P 12 34 35.9 +1.2
comp=Z,46nm,0.9s,SNR=26
RONA Rosalia, Austr 77.95 326 *i*P P 12 34 36.0 +1.3
comp=Z,51nm,0.7s,SNR=25
BAND Balkesir-Ban 77.96 314 ⇑P P 12 34 35.3 +0.5
CAN Canberra 77.99 174 IAmb IAmb 12 34 37.9
comp=Z,136nm,1.4s
CAN Canberra 77.99 174 P P 12 34 36.4 +1.7
EDMD Edmundbyers 78.03 340 *e*P P 12 34 34.8 0.0
EDMD IAmb IAmb 12 34 36.0
comp=Z,16nm,0.6s
X16A Lo Mia Camp, P 78.04 54 IAmb IAmb 12 34 38.7
comp=Z,83nm,1.0s
MUN Mundaring 78.07 202 P P 12 34 36.3 +1.1
KASTN Kahler Asten 78.07 332 *e*P P 12 34 35.7 +0.5
comp=Z,32nm,0.8s,baz=34,slow=5.6
GEC2 GERESS Array S 78.08 328 P P 12 34 35.7 +0.3
GEC2 GERESS Array S 78.08 328 *e*P P 12 34 35.7 +0.3
comp=Z,19nm,1.0s,baz=34,slow=5.6
GERES GERESS Array B 78.08 328 P P 12 34 35.0 -0.4
comp=Z,7.5nm,0.5s,baz=41,slow=5.8,SNR=29
GERES PKP2ab 13 01 23.5
comp=Z,0.6nm,0.6s,baz=224,slow=2.7,SNR=3.5
GERES LR LR 13 15 32.4
comp=Z,356nm,21.1s,baz=27,slow=41
comp=Z,7.5nm,0.5s
EYMN Ely 78.08 34 IAmb IAmb 12 34 36.8
comp=Z,82nm,1.0s
MORH Mrgy, Hungar 78.12 324 ⇑P P 12 34 35.3 -0.2
MORH Mrgy, Hungar 78.12 324 P P 12 34 35.5 0.0
comp=Z,22nm,1.2s
WET Wettzell 78.15 329 *e*P P 12 34 36.3 +0.6
comp=Z,123nm,1.7s,baz=34,slow=5.6
BUG Bochum--Univer 78.26 333 *e*P P 12 34 36.5 +0.3
comp=Z,56nm,0.8s,baz=34,slow=5.6
BUG *e*pP pP 12 34 46.3 -0.5
BHL Bhannes 78.26 305 *e*P P 12 34 36.6 -0.1
GRA1 Grafenberg Arr 78.33 330 IAmb IAmb 12 35 07.4
comp=Z,131nm,1.0s
GRF Grafenberg Arr 78.33 330 *e*P P 12 34 37.6 +0.9
comp=Z,66nm,1.6s,baz=34,slow=5.6
GRF *e*L L 13 10 46.4
comp=Z,2µm,20.9s
NEWG New Galloway 78.33 341 *e*P P 12 34 36.1 -0.4
GRFO Grafenberg 78.33 330 P P 12 34 37.6 +1.0
GRFO IAmb IAmb 12 35 07.3
comp=Z,133nm,1.0s
GRFO Grafenberg 78.33 330 P P 12 34 37.6 +1.0
GRFO pmax pmax
comp=Z,133nm,1.0s
S22A 4UR Ranch, Cre 78.36 49 IAmb IAmb 12 34 40.5
comp=Z,86nm,1.1s
S22A 4UR Ranch, Cre 78.36 49 P P 12 34 38.7 +1.2
baz=316
Q24A Divide 78.41 47 P P 12 34 38.3 +0.6
baz=316
FRGS Fruska Gora 78.42 322 ⇑*i*P P 12 34 37.4 +0.1
RCY Rachaya 78.44 305 *e*P P 12 34 38.3 +0.6
QRWL Qaraoun 78.49 305 *e*P P 12 34 38.1 +0.2
KESW Keswick, Cumbr 78.53 340 *e*P P 12 34 38.2 +0.5
KESW IAmb IAmb 12 34 39.1
comp=Z,397nm,1.6s
SHBL Chebaa 78.59 305 *e*P P 12 34 39.1 +0.5
ARSA Arzberg 78.63 326 *i*P P 12 34 38.8 +0.5
comp=Z,36nm,1.2s,SNR=13
ALN Alexandroupoli 78.63 316 IAmb IAmb 12 34 40.3
comp=Z,244nm,1.7s
ALN Alexandroupoli 78.63 316 P P 12 34 38.3 -0.1
GAL1 Galloway 78.67 341 *e*P P 12 34 38.5 +0.2
GAL1 IAmb IAmb 12 34 40.5
comp=Z,41nm,0.7s
NWAO Narrogin (SRO) 78.69 201 P P 12 34 39.2 +0.7
NWAO Narrogin (SRO) 78.69 201 LR LR 13 09 40.6
comp=Z,220nm,20.7s,baz=332,slow=36
NWAO Narrogin (SRO) 78.69 201 P P 12 34 39.5 +1.0
NWAO Narrogin (SRO) 78.69 201 P P 12 34 39.7 +1.1
NWAO Narrogin (SRO) 78.69 201 P P 12 34 39.1 +0.5
NWAO Narrogin (SRO) 78.69 201 P P 12 34 39.3 +0.7
NWAO pmax pmax
comp=Z,275nm,1.4s
ENEZ Enez 78.70 316 P P 12 34 39.3 +0.5
ASF Jabal al Asfar 78.70 303 LR LR 13 14 45.8
comp=Z,942nm,18.4s,baz=124,slow=40
RDO Rodhopi 78.71 316 P P 12 34 39.4 +0.5
BOVS Bovan 78.72 320 ⇑P P 12 34 38.0 -0.9
HPK Haverah Park 78.72 339 *e*P P 12 34 39.1 +0.5
HPK IAmb IAmb 12 34 40.9
comp=Z,87nm,0.6s
CLGH Cloghs, Cushen 78.80 342 *e*P P 12 34 39.6 +0.5
CLGH IAmb IAmb 12 34 40.5
comp=Z,50nm,0.6s
TNS Taunus Mts 78.89 332 *e*P P 12 34 39.9 +0.1
comp=Z,38nm,1.1s,baz=34,slow=5.6
CSS Mathiatis 78.90 308 P P 12 34 40.1 0.0
comp=Z,1µmcomp=Z,53nm,0.9s
RAYN Ar Rayn 78.92 292 P P 12 34 40.0 -0.4
RAYN Ar Rayn 78.92 292 P P 12 34 40.7 +0.3
RAYN Ar Rayn 78.92 292 P P 12 34 40.0 -0.4
RAYN pmax pmax
comp=Z,293nm,1.7s

RAYN Ar Rayn 78.92 292 *i*P P 12 34 40.3 -0.1
SNR=59
TEKS Tekeris 79.02 322 ⇑*i*P P 12 34 40.6 0.0
MMAI Mount Meron Ar 79.03 305 P P 12 34 41.4 +0.5
comp=Z,32nm,0.7s,baz=41,slow=7.7,SNR=62
MMAI S S 12 44 33.7 -4.0
comp=Z,0.5nm,0.3s,baz=57,slow=14,SNR=1.9
MMAI LR LR 13 15 15.2
comp=Z,1µm,18.2s,baz=35,slow=40
comp=Z,32nm,0.7s
BIOA Bad Ischl, Aus 79.03 327 *i*P P 12 34 41.4 +0.8
comp=Z,68nm,1.3s,SNR=14
IDGL Inch Island, C 79.12 343 *e*P P 12 34 40.8 -0.1
IDGL IAmb IAmb 12 34 42.1
comp=Z,263nm,1.6s
E38A The Farm, Brul 79.13 34 IAmb IAmb 12 34 42.4
comp=Z,93nm,1.0s
ECSD EROS Data Cent 79.15 39 IAmb IAmb 12 34 43.0
comp=Z,96nm,1.0s
ARPS Mount Arapiles 79.17 180 P P 12 34 42.7 +1.6
IOMK Kirk Michael 79.19 341 *e*P P 12 34 41.4 +0.1
SMTH Samothraki Isl 79.21 316 P P 12 34 39.5 -2.2
LBWR Ladybower, Pea 79.25 339 *e*P P 12 34 42.2 +0.6
LBWR IAmb IAmb 12 34 43.3
comp=Z,95nm,0.6s
EZN Ezine 79.28 315 P P 12 34 40.1 -1.9
SOKA Soboth 79.29 326 *i*P P 12 34 42.5 +0.4
comp=Z,78nm,1.3s,SNR=36
WIM Isle of Man 79.32 341 *e*P P 12 34 42.3 +0.3
RJOB Joenberg 79.33 328 *e*P P 12 34 43.1 +0.8
comp=Z,33nm,1.0s,baz=34,slow=5.6
BEBN Eben Emael 79.34 334 *d*P P 12 34 41.6 -0.5
comp=Z,102nm,0.8s
BTNL Ternell 79.37 333 *d*P P 12 34 42.3 -0.1
comp=Z,34nm,0.8s
MEM Membach 79.39 333 *d*P P 12 34 42.7 +0.3
comp=Z,35nm,0.9s
NVR Nevrokopi 79.40 318 P P 12 34 44.3 +1.6
THAS Thassos island 79.53 317 P P 12 34 43.1 -0.2
BALJ Balqa 79.53 304 IAmb IAmb 12 34 55.3
comp=Z,138nm,0.9s
BSTI Sart Tilman 79.56 333 *d*P P 12 34 43.8 +0.4
comp=Z,14nm,0.7s
FUR Furstenfeldbru 79.56 329 *e*P P 12 34 44.6 +1.1
comp=Z,232nm,1.6s,baz=34,slow=5.6
BBLS Lazi&#263i 79.61 322 ⇑*i*P P 12 34 44.3 +0.5
BHOU Houvegnez 79.61 333 *d*P P 12 34 43.8 +0.2
comp=Z,22nm,0.9s
OBKA Obir 79.62 326 *i*P P 12 34 44.3 +0.4
comp=Z,27nm,0.7s,SNR=15
OBKA Obir 79.62 326 ⇑*i*P P 12 34 43.6 -0.3
LESA Schwarzleotal 79.63 328 *i*P P 12 34 44.6 +0.7
comp=Z,70nm,1.3s,SNR=23
HAPS Han Pijesak,Bl 79.64 322 ⇑*i*P P 12 34 44.5 +0.4
KBA Koelnbreinsper 79.65 327 *i*P P 12 34 44.9 +0.8
comp=Z,108nm,1.7s,SNR=51
ELMS Elmsett, Ipswi 79.66 337 *e*P P 12 34 44.3 +0.4
ELMS IAmb IAmb 12 34 45.5
comp=Z,151nm,0.5s
SPMN Marine on St. 79.70 36 IAmb IAmb 12 35 05.7
comp=Z,156nm,1.7s
SCHQ Schefferville 79.70 16 P P 12 34 44.0 -0.1
comp=Z,39nm,0.9s,baz=349,slow=5.8,SNR=46
SCHQ PKKPbc PKKPbc 12 53 29.8 -0.2
comp=Z,2.0nm,0.6s,baz=176,slow=1.4,SNR=7.2
SCHQ LR LR 13 15 01.9
comp=Z,948nm,18.6s,baz=333,slow=40
comp=Z,39nm,0.9s
SRS Serrai 79.71 318 P P 12 34 44.6 +0.2
KSCO Kaye Shedlock' 79.72 46 IAmb IAmb 12 34 47.6
comp=Z,207nm,1.4s
KOKK Kokkinochori, 79.73 317 P P 12 34 44.4 -0.1
PRK Paraskevi 79.73 315 P P 12 34 44.6 +0.1
BCLA Clavier 79.78 334 *d*P P 12 34 44.6 +0.1
comp=Z,31nm,0.8s
CRES Cresnjevec Ost 79.79 325 ⇑*i*P P 12 34 44.5 -0.2
SJES Sjenica 79.81 321 ⇑*i*P P 12 34 45.3 +0.3
RUDO Rudo 79.81 322 ⇑*i*P P 12 34 44.7 -0.2
A051A Mrakovica 79.82 324 ⇑*i*P P 12 34 44.6 -0.4
STU Stuttgart 79.83 330 *e*P P 12 34 45.6 +0.8
STU Stuttgart 79.83 330 *e*P P 12 34 45.4 +0.6
comp=Z,117nm,1.0s,baz=34,slow=5.6
BGES Gesves 79.88 334 *d*P P 12 34 44.9 -0.2
comp=Z,32nm,1.0s
MYKA Terra Mystica 79.89 327 *i*P P 12 34 45.3 0.0
comp=Z,52nm,1.3s,SNR=15
TUC Tucson 79.90 55 P P 12 34 45.7 +0.1
TUC Tucson 79.90 55 P P 12 34 45.7 +0.1
TUC pmax pmax
comp=Z,50nm,1.1s
BLY Banja Luka 79.91 324 ⇑*i*P P 12 34 46.4 +1.1
WME Myndd Eilian 79.91 340 *e*P P 12 34 45.6 +0.5
LJU Ljubljana 80.00 326 *i*P P 12 34 45.8 -0.1
RCHB Rochefort 80.03 333 *d*P P 12 34 45.5 -0.4
comp=Z,31nm,1.0s
WLF1 Llynfaes 80.03 340 *e*P P 12 34 45.9 +0.1
BMRD Maredsous 80.06 334 *d*P P 12 34 46.1 0.0
comp=Z,58nm,0.8s
VAY Valandovo 80.06 318 *i*P P 12 34 46.9 +0.7
FOEL Foel Wylfa 80.10 339 *e*P P 12 34 46.8 +0.5
FOEL IAmb IAmb 12 34 48.6
comp=Z,103nm,0.6s
GHAJ Ghor Haditha 80.12 304 IAmb IAmb 12 35 01.3
comp=Z,177nm,1.4s
AKAS Kas 80.13 311 IAmb IAmb 12 35 14.3
comp=Z,195nm,1.5s
T25A Trinidad 80.13 48 IAmb IAmb 12 34 49.3
comp=Z,92nm,0.9s
T25A Trinidad 80.13 48 P P 12 34 47.8 +0.8
baz=317
WATA Walderalm 80.13 328 *i*P P 12 34 47.3 +0.5
comp=Z,25nm,0.5s,SNR=18
BOJS Bojanci 80.14 325 ⇑*i*P P 12 34 46.5 -0.1
WLF Walferdange 80.15 333 *d*P P 12 34 46.2 -0.3
comp=Z,28nm,1.0s
WTTA Wattenberg 80.17 328 *i*P P 12 34 47.6 +0.6
comp=Z,25nm,0.5s,SNR=22
CADS Cadrg 80.18 326 *i*P P 12 34 46.0 -0.9
ABTA Abfaltersbach 80.25 327 *i*P P 12 34 47.0 -0.3
comp=Z,18nm,1.0s,SNR=6.6
CEY Cerknica 80.29 326 ⇑*i*P P 12 34 47.1 -0.4
DOU Dourbes 80.29 334 *d*P P 12 34 47.2 -0.1
comp=Z,18nm,1.1s
DGAR Diego Garcia 80.30 251 P P 12 34 47.0 -0.8
DGAR IAmb IAmb 12 35 00.2
comp=Z,116nm,0.9s
DGAR Diego Garcia 80.30 251*c* *i*P P 12 34 47.5 -0.3
DGAR pmax pmax
comp=Z,55nm,0.9s
DGAR MLR MLR
comp=Z,1µm,18.0s
MOTA Moosalm 80.31 329 *i*P P 12 34 48.1 +0.4
comp=Z,34nm,0.6s
RETA Reutte 80.32 329 *i*P P 12 34 48.2 +0.6
comp=Z,21nm,0.7s,SNR=18
PLG Polygyros 80.34 317 P P 12 34 47.8 0.0
UPM Unac-Piva 80.35 322 ⇑*i*P P 12 34 47.6 -0.4
SQTA Sankt Quirin 80.37 328 *i*P P 12 34 48.5 +0.6
comp=Z,30nm,0.7s,SNR=17
I37A Lemond, Waseca 80.39 37 IAmb IAmb 12 35 01.2
comp=Z,120nm,0.9s
A050A Klekovaca 80.40 324 ⇑*i*P P 12 34 48.0 -0.1
UBR Ueberruh 80.41 329 *e*P P 12 34 48.4 +0.3
comp=Z,74nm,1.8s,baz=34,slow=5.6
GRG Griva 80.42 318 P P 12 34 48.4 +0.2
KNDS Knezji Dol 80.48 326 *i*P P 12 34 48.1 -0.5
BFO Black Forest 80.52 331 P P 12 34 48.5 -0.1
BFO Black Forest 80.52 331 P P 12 34 48.5 -0.1
BFO pmax pmax
comp=Z,44nm,0.9s
BFO Black Forest 80.52 331 *e*P P 12 34 48.9 +0.2
comp=Z,44nm,1.0s,baz=34,slow=5.6
DSB Dublin 80.56 341 IAmb IAmb 12 35 05.6
comp=Z,142nm,1.3s
ANMO Albuquerque 80.57 51 P P 12 34 50.0 +0.6
ANMO Albuquerque 80.57 51*d* *i*P P 12 34 50.3 +0.9
ANMO pmax pmax
comp=Z,31nm,1.1s
ANMO MLR MLR
comp=Z,443nm,19.0s
RAO Raoul Island 80.60 145 LR LR 13 06 10.0
comp=Z,825nm,19.6s,baz=102,slow=32
SKDS Skadanscina 80.62 326 ⇑*i*P P 12 34 48.5 -0.7
L34A Svendsen Farm, 80.62 40 IAmb IAmb 12 35 04.1
comp=Z,106nm,0.9s
FETA Feichten 80.72 329 *i*P P 12 34 50.3 +0.4

comp=Z,15nm,0.8s,SNR=16
BRY Bratogost 80.75 322 ⇑*i*P P 12 34 49.4 -0.7
PDG Podgorica 80.79 321 IAmb IAmb 12 34 52.1
comp=Z,83nm,0.8s
PDG Podgorica 80.79 321 ⇑*i*P P 12 34 49.9 -0.2
PHP Peshkopia 80.81 320 P P 12 34 50.4 +0.1
DAVA Damuels 80.82 329 *i*P P 12 34 50.9 +0.4
comp=Z,17nm,0.4s,SNR=18
STRD Stroud 80.83 338 *e*P P 12 34 50.4 +0.3
STRD IAmb IAmb 12 34 51.7
comp=Z,113nm,0.8s
MCH1 Michaelchurch 80.85 339 *e*P P 12 34 50.6 +0.3
MCH1 IAmb IAmb 12 34 52.1
comp=Z,41nm,0.7s
Y22D IRIS PASSCAL I 80.93 52 IAmb IAmb 12 35 09.1
comp=Z,112nm,1.2s
Y22D IRIS PASSCAL I 80.93 52 P P 12 34 52.4 +1.1
baz=316
MONM Monmouth 80.94 339 *e*P P 12 34 50.3 -0.4
MONM IAmb IAmb 12 34 52.7
comp=Z,55nm,1.0s
ARG Arkhangelos 80.96 312 IAmb IAmb 12 35 05.8
comp=Z,212nm,1.4s
WOL Wolverton 80.98 338 *e*P P 12 34 51.1 +0.2
DRME Dracevica, Mon 81.01 321 ⇑*i*P P 12 34 51.5 +0.2
LIT Litokhoron 81.03 317 IAmb IAmb 12 34 52.2
comp=Z,154nm,1.7s
LIT Litokhoron 81.03 317 P P 12 34 50.8 -0.7
OHR Ohrid 81.08 319 *i*P P 12 34 52.2 +0.4
HCY Herceg Novi 81.13 321 ⇑*i*P P 12 34 51.4 -0.6
STON Ston 81.16 322 ⇑*i*P P 12 34 51.0 -1.0
XOR Xorichti 81.23 317 P P 12 34 49.5 -3.1
DAVOX Davos/Dischmat 81.24 329 LR LR 13 14 36.6
comp=Z,3µm,18.1s,baz=39,slow=38
TIR Tirane 81.34 320 IAmb IAmb 12 35 11.8
comp=Z,75nm,0.7s
TIR Tirane 81.34 320 P P 12 34 53.6 +0.5
comp=Z,98nm,0.7s
CBKS Cedar Bluff 81.37 44 IAmb IAmb 12 34 54.6
comp=Z,129nm,1.0s
TYRN Tyrnavos 81.45 317 P P 12 34 54.2 +0.5
IWEX Carrickbyrne, 81.45 341 *e*P P 12 34 54.0 +0.6
319A Douglas 81.46 55 IAmb IAmb 12 35 12.5
comp=Z,96nm,0.9s
121A Cookes Peak, D 81.53 53 IAmb IAmb 12 35 08.2
comp=Z,115nm,1.1s
121A Cookes Peak, D 81.53 53 P P 12 34 55.9 +1.4
baz=316
RTBA Rita Blanca 81.56 47 IAmb IAmb 12 34 56.5
comp=Z,103nm,1.2s
EIL Elat 81.64 303 LR LR 13 14 26.4
comp=Z,924nm,21.5s,baz=64,slow=38
THL Klokotos Trika 81.67 317 P P 12 34 49.2 -5.6
KPRO Kipourio 81.69 318 P P 12 34 54.5 -0.6
TUE Stuetta 81.70 329 P P 12 34 55.5 +0.3
comp=Z,223nm,0.9s
N35A Tabor 81.83 40 IAmb IAmb 12 35 08.4
comp=Z,106nm,1.0s
LSK Leskovik 81.92 319 P P 12 34 57.0 +0.7
KARP Karpathos 81.98 312 IAmb IAmb 12 35 11.3
comp=Z,90nm,1.0s
KARP Karpathos 81.98 312 P P 12 34 56.9 +0.2
KARP Karpathos 81.98 312 *e*P P 12 34 56.8 +0.2
KARP Karpathos 81.98 312 P P 12 34 57.1 +0.5
comp=Z,1µmcomp=Z,90nm,0.8s
VLY Voula,Athens 82.06 315 P P 12 34 55.0 -2.0
SCIA State Center 82.14 38 IAmb IAmb 12 35 18.6
comp=Z,141nm,1.0s
ANX Ano Chora 82.46 317 P P 12 34 58.7 -0.5
KALE Kalithea 82.50 317 P P 12 34 57.6 -1.7
IGT Igoumenitsa 82.53 318 P P 12 34 59.2 -0.2
SENIN Lac Senin/Sane 82.56 330 IAmb IAmb 12 35 25.5
comp=Z,94nm,0.8s
EFP Efpalio 82.59 317 P P 12 35 00.2 +0.5
KEK Kerkira 82.64 319 IAmb IAmb 12 35 04.8
comp=Z,58nm,0.7s
KEK Kerkira 82.64 319 P P 12 35 01.0 +1.0
KSU1 Kansas State U 82.72 42 IAmb IAmb 12 35 01.6
comp=Z,66nm,1.0s
GUR Goura 82.75 316 P P 12 34 59.7 -1.0
KLV Kalavryta, Ach 82.76 316 P P 12 35 00.1 -0.6
ZKR Zakros 82.82 312 P P 12 35 00.2 -0.8
EPT El Paso 82.83 53 IAmb IAmb 12 35 21.2
comp=Z,99nm,1.4s
ZCCA Zocca 82.83 327 IAmb IAmb 12 35 33.9
comp=Z,146nm,1.3s
L40A Anamosa 82.91 37 IAmb IAmb 12 35 21.8
comp=Z,77nm,1.0s
SGRT San Giovanni R 82.92 323 IAmb IAmb 12 35 03.8
comp=Z,81nm,0.8s
LKD2 Lefkada island 82.94 318 P P 12 35 01.8 +0.2
NYDR Nydri-Lefkada 82.98 318 P P 12 35 01.3 -0.4
SCTE Santa Cesarea 83.00 320 IAmb IAmb 12 35 02.3
comp=Z,107nm,1.0s
N38A Joes South For 83.01 39 IAmb IAmb 12 35 22.9
comp=Z,80nm,0.8s
VLDQ Val d'Or 83.03 25 IAmb IAmb 12 35 02.4
comp=Z,96nm,0.9s
FDMO Fiordimonte 83.05 325 IAmb IAmb 12 35 06.7
comp=Z,118nm,1.1s
RLS Riolos of Patr 83.10 317 P P 12 35 02.3 0.0
JSA Saint Aubin 83.16 337 *e*P P 12 35 02.5 +0.1
JSA IAmb IAmb 12 35 04.2
comp=Z,65nm,1.2s
RAR Rarotonga 83.21 127 LR LR 13 04 57.5
comp=Z,750nm,21.1s,baz=314,slow=30
FSK Fiskardo 83.24 318 P P 12 35 02.4 -0.7
AMTX Amarillo 83.29 48 IAmb IAmb 12 35 15.9
comp=Z,74nm,1.1s
GLMI Grayling 83.36 31 IAmb IAmb 12 35 05.3
comp=Z,101nm,0.9s
VLI Veliai 83.37 315 P P 12 34 59.9 -3.9
MATE Matera 83.37 321 ⇑P P 12 35 03.9 +0.2
MATE Matera 83.37 321 *e*P P 12 35 03.9 +0.2
OSSC Osservatorio P 83.41 326 IAmb IAmb 12 35 19.9
comp=Z,60nm,1.1s
IDI Anoyia 83.41 313 IAmb IAmb 12 35 17.2
comp=Z,54nm,0.7s
IDI Anoyia 83.41 313 P P 12 35 02.9 -1.2
IDI Anoyia 83.41 313 LR LR 13 16 31.9
comp=Z,636nm,18.8s,baz=40,slow=39
KAN12 Harper NE Stat 83.41 44 IAmb IAmb 12 35 05.8
comp=Z,143nm,1.2s
NOKA Waynoka 83.44 45 IAmb IAmb 12 35 16.3
comp=Z,96nm,1.1s
MSSA Maissana 83.44 328 IAmb IAmb 12 35 07.7
comp=Z,73nm,1.3s
VLS Valsamata 83.45 317 P P 12 35 03.9 -0.3
KAN08 Anthony NE Sta 83.48 44 IAmb IAmb 12 35 16.7
comp=Z,78nm,1.1s
DMLN Damoulianata-K 83.51 318 P P 12 35 04.5 0.0
ITM Ithomi 83.54 316 P P 12 35 03.8 -0.9
L42A Oliver, Polo 83.64 36 IAmb IAmb 12 35 16.5
comp=Z,146nm,1.6s
KAN01 Argonia South 83.64 44 IAmb IAmb 12 35 17.1
comp=Z,97nm,1.2s
OK038 West end E0370 83.65 45 IAmb IAmb 12 35 17.6
comp=Z,111nm,1.1s
ANKY Antikythira Is 83.83 314 P P 12 35 04.3 -1.8
N41A Harden Midland 84.17 38 IAmb IAmb 12 35 28.7
comp=Z,108nm,1.2s
BLOK Blackwell 84.22 44 IAmb IAmb 12 35 20.2
comp=Z,97nm,1.1s
L44A Lake County Fo 84.25 35 P P 12 35 07.7 -0.4
baz=326
CUC Castrocucco 84.30 321 IAmb IAmb 12 35 19.4
comp=Z,99nm,1.5s
VHRN Van Horn 84.44 53 IAmb IAmb 12 35 11.5
comp=Z,91nm,1.2s
TIP Timpagrande 84.52 320 ⇑P P 12 35 10.1 +0.4
TIP Timpagrande 84.52 320 P P 12 35 09.5 -0.2
comp=Z,735nmcomp=Z,53nm,1.2s
OK051 E0350 and S346 84.62 44 IAmb IAmb 12 35 22.2
comp=Z,81nm,1.1s
PECS Pecos 84.66 52 IAmb IAmb 12 35 13.0
comp=Z,77nm,0.9s
POST Post 84.74 49 IAmb IAmb 12 35 23.2
comp=Z,94nm,1.0s
I49A Point Hope 84.80 31 IAmb IAmb 12 35 13.2
comp=Z,91nm,0.9s
M44A Midewin, Midew 84.84 35 IAmb IAmb 12 35 12.7
comp=Z,99nm,1.0s
OK029 Liberty Lake 84.84 45 IAmb IAmb 12 35 23.6
comp=Z,99nm,1.0s
QUOK Quay 84.94 44 IAmb IAmb 12 35 24.5
comp=Z,106nm,1.0s

WMOK Wichita Mounta 84.96 46 IAmb IAmb 12 35 32.5
comp=Z,61nm,1.1s
MOO Moorlands 84.97 176 P **P** **12 35 11.7 +0.3**
LDAQ Lac Daran 85.00 22 IAmb IAmb 12 35 25.5
comp=Z,84nm,1.5s
OK052 Battle Ridge R 85.03 44 IAmb IAmb 12 35 25.0
comp=Z,117nm,1.1s
OK031 S. Brethren Rd 85.04 44 IAmb IAmb 12 35 25.1
comp=Z,93nm,1.1s
L46A Eue Claire 85.06 34 IAmb IAmb 12 35 13.8
comp=Z,75nm,0.8s
APMT Aspermont 85.31 48 IAmb IAmb 12 35 25.7
comp=Z,68nm,1.1s
MNHN Monahans 85.32 51 IAmb IAmb 12 35 26.3
comp=Z,87nm,1.2s
SADO Sadowa 85.41 28 LR LR 13 18 41.3
comp=Z,1µm,18.1s,baz=310,slow=39
TAU Tasmania Unive 85.44 176 P **P** **12 35 14.7 +1.0**
ALPN Alpine 85.53 52 IAmb IAmb 12 35 27.3
comp=Z,67nm,1.1s
X34A Smith Ranch, M 85.57 46 IAmb IAmb 12 35 28.1
comp=Z,102nm,1.1s
TRQ Mont Tremblant 85.62 25 IAmb IAmb 12 35 16.4
comp=Z,88nm,1.0s
LMQ La Malbaie 85.62 21 IAmb IAmb 12 35 31.5
comp=Z,73nm,1.2s
CEL Celeste 85.66 320 IAmb IAmb 12 35 37.7
comp=Z,72nm,0.9s
CEL Celeste 85.66 320 P **P** **12 35 14.8 -0.6**
comp=Z,804nmcomp=Z,86nm,1.0s
K50A Casco 85.87 31 IAmb IAmb 12 35 33.6
comp=Z,68nm,0.9s
WTFS Witchita Falls 85.87 47 IAmb IAmb 12 35 28.3
comp=Z,56nm,1.0s
LPIG La Paz 85.97 61 LR LR 13 05 36.9
comp=Z,466nm,21.9s,baz=314,slow=30
SFIN Lafayette 86.08 35 IAmb IAmb 12 35 19.3
comp=Z,35nm,0.6s
SLM Saint Louis 86.12 38 IAmb IAmb 12 35 29.3
comp=Z,103nm,1.1s
CCM Cathedral Cave 86.12 39 P **P** **12 35 17.3 -0.3**
CCM IAmb IAmb 12 35 38.7
comp=Z,58nm,0.8s
CCM Cathedral Cave 86.12 39 P **P** **12 35 17.3 -0.3**
CCM pmax pmax
comp=Z,58nm,0.9s
DELO Deloro Mine 86.15 27 IAmb IAmb 12 35 33.9
comp=Z,82nm,1.2s
TXAR Lajitas Array 86.28 53 P **P** **12 35 18.3 -0.4**
comp=Z,28nm,0.8s,baz=288,slow=3.5,SNR=192
TXAR PKKPbc **PKKPbc** **12 53 17.1 +2.5**
comp=Z,1.2nm,0.6s,baz=158,slow=6.3,SNR=14
comp=Z,28nm,0.8s
MGMO Mountain Grove 86.36 41 IAmb IAmb 12 35 30.3
comp=Z,55nm,1.1s
D62A Allapoint, All 86.39 21 IAmb IAmb 12 35 31.9
comp=Z,62nm,1.3s
SLBS Sierra La Lagu 86.50 61 P **P** **12 35 20.8 +0.9**
SLBS IAmb IAmb 12 35 22.9
comp=Z,82nm,1.2s
MNTQ Montreal, Queb 86.55 24 IAmb IAmb 12 35 35.9
comp=Z,86nm,1.2s
FW03 Perrin-Whitt E 86.64 47 IAmb IAmb 12 35 41.4
comp=Z,82nm,1.4s
E62A Clayton Lake 86.69 21 IAmb IAmb 12 35 36.5
comp=Z,122nm,1.6s
URZ Urewera 86.74 153 LR LR 13 10 34.2
comp=Z,379nm,21.2s,baz=64,slow=33
N49A Columbus Grove 86.83 33 IAmb IAmb 12 35 33.0
comp=Z,62nm,0.9s
PPT Papeete 86.83 117 LR LR 13 08 02.1
comp=Z,1µm,19.9s,baz=300,slow=31
HPIG 86.84 56 IAmb IAmb 12 35 23.9
comp=Z,82nm,1.1s
PPT2 Papeete2 86.85 117 *e*PP P 12 35 16.6 -4.8
comp=Z,52nm,24.2s
PPT2 Papeete2 86.85 117 *e*PP PP 12 38 35.7 -9.0
comp=Z,54nm,25.0s
PPT2 *e*S **S** **12 45 53.7 -3.5**
comp=Z,328nm,25.5s
PPT2 *e*SS **SS** **12 51 36.3 -4.0**
comp=Z,520nm,24.8s
PPT2 *e*LQ LQ 12 59 14.7
comp=Z,1µm,27.5s
PPT2 *e*LR LR 13 02 52.3
comp=Z,3µm,24.0s
PPT2 *e*LR LR 13 02 52.3
comp=Z,2µm,24.0s
M50A Fremont 86.88 32 IAmb IAmb 12 35 32.9
comp=Z,48nm,0.9s
BATG Bathurst New B 86.95 19 IAmb IAmb 12 35 38.0
comp=Z,58nm,0.9s
FW06 Azle 86.96 47 IAmb IAmb 12 35 42.4
comp=Z,54nm,1.1s
VAE Valguarnera 86.98 321 LR LR 13 19 26.3
comp=Z,1µm,19.3s,baz=86,slow=39
O48B Farmland 87.00 34 IAmb IAmb 12 35 33.4
comp=Z,57nm,1.0s
OLIL Olney 87.00 37 IAmb IAmb 12 35 23.9
comp=Z,63nm,0.9s
T42A Van Buren 87.02 40 IAmb IAmb 12 35 23.7
comp=Z,141nm,1.5s
TAOE Nuku Hiva Isla 87.16 105 *e*S **SKSac** **12 45 52.7 +4.6**
comp=Z,263nm,25.0s
TAOE *e*SS **SS** **12 51 47.3 +2.5**
comp=Z,467nm,32.8s
TAOE *e*LQ LQ 12 58 21.1
comp=Z,525nm,36.9s
TAOE *e*LR LR 13 03 02.9
comp=Z,4µm,23.0s
M52A Chesterland 87.41 31 IAmb IAmb 12 35 26.0
comp=Z,115nm,1.2s
ERPA Erie 87.42 30 IAmb IAmb 12 35 40.8
comp=Z,63nm,1.1s
FCAR Ozark Folk Cen 87.44 41 IAmb IAmb 12 35 44.8
comp=Z,59nm,0.9s
BRDY Brady 87.47 49 IAmb IAmb 12 35 45.0
comp=Z,63nm,1.2s
FW13 Cleburne 87.51 47 IAmb IAmb 12 35 36.7
comp=Z,71nm,1.1s
N51A Ashland 87.55 32 IAmb IAmb 12 35 36.3
comp=Z,68nm,0.9s
JCT Junction City 87.64 50 IAmb IAmb 12 35 28.1
comp=Z,62nm,1.2s
WVNY West Valley, N 87.67 29 IAmb IAmb 12 35 26.8
comp=Z,61nm,1.1s
J57A Williamstown 87.67 27 IAmb IAmb 12 35 41.5
comp=Z,72nm,1.2s
QRZ Quartz Range 87.67 157 IAmb IAmb 12 35 38.9
comp=Z,84nm,1.0s
QRZ Quartz Range 87.67 157 P **P** **12 35 24.6 -0.1**
G62A West of Eustis 87.71 22 IAmb IAmb 12 35 42.4
comp=Z,84nm,1.5s
LCAR Lake Charles 87.77 40 IAmb IAmb 12 35 27.4
comp=Z,93nm,1.5s
MIAR Mount Ida 87.80 43 IAmb IAmb 12 35 38.1
comp=Z,49nm,0.9s
USIN University of 87.83 37 IAmb IAmb 12 35 27.8
comp=Z,37nm,0.7s
WHAR Wooly Hollow 87.84 42 IAmb IAmb 12 35 27.7
comp=Z,70nm,0.8s
VT1 Waterbury 87.87 24 IAmb IAmb 12 35 50.5
comp=Z,130nm,1.6s
ACSO Alum Creek Sta 87.90 33 IAmb IAmb 12 35 38.2
comp=Z,77nm,0.9s
CEST Esterri de Car 87.97 332 IAmb IAmb 12 35 38.7
comp=Z,57nm,1.1s
DRIO Del Rio 87.98 51 IAmb IAmb 12 35 28.8
comp=Z,71nm,1.3s
J59A Piesco 88.11 26 IAmb IAmb 12 35 28.6
comp=Z,34nm,0.9s
H62A Milan 88.12 23 IAmb IAmb 12 35 29.7
comp=Z,68nm,0.9s
WCI Wyandotte Cave 88.21 36 P **P** **12 35 27.6 0.0**
WCI IAmb IAmb 12 35 29.6
comp=Z,44nm,0.9s
WCI Wyandotte Cave 88.21 36 P **P** **12 35 27.7 0.0**
WCI pmax pmax
comp=Z,44nm,0.9s
X40A Basin Creek Fa 88.22 42 IAmb IAmb 12 35 29.9
comp=Z,54nm,1.2s
L56A Greenwood 88.27 28 IAmb IAmb 12 35 44.6
comp=Z,50nm,1.0s
ACCN Adirondack Com 88.45 25 IAmb IAmb 12 35 42.7
comp=Z,60nm,1.4s
G65A Princeton 88.52 20 IAmb IAmb 12 35 46.1
comp=Z,109nm,1.5s
LMN Caledonia Moun 88.58 18 IAmb IAmb 12 35 31.7
comp=Z,37nm,0.8s
435B Jarrell 88.64 48 P **P** **12 35 30.3 +0.4**
baz=321
BINY Binghamton 88.76 27 IAmb IAmb 12 36 15.3
comp=Z,121nm,1.8s
I63A Otisfield 88.77 23 IAmb IAmb 12 35 43.1
comp=Z,71nm,1.0s
ATD Arta Tunnel 88.88 285 IAmb IAmb 12 35 47.1
comp=Z,119nm,1.5s
ATD Arta Tunnel 88.88 285 LR LR 13 21 57.0
comp=Z,70nm,18.2s,baz=26,slow=40
BHW Baring Head 88.90 156 IAmb IAmb 12 35 43.9
comp=Z,55nm,1.1s
INZ Inchbonnie 89.14 159 IAmb IAmb 12 35 44.9
comp=Z,72nm,1.0s
P53A Whipple 89.17 32 IAmb IAmb 12 35 49.7
comp=Z,75nm,1.0s
CCAR Cane Creek 89.20 42 IAmb IAmb 12 35 45.1
comp=Z,74nm,1.0s
Z41A Richland Creek 89.21 43 IAmb IAmb 12 35 34.9
comp=Z,57nm,1.3s
WVT Waverly 89.27 38 P **P** **12 35 31.5 -1.2**
WVT Waverly 89.27 38 P **P** **12 35 31.5 -1.2**
WVT pmax pmax
comp=Z,26nm,0.8s
LTZ Lake Taylor 89.42 158 IAmb IAmb 12 35 49.0
comp=Z,50nm,0.8s
KHZ Kahutara 89.43 157 IAmb IAmb 12 35 46.4
comp=Z,56nm,1.1s
FOZ Fox Glacier 89.47 160 IAmb IAmb 12 35 47.4
comp=Z,92nm,1.1s
833A Chaparral WMA, 89.51 51 P **P** **12 35 34.3 +0.3**
baz=320
L61B Northampton 89.60 25 P **P** **12 35 34.0 -0.2**
baz=335
MCWV Mont Chateau 89.61 31 IAmb IAmb 12 35 36.7
comp=Z,64nm,0.8s
N58A Sunbury 89.72 28 IAmb IAmb 12 35 36.7
comp=Z,66nm,0.8s
GBN Guysborough 89.73 16 IAmb IAmb 12 35 52.3
comp=Z,116nm,1.4s
Q54A Coxs Mills 89.82 32 IAmb IAmb 12 35 47.7
comp=Z,73nm,0.9s
U49A Red Boiling Sp 89.87 37 IAmb IAmb 12 35 37.5
comp=Z,49nm,0.7s
RPZ Rata Peaks 89.96 159 IAmb IAmb 12 35 53.8
comp=Z,43nm,0.9s
RPZ Rata Peaks 89.96 159 P **P** **12 35 36.7 +1.3**
comp=Z,23nm,1.0s,baz=30,slow=10,SNR=4.2
RPZ LR LR 13 15 09.5
comp=Z,384nm,18.7s,baz=332,slow=35
comp=Z,23nm,1.0s
V48A Smith Brothers 90.05 38 IAmb IAmb 12 35 37.6
comp=Z,75nm,1.4s
HKT Hockley 90.23 47⇑ *i*P **P** **12 35 37.7 +0.4**
HKT pmax pmax
comp=Z,12nm,1.1s
TRNY Table Rock, Ra 90.29 27 IAmb IAmb 12 35 39.8
comp=Z,117nm,1.3s
LUPA Lehigh Univers 90.39 28 IAmb IAmb 12 35 39.7
comp=Z,38nm,0.8s
MVL Millersville 90.59 28 IAmb IAmb 12 35 40.8
comp=Z,38nm,1.0s
R55A Marlinton 90.70 32 IAmb IAmb 12 35 56.6
comp=Z,66nm,1.1s
KEST Kesra 90.71 323 P **P** **12 35 39.1 -0.5**
comp=Z,6.6nm,0.8s,baz=195,slow=1.1,SNR=7.4
KEST LR LR 13 21 07.0
comp=Z,2µm,20.2s,baz=23,slow=39
comp=Z,6.6nm,0.8s
MLZ Mavora Lakes 90.80 162 IAmb IAmb 12 35 50.9
comp=Z,65nm,1.3s
TZTN Tazewell 90.80 35 IAmb IAmb 12 35 41.8
comp=Z,33nm,0.8s
HBVL Hebbronville 90.88 51 IAmb IAmb 12 35 43.7
comp=Z,52nm,0.9s
PBRG Braganca 91.21 337 *e*P **P** **12 35 41.6 -0.1**
PBRG *i* Amb 12 35 59.0
comp=Z,56nm,1.5s
CPCT Cooper Cave 91.31 36 IAmb IAmb 12 35 54.2
comp=Z,36nm,0.9s
TKL Tuckaleechee C 91.46 36 LR LR 13 19 14.5
comp=Z,1µm,18.6s,baz=334,slow=37
PGAV Gavieira, Arco 91.49 338 *e*P **P** **12 35 41.2 -1.9**
PGAV *i* Amb 12 35 59.4
comp=Z,56nm,2.0s
PGAV *i* AMs_20 13 21 55.1
comp=Z,732nm,20.0s
MVO Moncorvo 91.89 337 *e*P **P** **12 35 46.2 +1.2**
MVO *i* Amb 12 36 09.9
comp=Z,58nm,1.6s
MVO *e*LR LR 13 15 45.5
MVO *i* AMs_20 13 17 39.6
comp=Z,878nm,20.0s
POLO Lamas de Olo 91.91 338 *e*P **P** **12 35 45.5 +0.5**
POLO *i* Amb 12 36 02.3
comp=Z,42nm,1.5s
PVRL Vila Real 91.98 338 *e*P **P** **12 35 45.8 +0.5**
PVRL *i* Amb 12 36 03.9
comp=Z,73nm,1.5s
ESDC Sonseca Array 92.33 334 P **P** **12 35 46.4 -0.6**
comp=Z,6.5nm,0.7s,baz=15,slow=3.7,SNR=29
ESDC PP **PP** **12 39 26.1 -0.7**
comp=Z,2.7nm,1.0s,baz=17,slow=8.1,SNR=4.1
ESDC PKKPbc **PKKPbc** **12 52 58.1 -1.9**
comp=Z,1.4nm,1.1s,baz=184,slow=3.5,SNR=4.3
ESDC LR LR 13 20 48.5
comp=Z,1µm,21.8s,baz=25,slow=38
comp=Z,6.5nm,0.7s
PVIS Viseu 92.55 338 *e*P **P** **12 35 49.2 +1.3**
PAB San Pablo 92.56 335 P **P** **12 35 47.7 -0.4**
PAB San Pablo 92.56 335 P **P** **12 35 47.7 -0.4**
PAB pmax pmax
comp=Z,19nm,1.2s
MTE Manteigas 92.74 337 *e*P **P** **12 35 50.0 +1.1**
MTE *i* Amb 12 36 05.7
comp=Z,51nm,1.3s
MTE *e*LR LR 13 14 07.7
MTE *i* AMs_20 13 20 36.5
comp=Z,1µm,20.0s
KMSC Kings Mountain 92.93 34 IAmb IAmb 12 35 50.8
comp=Z,42nm,1.4s
PCBR Castelo Branco 93.24 337 *e*P **P** **12 35 50.9 -0.2**
PCBR *i* Amb 12 36 16.6
comp=Z,35nm,1.8s
PCAS Casmilo, Conde 93.33 338 *e*P **P** **12 35 51.9 +0.4**
PCAS *i* Amb 12 36 08.8
comp=Z,68nm,1.5s
PMRV Marv??o 93.60 337 *i* AMs_20 13 24 30.3
comp=Z,712nm,18.0s
PMTG Montargil 94.17 337 *e*P **P** **12 35 58.1 +2.7**
PMTG *i* Amb 12 36 10.9
comp=Z,31nm,1.5s
PBAR Barrancos 94.65 336 *e*P **P** **12 35 58.4 +0.8**
PBAR *i* Amb 12 36 02.5
comp=Z,36nm,1.8s
PVAQ Vaqueiros 95.57 336 *i* AMs_20 13 24 24.0
comp=Z,2µm,18.0s
MDT Midelt 98.78 332 LR LR 13 26 43.6
comp=Z,718nm,18.6s,baz=30,slow=39
KMBO Kilima Mbogo 101.57 279 Pdiff **Pdif** **12 36 29.1 -0.3**
comp=Z,1.5nm,0.3s,baz=28,slow=6.0,SNR=5.6
KMBO PP **PP** **12 40 38.4 -1.2**
comp=Z,6.6nm,0.2s,baz=32,slow=7.8,SNR=5.3
KMBO Kilima Mbogo 101.57 279⇑ *e*P **Pdif** **12 36 29.5 +0.1**
LSZ Lusaka 117.65 275 **PKPdf** **12 41 22.3 -0.8**
LSZ Lusaka 117.65 275 PKIKP **PKPdf** **12 41 22.3 -0.8**
SDV Santo Domingo 120.59 38 **PKPdf** **12 41 28.6 -0.4**
SDV Santo Domingo 120.59 38 *e*P **PKiKP** **12 41 29.3 +0.2**
VNDA Vanda 120.65 175 PKP **PKiKP** **12 41 27.1 +0.2**
comp=Z,7.8nm,0.9s,baz=323,slow=5.3,SNR=6.8
BROLN Tlhalogang 121.94 270 *i* P **PKiKP** **12 41 31.2 -0.2**
RUSC La Rusia 122.03 42 **PKPdf** **12 41 31.0 -1.1**
DBIC Dimbokro 122.29 320 PKPdf **PKPdf** **12 41 31.0 -1.0**
DBIC Dimbokro 122.29 320 PKP **PKPdf** **12 41 31.2 -0.8**
comp=Z,7.9nm,0.7s,baz=49,slow=2.1,SNR=10
DBIC PP **PP** **12 43 03.5 -3.4**
comp=Z,9.7nm,0.9s,baz=37,slow=7.0,SNR=3.9
DBIC PKKPbc **PKKPbc** **12 51 24.7 -1.3**
comp=Z,5.4nm,1.0s,baz=210,slow=5.9,SNR=3.7
DBIC Dimbokro 122.29 320 PKIKP **PKPdf** **12 41 31.0 -1.0**
MREMI Moremi 122.75 269 *i* P **PKPdf** **12 41 32.6 -0.1**
KHWEE KHWEE 123.85 271 *i* P **PKiKP** **12 41 35.2 +0.1**
LPHEP Lephephe 124.40 269 *i* P **PKiKP** **12 41 36.3 +0.2**
MAW Mawson 124.88 207 PKP **PKiKP** **12 41 36.2 +0.7**
comp=Z,9.9nm,0.7s,baz=0.0,slow=2.0,SNR=2.7
KDWAN Kaudwane 125.29 270 *i* P **PKiKP** **12 41 37.9 0.0**
QNGWA Qangwa 125.50 276 *i* P **PKPdf** **12 41 38.1 0.0**
SKOMA Sekoma 126.50 269 *i* P **PKiKP** **12 41 40.1 -0.1**
GRTLG Ghanzi 126.61 274 *i* P **PKiKP** **12 41 41.2 +0.6**
KGCAE Kacgae 126.78 272 *i* P **PKiKP** **12 41 41.2 +0.3**
BOSA Boshof 127.86 264 PKP **PKPdf** **12 41 41.3 -1.0**
comp=Z,7.1nm,0.8s,baz=52,slow=3.2,SNR=7.3
TSUM Tsumeb 127.92 279 **PKPdf** **12 41 42.3 -0.4**
KOOLE Kule 128.34 273 *i* P **PKiKP** **12 41 44.0 -0.1**
QSPA South Pole Qui 132.51 180 PKPdf **PKiKP** **12 41 50.5 -0.5**
QSPA South Pole Qui 132.51 180 PKP **PKiKP** **12 41 50.7 -0.3**
comp=Z,37nm,1.1s,baz=311,slow=1.4,SNR=21
QSPA PP **PP** **12 44 13.7 -0.8**
comp=Z,1.9nm,0.8s,baz=79,slow=0.2,SNR=3.8
SYO Syowa Base 133.49 209⇑ *e*Pdiff **Pdif** **12 38 51.8 +2.2**
SYO Syowa Base 133.49 209‖ *i*PKPdf **PKiKP** **12 41 52.8 0.0**
NNA Nana 134.49 59 **PKPdf** **12 41 55.5 +0.4**
NNA Nana 134.49 59 PKIKP **PKPdf** **12 41 55.5 +0.4**
ELIB Princess Elisa 138.85 205 *d*PKP PKPdf 12 41 52.1 -10
ETMB Extrema 138.94 45 *e*P **PKPdf** **12 42 03.5 +0.2**
NVL N'lazarevskaya 142.74 205 *e*PKIKP **PKPdf** **12 42 05.6 -2.9**
NVL pmax pmax
comp=Z,38nm,0.7s
LPAZ La Paz 143.15 53 PKhKP PKPpre 12 42 07.8
comp=Z,6.9nm,0.5s,baz=16,slow=3.0,SNR=13
VILB Vilhena 144.61 40 **PKPdf** **12 42 13.3 -0.2**
VILB Vilhena 144.61 40 *e*P **PKPdf** **12 42 12.9 -0.6**
CLDB Colider 144.63 31 *e*P **PKPab** **12 42 11.4 -0.7**
NBLV Livramento - P 144.71 358 *e*P PKPbc 12 42 12.8 +0.1
TROLL Troll, Antarti 144.80 201 P **PKPdf** **12 42 12.2 0.0**
TROLL Troll, Antarti 144.80 201⇑P **PKPdf** **12 42 12.2 0.0**
comp=Z,10µm,0.8s
PDRB Porto dos Gac 144.94 33 *e*P **PKPab** **12 42 12.5 -0.8**
SMTB Santa Maria do 145.18 17 *e*P **PKPab** **12 42 14.2 0.0**
NBCA Caruaru-PE 145.54 357 *e*P **PKPdf** **12 42 15.1 -0.1**
SNAA Sanae 146.34 199 P **PKPbc** **12 42 16.5 +0.4**
SNAA Sanae 146.34 199 **PKPdf** **12 42 15.4 +0.6**
SNAA Sanae 146.34 199⇑P **PKPbc** **12 42 16.5 +0.4**
comp=Z,4µm,1.1s
SNAA Sanae 146.34 199 PKPbc **PKPdf** **12 42 14.8 0.0**
comp=Z,115nm,0.9s,baz=175,slow=4.4,SNR=126
H03N2 Juan Fernandez 146.75 88 T T 15 27 32.9
baz=300,slow=77,SNR=27
H03N3 Juan Fernandez 146.76 88 T T 15 27 37.9
baz=300,slow=77,SNR=25
H03N1 Juan Fernandez 146.76 88 T T 15 27 34.2
baz=300,slow=77,SNR=29
NBAN Anadia - AL 146.98 357 *e*P **PKPdf** **12 42 18.1 +0.5**
SNDB Serra Nova Dou 147.21 25 *e*P **PKPdf** **12 42 18.3 +0.4**
PTLB Pontes e Lacer 147.28 40 *e*P **PKPdf** **12 42 18.2 +0.3**
VNA2 Neumayer--Watz 147.93 198 P **PKPbc** **12 42 21.0 +0.5**
baz=140,slow=2.5
VNA2 Neumayer--Watz 147.93 198⇑P **PKPbc** **12 42 21.0 +0.5**
comp=Z,134nm,0.6s,baz=140,slow=2.5
VNA3 Neumayer Olymp 148.21 197 P **PKPbc** **12 42 21.0 -0.2**
VNA3 Neumayer Olymp 148.21 197⇑P **PKPbc** **12 42 21.0 -0.2**
comp=Z,69nm,0.6s
VNA1 Neumayer--Stat 148.33 198 P **PKPbc** **12 42 22.1 +0.6**
VNA1 Neumayer--Stat 148.33 198⇑P **PKPbc** **12 42 22.1 +0.6**
comp=Z,120nm,1.0s
NBLA Lagarto - SE 148.33 360 *e*P **PKPdf** **12 42 20.0 +0.2**
GO02 Mina Guanaco 148.70 66 *e*P **PKPdf** **12 42 21.5 +1.0**
SDBA SAO DESIDERIO 149.15 13 *e*P **PKPdf** **12 42 21.5 +0.3**
SALV Santo Antonio 149.22 35 *e*P **PKPdf** **12 42 21.9 +0.7**
YJA Yavi 149.23 57 *e*P **PKPdf** **12 42 23.3 +1.7**
AC02 Maricunga 150.11 68 *e*P **PKPdf** **12 42 24.1 +1.1**
SALTA 150.20 61 *e*P **PKPbc** **12 42 28.1 -0.2**
SMAI San Martin Ant 150.28 158 **PKiKP** **12 42 28.3 +1.1**
ARAG Araguaiana, MT 150.53 28 *e*P **PKPdf** **12 42 23.6 +0.3**
AZAP Zapla 151.01 59 *i* P **PKPbc** **12 42 27.0 -2.9**
SLA San Lorenzo 151.08 60 *e*P **PKPbc** **12 42 29.2 -0.7**
BDFB Brasilia 151.62 21 PKP **PKPdf** **12 42 25.0 -0.1**
comp=Z,11nm,1.0s,baz=248,slow=1.9,SNR=9.0
BDFB PKPbc **PKiKP** **12 42 31.8 +0.1**
comp=Z,42nm,0.9s,baz=13,slow=2.3,SNR=30
FSA Cafayete 151.74 63 *i* P **PKPdf** **12 42 26.2 +1.2**
JANB Januaria 151.85 13 *e*P **PKPdf** **12 42 25.0 -0.3**
AROD Rodeo 151.91 74 *e*P **PKPdf** **12 42 26.9 +1.5**
VCA Vinchina 151.94 70 *e*P **PKPdf** **12 42 26.6 +1.4**
VCA *e*P **PKPbc** **12 42 27.4 -4.4**
ACDV Cuesta del Vie 152.16 73 *e*P **PKPdf** **12 42 27.0 +1.4**
AGUA GUANDACOL 152.20 72 *e*P **PKPdf** **12 42 26.2 +0.7**
ROC1 El Roble 152.32 80 *e*P **PKPdf** **12 42 25.8 0.0**
ACCO Cerro Coronel 152.44 74 *e*P **PKPdf** **12 42 26.2 +0.1**
AHML Horco Molle 152.62 63 *e*P **PKPdf** **12 42 26.6 +0.4**
AHML *e*P **PKPbc** **12 42 27.4 -5.9**
PEL Peldehue 152.64 80 *e*P **PKiKP** **12 42 33.4 +0.1**
CMC01 Camacan, BA 152.64 3 *e*P **PKPdf** **12 42 26.7 +0.2**
BDQN Bodoquena, MS 152.72 41 *e*P **PKPdf** **12 42 26.7 +0.2**
RTLS Leoncito 152.94 76 *e*P **PKPdf** **12 42 26.6 -0.2**
AUSP Uspallata 153.10 77 *i* P **PKPdf** **12 42 27.0 -0.1**
ACLC CERRO LA CRUZ 153.23 70 *e*P **PKPdf** **12 42 26.2 -0.9**
ZON Zonda 153.25 75 *e*P **PKPdf** **12 42 27.0 0.0**
CYA Choya 153.40 67 *i* P **PKPdf** **12 42 28.4 +1.2**
AVFE Valle Fertil 153.61 72 *i* P **PKPdf** **12 42 27.0 -0.6**
ASAL Salagasta 153.69 78 *e*P **PKPdf** **12 42 27.4 -0.3**
AAGR Agrelo 153.95 78 *e*P **PKPdf** **12 42 29.1 +1.1**
APLL PUNTA DE LOS L 154.10 71 *e*P **PKPdf** **12 42 28.7 +0.5**
ACHE Chepes 154.46 72 *e*P **PKPdf** **12 42 29.2 +0.4**
COYC Coyhaique 155.50 108 PKPdf **PKPdf** **12 42 27.8 -1.8**
COYC **PKPab** **12 42 56.4 +0.8**
PLCA Paso Flores 155.71 96 PKPdf **PKPdf** **12 42 29.9 -0.2**
PLCA Paso Flores 155.71 96 PKP **PKPdf** **12 42 28.4 -1.7**
comp=Z,3.7nm,0.8s,baz=225,slow=4.6,SNR=9.7
PLCA PKPab **PKPab** **12 42 58.5 +1.7**
comp=Z,25nm,0.9s,baz=271,slow=4.2,SNR=12
CPUP Villa Florida 157.22 50 PKPdf **PKPdf** **12 42 32.5 +0.1**
CPUP Villa Florida 157.22 50 PKP **PKPdf** **12 42 32.4 0.0**
comp=Z,3.7nm,0.8s,baz=0.3,slow=3.2,SNR=4.3
CPUP PKPab **PKPab** **12 43 01.8 -1.6**
comp=Z,17nm,1.0s,baz=340,slow=4.4,SNR=11
ITAB Concordia 160.69 41 **PKPdf** **12 42 37.6 +1.1**
PLTB Pedras Altas 163.44 54 PKPdf **PKPdf** **12 42 37.8 -1.4**
PLTB PKPab **PKPab** **12 43 30.5 0.0**

AFAD ***21*** *12:25:17.4, 39°.61N×26°.42E, h7km±5km, ML1.5*
ISK 21 12:25:15.4, 39°.57N×26°.43E, h11km, ML1.4/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZNE	**Ezine-Canakkal**	**0.19**	**345**	Pg	Pg	12 25 19.5	0.0
EZNE				Sg	Sg	12 25 22.9	+0.6
BAYC	**CANAKKALE_Bayr**	**0.19**	**29**	P	Pb	12 25 20.9	-0.1
BAYC				S	Sg	12 25 23.4	+1.0
KOCA	**Canakkale, Ayv**	**0.23**	**252**	P	Pb	12 25 21.8	+0.1
KOCA				*i* AML	AML	12 25 26.0	
comp=N,147nm,0.2s							
KOCA				*i* AML	AML	12 25 26.0	
comp=E,88nm,0.2s							
KOCA				S	Sg	12 25 27.5	+3.9
GPNR	**Gulpinar-Canak**	**0.26**	**243**	Pg	Pb	12 25 21.5	-0.6
EZN	**Ezine**	**0.26**	**343**	Pg	Pg	12 25 19.9	-0.9
BOZC	**Bozcaada**	**0.39**	**313**	Pg	Pb	12 25 24.5	+0.1
BOZC	**Bozcaada**	**0.39**	**313**	P	Pg	12 25 23.4	+0.2
BOZC				*i* AML	AML	12 25 30.0	
comp=N,34nm,0.3s							
BOZC				*i* AML	AML	12 25 30.0	
comp=E,61nm,0.3s							
BOZC				S	Sb	12 25 30.7	+0.2
CNKL	**anakkale-Mer**	**0.49**	**356**	P	Pb	12 25 25.8	-0.3
CNKL				*i* AML	AML	12 25 32.0	
comp=N,23nm,0.4s							
CNKL				S	Sb	12 25 33.2	-0.2
COMU	**Canakkale**	**0.53**	**4**	Pg	Pb	12 25 26.5	-0.2
COMU				Sg	Sb	12 25 34.2	-0.2
SIGR	**SIGRI**	**0.57**	**231**	Pg	Pg	12 25 26.8	+0.3
GELI	**Tayfur-Gelibol**	**0.82**	**2**	Pg	Pb	12 25 31.6	-0.2
GELI				Sg	Sb	12 25 43.6	+0.7
LPK	**Lapseki**	**0.84**	**18**	Pg	Pb	12 25 31.9	-0.1
SUSR	**Susurluk-Balik**	**1.33**	**73**	Pn	Pb	12 25 40.4	-0.1
ALN	**Alexandroupoli**	**1.35**	**348**	Pn	Pn	12 25 40.5	+0.2
ALN				Sn	Sg	12 25 59.0	0.0

BUC 21 12:27:51.1±0.2, 47°.26N×23°.82E, h4km±1km, ml2.1/10,
34C-18D, Error ellipse: s-maj=1.6km s-min=1.3km
az=7.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCR	**ARCALIA**	**0.41**	**115**	⇑P	Pb	12 27 59.9	-1.0
ARCR				⇑S	Sg	12 28 04.0	-0.2
ARCR	**ARCALIA**	**0.41**	**115**	⇑P	Pb	12 27 59.9	-1.0

ARCR				⇑S	Sg	12 28 04.0	-0.2
BMR	**Baia Mare**	**0.47**	**332**	⇓P	Pg	12 28 00.5	+0.5
BMR				⇓S	Sg	12 28 06.8	+0.6
BMR	**Baia Mare**	**0.47**	**332**	⇓P	Pg	12 28 00.5	+0.5
BMR				⇓S	Sg	12 28 06.8	+0.6
CJR	**Cluj-Napoca**	**0.57**	**195**	⇓P	Pg	12 28 02.7	+0.8
CJR				⇑S	Sg	12 28 10.0	+0.7
CJR	**Cluj-Napoca**	**0.57**	**195**	⇓P	Pg	12 28 02.7	+0.8
CJR				⇑S	Sg	12 28 10.0	+0.7
MESR	**Meseseni**	**0.60**	**260**	⇑S	Sg	12 28 10.7	+0.3
MESR	**Meseseni**	**0.60**	**260**	⇑S	Sg	12 28 10.7	+0.3
MARR	**Marisel-Cluj**	**0.75**	**220**	⇑P	Pg	12 28 05.8	+0.3
MARR				⇑S	Sg	12 28 16.3	+1.0
MARR	**Marisel-Cluj**	**0.75**	**220**	⇑P	Pg	12 28 05.8	+0.3
MARR				⇑S	Sg	12 28 16.3	+1.0
TGMR	**Targu Mures**	**0.88**	**146**	⇑S	Sb	12 28 20.3	-0.7
TGMR	**Targu Mures**	**0.88**	**146**	⇑S	Sb	12 28 20.3	-0.7
DRGR		**0.89**	**239**	⇑P	Pg	12 28 08.2	+0.1
DRGR				⇑S	Sg	12 28 19.8	+0.2
DRGR		**0.89**	**239**	⇑P	Pg	12 28 08.2	+0.1
DRGR				⇑S	Sg	12 28 19.8	+0.2
BURAR	**Bucovina Array**	**1.01**	**69**	⇑P	Pg	12 28 10.4	-0.1
BURAR				⇓S	Sg	12 28 23.8	+0.1
BURAR	**Bucovina Array**	**1.01**	**69**	⇑P	Pg	12 28 10.4	-0.1
BURAR				⇓S	Sg	12 28 23.8	+0.1
MDB	**Medias**	**1.18**	**161**	⇓S	Sb	12 28 29.7	-0.1
MDB	**Medias**	**1.18**	**161**	⇓S	Sb	12 28 29.7	-0.1
JOSR	**Joseni**	**1.29**	**115**	⇑P	Pn	12 28 16.0	0.0
JOSR	**Joseni**	**1.29**	**115**	⇑P	Pn	12 28 16.0	0.0
BORR	**Bors**	**1.40**	**264**	⇓P	Pn	12 28 17.4	+0.1
BORR				⇑S	Sn	12 28 37.0	+0.8
BORR	**Bors**	**1.40**	**264**	⇓P	Pn	12 28 17.4	+0.1
BORR				⇑S	Sn	12 28 37.0	+0.8
SIRR	**Siria**	**1.78**	**237**	⇑P	Pn	12 28 22.8	+0.1
SIRR				⇑S	Sn	12 28 46.2	+0.4
SIRR	**Siria**	**1.78**	**237**	⇑P	Pn	12 28 22.8	+0.1
SIRR				⇑S	Sn	12 28 46.2	+0.4
LOT	**Lotru**	**1.81**	**181**	⇓P	Pn	12 28 22.9	-0.3
LOT				⇓S	Sb	12 28 47.4	-0.6
LOT	**Lotru**	**1.81**	**181**	⇓P	Pn	12 28 22.9	-0.3
LOT				⇓S	Sb	12 28 47.4	-0.6
KOLS	**Kolonicke sedl**	**1.97**	**329**	*e*PG	Pg	12 28 29.7	+0.9
KOLS				*e*SG	Sg	12 28 57.2	+2.9
GZR	**Gura Zlata**	**2.00**	**201**	⇑P	Pn	12 28 25.5	-0.2
GZR				⇑S	Sb	12 28 52.7	-0.7
GZR	**Gura Zlata**	**2.00**	**201**	⇑P	Pn	12 28 25.5	-0.2
GZR				⇑S	Sb	12 28 52.7	-0.7
VOIR		**2.01**	**154**	⇓P	Pn	12 28 26.5	+0.6
VOIR				⇑S	Sb	12 28 53.3	-0.5
VOIR		**2.01**	**154**	⇓P	Pn	12 28 26.5	+0.6
VOIR				⇑S	Sb	12 28 53.3	-0.5

*JMA **21** 12:35:51.2±0.1, 43°.0N±0°.4×145°.9E±0°.5, h43km, MV2.9/37, OFF NEMURO PENINSULA*
*SKHL **21** 12:35:52.3±0.2, 43°.10N×145°.80E, h34km±2km, mb4.4/2*
ISC 21 12:35:49.1±2.4, 43°.02N±0°.09×145°.87E±0°.09, h17km±14km, n13, σ0s47/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.36**	**345**	P	**Pn**	**12 36 00.1**	**+0.6**
NEM2				S	**Sn**	**12 36 06.3**	**0.0**
NMR	**Nemuro--Hokkai**	**0.37**	**344**	*i* P	**Pn**	**12 36 00.2**	**+0.5**
NMR				AMB	AMB	12 36 00.4	
	180nm,0.2s						
NMR				*e*S	**Sn**	**12 36 06.0**	**-0.5**
NMR				A	A	12 36 06.7	
	2μm,0.2s						
NMR				A	A	12 36 06.7	
	3μm,0.2s						
JKHN	**Kushirohamanak**	**0.53**	**278**	*i* P	**Pn**	**12 36 02.3**	**+0.5**
JKHN				*e*S	**Sn**	**12 36 10.0**	**-0.3**
AKK	**Akkeshi**	**0.75**	**271**	*e*P	**Pn**	**12 36 05.4**	**+0.5**
JAK	**Akkeshi**	**0.86**	**269**	*i* P	**Pn**	**12 36 06.8**	**+0.4**
JAK				S	**Sn**	**12 36 18.4**	**-0.2**
JNSB	**Nemuroshibetsu**	**0.99**	**321**	*i* P	**Pn**	**12 36 08.7**	**+0.5**
JNSB				S	**Sn**	**12 36 21.6**	**-0.1**
JNK	**Nakash**	**1.02**	**305**	*i* P	**Pn**	**12 36 08.9**	**+0.3**
JNK				S	**Sb**	**12 36 21.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**1.02**	**360**	*i* P	**Pg**	**12 36 08.8**	**0.0**
YUK				AMB	AMB	12 36 10.7	
	120nm,0.2s						
YUK				*i* S	**Sb**	**12 36 21.3**	**-0.1**
YUK				A	A	12 36 23.7	
	270nm,0.3s						
YUK				A	A	12 36 23.7	
	450nm,0.3s						
JRA	**Rausu**	**1.07**	**330**	*i* P	**Pn**	**12 36 09.9**	**+0.6**
JRA				S	**Sn**	**12 36 24.0**	**+0.2**
JOB	**Onbets**	**1.50**	**266**	P	**Pn**	**12 36 15.7**	**+0.5**
JOB				*e*S	**Sn**	**12 36 34.0**	**-0.3**
JAR	**Ashorobuto**	**1.56**	**281**	*i* P	**Pn**	**12 36 17.0**	**+0.9**
JAR				S	**Sb**	**12 36 36.6**	**-0.5**
JTKR	**Abashiri--Toko**	**1.72**	**304**	P	**Pb**	**12 36 19.8**	**-0.4**
KUR	**Kuril'sk**	**2.64**	**32**	*e*S	**Sn**	**12 37 02.0**	**-0.6**

WEL 21 12:55:00.9±1.3, 35°.5S±8°×18°.0E±1°.5, h12km, M3.6/7, ML3.9/11, MLv3.6/7, Error ellipse: s-maj=20.3km s-min=9.3km az=105.4, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.99**	**202**	P	Pn	12 55 48.5	+0.3
PKGZ	**Pakihiroa**	**3.15**	**207**	P	Pn	12 55 50.6	+0.2
PKGZ				S	Sn	12 56 29.7	+1.9
HAZ	**Te Kaha**	**3.17**	**211**	P	Pn	12 55 51.1	+0.5
HAZ				S	Sn	12 56 30.7	+2.4
PUZ	**Puketiti**	**3.27**	**203**	P	Pn	12 55 52.9	+0.9
PUZ				S	Sn	12 56 32.0	+1.1
RUGZ	**Raukumara Rang**	**3.39**	**211**	P	Pn	12 55 54.1	+0.3
TWGZ	**Tauwhareparae**	**3.46**	**205**	P	Pn	12 55 56.1	+1.5
TWGZ				S	Sn	12 56 38.2	+2.6
CNGZ	**Carnagh Statio**	**3.67**	**201**	P	Pn	12 55 57.3	-0.2
TKGZ	**Te Karaka**	**3.74**	**205**	P	Pn	12 55 57.2	-1.2
TKGZ				S	Sn	12 56 42.5	0.0
MWZ	**Matawai**	**3.77**	**209**	P	Pn	12 55 58.0	-0.9
MWZ				S	Sn	12 56 44.2	+1.0
URZ	**Urewera**	**3.88**	**214**	P	Pn	12 56 00.3	-0.2
RIGZ	**Rimuhau**	**4.01**	**204**	P	Pn	12 56 02.6	+0.3
KNZ	**Kokohu**	**4.33**	**203**	P	Pn	12 56 03.7	-2.8
BKZ	**Black Stump Fm**	**4.90**	**212**	S	Sn	12 57 08.4	-2.8
OUZ	**Omahuta**	**5.13**	**266**	P	Pn	12 56 18.1	+0.5

IDC 21 13:35:36.9±9.0, 17°.72S×171°.30W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=391.5km s-min=39.5km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.32**	**258**	P	P	13 44 44.2	+0.8
	0.3nm,0.3s,baz=93,slow=8.1,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**51.35**	**254**	P	P	13 44 42.6	-1.0
	0.3nm,0.5s,baz=97,slow=7.6,SNR=11						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**84.33**	**10**	P	P	13 48 10.3	-0.1
	0.3nm,0.9s,baz=219,slow=5.6,SNR=4.2						
	0.3nm,0.9s						

IDC 21 13:40:24.7±3.8, 26°.50N×142°.33E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=257.5km s-min=14.1km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.61**	**347**	Pn	Pb	13 40 39.4	+1.1
	29nm,0.3s,baz=221,slow=20,SNR=14						
JCJ				Sn	Sn	13 40 53.5	+2.3
	51nm,0.3s,baz=255,slow=20,SNR=17						
WRA	**Warramunga Arr**	**46.81**	**190**	P	P	13 48 56.3	-0.1
	1.7nm,0.6s,baz=10,slow=8.7,SNR=16						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**50.53**	**190**	P	P	13 49 24.4	-0.6
	0.3nm,0.8s,baz=5.2,slow=6.4,SNR=4.6						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**78.54**	**334**	P	P	13 52 29.6	+1.9
	0.9nm,0.5s,baz=52,slow=7.5,SNR=4.6						
	0.9nm,0.5s						

*NEIC **21** 14:20:57.1±1.9, 47°.47N±0°.05×122°.37W±0°.08, h26km±2km, Error ellipse: s-maj=7.8km s-min=6.7km az=109.0*
SEA 21 14:20:57.6±2.2, 47°.44N±0°.02×122°.3W±0°.1, h23km±7km, ML1.9/22, ML2.0/10(NEIC), Error ellipse: s-maj=13.1km s-min=2.9km az=96.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HICC	**Highline Commu**	**0.06**	**152**		Pb	14 21 01.4	-0.4
HICC					Sb	14 21 05.0	+0.5
VVHS	**Vashon High Sc**	**0.08**	**258**		Pb	14 21 01.4	-0.4
VVHS					Sb	14 21 05.0	+0.2
KNEL	**Kent Elementar**	**0.08**	**135**		Pb	14 21 00.9	-0.9
KNEL					Sb	14 21 05.8	+1.0
BSFP	**Boeing Fire Pr**	**0.09**	**19**		Sb	14 21 06.1	+1.3
MPL	**Maple valley S**	**0.11**	**75**		Pb	14 21 01.8	-0.3
MPL					Sb	14 21 04.7	-0.4
HOLY	**Holy Rosary Sc**	**0.13**	**346**		Sb	14 21 06.5	+1.0
SP2	**Seward Park 2**	**0.13**	**28**		Pb	14 21 02.3	0.0
SP2					Sb	14 21 06.7	+1.2
KIMB	**Kimball Elemen**	**0.14**	**11**		Pb	14 20 58.9	-3.4
KIMB					Sb	14 21 05.7	+0.1
WISC	**Wilburton Inst**	**0.20**	**33**		Sb	14 21 09.0	+2.2
PAYL	**Puyallup Schoo**	**0.25**	**176**		Sb	14 21 08.7	+0.8
RAW	**Raver**	**0.30**	**110**		Pb	14 21 04.2	-0.2
RAW					Sb	14 21 09.6	+0.5
BRKS	**Brookside Elem**	**0.32**	**6**		Sn	14 21 11.7	-1.0
ELW	**Echo Lake**	**0.32**	**80**		Pb	14 21 04.3	-0.5
ELW					Sb	14 21 09.8	0.0
GMW	**Gold Mountain**	**0.32**	**290**		Pb	14 21 04.1	-0.7
GMW					Sb	14 21 09.7	-0.1
D05A	**Enumclaw**	**0.35**	**136**		Pb	14 21 05.1	-0.1
D05A					Sb	14 21 11.0	+0.6
D05A	**Enumclaw**	**0.35**	**136**	IAML		14 21 11.2	
	comp=N,68nm,0.6s						
D05A				IAML		14 21 11.3	
	comp=E,56nm,0.8s						
GNW	**Green Mountain**	**0.35**	**291**		Pb	14 21 04.5	-0.8
GNW					Sb	14 21 10.2	-0.4
GNW	**Green Mountain**	**0.35**	**291**	IAML		14 21 10.3	
	comp=N,146nm,0.5s						
GNW				IAML		14 21 10.4	
	comp=E,107nm,0.3s						
RATT	**Rattlesnake La**	**0.36**	**92**		Pb	14 21 05.0	-0.5
RATT					Sb	14 21 09.9	-1.0
CDMR	**Cedar Moraine**	**0.40**	**92**		Pb	14 21 05.5	-0.5
CDMR					Sb	14 21 10.7	-1.0
GHW	**Garrison Hill**	**0.40**	**173**		Pb	14 21 05.2	-0.9
GHW					Sb	14 21 10.7	-1.2
BLH	**Bald Hill**	**0.45**	**28**		Pb	14 21 06.7	-0.2
PCFR	**Pierce County**	**0.46**	**189**		Pb	14 21 06.3	-0.7
PCFR					Sb	14 21 13.0	-0.3
B941	**Kapowsin**	**0.46**	**170**		Pb	14 21 05.9	-1.2
B941					Sb	14 21 12.3	-1.1
C05A	**Tolt Reservoir**	**0.51**	**60**		Pb	14 21 07.0	-0.9
C05A					Sb	14 21 14.3	-0.7
C04A	**Brinnon**	**0.51**	**303**		Pb	14 21 07.0	-1.0
C04A					Sb	14 21 14.5	-0.4
HDW	**Hoodsport**	**0.53**	**294**		Pb	14 21 07.3	-1.0
HDW					Sb	14 21 15.1	-0.5
HTW	**Haystack Looko**	**0.53**	**46**		Pb	14 21 07.5	-0.8
HTW					Sb	14 21 15.0	-0.6
B013	**Quilcene**	**0.54**	**314**		Pb	14 21 07.3	-1.0
B013					Sb	14 21 15.1	-0.6
OBSR	**Observation Ro**	**0.65**	**146**		Pb	14 21 09.4	-1.0
OBSR					Sb	14 21 18.5	-0.6
FMW	**Mount Fremont**	**0.68**	**138**		Pb	14 21 09.9	-1.1
FMW					Sb	14 21 19.1	-1.0
RCS	**Mount Rainier-**	**0.70**	**144**		Pb	14 21 10.3	-1.1
RCS					Sb	14 21 19.1	-1.7
REMR	**Mount Rainier-**	**0.71**	**151**		Pb	14 21 10.2	-1.2
RCM	**Mount Rainier-**	**0.73**	**145**		Pb	14 21 10.8	-1.1
RCM					Sb	14 21 20.6	-1.0
PANH	**Panhandle Gap,**	**0.75**	**140**		Pb	14 21 11.1	-1.0
PANH					Sb	14 21 21.3	-0.8
SQM	**Sequim**	**0.79**	**323**		Pb	14 21 12.1	-0.6
JCW	**Jim Creek**	**0.80**	**20**		Pb	14 21 13.0	+0.1
B017	**Montesano**	**0.94**	**242**		Sn	14 21 27.9	-0.1
KOSW	**Kosmos**	**0.98**	**174**		Pb	14 21 15.5	-0.5
NLWA	**Neilton Lookou**	**1.04**	**268**	Pn	Pn	14 21 15.9	-0.9
NLWA				IAML		14 21 34.3	
	comp=E,45nm,0.8s						
GPW	**Glacier Peak**	**1.06**	**50**		Pn	14 21 16.7	-0.5
LTY	**Liberty**	**1.15**	**99**	Pn	Pn	14 21 17.0	-1.4
LTY				IAML		14 21 33.8	
	comp=E,46nm,0.5s						
TBM	**Table Mountain**	**1.22**	**102**		Pn	14 21 19.4	+0.2
EBG	**Ellensburg**	**1.32**	**113**		Pb	14 21 21.6	-0.1
PGC	**Sidney**	**1.42**	**329**	Pn	Pn	14 21 21.3	-0.6
WTV	**Waterville**	**1.64**	**80**		Pb	14 21 27.3	+0.2
MXC	**Moxie City**	**1.65**	**121**		Pn	14 21 24.2	-0.9
MXC				IAML		14 21 47.1	
	comp=N,12nm,5.0s						
MXC				IAML		14 21 57.5	
	comp=E,19nm,4.9s						
CLRS	**Cowichan Lake**	**1.83**	**320**	Pn	Pn	14 21 27.2	-0.4
RNO	**Roman Nose**	**3.66**	**196**		Pn	14 21 56.7	+3.9

*NEIC **21** 14:52:31.7±1.4, 35°.13N±0°.02×97°.877W±0°.009, h5km±1km, mb_Lg2.7/55, ML2.5/38, ML2.8/27, Error ellipse: s-maj=2.8km s-min=2.5km az=357.0*
*NEIC **21** 14:52:32.1±1.6, 35°.13N±0°.01×97°.867W±0°.007, h6km±4km, Error ellipse: s-maj=2.2km s-min=0.6km az=165.0*
ISC 21 14:52:31.8±1.1, 35°.13N±0°.03×97°.86W±0°.03, h11km±12km, n54, σ0s89/41, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.40**	**71**	Pg	**Pg**	**14 52 40.2**	**+0.5**
FNO				Sg	**Sg**	**14 52 45.6**	**+0.6**
X34A	**Smith Ranch, M**	**0.53**	**178**	Pg	**Pb**	**14 52 43.1**	**0.0**
X34A				IAML		14 52 57.7	
	comp=E,418nm,0.7s						
BCOK	**Bluff Creek, N**	**0.56**	**21**		**Pb**	**14 52 43.6**	**-0.2**
BCOK					**Sb**	**14 52 51.4**	**-0.5**
OK029	**Liberty Lake**	**0.74**	**26**	Pg	**Pg**	**14 52 46.1**	**0.0**
OK029				Sg	**Sg**	**14 52 56.7**	**+0.8**
OK029				IAML		14 52 57.0	
	comp=E,117nm,0.6s						
OK029				IAML		14 53 04.4	
	comp=E,105nm,0.3s						
W35A	**Tecumseh**	**0.81**	**88**	Pg	**Pg**	**14 52 47.2**	**-0.2**
W35A				Sg	**Sg**	**14 52 58.4**	**+0.5**
W35A				IAML		14 53 12.4	
	comp=N,106nm,0.3s						
W35A				IAML		14 53 14.6	
	comp=E,104nm,0.2s						
CSTR	**Hydro, Custer**	**0.85**	**307**	Pg	**Pb**	**14 52 48.5**	**-0.2**
WMOK	**Wichita Mounta**	**0.85**	**243**	Pg	**Pg**	**14 52 47.6**	**-0.7**
WMOK	**Wichita Mounta**	**0.85**	**243**	P	**Pg**	**14 52 48.0**	**-0.2**
OK031	**S. Brethren Rd**	**1.17**	**45**	Pg	**Pg**	**14 52 53.6**	**-0.7**
OK031				Sg	**Sg**	**14 53 09.6**	**+0.1**
OK031				IAML		14 53 11.6	
	comp=E,102nm,0.3s						
OK031				IAML		14 53 15.1	
	comp=E,97nm,0.3s						
OK052	**Battle Ridge R**	**1.22**	**45**	Pg	**Pg**	**14 52 53.8**	**-1.4**
OK052				Sg	**Sb**	**14 53 11.5**	**+0.8**
DEOK	**Depew**	**1.32**	**57**		**Pn**	**14 52 56.2**	**-0.1**
DEOK					**Sg**	**14 53 14.2**	**-0.1**
DEOK				IAML		14 53 18.2	
	comp=N,80nm,0.3s						
DEOK				IAML		14 53 19.5	
	comp=E,88nm,0.2s						
CROK	**Carrier**	**1.37**	**356**		**Pn**	**14 52 56.7**	**-0.3**
CROK					**Sb**	**14 53 15.5**	**+0.3**
CROK				IAmb_Lg		14 53 16.4	
	comp=Z,42nm,1.2s						
QUOK	**Quay**	**1.40**	**42**		**Pn**	**14 52 56.3**	**-1.1**
WTFS	**Witchita Falls**	**1.45**	**200**		**Pn**	**14 52 57.7**	**-0.3**
OK038	**West end E0370**	**1.52**	**332**		**Pn**	**14 52 59.0**	**-0.1**
ELIS	**Ellis County**	**1.57**	**307**		**Pn**	**14 53 00.1**	**+0.3**
OK051	**E0350 and S346**	**1.60**	**31**		**Pn**	**14 53 01.0**	**+0.8**
BLOK	**Blackwell**	**1.71**	**18**		**Pn**	**14 53 02.7**	**+1.1**
NOKA	**Waynoka**	**1.73**	**330**		**Pn**	**14 53 02.2**	**+0.2**
Z35A	**Perchaven, San**	**1.86**	**164**	P	**Pn**	**14 53 05.0**	**+1.3**
KAN13	**South Haven SW**	**1.90**	**9**	IAmb_Lg		14 53 32.6	
	comp=Z,50nm,0.8s						
KAN17	**Caldwell West**	**1.91**	**2**	IAmb_Lg		14 53 35.5	
	comp=Z,37nm,1.0s						
SMWD	**Samnorwood**	**1.95**	**270**	Pn	**Pn**	**14 53 05.4**	**+0.4**
SMWD	**Samnorwood**	**1.95**	**270**	P	**Pb**	**14 53 07.0**	**-0.5**
KAN01	**Argonia South**	**2.02**	**2**	IAmb_Lg		14 53 35.9	
	comp=Z,34nm,0.9s						
KAN08	**Anthony NE Sta**	**2.09**	**358**	IAmb_Lg		14 53 39.0	
	comp=Z,30nm,0.9s						
FW06	**Azle**	**2.17**	**173**	Pn	**Pn**	**14 53 08.4**	**+0.5**
FW06	**Azle**	**2.17**	**173**	P	**Pb**	**14 53 10.6**	**-0.5**
PLPT	**Palo Pinto**	**2.34**	**189**	Pn	**Pn**	**14 53 10.7**	**+0.3**
PLPT				IAmb_Lg		14 53 50.2	
	comp=Z,24nm,0.8s						
PLPT	**Palo Pinto**	**2.34**	**189**	P	**Pb**	**14 53 12.7**	**-1.4**
FW07	**Weatherford**	**2.42**	**179**	IAmb_Lg		14 53 52.9	
	comp=Z,26nm,1.0s						
APMT	**Aspermont**	**2.60**	**227**	Pn	**Pn**	**14 53 13.6**	**-0.3**
APMT				IAmb_Lg		14 53 59.4	
	comp=Z,18nm,0.9s						
APMT	**Aspermont**	**2.60**	**227**	P	**Pb**	**14 53 16.9**	**-1.6**
FW16	**Waxahatchie**	**2.76**	**163**	P	Pn	14 53 07.6	-8.5
FW14	**Alvarado**	**2.78**	**168**	IAmb_Lg		14 54 06.3	
	comp=Z,20nm,0.7s						
FW13	**Cleburne**	**2.79**	**173**	IAmb_Lg		14 54 07.7	
	comp=Z,21nm,0.7s						
AMTX	**Amarillo**	**3.15**	**267**		**Pn**	**14 53 23.3**	**+1.8**
AMTX				IAmb_Lg		14 54 08.8	
	comp=Z,22nm,0.8s						
SN07	**Snyder 07**	**3.23**	**232**	IAmb_Lg		14 54 16.0	
	comp=Z,19nm,1.0s						
SN05	**Snyder 5**	**3.37**	**229**	IAmb_Lg		14 54 18.9	
	comp=Z,22nm,0.9s						
237A	**Washetta, Mont**	**3.56**	**151**	IAmb_Lg		14 54 27.0	
	comp=Z,23nm,0.8s						
MIAR	**Mount Ida**	**3.57**	**98**	IAmb_Lg		14 54 32.4	
	comp=Z,20nm,1.1s						
POST	**Post**	**3.66**	**237**	IAmb_Lg		14 54 36.8	
	comp=Z,14nm,0.9s						
BRDY	**Brady**	**3.95**	**194**	Pn	**Pn**	**14 53 33.5**	**+1.0**
BRDY				IAmb_Lg		14 54 37.5	
	comp=Z,20nm,0.8s						
SGCY	**Sterling City**	**4.21**	**221**	IAmb_Lg		14 54 49.7	
	comp=Z,22nm,0.9s						
JCT	**Junction City**	**4.92**	**200**	IAmb_Lg		14 55 10.7	
	comp=Z,20nm,0.8s						
MLDN	**Muldoon**	**5.38**	**173**	P	**Pn**	**14 53 51.6**	**-0.4**
KSCO	**Kaye Shedlock'**	**5.43**	**317**	IAmb_Lg		14 55 30.9	
	comp=Z,19nm,0.8s						
HNDO	**Hondo**	**5.71**	**193**	IAmb_Lg		14 55 44.7	
	comp=Z,15nm,0.7s						
CCM	**Cathedral Cave**	**6.07**	**59**	IAmb_Lg		14 55 50.5	
	comp=Z,16nm,1.2s						
DRIO	**Del Rio**	**6.15**	**203**	IAmb_Lg		14 55 51.3	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**6.25**	**73**	IAmb_Lg		14 55 50.8	
	comp=Z,7.5nm,0.9s						
SAND	**Sanderson**	**6.29**	**216**	IAmb_Lg		14 55 57.6	
	comp=Z,16nm,1.0s						
SAND	**Sanderson**	**6.29**	**216**	P	**Pn**	**14 54 07.5**	**+2.8**
EF75	**Tulsita**	**6.42**	**180**	P	**Pn**	**14 54 06.6**	**+0.2**

TXNET 21 14:53:27.1, 31°.7N±0°.8×104°.3W±0°.8, h6km±2km, ML2.0/7, 3C-2D, Error ellipse: s-maj=1.3km s-min=1.0km az=43.4, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.38**	**43**	⇑P	Pg	14 53 34.3	-0.1
TPB11				S	Sg	14 53 39.2	-0.2
PECS	**Pecos**	**0.49**	**126**	⇓P	Pg	14 53 36.7	+0.2
PECS				S	Sg	14 53 43.1	+0.2
PECS	**Pecos**	**0.49**	**126**	P	Pg	14 53 36.7	+0.2
GDL2	**Guadalupe Moun**	**0.54**	**357**	P	Pg	14 53 37.7	+0.2
TPB12	**Southwest of T**	**0.55**	**144**	P	Pg	14 53 37.8	+0.2
TPB12				S	Sg	14 53 45.1	+0.3
TPB07	**Mentone**	**0.57**	**98**	S	Sg	14 53 46.6	+1.0
TPB10	**Southeast of T**	**0.62**	**127**	P	Pg	14 53 39.5	+0.5
TPB10				S	Sg	14 53 47.6	+0.5
TPB01	**Permian Basin**	**0.85**	**146**	⇑P	Pg	14 53 42.7	-0.8
TPB01				S	Sg	14 53 53.8	-0.8
MNTX	**Cornudas Mount**	**0.90**	**273**	P	Pg	14 53 44.3	+0.1
MNTX				S	Sg	14 53 56.3	+0.5
TPB03	**Saragosa**	**0.91**	**129**	S	Sg	14 53 56.2	0.0
TPB04	**Verhalen**	**1.02**	**117**	S	Sg	14 54 00.1	+0.1
VHRN	**Van Horn**	**1.03**	**213**	P	Pg	14 53 46.9	0.0
VHRN				S	Sb	14 54 01.1	-0.2
VHRN	**Van Horn**	**1.03**	**213**	P	Pg	14 53 46.7	-0.2
TPB05	**Hovey Rd**	**1.14**	**130**	⇓P	Pg	14 53 48.2	-0.6
TPB05				S	Sg	14 54 03.1	-0.5
MNHN	**Monahans**	**1.38**	**103**	P	Pn	14 53 52.7	-0.2
ALPN	**Alpine**	**1.41**	**155**	⇑P	Pn	14 53 52.4	-1.1
ALPN				S	Sb	14 54 10.7	-1.5
ALPN	**Alpine**	**1.41**	**155**	P	Pn	14 53 52.6	-0.8
CPRX	**Cap Rock**	**1.43**	**16**	P	Pn	14 53 53.5	-0.1
TPB08	**Permian Basin**	**1.44**	**122**	S	Sg	14 54 15.6	+2.2
ODSA	**Odessa**	**1.59**	**73**	S	Sn	14 54 16.2	-0.5
TMB04	**Seminole**	**1.84**	**58**	P	Pb	14 54 00.7

YOJ	Yonaguni jima	0.79 105	eP	Pb	15 09 16.2	+0.1
YOJ			eS	Sg	15 09 27.4	+1.0
TWD	Chiawan	0.79 222	⇓P	Pb	15 09 15.4	-0.8
ANP	Anpu	0.79 311	eP	Pn	15 09 17.0	-0.5
TWY	Chenhua	0.80 319	eP	Pb	15 09 16.2	-0.2
TWY			eS	Sg	15 09 27.4	+0.5
TWS1	Kuangyinshan	0.81 302	eP	Pb	15 09 16.6	0.0
TWS1			eS	Sb	15 09 26.9	-0.5
NTST	Danshui	0.83 307	eP	Pn	15 09 18.0	+0.1
NTST			eS	Sn	15 09 30.2	+0.4
HWA	Hwalien	0.86 217	eP	Pn	15 09 19.0	+0.7
KSHI	Guanxi Townshi	0.92 277	eP	Pn	15 09 19.3	+0.2
KSHI			eS	Sn	15 09 33.2	+1.2
ETM	Tongmen	0.94 222	eP	Pb	15 09 17.9	-0.8
FUSS	Fushou	0.95 244	eP	Pb	15 09 18.7	-0.4
LXIB	Xiulin Townshi	0.95 228	P	Pb	15 09 18.1	-0.9
NCUH	Zhongli	0.95 289	P	Pn	15 09 20.1	+0.5
NCUH			eS	Sn	15 09 34.3	+1.4
TEYL	Yanliau Villag	0.95 214	eP	Pn	15 09 20.2	+0.6
PCYT	Pengchaiyu	0.96 354	eP	Pb	15 09 18.9	-0.3
NFF	Wufeng Townshi	0.96 268	eP	Pn	15 09 20.5	+0.7
NFF			eS	Sn	15 09 33.4	+0.1
WHF	Hehuan Shan	0.98 238	eP	Pb	15 09 19.1	-0.6
WHF			eS	Sg	15 09 32.5	-0.2
TWT	Tachien	1.00 246	eP	Pg	15 09 22.0	+1.9
TDCB	Techi	1.02 246	eP	Pg	15 09 20.5	0.0
SHUL	Shoufeng	1.04 213	eP	Pg	15 09 21.8	+0.9
SHUL			eS	Sn	15 09 39.2	+4.2
LIOB	Emei	1.06 269	eP	Pg	15 09 22.2	+1.0
LIOB			eS	Sg	15 09 36.9	+1.9
NSTT	Nanjuang	1.07 268	⇑P	Pg	15 09 22.3	+0.9
NSTT			eS	Sg	15 09 36.2	+0.7
ESL	Shilin	1.09 219	eP	Pn	15 09 21.2	-0.2
SBCB	Hsinchu	1.09 277	eP	Pg	15 09 22.0	+0.2
SBCB			eS	Sg	15 09 38.0	+1.9
HSN	Hsinchu	1.11 277	eP	Pg	15 09 21.9	-0.3
HSN			eS	Sg	15 09 37.8	+1.2
OWD	Renai	1.16 232	eP	Pb	15 09 22.4	-0.1
WUSB	Renai	1.18 235	P	Pb	15 09 22.7	-0.2
WUSB			eS	Sn	15 09 38.2	-0.4
WHP	Taichung City	1.19 251	eP	Pg	15 09 23.4	-0.3
WARBT	Fenglin Townsh	1.19 218	eP	Pn	15 09 22.7	-0.2
WARBT			eS	Sg	15 09 40.0	+0.8
EGFH	Guangfu	1.21 215	eP	Pg	15 09 23.8	-0.2
EGFH			eS	Sg	15 09 41.7	+1.9
NMLH	Miaoli	1.27 264	eP	Pg	15 09 25.6	+0.4
NMLH			eS	Sg	15 09 43.6	+1.8
WCS	Beigang Elemen	1.30 243	eP	Pg	15 09 25.6	-0.3
VWDT	VWDT	1.31 226	eP	Pg	15 09 25.7	-0.3
VWDT			eS	Sg	15 09 44.3	+1.2
NSY	Sanyi	1.31 259	eP	Pg	15 09 26.9	+0.8
NSY			eS	Sg	15 09 45.4	+2.2
HGSD	Ruisui	1.36 211	eP	Pb	15 09 25.7	-0.1
HGSD			eS	Sg	15 09 47.7	+3.2
EHY	Hungye	1.40 214	eP	Pn	15 09 25.8	+0.2
SMLT	Sun Moon Lake	1.40 237	eP	Pb	15 09 26.4	-0.3
SMLT			eS	Sg	15 09 48.5	+2.4
SSLB	Suanglung	1.42 232	⇑P	Pb	15 09 26.9	0.0
SSLB			eS	Sg	15 09 47.1	+0.5
TYC	Yuchr	1.42 238	eP	Pg	15 09 27.6	-0.6
IRIF	Iriomote-Funau	1.45 103	eP	Pn	15 09 25.6	-0.8
IRIF			eS	Sn	15 09 44.2	-1.0
ECBN	Changbin	1.50 206	eP	Pn	15 09 27.1	0.0
YULB	Yu-li	1.50 213	eP	Pn	15 09 27.2	0.0
YULB			eS	Sg	15 09 48.5	-0.7
EYUL	Yuli	1.53 211	eP	Pn	15 09 27.9	+0.4
TWF1	Yuli	1.54 212	eP	Pn	15 09 27.8	+0.1
WHYT	Xinyi Township	1.55 232	eP	Pg	15 09 30.0	-0.5
WHYT			eS	Sg	15 09 52.8	+2.1
WCH1	Changhua City	1.60 249	eP	Pg	15 09 31.0	-0.5
FULB	Fuli	1.67 209	eP	Pn	15 09 30.0	+0.5
ALS	Alishan	1.70 228	eP	Pb	15 09 32.4	+0.4
ALS			eS	Sg	15 09 56.4	+0.7
JKRS	Kuro-shima	1.72 104	eP	Pn	15 09 30.1	0.0
JKRS			eS	Sn	15 09 51.1	-0.8
CHN5	Tsauling	1.73 232	eP	Pg	15 09 33.4	-0.7
CHN5			eS	Sg	15 09 57.6	+1.0
WGK	Gukeng	1.77 237	eS	Sg	15 09 59.7	+2.0
WDLH	Douliu	1.79 237	eP	Pg	15 09 34.6	-0.5
WDLH			eS	Sg	15 09 59.0	+0.7
ELDTW	Lidau	1.81 216	eP	Pn	15 09 32.1	+0.6
ELDTW			S	Sb	15 09 55.7	-0.6
JIJ	Ishigaki jima	1.81 99	eP	Pn	15 09 30.9	-0.6
JIJ			eS	Sn	15 09 52.6	-1.6
EDH	Donghe	1.87 206	eP	Pn	15 09 32.0	-0.2
WCKO	Fanlu	1.89 230	eP	Pb	15 09 35.7	+0.8
WCKO			eS	Sg	15 10 01.6	+0.1
WTK	Tuku	1.90 240	eP	Pb	15 09 36.1	+0.9
WTK			eS	Sg	15 10 01.1	-0.9
JISG	Ishigakijimahi	1.94 92	eP	Pn	15 09 32.8	-0.4
CHN4	Tsaushan	1.95 228	eP	Pb	15 09 36.5	+0.5
TPUB	Ta-pu	1.96 226	eP	Pb	15 09 36.5	+0.3
TPUB			eS	Sg	15 10 03.5	-0.4
STYH	Taoyuan	1.96 221	eP	Pb	15 09 35.7	-0.5
STYH			eS	Sb	15 10 01.4	+0.9
CHY	Chiayi	1.98 234	eP	Pb	15 09 36.9	+0.4
LONT	Longtian	2.00 209	eP	Pn	15 09 33.9	-0.1
WTP	Ta-pu	2.01 226	eP	Pb	15 09 37.0	-0.1
WTP			eS	Sg	15 10 04.8	-0.7
WSF	Szhu	2.06 241	eS	Sg	15 10 05.1	-2.0
TWK	Hsinying	2.08 228	eP	Pb	15 09 38.4	+0.1
TWK			eS	Sg	15 10 07.4	-0.3
LDUT	Ludao	2.09 198	eP	Pn	15 09 34.1	-1.1
LDUT			eS	Sn	15 10 00.4	-0.5
TWGBT	Beinan	2.10 209	eP	Pn	15 09 35.0	-0.3
TWG	Pinlang	2.10 209	eP	Pn	15 09 35.3	-0.1
SNST	Tainan City	2.11 227	eP	Pb	15 09 38.6	0.0
CHN1	Nanshi	2.11 226	eP	Pb	15 09 38.7	-0.1
CHN1			eS	Sg	15 10 07.4	-1.3
WSL	Shuilin Townsh	2.11 238	eP	Pb	15 09 38.2	-0.6
SGST	Jiashian	2.15 223	eP	Pb	15 09 38.2	-1.2
SGST			eS	Sg	15 10 07.9	-2.0
ICHU	Yijhu	2.17 234	eP	Pb	15 09 40.3	+0.6
ICHU			i S	Sg	15 10 09.5	-1.0
ECL	Taimali	2.34 209	eP	Pn	15 09 39.7	+0.9
TSMG	Majia	2.41 216	eP	Pb	15 09 42.9	-0.9
MASBT	Mashibuluo	2.49 215	eP	Pn	15 09 42.3	+1.6
EAST	Anshuo	2.58 209	eP	Pn	15 09 42.5	+0.5
SCZT	Fangliau	2.69 212	eP	Pn	15 09 45.9	+2.3
KNMB	Chin-men Tao	3.46 267	eP	Pn	15 09 54.4	+0.3
KNMB			eS	Sn	15 10 32.9	-1.8
AXDP	Jialang	3.83 274	eP	Pn	15 09 59.2	+0.1

*KRSC **21** 15:10:32.1±1.3,54°.69N×164°.60E,h48km±25km,MI3.5*
*IDC **21** 15:10:32.0±1.7,54°.90N×164°.69E,h0km,mb3.4/4,*
mbtmp3.3/5,ML2.3/1,Error ellipse: s-maj=108.5km
s-min=23.2km az=154.0

ISC 21 15:10:34.6±0.8,54°.77N±0°.06×164°.65E±0°.06,h27km,n31,
σ1§49/34,mb3.4/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.88	60	eP	Pb	15 10 50.0	-1.2
BKI				eS	Sb	15 11 01.8	-0.7
KBTR	Krutoberegovo	1.78	325	eP	Pn	15 11 01.7	-1.9
KBTR				eS	Sn	15 11 23.5	-1.8
TUMD	Tumrok D	2.49	282	eP	Pn	15 11 13.1	-0.2
BZWR	Bezymyannyi-We	2.66	299	eP	Pn	15 11 16.1	+0.3
KMNR	Kamenistaya	2.71	293	eP	Pn	15 11 16.9	+0.4
KIRR	Kirishev	2.73	298	eP	Pn	15 11 18.3	+1.5
KRSR	Krestovskiy	2.74	304	eP	Pn	15 11 17.0	+0.1
KLY	Klyuchi	2.75	306	eP	Pn	15 11 16.7	-0.1
KPT	Kopyto	2.80	297	eP	Pn	15 11 19.2	+1.5
KOZ	Kozyrevsk	3.02	297	eP	Pn	15 11 21.7	+1.2
SRDR	Sredinnyy	3.20	301	eP	Pn	15 11 24.8	+1.6
NLC	Nalytchevo	3.52	245	eP	Pn	15 11 26.8	-0.6
ESO	Esso	3.59	291	eP	Pn	15 11 28.7	+0.3
UGLR	Uglovaya	3.78	248	eP	Pn	15 11 31.3	+0.2
AVH	Avacha	3.80	249	eP	Pn	15 11 31.9	+0.5
KRX	Arik	3.81	251	eP	Pn	15 11 31.8	+0.3
KOK	Koryaka	3.84	250	eP	Pn	15 11 32.5	+0.5
DALK	Dalny	3.90	246	eP	Pn	15 11 32.1	-0.6
PET	Petropavlovsk	3.96	246	eP	Pn	15 11 33.4	0.0
PET				eS	Sn	15 12 16.4	-2.4
GNL	Ganaly	4.08	257	eP	Pn	15 11 35.9	+0.6
KRMR	Karymshinskiy	4.33	246	eP	Pn	15 11 39.7	+1.2
KRMR				eS	Sn	15 12 25.5	-2.5
PETK	Petropavlovsk-	4.43	251	Pn	Pn	15 11 40.1	+0.1
	0.7nm,0.3s,baz=68,slow=17,SNR=25						
PETK				Sn	Sn	15 12 30.8	+0.1
	0.7nm,0.3s,baz=113,slow=15,SNR=4.6 1.3nm,0.4s						
GRL	Gorelyy	4.50	243	eP	Pn	15 11 42.1	+1.1
KDTR	Khodutka, Kamc	4.93	236	eP	Pn	15 11 47.1	+0.3
KDTR				eS	Sn	15 12 37.9	-5.0
ILAR	Eielson Array	25.71	48	P	P	15 16 02.6	+0.5
	0.9nm,0.8s,baz=265,slow=8.0,SNR=9.6 0.9nm,0.8s						
H11N2	WAKE ISLAND Hy	35.02	176	T	T	15 55 50.6	
	baz=359,slow=76,SNR=24						
H11N3	WAKE ISLAND Hy	35.03	176	T	T	15 55 53.8	
	baz=359,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	35.04	176	T	T	15 55 49.9	
	baz=359,slow=76,SNR=19						
YKA	Yellowknife Ar	40.09	45	P	P	15 18 06.8	-0.4
	0.1nm,0.3s,baz=294,slow=8.7,SNR=2.9 0.1nm,0.3s						
CMAR	Chiang Mai Arr	61.13	261	P	P	15 20 48.9	+2.4
	0.4nm,0.7s,baz=44,slow=6.2,SNR=2.0 0.4nm,0.7s						
TXAR	Lajitas Array	67.52	71	P	P	15 21 30.1	+1.7
	0.2nm,0.6s,baz=323,slow=8.8,SNR=2.3 0.2nm,0.6s						

*JMA **21** 15:11:03.5±0.4,44°.N±2°.×14°.8E±°,h0km,MV3.8/22,E*
OFF HOKKAIDO
*SKHL **21** 15:11:05.5±0.1,43°.90N×148°.00E,h33km±6km,mb4.3/2*

ISC 21 15:11:02.5±2.9,43°.9N±0°.1×148°.0E±0°.2,h7km±23km,n12,
σ1§13/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.32	358	eP	Pg	15 11 27.6	-0.2
KUR				AMB	AMB	15 11 29.4	
	110nm,0.3s						
KUR				eS	Sb	15 11 44.1	-0.6
KUR				A	A	15 11 46.6	
	210nm,0.3s						
KUR				A	A	15 11 46.6	
	240nm,0.3s						
YUK	Yuzh-Kuril'sk	1.51	275	i P	Pb	15 11 30.3	-0.5
YUK				AMB	AMB	15 11 32.4	
	80nm,0.3s						
YUK				i S	Sn	15 11 48.1	-1.7
YUK				A	A	15 11 53.5	
	400nm,0.4s						
YUK				A	A	15 11 53.5	
	370nm,0.4s						
NEM2	Nemuro 2	1.69	252	eP	Pn	15 11 32.1	-0.3
NEM2				eS	Sn	15 11 53.5	-0.8
NMR	Nemuro--Hokkai	1.70	252	eP	Pn	15 11 33.0	+0.5
NMR				eS	Sn	15 11 53.8	-0.6
JRA	Rausu	2.04	272	eP	Pn	15 11 38.4	+1.2
JRA				eS	Sn	15 12 03.6	+0.7
JNSB	Nemuroshibetsu	2.13	267	eP	Pn	15 11 39.6	+1.2
JNK	Nakash	2.36	263	eP	Pn	15 11 42.5	+0.9
AKK	Akkeshi	2.43	249	eP	Pn	15 11 43.4	+0.9
JAK	Akkeshi	2.54	250	eP	Pn	15 11 44.4	+0.4
JTKR	Abashiri--Toko	2.92	273	eP	Pn	15 11 51.2	+2.0
JOB	Onbets	3.16	253	eP	Pn	15 11 53.4	+0.8
JCH	Churui	3.59	250	eP	Pn	15 11 59.8	+1.4

*IDC **21** 15:19:39.9±2.1,23°.21N×141°.81E,h200km±34km,mb3.4/5,*
mbtmp3.9/6,Error ellipse: s-maj=114.3km s-min=17.5km
az=85.0

ISC 21 15:19:40.2±1.5,23°.2N±0°.1×141°.7E±0°.5,h200km,n6,
σ0§90/7,mb3.6/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.92	6	P	Pn	15 20 41.9	+1.0
	38nm,0.7s,baz=218,slow=19,SNR=1.7						
JCJ				S	Sn	15 21 27.7	-1.1
	45nm,0.3s,baz=143,slow=20,SNR=10.0						
WRA	Warramunga Arr	43.46	190	P	P	15 27 23.4	-0.2
	0.6nm,0.4s,baz=8.4,slow=8.5,SNR=8.7 0.6nm,0.4s						
ASAR	Alice Springs	47.18	190	P	P	15 27 52.8	-0.1
	0.3nm,0.8s,baz=14,slow=7.6,SNR=1.7 0.3nm,0.8s						
BVAR	Borovoye Array	60.67	319	P	P	15 29 30.5	+0.4
	1.4nm,0.6s,baz=81,slow=6.3,SNR=6.0 1.4nm,0.6s						
ARCES	ARCESS Array B	77.09	341	P	P	15 31 11.2	+0.2
	3.4nm,0.9s,baz=58,slow=5.7,SNR=3.6 3.4nm,0.9s						
FINES	FINESS Array B	81.26	334	P	P	15 31 32.8	-0.9
	0.4nm,0.3s,baz=68,slow=5.9,SNR=3.5 0.4nm,0.3s						

IDC 21 15:44:45.5±4.3,19°.35N×120°.44E,h0km,mb3.4/3,
mbtmp3.4/3,Error ellipse: s-maj=386.4km
s-min=28.5km az=61.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.36	160	P	P	15 52 32.9	-0.7
	0.4nm,0.7s,baz=340,slow=8.8,SNR=2.4 0.4nm,0.7s						
MKAR	Makanchi Array	41.45	320	P	P	15 52 34.0	-0.1
	0.3nm,0.7s,baz=112,slow=9.8,SNR=4.1 0.3nm,0.7s						
ASAR	Alice Springs	44.73	162	P	P	15 53 01.1	+0.3
	0.5nm,0.5s,baz=342,slow=6.7,SNR=8.2 0.5nm,0.5s						

IDC 21 15:59:51.2±12.0,14°.92N×147°.49E,h0km,mb3.6/4,
mbtmp3.6/4,Error ellipse: s-maj=445.1km
s-min=32.5km az=83.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.98	201	P	P	16 07 02.6	0.0
	0.7nm,0.9s,baz=23,slow=8.6,SNR=3.3 0.7nm,0.9s						
SONM	Songino Array	47.16	323	P	P	16 08 26.4	+0.8
	0.5nm,0.6s,baz=134,slow=6.7,SNR=4.2 0.5nm,0.6s						
MKAR	Makanchi Array	62.32	315	P	P	16 10 15.7	+0.1
	0.3nm,0.5s,baz=85,slow=7.7,SNR=8.8 0.3nm,0.5s						
KURBB	Kurchatov Arra	65.27	319	P	P	16 10 34.2	-0.6
	0.7nm,0.6s,baz=97,slow=7.1,SNR=11 0.7nm,0.6s						

*NEIC **21** 16:05:15.3±1.1,30°.9S±0°.1×179°.0W±0°.2,h10km±1km,*
mb4.5/8,Error ellipse: s-maj=31.3km s-min=11.8km
az=117.0
*IDC **21** 16:05:16.7±7.5,30°.46S×178°.62W,h50km±61km,mb4.0/4,*
mbtmp4.2/5,ML3.8/1,Error ellipse: s-maj=44.4km
s-min=27.7km az=44.0

ISC 21 16:05:12.2±1.2,30°.7S±0°.1×178°.1W±0°.2,h35km,n31,
σ1§20/28,mb4.4/8,1C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.50	8	P	Pn	16 05 47.8	+11
URZ	Urewera	8.46	206	P	Pn	16 07 19.0	+6.8
	1.1nm,0.3s,baz=323,slow=6.0,SNR=12						
URZ				S	Sn	16 08 49.3	+3.0
	5.8nm,0.3s,baz=328,slow=13,SNR=9.7 2.1nm,0.3s						
RTZ	Ruatahuna	8.82	206		Pn	16 07 17.4	+0.1
BKZ	Black Stump Fm	9.48	206	Pn	Pn	16 07 24.2	-2.1
MRZ	Mangataiioka R	11.13	206		Pn	16 07 46.2	-2.6
TUWZ	Tuamarina	12.43	209	Pn	Pn	16 08 04.9	-1.6
THZ	Tophouse	13.14	211	Pn	Pn	16 08 14.4	-2.0
KHZ	Kahutara	13.42	207		Pn	16 08 18.5	-1.6
STKA	Stephens Creek	34.28	257	P	P	16 11 55.0	-0.2
STKA	Stephens Creek	34.28	257	P	P	16 11 56.4	+1.2
	4.0nm,0.9s,baz=105,slow=12,SNR=5.0 4.0nm,0.9s						
BBOO	Buckleboo	38.76	255	P	P	16 12 32.9	-0.4
COEN	Coen	39.25	286	P	P	16 12 38.1	+0.5
COEN				IAmb	IAmb	16 12 48.0	
	comp=Z,14nm,1.3s						
ASAR	Alice Springs	42.97	267	P	P	16 13 08.0	-0.2
	comp=Z,0.9nm,0.3s,baz=104,slow=7.3,SNR=15						
ASAR				PcP	PcP	16 14 57.9	-0.5
	comp=Z,0.2nm,0.6s,baz=110,slow=3.4,SNR=2.0 comp=Z,0.9nm,0.3s						
WR0	Warramunga Arr	43.81	273	P	P	16 13 14.2	-0.7
WR0				IAmb	IAmb	16 13 25.4	
	comp=Z,6.3nm,1.3s						
WB2	Warramunga Arr	43.98	273	P	P	16 13 15.6	-0.7
WRA	Warramunga Arr	43.99	273	P	P	16 13 15.8	-0.6
	comp=Z,2.5nm,0.3s,baz=113,slow=7.9,SNR=64 comp=Z,2.5nm,0.3s						
WB0	Warramunga Arr	44.01	273	P	P	16 13 16.0	-0.6
WB0				IAmb	IAmb	16 13 23.4	
	comp=Z,7.1nm,1.5s						
FORT	Forrest	45.84	255	P	P	16 13 30.7	-0.3
FORT				IAmb	IAmb	16 13 45.9	
	comp=Z,15nm,0.8s						
QSPA	South Pole Qui	59.37	180	P	P	16 15 16.3	+5.6
QSPA				IAmb	IAmb	16 15 24.2	
	comp=Z,12nm,1.5s						
QSPA	South Pole Qui	59.37	180	P	P	16 15 16.8	+6.1
	comp=Z,1.3nm,0.6s,baz=11,slow=1.9,SNR=16 comp=Z,1.3nm,0.6s						
SYO	Syowa Base	76.75	193⇑	eP	P	16 17 05.6	+6.1
MKAR	Makanchi Array	117.90	310	PKP	PKiKP	16 23 55.2	+0.4
	comp=Z,0.2nm,0.8s,baz=116,slow=1.6,SNR=2.2						
FINES	FINESS Array B	145.43	340	PKPbc	PKPdf	16 24 45.4	-0.4
	comp=Z,1.3nm,0.3s,baz=24,slow=5.3,SNR=19						
NC303	NORSAR Array S	148.87	351	PKPdf	PKiKP	16 24 57.2	+0.4
NC405	NORSAR Array S	148.93	351	PKPdf	PKiKP	16 24 57.8	+0.8
NB2	NORSAR Subarra	149.07	351	PKP	PKiKP	16 24 57.6	+0.3
	comp=Z,0.7nm,0.4s,baz=16,slow=2.6						
NOA	NORSAR Array B	149.07	351	PKPbc	PKiKP	16 24 58.0	+0.7
	comp=Z,1.1nm,0.5s,baz=16,slow=4.2,SNR=6.7						
HFS	Hagfors	149.56	348	PKPbc	PKiKP	16 24 58.4	+0.1
	comp=Z,1.1nm,0.4s,baz=77,slow=3.3,SNR=11						
MMAI	Mount Meron Ar	151.49	283	PKPbc	PKiKP	16 25 03.6	+0.4
	comp=Z,0.8nm,0.4s,baz=80,slow=4.7,SNR=7.8						
AKASG	Malin Array Be	151.50	322	PKPbc	PKiKP	16 25 03.0	+0.5
	comp=Z,0.1nm,0.3s,baz=56,slow=2.8,SNR=5.7						
BRTR	Keskin Array B	152.65	298	PKPbc	PKiKP	16 25 06.5	+0.9
	comp=Z,0.5nm,0.5s,baz=122,slow=4.7,SNR=3.5						

*NEIC **21** 16:07:11.8±1.4,54°.69N±0°.08×164°.6E±0°.1,h10km±1km,*
mb4.8/226,Error ellipse: s-maj=13.9km s-min=10.2km
az=152.0
*BJI **21** 16:07:11.1,54°.70N×164°.38E,h9km,mB4.9/12,mb4.5/54,*
Ms4.5/13,Ms7 4.2/16
*IDC **21** 16:07:11.3±0.5,54°.81N×164°.61E,h0km,mb4.3/31,*
mbtmp4.3/35,ML4.3/3,MS3.6/34,Error ellipse:
s-maj=14.1km s-min=10.2km az=162.0
*KRSC **21** 16:07:12.1±1.0,54°.77N×164°.58E,h52km±24km,Ml4.7*
*MOS **21** 16:07:14.1±1.0,54°.74N×164°.60E,h35km,mb4.9/41,*
MS3.5/6,Error ellipse: s-maj=5.5km s-min=4.5km az=82.9

ISC 21 16:07:12.4±1.3,54°.75N±0°.04×164°.61E±0°.04,h9km±8km,
n699,σ1§40/633,mb4.8/174,MS3.7/39,17C-8D,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.91	59	PN	Pg	16 07 29.6	-0.1
BKI				S	Sg	16 07 41.5	0.0
BKI	Bering	0.91	59	eP	Pg	16 07 29.7	-0.1
BKI				eS	Sg	16 07 41.6	0.0
KBTR	Krutoberegovo	1.78	326	PN	Pn	16 07 41.6	-1.7
KBTR				S	Sn	16 08 02.6	-3.4
KBTR	Krutoberegovo	1.78	326	eP	Pn	16 07 41.7	-1.7
KBTR				eS	Sn	16 08 02.6	-3.4
KBG	Krutoberegovo	1.86	325	PN	Pn	16 07 42.9	-1.4
KBG				S	Sn	16 08 04.7	-3.1
KBG	Krutoberegovo	1.86	325	eP	Pn	16 07 43.0	-1.4
KBG				eS	Sn	16 08 04.8	-3.1
TUMD	Tumrok D	2.47	282	eP	Pn	16 07 52.5	-0.3
TUMD				eS	Sn	16 08 20.2	-2.9
SMKR	Semkarok	2.56	317	PN	Pn	16 07 54.3	+0.3
SMKR				S	Sn	16 08 24.3	-1.0
SMKR	Semkarok	2.56	317	eP	Pn	16 07 54.3	+0.3
SMKR				eS	Sn	16 08 24.3	-1.0
CIRR	Tsirk	2.59	303	PN	Pn	16 07 55.0	+0.4
CIRR	Tsirk	2.59	303	eP	Pn	16 07 55.0	+0.4
BZWR	Bezymyannyi-We	2.65	299	PN	Pn	16 07 55.8	+0.5
BZWR	Bezymyannyi-We	2.65	299	eP	Pn	16 07 55.9	+0.5
KMNR	Kamenistaya	2.70	294	PN	Pn	16 07 56.5	+0.5
KMNR	Kamenistaya	2.70	294	eP	Pn	16 07 56.5	+0.5
KIRR	Kirishev	2.72	298	PN	Pn	16 07 57.3	+1.0
KIRR	Kirishev	2.72	298	eP	Pn	16 07 57.4	+1.0
KLY	Klyuchi	2.74	306	PN	Pn	16 07 55.4	-1.0
KLY				S	Sn	16 08 26.7	-3.0
KLY	Klyuchi	2.74	306	eP	Pn	16 07 55.5	-1.0
KLY				eS	Sn	16 08 26.8	-3.0
KPT	Kopyto	2.79	298	PN	Pn	16 07 58.2	+1.0
KPT	Kopyto	2.79	298	eP	Pn	16 07 58.3	+1.0
KOZ	Kozyrevsk	3.00	298	PN	Pn	16 08 01.5	+1.4
KOZ	Kozyrevsk	3.00	298	eP	Pn	16 08 01.6	+1.4
KII	Karymskiy	3.10	259	PN	Pn	16 08 02.1	+0.6
KII	Karymskiy	3.10	259	eP	Pn	16 08 02.2	+0.6
SPN	Mys Shipunski	3.18	240	PN	Pn	16 08 01.4	-1.1
SPN	Mys Shipunski	3.18	240	eP	Pn	16 08 01.4	-1.1
SRDR	Sredinnyy	3.19	301	PN	Pn	16 08 03.9	+1.1
SRDR	Sredinnyy	3.19	301	eP	Pn	16 08 03.9	+1.1
NLC	Nalytchevo	3.49	245	PN	Pn	16 08 06.9	+0.1
NLC	Nalytchevo	3.49	245	eP	Pn	16 08 06.9	+0.1
ESO	Esso	3.58	292	PN	Pn	16 08 07.9	0.0
ESO	Esso	3.58	292	eP	Pn	16 08 08.0	0.0
UGLR	Uglovaya	3.75	248	PN	Pn	16 08 11.0	+0.6
UGLR	Uglovaya	3.75	248	eP	Pn	16 08 11.0	+0.6
AVH	Avacha	3.77	249	PN	Pn	16 08 11.4	+0.7
AVH	Avacha	3.77	249	eP	Pn	16 08 11.4	+0.7
KRX	Arik	3.78	251	PN	Pn	16 08 11.2	+0.3
KRX	Arik	3.78	251	eP	Pn	16 08 11.2	+0.3
KOK	Koryaka	3.82

KMSK	Kamenskaya	7.78	5	eP		Pn	16 09 06.5 +0.9
MA2	Magadan	8.93	308	Pn		Pn	16 09 20.5 -0.9
MA2	Magadan	8.93	308	Pn		Pn	16 09 23.2 +1.8
	comp=Z,0.2nm,0.3s,baz=109,slow=9.7,SNR=9.5						
MA2				LR		LR	16 12 00.9
	comp=Z,25nm,21.5s,baz=108,slow=32						
	comp=Z,3.7nm,0.8s						
MA2	Magadan	8.93	308⇓	ePN		Pn	16 09 23.8 +2.3
MA2				pmax		pmax	
	comp=Z,6.0nm,1.0s						
MA2	Magadan	8.93	308	P		Pn	16 09 25.4 +3.9
	comp=Z,7.4nm,1.0s						
SEY	Seymchan	10.35	327	Pn		Pn	16 09 44.0 +3.2
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=11						
SEY	Seymchan	10.35	327⇑	ePN		Pn	16 09 43.5 +2.8
SEY				pmax		pmax	
	comp=Z,4.0nm,1.0s						
GSTR	Great Sitkin T	11.83	95	Pn		Pn	16 09 58.4 -2.7
BILL	Bilibino	13.36	3			Pn	16 10 22.2 +0.3
BILL	Bilibino	13.36	3⇓	ePN		Pn	16 10 25.6 +3.7
BILL				pmax		pmax	
	comp=Z,10.0nm,1.0s						
TYV	Tymovskoe	13.82	263	eP		Pn	16 10 30.7 +2.4
TYV				pmax		pmax	
	comp=Z,17nm,1.2s						
TYV				pmax		pmax	
	comp=Z,100nm,2.4s						
SPIA	Saint Paul Isl	14.26	70	P		P	16 10 39.8 -1.7
	baz=272						
GAMB	Gambell	15.02	44			Pn	16 10 44.8 +0.3
YSS	Yuzhno-Sakhali	15.81	249			Pn	16 10 53.9 -1.1
YSS	Yuzhno-Sakhali	15.81	249	eP		P	16 10 58.5 -0.3
YSS				eS		Sn	16 13 55.7 +5.6
YSS				pmax		pmax	
	comp=Z,20nm,1.2s						
YSS				MLR		MLR	
	comp=N,200nm,16.0s						
YSS				MLR		MLR	
	comp=Z,400nm,16.0s						
YSS				MLR		MLR	
	comp=E,400nm,15.0s						
M11K	Mekoryuk	16.55	58	P		P	16 11 08.1 +1.2
	baz=265						
UNV	Unalaska Valle	16.84	81	Pn		Pn	16 11 07.7 -0.3
UNV				IAmb		IAmb	16 11 12.7
	comp=Z,161nm,2.0s						
UNV	Unalaska Valle	16.84	81	P		P	16 11 13.3 +3.1
	baz=286						
TNA	Tin City	17.26	40	Pn		Pn	16 11 12.3 -1.0
TNA	Tin City	17.26	40	P		P	16 11 14.5 -0.2
	baz=246						
GRNR	Gornyy	17.46	268⇑	iP		P	16 11 17.2 0.0
GRNR				pmax		pmax	
	comp=Z,8.0nm,1.2s						
K13K	Kusilvak Mount	17.52	53	Pn		Pn	16 11 16.0 -0.6
K13K	Kusilvak Mount	17.52	53	P		P	16 11 19.3 +1.6
	baz=262						
JKA	Kamikawa-asahi	17.76	242	P		Pn	16 11 18.6 -1.1
ASAJ	Asahikawa	17.76	242	P		Pn	16 11 19.1 -0.5
	comp=Z,0.9nm,0.3s,baz=62,slow=13,SNR=13						
ASAJ				LR		LR	16 18 08.5
	comp=Z,255nm,19.1s,baz=34,slow=37						
	comp=Z,28nm,1.0s						
ASAJ	Asahikawa	17.76	242	P		Pn	16 11 18.6 -1.0
ASAJ				pmax		pmax	
	comp=Z,31nm,1.0s						
F14K	Arctic Creek	17.83	41	P		P	16 11 21.6 +0.5
	baz=249						
ANM	Nome	17.88	45	P		P	16 11 22.7 +1.1
	baz=253						
M13K	Dall Lake	17.96	59	P		P	16 11 24.1 +1.6
M13K				IAmb		IAmb	16 11 31.3
	comp=Z,144nm,1.5s						
M13K	Dall Lake	17.96	59	P		P	16 11 24.8 +2.3
	baz=268						
J14K	Nanvaranak Lak	18.18	51	P		Pn	16 11 22.3 -2.4
J14K	Nanvaranak Lak	18.18	51	P		P	16 11 27.2 +2.3
	baz=260						
FALS	False Pass	18.35	77	P		P	16 11 30.8 +4.0
	baz=284						
L14K	Kuka Creek	18.37	56	P		P	16 11 29.3 +2.3
	baz=265						
G15K	Niukluk	18.56	44	P		Pn	16 11 29.8 +0.5
	baz=253						
F15K	North Star Dit	18.57	42	P		Pn	16 11 29.0 -0.4
F15K	North Star Dit	18.57	42	P		Pn	16 11 29.2 -0.2
	baz=251						
M14K	Bethel	18.67	58	P		Pn	16 11 32.7 +2.1
	baz=268						
N14K	Kuskokwak Cree	18.77	60	P		Pn	16 11 34.2 +2.3
	baz=270						
S12K	Black Hills	18.93	73	P		Pn	16 11 36.9 +3.0
	baz=282						
ERM	Erimo	19.02	237	P		P	16 11 30.8 -3.5
ERM				IAmb		IAmb	16 11 34.2
	comp=Z,85nm,1.4s						
ERM	Erimo	19.02	237⇑	eP		P	16 11 31.7 -2.6
K15K	Wolf Creek Mou	19.03	53	P		Pn	16 11 36.6 +1.6
	baz=264						
H16K	Elim	19.19	46	P		Pn	16 11 36.9 0.0
	baz=256						
M15K	Kasigluk River	19.29	58	P		Pn	16 11 39.0 +0.9
	baz=269						
G16K	Koyuk River	19.36	44	P		Pn	16 11 38.7 -0.2
	baz=254						
C16K	Lisburne Hills	19.43	34	P		P	16 11 37.9 -0.7
	baz=243						
YAK	Yakutsk	19.50	306	P		P	16 11 36.7 -2.7
YAK	Yakutsk	19.50	306	P		P	16 11 38.4 -1.0
	comp=Z,2.5nm,0.3s,baz=56,slow=7.5,SNR=11						
YAK				LR		LR	16 19 40.3
	comp=Z,59nm,18.4s,baz=76,slow=38						
	comp=Z,7.7nm,0.3s						
YAK	Yakutsk	19.50	306	eP		P	16 11 38.3 -1.1
YAK				eS		Sn	16 15 18.5 -0.7
YAK				pmax		pmax	
	comp=Z,33nm,1.6s						
YAK				pmax		pmax	
	comp=N,4.0nm,1.2s						
YAK				pmax		pmax	
	comp=E,7.0nm,0.9s						
YAK				pmax		pmax	
	comp=E,257nm,5.3s						
YAK				pmax		pmax	
	comp=N,79nm,5.3s						
YAK				pmax		pmax	
	comp=Z,121nm,3.8s						
YAK				smax		smax	
	comp=N,254nm,10.3s						
YAK				smax		smax	
	comp=E,137nm,7.8s						
YAK				MLR		MLR	
	comp=Z,166nm,21.0s						
YAK				MLR		MLR	
	comp=N,64nm,13.0s						
YAK				MLR		MLR	
	comp=E,52nm,12.0s						
N15K	Kwethluk River	19.57	60	P		P	16 11 38.8 -1.4
N15K				IAmb		IAmb	16 11 52.7
	comp=Z,134nm,1.7s						
N15K	Kwethluk River	19.57	60	P		Pn	16 11 42.4 +0.8
	baz=271						
J16K	Anvik River	19.60	50			P	16 11 38.7 -1.9
J16K	Anvik River	19.60	50	P		Pn	16 11 42.3 +0.4
	baz=262						
I17K	Unalakleet	19.67	48	P		P	16 11 41.3 0.0
I17K				IAmb		IAmb	16 11 53.1
	comp=Z,130nm,1.9s						
I17K	Unalakleet	19.67	48	P		Pn	16 11 43.4 +0.7
	baz=260						
O15K	Ungalikthiuk R	19.73	63	P		Pn	16 11 44.1 +0.7
	baz=274						
D17K	Noatak River	19.92	37	P		P	16 11 43.9 -0.1
	baz=247,SNR=6.3						
L16K	Owhat River	19.93	55	P		Pn	16 11 46.6 +0.8
	baz=267						
F17K	Baldwin Pennin	20.12	41	P		Pn	16 11 47.0 -0.9
F17K	Baldwin Pennin	20.12	41	P		Pn	16 11 47.2 -0.8
	baz=253						
E17K	Hotham Inlet	20.13	39	P		Pn	16 11 46.9 -1.2
	baz=251						
RDOG	Red Dog Mine	20.13	36	P		P	16 11 44.7 -1.6
RDOG	Red Dog Mine	20.13	36	P		P	16 11 46.5 +0.2
	baz=247,SNR=8.6						
M16K	Timber Creek	20.14	57	P		Pn	16 11 49.1 +0.8
	baz=270						
C17K	DeLong Mountai	20.23	35	P		P	16 11 47.8 +0.4
	baz=245						
H17K	Granite Mounta	20.23	46	P		P	16 11 45.3 -2.1
H17K	Granite Mounta	20.23	46	P		Pn	16 11 48.9 -0.5
	baz=258,SNR=15						
J17K	VABM Dome	20.30	50	P		Pn	16 11 50.4 +0.3
	baz=263						
TEY	Ternei	20.37	253	eP		Pn	16 11 50.3 -0.7
L17K	Donlin	20.52	54	P		Pn	16 11 52.6 -0.1
	baz=267						
K17K	Iditarod	20.57	52	IAmb		IAmb	16 12 02.3
	comp=Z,32nm,1.0s						
K17K	Iditarod	20.57	52	P		Pn	16 11 53.0 -0.3
	baz=266						
O16K	Kokwok River B	20.59	61	P		Pn	16 11 53.4 -0.2
	baz=274						
E18K	Tukpahlearik C	20.70	39	P		P	16 11 53.0 +0.6
	baz=251						
F18K	Selawik	20.78	41	P		Pn	16 11 54.2 -1.5
	baz=254						
CHGN	Chignik	20.83	71	P		Pn	16 11 57.2 +0.9
	baz=282						
KLR	Kul'dur	20.85	268	P		P	16 11 54.4 +0.3
	comp=Z,4.8nm,1.0s,baz=66,slow=10,SNR=11						
	comp=Z,4.8nm,1.0s						
KLR	Kul'dur	20.85	268⇑	eP		P	16 11 54.5 +0.3
KLR				pmax		pmax	
	comp=Z,8.0nm,1.1s						
M17K	Holitna River	20.89	56	P		Pn	16 11 57.0 0.0
	baz=270						
H18K	Honhosa River	20.92	45	P		Pn	16 11 56.7 -0.7
	baz=260						
C18K	Utukok River	20.96	35	P		P	16 11 56.1 +0.7
	baz=248						
JTM	Tenmabayashi	20.97	238	P		P	16 11 51.4 -4.2
JTM				IAmb		IAmb	16 12 09.2
	comp=Z,55nm,1.2s						
G18K	Tagagawik	20.97	43	P		Pn	16 11 56.3 -1.7
	baz=257						
N17K	Nushagak Hills	21.01	59	P		P	16 11 58.2 +2.3
	baz=272						
R16K	Pilot Point	21.06	67	P		P	16 11 59.5 +3.1
	baz=280						
B18K	Kokolik River	21.08	33	P		P	16 11 56.8 +0.3
	baz=245						
O17K	Koliganek Bris	21.09	61	P		P	16 11 59.7 +3.0
	baz=274						
L18K	Granite Mounta	21.28	54	P		P	16 12 00.3 +1.5
	baz=269						
J18K	Innoko River	21.36	50	P		P	16 12 00.9 +1.3
	baz=266						
P17K	Kvichak River	21.46	62	P		P	16 12 03.5 +2.8
	baz=276						
GCSA	Galena City Sc	21.46	47	P		P	16 12 02.3 +1.6
	baz=262						
F19K	Shaleruckik Mo	21.56	41	P		P	16 12 02.3 +0.6
	baz=256						
TTA	Tatalina	21.63	52	P		P	16 12 03.8 +1.2
TTA				IAmb		IAmb	16 12 13.8
	comp=Z,55nm,1.8s						
TTA	Tatalina	21.63	52	P		P	16 12 04.3 +1.7
	baz=268						
TTA	Tatalina	21.63	52	P		P	16 12 03.8 +1.2
TTA				pmax		pmax	
	comp=Z,55nm,1.8s						
N18K	Kilae Creek	21.65	58	P		P	16 12 05.3 +2.6
	baz=273						
G19K	Purcell Mounta	21.66	43	P		P	16 12 03.5 +0.8
	baz=259						
M18K	Stony River	21.67	56	P		P	16 12 05.0 +2.0
	baz=271						
A19K	Wainwright	21.69	31	P		P	16 12 02.5 -0.5
	baz=244						
ZEA	Zeya	21.69	283	eP		P	16 12 02.7 -0.5
ZEA				MLR		MLR	
	comp=E,100nm,12.0s						
ZEA				MLR		MLR	
	comp=Z,200nm,16.0s						
H19K	Roundabout Mou	21.78	45	P		P	16 12 05.7 +1.6
	baz=261						
J19K	Poorman	21.90	49	P		P	16 12 07.4 +2.0
	baz=265						
E19K	Redstone River	21.94	40	P		P	16 12 06.8 +1.0
	baz=255						
D19K	Kuna River	21.95	37	P		P	16 12 06.2 +0.3
	baz=252						
O18K	Koktuh Hills	22.03	60	P		P	16 12 09.8 +2.9
	baz=276						
P18K	Big Mountain,	22.06	61	P		P	16 12 09.8 +2.6
	baz=277						
L19K	White Mountain	22.14	54	P		P	16 12 09.7 +1.7
	baz=270						
N19K	Bonanza Creek	22.33	58	P		P	16 12 12.0 +1.9
	baz=274						
M19K	Big River Lodg	22.35	55	P		P	16 12 11.8 +1.6
	baz=272						
F20K	Avaraart Lake	22.40	41	P		P	16 12 11.1 +0.5
	baz=258						
H20K	Anotleneega Mo	22.42	45	P		P	16 12 11.8 +0.8
	baz=262						
O19K	Port Alsworth	22.45	59	P		P	16 12 12.9 +1.6
	baz=276						
CHIR	Chirikof Islan	22.46	71	P		P	16 12 14.1 +2.7
	baz=285						
I20K	Naaghedeneel	22.49	47	P		P	16 12 12.5 +0.8
	baz=264						
K20K	Telida	22.54	51	P		P	16 12 12.9 +0.7
K20K	Telida	22.54	51	P		P	16 12 13.8 +1.5
	baz=268						
D20K	Etivluk River	22.54	37	P		P	16 12 12.6 +0.3
	baz=253						
E20K	Nigu River	22.55	38	P		P	16 12 12.5 +0.1
	baz=255						
J20K	Nowinta River	22.57	49	IAmb		IAmb	16 12 24.4
	comp=Z,28nm,0.9s						
J20K	Nowinta River	22.57	49	P		P	16 12 13.8 +1.3
	baz=266						
TIXI	Tiksi	22.80	331	P		P	16 12 15.1 +0.2
TIXI	Tiksi	22.80	331	LR		LR	16 21 56.0
	comp=Z,64nm,19.0s,baz=194,slow=39						
TIXI	Tiksi	22.80	331⇓	eP		P	16 12 16.4 +1.6
TIXI				pmax		pmax	
	comp=Z,22nm,1.0s						
B20K	Meade River	22.82	33	P		P	16 12 13.8 -1.3
B20K				IAmb		IAmb	16 12 25.7
	comp=Z,31nm,1.0s						
B20K	Meade River	22.82	33	P		P	16 12 14.9 -0.2
	baz=250						
HEH	HeiHe	22.90	274	eP		P	16 12 14.1 -2.0
HEH				pmax		pmax	
	comp=Z,6.0nm,1.1s						
HEH				LR		LR	
	comp=Z,310nm,13.6s						
HEH				LR		LR	
	comp=Z,390nm,12.9s						
HEH				LR		LR	
	comp=Z,490nm,13.4s						
M20K	Styx River	22.95	55	P		P	16 12 18.4 +1.8
	baz=273						
F21K	Alatna River	23.29	41	P		P	16 12 19.8 -0.3
F21K				IAmb		IAmb	16 12 30.7
	comp=Z,78nm,1.9s						
F21K	Alatna River	23.29	41	P		P	16 12 20.6 +0.6
	baz=260						
H21K	Melozitna Rive	23.30	45	IAmb		IAmb	16 12 30.6
	comp=Z,35nm,1.1s						
H21K	Melozitna Rive	23.30	45	P		P	16 12 21.0 +0.8
	baz=264						
O20K	Slope Mountain	23.31	59	P		P	16 12 22.1 +1.8
	baz=277						
C21K	Knifeblade Rid	23.31	36	P		P	16 12 20.6 +0.4
	baz=254						
CHUM	Lake Minchumin	23.35	50	P		P	16 12 21.5 +0.9
	baz=269						
PPLA	Purkeypile	23.38	52	P		P	16 12 21.2 +0.1
PPLA	Purkeypile	23.38	52	P		P	16 12 22.3 +1.1
	baz=271						
E21K	Killik River	23.39	38	P		P	16 12 19.9 -1.2
E21K	Killik River	23.39	38	P		P	16 12 21.0 -0.1
	baz=257						
JMM	Marumori	23.40	234	P		P	16 12 22.3 +1.0
OHAK	Old Harbor	23.41	67	P		P	16 12 23.9 +2.7
	baz=283						
CAST	Castle Rocks	23.44	51	P		P	16 12 20.5 -1.0
CAST				IAmb		IAmb	16 12 32.3
	comp=Z,61nm,1.7s						
CAST	Castle Rocks	23.44	51	P		P	16 12 22.8 +1.2
	baz=270						
USRK	Ussuriysk Ar.	23.47	257	P		P	16 12 20.9 -1.0
USRK	Ussuriysk Ar.	23.47	257	P		P	16 12 21.7 -0.2
	comp=Z,1.5nm,0.6s,baz=59,slow=11,SNR=7.4						
USRK				LR		LR	16 21 29.7
	comp=Z,156nm,21.4s,baz=40,slow=37						
	comp=Z,1.5nm,0.6s						
USRK	Ussuriysk Ar.	23.47	257	P		P	16 12 21.0 -1.0
SPU	Mount Spurr	23.50	57	P		P	16 12 21.9 -0.2
A21K	Barrow	23.51	30	P		P	16 12 21.4 -0.7
	baz=247						
B21K	Ikpikpuk River	23.51	35	P		P	16 12 21.6 -0.6
B21K	Ikpikpuk River	23.51	35	P		P	16 12 22.3 +0.1
	baz=253						
STLK	Strandline Lak	23.58	56	P		P	16 12 22.5 -0.5
I21K	Tanana	23.59	46	P		P	16 12 22.7 -0.3
I21K				IAmb		IAmb	16 12 32.7
	comp=Z,22nm,1.1s						
I21K	Tanana	23.59	46	P		P	16 12 23.8 +0.9
	baz=266,SNR=5.6						
Q20K	Shuyak Island	23.62	63	P		P	16 12 25.3 +2.0
	baz=280						
KDAK	Kodiak Island	23.67	65	LR		LR	16 21 17.0
	comp=Z,152nm,20.7s,baz=112,slow=36						
KDAK	Kodiak Island	23.67	65	P		P	16 12 25.9 +2.1
	baz=282						
KDAK	Kodiak Island	23.67	65⇑	eP		P	16 12 26.1 +2.3
KDAK				pmax		pmax	
	comp=Z,27nm,1.0s						
SKT	Skwentna	23.70	54	P		P	16 12 24.5 +0.3
SKT	Skwentna	23.70	54	P		P	16 12 26.0 +1.8
	baz=274						
HOM	Homer	23.85	60	P		P	16 12 26.9 +1.4
	baz=279						
H22K	Ishtalitna Cre	23.91	45	P		P	16 12 26.7 +0.6
	baz=265						
BPAW	Bear Paw Mtn.	23.95	49	P		P	16 12 26.2 -0.3
BPAW				IAmb		IAmb	16 12 30.3
	comp=Z,28nm,1.1s						
BPAW	Bear Paw Mtn.	23.95	49	P		P	16 12 27.0 +0.5
	baz=270,SNR=6.5						
KTH	Kantishna Hill	23.96	51	P		P	16 12 26.3 -0.4
KTH				IAmb		IAmb	16 12 30.8
	comp=Z,32nm,1.2s						
D22K	Ayikyak River	23.96	37	P		P	16 12 26.3 -0.3
	baz=257						
CAPN	Captain Cook N	23.96	57	P		P	16 12 27.8 +1.2
	baz=277						
G22K	Bettles	24.00	42	P		P	16 12 26.8 -0.1
	baz=263						
E22K	Anaktuvuk Pass	24.10	39	P		P	16 12 27.5 -0.4
E22K				IAmb		IAmb	16 12 32.1
	comp=Z,43nm,1.0s						
E22K	Anaktuvuk Pass	24.10	39	P		P	16 12 27.9 -0.1
	baz=260,SNR=43						
TRF	Thorofare Moun	24.24	51	P		P	16 12 29.0 -0.4
TRF	Thorofare Moun	24.24	51	P		P	16 12 30.4 +1.0
	baz=272,SNR=11						
CUT	Chulitna	24.28	53	P		P	16 12 28.8 -0.7
CUT				IAmb		IAmb	16 12 39.0
	comp=Z,31nm,1.0s						
CUT	Chulitna	24.28	53	P		P	16 12 30.5 +1.0
	baz=274						
BRSE	Bradley Lake S	24.29	60	P		P	16 12 31.4 +1.7
	baz=279						
M22K	Willow	24.38	55	P		P	16 12 31.8 +1.4
	baz=275						
COLD	Coldfoot	24.55	42	P		P	16 12 31.6 -0.4
COLD	Coldfoot	24.55	42	P		P	16 12 31.7 -0.2
	baz=263,SNR=48						
G23K	Bananza Creek	24.55	43	P		P	16 12 32.1 0.0
	baz=265						
MDJ	Mudanjiang	24.58	260	P		P	16 12 30.9 -1.5
MDJ	Mudanjiang	24.58	260	P		P	16 12 31.5 -0.9
MDJ				pP		pwP	16 12 42.3 +2.5
MDJ				S		S	16 16 52.8 -0.4
MDJ				PcS		PcS	16 19 46.3 -3.5
MDJ				pmax		pmax	
	comp=Z,8.0nm,1.0s						
MDJ				LR		LR	
	comp=Z,220nm,5.3s						
MDJ				LR		LR	
	comp=Z,190nm,5.7s						
MDJ				LR		LR	
	comp=Z,240nm,5.6s						
BWN	Browne	24.61	49	P		P	16 12 33.0 +0.4
RC01	Rabbit Creek A	24.62	57	P		P	16 12 34.2 +1.5
	baz=277						
D23K	Nanushuk River	24.68	37	P		P	16 12 33.0 -0.2
	baz=259						
I23K	Minto, Yukon-K	24.69	47	P		P	16 12 32.9 -0.3
I23K	Minto, Yukon-K	24.69	47	P		P	16 12 33.5 +0.3
	baz=269,SNR=30						
NEA2	Nenana	24.79	48	P		P	16 12 33.8 -0.4
NEA2	Nenana	24.79	48	P		P	16 12 35.2 +1.0
	baz=270,SNR=23						
MCK	McKinley	24.85	50	P		P	16 12 33.9 -0.8
MCK				IAmb		IAmb	16 12 44.8
	comp=Z,40nm,1.2s						
MCK	McKinley	24.85	50	P		P	16 12 35.9 +1.1
	baz=272,SNR=9.5						
MCK	McKinley	24.85	50	P		P	16 12 33.9 -0.8
MCK				pmax		pmax	
	comp=Z,40nm,1.2s						
SEW	Seward	24.88	59	P		P	16 12 36.1 +1.1
	baz=279						
RND	Reindeer	24.89	51	P		P	16 12 33.8 -1.4
RND				IAmb		IAmb	16 12 45.4
	comp=Z,40nm,1.1s						
RND	Reindeer	24.89	51	P		P	16 12 33.8 -1.4
RND				pmax		pmax	
	comp=Z,40nm,1.1s						
C23K	Itkillik River	24.91	35	P		P	16 12 34.4 -0.7
C23K				IAmb		IAmb	16 12 38.6
	comp=Z,26nm,1.2s						
C23K	Itkillik River	24.91	35	P		P	16 12 35.1 -0.1
	baz=257						
TOLK	Toolik Lake Re	25.02	38	P		P	16 12 35.5 -0.7
TOLK				IAmb		IAmb	16 12 47.1
	comp=Z,32nm,1.0s						
TOLK	Toolik Lake Re	25.02	38	P		P	16 12 36.2 0.0
	baz=261,SNR=14						
BNX	BinXian	25.18	265	⇑P		P	16 12 37.3 -0.5
BNX				pmax		pmax	
	comp=Z,5.0nm,0.9s						
KNK	Knik Glacier	25.20	56	P		P	16 12 36.8 -1.2
KNK	Knik Glacier	25.20	56	P		P	16 12 39.2 +1.2
	baz=277						
WRH	Wood River Hil	25.21	48	P		P	16 12 37.6 -0.4
SML	Sawmill	25.23	55	P		P	16 12 37.1 -1.1
SML	Sawmill	25.23	55	P		P	16 12 39.8 +1.6
	baz=277						
E24K	Your Creek	25.32	40	P		P	16 12 39.2 +0.2
	baz=263						
COLA	College	25.32	47	P		P	16 12 38.5 -0.4
COLA	College	25.32	47	P		P	16 12 39.8 +0.9
	baz=271						
COLA	College	25.32	47	P		P	16 12 38.5 -0.4
COLA				pmax		pmax	
	comp=Z,54nm,1.2s						
PWL	Port Wells	25.33	57	P		P	16 12 37.9 -1.2
PWL	Port Wells	25.33	57	P		P	16 12 40.4 +1.3
	baz=278						
CCB	Clear Creek Bu	25.34	48	P		P	16 12 38.5 -0.6
H24K	Noodor Dome	25.34	45	IAmb		IAmb	16 13 04.2
	comp=Z,17nm,1.1s						
H24K	Noodor Dome	25.34	45	P		P	16 12 40.0 +0.8
	baz=269						
D24K	Happy Valley	25.38	37	P		P	16 12 39.3 -0.1
	baz=261						
F24K	Squaw Lake	25.48	41	P		P	16 12 40.5 +0.1
	baz=265						
POKR	Poker Plat Res	25.50	47	P		P	16 12 39.8 -0.8
POKR	Poker Plat Res	25.50	47	P		P	16 12 41.0 +0.4
	baz=270,SNR=7.9						
M23K	Glacier View	25.51	55	P		P	16 12 41.8 +1.0
	baz=277						
C24K	Franklin Bluff	25.53	36	P		P	16 12 40.9 +0.1
	baz=260						
G24K	Hadweenzic Riv	25.56	43	P		P	16 12 41.6 +0.4
	baz=267						
MJB9	Matsu-Tunnel	25.68	236	P		P	16 12 41.7 -0.8
MAJO	Matsushiro	25.68	236	P		P	16 12 40.9 -1.6
MAJO	Matsushiro	25.68	236	P		P	16 12 40.9 -1.6
MAJO				pmax		pmax	
	comp=Z,43nm,1.1s						
MJAR	Matsushiro Arr	25.68	236	P		P	16 12 43.9 +1.4
	comp=Z,4.0nm,0.7s,baz=26,slow=8.4,SNR=8.0						

MJAR LR LR 16 23 14.2
comp=Z,108nm,21.9s,baz=79,slow=37
comp=Z,4.0nm,0.7s
SCM Sheep Creek Mo 25.70 54 P **P 16 12 42.3 -0.2**
SCM Sheep Creek Mo 25.70 54 P **P 16 12 43.9 +1.4**
baz=277
SCM Sheep Creek Mo 25.70 54 P **P 16 12 42.3 -0.2**
SCM pmax pmax
comp=Z,58nm,1.1s
HDA Harding Lake 25.71 49 P **P 16 12 41.8 -0.7**
HDA IAmb IAmb 16 12 45.4
comp=Z,13nm,0.8s
HDA Harding Lake 25.71 49 P **P 16 12 43.2 +0.7**
baz=272,SNR=7.9
IL31 25.73 48 P **P 16 12 41.6 -1.0**
IL31 IAmb IAmb 16 12 46.3
comp=Z,25nm,0.9s
ILAR Eielson Array 25.73 48 P **P 16 12 41.2 -1.5**
ILAR Eielson Array 25.73 48 P **P 16 12 41.8 -0.9**
comp=Z,22nm,1.0s,baz=261,slow=7.9,SNR=59
ILAR LR LR 16 23 28.6
comp=Z,126nm,18.4s,baz=262,slow=38
comp=Z,22nm,1.0s
ILAR Eielson Array 25.73 48 P **P 16 12 41.2 -1.5**
P23K Montague Islan 25.91 59 P **P 16 12 46.1 +1.7**
baz=281
GLI Glacier Island 25.93 57 P **P 16 12 46.1 +1.6**
baz=279
G25K Bearman Lake 26.11 43 P **P 16 12 46.3 +0.2**
baz=268
H25L Birch Creek 26.20 44 P **P 16 12 47.5 +0.7**
baz=270
M24K Tolsona, Glenn 26.21 54 P **P 16 12 46.7 -0.4**
M24K Tolsona, Glenn 26.21 54 P **P 16 12 48.4 +1.3**
baz=278
K24K Donnelly Dome 26.25 50 P **P 16 12 48.1 +0.6**
baz=275,SNR=5.6
D25K Kavik River 26.27 37 P **P 16 12 47.4 -0.1**
baz=263
PRP Porcupine Dome 26.31 46 P **P 16 12 47.6 -0.5**
PRP Porcupine Dome 26.31 46 P **P 16 12 48.1 0.0**
baz=271,SNR=18
F25K Christian Rive 26.34 41 P **P 16 12 48.3 0.0**
baz=267
J25K Salcha River, 26.39 48 P **P 16 12 48.5 -0.3**
baz=273
KLU Klutina 26.40 55 P **P 16 12 49.6 +0.7**
baz=279
E25K Arctic Village 26.41 40 P **P 16 12 48.5 -0.4**
E25K IAmb IAmb 16 12 58.6
comp=Z,17nm,1.0s
E25K Arctic Village 26.41 40 P **P 16 12 48.9 0.0**
baz=266,SNR=11
FYU Fort Yukon 26.45 44 P **P 16 12 48.7 -0.4**
PAX Paxson 26.45 52 P **P 16 12 49.4 +0.1**
PAX IAmb IAmb 16 13 03.8
comp=Z,14nm,1.0s
PAX Paxson 26.45 52 P **P 16 12 50.4 +1.1**
baz=276
PAX Paxson 26.45 52 P **P 16 12 49.4 +0.1**
PAX pmax pmax
comp=Z,14nm,1.0s
Q23K Middleton Isla 26.54 60 P **P 16 12 52.1 +2.0**
baz=283
EYAK Cordova Ski Ar 26.63 57 P **P 16 12 52.2 +1.3**
baz=281
HARP HAARP 26.65 53 P **P 16 12 52.3 +1.2**
baz=278
RIDG Independent Ri 26.66 50 P **P 16 12 50.0 -1.2**
RIDG IAmb IAmb 16 12 53.3
comp=Z,15nm,1.0s
RIDG Independent Ri 26.66 50 P **P 16 12 51.6 +0.4**
baz=276,SNR=7.3
BMAR Burnt Mountain 26.74 42 P **P 16 12 51.0 -0.8**
JGF Kuroka 26.85 236 P **P 16 12 50.0 -3.0**
JGF IAmb IAmb 16 13 18.2
comp=Z,17nm,1.0s
C26K Camden Bay 26.86 36 P **P 16 12 52.7 -0.1**
baz=263
F26K Sheenjek River 26.92 41 P **P 16 12 54.1 +0.7**
baz=268
N25K Chitina, Valde 27.02 55 P **P 16 12 55.5 +1.1**
baz=280
SCRK Sand Creek 27.03 49 P **P 16 12 52.5 -2.0**
SCRK IAmb IAmb 16 13 03.4
comp=Z,25nm,1.2s
SCRK Sand Creek 27.03 49 P **P 16 12 55.0 +0.4**
baz=276,SNR=9.4
G26K Porcupine Rive 27.03 43 P **P 16 12 55.0 +0.7**
baz=270
BMRM Bremner River 27.11 56 P **P 16 12 57.0 +1.8**
baz=281
J26L Joseph Creek 27.17 48 P **P 16 12 54.4 -1.5**
J26L Joseph Creek 27.17 48 P **P 16 12 56.9 +1.0**
baz=275
C27K Jago River 27.24 37 P **P 16 12 56.1 -0.2**
baz=265
MENT Mentasta 27.25 52 P **P 16 12 55.4 -1.0**
KAIM Kayak Island 27.40 58 P **P 16 13 00.0 +2.2**
baz=283
L26K Log Cabin Wild 27.41 51 P **P 16 12 59.6 +1.7**
baz=278
M26K Nabesna, AK 27.65 53 IAmb IAmb 16 13 16.7
comp=Z,12nm,1.1s
M26K Nabesna, AK 27.65 53 P **P 16 13 01.7 +1.7**
baz=280
JHJ Hachijo jima 2 27.79 229 LR LR 16 27 37.2
comp=Z,24nm,18.2s,baz=52,slow=44
G27K Doyon Strip 27.87 43 P **P 16 13 02.0 0.0**
G27K IAmb IAmb 16 13 13.4
comp=Z,18nm,1.6s
G27K Doyon Strip 27.87 43 P **P 16 13 02.7 +0.7**
baz=272
I27K Kandik River 27.93 46 P **P 16 13 03.5 +0.9**
baz=275
H27K Steamboat Moun 27.94 44 P **P 16 13 03.4 +0.8**
baz=274
L27K Beaver Creek, 28.09 51 IAmb IAmb 16 13 07.2
comp=Z,21nm,1.0s
L27K Beaver Creek, 28.09 51 P **P 16 13 05.5 +1.5**
baz=279
BCAR Beaver Creek A 28.11 51 P **P 16 13 03.9 -0.3**
M27K Edge Creek, AK 28.17 53 IAmb IAmb 16 13 12.4
comp=Z,13nm,1.1s
M27K Edge Creek, AK 28.17 53 P **P 16 13 06.6 +1.8**
baz=280
D27M Malcolm River 28.17 38 P **P 16 13 04.7 0.0**
baz=268
F28M Old Crow 28.55 41 P **P 16 13 07.6 -0.4**
F28M IAmb IAmb 16 13 11.1
comp=Z,12nm,1.1s
F28M Old Crow 28.55 41 P **P 16 13 08.4 +0.4**
baz=272,SNR=6.9
I28M Miner Creek 28.64 46 P **P 16 13 09.5 +0.6**
baz=276
D28M Stokes Point 28.97 38 P **P 16 13 11.5 -0.1**
baz=270
DAWY Dawson 29.03 49 P **P 16 13 11.7 -0.6**
DAWY Dawson 29.03 49 P **P 16 13 13.3 +1.0**
baz=279
O28M Mount Upton 29.27 56 P **P 16 13 15.6 +0.9**
baz=284
E29M Blow River 29.28 40 P **P 16 13 14.9 +0.5**
baz=273
G29M Pine Creek 29.30 43 P **P 16 13 14.7 0.0**
baz=275
I29M Ogilvie Camp, 29.33 46 P **P 16 13 14.4 -0.5**
I29M Ogilvie Camp, 29.33 46 P **P 16 13 15.5 +0.6**
baz=278
YUK8 Steele Glacier 29.36 54 P **P 16 13 16.3 +0.8**
baz=284
PINM Pinnacle 29.40 57 P **P 16 13 17.1 +1.4**
baz=285
M29M Somme Creek 29.72 52 P **P 16 13 19.6 +1.1**
baz=283
L29M L29M 29.74 50 P **P 16 13 19.5 +0.9**
baz=282
EPYK Eagle Plains 29.86 44 P **P 16 13 19.4 -0.2**
EPYK IAmb IAmb 16 13 29.5
comp=Z,30nm,1.4s
EPYK Eagle Plains 29.86 44 P **P 16 13 20.1 +0.4**
baz=277,SNR=5.2
YUK4 Talbot Arm 29.87 54 P **P 16 13 21.2 +1.2**
baz=284
K29M Barlow Dome 29.88 49 P **P 16 13 20.5 +0.6**
baz=281
G30M tAoh Zraii Nji 30.00 42 P **P 16 13 21.2 +0.3**
baz=277
YUK6 Outpost Mounta 30.10 55 P **P 16 13 23.4 +1.4**
baz=285
F30M Barrier River 30.11 41 P **P 16 13 22.9 +1.1**
baz=276
I30M Mount Dempster 30.15 46 P **P 16 13 22.6 +0.3**
baz=280
O29M Mount Kennedy 30.16 56 P **P 16 13 24.3 +1.8**
baz=286
J30M Hart River 30.27 47 P **P 16 13 24.5 +1.1**
baz=281
KS19 Wonju Array Si 30.30 251 P **P 16 13 22.2 -1.5**
KS19 IAmb IAmb 16 13 35.2
comp=Z,14nm,0.9s
KSRS Korea Array 30.30 250 P **P 16 13 25.1 +1.4**
comp=Z,6.9nm,0.9s,baz=44,slow=9.4,SNR=20
KSRS LR LR 16 24 38.0
comp=Z,136nm,21.6s,baz=55,slow=34
comp=Z,6.9nm,0.9s
KSAR Wonju Array Be 30.33 250 P **P 16 13 22.8 -1.2**
KSAR Wonju Array Be 30.33 250 P **P 16 13 22.8 -1.2**
M30M Minto, Yukon 30.45 51 P **P 16 13 26.4 +1.5**
baz=284
HYT Haines Junctio 30.54 55 P **P 16 13 27.6 +1.8**
baz=286
H31M Peel River 30.90 45 P **P 16 13 29.7 +0.9**
baz=280
INK Inuvik 30.90 40 P **P 16 13 28.6 0.0**
INK Inuvik 30.90 40 P **P 16 13 29.1 +0.4**
baz=277
INK Inuvik 30.90 40 P **P 16 13 28.7 0.0**
INK pmax pmax
comp=Z,9.0nm,1.1s
F31M Tsiigehtchic 30.91 41 P **P 16 13 28.5 -0.3**
F31M IAmb IAmb 16 13 38.2
comp=Z,10nm,0.9s
F31M Tsiigehtchic 30.91 41 P **P 16 13 29.4 +0.6**
baz=278
P30M Million Dollar 30.98 56 P **P 16 13 31.1 +1.4**
baz=287
N31M Braeburn, Yuko 31.17 53 P **P 16 13 32.8 +1.5**
baz=286
O30N Mendenhall 31.22 55 P **P 16 13 33.2 +1.5**
baz=287
M31M Drury Creek, Y 31.62 51 P **P 16 13 35.1 -0.1**
M31M IAmb IAmb 16 13 39.0
comp=Z,12nm,0.9s
M31M Drury Creek, Y 31.62 51 P **P 16 13 36.4 +1.1**
baz=286,SNR=5.7
WHY Whitehorse 31.82 54 P **P 16 13 38.4 +1.4**
baz=288
SKAG Skagway 31.97 57 P **P 16 13 39.6 +1.4**
baz=289
S31K Pelican 32.02 60 P **P 16 13 40.3 +1.6**
baz=291
JNU Nakatsue 32.04 241 LR LR 16 28 07.0
comp=Z,49nm,18.1s,baz=38,slow=39
FARO Faro, Yukon 32.09 51 P **P 16 13 40.2 +0.8**
baz=287
JCJ Chichijima 32.13 220 LR LR 16 24 52.4
comp=Z,54nm,20.9s,baz=324,slow=33
XLT XiLinHaoTe 32.80 271 *e*P P 16 13 52.1 +6.3
XLT pP pwP 16 13 57.8 +4.5
XLT pmax pmax
comp=Z,3.0nm,0.9s
P33M Teslin, Yukon 32.93 55 P **P 16 13 47.2 +0.5**
P33M Teslin, Yukon 32.93 55 P **P 16 13 48.1 +1.3**
baz=290
A36M Sachs Harbour 33.32 32 P **P 16 13 49.7 -0.2**
A36M IAmb IAmb 16 13 59.6
comp=Z,8.1nm,0.9s
A36M Sachs Harbour 33.32 32 P **P 16 13 49.2 -0.7**
baz=278,SNR=5.4
Q32M Nakina River 33.62 57 P **P 16 13 54.1 +1.2**
baz=292
R33M Jennings River 34.09 55 P **P 16 13 56.1 -0.9**
R33M IAmb IAmb 16 14 08.0
comp=Z,8.1nm,1.0s
R33M Jennings River 34.09 55 P **P 16 13 58.4 +1.5**
baz=292
C36M Paulatuk 34.14 37 P **P 16 13 56.0 -1.0**
C36M IAmb IAmb 16 14 06.9
comp=Z,11nm,0.8s
C36M Paulatuk 34.14 37 P **P 16 13 56.8 -0.2**
baz=283,SNR=5.2
S34M Telegraph Cree 34.57 58 P **P 16 14 02.7 +1.8**
baz=294
WTLY Watson Lake, Y 34.85 54 P **P 16 14 03.6 +0.2**
WTLY IAmb IAmb 16 14 13.8
comp=Z,7.2nm,0.7s
WTLY Watson Lake, Y 34.85 54 P **P 16 14 05.8 +2.4**
baz=292
DLBC Dease Lake 34.90 57 P **P 16 14 04.3 +0.4**
DLBC IAmb IAmb 16 14 21.5
comp=Z,15nm,1.3s
DLBC Dease Lake 34.90 57 LR LR 16 28 22.1
comp=Z,94nm,21.6s,baz=299,slow=36
DLBC Dease Lake 34.90 57 P **P 16 14 06.2 +2.3**
baz=294
H11N2 WAKE ISLAND Hy 35.00 176 T T 16 52 34.5
baz=359,slow=76,SNR=380
H11N3 WAKE ISLAND Hy 35.02 176 T T 16 52 35.6
baz=359,slow=76,SNR=240
H11N1 WAKE ISLAND Hy 35.02 176 T T 16 52 42.2
baz=359,slow=76,SNR=209
T35M Bob Quinn 35.38 59 P **P 16 14 10.6 +2.6**
baz=296
V35K Ketchikan 35.41 62 P **P 16 14 11.3 +3.1**
baz=297
ULN Ulaanbaatar 35.73 283 P **P 16 14 10.7 -0.5**
ULN Ulaanbaatar 35.73 283⇓ *e*P **P 16 14 11.9 +0.7**
ULN pmax pmax
comp=Z,1.0nm,1.3s
NRIK Noril'sk 36.11 324 P **P 16 14 14.1 0.0**
NRIK IAmb IAmb 16 14 31.1
comp=Z,13nm,1.4s
NRIK Noril'sk 36.11 324 P **P 16 14 13.6 -0.5**
comp=Z,2.4nm,0.8s,baz=73,slow=7.5,SNR=6.2
NRIK LR LR 16 28 59.7
comp=Z,24nm,19.5s,baz=68,slow=36
comp=Z,2.4nm,0.8s
NRIK Noril'sk 36.11 324⇑ *e*P **P 16 14 15.3 +1.2**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 36.12 284 P **P 16 14 14.5 0.0**
SONM Songino Array 36.12 284 P **P 16 14 15.0 +0.5**
comp=Z,1.1nm,0.8s,baz=69,slow=7.9,SNR=5.5
SONM LR LR 16 30 30.4
comp=Z,135nm,18.8s,baz=9.0,slow=39
comp=Z,1.1nm,0.8s
SONM Songino Array 36.12 284 P **P 16 14 14.5 0.0**
SONM pmax pmax
comp=Z,2.0nm,1.0s
H11S1 WAKE ISLAND Hy 36.21 177 T T 16 54 06.4
baz=359,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 36.23 177 T T 16 54 10.0
baz=359,slow=76,SNR=4.2
H11S2 WAKE ISLAND Hy 36.23 177 T T 16 54 13.2
baz=359,slow=76,SNR=11
TOAD Toad River Com 37.02 54 P **P 16 14 23.6 +1.6**
baz=296
KOTAN Kotaneelee Air 37.03 52 P **P 16 14 23.4 +1.4**
baz=295
HHC Hu-ho-hao-te 37.32 271 *e*P **P 16 14 23.3 -1.5**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.3s
HHC LR LR
comp=Z,210nm,13.0s
HHC LR LR
comp=Z,220nm,13.8s
HHC LR LR
comp=Z,200nm,13.8s
HNS HongShan 37.80 264⇓ P **P 16 14 30.8 +2.0**
HNS pmax pmax
comp=Z,6.0nm,1.0s
JOW Kunigami 38.45 238 LR LR 16 31 46.2
comp=Z,45nm,21.1s,baz=94,slow=38
BBB Bella Bella 38.74 65 LR LR 16 28 52.8
comp=Z,102nm,20.8s,baz=315,slow=34
NJ2 Nanjing 39.31 254 *e*P **P 16 14 39.9 -1.5**
NJ2 pmax pmax
comp=Z,15nm,1.0s
EUNU Eureka 39.68 15 P **P 16 14 43.4 -0.7**
EUNU IAmb IAmb 16 14 47.2
comp=Z,16nm,0.9s
YKA Yellowknife Ar 40.11 45 P **P 16 14 47.6 -0.2**
comp=Z,0.8nm,0.4s,baz=297,slow=8.2,SNR=19
YKA LR LR 16 33 23.9
comp=Z,88nm,18.2s,baz=292,slow=39
comp=Z,0.8nm,0.4s
YKA Yellowknife Ar 40.11 45 *i* P **P 16 14 48.0 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.4s
RES Resolute Bay 40.76 24 P **P 16 14 52.7 -0.3**
RES Resolute Bay 40.76 24 P **P 16 14 52.7 -0.3**
RES pmax pmax
comp=Z,15nm,1.2s
LYN LuoYang 41.09 263 P **P 16 14 57.4 +1.1**
LYN pmax pmax
comp=Z,18nm,0.6s
XAN Xi'an 43.50 265 *e*P **P 16 15 16.8 +0.8**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN LR LR
comp=Z,330nm,13.7s
XAN LR LR
comp=Z,330nm,17.9s
ZALV Zalesovo Beam 44.12 303 P **P 16 15 18.1 -2.5**
ZALV Zalesovo Beam 44.12 303 PcP **PcP 16 17 05.9 +0.4**
comp=Z,1.0nm,0.8s,baz=48,slow=2.1,SNR=2.3
ZALV Zalesovo Beam 44.12 303 P **P 16 15 18.1 -2.5**
SSLB Suanglung 44.68 244 P **P 16 15 21.4 -4.1**
LZH Lanzhou 45.00 271 *e*P **P 16 15 30.0 +1.9**
LZH sP pwP 16 15 39.3 +3.7
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=Z,300nm,11.6s
LZH LR LR
comp=Z,220nm,11.6s
GTA Gaotai 45.05 278 *e*P **P 16 15 29.5 +1.1**
GTA pP pwP 16 15 34.0 -1.9
GTA sP sP 16 15 37.5 +7.2
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA LR LR
comp=Z,180nm,14.7s
GTA LR LR
comp=Z,180nm,15.5s
B08A Colville Reser 45.55 65 P **P 16 15 31.9 -0.2**
SPA1 Spitsbergen Ar 45.92 351 P **P 16 15 33.7 -1.0**
SPITS Spitsbergen Ar 45.92 351 P **P 16 15 34.9 +0.2**
comp=Z,18nm,0.9s,baz=78,slow=9.0,SNR=5.8
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 45.92 351 P **P 16 15 34.5 -0.2**
SPITS pmax pmax
comp=Z,83nm,1.4s
SPB2 Spitsbergen Ar 45.92 351 P **P 16 15 33.6 -1.1**
ENH Enshi 45.94 261 P **P 16 15 34.6 -0.8**
NEW Newport 46.76 64 LR LR 16 33 23.4
comp=Z,159nm,20.7s,baz=301,slow=34
E09A Wood Farm, Sta 47.34 66 P **P 16 15 46.4 +0.3**
E09A IAmb IAmb 16 15 49.8
comp=Z,7.5nm,0.9s
YBH Yreka Blue Hor 47.97 74 LR LR 16 32 52.8
comp=Z,58nm,20.7s,baz=338,slow=32
BMO Blue Mountains 48.86 68 P **P 16 15 58.9 +0.8**
BMO IAmb IAmb 16 16 08.2
comp=Z,8.3nm,1.4s
BMO Blue Mountains 48.86 68 P **P 16 15 58.9 +0.8**
BMO pmax pmax
comp=Z,8.0nm,1.4s
WMQ Urumqi 48.91 291 *e*P **P 16 16 00.0 +1.5**
WMQ sP pwP 16 16 08.8 +2.8
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ LR LR
comp=Z,110nm,21.5s
KURK Kurchatov 49.10 303 P **P 16 15 59.1 -0.6**
KURK IAmb IAmb 16 16 00.5
comp=Z,14nm,1.1s
KURK Kurchatov 49.10 303 *de*P **P 16 15 59.0 -0.6**
KURK pmax pmax
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 49.20 303 P **P 16 16 00.4 -0.1**
comp=Z,6.6nm,0.9s,baz=57,slow=7.7,SNR=33
comp=Z,6.6nm,0.9s
WVOR Wild Horse Val 49.75 71 P **P 16 16 04.8 -0.1**
WVOR IAmb IAmb 16 16 31.4
comp=Z,17nm,1.8s
WVOR Wild Horse Val 49.75 71 P **P 16 16 04.8 -0.1**
WVOR pmax pmax
comp=Z,17nm,1.8s
MK31 Makanchi Array 49.81 297 P **P 16 16 04.3 -1.0**
MK31 Makanchi Array 49.81 297 *c i* P **P 16 16 05.0 -0.3**
MKAR Makanchi Array 49.81 297 P **P 16 16 03.8 -1.5**
MKAR Makanchi Array 49.81 297 P **P 16 16 04.7 -0.6**
comp=Z,2.0nm,0.8s,baz=54,slow=7.4,SNR=21
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 49.81 297 *i* P **P 16 16 04.6 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 49.97 297 P **P 16 16 05.6 -0.8**
MAKZ IAmb IAmb 16 16 07.0
comp=Z,11nm,1.3s
MAKZ Makanchi 49.97 297 P **P 16 16 05.6 -0.8**
MAKZ pmax pmax
comp=Z,11nm,1.3s
GOMU GeErMu 50.13 278 P **P 16 16 09.1 +0.9**
GOMU pP pwP 16 16 13.1 -2.6
GOMU sP sP 16 16 16.9 +6.9
GOMU pmax pmax
comp=Z,13nm,1.0s
GOMU LR LR
comp=Z,390nm,14.1s
GOMU LR LR
comp=Z,290nm,13.0s
GOMU LR LR
comp=Z,580nm,10.6s
GYA Guiyang 50.44 260 P **P 16 16 10.0 -0.3**
GYA pmax pmax
comp=Z,17nm,0.6s
FCC Fort Churchill 50.49 41 P **P 16 16 09.8 -0.3**
FCC IAmb IAmb 16 16 19.8
comp=Z,12nm,1.1s
FCC Fort Churchill 50.49 41 P **P 16 16 09.8 -0.3**
FCC pmax pmax
comp=Z,13nm,1.1s
HLID Hailey 51.27 67 P **P 16 16 16.2 -0.3**
BOZ Bozeman (W) 51.36 63 P **P 16 16 16.4 -0.7**
BOZ Bozeman (W) 51.36 63 P **P 16 16 16.4 -0.7**
BOZ pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 51.42 310 P **P 16 16 17.6 +0.3**
comp=Z,3.7nm,0.8s,baz=65,slow=5.7,SNR=9.9
comp=Z,3.7nm,0.8s
BRVK Borovoye 51.45 310 P **P 16 16 16.1 -1.3**
BRVK Borovoye 51.45 310⇑ *e*P **P 16 16 17.8 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
SUMG Summit 51.95 9 P **P 16 16 21.7 +0.3**
SUMG IAmb IAmb 16 16 28.4
comp=Z,12nm,1.3s
SUMG Summit 51.95 9 P **P 16 16 21.7 +0.3**
SUMG pmax pmax
comp=Z,12nm,1.3s
WAKR Walker 52.00 75 P **P 16 16 22.3 +0.2**
ARCES ARCESS Array B 52.51 343 P **P 16 16 25.4 +0.3**
comp=Z,8.7nm,0.9s,baz=38,slow=12,SNR=4.6
comp=Z,8.7nm,0.9s
YFT Old Faithful 52.55 64 P **P 16 16 26.6 +0.6**
YNE Yellowstone No 52.60 63 P **P 16 16 26.7 +0.3**
NVAR Mina Array Bea 52.69 74 P **P 16 16 27.1 -0.1**
comp=Z,2.7nm,0.8s,baz=290,slow=8.0,SNR=10
NVAR LR LR 16 37 07.1
comp=Z,41nm,20.2s,baz=232,slow=34
comp=Z,2.7nm,0.8s
YMP Mirror Lake Pl 52.70 63 P **P 16 16 27.9 +0.6**
YMP IAmb IAmb 16 16 55.7
comp=Z,18nm,1.5s
H17A Grant Village 52.72 64 P **P 16 16 27.4 0.0**
ELK Elko 52.76 70 P **P 16 16 29.1 +1.4**
ELK Elko 52.76 70 P **P 16 16 29.1 +1.4**
ELK pmax pmax
comp=Z,3.0nm,0.9s
SVE Sverdlovsk 52.87 318 *e*P **P 16 16 29.1 +1.2**
FLWY Flagg Ranch 52.87 64 IAmb IAmb 16 16 42.2
comp=Z,16nm,1.4s
RLMT Red Lodge 52.90 62 P **P 16 16 29.0 +0.4**
FXWY Fox Creek 53.01 65 P **P 16 16 29.3 -0.2**
PZH PanZhiHua 53.23 265 P **P 16 16 32.8 +1.6**

PZH pmax pmax
comp=Z,10.0nm,1.5s
PZH pmax pmax
comp=Z,120nm,4.4s
KMI Kunming 53.72 263 ⇑P **P 16 16 36.3 +1.4**
KMI pmax pmax
comp=Z,9.0nm,1.5s
ARTI Arti 54.05 319 P **P 16 16 36.1 -0.5**
ARTI IAmb IAmb 16 16 46.5
comp=Z,11nm,1.0s
ARTI Arti 54.05 319 *d iP* **P 16 16 38.4 +1.8**
ARTI 16 18 40.5
ARTI S **S 16 24 16.8 +4.3**
ARTI pmax pmax
comp=Z,12nm,1.2s
R11B Troy Canyon, C 54.26 72 P **P 16 16 40.1 +1.5**
baz=316
PDAR Pinedale Array 54.39 65 P **P 16 16 38.6 -1.0**
PDAR Pinedale Array 54.39 65 P **P 16 16 39.8 +0.2**
comp=Z,7.7nm,0.9s,baz=308,slow=3.6,SNR=14
comp=Z,2.7nm,0.9s
DUG Dugway, Tooele 54.46 69 P **P 16 16 38.9 -1.2**
DUG IAmb IAmb 16 16 50.9
comp=Z,13nm,1.4s
DUG Dugway, Tooele 54.46 69 P **P 16 16 38.9 -1.2**
DUG pmax pmax
comp=Z,13nm,1.4s
SPR3 Spring Creek 3 54.48 71 IAmb IAmb 16 16 52.1
comp=Z,11nm,1.0s
TPNV Topopah Spring 54.89 74 IAmb IAmb 16 16 54.1
comp=Z,10nm,0.9s
GWY Greenwater Val 55.20 75 IAmb IAmb 16 16 56.8
comp=Z,20nm,1.5s
PRN Pahroc Range 55.22 73 IAmb IAmb 16 16 56.7
comp=Z,8.8nm,1.0s
WUS Wushi 55.27 294 P **P 16 16 45.4 -0.5**
BSUT Blindstream Ca 55.33 67 IAmb IAmb 16 16 57.6
comp=Z,19nm,1.6s
KIRV Kirov 55.61 325⇑ *eP* **P 16 16 50.8 +3.0**
ULM Lac du Bonnet 55.72 50 P **P 16 16 48.9 +0.1**
comp=Z,3.6nm,0.9s,baz=302,slow=7.6,SNR=5.4
ULM LR LR 16 41 32.2
comp=Z,145nm,19.2s,baz=332,slow=37
comp=Z,3.6nm,0.9s
ULM Lac du Bonnet 55.72 50⇑ *eP* **P 16 16 51.2 +2.4**
GSC Goldstone, Bar 55.76 76 IAmb IAmb 16 17 00.2
comp=Z,7.5nm,0.9s
TCRU Three Creeks R 55.79 70 IAmb IAmb 16 16 55.6
comp=Z,6.9nm,0.6s
TMUT Trail Mountain 55.97 69 IAmb IAmb 16 16 55.3
comp=Z,6.8nm,0.9s
P18A Preston Nutter 56.25 68 IAmb IAmb 16 17 05.6
comp=Z,7.9nm,1.1s
MTPU Mount Pierson 56.34 70 P **P 16 16 52.6 -1.3**
SRU San Rafael Swe 56.48 68 IAmb IAmb 16 17 05.5
comp=Z,19nm,1.2s
AAK Ala-Archa 56.70 298⇑ *eP* **P 16 16 56.6 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s
KLMR Klimovskoe 56.81 331 *eP* **P 16 16 57.1 +0.7**
KLMR pmax pmax
comp=Z,28nm,1.9s
LSA Lhasa 56.96 276 P **P 16 16 57.7 -0.8**
LSA IAmb IAmb 16 17 02.1
comp=Z,16nm,1.5s
LSA Lhasa 56.96 276 P **P 16 16 57.7 -0.8**
LSA pmax pmax
comp=Z,17nm,1.5s
PFO Pinyon Flats O 57.19 77 LR LR 16 38 53.2
comp=Z,65nm,19.8s,baz=226,slow=33
N23A Red Feather La 57.61 64 P **P 16 17 01.7 -1.1**
N23A IAmb IAmb 16 17 13.4
comp=Z,11nm,1.2s
N23A Red Feather La 57.61 64 P **P 16 17 04.4 +1.7**
baz=317
PV11 David Mesa, Pa 57.95 68 IAmb IAmb 16 17 15.8
comp=Z,10nm,0.9s
PV13 Radium Mtn., P 58.08 68 IAmb IAmb 16 17 16.6
comp=Z,17nm,1.3s
KSH Kashi 58.19 295 P P 16 17 11.1 +4.4
KSH pmax pmax
comp=Z,10.0nm,1.7s
KK31 Karatay Array 58.37 301 P **P 16 17 06.3 -1.4**
KK31 IAmb IAmb 16 17 08.8
comp=Z,17nm,1.5s
KK31 Karatay Array 58.37 301 P **P 16 17 06.3 -1.4**
KK31 pmax pmax
comp=Z,17nm,1.5s
KKAR Karatay Array 58.37 301 P **P 16 17 06.8 -0.9**
KKAR Karatay Array 58.37 301 IAmb IAmb 16 17 08.7
comp=Z,11nm,1.5s
KKAR Karatay Array 58.37 301 P **P 16 17 06.8 -0.9**
ISCO Idaho Springs 58.58 65 IAmb IAmb 16 17 12.9
comp=Z,7.5nm,0.8s
ABKAR Abkulak array 58.71 312 P **P 16 17 09.0 -1.0**
ABKAR IAmb IAmb 16 17 21.3
comp=Z,11nm,1.1s
ABKAR Abkulak array 58.71 312 P **P 16 17 09.4 -0.5**
S22A 4UR Ranch, Cre 59.45 67 IAmb IAmb 16 17 26.9
comp=Z,10nm,1.3s
S22A 4UR Ranch, Cre 59.45 67 P **P 16 17 17.3 +1.7**
baz=318
FINES FINESS Array B 59.61 338 P **P 16 17 16.1 +0.1**
comp=Z,3.4nm,0.8s,baz=2.7,slow=8.2,SNR=7.6
comp=Z,3.4nm,0.8s
PHRA Phrae 60.34 260 P **P 16 17 20.5 -1.1**
DRK Karamyk 60.40 297 P **P 16 17 21.0 -1.1**
DRK IAmb IAmb 16 17 46.9
comp=Z,5.2nm,0.9s
DRK Karamyk 60.40 297 P **P 16 17 21.0 -1.1**
DRK pmax pmax
comp=Z,5.0nm,0.9s
BTK Batken 60.47 298 P **P 16 17 21.1 -1.3**
BTK IAmb IAmb 16 17 41.2
comp=Z,7.9nm,0.8s
BTK Batken 60.47 298 P **P 16 17 21.1 -1.3**
BTK pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 60.83 261 P **P 16 17 23.8 -1.1**
CHTO IAmb IAmb 16 17 48.6
comp=Z,12nm,1.4s
CHTO Chiang Mai 60.83 261 P **P 16 17 23.8 -1.1**
CHTO pmax pmax
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 61.11 261 P **P 16 17 25.5 -1.3**
CMAR Chiang Mai Arr 61.11 261 P **P 16 17 28.2 +1.4**
comp=Z,1.4nm,0.7s,baz=20,slow=7.6,SNR=14
CMAR LR LR 16 46 37.4
comp=Z,77nm,18.8s,baz=45,slow=39
comp=Z,1.4nm,0.7s
CMAR Chiang Mai Arr 61.11 261 *i* P **P 16 17 28.5 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
GAR Garm 61.52 298 P **P 16 17 28.8 -0.7**
GAR IAmb IAmb 16 17 48.3
comp=Z,12nm,1.0s
ANMO Albuquerque 61.74 69 LR LR 16 43 48.0
comp=Z,52nm,18.0s,baz=148,slow=36
BRDH Bariadhala 62.02 270 LR LR 16 46 20.2
comp=Z,90nm,19.4s,baz=337,slow=38
CHGR Chuyangaron 62.37 298 P **P 16 17 34.5 -0.7**
CHGR Chuyangaron 62.37 298 P **P 16 17 34.5 -0.7**
NC303 NORSAR Array S 62.44 346 P **P 16 17 34.1 -1.1**
SIMJ Simiganj 62.45 298 P **P 16 17 35.2 -0.6**
SIMJ IAmb IAmb 16 17 53.9
comp=Z,8.3nm,1.1s
NC204 NORSAR Array S 62.48 346 P **P 16 17 35.0 -0.6**
OBN Obninsk 62.51 329 *i* P **P 16 17 37.3 +1.6**
OBN *i* 16 17 50.6
OBN pmax pmax
comp=Z,4.0nm,0.7s
NB201 NORSAR Array S 62.62 346 P **P 16 17 36.7 +0.2**
NB2 NORSAR Subarra 62.64 346 P **P 16 17 37.1 +0.5**
comp=Z,7.8nm,0.7s,baz=17,slow=6.9
NOA NORSAR Array B 62.64 346 P **P 16 17 36.5 -0.1**
comp=Z,6.1nm,0.9s,baz=17,slow=6.7,SNR=18
comp=Z,6.1nm,0.9s
SCHQ Schefferville 62.90 31 P **P 16 17 38.0 -0.4**
SCHQ Schefferville 62.90 31 P **P 16 17 38.2 -0.2**
comp=Z,4.8nm,0.9s,baz=38,slow=13,SNR=4.5
SCHQ LR LR 16 47 20.6
comp=Z,56nm,19.6s,baz=52,slow=38
comp=Z,4.8nm,0.9s
HFS Hagfors 63.14 344 P **P 16 17 40.2 +0.3**
comp=Z,5.1nm,0.9s,baz=52,slow=2.4,SNR=9.8
comp=Z,5.1nm,0.9s

FAKI Fak Fak 63.40 217 P **P 16 17 41.7 -0.4**
NIL Nilore 64.03 292 P **P 16 17 46.2 0.0**
NIL IAmb IAmb 16 18 03.7
comp=Z,9.7nm,0.9s
NIL Nilore 64.03 292 P **P 16 17 46.2 0.0**
NIL pmax pmax
comp=Z,10.0nm,1.0s
MNK Minsk 65.44 334 *i* P P 16 18 02.7 +7.7
MNK *i* 16 18 34.0
MNK *i* 16 20 27.0
MNK *i* PPP PPP 16 22 00.2
MNK *i* S S 16 26 55.1 +16
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK MLR MLR
comp=N,259nm,15.0s
MNK MLR MLR
comp=E,356nm,16.0s
MNK MLR MLR
comp=Z,53nm,13.0s
PABE Paberze 65.47 337 P **P 16 17 54.7 -0.5**
KBL Kabul 65.58 296 P **P 16 17 54.7 -1.8**
KBL IAmb IAmb 16 18 13.0
comp=Z,4.3nm,0.8s
KBL Kabul 65.58 296 P **P 16 17 54.7 -1.8**
KBL pmax pmax
comp=Z,4.0nm,0.9s
VHRN Van Horn 65.70 71 IAmb IAmb 16 18 07.3
comp=Z,10nm,1.3s
WMOK Wichita Mounta 65.97 64 P **P 16 17 59.1 +0.3**
WMOK IAmb IAmb 16 18 02.9
comp=Z,9.3nm,0.9s
WMOK Wichita Mounta 65.97 64 P **P 16 17 59.1 +0.3**
WMOK pmax pmax
comp=Z,9.0nm,0.9s
MNHN Monahans 66.48 69 IAmb IAmb 16 18 12.3
comp=Z,7.5nm,0.8s
SADO Sadowa 67.09 44 LR LR 16 50 25.8
comp=Z,85nm,18.1s,baz=96,slow=39
CCM Cathedral Cave 67.15 56 P **P 16 18 07.1 +0.9**
CCM IAmb IAmb 16 18 15.9
comp=Z,8.5nm,0.9s
CCM Cathedral Cave 67.15 56 P **P 16 18 07.1 +0.9**
CCM pmax pmax
comp=Z,8.0nm,0.9s
TX31 Lajitas Ar. Si 67.55 71 IAmb IAmb 16 18 19.6
comp=Z,6.4nm,0.7s
TXAR Lajitas Array 67.55 71 P **P 16 18 08.7 -0.3**
TXAR Lajitas Array 67.55 71 P **P 16 18 09.8 +0.8**
comp=Z,3.6nm,0.6s,baz=300,slow=4.6,SNR=26
comp=Z,3.6nm,0.6s
TXAR Lajitas Array 67.55 71 P **P 16 18 08.7 -0.3**
LPIG La Paz 67.89 79 LR LR 16 43 29.0
comp=Z,33nm,21.3s,baz=20,slow=32
SAND Sanderson 67.90 69 IAmb IAmb 16 18 21.4
comp=Z,15nm,1.6s
FCAR Ozark Folk Cen 68.43 58 P **P 16 18 14.1 -0.3**
AK03 Malin Array Si 68.48 331 P **P 16 18 16.4 +2.0**
AKASG Malin Array Be 68.50 331 P **P 16 18 12.9 -1.6**
AKASG Malin Array Be 68.50 331 P **P 16 18 14.2 -0.4**
comp=Z,0.7nm,0.5s,baz=30,slow=6.1,SNR=8.4
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 68.50 331 *i* P **P 16 18 14.3 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 68.50 331⇑ *eP* **P 16 18 16.3 +1.7**
KIEV Kiev 68.52 331 P **P 16 18 13.2 -1.4**
KIEV IAmb IAmb 16 18 31.1
comp=Z,9.4nm,1.3s
KIEV Kiev 68.52 331 P **P 16 18 13.2 -1.4**
KIEV pmax pmax
comp=Z,9.0nm,1.3s
BRDY Brady 68.54 66 IAmb IAmb 16 18 24.9
comp=Z,6.1nm,1.0s
PBMO Poplar Bluff 68.55 56 P **P 16 18 15.0 -0.1**
AK05 Malin Array Si 68.58 331 P **P 16 18 12.8 -2.2**
AK05 IAmb IAmb 16 18 37.7
comp=Z,14nm,1.5s
JCT Junction City 68.74 67 IAmb IAmb 16 18 19.4
comp=Z,7.9nm,0.9s
MIAR Mount Ida 68.78 60 IAmb IAmb 16 18 26.2
comp=Z,10nm,1.1s
RNPP5 Staryi Chortor 68.92 334 P **P 16 18 19.8 +2.7**
DRIO Del Rio 69.13 69 IAmb IAmb 16 18 22.2
comp=Z,10nm,1.1s
EKA Eskdalemuir Ar 69.82 353 P **P 16 18 22.8 +0.2**
comp=Z,5.7nm,0.8s,baz=16,slow=4.7,SNR=7.3
comp=Z,5.7nm,0.8s
KBZ Khabaz 70.10 319 P **P 16 18 24.9 +0.3**
comp=Z,5.0nm,0.9s,baz=93,slow=19,SNR=7.4
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.10 319⇑ *eP* **P 16 18 25.7 +1.2**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
CLTN Cedars of Leba 71.06 54 P **P 16 18 30.3 -0.3**
CLTN IAmb IAmb 16 18 40.8
comp=Z,7.3nm,1.0s
V48A Smith Brothers 71.11 55 IAmb IAmb 16 18 40.4
comp=Z,12nm,1.1s
KMPD K-Podol'skiy 71.20 332 P **P 16 18 33.3 +2.1**
KSP Ksiaz 71.50 339 P **P 16 18 35.5 +2.5**
comp=Z,12nm,1.4s
CLL Collm 71.69 342 P **P 16 18 33.5 -0.6**
CLL IAmb IAmb 16 18 51.1
comp=Z,10.0nm,1.0s
CLL Collm 71.69 342 P **P 16 18 33.5 -0.6**
CLL pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 71.93 341 *eP* **P 16 18 37.3 +1.7**
BRG Amp 16 18 39.4
comp=Z,7.7nm,1.1s
BRG Berggiesshubel 71.93 341 P P 16 18 44.2 +8.7
BRG Amp 16 18 47.6
comp=Z,4.7nm,1.0s
DPC Dobruska-Polom 71.96 339 *eP* **P 16 18 38.3 +2.5**
DPC *ex* x 16 18 45.5
DPC Dobruska-Polom 71.96 339 *eP* **P 16 18 38.3 +2.5**
DPC *e* 16 18 45.5
DPC Dobruska-Polom 71.96 339 P **P 16 18 38.5 +2.7**
comp=Z,13nm,1.3s
STEB Steborice 72.05 338 *eP* **P 16 18 39.5 +3.2**
MORC Moravsky Berou 72.25 338 P **P 16 18 36.4 -1.1**
MORC IAmb IAmb 16 18 48.1
comp=Z,11nm,1.2s
MORC Moravsky Berou 72.25 338 *eP* **P 16 18 40.3 +2.8**
MORC Moravsky Berou 72.25 338 P **P 16 18 36.4 -1.1**
MORC pmax pmax
comp=Z,11nm,1.2s
BUR08 Bucovina Ar. S 72.39 333 P **P 16 18 37.6 -0.9**
BURAR Bucovina Array 72.41 332 P **P 16 18 37.8 -0.8**
GNI Garni 72.42 316 LR LR 16 54 53.7
comp=Z,41nm,18.3s,baz=335,slow=40
TKL Tuckaleechee C 72.60 53 LR LR 16 50 52.1
comp=Z,103nm,21.5s,baz=350,slow=36
PRU Pruhonice 72.66 340 *eP* **P 16 18 42.6 +2.7**
PRU Pruhonice 72.66 340 *eP* **P 16 18 42.6 +2.7**
FPAL Fort Paine 72.66 54 IAmb IAmb 16 18 50.1
comp=Z,12nm,1.1s
VRAC Vranov 72.89 339 *eP* **P 16 18 44.7 +3.4**
JAVC Velka Javorina 73.08 338 *eP* **P 16 18 46.5 +3.9**
KRUC Moravsky 73.17 339 *eP* **P 16 18 45.6 +2.7**
ZVC Zvikov 73.25 340 *eP* **P 16 18 45.9 +2.4**
KHC Kasperske Hory 73.67 341 *eP* **P 16 18 47.1 +1.1**
KHC Kasperske Hory 73.67 341⇑ *eP* **P 16 18 49.1 +3.1**
KHC pmax pmax
comp=Z,15nm,1.3s
KHC Kasperske Hory 73.67 341 P **P 16 18 49.1 +3.1**
comp=Z,7.8nm,2.4s
CKRC Cesky Krumlov 73.82 340 *eP* **P 16 18 49.6 +2.8**
CKRC Cesky Krumlov 73.82 340 *eP* **P 16 18 49.6 +2.8**
PSI Prapat 73.86 251 P **P 16 18 46.3 -1.3**
PSI pmax pmax
comp=Z,6.0nm,0.4s
GEC2 GERESS Array S 73.92 340 P **P 16 18 47.0 -0.5**
GERES GERESS Array B 73.92 340 P **P 16 18 46.5 -1.0**
GERES GERESS Array B 73.92 340 P **P 16 18 47.6 +0.1**
comp=Z,1.2nm,0.6s,baz=66,slow=3.3,SNR=8.9
comp=Z,1.2nm,0.6s
GERES GERESS Array B 73.92 340 P **P 16 18 46.5 -1.0**
RPSI Rantau Prapat 73.95 251 P **P 16 18 46.3 -1.7**
RPSI IAmb IAmb 16 21 29.1

comp=Z,6.4nm,0.4s
MLR Muntele Rosu 74.16 331 P **P 16 18 46.9 -2.1**
MLR IAmb IAmb 16 19 07.5
comp=Z,20nm,1.6s
MLR Muntele Rosu 74.16 331 P **P 16 18 46.9 -2.1**
MLR pmax pmax
comp=Z,20nm,1.6s
MPLH Magyarpolny 74.71 337 P **P 16 18 55.7 +3.7**
comp=Z,34nm,1.3s
KBA Koelnbreinsper 75.68 340 *ep*P pP 16 19 00.7 +1.4
comp=Z,6.8nm,1.0s
WATA Walderalm 75.77 341 *i pP* pP 16 19 01.4 +1.6
comp=Z,1.5nm,0.4s
RETA Reutte 75.77 342 *ep*P pP 16 19 00.5 +0.8
comp=Z,0.8nm,0.5s
WTTA Wattenberg 75.82 341 *ep*P pP 16 19 01.9 +1.7
comp=Z,2.8nm,0.5s
MOTA Moosalm 75.84 342 *ep*P pP 16 19 01.0 +0.7
comp=Z,1.1nm,0.4s
SQTA Sankt Quirin 75.94 342 *ep*P pP 16 19 00.4 -0.3
comp=Z,0.5nm,0.2s
OBKA Obir 75.98 339 *ep*P pP 16 19 02.8 +1.9
comp=Z,5.4nm,0.7s
ABTA Abfaltersbach 76.16 341 *ep*P pP 16 19 02.9 +1.0
comp=Z,4.5nm,0.8s
FUORN Ofenpass-Fuorn 76.69 342 P **P 16 19 03.2 -0.5**
BR131 Keskin Array S 76.97 323 P **P 16 19 04.2 -1.0**
BR131 Keskin Array S 76.97 323⇓ *eP* **P 16 19 05.8 +0.6**
BRTR Keskin Array B 76.97 323 P **P 16 19 04.0 -1.2**
BRTR Keskin Array B 76.97 323 P **P 16 19 05.5 +0.2**
comp=Z,0.9nm,0.9s,baz=90,slow=3.7,SNR=4.6
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 76.97 323 P **P 16 19 04.0 -1.2**
BR104 Keskin Array S 76.98 323 P **P 16 19 06.4 +1.1**
comp=Z,2.5nm,0.9s
TUE Stuetta 77.00 343 P **P 16 19 05.7 +0.3**
TUE IAmb IAmb 16 19 17.3
comp=Z,18nm,1.4s
TUE Stuetta 77.00 343 P **P 16 19 08.6 +3.2**
TEOL Teolo 77.65 341 P **P 16 19 08.2 -0.6**
WB0 Warramunga Arr 78.59 209 P **P 16 19 13.9 -0.2**
WB0 IAmb IAmb 16 19 15.9
comp=Z,7.7nm,1.1s
ZCCA Zocca 78.75 341 P **P 16 19 15.6 +0.6**
WB2 Warramunga Arr 78.77 209 P **P 16 19 14.1 -1.0**
WB2 IAmb IAmb 16 19 57.5
comp=Z,21nm,1.7s
WRA Warramunga Arr 78.77 209 P **P 16 19 15.0 -0.2**
comp=Z,2.4nm,0.8s,baz=21,slow=5.9,SNR=7.9
comp=Z,2.4nm,0.8s
WRA Warramunga Arr 78.77 209 *i* P **P 16 19 16.3 +1.2**
WRA pmax pmax
comp=Z,3.0nm,0.9s
MSSA Maissana 79.06 342 P **P 16 19 16.2 -0.4**
MSSA IAmb IAmb 16 19 26.3
comp=Z,10nm,1.0s
FDMO Fiordimonte 79.60 339 P **P 16 19 18.1 -1.5**
FDMO IAmb IAmb 16 19 30.6
comp=Z,12nm,1.0s
NRCA Norcia 79.79 339 P **P 16 19 19.3 -1.4**
FITZ Fitzroy Crossi 79.80 217 P **P 16 19 19.9 -0.9**
CAMP Campotosto 80.02 339 P **P 16 19 19.9 -2.1**
CAMP IAmb IAmb 16 19 32.8
comp=Z,17nm,1.2s
PALK Pallekele 80.59 269 LR LR 16 57 55.5
comp=Z,36nm,21.8s,baz=60,slow=38
CEST Esterri de Car 81.99 348 P **P 16 19 33.7 +1.2**
AS31 Alice Springs 82.43 208 P **P 16 19 34.3 -0.4**
ASAR Alice Springs 82.43 208 P **P 16 19 33.7 -1.0**
ASAR Alice Springs 82.43 208 P **P 16 19 35.5 +0.8**
comp=Z,5.8nm,1.0s,baz=15,slow=4.8,SNR=22
comp=Z,5.8nm,1.0s
ASAR Alice Springs 82.43 208 P **P 16 19 33.7 -1.0**
PVIS Viseu 84.69 354 *eP* **P 16 19 49.2 +2.9**
MTE Manteigas 84.98 354 *eP* **P 16 19 49.0 +1.2**
MTE *i* Amb 16 19 50.4
comp=Z,30nm,2.2s
PCAS Casmilo, Conde 85.38 355 *eP* **P 16 19 52.4 +2.7**
PCAS *i* tx tx 16 19 59.3
PCAS *i* Amb 16 20 00.7
comp=Z,47nm,1.7s
ESDC Sonseca Array 85.44 351 P **P 16 19 49.5 -0.6**
ESDC Sonseca Array 85.44 351 P **P 16 19 51.0 +0.8**
comp=Z,6.1nm,0.9s,baz=1.8,slow=4.9,SNR=24
comp=Z,6.1nm,0.9s
PCBR Castelo Branco 85.53 354 *eP* **P 16 19 52.6 +2.1**
PCBR *i* tx tx 16 20 00.7
PCBR *i* Amb 16 20 01.3
comp=Z,17nm,1.1s
STKA Stephens Creek 88.53 199 P **P 16 20 05.2 +0.3**
comp=Z,2.5nm,0.9s,baz=357,slow=9.6,SNR=3.5
comp=Z,2.5nm,0.9s
SJG San Juan 95.56 48 LR LR 17 05 34.1
comp=Z,24nm,20.6s,baz=157,slow=37
QSPA South Pole Qui 144.50 180 **PKPab 16 26 44.8 -1.2**
QSPA South Pole Qui 144.50 180 PKP **PKPab 16 26 45.1 -1.0**
comp=Z,5.8nm,0.8s,baz=343,slow=1.1,SNR=45
TRQA Tornquist 144.56 81 PKPdf **PKPdf 16 26 47.8 -0.8**
TRQA Tornquist 144.56 81 PKIKP **PKPdf 16 26 47.8 -0.8**

---

*NEIC **21** 16:25:33.7±0.8, 62°.55N±0°.03×150°.78W±0°.07, h90km±5km, Error ellipse: s-maj=4.9km s-min=4.4km az=89.0*
AEIC 21 16:25:34.1±0.7, 62°.54N±0°.03×150°.75W±0°.07, h81km±5km, ML2.3, ML2.5/191(NEIC), **Error ellipse: s-maj=4.8km s-min=4.3km az=73.0, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.26**	**121**		Pn	16 25 46.5	+0.3
CUT				Sn	Sn	16 25 55.8	+0.6
CUT				IAML		16 25 56.6	
CUT	comp=E,317nm,0.5s			IAML		16 25 56.8	
SKT	**Skwentna**	**0.67**	**214**		Pn	16 25 49.6	0.0
SKT				Sn	Sn	16 26 00.9	-0.1
SKT				IAML		16 26 02.5	
	comp=E,166nm,0.3s						
PPLA	**Purkeypile**	**0.76**	**299**		Pn	16 25 50.9	+0.3
PPLA	**Purkeypile**	**0.76**	**299**		Sn	16 26 03.2	+0.4
M22K	**Willow**	**0.84**	**159**	Pn	Pn	16 25 51.3	0.0
M22K				Sn	Sn	16 26 04.3	+0.2
TRF	**Thorofare Moun**	**0.94**	**13**		Pn	16 25 53.0	+0.4
TRF				Sn	Sn	16 26 06.9	+0.4
TRF				IAML		16 26 08.3	
	comp=N,95nm,0.4s						
TRF				IAML		16 26 08.6	
	comp=E,93nm,0.4s						
KTH	**Kantishna Hill**	**1.02**	**356**		Pn	16 25 54.0	+0.4
KTH				Sn	Sn	16 26 07.7	-0.3
KTH				IAML		16 26 09.8	
	comp=E,110nm,0.7s						
KTH				IAML		16 26 09.9	
	comp=N,90nm,0.4s						
CAST	**Castle Rocks**	**1.07**	**326**		Pn	16 25 54.1	0.0
CAST				Sn	Sn	16 26 08.2	-0.9
GHO	**Glory Hole Cre**	**1.15**	**131**		Pn	16 25 55.8	+0.7
GHO				Sn	Sn	16 26 12.0	+1.2
STLK	**Strandline Lak**	**1.16**	**207**		Pn	16 25 55.1	-0.1
STLK				Sn	Sn	16 26 10.8	-0.2
STLK				IAML		16 26 11.8	
	comp=E,134nm,0.2s						
STLK				IAML		16 26 12.0	
	comp=N,97nm,0.4s						
PMR	**Palmer**	**1.22**	**141**		Pn	16 25 56.0	+0.2
PMR				Sn	Sn	16 26 12.1	0.0
PMR				IAML		16 26 14.1	
	comp=E,79nm,0.6s						
PMR				IAML		16 26 15.4	
	comp=N,63nm,0.4s						
RND	**Reindeer**	**1.23**	**44**		Pn	16 25 56.1	+0.1
RND				Sn	Sn	16 26 12.7	+0.2
RND				IAML		16 26 13.7	
	comp=N,68nm,0.4s						
RND				IAML		16 26 14.4	
	comp=E,100nm,0.3s						
M20K	**Styx River**	**1.30**	**241**		Pn	16 25 56.8	-0.1
M20K				Sn	Sn	16 26 13.7	-0.4
M20K				IAML		16 26 14.3	
	comp=N,92nm,0.3s						
M20K				IAML		16 26 14.5	
	comp=E,133nm,0.3s						
SML	**Sawmill**	**1.35**	**122**		Pn	16 25 57.8	+0.2
SML				Sn	Sn	16 26 15.8	+0.6

SML IAML 16 26 19.5
comp=E,78nm,0.5s
SML IAML 16 26 19.6
comp=N,121nm,0.4s
SPCG Spurr Capps Gl 1.39 206 Pn 16 25 58.3 +0.2
SPCG Sn 16 26 16.4 +0.2
FIS Fire Island 1.42 170 Pn Pn 16 25 58.2 -0.2
MCK McKinley 1.45 34 Pn 16 25 59.1 +0.3
L20K Farewell, AK 1.46 269 Pn 16 25 58.8 -0.1
SPCN Chakachatna No 1.48 208 Pn 16 25 59.6 +0.3
SPNN North Nagishla 1.50 219 Pn 16 25 59.7 +0.2
SPBG Spurr Blockage 1.50 212 Pn 16 26 00.1 +0.7
SPBG Sn 16 26 19.2 +0.7
SPCR Spurr Chakacha 1.51 208 Pn 16 25 59.8 +0.1
CHUM Lake Minchumin 1.52 333 Pn 16 25 60.0 +0.3
RC01 Rabbit Creek A 1.53 161 Pn Pn 16 26 00.0 +0.2
RC01 IAML 16 26 20.6
comp=E,66nm,0.2s
RC01 IAML 16 26 23.4
comp=N,63nm,0.4s
CKL Chakachamna La 1.54 210 Pn 16 26 00.2 +0.1
KNK Knik Glacier 1.56 135 Pn 16 26 00.2 -0.1
KNK IAML 16 26 23.0
comp=N,96nm,0.5s
BPAW Bear Paw Mtn. 1.57 356 Pn 16 26 00.1 -0.3
BPAW Bear Paw Mtn. 1.57 356 Sn 16 26 19.4 -0.9
BPAW Bear Paw Mtn. 1.57 356 IAML 16 26 19.9
comp=N,71nm,0.4s
BPAW IAML 16 26 20.1
comp=E,59nm,0.7s
M23K Glacier View 1.60 116 Pn 16 26 00.6 -0.1
K20K Telida 1.73 300 Pn 16 26 02.5 +0.1
K20K IAML 16 26 23.5
comp=E,41nm,0.5s
K20K Telida 1.73 300 Sn 16 26 23.2 -0.6
BWN Browne 1.74 19 Pn 16 26 03.0 +0.5
BWN IAML 16 32.7
comp=E,33nm,1.1s
BWN IAML 16 26 55.0
comp=N,29nm,0.7s
SCM Sheep Creek Mo 1.75 112 Pn 16 26 02.8 0.0
SCM IAML 16 26 30.0
comp=N,69nm,0.7s
SCM IAML 16 26 30.7
comp=E,59nm,0.6s
CAPN Captain Cook N 1.79 186 Pn Pn 16 26 03.2 0.0
M19K Big River Lodg 1.82 251 Pn 16 26 03.2 -0.5
M19K Big River Lodg 1.82 251 Sn 16 26 26.0 -0.1
M19K Big River Lodg 1.82 251 IAML 16 26 27.5
comp=N,24nm,0.3s
M19K IAML 16 26 30.5
comp=E,20nm,0.3s
L19K White Mountain 1.95 261 Pn 16 26 05.2 -0.1
L19K IAML 16 26 30.0
comp=N,18nm,0.7s
L19K IAML 16 26 30.1
comp=E,48nm,0.5s
PWL Port Wells 2.04 145 Pn 16 26 06.0 -0.6
PWL IAML 16 26 32.1
comp=E,52nm,0.3s
PWL IAML 16 26 42.9
comp=N,57nm,1.2s
SLKM Skilak Lake 2.05 173 Pn 16 26 06.4 -0.3
SLKM IAML 16 26 39.1
comp=N,46nm,0.5s
SLKM IAML 16 26 40.1
comp=E,50nm,0.7s
O22K Cooper Landing 2.12 166 Pn Pn 16 26 07.9 +0.3
RDT Redoubt 2.13 203 Pn 16 26 07.7 0.0
M24K Tolsona, Glenn 2.18 99 Pn Pn 16 26 08.9 +0.5
M24K IAML 16 26 43.7
comp=N,51nm,0.5s
NEA2 Nenana 2.19 19 Pn 16 26 08.2 -0.4
J20K Nowinta River 2.25 319 Pn 16 26 09.1 -0.2
J20K IAML 16 26 37.1
comp=E,31nm,0.6s
J20K IAML 16 26 37.3
comp=N,36nm,0.6s
WRH Wood River Hil 2.28 30 Pn Pn 16 26 09.2 -0.4
RDWB Redoubt West 2.29 207 Pn 16 26 10.2 +0.3
GLI Glacier Island 2.41 132 Pn 16 26 10.5 -0.9
TTA Tatalina 2.46 282 Pn 16 26 11.7 -0.4
PAX Paxson 2.47 78 Pn 16 26 12.8 +0.5
N19K Bonanza Creek 2.48 227 Pn Pn 16 26 12.7 +0.2
CCB Clear Creek Bu 2.49 31 Pn 16 26 12.2 -0.3
CCB IAML 16 26 42.5
comp=E,12nm,0.4s
KLU Klutina 2.50 113 Pn 16 26 12.1 -0.7
KLU Klutina 2.50 113 Sn 16 26 41.8 -0.7
KLU Klutina 2.50 113 IAML 16 26 53.5
comp=E,24nm,1.0s
KLU IAML 16 26 55.7
comp=N,31nm,0.5s
SEW Seward 2.52 165 Pn Pn 16 26 19.4 +6.5
HDA Harding Lake 2.54 41 Pn 16 26 13.2 +0.1
HDA IAML 16 26 44.0
comp=E,32nm,0.3s
HDA IAML 16 26 50.6
comp=N,30nm,0.4s
K24K Donnelly Dome 2.59 58 Pn 16 26 14.7 +0.8
M18K Stony River 2.62 249 Pn 16 26 14.2 0.0
J19K Poorman 2.64 306 Pn Pn 16 26 14.7 +0.1
J19K IAML 16 26 45.8
comp=N,13nm,1.0s
J19K IAML 16 27 00.5
comp=E,11nm,0.9s
COLA College 2.67 28 Pn 16 26 15.3 +0.4
COLA IAML 16 26 49.9
comp=E,32nm,0.3s
I23K Minto, Yukon-K 2.69 13 Pn 16 26 15.5 +0.3
I21K Tanana 2.71 349 Pn Pn 16 26 15.8 +0.4
FID Port Fidalgo 2.71 129 Pn 16 26 14.8 -0.7
DIV Divide 2.75 119 Pn Pn 16 26 15.3 -0.8
BRLK Bradley Lake 2.79 181 Pn Pn 16 26 16.6 +0.1
BRLK IAML 16 27 00.2
comp=N,26nm,0.4s
BRLK IAML 16 27 03.3
comp=E,27nm,1.2s
L18K Granite Mounta 2.79 266 Pn Pn 16 26 16.2 -0.3
L18K IAML 16 27 03.9
comp=N,8.5nm,1.1s
I20K Naaghedeneel 2.81 325 Pn 16 26 16.6 -0.2
I20K IAML 16 27 13.5
comp=N,32nm,0.7s
ILSW Iliamna Southw 2.81 205 Pn Pn 16 26 18.6 +1.6
ILSW IAML 16 26 53.9
comp=N,10nm,1.2s
ILSW IAML 16 27 32.1
comp=E,9.9nm,1.1s
IL31 2.83 36 Pn 16 26 16.9 -0.1
ILAR Eielson Array 2.83 36 Pn 16 26 16.9 -0.1
J18K Innoko River 2.88 291 Pn 16 26 17.6 -0.1
RIDG Independent Ri 2.94 63 Pn 16 26 19.7 +1.1
HIN Hinchinbrook I 2.96 135 Pn Pn 16 26 18.5 -0.4
POKR Poker Plat Res 2.98 28 Pn Pn 16 26 18.9 -0.1
POKR IAML 16 26 54.9
comp=N,8.0nm,0.8s
CNPM China Poot 3.03 185 Pn Pn 16 26 20.4 +0.6
CNPM IAML 16 27 07.3
comp=E,12nm,0.4s
N25K Chitina, Valde 3.04 105 Pn Pn 16 26 19.6 -0.5
N25K IAML 16 27 06.2
comp=N,21nm,0.6s
N25K IAML 16 27 06.4
comp=E,17nm,0.6s
N18K Kilae Creek 3.08 235 Pn 16 26 20.3 -0.2
EYAK Cordova Ski Ar 3.12 128 Pn Pn 16 26 20.7 -0.2
P19K Oil Pt 3.14 204 Pn Pn 16 26 21.4 +0.1
WASW Wrangell South 3.14 98 Pn 16 26 21.4 0.0
J25K Salcha River, 3.18 47 Pn 16 26 21.9 0.0
J25K IAML 16 27 00.3
comp=N,14nm,0.5s
J25K IAML 16 27 05.0
comp=E,19nm,0.6s
DOT Dot Lake 3.24 67 Pn 16 26 22.8 +0.1
H21K Melozitna Rive 3.26 345 Pn 16 26 23.2 +0.3
MENT Mentasta 3.26 80 Pn 16 26 21.7 -1.2
BMRM Bremner River 3.32 116 Pn Pn 16 26 23.0 -0.8
M17K Holitna River 3.36 253 Pn Pn 16 26 23.6 -0.6
M17K IAML 16 27 02.2
comp=E,9.8nm,1.1s
M17K IAML 16 27 22.4
comp=N,13nm,1.0s
SCRK Sand Creek 3.38 62 Pn 16 26 24.6 0.0
SCRK IAML 16 27 08.8
comp=N,20nm,0.8s
SCRK IAML 16 27 09.0
comp=E,19nm,1.1s
H22K Ishtalitna Cre 3.38 356 Pn 16 26 24.6 0.0
GLB Gilahina Butte 3.45 105 Pn Pn 16 26 24.7 -0.9
GLB IAML 16 27 08.6
comp=E,4.9nm,1.0s
GLB IAML 16 27 22.7
comp=N,13nm,1.1s
O18K Koktuh Hills 3.45 221 Pn Pn 16 26 25.1 -0.4
H20K Anotleneega Mo 3.48 330 Pn 16 26 26.3 +0.4
K17K Iditarod 3.50 276 Pn Pn 16 26 26.2 +0.1
K17K IAML 16 27 47.1
comp=E,4.9nm,0.9s
H24K Noodor Dome 3.54 19 Pn 16 26 26.9 +0.1
L17K Donlin 3.54 267 Pn 16 26 26.6 -0.2
M26K Nabesna, AK 3.60 89 Pn Pn 16 26 27.3 -0.3
M26K IAML 16 27 27.7
comp=N,7.3nm,0.9s
M26K IAML 16 27 30.3
comp=E,6.3nm,0.5s
RAGM Ragged Mountai 3.62 124 Pn Pn 16 26 28.1 +0.1
N17K Nushagak Hills 3.69 240 Pn Pn 16 26 28.6 0.0
N17K IAML 16 27 33.5
comp=E,4.5nm,1.1s
VRDI Verde Repeater 3.69 108 Pn Pn 16 26 28.4 -0.6
VRDI IAML 16 27 35.6
comp=N,5.6nm,0.9s
VRDI IAML 16 27 36.8
comp=E,4.9nm,1.1s
PRP Porcupine Dome 3.77 35 Pn Pn 16 26 30.1 +0.2
PRP IAML 16 27 20.5
comp=E,4.9nm,0.9s
PRP IAML 16 27 27.1
comp=N,5.5nm,1.0s
J26L Joseph Creek 3.77 55 Pn 16 26 30.2 +0.3
P18K Big Mountain, 3.84 217 Pn Pn 16 26 30.8 0.0
P18K IAML 16 27 59.7
comp=N,3.9nm,0.9s
Q19K Cape Douglas, 3.89 203 Pn Pn 16 26 32.2 +0.7
J17K VABM Dome 3.90 286 Pn Pn 16 26 31.1 -0.5
J17K IAML 16 27 17.9
comp=E,4.5nm,1.1s
SYI Shuyak Island 4.02 192 Pn Pn 16 26 33.5 +0.3
M27K Edge Creek, AK 4.12 89 Pn Pn 16 26 34.9 +0.1
M27K IAML 16 27 52.0
comp=N,3.9nm,1.1s
L27K Beaver Creek, 4.13 79 Pn Pn 16 26 34.0 -0.7
L27K IAML 16 27 43.5
comp=E,3.3nm,0.8s
BCAR Beaver Creek A 4.15 79 Pn Pn 16 26 34.3 -0.7
L16K Owhat River 4.18 262 Pn Pn 16 26 35.3 -0.1
L16K IAML 16 27 33.0
comp=E,3.6nm,1.1s
L16K IAML 16 27 51.1
comp=N,5.6nm,1.2s
M16K Timber Creek 4.19 252 Pn Pn 16 26 35.0 -0.5
M16K IAML 16 27 12.4
comp=E,5.3nm,1.2s
M16K IAML 16 28 05.1
comp=N,6.4nm,1.2s
G23K Bananza Creek 4.20 4 Pn 16 26 36.2 +0.5
H18K Honhosa River 4.27 311 Pn Pn 16 26 36.8 +0.1
I26K Coal Creek Min 4.35 47 Pn 16 26 38.0 +0.3
I26K IAML 16 27 31.8
comp=E,9.6nm,0.9s
G24K Hadweenzic Riv 4.41 17 Pn Pn 16 26 38.5 0.0
G19K Purcell Mounta 4.55 325 Pn Pn 16 26 40.1 -0.2
G19K IAML 16 28 02.0
comp=E,5.2nm,0.9s
J16K Anvik River 4.57 284 Pn Pn 16 26 40.2 -0.4
J16K IAML 16 27 34.5
comp=N,3.1nm,1.1s
O16K Kokwok River B 4.63 234 Pn Pn 16 26 41.5 0.0
O16K IAML 16 27 29.1
comp=E,5.3nm,1.1s
O16K IAML 16 29 41.6
comp=N,5.0nm,1.1s
FYU Fort Yukon 4.69 28 Pn Pn 16 26 42.1 -0.2
FYU IAML 16 27 50.4
comp=E,2.8nm,0.7s
FYU IAML 16 28 58.5
comp=N,4.2nm,1.0s
I17K Unalakleet 4.70 291 Pn Pn 16 26 42.5 0.0
I17K IAML 16 27 31.9
comp=E,4.7nm,1.1s
I17K IAML 16 29 18.0
comp=N,3.0nm,1.1s
COLD Coldfoot 4.71 3 Pn 16 26 42.3 -0.3
H17K Granite Mounta 4.73 305 Pn Pn 16 26 43.8 +0.9
KDAK Kodiak Island 4.86 192 Pn Pn 16 26 43.2 -1.4
KDAK IAML 16 28 36.0
comp=N,4.7nm,1.0s
KDAK IAML 16 29 52.9
comp=N,4.8nm,1.1s
ACHA Angle Creek He 4.90 210 Pn Pn 16 26 45.4 +0.1
ACHA IAML 16 27 43.0
comp=E,4.4nm,1.2s
ACHA IAML 16 29 38.0
comp=N,2.0nm,0.9s
F20K Avaraart Lake 5.00 337 Pn Pn 16 26 46.9 +0.4
K15K Wolf Creek Mou 5.02 272 Pn Pn 16 26 46.8 0.0
K15K IAML 16 28 30.9
comp=N,5.2nm,1.1s
K15K IAML 16 29 54.2
comp=E,5.9nm,1.1s
N15K Kwethluk River 5.09 246 Pn Pn 16 26 48.3 +0.6
F24K Squaw Lake 5.15 12 Pn Pn 16 26 49.1 +0.6
F19K Shaleruckik Mo 5.26 328 Pn Pn 16 26 50.7 +0.7
F19K IAML 16 27 35.9
comp=E,1.4nm,1.2s
F19K IAML 16 27 55.8
comp=N,1.8nm,0.8s
F25K Christian Rive 5.51 21 Pn Pn 16 26 54.0 +0.5
BMAR Burnt Mountain 5.56 25 Pn Pn 16 26 54.7 +0.5
I28M Miner Creek 5.58 54 Pn Pn 16 26 54.7 +0.2
PCA Pinnacle 5.61 111 Pn Pn 16 26 53.4 -1.6
M29M Somme Creek 5.70 86 Pn Pn 16 26 55.9 -0.3
G27K Doyon Strip 5.79 38 Pn Pn 16 26 56.9 -0.4
L29M L29M 5.81 79 Pn Pn 16 26 57.6 -0.1
G16K Koyuk River 5.86 304 Pn Pn 16 26 59.4 +1.2
F26K Sheenjek River 5.88 25 Pn 16 26 58.0 -0.5
J14K Nanvaranak Lak 5.91 278 Pn Pn 16 26 59.0 +0.1
E25K Arctic Village 6.01 19 Pn Pn 16 27 00.2 -0.1
K29M Barlow Dome 6.13 72 Pn Pn 16 27 01.2 -0.8

IDC 21 16:43:03.6±2.4, 31°28'S×149°45'E, h0km, mb3.3/3, mbtmp3.4/3, MS2.9/1, Error ellipse: s-maj=270.4km s-min=30.4km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.50**	**200**	LR	LR	16 47 26.5	
	comp=Z,93nm,20.6s,baz=77,slow=40						
WRA	**Warramunga Arr**	**22.17**	**221**	P	P	16 48 02.2	+0.8
	0.9nm,0.9s,baz=45,slow=10,SNR=4.8						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**25.23**	**215**	P	P	16 48 30.8	-0.7
	0.6nm,0.9s,baz=38,slow=10.0,SNR=4.9						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**82.04**	**23**	P	P	16 55 25.6	+0.1
	0.3nm,0.8s,baz=256,slow=5.7,SNR=4.5						
	0.3nm,0.8s						

AFAD 21 16:45:50.9, 40°11'N×29°26'E, h7km±2km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULDT	**Uludag**	**0.10**	**291**	P	Pg	16 45 53.9	+0.6
ULDT				S	Sg	16 45 55.4	+0.4
ULDT				*i* AML	AML	16 45 56.0	
	comp=N,93nm,0.2s						
ULDT				*i* AML	AML	16 45 56.0	
	comp=E,78nm,0.4s						
IGD	**Bursa**	**0.16**	**345**	P	Pg	16 45 54.5	+0.2
IGD				S	Sg	16 45 56.8	+0.3
IGD				*i* AML	AML	16 45 57.0	
	comp=N,56nm,0.4s						
AVDN	**Avdancik/Bursa**	**0.20**	**339**	P	Pg	16 45 55.3	+0.4
AVDN				S	Sg	16 45 58.1	+0.4
AVDN				*i* AML	AML	16 45 59.0	
	comp=N,70nm,0.7s						
KRSK	**Karsak**	**0.30**	**0**	P	Pg	16 45 57.1	+0.3
KRSK				S	Sg	16 46 01.5	+0.8
DOMA	**Ktahya-Doman**	**0.46**	**133**	P	Pg	16 45 59.7	-0.2
DOMA				S	Sg	16 46 05.9	0.0
DOMA				*i* AML	AML	16 46 06.0	
	comp=N,14nm,0.1s						
DOMA				*i* AML	AML	16 46 06.0	
	comp=E,15nm,0.3s						
GDZ	**Gediz**	**1.03**	**170**	P	Pb	16 46 11.3	+0.1
GDZ				S	Sn	16 46 28.1	+1.4
GDZ				*i* AML	AML	16 46 29.0	
	comp=E,8.2nm,0.5s						
GDZ				*i* AML	AML	16 46 31.0	
	comp=N,5.5nm,0.8s						

IDC 21 16:49:02.5±352.0, 45°98'N×64°36'E, h0km, Error ellipse: s-maj=185.7km s-min=114.8km az=164.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.12**	**319**	I	I	17 25 40.0	
	baz=134,slow=332,SNR=1.4						
I46RU	**ZALESOVO INFRA**	**15.35**	**51**	I	I	18 21 45.0	
	0.2nm,1.6s,baz=248,slow=323,SNR=4.8						
I34MN	**SONGINO INFRAS**	**28.54**	**71**	I	I	19 44 00.0	
	baz=286,slow=339,SNR=1.4						
I45RU	**USSURIYSK INFR**	**46.45**	**67**	I	I	21 30 20.0	
	baz=300,slow=324,SNR=0.8						
I44RU	**PETROPAVLOVSK**	**56.82**	**46**	I	I	22 38 00.0	
	baz=296,slow=327,SNR=2.2						

IDC 21 16:55:37.9±1.8, 3°15S×150°30E, h0km, mb3.5/4, mbtmp3.5/4, MS3.0/1, Error ellipse: s-maj=65.1km s-min=28.8km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.95**	**207**	LR	LR	17 00 06.9	
	comp=Z,103nm,18.8s,baz=52,slow=39						
WRA	**Warramunga Arr**	**22.83**	**222**	P	P	17 00 43.6	+0.8
	1.9nm,1.0s,baz=50,slow=10.0,SNR=6.1						
	1.9nm,1.0s						
ASAR	**Alice Springs**	**25.83**	**216**	P	P	17 01 10.4	-0.8
	0.6nm,0.8s,baz=57,slow=9.1,SNR=4.7						
	0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.89**	**36**	T	T	17 28 37.8	
	baz=218,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**26.90**	**36**	T	T	17 28 33.3	
	baz=218,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.91**	**36**	T	T	17 28 34.1	
	baz=218,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**27.97**	**35**	T	T	17 29 59.0	
	baz=218,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**27.98**	**35**	T	T	17 30 00.6	
	baz=218,slow=76,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**27.98**	**35**	T	T	17 29 58.3	
	baz=218,slow=76,SNR=18						
CMAR	**Chiang Mai Arr**	**54.92**	**295**	P	P	17 05 10.2	-0.9
	0.3nm,0.4s,baz=96,slow=7.6,SNR=4.2						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**81.59**	**23**	P	P	17 07 57.6	+0.2
	0.5nm,0.9s,baz=255,slow=4.6,SNR=4.3						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**147.41**	**290**	PKPbc	PKPbc	17 15 25.1	+0.1
	25nm,0.3s,baz=73,slow=2.4,SNR=1.3						

*SJA **21** 16:55:56.5±1.4, 31°76S×71°95W, h40km, ML3.8, MW3.8*
*GUC **21** 16:55:58.9±0.8, 31°83S×71°53W, h42km±3km, ML3.7*
*IDC **21** 16:56:02.7±4.8, 31°93S×71°01W, h60km±40km, mb3.9/1, mbtmp3.7/3, ML3.6/2, MS2.8/1, Error ellipse: s-maj=75.6km s-min=36.7km az=108.0*

ISC 21 16:55:56.1±1.2, 31°77S±0°02×71°60W±0°04, h18km±6km, n59, σ1°50/85, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.83**	**162⇑**	*i*P	**Pn**	**16 56 13.5**	**+0.5**
VA06				*e*S	**Sb**	**16 56 23.8**	**+0.9**
VA06				IAML		16 56 27.4	
	comp=N,7μm,0.2s						
CO06	**Fray Jorge**	**1.09**	**358**	*e*P	**Pn**	**16 56 19.2**	**+2.7**
CO06				*e*S	**Sn**	**16 56 34.0**	**+2.9**
CO06				IAML		16 56 37.9	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.21**	**40**	*e*P	**Pg**	**16 56 20.7**	**+1.2**
CO03				*e*S	**Sn**	**16 56 36.6**	**+2.3**
CO03				IAML		16 56 37.4	
	comp=E,5μm,0.1s						
VA01	**Torpederas**	**1.25**	**182**	*e*P	**Pg**	**16 56 20.1**	**-0.3**
VA01				*e*S	**Sn**	**16 56 37.9**	**+2.7**
VA01				IAML		16 56 40.6	
	comp=Z,792nm,0.6s						
VA01	**Torpederas**	**1.25**	**182**	*e*P	**Pg**	**16 56 20.1**	**-0.3**
VA01				*e*S	**Sn**	**16 56 35.9**	**+0.7**
VA01				IAML		16 56 39.8	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**1.30**	**158**	*e*P	**Pg**	**16 56 20.5**	**-0.8**
ROCH				*e*P	**Pg**	**16 56 20.5**	**-0.8**
ROCH				*e*S	**Sb**	**16 56 37.0**	**+0.3**
ROCH				*e*S		16 56 37.1	
ROCH				IAML		16 56 40.0	
	comp=E,2μm,0.4s						
ROCH				IAML		16 56 40.0	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.33**	**139**	*e*P	**Pg**	**16 56 22.2**	**+0.4**
VA03				*e*S	**Sn**	**16 56 38.2**	**+0.9**
VA03				IAML		16 56 40.5	
	comp=Z,2μm,0.3s						
VA03	**San Esteban**	**1.33**	**139**	*e*P	**Pg**	**16 56 21.3**	**-0.5**
VA03				*e*S	**Sb**	**16 56 37.5**	**0.0**
VA03				IAML		16 56 38.6	
	comp=N,5μm,0.4s						
MT02	**Curacav**	**1.54**	**166**	*e*P	**Pn**	**16 56 23.1**	**+0.4**
MT02				*e*S	**Sb**	**16 56 43.6**	**+0.3**
MT02				IAML		16 56 46.1	
	comp=Z,461nm,0.5s						
MT02	**Curacav**	**1.54**	**166**	*e*P	**Pb**	**16 56 23.9**	**-0.2**
MT02				*e*S	**Sn**	**16 56 43.2**	**+0.9**
MT02				IAML		16 56 49.3	
	comp=E,419nm,0.2s						
PEL	**Peldehue**	**1.57**	**151**	*e*P	**Pb**	**16 56 24.9**	**+0.2**
PEL				*e*S	**Sn**	**16 56 43.8**	**+0.6**
PEL				IAML		16 56 52.8	
	comp=N,1μm,0.3s						
GO04	**Tololo Observa**	**1.73**	**24**	*e*P	**Pg**	**16 56 28.9**	**-0.5**
GO04				*e*S	**Sg**	**16 56 53.1**	**+1.1**
GO04	**Tololo Observa**	**1.73**	**24**	*e*P	**Pg**	**16 56 28.6**	**-0.9**
GO04				*e*S	**Sg**	**16 56 51.6**	**-0.4**
MT10	**Hacienda Santa**	**1.75**	**149**	*e*P	**Pb**	**16 56 27.6**	**-0.2**
MT10				*e*S	**Sn**	**16 56 48.3**	**+0.6**
MT10				IAML		16 56 50.8	
	comp=E,2μm,0.3s						
MT05	**Renca**	**1.78**	**156**	*e*P	**Pb**	**16 56 28.2**	**0.0**
MT05				*e*S	**Sb**	**16 56 51.3**	**+1.1**
MT05				IAML		16 56 53.9	
	comp=Z,957nm,0.3s						
MT05	**Renca**	**1.78**	**156**	*e*P	**Pb**	**16 56 27.3**	**-0.9**
MT05				*e*S	**Sn**	**16 56 49.1**	**+0.9**
MT05				IAML		16 57 00.3	
	comp=E,2μm,0.2s						
MT14	**Cerro Calıın**	**1.85**	**151**	*e*P	**Pb**	**16 56 29.3**	**-0.2**
MT14				*e*S	**Sn**	**16 56 51.2**	**+1.0**
MT14				IAML		16 56 53.7	
	comp=N,2μm,0.5s						
CO05	**La Serena**	**1.87**	**10**	*e*P	**Pb**	**16 56 30.6**	**+0.8**
CO05				IAML		16 57 02.0	
	comp=E,1μm,0.3s						
MT16	**CCHEN**	**1.89**	**152**	*e*P	**Pb**	**16 56 29.8**	**-0.3**
MT16				*e*S	**Sn**	**16 56 52.1**	**+1.1**
MT16				IAML		16 57 02.7	
	comp=N,804nm,0.7s						
FCH	**Farellones**	**1.91**	**145**	*e*P	**Pb**	**16 56 29.9**	**-0.8**
FCH				*e*S	**Sn**	**16 56 53.2**	**+1.4**
FCH				IAML		16 56 54.3	
	comp=E,1μm,0.3s						
MT03	**Universidad Ad**	**1.95**	**152**	*e*P	**Pb**	**16 56 30.7**	**-0.5**
MT03				*e*S	**Sg**	**16 56 57.1**	**-1.9**
MT03				IAML		16 57 06.4	
	comp=Z,648nm,0.2s						
RTLS	**Leoncito**	**1.96**	**92**	*e*P	**Pn**	**16 56 27.1**	**-1.7**
RTLS				*e*P		16 56 32.6	
RTLS				IAML		16 57 01.4	

comp=Z,690nm,0.4s
MT04 Ro Olivares 2.05 143 *e*P **Pb 16 56 32.5 -0.5**
MT04 *e*S **Sb 16 56 58.7 +0.5**
MT04 IAML 16 57 00.3
comp=Z,375nm,0.3s
MT01 Popeta 2.11 172 *e*P **Pn 16 56 31.5 +0.9**
MT01 *e*S **Sb 16 57 00.6 +0.8**
MT01 IAML 16 57 05.4
comp=Z,440nm,0.4s
MT08 Bocatoma Ro 2.14 142 *e*P **Pb 16 56 34.4 -0.1**
MT08 *e*S **Sg 16 57 04.1 -1.0**
MT08 IAML 16 57 05.8
comp=Z,319nm,0.3s
CO01 Juntas del Tor 2.20 36 *e*P **Pb 16 56 36.4 +0.8**
CO01 *e*S **Sg 16 57 05.0 -2.1**
CO01 IAML 16 57 06.6
comp=Z,551nm,0.2s
MT13 San Alfonso 2.26 151 *e*P **Pb 16 56 35.3 -1.2**
MT13 *e*S **Sn 16 56 59.1 -1.2**
MT13 IAML 16 57 12.4
comp=Z,337nm,0.5s
DOCA Reserva Natura 2.30 70 *e*P **Pb 16 56 38.4 +1.1**
DOCA *e*S **Sg 16 57 12.5 +2.3**
DOCA IAML 16 57 14.1
comp=Z,264nm,0.3s
LMEL Las Melosas 2.38 151 *e*P **Pb 16 56 37.2 -1.5**
LMEL *e*S **Sb 16 57 08.3 +0.5**
AROD Rodeo 2.42 49 *e*P **Pb 16 56 40.6 +1.2**
AROD *e*S **Sg 16 57 15.0 +0.9**
ACCO Cerro Coronel 2.47 62 *e*P **Pb 16 56 41.5 +1.3**
ACCO *e*S **Sg 16 57 14.2 -1.3**
ARCO CERRO ARCO 2.50 116 *e*P **Pb 16 56 41.5 +0.9**
ARCO *e*S **Sg 16 57 18.8 +2.3**
ARCO IAML 16 57 19.6
comp=Z,173nm,0.3s
ZON Zonda 2.50 86 *e*P **Pb 16 56 41.0 +0.5**
ZON *e*S **Sb 16 57 12.6 +1.6**
ZON IAML 16 57 25.3
comp=Z,210nm,0.7s
BO01 Tunca 2.65 171 *e*P **Pn 16 56 39.6 +1.5**
BO01 *e*S **Sn 16 57 12.1 +2.3**
AAGR Agrelo 2.69 120 *e*P **Pb 16 56 44.1 +0.4**
AAGR *e*S **Sg 16 57 26.3 +3.8**
LCO Las Campanas 2.85 16 *e*S **Sb 16 57 22.2 +0.8**
LCO IAML 16 57 29.5
comp=Z,745nm,0.3s
BO02 Sierra Bellavi 3.09 167 *e*P **Pn 16 56 46.1 +1.9**
BO02 *e*S **Sb 16 57 27.1 -1.1**
BO02 IAML 16 57 34.2
comp=Z,318nm,0.2s
AGUA GUANDACOL 3.51 50 *e*S **Sg 16 57 47.4 -1.5**
AGUA IAML 16 57 48.1
comp=Z,289nm,0.4s
RFA San Rafael 3.98 140 *e*P **Pn 16 57 00.5 +4.1**
VCA Vinchina 4.21 45 *e*P **Pb 16 57 05.3 -4.4**
VCA IAML 16 58 05.9
comp=Z,348nm,0.4s
APLL PUNTA DE LOS L 4.56 74 *e*P Pn 16 56 51.3 -13
APLL *e*S **Sb 16 58 07.8 -2.5**
H03N1 Juan Fernandez 6.39 253 T T 17 04 15.5
baz=80,slow=73,SNR=2118
H03N3 Juan Fernandez 6.41 253 T T 17 04 00.6
baz=80,slow=73,SNR=1538
H03N2 Juan Fernandez 6.41 253 T T 17 04 13.1
baz=80,slow=73,SNR=1648
PLCA Paso Flores 8.99 175 P **Pn 16 58 07.2 +2.1**
comp=Z,0.1nm,0.3s,baz=324,slow=10,SNR=2.1
comp=Z,1.2nm,0.8s
CPUP Villa Florida 13.60 70 S **Sn 17 01 35.2 -3.7**
comp=Z,1.1nm,0.6s,baz=346,slow=12,SNR=2.8
CPUP LR LR 17 04 37.9
comp=Z,42nm,20.5s,baz=230,slow=39
LPAZ La Paz 15.73 12 P **P 16 59 42.0 +0.6**
comp=Z,0.1nm,0.3s,baz=185,slow=11,SNR=4.1
comp=Z,1.0nm,0.6s
BDFB Brasilia 26.82 59 P **P 17 01 34.6 -1.1**
comp=Z,1.4nm,0.4s,baz=204,slow=12,SNR=1.8
comp=Z,1.4nm,0.4s
TORD Torodi Ar. Bea 83.10 70 P **P 17 08 20.1 -1.1**
comp=Z,50nm,0.3s,baz=240,slow=4.9,SNR=1.9
H11S2 WAKE ISLAND Hyl26.15 271 T T 19 33 54.8
baz=117,slow=75,SNR=49
H11S1 WAKE ISLAND Hyl26.16 271 T T 19 33 55.7
baz=117,slow=75,SNR=51
H11S3 WAKE ISLAND Hyl26.17 271 T T 19 33 56.1
baz=117,slow=75,SNR=70
H11N3 WAKE ISLAND Hyl26.51 272 T T 19 34 15.0
baz=116,slow=75,SNR=32
H11N1 WAKE ISLAND Hyl26.52 272 T T 19 34 23.2
baz=116,slow=75,SNR=13
H11N2 WAKE ISLAND Hyl26.52 272 T T 19 34 23.4
baz=116,slow=75,SNR=47
BVAR Borovoye Array 145.38 41 PKPbc **PKPbc 17 15 33.0 +0.6**
comp=Z,0.9nm,0.5s,baz=293,slow=1.8,SNR=4.5
KURBB Kurchatov Arra 150.97 41 PKPbc **PKPbc 17 15 47.3 -0.1**
comp=Z,0.5nm,0.7s,baz=284,slow=3.4,SNR=6.2
ZALV Zalesovo Beam 152.13 30 PKPbc **PKPbc 17 15 49.9 -0.1**
comp=Z,0.9nm,0.5s,baz=336,slow=3.2,SNR=4.5
MKAR Makanchi Array 154.98 46 PKPab **PKPab 17 16 11.4 -0.7**
comp=Z,0.1nm,0.3s,baz=335,slow=2.1,SNR=1.6

*IDC **21** 17:13:39.5±0.6,51°.69N×173°.24W,h0km,mb4.4/33, mbtmp4.4/35,ML4.1/2,MS3.6/34,Error ellipse: s-maj=18.1km s-min=10.9km az=174.0*
*MOS **21** 17:13:43.7±0.9,51°.69N×173°.27W,h38km,mb4.7/32, Error ellipse: s-maj=9.7km s-min=6.1km az=111.5*
*AEIC **21** 17:13:45.4±2.8,51°.67N±0°.07×173°.28W±0°.07,h16km, Error ellipse: s-maj=9.8km s-min=5.7km az=197.0*
*NEIC **21** 17:13:46.4±1.8,51°.82N±0°.08×173°.32W±0°.04,h45km±7km, mb4.5/212,ML4.2(AEIC),Error ellipse: s-maj=12.3km s-min=2.4km az=168.0*
ISC 21 17:13:45.2±0.5,51°.66N±0°.08×173°.23W±0°.04,h39km±3km, h39km:pP-P,n626,σ1$49/532,mb4.5/143,MS3.6/34, 23C-30D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.81**	**313**		**Pn**	**17 13 59.3**	**-0.8**
ATKA					**Sn**	**17 14 09.4**	**-1.5**
GSTR	**Great Sitkin T**	**1.81**	**285**		**Pn**	**17 14 12.5**	**-1.3**
GSCK	**Great Sitkin C**	**1.85**	**282**		**Pn**	**17 14 13.6**	**-0.9**
ADAG	**Mount Adagdak**	**2.12**	**280**		**Pn**	**17 14 18.6**	**+0.5**
ADK	**Adak**	**2.16**	**277**		**Pn**	**17 14 18.4**	**-0.2**
ADK					**Sn**	**17 14 45.3**	**+1.2**
ADK	**Adak**	**2.16**	**277**	P	**Pn**	**17 14 18.4**	**-0.2**
ADK						17 14 45.3	
KIWB	**Kanaga Island**	**2.45**	**276**		**Pn**	**17 14 22.6**	**+0.1**
KIWB					**Sn**	**17 14 51.8**	**+0.5**
KIKV	**Kanaga Island**	**2.46**	**277**		**Pn**	**17 14 22.7**	**-0.1**
TAFP	**Tanaga Falls P**	**2.96**	**277**		**Pn**	**17 14 30.2**	**+0.5**
TAFP					**Sn**	**17 15 04.9**	**+0.9**
TASE	**Tanaga Southea**	**2.99**	**275**		**Pn**	**17 14 30.7**	**+0.6**
OKSP	**Okmok Steeple**	**3.42**	**60**		**Pn**	**17 14 36.8**	**+0.8**
GANE	**Gareloi Northe**	**3.45**	**275**		**Pn**	**17 14 36.7**	**+0.3**
OKCE	**Okmok Cone E**	**3.56**	**58**		**Pn**	**17 14 39.2**	**+1.2**
OKNC	**Okmok New Cone**	**3.60**	**58**		**Pn**	**17 14 39.8**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**3.61**	**59**		**Pn**	**17 14 39.5**	**+0.9**
OKFG	**Magazine Ridge**	**3.69**	**60**		**Pn**	**17 14 41.0**	**+1.4**
MAPS	**Pakushin South**	**4.39**	**58**		**Pn**	**17 14 50.4**	**+1.1**
MGOD	**Makushin Gods**	**4.42**	**59**		**Pn**	**17 14 50.3**	**+0.6**
MGOD					**Sn**	**17 15 41.3**	**+1.5**
MSW	**Makushin Switc**	**4.52**	**57**		**Pn**	**17 14 52.1**	**+1.1**
UNV	**Unalaska Valle**	**4.63**	**59**		**Pn**	**17 14 53.3**	**+0.7**
UNV	**Unalaska Valle**	**4.63**	**59**	P	**Pn**	**17 14 55.9**	**+3.3**
	baz=246						
AKMO	**Akutan Morgan**	**5.00**	**58**		**Pn**	**17 14 58.0**	**+0.3**
LVA	**Lava Point**	**5.02**	**57**	Pn	**Pn**	**17 14 57.1**	**-0.8**
AKBBA	**Akutan Broad B**	**5.05**	**58**		**Pn**	**17 14 59.9**	**+1.5**
P08K	**Saint George I**	**5.40**	**22**	Pn	**Pn**	**17 15 01.2**	**-1.9**
P08K	**Saint George I**	**5.40**	**22**	P	**Pn**	**17 15 05.0**	**+1.9**
	baz=206						
SPIA	**Saint Paul Isl**	**5.80**	**16**	Pn	**Pn**	**17 15 06.4**	**-2.2**
SPIA	**Saint Paul Isl**	**5.80**	**16**	P	**Pn**	**17 15 11.4**	**+2.8**
	baz=200						
WESE	**West Dahl East**	**5.92**	**58**		**Pn**	**17 15 11.8**	**+1.4**
ISLZ	**Isanotski Laza**	**6.49**	**58**		**Pn**	**17 15 19.0**	**+0.9**
FALS	**False Pass**	**6.70**	**58**	Pn	**Pn**	**17 15 23.0**	**+2.1**
FALS	**False Pass**	**6.70**	**58**	P	**Pn**	**17 15 24.2**	**+3.3**
	baz=247						
FALS	**False Pass**	**6.70**	**58**	P	**Pn**	**17 15 24.5**	**+3.6**
S12K	**Black Hills**	**7.77**	**54**	Pn	**Pn**	**17 15 36.3**	**+0.7**
S12K	**Black Hills**	**7.77**	**54**	P	**Pn**	**17 15 38.7**	**+3.0**
	baz=244						
CNBA	**Chernabura Isl**	**8.77**	**64**	Pn	**Pn**	**17 15 49.3**	**0.0**
M11K	**Mekoryuk**	**9.58**	**21**	P	**Pn**	**17 16 03.0**	**+2.5**
	baz=208						
CHGN	**Chignik**	**9.88**	**56**	Pn	**Pn**	**17 16 04.1**	**-0.4**
CHGN	**Chignik**	**9.88**	**56**	P	**Pn**	**17 16 07.9**	**+3.4**
	baz=249						
O14K	**Tigyukauivet M**	**10.19**	**37**	Pn	**Pn**	**17 16 10.4**	**+1.7**
O14K	**Tigyukauivet M**	**10.19**	**37**	P	**Pn**	**17 16 12.8**	**+4.1**
	baz=228						
M13K	**Dall Lake**	**10.36**	**28**	Pn	**Pn**	**17 16 10.3**	**-0.6**
M13K	**Dall Lake**	**10.36**	**28**	P	**Pn**	**17 16 13.7**	**+2.8**
	baz=217						
N14K	**Kuskokwak Cree**	**10.51**	**34**	P	**Pn**	**17 16 16.4**	**+3.3**
	baz=224						
O15K	**Ungalikthiuk R**	**10.70**	**40**	P	**Pn**	**17 16 19.0**	**+3.4**
	baz=232						
R16K	**Pilot Point**	**10.82**	**51**	P	**Pn**	**17 16 20.7**	**+3.4**
	baz=244						
M14K	**Bethel**	**11.05**	**30**	Pn	**Pn**	**17 16 18.4**	**-2.0**
M14K	**Bethel**	**11.05**	**30**	P	**Pn**	**17 16 24.4**	**+4.0**
	baz=220,SNR=7.3						
CHIR	**Chirikof Islan**	**11.22**	**61**	P	**Pn**	**17 16 27.5**	**+4.7**
	baz=256						
N15K	**Kwethluk River**	**11.25**	**36**	Pn	**Pn**	**17 16 26.7**	**+3.5**
N15K	**Kwethluk River**	**11.25**	**36**	P	**Pn**	**17 16 27.6**	**+4.3**
	baz=227						
L14K	**Kuka Creek**	**11.30**	**27**	Pn	Pn	17 16 28.9	+5.0
L14K	**Kuka Creek**	**11.30**	**27**	P	**Pn**	**17 16 27.6**	**+3.7**
	baz=216						
K13K	**Kusilvak Mount**	**11.31**	**21**	Pn	Pn	17 16 28.7	+4.7
K13K	**Kusilvak Mount**	**11.31**	**21**	P	**Pn**	**17 16 27.3**	**+3.3**
	baz=209						
P16K	**Nushagak River**	**11.37**	**44**	P	**Pn**	**17 16 29.3**	**+4.5**
	baz=237						
M15K	**Kasigluk River**	**11.42**	**33**	P	**Pn**	**17 16 29.6**	**+4.2**
	baz=224						
O16K	**Kokwok River B**	**11.65**	**41**		Pn	17 16 33.5	+4.7
O16K	**Kokwok River B**	**11.65**	**41**	P	**Pn**	**17 16 32.8**	**+4.1**
	baz=234						
L15K	**Ungalak Mounta**	**11.92**	**28**	P	**Pn**	**17 16 36.3**	**+4.0**
	baz=218						
P17K	**Kvichak River**	**12.13**	**45**	P	Pn	17 16 40.2	+4.9
	baz=240						
O17K	**Koliganek Bris**	**12.17**	**42**	P	Pn	17 16 40.6	+4.8
	baz=236						
GAMB	**Gambell**	**12.18**	**3**		**Pn**	**17 16 39.0**	**+3.2**
GAMB	**Gambell**	**12.18**	**3**	P	**Pn**	**17 16 39.4**	**+3.5**
	baz=185						
ACHA	**Angle Creek He**	**12.18**	**50**	Pn	**Pn**	**17 16 36.5**	**+0.4**
M16K	**Timber Creek**	**12.24**	**34**	P	**Pn**	**17 16 41.3**	**+4.5**
	baz=227						
J14K	**Nanvaranak Lak**	**12.27**	**21**	P	Pn	17 16 42.4	+5.3
	baz=210						
R18K	**Karluk**	**12.37**	**54**	P	Pn	17 16 44.1	+5.7
	baz=250						
K15K	**Wolf Creek Mou**	**12.40**	**26**		**Pn**	**17 16 39.9**	**+1.0**
K15K	**Wolf Creek Mou**	**12.40**	**26**	P	**Pn**	**17 16 43.5**	**+4.6**
	baz=216						
L16K	**Owhat River**	**12.56**	**31**	Pn	**Pn**	**17 16 42.3**	**+1.2**
L16K	**Owhat River**	**12.56**	**31**	P	**Pn**	**17 16 45.1**	**+4.0**
	baz=223						
N17K	**Nushagak Hills**	**12.58**	**39**	Pn	**Pn**	**17 16 44.3**	**+2.9**
N17K	**Nushagak Hills**	**12.58**	**39**	P	**Pn**	**17 16 45.4**	**+4.0**
	baz=233						
P18K	**Big Mountain,**	**12.77**	**46**	P	**Pn**	**17 16 48.0**	**+4.0**
	baz=241						
O18K	**Koktuh Hills**	**13.01**	**44**	P	**Pn**	**17 16 51.0**	**+3.6**
	baz=239						
M17K	**Holitna River**	**13.04**	**35**	P	**Pn**	**17 16 51.3**	**+3.5**
	baz=229						
N18K	**Kilae Creek**	**13.19**	**40**	P	**Pn**	**17 16 53.2**	**+3.5**
	baz=235						
L17K	**Donlin**	**13.26**	**32**	P	**Pn**	**17 16 54.3**	**+3.7**
	baz=225						
Q19K	**Cape Douglas,**	**13.29**	**49**	Pn	**Pn**	**17 16 51.1**	**0.0**
Q19K	**Cape Douglas,**	**13.29**	**49**	P	**Pn**	**17 16 54.3**	**+3.2**
	baz=246						
KDAK	**Kodiak Island**	**13.38**	**55**	Pn	**Pn**	**17 16 49.8**	**-2.5**
	1.3nm,0.3s,baz=285,slow=2.4,SNR=15						
KDAK	**Kodiak Island**	**13.38**	**55**	P	**Pn**	**17 16 56.5**	**+4.1**
	baz=252						
KDAK	**Kodiak Island**	**13.38**	**55⇑**	*e*P	**Pn**	**17 16 49.4**	**-2.9**
J16K	**Anvik River**	**13.45**	**25**	Pn	**Pn**	**17 16 56.0**	**+2.7**
J16K	**Anvik River**	**13.45**	**25**	P	**Pn**	**17 16 56.6**	**+3.3**
	baz=216						
ANM	**Nome**	**13.57**	**15**	P	**Pn**	**17 16 58.1**	**+3.2**
	baz=202						
K17K	**Iditarod**	**13.68**	**30**	Pn	**Pn**	**17 16 56.6**	**+0.3**
K17K	**Iditarod**	**13.68**	**30**	P	**Pn**	**17 16 59.8**	**+3.5**
	baz=223						
M18K	**Stony River**	**13.70**	**37**	P	**Pn**	**17 17 00.5**	**+3.9**
	baz=232						
Q20K	**Shuyak Island**	**13.76**	**52**	P	**P**	**17 17 02.6**	**-2.7**
	baz=249						
P19K	**Oil Pt**	**13.79**	**47**	Pn	**Pn**	**17 16 58.6**	**+0.7**
P19K	**Oil Pt**	**13.79**	**47**	P	**P**	**17 17 02.3**	**-3.4**
	baz=244						
N19K	**Bonanza Creek**	**13.83**	**41**	P	**P**	**17 17 02.9**	**-3.3**
	baz=237						
L18K	**Granite Mounta**	**13.86**	**34**	P	**P**	**17 17 03.2**	**-3.1**
	baz=228						
I17K	**Unalakleet**	**13.92**	**24**	P	**P**	**17 17 04.1**	**-2.9**
	baz=215						
J17K	**VABM Dome**	**13.96**	**27**	P	**P**	**17 17 04.7**	**-2.8**
	baz=220						
G15K	**Niukluk**	**14.19**	**16**	P	**Pn**	**17 17 06.6**	**+3.3**
	baz=204						
TNA	**Tin City**	**14.21**	**9**		**Pn**	**17 17 06.0**	**+2.6**
TNA	**Tin City**	**14.21**	**9**	P	**P**	**17 17 07.1**	**-3.0**
	baz=194						
H16K	**Elim**	**14.21**	**20**	P	**Pn**	**17 17 07.0**	**+3.4**
	baz=209						
O20K	**Slope Mountain**	**14.26**	**46**	P	**Pn**	**17 17 07.8**	**+3.5**
	baz=243						
F14K	**Arctic Creek**	**14.30**	**12**	P	**Pn**	**17 17 07.8**	**+3.0**
	baz=198						
L19K	**White Mountain**	**14.49**	**36**	P	**Pn**	**17 17 10.2**	**+2.9**
	baz=232						
M19K	**Big River Lodg**	**14.49**	**38**	P	**Pn**	**17 17 10.6**	**+3.1**
M19K	**Big River Lodg**	**14.49**	**38**	P	**Pn**	**17 17 10.5**	**+3.1**
	baz=234						
HOM	**Homer**	**14.52**	**48**	P	**P**	**17 17 11.1**	**-2.6**
	baz=247						
TTA	**Tatalina**	**14.57**	**33**	P	**Pn**	**17 17 11.3**	**+2.8**
	baz=228,SNR=7.7						
TTA	**Tatalina**	**14.57**	**33**	P	**P**	**17 17 13.6**	**-0.8**
CNPM	**China Poot**	**14.66**	**49**	Pn	**Pn**	**17 17 08.1**	**-1.6**
J18K	**Innoko River**	**14.72**	**30**	P	**Pn**	**17 17 13.3**	**+2.9**
	baz=225						
F15K	**North Star Dit**	**14.76**	**14**	P	**Pn**	**17 17 13.3**	**+2.4**
	baz=202						
G16K	**Koyuk River**	**14.86**	**18**	P	**Pn**	**17 17 14.3**	**+2.0**
	baz=208						
M20K	**Styx River**	**14.97**	**39**	P	**Pn**	**17 17 16.4**	**+2.6**
	baz=236						
BRSE	**Bradley Lake S**	**14.98**	**49**	P	**Pn**	**17 17 16.4**	**+2.5**
	baz=248						
SPCR	**Spurr Chakacha**	**14.98**	**42**	P	**Pn**	**17 17 16.0**	**+2.0**
	baz=240						
H17K	**Granite Mounta**	**14.99**	**22**	P	**Pn**	**17 17 16.1**	**+2.1**
	baz=214						
L20K	**Farewell, AK**	**15.03**	**36**	P	**Pn**	**17 17 16.5**	**+1.9**
	baz=233						
STLK	**Strandline Lak**	**15.29**	**42**	P	**P**	**17 17 20.6**	**-1.7**
J19K	**Poorman**	**15.44**	**30**	IAmb	IAmb	17 17 27.2	
	comp=Z,29nm,0.9s						
J19K	**Poorman**	**15.44**	**30**	P	**Pn**	**17 17 21.5**	**+1.6**
	baz=226						
K20K	**Telida**	**15.52**	**34**	P	**Pn**	**17 17 22.4**	**+1.5**
	baz=230,SNR=8.5						
SLKM	**Skilak Lake**	**15.52**	**46**	Pn	**Pn**	**17 17 20.2**	**-0.8**
SLKM				IAmb	IAmb	17 17 32.5	
	comp=Z,65nm,1.3s						
H18K	**Honhosa River**	**15.54**	**24**	IAmb	IAmb	17 17 37.9	
	comp=Z,77nm,1.4s						
H18K	**Honhosa River**	**15.54**	**24**	P	**Pn**	**17 17 22.6**	**+1.4**
	baz=217						
GCSA	**Galena City Sc**	**15.62**	**27**	P	**Pn**	**17 17 23.5**	**+1.4**
	baz=221						
SKT	**Skwentna**	**15.66**	**40**	IAmb	IAmb	17 17 47.9	
	comp=Z,32nm,1.2s						
SKT	**Skwentna**	**15.66**	**40**	P	**Pn**	**17 17 24.5**	**+1.7**
	baz=239						
SEW	**Seward**	**15.71**	**48**	P	**Pn**	**17 17 24.6**	**+1.2**
	baz=248						
O22K	**Cooper Landing**	**15.74**	**47**	P	**Pn**	**17 17 24.9**	**+1.1**
	baz=247						
PPLA	**Purkeypile**	**15.91**	**37**	IAmb	IAmb	17 17 54.9	
	comp=Z,66nm,1.5s						
PPLA	**Purkeypile**	**15.91**	**37**	P	**Pn**	**17 17 26.8**	**+0.7**
	baz=235						
RC01	**Rabbit Creek A**	**15.99**	**45**	P	**Pn**	**17 17 28.0**	**+1.0**
	baz=245						
F17K	**Baldwin Pennin**	**16.00**	**18**	IAmb	IAmb	17 17 39.4	
	comp=Z,28nm,0.9s						
F17K	**Baldwin Pennin**	**16.00**	**18**	P	**Pn**	**17 17 27.6**	**+0.5**
	baz=208,SNR=8.6						
J20K	**Nowinta River**	**16.03**	**31**	P	**Pn**	**17 17 28.1**	**+0.6**
	baz=228						
G18K	**Tagagawik**	**16.08**	**22**	P	**Pn**	**17 17 28.3**	**+0.2**
	baz=215						
CAST	**Castle Rocks**	**16.25**	**35**	P	**Pn**	**17 17 31.0**	**+0.6**
	baz=234						
H19K	**Roundabout Mou**	**16.34**	**25**	P	**Pn**	**17 17 32.1**	**+0.7**
	baz=220						
I20K	**Naaghedeneel**	**16.36**	**29**	IAmb	IAmb	17 17 59.1	
	comp=Z,37nm,1.0s						
I20K	**Naaghedeneel**	**16.36**	**29**	P	**Pn**	**17 17 32.0**	**+0.3**
	baz=226						
CUT	**Chulitna**	**16.39**	**40**	P	**Pn**	**17 17 32.5**	**+0.5**
	baz=240						
CHUM	**Lake Minchumin**	**16.46**	**34**	P	**Pn**	**17 17 33.7**	**+0.9**
	baz=232						
F18K	**Selawik**	**16.46**	**19**	P	**Pn**	**17 17 33.9**	**+1.1**
	baz=211						
PMR	**Palmer**	**16.47**	**44**	P	**Pn**	**17 17 33.4**	**+0.3**
	baz=244						
E17K	**Hotham Inlet**	**16.48**	**16**	P	**Pn**	**17 17 34.2**	**+1.1**
	baz=206						
PWL	**Port Wells**	**16.52**	**46**	P	**Pn**	**17 17 34.0**	**+0.3**
	baz=248						
G19K	**Purcell Mounta**	**16.66**	**23**	P	**Pn**	**17 17 35.7**	**+0.3**
	baz=218						
KNK	**Knik Glacier**	**16.68**	**45**	IAmb	IAmb	17 17 49.5	
	comp=Z,40nm,1.2s						
KNK	**Knik Glacier**	**16.68**	**45**	P	**Pn**	**17 17 36.3**	**+0.5**
	baz=246						
D17K	**Noatak River**	**16.84**	**13**	P	**Pn**	**17 17 38.2**	**+0.5**
	baz=202,SNR=13						
SML	**Sawmill**	**16.91**	**43**	P	**Pn**	**17 17 38.4**	**-0.2**
	baz=245						
TRF	**Thorofare Moun**	**16.93**	**37**	P	**Pn**	**17 17 38.7**	**-0.3**
	baz=237						
E18K	**Tukpahlearik C**	**16.99**	**17**	P	**Pn**	**17 17 39.6**	**+0.1**
	baz=208						
BPAW	**Bear Paw Mtn.**	**17.05**	**35**	P	**Pn**	**17 17 41.0**	**+0.6**
	baz=234,SNR=11						
F19K	**Shaleruckik Mo**	**17.06**	**21**	P	**Pn**	**17 17 40.5**	**+0.1**
	baz=215						
GLI	**Glacier Island**	**17.09**	**47**	Pn	**Pn**	**17 17 40.5**	**-0.3**
GLI				IAmb	IAmb	17 18 12.1	
	comp=Z,49nm,1.3s						
GLI	**Glacier Island**	**17.09**	**47**	P	**P**	**17 17 42.0**	**-0.1**
	baz=250						
C16K	**Lisburne Hills**	**17.10**	**10**	P	**Pn**	**17 17 41.1**	**+0.2**
	baz=197						
M23K	**Glacier View**	**17.16**	**44**	P	**Pn**	**17 17 42.5**	**+0.8**
	baz=246,SNR=5.9						
PET	**Petropavlovsk**	**17.20**	**286**	*e*P	**Pn**	**17 17 39.8**	**-2.4**
PET				pmax	pmax		
	comp=Z,27nm,1.4s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
RDOG	**Red Dog Mine**	**17.20**	**13**	P	**Pn**	**17 17 42.5**	**+0.3**
	baz=202						
SCM	**Sheep Creek Mo**	**17.35**	**44**	IAmb	IAmb	17 17 46.1	
	comp=Z,27nm,0.9s						
SCM	**Sheep Creek Mo**	**17.35**	**44**	P	**Pn**	**17 17 43.9**	**-0.2**
	baz=246						
I21K	**Tanana**	**17.40**	**31**	IAmb	IAmb	17 17 53.0	
	comp=Z,24nm,0.8s						
I21K	**Tanana**	**17.40**	**31**	P	**Pn**	**17 17 45.3**	**+0.6**
	baz=229						
H21K	**Melozitna Rive**	**17.47**	**29**	P	**P**	**17 17 46.7**	**+0.4**
	baz=227						
C17K	**DeLong Mountai**	**17.56**	**12**	P	**Pn**	**17 17 46.9**	**+0.3**
	baz=201						
MCK	**McKinley**	**17.60**	**37**	P	**Pn**	**17 17 47.1**	**0.0**
	baz=236						
EYAK	**Cordova Ski Ar**	**17.60**	**49**	P	**Pn**	**17 17 47.4**	**+0.3**
	baz=252						
BWN	**Browne**	**17.64**	**36**	IAmb	IAmb	17 17 59.6	
	comp=Z,24nm,0.7s						
E19K	**Redstone River**	**17.70**	**20**	P	**Pn**	**17 17 48.1**	**-0.2**
	baz=215						
F20K	**Avaraart Lake**	**17.71**	**23**	P	**Pn**	**17 17 48.1**	**-0.3**
	baz=218						
PEA0B	**Petropavlovsk-**	**17.76**	**286⇑**	*i*P	**P**	**17 17 49.9**	**+0.3**
PETK	**Petropavlovsk-**	**17.76**	**286**	P	**Pn**	**17 17 49.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=86,slow=13,SNR=16						
PETK				LR	LR	17 23 56.4	
	comp=Z,110nm,19.7s,baz=86,slow=35						
	comp=Z,2.5nm,0.6s						
PETK	**Petropavlovsk-**	**17.76**	**286**	P	**Pn**	**17 17 49.0**	**-0.2**
KLU	**Klutina**	**17.84**	**46**	P	**P**	**17 17 50.7**	**+0.1**
	baz=249						
M24K	**Tolsona, Glenn**	**17.96**	**44**	IAmb	IAmb	17 18 11.5	
	comp=Z,30nm,0.8s						
M24K	**Tolsona, Glenn**	**17.96**	**44**	P	**P**	**17 17 52.6**	**+0.7**
	baz=247						
C18K	**Utukok River**	**18.00**	**14**	IAmb	IAmb	17 18 01.7	
	comp=Z,30nm,1.0s						
C18K	**Utukok River**	**18.00**	**14**	P	**Pn**	**17 17 52.3**	**+0.2**
	baz=205						
NEA2	**Nenana**	**18.02**	**35**	P	**Pn**	**17 17 52.3**	**0.0**
	baz=236,SNR=10						
H22K	**Ishtalitna Cre**	**18.06**	**30**	P	**P**	**17 17 53.8**	**+0.9**
	baz=229						
I23K	**Minto, Yukon-K**	**18.24**	**33**	IAmb	IAmb	17 18 09.5	
	comp=Z,35nm,0.6s						
I23K	**Minto, Yukon-K**	**18.24**	**33**	P	**Pn**	**17 17 55.9**	**+0.9**
	baz=234,SNR=36						
BMRM	**Bremner River**	**18.26**	**48**	P	**Pn**	**17 17 56.2**	**+0.9**
	baz=253						
D19K	**Kuna River**	**18.39**	**18**	IAmb	IAmb	17 18 18.2	
	comp=Z,44nm,1.1s						
D19K	**Kuna River**	**18.39**	**18**	P	**Pn**	**17 17 57.0**	**+0.2**
	baz=211						
F21K	**Alatna River**	**18.41**	**25**	P	**Pn**	**17 17 57.3**	**+0.3**
	baz=222						
N25K	**Chitina, Valde**	**18.47**	**46**	P	**Pn**	**17 17 58.2**

H24K	**Noodor Dome**	19.15	32	IAmb	IAmb	17 18 11.0		
	comp=Z,27nm,0.7s							
H24K	**Noodor Dome**	19.15	32	P	**Pn**	**17 18 05.9**	**-0.1**	
	baz=235							
RIDG	**Independent Ri**	19.19	40	IAmb	IAmb	17 18 09.6		
	comp=Z,21nm,0.4s							
RIDG	**Independent Ri**	19.19	40	P	**P**	**17 18 05.8**	**+0.4**	
	baz=245,SNR=12							
BILL	**Bilibino**	19.21	336	P	**P**	**17 18 04.6**	**-0.9**	
BILL				IAmb	IAmb	17 18 13.0		
	comp=Z,42nm,1.1s							
BILL	**Bilibino**	19.21	336	*c iP*	**Pn**	**17 18 07.0**	**+0.3**	
BILL				pmax	pmax			
	comp=Z,38nm,1.0s							
E21K	**Killik River**	19.22	22	IAmb	IAmb	17 18 21.0		
	comp=Z,28nm,1.1s							
E21K	**Killik River**	19.22	22	P	**P**	**17 18 05.9**	**+0.3**	
	baz=219							
COLD	**Coldfoot**	19.31	27	P	**P**	**17 18 07.0**	**+0.5**	
	baz=228,SNR=10							
MENT	**Mentasta**	19.33	43	P	**P**	**17 18 06.9**	**0.0**	
J25K	**Salcha River,**	19.39	37	P	**P**	**17 18 07.3**	**-0.2**	
	baz=242,SNR=96							
A19K	**Wainwright**	19.45	12	P	**P**	**17 18 08.2**	**+0.2**	
	baz=203							
M26K	**Nabesna, AK**	19.45	45	P	**P**	**17 18 08.6**	**+0.4**	
	baz=251							
E22K	**Anaktuvuk Pass**	19.51	24	P	**P**	**17 18 09.6**	**+0.7**	
	baz=223,SNR=10							
L26K	**Log Cabin Wild**	19.52	43	P	**Pn**	**17 18 10.0**	**-0.4**	
	baz=249							
C21K	**Knifeblade Rid**	19.62	20	P	**P**	**17 18 10.0**	**+0.1**	
	baz=216							
SCRK	**Sand Creek**	19.64	40	P	**P**	**17 18 09.2**	**-1.1**	
SCRK				IAmb	IAmb	17 18 24.1		
	comp=Z,18nm,0.6s							
SCRK	**Sand Creek**	19.64	40	P	**P**	**17 18 09.9**	**-0.4**	
	baz=245,SNR=16							
PRP	**Porcupine Dome**	19.79	35	P	**P**	**17 18 09.4**	**-2.5**	
PRP	**Porcupine Dome**	19.79	35	P	**P**	**17 18 12.3**	**+0.4**	
	baz=239,SNR=7.1							
G24K	**Hadweenzic Riv**	19.80	31	IAmb	IAmb	17 18 25.6		
	comp=Z,21nm,0.8s							
G24K	**Hadweenzic Riv**	19.80	31	P	**P**	**17 18 11.9**	**+0.1**	
	baz=233							
D22K	**Ayikyak River**	19.86	22	IAmb	IAmb	17 18 26.7		
	comp=Z,18nm,0.8s							
D22K	**Ayikyak River**	19.86	22	P	**P**	**17 18 13.4**	**+0.8**	
	baz=220							
B20K	**Meade River**	19.88	16	IAmb	IAmb	17 18 26.9		
	comp=Z,19nm,1.0s							
B20K	**Meade River**	19.88	16	P	**P**	**17 18 13.0**	**+0.4**	
	baz=211							
M27K	**Edge Creek, AK**	19.93	45	IAmb	IAmb	17 18 36.4		
	comp=Z,27nm,1.3s							
M27K	**Edge Creek, AK**	19.93	45	P	**P**	**17 18 14.3**	**+0.8**	
	baz=252							
B21K	**Ikpikpuk River**	20.03	19	IAmb	IAmb	17 18 46.5		
	comp=Z,18nm,0.9s							
B21K	**Ikpikpuk River**	20.03	19	P	**P**	**17 18 15.1**	**+0.7**	
	baz=216							
J26L	**Joseph Creek**	20.03	39	P	**P**	**17 18 14.4**	**-0.2**	
	baz=244							
H25L	**Birch Creek**	20.09	33	P	**P**	**17 18 15.3**	**+0.3**	
	baz=237							
PINM	**Pinnacle**	20.14	52	P	**P**	**17 18 16.3**	**+0.5**	
	baz=260							
F24K	**Squaw Lake**	20.18	29	IAmb	IAmb	17 18 24.4		
	comp=Z,16nm,0.8s							
F24K	**Squaw Lake**	20.18	29	P	**P**	**17 18 16.1**	**+0.1**	
	baz=231							
L27K	**Beaver Creek,**	20.18	43	P	**P**	**17 18 16.7**	**+0.6**	
	baz=251							
BCAR	**Beaver Creek A**	20.20	43	P	**P**	**17 18 16.5**	**+0.1**	
G25K	**Bearman Lake**	20.27	31	P	**P**	**17 18 18.2**	**+1.1**	
	baz=235							
O28M	**Mount Upton**	20.30	50	P	**P**	**17 18 18.2**	**+0.5**	
	baz=259							
E24K	**Your Creek**	20.36	27	IAmb	IAmb	17 18 28.6		
	comp=Z,22nm,0.7s							
E24K	**Your Creek**	20.36	27	P	**P**	**17 18 18.4**	**+0.3**	
	baz=229							
D23K	**Nanushuk River**	20.41	23	IAmb	IAmb	17 18 28.7		
	comp=Z,25nm,1.2s							
D23K	**Nanushuk River**	20.41	23	P	**P**	**17 18 19.2**	**+0.7**	
	baz=224							
FYU	**Fort Yukon**	20.45	33	P	**P**	**17 18 19.2**	**+0.2**	
FYU				IAmb	IAmb	17 18 24.7		
	comp=Z,26nm,0.6s							
TOLK	**Toolik Lake Re**	20.46	25	IAmb	IAmb	17 18 38.6		
	comp=Z,28nm,0.8s							
TOLK	**Toolik Lake Re**	20.46	25	P	**P**	**17 18 19.7**	**+0.6**	
	baz=226,SNR=20							
PNL	**Peninsula**	20.50	54	P	**P**	**17 18 20.6**	**+1.0**	
	baz=262							
PNL	**Peninsula**	20.50	54	P	**P**	**17 18 19.0**	**-0.6**	
I26K	**Coal Creek Min**	20.55	37	P	**P**	**17 18 19.8**	**-0.3**	
	baz=243							
YUK8	**Steele Glacier**	20.61	49	P	**P**	**17 18 20.6**	**-0.4**	
	baz=258							
F25K	**Christian Rive**	20.90	30	P	**P**	**17 18 24.1**	**+0.2**	
	baz=234							
O29M	**Mount Kennedy**	21.00	52	IAmb	IAmb	17 18 45.2		
	comp=Z,26nm,0.8s							
O29M	**Mount Kennedy**	21.00	52	P	**P**	**17 18 25.5**	**+0.4**	
	baz=262,SNR=7.9							
D24K	**Happy Valley**	21.01	24	IAmb	IAmb	17 18 32.7		
	comp=Z,11nm,0.6s							
D24K	**Happy Valley**	21.01	24	P	**P**	**17 18 25.3**	**+0.3**	
	baz=226							
C23K	**Itkillik River**	21.07	22	IAmb	IAmb	17 18 36.9		
	comp=Z,29nm,0.8s							
C23K	**Itkillik River**	21.07	22	P	**P**	**17 18 25.9**	**+0.3**	
	baz=222							
A21K	**Barrow**	21.11	15	P	**P**	**17 18 25.5**	**-0.5**	
	baz=210							
G26K	**Porcupine Rive**	21.14	32	P	**P**	**17 18 26.5**	**+0.1**	
	baz=238							
BMAR	**Burnt Mountain**	21.14	31	P	**P**	**17 18 27.0**	**+0.5**	
YUK4	**Talbot Arm**	21.15	49	P	**P**	**17 18 27.3**	**+0.5**	
	baz=259							
YUK6	**Outpost Mounta**	21.21	50	P	**P**	**17 18 27.0**	**-0.5**	
	baz=260							
E25K	**Arctic Village**	21.24	29	IAmb	IAmb	17 18 44.4		
	comp=Z,25nm,1.4s							
E25K	**Arctic Village**	21.24	29	P	**P**	**17 18 27.4**	**-0.2**	
	baz=233,SNR=12							
I27K	**Kandik River**	21.26	37	P	**P**	**17 18 27.0**	**-0.7**	
	baz=245							
F26K	**Sheenjek River**	21.43	31	IAmb	IAmb	17 18 33.8		
	comp=Z,17nm,0.8s							
F26K	**Sheenjek River**	21.43	31	P	**P**	**17 18 29.8**	**+0.2**	
	baz=236							
C24K	**Franklin Bluff**	21.44	23	IAmb	IAmb	17 18 41.5		
	comp=Z,16nm,1.0s							
C24K	**Franklin Bluff**	21.44	23	P	**P**	**17 18 29.3**	**-0.3**	
	baz=225							
SEY	**Seymchan**	21.44	315	P	**P**	**17 18 30.2**	**+0.5**	
	comp=Z,5.8nm,0.7s,baz=103,slow=11,SNR=18							
SEY				ScP	**ScP**	**17 26 10.6**	**+5.7**	
	comp=Z,0.9nm,0.4s,baz=76,slow=4.2,SNR=7.7							
	comp=Z,5.8nm,0.7s							
SEY	**Seymchan**	21.44	315	⇑*eP*	**P**	**17 18 28.5**	**-1.1**	
SEY				pmax	pmax			
	comp=Z,15nm,1.7s							
M29M	**Somme Creek**	21.48	46	P	**P**	**17 18 29.8**	**-0.4**	
	baz=256							
DAWY	**Dawson**	21.55	42	P	**P**	**17 18 29.4**	**-1.5**	
DAWY				IAmb	IAmb	17 18 40.3		
	comp=Z,11nm,0.7s							
DAWY	**Dawson**	21.55	42	P	**P**	**17 18 30.4**	**-0.5**	
	baz=251							
H27K	**Steamboat Moun**	21.57	35	P	**P**	**17 18 30.6**	**-0.5**	
	baz=243							
MA2	**Magadan**	21.59	306	P	**P**	**17 18 30.1**	**-1.1**	
MA2				IAmb	IAmb	17 18 42.7		
	comp=Z,20nm,1.0s							
MA2	**Magadan**	21.59	306	P	**P**	**17 18 31.1**	**-0.2**	
	comp=Z,2.2nm,0.3s,baz=84,slow=9.7,SNR=7.3							
MA2				LR	LR	17 26 35.8		
	comp=Z,193nm,19.5s,baz=98,slow=36							
	comp=Z,2.2nm,0.3s							
MA2	**Magadan**	21.59	306	⇑*eP*	**P**	**17 18 31.7**	**+0.5**	
MA2				pmax	pmax			
	comp=Z,11nm,1.7s							
HYT	**Haines Junctio**	21.61	51	IAmb	IAmb	17 18 59.8		
	comp=Z,13nm,0.9s							
HYT	**Haines Junctio**	21.61	51	P	**P**	**17 18 31.2**	**-0.3**	
	baz=261							
D25K	**Kavik River**	21.77	26	P	**P**	**17 18 32.3**	**-0.9**	
	baz=230							
P30M	**Million Dollar**	21.78	53	P	**P**	**17 18 33.3**	**-0.1**	
	baz=264							
G27K	**Doyon Strip**	21.80	34	P	**P**	**17 18 33.2**	**-0.3**	
	baz=242							
L29M	**L29M**	21.80	45	P	**P**	**17 18 33.0**	**-0.6**	
	baz=255							
I28M	**Miner Creek**	21.83	38	P	**P**	**17 18 33.5**	**-0.4**	
	baz=247							
S31K	**Pelican**	22.02	59	P	**P**	**17 18 36.7**	**+0.9**	
	baz=270							
J29N	**Klondike Camp**	22.16	41	IAmb	IAmb	17 18 43.2		
	comp=Z,17nm,0.6s							
J29N	**Klondike Camp**	22.16	41	P	**P**	**17 18 38.2**	**+0.8**	
	baz=252							
K29M	**Barlow Dome**	22.27	43	IAmb	IAmb	17 18 53.9		
	comp=Z,13nm,0.8s							
K29M	**Barlow Dome**	22.27	43	P	**P**	**17 18 39.1**	**+0.5**	
	baz=254							
M30M	**Minto, Yukon**	22.27	47	P	**P**	**17 18 38.9**	**+0.3**	
	baz=258							
O30N	**Mendenhall**	22.29	51	P	**P**	**17 18 38.3**	**-0.5**	
	baz=263							
I29M	**Ogilvie Camp,**	22.43	39	IAmb	IAmb	17 18 54.7		
	comp=Z,14nm,0.8s							
I29M	**Ogilvie Camp,**	22.43	39	P	**P**	**17 18 39.1**	**-1.1**	
	baz=250,SNR=8.1							
SIT	**Sitka**	22.52	61	P	**P**	**17 18 40.2**	**-1.0**	
SKAG	**Skagway**	22.54	55	IAmb	IAmb	17 19 03.7		
	comp=Z,19nm,0.7s							
SKAG	**Skagway**	22.54	55	P	**P**	**17 18 41.6**	**+0.1**	
	baz=267							
SKAG	**Skagway**	22.54	55	P	**P**	**17 18 40.6**	**-0.8**	
C26K	**Camden Bay**	22.55	25	P	**P**	**17 18 41.8**	**+0.3**	
	baz=231							
C27K	**Jago River**	22.69	27	P	**P**	**17 18 42.8**	**-0.1**	
	baz=233							
F28M	**Old Crow**	22.79	33	P	**P**	**17 18 42.7**	**-1.3**	
F28M	**Old Crow**	22.79	33	P	**P**	**17 18 44.1**	**0.0**	
	baz=242,SNR=12							
WHY	**Whitehorse**	22.86	52	P	**P**	**17 18 45.1**	**+0.1**	
	baz=264							
J30M	**Hart River**	22.97	42	IAmb	IAmb	17 18 56.4		
	comp=Z,12nm,0.8s							
J30M	**Hart River**	22.97	42	P	**P**	**17 18 45.1**	**-1.0**	
	baz=254							
G29M	**Pine Creek**	23.13	35	IAmb	IAmb	17 19 03.4		
	comp=Z,21nm,0.8s							
G29M	**Pine Creek**	23.13	35	P	**P**	**17 18 47.0**	**-0.5**	
	baz=246							
I30M	**Mount Dempster**	23.15	40	IAmb	IAmb	17 18 50.0		
	comp=Z,17nm,0.6s							
I30M	**Mount Dempster**	23.15	40	P	**P**	**17 18 46.4**	**-1.4**	
	baz=252							
D27M	**Malcolm River**	23.27	29	P	**P**	**17 18 48.2**	**-0.7**	
	baz=238							
M31M	**Drury Creek, Y**	23.30	48	P	**P**	**17 18 46.7**	**-2.5**	
	baz=261							
P32M	**Atlin**	23.37	55	P	**P**	**17 18 49.9**	**-0.1**	
	baz=268							
EPYK	**Eagle Plains**	23.40	37	IAmb	IAmb	17 19 05.9		
	comp=Z,15nm,0.9s							
EPYK	**Eagle Plains**	23.40	37	P	**P**	**17 18 49.4**	**-0.9**	
	baz=249,SNR=9.0							
N32M	**Quiet Lake**	23.79	51	IAmb	IAmb	17 19 11.4		
	comp=Z,12nm,0.8s							
N32M	**Quiet Lake**	23.79	51	P	**P**	**17 18 54.4**	**+0.5**	
	baz=265							
E29M	**Blow River**	23.81	32	IAmb	IAmb	17 18 58.5		
	comp=Z,14nm,0.7s							
E29M	**Blow River**	23.81	32	P	**P**	**17 18 53.8**	**-0.2**	
	baz=243							
G30M	**tAoh Zraii Nji**	23.81	36	IAmb	IAmb	17 19 07.8		
	comp=Z,8.6nm,0.8s							
G30M	**tAoh Zraii Nji**	23.81	36	P	**P**	**17 18 53.1**	**-1.1**	
	baz=248							
P33M	**Teslin, Yukon**	23.85	53	P	**P**	**17 18 54.7**	**+0.1**	
	baz=268							
D28M	**Stokes Point**	23.99	30	P	**P**	**17 18 56.2**	**+0.5**	
	baz=240							
Q32M	**Nakina River**	24.10	56	P	**P**	**17 18 58.0**	**+1.0**	
	baz=271							
H31M	**Peel River**	24.13	39	IAmb	IAmb	17 19 06.7		
	comp=Z,12nm,0.8s							
H31M	**Peel River**	24.13	39	P	**P**	**17 18 56.3**	**-0.8**	
	baz=253							
F30M	**Barrier River**	24.21	35	P	**P**	**17 18 57.7**	**0.0**	
	baz=248							
S34M	**Telegraph Cree**	24.74	59	IAmb	IAmb	17 19 34.0		
	comp=Z,12nm,0.8s							
S34M	**Telegraph Cree**	24.74	59	P	**P**	**17 19 03.5**	**+1.0**	
	baz=274							
R33M	**Jennings River**	24.77	55	IAmb	IAmb	17 19 29.3		
	comp=Z,19nm,1.3s							
R33M	**Jennings River**	24.77	55	P	**P**	**17 19 03.7**	**+0.6**	
	baz=271							
F31M	**Tsiigehtchic**	24.88	36	IAmb	IAmb	17 19 07.1		
	comp=Z,14nm,0.7s							
F31M	**Tsiigehtchic**	24.88	36	P	**P**	**17 19 03.7**	**0.0**	
	baz=251,SNR=18							
INK	**Inuvik**	25.26	34	IAmb	IAmb	17 19 08.8		
	comp=Z,20nm,0.9s							
INK	**Inuvik**	25.26	34	P	**P**	**17 19 07.0**	**-0.2**	
	baz=249,SNR=26							
DLBC	**Dease Lake**	25.29	57	P	**P**	**17 19 08.6**	**+0.9**	
	baz=274							
T35M	**Bob Quinn**	25.29	61	P	**P**	**17 19 08.0**	**+0.3**	
	baz=277							
TYV	**Tymovskoe**	27.31	286	*eP*	**P**	**17 19 22.8**	**-3.1**	
TYV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TYV				pmax	pmax			
	comp=Z,200nm,4.9s							
BBB	**Bella Bella**	27.49	71	LR	LR	17 27 56.3		
	comp=Z,75nm,20.6s,baz=322,slow=31							
TOAD	**Toad River Com**	27.75	56	P	**P**	**17 19 31.2**	**+1.4**	
	baz=277							
KOTAN	**Kotaneelee Air**	28.23	53	P	**P**	**17 19 34.0**	**0.0**	
	baz=275							
YSS	**Yuzhno-Sakhali**	28.74	278	P	**P**	**17 19 37.5**	**-1.2**	
YSS	**Yuzhno-Sakhali**	28.74	278	*eP*	**P**	**17 19 39.7**	**+1.0**	
YSS				*eS*	**S**	**17 24 27.0**	**+1.8**	
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				MLR	MLR			
	comp=E,200nm,16.0s							
YSS				MLR	MLR			
	comp=Z,300nm,16.0s							
C36M	**Paulatuk**	28.84	34	P	**P**	**17 19 38.9**	**-0.4**	
	baz=258,SNR=6.2							
A36M	**Sachs Harbour**	29.17	28	IAmb	IAmb	17 19 43.8		
	comp=Z,9.8nm,0.8s							
A36M	**Sachs Harbour**	29.17	28	P	**P**	**17 19 42.1**	**-0.1**	
	baz=252,SNR=9.3							
JKA	**Kamikawa-asahi**	30.18	273	P	**P**	**17 19 51.7**	**+0.2**	
ASAJ	**Asahikawa**	30.18	273	LR	LR	17 31 37.1		
	comp=Z,64nm,20.9s,baz=154,slow=36							
ASAJ	**Asahikawa**	30.18	273	P	**P**	**17 19 51.7**	**+0.2**	
ASAJ				pmax	pmax			
	comp=Z,34nm,1.1s							
YAK	**Yakutsk**	31.85	311	LR	LR	17 33 22.0		
	comp=Z,224nm,18.2s,baz=101,slow=37							
TIXI	**Tiksi**	32.13	330	P	**P**	**17 20 08.2**	**-0.2**	
TIXI	**Tiksi**	32.13	330	LR	LR	17 34 21.2		
	comp=Z,98nm,18.4s,baz=186,slow=39							
TIXI	**Tiksi**	32.13	330	⇑*eP*	**P**	**17 20 08.9**	**+0.6**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
YKA	**Yellowknife Ar**	32.49	48	P	**P**	**17 20 11.4**	**-0.2**	
	comp=Z,1.5nm,0.8s,baz=275,slow=10.0,SNR=22							
YKA				PcP	**PcP**	**17 22 58.5**	**+1.0**	
	comp=Z,1.6nm,0.9s,baz=282,slow=2.5,SNR=7.5							
YKA				ScP	**ScP**	**17 26 43.4**	**+5.4**	
	comp=Z,0.1nm,0.5s,baz=277,slow=3.4,SNR=2.3							
YKA				LR	LR	17 35 48.6		
	comp=Z,167nm,19.0s,baz=304,slow=41							
	comp=Z,1.5nm,0.8s							
KLR	**Kul'dur**	34.43	288	LR	LR	17 34 29.7		
	comp=Z,64nm,20.4s,baz=77,slow=36							
KLR	**Kul'dur**	34.43	288	⇑*eP*	**P**	**17 20 28.3**	**-0.3**	
KLR				pmax	pmax			
	comp=Z,6.0nm,1.7s							
HAWA	**Hanford**	34.92	77	P	**P**	**17 20 34.1**	**+1.2**	
HAWA				IAmb	IAmb	17 20 57.0		
	comp=Z,9.5nm,0.9s							
C09A	**Chrisman Ranch**	35.02	74		**P**	**17 20 32.0**	**-1.8**	
C09A				IAmb	IAmb	17 20 51.5		
	comp=Z,8.1nm,0.8s							
ZEA	**Zeya**	35.22	297	*eP*	**P**	**17 20 34.8**	**-0.5**	
ZEA				MLR	MLR			
	comp=Z,100nm,15.0s							
YBH	**Yreka Blue Hor**	35.39	86	P	**P**	**17 20 38.1**	**+1.0**	
YBH				IAmb	IAmb	17 20 53.7		
	comp=Z,8.7nm,1.1s							
YBH	**Yreka Blue Hor**	35.39	86	LR	LR	17 31 02.4		
	comp=Z,128nm,21.2s,baz=327,slow=30							
YBH	**Yreka Blue Hor**	35.39	86	P	**P**	**17 20 38.1**	**+1.0**	
YBH				pmax	pmax			
	comp=Z,9.0nm,1.1s							
H11N2	**WAKE ISLAND Hy**	35.48	213	T	T	17 58 45.5		
	baz=21,slow=76,SNR=32							
H11N3	**WAKE ISLAND Hy**	35.48	213	T	T	17 58 49.5		
	baz=21,slow=76,SNR=62							
H11N1	**WAKE ISLAND Hy**	35.49	213	T	T	17 58 55.6		
	baz=21,slow=76,SNR=65							
I07A	**Izee**	36.10	80	IAmb	IAmb	17 21 01.0		
	comp=Z,7.1nm,0.8s							
O02D	**Mt. Diablo Mer**	36.23	88	P	**P**	**17 20 46.1**	**+1.8**	
HEH	**HeiHe**	36.52	292	*eP*	**P**	**17 20 45.6**	**-1.0**	
HEH				pmax	pmax			
	comp=Z,9.0nm,0.9s							
H11S1	**WAKE ISLAND Hy**	36.68	213	T	T	18 00 00.2		
	baz=20,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	36.69	213	T	T	18 00 01.3		
	baz=20,slow=76,SNR=41							
USA0B	**Ussuriysk Arra**	36.69	280	⇑*eP*	**P**	**17 20 48.1**	**0.0**	
USRK	**Ussuriysk Ar.**	36.69	280	P	**P**	**17 20 46.7**	**-1.4**	
USRK	**Ussuriysk Ar.**	36.69	280	P	**P**	**17 20 47.1**	**-1.0**	
	comp=Z,3.0nm,0.5s,baz=55,slow=9.6,SNR=13							
USRK				PcP	**PcP**	**17 23 09.8**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=42,slow=3.3,SNR=4.3							
USRK				LR	LR	17 35 02.2		
	comp=Z,106nm,21.5s,baz=54,slow=35							
	comp=Z,3.0nm,0.5s							
H11S3	**WAKE ISLAND Hy**	36.69	213	T	T	18 00 16.0		
	baz=20,slow=76,SNR=21							
MJAR	**Matsushiro Arr**	37.27	265	P	**P**	**17 20 52.5**	**-0.6**	
	comp=Z,1.2nm,0.5s,baz=37,slow=5.7,SNR=7.2							
MJAR				LR	LR	17 35 34.6		
	comp=Z,69nm,20.5s,baz=57,slow=35							
	comp=Z,1.2nm,0.5s							
MAJO	**Matsushiro**	37.27	265	⇓*eP*	**P**	**17 20 53.6**	**+0.5**	
MAJO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VLA	**Vladivostok**	37.33	279	⇓*eP*	**P**	**17 20 54.2**	**+0.7**	
VLA				pmax	pmax			
	comp=Z,17nm,1.7s							
WVOR	**Wild Horse Val**	37.52	82	P	**P**	**17 20 56.9**	**+1.6**	
WVOR				IAmb	IAmb	17 21 08.1		
	comp=Z,7.0nm,1.0s							
WVOR	**Wild Horse Val**	37.52	82	P	**P**	**17 20 56.9**	**+1.6**	
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
RES	**Resolute Bay**	38.03	25	LR	LR	17 40 16.2		
	comp=Z,121nm,18.6s,baz=0.5,slow=42							
MSHR	**Mys Shultsa**	38.07	279	*deP*	**P**	**17 21 00.2**	**+0.4**	
MSHR				pmax	pmax			
	comp=Z,30nm,0.9s							
PSTR	**Posyet**	38.25	279	⇑*eP*	**P**	**17 21 02.0**	**+0.7**	
PAHR	**Pah Rah Range**	38.62	86	IAmb	IAmb	17 21 20.5		
	comp=Z,9.5nm,1.0s							
BNX	**BinXian**	38.67	285	⇑P	**P**	**17 21 04.0**	**-0.8**	
BNX				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NVAR	**Mina Array Bea**	40.06	87	P	**P**	**17 21 17.7**	**+1.0**	
	comp=Z,2.9nm,0.8s,baz=293,slow=8.7,SNR=8.8							
NVAR				LR	LR	17 34 31.4		
	comp=Z,67nm,20.5s,baz=285,slow=31							
	comp=Z,2.9nm,0.8s							
BOZ	**Bozeman (W)**	40.09	74	IAmb	IAmb	17 21 33.0		
	comp=Z,5.5nm,0.8s							
ELK	**Elko**	40.58	82	P	**P**	**17 21 20.4**	**-0.6**	
ELK	**Elko**	40.58	82	P	**P**	**17 21 20.4**	**-0.6**	
ELK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YHL	**Hebgen Lake**	40.75	74	IAmb	IAmb	17 21 39.0		
	comp=Z,8.8nm,0.9s							
FFC	**Flin Flon**	41.12	57	P	**P**	**17 21 25.3**	**+0.3**	
FFC				IAmb	IAmb	17 21 40.4		
	comp=Z,5.5nm,0.8s							
FFC	**Flin Flon**	41.12	57	P	**P**	**17 21 25.3**	**+0.3**	
FFC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
YNR	**Norris Junctio**	41.12	74		**P**	**17 21 26.2**	**+0.7**	
YNR				IAmb	IAmb	17 21 43.6		
	comp=Z,13nm,1.0s							
H17A	**Grant Village**	41.36	74	IAmb	IAmb	17 21 45.4		
	comp=Z,7.8nm,0.8s							
JCJ	**Chichijima**	41.42	251	LR	LR	17 37 04.3		
	comp=Z,22nm,19.5s,baz=98,slow=34							
FLWY	**Flagg Ranch**	41.46	75	IAmb	IAmb	17 22 00.2		
	comp=Z,9.0nm,1.1s							
RLMT	**Red Lodge**	41.75	73	IAmb	IAmb	17 21 48.0		
	comp=Z,12nm,0.9s							
R11B	**Troy Canyon, C**	41.80	85	P	**P**	**17 21 31.2**	**+0.2**	
	baz=308,SNR=5.5							
TPNV	**Topopah Spring**	42.26	87	IAmb	IAmb	17 21 36.4		
	comp=Z,5.9nm,0.8s							
DUG	**Dugway, Tooele**	42.40	81	P	**P**	**17 21 36.3**	**+0.5**	
DUG				IAmb	IAmb	17 21 59.2		
	comp=Z,9.3nm,1.2s							
DUG	**Dugway, Tooele**	42.40	81	P	**P**	**17 21 36.3**	**+0.5**	
DUG				pmax	pmax			
	comp=Z,9.0nm,1.2s							
PRN	**Pahroc Range**	42.71	86	IAmb	IAmb	17 22 00.5		
	comp=Z,16nm,1.0s							
PSUT	**Pine Spring**	42.76	84	IAmb	IAmb

comp=Z,2.6nm,0.5s,baz=80,slow=8.5,SNR=12
NRIK PcP **PcP** **17 23 40.2 +0.6**
comp=Z,1.1nm,0.3s,baz=101,slow=5.8,SNR=2.7
NRIK LR LR 17 42 58.3
comp=Z,64nm,20.8s,baz=332,slow=38
comp=Z,2.6nm,0.5s
NRIK Noril'sk 45.90 331 *e*P **P** **17 22 03.6 +0.4**
NRIK pmax pmax
comp=Z,3.0nm,0.5s
N23A Red Feather La 46.17 76 P **P** **17 22 05.8 -0.3**
baz=308
WUAZ Wupatki 46.20 85 IAmb IAmb 17 22 51.6
comp=Z,9.2nm,1.1s
XLT XiLinHaoTe 46.41 290 *e*P **P** **17 22 08.1 +0.3**
XLT pP pP 17 22 18.8 +1.0
XLT sP pwP 17 22 22.0 -0.8
XLT pmax pmax
comp=Z,3.0nm,0.7s
XLT pmax pmax
comp=Z,6.0nm,1.1s
ULM Lac du Bonnet 46.58 60 P **P** **17 22 08.8 -0.1**
comp=Z,2.4nm,0.3s,baz=305,slow=8.6,SNR=9.3
ULM LR LR 17 43 53.7
comp=Z,70nm,18.4s,baz=354,slow=39
comp=Z,2.4nm,0.3s
ULM Lac du Bonnet 46.58 60 *e*P **P** **17 22 09.5 +0.6**
ULM pmax pmax
comp=Z,2.0nm,0.3s
KULLO Kullorsuaq 47.10 19 P **P** **17 22 14.7 +2.1**
S22A 4UR Ranch, Cre 47.58 80 P **P** **17 22 16.8 -0.3**
baz=310
ULN Ulaanbaatar 49.22 299 P **P** **17 22 28.6 -0.9**
ULN IAmb IAmb 17 22 42.9
comp=Z,3.6nm,0.8s
ULN Ulaanbaatar 49.22 299*c i*P **P** **17 22 29.5 0.0**
ULN pmax pmax
comp=Z,4.0nm,1.0s
T25A Trinidad 49.45 79 P **P** **17 22 31.4 0.0**
baz=310
SONM Songino Array 49.59 299 P **P** **17 22 32.3 0.0**
comp=Z,2.8nm,0.6s,baz=89,slow=5.4,SNR=16
SONM PcP **PcP** **17 23 53.6 +0.2**
comp=Z,0.9nm,0.6s,baz=46,slow=4.2,SNR=1.1
SONM LR LR 17 43 58.8
comp=Z,145nm,19.9s,baz=58,slow=37
comp=Z,2.8nm,0.6s
SONM Songino Array 49.59 299 *e*P **P** **17 22 33.1 +0.8**
SONM pmax pmax
comp=Z,2.0nm,0.4s
ANMO Albuquerque 49.62 82 LR LR 17 43 51.6
comp=Z,40nm,18.3s,baz=200,slow=36
ZAK Zakamensk 49.75 304 *e*P **P** **17 22 30.9 -2.5**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ECSD EROS Data Cent 49.95 67 IAmb IAmb 17 22 46.4
comp=Z,4.0nm,0.9s
BNM Barren Site 50.04 83 P **P** **17 22 35.5 -0.5**
MOY Mondy 50.16 306 *e*P **P** **17 22 37.8 +1.2**
EYMN Ely 50.26 60 IAmb IAmb 17 22 49.7
comp=Z,5.9nm,1.1s
SPITS Spitsbergen Ar 50.30 357 P **P** **17 22 36.2 -0.9**
comp=Z,26nm,1.1s,baz=50,slow=6.7,SNR=6.9
comp=Z,26nm,1.1s
FRB Frobisher Bay 50.92 34 P **P** **17 22 41.5 -0.3**
comp=Z,2.7nm,0.4s,baz=312,slow=7.7,SNR=12
comp=Z,2.7nm,0.4s
HHC Hu-ho-hao-te 50.92 289 *e*P **P** **17 22 41.3 -1.2**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,89nm,4.9s
VHRN Van Horn 53.34 85 IAmb IAmb 17 23 14.9
comp=Z,11nm,1.3s
SFJD Kangerlussuaq 54.03 24 LR LR 17 49 08.1
comp=Z,96nm,18.1s,baz=128,slow=39
LYN LuoYang 54.50 283 P **P** **17 23 09.4 +0.6**
LYN sP pwP 17 23 21.8 -1.9
LYN pmax pmax
comp=Z,29nm,0.8s
LYN pmax pmax
comp=Z,260nm,5.5s
LPIG La Paz 54.77 95 LR LR 17 44 20.1
comp=Z,36nm,18.2s,baz=33,slow=34
TX31 Lajitas Ar. Si 55.16 85 IAmb IAmb 17 23 28.1
comp=Z,5.9nm,0.8s
TXAR Lajitas Array 55.16 85 P **P** **17 23 13.6 -0.2**
comp=Z,2.4nm,0.6s,baz=296,slow=5.2,SNR=20
comp=Z,2.4nm,0.6s
ZALV Zalesovo Beam 56.31 316 PcP **PcP** **17 24 18.9 +0.4**
comp=Z,1.5nm,0.8s,baz=33,slow=4.2,SNR=2.8
ZALV LR LR 17 49 35.6
comp=Z,52nm,18.3s,baz=16,slow=38
XAN Xi'an 56.99 285 P **P** **17 23 26.8 0.0**
XAN sP sP 17 23 39.8 -1.3
XAN pmax pmax
comp=Z,22nm,1.1s
SCHQ Schefferville 57.56 41 P **P** **17 23 29.9 -0.5**
comp=Z,5.8nm,0.8s,baz=315,slow=7.7,SNR=9.9
comp=Z,5.8nm,0.8s
ARCES ARCESS Array B 58.34 352 P **P** **17 23 34.4 -1.3**
comp=Z,0.9nm,0.3s,baz=14,slow=7.3,SNR=15
ARCES PcP **PcP** **17 24 26.2 -0.1**
comp=Z,6.9nm,0.8s,baz=19,slow=5.7,SNR=5.4
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 58.34 352 *e*P **P** **17 23 35.7 0.0**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
LZH Lanzhou 58.61 290 *e*P **P** **17 23 39.1 +0.9**
LZH pP pwP 17 23 51.8 -1.6
LZH pmax pmax
comp=Z,27nm,1.4s
GTA Gaotai 58.65 295 *e*P **P** **17 23 38.1 -0.3**
GTA pP pP 17 23 50.3 +1.5
GTA pmax pmax
comp=Z,11nm,1.0s
SADO Sadowa 58.84 56 LR LR 17 51 50.2
comp=Z,66nm,18.7s,baz=90,slow=39
ENH Enshi 59.27 281 P **P** **17 23 42.5 -0.2**
TRQ Mont Tremblant 60.15 52 P **P** **17 23 48.3 -0.3**
LONY Lake Ozonia 61.27 54 P **P** **17 23 54.4 -1.8**
KURK Kurchatov 61.28 316 P **P** **17 23 56.7 +0.6**
KURK 17 24 38.6
KURBB Kurchatov Arra 61.39 316 P **P** **17 23 56.7 -0.2**
comp=Z,4.0nm,0.6s,baz=44,slow=6.6,SNR=6.7
KURBB PcP **PcP** **17 24 38.6 -0.1**
comp=Z,1.7nm,0.6s,baz=49,slow=3.8,SNR=3.1
KURBB LR LR 17 52 21.0
comp=Z,102nm,18.1s,baz=201,slow=38
comp=Z,4.0nm,0.6s
WMQ Urumqi 62.05 306 *e*P **P** **17 24 00.4 -1.1**
WMQ pP pwP 17 24 15.6 -1.5
WMQ pmax pmax
comp=Z,14nm,0.9s
FPAL Fort Paine 62.42 69 P **P** **17 24 03.7 -0.5**
MK31 Makanchi Array 62.52 311*d i*P **P** **17 24 04.3 -0.3**
MKAR Makanchi Array 62.52 311 P **P** **17 24 03.0 -1.6**
MKAR Makanchi Array 62.52 311 P **P** **17 24 04.2 -0.4**
comp=Z,1.4nm,0.5s,baz=45,slow=6.7,SNR=11
MKAR LR LR 17 51 41.7
comp=Z,63nm,19.1s,baz=12,slow=36
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 62.52 311 *e*P **P** **17 24 04.4 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
TKL Tuckaleechee C 62.69 66 LR LR 17 50 54.0
comp=Z,81nm,19.4s,baz=0.5,slow=36
BVAR Borovoye Array 62.85 323 P **P** **17 24 06.9 +0.3**
comp=Z,17nm,0.5s,baz=55,slow=6.7,SNR=41
comp=Z,17nm,0.5s
BRVK Borovoye 62.87 323*ce*P **P** **17 24 06.9 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
ARTI Arti 64.21 331 P **P** **17 24 14.7 -0.8**
ARTI Arti 64.21 331 P **P** **17 24 15.7 +0.2**
comp=Z,12nm,0.5s,baz=26,slow=4.7,SNR=26
comp=Z,12nm,0.5s
ARTI Arti 64.21 331*d i*P **P** **17 24 15.8 +0.3**
ARTI *PP **pP** **17 24 26.6 +0.2**
ARTI 17 24 49.2
ARTI 17 26 34.2
ARTI S **S** **17 32 51.7 +2.0**
ARTI SS **SS** **17 37 03.2 +4.7**
ARTI pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 64.76 337*ce*P **P** **17 24 19.1 +0.1**
FINES FINESS Array B 66.20 350 P **P** **17 24 27.7 -0.6**
comp=Z,1.0nm,0.3s,baz=11,slow=7.7,SNR=14
comp=Z,1.0nm,0.3s
FINES FINESS Array B 66.20 350 *e*P **P** **17 24 27.9 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.3s
TAOE Nuku Hiva Isla 66.66 144 *e*LR LR 17 44 43.0
comp=Z,106nm,24.5s
PZH PanZhiHua 66.70 284 P **P** **17 24 33.0 +0.8**
PZH pmax pmax
comp=Z,80nm,0.8s
PZH pmax pmax
comp=Z,150nm,4.7s
KMI Kunming 67.11 282 ⇓P **P** **17 24 35.1 +0.1**
KMI pP sP 17 24 48.3 -1.3
KMI pmax pmax
comp=Z,10.0nm,0.6s
NB2 NORSAR Subarra 67.60 358 P **P** **17 24 37.2 -0.1**
comp=Z,0.4nm,0.4s,baz=7.2,slow=6.5
NOA NORSAR Array B 67.60 358 P **P** **17 24 37.3 0.0**
comp=Z,1.4nm,0.9s,baz=2.3,slow=7.4,SNR=6.5
NOA LR LR 17 53 02.8
comp=Z,17nm,20.9s,baz=285,slow=35
comp=Z,1.4nm,0.9s
NORES NORESS Array B 67.89 357 P **P** **17 24 39.5 +0.4**
HFS Hagfors 68.42 356 P **P** **17 24 41.8 -0.6**
comp=Z,1.8nm,0.3s,baz=5.7,slow=3.0,SNR=34
comp=Z,1.8nm,0.3s
AAK Ala-Archa 69.29 313 P **P** **17 24 48.0 -0.3**
AAK Ala-Archa 69.29 313*ce*P **P** **17 24 48.8 +0.5**
AAK pmax pmax
comp=Z,13nm,1.3s
AKTO Aktyubinsk 69.39 328 P **P** **17 24 48.8 +0.2**
comp=Z,18nm,0.6s,baz=48,slow=5.6,SNR=31
comp=Z,18nm,0.6s
MSVF Nonsavu 69.51 189 LR LR 17 52 22.5
comp=Z,32nm,19.8s,baz=313,slow=33
ABKAR Akbulak array 69.74 326 P **P** **17 24 50.1 -0.6**
ABKAR Akbulak array 69.74 326 IAmb IAmb 17 24 52.0
comp=Z,21nm,1.3s
ARLS Aral 69.98 313 P **P** **17 24 53.3 +0.7**
LSA Lhasa 70.58 293 P **P** **17 24 57.6 +0.8**
KK31 Karatay Array 70.68 316 IAmb IAmb 17 24 57.2
comp=Z,4.9nm,0.7s
KKAR Karatay Array 70.68 316 P **P** **17 24 56.2 -0.5**
KKAR Karatay Array 70.68 316 IAmb IAmb 17 24 57.2
comp=Z,3.2nm,0.7s
KKAR Karatay Array 70.68 316 P **P** **17 24 56.2 -0.5**
BELG Belogornoye 70.76 335*ce*P **P** **17 24 56.8 -0.1**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 71.05 310 P **P** **17 25 02.6 +3.5**
KSH pP sP 17 25 15.8 +1.8
KSH pmax pmax
comp=Z,22nm,0.9s
PPT2 Papeete2 71.98 156 *e*LR LR 17 47 02.8
comp=Z,56nm,22.8s
PPT2 *e*LR LR 17 47 09.5
comp=Z,142nm,27.5s
LPSR Galich'ya Gora 72.65 340 *e*P **P** **17 25 06.5 -1.7**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 73.01 314 P **P** **17 25 11.5 +0.7**
VRH Novokhopyorsk 73.33 338 *e*P **P** **17 25 10.7 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
PHRA Phrae 73.60 279 P **P** **17 25 14.4 0.0**
VSR Storozhevoye 73.89 339 *e*P **P** **17 25 14.3 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 74.10 339 *e*P **P** **17 25 14.8 -2.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 74.15 280 P **P** **17 25 16.2 -1.4**
CHTO IAmb IAmb 17 25 31.2
comp=Z,8.3nm,1.1s
CHTO Chiang Mai 74.15 280 P **P** **17 25 16.2 -1.4**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CM31 Chiang Mai Arr 74.42 280 P **P** **17 25 19.1 -0.1**
CM31 IAmb IAmb 17 25 33.3
comp=Z,7.4nm,0.9s
CMAR Chiang Mai Arr 74.42 280 P **P** **17 25 18.8 -0.4**
CMAR Chiang Mai Arr 74.42 280 P **P** **17 25 19.2 0.0**
comp=Z,4.3nm,0.7s,baz=19,slow=5.7,SNR=22
comp=Z,4.3nm,0.7s
SIMJ Simiganj 74.96 314 P **P** **17 25 22.1 -0.1**
DZM Mont Dzumac 75.55 199 LR LR 17 54 42.0
comp=Z,74nm,18.9s,baz=314,slow=33
AKASG Malin Array Be 76.25 346 P **P** **17 25 28.4 -0.8**
AKASG IAmb IAmb 17 25 42.3
comp=Z,6.7nm,1.5s
AKASG Malin Array Be 76.25 346 P **P** **17 25 28.5 -0.7**
comp=Z,4.2nm,0.3s,baz=18,slow=6.0,SNR=40
AKASG LR LR 18 04 41.2
comp=Z,79nm,19.0s,baz=308,slow=40
comp=Z,4.2nm,0.3s
AKASG Malin Array Be 76.25 346 P **P** **17 25 28.4 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,1.5s
AKBB Malin Array Si 76.25 346*ce*P **P** **17 25 28.4 -0.8**
KIEV Kiev 76.26 346 P **P** **17 25 27.8 -1.4**
KIEV Kiev 76.26 346 ⇓P **P** **17 25 28.8 -0.5**
KIEV Kiev 76.26 346 ⇓P **P** **17 25 28.8 -0.5**
NIL Nilore 77.05 308 P **P** **17 25 34.4 +0.3**
NIL Nilore 77.05 308 P **P** **17 25 34.4 +0.3**
NIL pmax pmax
comp=Z,27nm,0.8s
CLL Collm 77.27 356 *i* P **P** **17 25 35.3 +0.3**
CLL *i* pP **PcP** **17 25 47.3 +1.8**
BRG Berggiesshubel 77.66 355 *i* P **P** **17 25 37.7 +0.5**
BRG Amp 17 25 39.6
comp=Z,4.7nm,0.8s
OSTC Ostas 77.85 354 *e*P **P** **17 25 38.7 +0.5**
OSTC Ostas 77.85 354 *e*P **P** **17 25 38.7 +0.5**
UPC Upice 77.91 354 *e*P **P** **17 25 39.2 +0.6**
UPC Upice 77.91 354 *e*P **P** **17 25 39.2 +0.6**
HSKC Hora Svate Kat 77.95 356 *e*P **P** **17 25 39.3 +0.4**
HSKC *e*pP **pwP** **17 25 52.2 -0.9**
PVCC Panska Ves 77.97 355 *e*P **P** **17 25 39.3 +0.4**
PVCC *e*pP **pwP** **17 25 52.2 -0.9**
PVCC Panska Ves 77.97 355 *e*P **P** **17 25 39.3 +0.4**
PVCC *e* 17 25 52.2
RICC Richard 77.98 355 *e*P **P** **17 25 39.9 +0.9**
DPC Dobruska-Polom 78.04 354 *e*P **P** **17 25 39.9 +0.5**
DPC Dobruska-Polom 78.04 354 *e*P **P** **17 25 39.9 +0.5**
KBL Kabul 78.33 312 P **P** **17 25 40.3 -1.2**
KBL Kabul 78.33 312 P **P** **17 25 40.3 -1.2**
KBL pmax pmax
comp=Z,12nm,0.8s
STEB Steborice 78.35 353 *e*P **P** **17 25 41.2 +0.2**
STEB *e*pP **pP** **17 25 53.4 +1.2**
NKC Novy Kostel 78.37 356 *e*P **P** **17 25 41.0 -0.2**
NKC Novy Kostel 78.37 356 *e*P **P** **17 25 41.0 -0.2**
OKC Ostrava-Krasne 78.42 353 *e*P **P** **17 25 42.3 +0.9**
OKC Ostrava-Krasne 78.42 353 *e*P **P** **17 25 42.3 +0.9**
MORC Moravsky Berou 78.53 353 *e*P **P** **17 25 42.1 0.0**
SORM Soroca 78.88 345 ⇑P **P** **17 25 43.3 -0.6**
SORM Soroca 78.88 345 ⇑P **P** **17 25 43.3 -0.6**
KOLS Kolonicke sedl 78.92 350 *e*P **P** **17 25 44.9 +0.7**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 78.92 350 *e*P **P** **17 25 44.9 +0.7**
LANS Liptovska Anna 78.99 352 *e*P **P** **17 25 45.8 +1.2**
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 78.99 352 *e*P **P** **17 25 45.8 +1.2**
VRAC Vranov 79.06 353 *e*P **P** **17 25 45.2 +0.2**
ZVC Zvikov 79.08 355 *e*P **P** **17 25 45.5 +0.4**
KRUC Moravsky 79.32 354 *e*P **P** **17 25 46.5 +0.1**
KHC Kasperske Hory 79.42 355 *e*P **P** **17 25 47.7 +0.7**
KHC *e*pP **pP** **17 25 59.4 +1.3**
KHC Kasperske Hory 79.42 355 *e*P **P** **17 25 47.7 +0.7**
KHC *e* 17 25 59.4
JAVC Velka Javorina 79.43 353 *e*P **P** **17 25 48.3 +1.3**
VYHS Vyhne 79.69 352 *e*P **P** **17 25 48.2 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 79.69 352 *e*P **P** **17 25 48.2 -0.2**
GERES GERESS Array B 79.70 355 P **P** **17 25 48.6 +0.1**
comp=Z,3.6nm,0.7s,baz=15,slow=5.8,SNR=15
comp=Z,3.6nm,0.7s
GERES GERESS Array B 79.70 355 *e*P **P** **17 25 49.0 +0.4**
GERES pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 79.82 335 P **P** **17 25 49.3 +0.1**
KIV Kislovodsk 79.82 335 *e*P **P** **17 25 48.6 -0.7**
KIV pmax pmax
comp=Z,11nm,1.0s
BUR08 Bucovina Ar. S 79.82 347 IAmb IAmb 17 26 02.6
comp=Z,3.1nm,0.7s
BURAR Bucovina Array 79.85 347 ⇓P **P** **17 25 49.8 +0.4**
BURAR Bucovina Array 79.85 347 ⇓P **P** **17 25 49.8 +0.4**
MODS Modra-Piesok 79.94 353 *e*P **P** **17 25 50.3 +0.5**
MODS pmax pmax
comp=Z,14nm,0.8s
MODS Modra-Piesok 79.94 353 *e*P **P** **17 25 50.3 +0.5**
KBZ Khabaz 79.97 334 P **P** **17 25 50.6 +0.7**
comp=Z,6.1nm,0.8s,baz=84,slow=1.5,SNR=13
comp=Z,6.1nm,0.8s
CONA Conrad Observa 80.49 354 *e*P **P** **17 25 53.5 +0.7**
comp=Z,6.3nm,0.8s
RONA Rosalia, Austr 80.68 353 *e*P **P** **17 25 54.6 +0.7**
comp=Z,6.7nm,1.3s
BIOA Bad Ischl, Aus 80.85 355 *e*P **P** **17 25 55.3 +0.6**
comp=Z,2.6nm,0.5s
DRGR 80.98 349 ⇑P **P** **17 25 55.3 -0.1**
DRGR 80.98 349 ⇑P **P** **17 25 55.3 -0.1**
MARR Marisel-Cluj 81.04 349 ⇓P **P** **17 25 55.9 +0.1**
VLDR Vladesti 81.16 345 ⇑P **P** **17 25 56.6 +0.3**
ARSA Arzberg 81.18 354 *e*P **P** **17 25 57.2 +0.8**
comp=Z,3.7nm,0.6s
OZUR 81.26 347 ⇓P **P** **17 25 57.8 +0.9**
WATA Walderalm 81.30 357 *e*P **P** **17 25 57.7 +0.5**
comp=Z,4.2nm,1.0s
MOTA Moosalm 81.31 357 *e*P **P** **17 25 57.6 +0.3**
comp=Z,3.8nm,1.0s
SQTA Sankt Quirin 81.43 357 *e*P **P** **17 25 58.7 +0.8**
comp=Z,4.4nm,0.7s
DOPR Dopca 81.44 347 ⇓P **P** **17 25 59.0 +1.2**
COVR Voineasa-Covas 81.44 346 ⇓P **P** **17 25 59.0 +1.2**
KBA Koelnbreinsper 81.48 355 *e*P **P** **17 25 59.2 +1.0**
comp=Z,10nm,0.6s
SIRR Siria 81.61 350 ⇑P **P** **17 25 59.4 +0.6**
FETA Feichten 81.64 357 *e*P **P** **17 25 59.8 +0.8**
comp=Z,6.1nm,0.8s
TLCR 81.67 344 ⇓P **P** **17 25 59.8 +0.8**
TLCR 81.67 344 ⇓P **P** **17 25 59.8 +0.8**
SOKA Soboth 81.79 354 *e*P **P** **17 26 00.4 +0.7**
comp=Z,7.3nm,1.0s
CFR Carcaliu 81.80 345 ⇓P **P** **17 26 00.2 +0.6**
CFR Carcaliu 81.80 345 ⇓P **P** **17 26 00.2 +0.6**
MLR Muntele Rosu 81.83 347 ⇓P **P** **17 26 01.1 +1.1**
MLR Muntele Rosu 81.83 347 ⇓P **P** **17 26 01.1 +1.1**
OBKA Obir 81.98 355 *e*P **P** **17 26 01.4 +0.6**
comp=Z,3.4nm,0.6s
VOIR 82.01 347 ⇓P **P** **17 26 01.6 +0.7**
VOIR 82.01 347 ⇓P **P** **17 26 01.6 +0.7**
FUORN Ofenpass-Fuorn 82.06 358 IAmb IAmb 17 26 15.6
comp=Z,7.5nm,1.4s
SURR Surduc 82.07 349 ⇓P **P** **17 26 01.5 +0.4**
BZS Buzias 82.26 350 ⇓P **P** **17 26 01.9 -0.2**
BZS Buzias 82.26 350 ⇓P **P** **17 26 01.9 -0.2**
TIRR Tirgusor 82.45 345 ⇓P **P** **17 26 04.1 +1.0**
TIRR Tirgusor 82.45 345 ⇓P **P** **17 26 04.1 +1.0**
MDVR Moldovita 83.08 349 ⇓P **P** **17 26 06.6 +0.1**
BOVS Bovan 84.21 349 ⇓P **P** **17 26 12.3 +0.1**
WRA Warramunga Arr 84.72 228 P **P** **17 26 13.7 -1.2**
comp=Z,0.8nm,0.7s,baz=34,slow=5.9,SNR=7.8
comp=Z,0.8nm,0.7s
WRA Warramunga Arr 84.72 228 *e*P **P** **17 26 15.3 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 86.02 340 P **P** **17 26 22.5 +1.0**
comp=Z,3.8nm,0.8s,baz=42,slow=2.8,SNR=21
comp=Z,3.8nm,0.8s
SJG San Juan 86.12 66 LR LR 18 06 56.0
comp=Z,15nm,18.5s,baz=106,slow=37
ASAR Alice Springs 88.14 227 P **P** **17 26 31.2 -0.4**
comp=Z,1.5nm,0.7s,baz=28,slow=5.0,SNR=22
comp=Z,1.5nm,0.7s
ESDC Sonseca Array 88.56 8 P **P** **17 26 33.1 -0.6**
comp=Z,0.7nm,0.6s,baz=345,slow=4.5,SNR=4.5
comp=Z,0.7nm,0.6s
MMAI Mount Meron Ar 92.01 336 P **P** **17 26 49.8 -0.1**
comp=Z,1.8nm,0.8s,baz=54,slow=8.6,SNR=4.6
comp=Z,1.8nm,0.8s
QSPA South Pole Qui 141.42 180 PKhKP PKPpre 17 33 02.7
comp=Z,2.3nm,1.1s,baz=143,slow=1.4,SNR=6.8
QSPA PKP **PKiKP** **17 33 11.9 -1.3**
comp=Z,1.1nm,0.6s,baz=118,slow=5.6,SNR=7.1
BOSA Boshof 153.14 322 PKPbc **PKiKP** **17 33 39.2 +0.5**
comp=Z,2.3nm,0.4s,baz=34,slow=4.5,SNR=11

---

*IDC **21** 17:16:32.5±1.0, 43°.35N×81°.98E, h0km, mb3.6/3, mbtmp3.5/9, ML3.0/6, MS2.4/1, Error ellipse: s-maj=14.4km s-min=10.8km az=85.0*
*SOME **21** 17:16:35.5, 43°.45N×81°.90E, h10km, MS2.8*
*NNC **21** 17:16:37.2±1.0, 43°.49N×81°.88E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=9.2km s-min=3.0km az=138.0*
ISC 21 17:16:32.9±1.4, **43°.33N**±0°.04×**81°.98E**±0°.04, **h4**km±10km, **n57**, σ2≈**21**/80, **mb3.6**/3, **14C-8D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 127nm,0.3s	**1.81**	**271**	⇑P	**Pg**	**17 17 08.8**	**+1.2**
PDGK	492nm,0.3s			⇑S	**Sg**	**17 17 33.7**	**+2.6**
SHLS	**Shalkode** 390nm,0.2s	**1.84**	**265**	*e*P	**Pn**	**17 17 05.3**	**-0.2**
SHLS	3μm,0.3s			*e*S	**Sn**	**17 17 26.6**	**-2.7**
DJR	**Jarkent** 130nm,0.3s	**1.87**	**303**	*e*P	**Pg**	**17 17 09.5**	**+0.7**
DJR	456nm,0.3s			*e*S	**Sg**	**17 17 34.0**	**+1.0**
UZB	**Uzynbulak** 116nm,0.3s	**2.17**	**266**	Pg	**Pg**	**17 17 14.8**	**+0.4**
UZB	823nm,0.5s			Lg	Lg	17 17 43.0	
UZB	**Uzynbulak** 102nm,0.2s	**2.17**	**266**	*e*P	**Pg**	**17 17 14.8**	**+0.4**
UZB	795nm,0.1s			*e*S	**Sg**	**17 17 43.0**	**+0.5**
KNOS	**Konyrlen** 48nm,0.2s	**2.27**	**298**	Pg	**Pg**	**17 17 16.1**	**-0.3**
KNOS	301nm,0.3s			Lg	Lg	17 17 45.9	
KPKS	**Kokpek** 116nm,0.4s	**2.40**	**274**	Pg	**Pg**	**17 17 19.2**	**+0.2**
KPKS	1μm,0.3s			Lg	Lg	17 17 50.8	
KPKS	**Kokpek** 116nm,0.4s	**2.40**	**274**	*e*P	**Pg**	**17 17 19.2**	**+0.2**
KPKS	1μm,0.3s			*e*S	**Sg**	**17 17 50.8**	**+0.7**
KPKS	**Kokpek** 5.2nm,0.1s	**2.40**	**274**	*e*P	Pg	17 17 57.5	+39
KPKS	306nm,0.8s			*e*S		17 18 57.0	
SATY	**Saty** 9.7nm,0.1s	**2.62**	**265**	*e*P	Pg	17 17 31.4	+8.2
SATY	314nm,0.6s			*e*S	Sg	17 18 11.7	+15
BLB	**Baldybastay** 193nm,0.2s	**2.65**	**288**	Pg	**Pg**	**17 17 22.8**	**-0.9**
BLB	988nm,0.4s			Lg	Lg	17 17 57.1	
KAPS	**Kapalarasan** 30nm,0.1s	**2.71**	**317**	Pg	**Pg**	**17 17 24.4**	**-0.4**
KAPS	720nm,0.2s			Lg	Lg	17 17 59.8	
KURS	**Kuram** 17nm,0.5s	**2.78**	**275**	Pg	**Pg**	**17 17 26.3**	**+0.2**
KURS	281nm,0.5s			Lg	Lg	17 18 03.0	
TDK	**Taldyqorghan** 95nm,0.4s	**3.06**	**304**	*e*P	**Pg**	**17 17 29.8**	**-1.8**
TDK	607nm,0.3s			*e*S	**Sg**	**17 18 09.2**	**-2.1**
MK31	**Makanchi Array** 2.5nm,0.3s,baz=185,slow=13,SNR=1111	**3.47**	**4**	Pn	**Pn**	**17 17 30.3**	**+2.6**
MK31	9.1nm,0.2s,baz=184,slow=12,SNR=51			⇓Pg	**Pg**	**17 17 39.9**	**+0.5**
MK31	7.0nm,0.2s,baz=184,slow=23,SNR=6.0			Sn	**Sn**	**17 18 11.1**	**+1.9**
MK31	15nm,0.2s,baz=184,slow=26,SNR=5.3			⇑Lg	Lg	17 18 23.9	
MKAR	**Makanchi Array** 3.2nm,0.3s,baz=191,slow=15,SNR=202	**3.47**	**4**	Pn	**Pn**	**17 17 30.6**	**+2.9**

```
MKAR                                Sn    Sn    17 18 11.2 +1.9
    12nm,0.3s,baz=184,slow=24,SNR=8.1
MKAR                                Lg    Lg    17 18 20.9
    16nm,0.3s,baz=182,slow=28,SNR=9.1
MKAR                                LR    LR    17 18 40.9
    comp=Z,57nm,19.6s,baz=284,slow=37
    5.2nm,0.2s
MAKZ Makanchi          3.48   0 ⇓Pn    Pn    17 17 30.6 +2.8
    14nm,0.3s
MAKZ                              ⇓Pg    Pg    17 17 39.7 +0.2
    19nm,0.6s
MAKZ                              ⇑Sn    Sn    17 18 10.1 +0.7
    21nm,0.3s
MAKZ                              ⇓Lg    Lg    17 18 22.8
    44nm,0.5s
KOTS Kotyrbulak        3.55 270  Pg    Pg    17 17 40.4 -0.6
    49nm,0.3s
KOTS                              Lg    Lg    17 18 27.4
    779nm,0.5s
KOTS Kotyrbulak        3.55 270  eP    Pg    17 17 40.4 -0.6
    49nm,0.3s
KOTS                              eS    Sg    17 18 27.4 +0.4
    779nm,0.5s
MDOK Medeo             3.60 269  Pg    Pg    17 17 40.2 -1.8
    14nm,0.3s
MDOK                              ⇑Pg    Pb    17 17 43.1 +5.8
    29nm,0.6s
MDOK                              Lg    Lg    17 18 26.9
    146nm,0.6s
MDOK                              ⇓Lg    Lg    17 18 28.9
    110nm,0.4s
MDOK Medeo             3.60 269  eP    Pg    17 17 40.2 -1.8
    9.2nm,0.2s
MDOK                              eS    Sg    17 18 26.9 -1.8
    136nm,0.2s
KNDC Almaty            3.66 270 ⇑Pg    Pg    17 17 44.1 +1.0
    68nm,0.6s
KNDC                              ⇑Lg    Lg    17 18 30.7
    549nm,0.8s
TNSS Tian-Shan         3.69 267  Pg    Pg    17 17 42.9 -0.7
    17nm,0.4s
TNSS                              Lg    Lg    17 18 31.6
    76nm,0.3s
TNSS Tian-Shan         3.69 267  eP    Pg    17 17 42.9 -0.7
    14nm,0.1s
TNSS                              eS    Sg    17 18 31.6 +0.2
    76nm,0.3s
KTBS Karatobe          3.87 277  Pg    Pg    17 17 44.4 -2.6
    26nm,0.3s
KTBS                              Lg    Lg    17 18 33.8
    186nm,0.5s
KASK Kaskelen          3.90 270 ⇓Pg    Pg    17 17 46.9 -0.7
    21nm,0.3s
KASK                              ⇑Lg    Lg    17 18 36.5
    165nm,0.5s
IZV  Izvestkoviy       3.93 268  Pg    Pg    17 17 46.8 -1.5
    19nm,0.5s
IZV                               Lg    Lg    17 18 38.4
    250nm,0.9s
IZV  Izvestkoviy       3.93 268  eP    Pg    17 17 46.8 -1.5
    19nm,0.5s
IZV                               eS    Sg    17 18 38.4 -0.8
    236nm,0.3s
MTBS Maitube           4.06 269  Pg    Pg    17 17 48.8 -1.8
    41nm,0.5s
MTBS                              Lg    Lg    17 18 41.5
    235nm,0.5s
MTBS Maitube           4.06 269  eP    Pg    17 17 48.8 -1.8
    41nm,0.5s
MTBS                              eS    Sg    17 18 41.5 -1.8
    235nm,0.5s
KUU  Kurty             4.13 280  Pg    Pg    17 17 52.0  0.0
KUU                               Lg    Lg    17 18 46.9
KUU  Kurty             4.13 280  eP    Pg    17 17 49.8 -2.2
    9.1nm,0.1s
KUU                               eS    Sg    17 18 43.0 -2.6
    96nm,0.1s
KST  Kastek            4.41 268  Pg    Pg    17 17 55.2 -2.1
    26nm,0.7s
KST                               Lg    Lg    17 18 52.2
    185nm,0.6s
KST  Kastek            4.41 268  eP    Pg    17 17 55.2 -2.1
    26nm,0.7s
KST                               eS    Sg    17 18 52.2 -2.2
    185nm,0.6s
DGS  Degeres           4.53 271  Pg    Pg    17 17 57.5 -2.1
    9.8nm,0.4s
DGS                               Lg    Lg    17 18 57.0
    306nm,0.8s
ZSN  Zaisan            4.59  25  eP    Pg    17 17 57.8 -3.1
    57nm,0.5s
ZSN                               eS    Sg    17 18 57.0 -3.4
    168nm,0.3s
KRBS Karabastau        4.60 277  Pg    Pg    17 17 58.3 -2.7
    12nm,0.5s
KRBS                              Lg    Lg    17 18 58.3
    96nm,0.5s
AAK  Ala-Archa         5.53 265  Pn    Pn    17 18 00.3 +4.2
    0.5nm,0.3s,baz=108,slow=7.7,SNR=7.8
AAK                               Pg    Pb    17 18 13.1 +3.0
    1.2nm,0.3s,baz=96,slow=12,SNR=8.2
AAK                               Lg    Lg    17 19 27.0
    4.4nm,0.3s,baz=204,slow=23,SNR=11
    1.1nm,0.4s
AAK  Ala-Archa         5.53 265  Pg    Pg    17 18 18.4 -0.5
    10nm,0.8s
AAK                               Lg    Lg    17 19 31.3
    57nm,0.7s
KSH  Kashi             5.91 232  Pn    Pb    17 18 19.0 +2.6
KSH                               Sn    Sb    17 19 24.8 -2.7
KSH                               smax  smax
    comp=N,29nm,0.9s
KSH                               smax  smax
    comp=E,32nm,1.0s
BTLS Baital            5.95 289  Pg    Pg    17 18 22.5 -4.4
    comp=E,4.3nm,0.5s
BTLS                              Lg    Lg    17 19 39.8
    comp=E,12nm,0.4s
BTLS Baital            5.95 289  eP    Pg    17 18 24.7 -2.2
    comp=E,4.1nm,0.2s
BTLS                              eS    Sg    17 19 42.7 -1.3
    comp=E,11nm,0.3s
KURBB Kurchatov Arra   7.67 343  Pn    Pn    17 18 26.8 +1.6
    comp=E,0.1nm,0.3s,baz=236,slow=15,SNR=10
KURBB                             Sn    Sn    17 19 50.2 -2.2
    comp=E,0.4nm,0.3s,baz=148,slow=24,SNR=5.1
KURBB                             Lg    Lg    17 20 28.6
    comp=E,0.5nm,0.3s,baz=168,slow=31,SNR=5.2
    comp=E,0.9nm,0.4s
KURBB Kurchatov Arra   7.67 343 ⇑Pn    Pn    17 18 26.3 +1.1
    comp=E,4.4nm,0.6s
KURBB                             ⇓Sn    Sn    17 19 53.0 +0.6
    comp=E,21nm,0.7s
KURBB                             ⇑Lg    Lg    17 20 34.7
    comp=E,94nm,0.8s
KURK Kurchatov         7.74 344 ⇑Pn    Pn    17 18 29.9 +3.7
    comp=E,3.5nm,0.6s
KURK                              ⇑Sn    Sn    17 19 58.9 +4.8
    comp=E,8.3nm,0.6s
KURK                              ⇑Lg    Lg    17 20 38.3
    comp=E,100nm,1.4s
OTUK Ortayu            8.34 309 ⇓Pn    Pn    17 18 37.6 +3.2
    comp=E,3.2nm,1.1s
OTUK                              ⇑Lg    Lg    17 20 59.4
    comp=E,16nm,0.6s
KK31 Karatay Array     8.38 272  Pg    Pg    17 19 08.8 -4.4
    comp=E,2.3nm,0.6s,baz=80,slow=15,SNR=3.6
KK31                              Lg    Lg    17 21 00.1
    comp=E,16nm,0.6s,baz=78,slow=28,SNR=4.7
ZALV Zalesovo Beam    10.79   9  Pn    Pn    17 19 08.5 +0.5
    comp=E,0.3nm,0.3s,baz=189,slow=14,SNR=14
ZALV                              Sn    Sn    17 21 01.8 -7.4
    comp=E,0.9nm,0.3s,baz=187,slow=22,SNR=6.1
ZALV                              Lg    Lg    17 22 15.8
    baz=203,slow=28
    comp=E,2.9nm,0.6s
GOMU GeErMu           12.17 122  P     Pn    17 19 26.3 -1.0
GOMU                              pP    17 19 31.3
GOMU                              sP    17 19 38.3
GOMU                              pmax  pmax
    comp=Z,30nm,0.6s
BVAR Borovoye Array   12.39 326  Pn    Pn    17 19 27.2 -2.7
    baz=162,slow=11,SNR=2.3
BVAR                              Lg    Lg    17 23 03.2
    comp=Z,0.1nm,0.3s,baz=126,slow=29,SNR=5.2
    comp=Z,0.3nm,0.5s
GTA  Gaotai           13.95 100  eP    Pn    17 19 50.1 -1.4
GTA                               pP    P     17 19 59.8 +0.1
GTA                               pmax  pmax
    comp=Z,2.0nm,0.7s
SONM Songino Array    17.65  67  P     P     17 20 40.8 +0.2
    comp=Z,0.4nm,0.3s,baz=266,slow=12,SNR=9.8
    comp=Z,1.4nm,0.5s
XAN  Xi'an            22.91 105  eP    P     17 21 42.1 +4.4
XLT  XiLinHaoTe       24.60  77  eP    P     17 21 50.9 -3.2
XLT                               pP    pP    17 21 55.3 -0.4
CMAR Chiang Mai Arr   28.64 145  P     P     17 22 31.4 +0.9
    comp=Z,0.4nm,0.7s,baz=312,slow=7.8,SNR=6.2
    comp=Z,0.4nm,0.7s
WRA  Warramunga Arr   79.20 131  P     P     17 28 38.3 -0.8
    comp=Z,0.3nm,0.5s,baz=332,slow=5.3,SNR=2.5
    comp=Z,0.3nm,0.5s
ASAR Alice Springs    81.97 133  P     P     17 28 53.4 -0.5
    comp=Z,0.2nm,0.4s,baz=328,slow=5.7,SNR=2.5
    comp=Z,0.2nm,0.4s
```

*IDC **21** 17:17:33.5±1.0,51°.67N×173°.19W, h0km, mb3.8/16, mbtmp3.9/19, ML3.4/3, Error ellipse: s-maj=29.7km s-min=15.9km az=2.0*
*NEIC **21** 17:17:37.8±1.6,51°.5N±0°.3×173°.3W±0°.1, h33km±9km, mb4.0/21, ML4.0/6, ML3.5(AEIC), Error ellipse: s-maj=36.9km s-min=9.7km az=175.0*
*AEIC **21** 17:17:38.2±1.7,51°.6N±0°.2×173°.3W±0°.1, h24km±8km, Error ellipse: s-maj=28.4km s-min=9.0km az=172.0*

ISC 21 17:17:38.9±0.8,51°.6N±0°.1×173°.29W±0°.07, h37km, n60, σ1°.11/54, mb3.8/18, Andreanof Islands

```
Code Station Name        Δ°   AZ°   Phase ID   Time      Res
                                    Op    ISC  h m s     ISC
ATKA Atka Island       0.81 316          Pn   17 17 53.0 -0.8
ATKA                                     IAML 17 18 10.3
    comp=E,2μm,0.5s
GSTR Great Sitkin T    1.78 286  Pn      Pn   17 18 06.8 -0.4
ADK  Adak              2.13 278          Pn   17 18 12.1 +0.2
ADK                                      IAML 17 18 50.4
    comp=E,733nm,0.4s
ADK                                      IAML 17 18 50.5
    comp=E,897nm,0.3s
KIWB Kanaga Island     2.42 277          Pn   17 18 14.9 -0.9
UNV  Unalaska Valle    4.68  59  Pn      Pn   17 18 47.0 +0.1
LVA  Lava Point        5.07  57  Pn      Pn   17 18 51.1 -1.2
LVA                                      IAML 17 21 12.0
    comp=E,185nm,2.7s
FALS False Pass        6.75  57  Pn      Pn   17 19 14.5 -0.8
O14K Tigyukauivet M   10.24  37  Pn      Pn   17 20 06.5 +3.4
O16K Kokwok River B   11.70  41  Pn      Pn   17 20 26.7 +3.6
GAMB Gambell          12.22   3  Pn      Pn   17 20 28.7 -1.3
K15K Wolf Creek Mou   12.45  26  Pn      Pn   17 20 34.2 +1.0
L16K Owhat River      12.61  31  Pn      Pn   17 20 37.4 +1.9
N17K Nushagak Hills   12.63  39  Pn      Pn   17 20 34.6 -1.1
KDAK Kodiak Island    13.43  55  Pn      Pn   17 20 46.3 -0.4
    comp=E,0.3nm,0.3s,baz=162,slow=19,SNR=1.5
    comp=E,10nm,0.9s
PETK Petropavlovsk-   17.73 286  P       Pn   17 21 42.2 -0.4
    comp=E,0.1nm,0.3s,baz=95,slow=12,SNR=1.8
    comp=E,3.3nm,1.0s
I23K Minto, Yukon-K   18.29  33  P       Pn   17 21 50.0 +0.6
I23K                                     IAmb IAmb 17 22 17.6
    comp=Z,18nm,1.4s
WRH  Wood River Hil   18.36  36  P       Pn   17 21 50.1 -0.1
HDA  Harding Lake     18.75  37  P       P    17 21 53.0 -1.3
HDA                                      IAmb IAmb 17 21 57.5
    comp=Z,18nm,1.5s
GLB  Gilahina Butte   18.83  47          Pn   17 21 55.8 -0.2
GLB                                      IAmb IAmb 17 21 58.7
    comp=Z,10nm,1.1s
IL31                  18.96  36  P       P    17 21 55.8 -0.8
ILAR Eielson Array    18.96  36  P       P    17 21 56.7 +0.1
ILAR Eielson Array    18.96  36  P       P    17 21 55.9 -0.7
    comp=Z,0.5nm,0.3s,baz=233,slow=8.8,SNR=13
    comp=Z,1.1nm,0.4s
H24K Noodor Dome      19.20  32  P       Pn   17 22 00.0 -0.4
RIDG Independent Ri   19.24  40  P       Pn   17 22 00.1 -0.8
RIDG                                     IAmb IAmb 17 22 14.6
    comp=Z,10nm,1.0s
DOT  Dot Lake         19.52  41  P       P    17 22 02.8  0.0
DOT                                      IAmb IAmb 17 22 14.7
    comp=Z,12nm,1.2s
SCRK Sand Creek       19.69  40  IAmb    IAmb 17 22 36.6
    comp=Z,9.8nm,1.3s
G24K Hadweenzic Riv   19.84  31  P       Pn   17 22 07.8 -0.2
G24K                                     IAmb IAmb 17 22 23.1
    comp=Z,8.8nm,1.3s
B21K Ikpikpuk River   20.08  19  P       P    17 22 09.3 +0.6
J26L Joseph Creek     20.08  39  P       P    17 22 08.4 -0.5
PCA  Pinnacle         20.19  52  P       P    17 22 10.4 +0.3
TOLK Toolik Lake Re   20.51  25  P       P    17 22 14.1 +0.7
TOLK                                     IAmb IAmb 17 22 19.3
    comp=Z,6.1nm,1.1s
I26K Coal Creek Min   20.60  37  P       P    17 22 14.5 +0.1
I26K                                     IAmb IAmb 17 22 17.0
    comp=Z,6.8nm,0.8s
SEY  Seymchan         21.44 315  P       P    17 22 24.1 +0.5
    comp=Z,0.6nm,0.7s,baz=143,slow=18,SNR=1.5
SEY                                      PcP  PcP  17 26 25.3  0.0
    comp=Z,1.6nm,0.6s,baz=141,slow=4.4,SNR=6.2
    comp=Z,0.6nm,0.7s
MA2  Magadan          21.58 306  PcP     PcP  17 26 25.7  0.0
    comp=Z,0.7nm,0.3s,baz=10,slow=4.8,SNR=1.8
I28M Miner Creek      21.88  38  P       P    17 22 27.9 -0.4
I28M                                     IAmb IAmb 17 22 43.6
    comp=Z,5.5nm,0.8s
J30M Hart River       23.02  42  P       P    17 22 37.7 -2.7
G29M Pine Creek       23.18  35  P       P    17 22 42.9 +1.0
I30M Mount Dempster   23.20  40  P       P    17 22 40.4 -1.9
I30M                                     IAmb IAmb 17 22 43.7
    comp=Z,3.3nm,0.7s
WTLY Watson Lake, Y   25.91  53  P       P    17 23 07.0 -0.1
H11N2 WAKE ISLAND Hy  35.42 213  T       T    18 02 36.3
    baz=18
H11N3 WAKE ISLAND Hy  35.43 213  T       T    18 02 34.3
    baz=18
H11N1 WAKE ISLAND Hy  35.44 213  T       T    18 02 45.2
    baz=18
H11S1 WAKE ISLAND Hy  36.63 213  T       T    18 04 00.5
    baz=20,slow=76,SNR=18
H11S2 WAKE ISLAND Hy  36.64 213  T       T    18 04 01.9
    baz=20,slow=76,SNR=7.4
H11S3 WAKE ISLAND Hy  36.64 213  T       T    18 04 00.5
    baz=20,slow=76,SNR=6.7
NVAR Mina Array Rea   40.10  87  P       P    17 25 10.3 -0.6
    comp=Z,0.6nm,0.6s,baz=301,slow=5.7,SNR=2.8
    comp=Z,0.6nm,0.6s
PDAR Pinedale Array   42.93  76  P       P    17 25 34.6 +0.5
    comp=Z,1.1nm,0.6s,baz=306,slow=4.6,SNR=6.2
    comp=Z,1.1nm,0.6s
KSRS Korea Array      43.07 275  P       P    17 25 37.1 +2.1
    comp=Z,0.4nm,0.5s,baz=57,slow=6.5,SNR=2.1
    comp=Z,0.4nm,0.5s
SONM Songino Array    49.58 299  P       P    17 26 27.1 +0.9
    comp=Z,0.4nm,0.4s,baz=44,slow=7.8,SNR=2.5
    comp=Z,0.4nm,0.4s
TXAR Lajitas Array    55.20  85  P       P    17 27 07.8 -0.2
    comp=Z,0.6nm,0.5s,baz=293,slow=5.9,SNR=4.4
    comp=Z,0.6nm,0.5s
ARCES ARCESS Array B  58.37 352  P       P    17 27 29.4 -0.4
    comp=Z,5.0nm,0.9s,baz=10,slow=7.4,SNR=1.8
    comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra  61.39 316  P       P    17 27 50.6 -0.2
    comp=Z,0.3nm,0.5s,baz=44,slow=6.7,SNR=2.4
    comp=Z,0.3nm,0.5s
MKAR Makanchi Array   62.52 311  P       P    17 27 58.5  0.0
    comp=Z,0.2nm,0.3s,baz=46,slow=6.8,SNR=6.5
    comp=Z,0.2nm,0.3s
BVAR Borovoye Array   62.86 323  P       P    17 28 00.8 +0.2
    comp=Z,2.0nm,0.5s,baz=55,slow=6.8,SNR=6.4
    comp=Z,2.0nm,0.5s
FINES FINESS Array B  66.23 350  P       P    17 28 22.3 -0.1
    comp=Z,2.1nm,0.9s,baz=29,slow=3.5,SNR=1.9
    comp=Z,2.1nm,0.9s
HFS  Hagfors          68.46 356  P       P    17 28 36.0 -0.6
    comp=Z,0.4nm,0.3s,baz=300,slow=3.2,SNR=5.1
    comp=Z,0.4nm,0.3s
AKTO Aktyubinsk       69.40 328  P       P    17 28 42.8 +0.2
    comp=Z,2.0nm,0.5s,baz=48,slow=4.6,SNR=4.0
    comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr   74.39 280  P       P    17 29 13.5 +0.5
    comp=Z,0.6nm,0.7s,baz=41,slow=6.4,SNR=3.2
    comp=Z,0.6nm,0.7s
AKASG Malin Array Be  76.28 345  P       P    17 29 22.5 -0.8
    comp=Z,0.5nm,0.3s,baz=19,slow=6.2,SNR=5.9
    comp=Z,0.5nm,0.3s
ASAR Alice Springs    88.09 227  P       P    17 30 24.3 -1.1
    comp=Z,0.2nm,0.7s,baz=24,slow=5.3,SNR=1.9
    comp=Z,0.2nm,0.7s
```

AFAD 21 17:24:58.6,40°.69N×31°.68E, h7km±1km, ML1.0, Turkey

```
Code Station Name        Δ°   AZ°   Phase ID   Time      Res
                                    Op    ISC  h m s     ISC
BOLU Bolu-Merkez-Mu    0.09 358          P    Pg   17 25 01.0 +0.2
BOLU                                     S    Sg   17 25 02.4  0.0
BOLU                                     i AML AML 17 25 03.0
    comp=N,62nm,0.2s
BOLU                                     i AML AML 17 25 03.0
    comp=E,82nm,0.4s
KIBS BOLU              0.30 154          P    Pg   17 25 04.9 +0.5
KIBS                                     S    Sg   17 25 09.4 +1.0
BCAM Yenicaga          0.32  66          P    Pg   17 25 05.0  0.0
BCAM                                     S    Sg   17 25 09.7 +0.5
```

*IDC **21** 17:28:00.3±8.7,5°.36S×152°.37E, h53km±64km, mb3.5/3, mbtmp3.8/4, ML2.1/1, Error ellipse: s-maj=70.6km s-min=45.4km az=104.0*
*NEIC **21** 17:28:03.4±0.8,4°.8S±0°.1×151°.55E±0°.08, h64km±15km, mb4.2/11, Error ellipse: s-maj=16.5km s-min=8.9km az=146.0*

ISC 21 17:28:02.3±2.1,5°.1S±0°.2×152°.0E±0°.4, h70km, n20, σ1°.39/19, mb3.9/9, New Britain region

```
Code Station Name        Δ°   AZ°   Phase ID   Time      Res
                                    Op    ISC  h m s     ISC
RABL Rabaul            0.89  10  Pn      Pn   17 28 19.4 -0.1
MANU Manus Island      5.53 303  Pn      Pn   17 29 14.9 -7.2
PMG  Port Moresby      6.46 228  Pn      Pn   17 29 33.9 -0.9
PMG  Port Moresby      6.46 228  P       Pn   17 29 35.4 +0.6
    2.3nm,0.3s,baz=33,slow=11,SNR=9.3
PMG                               S       Sn   17 30 47.0 -0.1
    13nm,0.3s,baz=170,slow=18,SNR=8.4
    7.8nm,0.5s
EIDS Eidsvold         20.20 182          Pn   17 32 35.7 +1.8
EIDS                                     IAmb IAmb 17 33 13.7
    comp=Z,22nm,1.2s
MTN  Manton Dam       22.01 248  P       P    17 32 48.7 -2.3
WB0  Warramunga Arr   22.53 228  P       P    17 32 55.9 -0.7
WB0                                      IAmb IAmb 17 33 39.1
    comp=Z,12nm,0.8s
WR0  Warramunga Arr   22.54 227  P       P    17 32 56.9 +0.2
WR0                                      IAmb IAmb 17 33 40.5
    comp=Z,6.1nm,1.1s
WB2  Warramunga Arr   22.67 228  P       P    17 32 57.2 -0.8
WB2                                      IAmb IAmb 17 33 41.3
    comp=Z,9.0nm,0.7s
WRA  Warramunga Arr   22.68 228  P       P    17 32 56.2 -1.9
WRA  Warramunga Arr   22.68 228  P       P    17 32 57.8 -0.4
    comp=Z,1.8nm,0.4s,baz=53,slow=9.7,SNR=19
    comp=Z,1.8nm,0.4s
KNRA Kununurra        25.15 243  P       P    17 33 20.9 -0.3
AS31 Alice Springs    25.42 222  P       P    17 33 24.1 +0.5
ASAR Alice Springs    25.42 222  P       P    17 33 24.8 +1.1
ASAR Alice Springs    25.42 222  P       P    17 33 23.9 +0.3
    comp=Z,1.4nm,0.4s,baz=57,slow=9.5,SNR=42
    comp=Z,1.4nm,0.4s
FITZ Fitzroy Crossi   28.84 241  P       P    17 33 53.0 -1.3
FITZ                                     IAmb IAmb 17 34 18.8
    comp=Z,2.5nm,1.4s
MORW Morawa           41.56 231  P       P    17 35 43.4 +0.1
MORW                                     IAmb IAmb 17 35 44.1
    comp=Z,8.9nm,1.1s
CMAR Chiang Mai Arr   57.28 296  P       P    17 37 46.4 +3.2
    comp=Z,0.3nm,0.7s,baz=101,slow=5.1,SNR=3.1
    comp=Z,0.3nm,0.7s
SONM Songino Array    66.14 328  P       P    17 38 40.0 -2.4
SONM                                     IAmb IAmb 17 39 20.7
    comp=Z,1.8nm,1.2s
TORD Torodi Ar. Bea   149.64 287 PKPbc   PKPbc 17 47 45.5 +0.4
    comp=Z,78nm,0.3s,baz=55,slow=3.6,SNR=4.1
```

*NEIC **21** 17:29:43.8±0.6,55°.3S±0°.2×27°.5W±0°.1, h10km±2km, mb4.2/6, Error ellipse: s-maj=27.1km s-min=12.0km az=13.0*
*IDC **21** 17:29:43.2±0.9,55°.32S×26°.99W, h0km, mb4.5/3, mbtmp4.3/4, ML3.7/1, Error ellipse: s-maj=46.8km s-min=25.7km az=72.0*

ISC 21 17:29:44.2±0.8,55°.4S±0°.1×27°.5W±0°.1, h10km, n21, σ0°.73/21, mb4.2/5, 3C, South Sandwich Islands region

```
Code Station Name        Δ°   AZ°   Phase ID   Time      Res
                                    Op    ISC  h m s     ISC
HOPE Hope Point        5.34 278  Pn      Pn   17 31 03.2 -0.6
VNA3 Neumayer Olymp   17.70 161  P       P    17 33 51.4 +0.1
VNA3 Neumayer Olymp   17.70 161 ⇑P       P    17 33 51.4 +0.1
    comp=Z,0.5nm,0.2s
VNA2 Neumayer--Watz   17.89 158  P       P    17 33 54.5 +1.1
    baz=317,slow=13
VNA2 Neumayer--Watz   17.89 158 ⇑P       P    17 33 54.5 +1.1
    comp=Z,0.4nm,0.2s,baz=317,slow=13
SNAA Sanae            19.44 157  P       Pn   17 34 11.9 +0.2
SNAA Sanae            19.44 157  P       P    17 34 11.0 +0.5
SNAA                                     IAmb IAmb 17 34 36.7
    comp=Z,11nm,1.3s
SNAA Sanae            19.44 157 ⇑P       Pn   17 34 11.9 +0.2
    comp=Z,8.1nm,0.3s
SNAA Sanae            19.44 157  P       Pn   17 34 11.4 -0.3
    comp=Z,0.2nm,0.3s,baz=334,slow=14,SNR=6.2
    comp=Z,2.5nm,0.6s
BELA Belgrano 2       22.76 184  P       P    17 34 45.6 -0.6
BELA                                     IAmb IAmb 17 34 49.3
    comp=Z,5.0nm,0.8s
QSPA South Pole Qui   34.90 180  P       P    17 36 35.4 -0.2
QSPA                                     IAmb IAmb 17 36 52.7
    comp=Z,7.3nm,1.5s
QSPA South Pole Qui   34.90 180  P       P    17 36 35.7 +0.1
    comp=Z,1.2nm,0.5s,baz=147,slow=3.8,SNR=9.9
    comp=Z,1.2nm,0.5s
MT09 Talagante        36.96 287  P       P    17 36 53.0 -0.5
MT09                                     IAmb IAmb 17 37 12.4
    comp=Z,9.5nm,1.2s
VNDA Vanda            47.26 183  P       P    17 38 16.7 -0.1
LPAZ La Paz           49.85 305  P       P    17 38 40.3 +2.1
    comp=Z,2.0nm,0.8s,baz=135,slow=5.7,SNR=5.4
    comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea   72.52  30  P       P    17 41 10.1 -0.9
TORD Torodi Ar. Bea   72.52  30  P       P    17 41 10.5 -0.6
    comp=Z,12nm,0.4s,baz=207,slow=5.3,SNR=1.9
    comp=Z,12nm,0.4s
CMAR Chiang Mai Arr   125.45 110 PKP     PKPdf 17 48 45.0 -0.3
    comp=Z,0.3nm,0.7s,baz=208,slow=1.9,SNR=2.1
YKA  Yellowknife Ar   135.55 319 PKP     PKPdf 17 49 03.2 +0.2
    comp=Z,0.3nm,0.8s,baz=137,slow=2.0,SNR=3.2
ILAR Eielson Array    149.54 313 PKPbc   PKiKP 17 49 33.1 -0.2
    comp=Z,1.2nm,0.7s,baz=104,slow=1.5,SNR=19
SONM Songino Array    150.82  85 PKPbc   PKPbc 17 49 35.8 -0.2
    comp=Z,0.6nm,0.8s,baz=197,slow=1.5,SNR=4.8
```

*IDC **21** 17:30:13.9±0.9,25°.82N×125°.43E, h0km, mb3.5/8, mbtmp3.5/9, ML3.1/1, Error ellipse: s-maj=26.9km s-min=20.0km az=61.0*
*JMA **21** 17:30:14.2±0.2,25°.9N±0°.9×12°.5E±°, h18km, MV3.4/15, NW OFF MIYAKOJIMA ISLAND*

ISC 21 17:30:13.7±1.9,25°.85N±0°.07×125°.45E±0°.08, h1km±13km, n20, σ0°.79/26, mb3.5/8, Southwestern Ryukyu Islands

```
Code Station Name        Δ°   AZ°   Phase ID   Time      Res
                                    Op    ISC  h m s     ISC
JIKM Ikemajima        0.94 191  P       Pb   17 30 32.6 -0.2
JIKM                                     eS   Sb   17 30 46.1 +0.3
JIRB Irabujima        1.05 194  P       Pg   17 30 34.0 +0.2
JIRB                                     S    Sg   17 30 47.5 +0.2
JOGS Gusukube         1.08 182  P       Pg   17 30 34.9 +0.4
JOGS                                     S    Sb   17 30 50.0 +0.1
JMJ2 Miyako jima3     1.11 186  P       Pg   17 30 35.3 +0.3
JMJ2                                     eS   Sb   17 30 50.6 -0.1
JKE  Kume jima 2      1.29  68  P       Pn   17 30 37.5 -1.4
JTJ  Tarama           1.38 210  eP      Pn   17 30 39.7 -0.4
JTJ                                      eS   Sb   17 30 57.6 -0.8
JISG Ishigakijimahi   1.63 220  eP      Pn   17 30 42.5 -1.0
JIJ  Ishigaki jima    1.90 219  P       Pn   17 30 46.5 -0.7
JIJ                                      eS   Sn   17 31 10.6 -1.2
JKRS Kuro-shima       2.07 219  eP      Pn   17 30 50.2 +0.6
JNTH Nagotoyohara     2.41  73  P       Pn   17 30 54.8 +0.6
JIH  Iheya            2.55  62  eP      Pb   17 30 58.7 -1.6
JOW  Kunigami         2.72  68  Pn      Pn   17 30 59.9 +1.3
```

5.6nm,0.3s,baz=240,slow=20,SNR=8.0
28nm,0.9s
CMAR Chiang Mai Arr 25.60 259 P **P** **17 35 44.8 +0.1**
0.2nm,0.5s,baz=75,slow=7.4,SNR=2.2
0.2nm,0.5s
SONM Songino Array 26.58 331 P **P** **17 35 55.0 +1.5**
1.1nm,0.8s,baz=143,slow=8.9,SNR=8.5
1.1nm,0.8s
MKAR Makanchi Array 39.94 313 P **P** **17 37 50.2 +0.6**
0.5nm,0.7s,baz=98,slow=8.9,SNR=5.7
0.5nm,0.7s
ZALV Zalesovo Beam 41.06 324 P **P** **17 37 58.3 -0.4**
0.4nm,0.5s,baz=109,slow=7.8,SNR=4.4
0.4nm,0.5s
KURBB Kurchatov Arra 43.42 317 P **P** **17 38 18.2 +0.2**
0.6nm,0.7s,baz=106,slow=8.8,SNR=4.0
0.6nm,0.7s
WRA Warramunga Arr 46.33 168 P **P** **17 38 41.7 +0.2**
0.5nm,0.9s,baz=343,slow=7.3,SNR=2.3
0.5nm,0.9s
ASAR Alice Springs 49.90 170 P **P** **17 39 09.1 0.0**
0.4nm,0.6s,baz=356,slow=8.9,SNR=7.7
0.4nm,0.6s
YKA Yellowknife Ar 79.91 24 P **P** **17 42 24.1 +0.1**
0.5nm,0.7s,baz=304,slow=5.7,SNR=9.6
0.5nm,0.7s

---

*IDC **21** 17:33:30.4±1.6,25°.54N×125°.33E,h0km,mb3.1/3,*
mbtmp3.2/4,ML2.4/1,Error ellipse: s-maj=42.3km
s-min=30.6km az=56.0
*JMA **21** 17:33:31.9±0.2,25°.9N±0°.6×125°.4E±0°.7,h21km±3km,*
MV3.0/11,NW OFF MIYAKOJIMA ISLAND
ISC 21 17:33:32.0±3.2,25°.78N±0°.07×125°.59E±0°.09,h14km±22km,
n13,σ0965/20,mb3.1/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.91**	**200**	*eP*	**Pb**	**17 33 49.9**	**+0.3**
JIKM				*eS*	**Sn**	**17 34 03.0**	**-0.3**
JIRB	**Irabujima**	**1.02**	**202**	*eP*	**Pb**	**17 33 51.4**	**-0.1**
JIRB				*eS*	**Sb**	**17 34 05.0**	**+0.1**
JOGS	**Gusukube**	**1.03**	**190**	P	**Pb**	**17 33 52.2**	**+0.6**
JOGS				S	**Sn**	**17 34 07.1**	**+0.8**
JMJ2	**Miyako jima3**	**1.06**	**193**	P	**Pb**	**17 33 52.6**	**+0.4**
JMJ2				*eS*	**Sn**	**17 34 07.8**	**+0.6**
JKE	**Kume jima 2**	**1.20**	**63**	*eP*	**Pb**	**17 33 54.9**	**+0.4**
JKE				*eS*	**Sn**	**17 34 10.9**	**+0.4**
JTJ	**Tarama**	**1.39**	**216**	*eP*	**Pn**	**17 33 56.9**	**-0.2**
JTJ				*eS*	**Sn**	**17 34 14.8**	**-0.5**
JISG	**Ishigakijimahi**	**1.66**	**225**	*eP*	**Pn**	**17 34 00.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.93**	**223**	P	**Pn**	**17 34 03.9**	**-0.6**
JIJ				*eS*	**Sn**	**17 34 28.1**	**-0.4**
IRIF	**Iriomote-Funau**	**2.22**	**230**	*eP*	**Pn**	**17 34 08.2**	**-0.2**
JOW	**Kunigami**	**2.62**	**66**	Pn	**Pb**	**17 34 18.2**	**-0.6**
0.9nm,0.3s,baz=260,slow=18,SNR=1.6							
18nm,0.9s							
SONM	**Songino Array**	**26.71**	**330**	P	**P**	**17 39 12.5**	**+1.5**
0.2nm,0.5s,baz=148,slow=8.5,SNR=4.0							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**40.08**	**313**	P	**P**	**17 41 07.1**	**0.0**
0.1nm,0.5s,baz=108,slow=9.5,SNR=1.7							
0.1nm,0.5s							
ASAR	**Alice Springs**	**49.81**	**170**	P	**P**	**17 42 23.7**	**-1.0**
0.3nm,0.9s,baz=354,slow=8.3,SNR=1.9							
0.3nm,0.9s							

---

*IDC **21** 17:36:12.8±1.0,12°.54N×48°.35E,h0km,mb3.9/17,*
mbtmp3.9/19,ML3.4/2,MS3.7/30,Error ellipse:
s-maj=22.1km s-min=17.6km az=16.0
*NEIC **21** 17:36:14.1±2.1,12°.6N±0°.1×48°.2E±0°.1,h10km±2km,*
mb4.3/17,Error ellipse: s-maj=24.2km s-min=17.7km
az=152.0
ISC 21 17:36:13.6±0.7,12°.56N±0°.10×48°.25E±0°.08,h10km,n62,
σ1975/43,mb4.0/27,MS3.8/29,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.38**	**260**	Pn	**Pn**	**17 37 33.3**	**-0.8**
ATD	**Arta Tunnel**	**5.38**	**260**	Pn	**Pn**	**17 37 34.6**	**+0.5**
1.0nm,0.3s,baz=203,slow=12,SNR=25							
ATD				Sn	**Sn**	**17 38 37.1**	**+0.9**
0.2nm,0.3s,baz=50,slow=22,SNR=6.1							
ATD				LR	LR	17 39 26.3	
comp=Z,16nm,20.5s,baz=64,slow=35							
2.6nm,0.4s							
RAYN	**Ar Rayn**	**11.21**	**347**	Pn	**Pn**	**17 38 50.8**	**-3.3**
UOSS	**Minazif**	**14.43**	**30**		**Pn**	**17 39 37.7**	**-0.5**
LODK	**Lodwar**	**15.65**	**236**	Pn	**Pn**	**17 39 54.2**	**-0.3**
KMBO	**Kilima Mbogo**	**17.44**	**220**		**Pn**	**17 40 13.3**	**-4.1**
KMBO	**Kilima Mbogo**	**17.44**	**220**	P	**Pn**	**17 40 18.1**	**+0.7**
0.1nm,0.3s,baz=23,slow=12,SNR=5.4							
KMBO				Lg	Lg	17 45 18.7	
0.4nm,0.3s,baz=270,slow=20,SNR=3.1							
KMBO				LR	LR	17 46 26.2	
comp=Z,57nm,20.8s,baz=62,slow=35							
0.7nm,0.3s							
KIBK	**Kibwezi**	**17.94**	**215**	Pn	**Pn**	**17 40 18.6**	**-4.9**
EIL	**Elat**	**21.03**	**326**	P	**P**	**17 40 58.8**	**+1.1**
4.8nm,1.0s,baz=156,slow=16,SNR=4.9							
EIL				Lg	Lg	17 46 59.2	
0.2nm,0.3s,baz=357,slow=18,SNR=1.8							
EIL				LR	LR	17 47 56.3	
comp=Z,207nm,20.1s,baz=102,slow=33							
4.8nm,1.0s							
GHAJ	**Ghor Haditha**	**22.02**	**330**	P	**P**	**17 41 04.8**	**-3.4**
GHAJ				IAmb	IAmb	17 41 17.7	
comp=Z,23nm,1.2s							
ASF	**Jabal al Asfar**	**22.13**	**334**	P	**P**	**17 41 10.7**	**+1.1**
comp=Z,8.0nm,1.0s,baz=138,slow=3.1,SNR=11							
ASF				Lg	Lg	17 47 48.2	
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=3.2							
ASF				LR	LR	17 49 07.6	
comp=Z,117nm,21.0s,baz=196,slow=35							
comp=Z,8.0nm,1.0s							
MMAI	**Mount Meron Ar**	**23.51**	**332**	P	**P**	**17 41 25.8**	**+1.8**
comp=Z,1.5nm,0.7s,baz=162,slow=8.4,SNR=4.0							
MMAI				LR	LR	17 51 00.6	
comp=Z,298nm,19.1s,baz=154,slow=38							
comp=Z,1.5nm,0.7s							
HRA	**Herat**	**25.18**	**28**	P	**P**	**17 41 39.2**	**-0.4**
HRA				IAmb	IAmb	17 41 44.9	
comp=Z,8.7nm,1.2s							
SIRT	**Sirnak**	**25.38**	**349**	P	**P**	**17 41 40.1**	**-1.1**
MARD	**Mardin**	**25.54**	**346**	P	**P**	**17 41 40.2**	**-2.5**
MARD				IAmb	IAmb	17 41 50.6	
comp=Z,4.6nm,0.8s							
GEVA	**Gevas**	**26.06**	**351**	P	**P**	**17 41 44.7**	**-2.8**
GEVA				IAmb	IAmb	17 41 58.9	
comp=Z,6.5nm,0.9s							
GURO	**Guroymak-BITLI**	**26.47**	**349**	P	**P**	**17 41 51.6**	**+0.5**
GNI	**Garni**	**27.66**	**354**	LR	LR	17 54 30.4	
comp=Z,276nm,20.8s,baz=183,slow=40							
BRTR	**Keskin Array B**	**29.98**	**337**	P	**P**	**17 42 25.5**	**+3.0**
comp=Z,0.7nm,0.9s,baz=146,slow=13,SNR=4.1							
BRTR				LR	LR	17 55 20.1	
comp=Z,102nm,18.7s,baz=141,slow=38							
comp=Z,0.7nm,0.9s							
OPO	**Ambohidratompo**	**30.95**	**182**	LR	LR	17 53 23.2	
comp=Z,103nm,20.6s,baz=176,slow=33							
KBZ	**Khabaz**	**31.40**	**353**	LR	LR	17 56 51.6	
comp=Z,214nm,18.4s,baz=200,slow=39							
SIMJ	**Simiganj**	**31.87**	**32**	P	**P**	**17 42 39.7**	**+0.5**
SIMJ				IAmb	IAmb	17 42 43.0	
comp=Z,4.7nm,1.1s							
CHGR	**Chuyangaron**	**31.95**	**32**	P	**P**	**17 42 39.2**	**-0.7**
PALK	**Pallekele**	**32.38**	**96**	LR	LR	17 52 41.2	
comp=Z,50nm,21.2s,baz=300,slow=31							
GAR	**Garm**	**32.81**	**33**	P	**P**	**17 42 48.5**	**+1.1**
GAR				IAmb	IAmb	17 42 51.3	
comp=Z,6.8nm,0.9s							
ALN	**Alexandroupoli**	**34.29**	**329**	P	**P**	**17 43 00.7**	**+0.6**
ALN				IAmb	IAmb	17 43 07.5	
comp=Z,12nm,1.2s							
AAK	**Ala-Archa**	**37.63**	**32**	LR	LR	18 01 29.9	
comp=Z,102nm,19.5s,baz=268,slow=40							
ABKAR	**Akbulak array**	**37.85**	**13**	P	**P**	**17 43 30.8**	**+0.4**
ABKAR				IAmb	IAmb	17 43 47.4	
comp=Z,4.5nm,1.3s							
ABKAR	**Akbulak array**	**37.85**	**13**	P	**P**	**17 43 30.4**	**0.0**
AKTO	**Aktyubinsk**	**38.61**	**10**	LR	LR	18 03 16.8	
comp=Z,103nm,18.8s,baz=225,slow=42							
BELG	**Belogornoye**	**39.73**	**359**	LR	LR	18 03 37.0	
comp=Z,233nm,18.4s,baz=197,slow=41							
AKASG	**Malin Array Be**	**41.09**	**342**	P	**P**	**17 43 57.3**	**-0.2**
comp=Z,0.2nm,0.4s,baz=152,slow=7.5,SNR=6.8							
comp=Z,0.2nm,0.4s							
LBTB	**Lobatse**	**43.39**	**211**	LR	LR	18 03 07.9	
comp=Z,110nm,19.5s,baz=35,slow=37							
TSUM	**Tsumeb**	**43.69**	**224**	LR	LR	18 04 05.3	
comp=Z,122nm,19.0s,baz=56,slow=38							
BVAR	**Borovoye Array**	**44.07**	**19**	P	**P**	**17 44 22.3**	**+0.6**
comp=Z,1.5nm,0.7s,baz=191,slow=7.8,SNR=6.9							
comp=Z,1.5nm,0.7s							
MAKZ	**Makanchi**	**44.37**	**33**	P	**P**	**17 44 22.9**	**-1.4**
MAKZ				IAmb	IAmb	17 44 33.3	
comp=Z,2.6nm,1.0s							
ARTI	**Arti**	**44.43**	**8**	LR	LR	18 07 25.8	
comp=Z,124nm,21.1s,baz=237,slow=42							
MK31	**Makanchi Array**	**44.53**	**33**	P	**P**	**17 44 25.6**	**0.0**
MKAR	**Makanchi Array**	**44.53**	**33**	P	**P**	**17 44 25.2**	**-0.3**
comp=Z,0.8nm,0.7s,baz=221,slow=7.2,SNR=11							
comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**45.28**	**27**	P	**P**	**17 44 31.8**	**+0.3**
comp=Z,1.0nm,0.2s,baz=229,slow=7.9,SNR=6.1							
comp=Z,1.0nm,0.2s							
TORD	**Torodi Ar. Bea**	**45.34**	**276**	P	**P**	**17 44 33.9**	**+1.5**
comp=Z,22nm,0.3s,baz=73,slow=8.3,SNR=1.3							
KIRV	**Kirov**	**45.95**	**1**	LR	LR	18 06 26.4	
comp=Z,188nm,20.4s,baz=193,slow=40							
GERES	**GERESS Array B**	**46.10**	**329**	P	**P**	**17 44 35.9**	**-2.2**
GERES	**GERESS Array B**	**46.10**	**329**	P	**P**	**17 44 38.0**	**0.0**
comp=Z,1.1nm,0.7s,baz=104,slow=11,SNR=4.6							
comp=Z,1.1nm,0.7s							
BOSA	**Boshof**	**46.58**	**208**	LR	LR	18 02 50.3	
comp=Z,67nm,18.2s,baz=14,slow=34							
CMAR	**Chiang Mai Arr**	**49.08**	**76**	P	**P**	**17 45 01.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**49.08**	**76**	P	**P**	**17 45 01.1**	**-0.5**
comp=Z,1.1nm,0.9s,baz=268,slow=8.6,SNR=10							
CMAR				LR	LR	18 03 55.2	
comp=Z,15nm,20.6s,baz=185,slow=34							
comp=Z,1.1nm,0.9s							
ZALV	**Zalesovo Beam**	**50.37**	**27**	P	**P**	**17 45 10.0**	**-0.8**
comp=Z,0.5nm,0.5s,baz=186,slow=12,SNR=3.9							
ZALV				LR	LR	18 10 04.9	
comp=Z,55nm,21.2s,baz=296,slow=40							
comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**51.40**	**347**	P	**P**	**17 45 19.3**	**+0.9**
comp=Z,1.4nm,0.6s,baz=127,slow=8.2,SNR=3.7							
FINES				LR	LR	18 11 58.2	
comp=Z,78nm,20.6s,baz=220,slow=42							
comp=Z,1.4nm,0.6s							
SUR	**Sutherland**	**51.82**	**210**	LR	LR	18 09 00.6	
comp=Z,91nm,20.5s,baz=3.5,slow=38							
HFS	**Hagfors**	**53.88**	**339**	P	**P**	**17 45 39.1**	**+2.3**
comp=Z,2.4nm,0.9s,baz=159,slow=12,SNR=1.9							
HFS				LR	LR	18 12 04.5	
comp=Z,105nm,19.1s,baz=268,slow=40							
comp=Z,2.4nm,0.9s							
NOA	**NORSAR Array B**	**55.38**	**339**	LR	LR	18 12 42.9	
comp=Z,42nm,20.2s,baz=295,slow=40							
ARCES	**ARCESS Array B**	**58.74**	**351**	P	**P**	**17 46 13.5**	**+2.1**
comp=Z,2.3nm,0.8s,baz=141,slow=7.9,SNR=4.1							
ARCES				LR	LR	18 13 45.6	
comp=Z,77nm,19.6s,baz=196,slow=38							
comp=Z,2.3nm,0.8s							
SONM	**Songino Array**	**59.55**	**42**	P	**P**	**17 46 18.6**	**+1.0**
comp=Z,0.8nm,0.9s,baz=272,slow=6.1,SNR=4.3							
comp=Z,0.8nm,0.9s							
NRIK	**Noril'sk**	**61.96**	**15**	LR	LR	18 18 22.2	
comp=Z,120nm,18.1s,baz=298,slow=41							
SPITS	**Spitsbergen Ar**	**67.52**	**353**	LR	LR	18 18 55.5	
comp=Z,120nm,18.1s,baz=205,slow=38							
TIXI	**Tiksi**	**75.21**	**19**	LR	LR	18 26 46.3	
comp=Z,42nm,18.5s,baz=5.0,slow=40							
DAV	**Davao City (W)**	**76.17**	**86**	LR	LR	18 19 57.4	
comp=Z,49nm,21.4s,baz=330,slow=34							
MAW	**Mawson**	**80.65**	**174**	LR	LR	18 21 12.8	
comp=Z,46nm,18.4s,baz=60,slow=34							
WRA	**Warramunga Arr**	**90.61**	**110**	P	**P**	**17 49 17.7**	**+0.8**
comp=Z,0.7nm,0.8s,baz=296,slow=3.7,SNR=5.6							
comp=Z,0.7nm,0.8s							
ASAR	**Alice Springs**	**91.06**	**114**	P	**P**	**17 49 19.9**	**+1.0**
comp=Z,0.4nm,0.9s,baz=285,slow=4.7,SNR=5.2							
comp=Z,0.4nm,0.9s							
STKA	**Stephens Creek**	**99.32**	**121**	LR	LR	18 29 30.6	
comp=Z,54nm,19.2s,baz=206,slow=32							

---

*GUC **21** 17:42:28.9±0.7,21°.89S×68°.66W,h122km±4km,ML3.6*
*IDC **21** 17:42:30.8±4.3,21°.84S×68°.27W,h128km±36km,mb3.3/3,*
mbtmp3.6/4,Error ellipse: s-maj=53.1km s-min=34.6km
az=78.0
ISC 21 17:42:29.6±0.9,21°.85S±0°.05×68°.6W±0°.1,h121km±8km,
n15,σ0994/23,mb3.6/3,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**275**	*eP*	**Pn**	**17 42 48.2**	**-0.1**
PB09				*i S*	**Sn**	**17 43 02.5**	**+0.1**
PB01	**IPOC Station P**	**1.14**	**315**	*eP*	**Pn**	**17 42 53.1**	**-0.1**
PB01				*i S*	**Sn**	**17 43 11.4**	**+0.3**
PB01				IAML		17 43 13.3	
comp=E,887nm,0.1s							
AF01	**San Pedro de A**	**1.17**	**160**	*i S*	**Sn**	**17 43 11.9**	**-0.1**
AF01				IAML		17 43 28.7	
comp=N,2μm,0.9s							
PB06	**IPOC Station P**	**1.23**	**226**	*eP*	**Pn**	**17 42 53.8**	**-0.5**
PB06				*i S*	**Sn**	**17 43 12.7**	**-0.2**
PX03	**IPOC Station P**	**1.72**	**327**	*eP*	**Pn**	**17 42 59.9**	**+0.1**
PX03				*i S*	**Sn**	**17 43 23.2**	**+0.4**
PX03				IAML		17 43 24.3	
comp=N,799nm,0.2s							
TA01	**Diego Aracena**	**1.94**	**311**	*eP*	**Pn**	**17 43 02.5**	**+0.1**
TA01				*i S*	**Sn**	**17 43 27.2**	**-0.2**
TA01				IAML		17 43 29.1	
comp=N,350nm,0.3s							
TA02	**Huaiquique**	**2.11**	**318**	*eP*	**Pn**	**17 43 04.7**	**+0.2**
TA02				*i S*	**Sn**	**17 43 31.6**	**+0.4**
TA02				IAML		17 43 33.7	
comp=N,653nm,0.1s							
PB11	**IPOC Station P**	**2.29**	**335**	*eP*	**Pn**	**17 43 06.7**	**-0.3**
PB11				*i S*	**Sn**	**17 43 36.2**	**+0.6**
PB11				IAML		17 43 37.7	
comp=E,460nm,0.2s							
PB12	**IPOC Station P**	**3.60**	**333**	*eP*	**Pn**	**17 43 22.0**	**-2.0**
PB12				*i S*	**Sn**	**17 44 03.5**	**-2.4**
LPAZ	**La Paz**	**5.55**	**5**	P	**Pn**	**17 43 51.5**	**+0.9**
comp=E,2.0nm,0.4s,baz=202,slow=15,SNR=12							
QSPA	**South Pole Qui**	**68.34**	**180**	P	**P**	**17 53 18.3**	**+0.5**
comp=E,1.4nm,1.1s,baz=165,slow=16,SNR=2.3							
comp=E,1.4nm,1.1s							
PDAR	**Pinedale Array**	**74.55**	**330**	P	**P**	**17 53 56.8**	**+1.4**
comp=E,0.3nm,0.8s,baz=133,slow=6.8,SNR=2.0							
comp=E,0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.22**	**70**	P	**P**	**17 54 09.2**	**-1.7**
comp=E,29nm,0.4s,baz=257,slow=4.5,SNR=1.9							
YKA	**Yellowknife Ar**	**91.61**	**340**	P	**P**	**17 55 22.7**	**+0.2**
comp=E,0.3nm,0.8s,baz=153,slow=3.8,SNR=5.4							
comp=E,0.3nm,0.8s							
MKAR	**Makanchi Array**	**145.75**	**36**	PKPbc	**PKPdf**	**18 01 54.1**	**+0.2**
comp=E,0.4nm,0.9s,baz=290,slow=1.2,SNR=2.8							

---

*SJA **21** 17:53:49.2±0.7,20°.77S×70°.70W,h18km±6km,ML4.0,*
MW3.9
*GUC **21** 17:53:52.6±0.8,20°.82S×70°.64W,h7km±5km,ML3.9*
*IDC **21** 17:54:01.2±3.2,20°.64S×70°.51W,h95km±27km,mb3.4/3,*
mbtmp3.7/5,MS3.4/4,Error ellipse: s-maj=57.2km
s-min=20.0km az=97.0
ISC 21 17:53:50.0±1.5,20°.79S±0°.03×70°.68W±0°.06,h11km±9km,
n43,σ1906/42,mb4.1/3,MS3.3/3,3C-1D,Near coast of
northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.52**	**64**	*i P*	**Pn**	**17 54 02.2**	**-1.1**
TA01				IAML		17 54 14.0	
comp=Z,3μm,0.7s							
TA01	**Diego Aracena**	**0.52**	**64**	*eP*	**Pn**	**17 54 02.0**	**-1.2**
TA01				IAML		17 54 13.2	
comp=N,7μm,0.3s							
TA02	**Huaiquique**	**0.73**	**45**	*i P*	**Pg**	**17 54 03.2**	**-0.9**
TA02				IAML		17 54 18.1	
comp=Z,4μm,0.9s							
TA02	**Huaiquique**	**0.73**	**45**	*eP*	**Pn**	**17 54 05.7**	**-0.4**
PX03	**IPOC Station P**	**1.05**	**69**	*eP*	**Pb**	**17 54 10.2**	**0.0**
PX03				*i S*	**Sn**	**17 54 25.1**	**-0.3**
PX03				IAML		17 54 27.1	
comp=N,6μm,0.3s							
PB01	**IPOC Station P**	**1.14**	**103**	*i P*	**Pn**	**17 54 11.5**	**-0.4**
PB01				*eS*	**Sn**	**17 54 28.0**	**+0.5**
PB01				IAML		17 54 29.3	
comp=Z,5μm,0.2s							
PB01	**IPOC Station P**	**1.14**	**103**	*i P*	**Pg**	**17 54 12.2**	**+0.3**
PB01				*i S*	**Sb**	**17 54 26.6**	**0.0**
PB01				IAML		17 54 28.8	
comp=N,12μm,0.6s							
PB11	**IPOC Station P**	**1.41**	**43**	*eP*	**Pb**	**17 54 16.4**	**0.0**
PB11				*eS*	**Sg**	**17 54 36.1**	**+0.9**
PB11				IAML		17 54 41.1	
comp=Z,2μm,0.3s							
PB11	**IPOC Station P**	**1.41**	**43**	*i P*	**Pb**	**17 54 16.3**	**0.0**
PB11				*i S*	**Sg**	**17 54 35.4**	**+0.1**
PB11				IAML		17 54 40.9	
comp=N,5μm,0.3s							
PB09	**IPOC Station P**	**1.67**	**127**	*i P*	**Pb**	**17 54 20.4**	**-0.5**
PB09				*eS*	**Sg**	**17 54 43.5**	**-0.2**
PB09				IAML		17 54 45.5	
comp=Z,2μm,0.4s							
PB09	**IPOC Station P**	**1.67**	**127**	*eP*	**Pb**	**17 54 20.9**	**0.0**
PB09				*eS*	**Sb**	**17 54 42.2**	**+0.3**
PB09				IAML		17 54 48.6	
comp=E,2μm,0.4s							
PX02	**IPOC Station P**	**1.88**	**14**	*eP*	**Pb**	**17 54 24.1**	**-0.1**
PX02				*i S*	**Sb**	**17 54 48.9**	**+1.2**
PX02				IAML		17 54 59.9	
comp=N,750nm,0.4s							
PB06	**IPOC Station P**	**2.16**	**152**	*i P*	**Pn**	**17 54 25.9**	**-0.2**
PB06				*eS*	**Sb**	**17 54 55.9**	**-0.2**
PB06				IAML		17 55 03.3	
comp=Z,999nm,0.6s							
PB06	**IPOC Station P**	**2.16**	**152**	*i P*	**Pn**	**17 54 25.8**	**-0.2**
PB12	**IPOC Station P**	**2.19**	**9**	*i P*	**Pn**	**17 54 26.9**	**+0.5**
PB12				*eS*	**Sg**	**17 55 00.1**	**-0.4**
PB12				IAML		17 55 05.6	
comp=Z,623nm,1.0s							
PB12	**IPOC Station P**	**2.19**	**9**	*eP*	**Pn**	**17 54 27.1**	**+0.7**
PB12				*i S*	**Sb**	**17 54 57.6**	**+0.8**
PB12				IAML		17 55 03.9	
comp=N,948nm,0.3s							
AP01	**Chacalluta**	**2.43**	**8**	*i P*	**Pb**	**17 54 32.8**	**-0.9**
AP01				IAML		17 55 13.9	
comp=Z,970nm,1.0s							
AP01	**Chacalluta**	**2.43**	**8**	*eP*	**Pb**	**17 54 32.6**	**-1.0**
AP01				*i S*	**Sb**	**17 55 04.0**	**+0.4**
AP01				IAML		17 55 12.7	
comp=E,2μm,0.4s							
AF01	**San Pedro de A**	**3.16**	**133**	*i P*	**Pg**	**17 54 51.3**	**+0.7**
AF01				IAML		17 55 41.2	
comp=Z,2μm,0.9s							
AF01	**San Pedro de A**	**3.16**	**133**	*eP*	**Pb**	**17 54 45.4**	**-1.0**
PB14	**IPOC Station P**	**3.82**	**176**	*i P*	**Pn**	**17 54 47.1**	**-1.9**
PB14				IAML		17 56 07.8	
comp=Z,144nm,0.9s							
GO02	**Mina Guanaco**	**4.46**	**167**	*i P*	**Pn**	**17 54 56.9**	**-1.0**
LPAZ	**La Paz**	**5.09**	**29**	P	Pb	17 55 12.9	-6.5
comp=Z,2.8nm,0.3s,baz=284,slow=4.3,SNR=32							
CFA	**Coronel Fontan**	**10.99**	**169**	P	Pn	17 56 37.4	+10
comp=Z,0.7nm,0.3s,baz=353,slow=17,SNR=2.6							
CFA				LR	LR	18 00 18.7	
comp=Z,146nm,19.8s,baz=230,slow=34							
H03N1	**Juan Fernandez**	**14.57**	**208**	T	T	18 12 11.3	
baz=34,slow=72,SNR=226							
H03N2	**Juan Fernandez**	**14.57**	**208**	T	T	18 12 10.7	
baz=34,slow=72,SNR=271							
H03N3	**Juan Fernandez**	**14.58**	**208**	T	T	18 12 10.3	
baz=34,slow=72,SNR=185							
PLCA	**Paso Flores**	**19.88**	**180**	P	**Pn**	**17 58 27.2**	**+4.3**
comp=Z,1.4nm,0.7s,baz=336,slow=12,SNR=3.1							
comp=Z,1.4nm,0.7s							
BDFB	**Brasilia**	**22.12**	**80**	LR	LR	18 09 07.8	
comp=Z,159nm,18.3s,baz=216,slow=41							
SDV	**Santo Domingo**	**29.49**	**0**	LR	LR	18 11 00.5	
comp=Z,64nm,21.4s,baz=268,slow=35							
MDP	**Montagnes des**	**31.24**	**36**	LR	LR	18 14 36.9	
comp=Z,69nm,20.2s,baz=252,slow=40							
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**18 04 58.8**	**+1.1**
comp=Z,1.2nm,0.8s,baz=190,slow=1.2,SNR=6.4							
comp=Z,1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.68**	**71**	P	**P**	**18 05 51.7**	**-1.0**
comp=Z,27nm,0.3s,baz=251,slow=5.2,SNR=1.6							
YKA	**Yellowknife Ar**	**89.98**	**341**	P	**P**	**18 06 47.6**	**-1.3**
comp=Z,0.4nm,0.8s,baz=141,slow=4.4,SNR=8.0							
comp=Z,0.4nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**26.15**	**278**	T	T	20 32 05.9	
baz=103,slow=75,SNR=120							
H11S1	**WAKE ISLAND Hyl**	**26.16**	**278**	T	T	20 32 06.5	
baz=103,slow=75,SNR=115							
H11S3	**WAKE ISLAND Hyl**	**26.17**	**278**	T	T	20 32 07.2	
baz=103,slow=75,SNR=108							
H11N3	**WAKE ISLAND Hyl**	**26.22**	**280**	T	T	20 32 02.3	
baz=102,slow=75,SNR=51							
H11N2	**WAKE ISLAND Hyl**	**26.23**	**280**	T	T	20 32 06.6	
baz=102,slow=75,SNR=27							
H11N1	**WAKE ISLAND Hyl**	**26.23**	**280**	T	T	20 32 07.4	
baz=102,slow=75,SNR=25							
MKAR	**Makanchi Array**	**146.00**	**34**	PKPbc	**PKPab**	**18 13 29.9**	**-0.5**
comp=Z,1.8nm,0.8s,baz=336,slow=2.7,SNR=16							
MJAR	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.56**	**221**	*e*PG	**Pb**	**17 59 48.4**	**-0.6**
OKC				*e*SG	**Sg**	**17 59 54.7**	**+0.5**
	comp=Z,111nm,0.4s						
STEB	**Steborice**	**0.69**	**242**	*e*PG	**Pb**	**17 59 50.9**	**-0.3**
STEB				*e*SG	**Sg**	**17 59 58.4**	**0.0**
OJC	**Ojcow**	**0.70**	**93**	*e*Pg	**Pb**	**17 59 51.3**	**0.0**
OJC				*e*Sg	**Sb**	**18 00 01.4**	**-0.1**
MORC	**Moravsky Berou**	**0.90**	**238**	*e*Pg	**Pg**	**17 59 54.3**	**+0.8**
MORC	baz=58			*e*Sg	**Sg**	**18 00 05.3**	**+0.2**
	77nm,0.4s,baz=58						
MORC	**Moravsky Berou**	**0.90**	**238**	*e*PG	**Pb**	**17 59 54.4**	**-0.4**
MORC				*e*SG	**Sg**	**18 00 05.3**	**+0.2**
LANS	**Liptovska Anna**	**1.21**	**156**	*e*PG	**Pn**	**18 00 00.8**	**+0.3**
LANS				*e*SG	**Sb**	**18 00 17.3**	**+1.0**
LANS				*e*LG	Lg	18 00 20.4	
KRLC	**Kraliky**	**1.26**	**262**	*e*PG	**Pb**	**18 00 00.7**	**-0.2**
KRLC				*e*SG	**Sg**	**18 00 16.5**	**-0.2**
NIE	**Niedzica**	**1.32**	**129**	*e*Pg	**Pb**	**18 00 03.1**	**+1.0**
NIE				*e*Sg	**Sn**	**18 00 21.7**	**+1.2**
DPC	**Dobruska-Polom**	**1.54**	**274**	*e*PG	**Pb**	**18 00 05.4**	**-0.3**
DPC				*e*SG	**Sn**	**18 00 27.0**	**+1.2**
	comp=Z,43nm,0.4s						
JAVC	**Velka Javorina**	**1.56**	**206**	*e*Pg	**Pn**	**18 00 05.5**	**+0.2**
	baz=26						
JAVC	**Velka Javorina**	**1.56**	**206**	*e*PG	**Pn**	**18 00 05.5**	**+0.2**
OSTC	**Ostas**	**1.63**	**282**	*e*PG	**Pg**	**18 00 08.0**	**+0.5**
OSTC				*e*SG	**Sg**	**18 00 29.1**	**+0.5**
	comp=Z,24nm,0.4s						
KSP	**Ksiaz**	**1.65**	**292**	*e*Pg	**Pg**	**18 00 09.4**	**+1.4**
KSP				*e*Sg	**Sg**	**18 00 30.2**	**+0.8**
VRAC	**Vranov**	**1.67**	**236**	*e*Pn	**Pb**	**18 00 07.9**	**-0.1**
VRAC	baz=55			*e*Sg	**Sn**	**18 00 29.4**	**+0.4**
	35nm,0.4s,baz=55						
VRAC	**Vranov**	**1.67**	**236**	*e*PN	**Pb**	**18 00 07.9**	**-0.1**
VRAC				*e*SG	**Sn**	**18 00 29.5**	**+0.4**
CHVC	**Chvalec**	**1.73**	**282**	*e*PG	**Pg**	**18 00 09.2**	**-0.3**
VYHS	**Vyhne**	**1.77**	**177**	*e*PG	**Pn**	**18 00 09.0**	**+0.8**
KRUC	**Moravsky**	**1.93**	**232**	*e*Pn	**Pn**	**18 00 11.0**	**+0.7**
KRUC	baz=51			*e*Sg	**Sb**	**18 00 37.2**	**+0.4**
	13nm,0.2s,baz=51						
KRUC	**Moravsky**	**1.93**	**232**	*e*PN	**Pn**	**18 00 11.0**	**+0.7**
KRUC				*e*SG	**Sb**	**18 00 37.2**	**+0.4**
MODS	**Modra-Piesok**	**2.11**	**207**	*e*PG	**Pn**	**18 00 13.7**	**+0.8**
KECS	**Kecovo**	**2.12**	**146**	*e*PG	**Pg**	**18 00 17.5**	**+0.6**
TREC	**Trest**	**2.30**	**247**	*e*SG	**Sb**	**18 00 48.6**	**+0.8**
KOLS	**Kolonicke sedl**	**2.67**	**118**	*e*PG	**Pg**	**18 00 27.3**	**-0.1**
PVCC	**Panska Ves**	**2.67**	**277**	*e*SG	**Sg**	**18 01 02.8**	**+0.8**
	comp=Z,34nm,0.3s						
PRU	**Pruhonice**	**2.70**	**266**	*e*SG	**Sb**	**18 01 00.8**	**+1.7**
	comp=Z,6.4nm,0.4s						
CONA	**Conrad Observa**	**2.99**	**220**	*e*Pn	**Pn**	**18 00 25.2**	**+0.1**
	0.8nm,0.2s						
CONA				Sn	**Sn**	**18 01 02.2**	**+0.6**
	2.4nm,0.3s						
RONA	**Rosalia, Austr**	**3.02**	**213**	*i* Pn	**Pn**	**18 00 26.1**	**+0.7**
	2.6nm,0.3s						
ZVC	**Zvikov**	**3.04**	**256**	*e*SG	**Sg**	**18 01 13.0**	**-0.9**
BRG	**Berggiesshubel**	**3.10**	**283**	Pg	**Pg**	**18 00 35.6**	**-0.2**
BRG				Sg	**Sg**	**18 01 16.8**	**+0.7**
BRG				Amp		18 01 19.3	
	comp=Z,10.0nm,0.4s						
CKRC	**Cesky Krumlov**	**3.21**	**245**	*e*SG	**Sg**	**18 01 17.4**	**-2.0**
	comp=Z,12nm,0.7s						
KHC	**Kasperske Hory**	**3.52**	**253**	*e*PN	**Pn**	**18 00 32.0**	**-0.3**
KHC				*e*PG	**Pb**	**18 00 41.7**	**+2.2**
KHC				*e*SG	**Sg**	**18 01 27.9**	**-1.5**
	comp=Z,12nm,0.4s						
GERES	**GERESS Array B**	**3.56**	**249**	Pn	**Pn**	**18 00 33.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=69,slow=14,SNR=3.2						
GERES				Pg	**Pg**	**18 00 42.9**	**-1.6**
	comp=Z,1.6nm,0.3s,baz=66,slow=17,SNR=16						
GERES				Lg	Lg	18 01 27.1	
	comp=Z,1.1nm,0.3s,baz=66,slow=29,SNR=4.2						
	comp=Z,0.6nm,0.2s						
CLL	**Collm**	**3.77**	**288**	*e*Pg	**Pg**	**18 00 49.0**	**+0.4**
CLL				*e*Sg	**Sg**	**18 01 37.0**	**-0.5**
	comp=Z,10.0nm,0.6s						
BIOA	**Bad Ischl, Aus**	**4.22**	**234**	*e*Sg	**Sg**	**18 01 49.7**	**-2.0**
	comp=Z,16nm,0.8s						
LESA	**Schwarzleotal**	**4.89**	**237**	Sg	**Sg**	**18 02 12.6**	**-0.8**
	comp=Z,2.6nm,0.3s						
AKASG	**Malin Array Be**	**6.72**	**82**	Lg	Lg	18 03 03.1	
	comp=Z,0.4nm,0.3s,baz=272,slow=27,SNR=1.9						
HFS	**Hagfors**	**10.30**	**346**	Pn	**Pn**	**18 02 04.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=158,slow=16,SNR=2.2						
	comp=Z,1.7nm,0.8s						
NOA	**NORSAR Array B**	**11.60**	**342**	Pn	**Pn**	**18 02 21.2**	**-1.7**
	baz=150,slow=12,SNR=1.4						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**11.94**	**17**	Pn	**Pn**	**18 02 26.0**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=196,slow=9.8,SNR=7.0						
FINES				Sn	Sn	18 04 30.5	-11
	comp=Z,0.1nm,0.3s,baz=204,slow=21,SNR=4.0						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn	**P**	**18 04 04.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=2.5						
	comp=Z,12nm,1.2s						

*JMA **21** 18:04:52.5±0.2,34.0°N±0.5°×140.3°E±0.7,h69km±2km, MV3.2/36,FAR S OFF BOSO PENINSULA*
*IDC **21** 18:04:53.7±4.8,33.60°N×139.61°E,h61km±71km,mb3.0/2, mbtmp3.3/3,ML2.7/1,Error ellipse: s-maj=150.2km s-min=31.2km az=64.0*

ISC 21 18:04:52.5±1.1,33.96N±0.05×140.32E±0.07,h71km±9km, n25,σ0°81/27,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.61**	**264**	*i* P	**Pn**	**18 05 06.4**	**0.0**
JMKN				S	**Sn**	**18 05 17.0**	**+0.3**
JMYK	**Miyake Tsubota**	**0.65**	**279**	*i* P	**Pn**	**18 05 07.0**	**+0.1**
JMYK				S	**Sn**	**18 05 17.5**	**+0.1**
BSO3	**Boso 3**	**0.85**	**11**	P	**Pn**	**18 05 09.3**	**+0.3**
BSO3				*e*X		18 05 22.6	
BSO1	**Boso 1**	**0.88**	**38**	P	**Pn**	**18 05 09.1**	**+0.1**
JHJ2	**Mitsune**	**0.94**	**206**	*i* P	**Pn**	**18 05 10.7**	**+0.3**
JHJ2				S	**Sn**	**18 05 24.3**	**+0.7**
JNIO	**Niijimaoohara**	**0.95**	**295**	*e*S	**Sn**	**18 05 23.6**	**-0.1**
JSKK	**Shikinejimakit**	**0.99**	**292**	*e*P	**Pn**	**18 05 10.9**	**0.0**
JSKK				S	**Sn**	**18 05 24.4**	**-0.1**
JKO	**Kozu shima**	**1.00**	**283**	P	**Pn**	**18 05 11.2**	**+0.2**
JKO				*e*S	**Sn**	**18 05 25.7**	**+0.8**
JTHY	**Toshimahigashi**	**1.02**	**304**	P	**Pn**	**18 05 11.6**	**+0.3**
JTHY				*e*S	**Sn**	**18 05 25.7**	**+0.5**
BSO4	**Boso 4**	**1.03**	**1**	P	**Pn**	**18 05 11.8**	**+0.6**
JIM2	**Oshima 3**	**1.05**	**316**	*i* P	**Pn**	**18 05 11.4**	**-0.3**
JIM2				*e*S	**Sn**	**18 05 24.9**	**-1.1**
JIZS	**Izushimoda**	**1.41**	**303**	P	**Pn**	**18 05 16.6**	**+0.3**
KTJ3	**Kamata3**	**1.41**	**314**	P	**Pn**	**18 05 16.1**	**-0.2**
JAOM	**Aogashimamukai**	**1.56**	**197**	P	**Pn**	**18 05 19.4**	**+1.1**
JOD2	**Odawara 2**	**1.65**	**322**	P	**Pn**	**18 05 19.3**	**-0.2**
JYN	**Shimob**	**2.12**	**317**	P	**Pn**	**18 05 27.2**	**+1.4**
MJAR	**Matsushiro Arr**	**3.10**	**327**	P	**Pn**	**18 05 39.9**	**+0.8**
	1.0nm,0.3s,baz=155,slow=12,SNR=50						
MJAR				S	**Sn**	**18 06 17.5**	**+2.6**
	3.2nm,0.4s,baz=147,slow=19,SNR=2.1						
	9.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**27.53**	**114**	T	T	18 39 26.1	
	baz=306,slow=75,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**27.53**	**114**	T	T	18 39 25.6	
	baz=306,slow=75,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**27.54**	**114**	T	T	18 39 28.7	
	baz=306,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.12**	**117**	T	T	18 40 08.9	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**28.12**	**117**	T	T	18 40 18.7	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**28.13**	**117**	T	T	18 40 18.6	
	baz=306						
MKAR	**Makanchi Array**	**45.05**	**305**	P	**P**	**18 13 00.8**	**-0.5**
	0.2nm,0.5s,baz=90,slow=9.9,SNR=4.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**53.91**	**187**	P	**P**	**18 14 07.8**	**-1.0**
	0.3nm,0.6s,baz=3.2,slow=7.7,SNR=10						
	0.3nm,0.6s						

IDC 21 18:13:06.7±2.4,0.76N×126.11E,h0km,mb3.0/3,

mbtmp3.1/3,Error ellipse: s-maj=217.1km s-min=28.8km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**159**	P	P	18 18 02.5	-1.2
	0.2nm,0.3s,baz=337,slow=10,SNR=4.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**25.43**	**163**	P	P	18 18 37.2	+0.9
	0.1nm,0.3s,baz=344,slow=11,SNR=5.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.66**	**327**	P	P	18 23 12.7	-0.1
	0.2nm,0.7s,baz=118,slow=8.7,SNR=2.2						
	0.2nm,0.7s						

*IDC **21** 18:19:53.0±2.2,29.8°S×139.73°E,h0km,mbtmp3.0/4, ML3.0/4,Error ellipse: s-maj=86.3km s-min=14.7km az=54.0*
*AUST **21** 18:19:55.8±0.2,29°S±2°×14°0E±°,h10km,ML3.2/6,Error ellipse: s-maj=5.4km s-min=3.9km az=114.2*

ISC 21 18:19:54.4±0.8,29.15S±0.05×139.62E±0.05,h10km,n26, σ1°95/29,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.72**	**36**	P	**Pb**	**18 20 27.0**	**+0.9**
INKA	**Innaminka**	**1.72**	**36**	S	**Sg**	**18 20 49.8**	**+0.1**
LCRK	**Leigh Creek**	**1.77**	**223**	P	**Pn**	**18 20 26.3**	**+1.2**
LCRK	**Leigh Creek**	**1.77**	**223**	S	**Sb**	**18 20 49.9**	**+0.6**
YAPP	**Yappala Statio**	**2.93**	**202**	P	**Pn**	**18 20 41.7**	**+0.6**
STKA	**Stephens Creek**	**3.21**	**148**	P	**Pn**	**18 20 45.3**	**+0.4**
STKA	**Stephens Creek**	**3.21**	**148**	S	**Sn**	**18 21 21.3**	**-1.8**
STKA	**Stephens Creek**	**3.21**	**148**	Pn	**Pn**	**18 20 45.2**	**+0.3**
	0.6nm,0.3s,baz=327,slow=12,SNR=16						
STKA				Sn	**Sn**	**18 21 21.0**	**-2.2**
	4.0nm,0.3s,baz=305,slow=12,SNR=9.0						
STKA				Lg	Lg	18 21 31.6	
	13nm,0.3s,baz=221,slow=23,SNR=7.7						
	2.0nm,0.3s						
OOD	**Oodnadatta**	**3.71**	**290**	P	**Pn**	**18 20 54.3**	**+2.6**
NAPP	**Napperby**	**4.21**	**197**	P	**Pn**	**18 20 59.2**	**+0.6**
HTT	**Hallett**	**4.31**	**188**	P	**Pn**	**18 21 00.8**	**+0.8**
BBOO	**Buckleboo**	**4.76**	**219**	S	**Sn**	**18 22 00.7**	**-0.6**
BBOO	**Buckleboo**	**4.76**	**219**	P	**Pn**	**18 21 06.3**	**+0.1**
QLP	**Quilpie**	**4.82**	**59**	P	**Pn**	**18 21 08.5**	**+1.4**
SDAN	**Sedan**	**5.34**	**182**	P	**Pn**	**18 21 15.1**	**+0.9**
CMSA	**Cobar Meteorol**	**5.76**	**116**	P	**Pn**	**18 21 19.9**	**-0.1**
AUMBR	**Murray Bridge**	**5.97**	**183**	P	**Pn**	**18 21 22.8**	**0.0**
AS08	**Alice Springs**	**7.44**	**316**	P	**Pn**	**18 21 47.3**	**+4.2**
ASAR	**Alice Springs**	**7.49**	**316**	Pn	**Pn**	**18 21 45.0**	**+1.3**
	0.2nm,0.3s,baz=140,slow=13,SNR=12						
ASAR				Sn	**Sn**	**18 23 05.2**	**-3.5**
	0.3nm,0.3s,baz=139,slow=22,SNR=5.0						
ASAR				Lg	Lg	18 23 53.1	
	0.3nm,0.3s,baz=138,slow=26,SNR=4.8						
	0.2nm,0.3s						
AS31	**Alice Springs**	**7.49**	**316**	P	**Pn**	**18 21 46.3**	**+2.6**
ARPS	**Mount Arapiles**	**7.82**	**167**	P	**Pn**	**18 21 48.1**	**-0.2**
AXCOZ	**Aramac airstri**	**7.98**	**41**	P	**Pn**	**18 21 52.0**	**+1.6**
QIS	**Mount Isa**	**8.56**	**360**	P	**Pn**	**18 22 00.0**	**+1.6**
FORT	**Forrest**	**10.15**	**258**	P	**Pn**	**18 22 21.4**	**+1.2**
WRA	**Warramunga Arr**	**10.35**	**331**	Pn	**Pn**	**18 22 23.5**	**+0.6**
	0.1nm,0.3s,baz=146,slow=12,SNR=5.3						
WRA				Sn	**Sn**	**18 24 13.5**	**-5.6**
	0.1nm,0.3s,baz=146,slow=24,SNR=1.8						
	0.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**16.87**	**308**	Pn	**Pn**	**18 23 50.9**	**+0.2**
	0.1nm,0.3s,baz=131,slow=9.3,SNR=1.4						
	1.0nm,0.6s						

*IDC **21** 18:38:57.6±1.2,55.02N×162.99E,h0km,mb3.3/4, mbtmp3.3/6,ML4.2/1,Error ellipse: s-maj=29.0km s-min=19.6km az=168.0*
*NEIC **21** 18:38:59.1±0.5,55.0N±0.2°×163.1E±0.4,h10km±2km, mb4.0/12,Error ellipse: s-maj=56.7km s-min=6.5km az=134.0*
*KRSC **21** 18:38:59.3±0.9,55.11N×162.81E,h52km±28km,Ml3.8*

ISC 21 18:38:59.8±0.7,55.14N±0.05×162.90E±0.05,h17km,n51, σ1°39/56,mb4.0/10,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.07**	**357**	*e*P	**Pn**	**18 39 20.2**	**+0.1**
KBG	**Krutoberegovo**	**1.12**	**354**	*e*P	**Pn**	**18 39 20.7**	**0.0**
TUMD	**Tumrok D**	**1.44**	**274**	*e*P	**Pn**	**18 39 22.9**	**-2.2**
TUMD				*e*S	**Sn**	**18 39 40.4**	**-3.2**
CIRR	**Tsirk**	**1.57**	**310**	*e*P	**Pn**	**18 39 26.7**	**-0.3**
BZWR	**Bezymyannyi-We**	**1.60**	**302**	*e*P	**Pn**	**18 39 26.6**	**-0.8**
KMNR	**Kamenistaya**	**1.64**	**293**	*e*P	**Pn**	**18 39 26.3**	**-1.7**
SMKR	**Semkarok**	**1.66**	**331**	*e*P	**Pn**	**18 39 27.8**	**-0.3**
KIRR	**Kirishev**	**1.67**	**300**	*e*P	**Pn**	**18 39 27.7**	**-0.7**
KLY	**Klyuchi**	**1.73**	**314**	*e*P	**Pn**	**18 39 27.1**	**-2.0**
KPT	**Kopyto**	**1.73**	**300**	*e*P	**Pn**	**18 39 28.5**	**-0.7**
BKI	**Bering**	**1.76**	**87**	*e*P	**Pb**	**18 39 30.0**	**-1.6**
BKI				*e*S	**Sb**	**18 39 51.9**	**-1.5**
KOZ	**Kozyrevsk**	**1.95**	**299**	*e*P	**Pn**	**18 39 33.1**	**+1.0**
ESO	**Esso**	**2.52**	**290**	*e*P	**Pn**	**18 39 38.0**	**-1.9**
NLC	**Nalytchevo**	**2.87**	**228**	*e*P	**Pn**	**18 39 45.2**	**+0.4**
NLC				*e*S	**Sn**	**18 40 19.4**	**+0.5**
KRX	**Arik**	**3.07**	**236**	*e*P	**Pn**	**18 39 47.7**	**+0.1**
UGLR	**Uglovaya**	**3.08**	**233**	*e*P	**Pn**	**18 39 48.3**	**+0.6**
AVH	**Avacha**	**3.08**	**234**	*e*P	**Pn**	**18 39 48.5**	**+0.8**
KOK	**Koryaka**	**3.11**	**235**	*e*P	**Pn**	**18 39 49.2**	**+1.0**
DALK	**Dalny**	**3.23**	**231**	*e*P	**Pn**	**18 39 49.2**	**-0.5**
GNL	**Ganaly**	**3.24**	**246**	*e*P	**Pn**	**18 39 50.4**	**+0.5**
PET	**Petropavlovsk**	**3.28**	**232**	Pn	**Pn**	**18 39 50.4**	**+0.1**
PET				Sn	**Sn**	**18 40 24.6**	**-4.4**
PET	**Petropavlovsk**	**3.28**	**232**	*e*P	**Pn**	**18 39 50.6**	**+0.3**
PET				*e*S	**Sn**	**18 40 29.0**	**+0.1**
KRMR	**Karymshinskiy**	**3.65**	**233**	*e*P	**Pn**	**18 39 56.0**	**+0.6**
KRMR				*e*S	**Sn**	**18 40 37.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**3.68**	**239**	Pn	**Pn**	**18 39 56.3**	**+0.5**
PETK	**Petropavlovsk-**	**3.68**	**239**	Pn	**Pn**	**18 39 56.0**	**+0.2**
PETK				Sn	**Sn**	**18 40 39.1**	**+0.3**
PETK	**Petropavlovsk-**	**3.68**	**239**	Pn	**Pn**	**18 39 55.7**	**-0.2**
	3.0nm,0.5s,baz=70,slow=18,SNR=68						
PETK				Sn	**Sn**	**18 40 42.4**	**+3.6**
	1.8nm,0.3s,baz=76,slow=23,SNR=8.4						
RUS	**Russkaya**	**3.76**	**226**	*e*P	**Pn**	**18 39 55.6**	**-1.3**
GRL	**Gorelyy**	**3.86**	**230**	*e*P	**Pn**	**18 39 59.5**	**+1.1**
APC	**Apacha**	**4.05**	**239**	*e*P	**Pn**	**18 40 01.7**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.41**	**223**	*e*P	**Pn**	**18 40 06.2**	**+0.3**
MA2	**Magadan**	**7.92**	**309**	Pn	**Pn**	**18 40 58.1**	**+4.0**
	0.3nm,0.3s,baz=135,slow=10.0,SNR=3.9						
	0.8nm,0.3s						
H19K	**Roundabout Mou**	**22.21**	**46**	P	**P**	**18 43 54.1**	**-0.9**
D19K	**Kuna River**	**22.24**	**38**	P	**P**	**18 43 56.5**	**+1.2**
N18K	**Kilae Creek**	**22.29**	**59**	P	**P**	**18 43 54.5**	**-1.4**
B21K	**Ikpikpuk River**	**23.77**	**36**	P	**P**	**18 44 12.7**	**+1.8**
B21K				IAmb	IAmb	18 44 28.9	
	comp=Z,5.3nm,1.2s						
D22K	**Ayikyak River**	**24.26**	**38**	P	**P**	**18 44 16.1**	**+0.5**
E22K	**Anaktuvuk Pass**	**24.43**	**40**	P	**P**	**18 44 17.4**	**+0.2**
E22K				IAmb	IAmb	18 44 32.3	
	comp=Z,7.3nm,1.4s						
C23K	**Itkillik River**	**25.17**	**36**	P	**P**	**18 44 24.6**	**+0.8**
C23K				IAmb	IAmb	18 44 28.5	
	comp=Z,5.9nm,1.4s						
E23K	**Chandalar**	**25.24**	**41**	P	**P**	**18 44 25.2**	**+0.6**
TOLK	**Toolik Lake Re**	**25.33**	**39**	P	**P**	**18 44 25.9**	**+0.6**
TOLK				IAmb	IAmb	18 44 42.8	
	comp=Z,6.2nm,1.4s						
E24K	**Your Creek**	**25.66**	**41**	P	**P**	**18 44 29.1**	**+0.8**
G24K	**Hadweenzic Riv**	**25.96**	**44**	P	**P**	**18 44 31.4**	**+0.5**
G24K				IAmb	IAmb	18 45 03.0	
	comp=Z,5.2nm,1.5s						
ILAR	**Eielson Array**	**26.21**	**48**	P	**P**	**18 44 33.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=257,slow=8.2,SNR=4.5						
	comp=Z,0.5nm,0.8s						
D25K	**Kavik River**	**26.56**	**38**	P	**P**	**18 44 36.8**	**+0.3**
D25K				IAmb	IAmb	18 45 06.2	
	comp=Z,4.6nm,1.4s						
BMAR	**Burnt Mountain**	**27.11**	**42**	P	**P**	**18 44 41.9**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**35.48**	**174**	T	T	19 23 36.6	
	baz=355						
H11N3	**WAKE ISLAND Hy**	**35.49**	**173**	T	T	19 23 28.3	
	baz=355						
H11N1	**WAKE ISLAND Hy**	**35.49**	**174**	T	T	19 23 31.3	
	baz=355						
YKA	**Yellowknife Ar**	**40.54**	**45**	P	**P**	**18 46 38.7**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=291,slow=8.8,SNR=3.5						
	comp=Z,0.1nm,0.5s						
TXAR	**Lajitas Array**	**68.34**	**70**	P	**P**	**18 50 01.4**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=318,slow=6.7,SNR=2.3						
	comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	**82.32**	**207**	P	**P**	**18 51 19.8**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=20,slow=4.5,SNR=2.0						
	comp=Z,0.3nm,0.9s						

*TIR **21** 18:40:36.3,37.48N×20.28E,h8km±8km,Md3.8/5,Ml3.9/5*
*IDC **21** 18:40:38.9±1.2,37.58N×20.49E,h0km,mb3.6/5, mbtmp3.5/9,ML0.8/2,MS3.5/3,Error ellipse: s-maj=27.9km s-min=18.2km az=166.0*
*ATH **21** 18:40:40.2,37.64N×20.66E,h9km±1km,ML3.4/35, Manual Solution by G.Panopoulou First location: 2019/02/21 18:41:34, This location: 2020/09/15 11:03:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **21** 18:40:41.0,37.61N×20.66E,h10km,ML3.3/12,Error ellipse: s-maj=1.3km s-min=0.5km az=41.0*

ISC 21 18:40:40.0±0.9,37.62N±0.03×20.66E±0.02,h10km±5km, n95,σ0°86/138,mb3.7/6,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**69**	P	**Pg**	**18 40 43.1**	**0.0**
KRI1				S	**Sg**	**18 40 45.1**	**-0.2**
LTHK	**Lithakia**	**0.17**	**55**	P	**Pg**	**18 40 43.7**	**0.0**
LTHK				S	**Sg**	**18 40 45.8**	**-0.4**
	61μm,0.4s						
LTHK	**Lithakia**	**0.17**	**55**	P	**Pg**	**18 40 43.6**	**-0.1**
LTHK				S	**Sg**	**18 40 45.8**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.24**	**6**	P	**Pg**	**18 40 45.1**	**+0.2**
ORTH				S	**Sg**	**18 40 48.7**	**+0.5**
KYPS	**Kipseli, Zakin**	**0.24**	**32**	P	**Pg**	**18 40 45.3**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**0.46**	**53**	P	**Pg**	**18 40 49.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.50**	**353**	P	**Pg**	**18 40 49.9**	**0.0**
PSDA				S	**Sg**	**18 40 57.3**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.50**	**353**	P	**Pg**	**18 40 49.8**	**0.0**
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**18 40 50.8**	**-0.2**
VLS				S	**Sg**	**18 40 59.2**	**+0.7**
	4μm,0.5s						
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**18 40 50.6**	**-0.4**
VLS				S	**Sg**	**18 40 58.9**	**+0.4**
ARG2	**Argostoli**	**0.58**	**346**	P	**Pg**	**18 40 51.2**	**-0.1**
ANDM	**Andravida**	**0.61**	**52**	P	**Pg**	**18 40 52.3**	**+0.5**
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**18 40 53.0**	**+0.1**
DMLN				S	**Sb**	**18 41 03.1**	**+0.1**
	9μm,0.5s						
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**18 40 52.8**	**-0.1**
DMLN				S	**Sg**	**18 41 01.0**	**-0.6**
YRMI	**Loutra Irminis**	**0.73**	**48**	P	**Pg**	**18 40 53.6**	**-0.5**
RLS	**Riolos of Patr**	**0.77**	**55**	P	**Pg**	**18 40 54.7**	**-0.3**
RLS				S	**Sb**	**18 41 06.1**	**0.0**
	3μm,0.7s						
RLS	**Riolos of Patr**	**0.77**	**55**	P	**Pg**	**18 40 54.6**	**-0.3**
RLS				S	**Sg**	**18 41 05.8**	**+0.7**
ZARO	**Zacharo**	**0.79**	**99**	P	**Pb**	**18 40 55.8**	**-0.1**
ZARO				S	**Sb**	**18 41 06.9**	**+0.2**
AXS	**Araxos**	**0.81**	**44**	P	**Pg**	**18 40 55.1**	**-0.5**
AXS				S	**Sg**	**18 41 05.5**	**-0.7**
AMT	**Artemida-Makis**	**0.83**	**95**	P	**Pg**	**18 40 55.8**	**-0.3**
AMT				S	**Sb**	**18 41 07.6**	**-0.3**
FSK	**Fiskardo**	**0.85**	**355**	P	**Pg**	**18 40 55.9**	**-0.5**
FSK				S	**Sb**	**18 41 08.7**	**+0.5**
	3μm,0.6s						
FSK	**Fiskardo**	**0.85**	**355**	P	**Pg**	**18 40 55.1**	**-1.2**
FSK				S	**Sg**	**18 41 07.4**	**0.0**
DRO	**Drossia**	**0.90**	**68**	P	**Pg**	**18 40 57.2**	**-0.1**
DRO				S	**Sb**	**18 41 10.6**	**+0.9**
	2μm,0.4s						
DRO	**Drossia**	**0.90**	**68**	P	**Pg**	**18 40 57.2**	**-0.1**
DRO

ANKY Antikythira Is 2.74 129 P **Pn 18 41 24.4 +0.3**
NEST Nestorio 2.81 6 Pn **Pb 18 41 28.3 -2.1**
NEST Sn **Sb 18 42 07.4 +2.5**
NEST AML AML 18 42 33.7
0.5nm,0.9s
NEST AMd 18 43 47.0
NEST Nestorio 2.81 6 P **Pn 18 41 26.0 +0.9**
LIT Litokhoron 2.86 29 P **Pn 18 41 25.6 -0.1**
KYMI Kymi, Euboea I 2.89 68 P **Pn 18 41 27.5 +1.3**
SCTE Santa Cesarea 2.99 326 Pn **Pn 18 41 27.8 +0.3**
SCTE AML AML 18 42 23.0
1.1nm,0.6s
SCTE AMd 18 43 34.2
SCTE Santa Cesarea 2.99 326 P **Pn 18 41 27.8 +0.3**
KARY Karystos 3.02 81 P **Pn 18 41 28.3 +0.5**
TIP Timpagrande 3.44 298 P **Pn 18 41 34.6 +0.8**
OHR Ohrid 3.49 2 *i* Pn **Pg 18 41 47.5 +0.5**
CEL Celeste 3.83 281 P **Pn 18 41 39.1 +0.1**
VAY Valandovo 3.98 21 *i* Pn **Pb 18 41 52.1 +1.8**
IDI Anoyia 4.12 123 Pn **Pn 18 41 44.8 +1.7**
0.3nm,0.3s,baz=91,slow=20,SNR=0.8
IDI Sn **Sn 18 42 30.3 -1.1**
1.0nm,0.3s,baz=295,slow=21,SNR=3.6
0.9nm,0.3s
VAE Valguarnera 4.97 270 Pn **Pn 18 41 55.4 +0.7**
0.2nm,0.3s,baz=120,slow=20,SNR=2.6
VAE Sn **Sn 18 42 53.3 +1.0**
2.4nm,0.3s,baz=149,slow=22,SNR=4.1
8.4nm,0.7s
MLR Muntele Rosu 8.81 25 Pn Pn 18 42 53.2 +5.7
0.2nm,0.3s,baz=150,slow=16,SNR=3.2
BRTR Keskin Array B 10.36 74 Pn Pn 18 43 14.6 +5.7
0.2nm,0.6s,baz=259,slow=13,SNR=1.9
VRAC Vranov 12.05 347 LR LR 18 49 39.7
comp=Z,119nm,18.4s,baz=327,slow=45
AKASG Malin Array Be 14.44 22 Pn **P 18 44 09.5 -1.7**
0.8nm,0.3s,baz=211,slow=8.3,SNR=8.2
ESDC Sonseca Array 19.33 284 P **P 18 45 05.8 +0.3**
1.0nm,0.9s,baz=91,slow=12,SNR=5.4
ESDC LR LR 18 52 47.7
comp=Z,130nm,18.6s,baz=293,slow=38
HFS Hagfors 22.97 351 P **P 18 45 44.5 +0.1**
1.3nm,0.6s,baz=159,slow=12,SNR=6.3
1.3nm,0.6s
FINES FINESS Array B 24.09 6 P **P 18 45 55.0 -0.5**
1.8nm,0.8s,baz=188,slow=8.2,SNR=3.9
1.8nm,0.8s
TORD Torodi Ar. Bea 29.67 220 P **P 18 46 43.9 -2.0**
30nm,0.5s,baz=21,slow=9.3,SNR=1.3
KURBB Kurchatov Arra 42.48 53 P **P 18 48 36.0 +0.9**
0.4nm,0.5s,baz=278,slow=8.8,SNR=4.8
0.4nm,0.5s
MKAR Makanchi Array 45.50 58 P **P 18 49 01.9 +2.4**
0.2nm,0.4s,baz=274,slow=8.0,SNR=9.6
0.2nm,0.4s
ZALV Zalesovo Beam 45.98 48 P **P 18 49 04.8 +1.7**
0.7nm,0.4s,baz=282,slow=7.9,SNR=4.3
0.7nm,0.4s
KLR Kul'dur 74.23 39 LR LR 19 26 25.3
comp=Z,44nm,18.2s,baz=358,slow=37

*AEIC **21** 18:46:38.3±1.1,53°.0N±0°.1×163°.5W±0°.1,h8km±9km, Error ellipse: s-maj=20.9km s-min=9.7km az=176.0*
NEIC 21 18:46:35.9±1.0,**53°.13N**±0°.04×**163°.64W**±0°.08,**h10**km±2km,
ML2.6(AEIC),**Error ellipse: s-maj=8.5km s-min=6.4km**
az=102.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.46**	**338**		Pn	18 47 02.4	0.0
AKSA	**Akutan Strait**	**1.59**	**310**		Pn	18 47 03.9	-0.1
AKSA					Sn	18 47 23.5	-1.1
SSLS	**Shishaldin Sou**	**1.60**	**352**		Pn	18 47 04.4	+0.1
SSLS					Sb	18 47 25.7	-0.2
ISLZ	**Isanotski Laza**	**1.60**	**358**		Pn	18 47 04.0	-0.3
ISLZ					Sn	18 47 24.3	-0.7
AHB	**Akutan Harbor**	**1.63**	**308**		Pn	18 47 04.8	+0.1
AHB					Sn	18 47 25.5	-0.2
AKBBA	**Akutan Broad B**	**1.68**	**306**		Pn	18 47 05.8	+0.5
ZRO	**Akutan Zero**	**1.70**	**306**		Pn	18 47 05.8	+0.3
ZRO					Sn	18 47 26.8	-0.5
ISNN	**Isanotski Nort**	**1.71**	**357**		Pn	18 47 06.3	+0.6
ISNN					Sb	18 47 28.7	-0.3
AKMO	**Akutan Morgan**	**1.71**	**305**		Pn	18 47 05.8	+0.1
FALS	**False Pass**	**1.74**	**4**	Pn	Pn	18 47 04.9	-1.2
LVA	**Lava Point**	**1.76**	**307**	Pn	Pn	18 47 06.3	-0.1
UNV	**Unalaska Valle**	**1.86**	**294**		Pn	18 47 07.8	0.0
UNV	**Unalaska Valle**	**1.86**	**294**	Sn	Sn	18 47 29.8	-1.4
MSW	**Makushin Switc**	**2.04**	**294**		Pn	18 47 10.6	+0.3
HAG	**Hague Volcano**	**2.42**	**24**		Pn	18 47 15.5	+0.1
HAG					Sn	18 47 44.9	-0.2
PS4A	**Pavlof South-4**	**2.46**	**24**		Pn	18 47 16.6	+0.6
CHGN	**Chignik**	**4.39**	**41**	Pn	Pn	18 47 39.4	-3.1
P08K	**Saint George I**	**4.88**	**318**	Pn	Pn	18 47 47.9	-1.2

*NEIC **21** 18:50:03.6±1.5,7°.64S±0°.10×128°.08E±0°.06,h182km±11km, mb4.4/10, Error ellipse: s-maj=15.0km s-min=5.6km az=154.0*
*IDC **21** 18:50:04.3±3.3,7°.62S×127°.98E,h173km±29km,mb3.5/7, mbtmp4.1/9, Error ellipse: s-maj=63.3km s-min=15.4km az=65.0*
*DJA **21** 18:50:04.9±0.4,8°.S±3°.×12°.8E±°,h134km±14km,M4.3/13, mB5.4/1,mb4.2/6,MLv4.3/13,Mw(mB)4.8/1*
ISC 21 18:50:04.3±0.5,**7°.67S**±0°.04×**128°.27E**±0°.04,**h200**km,**n54,**
σ2°79/66,mb3.8/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.02**	**96**	Pn	**Pn**	**18 50 52.6**	**-1.6**
SAUI	**Saumlaki**	**3.02**	**96**	P	**Pn**	**18 50 53.3**	**-0.9**
SAUI				S	**Sn**	**18 51 29.2**	**-4.0**
BNDI	**Bandanaira**	**3.52**	**28**	P	**Pn**	**18 50 57.5**	**-2.8**
BNDI				S	**Sn**	**18 51 40.0**	**-4.2**
AAI	**Ambon**	**3.96**	**359**	P	**Pn**	**18 51 03.7**	**-1.9**
MSAI	**Masohi**	**4.34**	**9**	P	**Pn**	**18 51 09.5**	**-1.0**
SOEI	**Soe**	**4.47**	**242**	Pn	**Pn**	**18 51 10.3**	**-1.8**
SOEI				Sn	**Sn**	**18 51 59.6**	**-5.8**
SOEI	**Soe**	**4.47**	**242**	P	**Pn**	**18 51 11.6**	**-0.5**
SOEI	**Soe**	**4.47**	**242**	S	**Sn**	**18 52 03.7**	**-1.7**
SOEI	**Soe**	**4.47**	**242**	P	**Pn**	**18 51 12.0**	**-0.1**
SOEI	**Soe**	**4.47**	**242**	P	**Pn**	**18 51 11.4**	**-0.7**
SOEI				S	**Sn**	**18 52 02.4**	**-3.0**
NLAI	**Namlea**	**4.55**	**345**	P	**Pn**	**18 51 12.3**	**-0.8**
NLAI				S	**Sn**	**18 52 03.4**	**-3.8**
MTN	**Manton Dam**	**5.86**	**152**		**Pn**	**18 51 30.1**	**+0.3**
MTN				Sn	**Sn**	**18 52 34.5**	**-3.0**
SANI	**Sanana**	**6.03**	**338**	P	**Pn**	**18 51 31.3**	**-0.7**
MMRI	**Maumere**	**6.05**	**260**	P	**Pn**	**18 51 32.1**	**-0.1**
0.1nm14nm,0.5s
MMRI S **Sn 18 52 39.6 -2.2**
0.1nm14nm,0.5s
FAKI Fak Fak 6.16 40 Pn **Pn 18 51 29.9 -3.9**
FAKI Fak Fak 6.16 40 P **Pn 18 51 30.8 -2.9**
KDU Kakadu 6.48 141 P **Pn 18 51 38.2 +0.4**
SWI Sorong 7.39 24 P **Pn 18 51 47.2 -2.5**
2.0nm28nm,0.8s
KNRA Kununurra 7.97 177 **Pn 18 51 56.9 -0.4**
KNRA Sn **Sn 18 53 21.3 -5.9**
BASI Baing, Sumba 8.01 251 P **Pn 18 51 58.1 +0.4**
FITZ Fitzroy Crossi 10.68 194 **Pn 18 52 30.8 -1.5**
FITZ **Sn 18 54 25.8 -5.7**
FITZ Fitzroy Crossi 10.68 194 P **Pn 18 52 30.9 -1.4**
18nm,0.5s,baz=27,slow=11,SNR=44
FITZ S **Sn 18 54 23.7 -7.8**
9.5nm,0.4s,baz=274,slow=21,SNR=7.0
WB0 Warramunga Arr 13.41 154 P **Pn 18 53 05.6 -1.4**
WRA Warramunga Arr 13.55 155 P **Pn 18 53 07.0 -1.8**
WRA Warramunga Arr 13.55 155 P **Pn 18 53 07.7 -1.0**
3.9nm,0.4s,baz=325,slow=13,SNR=35
WRA S S 18 55 31.7 -8.1
12nm,0.5s,baz=326,slow=24,SNR=12
WB2 Warramunga Arr 13.55 155 P **Pn 18 53 08.1 -0.7**
WR0 Warramunga Arr 13.65 154 Pn **Pn 18 53 09.1 -0.9**
MBWA Marble Bar 15.74 211 **Pn 18 53 34.1 -1.5**
MBWA IAmb IAmb 18 53 36.3
comp=Z,21nm,1.3s
COEN Coen 15.91 114 Pn **Pn 18 53 41.3 +3.6**
COEN IAmb IAmb 18 54 19.5
comp=Z,6.0nm,0.7s
PSA00 Pilbara Seismi 16.04 210 **P 18 53 37.1 -1.6**
PSA00 IAmb IAmb 18 53 53.4
comp=Z,17nm,1.3s
AS31 Alice Springs 16.80 162 P **Pn 18 53 51.2 +2.9**
AS31 IAmb IAmb 18 53 52.5
comp=Z,11nm,0.3s
ASAR Alice Springs 16.80 162 P **Pn 18 53 51.8 +3.4**
comp=Z,13nm,0.6s,baz=344,slow=11,SNR=171
ASAR S **S 18 56 50.0 -2.4**
comp=Z,1.3nm,0.3s,baz=329,slow=24,SNR=7.4
ASAR ScP **ScP 19 01 44.9 +5.0**
comp=Z,0.3nm,0.5s,baz=0.4,slow=1.7,SNR=1.8
AS01 Alice Springs 16.81 162 P **Pn 18 53 51.2 +2.7**
WRKA Warakurna 17.27 180 P **Pn 18 53 56.1 +2.2**
KKM Kota Kinabalu 18.17 318 P **P 18 54 01.0 -1.3**
KKM IAmb IAmb 18 54 03.8
comp=Z,37nm,1.4s
SBUM Sibu 18.90 302 P **P 18 54 07.2 -2.9**
SBUM Sibu 18.90 302 P **Pn 18 54 13.5 +0.4**
KSM Kuching 20.09 296 P **P 18 54 20.4 -2.4**
KSM IAmb IAmb 18 54 30.6
comp=Z,12nm,0.9s
OOD Oodnadatta 21.21 162 P **P 18 54 38.1 +3.5**
INKA Innaminka 23.20 151 P **P 18 54 58.3 +4.8**
BBOO Buckleboo 26.04 165 P **P 18 55 20.3 +1.1**
STKA Stephens Creek 27.10 154 P **P 18 55 31.2 +2.5**
STKA Stephens Creek 27.10 154 P **P 18 55 32.8 +4.1**
comp=Z,1.8nm,0.7s,baz=336,slow=9.4,SNR=5.7
comp=Z,1.8nm,0.7s
CMAR Chiang Mai Arr 38.87 312 P **P 18 57 12.8 +2.1**
comp=Z,0.5nm,0.7s,baz=146,slow=6.7,SNR=4.7
comp=Z,0.5nm,0.7s
SONM Songino Array 58.55 343 P **P 18 59 42.0 +2.0**
comp=Z,0.4nm,0.6s,baz=157,slow=4.8,SNR=4.4
comp=Z,0.4nm,0.6s
MK31 Makanchi Array 67.86 328 P **P 19 00 41.5 +0.4**
MKAR Makanchi Array 67.86 328 P **P 19 00 41.5 +0.4**
MKAR Makanchi Array 67.86 328 P **P 19 00 42.5 +1.5**
comp=Z,0.5nm,0.5s,baz=124,slow=8.2,SNR=18
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 71.43 335 P **P 19 01 03.4 +0.7**
ZALV Zalesovo Beam 71.43 335 P **P 19 01 03.6 +1.0**
comp=Z,1.3nm,0.6s,baz=117,slow=5.2,SNR=6.6
comp=Z,1.3nm,0.6s
KURBB Kurchatov Arra 72.19 329 P **P 19 01 09.0 +1.7**
comp=Z,1.7nm,0.4s,baz=132,slow=5.0,SNR=26
comp=Z,1.7nm,0.4s
BVAR Borovoye Array 77.72 328 P **P 19 01 40.6 +1.7**
comp=Z,1.3nm,0.6s,baz=111,slow=8.1,SNR=7.0
comp=Z,1.3nm,0.6s
TORD Torodi Ar. Bea 127.25 281 PKP **PKiKP 19 08 48.6 +2.1**
comp=Z,56nm,0.3s,baz=48,slow=4.0,SNR=2.9
LPAZ La Paz 151.19 146 PKPbc **PKiKP 19 09 39.6 +3.5**
comp=Z,1.1nm,0.4s,baz=326,slow=3.6,SNR=3.9

DJA 21 18:50:29.8±0.5,**10°S**±9°×**12°0E**±°,**h42**km±7km,**M2.2**/5,
MLv2.2/5,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.38**	**262**	P	Pn	18 50 42.4	+3.3
WBSI				S	Sn	18 50 47.8	+2.1
WSI	**Waingapu**	**0.53**	**99**	P	Pn	18 50 43.1	+2.1
WSI	**Waingapu**	**0.53**	**99**	S	Sn	18 50 51.1	+2.2
WSI	**Waingapu**	**0.53**	**99**	P	Pn	18 50 42.9	+1.9
BASI	**Baing, Sumba**	**1.01**	**128**	P	Pn	18 50 47.5	-0.1
BASI				S	Sn	18 51 00.9	+0.3
PLAI	**Plampang**	**2.11**	**291**	P	Pn	18 51 03.0	+0.4
PLAI				S	Sn	18 51 27.0	-0.6
MMRI	**Maumere**	**2.62**	**69**	P	Pn	18 51 13.3	+3.7

*IDC **21** 19:13:47.9±1.9,2°.69N×126°.83E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=124.1km s-min=23.5km az=69.0*
*DJA **21** 19:13:55.9±1.0,3°.N±2°.×12°.7E±°,h27km±9km,M3.4/9, MLv3.4/9*
ISC 21 19:13:55.7±1.2,**2°.55N**±0°.07×**126°.63E**±0°.10,**h55**km,**n8,**
σ0°79/11,mb3.6/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.57**	**316**	P	**Pn**	**19 14 21.6**	**+0.3**
SGSI				S	**Sn**	**19 14 40.7**	**+0.1**
TNTI	**Ternate**	**1.92**	**157**	P	**Pn**	**19 14 26.7**	**+0.8**
TNTI				S	**Sn**	**19 14 49.8**	**+0.9**
KMSI	**Cibinong**	**3.29**	**233**	P	**Pn**	**19 14 45.4**	**+0.6**
KMSI				S	**Sn**	**19 15 23.3**	**+0.5**
SANI	**Sanana**	**4.61**	**188**	P	**Pn**	**19 15 01.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.54**	**183**	P	**P**	**19 18 29.8**	**0.0**
2.2nm,0.8s,baz=12,slow=11,SNR=2.0
2.2nm,0.8s
WRA Warramunga Arr 23.60 162 P **P 19 19 00.9 -0.8**
0.8nm,0.3s,baz=341,slow=10,SNR=12
0.8nm,0.3s
ASAR Alice Springs 27.00 165 P **P 19 19 32.7 0.0**
0.2nm,0.4s,baz=344,slow=11,SNR=8.3
0.2nm,0.4s
MKAR Makanchi Array 58.46 326 P **P 19 23 45.7 -0.4**
0.2nm,0.4s,baz=126,slow=6.9,SNR=7.8
0.2nm,0.4s

*CATAC **21** 19:18:08.3±4.1,14°N±22°×9°0W±1°,h180km±34km, M3.5/12,MLv3.5/12,Error ellipse: s-maj=50.8km s-min=31.4km az=28.7*
*SNET **21** 19:18:22.9±0.5,13°.61N×89°.71W,h82km±5km,ML3.2*
ISC 21 19:18:20.3±2.1,**13°.6N**±0°.1×**89°.9W**±0°.1,**h100**km,**n20,**
σ1°12/21,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.31**	**45**	*e*S	**Sn**	**19 18 46.1**	**-0.3**
CEVE				IAML		19 18 52.0	
comp=Z,860nm,0.6s
CEVE Cerro Verde 0.31 45 P **Pn 19 18 36.3 +1.0**
LOAL Lomas de Alarc 0.39 9 P **Pn 19 18 36.6 +1.1**
SLOZ Alcaldia de Sa 0.42 8 P **Pn 19 18 33.5 -2.1**
UNIC Universidad Ca 0.47 38 P **Pn 19 18 35.2 -0.7**
LALI Alcalda de L 0.53 103 P **Pn 19 18 37.0 +0.7**
PMON Piamonte 0.53 79 P **Pn 19 18 36.8 +0.3**
BOQS Boqueron 0.56 77 *e*P **Pn 19 18 37.3 +0.4**
UEES Universidad Ev 0.60 80 P **Pn 19 18 37.4 +0.4**
LOMA Loma Larga 0.66 87 P **Pn 19 18 37.8 +0.3**
PAVA Las Pavas 0.89 83 P **Pn 19 18 40.2 +0.5**
MTO3 Montecristo 0.92 31 P **Pn 19 18 39.1 -1.0**
COEG Centro de Oper 0.94 89 P **Pn 19 18 40.0 -0.1**
TECO Alcaldia de Te 1.04 94 P **Pn 19 18 41.5 +0.3**
ESQI Esquipulas 1.06 27 *e*P **Pn 19 18 42.5 +0.9**
ESQI *e*S **Sn 19 18 58.0 +0.5**
SCLA Alcaldia de Sa 1.09 85 P **Pn 19 18 42.2 +0.4**
PQSS Presa 15 de Se 1.25 89 P **Pn 19 18 43.9 +0.3**
PACA Pacayal 1.49 95 P **Pn 19 18 43.2 -3.3**
BLLM Bellamira 1.57 96 *e*P **Pn 19 18 48.0 +0.4**
CAHU Cacacuatique 1.60 84 *e*P **Pn 19 18 48.3 +0.4**

*IDC **21** 19:21:12.2±4.4,21°.64N×120°.97E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=350.5km s-min=26.7km az=60.0*
*TAP **21** 19:21:17.4,21°.31N×120°.06E,h86km,ML3.3,D*
ISC 21 19:21:17.9±2.8,**21°.22N**±0°.08×**119°.99E**±0°.05,**h32**km±20km,
n88,σ0°77/107,mb3.4/3,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNW	**Nanwan**	**1.02**	**44**	*e*P	**Pn**	**19 21 36.0**	**-0.1**
HEN	**Hengchun**	**1.05**	**42**	P	**Pn**	**19 21 36.8**	**+0.3**
HEN				*i* S	**Sn**	**19 21 51.2**	**+1.1**
TWK1	**Hengchun**	**1.05**	**46**	*i* P	**Pn**	**19 21 36.7**	**+0.2**
TWK1				*i* S	**Sn**	**19 21 50.6**	**+0.6**
TWKBT	**Hengchun**	**1.05**	**47**	P	**Pn**	**19 21 36.6**	**+0.1**
TWKBT				S	**Sn**	**19 21 50.5**	**+0.4**
TSEB	**Hengchuen, Pin**	**1.09**	**51**	*i* P	**Pn**	**19 21 36.6**	**-0.3**
TSEB				*i* S	**Sn**	**19 21 50.8**	**-0.2**
WLCH	**Liuqiu**	**1.18**	**18**	*e*S	**Sb**	**19 21 55.0**	**+0.2**
SLIU	**Shizi**	**1.25**	**37**	P	**Pn**	**19 21 39.3**	**0.0**
SLIU				S	**Sn**	**19 21 54.5**	**-0.4**
SCZT	**Fangliau**	**1.29**	**27**	*i* P	**Pn**	**19 21 39.6**	**-0.2**
SCZT				*i* S	**Sn**	**19 21 56.1**	**+0.1**
TAWH	**Dawu Township**	**1.40**	**37**	P	**Pn**	**19 21 39.7**	**-1.6**
TAWH				S	**Sn**	**19 21 57.1**	**-1.5**
EAST	**Anshuo**	**1.41**	**35**	*i* P	**Pn**	**19 21 41.4**	**-0.1**
EAST				*i* S	**Sn**	**19 21 59.0**	**0.0**
TAW	**Tawu**	**1.41**	**37**	*i* P	**Pn**	**19 21 40.9**	**-0.5**
WSSB	**Gushan**	**1.44**	**10**	*e*P	**Pn**	**19 21 41.8**	**0.0**
MASBT	**Mashibuluo**	**1.51**	**23**	P	**Pn**	**19 21 42.5**	**-0.3**
MASBT				S	**Sn**	**19 22 00.8**	**-0.6**
TSMG	**Majia**	**1.60**	**22**	*e*P	**Pn**	**19 21 43.0**	**-1.0**
TSMG				S	**Sn**	**19 22 02.0**	**-1.7**
ECL	**Taimali**	**1.64**	**33**	*i* P	**Pn**	**19 21 44.7**	**+0.1**
ECL				*i* S	**Sn**	**19 22 03.3**	**-1.3**
TWM1	**Shoushan**	**1.65**	**14**	P	**Pn**	**19 21 44.7**	**0.0**
LAY	**Lan-yu**	**1.67**	**60**	*e*P	**Pn**	**19 21 44.3**	**-0.8**
LYUB	**Lan-yu**	**1.68**	**62**	*e*P	**Pn**	**19 21 43.9**	**-1.2**
SCST	**Cishan**	**1.72**	**16**	*e*P	**Pn**	**19 21 46.2**	**+0.5**
SCST				S	**Sn**	**19 22 07.7**	**+1.0**
SHHT	**Tainan City**	**1.82**	**11**	*e*S	**Sn**	**19 22 10.1**	**+0.9**
TWG	**Pinlang**	**1.89**	**32**	*e*P	**Pn**	**19 21 48.2**	**+0.2**
TWG				S	**Sn**	**19 22 10.7**	**0.0**
TWGBT	**Beinan**	**1.89**	**32**	*e*P	**Pn**	**19 21 47.5**	**-0.5**
TSCK	**Chigu Township**	**1.92**	**3**	*e*P	**Pn**	**19 21 48.2**	**-0.3**
TSCK				*e*S	**Sn**	**19 22 10.4**	**-1.2**
SSHA	**Shanhua**	**1.93**	**8**	*e*S	**Sn**	**19 22 12.2**	**+0.5**
SGST	**Jiashian**	**1.93**	**17**	P	**Pn**	**19 21 47.9**	**-0.8**
SGST				S	**Sn**	**19 22 10.6**	**-1.3**
SCLT	**Jiali**	**1.96**	**6**	*e*S	**Sn**	**19 22 12.6**	**+0.2**
LONT	**Longtian**	**1.99**	**32**	*e*P	**Pn**	**19 21 49.8**	**+0.4**
LONT				*e*S	**Sn**	**19 22 13.3**	**+0.1**
LDUT	**Ludao**	**2.00**	**43**	*e*P	**Pn**	**19 21 48.4**	**-1.1**
LDUT				*e*S	**Sn**	**19 22 12.2**	**-1.2**
CHN1	**Nanshi**	**2.02**	**14**	*e*P	**Pn**	**19 21 49.5**	**-0.4**
CHN1				*e*S	**Sn**	**19 22 13.2**	**-0.9**
SNST	**Tainan City**	**2.05**	**13**	*e*P	**Pn**	**19 21 50.4**	**+0.2**
VCHM	**Qimei**	**2.05**	**345**	*e*P	**Pn**	**19 21 49.6**	**-0.6**
WDGT	**Dungji**	**2.05**	**352**	*e*S	**Sn**	**19 22 14.8**	**0.0**
SYH	**Taoyuan**	**2.08**	**20**	*e*P	**Pn**	**19 21 51.1**	**+0.6**
STYH				S	**Sn**	**19 22 15.0**	**-0.3**
TWK	**Hsinying**	**2.09**	**13**	P	**Pn**	**19 21 50.1**	**-0.8**
TWK				S	**Sn**	**19 22 13.4**	**-2.4**
WTP	**Ta-pu**	**2.10**	**16**	P	**Pn**	**19 21 51.3**	**+0.3**
WTP				*e*S	**Sn**	**19 22 14.7**	**-1.3**
EDH	**Donghe**	**2.13**	**35**	*e*P	**Pn**	**19 21 51.1**	**-0.3**
TPUB	**Ta-pu**	**2.15**	**16**	*e*P	**Pn**	**19 21 51.3**	**-0.4**
ELDTW	**Lidau**	**2.18**	**26**	*e*P	**Pn**	**19 21 52.5**	**+0.3**
CHN4	**Tsaushan**	**2.19**	**15**	*e*P	**Pn**	**19 21 51.3**	**-1.0**
WSL	**Shuilin Townsh**	**2.30**	**6**	*e*P	**Pn**	**19 21 53.1**	**-0.6**
FULB	**Fuli**	**2.31**	**31**	*e*P	**Pn**	**19 21 53.5**	**-0.4**
PNG	**Penghu**	**2.37**	**350**	*e*P	**Pn**	**19 21 53.5**	**-1.1**
ALS	**Alishan**	**2.40**	**18**	*e*P	**Pn**	**19 21 53.6**	**-1.7**
TWF1	**Yuli**	**2.44**	**30**	*e*P	**Pn**	**19 21 55.1**	**-0.6**
CHN5	**Tsauling**	**2.45**	**15**	*e*P	**Pn**	**19 21 55.0**	**-0.9**
EYUL	**Yuli**	**2.45**	**30**	*e*P	Pn	19 21 53.9	-1.9
YULB	**Yu-li**	**2.48**	**29**	*e*P	**Pn**	**19 21 54.5**	**-1.6**
WTK	**Tuku**	**2.48**	**9**	*e*P	**Pn**	**19 21 55.7**	**-0.5**
WDLH	**Douliu**	**2.51**	**12**	*e*P	**Pn**	**19 21 56.2**	**-0.4**
WGK	**Gukeng**	**2.51**	**12**	*e*P	**Pn**	**19 21 55.9**	**-0.7**
EHY	**Hungye**	**2.59**	**28**	*e*P	**Pn**	**19 21 57.6**	**-0.1**
WHYT	**Xinyi Township**	**2.59**	**18**	*e*P	**Pn**	**19 21 57.1**	**-0.6**
HGSD	**Ruisui**	**2.62**	**30**	*e*P	**Pn**	**19 21 57.3**	**-0.8**
SSLB	**Suanglung**	**2.71**	**19**	*e*P	**Pn**	**19 21 59.5**	**+0.2**
VWDT	**VWDT**	**2.74**	**23**	*e*P	**Pn**	**19 22 00.2**	**+0.5**
SMLT	**Sun Moon Lake**	**2.78**	**17**	*e*P	**Pn**	**19 22 00.0**	**-0.4**
TYC	**Yuchr**	**2.79**	**17**	*e*P	**Pn**	**19 21 59.5**	**-0.9**
WARBT	**Fenglin Townsh**	**2.80**	**27**	*e*P	**Pn**	**19 22 00.1**	**-0.5**
ESL	**Shilin**	**2.91**	**27**	*e*P	**Pn**	**19 22 01.3**	**-0.8**
OWD	**Renai**	**2.94**	**22**	P	**Pn**	**19 22 03.1**	**+0.6**
WCS	**Beigang Elemen**	**2.95**	**17**	*e*P	**Pn**	**19 22 01.9**	**-0.8**
WUSB	**Renai**	**2.95**	**21**	P	**Pn**	**19 22 03.5**	**+0.7**
LXIB	**Xiulin Townshi**	**3.08**	**25**	*e*P	**Pn**	**19 22 04.8**	**+0.1**
WHP	**Taichung City**	**3.17**	**16**	P	**Pn**	**19 22 06.7**	**+1.0**
FUSS	**Fushou**	**3.23**	**21**	*e*P	**Pn**	**19 22 07.0**	**+0.2**
ETLH	**Xiulin Townshi**	**3.28**	**25**	*e*P	**Pn**	**19 22 08.1**	**+0.8**
NACB	**Ninganchiao**	**3.29**	**26**	*e*P	Pn	19 22 05.4	-2.0
DSXP	**Dongshan**	**3.43**	**317**	*e*P	**Pn**	**19 22 09.2**	**0.0**
NNSB	**Datong**	**3.44**	**22**	*e*P	**Pn**	**19 22 09.9**	**+0.4**
NNS	**Nan Shan**	**3.45**	**21**	*e*P	**Pn**	**19 22 09.8**	**+0.2**
KNM	**Kinmen**	**3.49**	**336**	*e*P	**Pn**	**19 22 09.4**	**-0.6**
LIOB	**Emei**	**3.54**	**15**	*e*P	**Pn**	**19 22 10.4**	**-0.3**
KNMB	**Chin-men Tao**	**3.55**	**336**	P	**Pn**	**19 22 10.6**	**-0.2**
NFF	**Wufeng Townshi**	**3.55**	**17**	*e*P	**Pn**	**19 22 09.9**	**-1.1**
LATG	**Datong**	**3.59**	**23**	*e*P	**Pn**	**19 22 12.0**	**+0.4**
NSK	**Sanguang**	**3.67**	**20**	*e*P	**Pn**	**19 22 12.9**	**+0.4**
YHNB	**Yeheng**	**3.67**	**20**	*e*P	**Pn**	**19 22 12.3**	**-0.2**
ENTT	**Nioudou**	**3.70**	**23**	*e*P	**Pn**	**19 22 14.0**	**+1.0**
KSHI	**Guanxi Townshi**	**3.71**	**17**	P	**Pn**	**19 22 13.9**	**+0.9**
VWUC	**VWUC**	**3.79**	**353**	*e*P	**Pn**	**19 22 14.6**	**+0.5**
NWLT	**Wulai**	**3.81**	**21**	*e*P	**Pn**	**19 22 15.4**	**+1.0**
FUSB	**Fushanzhiwuyua**	**3.82**	**22**	*e*P	**Pn**	**19 22 15.3**	**+0.6**
PTMZ	**Houxiangcun**	**3.88**	**348**	*e*P	**Pn**	**19 22 14.1**	**-1.4**
AXDP	**Jialang**	**4.11**	**334**	*e*P	**Pn**	**19 22 18.0**	**-0.5**
MATB	**Ma-tsu**	**4.91**	**360**	*e*P	**Pn**	**19 22 29.4**	**-0.1**
MKAR	**Makanchi Array**	**39.76**	**319**	P	**P**	**19 28 49.1**	**+1.3**
0.5nm,0.6s,baz=120,slow=8.9,SNR=6.9
0.5nm,0.6s
WRA Warramunga Arr 43.25 160 P **P 19 29 16.0 -0.6**
0.6nm,0.7s,baz=342,slow=8.5,SNR=5.7
0.6nm,0.7s
ASAR Alice Springs 46.63 162 P **P 19 29 43.5 +0.1**
0.4nm,0.9s,baz=347,slow=6.8,SNR=6.2
0.4nm,0.9s

*TRN **21** 19:23:18.3,10°.42N×62°.15W,h6km,MD3.2,Gulf of Paria.*
*FUNV **21** 19:23:19.3,10°.32N×62°.05W,h24km,MW3.7*
ISC 21 19:23:16.9±1.6,**10°.22N**±0°.04×**62°.18W**±0°.03,**h20**km±6km,
n33,σ1°35/53,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.79**	**55**	*e*P	**Pg**	**19 23 32.0**	**-0.5**
PSKH	**Kent House, Po**	**0.79**	**55**	*e*P	**Pg**	**19 23 32.0**	**-0.5**
TRN	**Tr

*DJA **21** 19:34:33.7±0.4, 6°N±3°×9°4E±°, h47km±6km, M4.6/16, mb4.8/16, mB4.9/6, MLv4.8/13, Mw(mB)4.2/6*
*IDC **21** 19:34:34.7±0.9, 6°26N×94°12E, h68km±6km, mb3.9/14, mbtmp4.2/17, MS3.4/6, Error ellipse: s-maj=25.7km s-min=12.8km az=49.0*
*NEIC **21** 19:34:36.2±1.4, 6°34N±0°09×94°25E±0°09, h74km±4km, mb4.6/44, Error ellipse: s-maj=15.6km s-min=7.9km az=225.0*

ISC 21 19:34:33.3±0.4, **6°30N**±0°05×**94°18E**±0°05, **h50**km, **n129**, σ1§**80**/128, **mb4.5**/42, **MS3.6**/4, **1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**0.75**	**340**	*e*P	**Pn**	**19 34 50.4**	**+2.7**
CMBY				*e*S	**Sn**	**19 35 01.8**	**+3.6**
CMBY				IAML		19 35 03.2	
	comp=E,28µm,0.3s						
CMBY				IAML		19 35 03.3	
	comp=N,25µm,0.3s						
BSI	**Banda Aceh**	**1.36**	**126**	P	**Pn**	**19 34 58.4**	**+2.4**
BSI				S	**Sn**	**19 35 15.5**	**+2.5**
LHMI	**Lhok Sumawe**	**2.95**	**111**		**Pn**	**19 35 20.5**	**+2.8**
LHMI	**Lhok Sumawe**	**2.95**	**111**	P	**Pn**	**19 35 19.9**	**+2.2**
LHMI	**Lhok Sumawe**	**2.95**	**111**	P	**Pn**	**19 35 20.4**	**+2.7**
LHMI				S	**Sn**	**19 35 54.2**	**+2.3**
MLSI	**Meulaboh, Aceh**	**3.00**	**132**	P	**Pn**	**19 35 20.8**	**+2.5**
MLSI				S	**Sn**	**19 35 55.5**	**+2.5**
SNSI	**Sinabang, Aceh**	**4.42**	**151**	P	**Pn**	**19 35 37.9**	**0.0**
SNSI				S	**Sn**	**19 36 28.8**	**+0.7**
TSI	**Tuntungan**	**5.18**	**122**	P	**Pn**	**19 35 50.1**	**+1.8**
	comp=N,0.5nmcomp=N,2µmcomp=N,110nm,0.7s						
SRIT	**Nakonsritamara**	**5.84**	**67**		**Pn**	**19 35 59.4**	**+2.0**
SRIT	**Nakonsritamara**	**5.84**	**67**	P	**Pn**	**19 35 59.6**	**+2.2**
PSI	**Prapat**	**5.87**	**126**	P	**Pn**	**19 36 00.8**	**+2.9**
	comp=N,33nm,0.4s,baz=309,slow=10,SNR=33						
PSI				S	**Sn**	**19 37 06.2**	**+2.2**
	comp=N,17nm,0.6s,baz=149,slow=19,SNR=1.5						
PSI				LR	LR	19 38 44.5	
	comp=N,173nm,20.2s,baz=314,slow=42						
RPSI	**Rantau Prapat**	**5.93**	**127**	Pn	**Pn**	**19 36 00.5**	**+1.9**
RPSI	**Rantau Prapat**	**5.93**	**127**		**Pn**	**19 36 00.8**	**+2.2**
RPSI					**Sn**	**19 37 06.2**	**+0.9**
GSI	**Gunungsitoli**	**6.01**	**146**		**Pn**	**19 35 59.5**	**-0.2**
GSI	**Gunungsitoli**	**6.01**	**146**	P	**Pn**	**19 35 59.7**	**0.0**
GSI	**Gunungsitoli**	**6.01**	**146**	S	**Sn**	**19 37 08.4**	**+1.2**
GSI	**Gunungsitoli**	**6.01**	**146**	P	**Pn**	**19 35 59.9**	**+0.2**
	comp=N,0.2nmcomp=N,36nm,0.5s						
KULM	**Kulim**	**6.51**	**99**		**Pn**	**19 36 07.7**	**+1.1**
KULM	**Kulim**	**6.51**	**99**	P	**Pn**	**19 36 08.3**	**+1.7**
DGPR	**DIGLIPUR**	**6.95**	**350**	*ex*	x	19 36 13.2	
DGPR				*ex*	x	19 37 25.7	
IPM	**Ipoh**	**7.05**	**105**		**Pn**	**19 36 15.4**	**+1.4**
IPM				Sn	**Sn**	**19 37 28.2**	**-4.7**
IPM	**Ipoh**	**7.05**	**105**	P	**Pn**	**19 36 15.7**	**+1.7**
PBSI	**Pulau Batu**	**7.52**	**147**	P	**Pn**	**19 36 21.1**	**+0.6**
	comp=N,0.3nmcomp=N,67nm,1.1s						
MNSI	**Mandailing Nat**	**7.67**	**135**	P	**Pn**	**19 36 24.0**	**+1.4**
SISI	**Saibi**	**9.02**	**147**	P	**Pn**	**19 36 40.9**	**-0.1**
	comp=N,62nm,0.7s						
SRDT	**SRDT**	**9.36**	**31**	P	**Pn**	**19 36 49.0**	**+3.4**
MYKOM	**Kota Tinggi**	**10.63**	**115**	Pn	**Pn**	**19 37 04.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**12.95**	**21**	Pn	**Pn**	**19 37 36.9**	**+2.2**
CMAR	**Chiang Mai Arr**	**12.95**	**21**	P	**Pn**	**19 37 38.0**	**+3.4**
	comp=N,1.1nm,0.7s,baz=212,slow=14,SNR=13						
CMAR				ScP	**ScP**	**19 46 33.2**	**-2.0**
	comp=N,1.0nm,0.7s,baz=223,slow=1.5,SNR=8.7						
CHTO	**Chiang Mai**	**13.28**	**20**	Pn	**Pn**	**19 37 40.0**	**+0.7**
PALK	**Pallekele**	**13.42**	**275**	Pn	**Pn**	**19 37 44.0**	**+2.7**
PALK	**Pallekele**	**13.42**	**275**	P	**Pn**	**19 37 43.5**	**+2.2**
	comp=N,3.5nm,0.7s,baz=89,slow=10,SNR=5.3						
PALK				S	Sn	19 39 56.3	-13
	comp=N,21nm,0.3s,baz=186,slow=23,SNR=15						
PALK				LR	LR	19 42 24.2	
	comp=N,74nm,18.6s,baz=105,slow=35						
UBPT	**Khong Chiam**	**14.22**	**50**	Pn	**Pn**	**19 37 53.4**	**+1.3**
MDSI	**Maura Dua**	**14.64**	**137**	P	**Pn**	**19 37 57.2**	**-0.4**
VIS	**Vishakhapatnam**	**15.53**	**318**	*e*P	**Pn**	**19 38 07.3**	**-1.9**
VIS				*e*S	Sn	19 40 49.2	-11
VIS				IAmb	IAmb	19 41 31.5	
	comp=Z,93nm,2.1s						
RAGD	**RAYAGADA**	**16.57**	**322**	*ex*	x	19 38 24.6	
RAGD				IAmb	IAmb	19 38 28.0	
	comp=Z,36nm,1.1s						
RAGD				*e*S	Sn	19 41 14.2	-11
SALM	**Salem**	**16.65**	**290**	*e*S	Sn	19 41 16.6	-11
KOD	**Kodaikanal**	**17.00**	**284**	*e*P	**Pn**	**19 38 28.7**	**+0.7**
KOD				*e*S	Sn	19 41 25.4	-11
KOD				IAmb	IAmb	19 41 58.5	
	comp=Z,188nm,1.4s						
CGJI	**Cibinong**	**17.22**	**138**	P	**Pn**	**19 38 31.5**	**+1.0**
	comp=Z,18nm,0.5s						
IMP	**Imphal**	**18.43**	**359**	*e*P	**P**	**19 38 43.7**	**-1.1**
IMP				IAmb	IAmb	19 38 59.3	
	comp=Z,13nm,0.5s						
TNCH	**TengChong**	**19.08**	**12**	P	**P**	**19 38 54.0**	**+1.9**
TNCH				PP	**sP**	**19 39 14.4**	**+5.2**
TNCH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,66nm,4.5s						
SHL	**Shillong**	**19.29**	**354**	P	**P**	**19 38 52.6**	**-1.6**
SHL	**Shillong**	**19.29**	**354**	*e*P	**P**	**19 38 52.2**	**-2.1**
SHL				IAmb	IAmb	19 38 57.6	
	comp=Z,14nm,0.4s						
KOHI	**KOHIMA**	**19.31**	**360**	*e*P	**P**	**19 38 53.6**	**-1.0**
KOHI				IAmb	IAmb	19 39 01.7	
	comp=Z,18nm,0.5s						
KOHI				*e*S	**S**	**19 42 23.8**	**-6.8**
ZIRO	**ZIRO**	**21.11**	**359**	*e*P	**P**	**19 39 11.8**	**-2.2**
ZIRO				IAmb	IAmb	19 39 15.3	
	comp=Z,19nm,0.3s						
ZIRO				*e*S	S	19 42 57.6	-8.9
TAWA	**Tawang**	**21.29**	**354**	*e*P	**P**	**19 39 14.9**	**-1.3**
TAWA				IAmb	IAmb	19 39 15.6	
	comp=Z,14nm,0.6s						
TAWA				*ex*	x	19 42 55.4	
PZH	**PanZhiHua**	**21.35**	**19**	P	P	19 39 09.9	-6.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,5.9s						
LSA	**Lhasa**	**23.45**	**353**	P	**P**	**19 39 37.9**	**-1.0**
MYLDM	**Lahad Datu**	**24.22**	**91**	P	**P**	**19 39 43.8**	**-1.9**
MYLDM				IAmb	IAmb	19 40 12.5	
	comp=Z,18nm,1.0s						
MYLDM	**Lahad Datu**	**24.22**	**91**	P	**P**	**19 39 45.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**24.73**	**126**	P	**P**	**19 39 49.0**	**-1.3**
JAGI				IAmb	IAmb	19 40 02.7	
	comp=Z,13nm,1.0s						
SRBI	**Singaraja**	**25.38**	**124**	P	**P**	**19 39 59.1**	**+3.0**
	comp=Z,39nm,0.8s						
H08S3	**Diego Garcia H**	**25.69**	**238**	T	T	20 06 29.5	
	baz=57,slow=76,SNR=348						
H08S2	**Diego Garcia H**	**25.69**	**238**	T	T	20 06 29.8	
	baz=57,slow=76,SNR=466						
H08S1	**Diego Garcia H**	**25.71**	**238**	T	T	20 06 31.0	
	baz=57,slow=76,SNR=415						
TOLI2	**Tolitoli**	**27.03**	**100**	P	**P**	**19 40 09.8**	**-1.4**
TOLI2	**Tolitoli**	**27.03**	**100**	P	**P**	**19 40 11.5**	**+0.4**
ENH	**Enshi**	**27.86**	**29**	P	**P**	**19 40 17.1**	**-1.2**
ENH				IAmb	IAmb	19 40 18.0	
	comp=Z,8.0nm,0.9s						
LUWI	**Luwuk**	**29.46**	**103**	P	**P**	**19 40 30.7**	**-2.1**
XAN	**Xi'an**	**30.79**	**24**	P	**P**	**19 40 43.3**	**-1.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SSLB	**Suanglung**	**31.05**	**53**	P	**P**	**19 40 46.3**	**-0.5**
YULB	**Yu-li**	**31.13**	**54**	P	**P**	**19 40 48.0**	**+0.5**
YULB				IAmb	IAmb	19 40 49.3	
	comp=Z,28nm,1.5s						
SANI	**Sanana**	**32.82**	**104**	P	**P**	**19 41 02.4**	**0.0**
NIL	**Nilore**	**33.43**	**327**	P	**P**	**19 41 06.8**	**-0.7**
NIL				IAmb	IAmb	19 41 07.8	
	comp=Z,6.8nm,0.6s						
KSH	**Kashi**	**36.92**	**336**	P	**P**	**19 41 35.8**	**-1.8**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
JOW	**Kunigami**	**38.32**	**54**	P	**P**	**19 41 49.5**	**0.0**
JOW	**Kunigami**	**38.32**	**54**	P	**P**	**19 41 50.4**	**+0.9**
DRK	**Karamyk**	**38.70**	**332**	P	**P**	**19 41 53.4**	**+0.5**
FAKI	**Fak Fak**	**39.10**	**102**	P	**P**	**19 41 54.7**	**-1.4**
FAKI	**Fak Fak**	**39.10**	**102**	P	**P**	**19 41 55.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**39.39**	**129**	P	**P**	**19 41 57.6**	**-0.9**
FITZ				IAmb	IAmb	19 41 58.6	
	comp=Z,2.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.39**	**129**	P	**P**	**19 41 57.9**	**-0.6**
SIMJ	**Simiganj**	**39.45**	**328**	P	**P**	**19 41 57.7**	**-1.3**
BOOM	**Boomskoye usch**	**39.50**	**339**	P	P	19 41 57.1	-2.2
BTK	**Batken**	**39.62**	**331**	P	**P**	**19 42 01.1**	**+0.8**
BTK				IAmb	IAmb	19 42 04.8	
	comp=Z,9.4nm,1.4s						
ARSB	**Arslanbob**	**39.67**	**335**	P	**P**	**19 42 01.3**	**+0.6**
ARSB				IAmb	IAmb	19 42 02.1	
	comp=Z,10nm,0.8s						
AAK	**Ala-Archa**	**40.16**	**337**	P	**P**	**19 42 06.0**	**+1.2**
AAK				IAmb	IAmb	19 42 10.6	
	comp=Z,4.9nm,0.9s						
KNRA	**Kununurra**	**40.62**	**123**	P	**P**	**19 42 06.8**	**-1.9**
KNRA				IAmb	IAmb	19 42 14.5	
	comp=Z,27nm,1.5s						
MTN	**Manton Dam**	**41.35**	**117**	P	**P**	**19 42 13.8**	**-1.0**
MK31	**Makanchi Array**	**41.62**	**348**	P	**P**	**19 42 16.2**	**-0.4**
MKAR	**Makanchi Array**	**41.62**	**348**	P	**P**	**19 42 16.1**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=165,slow=8.2,SNR=43						
MKAR				pP	**pP**	**19 42 34.0**	**+4.8**
	comp=Z,0.6nm,0.4s,baz=165,slow=8.8,SNR=4.7						
MKAR				PcP	**PcP**	**19 44 12.3**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=189,slow=3.5,SNR=1.3						
MKAR				LR	LR	20 02 27.1	
	comp=Z,26nm,18.1s,baz=313,slow=40						
	comp=Z,1.1nm,0.4s						
XLT	**XiLinHaoTe**	**42.09**	**24**	*e*P	P	19 42 15.3	-5.3
XLT				pP	pP	19 42 36.4	+3.0
XLT				sP	sP	19 42 54.3	+15
XLT				PP	**PP**	**19 43 58.5**	**-0.3**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KK31	**Karatay Array**	**42.18**	**334**	P	**P**	**19 42 21.4**	**+0.1**
KK31				IAmb	IAmb	19 42 21.9	
	comp=Z,3.0nm,0.6s						
KKAR	**Karatay Array**	**42.18**	**334**	P	**P**	**19 42 21.2**	**0.0**
KDU	**Kakadu**	**42.47**	**116**	P	**P**	**19 42 23.4**	**-0.5**
SONM	**Songino Array**	**42.68**	**12**	P	**P**	**19 42 24.1**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=187,slow=7.9,SNR=4.9						
SONM				PcP	**PcP**	**19 44 16.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=206,slow=5.0,SNR=2.9						
SONM				ScP	**ScP**	**19 48 00.0**	**-3.4**
	comp=Z,0.5nm,0.7s,baz=207,slow=2.9,SNR=3.7						
	comp=Z,0.4nm,0.4s						
KSAR	**Wonju Array Be**	**43.60**	**40**	P	**P**	**19 42 31.2**	**-1.6**
KSRS	**Korea Array**	**43.63**	**40**	P	**P**	**19 42 32.8**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=215,slow=9.2,SNR=10						
	comp=Z,2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**46.07**	**346**	P	**P**	**19 42 52.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=170,slow=6.9,SNR=8.8						
KURBB				PcP	**PcP**	**19 44 27.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=170,slow=4.0,SNR=1.1						
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	**47.29**	**124**	P	**P**	**19 43 01.2**	**-1.0**
WRA	**Warramunga Arr**	**47.33**	**124**	P	**P**	**19 43 01.7**	**-0.9**
WRA	**Warramunga Arr**	**47.33**	**124**	P	**P**	**19 43 02.1**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=305,slow=8.9,SNR=66						
	comp=Z,5.8nm,0.6s						
WRAB	**Tennant Creek**	**47.34**	**124**	P	**P**	**19 43 02.0**	**-0.6**
WB2	**Warramunga Arr**	**47.34**	**124**	P	**P**	**19 43 02.0**	**-0.6**
WR0	**Warramunga Arr**	**47.50**	**124**	IAmb	IAmb	19 43 04.3	
	comp=Z,7.4nm,0.8s						
ZALV	**Zalesovo Beam**	**48.11**	**353**	P	**P**	**19 43 07.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=162,slow=7.0,SNR=7.3						
	comp=Z,0.8nm,0.3s						
BNX	**BinXian**	**48.69**	**31**	⇑P	**P**	**19 43 11.4**	**-1.2**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AS31	**Alice Springs**	**48.89**	**129**	P	**P**	**19 43 14.2**	**-0.3**
ASAR	**Alice Springs**	**48.89**	**129**	P	**P**	**19 43 13.8**	**-0.8**
ASAR	**Alice Springs**	**48.89**	**129**	P	**P**	**19 43 14.3**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=301,slow=8.0,SNR=150						
ASAR				pP	**pP**	**19 43 31.0**	**+3.4**
	comp=Z,1.7nm,0.4s,baz=299,slow=8.0,SNR=4.8						
ASAR				S	S	19 50 06.1	-8.9
	comp=Z,0.4nm,0.9s,baz=302,slow=15,SNR=4.6						
	comp=Z,4.1nm,0.4s						
RAYN	**Ar Rayn**	**49.78**	**295**	P	**P**	**19 43 22.6**	**+1.2**
RAYN				IAmb	IAmb	19 43 24.0	
	comp=Z,2.3nm,0.6s						
MJAR	**Matsushiro Arr**	**50.19**	**47**	P	**P**	**19 43 25.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=262,slow=15,SNR=2.9						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**50.48**	**342**	P	**P**	**19 43 26.1**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=140,slow=10,SNR=16						
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**50.55**	**342**	P	**P**	**19 43 26.4**	**-0.3**
BRVK				IAmb	IAmb	19 43 27.5	
	comp=Z,1.9nm,0.5s						
ABKAR	**Akbulak array**	**51.63**	**332**	P	**P**	**19 43 34.9**	**0.0**
JMM	**Marumori**	**52.62**	**46**	P	**P**	**19 43 41.5**	**-0.9**
ARTI	**Arti**	**57.38**	**337**	P	**P**	**19 44 16.6**	**+0.1**
ARTI				IAmb	IAmb	19 44 57.6	
	comp=Z,8.3nm,1.4s						
MMAI	**Mount Meron Ar**	**60.53**	**304**	LR	LR	20 16 54.7	
	comp=Z,39nm,18.1s,baz=305,slow=42						
BRTR	**Keskin Array B**	**63.49**	**311**	P	**P**	**19 44 58.1**	**-0.6**
BRTR	**Keskin Array B**	**63.49**	**311**	P	**P**	**19 44 57.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=130,slow=7.1,SNR=6.7						
	comp=Z,0.7nm,0.6s						
H04N2	**CROZET ISLANDS**	**64.41**	**211**	T	T	20 55 34.8	
	baz=48,slow=75,SNR=344						
H04N1	**CROZET ISLANDS**	**64.42**	**211**	T	T	20 55 43.4	
	baz=48,slow=75,SNR=338						
H04N3	**CROZET ISLANDS**	**64.43**	**211**	T	T	20 55 42.1	
	baz=48,slow=75,SNR=395						
H04S1	**CROZET ISLANDS**	**64.81**	**211**	T	T	20 55 53.4	
	baz=52						
H04S3	**CROZET ISLANDS**	**64.81**	**211**	T	T	20 55 59.6	
	baz=52						
H04S2	**CROZET ISLANDS**	**64.82**	**211**	T	T	20 56 04.5	
	baz=52						
MA2	**Magadan**	**68.13**	**27**	LR	LR	20 17 51.4	
	comp=Z,40nm,18.3s,baz=3.0,slow=38						
TIXI	**Tiksi**	**68.76**	**11**	P	**P**	**19 45 30.2**	**-1.4**
AKASG	**Malin Array Be**	**69.41**	**322**	P	P	19 45 34.2	-1.8
	comp=Z,0.3nm,0.4s,baz=83,slow=6.2,SNR=2.5						
BURAR	**Buovina Array**	**71.24**	**318**	P	**P**	**19 45 45.9**	**-1.6**
FINES	**FINESS Array B**	**74.11**	**332**	P	**P**	**19 46 03.5**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=94,slow=6.1,SNR=11						
	comp=Z,2.5nm,0.7s						
ARCES	**ARCESS Array B**	**76.75**	**340**	P	**P**	**19 46 18.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=75,slow=5.7,SNR=9.4						
ARCES				pP	**pP**	**19 46 36.2**	**+3.4**
	comp=Z,6.5nm,1.0s,baz=106,slow=6.3,SNR=2.2						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**79.83**	**330**	P	**P**	**19 46 36.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=98,slow=4.5,SNR=5.4						
	comp=Z,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**81.38**	**348**	P	**P**	**19 46 43.5**	**-0.8**
	comp=Z,20nm,1.1s,baz=101,slow=7.5,SNR=15						
	comp=Z,20nm,1.1s						
E19K	**Redstone River**	**91.24**	**21**	P	**P**	**19 47 32.7**	**-0.3**
E19K				IAmb	IAmb	19 47 33.3	
	comp=Z,2.8nm,0.8s						
B21K	**Ikpikpuk River**	**91.37**	**19**	P	**P**	**19 47 33.6**	**+0.1**
B21K				IAmb	IAmb	19 47 54.8	
	comp=Z,1.7nm,1.1s						
G19K	**Purcell Mounta**	**91.73**	**23**	P	**P**	**19 47 35.1**	**-0.2**
G19K				IAmb	IAmb	19 47 36.0	
	comp=Z,4.3nm,1.2s						
F20K	**Avaraart Lake**	**91.93**	**22**	P	**P**	**19 47 35.3**	**-0.8**
F20K				IAmb	IAmb	19 48 07.6	
	comp=Z,4.8nm,1.5s						
KDAK	**Kodiak Island**	**96.78**	**30**	LR	LR	20 37 20.1	
	comp=Z,28nm,18.1s,baz=267,slow=39						

*NEIC **21** 21:32:33.6±1.1, 19°33N±0°01×155°119W±0°008, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.3km az=344.0*

HVO 21 21:32:33.5±1.0, **19°33N**±0°02×**155°11W**±0°01, **h7**km±2km, **ML3.2**/45, **ML3.2**/40(NEIC), **Error ellipse: s-maj=2.7km s-min=1.1km az=159.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**7**		Pg	21 32 37.1	+1.9
STCH	**Steam Cracks**	**0.06**	**344**		Pg	21 32 35.2	0.0
STCH				Sg	Sg	21 32 36.0	-0.5
NPOC	**North of Pu'u**	**0.06**	**359**		Pg	21 32 37.3	+2.0
KNHH	**Kane Nui o Ham**	**0.07**	**310**		Pg	21 32 35.7	+0.2
PUH	**Pauahi**	**0.11**	**293**		Pg	21 32 36.1	+0.1
PUH				Sg	Sg	21 32 37.0	-0.7
PUH				IAML		21 32 38.9	
	comp=N,10µm,0.6s						
JOKA	**Jonika Flow**	**0.14**	**44**		Pg	21 32 36.1	-0.4
JOKA				IAML		21 32 40.2	
	comp=N,7µm,0.8s						
KKO	**Keanakako'i**	**0.16**	**294**		Pg	21 32 37.2	+0.3
BYL	**Byron's Ledge**	**0.16**	**299**		Pg	21 32 36.8	-0.1
BYL				IAML		21 32 40.3	
	comp=E,6µm,0.3s						
RIM	**Rim**	**0.17**	**292**		Pg	21 32 37.3	+0.3
RIM					Sg	21 32 40.2	+0.8
HATHI	**Halema'uma'u T**	**0.17**	**302**		Pg	21 32 36.6	-0.4
SBLHI	**Steaming Bluff**	**0.18**	**302**		Pg	21 32 37.3	+0.2
SBLHI					Sg	21 32 40.6	+1.0
SDHHI	**Sand Hill**	**0.18**	**288**		Pg	21 32 37.5	+0.2
SDHHI					Sg	21 32 40.6	+0.8
UWB	**Uwekahuna Bluf**	**0.18**	**300**		Pg	21 32 37.4	+0.2
UWB					Sg	21 32 40.6	+0.7
OBL	**Observatory Le**	**0.19**	**297**		Pg	21 32 37.6	+0.3
OBL					Sg	21 32 40.6	+0.7
HLP	**Hilina Pali**	**0.19**	**259**		Pg	21 32 37.2	-0.1
HLP				IAML		21 32 42.2	
	comp=N,6µm,0.4s						
UWE	**Uwekahuna**	**0.20**	**297**		Pg	21 32 37.0	-0.4
UWE				IAML		21 32 44.3	
	comp=N,7µm,0.4s						
UWE				IAML		21 32 44.3	
	comp=E,8µm,0.4s						
WRMHI	**West Rim**	**0.20**	**292**		Pg	21 32 37.6	+0.2
RSD	**Rainshed**	**0.21**	**309**		Pg	21 32 37.5	-0.2
PAH	**Pahoa**	**0.22**	**43**	Pg	Pg	21 32 37.8	-0.2
MLH	**Mauna Loa**	**0.31**	**302**		Pg	21 32 39.5	-0.1
MLH				IAML		21 32 50.0	
	comp=N,3µm,0.3s						
KHU	**Kahuku**	**0.49**	**260**	Pg	Pg	21 32 42.3	-0.6
KHU				IAML		21 32 55.7	
	comp=N,2µm,0.5s						
KHU				IAML		21 32 59.1	
	comp=E,2µm,0.7s						
KHU	**Kahuku**	**0.49**	**260**		Sg	21 32 49.6	+0.3
ALEP	**Alea Permanent**	**0.55**	**292**		Pg	21 32 43.6	-0.5
POHA	**Pohakuloa**	**0.58**	**317**	Pg	Pg	21 32 43.7	-1.1
POHA				IAML		21 32 57.8	
	comp=E,2µm,0.6s						
POHA				IAML		21 32 57.9	
	comp=E,2µm,0.6s						
POHA	**Pohakuloa**	**0.58**	**317**		Sg	21 32 44.0	-8.5
HUH	**Hualalai**	**0.77**	**297**		Pg	21 32 48.1	-0.2
CPH	**Captain Cook**	**0.78**	**282**		Pg	21 32 47.1	-1.4
HPAH	**Hawaii Prepara**	**0.89**	**322**	Pg	Pg	21 32 49.0	-1.6
HPAH				IAML		21 33 02.3	
	comp=N,822nm,0.3s						
HPAH				IAML		21 33 03.1	
	comp=E,1µm,0.3s						

SDD 21 21:41:23.4±1.7, **18°66N×69°46W, h84**km±11km, **MD3.1, ML2.5, MW3.2, 2C-5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.14**	**31**	⇓*e*Pg	Pn	21 41 33.9	-1.7
HATOM				⇓*e*Sg	Sn	21 41 43.5	-1.0
HATOM				IAML		21 41 43.7	
	comp=E,44nm,0.1s						
HATOM				IAML		21 41 44.1	
	comp=N,112nm,0.1s						
MIDR	**Miches**	**0.50**	**51**	⇓*e*Pg	Pn	21 41 36.2	-1.3
MIDR				⇓*e*Sg	Sn	21 41 47.3	-0.8
MIDR				IAML		21 41 48.6	
	comp=N,107nm,0.1s						
MIDR				IAML		21 41 48.7	
	comp=N,107nm,0.1s						
MIDR				IAML		21 41 48.8	
	comp=E,76nm,0.3s						
DR08	**Loma La Naviza**	**0.61**	**299**	*e*Pg	Pn	21 41 37.6	-1.0
DR08				⇑*e*Sg	Sn	21 41 48.2	-1.7
DR08				IAML		21 41 49.6	
	comp=E,2µm,0.2s						
DR08				IAML		21 41 49.6	
	comp=N,3µm,0.1s						
SMDR	**Samana, DR**	**0.67**	**22**	*e*Sg	Sn	21 41 49.9	-0.9
SMDR				IAML		21 41 52.6	
	comp=N,128nm,0.7s						
SMDR				IAML		21 41 53.2	
	comp=E,127nm,0.6s						
BANI	**BANI**	**0.90**	**253**	*e*Pg	Pn	21 41 41.6	0.0
BANI				IAML		21 42 00.8	
	comp=E,85nm,0.0s						
BANI				IAML		21 42 02.7	
	comp=N,97nm,1.0s						
PCDR	**Punta Cana, DR**	**1.03**	**98**	*e*Pg	Pn	21 41 42.5	-0.6
PCDR				IAML		21 42 23.1

ABE2	San Pablo	1.37 307	*e*P	Pn	21 44 03.1	-0.5
CVTV	Tajo	1.37 324	*e*P	Pn	21 44 03.8	0.0
CVTQ	Turrialba Volc	1.38 324	*e*P	Pn	21 44 04.1	+0.2
VTLA	Turrialba Volc	1.38 324	*e*P	Pn	21 44 04.0	0.0
VTR0	Volcan Turrial	1.39 324	*e*P	Pn	21 44 04.3	+0.2
VICA	Volcano Irazu	1.41 321	*e*P	Pn	21 44 04.0	-0.4
CVTG	V. Turrialba,	1.50 327	*e*P	Pn	21 44 05.9	+0.6
MESA3	La Mesa, Verag	1.88 113	*e*P	Pn	21 44 10.7	+0.2
MESA3			*e*S	Sn	21 44 33.8	0.0
GMAL	Guarumal, Vera	2.02 123	*e*P	Pn	21 44 11.8	-0.6
GMAL			*e*S	Sn	21 44 36.8	-0.5
CALO3	Calobre, Verag	2.15 105	*e*P	Pn	21 44 15.5	+1.3
JTS	Las Juntas de	2.43 305	*e*P	Pn	21 44 19.1	+1.0
CHIT3	Chitre	2.66 110	*e*P	Pn	21 44 22.1	+0.9
AZU	Azuero	2.85 112	*e*P	Pn	21 44 25.0	+1.1
BCIP	Isla Barro Col	3.08 85	*e*P	Pn	21 44 26.8	-0.1

KRNET ***21*** *22:04:52.8±0.1, 39°.26N×71°.48E, h11km, mb2.5*
SOME ***21*** *22:04:53.1, 39°.40N×71°.97E, h15km*
NNC ***21*** *22:04:59.9±8.7, 39°.49N×71°.83E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=69.8km s-min=48.3km az=28.0
ISC 21 22:04:51.5±1.7, 39°.32N±0°.06×71°.39E±0°.04, h7km±12km, n18, σ1§74/33, 17C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.35	63	↑*i*P	Pg	22 04 59.3	+0.7
DRK				↑*i*S	Sb	22 05 04.4	-1.8
BTK	Batken	0.86	329	↓*i*P	Pn	22 05 11.1	+1.0
BTK				↓*i*S	Sn	22 05 24.4	+1.5
GAR	Garm	0.90	249	↑*i*P	Pn	22 05 10.9	+0.3
GAR				↑*i*S	Sn	22 05 24.0	+0.1
OHH	Osh	1.61	41	↑*i*P	Pg	22 05 23.2	+0.8
OHH				↑*i*S	Sg	22 05 45.3	+2.0
SFK	Sufi-Kurgan	1.77	66	↓*e*P	Pg	22 05 25.6	+0.1
SFK				↓*e*S	Sg	22 05 49.3	+0.9
TRKS	Terek-Say	2.21	355	↑*e*P	Pg	22 05 33.2	-0.8
TRKS				↑*e*S	Sg	22 06 02.4	-0.3
SALK	Salom-Alik	2.43	49	↓*e*P	Pb	22 05 35.8	+0.2
SALK				↓*e*S	Sb	22 06 07.0	+1.2
ARK	Arkit	2.51	10	↑*e*P	Pb	22 05 37.5	+0.5
ARK				↑*e*S	Sg	22 06 11.0	-1.2
IUG	Iuzhnay	3.01	340	Pg	Pg	22 05 49.5	+0.4
	29nm,0.4s						
IUG				Lg	Lg	22 06 30.4	
	106nm,0.8s						
MNAS	Manas	3.27	15	↑*e*P	Pb	22 05 48.4	-1.6
MNAS				↑*e*S	Sb	22 06 29.0	-1.1
ARLS	Aral	3.38	40	↑*e*P	Pb	22 05 48.9	-2.9
ARLS				↑*e*S	Sb	22 06 29.9	-3.2
DZA	Taraz	3.57	359	*e*P	Pb	22 05 56.8	+1.8
	9.2nm,0.1s						
DZA				*e*S	Sg	22 06 42.8	-3.3
	36nm,0.2s						
MRKS	Merke	3.69	21	Pg	Pb	22 05 57.2	+0.1
	2.5nm,0.5s						
MRKS				Lg	Lg	22 06 43.7	
	7.2nm,0.6s						
MRKS	Merke	3.69	21	*e*P	Pb	22 05 57.2	+0.1
	2.6nm,0.2s						
MRKS				*e*S	Sb	22 06 43.7	+1.7
	7.5nm,0.3s						
KK31	Karatay Array	3.84	350	↑Pn	Pb	22 05 59.6	+0.1
	0.8nm,0.2s,baz=178,slow=13,SNR=14						
KK31				Pg	Pg	22 06 06.8	+1.8
	1.0nm,0.3s,baz=170,slow=14,SNR=6.7						
KK31				↓Sn	Sb	22 06 48.6	+2.5
	1.7nm,0.3s,baz=170,slow=23,SNR=5.5						
KK31				↑Lg	Lg	22 06 59.7	
	4.7nm,0.5s						
BRLS	Boroldav	3.89	343	Pg	Pb	22 05 57.1	-3.3
	2.4nm,0.2s						
BRLS				Lg	Lg	22 06 43.3	
	7.1nm,0.7s						
BRLS	Boroldav	3.89	343	*e*P	Pb	22 06 00.0	-0.3
	1.0nm,0.2s						
BRLS				*e*S	Sb	22 06 45.0	-2.6
	7.7nm,0.4s						
AAK	Ala-Archa	4.06	34	↓Pn	Pb	22 06 01.4	-2.1
	3.7nm,0.7s						
AAK				↑Lg	Lg	22 06 57.7	
	12nm,1.3s						

VAO ***21*** *22:17:30.9±0.6, 15°.20S×72°.97W, h54km±5km, mb5.1*
RSNC ***21*** *22:17:31.1±0.9, 15°.S±10°×7°.3W±°, h59km±7km, M4.8, mb5.0, mB5.4, ML4.5, MLv5.4, Mw(mB)5.2, MwMwp4.8, Mwp5.1, Hypocentre not reviewed by the ISC*
NEIC ***21*** *22:17:32.2, 15°.20S×73°.07W, h80km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^16^Nm; Mrr=6.94; Mθθ=1.02; Mφφ=5.92; Mrθ=1.55; Mθφ=-2.04; Mφr=-3.20; Fault plane solution: M0=7.67000×10^16^ NP1: φs=162.55000°, δ=31.31000°, λ=-85.64000°. NP2: φs=337.44000°, δ=58.79000°, λ=-92.65000°. Principal axes: T 7.5266, Plg=14.0000°, Azm=69.0000°; N 0.2966, Plg=2.0000°, Azm=339.0000°; P -7.8232, Plg=76.0000°, Azm=240.0000°;*
NEIC ***21*** *22:17:32.2, 15°.30S×73°.07W, h80km*
NEIC ***21*** *22:17:33.7±1.5, 15°.27S±0°.06×72°.99W±0°.07, h77km±4km, mb5.4/523, Mww5.2/32, Error ellipse: s-maj=10.6km s-min=7.0km az=51.0*
MOS ***21*** *22:17:34.3±1.4, 15°.30S×73°.10W, h99km, mb5.2/37, Error ellipse: s-maj=12.2km s-min=5.4km az=114.5*
IDC ***21*** *22:17:36.9±0.4, 15°.27S×72°.86W, h108km±3km, mb4.7/27, mbtmp5.0/32, MS4.1/22, Error ellipse: s-maj=12.9km s-min=8.1km az=53.0*
GCMT ***21*** *22:17:37.7±0.1, 15°.27S±0°.01×73°.11W±0°.01, h115km±1km, MW5.3/136, Moment Tensor Solution. s115,c154; s136,c212; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; Mrr=0.78±.01; Mθθ=0.14±.02; Mφφ=0.64±.02; Mrθ=0.24±.01; Mθφ=-0.47±.01; Mφr=-0.47±.01; Best double couple: M0=1.00300×10^17^ NP1:φs=146.00000°, δ=29.00000°, λ=-95.00000°. NP2:φs=332.00000°, δ=61.00000°, λ=-87.00000°. Principal axes: T 1.0730, Plg=16.0000°, Azm=60.0000°; N -0.1420, Plg=2.0000°, Azm=150.0000°; P -0.9320, Plg=74.0000°, Azm=248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
SJA ***21*** *22:17:50.3±0.3, 15°.33S×72°.92W, h101km, MW5.2(GFZ)*
ISC 21 22:17:35.6±0.3, 15°.26S±0°.04×72°.93W±0°.05, h101km±2km, h101km:pP-P, n982, σ1§05/960, mb5.3/275, 18C-8D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	3.97	142		Pn	22 18 33.9	-0.5
AP01				Sn	Sn	22 19 18.8	-1.1
PB18	Visviri	4.04	125	Pn	Pn	22 18 37.9	+2.0
PB12	IPOC Station P	4.17	144	Pn	Pn	22 18 36.0	-1.2
PB12				Sn	Sn	22 19 22.7	-2.2
LPAZ	La Paz	4.74	103	Pn	Pn	22 18 48.2	+2.8
LPAZ	La Paz	4.74	103	P	Pn	22 18 47.6	+2.3
	201nm,0.4s,baz=284,slow=9.3,SNR=511						
LPAZ				S	Sn	22 19 25.8	-14
	128nm,0.5s,baz=259,slow=8.4,SNR=6.3						
LPAZ	La Paz	4.74	103	*e*P	Pn	22 18 40.7	-4.6
LPAZ	La Paz	4.74	103	P		22 18 48.0	
NNA	Nana	5.00	310	Pn	Pn	22 18 45.8	-2.7
NNA				Sn	Sn	22 19 41.3	-3.8
NNA	Nana	5.00	310	P	Pn	22 18 47.3	-1.1
	98nm,0.5s,baz=138,slow=8.4,SNR=20						
NNA				S	Sn	22 19 32.8	-12
	350nm,0.4s,baz=150,slow=12,SNR=6.0						
NNA	Nana	5.00	310	*d*iP	Pn	22 18 45.4	-3.0
NNA				pmax	pmax		
	comp=Z,88nm,0.8s						
NNA	Nana	5.00	310	P		22 18 45.3	
PB11	IPOC Station P	5.46	146	Pn	Pn	22 18 52.6	-2.2
PB11				Sn	Sn	22 19 53.2	-3.2
TA02	Huaiquique	5.66	152		Pn	22 18 55.0	-2.2
TA02				Sn	Sn	22 19 57.1	-3.8
TA01	Diego Aracena	5.90	154	Pn	Pn	22 18 58.5	-2.0
PB08	IPOC Station P	6.05	144		Pn	22 19 01.2	-1.7
PB08				Sn	Sn	22 20 07.1	-3.9
PB01	IPOC Station P	6.62	151		Pn	22 19 07.9	-2.6
PB09	IPOC Station P	7.39	152		Pn	22 19 19.6	-1.3
CZSB	Cruzeiro do Su	7.48	2	Pn	Pn	22 19 20.4	-1.8
CZSB	Cruzeiro do Su	7.48	2	*e*P	Pn	22 19 17.5	-4.7
CZSB	Cruzeiro do Su	7.48	2	P		22 19 20.0	
	comp=Z,4μmcomp=Z,6μmcomp=Z,504nm,0.8s						
ETMB	Extrema	8.50	51	Pn	Pn	22 19 35.9	0.0
AF01	San Pedro de A	8.88	150	Pn	Pn	22 19 43.9	+2.6
PB14	IPOC Station P	9.62	166		Pn	22 19 49.0	-2.5
ATAH	Atahualpa	9.69	326	P	Pn	22 19 52.5	0.0
	comp=Z,6.4nm,0.6s,baz=150,slow=11,SNR=22						
ATAH				S	Sn	22 21 32.2	-7.5
	comp=Z,34nm,0.7s,baz=131,slow=19,SNR=1.1						
GO02	Mina Guanaco	10.34	163		Pn	22 19 58.1	-3.2
AC01	Pan de Azucar	11.06	169		Pn	22 20 06.4	-4.2
TBTG	Tabatinga, AM	11.39	15		Pn	22 20 11.5	-3.8
SIV	San Ignacio	11.45	95	P	Pn	22 20 14.3	-1.8
	comp=Z,64nm,0.4s,baz=267,slow=12,SNR=144						
SIV				LR	LR	22 25 22.2	
	comp=Z,2μm,20.0s,baz=286,slow=41						
AC02	Maricunga	12.06	164		Pn	22 20 24.9	+0.4
VILB	Vilhena	12.56	81		Pn	22 20 28.9	-1.9
VILB	Vilhena	12.56	81	*e*P	Pn	22 20 28.2	-2.7
AC04	Llanos de Chal	13.00	173	Pn	Pn	22 20 32.5	-4.0
PTLB	Pontes e Lacer	13.31	93		Pn	22 20 38.7	-1.9
PTLB	Pontes e Lacer	13.31	93	*e*P	Pn	22 20 37.9	-2.7
AHML	Florco Mollo	13.48	150	*e*P	Pn	22 20 41.5	-1.3
LCO	Las Campanas	13.85	172		Pn	22 20 45.7	-2.1
LCO	Las Campanas	13.85	172	P	Pn	22 20 45.7	-2.1
VCA	Vinchina	14.11	163	*e*P	Pn	22 20 52.1	+1.0
COHC	Cochancay	14.15	333		Pn	22 20 52.8	+1.2
TEFE	Tefe	14.25	36	*e*P	Pn	22 20 49.6	-3.2
CO05	La Serena	14.68	174	P	Pn	22 20 59.8	+1.6
CYA	Choya	14.69	154	*e*P	Pn	22 20 59.0	+0.6
AGUA	GUANDACOL	14.74	165	*e*P	Pn	22 20 59.4	+0.2
CO01	Juntas del Tor	14.88	170		Pn	22 20 59.1	-2.0
GO04	Tololo Observa	14.98	173		Pn	22 20 59.6	-2.6
PIAT	Ana Tenorio	15.11	339	P		22 21 06.2	
	comp=Z,36nm,0.9s						
ACLC	CERRO LA CRUZ	15.14	160	*e*P	Pn	22 21 04.3	0.0
AROD	Rodeo	15.18	168	*e*P	Pn	22 21 05.1	+0.2
CO06	Fray Jorge	15.39	176		Pn	22 21 04.3	-3.0
SLOR	San Lorenzo -	15.44	339		P	22 21 10.6	-0.3
CO03	El Pedregal	15.65	173		Pn	22 21 07.9	-2.7
PPLP	Puerto Lpez	15.67	330	P		22 21 12.2	
	comp=Z,50nm,0.9s						
ACCO	Cerro Coronel	15.67	168	*e*P	Pn	22 21 11.2	+0.2
MURT	Porto Murtinho	15.86	116	*e*P	Pn	22 21 10.8	-2.4
AVFE	Valle Fertil	16.14	163	*e*P	Pn	22 21 16.4	-0.2
PDRB	Porto dos Gac	16.17	79	*e*P	Pn	22 21 13.6	-3.5
APLL	PUNTA DE LOS L	16.18	160	*e*P	Pn	22 21 16.2	-0.9
BDQN	Bodoquena, MS	16.24	111	*e*P	Pn	22 21 15.4	-2.5
OTAV	Otavalo	16.33	340	P	Pn	22 21 18.6	-0.9
OTAV	Otavalo	16.33	340	P	Pn	22 21 18.6	-0.9
OTAV				pmax	pmax		
	comp=Z,21nm,1.1s						
OTAV	Otavalo	16.33	340	*e*P	Pn	22 21 16.4	-3.1
OTAV	Otavalo	16.33	340	P		22 21 22.4	
	comp=Z,601nmcomp=Z,20nm,1.3s						
SALV	Santo Antonio	16.62	95	*e*P	Pn	22 21 20.9	-1.7
ZON	Zonda	16.68	167	P	Pn	22 21 21.3	-2.0
ZON	Zonda	16.68	167	P	Pn	22 21 21.3	-2.0
ZON				pmax	pmax		
	comp=Z,75nm,1.3s						
RTLS	Leoncito	16.80	169	*e*P	Pn	22 21 25.0	0.0
CFA	Coronel Fontan	16.83	166	P	Pn	22 21 24.6	-0.6
	comp=Z,20nm,0.4s,baz=340,slow=11,SNR=54						
FLOC	Florencia	16.94	351	P	Pn	22 21 26.3	-0.3
FLOC	Florencia	16.94	351	P		22 21 29.3	
	comp=Z,366nmcomp=Z,91nm,1.5s						
GCUF	Volcan Galeras	16.95	345	P		22 21 33.2	
	comp=Z,2μmcomp=Z,173nm,1.1s						
MACA	Manacapuru-AM	17.03	46		Pn	22 21 25.7	-2.0
MACA	Manacapuru-AM	17.03	46	*e*P	Pn	22 21 25.3	-2.3
CRUC	La Cruz	17.18	346	P		22 21 36.5	
AUSP	Uspallata	17.20	170	*e*P	Pn	22 21 29.3	-0.6
AQDB	Aquidauana	17.20	110	P	Pn	22 21 27.9	-1.8
AQDB				IAmb	IAmb	22 21 30.3	
	comp=Z,237nm,1.1s						
AQDB	Aquidauana	17.20	110	*e*P	Pn	22 21 28.2	-1.5
CLDB	Colider	17.25	77	*e*P	P	22 21 29.4	-1.0
VA06	Catapilco	17.29	175	P	P	22 21 28.8	-1.8
MACC	Macarena, Meta	17.31	357	P		22 21 30.5	
	comp=Z,46nm,1.3s						
GARC	Garzon, Huila	17.51	351	P		22 21 36.7	
	comp=Z,2μmcomp=Z,59nm,1.4s						
VA03	San Esteban	17.57	173	P	P	22 21 32.0	-1.8
VA03	San Esteban	17.57	173	*e*P	P	22 21 32.6	-1.2
ASAL	Salagasta	17.66	169	*e*P	P	22 21 35.0	+0.2
BBAC	Balboa, Cauca	17.69	346	P		22 21 39.0	
	comp=Z,989nmcomp=Z,125nm,1.0s						
VA01	Torpederas	17.73	176	P	P	22 21 32.6	-2.8
VA01				IAmb	IAmb	22 22 01.1	
	comp=Z,131nm,0.4s						
ROC1	El Roble	17.73	175	*e*P	P	22 21 34.1	-1.6
ARCO	CERRO ARCO	17.88	169	*e*P	Pn	22 21 37.9	-0.2
PEL	Peldehue	17.93	174	P	P	22 21 35.8	-1.9
PEL	Peldehue	17.93	174	*e*P	P	22 21 37.3	-0.4
PEL	Peldehue	17.93	174	P	P	22 21 35.8	-1.9
PEL				pmax	pmax		
	comp=Z,83nm,1.1s						
MT02	Curacav	18.00	175	P	P	22 21 37.1	-1.3
POPC	Popayan, Colom	18.06	348	P		22 21 42.1	
	comp=Z,1μmcomp=Z,53nm,1.1s						
AAGR	Agrelo	18.14	169	*e*P	Pn	22 21 41.0	0.0
MT05	Renca	18.17	174		P	22 21 39.3	-1.0
MT05				IAmb	IAmb	22 21 42.4	
	comp=Z,213nm,1.4s						
MT16	CCHEN	18.23	174	P	P	22 21 37.7	-3.3
CPUP	Villa Florida	18.26	130	P	P	22 21 40.1	-1.3
CPUP	Villa Florida	18.26	130	P	P	22 21 40.8	-0.6
	comp=Z,6.2nm,0.5s,baz=302,slow=12,SNR=17						
CPUP	Villa Florida	18.26	130	*e*P	P	22 21 39.1	-2.3
MT03	Universidad Ad	18.29	174		P	22 21 40.0	-1.7
MT08	Bocatoma Ro	18.30	172	P	P	22 21 40.6	-1.4
VA05	Santo Domingo	18.36	177	P	P	22 21 40.2	-2.1
URMC	La Uribe, Meta	18.44	355	P		22 21 45.2	
	comp=Z,1μmcomp=Z,75nm,1.3s						
SJPY	San Joaquin	18.52	124	*e*P	P	22 21 44.0	-0.2
MT09	Talagante	18.52	175	P	P	22 21 42.7	-1.7
MT13	San Alfonso	18.56	173	P	P	22 21 43.8	-0.9
MT01	Popeta	18.59	176	P	P	22 21 43.7	-1.2
LMEL	Las Melosas	18.68	173	P	P	22 21 45.2	-0.8
JAMC	Jamundi, Valle	18.72	348	P		22 21 49.2	
	comp=Z,1μmcomp=Z,52nm,1.1s						
BO04	La Punta	18.77	174	P	P	22 21 45.5	-1.4
PRAC	Prado	18.95	354	P		22 21 51.9	
	comp=Z,2μmcomp=Z,107nm,1.3s						
RPRD	Ribas do Rio P	19.02	109	*e*P	P	22 21 49.9	+0.1
NPGB	Novo Progresso	19.06	67	*e*P	P	22 21 49.6	-0.7
VA04	Juan Fernndez	19.07	195	P	P	22 21 48.3	-1.8
VA04				IAmb	IAmb	22 21 57.3	
	comp=Z,155nm,0.5s						
BO01	Tunca	19.13	175	P	P	22 21 49.1	-1.6
ORTC	Ortega, Tolima	19.18	353	P		22 21 53.8	
	comp=Z,5μmcomp=Z,449nm,1.4s						
YOTC	Yotoco, Valle	19.41	350	P		22 21 58.7	
	comp=Z,436nmcomp=Z,32nm,1.0s						
C2SB	Chapadao do Su	19.53	103	*e*P	P	22 21 54.8	-0.5
BO02	Sierra Bellavi	19.55	175	P	P	22 21 55.4	0.0
BO02					PcP	22 26 10.5	-1.2
ROSC	El Rosal	20.01	356	P	Pn	22 22 03.5	-0.1
ROSC				IAmb	IAmb	22 22 15.9	
	comp=Z,137nm,1.2s						
ROSC	El Rosal	20.01	356	P	Pn	22 22 03.8	+0.3
	comp=Z,23nm,0.5s,baz=184,slow=3.1,SNR=21						
	comp=Z,23nm,0.5s						
ROSC	El Rosal	20.01	356	P		22 22 04.1	
	comp=Z,2μmcomp=Z,108nm,1.3s						
ITTB	Itaituba	20.08	59	*e*P	P	22 22 00.5	-0.8
PLMC	San Jos del P	20.30	350	P		22 22 05.0	
	comp=Z,2μmcomp=Z,167nm,1.3s						
ARAG	Araguaiana, MT	20.36	94	*e*P	P	22 22 02.5	-1.8
ML02	Panimavida	20.47	176	P	P	22 22 04.8	-0.4
ML02				IAmb	IAmb	22 22 09.4	
	comp=Z,216nm,0.8s						
GUY2C	Guyana, Caldas	20.49	353	P		22 22 09.2	
	comp=Z,4μmcomp=Z,415nm,1.3s						
NORC	Norcasia	20.77	355	P		22 22 10.2	
	comp=Z,1μmcomp=Z,98nm,1.4s						
RUSC	La Rusia	21.01	360	P	P	22 22 11.0	-0.8
RUSC	La Rusia	21.01	360	P		22 22 12.0	
	comp=Z,2μmcomp=Z,60nm,1.0s						
CBOC	Ciudad Bolivar	21.20	352	P		22 22 14.7	
	comp=Z,226nm,1.1s						
SNDB	Serra Nova Dou	21.28	84	*e*P	P	22 22 13.0	-1.1
BI02	San Fabin de	21.37	176	P	P	22 22 13.7	-1.4
BI05	Punta Hualpn	21.41	181	P	P	22 22 13.5	-1.7
BI05				IAmb	IAmb	22 22 17.9	
	comp=Z,195nm,1.1s						
BOAV	Boa Vista	21.41	36	P		22 22 16.3	
	comp=Z,3μmcomp=Z,203nm,1.0s						
BOAV	Boa Vista	21.41	36	P	P	22 22 16.1	+0.5
BOAV				IAmb	IAmb	22 22 22.1	
	comp=Z,190nm,1.1s						
BOAV	Boa Vista	21.41	36	*e*P	P	22 22 16.2	+0.7
PTBC	PUERTO BERRIO,	21.70	356	P		22 22 18.1	
	comp=Z,1μmcomp=Z,91nm,1.3s						
PTGB	Pitanga	21.73	119	*e*P	P	22 22 18.3	-0.7
ITRB	Iturama	21.97	105	*e*P	P	22 22 21.1	-0.4
LDASE	Londrina, Braz	22.10	115	*e*P	P	22 22 21.5	-1.4
DBBC	Dabeiba	22.36	351	P		22 22 28.0	
PAYG	Puerto Ayora	22.44	309	P	P	22 22 25.1	-1.3
PAMC	Pamplona, Colo	22.45	1	P		22 22 28.8	
TBOT	Tacuaremb	22.54	139	*e*P	P	22 22 28.4	+1.1
ZARC	Zaragoza, Cauc	22.68	355	P		22 22 28.9	
	comp=Z,2μmcomp=Z,53nm,1.3s						
MAL2	Monte Alegre,	22.70	56	P	P	22 22 28.4	-0.7
ITAB	Concordia	22.72	125	P	P	22 22 28.6	-0.5
ITAB	Concordia	22.72	125	*e*P	P	22 22 28.7	-0.5
PTAC	Punta Ardita,	22.77	347	P		22 22 36.7	
	comp=Z,1μmcomp=Z,120nm,1.3s						
APAC	Apartado, Choc	23.29	351	P		22 22 38.5	
	comp=Z,2μmcomp=Z,74nm,1.0s						
CPSB	Cacapava Do Su	23.40	133	*e*P	P	22 22 36.0	+0.3
FRTB	Fartura	23.45	114	*e*P	P	22 22 35.1	-1.1
IPMB	Ipameri, GO	23.84	100	*e*P	P	22 22 39.4	-0.4
BB19B	Bebedouro	23.88	108	*e*P	P	22 22 39.8	-0.4
BDFB	Brasilia	24.02	94	P	P	22 22 40.5	-1.0
BDFB				IAmb	IAmb	22 22 44.6	
	comp=Z,161nm,1.5s						
BDFB	Brasilia	24.02	94	P	P	22 22 41.0	-0.5
	comp=Z,37nm,0.5s,baz=268,slow=9.3,SNR=28						
BDFB				LR	LR	22 33 06.6	
	comp=Z,582nm,18.0s,baz=304,slow=39						
	comp=Z,37nm,0.5s						
BDFB	Brasilia	24.02	94	P	P	22 22 41.0	-0.5
AZU	Azuero	24.02	342	P		22 22 43.5	
	comp=Z,829nmcomp=Z,24nm,1.9s						
SDV	Santo Domingo	24.09	6	P		22 22 42.3	
	comp=Z,64nm,1.1s						
SDV	Santo Domingo	24.09	6	P	P	22 22 42.0	-0.2
SDV	Santo Domingo	24.09	6	*e*P	P	22 22 42.2	0.0
PLTB	Pedras Altas	24.10	136	P	P	22 22 41.2	-0.8
PLTB	Pedras Altas	24.10	136	*e*P	P	22 22 42.2	+0.2
BAUV	El Baul	24.52	12	P	P	22 22 45.8	-0.1
LR04	Corral	24.54	181	P	P	22 22 44.9	-0.8
LR04				IAmb	IAmb	22 22 46.7	
	comp=Z,156nm,1.0s						
TRQA	Tornquist	24.69	159	P	P	22 22 45.6	-1.7
TRQA	Tornquist	24.69	159	P	P	22 22 45.6	-1.7
TRQA				pmax	pmax		
	comp=Z,40nm,1.0s						
CNLB	Canela	24.70	128	*e*P	P	22 22 47.5	0.0
LR05	Currie	24.90	178	P	P	22 22 48.1	-1.0
SJCC	San Jacinto, C	25.09	355	P		22 22 53.1	
MAJ01	Sao Joao Batis	25.29	122	*e*P	P	22 22 53.7	+0.9
SPB	Sao Paulo	25.41	113	P	P	22 22 54.4	+0.5
SPB				IAmb	IAmb	22 22 59.6	
	comp=Z,85nm,0.8s						
SPB	Sao Paulo	25.41	113	*e*P	P	22 22 55.1	+1.3
PLCA	Paso Flores	25.47	176	P	P	22 22 53.3	-1.0
PLCA				IAmb	IAmb	22 22 55.7	
	comp=Z,213nm,1.2s						
PLCA	Paso Flores	25.47	176	P	P	22 22 53.5	-0.9
	comp=Z,83nm,1.0s,baz=349,slow=9.8,SNR=68						
PLCA				PcP	PcP	22 26 24.3	+0.5
	comp=Z,4.0nm,0.7s,baz=313,slow=2.4,SNR=3.4						
	comp=Z,83nm,1.0s						
PLCA	Paso Flores	25.47	176	*e*P	P	22 22 54.3	0.0
PMNB	Patos De Minas	25.55	101	*e*P	P	22 22 55.7	+0.4
LL04	Puerto Octay	25.57	179	P	P	22 22 53.7	-1.4
LL04				IAmb	IAmb	22 22 56.2	
	comp=Z,133nm,1.2s						
SMTB	Santa Maria do	25.57	79	*e*P	P	22 22 55.7	+0.3
TER01	Tubaro-SC	25.67	125	*e*P	P	22 22 57.0	+0.7
VAO	Valinhos	25.68	111	P	P	22 22 56.4	-0.1
VAO	Valinhos	25.68	111	*e*P	P	22 22 57.2	+0.6
LL03	Petrohue	25.80	179	P	P	22 22 56.5	-0.7
LL03				IAmb	IAmb	22 23 21.1	
	comp=Z,178nm,1.1s						
LL05	Los Muermos	26.06	181	P	P	22 22 58.2	-1.4
PCRV	Puerto La Cruz	26.57	19	P	P	22 23 05.4	+1.0
	comp=Z,11nm,0.6s,baz=207,slow=4.5,SNR=1.9						
PCRV				LR	LR	22 35 13.3	
	comp=Z,407nm,18.9s,slow=40						
	comp=Z,11nm,0.6s						
LL06	Loncomilla	26.87	181	P	P	22 23 06.0	-

comp=Z,19nm,1.0s
CMIG Matias Romero 38.76 325 P P 22 24 51.0 +0.6
comp=Z,26nm,0.8s,baz=129,slow=5.4,SNR=48
CMIG pP **pP 22 25 16.6 +1.7**
comp=Z,8.7nm,0.8s,baz=130,slow=3.1,SNR=2.7
CMIG PcP **PcP 22 27 01.0 +0.9**
comp=Z,2.4nm,0.7s,baz=134,slow=1.6,SNR=3.6
CMIG LR LR 22 39 29.7
comp=Z,178nm,20.1s,baz=176,slow=34
comp=Z,26nm,0.8s
TLIG Tlapa 41.26 321 P P 22 25 11.1 -0.2
ZAIG Zacatecas 47.64 322 P P 22 26 02.4 +0.1
ZAIG IAmb IAmb 22 26 05.3
comp=Z,27nm,0.9s
HOPE Hope Point 48.16 152 P P 22 26 07.1 +1.7
HOPE pP **pP 22 26 32.3 +1.9**
HOPE PcP **PcP 22 27 32.7 +1.4**
HBVL Hebbronville 48.93 329 P P 22 26 11.0 -0.7
HBVL IAmb IAmb 22 26 14.1
comp=Z,50nm,0.9s
ESPZ Base Esperanza 49.36 171 P P 22 26 14.2 -0.2
LRAL Lakeview Retre 49.86 345 P P 22 26 18.2 -0.5
LRAL IAmb IAmb 22 26 19.5
comp=Z,29nm,1.1s
HKT Hockley 50.07 334 P P 22 26 20.3 0.0
HKT IAmb IAmb 22 26 22.7
comp=Z,39nm,1.4s
HKT Hockley 50.07 334⇑ *e*P P 22 26 20.4 +0.2
HKT pmax pmax
comp=Z,38nm,1.5s
VBMS Vicksburg 50.12 341 P P 22 26 20.2 -0.4
VBMS IAmb IAmb 22 26 37.3
comp=Z,20nm,0.7s
BIRD Birdtown, Kers 50.14 352 P P 22 26 20.9 +0.2
BIRD IAmb IAmb 22 26 48.0
comp=Z,27nm,1.0s
833A Chaparral WMA, 50.33 329 P P 22 26 22.2 -0.1
833A IAmb IAmb 22 26 24.2
comp=Z,56nm,0.9s
833A Chaparral WMA, 50.33 329 P P 22 26 22.9 +0.6
baz=146
MLDN Muldoon 50.47 333 P P 22 26 23.7 +0.4
MLDN IAmb IAmb 22 26 25.7
comp=Z,45nm,0.8s
FPAL Fort Paine 50.97 347 P P 22 26 26.8 -0.2
NATX Nacogdoches 51.18 336 P P 22 26 29.5 +0.9
NATX IAmb IAmb 22 26 31.0
comp=Z,82nm,1.4s
HNDO Hondo 51.27 330 P P 22 26 29.3 -0.1
V55A Taylorsville 51.43 351 P P 22 26 30.1 -0.3
V55A IAmb IAmb 22 26 57.9
comp=Z,44nm,1.4s
435B Jarrell 51.55 333 P P 22 26 31.5 +0.1
435B IAmb IAmb 22 26 33.1
comp=Z,27nm,1.0s
435B Jarrell 51.55 333 P P 22 26 32.1 +0.6
baz=149
CPCT Cooper Cave 51.61 348 P P 22 26 31.9 +0.1
TKL Tuckaleechee C 51.66 349 P P 22 26 31.6 -0.6
TKL Tuckaleechee C 51.66 349 P P 22 26 31.9 -0.2
comp=Z,7.3nm,0.9s,baz=181,slow=2.0,SNR=3.9
TKL LR LR 22 50 42.1
comp=Z,172nm,18.4s,baz=152,slow=38
comp=Z,7.3nm,0.9s
SWET Sewanee 51.69 346 P P 22 26 32.0 -0.4
SWET IAmb IAmb 22 26 58.7
comp=Z,24nm,1.0s
U56A King 51.80 352 P P 22 26 32.5 -0.7
U56A IAmb IAmb 22 26 35.0
comp=Z,33nm,1.1s
Z41A Richland Creek 51.84 339 P P 22 26 34.2 +0.7
DRIO Del Rio 51.84 329 P P 22 26 33.5 -0.1
DRIO IAmb IAmb 22 26 34.9
comp=Z,34nm,1.0s
237A Washetta, Mont 51.85 335 P P 22 26 33.7 0.0
PLAL Pickwick Lake 51.99 344 P P 22 26 33.4 -1.2
PLAL IAmb IAmb 22 26 34.6
comp=Z,29nm,1.1s
T59A Double "B" Far 52.13 355 P P 22 26 35.8 +0.3
T59A IAmb IAmb 22 26 37.3
comp=Z,25nm,0.7s
U54A Nelsons Funny 52.17 351 P P 22 26 35.4 -0.6
U54A IAmb IAmb 22 27 03.1
comp=Z,27nm,1.1s
JCT Junction City 52.31 330 P P 22 26 37.0 -0.1
JCT Junction City 52.31 330 P P 22 26 37.0 -0.1
JCT pmax pmax
comp=Z,18nm,1.1s
WLAR White Oak Lake 52.34 339 P P 22 26 37.3 +0.1
V48A Smith Brothers 52.40 346 P P 22 26 37.1 -0.5
V48A IAmb IAmb 22 27 03.9
comp=Z,36nm,1.0s
TREL Terrell 52.61 335 P P 22 26 39.1 -0.1
BRDY Brady 52.62 332 P P 22 26 39.0 -0.3
CLTN Cedars of Leba 52.62 346 P P 22 26 38.8 -0.4
HPIG 52.62 323 P P 22 26 39.5 -0.2
HPIG IAmb IAmb 22 26 41.6
comp=Z,33nm,1.2s
RCRC Randolf Colleg 52.74 354 P P 22 26 40.6 +0.5
FW14 Alvarado 52.77 334 P P 22 26 41.3 +0.9
FW14 IAmb IAmb 22 26 42.1
comp=Z,64nm,1.1s
FW13 Cleburne 52.83 334 P P 22 26 41.0 +0.2
FW13 IAmb IAmb 22 26 42.5
comp=Z,44nm,1.0s
X40A Basin Creek Fa 52.97 339 P P 22 26 42.1 +0.3
SMAI San Martin Ant 52.97 177 P P 22 26 41.6 +0.2
SLBS Sierra La Lagu 52.98 316 P P 22 26 42.8 +0.5
SLBS IAmb IAmb 22 26 45.7
comp=Z,49nm,1.2s
SLBS Sierra La Lagu 52.98 316 P P 22 26 43.5 +1.3
SLBS pP **pP 22 27 09.9 +1.9**
WVT Waverly 53.01 345 P P 22 26 40.8 -1.3
WVT Waverly 53.01 345 P P 22 26 40.8 -1.3
WVT pmax pmax
comp=Z,20nm,1.0s
WVT Waverly 53.01 345 P P 22 26 40.5 -1.6
WVT pP **pP 22 27 06.9 -1.0**
WVT PcP **PcP 22 27 49.3 -0.2**
SAND Sanderson 53.03 328 P P 22 26 42.0 -0.4
SAND IAmb IAmb 22 26 44.2
comp=Z,57nm,1.5s
S57A Dark Hollow, R 53.03 354 P P 22 26 42.5 +0.2
UALR University of 53.06 340 P P 22 26 42.1 -0.4
UALR IAmb IAmb 22 26 43.6
comp=Z,37nm,0.8s
R58B Mineral 53.14 355 P P 22 26 42.6 -0.4
MIAR Mount Ida 53.27 339 P P 22 26 43.7 -0.4
MIAR Mount Ida 53.27 339 P P 22 26 43.7 -0.4
MIAR pmax pmax
comp=Z,55nm,0.9s
FW07 Weatherford 53.28 334 P P 22 26 44.4 +0.2
OZNA Ozona 53.32 330 P P 22 26 44.9 +0.3
OZNA IAmb IAmb 22 26 45.9
comp=Z,49nm,1.3s
TXAR Lajitas Array 53.35 326 P P 22 26 44.5 -0.4
TXAR Lajitas Array 53.35 326 P P 22 26 45.4 +0.6
comp=Z,9.3nm,0.7s,baz=145,slow=9.2,SNR=66
TXAR pP **pP 22 27 12.1 +1.5**
comp=Z,8.8nm,0.7s,baz=144,slow=9.2,SNR=9.4
comp=Z,9.3nm,0.7s
TX31 Lajitas Ar. Si 53.35 326 P P 22 26 44.2 -0.7
FW06 Azle 53.42 334 P P 22 26 45.8 +0.6
LPIG La Paz 53.51 316 P P 22 26 47.1 +1.2
comp=Z,19nm,0.4s,baz=157,slow=7.7,SNR=6.5
comp=Z,19nm,0.4s
WHAR Wooly Hollow 53.52 340 P P 22 26 45.3 -0.5
WHAR IAmb IAmb 22 26 46.8
comp=Z,35nm,1.0s
PLPT Palo Pinto 53.61 333 P P 22 26 46.2 -0.4
PLPT IAmb IAmb 22 26 48.2
comp=Z,76nm,1.4s
R55A Marlinton 53.68 353 P P 22 26 48.0 +1.0
FW03 Perrin-Whitt E 53.69 334 P P 22 26 46.7 -0.5
FW03 IAmb IAmb 22 26 50.1
comp=Z,43nm,1.4s
HICK Hickman 53.77 344 P P 22 26 47.5 -0.2
LCAR Lake Charles 53.88 342 P P 22 26 47.1 -1.3
LCAR IAmb IAmb 22 26 48.9
comp=Z,25nm,1.0s
FCAR Ozark Folk Cen 54.01 341 P P 22 26 48.5 -0.9
PARMO Parma 54.02 343 P P 22 26 49.3 -0.1
T45A Paducah 54.06 344 P P 22 26 49.2 -0.6
SGCY Sterling City 54.13 330 P P 22 26 50.4 -0.1
SGCY IAmb IAmb 22 26 52.6
comp=Z,23nm,0.9s
ALPN Alpine 54.15 327 P P 22 26 51.3 +0.6
ALPN IAmb IAmb 22 26 52.3
comp=Z,40nm,1.2s
PBMO Poplar Bluff 54.32 343 P P 22 26 50.9 -0.7
PBMO IAmb IAmb 22 26 52.1
comp=Z,28nm,0.7s
Q56A Snyder Ridge, 54.33 354 P P 22 26 51.1 -0.6
Q56A IAmb IAmb 22 27 22.0
comp=Z,30nm,1.0s
MNHN Monahans 54.47 328 P P 22 26 52.8 -0.1
MNHN IAmb IAmb 22 26 55.4
comp=Z,24nm,0.9s
WTFS Witchita Falls 54.49 334 P P 22 26 53.0 +0.1
SDMD Soldier's Deli 54.50 356 P P 22 26 53.2 +0.3
CGM3 Cape Girardeau 54.59 344 P P 22 26 52.9 -0.7
CGM3 IAmb IAmb 22 26 54.1
comp=Z,31nm,1.0s
WCI Wyandotte Cave 54.66 347 P P 22 26 53.3 -0.8
WCI IAmb IAmb 22 27 20.5
comp=Z,50nm,1.1s
WCI Wyandotte Cave 54.66 347 P P 22 26 53.3 -0.8
WCI pmax pmax
comp=Z,50nm,1.1s
WCI Wyandotte Cave 54.66 347 P P 22 26 53.4 -0.7
USIN University of 54.72 346 P P 22 26 54.1 -0.4
T42A Van Buren 54.75 342 P P 22 26 54.0 -0.8
SN05 Snyder 5 54.82 331 P P 22 26 55.3 -0.1
SN05 IAmb IAmb 22 26 57.0
comp=Z,75nm,1.3s
APMT Aspermont 54.84 332 P P 22 26 55.8 +0.3
SIUC Southern Illin 54.87 344 P P 22 26 54.5 -1.1
X34A Smith Ranch, M 54.94 335 P P 22 26 56.9 +0.6
HHAR Hobbs 54.97 339 P P 22 26 56.1 -0.3
ODSA Odessa 54.99 329 P P 22 26 56.8 0.0
SN07 Snyder 07 55.00 331 P P 22 26 56.4 -0.3
SN07 IAmb IAmb 22 26 58.9
comp=Z,79nm,1.4s
P53A Whipple 55.02 352 P P 22 26 56.5 -0.2
W35A Tecumseh 55.04 336 P P 22 26 56.7 -0.2
PECS Pecos 55.06 328 P P 22 26 56.8 -0.4
VHRN Van Horn 55.19 326 P P 22 26 58.5 +0.2
VHRN IAmb IAmb 22 26 59.8
comp=Z,56nm,1.3s
MGMO Mountain Grove 55.22 341 P P 22 26 57.3 -0.9
MGMO IAmb IAmb 22 26 59.0
comp=Z,41nm,0.9s
POST Post 55.26 331 P P 22 26 58.4 -0.2
P51A Williamsport 55.27 350 P P 22 26 57.8 -0.6
P52A Corning 55.27 351 P P 22 26 58.8 +0.3
FNO Franklin 55.34 336 P P 22 26 58.0 -1.0
FVM French Village 55.45 343 P P 22 26 59.5 -0.3
FVM French Village 55.45 343 P P 22 26 59.5 -0.3
FVM pmax pmax
comp=Z,42nm,0.5s
WMOK Wichita Mounta 55.45 334 P P 22 26 59.4 -0.5
WMOK Wichita Mounta 55.45 334 P P 22 26 59.4 -0.5
WMOK pmax pmax
comp=Z,15nm,1.0s
DKNS Dickens 55.49 332 P P 22 27 00.1 -0.1
DKNS IAmb IAmb 22 27 01.0
comp=Z,38nm,1.1s
DEOK Depew 55.50 337 P P 22 27 00.1 -0.1
O54A Avella 55.58 353 P P 22 27 01.3 +0.6
O54A IAmb IAmb 22 27 09.9
comp=Z,38nm,1.5s
P49A Miami Univ. Ec 55.60 349 P P 22 27 00.2 -0.6
P49A IAmb IAmb 22 27 01.3
comp=Z,41nm,1.2s
OK031 S. Brethren Rd 55.73 337 P P 22 27 01.6 -0.2
CCM Cathedral Cave 55.75 343 P P 22 27 01.0 -0.9
CCM Cathedral Cave 55.75 343 P P 22 27 01.0 -0.9
CCM pmax pmax
comp=Z,23nm,1.1s
CCM Cathedral Cave 55.75 343 P P 22 27 01.0 -0.9
CCM pP **pP 22 27 27.8 -0.1**
CCM PcP **PcP 22 28 00.3 +0.3**
OK052 Battle Ridge R 55.75 337 P P 22 27 02.0 0.0
SSPA Standing Stone 55.79 355 P P 22 27 02.9 +0.7
SSPA pP **pP 22 27 29.2 +1.0**
HTMS Hat Mesa 55.82 329 P P 22 27 03.1 +0.4
OK029 Liberty Lake 55.83 336 P P 22 27 02.1 -0.4
CLN7 Carlsbad 7 55.86 328 P P 22 27 03.4 +0.4
QUOK Quay 55.87 337 P P 22 27 02.2 -0.7
ACSO Alum Creek Sta 55.99 351 P P 22 27 02.6 -1.0
ACSO IAmb IAmb 22 27 04.0
comp=Z,28nm,0.9s
SLM Saint Louis 56.01 344 P P 22 27 03.5 -0.2
SLM IAmb IAmb 22 27 04.3
comp=Z,61nm,1.3s
SLM Saint Louis 56.01 344 P P 22 27 03.5 -0.2
SLM pmax pmax
comp=Z,61nm,1.3s
CSTR Hydro, Custer 56.20 335 P P 22 27 05.3 +0.1
OK051 E0350 and S346 56.21 337 P P 22 27 04.9 -0.4
N53A Lisbon 56.26 353 P P 22 27 04.2 -1.2
CPRX Cap Rock 56.38 329 P P 22 27 07.4 +0.7
O48B Farmland 56.38 349 P P 22 27 05.3 -1.2
O48B IAmb IAmb 22 27 06.4
comp=Z,34nm,1.0s
SMWD Samnorwood 56.39 333 P P 22 27 06.4 -0.3
M57A Sunshine Farm, 56.44 356 P P 22 27 07.8 +1.1
M57A IAmb IAmb 22 27 35.2
comp=Z,52nm,1.1s
BLOK Blackwell 56.58 337 P P 22 27 07.8 -0.1
CROK Carrier 56.66 336 P P 22 27 08.1 -0.4
EPT El Paso 56.77 326 P P 22 27 09.2 -0.3
EPT IAmb IAmb 22 27 10.6
comp=Z,42nm,1.2s
AMTX Amarillo 56.85 332 P P 22 27 09.1 -0.8
AMTX IAmb IAmb 22 27 11.1
comp=Z,40nm,1.4s
N49A Columbus Grove 56.86 350 P P 22 27 09.2 -0.6
N49A IAmb IAmb 22 27 10.0
comp=Z,26nm,0.8s
ELIS Ellis County 56.86 334 P P 22 27 09.9 0.0
SFIN Lafayette 56.89 347 P P 22 27 09.0 -1.0
SFIN IAmb IAmb 22 27 09.4
comp=Z,18nm,0.6s
KAN13 South Haven SW 56.90 337 P P 22 27 09.3 -0.9
OK038 West end E0370 56.94 335 P P 22 27 09.2 -1.2
ALLY Alegheny Colle 57.01 354 P P 22 27 10.8 0.0
ALLY IAmb IAmb 22 27 11.9
comp=Z,56nm,1.2s
KAN17 Caldwell West 57.04 336 P P 22 27 11.1 -0.1
M52A Chesterland 57.04 352 P P 22 27 10.5 -0.5
M52A IAmb IAmb 22 27 11.2
comp=Z,23nm,1.1s
KAN14 Manchester OK 57.04 336 P P 22 27 10.7 -0.5
N47A Urbana 57.09 348 P P 22 27 09.9 -1.5
N47A IAmb IAmb 22 27 11.1
comp=Z,28nm,1.0s
KAN01 Argonia South 57.13 336 P P 22 27 11.5 -0.3
M50A Fremont 57.14 351 P P 22 27 10.8 -1.0
M50A IAmb IAmb 22 27 12.1
comp=Z,36nm,1.1s
NOKA Waynoka 57.15 335 P P 22 27 12.1 +0.1
SACV Santiago Islan 57.25 61 P P 22 27 14.9 +1.8
SACV IAmb IAmb 22 27 16.3
comp=Z,31nm,1.0s
KAN08 Anthony NE Sta 57.28 336 P P 22 27 13.0 +0.2
HSIG 57.33 320 P P 22 27 13.0 -0.3
HSIG IAmb IAmb 22 27 15.1
comp=Z,46nm,1.5s
KAN12 Harper NE Stat 57.35 336 P P 22 27 13.4 +0.1
L61B Northampton 57.42 0 P P 22 27 15.3 +1.7
baz=180
HDIL Hopedale 57.57 345 P P 22 27 13.2 -1.6
HDIL IAmb IAmb 22 27 14.5
comp=Z,21nm,0.8s
WVNY West Valley, N 57.61 355 P P 22 27 15.2 +0.2
319A Douglas 58.03 323 P P 22 27 18.7 +0.3
121A Cookes Peak, D 58.05 325 P P 22 27 18.1 -0.4
121A Cookes Peak, D 58.05 325 P P 22 27 19.5 +0.9
baz=140
N41A Harden Midland 58.11 344 P P 22 27 17.5 -1.0
N41A IAmb IAmb 22 27 18.5
comp=Z,43nm,1.0s
J55A Hilton 58.40 356 P P 22 27 20.6 +0.2
KSU1 Kansas State U 58.43 338 P P 22 27 19.7 -1.1
CRNM Carthage 58.58 327 P P 22 27 22.1 -0.1
RTBA Rita Blanca 58.62 332 P P 22 27 22.2 -0.2
RTBA IAmb IAmb 22 27 25.7
comp=Z,44nm,1.3s
BNM Barren Site 58.68 327 P P 22 27 23.3 +0.4
L44A Lake County Fo 58.79 347 P P 22 27 25.1 +1.9
baz=163
DUN6 Lazy B Ranch 58.79 324 P P 22 27 24.0 +0.3
SBM South Baldy 58.83 327 P P 22 27 24.8 +0.6
N38A Joes South For 58.86 342 P P 22 27 22.4 -1.4
N38A IAmb IAmb 22 27 24.7
comp=Z,28nm,1.1s
LENM Lemitar 58.87 327 P P 22 27 24.5 +0.3
PECO Prince Edward 59.02 357 P P 22 27 24.5 -0.2
PECO IAmb IAmb 22 27 26.8
comp=Z,38nm,0.9s
ANMO Albuquerque 59.21 328 P P 22 27 26.3 -0.2
ANMO IAmb IAmb 22 27 28.4
comp=Z,36nm,1.3s
ANMO Albuquerque 59.21 328 P P 22 27 27.0 +0.5
comp=Z,8.9nm,0.9s,baz=308,slow=11,SNR=23
ANMO pP **pP 22 27 54.6 +1.7**
comp=Z,4.4nm,0.7s,baz=299,slow=12,SNR=4.6
comp=Z,8.9nm,0.9s
ANMO Albuquerque 59.21 328*c* *i*P P 22 27 26.0 -0.5
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 59.21 328 P P 22 27 26.7 +0.2
ANMO pP **pP 22 27 53.8 +0.9**
ANMO sP **sP 22 28 06.5 +2.0**
ANMO PcP **PcP 22 28 14.1 +0.2**
CBKS Cedar Bluff 59.35 336 P P 22 27 27.2 0.0
CBKS Cedar Bluff 59.35 336 P P 22 27 27.2 0.0
CBKS pmax pmax
comp=Z,83nm,0.8s
K43A Burlington 59.39 347 P P 22 27 25.7 -1.7
L40A Anamosa 59.48 344 P P 22 27 27.2 -0.7
L40A IAmb IAmb 22 27 28.7
comp=Z,57nm,1.4s
TUC Tucson 59.58 323 P P 22 27 27.9 -1.1
TUC IAmb IAmb 22 27 30.8
comp=Z,24nm,1.1s
TUC Tucson 59.58 323 P P 22 27 27.9 -1.1
TUC pmax pmax
comp=Z,24nm,1.2s
TUC Tucson 59.58 323 P P 22 27 29.6 +0.5
TUC pP **pP 22 27 56.5 +1.2**
DELO Deloro Mine 59.64 356 P P 22 27 28.9 -0.1
DELO IAmb IAmb 22 27 56.5
comp=Z,39nm,1.1s
N35A Tabor 59.67 340 P P 22 27 28.8 -0.6
SCIA State Center 59.88 343 P P 22 27 30.2 -0.5
SCIA IAmb IAmb 22 27 31.7
comp=Z,31nm,1.2s
T25A Trinidad 59.96 331 P P 22 27 32.1 +0.4
T25A Trinidad 59.96 331 P P 22 27 32.6 +0.9
baz=145
SADO Sadowa 60.00 355 P P 22 27 30.8 -0.7
SADO IAmb IAmb 22 27 32.3
comp=Z,16nm,0.8s
MNTQ Montreal, Queb 60.47 359 P P 22 27 35.5 +0.8
MNTQ IAmb IAmb 22 28 03.7
comp=Z,48nm,1.1s
I42A Draeger Farm, 60.65 347 P P 22 27 36.1 +0.2
I42A IAmb IAmb 22 27 36.5
comp=Z,29nm,1.2s
KSCO Kaye Shedlock' 60.70 334 P P 22 27 36.8 +0.2
X18A Snowflake 60.74 325 P P 22 27 37.2 +0.2
X18A IAmb IAmb 22 27 39.4
comp=Z,47nm,1.1s
L34A Svendsen Farm, 60.91 340 P P 22 27 36.9 -0.9
H43A Windswept, Lux 60.96 348 P P 22 27 36.7 -1.4
H43A IAmb IAmb 22 27 37.8
comp=Z,32nm,1.1s
SDCO Great Sand Dun 60.96 331 P P 22 27 38.7 +0.1
BGNE Belgrade 61.02 339 P P 22 27 38.6 +0.1
I40A Norwalk 61.04 345 P P 22 27 37.8 -0.9
I40A IAmb IAmb 22 28 05.3
comp=Z,24nm,1.2s
X16A Lo Mia Camp, P 61.49 324 P P 22 27 42.7 +0.6
X16A IAmb IAmb 22 27 44.6
comp=Z,49nm,1.1s
S22A 4UR Ranch, Cre 61.59 330 P P 22 27 42.1 -0.8
S22A IAmb IAmb 22 27 44.9
comp=Z,30nm,1.1s
S22A 4UR Ranch, Cre 61.59 330 P P 22 27 43.6 +0.8
baz=142
113A Mohawk Valley, 61.68 321 P P 22 27 43.0 -0.2
113A IAmb IAmb 22 27 45.2
comp=Z,24nm,1.1s
Q24A Divide 61.78 332 P P 22 27 44.0 -0.1
Q24A Divide 61.78 332 P P 22 27 44.7 +0.6
baz=144
I37A Lemond, Waseca 61.88 343 P P 22 27 43.8 -0.4
I37A IAmb IAmb 22 27 44.8
comp=Z,55nm,1.4s
MVCO Mesa Verde 62.01 328 P P 22 27 46.0 +0.4
MVCO IAmb IAmb 22 27 47.5
comp=Z,60nm,1.2s
Y14A Wickenburg 62.05 323 P P 22 27 45.7 +0.1
Y14A IAmb IAmb 22 27 47.9
comp=Z,33nm,1.0s
OGNE Ogallala 62.09 335 P P 22 27 45.8 0.0
D62A Allapoint, All 62.15 3 P P 22 27 46.8 +0.9
E46A Sault Ste Mari 62.19 351 P P 22 27 45.7 -0.5
E46A IAmb IAmb 22 27 46.8
comp=Z,24nm,1.0s
WUAZ Wupatki 62.26 325 P P 22 27 47.6 +0.4
ECSD EROS Data Cent 62.57 341 P P 22 27 48.7 -0.2
ECSD IAmb IAmb 22 27 50.0
comp=Z,51nm,1.1s
K30B Basset 62.65 338 P P 22 27 49.6 +0.1
ISCO Idaho Springs 62.67 332 P P 22 27 49.3 -0.7
ISCO IAmb IAmb 22 27 51.4
comp=Z,34nm,1.2s
ISCO Idaho Springs 62.67 332 P P 22 27 49.3 -0.7
ISCO pmax pmax
comp=Z,34nm,1.3s
BRIGG Briggsdale 62.73 333 P P 22 27 51.0 +0.8
BLYC Blythe 62.81 322 P P 22 27 51.0 +0.3
BLYC IAmb IAmb 22 27 53.2
comp=Z,34nm,1.1s
SPMN Marine on St. 62.84 344 P P 22 27 49.8 -0.8
SPMN IAmb IAmb 22 27 51.3
comp=Z,37nm,1.1s
PV15 Paradox Valley 62.87 329 P P 22 27 51.9 +0.5
PV13 Radium Mtn., P 62.90 329 P P 22 27 52.3 +0.8
PV13 IAmb IAmb 22 27 53.5
comp=Z,49nm,1.0s
YUH Yuha Desert 62.92 320 P P 22 27 51.1 -0.3
YUH IAmb IAmb 22 27 53.9
comp=Z,30nm,1.3s
LDAQ Lac Daran 62.95 1 P P 22 27 51.9 +0.5
LDAQ IAmb IAmb 22 28 19.6
comp=Z,48nm,1.1s
PV07 Paradox Valley 63.03 329 P P 22 27 52.1 -0.3
PV11 David Mesa, Pa 63.03 329 P P 22 27 52.4 0.0
PV11 IAmb IAmb 22 27 55.2
comp=Z,31nm,1.1s
CBX Cerro Bola 63.16 319 P P 22 27 53.4 +0.2
CBX IAmb IAmb 22 27 56.0
comp=Z,78nm,1.4s
PV10 Paradox Valley 63.18 329 P P 22 27 52.4 -0.9
PV10 IAmb IAmb 22 27 54.7
comp=Z,54nm,1.1s
VLDQ Val d'Or 63.21 357 P P 22 27 53.6 +0.6
PV23 Carpenter Ridg 63.22 329 P P 22 27 54.0 +0.4
PV23 IAmb IAmb 22 27 54.8
comp=Z,32nm,1.2s
W13A Hualapai Mount 63.38 323 P P 22 27 55.2 +0.5
U15A North Rim 63.43 325 P P 22 27 55.9 +0.8
U15A IAmb IAmb 22 27 57.7
comp=Z,37nm,1.0s
N23A Red Feather La 63.70 333 P P 22 27 56.7 -0.1
N23A IAmb IAmb 22 28 00.5
comp=Z,29nm,1.1s
N23A Red Feather La 63.70 333 P P 22 27 57.5 +0.7
baz=144,SNR=14
E38A The Farm, Brul 63.82 346 P P 22 27 57.2 +0.1
PFO Pinyon Flats O 63.90 320 P P 22 27 58.5 +0.5
PFO IAmb IAmb 22 28 28.4
comp=Z,33nm,1.1s
PFO Pinyon Flats O 63.90 320 P P 22 27 59.0 +0.9
comp=Z,16nm,1.1s,baz=110,slow=3.9,SNR=6.5
PFO pP **pP 22 28 26.9 +2.3**
comp=Z,23nm,1.0s,baz=115,slow=4.9,SNR=8.2
comp=Z,16nm,1.1s
PFO Pinyon Flats O 63.90 320⇑ *i*P P 22 27 59.1 +1.1

PFO pmax pmax
comp=Z,52nm,1.1s
PFO Pinyon Flats O 63.90 320 P P 22 27 59.4 +1.4
PFO pP **pP 22 28 26.3 +1.7**
PFO sP **sP 22 28 38.0 +1.8**
SUSD Miller 63.97 340 P **P 22 27 58.7 +0.5**
KNB Kanab 64.15 325 P **P 22 28 00.2 +0.5**
KNB IAmb IAmb 22 28 02.5
comp=Z,64nm,0.9s
KNB Kanab 64.15 325 P **P 22 28 00.2 +0.5**
KNB pmax pmax
comp=Z,64nm,0.9s
O20A White River Ci 64.15 331 P **P 22 27 59.6 0.0**
O20A IAmb IAmb 22 28 01.7
comp=Z,46nm,0.9s
PKCU Pink Cliffs 64.18 326 P **P 22 28 00.5 +0.4**
PKCU IAmb IAmb 22 28 02.7
comp=Z,60nm,1.1s
F33A 5 Mile Ranch, 64.38 342 P **P 22 28 00.4 -0.4**
F33A IAmb IAmb 22 28 01.7
comp=Z,55nm,1.0s
LCMT Little Creek M 64.38 325 P **P 22 28 01.3 +0.2**
LCMT IAmb IAmb 22 28 03.6
comp=Z,30nm,0.9s
V12A Nelson 64.38 323 P **P 22 28 01.6 +0.5**
V12A IAmb IAmb 22 28 03.3
comp=Z,43nm,1.1s
SRU San Rafael Swe 64.48 328 P **P 22 28 01.8 -0.1**
SRU IAmb IAmb 22 28 03.7
comp=Z,37nm,0.8s
SRU San Rafael Swe 64.48 328 P **P 22 28 01.8 -0.1**
SRU pmax pmax
comp=Z,37nm,0.8s
ELS Elsinore Mount 64.53 320 P **P 22 28 02.8 +0.7**
MTPU Mount Pierson 64.55 326 P **P 22 28 02.5 -0.1**
Q16A Castle Valley 64.67 328 P **P 22 28 03.5 +0.5**
ICQ Pointe Anglais 64.68 4 P **P 22 28 03.7 +1.1**
ICQ IAmb IAmb 22 28 30.9
comp=Z,51nm,1.0s
P18A Preston Nutter 64.74 329 P **P 22 28 04.4 +0.8**
P18A IAmb IAmb 22 28 05.9
comp=Z,60nm,1.2s
MSU Marysvale 64.89 327 P **P 22 28 05.5 +0.9**
MSU Marysvale 64.89 327 P **P 22 28 05.5 +0.9**
TMUT Trail Mountain 64.97 328 P **P 22 28 05.5 +0.3**
SHPR Sheep Range 65.10 323 P **P 22 28 06.3 +0.4**
TCRU Three Creeks R 65.11 327 P **P 22 28 06.4 +0.4**
TCRU IAmb IAmb 22 28 08.5
comp=Z,53nm,1.0s
RDMU Red Mountain 65.13 330 P **P 22 28 06.0 -0.1**
RDMU IAmb IAmb 22 28 07.8
comp=Z,50nm,0.9s
GSC Goldstone, Bar 65.25 321 P **P 22 28 07.5 +0.7**
GSC Goldstone, Bar 65.25 321 P **P 22 28 07.5 +0.7**
GSC pmax pmax
comp=Z,25nm,1.1s
PASC Pasadena Art C 65.34 320 P **P 22 28 07.5 +0.2**
PASC IAmb IAmb 22 28 09.8
comp=Z,57nm,1.3s
K22A Casper 65.38 333 P **P 22 28 07.5 -0.1**
K22A IAmb IAmb 22 28 09.4
comp=Z,49nm,0.9s
BELA Belgrano 2 65.44 172 P **P 22 28 07.2 -0.1**
RSSD Black Hills 65.56 336 P **P 22 28 08.8 +0.1**
RSSD Black Hills 65.56 336 P **P 22 28 08.8 +0.1**
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 65.56 336 P **P 22 28 09.5 +0.8**
RSSD pP **pP 22 28 36.7 +1.3**
RSSD PcP **PcP 22 28 39.8 +0.2**
DRLN Deer Lake 65.66 11 P **P 22 28 09.0 0.0**
DRLN IAmb IAmb 22 28 37.6
comp=Z,85nm,1.2s
PRN Pahroc Range 65.67 324 P **P 22 28 10.4 +0.9**
PRN IAmb IAmb 22 28 12.3
comp=Z,34nm,1.1s
BSUT Blindstream Ca 65.69 329 P **P 22 28 10.2 +0.4**
BSUT IAmb IAmb 22 28 12.1
comp=Z,62nm,1.1s
MPU Maple Canyon 65.73 328 P **P 22 28 10.0 +0.1**
MPU IAmb IAmb 22 28 12.1
comp=Z,55nm,1.2s
GWY Greenwater Val 65.77 322 P **P 22 28 10.0 -0.1**
PSUT Pine Spring 65.81 326 P **P 22 28 11.4 +1.0**
PSUT IAmb IAmb 22 28 13.1
comp=Z,46nm,0.9s
TAOE Nuku Hiva Isla 65.83 267 *e*LR LR 22 47 53.5
comp=Z,518nm,31.2s
TAOE Nuku Hiva Isla 65.83 267 P **P 22 28 10.6 -0.4**
CCAC Calif City Air 65.88 321 P **P 22 28 11.4 +0.6**
TPNV Topopah Spring 66.04 323 P **P 22 28 12.6 +0.7**
TPNV IAmb IAmb 22 28 14.7
comp=Z,40nm,0.9s
TPNV Topopah Spring 66.04 323 P **P 22 28 12.6 +0.7**
TPNV pmax pmax
comp=Z,40nm,1.0s
JLU Jordanelle 66.08 329 P **P 22 28 12.6 +0.5**
JLU IAmb IAmb 22 28 14.5
comp=Z,58nm,1.0s
WCT Wildcat Mounta 66.15 323 P **P 22 28 13.6 +1.1**
WCT IAmb IAmb 22 28 15.4
comp=Z,49nm,1.0s
S11A Rachel 66.23 324 P **P 22 28 14.1 +1.0**
S11A IAmb IAmb 22 28 15.9
comp=Z,59nm,1.1s
SPR3 Spring Creek 3 66.40 326 P **P 22 28 14.7 +0.3**
SPR3 IAmb IAmb 22 28 16.5
comp=Z,52nm,0.9s
E28A Huff 66.43 339 P **P 22 28 14.3 +0.3**
TCUT Toone Canyon 66.45 329 P **P 22 28 15.0 +0.5**
TCUT IAmb IAmb 22 28 17.6
comp=Z,61nm,1.0s
DUG Dugway, Tooele 66.47 328 P **P 22 28 14.8 +0.3**
DUG Dugway, Tooele 66.47 328 P **P 22 28 14.8 +0.3**
DUG pmax pmax
comp=Z,87nm,1.0s
AGMN Agassiz Nation 66.49 344 P **P 22 28 13.3 -1.0**
AGMN IAmb IAmb 22 28 15.3
comp=Z,34nm,0.8s
ISA Isabella, Lake 66.50 321 P **P 22 28 14.8 +0.1**
ISA Isabella, Lake 66.50 321 P **P 22 28 14.8 +0.1**
ISA pmax pmax
comp=Z,23nm,1.0s
BCW Bitter Crk WRg 66.61 320 P **P 22 28 15.0 -0.5**
BCW IAmb IAmb 22 28 18.6
comp=Z,35nm,1.1s
PD31 Pinedale Array 66.83 331 P **P 22 28 16.6 -0.3**
PDAR Pinedale Array 66.83 331 P **P 22 28 16.5 -0.3**
PDAR Pinedale Array 66.83 331 P **P 22 28 17.3 +0.4**
comp=Z,7.1nm,0.8s,baz=152,slow=6.7,SNR=52
PDAR pP **PcP 22 28 44.5 -0.4**
comp=Z,2.9nm,0.6s,baz=119,slow=8.6,SNR=5.0
PDAR LR LR 22 59 37.5
comp=Z,71nm,18.3s,baz=26,slow=38
comp=Z,7.1nm,0.8s
GMN Gold Mountain 66.87 323 P **P 22 28 17.6 +0.4**
GMN IAmb IAmb 22 28 19.9
comp=Z,48nm,1.3s
HWUT Hardware Ranch 66.89 329 P **P 22 28 17.3 0.0**
HWUT IAmb IAmb 22 28 18.9
comp=Z,47nm,1.0s
SPUT South Promonto 67.11 329 P **P 22 28 18.6 0.0**
SPUT IAmb IAmb 22 28 20.6
comp=Z,73nm,1.3s
BGU Big Grassy Mou 67.12 328 P **P 22 28 18.8 +0.1**
BGU IAmb IAmb 22 28 20.6
comp=Z,38nm,1.0s
VNA3 Neumayer Olymp 67.18 162 P **P 22 28 19.1 +0.7**
VNA3 Neumayer Olymp 67.18 162 ⇑P **P 22 28 19.1 +0.7**
comp=Z,36nm,0.8s
MDND Maddock 67.19 341 P **P 22 28 19.6 +0.8**
MZP Montezuma Peak 67.21 323 P **P 22 28 19.9 +0.5**
DSP Deep Springs 67.33 322 P **P 22 28 20.8 +1.0**
DSP IAmb IAmb 22 28 22.7
comp=Z,33nm,1.1s
VNA1 Neumayer--Stat 67.41 161 P **P 22 28 21.0 +1.2**
VNA1 Neumayer--Stat 67.41 161 ⇑P **P 22 28 21.0 +1.2**
comp=Z,58nm,0.9s
AHID Auburn Hatcher 67.55 331 P **P 22 28 20.9 -0.5**
AHID IAmb IAmb 22 28 23.0
comp=Z,37nm,0.9s
HVU Hansel Valley 67.62 329 P **P 22 28 21.0 -0.8**
HVU IAmb IAmb 22 28 23.5
comp=Z,43nm,0.8s
HVU Hansel Valley 67.62 329 P **P 22 28 21.0 -0.8**
HVU pmax pmax
comp=Z,43nm,0.8s
VNA2 Neumayer--Watz 67.77 161 P **P 22 28 22.0 -0.2**
baz=279,slow=8.2
VNA2 Neumayer--Watz 67.77 161 ⇑P **P 22 28 22.0 -0.2**
comp=Z,28nm,0.6s,baz=279,slow=8.2
Q09A Carvers 67.87 324 P **P 22 28 24.4 +0.9**
SNOW Snow King Moun 67.92 331 P **P 22 28 24.7 +1.0**
LOHW Long Hollow 67.96 331 P **P 22 28 24.2 +0.2**
TPAW Teton Pass 68.03 331 P **P 22 28 24.4 -0.2**
TPAW IAmb IAmb 22 28 30.5
comp=Z,56nm,1.2s
MOOW Moose Ponds 68.13 331 P **P 22 28 25.3 +0.2**
ELK Elko 68.14 327 P **P 22 28 25.0 -0.2**
ELK Elko 68.14 327 P **P 22 28 26.1 +0.9**
comp=Z,17nm,0.9s,baz=122,slow=3.4,SNR=52
comp=Z,17nm,0.9s
NV11 Mina Array Sit 68.16 323 P **P 22 28 25.7 +0.5**
LHV Little Huntoon 68.24 323 P **P 22 28 25.4 -0.1**
LHV IAmb IAmb 22 28 28.5
comp=Z,53nm,1.1s
NVAR Mina Array Bea 68.24 323 P **P 22 28 26.0 +0.1**
NVAR Mina Array Bea 68.24 323 P **P 22 28 26.6 +0.8**
comp=Z,10nm,0.9s,baz=139,slow=6.6,SNR=39
comp=Z,10nm,0.9s
ULM Lac du Bonnet 68.28 344 P **P 22 28 24.7 -0.8**
ULM Lac du Bonnet 68.28 344 P **P 22 28 25.1 -0.5**
comp=Z,25nm,0.5s,baz=157,slow=5.9,SNR=75
comp=Z,25nm,0.5s
FLWY Flagg Ranch 68.37 332 P **P 22 28 26.6 +0.1**
RYN Ryan 68.50 323 P **P 22 28 26.8 -0.6**
RLMT Red Lodge 68.54 333 P **P 22 28 27.4 -0.2**
RLMT IAmb IAmb 22 28 29.7
comp=Z,39nm,1.2s
LAO LASA Array 68.55 336 P **P 22 28 26.5 -0.9**
LAO IAmb IAmb 22 28 29.3
comp=Z,87nm,1.4s
H17A Grant Village 68.56 332 P **P 22 28 27.5 -0.3**
YMP Mirror Lake Pl 68.64 332 P **P 22 28 28.5 +0.3**
YMP IAmb IAmb 22 28 41.4
comp=Z,49nm,1.2s
BBGB Big Mountain B 68.67 320 P **P 22 28 28.1 -0.3**
BBGB IAmb IAmb 22 28 32.4
comp=Z,54nm,1.0s
YFT Old Faithful 68.72 332 P **P 22 28 28.8 0.0**
YFT IAmb IAmb 22 28 32.9
comp=Z,43nm,1.3s
YNE Yellowstone No 68.78 333 P **P 22 28 29.9 +0.8**
YNR Norris Junctio 68.85 332 P **P 22 28 30.2 +0.6**
YNM Yellowstone No 68.87 332 P **P 22 28 31.5 +1.9**
YMR Madison River 68.94 332 P **P 22 28 31.4 +1.3**
YMR IAmb IAmb 22 28 33.0
comp=Z,62nm,1.1s
WAKR Walker 68.95 322 P **P 22 28 31.1 +0.8**
WAKR IAmb IAmb 22 28 33.2
comp=Z,38nm,1.1s
YHH Holmes Hill 68.98 332 P **P 22 28 31.4 +1.0**
SAO San Andreas Ge 69.05 320 P **P 22 28 31.7 +1.1**
SAO San Andreas Ge 69.05 320 P **P 22 28 31.7 +1.1**
SAO pmax pmax
comp=Z,13nm,0.9s
YHB Horse Butte 69.11 332 P **P 22 28 31.2 +0.1**
YHB IAmb IAmb 22 28 33.9
comp=Z,42nm,0.9s
YHL Hebgen Lake 69.18 332 P **P 22 28 32.8 +1.1**
CMB Columbia Colle 69.21 322 P **P 22 28 32.3 +0.6**
CMB Columbia Colle 69.21 322 P **P 22 28 32.3 +0.6**
CMB pmax pmax
comp=Z,14nm,1.2s
DGMT Dagmar 69.27 338 P **P 22 28 32.3 +0.5**
SNAA Sanae 69.39 161 P **P 22 28 33.0 +0.7**
SNAA Sanae 69.39 161 P **P 22 28 32.8 +0.4**
SNAA Sanae 69.39 161 ⇑P **P 22 28 33.0 +0.7**
comp=Z,1μm,0.6s
SNAA Sanae 69.39 161 P **P 22 28 32.7 +0.4**
comp=Z,42nm,0.5s,baz=281,slow=7.3,SNR=106
comp=Z,42nm,0.5s
SNAA Sanae 69.39 161 *d*P **P 22 28 32.3 0.0**
SNAA pmax pmax
comp=Z,49nm,0.9s
PNTR Pine Nut 69.44 323 P **P 22 28 34.2 +1.0**
PNTR IAmb IAmb 22 28 36.1
comp=Z,49nm,0.9s
PAHR Pah Rah Range 69.72 323 P **P 22 28 35.6 +0.7**
HLID Hailey 69.75 329 P **P 22 28 35.7 +0.6**
BOZ Bozeman (W) 69.96 332 P **P 22 28 36.3 +0.1**
BOZ IAmb IAmb 22 28 38.3
comp=Z,41nm,1.2s
BOZ Bozeman (W) 69.96 332 P **P 22 28 36.3 +0.1**
BOZ pmax pmax
comp=Z,41nm,1.2s
SCHQ Schefferville 70.00 4 P **P 22 28 36.3 +0.2**
SCHQ Schefferville 70.00 4 P **P 22 28 35.6 -0.5**
comp=Z,8.2nm,0.9s,baz=202,slow=5.8,SNR=10
SCHQ pP **pP 22 29 02.5 -0.7**
comp=Z,12nm,0.9s,baz=208,slow=4.6,SNR=6.5
comp=Z,8.2nm,0.9s
AFDM Forest Hills D 70.15 322 P **P 22 28 37.5 +0.1**
DLMT Dillon 70.22 331 P **P 22 28 38.6 +0.7**
DLMT IAmb IAmb 22 28 40.9
comp=Z,45nm,1.2s
MFID Camas Ranch 70.36 328 P **P 22 28 39.8 +1.1**
DBIC Dimbokro 70.86 77 P **P 22 28 41.8 -0.4**
DBIC IAmb IAmb 22 28 42.8
comp=Z,28nm,0.8s
DBIC Dimbokro 70.86 77 P **P 22 28 42.0 -0.2**
comp=Z,30nm,0.8s,baz=245,slow=6.1,SNR=42
DBIC LR LR 22 58 49.0
comp=Z,138nm,18.7s,baz=269,slow=35
comp=Z,30nm,0.8s
DBIC Dimbokro 70.86 77 P **P 22 28 41.8 -0.4**
DBIC pP **pP 22 29 09.4 +0.1**
DBIC sP **sP 22 29 20.1 -0.8**
EGMT Eagleton 71.04 335 P **P 22 28 42.8 +0.1**
EGMT IAmb IAmb 22 28 44.5
comp=Z,38nm,0.8s
TROLL Troll, Antarti 71.11 161 P **P 22 28 43.7 +0.9**
TROLL Troll, Antarti 71.11 161 ⇑P **P 22 28 43.7 +0.9**
comp=Z,713nm,0.5s
WVOR Wild Horse Val 71.14 326 P **P 22 28 44.0 +0.5**
WVOR IAmb IAmb 22 28 45.6
comp=Z,47nm,1.5s
WVOR Wild Horse Val 71.14 326 P **P 22 28 44.0 +0.5**
WVOR pmax pmax
comp=Z,47nm,1.5s
PLID Pearl Lake 71.64 329 P **P 22 28 46.3 -0.2**
PLID IAmb IAmb 22 28 48.5
comp=Z,35nm,1.1s
HATC Hat Creek Radi 71.65 323 P **P 22 28 46.0 -0.5**
HATC IAmb IAmb 22 28 48.7
comp=Z,44nm,0.9s
J08A Circle Bar Ran 71.69 327 P **P 22 28 46.0 -0.7**
MSO Missoula 71.94 332 P **P 22 28 48.7 +0.5**
MSO IAmb IAmb 22 28 50.9
comp=Z,61nm,1.3s
O02D Mt. Diablo Mer 72.02 322 P **P 22 28 48.4 -0.3**
BMO Blue Mountains 72.12 328 P **P 22 28 49.4 +0.1**
BMO Blue Mountains 72.12 328 P **P 22 28 49.4 +0.1**
BMO pmax pmax
comp=Z,26nm,1.0s
I07A Izee 72.73 327 P **P 22 28 53.8 +0.9**
F10A Beach Ranch, E 72.88 329 P **P 22 28 54.1 +0.4**
YBH Yreka Blue Hor 72.95 323 P **P 22 28 54.0 -0.3**
YBH Yreka Blue Hor 72.95 323 P **P 22 28 54.0 -0.3**
YBH pmax pmax
comp=Z,15nm,0.9s
KMPM Mount Pierce 72.96 322 P **P 22 28 54.3 -0.1**
KMPM IAmb IAmb 22 28 56.6
comp=Z,62nm,1.1s
K04D Chiloquin, OR 72.98 324 P **P 22 28 55.1 +0.7**
KHMM Horse Mountain 73.01 322 IAmb IAmb 22 28 56.8
comp=Z,73nm,1.3s
PPT2 Papeete2 73.07 256 *e*P **P 22 28 56.3 +0.8**
comp=Z,99nm,25.2s
PPT2 *e*S **S 22 38 15.3 0.0**
comp=Z,174nm,25.2s
PPT2 Papeete2 73.07 256 *e*LR LR 22 51 15.1
comp=Z,179nm,41.8s
PPT2 *e*LR LR 22 51 22.8
comp=Z,250nm,28.8s
PPT Papeete 73.07 256 LR LR 22 55 44.2
comp=Z,95nm,18.4s,baz=178,slow=31
J05D Fort Rock, OR 73.13 325 IAmb IAmb 22 28 57.8
comp=Z,59nm,1.2s
G08A Pilot Rock 73.27 328 P **P 22 28 56.7 +0.7**
PINE Pine Mountain 73.30 326 P **P 22 28 57.0 +0.6**
PINE IAmb IAmb 22 28 59.3
comp=Z,45nm,1.0s
KRMB Red Mountain 73.52 323 P **P 22 28 57.4 -0.2**
J04A Umpqua Nationa 73.58 325 P **P 22 28 58.5 +0.4**
KSXB Camp Six Broad 73.69 323 P **P 22 28 58.9 +0.3**
KSXB IAmb IAmb 22 29 00.7
comp=Z,60nm,1.3s
L02F Cave Junction 73.70 323 P **P 22 28 58.8 +0.2**
L02F IAmb IAmb 22 29 01.1
comp=Z,69nm,1.5s
E09A Wood Farm, Sta 73.71 329 P **P 22 28 58.8 +0.3**
E09A IAmb IAmb 22 29 00.5
comp=Z,34nm,1.0s
I05D Terrebonne, OR 73.88 326 P **P 22 28 60.0 +0.4**
I05D IAmb IAmb 22 29 02.4
comp=Z,53nm,0.7s
FFC Flin Flon 73.95 343 P **P 22 28 59.5 -0.1**
FFC Flin Flon 73.95 343 P **P 22 28 59.5 -0.1**
FFC pmax pmax
comp=Z,27nm,1.3s
NVL N'lazarevskaya 73.99 160 *e*P **P 22 29 00.1 +0.3**
NVL pmax pmax
comp=Z,64nm,1.0s
G06A Carlson Farm, 74.10 327 P **P 22 29 01.4 +0.6**
G06A IAmb IAmb 22 29 03.9
comp=Z,41nm,1.4s
I04A Tendick Farm, 74.11 325 P **P 22 29 01.0 +0.1**
I04A IAmb IAmb 22 29 02.6
comp=Z,34nm,1.0s
K02D Willamette Mer 74.11 324 P **P 22 29 00.9 -0.1**
K02D IAmb IAmb 22 29 03.7
comp=Z,68nm,1.4s
DBO Dodson Butte 74.14 324 P **P 22 29 01.6 +0.5**
DBO IAmb IAmb 22 29 02.9
comp=Z,39nm,1.2s
E08A Dider Farm, El 74.15 329 P **P 22 29 01.4 +0.4**
F07A Phinny Hill Vi 74.18 328 P **P 22 29 02.3 +1.1**
F07A IAmb IAmb 22 29 04.5
comp=Z,57nm,1.3s
HAWA Hanford 74.32 329 P **P 22 29 02.7 +0.7**
HAWA IAmb IAmb 22 29 04.7
comp=Z,45nm,1.1s
NEW Newport 74.46 331 P **P 22 29 02.7 -0.2**
NEW Newport 74.46 331 P **P 22 29 02.7 -0.2**
NEW pmax pmax
comp=Z,13nm,1.2s
D08A Wollman Farm, 74.47 329 P **P 22 29 02.9 0.0**
H04A Detroit Lake 74.56 326 P **P 22 29 03.5 0.0**
H04A IAmb IAmb 22 29 05.4
comp=Z,30nm,0.9s
E07A Sunnyside 74.59 328 P **P 22 29 04.7 +1.1**
E07A IAmb IAmb 22 29 06.6
comp=Z,49nm,1.1s
C09A Chrisman Ranch 74.68 330 P **P 22 29 05.2 +1.1**
C09A IAmb IAmb 22 29 06.8
comp=Z,35nm,1.1s
BUCK Buck Mountain 74.69 325 P **P 22 29 04.4 +0.1**
BUCK IAmb IAmb 22 29 06.5
comp=Z,66nm,1.0s
HOOD Mount Hood Mea 74.69 327 P **P 22 29 04.9 +0.5**
H04D Lebanon 74.76 326 P **P 22 29 05.0 +0.4**
MXC Moxie City 74.83 328 P **P 22 29 05.7 +0.7**
QSPA South Pole Qui 74.90 180 P **P 22 29 05.2 -0.1**
QSPA IAmb IAmb 22 29 07.4
comp=Z,73nm,1.1s
QSPA South Pole Qui 74.90 180 P **P 22 29 06.0 +0.7**
comp=Z,18nm,0.5s,baz=156,slow=4.3,SNR=206
comp=Z,18nm,0.5s
COR Corvallis 75.11 325 P **P 22 29 06.7 +0.1**
COR Corvallis 75.11 325 P **P 22 29 06.7 +0.1**
COR pmax pmax
comp=Z,83nm,1.1s
LTY Liberty 75.48 329 P **P 22 29 09.1 +0.3**
LTY IAmb IAmb 22 29 11.4
comp=Z,55nm,1.3s
B08A Colville Reser 75.58 330 P **P 22 29 09.0 -0.3**
FCC Fort Churchill 75.76 349 P **P 22 29 09.8 -0.2**
FCC Fort Churchill 75.76 349 P **P 22 29 09.8 -0.2**
FCC pmax pmax
comp=Z,32nm,1.3s
D05A Enumclaw 76.10 328 P **P 22 29 13.2 +1.0**
F03A Seaside 76.11 326 P **P 22 29 11.7 -0.6**
F03A IAmb IAmb 22 29 25.5
comp=Z,60nm,1.2s
RADR Rader Ridge 76.55 327 P **P 22 29 14.2 -0.6**
GNW Green Mountain 76.78 328 P **P 22 29 15.4 -0.6**
WISH Wishkah 76.98 327 P **P 22 29 17.8 +0.6**
NLWA Neilton Lookou 77.21 327 P **P 22 29 18.1 -0.4**
NLWA IAmb IAmb 22 29 21.6
comp=Z,47nm,0.9s
PGC Sidney 77.80 328 P **P 22 29 21.4 -0.3**
PGC IAmb IAmb 22 29 23.9
comp=Z,42nm,1.3s
AVE Averroes 78.92 51 P **P 22 29 29.1 +0.9**
AVE IAmb IAmb 22 29 31.3
comp=Z,28nm,0.9s
TORD Torodi Ar. Bea 79.04 73 P **P 22 29 29.2 -0.1**
comp=Z,26nm,0.4s,baz=258,slow=4.5,SNR=1.2
comp=Z,26nm,0.4s
CBB Campbell River 79.65 329 P **P 22 29 32.8 +1.0**
CBB IAmb IAmb 22 29 34.6
comp=Z,39nm,1.0s
MORF Marmelete 79.85 47 *e*P P 22 29 38.1 +4.8
MORF *i* Amb 22 29 42.5
comp=Z,60nm,1.5s
PCVE Castro Verde 80.44 47 *e*P **P 22 29 38.5 +2.2**
PCVE *i* Amb 22 29 41.4
comp=Z,54nm,1.8s
PBEJ Beja 80.74 47 *e*P **P 22 29 39.9 +1.9**
PBEJ *i* Amb 22 29 42.5
comp=Z,30nm,1.4s
MDT Midelt 80.84 52 LR LR 23 03 43.0
comp=Z,120nm,20.3s,baz=294,slow=34
EVO Evora 80.87 46 *e*P **P 22 29 40.4 +1.7**
EVO *i* Amb 22 29 43.3
comp=Z,25nm,1.6s
PMTG Montargil 80.97 45 *e*P **P 22 29 40.9 +1.7**
PMTG *i* Amb 22 29 50.3
comp=Z,18nm,1.3s
PBAR Barrancos 81.39 47 *e*P **P 22 29 43.3 +1.9**
PBAR *i* Amb 22 29 46.3
comp=Z,30nm,1.9s
RAR Rarotonga 81.74 250 LR LR 22 56 21.7
comp=Z,75nm,21.6s,baz=114,slow=28
VNDA Vanda 82.29 190 P **P 22 29 46.5 +1.0**
VNDA IAmb IAmb 22 29 48.2
comp=Z,40nm,1.1s
VNDA Vanda 82.29 190 P **P 22 29 46.6 +1.0**
comp=Z,18nm,0.9s,baz=124,slow=5.2,SNR=10
VNDA LR LR 23 03 40.4
comp=Z,119nm,18.3s,baz=136,slow=34
comp=Z,18nm,0.9s
BBB Bella Bella 82.34 329 LR LR 23 07 06.5
comp=Z,95nm,19.8s,baz=40,slow=36
PCAB Cabril 82.35 43 *e*P **P 22 29 45.3 -1.1**
PCAB *i* Amb 22 29 48.9
comp=Z,51nm,1.4s
MVO Moncorvo 82.76 44 *e*P **P 22 29 49.8 +1.2**
MVO *i* Amb 22 29 52.6
comp=Z,25nm,1.4s
PAB San Pablo 83.88 46 P **P 22 29 55.3 +0.9**
PAB San Pablo 83.88 46 P **P 22 29 55.3 +0.9**
PAB pmax pmax
comp=Z,24nm,1.2s
YKA Yellowknife Ar 84.08 342 P **P 22 29 54.8 0.0**
comp=Z,30nm,0.9s,baz=143,slow=5.1,SNR=228
YKA pP **pP 22 30 24.8 +2.2**
comp=Z,5.3nm,0.8s,baz=144,slow=5.3,SNR=3.3
comp=Z,30nm,0.9s
ESDC Sonseca Array 84.20 46 P **P 22 29 56.6 +0.6**
ESDC IAmb IAmb 22 30 25.6
comp=Z,41nm,1.2s
ESDC Sonseca Array 84.20 46 P **P 22 29 57.1 +1.1**
comp=Z,7.0nm,0.8s,baz=257,slow=4.9,SNR=38
ESDC pP **pP 22 30 24.2 +0.6**
comp=Z,29nm,1.3s,baz=251,slow=5.1,SNR=8.9
comp=Z,7.0nm,0.8s
ESBB Sonseca Array 84.20 46 P **P 22 29 57.1 +1.1**
SUR Sutherland 85.06 122 LR LR 23 05 17.4
comp=Z,79nm,20.1s,baz=244,slow=34
TOAD Toad River Com 85.21 336 P **P 22 30 01.7 +1.1**
baz=130
TAM Tamanrasset 85.55 65 P **P 22 30 03.9 +0.6**

TAM	Tamanrasset	85.55 65	P	P	22 30 03.9 +0.6	
TAM			pmax	pmax		
	comp=Z,16nm,1.2s					
TSUM	Tsumeb	85.57 109	P	P	22 30 04.5 +1.0	
TSUM	Tsumeb	85.57 109	LR	LR	23 05 36.5	
	comp=Z,70nm,20.6s,baz=322,slow=34					
KOTAN	Kotaneelee Air	85.59 337	P	P	22 30 03.7 +1.3	
	baz=131					
V35K	Ketchikan	85.86 331	P	P	22 30 04.2 +0.4	
V35K			IAmb	IAmb	22 30 05.6	
	comp=Z,34nm,1.1s					
V35K	Ketchikan	85.86 331	P	P	22 30 05.0 +1.2	
	baz=124					
T35M	Bob Quinn	86.18 332	P	P	22 30 05.6 +0.2	
T35M			IAmb	IAmb	22 30 08.0	
	comp=Z,45nm,0.9s					
T35M	Bob Quinn	86.18 332	P	P	22 30 06.9 +1.5	
	baz=126,SNR=10					
CRAG	Craig	86.66 330	P	P	22 30 08.9 +1.2	
	baz=123					
WRAK	Wrangell Islan	86.82 331	P	P	22 30 08.9 +0.4	
WRAK	Wrangell Islan	86.82 331	P	P	22 30 09.6 +1.1	
	baz=124					
DLBC	Dease Lake	86.94 334	P	P	22 30 10.6 +1.4	
	baz=126,SNR=20					
U33K	Whale Pass	87.01 331	P	P	22 30 10.3 +0.9	
	baz=123					
S34M	Telegraph Cree	87.11 333	P	P	22 30 11.1 +1.2	
S34M			IAmb	IAmb	22 30 12.4	
	comp=Z,53nm,1.1s					
S34M	Telegraph Cree	87.11 333	P	P	22 30 11.4 +1.5	
	baz=125,SNR=9.9					
WTLY	Watson Lake, Y	87.42 335	P	P	22 30 12.4 +1.0	
WTLY	Watson Lake, Y	87.42 335	P	P	22 30 12.5 +1.0	
	baz=127					
WRGLY	Wrigley	87.44 340	P	P	22 30 10.5 -0.8	
WRGLY			IAmb	IAmb	22 30 13.0	
	comp=Z,52nm,1.4s					
WRGLY	Wrigley	87.44 340	P	P	22 30 12.2 +0.9	
	baz=132					
R33M	Jennings River	87.89 334	P	P	22 30 14.8 +1.0	
R33M	Jennings River	87.89 334	P	P	22 30 15.1 +1.3	
	baz=125,SNR=19					
TGTN	Hyland Airport	88.08 337	P	P	22 30 16.0 +1.5	
	baz=128					
Q32M	Nakina River	88.20 334	P	P	22 30 15.7 +0.3	
Q32M			IAmb	IAmb	22 30 17.9	
	comp=Z,42nm,1.0s					
Q32M	Nakina River	88.20 334	P	P	22 30 16.8 +1.5	
	baz=124					
S32K	Killisnoo	88.41 332	P	P	22 30 17.1 +1.1	
	baz=122					
SIT	Sitka	88.55 331	P	P	22 30 17.8 +1.2	
	baz=121					
R32K	Eaglecrest	88.81 332	P	P	22 30 18.9 +0.9	
	baz=122					
P33M	Teslin, Yukon	89.12 334	P	P	22 30 20.6 +1.1	
	baz=124,SNR=30					
P32M	Atlin	89.17 334	P	P	22 30 20.7 +1.0	
	baz=123,SNR=14					
N32M	Quiet Lake	89.75 335	P	P	22 30 23.4 +1.0	
	baz=123,SNR=18					
BOSA	Boshof	89.79 120	P	P	22 30 23.8 +0.3	
	comp=Z,3.6nm,0.6s,baz=258,slow=4.0,SNR=14					
BOSA			pP	pP	22 30 52.5 +0.9	
	comp=Z,5.2nm,1.0s,baz=232,slow=3.6,SNR=3.7					
BOSA			LR	LR	23 10 48.3	
	comp=Z,71nm,19.2s,baz=260,slow=36					
	comp=Z,3.6nm,0.6s					
SKAG	Skagway	89.80 333	P	P	22 30 23.7 +1.2	
SKAG			IAmb	IAmb	22 30 24.9	
	comp=Z,42nm,1.2s					
SKAG	Skagway	89.80 333	P	P	22 30 24.1 +1.6	
	baz=121,SNR=5.7					
MMPY	Sheldon Lake,	89.86 337	P	P	22 30 23.6 +0.8	
MMPY			IAmb	IAmb	22 30 25.1	
	comp=Z,20nm,1.0s					
MMPY	Sheldon Lake,	89.86 337	P	P	22 30 24.3 +1.4	
	baz=125,SNR=8.1					
WHY	Whitehorse	90.23 334	P	P	22 30 25.6 +0.9	
WHY			IAmb	IAmb	22 30 31.4	
	comp=Z,18nm,1.2s					
WHY	Whitehorse	90.23 334	P	P	22 30 25.9 +1.2	
	baz=122					
PLBC	Pleasant Camp	90.25 333	P	P	22 30 26.4 +1.8	
	baz=120					
FARO	Faro, Yukon	90.45 336	P	P	22 30 26.3 +0.8	
FARO	Faro, Yukon	90.45 336	P	P	22 30 27.2 +1.6	
	baz=123,SNR=19					
SUMG	Summit	90.55 10	P	P	22 30 27.2 +0.9	
SUMG	Summit	90.55 10	P	P	22 30 27.2 +0.9	
SUMG			pmax	pmax		
	comp=Z,32nm,0.9s					
O30N	Mendenhall	90.80 334	P	P	22 30 27.2 0.0	
O30N	Mendenhall	90.80 334	P	P	22 30 28.6 +1.4	
	baz=121,SNR=7.1					
P30M	Million Dollar	90.84 333	P	P	22 30 28.6 +1.1	
	baz=120					
M31M	Drury Creek, Y	90.85 336	P	P	22 30 28.1 +0.6	
M31M			IAmb	IAmb	22 30 31.1	
	comp=Z,26nm,1.5s					
M31M	Drury Creek, Y	90.85 336	P	P	22 30 28.3 +0.9	
	baz=122,SNR=6.1					
N31M	Braeburn, Yuko	91.03 335	P	P	22 30 28.2 -0.1	
N31M	Braeburn, Yuko	91.03 335	P	P	22 30 29.2 +0.9	
	baz=121,SNR=9.3					
LBTB	Lobatse	91.14 116	P	P	22 30 29.9 0.0	
LBTB			IAmb	IAmb	22 30 31.8	
	comp=Z,19nm,1.4s					
LBTB	Lobatse	91.14 116	LR	LR	23 07 34.7	
	comp=Z,54nm,19.6s,baz=290,slow=33					
LBTB	Lobatse	91.14 116	P	P	22 30 29.9 0.0	
LBTB			pmax	pmax		
	comp=Z,19nm,1.4s					
HYT	Haines Junctio	91.42 334	P	P	22 30 31.2 +1.0	
	baz=119					
N30M	Aishikik Lake	91.56 334	P	P	22 30 31.8 +1.0	
N30M	Aishikik Lake	91.56 334	P	P	22 30 32.1 +1.3	
	baz=120					
O29M	Mount Kennedy	91.64 333	P	P	22 30 31.7 +0.4	
	baz=118					
C36M	Paulatuk	91.70 344	P	P	22 30 31.1 0.0	
	baz=131					
M30M	Minto, Yukon	92.00 335	P	P	22 30 33.1 +0.3	
M30M			IAmb	IAmb	22 30 34.4	
	comp=Z,19nm,1.1s					
M30M	Minto, Yukon	92.00 335	P	P	22 30 33.2 +0.4	
	baz=120,SNR=7.6					
MAYO	Mayo, Yukon	92.16 337	P	P	22 30 33.6 +0.1	
YUK4	Talbot Arm	92.16 334	P	P	22 30 34.8 +1.0	
	baz=118					
O28M	Mount Upton	92.56 333	P	P	22 30 36.2 +0.4	
	baz=117					
M29M	Somme Creek	92.61 335	P	P	22 30 36.5 +0.8	
	baz=118,SNR=16					
KEST	Kesra	92.67 54	LR	LR	23 11 51.8	
	comp=Z,128nm,20.9s,baz=325,slow=35					
H31M	Peel River	92.74 339	P	P	22 30 36.4 +0.2	
H31M			IAmb	IAmb	22 30 37.6	
	comp=Z,21nm,0.9s					
H31M	Peel River	92.74 339	P	P	22 30 36.6 +0.5	
	baz=122					
L29M	L29M	92.80 336	P	P	22 30 37.2 +0.7	
	baz=119					
J30M	Hart River	92.83 337	IAmb	IAmb	22 30 38.5	
	comp=Z,13nm,0.9s					
J30M	Hart River	92.83 337	P	P	22 30 37.5 +0.9	
	baz=120					
K29M	Barlow Dome	92.91 336	IAmb	IAmb	22 30 38.6	
	comp=Z,22nm,1.0s					
K29M	Barlow Dome	92.91 336	P	P	22 30 37.6 +0.5	
	baz=119					
I30M	Mount Dempster	93.17 338	IAmb	IAmb	22 30 40.0	
	comp=Z,20nm,1.0s					
I30M	Mount Dempster	93.17 338	P	P	22 30 38.8 +0.6	
	baz=120					
F31M	Tsiigehtchic	93.42 340	IAmb	IAmb	22 30 40.3	
	comp=Z,14nm,0.9s					
F31M	Tsiigehtchic	93.42 340	P	P	22 30 39.6 +0.5	
	baz=122					
A36M	Sachs Harbour	93.72 346	P	P	22 30 40.5 +0.1	
	baz=130					
DAWY	Dawson	93.75 336	IAmb	IAmb	22 30 41.9	
	comp=Z,15nm,0.9s					
DAWY	Dawson	93.75 336	P	P	22 30 40.9 +0.1	
	baz=118,SNR=8.8					
INK	Inuvik	93.81 341	IAmb	IAmb	22 30 42.2	
	comp=Z,19nm,1.0s					
INK	Inuvik	93.81 341	P	P	22 30 41.2 +0.3	
	baz=123,SNR=13					
EPYK	Eagle Plains	93.87 339	P	P	22 30 41.6 +0.3	
EPYK	Eagle Plains	93.87 339	P	P	22 30 41.4 +0.1	
	baz=120					
I29M	Ogilvie Camp,	93.94 338	P	P	22 30 41.5 -0.1	
I29M			IAmb	IAmb	22 30 42.9	
	comp=Z,23nm,1.1s					
I29M	Ogilvie Camp,	93.94 338	P	P	22 30 42.2 +0.5	
	baz=118,SNR=17					
M27K	Edge Creek, AK	93.99 334	P	P	22 30 42.1 0.0	
	baz=116					
F30M	Barrier River	94.18 340	P	P	22 30 43.2 +0.5	
	baz=121,SNR=9.8					
BCAR	Beaver Creek A	94.26 335	P	P	22 30 43.4 +0.2	
L27K	Beaver Creek,	94.27 335	IAmb	IAmb	22 30 44.7	
	comp=Z,11nm,0.9s					
L27K	Beaver Creek,	94.27 335	P	P	22 30 43.9 +0.7	
	baz=116					
M26K	Nabesna, AK	94.48 334	P	P	22 30 44.5 +0.3	
	baz=115					
G29M	Pine Creek	94.58 339	P	P	22 30 44.0 -0.6	
G29M			IAmb	IAmb	22 30 45.5	
	comp=Z,20nm,1.1s					
G29M	Pine Creek	94.58 339	P	P	22 30 44.3 -0.2	
	baz=119					
I28M	Miner Creek	94.59 337	IAmb	IAmb	22 30 49.6	
	comp=Z,12nm,1.2s					
I28M	Miner Creek	94.59 337	P	P	22 30 44.8 +0.1	
	baz=117					
BMRM	Bremner River	94.60 332	P	P	22 30 44.5 -0.3	
	baz=113					
Q23K	Middleton Isla	94.81 331	P	P	22 30 45.2 -0.5	
	baz=112					
L26K	Log Cabin Wild	94.89 334	P	P	22 30 46.2 +0.1	
	baz=114					
E29M	Blow River	95.25 340	IAmb	IAmb	22 30 48.5	
	comp=Z,21nm,1.0s					
E29M	Blow River	95.25 340	P	P	22 30 47.9 +0.4	
	baz=119					
I27K	Kandik River	95.28 337	P	P	22 30 48.1 +0.3	
	baz=116					
KLU	Klutina	95.39 333	P	P	22 30 48.7 +0.3	
	baz=112					
HARP	HAARP	95.40 334	P	P	22 30 49.4 +1.0	
	baz=113					
P23K	Montague Islan	95.52 331	P	P	22 30 48.7 -0.3	
	baz=111					
H27K	Steamboat Moun	95.52 338	P	P	22 30 49.1 +0.2	
	baz=116					
SCRK	Sand Creek	95.53 335	P	P	22 30 48.2 -0.9	
SCRK			IAmb	IAmb	22 30 50.1	
	comp=Z,10nm,1.2s					
SCRK	Sand Creek	95.53 335	P	P	22 30 48.8 -0.2	
	baz=114					
F28M	Old Crow	95.55 339	P	P	22 30 48.2 -0.8	
F28M	Old Crow	95.55 339	P	P	22 30 48.8 -0.2	
	baz=117,SNR=6.2					
J26L	Joseph Creek	95.58 336	P	P	22 30 48.7 -0.5	
J26L			IAmb	IAmb	22 30 50.4	
	comp=Z,16nm,0.8s					
J26L	Joseph Creek	95.58 336	P	P	22 30 49.6 +0.4	
	baz=114,SNR=12					
RTZ	Ruatahuna	95.58 228	P	P	22 30 50.2 +0.3	
GLI	Glacier Island	95.69 332	P	P	22 30 50.0 +0.3	
	baz=111					
M24K	Tolsona, Glenn	95.73 333	P	P	22 30 50.5 +0.5	
	baz=112					
I26K	Coal Creek Min	95.74 337	P	P	22 30 49.6 -0.2	
	baz=114					
PAX	Paxson	95.75 334	IAmb	IAmb	22 30 50.6	
	comp=Z,8.9nm,0.8s					
PAX	Paxson	95.75 334	P	P	22 30 50.1 0.0	
	baz=112					
RIDG	Independent Ri	95.79 335	IAmb	IAmb	22 30 51.2	
	comp=Z,23nm,1.2s					
RIDG	Independent Ri	95.79 335	P	P	22 30 50.6 +0.5	
	baz=113					
G27K	Doyon Strip	95.82 338	P	P	22 30 50.2 0.0	
	baz=115					
D28M	Stokes Point	95.97 341	P	P	22 30 51.2 +0.5	
	baz=118					
DAVOX	Davos/Dischmat	96.14 43	LR	LR	23 12 11.7	
	comp=Z,175nm,18.4s,baz=286,slow=34					
SCM	Sheep Creek Mo	96.14 333	P	P	22 30 52.1 +0.2	
	baz=111					
PWL	Port Wells	96.25 332	P	P	22 30 52.5 +0.2	
	baz=110					
M23K	Glacier View	96.30 333	P	P	22 30 52.7 +0.2	
	baz=110					
J25K	Salcha River,	96.34 336	IAmb	IAmb	22 30 53.6	
	comp=Z,18nm,1.1s					
J25K	Salcha River,	96.34 336	P	P	22 30 53.0 +0.3	
	baz=112					
LSZ	Lusaka	96.39 108	LR	LR	23 12 52.2	
	comp=Z,92nm,18.6s,baz=290,slow=34					
KNK	Knik Glacier	96.50 332	P	P	22 30 53.3 -0.1	
	baz=110					
SML	Sawmill	96.58 332	P	P	22 30 53.8 0.0	
	baz=110					
D27M	Malcolm River	96.64 341	IAmb	IAmb	22 30 55.4	
	comp=Z,11nm,0.9s					
D27M	Malcolm River	96.64 341	P	P	22 30 54.5 +0.5	
	baz=116					
G26K	Porcupine Rive	96.64 338	P	P	22 30 53.9 0.0	
	baz=114					
PRP	Porcupine Dome	96.74 336	IAmb	IAmb	22 30 55.7	
	comp=Z,12nm,1.0s					
PRP	Porcupine Dome	96.74 336	P	P	22 30 55.0 +0.5	
	baz=112					
PMR	Palmer	96.86 332	P	P	22 30 55.0 +0.1	
	baz=109					
HDA	Harding Lake	96.90 335	P	P	22 30 55.5 +0.4	
	baz=111					
RC01	Rabbit Creek A	96.98 332	P	P	22 30 56.0 +0.4	
	baz=109					
ILAR	Eielson Array	97.00 335	P	P	22 30 55.4 -0.2	
	comp=Z,2.0nm,0.8s,baz=154,slow=3.8,SNR=20					
ILAR			PP	PP	22 34 48.5 -4.1	
	comp=Z,1.4nm,0.9s,baz=109,slow=7.6,SNR=11					
ILAR			LR	LR	23 20 00.9	
	comp=Z,92nm,18.2s,baz=48,slow=39					
	comp=Z,2.0nm,0.8s					
FYU	Fort Yukon	97.02 337	P	Pdif	22 30 55.9 +0.2	
F26K	Sheenjek River	97.07 339	P	Pdif	22 30 56.4 +0.4	
	baz=113					
H25L	Birch Creek	97.13 337	P	Pdif	22 30 57.2 +1.0	
	baz=112					
CCB	Clear Creek Bu	97.33 335	P	P	22 30 56.4 -0.6	
CCB			IAmb	IAmb	22 30 58.2	
	comp=Z,14nm,1.3s					
POKR	Poker Plat Res	97.34 336	P	Pdif	22 30 57.6 +0.4	
	baz=110					
RND	Reindeer	97.34 334	IAmb	IAmb	22 30 58.4	
	comp=Z,22nm,1.2s					
KDAK	Kodiak Island	97.35 328	P	Pdif	22 30 57.6 +0.3	
	baz=107					
WRH	Wood River Hil	97.38 335	IAmb	IAmb	22 30 58.7	
	comp=Z,21nm,1.3s					
G25K	Bearman Lake	97.42 337	P	Pdif	22 30 58.4 +1.0	
	baz=111					
COLA	College	97.42 335	P	Pdif	22 30 57.8 +0.4	
COLA	College	97.42 335	P	Pdif	22 30 58.2 +0.7	
	baz=110					
COLA	College	97.42 335	*c iP*	P	22 30 57.3 -0.1	
COLA			pmax	pmax		
	comp=Z,23nm,1.0s					
HOM	Homer	97.43 330	P	Pdif	22 30 57.7 +0.1	
	baz=107					
MCK	McKinley	97.49 334	P	Pdif	22 30 57.9 +0.1	
	baz=109					
F25K	Christian Rive	97.56 338	P	Pdif	22 30 58.9 +0.7	
	baz=112					
CUT	Chulitna	97.64 333	P	Pdif	22 30 59.0 +0.6	
	baz=108					
C27K	Jago River	97.68 341	IAmb	IAmb	22 31 00.3	
	comp=Z,12nm,1.1s					
C27K	Jago River	97.68 341	P	Pdif	22 30 58.9 +0.3	
	baz=113					
E25K	Arctic Village	97.73 339	IAmb	IAmb	22 31 00.5	
	comp=Z,8.2nm,1.1s					
E25K	Arctic Village	97.73 339	P	Pdif	22 30 59.3 +0.5	
	baz=112					
H24K	Noodor Dome	97.76 336	IAmb	IAmb	22 31 00.2	
	comp=Z,13nm,1.0s					
H24K	Noodor Dome	97.76 336	P	P	22 30 59.1 +0.1	
	baz=110					
NEA2	Nenana	97.82 335	P	Pdif	22 30 59.4 +0.1	
	baz=109					
G24K	Hadweenzic Riv	97.91 337	IAmb	IAmb	22 31 01.2	
	comp=Z,14nm,1.0s					
G24K	Hadweenzic Riv	97.91 337	P	Pdif	22 31 00.2 +0.5	
	baz=110					
TRF	Thorofare Moun	97.97 334	P	Pdif	22 31 00.5 +0.3	
	baz=108					
O20K	Slope Mountain	98.03 330	P	Pdif	22 31 00.8 +0.3	
	baz=106					
SKT	Skwentna	98.07 332	IAmb	IAmb	22 31 03.7	
	comp=Z,11nm,0.8s					
SKT	Skwentna	98.07 332	P	P	22 31 00.5 0.0	
	baz=107					
I23K	Minto, Yukon-K	98.12 335	P	P	22 31 00.6 0.0	
	baz=109					
C26K	Camden Bay	98.18 341	P	Pdif	22 31 01.4 +0.6	
	baz=112					
P19K	Oil Pt	98.20 330	P	P	22 31 00.9 -0.2	
	baz=106					
Q19K	Cape Douglas,	98.21 329	P	P	22 31 00.9 -0.3	
	baz=106					
F24K	Squaw Lake	98.34 338	P	Pdif	22 31 01.8 +0.2	
	baz=110					
CHIR	Chirikof Islan	98.43 326	P	P	22 31 02.0 -0.2	
	baz=105					
D25K	Kavik River	98.44 340	P	P	22 31 01.8 -0.2	
D25K			IAmb	IAmb	22 31 03.3	
	comp=Z,9.9nm,1.1s					
D25K	Kavik River	98.44 340	P	Pdif	22 31 02.3 +0.3	
	baz=111					
BPAW	Bear Paw Mtn.	98.46 334	IAmb	IAmb	22 31 05.1	
	comp=Z,13nm,1.1s					
BPAW	Bear Paw Mtn.	98.46 334	P	Pdif	22 31 02.3 +0.1	
	baz=107					
PPLA	Purkeypile	98.63 333	P	P	22 31 03.0 -0.1	
	baz=106					
CAST	Castle Rocks	98.73 333	IAmb	IAmb	22 31 03.8	
	comp=Z,11nm,1.0s					
CAST	Castle Rocks	98.73 333	P	P	22 31 03.3 -0.1	
	baz=106					
E24K	Your Creek	98.74 338	P	Pdif	22 31 03.7 +0.3	
	baz=109					
M20K	Styx River	98.77 332	P	Pdif	22 31 04.4 +0.7	
	baz=106					
G23K	Bananza Creek	98.87 337	IAmb	IAmb	22 31 05.6	
	comp=Z,7.4nm,0.9s					
G23K	Bananza Creek	98.87 337	P	Pdif	22 31 04.4 +0.4	
	baz=108					
COLD	Coldfoot	99.09 337	P	Pdif	22 31 05.3 +0.4	
	baz=108					
KHC	Kasperske Hory	99.12 42⇑	*eP*	Pdif	22 31 06.0 +0.5	
KHC			pmax	pmax		
	comp=Z,3.0nm,0.9s					
GERES	GERESS Array B	99.14 42	P	Pdif	22 31 06.5 +0.8	
	comp=Z,0.4nm,0.6s,baz=266,slow=8.8,SNR=2.2					
GERES			pP	pP	22 31 32.8 -1.1	
	comp=Z,1.1nm,0.9s,baz=284,slow=11,SNR=3.5					
	comp=Z,0.4nm,0.6s					
H22K	Ishtalitna Cre	99.15 336	P	Pdif	22 31 05.4 +0.2	
	baz=107					
D24K	Happy Valley	99.20 339	P	Pdif	22 31 05.7 +0.4	
	baz=109					
KONO	Kongsberg	99.30 31⇑	*eP*	Pdif	22 31 07.1 +1.2	
KONO			pmax	pmax		
	comp=Z,7.0nm,1.2s					
TOLK	Toolik Lake Re	99.30 339	P	Pdif	22 31 05.9 +0.1	
	baz=108					
C24K	Franklin Bluff	99.34 340	IAmb	IAmb	22 31 07.6	
	comp=Z,18nm,1.1s					
C24K	Franklin Bluff	99.34 340	P	Pdif	22 31 06.6 +0.6	
	baz=109					
H21K	Melozitna Rive	99.65 336	P	Pdif	22 31 07.5 +0.1	
	baz=106					
D23K	Nanushuk River	99.78 339	P	Pdif	22 31 08.7 +0.8	
	baz=107					
J20K	Nowinta River	99.82 334	P	Pdif	22 31 08.2 0.0	
	baz=105					
E22K	Anaktuvuk Pass	99.94 338	P	Pdif	22 31 09.3 +0.6	
	baz=106					
C23K	Itkillik River	100.01 340	Pdif	Pdif	22 31 09.4 +0.5	
C23K	Itkillik River	100.01 340	P	Pdif	22 31 09.6 +0.7	
	baz=107					
CHGN	Chignik	100.06 326	P	Pdif	22 31 10.6 +1.2	
	baz=102					
F21K	Alatna River	100.32 337	P	Pdif	22 31 10.4 0.0	
	baz=105					
TTA	Tatalina	100.33 333	P	Pdif	22 31 10.7 +0.1	
	baz=103					
J19K	Poorman	100.40 334	P	Pdif	22 31 11.3 +0.5	
	baz=103					
CHNA	Chernabura Isl	100.41 324	P	Pdif	22 31 10.4 -0.6	
	baz=102					
H20K	Anotleneega Mo	100.44 335	P	Pdif	22 31 11.1 +0.2	
	baz=104					
D22K	Ayikyak River	100.45 339	P	Pdif	22 31 11.6 +0.6	
	baz=105					
M17K	Holitna River	100.65 331	P	Pdif	22 31 12.0 0.0	
	baz=102					
J18K	Innoko River	100.76 333	P	Pdif	22 31 12.5 +0.1	
	baz=102					
E21K	Killik River	100.80 338	P	Pdif	22 31 13.1 +0.6	
	baz=104					
H19K	Roundabout Mou	101.09 335	P	Pdif	22 31 14.4 +0.6	
	baz=102					
F20K	Avaraart Lake	101.13 337	P	Pdif	22 31 14.1 +0.1	
	baz=103					
L17K	Donlin	101.20 331	P	Pdif	22 31 14.7 +0.4	
	baz=101					
C21K	Knifeblade Rid	101.25 339	P	Pdif	22 31 15.5 +0.9	
	baz=103					
B21K	Ikpikpuk River	101.30 339	P	Pdif	22 31 15.4 +0.8	
	baz=103					
G19K	Purcell Mounta	101.47 336	P	Pdif	22 31 16.0 +0.5	
	baz=102					
E20K	Nigu River	101.56 338	P	Pdif	22 31 16.6 +0.6	
	baz=102					
E19K	Redstone River	101.79 337	P	Pdif	22 31 17.3 +0.4	
	baz=101					
H18K	Honhosa River	101.80 335	P	Pdif	22 31 18.3 +1.2	
	baz=101					
D20K	Etivluk River	101.81 338	P	Pdif	22 31 18.0 +1.0	
	baz=102					
F19K	Shaleruckik Mo	101.88 336	P	Pdif	22 31 17.6 +0.3	
	baz=101					
G18K	Tagagawik	102.05 335	P	Pdif	22 31 19.3 +1.1	
	baz=100					
O14K	Tigyukauivet M	102.12 328	P	Pdif	22 31 19.0 +0.5	
	baz=99					
B20K	Meade River	102.25 340	P	Pdif	22 31 19.6 +0.8	
	baz=101					
D19K	Kuna River	102.31 338	P	Pdif	22 31 20.1 +0.8	
	baz=100					
VYHS	Vyhne	102.42 43	*eP*	Pdif	22 31 21.8 +1.6	
VYHS	Vyhne	102.42 43	*e*PDIFF	Pdif	22 31 21.8 +1.6	
J16K	Anvik River	102.44 332	P	Pdif	22 31 21.1 +1.2	
	baz=99					
F18K	Selawik	102.57 336	P	Pdif	22 31 21.7 +1.3	
	baz=99					
F17K	Baldwin Pennin	103.18 336	P	Pdif	22 31 23.6 +0.5	
	baz=98					
M13K	Dall Lake	103.33 329	P	Pdif	22 31 24.3 +0.5	
	baz=97					
H16K	Elim	103.35 334	P	Pdif	22 31 24.2 +0.3	
	baz=97					
C18K	Utukok River	103.45 338	P	Pdif	22 31 25.0 +0.7	
	baz=97					
E17K	Hotham Inlet	103.49 336	P	Pdif	22 31 25.5 +1.1	
	baz=97					
B18K	Kokolik River	103.75 339	P	Pdif	22 31 26.8 +1.2	
	baz=97					
D17K	Noatak River	104.04 337	P	Pdif	22 31 28.5 +1.6	
	baz=96					
C17K	DeLong Mountai	104.16 338	P	Pdif	22 31 28.8 +1.3	
	baz=96					
G15K	Niukluk	104.16 334	P	Pdif	22 31 28.4 +1.0	
	baz=96					
ANM	Nome	104.69 334	P	Pdif	22 31 30.6 +0.7	
	baz=95					
M11K	Mekoryuk	104.73 329	P	Pdif	22 31 30.2 +0.1	
	baz=95					
F14K	Arctic Creek	105.16 334	P	PKiKP	22 35 46.3 +0.6	
	baz=94					
DZM	Mont Dzumac	111.00 239	*e*LR	LR	23 08 51.7	
	comp=Z,323nm,32.1s					
MMAI	Mount Meron Ar	113.38 60	PKiKP	PKiKP	22 36 03.2 +0.9	
	comp=Z,0.9nm,0.4s,baz=70,slow=2.7,SNR=8.4					
BILL	Bilibino	115.35 339	‖ *i*PKIKP	PKPdf	22 36 06.0 +1.1	

BILL					pmax	pmax		
	comp=Z,6.0nm,1.7s							
SOC	**Sochi**	**116.73**	**49**	*i*	PKIKP	**PKPdf**	**22 36 06.4**	**-1.9**
SOC					*e*		22 37 18.0	
SOC					*e*SS	SS	22 53 22.0	+5.3
SOC					*e*SSS	SSS	22 57 41.1	
KBZ	**Khabaz**	**119.01**	**48**		PKP	**PKiKP**	**22 36 13.6**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=189,slow=4.0,SNR=7.2							
KBZ	**Khabaz**	**119.01**	**48**	⇓	*i*PKIKP	**PKiKP**	**22 36 14.3**	**+1.6**
TIXI	**Tiksi**	**122.13**	**352**		PKPdf	**PKiKP**	**22 36 18.2**	**+0.2**
TIXI	**Tiksi**	**122.13**	**352**	⇓	*i*PKIKP	**PKiKP**	**22 36 18.1**	**+0.1**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.7s							
STKA	**Stephens Creek**	**122.62**	**215**		PKP	**PKPdf**	**22 36 19.3**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=100,slow=1.5,SNR=10							
SEY	**Seymchan**	**122.89**	**337**		PKP	**PKiKP**	**22 36 20.4**	**+0.7**
	comp=Z,6.5nm,0.6s,baz=175,slow=23,SNR=19							
SEY	**Seymchan**	**122.89**	**337**	⇓	*i*PKIKP	**PKiKP**	**22 36 20.0**	**+0.3**
SEY					pmax	pmax		
	comp=Z,17nm,1.3s							
NRIK	**Noril'sk**	**124.56**	**8**		PKP	**PKiKP**	**22 36 23.1**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=4.4,slow=2.3,SNR=3.7							
NRIK	**Noril'sk**	**124.56**	**8**	⇑	*i*PKIKP	**PKiKP**	**22 36 23.4**	**+0.5**
ARTI	**Arti**	**124.87**	**31**		PKPdf	**PKiKP**	**22 36 24.6**	**+0.7**
ARTI	**Arti**	**124.87**	**31**	*i*	PKIKP	**PKiKP**	**22 36 25.8**	**+1.9**
ARTI							22 38 15.6	
ARTI					SS	SS	22 55 05.9	+6.2
PETK	**Petropavlovsk-**	**125.29**	**325**		PKP	**PKiKP**	**22 36 25.6**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=74,slow=2.6,SNR=15							
MA2	**Magadan**	**125.47**	**334**		PKP	**PKiKP**	**22 36 25.1**	**+0.1**
	comp=Z,5.7nm,0.2s,baz=130,slow=10,SNR=3.9							
MA2	**Magadan**	**125.47**	**334**	⇑	*i*PKIKP	**PKPdf**	**22 36 24.7**	**+0.1**
MA2					pmax	pmax		
	comp=Z,17nm,2.5s							
ABKAR	**Akbulak array**	**128.89**	**38**		PKPdf	**PKiKP**	**22 36 32.5**	**+0.4**
YAK	**Yakutsk**	**130.59**	**346**			**PKiKP**	**22 36 35.0**	**-0.1**
YAK	**Yakutsk**	**130.59**	**346**	*e*	PKIKP	**PKPdf**	**22 36 34.4**	**+0.2**
YAK				*e*			22 38 50.3	
YAK				*e*SS		SS	22 56 08.0	-1.7
YAK					pmax	pmax		
	comp=Z,35nm,1.1s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.3s							
YAK					pmax	pmax		
	comp=N,3.0nm,1.5s							
YAK					pmax	pmax		
	comp=Z,137nm,3.5s							
YAK					pmax	pmax		
	comp=E,77nm,3.2s							
BRVK	**Borovoye**	**132.46**	**29**			**PKiKP**	**22 36 40.0**	**+0.8**
BRVK	**Borovoye**	**132.46**	**29**	*c*	*i*PKIKP	**PKiKP**	**22 36 39.6**	**+0.4**
BRVK					pmax	pmax		
	comp=Z,21nm,2.5s							
BVAR	**Borovoye Array**	**132.53**	**29**		PKP	**PKiKP**	**22 36 40.0**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=270,slow=1.2,SNR=13							
AS31	**Alice Springs**	**133.26**	**215**		PKPdf	**PKPdf**	**22 36 40.5**	**-0.2**
ASAR	**Alice Springs**	**133.26**	**215**			**PKPdf**	**22 36 40.2**	**-0.4**
ASAR	**Alice Springs**	**133.26**	**215**		PKhKP	PKPpre	22 36 23.9	
	comp=Z,0.3nm,0.4s,baz=128,slow=2.2,SNR=5.7							
ASAR					PKP	**PKPdf**	**22 36 40.5**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=127,slow=1.8,SNR=33							
ASAR					pPKP	pPKPdf	22 37 09.2	0.0
	comp=Z,1.9nm,0.7s,baz=128,slow=2.0,SNR=2.8							
WRA	**Warramunga Arr**	**135.93**	**218**			PKPpre	22 36 35.3	
WRA					PKPdf	**PKPdf**	**22 36 45.7**	**+0.1**
WRA	**Warramunga Arr**	**135.93**	**218**		PKhKP	PKPpre	22 36 33.8	
	comp=Z,1.4nm,0.6s,baz=132,slow=2.5,SNR=12							
WRA					PKP	**PKPdf**	**22 36 45.7**	**+0.1**
	comp=Z,12nm,0.6s,baz=150,slow=1.7,SNR=11							
WRA					pPKP	pPKPdf	22 37 14.2	0.0
	comp=Z,4.2nm,0.8s,baz=153,slow=1.5,SNR=2.6							
WRAB	**Tennant Creek**	**135.93**	**218**		PKPpre	PKPpre	22 36 34.1	
WRAB					PKPdf	**PKPdf**	**22 36 45.6**	**-0.1**
WRAB	**Tennant Creek**	**135.93**	**218**		PKIKP	**PKPdf**	**22 36 45.6**	**-0.1**
ZALV	**Zalesovo Beam**	**137.64**	**19**		PKPdf	**PKPdf**	**22 36 47.4**	**-0.4**
ZALV	**Zalesovo Beam**	**137.64**	**19**		PKP	**PKPdf**	**22 36 47.9**	**+0.1**
	comp=Z,15nm,0.9s,baz=329,slow=1.6,SNR=4.5							
ZALV					pPKP	**pPKPdf**	**22 37 17.7**	**+0.8**
	comp=Z,11nm,0.9s,baz=318,slow=2.0,SNR=5.0							
KURK	**Kurchatov**	**137.85**	**27**		PKPdf	**PKiKP**	**22 36 49.9**	**-0.3**
KURK	**Kurchatov**	**137.85**	**27**	*c*	*i*PKIKP	**PKiKP**	**22 36 49.7**	**-0.5**
KURK					pmax	pmax		
	comp=Z,8.0nm,1.0s							
KURBB	**Kurchatov Arra**	**137.88**	**27**		PKP	**PKPdf**	**22 36 48.9**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=308,slow=2.9,SNR=16							
KURBB					pPKP	**pPKPdf**	**22 37 17.6**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=306,slow=2.8,SNR=4.5							
ZEA	**Zeya**	**138.46**	**342**	*e*	PKIKP	**PKPdf**	**22 36 49.9**	**+0.7**
ZEA					pmax	pmax		
	comp=Z,10.0nm,1.4s							
ERM	**Erimo**	**139.08**	**318**	*c*	*i*PKIKP	**PKiKP**	**22 36 53.2**	**+0.2**
ERM					pmax	pmax		
	comp=Z,65nm,2.5s							
KLR	**Kul'dur**	**140.57**	**334**	*e*	PKHKP	PKPpre	22 36 44.7	
KLR					pmax	pmax		
	comp=Z,14nm,1.4s							
AAK	**Ala-Archa**	**140.96**	**39**	⇑	*i*PKIKP	**PKiKP**	**22 36 55.9**	**-1.2**
AAK					pmax	pmax		
	comp=Z,5.0nm,1.3s							
HEH	**HeiHe**	**141.39**	**339**		PKP	**PKPdf**	**22 36 47.9**	**-6.8**
FITZ	**Fitzroy Crossi**	**142.14**	**210**			PKPpre	22 36 51.6	
FITZ	**Fitzroy Crossi**	**142.14**	**210**		PKhKP	PKPpre	22 36 50.8	
	comp=Z,11nm,0.6s,baz=130,slow=0.8,SNR=30							
MAKZ	**Makanchi**	**142.23**	**28**		PKPdf	**PKPdf**	**22 36 52.9**	**-3.4**
MAKZ	**Makanchi**	**142.23**	**28**		PKIKP	**PKPdf**	**22 36 52.9**	**-3.4**
MKAR	**Makanchi Array**	**142.38**	**28**		PKPdf	**PKPdf**	**22 36 53.6**	**-3.0**
MKAR	**Makanchi Array**	**142.38**	**28**		PKhKP	PKPpre	22 36 52.4	
	comp=Z,0.9nm,0.4s,baz=348,slow=2.7,SNR=28							
MKAR	**Makanchi Array**	**142.38**	**28**		PKIKP	**PKPdf**	**22 36 53.6**	**-3.0**
MOY	**Mondy**	**143.35**	**6**	*e*	PKIKP	PKPbc	22 36 56.2	+0.6
MOY					pmax	pmax		
	comp=Z,21nm,2.1s							
KSH	**Kashi**	**143.62**	**42**		PKP	**PKPdf**	**22 36 59.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**144.22**	**329**		PKPdf	PKPbc	22 36 58.2	0.0
USRK	**Ussuriysk Ar.**	**144.22**	**329**		PKP	PKPbc	22 36 58.7	+0.4
	comp=Z,22nm,0.9s,baz=44,slow=2.1,SNR=51							
USRK	**Ussuriysk Ar.**	**144.22**	**329**		PKIKP	PKPbc	22 36 58.2	-0.1
NIL	**Nilore**	**144.40**	**53**			**PKPdf**	**22 37 00.0**	**-0.6**
NIL	**Nilore**	**144.40**	**53**		PKIKP	**PKPdf**	**22 37 00.0**	**-0.6**
ZAK	**Zakamensk**	**144.83**	**4**	*e*	PKIKP	**PKPab**	**22 37 00.1**	**0.0**
ZAK				*e*			22 37 28.8	
ZAK					pmax	pmax		
	comp=Z,29nm,1.2s							
ZAK					pmax	pmax		
	comp=Z,16nm,1.4s							
MDJ	**Mudanjiang**	**145.06**	**331**		PKPbc	**PKPbc**	**22 37 00.6**	**-0.3**
MDJ					LR	LR		
	comp=Z,220nm,5.6s							
MJAR	**Matsushiro Arr**	**145.12**	**313**		PKPbc	**PKPbc**	**22 37 01.0**	**-0.4**
	comp=Z,63nm,1.1s,baz=64,slow=1.5,SNR=84							
MJAR					pPKPbc	pPKPab	22 37 30.3	+0.4
	comp=Z,8.7nm,0.9s,baz=23,slow=1.1,SNR=2.3							
MAJO	**Matsushiro**	**145.12**	**313**			**PKPbc**	**22 37 01.4**	**0.0**
MAKI	**Matsushiro**	**145.12**	**313**		PKIKP	**PKPbc**	**22 37 01.4**	**0.0**
BNX	**BinXian**	**145.13**	**335**		PKPbc	**PKPbc**	**22 37 00.6**	**-0.5**
WMQ	**Urumqi**	**147.09**	**26**	*e*	PKPbc	**PKPdf**	**22 37 06.0**	**+1.1**
WMQ					sPKP		22 37 35.4	
ULN	**Ulaanbaatar**	**147.48**	**0**			**PKPbc**	**22 37 07.0**	**-1.2**
ULN	**Ulaanbaatar**	**147.48**	**0**		PKP2	**PKPbc**	**22 37 07.0**	**-1.2**
SONM	**Songino Array**	**147.51**	**1**			**PKPdf**	**22 37 06.5**	**+1.0**
SONM	**Songino Array**	**147.51**	**1**		PKPbc	**PKPbc**	**22 37 07.1**	**-1.1**
SONM					PP	**PP**	**22 40 33.7**	**-0.4**
	comp=Z,1.6nm,1.1s,baz=350,slow=6.0,SNR=3.6							
CN2	**Changchun**	**147.52**	**335**	*e*	PKPbc	**PKPbc**	**22 37 07.0**	**-1.2**
CN2				*e*	PP	**PP**	**22 40 33.9**	**-0.4**
FAK	**Fak Fak**	**149.22**	**236**		PKP	**PKPdf**	**22 37 09.6**	**+0.4**
SOEI	**Soe**	**149.87**	**215**		PKP	**PKPdf**	**22 37 11.6**	**+1.3**
XLT	**XiLinHaoTe**	**150.43**	**347**	*e*	PKPbc	**PKPdf**	**22 37 10.5**	**+0.2**
XLT					PKPab	**PKPab**	**22 37 21.4**	**-1.0**
XLT					PP	**PP**	**22 40 51.8**	**+0.7**
KSRS	**Korea Array**	**151.18**	**324**		PKP	**PKPdf**	**22 37 13.0**	**+1.5**
	comp=Z,7.8nm,0.9s,baz=31,slow=1.3,SNR=30							
KSRS					PKPbc	**PKiKP**	**22 37 18.6**	**+0.6**
	comp=Z,45nm,0.9s,baz=12,slow=1.4,SNR=81							
KSRS					pPKPbc	**pPKPbc**	**22 37 45.4**	**-1.3**
	comp=Z,8.8nm,1.0s,baz=30,slow=2.3,SNR=2.3							
KSAR	**Wonju Array Be**	**151.21**	**324**		PKPdf	**PKPdf**	**22 37 12.4**	**+0.8**
KSAR					PKPbc	**PKiKP**	**22 37 19.1**	**+1.0**
KSAR	**Wonju Array Be**	**151.21**	**324**		PKIKP	**PKPdf**	**22 37 12.4**	**+0.8**
BASI	**Baing, Sumba**	**151.37**	**209**		PKP	**PKPdf**	**22 37 14.3**	**+1.8**
BASI					PKP	**PKiKP**	**22 37 20.3**	**+1.2**
WSI	**Waingapu**	**151.98**	**209**		PKP	**PKPab**	**22 37 30.7**	**+1.3**
HYB	**Hyderabad**	**152.56**	**82**	*e*	PKPdf	**PKPdf**	**22 37 13.4**	**-0.8**
DL2	**Dalian**	**153.18**	**334**		PKPbc	**PKPdf**	**22 37 14.8**	**+0.4**
PLAI	**Plampang**	**153.82**	**205**		PKP	**PKiKP**	**22 37 25.5**	**+1.3**
BJI	**Beijing**	**154.06**	**344**		PKPbc	**PKPdf**	**22 37 17.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**154.20**	**352**	*e*	PKPbc	**PKPdf**	**22 37 17.6**	**+1.6**
SANI	**Sanana**	**154.58**	**229**		PKP	**PKiKP**	**22 37 26.0**	**+0.3**
BTO	**Baotou**	**154.61**	**355**	*e*	PKPbc	**PKPdf**	**22 37 17.8**	**+1.2**
BTO					PKPab	**pPKPdf**	**22 37 47.0**	**+1.6**
BTO					PP	**PP**	**22 41 14.8**	**+0.1**
BTO					SS	SS	23 00 50.3	+3.3
BTO					LR	LR		
	comp=Z,260nm,5.7s							
GTA	**Gaotai**	**155.11**	**13**		PKP	**PKPdf**	**22 37 18.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**155.41**	**197**			PKPdf	22 37 26.9	+8.6
JAGI					PKPab	**PKPab**	**22 37 44.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**155.41**	**197**		PKP	PKPdf	22 37 27.8	+9.5
GOMU	**GeErMu**	**156.44**	**25**		PKP	**PKPdf**	**22 37 19.8**	**+0.3**
HNS	**HongShan**	**156.93**	**344**	⇓	PKP	**PKPdf**	**22 37 20.6**	**+1.0**
HNS					PKPab	**PKPab**	**22 37 49.8**	**-0.1**
TIA	**Tai'an**	**157.28**	**339**		PKP	**PKPdf**	**22 37 20.3**	**+0.2**
LZH	**Lanzhou**	**159.05**	**7**	*e*	PKP	**PKPdf**	**22 37 24.3**	**+1.8**
LSA	**Lhasa**	**159.47**	**43**		PKP	**PKPdf**	**22 37 24.0**	**+0.4**
NJ2	**Nanjing**	**160.12**	**329**	*e*	PKP	**PKPdf**	**22 37 24.6**	**+1.0**
LYN	**LuoYang**	**160.18**	**347**		PKP	**PKPdf**	**22 37 22.0**	**-1.6**
LYN					PKPab	**PKPab**	**22 38 04.1**	**+0.1**
XAN	**Xi'an**	**161.22**	**355**		PKP	**PKPdf**	**22 37 26.3**	**+1.5**
XAN					sPKP		22 37 57.0	
WHN	**Wuhan**	**163.38**	**338**		PKP	**PKPdf**	**22 37 28.5**	**+1.5**
WHN					PP	**PP**	**22 42 02.6**	**+0.1**
WHN					AMB	AMB		
	comp=Z,180nm,3.6s							
CD2	**Chengdu**	**164.12**	**10**		PKP	**PKPdf**	**22 37 29.3**	**+1.5**
TNCH	**TengChong**	**167.40**	**38**		PKP	**PKPdf**	**22 37 32.0**	**+1.2**
TNCH					pPKP	pPKPdf	22 37 46.1	-14
PZH	**PanZhiHua**	**167.75**	**23**		PKP	**PKPdf**	**22 37 31.5**	**+0.6**
PZH					PKPab	**PKPab**	**22 38 37.8**	**+0.1**
KMI	**Kunming**	**169.38**	**22**	⇓	PKP	**PKPdf**	**22 37 32.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**171.59**	**67**		PKP	**PKPdf**	**22 37 33.5**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=275,slow=1.8,SNR=13							

*SOME **21** 23:03:26.4, 41°.32N×77°.53E, h10km*
*KRNET **21** 23:03:27.2±0.1, 41°.35N×77°.50E, h14km, mb2.8*
*NNC **21** 23:03:28.4±1.0, 41°.38N×77°.61E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=6.6km s-min=4.6km az=172.0
*KNET **21** 23:03:29.1±0.6, 41°.49N×77°.46E, h2km±3km, ml2.5, Error*
ellipse: s-maj=10.9km s-min=3.7km az=45.0
ISC 21 23:03:27.2±1.5, **41°.36N**±0°.05×**77°.46E**±0°.03, **h1**km±11km,
n58, σ1°**21**/96, **20C-24D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.45**	**35**	*i*	P	**Pg**	**23 03 35.6**	**-0.3**
TARG				*i*	S	**Sg**	**23 03 42.0**	**+0.2**
KDJ	**Kajisay**	**0.80**	**345**	⇑	*i*P	**Pg**	**23 03 42.6**	**+0.2**
KDJ				⇑	*i*S	**Sb**	**23 03 54.0**	**-1.3**
ULHL	**Ulahol**	**1.27**	**315**	⇓	P	**Pn**	**23 03 51.3**	**-0.9**
ULHL	24nm,0.1s			⇑	S	**Sn**	**23 04 10.0**	**0.0**
	24nm,0.2s							
ULHL	**Ulahol**	**1.27**	**315**	⇓	*i*P	**Pn**	**23 03 51.4**	**-0.9**
ULHL				⇓	*i*S	**Sn**	**23 04 09.2**	**-0.8**
PRZ	**Przheval'sk**	**1.32**	**32**	⇓	*e*P	**Pg**	**23 03 52.4**	**-0.2**
PRZ				⇓	*e*S	**Sn**	**23 04 10.3**	**-1.1**
ANVS	**Anan'yevo**	**1.43**	**6**	⇑	*i*P	**Pb**	**23 03 53.7**	**-1.1**
ANVS				⇑	*i*S	**Sg**	**23 04 13.5**	**+0.4**
BOOM	**Boomskoye usch**	**1.60**	**315**	⇑	*i*P	**Pb**	**23 03 57.1**	**-0.5**
BOOM				⇑	*i*S	**Sg**	**23 04 19.5**	**+1.0**
TNSS	**Tian-Shan**	**1.72**	**347**		P	**Pb**	**23 03 59.4**	**-0.4**
TNSS	43nm,0.2s				S	**Sg**	**23 04 22.9**	**+0.6**
	27nm,0.2s							
TNSS	**Tian-Shan**	**1.72**	**347**	*e*	P	**Pb**	**23 03 59.5**	**-0.3**
TNSS	43nm,0.2s			*e*	S	**Sg**	**23 04 22.9**	**+0.6**
	27nm,0.2s							
IZV	**Izvestkoviy**	**1.79**	**340**		P	**Pb**	**23 04 00.6**	**-0.2**
IZV	42nm,0.3s				S	**Sg**	**23 04 24.9**	**+0.3**
	106nm,0.3s							
IZV	**Izvestkoviy**	**1.79**	**340**	*e*	P	**Pb**	**23 04 00.8**	**0.0**
IZV	42nm,0.3s			*e*	S	**Sg**	**23 04 24.9**	**+0.3**
	80nm,0.1s							
MDOK	**Medeo**	**1.83**	**351**		P	**Pb**	**23 04 00.9**	**-0.5**
MDOK	27nm,0.4s				Pg	**Pb**	**23 04 01.1**	**-0.4**
	57nm,0.4s							
MDOK				⇑	S	**Sg**	**23 04 25.4**	**-0.5**
	30nm,0.4s							
MDOK					Lg	Lg	23 04 25.8	
	51nm,0.5s							
MDOK	**Medeo**	**1.83**	**351**	*e*	P	**Pb**	**23 04 01.1**	**-0.4**
MDOK	16nm,0.2s			*e*	S	**Sg**	**23 04 25.8**	**-0.1**
	26nm,0.2s							
SATY	**Saty**	**1.84**	**22**		P	**Pb**	**23 04 00.6**	**-1.1**
SATY	12nm,0.2s				S	**Sg**	**23 04 24.9**	**-1.3**
	110nm,0.2s							
AAA	**Alma-Ata**	**1.89**	**348**	*e*	P	**Pg**	**23 04 03.1**	**-0.3**
AAA	109nm,0.1s			*e*	S	**Sg**	**23 04 29.1**	**+1.2**
	27nm,0.2s							
KOTS	**Kotyrbulak**	**1.89**	**352**		Pg	**Pg**	**23 04 03.6**	**+0.3**
KOTS	23nm,0.2s				Lg	Lg	23 04 29.3	
	156nm,0.2s							
KOTS	**Kotyrbulak**	**1.89**	**352**	*e*	P	**Pg**	**23 04 03.3**	**-0.1**
KOTS	20nm,0.1s			*e*	S	**Sg**	**23 04 29.4**	**+1.5**
	155nm,0.1s							
KNDC	**Almaty**	**1.89**	**349**	⇑	Pn	**Pb**	**23 04 02.4**	**-0.1**
KNDC	28nm,0.3s			⇓	Sn	**Sg**	**23 04 29.3**	**+1.4**
	34nm,0.4s							
MTBS	**Maitube**	**1.93**	**337**		Pg	**Pb**	**23 04 03.2**	**+0.1**
MTBS	19nm,0.2s				Lg	Lg	23 04 29.7	
	73nm,0.5s							
MTBS	**Maitube**	**1.93**	**337**	*e*	P	**Pb**	**23 04 03.2**	**+0.1**
MTBS	19nm,0.1s			*e*	S	**Sg**	**23 04 29.7**	**+0.6**
	73nm,0.5s							
KST	**Kastek**	**2.01**	**327**		Pg	**Pb**	**23 04 04.5**	**-0.1**
KST	18nm,0.3s				Lg	Lg	23 04 32.0	
	48nm,0.6s							
KST	**Kastek**	**2.01**	**327**	*e*	P	**Pb**	**23 04 04.7**	**0.0**
KST	18nm,0.3s			*e*	S	**Sg**	**23 04 32.0**	**+0.1**
	48nm,0.6s							
TKM2	**Tokmak 2**	**2.08**	**319**	⇑	P	**Pb**	**23 04 06.0**	**+0.1**
TKM2	19nm,0.2s,SNR=47			⇑	S	**Sg**	**23 04 35.2**	**+1.0**
	21nm,0.1s							
TKM2	**Tokmak 2**	**2.08**	**319**	⇓	Pn	**Pb**	**23 04 06.0**	**+0.1**
TKM2	14nm,0.7s			⇑	Sn	**Sg**	**23 04 35.3**	**+1.2**
	31nm,0.7s							
TKM2	**Tokmak 2**	**2.08**	**319**	⇓	*i*P	**Pb**	**23 04 04.8**	**-1.1**
TKM2				⇓	*i*S	**Sb**	**23 04 32.6**	**+0.2**
UZB	**Uzynbulak**	**2.13**	**33**		Pg	**Pb**	**23 04 06.1**	**-0.5**
UZB	9.3nm,0.3s				Lg	Lg	23 04 34.6	
	47nm,0.3s							
UZB	**Uzynbulak**	**2.13**	**33**	*e*	P	**Pb**	**23 04 06.2**	**-0.5**
UZB	5.9nm,0.2s			*e*	S	**Sg**	**23 04 34.6**	**-1.0**
	22nm,0.1s							
KURS	**Kuram**	**2.19**	**14**		Pg	**Pb**	**23 04 07.0**	**-0.6**
KURS	6.5nm,0.4s				Lg	Lg	23 04 36.0	
	26nm,0.6s							
DGS	**Degeres**	**2.26**	**327**		Pg	**Pb**	**23 04 08.9**	**+0.1**
DGS	20nm,0.4s				Lg	Lg	23 04 39.3	
	36nm,0.4s							
KBK	**Karagaybulak**	**2.27**	**306**	⇓	P	**Pb**	**23 04 09.6**	**+0.5**
KBK	8.6nm,0.2s,SNR=13			⇓	S	**Sg**	**23 04 40.9**	**+0.7**
	44nm,0.5s							
KPKS	**Kokpek**	**2.29**	**23**		Pg	**Pb**	**23 04 08.7**	**-0.7**
KPKS	5.9nm,0.2s				Lg	Lg	23 04 38.9	
	73nm,0.3s							
KPKS	**Kokpek**	**2.29**	**23**	*e*	P	**Pb**	**23 04 08.7**	**-0.7**
KPKS	5.9nm,0.2s			*e*	S	**Sg**	**23 04 38.9**	**-1.9**
	73nm,0.3s							
KPKS	**Kokpek**	**2.29**	**23**	*e*	P	**Pb**	**23 04 08.9**	**-0.5**
KPKS	7.9nm,0.1s			*e*	S	**Sg**	**23 04 39.3**	**-1.5**
	36nm,0.4s							
SHLS	**Shalkode**	**2.33**	**39**		Pg	**Pg**	**23 04 13.2**	**+1.3**
SHLS	20nm,0.3s				Lg	Lg	23 04 46.8	
	34nm,0.5s							
SHLS	**Shalkode**	**2.33**	**39**	*e*	P	**Pg**	**23 04 13.2**	**+1.3**
SHLS	20nm,0.3s			*e*	S	**Sg**	**23 04 46.8**	**+4.7**
	26nm,0.3s							
UCH	**Uchtor**	**2.36**	**292**	⇓	P	**Pb**	**23 04 11.0**	**+0.2**
UCH	5.7nm,0.3s			⇓	S	**Sg**	**23 04 44.9**	**+1.8**
	16nm,0.6s							
ARLS	**Aral**	**2.40**	**283**	⇑	*e*P	**Pb**	**23 04 09.9**	**-1.4**
ARLS				⇑	*e*S	**Sb**	**23 04 41.4**	**-0.1**
KTBS	**Karatobe**	**2.42**	**347**		Pg	**Pb**	**23 04 11.2**	**-0.3**
KTBS	36nm,0.4s				Lg	Lg	23 04 43.4	
	72nm,0.7s							
PDGK	**Podgornoye**	**2.48**	**37**	⇑	Pg	**Pb**	**23 04 11.4**	**-1.1**
PDGK	17nm,0.8s			⇓	Lg	Lg	23 04 43.4	
	22nm,0.5s							
AAK	**Ala-Archa**	**2.55**	**301**	⇑	P	**Pb**	**23 04 14.2**	**+0.4**
AAK	7.0nm,0.2s,SNR=11			⇓	S	**Sg**	**23 04 48.6**	**-0.5**
	18nm,0.5s							
AAK	**Ala-Archa**	**2.55**	**301**		Pn	**Pb**	**23 04 13.7**	**-0.1**
AAK	5.6nm,0.4s				Lg	Lg	23 04 53.0	
	8.6nm,0.5s							
FRU1	**Bishkek**	**2.55**	**305**	⇓	*e*P	**Pb**	**23 04 12.1**	**-1.7**
FRU1				⇓	*e*S	**Sb**	**23 04 44.9**	**-0.8**
CHMS	**Chumysh**	**2.59**	**310**	⇓	P	**Pb**	**23 04 14.1**	**-0.4**
CHMS	8.7nm,0.2s,SNR=14			⇑	del		23 04 50.4	
	7.3nm,0.2s							
KUU	**Kurty**	**2.66**	**342**		Pg	**Pg**	**23 04 18.0**	**-0.2**
KUU					Lg	Lg	23 04 55.0	
KUU	**Kurty**	**2.66**	**342**	*e*	P	**Pg**	**23 04 18.0**	**-0.2**
KUU	1.4nm,0.1s			*e*	S	**Sg**	**23 04 55.0**	**+2.3**
	41nm,0.1s							
SALK	**Salom-Alik**	**2.79**	**261**	⇓	*e*P	**Pn**	**23 04 15.1**	**+2.0**
SALK				⇓	*e*S	**Sb**	**23 04 50.5**	**-2.1**
BLB	**Baldybastay**	**2.84**	**15**		Pg	**Pb**	**23 04 18.6**	**-0.1**
BLB	13nm,0.2s				Lg	Lg	23 04 55.5	
	86nm,0.4s							
USP	**Ospenovka**	**2.90**	**312**		P	**Pb**	**23 04 19.9**	**+0.1**
	SNR=7.7							
AML	**Almayashu**	**2.92**	**287**	⇑	P	**Pb**	**23 04 19.9**	**-0.3**
	17nm,0.2s,SNR=12							
DJR	**Jarkent**	**3.43**	**29**		Pg	**Pb**	**23 04 28.4**	**-0.4**
DJR	1.1nm,0.1s				Lg	Lg	23 05 12.4	
	12nm,0.5s							
DJR	**Jarkent**	**3.43**	**29**	*e*	P	**Pb**	**23 04 28.4**	**-0.4**
DJR	1.1nm,0.1s			*e*	S	**Sb**	**23 05 12.4**	**+1.5**
	15nm,0.2s							
MRKS	**Merke**	**3.44**	**295**		Pg	**Pb**	**23 04 30.6**	**+1.6**
MRKS	3.2nm,0.3s				Lg	Lg	23 05 16.7	
	9.2nm,0.6s							
MRKS	**Merke**	**3.44**	**295**	*e*	P	**Pb**	**23 04 30.6**	**+1.6**
MRKS	4.3nm,0.2s			*e*	S	**Sg**	**23 05 16.7**	**-1.0**
	9.2nm,0.6s							
MNAS	**Manas**	**3.86**	**289**	⇓	*e*P	**Pn**	**23 04 29.8**	**+2.0**
MNAS				⇓	*e*

	29nm,0.2s								
IZV					*e*S		**Sg**	23 14 03.6	-0.5
	58nm,0.2s								
MDOK	**Medeo**	**1.80**	**349**		Pn		**Pn**	23 13 39.0	+0.7
	20nm,0.4s								
MDOK					Pg		**Pn**	23 13 39.1	+0.7
	41nm,0.4s								
MDOK					Sn		**Sg**	23 14 04.0	-1.1
	26nm,0.4s								
MDOK					Lg		Lg	23 14 04.1	
	41nm,0.6s								
MDOK	**Medeo**	**1.80**	**349**		*e*P		**Pn**	23 13 39.1	+0.7
	41nm,0.4s								
MDOK					*e*S		**Sg**	23 14 04.1	-0.9
	41nm,0.6s								
KNDC	**Almaty**	**1.87**	**348**	⇑	Pn		**Pb**	23 13 40.6	-0.7
	25nm,0.3s								
KNDC				⇓	Sn		**Sg**	23 14 07.0	-0.1
	34nm,0.5s								
MTBS	**Maitube**	**1.91**	**335**		Pg		**Pb**	23 13 41.0	-1.2
	14nm,0.3s								
MTBS					Lg		Lg	23 14 07.3	
	52nm,0.5s								
MTBS	**Maitube**	**1.91**	**335**		*e*P		**Pb**	23 13 41.0	-1.2
	13nm,0.1s								
MTBS					*e*S		**Sb**	23 14 07.3	+1.2
	52nm,0.5s								
KST	**Kastek**	**2.01**	**325**		Pg		**Pn**	23 13 42.5	+1.3
	13nm,0.2s								
KST					Lg		Lg	23 14 10.0	
	38nm,0.5s								
KST	**Kastek**	**2.01**	**325**		*e*P		**Pn**	23 13 42.5	+1.3
	13nm,0.2s								
KST					*e*S		**Sb**	23 14 10.0	+1.0
	54nm,0.4s								
UZB	**Uzynbulak**	**2.08**	**32**		Pg		**Pb**	23 13 43.6	-1.3
	5.7nm,0.3s								
UZB					Lg		Lg	23 14 12.3	
	27nm,0.4s								
UZB	**Uzynbulak**	**2.08**	**32**		*e*P		**Pb**	23 13 43.6	-1.3
	3.9nm,0.2s								
UZB					*e*S		**Sg**	23 14 12.3	-1.6
	27nm,0.4s								
TKM2	**Tokmak 2**	**2.09**	**318**	⇓	P		**Pb**	23 13 44.1	-1.2
	11nm,0.2s,SNR=27								
TKM2				⇑	S		**Sb**	23 14 13.1	+1.8
	13nm,0.1s								
TKM2	**Tokmak 2**	**2.09**	**318**	⇑	Pn		**Pn**	23 13 43.6	+1.2
	8.4nm,0.6s								
TKM2				⇑	Lg		Lg	23 14 14.5	
	21nm,0.7s								
KURS	**Kuram**	**2.15**	**13**		Pg		**Pb**	23 13 45.1	-1.0
	5.6nm,0.3s								
KURS					Lg		Lg	23 14 14.2	
	18nm,0.7s								
KPKS	**Kokpek**	**2.24**	**22**		Pg		**Pb**	23 13 46.8	-1.0
	4.8nm,0.2s								
KPKS					Lg		Lg	23 14 16.9	
	52nm,0.3s								
KPKS	**Kokpek**	**2.24**	**22**		*e*P		**Pb**	23 13 46.8	-1.0
	4.8nm,0.2s								
KPKS					*e*S		**Sg**	23 14 16.9	-2.2
	52nm,0.3s								
KPKS	**Kokpek**	**2.24**	**22**		*e*P		**Pb**	23 13 47.0	-0.8
	11nm,0.1s								
KPKS					*e*S		**Sg**	23 14 17.6	-1.6
	32nm,0.3s								
DGS	**Degeres**	**2.25**	**326**		Pg		**Pb**	23 13 47.0	-1.0
	13nm,0.5s								
DGS					Lg		Lg	23 14 17.6	
	27nm,0.5s								
SHLS	**Shalkode**	**2.28**	**39**		Pg		**Pg**	23 13 51.2	+0.5
	10nm,0.3s								
SHLS					Lg		Lg	23 14 25.3	
	25nm,0.6s								
SHLS	**Shalkode**	**2.28**	**39**		*e*P		**Pg**	23 13 51.2	+0.5
	10nm,0.3s								
SHLS					*e*S		**Sg**	23 14 25.3	+5.0
	21nm,0.3s								
KBK	**Karagaybulak**	**2.29**	**304**	⇑	P		**Pb**	23 13 47.6	-1.1
	7.5nm,0.2s,SNR=13								
KBK				⇓	S		**Sb**	23 14 18.8	+1.7
	31nm,0.5s								
UCH	**Uchtor**	**2.40**	**291**	⇓	P		**Pb**	23 13 49.5	-1.1
	4.5nm,0.3s								
KTBS	**Karatobe**	**2.40**	**345**		Pg		**Pb**	23 13 49.2	-1.2
	26nm,0.5s								
KTBS					Lg		Lg	23 14 21.9	
	135nm,0.6s								
PDGK	**Podgornoye**	**2.42**	**36**	⇑	Pg		**Pg**	23 13 52.7	-0.9
	11nm,0.8s								
PDGK				⇑	Lg		Lg	23 14 21.4	
	35nm,0.8s								
ARLS	**Aral**	**2.44**	**282**	⇑	*e*P		**Pn**	23 13 47.0	-0.1
ARLS				⇑	*e*S		**Sn**	23 14 18.2	+1.1
AAK	**Ala-Archa**	**2.57**	**300**	⇓	P		**Pb**	23 13 51.6	-1.8
	5.8nm,0.2s,SNR=7.5								
AAK				⇑	S		**Sb**	23 14 26.4	+1.3
	21nm,0.7s								
AAK	**Ala-Archa**	**2.57**	**300**	⇓	Pn		**Pb**	23 13 52.1	-1.4
	5.9nm,0.7s								
AAK				⇑	Lg		Lg	23 14 30.1	
	13nm,0.7s								
FRU1	**Bishkek**	**2.57**	**304**	⇓	*e*P		**Pn**	23 13 49.9	+1.0
FRU1				⇓	*e*S		**Sn**	23 14 22.3	+2.0
CHMS	**Chumysh**	**2.61**	**309**	⇑	P		**Pn**	23 13 51.7	+2.3
	5.6nm,0.2s,SNR=11								
BLB	**Baldybastay**	**2.79**	**14**		Pg		**Pb**	23 13 55.8	-1.3
	10nm,0.2s								
BLB					Lg		Lg	23 14 33.0	
	59nm,0.3s								
SALK	**Salom-Alik**	**2.84**	**261**	⇑	*e*P		**Pn**	23 13 52.8	+0.2
SALK				⇑	*e*S		**Sn**	23 14 27.6	+0.6
USP	**Ospenovka**	**2.92**	**311**	⇓	P		**Pb**	23 13 56.6	-2.6
	3.0nm,0.2s,SNR=15								
AML	**Almayashu**	**2.95**	**286**	⇑	P		**Pb**	23 13 57.9	-2.2
	10nm,0.2s,SNR=7.4								
KNOS	**Konyrlen**	**3.20**	**22**		Pg		**Pb**	23 14 04.6	+0.4
KNOS					Lg		Lg	23 14 48.1	
DJR	**Jarkent**	**3.38**	**29**		Pg		**Pb**	23 14 05.6	-1.5
	0.6nm,0.1s								
DJR					Lg		Lg	23 14 49.8	
	11nm,0.3s								
DJR	**Jarkent**	**3.38**	**29**		*e*P		**Pb**	23 14 05.6	-1.5
	0.5nm,0.1s								
DJR					*e*S		**Sb**	23 14 49.8	+1.5
	11nm,0.3s								
MRKS	**Merke**	**3.47**	**294**		Pg		**Pb**	23 14 08.5	-0.1
	2.4nm,0.4s								
MRKS					Lg		Lg	23 14 54.5	
	6.8nm,0.5s								
MRKS	**Merke**	**3.47**	**294**		*e*P		**Pb**	23 14 08.5	-0.1
	2.4nm,0.4s								
MRKS					*e*S		**Sb**	23 14 54.5	+3.6
	6.5nm,0.4s								
TDK	**Taldyqorghan**	**3.66**	**10**		*e*P		**Pb**	23 14 10.9	-1.1
	1.7nm,0.1s								
TDK					*e*S		**Sb**	23 14 58.5	+2.1
	11nm,0.2s								
MNAS	**Manas**	**3.90**	**288**	⇓	*e*P		**Pn**	23 14 07.5	+0.4
MNAS				⇓	*e*S		**Sn**	23 14 53.5	+0.5
BTLS	**Baital**	**4.44**	**326**		Pg		**Pb**	23 14 27.3	+2.2
	2.3nm,0.3s								
BTLS					Lg		Lg	23 15 27.4	
	3.5nm,0.6s								
BTLS	**Baital**	**4.44**	**326**		*e*P		**Pb**	23 14 27.3	+2.2
	2.3nm,0.3s								
BTLS					*e*S		**Sg**	23 15 27.4	-2.2
	3.5nm,0.4s								
MK31	**Makanchi Array**	**6.40**	**31**	⇑	Pn		**Pn**	23 14 42.7	+1.3
	0.9nm,0.8s								
MK31				⇓	Lg		Lg	23 16 30.7	
	0.3nm,0.5s,baz=215,slow=29,SNR=3.8								

TXNET 21 23:18:22.3,31.7N±0.6×104.2W±0.9,h8km±3km,ML2.0/7, Error ellipse: s-maj=1.4km s-min=0.9km az=68.1,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.33**	**29**	P	Pg	23 18 29.4	+0.5
TPB11				S	Sg	23 18 34.5	+1.2
PECS	**Pecos**	**0.41**	**132**	P	Pb	23 18 31.1	-0.7
PECS				S	Sg	23 18 36.9	+1.1
TPB07	**Mentone**	**0.48**	**98**	P	Pb	23 18 32.6	-0.4
TPB07				S	Sb	23 18 39.3	-0.9
TPB12	**Southwest of T**	**0.49**	**152**	P	Pg	23 18 32.2	+0.5
TPB12				S	Sg	23 18 39.1	+0.9
TPB10	**Southeast of T**	**0.54**	**132**	P	Pb	23 18 33.5	-0.6
TPB10				S	Sb	23 18 41.4	-0.5
GDL2	**Guadalupe Moun**	**0.57**	**348**	P	Pb	23 18 34.4	-0.2
PCOS	**Crockett Middl**	**0.65**	**111**	S	Sb	23 18 45.3	+0.1
CLNB	**Carlsbad**	**0.68**	**25**	S	Sb	23 18 46.0	-0.1
TPB01	**Permian Basin**	**0.80**	**151**	P	Pg	23 18 37.6	0.0
TPB01				S	Sg	23 18 48.1	+0.1
TPB03	**Saragosa**	**0.83**	**133**	S	Sb	23 18 50.3	+0.1
CLN7	**Carlsbad 7**	**0.84**	**25**	P	Pg	23 18 38.7	+0.2
TPB06	**Permian Basin**	**0.86**	**90**	S	Sb	23 18 50.9	-0.2
TPB04	**Verhalen**	**0.94**	**119**	P	Pb	23 18 40.8	0.0
HTMS	**Hat Mesa**	**0.96**	**31**	S	Sn	23 18 55.4	-0.8
HTMS	**Hat Mesa**	**0.96**	**31**	P	Pb	23 18 41.6	+0.3
TPB16	**Coyonosa**	**0.98**	**122**	S	Sb	23 18 55.0	+0.4
MNTX	**Cornudas Mount**	**0.99**	**273**	P	Pg	23 18 41.4	+0.1
MNTX				S	Sg	23 18 54.4	+0.2
NM01	**Eunice**	**0.99**	**45**	S	Sn	23 18 56.1	-0.8
TPB05	**Hovey Rd**	**1.06**	**133**	P	Pb	23 18 43.0	+0.2
TPB05				S	Sb	23 18 56.9	0.0
VHRN	**Van Horn**	**1.08**	**218**	P	Pg	23 18 42.8	-0.2
VHRN				S	Sn	23 18 59.5	+0.6
MNHN	**Monahans**	**1.28**	**103**	P	Pn	23 18 46.5	-0.1
MNHN				S	Sn	23 19 04.6	+0.6
ALPN	**Alpine**	**1.36**	**158**	P	Pn	23 18 47.2	-0.5
ALPN				S	Sb	23 19 04.9	-0.9
CPRX	**Cap Rock**	**1.41**	**12**	P	Pb	23 18 49.1	+0.1
ODSA	**Odessa**	**1.50**	**71**	P	Pb	23 18 50.3	-0.2
TMB04	**Seminole**	**1.77**	**56**	P	Pb	23 18 55.0	0.0
TMB04				S	Sg	23 19 18.4	-0.7
TMB02	**Rankin**	**1.92**	**103**	S	Sb	23 19 22.5	+0.8
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	23 19 04.0	-1.0
TX31				S	Sb	23 19 36.0	+1.8
SAND	**Sanderson**	**2.47**	**132**	P	Pb	23 19 07.1	+0.1
SAND				S	Sg	23 19 40.0	-1.7

*NEIC **21** 23:20:10.9±0.7,37.30N±0.01×97.94W±0.01,h6km±1km, Error ellipse: s-maj=2.1km s-min=1.6km az=204.0*
*NEIC **21** 23:20:10.8±0.7,37.30N±0.01×97.92W±0.01,h5km±1km, mb_Lg2.8/43,ML3.2/39,ML3.4/18,ML3.0/14,Error ellipse: s-maj=2.4km s-min=2.1km az=200.0*
*NEIC **21** 23:20:10.9±0.7,37.29N±0.01×97.93W±0.01,h4km±2km, Error ellipse: s-maj=2.1km s-min=1.2km az=47.0*
ISC 21 23:20:11.3±1.0,37.31N±0.04×97.93W±0.02,h6km±6km, n54,σ0°70/51,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.06**	**261**		**Pg**	**23 20 12.5**	**-0.4**
KAN12				Sg	**Sg**	**23 20 13.6**	**-0.4**
KAN12				IAML		23 20 14.0	
	comp=N,16μm,0.4s						
KAN06	**Argonia West S**	**0.08**	**138**	Pg	**Pg**	**23 20 13.2**	**+0.1**
KAN06				Sg	**Sg**	**23 20 14.4**	**0.0**
KAN08	**Anthony NE Sta**	**0.09**	**205**		**Pg**	**23 20 12.9**	**-0.3**
KAN08				Sg	**Sg**	**23 20 14.3**	**-0.3**
KAN08				IAML		23 20 14.5	
	comp=N,14μm,0.2s						
KAN16	**Harper SW Stat**	**0.14**	**234**		**Pg**	**23 20 16.1**	**+1.9**
KAN01	**Argonia South**	**0.20**	**139**		**Pg**	**23 20 15.2**	**-0.1**
KAN01				Sg	**Sg**	**23 20 18.3**	**+0.3**
KAN01				IAML		23 20 18.4	
	comp=E,6μm,0.3s						
KAN01				IAML		23 20 18.4	
	comp=N,4μm,0.3s						
KAN05	**Bluff City Nor**	**0.20**	**168**		**Pg**	**23 20 15.1**	**-0.2**
KAN05				Sg	**Sg**	**23 20 18.2**	**+0.2**
KAN05				IAML		23 20 18.6	
	comp=N,4μm,0.2s						
KAN05				IAML		23 20 21.2	
	comp=E,4μm,0.2s						
KAN10	**Anthony SW Sta**	**0.23**	**217**		**Pg**	**23 20 15.6**	**-0.2**
KAN10					**Sg**	**23 20 18.8**	**0.0**
KAN17	**Caldwell West**	**0.29**	**154**		**Pg**	**23 20 16.9**	**-0.1**
KAN17				Sg	**Sg**	**23 20 20.5**	**-0.3**
KAN09	**Caldwell North**	**0.30**	**125**		**Pg**	**23 20 17.0**	**-0.1**
KAN09				Sg	**Sg**	**23 20 21.4**	**+0.4**
KAN09				IAML		23 20 22.6	
	comp=E,4μm,0.2s						
KAN09				IAML		23 20 25.4	
	comp=N,4μm,0.2s						
KAN14	**Manchester OK**	**0.35**	**185**		**Pg**	**23 20 17.9**	**-0.2**
KAN14				Sg	**Sg**	**23 20 22.6**	**-0.1**
KAN14				IAML		23 20 22.9	
	comp=E,3μm,0.1s						
KAN14				IAML		23 20 24.8	
	comp=N,2μm,0.1s						
KAN13	**South Haven SW**	**0.46**	**129**		**Pg**	**23 20 20.1**	**0.0**
KAN13				Sg	**Sg**	**23 20 26.5**	**+0.3**
KAN13				IAML		23 20 26.6	
	comp=N,3μm,0.2s						
BLOK	**Blackwell**	**0.79**	**134**		**Pg**	**23 20 26.2**	**-0.2**
BLOK				Sg	**Sg**	**23 20 36.9**	**+0.3**
CROK	**Carrier**	**0.80**	**183**		**Pg**	**23 20 26.1**	**-0.6**
CROK					**Sg**	**23 20 37.1**	**+0.1**
CROK				IAML		23 20 43.9	
	comp=N,897nm,0.3s						
CROK				IAML		23 20 44.4	
	comp=E,1μm,0.5s						
NOKA	**Waynoka**	**1.05**	**231**		**Pg**	**23 20 30.4**	**-1.0**
NOKA					**Sg**	**23 20 44.6**	**-0.4**
NOKA				IAML		23 20 44.9	
	comp=E,606nm,0.3s						
NOKA				IAML		23 20 44.9	
	comp=N,569nm,0.2s						
OK038	**West end E0370**	**1.05**	**219**		**Pg**	**23 20 30.9**	**-0.6**
OK038					**Sg**	**23 20 45.0**	**-0.2**
OK038				IAML		23 20 52.4	
	comp=N,807nm,0.3s						
OK051	**E0350 and S346**	**1.18**	**132**		**Pg**	**23 20 33.2**	**-0.8**
OK051					**Sg**	**23 20 49.1**	**-0.2**
R32A	**Long Quarter,**	**1.28**	**331**		**Pn**	**23 20 34.7**	**-0.9**
R32A				IAML		23 20 57.1	
	comp=N,385nm,0.2s						
QUOK	**Quay**	**1.50**	**139**		**Pn**	**23 20 38.6**	**-0.1**
OK029	**Liberty Lake**	**1.55**	**166**		**Sb**	**23 21 00.3**	**-0.1**
OK052	**Battle Ridge R**	**1.59**	**145**		**Pb**	**23 20 40.4**	**-0.7**
ADOK	**Arcadia Dam**	**1.71**	**165**		**Pb**	**23 20 42.2**	**-0.9**
CSTR	**Hydro, Custer**	**1.77**	**201**		**Pn**	**23 20 42.3**	**-0.2**
KSU1	**Kansas State U**	**2.07**	**30**		**Pn**	**23 20 47.5**	**+0.9**
CBKS	**Cedar Bluff**	**2.08**	**317**	Pn	**Pn**	**23 20 47.5**	**+0.8**
FNO	**Franklin**	**2.09**	**168**		**Pb**	**23 20 47.8**	**-1.7**
W35A	**Tecumseh**	**2.31**	**158**		**Pn**	**23 20 50.3**	**+0.4**
WMOK	**Wichita Mounta**	**2.66**	**195**	Pn	**Pn**	**23 20 54.8**	**+0.1**
WMOK	**Wichita Mounta**	**2.66**	**195**	P	**Pn**	**23 20 56.0**	**+1.4**
WMOK				S	**Sb**	**23 21 32.1**	**0.0**
SMWD	**Samnorwood**	**2.89**	**221**	IAmb_Lg		23 21 48.7	
	comp=Z,20nm,0.7s						
WTFS	**Witchita Falls**	**3.56**	**187**	P	**Pb**	**23 21 13.9**	**-0.8**
WTFS				S	**Sn**	**23 21 51.6**	**+2.2**
RTBA	**Rita Blanca**	**3.96**	**259**	P	**Pn**	**23 21 13.3**	**+0.8**
RTBA				S	**Sn**	**23 21 59.3**	**-0.1**
Z35A	**Perchaven, San**	**4.00**	**172**	P	**Pb**	**23 21 23.2**	**+1.0**
Z35A	**Perchaven, San**	**4.00**	**172**	S	**Sn**	**23 22 00.6**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.08**	**296**	IAmb_Lg		23 22 22.1	
	comp=Z,22nm,0.7s						
BGNE	**Belgrade**	**4.10**	**358**	IAmb_Lg		23 22 30.3	
	comp=Z,25nm,0.8s						
DKNS	**Dickens**	**4.38**	**215**	IAmb_Lg		23 22 38.5	
	comp=Z,15nm,0.7s						
MIAR	**Mount Ida**	**4.48**	**127**	IAmb_Lg		23 22 39.8	
	comp=Z,19nm,0.8s						
MGMO	**Mountain Grove**	**4.52**	**90**	IAmb_Lg		23 22 37.4	
	comp=Z,17nm,0.7s						
OGNE	**Ogallala**	**4.84**	**320**	IAmb_Lg		23 22 49.5	
	comp=Z,24nm,0.8s						
SN07	**Snyder 07**	**4.86**	**211**	IAmb_Lg		23 22 55.4	
	comp=Z,13nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.88**	**105**	IAmb_Lg		23 22 54.3	
	comp=Z,10nm,0.8s						
N38A	**Joes South For**	**5.04**	**45**	IAmb_Lg		23 22 53.7	
	comp=Z,24nm,0.8s						
UALR	**University of**	**5.18**	**118**	IAmb_Lg		23 23 05.3	
	comp=Z,23nm,1.2s						
WHTX	**Lake Whitney,**	**5.32**	**176**	P	**Pn**	**23 21 31.5**	**+0.3**
WLAR	**White Oak Lake**	**5.33**	**131**	IAmb_Lg		23 23 03.5	
	comp=Z,20nm,0.9s						
CCM	**Cathedral Cave**	**5.35**	**80**	IAmb_Lg		23 23 05.5	
	comp=Z,18nm,1.1s						
K30B	**Basset**	**5.52**	**347**	IAmb_Lg		23 23 08.6	
	comp=Z,18nm,1.1s						
LCAR	**Lake Charles**	**5.58**	**101**	IAmb_Lg		23 23 14.1	
	comp=Z,16nm,0.9s						
Q24A	**Divide**	**5.93**	**288**	IAmb_Lg		23 23 32.7	
	comp=Z,13nm,0.8s						
ODSA	**Odessa**	**6.42**	**218**	IAmb_Lg		23 23 48.4	
	comp=Z,8.8nm,0.8s						
SIUC	**Southern Illin**	**6.93**	**84**	IAmb_Lg		23 23 50.2	
	comp=Z,17nm,0.8s						
MNHN	**Monahans**	**7.17**	**215**	P	Pn	23 21 47.9	-8.8
JFWS	**Jewell Farm**	**8.12**	**44**	IAmb_Lg		23 24 35.9	
	comp=Z,12nm,0.7s						
K22A	**Casper**	**8.49**	**312**	IAmb_Lg		23 24 46.0	
	comp=Z,8.3nm,0.8s						

*IDC **21** 23:58:43.0±4.9,51.69N×157.34E,h113km±29km,mb3.3/7, mbtmp3.7/8,Error ellipse: s-maj=58.3km s-min=22.0km az=174.0*
*KRSC **21** 23:58:44.5±1.3,51.89N×157.82E,h114km±9km,Ml3.9*
ISC 21 23:58:44.8±0.8,51.87N±0.06×157.75E±0.07,h121km±6km, n38,σ1°44/39,mb3.4/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.21**	**106**	*i* P	**Pn**	**23 59 01.4**	**-0.2**
KDTR				*e*S	**Sn**	**23 59 13.3**	**-0.9**
GRL	**Gorelyy**	**0.71**	**16**	*e*P	**Pn**	**23 59 05.0**	**+0.5**
PAU	**Pauzhetka**	**0.71**	**236**	*i* P	**Pn**	**23 59 04.7**	**+0.3**
PAU				*e*S	**Sn**	**23 59 19.3**	**+0.2**
RUS	**Russkaya**	**0.73**	**39**	*e*P	**Pn**	**23 59 04.5**	**0.0**
KRMR	**Karymshinskiy**	**0.99**	**13**	*i* P	**Pn**	**23 59 06.9**	**+0.1**
KRMR				*e*S	**Sn**	**23 59 23.7**	**+0.2**
APC	**Apacha**	**1.12**	**341**	*i* P	**Pn**	**23 59 07.9**	**-0.2**
APC				*e*S	**Sn**	**23 59 24.8**	**-1.0**
PETK	**Petropavlovsk-**	**1.24**	**358**	P	**Pn**	**23 59 08.7**	**-0.8**
	192nm,0.5s,baz=160,slow=12,SNR=806						
PETK				S	**Sn**	**23 59 29.3**	**+1.1**
	80nm,0.7s,baz=258,slow=25,SNR=12						
PET	**Petropavlovsk**	**1.28**	**25**	*i* P	**Pn**	**23 59 10.1**	**+0.3**
PET				*e*S	**Sn**	**23 59 29.1**	**+0.2**
INSR	**Institute**	**1.31**	**23**	*e*S	**Sn**	**23 59 29.9**	**+0.5**
UGLR	**Uglovaya**	**1.49**	**26**	*e*P	**Pn**	**23 59 13.7**	**+1.4**
AVH	**Avacha**	**1.52**	**23**	*e*P	**Pn**	**23 59 13.9**	**+1.3**
KOK	**Koryaka**	**1.52**	**20**	*e*P	**Pn**	**23 59 14.2**	**+1.5**
SKR	**Severo-Kuril's**	**1.57**	**222**	*e*P	**Pn**	**23 59 13.7**	**+0.6**
SKR				*e*S	**Sn**	**23 59 35.7**	**+1.1**
KRX	**Arik**	**1.59**	**20**	*e*P	**Pn**	**23 59 14.3**	**+0.8**
NLC	**Nalytchevo**	**1.63**	**36**	*e*P	**Pn**	**23 59 13.6**	**-0.1**
NLC				*e*S	**Sn**	**23 59 34.9**	**-0.9**
GNL	**Ganaly**	**1.83**	**4**	*e*P	**Pn**	**23 59 16.6**	**+0.2**
SPN	**Mys Shipunski**	**1.85**	**48**	*e*P	**Pn**	**23 59 17.2**	**+0.8**
SPN				*e*S	**Sn**	**23 59 40.2**	**-0.5**
TUMD	**Tumrok D**	**3.69**	**24**	*e*P	**Pn**	**23 59 42.3**	**+2.1**
KMNR	**Kamenistaya**	**4.16**	**20**	*e*P	**Pn**	**23 59 48.4**	**+1.8**
KBTR	**Krutoberegovo**	**5.27**	**32**	*e*P	**Pn**	**00 00 01.8**	**+0.5**
KBTR				*e*S	**Sn**	**00 01 01.9**	**+1.0**
BKI	**Bering**	**5.93**	**52**	*e*S	**Sn**	**00 01 10.9**	**-5.8**
MA2	**Magadan**	**8.67**	**336**	P	**Pn**	**00 00 46.6**	**-0.5**
	5.8nm,0.7s,baz=150,slow=13,SNR=5.7						
ILAR	**Eielson Array**	**30.69**	**44**	P	**P**	**00 04 48.7**	**+1.1**
	0.5nm,0.7s,baz=248,slow=7.6,SNR=6.3						
	0.5nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**32.86**	**164**	T	T	00 39 30.9	
	baz=350,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**32.88**	**164**	T	T	00 39 38.5	
	baz=350,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**32.88**	**164**	T	T	00 39 58.4	
	baz=350,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**34.03**	**165**	T	T	00 42 08.3	
	baz=351,slow=76,SNR=7.3						
H11S3	**WAKE ISLAND Hy**	**34.04**	**165**	T	T	00 41 52.4	
	baz=351,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.05**	**165**	T	T	00 42 08.0	
	baz=351,slow=76,SNR=3.5						
YKA	**Yellowknife Ar**	**45.03**	**41**	P	**P**	**00 06 49.4**	**+1.6**
	0.6nm,0.8s,baz=298,slow=8.0,SNR=5.8						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**47.26**	**302**	P	**P**	**00 07 03.5**	**-1.9**
	0.3nm,0.3s,baz=60,slow=7.3,SNR=1.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.39**	**295**	P	**P**	**00 07 04.3**	**-2.2**
	0.1nm,0.5s,baz=59,slow=6.8,SNR=6.2						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**72.44**	**65**	P	**P**	**00 09 59.5**	**+1.5**
	0.2nm,0.5s,baz=323,slow=6.7,SNR=3.8						
	0.2nm,0.5s						
ESDC	**Sonseca Array**	**87.45**	**346**	P	**P**	**00 11 17.6**	**-0.8**
	0.8nm,0.7s,baz=1.4,slow=4.6,SNR=8.5						
	0.8nm,0.7s						
KEST	**Kesra**	**88.48**	**335**	P	**P**	**00 11 22.7**	**-0.8**
	1.9nm,0.9s,baz=13,slow=3.5,SNR=6.0						
	1.9nm,0.9s						
H03N2	**Juan Fernandez**	**135.65**	**88**	T	T	02 48 33.0	
	baz=314,slow=77,SNR=48						
H03N1	**Juan Fernandez**	**135.66**	**88**	T	T	02 48 29.3	
	baz=314,slow=77,SNR=61						
H03N3	**Juan Fernandez**	**135.66**	**88**	T	T

NAO 22 00:20:59.4±2.1, 71°.82N×1°.34W, ML3.0
BER 22 00:21:02.5±2.5, 71°.84N×1°.41W, h10km, mb(Pn)4.4, ML3.0(NAO), Confirmed Earthquake
IDC 22 00:21:03.7±3.9, 71°.65N×0°.00E, h0km, mb3.2/2, mbtmp3.5/7, ML2.9/5, Error ellipse: s-maj=60.9km s-min=23.5km az=87.0
KOLA 22 00:21:06.3, 71°.82N×0°.48W, h0km, ML1.5, Norwegian sea, Mohn ridge
DNK 22 00:21:12.4±5.1, 72°.75N×2°.25W, h30km, ML1.2
ISC 22 00:20:58.3±0.8, 71°.74N±0°.08×1°.60W±0°.07, h10km, n49, σ3s65/65, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**6.02**	**304**	Pn	**Pn**	**00 22 28.4**	**+1.2**
DBG				Sn	**Sn**	**00 23 30.9**	**-5.2**
DBG	**Daneborg**	**6.02**	**304**	*e*P	**Pn**	**00 22 28.7**	**+1.5**
DBG				*e*S	**Sn**	**00 23 31.1**	**-5.0**
DBG						00 27 51.9	
DBG	**Daneborg**	**6.02**	**304**	*i* P	**Pn**	**00 22 28.1**	**+0.9**
DBG				*e*S	**Sn**	**00 23 28.1**	**-8.0**
LOF	**Lofoten**	**6.33**	**117**	Pn	**Pn**	**00 22 33.6**	**+2.2**
LOF				Sn	**Sn**	**00 23 39.8**	**-3.9**
LOF	**Lofoten**	**6.33**	**117**	*e*P	**Pn**	**00 22 34.4**	**+2.9**
LOF				*e*S	**Sn**	**00 23 39.9**	**-3.8**
LOF				IAML		00 23 43.0	
	comp=Z,5.8nm,0.6s						
SCO	**Scoresbysund**	**6.71**	**269**	*i* P	Pb	00 22 45.4	-9.5
DAG	**Danmarks Havn**	**6.83**	**325**	*e*P	**Pn**	**00 22 40.0**	**+1.6**
DAG				*e*S	Sn	00 23 45.9	-10
DAG	**Danmarks Havn**	**6.83**	**325**	*i* P	**Pn**	**00 22 39.0**	**+0.7**
DAG				*e*S	Sn	00 23 36.1	-20
DAG				*e*S	Sn	00 23 38.7	-17
DAG				IAML		00 23 48.8	
	comp=Z,0.9nm,0.3s						
STEI	**Steigen**	**6.94**	**115**	Pn	**Pn**	**00 22 42.2**	**+2.3**
STEI				Sn	**Sn**	**00 23 53.6**	**-5.2**
STEI	**Steigen**	**6.94**	**115**	*e*P	**Pn**	**00 22 42.0**	**+2.0**
STEI				*e*S	**Sn**	**00 23 53.3**	**-5.5**
STEI				IAML		00 23 58.4	
	comp=Z,6.8nm,0.7s						
TRO	**Tromso**	**7.11**	**97**	Pn	**Pn**	**00 22 42.5**	**+0.3**
TRO	**Tromso**	**7.11**	**97**	*e*P	**Pn**	**00 22 43.4**	**+1.2**
TRO				*e*S	Sn	00 23 54.2	-8.6
TRO				IAML		00 24 19.0	
	comp=Z,2.7nm,0.6s						
FAUS	**Fauske**	**7.33**	**118**	*e*P	**Pn**	**00 22 47.0**	**+1.8**
FAUS				*e*S	**Sn**	**00 24 02.0**	**-6.3**
FAUS				IAML		00 24 07.7	
	comp=Z,4.5nm,0.4s						
FAUS	**Fauske**	**7.33**	**118**	P	**Pn**	**00 22 47.4**	**+2.2**
FAUS				S	**Sn**	**00 24 03.7**	**-4.6**
KONS	**Konsvik**	**7.42**	**128**	*e*P	**Pn**	**00 22 48.9**	**+2.6**
KONS				*e*S	**Sn**	**00 24 04.1**	**-6.2**
KONS				IAML		00 24 08.6	
	comp=Z,11nm,0.5s						
STOK	**Stokkvaagen**	**7.52**	**129**	*e*P	**Pn**	**00 22 50.3**	**+2.5**
STOK				*e*S	**Sn**	**00 24 06.9**	**-6.0**
STOK				IAML		00 24 11.6	
	comp=Z,6.8nm,0.3s						
BRBA	**Barentsburg A**	**7.54**	**26**	*e*	Pn	00 22 54.2	+6.2
JETT	**Jettan, Norway**	**7.61**	**96**	Pn	**Pn**	**00 22 49.5**	**+0.5**
JETT	**Jettan, Norway**	**7.61**	**96**	Pn	**Pn**	**00 22 49.5**	**+0.5**
JETT				*e*S	**Sn**	**00 24 08.2**	**-7.0**
JETT				IAML		00 24 17.8	
	comp=Z,3.1nm,0.6s						
LEIR	**Leirfjorden**	**7.72**	**130**	*e*P	**Pn**	**00 22 52.4**	**+1.8**
LEIR				*e*S	**Sn**	**00 24 11.8**	**-6.2**
LEIR				IAML		00 24 16.0	
	comp=Z,14nm,0.3s						
SPA0	**Spitsbergen Ar**	**7.93**	**27**	Pn	**Pn**	**00 22 55.9**	**+2.5**
	baz=222,slow=11						
SPA0	**Spitsbergen Ar**	**7.93**	**27**	Pn	**Pn**	**00 22 55.9**	**+2.5**
	baz=222,slow=11						
SPITS	**Spitsbergen Ar**	**7.93**	**27**	Pn	**Pn**	**00 22 55.8**	**+2.5**
	baz=219,slow=13						
	comp=Z,1.4nm,0.2s						
KIF	**Kilpisjarvi**	**8.00**	**99**	Pn	**Pn**	**00 22 53.9**	**-0.4**
KIF	**Kilpisjarvi**	**8.00**	**99**	Pn	**Pn**	**00 22 53.9**	**-0.4**
KIF				*e*P	**Pn**	**00 22 54.1**	**-0.2**
MOR8	**Moi Rana**	**8.01**	**126**	*e*P	**Pn**	**00 22 56.8**	**+2.3**
MOR8				*e*S	**Sn**	**00 24 19.7**	**-5.3**
MOR8				IAML		00 24 24.1	
	comp=Z,8.8nm,0.7s						
HAMF	**Hammerfest**	**8.21**	**86**	*e*P	**Pn**	**00 22 57.7**	**+0.4**
HOPEN	**Hopen**	**8.64**	**44**	Pn	**Pn**	**00 23 05.2**	**+2.1**
KTK1	**Kautokeino**	**8.75**	**96**	*e*P	**Pn**	**00 23 05.7**	**+1.0**
KTK1				IAML		00 24 58.3	
	comp=Z,1.6nm,1.1s						
NSS	**Namsos**	**8.80**	**138**	*e*P	**Pn**	**00 23 08.1**	**+2.8**
NSS				*e*S	**Sn**	**00 24 38.1**	**-6.3**
NSS				IAML		00 24 45.9	
	comp=Z,6.1nm,0.3s						
HEF	**Hetta**	**9.20**	**99**	Pn	**Pn**	**00 23 11.8**	**+1.0**
HEF	**Hetta**	**9.20**	**99**	*e*P	**Pn**	**00 23 11.4**	**+0.6**
HEF				Pn	Pn	00 23 11.8	+1.0
ARA0	**ARCESS Array S**	**9.22**	**91**	Pn	**Pn**	**00 23 11.8**	**+0.7**
	baz=297,slow=12						
ARA0	**ARCESS Array S**	**9.22**	**91**	*e*P	**Pn**	**00 23 11.4**	**+0.3**
ARA0				Pn	Pn	00 23 11.8	+0.7
	baz=297,slow=12						
ARCES	**ARCESS Array B**	**9.22**	**91**	Pn	**Pn**	**00 23 10.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=299,slow=9.8,SNR=11						
	comp=Z,4.4nm,1.0s						
ARCES	**ARCESS Array B**	**9.22**	**91**	P	**Pn**	**00 23 11.9**	**+0.8**
ARCES				S	**Sn**	**00 24 46.5**	**-8.2**
AKN	**Aaknes**	**10.16**	**157**	Pn	**Pn**	**00 23 27.1**	**+3.1**
AKN	**Aaknes**	**10.16**	**157**	Pn	**Pn**	**00 23 27.1**	**+3.1**
NB2	**NORSAR Subarra**	**11.86**	**148**	Pn	**Pn**	**00 23 51.3**	**+4.0**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.86**	**148**	Pn	**Pn**	**00 23 51.3**	**+4.0**
	baz=336,slow=14						
NOA	**NORSAR Array B**	**11.86**	**148**	Pn	**Pn**	**00 23 49.9**	**+2.6**
	baz=339,slow=12,SNR=6.0						
	comp=Z,0.2nm,0.4s						
NRA0	**NORESS Array S**	**12.20**	**148**	Pn	**Pn**	**00 23 55.1**	**+3.3**
	baz=347,slow=12						
NRA0	**NORESS Array S**	**12.20**	**148**	Pn	**Pn**	**00 23 55.1**	**+3.3**
	baz=347,slow=12						
HFS	**Hagfors**	**13.14**	**145**	Pn	**Pn**	**00 24 08.3**	**+3.6**
	baz=342,slow=12						
HFS	**Hagfors**	**13.14**	**145**	Pn	**Pn**	**00 24 08.3**	**+3.6**
	baz=342,slow=12						
HFS	**Hagfors**	**13.14**	**145**	Pn	**Pn**	**00 24 07.9**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=339,slow=12,SNR=13						
HFS				Sn	**Sn**	**00 26 25.5**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=5.4						
	comp=Z,3.9nm,0.7s						
FINES	**FINESS Array B**	**14.89**	**120**	Pn	**Pn**	**00 24 29.1**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=324,slow=16,SNR=3.4						
	comp=Z,1.5nm,0.7s						
AKASG	**Malin Array Be**	**25.23**	**130**	P	**P**	**00 26 27.7**	**+3.8**
	comp=Z,0.2nm,0.4s,baz=335,slow=10,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**44.55**	**77**	P	**P**	**00 29 12.7**	**+2.9**
	comp=Z,0.4nm,0.9s,baz=344,slow=7.7,SNR=2.3						
	comp=Z,0.4nm,0.9s						

ISK 22 00:24:42.1, 37°.20N×28°.36E, h4km, ML3.4/35
GII 22 00:24:42.5±0.0, 37°.104N±0°.003×28°.345E±0°.001, h4km, Mws3.3, confirmed
IDC 22 00:24:42.4±1.9, 37°.18N×28°.38E, h0km, mb3.2/2, mbtmp3.4/4, ML3.8/2, Error ellipse: s-maj=45.8km s-min=23.1km az=173.0
AFAD 22 00:24:42.0, 37°.22N×28°.36E, h7km±1km, MW3.6
ATH 22 00:24:42.7, 37°.25N×28°.37E, h7km±2km, ML3.2/13, Manual Solution by D.Makaris First location: 2019/02/22 00:26:00, This location: 2020/09/28 14:39:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km
THE 22 00:24:43.0, 37°.15N×28°.38E, h0km±1km, ML3.4/6, Error ellipse: s-maj=5.0km s-min=1.5km az=72.0
ISC 22 00:24:42.5±0.9, 37°.21N±0°.02×28°.37E±0°.02, h4km±6km, n129, σ0s85/151, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.06**	**318**	P	**Pg**	**00 24 44.0**	**+0.1**
MULA				S	**Sg**	**00 24 44.9**	**0.0**
YER	**Yerkesik**	**0.10**	**223**	Pg	**Pg**	**00 24 44.5**	**-0.2**
YER				Sg	**Sg**	**00 24 46.5**	**+0.4**
TURN	**Turunc**	**0.45**	**193**	Pg	**Pg**	**00 24 50.5**	**-0.6**
TURN	**Turunc**	**0.45**	**193**	P	**Pg**	**00 24 50.6**	**-0.5**
TURN				S	**Sg**	**00 24 56.8**	**-0.1**
DALY	**Dalyan (Mula)**	**0.45**	**150**	Pg	**Pg**	**00 24 51.4**	**+0.2**
DALY				Sg	**Sg**	**00 24 58.0**	**+0.9**
MLSB	**Milas**	**0.48**	**280**	Pg	**Pg**	**00 24 51.9**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.50**	**59**	P	**Pg**	**00 24 51.6**	**-0.6**
TAVA				S	**Sg**	**00 24 58.7**	**0.0**
MRSB	**Marmaris-Mugla**	**0.51**	**196**	Pg	**Pg**	**00 24 52.1**	**-0.3**
DNZT	**Denizli-Tavas-**	**0.53**	**82**	P	**Pg**	**00 24 52.4**	**-0.2**
DNZT				P	**Pb**	**00 24 52.7**	**-1.7**
ESEN	**Aydn-Nazilli**	**0.59**	**358**	P	**Pg**	**00 24 53.4**	**-0.4**
ESEN				S	**Sg**	**00 25 00.9**	**-0.5**
AYDN	**Tasoluk**	**0.59**	**319**	P	**Pg**	**00 24 54.0**	**+0.1**
AYDN				S	**Sg**	**00 25 01.6**	**-0.1**
SABU	**Mula-Dalaman**	**0.62**	**129**	P	**Pg**	**00 24 54.0**	**-0.4**
DNIZ	**Denizli-Tavas-**	**0.67**	**52**	P	**Pg**	**00 24 54.8**	**-0.7**
DATC	**Datca-Mugla**	**0.73**	**232**	Pg	**Pg**	**00 24 56.7**	**+0.3**
NAZL	**Nazilli-Aydin**	**0.75**	**355**	Pg	**Pg**	**00 24 57.2**	**+0.2**
BDRM	**Kayabasi**	**0.76**	**259**	P	**Pg**	**00 24 56.8**	**-0.2**
CAEL	**Denizli, Camel**	**0.76**	**96**	P	**Pg**	**00 24 57.6**	**+0.5**
RODB	**Rodos**	**0.77**	**189**	P	**Pb**	**00 24 58.3**	**-0.2**
RODB				S	**Sb**	**00 25 09.4**	**+0.1**
APMY	**Acipayam-Deniz**	**0.79**	**70**	Pg	**Pg**	**00 24 57.5**	**-0.1**
CAME	**Cameli-Denizli**	**0.79**	**109**	Pg	**Pg**	**00 24 58.3**	**+0.6**
DAT	**Datca**	**0.80**	**233**	Pg	**Pg**	**00 24 58.2**	**+0.4**
DAT	**Datca**	**0.80**	**233**	P	**Pg**	**00 24 57.2**	**-0.6**
FETY	**Fethiye**	**0.81**	**135**	Pg	**Pg**	**00 24 58.5**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.83**	**333**	Pg	**Pg**	**00 24 59.0**	**+0.6**
BODT	**Bodrum**	**0.86**	**260**	Pg	**Pg**	**00 24 58.9**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.88**	**265**	Pg	**Pb**	**00 24 59.8**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.91**	**235**	P	**Pb**	**00 25 00.3**	**-0.5**
DIDI	**Didim-Aydin**	**0.92**	**281**	Pg	**Pg**	**00 25 00.5**	**+0.4**
DDIM	**Aydin, Didim**	**0.93**	**286**	P	**Pg**	**00 25 00.1**	**-0.3**
IZMR	**zmir-demi**	**0.98**	**340**	P	**Pg**	**00 25 00.8**	**-0.5**
ARG	**Arkhangelos**	**1.01**	**191**	Pg	**Pg**	**00 25 02.1**	**+0.2**
ARG	**Arkhangelos**	**1.01**	**191**	P	**Pg**	**00 25 01.0**	**-0.9**
ARG				S	**Sb**	**00 25 16.7**	**+0.4**
	2μm,0.5s						
ARG	**Arkhangelos**	**1.01**	**191**	P	**Pb**	**00 25 02.6**	**0.0**
ARG				S	**Sb**	**00 25 16.6**	**+0.3**
GCAM	**G?zelcaml?**	**1.03**	**299**	Pg	**Pg**	**00 25 02.3**	**0.0**
GCAM	**G?zelcaml?**	**1.03**	**299**	P	**Pg**	**00 25 02.2**	**0.0**
ODEM	**Odemis-Izmir**	**1.09**	**348**	Pn	**Pg**	**00 25 02.9**	**-0.5**
NISR	**Nisiros**	**1.16**	**239**	P	**Pb**	**00 25 04.9**	**-0.2**
NISR				S	**Sb**	**00 25 21.0**	**+0.4**
	2μm,0.5s						
ELL	**Elmali**	**1.31**	**110**	Pn	**Pb**	**00 25 08.3**	**+0.5**
ELL	**Elmali**	**1.31**	**110**	P	**Pb**	**00 25 07.9**	**0.0**
ELL				S	**Sn**	**00 25 25.9**	**0.0**
SMG	**Samos**	**1.32**	**293**	P	**Pn**	**00 25 07.0**	**-0.7**
SMG				S	**Sn**	**00 25 27.1**	**+1.4**
	870nm,0.5s						
SMG	**Samos**	**1.32**	**293**	P	**Pn**	**00 25 06.8**	**-0.9**
SMG				S	**Sg**	**00 25 24.4**	**-0.5**
KULA	**Kula-Manisa**	**1.32**	**10**	Pn	**Pn**	**00 25 07.3**	**-0.5**
AKAS	**Kas**	**1.39**	**134**	Pn	**Pg**	**00 25 09.3**	**+0.1**
KHL	**Karahalli**	**1.44**	**39**	Pn	**Pb**	**00 25 09.9**	**0.0**
GMLD	**Gumuldur**	**1.44**	**307**	Pn	**Pg**	**00 25 10.2**	**0.0**
BASM	**Basmaki-Afyon**	**1.51**	**62**	Pn	**Pn**	**00 25 10.8**	**+0.4**
GOMA	**Golmarmara-Man**	**1.54**	**347**	Pn	**Pn**	**00 25 11.2**	**+0.5**
DEMR	**Demre-Antalya**	**1.57**	**128**	Pn	**Pb**	**00 25 11.8**	**-0.3**
KORT	**Korkueli**	**1.60**	**97**	Pn	**Pb**	**00 25 12.3**	**-0.3**
GORD	**Gordes-Manisa**	**1.70**	**355**	Pn	**Pn**	**00 25 13.8**	**+0.8**
BCK	**Bucak**	**1.79**	**81**	Pn	**Pn**	**00 25 14.8**	**+0.6**
ISP	**Isparta**	**1.82**	**70**	Pn	**Pn**	**00 25 15.5**	**+0.8**
ISP	**Isparta**	**1.82**	**70**	P	**Pn**	**00 25 14.9**	**+0.3**
ISP	**Isparta**	**1.82**	**70**	S	**Sb**	**00 25 39.1**	**-0.4**
ISP	**Isparta**	**1.82**	**70**	P	**Pn**	**00 25 14.5**	**-0.1**
ANTB	**Antalya**	**1.85**	**99**	Pn	**Pn**	**00 25 15.9**	**+0.9**
KARP	**Karpathos**	**1.93**	**211**	Pn	**Pn**	**00 25 16.7**	**+0.6**
KARP	**Karpathos**	**1.93**	**211**	P	**Pn**	**00 25 16.2**	**+0.1**
KARP				S	**Sn**	**00 25 40.2**	**-0.6**
	765nm,0.7s						
KARP	**Karpathos**	**1.93**	**211**	P	**Pn**	**00 25 16.5**	**+0.4**
KARP				S	**Sn**	**00 25 41.4**	**+0.6**
SHAP	**Saphane-Kutahy**	**1.93**	**20**	Pn	**Pn**	**00 25 16.9**	**+0.7**
SIMA	**Simav-Kutahya**	**1.93**	**14**	Pn	**Pn**	**00 25 17.1**	**+0.9**
GEDZ	**Gediz**	**2.00**	**24**	Pn	**Pn**	**00 25 17.8**	**+0.6**
SHUT	**Suhut-Afyon**	**2.18**	**52**	Pn	**Pn**	**00 25 20.6**	**+0.9**
DKL	**Dikili**	**2.19**	**329**	P	**Pn**	**00 25 19.2**	**-0.5**
APE	**Apeiranthos**	**2.27**	**267**	P	**Pn**	**00 25 20.4**	**-0.5**
APE				S	**Sn**	**00 25 49.7**	**+0.3**
	92nm,1.1s						
APE	**Apeiranthos**	**2.27**	**267**	P	**Pn**	**00 25 20.2**	**-0.7**
APE	**Apeiranthos**	**2.27**	**267**	S	**Sn**	**00 25 48.3**	**-1.1**
APE	**Apeiranthos**	**2.27**	**267**	P	**Pn**	**00 25 20.7**	**-0.2**
APE				S	**Sn**	**00 25 49.8**	**+0.4**
PRK	**Paraskevi**	**2.62**	**321**	P	**Pn**	**00 25 25.2**	**-0.4**
PRK				S	**Sb**	**00 26 01.2**	**-1.3**
	460nm,0.9s						
PRK	**Paraskevi**	**2.62**	**321**	P	**Pn**	**00 25 25.3**	**-0.3**
ZKR	**Zakros**	**2.72**	**220**	P	**Pn**	**00 25 27.1**	**+0.1**
SEYD	**Seydisehir-KON**	**2.77**	**85**	Pn	**Pn**	**00 25 29.2**	**+1.4**
SIGR	**SIGRI**	**2.81**	**316**	P	**Pn**	**00 25 28.0**	**-0.2**
KARY	**Karystos**	**3.23**	**286**	P	**Pn**	**00 25 34.0**	**+0.1**
IDI	**Anoyia**	**3.41**	**237**	P	**Pn**	**00 25 36.6**	**+0.1**
DION	**Dionisos Attik**	**3.63**	**285**	P	**Pn**	**00 25 39.6**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.66**	**294**	P	**Pn**	**00 25 40.0**	**+0.1**
LIA	**Limnos Island**	**3.67**	**318**	P	**Pn**	**00 25 39.9**	**0.0**
VLY	**Voula,Athens**	**3.69**	**281**	P	**Pn**	**00 25 40.5**	**+0.2**
ATHU	**Athens Univers**	**3.72**	**283**	P	**Pn**	**00 25 40.8**	**+0.1**
AKMS	**Akamas**	**3.88**	**123**	P	**Pn**	**00 25 43.8**	**+0.8**
SMTH	**Samothraki Isl**	**3.94**	**327**	P	**Pn**	**00 25 43.5**	**-0.2**
ALFC	**Alefka**	**3.99**	**120**	P	**Pn**	**00 25 45.1**	**+0.6**
VIL2	**Platees**	**4.17**	**285**	P	**Pn**	**00 25 46.3**	**-0.6**
NATA	**Nata**	**4.18**	**124**	P	**Pn**	**00 25 47.7**	**+0.6**
VLI	**Veliai**	**4.38**	**265**	P	**Pn**	**00 25 49.6**	**-0.2**
RDO	**Rodhopi**	**4.50**	**332**	P	**Pn**	**00 25 51.0**	**-0.5**
CSS	**Mathiatis**	**4.60**	**118**	P	**Pn**	**00 25 52.3**	**-0.5**
CSS	**Mathiatis**	**4.60**	**118**	S	**Sn**	**00 26 45.9**	**-0.9**
CSS	**Mathiatis**	**4.60**	**118**	P	**Pn**	**00 25 53.3**	**+0.4**
MVOU	**Mavrovouni**	**4.79**	**116**	P	**Pn**	**00 25 55.5**	**+0.1**
BRTR	**Keskin Array B**	**4.84**	**57**	Pn	**Pn**	**00 25 57.6**	**+1.4**
	1.4nm,0.3s,baz=242,slow=17,SNR=59						
BRTR				Sn	**Sn**	**00 26 54.0**	**+1.2**
	0.5nm,0.3s,baz=248,slow=23,SNR=6.7						
	3.0nm,0.5s						
HNTI	**Hanita**	**6.93**	**124**	P	**Pn**	**00 26 23.9**	**-1.0**
HNTI	**Hanita**	**6.93**	**124**	S	**Sn**	**00 27 43.4**	**-0.7**
OFRI	**`Ofer**	**7.10**	**128**	P	**Pn**	**00 26 26.4**	**-0.9**
OFRI	**`Ofer**	**7.10**	**128**	S	**Sn**	**00 27 47.4**	**-1.0**
MMAI	**Mount Meron Ar**	**7.12**	**124**	Pn	**Pn**	**00 26 26.8**	**-0.7**
	4.1nm,0.3s,baz=306,slow=11,SNR=58						
MMAI				Sn	**Sn**	**00 27 44.3**	**-4.7**
	3.0nm,0.3s,baz=316,slow=29,SNR=6.6						
	3.2nm,0.4s						
NATI	**Neve Ativ**	**7.20**	**121**	P	**Pn**	**00 26 27.9**	**-0.6**
NATI	**Neve Ativ**	**7.20**	**121**	S	**Sn**	**00 27 50.7**	**0.0**
KSHT	**Keshet**	**7.41**	**122**	P	**Pn**	**00 26 30.6**	**-0.9**
KSHT	**Keshet**	**7.41**	**122**	S	**Sn**	**00 27 54.9**	**-1.2**
MMLI	**Mount Malkishu**	**7.50**	**127**	P	**Pn**	**00 26 31.6**	**-1.1**
MMLI	**Mount Malkishu**	**7.50**	**127**	S	**Sn**	**00 27 57.2**	**-1.1**
SALP	**Salfit**	**7.61**	**130**	P	**Pn**	**00 26 33.4**	**-0.8**
SALP	**Salfit**	**7.61**	**130**	S	**Sn**	**00 28 00.7**	**-0.2**
HMDT	**Nahal Hemdat**	**7.69**	**128**	P	**Pn**	**00 26 35.1**	**-0.2**
HMDT	**Nahal Hemdat**	**7.69**	**128**	S	**Sn**	**00 28 01.9**	**-0.9**
AMAZ	**Amatzia**	**7.83**	**134**	P	**Pn**	**00 26 36.4**	**-0.9**
AMAZ	**Amatzia**	**7.83**	**134**	S	**Sn**	**00 28 05.2**	**-1.2**
UJAP	**Al Uja**	**7.86**	**130**	P	**Pn**	**00 26 36.1**	**-1.4**
UJAP	**Al Uja**	**7.86**	**130**	S	**Sn**	**00 28 05.5**	**-1.4**
KZIT	**Kziot**	**8.03**	**140**	P	**Pn**	**00 26 38.9**	**-1.1**
KZIT	**Kziot**	**8.03**	**140**	S	**Sn**	**00 28 10.5**	**-0.8**
YTIR	**Yattir**	**8.07**	**134**	P	**Pn**	**00 26 39.9**	**-0.7**
YTIR	**Yattir**	**8.07**	**134**	S	**Sn**	**00 28 11.2**	**-1.2**
DSI	**Dead Sea**	**8.07**	**132**	P	**Pn**	**00 26 39.1**	**-1.4**
DSI	**Dead Sea**	**8.07**	**132**	S	**Sn**	**00 28 12.0**	**-0.3**
GHAJ	**Ghor Haditha**	**8.38**	**133**	P	**Pn**	**00 26 44.1**	**-0.5**
GHAJ	**Ghor Haditha**	**8.38**	**133**	S	**Sn**	**00 28 18.7**	**-1.0**
PRNI	**Paran**	**8.79**	**139**	P	**Pn**	**00 26 49.6**	**-0.7**
PRNI	**Paran**	**8.79**	**139**	S	**Sn**	**00 28 27.7**	**-2.2**
HRFI	**Mount Harif**	**9.06**	**140**	P	**Pn**	**00 26 53.1**	**-0.9**
HRFI	**Mount Harif**	**9.06**	**140**	S	**Sn**	**00 28 33.7**	**-2.8**
MBRI	**Mt Berech**	**9.19**	**142**	P	**Pn**	**00 26 55.1**	**-0.8**
MBRI	**Mt Berech**	**9.19**	**142**	S	**Sn**	**00 28 38.2**	**-1.7**
EIL	**Elat**	**9.31**	**142**	P	**Pn**	**00 26 56.6**	**-0.9**
EIL	**Elat**	**9.31**	**142**	S	**Sn**	**00 28 41.2**	**-1.5**
ESDC	**Sonseca Array**	**25.37**	**286**	P	**P**	**00 30 11.0**	**+0.2**
	1.1nm,1.0s,baz=94,slow=9.9,SNR=5.8						
	1.1nm,1.0s						
MKAR	**Makanchi Array**	**40.48**	**59**	P	**P**	**00 32 24.6**	**+2.3**
	0.1nm,0.6s,baz=280,slow=8.7,SNR=1.7						
	0.1nm,0.6s						

NEIC 22 00:28:16.5±1.6, 55°.70N±0°.07×149°.34W±0°.09, h6km±5km, mb4.6/32, ML4.2/60, ML3.7(AEIC), Error ellipse: s-maj=10.0km s-min=7.3km az=188.0
IDC 22 00:28:16.3±0.7, 55°.72N×149°.31W, h0km, mb4.2/26, mbtmp4.2/31, ML3.8/5, MS3.5/5, Error ellipse: s-maj=18.1km s-min=12.7km az=26.0
MOS 22 00:28:18.8±0.8, 55°.97N×149°.30W, h18km, mb4.6/17, Error ellipse: s-maj=17.5km s-min=5.0km az=92.5
AEIC 22 00:28:20.0±2.7, 55°.60N±0°.07×149°.08W±0°.10, h12km±5km, Error ellipse: s-maj=10.8km s-min=8.0km az=182.0
ISC 22 00:28:17.7±0.5, 55°.75N±0°.06×149°.27W±0°.04, h10km, n574, σ0s97/576, mb4.5/66, MS4.2/3, 13C, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.68**	**305**		**Pn**	**00 28 59.9**	**-0.9**
OHAK				Sn	**Sn**	**00 29 30.7**	**-2.6**
OHAK	**Old Harbor**	**2.68**	**305**	P	**Pn**	**00 28 60.0**	**-0.9**
	baz=123,SNR=13						
OHAK	**Old Harbor**	**2.68**	**305**	P	**Pn**	**00 28 59.9**	**-0.9**
KDAK	**Kodiak Island**	**2.74**	**320**		**Pn**	**00 29 01.4**	**-0.3**
KDAK	**Kodiak Island**	**2.74**	**320**	Pn	**Pn**	**00 29 01.2**	**-0.5**
	23nm,0.3s,baz=247,slow=2.4,SNR=467						
KDAK				Sn	**Sn**	**00 29 32.6**	**-2.2**
	11nm,0.3s,baz=95,slow=21,SNR=6.0						
	61nm,0.3s						
KDAK	**Kodiak Island**	**2.74**	**320**	P	**Pn**	**00 29 01.2**	**-0.5**
	baz=138						
SII	**Sitkinak Islan**	**2.87**	**289**		**Pn**	**00 29 02.4**	**-1.1**
SII				Sn	**Sn**	**00 29 35.3**	**-2.8**
SII				IAML		00 29 42.8	
	comp=N,812nm,0.5s						
SII				IAML		00 29 43.6	
	comp=E,996nm,0.6s						
SII	**Sitkinak Islan**	**2.87**	**289**	P	**Pn**	**00 29 02.3**	**-1.1**
	baz=106,SNR=8.5						
SII	**Sitkinak Islan**	**2.87**	**289**	P	**Pn**	**00 29 02.5**	**-1.1**
SII	**Sitkinak Islan**	**2.87**	**289**	S	**Sn**	**00 29 36.4**	**-1.7**
SYI	**Shuyak Island**	**3.34**	**331**		**Pn**	**00 29 09.7**	**-0.2**
SYI				Sn	**Sn**	**00 29 49.1**	**-0.4**
Q20K	**Shuyak Island**	**3.34**	**331**	P	**Pn**	**00 29 09.4**	**-0.5**
	baz=149						
R18K	**Karluk**	**3.40**	**305**	Pn	**Pn**	**00 29 10.5**	**-0.2**
R18K				Sn	**Sn**	**00 29 49.0**	**-2.0**
R18K				IAML		00 30 00.7	
	comp=E,451nm,0.7s						
R18K				IAML		00 30 02.9	
	comp=N,450nm,0.4s						
R18K	**Karluk**	**3.40**	**305**	P	**Pn**	**00 29 10.5**	**-0.2**
	baz=121,SNR=17						
CHIR	**Chirikof Islan**	**3.59**	**274**	Pn	**Pn**	**00 29 12.4**	**-1.0**
CHIR	**Chirikof Islan**	**3.59**	**274**		**Sn**	**00 29 52.9**	**-2.9**
CHIR	**Chirikof Islan**	**3.59**	**274**	P	**Pn**	**00 29 12.

baz=140,SNR=11
O19K Port Alsworth 5.21 331 Pn 00 29 34.3 -1.3
O19K IAML 00 30 39.3
comp=E,260nm,0.4s
O19K Port Alsworth 5.21 331 P Pn 00 29 34.8 -0.8
baz=147,SNR=13
SUCK Suckling Hills 5.23 32 Pn 00 29 35.3 -0.6
SUCK IAML 00 30 35.1
comp=E,226nm,1.0s
SUCK IAML 00 30 46.4
comp=N,230nm,0.6s
RAGM Ragged Mountai 5.25 26 Pn Pn 00 29 35.0 -1.3
GLI Glacier Island 5.27 12 Pn 00 29 36.1 -0.4
GLI IAML 00 30 35.4
comp=E,214nm,0.6s
GLI IAML 00 30 35.8
comp=N,122nm,0.8s
GLI Glacier Island 5.27 12 P Pn 00 29 36.0 -0.5
baz=194
RC01 Rabbit Creek A 5.36 358 Pn 00 29 36.4 -1.4
RC01 Rabbit Creek A 5.36 358 P Pn 00 29 36.9 -0.9
baz=178,SNR=14
BGLC Bering Glacier 5.42 34 P Pn 00 29 38.3 -0.1
baz=219
FIS Fire Island 5.44 355 Pn 00 29 37.3 -1.4
SPU Mount Spurr 5.64 346 Pn 00 29 40.1 -1.5
SPCR Spurr Chakacha 5.68 345 P Pn 00 29 40.8 -1.4
baz=163
KNK Knik Glacier 5.70 4 Pn 00 29 42.0 -0.4
KNK Knik Glacier 5.70 4 P Pn 00 29 41.9 -0.5
baz=185
DIV Divide 5.70 17 Pn 00 29 42.4 -0.1
P16K Nushagak River 5.75 308 P Pn 00 29 43.4 +0.3
baz=122,SNR=8.4
N19K Bonanza Creek 5.78 334 P Pn 00 29 42.3 -1.2
baz=150
BMRM Bremner River 5.78 23 Pn 00 29 42.7 -0.8
BMRM Bremner River 5.78 23 P Pn 00 29 43.1 -0.5
baz=207,SNR=8.8
O17K Koliganek Bris 5.82 317 P Pn 00 29 43.8 -0.1
baz=131,SNR=9.4
PMR Palmer 5.86 1 Pn 00 29 43.9 -0.7
PMR Palmer 5.86 1 P Pn 00 29 43.9 -0.7
baz=181,SNR=9.1
PMR Palmer 5.86 1 P Pn 00 29 44.3 -0.3
PMR Palmer 5.86 1 P Pn 00 29 43.9 -0.7
MESA MESA 5.91 38 Pn 00 29 45.0 -0.4
MESA MESA 5.91 38 P Pn 00 29 45.0 -0.4
baz=224
STLK Strandline Lak 5.92 348 Pn 00 29 44.5 -1.0
CHNA Chernabura Isl 5.97 265 P Pn 00 29 44.2 -1.9
baz=77
CHNA Chernabura Isl 5.97 265 P Pn 00 29 44.3 -1.8
CHNA Chernabura Isl 5.97 265 S Sn 00 30 52.1 -2.3
CNBA Chernabura Isl 5.97 265 Pn 00 29 43.7 -2.4
KLU Klutina 6.02 15 Pn 00 29 46.5 -0.2
KLU Klutina 6.02 15 P Pn 00 29 46.6 -0.2
baz=198,SNR=20
GHO Glory Hole Cre 6.05 2 Pn 00 29 47.0 -0.2
N18K Kilae Creek 6.06 327 Pn 00 29 46.4 -0.9
N18K Kilae Creek 6.06 327 P Pn 00 29 46.5 -0.8
baz=142
SML Sawmill 6.10 4 Pn 00 29 47.6 -0.2
SML Sawmill 6.10 4 P Pn 00 29 47.9 0.0
baz=185,SNR=17
O16K Kokwok River B 6.11 313 Pn 00 29 47.7 -0.2
O16K Kokwok River B 6.11 313 P Pn 00 29 48.0 +0.1
baz=126,SNR=12
M23K Glacier View 6.12 7 P Pn 00 29 48.0 -0.1
baz=188,SNR=16
SCM Sheep Creek Mo 6.19 9 Pn 00 29 49.4 +0.3
SCM Sheep Creek Mo 6.19 9 P Pn 00 29 49.2 +0.1
baz=190,SNR=9.2
SCM Sheep Creek Mo 6.19 9 P Pn 00 29 49.4 +0.3
VRDI Verde Repeater 6.28 27 Pn 00 29 50.0 -0.5
N25K Chitina, Valde 6.36 21 Pn 00 29 51.1 -0.4
N25K Chitina, Valde 6.36 21 P Pn 00 29 51.3 -0.2
baz=205,SNR=14
SKT Skwentna 6.36 350 Pn 00 29 50.9 -0.6
SKT Skwentna 6.36 350 P Pn 00 29 50.4 -1.0
baz=169,SNR=5.7
N17K Nushagak Hills 6.37 322 Pn Pn 00 29 50.4 -1.1
N17K Nushagak Hills 6.37 322 P Pn 00 29 50.3 -1.2
baz=136
GLB Gilahina Butte 6.38 24 Pn 00 29 50.9 -0.9
M20K Styx River 6.47 344 P Pn 00 29 51.8 -1.2
baz=161
M24K Tolsona, Glenn 6.58 13 Pn 00 29 54.8 +0.3
M24K Tolsona, Glenn 6.58 13 P Pn 00 29 54.8 +0.3
baz=196,SNR=16
O15K Ungalikthiuk R 6.65 305 P Pn 00 29 55.5 +0.1
baz=117
CUT Chulitna 6.70 356 Pn Pn 00 29 56.2 +0.2
CUT Chulitna 6.70 356 P Pn 00 29 55.2 -0.9
baz=176
M18K Stony River 6.70 332 P Pn 00 29 54.9 -1.2
baz=147
M19K Big River Lodg 6.72 339 P Pn 00 29 55.3 -1.1
baz=155
O28M Mount Upton 6.95 40 P Pn 00 29 59.5 -0.2
baz=227
HARP HAARP 7.00 16 P Pn 00 30 00.3 +0.1
baz=200,SNR=13
L19K White Mountain 7.07 338 P Pn 00 29 59.9 -1.3
baz=154
M17K Holitna River 7.09 326 P Pn 00 30 00.9 -0.6
baz=140
L20K Farewell, AK 7.16 343 P Pn 00 30 00.8 -1.6
baz=159
S12K Black Hills 7.23 275 Pn Pn 00 30 02.5 -0.9
S12K Black Hills 7.23 275 P Pn 00 30 02.1 -1.3
baz=85
N15K Kwethluk River 7.26 312 Pn 00 30 03.9 +0.1
N15K Kwethluk River 7.26 312 P Pn 00 30 04.4 +0.6
baz=123,SNR=15
O29M Mount Kennedy 7.28 47 P Pn 00 30 04.0 -0.2
baz=236
PPLA Purkeypile 7.33 349 Pn 00 30 04.2 -0.6
PPLA Purkeypile 7.33 349 P Pn 00 30 04.9 +0.1
baz=167
M16K Timber Creek 7.34 320 P Pn 00 30 04.7 -0.1
baz=132
O14K Tigyukauivet M 7.36 303 Pn Pn 00 30 05.3 +0.3
O14K Tigyukauivet M 7.36 303 P Pn 00 30 05.0 0.0
baz=114
M26K Nabesna, AK 7.41 23 Pn 00 30 05.1 -0.8
M26K Nabesna, AK 7.41 23 P Pn 00 30 06.1 +0.2
baz=209
YUK8 Steele Glacier 7.45 38 P Pn 00 30 07.3 +0.7
baz=226
S31K Pelican 7.48 67 Pn Pn 00 30 04.5 -2.3
S31K Pelican 7.48 67 P Pn 00 30 04.6 -2.1
baz=258
PAX Paxson 7.50 13 Pn 00 30 06.8 -0.3
PAX Paxson 7.50 13 P Pn 00 30 07.5 +0.3
baz=197,SNR=16
PAX Paxson 7.50 13 P Pn 00 30 06.8 -0.3
L18K Granite Mounta 7.54 333 P Pn 00 30 06.2 -1.3
baz=147
M27K Edge Creek, AK 7.64 27 Pn 00 30 09.8 +0.7
M27K Edge Creek, AK 7.64 27 P Pn 00 30 09.3 +0.1
baz=213
RND Reindeer 7.69 1 Pn 00 30 08.9 -0.7
RND Reindeer 7.69 1 P Pn 00 30 09.0 -0.7
TRF Thorofare Moun 7.75 357 Pn 00 30 10.2 -0.4
TRF Thorofare Moun 7.75 357 P Pn 00 30 10.3 -0.2
baz=176
MENT Mentasta 7.75 19 Pn 00 30 11.5 +1.0
M15K Kasigluk River 7.80 314 P Pn 00 30 11.1 -0.1
baz=125
CAST Castle Rocks 7.83 351 Pn 00 30 10.9 -0.7
CAST Castle Rocks 7.83 351 P Pn 00 30 12.1 +0.5
baz=168,SNR=19
N14K Kuskokwak Cree 7.83 307 P Pn 00 30 11.6 0.0
baz=117,SNR=10
SIT Sitka 7.85 75 P Pn 00 30 08.4 -3.4
PLBC Pleasant Camp 7.86 56 P Pn 00 30 11.7 -0.3
baz=247,SNR=5.8
KTH Kantishna Hill 7.88 355 Pn 00 30 12.1 -0.2
P30M Million Dollar 7.88 51 P Pn 00 30 12.7 +0.4
baz=241
YUK4 Talbot Arm 7.89 40 P Pn 00 30 14.5 +1.9
baz=229
L26K Log Cabin Wild 7.90 20 Pn 00 30 12.8 +0.2
L26K Log Cabin Wild 7.90 20 P Pn 00 30 13.7 +1.2
baz=205

L17K Donlin 7.92 328 P Pn 00 30 11.8 -1.0
baz=140
TTA Tatalina 7.98 337 Pn 00 30 11.8 -1.9
TTA Tatalina 7.98 337 P Pn 00 30 12.9 -0.8
baz=152
TTA Tatalina 7.98 337 P Pn 00 30 12.4 -1.3
TTA Tatalina 7.98 337 P Pn 00 30 11.8 -1.9
L16K Owhat River 7.99 323 Pn 00 30 12.9 -0.9
L16K Owhat River 7.99 323 P Pn 00 30 13.5 -0.2
baz=134,SNR=6.4
K20K Telida 8.01 344 P Pn 00 30 12.7 -1.4
baz=160
HYT Haines Junctio 8.01 46 Pn 00 30 14.8 +0.6
HYT Haines Junctio 8.01 46 P Pn 00 30 14.3 0.0
baz=236
MCK McKinley 8.01 1 Pn 00 30 13.7 -0.4
MCK McKinley 8.01 1 P Pn 00 30 14.9 +0.8
baz=182,SNR=7.2
MCK McKinley 8.01 1 P Pn 00 30 13.7 -0.4
L27K Beaver Creek, 8.25 24 Pn 00 30 17.6 +0.2
L27K Beaver Creek, 8.25 24 P Pn 00 30 18.4 +1.0
baz=211
BCAR Beaver Creek A 8.27 24 Pn Pn 00 30 17.9 +0.3
K24K Donnelly Dome 8.27 11 P Pn 00 30 18.9 +1.2
baz=194,SNR=7.7
S32K Killisnoo 8.29 72 Pn Pn 00 30 15.7 -2.1
S32K Killisnoo 8.29 72 P Pn 00 30 15.0 -2.8
baz=264
CHUM Lake Minchumin 8.30 351 P Pn 00 30 17.5 -0.6
baz=168,SNR=15
RIDG Independent Ri 8.32 14 Pn 00 30 17.9 -0.4
RIDG Independent Ri 8.32 14 P Pn 00 30 18.5 +0.2
baz=198,SNR=28
BESE Bessie Mountai 8.33 64 Pn Pn 00 30 16.7 -1.8
SKAG Skagway 8.35 58 Pn 00 30 18.3 -0.4
SKAG Skagway 8.35 58 P Pn 00 30 18.8 0.0
baz=249
SKAG Skagway 8.35 58 P Pn 00 30 18.1 -0.6
M14K Bethel 8.36 312 Pn 00 30 18.9 +0.1
M14K Bethel 8.36 312 P Pn 00 30 18.1 -0.7
baz=122
K17K Iditarod 8.38 330 Pn Pn 00 30 18.0 -1.0
K17K Iditarod 8.38 330 P Pn 00 30 18.1 -1.0
baz=143
BPAW Bear Paw Mtn. 8.43 355 Pn 00 30 18.2 -1.5
BPAW Bear Paw Mtn. 8.43 355 P Pn 00 30 18.5 -1.3
baz=174,SNR=9.8
R32K Eaglecrest 8.44 66 Pn Pn 00 30 20.9 +1.0
BWN Browne 8.45 359 Pn 00 30 18.5 -1.6
JIS Juneau Island 8.51 67 P Pn 00 30 19.2 -1.6
O30N Mendenhall 8.57 49 Pn 00 30 22.0 +0.2
O30N Mendenhall 8.57 49 P Pn 00 30 21.7 -0.1
baz=240
J18K Innoko River 8.61 337 P Pn 00 30 21.5 -0.8
baz=151
SCRK Sand Creek 8.67 16 Pn 00 30 22.6 -0.6
SCRK Sand Creek 8.67 16 P Pn 00 30 23.6 +0.5
baz=200
L15K Ungalak Mounta 8.70 318 P Pn 00 30 23.5 0.0
baz=128
M29M Somme Creek 8.71 35 Pn 00 30 24.0 +0.3
M29M Somme Creek 8.71 35 P Pn 00 30 24.0 +0.3
baz=224,SNR=11
HDA Harding Lake 8.77 7 Pn 00 30 24.8 +0.4
HDA Harding Lake 8.77 7 P Pn 00 30 25.3 +0.9
baz=189,SNR=6.8
WRH Wood River Hil 8.77 3 Pn 00 30 24.2 -0.3
M13K Dall Lake 8.80 308 Pn Pn 00 30 25.2 +0.3
M13K Dall Lake 8.80 308 P Pn 00 30 25.1 +0.3
baz=116
J20K Nowinta River 8.80 346 Pn Pn 00 30 23.9 -1.0
J20K Nowinta River 8.80 346 P Pn 00 30 23.5 -1.3
baz=162
J19K Poorman 8.86 342 Pn Pn 00 30 24.2 -1.5
J19K Poorman 8.86 342 P Pn 00 30 24.0 -1.8
baz=156
NEA2 Nenana 8.88 1 Pn 00 30 25.5 -0.4
NEA2 Nenana 8.88 1 P Pn 00 30 25.7 -0.2
baz=181,SNR=8.0
CCB Clear Creek Bu 8.96 4 Pn 00 30 27.2 +0.2
L14K Kuka Creek 8.97 314 Pn Pn 00 30 27.5 +0.4
L14K Kuka Creek 8.97 314 P Pn 00 30 27.3 +0.2
baz=123
WHY Whitehorse 9.04 51 Pn 00 30 29.1 +0.8
WHY Whitehorse 9.04 51 P Pn 00 30 28.1 -0.2
baz=243
U33K Whale Pass 9.07 81 Pn Pn 00 30 26.7 -1.9
U33K Whale Pass 9.07 81 P Pn 00 30 26.4 -2.2
baz=274
N31M Braeburn, Yuko 9.08 45 Pn 00 30 28.7 0.0
N31M Braeburn, Yuko 9.08 45 P Pn 00 30 28.9 +0.2
baz=237,SNR=6.8
J25K Salcha River, 9.10 11 P Pn 00 30 28.4 -0.6
baz=194
K15K Wolf Creek Mou 9.10 321 P Pn 00 30 29.5 +0.5
baz=131
IL31 9.13 6 Pn 00 30 30.0 +0.7
ILAR Eielson Array 9.13 6 Pn 00 30 30.3 +0.9
ILAR Eielson Array 9.13 6 Pn Pn 00 30 28.9 -0.4
comp=N,1.6nm,0.3s,baz=190,slow=14,SNR=39
ILAR Sn Sn 00 32 06.9 -5.2
comp=N,1.1nm,0.3s,baz=182,slow=22,SNR=10
ILAR LR LR 00 34 07.2
comp=N,107nm,18.0s,baz=196,slow=38
comp=N,3.3nm,0.4s
ILAR Eielson Array 9.13 6 eP Pn 00 30 30.1 +0.7
ILAR pmax pmax
comp=Z,3.0nm,0.4s
J17K VABM Dome 9.13 331 Pn Pn 00 30 28.1 -1.3
J17K VABM Dome 9.13 331 P Pn 00 30 28.1 -1.3
baz=143
CRAG Craig 9.14 85 Pn Pn 00 30 30.0 +0.5
P32M Atlin 9.17 59 Pn Pn 00 30 29.1 -0.9
P32M Atlin 9.17 59 P Pn 00 30 29.1 -0.9
baz=252
COLA College 9.19 4 Pn 00 30 30.5 +0.4
COLA College 9.19 4 P Pn 00 30 30.5 +0.4
baz=185
COLA College 9.19 4 P Pn 00 30 30.0 -0.1
COLA College 9.19 4 P Pn 00 30 30.5 +0.4
J26L Joseph Creek 9.23 16 Pn 00 30 31.0 +0.2
J26L Joseph Creek 9.23 16 P Pn 00 30 31.0 +0.2
baz=201,SNR=13
L29M L29M 9.30 33 Pn Pn 00 30 32.0 +0.3
L29M L29M 9.30 33 P Pn 00 30 32.2 +0.5
baz=222
M30M Minto, Yukon 9.36 38 Pn Pn 00 30 32.2 -0.4
M30M Minto, Yukon 9.36 38 P Pn 00 30 32.5 -0.1
baz=229
I23K Minto, Yukon-K 9.43 360 Pn 00 30 33.3 -0.2
I23K Minto, Yukon-K 9.43 360 P Pn 00 30 33.9 +0.4
baz=180,SNR=6.0
I20K Naaghedeneel 9.44 346 Pn Pn 00 30 32.6 -1.0
I20K Naaghedeneel 9.44 346 P Pn 00 30 33.8 +0.3
baz=162
POKR Poker Plat Res 9.45 5 Pn 00 30 33.9 +0.2
POKR Poker Plat Res 9.45 5 P Pn 00 30 34.1 +0.4
baz=186
J16K Anvik River 9.49 327 Pn Pn 00 30 33.0 -1.3
J16K Anvik River 9.49 327 P Pn 00 30 33.8 -0.5
baz=138
I21K Tanana 9.56 353 Pn 00 30 34.6 -0.6
I21K Tanana 9.56 353 P Pn 00 30 35.7 +0.5
baz=171,SNR=9.9
DAWY Dawson 9.69 27 Pn Pn 00 30 36.9 -0.2
DAWY Dawson 9.69 27 P Pn 00 30 38.0 +0.8
baz=215
Q32M Nakina River 9.73 64 Pn Pn 00 30 37.4 -0.4
Q32M Nakina River 9.73 64 P Pn 00 30 37.8 +0.1
baz=258
P33M Teslin, Yukon 9.80 56 Pn 00 30 37.9 -0.8
P33M Teslin, Yukon 9.80 56 P Pn 00 30 37.9 -0.8
baz=250
I17K Unalakleet 9.97 330 Pn Pn 00 30 40.2 -0.7
I17K Unalakleet 9.97 330 P Pn 00 30 40.5 -0.3
baz=140
PRP Porcupine Dome 9.97 9 Pn 00 30 40.5 -0.5
PRP Porcupine Dome 9.97 9 P Pn 00 30 40.8 -0.2
baz=192
M31M Drury Creek, Y 10.02 44 Pn 00 30 41.8 +0.2
M31M Drury Creek, Y 10.02 44 P Pn 00 30 42.2 +0.6
baz=236,SNR=8.2
K29M Barlow Dome 10.03 31 Pn Pn 00 30 42.6 +0.8
K29M Barlow Dome 10.03 31 P Pn 00 30 42.7 +1.0
baz=221

I26K Coal Creek Min 10.05 15 Pn Pn 00 30 42.7 +0.8
I26K Coal Creek Min 10.05 15 P Pn 00 30 42.4 +0.5
baz=200
N32M Quiet Lake 10.05 51 Pn Pn 00 30 42.8 +0.8
N32M Quiet Lake 10.05 51 P Pn 00 30 43.0 +1.0
baz=244
K13K Kusilvak Mount 10.08 314 Pn Pn 00 30 43.1 +0.7
K13K Kusilvak Mount 10.08 314 P Pn 00 30 43.1 +0.7
baz=121
H21K Melozitna Rive 10.09 352 Pn 00 30 41.7 -0.8
H21K Melozitna Rive 10.09 352 P Pn 00 30 42.5 0.0
baz=169,SNR=32
M11K Mekoryuk 10.09 304 Pn Pn 00 30 42.2 -0.3
J14K Nanvaranak Lak 10.12 320 Pn Pn 00 30 42.9 0.0
J14K Nanvaranak Lak 10.12 320 P Pn 00 30 43.5 +0.7
baz=128
UNV Unalaska Valle 10.13 266 Pn Pn 00 30 41.3 -1.9
H24K Noodor Dome 10.15 3 Pn Pn 00 30 44.6 +1.2
H24K Noodor Dome 10.15 3 P Pn 00 30 44.0 +0.7
baz=185
H22K Ishtalitna Cre 10.23 355 P Pn 00 30 44.3 -0.2
baz=174
J29N Klondike Camp 10.31 28 Pn 00 30 46.2 +0.7
J29N Klondike Camp 10.31 28 P Pn 00 30 46.6 +1.0
baz=217
MOBC Moresby Island 10.40 97 Pn Pn 00 30 46.9 0.0
H19K Roundabout Mou 10.42 343 Pn Pn 00 30 46.7 -0.3
H19K Roundabout Mou 10.42 343 P Pn 00 30 46.6 -0.3
baz=157
H18K Honhosa River 10.44 338 Pn Pn 00 30 45.6 -1.6
H18K Honhosa River 10.44 338 P Pn 00 30 46.2 -1.0
baz=151
FARO Faro, Yukon 10.45 45 Pn 00 30 47.6 +0.2
FARO Faro, Yukon 10.45 45 P Pn 00 30 48.1 +0.6
baz=239
R33M Jennings River 10.47 62 Pn 00 30 45.6 -2.3
R33M Jennings River 10.47 62 P Pn 00 30 47.1 -0.8
baz=257
I27K Kandik River 10.56 18 P Pn 00 30 50.0 +1.0
baz=204
H17K Granite Mounta 10.60 335 Pn Pn 00 30 48.1 -1.4
H17K Granite Mounta 10.60 335 P Pn 00 30 49.3 -0.2
baz=146
H25L Birch Creek 10.69 8 P Pn 00 30 51.8 +1.2
baz=191
I28M Miner Creek 10.74 21 Pn Pn 00 30 51.6 0.0
I28M Miner Creek 10.74 21 P Pn 00 30 52.5 +0.9
baz=210
DLBC Dease Lake 10.80 68 Pn Pn 00 30 51.5 -0.9
comp=Z,0.9nm,0.3s,baz=272,slow=4.1,SNR=17
DLBC LR LR 00 34 19.9
comp=Z,194nm,18.0s,baz=51,slow=34
comp=Z,1.4nm,0.3s
DLBC Dease Lake 10.80 68 P Pn 00 30 51.4 -0.9
baz=264
J30M Hart River 10.92 31 Pn Pn 00 30 55.0 +0.9
J30M Hart River 10.92 31 P Pn 00 30 54.9 +0.9
baz=222
H16K Elim 10.98 329 P Pn 00 30 54.7 0.0
baz=138
G23K Bananza Creek 11.01 358 Pn Pn 00 30 54.5 -0.6
G23K Bananza Creek 11.01 358 P Pn 00 30 55.3 +0.2
baz=178
G24K Hadweenzic Riv 11.03 4 Pn Pn 00 30 55.6 +0.3
G24K Hadweenzic Riv 11.03 4 P Pn 00 30 55.9 +0.6
baz=185
FYU Fort Yukon 11.03 8 Pn Pn 00 30 55.6 +0.4
I29M Ogilvie Camp, 11.03 25 Pn 00 30 55.9 +0.5
I29M Ogilvie Camp, 11.03 25 P Pn 00 30 55.7 +0.4
baz=214
G19K Purcell Mounta 11.09 343 Pn Pn 00 30 56.3 +0.1
G19K Purcell Mounta 11.09 343 P Pn 00 30 56.3 +0.1
baz=157
G18K Tagagawik 11.15 340 Pn Pn 00 30 56.5 -0.5
G18K Tagagawik 11.15 340 P Pn 00 30 56.8 -0.2
baz=152
H27K Steamboat Moun 11.16 16 P Pn 00 30 57.5 +0.4
baz=203
G25K Bearman Lake 11.16 6 P Pn 00 30 57.4 +0.3
baz=189
G22K Bettles 11.27 355 P Pn 00 30 59.2 +0.6
baz=174
I30M Mount Dempster 11.40 28 Pn Pn 00 31 01.6 +1.1
I30M Mount Dempster 11.40 28 P Pn 00 31 01.8 +1.2
baz=220
MMPY Sheldon Lake, 11.49 46 Pn 00 31 02.4 +0.7
MMPY Sheldon Lake, 11.49 46 P Pn 00 31 02.1 +0.5
baz=241
COLD Coldfoot 11.53 358 Pn 00 31 01.4 -0.8
COLD Coldfoot 11.53 358 P Pn 00 31 02.3 +0.1
baz=178,SNR=6.5
G26K Porcupine Rive 11.54 11 P Pn 00 31 02.8 +0.5
baz=196
G16K Koyuk River 11.59 332 Pn Pn 00 31 01.9 -1.1
G16K Koyuk River 11.59 332 P Pn 00 31 03.1 +0.1
baz=141
G27K Doyon Strip 11.67 15 Pn 00 31 03.9 -0.3
G27K Doyon Strip 11.67 15 P Pn 00 31 05.1 +0.9
baz=202
F21K Alatna River 11.69 352 Pn Pn 00 31 03.8 -0.5
F21K Alatna River 11.69 352 P Pn 00 31 04.6 +0.2
baz=168
WTLY Watson Lake, Y 11.71 60 P Pn 00 31 05.1 +0.5
baz=257
H29M Whitestone 11.74 22 P Pn 00 31 05.3 +0.3
baz=212
F20K Avaraart Lake 11.75 347 Pn 00 31 05.3 +0.3
F20K Avaraart Lake 11.75 347 P Pn 00 31 05.5 +0.4
baz=162,SNR=5.4
G15K Niukluk 11.77 328 P Pn 00 31 05.2 -0.3
baz=135
F24K Squaw Lake 11.83 3 Pn Pn 00 31 06.8 +0.4
F24K Squaw Lake 11.83 3 P Pn 00 31 06.2 -0.2
baz=184
F19K Shaleruckik Mo 11.84 343 Pn Pn 00 31 05.2 -1.1
F19K Shaleruckik Mo 11.84 343 P Pn 00 31 06.1 -0.2
baz=156
ANM Nome 11.90 324 Pn 00 31 06.5 -0.7
ANM Nome 11.90 324 P Pn 00 31 07.1 -0.1
baz=131
ANM Nome 11.90 324 P Pn 00 31 06.5 -0.7
BMAR Burnt Mountain 11.93 9 Pn Pn 00 31 07.8 +0.2
F18K Selawik 11.96 340 P Pn 00 31 08.5 +0.4
baz=151
F25K Christian Rive 12.01 7 Pn Pn 00 31 08.4 -0.4
F25K Christian Rive 12.01 7 P Pn 00 31 08.9 +0.1
baz=190
F17K Baldwin Pennin 12.16 337 Pn Pn 00 31 10.1 -0.7
F17K Baldwin Pennin 12.16 337 P Pn 00 31 10.6 -0.1
baz=146
F26K Sheenjek River 12.23 9 Pn Pn 00 31 11.8 +0.1
F26K Sheenjek River 12.23 9 P Pn 00 31 12.3 +0.5
baz=194
EPYK Eagle Plains 12.23 24 Pn Pn 00 31 14.1 +2.3
EPYK Eagle Plains 12.23 24 P Pn 00 31 12.7 +0.9
baz=215
E19K Redstone River 12.33 346 Pn Pn 00 31 13.0 -0.1
E19K Redstone River 12.33 346 P Pn 00 31 13.7 +0.5
baz=159
TGTN Hyland Airport 12.34 53 P Pn 00 31 14.1 +0.7
baz=251
E23K Chandalar 12.36 359 Pn Pn 00 31 14.1 +0.5
E23K Chandalar 12.36 359 P Pn 00 31 14.4 +0.8
baz=179
E24K Your Creek 12.38 1 Pn 00 31 14.1 +0.3
E24K Your Creek 12.38 1 P Pn 00 31 14.6 +0.8
baz=182
H31M Peel River 12.40 30 Pn Pn 00 31 14.9 +0.8
H31M Peel River 12.40 30 P Pn 00 31 15.3 +1.2
baz=223
G29M Pine Creek 12.40 21 Pn Pn 00 31 15.0 +0.8
G29M Pine Creek 12.40 21 P Pn 00 31 15.0 +0.8
baz=211
F15K North Star Dit 12.46 329 Pn Pn 00 31 14.5 -0.4
F15K North Star Dit 12.46 329 P Pn 00 31 14.5 -0.4
baz=136
E22K Anaktuvuk Pass 12.49 356 Pn 00 31 16.8 +1.5
E22K Anaktuvuk Pass 12.49 356 P Pn 00 31 15.8 +0.5
baz=174
E25K Arctic Village 12.54 6 Pn 00 31 15.8 -0.1
E25K Arctic Village 12.54 6 P Pn 00 31 16.5 +0.5
baz=190
F28M Old Crow 12.69 17 Pn 00 31 19.2 +1.1
F28M Old Crow 12.69 17 P Pn 00 31 19.1 +1.0
baz=205
E17K Hotham Inlet 12.82 337 P Pn 00 31 19.8 0.0

baz=147
G30M tAoh Zraii Nji 12.85 24 Pn **Pn 00 31 21.4 +1.1**
G30M tAoh Zraii Nji 12.85 24 P **Pn 00 31 20.9 +0.7**
baz=215
E18K Tukpahlearik C 12.86 340 P **Pn 00 31 20.0 -0.3**
baz=150
E21K Killik River 12.92 352 Pn **Pn 00 31 21.0 -0.2**
E21K Killik River 12.92 352 P **Pn 00 31 21.7 +0.5**
baz=168
TOLK Toolik Lake Re 12.94 359 **Pn 00 31 22.0 +0.5**
TOLK Toolik Lake Re 12.94 359 P **Pn 00 31 21.9 +0.5**
baz=179
E20K Nigu River 12.96 348 P **Pn 00 31 21.7 0.0**
baz=162
D22K Ayikyak River 13.27 355 Pn **Pn 00 31 26.1 +0.1**
D22K Ayikyak River 13.27 355 P **Pn 00 31 25.6 -0.4**
baz=172
D23K Nanushuk River 13.28 358 Pn **Pn 00 31 27.5 +1.4**
D23K Nanushuk River 13.28 358 P **Pn 00 31 27.9 +1.8**
baz=177
TOAD Toad River Com 13.33 67 P **Pn 00 31 28.3 +1.5**
baz=267
D19K Kuna River 13.42 346 Pn **Pn 00 31 28.6 +0.6**
D19K Kuna River 13.42 346 P **Pn 00 31 29.0 +1.0**
baz=158
D20K Etivluk River 13.44 348 P **Pn 00 31 29.0 +0.8**
baz=162
D24K Happy Valley 13.46 1 Pn **Pn 00 31 29.4 +0.9**
D24K Happy Valley 13.46 1 P **Pn 00 31 29.5 +1.1**
baz=181
F30M Barrier River 13.46 23 P **Pn 00 31 30.3 +1.7**
baz=214
D17K Noatak River 13.61 337 P **Pn 00 31 31.4 +0.9**
baz=145
D25K Kavik River 13.69 4 Pn **Pn 00 31 33.7 +2.0**
D25K Kavik River 13.69 4 P **Pn 00 31 33.0 +1.4**
baz=187
C21K Knifeblade Rid 13.69 352 P **Pn 00 31 31.8 +0.1**
baz=167
E29M Blow River 13.72 18 Pn **Pn 00 31 33.5 +1.5**
E29M Blow River 13.72 18 P **Pn 00 31 33.2 +1.1**
baz=208
F31M Tsiigehtchic 13.80 26 **Pn 00 31 33.8 +0.7**
F31M Tsiigehtchic 13.80 26 P **Pn 00 31 34.4 +1.3**
baz=219,SNR=9.1
GAMB Gambell 13.80 315 Pn **Pn 00 31 32.4 -0.8**
C24K Franklin Bluff 14.03 1 Pn **Pn 00 31 37.4 +1.1**
C24K Franklin Bluff 14.03 1 P **Pn 00 31 36.9 +0.7**
baz=181
C18K Utukok River 14.05 342 Pn **Pn 00 31 37.3 +0.7**
C18K Utukok River 14.05 342 P **Pn 00 31 37.0 +0.5**
baz=151
KOTAN Kotaneelee Air 14.05 61 P **Pn 00 31 36.9 +0.3**
baz=263
D27M Malcolm River 14.05 12 P **P 00 31 43.0 -1.5**
D27M Malcolm River 14.05 12 P **Pn 00 31 36.6 -0.1**
baz=200
B21K Ikpikpuk River 14.13 352 **Pn 00 31 36.0 -1.6**
B21K Ikpikpuk River 14.13 352 P **Pn 00 31 36.7 -0.9**
baz=168
C27K Jago River 14.15 8 Pn **Pn 00 31 39.6 +1.7**
C27K Jago River 14.15 8 P **Pn 00 31 38.0 0.0**
baz=193
C23K Itkillik River 14.16 358 Pn **Pn 00 31 37.9 -0.1**
C23K Itkillik River 14.16 358 P **Pn 00 31 38.1 +0.2**
baz=177
C17K DeLong Mountai 14.28 339 P **Pn 00 31 39.6 -0.1**
baz=147
C26K Camden Bay 14.36 6 P **Pn 00 31 40.7 -0.1**
baz=190
D28M Stokes Point 14.43 15 P **Pn 00 31 42.1 +0.3**
baz=205
INK Inuvik 14.53 24 Pn **Pn 00 31 43.8 +0.8**
comp=Z,0.3nm,0.3s,baz=211,slow=15,SNR=26
INK LR LR 00 37 51.8
comp=Z,148nm,19.6s,baz=335,slow=40
comp=Z,11nm,0.9s
INK Inuvik 14.53 24 P **Pn 00 31 43.9 +0.8**
baz=218,SNR=13
C16K Lisburne Hills 14.58 336 Pn **Pn 00 31 44.2 +0.4**
C16K Lisburne Hills 14.58 336 P **Pn 00 31 44.2 +0.4**
baz=142
B20K Meade River 14.74 349 Pn **Pn 00 31 44.6 -1.3**
B20K Meade River 14.74 349 P **Pn 00 31 44.6 -1.3**
baz=162
B18K Kokolik River 14.78 342 P **Pn 00 31 47.2 +0.6**
baz=151
A19K Wainwright 15.42 345 P **Pn 00 31 54.9 -0.1**
baz=154
C36M Paulatuk 17.70 30 **Pn 00 32 23.2 -0.7**
C36M Paulatuk 17.70 30 P **Pn 00 32 23.4 -0.5**
baz=232,SNR=9.0
NLWA Neilton Lookou 17.78 107 **P 00 32 24.8 -1.2**
YKA Yellowknife Ar 18.84 55 P **P 00 32 36.6 -0.8**
YKA Yellowknife Ar 18.84 55 P **Pn 00 32 37.7 -0.2**
comp=Z,0.1nm,0.3s,baz=263,slow=11,SNR=15
comp=Z,1.8nm,0.9s
A36M Sachs Harbour 19.17 23 P **Pn 00 32 41.4 -0.5**
A36M IAmb IAmb 00 32 45.5
comp=Z,19nm,0.8s
A36M Sachs Harbour 19.17 23 P **Pn 00 32 41.6 -0.2**
baz=224,SNR=23
LON Longmire 19.29 106 **Pn 00 32 42.5 -1.0**
LON Longmire 19.29 106 P **Pn 00 32 42.5 -1.0**
LON pmax pmax
comp=Z,2.0nm,0.8s
B08A Colville Reser 19.72 99 P **P 00 32 46.1 -1.1**
NEW Newport 21.00 97 P **P 00 33 03.2 +2.0**
comp=Z,3.3nm,0.9s,baz=308,slow=2.9,SNR=5.6
comp=Z,3.3nm,0.9s
G08A Pilot Rock 21.75 106 P **P 00 33 08.0 -1.3**
J05D Fort Rock, OR 21.88 113 P **P 00 33 09.6 -1.2**
J05D IAmb IAmb 00 33 24.0
comp=Z,8.7nm,1.1s
YBH Yreka Blue Hor 22.25 118 LR LR 00 39 25.2
comp=Z,122nm,19.1s,baz=22,slow=30
F10A Beach Ranch, E 22.27 103 P **P 00 33 14.1 -0.8**
PLID Pearl Lake 23.50 103 P **P 00 33 28.9 +1.2**
BILL Bilibino 23.65 319 P **P 00 33 28.7 -0.1**
BILL IAmb IAmb 00 33 31.3
comp=Z,8.0nm,1.0s
BILL Bilibino 23.65 319*ce*P **P 00 33 30.3 +1.5**
BILL pmax pmax
comp=Z,16nm,1.7s
NVAR Mina Array Bea 26.96 117 P **P 00 33 59.6 +0.2**
comp=Z,0.9nm,0.7s,baz=324,slow=11,SNR=4.6
comp=Z,0.9nm,0.7s
RES Resolute Bay 28.03 27 P **P 00 34 07.3 -1.2**
RES Resolute Bay 28.03 27 P **P 00 34 07.8 -0.6**
comp=Z,1.2nm,0.6s,baz=257,slow=10,SNR=9.1
comp=Z,1.2nm,0.6s
PDAR Pinedale Array 28.56 100 P **P 00 34 13.8 0.0**
comp=Z,0.2nm,0.6s,baz=343,slow=7.2,SNR=2.9
comp=Z,0.2nm,0.6s
SEY Seymchan 29.64 308*ce*P **P 00 34 24.2 +1.3**
SEY pmax pmax
comp=Z,3.0nm,1.0s
MA2 Magadan 31.35 302*ce*P **P 00 34 40.1 +2.1**
MA2 pmax pmax
comp=Z,14nm,2.5s
TIXI Tiksi 36.13 328 P **P 00 35 19.9 +0.5**
comp=Z,2.7nm,0.8s,baz=87,slow=9.6,SNR=6.3
comp=Z,2.7nm,0.8s
TIXI Tiksi 36.13 328*ce*P **P 00 35 21.1 +1.7**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
SBM South Baldy 36.15 109 P **P 00 35 19.1 -1.3**
TXAR Lajitas Array 41.63 110 P **P 00 36 07.5 +1.5**
comp=Z,0.4nm,0.8s,baz=329,slow=7.8,SNR=2.1
comp=Z,0.4nm,0.8s
ILULI Ilulissat 42.12 32 P **P 00 36 10.5 +1.1**
ILULI Ilulissat 42.12 32 P **P 00 36 10.5 +1.1**
ILULI pmax pmax
comp=Z,48nm,0.5s
SCHQ Schefferville 44.29 55 P **P 00 36 27.6 +0.5**
comp=Z,2.3nm,0.6s,baz=274,slow=8.3,SNR=5.5
comp=Z,2.3nm,0.6s
SPITS Spitsbergen Ar 46.04 4 P **P 00 36 40.9 +0.1**
comp=Z,31nm,1.1s,baz=297,slow=6.3,SNR=1.7
comp=Z,31nm,1.1s
KLR Kul'dur 46.08 297*ce*P **P 00 36 42.6 +1.2**
KLR pmax pmax
comp=Z,11nm,2.5s
NRIK Noril'sk 48.60 337 P **P 00 37 00.8 0.0**
NRIK IAmb IAmb 00 37 02.0
comp=Z,4.6nm,0.7s
NRIK Noril'sk 48.60 337 P **P 00 37 01.4 +0.6**
comp=Z,3.6nm,0.6s,baz=45,slow=5.3,SNR=12
comp=Z,3.6nm,0.6s
NRIK Noril'sk 48.60 337 *e*P **P 00 37 01.8 +1.0**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
H11N2 WAKE ISLAND Hy 48.62 240 T T 01 29 24.7
baz=31,slow=76
H11N3 WAKE ISLAND Hy 48.63 240 T T 01 29 25.1
baz=31,slow=76
H11N1 WAKE ISLAND Hy 48.64 240 T T 01 29 28.3
baz=31,slow=76
H11S1 WAKE ISLAND Hy 49.76 240 T T 01 30 50.7
baz=31,slow=76
H11S2 WAKE ISLAND Hy 49.77 240 T T 01 30 52.7
baz=31,slow=76
H11S3 WAKE ISLAND Hy 49.78 240 T T 01 30 52.3
baz=31,slow=76
BNX BinXian 50.60 296 ⇑P **P 00 37 16.3 0.0**
BNX pmax pmax
comp=Z,5.0nm,1.4s
CN2 Changchun 52.95 295 *e*P **P 00 37 33.5 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 54.97 2 P **P 00 37 48.3 0.0**
comp=Z,2.4nm,0.4s,baz=2.5,slow=8.5,SNR=17
comp=Z,2.4nm,0.4s
ARCES ARCESS Array B 54.97 2 *e*P **P 00 37 47.8 -0.5**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
KSRS Korea Array 56.24 288 P **P 00 37 57.9 +0.1**
comp=Z,1.0nm,0.6s,baz=52,slow=7.9,SNR=2.4
comp=Z,1.0nm,0.6s
SONM Songino Array 58.99 310 P **P 00 38 17.3 0.0**
comp=Z,2.0nm,0.8s,baz=33,slow=7.4,SNR=16
SONM PcP **PcP 00 39 06.8 +0.6**
comp=Z,1.3nm,0.8s,baz=52,slow=3.4,SNR=4.9
comp=Z,2.0nm,0.8s
SONM Songino Array 58.99 310 *e*P **P 00 38 18.5 +1.2**
SONM pmax pmax
comp=Z,2.0nm,0.8s
ZAA0 Zalesovo Array 62.02 327 P **P 00 38 37.1 -0.5**
ZAA0 IAmb IAmb 00 38 39.1
comp=Z,5.9nm,1.1s
ZALV Zalesovo Beam 62.02 327 P **P 00 38 37.4 -0.3**
ZALV Zalesovo Beam 62.02 327 P **P 00 38 37.9 +0.3**
comp=Z,2.5nm,0.5s,baz=32,slow=6.7,SNR=16
comp=Z,2.5nm,0.5s
ZALV Zalesovo Beam 62.02 327 *e*P **P 00 38 38.2 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
HHC Hu-ho-hao-te 62.03 302 *e*P **P 00 38 35.6 -2.5**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,87nm,4.6s
NC204 NORSAR Array S 62.26 11 P **P 00 38 38.7 -0.6**
NC204 IAmb IAmb 00 38 41.9
comp=Z,5.0nm,0.8s
NC303 NORSAR Array S 62.37 10 P **P 00 38 39.7 -0.3**
NC405 NORSAR Array S 62.52 10 P **P 00 38 40.4 -0.5**
NC405 IAmb IAmb 00 38 43.7
comp=Z,4.5nm,0.8s
NB201 NORSAR Array S 62.54 11 P **P 00 38 40.4 -0.7**
NB2 NORSAR Subarra 62.54 11 P **P 00 38 41.4 +0.3**
comp=Z,1.2nm,0.6s,baz=348,slow=6.9
NOA NORSAR Array B 62.54 11 P **P 00 38 41.2 +0.1**
comp=Z,1.5nm,0.6s,baz=348,slow=6.8,SNR=7.7
comp=Z,1.5nm,0.6s
NAO01 NORSAR Array S 62.70 11 P **P 00 38 40.9 -1.2**
NAO01 IAmb IAmb 00 38 53.9
comp=Z,4.2nm,1.0s
FIA1 FINESS Array S 63.09 3 P **P 00 38 44.5 -0.2**
FINES FINESS Array B 63.09 3 P **P 00 38 45.1 +0.4**
comp=Z,4.4nm,0.5s,baz=360,slow=8.9,SNR=32
comp=Z,4.4nm,0.5s
HFS Hagfors 63.67 9 P **P 00 38 48.6 0.0**
comp=Z,1.7nm,0.6s,baz=352,slow=3.0,SNR=8.6
comp=Z,1.7nm,0.6s
NJ2 Nanjing 65.18 291 *e*P **P 00 38 58.4 -0.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
SVE Sverdlovsk 65.20 342 *e*P **P 00 38 59.1 +0.5**
EKA Eskdalemuir Ar 65.88 20 P **P 00 39 03.1 +0.1**
comp=Z,1.9nm,0.7s,baz=323,slow=4.8,SNR=5.1
comp=Z,1.9nm,0.7s
ARTI Arti 65.99 344 P **P 00 39 03.7 0.0**
ARTI Arti 65.99 344*c i*P **P 00 39 04.1 +0.4**
ARTI 00 39 34.4
ARTI 00 41 24.9
ARTI S **S 00 47 53.8 +2.9**
ARTI SS **SS 00 52 01.7 -3.2**
ARTI pmax pmax
comp=Z,6.0nm,0.8s
VSU Vasula 66.10 2*ce*P **P 00 39 05.0 +0.7**
VSU pmax pmax
comp=Z,44nm,2.5s
KURK Kurchatov 66.69 329 P **P 00 39 08.4 +0.1**
KURK IAmb IAmb 00 39 11.0
comp=Z,2.8nm,0.9s
KURK Kurchatov 66.69 329*ce*P **P 00 39 09.8 +1.5**
KURK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 66.77 335 P **P 00 39 08.7 -0.1**
BRVK IAmb IAmb 00 39 09.6
comp=Z,2.5nm,0.6s
BRVK Borovoye 66.77 335*ce*P **P 00 39 09.8 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 66.77 335 P **P 00 39 08.8 0.0**
comp=Z,4.0nm,0.7s,baz=30,slow=6.6,SNR=25
comp=Z,4.0nm,0.7s
KURBB Kurchatov Arra 66.80 329 P **P 00 39 09.2 +0.2**
comp=Z,1.9nm,0.6s,baz=28,slow=6.3,SNR=17
comp=Z,1.9nm,0.6s
MK31 Makanchi Array 69.04 325 P **P 00 39 23.3 +0.1**
MK31 IAmb IAmb 00 39 24.4
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 69.04 325*ce*P **P 00 39 23.7 +0.5**
MKAR Makanchi Array 69.04 325 P **P 00 39 23.3 +0.1**
MKAR Makanchi Array 69.04 325 P **P 00 39 23.5 +0.3**
comp=Z,2.2nm,0.5s,baz=30,slow=6.2,SNR=44
comp=Z,2.2nm,0.5s
MAKZ Makanchi 69.13 325 P **P 00 39 23.9 +0.2**
MAKZ IAmb IAmb 00 39 25.0
comp=Z,4.0nm,0.8s
MAKZ Makanchi 69.13 325 P **P 00 39 23.9 +0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 69.40 356*ce*P **P 00 39 25.5 +0.3**
OBN *e* 00 41 59.6
OBN pmax pmax
comp=Z,14nm,1.3s
WMQ Urumqi 69.76 320 *e*P **P 00 39 29.8 +2.0**
WMQ pmax pmax
comp=Z,13nm,0.7s
MNK Minsk 70.09 2 *i*P **P 00 39 30.1 +0.6**
MNK *i* 00 39 51.8
MNK *i* 00 42 05.9
MNK *i*PPP PPP 00 43 47.5
MNK *i*S **S 00 48 41.9 +2.0**
MNK *i*SS **SS 00 53 09.8 +1.7**
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=N,13nm,1.3s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK MLR MLR
comp=N,680nm,20.0s
MNK MLR MLR
comp=E,1μm,20.0s
MNK MLR MLR
comp=Z,95nm,14.0s
ABKAR Akbulak array 72.56 340 P **P 00 39 44.9 +0.4**
ABKAR IAmb IAmb 00 39 45.6
comp=Z,3.6nm,0.7s
PVCC Panska Ves 73.24 11 *e*P **P 00 39 49.9 +1.3**
PVCC Panska Ves 73.24 11 *e*P **P 00 39 49.9 +1.3**
OSTC Ostas 73.38 10 *e*P **P 00 39 50.7 +1.3**
OSTC Ostas 73.38 10 *e*P **P 00 39 50.7 +1.3**
UPC Upice 73.41 10 *e*P **P 00 39 50.6 +1.1**
UPC Upice 73.41 10 *e*P **P 00 39 50.6 +1.1**
DPC Dobruska-Polom 73.59 10 *e*P **P 00 39 51.2 +0.5**
DPC Dobruska-Polom 73.59 10 *e*P **P 00 39 51.2 +0.5**
KRLC Kraliky 73.91 9 *e*P **P 00 39 53.7 +1.2**
KRLC Kraliky 73.91 9 *e*P **P 00 39 53.7 +1.2**
AKASG Malin Array Be 73.91 1 P **P 00 39 52.6 +0.1**
comp=Z,4.8nm,0.7s,baz=2.1,slow=6.0,SNR=22
comp=Z,4.8nm,0.7s
AKBB Malin Array Si 73.91 1 P **P 00 39 52.4 -0.1**
AKBB Malin Array Si 73.91 1*ce*P **P 00 39 53.2 +0.7**
KIEV Kiev 73.92 1 P **P 00 39 52.7 +0.2**
KIEV IAmb IAmb 00 39 53.4
comp=Z,7.1nm,0.8s
KIEV Kiev 73.92 1 P **P 00 39 52.7 +0.2**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
STEB Steborice 74.13 9 *e*P **P 00 39 54.4 +0.6**
MORC Moravsky Berou 74.27 9 *e*P **P 00 39 55.3 +0.6**
ZVC Zvikov 74.28 11 *e*P **P 00 39 55.7 +1.0**
KHC Kasperske Hory 74.51 12 *e*P **P 00 39 57.2 +1.1**
KHC Kasperske Hory 74.51 12 *e*P **P 00 39 57.2 +1.1**
VRAC Vranov 74.65 10 *e*P **P 00 39 57.6 +0.8**
GERES GERESS Array B 74.81 12 P **P 00 39 58.4 +0.5**
comp=Z,1.5nm,0.6s,baz=336,slow=2.9,SNR=7.7
comp=Z,1.5nm,0.6s
GERES GERESS Array B 74.81 12 *e*P **P 00 39 58.1 +0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
KRUC Moravsky 74.88 10 *e*P **P 00 39 58.8 +0.7**
CKRC Cesky Krumlov 74.90 11 *e*P **P 00 39 59.1 +0.8**
CKRC Cesky Krumlov 74.90 11 *e*P **P 00 39 59.1 +0.8**
LANS Liptovska Anna 75.05 8 *e*P **P 00 40 01.0 +1.8**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 75.05 8 *e*P **P 00 40 01.0 +1.8**
MODS Modra-Piesok 75.64 9 *e*P **P 00 40 01.1 -1.5**
MODS Modra-Piesok 75.64 9 *e*P **P 00 40 01.1 -1.5**
VYHS Vyhne 75.65 8 *e*P **P 00 40 03.4 +0.8**
VYHS pmax pmax
comp=Z,12nm,2.1s
VYHS Vyhne 75.65 8 *e*P **P 00 40 03.4 +0.8**
CONA Conrad Observa 75.94 10 *i* pP **P 00 40 05.6 +1.2**
comp=Z,3.5nm,0.8s,SNR=4.5
MOTA Moosalm 75.96 14 *e*pP **P 00 40 06.2 +1.6**
comp=Z,1.2nm,0.3s
LESA Schwarzleotal 76.09 13 *e*pP **P 00 40 06.5 +1.3**
comp=Z,0.1nm,0.2s
SQTA Sankt Quirin 76.10 14 *e*pP **P 00 40 06.6 +1.3**
comp=Z,2.0nm,0.4s
WTTA Wattenberg 76.11 13 *e*pP **P 00 40 06.5 +1.0**
comp=Z,3.2nm,0.6s
FETA Feichten 76.23 14 *i* pP **P 00 40 07.2 +1.0**
comp=Z,1.4nm,0.6s,SNR=5.9
KBA Koelnbreinsper 76.51 12 *e*pP **P 00 40 08.9 +1.1**
comp=Z,3.8nm,0.5s
ARSA Arzberg 76.58 11 *e*pP **P 00 40 09.2 +1.2**
comp=Z,1.3nm,0.5s
SOKA Soboth 77.09 11 *i* pP **P 00 40 12.0 +1.0**
comp=Z,1.3nm,0.4s,SNR=5.5
OBKA Obir 77.21 11 *i* pP **P 00 40 12.3 +0.7**
comp=Z,4.8nm,0.4s,SNR=12
KSH Kashi 77.60 326 P P 00 40 18.0 +4.0
KSH pmax pmax
comp=Z,7.0nm,0.7s
PZH PanZhiHua 78.39 300 P **P 00 40 17.6 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.1s
KVAR Kislovodsk Arr 80.15 351 LR LR 01 18 53.5
comp=Z,110nm,20.1s,baz=238,slow=38
KBZ Khabaz 80.36 351 P **P 00 40 29.8 +1.0**
comp=Z,2.2nm,0.7s,baz=333,slow=5.6,SNR=6.4
comp=Z,2.2nm,0.7s
KBZ Khabaz 80.36 351 *e*P **P 00 40 30.5 +1.7**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 80.46 26 P **P 00 40 30.3 +0.7**
comp=Z,1.7nm,0.7s,baz=341,slow=5.1,SNR=11
comp=Z,1.7nm,0.7s
RDO Rodhopi 83.38 4 P **P 00 40 45.6 +0.8**
VSL Villasalto 83.39 16 P **P 00 40 45.2 +0.3**
VSL IAmb IAmb 00 41 03.1
comp=Z,5.7nm,1.0s
BRTR Keskin Array B 84.86 358 P **P 00 40 53.1 +0.5**
comp=Z,1.1nm,0.6s,baz=342,slow=1.2,SNR=8.5
comp=Z,1.1nm,0.6s
BNN Bunyan 85.67 356 P **P 00 40 55.8 -0.8**
CMAR Chiang Mai Arr 86.54 298 P **P 00 41 01.1 0.0**
comp=Z,1.3nm,0.3s,baz=11,slow=5.2,SNR=11
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 86.54 298 *e*P **P 00 41 00.8 -0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
MARD Mardin 86.91 352 P **P 00 41 02.7 0.0**
QSPA South Pole Qui 145.54 180 PKPbc **PKPab 00 47 53.8 -1.3**
comp=Z,4.4nm,0.9s,baz=214,slow=0.5,SNR=8.4
BOSA Boshof 152.60 11 PKPbc **PKiKP 00 48 13.3 -1.1**
comp=Z,1.0nm,0.5s,baz=356,slow=3.3,SNR=5.4

GCG ***22*** *00:31:24.7±2.5, 15°.39N×94°.74W, h11km±52km, MD5.0, Hypocentre not reviewed by the ISC*
MEX ***22*** *00:31:28.7±1.2, 15°.49N×94°.72W, h30km±999km, MD4.4*
NEIC ***22*** *00:31:29.6±2.6, 15°.60N±0°.06×94°.73W±0°.04, h35km±2km, mb4.0/15, Md4.4/91(MEX), Error ellipse: s-maj=9.9km s-min=6.5km az=182.0*
IDC ***22*** *00:31:29.9±1.1, 15°.65N×94°.56W, h58km±7km, mb3.5/9, mbtmp3.8/12, MS3.2/3, Error ellipse: s-maj=15.9km s-min=7.9km az=49.0*
ISC 22 00:31:28.3±0.7, 15°.46N±0°.04×94°.71W±0°.03, h52km±7km, n116, σ2s07/174, mb3.8/11, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.10**	**44**	*e*P	**Pn**	**00 31 44.7**	**-2.7**
CARR				*e*S	**Sn**	**00 31 57.2**	**-4.3**
NILT	**Santiago Nilte**	**1.10**	**5**	*i* P	**Pn**	**00 31 45.0**	**-2.5**
NILT				*e*S	**Sn**	**00 31 56.6**	**-5.1**
HUIG	**Huatulco**	**1.38**	**283**		**Pn**	**00 31 50.0**	**-1.3**
HUIG					**Sn**	**00 32 05.6**	**-2.9**
HUIG	**Huatulco**	**1.38**	**283**	*e*P	**Pn**	**00 31 50.0**	**-1.3**
HUIG				*e*S	**Sn**	**00 32 05.6**	**-2.9**
HUIG	**Huatulco**	**1.38**	**283**	*i* P		00 31 49.9	
HUIG				*i* S		00 32 05.4	
PCIG		**1.46**	**80**		**Pn**	**00 31 50.2**	**-2.1**
PCIG					**Sn**	**00 32 07.1**	**-3.1**
PCIG		**1.46**	**80**	*i* P	**Pn**	**00 31 50.2**	**-2.1**
PCIG				*e*S	**Sn**	**00 32 07.1**	**-3.1**
CMIG	**Matias Romero**	**1.63**	**354**		**Pn**	**00 31 52.9**	**-1.8**
CMIG					**Sn**	**00 32 12.0**	**-2.5**
CMIG	**Matias Romero**	**1.63**	**354**	P	**Pn**	**00 31 53.1**	**-1.5**
	105nm,0.4s,baz=170,slow=9.5,SNR=345						
CMIG				S	**Sn**	**00 32 12.6**	**-1.9**
	2μm,0.5s,baz=117,slow=14,SNR=74						
CMIG				LR	LR	00 32 30.0	
	comp=Z,165nm,20.7s,baz=194,slow=41						
CMIG	**Matias Romero**	**1.63**	**354**	*i* P	**Pn**	**00 31 52.9**	**-1.8**
CMIG				*e*S	**Sn**	**00 32 12.0**	**-2.5**
PANG	**Puerto Angel**	**1.71**	**277**		**Pn**	**00 31 54.5**	**-1.3**
PANG					**Sn**	**00 32 13.1**	**-3.4**
PANG	**Puerto Angel**	**1.71**	**277**	*i* P	**Pn**	**00 31 54.5**	**-1.3**
PANG				*e*S	**Sn**	**00 32 13.1**	**-3.4**
UXUV	**UXUV**	**1.93**	**16**	*i* P	**Pn**	**00 31 57.7**	**-1.0**
UXUV				*e*S	**Sn**	**00 32 19.9**	**-1.9**
TGIG		**2.01**	**49**		**Pn**	**00 31 58.6**	**-1.3**
TGIG					**Sn**	**00 32 21.8**	**-2.1**
TGIG		**2.01**	**49**	*e*P	**Pn**	**00 31 58.6**	**-1.3**
TGIG				*e*S	**Sn**	**00 32 21.8**	**-2.1**
TGIG		**2.01**	**49**	*e*P		00 31 58.6	
TGBT	**Tuxtla Gutierr**	**2.03**	**50**		**Pn**	**00 32 00.2**	**+0.1**
TGBT					**Sn**	**00 32 25.0**	**+0.6**
TGBT	**Tuxtla Gutierr**	**2.03**	**50**	*e*P	**Pn**	**00 32 00.2**	**+0.1**
TGBT				*e*S	**Sn**	**00 32 25.0**	**+0.6**
PEIG	**Puerto Escondi**	**2.41**	**283**		**Pn**	**00 32 04.3**	**-1.0**
PEIG	**Puerto Escondi**	**2.41**	**283**	*e*P	**Pn**	**00 32 04.3**	**-1.0**
PEIG				*e*S	**Sn**	**00 32 29.4**	**-4.2**
PATR	**El Naranjo**	**2.41**	**98**	*e*P	**Pn**	**00 32 04.0**	**-1.5**
PATR				*e*S	**Sn**	**00 32 30.3**	**-3.7**
THIG		**2.42**	**103**		**Pn**	**00 32 02.5**	**-3.0**
THIG		**2.42**	**103**	*e*P	**Pn**	**00 32 02.5**	**-3.0**
THIG				*e*S	**Sn**	**00 32 31.0**	**-2.9**
THIG		**2.42**	**103**	*e*P		00 32 04.2	
PAVE	**Pavencul**	**2.46**	**96**	*e*P	**Pn**	**00 32 04.8**	**-1.3**
NEUV	**Arroyo Zacate**	**2.47**	**335**	*e*P	**Pn**	**00 32 05.1**	**-1.1**
NEUV				*e*S	**Sn**	**00 32 34.1**	**-1.1**
OXBJ	**Oaxaca**	**2.51**	**310**		**Sn**	**00 32 35.4**	**-1.0**
OXBJ	**Oaxaca**	**2.51**	**310**	*e*S	**Sn**	**00 32 35.4**	**-1.0**

OXIG Oaxaca 2.52 310 Pn 00 32 07.9 +0.9
OXIG Sn 00 32 35.9 -0.8
VHO Vista Hermosa 2.52 310 *eP* **Pn 00 32 07.9 +0.9**
VHO *eS* Sn 00 32 35.9 -0.8
CHUJ Union Juarez 2.54 98 *eP* **Pn 00 32 06.2 -1.0**
CHUJ *eS* Sn 00 32 34.8 -2.3
TUIG Tuzandepetl 2.58 6 *eP* **Pn 00 32 06.7 -0.8**
TUIG *eS* Sn 00 32 34.2 -3.5
CCIG Comitan 2.61 71 Pn 00 32 07.3 -0.9
CCIG Comitan 2.61 71 *eP* **Pn 00 32 07.9 -0.3**
CCIG *eS* Sn 00 32 39.3 +0.6
CCIG Comitan 2.61 71 *eP*
CCIG *i S* 00 32 41.8
SMCA Catarina 2.61 103 *i S* 00 32 35.6
VHSA Villahermosa 3.03 34 *eP* **Pn 00 32 14.5 +0.7**
VHSA *eS* Sn 00 32 49.4 +0.5
RTAL Retalhuleu 3.06 107 Pn 00 32 14.8 +0.6
RTAL Retalhuleu 3.06 107 *eP* **Pn 00 32 15.2 +1.0**
RTAL *eS* Sn 00 32 47.7 -1.9
YOIG Yosondua 3.06 297 Pn 00 32 15.1 +0.7
YOIG Sn 00 32 47.1 -2.9
YOIG Yosondua 3.06 297 *eP* **Pn 00 32 15.1 +0.7**
YOIG *eS* Sn 00 32 47.1 -2.9
PMUV Sontecomapan 3.09 353 *eP* **Pn 00 32 12.6 -2.2**
HUEH Huehuetenango 3.10 92 Pn 00 32 15.8 +0.9
HUEH Huehuetenango 3.10 92 *eP* **Pn 00 32 16.2 +1.3**
HUEH *eS* Sn 00 32 52.9 +2.0
HUEH Huehuetenango 3.10 92 *eP*
00 32 16.2
PNIG Pinotepa 3.42 286 Pn 00 32 18.9 -0.2
PNIG Pinotepa 3.42 286 *eP* **Pn 00 32 18.9 -0.2**
PNIG *eS* Sn 00 32 53.7 -4.8
TXIG Tlaxiaco 3.44 302 Pn 00 32 21.1 +1.5
TXIG Sn 00 32 57.0 -2.3
TXIG Tlaxiaco 3.44 302 *eP* **Pn 00 32 21.1 +1.5**
TXIG *eS* Sn 00 32 57.0 -2.3
TOIG Toxpalan 3.46 320 Pn 00 32 22.3 +2.5
TOIG Sn 00 32 58.2 -1.4
TOIG Toxpalan 3.46 320 *eP* **Pn 00 32 22.3 +2.5**
TOIG *eS* Sn 00 32 58.2 -1.4
QUIS Sacapulas 3.49 92 *eP*
00 32 21.4
HLIG Huajuapan de L 3.79 309 Pn 00 32 25.5 +1.1
HLIG Sn 00 33 05.9 -1.9
HLIG Huajuapan de L 3.79 309 *eP* **Pn 00 32 25.5 +1.1**
HLIG *eS* Sn 00 33 05.9 -1.9
TPIG Tehuac#an 3.89 320 Pn 00 32 23.5 -2.3
TPIG Sn 00 33 10.8 +0.5
TPIG Tehuac#an 3.89 320 *eP* **Pn 00 32 23.5 -2.3**
TPIG *eS* Sn 00 33 08.9 -1.3
TPIG *eS* 00 33 10.8
FTIG Fresnillo de T 4.09 307 Pn 00 32 29.1 +0.7
FTIG Sn 00 33 14.0 -1.0
FTIG Fresnillo de T 4.09 307 *eP* **Pn 00 32 29.1 +0.7**
FTIG *eS* Sn 00 33 14.0 -1.0
APG El Apazote 4.12 96 *eP* **Pn 00 32 29.9 +0.9**
3.6nm,0.4s,baz=199,slow=15,SNR=22
APG S Sn 00 33 16.5 +0.4
14nm,0.7s,baz=70,slow=21,SNR=8.8
APG El Apazote 4.12 96 *eP*
00 32 31.0
MGIG Malinaltepec 4.16 296 Pn 00 32 30.6 +1.2
MGIG Sn 00 33 14.3 -2.6
MGIG Malinaltepec 4.16 296 *eP* **Pn 00 32 30.6 +1.2**
MGIG *eS* Sn 00 33 14.3 -2.6
TLIG Tlapa 4.25 300 Pn **Pn 00 32 31.9 +1.2**
TLIG Tlapa 4.25 300 *eP* Pn 00 32 23.1 -7.6
TLIG *eP* 00 32 28.2
TLIG *eS* Sn 00 33 13.9 -5.2
TLIG *eS* 00 33 14.6
JAUV Jalcomulco 4.37 333 *eP* **Pn 00 32 30.4 -1.9**
JAUV *eS* Sn 00 33 19.1 -2.8
CRIG Cruz Grande 4.44 287 Pn 00 32 33.4 +0.3
CRIG Cruz Grande 4.44 287 *eP* **Pn 00 32 33.4 +0.3**
CRIG *eS* Sn 00 33 16.5 -7.0
SCIG Sabancuy 4.85 43 *eP* **Pn 00 32 37.6 -1.1**
SCIG *eS* Sn 00 33 29.8 -3.8
SCIG Sabancuy 4.85 43 *i P* 00 32 38.7
PETF Flores 4.87 72 Pn 00 32 39.0 -0.1
PETF Flores 4.87 72 *eP* **Pn 00 32 39.5 +0.4**
PETF *eS* Sn 00 33 27.2 -7.0
PETF Flores 4.87 72 *eP*
00 32 39.3
DAIG Los Arroyos 4.99 289 Pn 00 32 41.1 +0.3
DAIG Los Arroyos 4.99 289 *eP* **Pn 00 32 41.1 +0.3**
DAIG *eS* Sn 00 33 31.1 -6.1
PPM Popocatepetl 5.18 314 *eP* **Pn 00 32 45.5 +1.6**
PPM *eP* 00 32 47.4
PPM *eS* Sn 00 33 42.1 -0.5
PPIG Popocatepetl 5.18 314 Pn 00 32 47.4 +3.6
PPIG Sn 00 33 42.1 -0.5
ESQI Esquipulas 5.26 99 Pn **Pn 00 32 45.9 +1.3**
MTO3 Montecristo 5.28 101 Pn 00 32 45.6 +0.8
YAIG Yautepec 5.37 310 Pn 00 32 48.4 +2.3
YAIG Sn 00 33 42.9 -3.8
YAIG Yautepec 5.37 310 *eP* **Pn 00 32 48.4 +2.3**
YAIG *eS* Sn 00 33 42.9 -3.8
CXUV Coxquihui 5.43 330 *eP* **Pn 00 32 47.6 +0.8**
CXUV *eS* Sn 00 33 45.6 -2.4
PLIG Platanillo 5.44 303 Pn 00 32 46.5 -0.4
PLIG Sn 00 33 45.0 -3.2
PLIG Platanillo 5.44 303 *eP* **Pn 00 32 46.5 -0.4**
PLIG *eS* Sn 00 33 45.0 -3.2
CAIG El Cayaco 5.57 287 Pn 00 32 49.2 +0.6
CAIG El Cayaco 5.57 287 *eP* **Pn 00 32 49.2 +0.6**
CAIG *eS* Sn 00 33 43.6 -7.7
MAVM Malinalco, Edo 5.75 308 *eP* Pn 00 32 37.0 -14
MAVM *eS* Sn 00 33 37.6 -18
ARIG Puente Sto Nin 6.08 298 Pn 00 32 57.0 +1.3
ARIG Puente Sto Nin 6.08 298 *eP* **Pn 00 32 57.0 +1.3**
ARIG *eS* Sn 00 33 59.6 -4.5
ZIIG Zihuatanejo 6.82 289 Pn 00 33 06.9 +1.1
ZIIG Sn 00 34 20.3 -1.9
ZIIG Zihuatanejo 6.82 289 *eP* **Pn 00 33 06.9 +1.1**
ZIIG *eS* Sn 00 34 20.3 -1.9
TGUH Tegucigalpa,Un 7.33 100 Pn **Pn 00 33 14.8 +1.9**
TEIG Tepich 7.75 51 Pn **Pn 00 33 17.5 -0.9**
TEIG Tepich 7.75 51 P **Pn 00 33 17.2 -1.3**
0.2nm,0.4s,baz=62,slow=24,SNR=16
TEIG S Sn 00 34 39.7 -5.2
0.3nm,0.4s,baz=65,slow=24,SNR=11
CRIN San Cristobal 7.92 109 Pn **Pn 00 33 24.0 +3.0**
HERN Volcan Telica 8.15 109 Pn **Pn 00 33 26.3 +2.1**
CNGN Cerro Negro 8.31 110 Pn 00 33 30.1 +3.7
JTS Las Juntas de 10.81 117 Pn **Pn 00 34 03.5 +3.0**
JTS Las Juntas de 10.81 117 P Pn 00 34 02.2 +1.7
3.0nm,0.3s,baz=305,slow=11,SNR=4.5
JTS LR LR 00 37 34.1
comp=Z,102nm,19.7s,baz=334,slow=34
833A Chaparral WMA, 13.52 342 Pn 00 34 38.6 +1.2
TXAR Lajitas Array 16.09 331 P **Pn 00 35 12.6 +1.3**
3.0nm,1.0s,baz=147,slow=12,SNR=11
TX31 Lajitas Ar. Si 16.09 331 Pn 00 35 11.9 +0.6
BRDY Brady 16.23 347 P **P 00 35 15.8 +0.5**
BRDY IAmb IAmb 00 35 28.2
comp=Z,6.3nm,0.8s
OZNA Ozona 16.48 340 Pn **Pn 00 35 16.6 +0.5**
OZNA IAmb IAmb 00 35 34.5
comp=Z,9.5nm,0.9s
ALPN Alpine 16.96 333 Pn **Pn 00 35 21.4 -0.7**
MNHN Monahans 17.44 336 P **Pn 00 35 28.1 +0.1**
MNHN IAmb IAmb 00 35 33.4
comp=Z,9.4nm,1.1s
VHRN Van Horn 17.93 330 P **P 00 35 35.4 +1.2**
DKNS Dickens 18.98 344 P **P 00 35 45.5 -0.1**
DKNS IAmb IAmb 00 35 47.7
comp=Z,14nm,1.2s
X34A Smith Ranch, M 19.27 352 P **P 00 35 47.9 -0.8**
SMWD Samnorwood 20.18 347 P **P 00 35 59.0 +0.3**
SMWD IAmb IAmb 00 36 03.0
comp=Z,12nm,0.7s
121A Cookes Peak, D 20.74 327 P **P 00 36 06.4 +1.5**
121A IAmb IAmb 00 36 11.0
comp=Z,11nm,1.0s
CRNM Carthage 21.38 332 P **P 00 36 13.0 +1.3**
BNM Barren Site 21.49 332 P **P 00 36 14.4 +1.3**
RTBA Rita Blanca 22.09 343 P **P 00 36 19.4 +0.2**
ANMO Albuquerque 22.09 334 P **P 00 36 20.5 +1.1**
comp=Z,1.0nm,0.6s,baz=300,slow=15,SNR=4.6
comp=Z,1.0nm,0.6s
T25A Trinidad 23.25 340 P **P 00 36 32.3 +0.9**
T25A IAmb IAmb 00 36 39.1
comp=Z,9.3nm,1.4s
X16A Lo Mia Camp, P 24.15 324 P **P 00 36 40.7 +0.8**
X16A IAmb IAmb 00 36 44.0
comp=Z,5.2nm,1.0s
SDV Santo Domingo 24.41 103 LR LR 00 46 43.0
comp=Z,69nm,18.7s,baz=57,slow=38
PFO Pinyon Flats O 26.70 317 LR LR 00 46 54.2
comp=Z,68nm,21.4s,baz=30,slow=35
PDAR Pinedale Array 30.05 338 P **P 00 37 33.2 +0.4**
comp=Z,0.4nm,0.8s,baz=134,slow=7.9,SNR=1.1
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 30.91 322 P **P 00 37 42.0 +1.6**
comp=Z,1.2nm,0.8s,baz=140,slow=9.7,SNR=5.2
NVAR pP **pP 00 37 56.6 +3.0**
comp=Z,1.4nm,0.7s,baz=120,slow=9.0,SNR=5.2
comp=Z,1.2nm,0.8s
ULM Lac du Bonnet 34.71 359 P **P 00 38 11.7 -1.5**
comp=Z,1.4nm,0.6s,baz=200,slow=8.4,SNR=3.2
comp=Z,1.4nm,0.6s
YKA Yellowknife Ar 49.03 348 P **P 00 40 08.9 -0.9**
comp=Z,0.6nm,0.6s,baz=158,slow=7.3,SNR=12
comp=Z,0.6nm,0.6s
INK Inuvik 58.31 344 P **P 00 41 17.5 -0.1**
comp=Z,1.1nm,0.6s,baz=118,slow=7.1,SNR=8.0
INK pP **pP 00 41 32.3 +0.6**
comp=Z,0.7nm,0.6s,baz=121,slow=3.9,SNR=2.4
comp=Z,1.1nm,0.6s
ILAR Eielson Array 60.48 337 P **P 00 41 32.5 -0.2**
comp=Z,0.7nm,0.9s,baz=121,slow=5.8,SNR=8.7
ILAR pP **pP 00 41 47.0 +0.2**
comp=Z,0.5nm,0.8s,baz=133,slow=6.4,SNR=4.2
comp=Z,0.7nm,0.9s
EKA Eskdalemuir Ar 78.32 36 P **P 00 43 21.6 -1.3**
comp=Z,0.5nm,0.5s,baz=280,slow=4.8,SNR=2.1
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 80.86 51 P **P 00 43 36.7 -0.4**
comp=Z,1.0nm,0.9s,baz=276,slow=5.5,SNR=3.8
comp=Z,1.0nm,0.9s

IDC 22 00:31:56.4±1.7, 2°.33S×140°.35E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=34.8km s-min=9.9km az=22.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.40**	**118**	Pg	Pg	00 32 04.0	-0.1
	412nm,0.3s,baz=311,slow=7.3,SNR=900						
JAY				Lg	Lg	00 32 09.6	
	663nm,0.3s,baz=145,slow=18,SNR=23						
JAY				LR	LR	00 32 20.2	
	comp=Z,504nm,18.2s,baz=182,slow=60						
WRA	**Warramunga Arr**	**18.47**	**198**	P	Pn	00 36 12.9	-1.0
	0.1nm,0.3s,baz=22,slow=11,SNR=4.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**22.11**	**196**	P	P	00 36 53.4	-0.2
	0.6nm,0.7s,baz=27,slow=10,SNR=5.8						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**70.50**	**322**	P	P	00 43 13.4	+0.3
	0.2nm,0.7s,baz=100,slow=7.7,SNR=2.9						
	0.2nm,0.7s						

VIE 22 00:38:40.1±0.3, 47°.34N×11°.45E, h10km, ml-0.1/3, Error ellipse: s-maj=4.7km s-min=1.8km az=166.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.08**	**90**	*i* Pg	Pg	00 38 42.8	+0.1
	0.2nm,0.1s						
WATA				*i* Sg	Sg	00 38 44.9	+0.5
	1.1nm,0.2s						
WTTA	**Wattenberg**	**0.14**	**120**	*i* Pg	Pg	00 38 43.6	+0.1
	0.1nm,0.0s						
WTTA				*i* Sg	Sg	00 38 46.3	+0.4
	1.6nm,0.1s						
SQTA	**Sankt Quirin**	**0.20**	**235**	*e*Sg	Sg	00 38 47.7	+0.4
	0.5nm,0.1s						

---

*IDC **22** 00:49:41.0±1.5, 6°.30S×121°.65E, h0km, mb3.3/2, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=72.1km s-min=19.0km az=49.0*
*DJA **22** 00:49:44.6±0.9, 6°.5±2°.×12°.2E±°, h30km±9km, M4.1/17, mB5.0/3, mb4.5/5, MLv3.9/17, Mw(mB)4.3/3*
ISC 22 00:49:45.3±0.9, 6°.22S±0°.04×121°.69E±0°.05, h35km, n19, σ1°.22/24, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**1.14**	**50**	P	**Pn**	**00 50 03.5**	**-1.3**
BSSI	**Bau Bau, Buton**	**1.20**	**274**	P	**Pn**	**00 50 03.9**	**-1.7**
BSSI				S	**Sn**	**00 50 21.6**	**+0.9**
KAPI	**Kappang**	**2.27**	**302**	Pn	**Pn**	**00 50 19.9**	**-0.5**
	14nm,0.3s,baz=124,slow=10,SNR=27						
KAPI				Sn	**Sn**	**00 50 47.9**	**+0.6**
	22nm,0.3s,baz=330,slow=24,SNR=4.6						
	34nm,0.3s						
KDI	**Kendari**	**2.43**	**22**	P	**Pn**	**00 50 23.2**	**+0.6**
KDI				S	**Sn**	**00 50 50.6**	**-0.6**
MMRI	**Maumere**	**2.46**	**167**	P	**Pn**	**00 50 22.4**	**-0.6**
SPSI	**Sidrap Palu**	**2.95**	**319**	P	**Pn**	**00 50 29.0**	**-0.7**
TTSI	**Tana Toraja**	**3.67**	**329**	P	**Pn**	**00 50 38.7**	**-0.9**
TTSI				S	**Sn**	**00 51 20.9**	**-0.8**
WBSI	**Waikabubak, Su**	**4.09**	**214**	P	**Pn**	**00 50 43.5**	**-2.0**
WBSI				S	**Sn**	**00 51 33.3**	**+1.1**
BASI	**Baing, Sumba**	**4.12**	**195**	P	**Pn**	**00 50 44.6**	**-1.2**
SOEI	**Soe**	**4.34**	**144**	P	**Pn**	**00 50 50.3**	**+1.3**
PLAI	**Plampang**	**4.67**	**236**	P	**Pn**	**00 50 52.7**	**-0.6**
LUWI	**Luwuk**	**5.26**	**12**	P	**Pn**	**00 51 01.4**	**-0.1**
	3μm33nm,0.5s						
TWSI	**Taliwang, Sumb**	**5.38**	**242**	P	**Pn**	**00 51 04.1**	**+0.9**
SANI	**Sanana**	**5.96**	**46**	P	**Pn**	**00 51 10.4**	**-0.8**
	0.1nm752nm22nm,0.5s						
NLAI	**Namlea**	**6.15**	**61**	P	**Pn**	**00 51 15.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**12.42**	**162**	Pn	**Pn**	**00 52 37.0**	**-2.7**
	0.3nm,0.3s,baz=2.9,slow=10,SNR=6.6						
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**18.36**	**139**	P	**P**	**00 53 56.5**	**-0.6**
	0.2nm,0.3s,baz=321,slow=12,SNR=5.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**20.95**	**147**	P	**P**	**00 54 25.7**	**+0.3**
	1.2nm,0.6s,baz=329,slow=12,SNR=12						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**63.28**	**331**	P	**P**	**01 00 12.2**	**+1.6**
	0.2nm,0.6s,baz=151,slow=7.3,SNR=4.4						
	0.2nm,0.6s						

---

*TEH **22** 01:40:39.7, 34°.37N×45°.66E, h10km±36km*
*ISN **22** 01:40:41.2±1.2, 34°.39N×45°.66E, h30km±17km, ML2.5*
ISC 22 01:40:40.5±1.1, 34°.37N±0°.04×45°.68E±0°.05, h6km±11km, n10, σ0°.48/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**330**	Pg	**Pg**	**01 40 43.2**	**-0.4**
KGS1				Sg	**Sg**	**01 40 46.3**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.32**	**144**	Pg	**Pg**	**01 40 46.6**	**-0.1**
IDHR	**Dehrash**	**0.67**	**61**	Pg	**Pg**	**01 40 52.6**	**-0.7**
IGHG	**Ghaleghazi**	**0.73**	**93**	Pg	**Pg**	**01 40 54.8**	**+0.2**
IGHG				Sg	**Sb**	**01 41 06.3**	**0.0**
ILBA	**Ilam Banvizeh**	**0.86**	**150**	Pg	**Pg**	**01 40 56.5**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.13**	**95**	Pg	**Pb**	**01 41 02.4**	**-0.1**
IBDR	**Badra**	**1.28**	**171**	*e*Pn	**Pn**	**01 41 05.0**	**+0.1**
	baz=350						
IBDR				*e*Sn	**Sg**	**01 41 22.0**	**+0.5**
IKRK	**Kirkuk**	**1.50**	**313**	*e*Pn	**Pn**	**01 41 08.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**01 41 28.0**	**-0.1**
IKRK				AML	AML	01 41 31.8	
	comp=E,119nm,0.6s						
IKRK				AML	AML	01 41 38.4	
	comp=N,61nm,0.6s						
SNQR	**Sonqor, Kerman**	**1.68**	**73**	Pg	**Pb**	**01 41 11.6**	**-0.4**
SDS1	**Sardasht. Az.**	**1.78**	**355**	Pg	**Pn**	**01 41 12.7**	**+0.7**

---

*SJA **22** 01:44:19.2±0.6, 22°.48S×67°.20W, h220km±8km, ML2.7, MW3.1*
*NEIC **22** 01:44:19.1±1.2, 22°.46S±0°.06×67°.8W±0°.1, h178km±10km, mb4.1/4, Error ellipse: s-maj=15.5km s-min=6.5km az=110.0*
*GUC **22** 01:44:19.3±0.8, 22°.46S×67°.77W, h180km±6km, ML4.0*
*SCB **22** 01:44:19.4±1.4, 22°.42S×67°.69W, h161km±14km, ML3.9/3, MW3.7, Error ellipse: s-maj=8.1km s-min=4.0km az=0.0*
*IDC **22** 01:44:21.4±2.4, 22°.21S×67°.26W, h167km±28km, mbtmp3.7/5, Error ellipse: s-maj=26.9km s-min=20.9km az=74.0*

ISC 22 01:44:18.5±0.8, 22°.40S±0°.04×67°.69W±0°.04, h178km±8km, n65, σ1°.49/82, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.72**	**219**		**Pn**	**01 44 44.4**	**-0.1**
AF01	**San Pedro de A**	**0.72**	**219**	*i* P	**Pn**	**01 44 44.0**	**-0.5**
AF01	**San Pedro de A**	**0.72**	**219**	⇑*e*P	**Pn**	**01 44 44.5**	**-0.1**
AF01	**San Pedro de A**	**0.72**	**219**	Pg	**Pn**	**01 44 44.4**	**-0.1**
PB09	**IPOC Station P**	**1.56**	**292**		**Pn**	**01 44 51.7**	**+0.6**
PB09				Sn	**Sn**	**01 45 16.0**	**-0.3**
PB09	**IPOC Station P**	**1.56**	**292**	*i* P	**Pn**	**01 44 50.9**	**-0.2**
PB09	**IPOC Station P**	**1.56**	**292**	⇑*e*P	**Pn**	**01 44 51.6**	**+0.6**
PB09				*e*S	**Sn**	**01 45 15.7**	**-0.6**
PB09				IAML		01 45 18.9	
	comp=E,559nm,0.3s						
PB09	**IPOC Station P**	**1.56**	**292**	Pg	**Pn**	**01 44 51.7**	**+0.6**
PB06	**IPOC Station P**	**1.77**	**260**	*i* P	**Pn**	**01 44 52.3**	**-0.8**
PB06	**IPOC Station P**	**1.77**	**260**	*e*P	**Pn**	**01 44 52.8**	**-0.4**
PB06				*e*S	**Sn**	**01 45 18.4**	**-1.5**
PB06				IAML		01 45 20.2	
	comp=E,877nm,0.1s						
YJA	**Yavi**	**2.02**	**84**	*i* P	**Pn**	**01 44 56.8**	**+0.6**
YJA	**Yavi**	**2.02**	**84**	*i* P	**Pn**	**01 44 57.0**	**+0.9**
YJA				*i* S	**Sn**	**01 45 24.8**	**-0.5**
YJA				IAML		01 45 26.5	
	comp=Z,20nm,0.5s						
YJA	**Yavi**	**2.02**	**84**	*e*P	**Pn**	**01 44 56.8**	**+0.6**
PB01	**IPOC Station P**	**2.15**	**308**		**Pn**	**01 44 57.3**	**0.0**
PB01	**IPOC Station P**	**2.15**	**308**	*i* P	**Pn**	**01 44 56.6**	**-0.6**
PB01	**IPOC Station P**	**2.15**	**308**	⇑*e*P	**Pn**	**01 44 57.0**	**-0.3**
PB01				*e*S	**Sn**	**01 45 26.1**	**-1.1**
PB01				IAML		01 45 27.4	
	comp=E,950nm,0.2s						
PB01	**IPOC Station P**	**2.15**	**308**	Pg	**Pn**	**01 44 57.2**	**0.0**
PB01				Sg	**Sn**	**01 45 26.4**	**-0.8**
PB01				IAML		01 45 27.5	
	comp=E,632nm,0.2s						
SALTA		**2.20**	**146**	*i* P	**Pn**	**01 44 59.0**	**+0.8**
SALTA				*i* S	**Sn**	**01 45 29.3**	**+0.3**
MOCB	**Mochara**	**2.22**	**59**	Pg	**Pn**	**01 44 59.2**	**+0.8**
MOCB				Sg	**Sn**	**01 45 28.6**	**-0.6**
MOCB				IAML		01 45 29.7	
	comp=E,368nm,0.6s						
PB08	**IPOC Station P**	**2.63**	**328**		**Pn**	**01 45 04.1**	**+1.0**
PB08	**IPOC Station P**	**2.63**	**328**	*i* P	**Pn**	**01 45 03.7**	**+0.7**
PB08	**IPOC Station P**	**2.63**	**328**	*e*P	**Pn**	**01 45 04.0**	**+1.0**
PB08				*e*S	**Sn**	**01 45 37.9**	**+0.3**
PB08				IAML		01 45 41.6	
	comp=E,307nm,0.2s						
PB08	**IPOC Station P**	**2.63**	**328**	Pg	**Pn**	**01 45 04.3**	**+1.3**
PB08				Sg	**Sn**	**01 45 37.8**	**+0.3**
PB08				IAML		01 45 41.5	
	comp=E,281nm,0.2s						
AOVT	**TarijaAcel**	**2.90**	**73**	Pg	**Pn**	**01 45 06.7**	**+0.6**
TA01	**Diego Aracena**	**2.95**	**308**	Pn	**Pn**	**01 45 05.8**	**-0.7**
TA01	**Diego Aracena**	**2.95**	**308**	*i* P	**Pn**	**01 45 05.5**	**-1.0**
TA01	**Diego Aracena**	**2.95**	**308**	*e*P	**Pn**	**01 45 05.9**	**-0.6**
TA01				*e*S	**Sn**	**01 45 41.6**	**-2.2**
TA01				IAML		01 45 43.0	
	comp=E,500nm,0.1s						
AZAP	**Zapla**	**3.02**	**128**	*i* P	**Pn**	**01 45 07.5**	**0.0**
AZAP	**Zapla**	**3.02**	**128**	*i* P	**Pn**	**01 45 06.6**	**-0.9**
AZAP				IAML		01 45 58.1	
	comp=Z,26nm,0.9s						
SLA	**San Lorenzo**	**3.06**	**140**	*i* P	**Pn**	**01 45 09.0**	**+1.1**
SLA	**San Lorenzo**	**3.06**	**140**	*i* P	**Pn**	**01 45 08.0**	**0.0**
SLA				*i* S	**Sn**	**01 45 43.3**	**-3.2**
SLA				IAML		01 45 47.3	
	comp=Z,15nm,1.6s						
TA02	**Huaiquique**	**3.11**	**312**		**Pn**	**01 45 08.7**	**+0.3**
TA02	**Huaiquique**	**3.11**	**312**	*e*P	**Pn**	**01 45 08.4**	**0.0**
PB11	**IPOC Station P**	**3.20**	**325**	Pn	**Pn**	**01 45 09.4**	**-0.3**
PB11	**IPOC Station P**	**3.20**	**325**	*i* P	**Pn**	**01 45 08.8**	**-0.9**
PB11	**IPOC Station P**	**3.20**	**325**	*e*P	**Pn**	**01 45 09.5**	**-0.3**
PB11				*e*S	**Sn**	**01 45 48.4**	**-1.3**
PB11	**IPOC Station P**	**3.20**	**325**	Pg	**Pn**	**01 45 09.9**	**+0.1**
GO02	**Mina Guanaco**	**3.26**	**212**		**Pn**	**01 45 10.2**	**-0.4**
GO02	**Mina Guanaco**	**3.26**	**212**	*i* P	**Pn**	**01 45 09.4**	**-1.2**
GO02	**Mina Guanaco**	**3.26**	**212**	⇑*e*P	**Pn**	**01 45 10.1**	**-0.4**
GO02				*e*S	**Sn**	**01 45 48.2**	**-2.9**
GO02				IAML		01 45 52.2	
	comp=N,337nm,0.2s						
PB14	**IPOC Station P**	**3.34**	**228**	Pn	**Pn**	**01 45 10.7**	**-0.9**
PB14	**IPOC Station P**	**3.34**	**228**	*i* P	**Pn**	**01 45 10.1**	**-1.4**
PB14	**IPOC Station P**	**3.34**	**228**	⇑*e*P	**Pn**	**01 45 10.7**	**-0.9**
PB14				*e*S	**Sn**	**01 45 50.0**	**-2.9**
PB14				IAML		01 45 52.8	
	comp=N,100nm,0.2s						
FSA	**Cafayete**	**4.01**	**157**	*i* P	**Pn**	**01 45 20.1**	**+0.2**
PB12	**IPOC Station P**	**4.50**	**326**	Pn	**Pn**	**01 45 25.5**	**-0.7**
PB12	**IPOC Station P**	**4.50**	**326**	*i* P	**Pn**	**01 45 24.7**	**-1.5**
AC01	**Pan de Azucar**	**4.58**	**215**	Pn	**Pn**	**01 45 25.2**	**-1.9**
AC01	**Pan de Azucar**	**4.58**	**215**	*i* P	**Pn**	**01 45 24.6**	**-2.5**
SOET	**ToroToro**	**4.61**	**23**	Pg	**Pn**	**01 45 29.2**	**+1.4**
AC02	**Maricunga**	**4.61**	**196**		**Pn**	**01 45 27.1**	**-0.7**
AC02	**Maricunga**	**4.61**	**196**	*i* P	**Pn**	**01 45 26.7**	**-1.1**
AOEA	**Aiquile**	**4.79**	**29**	Pg	**Pn**	**01 45 30.6**	**+0.6**
BBOD	**La Paz, Gloria**	**5.79**	**351**	Pg	**Pn**	**01 45 45.2**	**+1.8**
LPAZ	**La Paz**	**6.09**	**356**		**Pn**	**01 45 49.1**	**+1.7**
LPAZ	**La Paz**	**6.09**	**356**	P	**Pn**	**01 45 48.9**	**+1.6**
	comp=N,1.5nm,0.3s,baz=166,slow=8.9,SNR=13						
LPAZ				S	**Sn**	**01 46 56.3**	**-0.8**
	comp=N,1.2nm,0.5s,baz=260,slow=10,SNR=4.3						
LPAZ	**La Paz**	**6.09**	**356**	Pg	**Pn**	**01 45 49.0**	**+1.7**
SIV	**San Ignacio**	**8.92**	**46**	P	**Pn**	**01 46 21.8**	**-2.3**
	comp=N,4.2nm,0.3s,baz=235,slow=11,SNR=36						
SIV				S	**Sn**	**01 47 55.9**	**-7.9**
	comp=N,4.1nm,0.5s,baz=148,slow=23,SNR=10						
CPUP	**Villa Florida**	**10.22**	**115**	P	**Pn**	**01 46 39.5**	**-1.6**
	comp=N,1.2nm,0.8s,baz=313,slow=7.6,SNR=3.9						
PLTB	**Pedras Altas**	**15.62**	**130**		**P**	**01 47 49.8**	**+0.1**
PLTB				IAmb	IAmb	01 48 09.0	
	comp=Z,11nm,1.4s						
TRQA	**Tornquist**	**16.36**	**164**	P	**P**	**01 47 57.9**	**0.0**
TRQA				IAmb	IAmb	01 48 06.9	
	comp=Z,13nm,1.4s						
PLCA	**Paso Flores**	**18.44**	**187**	P	**Pn**	**01 48 26.6**	**+3.7**
	comp=Z,0.8nm,0.8s,baz=25,slow=11,SNR=3.1						
VAO	**Valinhos**	**19.13**	**96**	P	**P**	**01 48 28.6**	**+0.3**
BDFB	**Brasilia**	**19.77**	**74**	P	**P**	**01 48 36.1**	**+0.9**
BDFB	**Brasilia**	**19.77**	**74**	P	**P**	**01 48 35.6**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=258,slow=10,SNR=4.5						
MKAR	**Makanchi Array**	**145.67**	**38**	PKPbc	**PKPab**	**02 03 37.7**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=332,slow=1.9,SNR=2.7						

---

*NNC **

DDI	**Dehra Dun**	**1.83 189**	*e*P	**Pn**	**01 47 48.8**	**-3.7**
DDI			*e*S	**Sn**	**01 48 09.8**	**-5.9**
DDI			IAML		01 48 12.6	
	comp=N,1μm,0.3s					
DDI			IAML		01 48 13.9	
	comp=E,2μm,0.5s					
BHK	**Bhakra**	**1.83 248**	*e*P	**Pn**	**01 47 50.2**	**-2.2**
BHK			*e*S	**Sn**	**01 48 11.2**	**-4.6**
BHK			IAML		01 48 15.4	
	comp=N,1μm,0.2s					
BHK			IAML		01 48 15.5	
	comp=E,933nm,0.3s					
TSSA	**Tissa**	**2.02 291**	*e*P	**Pn**	**01 47 54.6**	**-0.7**
TSSA			*e*S	**Sb**	**01 48 23.3**	**0.0**
TLWR	**Talawar**	**2.08 266**	*e*P	**Pn**	**01 47 55.8**	**-0.1**
TLWR			*e*S	**Sn**	**01 48 22.1**	**+0.2**
JMU	**Jammu**	**3.02 282**	*e*P	**Pn**	**01 48 09.8**	**+1.1**
JMU			*e*S	**Sn**	**01 48 46.4**	**+1.5**
JMU			IAML		01 48 59.1	
	comp=E,506nm,0.8s					
JMU			IAML		01 49 03.9	
	comp=N,656nm,0.7s					
LGTI	**Lohaghat**	**3.11 149**	*e*P	**Pn**	**01 48 08.5**	**-1.5**
LGTI			*e*S	**Sn**	**01 48 49.0**	**+1.8**
LGTI			IAML		01 48 54.4	
	comp=E,93nm,0.4s					
LGTI			IAML		01 48 55.6	
	comp=N,119nm,0.5s					
NPLP	**NPLP New Delhi**	**3.64 197**	*e*P	**Pn**	**01 48 16.6**	**-0.8**
NPLP			*e*S	**Sn**	**01 48 59.2**	**-1.1**
SONA	**Sohna**	**4.03 197**	*e*P	**Pn**	**01 48 25.9**	**+3.2**
SONA			*e*S	**Sn**	**01 49 12.7**	**+2.7**
SONA			IAML		01 49 25.7	
	comp=E,133nm,0.5s					
SONA			IAML		01 49 26.6	
	comp=N,96nm,0.6s					
KUDL	**Kundal**	**4.30 203**	*e*P	**Pn**	**01 48 26.5**	**+0.1**
KUDL			*e*S	**Sn**	**01 49 15.9**	**-0.8**
KUDL			IAML		01 49 25.7	
	comp=N,64nm,0.5s					
KUDL			IAML		01 49 30.5	
	comp=E,85nm,0.7s					
AAK	**Ala-Archa**	**10.94 345**	Pn	Pn	01 50 00.7	+3.1
	comp=E,0.1nm,0.3s,baz=191,slow=16,SNR=1.8					
	comp=E,0.8nm,0.6s					
MKAR	**Makanchi Array**	**14.95 10**	Pn	**Pn**	**01 50 52.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=195,slow=13,SNR=9.4					
MKAR			Sn	**Sn**	**01 53 28.9**	**-8.9**
	baz=189,slow=25,SNR=1.6					
	comp=E,0.2nm,0.3s					
KURBB	**Kurchatov Arra**	**18.48 0**	P	**P**	**01 51 36.5**	**-0.3**
	baz=192,slow=10.0,SNR=6.4					
	comp=E,0.4nm,0.5s					
BVAR	**Borovoye Array**	**21.67 347**	P	**P**	**01 52 11.9**	**+0.3**
	comp=E,0.9nm,0.5s,baz=155,slow=11,SNR=8.8					
	comp=E,0.9nm,0.5s					
ZALV	**Zalesovo Beam**	**22.29 10**	P	**P**	**01 52 19.9**	**+1.8**
	comp=E,0.8nm,0.5s,baz=190,slow=7.5,SNR=5.1					
	comp=E,0.8nm,0.5s					
CMAR	**Chiang Mai Arr**	**22.98 121**	P	**P**	**01 52 27.4**	**+1.7**
	comp=E,1.3nm,0.3s,baz=322,slow=9.0,SNR=6.2					
	comp=E,1.3nm,0.3s					
SONM	**Songino Array**	**26.38 45**	P	**P**	**01 52 59.1**	**+1.7**
	comp=E,0.7nm,0.8s,baz=230,slow=9.0,SNR=3.7					
	comp=E,0.7nm,0.8s					
AKASG	**Malin Array Be**	**40.43 312**	P	**P**	**01 55 00.1**	**+0.8**
	comp=E,0.4nm,0.5s,baz=82,slow=7.2,SNR=1.9					
	comp=E,0.4nm,0.5s					
FINES	**FINESS Array B**	**44.49 327**	P	**P**	**01 55 31.5**	**-0.6**
	comp=E,1.0nm,0.6s,baz=98,slow=10,SNR=4.0					
	comp=E,1.0nm,0.6s					
HFS	**Hagfors**	**50.23 324**	P	**P**	**01 56 18.9**	**+2.0**
	comp=E,0.9nm,0.7s,baz=106,slow=11,SNR=4.4					
	comp=E,0.9nm,0.7s					
WRA	**Warramunga Arr**	**74.48 126**	P	**P**	**01 59 00.3**	**+0.5**
	comp=E,0.4nm,0.8s,baz=318,slow=6.7,SNR=4.6					
	comp=E,0.4nm,0.8s					
ASAR	**Alice Springs**	**76.75 129**	P	**P**	**01 59 12.9**	**+0.1**
	comp=E,0.3nm,0.5s,baz=312,slow=5.8,SNR=4.1					
	comp=E,0.3nm,0.5s					
ILAR	**Eielson Array**	**77.15 18**	P	**P**	**01 59 15.9**	**+1.5**
	comp=E,0.1nm,0.7s,baz=319,slow=5.2,SNR=1.3					
	comp=E,0.1nm,0.7s					

IDC 22 01:55:24.1±3.7, 19°.51N×120°.71E, h0km, mb3.4/4, mbtmp3.4/4, MS3.1/1, Error ellipse: s-maj=353.6km s-min=22.6km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**10.08**	**42**	LR	LR	02 01 24.6	
	comp=Z,113nm,20.1s,baz=274,slow=36						
WRA	**Warramunga Arr**	**41.42**	**160**	P		02 03 12.7	+0.2
	0.3nm,0.6s,baz=341,slow=8.2,SNR=2.0						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**41.50**	**320**	P		02 03 12.8	-0.2
	0.5nm,0.8s,baz=118,slow=9.0,SNR=6.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**44.80**	**163**	P		02 03 39.4	-0.5
	0.4nm,0.5s,baz=339,slow=8.2,SNR=6.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**45.48**	**323**	P		02 03 45.0	0.0
	0.5nm,0.7s,baz=125,slow=7.6,SNR=7.3						
	0.5nm,0.7s						

TXNET 22 02:41:06.3, 31°.6N±0°.6×104°.3W±0°.6, h5km±2km, ML1.7/6, Error ellipse: s-maj=1.1km s-min=0.8km az=41.9, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	02 41 13.0	-0.1
TPB11				S	Sg	02 41 17.7	0.0
PECS	**Pecos**	**0.43**	**129**	P	Pg	02 41 14.8	+0.2
PECS				S	Sg	02 41 20.4	+0.3
TPB12	**Southwest of T**	**0.50**	**149**	P	Pg	02 41 16.1	+0.2
TPB12				S	Sg	02 41 22.6	+0.3
TPB07	**Mentone**	**0.50**	**97**	S	Sg	02 41 23.0	+0.5
TPB10	**Southeast of T**	**0.56**	**130**	S	Sg	02 41 24.9	+0.6
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	02 41 17.5	+0.3
TPB01	**Permian Basin**	**0.80**	**150**	S	Sg	02 41 31.9	-0.3
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	02 41 25.0	+0.2
MNTX				S	Sb	02 41 38.1	-0.5
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	02 41 26.5	-0.1
VHRN				S	Sb	02 41 41.2	-0.2
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	02 41 40.6	-0.2
MNHN	**Monahans**	**1.31**	**103**	P	Pn	02 41 30.9	-0.4
MNHN				S	Sg	02 41 47.1	-1.3
ALPN	**Alpine**	**1.37**	**157**	P	Pn	02 41 31.0	-1.2
ALPN				S	Sb	02 41 48.4	-2.0
CPRX	**Cap Rock**	**1.42**	**13**	P	Pn	02 41 33.0	0.0
TMB02	**Rankin**	**1.94**	**103**	S	Sb	02 42 05.9	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	Pg	Pb	02 41 48.6	-0.7

DJA 22 02:42:30.5±1.1, 4°.N±3°.×9°.6E±°, h27km±10km, M3.5/5, mb3.6/1, MLv3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.86**	**55**	P	Pn	02 42 47.0	+0.2
MLSI				S	Sn	02 42 58.8	+0.3
SNSI	**Sinabang, Aceh**	**1.49**	**155**	P	Pn	02 42 55.5	0.0
SNSI				S	Sn	02 43 14.6	+0.5
BSI	**Banda Aceh**	**1.76**	**347**	P	Pn	02 42 59.5	+0.2
BSI				S	Sn	02 43 21.3	+0.5

*IDC **22** 03:14:33.0±2.2, 15°.46S×173°.54W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=62.0km s-min=49.5km az=24.0*
*NEIC **22** 03:14:33.0±0.9, 15°.24S±0°.09×173°.20W±0°.07, h10km±1km, mb4.7/6, Error ellipse: s-maj=17.7km s-min=7.7km az=325.0*
ISC 22 03:14:35.0±0.8, 15°.2S±0°.1×173°.2W±0°.1, h35km, n21, σ1°.18/16, mb4.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.86**	**48**		**Pn**	**03 15 05.8**	**+1.3**
AFI				Sn	**Sn**	**03 15 24.6**	**-2.3**
NIUE	**Niue**	**4.98**	**142**		**Pn**	**03 15 47.1**	**-0.3**
DZM	**Mont Dzumac**	**20.47**	**247**		**P**	**03 19 08.0**	**-1.9**
RTZ	**Ruatahuna**	**24.91**	**199**	P	**P**	**03 19 55.0**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**38.88**	**329**	T	T	04 02 44.6	
	baz=147,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	04 02 50.1	
	baz=147,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.89**	**329**	T	T	04 02 46.8	
	baz=147						
H11N3	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	04 03 52.1	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**39.82**	**330**	T	T	04 03 52.4	
	baz=146,slow=74						
H11N2	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	04 03 56.5	
	baz=146,slow=74						
STKA	**Stephens Creek**	**44.32**	**240**	P	**P**	**03 22 41.9**	**0.0**
WB0	**Warramunga Arr**	**50.05**	**257**	P	**P**	**03 23 27.1**	**+0.4**
WB0				IAmb	IAmb	03 25 08.1	
	comp=Z,13nm,1.6s						
WB2	**Warramunga Arr**	**50.08**	**257**	P	**P**	**03 23 27.1**	**+0.2**
WRA	**Warramunga Arr**	**50.09**	**257**	P	**P**	**03 23 26.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=92,slow=6.6,SNR=8.9						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**03 23 28.5**	**-0.6**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**03 23 29.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=88,slow=8.8,SNR=18						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**03 26 13.6**	**+1.6**
QSPA				IAmb	IAmb	03 27 50.4	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**74.87**	**180**	P	**P**	**03 26 13.9**	**+1.9**
	comp=Z,2.3nm,1.0s,baz=48,slow=1.2,SNR=4.0						
	comp=Z,2.3nm,1.0s						
BR131	**Keskin Array S**	**146.11**	**321**		**PKiKP**	**03 34 14.8**	**-0.4**
BRTR	**Keskin Array B**	**146.11**	**321**		**PKiKP**	**03 34 14.7**	**-0.5**
BRTR	**Keskin Array B**	**146.11**	**321**	PKPbc	**PKiKP**	**03 34 14.8**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=95,slow=2.6,SNR=7.6						

IDC 22 03:16:21.4±3.1, 16°.97S×175°.92W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=391.7km s-min=32.5km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.17**	**333**	T	T	04 04 57.7	
	baz=144						
H11S3	**WAKE ISLAND Hy**	**39.18**	**333**	T	T	04 04 56.2	
	baz=144						
H11S1	**WAKE ISLAND Hy**	**39.18**	**333**	T	T	04 04 55.4	
	baz=144						
H11N3	**WAKE ISLAND Hy**	**40.17**	**334**	T	T	04 06 07.7	
	baz=145						
H11N1	**WAKE ISLAND Hy**	**40.18**	**334**	T	T	04 06 04.6	
	baz=145						
H11N2	**WAKE ISLAND Hy**	**40.19**	**334**	T	T	04 06 02.8	
	baz=145						
WRA	**Warramunga Arr**	**47.14**	**258**	P	P	03 24 55.2	-0.7
	0.2nm,0.3s,baz=96,slow=7.8,SNR=6.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**47.33**	**253**	P	P	03 24 57.8	+0.4
	1.3nm,0.4s,baz=88,slow=8.0,SNR=10						
	1.3nm,0.4s						
TXAR	**Lajitas Array**	**83.49**	**57**	P	P	03 28 51.6	0.0
	0.3nm,0.9s,baz=283,slow=6.0,SNR=5.4						
	0.3nm,0.9s						

IDC 22 03:16:32.2±2.1, 28°.91N×141°.69E, h416km±14km, mb2.7/5, mbtmp3.5/5, Error ellipse: s-maj=103.5km s-min=24.2km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.86**	**166**	P	P	03 17 29.3	+0.4
	44nm,0.4s,baz=358,slow=15,SNR=13						
JCJ				S	S	03 18 14.8	+0.1
	41nm,0.3s,baz=105,slow=24,SNR=9.6						
SONM	**Songino Array**	**33.12**	**315**	P	P	03 22 32.0	+0.3
	0.3nm,0.3s,baz=113,slow=7.0,SNR=3.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**49.00**	**308**	P	P	03 24 37.1	-1.8
	0.1nm,0.5s,baz=98,slow=8.2,SNR=2.2						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**49.08**	**189**	P	P	03 24 39.7	-0.1
	0.4nm,0.6s,baz=6.4,slow=7.4,SNR=1.8						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**51.47**	**313**	P	P	03 24 56.9	-0.2
	0.5nm,0.4s,baz=91,slow=8.2,SNR=9.1						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**56.42**	**317**	P	P	03 25 33.1	+0.8
	0.6nm,0.4s,baz=100,slow=4.6,SNR=4.6						
	0.6nm,0.4s						

*NEIC **22** 03:50:37.0±2.5, 39°.07N±0°.03×115°.66W±0°.02, h5km±1km, Error ellipse: s-maj=4.8km s-min=3.1km az=13.0*
REN 22 03:50:37.2±2.5, 39°.09N±0°.01×115°.67W±0°.03, h0km±2km, ML3.0/14, ML2.8/56(NEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=83.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q12A	**Willow Creek R**	**0.66**	**94**		Pg	03 50 49.8	0.0
Q12A					Sg	03 50 59.1	+0.8
SPR3	**Spring Creek 3**	**1.05**	**94**	Pg	Pg	03 50 57.3	0.0
SPR3	**Spring Creek 3**	**1.05**	**94**		Sb	03 51 12.4	-0.4
SPR3	**Spring Creek 3**	**1.05**	**94**	IAML		03 51 13.2	
	comp=E,196nm,0.2s						
SPR3				IAML		03 51 14.3	
	comp=N,218nm,0.5s						
Q09A	**Carvers**	**1.20**	**258**		Pg	03 51 00.3	+0.1
S11A	**Rachel**	**1.44**	**182**		Pn	03 51 03.9	-0.9
S11A	**Rachel**	**1.44**	**182**		Sg	03 51 23.4	-0.1
PSUT	**Pine Spring**	**1.52**	**111**	Pg	Pn	03 51 04.9	-1.0
ELK	**Elko**	**1.69**	**11**		Pn	03 51 07.2	-1.0
ELK				IAML		03 51 33.3	
	comp=N,73nm,0.3s						
PRN	**Pahroc Range**	**1.75**	**164**		Pn	03 51 08.7	-0.2
MZP	**Montezuma Peak**	**1.93**	**225**		Pn	03 51 10.3	-1.2
NV11	**Mina Array Sit**	**2.05**	**252**		Pb	03 51 14.5	-0.9
NV11				IAML		03 51 42.7	
	comp=N,52nm,0.9s						
NV11	**Mina Array Sit**	**2.05**	**252**		Sg	03 51 42.3	-0.7
NVAR	**Mina Array Bea**	**2.16**	**253**		Pb	03 51 16.5	-0.8
GMN	**Gold Mountain**	**2.18**	**216**		Pb	03 51 16.6	-1.1
GMN				IAML		03 51 56.7	
	comp=N,39nm,0.7s						
NV08	**Mina Array Sit**	**2.18**	**253**		Pn	03 51 14.1	-0.8
NV09	**Mina Array Sit**	**2.18**	**253**		Pn	03 51 14.1	-0.8
TPNV	**Topopah Spring**	**2.18**	**192**		Pn	03 51 14.2	-0.7
TPNV				IAML		03 51 49.0	
	comp=N,69nm,0.5s						
TPNV				IAML		03 51 56.6	
	comp=N,75nm,0.9s						
RYN	**Ryan**	**2.27**	**259**		Pn	03 51 15.5	-0.6
LHV	**Little Huntoon**	**2.37**	**250**		Pb	03 51 20.5	-0.2
NSP	**Numbskull Pass**	**2.39**	**190**		Pn	03 51 17.1	-0.7
DUG	**Dugway, Tooele**	**2.47**	**62**		Pn	03 51 18.9	+0.1
DUG				IAML		03 52 00.5	
	comp=N,44nm,0.5s						
DUG				IAML		03 52 02.6	
	comp=N,50nm,0.7s						
DSP	**Deep Springs**	**2.49**	**227**		Pn	03 51 18.5	-0.5
SHPR	**Sheep Range**	**2.61**	**171**		Pn	03 51 20.2	-0.6
AMDNV	**Amargosa**	**2.67**	**191**		Pn	03 51 21.5	0.0
MSU	**Marysvale**	**2.79**	**101**		Pn	03 51 23.9	+0.6
MTPU	**Mount Pierson**	**2.93**	**110**		Pn	03 51 25.5	+0.1
MTPU				IAML		03 52 11.2	
	comp=E,20nm,1.8s						
MTPU				IAML		03 52 11.2	
	comp=N,21nm,0.5s						
PAHR	**Pah Rah Range**	**2.94**	**283**		Pn	03 51 25.4	+0.1
PAHR				IAML		03 52 11.5	
	comp=E,24nm,0.7s						
PAHR				IAML		03 52 12.1	
	comp=N,24nm,1.0s						
WAKR	**Walker**	**3.00**	**260**		Pn	03 51 26.1	0.0
WAKR	**Walker**	**3.00**	**260**	IAML		03 52 15.6	
	comp=N,19nm,1.2s						
WAKR				IAML		03 52 17.1	
	comp=E,21nm,0.8s						
GWY	**Greenwater Val**	**3.00**	**196**		Pn	03 51 28.4	+2.2
GWY				IAML		03 52 31.8	
	comp=E,24nm,1.0s						
GWY				IAML		03 52 37.9	
	comp=N,20nm,1.3s						
KNB	**Kanab**	**3.06**	**132**		Pb	03 51 31.1	-1.4
KNB				IAML		03 52 15.3	
	comp=N,23nm,1.1s						
KNB				IAML		03 52 16.7	
	comp=E,19nm,0.7s						
PNTR	**Pine Nut**	**3.06**	**271**		Pn	03 51 27.7	+0.8
PNTR				IAML		03 52 15.8	
	comp=E,32nm,0.8s						
HVU	**Hansel Valley**	**3.48**	**39**		Pn	03 51 34.5	+1.7
HVU				IAML		03 52 35.4	
	comp=E,24nm,0.5s						
U15A	**North Rim**	**3.77**	**134**		Pn	03 51 36.5	-0.4
U15A				IAML		03 52 42.1	
	comp=N,19nm,0.9s						
U15A				IAML		03 52 47.0	
	comp=E,20nm,0.9s						

*DJA **22** 03:51:05.2±1.0, 10°.S±4°.×12°.2E±°, h20km±9km, M4.2/10, mB5.2/2, mb4.6/4, MLv4.0/10, Mw(mB)4.6/2*
*IDC **22** 03:51:06.7±2.6, 10°.11S×122°.57E, h96km±29km, mb3.7/4, mbtmp3.8/8, Error ellipse: s-maj=71.1km s-min=21.7km az=60.0*
ISC 22 03:51:05.1±0.7, 10°.13S±0°.06×122°.54E±0°.05, h100km, n24, σ2°.77/30, mb3.9/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.11**	**94**	P	**Pn**	**03 51 27.0**	**+0.2**
BATI				S	**Sn**	**03 51 44.6**	**+1.4**
MMRI	**Maumere**	**1.51**	**349**	P	**Pn**	**03 51 28.1**	**-3.5**
MMRI	**Maumere**	**1.51**	**349**	S	**Sn**	**03 51 47.5**	**-4.1**
MMRI	**Maumere**	**1.51**	**349**	P	**Pn**	**03 51 28.1**	**-3.5**
SOEI	**Soe**	**1.75**	**78**	P	**Pn**	**03 51 36.2**	**+1.6**
SOEI	**Soe**	**1.75**	**78**	P	**Pn**	**03 51 37.1**	**+2.5**
BASI	**Baing, Sumba**	**1.93**	**267**	P	**Pn**	**03 51 37.6**	**+0.8**
BASI				S	**Sn**	**03 52 01.9**	**+0.9**
WSI	**Waingapu**	**2.25**	**282**	P	**Pn**	**03 51 41.7**	**+0.7**
WSI				S	**Sn**	**03 52 08.5**	**0.0**
WBSI	**Waikabubak, Su**	**3.14**	**279**	P	**Pn**	**03 51 52.9**	**+0.2**
WBSI				S	**Sn**	**03 52 27.9**	**-1.6**
BSSI	**Bau Bau, Buton**	**4.45**	**333**	P	**Pn**	**03 52 10.5**	**+0.1**
PLAI	**Plampang**	**4.87**	**285**	S	**Sn**	**03 53 08.7**	**-2.7**
PLAI	**Plampang**	**4.87**	**285**	P	**Pn**	**03 52 15.9**	**-0.2**
TWSI	**Taliwang, Sumb**	**5.75**	**283**	P	**Pn**	**03 52 29.6**	**+1.6**
	1μm75nm,0.7s						
KAPI	**Kappang**	**5.78**	**331**	P	**Pn**	**03 52 30.1**	**+1.6**
	6.0nm,0.4s,baz=167,slow=7.0,SNR=5.5						
JAGI	**Jajag, Banyuwa**	**8.44**	**281**	P	**Pn**	**03 53 03.0**	**-1.6**
JAGI	**Jajag, Banyuwa**	**8.44**	**281**	S	**Sn**	**03 54 34.0**	**-4.2**
JAGI	**Jajag, Banyuwa**	**8.44**	**281**	P	**Pn**	**03 53 02.4**	**-2.2**
	27nm,0.5s						
FITZ	**Fitzroy Crossi**	**8.47**	**160**	P	**Pn**	**03 53 06.5**	**+1.4**
	1.5nm,0.9s,baz=1.1,slow=8.2,SNR=9.0						
FITZ				S	**Sn**	**03 54 35.4**	**-3.6**
	3.1nm,0.3s,baz=106,slow=23,SNR=8.1						
WRA	**Warramunga Arr**	**14.99**	**132**	P	**Pn**	**03 54 32.2**	**+0.3**
	1.1nm,1.0s,baz=300,slow=14,SNR=7.9						
WRA				S	Sn	03 57 08.0	-9.4
	2.4nm,0.6s,baz=302,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**17.29**	**143**	P	**Pn**	**03 55 03.3**	**+2.9**
	0.8nm,0.4s,baz=320,slow=12,SNR=12						
ASAR				S	**Sn**	**03 58 04.3**	**-8.5**
	1.7nm,0.7s,baz=314,slow=21,SNR=7.8						
USRK	**Ussuriysk Ar.**	**54.75**	**8**	P	**P**	**04 00 26.1**	**+1.9**
	2.0nm,0.5s,baz=184,slow=5.7,SNR=7.1						
	2.0nm,0.5s						
SONM	**Songino Array**	**59.46**	**347**	P	**P**	**04 00 59.7**	**+2.1**
	0.6nm,0.6s,baz=170,slow=9.1,SNR=5.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**67.08**	**331**	P	**P**	**04 01 50.5**	**+2.7**
	0.9nm,0.5s,baz=141,slow=7.4,SNR=19						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**71.37**	**338**	P	**P**	**04 02 14.4**	**+0.3**
	1.1nm,0.6s,baz=150,slow=6.1,SNR=3.6						
	1.1nm,0.6s						

NOU 22 03:56:43.3, 30°.38S×176°.86W, h346km, mb4.2/4, Kermadec Islands Region, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**8.59**	**210**	P	Pn	03 58 41.2	-3.1
HAZ				S	S	04 00 39.6	+17
RUGZ	**Raukumara Rang**	**8.81**	**209**	P	Pn	03 58 46.1	-1.0
TWGZ	**Tauwhareparae**	**8.87**	**207**	P	P	03 58 49.7	-0.6
TWGZ				S	S	04 00 48.0	+19
CNGZ	**Carnagh Statio**	**9.05**	**205**	P	P	03 58 52.0	-0.2
MWZ	**Matawai**	**9.19**	**209**	P	Pn	03 58 51.2	-0.3
WCZ	**Waipu Caves**	**9.22**	**231**	P	Pn	03 58 44.9	-6.9
URZ	**Urewera**	**9.30**	**211**	P	Pn	03 58 53.4	+0.6
URZ	**Urewera**	**9.30**	**211**	P	Pn	03 58 50.1	-2.7
URZ				S	S	04 00 54.6	+16
MUGZ	**Murupara**	**9.64**	**211**	P	Pn	03 58 54.7	-2.0
ARHZ	**Aropaoanui**	**10.20**	**208**	P	Pn	03 59 01.8	-1.7
BKZ	**Black Stump Fm**	**10.32**	**210**	P	Pn	03 59 03.8	-1.3
BKZ	**Black Stump Fm**	**10.32**	**210**	P	Pn	03 59 02.7	-2.3
BKZ				S	S	04 01 15.9	+14
HIZ	**Hauiti**	**10.61**	**218**	P	Pn	03 59 08.1	-0.3
HIZ	**Hauiti**	**10.61**	**218**	P	Pn	03 59 03.0	-5.4
OTVZ	**Oturere**	**10.70**	**213**	P	Pn	03 59 06.8	-2.9
KRHZ	**Kereru**	**10.78**	**209**	P	Pn	03 59 07.6	-2.8
KRHZ				S	S	04 01 26.6	+15
PXZ	**Pawanui**	**10.91**	**206**	P	Pn	03 59 10.7	-1.3
PXZ				S	S	04 01 31.3	+17
PNHZ	**Pukenui**	**11.07**	**209**	P	Pn	03 59 11.3	-2.7
PNHZ				S	S	04 01 32.0	+14
BFZ	**Birch Farm**	**11.71**	**207**	P	Pn	03 59 21.2	-0.3
BFZ	**Birch Farm**	**11.71**	**207**	P	Pn	03 59 19.9	-1.6
MRZ	**Mangatainoka R**	**11.96**	**209**	P	Pn	03 59 21.4	-3.0

IDC 22 04:05:03.3±1.9, 54°.76N×164°.50E, h0km, mb3.2/3, mbtmp3.1/4, ML2.0/1, Error ellipse: s-maj=71.8km s-min=23.2km az=162.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.35**	**250**	Pn	Pn	04 06 11.4	+0.9
	0.4nm,0.3s,baz=70,slow=17,SNR=8.7						
PETK				Sn	Sn	04

1μm,0.2s
PSDA Pessada-Kefalo 0.48 340 P **Pb 04 20 09.2 -0.6**
PSDA S **Sb 04 20 16.2 -0.7**
VLS Valsamata 0.54 343 P **Pg 04 20 10.1 +0.3**
VLS S **Sg 04 20 17.2 +0.3**
988nm,0.2s
VLS Valsamata 0.54 343 P **Pg 04 20 10.2 +0.4**
VLS S **Sb 04 20 18.4 -0.2**
SMHA Samh 0.60 349 P **Pg 04 20 10.9 -0.1**
SMHA S **Sb 04 20 19.8 -0.5**
DMLN Damoulianata-K 0.66 330 P **Pb 04 20 12.7 -0.3**
DMLN S **Sb 04 20 22.5 +0.3**
605nm,0.5s
DMLN Damoulianata-K 0.66 330 P **Pb 04 20 12.7 -0.3**
RLS Riolos of Patr 0.66 54 P **Pg 04 20 12.5 +0.3**
RLS S **Sb 04 20 22.8 +0.6**
185nm,0.4s
RLS Riolos of Patr 0.66 54 P **Pg 04 20 12.4 +0.2**
RLS S **Sb 04 20 22.6 +0.4**
AXS Araxos 0.70 41 P **Pg 04 20 13.1 +0.2**
ZARO Zacharo 0.70 104 P **Pb 04 20 13.7 0.0**
AMT Artemida-Makis 0.74 100 P **Pg 04 20 13.7 0.0**
AMT S **Sb 04 20 24.2 -0.3**
DRO Drossia 0.78 68 P **Pg 04 20 14.7 +0.2**
DRO S **Sb 04 20 25.8 +0.1**
348nm,0.4s
DRO Drossia 0.78 68 P **Pg 04 20 14.5 0.0**
FSK Fiskardo 0.81 347 P **Pg 04 20 14.8 -0.3**
FSK S **Sb 04 20 27.4 +0.8**
325nm,0.3s
FSK Fiskardo 0.81 347 P **Pg 04 20 15.0 -0.1**
FSK S **Sb 04 20 27.1 +0.6**
EVGI Lefkada island 0.96 354 P **Pg 04 20 17.5 -0.4**
EVGI S **Sb 04 20 31.7 +0.9**
278nm,0.4s
EVGI Lefkada island 0.96 354 P **Pg 04 20 17.3 -0.6**
ITM Ithomi 1.03 118 P **Pn 04 20 20.5 +0.7**
ITM S **Sn 04 20 34.5 +0.3**
105nm,0.5s
ITM Ithomi 1.03 118 P **Pb 04 20 18.7 -0.5**
DRAG Dragano-Lefkad 1.03 351 P **Pb 04 20 18.6 -0.7**
DRAG S **Sb 04 20 33.2 +0.4**
NYDR Nydri-Lefkada 1.05 356 P **Pb 04 20 18.8 -0.8**
NYDR S **Sn 04 20 35.4 +0.7**
85nm,0.5s
PVO Paravola 1.11 31 P **Pb 04 20 20.6 0.0**
LKD2 Lefkada island 1.13 355 P **Pb 04 20 20.3 -0.6**
LKD2 S **Sn 04 20 36.4 -0.3**
KLV Kalavryta, Ach 1.14 70 P **Pb 04 20 19.9 -1.3**
EFP Efpalio 1.16 49 P **Pn 04 20 21.1 -0.6**
TSLK Tsoukalades, L 1.16 355 P **Pb 04 20 20.9 -0.6**
GUR Goura 1.26 77 P **Pb 04 20 23.1 -0.1**
GUR Goura 1.26 77 P **Pn 04 20 22.1 -0.9**
KALE Kalithea 1.29 55 P **Pn 04 20 22.4 -1.0**

---

*IDC **22** 04:56:59.9±0.8, 25°.95N×141°.51E, h0km, mb3.9/11, mbtmp3.9/11, MS2.7/2, Error ellipse: s-maj=27.2km s-min=17.7km az=106.0*
*NEIC **22** 04:57:01.0±1.8, 26°.2N±0°.1×140°.5E±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=27.9km s-min=17.7km az=136.0*
*JMA **22** 04:57:09.0±0.2, 26°.0N±0°.8×141°.4E±0°.9, h36km, MV3.9/9, NEAR CHICHIJIMA ISLAND*
ISC 22 04:57:03.0±0.9, 25°.69N±0°.09×141°.8E±0°.3, h10km, n39, σ1§62/25, mb4.2/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.01**	**21**	P	**Pn**	**04 57 25.6**	**+2.3**
JHH2				eS	**Sb**	**04 57 37.3**	**+1.2**
JCJ	**Chichijima**	**1.45**	**15**		**Pn**	**04 57 31.1**	**+1.7**
JCJ	**Chichijima**	**1.45**	**15**	Pn	Pn	04 57 25.1	-4.3
JCJ	57nm,0.3s,baz=290,slow=24,SNR=26			Sn	**Sb**	**04 57 47.5**	**-1.3**
CBIJ	**Chichi jima**	**1.46**	**15**	P	**Pn**	**04 57 30.8**	**+1.4**
CBIJ	240nm,0.3s,baz=267,slow=22,SNR=9.0			eS	**Sb**	**04 57 47.2**	**-1.5**
BSO1	**Boso 1**	**8.96**	**356**	eP	**Pn**	**04 59 14.8**	**+2.8**
BSO3	**Boso 3**	**9.15**	**354**	eP	**Pn**	**04 59 16.6**	**+1.8**
JAG	**Ashikaga**	**10.89**	**350**	eP	**Pn**	**04 59 38.3**	**-0.6**
JNU	**Nakatsue**	**12.03**	**311**	LR	LR	05 03 26.4	
	comp=Z,54nm,20.3s,baz=60,slow=33						
KSRS	**Korea Array**	**16.61**	**318**	LR	LR	05 06 13.6	
	comp=Z,21nm,22.0s,baz=350,slow=34						
KSAR	**Wonju Array Be**	**16.63**	**318**	P	Pn	05 00 43.9	-12
KS19	**Wonju Array Si**	**16.68**	**318**	P	Pn	05 00 43.8	-13
KS19				IAmb	IAmb	05 00 44.5	
	comp=Z,17nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**24.16**	**102**	T	T	05 28 14.4	
	baz=290						
H11S1	**WAKE ISLAND Hy**	**24.16**	**102**	T	T	05 28 12.5	
	baz=290						
H11S2	**WAKE ISLAND Hy**	**24.17**	**102**	T	T	05 28 13.0	
	baz=290						
WB0	**Warramunga Arr**	**45.74**	**190**	P	**P**	**05 05 24.4**	**-0.2**
WB0				IAmb	IAmb	05 05 26.2	
	comp=Z,7.1nm,0.9s						
WB2	**Warramunga Arr**	**45.92**	**190**	P	**P**	**05 05 26.1**	**0.0**
WRA	**Warramunga Arr**	**45.92**	**190**	P	**P**	**05 05 26.0**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=10.0,slow=8.7,SNR=30						
	comp=Z,4.3nm,0.5s						
AS31	**Alice Springs**	**49.65**	**189**	P	**P**	**05 05 55.3**	**+0.3**
ASAR	**Alice Springs**	**49.65**	**189**	P	**P**	**05 05 54.7**	**-0.2**
ASAR	**Alice Springs**	**49.65**	**189**	P	**P**	**05 05 55.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=16,slow=13,SNR=6.2						
	comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**51.09**	**310**	P	P	05 05 52.6	-13
MKAR	**Makanchi Array**	**51.09**	**310**	P	P	05 05 53.0	-13
MKAR	**Makanchi Array**	**51.09**	**310**	P	P	05 06 02.6	-3.1
	comp=Z,0.5nm,0.6s,baz=90,slow=9.1,SNR=6.7						
	comp=Z,0.5nm,0.6s						
K15K	**Wolf Creek Mou**	**52.22**	**30**	P	**P**	**05 06 13.0**	**-0.9**
J16K	**Anvik River**	**52.93**	**29**	P	**P**	**05 06 18.5**	**-0.6**
J16K				IAmb	IAmb	05 06 32.4	
	comp=Z,11nm,1.4s						
C16K	**Lisburne Hills**	**52.93**	**22**	P	**P**	**05 06 17.6**	**-1.4**
C16K				IAmb	IAmb	05 06 54.0	
	comp=Z,5.7nm,1.5s						
KURBB	**Kurchatov Arra**	**53.76**	**315**	P	P	05 06 21.4	-4.0
	comp=Z,0.8nm,0.2s,baz=91,slow=8.8,SNR=2.0						
	comp=Z,0.8nm,0.2s						
K17K	**Iditarod**	**53.78**	**30**	P	**P**	**05 06 25.3**	**-0.1**
K17K				IAmb	IAmb	05 07 03.6	
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**58.83**	**318**	P	P	05 06 57.6	-3.9
	comp=Z,0.9nm,0.5s,baz=82,slow=7.5,SNR=4.5						
	comp=Z,0.9nm,0.5s						
IL31		**59.13**	**28**	P	P	05 07 00.8	-2.5
IL31				IAmb	IAmb	05 07 02.1	
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**59.13**	**28**	P	**P**	**05 07 01.7**	**-1.8**
ILAR	**Eielson Array**	**59.13**	**28**	P	P	05 07 01.1	-2.4
	comp=Z,1.5nm,0.7s,baz=265,slow=5.9,SNR=22						
	comp=Z,1.5nm,0.7s						
J26L	**Joseph Creek**	**60.54**	**29**	P	**P**	**05 07 11.8**	**-1.4**
J26L				IAmb	IAmb	05 07 12.4	
	comp=Z,3.9nm,0.8s						
YKA	**Yellowknife Ar**	**73.56**	**28**	P	**P**	**05 08 34.1**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=291,slow=6.3,SNR=17						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**79.04**	**334**	P	P	05 09 03.6	-3.5
	comp=Z,1.0nm,0.7s,baz=72,slow=6.2,SNR=5.4						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**81.69**	**51**	P	**P**	**05 09 21.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=307,slow=8.0,SNR=2.0						
	comp=Z,0.2nm,0.4s						
NOA	**NORSAR Array B**	**84.77**	**338**	P	P	05 09 32.5	-4.8
	comp=Z,0.3nm,0.5s,baz=44,slow=4.6,SNR=2.2						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**85.48**	**44**	P	**P**	**05 09 39.9**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=280,slow=6.0,SNR=3.7						
	comp=Z,0.5nm,0.8s						
LPAZ	**La Paz**	**150.63**	**77**	PKPbc	**PKPdf**	**05 16 55.4**	**+4.1**
	comp=Z,0.9nm,0.5s,baz=309,slow=3.7,SNR=2.5						

DJA 22 04:57:31.0±2.5, 8°.S±5°.×10°.4E±°, h13km±18km, M3.9/10, mb4.2/3, MLv3.8/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.33**	**54**	P	Pn	04 58 08.4	-0.6
CGJI				S	Sn	04 58 31.2	-6.3
LWLI	**Liwa**	**2.98**	**5**	P	Pn	04 58 15.7	-2.5
CNJI	**Cibinong**	**3.36**	**78**	P	Pn	04 58 23.2	-0.1
MDSI	**Maura Dua**	**3.52**	**6**	P	Pn	04 58 25.5	+0.1
CMJI	**Cimerak**	**4.60**	**88**	P	Pn	04 58 40.6	+0.3
UGM	**Wanagama**	**6.65**	**90**	P	Pn	04 59 08.7	+0.2
	81nm,1.8s						
PCJI	**Pacitan**	**7.30**	**92**	P	Pn	04 59 18.0	+0.6

---

*SJA **22** 05:11:59.3±1.9, 31°.29S×71°.28W, h91km±12km*
*NEIC **22** 05:12:01.5±1.2, 31°.32S±0°.05×71°.18W±0°.07, h91km±7km, mb4.5/8, Error ellipse: s-maj=9.3km s-min=6.6km az=100.0*
*GUC **22** 05:12:01.7±0.5, 31°.36S×71°.28W, h71km±8km, ML4.0*
*IDC **22** 05:12:02.1±6.7, 31°.32S×70°.95W, h95km±58km, mb3.5/4, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=40.3km s-min=22.2km az=94.0*
ISC 22 05:12:01.1±0.7, 31°.31S±0°.03×71°.28W±0°.04, h92km±5km, n119, σ0§97/131, mb4.4/7, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.69**	**47**		**Pn**	**05 12 17.1**	**-0.6**
CO03	**El Pedregal**	**0.69**	**47**	*i P*	**Pn**	**05 12 16.6**	**-1.2**
CO03				eS	**Sn**	**05 12 29.3**	**-0.9**
CO03	**El Pedregal**	**0.69**	**47**	*eP*	**Pn**	**05 12 17.5**	**-0.3**
CO03				eS	**Sn**	**05 12 29.5**	**-0.7**
CO03				IAML		05 12 30.1	
	comp=N,8μm,0.1s						
CO06	**Fray Jorge**	**0.71**	**334**		**Pn**	**05 12 19.2**	**+1.3**
CO06	**Fray Jorge**	**0.71**	**334**	*eP*	**Pn**	**05 12 19.3**	**+1.4**
GO04	**Tololo Observa**	**1.21**	**20**		**Pn**	**05 12 23.3**	**-0.3**
GO04	**Tololo Observa**	**1.21**	**20**	*i P*	**Pn**	**05 12 22.9**	**-0.7**
VA06	**Catapilco**	**1.25**	**181**		**Pn**	**05 12 24.3**	**+0.5**
VA06	**Catapilco**	**1.25**	**181**	*eP*	**Pn**	**05 12 24.4**	**+0.6**
VA06				IAML		05 12 42.6	
	comp=N,5μm,0.3s						
CO05	**La Serena**	**1.39**	**1**	Pn	**Pn**	**05 12 26.1**	**+0.6**
CO05	**La Serena**	**1.39**	**1**	*eP*	**Pn**	**05 12 26.2**	**+0.7**
CO05				eS	**Sn**	**05 12 44.7**	**+0.7**
CO05				IAML		05 12 46.2	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**1.57**	**157**		**Pn**	**05 12 27.6**	**-0.4**
VA03	**San Esteban**	**1.57**	**157**	*i P*	**Pn**	**05 12 27.3**	**-0.7**
VA03				eS	**Sn**	**05 12 48.1**	**-0.3**
VA03	**San Esteban**	**1.57**	**157**	*eP*	**Pn**	**05 12 28.0**	**0.0**
VA03				eS	**Sn**	**05 12 47.9**	**-0.4**
ROCH	**El Roble**	**1.67**	**172**	*eP*	**Pn**	**05 12 29.6**	**+0.2**
ROCH				IAML		05 12 55.6	
	comp=N,2μm,0.2s						
CO01	**Juntas del Tor**	**1.67**	**38**		**Pn**	**05 12 28.9**	**-0.5**
CO01	**Juntas del Tor**	**1.67**	**38**	*i P*	**Pn**	**05 12 28.6**	**-0.8**
CO01	**Juntas del Tor**	**1.67**	**38**	*eP*	**Pn**	**05 12 29.2**	**-0.2**
VA01	**Torpederas**	**1.74**	**190**		**Pn**	**05 12 29.6**	**-0.3**
VA01	**Torpederas**	**1.74**	**190**	*eP*	**Pn**	**05 12 29.8**	**-0.1**
RTLS	**Leoncito**	**1.76**	**107**	*i P*	**Pn**	**05 12 30.5**	**0.0**
RTLS				eS	**Sn**	**05 12 52.4**	**-0.4**
PEL	**Peldehue**	**1.90**	**165**		**Pn**	**05 12 32.2**	**+0.2**
PEL	**Peldehue**	**1.90**	**165**	*eP*	**Pn**	**05 12 32.1**	**+0.1**
PEL				eS	**Sn**	**05 12 54.9**	**-0.7**
DOCA	**Reserva Natura**	**1.91**	**80**	*i P*	**Pn**	**05 12 31.7**	**-0.9**
DOCA				eS	**Sn**	**05 12 56.2**	**-0.3**
AROD	**Rodeo**	**1.93**	**54**	*i P*	**Pn**	**05 12 33.4**	**+0.7**
AROD				eS	**Sn**	**05 12 57.0**	**+0.3**
MT02	**Curacav**	**1.95**	**177**		**Pn**	**05 12 32.8**	**+0.1**
MT02	**Curacav**	**1.95**	**177**	*i P*	**Pn**	**05 12 31.8**	**-0.8**
MT02	**Curacav**	**1.95**	**177**	*eP*	**Pn**	**05 12 32.5**	**-0.2**
MT02				IAML		05 12 56.9	
	comp=E,900nm,0.2s						
ACCO	**Cerro Coronel**	**2.03**	**70**	*i P*	**Pn**	**05 12 34.4**	**+0.4**
MT10	**Hacienda Santa**	**2.06**	**162**	*eP*	**Pn**	**05 12 34.5**	**+0.2**
MT10				eS	**Sn**	**05 12 59.4**	**0.0**
MT10				IAML		05 13 00.4	
	comp=N,2μm,0.2s						
MT05	**Renca**	**2.12**	**168**	Pn	**Pn**	**05 12 34.9**	**-0.1**
MT05	**Renca**	**2.12**	**168**	*i P*	**Pn**	**05 12 34.6**	**-0.4**
MT05	**Renca**	**2.12**	**168**	*eP*	**Pn**	**05 12 35.0**	**0.0**
MT05				eS	**Sn**	**05 13 00.7**	**-0.3**
MT05				IAML		05 13 05.2	
	comp=E,2μm,0.2s						
MT14	**Cerro Calıın**	**2.17**	**163**	*eP*	**Pn**	**05 12 35.9**	**+0.2**
MT14				eS	**Sn**	**05 13 01.6**	**-0.5**
MT14				IAML		05 13 05.5	
	comp=E,907nm,0.3s						
ACDV	**Cuesta del Vie**	**2.18**	**59**	*i P*	**Pn**	**05 12 36.6**	**+0.8**
FCH	**Farellones**	**2.18**	**158**	*eP*	**Pn**	**05 12 36.3**	**+0.4**
MT16	**CCHEN**	**2.21**	**163**		**Pn**	**05 12 36.2**	**+0.1**
ZON	**Zonda**	**2.23**	**97**		**Pn**	**05 12 35.9**	**-0.6**
ZON	**Zonda**	**2.23**	**97**	*i P*	**Pn**	**05 12 35.7**	**-0.7**
MT03	**Universidad Ad**	**2.27**	**164**		**Pn**	**05 12 36.9**	**0.0**
MT03	**Universidad Ad**	**2.27**	**164**	*i P*	**Pn**	**05 12 36.6**	**-0.4**
MT03	**Universidad Ad**	**2.27**	**164**	*eP*	**Pn**	**05 12 37.0**	**0.0**
MT03				IAML		05 13 09.0	
	comp=E,1μm,0.1s						
MT04	**Ro Olivares**	**2.30**	**156**	*i P*	**Pn**	**05 12 37.7**	**+0.2**
MT04	**Ro Olivares**	**2.30**	**156**	*eP*	**Pn**	**05 12 38.2**	**+0.7**
MT04				eS	**Sn**	**05 13 05.3**	**0.0**
SJA	**San Juan**	**2.33**	**96**	*i P*	**Pn**	**05 12 38.2**	**+0.5**
SJA				eS	**Sn**	**05 13 04.5**	**-1.3**
LCO	**Las Campanas**	**2.34**	**12**		**Pn**	**05 12 38.2**	**+0.1**
LCO	**Las Campanas**	**2.34**	**12**	*i P*	**Pn**	**05 12 37.4**	**-0.8**
VA05	**Santo Domingo**	**2.36**	**187**		**Pn**	**05 12 37.7**	**-0.3**
VA05	**Santo Domingo**	**2.36**	**187**	*eP*	**Pn**	**05 12 38.0**	**0.0**
MT15	**Las Vizcachas**	**2.37**	**164**	*eP*	**Pn**	**05 12 38.3**	**0.0**
MT15				IAML		05 13 08.6	
	comp=E,912nm,0.3s						
MT08	**Bocatoma Ro**	**2.38**	**154**		**Pn**	**05 12 39.0**	**+0.5**
MT08	**Bocatoma Ro**	**2.38**	**154**	*i P*	**Pn**	**05 12 39.2**	**+0.7**
MT08	**Bocatoma Ro**	**2.38**	**154**	*eP*	**Pn**	**05 12 39.3**	**+0.7**
MT08				eS	**Sn**	**05 13 07.9**	**+0.6**
ASAL	**Salagasta**	**2.44**	**122**	*i P*	**Pn**	**05 12 40.0**	**+0.8**
MT09	**Talagante**	**2.47**	**174**		**Pn**	**05 12 40.1**	**+0.5**
MT09	**Talagante**	**2.47**	**174**	*eP*	**Pn**	**05 12 39.8**	**+0.1**
MT09				eS	**Sn**	**05 13 09.3**	**0.0**
MT09				IAML		05 13 14.9	
	comp=N,1μm,0.1s						
ARCO	**CERRO ARCO**	**2.51**	**128**	*i P*	**Pn**	**05 12 41.5**	**+1.3**
MT01	**Popeta**	**2.55**	**180**		**Pn**	**05 12 40.9**	**+0.3**
MT01	**Popeta**	**2.55**	**180**	*i P*	**Pn**	**05 12 39.9**	**-0.6**
MT01	**Popeta**	**2.55**	**180**	*eP*	**Pn**	**05 12 40.8**	**+0.2**
MT01				IAML		05 13 12.2	
	comp=N,802nm,0.1s						
MT13	**San Alfonso**	**2.57**	**161**		**Pn**	**05 12 41.3**	**+0.3**
MT13	**San Alfonso**	**2.57**	**161**	*i P*	**Pn**	**05 12 41.0**	**+0.1**
MT13	**San Alfonso**	**2.57**	**161**	*eP*	**Pn**	**05 12 41.5**	**+0.6**
MT13				IAML		05 13 12.7	
	comp=N,713nm,0.2s						
LMEL	**Las Melosas**	**2.69**	**161**		**Pn**	**05 12 43.0**	**+0.4**
LMEL	**Las Melosas**	**2.69**	**161**	*i P*	**Pn**	**05 12 42.8**	**+0.2**
AAGR	**Agrelo**	**2.73**	**131**	*i P*	**Pn**	**05 12 44.5**	**+1.4**
BO04	**La Punta**	**2.73**	**168**		**Pn**	**05 12 42.4**	**-0.7**
BO04	**La Punta**	**2.73**	**168**	*eP*	**Pn**	**05 12 42.9**	**-0.1**
AGUA	**GUANDACOL**	**3.01**	**54**	*i P*	**Pn**	**05 12 47.9**	**+0.9**
BO01	**Tunca**	**3.08**	**177**	Pn	**Pn**	**05 12 46.8**	**-0.9**
BO01	**Tunca**	**3.08**	**177**	*i P*	**Pn**	**05 12 46.8**	**-0.9**
AC04	**Llanos de Chal**	**3.10**	**3**		**Pn**	**05 12 48.3**	**+0.3**
AC04	**Llanos de Chal**	**3.10**	**3**	*i P*	**Pn**	**05 12 47.6**	**-0.4**
AVIZ	**Vizcacheras**	**3.18**	**133**	*i P*	**Pn**	**05 12 50.0**	**+0.9**
AVFE	**Valle Fertil**	**3.34**	**80**	*i P*	**Pn**	**05 12 50.1**	**-1.2**
BO02	**Sierra Bellavi**	**3.50**	**173**	Pn	**Pn**	**05 12 53.2**	**-0.2**
BO02	**Sierra Bellavi**	**3.50**	**173**	*i P*	**Pn**	**05 12 52.9**	**-0.5**
VCA	**Vinchina**	**3.70**	**47**	*i P*	**Pn**	**05 12 56.0**	**-0.1**
RFA	**San Rafael**	**4.18**	**146**	*i P*	**Pn**	**05 13 01.4**	**-1.2**
ACLC	**CERRO LA CRUZ**	**4.18**	**64**	*i P*	**Pn**	**05 13 01.6**	**-1.1**
APLL	**PUNTA DE LOS L**	**4.18**	**79**	*i P*	**Pn**	**05 13 01.2**	**-1.5**
ML02	**Panimavida**	**4.44**	**182**		**Pn**	**05 13 05.2**	**-0.9**
AC02	**Maricunga**	**4.84**	**23**	Pn	**Pn**	**05 13 11.5**	**-0.5**
AC02	**Maricunga**	**4.84**	**23**	*i P*	**Pn**	**05 13 10.8**	**-1.2**
AC01	**Pan de Azucar**	**5.18**	**7**	*i P*	**Pn**	**05 13 13.9**	**-2.3**
BI02	**San Fabin de**	**5.34**	**180**	Pn	**Pn**	**05 13 18.5**	**+0.1**
BI02	**San Fabin de**	**5.34**	**180**	*i P*	**Pn**	**05 13 18.0**	**-0.4**
H03N1	**Juan Fernandez**	**6.80**	**250**	P	**Pn**	**05 13 41.3**	**+3.3**
H03N1				S	**Sn**	**05 14 51.2**	**-2.5**
	baz=115,slow=74,SNR=24						
H03N1				T	T	05 20 33.0	
	baz=77,slow=72,SNR=51						
H03N3	**Juan Fernandez**	**6.81**	**250**	P	**Pn**	**05 13 41.1**	**+2.9**
	SNR=29						
H03N3				S	**Sn**	**05 14 51.0**	**-3.0**
	baz=115,slow=74,SNR=7.1						
H03N3				T	T	05 20 33.9	
	baz=77,slow=72,SNR=45						
H03N2	**Juan Fernandez**	**6.82**	**250**	P	**Pn**	**05 13 41.3**	**+3.2**
H03N2				S	**Sn**	**05 14 51.3**	**-2.8**
	baz=115,slow=74,SNR=22						
H03N2				T	T	05 20 37.0	
	baz=77,slow=72,SNR=48						
H03S3	**Juan Fernandez**	**6.92**	**247**	T	T	05 20 31.4	
	baz=67,slow=74,SNR=4.0						
H03S1	**Juan Fernandez**	**6.92**	**247**	T	T	05 20 40.8	
	baz=67,slow=74,SNR=3.6						
H03S2	**Juan Fernandez**	**6.93**	**247**	T	T	05 20 35.0	
	baz=67,slow=74,SNR=5.5						
TRQA	**Tornquist**	**10.19**	**134**	Pn	**Pn**	**05 14 21.5**	**-2.8**
LPAZ	**La Paz**	**15.23**	**12**	P	**Pn**	**05 15 32.6**	**+0.9**
	comp=N,0.1nm,0.3s,baz=198,slow=7.7,SNR=4.2						
	comp=N,1.7nm,0.8s						
NNA	**Nana**	**19.91**	**344**	P	**Pn**	**05 16 28.5**	**+0.6**
MG05	**Puerto Natales**	**20.37**	**182**	P	Pn	05 16 34.3	+1.4
MG05				IAmb	IAmb	05 17 03.2	
	comp=Z,23nm,1.1s						
BDFB	**Brasilia**	**26.34**	**59**	P	**P**	**05 17 27.1**	**-1.6**
	comp=Z,1.8nm,0.9s,baz=215,slow=11,SNR=3.1						
	comp=Z,1.8nm,0.9s						
BOAV	**Boa Vista**	**35.05**	**19**	P	**P**	**05 18 44.4**	**-0.7**
BOAV				IAmb	IAmb	05 18 44.5	
	comp=Z,8.0nm,1.3s						
RUSC	**La Rusia**	**37.03**	**357**	P	**P**	**05 19 04.4**	**+1.8**
PDPR	**Patillas Dam,**	**49.30**	**7**	P	**P**	**05 20 40.0**	**-0.7**
PDPR				IAmb	IAmb	05 21 10.0	
	comp=Z,7.3nm,1.1s						
SNAA	**Sanae**	**53.84**	**159**	P	**P**	**05 21 13.9**	**-0.2**
SNAA				IAmb	IAmb	05 21 15.1	
	comp=Z,6.0nm,1.2s						
SNAA	**Sanae**	**53.84**	**159**	P	**P**	**05 21 13.9**	**-0.2**
	comp=Z,3.1nm,0.9s,baz=204,slow=20,SNR=2.5						
	comp=Z,3.1nm,0.9s						
QSPA	**South Pole Qui**	**58.92**	**180**	P	**P**	**05 21 51.4**	**+1.1**
QSPA	**South Pole Qui**	**58.92**	**180**	P	**P**	**05 21 51.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=121,slow=12,SNR=10.0						
	comp=Z,0.8nm,0.5s						
TXAR	**Lajitas Array**	**67.73**	**330**	P	**P**	**05 22 50.3**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=143,slow=5.3,SNR=4.0						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	**P**	**05 24 14.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	**P**	**05 24 14.3**	**-0.6**
	comp=Z,32nm,0.4s,baz=222,slow=1.9,SNR=1.5						
H11S2	**WAKE ISLAND Hy**	**26.42**	**271**	T	T	07 50 08.1	
	baz=117,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**26.43**	**271**	T	T	07 50 14.6	
	baz=117,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**26.44**	**271**	T	T	07 50 14.5	
	baz=117,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**26.76**	**272**	T	T	07 50 41.9	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.78**	**272**	T	T	07 50 45.1	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**26.78**	**272**	T	T	07 50 44.1	
	baz=117,slow=74						
BVAR	**Borovoye Array**	**144.85**	**41**	PKP	**PKPdf**	**05 31 26.8**	**0.0**
	comp=Z,1.3nm,0.4s,baz=299,slow=3.0,SNR=4.8						
BVAR				pPKP	**pPKPdf**	**05 31 52.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=307,slow=2.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**150.44**	**40**	PKPbc	**PKPbc**	**05 31 41.6**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=305,slow=2.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**151.60**	**30**	PKPbc	**PKiKP**	**05 31 44.3**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=306,slow=3.2,SNR=12						
ZALV				pPKPbc	**pPKPbc**	**05 32 09.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=302,slow=4.0,SNR=4.5						
MKAR	**Makanchi Array**	**154.47**	**45**	PKPbc	**PKPbc**	**05 31 50.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=285,slow=1.2,SNR=2.1						
MKAR				PKPab	**PKPab**	**05 32 05.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=275,slow=4.0,SNR=4.1						
PZH	**PanZhiHua**	**172.23**	**126**	PKP	**PKPdf**	**05 31 59.3**	**-0.3**

---

*IDC **22** 05:12:12.9±1.4, 38°.43N×25°.36E, h0km, mb3.2/3, mbtmp3.4/7, ML3.5/3, MS3.3/2, Error ellipse: s-maj=25.0km s-min=22.1km az=69.0*
*ISK **22** 05:12:13.4, 38°.46N×25°.23E, h13km, ML3.7/34*
*THE **22** 05:12:14.9, 38°.43N×25°.30E, h12km±1km, ML3.6/12, Error ellipse: s-maj=1.3km s-min=0.6km az=334.0*
*ATH **22** 05:12:14.5, 38°.43N×25°.33E, h18km±2km, ML3.6/26, Manual Solution by A.Papageorgiou First location: 2019/02/22 05:12:45, This location: 2021/03/25 14:17:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latit

APE	**Apeiranthos**	1.36 173	P	Pn	05 12 38.7	-0.5
APE			S	Sn	05 12 56.2	-0.9
	2μm,0.2s					
APE	**Apeiranthos**	1.36 173	⇓P	Pb	05 12 40.0	+0.2
APE	**Apeiranthos**	1.36 173	P	Pn	05 12 38.4	-0.8
AOS	**Alonnisos**	1.36 304	P	Pn	05 12 38.8	-0.4
AOS			S	Sn	05 12 57.5	+0.3
	2μm,0.5s					
IZMD	**zmir-Dikili-**	1.37 65	P	Pn	05 12 39.1	-0.4
IZMD			P	Pb	05 12 39.5	-0.6
IZMD			S	Sb	05 12 55.8	-1.8
IZMD			S	Sn	05 12 56.5	-1.1
SMG	**Samos**	1.38 120	P	Pn	05 12 39.4	-0.2
SMG			S	Sg	05 12 58.9	-0.1
	1μm,0.5s					
SMG	**Samos**	1.38 120	P	Pn	05 12 39.4	-0.2
AYVA	**Ayvalik**	1.38 50	P	Pn	05 12 39.3	-0.3
AYVA			S	Sb	05 12 57.7	-0.1
DKL	**Dikili**	1.39 62	Pn	Pn	05 12 39.5	-0.1
DKL	**Dikili**	1.39 62	P	Pn	05 12 39.2	-0.4
ZEDA	**zmir-Bergama**	1.47 68	P	Pn	05 12 40.6	-0.2
ZEDA			S	Sn	05 12 58.5	-1.4
LIA	**Limnos Island**	1.48 356	P	Pn	05 12 40.0	-0.9
LIA			S	Sn	05 12 59.5	-0.7
	3μm,0.5s					
LIA	**Limnos Island**	1.48 356	P	Pn	05 12 39.7	-1.2
BOZC	**Bozcaada**	1.53 21	Pn	Pn	05 12 41.7	+0.2
BOZC	**Bozcaada**	1.53 21	P	Pn	05 12 40.5	-1.1
EZNE	**Ezine-Canakkal**	1.56 31	Pn	Pn	05 12 41.8	-0.2
EZN	**Ezine**	1.60 28	Pn	Pn	05 12 41.7	-0.9
VILL	**Villia**	1.61 262	P	Pn	05 12 42.4	-0.3
BAYC	**CANAKKALE_Bayr**	1.62 35	P	Pn	05 12 42.2	-0.7
VIL2	**Platees**	1.64 263	P	Pn	05 12 42.1	-0.9
AMGA	**Amorgos Island**	1.65 164	P	Pn	05 12 43.1	-0.1
GCAM	**G?zelcaml?**	1.66 115	Pn	Pn	05 12 43.7	+0.3
GCAM	**G?zelcaml?**	1.66 115	P	Pn	05 12 43.6	+0.3
MET4	**Agioi Theodoro**	1.72 243	P	Pn	05 12 44.0	-0.2
BUHA	**Balikesir, Bur**	1.74 51	P	Pb	05 12 46.0	-0.3
MET5	**Makryloggos,Me**	1.75 244	P	Pn	05 12 45.1	+0.4
MET6	**Megalochori,Me**	1.77 243	P	Pn	05 12 44.2	-0.6
GADA	**Gvkgeada**	1.82 14	Pn	Pn	05 12 44.9	-0.7
AIDA	**Aidipsos**	1.84 284	P	Pn	05 12 46.0	+0.2
NEO	**Neokhori**	1.87 299	P	Pn	05 12 46.0	-0.3
NEO	**Neokhori**	1.87 299	P	Pn	05 12 45.8	-0.5
SOMA	**Soma-Manisa**	1.87 66	Pn	Pn	05 12 47.2	+0.9
MHLO	**Agia Marina, M**	1.88 204	P	Pn	05 12 45.9	-0.4
COMU	**Canakkale**	1.90 27	Pn	Pn	05 12 46.7	+0.1
XOR	**Xorichti**	1.92 300	P	Pn	05 12 46.1	-0.8
CMBO	**Columbo, Santo**	1.94 178	P	Pn	05 12 47.2	0.0
CMBO	**Columbo, Santo**	1.94 178	P	Pn	05 12 47.0	-0.3
SAP3	**Santorini-Thir**	1.98 180	P	Pn	05 12 47.2	-0.5
PAIG	**Paliouri**	1.98 320	Pn	Pn	05 12 46.4	-1.4
AKHS	**Akhisar**	2.00 76	P	Pn	05 12 48.2	+0.2
AKS	**Akhisar**	2.00 76	Pn	Pn	05 12 49.1	+1.1
KRND	**KRANIDI**	2.01 240	P	Pn	05 12 47.4	-0.8
GOMA	**Golmarmara-Man**	2.05 81	Pn	Pn	05 12 49.8	+1.1
SMTH	**Samothraki Isl**	2.06 4	P	Pn	05 12 47.4	-1.4
SMTH	**Samothraki Isl**	2.06 4	P	Pn	05 12 47.4	-1.4
AYDB	**Zeytinkoy-Aydi**	2.07 102	Pn	Pn	05 12 50.0	+0.9
CANM	**Can-anakkale**	2.08 39	Pn	Pn	05 12 49.2	+0.1
YENI	**Yenice-Canakka**	2.12 44	Pn	Pn	05 12 50.4	+0.7
AXAR	**Agios Charalam**	2.12 280	P	Pn	05 12 49.5	-0.2
ODEM	**Odemis-Izmir**	2.16 93	Pn	Pn	05 12 51.5	+1.2
GELI	**Tayfur-Gelibol**	2.17 24	Pn	Pn	05 12 50.1	-0.2
OUR	**Ouranopolis**	2.18 332	Pn	Pn	05 12 49.4	-1.1
OUR	**Ouranopolis**	2.18 332	P	Pn	05 12 50.5	0.0
THAS	**Thassos island**	2.24 348	P	Pn	05 12 50.1	-1.2
THAS	**Thassos island**	2.24 348	P	Pn	05 12 49.8	-1.5
LPK	**Lapseki**	2.24 29	Pn	Pn	05 12 51.3	-0.1
ENZZ	**Sultanice-Enez**	2.27 16	Pn	Pn	05 12 51.7	-0.1
GORD	**Gordes-Manisa**	2.28 77	Pn	Pn	05 12 53.2	+1.3
CAVK	**Edirne/Enez-Ca**	2.36 16	⇑P	Pn	05 12 53.9	+1.0
ENEZ	**Enez**	2.40 15	Pn	Pn	05 12 53.2	-0.3
GUR	**Goura**	2.41 259	P	Pn	05 12 53.6	-0.1
ERIK	**Erikli-Kesan**	2.43 22	Pn	Pn	05 12 53.7	-0.2
PLG	**Polygyros**	2.44 324	P	Pn	05 12 53.5	-0.7
GONE	**Gonen-Balikesi**	2.45 48	Pn	Pn	05 12 55.0	+0.8
KRBG	**Karabiga-Canak**	2.49 37	Pn	Pn	05 12 55.4	+0.6
KALE	**Kalithea**	2.51 270	P	Pn	05 12 55.0	-0.1
KLV	**Kalavryta, Ach**	2.53 263	P	Pn	05 12 55.3	-0.1
ALN	**Alexandroupoli**	2.54 12	Pn	Pn	05 12 55.0	-0.4
VLI	**Veliai**	2.55 229	P	Pn	05 12 54.9	-0.6
MAKR	**Makrakomi, Fth**	2.57 284	P	Pn	05 12 56.9	+0.9
KOKK	**Kokkinochori,**	2.61 337	P	Pn	05 12 55.5	-0.9
SUSR	**Susurluk-Balik**	2.64 53	Pn	Pn	05 12 57.6	+0.8
KAVA	**Kavala**	2.65 346	P	Pn	05 12 56.1	-0.9
RKY	**Sarkoy-Tekirda**	2.68 32	Pn	Pn	05 12 57.6	+0.2
EFP	**Efpalio**	2.69 271	P	Pn	05 12 58.0	+0.5
RDO	**Rodhopi**	2.73 3	Pn	Pn	05 12 57.7	-0.3
RDO	**Rodhopi**	2.73 3	P	Pn	05 12 57.1	-0.9
TYRN	**Tyrnavos**	2.74 299	P	Pn	05 12 58.5	+0.4
EDC	**Edincik**	2.75 45	Pn	Pn	05 12 59.1	+0.8
LIT	**Litokhoron**	2.77 308	P	Pn	05 12 58.9	+0.2
HORT	**Hortiatis**	2.78 322	P	Pn	05 12 59.3	+0.5
DST	**Dursunbey**	2.82 64	Pn	Pn	05 13 00.6	+1.2
THL	**Klokotos Trika**	2.83 295	P	Pn	05 12 59.9	+0.5
BAND	**Balkesir-Ban**	2.89 47	⇑P	Pn	05 13 01.1	+0.8
UKOP	**Uzunkopru-Edir**	2.89 20	Pn	Pn	05 13 00.1	-0.1
ITM	**Ithomi**	2.97 246	P	Pn	05 13 02.2	+0.9
KCTX	**Karacabey (Bur**	2.98 51	Pn	Pn	05 13 02.5	+0.9
PVO	**Paravola**	2.99 275	P	Pn	05 13 03.4	+1.7
AMT	**Artemida-Makis**	3.00 254	P	Pn	05 13 03.1	+1.3
SRS	**Serrai**	3.01 334	P	Pn	05 13 01.6	-0.4
ANKY	**Antikythira Is**	3.02 213	P	Pn	05 13 01.5	-0.5
RLS	**Riolos of Patr**	3.06 264	P	Pn	05 13 03.7	+1.1
AXS	**Araxos**	3.12 267	P	Pn	05 13 04.8	+1.4
NVR	**Nevrokopi**	3.14 339	P	Pn	05 13 04.5	+0.8
IDI	**Anoyia**	3.14 187	Pn	Pn	05 13 03.6	-0.2
	9.7nm,0.3s,baz=1.9,slow=14,SNR=62					
IDI			Sn	Sn	05 13 40.3	-1.0
	3.5nm,0.3s,baz=317,slow=18,SNR=3.7					
IDI	**Anoyia**	3.14 187	P	Pn	05 13 03.1	-0.8
KARP	**Karpathos**	3.22 152	P	Pn	05 13 04.9	+0.1
TETR	**Tetrakomo, Epi**	3.30 288	P	Pn	05 13 07.2	+1.2
BOVS	**Bovan**	5.89 333	⇑P	Pn	05 13 41.0	-0.5
ICOR	**Ion Corvin**	5.99 17	⇓P	Pn	05 13 44.7	+1.9
HARR	**Harsova**	6.56 16	⇑P	Pn	05 13 50.7	0.0
BRTR	**Keskin Array B**	6.59 76	Pn	Pn	05 13 52.5	+1.2
	0.3nm,0.3s,baz=255,slow=13,SNR=11					
BRTR			Sn	Sn	05 15 04.0	-2.4
	baz=275,slow=13					
	0.9nm,0.4s					
TIP	**Timpagrande**	6.74 279	⇓P	Pn	05 13 54.8	+1.5
HERR	**Herculane**	6.82 342	⇑P	Pn	05 13 54.0	-0.2
TPGR	**Topolog**	6.83 19	⇓P	Pb	05 14 05.6	-7.5
MDVR	**Moldovita**	6.91 338	⇓P	Pn	05 13 55.9	+0.4
ARR	**Arges**	6.96 356	⇑P	Pn	05 13 59.7	+3.4
NEHR	**Nehoiu**	7.04 6	⇓P	Pn	05 13 59.7	+2.4
CFR	**Carcaliu**	7.07 16	⇑P	Pn	05 14 06.4	+8.7
MLR	**Muntele Rosu**	7.08 3	Pn	Pn	05 13 58.4	+0.5
	0.5nm,0.3s,baz=182,slow=11,SNR=5.9					
	4.6nm,0.7s					
MLR	**Muntele Rosu**	7.08 3	⇑P	Pn	05 13 59.7	+1.8
LOT	**Lotru**	7.12 351	⇑P	Pn	05 14 02.5	+4.0
GZR	**Gura Zlata**	7.22 346	⇑P	Pn	05 13 59.9	0.0
NEGRR	**Negrea**	7.36 14	⇑P	Pn	05 13 58.5	-3.1
COVR	**Voineasa-Covas**	7.45 5	⇑P	Pn	05 14 04.8	+1.9
PLOR	**Plostina**	7.49 7	⇑P	Pn	05 14 07.5	+4.0
VRI	**Vrincioaia**	7.51 7	⇑P	Pn	05 14 10.3	+6.5
DOPR	**Dopca**	7.54 0	⇑P	Pn	05 14 05.4	+1.2
BZS	**Buzias**	7.71 340	⇑P	Pn	05 14 09.5	+3.1
TESR	**Tescani**	8.15 6	⇑P	Pn	05 14 14.6	+2.2
SIRR	**Siria**	8.30 342	⇑P	Pn	05 14 18.2	+3.6
MARR	**Marisel-Cluj**	8.41 350	⇓P	Pn	05 14 19.7	+3.5
BURAR	**Bucovina Array**	9.19 360	⇑P	Pn	05 14 32.1	+5.2
MMAI	**Mount Meron Ar**	9.80 120	Pn	Pn	05 14 35.4	+0.2
	0.6nm,0.3s,baz=306,slow=12,SNR=1.9					
	0.6nm,0.3s					
DAVOX	**Davos/Dischmat**	14.10 311	LR	LR	05 21 17.5	
	comp=Z,127nm,18.8s,baz=345,slow=39					
ESDC	**Sonseca Array**	22.75 282	P	**P**	**05 17 17.3**	**+0.8**
	0.5nm,0.7s,baz=91,slow=11,SNR=2.6					
	0.5nm,0.7s					
NOA	**NORSAR Array B**	24.31 343	P	**P**	**05 17 31.5**	**0.0**
	0.6nm,0.8s,baz=156,slow=8.8,SNR=3.4					
	0.6nm,0.8s					
ARTI	**Arti**	28.30 40	LR	LR	05 31 34.8	
	comp=Z,67nm,19.6s,baz=267,slow=41					
MKAR	**Makanchi Array**	41.93 60	P	**P**	**05 20 05.1**	**+0.3**
	0.3nm,0.7s,baz=264,slow=8.2,SNR=3.8					
	0.3nm,0.7s					

*ATH **22** 05:14:16.6,37°.51N×20°.68E,h13km±2km,ML3.5/13, Manual Solution by I.Dede First location: 2019/02/22 05:15:11, This location: 2020/09/30 08:35:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **22** 05:14:17.8,37°.56N×20°.75E,h7km±2km,ML3.5/11,Error ellipse: s-maj=2.5km s-min=0.9km az=47.0*
*IDC **22** 05:14:17.1±3.1,37°.72N×20°.98E,h0km,mb3.6/8, mbtmp3.6/9,ML1.8/1,MS3.7/2,Error ellipse: s-maj=66.8km s-min=23.0km az=44.0*
ISC 22 05:14:18.3±1.0,**37°.60N**±0°.04×**20°.79E**±0°.03,**h12**km±4km, **n47**,σ1**9**00/73,**mb3.7**/8,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	0.11	19	P	**Pg**	05 14 21.1	-0.2
LTHK				S	**Sg**	05 14 22.9	-0.5
	48μm,0.4s						
LTHK	**Lithakia**	0.11	19	P	**Pg**	05 14 20.7	-0.6
LTHK				S	**Sg**	05 14 22.9	-0.5
KYPS	**Kipseli, Zakin**	0.22	7	P	**Pb**	05 14 23.6	-0.6
KYPS				S	**Sb**	05 14 27.8	+1.7
ORTH	**Orthonies,Zaky**	0.26	343	P	**Pg**	05 14 23.6	-0.1
ORTH				S	**Sg**	05 14 28.4	+1.1
CLEM	**Kyllini,Ilia,G**	0.40	43	P	**Pb**	05 14 27.0	-0.2
CLEM				S	**Sg**	05 14 33.0	+1.5
RTZL	**Ratzakli, Kefa**	0.47	358	P	**Pg**	05 14 27.6	0.0
RTZL				S	**Sb**	05 14 35.4	-0.1
PSDA	**Pessada-Kefalo**	0.54	342	P	**Pg**	05 14 28.7	-0.1
PSDA				S	**Sb**	05 14 36.8	-0.5
	7μm,0.4s						
PSDA	**Pessada-Kefalo**	0.54	342	P	**Pg**	05 14 28.6	-0.1
PSDA				S	**Sb**	05 14 37.0	-0.4
VLS	**Valsamata**	0.59	344	P	**Pg**	05 14 29.7	-0.2
VLS				S	**Sb**	05 14 39.2	+0.1
	4μm,0.8s						
VLS	**Valsamata**	0.59	344	P	**Pg**	05 14 29.6	-0.2
VLS				S	**Sb**	05 14 38.8	-0.3
SMHA	**Samh**	0.66	350	P	**Pg**	05 14 30.8	-0.3
SMHA				S	**Sg**	05 14 40.3	+0.6
RLS	**Riolos of Patr**	0.70	49	P	**Pg**	05 14 31.8	-0.1
RLS				S	**Sb**	05 14 42.8	+0.7
	3μm,0.4s						
RLS	**Riolos of Patr**	0.70	49	P	**Pg**	05 14 31.8	-0.1
RLS				S	**Sb**	05 14 42.4	+0.3
DMLN	**Damoulianata-K**	0.72	333	P	**Pb**	05 14 32.1	-0.6
DMLN				S	**Sb**	05 14 43.9	+1.4
	6μm,0.5s						
DMLN	**Damoulianata-K**	0.72	333	P	**Pg**	05 14 31.5	-0.7
DMLN				S	**Sb**	05 14 43.3	+0.8
AMT	**Artemida-Makis**	0.73	95	P	**Pb**	05 14 32.7	-0.3
AMT				S	**Sn**	05 14 45.3	-0.3
DRO	**Drossia**	0.81	64	P	**Pb**	05 14 34.3	0.0
DRO				S	**Sb**	05 14 47.1	+1.9
	4μm,0.4s						
DRO	**Drossia**	0.81	64	P	**Pb**	05 14 34.0	-0.3
DRO				S	**Sb**	05 14 47.1	+1.9
FSK	**Fiskardo**	0.87	348	P	**Pg**	05 14 34.3	-0.8
FSK				S	**Sb**	05 14 48.4	+1.3
	2μm,0.6s						
FSK	**Fiskardo**	0.87	348	P	**Pg**	05 14 34.4	-0.8
FSK				S	**Sb**	05 14 48.4	+1.3
ITM	**Ithomi**	1.00	115	P	**Pb**	05 14 37.2	-0.3
ITM				S	**Sb**	05 14 51.0	+0.4
	980nm,0.3s						
ITM	**Ithomi**	1.00	115	P	**Pn**	05 14 38.2	0.0
EVGI	**Lefkada island**	1.02	354	P	**Pg**	05 14 36.9	-1.1
EVGI				S	**Sb**	05 14 52.6	+1.3
	2μm,0.5s						
EVGI	**Lefkada island**	1.02	354	P	**Pg**	05 14 36.8	-1.1
DRAG	**Dragano-Lefkad**	1.09	351	P	**Pg**	05 14 38.3	-1.0
NYDR	**Nydri-Lefkada**	1.11	356	P	**Pg**	05 14 38.6	-1.1
NYDR				S	**Sn**	05 14 57.2	+2.3
	1μm,0.7s						
KLV	**Kalavryta, Ach**	1.16	67	P	**Pg**	05 14 40.2	-0.4
PVO	**Paravola**	1.17	30	P	**Pb**	05 14 40.3	-0.1
LKD2	**Lefkada island**	1.19	355	P	**Pb**	05 14 39.7	-1.1
LKD2				S	**Sn**	05 14 58.3	+1.4
EFP	**Efpalio**	1.21	47	P	**Pn**	05 14 40.9	0.0
EFP				S	**Sn**	05 14 58.3	+1.0
TSLK	**Tsoukalades, L**	1.23	355	P	**Pn**	05 14 40.5	-0.8
TSLK				S	**Sn**	05 14 59.1	+1.3
	2μm,0.8s						
TSLK	**Tsoukalades, L**	1.23	355	P	**Pn**	05 14 40.7	-0.6
GUR	**Goura**	1.27	74	P	**Pn**	05 14 42.0	0.0
KALE	**Kalithea**	1.32	53	P	**Pn**	05 14 42.3	-0.4
ANX	**Ano Chora**	1.33	42	P	**Pn**	05 14 42.8	0.0
ATH	**Athens Observa**	2.35	80	P	**Pn**	05 14 56.8	+0.1
IDI	**Anoyia**	4.03	124	Pn	**Pn**	05 15 19.7	-0.2
	2.8nm,0.3s,baz=353,slow=16,SNR=1.3						
IDI				Sn	**Sn**	05 16 07.1	0.0
	0.4nm,0.3s,baz=288,slow=22,SNR=1.6						
	11nm,0.4s						
VAE	**Valguarnera**	5.07	271	Sn	**Sn**	05 16 37.3	+4.6
	1.4nm,0.3s,baz=128,slow=19,SNR=1.5						
HFS	**Hagfors**	23.00	351	P	**P**	05 19 22.0	-0.7
	1.4nm,0.5s,baz=156,slow=11,SNR=9.1						
	1.4nm,0.5s						
FINES	**FINESS Array B**	24.09	6	P	**P**	05 19 32.9	-0.6
	1.4nm,0.8s,baz=175,slow=9.6,SNR=5.1						
	1.4nm,0.8s						
NOA	**NORSAR Array B**	24.22	349	P	**P**	05 19 34.4	-0.3
	0.6nm,0.7s,baz=161,slow=10,SNR=2.2						
	0.6nm,0.7s						
AKTO	**Aktyubinsk**	29.36	52	LR	LR	05 35 54.5	
	comp=Z,120nm,18.6s,baz=279,slow=44						
ARCES	**ARCESS Array B**	32.09	3	P	**P**	05 20 44.4	-0.5
	2.1nm,0.9s,baz=198,slow=11,SNR=1.2						
	2.1nm,0.9s						
KURBB	**Kurchatov Arra**	42.40	53	P	**P**	05 22 11.4	-1.1
	0.6nm,0.4s,baz=278,slow=8.8,SNR=4.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	45.42	58	P	**P**	05 22 35.6	-1.3
	0.2nm,0.4s,baz=282,slow=6.9,SNR=6.7						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	45.92	48	P	**P**	05 22 40.1	-0.5
	0.7nm,0.4s,baz=274,slow=7.8,SNR=3.3						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	74.00	340	P	**P**	05 25 53.8	+0.5
	0.1nm,0.5s,baz=38,slow=5.2,SNR=2.4						
	0.1nm,0.5s						

*ISK **22** 05:14:27.9,38°.45N×25°.14E,h5km,ML3.3/29*
*THE **22** 05:14:30.9,38°.43N×25°.30E,h12km±1km,ML3.2/8,Error ellipse: s-maj=1.1km s-min=0.4km az=331.0*
*ATH **22** 05:14:31.1,38°.45N×25°.30E,h20km±3km,ML3.2/13, Manual Solution by I.Dede First location: 2019/02/22 05:15:57, This location: 2019/02/22 14:16:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*AFAD **22** 05:14:33.0,38°.50N×25°.40E,h8km±4km,MW3.5*
ISC 22 05:14:30.3±1.1,**38°.47N**±0°.02×**25°.27E**±0°.02,**h15**km±9km, **n80**,σ0**8**4/109,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	0.70	306	P	**Pn**	05 14 45.1	-0.5
SKY				S	**Sn**	05 14 56.2	0.0
	2μm,0.2s						
SKY	**Skiros Island**	0.70	306	P	**Pn**	05 14 45.3	-0.3
SKY				S	**Sn**	05 14 55.0	-1.1
KARY	**Karystos**	0.79	237	P	**Pb**	05 14 45.8	+0.1
KARY				S	**Sb**	05 14 56.9	+0.7
	3μm,0.4s						
KARY	**Karystos**	0.79	237	P	**Pn**	05 14 46.6	-0.3
KARY				S	**Sg**	05 14 55.8	-0.3
CESE	**eme**	0.82	99	Pg	**Pb**	05 14 46.8	+0.6
SIGR	**SIGRI**	0.87	31	Pg	**Pn**	05 14 47.6	-0.4
SIGR	**SIGRI**	0.87	31	P	**Pn**	05 14 47.6	-0.4
SIGR				S	**Sn**	05 15 00.3	-0.1
	2μm,0.4s						
SIGR	**SIGRI**	0.87	31	P	**Pn**	05 14 47.5	-0.4
SIGR				S	**Sb**	05 14 58.8	+0.3
SIGR				Pg_3		05 14 59.5	
KARB	**zmir-Karabur**	0.91	77	P	**Pg**	05 14 48.3	+0.4
KARB				S	**Sb**	05 14 59.7	-0.1
TNSA	**Tinos**	0.93	185	P	**Pb**	05 14 47.7	-0.4
TNSA				S	**Sb**	05 14 59.3	-1.0
TNSA				Pg_3		05 14 59.5	
KYMI	**Kymi, Euboea I**	0.94	281	P	**Pn**	05 14 49.2	+0.4
KYMI				S	**Sn**	05 15 02.9	+0.9
	612nm,0.4s						
KYMI	**Kymi, Euboea I**	0.94	281	P	**Pn**	05 14 49.2	+0.4
KYMI				Pg_4		05 15 01.6	
KYMI				S	**Sn**	05 15 01.6	-0.4
ZEYE	**Izmir, Urla-Ze**	0.99	103	P	**Pb**	05 14 49.2	0.0
ZEYE				S	**Sb**	05 15 01.5	-0.5
URLA	**Izmir**	1.04	96	P	**Pb**	05 14 50.1	0.0
URLA				S	**Sb**	05 15 02.9	-0.7
EFSA	**Agios Efstrati**	1.09	348	P	**Pg**	05 14 52.0	+0.6
EFSA				S	**Sn**	05 15 06.3	+0.5
PRK	**Paraskevi**	1.10	45	P	**Pb**	05 14 51.0	0.0
PRK				S	**Sn**	05 15 07.0	+1.0
	2μm,0.4s						
PRK	**Paraskevi**	1.10	45	P	**Pg**	05 14 51.3	-0.2
PRK				S	**Sn**	05 15 06.1	+0.1
PRK				Pg_4		05 15 06.3	
DION	**Dionisos Attik**	1.12	250	P	**Pn**	05 14 51.7	+0.2
DION				S	**Sn**	05 15 07.5	+0.8
	948nm,0.3s						
DION	**Dionisos Attik**	1.12	250	P	**Pg**	05 14 51.9	-0.1
DION				Pg_4	**Sn**	05 15 07.0	+0.3
DION				S	**Sn**	05 15 07.0	+0.3
FOCM	**Foa**	1.17	77	Pn	**Pg**	05 14 53.1	+0.3
PTL	**Penteli**	1.19	250	P	**Pb**	05 14 52.6	+0.1
PTL				S	**Sg**	05 15 08.7	+0.1
	855nm,0.4s						
PTL	**Penteli**	1.19	250	P	**Pg**	05 14 53.2	+0.1
PTL				S	**Sn**	05 15 08.2	0.0
PTL				Pg_4		05 15 08.2	
GPNR	**Gulpinar-Canak**	1.19	34	Pn	**Pb**	05 14 52.7	+0.1
ATHU	**Athens Univers**	1.27	247	P	**Pg**	05 14 54.6	-0.2
ATHU				S	**Sb**	05 15 10.0	-0.2
ATHU				Pg_4		05 15 10.2	
CAND	**Candarli**	1.29	67	Pn	**Pg**	05 14 55.6	+0.5
AOS	**Alonnisos**	1.29	303	P	**Pg**	05 14 54.9	-0.3
VLY	**Voula,Athens**	1.32	243	P	**Pn**	05 14 54.3	+0.2
DGB	**zmir**	1.33	108	P	**Pn**	05 14 53.7	-0.6
DGB				S	**Sn**	05 15 11.8	+0.1
GMLD	**Gumuldur**	1.35	106	Pn	**Pb**	05 14 55.7	+0.5
BLCB	**Balcova**	1.39	93	Pn	**Pg**	05 14 56.9	-0.1
IZMD	**zmir-Dikili-**	1.39	68	P	**Pg**	05 14 58.2	+1.1
IZMD				S	**Sn**	05 15 10.9	-2.5
DKL	**Dikili**	1.41	64	Pn	**Pg**	05 14 57.2	-0.2
DKL	**Dikili**	1.41	64	P	**Pn**	05 14 55.8	+0.4
DKL				S	**Sn**	05 15 13.5	-0.1
DKL				Pg_4		05 15 13.8	
APE	**Apeiranthos**	1.41	172	Pn	**Pn**	05 14 55.4	-0.1
APE	**Apeiranthos**	1.41	172	P	**Pn**	05 14 54.9	-0.6
APE				S	**Sn**	05 15 13.6	-0.2
	635nm,0.6s						
APE	**Apeiranthos**	1.41	172	P	**Pn**	05 14 55.2	-0.3
APE				Pg_4		05 15 13.2	
APE				S	**Sn**	05 15 13.8	0.0
LIA	**Limnos Island**	1.43	357	P	**Pb**	05 14 56.1	-0.5
LIA	**Limnos Island**	1.43	357	P	**Pb**	05 14 56.2	-0.4
SMG	**Samos**	1.45	121	P	**Pn**	05 14 55.4	-0.5
SMG				S	**Sn**	05 15 15.1	+0.5
SMG	**Samos**	1.45	121	P	**Pn**	05 14 56.7	+0.8
SMG				Pg_4		05 15 12.6	
ZEDA	**zmir-Bergama**	1.50	70	P	**Pg**	05 15 00.0	+1.0
ZEDA				S	**Sn**	05 15 15.1	-0.7

P19K				IAML		05 21 48.7	
	comp=N,52nm,1.4s						
P19K				IAML		05 21 53.0	
	comp=E,61nm,0.7s						
SEW	**Seward**	**4.01**	**3**	Pn	**Pn**	**05 20 58.5**	**-0.4**
PLK1	**Peulik 1**	**4.07**	**297**		**Pn**	**05 21 01.6**	**+1.7**
P23K	**Montague Islan**	**4.10**	**17**		**Pn**	**05 21 00.4**	**+0.1**
ILSW	**Iliamna Southw**	**4.26**	**337**	Pn	**Pn**	**05 21 02.3**	**-0.3**
ILSW				IAML		05 22 07.2	
	comp=E,24nm,1.3s						
ILSW				IAML		05 22 28.8	
	comp=N,22nm,1.4s						
P18K	**Big Mountain,**	**4.37**	**321**		**Pn**	**05 21 05.0**	**+0.9**
SLKM	**Skilak Lake**	**4.41**	**358**		**Pn**	**05 21 04.5**	**-0.1**
SLKM	**Skilak Lake**	**4.41**	**358**	IAML		05 22 00.0	
	comp=E,25nm,0.6s						
SLKM				IAML		05 22 00.3	
	comp=N,32nm,1.4s						
HIN	**Hinchinbrook I**	**4.64**	**21**		**Pn**	**05 21 08.2**	**+0.4**
HIN	**Hinchinbrook I**	**4.64**	**21**	IAML		05 22 10.7	
	comp=N,42nm,1.3s						
P17K	**Krichak River**	**4.70**	**314**		**Pn**	**05 21 09.1**	**+0.6**
O18K	**Koktuh Hills**	**4.71**	**325**	Pn	**Pn**	**05 21 09.9**	**+1.1**
O18K				IAML		05 22 05.4	
	comp=N,16nm,1.1s						
O18K				IAML		05 22 20.8	
	comp=E,11nm,1.2s						
O19K	**Port Alsworth**	**4.73**	**332**	Pn	**Pn**	**05 21 09.2**	**+0.3**
KAIM	**Kayak Island**	**4.79**	**35**	Pn	**Pn**	**05 21 10.0**	**+0.3**
CHGN	**Chignik**	**4.79**	**276**	Pn	**Pn**	**05 21 11.7**	**+2.0**
CHGN				IAML		05 22 09.4	
	comp=E,25nm,0.7s						
CHGN				IAML		05 22 09.4	
	comp=N,25nm,0.7s						
PWL	**Port Wells**	**4.82**	**9**	Pn	**Pn**	**05 21 12.1**	**+1.8**
PWL				IAML		05 22 19.6	
	comp=N,37nm,1.2s						
EYAK	**Cordova Ski Ar**	**4.94**	**24**		**Pn**	**05 21 12.7**	**+0.9**
RC01	**Rabbit Creek A**	**4.99**	**1**	Pn	**Pn**	**05 21 13.0**	**+0.5**
RC01				IAML		05 22 17.4	
	comp=N,20nm,1.5s						
RC01				IAML		05 22 18.1	
	comp=E,15nm,1.1s						
GLI	**Glacier Island**	**4.99**	**16**	Pn	**Pn**	**05 21 12.4**	**-0.1**
GLI				IAML		05 23 30.0	
	comp=N,32nm,1.4s						
SUCK	**Suckling Hills**	**5.11**	**37**		**Pn**	**05 21 15.1**	**+1.0**
NICHA	**Nichawak Mount**	**5.17**	**35**		**Pn**	**05 21 15.8**	**+0.8**
P16K	**Nushagak River**	**5.27**	**307**		**Pn**	**05 21 17.8**	**+1.4**
N19K	**Bonanza Creek**	**5.30**	**335**	Pn	**Pn**	**05 21 16.9**	**-0.1**
N19K				IAML		05 22 44.3	
	comp=E,8.2nm,1.2s						
BGLC	**Bering Glacier**	**5.31**	**38**		**Pn**	**05 21 18.8**	**+1.9**
STLK	**Strandline Lak**	**5.50**	**350**		**Pn**	**05 21 19.6**	**+0.1**
PMR	**Palmer**	**5.51**	**4**	Pn	**Pn**	**05 21 19.2**	**-0.4**
N18K	**Kilae Creek**	**5.57**	**328**		**Pn**	**05 21 20.9**	**+0.4**
BMRM	**Bremner River**	**5.58**	**27**		**Pn**	**05 21 21.6**	**+0.8**
O16K	**Kokwok River B**	**5.62**	**312**		**Pn**	**05 21 22.3**	**+1.2**
GHO	**Glory Hole Cre**	**5.70**	**4**	Pn	**Pn**	**05 21 22.8**	**+0.5**
SML	**Sawmill**	**5.76**	**7**	Pn	**Pn**	**05 21 24.2**	**+1.0**
KLU	**Klutina**	**5.76**	**19**		**Pn**	**05 21 24.4**	**+1.1**
MESA	**MESA**	**5.83**	**42**		**Pn**	**05 21 24.5**	**+0.2**
N17K	**Nushagak Hills**	**5.88**	**322**	Pn	**Pn**	**05 21 25.3**	**+0.6**
SCM	**Sheep Creek Mo**	**5.88**	**12**	Pn	**Pn**	**05 21 26.3**	**+1.5**
M20K	**Styx River**	**6.03**	**345**	Pn	**Pn**	**05 21 28.0**	**+1.2**
VRDI	**Verde Repeater**	**6.11**	**30**		**Pn**	**05 21 28.6**	**+0.4**
N25K	**Chitina, Valde**	**6.14**	**24**		**Pn**	**05 21 29.2**	**+0.8**
RKAV	**Rock Avalanche**	**6.14**	**43**		**Pn**	**05 21 29.4**	**+0.9**
GLB	**Gilahina Butte**	**6.19**	**28**	Pn	**Pn**	**05 21 29.7**	**+0.7**
M24K	**Tolsona, Glenn**	**6.30**	**16**	Pn	**Pn**	**05 21 32.3**	**+1.8**
L19K	**White Mountain**	**6.61**	**339**	Pn	**Pn**	**05 21 35.0**	**+0.3**
M17K	**Holitna River**	**6.61**	**326**	Pn	**Pn**	**05 21 36.2**	**+1.4**
N15K	**Kwethluk River**	**6.78**	**311**		**Pn**	**05 21 38.9**	**+1.9**
M16K	**Timber Creek**	**6.85**	**320**	Pn	**Pn**	**05 21 39.5**	**+1.5**
O28M	**Mount Upton**	**6.88**	**43**		**Pn**	**05 21 39.6**	**+0.8**
L18K	**Granite Mounta**	**7.06**	**333**	Pn	**Pn**	**05 21 41.0**	**+0.1**
PAX	**Paxson**	**7.22**	**16**	Pn	**Pn**	**05 21 45.3**	**+2.0**
O29M	**Mount Kennedy**	**7.28**	**50**		**Pn**	**05 21 45.4**	**+1.3**
CAST	**Castle Rocks**	**7.42**	**352**	Pn	**Pn**	**05 21 48.0**	**+2.2**
KTH	**Kantishna Hill**	**7.48**	**356**	Pn	**Pn**	**05 21 48.4**	**+1.6**
L16K	**Owhat River**	**7.50**	**322**	Pn	**Pn**	**05 21 48.0**	**+1.1**
TTA	**Tatalina**	**7.52**	**338**	Pn	**Pn**	**05 21 47.8**	**+0.5**
K17K	**Iditarod**	**7.90**	**330**	Pn	**Pn**	**05 21 53.0**	**+0.6**
BPAW	**Bear Paw Mtn.**	**8.03**	**356**	Pn	**Pn**	**05 21 54.8**	**+0.5**
RIDG	**Independent Ri**	**8.05**	**16**	Pn	**Pn**	**05 21 56.0**	**+1.5**
BCAR	**Beaver Creek A**	**8.07**	**27**	Pn	**Pn**	**05 21 55.0**	**+0.1**
M13K	**Dall Lake**	**8.32**	**307**	Pn	**Pn**	**05 22 00.1**	**+2.0**
L14K	**Kuka Creek**	**8.48**	**313**	Pn	**Pn**	**05 22 02.0**	**+1.7**
M29M	**Somme Creek**	**8.60**	**38**	Pn	**Pn**	**05 22 03.4**	**+1.2**
K15K	**Wolf Creek Mou**	**8.61**	**321**	Pn	**Pn**	**05 22 03.5**	**+1.4**
ILAR	**Eielson Array**	**8.81**	**8**	Pn	**Pn**	**05 22 06.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=189,slow=14,SNR=8.1						
ILAR				Sn	**Sn**	**05 23 39.4**	**-4.6**
	comp=E,0.1nm,0.3s,baz=194,slow=21,SNR=4.8						
	comp=E,0.6nm,0.8s						
N31M	**Braeburn, Yuko**	**9.06**	**48**	Pn	**Pn**	**05 22 09.3**	**+0.9**
L29M	**L29M**	**9.17**	**35**	Pn	**Pn**	**05 22 10.9**	**+1.0**
K13K	**Kusilvak Mount**	**9.60**	**313**	Pn	**Pn**	**05 22 17.4**	**+1.8**
H21K	**Melozitna Rive**	**9.68**	**353**	Pn	**Pn**	**05 22 18.1**	**+1.3**
H24K	**Noodor Dome**	**9.80**	**5**	Pn	**Pn**	**05 22 20.3**	**+1.7**
P33M	**Teslin, Yukon**	**9.88**	**58**	Pn	**Pn**	**05 22 20.0**	**+0.3**
R33M	**Jennings River**	**10.60**	**64**	Pn	**Pn**	**05 22 30.2**	**+0.7**
INK	**Inuvik**	**14.33**	**25**	Pn	**Pn**	**05 23 21.7**	**+1.4**
	baz=224,slow=12,SNR=3.6						
	comp=E,1.3nm,1.0s						
YKA	**Yellowknife Ar**	**18.89**	**56**	P	**P**	**05 24 17.4**	**-0.6**
	baz=268,slow=11,SNR=4.0						
	comp=E,0.4nm,0.9s						
TXAR	**Lajitas Array**	**42.06**	**110**	P	**P**	**05 27 49.3**	**-0.1**
	comp=E,0.2nm,1.0s,baz=325,slow=8.0,SNR=2.2						
	comp=E,0.2nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**48.53**	**239**	T	T	06 20 58.6	
	baz=31,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**48.53**	**239**	T	T	06 20 60.0	
	baz=31,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**48.55**	**239**	T	T	06 21 00.5	
	baz=31,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**49.67**	**239**	T	T	06 22 26.1	
	baz=30,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**49.68**	**239**	T	T	06 22 26.6	
	baz=30,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**49.69**	**239**	T	T	06 22 26.1	
	baz=30,slow=76,SNR=6.4						

*DJA **22** 05:20:07.2±0.2, 10°S±2°×10°7E±°, h10km, M4.6/19, mb4.5/9, mB5.5/6, MLv4.5/19, Mw(mB)4.9/6*
*IDC **22** 05:20:24.8±3.2, 8°47S×108°76E, h92km±25km, mb3.2/5, mbtmp3.6/6, MS2.9/1, Error ellipse: s-maj=159.9km s-min=16.6km az=48.0*
ISC 22 05:20:09.8±0.9, 9°82S±0°05×107°43E±0°05, h23km, n36, σ1§52/34, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.82**	**250**	P	**Pn**	**05 20 39.8**	**+0.1**
XMI	**Christmas Isla**	**1.82**	**250**	S	**Sn**	**05 21 00.2**	**-1.9**
XMIS	**Christmas Isla**	**1.87**	**249**	P	**Pn**	**05 20 40.0**	**-0.4**
XMIS	**Christmas Isla**	**1.87**	**249**	S	**Sn**	**05 21 00.5**	**-2.7**
CMJI	**Cimerak**	**2.26**	**27**	P	**Pn**	**05 20 44.7**	**-1.1**
BBJI	**Bungbulang**	**2.35**	**5**	P	**Pn**	**05 20 47.0**	**-0.1**
BBJI	**Bungbulang**	**2.35**	**5**	S	**Sn**	**05 21 14.5**	**-0.8**
CNJI	**Cibinong**	**2.51**	**353**	P	**Pn**	**05 20 49.1**	**-0.1**
SKJI	**Sukabumi**	**2.93**	**343**	P	**Pn**	**05 20 55.1**	**+0.2**
LEM	**Lembang**	**2.98**	**4**	P	**Pn**	**05 20 57.1**	**+1.3**
	117nm,0.6s,baz=204,slow=22,SNR=24						
LEM				S	Sn	05 21 18.3	-13
	154nm,0.5s,baz=322,slow=11,SNR=7.2						
LEM	**Lembang**	**2.98**	**4**	P	**Pn**	**05 20 57.6**	**+1.8**
LEM				S	**Sb**	**05 21 35.4**	**-2.9**
YOGI	**Yogyakarta**	**3.46**	**55**	P	**Pn**	**05 21 01.0**	**-1.3**
UGM	**Wanagama**	**3.60**	**58**	P	**Pn**	**05 21 03.4**	**-0.8**
UGM	**Wanagama**	**3.60**	**58**	P	**Pn**	**05 21 03.4**	**-0.8**
UGM				S	**Sn**	**05 21 41.8**	**-4.2**
CGJI	**Cibinong**	**3.62**	**332**	P	**Pn**	**05 21 05.4**	**+1.0**
SBJI	**Serang**	**3.89**	**341**	S	**Sn**	**05 21 54.3**	**+1.0**
PCJI	**Pacitan**	**4.04**	**67**	P	**Pn**	**05 21 09.8**	**-0.4**
NGJI	**Ngawi**	**4.67**	**59**	P	**Pn**	**05 21 20.6**	**+1.6**
LWLI	**Liwa**	**5.82**	**325**	P	**Pn**	**05 21 36.1**	**+1.2**
GMJI	**Gumukmas**	**6.14**	**76**	P	**Pn**	**05 21 39.1**	**0.0**
	0.2nm19nm,0.8s						
MDSI	**Maura Dua**	**6.20**	**328**	P	**Pn**	**05 21 40.4**	**+0.4**
	0.1nm22nm,0.4s						
JAGI	**Jajag, Banyuwa**	**6.78**	**79**	P	**Pn**	**05 21 49.1**	**+1.2**
	24nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.78**	**79**	P	**Pn**	**05 21 48.5**	**+0.6**
	0.5nm26nm,0.7s						
MNAI	**Manna**	**7.01**	**320**	P	**Pn**	**05 21 50.7**	**-0.4**
	3µm85nm,1.3s						
ABJI	**Asem Bagus**	**7.02**	**74**	P	**Pn**	**05 21 52.8**	**+1.6**
TWSI	**Taliwang, Sumb**	**9.39**	**84**	P	**Pn**	**05 22 23.8**	**0.0**
	2µm19nm,0.7s						
PLAI	**Plampang**	**10.26**	**85**	P	**Pn**	**05 22 35.2**	**-0.5**
	26nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.48**	**117**	P	**Pn**	**05 24 38.7**	**+2.1**
	1.0nm,0.6s,baz=297,slow=12,SNR=6.8						
FITZ				S	S	05 27 53.8	-20
	1.2nm,0.7s,baz=256,slow=10,SNR=1.3						
WRA	**Warramunga Arr**	**27.85**	**114**	P	**P**	**05 25 59.3**	**+1.4**
	0.5nm,0.8s,baz=289,slow=9.1,SNR=6.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**28.78**	**122**	P	P	05 26 13.0	+6.8
	0.3nm,0.5s,baz=298,slow=8.8,SNR=4.8						
	0.3nm,0.5s						
H08S2	**Diego Garcia H**	**34.59**	**271**	T	T	06 04 27.0	
	baz=92,slow=76,SNR=3.1						
H08S3	**Diego Garcia H**	**34.60**	**271**	T	T	06 04 28.8	
	baz=92,slow=76,SNR=2.9						
H08S1	**Diego Garcia H**	**34.60**	**271**	T	T	06 04 30.5	
	baz=92,slow=76,SNR=3.5						
SONM	**Songino Array**	**57.41**	**359**	P	**P**	**05 29 55.5**	**-1.1**
	0.5nm,0.8s,baz=180,slow=8.4,SNR=2.3						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**60.67**	**340**	P	**P**	**05 30 20.5**	**+1.4**
	0.4nm,0.6s,baz=150,slow=8.4,SNR=8.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**65.23**	**340**	P	**P**	**05 30 50.8**	**+1.5**
	0.6nm,0.6s,baz=150,slow=5.9,SNR=2.6						
	0.6nm,0.6s						

*IDC **22** 05:27:24.6±2.0, 34°29S×179°86W, h0km, mb4.1/4, mbtmp4.2/5, ML4.3/1, MS2.8/1, Error ellipse: s-maj=49.5km s-min=29.5km az=55.0*
*WEL **22** 05:27:29.7±0.8, 35°S±5°×18°0W±1°1, h33km, M4.4/18, mB4.9/5, ML4.8/22, MLv4.5/18, Mw(mB)4.2/5, Error ellipse: s-maj=14.5km s-min=5.5km az=106.6, confirmed*
*NOU **22** 05:27:36.0, 35°17S×179°84W, h158km, mb4.2/10, East of North Island, N.Z.*
ISC 22 05:27:28.0±1.1, 34°63S±0°06×179°44W±0°09, h61km, n74, σ1§94/82, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.45**	**211**	P	**Pn**	**05 28 21.5**	**+2.3**
MXZ	**Matakaoa Point**	**3.45**	**211**	P	**Pn**	**05 28 21.3**	**+2.0**
MXZ				S	**Sn**	**05 28 58.3**	**-0.6**
WMGZ	**Waiomatatini S**	**3.63**	**208**	P	**Pn**	**05 28 24.2**	**+2.6**
WMGZ				S	**Sn**	**05 29 06.2**	**+2.9**
PKGZ	**Pakihiroa**	**3.81**	**211**	P	**Pn**	**05 28 25.7**	**+1.6**
PKGZ				S	**Sn**	**05 29 08.7**	**+1.1**
HAZ	**Te Kaha**	**3.85**	**215**	P	**Pn**	**05 28 24.3**	**-0.4**
HAZ				S	**Sn**	**05 29 08.4**	**-0.1**
PUZ	**Puketiti**	**3.91**	**208**	P	**Pn**	**05 28 27.2**	**+1.7**
WIZ	**White Island**	**3.98**	**222**	P	**Pn**	**05 28 26.5**	**0.0**
RUGZ	**Raukumara Rang**	**4.07**	**214**	P	**Pn**	**05 28 29.8**	**+2.0**
RUGZ				S	**Sn**	**05 29 13.6**	**-0.5**
TWGZ	**Tauwhareparae**	**4.11**	**210**	P	**Pn**	**05 28 29.7**	**+1.4**
TWGZ				P	**Sn**	**05 29 17.6**	**+2.5**
CNGZ	**Carnagh Statio**	**4.29**	**206**	P	**Pn**	**05 28 32.6**	**+1.9**
CNGZ				S	**Sn**	**05 29 21.9**	**+2.5**
TKGZ	**Te Karaka**	**4.39**	**209**	P	**Pn**	**05 28 33.0**	**+0.9**
TKGZ				P	**Sn**	**05 29 23.2**	**+1.4**
MWZ	**Matawai**	**4.43**	**213**	P	**Pn**	**05 28 33.9**	**+1.2**
MWZ				S	**Sn**	**05 29 24.9**	**+1.8**
GRZ	**Great Barrier**	**4.47**	**247**	P	**Pn**	**05 28 32.7**	**-0.4**
OPRZ	**Ohinepanea**	**4.56**	**224**	P	**Pn**	**05 28 36.2**	**+1.8**
URZ	**Urewera**	**4.57**	**216**	Pn	**Pn**	**05 28 35.5**	**+1.0**
	13nm,0.3s,baz=68,slow=2.2,SNR=85						
URZ				Sn	**Sn**	**05 29 21.6**	**-4.7**
	26nm,0.3s,baz=0.0,slow=20,SNR=9.4						
URZ				LR	LR	05 30 23.9	
	comp=Z,106nm,19.7s,baz=113,slow=38						
	29nm,0.3s						
URZ	**Urewera**	**4.57**	**216**	P	**Pn**	**05 28 35.4**	**+0.8**
URZ	**Urewera**	**4.57**	**216**	S	**Sn**	**05 29 22.1**	**-4.2**
URZ	**Urewera**	**4.57**	**216**	P	**Pn**	**05 28 35.3**	**+0.8**
RAGZ	**Rawiri**	**4.62**	**212**	P	**Pn**	**05 28 37.5**	**+2.2**
RIGZ	**Rimuhau**	**4.65**	**208**	P	**Pn**	**05 28 37.4**	**+1.7**
PRGZ	**Paritu Road**	**4.80**	**206**	P	**Pn**	**05 28 38.5**	**+0.8**
PRGZ				S	**Sn**	**05 29 31.8**	**-0.2**
KARZ	**Kaharoa**	**4.86**	**225**	P	**Pn**	**05 28 40.5**	**+1.9**
MUGZ	**Murupara**	**4.91**	**217**	P	**Pn**	**05 28 40.4**	**+1.2**
RTZ	**Ruatahuna**	**4.91**	**215**	P	**Pn**	**05 28 40.5**	**+1.2**
HLRZ	**Highlands Stat**	**4.96**	**222**	P	**Pn**	**05 28 42.3**	**+2.4**
KNZ	**Kokohu**	**4.96**	**207**	P	**Pn**	**05 28 40.4**	**+0.5**
KNZ				S	**Sn**	**05 29 35.3**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.99**	**204**	P	**Pn**	**05 28 40.9**	**+0.5**
MKAZ	**Moumakai**	**5.04**	**239**	P	**Pn**	**05 28 42.1**	**+1.2**
RAHZ	**Arahi**	**5.11**	**212**	P	**Pn**	**05 28 44.0**	**+2.1**
RAHZ				S	**Sn**	**05 29 41.7**	**+2.1**
TOZ	**Tahuroa Road**	**5.13**	**231**	P	**Pn**	**05 28 44.1**	**+1.9**
WHHZ	**Waihua**	**5.18**	**210**	P	**Pn**	**05 28 45.2**	**+2.3**
WHHZ				S	**Sn**	**05 29 42.1**	**+0.8**
WCZ	**Waipu Caves**	**5.25**	**254**	P	**Pn**	**05 28 43.7**	**-0.2**
GLKZ	**Green Lake**	**5.50**	**14**	P	**Pn**	**05 28 48.4**	**+1.1**
GLKZ				S	**Sn**	**05 29 47.8**	**-1.4**
BKZ	**Black Stump Fm**	**5.58**	**215**	P	**Pn**	**05 28 48.5**	**+0.1**
BKZ	**Black Stump Fm**	**5.58**	**215**	P	**Pn**	**05 28 48.4**	**-0.1**
MCHZ	**McNeill Hill**	**5.72**	**212**	P	**Pn**	**05 28 49.4**	**-0.9**
RATZ	**Rangitukua**	**5.72**	**221**	P	**Pn**	**05 28 51.7**	**+1.4**
CKHZ	**Cape Kidnapper**	**5.74**	**208**	P	**Pn**	**05 28 49.9**	**-0.7**
OUZ	**Omahuta**	**5.75**	**262**	P	**Pn**	**05 28 49.9**	**-0.8**
KATZ	**Kakaramea**	**5.84**	**221**	P	**Pn**	**05 28 53.5**	**+1.5**
TMVZ	**Te Maari**	**5.94**	**220**	P	**Pn**	**05 28 53.6**	**+0.3**
NTVZ	**North Tongarir**	**5.94**	**220**	P	**Pn**	**05 28 53.9**	**+0.5**
ETVZ	**East Tongariro**	**5.95**	**219**	P	**Pn**	**05 28 53.2**	**-0.3**
OTVZ	**Oturere**	**5.99**	**219**	P	**Pn**	**05 28 54.0**	**-0.1**
NNVZ	**North Ngauruho**	**6.00**	**220**	P	**Pn**	**05 28 54.6**	**+0.4**
WTVZ	**West Tongariro**	**6.00**	**220**	P	**Pn**	**05 28 55.1**	**+0.9**
HIZ	**Hauiti**	**6.01**	**228**	P	**Pn**	**05 28 55.9**	**+1.6**
HIZ	**Hauiti**	**6.01**	**228**	P	**Pn**	**05 28 56.1**	**+1.9**
SNVZ	**South Ngauruho**	**6.02**	**219**	P	**Pn**	**05 28 54.9**	**+0.4**
KRHZ	**Kereru**	**6.02**	**213**	P	**Pn**	**05 28 53.7**	**-0.8**
NGZ	**Ngauruhoe**	**6.03**	**220**	P	**Pn**	**05 28 56.4**	**+1.6**
MOVZ	**Moawhango**	**6.13**	**217**	P	**Pn**	**05 28 55.7**	**-0.2**
PXZ	**Pawanui**	**6.15**	**208**	P	**Pn**	**05 28 55.3**	**-0.9**
WNVZ	**Wahianoa**	**6.15**	**219**	P	**Pn**	**05 28 57.2**	**+0.9**
PNHZ	**Pukenui**	**6.32**	**212**	P	**Pn**	**05 28 56.9**	**-1.6**
DVHZ	**Dannevirke**	**6.65**	**210**	P	**Pn**	**05 29 02.2**	**-0.9**
BFZ	**Birch Farm**	**6.95**	**208**	P	**Pn**	**05 29 06.2**	**-0.9**
BFZ	**Birch Farm**	**6.95**	**208**	S	**Sn**	**05 30 20.0**	**-4.6**
BFZ	**Birch Farm**	**6.95**	**208**	P	**Pn**	**05 29 05.9**	**-1.2**
CTZ	**Chatham Island**	**9.36**	**167**	S	**Sn**	**05 31 21.0**	**-2.6**
KHZ	**Kahutara**	**9.52**	**213**	P	**Pn**	**05 29 41.2**	**-1.1**
KHZ	**Kahutara**	**9.52**	**213**	S	**Sn**	**05 31 19.6**	**-8.1**
RPZ	**Rata Peaks**	**11.69**	**216**	Pn	**Pn**	**05 30 07.5**	**-4.4**
	1.0nm,0.3s,baz=52,slow=17,SNR=2.2						
RPZ				Sn	Sn	05 32 09.0	-12
	1.1nm,0.3s,baz=0.0,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**41.86**	**272**	P	**P**	**05 35 13.6**	**+1.3**
	1.1nm,0.6s,baz=118,slow=7.3,SNR=16						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**43.24**	**277**	P	**P**	**05 35 24.7**	**+1.2**
	1.4nm,0.4s,baz=118,slow=7.6,SNR=22						
	1.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.29**	**274**	P	**P**	**05 36 27.6**	**+1.5**
	2.0nm,0.7s,baz=129,slow=6.5,SNR=2.1						
	2.0nm,0.7s						
QSPA	**South Pole Qui**	**55.49**	**180**	P	P	05 37 03.8	+7.4
	2.2nm,0.5s,baz=39,slow=19,SNR=33						
	2.2nm,0.5s						
H03S2	**Juan Fernandez**	**79.15**	**124**	T	T	07 07 42.8	
	baz=233						
H03S1	**Juan Fernandez**	**79.16**	**124**	T	T	07 07 42.9	
	baz=233						
H03S3	**Juan Fernandez**	**79.17**	**124**	T	T	07 07 49.3	
	baz=233						
H03N3	**Juan Fernandez**	**79.36**	**123**	T	T	07 07 53.1	
	baz=238,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**79.37**	**123**	T	T	07 07 50.7	
	baz=238,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**79.38**	**123**	T	T	07 07 47.3	
	baz=238,slow=72,SNR=12						
FINES	**FINESS Array B**	**148.61**	**337**	PKPbc	**PKPab**	**05 47 10.5**	**-0.4**
	1.2nm,0.8s,baz=26,slow=5.9,SNR=3.6						

*IDC **22** 05:42:05.0±4.0, 26°84N×104°10E, h73km±41km, mb3.5/9, mbtmp3.7/10, MS3.3/3, Error ellipse: s-maj=31.4km s-min=16.5km az=67.0*
ISC 22 05:42:01.6±0.9, 26°9N±0°1×104°2E±0°2, h35km, n10, σ1§29/10, mb3.7/8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.71**	**211**	P	**Pn**	**05 44 19.8**	**+0.8**
	0.6nm,0.3s,baz=25,slow=13,SNR=5.1						
CMAR				LR	LR	05 48 18.4	
	comp=Z,146nm,18.9s,baz=175,slow=39						
SONM	**Songino Array**	**20.97**	**4**	P	**P**	**05 46 44.5**	**+2.7**
	1.7nm,0.7s,baz=187,slow=11,SNR=13						
	1.7nm,0.7s						
KSRS	**Korea Array**	**22.59**	**56**	P	**P**	**05 46 59.5**	**+0.4**
	0.8nm,0.4s,baz=250,slow=9.2,SNR=2.4						
KSRS				LR	LR	05 56 47.8	
	comp=Z,47nm,19.0s,baz=285,slow=39						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**26.35**	**325**	P	**P**	**05 47 34.2**	**-0.1**
	2.1nm,1.0s,baz=130,slow=11,SNR=9.9						
	2.1nm,1.0s						
ZALV	**Zalesovo Beam**	**30.59**	**337**	P	**P**	**05 48 12.1**	**+0.1**
	0.9nm,0.6s,baz=134,slow=8.3,SNR=4.2						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**30.74**	**327**	P	**P**	**05 48 12.8**	**-0.6**
	1.2nm,0.7s,baz=133,slow=9.9,SNR=13						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**54.96**	**145**	P	**P**	**05 51 28.9**	**-0.5**
	0.7nm,0.8s,baz=332,slow=7.8,SNR=4.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**57.87**	**148**	P	**P**	**05 51 50.1**	**0.0**
	0.3nm,0.4s,baz=314,slow=6.7,SNR=5.1						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**61.14**	**337**	P	**P**	**05 52 10.9**	**-1.2**
	5.5nm,1.1s,baz=109,slow=7.9,SNR=1.4						
	5.5nm,1.1s						
YKA	**Yellowknife Ar**	**85.66**	**17**	P	**P**	**05 54 35.2**	**-1.2**
	0.2nm,0.6s,baz=314,slow=4.9,SNR=4.2						
	0.2nm,0.6s						

*MDD **22** 05:45:24.5±1.6, 36°18N×4°78W, h0km, mb_Lg2.2/7, Error ellipse: s-maj=13.1km s-min=4.3km az=174.0*
*SFS **22** 05:45:25.0, 35°96N×4°71W, h28km, ML2.6/7, ML2.9/7, MLv3.0/7*
*CNRM **22** 05:45:30.6, 35°29N×4°30W, h168km, ML0.8*
ISC 22 05:45:21.7±1.2, 36°01N±0°03×4°74W±0°03, h14km±10km, n29, σ1§46/38, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	**Jimena Fronter**	**0.74**	**307**	Sg	**Sg**	**05 45 43.6**	**-2.3**
PALE	**Palemas**	**1.02**	**140**	P	Pg	05 45 53.2	+12
PALE	**Palemas**	**1.02**	**140**	S	Sn	05 46 10.8	+15
ELGU	**Los Guajares,**	**1.24**	**46**	Pn	**Pg**	**05 45 45.6**	**0.0**
ELGU				Sn	**Sn**	**05 46 00.5**	**-0.6**
ELGU	**Los Guajares,**	**1.24**	**46**	Pg	**Pn**	**

0.6nm,0.3s,baz=2.3,slow=7.8,SNR=10
0.6nm,0.3s
KURBB **Kurchatov Arra 50.97 314** P **P 06 07 06.8 -0.5**
0.4nm,0.4s,baz=92,slow=7.9,SNR=6.1
0.4nm,0.4s
ASAR **Alice Springs 51.58 187** P **P 06 07 12.6 +0.5**
0.5nm,0.6s,baz=1.5,slow=7.0,SNR=5.5
0.5nm,0.6s
BVAR **Borovoye Array 56.02 317** P **P 06 07 42.7 -0.6**
0.6nm,0.4s,baz=98,slow=7.5,SNR=2.6
0.6nm,0.4s
ILAR **Eielson Array 58.03 29** P **P 06 07 56.7 -0.1**
0.2nm,0.6s,baz=251,slow=5.8,SNR=6.3
0.2nm,0.6s
YKA **Yellowknife Ar 72.43 28** P **P 06 09 28.1 +0.7**
0.2nm,0.5s,baz=292,slow=6.8,SNR=3.3
0.2nm,0.5s
FINES **FINESS Array B 76.29 333** P **P 06 09 48.7 -0.5**
2.7nm,0.9s,baz=91,slow=5.6,SNR=2.4
2.7nm,0.9s

IDC 22 06:07:50.5±2.0, 22°.23N×92°.62E, h0km, mb3.6/3, mbtmp3.6/4, Error ellipse: s-maj=74.6km s-min=20.1km az=50.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.02**	**121**	Pn	Pn	06 09 34.5	-0.1
	0.8nm,0.3s,baz=296,slow=7.8,SNR=5.0						
CMAR				Lg	Lg	06 11 37.5	
	0.3nm,0.3s,baz=307,slow=30,SNR=1.3						
MKAR	**Makanchi Array**	**25.90**	**344**	P	P	06 13 24.9	+0.7
	1.6nm,0.7s,baz=146,slow=10.0,SNR=20						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**30.41**	**342**	P	P	06 14 04.4	-0.1
	0.7nm,0.7s,baz=150,slow=7.7,SNR=4.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**60.77**	**136**	P	P	06 18 03.3	-1.3
	0.1nm,0.3s,baz=318,slow=6.6,SNR=1.9						
	0.1nm,0.3s						

TXNET 22 06:23:03.0, 31°.6N±0°.7×104°.6W±0°.6, h3km±1km, ML2.0/7, 2C, Error ellipse: s-maj=1.1km s-min=1.0km az=166.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.55**	**57**	P	Pg	06 23 13.7	+0.1
TPB11				S	Sg	06 23 21.1	+0.3
GDL2	**Guadalupe Moun**	**0.59**	**18**	P	Pg	06 23 14.5	+0.1
GDL2	**Guadalupe Moun**	**0.59**	**18**	P	Pg	06 23 14.5	+0.1
PECS	**Pecos**	**0.66**	**113**	P	Pg	06 23 16.1	+0.3
PECS				S	Sg	06 23 24.9	+0.6
PECS	**Pecos**	**0.66**	**113**	P	Pg	06 23 16.1	+0.4
PECS				S	Sg	06 23 24.9	+0.6
TPB12	**Southwest of T**	**0.68**	**128**	P	Pg	06 23 16.1	+0.1
TPB12				S	Sg	06 23 25.1	+0.3
TPB12	**Southwest of T**	**0.68**	**128**	P	Pg	06 23 16.1	+0.1
TPB12				S	Sg	06 23 25.1	+0.3
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pg	06 23 16.5	+0.2
MNTX				S	Sg	06 23 25.8	+0.7
MNTX	**Cornudas Mount**	**0.69**	**275**	P	Pg	06 23 16.4	+0.2
MNTX				S	Sg	06 23 25.9	+0.8
TPB07	**Mentone**	**0.78**	**94**	S	Sb	06 23 29.3	-0.9
TPB07	**Mentone**	**0.78**	**94**	S	Sb	06 23 29.3	-1.0
CLNB	**Carlsbad**	**0.86**	**43**	P	Pg	06 23 19.5	-0.1
CLNB				S	Sg	06 23 31.6	+0.8
VHRN	**Van Horn**	**0.92**	**202**	⇑P	Pg	06 23 20.6	0.0
VHRN				S	Sg	06 23 33.1	+0.7
VHRN	**Van Horn**	**0.92**	**202**	P	Pg	06 23 20.8	+0.2
VHRN				S	Sg	06 23 33.3	+0.9
TPB01	**Permian Basin**	**0.97**	**135**	⇑P	Pg	06 23 21.2	-0.4
TPB01				S	Sg	06 23 34.4	+0.2
CLN7	**Carlsbad 7**	**1.01**	**40**	P	Pg	06 23 22.1	-0.4
TPB03	**Saragosa**	**1.06**	**121**	S	Sg	06 23 37.8	+0.5
TPB06	**Permian Basin**	**1.16**	**89**	S	Sb	06 23 41.5	+0.3
TPB05	**Hovey Rd**	**1.29**	**123**	S	Sg	06 23 44.1	-0.3
ALPN	**Alpine**	**1.49**	**147**	P	Pn	06 23 30.4	-0.5
ALPN				S	Sb	06 23 50.1	-0.8
ALPN	**Alpine**	**1.49**	**147**	P	Pn	06 23 30.5	-0.4
ALPN				S	Sb	06 23 50.1	-0.8
CPRX	**Cap Rock**	**1.52**	**23**	P	Pn	06 23 31.2	0.0
MNHN	**Monahans**	**1.58**	**100**	P	Pb	06 23 32.4	-0.5
MNHN				S	Sb	06 23 53.4	+0.1
MNHN	**Monahans**	**1.58**	**100**	P	Pb	06 23 32.6	-0.2
ODSA	**Odessa**	**1.79**	**74**	S	Sb	06 23 58.9	-0.5
TMB04	**Seminole**	**2.03**	**60**	S	Sb	06 24 06.9	+0.7
TMB02	**Rankin**	**2.21**	**101**	S	Sb	06 24 11.9	+0.3
TX31	**Lajitas Ar. Si**	**2.42**	**161**	Pg	Pb	06 23 47.2	-0.2
TX31	**Lajitas Ar. Si**	**2.42**	**161**	P	Pb	06 23 45.5	-1.8

---

*KNET **22** 06:35:49.7±0.1, 43°.04N×74°.90E, h12km±1km, ml1.2, Error ellipse: s-maj=0.7km s-min=0.5km az=36.0*
*SOME **22** 06:35:50.1, 43°.05N×74°.85E, h15km*
*NNC **22** 06:35:50.5±0.3, 43°.03N×74°.94E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=3.0km s-min=0.9km az=155.0, Suspected Mining explosion.*
*KRNET **22** 06:35:50.3±0.1, 43°.03N×74°.90E, h16km, mb2.5*
ISC 22 06:35:50.3±0.8, 43°.03N±0°.02×74°.91E±0°.02, h0km, n48, σ0°.54/89, 30C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRU1	**Bishkek**	**0.30**	**223**	⇑*i*P	Pg	**06 35 56.5**	**+0.4**
FRU1				⇑*i*S	Sg	**06 36 00.7**	**+0.7**
KBK	**Karagaybulak**	**0.38**	**176**	⇑P	Pg	**06 35 57.6**	**+0.1**
	28nm,0.1s,SNR=35						
KBK				⇑S	Sg	**06 36 03.5**	**+1.1**
	35nm,0.2s						
KBK	**Karagaybulak**	**0.38**	**176**	⇑*i*P	Pg	**06 35 57.9**	**+0.4**
KBK				⇑*i*S	Sg	**06 36 03.6**	**+1.2**
USP	**Ospenovka**	**0.38**	**308**	⇑P	Pg	**06 35 57.4**	**-0.2**
	21nm,0.1s,SNR=11						
USP				⇓S	Sg	**06 36 03.1**	**+0.5**
	16nm,0.2s						
USP	**Ospenovka**	**0.38**	**308**	⇑*i*P	Pg	**06 35 57.4**	**-0.2**
USP				⇑*i*S	Sg	**06 36 03.0**	**+0.5**
AAK	**Ala-Archa**	**0.50**	**218**	⇑P	Pg	**06 35 59.7**	**-0.1**
	2.9nm,0.1s,SNR=12						
AAK				⇑S	Sg	**06 36 07.4**	**+1.0**
	7.3nm,0.2s						
AAK	**Ala-Archa**	**0.50**	**218**	P	Pg	**06 36 00.9**	**+1.0**
	3.5nm,1.0s						
AAK				⇑S	Sg	**06 36 07.6**	**+1.3**
	3.2nm,0.4s						
AAK	**Ala-Archa**	**0.50**	**218**	⇑*i*P	Pg	**06 35 59.8**	**-0.1**
AAK				⇑*i*S	Sg	**06 36 07.0**	**+0.7**
TKM2	**Tokmak 2**	**0.52**	**102**	⇓P	Pg	**06 36 00.2**	**0.0**
	7.5nm,0.1s,SNR=8.0						
TKM2				⇑S	Sg	**06 36 07.6**	**+0.8**
	31nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**102**	P	Pg	**06 35 59.9**	**-0.3**
	1.1nm,0.3s						
TKM2				⇑S	Sg	**06 36 07.5**	**+0.6**
	2.6nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**102**	⇑*i*P	Pg	**06 36 00.2**	**0.0**
TKM2				⇑*i*S	Sg	**06 36 07.5**	**+0.6**
DGS	**Degeres**	**0.66**	**71**	P	Pg	**06 36 03.3**	**+0.3**
	2.5nm,0.1s						
DGS				S	Sg	**06 36 12.4**	**+0.8**
	5.5nm,0.3s						
DGS	**Degeres**	**0.66**	**71**	*e*P	Pg	**06 36 03.3**	**+0.3**
DGS				*e*S	Sg	**06 36 12.5**	**+0.8**
KST	**Kastek**	**0.77**	**89**	P	Pg	**06 36 05.3**	**+0.2**
	3.0nm,0.1s						
KST				S	Sg	**06 36 15.8**	**+0.7**
	3.0nm,0.2s						
KST	**Kastek**	**0.77**	**89**	*e*P	Pg	**06 36 05.3**	**+0.2**
KST				*e*S	Sg	**06 36 15.8**	**+0.7**
KST	**Kastek**	**0.77**	**89**	*e*P	Pg	**06 36 05.3**	**+0.2**
	3.0nm,0.1s						
KST				*e*S	Sg	**06 36 15.8**	**+0.7**
	3.5nm,0.2s						
KRBS	**Karabastau**	**0.87**	**40**	P	Pg	**06 36 06.9**	**0.0**
	2.4nm,0.1s						
KRBS				S	Sg	**06 36 18.6**	**+0.5**
	3.8nm,0.2s						
KRBS	**Karabastau**	**0.87**	**40**	*e*P	Pg	**06 36 06.9**	**0.0**
KRBS				*e*S	Sg	**06 36 18.6**	**+0.5**
EKS2	**Erkin-Say**	**0.91**	**246**	⇓P	Pg	**06 36 07.4**	**-0.4**
	4.0nm,0.1s,SNR=20						
EKS2				⇑S	Sb	**06 36 21.1**	**-0.7**
	2.1nm,0.1s						
EKS2	**Erkin-Say**	**0.91**	**246**	⇑*i*P	Pg	**06 36 07.3**	**-0.4**
EKS2				⇑*i*S	Sg	**06 36 19.6**	**0.0**
BOOM	**Boomskoye usch**	**0.93**	**125**	⇑*i*P	Pg	**06 36 07.7**	**-0.5**
BOOM				⇑*i*S	Sg	**06 36 20.4**	**+0.2**
MTBS	**Maitube**	**1.12**	**85**	P	Pg	**06 36 11.5**	**-0.2**
	2.5nm,0.1s						
MTBS				S	Sg	**06 36 26.6**	**+0.4**
	2.8nm,0.3s						
MTBS	**Maitube**	**1.12**	**85**	*e*P	Pg	**06 36 11.5**	**-0.2**
MTBS				*e*S	Sg	**06 36 26.6**	**+0.4**
MTBS	**Maitube**	**1.12**	**85**	*e*P	Pg	**06 36 11.5**	**-0.2**
	2.5nm,0.1s						
MTBS				*e*S	Sg	**06 36 26.6**	**+0.4**
	2.8nm,0.3s						
IZV	**Izvestkoviy**	**1.25**	**89**	P	Pg	**06 36 14.0**	**-0.2**
	7.6nm,0.1s						
IZV				S	Sg	**06 36 30.8**	**+0.4**
	5.4nm,0.1s						
IZV	**Izvestkoviy**	**1.25**	**89**	*e*P	Pg	**06 36 14.0**	**-0.2**
IZV				*e*S	Sg	**06 36 30.8**	**+0.4**
IZV	**Izvestkoviy**	**1.25**	**89**	*e*P	Pg	**06 36 14.0**	**-0.2**
	7.6nm,0.1s						
IZV				*e*S	Sg	**06 36 30.8**	**+0.4**
	5.4nm,0.1s						
ARLS	**Aral**	**1.25**	**201**	⇑*e*P	Pg	**06 36 13.5**	**-0.7**
ARLS				⇑*e*S	Sg	**06 36 30.2**	**-0.2**
ULHL	**Ulahol**	**1.26**	**128**	⇑P	Pg	**06 36 13.6**	**-0.8**
	1.3nm,0.1s,SNR=12						
ULHL	**Ulahol**	**1.26**	**128**	⇑*i*P	Pg	**06 36 13.5**	**-0.9**
ULHL				⇑*i*S	Sg	**06 36 30.3**	**-0.4**
AML	**Almayashu**	**1.27**	**225**	⇓P	Pg	**06 36 14.1**	**-0.5**
	1.4nm,0.1s,SNR=5.1						
AML	**Almayashu**	**1.27**	**225**	⇓*i*P	Pg	**06 36 13.7**	**-1.0**
AML				⇓*e*S	Sg	**06 36 30.9**	**-0.3**
KTBS	**Karatobe**	**1.46**	**62**	P	Pn	**06 36 17.6**	**-0.4**
	1.9nm,0.2s						
KTBS				S	Sg	**06 36 37.3**	**+0.1**
	9.4nm,0.3s						
KTBS	**Karatobe**	**1.46**	**62**	*e*P	Pn	**06 36 17.6**	**-0.4**
KTBS				*e*S	Sg	**06 36 37.3**	**+0.1**
TNSS	**Tian-Shan**	**1.49**	**89**	P	Pn	**06 36 18.3**	**-0.5**
	11nm,0.1s						
TNSS				S	Sg	**06 36 38.3**	**+0.1**
	3.3nm,0.5s						
TNSS	**Tian-Shan**	**1.49**	**89**	*e*P	Pn	**06 36 18.3**	**-0.5**
TNSS				*e*S	Sg	**06 36 38.4**	**+0.1**
TNSS	**Tian-Shan**	**1.49**	**89**	*e*P	Pn	**06 36 18.3**	**-0.5**
	11nm,0.1s						
TNSS				*e*S	Sg	**06 36 38.3**	**+0.1**
	3.3nm,0.5s						
MDOK	**Medeo**	**1.57**	**85**	Pg	Pn	**06 36 19.9**	**+0.3**
	6.3nm,0.2s						
MDOK	**Medeo**	**1.57**	**85**	*e*P	Pn	**06 36 19.9**	**+0.3**
MDOK				*e*S	Sb	**06 36 41.1**	**+0.2**
MDOK	**Medeo**	**1.57**	**85**	*e*P	Pn	**06 36 19.9**	**+0.3**
	6.3nm,0.2s						
MDOK				*e*S	Sb	**06 36 41.0**	**+0.2**
	3.0nm,0.2s						
KOTS	**Kotyrbulak**	**1.62**	**82**	P	Pb	**06 36 20.9**	**-0.3**
	6.4nm,0.2s						
KOTS				S	Sg	**06 36 42.9**	**+0.4**
	4.6nm,0.4s						
KOTS	**Kotyrbulak**	**1.62**	**82**	*e*P	Pb	**06 36 20.9**	**-0.3**
KOTS				*e*S	Sg	**06 36 42.9**	**+0.4**
KOTS	**Kotyrbulak**	**1.62**	**82**	*e*P	Pb	**06 36 20.9**	**-0.3**
	6.4nm,0.2s						
KOTS				*e*S	Sg	**06 36 42.9**	**+0.4**
	4.6nm,0.4s						
MNAS	**Manas**	**1.85**	**254**	⇑*i*P	Pn	**06 36 23.5**	**0.0**
MNAS				⇑*i*S	Sn	**06 36 47.8**	**+0.1**
BTLS	**Baital**	**2.10**	**343**	Lg	Lg	06 36 57.8	
	4.0nm,0.2s						
BTLS	**Baital**	**2.10**	**343**	*e*P	Pb	**06 36 29.8**	**+0.5**
	1.4nm,0.2s						
BTLS				*e*S	Sg	**06 36 57.8**	**-0.1**
	4.0nm,0.2s						
KPKS	**Kokpek**	**2.79**	**80**	Lg	Lg	06 37 18.1	
	4.1nm,0.3s						
KPKS	**Kokpek**	**2.79**	**80**	*e*P	Pb	**06 36 41.7**	**+0.6**
	1.6nm,0.1s						
KPKS				*e*S	Sg	**06 37 18.1**	**-1.8**
	4.1nm,0.3s						

---

*IDC **22** 06:37:37.6±38.0, 43°.70N×148°.18E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=723.6km s-min=235.6km az=138.0*
*MOS **22** 06:37:57.7±0.8, 43°.76N×146°.51E, h116km, mb4.4/1, Error ellipse: s-maj=35.1km s-min=27.0km az=128.8*
*JMA **22** 06:37:59.6±0.2, 43°.8N±0°.9×14°.7E±°, h103km±2km, MV3.4/29, NEAR KUNASHIRI ISLAND*
*SKHL **22** 06:37:59.8±0.2, 43°.90N×146°.40E, h112km±3km, mb4.7/2, msha5.6/2*
ISC 22 06:37:58.5±1.2, 43°.73N±0°.08×146°.66E±0°.07, h108km±7km, n31, σ0°.81/42, mb3.5/4, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.65**	**298**	*d*iPN	Pn	**06 38 16.0**	**-0.1**
YUK				*i* S	Sn	**06 38 28.7**	**-0.7**
YUK				pmax	pmax		
	comp=N,210nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.65**	**298**	*i* P	Pn	**06 38 16.1**	**-0.1**
YUK				AMB	AMB	06 38 16.5	
	comp=E,2μm,0.2s						
YUK				*i* S	Sn	**06 38 28.5**	**-0.9**
YUK				A	A	06 38 29.6	
	comp=E,900nm,0.5s						
YUK				A	A	06 38 29.6	
	comp=E,4μm,0.5s						
NEM2	**Nemuro 2**	**0.76**	**241**	*i* P	Pn	**06 38 17.7**	**+0.6**
NEM2				S	Sn	**06 38 31.0**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.77**	**242**	⇓*i*PN	Pn	**06 38 17.7**	**+0.5**
NMR				*i* S	Sn	**06 38 31.0**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.77**	**242**	*i* P	Pn	**06 38 17.7**	**+0.5**
NMR				*i* S	Sn	**06 38 31.0**	**-0.2**
RUSJ	**Misakicho**	**1.08**	**290**	⇓*i*PN	Pn	**06 38 20.7**	**+0.4**
RUSJ				*e*S	Sn	**06 38 39.3**	**+2.5**
JRA	**Rausu**	**1.13**	**281**	*i* P	Pn	**06 38 21.3**	**+0.5**
JRA				*e*S	Sn	**06 38 37.6**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.20**	**273**	*i* P	Pn	**06 38 22.4**	**+0.8**
JNSB				*e*S	Sn	**06 38 39.8**	**+0.7**
JKHN	**Kushirohamanak**	**1.27**	**240**	*i* P	Pn	**06 38 23.3**	**+0.9**
JKHN				*e*S	Sn	**06 38 40.9**	**+0.3**
JNK	**Nakash**	**1.42**	**265**	*i* P	Pn	**06 38 24.4**	**+0.3**
JNK				S	Sn	**06 38 43.1**	**-0.5**
AKK	**Akkeshi**	**1.50**	**242**	*e*P	Pn	**06 38 25.5**	**+0.3**
JAK	**Akkeshi**	**1.61**	**243**	*i* P	Pn	**06 38 27.1**	**+0.6**
JAK				S	Sn	**06 38 47.3**	**-0.4**
KUR	**Kuril'sk**	**1.73**	**30**	PN	Pn	**06 38 28.9**	**+1.0**
KUR				*i* S	Sn	**06 38 50.2**	**-0.2**
KUR				smax	smax		
	comp=N,369nm,0.2s						
KUR				smax	smax		
	comp=E,361nm,0.3s						
KUR	**Kuril'sk**	**1.73**	**30**	*e*P	Pn	**06 38 29.0**	**+1.0**
KUR				AMB	AMB	06 38 32.1	
	comp=E,40nm,0.6s						
KUR				*i* S	Sn	**06 38 50.5**	**+0.1**
KUR				A	A	06 38 50.8	
	comp=E,240nm,0.2s						
KUR				A	A	06 38 50.8	
	comp=E,340nm,0.2s						
JTKR	**Abashiri--Toko**	**2.00**	**278**	*i* P	Pn	**06 38 31.8**	**+0.4**
JTKR				*e*S	Sn	**06 38 56.6**	**+0.1**
JAR	**Ashorobuto**	**2.15**	**259**	P	Pn	**06 38 34.5**	**+1.3**
JAR				S	Sn	**06 39 00.9**	**+1.2**
JOB	**Onbets**	**2.22**	**249**	P	Pn	**06 38 35.3**	**+1.1**
JOB				S	Sn	**06 39 01.4**	**-0.1**
JMP	**Maruseppu**	**2.40**	**278**	P	Pn	**06 38 37.0**	**+0.5**
JCH	**Churui**	**2.66**	**246**	P	Pn	**06 38 40.8**	**+0.9**
JCH				S	Sn	**06 39 10.8**	**-0.9**
SONM	**Songino Array**	**28.15**	**293**	P	P	**06 43 40.6**	**+0.1**
	comp=E,0.4nm,0.6s,baz=73,slow=7.3,SNR=2.5						
	comp=E,0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy 29.32 138**			T	T	07 14 55.9	
	baz=329,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy 29.34 138**			T	T	07 14 56.7	
	baz=329,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy 29.34 138**			T	T	07 14 57.1	
	baz=329,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy 30.28 140**			T	T	07 16 04.2	
	baz=330,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy 30.29 140**			T	T	07 16 06.2	
	baz=330,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy 30.30 140**			T	T	07 16 05.2	
	baz=330,slow=76,SNR=35						
ZALV	**Zalesovo Beam**	**40.72**	**307**	P	**P**	**06 45 27.3**	**-1.0**
	comp=E,0.4nm,0.4s,baz=79,slow=7.8,SNR=1.9						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.27**	**297**	P	**P**	**06 45 56.9**	**-0.3**
	comp=E,0.6nm,0.5s,baz=79,slow=7.8,SNR=8.9						
	comp=E,0.6nm,0.5s						
KURK	**Kurchatov**	**45.24**	**304**	P	**P**	**06 46 03.9**	**-0.8**
KURK	**Kurchatov**	**45.24**	**304**	*e*P	**P**	**06 46 03.9**	**-0.8**
KURBB	**Kurchatov Arra**	**45.33**	**304**	P	**P**	**06 46 03.9**	**-1.4**
	comp=E,0.3nm,0.4s,baz=69,slow=8.0,SNR=3.2						
	comp=E,0.3nm,0.4s						

---

*IDC **22** 06:41:49.9±2.0, 38°.22N×143°.38E, h0km, mb3.5/4, mbtmp3.5/6, ML2.8/2, MS3.7/1, Error ellipse: s-maj=46.2km s-min=26.0km az=64.0*
*JMA **22** 06:42:00.9±0.2, 38°.4N±0°.5×142°.3E±0°.9, h37km±1km, MV3.7/40, E OFF MIYAGI PREF*
*NIED **22** 06:42:00.9, 38°.35N×142°.26E, h37km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.81; $M_{\theta\theta}$=1.90; $M_{\phi\phi}$=-0.09; $M_{r\theta}$=-1.17; $M_{\theta\phi}$=1.40; $M_{\phi r}$=1.45; Fault plane solution: M_0=2.94000×10^{14} NP1: ϕ_s=267.00000°, δ31.00000°, λ=-51.00000°. NP2: ϕ_s=44.00000°, δ67.00000°, λ=-111.00000°.*
ISC 22 06:41:56.5±1.4, 38°.26N±0°.06×142°.53E±0°.09, h24km, n25, σ1°.54/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.84**	**274**	*i* P	**Pn**	**06 42 13.1**	**+0.3**
JIKH				S	**Sb**	**06 42 21.4**	**-1.8**
JIO	**Ouri**	**0.95**	**282**	*i* P	**Pn**	**06 42 14.7**	**+0.4**
JKMT	**Kesennumamotoy**	**0.99**	**304**	*i* P	**Pb**	**06 42 15.4**	**+0.4**
OFUJ	**Ofunato**	**1.06**	**321**	*i* P	**Pb**	**06 42 16.6**	**+0.5**
JMK	**Ichinoseki**	**1.23**	**304**	*i* P	**Pb**	**06 42 19.0**	**-0.1**
JMM	**Marumori**	**1.43**	**254**	P	**Pb**	**06 42 21.9**	**-0.4**
JOU	**Okura**	**1.47**	**275**	*i* P	**Pb**	**06 42 22.9**	**-0.2**
JOU				S	**Sn**	**06 42 38.6**	**-1.4**
JOM	**Ohasama**	**1.55**	**322**	*i* P	**Pb**	**06 42 24.1**	**-0.3**
JFK	**Kawauchi**	**1.59**	**236**	P	**Pb**	**06 42 24.3**	**-0.8**
JYK	**Kaneyama**	**1.82**	**292**	*i* P	**Pn**	**06 42 27.6**	**+1.3**
JRG	**Rokugo**	**1.86**	**308**	P	**Pb**	**06 42 28.6**	**-1.2**
JOTO	**OTAMA OYAMA**	**1.87**	**249**	P	**Pb**	**06 42 29.4**	**-0.6**
JOTO				S	**Sn**	**06 42 50.1**	**+0.2**
JYS	**Shirataka**	**1.94**	**270**	P	**Pb**	**06 42 29.7**	**-1.4**
MJAR	**Matsushiro Arr**	**3.84**	**245**	Pn	**Pn**	**06 42 58.1**	**+4.0**
	0.2nm,0.3s,baz=71,slow=19,SNR=5.8						
MJAR				Sn	**Sb**	**06 43 51.6**	**+1.9**
	0.3nm,0.3s,baz=122,slow=24,SNR=4.8						
	1.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.91**	**310**	Pn	Pn	06 44 22.8	+5.5
	0.1nm,0.3s,baz=122,slow=13,SNR=1.9						
	1.2nm,0.6s						
H11N2	**WAKE ISLAND Hy 28.06 124**			T	T	07 18 09.6	
	baz=316,slow=75,SNR=3.4						
H11N1	**WAKE ISLAND Hy 28.07 124**			T	T	07 18 11.5	
	baz=316,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy 28.08 124**			T	T	07 18 16.3	
	baz=316,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy 28.83 126**			T	T	07 19 15.7	
	baz=319						
H11S3	**WAKE ISLAND Hy 28.83 126**			T	T	07 19 12.0	
	baz=319,slow=74						
H11S2	**WAKE ISLAND Hy 28.84 126**			T	T	07 19 13.3	
	baz=319,slow=74						
MKAR	**Makanchi Array**	**44.23**	**301**	P	**P**	**06 50 05.0**	**+1.3**
	0.3nm,0.7s,baz=88,slow=8.8,SNR=4.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.95**	**307**	P	**P**	**06 50 18.3**	**+1.1**
	1.2nm,0.7s,baz=81,slow=8.0,SNR=13						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**58.40**	**189**	P	**P**	**06 51 47.2**	**-2.9**
	0.6nm,0.9s,baz=7.1,slow=6.9,SNR=1.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**62.13**	**189**	P	**P**	**06 52 14.0**	**-1.5**
	0.1nm,0.3s,baz=3.6,slow=6.0,SNR=1.8						
	0.1nm,0.3s						

---

*NEIC **22** 06:44:20.8±1.1, 45°.901N±0°.010×111°.34W±0°.02, h6km±5km, ML3.8/60, Mwr3.7/27, ML4.0/32(BUT), Error ellipse: s-maj=2.7km s-min=0.9km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.24; $M_{\theta\theta}$=-3.53; $M_{\phi\phi}$=3.29; $M_{r\theta}$=0.14; $M_{\theta\phi}$=-1.79; $M_{\phi r}$=-1.45; Fault plane solution: M_0=4.12000×10^{14} NP1: ϕ_s=119.42000°, δ73.89000°, λ=167.92000°. NP2: ϕ_s=212.82000°, δ78.40000°, λ=16.46000°. Principal axes: T 4.2476, Plg20.0000°, Azm77.0000°; N -0.2672, Plg70.0000°, Azm247.0000°; P -3.9805, Plg3.0000°, Azm346.0000°;*
*IDC **22** 06:44:20.1±0.7, 45°.86N×111°.42W, h0km, mbtmp3.3/6, ML2.8/5 Error ellipse: s-maj=10.3km s-min=6.0km az=55.0*
*NEIC **22** 06:44:20.2, 45°.92N×111°.34W, h4km*
*BUT **22** 06:44:21.0±1.1, 45°.90N±0°.02×111°.36W±0°.02, h3km±4km, Error ellipse: s-maj=3.1km s-min=2.3km az=205.0*
ISC 22 06:44:20.3±0.9, 45°.92N±0°.03×111°.36W±0°.03, h12km±7km, n81, σ1°.98/89, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.03**	**124**		**Pg**	**06 44 23.1**	**+0.4**
BOZ	**Bozeman (W)**	**0.37**	**210**		**Pg**	**06 44 28.0**	**+0.1**
BOZ				Sg	**Sg**	**06 44 32.3**	**-0.5**
BOZ				IAML		06 44 33.2	
	9μm,0.2s						
BOZ				IAML		06 44 33.4	
	11μm,0.5s						
DLMT	**Dillon**	**1.03**	**238**		**Pg**	**06 44 40.3**	**+0.1**
DLMT				Sg	**Sn**	**06 44 54.8**	**-0.3**
DLMT				IAML

YFT	**Old Faithful**	**1.51 166**		**Pb**	**06 44 48.0**	**-0.4**
YPPC	**Pelican Cone**	**1.52 147**		**Pg**	**06 44 50.5**	**+1.1**
YLT	**Little Thumb C**	**1.58 159**		**Pg**	**06 44 51.6**	**+0.9**
YPLA	**Lake Butte**	**1.60 151**		**Pg**	**06 44 51.5**	**+0.4**
H17A	**Grant Village**	**1.62 160**		**Pg**	**06 44 51.3**	**-0.2**
RLMT	**Red Lodge**	**1.68 118**		**Pb**	**06 44 51.1**	**-0.1**
YTP	**The Promontory**	**1.71 153**		**Pb**	**06 44 51.6**	**-0.2**
MCID	**Moose Creek**	**1.73 176**		**Pb**	**06 44 52.2**	**0.0**
FLWY	**Flagg Ranch**	**1.90 165**		**Pb**	**06 44 54.4**	**-0.6**
FLWY			IAML		06 45 25.9	
	comp=N,486nm,1.0s					
FLWY			IAML		06 45 26.9	
	comp=N,515nm,1.0s					
ICI	**Italian Canyon**	**1.94 216**		**Pn**	**06 44 54.1**	**+0.7**
MSO	**Missoula**	**2.00 298**		**Pb**	**06 44 55.8**	**-1.0**
MSO			IAML		06 45 28.2	
	comp=N,542nm,0.8s					
MSO			IAML		06 45 29.5	
	comp=N,617nm,0.9s					
BCYI	**Bear Canyon**	**2.16 223**		**Pn**	**06 44 58.0**	**+1.6**
MOOW	**Moose Ponds**	**2.21 168**		**Pb**	**06 44 58.8**	**-1.6**
FXWY	**Fox Creek**	**2.29 174**		**Pb**	**06 45 00.3**	**-1.5**
LOHW	**Long Hollow**	**2.37 167**		**Pb**	**06 45 01.4**	**-1.6**
LOHW			IAML		06 45 38.3	
	comp=N,245nm,0.6s					
EGMT	**Eagleton**	**2.38 27**		**Pb**	**06 45 01.5**	**-1.5**
TPAW	**Teton Pass**	**2.45 173**		**Pb**	**06 45 02.4**	**-2.0**
TPAW			IAML		06 45 49.3	
	comp=N,456nm,0.7s					
CNCI	**Crows Nest Can**	**2.48 217**		**Pn**	**06 45 02.7**	**+2.0**
SNOW	**Snow King Moun**	**2.49 170**		**Pb**	**06 45 03.5**	**-1.7**
AHID	**Auburn Hatcher**	**3.16 176**		**Pb**	**06 45 14.4**	**-2.1**
AHID			IAML		06 46 00.7	
	comp=N,215nm,0.8s					
AHID			IAML		06 46 04.7	
	comp=N,175nm,1.1s					
HLID	**Hailey**	**3.21 224**		**Pn**	**06 45 13.2**	**+2.5**
HLID			IAML		06 46 00.4	
	comp=N,385nm,0.7s					
MKRVA	**Milk River, Al**	**3.24 355**		**Pn**	**06 45 13.5**	**+2.5**
PLID	**Pearl Lake**	**3.37 257**		**Pn**	**06 45 14.3**	**+1.5**
PLID			IAML		06 46 10.1	
	comp=N,144nm,1.0s					
PLID			IAML		06 46 12.4	
	comp=N,169nm,1.0s					
BW06	**Boulder Array**	**3.41 157**		**Pn**	**06 45 16.9**	**+3.4**
PD31	**Pinedale Array**	**3.41 157**		**Pn**	**06 45 16.5**	**+3.0**
PDAR	**Pinedale Array**	**3.41 157**		**Pn**	**06 45 16.6**	**+3.1**
PDAR	**Pinedale Array**	**3.41 157**	Pn	**Pb**	**06 45 17.1**	**-3.6**
	comp=N,13nm,0.4s,baz=347,slow=18,SNR=112					
PDAR			Pg	Pg	06 45 20.2	-5.4
	comp=N,7.8nm,0.3s,baz=344,slow=18,SNR=93					
PDAR			Lg	Lg	06 46 05.8	
	comp=N,14nm,0.3s,baz=2.8,slow=30,SNR=14					
LAO	**LASA Array**	**3.64 76**		**Pn**	**06 45 19.3**	**+2.8**
HSPGA	**Hill Springs,**	**3.77 337**		**Pn**	**06 45 21.4**	**+3.1**
MFID	**Camas Ranch**	**4.05 233**		**Pn**	**06 45 24.8**	**+2.6**
F10A	**Beach Ranch, E**	**4.09 273**		**Pn**	**06 45 24.8**	**+2.0**
F10A			IAML		06 46 39.5	
	comp=E,189nm,0.8s					
F10A			IAML		06 46 41.2	
	comp=N,184nm,0.3s					
HWUT	**Hardware Ranch**	**4.31 182**		**Pn**	**06 45 30.2**	**+4.4**
HWUT			IAML		06 46 37.7	
	comp=N,56nm,1.4s					
BMO	**Blue Mountains**	**4.32 258**		**Pn**	**06 45 27.7**	**+1.9**
BMO			IAML		06 46 38.9	
	comp=N,50nm,1.5s					
BMO			IAML		06 46 39.7	
	comp=N,57nm,1.7s					
NEW	**Newport**	**4.58 303**		**Pn**	**06 45 31.1**	**+1.8**
NEW			IAML		06 46 48.9	
	comp=N,105nm,1.8s					
NEW			IAML		06 46 55.6	
	comp=N,112nm,1.3s					
NEW	**Newport**	**4.58 303**	Pn	**Pn**	**06 45 31.3**	**+1.9**
	comp=N,0.2nm,0.3s,baz=121,slow=8.3,SNR=8.2					
NEW			Pg	**Pb**	**06 45 40.1**	**-0.5**
	comp=N,0.8nm,0.3s,baz=114,slow=14,SNR=9.1					
NEW			Sn	**Sn**	**06 46 22.8**	**+0.3**
	comp=N,3.3nm,0.3s,baz=114,slow=18,SNR=9.5					
NEW			Lg	Lg	06 46 43.8	
	comp=N,7.6nm,0.3s,baz=43,slow=23,SNR=17					
	comp=N,1.0nm,0.3s					
E09A	**Wood Farm, Sta**	**4.75 280**		**Pn**	**06 45 34.1**	**+2.5**
LNOR	**Lincton Mounta**	**4.83 272**		**Pn**	**06 45 36.4**	**+3.5**
OD2	**Odessa Site #2**	**5.27 289**		**Pn**	**06 45 41.5**	**+2.7**
G08A	**Pilot Rock**	**5.37 266**		**Pn**	**06 45 42.4**	**+2.1**
BSUT	**Blindstream Ca**	**5.40 175**		**Pn**	**06 45 44.9**	**+3.9**
RSSD	**Black Hills**	**5.50 106**		**Pn**	**06 45 41.4**	**-0.8**
DGMT	**Dagmar**	**5.51 60**		**Pn**	**06 45 44.5**	**+2.4**
J08A	**Circle Bar Ran**	**5.68 246**		**Pn**	**06 45 46.5**	**+1.9**
HAWA	**Hanford**	**5.70 278**		**Pn**	**06 45 47.2**	**+2.5**
ELK	**Elko**	**5.89 210**	Pn	**Pn**	**06 45 49.7**	**+2.1**
	comp=N,0.1nm,0.3s,baz=93,slow=19,SNR=1.9					
ELK			Pg	**Pb**	**06 46 01.5**	**-1.6**
	comp=N,0.1nm,0.3s,baz=4.5,slow=15,SNR=4.8					
ELK			Lg	Lg	06 47 18.3	
	comp=N,0.6nm,0.3s,baz=101,slow=19,SNR=7.3					
	comp=N,0.4nm,0.4s					
MPU	**Maple Canyon**	**5.90 182**	Pn	**Pn**	**06 45 50.0**	**+2.3**
E07A	**Sunnyside**	**5.93 279**		**Pn**	**06 45 49.7**	**+1.8**
B08A	**Colville Reser**	**5.96 297**		**Pn**	**06 45 49.7**	**+1.4**
I07A	**Izee**	**6.06 255**		**Pn**	**06 45 52.0**	**+2.3**
MXC	**Moxie City**	**6.23 279**		**Pn**	**06 45 53.9**	**+1.9**
WVOR	**Wild Horse Val**	**6.28 239**		**Pn**	**06 45 55.2**	**+2.4**
P18A	**Preston Nutter**	**6.34 172**		**Pn**	**06 45 58.4**	**+4.6**
TMUT	**Trail Mountain**	**6.62 179**		**Pn**	**06 46 02.1**	**+4.5**
SRU	**San Rafael Swe**	**6.83 175**		**Pn**	**06 46 04.7**	**+4.2**
OGNE	**Ogallala**	**8.41 123**	Pn	**Pn**	**06 46 25.1**	**+3.0**
K30B	**Basset**	**9.03 107**	Pn	**Pn**	**06 46 30.7**	**+0.3**
NVAR	**Mina Array Bea**	**9.08 217**	Pn	**Pn**	**06 46 34.8**	**+3.4**
	comp=N,0.1nm,0.3s,baz=34,slow=11,SNR=6.3					
NVAR			Lg	Lg	06 49 02.0	
	comp=N,0.3nm,0.3s,baz=41,slow=32,SNR=6.0					
	comp=N,0.5nm,0.7s					
ULM	**Lac du Bonnet**	**11.23 62**	Pn	**Pn**	**06 46 59.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=259,slow=11,SNR=6.3					
ULM			Pg		06 47 45.8	
	comp=N,2.0nm,0.3s,baz=254,slow=14,SNR=12					
ULM			Lg	Lg	06 50 08.9	
	comp=N,1.0nm,0.3s,baz=162,slow=20,SNR=6.4					
	comp=N,2.4nm,0.6s					
YKA	**Yellowknife Ar**	**16.71 355**	Pn	**Pn**	**06 48 11.5**	**-2.5**
	comp=N,0.1nm,0.3s,baz=173,slow=12,SNR=14					
YKA			Lg	Lg	06 52 55.8	
	comp=N,0.1nm,0.3s,baz=173,slow=27,SNR=4.2					
	comp=N,1.1nm,0.9s					

TXNET 22 06:53:40.1, 31°.3N±0°.9×103°.6W±0°.6, h7km±1km, ML1.9/10, 1D, Error ellipse: s-maj=1.5km s-min=0.8km az=26.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.12**	**36**	P	Pg	06 53 42.4	-0.3
PCOS				S	Sg	06 53 45.2	+0.6
TPB10	**Southeast of T**	**0.14**	**259**	⇓P	Pg	06 53 43.8	+0.7
TPB10				S	Sg	06 53 47.1	+2.0
TPB03	**Saragosa**	**0.24**	**163**	P	Pg	06 53 45.2	+0.4
TPB03				S	Sg	06 53 49.1	+1.2
TPB03	**Saragosa**	**0.24**	**163**	P	Pg	06 53 45.0	+0.2
TPB03				S	Sg	06 53 49.5	+1.5
PECS	**Pecos**	**0.24**	**285**	P	Pg	06 53 45.5	+0.6
PECS				S	Sg	06 53 49.6	+1.5
PECS	**Pecos**	**0.24**	**285**	P	Pg	06 53 45.5	+0.7
PECS				S	Sg	06 53 46.7	-1.3
TPB07	**Mentone**	**0.28**	**347**	S	Sb	06 53 51.2	-1.2
TPB04	**Verhalen**	**0.30**	**114**	P	Pg	06 53 46.7	+0.6
TPB04				S	Sb	06 53 51.7	-1.5
TPB04	**Verhalen**	**0.30**	**114**	P	Pb	06 53 47.6	-0.3
TPB04				S	Sb	06 53 51.9	-1.3
TPB12	**Southwest of T**	**0.33**	**253**	P	Pg	06 53 46.7	+0.2
TPB12				S	Sg	06 53 52.2	+1.4
TPB12	**Southwest of T**	**0.33**	**253**	P	Pg	06 53 46.8	+0.4
TPB16	**Coyonosa**	**0.35**	**122**	P	Pb	06 53 47.9	-0.8
TPB16				S	Sb	06 53 53.1	-1.3
TPB01	**Permian Basin**	**0.40**	**204**	P	Pg	06 53 48.0	+0.1
TPB01				S	Sg	06 53 54.0	+0.9
TPB05	**Hovey Rd**	**0.45**	**149**	P	Pg	06 53 49.2	+0.4
TPB05				S	Sb	06 53 56.2	-1.2
TPB05	**Hovey Rd**	**0.45**	**149**	P	Pb	06 53 51.6	+1.2
TPB05				S	Sb	06 53 56.3	-1.2
TPB06	**Permian Basin**	**0.47**	**44**	P	Pg	06 53 49.7	+0.6
TPB06				S	Sb	06 53 56.8	-1.0
TPB06	**Permian Basin**	**0.47**	**44**	P	Pn	06 53 52.1	-1.2
MNHN	**Monahans**	**0.71**	**87**	P	Pg	06 53 53.1	-0.7
MNHN				S	Sg	06 54 03.5	+0.4
TPB08	**Permian Basin**	**0.72**	**125**	P	Pb	06 53 54.6	-0.4
TPB08				S	Sb	06 54 04.3	-0.9
TPB11	**China Draw**	**0.73**	**329**	S	Sb	06 54 05.1	-0.3
ALPN	**Alpine**	**0.93**	**182**	P	Pg	06 53 57.0	-1.0
ALPN	**Alpine**	**0.93**	**182**	P	Pg	06 53 57.0	-1.0
ALPN				S	Sg	06 54 08.8	-1.4
CLNB	**Carlsbad**	**0.98**	**346**	S	Sb	06 54 12.7	0.0
VHRN	**Van Horn**	**1.30**	**247**	P	Pn	06 54 04.4	-0.4
VHRN				S	Sb	06 54 22.0	+0.1
TMB02	**Rankin**	**1.34**	**94**	P	Pn	06 54 04.0	-1.3
TMB02				S	Sb	06 54 22.9	0.0
MNTX	**Cornudas Mount**	**1.57**	**285**	P	Pb	06 54 09.8	+0.3
MNTX				S	Sg	06 54 31.1	+0.4
TMB04	**Seminole**	**1.61**	**35**	P	Pb	06 54 10.0	-0.2
TMB04				S	Sg	06 54 32.0	+0.1
SAND	**Sanderson**	**1.85**	**136**	P	Pb	06 54 13.5	-0.8
SAND				S	Sg	06 54 38.8	-0.8
TX31	**Lajitas Ar. Si**	**1.97**	**182**	P	Pb	06 54 15.4	-1.0
TX31				S	Sg	06 54 43.7	+0.3
OZNA	**Ozona**	**2.15**	**100**	P	Pb	06 54 18.3	-1.1
OZNA				S	Sb	06 54 46.1	-0.2

ISC 22 06:55:00.7±1.9, 25°.75N±0°.05×110°.08W±0°.04, h3km±20km, n6, σ0§59/11, 2C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.95**	**99**	*e*P	**Pb**	**06 55 20.0**	**+0.2**
TSIG				*e*S	**Sb**	**06 55 33.4**	**+0.6**
TSIG				IAML		06 55 35.5	
	comp=E,251nm,0.2s						
TSIG				⇓*e*		06 55 35.5	
EVAR0	**San Evaristo**	**1.02**	**214**	*e*P	**Pb**	**06 55 20.9**	**0.0**
UAGRB	**Rancho Ultima**	**1.08**	**260**	⇑*e*P	**Pg**	**06 55 21.3**	**-0.2**
UAGRB				*e*S	**Sb**	**06 55 37.1**	**+0.5**
NE77	**Loreto B.C.S**	**1.18**	**283**	*e*P	**Pg**	**06 55 23.7**	**+0.2**
NE77				*e*S	**Sb**	**06 55 39.9**	**+0.4**
NE80	**Navojoa**	**1.39**	**33**	*e*P	**Pn**	**06 55 26.2**	**-0.8**
NE80				*e*S	**Sb**	**06 55 45.7**	**+0.3**
NE80				IAML		06 55 46.0	
	comp=N,318nm,0.2s						
NE80				⇑*e*		06 55 46.0	
NE80				⇓*e*		06 55 46.8	
NE80				IAML		06 55 46.8	
	comp=E,286nm,0.1s						
CDOB	**Cd. Obregon**	**1.66**	**358**	*e*P	**Pb**	**06 55 31.7**	**-0.1**
CDOB				*e*S	**Sb**	**06 55 54.0**	**+0.9**

*IDC **22** 07:02:54.6±3.5, 2°.94S×140°.82E, h0km, mb3.0/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=128.8km s-min=10.1km az=83.0*
*DJA **22** 07:02:57.0±1.6, 3°.5±16°×14°.0E±°, h10km, M3.2/3, MLv3.2/3*

ISC 22 07:02:56.3±1.1, 2°.80S±0°.09×140°.48E±0°.06, h10km, n7, σ1§41/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.36**	**38**	Pg	**Pg**	**07 03 03.6**	**0.0**
	101nm,0.3s,baz=208,slow=15,SNR=170						
JAY				Lg	Lg	07 03 08.7	
	194nm,0.3s,baz=185,slow=13,SNR=26						
JAY	**Jayapura**	**0.36**	**38**	P	**Pg**	**07 03 03.3**	**-0.3**
JAY				S	**Sb**	**07 03 09.1**	**-1.6**
GENI	**Genyem**	**0.38**	**304**	P	**Pg**	**07 03 03.4**	**-0.4**
GENI				S	**Sb**	**07 03 09.4**	**-1.6**
SMPI	**Sarmi**	**1.94**	**294**	P	**Pn**	**07 03 30.5**	**+1.0**
WRA	**Warramunga Arr**	**18.06**	**199**	P	**Pn**	**07 07 07.3**	**-0.3**
	0.1nm,0.3s,baz=25,slow=12,SNR=4.9						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.70**	**197**	P	**P**	**07 07 46.2**	**-1.5**
	0.4nm,0.7s,baz=30,slow=9.7,SNR=4.5						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**70.95**	**322**	P	**P**	**07 14 15.9**	**+1.8**
	0.1nm,0.6s,baz=125,slow=7.6,SNR=2.0						
	0.1nm,0.6s						

*ASRS **22** 07:29:42.0±1.1, 54°.74N×83°.87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:29:46.5±1.8, 54°.71N×83°.71E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=18.7km s-min=10.7km az=18.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**139**	I	I	07 35 30.0	
	0.5nm,0.8s,baz=320,slow=327,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.00**	**139**	Pg	Pg	07 30 05.8	+0.1
	2.3nm,0.3s,baz=316,slow=15,SNR=11						
ZALV				Lg	Lg	07 30 19.6	
	5.4nm,0.3s,baz=320,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**5.16**	**220**	Pn	Pn	07 31 05.6	+0.7
	baz=40,slow=13,SNR=0.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**7.97**	**187**	Pn	Pn	07 31 43.4	-0.2
	baz=12,slow=13,SNR=2.1						
MKAR				Lg	Lg	07 33 56.0	
	baz=17,slow=30,SNR=5.1						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**8.05**	**263**	Pn	Pn	07 31 43.5	-1.2
	0.1nm,0.3s,baz=68,slow=13,SNR=4.8						
	0.7nm,0.4s						

TXNET 22 07:43:49.7, 31°.4N±0°.6×103°.8W±0°.6, h7km±1km, ML1.7/8, Error ellipse: s-maj=1.1km s-min=0.7km az=125.5, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.12**	**234**	P	Pg	07 43 52.7	+0.4
PECS				S	Sg	07 43 55.1	+1.0
TPB10	**Southeast of T**	**0.16**	**179**	P	Pg	07 43 53.4	+0.5
TPB10				S	Sg	07 43 56.4	+1.2
TPB07	**Mentone**	**0.16**	**29**	P	Pg	07 43 53.4	+0.4
TPB07				S	Sg	07 43 56.4	+1.2
PCOS	**Crockett Middl**	**0.21**	**98**	P	Pg	07 43 54.6	+0.6
PCOS				S	Sg	07 43 57.9	+1.1
TPB12	**Southwest of T**	**0.28**	**217**	P	Pg	07 43 55.6	+0.3
TPB12				S	Sg	07 44 00.6	+1.4
TPB03	**Saragosa**	**0.41**	**150**	S	Sg	07 44 04.1	+0.9
TPB04	**Verhalen**	**0.49**	**121**	P	Pb	07 44 00.9	+0.2
TPB04				S	Sb	07 44 08.2	+0.1
TPB01	**Permian Basin**	**0.50**	**182**	P	Pg	07 43 59.5	+0.2
TPB01				S	Sg	07 44 06.6	+0.9
TPB06	**Permian Basin**	**0.50**	**66**	P	Pb	07 44 00.3	-0.7
TPB06				S	Sb	07 44 08.9	+0.3
TPB16	**Coyonosa**	**0.53**	**126**	S	Sb	07 44 10.8	+1.3
TPB11	**China Draw**	**0.55**	**334**	S	Sb	07 44 09.0	-0.9
TPB05	**Hovey Rd**	**0.64**	**144**	P	Pb	07 44 03.4	+0.1
TPB05				S	Sg	07 44 10.9	+0.6
MNHN	**Monahans**	**0.86**	**96**	P	Pg	07 44 06.5	+0.3
MNHN				S	Sg	07 44 17.4	+0.1
TPB08	**Permian Basin**	**0.91**	**127**	S	Sb	07 44 19.7	-0.6
ALPN	**Alpine**	**1.07**	**175**	P	Pg	07 44 09.4	-0.9
ALPN				S	Sg	07 44 24.4	+0.4
ODSA	**Odessa**	**1.23**	**56**	S	Sg	07 44 29.2	-0.2
VHRN	**Van Horn**	**1.24**	**239**	P	Pg	07 44 13.2	-0.3
VHRN				S	Sb	07 44 30.2	+0.4
MNTX	**Cornudas Mount**	**1.41**	**281**	P	Pb	07 44 16.6	+0.2
MNTX				S	Sg	07 44 35.3	+0.2
TMB02	**Rankin**	**1.49**	**99**	P	Pb	07 44 17.4	-0.4
TMB02				S	Sn	07 44 36.8	-0.1
TMB04	**Seminole**	**1.60**	**42**	P	Pb	07 44 19.2	-0.5
TMB04				S	Sb	07 44 40.4	+0.3
SAND	**Sanderson**	**2.04**	**136**	S	Sb	07 44 53.7	+0.8
TX31	**Lajitas Ar. Si**	**2.10**	**178**	P	Pb	07 44 27.4	-0.8
TX31				S	Sg	07 44 56.0	-1.2
OZNA	**Ozona**	**2.31**	**102**	S	Sb	07 44 59.9	-0.8

ASRS 22 08:00:17.0±0.5, 54°.41N×86°.12E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

ASRS 22 08:00:44.0±0.7, 54°.17N×86°.49E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*KRSC **22** 08:01:33.5±2.7, 49°.29N×157°.36E, h6km±19km, Ml5.0*
*NEIC **22** 08:01:36.9±1.2, 49°.39N±0°.09×156°.2E±0°.1, h35km±2km, mb4.7/57, Error ellipse: s-maj=17.4km s-min=11.3km az=143.0*
*MOS **22** 08:01:37.3±1.3, 49°.34N×156°.28E, h70km, mb4.8/21, MS3.6/4, Error ellipse: s-maj=7.8km s-min=3.5km az=79.8*
*IDC **22** 08:01:38.5±2.3, 49°.34N×156°.09E, h55km±19km, mb3.9/31, mbtmp4.2/39, ML3.7/6, MS3.8/4 1, Error ellipse: s-maj=15.5km s-min=10.5km az=151.0*

ISC 22 08:01:37.0±0.5, 49°.23N±0°.06×156°.39E±0°.05, h50km, n284, σ1§62/278, mb4.6/98, MS3.9/38, 10C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.47**	**353**	*e*PN	**Pn**	**08 02 00.1**	**-0.9**
SKR				*e*S	**Sn**	**08 02 17.4**	**-1.7**
SKR				pmax	pmax		
	comp=Z,898nm,0.3s						
SKR				smax	smax		
	comp=N,3μm,0.5s						
SKR				smax	smax		
	comp=E,4μm,0.7s						
SKR	**Severo-Kuril's**	**1.47**	**353**	*e*P	**Pn**	**08 02 00.2**	**-0.9**
SKR				*e*S	**Sn**	**08 02 20.3**	**+1.3**
PAU	**Pauzhetka**	**2.26**	**7**	PN	**Pn**	**08 02 12.0**	**+0.2**
PAU				S	**Sn**	**08 02 40.4**	**+2.0**
PAU	**Pauzhetka**	**2.26**	**7**	*e*P	**Pn**	**08 02 12.0**	**+0.2**
PAU				*e*S	**Sn**	**08 02 40.5**	**+2.0**
KDTR	**Khodutka, Kamc**	**2.80**	**22**	PN	**Pn**	**08 02 18.0**	**-1.2**
KDTR				S	**Sn**	**08 02 51.5**	**-0.2**
KDTR	**Khodutka, Kamc**	**2.80**	**22**	*e*P	**Pn**	**08 02 18.0**	**-1.2**
KDTR				*e*S	**Sn**	**08 02 51.6**	**-0.2**
RUS	**Russkaya**	**3.48**	**22**	PN	**Pn**	**08 02 27.4**	**-1.2**
RUS				S	**Sn**	**08 03 07.0**	**-1.5**
RUS	**Russkaya**	**3.48**	**22**	*e*P	**Pn**	**08 02 27.4**	**-1.2**
RUS				*e*S	**Sn**	**08 03 07.1**	**-1.5**
GRL	**Gorelyy**	**3.50**	**17**	PN	**Pn**	**08 02 29.1**	**+0.2**
GRL	**Gorelyy**	**3.50**	**17**	*e*P	**Pn**	**08 02 29.1**	**+0.2**
APC	**Apacha**	**3.73**	**7**	PN	**Pn**	**08 02 33.2**	**+1.1**
APC	**Apacha**	**3.73**	**7**	*e*P	**Pn**	**08 02 33.2**	**+1.1**
KRMR	**Karymshinskiy**	**3.77**	**16**	PN	**Pn**	**08 02 32.9**	**+0.4**
KRMR	**Karymshinskiy**	**3.77**	**16**	*e*P	**Pn**	**08 02 33.0**	**+0.4**
PEA0B	**Petropavlovsk-**	**3.97**	**12**		**Pn**	**08 02 35.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.97**	**12**	*ce*PN	**Pn**	**08 02 36.6**	**+1.2**
PETK	**Petropavlovsk-**	**3.97**	**12**		**Pn**	**08 02 34.8**	**-0.6**
PETK	**Petropavlovsk-**	**3.97**	**12**	P	**Pn**	**08 02 36.0**	**+0.7**
	comp=E,12nm,0.3s,baz=181,slow=10,SNR=108						
PETK				S	**Sn**	**08 03 27.8**	**+7.1**
	comp=E,38nm,0.8s,baz=204,slow=18,SNR=5.1						
PETK				LR	LR	08 04 18.9	
	comp=E,1μm,19.9s,baz=190,slow=41						
	comp=E,23nm,0.5s						
PET	**Petropavlovsk**	**4.06**	**20**		**Pn**	**08 02 36.0**	**-0.5**
PET	**Petropavlovsk**	**4.06**	**20**	*e*PN	**Pn**	**08 02 36.5**	**-0.1**
PET				*e*S	**Sn**	**08 03 24.6**	**+1.9**
PET				smax	smax		
	comp=N,370nm,0.5s						
PET	**Petropavlovsk**	**4.06**	**20**	*e*P	**Pn**	**08 02 36.4**	**-0.1**
PET				*e*S	**Sn**	**08 03 22.8**	**0.0**
INSR	**Institute**	**4.09**	**19**	PN	**Pn**	**08 02 37.8**	**+0.9**
INSR	**Institute**	**4.09**	**19**	*e*P	**Pn**	**08 02 37.8**	**+0.9**
DALK	**Dalny**	**4.09**	**20**	PN	**Pn**	**08 02 36.7**	**-0.2**
DALK	**Dalny**	**4.09**	**20**	*e*P	**Pn**	**08 02 36.7**	**-0.2**
UGLR	**Uglovaya**	**4.27**	**20**	PN	**Pn**	**08 02 40.0**	**+0.5**
UGLR	**Uglovaya**	**4.27**	**20**	*e*P	**Pn**	**08 02 40.1**	**+0.5**
AVH	**Avacha**	**4.30**	**19**	PN	**Pn**	**08 02 40.8**	**+0.9**
AVH	**Avacha**	**4.30**	**19**	*e*P	**Pn**	**08 02 40.9**	**+0.9**
KOK	**Koryaka**	**4.31**	**18**	PN	**Pn**	**08 02 41.3**	**+1.3**
KOK	**Koryaka**	**4.31**	**18**	*e*P	**Pn**	**08 02 41.3**	**+1.3**
NLC	**Nalytchevo**	**4.36**	**24**	PN	**Pn**	**08 02 39.7**	**-1.0**
NLC	**Nalytchevo**	**4.36**	**24**	*e*P	**Pn**	**08 02 39.8**	**-1.0**
KRX	**Arik**	**4.37**	**18**	PN	**Pn**	**08 02 41.9**	**+0.9**
KRX	**Arik**	**4.37**	**18**	*e*P	**Pn**	**08 02 41.9**	**+0.9**
GNL	**Ganaly**	**4.58**	**12**	PN	**Pn**	**08 02 44.9**	**+1.1**
GNL	**Ganaly**	**4.58**	**12**	*e*P	**Pn**	**08 02 44.9**	**+1.1**
TUMD	**Tumrok D**	**6.47**	**21**	*e*P	**Pn**	**08 03 10.7**	**+1.1**
ESO	**Esso**	**6.85**	**11**	PN	**Pn**	**08 03 17.8**	**+3.0**
ESO	**Esso**	**6.85**	**11**	*e*P	**Pn**	**08 03 17.8**	**+3.0**
KMNR	**Kamenistaya**	**6.95**	**18**	PN	**Pn**	**08 03 18.6**	**+2.4**
KMNR	**Kamenistaya**	**6.95**	**18**	*e*P	**Pn**	**08 03 18.6**	**+2.4**
KUR	**Kuril'sk**	**7.04**	**239**	PN	**Pn**	**08 03 20.3**	**+2.9**
KUR				pmax	pmax		
	comp=E,67nm,0.9s						
KUR				pmax	pmax		
	comp=Z,135nm,0.9s						
KPT	**Kopyto**	**7.14**	**18**	PN	**Pn**	**08 03 20.0**	**+1.2**
KPT	**Kopyto**	**7.14**	**18**	*e*P	**Pn**	**08 03 20.1**	**+1.2**
KIRR	**Kirishev**

MA2 pmax pmax
comp=Z,27nm,1.0s
SHEM Shemya Is, Ala 11.70 66 P **Pn 08 04 20.0 -1.0**
comp=Z,32nm,0.4s,baz=135,slow=1.0,SNR=6.2
SHEM S Sn 08 06 19.1 -11
comp=Z,89nm,0.9s,baz=86,slow=21,SNR=1.9
SHEM LR LR 08 08 28.3
comp=Z,208nm,21.9s,baz=266,slow=35
ERM Erimo 11.73 237 P **Pn 08 04 21.1 -0.5**
ERM Erimo 11.73 237*ce*PN **Pn 08 04 21.0 -0.5**
ERM pmax pmax
comp=Z,60nm,1.3s
GRNR Gornyy 12.93 284⇓*i*PN **Pn 08 04 40.9 +2.9**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
GRNR MLR MLR
comp=N,300nm,15.0s
GRNR MLR MLR
comp=E,550nm,15.0s
GRNR MLR MLR
comp=Z,550nm,16.0s
SEY Seymchan 13.91 352 P **Pn 08 04 51.7 +0.5**
comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=4.4
comp=Z,0.7nm,0.3s
SEY Seymchan 13.91 352*ce*P **Pn 08 04 48.6 -2.6**
SEY pmax pmax
comp=Z,11nm,1.7s
KLR Kul'dur 16.08 279 P **Pn 08 05 19.4 -0.1**
comp=Z,0.2nm,0.3s,baz=76,slow=13,SNR=16
KLR LR LR 08 11 57.6
comp=Z,588nm,18.8s,baz=61,slow=39
comp=Z,9.2nm,1.0s
KLR Kul'dur 16.08 279*ce*P **P 08 05 21.7 -0.4**
KLR pmax pmax
comp=Z,21nm,1.7s
USA0B Ussuriysk Arra 17.44 262 P **Pn 08 05 35.6 -0.9**
USA0B Ussuriysk Arra 17.44 262 *i* P **Pn 08 05 35.4 -1.1**
USRK Ussuriysk Ar. 17.44 262 P **Pn 08 05 35.2 -1.3**
USRK Ussuriysk Ar. 17.44 262 P **Pn 08 05 35.6 -0.9**
comp=Z,0.2nm,0.3s,baz=61,slow=13,SNR=8.2
USRK LR LR 08 12 14.8
comp=Z,135nm,18.7s,baz=58,slow=37
comp=Z,4.3nm,0.8s
MAJO Matsushiro 18.33 233 P **P 08 05 47.2 +0.1**
MAJO Matsushiro 18.33 233 *i* P **P 08 05 47.8 +0.7**
MJAR Matsushiro Arr 18.33 233 P **P 08 05 45.8 -1.3**
comp=Z,0.1nm,0.3s,baz=25,slow=11,SNR=10
MJAR LR LR 08 13 35.3
comp=Z,231nm,20.1s,baz=43,slow=39
comp=Z,2.9nm,0.8s
MJB9 Matsu-Tunnel 18.33 233 **P 08 05 47.6 +0.6**
ZEA Zeya 18.63 295 *e*P **Pn 08 05 53.1 +2.2**
ZEA MLR MLR
comp=E,300nm,16.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
MDJ Mudanjiang 18.83 266 **P 08 05 50.6 -1.8**
MDJ Mudanjiang 18.83 266 P **P 08 05 51.4 -1.1**
MDJ pmax pmax
comp=Z,8.0nm,1.0s
JGF Kuroka 19.49 233 P **P 08 06 00.9 +1.1**
BILL Biiibino 19.50 11 P **P 08 05 59.2 -0.5**
BILL Biiibino 19.50 11*ce*P **P 08 05 58.1 -1.6**
BILL pmax pmax
comp=Z,7.0nm,1.3s
YAK Yakutsk 19.60 321 P **P 08 05 59.0 -1.8**
YAK IAmb IAmb 08 06 00.8
comp=Z,32nm,0.6s
YAK Yakutsk 19.60 321 P **P 08 05 59.0 -1.8**
comp=Z,20nm,0.3s,baz=85,slow=3.0,SNR=5.3
YAK LR LR 08 13 34.0
comp=Z,202nm,20.8s,baz=112,slow=37
YAK Yakutsk 19.60 321 *e*P **P 08 05 58.2 -2.5**
YAK *e*S **S 08 09 34.9 -4.1**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=N,181nm,5.3s
YAK smax smax
comp=E,88nm,4.4s
BNX BinXian 19.84 271 ⇓P **P 08 06 01.8 -1.7**
BNX pmax pmax
comp=Z,8.0nm,0.7s
INU Inuyama 19.86 233 P **P 08 06 04.0 +0.1**
JHJ2 Mitsune 20.30 224 P **P 08 06 08.5 0.0**
JHJ Hachijo jima 2 20.30 224 LR LR 08 17 01.4
comp=Z,43nm,18.0s,baz=356,slow=46
CN2 Changchun 21.88 267 *e*P **P 08 06 23.3 -2.2**
CN2 *e*S **S 08 10 16.6 -7.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,13.0s
KSRS Korea Array 23.66 251 P **P 08 06 43.0 -0.7**
comp=Z,11nm,1.0s,baz=49,slow=9.5,SNR=29
KSRS LR LR 08 15 26.4
comp=Z,186nm,18.5s,baz=40,slow=35
comp=Z,11nm,1.0s
KS19 Wonju Array Si 23.67 251 P **P 08 06 44.3 +0.5**
KS19 IAmb IAmb 08 06 45.9
comp=Z,31nm,1.2s
KSAR Wonju Array Be 23.70 251 P **P 08 06 43.2 -0.9**
KSAR Wonju Array Be 23.70 251 P **P 08 06 43.2 -0.9**
TNA Tin City 24.74 35 P **P 08 06 54.6 +1.3**
TNA IAmb IAmb 08 06 56.7
comp=Z,21nm,1.3s
JNU Nakatsue 24.88 239 P **P 08 06 55.3 +0.3**
JNU IAmb IAmb 08 06 57.0
comp=Z,18nm,1.0s
JNU Nakatsue 24.88 239 LR LR 08 16 05.1
comp=Z,111nm,20.8s,baz=46,slow=35
ANM Nome 25.38 39 P **P 08 07 00.2 +1.0**
ANM IAmb IAmb 08 07 03.4
comp=Z,16nm,1.2s
ANM Nome 25.38 39 P **P 08 07 00.2 +1.0**
ANM pmax pmax
comp=Z,16nm,1.2s
TIXI Tiksi 25.79 340 P **P 08 07 00.3 -2.5**
TIXI Tiksi 25.79 340 LR LR 08 18 27.5
comp=Z,182nm,18.4s,baz=14,slow=39
TIXI Tiksi 25.79 340*ce*P **P 08 06 59.7 -3.1**
TIXI pmax pmax
comp=Z,11nm,1.0s
F15K North Star Dit 26.06 36 P **P 08 07 06.0 +0.7**
C16K Lisburne Hills 26.81 31 P **P 08 07 12.3 +0.2**
C16K IAmb IAmb 08 07 14.4
comp=Z,15nm,1.1s
M16K Timber Creek 27.55 48 P **P 08 07 21.8 +3.1**
M16K IAmb IAmb 08 07 36.9
comp=Z,18nm,1.5s
RDOG Red Dog Mine 27.55 32 P **P 08 07 18.6 -0.2**
RDOG IAmb IAmb 08 07 21.6
comp=Z,12nm,1.0s
J17K VABM Dome 27.79 43 P **P 08 07 22.5 +1.6**
J17K IAmb IAmb 08 07 38.7
comp=Z,15nm,1.2s
XLT XiLinHaoTe 27.97 274 *e*P **P 08 07 21.5 -1.3**
XLT S **S 08 11 59.3 -4.0**
XLT pmax pmax
comp=Z,18nm,0.8s
XLT LR LR
comp=N,35nm,18.1s
XLT LR LR
comp=E,290nm,20.1s
XLT LR LR
comp=Z,600nm,14.9s
D19K Kuna River 29.38 32 P **P 08 07 35.3 +0.2**
D19K IAmb IAmb 08 07 38.5
comp=Z,18nm,1.4s
TIA Tai'an 31.28 260 P **P 08 07 48.1 -4.0**
TIA pmax pmax
comp=Z,4.0nm,0.4s
H11S1 WAKE ISLAND Hy 31.76 161 T T 08 42 00.4
baz=346,slow=76,SNR=254
H11S3 WAKE ISLAND Hy 31.77 161 T T 08 42 17.9
baz=346,slow=76,SNR=142
H11S2 WAKE ISLAND Hy 31.78 161 T T 08 42 01.2
baz=346,slow=76,SNR=168
HNS HongShan 32.15 264⇓P **P 08 07 59.6 -0.1**
HNS pmax pmax
comp=Z,12nm,1.0s
HNS LR LR
comp=N,250nm,15.9s
HNS LR LR
comp=Z,230nm,15.9s
HHC Hu-ho-hao-te 32.35 272 *e*P **P 08 08 03.8 +2.2**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,180nm,5.3s
SONM Songino Array 32.65 287 P **P 08 08 03.4 -0.7**
comp=Z,0.2nm,0.3s,baz=70,slow=8.3,SNR=2.0
SONM LR LR 08 22 43.7
comp=Z,161nm,18.2s,baz=64,slow=39
comp=Z,0.2nm,0.3s
COLA College 32.83 41 *i* P **P 08 08 03.8 -1.5**
COLA pmax pmax
comp=Z,36nm,2.5s
NJ2 Nanjing 32.83 253 *e*P **P 08 08 06.3 +0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
G24K Hadweenzic Riv 33.06 37 P **P 08 08 09.0 +1.6**
G24K IAmb IAmb 08 08 21.6
comp=Z,13nm,1.3s
ILAR Eielson Array 33.24 41 P **P 08 08 10.1 +1.2**
comp=Z,1.0nm,0.9s,baz=265,slow=8.7,SNR=7.0
comp=Z,1.0nm,0.9s
ZAK Zakamensk 33.69 293 *e*P **P 08 08 12.2 -0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
PRP Porcupine Dome 33.81 39 P **P 08 08 14.4 +0.3**
D27M Malcolm River 35.62 33 P **P 08 08 30.2 +0.7**
F28M Old Crow 36.04 36 P **P 08 08 34.5 +1.5**
F28M IAmb IAmb 08 08 56.9
comp=Z,12nm,1.4s
WHN Wuhan 36.69 255⇓P **P 08 08 39.3 +0.4**
WHN pmax pmax
comp=Z,56nm,0.9s
NRIK Noril'sk 37.81 327 LR LR 08 26 28.6
comp=Z,173nm,18.5s,baz=58,slow=40
NRIK Noril'sk 37.81 327*ce*P **P 08 08 46.4 -1.7**
NRIK pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 38.37 34 P **P 08 08 53.9 +1.1**
comp=Z,2.5nm,0.8s,baz=280,slow=4.5,SNR=7.1
comp=Z,2.5nm,0.8s
LZH Lanzhou 40.02 271 *e*P **P 08 09 08.1 +1.0**
LZH pP pP 08 09 20.4 +0.5
LZH pmax pmax
comp=Z,22nm,1.4s
LZH LR LR
comp=N,240nm,12.7s
LZH LR LR
comp=E,180nm,12.4s
LZH LR LR
comp=Z,160nm,11.3s
A36M Sachs Harbour 40.64 28 P **P 08 09 11.6 0.0**
A36M IAmb IAmb 08 09 27.2
comp=Z,9.2nm,0.9s
ZALV Zalesovo Beam 42.98 305 P **P 08 09 28.1 -2.7**
comp=Z,1.1nm,0.2s,baz=69,slow=7.9,SNR=8.4
ZALV LR LR 08 27 27.5
comp=Z,68nm,20.4s,baz=98,slow=36
comp=Z,1.1nm,0.2s
GOMU GeErMu 45.85 278 P **P 08 09 54.4 -0.2**
GOMU pP pP 08 09 58.0 -10
GOMU sP sP 08 10 00.6 -13
GOMU PP **PcP 08 11 27.5 -3.6**
GOMU S S 08 16 03.1 -32
GOMU sS sS 08 16 23.0 -33
GOMU ScS ScS 08 18 12.1 -94
GOMU GeErMu 45.85 278 SS SS 08 19 56.6 -3.4
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU LR LR
comp=N,420nm,10.5s
GOMU LR LR
comp=E,430nm,11.7s
GOMU LR LR
comp=Z,670nm,13.5s
EUNU Eureka 46.25 12 P **P 08 09 57.5 +0.8**
EUNU IAmb IAmb 08 09 59.9
comp=Z,7.5nm,1.0s
PZH PanZhiHua 47.54 262 P **P 08 10 08.6 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
YKA Yellowknife Ar 47.62 39 P **P 08 10 08.8 +1.3**
comp=Z,1.1nm,0.9s,baz=295,slow=7.8,SNR=12
YKA PcP **PcP 08 11 38.4 +2.1**
comp=Z,0.1nm,0.3s,baz=277,slow=4.0,SNR=1.6
comp=Z,1.1nm,0.9s
MK31 Makanchi Array 47.77 297 P **P 08 10 08.2 -0.8**
MK31 Makanchi Array 47.77 297 *i* P **P 08 10 07.5 -1.5**
MKAR Makanchi Array 47.77 297 P **P 08 10 07.8 -1.2**
MKAR Makanchi Array 47.77 297 P **P 08 10 08.4 -0.6**
comp=Z,2.2nm,0.7s,baz=64,slow=8.2,SNR=20
MKAR PcP **PcP 08 11 37.8 +0.5**
comp=Z,1.1nm,1.0s,baz=97,slow=2.9,SNR=2.4
MKAR LR LR 08 31 31.3
comp=Z,314nm,19.5s,baz=331,slow=38
comp=Z,2.2nm,0.7s
MKAR Makanchi Array 47.77 297 *i* P **P 08 10 08.3 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay 47.77 20 P **P 08 10 09.1 +0.6**
comp=Z,2.1nm,0.8s,baz=321,slow=5.7,SNR=8.1
comp=Z,2.1nm,0.8s
KURK Kurchatov 47.84 303 P **P 08 10 08.9 -0.4**
KURK IAmb IAmb 08 10 09.9
comp=Z,9.8nm,0.8s
KURK Kurchatov 47.84 303*ce*P **P 08 10 07.7 -1.7**
KURK pmax pmax
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 47.93 303 P **P 08 10 09.4 -0.7**
comp=Z,7.0nm,0.9s,baz=62,slow=7.7,SNR=27
KURBB PcP **PcP 08 11 38.5 +0.8**
comp=Z,1.7nm,0.8s,baz=64,slow=3.6,SNR=7.2
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 50.55 350 P **P 08 10 28.6 -1.2**
comp=Z,18nm,1.1s,baz=56,slow=7.4,SNR=9.3
comp=Z,18nm,1.1s
BVAR Borovoye Array 50.99 309 P **P 08 10 32.7 -0.7**
comp=Z,2.7nm,0.2s,baz=68,slow=8.2,SNR=20
BVAR LR LR 08 32 44.6
comp=Z,84nm,19.9s,baz=338,slow=37
comp=Z,2.7nm,0.2s
BRVK Borovoye 51.02 309 *i* P **P 08 10 32.8 -0.8**
BRVK pmax pmax
comp=Z,12nm,1.1s
PHRA Phrae 54.22 256 P **P 08 10 59.4 +1.7**
SHL Shillong 54.62 269 P **P 08 11 00.8 0.0**
SHL IAmb IAmb 08 11 03.1
comp=Z,11nm,1.0s
SHL Shillong 54.62 269 P **P 08 11 00.8 0.0**
SHL pmax pmax
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 54.67 65 LR LR 08 31 01.0
comp=Z,56nm,21.1s,baz=344,slow=32
AAK Ala-Archa 54.70 296 P **P 08 11 00.3 -0.8**
comp=Z,0.6nm,0.3s,baz=15,slow=12,SNR=3.5
AAK LR LR 08 35 60.0
comp=Z,263nm,19.1s,baz=39,slow=38
comp=Z,0.6nm,0.3s
AAK Ala-Archa 54.70 296 *i* P **P 08 10 58.1 -3.0**
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 54.70 296 P **P 08 11 00.8 -0.3**
ARTI Arti 54.77 318 P **P 08 11 00.0 -1.2**
ARTI IAmb IAmb 08 11 01.5
comp=Z,10nm,0.8s
ARTI Arti 54.77 318 P **P 08 10 59.4 -1.8**
comp=Z,12nm,0.8s,baz=55,slow=3.8,SNR=10
ARTI LR LR 08 36 20.9
comp=Z,86nm,19.0s,baz=26,slow=38
comp=Z,12nm,0.8s
ARTI Arti 54.77 318*c* *i*P **P 08 11 00.0 -1.2**
ARTI 08 13 00.8
ARTI S **S 08 18 38.1 +0.2**
ARTI pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 54.81 258 P **P 08 11 03.1 +1.1**
CHTO Chiang Mai 54.81 258 P **P 08 11 03.1 +1.1**
CHTO pmax pmax
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 55.08 257 P **P 08 11 04.7 +0.8**
CMAR Chiang Mai Arr 55.08 257 P **P 08 11 04.9 +1.0**
comp=Z,1.3nm,0.4s,baz=25,slow=6.8,SNR=20
CMAR LR LR 08 36 19.8
comp=Z,60nm,19.2s,baz=105,slow=38
comp=Z,1.3nm,0.4s
CMAR Chiang Mai Arr 55.08 257 P **P 08 11 04.7 +0.8**
ARCES ARCESS Array B 56.22 341 P **P 08 11 10.1 -1.3**
comp=Z,4.0nm,1.0s,baz=34,slow=6.9,SNR=7.6
ARCES LR LR 08 37 38.5
comp=Z,136nm,20.9s,baz=13,slow=38
comp=Z,4.0nm,1.0s
BRDH Bariadhala 56.78 267 LR LR 08 36 57.9
comp=Z,90nm,18.6s,baz=142,slow=38
KIRV Kirov 57.11 323 LR LR 08 41 04.6
comp=Z,85nm,18.8s,baz=7.4,slow=42
SUMG Summit 58.05 5 P **P 08 11 24.4 -0.4**
SUMG IAmb IAmb 08 11 27.3
comp=Z,10nm,1.0s
SUMG Summit 58.05 5 P **P 08 11 24.4 -0.4**
SUMG pmax pmax
comp=Z,10.0nm,1.0s
HNR Honiara 58.49 176 LR LR 08 34 10.4
comp=Z,41nm,20.1s,baz=3.0,slow=33
ABKAR Akbulak array 58.51 310 P **P 08 11 27.1 -0.7**
ABKAR Akbulak array 58.51 310 P **P 08 11 26.6 -1.3**
ABKAR IAmb IAmb 08 11 29.5
comp=Z,10nm,1.1s
AKTO Aktyubinsk 58.70 312 P **P 08 11 28.0 -1.1**
comp=Z,0.9nm,0.3s,baz=38,slow=4.3,SNR=6.1
comp=Z,0.9nm,0.3s
NVAR Mina Array Bea 59.37 65 P **P 08 11 36.2 +2.0**
comp=Z,0.5nm,0.8s,baz=310,slow=5.2,SNR=2.4
comp=Z,0.5nm,0.8s
GAR Garm 59.45 295 P **P 08 11 34.4 -0.3**
GAR IAmb IAmb 08 11 35.2
comp=Z,8.2nm,1.0s
ELK Elko 59.66 62 LR LR 08 38 53.5
comp=Z,57nm,18.0s,baz=357,slow=37
CHGR Chuyangaron 60.36 296 P **P 08 11 40.9 +0.1**
CHGR Chuyangaron 60.36 296 P **P 08 11 40.9 +0.1**
CHGR pmax pmax
comp=Z,9.0nm,0.7s
SIMJ Simiganj 60.44 296 P **P 08 11 41.5 0.0**
SIMJ IAmb IAmb 08 11 43.8
comp=Z,8.3nm,1.0s
LAO LASA Array 60.68 52 P **P 08 11 44.1 +1.2**
LAO IAmb IAmb 08 11 46.3
comp=Z,5.0nm,1.0s
NIL Nilore 61.19 289 P **P 08 11 46.6 +0.1**
NIL Nilore 61.19 289 P **P 08 11 46.6 +0.1**
NIL pmax pmax
comp=Z,11nm,0.9s
PD31 Pinedale Array 61.53 57 P **P 08 11 50.4 +1.5**
PD31 IAmb IAmb 08 11 51.9
comp=Z,5.1nm,1.4s
PDAR Pinedale Array 61.53 57 P **P 08 11 50.8 +1.8**
comp=Z,1.0nm,0.9s,baz=336,slow=3.3,SNR=7.5
comp=Z,1.0nm,0.9s
FRB Frobisher Bay 61.97 21 LR LR 08 43 29.3
comp=Z,89nm,18.4s,baz=80,slow=40
BELG Belogornoye 62.12 319 *i* P **P 08 11 50.9 -1.5**
BELG pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 62.71 336 P **P 08 11 55.2 -1.0**
comp=Z,0.8nm,0.5s,baz=33,slow=7.3,SNR=5.0
FINES LR LR 08 41 52.4
comp=Z,112nm,18.1s,baz=291,slow=39
comp=Z,0.8nm,0.5s
PFO Pinyon Flats O 63.69 68 *i* P **P 08 12 00.9 -2.4**
OBN Obninsk 64.48 326 *e*P **P 08 12 05.8 -2.1**
OBN pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 66.56 342 P **P 08 12 21.4 0.0**
comp=Z,0.3nm,0.4s,baz=28,slow=6.0,SNR=6.6
NOA LR LR 08 46 10.5
comp=Z,94nm,19.0s,baz=280,slow=40
comp=Z,0.3nm,0.4s
HFS Hagfors 66.87 341 P **P 08 12 23.1 -0.2**
comp=Z,0.9nm,0.3s,baz=40,slow=2.8,SNR=14
comp=Z,0.9nm,0.3s
ECSD EROS Data Cent 67.59 49 P **P 08 12 29.0 +0.9**
ECSD IAmb IAmb 08 12 37.1
comp=Z,10.0nm,1.4s
ANMO Albuquerque 68.69 61 LR LR 08 42 04.5
comp=Z,50nm,19.1s,baz=188,slow=35
MSVF Nonsavu 69.39 158 LR LR 08 36 03.6
comp=Z,55nm,21.4s,baz=178,slow=30
SCHQ Schefferville 70.15 25 P **P 08 12 44.7 +0.8**
comp=Z,0.9nm,0.4s,baz=306,slow=6.2,SNR=5.9
comp=Z,0.9nm,0.4s
KIV Kislovodsk 70.61 315 *e*P **P 08 12 45.8 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 70.67 328 P **P 08 12 46.0 -1.1**
comp=Z,0.7nm,0.3s,baz=34,slow=6.9,SNR=5.8
AKASG LR LR 08 46 11.9
comp=Z,96nm,19.8s,baz=28,slow=38
comp=Z,0.7nm,0.3s
KBZ Khabaz 70.69 315 P **P 08 12 47.4 +0.1**
comp=Z,2.4nm,0.8s,baz=84,slow=6.1,SNR=6.5
KBZ LR LR 08 48 56.6
comp=Z,109nm,18.0s,baz=344,slow=40
comp=Z,2.4nm,0.8s
DZM Mont Dzumac 71.54 170 *e*LR LR 08 34 47.4
comp=Z,124nm,26.9s
DZM Mont Dzumac 71.54 170 LR LR 08 36 09.2
comp=Z,70nm,21.4s,baz=163,slow=29
WRA Warramunga Arr 71.60 202 P **P 08 12 53.1 +0.1**
comp=Z,1.5nm,0.9s,baz=18,slow=6.5,SNR=6.2
comp=Z,1.5nm,0.9s
GNI Garni 72.56 312 LR LR 08 51 10.6
comp=Z,70nm,18.7s,baz=359,slow=41
TX31 Lajitas Ar. Si 74.38 63 P **P 08 13 10.7 +1.0**
TXAR Lajitas Array 74.39 63 P **P 08 13 11.2 +1.5**
comp=Z,0.4nm,0.5s,baz=297,slow=5.1,SNR=14
comp=Z,0.4nm,0.5s
EKA Eskdalemuir Ar 74.41 348 P **P 08 13 09.9 +0.7**
comp=Z,0.7nm,0.3s,baz=19,slow=5.0,SNR=12
comp=Z,0.7nm,0.3s
BUR08 Bucovina Ar. S 74.67 328 P **P 08 13 10.9 -0.1**
CLL Collm 75.07 337 *i* P **P 08 13 13.8 +0.7**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 75.07 337 *i* P **P 08 13 13.8 +0.7**
comp=Z,6.0nm,1.0s
MORC Moravsky Berou 75.23 334 *e*P **P 08 13 14.7 +0.6**
ASAR Alice Springs 75.29 201 P **P 08 13 15.2 +0.5**
comp=Z,0.6nm,0.9s,baz=22,slow=4.7,SNR=4.4
comp=Z,0.6nm,0.9s
VRAC Vranov 75.92 334 LR LR 08 48 54.5
comp=Z,151nm,18.6s,baz=338,slow=37
VRAC Vranov 75.92 334 *e*P **P 08 13 19.1 +1.0**
JAVC Velka Javorina 76.01 333 *e*P **P 08 13 20.4 +1.8**
KRUC Moravsky 76.20 334 *e*P **P 08 13 20.5 +0.9**
MLR Muntele Rosu 76.25 327 LR LR 08 50 40.6
comp=Z,112nm,18.2s,baz=24,slow=39
ILGA Ilgaz 76.91 319 P **P 08 13 24.3 +0.2**
KHC Kasperske Hory 76.92 336 *e*P **P 08 13 25.2 +1.5**
KHC Kasperske Hory 76.92 336 *e*P **P 08 13 25.2 +1.5**
BANOM Banah 77.00 295 *i* P **P 08 13 25.1 +0.5**
SNR=6.8
SHME Shamm 77.00 295 P **P 08 13 24.9 +0.4**
GERES GERESS Array B 77.14 336 P **P 08 13 25.1 0.0**
comp=Z,1.3nm,0.8s,baz=31,slow=11,SNR=5.2
GERES LR LR 08 51 18.0
comp=Z,243nm,18.3s,baz=316,slow=39
comp=Z,1.3nm,0.8s
BTNL Ternell 77.35 341 *d*P **P 08 13 27.6 +1.5**
CONA Conrad Observa 77.38 334 *e*P **P 08 13 27.9 +1.5**
comp=Z,8.9nm,1.1s
RONA Rosalia, Austr 77.46 334 *e*P **P 08 13 28.7 +1.9**
comp=Z,11nm,1.4s
BCLA Clavier 77.68 342 *d*P **P 08 13 27.7 -0.2**
BNN Bunyan 77.78 317 P **P 08 13 29.1 +0.3**
UOSS Minazif 77.79 294 P **P 08 13 28.6 -0.3**
UOSS Minazif 77.79 294 *i* P **P 08 13 29.3 +0.3**
SNR=8.5
BMRD Maredsous 77.90 342 *d*P **P 08 13 29.0 -0.1**
comp=Z,6.3nm,0.9s
HATD Hatta, Dubai 77.92 294 *i* P **P 08 13 31.0 +1.3**
SNR=11
BR131 Keskin Array S 78.04 318 P **P 08 13 30.5 +0.2**
BR131 IAmb IAmb 08 13 32.0

comp=Z,8.1nm,1.0s
BR131 Keskin Array S 78.04 318 P **P 08 13 30.5 +0.2**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 78.04 318 P **P 08 13 30.2 -0.1**
BRTR Keskin Array B 78.04 318 P **P 08 13 30.8 +0.5**
comp=Z,5.6nm,1.0s,baz=66,slow=3.0,SNR=20
comp=Z,5.6nm,1.0s
BRTR Keskin Array B 78.04 318 P **P 08 13 30.2 -0.1**
ASHO Ashiyiah 78.07 294 *i* P **P 08 13 31.3 +0.7**
SNR=9.5
ARSA Arzberg 78.09 334 *e*P **P 08 13 32.3 +2.1**
comp=Z,7.6nm,1.2s
DOU Dourbes 78.13 342 *d*P **P 08 13 31.5 +1.1**
comp=Z,4.4nm,1.0s
SOHO SOHO 78.20 293 *i* P **P 08 13 31.6 +0.4**
SNR=7.0
BIOA Bad Ischl, Aus 78.22 335 *e*P **P 08 13 33.4 +2.4**
comp=Z,2.3nm,0.4s
ASUD Al Ashush, Dub 78.55 294 *i* P **P 08 13 35.0 +1.8**
SNR=6.3
LESA Schwarzleotal 78.72 336 *e*P **P 08 13 36.0 +2.2**
comp=Z,7.5nm,1.3s
ALNE Al Ain 78.72 294 *i* P **P 08 13 35.0 +0.9**
SNR=8.2
SOKA Soboth 78.75 334 *e*P **P 08 13 35.1 +1.1**
comp=Z,12nm,1.1s
KBA Koelnbreinsper 78.86 335 *e*P **P 08 13 36.3 +1.6**
comp=Z,21nm,0.9s
OBKA Obir 79.04 334 *e*P **P 08 13 36.9 +1.2**
comp=Z,6.6nm,1.0s
WATA Walderalm 79.09 336 *e*P **P 08 13 38.1 +2.1**
comp=Z,15nm,1.2s
WTTA Wattenberg 79.14 336 *e*P **P 08 13 38.1 +1.8**
comp=Z,22nm,1.1s
RETA Reutte 79.17 337 *e*P **P 08 13 37.7 +1.4**
comp=Z,4.8nm,1.0s
MOTA Moosalm 79.21 337 *e*P **P 08 13 38.0 +1.4**
comp=Z,14nm,0.9s
SQTA Sankt Quirin 79.30 337 *e*P **P 08 13 38.4 +1.3**
comp=Z,16nm,1.1s
ABTA Abfaltersbach 79.39 336 *e*P **P 08 13 38.8 +1.3**
comp=Z,7.9nm,1.0s
DAVA Damuels 79.57 338 *e*P **P 08 13 40.3 +1.7**
comp=Z,7.6nm,0.7s
FETA Feichten 79.61 337 *e*P **P 08 13 40.6 +1.8**
comp=Z,10nm,1.1s
TAOE Nuku Hiva Isla 79.98 116 *e*LR LR 08 38 41.1
comp=Z,130nm,22.1s
FUORN Ofenpass-Fuorn 80.10 337 P **P 08 13 42.9 +1.3**
FUORN IAmb IAmb 08 13 44.1
comp=Z,7.7nm,0.9s
RDO Rodhopi 80.14 325 P **P 08 13 42.2 +0.6**
RDO IAmb IAmb 08 13 43.3
comp=Z,9.9nm,1.0s
ALN Alexandroupoli 80.16 324 P **P 08 13 41.8 +0.1**
ALN IAmb IAmb 08 13 43.1
comp=Z,13nm,1.1s
ALN Alexandroupoli 80.16 324 P **P 08 13 41.8 +0.1**
ALN pmax pmax
comp=Z,13nm,1.1s
RAR Rarotonga 80.24 139 LR LR 08 42 57.2
comp=Z,84nm,19.5s,baz=314,slow=31
TUE Stuetta 80.47 338 P **P 08 13 44.4 +0.9**
TUE IAmb IAmb 08 13 45.8
comp=Z,9.9nm,0.8s
MZR Muzera 80.88 295 *i* P **P 08 13 46.5 +0.7**
SNR=11
MANT Manisa 81.22 321 P **P 08 13 48.1 +0.4**
STKA Stephens Creek 81.81 193 LR LR 08 51 25.2
comp=Z,31nm,18.4s,baz=19,slow=36
FDMO Fiordimonte 82.64 334 P **P 08 13 55.4 +0.6**
MMAI Mount Meron Ar 82.76 313 P **P 08 13 56.5 +0.9**
comp=Z,1.4nm,0.3s,baz=34,slow=6.1,SNR=13
comp=Z,1.4nm,0.3s
NRCA Norcia 82.82 334 P **P 08 13 56.8 +1.0**
ARG Arkhangelos 83.34 320 P **P 08 13 58.9 +0.4**
ARG Arkhangelos 83.34 320 P **P 08 13 58.9 +0.4**
ARG pmax pmax
comp=Z,31nm,1.1s
RAYN Ar Rayn 85.11 301 P **P 08 14 08.0 +0.2**
RAYN Ar Rayn 85.11 301 P **P 08 14 08.0 +0.2**
RAYN pmax pmax
comp=Z,11nm,1.0s
RAYN Ar Rayn 85.11 301 P **P 08 14 08.3 +0.6**
TBI Tubuai 86.83 132 *e*LR LR 08 41 48.7
comp=Z,613nm,29.0s
KEST Kesra 90.48 334 LR LR 08 58 29.2
comp=Z,178nm,19.1s,baz=12,slow=38
CPUP Villa Florida 145.34 61 PKPbc **PKPbc 08 21 08.1 -0.8**
comp=Z,1.8nm,0.9s,baz=329,slow=5.9,SNR=3.9
PLCA Paso Flores 146.20 94 PKPbc **PKPbc 08 21 12.1 +0.8**
comp=Z,1.9nm,0.9s,baz=320,slow=6.3,SNR=3.9

HEL 22 08:04:59.8, 67°.77N×20°.08E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.78**	**68**	SG	Sg	08 05 23.1	-1.6
KIF	**Kilpisjarvi**	**1.27**	**12**	*e*P	Pg	08 05 22.2	-1.9
KIF	**Kilpisjarvi**	**1.27**	**12**	PG	Pg	08 05 22.7	-1.4
KIF				MSG		08 05 39.2	
comp=Z,1.9nm,0.2s							
KIF				SG	Sg	08 05 40.6	0.0
PAJU	**Pajala**	**1.39**	**121**	PN	Pg	08 05 26.1	-0.3
baz=305							
PAJU				SN	Sg	08 05 44.4	0.0
HEF	**Hetta**	**1.49**	**63**	*e*P	Pn	08 05 26.4	-1.5
HEF	**Hetta**	**1.49**	**63**	PG	Pn	08 05 26.7	-1.1
baz=243							
HEF				MSG		08 05 44.6	
comp=Z,1.7nm,0.2s							
HEF				SG	Sg	08 05 46.4	-1.3
KLF	**Kolari**	**1.59**	**108**	MSG		08 05 47.5	
comp=Z,0.8nm,0.2s							
KLF				SN	Sg	08 05 51.3	+0.5
KTK1	**Kautokeino**	**1.71**	**42**	PG	Pn	08 05 31.1	+0.2
KTK1				SG	Sn	08 05 52.9	-0.5
TRO	**Tromso**	**1.92**	**348**	SG	Sb	08 06 00.7	+0.6
TOF	**Tornio**	**2.38**	**133**	MSG		08 06 10.3	
comp=Z,1.1nm,0.2s							
TOF				SG	Sb	08 06 13.5	+0.1
RNF	**Rovaniemi**	**2.59**	**114**	PG	Pb	08 05 46.0	-1.0
RNF				SG	Sb	08 06 19.1	-0.3
RAJF	**Raja-Jooseppi**	**3.17**	**73**	SG	Sb	08 06 34.8	-1.1
RANF	**Ranua**	**3.18**	**121**	SG	Sb	08 06 38.8	+2.5
KEV	**Kevo**	**3.22**	**48**	SN	Sn	08 06 32.2	+1.7

IDC 22 08:05:12.0±2.2, 54°.63N×83°.83E, h0km, mbtmp2.5/2, ML2.5/2, Error ellipse: s-maj=18.3km s-min=10.8km az=168.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**139**	I	I	08 10 50.0	
0.2nm,0.8s,baz=318,slow=340,SNR=6.6							
ZALV	**Zalesovo Beam**	**0.90**	**139**	Pg	Pg	08 05 27.7	-1.4
2.1nm,0.3s,baz=317,slow=15,SNR=9.2							
ZALV				Lg	Lg	08 05 42.5	
4.4nm,0.3s,baz=320,slow=29,SNR=5.0							
KURBB	**Kurchatov Arra**	**5.15**	**221**	Pn	Pn	08 06 29.9	-0.4
0.1nm,0.3s,baz=40,slow=13,SNR=8.9							
KURBB				Lg	Lg	08 07 57.6	
0.1nm,0.3s,baz=36,slow=29,SNR=5.4							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.91**	**188**	Pn	Pn	08 07 09.8	+1.6
0.1nm,0.3s,baz=11,slow=13,SNR=2.2							
0.1nm,0.4s							

*KOLA **22** 08:06:03.7, 67°.65N×33°.88E, h0km, ML1.3, Error ellipse: s-maj=4.8km s-min=3.5km az=90.0, Khibiny, mines Rasvumchorr, Central*

HEL 22 08:06:04.1, 67°.60N×33°.92E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.20**	**263**	P	Pg	08 06 07.5	-0.4
APA0	**Apatity Array**	**0.35**	**272**	P	Pg	08 06 10.1	-0.8
APA0				S	Sg	08 06 14.6	-0.8
LVZ	**Lovozero**	**0.41**	**42**	SG	Sg	08 06 17.1	-0.3
KVDA	**Kovda**	**0.99**	**205**	P	Pg	08 06 21.6	-1.5
KVDA				S	Sg	08 06 35.9	0.0
VRF	**Varrio**	**1.65**	**277**	PN	Pn	08 06 34.3	0.0
VRF				MSG		08 06 53.6	
comp=Z,2.4nm,0.2s							
VRF				SG	Sn	08 06 54.5	-1.7
KU6	**Riekki**	**2.24**	**227**	PG	Pb	08 06 44.0	-1.4
baz=43							
KU6				MSG		08 07 10.4	
comp=Z,0.8nm,0.2s							
KU6				SG	Sb	08 07 14.2	+0.6
RAJF	**Raja-Jooseppi**	**2.29**	**295**	SG	Sn	08 07 13.2	+1.4
MSF	**Maaselka**	**2.57**	**231**	PG	Pb	08 06 50.4	-0.5
VADS	**Vadso**	**3.03**	**329**	S	Sn	08 07 28.1	-2.0
KEV	**Kevo**	**3.33**	**314**	PB	Pn	08 06 57.6	+0.3

MEX 22 08:06:26.5±3.2, 16°.46N×95°.16W, h92km±35km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.53**	**79**	*e*P	Pn	08 06 34.7	-6.9
NILT				*e*S	Sn	08 06 41.9	-11
CMIG	**Matias Romero**	**0.68**	**23**	*i* P	Pn	08 06 37.4	-5.6
CMIG				*e*S	Sn	08 06 45.9	-9.3
HUIG	**Huatulco**	**1.15**	**233**	*e*P	Pn	08 06 46.5	-1.5
HUIG				*i* S	Sn	08 07 01.9	-2.3
CARR	**Arriaga**	**1.21**	**100**	*i* P	Pn	08 06 47.4	-1.4
CARR				*i* S	Sn	08 07 03.3	-2.3
UXUV	**UXUV**	**1.29**	**49**	*e*P	Pn	08 06 48.3	-1.4
UXUV				*e*S	Sn	08 07 05.2	-2.0
NEUV	**Arroyo Zacate**	**1.39**	**334**	*e*P	Pn	08 06 50.4	-0.5
NEUV				*i* S	Sn	08 07 08.5	-0.9
VHO	**Vista Hermosa**	**1.63**	**292**	*e*P	Pn	08 06 53.9	-0.3
VHO				*i* S	Sn	08 07 17.1	+2.0
PEIG	**Puerto Escondi**	**1.97**	**257**	*e*P	Pn	08 06 59.0	+0.6
PEIG				*e*S	Sn	08 07 25.7	+3.0
TGIG		**1.97**	**81**	*e*P	Pn	08 07 00.2	+1.7
TGIG				*e*S	Sn	08 07 26.3	+3.4
PCIG		**2.01**	**112**	*e*P	Pn	08 06 59.1	+0.3
PCIG				*i* S	Sn	08 07 25.7	+2.2
YOIG	**Yosondua**	**2.32**	**280**	*e*P	Pn	08 07 06.8	+3.5
TOIG	**Toxpalan**	**2.44**	**312**	*e*P	Pn	08 07 07.9	+3.2
TOIG				*e*S	Sn	08 07 39.0	+5.0
TXIG	**Tlaxiaco**	**2.62**	**288**	*e*P	Pn	08 07 12.4	+5.1
TXIG				*i* S	Sn	08 07 42.8	+4.2
HLIG	**Huajuapan de L**	**2.87**	**299**	*e*P	Pn	08 07 16.5	+5.9
HLIG				*i* S	Sn	08 07 52.9	+8.4
PATR	**El Naranjo**	**3.12**	**115**	*e*P	Pn	08 07 14.3	+0.5
PATR				*e*S	Sn	08 07 51.3	+1.0
PAVE	**Pavencul**	**3.13**	**113**	*e*P	Pn	08 07 16.9	+2.9
PAVE				*e*S	Sn	08 07 52.3	+1.6
FTIG	**Fresnillo de T**	**3.19**	**297**	*e*P	Pn	08 07 21.5	+6.7
JAUV	**Jalcomulco**	**3.29**	**332**	*e*P	Pn	08 07 14.4	-1.6
JAUV				*e*S	Sn	08 07 53.2	-1.0
MGIG	**Malinaltepec**	**3.42**	**283**	*e*P	Pn	08 07 21.8	+4.0
TLIG	**Tlapa**	**3.44**	**289**	*e*P	Pn	08 07 27.6	+10

DJA 22 08:07:10.6±0.5, 9°S±3°×12°4E±°, h84km±8km, M3.7/7, mB4.9/1, mb4.0/4, MLv3.5/7, Mw(mB)4.2/1, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.93**	**142**	P	Pn	08 07 29.6	+0.3
BATI	**Baumata**	**1.19**	**181**	P	Pn	08 07 32.1	-0.1
BATI				S	Sn	08 07 49.9	+1.4
MMRI	**Maumere**	**1.48**	**284**	P	Pn	08 07 35.4	-0.5
MMRI				S	Sn	08 07 53.7	-1.3
BASI	**Baing, Sumba**	**3.30**	**248**	P	Pn	08 08 01.4	+1.4
PLAI	**Plampang**	**5.85**	**271**	P	Pn	08 08 34.8	0.0
0.1nm11nm,0.7s							
SPSI	**Sidrap Palu**	**6.35**	**322**	P	Pn	08 08 42.9	+1.3
0.1nm9.6nm,0.7s							
TWSI	**Taliwang, Sumb**	**6.73**	**272**	P	Pn	08 08 46.8	-0.1
0.1nm1μm8.1nm,0.7s							

*ASRS **22** 08:29:38.0±0.6, 54°.04N×86°.58E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC 22 08:29:44.3±2.8, 53°.91N×86°.55E, h0km, mb3.5, mpv3.2, 5C-4D, Error ellipse: s-maj=22.5km s-min=17.2km az=6.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.82**	**240**	⇑Pn	Pn	08 31 11.6	-0.1
7.3nm,2.0s							
KURK				⇓Sn	Sn	08 32 20.8	+1.8
2.5nm,1.0s							
KURK				⇑Lg	Lg	08 32 50.5	
9.5nm,1.2s							
KURBB	**Kurchatov Arra**	**5.92**	**239**	⇓Pn	Pn	08 31 12.7	-0.4
2.2nm,0.5s							
KURBB				⇓Sn	Sn	08 32 22.4	+0.9
1.8nm,0.7s							
KURBB				⇑Lg	Lg	08 32 51.1	
9.6nm,1.2s							
MK31	**Makanchi Array**	**7.62**	**203**	⇑Pn	Pn	08 31 37.2	+0.7
0.2nm,0.5s,baz=24,slow=13							
MK31				⇓Sn	Sn	08 33 04.1	+0.6
0.4nm,0.6s,baz=18,slow=24							
MK31				⇑Lg	Lg	08 33 47.6	
4.7nm,1.3s							

IDC 22 08:30:47.1±2.2, 54°.62N×83°.74E, h0km, mbtmp2.4/2, ML2.2/2, Error ellipse: s-maj=18.1km s-min=10.8km az=167.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**136**	I	I	08 36 18.7	
0.1nm,0.8s,baz=317,slow=338,SNR=5.4							
ZALV	**Zalesovo Beam**	**0.92**	**136**	Pg	Pg	08 31 04.3	-0.5
1.9nm,0.3s,baz=316,slow=14,SNR=7.9							
ZALV				Lg	Lg	08 31 18.5	
5.8nm,0.3s,baz=316,slow=28,SNR=14							
KURBB	**Kurchatov Arra**	**5.11**	**221**	Pn	Pn	08 32 05.5	+0.7
0.1nm,0.3s,baz=41,slow=13,SNR=5.6							
KURBB				Lg	Lg	08 33 29.5	
0.1nm,0.3s,baz=36,slow=30,SNR=2.2							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.89**	**187**	Pn	Pn	08 32 42.1	-0.9
0.1nm,0.3s,baz=9.1,slow=12,SNR=1.7							
0.2nm,0.5s							

*NEIC **22** 08:40:43.0±1.6, 61°.35N±0°.03×150°.02W±0°.03, h38km±15km, Error ellipse: s-maj=4.4km s-min=1.7km az=157.0*

AEIC 22 08:40:43.6±1.4, 61°.35N±0°.03×149°.98W±0°.05, h39km±8km, ML2.7, ML2.8/160(NEIC), Error ellipse: s-maj=3.9km s-min=3.4km az=129.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIS	**Fire Island**	**0.24**	**209**		Pn	08 40 51.1	-0.4
RC01	**Rabbit Creek A**	**0.29**	**156**		Pn	08 40 50.9	-0.9
RC01				IAML		08 40 57.5	
comp=N,1μm,0.1s							
RC01				IAML		08 40 58.6	
comp=E,888nm,0.1s							
M22K	**Willow**	**0.41**	**351**		Pn	08 40 51.8	-1.2
M22K				IAML		08 41 00.5	
comp=E,705nm,0.3s							
M22K				IAML		08 41 00.6	
comp=N,767nm,0.3s							
PMR	**Palmer**	**0.47**	**59**		Pn	08 40 52.4	-1.5
PMR					Sn	08 41 00.3	-0.9
PMR				IAML		08 41 01.4	
comp=E,932nm,0.2s							
PMR				IAML		08 41 01.5	
comp=N,1μm,0.2s							
GHO	**Glory Hole Cre**	**0.66**	**50**		Pn	08 40 55.3	-1.3
GHO				Sn	Sn	08 41 04.7	-1.1
GHO				IAML		08 41 06.8	
comp=N,536nm,0.2s							
GHO				IAML		08 41 07.0	
comp=E,779nm,0.3s							
KNK	**Knik Glacier**	**0.73**	**84**		Pn	08 40 56.6	-0.9
KNK				Sn	Sn	08 41 07.9	+0.4
KNK				IAML		08 41 10.6	
comp=N,584nm,0.5s							
KNK				IAML		08 41 11.6	
comp=E,498nm,0.2s							
CAPN	**Captain Cook N**	**0.82**	**225**		Pn	08 40 58.3	-0.3
SLKM	**Skilak Lake**	**0.85**	**188**		Pn	08 40 57.8	-1.4
SLKM					Sn	08 41 10.2	-0.3
O22K	**Cooper Landing**	**0.88**	**172**		Pn	08 40 58.4	-1.1
STLK	**Strandline Lak**	**0.90**	**280**		Pn	08 40 58.5	-1.4
STLK					Sn	08 41 10.6	-1.1
SML	**Sawmill**	**0.91**	**59**		Pn	08 40 58.8	-1.1
SML				IAML		08 41 14.3	
comp=N,245nm,0.5s							
SML				IAML		08 41 14.5	
comp=E,254nm,0.8s							
PWL	**Port Wells**	**0.94**	**121**		Pn	08 40 59.9	-0.4
SKT	**Skwentna**	**0.97**	**311**		Pn	08 40 59.2	-1.6
SKT				IAML		08 41 13.4	
comp=E,402nm,0.5s							
SPU	**Mount Spurr**	**1.02**	**261**		Pn	08 40 59.7	-1.6
SPU				IAML		08 41 14.7	
comp=N,157nm,0.3s							
SPU				IAML		08 41 20.9	
comp=E,179nm,0.3s							
CUT	**Chulitna**	**1.07**	**353**		Pn	08 41 01.3	-0.7
CUT				IAML		08 41 17.1	
comp=E,423nm,0.4s							
SEW	**Seward**	**1.28**	**168**	Pn	Pn	08 41 04.8	-0.1
SCM	**Sheep Creek Mo**	**1.36**	**68**	Pn	Pn	08 41 05.5	-0.6
SCM				IAML		08 41 26.2	
comp=N,262nm,0.6s							
GLI	**Glacier Island**	**1.48**	**107**		Pn	08 41 06.8	-0.9
M20K	**Styx River**	**1.60**	**291**		Pn	08 41 09.1	-0.3
M20K				IAML		08 41 32.0	
comp=N,109nm,1.0s							
M20K				IAML		08 41 32.5	
comp=E,74nm,0.6s							
BRLK	**Bradley Lake**	**1.65**	**196**		Pn	08 41 08.8	-1.3
BRLK				IAML		08 41 33.2	
comp=E,129nm,0.5s							
BRLK				IAML		08 41 35.6	
comp=N,138nm,0.1s							
PPLA	**Purkeypile**	**1.87**	**327**		Pn	08 41 12.7	-0.4
HOM	**Homer**	**1.89**	**207**	Pn	Pn	08 41 12.3	-1.0
CNPM	**China Poot**	**1.93**	**199**	Pn	Pn	08 41 12.7	-1.2
CNPM				IAML		08 41 40.0	
comp=E,93nm,0.7s							
CNPM				IAML		08 41 41.1	
comp=N,126nm,0.4s							
HIN	**Hinchinbrook I**	**1.95**	**118**		Pn	08 41 13.2	-0.9
KLU	**Klutina**	**1.96**	**84**		Pn	08 41 13.7	-0.5
KLU				IAML		08 41 45.4	
comp=E,55nm,0.4s							
KLU				IAML		08 41 49.5	
comp=N,93nm,0.5s							
M24K	**Tolsona, Glenn**	**1.96**	**66**		Pn	08 41 14.7	+0.3
M24K				IAML		08 41 46.8	
comp=E,114nm,0.9s							
M24K				IAML		08 41 50.7	
comp=N,141nm,0.6s							
DIV	**Divide**	**2.05**	**94**		Pn	08 41 14.5	-1.0
ILSW	**Iliamna Southw**	**2.08**	**230**		Pn	08 41 15.6	-0.4
ILSW				IAML		08 41 45.0	
comp=E,56nm,0.9s							
ILSW				IAML		08 41 46.1	
comp=N,50nm,1.0s							
TRF	**Thorofare Moun**	**2.11**	**356**		Pn	08 41 15.9	-0.6
TRF				IAML		08 41 54.5	
comp=E,46nm,1.1s							
TRF				IAML		08 41 56.0	
comp=N,62nm,1.0s							
RND	**Reindeer**	**2.13**	**14**		Pn	08 41 16.5	-0.1
RND				IAML		08 41 54.0	
comp=N,42nm,0.9s							
M19K	**Big River Lodg**	**2.18**	**287**		Pn	08 41 16.6	-0.7
EYAK	**Cordova Ski Ar**	**2.21**	**109**		Pn	08 41 18.0	+0.3
KTH	**Kantishna Hill**	**2.25**	**349**		Pn	08 41 18.5	+0.1
KTH				IAML		08 42 08.7	
comp=E,43nm,0.7s							
KTH				IAML		08 42 13.0	
comp=N,38nm,1.0s							
N19K	**Bonanza Creek**	**2.25**	**258**		Pn	08 41 17.6	-0.8
CAST	**Castle Rocks**	**2.29**	**336**	Pn	Pn	08 41 18.3	-0.6
CAST				IAML		08 42 02.5	
comp=E,35nm,1.1s							
P19K	**Oil Pt**	**2.34**	**225**	Pn	Pn	08 41 19.9	+0.3
O19K	**Port Alsworth**	**2.42**	**243**		Pn	08 41 19.4	-1.2
MCK	**McKinley**	**2.44**	**11**		Pn	08 41 21.0	+0.2
L19K	**White Mountain**	**2.46**	**292**		Pn	08 41 20.6	-0.6
N25K	**Chitina, Valde**	**2.59**	**82**		Pn	08 41 22.8	-0.3
N25K				IAML		08 42 02.5	
comp=N,41nm,1.1s							
N25K				IAML		08 42 06.8	
comp=E,34nm,1.2s							
BMRM	**Bremner River**	**2.63**	**96**		Pn	08 41 22.2	-1.4
PAX	**Paxson**	**2.67**	**51**		Pn	08 41 24.6	+0.5
K20K	**Telida**	**2.77**	**318**		Pn	08 41 24.5	-0.9
BPAW	**Bear Paw Mtn.**	**2.80**	**351**		Pn	08 41 25.3	-0.5
N18K	**Kilae Creek**	**2.96**	**259**		Pn	08 41 27.1	-0.9
N18K				IAML		08 42 02.0	
comp=N,22nm,0.7s							
GLB	**Gilahina Butte**	**2.97**	**86**		Pn	08 41 29.2	+1.0
GLB				IAML		08 42 13.8	
comp=E,22nm,0.9s							
GLB				IAML		08 42 21.5	
comp=N,44nm,1.3s							
O18K	**Koktuh Hills**	**2.98**	**242**		Pn	08 41 27.1	-1.3
O18K				IAML		08 42 28.3	
comp=N,18nm,0.9s							
Q19K	**Cape Douglas,**	**3.04**	**219**	Pn	Pn	08 41 28.6	-0.6
VRDI	**Verde Repeater**	**3.15**	**89**		Pn	08 41 32.2	+1.4
VRDI				IAML		08 42 24.4	
comp=N,28nm,1.5s							
TTA	**Tatalina**	**3.25**	**302**	Pn	Pn	08 41 31.1	-0.8
WRH	**Wood River Hil**	**3.25**	**15**		Pn	08 41 32.2	+0.3
WRH				IAML		08 42 35.6	
comp=E,15nm,1.5s							
P18K	**Big Mountain,**	**3.26**	**235**	Pn	Pn	08 41 30.8	-1.4
NEA2	**Nenana**	**3.28**	**7**		Pn	08 41 32.4	0.0
NEA2				IAML		08 42 27.7	
comp=N,18nm,1.0s							
NEA2				IAML		08 42 28.2	
comp=E,16nm,0.8s							
L18K	**Granite Mounta**	**3.30**	**288**		Pn	08 41 32.3	-0.4
HDA	**Harding Lake**	**3.37**	**23**		Pn	08 41 34.2	+0.6
HDA				IAML		08 42 29.1	
comp=N,31nm,0.7s							
HDA				IAML		08 42 31.6	
comp=E,23nm,0.5s							
RIDG	**Independent Ri**	**3.38**	**43**		Pn	08 41 36.1	+2.4
RIDG				IAML		08 42 30.3	
comp=N,36nm,0.8s							
J20K	**Nowinta River**	**3.42**	**328**		Pn	08 41 33.6	-0.7
J20K				IAML		08 42 14.4	
comp=N,17nm,0.6s							
J20K				IAML		08 42 35.3	
comp=E,20nm,0.5s							
CCB	**Clear Creek Bu**	**3.45**	**16**		Pn	08 41 34.6	-0.1
CCB				IAML		08 42 33.0	
comp=E,16nm,0.9s							
M17K	**Holitna River**	**3.59**	**274**		Pn	08 41 36.0	-0.7
M17K				IAML		08 42 47.5	
comp=E,33nm,1.5s							
M17K				IAML		08 42 47.6	
comp=N,28nm,1.0s							
N17K	**Nushagak Hills**	**3.61**	**260**	Pn	Pn	08 41 36.0	-1.0
N17K				IAML		08 42 18.2	
comp=E,18nm,0.8s							
N17K				IAML		08 42 40.2	
comp=N,12nm,1.1s							
COLA	**College**	**3.67**	**14**		Pn	08 41 38.1	+0.4
IL31		**3.71**	**21**		Pn	08 41 39.2	+0.9
J19K	**Poorman**	**3.71**	**318**	Pn	Pn	08 41 37.8	-0.6
J19K				IAML		08 42 39.9	
comp=N,10nm,1.3s							
J19K				IAML		08 42 53.1	
comp=E,12nm,1.1s							
J18K	**Innoko River**	**3.78**	**307**	Pn	Pn	08 41 38.5	-0.9
SCRK	**Sand Creek**	**3.82**	**44**		Pn	08 41 40.6	+0.7
SCRK				IAML		08 42 41.3	
comp=E,18nm,0.6s							
SCRK				IAML		08 42 46.4	
comp=N,12nm,0.8s							
I23K	**Minto, Yukon-K**	**3.82**	**4**		Pn	08 41 40.6	+0.9
I23K				IAML		08 42 47.3	

comp=E,10nm,1.4s
I23K IAML 08 42 48.7
J25K Salcha River, 3.89 31 Pn Pn 08 41 41.4 +0.5
J25K IAML 08 42 34.5
comp=N,13nm,0.6s
J25K IAML 08 42 35.1
comp=E,18nm,0.5s
I21K Tanana 3.95 348 Pn 08 41 41.8 +0.2
I21K IAML 08 43 09.6
comp=E,8.9nm,1.4s
POKR Poker Plat Res 3.95 16 Pn Pn 08 41 42.2 +0.6
POKR IAML 08 42 50.2
comp=E,10nm,1.4s
POKR IAML 08 42 50.9
comp=N,10nm,0.5s
M27K Edge Creek, AK 3.97 72 Pn Pn 08 41 42.4 +0.4
I20K Naaghedeneel 4.02 331 Pn Pn 08 41 42.2 -0.2
ACHA Angle Creek He 4.15 223 Pn Pn 08 41 45.1 +0.7
L27K Beaver Creek, 4.19 62 Pn 08 41 44.2 -0.6
J26L Joseph Creek 4.31 40 Pn Pn 08 41 49.0 +2.4
J26L IAML 08 42 43.7
comp=E,17nm,0.4s
J26L IAML 08 42 44.1
comp=N,17nm,0.8s
H21K Melozitna Rive 4.50 345 Pn Pn 08 41 48.8 -0.4
H21K IAML 08 43 13.6
comp=E,5.6nm,1.4s
L16K Owhat River 4.56 279 Pn Pn 08 41 49.0 -0.9
L16K IAML 08 42 59.7
comp=E,6.1nm,1.3s
H24K Noodor Dome 4.60 11 Pn 08 41 50.3 -0.2
PRP Porcupine Dome 4.63 24 Pn 08 41 52.6 +1.5
PRP IAML 08 43 07.1
comp=N,9.5nm,1.1s
PRP IAML 08 43 10.9
comp=E,8.5nm,1.4s
J17K VABM Dome 4.71 300 Pn Pn 08 41 50.5 -1.4
J17K IAML 08 43 15.5
comp=E,6.4nm,1.5s
J17K IAML 08 43 18.9
comp=N,5.3nm,1.1s
I26K Coal Creek Min 5.02 35 Pn Pn 08 41 57.7 +1.5
I26K IAML 08 43 20.8
comp=E,12nm,1.4s
I26K IAML 08 43 33.7
comp=N,8.5nm,1.1s
N15K Kwethluk River 5.10 261 Pn Pn 08 41 56.8 -0.5
N15K IAML 08 43 23.7
comp=N,9.3nm,1.5s
J16K Anvik River 5.32 296 Pn Pn 08 41 59.3 -1.0
J16K IAML 08 43 32.0
comp=N,3.8nm,1.1s
J16K IAML 08 43 48.7
comp=E,3.1nm,1.3s
H18K Honhosa River 5.37 319 Pn Pn 08 42 01.0 -0.1
G23K Bananza Creek 5.38 360 Pn Pn 08 42 03.3 +2.0
I17K Unalakleet 5.56 302 Pn Pn 08 42 03.4 -0.3
DAWY Dawson 5.58 56 Pn Pn 08 42 04.0 +0.1
M14K Bethel 5.85 269 Pn Pn 08 42 07.3 -0.3
COLD Coldfoot 5.90 359 Pn Pn 08 42 08.2 -0.1
HYT Haines Junctio 6.08 89 Pn Pn 08 42 11.2 +0.3
BMAR Burnt Mountain 6.53 19 Pn Pn 08 42 17.0 -0.1
E25K Arctic Village 7.05 14 Pn Pn 08 42 24.3 +0.2

*ISN **22** 08:41:38.8±2.1, 34°.77N×46°.05E, h25km, ML2.5*
*TEH **22** 08:41:40.1, 34°.88N×46°.08E, h8km±49km*
ISC 22 08:41:39.0±1.1, 34°.87N±0°.07×46°.06E±0°.05, h10km, n9, σ0°89/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.32**	**122**	Pg	**Pb**	**08 41 46.7**	**-0.4**
IGHG	**Ghaleghazi**	**0.69**	**142**	Pg	**Pn**	**08 41 53.7**	**-1.3**
ILIN	**Lien**	**0.75**	**86**	Pg	**Pb**	**08 41 54.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.77**	**189**	Pg	**Pn**	**08 41 55.3**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.01**	**126**	Pg	**Pn**	**08 41 59.2**	**-0.2**
KCHF				Sg	**Sn**	**08 42 14.2**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.25**	**174**	Pg	**Pg**	**08 42 04.3**	**+1.2**
SNQR	**Sonqor, Kerman**	**1.29**	**90**	Pg	**Pg**	**08 42 04.7**	**+0.8**
IKRK	**Kirkuk**	**1.50**	**291**	*e*Pg	**Pn**	**08 42 05.0**	**-1.1**
IKRK	baz=114			*e*Sg	**Sg**	**08 42 28.0**	**+0.6**
IKRK				AML	AML	08 42 37.8	
IKFM	**Kafar-mosalman**	**2.00**	**132**	Pn	**Pg**	**08 42 17.2**	**-0.3**

comp=N,6.0nm,0.8s

KRSC 22 08:51:12.8±1.7, 50°.36N×156°.96E, h42km±22km, MI3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.63**	**301**	*e*P	Pn	08 51 26.3	+1.0
SKR				*e*S	Sn	08 51 36.0	+1.7
PAU	**Pauzhetka**	**1.11**	**355**	*e*P	Pn	08 51 33.3	+1.4
PAU				*e*S	Sn	08 51 48.1	+2.1
KDTR	**Khodutka, Kamc**	**1.61**	**25**	*e*P	Pn	08 51 40.8	+2.0
KDTR				*e*S	Sn	08 52 01.0	+2.7
RUS	**Russkaya**	**2.29**	**24**	*e*P	Pn	08 51 49.8	+1.8
GRL	**Gorelyy**	**2.31**	**17**	*e*P	Pn	08 51 50.7	+2.4
GRL				*e*S	Sn	08 52 18.4	+2.9
APC	**Apacha**	**2.57**	**3**	*e*P	Pn	08 51 52.4	+0.5
KRMR	**Karymshinskiy**	**2.58**	**16**	*e*P	Pn	08 51 55.9	+3.9
PET	**Petropavlovsk**	**2.87**	**21**	*e*P	Pn	08 51 58.7	+2.7
DALK	**Dalny**	**2.90**	**22**	*e*P	Pn	08 51 59.1	+2.7
UGLR	**Uglovaya**	**3.08**	**21**	*e*P	Pn	08 52 02.4	+3.4
AVH	**Avacha**	**3.11**	**20**	*e*P	Pn	08 52 03.8	+4.4
KOK	**Koryaka**	**3.12**	**19**	*e*P	Pn	08 52 03.7	+4.2
KRX	**Arik**	**3.18**	**19**	*e*P	Pn	08 52 03.8	+3.4
GNL	**Ganaly**	**3.40**	**10**	*e*P	Pn	08 52 05.6	+2.3
KMNR	**Kamenistaya**	**5.76**	**19**	*e*P	Pn	08 52 41.8	+6.1

*ASRS **22** 09:05:34.0±0.7, 54°.67N×83°.66E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 09:05:34.9±1.7, 54°.70N×83°.78E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=16.3km s-min=10.3km az=13.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**141**	I	I	09 11 15.5	
	0.2nm,0.8s,baz=319,slow=331,SNR=1.0						
ZALV	**Zalesovo Beam**	**0.97**	**141**	Pg	Pg	09 05 53.3	-0.1
	3.7nm,0.3s,baz=323,slow=19,SNR=16						
ZALV				Lg	Lg	09 06 07.7	
	11nm,0.3s,baz=325,slow=30,SNR=18						
ZALV				Rg	Rg	09 06 13.4	
	40nm,0.8s,baz=324,slow=36,SNR=14						
KURBB	**Kurchatov Arra**	**5.18**	**220**	Pn	Pn	09 06 54.0	+0.4
	0.1nm,0.3s,baz=40,slow=14,SNR=1.5						
KURBB				Lg	Lg	09 08 20.0	
	0.1nm,0.3s,baz=42,slow=29,SNR=6.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.97**	**187**	Pn	Pn	09 07 31.2	-0.7
	0.2nm,0.3s,baz=12,slow=12,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**8.09**	**264**	Pn	Pn	09 07 32.8	-0.7
	0.1nm,0.3s,baz=70,slow=14,SNR=5.0						
	0.9nm,0.4s						

*IDC **22** 09:08:46.0±15.0, 27°.54N×82°.44E, h0km, mb3.4/2, mbtmp3.5/4, ML3.4/1, MS3.8/1, Error ellipse: s-maj=402.0km s-min=40.3km az=54.0*
*DMN **22** 09:08:55.2±0.0, 28°.39N×83°.97E, h10km, ML4.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 22 09:08:54.9±1.8, 28°.38N±0°.08×83°.99E±0°.05, h6km±13km, n11, σ0°65/15, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**0.70**	**209**	Pg	**Pg**	**09 09 08.9**	**+0.5**
	baz=207,slow=0.0						
KOLN				Sg	**Sb**	**09 09 18.6**	**-1.0**
	baz=207,slow=0.0						
PYUN	**Piuthan**	**0.92**	**252**	Pg	**Pg**	**09 09 12.7**	**0.0**
	baz=252,slow=0.0						
DMN	**Daman**	**1.26**	**128**	Pg	**Pn**	**09 09 19.4**	**+0.1**
	baz=128,slow=0.0						
DMN				Sg	**Sb**	**09 09 35.6**	**-0.1**
	402nm,0.2s,baz=128,slow=0.0						
KKN	**Kakani**	**1.29**	**117**	Pg	**Pn**	**09 09 20.2**	**+0.5**
	baz=117,slow=0.0						
KKN				Sg	**Sn**	**09 09 37.4**	**+0.1**
	1μm,0.2s,baz=117,slow=0.0						
PKIN	**Phulchoki**	**1.48**	**122**	Pg	**Pg**	**09 09 23.2**	**-0.2**
	baz=122,slow=0.0						
PKIN				Sg	**Sn**	**09 09 43.1**	**+0.8**
	254nm,0.2s,baz=122,slow=0.0						
PKI	**Pulchoki**	**1.50**	**122**	Pg	**Pg**	**09 09 23.4**	**-0.3**
	baz=122,slow=0.0						
PKI				Sg	**Sn**	**09 09 43.1**	**+0.5**
	212nm,0.2s,baz=122,slow=0.0						
CMAR	**Chiang Mai Arr**	**16.90**	**123**	Pn	**P**	**09 12 53.6**	**-0.6**
	0.7nm,0.3s,baz=312,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**18.43**	**356**	P	**Pn**	**09 13 11.6**	**+0.7**
	0.1nm,0.3s,baz=181,slow=11,SNR=7.9						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**22.59**	**351**	**P**	**P**	**09 13 55.0**	**-1.0**
	0.4nm,0.4s,baz=174,slow=10,SNR=7.0						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**25.55**	**1**	**P**	**P**	**09 14 24.4**	**+0.1**
	0.5nm,0.4s,baz=183,slow=7.2,SNR=2.0						
	0.5nm,0.4s						
IDI	**Anoyia**	**50.05**	**294**	LR	LR	09 42 25.8	
	comp=Z,108nm,19.6s,baz=300,slow=41						

*FCIAR **22** 09:15:28.0, 77°.87N×20°.64E, h10km, station OMEGA has station magnitude of 3.20*
*BER **22** 09:15:29.0±1.8, 77°.70N×20°.08E, h18km±8km, ML2.4, Confirmed Earthquake*
*KOLA **22** 09:15:29.4, 77°.54N×20°.88E, h0km, ML2.0, Storfjorden zone*
ISC 22 09:15:25.5±0.7, 77°.66N±0°.04×20°.20E±0°.03, h10km, n19, σ2°44/41, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**0.96**	**305**	*e*P	**Pg**	**09 15 44.2**	**+0.2**
SPA0				*e*S	**Sg**	**09 15 55.9**	**-0.6**
SPA0				IAML		09 16 02.8	
	comp=Z,93nm,0.4s						
SPA0	**Spitsbergen Ar**	**0.96**	**305**	⇑*i*P	**Pg**	**09 15 44.2**	**+0.2**
SPA0				*i* S	**Sg**	**09 15 55.8**	**-0.6**
SPITS	**Spitsbergen Ar**	**0.96**	**305**	P	**Pg**	**09 15 42.8**	**-1.2**
SPITS				S	**Sg**	**09 15 56.8**	**+0.3**
HSPB	**Hornsund (broa**	**1.22**	**240**	*e*P	**Pb**	**09 15 49.0**	**+0.4**
HSPB				*e*S	**Sb**	**09 16 04.3**	**-0.1**
HSPB				IAML		09 16 08.6	
	comp=Z,34nm,0.5s						
HSPB	**Hornsund (broa**	**1.22**	**240**	P	**Pb**	**09 15 48.6**	**0.0**
HSPB				S	**Sb**	**09 16 04.3**	**-0.1**
BRBA	**Barentsburg A**	**1.33**	**291**	*e*P	**Pn**	**09 15 51.7**	**+1.7**
BRBA				*e*Sg	**Sb**	**09 16 09.0**	**+1.5**
BRBA				IAML		09 16 09.7	
	comp=Z,207nm,0.5s						
BRBB	**Barentsburg B**	**1.34**	**292**	*e*P	**Pn**	**09 15 51.0**	**+0.8**
BRBB				*e*S	**Sb**	**09 16 06.8**	**-1.0**
BRBB	**Barentsburg B**	**1.34**	**292**	P	**Pn**	**09 15 51.0**	**+0.8**
BRBB				S	**Sb**	**09 16 07.0**	**-0.8**
HOPEN	**Hopen**	**1.58**	**134**	*e*P	**Pn**	**09 15 54.8**	**+1.4**
HOPEN				*e*Pg	**Pb**	**09 15 57.3**	**+2.6**
HOPEN				*e*S	**Sn**	**09 16 14.1**	**+0.2**
HOPEN				*e*Sg	**Sg**	**09 16 18.3**	**+2.1**
HOPEN				IAML		09 16 20.1	
	comp=Z,126nm,0.3s						
HOPEN	**Hopen**	**1.58**	**134**	*e*P	**Pb**	**09 15 57.1**	**+2.4**
HOPEN				*e*S	**Sg**	**09 16 18.2**	**+2.1**
KBS	**Kingsbay**	**2.11**	**311**	*e*P	**Pn**	**09 16 00.9**	**+0.1**
KBS				*e*Pg	**Pn**	**09 16 04.6**	**+3.7**
KBS				*e*Sg	**Sn**	**09 16 30.4**	**+3.3**
KBS				IAML		09 16 34.4	
	comp=Z,50nm,0.4s						
KBS	**Kingsbay**	**2.11**	**311**	P	**Pn**	**09 16 02.0**	**+1.2**
KBS				S	**Sn**	**09 16 27.6**	**+0.5**
KBS	**Kingsbay**	**2.11**	**311**	*e*P	**Pn**	**09 16 04.5**	**+3.7**
KBS				*e*S	**Sn**	**09 16 30.4**	**+3.3**
ZFI2	**Zemlya Franca-**	**5.97**	**45**	P	**Pn**	**09 16 55.3**	**+1.5**
ZFI2				*i* S	**Sn**	**09 17 58.3**	**-3.8**
OMEGA	**Omega**	**5.98**	**46**	P	**Pn**	**09 16 55.4**	**+1.6**
OMEGA				*e*S	**Sn**	**09 17 58.5**	**-3.7**
	comp=Z,9.6nm,2.3s						
VADS	**Vadso**	**7.97**	**157**	P	**Pn**	**09 17 21.9**	**+0.7**
VADS				S	**Sn**	**09 18 46.7**	**-4.6**
ARCES	**ARCESS Array B**	**8.30**	**167**	P	**Pn**	**09 17 26.4**	**+0.8**
ARCES				S	**Sn**	**09 18 54.6**	**-4.6**
PRVG	**Vayda Guba**	**8.60**	**151**	P	**Pn**	**09 17 30.1**	**+0.3**
PRVG				S	**Sn**	**09 19 01.1**	**-5.6**
FAUS	**Fauske**	**10.43**	**191**	P	**Pn**	**09 17 55.5**	**+0.8**
FAUS				S	**Sn**	**09 19 45.9**	**-5.5**

BKK 22 09:22:33.3±1.4, 16°.N±6°.×9°.4E±1°.0, h0km, M4.2/16, mb4.5/12, mB4.3/7, Mjma4.1/16, ML4.8/10, MLv4.5/16, Mw(mB)3.5/7, MwMwp2.7/1, Mwp3.5/1, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**4.44**	**100**	Pg	Pg	09 23 58.9	+0.5
KHLT				Pn	Pn	09 23 41.8	-0.1
SRDT	**SRDT**	**5.04**	**104**	P	Pn	09 23 50.5	+0.3
	0.3nm0.3nm0.5nm17nm,0.7s						
UTHA	**Uthaitani**	**5.18**	**90**	P	Pn	09 23 47.7	-4.4
CM13	**Chiang Mai Arr**	**5.41**	**58**	Pn	Pn	09 23 55.7	+0.4
	0.1nm0.1nm19nm41nm,0.8s						
CM05	**Chiang Mai Arr**	**5.43**	**59**	P	Pb	09 23 55.8	-13
	269nm32nm,0.7s						
CM05				Pn	Pn	09 23 55.6	0.0
	269nm32nm,0.7s						
CM02	**Chiang Mai Arr**	**5.45**	**58**	P	Pb	09 23 56.7	-13
	0.2nm0.1nm287nm33nm,0.7s						
CM02				Pn	Pn	09 23 56.0	+0.2
	0.2nm0.1nm287nm33nm,0.7s						
CM02				Pg	Pg	09 24 17.9	+0.2
	0.2nm0.1nm287nm33nm,0.7s						
CM01	**Chiang Mai Arr**	**5.45**	**58**	Pg	Pg	09 24 18.2	+0.4
	0.2nm0.2nm294nm31nm,0.9s						
CM01				Pn	Pn	09 23 56.5	+0.7
	0.2nm0.2nm294nm31nm,0.9s						
CM04	**Chiang Mai Arr**	**5.45**	**59**	P	Pb	09 23 56.4	-13
	0.2nm0.1nm336nm33nm,0.7s						
CM04				Pn	Pn	09 23 56.3	+0.4
	0.2nm0.1nm336nm33nm,0.7s						
CM09	**Chiang Mai Arr**	**5.49**	**58**	Pg	Pg	09 24 17.6	-0.9
	0.2nm0.2nm262nm28nm,0.7s						
CM09				Pn	Pn	09 23 56.5	+0.1
	0.2nm0.2nm262nm28nm,0.7s						
LAMP	**Lampang**	**6.06**	**61**	P	Pn	09 24 03.0	-1.2
	0.3nm0.6nm66nm,0.7s						
LAMP				Pn	Pn	09 24 03.0	-1.2
	0.3nm0.6nm66nm,0.7s						
PHRA	**Phrae**	**6.55**	**63**	P	Pn	09 24 09.9	-1.1

*SJA **22** 09:25:57.5±0.7, 30°.74S×71°.03W, h85km±3km, ML4.5, MW4.5*
*GUC **22** 09:25:58.9±0.7, 30°.78S×70°.90W, h90km±3km, ML4.8*
*IDC **22** 09:25:58.8±0.8, 30°.77S×70°.94W, h83km±6km, mb3.8/6, mbtmp4.2/10, MS3.2/4, Error ellipse: s-maj=16.6km s-min=9.9km az=29.0*
*NEIC **22** 09:25:59.0±1.7, 30°.75S±0°.04×70°.95W±0°.06, h88km±3km, mb4.6/15, Mwr4.5/42, Error ellipse: s-maj=7.2km s-min=5.1km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.81; $M_{\theta\theta}$=5.11; $M_{\phi\phi}$=-3.30; $M_{r\theta}$=2.39; $M_{r\phi}$=5.18; $M_{\theta\phi}$=-0.56; Fault plane solution: M_0=7.28000×10^{15} NP1:ϕ_s=287.65000°, δ=84.17000°, λ=-22.39000°. NP2:ϕ_s=20.05000°, δ=67.74000°, λ=-173.70000°. Principal axes: T 7.9582, Plg11.0000°, Azm336.0000°; N -1.6366, Plg67.0000°, Azm94.0000°; P -6.3216, Plg20.0000°, Azm242.0000°;*
*NEIC **22** 09:25:59, 30°.75S×70°.95W, h88km*
*VAO **22** 09:26:01.3±0.7, 30°.71S×70°.59W, h90km±7km, mb4.9*
ISC 22 09:25:58.3±0.5, 30°.76S±0°.02×71°.01W±0°.03, h84km±4km, n176, σ1°53/201, mb4.5/11, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.29**	**106**		**Pn**	**09 26 11.3**	**+0.1**
CO03				Sn	**Sn**	**09 26 20.8**	**+0.1**
CO03	**El Pedregal**	**0.29**	**106**	*e*P	**Pn**	**09 26 11.2**	**+0.1**
CO03				*e*S	**Sn**	**09 26 21.3**	**+0.7**
CO03				IAML		09 26 21.9	
	comp=Z,36μm,0.2s						
CO03	**El Pedregal**	**0.29**	**106**	⇓*i*P	**Pn**	**09 26 11.4**	**+0.1**
CO03				*i* S	**Sn**	**09 26 20.3**	**-0.3**
CO03				IAML		09 26 22.0	
	comp=E,73μm,0.2s						
CO06	**Fray Jorge**	**0.54**	**279**		**Pn**	**09 26 14.3**	**+1.5**
CO06				Sn	**Sn**	**09 26 26.6**	**+3.0**
CO06	**Fray Jorge**	**0.54**	**279**	*i* P	**Pn**	**09 26 14.5**	**+1.7**
CO06				*i* S	**Sn**	**09 26 26.3**	**+2.6**
GO04	**Tololo Observa**	**0.61**	**17**		**Pn**	**09 26 14.2**	**+0.4**
GO04				Sn	**Sn**	**09 26 26.4**	**+1.2**
GO04	**Tololo Observa**	**0.61**	**17**	*e*P	**Pn**	**09 26 13.5**	**-0.2**
GO04	**Tololo Observa**	**0.61**	**17**	*i* P	**Pn**	**09 26 14.2**	**+0.4**
GO04				*i* S	**Sn**	**09 26 24.7**	**-0.5**
CO05	**La Serena**	**0.86**	**347**		**Pn**	**09 26 17.7**	**+1.7**
CO05				Sn	**Sn**	**09 26 31.5**	**+2.3**
CO05	**La Serena**	**0.86**	**347**	⇑*i*P	**Pn**	**09 26 17.3**	**+1.3**
CO05				*i* S	**Sn**	**09 26 30.9**	**+1.7**
CO01	**Juntas del Tor**	**1.11**	**46**		**Pn**	**09 26 19.6**	**+0.4**
CO01				Sn	**Sn**	**09 26 35.1**	**+0.3**
CO01	**Juntas del Tor**	**1.11**	**46**	*e*P	**Pn**	**09 26 19.6**	**+0.4**
CO01				*e*S	**Sn**	**09 26 35.2**	**+0.4**
CO01				IAML		09 26 35.2	
	comp=Z,5μm,0.3s						
CO01	**Juntas del Tor**	**1.11**	**46**	⇓*i*P	**Pn**	**09 26 19.6**	**+0.4**
CO01				*i* S	**Sn**	**09 26 35.1**	**+0.3**
AROD	**Rodeo**	**1.45**	**66**	*e*P	**Pn**	**09 26 24.9**	**+1.4**
DOCA	**Reserva Natura**	**1.67**	**97**	*e*P	**Pn**	**09 26 27.1**	**+0.8**
DOCA				*e*S	**Sn**	**09 26 49.0**	**+1.4**
DOCA				IAML		09 26 49.9	
	comp=Z,4μm,0.8s						
ACCO	**Cerro Coronel**	**1.69**	**85**	*e*P	**Pn**	**09 26 27.9**	**+1.4**
ACCO				*e*S	**Sn**	**09 26 50.9**	**+3.0**
ACDV	**Cuesta del Vie**	**1.73**	**71**	*e*P	**Pn**	**09 26 28.2**	**+1.2**
ACDV				*e*S	**Sn**	**09 26 51.6**	**+2.9**
ACDV				IAML		09 26 53.8	
	comp=Z,2μm,0.3s						
LCO	**Las Campanas**	**1.76**	**9**		**Pn**	**09 26 27.7**	**+0.3**
LCO				Sn	**Sn**	**09 26 50.6**	**+1.1**
LCO	**Las Campanas**	**1.76**	**9**	*e*P	**Pn**	**09 26 28.1**	**+0.7**
LCO				*e*S	**Sn**	**09 26 50.6**	**+1.1**
LCO	**Las Campanas**	**1.76**	**9**	⇓*i*P	**Pn**	**09 26 27.7**	**+0.3**
LCO				*i* S	**Sn**	**09 26 50.4**	**+0.9**
RTLS	**Leoncito**	**1.80**	**126**	*e*P	**Pn**	**09 26 29.3**	**+1.4**
RTLS				*e*S	**Sn**	**09 26 53.0**	**+2.6**
VA06	**Catapilco**	**1.81**	**188**		**Pn**	**09 26 28.9**	**+1.0**
VA06				Sn	**Sn**	**09 26 51.7**	**+1.4**
VA06	**Catapilco**	**1.81**	**188**	⇑*i*P	**Pn**	**09 26 28.5**	**+0.6**
VA06				*i* S	**Sn**	**09 26 51.0**	**+0.7**
VA06				IAML		09 26 54.6	
	comp=E,10μm,0.4s						
VA03	**San Esteban**	**2.04**	**169**		**Pn**	**09 26 31.7**	**+0.8**
VA03				Sn	**Sn**	**09 26 57.1**	**+1.4**
VA03	**San Esteban**	**2.04**	**169**	*e*P	**Pn**	**09 26 31.6**	**+0.8**
VA03				*e*S	**Sn**	**09 26 57.6**	**+1.8**
VA03				IAML		09 27 01.7	
	comp=Z,5μm,0.2s						
VA03	**San Esteban**	**2.04**	**169**	⇑*i*P	**Pn**	**09 26 31.7**	**+0.8**
VA03				IAML		09 26 59.5	
	comp=E,14μm,0.3s						
ZON	**Zonda**	**2.15**	**112**	Pn	**Pn**	**09 26 32.9**	**+0.6**
ZON				Sn	**Sn**	**09 26 58.7**	**+0.3**
ZON	**Zonda**	**2.15**	**112**	*e*P	**Pn**	**09 26 33.2**	**+0.9**
ZON				*e*S	**Sn**	**09 26 59.0**	**+0.7**
ZON				IAML		09 27 02.8	
	comp=Z,3μm,0.5s						
ROCH	**El Roble**	**2.21**	**180**	⇑*e*P	**Pn**	**09 26 33.4**	**+0.1**
ROCH				IAML		09 27 04.5	
	comp=N,7μm,0.4s						
ROC1	**El Roble**	**2.21**	**180**	*e*P	Pn	09 26 28.0	-5.3
SJA	**San Juan**	**2.24**	**111**	*e*P	**Pn**	**09 26 33.3**	**-0.2**
SJA				*e*S	**Sn**	**09 27 01.6**	**+1.1**
VA01	**Torpederas**	**2.32**	**193**		**Pn**	**09 26 34.3**	**-0.2**
VA01				Sn	**Sn**	**09 27 02.5**	**+0.1**
VA01	**Torpederas**	**2.32**	**193**	*e*P	**Pn**	**09 26 34.4**	**-0.2**
VA01				*e*S	**Sn**	**09 26 57.6**	**-4.8**
VA01				IAML		09 27 14.6	
	comp=Z,1μm,1.2s						
VA01	**Torpederas**	**2.32**	**193**	*e*P	**Pn**	**09 26 34.5**	**-0.1**
VA01				IAML		09 27 08.9	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**2.40**	**173**		**Pn**	**09 26 36.2**	**+0.6**
PEL	**Peldehue**	**2.40**	**173**	*e*P	**Pn**	**09 26 36.4**	**+0.7**
PEL				*e*S	**Sn**	**09 27 06.5**	**+2.3**
PEL	**Peldehue**	**2.40**	**173**	*e*P	**Pn**	**09 26 36.2**	**+0.6**
PEL				IAML		09 27 10.3	
	comp=E,3μm,0.3s						
MT02	**Curacav**	**2.50**	**182**	Pn	**Pn**	**09 26 36.6**	**-0.3**
MT02	**Curacav**	**2.50**	**182**	*e*P	**Pn**	**09 26 37.0**	**0.0**
MT02				*e*S	**Sn**	**09 27 07.2**	**+0.6**
MT02				IAML		09 27 09.9	
	comp=Z,2μm,0.5s						
CFA	**Coronel Fontan**	**2.52**	**110**	P	**Pn**	**09 26 38.2**	**+0.9**
	comp=Z,181nm,0.3s,baz=292,slow=12,SNR=599						
CFA				S	**Sn**	**09 27 06.7**	**-0.6**
	comp=Z,2μm,0.6s,baz=78,slow=16,SNR=62						
AGUA	**GUANDACOL**	**2.52**	**61**	*e*P	**Pn**	**09 26 39.7**	**+2.3**
AGUA				*e*S	**Sn**	**09 27 11.6**	**+4.2**
AGUA				IAML		09 27 15.6	
	comp=Z,4μm,0.4s						
MT10	**Hacienda Santa**	**2.54**	**171**	⇑*i*P	**Pn**	**09 26 38.3**	**+0.7**
MT10				IAML		09 27 13.3	
	comp=N,6μm,0.6s						
AC04	**Llanos de Chal**	**2.54**	**359**	Pn	**Pn**	**09 26 38.5**	**+0.9**
AC04	**Llanos de Chal**	**2.54**	**359**	*e*P	**Pn**	**09 26 39.0**	**+1.4**
AC04				*e*S	**Sn**	**09 27 07.5**	**-0.3**
AC04				IAML		09 27 16.3	
	comp=Z,4μm,0.7s						
ASAL	**Salagasta**	**2.60**	**135**	*e*P	**Pn**	**09 26 40.0**	**+1.5**
ASAL				*e*S	Sn	09 26 58.9	-10
MT05	**Renca**	**2.64**	**175**	Pn	**Pn**	**09 26 39.2**	**+0.3**
MT05	**Renca**	**2.64**	**175**	*e*P	**Pn**	**09 26 39.6**	**+0.7**
MT05				*e*S	Sn	09 26 58.3	-12
MT05				IAML		09 27 14.8	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**2.64**	**175**	⇑*e*P	**Pn**	**09 26 39.2**	**+0.3**
MT05				IAML		09 27 15.8	
	comp=E,9μm,0.4s						
MT14	**Cerro Calıjn**	**2.66**	**171**	⇑*e*P	**Pn**	**09 26 39.7**	**+0.5**
MT14				IAML		09 27 19.3	
	comp=N,6μm,0.7s						
MT16	**CCHEN**	**2.69**	**171**		**Pn**	**09 26 40.0**	**+0.4**
MT16	**CCHEN**	**2.69**	**171**	⇑*e*P	**Pn**	**09 26 40.1**	**+0.4**
MT16				IAML		09 27 22.

MT13 **San Alfonso** 3.04 169 *e*P Pn 09 26 45.4 +1.0
MT13 *e*S Sn 09 27 21.6 +1.8
MT13 IAML 09 27 26.9
comp=Z,1μm,0.5s
MT13 **San Alfonso** 3.04 169 IAML 09 27 27.2
comp=E,2μm,0.3s
AVFE **Valle Fertil** 3.06 89 *e*P Pn 09 26 44.7 +0.1
AVFE *e*S Sn 09 27 19.6 -0.8
AVFE IAML 09 27 21.1
comp=Z,1μm,0.3s
MT01 **Popeta** 3.10 184 Pn 09 26 45.2 +0.1
MT01 **Popeta** 3.10 184 IAML 09 27 22.7
comp=E,3μm,0.5s
LMEL **Las Melosas** 3.16 168 Pn 09 26 47.5 +1.6
BO04 **La Punta** 3.24 174 Pn 09 26 47.1 +0.1
BO01 **Tunca** 3.62 181 Pn Pn 09 26 51.3 -0.9
BO01 **Tunca** 3.62 181 *e*P Pn 09 26 51.8 -0.4
BO01 IAML 09 27 48.7
comp=Z,510nm,0.4s
BO02 **Sierra Bellavi** 4.03 177 Pn Pn 09 26 58.0 +0.3
AC02 **Maricunga** 4.24 23 Pn Pn 09 27 01.5 +0.5
AC02 **Maricunga** 4.24 23 *e*S Sn 09 27 30.0 -20
RFA **San Rafael** 4.54 152 *e*P Pn 09 27 04.7 0.0
AC01 **Pan de Azucar** 4.61 5 Pn Pn 09 27 04.4 -1.1
AC01 **Pan de Azucar** 4.61 5 *e*S Sn 09 27 59.0 +1.1
ML02 **Panimavida** 5.00 184 Pn 09 27 09.3 -1.6
GO02 **Mina Guanaco** 5.71 13 Pn Pn 09 27 19.7 -1.2
BI02 **San Fabin de** 5.89 182 Pn Pn 09 27 22.2 -0.9
PB14 **IPOC Station P** 6.13 5 Pn Pn 09 27 24.9 -1.7
BI05 **Punta Hualpn** 6.24 196 Pn Pn 09 27 25.6 -2.1
H03N1 **Juan Fernandez** 7.22 246 T T 09 34 40.5
baz=80,slow=72,SNR=626
VA04 **Juan Fernndez** 7.22 244 Pn 09 27 41.3 +0.2
H03N3 **Juan Fernandez** 7.23 246 T T 09 34 41.2
baz=80,slow=72,SNR=393
H03N2 **Juan Fernandez** 7.23 246 T T 09 34 42.5
baz=80,slow=72,SNR=484
PB09 **IPOC Station P** 9.06 10 Pn 09 28 03.6 -2.9
LR04 **Corral** 9.31 192 Pn 09 28 06.9 -2.7
LR05 **Currie** 9.49 185 Pn 09 28 10.3 -1.6
PLCA **Paso Flores** 9.96 178 Pn Pn 09 28 17.2 -1.3
PLCA **Paso Flores** 9.96 178 P Pn 09 28 17.1 -1.5
comp=Z,1.7nm,0.4s,baz=351,slow=9.6,SNR=2.8
PLCA LR LR 09 31 42.1
comp=Z,86nm,21.7s,baz=358,slow=34
PLCA **Paso Flores** 9.96 178 *e*P Pn 09 28 22.1 +3.6
LL04 **Puerto Octay** 10.19 186 Pn 09 28 19.0 -2.6
TRQA **Tornquist** 10.42 137 Pn Pn 09 28 22.9 -1.9
LL03 **Petrohue** 10.42 186 Pn 09 28 22.3 -2.4
CPUP **Villa Florida** 12.81 73 Pn Pn 09 28 54.2 -2.9
CPUP **Villa Florida** 12.81 73 P Pn 09 28 53.5 -3.6
comp=Z,1.6nm,0.4s,baz=253,slow=13,SNR=7.5
CPUP **Villa Florida** 12.81 73 *e*P Pn 09 28 55.7 -1.5
TBOT **Tacuaremb** 12.94 98 *e*P Pn 09 28 55.0 -3.8
SJPY **San Joaquin** 14.37 70 *e*P Pn 09 29 15.0 -2.7
LPAZ **La Paz** 14.64 11 P Pn 09 29 23.2 +1.4
comp=Z,17nm,0.8s,baz=179,slow=8.0,SNR=63
LPAZ **La Paz** 14.64 11 *e*P Pn 09 29 23.2 +1.4
MURT **Porto Murtinho** 15.05 56 *e*P Pn 09 29 24.4 -2.0
CPSB **Cacapava Do Su** 15.14 93 *e*P Pn 09 29 25.4 -2.1
BDQN **Bodoquena, MS** 16.44 55 *e*P Pn 09 29 43.8 -0.1
AQDB **Aquidauana** 17.17 57 Pn Pn 09 29 50.8 -2.1
AQDB **Aquidauana** 17.17 57 *e*P Pn 09 29 50.8 -2.1
SIV **San Ignacio** 17.28 34 P P 09 29 54.5 -0.1
comp=Z,9.8nm,0.6s,baz=212,slow=9.4,SNR=56
SIV LR LR 09 35 48.8
comp=Z,76nm,21.9s,baz=89,slow=34
CNLB **Canela** 17.52 90 *e*P P 09 29 56.6 -0.4
PTGB **Pitanga** 17.81 75 *e*P P 09 29 59.5 -0.9
RPRD **Ribas do Rio P** 18.64 61 *e*P P 09 30 08.9 -0.5
PTLB **Pontes e Lacer** 18.72 38 P P 09 30 09.8 -0.6
PTLB **Pontes e Lacer** 18.72 38 *e*P P 09 30 10.6 +0.2
TER01 **Tubaro-SC** 19.15 89 *e*P P 09 30 14.7 -0.2
LDASE **Londrina, Braz** 19.16 72 *e*P P 09 30 14.1 -1.0
MAJ01 **Sao Joao Batis** 19.51 86 *e*P P 09 30 18.2 -0.7
C2SB **Chapadao do Su** 20.33 58 *e*P P 09 30 27.4 -0.4
VILB **Vilhena** 20.34 32 P P 09 30 27.7 -0.2
VILB IAmb IAmb 09 30 28.8
comp=Z,14nm,0.8s
VILB **Vilhena** 20.34 32 *e*P P 09 30 28.0 +0.1
SALV **Santo Antonio** 20.37 47 *e*P P 09 30 27.8 -0.4
FRTB **Fartura** 20.46 74 *e*P P 09 30 28.6 -0.6
ITRB **Iturama** 21.64 64 *e*P P 09 30 40.6 -1.3
SPB **Sao Paulo** 22.13 77 P P 09 30 48.1 +1.0
SPB IAmb IAmb 09 30 48.2
comp=Z,15nm,0.7s
BB19B **Bebedouro** 22.37 70 *e*P P 09 30 47.2 -2.5
VAO **Valinhos** 22.77 76 P P 09 30 51.7 -2.2
VAO IAmb IAmb 09 31 14.4
comp=Z,31nm,0.9s
VAO **Valinhos** 22.77 76 *e*P P 09 30 52.6 -1.2
CZSB **Cruzeiro do Su** 22.96 356 P P 09 30 56.8 +1.0
CZSB IAmb IAmb 09 31 00.9
comp=Z,33nm,0.8s
CZSB **Cruzeiro do Su** 22.96 356 *e*P P 09 30 57.0 +1.2
EFI **East Falkland** 22.99 159 P P 09 30 54.8 -0.9
ARAG **Araguaiana, MT** 23.09 54 *e*P P 09 30 55.0 -2.1
PDRB **Porto dos Gac** 23.20 38 *e*P P 09 30 58.4 +0.3
IPMB **Ipameri, GO** 24.29 64 *e*P P 09 31 06.7 -1.3
ATAH **Atahualpa** 24.50 342 LR LR 09 38 37.9
comp=Z,57nm,21.7s,baz=14,slow=31
MAN01 **Angra dos Reis** 25.34 78 *e*P P 09 31 16.8 -0.7
BDFB **Brasilia** 25.87 60 P P 09 31 21.6 -0.8
BDFB IAmb IAmb 09 31 22.1
comp=Z,13nm,0.6s
BDFB **Brasilia** 25.87 60 P P 09 31 21.4 -1.0
comp=Z,11nm,0.5s,baz=233,slow=7.6,SNR=22
comp=Z,11nm,0.5s
TBTG **Tabatinga, AM** 26.45 2 *e*P P 09 31 29.9 +2.4
DUB01 **Friburgo-RJ** 27.00 78 *e*P P 09 31 31.8 -0.8
DIAM **Diamantina, MG** 27.71 70 *e*P P 09 31 38.4 -0.6
CAM01 **Campos-RJ** 27.71 78 *e*P P 09 31 38.3 -0.5
JANB **Januaria** 29.03 63 *e*P P 09 31 49.4 -1.2
SJMB **Sao Joao De Ma** 29.54 73 *e*P P 09 31 54.0 -1.0
BSFB **Barra de Sao F** 29.75 74 *e*P P 09 31 55.8 -1.1
RIB01 **Linhares ES** 29.89 75 *e*P P 09 31 57.3 -0.8
SDBA **SAO DESIDERIO** 30.25 59 *e*P P 09 32 00.6 -0.8
BOAV **Boa Vista** 34.45 19 P P 09 32 37.3 -0.7
BOAV IAmb IAmb 09 32 40.0
comp=Z,5.2nm,0.9s
RUSC **La Rusia** 36.50 357 P P 09 32 57.2 +1.1
RUSC IAmb IAmb 09 33 29.2
comp=Z,14nm,0.9s
NBAN **Anadia - AL** 38.52 64 *e*P P 09 33 11.4 -1.3
MDP **Montagnes des** 39.75 29 LR LR 09 50 59.1
comp=Z,68nm,21.1s,baz=106,slow=38
SNAA **Sanae** 54.27 159 P P 09 35 15.1 -0.2
SNAA IAmb IAmb 09 35 33.5
comp=Z,8.0nm,1.1s
SNAA **Sanae** 54.27 159 P P 09 35 15.3 0.0
comp=Z,2.4nm,0.6s,baz=274,slow=9.2,SNR=7.2
comp=Z,2.4nm,0.6s
QSPA **South Pole Qui** 59.47 180 P P 09 35 52.4 +0.2
QSPA IAmb IAmb 09 36 16.8
comp=Z,2.9nm,0.7s
QSPA **South Pole Qui** 59.47 180 P P 09 35 53.0 +0.8
comp=Z,3.3nm,1.0s,baz=153,slow=1.3,SNR=9.4
QSPA pP pP 09 36 15.1 +1.4
comp=Z,3.1nm,0.8s,baz=238,slow=1.0,SNR=4.3
comp=Z,3.3nm,1.0s
JSC **Jenkinsville** 65.41 351 P P 09 36 31.1 -0.7
TXAR **Lajitas Array** 67.37 329 P P 09 36 46.4 +1.8
comp=Z,0.2nm,0.6s,baz=143,slow=5.3,SNR=2.2
TXAR pP pP 09 37 05.0 -1.5
comp=Z,0.2nm,0.5s,baz=151,slow=9.0,SNR=3.3
comp=Z,0.2nm,0.6s
TBI **Tubuai** 68.96 255 *e*LR LR 09 57 51.9
comp=Z,863nm,36.8s
PPT2 **Papeete2** 71.60 260 *e*LR LR 09 59 07.0
comp=Z,27nm,23.2s
NVAR **Mina Array Bea** 81.75 324 P P 09 38 08.3 +0.4
comp=Z,0.4nm,0.6s,baz=103,slow=5.5,SNR=2.8
comp=Z,0.4nm,0.6s
TORD **Torodi Ar. Bea** 82.28 70 P P 09 38 11.1 +0.2
ULM **Lac du Bonnet** 83.61 344 P P 09 38 17.2 +0.3
comp=Z,1.8nm,0.9s,baz=185,slow=4.5,SNR=3.9
comp=Z,1.8nm,0.9s
DZM **Mont Dzumac** 103.86 234 *e*LR LR 10 14 03.8
comp=Z,42nm,25.0s
ASAR **Alice Springs** 120.84 207 PKP PKPdf 09 44 39.9 -1.4
comp=Z,0.2nm,0.5s,baz=143,slow=2.0,SNR=2.0
WRA **Warramunga Arr** 124.01 209 PKP PKPdf 09 44 47.3 -0.1
comp=Z,0.5nm,0.5s,baz=154,slow=1.8,SNR=8.8
H11S2 **WAKE ISLAND Hyl** 26.64 271 T T 12 04 10.4
baz=116,slow=75,SNR=40
H11S1 **WAKE ISLAND Hyl** 26.65 271 T T 12 04 11.1
baz=116,slow=75,SNR=52
H11S3 **WAKE ISLAND Hyl** 26.66 271 T T 12 04 13.8
baz=116,slow=75,SNR=52
SEY **Seymchan** 137.62 332 PKP PKPdf 09 45 12.7 +1.0
comp=Z,0.2nm,0.3s,baz=106,slow=3.2,SNR=3.7
BVAR **Borovoye Array** 144.28 40 PKP PKPdf 09 45 23.8 -0.2
comp=Z,0.5nm,0.4s,baz=325,slow=2.4,SNR=2.6
KURBB **Kurchatov Arra** 149.88 40 PKPbc PKiKP 09 45 39.0 -0.2
comp=Z,1.5nm,0.6s,baz=303,slow=3.2,SNR=9.5
AAK **Ala-Archa** 150.11 57 PKPbc PKiKP 09 45 40.8 +0.6
comp=Z,2.8nm,0.7s,baz=197,slow=4.3,SNR=11
ZALV **Zalesovo Beam** 151.01 30 PKPbc PKiKP 09 45 41.9 +0.5
comp=Z,10nm,0.5s,baz=303,slow=3.2,SNR=44
ZALV pPKPbc pPKPbc 09 46 05.0 +0.3
comp=Z,3.8nm,0.6s,baz=309,slow=3.4,SNR=3.7
MKAR **Makanchi Array** 153.91 45 PKPbc PKiKP 09 45 48.1 +0.4
comp=Z,1.0nm,0.7s,baz=304,slow=2.4,SNR=8.2
MKAR PKPab PKPab 09 46 02.3 +1.1
comp=Z,0.6nm,0.6s,baz=298,slow=3.6,SNR=6.5

*NERS **22** 09:29:49.7, 65°.42N×166°.76W, h33km*
*AEIC **22** 09:29:49.9±1.8, 65°.56N±0°.01×166°.8W±0°.1, h13km±6km, ML3.2, mb_Lg3.0/24(NEIC), ML3.3/54(NEIC), Error ellipse: s-maj=6.8km s-min=1.9km az=85.0*
*NEIC **22** 09:29:50.4±1.4, 65°.56N±0°.04×167°.0W±0°.1, h17km±3km, Error ellipse: s-maj=6.9km s-min=5.6km az=142.0*
*IDC **22** 09:29:52.5±3.1, 65°.58N×167°.17W, h0km, mb3.2/3, mbtmp3.2/5, ML2.9/2, Error ellipse: s-maj=68.1km s-min=23.2km az=18.0*
ISC 22 09:29:50.9±0.7, 65°.57N±0°.05×167°.00W±0°.03, h10km, n53, σ1§52/55, mb3.0/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	0.39	270	Pg	**Pb**	09 29 59.2	-0.6
F15K	**North Star Dit**	0.98	81		**Pg**	09 30 06.7	-3.1
F15K					**Sg**	09 30 21.5	-1.0
F15K				IAML		09 30 21.8	
	comp=N,1μm,0.8s						
ANM	**Nome**	1.22	145		**Pn**	09 30 11.5	-2.5
ANM				Sn	**Sb**	09 30 28.3	-1.4
G16K	**Koyuk River**	1.94	93	Pn	**Pn**	09 30 21.6	-2.3
G16K				Sn	**Sn**	09 30 47.8	-0.5
G16K				IAML		09 30 52.6	
	comp=E,362nm,0.6s						
F17K	**Baldwin Pennin**	2.51	67	Pn	**Pn**	09 30 30.7	-1.0
F17K				IAML		09 31 15.0	
	comp=N,192nm,0.8s						
F17K				IAML		09 31 16.0	
	comp=E,133nm,1.1s						
GAMB	**Gambell**	2.71	231		**Pn**	09 30 33.8	-0.6
C16K	**Lisburne Hills**	2.80	13	Pn	**Pn**	09 30 34.2	-1.5
C16K				IAML		09 31 24.1	
	comp=E,103nm,0.8s						
C16K				IAmb_Lg		09 31 24.8	
	comp=Z,65nm,1.1s						
C16K				IAML		09 31 28.8	
	comp=N,112nm,1.0s						
PVDR	**Provideniya**	2.88	249	*e*P	**Pb**	09 30 41.3	-0.9
PVDR				*e*Pg	**Pg**	09 30 44.1	-1.9
PVDR				Pgmax		09 30 45.2	
	comp=N,80nm,0.5s						
PVDR				*e*Sg	**Sg**	09 31 23.1	-0.1
PVDR				Sgmax		09 31 30.6	
	comp=N,420nm,0.5s						
RDOG	**Red Dog Mine**	2.98	31	Pn	**Pn**	09 30 36.5	-1.6
H17K	**Granite Mounta**	3.05	99	Pn	**Pn**	09 30 38.7	-0.4
H17K				IAML		09 31 27.2	
	comp=E,77nm,0.6s						
H17K				IAML		09 31 29.5	
	comp=N,107nm,0.9s						
H17K				IAmb_Lg		09 31 30.7	
	comp=Z,68nm,0.8s						
E18K	**Tukpahlearik C**	3.17	51	Pn	**Pn**	09 30 39.7	-1.0
E18K				IAmb_Lg		09 31 34.6	
	comp=Z,64nm,0.8s						
E18K				IAML		09 31 38.4	
	comp=N,98nm,0.8s						
I17K	**Unalakleet**	3.19	119		**Pn**	09 30 39.0	-2.0
I17K				IAML		09 31 40.3	
	comp=E,69nm,0.9s						
I17K				IAML		09 31 45.7	
	comp=N,78nm,1.0s						
J14K	**Nanvaranak Lak**	3.20	150	Pn	**Pn**	09 30 40.1	-1.1
J14K				IAmb_Lg		09 31 35.1	
	comp=Z,36nm,0.7s						
J14K				IAML		09 31 43.8	
	comp=E,65nm,1.1s						
G18K	**Tagagawik**	3.46	81	Pn	**Pn**	09 30 42.6	-2.1
G18K				IAML		09 31 47.9	
	comp=N,50nm,1.5s						
J16K	**Anvik River**	3.60	127	Pn	**Pn**	09 30 44.8	-1.8
J16K				IAML		09 31 45.6	
	comp=E,86nm,0.8s						
J16K				IAmb_Lg		09 31 46.1	
	comp=Z,41nm,0.8s						
H18K	**Honhosa River**	3.64	93	Pn	**Pn**	09 30 45.4	-1.9
K13K	**Kusilvak Mount**	3.79	163	IAmb_Lg		09 31 58.6	
	comp=Z,32nm,0.9s						
C18K	**Utukok River**	3.84	34		**Pn**	09 30 48.8	-1.2
C18K				IAmb_Lg		09 31 59.2	
	comp=Z,26nm,0.8s						
C18K				IAML		09 32 00.9	
	comp=N,37nm,1.2s						
F19K	**Shaleruckik Mo**	3.95	67	Pn	**Pn**	09 30 50.5	-1.0
F19K				IAmb_Lg		09 31 53.4	
	comp=Z,28nm,0.9s						
J17K	**VABM Dome**	4.06	119	Pn	**Pn**	09 30 52.5	-0.5
J17K				IAmb_Lg		09 32 04.5	
	comp=Z,25nm,0.9s						
J17K				IAML		09 32 05.6	
	comp=N,46nm,0.9s						
J17K				IAML		09 32 09.0	
	comp=E,40nm,1.1s						
K15K	**Wolf Creek Mou**	4.07	141	IAmb_Lg		09 32 02.1	
	comp=Z,28nm,0.9s						
G19K	**Purcell Mounta**	4.11	77		**Pn**	09 30 53.4	-0.3
E19K	**Redstone River**	4.34	60	IAmb_Lg		09 32 16.2	
	comp=Z,35nm,0.9s						
H19K	**Roundabout Mou**	4.38	86	Pn	**Pn**	09 30 56.9	-0.5
H19K				IAML		09 32 11.6	
	comp=N,50nm,0.8s						
D19K	**Kuna River**	4.55	46	Pn	**Pn**	09 30 58.4	-1.4
D19K				IAmb_Lg		09 32 23.8	
	comp=Z,29nm,1.1s						
D19K				IAML		09 32 26.5	
	comp=N,29nm,1.0s						
D19K				IAML		09 32 28.9	
	comp=E,25nm,1.8s						
L14K	**Kuka Creek**	4.66	154		**Pn**	09 31 01.5	+0.3
F20K	**Avaraart Lake**	4.78	67		**Pn**	09 31 01.9	-0.9
F20K				IAML		09 32 26.1	
	comp=N,21nm,1.4s						
J18K	**Innoko River**	4.92	111		**Pn**	09 31 04.5	-0.3
J18K				IAML		09 32 32.8	
	comp=N,25nm,0.9s						
J19K	**Poorman**	5.11	103	Pn	**Pn**	09 31 07.7	+0.2
J19K				IAML		09 32 32.6	
	comp=N,25nm,1.2s						
J19K				IAML		09 32 48.0	
	comp=E,18nm,3.3s						
L16K	**Owhat River**	5.12	136	Pn	**Pn**	09 31 07.4	-0.1
L16K				IAML		09 32 03.6	
	comp=N,20nm,4.2s						
L16K				IAML		09 32 38.6	
	comp=E,23nm,2.1s						
M14K	**Bethel**	5.34	152	Pn	**Pn**	09 31 10.6	0.0
M13K	**Dall Lake**	5.43	161	Pn	**Pn**	09 31 11.5	-0.3
TTA	**Tatalina**	5.47	114	Pn	**Pn**	09 31 13.3	+0.9
TTA				IAML		09 32 51.0	
	comp=E,17nm,2.7s						
TTA				IAML		09 34 19.4	
	comp=N,19nm,3.6s						
J20K	**Nowinta River**	5.65	98	Pn	**Pn**	09 31 14.3	-0.5
H21K	**Melozitna Rive**	5.88	83		**Pn**	09 31 18.1	+0.1
B21K	**Ikpikpuk River**	6.24	44	Pn	**Pn**	09 31 22.1	-0.7
D22K	**Ayikyak River**	6.47	53	Pn	**Pn**	09 31 26.2	+0.2
E22K	**Anaktuvuk Pass**	6.51	60	Pn	**Pn**	09 31 26.5	-0.1
ANDR	**Anadyr'**	6.59	270	*e*P	Pg	09 32 00.6	+3.7
ANDR				*e*Sg	**Sg**	09 33 19.6	-2.5
ANDR				Sgmax		09 33 32.3	
	comp=N,40nm,0.9s						
M19K	**Big River Lodg**	6.69	117	Pn	**Pn**	09 31 29.5	+0.5
BPAW	**Bear Paw Mtn.**	6.98	95	Pn	**Pn**	09 31 33.2	+0.1
N18K	**Kilae Creek**	7.02	129	Pn	**Pn**	09 31 33.9	+0.3
M20K	**Styx River**	7.17	115	Pn	**Pn**	09 31 37.1	+1.4
TOLK	**Toolik Lake Re**	7.45	58	Pn	**Pn**	09 31 38.8	-0.7
C23K	**Itkillik River**	7.54	48	Pn	**Pn**	09 31 38.5	-2.3
D24K	**Happy Valley**	7.86	55	Pn	**Pn**	09 31 44.0	-1.1
STLK	**Strandline Lak**	7.90	114	Pn	**Pn**	09 31 45.8	+0.1
ILAR	**Eielson Array**	8.49	86	Pn	**Pn**	09 31 52.1	-1.7
	comp=N,0.1nm,0.3s,baz=281,slow=14,SNR=6.6						
ILAR				Sn	**Sn**	09 33 26.8	-2.7
	comp=N,0.1nm,0.3s,baz=289,slow=24,SNR=5.9						
ILAR				Lg	Lg	09 34 20.2	
	baz=297,slow=31,SNR=4.5						
	comp=N,0.3nm,0.5s						
BILL	**Bilibino**	10.79	295	*e*Sg		09 35 32.8	
BILL				Sgmax		09 35 40.8	
	comp=N,10.0nm,0.9s						
INK	**Inuvik**	13.29	63	Pn	**Pn**	09 32 59.9	+0.6
	baz=279,slow=11,SNR=3.2						
	comp=N,0.9nm,1.0s						
YKA	**Yellowknife Ar**	22.59	73	P	**P**	09 34 54.6	+3.6
	comp=N,0.2nm,0.8s,baz=309,slow=11,SNR=4.5						
	comp=N,0.2nm,0.8s						
PDAR	**Pinedale Array**	38.73	97	P	**P**	09 37 18.2	+3.1
	comp=N,0.2nm,0.6s,baz=319,slow=12,SNR=2.1						
	comp=N,0.2nm,0.6s						
FINES	**FINESS Array B**	52.93	352	P	**P**	09 39 09.9	+3.4
	comp=N,1.7nm,0.8s,baz=15,slow=7.9,SNR=6.6						
	comp=N,1.7nm,0.8s						

*NERS **22** 09:52:53.6, 65°.47N×166°.40W, h0km*
*AEIC **22** 09:52:56.3±2.6, 65°.49N±0°.03×166°.78W±0°.08, h16km±4km, ML3.7, mb4.0/6(NEIC), mb_Lg3.7/31(NEIC), ML4.1/60(NEIC), Mwr3.8/16(NEIC), Error ellipse: s-maj=5.7km s-min=2.7km az=134.0*
*NEIC **22** 09:52:56.4±2.6, 65°.50N±0°.04×166°.81W±0°.08, h8km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-3.68; Mθθ3.15; Mφφ0.52; Mrθ-3.14; Mθφ-3.71; Mφr-0.80; Fault plane solution: M0 6.01000×10^14^ NP1: φs336.00000°, δ42.63000°, λ-38.47000°. NP2: φs96.31000°, δ65.08000°, λ-125.78000°. Principal axes: T 6.2576, Plg13.0000°, Azm211.0000°; N -0.5247, Plg32.0000°, Azm113.0000°; P -5.7329, Plg55.0000°, Azm320.0000°;*
*NEIC **22** 09:52:56.3, 65°.49N×166°.78W, h16km*
*IDC **22** 09:52:57.8±1.0, 65°.87N×167°.18W, h0km, mb3.9/14, mbtmp3.9/17, ML3.2/3, MS2.7/1, Error ellipse: s-maj=30.5km s-min=12.0km az=17.0*
ISC 22 09:52:56.8±0.9, 65°.52N±0°.04×166°.77W±0°.02, h10km±6km, n143, σ1§44/158, mb4.0/16, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	0.19	104		**Pg**	09 53 00.8	0.0
F14K					**Sg**	09 53 04.0	+0.4
F14K	**Arctic Creek**	0.19	104	P	**Pg**	09 53 00.8	0.0
	baz=274						
F14K				S	**Sg**	09 53 04.0	+0.4
	baz=274						
TNA	**Tin City**	0.48	275		**Pg**	09 53 05.6	-0.6
TNA	**Tin City**	0.48	275		**Sg**	09 53 12.8	+0.3
TNA	**Tin City**	0.48	275	P	**Pg**	09 53 05.9	-0.2
	baz=98						
TNA				S	**Sg**	09 53 12.8	+0.3
	baz=98						
F15K	**North Star Dit**	0.90	77		**Pg**	09 53 13.3	-0.8
F15K				Sg	**Sg**	09 53 24.6	-1.3
F15K				IAML		09 53 28.3	
	comp=E,4μm,0.3s						
ANM	**Nome**	1.13	148		**Pb**	09 53 17.7	-0.7
ANM					**Sn**	09 53 34.0	-0.2
ANM	**Nome**	1.13	148	P	**Pn**	09 53 18.2	-0.5
	baz=328						
ANM				S	**Sn**	09 53 34.0	-0.2
	baz=328						
G15K	**Niukluk**	1.27	114		**Pn**	09 53 20.2	-0.3
G15K					**Sn**	09 53 38.0	+0.4
G15K	**Niukluk**	1.27	114	P	**Pn**	09 53 20.2	-0.3
	baz=294						
G15K				S	**Sn**	09 53 38.0	+0.4
	baz=294						
G16K	**Koyuk River**	1.85	92		**Pn**	09 53 28.9	+0.3
G16K				Sg	**Sb**	09 53 54.4	+0.5
G16K	**Koyuk River**	1.85	92	P	**Pb**	09 53 29.5	-1.1
	baz=275						
G16K				S	**Sg**	09 53 54.7	-1.5
	baz=275						
H16K	**Elim**	2.12	113		**Pn**	09 53 32.6	+0.4
H16K					**Sg**	09 54 03.4	-1.4
H16K	**Elim**	2.12	113	P	**Pn**	09 53 32.6	+0.4
	baz=296						
H16K				S	**Sg**	09 54 03.4	-1.4
	baz=296						
F17K	**Baldwin Pennin**	2.44	65		**Pn**	09 53 35.6	-1.0
F17K				IAML		09 54 21.0	
	comp=N,1μm,0.8s						
F17K				IAML		09 54 21.4	
	comp=E,1μm,0.8s						
F17K	**Baldwin Pennin**	2.44	65	P	**Pn**	09 53 38.5	+1.8
	baz=250						
GAMB	**Gambell**	2.75	233		**Pn**	09 53 40.3	-0.7
GAMB	**Gambell**	2.75	233		**Sn**	09 54 14.4	+0.2
GAMB	**Gambell**	2.75	233	P	**Pn**	09 53 41.4	+0.4
	baz=49						
GAMB				S	**Sn**	09 54 14.4	+0.2
	baz=49						
C16K	**Lisburne Hills**	2.82	11		**Pn**	09 53 41.1	-0.8
C16K				IAML		09 54 30.4	
	comp=E,485nm,0.7s						
C16K				IAmb_Lg		09 54 31.2	
	comp=Z,280nm,1.0s						
C16K				IAML		09 54 35.5	
	comp=N,501nm,0.9s						
H17K	**Granite Mounta**	2.95	98	IAmb_Lg		09 54 30.1	
	comp=Z,267nm,0.7s						
H17K	**Granite Mounta**	2.95	98	P	**Pn**	09 53 44.3	+0.6
	baz=284						
H17K				S	**Sn**	09 54 19.1	0.0
	baz=284						
PVDR	**Provideniya**	2.95	251	*e*Pg	**Pb**	09 53 50.6	+1.2
PVDR				Pgmax		09 53 51.6	
	comp=Z,150nm,0.8s						
PVDR				*e*Sg	**Sg**	09 54 30.4	-1.1
PVDR				Sgmax		09 54 34.4	
	comp=Z,650nm,1.0s						
RDOG	**Red Dog Mine**	2.97	29	Pn	**Pn**	09 53 44.2	+0.2
RDOG				IAmb_Lg		09 54 38.6	
	comp=Z,181nm,0.9s						
RDOG	**Red Dog Mine**	2.97	29	P	**Pn**	09 53 43.5	-0.4
	baz=213						
I17K	**Unalakleet**	3.08	119	Pn	**Pn**	09 53 45.7	+0.2
I17K				IAML		09 54 39.9	
	comp=N,492nm,0.9s						
I17K				IAmb_Lg		09 54 40.8	
	comp=Z,207nm,0.7s						
I17K				IAML		09 54 42.1	
	comp=E,457nm,0.8s						
J14K	**Nanvaranak Lak**	3.12	152		**Pn**	09 53 45.0	-1.0
J14K				IAML		09 54 50.9	
	comp=E,369nm,0.9s						
E18K	**Tukpahlearik C**	3.12	50		**Pn**	09 53 45.6	-0.4
E18K	**Tukpahlearik C**	3.12	50		**Sn**	09 54 24.8	+1.4
E18K	**Tukpahlearik C**	3.12	50	IAML		09 54 44.9	
	comp=N,450nm,0.9s						
E18K				IAML		09 54 49.8	
	comp=E,453nm,0.8s						
E18K	**Tukpahlearik C**	3.12	50	P	**Pn**	09 53 47.8	+1.7
	baz=235						
E18K				S	**Sn**	09 54 24.8	+1.4
	baz=235						
G18K	**Tagagawik**	3.38	80

comp=E,378nm,0.8s
K13K IAML 09 55 17.6
comp=N,318nm,1.0s
C18K Utukok River 3.82 32 Pn Pn 09 53 54.4 -1.3
C18K IAmb_Lg 09 54 59.1
comp=Z,156nm,0.8s
F19K Shaleruckik Mo 3.88 66 Pn Pn 09 53 55.7 -0.8
F19K IAmb_Lg 09 54 58.4
comp=Z,157nm,1.0s
F19K IAML 09 55 02.6
comp=E,254nm,0.7s
J17K VABM Dome 3.96 119 Pn Pn 09 53 57.6 +0.1
J17K IAML 09 55 07.0
comp=N,263nm,0.7s
J17K IAML 09 55 08.7
comp=E,214nm,0.6s
J17K IAmb_Lg 09 55 11.3
comp=Z,253nm,1.1s
K15K Wolf Creek Mou 3.98 142 Pn Pn 09 53 57.4 -0.5
K15K IAmb_Lg 09 55 09.2
comp=Z,194nm,0.9s
G19K Purcell Mounta 4.03 77 Pn Pn 09 53 59.5 +0.9
E19K Redstone River 4.29 59 IAmb_Lg 09 55 14.5
comp=Z,177nm,0.9s
H19K Roundabout Mou 4.30 85 Pn Pn 09 54 02.5 +0.4
H19K IAML 09 55 26.1
comp=N,231nm,0.9s
D19K Kuna River 4.52 45 Pn Pn 09 54 05.1 -0.2
D19K IAmb_Lg 09 55 30.4
comp=Z,106nm,1.0s
D19K IAML 09 55 32.9
comp=N,135nm,0.9s
L14K Kuka Creek 4.58 154 Pn Pn 09 54 07.2 +1.1
L14K IAmb_Lg 09 55 31.9
comp=Z,123nm,0.8s
L14K IAML 09 55 44.1
comp=N,228nm,0.8s
K17K Iditarod 4.66 123 Pn Pn 09 54 08.7 +1.5
K17K IAML 09 55 50.9
comp=N,137nm,1.0s
K17K IAML 09 56 00.3
comp=E,125nm,1.0s
F20K Avaraart Lake 4.72 66 Pn Pn 09 54 07.0 -0.9
F20K IAML 09 55 30.0
comp=N,156nm,0.8s
J18K Innoko River 4.81 111 Pn Pn 09 54 09.0 -0.3
J18K IAML 09 55 35.1
comp=N,160nm,0.9s
J19K Poorman 5.01 103 Pn Pn 09 54 11.8 -0.2
J19K IAML 09 55 38.5
comp=N,127nm,0.9s
J19K IAML 09 55 45.7
comp=E,106nm,0.8s
L16K Owhat River 5.02 136 Pn Pn 09 54 12.9 +0.8
M11K Mekoryuk 5.16 177 Pn Pn 09 54 14.4 +0.4
I20K Naaghedeneel 5.24 92 Pn Pn 09 54 15.1 +0.1
M14K Bethel 5.26 153 Pn Pn 09 54 16.5 +1.1
M14K IAmb_Lg 09 55 52.5
comp=Z,181nm,1.2s
M14K IAML 09 55 56.2
comp=N,108nm,0.8s
M14K IAML 09 56 10.7
comp=E,102nm,0.8s
M13K Dall Lake 5.36 162 Pn Pn 09 54 18.6 +1.9
M13K IAML 09 55 58.3
comp=N,115nm,0.8s
M13K IAML 09 56 23.0
comp=E,128nm,1.0s
TTA Tatalina 5.37 114 Pn 09 54 18.0 +1.0
TTA IAML 09 55 58.4
comp=N,70nm,0.9s
J20K Nowinta River 5.55 98 Pn 09 54 20.2 +0.8
L18K Granite Mounta 5.55 122 Pn Pn 09 54 20.4 +1.0
F21K Alatna River 5.61 66 Pn Pn 09 54 19.9 -0.3
M16K Timber Creek 5.73 138 Pn Pn 09 54 24.2 +2.4
B20K Meade River 5.79 35 Pn 09 54 22.4 -0.3
E21K Killik River 5.81 54 Pn 09 54 25.1 +2.1
M17K Holitna River 5.88 130 Pn 09 54 25.7 +1.8
M17K IAmb_Lg 09 56 11.0
comp=Z,75nm,0.9s
K20K Telida 5.91 106 Pn 09 54 25.8 +1.4
N15K Kwethluk River 6.18 147 Pn Pn 09 54 28.6 +0.5
N15K IAmb_Lg 09 56 21.2
comp=Z,68nm,1.1s
I21K Tanana 6.20 86 Pn 09 54 27.2 -1.1
B21K Ikpikpuk River 6.20 43 Pn 09 54 28.2 -0.1
L19K White Mountain 6.24 117 Pn 09 54 30.5 +1.6
D22K Ayikyak River 6.42 52 Pn 09 54 31.1 -0.3
E22K Anaktuvuk Pass 6.46 59 Pn 09 54 30.6 -1.2
M19K Big River Lodg 6.59 118 Pn 09 54 35.2 +1.6
ANDR Anadyr' 6.68 270 *e*Pg **Pg 09 55 00.3 -4.3**
ANDR Pgmax 09 55 08.8
comp=Z,40nm,0.7s
ANDR *e*Sg **Sg 09 56 29.3 -1.7**
ANDR Sgmax 09 56 36.3
comp=Z,70nm,0.9s
CAST Castle Rocks 6.69 102 Pn 09 54 35.3 +0.2
O14K Tigyukauivet M 6.79 155 Pn Pn 09 54 36.4 0.0
COLD Coldfoot 6.87 68 Pn Pn 09 54 34.4 -3.1
PPLA Purkeypile 6.88 106 Pn Pn 09 54 38.7 +0.9
BPAW Bear Paw Mtn. 6.89 95 Pn Pn 09 54 35.7 -2.0
G23K Bananza Creek 6.90 72 Pn Pn 09 54 35.0 -2.9
KTH Kantishna Hill 7.11 99 Pn Pn 09 54 41.9 +1.0
D23K Nanushuk River 7.12 54 Pn Pn 09 54 40.9 0.0
O16K Kokwok River B 7.17 142 Pn Pn 09 54 43.4 +1.8
E23K Chandalar 7.23 62 Pn 09 54 44.8 +2.3
N19K Bonanza Creek 7.29 125 Pn 09 54 45.2 +1.9
I23K Minto, Yukon-K 7.29 85 Pn Pn 09 54 43.6 +0.3
TOLK Toolik Lake Re 7.40 57 Pn Pn 09 54 44.7 -0.1
TRF Thorofare Moun 7.41 99 Pn Pn 09 54 46.6 +1.5
BWN Browne 7.50 92 Pn Pn 09 54 47.5 +1.5
C23K Itkillik River 7.51 48 Pn 09 54 45.5 -0.6
NEA2 Nenana 7.54 89 Pn 09 54 44.4 -2.3
SKT Skwentna 7.63 111 Pn Pn 09 54 46.7 -1.2
E24K Your Creek 7.65 62 Pn Pn 09 54 51.9 +3.6
O18K Koktuh Hills 7.78 132 Pn Pn 09 54 50.1 +0.1
F24K Squaw Lake 7.79 67 Pn Pn 09 54 51.3 +1.1
STLK Strandline Lak 7.79 114 Pn 09 54 51.5 +1.3
O19K Port Alsworth 7.80 127 Pn 09 54 49.1 -1.1
H24K Noodor Dome 7.80 79 Pn Pn 09 54 47.1 -3.2
D24K Happy Valley 7.81 54 Pn 09 54 50.7 +0.3
MCK McKinley 7.87 95 Pn Pn 09 54 51.3 +0.2
SPU Mount Spurr 7.91 117 Pn Pn 09 54 47.6 -4.2
G24K Hadweenzic Riv 7.92 73 Pn Pn 09 54 48.8 -3.0
WRH Wood River Hil 7.98 89 Pn Pn 09 54 51.6 -1.1
RND Reindeer 8.02 97 Pn Pn 09 54 52.6 -0.7
CCB Clear Creek Bu 8.05 88 Pn Pn 09 54 53.7 0.0
C24K Franklin Bluff 8.06 50 Pn 09 54 52.6 -1.2
P18K Big Mountain, 8.14 134 Pn Pn 09 54 52.4 -2.6
IL31 8.40 86 Pn 09 54 58.0 -0.5
ILAR Eielson Array 8.40 86 Pn Pn 09 54 58.9 +0.4
ILAR Eielson Array 8.40 86 Pn Pn 09 54 58.8 +0.3
comp=Z,0.3nm,0.3s,baz=282,slow=13,SNR=25
ILAR Sn **Sn 09 56 31.4 -1.9**
comp=Z,0.5nm,0.3s,baz=289,slow=24,SNR=7.6
ILAR Lg Lg 09 57 24.8
comp=Z,0.2nm,0.3s,baz=291,slow=28,SNR=4.6
ILAR LR LR 09 58 47.2
comp=Z,57nm,20.7s,baz=304,slow=41
comp=Z,1.6nm,0.6s
F25K Christian Rive 8.66 67 Pn Pn 09 55 01.5 -0.5
D25K Kavik River 8.70 55 Pn 09 55 01.0 -1.6
E25K Arctic Village 8.74 63 Pn 09 55 02.5 -0.6
PRP Porcupine Dome 8.81 80 Pn Pn 09 55 03.5 -0.7
RC01 Rabbit Creek A 8.85 112 Pn 09 55 03.4 -1.2
SML Sawmill 8.99 106 Pn Pn 09 55 03.9 -2.6
F26K Sheenjek River 9.24 66 Pn Pn 09 55 08.2 -1.8
C27K Jago River 9.68 55 Pn 09 55 15.1 -1.0
J26L Joseph Creek 9.86 85 Pn Pn 09 55 16.5 -1.9
KDAK Kodiak Island 10.26 132 Pn Pn 09 55 26.9 +3.1
comp=Z,0.2nm,0.3s,baz=183,slow=23,SNR=1.2
comp=Z,5.3nm,0.9s
D27M Malcolm River 10.56 58 Pn 09 55 25.5 -2.6
F28M Old Crow 10.87 67 Pn 09 55 31.4 -0.9
BILL Bilibino 10.89 295 *e*Sg 09 58 39.4
BILL Sgmax 09 58 44.0
comp=Z,20nm,0.9s
BILL Sgmax 09 58 44.0
comp=Z,10.0nm,0.9s
E29M Blow River 11.61 63 Pn 09 55 40.6 -1.7
INK Inuvik 13.23 63 Pn Pn 09 56 03.6 -0.8
comp=Z,0.1nm,0.3s,baz=300,slow=16,SNR=8.1
INK Sn **Sn 09 58 25.9 -5.5**
baz=87,slow=31,SNR=1.5
comp=Z,1.6nm,0.9s
A36M Sachs Harbour 16.05 48 Pn 09 56 40.5 -1.7
A36M IAmb IAmb 09 56 45.5
comp=Z,12nm,0.8s
C36M Paulatuk 16.55 58 Pn 09 56 46.6 -2.0
C36M IAmb IAmb 09 56 56.8
comp=Z,19nm,1.1s
SEY Seymchan 17.72 281 P P 09 57 05.2 +1.0
comp=Z,0.2nm,0.3s,baz=87,slow=12,SNR=4.0
YKA Yellowknife Ar 22.51 73 P P 09 57 59.7 +3.5
comp=Z,0.4nm,0.8s,baz=299,slow=10,SNR=11
comp=Z,0.4nm,0.8s
RES Resolute Bay 24.38 38 P P 09 58 15.1 +0.5
RES IAmb IAmb 09 58 53.1
comp=Z,4.4nm,1.3s
EUNU Eureka 24.86 24 P P 09 58 19.7 +0.8
NRIK Noril'sk 35.91 324 P P 09 59 57.0 +0.4
comp=Z,1.3nm,0.4s,baz=43,slow=10,SNR=4.1
comp=Z,1.3nm,0.4s
SONM Songino Array 46.58 292 P P 10 01 26.2 +1.6
comp=Z,0.9nm,0.9s,baz=48,slow=5.6,SNR=4.7
comp=Z,0.9nm,0.9s
ZALV Zalesovo Beam 49.04 312 P P 10 01 43.7 +0.3
comp=Z,2.2nm,0.6s,baz=39,slow=7.9,SNR=7.2
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 52.58 101 P P 10 02 14.1 +3.7
comp=Z,0.1nm,0.7s,baz=325,slow=5.9,SNR=1.9
comp=Z,0.1nm,0.7s
FINES FINESS Array B 52.98 352 P P 10 02 12.9 0.0
comp=Z,2.3nm,0.9s,baz=13,slow=4.3,SNR=4.4
comp=Z,2.3nm,0.9s
KURK Kurchatov 53.74 314 P P 10 02 18.3 -0.3
KURBB Kurchatov Arra 53.85 314 P P 10 02 19.6 +0.2
comp=Z,1.3nm,0.7s,baz=28,slow=7.3,SNR=8.7
comp=Z,1.3nm,0.7s
BVAR Borovoye Array 53.98 321 P P 10 02 20.6 +0.3
comp=Z,1.9nm,0.6s,baz=40,slow=12,SNR=6.2
comp=Z,1.9nm,0.6s
MK31 Makanchi Array 56.07 309 P P 10 02 34.3 -1.2
MK31 IAmb IAmb 10 02 36.2
comp=Z,1.1nm,0.9s
MKAR Makanchi Array 56.07 309 P P 10 02 35.3 -0.3
MKAR Makanchi Array 56.07 309 P P 10 02 35.6 +0.1
comp=Z,0.6nm,0.7s,baz=49,slow=7.5,SNR=6.9
comp=Z,0.6nm,0.7s
AKTO Aktyubinsk 59.35 328 P P 10 02 58.0 -0.5
comp=Z,2.7nm,0.8s,baz=10,slow=5.7,SNR=9.1
comp=Z,2.7nm,0.8s
ABKAR Akbulak array 60.03 327 P P 10 03 03.2 +0.1
AKASG Malin Array Be 63.45 349 P P 10 03 25.8 -0.4
comp=Z,0.5nm,0.5s,baz=10,slow=6.4,SNR=2.5
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 74.28 14 P P 10 04 32.8 -1.1
comp=Z,1.3nm,0.9s,baz=346,slow=5.5,SNR=5.2
comp=Z,1.3nm,0.9s
CMAR Chiang Mai Arr 75.14 282 P P 10 04 39.0 0.0
comp=Z,1.1nm,0.3s,baz=5.9,slow=6.6,SNR=5.5
comp=Z,1.1nm,0.3s
KEST Kesra 79.03 3 P P 10 05 00.3 -0.5
comp=Z,3.8nm,0.5s,baz=347,slow=3.8,SNR=4.1
comp=Z,3.8nm,0.5s

*NNC **22** 09:55:50.7±2.1,50°.83N×77°.47E,h0km,mb3.4,mpv3.0,*
Error ellipse: s-maj=19.7km s-min=11.1km az=3.0
*IDC **22** 09:55:53.5±1.0,50°.06N×78°.78E,h0km,mbtmp2.5/2,*
ML1.8/2,Error ellipse: s-maj=12.5km s-min=6.2km
az=64.0
*SOME **22** 09:56:02.7,49°.80N×79°.32E*
ISC 22 09:55:52.6±1.4,49°.98N±0°.05×78°.6E±0°.1,h0km,n10,
σ1°56/13,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.65**	**357**	Pg	**Pg**	**09 56 04.6**	**-0.5**
	0.7nm,0.3s,baz=167,slow=19,SNR=27						
KURBB				Lg	Lg	09 56 13.9	
	1.8nm,0.3s,baz=161,slow=33,SNR=18						
KURBB	**Kurchatov Arra**	**0.65**	**357**	⇑P	**Pg**	**09 56 04.3**	**-0.8**
	15nm,0.8s,baz=294,slow=13						
KURBB				⇓S	**Sg**	**09 56 13.9**	**+0.4**
	97nm,0.7s						
KURK	**Kurchatov**	**0.74**	**2**	⇑P	**Pg**	**09 56 05.5**	**-1.3**
	4.7nm,0.5s						
KURK				⇓S	**Sg**	**09 56 15.9**	**-0.6**
	57nm,1.0s						
SEM	**Semipalatinsk**	**1.16**	**67**	P	**Pn**	**09 56 19.1**	**+2.8**
	6.5nm,0.1s						
SEM				S	**Sg**	**09 56 28.6**	**-1.2**
	17nm,0.1s						
MAKZ	**Makanchi**	**3.90**	**143**	⇓Pn	**Pg**	**09 57 06.9**	**-0.3**
	2.4nm,1.0s						
MAKZ				⇑Lg	Lg	09 57 54.2	
	3.8nm,0.6s						
MK31	**Makanchi Array**	**4.03**	**141**	⇑Pn	**Pg**	**09 57 07.6**	**-2.2**
	0.6nm,0.4s,baz=326,slow=14,SNR=7.9						
MK31				⇑Lg	Lg	09 57 59.0	
	3.1nm,0.5s,baz=330,slow=26						
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**09 56 56.1**	**+0.5**
	0.1nm,0.3s,baz=321,slow=10,SNR=6.5						
MKAR				Pg	**Pb**	**09 57 03.9**	**-0.6**
	0.2nm,0.3s,baz=329,slow=14,SNR=8.4						
MKAR				Sn	**Sn**	**09 57 46.0**	**+2.5**
	0.1nm,0.3s,baz=1.8,slow=15,SNR=2.0						
MKAR				Lg	Lg	09 57 59.0	
	1.3nm,0.3s,baz=330,slow=26,SNR=16						
	0.2nm,0.4s						
ZSN	**Zaisan**	**4.87**	**119**	Lg	Lg	09 58 20.4	
	4.9nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.54**	**42**	I	I	10 28 00.0	
	baz=222,slow=326,SNR=2.9						
ZALV	**Zalesovo Beam**	**5.54**	**42**	Pn	**Pn**	**09 57 15.8**	**-0.5**
	0.1nm,0.3s,baz=233,slow=14,SNR=2.3						
ZALV				Lg	Lg	09 58 44.2	
	0.2nm,0.3s,baz=238,slow=29,SNR=2.2						
	0.9nm,0.5s						

*SDD **22** 09:58:37.6±2.5,20°.21N×72°.55W,h118km±30km,MD3.6,*
ML3.0,MW3.4
*SSNC **22** 09:58:37.8±1.1,20°.36N×72°.61W,h13km±7km,MD3.1,*
ML2.5
*OSPL **22** 09:58:38.1±1.4,20°.07N×72°.74W,h0km±14km,ML2.6,*
Hypocentre not reviewed by the ISC
ISC 22 09:58:36.1±2.2,20°.2N±0°.1×72°.62W±0°.06,h100km±25km,
n13,σ2°.03/26,8C-2D,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.95**	**107**	⇑*e*Pg	**Pn**	**09 58 57.2**	**+1.2**
MCDR				⇓*e*Sg	**Sn**	**09 59 13.4**	**+2.4**
MCDR				IAML		09 59 14.8	
	comp=N,427nm,0.1s						
LODA1	**ITESIL, Dajabo**	**1.07**	**126**	*i* P		09 58 42.7	
LODA1				*e*S		09 58 58.1	
LODA1				IAML		09 58 59.5	
	comp=Z,911nm,4.5s						
MASC	**Masc**	**1.51**	**270**	*e*P	**Pn**	**09 59 02.9**	**+0.5**
MASC				*e*S	**Sn**	**09 59 21.0**	**-1.5**
MASC				*e*Sg		09 59 22.5	
MASC				IAML		09 59 23.1	
	comp=N,52nm,0.2s						
MASC				IAML		09 59 23.1	
	comp=E,27nm,0.2s						
MASC	**Masc**	**1.51**	**270**	*i* P		09 59 03.0	
MASC				*e*S		09 59 21.6	
MASC				IAML		09 59 26.6	
	comp=Z,57nm,0.8s						
REDR	**Restauracion**	**1.53**	**131**	⇓⇑*e*Pg	**Pn**	**09 58 59.9**	**-2.9**
REDR				⇑*e*Sg	**Sn**	**09 59 16.0**	**-7.0**
REDR				IAML		09 59 17.9	
	comp=N,386nm,0.1s						
SDDR	**Presa de Saban**	**1.73**	**133**	*e*P	**Pn**	**09 59 07.3**	**+2.0**
SDDR				*e*S	**Sn**	**09 59 28.8**	**+1.3**
SDDR				IAML		09 59 33.6	
	comp=N,44nm,0.2s						
SDDR				IAML		09 59 35.8	
	comp=N,87nm,0.3s						
SDDR	**Presa de Saban**	**1.73**	**133**	⇑*e*Pg	**Pn**	**09 59 07.2**	**+2.0**
SDDR				⇑*e*Sg	**Sn**	**09 59 28.1**	**+0.6**
SDDR				IAML		09 59 35.9	
	comp=N,89nm,0.3s						
SDDR	**Presa de Saban**	**1.73**	**133**	*i* P		09 59 07.6	
SDDR				*e*S		09 59 28.9	
SDDR				IAML		09 59 34.6	
	comp=Z,50nm,0.3s						
JIDR	**Jimani**	**1.82**	**156**	⇑*e*Pg	**Pn**	**09 59 07.4**	**+1.0**
JIDR				⇑*e*Sg	**Sn**	**09 59 30.2**	**+0.7**
JIDR				IAML		09 59 41.0	
	comp=N,36nm,2.5s						
LONE3	**El Aguacate, B**	**1.91**	**145**	*i* P		09 59 09.3	
LONE3				*e*S		09 59 34.5	
LONE3				IAML		09 59 38.0	
	comp=Z,27nm,1.1s						
GRTK	**Grand Turk**	**1.93**	**46**	*i* P		09 59 12.6	
GRTK				IAML		10 00 05.0	
	comp=Z,60nm,2.0s						
SC01	**Santiago de lo**	**1.93**	**112**	⇑*e*Pg	**Pn**	**09 59 08.0**	**+0.2**
SC01				⇑*e*Sg	**Sn**	**09 59 30.3**	**-1.8**
SC01				IAML		09 59 45.7	
	comp=N,83nm,0.5s						
SC01	**Santiago de lo**	**1.93**	**112**	*i* P		09 59 11.3	
QMBU	**Quimbuelo**	**2.06**	**271**	*e*P	**Pn**	**09 59 10.0**	**+0.6**
QMBU				*e*S	**Sn**	**09 59 34.2**	**-0.7**
QMBU				IAML		09 59 37.1	
	comp=E,79nm,0.3s						
QMBU				IAML		09 59 37.2	
	comp=N,59nm,0.4s						
MOAC	**Moa**	**2.25**	**283**	*e*P	**Pn**	**09 59 12.3**	**+0.5**
MOAC				*e*S	**Sn**	**09 59 37.4**	**-1.8**
MOAC				IAML		09 59 43.4	
	comp=E,13nm,0.1s						
MOAC				IAML		09 59 44.5	
	comp=N,19nm,0.2s						
GTBY	**Guantanamo Bay**	**2.35**	**264**	*e*P	**Pn**	**09 59 13.6**	**+0.4**
GTBY				*e*S	**Sn**	**09 59 41.4**	**-0.3**
GTBY				IAML		09 59 44.8	
	comp=N,12nm,0.1s						
GTBY				IAML		09 59 45.5	
	comp=N,15nm,0.1s						
GTBY	**Guantanamo Bay**	**2.35**	**264**	*i* P		09 59 14.4	
GTBY				*e*S		09 59 41.3	
GTBY				IAML		09 59 46.5	
	comp=Z,40nm,3.0s						
RCC	**Rio Carpintero**	**2.89**	**267**	*e*P	**Pn**	**09 59 21.1**	**+0.7**
RCC				*e*S	**Sn**	**09 59 54.0**	**-0.6**
PINC	**Pinares de May**	**2.99**	**277**	*e*P	**Pn**	**09 59 23.3**	**+1.6**
PINC				*e*S	**Sn**	**09 59 56.0**	**-0.8**
PINC				IAML		10 00 05.6	
	comp=N,15nm,0.1s						
PINC				IAML		10 00 05.8	
	comp=E,15nm,0.1s						
MARVS	**Santiago de Cu**	**3.08**	**267**	*e*P	**Pn**	**09 59 23.7**	**+0.7**
MARVS				*e*S	**Sn**	**09 59 59.0**	**-0.2**
MARVS				IAML		10 00 01.5	
	comp=N,8.5nm,0.2s						
MARVS				IAML		10 00 02.3	
	comp=E,10nm,0.2s						

NNC 22 10:14:47.1±0.9,51°.02N×73°.58E,h0km,mb3.9,mpv3.6,
10C-3D,Error ellipse: s-maj=9.5km s-min=7.4km az=7.0,
Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.82**	**317**	⇑Pn	Pn	10 15 33.9	+0.5
	12nm,1.1s,baz=131,slow=14,SNR=36						
BVA0				⇑Lg	Lg	10 16 15.8	
	132nm,1.0s,baz=128,slow=31						
BRVK	**Borovoye**	**2.89**	**316**	⇑Pn	Pn	10 15 34.9	+0.5
	9.7nm,1.1s						
BRVK				⇑Lg	Lg	10 16 18.4	
	33nm,0.6s						
OTUK	**Ortayu**	**2.89**	**197**	Lg	Lg	10 16 04.3	
	14nm,1.1s						
OTUK	**Ortayu**	**2.89**	**197**	⇑Pn	Pn	10 15 33.5	-0.9
	15nm,1.0s						
OTUK				⇑Sn	Sn	10 16 10.5	+0.6
	75nm,0.9s						
KURBB	**Kurchatov Arra**	**3.16**	**95**	⇓Pn	Pn	10 15 37.5	-0.6
	8.5nm,0.6s						
KURBB				⇓Sn	Sn	10 16 18.3	+1.9
	178nm,0.8s						
KURK	**Kurchatov**	**3.21**	**93**	⇑Pn	Pn	10 15 37.8	-0.9
	6.6nm,0.8s						
KURK				⇓Sn	Sn	10 16 19.2	+1.7
	144nm,1.1s						
BTLS	**Baital**	**5.99**	**177**	Pg	Pn	10 16 22.4	+5.4
	2.1nm,1.1s						
TDK	**Taldyqorghan**	**6.83**	**150**	Pg	Pn	10 16 36.0	+7.5
	46nm,0.6s						
TDK				Lg	Lg	10 17 59.4	
	146nm,1.0s						
KAPS	**Kapalarasan**	**6.91**	**144**	Pg	Pn	10 16 38.2	+8.5
	1.1nm,0.1s						
KAPS				Lg	Lg	10 18 03.4	
	31nm,1.1s						
MAKZ	**Makanchi**	**6.95**	**124**	⇑Pn	Pn	10 16 31.5	+1.4
	5.5nm,1.4s						
MAKZ				⇑Sn	Sn	10 17 50.7	+0.8
	5.1nm,1.0s						
MK31	**Makanchi Array**	**7.12**	**123**	Pn	Pn	10 16 32.5	0.0
	0.5nm,0.8s,baz=293,slow=12,SNR=4.7						
MK31				⇑Sn	Sn	10 17 54.7	+0.5
	6.3nm,0.9s						
KRBS	**Karabastau**	**7.46**	**168**	Pg	Pb	10 16 50.0	-7.4
	0.8nm,0.6s						
KRBS				Lg	Lg	10 18 23.7	
	44nm,1.0s						
KTBS	**Karatobe**	**7.60**	**163**	Pg	Pb	10 16 51.8	-8.0
	1.6nm,0.5s						
KTBS				Lg	Lg	10 18 26.4	
	19nm,1.0s						
KNOS	**Konyrlen**	**7.65**	**148**	Pg	Pb	10 16 51.8	-8.9
	1.6nm,0.4s						
KNOS				Lg	Lg	10 18 26.7	
	15nm,0.3s						
DJR	**Jarkent**	**7.89**	**146**	Pg	Pb	10 16 55.9	-8.7
	4.3nm,1.9s						
DJR				Lg	Lg	10 18 33.4	
	11nm,1.1s						
DGS	**Degeres**	**7.92**	**168**	Pg	Pb	10 16 58.4	-6.8
	2.8nm,0.3s						
DGS				Lg	Lg	10 18 37.9	
	42nm,1.0s						
KST	**Kastek**	**8.14**	**168**	Pg	Pb	10 17 02.4	-6.6
	3.5nm,0.8s						
KST				Lg	Lg	10 18 45.0	
	29nm,1.0s						
KOTS	**Kotyrbulak**	**8.15**	**161**	Pg	Pb	10 17 01.8	-7.3
	4.0nm,0.3s						
KOTS				Lg	Lg	10 18 43.6	
	29nm,0.9s						
KURS	**Kuram**	**8.15**	**156**	Pg	Pb	10 17 01.4	-7.7
	5.9nm,0.6s						
KURS				Lg	Lg	10 18 43.3	
	27nm,0.9s						
TNSS	**Tian-Shan**	**8.30**	**163**	Pg	Pb	10 17 04.4	-7.6
	1.0nm,0.3s						
TNSS				Lg	Lg	10 18 48.5	
	3.4nm,0.9s						
KPKS	**Kokpek**	**8.31**	**153**	Pg	Pb	10 17 04.8	-7.0
	0.8nm,0.1s						
KPKS				Lg	Lg	10 18 49.4	
	20nm,0.9s						
BRLS	**Borolday**	**8.39**	**199**	Pg	Pb	10 17 16.1	+2.9
	2.7nm,1.7s						
BRLS				Lg	Lg	10 19 08.2	
	7.7nm,0.9s						
SATY	**Saty**	**8.61**	**156**	Pg	Pn	10 17 09.6	+17
	2.3nm,0.8s						
SATY				Lg	Lg	10 18 57.0	
	23nm,1.1s						
UZB	**Uzynbulak**	**8.70**	**153**	Pg	Pn	10 17 11.4	+17
	5.1nm,0.2s						
UZB				Lg	Lg	10 18 59.7	
	15nm,1.3s						

*CATAC **22** 10:16:47.8±2.1,4°.S±20°.×7°.5W±3°.9,h10km,M6.3/31,*
mB6.8/31,mb6.7/30,Mw(mB)6.7/31,MwMwp5.6/21,
Mwp5.8/21,rejected
*BJI **22** 10:17:20.5,2°.17S×76°.86W,h140km,mB7.1/37*
*IGQ **22** 10:17:20.9±0.4,2°.S±3°.×7°.7W±°.,h146km±3km*
*NEIC **22** 10:17:22.2,2°.21S×76°.92W,h120km,Moment Tensor*
Solution. Duration: 28s3 Moment tensor: Scale 10^{20}Nm;
M_{rr}=1.37; $M_{\theta\theta}$0.50; $M_{\phi\phi}$0.86; $M_{r\theta}$1.24; $M_{\theta\phi}$-1.06; $M_{\phi r}$-0.76;
Fault plane solution: $M_0$2.15000×10^{20} NP1:
ϕ_s157.94000°,δ26.43000°,λ-60.57000°. NP2:
ϕ_s305.73000°,δ67.19000°,λ-103.72000°. Principal axes:

T 2.2948, Plg21.0000°, Azm46.0000°; N -0.2937, Plg13.0000°, Azm311.0000°; P -2.0011, Plg65.0000°, Azm192.0000°;
IPGP ***22*** *10:17:22.0,2.20S×77.02W,h147km,Mw7.4,Fault plane solution: NP1:ϕs179.00000°,δ24.00000°,λ-38.00000°. NP2:ϕs304.00000°,δ76.00000°,λ-109.00000°.*
MOS ***22*** *10:17:22.8±1.0,2.10S×77.01W,h152km,mb7.0/30,Error ellipse: s-maj=7.6km s-min=5.1km az=87.8 Broadband fault plane solution: P waves. NP1:ϕs207.00000°, δ21.00000°,λ-17.00000°. NP2:ϕs313.00000°,δ84.00000°, λ-110.00000°. Principal axes: T Plg36.0000°, Azm60.0000°; N Plg20.0000°, Azm315.0000°; P Plg47.0000°, Azm201.0000°;*
RSNC ***22*** *10:17:22.3±0.3,2.3S±2.3×77.7W±.7,h132km±3km,M7.4,mb6.9, mB7.5,ML6.0,Mw(mB)7.6,MwMwp7.5,Mwp7.2*
VAO ***22*** *10:17:22.5±0.4,2.22S×76.98W,h142km±3km,mb6.9*
NEIC ***22*** *10:17:22.2,2.21S×77.02W,h120km*
NEIC ***22*** *10:17:22.1,2.21S×77.00W,h129km*
NEIC ***22*** *10:17:23.8±2.3,2.19S±0.06×77.05W±0.05,h145km±1km, mb6.8/921,Mwb7.4/104,Mww7.5/144,Error ellipse: s-maj=10.1km s-min=8.9km az=206.0,Moment Tensor Solution. Moment tensor: Scale 10^20Nm; Mrr-0.77; Mθθ0.13; Mϕϕ0.65; Mrθ1.13; Mϕθ-0.60; Mϕr-0.49; Fault plane solution: Mo1.55000×10^20 NP1:ϕs173.62000°, δ25.90000°,λ-39.58000°. NP2:ϕs300.25000°,δ73.84000°, λ-110.52000°. Principal axes: T 1.5548, Plg26.0000°, Azm46.0000°; N -0.0135, Plg20.0000°, Azm306.0000°; P -1.5414, Plg56.0000°, Azm184.0000°;*
UCR ***22*** *10:17:24.4±1.2,2.19S×77.05W,h145km,MW7.5(NEIC)*
OSUNB ***22*** *10:17:24.4±0.2,2.25S×76.80W,h153km±1km,Mw7.4/72, Error ellipse: s-maj=1.5km s-min=1.5km az=0.0*
IDC ***22*** *10:17:24.3±0.4,2.11S×76.94W,h158km±2km,mb6.0/39, mbtmp6.4/42,MS6.7/29,Error ellipse: s-maj=9.7km s-min=7.2km az=72.0*
BGR ***22*** *10:17:26.9,2.46S×75.99W,h163km±1km,mb6.7*
GCMT ***22*** *10:17:27.8±0.1,2.26S×77.09W,h121km,MW7.5/177, Moment Tensor Solution. s177,c488; s177,c954; Duration: 13±5 Moment tensor: Scale 10^20Nm; Mrr-1.28±.01; Mθθ0.41±.00; Mϕϕ0.87±.00; Mrθ1.32±.01; Mθϕ-0.97±.00; Mϕr-0.76±.01; Best double couple: Mo2.12300×10^20 NP1:ϕs163.00000°,δ26.00000°, λ-55.00000°. NP2:ϕs305.00000°,δ69.00000°, λ-106.00000°. Principal axes: T 2.2270, Plg23.0000°, Azm46.0000°; N -0.2110, Plg14.0000°, Azm310.0000°; P -2.0190, Plg63.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 22 10:17:22.7±0.2,**2.28S**±0.02×**77.01W**±0.02,**h150**km±1km, **h150**km;**pP-P,n2870,**σ1§**69**/3601,**mb6.8**/610,**377C-177D, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.28**	**307**	⇓P	**Pn**	**10 17 48.2**	**-2.0**
PUYO				S	**Sn**	**10 18 09.8**	**-1.4**
ARDO	**Archidona, Ten**	**1.50**	**328**	⇓P	**Pn**	**10 17 50.1**	**-2.3**
ARDO				S	**Sn**	**10 18 14.8**	**-0.4**
BPAT	**Tungurahua Vol**	**1.62**	**298**	⇓P	**Pn**	**10 17 51.4**	**-2.7**
BPAT				S	**Sn**	**10 18 15.4**	**-2.6**
BULB	**Ulba Tungurahu**	**1.63**	**301**	⇓P	**Pn**	**10 17 51.4**	**-2.7**
BMAS	**Trigal station**	**1.66**	**298**	S	**Sn**	**10 18 16.3**	**-2.3**
BMAS				⇓P	**Pn**	**10 17 50.6**	**-3.8**
POND	**Pondoa**	**1.68**	**300**	⇓P	**Pn**	**10 17 51.8**	**-2.8**
POND				S	**Sn**	**10 18 17.0**	**-1.9**
JUI6	**Juive**	**1.69**	**300**	P	**Pn**	**10 17 51.7**	**-2.9**
BBIL	**Ulba Tungurahu**	**1.69**	**299**	⇓P	**Pn**	**10 17 52.0**	**-2.7**
BBIL				S	**Sn**	**10 18 17.5**	**-1.7**
BOSC	**San Juan Bosco**	**1.72**	**240**	P	**Pn**	**10 17 51.2**	**-3.7**
IGUA	**Igualata**	**1.81**	**296**	⇓P	**Pn**	**10 17 53.8**	**-2.5**
PIS1	**Pisayambo**	**1.83**	**311**	⇓P	**Pn**	**10 17 54.4**	**-2.1**
PIS1				S	**Sn**	**10 18 20.7**	**-1.6**
AZOG	**Ecuador-Azogue**	**1.90**	**255**	P	**Pn**	**10 17 54.0**	**-3.0**
TAMH	**Tambohuasha Ch**	**1.92**	**292**	⇓P	**Pn**	**10 17 55.3**	**-2.1**
TAMH				S	**Sn**	**10 18 21.5**	**-2.4**
VCES	**Cotopaxi**	**2.02**	**317**	⇓P	**Pn**	**10 17 57.5**	**-1.1**
JSCH	**Cashca Tororas**	**2.05**	**286**	⇑P	**Pn**	**10 17 56.9**	**-1.9**
JSCH				S	**Sn**	**10 18 23.7**	**-2.7**
ACUE	**Ecuador-Cuenca**	**2.05**	**252**	P	**Pn**	**10 17 55.5**	**-3.2**
TAMB	**Tambo**	**2.08**	**319**	⇓P	**Pn**	**10 17 58.2**	**-1.1**
BRRN	**Barrancas-Volc**	**2.09**	**315**	⇓P	**Pn**	**10 17 58.1**	**-1.2**
ALAT	**Latacunga**	**2.10**	**310**	⇓P	**Pn**	**10 17 58.5**	**-0.9**
BMOR	**Cotopaxi Volca**	**2.11**	**317**	⇓P	**Pn**	**10 17 58.7**	**-1.1**
BMOR				S	**Sn**	**10 18 28.1**	**-0.1**
BTAM	**Cotopaxi Volca**	**2.11**	**319**	⇓P	**Pn**	**10 17 58.8**	**-0.9**
BVC2	**Cotopaxi Volca**	**2.13**	**319**	⇓P	**Pn**	**10 17 59.2**	**-0.8**
SLOR	**San Lorenzo -**	**2.14**	**316**		**Pn**	**10 17 58.6**	**-1.4**
SLOR	**San Lorenzo -**	**2.14**	**316**	⇓P	**Pn**	**10 17 59.0**	**-0.9**
VC1	**Cotopaxi 1**	**2.14**	**319**	⇓P	**Pn**	**10 17 59.1**	**-0.9**
BREF	**Cotopaxi Volca**	**2.15**	**318**	⇓P	**Pn**	**10 17 59.7**	**-0.5**
ANTI	**Antisana**	**2.15**	**328**	⇓P	**Pn**	**10 17 58.8**	**-1.5**
BNAS	**Cotopaxi Volca**	**2.17**	**317**	⇓P	**Pn**	**10 18 00.5**	**+0.2**
SRAM	**San Ramn-Vol**	**2.17**	**314**	⇓P	**Pn**	**10 17 59.6**	**-0.7**
CAMI	**Rancho Maria**	**2.18**	**317**	⇓P	**Pn**	**10 17 59.3**	**-1.2**
SUCR	**Mariscal Sucre**	**2.20**	**318**	⇓P	**Pn**	**10 18 00.1**	**-0.6**
PITA	**Cotopaxi Volc**	**2.22**	**320**	⇓P	**Pn**	**10 18 00.0**	**-1.0**
COHC	**Cochancay**	**2.25**	**265**	Pn	**Pn**	**10 17 57.7**	**-3.2**
COHC				Sn	**Sn**	**10 18 29.3**	**-0.8**
COHC	**Cochancay**	**2.25**	**265**	P	**Pn**	**10 17 58.8**	**-2.0**
COHC	**Cochancay**	**2.25**	**265**	⇑P	**Pn**	**10 17 57.7**	**-3.2**
COHC	**Cochancay**	**2.25**	**265**	P		10 17 58.8	
PAST	**Pastocalle**	**2.27**	**314**	P	**Pn**	**10 18 00.1**	**-1.4**
TOMA	**Boca Toma-Volc**	**2.27**	**321**	⇓P	**Pn**	**10 18 00.7**	**-0.8**
ILLI	**Illinizas Sur**	**2.32**	**312**	⇓P	**Pn**	**10 18 00.6**	**-1.5**
AV03	**Acelerografo,**	**2.33**	**352**	⇓P	**Pn**	**10 18 00.5**	**-1.4**
APS1	**Acelerografo,**	**2.36**	**2**	⇓P	**Pn**	**10 18 02.0**	**-0.2**
CASC	**Dorado de Casc**	**2.42**	**352**	⇓P	**Pn**	**10 18 02.0**	**-1.0**
TING	**Casa Alexandra**	**2.45**	**324**	⇓P	**Pn**	**10 18 03.2**	**-0.3**
CAYR	**Refugio Cayamb**	**2.49**	**336**	P	**Pn**	**10 18 04.0**	**-0.4**
ANGU	**Angureal**	**2.52**	**337**	⇓P	**Pn**	**10 18 04.3**	**-0.4**
CAYA	**Cayambe**	**2.53**	**337**	⇓P	**Pn**	**10 18 04.7**	**-0.1**
CIVI	**Edificio de In**	**2.53**	**324**	P	**Pn**	**10 18 04.8**	**+0.2**
AIMS	**Ecuador-Tababe**	**2.54**	**328**	⇓P	**Pn**	**10 18 04.5**	**-0.1**
MILO	**Milagro-Astudi**	**2.55**	**270**	⇑P	**Pn**	**10 18 00.9**	**-3.5**
AV11	**Acelerografo,**	**2.58**	**328**	P	**Pn**	**10 18 05.0**	**-0.2**
JUA2	**San Juan 2**	**2.60**	**322**	⇓P	**Pn**	**10 18 04.4**	**-1.2**
GGPT	**Toaza - Volcan**	**2.60**	**322**	⇓P	**Pn**	**10 18 04.4**	**-1.1**
GGPC	**Guagua Pichinc**	**2.62**	**323**	⇓P	**Pn**	**10 18 04.8**	**-1.2**
TERV	**Terraza Guagua**	**2.63**	**323**	⇓P	**Pn**	**10 18 05.1**	**-1.0**
PINO	**Pino**	**2.64**	**323**	⇓P	**Pn**	**10 18 04.9**	**-1.4**
YANA	**Yana**	**2.65**	**324**	⇓P	**Pn**	**10 18 05.0**	**-1.3**
PULU	**Pululahua**	**2.73**	**327**	⇓P	**Pn**	**10 18 06.0**	**-1.1**
AQUE	**Quevedo**	**2.77**	**296**	⇓P	**Pn**	**10 18 05.4**	**-1.8**
IMBA	**Imbabura, San**	**2.80**	**335**	⇓P	**Pn**	**10 18 08.3**	**+0.3**
AIB2	**Ibarra (Univer**	**2.82**	**337**	⇓P	**Pn**	**10 18 08.5**	**+0.3**
YAHU	**Yahuarcocha**	**2.84**	**338**	⇓P	**Pn**	**10 18 08.9**	**+0.4**
OTAV	**Otavalo**	**2.88**	**330**	Pn	**Pn**	**10 18 08.3**	**-1.1**
OTAV	**Otavalo**	**2.88**	**330**	P	**Pn**	**10 18 08.6**	**-0.5**
OTAV	**Otavalo**	**2.88**	**330**	⇓P	**Pn**	**10 18 07.6**	**-1.5**
OTAV	**Otavalo**	**2.88**	**330**	P	**Pn**	**10 18 08.2**	**-0.9**
OTAV	**Otavalo**	**2.88**	**330**	*e*P	**Pn**	**10 18 08.0**	**-1.1**
OTAV	**Otavalo**	**2.88**	**330**	P		10 18 08.6	
GYE3	**Ecuador-Guayaq**	**2.89**	**272**	P	**Pn**	**10 18 04.1**	**-4.7**
CUIC	**Cuicocha-Domo**	**2.90**	**332**	⇓P	**Pn**	**10 18 08.6**	**-0.6**
ASDO	**Santo Domingo**	**2.91**	**313**	⇓P	**Pn**	**10 18 08.3**	**-0.8**
COTA	**Cotacachi**	**2.92**	**333**	⇓P	**Pn**	**10 18 09.2**	**-0.3**
CUSE	**Cuicocha Este**	**2.92**	**331**	P	**Pn**	**10 18 09.3**	**-0.2**
CUSE	**Cuicocha Este**	**2.92**	**331**	⇓P	**Pn**	**10 18 08.7**	**-0.8**
CUSE	**Cuicocha Este**	**2.92**	**331**	P		10 18 09.3	
AGUAY	**Guayaquil**	**2.95**	**274**	P	Pn	10 18 04.6	-4.9
URCU	**Urcuqui**	**2.97**	**335**	⇓P	**Pn**	**10 18 10.0**	**-0.1**
APR2	**Miler**	**3.05**	**320**	⇓P	**Pn**	**10 18 09.8**	**-1.1**
PAC1	**Pacto, Paraso**	**3.09**	**325**	P	**Pn**	**10 18 10.6**	**-0.8**
PAC1	**Pacto, Paraso**	**3.09**	**325**	⇓P	**Pn**	**10 18 10.2**	**-1.2**
PAC1	**Pacto, Paraso**	**3.09**	**325**	P		10 18 10.6	
ATUL	**Tulcn**	**3.11**	**347**	⇓P	**Pn**	**10 18 12.1**	**+0.3**
ATLC	**Ecuador-Tulcan**	**3.17**	**347**	⇓P	**Pn**	**10 18 13.3**	**+0.7**
CHL1	**Volcn Chiles**	**3.19**	**343**	⇓P	**Pn**	**10 18 13.3**	**+0.3**
CHL2	**Volcn Chiles**	**3.19**	**343**	⇓P	**Pn**	**10 18 13.9**	**+0.8**
ECEN	**Cerro Negro**	**3.23**	**343**	⇓P	**Pn**	**10 18 13.7**	**+0.1**
ISPG	**Isla Puna-Puer**	**3.23**	**258**	⇑P	**Pn**	**10 18 09.3**	**-3.8**
PTLC	**Puerto Leguiza**	**3.29**	**42**	P	**Pn**	**10 18 11.2**	**-2.6**
PTLC	**Puerto Leguiza**	**3.29**	**42**	P		10 18 11.2	
CHMA	**Chilma**	**3.29**	**341**	⇓P	**Pn**	**10 18 14.6**	**+0.4**
CMBC	**Cumbal**	**3.30**	**346**	P	**Pn**	**10 18 15.3**	**+0.9**
CMBC	**Cumbal**	**3.30**	**346**	P		10 18 15.3	
ALIT	**Ecuador-Imbabu**	**3.34**	**336**	⇓P	**Pn**	**10 18 14.3**	**-0.3**
LITE1	**Lita**	**3.34**	**336**	⇓P	**Pn**	**10 18 13.7**	**-0.8**
ZUMB	**Zumba**	**3.34**	**220**	⇑P	**Pn**	**10 18 11.4**	**-3.2**
PECV	**Mancha de Ca P**	**3.38**	**296**	⇓P	**Pn**	**10 18 15.2**	**+0.1**
FLF1	**Flavio Alfaro-**	**3.42**	**304**	P	**Pn**	**10 18 13.1**	**-2.3**
FLF1				S	**Sn**	**10 18 52.4**	**-3.9**
FLF1	**Flavio Alfaro-**	**3.42**	**304**	P	**Pn**	**10 18 13.1**	**-2.3**
FLF1	**Flavio Alfaro-**	**3.42**	**304**	P		10 18 13.1	
FLF1				S		10 18 52.4	
LAMO	**ALAMOR**	**3.47**	**240**	⇑P	Pn	10 18 10.6	-5.6
GCUF	**Volcan Galeras**	**3.50**	**354**	P	**Pn**	**10 18 17.5**	**+0.6**
GCUF	**Volcan Galeras**	**3.50**	**354**	P		10 18 17.5	
AV18	**Acelerografo,**	**3.57**	**316**	P	**Pn**	**10 18 15.3**	**-2.1**
JAMA	**Jama**	**3.77**	**302**	P	**Pn**	**10 18 15.8**	**-4.3**
CRUC	**La Cruz**	**3.82**	**1**	P		10 18 21.5	
CRUC	**La Cruz**	**3.82**	**1**	P	**Pn**	**10 18 21.5**	**+0.5**
PPLP	**Puerto Lpez**	**3.83**	**281**	P	**Pn**	**10 18 16.3**	**-4.6**
PPLP				S	**Sn**	**10 18 59.4**	**-6.6**
PPLP	**Puerto Lpez**	**3.83**	**281**	P	Pn	10 18 15.5	-5.4
PPLP	**Puerto Lpez**	**3.83**	**281**	⇑P	Pn	10 18 15.4	-5.5
PPLP	**Puerto Lpez**	**3.83**	**281**	P		10 18 16.3	
PPLP				S		10 18 59.4	
AV21	**Acelerografo,**	**3.87**	**319**	P	**Pn**	**10 18 19.5**	**-1.8**
CAB1	**Cabo Pasado-Ma**	**3.90**	**299**	P	**Pn**	**10 18 18.8**	**-3.0**
SALI	**Salinas**	**3.98**	**271**	⇑P	**Pn**	**10 18 18.4**	**-4.4**
SNLR	**San Lorenzo-Es**	**3.99**	**333**	⇓P	**Pn**	**10 18 22.4**	**-0.5**
FLOC	**Florencia**	**4.07**	**19**		**Pn**	**10 18 23.4**	**-0.5**
FLOC	**Florencia**	**4.07**	**19**	P	**Pn**	**10 18 23.9**	**0.0**
FLOC				S	**Sn**	**10 19 09.5**	**-2.0**
FLOC	**Florencia**	**4.07**	**19**	P	**Pn**	**10 18 23.4**	**-0.5**
FLOC	**Florencia**	**4.07**	**19**	P		10 18 23.9	
FLOC				S		10 19 09.5	
AES2	**Ecuador-Puerto**	**4.18**	**321**	P	**Pn**	**10 18 22.8**	**-2.6**
ISPT	**Isla de la Pla**	**4.19**	**284**	⇑P	**Pn**	**10 18 20.9**	**-4.5**
AMA1	**Acelerografo,**	**4.19**	**320**	P	**Pn**	**10 18 24.4**	**-1.1**
BBAC	**Balboa, Cauca**	**4.28**	**357**	P	**Pn**	**10 18 27.6**	**+0.8**
BBAC				S	**Sn**	**10 19 17.4**	**+0.7**
BBAC	**Balboa, Cauca**	**4.28**	**357**	P	**Pn**	**10 18 27.2**	**+0.4**
BBAC	**Balboa, Cauca**	**4.28**	**357**	P		10 18 27.6	
BBAC				S		10 19 17.4	
GARC	**Garzon, Huila**	**4.69**	**19**	P	**Pn**	**10 18 32.5**	**+0.2**
GARC	**Garzon, Huila**	**4.69**	**19**	P		10 18 32.5	
POPC	**Popayan, Colom**	**4.79**	**4**	P		10 18 35.0	
POPC	**Popayan, Colom**	**4.80**	**4**	P	**Pn**	**10 18 35.0**	**+1.3**
ATAH	**Atahualpa**	**5.02**	**196**	P	**Pn**	**10 18 36.2**	**-0.6**
	17μm,0.3s,baz=24,slow=9.8,SNR=1397						
BETC	**Betania**	**5.17**	**18**	P	**Pn**	**10 18 39.6**	**+1.1**
BETC	**Betania**	**5.17**	**18**	P		10 18 39.6	
GR1C	**Gorgona, Isla**	**5.37**	**348**	P	**Pn**	**10 18 39.4**	**-1.7**
GR1C	**Gorgona, Isla**	**5.37**	**348**	P		10 18 39.4	
MACC	**Macarena, Meta**	**5.41**	**36**	P	**Pn**	**10 18 42.1**	**+0.4**
	1.4nm1.1nm39μm,0.9s						
MACC	**Macarena, Meta**	**5.41**	**36**	P		10 18 42.1	
	1.4nm1.1nm39μm,0.9s						
JAMC	**Jamundi, Valle**	**5.46**	**4**	P	**Pn**	**10 18 43.0**	**+0.4**
	5.0nm459μm14μm,0.9s						
JAMC	**Jamundi, Valle**	**5.46**	**4**	P		10 18 43.0	
	5.0nm459μm14μm,0.9s						
URMC	**La Uribe, Meta**	**6.08**	**26**	P	**Pn**	**10 18 52.2**	**+1.5**
	1.1nm1.4nm70μm,1.9s						
URMC	**La Uribe, Meta**	**6.08**	**26**	P		10 18 52.2	
	1.1nm1.4nm70μm,1.9s						
YOTC	**Yotoco, Valle**	**6.25**	**6**	P	**Pn**	**10 18 52.0**	**-1.0**
	4.5nm176μm8μm,1.1s						
YOTC	**Yotoco, Valle**	**6.25**	**6**	P		10 18 52.0	
	4.5nm176μm8μm,1.1s						
MALC	**Bahia Malaga**	**6.26**	**357**	P	**Pn**	**10 18 52.1**	**-0.8**
MALC	**Bahia Malaga**	**6.26**	**357**	P	**Pn**	**10 18 51.7**	**-1.2**
MALC	**Bahia Malaga**	**6.26**	**357**	P		10 18 52.1	
PRAC	**Prado**	**6.32**	**20**	P	**Pn**	**10 18 55.0**	**+1.2**
	8.1nm1.4nm61μm,1.5s						
PRAC	**Prado**	**6.32**	**20**	P		10 18 55.0	
	8.1nm1.4nm61μm,1.5s						
ORTC	**Ortega, Tolima**	**6.39**	**16**	P	**Pn**	**10 18 55.9**	**+1.1**
	5.1nm978μm62μm,1.2s						
ORTC	**Ortega, Tolima**	**6.39**	**16**	P		10 18 55.9	
	5.1nm978μm62μm,1.2s						
GUVC	**San Jose del G**	**6.49**	**42**	P	**Pn**	**10 18 56.5**	**+0.5**
	6.3nm629μm64μm,0.9s						
GUVC	**San Jose del G**	**6.49**	**42**	P		10 18 56.5	
	6.3nm629μm64μm,0.9s						
CZSB	**Cruzeiro do Su**	**6.91**	**142**	Pn	**Pn**	**10 19 01.6**	**-0.1**
CZSB				Sn	**Sn**	**10 20 19.8**	**+0.6**
CZSB	**Cruzeiro do Su**	**6.91**	**142**	P	**Pn**	**10 19 02.1**	**+0.5**
	4.4nm1.2nm25μm,0.7s						
CZSB	**Cruzeiro do Su**	**6.91**	**142**	P	**Pn**	**10 19 01.7**	**+0.1**
CZSB				S	**Sn**	**10 20 16.4**	**-2.7**
CZSB	**Cruzeiro do Su**	**6.91**	**142**	*e*P	**Pn**	**10 19 01.9**	**+0.3**
CZSB	**Cruzeiro do Su**	**6.91**	**142**	P		10 19 02.1	
	4.4nm1.2nm25μm,0.7s						
VILC	**Villavicencio,**	**7.16**	**28**	P	**Pn**	**10 19 07.3**	**+2.2**
VILC	**Villavicencio,**	**7.16**	**28**	P		10 19 07.3	
PLMC	**San Jos del P**	**7.17**	**6**	P	**Pn**	**10 19 03.7**	**-1.5**
	3.4nm322μm16μm,1.4s						
PLMC	**San Jos del P**	**7.17**	**6**	P		10 19 03.7	
	3.4nm322μm16μm,1.4s						
PIZC	**Pizarro, Choco**	**7.20**	**357**	P	**Pn**	**10 19 04.0**	**-1.5**
	2.4nm497μm22μm,1.5s						
PIZC	**Pizarro, Choco**	**7.20**	**357**	P		10 19 04.0	
	2.4nm497μm22μm,1.5s						
TBTG	**Tabatinga, AM**	**7.34**	**105**		**Pn**	**10 19 07.2**	**-0.1**
TBTG				Sn	**Sn**	**10 20 28.7**	**-0.7**
TBTG	**Tabatinga, AM**	**7.34**	**105**	P	**Pn**	**10 19 06.9**	**-0.4**
	4.0nm654μm52μm,0.8s						
TBTG	**Tabatinga, AM**	**7.34**	**105**	P	**Pn**	**10 19 07.1**	**-0.2**
TBTG				S	**Sn**	**10 20 25.4**	**-4.0**
TBTG	**Tabatinga, AM**	**7.34**	**105**	*e*P	**Pn**	**10 19 07.3**	**-0.1**
TBTG	**Tabatinga, AM**	**7.34**	**105**	P		10 19 06.9	
	4.0nm654μm52μm,0.8s						
NIZA	**Niza - Manizal**	**7.45**	**12**	P	**Pn**	**10 19 08.0**	**-1.1**
	375μm13μm,1.2s						
NIZA	**Niza - Manizal**	**7.45**	**12**	P		10 19 08.0	
	375μm13μm,1.2s						
CMAN1	**Manizales, Cal**	**7.45**	**11**	P	**Pn**	**10 19 10.3**	**+1.2**
	450μm15μm,0.8s						
CMAN1	**Manizales, Cal**	**7.45**	**11**	P		10 19 10.3	
	450μm15μm,0.8s						
ROSC	**El Rosal**	**7.56**	**21**	Pn	**Pn**	**10 19 12.0**	**+1.4**
ROSC	**El Rosal**	**7.56**	**21**	P	**Pn**	**10 19 11.3**	**+0.6**
	3μm,1.1s,baz=213,slow=7.3,SNR=245						
ROSC	**El Rosal**	**7.56**	**21**	P	**Pn**	**10 19 12.1**	**+1.4**
	6.4nm665μm20μm,1.7s						
ROSC	**El Rosal**	**7.56**	**21**	P		10 19 12.1	
	6.4nm665μm20μm,1.7s						
CHIC	**Chingaza**	**7.60**	**26**	P	**Pn**	**10 19 13.0**	**+1.8**
CHIC	**Chingaza**	**7.60**	**26**	P		10 19 13.0	
GUY2C	**Guyana, Caldas**	**7.63**	**12**	P		10 19 10.2	
	3.9nm392μm18μm,1.8s						
GUY2C	**Guyana, Caldas**	**7.63**	**12**	P	**Pn**	**10 19 10.2**	**-1.5**
	3.9nm392μm18μm,1.8s						
NORC	**Norcasia**	**8.07**	**15**	P	**Pn**	**10 19 16.7**	**-0.6**
	3.9nm309μm10μm,1.2s						
NORC	**Norcasia**	**8.07**	**15**	P		10 19 16.7	
	3.9nm309μm10μm,1.2s						
CBOC	**Ciudad Bolivar**	**8.15**	**7**	P	**Pn**	**10 19 15.6**	**-2.7**
CBOC	**Ciudad Bolivar**	**8.15**	**7**	P		10 19 15.6	
SOLC	**Bahia Solano**	**8.46**	**357**	P		10 19 20.5	
SOLC	**Bahia Solano**	**8.46**	**357**	P	**Pn**	**10 19 20.5**	**-1.8**
RUSC	**La Rusia**	**9.01**	**26**	Pn	**Pn**	**10 19 31.8**	**+1.6**
RUSC	**La Rusia**	**9.01**	**26**	P	**Pn**	**10 19 31.9**	**+1.8**
RUSC	**La Rusia**	**9.01**	**26**	P		10 19 31.9	
PTBC	**PUERTO BERRIO,**	**9.12**	**16**	P	**Pn**	**10 19 30.6**	**-0.5**
	3.7nm288μm7μm,1.6s						
PTBC	**PUERTO BERRIO,**	**9.12**	**16**	P		10 19 30.6	
	3.7nm288μm7μm,1.6s						
DBBC	**Dabeiba**	**9.27**	**5**	P	**Pn**	**10 19 33.7**	**+0.5**
DBBC	**Dabeiba**	**9.27**	**5**	P		10 19 33.7	
PTAC	**Punta Ardita,**	**9.39**	**355**	P	**Pn**	**10 19 32.1**	**-2.7**
	2.0nm145μm10μm,1.3s						
PTAC	**Punta Ardita,**	**9.39**	**355**	P		10 19 32.1	
	2.0nm145μm10μm,1.3s						
BARC	**Barichara**	**9.60**	**23**	P	**Pn**	**10 19 38.1**	**+0.3**
BARC	**Barichara**	**9.60**	**23**	P		10 19 38.1	
NNA	**Nana**	**9.65**	**179**	Pn	**Pn**	**10 19 36.6**	**-1.6**
NNA	**Nana**	**9.65**	**179**	P	**Pn**	**10 19 38.3**	**+0.1**
	2μm,0.6s,baz=341,slow=9.6,SNR=96						
NNA				S	**Sn**	**10 21 19.1**	**-6.1**
	7μm,0.3s,baz=220,slow=19,SNR=8.7						
NNA	**Nana**	**9.65**	**179**	P	**Pn**	**10 19 37.8**	**-0.4**
	3.3nm275μm12μm,1.2s						
NNA	**Nana**	**9.65**	**179**	⇑P	**Pn**	**10 19 35.8**	**-2.4**
NNA	**Nana**	**9.65**	**179**	P		10 19 37.8	
	3.3nm275μm12μm,1.2s						
BRJC	**Barrancabermej**	**9.75**	**19**	P	**Pn**	**10 19 39.0**	**-0.5**
	5.2nm399μm10μm,1.5s						
BRJC	**Barrancabermej**	**9.75**	**19**	P		10 19 39.0	
	5.2nm399μm10μm,1.5s						
ZARC	**Zaragoza, Cauc**	**9.94**	**12**	P	**Pn**	**10 19 39.1**	**-2.9**
ZARC	**Zaragoza, Cauc**	**9.94**	**12**	P		10 19 39.1	
TAMC	**Tame, Arauca**	**10.10**	**31**	P	**Pn**	**10 19 45.5**	**+1.3**
	6.3nm1.9nm79μm,2.1s						
TAMC	**Tame, Arauca**	**10.10**	**31**	P		10 19 45.5	
	6.3nm1.9nm79μm,2.1s						
APAC	**Apartado, Choc**	**10.12**	**2**	P		10 19 43.1	
	2.2nm356μm21μm,1.7s						
APAC	**Apartado, Choc**	**10.12**	**2**	P	**Pn**	**10 19 43.1**	**-1.3**
	2.2nm356μm21μm,1.7s						
CACAO	**El Cacao, Vera**	**10.30**	**338**	P	**Pn**	**10 19 45.6**	**-1.2**
	341nm863nm58nm,1.0s						
CACAO	**El Cacao, Vera**	**10.30**	**338**	P		10 19 45.6	
	341nm863nm58nm,1.0s						
PAMC	**Pamplona, Colo**	**10.47**	**24**	P		10 19 49.1	
PAMC	**Pamplona, Colo**	**10.47**	**24**	P	**Pn**	**10 19 49.1**	**-0.4**
AZU	**Azuero**	**10.52**	**342**	P		10 19 49.3	
	1.3nm218μm12μm,1.4s						
AZU	**Azuero**	**10.52**	**342**	P	**Pn**	**10 19 49.3**	**-0.4**
	1.3nm218μm12μm,1.4s						
GMAL	**Guarumal, Vera**	**10.83**	**337**	P	**Pn**	**10 19 53.5**	**-0.2**
	1.4nm87μm3μm,0.9s						
GMAL	**Guarumal, Vera**	**10.83**	**337**	P		10 19 53.5	
	1.4nm87μm3μm,0.9s						
CAPC	**Capurgana**	**10.84**	**358**	P		10 19 52.4	
	2.2nm161μm6μm,1.7s						
CAPC	**Capurgana**	**10.85**	**358**	P	**Pn**	**10 19 52.4**	**-1.6**
	2.2nm161μm6μm,1.7s						
OCAC	**Ocana**	**11.07**	**19**	P	**Pn**	**10 19 54.7**	**-2.4**
	4.0nm296μm12μm,0.7s						
OCAC	**Ocana**	**11.07**	**19**	P		10 19 54.7	
	4.0nm296μm12μm,0.7s						
LCBC	**Los crdobas,**	**11.08**	**3**	P	**Pn**	**10 19 56.0**	**-1.0**
	2.6nm280μm15μm,1.0s						
LCBC	**Los crdobas,**	**11.08**	**3**	P		10 19 56.0	
	2.6nm280μm15μm,1.0s						
BCIP	**Isla Barro Col**	**11.71**	**

282µm10µm,2.4s
BLUN Bluefields 15.70 335 P Pn 10 20 55.0 -0.9
527µm75µm4µm,1.4s
BLUN Bluefields 15.70 335 P 10 20 55.0
527µm75µm4µm,1.4s
LCRUZ La Cruz 15.80 327 *eP* **P 10 20 59.1 +1.2**
ESPN Las Esperanzas 16.10 333 P 10 21 01.7
ESPN Las Esperanzas 16.10 333 P P 10 21 01.6 +0.3
ESPN Las Esperanzas 16.10 333 P P 10 21 01.7 +0.5
ESPN Las Esperanzas 16.10 333 ⇑*P* **P 10 21 01.4 +0.1**
ESPN Las Esperanzas 16.10 333 P P 10 21 09.9 +8.7
PRVC Isla de Provid 16.14 345 P Pn 10 21 00.8 -0.4
PRVC Isla de Provid 16.14 345 P Pn 10 21 00.5 -0.8
1.2nm166µm4µm,1.2s
PRVC Isla de Provid 16.14 345 P 10 21 00.5
1.2nm166µm4µm,1.2s
JAPN Al SSO del Vol 16.20 328 P P 10 21 04.4 +2.1
CONN Concepcion 16.20 328 P Pn 10 20 59.7 -2.4
CONN Concepcion 16.20 328 P Pn 10 20 59.8 -2.2
CONN Concepcion 16.20 328 P Pn 10 21 00.0 -2.0
CONN Concepcion 16.20 328 P Pn 10 20 58.8 -3.3
I08BO LAS PENAS INFR 16.21 149 P Pn 10 21 01.1 -1.6
baz=342,slow=24,SNR=6.4
I08BO I I 11 44 50.0
baz=315,slow=325,SNR=0.8
ACON Acoyapa 16.31 330 P 10 21 03.8
792µm103µm4µm,1.3s
ACON Acoyapa 16.31 330 P Pn 10 21 03.0 -0.4
ACON Acoyapa 16.31 330 P P 10 21 03.8 +0.2
792µm103µm4µm,1.3s
MACA Manacapuru-AM 16.33 93 Pn 10 21 01.7 -2.0
MACA Manacapuru-AM 16.33 93 P Pn 10 21 01.3 -2.3
MACA Manacapuru-AM 16.33 93 *eP* **Pn 10 21 01.4 -2.2**
LPAZ La Paz 16.44 148 P 10 21 03.8
2.4nm248µm4µm,1.1s
HATO Hato, Curacao 16.44 29 Pn 10 21 01.3 -3.7
LPAZ La Paz 16.44 148 Pn **Pn 10 21 03.3 -2.2**
LPAZ La Paz 16.44 148 P Pn 10 21 03.1 -2.4
161nm,0.8s,baz=333,slow=12,SNR=66
LPAZ S **S 10 24 06.1 -2.5**
2µm,0.8s,baz=126,slow=16,SNR=2.3
LPAZ La Paz 16.44 148 P Pn 10 21 03.8 -1.7
2.4nm248µm4µm,1.1s
LPAZ La Paz 16.44 148 ⇑*P* **Pn 10 21 02.8 -2.7**
LPAZ La Paz 16.44 148 P Pn 10 21 03.4 -2.2
LPAZ S **S 10 24 01.4 -7.2**
LPAZ La Paz 16.44 148 *eP* **Pn 10 21 03.3 -2.2**
SERC Banco Serrana, 16.79 349 P 10 21 09.4
46µm76µm4µm,2.0s
SERC Banco Serrana, 16.79 349 P Pn 10 21 09.4 +0.3
46µm76µm4µm,2.0s
SABN Sabanita 16.81 327 P Pn 10 21 10.6 +1.0
SABN Sabanita 16.81 327 P Pn 10 21 09.5 0.0
SABN Sabanita 16.81 327 P Pn 10 21 10.3 +0.8
SABN Sabanita 16.81 327 P Pn 10 21 09.5 0.0
MSHP Masachapa 16.91 326 P Pn 10 21 11.7 +1.0
MSHP Masachapa 16.91 326 P Pn 10 21 11.7 +1.0
MSHP Masachapa 16.91 326 P Pn 10 21 12.1 +1.4
MSHP Masachapa 16.91 326 P Pn 10 21 11.8 +1.1
PB18 Visviri 16.92 155 Pn 10 21 12.1 +0.8
BOAB BOACO BROADBAN 16.97 330 S **S 10 24 17.5 -2.6**
BOAB P **Pn 10 21 11.1 -0.2**
BOAB BOACO BROADBAN 16.97 330 P Pn 10 21 11.7 +0.3
UNAN Cigeo UNAN 17.00 327 P P 10 21 11.1 -0.1
MGAN Managua 17.02 328 P P 10 21 11.4 +0.1
MGAN Managua 17.02 328 P Pn 10 21 11.7 -0.2
132µm5µm,2.3s
MGAN Managua 17.02 328 P P 10 21 10.8 -0.5
MGAN Managua 17.02 328 P 10 21 11.7
132µm5µm,2.3s
TISN Laguna Tiscapa 17.03 327 P Pn 10 21 12.9 +0.8
TISN Laguna Tiscapa 17.03 327 P P 10 21 11.2 -0.2
TISN Laguna Tiscapa 17.03 327 P P 10 21 11.3 -0.2
TISN Laguna Tiscapa 17.03 327 P Pn 10 21 12.4 +0.3
ABCN Banco Central 17.03 327 P P 10 21 11.3 -0.2
ALLN Telcor Managua 17.04 327 P P 10 21 11.4 -0.2
APQ2 Apoyeque 17.10 327 P Pn 10 21 14.3 +1.4
APQ2 Apoyeque 17.10 327 P Pn 10 21 13.1 +0.1
APQ2 Apoyeque 17.10 327 P Pn 10 21 13.0 +0.1
APQ2 Apoyeque 17.10 327 P Pn 10 21 13.6 +0.7
APQ2 Apoyeque 17.10 327 P Pn 10 21 12.6 -0.4
APQ2 Apoyeque 17.10 327 P Pn 10 21 13.1 +0.1
APQ2 Apoyeque 17.10 327 P Pn 10 21 14.0 +1.1
BOAV Boa Vista 17.12 74 P P 10 21 11.7 -0.8
BOAV Boa Vista 17.12 74 P P 10 21 11.8 -0.8
BOAV S **S 10 24 15.0 -8.5**
BOAV Boa Vista 17.12 74 *eP* **P 10 21 12.0 -0.6**
COPN Copaltepe 17.23 327 P Pn 10 21 15.3 +0.7
COPN Copaltepe 17.23 327 P Pn 10 21 15.2 +0.7
COPN Copaltepe 17.23 327 P Pn 10 21 15.1 +0.5
COPN Copaltepe 17.23 327 P Pn 10 21 14.1 -0.4
AP01 Chacalluta 17.28 158 Pn 10 21 16.1 +1.0
BC86 Nagarote 17.29 327 P Pn 10 21 16.0 +0.9
MOM2 El Cardon 17.39 327 P Pn 10 21 16.8 +0.4
MOM2 El Cardon 17.39 327 P Pn 10 21 16.8 +0.4
MOM2 El Cardon 17.39 327 P Pn 10 21 16.4 0.0
MOM2 El Cardon 17.39 327 P Pn 10 21 16.1 -0.2
MOMN Momotombo 17.39 327 P Pn 10 21 16.6 +0.1
MOMN Momotombo 17.39 327 P Pn 10 21 17.0 +0.5
MOMN Momotombo 17.39 327 P Pn 10 21 16.6 +0.1
MOMN Momotombo 17.39 327 P P 10 21 15.9 +0.4
LEVN Ruinas Leon Vi 17.43 327 P Pn 10 21 18.1 +1.3
LEVN Ruinas Leon Vi 17.43 327 P Pn 10 21 17.0 +0.1
LEVN Ruinas Leon Vi 17.43 327 P Pn 10 21 16.6 -0.2
PCRV Puerto La Cruz 17.46 45 P P 10 21 16.6 +0.4
492nm,0.7s,baz=203,slow=6.4,SNR=94
PCRV Puerto La Cruz 17.46 45 *eP* **P 10 21 10.3 -5.9**
PB12 IPOC Station P 17.51 158 Pn 10 21 18.3 +0.4
MACN El Madrono 17.51 327 P Pn 10 21 18.4 +0.4
MACN El Madrono 17.51 327 P Pn 10 21 17.9 0.0
MACN El Madrono 17.51 327 P Pn 10 21 18.9 +1.0
MACN El Madrono 17.51 327 P Pn 10 21 18.2 +0.3
CNGA Al SSO del Vol 17.55 327 P Pn 10 21 18.3 -0.1
CNGA Al SSO del Vol 17.55 327 P Pn 10 21 19.1 +0.7
CNGA Al SSO del Vol 17.55 327 P Pn 10 21 19.6 +1.2
CNGN Cerro Negro 17.55 327 P Pn 10 21 18.0 -0.4
CNGN Cerro Negro 17.55 327 P P 10 21 17.4 +0.1
1.2nm1.4nm55µm,1.7s
CNGN Cerro Negro 17.55 327 P 10 21 17.4
1.2nm1.4nm55µm,1.7s
PACN Al O del Volca 17.61 327 P Pn 10 21 18.5 -0.5
PACN Al O del Volca 17.61 327 P Pn 10 21 19.7 +0.7
PACN Al O del Volca 17.61 327 P Pn 10 21 18.7 -0.3
PACN Al O del Volca 17.61 327 P Pn 10 21 19.4 +0.4
ILCN San Idelfonso 17.62 327 P P 10 21 18.4 +0.4
ILCN San Idelfonso 17.62 327 P Pn 10 21 19.6 +0.4
ILCN San Idelfonso 17.62 327 P P 10 21 18.3 +0.4
ILCN San Idelfonso 17.62 327 P P 10 21 17.5 -0.4
HERN Volcan Telica 17.72 327 P 10 21 19.6 +0.5
HERN **Pn 10 21 20.5 +0.1**
POLN Al Sur del Vol 17.74 327 P P 10 21 18.1 -1.3
POLN Al Sur del Vol 17.74 327 P P 10 21 18.0 -1.3
CRIN San Cristobal 17.91 326 P 10 21 20.9
1.1nm150µm7µm,0.8s
CRIN San Cristobal 17.91 326 Pn 10 21 22.6 -0.1
CRIN San Cristobal 17.91 326 P P 10 21 20.9 -0.3
1.1nm150µm7µm,0.8s
RCPN Sur Rio San Ju 18.10 330 P Pn 10 21 26.1 +1.1
RCPN Sur Rio San Ju 18.10 330 P Pn 10 21 24.7 -0.3
RCPN Sur Rio San Ju 18.10 330 P Pn 10 21 27.0 +2.0
RCVN Varillal2 18.20 330 P Pn 10 21 25.6 -0.6
RCVN Varillal2 18.20 330 P Pn 10 21 26.9 +0.7
RCVN Varillal2 18.20 330 P Pn 10 21 26.1 -0.1
RCVN Varillal2 18.20 330 P Pn 10 21 25.4 -0.8
CHOHN Orocuina 18.61 328 P P 10 21 29.4 +0.4
CHOHN Orocuina 18.61 328 P Pn 10 21 30.0 -1.0
PB11 IPOC Station P 18.80 158 P Pn 10 21 32.5 -0.7
CNCH Conchagua 18.82 325 P P 10 21 31.6 +0.4
YUSH Yuscaran 18.84 329 P P 10 21 31.9 +0.5
YUSH Yuscaran 18.84 329 P Pn 10 21 32.6 -1.0
LCND La Caada 18.88 325 P P 10 21 32.5 +0.8
TA02 Huaiquiqe 19.10 160 P Pn 10 21 36.4 -0.1
TGUH Tegucigalpa,Un 19.15 328 P 10 21 34.9
919µm156µm8µm,1.1s
TGUH Tegucigalpa,Un 19.16 328 P P 10 21 35.2 +0.4
TGUH Tegucigalpa,Un 19.16 328 P P 10 21 34.9 +0.1
919µm156µm8µm,1.1s
TGUH Tegucigalpa,Un 19.16 328 ⇑*P* **P 10 21 35.2 +0.4**
RANC El Ranchito 19.21 325 P P 10 21 36.5 +1.1
PACA Pacayal 19.25 325 P Pn 10 21 37.7 -0.8
ALJI Alcalda de J 19.29 324 P Pn 10 21 37.7 -1.0
PB08 IPOC Station P 19.34 157 P Pn 10 21 39.1 -0.6

PB08 IPOC Station P 19.34 157 S **Sn 10 25 14.5 -3.9**
PB08 P **P 10 21 38.0 +0.8**
TA01 Diego Aracena 19.36 160 P Pn 10 21 39.2 -0.4
TECO Alcaldia de Te 19.58 324 P P 10 21 40.4 +1.1
COMHN El Horno 19.63 328 P P 10 21 41.2 +1.2
UESV Universidad de 19.66 324 P P 10 21 41.2 +1.0
SCLA Alcaldia de Sa 19.68 324 P P 10 21 41.6 +1.2
COEG Centro de Oper 19.70 324 P P 10 21 41.7 +1.0
VILB Vilhena 19.73 123 P Pn 10 21 42.8 -1.2
VILB Vilhena 19.73 123 P Pn 10 21 42.6 -1.4
VILB Vilhena 19.73 123 *eP* **Pn 10 21 43.0 -1.1**
PAVA Las Pavas 19.81 324 P P 10 21 42.8 +0.9
INTHN La Esperanza I 19.81 327 P P 10 21 42.8 +0.7
LOMA Loma Larga 19.89 323 P P 10 21 44.1 +1.3
UEES Universidad Ev 19.99 323 P Pn 10 21 45.5 -1.6
PMON Piamonte 20.03 323 P Pn 10 21 46.1 -1.6
PB01 IPOC Station P 20.04 159 P Pn 10 21 46.0 -1.7
PSMG Mucurapo Girls 20.07 50 *eP* Pn 10 21 47.6 -0.3
JAYA Jayaque - finc 20.07 322 P P 10 21 46.0 +1.2
PSKH Kent House, Po 20.08 50 *eP* Pn 10 21 47.8 -0.3
PSGH Port of Spain 20.08 50 *eP* Pn 10 21 46.5 -1.5
TRN Trinidad (W) 20.15 50 *eP* **P 10 21 42.6 -2.8**
CEDA San Andres 20.15 323 P P 10 21 47.0 +1.5
TBH Brigand Hill 20.31 51 *eP* **P 10 21 48.2 +1.1**
CEVE Cerro Verde 20.31 322 P P 10 21 49.0 +1.6
MTDJ Mount Denham 20.38 359 P 10 21 49.0
MTDJ Mount Denham 20.38 359 P P 10 21 48.5 +0.5
MTDJ Mount Denham 20.38 359 *eP* **P 10 21 48.7 +0.7**
MTDJ IVmB_BB 10 22 01.5
comp=Z,161µm,1.6s
MTDJ *eS* **S 10 25 35.1 +6.8**
MTDJ Mount Denham 20.38 359 P **P 10 21 49.0 +1.0**
MTDJ Mount Denham 20.38 359 ⇑*P* **P 10 21 48.7 +0.7**
NUBE Las Nubes 20.46 322 P P 10 21 49.9 +1.0
SLOZ Alcaldia de Sa 20.56 322 P P 10 21 51.3 +1.4
MTO3 Montecristo 20.60 324 P P 10 21 50.4 -0.1
MTO3 Montecristo 20.60 324 P P 10 21 50.8 +0.3
ESQI Esquipulas 20.71 324 P P 10 21 52.3 +0.7
ESQI Esquipulas 20.71 324 P P 10 21 52.5 +0.9
SIV San Ignacio 20.79 132 P P 10 21 53.4 +1.1
comp=Z,3µm,0.7s,baz=306,slow=10,SNR=842
SIV S **S 10 25 38.8 +2.6**
comp=Z,261nm,0.5s,baz=196,slow=1.6,SNR=1.2
comp=Z,3µm,0.7s
GRFF Grenada Fort F 20.80 46 *eP* **P 10 21 49.9 -2.6**
PB09 IPOC Station P 20.82 159 P Pn 10 21 55.0 -2.1
NISHN Nisperales Com 20.91 329 P P 10 21 54.6 +1.0
GRGR Grenville 20.92 46 P P 10 21 51.7 -2.0
GRGR Grenville 20.92 46 P P 10 21 50.5 -3.2
GRGR Grenville 20.92 46 *eP* **P 10 21 50.3 -3.4**
GRGR Grenville 20.92 46 ⇑*P* **P 10 21 50.3 -3.4**
GRGR Grenville 20.92 46 P 10 21 50.5
TPR Prospect 20.96 50 *eP* **P 10 21 53.5 -0.7**
GRHS Sauteurs 20.99 46 *eP* P 10 21 47.0 -7.4
GRIC Isle de Caille 21.07 46 *eP* **P 10 21 53.2 -2.1**
PAPH Port-au-Prince 21.18 12 P **P 10 21 56.5 +0.1**
TOSP Speyside 21.22 50 *eP* **P 10 21 52.4 -4.5**
GCMP Grenada, Carri 21.32 46 *eP* **P 10 21 52.0 -6.0**
ITTB Itaituba 21.34 96 P **P 10 21 57.9 -0.3**
ITTB S **S 10 25 44.8 -1.6**
ITTB Itaituba 21.34 96 *eP* **P 10 21 58.1 -0.1**
BANI BANI 21.56 17 P **P 10 22 00.1 -0.5**
APG El Apazote 21.73 323 P **P 10 22 02.9 +0.3**
comp=Z,75nm,1.1s,baz=151,slow=9.9,SNR=142
APG S **S 10 25 55.5 +2.0**
comp=Z,11nm,0.9s,baz=93,slow=15,SNR=1.9
APG ScS **ScS 10 33 06.3 +0.4**
comp=Z,1.9nm,0.9s,baz=150,slow=10.0,SNR=3.8
SDD Santo Domingo 21.75 18 P **P 10 22 02.1 -0.4**
SDDR Presa de Saban 21.86 15 P **P 10 22 03.4 -0.4**
SDDR Presa de Saban 21.86 15 *eP* **P 10 22 03.0 -0.7**
SDDR IVmB_BB 10 22 24.0
comp=Z,372µm,1.9s
SDDR *eS* **S 10 25 52.5 -2.9**
SDDR Presa de Saban 21.86 15 P **P 10 22 02.8 -0.9**
comp=Z,1.9nmcomp=Z,579µmcomp=Z,28µm,1.3s
SDDR Presa de Saban 21.86 15 *eP* **P 10 21 59.6 -4.1**
SDDR Presa de Saban 21.86 15 ⇑*P* **P 10 22 03.3 -0.4**
SDDR Presa de Saban 21.86 15 P 10 22 02.8
comp=Z,1.9nmcomp=Z,579µmcomp=Z,28µm,1.3s
SVT Saint Vincent 21.92 45 *eP* **P 10 21 58.5 -5.7**
SVOC Richmond Hill, 21.92 45 *eP* **P 10 21 57.9 -6.4**
PTLB Pontes e Lacer 21.95 128 P **P 10 22 05.5 +1.0**
PTLB IAmb IAmb 10 22 11.7
comp=Z,2µm,0.8s
PTLB Pontes e Lacer 21.95 128 P **P 10 22 05.3 +0.7**
PTLB Pontes e Lacer 21.95 128 *eP* **P 10 22 05.6 +1.0**
SVB Belmont 21.98 45 *eP* P 10 21 56.6 -8.3
NPGB Novo Progresso 22.09 103 P **P 10 22 05.7 -0.4**
NPGB S **S 10 25 57.1 -2.1**
NPGB Novo Progresso 22.09 103 P P 10 22 05.8 -0.3
CHIV Chivirico 22.12 1 P **P 10 22 05.3 -1.0**
CHIV IAmb IAmb 10 22 18.2
comp=Z,19µm,1.9s
CHIV Chivirico 22.12 1 *eP* **P 10 22 05.4 -0.8**
CHIV IVmB_BB 10 22 16.1
comp=Z,74µm,3.4s
CHIV *eS* **S 10 25 59.1 -0.4**
GTBY Guantanamo Bay 22.14 5 P **P 10 22 06.7 +0.2**
GTBY Guantanamo Bay 22.14 5 *eP* **P 10 22 06.9 +0.4**
GTBY IVmB_BB 10 22 14.1
comp=Z,102µm,1.5s
GTBY *eS* **S 10 25 58.5 -1.3**
GTBY Guantanamo Bay 22.14 5 P **P 10 22 07.1 +0.6**
comp=Z,1.4nmcomp=Z,266µmcomp=Z,16µm,2.0s
GTBY Guantanamo Bay 22.14 5 ⇑*P* **P 10 22 06.7 +0.2**
GTBY Guantanamo Bay 22.14 5 P 10 22 07.1
comp=Z,1.4nmcomp=Z,266µmcomp=Z,16µm,2.0s
PDRB Porto dos Gac 22.14 116 P **P 10 22 07.1 +0.5**
PDRB S **S 10 25 59.9 -0.2**
PDRB Porto dos Gac 22.14 116 *eP* **P 10 22 07.2 +0.6**
RTAL Retalhuleu 22.14 319 P **P 10 22 07.6 +1.1**
RTAL IAmb IAmb 10 22 21.6
comp=Z,2µm,0.9s
RTAL Retalhuleu 22.14 319 P **P 10 22 08.5 +1.9**
RTAL P **P 10 22 10.9 +4.3**
MARVS Santiago de Cu 22.16 3 *eP* **P 10 22 05.8 -0.9**
MARVS IVmB_BB 10 22 13.5
comp=Z,56µm,1.7s
MARVS *eS* **S 10 26 02.8 +2.6**
RCC Rio Carpintero 22.17 3 *eP* **P 10 22 06.0 -0.8**
RCC *eS* S 10 25 43.3 -17
LMGC Las Mercedes 22.20 0 *eP* **P 10 22 05.5 -1.5**
LMGC IVmB_BB 10 22 16.8
comp=Z,63µm,3.5s
LMGC *eS* **S 10 26 05.5 +4.7**
DR12 Loma Pena Alta 22.24 19 P **P 10 22 06.5 -1.0**
DR12 IAmb IAmb 10 22 15.6
comp=Z,7µm,1.1s
AF01 San Pedro de A 22.27 158 P **P 10 22 09.4 +1.4**
PCDR Punta Cana, DR 22.34 22 P **P 10 22 08.2 -0.2**
CRPR Cabo Rojo, PR 22.39 25 P **P 10 22 08.4 -0.5**
CRPR IAmb IAmb 10 22 26.3
comp=Z,14µm,1.8s
QMBU Quimbuelo 22.44 5 *eP* **P 10 22 08.1 -1.3**
QMBU IVmB_BB 10 22 34.1
comp=Z,53µm,2.0s
QMBU *eS* **S 10 26 03.8 -0.9**
MASC Masc 22.48 7 *eP* **P 10 22 09.3 -0.4**
MASC IVmB_BB 10 22 20.2
comp=Z,63µm,2.0s
MASC *eS* **S 10 26 10.2 +4.9**
SLB Belfond 22.51 44 *eP* **P 10 22 05.1 -5.0**
HUEH Huehuetenango 22.61 321 IAmb IAmb 10 22 19.2
comp=Z,3µm,1.0s
HUEH Huehuetenango 22.61 321 P **P 10 22 12.4 +1.1**
OBIP Obispado Ponce 22.64 26 IAmb IAmb 10 22 16.2
comp=Z,7µm,1.1s
PINC Pinares de May 22.65 3 *eP* **P 10 22 10.2 -1.1**
SLAC Saint Lucia, A 22.66 44 *eP* **P 10 22 05.1 -6.4**
SLBI Saint Lucia, B 22.69 44 *eP* **P 10 22 05.1 -6.6**
CLDB Colider 22.72 113 P **P 10 22 12.4 +0.3**
CLDB S **S 10 26 08.1 -1.3**
CLDB Colider 22.72 113 *eP* **P 10 22 12.7 +0.6**
NMDO Nuevo Mundo 22.78 5 IAmb IAmb 10 22 20.3
comp=Z,7µm,1.3s
NMDO Nuevo Mundo 22.78 5 *eP* **P 10 22 12.4 -0.2**
NMDO IVmB_BB 10 22 19.5
comp=Z,54µm,2.0s
NMDO *eS* **S 10 26 10.6 +0.4**
AGPR Aguadilla, PR 22.80 25 P **P 10 22 11.7 -1.1**
MAL2 Monte Alegre, 22.81 90 P **P 10 22 14.2 +1.2**

MAL2 Monte Alegre, 22.81 90 P **P 10 22 12.6 -0.4**
MAL2 S **S 10 26 10.8 -0.2**
MOAC Moa 22.88 5 *eP* **P 10 22 12.4 -1.1**
PDPR Patillas Dam, 22.89 28 IAmb IAmb 10 22 20.6
comp=Z,7µm,1.1s
PETF Flores 22.91 327 P **P 10 22 14.0 +0.2**
PETF Flores 22.91 327 P **P 10 22 14.4 +0.6**
SJG San Juan 22.91 27 P **P 10 22 12.3 -1.5**
SJG San Juan 22.91 27 P **P 10 22 12.7 -1.0**
comp=Z,7µm,0.9s,baz=210,slow=8.2,SNR=183
comp=Z,7µm,0.9s
SJG San Juan 22.91 27 P **P 10 22 11.3 -2.5**
comp=Z,740µmcomp=Z,219µmcomp=Z,12µm,1.3s
SJG San Juan 22.91 27 *eP* **P 10 22 09.5 -4.3**
SJG San Juan 22.91 27 ⇑*P* **P 10 22 11.1 -2.7**
SJG San Juan 22.91 27 P 10 22 11.3
comp=Z,740µmcomp=Z,219µmcomp=Z,12µm,1.3s
BIM Bigot 22.97 43 IAmb IAmb 10 22 43.9
comp=Z,14µm,1.8s
BIM Bigot 22.97 43 *eP* P 10 22 06.0 -8.4
HLGC Holguin 23.04 2 *eP* **P 10 22 15.5 +0.5**
HLGC IVmB_BB 10 22 27.0
comp=Z,241µm,4.2s
HLGC *eS* **S 10 26 18.3 +3.8**
EMPR Esperanza - Ma 23.06 26 P **P 10 22 14.4 -0.8**
BCHC Barbados, Cave 23.06 48 *eP* **P 10 22 21.1 +5.9**
MPOM Morne Pois Mar 23.07 43 IAmb IAmb 10 22 19.3
comp=Z,5µm,1.3s
H05S1 Guadeloupe/Mar 23.07 44 P **P 10 22 16.1 +0.9**
H05S1 S **S 10 26 12.7 -2.2**
FDF Fort de France 23.07 42 ⇑*P* **P 10 22 11.6 -3.8**
GCPR Guaynabo City 23.11 27 IAmb IAmb 10 22 33.2
comp=Z,6µm,1.0s
PB14 IPOC Station P 23.12 165 P **P 10 22 16.2 +0.1**
PB14 IAmb IAmb 10 22 24.5
comp=Z,11µm,1.6s
PB14 IPOC Station P 23.12 165 P **P 10 22 16.1 +0.1**
BBGH Gun Hill 23.12 48 P 10 22 14.0
comp=Z,2.3nmcomp=Z,240µmcomp=Z,7µm,1.3s
BBGH Gun Hill 23.12 48 IAmb IAmb 10 22 21.8
comp=Z,8µm,1.1s
BBGH Gun Hill 23.12 48 P **P 10 22 14.0 -1.8**
comp=Z,2.3nmcomp=Z,240µmcomp=Z,7µm,1.3s
BBGH Gun Hill 23.12 48 *eP* **P 10 22 09.3 -6.5**
BBGH Gun Hill 23.12 48 ⇑*P* **P 10 22 14.0 -1.8**
SVN Savane Anatole 23.14 42 P **P 10 22 14.6 -1.4**
SVN Savane Anatole 23.14 42 *eP* P 10 22 08.4 -7.5
ILAM Ilet Lapin Mar 23.29 43 P **P 10 22 15.9 -1.4**
MDN Morne-Daniel 23.33 41 *eP* **P 10 22 12.8 -4.9**
DSLB Salisbury 23.40 41 *eP* **P 10 22 16.3 -2.1**
TBG Guadaloupe-3 23.56 40 *eP* **P 10 22 17.6 -2.1**
TDBA Terre de Bas, 23.57 40 P **P 10 22 18.5 -1.3**
CCIG Comitan 23.74 321 ⇑*P* **P 10 22 21.9 +0.3**
CCIG Comitan 23.74 321 P **P 10 22 22.8 +1.2**
GO02 Mina Guanaco 23.85 163 ⇑*P* **P 10 22 24.8 +2.1**
MAGL Barre de l'ile 23.87 40 P **P 10 22 21.5 -1.1**
MBFL Flemmings, Mon 23.89 37 *eP* **P 10 22 20.0 -2.8**
MBWH 23.90 37 *eP* **P 10 22 19.4 -3.5**
SABA Saba 23.98 34 P **P 10 22 21.8 -1.8**
SABA IAmb IAmb 10 22 32.3
comp=Z,6µm,1.0s
SKOC St. Kitts, UWI 24.01 35 *eP* **P 10 22 19.4 -4.4**
SEUS St. Eustatius 24.02 35 P **P 10 22 22.4 -1.5**
SKI Saint Kitts 24.04 35 *eP* **P 10 22 20.5 -3.6**
GDSD La Dsirade Is 24.27 40 P **P 10 22 24.4 -1.9**
H05N1 Guadeloupe/Mar 24.28 40 P **P 10 22 26.1 -0.2**
H05N1 S **S 10 26 31.4 -3.1**
SNR=13
GRTK Grand Turk 24.33 13 IAmb IAmb 10 22 34.5
comp=Z,6µm,1.2s
GRTK Grand Turk 24.33 13 P **P 10 22 26.0 -0.7**
comp=Z,718µmcomp=Z,129µmcomp=Z,4µm,1.9s
GRTK Grand Turk 24.33 13 ⇑*P* **P 10 22 26.0 -0.7**
GRTK Grand Turk 24.33 13 P 10 22 26.0
comp=Z,718µmcomp=Z,129µmcomp=Z,4µm,1.9s
ANBD Bethesda, Anti 24.39 38 *eP* **P 10 22 22.6 -4.7**
AC01 Pan de Azucar 24.52 166 P **P 10 22 29.8 +1.4**
ANWB Willy Bob 24.86 37 P **P 10 22 29.4 -2.1**
comp=Z,1.4nmcomp=Z,527µmcomp=Z,35µm,1.0s
ANWB Willy Bob 24.86 37 *eP* **P 10 22 26.1 -5.4**
ANWB Willy Bob 24.86 37 ⇑*P* **P 10 22 28.6 -3.0**
ANWB Willy Bob 24.86 37 P 10 22 29.4
comp=Z,1.4nmcomp=Z,527µmcomp=Z,35µm,1.0s
TEIG Tepich 24.95 334 P **P 10 22 32.0 -0.3**
TEIG IAmb IAmb 10 22 40.2
comp=Z,3µm,0.9s
TEIG Tepich 24.95 334 P **P 10 22 30.9 -1.4**
TEIG Tepich 24.95 334 ⇑*P* **P 10 22 30.7 -1.6**
TEIG Tepich 24.95 334 P 10 22 30.9
SALV Santo Antonio 24.98 124 P **P 10 22 34.0 +1.3**
SALV S **S 10 26 46.4 +0.8**
SALV Santo Antonio 24.98 124 *eP* **P 10 22 33.6 +0.9**
BMO2 UHE Belo Monte 25.01 93 P **P 10 22 33.6 +0.5**
BMO2 S **S 10 26 45.0 -1.2**
MDP Montagnes des 25.42 73 P **P 10 22 36.4 -0.4**
comp=Z,2µm,0.6s,baz=251,slow=7.9,SNR=293
MDP S **S 10 26 49.1 -3.6**
comp=Z,340nm,0.9s,baz=290,slow=20,SNR=1.7
comp=Z,2µm,0.6s
MPGF Montagnes des 25.42 73 ⇑*P* **P 10 22 36.1 -0.6**
AC02 Maricunga 25.56 164 P **P 10 22 40.8 +2.3**
SOR Soroa 25.59 347 P **P 10 22 37.8 -0.3**
SOR IAmb IAmb 10 22 46.0
comp=Z,4µm,1.9s
SOR Soroa 25.59 347 *eP* **P 10 22 37.6 -0.5**
SOR IVmB_BB 10 23 17.8
comp=Z,114µm,3.9s
SOR Soroa 25.59 347 P **P 10 22 37.8 -0.3**
SOR pmax pmax
comp=Z,4µm,1.9s
PANT Pantanal (Braz 25.97 131 P **P 10 22 42.5 +0.9**
PANT Pantanal (Braz 25.97 131 *eP* **P 10 22 43.2 +1.5**
AC04 Llanos de Chal 26.40 168 IAmb IAmb 10 22 57.9
comp=Z,5µm,1.2s
BDQN Bodoquena, MS 26.78 134 P **P 10 22 50.0 +1.2**
BDQN S **S 10 27 14.1 +0.2**
BDQN Bodoquena, MS 26.78 134 *eP* **P 10 22 50.1 +1.2**
MURT Porto Murtinho 26.97 137 P **P 10 22 50.9 +0.3**
MURT S **S 10 27 17.3 +0.4**
MURT Porto Murtinho 26.97 137 *eP* **P 10 22 51.3 +0.7**
SNDB Serra Nova Dou 27.24 112 P **P 10 22 53.8 +0.7**
SNDB S **S 10 27 21.2 -0.2**
SNDB Serra Nova Dou 27.24 112 *eP* **P 10 22 54.1 +1.0**
LCO Las Campanas 27.26 168 P **P 10 22 56.0 +2.7**
LCO Las Campanas 27.26 168 P **P 10 22 56.0 +2.7**
LCO pmax pmax
comp=Z,11µm,1.5s
LCO Las Campanas 27.26 168 ⇓*P* **P 10 22 55.1 +1.7**
AQDB Aquidauana 27.56 133 P **P 10 22 57.8 +2.0**
AQDB Aquidauana 27.56 133 P **P 10 22 57.2 +1.4**
AQDB S **S 10 27 25.0 -1.2**
AQDB Aquidauana 27.56 133 *eP* **P 10 22 57.2 +1.4**
ARAG Araguaiana, MT 28.18 120 P **P 10 23 01.4 -0.1**
ARAG S **S 10 27 36.7 +0.5**
ARAG Araguaiana, MT 28.18 120 *eP* **P 10 23 02.2 +0.8**
PAPY Pozo Azul 28.28 142 *eP* **P 10 23 03.6 +1.4**
GO04 Tololo Observa 28.36 169 ⇓*P* **P 10 23 04.9 +1.8**
C2SB Chapadao do Su 28.79 126 *eP* **P 10 23 08.7 +1.9**
TMAB Tom-Au,PA,Br 28.89 91 P **P 10 23 07.7 0.0**
TMAB S **S 10 27 48.3 +1.0**
TMAB Tom-Au,PA,Br 28.89 91 *eP* **P 10 23 08.9 +1.2**
TLIG Tlapa 28.99 314 P **P 10 23 09.8 +1.1**
TLIG Tlapa 28.99 314 ⇓*P* **P 10 23 09.7 +1.0**
TLIG Tlapa 28.99 314 P **P 10 23 10.0 +1.3**
RPRD Ribas do Rio P 29.06 130 P **P 10 23 10.5 +1.3**
RPRD S **S 10 27 50.4 +0.5**
060A Indiantown 29.32 354 IAmb IAmb 10 23 55.1
comp=Z,3µm,1.3s
LAJE UHE Lajeado 29.51 106 P **P 10 23 13.3 0.0**
PAL01 Palmeiras do T 29.67 99 P **P 10 23 15.1 +0.4**
PAL01 S **S 10 27 58.9 -0.7**
PAL2 UHE Estreito - 29.91 100 P **P 10 23 17.5 +0.7**
PAL2 S **S 10 28 02.8 -0.5**
SMTB Santa Maria do 29.98 104 P **P 10 23 18.1 +0.7**
SMTB S **S 10 28 04.2 -0.3**
SMTB Santa Maria do 29.98 104 *eP* **P 10 23 17.9 +0.4**
ZON Zonda 30.16 166 ⇑*P* **P 10 23 20.9 +2.1**
SJPY San Joaquin 30.28 140 *eP* **P 10 23 20.0 +0.2**
CFA Coronel Fontan 30.32 165 P **P 10 23 21.4 +1.2**
comp=Z,618nm,0.9s,baz=341,slow=9.0,SNR=495
CFA P3KPbc 10 55 11.7
comp=Z,1.9nm,0.6s,baz=214,slow=3.3,SNR=5.8
comp=Z,618nm,0.9s

CPUP Villa Florida 30.48 143 IAmb IAmb 10 23 26.7
comp=Z,5µm,1.6s
CPUP Villa Florida 30.48 143 P **P** **10 23 21.8 +0.2**
comp=Z,481nm,1.0s,baz=326,slow=8.7,SNR=236
CPUP S **S** **10 28 07.2 -4.8**
comp=Z,201nm,1.2s,baz=218,slow=17,SNR=1.6
CPUP P3KPbc 10 55 12.3
comp=Z,6.8nm,1.0s,baz=166,slow=14,SNR=3.5
comp=Z,481nm,1.0s
CPUP Villa Florida 30.48 143 ⇓P **P** **10 23 21.6 0.0**
CPUP Villa Florida 30.48 143 P **P** **10 23 21.7 0.0**
CPUP S **S** **10 28 10.2 -1.8**
CPUP Villa Florida 30.48 143 *e*P **P** **10 23 22.0 +0.4**
CPUP Villa Florida 30.48 143 P **P** **10 23 22.0 +0.4**
CPUP pP **pP** **10 23 52.6 -0.9**
CPUP sP **sP** **10 24 09.6 -1.2**
DWPF Disney Wildern 30.51 352 P **P** **10 23 22.0 +0.2**
DWPF Disney Wildern 30.51 352 ⇑P **P** **10 23 21.8 0.0**
UNM Universidad Na 30.59 316 P **P** **10 23 25.4 +2.4**
UNM IAmb IAmb 10 23 33.2
comp=Z,2µm,1.2s
UNM Universidad Na 30.59 316 ⇓P **P** **10 23 25.1 +2.1**
H03N1 Juan Fernandez 31.05 183 P **P** **10 23 29.2 +3.0**
baz=137,slow=12,SNR=338
H03N1 PcP **PcP** **10 26 20.7 +2.3**
baz=147,slow=15,SNR=3.6
H03N2 Juan Fernandez 31.05 183 P **P** **10 23 28.3 +2.1**
baz=137,slow=12,SNR=521
H03N2 PcP **PcP** **10 26 21.6 +3.2**
baz=147,slow=15,SNR=6.1
H03N3 Juan Fernandez 31.07 183 P **P** **10 23 28.4 +1.9**
baz=137,slow=12,SNR=584
H03N3 PcP **PcP** **10 26 21.0 +2.5**
baz=147,slow=15,SNR=3.2
VA04 Juan Fernndez 31.25 183 ⇓P **P** **10 23 29.3 +1.0**
ITRB Iturama 31.28 126 P **P** **10 23 29.8 +1.0**
ITRB S **S** **10 28 25.7 +1.0**
ITRB Iturama 31.28 126 *e*P **P** **10 23 30.1 +1.4**
H03S3 Juan Fernandez 31.44 183 P **P** **10 23 32.7 +3.1**
baz=209,slow=74,SNR=446
H03S3 PcP **PcP** **10 26 23.5 +4.1**
baz=104,slow=74,SNR=5.8
H03S2 Juan Fernandez 31.45 183 P **P** **10 23 33.4 +3.7**
baz=91,slow=74,SNR=549
H03S2 PcP **PcP** **10 26 23.6 +4.2**
baz=196,slow=74,SNR=4.4
H03S1 Juan Fernandez 31.45 183 P **P** **10 23 32.7 +3.0**
SNR=444
H03S1 PcP **PcP** **10 26 20.6 +1.2**
BDFB Brasilia 31.50 117 P **P** **10 23 32.7 +1.8**
BDFB IAmb IAmb 10 23 43.5
comp=Z,5µm,1.6s
BDFB Brasilia 31.50 117 P **P** **10 23 32.0 +1.2**
comp=Z,338nm,0.7s,baz=290,slow=9.7,SNR=201
BDFB S **S** **10 28 26.5 -1.9**
comp=Z,131nm,0.8s,baz=226,slow=26,SNR=1.1
comp=Z,338nm,0.7s
BDFB Brasilia 31.50 117 P **P** **10 23 32.7 +1.8**
BDFB pmax pmax
comp=Z,5µm,1.6s
ITU3 Corumbazu 31.81 122 P **P** **10 23 34.2 +0.7**
ITU3 S **S** **10 28 33.5 +0.5**
LMEL Las Melosas 32.05 169 P **P** **10 23 37.8 +2.4**
MOIG Morelia 32.25 314 IAmb IAmb 10 23 44.9
comp=Z,966nm,0.8s
MOIG Morelia 32.25 314 ⇓P **P** **10 23 38.9 +1.4**
MOIG Morelia 32.25 314 P **P** **10 23 39.7 +2.2**
IPMB Ipameri, GO 32.27 121 P **P** **10 23 38.0 +0.5**
IPMB S **S** **10 28 39.9 -0.3**
IPMB Ipameri, GO 32.27 121 *e*P **P** **10 23 38.3 +0.7**
BAT3 Ipameri 32.61 119 P **P** **10 23 41.5 +1.1**
BAT3 S **S** **10 28 45.0 -0.5**
BAT2 UHE Batalha 32.65 119 P **P** **10 23 42.1 +1.3**
LDASE Londrina, Braz 32.70 132 *e*P **P** **10 23 41.5 +0.3**
SFA1 Serra Facao 32.70 120 P **P** **10 23 41.9 +0.5**
SFA1 S **S** **10 28 46.5 -0.4**
PTGB Pitanga 32.82 135 P **P** **10 23 42.5 +0.2**
PTGB S **S** **10 28 46.8 -1.8**
PTGB Pitanga 32.82 135 *e*P **P** **10 23 42.8 +0.2**
ROSB Rosrio 32.85 92 S **S** **10 28 47.6 -1.6**
BO02 Sierra Bellavi 32.87 171 ⇓P **P** **10 23 44.3 +1.8**
SDBA SAO DESIDERIO 33.35 109 P **P** **10 23 47.4 +0.4**
SDBA S **S** **10 28 55.2 -1.8**
SDBA SAO DESIDERIO 33.35 109 *e*P **P** **10 23 47.6 +0.6**
BB19B Bebedouro 33.45 126 P **P** **10 23 48.2 +0.5**
BB19B S **S** **10 28 56.3 -2.0**
PMNB Patos De Minas 34.03 120 P **P** **10 23 53.9 +1.0**
PMNB S **S** **10 29 07.3 -0.2**
PMNB Patos De Minas 34.03 120 *e*P **P** **10 23 53.8 +0.9**
BRAL Brewton 34.61 345 ⇑P **P** **10 23 57.0 -0.5**
JANB Januaria 34.66 113 P **P** **10 23 58.4 +0.2**
JANB S **S** **10 29 15.6 -1.5**
JANB Januaria 34.66 113 *e*P **P** **10 23 58.3 +0.1**
CSU Charleston Sou 35.19 356 IAmb IAmb 10 24 09.5
comp=Z,4µm,1.2s
ZAIG Zacatecas 35.23 316 ⇓P **P** **10 24 04.5 +1.2**
ZAIG Zacatecas 35.23 316 P **P** **10 24 04.8 +1.5**
NHSC New Hope 35.32 355 P **P** **10 24 03.6 +0.1**
NHSC New Hope 35.32 355 ⇑P **P** **10 24 03.2 -0.3**
JQT1 Jequitai-MG 35.35 117 P **P** **10 24 04.4 +0.3**
TBOT Tacuaremb 35.36 148 *e*P **P** **10 24 04.3 +0.3**
MC01 Montes Claros 35.53 116 P **P** **10 24 06.8 +1.1**
MC01 S **S** **10 29 28.5 -2.1**
NBPS Pedro II - PI 35.56 94 P **P** **10 24 06.2 +0.2**
NBPS S **S** **10 29 29.0 -2.1**
SPB Sao Paulo 35.62 129 P **P** **10 24 06.2 0.0**
VABB Valinhos 35.67 128 P **P** **10 24 06.8 0.0**
VABB S **S** **10 29 29.9 -2.6**
VAO Valinhos 35.67 128 *e*P **P** **10 24 07.2 +0.4**
CPSB Cacapava Do Su 35.79 144 P **P** **10 24 07.6 -0.1**
CPSB S **S** **10 29 31.4 -2.6**
CPSB Cacapava Do Su 35.79 144 *e*P **P** **10 24 07.4 -0.3**
KVTX Kingsville 35.83 327 ⇑P **P** **10 24 09.1 +1.1**
HBVL Hebbronville 35.88 326 IAmb IAmb 10 24 17.9
comp=Z,2µm,1.2s
HBVL Hebbronville 35.88 326 P **P** **10 24 09.8 +1.3**
Y58A Scranton 36.08 356 IAmb IAmb 10 24 16.8
comp=Z,2µm,1.0s
Y60A Bolivia 36.10 358 IAmb IAmb 10 24 16.8
comp=Z,2µm,1.1s
Y57A Sumter 36.24 355 IAmb IAmb 10 24 21.8
comp=Z,2µm,1.0s
441A DeRidder 36.28 336 P **P** **10 24 11.5 -0.3**
DIAM Diamantina, MG 36.35 118 P **P** **10 24 12.9 +0.2**
DIAM S **S** **10 29 40.6 -2.5**
DIAM Diamantina, MG 36.35 118 *e*P **P** **10 24 13.6 +0.8**
LRAL Lakeview Retre 36.37 346 IAmb IAmb 10 24 19.4
comp=Z,3µm,1.2s
LRAL Lakeview Retre 36.37 346 ⇑P **P** **10 24 09.7 -2.8**
BBSR BB Station 36.38 18 P **P** **10 24 11.4 -1.2**
BBSR IAmb IAmb 10 24 25.9
comp=Z,4µm,1.6s
BBSR BB Station 36.38 18 ⇑P **P** **10 24 11.4 -1.2**
BSCB Bom Sucesso 36.50 123 P **P** **10 24 14.4 +0.5**
BSCB Bom Sucesso 36.50 123 *e*P **P** **10 24 14.2 +0.2**
JSC Jenkinsville 36.58 354 IAmb IAmb 10 24 21.9
comp=Z,5µm,1.7s
VBMS Vicksburg 36.62 341 IAmb IAmb 10 24 21.7
comp=Z,2µm,1.1s
VBMS Vicksburg 36.62 341 ⇑P **P** **10 24 13.3 -1.3**
CNLB Canela 36.63 140 P **P** **10 24 14.8 -0.1**
CNLB S **S** **10 29 43.2 -3.7**
CNLB Canela 36.63 140 *e*P **P** **10 24 14.3 -0.6**
MAJ01 Sao Joao Batis 36.63 136 *e*P **P** **10 24 14.6 -0.2**
PLTB Pedras Altas 36.70 146 IAmb IAmb 10 24 20.4
comp=Z,4µm,1.1s
PLTB Pedras Altas 36.70 146 P **P** **10 24 15.6 +0.2**
PLTB S **S** **10 29 45.7 -2.1**
PLTB Pedras Altas 36.70 146 *e*P **P** **10 24 15.3 -0.1**
X58A Rowland 36.70 357 IAmb IAmb 10 25 00.5
comp=Z,3µm,1.4s
EF75 Tulsita 36.71 328 P P 10 24 20.5 +5.1
SBBR Sobral 36.71 93 P **P** **10 24 15.3 -0.5**
SBBR S **S** **10 29 44.8 -3.7**
EF72 Nordheim 36.72 329 P **P** **10 24 13.8 -1.7**
HKT Hockley 36.75 332 P **P** **10 24 15.2 -0.6**
HKT Hockley 36.75 332 *c i*P **P** **10 24 14.6 -1.1**
HKT pmax pmax
comp=Z,1µm,2.2s
HKT Hockley 36.75 332 ⇑P **P** **10 24 14.0 -1.7**
HKT Hockley 36.75 332 P **P** **10 24 15.2 -0.6**
HKT pP **pP** **10 24 48.1 -0.2**
HKT ScP **ScP** **10 30 08.8 +0.9**

HKT Hockley 36.75 332 P **P** **10 24 15.0 -0.7**
EF71 Pawnee 36.77 328 P **P** **10 24 17.5 +1.5**
EF05 Yorktown 36.79 329 P **P** **10 24 16.6 +0.5**
BIRD Birdtown, Kers 36.87 355 IAmb IAmb 10 24 23.2
comp=Z,2µm,1.2s
EF66 Yoakum 36.88 330 P **P** **10 24 19.8 +2.9**
EF69 Whitsett 36.90 328 P **P** **10 24 16.8 -0.2**
PARB Paraibuna 36.91 127 P **P** **10 24 18.1 +0.8**
PARB S **S** **10 29 49.1 -2.2**
PARB Paraibuna 36.91 127 *e*P **P** **10 24 17.6 +0.3**
NBMO Morrinhos-CE 36.94 92 P **P** **10 24 17.4 -0.2**
NBMO S **S** **10 29 49.2 -2.6**
EF54 Nixon 36.98 329 P **P** **10 24 18.0 +0.3**
EF65 Schulenburg 37.07 330 P **P** **10 24 23.0 +4.5**
EF04 Eagle Ford 04 37.10 329 P **P** **10 24 22.8 +4.0**
EF62 Nixon 37.17 329 P **P** **10 24 18.8 -0.6**
EF62 Nixon 37.17 329 P **P** **10 24 20.0 +0.6**
PAULI Pauline 37.18 353 IAmb IAmb 10 24 29.8
comp=Z,2µm,1.0s
MLDN Muldoon 37.21 330 IAmb IAmb 10 24 29.0
comp=Z,2µm,0.9s
EF59 Coughran 37.22 328 P **P** **10 24 19.9 +0.1**
EF63 Gonzales 37.23 330 P **P** **10 24 19.5 -0.4**
EF63 Gonzales 37.23 330 P **P** **10 24 22.8 +2.9**
TER01 Tubaro-SC 37.26 137 P **P** **10 24 19.7 -0.4**
TER01 Tubaro-SC 37.26 137 *e*P **P** **10 24 19.6 -0.6**
833A Chaparral WMA, 37.26 326 IAmb IAmb 10 24 28.9
comp=Z,2µm,1.1s
833A Chaparral WMA, 37.26 326 P **P** **10 24 20.5 +0.4**
baz=141
833A S **S** **10 29 55.2 -1.2**
baz=141
HNVL Huntsville, TX 37.26 333 P **P** **10 24 19.7 -0.4**
EF64 Waelder 37.29 330 P **P** **10 24 22.8 +2.4**
EF01 Eagle Ford 01 37.34 328 P **P** **10 24 20.6 -0.2**
EF01 Eagle Ford 01 37.34 328 P **P** **10 24 21.6 +0.8**
SNAG San Augustine 37.36 335 P **P** **10 24 20.6 -0.3**
SNAG S **P** **10 24 23.8 +2.8**
ET01 Chireno 37.39 335 P **P** **10 24 21.3 +0.1**
KMSC Kings Mountain 37.44 354 IAmb IAmb 10 24 32.1
comp=Z,2µm,1.2s
NBPB Pedra_Branca-C 37.47 96 P **P** **10 24 22.3 +0.2**
NBPB S **S** **10 29 58.5 -1.5**
NBPB Pedra_Branca-C 37.47 96 *e*P **P** **10 24 22.3 +0.2**
BG3 Lake Jocassee 37.49 352 P **P** **10 24 21.4 -0.6**
FPAL Fort Paine 37.50 348 IAmb IAmb 10 24 28.8
comp=Z,1µm,1.1s
NATX Nacogdoches 37.77 335 IAmb IAmb 10 24 34.1
comp=Z,2µm,1.0s
NATX Nacogdoches 37.77 335 ⇑P **P** **10 24 23.8 -0.7**
V58A Windy Hill, Pi 37.92 357 IAmb IAmb 10 25 10.6
comp=Z,5µm,1.8s
CAR01 Carai MG 37.99 115 P **P** **10 24 27.0 +0.5**
CAR01 S **S** **10 30 06.1 -1.7**
MAN01 Angra dos Reis 38.02 125 P **P** **10 24 27.7 +1.0**
MAN01 Angra dos Reis 38.02 125 *e*P **P** **10 24 27.4 +0.8**
CRHG Carthage 38.05 336 P **P** **10 24 27.6 +0.8**
V55A Taylorsville 38.13 354 IAmb IAmb 10 24 34.3
comp=Z,6µm,1.8s
V53A Saluda 38.14 352 IAmb IAmb 10 24 33.9
comp=Z,2µm,1.2s
HNDO Hondo 38.14 328 IAmb IAmb 10 24 31.7
comp=Z,2µm,1.0s
HNDO Hondo 38.14 328 P **P** **10 24 28.2 +0.7**
VAS01 Vassouras-RJ 38.18 124 P **P** **10 24 28.7 +0.7**
VAS01 S **S** **10 30 10.4 -0.1**
CPCT Cooper Cave 38.18 350 IAmb IAmb 10 24 34.9
comp=Z,3µm,1.1s
TRQA Tornquist 38.18 161 P **P** **10 24 29.1 +1.3**
TRQA Tornquist 38.18 161 P **P** **10 24 29.1 +1.3**
TRQA pmax pmax
comp=Z,11µm,1.3s
TRQA Tornquist 38.18 161 P **P** **10 24 28.9 +1.1**
TRQA S **S** **10 30 11.1 +0.9**
TKL Tuckaleechee C 38.26 351 IAmb IAmb 10 24 34.6
comp=Z,3µm,1.3s
TKL Tuckaleechee C 38.26 351 ⇑P **P** **10 24 25.7 -2.8**
435B Jarrell 38.28 331 P **P** **10 24 28.6 0.0**
baz=146
435B S **S** **10 30 09.6 -2.1**
baz=146
435B Jarrell 38.28 331 P **P** **10 24 28.3 -0.4**
NBMA Muriti-CE 38.43 99 P **P** **10 24 30.8 +0.6**
NBMA S **S** **10 30 13.6 -0.8**
PLAL Pickwick Lake 38.49 345 IAmb IAmb 10 24 36.5
comp=Z,4µm,1.2s
SIM2 UHE Simplicio 38.55 123 P **P** **10 24 32.2 +1.1**
SIM2 S **S** **10 30 15.5 -0.5**
U56A King 38.55 356 IAmb IAmb 10 24 37.9
comp=Z,4µm,1.2s
SJMB Sao Joao De Ma 38.69 117 P **P** **10 24 33.0 +0.7**
SJMB S **S** **10 30 16.7 -1.5**
SJMB Sao Joao De Ma 38.69 117 *e*P **P** **10 24 32.8 +0.5**
NBCL Cascavel-CE 38.70 94 P **P** **10 24 32.5 +0.1**
NBCL S **S** **10 30 17.2 -1.3**
PLCA Paso Flores 38.73 172 P **P** **10 24 33.6 +1.3**
comp=Z,1µm,0.8s,baz=346,slow=9.3,SNR=494
PLCA PcP **PcP** **10 26 42.5 +1.4**
comp=Z,295nm,0.9s,baz=358,slow=4.1,SNR=4.8
PLCA S **S** **10 30 11.8 -6.5**
comp=Z,46nm,1.0s,baz=56,slow=13,SNR=1.4
comp=Z,1µm,0.8s
PLCA Paso Flores 38.73 172 ⇓P **P** **10 24 33.4 +1.0**
PLCA Paso Flores 38.73 172 P **P** **10 24 33.6 +1.3**
PLCA S **S** **10 30 19.1 +0.8**
PLCA Paso Flores 38.73 172 *e*P **P** **10 24 33.5 +1.2**
PLCA Paso Flores 38.73 172 P **P** **10 24 34.2 +1.8**
PLCA PcP **PcP** **10 26 42.8 +1.7**
DRIO Del Rio 38.79 326 IAmb IAmb 10 24 41.7
comp=Z,2µm,1.0s
DRIO Del Rio 38.79 326 P **P** **10 24 33.6 +0.7**
WLAR White Oak Lake 38.86 338 P **P** **10 24 32.8 -0.7**
WLAR White Oak Lake 38.86 338 P **P** **10 24 32.8 -0.7**
DUB01 Friburgo-RJ 38.98 123 P **P** **10 24 35.9 +1.1**
DUB01 S **S** **10 30 22.1 -0.5**
DUB01 Friburgo-RJ 38.98 123 *e*P **P** **10 24 35.5 +0.8**
BSFB Barra de Sao F 39.04 117 *e*P **P** **10 24 34.8 -0.4**
T59A Double "B" Far 39.05 359 IAmb IAmb 10 25 15.1
comp=Z,5µm,1.5s
CLTN Cedars of Leba 39.15 348 IAmb IAmb 10 24 42.4
comp=Z,2µm,1.3s
JCT Junction City 39.16 328 ⇑P **P** **10 24 36.1 0.0**
CMC01 Camacan, BA 39.17 112 P **P** **10 24 37.4 +1.0**
CMC01 Camacan, BA 39.17 112 *e*P **P** **10 24 37.3 +1.0**
TREL Terrell 39.22 334 IAmb IAmb 10 24 40.0
comp=Z,6µm,1.8s
TREL Terrell 39.22 334 P **P** **10 24 35.9 -0.5**
GUA01 Guaratinga, BA 39.25 114 P **P** **10 24 37.6 +0.6**
GUA01 S **S** **10 30 25.0 -1.7**
GUA01 Guaratinga, BA 39.25 114 *e*P **P** **10 24 37.6 +0.6**
NAN01 Guarapari, ES 39.35 116 P **P** **10 24 39.2 +1.4**
NAN01 S **S** **10 30 27.1 -1.0**
FW16 Waxahatchie 39.37 333 P **P** **10 24 37.5 -0.3**
FW16 IAmb IAmb 10 24 48.2
comp=Z,1µm,1.1s
H06S1 SOCORRO T 39.38 303 P **P** **10 24 39.4 +1.4**
SNR=410
FW14 Alvarado 39.44 333 IAmb IAmb 10 24 41.7
comp=Z,3µm,1.6s
CAM01 Campos-RJ 39.48 122 P **P** **10 24 39.4 +0.7**
CAM01 Campos-RJ 39.48 122 *e*P **P** **10 24 39.5 +0.7**
X40A Basin Creek Fa 39.48 339 IAmb IAmb 10 24 45.2
comp=Z,4µm,2.0s
FW13 Cleburne 39.51 332 IAmb IAmb 10 24 46.4
comp=Z,5µm,1.9s
WVT Waverly 39.52 346 P **P** **10 24 36.6 -2.3**
WVT IAmb IAmb 10 24 44.4
comp=Z,3µm,1.4s
WVT Waverly 39.52 346 ⇑P **P** **10 24 36.2 -2.7**
UALR University of 39.57 340 IAmb IAmb 10 24 48.5
comp=Z,3µm,0.8s
RIB01 Linhares ES 39.61 118 P **P** **10 24 40.6 +0.7**
RIB01 S **S** **10 30 30.3 -1.7**
RIB01 Linhares ES 39.61 118 *e*P **P** **10 24 40.4 +0.5**
RPN Rapa Nui 39.61 228 P **P** **10 24 41.1 +1.2**
RPN Rapa Nui 39.61 228 ⇑P **P** **10 24 41.0 +1.2**
VA02 Isla de Pascua 39.70 228 P **P** **10 24 41.2 +0.6**
VA02 Isla de Pascua 39.70 228 ⇓P **P** **10 24 41.5 +1.0**
HBAR Harrisburg 39.74 342 P **P** **10 24 39.2 -1.6**
MIAR Mount Ida 39.80 338 ⇑P **P** **10 24 39.4 -1.9**
NBLA Lagarto - SE 39.86 104 P **P** **10 24 42.4 +0.3**
NBLA S **S** **10 30 33.6 -2.3**
NBLA Lagarto - SE 39.86 104 *e*P **P** **10 24 42.1 0.0**

S57A Dark Hollow, R 39.88 358 IAmb IAmb 10 25 21.9
comp=Z,3µm,1.4s
NBPA Parau_RN 39.94 96 P **P** **10 24 43.2 +0.4**
NBPA S **S** **10 30 35.1 -1.9**
FW07 Weatherford 39.96 332 IAmb IAmb 10 24 46.4
comp=Z,7µm,2.0s
GLAT Glass 40.02 344 P **P** **10 24 41.2 -1.9**
R58B Mineral 40.05 359 IAmb IAmb 10 25 26.3
comp=Z,2µm,1.3s
FW06 Azle 40.08 333 IAmb IAmb 10 24 47.4
comp=Z,4µm,1.6s
HPIG 40.09 318 IAmb IAmb 10 24 51.6
comp=Z,3µm,2.0s
HPIG 40.09 318 ⇓P **P** **10 24 44.3 +0.3**
HPIG 40.09 318 P **P** **10 24 44.6 +0.6**
LL01 San Ignacio de 40.14 175 ⇓P **P** **10 24 44.5 +0.6**
NBLV Livramento - P 40.25 99 P **P** **10 24 46.3 +0.9**
NBLV S **S** **10 30 41.3 -0.4**
NBLV Livramento - P 40.25 99 *e*P **P** **10 24 45.9 +0.6**
HICK Hickman 40.26 345 P **P** **10 24 43.5 -1.5**
CBN Corbin Frederi 40.28 360 IAmb IAmb 10 25 25.6
comp=Z,4µm,1.6s
CBN Corbin Frederi 40.28 360 ⇑P **P** **10 24 44.4 -0.7**
LCAR Lake Charles 40.37 342 P **P** **10 24 44.0 -1.9**
FW03 Perrin-Whitt E 40.37 332 IAmb IAmb 10 24 54.0
comp=Z,2µm,1.1s
R55A Marlinton 40.46 356 P **P** **10 24 46.6 -0.1**
R55A IAmb IAmb 10 25 27.2
comp=Z,3µm,1.3s
TXAR Lajitas Array 40.49 323 P **P** **10 24 47.9 +0.7**
TXAR Lajitas Array 40.49 323 P **P** **10 24 47.0 -0.1**
comp=Z,59nm,0.5s,baz=133,slow=8.6,SNR=630
TXAR PcP **PcP** **10 26 49.7 +2.7**
comp=Z,163nm,0.8s,baz=147,slow=5.6,SNR=6.9
TXAR P3KPbc 10 54 33.0
comp=Z,2.3nm,0.9s,baz=300,slow=3.9,SNR=4.9
TXAR P3KP 10 56 00.2
comp=Z,1.0nm,0.8s,baz=129,slow=0.8,SNR=4.5
TXAR P4KPbc 11 02 53.7
comp=Z,0.8nm,0.8s,baz=156,slow=6.1,SNR=5.7
comp=Z,59nm,0.5s
TXAR Lajitas Array 40.49 323 P **P** **10 24 47.9 +0.7**
FCAR Ozark Folk Cen 40.51 341 IAmb IAmb 10 24 53.0
comp=Z,6µm,1.5s
ABR01 Abrolhos, BA 40.68 115 P **P** **10 24 49.5 +0.8**
ABR01 S **S** **10 30 47.0 -0.8**
GO07 Milladeo Hill, 40.77 176 P **P** **10 24 50.3 +1.2**
PBMO Poplar Bluff 40.81 343 P **P** **10 24 47.6 -1.9**
PBMO IAmb IAmb 10 24 55.5
comp=Z,4µm,1.0s
SGCY Sterling City 40.99 328 IAmb IAmb 10 25 00.1
comp=Z,3µm,0.9s
LL02 Futaleuf 41.00 174 P **P** **10 24 51.8 +0.8**
LL02 Futaleuf 41.00 174 ⇓P **P** **10 24 51.8 +0.8**
NBAN Anadia - AL 41.14 102 P **P** **10 24 53.4 +0.8**
NBAN S **S** **10 30 54.0 -0.8**
NBAN Anadia - AL 41.14 102 *e*P **P** **10 24 53.3 +0.7**
RCBR Riachuelo 41.15 96 P **P** **10 24 53.1 +0.4**
RCBR IAmb IAmb 10 25 01.6
comp=Z,3µm,1.1s
RCBR Riachuelo 41.15 96 ⇑P **P** **10 24 53.0 +0.4**
RCBR Riachuelo 41.15 96 P **P** **10 24 53.2 +0.4**
RCBR S **S** **10 30 54.4 -0.6**
RCBR Riachuelo 41.15 96 *e*P **P** **10 24 53.0 +0.4**
SLBS Sierra La Lagu 41.15 311 P **P** **10 24 53.2 +0.6**
SLBS Sierra La Lagu 41.15 311 ⇓P **P** **10 24 53.3 +0.6**
WTFS Witchita Falls 41.16 332 IAmb IAmb 10 25 00.5
comp=Z,2µm,1.0s
Q56A Snyder Ridge, 41.16 357 IAmb IAmb 10 25 33.2
comp=Z,4µm,1.4s
SSFO Shawnee State 41.17 353 IAmb IAmb 10 24 58.3
comp=Z,4µm,1.4s
Q54A Coxs Mills 41.21 355 IAmb IAmb 10 25 37.8
comp=Z,5µm,1.6s
WCI Wyandotte Cave 41.21 349 P **P** **10 24 50.9 -1.9**
WCI IAmb IAmb 10 24 58.7
comp=Z,4µm,1.2s
WCI Wyandotte Cave 41.21 349 ⇑P **P** **10 24 50.5 -2.3**
WCI Wyandotte Cave 41.21 349 P **P** **10 24 50.7 -2.1**
NBCA Caruaru-PE 41.22 100 P **P** **10 24 54.0 +0.7**
NBCA S **S** **10 30 56.5 +0.2**
NBCA Caruaru-PE 41.22 100 *e*P **P** **10 24 54.1 +0.7**
T42A Van Buren 41.24 343 IAmb IAmb 10 24 58.7
comp=Z,4µm,1.0s
HHAR Hobbs 41.48 339 IAmb IAmb 10 25 01.4
comp=Z,5µm,1.3s
P57A Homestead Farm 41.57 359 P **P** **10 24 55.8 +0.1**
X34A Smith Ranch, M 41.57 334 P **P** **10 24 55.6 -0.2**
X34A IAmb IAmb 10 25 06.1
comp=Z,2µm,0.8s
APMT Aspermont 41.59 330 IAmb IAmb 10 25 00.1
comp=Z,4µm,1.4s
SN05 Snyder 5 41.62 329 IAmb IAmb 10 25 05.0
comp=Z,3µm,1.1s
W35A Tecumseh 41.63 335 IAmb IAmb 10 25 03.6
comp=Z,5µm,1.1s
NBPV Pedro Velho 41.79 97 P **P** **10 24 57.9 +0.1**
NBPV S **S** **10 31 03.4 -1.0**
SN07 Snyder 07 41.79 329 IAmb IAmb 10 25 06.1
comp=Z,2µm,1.0s
P61A Hammonton 41.80 3 IAmb IAmb 10 25 38.1
comp=Z,6µm,1.4s
MCWV Mont Chateau 41.81 357 P **P** **10 24 57.1 -0.5**
MCWV IAmb IAmb 10 25 43.3
comp=Z,2µm,1.3s
MCWV Mont Chateau 41.81 357 ⇑P **P** **10 24 57.0 -0.7**
DEOK Depew 42.07 336 P **P** **10 24 58.8 -1.0**
DEOK IAmb IAmb 10 25 06.6
comp=Z,3µm,1.0s
OLIL Olney 42.07 347 IAmb IAmb 10 25 05.3
comp=Z,5µm,1.1s
OKCSW OKLAHOMA CITY 42.08 335 IAmb IAmb 10 25 06.8
comp=Z,5µm,1.1s
POST Post 42.09 329 IAmb IAmb 10 25 08.6
comp=Z,1µm,0.9s
WMOK Wichita Mounta 42.11 333 IAmb IAmb 10 25 09.4
comp=Z,2µm,0.9s
WMOK Wichita Mounta 42.11 333 ⇑P **P** **10 24 59.3 -0.9**
AY01 Puyuhuapi 42.15 175 P **P** **10 25 01.4 +1.1**
CCM Cathedral Cave 42.24 343 P **P** **10 24 58.7 -2.4**
CCM Cathedral Cave 42.24 343 ⇑P **P** **10 24 58.5 -2.6**
CCM Cathedral Cave 42.24 343 P **P** **10 24 59.0 -2.2**
CCM pP **pP** **10 25 33.4 -1.1**
CCM ScP **ScP** **10 30 29.0 -0.1**
DKNS Dickens 42.27 330 IAmb IAmb 10 25 09.6
comp=Z,3µm,0.7s
OK031 S. Brethren Rd 42.30 336 IAmb IAmb 10 25 08.6
comp=Z,4µm,1.0s
OK052 Battle Ridge R 42.32 336 IAmb IAmb 10 25 08.8
comp=Z,4µm,1.1s
O54A Avella 42.37 356 IAmb IAmb 10 25 42.0
comp=Z,3µm,1.4s
O52A Adamsville 42.42 355 IAmb IAmb 10 25 46.3
comp=Z,3µm,1.2s
OK029 Liberty Lake 42.42 335 IAmb IAmb 10 25 11.8
comp=Z,3µm,0.9s
QUOK Quay 42.44 336 P **P** **10 25 01.5 -1.3**
QUOK IAmb IAmb 10 25 09.7
comp=Z,3µm,1.0s
SLM Saint Louis 42.50 345 IAmb IAmb 10 25 09.1
comp=Z,5µm,1.2s
ACSO Alum Creek Sta 42.66 353 IAmb IAmb 10 25 14.0
comp=Z,3µm,1.1s
ACSO Alum Creek Sta 42.66 353 ⇑P **P** **10 25 02.8 -1.7**
LUPA Lehigh Univers 42.70 2 IAmb IAmb 10 25 44.9
comp=Z,4µm,1.5s
SSPA Standing Stone 42.71 359 P **P** **10 25 04.7 -0.2**
SSPA Standing Stone 42.71 359 ⇑P **P** **10 25 04.3 -0.6**
OK051 E0350 and S346 42.78 336 IAmb IAmb 10 25 12.6
comp=Z,3µm,0.9s
BRNJ Basking Ridge 42.81 3 IAmb IAmb 10 25 45.5
comp=Z,6µm,1.8s
N58A Sunbury 42.91 0 P **P** **10 25 05.9 -0.6**
N58A IAmb IAmb 10 25 53.2
comp=Z,5µm,1.7s
CPNY Central Park 42.95 3 IAmb IAmb 10 25 51.0
comp=Z,2µm,1.5s
O48B Farmland 42.98 351 IAmb IAmb 10 25 12.8
comp=Z,5µm,1.1s
N53A Lisbon 43.02 356 IAmb IAmb 10 25 51.4
comp=Z,4µm,1.4s
PAL Palisades 43.17 3 P **P** **10 25 07.8 -0.8**
PAL Palisades 43.17 3 P **P** **10 25 07.8 -0.8**
PAL pmax pmax
comp=Z,2µm,1.1s

MNTX Cornudas Mount 43.22 324 ⇑P **P 10 25 08.0 -1.1**
CROK Carrier 43.25 335 IAmb IAmb 10 25 16.4
comp=Z,4µm,1.0s
N51A Ashland 43.27 354 IAmb IAmb 10 25 52.8
comp=Z,4µm,1.3s
TRNY Table Rock, Ra 43.29 3 IAmb IAmb 10 25 54.0
comp=Z,2µm,1.1s
COYC Coyhaique 43.34 175 P **P 10 25 11.0 +1.2**
COYC Coyhaique 43.34 175 ⇓P **P 10 25 11.1 +1.2**
COYC Coyhaique 43.34 175 P **P 10 25 11.4 +1.6**
COYC ScP **ScP 10 30 35.9 +2.5**
WSPT Westport, CT 43.37 4 IAmb IAmb 10 25 54.3
comp=Z,2µm,1.0s
SFIN Lafayette 43.44 349 P **P 10 25 08.5 -2.3**
SFIN IAmb IAmb 10 25 16.1
comp=Z,8µm,1.9s
KAN13 South Haven SW 43.48 336 IAmb IAmb 10 25 18.4
comp=Z,5µm,1.1s
N49A Columbus Grove 43.49 352 IAmb IAmb 10 25 17.3
comp=Z,7µm,1.5s
ELIS Ellis County 43.50 333 IAmb IAmb 10 25 19.6
comp=Z,5µm,1.1s
OK038 West end E0370 43.55 334 IAmb IAmb 10 25 19.0
comp=Z,2µm,0.8s
AMTX Amarillo 43.61 330 IAmb IAmb 10 25 22.0
comp=Z,2µm,0.8s
AMTX Amarillo 43.61 330 ⇑P **P 10 25 12.1 -0.3**
KAN17 Caldwell West 43.62 336 IAmb IAmb 10 25 19.5
comp=Z,4µm,1.0s
KAN14 Manchester OK 43.63 335 IAmb IAmb 10 25 19.4
comp=Z,4µm,1.0s
KAN09 Caldwell North 43.64 336 P **P 10 25 11.7 -0.8**
KAN09 IAmb IAmb 10 25 19.7
comp=Z,4µm,1.1s
KSPA Keystone Colle 43.64 1 P **P 10 25 12.0 -0.4**
M63A Gales Ferry 43.71 5 P **P 10 25 12.3 -0.6**
M63A IAmb IAmb 10 25 53.6
comp=Z,3µm,1.2s
KAN01 Argonia South 43.71 336 IAmb IAmb 10 25 20.3
comp=Z,5µm,1.1s
M52A Chesterland 43.79 355 IAmb IAmb 10 25 57.3
comp=Z,4µm,1.4s
ALLY Alegheny Colle 43.81 357 IAmb IAmb 10 25 58.7
comp=Z,6µm,1.4s
M50A Fremont 43.82 353 IAmb IAmb 10 25 19.2
comp=Z,2µm,0.9s
KSCT Kent School, K 43.91 4 P **P 10 25 13.9 -0.6**
KSCT IAmb IAmb 10 25 58.4
comp=Z,3µm,1.0s
M65A Busby, Falmout 44.01 7 P **P 10 25 14.5 -0.8**
baz=189
M65A S **S 10 31 36.4 +0.4**
baz=189
HDIL Hopedale 44.08 347 ⇑P **P 10 25 13.1 -2.8**
ERPA Erie 44.27 357 IAmb IAmb 10 26 02.3
comp=Z,5µm,1.4s
ERPA Erie 44.27 357 ⇑P **P 10 25 16.1 -1.2**
BINY Binghamton 44.28 1 IAmb IAmb 10 26 02.3
comp=Z,5µm,1.4s
BINY Binghamton 44.28 1 ⇑P **P 10 25 16.9 -0.6**
M44A Midewin, Midew 44.60 348 P **P 10 25 17.2 -2.8**
M44A IAmb IAmb 10 25 24.9
comp=Z,6µm,1.4s
N41A Harden Midland 44.61 345 IAmb IAmb 10 25 26.5
comp=Z,4µm,1.3s
L61B Northampton 44.69 5 P **P 10 25 20.0 -0.7**
L61B IAmb IAmb 10 26 04.8
comp=Z,3µm,1.6s
L61B Northampton 44.69 5 P **P 10 25 20.0 -0.7**
baz=186
L61B S **S 10 31 43.8 -2.1**
baz=186
WES Weston 44.75 6 IAmb IAmb 10 26 00.9
comp=Z,2µm,1.2s
AAM Ann Arbor 44.78 353 IAmb IAmb 10 25 26.9
comp=Z,2µm,1.3s
AAM Ann Arbor 44.78 353 ⇑P **P 10 25 19.5 -1.9**
HRV Adam Dziewonsk 44.85 6 P **P 10 25 22.1 +0.2**
HRV IAmb IAmb 10 26 06.6
comp=Z,2µm,1.2s
HRV Adam Dziewonsk 44.85 6 ⇑P **P 10 25 21.3 -0.7**
SRIG Santa Rosalia 44.92 313 ⇓P **P 10 25 23.2 +0.4**
SRIG Santa Rosalia 44.92 313 P **P 10 25 23.5 +0.7**
K62A Royalston 44.94 5 IAmb IAmb 10 26 07.3
comp=Z,2µm,1.3s
KSU1 Kansas State U 44.95 338 IAmb IAmb 10 25 29.4
comp=Z,4µm,1.1s
KSU1 Kansas State U 44.95 338 ⇑P **P 10 25 21.1 -1.8**
AY03 Cochrane 44.96 176 P **P 10 25 24.6 +1.8**
HSIG 45.01 316 ⇓P **P 10 25 23.4 0.0**
HSIG 45.01 316 P **P 10 25 24.4 +0.9**
K50A Casco 45.13 354 IAmb IAmb 10 26 08.1
comp=Z,3µm,1.1s
R32A Long Quarter, 45.19 336 IAmb IAmb 10 25 32.2
comp=Z,3µm,1.2s
121A Cookes Peak, D 45.25 323 P **P 10 25 26.4 +0.9**
baz=134,SNR=372
121A S **S 10 31 57.9 +3.3**
baz=134
MEDO Medina 45.25 359 IAmb IAmb 10 26 09.4
comp=Z,4µm,1.8s
L44A Lake County Fo 45.34 349 IAmb IAmb 10 25 30.9
comp=Z,4µm,1.3s
L44A Lake County Fo 45.34 349 P **P 10 25 23.3 -2.5**
baz=164
L44A S **S 10 31 47.3 -7.9**
baz=164
N38A Joes South For 45.35 343 IAmb IAmb 10 25 31.7
comp=Z,4µm,0.8s
RTBA Rita Blanca 45.37 331 IAmb IAmb 10 26 12.4
comp=Z,4µm,1.3s
319A Douglas 45.40 320 IAmb IAmb 10 25 34.7
comp=Z,3µm,1.4s
J57A Williamstown 45.49 1 P **P 10 25 26.2 -0.8**
J57A IAmb IAmb 10 26 11.4
comp=Z,5µm,1.4s
ACCN Adirondack Com 45.55 3 IAmb IAmb 10 26 07.4
comp=Z,2µm,1.5s
J59A Piesco 45.59 3 IAmb IAmb 10 26 07.6
comp=Z,4µm,1.3s
J61A Chester 45.59 5 IAmb IAmb 10 26 07.8
comp=Z,3µm,1.6s
Y22D IRIS PASSCAL I 45.82 325 IAmb IAmb 10 26 15.6
comp=Z,4µm,1.6s
Y22D IRIS PASSCAL I 45.82 325 P **P 10 25 30.6 +0.7**
baz=136,SNR=20
Y22D S **S 10 32 05.1 +2.4**
baz=136
CBKS Cedar Bluff 45.94 335 P **P 10 25 30.8 +0.1**
CBKS IAmb IAmb 10 25 38.6
comp=Z,4µm,0.9s
CBKS Cedar Bluff 45.94 335 ⇑P **P 10 25 30.4 -0.3**
PECO Prince Edward 46.00 0 IAmb IAmb 10 26 15.1
comp=Z,8µm,1.8s
DUN6 Lazy B Ranch 46.06 321 IAmb IAmb 10 25 40.0
comp=Z,5µm,1.3s
NCB Newcomb 46.11 3 IAmb IAmb 10 26 16.5
comp=Z,5µm,1.6s
N35A Tabor 46.18 340 IAmb IAmb 10 25 38.2
comp=Z,4µm,0.9s
ANMO Albuquerque 46.19 326 P **P 10 25 33.4 +0.5**
ANMO IAmb IAmb 10 25 39.7
comp=Z,2µm,0.8s
ANMO Albuquerque 46.19 326 P4KPbc 11 03 18.2
comp=Z,3.5nm,0.9s,baz=318,slow=7.8,SNR=5.0
ANMO Albuquerque 46.19 326 *c i*P **P 10 25 33.3 +0.5**
ANMO pmax pmax
comp=Z,845nm,0.8s
ANMO Albuquerque 46.19 326 ⇑P **P 10 25 33.2 +0.3**
ANMO Albuquerque 46.19 326 P **P 10 25 33.7 +0.8**
ANMO pP **pP 10 26 08.0 +1.3**
ANMO PcP **PcP 10 27 07.2 +0.9**
I49A Point Hope 46.30 354 P **P 10 25 31.2 -2.1**
I49A IAmb IAmb 10 25 38.3
comp=Z,3µm,1.1s
SCIA State Center 46.37 343 P **P 10 25 31.9 -2.0**
SCIA State Center 46.37 343 ⇑P **P 10 25 30.6 -3.4**
LBNH Lisbon 46.53 5 IAmb IAmb 10 26 16.0
comp=Z,2µm,1.2s
LBNH Lisbon 46.53 5 ⇑P **P 10 25 34.4 -0.8**
JFWS Jewell Farm 46.54 347 ⇑P **P 10 25 32.8 -2.5**
VT1 Waterbury 46.56 4 IAmb IAmb 10 26 17.9
comp=Z,2µm,1.6s
DELO Deloro Mine 46.59 359 IAmb IAmb 10 26 14.6
comp=Z,5µm,1.5s
LONY Lake Ozonia 46.74 2 ⇑P **P 10 25 35.8 -1.0**

T25A Trinidad 46.75 330 P **P 10 25 37.9 +0.6**
T25A IAmb IAmb 10 26 24.2
comp=Z,3µm,1.4s
T25A Trinidad 46.75 330 P **P 10 25 38.3 +1.0**
baz=141,SNR=1000
T25A S **S 10 32 19.1 +3.0**
baz=141
I45A Fountain 46.84 351 IAmb IAmb 10 25 42.1
comp=Z,5µm,1.3s
SADO Sadowa 46.88 358 IAmb IAmb 10 26 17.4
comp=Z,6µm,1.6s
SADO Sadowa 46.88 358 ⇑P **P 10 25 35.8 -2.0**
TUC Tucson 46.98 320 P **P 10 25 39.2 +0.3**
TUC Tucson 46.98 320 ⇑P **P 10 25 39.1 +0.2**
FRNY Flat Rock 47.00 3 IAmb IAmb 10 26 23.6
comp=Z,4µm,1.4s
WBO Williamsburg 47.09 2 IAmb IAmb 10 26 18.9
comp=Z,4µm,1.4s
KSCO Kaye Shedlock' 47.37 333 IAmb IAmb 10 26 28.0
comp=Z,5µm,1.7s
GLMI Grayling 47.38 353 ⇑P **P 10 25 39.6 -2.1**
L34A Svendsen Farm, 47.41 340 IAmb IAmb 10 25 47.5
comp=Z,3µm,1.0s
H43A Windswept, Lux 47.52 350 P **P 10 25 40.6 -2.2**
H43A IAmb IAmb 10 25 51.5
comp=Z,3µm,0.8s
G62A West of Eustis 47.64 6 P **P 10 25 43.6 -0.1**
G62A IAmb IAmb 10 26 24.9
comp=Z,4µm,1.3s
SDCO Great Sand Dun 47.77 329 IAmb IAmb 10 25 53.5
comp=Z,1µm,0.9s
SDCO Great Sand Dun 47.77 329 ⇑P **P 10 25 45.6 +0.4**
PKME Peaks-Kenny Pk 47.83 7 IAmb IAmb 10 25 52.9
comp=Z,2µm,1.6s
PKME Peaks-Kenny Pk 47.83 7 ⇑P **P 10 25 44.2 -0.9**
PIX Pinacate 48.27 317 P **P 10 25 49.3 +0.5**
PIX Pinacate 48.27 317 P **P 10 25 50.5 +1.7**
TRQ Mont Tremblant 48.34 2 IAmb IAmb 10 26 28.5
comp=Z,3µm,1.4s
I37A Lemond, Waseca 48.37 344 IAmb IAmb 10 25 54.6
comp=Z,2µm,1.2s
S22A 4UR Ranch, Cre 48.46 328 IAmb IAmb 10 26 37.2
comp=Z,3µm,1.6s
S22A 4UR Ranch, Cre 48.46 328 P **P 10 25 51.2 +0.7**
baz=138,SNR=695
S22A S **S 10 32 42.1 +1.8**
baz=138
Q24A Divide 48.53 331 IAmb IAmb 10 25 55.3
comp=Z,3µm,1.9s
Q24A Divide 48.53 331 P **P 10 25 51.5 +0.4**
baz=141,SNR=237
Q24A S **S 10 32 43.4 +2.1**
baz=141
F64A Sherman 48.54 8 IAmb IAmb 10 26 01.3
comp=Z,3µm,1.7s
OGNE Ogallala 48.69 335 IAmb IAmb 10 26 00.1
comp=Z,2µm,0.8s
OGNE Ogallala 48.69 335 ⇑P **P 10 25 51.6 -0.4**
E46A Sault Ste Mari 48.86 353 IAmb IAmb 10 25 57.6
comp=Z,2µm,1.3s
SFX San Felipe 48.92 316 P **P 10 25 55.2 +1.4**
SFX IAmb IAmb 10 26 02.3
comp=Z,2µm,1.2s
SFX San Felipe 48.92 316 P **P 10 25 55.7 +2.0**
MVCO Mesa Verde 48.97 326 IAmb IAmb 10 26 40.9
comp=Z,7µm,2.0s
MVCO Mesa Verde 48.97 326 ⇑P **P 10 25 54.2 -0.1**
ECSD EROS Data Cent 49.07 341 IAmb IAmb 10 25 59.7
comp=Z,7µm,1.8s
ECSD EROS Data Cent 49.07 341 ⇑P **P 10 25 52.1 -2.6**
E62A Clayton Lake 49.13 7 IAmb IAmb 10 26 36.3
comp=Z,3µm,1.1s
SPMN Marine on St. 49.34 345 IAmb IAmb 10 26 02.1
comp=Z,5µm,1.4s
ISCO Idaho Springs 49.41 331 ⇑P **P 10 25 57.6 -0.1**
BRIGG Briggsdale 49.41 333 IAmb IAmb 10 26 06.3
comp=Z,3µm,1.2s
GBN Guysborough 49.44 14 P **P 10 25 57.1 -0.3**
WUAZ Wupatki 49.45 323 P **P 10 25 58.7 +0.7**
WUAZ IAmb IAmb 10 26 06.7
comp=Z,3µm,1.1s
WUAZ Wupatki 49.45 323 ⇑P **P 10 25 58.6 +0.6**
D62A Allapoint, All 49.65 7 IAmb IAmb 10 26 40.1
comp=Z,3µm,1.3s
PV15 Paradox Valley 49.78 327 IAmb IAmb 10 26 47.4
comp=Z,6µm,1.7s
VTX Valle De La Tr 49.78 315 P **P 10 26 01.2 +0.8**
GUVIX Guadalupe Vict 49.82 317 P **P 10 26 03.2 +2.6**
PV13 Radium Mtn., P 49.83 327 IAmb IAmb 10 26 08.9
comp=Z,2µm,0.9s
PV07 Paradox Valley 49.94 327 IAmb IAmb 10 26 48.3
comp=Z,5µm,1.9s
PV11 David Mesa, Pa 49.96 327 IAmb IAmb 10 26 48.3
comp=Z,3µm,1.3s
CPBX Cerro Prieto 50.04 317 IAmb IAmb 10 26 10.4
comp=Z,2µm,1.1s
CPBX Cerro Prieto 50.04 317 P **P 10 26 04.6 +2.4**
PV10 Paradox Valley 50.10 327 P **P 10 26 02.4 -0.6**
PV10 IAmb IAmb 10 26 48.9
comp=Z,3µm,1.2s
UABX UABC, Campus M 50.26 317 P **P 10 26 06.9 +3.0**
BATG Bathurst New B 50.27 10 IAmb IAmb 10 26 11.3
comp=Z,1µm,0.9s
LDAQ Lac Daran 50.29 5 P **P 10 26 03.2 -0.7**
LDAQ IAmb IAmb 10 26 43.7
comp=Z,5µm,1.5s
N23A Red Feather La 50.42 332 P **P 10 26 05.5 +0.3**
baz=141,SNR=206
N23A S **S 10 33 09.4 +1.9**
baz=141
MG04 Isla Riesco 50.61 176 P **P 10 26 08.7 +2.6**
U15A North Rim 50.62 323 IAmb IAmb 10 26 51.9
comp=Z,2µm,1.5s
W13A Hualapai Mount 50.74 321 IAmb IAmb 10 26 15.9
comp=Z,1µm,1.0s
MG02 Cerro Sombrero 50.75 174 ⇓P **P 10 26 08.9 +1.7**
F33A 5 Mile Ranch, 50.87 343 IAmb IAmb 10 26 13.7
comp=Z,2µm,1.2s
CBX Cerro Bola 50.92 316 IAmb IAmb 10 26 17.2
comp=Z,3µm,1.4s
CBX Cerro Bola 50.92 316 P **P 10 26 10.2 +1.1**
GO10 Punta Arenas 50.95 175 ⇓P **P 10 26 11.4 +2.6**
TKX Tecate 51.03 316 IAmb IAmb 10 26 17.5
comp=Z,2µm,1.3s
TJX Tijuana 51.30 316 P **P 10 26 13.4 +1.7**
TJX IAmb IAmb 10 26 20.5
comp=Z,4µm,1.2s
PKCU Pink Cliffs 51.31 324 IAmb IAmb 10 26 59.5
comp=Z,4µm,1.8s
SRU San Rafael Swe 51.44 327 IAmb IAmb 10 26 59.5
comp=Z,3µm,1.5s
PFO Pinyon Flats O 51.53 317 P **P 10 26 14.6 +1.1**
PFO Pinyon Flats O 51.53 317 *i* P **P 10 26 13.2 -0.3**
PFO pmax pmax
comp=Z,1µm,1.3s
EYMN Ely 51.59 348 ⇑P **P 10 26 11.1 -2.5**
MTPU Mount Pierson 51.64 325 P **P 10 26 15.0 +0.5**
P18A Preston Nutter 51.66 327 IAmb IAmb 10 27 00.5
comp=Z,5µm,1.9s
Q16A Castle Valley 51.66 326 IAmb IAmb 10 27 02.5
comp=Z,2µm,1.5s
EFI East Falkland 51.73 165 P **P 10 26 15.7 +1.2**
EFI East Falkland 51.73 165 *i* P **P 10 26 15.6 +1.1**
EFI pmax pmax
comp=Z,3µm,1.3s
EFI East Falkland 51.73 165 ⇓P **P 10 26 16.1 +1.6**
TMUT Trail Mountain 51.95 326 IAmb IAmb 10 27 02.5
comp=Z,4µm,1.9s
K22A Casper 52.06 333 IAmb IAmb 10 27 02.6
comp=Z,5µm,2.0s
RSSD Black Hills 52.15 336 P **P 10 26 18.0 0.0**
RSSD IAmb IAmb 10 26 26.5
comp=Z,3µm,1.4s
RSSD Black Hills 52.15 336 P **P 10 26 18.1 0.0**
RSSD pP **pP 10 26 52.5 -0.1**
ICQ Pointe Anglais 52.27 8 IAmb IAmb 10 26 58.0
comp=Z,5µm,1.8s
BSUT Blindstream Ca 52.58 328 IAmb IAmb 10 26 29.7
comp=Z,2µm,1.1s
MPU Maple Canyon 52.68 327 P **P 10 26 22.2 +0.1**
MPU IAmb IAmb 10 26 29.9
comp=Z,1µm,1.0s
AGMN Agassiz Nation 52.98 344 ⇑P **P 10 26 21.9 -1.9**
JLU Jordanelle 53.00 327 IAmb IAmb 10 26 31.0
comp=Z,986nm,0.8s
PASC Pasadena Art C 53.02 317 IAmb IAmb 10 26 33.1
comp=Z,3µm,1.4s
TCUT Toone Canyon 53.34 328 IAmb IAmb 10 26 33.3
comp=Z,2µm,0.8s
TPNV Topopah Spring 53.39 321 IAmb IAmb 10 26 36.0
comp=Z,1µm,1.0s
TPNV Topopah Spring 53.39 321 ⇓P **P 10 26 28.1 +0.9**
SNCC San Nicolas Is 53.44 315 IAmb IAmb 10 26 35.0
comp=Z,2µm,1.4s
DUG Dugway, Tooele 53.46 326 P **P 10 26 28.5 +0.8**
DUG Dugway, Tooele 53.46 326 P **P 10 26 28.5 +0.8**
DUG pmax pmax
comp=Z,5µm,1.7s
DUG Dugway, Tooele 53.46 326 ⇑P **P 10 26 28.0 +0.3**
CCAC Calif City Air 53.47 318 P **P 10 26 28.4 +0.7**
CCAC IAmb IAmb 10 26 36.2
comp=Z,2µm,1.1s
S11A Rachel 53.51 322 IAmb IAmb 10 26 38.3
comp=Z,1µm,1.0s
WCT Wildcat Mounta 53.53 320 IAmb IAmb 10 26 37.1
comp=Z,1µm,1.2s
BW06 Boulder Array 53.59 331 ⇑P **P 10 26 27.8 -0.9**
PD31 Pinedale Array 53.59 331 IAmb IAmb 10 27 13.8
comp=Z,2µm,1.9s
PDAR Pinedale Array 53.59 331 P **P 10 26 28.1 -0.6**
PDAR Pinedale Array 53.59 331 P **P 10 26 28.6 0.0**
comp=Z,164nm,0.7s,baz=122,slow=10,SNR=319
PDAR S **S 10 33 49.0 -1.6**
comp=Z,30nm,1.1s,baz=142,slow=5.1,SNR=1.3
PDAR P3KP 10 55 40.2
comp=Z,2.0nm,0.9s,baz=174,slow=1.3,SNR=3.7
PDAR PKPPKP P'P'df 10 56 33.4 -14
comp=Z,6.4nm,1.1s,baz=119,slow=1.9,SNR=4.9
PDAR P4KPbc 11 03 50.0
comp=Z,3.6nm,0.6s,baz=138,slow=6.2,SNR=19
comp=Z,164nm,0.7s
HWUT Hardware Ranch 53.77 328 IAmb IAmb 10 27 16.4
comp=Z,1µm,1.1s
HWUT Hardware Ranch 53.77 328 ⇑P **P 10 26 29.4 -0.5**
DRLN Deer Lake 54.03 16 P **P 10 26 30.4 -1.0**
DRLN Deer Lake 54.03 16 ⇑P **P 10 26 29.8 -1.6**
ISA Isabella, Lake 54.07 318 P **P 10 26 32.7 +0.6**
ISA Isabella, Lake 54.07 318 P **P 10 26 32.7 +0.6**
ISA pmax pmax
comp=Z,657nm,1.1s
BGU Big Grassy Mou 54.08 327 P **P 10 26 32.5 +0.4**
BGU IAmb IAmb 10 27 18.0
comp=Z,2µm,1.5s
GMN Gold Mountain 54.24 321 IAmb IAmb 10 26 42.0
comp=Z,1µm,1.0s
AHID Auburn Hatcher 54.36 329 ⇑P **P 10 26 33.6 -0.6**
HVU Hansel Valley 54.53 328 IAmb IAmb 10 27 22.1
comp=Z,4µm,2.0s
I10CA LAC DU BONNET 54.77 345 P **P 10 26 34.6 -2.2**
baz=144,slow=6.9,SNR=0.7
ULM Lac du Bonnet 54.78 345 P **P 10 26 34.6 -2.2**
comp=Z,1µm,0.6s,baz=154,slow=7.3,SNR=1116
ULM pP **pP 10 27 11.9 +0.3**
comp=Z,720nm,1.0s,baz=185,slow=6.4,SNR=1.8
ULM S **S 10 33 59.1 -6.7**
comp=Z,100nm,1.2s,baz=339,slow=17,SNR=3.4
ULM PKPPKP P'P'df 10 56 20.4 -24
comp=Z,13nm,1.2s,baz=287,slow=3.3,SNR=5.5
ULM PKP2bc 10 56 57.5
comp=Z,41nm,1.0s,baz=324,slow=3.0,SNR=6.6
ULM P4KPbc 11 03 55.0
comp=Z,9.2nm,0.7s,baz=168,slow=3.5,SNR=13
comp=Z,1µm,0.6s
ULM Lac du Bonnet 54.78 345 *c i*P **P 10 26 34.8 -2.0**
ULM Lac du Bonnet 54.78 345 ⇑P **P 10 26 34.5 -2.2**
FLWY Flagg Ranch 55.12 331 IAmb IAmb 10 27 25.4
comp=Z,5µm,1.8s
LAO LASA Array 55.13 336 IAmb IAmb 10 26 47.1
comp=Z,4µm,1.7s
LAO LASA Array 55.13 336 ⇑P **P 10 26 37.3 -2.2**
Q09A Carvers 55.13 322 IAmb IAmb 10 26 47.9
comp=Z,948nm,1.0s
ELK Elko 55.20 325 P4KPbc 11 03 58.7
comp=Z,8.6nm,0.8s,baz=146,slow=3.1,SNR=24
ELK Elko 55.20 325 ⇑P **P 10 26 40.2 -0.2**
RLMT Red Lodge 55.23 333 ⇑P **P 10 26 40.0 -0.5**
H17A Grant Village 55.30 331 P **P 10 26 41.8 +0.8**
H17A IAmb IAmb 10 26 52.5
comp=Z,3µm,1.9s
YMP Mirror Lake Pl 55.35 332 P **P 10 26 41.4 0.0**
YNE Yellowstone No 55.48 332 IAmb IAmb 10 26 49.4
comp=Z,1µm,1.3s
SACV Santiago Islan 55.55 70 P **P 10 26 42.3 -0.7**
SACV Santiago Islan 55.55 70 ⇑P **P 10 26 42.6 -0.4**
NVAR Mina Array Bea 55.58 321 P **P 10 26 43.9 +0.8**
NVAR Mina Array Bea 55.58 321 P **P 10 26 43.6 +0.5**
comp=Z,95nm,0.6s,baz=128,slow=7.0,SNR=304
NVAR pP **pP 10 27 20.4 +2.2**
comp=Z,218nm,1.0s,baz=142,slow=8.2,SNR=2.0
NVAR S **S 10 34 17.7 +0.2**
comp=Z,10nm,0.9s,baz=84,slow=6.2,SNR=1.5
NVAR P3KP 10 55 46.4
comp=Z,3.2nm,1.0s,baz=226,slow=2.4,SNR=3.8
NVAR PKPPKP P'P'df 10 56 29.0 -16
comp=Z,8.2nm,1.0s,baz=255,slow=4.1,SNR=6.2
NVAR P4KPbc 11 04 00.3
comp=Z,3.4nm,0.9s,baz=95,slow=3.6,SNR=8.0
comp=Z,95nm,0.6s
YNM Yellowstone No 55.60 331 IAmb IAmb 10 26 54.8
comp=Z,2µm,1.7s
LHV Little Huntoon 55.60 321 IAmb IAmb 10 26 52.0
comp=Z,1µm,1.1s
YMR Madison River 55.69 331 IAmb IAmb 10 26 49.3
comp=Z,4µm,1.7s
YHB Horse Butte 55.86 331 IAmb IAmb 10 26 52.0
comp=Z,805nm,0.9s
PTCN Pitcairn Islan 55.88 241 P **P 10 26 45.9 +0.7**
PTCN Pitcairn Islan 55.88 241 P **P 10 26 48.0 +2.7**
comp=Z,5µm,0.8s
PTCN Pitcairn Islan 55.88 241 ⇓P **P 10 26 45.7 +0.4**
PMPB Monarch Peak 55.94 318 IAmb IAmb 10 26 53.7
comp=Z,1µm,1.0s
BBGB Big Mountain B 56.30 318 IAmb IAmb 10 27 00.6
comp=Z,1µm,1.0s
WAKR Walker 56.34 321 P **P 10 26 48.9 +0.4**
HLID Hailey 56.64 328 ⇑P **P 10 26 50.5 +0.1**
SAO San Andreas Ge 56.67 318 ⇓P **P 10 26 50.7 +0.1**
BOZ Bozeman (W) 56.69 331 IAmb IAmb 10 26 59.0
comp=Z,4µm,1.6s
BOZ Bozeman (W) 56.69 331 ⇑P **P 10 26 50.5 -0.2**
DLMT Dillon 56.98 331 IAmb IAmb 10 27 35.7
comp=Z,1µm,1.4s
PAHR Pah Rah Range 57.02 322 IAmb IAmb 10 27 01.8
comp=Z,1µm,1.2s
MFID Camas Ranch 57.30 327 IAmb IAmb 10 27 03.2
comp=Z,2µm,0.9s
SCHQ Schefferville 57.53 7 P **P 10 26 55.0 -1.3**
comp=Z,213nm,0.7s,baz=201,slow=5.6,SNR=123
SCHQ pP **pP 10 27 34.2 +2.7**
comp=Z,2µm,1.1s,baz=179,slow=6.6,SNR=7.9
SCHQ S **S 10 34 36.5 -5.5**
comp=Z,20nm,0.8s,baz=275,slow=14,SNR=1.5
SCHQ PKPPKP P'P'df 10 56 16.3 -24
comp=Z,24nm,1.2s,baz=312,slow=4.1,SNR=4.3
SCHQ P4KPbc 11 04 05.3
comp=Z,7.2nm,0.8s,baz=150,slow=4.9,SNR=6.9
comp=Z,213nm,0.7s
SCHQ Schefferville 57.53 7 ⇑P **P 10 26 54.8 -1.5**
EGMT Eagleton 57.66 335 IAmb IAmb 10 27 05.3
comp=Z,4µm,1.6s
EGMT Eagleton 57.66 335 ⇑P **P 10 26 57.0 -0.5**
WVOR Wild Horse Val 58.24 325 ⇓P **P 10 27 01.8 +0.2**
MCCM Marconi Confer 58.38 318 IAmb IAmb 10 27 10.7
comp=Z,1µm,1.1s
MCCM Marconi Confer 58.38 318 ⇓P **P 10 27 03.5 +1.0**
MSO Missoula 58.69 331 ⇑P **P 10 27 04.3 -0.3**
J08A Circle Bar Ran 58.73 326 P **P 10 27 05.0 0.0**
J08A IAmb IAmb 10 27 12.6
comp=Z,2µm,1.2s
HATC Hat Creek Radi 58.96 322 IAmb IAmb 10 27 14.7
comp=Z,1µm,1.0s
H07S1 FLORES T-PHASE 59.00 40 P **P 10 27 09.9 +3.1**
SNR=40
BMO Blue Mountains 59.05 328 ⇑P **P 10 27 06.3 -0.9**
KCPM Cahto Peak 59.67 320 IAmb IAmb 10 27 19.8
comp=Z,1µm,1.1s
F10A Beach Ranch, E 59.75 329 IAmb IAmb 10 27 21.1
comp=Z,664nm,0.8s
F10A Beach Ranch, E 59.75 329 ⇑P **P 10 27 11.7 -0.2**
I07A Izee 59.76 326 IAmb IAmb 10 27 20.4
comp=Z,2µm,1.1s
KMRM Mail Ridge 60.05 320 IAmb IAmb 10 27 22.9
comp=Z,1µm,1.2s

K04D Chiloquin, OR 60.19 323 IAmb IAmb 10 28 01.7
comp=Z,3μm,1.3s
G08A Pilot Rock 60.22 327 IAmb IAmb 10 27 23.2
comp=Z,2μm,1.0s
CALA Caldeira 60.24 42 *e*P **P** **10 27 15.5 +0.2**
CALA *i* Amb 10 27 19.3
comp=Z,8μm,1.3s
CALA *e*S **S** **10 35 23.0 +5.3**
YBH Yreka Blue Hor 60.25 322 P **P** **10 27 14.4 -1.1**
YBH Yreka Blue Hor 60.25 322 P **P** **10 27 14.4 -1.1**
YBH pmax pmax
comp=Z,616nm,1.0s
HOR Horta 60.26 42 *e*P **P** **10 27 15.2 -0.2**
HOR *i* Amb 10 27 21.0
comp=Z,7μm,2.0s
HOR *e*S **S** **10 35 16.0 -1.8**
L04D Klamath Falls 60.28 323 IAmb IAmb 10 27 23.2
comp=Z,2μm,1.0s
PCAN Candelaria 60.32 43 *e*P **P** **10 27 16.2 +0.3**
PCAN *i* Amb 10 27 19.2
comp=Z,5μm,1.2s
PCAN *e*S **S** **10 35 20.1 +1.4**
PICO Pico 60.38 43 *e*P **P** **10 27 16.9 +0.6**
PICO *i* Amb 10 27 20.4
comp=Z,7μm,1.4s
PICO *e*S **S** **10 35 22.1 +2.6**
KHMM Horse Mountain 60.41 321 IAmb IAmb 10 27 25.2
comp=Z,2μm,1.2s
KMPM Mount Pierce 60.41 320 P **P** **10 27 17.6 +1.1**
KMPM IAmb IAmb 10 27 27.8
comp=Z,1μm,0.9s
FFC Flin Flon 60.44 344 P **P** **10 27 15.4 -0.9**
FFC Flin Flon 60.44 344 P **P** **10 27 15.4 -0.9**
FFC pmax pmax
comp=Z,3μm,1.2s
FFC Flin Flon 60.44 344 ⇑P **P** **10 27 15.1 -1.3**
FFC Flin Flon 60.44 344 P **P** **10 27 15.5 -0.9**
FFC pP **pP** **10 27 51.6 -0.2**
PPNO Prainha do Nor 60.48 43 *e*P **P** **10 27 17.6 +0.6**
PPNO *i* Amb 10 27 20.8
comp=Z,5μm,1.7s
PID Ribeirinha 60.56 43 *e*P **P** **10 27 18.1 +0.6**
PID *i* Amb 10 27 23.1
comp=Z,7μm,1.8s
JCC Jacoby Creek, 60.57 320 IAmb IAmb 10 27 26.1
comp=Z,2μm,1.1s
E09A Wood Farm, Sta 60.58 329 IAmb IAmb 10 27 25.1
comp=Z,1μm,1.3s
PMAN Manadas 60.68 43 *e*P **P** **10 27 18.8 +0.6**
PMAN *i* Amb 10 27 24.0
comp=Z,7μm,1.8s
KRPM Rodgers 60.76 321 IAmb IAmb 10 28 06.1
comp=Z,2μm,1.3s
J04A Umpqua Nationa 60.76 324 IAmb IAmb 10 27 26.8
comp=Z,2μm,0.9s
PGRA Graciosa 60.95 42 *e*P P 10 27 32.2 +12
PGRA *i* Amb 10 27 37.7
comp=Z,10μm,1.9s
PGRA *e*S **S** **10 35 31.6 +5.0**
I05D Terrebonne, OR 60.96 325 IAmb IAmb 10 27 28.1
comp=Z,2μm,1.0s
L02F Cave Junction 61.00 322 IAmb IAmb 10 27 28.1
comp=Z,805nm,1.0s
G06A Carlson Farm, 61.11 326 IAmb IAmb 10 27 30.0
comp=Z,2μm,1.1s
F07A Phinny Hill Vi 61.13 327 P **P** **10 27 22.4 +1.2**
F07A IAmb IAmb 10 27 29.7
comp=Z,790nm,1.0s
NEW Newport 61.23 331 IAmb IAmb 10 27 29.2
comp=Z,754nm,0.9s
NEW Newport 61.23 331 S **S** **10 35 27.9 -2.0**
comp=Z,30nm,1.2s,baz=53,slow=11,SNR=1.9
NEW Newport 61.23 331 ⇑P **P** **10 27 21.4 -0.5**
HAWA Hanford 61.23 328 ⇑P **P** **10 27 22.1 +0.2**
PSBA Serra de Santa 61.26 43 *e*P **P** **10 27 21.9 -0.3**
PSBA *i* Amb 10 27 27.9
comp=Z,6μm,1.8s
PSBA *e*S **S** **10 35 34.0 +3.4**
PSCM Serra do Cume 61.37 43 *e*P **P** **10 27 23.4 +0.5**
PSCM *i* Amb 10 27 26.7
comp=Z,7μm,1.5s
PSCM *e*S **S** **10 35 31.6 -0.3**
K02D Willamette Mer 61.38 322 IAmb IAmb 10 27 31.1
comp=Z,2μm,1.1s
KBO Bosley Butte 61.46 322 IAmb IAmb 10 27 32.4
comp=Z,2μm,1.1s
HOPE Hope Point 61.49 154 P **P** **10 27 25.2 +1.8**
HOPE Hope Point 61.49 154 P **P** **10 27 25.2 +1.8**
HOPE pmax pmax
comp=Z,9μm,1.4s
HOPE Hope Point 61.49 154 ⇓P **P** **10 27 25.0 +1.6**
HOPE Hope Point 61.49 154 P **P** **10 27 25.5 +2.1**
HOPE pP **PcP** **10 28 02.8 -1.1**
H04A Detroit Lake 61.65 325 IAmb IAmb 10 28 11.2
comp=Z,2μm,1.7s
MBO M'Bour 61.73 72 P **P** **10 27 27.0 +1.2**
MBO M'Bour 61.73 72 ⇑P **P** **10 27 26.8 +1.1**
HOOD Mount Hood Mea 61.73 326 IAmb IAmb 10 27 34.1
comp=Z,2μm,1.2s
MXC Moxie City 61.76 328 IAmb IAmb 10 27 34.1
comp=Z,1μm,1.0s
J01E Myrtle Point 61.81 323 IAmb IAmb 10 27 34.3
comp=Z,2μm,1.0s
BUCK Buck Mountain 61.83 324 IAmb IAmb 10 27 33.5
comp=Z,1μm,0.9s
H04D Lebanon 61.88 324 IAmb IAmb 10 28 12.2
comp=Z,1μm,1.2s
PSET Sete Cidades 61.91 44 *e*P **P** **10 27 26.4 -0.2**
PSET *i* Amb 10 27 32.1
comp=Z,9μm,1.7s
PSET *e*S **S** **10 35 42.3 +3.4**
PSMA Santa Maria 61.95 46 *e*P **P** **10 27 26.6 -0.2**
PSMA *i* Amb 10 27 29.5
comp=Z,3μm,1.7s
PSMA *e*S S 10 35 29.3 -10
PSMN Pico do Norte, 62.00 46 *e*P **P** **10 27 26.3 -0.9**
PSMN *i* Amb 10 27 31.8
comp=Z,3μm,1.7s
PSMN *e*S **S** **10 35 35.2 -4.7**
CMLA Cha da Macela 62.02 45 P **P** **10 27 27.8 +0.4**
CMLA Cha da Macela 62.02 45 *e*P **P** **10 27 27.4 0.0**
CMLA *i* Amb 10 27 32.7
comp=Z,7μm,1.5s
CMLA *e*S **S** **10 35 42.3 +2.1**
CMLA Cha da Macela 62.02 45 P **P** **10 27 27.8 +0.4**
CMLA pmax pmax
comp=Z,3μm,1.1s
CMLA Cha da Macela 62.02 45 ⇑P **P** **10 27 27.1 -0.2**
PGRON Lagoa das Cont 62.13 45 *e*P **P** **10 27 28.9 +0.8**
PGRON *i* Amb 10 27 34.5
comp=Z,9μm,2.0s
BBTS Babate 62.18 72 S **S** **10 35 40.8 -2.1**
comp=Z,14nm,0.5s,baz=219,slow=17,SNR=0.9
COR Corvallis 62.24 324 P **P** **10 27 28.7 +0.1**
COR IAmb IAmb 10 27 36.5
comp=Z,2μm,0.9s
COR Corvallis 62.24 324 P **P** **10 27 28.7 +0.1**
COR pmax pmax
comp=Z,2μm,1.0s
COR Corvallis 62.24 324 ⇑P **P** **10 27 29.4 +0.8**
COR Corvallis 62.24 324 P **P** **10 27 30.0 +1.4**
COR PcP **PcP** **10 28 10.2 +3.1**
H10S3 ASCENSION HYDR 62.33 99 P **P** **10 27 33.7 +4.1**
baz=210,slow=74,SNR=30
FCC Fort Churchill 62.35 350 ⇑P **P** **10 27 26.8 -2.2**
H10S2 ASCENSION HYDR 62.35 99 P **P** **10 27 33.8 +4.1**
baz=10,slow=74,SNR=20
H10N3 ASCENSION HYDR 62.46 98 P **P** **10 27 32.6 +2.3**
baz=267,slow=6.2,SNR=621
H10N2 ASCENSION HYDR 62.47 98 P **P** **10 27 32.7 +2.3**
baz=267,slow=6.2,SNR=496
H10N1 ASCENSION HYDR 62.48 98 P **P** **10 27 32.9 +2.5**
baz=267,slow=6.2,SNR=476
ASCN Ascension 62.60 98 P **P** **10 27 33.3 +1.7**
LON Longmire 62.69 327 IAmb IAmb 10 27 39.3
comp=Z,1μm,0.9s
HEBO Mount Hebo 62.87 325 IAmb IAmb 10 27 40.9
comp=Z,1μm,0.9s
F04D Rainier, OR 62.95 326 IAmb IAmb 10 27 41.7
comp=Z,2μm,0.9s
PMSA Palmer Station 63.07 174 P **P** **10 27 35.6 +1.9**
PMSA Palmer Station 63.07 174 ⇓P **P** **10 27 35.2 +1.5**
PMSA Palmer Station 63.07 174 *e*P **P** **10 27 35.5 +1.8**
TAOE Nuku Hiva Isla 63.12 261 *e*P **P** **10 27 31.2 -3.9**
comp=Z,4μm,1.1s
TAOE *e*pP **pP** **10 28 07.2 -3.8**
comp=Z,4μm,1.5s
TAOE *e*S **S** **10 35 54.9 +0.1**
comp=Z,92μm,31.0s
TAOE *e*LQ LQ 10 43 53.6
comp=Z,479μm,35.0s
TAOE *e*LR LR 10 46 32.6
comp=Z,244μm,36.8s
TAOE Nuku Hiva Isla 63.12 261 P **P** **10 27 35.3 +0.2**
TAOE IAmb IAmb 10 27 43.4
comp=Z,2μm,1.0s
TAOE Nuku Hiva Isla 63.12 261 P **P** **10 27 36.9 +1.8**
comp=Z,2μm,1.5s
TAOE Nuku Hiva Isla 63.12 261 ⇓P **P** **10 27 35.2 +0.1**
TAOE Nuku Hiva Isla 63.12 261 P **P** **10 27 35.5 +0.3**
TAOE pP **PcP** **10 28 11.4 -0.1**
F03A Seaside 63.17 325 IAmb IAmb 10 27 44.1
comp=Z,2μm,1.4s
RADR Rader Ridge 63.59 326 IAmb IAmb 10 27 46.2
comp=Z,2μm,1.1s
GNW Green Mountain 63.73 327 IAmb IAmb 10 27 45.9
comp=Z,1μm,0.9s
WISH Wishkah 63.98 326 IAmb IAmb 10 28 25.0
comp=Z,3μm,1.6s
NLWA Neilton Lookou 64.20 327 IAmb IAmb 10 27 50.1
comp=Z,2μm,1.0s
NLWA Neilton Lookou 64.20 327 ⇑P **P** **10 27 42.6 +1.1**
PGC Sidney 64.72 328 IAmb IAmb 10 27 53.1
comp=Z,865nm,0.9s
C03A Quillayute Air 64.91 327 IAmb IAmb 10 27 55.2
comp=Z,2μm,1.1s
MACI Morro de la Ar 65.45 58 P **P** **10 27 50.8 +0.6**
OZB Mount Ozzard 65.99 327 IAmb IAmb 10 28 01.8
comp=Z,2μm,0.9s
OZB Mount Ozzard 65.99 327 ⇑P **P** **10 27 54.3 +1.2**
SMAI San Martin Ant 66.09 176 P **P** **10 27 54.5 +1.2**
FRB Frobisher Bay 66.16 4 P **P** **10 27 51.6 -2.1**
comp=Z,132nm,0.8s,baz=190,slow=6.7,SNR=121
FRB pP **pP** **10 28 32.2 +2.4**
comp=Z,434nm,1.0s,baz=227,slow=4.9,SNR=3.7
FRB S S 10 36 17.7 -12
comp=Z,22nm,0.9s,baz=243,slow=11,SNR=1.4
comp=Z,132nm,0.8s
EOSO Osorio 66.20 58 S **S** **10 36 30.0 -2.2**
EOSO P **P** **10 27 55.1 +0.2**
PMOZ Porto Moniz, M 66.31 53 ⇑*i*P **P** **10 27 55.3 -0.2**
PMOZ *i* Amb 10 28 04.1
comp=Z,6μm,1.9s
PMOZ *e*PP **PP** **10 30 24.4 +0.8**
PMOZ *e*S **S** **10 36 33.7 +0.3**
PMOZ Porto Moniz, M 66.31 53 P **P** **10 27 53.5 -2.0**
PMOZ Porto Moniz, M 66.31 53 ⇑P **P** **10 27 55.4 -0.1**
PMAR Madeira 66.50 53 ⇑*i*P **P** **10 27 56.3 -0.6**
PMAR *i* Amb 10 28 04.3
comp=Z,5μm,1.6s
PMAR *e*PP **PP** **10 30 24.0 -1.3**
PMPST Porto Santo, M 67.08 53 ⇑*i*P **P** **10 28 00.1 -0.1**
PMPST *i* Amb 10 28 04.0
comp=Z,7μm,1.5s
NRS Narsarsuaq 67.78 16 P **P** **10 28 03.4 -0.6**
NRS Narsarsuaq 67.78 16 P **P** **10 28 03.4 -0.6**
NRS pmax pmax
comp=Z,4μm,1.1s
NRS Narsarsuaq 67.78 16 *i*P **P** **10 28 03.0 -1.0**
NRS IAmb IAmb 10 28 10.1
comp=Z,4μm,1.1s
NRS Narsarsuaq 67.78 16 ⇑P **P** **10 28 03.2 -0.8**
HOLB Holberg 68.35 328 IAmb IAmb 10 28 16.4
comp=Z,1μm,1.0s
H09W1 TRISTAN DA CUN 68.56 129 P **P** **10 28 12.1 +2.7**
SNR=146
H09N1 TRISTAN DA CUN 68.57 129 P **P** **10 28 12.2 +2.7**
SNR=80
TRIS Tristan da Cun 68.57 129 P **P** **10 28 11.5 +2.0**
TRIS Tristan da Cun 68.57 129 ⇑P **P** **10 28 11.5 +2.0**
TRIS Tristan da Cun 68.57 129 P **P** **10 28 11.6 +2.0**
TRIS pP **pP** **10 28 49.0 +3.2**
NUUK Nuuk 68.89 12 *i*P **P** **10 28 10.6 -0.3**
NUUK IAmb IAmb 10 28 17.7
comp=Z,3μm,1.1s
BBB Bella Bella 69.19 329 S **S** **10 37 06.2 -0.6**
comp=Z,112nm,1.3s,baz=195,slow=9.2,SNR=1.8
BBB Bella Bella 69.19 329 ⇑P **P** **10 28 14.3 +1.3**
YKA Yellowknife Ar 70.57 343 P **P** **10 28 19.9 -1.3**
comp=Z,82nm,0.8s,baz=146,slow=6.1,SNR=654
YKA pP **pP** **10 29 01.0 +3.2**
comp=Z,53nm,0.8s,baz=130,slow=7.5,SNR=1.5
YKA S **S** **10 37 15.2 -7.3**
comp=Z,2.3nm,0.7s,baz=342,slow=22,SNR=1.0
YKA PKPPKP P'P'df 10 56 05.8 -13
comp=Z,7.3nm,1.0s,baz=292,slow=2.1,SNR=5.1
YKA P4KPbc 11 05 05.8
comp=Z,2.3nm,0.9s,baz=146,slow=4.7,SNR=12
comp=Z,82nm,0.8s
VAH Vaihoa 70.71 255 *e*P **P** **10 28 21.9 -1.1**
comp=Z,4μm,1.2s
VAH *e*pP **pP** **10 28 54.8 -4.7**
comp=Z,3μm,1.3s
VAH *e*S **S** **10 37 26.8 +1.1**
comp=Z,177μm,26.8s
VAH *e*LQ LQ 10 47 06.7
comp=Z,66μm,22.5s
VAH *e*LR LR 10 50 06.4
comp=Z,161μm,23.7s
PMOR Pomariorio Ree 70.95 255 *e*P **P** **10 28 23.7 -0.8**
comp=Z,4μm,1.2s
PMOR *e*pP **pP** **10 28 58.1 -2.9**
comp=Z,2μm,1.2s
PMOR *e*S **S** **10 37 29.7 +1.1**
comp=Z,162μm,25.9s
PMOR *e*LQ LQ 10 47 15.6
comp=Z,72μm,23.4s
PMOR *e*LR LR 10 50 12.5
comp=Z,141μm,23.7s
SHEL Horse Pasture 71.36 106 P **P** **10 28 28.6 +1.6**
SHEL IAmb IAmb 10 28 40.7
comp=Z,4μm,1.1s
SHEL Horse Pasture 71.36 106 P **P** **10 28 28.6 +1.6**
SHEL pmax pmax
comp=Z,4μm,1.2s
SHEL Horse Pasture 71.36 106 ⇑P **P** **10 28 29.4 +2.4**
SFJD Kangerlussuaq 71.61 11 P **P** **10 28 26.3 -1.1**
SFJD IAmb IAmb 10 28 33.6
comp=Z,3μm,1.1s
SFJD Kangerlussuaq 71.61 11 P **P** **10 28 25.7 -1.7**
comp=Z,278nm,0.8s,baz=219,slow=6.7,SNR=69
comp=Z,278nm,0.8s
SFJD Kangerlussuaq 71.61 11 P **P** **10 28 26.3 -1.1**
SFJD pmax pmax
comp=Z,3μm,1.2s
SFJD Kangerlussuaq 71.61 11 *i*P **P** **10 28 26.0 -1.4**
SFJD IAmb IAmb 10 28 33.3
comp=Z,2μm,1.1s
SFJD Kangerlussuaq 71.61 11 ⇑P **P** **10 28 25.8 -1.5**
SFJD Kangerlussuaq 71.61 11 P **P** **10 28 26.3 -1.1**
MOBC Moresby Island 71.69 329 P **P** **10 28 28.9 +0.6**
TOAD Toad River Com 71.80 336 P **P** **10 28 28.1 -0.6**
baz=128,SNR=251
TOAD S **S** **10 37 35.8 -1.0**
baz=128
H02S1 DAWSON INLET T 71.99 329 P **P** **10 28 33.1 +3.2**
SNR=17
DY2G Dye2 72.03 12 *i*P **P** **10 28 27.9 -2.3**
DY2G IAmb IAmb 10 28 36.4
comp=Z,8μm,1.1s
KOTAN Kotaneelee Air 72.14 337 P **P** **10 28 31.1 +0.4**
baz=130,SNR=163
KOTAN S **S** **10 37 41.6 +0.9**
baz=130
U35K Hyder 72.19 332 P **P** **10 28 31.8 +0.8**
U35K Hyder 72.19 332 P **P** **10 28 31.6 +0.5**
baz=123
U35K S **S** **10 37 43.6 +2.3**
baz=123
TVO Taravao 72.40 252 *e*PKIKP **P** **10 28 34.3 +1.1**
comp=Z,489nm,1.0s
TVO Taravao 72.40 252 *e*P **P** **10 28 32.2 -1.0**
comp=Z,489nm,1.0s
TVO *e*pP **pP** **10 29 08.9 -1.0**
comp=Z,525nm,1.3s
DBIC Dimbokro 72.56 82 P **P** **10 28 34.8 +0.7**
DBIC Dimbokro 72.56 82 P **P** **10 28 34.5 +0.3**
comp=Z,2μm,0.9s,baz=257,slow=5.1,SNR=291
DBIC PP **PP** **10 31 18.4 +0.8**
comp=Z,310nm,1.0s,baz=257,slow=9.2,SNR=4.0
DBIC S **S** **10 37 44.7 -2.4**
comp=Z,74nm,1.1s,baz=45,slow=18,SNR=12
DBIC PKPPKP **P'P'df** **10 56 11.5 -7.4**
comp=Z,18nm,1.0s,baz=104,slow=3.7,SNR=5.0
comp=Z,2μm,0.9s
DBIC Dimbokro 72.56 82 ⇑P **P** **10 28 34.8 +0.7**
DBIC Dimbokro 72.56 82 ⇑P **P** **10 28 34.5 +0.3**
DBIC Dimbokro 72.56 82 P **P** **10 28 34.4 +0.3**
DBIC S **S** **10 37 46.0 -1.1**
V35K Ketchikan 72.64 331 P **P** **10 28 34.2 +0.5**
baz=121,SNR=23
V35K S **S** **10 37 49.4 +3.0**
baz=121
V35K S **S** **10 37 49.4 +3.0**
baz=121
PPTF Pamatai, Papee 72.69 252 P **P** **10 28 36.3 +1.4**
PPTF Pamatai, Papee 72.69 252 P **P** **10 28 36.8 +1.9**
comp=Z,4μm,1.8s
PPTF Pamatai, Papee 72.69 252 ⇓P **P** **10 28 36.1 +1.2**
PPT Papeete 72.70 252 P **P** **10 28 36.4 +1.5**
comp=Z,288nm,0.8s,baz=78,slow=6.1,SNR=54
PPT pP **pP** **10 29 14.6 +3.0**
comp=Z,894nm,1.1s,baz=69,slow=11,SNR=2.2
PPT S **S** **10 37 45.2 -3.3**
comp=Z,38nm,1.1s,baz=90,slow=16,SNR=2.0
comp=Z,288nm,0.8s
PPT2 Papeete2 72.70 252 *e*P **P** **10 28 34.4 -0.6**
comp=Z,3μm,1.5s
PPT2 *e*pP **pP** **10 29 10.8 -0.9**
comp=Z,1μm,1.4s
PPT2 Papeete2 72.70 252 *e*PP **PP** **10 31 15.3 -3.5**
comp=Z,52μm,31.5s
PPT2 *e*S **S** **10 37 49.4 +0.7**
comp=Z,486μm,28.5s
PPT2 *e*SS **SS** **10 42 31.0 -0.5**
comp=Z,86μm,28.2s
PPT2 *e*LQ LQ 10 47 41.5
comp=Z,140μm,25.0s
PPT2 *e*LR LR 10 51 03.6
comp=Z,448μm,32.2s
PPT2 *e*LR LR 10 51 04.4
comp=Z,280μm,36.8s
PAE Paea 72.71 252 *e*P **P** **10 28 34.6 -0.3**
comp=Z,2μm,1.3s
PAE *e*pP **pP** **10 29 11.9 +0.3**
comp=Z,926nm,1.3s
PAE *e*S **S** **10 37 47.9 -0.7**
comp=Z,61μm,25.7s
PAE *e*SS **SS** **10 42 27.2 -4.3**
comp=Z,10μm,25.0s
PAE *e*LR LR 10 51 01.6
comp=Z,41μm,27.1s
T35M Bob Quinn 72.88 333 P **P** **10 28 36.4 +1.2**
baz=123,SNR=96
T35M S **SKiKP** **10 37 52.1 -1.2**
baz=123
TBI Tubuai 73.00 246 *e*P **P** **10 28 35.8 -0.7**
comp=Z,2μm,1.3s
TBI *e*pP **pP** **10 29 10.4 -2.9**
comp=Z,2μm,1.4s
TBI Tubuai 73.00 246 *e*PP **PP** **10 31 19.8 -1.4**
comp=Z,236μm,32.0s
TBI *e*S **S** **10 37 51.8 +0.1**
comp=Z,1569μm,30.0s
TBI *e*SS **SS** **10 42 38.0 +2.3**
comp=Z,272μm,28.2s
TBI *e*LQ LQ 10 47 56.6
comp=Z,631μm,28.5s
TBI *e*LR LR 10 51 10.5
comp=Z,1362μm,43.8s
TBI *e*LR LR 10 51 11.3
comp=Z,187μm,41.0s
ISOG Isortoq, Green 73.04 16 *i*P **P** **10 28 33.8 -2.0**
ISOG IAmb IAmb 10 28 42.1
comp=Z,7μm,1.0s
ANGG Ammassalik, Gr 73.45 16 *i*P **P** **10 28 36.0 -2.3**
ANGG IAmb IAmb 10 28 44.1
comp=Z,3μm,0.9s
ANGG Ammassalik, Gr 73.45 16 ⇑P **P** **10 28 37.3 -1.0**
CRAG Craig 73.45 330 P **P** **10 28 39.2 +0.7**
baz=120,SNR=7.0
CRAG S **S** **10 37 58.7 +3.1**
baz=120
CRAG Craig 73.45 330 P **P** **10 28 41.3 +2.8**
comp=Z,326nm,1.3s
ILULI Ilulissat 73.50 9 P **P** **10 28 37.9 -0.6**
ILULI Ilulissat 73.50 9 P **P** **10 28 37.9 -0.6**
ILULI pmax pmax
comp=Z,4μm,1.1s
ILULI Ilulissat 73.50 9 *i*P **P** **10 28 37.8 -0.6**
ILULI IAmb IAmb 10 28 44.8
comp=Z,4μm,1.1s
ILULI Ilulissat 73.50 9 ⇑P **P** **10 28 37.5 -1.0**
ILULI ⇑P PcP 10 28 43.7 -10
WRAK Wrangell Islan 73.56 332 P **P** **10 28 39.7 +0.6**
baz=121,SNR=18
WRAK S **S** **10 37 58.1 +1.3**
baz=121
WRAK Wrangell Islan 73.56 332 ⇓P **P** **10 28 40.6 +1.5**
DLBC Dease Lake 73.58 334 IAmb IAmb 10 28 48.7
comp=Z,5μm,1.9s
DLBC Dease Lake 73.58 334 P **P** **10 28 39.2 -0.1**
comp=Z,319nm,0.8s,baz=179,slow=23,SNR=4.3
DLBC pP **pP** **10 29 17.6 +1.5**
comp=Z,315nm,1.0s,baz=75,slow=6.5,SNR=2.9
comp=Z,319nm,0.8s
DLBC Dease Lake 73.58 334 P **P** **10 28 40.1 +0.7**
baz=124,SNR=196
DLBC S **S** **10 37 58.7 +1.5**
baz=124
DLBC Dease Lake 73.58 334 ⇑P **P** **10 28 39.7 +0.4**
U33K Whale Pass 73.78 331 P **P** **10 28 40.9 +0.5**
baz=120
U33K S **S** **10 38 02.3 +3.1**
baz=120
U33K S **S** **10 38 02.3 +3.1**
baz=120
S34M Telegraph Cree 73.79 333 P **P** **10 28 40.9 +0.5**
baz=122,SNR=67
S34M S **S** **10 38 01.9 +2.6**
baz=122
TIO Tiouine 73.91 57 S **S** **10 38 02.5 +0.4**
TIO P **P** **10 28 42.8 +0.9**
WRGLY Wrigley 73.94 340 IAmb IAmb 10 28 49.4
comp=Z,5μm,1.5s
WRGLY Wrigley 73.94 340 P **P** **10 28 41.3 +0.1**
baz=131,SNR=433
WRGLY S **S** **10 38 00.4 -0.4**
baz=131
WTLY Watson Lake, Y 74.02 336 IAmb IAmb 10 28 50.7
comp=Z,4μm,1.9s
WTLY Watson Lake, Y 74.02 336 P **P** **10 28 42.3 +0.5**
baz=125,SNR=80
WTLY S **S** **10 38 02.8 +1.0**
baz=125
T33K Petersburg 74.05 332 P **P** **10 28 42.7 +0.7**
baz=120
T33K S **S** **10 38 04.9 +2.7**
baz=120
PFVI Vila Bisbo 74.15 50 ⇑*i*P **P** **10 28 43.9 +0.9**
PFVI *i* Amb 10 28 49.9
comp=Z,11μm,1.2s
PFVI *e*PP **PP** **10 31 34.5 +3.8**
PFVI Vila Bisbo 74.15 50 P **P** **10 28 44.0 +1.0**
PFVI S **S** **10 38 02.5 -1.7**
PMAFR Mafra 74.30 49 S **S** **10 38 04.2 -1.6**
PMAFR P **P** **10 28 43.9 0.0**
AVE Averroes 74.32 55 P **P** **10 28 45.1 +1.0**
AVE Averroes 74.32 55 S **S** **10 38 04.7 -1.6**
AVE P **P** **10 28 45.3 +1.2**
MORF Marmelete 74.33 50 IAmb IAmb 10 28 51.5
comp=Z,14μm,1.3s
MORF Marmelete 74.33 50 *e*P **P** **10 28 44.7 +0.6**
MORF IAmb IAmb 10 28 51.2
comp=Z,15μm,1.3s
MORF *e*S **S** **10 38 07.0 +0.7**
MORF Marmelete 74.33 50 ⇑*i*P **P** **10 28 45.1 +0.9**
MORF *i* Amb 10 28 51.1
comp=Z,15μm,1.3s
MORF *e*PP **PP** **10 31 35.9 +3.6**
MORF Marmelete 74.33 50 *e*P **P** **10 28 44.7 +0.6**
MORF *e*S **S** **10 38 07.0 +0.7**
MORF Marmelete 74.33 50 ⇑P **P** **10 28 45.0 +0.9**
LIS Lisbon 74.33 49 *e*P **P** **10 28 44.4 +0.4**
LIS IAmb IAmb 10 28 47.6
comp=Z,4μm,1.1s
LIS *e*S **S** **10 38 06.8 +0.6**
LIS Lisbon 74.33 49 *e*P **P** **10 28 44.4 +0.4**

LIS eS S 10 38 06.8 +0.6
LIS Lisbon 74.33 49 ⇑P P 10 28 44.5 +0.4
PTEO Sao Teotonio 74.34 50⇑iP P 10 28 45.0 +0.9
PTEO i Amb 10 28 50.9
comp=Z,6μm,1.3s
PTEO ePP PP 10 31 31.8 -0.5
R33M Jennings River 74.52 335 P P 10 28 45.3 +0.4
baz=123
R33M S S 10 38 09.4 +1.7
baz=123
TGTN Hyland Airport 74.63 337 P P 10 28 46.4 +1.0
baz=126,SNR=153
TGTN S S 10 38 10.7 +1.9
baz=126
UMMG Uummannaq 74.66 8 iP P 10 28 43.1 -2.1
UMMG IAmb IAmb 10 28 51.7
comp=Z,2μm,1.0s
MESJ Messejana 74.80 50 P P 10 28 47.1 +0.4
MESJ IAmb IAmb 10 28 53.1
comp=Z,1μm,1.0s
MESJ Messejana 74.80 50 eP P 10 28 47.2 +0.4
MESJ IAmb IAmb 10 28 49.8
comp=Z,2μm,1.4s
MESJ eS S 10 38 12.1 +0.7
MESJ Messejana 74.80 50⇑iP P 10 28 47.3 +0.5
MESJ i Amb 10 28 51.9
comp=Z,3μm,1.9s
MESJ epP pP 10 29 25.7 +2.1
MESJ ePP PP 10 31 37.6 +1.4
MESJ Messejana 74.80 50 eP P 10 28 47.2 +0.4
MESJ eS S 10 38 12.1 +0.7
PSBE So Bento 74.82 48⇑iP P 10 28 47.2 +0.4
PSBE i Amb 10 28 52.5
comp=Z,6μm,1.4s
PSBE epP pP 10 29 26.5 +2.7
Q32M Nakina River 74.85 334 P P 10 28 47.6 +0.8
baz=122
Q32M S S 10 38 14.7 +3.1
baz=122
PBDV Barranco-do-Ve 74.87 51⇑iP P 10 28 48.2 +1.0
PBDV i Amb 10 28 51.8
comp=Z,5μm,1.9s
PCVE Castro Verde 74.89 50⇑iP P 10 28 48.1 +0.8
PCVE i Amb 10 28 53.5
comp=Z,6μm,1.2s
PCVE epP pP 10 29 26.2 +2.1
PCVE Castro Verde 74.89 50 P P 10 28 48.0 +0.7
PCVE S S 10 38 11.6 -0.7
RTC Rabat Centre 74.93 54 S S 10 38 12.9 -0.1
RTC P P 10 28 48.4 +0.8
PVAQ Vaqueiros 75.08 50 IAmb IAmb 10 28 54.9
comp=Z,1μm,1.0s
PVAQ Vaqueiros 75.08 50⇑iP P 10 28 49.2 +0.9
PVAQ i Amb 10 28 52.8
comp=Z,3μm,1.7s
PVAQ epP pP 10 29 27.9 +2.7
PVAQ Vaqueiros 75.08 50 P P 10 28 48.7 +0.4
PBEJ Beja 75.12 50⇑iP P 10 28 49.0 +0.4
PBEJ i Amb 10 28 53.6
comp=Z,4μm,1.8s
PMTG Montargil 75.12 49⇑iP P 10 28 48.6 0.0
PMTG i Amb 10 28 54.2
comp=Z,5μm,1.1s
PMTG epP pP 10 29 26.5 +1.0
PMTG ePP PP 10 31 39.6 +0.7
EVO Evora 75.14 49⇓iP P 10 28 49.2 +0.5
EVO i Amb 10 28 54.9
comp=Z,4μm,1.4s
EVO epP pP 10 29 27.2 +1.7
EVO Evora 75.14 49 S S 10 38 13.7 -1.4
EVO P P 10 28 48.9 +0.2
S32K Killisnoo 75.15 332 P P 10 28 48.9 +0.6
baz=119,SNR=55
S32K S S 10 38 16.7 +2.4
baz=119
S32K S S 10 38 16.7 +2.4
baz=119
PCAS Casmilo, Conde 75.19 48⇑iP P 10 28 49.2 +0.3
PCAS i Amb 10 28 55.4
comp=Z,7μm,1.1s
PCAS epP pP 10 29 26.8 +1.0
EGRO El Granado 75.29 50 P P 10 28 50.2 +0.7
EGRO S S 10 38 16.2 -0.7
COI Coimbra 75.29 47⇑iP P 10 28 50.1 +0.6
COI i Amb 10 28 56.1
comp=Z,15μm,1.2s
COI epP pP 10 29 28.2 +1.8
COI Coimbra 75.29 47 ⇑P P 10 28 50.0 +0.5
NUUG Nuugaatsiaq 75.29 8 iP P 10 28 48.5 -0.4
NUUG IAmb IAmb 10 28 55.2
comp=Z,2μm,1.0s
NUUG Nuugaatsiaq 75.29 8 ⇑P P 10 28 48.5 -0.4
SIT Sitka 75.30 331 P P 10 28 49.9 +0.7
baz=118
SIT S S 10 38 18.5 +2.3
baz=118
SIT Sitka 75.30 331 P P 10 28 52.8 +3.6
comp=Z,318nm,2.4s
PTO Porto 75.41 47 eP P 10 28 46.8 -3.4
PTO i Amb 10 28 52.7
comp=Z,8μm,1.2s
JIS Juneau Island 75.45 333 P P 10 28 51.7 +1.7
comp=Z,729nm,1.4s
R32K Eaglecrest 75.52 333 P P 10 28 50.8 +0.4
baz=120,SNR=38
R32K S S 10 38 21.3 +2.8
baz=120
R32K S S 10 38 21.3 +2.8
baz=120
PESTR Estremoz 75.55 49⇑iP P 10 28 51.5 +0.4
PESTR i Amb 10 28 57.4
comp=Z,11μm,1.3s
PESTR epP pP 10 29 29.7 +1.7
PESTR Estremoz 75.55 49 P P 10 28 50.9 -0.1
PESTR S S 10 38 17.9 -1.7
PESTR Estremoz 75.55 49 ⇑P P 10 28 51.1 +0.1
ICESG Greenland Ices 75.62 13 iP P 10 28 49.8 -1.4
ICESG IAmb IAmb 10 28 57.4
comp=Z,7μm,1.0s
ICESG Greenland Ices 75.62 13 ⇑P P 10 28 50.3 -0.9
P33M Teslin, Yukon 75.75 335 P P 10 28 52.4 +0.6
baz=121,SNR=142
P33M S S 10 38 23.1 +1.9
baz=121
PBAR Barrancos 75.79 50⇑iP P 10 28 52.8 +0.4
PBAR i Amb 10 28 58.1
comp=Z,4μm,1.5s
PBAR epP pP 10 29 31.4 +2.0
PBAR Barrancos 75.79 50 P P 10 28 52.6 +0.2
PBAR S S 10 38 20.8 -1.5
PVIS Viseu 75.81 47⇑iP P 10 28 52.5 0.0
PVIS epP pP 10 29 31.1 +1.6
PVIS ePP PP 10 31 44.2 -0.5
P32M Atlin 75.81 334 P P 10 28 52.3 +0.2
baz=120,SNR=63
P32M S S 10 38 23.4 +1.6
baz=120
BESE Bessie Mountai 75.82 333 IAmb IAmb 10 29 39.7
comp=Z,3μm,1.7s
PMRV Marv??o 75.84 48⇑iP P 10 28 52.4 -0.3
PMRV i Amb 10 28 57.7
comp=Z,4μm,1.5s
PMRV epP pP 10 29 30.5 +0.8
PMRV eS S 10 38 20.4 -2.5
PGAV Gavieira, Arco 75.88 46⇑iP P 10 28 52.9 -0.1
PGAV i Amb 10 28 58.2
comp=Z,4μm,1.3s
PGAV epP pP 10 29 31.8 +1.8
PGAV ePP PP 10 31 48.4 +3.0
PGAV eS S 10 38 22.1 -1.3
PCBR Castelo Branco 75.88 48⇑eP P 10 28 53.0 +0.1
PCBR i Amb 10 28 58.2
comp=Z,4μm,1.5s
PCBR epP pP 10 29 28.7 -1.2
EBAD Badajoz 75.95 49 P P 10 28 53.3 0.0
MTE Manteigas 75.98 47 IAmb IAmb 10 28 59.2
comp=Z,2μm,0.8s
MTE Manteigas 75.98 47⇑iP P 10 28 53.3 -0.3
MTE i Amb 10 28 58.0
comp=Z,3μm,2.0s
MTE epP pP 10 29 31.9 +1.4
MTE eS S 10 38 21.2 -3.3
MTE Manteigas 75.98 47 ⇑P P 10 28 53.2 -0.3
PCAB Cabril 75.98 46⇑iP P 10 28 53.2 -0.3

PCAB i Amb 10 28 58.6
comp=Z,4μm,1.5s
PCAB epP pP 10 29 31.6 +1.2
SFS San Fernando 76.02 52 S S 10 38 26.8 +1.9
SFS P P 10 28 55.0 +1.2
SFS San Fernando 76.02 52 ⇑P P 10 28 55.1 +1.4
POLO Lamas de Olo 76.06 46⇑iP P 10 28 54.0 0.0
POLO i Amb 10 29 00.1
comp=Z,3μm,1.1s
POLO epP pP 10 29 32.5 +1.5
PVRL Vila Real 76.09 47⇑iP P 10 28 54.0 -0.1
PVRL i Amb 10 28 59.4
comp=Z,4μm,1.3s
UPNV Upernavik 76.09 6 iP P 10 28 52.0 -1.4
UPNV IAmb IAmb 10 29 00.4
comp=Z,1μm,1.1s
R31K City Hall, Gus 76.15 332 P P 10 28 53.7 -0.2
baz=118
R31K S S 10 38 28.2 +2.9
baz=118
S31K Pelican 76.16 332 P P 10 28 54.5 +0.5
baz=118,SNR=23
S31K S S 10 38 28.7 +3.2
baz=118
S31K S S 10 38 28.7 +3.2
baz=118
IFR Ifrane 76.23 55 P P 10 28 56.0 +0.7
IFR S S 10 38 29.7 +2.0
N32M Quiet Lake 76.35 336 P P 10 28 55.7 +0.5
N32M Quiet Lake 76.35 336 P P 10 28 55.6 +0.4
baz=121
N32M S S 10 38 28.9 +1.3
baz=121
TARIF Tarifa 76.42 52 P P 10 28 56.9 +0.9
SKAG Skagway 76.46 333 P P 10 28 56.0 +0.3
baz=119,SNR=27
SKAG S S 10 38 31.9 +3.2
baz=119
SKAG Skagway 76.46 333 P P 10 28 57.8 +2.1
comp=Z,488nm,2.1s
ALJ Aljibe 76.47 52 P P 10 28 58.3 +1.9
MDT Midelt 76.52 56 S S 10 38 32.6 +1.9
comp=Z,3.4nm,0.7s,baz=85,slow=19,SNR=6.1
CEU Ceuta 76.55 52 S S 10 38 34.4 +3.7
CEU P P 10 28 57.8 +1.1
MVO Moncorvo 76.56 47⇑iP P 10 28 56.9 +0.1
MVO i Amb 10 29 02.9
comp=Z,5μm,1.2s
MVO epP pP 10 29 35.0 +1.2
MVO ePP PP 10 31 51.5 +0.5
MVO eS S 10 38 28.3 -2.5
LIJA Lijar 76.75 51 P P 10 28 58.6 +0.6
WHY Whitehorse 76.86 335 P P 10 28 58.5 +0.4
baz=120,SNR=61
WHY S S 10 38 35.0 +1.7
baz=120
PLBC Pleasant Camp 76.93 333 P P 10 28 59.2 +0.9
baz=118
PLBC S S 10 38 37.9 +4.1
baz=118
PBRG Braganca 76.94 46 i Amb 10 29 03.5
comp=Z,4μm,2.0s
PBRG epP pP 10 29 37.4 +1.5
ECAB El Cabril 77.01 50 P P 10 28 59.5 +0.1
ECAB S S 10 38 33.6 -2.1
FARO Faro, Yukon 77.02 336 P P 10 28 59.5 +0.6
baz=121,SNR=142
FARO S S 10 38 38.1 +3.1
baz=121
ACRG Accra 77.10 84 IAmb IAmb 10 29 11.9
comp=Z,1μm,0.7s
PVLZ Pen de Vlez 77.25 53 P P 10 29 01.1 +0.5
M31M Drury Creek, Y 77.43 336 P P 10 29 01.8 +0.7
baz=120,SNR=141
M31M S S 10 38 41.5 +2.3
baz=120
O30N Mendenhall 77.43 334 IAmb IAmb 10 29 10.6
comp=Z,2μm,1.6s
O30N Mendenhall 77.43 334 P P 10 29 01.8 +0.6
baz=118,SNR=118
O30N S S 10 38 42.0 +2.6
baz=118
EMAL Malaga-Limoner 77.48 52 P P 10 29 03.3 +1.4
P30M Million Dollar 77.50 334 P P 10 29 02.6 +0.9
baz=118
P30M S S 10 38 43.6 +3.4
baz=118
RES Resolute Bay 77.60 355 P P 10 29 00.3 -1.5
comp=Z,92nm,0.8s,baz=176,slow=8.2,SNR=173
RES PP PP 10 32 00.2 +1.3
comp=Z,161nm,1.1s,baz=156,slow=2.2,SNR=5.0
RES S S 10 38 29.2 -11
comp=Z,43nm,1.1s,baz=285,slow=5.6,SNR=2.6
RES PKKPbc PKKPbc 10 48 06.5 -1.6
comp=Z,11nm,0.9s,baz=21,slow=3.0,SNR=5.8
RES PKPPKP P'P'df 10 56 00.4 -5.7
comp=Z,10nm,1.1s,baz=329,slow=2.3,SNR=4.2
comp=Z,92nm,0.8s
RES Resolute Bay 77.60 355 ⇑P P 10 29 00.7 -1.1
N31M Braeburn, Yuko 77.64 335 P P 10 29 03.1 +0.7
baz=119,SNR=128
N31M S S 10 38 43.5 +1.9
baz=119
KULLO Kullorsuaq 77.67 5 iP P 10 29 01.8 -0.4
KULLO IAmb IAmb 10 29 05.2
comp=Z,2μm,0.7s
EADA Adamuz 77.67 50 P P 10 29 02.9 -0.1
EADA S S 10 38 42.0 -0.9
VAL Valentia 77.70 36 P P 10 29 01.1 -1.7
VAL Valentia 77.70 36 P P 10 29 02.7 -0.1
VAL S S 10 38 38.2 -4.2
VAL Valentia 77.70 36 ⇑P P 10 29 01.8 -1.0
EGOR Sierra Gorda, 77.81 51 P P 10 29 05.2 +1.3
EGOR S S 10 38 45.5 +1.0
HYT Haines Junctio 78.07 334 P P 10 29 06.0 +1.2
baz=117,SNR=75
HYT S S 10 38 48.4 +2.0
baz=117
BORG Borgarnes 78.11 21 P P 10 29 06.2 +1.5
BORG Borgarnes 78.11 21 P P 10 29 05.3 +0.5
comp=Z,2μm,1.0s,baz=255,slow=3.9,SNR=46
comp=Z,2μm,1.0s
BORG Borgarnes 78.11 21 P P 10 29 06.3 +1.5
BORG pmax pmax
comp=Z,14μm,1.9s
ELGU Los Guajares, 78.13 52 P P 10 29 06.2 +0.5
ELGU S S 10 38 49.7 +1.8
PAB San Pablo 78.16 49 P P 10 29 06.1 +0.4
PAB IAmb IAmb 10 29 11.8
comp=Z,2μm,1.0s
PAB San Pablo 78.16 49 ⇑P P 10 29 06.1 +0.4
PAB San Pablo 78.16 49 ⇑P P 10 29 05.7 0.0
C36M Paulatuk 78.19 345 P P 10 29 03.8 -1.3
baz=132,SNR=154
C36M S S 10 38 47.8 +0.7
baz=132
O29M Mount Kennedy 78.31 333 P P 10 29 06.9 +0.7
baz=116
O29M S S 10 38 52.1 +3.2
baz=116
EQTA Presa de Quent 78.35 51 P P 10 29 08.0 +1.1
EQTA S S 10 38 50.1 -0.2
WMELI Melilla 78.36 53 P P 10 29 07.0 +0.2
WMELI S S 10 38 51.8 +1.6
ESDC Sonseca Array 78.47 49 P P 10 29 07.8 +0.3
ESDC Sonseca Array 78.47 49 P P 10 29 07.7 +0.3
comp=Z,654nm,1.0s,baz=257,slow=5.8,SNR=475
ESDC S S 10 38 49.7 -1.7
comp=Z,6.1nm,1.2s,baz=276,slow=3.0,SNR=4.1
ESDC PKKPbc PKKPbc 10 48 04.6 0.0
comp=Z,7.0nm,1.0s,baz=22,slow=1.7,SNR=6.3
ESDC PKPPKP P'P'df 10 55 58.6 -8.2
comp=Z,4.0nm,1.1s,baz=86,slow=2.5,SNR=4.1
comp=Z,654nm,1.0s
YUK6 Outpost Mounta 78.50 334 P P 10 29 08.4 +1.0
baz=116
YUK6 S S 10 38 54.4 +3.2
baz=116
M30M Minto, Yukon 78.59 336 IAmb IAmb 10 29 16.5
comp=Z,2μm,1.6s
M30M Minto, Yukon 78.59 336 P P 10 29 08.0 +0.4
baz=118,SNR=151
M30M S S 10 38 54.1 +2.4
baz=118
SUMG Summit 78.59 11 P P 10 29 04.9 -3.0
SUMG Summit 78.59 11 iP P 10 29 07.0 -0.8

SUMG IAmb IAmb 10 29 11.2
comp=Z,2μm,0.7s
SUMG Summit 78.59 11 ⇑P P 10 29 07.5 -0.4
IGLA Glengowla, Co 78.70 34⇑eP P 10 29 08.2 0.0
IGLA IAmb IAmb 10 29 11.3
comp=Z,7μm,1.7s
IGLA Glengowla, Co 78.70 34 P P 10 29 08.2 0.0
IGLA S S 10 38 52.8 -0.2
MAYO Mayo, Yukon 78.72 337 P P 10 29 09.7 +1.5
MAYO Mayo, Yukon 78.72 337 P P 10 29 09.1 +0.9
baz=119,SNR=58
MAYO S S 10 38 54.6 +1.5
baz=119
CHAS Isla Isabel II 78.75 54 P P 10 29 08.8 -0.2
BELA Belgrano 2 78.78 172 P P 10 29 09.7 +1.4
YUK4 Talbot Arm 78.80 334 P P 10 29 10.0 +1.1
baz=116
YUK4 S S 10 38 57.7 +3.3
baz=116
TULEG Thule 78.85 2 P P 10 29 08.7 +0.1
TULEG IAmb IAmb 10 29 14.1
comp=Z,3μm,1.7s
TULEG Thule 78.85 2 iP P 10 29 07.1 -1.6
TULEG IAmb IAmb 10 29 12.3
comp=Z,769nm,1.0s
M29M Somme Creek 79.21 335 P P 10 29 11.7 +0.6
baz=117,SNR=373
M29M S S 10 39 00.4 +1.9
baz=117
O28M Mount Upton 79.23 334 P P 10 29 12.1 +0.7
baz=115,SNR=37
O28M S S 10 39 01.7 +2.6
baz=115
YUK8 Steele Glacier 79.26 334 P P 10 29 11.4 -0.1
baz=115
YUK8 S S 10 39 02.3 +2.9
baz=115
H31M Peel River 79.26 339 P P 10 29 11.6 +0.5
baz=121,SNR=353
H31M S S 10 39 01.1 +2.3
baz=121
J30M Hart River 79.37 338 IAmb IAmb 10 29 21.1
comp=Z,3μm,1.6s
J30M Hart River 79.37 338 P P 10 29 12.8 +0.9
baz=119
J30M S S 10 39 02.9 +2.8
baz=119
L29M L29M 79.38 336 P P 10 29 12.4 +0.5
baz=117
L29M S S 10 39 02.1 +2.0
baz=117
JOKA Jonika Flow 79.45 290 IAmb IAmb 10 29 21.6
comp=Z,3μm,1.2s
K29M Barlow Dome 79.48 337 P P 10 29 13.1 +0.7
baz=118
K29M S S 10 39 02.2 +1.0
baz=118
TORD Torodi Ar. Bea 79.53 76 P P 10 29 13.6 0.0
comp=Z,258nm,0.8s,baz=263,slow=5.3,SNR=20
TORD PP PP 10 32 14.8 -1.4
comp=Z,108nm,0.9s,baz=266,slow=8.1,SNR=5.5
TORD S S 10 39 01.2 -2.1
comp=Z,32nm,0.4s,baz=297,slow=13,SNR=4.2
comp=Z,258nm,0.8s
STCH Steam Cracks 79.56 290 IAmb IAmb 10 29 22.1
comp=Z,3μm,1.1s
OLHC Oulhaca 79.58 54 P P 10 29 14.0 +0.5
PUH Pauahi 79.64 290 IAmb IAmb 10 29 22.6
comp=Z,4μm,1.4s
BYL Byron's Ledge 79.69 290 IAmb IAmb 10 29 22.9
comp=Z,4μm,1.4s
HATHI Halema'uma'u T 79.69 290 IAmb IAmb 10 29 22.9
comp=Z,4μm,1.4s
I30M Mount Dempster 79.70 338 IAmb IAmb 10 29 22.5
comp=Z,4μm,1.5s
I30M Mount Dempster 79.70 338 P P 10 29 14.4 +0.8
baz=119
I30M S S 10 39 05.5 +1.9
baz=119
HLP Hilina Pali 79.72 290 P P 10 29 14.4 -0.2
HLP IAmb IAmb 10 29 23.3
comp=Z,4μm,1.5s
UWE Uwekahuna 79.72 290 IAmb IAmb 10 29 23.1
comp=Z,6μm,1.8s
MESA MESA 79.78 333 P P 10 29 15.4 +1.1
baz=113,SNR=15
MESA S S 10 39 08.0 +3.2
baz=113
G31M Satah River 79.82 340 IAmb IAmb 10 29 22.5
comp=Z,3μm,1.2s
G31M Satah River 79.82 340 P P 10 29 14.3 +0.3
baz=121,SNR=665
G31M S S 10 39 04.5 +0.1
baz=121
IWEX Carrickbyrne, 79.86 36⇑eP P 10 29 14.4 -0.2
IWEX IAmb IAmb 10 29 17.0
comp=Z,2μm,1.1s
IWEX Carrickbyrne, 79.86 36 P P 10 29 14.4 -0.2
IWEX S S 10 39 04.3 -1.1
F31M Tsiigehtchic 79.92 341 P P 10 29 14.7 +0.1
F31M IAmb IAmb 10 29 23.0
comp=Z,3μm,1.3s
F31M Tsiigehtchic 79.92 341 P P 10 29 14.8 +0.1
baz=122,SNR=785
F31M S S 10 39 05.8 +0.4
baz=122
HMH Humu'ula Sheep 79.92 290 IAmb IAmb 10 29 25.9
comp=Z,1μm,1.0s
POHA Pohakuloa 79.98 290 P P 10 29 16.1 -0.1
POHA IAmb IAmb 10 29 24.3
comp=Z,2μm,1.2s
POHA Pohakuloa 79.98 290 P P 10 29 17.5 +1.3
comp=Z,746nm,1.3s
POHA Pohakuloa 79.98 290 ⇓P P 10 29 16.6 +0.3
KHU Kahuku 80.01 290 IAmb IAmb 10 29 25.0
comp=Z,2μm,1.5s
J29N Klondike Camp 80.03 337 P P 10 29 15.4 +0.1
baz=117,SNR=52
J29N S S 10 39 08.9 +2.0
baz=117
CCA1 Carnmenellis 80.18 38⇑eP P 10 29 16.6 +0.3
CCA1 IAmb IAmb 10 29 22.3
comp=Z,3μm,0.9s
A36M Sachs Harbour 80.24 346 IAmb IAmb 10 29 21.0
comp=Z,2μm,0.8s
A36M Sachs Harbour 80.24 346 P P 10 29 15.5 -0.7
baz=131,SNR=1000
A36M S S 10 39 05.1 -3.5
baz=131
HUH Hualalai 80.26 290 IAmb IAmb 10 29 26.5
comp=Z,4μm,1.9s
IDGL Inch Island, C 80.27 33⇑eP P 10 29 16.6 -0.1
IDGL IAmb IAmb 10 29 19.0
comp=Z,3μm,1.4s
IDGL Inch Island, C 80.27 33 P P 10 29 16.6 -0.1
IDGL S S 10 39 08.7 -0.9
INK Inuvik 80.31 342 IAmb IAmb 10 29 25.1
comp=Z,2μm,1.1s
INK Inuvik 80.31 342 P P 10 29 16.1 -0.5
comp=Z,260nm,0.6s,baz=107,slow=4.7,SNR=896
INK pP pP 10 29 56.1 +2.1
comp=Z,316nm,0.8s,baz=94,slow=6.6,SNR=2.2
INK PKKPbc PKKPbc 10 47 59.1 -2.7
comp=Z,28nm,0.8s,baz=358,slow=3.7,SNR=12
INK PKPPKP P'P'df 10 55 53.8 -7.8
comp=Z,12nm,1.0s,baz=314,slow=6.5,SNR=4.3
comp=Z,260nm,0.6s
INK Inuvik 80.31 342 P P 10 29 16.8 +0.1
baz=122,SNR=1000
INK S S 10 39 08.7 -0.7
baz=122
DAWY Dawson 80.31 337 P P 10 29 17.3 +0.5
DAWY Dawson 80.31 337 P P 10 29 16.8 -0.1
baz=116,SNR=179
DAWY S S 10 39 10.8 +0.9
baz=116
CART Cartagena 80.33 51 P P 10 29 16.1 -1.4
CART Cartagena 80.33 51 ⇑P P 10 29 16.1 -1.4
DSB Dublin 80.35 35 IAmb IAmb 10 29 20.1
comp=Z,3μm,1.5s
DSB Dublin 80.35 35⇑eP P 10 29 17.2 0.0
DSB Dublin 80.35 35 P P 10 29 15.2 -2.0
DSB Dublin 80.35 35 P P 10 29 17.3 +0.1
DSB S S 10 39 09.7 -0.8
DSB Dublin 80.35 35 ⇑P P 10 29 16.9 -0.2
USTO Oran 80.36 53 P P 10 29 21.0 +3.4
BGLC Bering Glacier 80.38 332 P P 10 29 19.2 +2.0

baz=112
BGLC S **S** **10 39 13.6 +3.1**
baz=112
I29M Ogilvie Camp, 80.48 338 IAmb IAmb 10 29 26.5
comp=Z,3μm,1.5s
I29M Ogilvie Camp, 80.48 338 P **P** **10 29 17.8 +0.1**
baz=117,SNR=301
I29M S **S** **10 39 13.4 +1.8**
baz=117
G30M tAoh Zraii Nji 80.51 340 P **P** **10 29 17.5 -0.3**
baz=119,SNR=201
G30M S **S** **10 39 12.3 +0.5**
baz=119
XMAS Kiritimati 80.53 272 P **P** **10 29 19.5 +0.5**
XMAS IAmb IAmb 10 29 27.3
comp=Z,4μm,1.3s
XMAS Kiritimati 80.53 272 P **P** **10 29 19.8 +0.8**
comp=Z,2μm,1.5s
XMAS Kiritimati 80.53 272 ⇓P **P** **10 29 19.5 +0.5**
SUCK Suckling Hills 80.59 332 IAmb IAmb 10 30 06.6
comp=Z,2μm,1.7s
ILTH Belurgan, Co L 80.60 34⇑ *e*P **P** **10 29 18.5 0.0**
ILTH Belurgan, Co L 80.60 34 P **P** **10 29 18.3 -0.2**
ILTH S **S** **10 39 12.7 -0.4**
SBD Saint Breward 80.61 38⇑ *e*P **P** **10 29 18.6 0.0**
M27K Edge Creek, AK 80.62 335 P **P** **10 29 19.5 +0.8**
baz=114,SNR=132
M27K S **S** **10 39 14.9 +1.6**
baz=114
M27K S **S** **10 39 14.9 +1.6**
baz=114
F30M Barrier River 80.68 341 P **P** **10 29 18.9 +0.2**
baz=120,SNR=447
F30M S **S** **10 39 13.6 +0.1**
baz=120
VNA3 Neumayer Olymp 80.68 162 P **P** **10 29 20.1 +1.4**
VNA3 Neumayer Olymp 80.68 162 ⇓P **P** **10 29 20.1 +1.4**
comp=Z,33μm,2.7s
VNA3 ⇑PP **PP** **10 32 20.5 -4.0**
comp=Z,13μm,3.2s
VNA3 ⇑S **S** **10 39 15.7 +2.2**
comp=Z,201μm,0.0s
HLK Haleakala 80.75 291 IAmb IAmb 10 29 28.0
comp=Z,2μm,1.3s
OFRG Douar Fergoug 80.80 54 P **P** **10 29 20.8 +0.8**
KAIM Kayak Island 80.84 332 IAmb IAmb 10 29 28.0
comp=Z,2μm,1.4s
KAIM Kayak Island 80.84 332 P **P** **10 29 19.8 +0.2**
baz=111,SNR=20
KAIM S **S** **10 39 16.5 +1.1**
baz=111
HTL Hartland 80.85 38⇑ *e*P **P** **10 29 20.3 +0.4**
HTL IAmb IAmb 10 29 22.8
comp=Z,2μm,1.4s
BCAR Beaver Creek A 80.86 335 P **P** **10 29 21.3 +1.5**
L27K Beaver Creek, 80.88 335 P **P** **10 29 20.4 +0.5**
baz=114,SNR=232
L27K S **S** **10 39 18.3 +2.6**
baz=114
NEEM North Greenlan 80.91 6 *i* P **P** **10 29 20.4 +0.3**
NEEM IAmb IAmb 10 29 23.8
comp=Z,14μm,1.9s
HMT Hamilton 80.91 332 IAmb IAmb 10 29 27.2
comp=Z,4μm,1.8s
VNA1 Neumayer--Stat 80.91 162 P **P** **10 29 21.7 +1.8**
VNA1 Neumayer--Stat 80.91 162 ⇓P **P** **10 29 21.7 +1.8**
comp=Z,46μm,2.2s
KHLH Kahului Airpor 80.93 291 IAmb IAmb 10 29 30.0
comp=Z,3μm,1.5s
RSBS Rosebush, Pemb 80.94 37⇑ *e*P **P** **10 29 20.3 -0.1**
RSBS IAmb IAmb 10 29 22.9
comp=Z,1μm,1.0s
CLGH Cloghs, Cushen 81.04 33⇑ *e*P **P** **10 29 20.9 +0.1**
DYA Yadsworthy 81.04 38⇑ *e*P **P** **10 29 20.9 -0.1**
DYA IAmb IAmb 10 29 23.6
comp=Z,3μm,1.6s
SCO Scoresbysund 81.07 16 *i* P **P** **10 29 20.0 -0.7**
SCO IAmb IAmb 10 29 23.7
comp=Z,2μm,1.4s
G29M Pine Creek 81.10 340 P **P** **10 29 21.2 +0.2**
baz=118
G29M S **S** **10 39 17.9 0.0**
baz=118
M26K Nabesna, AK 81.11 334 P **P** **10 29 21.5 +0.3**
baz=112,SNR=136
M26K S **S** **10 39 20.0 +1.7**
baz=112
M26K S **S** **10 39 20.0 +1.7**
baz=112
I28M Miner Creek 81.13 338 P **P** **10 29 21.7 +0.4**
baz=116
I28M S **S** **10 39 20.1 +1.7**
baz=116
ESMB Sidi M'hamed B 81.25 54 P **P** **10 29 24.0 +1.6**
VNA2 Neumayer--Watz 81.28 162 P **P** **10 29 23.1 +1.3**
baz=290,slow=4.6
VNA2 Neumayer--Watz 81.28 162 ⇓P **P** **10 29 23.1 +1.3**
comp=Z,23μm,2.4s,baz=290,slow=4.6
VNA2 ⇑PP **PP** **10 32 28.0 -1.4**
comp=Z,32μm,6.8s,baz=273,slow=2.6
VNA2 ⇓S **S** **10 39 22.7 +3.1**
comp=Z,0.2nm,0.1s,baz=68,slow=32
BMRM Bremner River 81.30 333 P **P** **10 29 23.3 +1.1**
BMRM Bremner River 81.30 333 P **P** **10 29 22.5 +0.3**
baz=111,SNR=96
BMRM S **S** **10 39 20.9 +0.7**
baz=111
OJGS Djebel Guires 81.37 54 P **P** **10 29 25.2 +2.1**
EKMS Oued Kramis 81.41 53 P **P** **10 29 24.0 +0.8**
L26K Log Cabin Wild 81.50 335 P **P** **10 29 23.5 +0.4**
baz=112,SNR=176
L26K S **S** **10 39 23.3 +1.1**
baz=112
L26K S **S** **10 39 23.3 +1.1**
baz=112
WLF1 Llynfaes 81.50 35⇑ *e*P **P** **10 29 23.0 -0.3**
WLF1 IAmb IAmb 10 29 26.8
comp=Z,9μm,1.8s
N25K Chitina, Valde 81.52 333 P **P** **10 29 22.8 -0.5**
baz=111,SNR=85
N25K S **S** **10 39 22.9 +0.4**
baz=111
LEWI Lewis, Hebride 81.57 30⇑ *e*P **P** **10 29 23.4 -0.1**
LEWI IAmb IAmb 10 29 29.4
comp=Z,2μm,1.1s
WIM Isle of Man 81.58 35⇑ *e*P **P** **10 29 23.5 -0.2**
WIM IAmb IAmb 10 29 26.5
comp=Z,3μm,1.3s
WME Mynydd Eilian 81.59 35⇑ *e*P **P** **10 29 23.5 -0.3**
Q23K Middleton Isla 81.59 331 P **P** **10 29 24.3 +0.7**
baz=109
Q23K S **S** **10 39 24.1 +1.0**
baz=109
Q23K S **S** **10 39 24.1 +1.0**
baz=109
YLL Llanberis 81.60 36 *e*P **P** **10 29 23.4 -0.4**
MENT Mentasta 81.63 335 P **P** **10 29 24.4 +0.6**
comp=Z,799nm,0.7s
IOMK Kirk Michael 81.67 34⇑ *e*P **P** **10 29 24.4 +0.2**
IOMK IAmb IAmb 10 29 27.0
comp=Z,2μm,1.3s
EYAK Cordova Ski Ar 81.68 332 P **P** **10 29 25.1 +1.1**
EYAK Cordova Ski Ar 81.68 332 P **P** **10 29 23.9 -0.2**
baz=110,SNR=19
EYAK S **S** **10 39 24.2 +0.2**
baz=110
EYAK Cordova Ski Ar 81.68 332 P **P** **10 29 26.0 +2.0**
comp=Z,334nm,2.0s
EANR 'Ain N'Sour 81.72 53 P **P** **10 29 26.2 +1.3**
GAL1 Galloway 81.75 34⇑ *e*P **P** **10 29 24.4 -0.1**
GAL1 IAmb IAmb 10 29 30.3
comp=Z,2μm,1.1s
E29M Blow River 81.75 341 P **P** **10 29 24.2 -0.1**
baz=118
E29M S **S** **10 39 24.2 -0.3**
baz=118
LAWE Loch Awe, Argy 81.77 32⇑ *e*P **P** **10 29 24.4 -0.3**
LAWE IAmb IAmb 10 29 30.3
comp=Z,1μm,1.1s
LLW Llanuwychllyn 81.82 36⇑ *e*P **P** **10 29 24.5 -0.5**
I27K Kandik River 81.83 338 P **P** **10 29 25.3 +0.5**
baz=114
I27K S **S** **10 39 26.6 +1.1**
baz=114
I27K S **S** **10 39 26.6 +1.1**
baz=114
JSA Saint Aubin 81.85 40⇑ *e*P **P** **10 29 25.4 +0.2**
JSA IAmb IAmb 10 29 31.1
comp=Z,1μm,1.0s
DIV Divide 81.89 333 P **P** **10 29 26.0 +0.7**
EADEB Ain Deheb 81.93 54 P **P** **10 29 27.0 +0.9**
JDC Jersey Dam (Cr 81.93 40⇑ *e*P **P** **10 29 25.7 +0.1**
JDG Jersey Dam (Ga 81.93 40⇑ *e*P **P** **10 29 25.5 -0.1**
KPL Plockton 81.95 31⇑ *e*P **P** **10 29 25.1 -0.4**
ECHA Ech Chlef 81.96 53 P **P** **10 29 28.5 +2.4**
MCH1 Michaelchurch 82.00 37⇑ *e*P **P** **10 29 25.7 -0.2**
MCH1 IAmb IAmb 10 29 33.9
comp=Z,1μm,1.1s
HARP HAARP 82.05 334 P **P** **10 29 26.7 +0.6**
baz=110,SNR=64
HARP S **S** **10 39 28.2 +0.4**
baz=110
HARP S **S** **10 39 28.2 +0.4**
baz=110
H27K Steamboat Moun 82.06 338 P **P** **10 29 26.3 +0.3**
baz=114
H27K S **S** **10 39 27.4 -0.4**
baz=114
F28M Old Crow 82.06 340 P **P** **10 29 26.2 +0.2**
baz=116,SNR=282
F28M S **S** **10 39 26.7 -1.1**
baz=116
KLU Klutina 82.08 333 P **P** **10 29 26.4 +0.1**
baz=110,SNR=99
KLU S **S** **10 39 27.9 -0.3**
baz=110
MONM Monmouth 82.08 37⇑ *e*P **P** **10 29 26.3 0.0**
MONM IAmb IAmb 10 29 31.9
comp=Z,2μm,1.0s
NEWG New Galloway 82.09 34⇑ *e*P **P** **10 29 26.4 +0.1**
NEWG IAmb IAmb 10 29 28.9
comp=Z,2μm,1.1s
FOEL Foel Wylfa 82.10 36⇑ *e*P **P** **10 29 26.3 -0.2**
FOEL IAmb IAmb 10 29 33.5
comp=Z,1μm,1.1s
EBNR Beni Rached 82.11 53 P **P** **10 29 28.0 +1.0**
SCRK Sand Creek 82.13 336 P **P** **10 29 26.9 +0.3**
baz=112,SNR=322
SCRK S **SKSac** **10 39 29.9 -3.0**
baz=112
PGBU Glenifferbraes 82.14 33⇑ *e*P **P** **10 29 26.2 -0.4**
PGBU IAmb IAmb 10 29 32.3
comp=Z,3μm,1.1s
J26L Joseph Creek 82.15 336 P **P** **10 29 26.8 +0.2**
baz=112,SNR=337
J26L S **SKSac** **10 39 30.3 -2.7**
baz=112
J26L S **SKSac** **10 39 30.3 -2.7**
baz=112
EBNH Beni Haoua 82.17 53 P **P** **10 29 27.5 +0.3**
OLDB Oldbury-Upon-S 82.19 37⇑ *e*P **P** **10 29 26.8 -0.1**
OLDB IAmb IAmb 10 29 32.3
comp=Z,2μm,1.1s
HLM1 Long Mynd 82.20 36⇑ *e*P **P** **10 29 26.9 -0.1**
HLM1 IAmb IAmb 10 29 32.5
comp=Z,1μm,1.0s
P23K Montague Islan 82.28 331 P **P** **10 29 27.3 +0.1**
baz=108,SNR=14
P23K S **S** **10 39 28.9 -1.2**
baz=108
P23K S **S** **10 39 28.9 -1.2**
baz=108
I26K Coal Creek Min 82.30 337 P **P** **10 29 27.4 +0.2**
baz=113
I26K S **S** **10 39 29.5 -0.7**
baz=113
I26K S **S** **10 39 29.5 -0.7**
baz=113
SLPK Sellapark 82.32 34 *e*P **P** **10 29 27.6 0.0**
EBGR Bougara 82.33 54 P **P** **10 29 29.5 +1.3**
G27K Doyon Strip 82.34 339 P **P** **10 29 27.0 -0.5**
baz=114,SNR=288
G27K S **S** **10 39 30.9 +0.3**
baz=114
EUNU Eureka 82.38 358 IAmb IAmb 10 29 31.3
comp=Z,4μm,1.9s
PAX Paxson 82.39 335 P **P** **10 29 27.5 -0.3**
baz=110,SNR=475
PAX S **S** **10 39 30.7 -0.6**
baz=110
RIDG Independent Ri 82.39 335 IAmb IAmb 10 29 36.8
comp=Z,1μm,0.9s
RIDG Independent Ri 82.39 335 P **P** **10 29 28.0 +0.2**
baz=111,SNR=320
RIDG S **S** **10 39 31.7 +0.4**
baz=111
M24K Tolsona, Glenn 82.40 334 IAmb IAmb 10 29 37.1
comp=Z,2μm,1.1s
M24K Tolsona, Glenn 82.40 334 P **P** **10 29 28.4 +0.5**
baz=110,SNR=109
M24K S **SKSac** **10 39 32.2 -2.4**
baz=110
GLI Glacier Island 82.41 332 P **P** **10 29 28.0 +0.1**
baz=108,SNR=28
GLI S **S** **10 39 30.0 -1.5**
baz=108
LINV Loch Inver, As 82.42 31⇑ *e*P **P** **10 29 27.6 -0.3**
RAR Rarotonga 82.44 249 P **P** **10 29 29.6 +0.7**
RAR IAmb IAmb 10 29 33.3
comp=Z,3μm,1.8s
RAR Rarotonga 82.44 249 P **P** **10 29 30.0 +1.1**
comp=Z,523nm,1.4s,baz=121,slow=5.3,SNR=16
RAR S **S** **10 39 27.3 -6.0**
comp=Z,9.7nm,0.6s,baz=62,slow=22,SNR=1.7
comp=Z,523nm,1.4s
RAR Rarotonga 82.44 249 P **P** **10 29 30.0 +1.1**
comp=Z,462nm,1.8s
RAR Rarotonga 82.44 249 P **P** **10 29 30.0 +1.1**
HON Honolulu 82.44 292 P **P** **10 29 29.6 +0.8**
HON IAmb IAmb 10 29 36.8
comp=Z,2μm,1.3s
HON Honolulu 82.44 292 P **P** **10 29 29.6 +0.8**
HON pmax pmax
comp=Z,2μm,1.3s
STRD Stroud 82.45 37⇑ *e*P **P** **10 29 28.1 -0.2**
STRD IAmb IAmb 10 29 33.7
comp=Z,2μm,0.8s
KIP Kipapa 82.46 292 P **P** **10 29 29.4 +0.4**
KIP IAmb IAmb 10 29 36.8
comp=Z,2μm,1.2s
KIP Kipapa 82.46 292 P **P** **10 29 30.0 +1.0**
comp=Z,421nm,1.6s
KIP Kipapa 82.46 292 *i* P **P** **10 29 28.6 -0.4**
KIP pmax pmax
comp=Z,579nm,1.3s
D28M Stokes Point 82.46 342 P **P** **10 29 28.2 +0.2**
baz=117
D28M S **S** **10 39 31.1 -0.5**
baz=117
EARB Arib 82.50 53 P **P** **10 29 29.3 +0.4**
EZEK Zmalet El Emir 82.53 55 P **P** **10 29 30.5 +1.3**
INVG Invergeldie, C 82.54 32⇑ *e*P **P** **10 29 28.4 -0.2**
INVG IAmb IAmb 10 29 31.0
comp=Z,676nm,1.2s
EHRZ Djelida 82.56 53 P **P** **10 29 29.5 +0.2**
KESW Keswick, Cumbr 82.58 34⇑ *e*P **P** **10 29 29.1 +0.2**
KESW IAmb IAmb 10 29 31.6
comp=Z,2μm,1.0s
SWN1 Swindon 82.61 38⇑ *e*P **P** **10 29 29.1 0.0**
SWN1 IAmb IAmb 10 29 31.8
comp=Z,2μm,1.0s
EDDR Deurdeur 82.62 53 P **P** **10 29 30.0 +0.4**
ESK Eskdalemuir 82.71 34 P **P** **10 29 29.3 -0.2**
ESK IAmb IAmb 10 29 32.3
comp=Z,2μm,1.1s
ESK Eskdalemuir 82.71 34⇑ *e*P **P** **10 29 29.3 -0.2**
ESK Eskdalemuir 82.71 34 P **P** **10 29 29.3 -0.2**
STNC Stoke 82.73 36⇑ *e*P **P** **10 29 30.0 +0.3**
STNC IAmb IAmb 10 29 32.8
comp=Z,2μm,0.9s
EKA Eskdalemuir Ar 82.73 34 P **P** **10 29 29.5 -0.2**
comp=Z,465nm,0.8s,baz=254,slow=3.4,SNR=184
EKA pP **pP** **10 30 09.1 +1.9**
comp=Z,293nm,1.1s,baz=261,slow=5.6,SNR=1.5
EKA PP **PP** **10 32 40.7 -1.0**
comp=Z,370nm,1.2s,baz=249,slow=6.9,SNR=7.6
EKA PKKPbc **PKKPbc** **10 47 54.0 -1.7**
comp=Z,7.6nm,0.7s,baz=45,slow=1.3,SNR=11
EKA PKPPKP **P'P'df** **10 55 52.8 -5.3**
comp=Z,7.6nm,1.1s,baz=35,slow=3.1,SNR=5.1
comp=Z,465nm,0.8s
ABKD Sidi Amar 82.77 53 P **P** **10 29 30.6 +0.3**
K24K Donnelly Dome 82.81 335 P **P** **10 29 30.3 +0.3**
baz=110,SNR=118
K24K S **SKSac** **10 39 36.1 -1.1**
baz=110
K24K S **SKSac** **10 39 36.1 -1.1**
baz=110
SCM Sheep Creek Mo 82.82 333 IAmb IAmb 10 29 40.9
comp=Z,788nm,0.8s
SCM Sheep Creek Mo 82.82 333 P **P** **10 29 30.2 +0.1**
baz=108,SNR=121
SCM S **S** **10 39 35.0 -0.8**
baz=108
AFDJ Sidi Ladjel 82.83 54 P **P** **10 29 31.7 +1.0**
EDI Edinburgh 82.87 33⇑ *e*P **P** **10 29 30.1 -0.2**
EDI IAmb IAmb 10 29 32.8
comp=Z,2μm,1.4s
CORG Organya 82.89 47 *e*P **P** **10 29 32.1 +1.2**
CORG *e*pP **pP** **10 30 04.9 -3.6**
CORG *e*sP sP 10 30 13.8 -11
CORG *e*PP **PP** **10 32 40.5 -2.9**
CORG *e*S **SKSac** **10 39 39.4 +0.7**
CORG *e*ScS **ScS** **10 39 54.8 +4.0**
CORG *e*SS SS 10 45 25.0 +21
SNAA Sanae 82.90 162 P **P** **10 29 31.6 +1.3**
SNAA Sanae 82.90 162 ⇓P **P** **10 29 31.6 +1.3**
comp=Z,784μm,2.2s
SNAA ⇑PP **PP** **10 32 42.1 -0.5**
comp=Z,325μm,3.8s
SNAA ⇓S **SKSac** **10 39 38.2 +0.6**
comp=Z,1μm,1.3s
SNAA Sanae 82.90 162 P **P** **10 29 31.3 +1.0**
comp=Z,1μm,1.0s,baz=264,slow=7.6,SNR=256
SNAA S **S** **10 39 35.0 -1.2**
comp=Z,13nm,1.0s,baz=222,slow=20,SNR=2.1
SNAA PKKPbc **PKKPbc** **10 47 55.2 -0.7**
comp=Z,8.3nm,0.8s,baz=49,slow=8.4,SNR=3.2
SNAA PKPPKP **P'P'df** **10 55 56.7 -0.6**
comp=Z,17nm,1.2s,baz=176,slow=0.5,SNR=3.3
comp=Z,1μm,1.0s
SNAA Sanae 82.90 162 *i* P **P** **10 29 30.8 +0.5**
SNAA pmax pmax
comp=Z,7μm,1.7s
CEST Esterri de Car 82.91 47 IAmb IAmb 10 29 38.7
comp=Z,2μm,1.0s
CEST Esterri de Car 82.91 47 *e*P **P** **10 29 31.4 +0.3**
CEST *e*pP **pP** **10 30 09.4 +0.8**
CEST *e*sP **sP** **10 30 18.9 -5.6**
CEST *e*PP **PP** **10 32 42.4 -1.3**
CEST *e*S **SKSac** **10 39 39.7 +0.7**
CEST *e*ScS **ScS** **10 39 51.8 +0.6**
CEST *e*SS SS 10 45 22.6 +18
WOL Wolverton 82.92 38⇑ *e*P **P** **10 29 30.3 -0.4**
J25K Salcha River, 82.92 336 P **P** **10 29 30.8 +0.3**
baz=111
J25K S **SKSac** **10 39 37.1 -0.9**
baz=111
J25K S **SKSac** **10 39 37.1 -0.9**
baz=111
PWL Port Wells 82.98 332 IAmb IAmb 10 29 37.1
comp=Z,2μm,1.6s
PWL Port Wells 82.98 332 P **P** **10 29 31.0 +0.1**
baz=107,SNR=33
PWL S **S** **10 39 35.4 -1.9**
baz=107
M23K Glacier View 82.99 333 P **P** **10 29 30.9 -0.1**
baz=108,SNR=109
M23K S **SKSac** **10 39 37.1 -1.3**
baz=108
LBWR Ladybower, Pea 83.08 36⇑ *e*P **P** **10 29 31.8 +0.3**
LBWR IAmb IAmb 10 29 37.5
comp=Z,1μm,0.8s
ADJF Tadmit 83.10 55 P **P** **10 29 33.7 +1.5**
D27M Malcolm River 83.14 341 IAmb IAmb 10 29 40.1
comp=Z,2μm,1.4s
D27M Malcolm River 83.14 341 P **P** **10 29 31.7 +0.1**
baz=115,SNR=419
D27M S **S** **10 39 37.5 -1.2**
baz=115
G26K Porcupine Rive 83.17 339 P **P** **10 29 31.7 0.0**
baz=112
G26K S **SKSac** **10 39 39.3 -0.1**
baz=112
CGAR Garraf 83.18 48 *e*P **P** **10 29 32.2 -0.2**
CGAR *e*sP **pP** **10 30 14.6 +4.7**
CGAR *e*PP **PP** **10 32 43.0 -2.8**
CGAR *e*S **S** **10 39 37.6 -2.5**
CGAR *e*ScS **SKKSac** **10 39 48.2 +3.1**
CGAR *e*SS SS 10 45 23.1 +15
CWF Charnwood Fore 83.18 36⇑ *e*P **P** **10 29 31.9 -0.1**
CWF IAmb IAmb 10 29 33.9
comp=Z,2μm,1.5s
ESY Stoneypath 83.18 33⇑ *e*P **P** **10 29 31.9 0.0**
KNK Knik Glacier 83.21 333 IAmb IAmb 10 29 39.3
comp=Z,2μm,1.4s
KNK Knik Glacier 83.21 333 P **P** **10 29 31.8 -0.2**
baz=107,SNR=79
KNK S **SKSac** **10 39 38.8 -1.1**
baz=107
EMHD Djebel Mahouad 83.24 53 P **P** **10 29 33.5 +0.6**
MCD Coleburn Disti 83.26 31⇑ *e*P **P** **10 29 32.2 -0.2**
SML Sawmill 83.27 333 IAmb IAmb 10 29 39.5
comp=Z,1μm,1.0s
SML Sawmill 83.27 333 P **P** **10 29 32.5 +0.1**
baz=108,SNR=106
SML S **SKSac** **10 39 39.3 -1.0**
baz=108
HPK Haverah Park 83.27 35⇑ *e*P **P** **10 29 32.5 0.0**
EDMD Edmundbyers 83.28 34⇑ *e*P **P** **10 29 32.3 -0.2**
SEW Seward 83.29 331 P **P** **10 29 32.3 -0.1**
baz=106,SNR=59
SEW S **S** **10 39 39.1 -1.3**
baz=106
PRP Porcupine Dome 83.30 337 P **P** **10 29 33.0 +0.4**
PRP Porcupine Dome 83.30 337 P **P** **10 29 32.5 -0.1**
baz=110,SNR=139
PRP S **SKSac** **10 39 40.1 -0.5**
baz=110
ABA Alger-Bouzarea 83.39 53 P **P** **10 29 33.1 -0.4**
CORI Orista 83.39 47 *e*P **P** **10 29 33.6 +0.2**
CORI *e*PP **pP** **10 30 07.0 -3.9**
CORI *e*sP sP 10 30 17.3 -9.5
CORI *e*PP **PP** **10 32 50.4 +3.0**
CORI *e*S **S** **10 39 46.9 +4.8**
CORI *e*ScS **ScS** **10 39 55.9 +1.1**
CORI *e*SS SS 10 45 32.7 +22
HDA Harding Lake 83.49 336 IAmb IAmb 10 29 40.1
comp=Z,1μm,1.1s
HDA Harding Lake 83.49 336 P **P** **10 29 33.2 -0.2**
baz=109,SNR=309
HDA S **S** **10 39 41.6 -0.8**
baz=109
DRUM Mains of Drumt 83.50 32⇑ *e*P **P** **10 29 33.5 -0.1**
DRUM IAmb IAmb 10 29 36.1
comp=Z,2μm,1.1s
GHO Glory Hole Cre 83.53 333 IAmb IAmb 10 29 40.8
comp=Z,3μm,1.7s
O22K Cooper Landing 83.53 332 P **P** **10 29 33.6 0.0**
baz=106,SNR=9.1
O22K S **S** **10 39 41.7 -1.0**
baz=106
FYU Fort Yukon 83.56 338 IAmb IAmb 10 29 43.5
comp=Z,5μm,1.8s
PMR Palmer 83.57 333 P **P** **10 29 34.1 +0.2**
baz=107,SNR=83
PMR S **S** **10 39 42.0 -1.1**
baz=107
PMR Palmer 83.57 333 P **P** **10 29 34.0 +0.2**
comp=Z,557nm,1.5s
F26K Sheenjek River 83.58 339 P **P** **10 29 34.5 +0.6**
baz=112
F26K S **S** **10 39 43.9 +0.7**
baz=112
ILAR Eielson Array 83.59 336 P **P** **10 29 34.2 +0.3**
ILAR Eielson Array 83.59 336 P **P** **10 29 33.9 0.0**
comp=Z,166nm,0.8s,baz=146,slow=4.0,SNR=122
ILAR pP **pP** **10 30 13.3 +1.8**
comp=Z,122nm,0.9s,baz=110,slow=5.3,SNR=2.0
ILAR PP **PP** **10 32 48.8 +0.3**
comp=Z,85nm,0.9s,baz=105,slow=5.7,SNR=6.3
ILAR S **SKSac** **10 39 38.9 -3.4**
comp=Z,4.4nm,1.0s,baz=136,slow=11,SNR=5.6
ILAR PKKPbc **PKKPbc** **10 47 51.8 -2.4**
comp=Z,7.8nm,0.8s,baz=284,slow=3.4,SNR=15
ILAR PKPPKP 10 55 45.8
comp=Z,2.5nm,1.0s,baz=305,slow=3.2,SNR=4.5
comp=Z,166nm,0.8s
ADJB Djebel Djouab 83.62 53 P **P** **10 29 36.0 +1.1**

DBG	**Daneborg**	**83.63**	**13**	*i* P	**P**	**10 29 33.0**	**-0.9**
DBG				IAmb	IAmb	10 29 45.0	
	comp=Z,666nm,1.1s						
CFON	**Fontmartina**	**83.64**	**48**	*e*P	**P**	**10 29 35.0**	**+0.2**
CFON				*e*pP	**pP**	**10 30 12.8**	**+0.4**
CFON				*e*sP	**sP**	**10 30 22.9**	**-5.3**
CFON				*e*PP	**PP**	**10 32 46.2**	**-3.4**
CFON				*e*S	**S**	**10 39 44.6**	**-0.3**
CFON				*e*ScS	**ScS**	**10 39 58.5**	**+1.4**
CFON				*e*SS	SS	10 45 32.5	+18
BMAR	**Burnt Mountain**	**83.64**	**339**	P	**P**	**10 29 34.9**	**+0.8**
AKED	**El Kharrouba**	**83.67**	**53**	P	**P**	**10 29 34.5**	**-0.4**
H25L	**Birch Creek**	**83.68**	**338**	P	**P**	**10 29 35.1**	**+0.9**
	baz=110						
H25L				S	**S**	**10 39 43.7**	**-0.4**
	baz=110						
RC01	**Rabbit Creek A**	**83.70**	**332**	P	**P**	**10 29 34.7**	**+0.2**
	baz=106,SNR=133						
RC01				S	**SKSac**	**10 39 42.7**	**-0.4**
	baz=106						
HMNX	**Herstmonceux**	**83.79**	**38⇑**	*e*P	**P**	**10 29 35.5**	**+0.4**
BRSE	**Bradley Lake S**	**83.82**	**331**	P	**P**	**10 29 35.6**	**+0.4**
	baz=105,SNR=55						
BRSE				S	**S**	**10 39 44.7**	**-1.0**
	baz=105						
GDLE	**Glaisdale, N Y**	**83.84**	**35⇑**	*e*P	**P**	**10 29 35.6**	**+0.3**
GDLE				IAmb	IAmb	10 29 38.3	
	comp=Z,2μm,0.9s						
BRLK	**Bradley Lake**	**83.89**	**331**	P	**P**	**10 29 35.8**	**+0.2**
BRLK				IAmb	IAmb	10 29 42.5	
	comp=Z,1μm,1.1s						
LMK	**Market Rasen**	**83.91**	**36⇑**	*e*P	**P**	**10 29 36.0**	**+0.3**
LMK				IAmb	IAmb	10 29 43.9	
	comp=Z,4μm,1.5s						
POKR	**Poker Plat Res**	**83.92**	**336**	P	**P**	**10 29 35.9**	**+0.3**
POKR				IAmb	IAmb	10 29 43.0	
	comp=Z,3μm,1.9s						
POKR	**Poker Plat Res**	**83.92**	**336**	P	**P**	**10 29 35.9**	**+0.3**
	baz=109,SNR=161						
POKR				S	**S**	**10 39 45.6**	**-1.0**
	baz=109						
POKR				S	**S**	**10 39 45.6**	**-1.0**
	baz=109						
FIS	**Fire Island**	**83.94**	**332**	P	**P**	**10 29 37.2**	**+1.5**
FIS				IAmb	IAmb	10 29 43.7	
	comp=Z,2μm,0.7s						
G25K	**Bearman Lake**	**83.96**	**338**	P	**P**	**10 29 36.6**	**+1.0**
	baz=110						
G25K				S	**S**	**10 39 48.9**	**+2.1**
	baz=110						
AKET	**Djebel Ketaf**	**83.97**	**54**	P	**P**	**10 29 37.8**	**+1.2**
RND	**Reindeer**	**83.98**	**335**	IAmb	IAmb	10 29 43.5	
	comp=Z,1μm,0.9s						
TAM	**Tamanrasset**	**83.99**	**67**	IAmb	IAmb	10 29 44.8	
	comp=Z,2μm,1.0s						
COLA	**College**	**84.01**	**336**	P	**P**	**10 29 36.5**	**+0.5**
COLA	**College**	**84.01**	**336**	P	**P**	**10 29 36.0**	**+0.1**
	baz=108						
COLA				S	**S**	**10 39 46.1**	**-1.3**
	baz=108						
COLA	**College**	**84.01**	**336**	P	**P**	**10 29 36.5**	**+0.5**
	comp=Z,352nm,1.1s						
COLA	**College**	**84.01**	**336**	⇓P	**P**	**10 29 36.6**	**+0.6**
M22K	**Willow**	**84.07**	**333**	P	**P**	**10 29 36.4**	**+0.1**
	baz=106						
M22K				S	**S**	**10 39 47.4**	**-0.6**
	baz=106						
F25K	**Christian Rive**	**84.08**	**339**	P	**P**	**10 29 37.3**	**+0.8**
	baz=111						
F25K				S	**S**	**10 39 49.7**	**+1.5**
	baz=111						
KEKH	**Kekaha**	**84.08**	**292**	IAmb	IAmb	10 29 45.1	
	comp=Z,2μm,1.4s						
MCK	**McKinley**	**84.11**	**335**	P	**P**	**10 29 36.8**	**+0.2**
	baz=107,SNR=180						
MCK				S	**S**	**10 39 48.0**	**-0.5**
	baz=107						
C27K	**Jago River**	**84.18**	**341**	P	**P**	**10 29 37.3**	**+0.5**
	baz=113						
C27K				S	**S**	**10 39 48.5**	**-0.5**
	baz=113						
ATKJ	**Tikjda**	**84.21**	**53**	P	**P**	**10 29 38.5**	**+0.6**
HOM	**Homer**	**84.24**	**331**	P	**P**	**10 29 36.6**	**-0.6**
	baz=104						
HOM				S	**S**	**10 39 49.2**	**-0.7**
	baz=104						
E25K	**Arctic Village**	**84.24**	**339**	IAmb	IAmb	10 29 46.4	
	comp=Z,1μm,1.4s						
E25K	**Arctic Village**	**84.24**	**339**	P	**P**	**10 29 37.7**	**+0.5**
	baz=111,SNR=269						
E25K				S	**S**	**10 39 50.7**	**+0.9**
	baz=111						
KDAK	**Kodiak Island**	**84.26**	**329**	P	**P**	**10 29 37.6**	**+0.1**
KDAK	**Kodiak Island**	**84.26**	**329**	P	**P**	**10 29 38.1**	**+0.7**
	comp=Z,43nm,0.6s,baz=292,slow=3.1,SNR=11						
KDAK				S	**SKSac**	**10 39 39.8**	**-6.9**
	comp=Z,8.4nm,0.9s,baz=283,slow=14,SNR=1.4						
	comp=Z,43nm,0.6s						
KDAK	**Kodiak Island**	**84.26**	**329**	P	**P**	**10 29 36.5**	**-0.9**
	baz=103						
KDAK				S	**S**	**10 39 49.3**	**-0.9**
	baz=103						
KDAK	**Kodiak Island**	**84.26**	**329**	*i* P	**P**	**10 29 37.5**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,365nm,1.1s						
AFRS	**Ain Fares**	**84.27**	**55**	P	**P**	**10 29 38.5**	**+0.4**
CAPN	**Captain Cook N**	**84.28**	**332**	IAmb	IAmb	10 29 45.9	
	comp=Z,2μm,1.1s						
CAPN	**Captain Cook N**	**84.28**	**332**	P	**P**	**10 29 36.8**	**-0.6**
	baz=105,SNR=48						
CAPN				S	**S**	**10 39 51.2**	**+1.0**
	baz=105						
CUT	**Chulitna**	**84.31**	**333**	IAmb	IAmb	10 29 44.7	
	comp=Z,2μm,1.0s						
CUT	**Chulitna**	**84.31**	**333**	P	**P**	**10 29 37.9**	**+0.3**
	baz=106,SNR=120						
CUT				S	**S**	**10 39 48.9**	**-1.6**
	baz=106						
H24K	**Noodor Dome**	**84.33**	**337**	IAmb	IAmb	10 29 46.5	
	comp=Z,2μm,1.6s						
H24K	**Noodor Dome**	**84.33**	**337**	P	**P**	**10 29 38.3**	**+0.6**
	baz=108						
H24K				S	**S**	**10 39 50.8**	**+0.1**
	baz=108						
H24K				S	**S**	**10 39 50.8**	**+0.1**
	baz=108						
WACR	**West Acre**	**84.33**	**37⇑**	*e*P	**P**	**10 29 37.7**	**-0.1**
WACR				IAmb	IAmb	10 29 40.8	
	comp=Z,3μm,0.9s						
ELSH	**Elham, Standar**	**84.34**	**38⇑**	*e*P	**P**	**10 29 38.2**	**+0.3**
ELSH				IAmb	IAmb	10 29 43.8	
	comp=Z,2μm,1.0s						
Q20K	**Shuyak Island**	**84.36**	**329**	P	**P**	**10 29 38.2**	**+0.3**
	baz=104						
Q20K				S	**S**	**10 39 51.0**	**-0.1**
	baz=104						
NEA2	**Nenana**	**84.42**	**336**	P	**P**	**10 29 38.9**	**+0.7**
NEA2				IAmb	IAmb	10 29 44.4	
	comp=Z,2μm,1.5s						
NEA2	**Nenana**	**84.42**	**336**	P	**P**	**10 29 37.9**	**-0.2**
	baz=107,SNR=490						
NEA2				S	**S**	**10 39 50.7**	**-0.9**
	baz=107						
ELMS	**Elmsett, Ipswi**	**84.42**	**37⇑**	*e*P	**P**	**10 29 38.3**	**-0.1**
ELMS				IAmb	IAmb	10 29 43.7	
	comp=Z,2μm,1.0s						
G24K	**Hadweenzic Riv**	**84.45**	**338**	P	**P**	**10 29 39.1**	**+0.9**
G24K				IAmb	IAmb	10 29 47.5	
	comp=Z,1μm,1.1s						
G24K	**Hadweenzic Riv**	**84.45**	**338**	P	**P**	**10 29 38.8**	**+0.5**
	baz=109						
G24K				S	**S**	**10 39 53.6**	**+1.7**
	baz=109						
BWN	**Browne**	**84.46**	**335**	IAmb	IAmb	10 29 44.5	
	comp=Z,2μm,1.1s						
OHAK	**Old Harbor**	**84.50**	**328**	P	**P**	**10 29 39.3**	**+0.7**
OHAK	**Old Harbor**	**84.50**	**328**	P	**P**	**10 29 38.6**	**0.0**
	baz=103,SNR=26						
OHAK				S	**S**	**10 39 51.5**	**-1.1**
	baz=103						
OHAK	**Old Harbor**	**84.50**	**328**	P	**P**	**10 29 40.3**	**+1.7**
	comp=Z,385nm,2.4s						
CLF	**Chambon-Foret**	**84.51**	**41**	P	**P**	**10 29 39.6**	**+0.8**
TRF	**Thorofare Moun**	**84.61**	**334**	P	**P**	**10 29 39.3**	**0.0**
	baz=106,SNR=140						
TRF				S	**S**	**10 39 52.4**	**-1.5**
	baz=106						
TROLL	**Troll, Antarti**	**84.61**	**162**	P	**P**	**10 29 40.6**	**+1.5**
TROLL	**Troll, Antarti**	**84.61**	**162**	⇓P	**P**	**10 29 40.6**	**+1.5**
	comp=Z,2064μm,2.7s						
TROLL				⇑PP	**PP**	**10 32 57.6**	**+0.8**
	comp=Z,1151μm,5.8s						
TROLL				⇓S	**S**	**10 39 54.0**	**+0.4**
	comp=Z,27μm,2.3s						
CTCHA	**Tamokra**	**84.63**	**53**	P	**P**	**10 29 40.7**	**+0.9**
C26K	**Camden Bay**	**84.67**	**341**	P	**P**	**10 29 40.1**	**+0.8**
	baz=112						
C26K				S	**S**	**10 39 54.3**	**+0.5**
	baz=112						
I23K	**Minto, Yukon-K**	**84.71**	**336**	P	**P**	**10 29 40.1**	**+0.7**
I23K				IAmb	IAmb	10 29 48.3	
	comp=Z,4μm,1.9s						
I23K	**Minto, Yukon-K**	**84.71**	**336**	P	**P**	**10 29 39.7**	**+0.2**
	baz=107,SNR=227						
I23K				S	**S**	**10 39 53.3**	**-1.0**
	baz=107						
I23K				S	**S**	**10 39 53.3**	**-1.0**
	baz=107						
MAHO	**Mahon**	**84.75**	**50**	P	**P**	**10 29 40.3**	**0.0**
MAHO				IAmb	IAmb	10 29 46.5	
	comp=Z,2μm,1.0s						
MAHO	**Mahon**	**84.75**	**50**	P	**P**	**10 29 40.4**	**0.0**
SKT	**Skwentna**	**84.77**	**333**	P	**P**	**10 29 40.8**	**+0.8**
SKT				IAmb	IAmb	10 29 47.1	
	comp=Z,1μm,0.9s						
SKT	**Skwentna**	**84.77**	**333**	P	**P**	**10 29 40.3**	**+0.3**
	baz=105,SNR=373						
SKT				S	**S**	**10 39 54.2**	**-0.9**
	baz=105						
SPU	**Mount Spurr**	**84.81**	**332**	IAmb	IAmb	10 29 47.2	
	comp=Z,2μm,1.5s						
O20K	**Slope Mountain**	**84.82**	**331**	P	**P**	**10 29 39.7**	**-0.6**
	baz=104,SNR=11						
O20K				S	**S**	**10 39 54.5**	**-1.3**
	baz=104						
O20K				S	**S**	**10 39 54.5**	**-1.3**
	baz=104						
SII	**Sitkinak Islan**	**84.84**	**327**	P	**P**	**10 29 40.2**	**-0.2**
	baz=102,SNR=7.8						
SII				S	**S**	**10 39 55.8**	**-0.2**
	baz=102						
SII	**Sitkinak Islan**	**84.84**	**327**	P	**P**	**10 29 42.3**	**+1.9**
	comp=Z,559nm,2.2s						
F24K	**Squaw Lake**	**84.87**	**339**	P	**P**	**10 29 41.2**	**+0.9**
	baz=108						
F24K				S	**S**	**10 39 56.8**	**+0.9**
	baz=108						
SPCR	**Spurr Chakacha**	**84.89**	**332**	P	**P**	**10 29 41.0**	**+0.4**
	baz=104,SNR=106						
SPCR				S	**S**	**10 39 54.8**	**-1.6**
	baz=104						
LRW	**Lerwick**	**84.94**	**29⇑**	*e*P	**P**	**10 29 40.0**	**-0.7**
D25K	**Kavik River**	**84.94**	**341**	P	**P**	**10 29 41.0**	**+0.3**
	baz=110						
D25K				S	**S**	**10 39 55.7**	**-1.0**
	baz=110						
CAZD	**Ain Tagrout**	**85.01**	**54**	P	**P**	**10 29 42.8**	**+1.0**
P19K	**Oil Pt**	**85.02**	**330**	P	**P**	**10 29 41.5**	**+0.3**
	baz=103,SNR=8.0						
P19K				S	**S**	**10 39 56.7**	**-1.0**
	baz=103						
Q19K	**Cape Douglas,**	**85.06**	**330**	P	**P**	**10 29 41.8**	**+0.4**
	baz=103,SNR=15						
Q19K				S	**S**	**10 39 57.5**	**-0.6**
	baz=103						
Q19K				S	**S**	**10 39 57.5**	**-0.6**
	baz=103						
BPAW	**Bear Paw Mtn.**	**85.09**	**335**	IAmb	IAmb	10 29 48.4	
	comp=Z,747nm,0.8s						
BPAW	**Bear Paw Mtn.**	**85.09**	**335**	P	**P**	**10 29 41.5**	**0.0**
	baz=105,SNR=557						
BPAW				S	**S**	**10 39 56.7**	**-1.5**
	baz=105						
JMI	**Jan Mayen**	**85.16**	**18⇑**	*i* P	**P**	**10 29 42.6**	**+0.9**
JMI				IVmB_BB		10 29 50.7	
	comp=Z,32μm,4.2s						
JMI				*e*		10 30 23.4	
JMI				*e*PP	**PP**	**10 33 01.6**	**+0.5**
JMI				*e*SKSac	**S**	**10 39 55.5**	**-3.1**
JMI				*e*SS	**SS**	**10 45 38.6**	**+2.8**
JMI				*i*		10 57 39.4	
JMI				IVMs_BB	IVMs_BB	10 59 05.3	
	comp=Z,91μm,51.1s						
R18K	**Karluk**	**85.19**	**328**	P	**P**	**10 29 42.1**	**+0.1**
	baz=102						
R18K				S	**S**	**10 39 58.2**	**-1.2**
	baz=102						
R18K				S	**S**	**10 39 58.2**	**-1.2**
	baz=102						
SET	**Setif**	**85.20**	**54**	P	**P**	**10 29 44.0**	**+1.2**
JMIC	**Jan Mayen**	**85.25**	**18⇑**	*i* P	**P**	**10 29 43.5**	**+1.4**
JMIC				IVmB_BB		10 29 50.8	
	comp=Z,30μm,4.7s						
JMIC				*e*		10 30 23.4	
JMIC				*e*PP	**PP**	**10 33 02.4**	**+0.5**
JMIC				*e*SKSac	**S**	**10 39 56.2**	**-3.3**
JMIC				*e*SS	**SS**	**10 45 41.8**	**+4.7**
JMIC				*i*		10 57 47.5	
JMIC				IVMs_BB	IVMs_BB	10 59 11.9	
	comp=Z,93μm,43.5s						
JMIC	**Jan Mayen**	**85.25**	**18**	P	**P**	**10 29 42.8**	**+0.7**
	comp=Z,291nm,0.9s,baz=150,slow=2.1,SNR=20						
JMIC				S	**S**	**10 39 56.3**	**-3.3**
	comp=Z,53nm,0.4s,baz=151,slow=21,SNR=1.8						
	comp=Z,291nm,0.9s						
E24K	**Your Creek**	**85.26**	**339**	P	**P**	**10 29 43.2**	**+0.9**
	baz=108						
E24K				S	**S**	**10 39 60.0**	**+0.1**
	baz=108						
CKHR	**Kef el Ahmar**	**85.28**	**54**	P	**P**	**10 29 47.2**	**+4.0**
DAG	**Danmarks Havn**	**85.28**	**11**	P	**P**	**10 29 39.7**	**-2.4**
DAG	**Danmarks Havn**	**85.28**	**11**	*i* P	**P**	**10 29 41.0**	**-1.2**
DAG				IAmb	IAmb	10 29 45.2	
	comp=Z,640nm,0.8s						
JNW	**Jan Mayen West**	**85.29**	**18⇑**	*i* P	**P**	**10 29 43.5**	**+1.2**
JNW				*e*		10 30 23.2	
JNW				IVmB_BB		10 30 25.6	
	comp=Z,101μm,6.1s						
JNW				*e*PP	**PP**	**10 33 02.5**	**+0.4**
JNW				*e*SKSac	**SKSac**	**10 39 55.5**	**+2.7**
JNW				*e*SS	**SS**	**10 45 42.0**	**+4.3**
JNW				*i*		10 57 48.7	
JNW				IVMs_BB	IVMs_BB	10 59 13.3	
	comp=Z,92μm,43.2s						
PPLA	**Purkeypile**	**85.30**	**334**	IAmb	IAmb	10 29 49.8	
	comp=Z,1μm,0.8s						
PPLA	**Purkeypile**	**85.30**	**334**	P	**P**	**10 29 42.5**	**-0.2**
	baz=104,SNR=192						
PPLA				S	**S**	**10 39 58.3**	**-2.2**
	baz=104						
JNE	**Jan Mayen East**	**85.32**	**18⇑**	*i* P	**P**	**10 29 43.7**	**+1.2**
JNE				IVmB_BB		10 29 51.2	
	comp=Z,36μm,4.4s						
JNE				*e*		10 30 23.3	
JNE				*e*PP	**PP**	**10 33 02.9**	**+0.5**
JNE				*e*SKSac	**SKSac**	**10 39 56.4**	**+3.4**
JNE				*e*SS	**SS**	**10 45 41.8**	**+3.8**
JNE				*i*		10 57 51.3	
JNE				IVMs_BB	IVMs_BB	10 59 14.5	
	comp=Z,89μm,40.8s						
CKTS	**El Kantara**	**85.33**	**55**	P	**P**	**10 29 44.5**	**+1.1**
CAST	**Castle Rocks**	**85.38**	**334**	P	**P**	**10 29 43.0**	**0.0**
CAST	**Castle Rocks**	**85.38**	**334**	P	**P**	**10 29 42.4**	**-0.6**
	baz=104,SNR=356						
CAST				S	**S**	**10 39 57.6**	**-3.5**
	baz=104						
G23K	**Bananza Creek**	**85.42**	**338**	P	**P**	**10 29 44.0**	**+0.9**
G23K	**Bananza Creek**	**85.42**	**338**	P	**P**	**10 29 44.0**	**+0.9**
	baz=106						
G23K				S	**S**	**10 40 01.4**	**0.0**
	baz=106						
M20K	**Styx River**	**85.48**	**333**	P	**P**	**10 29 43.6**	**+0.1**
M20K	**Styx River**	**85.48**	**333**	P	**P**	**10 29 43.8**	**+0.2**
	baz=103						
M20K				S	**S**	**10 40 00.5**	**-1.8**
	baz=103						
M20K				S	**S**	**10 40 00.5**	**-1.8**
	baz=103						
CHIR	**Chirikof Islan**	**85.48**	**326**	IAmb	IAmb	10 30 32.9	
	comp=Z,2μm,1.9s						
CHIR	**Chirikof Islan**	**85.48**	**326**	P	**P**	**10 29 43.9**	**+0.4**
	baz=101,SNR=6.3						
CHIR				S	**S**	**10 40 01.4**	**-0.9**
	baz=101						
CHIR	**Chirikof Islan**	**85.48**	**326**	P	**P**	**10 29 45.6**	**+2.0**
	comp=Z,571nm,0.9s						
CHUM	**Lake Minchumin**	**85.60**	**335**	P	**P**	**10 29 44.2**	**+0.2**
	baz=104,SNR=245						
CHUM				S	**S**	**10 39 59.8**	**-3.3**
	baz=104						
CJSR	**Ain Djasser**	**85.61**	**54**	P	**P**	**10 29 45.0**	**+0.2**
DFRA	**Djebel Bou Aff**	**85.62**	**53**	P	**P**	**10 29 46.0**	**+1.1**
COLD	**Coldfoot**	**85.63**	**338**	P	**P**	**10 29 45.7**	**+1.6**
COLD				IAmb	IAmb	10 29 53.6	
	comp=Z,2μm,1.5s						
COLD	**Coldfoot**	**85.63**	**338**	P	**P**	**10 29 44.9**	**+0.8**
	baz=106,SNR=306						
COLD				S	**S**	**10 40 04.6**	**+1.2**
	baz=106						
E23K	**Chandalar**	**85.66**	**339**	P	**P**	**10 29 44.6**	**+0.2**
	baz=107						
E23K				S	**S**	**10 40 03.8**	**0.0**
	baz=107						
O19K	**Port Alsworth**	**85.67**	**331**	P	**P**	**10 29 44.4**	**0.0**
	baz=102,SNR=41						
O19K				S	**S**	**10 40 01.7**	**-2.2**
	baz=102						
O19K				S	**S**	**10 40 01.7**	**-2.2**
	baz=102						
D24K	**Happy Valley**	**85.71**	**340**	P	**P**	**10 29 44.6**	**+0.2**
	baz=108						
D24K				S	**S**	**10 40 01.6**	**-2.5**
	baz=108						
H22K	**Ishtalitna Cre**	**85.72**	**337**	P	**P**	**10 29 44.4**	**-0.2**
	baz=105						
H22K				S	**S**	**10 40 02.0**	**-2.4**
	baz=105						
H22K				S	**S**	**10 40 02.0**	**-2.4**
	baz=105						
I21K	**Tanana**	**85.78**	**336**	P	**P**	**10 29 44.5**	**-0.4**
	baz=104,SNR=168						
I21K				S	**S**	**10 40 00.7**	**-4.2**
	baz=104						
I21K				S	**S**	**10 40 00.7**	**-4.2**
	baz=104						
TOLK	**Toolik Lake Re**	**85.81**	**339**	P	**P**	**10 29 45.3**	**+0.2**
TOLK	**Toolik Lake Re**	**85.81**	**339**	P	**P**	**10 29 45.2**	**+0.2**
	baz=107,SNR=154						
TOLK				S	**S**	**10 40 02.4**	**-2.8**
	baz=107						
TOLK				S	**S**	**10 40 02.4**	**-2.8**
	baz=107						
C24K	**Franklin Bluff**	**85.84**	**341**	P	**P**	**10 29 45.7**	**+0.6**
C24K	**Franklin Bluff**	**85.84**	**341**	P	**P**	**10 29 45.6**	**+0.6**
	baz=108						
C24K				S	**S**	**10 40 05.0**	**-0.3**
	baz=108						
N19K	**Bonanza Creek**	**85.88**	**331**	P	**P**	**10 29 45.6**	**+0.1**
N19K	**Bonanza Creek**	**85.88**	**331**	P	**P**	**10 29 45.7**	**+0.2**
	baz=102						
N19K				S	**S**	**10 40 04.0**	**-2.3**
	baz=102						
N19K				S	**S**	**10 40 04.0**	**-2.3**
	baz=102						
CBHR	**Beni Haroun da**	**85.94**	**53**	P	**P**	**10 29 47.1**	**+0.8**
L20K	**Farewell, AK**	**85.96**	**333**	P	**P**	**10 29 45.8**	**0.0**
	baz=103						
L20K				S	**S**	**10 40 04.7**	**-2.2**
	baz=103						
L20K				S	**S**	**10 40 04.7**	**-2.2**
	baz=103						
P18K	**Big Mountain,**	**85.96**	**330**	P	**P**	**10 29 45.6**	**-0.3**
P18K	**Big Mountain,**	**85.96**	**330**	P	**P**	**10 29 46.2**	**+0.3**
	baz=101,SNR=59						
P18K				S	**S**	**10 40 04.7**	**-2.3**
	baz=101						
CTEI	**Djebel Teioual**	**86.00**	**54**	P	**P**	**10 29 46.8**	**0.0**
CBOS	**Bilal Ibnou Ra**	**86.00**	**53**	P	**P**	**10 29 46.8**	**+0.2**
O18K	**Koktuh Hills**	**86.04**	**330**	P	**P**	**10 29 46.8**	**+0.5**
	baz=101,SNR=91						
O18K				S	**S**	**10 40 05.7**	**-2.0**
	baz=101						
O18K				S	**S**	**10 40 05.7**	**-2.0**
	baz=101						
G22K	**Bettles**	**86.04**	**338**	P	**P**	**10 29 46.7**	**+0.6**
	baz=105						
G22K				S	**S**	**10 40 08.7**	**+1.4**
	baz=105						
CTGD	**Timgad**	**86.05**	**54**	P	**P**	**10 29 47.5**	**+0.5**
M19K	**Big River Lodg**	**86.07**	**332**	P	**P**	**10 29 47.1**	**+0.7**
	baz=102						
M19K				S	**S**	**10 40 06.5**	**-1.3**
	baz=102						
M19K				S	**S**	**10 40 06.5**	**-1.3**
	baz=102						
CASM	**Ain Smara**	**86.09**	**54**	P	**P**	**10 29 47.5**	**+0.4**
H21K	**Melozitna Rive**	**86.23**	**336**	P	**P**	**10 29 46.6**	**-0.5**
	baz=104,SNR=136						
H21K				S	**S**	**10 40 07.8**	**-1.5**
	baz=104						
H21K				S	**S**	**10 40 07.8**	**-1.5**
	baz=104						
K20K	**Telida**	**86.24**	**334**	P	**P**	**10 29 47.0**	**-0.2**
	baz=102						
K20K				S	**S**	**10 40 06.6**	**-2.8**
	baz=102						
K20K				S	**S**	**10 40 06.6**	**-2.8**
	baz=102						
CSGS	**Sigus**	**86.25**	**54**	P	**P**	**10 29 48.5**	**+0.5**
CKFL	**Kef-Lekhel**	**86.29**	**53**	P	**P**	**10 29 48.4**	**+0.2**
UCC	**Uccle**	**86.29**	**39**	*d*P	**P**	**10 29 47.6**	**0.0**
UCC				*d*pP	**pP**	**10 30 27.0**	**+1.5**
UCC				*d*PP	**PP**	**10 33 09.7**	**-1.0**
UCC				*d*SKS	**S**	**10 40 02.9**	**-7.5**
UCC				*d*S	**ScS**	**10 40 14.3**	**-4.1**
D23K	**Nanushuk River**	**86.30**	**340**	IAmb	IAmb	10 29 55.4	
	comp=Z,5μm,1.9s						
D23K	**Nanushuk River**	**86.30**	**340**	P	**P**	**10 29 47.9**	**+0.6**
	baz=106						
D23K				S	**S**	**10 40 09.1**	**-0.7**
	baz=106						
L19K	**White Mountain**	**86.34**	**333**	P	**P**	**10 29 47.8**	**+0.1**
	baz=102						
L19K				S	**S**	**10 40 07.5**	**-3.0**
	baz=102						
L19K				S	**S**	**10 40 07.5**	**-3.0**
	baz=102						
DOU	**Dourbes**	**86.34**	**40**	*d*P	**P**	**10 29 48.0**	**0.0**
	comp=Z,1μm,1.1s						
DOU				*d*pP	**pP**	**10 30 26.8**	**+1.1**
DOU				*d*PP	**PP**	**10 33 12.0**	**+0.8**
DOU				*d*PKP		10 39 59.8	
CAEH	**'Ain El Ouahch**	**86.43**	**53**	P	**P**	**10 29 48.8**	**+0.1**
J20K	**Nowinta River**	**86.45**	**335**	P	**P**	**10 29 48.3**	**+0.2**
	baz=102						
J20K				S	**S**	**10 40 09.5**	**-1.9**
	baz=102						
J20K				S	**S**	**10 40 09.5**	**-1.9**
	baz=102						
E22K	**Anaktuvuk Pass**	**86.47**	**339**	IAmb	IAmb	10 29 55.7	
	comp=Z,2μm,1.7s						
E22K	**Anaktuvuk Pass**	**86.47**	**339**	P	**P**	**10 29 48.3**	**0.0**
	baz=105,SNR=251						
E22K				S	**S**	**10 40 10.0**	**-1.7**
	baz=105						
BMRD	**Maredsous**	**86.48**	**39**	*d*P	**P**	**10 29 48.7**	**+0.1**
	comp=Z,561nm,1.3s						
BMRD				*d*PP	**PP**	**10 33 12.7**	**+0.5**
C23K	**Itkillik River**	**86.52**	**341**	P	**P**	**10 29 48.7**	**+0.4**
	baz=106						
C23K				S	**S**	**10 40 09.8**	**-2.0**
	baz=106						
N18K	**Kilae Creek**	**86.53**	**331**	IAmb	IAmb	10 29 55.5	
	comp=Z,2μm,1.4s						
N18K	**Kilae Creek**	**86.53**	**331**	P	**P**	**10 29 49.0**	**+0.4**
	baz=101,SNR=164						
N18K				S	**S**	**10 40 08.4**	**-4.0**
	baz=101					

baz=100
CBST Bordj Sabath 86.59 54 P **P 10 29 50.0 +0.4**
M18K Stony River 86.65 332 P **P 10 29 48.9 -0.3**
baz=101
M18K S **S 10 40 09.4 -4.1**
baz=101
BGES Gesves 86.69 39 *d*P **P 10 29 49.8 +0.2**
comp=Z,960nm,1.0s
BGES *dp*P **pP 10 30 29.1 +1.6**
BGES *d*S **S 10 40 14.8 +0.5**
BGES *d*ScS **ScS 10 40 23.7 +2.0**
I20K Naaghedeneel 86.72 335 P **P 10 29 49.4 0.0**
baz=102
I20K S **S 10 40 12.0 -2.0**
baz=102
RCHB Rochefort 86.75 40 *d*P **P 10 29 49.7 -0.2**
comp=Z,894nm,1.1s
RCHB *dp*P **pP 10 30 27.7 0.0**
RCHB *d*PP **PP 10 33 17.4 +2.9**
BCLA Clavier 86.83 39 *d*P **P 10 29 50.4 +0.1**
comp=Z,713nm,1.0s
BCLA *dp*P **pP 10 30 30.2 +2.0**
BCLA *d*PP **PP 10 33 12.2 -2.9**
BCLA *d*S **S 10 40 18.2 +2.5**
BCLA *d*ScS **ScS 10 40 24.1 +1.2**
R16K Pilot Point 86.85 328 P **P 10 29 50.4 +0.3**
baz=99
R16K S **S 10 40 14.4 -1.0**
baz=99
R16K S **S 10 40 14.4 -1.0**
baz=99
F21K Alatna River 86.87 338 P **P 10 29 50.7 +0.5**
baz=103
F21K S **S 10 40 14.8 -0.6**
baz=103
CMAH Djebel Manchou 86.87 53 P **P 10 29 50.7 -0.2**
ABSA Djebel Ababsia 86.88 54 P **P 10 29 50.8 -0.2**
O17K Koliganek Bris 86.96 330 P **P 10 29 50.6 -0.1**
baz=100,SNR=192
O17K S **S 10 40 13.8 -2.7**
baz=100
D22K Ayikyak River 86.97 339 P **P 10 29 51.2 +0.5**
baz=104
D22K S **S 10 40 13.8 -2.5**
baz=104
CRHA Rehia 86.97 54 P **P 10 29 51.3 -0.2**
TTA Tatalina 87.01 333 P **P 10 29 51.5 +0.5**
baz=101,SNR=112
TTA S **S 10 40 14.8 -2.3**
baz=101
TTA Tatalina 87.01 333 P **P 10 29 51.8 +0.8**
comp=Z,404nm,1.7s
BSTI Sart Tilman 87.02 39 *d*P **P 10 29 51.7 +0.5**
comp=Z,286nm,1.1s
H20K Anotleneega Mo 87.04 336 P **P 10 29 50.8 -0.2**
baz=102
H20K S **S 10 40 15.9 -1.2**
baz=102
J19K Poorman 87.05 334 P **P 10 29 50.3 -0.8**
baz=101,SNR=109
J19K S **S 10 40 14.8 -2.4**
baz=101
J19K S **S 10 40 14.8 -2.4**
baz=101
CHGN Chignik 87.11 327 P **P 10 29 51.7 +0.2**
CHGN Chignik 87.11 327 P **P 10 29 50.0 -1.5**
baz=98,SNR=64
CHGN S **S 10 40 16.9 -1.1**
baz=98
BEBN Eben Emael 87.12 39 *d*P **P 10 29 51.8 +0.2**
comp=Z,1μm,0.9s
BEBN *dp*P **pP 10 30 31.2 +1.6**
BEBN *d*PP **PP 10 33 15.8 -1.5**
BEBN *d*SKS **SKSac 10 40 03.9 -1.1**
BEBN *d*S **S 10 40 19.6 +1.3**
BNI Bardonecchia 87.13 45 P **P 10 29 52.4 +0.3**
BNI Bardonecchia 87.13 45 P **P 10 29 52.4 +0.3**
BNI pmax pmax
comp=Z,392nm,1.1s
N17K Nushagak Hills 87.13 331 P **P 10 29 52.2 +0.7**
baz=100,SNR=129
N17K S **S 10 40 14.3 -3.9**
baz=100
L18K Granite Mounta 87.19 333 P **P 10 29 52.4 +0.7**
baz=100
L18K S **S 10 40 14.5 -4.1**
baz=100
L18K S **S 10 40 14.5 -4.1**
baz=100
BHOU Houvegnez 87.27 40 *d*P **P 10 29 52.8 +0.4**
comp=Z,966nm,1.1s
BHOU *dp*P **pP 10 30 32.4 +2.0**
BHOU *d*PP **PP 10 33 19.7 +1.0**
BHOU *d*SKS S 10 40 10.2 -10
BHOU *d*S **ScS 10 40 22.4 -4.2**
BHOU *d*ScS SKKSac 10 40 27.4 +12
WLF Walferdange 87.29 40 P **P 10 29 51.9 -0.6**
WLF Walferdange 87.29 40 *d*P **P 10 29 53.0 +0.5**
comp=Z,2μm,0.9s
WLF *dp*P **pP 10 30 32.5 +2.1**
WLF Walferdange 87.29 40 *e*P **P 10 29 53.0 +0.5**
comp=Z,2μm,0.9s,baz=266,slow=4.8
P16K Nushagak River 87.29 329 P **P 10 29 52.9 +0.6**
baz=99,SNR=71
P16K S **S 10 40 18.1 -1.6**
baz=99
P16K S **S 10 40 18.1 -1.6**
baz=99
MEM Membach 87.31 39 *d*P **P 10 29 52.7 +0.1**
comp=Z,568nm,1.2s
MEM *dp*P **pP 10 30 33.1 +2.6**
MEM *d*PP **PP 10 33 20.1 +1.2**
E21K Killik River 87.33 339 P **P 10 29 52.4 0.0**
baz=103
E21K S **S 10 40 17.9 -1.9**
baz=103
BTNL Ternell 87.38 39 *d*P **P 10 29 53.0 +0.1**
comp=Z,767nm,1.0s
BTNL *d*PP **PP 10 33 18.1 -1.4**
M17K Holitna River 87.40 332 P **P 10 29 53.4 +0.6**
baz=99
M17K S **S 10 40 16.6 -4.0**
baz=99
J18K Innoko River 87.42 334 P **P 10 29 53.1 +0.2**
baz=100
J18K S **S 10 40 18.4 -2.5**
baz=100
O16K Kokwok River B 87.43 330 P **P 10 29 52.8 -0.2**
baz=99,SNR=59
O16K S **S 10 40 16.8 -4.2**
baz=99
NVL N'lazarevskaya 87.48 161 ⇓ *i*P **P 10 29 55.8 +2.8**
NVL *e*'PP **pP 10 30 34.5 +3.5**
NVL *e*S **SKSac 10 40 11.2 +4.8**
NVL pmax pmax
comp=Z,2μm,1.2s
CHNA Chernabura Isl 87.57 325 P **P 10 29 53.0 -0.7**
baz=97,SNR=15
CHNA S **S 10 40 21.5 -0.9**
baz=97
CHNA Chernabura Isl 87.57 325 P **P 10 29 54.6 +0.9**
CBOGS Bougous 87.67 53 P **P 10 29 55.0 +0.3**
H19K Roundabout Mou 87.68 336 IAmb IAmb 10 30 01.8
comp=Z,1μm,1.1s
H19K Roundabout Mou 87.68 336 P **P 10 29 54.7 +0.6**
baz=100
H19K S **S 10 40 22.0 -1.1**
baz=100
F20K Avaraart Lake 87.69 337 P **P 10 29 54.4 +0.4**
baz=101,SNR=191
F20K S **S 10 40 22.0 -1.1**
baz=101
SENIN Lac Senin/Sane 87.70 44 IAmb IAmb 10 30 10.0
comp=Z,1μm,0.8s
GCSA Galena City Sc 87.72 335 P **P 10 29 54.5 +0.3**
baz=100,SNR=188
GCSA S **S 10 40 22.2 -1.3**
baz=100
C21K Knifeblade Rid 87.77 340 P **P 10 29 55.3 +0.9**
baz=102
C21K S **S 10 40 22.0 -1.9**
baz=102
ECH Echery 87.79 42 IAmb IAmb 10 30 00.8
comp=Z,652nm,0.9s
QSPA South Pole Qui 87.79 180 P **P 10 29 56.2 +1.5**
comp=Z,4μm,1.0s,baz=197,slow=0.7,SNR=1168
QSPA S **SKSac 10 40 09.0 +0.3**
comp=Z,24nm,1.1s,baz=36,slow=23,SNR=9.9
QSPA PKKPbc **PKKPbc 10 47 44.1 -0.7**
comp=Z,26nm,1.1s,baz=258,slow=16,SNR=6.4
B21K Ikpikpuk River 87.81 340 P **P 10 29 55.0 +0.5**
baz=102
B21K S **S 10 40 22.3 -1.9**
baz=102
L17K Donlin 87.92 332 P **P 10 29 55.3 +0.1**
baz=99
L17K S **S 10 40 22.0 -3.6**
baz=99
KMY Karmoy 87.97 31 ⇑ *i*P **P 10 29 55.6 +0.1**
KMY IVmB_BB 10 30 03.0
comp=Z,26μm,2.7s
KMY *ep*P **pP 10 30 34.6 +1.1**
KMY *e*PP **PP 10 33 21.8 -2.1**
KMY *e*SKSac **SKSac 10 40 07.0 -2.7**
KMY *e*SS **SS 10 46 18.4 +1.1**
KMY IVMs_BB IVMs_BB 11 03 54.2
comp=Z,29μm,17.8s
SUE Sulen 87.99 29 ⇑ *i*P **P 10 29 56.2 +0.7**
SUE IVmB_BB 10 30 03.7
comp=Z,23μm,4.9s
SUE *ep*P **pP 10 30 34.5 +0.9**
SUE *e*PP **PP 10 33 25.1 +1.1**
SUE *e*SKSac **SKSac 10 40 09.6 -0.1**
SUE *e*SS **SS 10 46 17.8 +0.4**
SUE IVMs_BB IVMs_BB 11 00 58.7
comp=Z,36μm,23.3s
K17K Iditarod 88.01 333 IAmb IAmb 10 30 03.3
comp=Z,1μm,1.2s
K17K Iditarod 88.01 333 P **P 10 29 56.3 +0.7**
baz=99
K17K S **S 10 40 23.3 -3.1**
baz=99
G19K Purcell Mounta 88.05 336 P **P 10 29 56.9 +1.1**
G19K IAmb IAmb 10 30 03.5
comp=Z,1μm,1.2s
G19K Purcell Mounta 88.05 336 P **P 10 29 56.6 +0.8**
baz=100
G19K S **S 10 40 27.6 +0.8**
baz=100
NOR Nord 88.07 7 *i*P **P 10 29 55.0 -0.6**
NOR IAmb IAmb 10 29 58.6
comp=Z,2μm,1.6s
M16K Timber Creek 88.07 331 P **P 10 29 55.8 -0.2**
baz=98
M16K S **S 10 40 28.0 +1.0**
baz=98
E20K Nigu River 88.09 339 P **P 10 29 56.9 +0.9**
baz=101
E20K S **S 10 40 27.7 +0.6**
baz=101
ASK Askoy 88.12 29 ⇑ *i*P **P 10 29 56.8 +0.6**
ASK IVmBBB 10 30 04.0
comp=Z,22μm,3.9s
ASK *ep*P **pP 10 30 35.9 +1.7**
ASK *e*SKSac **SKSac 10 40 08.9 -1.6**
ASK *e*ScS **ScS 10 40 35.2 +2.1**
ASK *e*SS **SS 10 46 19.6 +0.3**
ASK IVMs_BB IVMs_BB 11 01 13.5
comp=Z,31μm,24.5s
BER Bergen 88.17 30 ⇑ *i*P **P 10 29 57.2 +0.7**
BER IVmB_BB 10 30 04.4
comp=Z,20μm,2.5s
BER *ep*P **pP 10 30 35.9 +1.4**
BER *e*PP **PP 10 33 25.2 -0.3**
BER *e*SKSac **SKSac 10 40 10.4 -0.5**
BER *e*PS PS 10 41 41.4 -9.1
BER *e*SS **SS 10 46 21.9 +1.8**
BER IVMs_BB IVMs_BB 11 01 17.2
comp=Z,27μm,28.5s
BUG Bochum--Univer 88.19 39 *e*P **P 10 29 57.3 +0.6**
comp=Z,886nm,0.9s,baz=266,slow=4.8
BUG *ep*P **pP 10 30 37.8 +3.1**
FOO Floro 88.20 28 ⇑ *i*P **P 10 29 57.1 +0.6**
FOO IVmB_BB 10 30 04.8
comp=Z,18μm,3.5s
FOO *ep*P **pP 10 30 35.6 +1.1**
FOO *e*PP **PP 10 33 26.6 +0.9**
FOO *e*SKSac **SKSac 10 40 09.4 -1.5**
FOO *e*SS **SS 10 46 23.8 +3.3**
FOO IVMs_BB IVMs_BB 10 59 46.6
comp=Z,29μm,57.6s
O15K Ungalikthiuk R 88.25 329 P **P 10 29 56.8 -0.1**
baz=97
O15K S **S 10 40 29.3 +0.5**
baz=97
D20K Etivluk River 88.33 339 P **P 10 29 58.2 +1.0**
baz=100
D20K S **S 10 40 29.7 +0.4**
baz=100
E19K Redstone River 88.34 338 IAmb IAmb 10 30 04.4
comp=Z,554nm,0.8s
E19K Redstone River 88.34 338 P **P 10 29 57.4 +0.2**
baz=100
E19K S **S 10 40 29.3 -0.1**
baz=100
KEST Kesra 88.35 54 IAmb IAmb 10 30 05.8
comp=Z,1μm,0.9s
KEST Kesra 88.35 54 P **P 10 29 58.2 +0.2**
comp=Z,411nm,0.8s,baz=221,slow=3.4,SNR=45
KEST PP **PP 10 33 26.1 -1.7**
comp=Z,299nm,1.1s,baz=209,slow=11,SNR=4.9
KEST S **SKSac 10 40 12.3 -0.9**
comp=Z,20nm,1.1s,baz=143,slow=21,SNR=10
KEST PKKPbc **PKKPbc 10 47 41.2 -0.3**
comp=Z,10nm,0.8s,baz=344,slow=5.6,SNR=3.8
KEST PKPPKP 10 55 40.8
comp=Z,8.6nm,1.0s,baz=315,slow=3.7,SNR=4.1
comp=Z,411nm,0.8s
L16K Owhat River 88.41 332 IAmb IAmb 10 30 05.9
comp=Z,2μm,1.3s
L16K Owhat River 88.41 332 P **P 10 29 58.1 +0.5**
baz=98,SNR=177
L16K S **S 10 40 32.1 +1.9**
baz=98
H18K Honhosa River 88.41 335 IAmb IAmb 10 30 06.1
comp=Z,2μm,1.2s
H18K Honhosa River 88.41 335 P **P 10 29 58.7 +1.1**
baz=99,SNR=396
H18K S **S 10 40 32.9 +2.8**
baz=99
F19K Shaleruckik Mo 88.44 337 IAmb IAmb 10 30 04.9
comp=Z,810nm,1.2s
F19K Shaleruckik Mo 88.44 337 P **P 10 29 58.5 +0.9**
baz=99,SNR=243
F19K S **S 10 40 30.7 +0.4**
baz=99
J17K VABM Dome 88.46 334 IAmb IAmb 10 30 46.0
comp=Z,1μm,1.3s
J17K VABM Dome 88.46 334 P **P 10 29 59.3 +1.5**
baz=98
J17K S **S 10 40 32.8 +2.1**
baz=98
J17K S **S 10 40 32.8 +2.1**
baz=98
N15K Kwethluk River 88.51 330 P **P 10 29 58.4 +0.3**
baz=97,SNR=60
N15K S **S 10 40 30.7 -0.6**
baz=97
IBBN Ibbenburen 88.58 38 *e*P **P 10 29 59.0 +0.4**
comp=Z,1μm,0.9s,baz=266,slow=4.8
BFO Black Forest 88.58 42 P **P 10 29 58.1 -0.6**
BFO Black Forest 88.58 42 P **P 10 29 58.1 -0.6**
BFO pmax pmax
comp=Z,684nm,1.3s
BFO Black Forest 88.58 42 *e*P **P 10 29 58.1 -0.6**
comp=Z,238nm,0.9s,baz=266,slow=4.8
BLS5 Blasjo 88.61 31 ⇑ *i*P **P 10 29 59.5 +0.9**
BLS5 IVmB_BB 10 30 06.9
comp=Z,28μm,5.1s
BLS5 *ep*P **pP 10 30 37.9 +1.2**
BLS5 *e*PP **PP 10 33 26.6 -2.5**
BLS5 *e*SKSac **SKSac 10 40 13.0 -0.6**
BLS5 *e*SS **SS 10 46 26.1 -0.6**
BLS5 IVMs_BB IVMs_BB 10 59 57.5
comp=Z,30μm,48.8s
VSL Villasalto 88.64 51 IAmb IAmb 10 30 09.1
comp=Z,863nm,1.0s
G18K Tagagawik 88.64 336 P **P 10 29 59.1 +0.4**
baz=98
G18K S **S 10 40 32.8 +0.5**
baz=98
HYA Hoyanger 88.69 29 ⇑ *i*P **P 10 29 59.6 +0.7**
HYA IVmB_BB 10 30 02.4
comp=Z,15μm,1.9s
HYA *ep*P **pP 10 30 38.1 +1.3**
HYA *e*PP **PP 10 33 29.3 -0.3**
HYA *e*SKSac **SKSac 10 40 15.4 +1.6**
HYA *e*SS **SS 10 46 30.9 +3.4**
HYA IVMs_BB IVMs_BB 11 01 18.2
comp=Z,27μm,23.3s
B20K Meade River 88.75 340 P **P 10 29 59.5 +0.6**
baz=100
B20K S **S 10 40 33.3 +0.2**
baz=100
ODD1 Odda 88.75 30 ⇑ *i*P **P 10 30 00.2 +0.9**
ODD1 IVmB_BB 10 30 08.0
comp=Z,19μm,3.1s
ODD1 *ep*P **pP 10 30 39.4 +2.1**
ODD1 *e*PP **PP 10 33 29.1 -1.1**
ODD1 *e*SKSac **SKSac 10 40 16.6 +2.1**
ODD1 *e*ScS **ScS 10 40 41.2 +2.7**
ODD1 *e*SS **SS 10 46 31.7 +2.9**
ODD1 IVMs_BB IVMs_BB 11 00 02.7
comp=Z,28μm,40.0s
A21K Barrow 88.81 342 P **P 10 29 59.6 +0.4**
baz=100
A21K S **S 10 40 34.0 +0.4**
baz=100
A21K S **S 10 40 34.0 +0.4**
baz=100
TNS Taunus Mts 88.82 40 *e*P **P 10 30 00.1 +0.3**
comp=Z,672nm,0.9s,baz=266,slow=4.8
TNS *ep*P **pP 10 30 40.7 +2.9**
HLG Helgoland 88.83 36 *e*P **P 10 30 00.6 +0.9**
comp=Z,997nm,0.9s,baz=266,slow=4.8
D19K Kuna River 88.84 339 P **P 10 30 00.1 +0.6**
baz=99,SNR=426
D19K S **S 10 40 34.9 +0.8**
baz=99
M15K Kasigluk River 88.87 331 P **P 10 30 00.4 +0.6**
baz=96
M15K S **S 10 40 35.7 +1.2**
baz=96
SNART Snartemo 88.88 32 ⇑ *i*P **P 10 30 00.3 +0.5**
SNART *e*PP **PP 10 33 27.4 -3.8**
SNART *e*SKSac **SKSac 10 40 14.0 -1.1**
SNART Snartemo 88.88 32 *i*P **P 10 29 60.0 +0.2**
KASTN Kahler Asten 88.88 39 *e*P **P 10 30 00.2 +0.1**
comp=Z,413nm,0.9s,baz=266,slow=4.8
O14K Tigyukauivet M 89.00 329 P **P 10 30 00.0 -0.3**
baz=96
O14K S **S 10 40 35.9 +0.2**
baz=96
H17K Granite Mounta 89.03 335 IAmb IAmb 10 30 08.5
comp=Z,795nm,1.1s
H17K Granite Mounta 89.03 335 P **P 10 30 01.3 +0.9**
baz=97
H17K S **S 10 40 37.9 +2.0**
baz=97
S12K Black Hills 89.07 326 IAmb IAmb 10 30 48.3
comp=Z,1μm,1.4s
S12K Black Hills 89.07 326 P **P 10 30 00.8 0.0**
baz=95,SNR=12
S12K S **S 10 40 35.5 -1.1**
baz=95
TUE Stuetta 89.12 44 IAmb IAmb 10 30 07.5
comp=Z,1μm,0.8s
TUE Stuetta 89.12 44 P **P 10 30 01.4 -0.1**
comp=Z,107μmcomp=Z,6μm,0.8s
J16K Anvik River 89.13 333 P **P 10 30 01.0 +0.1**
baz=97,SNR=161
J16K S **S 10 40 40.4 +3.5**
baz=97
F18K Selawik 89.14 337 P **P 10 30 01.4 +0.5**
baz=98,SNR=376
F18K S **S 10 40 37.7 +0.8**
baz=98
STU Stuttgart 89.19 41 IAmb IAmb 10 30 07.4
comp=Z,763nm,0.9s
STU Stuttgart 89.19 41 *e*P **P 10 30 01.6 0.0**
comp=Z,1μm,0.9s,baz=266,slow=4.8
AKN Aaknes 89.19 28 ⇑ *i*P **P 10 30 02.1 +0.8**
AKN IVmB_BB 10 30 09.6
comp=Z,18μm,2.9s
AKN *ep*P **pP 10 30 40.9 +1.6**
AKN *e*PP **PP 10 33 33.2 -0.5**
AKN *e*SKSac **SKSac 10 40 18.0 +1.1**
AKN *e*SS **SS 10 46 37.8 +2.9**
AKN IVMs_BB IVMs_BB 11 01 33.8
comp=Z,30μm,31.8s
I17K Unalakleet 89.24 334 P **P 10 30 02.2 +0.8**
I17K IAmb IAmb 10 30 09.9
comp=Z,702nm,1.1s
I17K Unalakleet 89.24 334 P **P 10 30 02.3 +0.9**
baz=97,SNR=142
I17K S **S 10 40 41.3 +3.5**
baz=97
N14K Kuskokwak Cree 89.28 330 P **P 10 30 02.3 +0.6**
baz=96,SNR=170
N14K S **S 10 40 38.7 +0.4**
baz=96
L15K Ungalak Mounta 89.36 332 P **P 10 30 02.5 +0.5**
baz=96,SNR=234
L15K S **S 10 40 41.5 +2.4**
baz=96
K15K Wolf Creek Mou 89.44 332 P **P 10 30 03.8 +1.3**
K15K IAmb IAmb 10 30 11.0
comp=Z,995nm,1.1s
K15K Wolf Creek Mou 89.44 332 P **P 10 30 02.9 +0.5**
baz=96
K15K S **S 10 40 43.2 +3.3**
baz=96
MOL Molde 89.49 27 ⇑ *i*P **P 10 30 02.9 +0.4**
MOL IVmB_BB 10 30 11.0
comp=Z,12μm,3.4s
MOL *ep*P **pP 10 30 42.5 +1.9**
MOL *e*SKSac **SKSac 10 40 20.9 +2.3**
MOL *e*ScS **ScS 10 40 48.4 +4.0**
MOL *e*SS **SS 10 46 45.4 +6.3**
MOL IVMs_BB IVMs_BB 11 00 02.6
comp=Z,30μm,48.5s
M14K Bethel 89.50 331 IAmb IAmb 10 30 10.8
comp=Z,2μm,1.1s
M14K Bethel 89.50 331 P **P 10 30 03.1 +0.5**
baz=95,SNR=127
M14K S **S 10 40 42.1 +1.8**
baz=95
DAVOX Davos/Dischmat 89.50 43 S **SKSac 10 40 20.0 +0.1**
comp=Z,10nm,1.0s,baz=52,slow=20,SNR=8.7
DAVOX PKKPbc PKKPbc 10 47 39.1 -0.2
comp=Z,19nm,0.9s,baz=123,slow=2.8,SNR=8.5
DAVA Damuels 89.54 43 *i*P **P 10 30 03.8 +0.3**
comp=Z,12μm,4.3s,SNR=211
DAVA *i*pP **pP 10 30 42.9 +1.4**
comp=Z,18μm,4.6s
DAVA *e*PP **PP 10 33 37.3 +0.3**
comp=Z,6μm,2.9s
DAVA *e*SKS **SKSac 10 40 20.9 +1.0**
comp=Z,68μm,8.3s
DAVA *e*PKKP **PKKPdf 10 47 36.8 +2.4**
comp=Z,140nm,1.7s
DAVA *e*P'P' 10 55 42.8
comp=Z,127nm,1.5s
HOMB Homborsund 89.55 32 ⇑ *i*P **P 10 30 03.9 +1.0**
HOMB IVmB_BB 10 30 11.4
comp=Z,17μm,3.8s
HOMB *ep*P **pP 10 30 42.6 +1.6**
HOMB *e*PP **PP 10 33 36.7 +0.2**
HOMB *e*SKSac **SKSac 10 40 19.3 +0.3**
HOMB *e*ScS **ScS 10 40 48.8 +3.8**
HOMB *e*SS **SS 10 46 41.1 +0.9**
HOMB IVMs_BB IVMs_BB 11 01 49.0
comp=Z,25μm,28.7s
HOMB Homborsund 89.55 32 *i*P **P 10 30 03.2 +0.3**
E18K Tukpahlearik C 89.62 337 P **P 10 30 04.0 +0.8**
baz=97,SNR=165
E18K S **S 10 40 41.4 +0.1**
baz=97
SKAR Skarslia 89.67 29 *e*P **P 10 30 05.1 +1.6**
SKAR IVmB_BB 10 30 12.1
comp=Z,14μm,8.8s
SKAR *ep*P **pP 10 30 42.0 +0.3**
SKAR *e*PP **PP 10 33 35.8 -1.7**
SKAR *e*SKSac **SKSac 10 40 19.0 -0.8**
SKAR *e*ScS **ScS 10 40 48.7 +2.6**
SKAR *e*SP **SP 10 41 50.1 +2.3**
SKAR *e*SS **SS 10 46 42.9 +1.0**
SKAR IVMs_BB IVMs_BB 11 02 01.8

comp=Z,33μm,23.2s
PRMA PARMA 89.68 45 IAmb IAmb 10 30 37.7
comp=Z,1μm,1.5s
UBR Ueberruh 89.72 42 *e*P **P 10 30 04.4 +0.3**
comp=Z,816nm,0.8s,baz=266,slow=4.8
FUORN Ofenpass-Fuorn 89.76 44 P **P 10 30 04.7 +0.1**
F17K Baldwin Pennin 89.76 336 P **P 10 30 04.5 +0.7**
baz=96
F17K S **S 10 40 43.9 +1.3**
baz=96
MUD Monsted U'grnd 89.76 34 *i* P **P 10 30 05.1 +1.1**
MUD IAmb IAmb 10 30 14.6
comp=Z,1μm,1.3s
MUD *i* pP **pP 10 30 41.7 -0.4**
MUD IAMs_20 IAMs_20 11 01 38.0
comp=Z,112μm,29.4s
FALS False Pass 89.77 325 P **P 10 30 04.8 +0.7**
FALS IAmb IAmb 10 30 53.1
comp=Z,1μm,1.0s
FALS False Pass 89.77 325 P **P 10 30 03.0 -1.1**
baz=94,SNR=8.6
FALS S **S 10 40 41.4 -1.7**
baz=94
FALS False Pass 89.77 325 P **P 10 30 05.4 +1.3**
comp=Z,662nm,0.7s
GOET G??ttrup 89.84 33 *i* P **P 10 30 05.5 +1.2**
GOET IAmb IAmb 10 30 12.1
comp=Z,990nm,1.2s
UBBA Unterbreizbach 89.85 39 *e*PP **PP 10 33 38.8 -0.3**
GTTG Gottingen 89.88 39 *e*P **P 10 30 05.3 +0.7**
comp=Z,374nm,0.9s,baz=266,slow=4.8
GTTG *e*pP **pP 10 30 46.1 +3.3**
L14K Kuka Creek 89.90 331 P **P 10 30 04.7 +0.2**
baz=95
L14K S **S 10 40 45.2 +1.2**
baz=95
SSRD Sdr. Stenderup 89.95 35 *i* P **P 10 30 06.2 +1.4**
SSRD IAmb IAmb 10 30 15.2
comp=Z,8μm,2.1s
CASP Castiglione de 89.97 47 P **P 10 30 05.3 0.0**
CASP IAmb IAmb 10 30 10.9
comp=Z,785nm,0.9s
C18K Utukok River 89.98 339 P **P 10 30 05.7 +0.8**
C18K Utukok River 89.98 339 P **P 10 30 05.4 +0.5**
baz=96
C18K S **S 10 40 44.4 -0.4**
baz=96
H16K Elim 89.99 335 P **P 10 30 05.8 +0.9**
baz=95,SNR=275
H16K S **S 10 40 46.5 +1.7**
baz=95
NRDL Niedersach Rie 90.03 38 *e*P **P 10 30 06.3 +1.1**
comp=Z,297nm,0.9s,baz=266,slow=4.8
NRDL *e*pP **pP 10 30 46.9 +3.6**
NRDL *e*PP **PP 10 33 38.6 -1.8**
E17K Hotham Inlet 90.06 337 P **P 10 30 05.7 +0.6**
baz=96
E17K S **S 10 40 44.6 -0.6**
baz=96
FETA Feichten 90.10 43 *i* P **P 10 30 06.2 +0.2**
comp=Z,2μm,1.8s,SNR=293
FETA *e*pP **pP 10 30 44.6 +0.5**
comp=Z,13μm,4.4s
FETA *e*PP **PP 10 33 45.3 +3.8**
comp=Z,9μm,4.1s
FETA *e*SKS **SKSac 10 40 24.9 +1.7**
comp=Z,19nm,1.3s
FETA *e*PKKP **PKKPbc 10 47 39.4 +1.6**
comp=Z,86nm,1.5s
FETA *e*P'P' 10 55 42.0
comp=Z,93nm,1.3s
A19K Wainwright 90.11 340 P **P 10 30 06.0 +0.7**
baz=96
A19K S **S 10 40 46.9 +1.3**
baz=96
G16K Koyuk River 90.11 335 P **P 10 30 06.6 +1.2**
baz=95
G16K S **S 10 40 47.3 +1.5**
baz=95
DOMB Dombas 90.14 28⇑ *i*P **P 10 30 06.3 +0.5**
DOMB IVmB_BB 10 30 14.1
comp=Z,10μm,3.8s
DOMB *e*pP **pP 10 30 44.6 +0.7**
DOMB *e*PP **PP 10 33 41.9 +0.6**
DOMB *e*SKSac **SKSac 10 40 21.2 -1.4**
DOMB *e*SP **SPn 10 41 55.7 +2.4**
DOMB *e*SS **SS 10 46 51.3 +2.6**
DOMB IVMs_BB IVMs_BB 11 02 18.7
comp=Z,29μm,23.0s
CLZ Clausthal 90.15 38 *e*P **P 10 30 06.7 +0.7**
comp=Z,617nm,0.9s,baz=266,slow=4.8
M13K Dall Lake 90.15 330 IAmb IAmb 10 30 14.2
comp=Z,2μm,1.1s
M13K Dall Lake 90.15 330 P **P 10 30 06.6 +1.0**
baz=94
M13K S **S 10 40 47.5 +1.2**
baz=94
RETA Reutte 90.15 43 *i* P **P 10 30 06.1 -0.1**
comp=Z,3μm,2.2s,SNR=194
RETA *i* pP **pP 10 30 46.1 +1.9**
comp=Z,18μm,5.0s
RETA *e*PP **PP 10 33 44.9 +3.1**
comp=Z,6μm,2.5s
RETA *e*SKS **SKSac 10 40 23.7 +0.4**
comp=Z,132μm,14.4s
RETA *e*PKKP **PKKPbc 10 47 36.8 -0.8**
comp=Z,39nm,1.2s
RETA *e*P'P' 10 55 42.9
comp=Z,80nm,1.6s
KONO Kongsberg 90.23 30 P **P 10 30 06.4 +0.3**
KONO IAmb IAmb 10 33 42.1
comp=Z,836nm,1.4s
KONO Kongsberg 90.23 30⇑ *i*P **P 10 30 06.3 +0.2**
KONO IVmB_BB 10 30 14.4
comp=Z,10μm,4.4s
KONO *e*pP **pP 10 30 44.9 +0.7**
KONO *e*PP **PP 10 33 40.1 -1.8**
KONO *e*SKSac **SKSac 10 40 20.9 -2.1**
KONO *e*SS **SS 10 46 53.1 +3.1**
KONO IVMs_BB IVMs_BB 11 05 00.1
comp=Z,30μm,21.7s
KONO Kongsberg 90.23 30 ⇓P **P 10 30 07.1 +1.0**
BSEG Bad Segeberg 90.24 36 *e*P **P 10 30 07.2 +0.9**
comp=Z,376nm,0.9s,baz=266,slow=4.8
B18K Kokolik River 90.27 339 P **P 10 30 07.5 +1.4**
baz=96
B18K S **S 10 40 47.7 +0.5**
baz=96
ASSE Asse, Remlinge 90.35 38 *e*P **P 10 30 07.8 +1.1**
comp=Z,397nm,1.0s,baz=266,slow=4.8
ASSE *e*PP **PP 10 33 42.9 -0.1**
MOTA Moosalm 90.37 43 *i* P **P 10 30 07.2 -0.1**
comp=Z,1μm,1.1s
MOTA *i* pP **pP 10 30 46.9 +1.6**
comp=Z,11μm,3.9s
MOTA *e*PP **PP 10 33 46.3 +2.7**
comp=Z,10μm,2.8s
MOTA *e*PKKP **PKKPbc 10 47 37.9 +0.7**
comp=Z,95nm,1.2s
MOTA *e*P'P' 10 55 42.7
comp=Z,125nm,1.3s
OVD Ostervraa, Den 90.39 33 *i* P **P 10 30 07.8 +0.9**
OVD IAmb IAmb 10 30 16.7
comp=Z,1μm,1.4s
J14K Nanvaranak Lak 90.42 333 P **P 10 30 07.4 +0.5**
baz=94
J14K S **S 10 40 50.2 +1.5**
baz=94
SQTA Sankt Quirin 90.44 43 *i* P **P 10 30 07.8 +0.2**
comp=Z,1μm,1.1s,SNR=262
SQTA *i* pP **pP 10 30 47.3 +1.6**
comp=Z,12μm,4.1s
SQTA *e*PP **PP 10 33 46.9 +2.7**
comp=Z,8μm,2.8s
SQTA *e*SKS **SKSac 10 40 25.6 +0.6**
comp=Z,63μm,7.4s
SQTA *e*PKKP **PKKPbc 10 47 35.4 -1.5**
comp=Z,69nm,1.0s
SQTA *i* P'P' 10 55 42.7
comp=Z,78nm,1.5s
FUR Furstenfeldbru 90.53 42 *e*P **P 10 30 08.0 +0.2**
comp=Z,489nm,0.9s,baz=266,slow=4.8
RDOG Red Dog Mine 90.56 338 P **P 10 30 08.5 +1.0**
baz=95,SNR=78
RDOG S **S 10 40 49.7 -0.2**
baz=95
GRFO Grafenberg 90.57 40 P **P 10 30 08.7 +0.7**
GRFO IAmb IAmb 10 30 14.5
comp=Z,990nm,1.1s
GRFO Grafenberg 90.57 40 P **P 10 30 08.7 +0.7**
GRFO pmax pmax
comp=Z,990nm,1.1s
GRA1 Grafenberg Arr 90.57 40 IAmb IAmb 10 30 14.5
comp=Z,1μm,1.1s
GRF Grafenberg Arr 90.57 40 *e*P **P 10 30 08.5 +0.5**
comp=Z,498nm,0.9s,baz=266,slow=4.8
D17K Noatak River 90.59 338 P **P 10 30 08.7 +1.0**
baz=94,SNR=154
D17K S **S 10 40 51.4 +1.2**
baz=94
CTI Castel Tesino 90.69 44 IAmb IAmb 10 30 14.4
comp=Z,921nm,0.8s
C17K DeLong Mountai 90.69 338 P **P 10 30 08.8 +0.6**
baz=94
C17K S **S 10 40 51.5 +0.3**
baz=94
WATA Walderalm 90.69 43 *i* P **P 10 30 08.7 -0.1**
comp=Z,1μm,2.2s,SNR=200
WATA *i* pP **pP 10 30 48.7 +1.8**
comp=Z,12μm,4.6s
WATA *e*PP **PP 10 33 48.8 +2.6**
comp=Z,8μm,3.0s
WATA *e*SKS **SKSac 10 40 27.1 +0.6**
comp=Z,73μm,7.8s
WATA *e*PKKP **PKKPbc 10 47 36.6 +0.3**
comp=Z,88nm,1.2s
WATA *e*P'P' 10 55 42.0
comp=Z,228nm,1.9s
FLTG Flechtingen 90.71 38 *e*P **P 10 30 08.8 +0.3**
comp=Z,285nm,0.9s,baz=266,slow=4.8
FLTG *e*pP **pP 10 30 49.7 +3.1**
FLTG *e*PP **PP 10 33 44.7 -1.1**
WTTA Wattenberg 90.73 43 *i* P **P 10 30 09.0 0.0**
comp=Z,2μm,1.1s,SNR=284
WTTA *i* pP **pP 10 30 49.1 +2.0**
comp=Z,13μm,4.0s
WTTA *e*PP **PP 10 33 49.0 +2.5**
comp=Z,10μm,3.0s
WTTA *e*SKS **SKSac 10 40 27.9 +1.0**
comp=Z,80μm,8.1s
WTTA *e*PKKP **PKKPbc 10 47 36.7 +0.5**
comp=Z,37nm,0.8s
WTTA *i* P'P' 10 55 42.3
comp=Z,251nm,1.9s
G15K Niukluk 90.79 335 P **P 10 30 09.1 +0.5**
baz=94
G15K S **S 10 40 47.9 -4.2**
baz=94
OSL Oslo 90.81 30⇑ *i*P **P 10 30 09.2 +0.4**
OSL IVmB_BB 10 30 17.2
comp=Z,11μm,4.4s
OSL *e*pP **pP 10 30 48.4 +1.5**
OSL *e*PP **PP 10 33 45.9 -0.6**
OSL *e*SKSac **SKSac 10 40 25.2 -1.1**
OSL *e*ScS **ScS 10 40 58.8 +3.4**
OSL *e*SP **SPn 10 42 03.1 +2.0**
OSL *e*SS **SS 10 46 58.5 +0.3**
OSL IVMs_BB IVMs_BB 11 02 49.0
comp=Z,31μm,24.1s
MOX Moxa 90.87 40 *e*P **P 10 30 09.9 +0.5**
comp=Z,250nm,1.0s,baz=266,slow=4.8
K13K Kusilvak Mount 90.88 332 P **P 10 30 10.0 +0.9**
baz=93
K13K S **S 10 40 51.0 -2.0**
baz=93
NBO00 NORSAR Array S 90.90 29 IAmb IAmb 10 30 52.0
comp=Z,2μm,1.6s
NC204 NORSAR Array S 90.90 29 P **P 10 30 09.6 +0.3**
NC204 IAmb IAmb 10 30 51.8
comp=Z,3μm,1.9s
NAO01 NORSAR Array S 90.94 29 IAmb IAmb 10 30 52.1
comp=Z,3μm,1.9s
NEUB Neuenburg 90.99 39 *e*P **P 10 30 10.4 +0.6**
comp=Z,306nm,0.8s,baz=266,slow=4.8
STRU Stroemstad 91.00 31 *i* P **P 10 30 09.5 -0.2**
ELIB Princess Elisa 91.06 162 *d*P **P 10 30 11.5 +1.6**
comp=Z,738nm,0.7s
ELIB *d*pP **pP 10 30 49.7 +1.6**
F15K North Star Dit 91.08 336 P **P 10 30 11.3 +1.3**
baz=93
F15K S **S 10 40 53.7 -1.1**
baz=93
NB2 NORSAR Subarra 91.11 29 P **P 10 30 10.6 +0.3**
comp=Z,3μm,2.5s,baz=272,slow=4.8
NB2 PP **PP 10 33 45.8 -3.1**
comp=Z,1μm,2.0s,baz=238,slow=7.9
NB2 PKKP **PKKPdf 10 47 32.6 +0.9**
comp=Z,381nm,2.5s,baz=76,slow=3.8
NB2 P'P' 10 55 37.7
comp=Z,2.8nm,0.9s,baz=79,slow=3.2
NB2 NORSAR Subarra 91.11 29 P **P 10 30 10.6 +0.3**
baz=272,slow=4.8
NOA NORSAR Array B 91.11 29 P **P 10 30 10.5 +0.2**
comp=Z,69nm,0.9s,baz=268,slow=4.7,SNR=60
NOA pP **pP 10 30 49.2 +0.8**
comp=Z,102nm,1.0s,baz=268,slow=4.7,SNR=3.4
NOA PP **PP 10 33 46.5 -2.4**
comp=Z,401nm,1.3s,baz=268,slow=7.7,SNR=7.1
NOA S **SKSac 10 40 20.5 -7.6**
comp=Z,0.9nm,0.9s,baz=303,slow=17,SNR=1.2
NOA PKKPbc **PKKPdf 10 47 33.1 +1.3**
comp=Z,12nm,1.0s,baz=253,slow=2.9,SNR=5.7
NOA PKPPKP **P'P'df 10 55 36.8 -5.5**
comp=Z,1.4nm,0.9s,baz=73,slow=2.8,SNR=6.8
comp=Z,69nm,0.9s
NB201 NORSAR Array S 91.15 29 IAmb IAmb 10 30 53.0
comp=Z,2μm,1.7s
MANZ Manzenberg 91.16 40 *e*P **P 10 30 11.4 +0.7**
comp=Z,80nm,0.9s,baz=266,slow=4.8
TJOU Tjoern 91.19 32 *i* P **P 10 30 11.0 +0.4**
NC303 NORSAR Array S 91.19 29 IAmb IAmb 10 30 53.1
comp=Z,2μm,1.9s
ROTZ Rotzenmuhle 91.21 40 *e*P **P 10 30 11.7 +0.7**
comp=Z,81nm,0.9s,baz=266,slow=4.8
ROTZ *e*pP **pP 10 30 52.5 +3.4**
CESX Cesi 91.22 48 IAmb IAmb 10 30 24.1
comp=Z,1μm,1.4s
NC602 NORSAR Array S 91.26 29 IAmb IAmb 10 30 53.5
comp=Z,2μm,1.9s
NC602 NORSAR Array S 91.26 29⇑ *i*P **P 10 30 11.1 +0.2**
NC602 IVmB_BB 10 30 19.3
comp=Z,12μm,4.3s
NC602 *e*pP **pP 10 30 50.5 +1.5**
NC602 *e*PP **PP 10 33 48.8 -1.2**
NC602 *e*SKSac **SKSac 10 40 27.5 -1.4**
NC602 *e*ScS **ScS 10 41 01.9 +2.7**
NC602 *e*SP **SPn 10 42 07.5 +1.3**
NC602 *e*SS **SS 10 47 11.2 +6.5**
NC602 IVMsBB 11 02 59.4
comp=Z,29μm,28.2s
ABTA Abfaltersbach 91.31 43 *i* P **P 10 30 11.6 0.0**
comp=Z,7μm,3.0s,SNR=325
ABTA *i* pP **pP 10 30 51.0 +1.3**
comp=Z,6μm,4.5s
ABTA *e*PP **PP 10 33 53.6 +2.6**
comp=Z,4μm,2.6s
ABTA *e*SKS **SKSac 10 40 29.8 -0.2**
comp=Z,82μm,11.8s
ABTA *e*PKKP **PKKPbc 10 47 36.6 +2.0**
comp=Z,41nm,1.3s
ABTA *e*P'P' 10 55 40.4
comp=Z,57nm,1.3s
ONAU Onsala 91.32 33 *i* P **P 10 30 11.6 +0.4**
ANM Nome 91.33 334 P **P 10 30 11.7 +0.6**
baz=92,SNR=36
ANM S **S 10 40 54.4 -2.6**
baz=92
NC405 NORSAR Array S 91.36 29 IAmb IAmb 10 30 53.9
comp=Z,2μm,1.6s
NKC Novy Kostel 91.38 40 *e*P **P 10 30 12.9 +1.2**
NKC *e*pP **pP 10 30 52.7 +2.8**
NKC *e*SKS **SKSac 10 40 34.7 +4.6**
NKC Novy Kostel 91.38 40 *e*P **P 10 30 12.9 +1.2**
NKC *e**PP **pP 10 30 52.7 +2.8**
NKC *e* 10 40 34.7
TANN Tannenbergstha 91.40 40 *e*P **P 10 30 12.7 +0.8**
comp=Z,643nm,1.0s,baz=266,slow=4.8
TANN *e*pP **pP 10 30 53.6 +3.7**
LESA Schwarzleotal 91.44 43 *i* P **P 10 30 12.2 0.0**
comp=Z,7μm,3.1s,SNR=361
LESA *i* pP **pP 10 30 51.7 +1.4**
comp=Z,14μm,4.4s
LESA *e*PP **PP 10 33 54.6 +2.6**
comp=Z,6μm,2.5s
LESA *e*SKS **SKSac 10 40 31.6 +0.9**
comp=Z,75μm,7.6s
LESA *e*PKKP **PKKPbc 10 47 34.5 +0.1**
comp=Z,26nm,1.1s
LESA *e*P'P' 10 55 38.4
comp=Z,101nm,1.9s
C16K Lisburne Hills 91.48 338 P **P 10 30 12.6 +0.9**
baz=92
C16K S **S 10 40 53.6 -4.6**
baz=92
UNV Unalaska Valle 91.52 324 IAmb IAmb 10 31 01.1
comp=Z,785nm,1.1s
UNV Unalaska Valle 91.52 324 P **P 10 30 11.8 -0.5**
baz=92,SNR=9.8
UNV S **S 10 40 56.5 -2.6**
baz=92
RJOB Jochberg 91.53 42 *e*P **P 10 30 12.7 +0.2**
comp=Z,436nm,1.0s,baz=266,slow=4.8
COP Copenhagen 91.55 35 *i* P **P 10 30 13.1 +0.8**
COP IAmb IAmb 10 30 22.4
comp=Z,1μm,1.4s
M11K Mekoryuk 91.56 330 IAmb IAmb 10 31 02.0
comp=Z,825nm,1.4s
M11K Mekoryuk 91.56 330 P **P 10 30 11.7 -0.6**
baz=92,SNR=6.5
M11K S **S 10 40 58.5 -0.7**
baz=92
NSS Namsos 91.59 26⇑ *i*P **P 10 30 12.2 -0.1**
NSS IVmBBB 10 30 20.3
comp=Z,7μm,4.7s
NSS *e*pP **pP 10 30 51.3 +0.9**
NSS *e*PP **PP 10 33 52.2 -0.4**
NSS *e*SKSac **SKSac 10 40 27.5 -3.1**
NSS *e*SP **SPn 10 42 11.0 +1.0**
NSS IVMs_BB IVMs_BB 11 04 02.8
comp=Z,18μm,23.7s
FDMO Fiordimonte 91.61 47 P **P 10 30 12.1 -0.9**
FDMO IAmb IAmb 10 30 25.4
comp=Z,965nm,1.3s
WET Wettzell 91.63 41 *e*P **P 10 30 13.4 +0.4**
comp=Z,346nm,0.9s,baz=266,slow=4.8
WET *e*PP **PP 10 33 53.6 +0.3**
FABU Falkenberg 91.74 33 *i* P **P 10 30 12.9 -0.3**
CLL Collm 91.77 39 P **P 10 30 14.1 +0.6**
CLL IAmb IAmb 10 30 20.0
comp=Z,535nm,1.0s
CLL Collm 91.77 39 *e*P **P 10 30 14.0 +0.6**
CLL *e**PP **pP 10 30 53.0 +1.5**
CLL *e* 10 40 32.0
CLL *e*S **ScS 10 41 04.0 +0.2**
CLL pmax pmax
comp=Z,766nm,1.1s
CLL Collm 91.77 39 P **P 10 30 13.9 +0.6**
comp=Z,26μmcomp=Z,651nm,1.1s
CLL Collm 91.77 39 *e*P **P 10 30 14.0 +0.6**
comp=Z,505nm,1.1s
CLL *i* Pmax 10 30 19.2
comp=Z,766nm,1.1s
CLL *e*pP **pP 10 30 53.0 +1.5**
CLL *e*sP **sP 10 31 06.0 -1.3**
CLL *e*PP **PP 10 33 52.0 -2.3**
comp=Z,523nm,1.3s
CLL *e*PPmax 10 33 58.0
comp=Z,3μm,2.1s
CLL *e*pPP 10 34 29.0
CLL *e*sPP 10 34 48.0
CLL *e*x x 10 36 12.0
CLL *e*x x 10 39 36.0
CLL *e*SKSac **SKSac 10 40 32.0 -0.1**
CLL *e*S **ScS 10 41 04.0 +0.2**
CLL *e*pSKSac S 10 41 18.0 +17
CLL *e*pS **pS 10 41 45.0 -5.3**
CLL *e*sS **sS 10 42 04.0 -3.7**
CLL *e*SP **SP 10 42 09.0 -2.5**
CLL *e*PS PS 10 42 27.0 -3.9
CLL *e*SPP SPP 10 42 40.0
CLL *e*PPS PPS 10 43 04.0
CLL *e*x x 10 43 29.0
CLL *e*SS **SS 10 47 11.0 -1.5**
CLL *e*PKKPbc **PKKPbc 10 47 33.0 -0.5**
CLL *e*sPKKPbc 10 48 29.0
CLL *e*x x 10 52 12.0
CLL *e*PKPPKPdf **P'P'df 10 55 41.0 -0.6**
comp=Z,2μm,3.1s
CLL *e*x x 10 56 26.0
CLL *e*x x 10 57 03.0
CLL *e*SKPPKPdf 10 59 04.0
CLL *e*3PKPbc 11 16 49.0
CLL *i* p3PKPbc 11 17 25.0
comp=Z,3μm,4.9s
CLL Collm 91.77 39 *e*P **P 10 30 14.0 +0.6**
comp=Z,337nm,0.9s,baz=266,slow=4.8
F14K Arctic Creek 91.77 335 P **P 10 30 13.0 -0.1**
baz=92,SNR=79
F14K S **S 10 40 59.4 -1.5**
baz=92
BORU Boraas 91.79 33 *i* P **P 10 30 13.7 +0.3**
CAMP Campotosto 91.83 48 IAmb IAmb 10 30 28.4
comp=Z,922nm,1.3s
BJUU Bjuv 91.89 34 *i* P **P 10 30 14.6 +0.8**
KBA Koelnbreinsper 91.89 43 *i* P **P 10 30 14.2 -0.2**
comp=Z,1μm,1.5s,SNR=209
KBA *i* pP **pP 10 30 54.1 +1.7**
comp=Z,13μm,4.7s
KBA *e*PP **PP 10 33 58.4 +2.8**
comp=Z,8μm,4.5s
KBA *i* SKS **SKSac 10 40 33.3 -0.1**
comp=Z,220nm,1.7s
KBA *e*P'P' 10 55 36.1
comp=Z,27nm,1.3s
KBS Kingsbay 92.02 11 P **P 10 30 15.6 +1.6**
KBS Kingsbay 92.02 11⇑ *i*P **P 10 30 15.5 +1.4**
KBS IVmB_BB 10 30 16.1
comp=Z,6μm,2.3s
KBS *e*pP **pP 10 30 52.8 +0.5**
KBS *e*PP **PP 10 33 57.2 +1.7**
KBS *e*SKSac **SKSac 10 40 34.9 +2.3**
KBS *e*SS **SS 10 47 16.6 +1.8**
KBS IVMs_BB IVMs_BB 11 02 50.7
comp=Z,62μm,32.5s
KBS Kingsbay 92.02 11 *i* P **P 10 30 13.2 -0.8**
KBS pmax pmax
comp=Z,744nm,1.8s
KBS Kingsbay 92.02 11 *i* P **P 10 30 14.2 +0.1**
HSKC Hora Svate Kat 92.02 40 *e*P **P 10 30 15.4 +0.7**
HSKC *e*SKS **SKSac 10 40 36.0 +2.3**
NIUE Niue 92.02 251 P **P 10 30 17.6 +2.3**
comp=Z,1μm,2.0s,comp=Z,0.0nm
NIUE Niue 92.02 251 P **P 10 30 15.9 +0.6**
comp=Z,1μm,2.0s
RGN Rugen 92.03 36 IAmb IAmb 10 30 21.9
comp=Z,908nm,1.1s
RGN Rugen 92.03 36 *e*P **P 10 30 15.8 +1.3**
baz=266,slow=4.8
RGN *e*PP **PP 10 33 55.7 -0.5**
SABO M.te Sabotino 92.04 44 IAmb IAmb 10 30 21.3
comp=Z,1μm,1.1s
STOK Stokkvaagen 92.08 24⇑ *i*P **P 10 30 14.6 +0.1**
STOK IVmB_BB 10 30 22.8
comp=Z,9μm,4.8s
STOK *e*pP **pP 10 30 53.7 +1.1**
STOK *e*PP **PP 10 33 54.3 -2.0**
STOK *e*SKSac **SKSac 10 40 33.3 +0.1**
STOK *e*SP **SP 10 42 11.7 -2.5**
STOK *e*SS **SS 10 47 18.1 +1.9**
STOK IVMs_BB IVMs_BB 11 02 20.4
comp=Z,36μm,62.2s
MYKA Terra Mystica 92.08 44 *i* P **P 10 30 15.2 0.0**
comp=Z,1μm,1.3s,SNR=199
MYKA *i* pP **pP 10 30 55.0 +1.7**
comp=Z,13μm,5.2s
MYKA *e*PP **PP 10 33 60.0 +2.9**
comp=Z,4μm,2.6s
MYKA *e*SKS **SKSac 10 40 34.0 -0.4**
comp=Z,59μm,7.6s
KHC Kasperske Hory 92.09 41 *e*P **P 10 30 15.2 +0.1**
KHC *e*pP **pP 10 30 53.3 +0.1**
KHC *e*PP **PP 10 33 55.7 -1.2**
KHC *e*SKS **SKSac 10 40 35.5 +1.3**
KHC *e*PKPPKP 10 55 40.4
KHC AMS AMS 11 13 20.0
comp=Z,35μm,18.3s
KHC Kasperske Hory 92.09 41 *e*P **P 10 30 15.2 +0.1**
KHC *e**PP **pP 10 30 53.3 +0.1**
KHC *e* 10 33 55.7

KHC *e* 10 40 35.5
KHC MLR MLR
comp=Z,35µm,18.3s
KHC Kasperske Hory 92.09 41 P **P 10 30 15.1 0.0**
comp=Z,22µmcomp=Z,339nm,2.6s
BIOA Bad Ischl, Aus 92.10 43 *i* P **P 10 30 15.2 0.0**
comp=Z,6µm,3.3s,SNR=244
BIOA *i* pP **pP 10 30 54.5 +1.3**
comp=Z,14µm,4.7s
BIOA *e*PP **PP 10 33 59.8 +2.7**
comp=Z,6µm,3.4s
BIOA *e*SKS **SKSac 10 40 34.6 +0.3**
comp=Z,53µm,7.2s
BIOA *i* P'P' 10 55 36.6
comp=Z,87nm,1.8s,SNR=6.6
LEIR Leirfjorden 92.11 24 *e*P **P 10 30 14.8 +0.1**
LEIR *e*pP **pP 10 30 52.8 0.0**
LEIR *e*PP **PP 10 33 55.6 -1.0**
LEIR *e*SKSac **SKSac 10 40 33.6 +0.1**
LEIR *e*SP **SP 10 42 17.1 +2.5**
LEIR *e*SS **SS 10 47 19.9 +3.2**
LEIR IVMs_BB IVMs_BB 11 02 22.5
comp=Z,36µm,62.2s
LUNU Lund 92.12 35 *i* P **P 10 30 15.4 +0.4**
KONS Konsvik 92.12 24 *e*P **P 10 30 16.0 +1.2**
KONS *e*SKSac **SKSac 10 40 36.8 +3.4**
CADS Cadrg 92.14 44 *e*P **P 10 30 15.5 +0.1**
CADS *e*pP **pP 10 30 53.3 -0.2**
CADS *i* SKSac **SKSac 10 40 35.1 +0.5**
CADS *e*S **ScS 10 41 06.8 -0.5**
GEC2 GERESS Array S 92.17 41 *e*P **P 10 30 15.6 +0.1**
comp=Z,133nm,0.8s,baz=266,slow=4.8
GEC2 *e*pP **pP 10 30 56.2 +2.6**
GERES GERESS Array B 92.17 41 P **P 10 30 15.4 -0.1**
comp=Z,62nm,0.7s,baz=260,slow=3.8,SNR=88
GERES pP **pP 10 30 55.2 +1.6**
comp=Z,104nm,1.1s,baz=292,slow=7.1,SNR=1.5
GERES PP **PP 10 33 56.9 -0.7**
comp=Z,50nm,1.1s,baz=268,slow=7.6,SNR=4.2
GERES S **SKSac 10 40 33.4 -1.3**
comp=Z,2.8nm,0.9s,baz=140,slow=19,SNR=1.2
GERES PKKPbc **PKKPbc 10 47 32.2 -0.3**
comp=Z,4.8nm,0.7s,baz=354,slow=1.3,SNR=6.9
GERES PKPPKP 10 55 35.3
comp=Z,5.8nm,0.9s,baz=144,slow=2.5,SNR=7.4
comp=Z,62nm,0.7s
INTR Introdacqua 92.19 48 IAmb IAmb 10 30 19.1
comp=Z,2µm,1.6s
VOJS Vojsko 92.24 44 *e*P **P 10 30 15.9 0.0**
RUE Ruedersdorf 92.27 38 *e*P **P 10 30 16.3 +0.6**
comp=Z,532nm,0.9s,baz=266,slow=4.8
LOF Lofoten 92.30 22 *e*P **P 10 30 17.8 +2.3**
LOF IVmB_BB 10 30 27.2
comp=Z,6µm,1.8s
LOF *e*pP **pP 10 30 54.2 +0.5**
LOF *e*PP **PP 10 33 58.6 +0.6**
LOF *e*SKSac **SKSac 10 40 36.1 +1.7**
LOF *e*ScS **ScS 10 41 12.0 +4.5**
LOF *e*SP SP 10 42 20.0 +3.3
LOF *e*SS **SS 10 47 27.4 +8.1**
LOF IVMs_BB IVMs_BB 11 02 03.3
comp=Z,48µm,48.1s
HFS Hagfors 92.31 30 P **P 10 30 16.0 +0.2**
comp=Z,57nm,0.8s,baz=265,slow=4.5,SNR=51
HFS PP **PP 10 33 56.2 -2.1**
comp=Z,87nm,1.1s,baz=248,slow=7.8,SNR=4.6
HFS PKKPbc **PKKPbc 10 47 31.4 -1.1**
comp=Z,9.3nm,0.9s,baz=104,slow=6.1,SNR=4.1
comp=Z,57nm,0.8s
HFS Hagfors 92.31 30 P **P 10 30 16.0 +0.2**
SKDS Skadanscina 92.33 45⇑ *i* P **P 10 30 15.6 -0.6**
BRG Berggiesshubel 92.35 39⇑ *i* P **P 10 30 17.0 +0.8**
BRG Amp 10 30 23.6
comp=Z,567nm,0.9s
BRG Berggiesshubel 92.35 39 P P 10 30 29.7 +14
BRG Amp 10 30 30.1
comp=Z,529nm,1.0s
BRG pP pP 10 30 57.3 +3.0
BRG Amp 10 31 00.2
comp=Z,322nm,1.2s
BRG PP **PP 10 33 59.0 +0.1**
BRG Amp 10 34 04.2
comp=Z,676nm,1.5s
BRG Berggiesshubel 92.35 39 SP SP 10 42 12.0 -6.0
BRG Berggiesshubel 92.35 39 *e*P **P 10 30 16.9 +0.8**
comp=Z,423nm,0.9s,baz=266,slow=4.8
DEL Delary 92.37 34 *i* P **P 10 30 16.9 +0.8**
TNA Tin City 92.44 335 P **P 10 30 17.5 +1.3**
TNA Tin City 92.44 335 P **P 10 30 16.0 -0.2**
baz=90
TNA S **S 10 41 03.9 -2.9**
baz=90
RICC Richard 92.45 40 *e*P **P 10 30 17.9 +1.3**
RICC *e*SKS **SKSac 10 40 38.0 +2.0**
RAFF Raffo Rosso 92.45 53 IAmb IAmb 10 30 23.5
comp=Z,1µm,1.1s
ZVC Zvikov 92.50 41 *e*P **P 10 30 17.4 +0.5**
ZVC *e*SKS **SKSac 10 40 39.0 +2.7**
VAE Valguarnera 92.50 53 S **SKSac 10 40 39.1 +2.1**
comp=Z,11nm,0.4s,baz=231,slow=9.1,SNR=3.9
VAE PKKPbc PKKPbc 10 47 30.3 -0.9
comp=Z,95nm,0.4s,baz=181,slow=0.7,SNR=10
MOA Molln 92.53 42 *i* P **P 10 30 17.1 0.0**
comp=Z,8µm,4.1s,SNR=257
MOA *e*pP **pP 10 30 57.2 +1.9**
comp=Z,11µm,4.7s
MOA *e*PP **PP 10 34 03.3 +2.8**
comp=Z,4µm,2.9s
MOA *e*SKS **SKSac 10 40 37.1 +0.5**
comp=Z,64µm,8.2s
MOA *e*PKKP **PKKPbc 10 47 31.1 -0.4**
comp=Z,36nm,1.4s
MOA *e*P'P' 10 55 36.4
comp=Z,54nm,1.7s
WDD Wied Dalam 92.56 54 IAmb IAmb 10 30 25.5
comp=Z,644nm,1.0s
CKRC Cesky Krumlov 92.57 41 *e*P **P 10 30 17.4 +0.2**
CKRC *e*SKS **SKSac 10 40 38.8 +2.0**
CKRC Cesky Krumlov 92.57 41 *e*P **P 10 30 17.4 +0.2**
CKRC *e* 10 40 38.8
CEY Cerknica 92.62 44⇑ *i*P **P 10 30 17.5 -0.1**
MOR8 Moi Rana 92.65 24⇑ *i*P **P 10 30 18.2 +0.9**
MOR8 *e*pP **pP 10 30 56.6 +1.2**
MOR8 *e*PP **PP 10 34 01.6 +0.7**
MOR8 *e*SKSac **SKSac 10 40 35.8 -0.8**
MOR8 *e*SS **SS 10 47 29.6 +5.1**
MOR8 IVMs_BB IVMs_BB 11 02 40.4
comp=Z,34µm,65.7s
PAOL Paolisi 92.67 49 P **P 10 30 17.7 -0.2**
PAOL IAmb IAmb 10 30 28.4
comp=Z,740nm,1.6s
LJU Ljubljana 92.69 44 *i* P **P 10 30 18.1 +0.3**
LJU *e*pP **pP 10 30 56.9 +0.9**
LJU *e*PP **PP 10 34 05.0 +3.3**
LJU *e*pPP 10 34 35.9
LJU *e*SKSac **SKSac 10 40 38.6 +1.0**
LJU *e*S **ScS 10 41 12.3 +0.6**
LJU *e*SP SPn 10 42 23.4 -0.2
LJU *e* 10 47 33.9
LJU *e* 10 48 32.4
LJU *e*P'P'df P'P'df 10 55 37.6 -2.7
OBKA Obir 92.71 44 *i* P **P 10 30 18.0 0.0**
comp=Z,6µm,3.6s,SNR=84
OBKA *e*pP **pP 10 30 57.4 +1.2**
comp=Z,11µm,4.4s
OBKA *e*PP **PP 10 34 03.8 +1.8**
comp=Z,8µm,2.9s
OBKA *e*SKS **SKSac 10 40 37.7 -0.2**
comp=Z,56µm,7.2s
OBKA *e*PKKP **PKKPbc 10 47 31.9 +0.9**
comp=Z,16nm,1.2s
OBKA *i* P'P' 10 55 38.8
comp=Z,0.4nm,0.4s
OBKA Obir 92.71 44⇑ *i*P **P 10 30 17.9 -0.2**
PRU Pruhonice 92.73 40 *e*P **P 10 30 18.7 +0.8**
PRU *e*pP **pP 10 30 56.7 +0.7**
PRU Pruhonice 92.73 40 *e*P **P 10 30 18.7 +0.8**
PRU *e**PP **pP 10 30 56.7 +0.7**
PVCC Panska Ves 92.75 40 *e*P **P 10 30 18.7 +0.7**
PVCC *e*pP **pP 10 30 56.7 +0.6**
PVCC *e*SKS **SKSac 10 40 39.9 +2.2**
PVCC Panska Ves 92.75 40 *e*P **P 10 30 18.7 +0.7**
PVCC *e**PP **pP 10 30 56.7 +0.6**
PVCC *e* 10 40 39.9
HSPB Hornsund (broa 92.78 13 *e*P **P 10 30 19.1 +1.6**

HSPB *e*S **SKSac 10 40 39.9 +3.0**
HSPB *e*L L 11 02 19.8
comp=Z,287µm,49.3s
GBRS Gornja Briga 92.89 45 *e*P **P 10 30 19.0 +0.2**
GOPC GO Pecny, Ondr 92.89 40 *e*P **P 10 30 19.7 +1.0**
GOPC GO Pecny, Ondr 92.89 40 *e*P **P 10 30 19.7 +1.0**
SPA0 Spitsbergen Ar 92.91 12 *e*P **P 10 30 18.5 +0.3**
SPA0 IVmB_BB 10 30 24.6
comp=Z,5µm,3.2s
SPA0 *e*SKSac **SKSac 10 40 37.8 +0.2**
SPA0 IVMs_BB IVMs_BB 11 02 57.0
comp=Z,49µm,35.6s
SPITS Spitsbergen Ar 92.91 12 P **P 10 30 18.2 0.0**
comp=Z,56nm,0.7s,baz=273,slow=4.5,SNR=47
SPITS pP **pP 10 30 57.0 +0.7**
comp=Z,60nm,0.9s,baz=169,slow=4.8,SNR=1.3
SPITS PP **PP 10 34 02.8 +0.2**
comp=Z,53nm,1.1s,baz=305,slow=2.9,SNR=1.9
SPITS PKKPbc **PKKPdf 10 47 27.9 -0.8**
comp=Z,46nm,0.8s,baz=113,slow=6.4,SNR=10
comp=Z,56nm,0.7s
STEI Steigen 92.94 22⇑ *i*P **P 10 30 18.7 +0.2**
STEI IVmB_BB 10 30 30.6
comp=Z,4µm,1.3s
STEI *e*pP **pP 10 30 58.2 +1.6**
STEI *e*PP **PP 10 34 03.0 0.0**
STEI *e*SKSac **SKSac 10 40 38.9 +0.9**
STEI *e*SP SPn 10 42 26.6 +1.2
STEI *e*SS **SS 10 47 30.4 +2.0**
STEI IVMs_BB IVMs_BB 11 02 24.1
comp=Z,48µm,40.8s
BSD Bornholm Skovb 92.95 35 *i* P **P 10 30 19.2 +0.4**
BSD IAmb IAmb 10 30 25.0
comp=Z,402nm,1.1s
FAUS Fauske 92.97 23⇑ *i*P **P 10 30 18.9 +0.3**
FAUS IVmB_BB 10 30 30.6
comp=Z,5µm,3.3s
FAUS *e*pP **pP 10 30 55.8 -1.0**
FAUS *e*PP **PP 10 34 02.9 -0.4**
FAUS *e*SKSac **SKSac 10 40 39.7 +1.5**
FAUS *e*SS **SS 10 47 38.1 +9.2**
FAUS IVMs_BB IVMs_BB 11 02 27.5
comp=Z,39µm,34.4s
SOKA Soboth 93.04 44 *i* P **P 10 30 19.2 -0.4**
comp=Z,5µm,4.1s,SNR=78
SOKA *e*pP **pP 10 30 58.8 +1.1**
comp=Z,12µm,5.6s
SOKA *e*PP **PP 10 34 06.8 +2.2**
comp=Z,4µm,2.1s
SOKA *e*SKS **SKSac 10 40 39.2 -0.4**
comp=Z,59µm,8.9s
SOKA *e*PKKP **PKKPbc 10 47 30.7 +0.5**
comp=Z,101nm,1.6s
SOKA *e*P'P' 10 55 34.2
comp=Z,80nm,1.5s
JOHN Johnston Islan 93.06 287 P **P 10 30 20.6 +0.5**
JOHN IAmb IAmb 10 30 27.3
comp=Z,726nm,1.1s
JOHN Johnston Islan 93.06 287 P **P 10 30 21.0 +0.9**
comp=Z,769nm,1.9s
SBA Scott Base 93.15 191 P **P 10 30 21.4 +2.1**
SBA Scott Base 93.15 191 P **P 10 30 21.4 +2.1**
SBA pmax pmax
comp=Z,2µm,1.3s
BOJS Bojanci 93.20 45⇑ *i*P **P 10 30 19.8 -0.4**
P08K Saint George I 93.29 326 P **P 10 30 20.4 +0.1**
baz=89
P08K S **S 10 41 11.9 -2.7**
baz=89
P08K S **S 10 41 11.9 -2.7**
baz=89
CRES Cresnjevec Ost 93.34 44⇑ *i*P **P 10 30 21.1 +0.2**
TREC Trest 93.34 41 *e*P **P 10 30 21.6 +0.8**
TREC *e*SKS **SKSac 10 40 44.1 +3.0**
TREC Trest 93.34 41 *e*P **P 10 30 21.6 +0.8**
TREC *e* 10 40 44.1
ARSA Arzberg 93.38 43 *i* P **P 10 30 21.0 0.0**
comp=Z,4µm,2.8s,SNR=164
ARSA *e*pP **pP 10 31 00.3 +1.1**
comp=Z,9µm,4.6s
ARSA *e*PP **PP 10 34 09.1 +2.0**
comp=Z,7µm,3.1s
ARSA *e*SKS **SKSac 10 40 40.5 -0.9**
comp=Z,65nm,2.0s
ARSA *e*PKKP **PKKPbc 10 47 29.4 +0.2**
comp=Z,42nm,1.4s
ARSA *i* P'P' 10 55 35.2
comp=Z,71nm,1.8s
ARSA Arzberg 93.38 43 IAmb IAmb 10 30 33.5
comp=Z,807nm,1.4s
BLEU Blekinge 93.45 34 *i* P **P 10 30 20.3 -0.7**
SGRT San Giovanni R 93.56 48 IAmb IAmb 10 30 24.4
comp=Z,737nm,1.6s
TSUM Tsumeb 93.59 109 P **P 10 30 23.9 +1.1**
TSUM IAmb IAmb 10 30 30.6
comp=Z,1µm,1.4s
CONA Conrad Observa 93.60 42 *i* P **P 10 30 22.3 +0.2**
comp=Z,7µm,4.0s,SNR=313
CONA *e*pP **pP 10 31 01.4 +1.1**
comp=Z,12µm,4.8s
CONA *e*PP **PP 10 34 09.2 +0.4**
comp=Z,11µm,4.8s
CONA *e*SKS **SKSac 10 40 43.0 +0.3**
comp=Z,7µm,5.1s
CONA PKKP **PKKPdf 10 47 27.6 +0.6**
comp=Z,63nm,1.5s
CONA *e*P'P' 10 55 34.5
comp=Z,42nm,1.7s
SPIA Saint Paul Isl 93.66 327 P **P 10 30 21.5 -0.5**
baz=88
SPIA S **S 10 41 15.1 -2.8**
baz=88
UPC Upice 93.67 40 *e*P **P 10 30 23.0 +0.7**
UPC *e*pP **pP 10 31 01.5 +1.1**
UPC *e*SKS **SKSac 10 40 45.9 +3.2**
UPC Upice 93.67 40 *e*P **P 10 30 23.0 +0.7**
UPC *e**PP **pP 10 31 01.5 +1.1**
UPC *e* 10 40 45.9
CEL Celeste 93.68 52 P **P 10 30 21.4 -1.3**
comp=Z,8µmcomp=Z,136nm,1.4s
CHVC Chvalec 93.69 40 *e*P **P 10 30 23.2 +0.8**
CHVC Chvalec 93.69 40 *e*P **P 10 30 23.2 +0.8**
BJO1 Bjornoya 93.79 16 *e*P **P 10 30 22.6 +0.3**
BJO1 IVmB_BB 10 30 24.5
comp=Z,4µm,2.1s
BJO1 IVmBBB 10 30 35.3
comp=Z,5µm,10.1s
BJO1 *e*pP **pP 10 31 02.0 +1.6**
BJO1 *e*SKSac **SKSac 10 40 44.1 +1.7**
BJO1 *e*SS **SS 10 47 42.2 +1.9**
BJO1 IVMs_BB IVMs_BB 11 03 08.3
comp=Z,47µm,56.3s
OSTC Ostas 93.80 40 *e*P **P 10 30 23.9 +1.0**
OSTC *e*pP **pP 10 31 01.4 +0.4**
OSTC *e*SKS **SKSac 10 40 46.2 +2.7**
OSTC Ostas 93.80 40 *e*P **P 10 30 23.9 +1.0**
OSTC *e**PP **pP 10 31 01.4 +0.4**
OSTC *e* 10 40 46.2
KSP Ksiaz 93.84 39 *e*P **P 10 30 24.2 +1.1**
KSP *e*PP **PP 10 34 10.1 -0.4**
KSP *e*S **SKSac 10 40 47.0 +3.4**
KSP *e*L L 11 02 38.2
comp=Z,401µm,55.8s
KSP Ksiaz 93.84 39 P **P 10 30 24.0 +1.0**
comp=Z,24µmcomp=Z,631nm,1.1s
DPC Dobruska-Polom 93.87 40 *e*P **P 10 30 24.0 +0.8**
DPC *e*SKS **SKSac 10 40 46.8 +2.9**
DPC *e*PKPPKP 10 55 37.0
DPC Dobruska-Polom 93.87 40 *e*P **P 10 30 24.0 +0.8**
DPC *e* 10 40 46.8
DPC Dobruska-Polom 93.87 40 P **P 10 30 24.2 +1.0**
comp=Z,18µmcomp=Z,597nm,1.3s
KOGS Kog 93.89 44 *e*pP **pP 10 31 03.0 +1.5**
KOGS *i* PP **PP 10 34 13.7 +2.7**
KOGS *e*SKSac **SKSac 10 40 45.0 +1.0**
RONA Rosalia, Austr 93.90 43 *i* P **P 10 30 23.6 +0.2**
comp=Z,3µm,2.4s,SNR=118
RONA *e*pP **pP 10 31 03.1 +1.5**
comp=Z,9µm,4.2s
RONA *e*PP **PP 10 34 13.2 +2.1**
comp=Z,9µm,3.7s
RONA *e*SKS **SKSac 10 40 43.7 -0.5**
comp=Z,112nm,2.0s
RONA *e*SKS **SKSac 10 40 45.0 +0.7**
comp=Z,60nm,1.8s

RONA *e*PKKP **PKKPdf 10 47 26.2 -0.3**
comp=Z,40nm,1.6s
RONA *e*P'P' 10 55 34.0
comp=Z,34nm,1.5s
KRUC Moravsky 93.94 41⇑ *i*P **P 10 30 23.9 +0.4**
KRUC *e*pP **pP 10 31 01.0 -0.7**
KRUC *e*PP **PP 10 34 10.9 -0.5**
KRUC *e*SKS **SKSac 10 40 45.6 +1.3**
KRUC *e*PKPPKP 10 55 37.0
VRAC Vranov 94.07 41⇑ *i*P **P 10 30 24.9 +0.8**
VRAC *e*pP **pP 10 31 01.7 -0.6**
VRAC *e*PP **PP 10 34 12.6 +0.2**
VRAC *e*SKS **SKSac 10 40 47.8 +2.8**
VRAC *e*PKPPKP 10 55 36.3
VRAC Vranov 94.07 41 ⇑P **P 10 30 24.9 +0.8**
VRAC Vranov 94.07 41 ⇑P **P 10 30 24.9 +0.8**
AFI Afiamalu 94.09 256 P **P 10 30 26.5 +1.5**
comp=Z,138nm,1.5s
A050A Klekovaca 94.11 46⇑ *i*P **P 10 30 24.9 +0.4**
GAMB Gambell 94.11 334 P **P 10 30 24.0 0.0**
baz=87
GAMB S **S 10 41 19.4 -2.2**
baz=87
KRLC Kraliky 94.17 40 *e*P **P 10 30 25.7 +1.1**
KRLC *e*SKS **SKSac 10 40 49.2 +3.6**
KRLC *e*PKPPKP **P'P'df 10 55 39.0 +1.7**
KRLC Kraliky 94.17 40 *e*P **P 10 30 25.7 +1.1**
KRLC *e* 10 40 49.2
TRO Tromso 94.19 20 *e*P **P 10 30 24.4 +0.2**
TRO IVmB_BB 10 30 26.9
comp=Z,5µm,2.1s
TRO *e*pP **pP 10 31 03.0 +0.7**
TRO *e*PP **PP 10 34 14.0 +1.3**
TRO *e*SKSac **SKSac 10 40 45.8 +1.1**
TRO *e*SS **SS 10 47 51.7 +5.6**
TRO IVMs_BB IVMs_BB 11 02 55.1
comp=Z,52µm,57.4s
VNDA Vanda 94.24 191 IAmb IAmb 10 30 32.0
comp=Z,1µm,1.3s
VNDA Vanda 94.24 191 P **P 10 30 25.5 +1.2**
comp=Z,246nm,0.9s,baz=126,slow=4.2,SNR=74
VNDA PP **PP 10 34 14.7 +1.9**
comp=Z,86nm,1.3s,baz=137,slow=6.2,SNR=3.2
VNDA S **SKSac 10 40 46.7 +1.8**
comp=Z,9.4nm,1.2s,baz=314,slow=13,SNR=5.9
comp=Z,246nm,0.9s
BEHE Becsehely 94.25 44 IAmb IAmb 10 30 32.4
comp=Z,892nm,1.2s
MATE Matera 94.29 50 ⇑P **P 10 30 25.5 +0.2**
TIP Timpagrande 94.35 51 IAmb IAmb 10 30 28.0
comp=Z,1µm,1.8s
TIP Timpagrande 94.35 51 ⇑P **P 10 30 24.6 -1.1**
GKP Gorka Klasztor 94.36 37 *e*P **P 10 30 26.9 +1.6**
GKP *e*PP **PP 10 34 13.6 -0.8**
GKP *e*S **SKSac 10 40 49.1 +2.8**
GKP *e*L L 11 03 02.3
comp=Z,278µm,33.4s
A051A Mrakovica 94.37 45⇑ *i*P **P 10 30 26.0 +0.3**
MODS Modra-Piesok 94.54 42 *e*P **P 10 30 26.9 +0.6**
MODS pmax pmax
comp=Z,963nm,1.3s
MODS Modra-Piesok 94.54 42 *e*P **P 10 30 26.9 +0.6**
BLY Banja Luka 94.57 45⇑ *i*P **P 10 30 26.7 +0.2**
SMOL Smolenice 94.64 42 *e*P **P 10 30 28.0 +1.2**
SMOL pmax pmax
comp=Z,543nm,2.4s
MORC Moravsky Berou 94.67 40 IAmb IAmb 10 30 34.8
comp=Z,1µm,1.9s
MORC Moravsky Berou 94.67 40⇑ *i*P **P 10 30 28.0 +1.1**
MORC *e*pP **pP 10 31 03.3 -1.8**
MORC *e*PP **PP 10 34 16.3 -0.8**
MORC *e*SKS **SKSac 10 40 51.0 +2.7**
MORC *e*PKPPKP 10 55 34.2
MORC Moravsky Berou 94.67 40 ⇑P **P 10 30 28.2 +1.3**
MORC Moravsky Berou 94.67 40 ⇑P **P 10 30 28.2 +1.3**
JETT Jettan, Norway 94.72 20 *e*P **P 10 30 26.5 -0.2**
JETT IVmB_BB 10 30 39.4
comp=Z,5µm,9.9s
JETT *e*pP **pP 10 31 05.3 +0.4**
JETT *e*PP **PP 10 34 16.1 -0.8**
JETT *e*SKSac **SKSac 10 40 47.6 -0.1**
JETT *e*SP SP 10 42 49.1 +5.9
JETT *e*SS **SS 10 47 57.9 +4.1**
JETT IVMs_BB IVMs_BB 11 03 30.3
comp=Z,40µm,44.6s
MPLH Magyarpolny 94.75 43 P **P 10 30 27.2 -0.1**
comp=Z,39µmcomp=Z,1µm,2.2s
JAVC Velka Javorina 94.79 41⇑ *i*P **P 10 30 28.9 +1.4**
JAVC *e*pP **pP 10 31 03.9 -1.8**
JAVC *e*PP **PP 10 34 16.8 -1.2**
JAVC *e*SKS **SKSac 10 40 51.0 +2.0**
JAVC *e*PKPPKP 10 55 36.0
STEB Steborice 94.81 40 *e*P **P 10 30 28.6 +1.1**
MAUC Maruska 94.87 41 *e*P **P 10 30 29.3 +1.5**
MAUC *e*pP **pP 10 31 06.2 +0.2**
MAUC *e*SKS **SKSac 10 40 53.6 +4.2**
STON Ston 94.99 47⇑ *i*P **P 10 30 28.5 +0.1**
HOPEN Hopen 95.00 13⇑ *i*P **P 10 30 27.9 +0.1**
HOPEN IVmB_BB 10 30 36.9
comp=Z,4µm,3.5s
HOPEN *e*pP **pP 10 31 05.6 -0.4**
HOPEN *e*PP **PP 10 34 19.8 +1.0**
HOPEN *e*SKSac **SKSac 10 40 46.9 -2.0**
HOPEN *e*SS **SS 10 48 00.2 +2.8**
HOPEN IVMs_BB IVMs_BB 11 04 37.8
comp=Z,54µm,40.0s
OKC Ostrava-Krasne 95.06 40 *e*P **P 10 30 30.0 +1.4**
OKC *e*SKS **SKSac 10 40 53.7 +3.5**
OKC Ostrava-Krasne 95.06 40 *e*P **P 10 30 30.0 +1.4**
OKC *e* 10 40 53.7
SRO Srobarova 95.25 42 *e*P **P 10 30 29.5 0.0**
SRO *e* 10 34 19.6
SRO pmax pmax
comp=Z,298nm,1.1s
SRO Srobarova 95.25 42 *e*P **P 10 30 29.5 0.0**
SRO *e*DIFF **P 10 30 30.3 +0.8**
SRO *e*PP **PP 10 34 19.6 -2.0**
CTZ Chatham Island 95.38 226 P **P 10 30 32.8 +2.6**
comp=Z,309nm,2.1s
SUR Sutherland 95.39 123 P **P 10 30 33.1 +2.2**
MORH Mrgy, Hungar 95.55 44 ⇑P **P 10 30 31.5 +0.5**
MORH Mrgy, Hungar 95.55 44 P **P 10 30 30.7 -0.2**
comp=Z,16µmcomp=Z,520nm,1.4s
HCY Herceg Novi 95.59 48⇑ *i*P **P 10 30 31.7 +0.5**
HCY Herceg Novi 95.59 48⇑ *i*P **P 10 30 31.5 +0.3**
BRY Bratogost 95.61 47⇑ *i*P **P 10 30 31.8 +0.3**
BRY Bratogost 95.61 47⇑ *i*P **P 10 30 31.8 +0.3**
HAMF Hammerfest 95.68 19 *e*P **P 10 30 30.2 -0.8**
HAMF IVmB_BB 10 30 41.6
comp=Z,4µm,3.1s
HAMF *e*pP **pP 10 31 09.1 -0.1**
HAMF *e*PP **PP 10 34 23.4 -0.8**
HAMF *e*SKSac **SKSac 10 40 53.4 +0.7**
HAMF *e*SS **SS 10 48 08.5 +1.3**
HAMF IVMs_BB IVMs_BB 11 03 41.1
comp=Z,53µm,48.0s
KOOLE Kule 95.75 113 *i* P **P 10 30 34.6 +2.0**
KTK1 Kautokeino 95.79 21 *e*P **P 10 30 33.3 +1.8**
KTK1 IVmB_BB 10 30 33.8
comp=Z,3µm,1.9s
KTK1 *e*pP **pP 10 31 10.1 +0.3**
KTK1 *e*PP **PP 10 34 24.3 -0.8**
KTK1 *e*SKSac **SKSac 10 40 52.4 -0.9**
KTK1 *e*SP **SP 10 42 60.0 +5.1**
KTK1 *e*SS **SS 10 48 13.2 +4.3**
KTK1 IVMs_BB IVMs_BB 11 03 41.6
comp=Z,38µm,36.9s
HAPS Han Pijesak,Bl 95.86 46⇑ *i*P **P 10 30 33.2 +0.6**
UPM Unac-Piva 95.86 47⇑ *i*P **P 10 30 33.9 +1.2**
UPM Unac-Piva 95.86 47⇑ *i*P **P 10 30 33.0 +0.3**
BUM Brajici-Budva 95.89 48⇑ *i*P **P 10 30 33.3 +0.6**
CEME Cevo 95.90 48⇑ *i*P **P 10 30 32.9 +0.2**
NKME Niksic 95.92 47⇑ *i*P **P 10 30 33.1 +0.3**
LANS Liptovska Anna 95.95 41 *e*P **P 10 30 34.5 +1.7**
LANS Liptovska Anna 95.95 41 *e*DIFF 10 30 34.5
OJC Ojcow 96.10 40 *e*P **P 10 30 34.4 +1.0**
OJC *e*S **SKSac 10 40 56.8 +1.0**
OJC *e*L L 11 03 37.1
comp=Z,418µm,50.6s
OJC Ojcow 96.10 40 IAmb IAmb 10 30 40.3
comp=Z,426nm,1.2s
OJC Ojcow 96.10 40 P **P 10 30 34.0 +0.6**
comp=Z,15µmcomp=Z,367nm,1.1s

DRME	Dracevica, Mon	96.11	48	⇑	*i*P	P		10 30 34.6 +1.0
PDG	Podgorica	96.16	48		IAmb	IAmb		10 30 37.2
	comp=Z,317nm,1.1s							
PDG	Podgorica	96.16	48	⇑	*i*P	P		10 30 34.3 +0.5
PDG	Podgorica	96.16	48	⇓	P	P		10 30 34.3 +0.5
PDG	Podgorica	96.16	48	⇑	*i*P	P		10 30 34.2 +0.5
ULC	Ulcinj	96.17	48	⇑	*i*P	P		10 30 34.4 +0.5
RUDO	Rudo	96.18	47	⇑	*i*P	P		10 30 33.7 -0.2
BBLS	Lazi&#263i	96.20	46	⇑	*i*P	P		10 30 34.7 +0.6
ATKA	Atka Island	96.20	322		IAmb	IAmb		10 31 16.0
	comp=Z,317nm,1.0s							
ATKA	Atka Island	96.20	322		P	P		10 30 36.0 +2.3
	comp=Z,374nm,1.7s							
PLE	Pljevlja	96.21	47	⇑	*i*P	P		10 30 34.5 +0.3
TEKS	Tekeris	96.25	46	⇑	*i*P	P		10 30 34.7 +0.5
PSZ	Piszkesteto	96.31	42		IAmb	IAmb		10 30 45.1
	comp=Z,311nm,1.0s							
PSZ	Piszkesteto	96.31	42	⇑	P	P		10 30 34.9 +0.4
PSZ	Piszkesteto	96.31	42	⇑	P	P		10 30 34.9 +0.4
KOME	Kolasin	96.33	47	⇑	*i*P	P		10 30 35.4 +0.7
FRGS	Fruska Gora	96.42	45	⇑	*i*P	P		10 30 35.0 0.0
NIE	Niedzica	96.48	41		*e*P	P		10 30 37.1 +2.0
NIE					*e*S	SKSac		10 41 01.4 +3.5
NIE					*e*L	L		11 03 53.9
	comp=Z,255µm,51.6s							
NIE	Niedzica	96.48	41		P	P		10 30 36.3 +1.1
	comp=Z,9µmcomp=Z,228nm,1.6s							
ARA0	ARCESS Array S	96.49	20		*e*P	P		10 30 33.9 -0.8
ARA0					IVmB_BB			10 30 44.9
	comp=Z,3µm,3.7s							
ARA0					*e*pP	pP		10 31 12.6 -0.3
ARA0					*e*PP	PP		10 34 31.2 +0.7
ARA0					*e*SKSac	SKSac		10 40 56.4 -0.7
ARA0					*e*SP	SP		10 43 05.8 +3.3
ARA0					*e*SS	SS		10 48 21.7 +2.9
ARA0					IVMs_BB	IVMs_BB		11 04 00.5
	comp=Z,49µm,53.2s							
ARCES	ARCESS Array B	96.49	20		P	P		10 30 34.0 -0.7
	comp=Z,33nm,0.6s,baz=277,slow=2.7,SNR=64							
ARCES					pP	pP		10 31 13.1 +0.2
	comp=Z,77nm,1.0s,baz=285,slow=4.8,SNR=1.9							
ARCES					PP	PP		10 34 30.9 +0.4
	comp=Z,72nm,1.1s,baz=264,slow=4.6,SNR=5.3							
ARCES					S	SKSac		10 40 52.7 -4.3
	comp=Z,7.2nm,1.1s,baz=177,slow=2.4,SNR=1.2							
ARCES					PKKPbc	PKKPbc		10 47 18.4 -3.4
	comp=Z,24nm,0.7s,baz=114,slow=1.9,SNR=12							
ARCES					PKPPKP	P'P'df		10 55 34.3 +2.6
	comp=Z,9.9nm,1.1s,baz=273,slow=2.3,SNR=4.9							
	comp=Z,33nm,0.6s							
LKGWB	Lokgwabe	96.58	114		*i*P	P		10 30 39.4 +3.1
IVA	Berane	96.60	47	⇑	*i*P	P		10 30 36.4 +0.5
BEL	Belsk	96.61	38		*e*P	P		10 30 36.9 +1.3
BEL					*e*PP	PP		10 34 37.5 +5.6
BEL					*e*S	SKSac		10 41 00.4 +2.1
BEL					*e*L	L		11 03 26.3
	comp=Z,523µm,34.6s							
SJES	Sjenica	96.64	47	⇑	*i*P	P		10 30 36.6 +0.5
PUK	Puka	96.65	48		IAmb	IAmb		10 34 32.6
	comp=Z,1µm,1.9s							
TIR	Tirane	96.66	49		P	P		10 30 36.7 +0.6
	comp=Z,16µmcomp=Z,387nm,2.9s							
PVY	Plav	96.67	48	⇑	*i*P	P		10 30 37.0 +0.7
KECS	Kecovo	96.67	42		*e*DIFF			10 30 37.8
KEK	Kerkira	96.69	50		IAmb	IAmb		10 30 43.6
	comp=Z,396nm,1.1s							
KEK	Kerkira	96.69	50		P	P		10 30 38.0 +1.7
R9F13	Warsaw-Wawer	96.79	38		*e*P	PcP		10 30 37.5 +1.0
	comp=Z,13nm,0.5s							
R9F13					*e*	P		10 30 15.7 -21
R9F13					*e*pP	pP		10 31 17.6 +3.0
R9F13					*e*PP	PP		10 34 32.3 -0.9
R9F13					*e*SKS	SKSac		10 41 00.0 +0.9
R9F13					*e*S	ScS		10 41 45.5 0.0
R9F13					*e*SS	SS		10 48 20.5 -3.3
GRTLG	Ghanzi	96.83	112		*i*P	P		10 30 39.7 +2.2
SRN	Sarande	96.83	50		P	P		10 30 37.3 +0.4
QNGWA	Qangwa	96.95	110		*i*P	P		10 30 40.0 +2.0
KEV	Kevo	96.96	20		P	P		10 30 36.9 +0.1
KEV					IAmb	IAmb		10 31 18.5
	comp=Z,614nm,1.7s							
KEV	Kevo	96.96	20		P	P		10 30 36.9 +0.1
KEV					pmax	pmax		
	comp=Z,614nm,1.7s							
IGT	Igoumenitsa	97.11	51		P	Pdif		10 30 38.6 +0.3
SYO	Syowa Base	97.15	161	⇓	*i*P	Pdif		10 30 38.2 +0.5
XAUDM	Khaudum	97.19	109		*i*P	Pdif		10 30 41.8 +2.6
DMLN	Damoulianata-K	97.20	52		P	Pdif		10 30 39.3 +0.6
BANR	Banloc	97.34	45	⇑	P	Pdif		10 30 39.8 +0.7
FSK	Fiskardo	97.34	52		P	P		10 30 38.6 -0.6
PSDA	Pessada-Kefalo	97.38	52		P	P		10 30 39.2 -0.2
OHR	Ohrid	97.38	49		*i*P	Pdif		10 30 40.8 +1.3
VLS	Valsamata	97.38	52		P	P		10 30 39.0 -0.4
TSLK	Tsoukalades, L	97.39	51		P	Pdif		10 30 39.5 0.0
KBN	Korca	97.40	50		P	Pdif		10 30 40.9 +1.3
LKD2	Lefkada island	97.40	51		P	Pdif		10 30 39.7 +0.1
EVGI	Lefkada island	97.41	52		P	P		10 30 39.2 -0.3
NYDR	Nydri-Lefkada	97.43	51		P	P		10 30 39.5 -0.1
JAN	Janina	97.50	50		P	Pdif		10 30 41.0 +1.0
RTZL	Ratzakli, Kefa	97.53	52		P	P		10 30 39.8 -0.3
LTHK	Lithakia	97.60	52		P	P		10 30 40.0 -0.4
KGCAE	Kacgae	97.61	113		*i*P	Pdif		10 30 42.7 +1.7
NEST	Nestorio	97.61	50		P	Pdif		10 30 41.8 +1.2
SIRR	Siria	97.64	44	⇓	P	Pdif		10 30 40.8 +0.4
BZS	Buzias	97.66	44	⇑	P	Pdif		10 30 41.3 +0.7
VADS	Vadso	97.67	19		*e*P	Pdif		10 30 41.1 +1.1
VADS					*e*pP	pP		10 31 18.7 +0.5
VADS					*e*SKSac	SKSac		10 41 02.7 -0.2
VADS					*e*SP	SP		10 43 20.0 +4.8
VADS					IVMs_BB	IVMs_BB		11 04 36.0
	comp=Z,54µm,38.0s							
PENT	Pentalofos	97.69	50		P	Pdif		10 30 41.5 +0.5
ADK	Adak	97.76	322		P	Pdif		10 30 43.0 +2.2
ADK					IAmb	IAmb		10 31 28.8
	comp=Z,299nm,1.2s							
ADK	Adak	97.76	322		P	Pdif		10 30 42.5 +1.7
	comp=Z,129nm,1.8s							
ADK	Adak	97.76	322		P	Pdif		10 30 43.0 +2.2
ADK					pmax	pmax		
	comp=Z,299nm,1.2s							
KOLS	Kolonicke sedl	97.81	41		*e*P	Pdif		10 30 42.7 +1.5
KOLS					*e*			10 34 42.1
SUW	Suwalki	97.83	36		*e*P	P		10 30 40.9 -0.1
SUW					*e*PP	PP		10 34 40.8 -0.3
SUW					*e*S	SKSac		10 41 05.1 +0.7
SUW					*e*L	L		11 05 01.0
	comp=Z,307µm,37.1s							
SUW	Suwalki	97.83	36		IAmb	IAmb		10 30 49.1
	comp=Z,564nm,1.1s							
BOVS	Bovan	97.88	46	⇑	P	P		10 30 41.5 -0.1
KPRO	Kipourio	97.88	50		P	Pdif		10 30 42.5 +0.7
GMARE	Gumare	97.89	110		*i*P	Pdif		10 30 44.6 +2.3
HOLU	Holmets	97.92	41		P	Pdif		10 30 42.1 +0.5
PHPEN	Phepeng	97.92	116		*i*P	Pdif		10 30 44.5 +2.1
SURR	Surduc	98.00	44	⇑	P	P		10 30 41.6 -0.5
KWP	Kalwaria Pacla	98.03	40		*e*P	Pdif		10 30 43.5 +1.4
KWP					*e*PP	PP		10 34 42.1 -0.7
KWP					*e*S	SKSac		10 41 04.5 -1.2
KWP					*e*L	L		11 04 28.2
	comp=Z,398µm,47.7s							
KWP	Kalwaria Pacla	98.03	40		P	Pdif		10 30 43.1 +1.0
	comp=Z,23µmcomp=Z,469nm,1.1s							
RLS	Riolos of Patr	98.07	52		P	Pdif		10 30 42.9 +0.3
BERU	Beregovo	98.13	42		P	P		10 30 42.5 0.0
MUKU	Mukachevo	98.13	42		P	Pdif		10 30 42.6 0.0
KZN	Kozani	98.17	50		P	Pdif		10 30 44.1 +1.1
FINES	FINESS Array B	98.24	28		P	P		10 30 41.4 -1.3
	comp=Z,42nm,0.7s,baz=270,slow=3.2,SNR=30							
FINES					pP	pP		10 31 21.9 +1.0
	comp=Z,51nm,0.9s,baz=279,slow=4.5,SNR=2.4							
FINES					PP	PP		10 34 41.0 -3.1
	comp=Z,57nm,1.0s,baz=280,slow=11,SNR=7.2							
FINES					S	SKSac		10 40 59.6 -6.6
	comp=Z,3.5nm,0.9s,baz=132,slow=2.8,SNR=1.1							
FINES					PKKPbc	PKKPbc		10 47 14.9 -1.7
	comp=Z,35nm,1.0s,baz=67,slow=5.0,SNR=8.3							
FINES					PKPPKP	P'P'df		10 55 30.2 +1.5
	comp=Z,7.6nm,0.9s,baz=91,slow=3.6,SNR=5.7							
	comp=Z,42nm,0.7s							
DRO	Drossia	98.27	52		P	Pdif		10 30 44.1 +0.6
HERR	Herculane	98.28	45	⇑	P	Pdif		10 30 43.6 +0.3
EVR	Evrytania	98.29	51		P	Pdif		10 30 45.3 +1.7
DRGR		98.31	43	⇑	P	Pdif		10 30 43.9 +0.4
DRGR		98.31	43	⇑	P	Pdif		10 30 43.9 +0.4
BRIU	Brid	98.36	42		P	Pdif		10 30 44.3 +0.7
DJES	Djerdap	98.38	45	⇑	P	Pdif		10 30 44.2 +0.4
EFP	Efpalio	98.40	52		P	Pdif		10 30 44.2 +0.2
RAO	Raoul Island	98.40	240		P	Pdif		10 30 45.9 +1.7
	comp=Z,90nm,0.3s,baz=69,slow=20,SNR=0.9							
	comp=Z,90nm,0.3s							
THL	Klokotos Trika	98.40	51		P	Pdif		10 30 44.1 +0.1
GZR	Gura Zlata	98.49	45	⇑	P	Pdif		10 30 44.9 +0.6
GZR	Gura Zlata	98.49	45	⇑	P	Pdif		10 30 44.9 +0.6
ITM	Ithomi	98.49	53		P	P		10 30 44.4 -0.1
SHIU	Shidvtsya	98.49	41		P	Pdif		10 30 45.2 +1.0
MAKR	Makrakomi, Fth	98.53	51		P	Pdif		10 30 45.0 +0.4
TYRN	Tyrnavos	98.56	50		P	P		10 30 44.2 -0.5
KALE	Kalithea	98.58	52		P	P		10 30 44.8 -0.1
GRG	Griva	98.60	49		P	Pdif		10 30 45.8 +0.9
MARR	Marisel-Cluj	98.60	43	⇑	P	Pdif		10 30 45.0 +0.1
KLV	Kalavryta, Ach	98.61	52		P	Pdif		10 30 45.2 +0.1
TRAN	Tran	98.63	47		P	Pdif		10 30 45.5 +0.5
VAY	Valandovo	98.69	49		*i*P	Pdif		10 30 45.5 +0.2
LIT	Litokhoron	98.73	50		P	P		10 30 44.7 -0.8
BMR	Baia Mare	98.75	42	⇑	P	Pdif		10 30 45.9 +0.5
BMR	Baia Mare	98.75	42	⇑	P	Pdif		10 30 45.9 +0.5
GUR	Goura	98.77	52		P	Pdif		10 30 46.0 +0.2
LVV	L'vov	98.86	40		P	Pdif		10 30 46.4 +0.6
AXAR	Agios Charalam	98.96	51		P	P		10 30 46.5 0.0
SKOMA	Sekoma	99.00	115		*i*P	Pdif		10 30 50.6 +3.4
THE	Thessaloniki	99.05	49		P	Pdif		10 30 46.6 -0.2
KKB	Krupnik	99.07	48		P	Pdif		10 30 47.6 +0.7
VTS	Vitosha	99.08	47		P	Pdif		10 30 47.6 +0.5
VSU	Vasula	99.11	31		*i*P	Pdif		10 30 44.7 -1.9
VSU					pmax	pmax		
	comp=Z,460nm,1.8s							
VALD	Valchedram	99.12	46		P	Pdif		10 30 47.5 +0.4
HORT	Hortiatis	99.15	49		P	Pdif		10 30 47.5 +0.1
RAKU	Rahkiv	99.16	42		P	Pdif		10 30 46.9 -0.3
LOT	Lotru	99.18	44	⇑	P	Pdif		10 30 47.2 -0.3
PLNA	Plana	99.23	47		P	Pdif		10 30 48.6 +0.8
STNU	Starunia	99.30	41		P	Pdif		10 30 47.7 -0.1
SOH	Sokhos	99.33	49		P	Pdif		10 30 48.7 +0.5
XOR	Xorichti	99.33	51		P	Pdif		10 30 47.5 -0.7
VLI	Veliai	99.33	53		P	Pdif		10 30 48.2 0.0
MPEP	Malo Peshtene	99.38	47		P	Pdif		10 30 48.4 +0.1
ARCR	ARCALIA	99.40	43	⇑	P	Pdif		10 30 49.0 +0.7
PLG	Polygyros	99.44	50		P	Pdif		10 30 48.8 +0.2
KRND	KRANIDI	99.45	53		P	Pdif		10 30 48.2 -0.5
SRS	Serrai	99.48	49		P	Pdif		10 30 48.6 -0.2
VILL	Villia	99.52	52		P	Pdif		10 30 48.5 -0.6
MMB	Musomishta	99.56	48		P	Pdif		10 30 49.6 +0.4
PAIG	Paliouri	99.66	50		P	Pdif		10 30 49.6 +0.1
BOSA	Boshof	99.66	119		P	Pdif		10 30 51.1 +1.1
	comp=Z,29nm,0.8s,baz=259,slow=4.2,SNR=28							
BOSA					S	SKSac		10 41 13.9 -1.1
	comp=Z,9.3nm,1.0s,baz=333,slow=15,SNR=2.1							
	comp=Z,29nm,0.8s							
NVR	Nevrokopi	99.66	49		P	Pdif		10 30 50.4 +0.8
ANKY	Antikythira Is	99.69	54		P	Pdif		10 30 50.4 +0.6
KSV	Kosov	99.72	41		P	Pdif		10 30 49.0 -0.7
PGB	Panagyurishte	99.78	47		P	Pdif		10 30 50.4 +0.3
ARR	Arges	99.79	44	⇑	P	Pdif		10 30 50.7 +0.5
KDWAN	Kaudwane	99.80	114		*i*P	Pdif		10 30 52.7 +2.0
RNPP8	Varash	99.80	38		P	Pdif		10 30 50.5 +0.6
RNPP9	Sopachiv	99.81	38		P	Pdif		10 30 50.5 +0.5
KOKK	Kokkinochori,	99.81	49		P	Pdif		10 30 50.3 0.0
RNPP5	Staryi Chortor	99.84	38		P	Pdif		10 30 50.5 +0.4
OUR	Ouranopolis	99.85	50		P	Pdif		10 30 50.7 +0.3
ATH	Athens Observa	99.85	52		P	Pdif		10 30 50.3 -0.2
AOS	Alonnisos	99.88	51		P	Pdif		10 30 50.4 -0.2
BURAR	Bucovina Array	99.92	42	⇑	P	Pdif		10 30 51.4 +0.7
BURAR	Bucovina Array	99.92	42	⇑	P	Pdif		10 30 51.4 +0.7
VLY	Voula,Athens	99.92	52		P	Pdif		10 30 50.4 -0.4
PTL	Penteli	99.96	52		P	Pdif		10 30 50.7 -0.3
DION	Dionisos Attik	100.01	52		P	Pdif		10 30 50.6 -0.6
PHDHD	Phuduhudu	100.04	111		*i*P	Pdif		10 30 55.0 +3.2
VOIR		100.08	44	⇑	P	Pdif		10 30 51.7 +0.3
VOIR		100.08	44	⇑	P	Pdif		10 30 51.7 +0.3
KYMI	Kymi, Euboea I	100.10	51		P	Pdif		10 30 51.3 -0.3
MTUR	Matau	100.11	45	⇑	P	Pdif		10 30 52.5 +0.9
MTUR	Matau	100.11	45	⇑	P	Pdif		10 30 52.5 +0.9
HUMR	Humele	100.14	45	⇑	P	Pdif		10 30 51.5 -0.1
LVZ	Lovozero	100.14	21	⇑	P	Pdif		10 30 50.7 -0.4
LVZ	Lovozero	100.14	21		P	Pdif		10 30 50.4 -0.7
	comp=Z,10µmcomp=Z,112nm,1.1s							
KAVA	Kavala	100.19	49		P	Pdif		10 30 51.3 -0.6
MIDW	Midway	100.20	298		P	Pdif		10 30 52.5 +0.3
	comp=Z,137nm,1.2s							
PLD	Plovdiv	100.24	48		P	Pdif		10 30 52.1 0.0
DOPR	Dopca	100.25	44	⇓	P	Pdif		10 30 52.3 +0.2
RZN	Rozhen	100.28	48		P	Pdif		10 30 52.7 +0.1
THAS	Thassos island	100.38	49		P	Pdif		10 30 52.2 -0.5
GVD	Gavdhos	100.40	55		P	Pdif		10 30 52.6 -0.4
SKY	Skiros Island	100.42	51		P	Pdif		10 30 52.9 -0.1
PVL	Pavlikeni	100.44	47		P	Pdif		10 30 53.5 +0.5
MNK	Minsk	100.47	35		*i*P	Pdif		10 30 53.0 +0.2
MNK					*i*			10 34 58.8
MNK					*i*S	SKSac		10 41 20.4 +2.9
MNK					*i*SS	SS		10 49 11.5 -3.6
MNK					*i*SSS	SSS		10 53 08.9
MNK					pmax	pmax		
	comp=N,172nm,1.3s							
MNK					pmax	pmax		
	comp=Z,340nm,0.9s							
MNK					pmax	pmax		
	comp=E,119nm,1.0s							
HORU	Horodok	100.49	40		P	Pdif		10 30 52.9 -0.1
OZUR		100.50	44	⇓	P	Pdif		10 30 53.7 +0.5
KMPD	K-Podol'skiy	100.61	41		P	Pdif		10 30 51.8 -1.8
KMPD					P	Pdif		10 30 51.9 -1.7
KHWEE	KHWEE	100.69	113		*i*P	Pdif		10 30 58.2 +3.5
MLR	Muntele Rosu	100.69	44	⇓	P	Pdif		10 30 54.4 +0.1
MLR	Muntele Rosu	100.69	44	⇓	P	Pdif		10 30 54.4 +0.1
KDZ	Kurdzhali	100.74	48		P	Pdif		10 30 54.2 -0.1
LIA	Limnos Island	100.81	50		P	Pdif		10 30 54.1 -0.6
COVR	Voineasa-Covas	100.83	44	⇓	P	Pdif		10 30 55.8 +1.1
DIM	Dimitrovgrad	100.86	48		P	Pdif		10 30 54.9 0.0
KSANE	Kasane	100.88	108		*i*P	Pdif		10 30 58.0 +2.4
ONER	Baraj Valea Uz	100.89	43	⇑	P	Pdif		10 30 55.8 +0.8
LPHEP	Lephephe	100.89	114		*i*P	Pdif		10 30 58.6 +3.0
RDO	Rodhopi	100.94	49		P	Pdif		10 30 54.8 -0.4
MI28	Mi28,Pidlybu	101.00	39		P	Pdif		10 30 55.5 +0.3
SZH	Strazhitsa	101.01	46		P	Pdif		10 30 55.6 +0.1
URZ	Urewera	101.01	230		P	Pdif		10 30 57.4 +1.8
	comp=E,39nm,1.0s,baz=166,slow=9.6,SNR=4.9							
URZ					PP	PP		10 35 07.5 +1.8
	comp=E,57nm,1.3s,baz=196,slow=9.0,SNR=3.1							
SMTH	Samothraki Isl	101.01	49		P	Pdif		10 30 54.7 -0.9
IDI	Anoyia	101.02	55		P	Pdif		10 30 55.9 +0.1
TESR	Tescani	101.04	43	⇑	P	Pdif		10 30 56.5 +0.9
PLOR	Plostina	101.13	44	⇑	P	Pdif		10 30 55.4 -0.7
PLOR	Plostina	101.13	44	⇑	P	Pdif		10 30 55.4 -0.7
BFZ	Birch Farm	101.15	228		P	Pdif		10 30 57.6 +1.4
	comp=E,103nm,1.8s							
VRI	Vrincioaia	101.19	44	⇑	P	Pdif		10 30 55.8 -0.5
VRI	Vrincioaia	101.19	44	⇑	P	Pdif		10 30 55.8 -0.5
NDNU	Novodnistrovsk	101.20	41		P	Pdif		10 30 56.2 0.0
MI29	MI29, Kamyanyy	101.20	39		P	Pdif		10 30 55.6 -0.6
	comp=E,54µmcomp=E,392nm,1.4s							
BISRR	Bisoca	101.22	44	⇓	P	Pdif		10 30 57.3 +0.8
BKZ	Black Stump Fm	101.29	229		P	Pdif		10 30 56.8 -0.2
	comp=E,89nm,2.1s							
ALN	Alexandroupoli	101.35	49		P	Pdif		10 30 56.7 -0.4
MI30	MI30,Zelenitsa	101.35	39		P	Pdif		10 30 56.9 +0.1
	comp=E,13µmcomp=E,303nm,1.4s							
APE	Apeiranthos	101.37	53		P	Pdif		10 30 54.7 -2.6
APE	Apeiranthos	101.37	53	⇑	P	Pdif		10 30 56.7 -0.6
APE	Apeiranthos	101.37	53	⇑	P	Pdif		10 30 56.7 -0.6
TRWZ	Traveller	101.40	227		P	Pdif		10 30 58.3 +1.0
TRWZ					P	PKKPbc		10 47 07.2 +0.2
SIGR	SIGRI	101.40	51		P	Pdif		10 30 57.0 -0.3
ENEZ	Enez	101.45	49		P	Pdif		10 30 57.5 0.0
TSZ	Takapari Road	101.50	228		P	Pdif		10 31 05.2 +7.3
TSZ					P	PKKPdf		10 47 14.5 +2.2
JMB	Yambol	101.51	47		P	Pdif		10 30 57.7 0.0
PAWZ	Paruwai Farm	101.59	227		P	Pdif		10 31 01.7 +3.5
PAWZ					P	PKKPbc		10 47 06.2 -0.2
HOWZ	Holdsworth Sta	101.64	228		P	Pdif		10 31 05.8 +7.4
HOWZ					P	PKKPbc		10 47 05.7 -0.6
PLWZ	Palliser	101.67	227		P	Pdif		10 31 00.9 +2.4
PLWZ					P	PKKPbc		10 47 06.3 +0.1
EZN	Ezine	101.69	50		P	Pdif		10 30 55.9 -2.7
MSWZ	Moikau Station	101.72	227		P	Pdif		10 31 02.6 +3.8
MSWZ					P	PKKPbc		10 47 05.3 -0.7
PRK	Paraskevi	101.72	51		P	Pdif		10 30 57.9 -0.8
BILL	Bilibino	101.86	340	⇑	P	Pdif		10 30 59.1 +0.4
AK19	Malin Array Si	101.87	39		P	Pdif		10 30 59.2 +0.1
AK21	Malin Array Si	101.88	39		P	Pdif		10 30 58.8 -0.4
AK22	Malin Array Si	101.90	39		P	Pdif		10 30 58.7 -0.6
AK18	Malin Array Si	101.91	39		P	Pdif		10 30 58.6 -0.7
SORM	Soroca	101.92	41	⇑	P	Pdif		10 30 59.4 0.0
SORM	Soroca	101.92	41	⇑	P	Pdif		10 30 59.4 0.0
SORM	Soroca	101.92	41		P	Pdif		10 30 58.8 -0.6
	comp=E,9µmcomp=E,177nm,2.2s							
AK16	Malin Array Si	101.94	39		P	Pdif		10 30 58.9 -0.5
AK15	Malin Array Si	101.95	39		P	Pdif		10 30 59.0 -0.5
NEF	NEVSHA	101.95	46		P	Pdif		10 30 59.4 -0.3
AK14	Malin Array Si	101.95	39		P	Pdif		10 30 59.0 -0.5
AK04	Malin Array Si	101.97	39		P	Pdif		10 30 59.0 -0.6
AK11	Malin Array Si	101.98	39		P	Pdif		10 30 59.0 -0.6
BHW	Baring Head	101.99	227		P	Pdif		10 31 04.6 +4.6
BHW					P	PKKPbc		10 47 04.5 -0.6
KIEV	Kiev	102.00	39	⇑	P	Pdif		10 30 59.9 +0.2
KIEV	Kiev	102.00	39	⇑	P	Pdif		10 30 59.9 +0.2
KIEV	Kiev	102.00	39		*i* Pdiff	Pdif		10 30 59.6 -0.1
	SNR=13							
AKASG	Malin Array Be	102.01	39		P	Pdif		10 30 59.4 -0.4
	comp=E,11nm,0.8s,baz=273,slow=4.3,SNR=30							
AKASG					PP	PP		10 35 11.5 -1.3
	comp=E,106nm,1.1s,baz=282,slow=6.5,SNR=16							
AKASG					S	SKSac		10 41 24.2 -0.9
	comp=E,6.6nm,1.0s,baz=270,slow=4.6,SNR=4.5							
AKASG					PKKPbc	PKKPbc		10 47 03.0 -2.5
	comp=E,13nm,0.9s,baz=60,slow=4.9,SNR=4.5							
AKASG					PKKPab	PKKPdf		10 47 28.5 +17
	comp=E,12nm,0.8s,baz=86,slow=4.2,SNR=7.3							
AKASG					PKPPKP			10 55 21.0
	comp=E,16nm,1.0s,baz=80,slow=2.0,SNR=15							
AKBB	Malin Array Si	102.01	39		P	Pdif		10 30 58.3 -1.4
AK06	Malin Array Si	102.02	39		P	Pdif		10 30 59.2 -0.6
PRD	Provadia	102.06	46		P	Pdif		10 31 00.4 +0.2
ZKR	Zakros	102.12	55		P	Pdif		10 30 59.2 -1.5
ICOR	Ion Corvin	102.20	45	⇑	P	Pdif		10 31 00.9 +0.1
SMG	Samos	102.34	52		P	Pdif		10 31 01.1 -0.5
KIS	Kishinev	102.43	42		*e*P	Pdif		10 31 01.8 +0.1
KIS					*e*pP	pPdif		10 31 37.0 -2.9
KIS	Kishinev	102.43	42		*i* PP	PKiKP		10 35 17.0 -5.5
	comp=E,6µm,3.0s							
KIS	Kishinev	102.43	42		*e*P	P

comp=Z,60nm,0.9s
ANN Anapa 108.79 43 *i* P **Pdif 10 31 28.9 -1.1**
ANN *e* 10 36 00.7
ANN *e* 10 41 56.0
ANN *e*SP SP 10 45 10.9 -2.2
ANN pmax pmax
comp=Z,132nm,2.0s
SEY Seymchan 109.43 338 *e*P **Pdif 10 31 35.1 +2.6**
SEY pmax pmax
comp=Z,15nm,1.1s
VRH Novokhopyorsk 109.44 36 *e*P **Pdif 10 31 33.3 +0.5**
VRH pmax pmax
comp=Z,100nm,1.9s
MMAI Mount Meron Ar 109.97 56 Pdiff **Pdif 10 31 36.7 +1.0**
comp=Z,4.2nm,0.7s,baz=281,slow=4.1,SNR=9.5
MMAI PP **PP 10 36 10.2 -1.8**
comp=Z,312nm,1.2s,baz=290,slow=5.2,SNR=9.8
MMAI PKKPbc **PKKPbc 10 46 42.0 +1.4**
comp=Z,29nm,0.9s,baz=72,slow=5.4,SNR=13
MMAI PKPPKP **P'P'df 10 55 08.6 +0.2**
comp=Z,0.9nm,0.5s,baz=227,slow=3.4,SNR=4.5
ERBR Yeremizino-Bor 110.57 42 *i* P **Pdif 10 31 38.4 +0.4**
ERBR *i* 10 35 37.3
ERBR *e* 10 36 13.2
ERBR *e* 10 42 05.1
ERBR *e*SP SP 10 45 30.0 -0.1
ERBR *e*PS PKKPbc 10 45 42.5 -57
ERBR pmax pmax
comp=Z,93nm,1.6s
SOC Sochi 110.71 44 *i* PKIKP **PKiKP 10 35 37.4 -0.6**
SOC *e* 10 36 13.2
SOC *e* 10 42 04.0
SOC *e*PS PS 10 45 33.0 -17
SOC *e*SS SS 10 51 36.6 +1.7
LABN Labinsk 111.07 43 *i* P **Pdif 10 31 38.8 -1.4**
LABN *e* 10 36 17.9
LABN *e* 10 42 06.8
LABN pmax pmax
comp=Z,23nm,0.4s
PET Petropavlovsk 111.83 327 *e*P **Pdif 10 31 47.6 +4.2**
PET *e* 10 42 09.9
PET *e*SP SP 10 45 40.7 -0.5
PET *e*SPP SPP 10 46 47.0
PET *e*SS SS 10 52 01.8 +13
PET pmax pmax
comp=Z,16μm,9.6s
PET pmax pmax
comp=Z,19μm,19.8s
MA2 Magadan 112.07 336 P **Pdif 10 31 45.5 +1.2**
NRIK Noril'sk 112.25 6 Pdiff **Pdif 10 31 44.9 0.0**
comp=Z,2.5nm,0.6s,baz=352,slow=3.6,SNR=14
NRIK PKiKP **PKiKP 10 35 41.6 +1.4**
comp=Z,11nm,1.1s,baz=75,slow=15,SNR=1.9
NRIK PP **PP 10 36 24.8 -2.1**
comp=Z,46nm,1.1s,baz=360,slow=7.7,SNR=5.5
NRIK PKKPbc **PKKPbc 10 46 27.8 -6.5**
comp=Z,43nm,0.9s,baz=253,slow=1.2,SNR=5.8
PETK Petropavlovsk- 112.31 328 Pdiff **Pdif 10 31 46.4 +0.9**
comp=Z,3.7nm,1.0s,baz=46,slow=6.4,SNR=4.6
PETK PKiKP **PKiKP 10 35 41.4 +0.7**
comp=Z,30nm,0.9s,baz=65,slow=2.1,SNR=10
PETK PP **PP 10 36 29.5 +1.6**
comp=Z,20nm,0.9s,baz=79,slow=9.2,SNR=5.4
PETK PKKPab **PKKPab 10 46 40.2 -0.8**
comp=Z,18nm,0.9s,baz=209,slow=2.7,SNR=9.3
GOF Gofitskoye 112.49 42 *c e*P **Pdif 10 31 51.5 +5.0**
KIV Kislovodsk 112.63 43 *i* P **Pdif 10 31 46.7 -0.6**
KIV *i* 10 35 41.2
KIV *e* 10 36 29.2
KIV *e*SP SP 10 45 50.8 +1.5
KIV *e*PS **PS 10 46 05.6 -1.9**
KIV *e*SS **SS 10 52 01.1 +0.5**
KIV *e*SSS SSS 10 56 14.7
KIV pmax pmax
comp=Z,46nm,1.0s
KBZ Khabaz 112.85 43 Pdiff **Pdif 10 31 49.0 +0.9**
comp=Z,2.6nm,1.0s,baz=286,slow=9.4,SNR=4.9
KBZ PKiKP **PKiKP 10 35 42.5 +0.4**
comp=Z,17nm,1.2s,baz=255,slow=6.6,SNR=5.8
KBZ PP **PP 10 36 30.5 -1.6**
comp=Z,94nm,1.1s,baz=296,slow=16,SNR=5.2
KBZ PKKPbc **PKKPbc 10 46 32.0 +0.6**
comp=Z,33nm,0.9s,baz=155,slow=3.1,SNR=13
DZM Mont Dzumac 113.55 245 *e*P **Pdif 10 31 48.9 -3.0**
comp=Z,9μm,26.6s
DZM Mont Dzumac 113.55 245 *e*PP **PP 10 36 31.6 -6.4**
comp=Z,63μm,28.3s
DZM Mont Dzumac 113.55 245 *e*SS SS 10 52 12.2 -1.9
comp=Z,211μm,32.9s
DZM Mont Dzumac 113.55 245 *e*LR LR 11 09 48.2
comp=Z,89μm,41.5s
DZM Mont Dzumac 113.55 245 PKiKP **PKiKP 10 35 45.4 +1.2**
comp=Z,37nm,0.9s,baz=138,slow=10,SNR=8.2
KMBO Kilima Mbogo 114.19 92 Pdiff **Pdif 10 31 57.6 +2.5**
comp=Z,0.8nm,0.3s,baz=358,slow=19,SNR=1.4
KMBO PKiKP **PKiKP 10 35 46.5 +0.7**
comp=Z,32nm,1.1s,baz=289,slow=1.3,SNR=6.2
KMBO PP **PP 10 36 41.5 -1.6**
comp=Z,35nm,1.2s,baz=258,slow=7.4,SNR=3.0
KMBO PKKPbc **PKKPbc 10 46 27.2 +1.0**
comp=Z,14nm,0.7s,baz=55,slow=6.5,SNR=17
ARTI Arti 115.37 26 P **Pdif 10 31 57.6 -1.5**
SVE Sverdlovsk 116.03 24 *i* PKIKP **PKPdf 10 35 47.0 -0.8**
SVE *e* 10 36 52.8
SVE *e* 10 42 21.5
SVE *e* 10 46 19.8
SVE *e*SS SS 10 52 37.1 -6.8
MAK Makhachkala 116.26 42 *i* P **Pdif 10 32 01.4 -1.9**
MAK *i* 10 35 48.7
MAK *e* 10 36 25.8
MAK *e* 10 36 55.3
MAK *e*PPP PPP 10 39 25.9
MAK *e* 10 42 28.1
MAK *e*PS **PKKPab 10 46 25.8 +2.2**
MAK *e*SS SS 10 52 52.1 +4.2
MAK *e*SSS SSS 10 57 04.4
MAK pmax pmax
comp=Z,355nm,1.7s
MAK MLR MLR
comp=N,35μm,20.0s
MAK MLR MLR
comp=E,29μm,18.0s
MAK MLR MLR
comp=Z,39μm,19.0s
YAK Yakutsk 117.11 346 PKKPbc PKKPbc 10 46 18.1 +0.7
comp=Z,74nm,0.9s,baz=307,slow=1.7,SNR=8.5
YAK Yakutsk 117.11 346 *e*PKIKP **PKiKP 10 35 52.8 +3.1**
YAK *e* 10 36 30.9
YAK *e* 10 37 04.2
YAK *e* 10 39 28.8
YAK *e* 10 42 26.6
YAK *e*PS PKKPab 10 46 31.5 +12
YAK pmax pmax
comp=Z,300nm,1.5s
YAK pmax pmax
comp=E,27nm,2.0s
YAK pmax pmax
comp=N,38nm,1.8s
YAK pmax pmax
comp=Z,947nm,1.7s
YAK pmax pmax
comp=N,913nm,2.0s
YAK pmax pmax
comp=E,331nm,2.0s
FOMA Nahampoana Res 119.36 120 PKPdf **PKiKP 10 35 55.7 +0.5**
ATD Arta Tunnel 119.69 78 PKPdf **PKiKP 10 35 57.8 +1.6**
TAU Tasmania Unive 119.89 216 PKPdf **PKiKP 10 35 57.6 +1.9**
TAU Tasmania Unive 119.89 216 PKIKP **PKiKP 10 35 57.7 +1.9**
VOI Vohitsoka 120.11 117 PKPdf **PKPdf 10 35 56.5 -0.3**
NKL Nikolayevsk 120.52 335 *i* PKIKP **PKPdf 10 35 57.7 -0.8**
NKL *e* 10 37 23.7
NKL *e*PPP PPP 10 39 57.2
NKL *e*SS SS 10 53 43.1 +1.4
AB31 Akbulak array 120.55 31 *i* PKIKP **PKiKP 10 35 57.4 +0.6**
RAYN Ar Rayn 120.57 64 *i* PKPdf **PKPdf 10 35 55.0 -2.6**
SNR=40
CORO Coronation Par 120.86 218 P **PKiKP 10 35 59.9 +2.3**
CORO Coronation Par 120.86 218 P **PKiKP 10 35 59.8 +2.2**
TYV Tymovskoe 121.20 332 *e*PKIKP **PKPdf 10 35 57.7 -0.2**
TYV pmax pmax
comp=Z,178nm,1.0s
TYV pmax pmax
comp=Z,2μm,5.9s
OPO Ambohidratompo 121.35 113 PKP **PKiKP 10 35 59.8 +0.3**
comp=Z,126nm,1.0s,baz=228,slow=1.9,SNR=19
OPO pPKP **pPKPdf 10 36 42.2 +3.0**
comp=Z,66nm,0.9s,baz=219,slow=4.5,SNR=2.9
ALEG Aligegeo Malai 121.45 258 P **PKiKP 10 36 01.5 +1.9**
ALEG Aligegeo Malai 121.45 258 P **PKPdf 10 35 59.5 +0.1**
NGOA Tingoa Renbel 121.63 255 P **PKiKP 10 36 00.8 +0.9**
KUR Kuril'sk 121.89 324 *i* PKIKP **PKPdf 10 35 58.9 -0.5**
KUR 10 37 39.5
KUR *e*PS PKKPdf 10 47 12.4 +38
KUR pmax pmax
comp=Z,492nm,1.5s
KUR pmax pmax
comp=Z,3μm,4.8s
AUUHS Ulladulla High 121.96 225 P **PKiKP 10 36 02.5 +2.5**
AUUHS Ulladulla High 121.96 225 P **PKiKP 10 36 01.2 +1.2**
RIV Riverview 122.20 227 P **PKPdf 10 35 59.6 -0.7**
NTLH Newcastle Hard 122.23 228 P **PKiKP 10 36 01.5 +0.9**
TATA Tatamba Isabel 122.38 259 P **PKPdf 10 36 01.3 +0.1**
TATA Tatamba Isabel 122.38 259 P **PKPdf 10 36 01.1 -0.1**
MGCD Mangrove Creek 122.53 228 P **PKiKP 10 36 01.5 +0.3**
BRVK Borovoye 122.61 23 *i* PKIKP **PKiKP 10 36 01.0 +0.2**
UGL Uglegorsk 122.67 331 *e*PKIKP **PKiKP 10 36 01.3 +0.3**
UGL *e*S **SKSac 10 42 50.0 +2.3**
UGL *e* 10 47 31.0
UGL pmax pmax
comp=Z,2μm,2.9s
UGL pmax pmax
comp=Z,200nm,1.0s
UGL smax smax
comp=E,18μm,16.0s
UGL smax smax
comp=N,8μm,9.2s
BVA0 Borovoye Array 122.68 23 PKIKP **PKPdf 10 35 59.9 -0.8**
BVAR Borovoye Array 122.68 23 Pdiff **Pdif 10 32 34.3 +2.6**
comp=N,0.3nm,0.4s,baz=331,slow=5.3,SNR=1.3
BVAR PKP **PKiKP 10 36 01.4 +0.4**
comp=N,20nm,0.6s,baz=324,slow=1.7,SNR=22
BVAR pPKP **pPKPdf 10 36 42.0 +1.5**
comp=N,145nm,1.0s,baz=282,slow=1.4,SNR=6.3
BVAR PP **PP 10 37 38.1 -1.4**
comp=N,128nm,1.0s,baz=316,slow=4.1,SNR=6.3
BVAR PKKPbc **PKKPab 10 45 54.8 -0.6**
comp=N,38nm,0.9s,baz=151,slow=4.1,SNR=15
BVAR SKKPbc SKKPbc 10 49 21.4 -11
comp=N,27nm,1.0s,baz=123,slow=5.5,SNR=4.4
CNB Canberra Magne 122.76 225 P **PKiKP 10 36 02.5 +0.8**
CAN Canberra 123.01 225 PKPdf **PKiKP 10 36 02.5 +0.4**
CAN Canberra 123.01 225 P **PKiKP 10 36 02.8 +0.6**
CAN Canberra 123.01 225 PKIKP **PKiKP 10 36 02.6 +0.4**
AUPHS Peel High Scho 123.67 230 P **PKiKP 10 36 04.5 +0.9**
YSS Yuzhno-Sakhali 123.70 328 P **PKPdf 10 36 02.7 -0.1**
YSS Yuzhno-Sakhali 123.70 328 *e*P **Pdif 10 32 33.7 -2.6**
YSS *i* 10 36 01.5
YSS *e* 10 36 44.0
YSS *e* 10 37 49.4
YSS *e* 10 42 53.4
YSS *e*SS SS 10 54 23.2 +0.5
YSS pmax pmax
comp=Z,2μm,3.0s
YSS pmax pmax
comp=E,400nm,2.6s
YSS pmax pmax
comp=Z,280nm,0.9s
YSS pmax pmax
comp=Z,26μm,8.0s
YSS pmax pmax
comp=N,8μm,8.3s
YUK Yuzh-Kuril'sk 123.75 324 *e*PKIKP **PKPdf 10 36 01.5 -1.5**
YUK *i* 10 37 51.2
YUK *e* 10 42 55.7
YUK *i* SS SS 10 54 28.8 +5.3
YUK *e*SSS SSS 10 59 04.8
YUK pmax pmax
comp=Z,613nm,1.2s
BOD Bodaibo 123.93 353 *e*PKIKP **PKPdf 10 36 02.7 -0.2**
BOD pmax pmax
comp=Z,337nm,1.8s
YNG Young 123.96 225 P **PKiKP 10 36 04.8 +0.7**
GRNR Gornyy 124.06 335 ⇑ *i*PKIKP **PKPdf 10 36 03.3 -0.1**
GRNR *e* 10 37 59.0
GRNR pmax pmax
comp=Z,20nm,1.0s
GEXS Deakin Univers 124.55 219 P **PKiKP 10 36 06.4 +1.3**
AUDCS Dubbo College 124.83 228 P **PKiKP 10 36 06.0 +0.2**
JKA Kamikawa-asahi 125.58 326 PKPdf **PKiKP 10 36 06.9 0.0**
ASAJ Asahikawa 125.58 326 PKIKP **PKiKP 10 36 06.9 0.0**
BRZS Berezniki 125.94 24 *e*PKIKP **PKiKP 10 36 07.5 0.0**
BRZS Berezniki 125.94 24 *e*PKP **PKiKP 10 36 07.6 0.0**
EIDS Eidsvold 125.95 236 P **PKiKP 10 36 09.8 +1.6**
ZALV Zalesovo Beam 126.37 13 Pdiff **Pdif 10 32 51.3 +3.2**
comp=Z,0.5nm,0.3s,baz=343,slow=5.7,SNR=2.3
ZALV PKP **PKiKP 10 36 08.2 +0.1**
comp=Z,93nm,0.4s,baz=349,slow=2.1,SNR=46
ZALV pPKP **pPKPdf 10 36 48.7 +1.1**
comp=Z,713nm,1.0s,baz=318,slow=2.0,SNR=10
ZALV PKKPbc **PKKPab 10 45 39.2 -0.2**
comp=Z,13nm,0.9s,baz=126,slow=2.6,SNR=5.0
ZALV SKKPbc SKKPbc 10 49 14.1 -5.8
comp=Z,25nm,1.1s,baz=156,slow=3.9,SNR=2.3
AULRC Lightning Ridg 126.67 230 P **PKPdf 10 36 09.1 0.0**
ARPS Mount Arapiles 126.97 219 P **PKPdf 10 36 08.5 -0.9**
OTUK Ortayu 127.15 25 PKIKP **PKPdf 10 36 09.7 +0.2**
KLR Kul'dur 127.16 337 SKKPbc SKKPbc 10 48 58.4 -19
comp=Z,22nm,1.1s,baz=283,slow=6.3,SNR=4.2
KLR Kul'dur 127.16 337 *i* PKIKP **PKPdf 10 36 07.9 -1.5**
CMSA Cobar Meteorol 127.34 227 P **PKPdf 10 36 09.9 -0.4**
KURK Kurchatov 127.52 19 PKIKP **PKiKP 10 36 10.6 0.0**
KURK 10 36 51.5
KURBB Kurchatov Arra 127.57 19 Pdiff **Pdif 10 32 52.7 -0.7**
comp=Z,0.3nm,0.3s,baz=330,slow=4.5,SNR=1.4
KURBB PKP **PKiKP 10 36 10.6 -0.1**
comp=Z,15nm,0.5s,baz=320,slow=2.6,SNR=4.9
KURBB pPKP **pPKPdf 10 36 51.5 +1.5**
comp=Z,363nm,0.9s,baz=324,slow=2.3,SNR=11
KURBB PP **PP 10 38 09.2 -2.7**
comp=Z,80nm,1.1s,baz=322,slow=6.5,SNR=5.6
KURBB PKKPbc PKKPbc 10 45 36.5
comp=Z,5.8nm,0.6s,baz=150,slow=3.1,SNR=7.4
KURBB PKKP **PKKPdf 10 46 22.9 -0.5**
comp=Z,17nm,1.0s,baz=159,slow=1.8,SNR=4.8
KURBB SKKPbc SKKPbc 10 49 12.7 -2.9
comp=Z,29nm,1.1s,baz=135,slow=4.4,SNR=5.1
MZR Muzera 127.81 63 *i* PKiKP **PKiKP 10 36 12.2 +0.2**
SNR=48
HEH HeiHe 127.90 340 Pdif **Pdif 10 33 02.6 +7.7**
HEH PKP **PKPdf 10 36 10.0 -0.8**
HEH sPKP 10 36 52.8
HEH PP **PP 10 38 13.3 -0.8**
HEH AMB AMB
comp=Z,36μm,6.3s
HEH HeiHe 127.90 340 Pdif **Pdif 10 33 02.6 +7.7**
HEH PKP **PKPdf 10 36 10.0 -0.8**
HEH sPKP 10 36 52.8
HEH PP **PP 10 38 13.3 -0.8**
HEH AMB AMB
comp=Z,36μm,6.3s
TEY Ternei 128.16 330 ⇓ *e*PKIKP **PKPdf 10 36 10.4 -1.0**
TEY *e* 10 43 08.7
TEY pmax pmax
comp=Z,20nm,2.2s
JTM Tenmabayashi 128.53 323 PKPdf **PKiKP 10 36 12.8 -0.1**
AJN Ajban 128.69 60 *i* PKiKP **PKPdf 10 36 12.9 -0.1**
SNR=30
ASUD Al Ashush, Dub 128.96 60 *i* PKiKP **PKiKP 10 36 14.5 +0.3**
SNR=10
UMQ Umm Al-Quwin 128.96 59 *i* PKiKP **PKiKP 10 36 14.3 +0.1**
SNR=12
NAZ Nazwa, Dubai 129.13 59 *i* PKiKP **PKiKP 10 36 14.5 -0.1**
SNR=32
FAQ Al Faqa, Dubai 129.15 60 *i* PKiKP **PKiKP 10 36 14.3 -0.3**
SNR=42
SHME Shamm 129.19 58 *i* PKiKP **PKiKP 10 36 14.6 0.0**
SNR=38
BANOM Banah 129.37 58 *i* PKiKP **PKiKP 10 36 15.1 0.0**
SNR=32
MSFE Esma-Masafi 129.44 59 *i* PKiKP **PKiKP 10 36 15.1 -0.1**
SNR=70
ALNE Al Ain 129.50 60 *i* PKiKP **PKiKP 10 36 15.0 -0.3**
SNR=42
ASHO Ashiyiah 129.57 60 PKiKP **PKiKP 10 36 15.3 -0.2**
MDH Madha 129.58 59 *i* PKPdf **PKPdf 10 36 13.3 -1.4**
SNR=27
HATD Hatta, Dubai 129.59 59 *i* PKiKP **PKiKP 10 36 15.4 -0.2**
SNR=34
AUMBR Murray Bridge 129.61 219 P **PKPdf 10 36 14.3 -0.2**
UOSS Minazif 129.62 59 PKPdf **PKPdf 10 36 14.3 -0.5**
CIT Chita 129.64 352 *e*PKIKP **PKiKP 10 36 15.1 +0.2**
CIT pmax pmax
comp=Z,2μm,1.9s
BRLS Borolday 129.81 31 *e*PKIKP **PKiKP 10 36 15.1 -0.4**
BRLS Borolday 129.81 31 *e*PKP **PKiKP 10 36 15.1 -0.4**
STKA Stephens Creek 130.06 224 PKPdf **PKPdf 10 36 15.2 -0.3**
STKA Stephens Creek 130.06 224 PKP **PKiKP 10 36 16.1 -0.2**
comp=Z,7.5nm,0.9s,baz=128,slow=4.3,SNR=9.5
STKA PP **PP 10 38 27.8 -1.2**
comp=Z,144nm,1.3s,baz=94,slow=6.6,SNR=4.5
STKA SKPbc **SKPab 10 39 21.3 -3.1**
comp=Z,48nm,1.0s,baz=96,slow=7.2,SNR=2.4
KK31 Karatay Array 130.11 31 *i* PKIKP PKiKP 10 36 23.9 +7.8
KKAR Karatay Array 130.11 31 PKPdf **PKiKP 10 36 17.7 +1.7**
KKAR Karatay Array 130.11 31 PKIKP **PKiKP 10 36 17.7 +1.7**
SOHO SOHO 130.16 60 *i* PKiKP **PKiKP 10 36 16.7 0.0**
SNR=11
IRK Irkutsk 130.19 359 *e*PKIKP **PKPdf 10 36 15.4 +0.3**
IRK *e* 10 36 56.4
IRK pmax pmax
comp=Z,2μm,1.9s
BTLS Baital 130.37 27 *e*PKIKP **PKiKP 10 36 16.1 -0.4**
BTLS Baital 130.37 27 *e*PKP **PKiKP 10 36 16.2 -0.4**
RABL Rabaul 130.44 263 PKPdf **PKPdf 10 36 16.4 -0.3**
JMM Marumori 130.47 320 P **PKPdf 10 36 15.6 -0.4**
IUG Iuzhnay 130.53 32 *e*PKIKP **PKPdf 10 36 16.4 +0.2**
IUG Iuzhnay 130.53 32 *e*PKP **PKPdf 10 36 16.5 +0.2**
DZA Taraz 130.68 31 *e*PKIKP **PKPdf 10 36 16.7 +0.4**
DZA Taraz 130.68 31 *e*PKP **PKPdf 10 36 16.8 +0.4**
MOY Mondy 130.75 2 *e*PKIKP **PKPdf 10 36 15.6 -0.7**
MOY pmax pmax
comp=Z,1μm,2.6s
USRK Ussuriysk Ar. 131.00 332 PKP **PKPdf 10 36 17.2 +0.4**
comp=Z,104nm,0.9s,baz=49,slow=1.9,SNR=30
USRK pPKP **pPKPdf 10 36 57.8 +1.1**
comp=Z,146nm,1.0s,baz=350,slow=2.3,SNR=3.8
USRK PP **PP 10 38 34.4 0.0**
comp=Z,30nm,1.0s,baz=42,slow=6.3,SNR=4.8
USRK SKPbc **SKPab 10 39 27.9 +0.1**
comp=Z,128nm,1.1s,baz=41,slow=3.5,SNR=6.9
HIA Hailar 131.04 346 P **PKPdf 10 36 16.3 -0.5**
MDJ Mudanjiang 131.74 335 PKPdf **PKPdf 10 36 17.8 -0.4**
MDJ Mudanjiang 131.74 335 PKP **PKPdf 10 36 17.5 -0.7**
MDJ SS SS 10 56 01.5 -0.3
MDJ LR LR
comp=Z,15μm,24.4s
MDJ LR LR
comp=Z,56μm,23.9s
MDJ LR LR
comp=Z,46μm,24.1s
SGDS Sogindy 131.86 28 *e*PKIKP **PKPdf 10 36 18.8 +0.2**
SGDS Sogindy 131.86 28 *e*PKP **PKPdf 10 36 18.9 +0.3**
JSD Sado 131.94 322 P **PKPdf 10 36 19.1 +0.3**
MSEY Mahe Island 132.03 98 PKPdf **PKPdf 10 36 20.2 +0.5**
MSEY Mahe Island 132.03 98 PKIKP **PKPdf 10 36 20.2 +0.5**
MSEY Mahe Island 132.03 98 *i* PKPdf **PKPdf 10 36 18.2 -1.5**
SNR=36
ZAK Zakamensk 132.07 360 *e*PKIKP **PKPdf 10 36 17.0 -1.8**
ZAK *e* 10 36 59.8
ZAK *e* 10 38 38.2
ZAK pmax pmax
comp=Z,355nm,1.6s
ZAK pmax pmax
comp=Z,217nm,1.8s
MK31 Makanchi Array 132.13 19 *i* PKIKP **PKPdf 10 36 18.1 -0.9**
MKAR Makanchi Array 132.13 19 Pdiff **Pdif 10 33 13.9 0.0**
comp=Z,0.1nm,0.5s,baz=339,slow=5.5,SNR=1.6
MKAR PKP **PKPdf 10 36 18.9 -0.1**
comp=Z,18nm,0.5s,baz=317,slow=2.2,SNR=16
MKAR pPKP **pPKPdf 10 37 01.4 +2.5**
comp=Z,299nm,0.9s,baz=325,slow=1.9,SNR=12
MKAR PP **PP 10 38 42.1 +0.6**
comp=Z,167nm,1.1s,baz=333,slow=6.3,SNR=6.7
MKAR SKPbc **SKPbc 10 39 31.3 -0.3**
comp=Z,39nm,0.9s,baz=308,slow=0.6,SNR=1.2
MKAR PKKPbc PKKPbc 10 45 23.1
comp=Z,13nm,0.9s,baz=134,slow=3.5,SNR=4.6
MKAR SKKPbc SKKPbc 10 48 47.2 -12
comp=Z,9.3nm,0.8s,baz=107,slow=5.0,SNR=4.2
TDK Taldyqorghan 132.25 24 *e*PKIKP **PKiKP 10 36 19.8 -0.5**
TDK Taldyqorghan 132.25 24 *e*PKP **PKiKP 10 36 19.8 -0.5**
ZSN Zaisan 132.34 17 *e*PKIKP **PKPdf 10 36 19.8 +0.5**
ZSN Zaisan 132.34 17 *e*PKP **PKPdf 10 36 19.8 +0.5**
CHGR Chuyangaron 132.41 36 PKPdf **PKiKP 10 36 21.8 +0.9**
CHGR Chuyangaron 132.41 36 PKIKP **PKiKP 10 36 21.8 +0.9**
AAK Ala-Archa 132.43 28 PKIKP **PKiKP 10 36 21.6 +0.7**
AAK Ala-Archa 132.43 28 *i* PKiKP **PKiKP 10 36 22.5 +1.6**
SNR=23
MSHR Mys Shultsa 132.63 332 *i* PKIKP **PKPdf 10 36 18.5 -1.5**
MJAR Matsushiro Arr 132.91 321 PKhKP PKPpre 10 36 06.2
comp=Z,9.2nm,0.9s,baz=57,slow=3.1,SNR=11
MJAR PKP **PKPdf 10 36 21.0 +0.3**
comp=Z,48nm,0.7s,baz=61,slow=2.1,SNR=17
MJAR SKPbc **SKPbc 10 39 33.7 -0.9**
comp=Z,113nm,1.0s,baz=54,slow=3.4,SNR=7.7
MJAR SKKPbc **SKKPbc 10 48 53.3 -2.8**
comp=Z,33nm,1.2s,baz=222,slow=3.9,SNR=5.3
AAA Alma-Ata 133.09 26 *e*PKIKP **PKiKP 10 36 21.9 -0.2**
AAA Alma-Ata 133.09 26 *e*PKP **PKiKP 10 36 21.9 -0.2**
BBOO Buckleboo 133.15 219 PKPdf **PKPdf 10 36 20.6 -0.7**
MDOK Medeo 133.18 26 PKIKP **PKiKP 10 36 22.7 +0.2**
MDOK Medeo 133.18 26 *e*PKP **PKiKP 10 36 21.9 -0.5**
MDOK *e*PP **PP 10 38 49.6 +1.0**
TNSS Tian-Shan 133.24 26 *e*PKIKP **PKPdf 10 36 22.0 +0.4**
TNSS Tian-Shan 133.24 26 *e*PKP **PKPdf 10 36 22.1 +0.4**
KPKS Kokpek 133.63 24 *e*PKIKP **PKiKP 10 36 22.8 -0.5**
KPKS *e* 10 38 52.6
KPKS Kokpek 133.63 24 *e*PKP **PKiKP 10 36 22.8 -0.5**
KPKS *e*PP **PP 10 38 52.6 +1.3**
AIS Amsterdam Isla 133.70 152 PKPdf **PKPdf 10 36 21.3 -0.8**
SATY Saty 133.85 25 *e*PKIKP **PKPdf 10 36 22.9 +0.5**
SATY *e* 10 38 53.8
SATY Saty 133.85 25 *e*PKP **PKPdf 10 36 23.0 +0.5**
SATY *e*PP **PP 10 38 53.9 +1.0**
JGF Kuroka 134.03 320 PKPdf **PKPdf 10 36 22.7 -0.2**
UZB Uzynbulak 134.04 24 *e*PKIKP **PKPdf 10 36 23.2 +0.4**
UZB *e* 10 38 54.7
UZB Uzynbulak 134.04 24 *e*PKP **PKPdf 10 36 23.3 +0.4**
UZB *e*PP **PP 10 38 54.8 +0.8**
PDGK Podgornoye 134.08 24 PKIKP **PKiKP 10 36 24.4 +0.2**
CN2 Changchun 134.09 337 Pdif **Pdif 10 33 28.0 +5.3**
CN2 ⇓PKP **PKPdf 10 36 21.3 -1.4**
CN2 AMB AMB
comp=Z,6μm,10.0s
CN2 LR LR
comp=N,50μm,24.0s
CN2 LR LR
comp=E,28μm,24.0s
CN2 LR LR
comp=Z,41μm,26.7s
SHLS Shalkode 134.21 24 *e*PKIKP **PKiKP 10 36 24.1 -0.4**
SHLS *e* 10 38 56.8
SHLS Shalkode 134.21 24 *e*PKP **PKiKP 10 36 24.2 -0.4**
SHLS *e*PP **PP 10 38 56.9 +1.8**
INU Inuyama 134.40 320 PKPdf **PKPdf 10 36 23.8 +0.3**
SONM Songino Array 134.52 357 Pdiff **Pdif 10 33 29.2 +4.5**
comp=Z,0.1nm,0.3s,baz=3.2,slow=3.7,SNR=1.7
SONM PKhKP PKPpre 10 36 12.6
comp=Z,7.3nm,0.7s,baz=342,slow=2.4,SNR=10
SONM PKP **PKPdf 10 36 24.1 +0.5**
comp=Z,34nm,0.6s,baz=12,slow=1.9,SNR=15
SONM pP **pPKPdf 10 37 06.2 +2.7**
comp=Z,258nm,1.2s,baz=27,slow=2.3,SNR=4.0
SONM PP **PP 10 38 55.3 -1.4**
comp=Z,84nm,1.2s,baz=352,slow=5.5,SNR=3.7
SONM SKPbc **SKPbc 10 39 39.2 -0.5**
comp=Z,46nm,1.0s,baz=337,slow=0.9,SNR=4.0
SONM PKKPbc PKKPdf 10 45 10.8 -59
comp=Z,15nm,1.1s,baz=171,slow=4.9,SNR=4.5
SONM SKKPbc **SKKPbc 10 48 50.1 -0.8**
comp=Z,31nm,1.1s,baz=184,slow=5.8,SNR=4.2
TARG Taragay, Kyrgy 134.67 27 PKPdf **PKiKP 10 36 27.7 +1.8**
TARG Taragay, Kyrgy 134.67 27 PKIKP **PKiKP 10 36 27.7 +1.8**
KBU Kabul Universi 135.03 41 PKP **PKiKP 10 36 30.1 +3.6**
JCJ Chichijima 135.09 307 PKPdf **PKPdf 10 36 25.5 +0.5**
KSH Kashi 135.53 30 PKP **PKPdf 10 36 22.4 -3.3**
KSH SKKS 10 45 43.9
KSH LR LR
comp=Z,38μm,33.0s
KSH LR LR
comp=Z,40μm,31.6s
KSH LR LR
comp=Z,97μm,33.0s
WUS Wushi 135.72 26 PKPdf **PKPdf 10 36 26.5 +0.5**

HHU	**Hamhung**	**136.40**	**332**	PKPbc	PKPpre	10 36 06.9	
HHU				AmB			
	comp=Z,286nm,4.6s						
HHU				AMS	AMS		
	comp=Z,37μm,28.2s						
WMQ	**Urumqi**	**136.46**	**16**	PKP	**PKiKP**	**10 36 30.3**	**+1.3**
WMQ				PP	**PP**	**10 39 14.0**	**+5.1**
WMQ				AMB	AMB		
	comp=Z,9μm,6.7s						
WMQ				LR	LR		
	comp=Z,32μm,18.3s						
WMQ				LR	LR		
	comp=Z,38μm,18.3s						
WMQ				LR	LR		
	comp=Z,52μm,20.5s						
SNY	**Shenyang**	**136.50**	**338**	SS	SS	10 57 01.9	+3.1
SNY				LR	LR		
	comp=N,38μm,24.7s						
SNY				LR	LR		
	comp=E,10μm,19.0s						
SNY				LR	LR		
	comp=Z,67μm,23.9s						
XLT	**XiLinHaoTe**	**136.95**	**346**	*e*PKP	PKPpre	10 36 19.0	
XLT				sPKP		10 37 10.9	
XLT				PP	**PP**	**10 39 09.9**	**-2.0**
XLT	**XiLinHaoTe**	**136.95**	**346**	SS	SS	10 57 02.5	-1.6
XLT				pmax	pmax		
	comp=Z,6μm,15.0s						
XLT				LR	LR		
	comp=N,3μm,23.9s						
XLT				LR	LR		
	comp=E,24μm,20.8s						
XLT				LR	LR		
	comp=Z,71μm,23.9s						
XLT	**XiLinHaoTe**	**136.95**	**346**	*e*PKP	PKPpre	10 36 19.0	
XLT				sPKP		10 37 10.9	
XLT				PP	**PP**	**10 39 09.9**	**-2.0**
JMN	**Monobe**	**137.43**	**321**	PKPdf	**PKiKP**	**10 36 30.9**	**-0.3**
SUJ	**Sinuiju**	**137.59**	**335**	PKPbc	PKPpre	10 36 13.6	
SUJ				AmB			
	comp=Z,504nm,4.4s						
SUJ				AMS	AMS		
	comp=Z,7μm,19.5s						
PYAG	**Pyongyang**	**137.92**	**333**	PKPbc	PKPpre	10 36 16.2	
PYAG				AmB			
	comp=Z,63nm,1.5s						
PYAG				AMS	AMS		
	comp=Z,47μm,32.4s						
KSRS	**Korea Array**	**138.16**	**330**	PKhKP	PKPpre	10 36 20.0	
	comp=Z,27nm,0.8s,baz=45,slow=3.9,SNR=26						
KSRS				PKP	**PKPdf**	**10 36 30.6**	**+0.2**
	comp=Z,336nm,1.0s,baz=33,slow=1.4,SNR=26						
HJU	**Haeju**	**138.75**	**332**	PKPbc	PKPpre	10 36 20.1	
HJU				PP	PP	10 39 15.4	-7.9
HJU				AMS	AMS		
	comp=Z,52μm,24.5s						
DL2	**Dalian**	**139.77**	**337**	SS	SS	10 57 23.4	-14
DL2				AMB	AMB		
	comp=Z,35μm,5.8s						
JMU	**Jammu**	**139.85**	**38**	*e*P	**PKiKP**	**10 36 35.3**	**-0.8**
JMU				IAMs_20	IAMs_20	10 40 20.2	
	comp=Z,22μm,20.4s						
JMU				*e*S	**SKSdf**	**10 43 28.2**	**-2.0**
ASAR	**Alice Springs**	**140.38**	**228**	PKhKP	PKPpre	10 36 26.3	
	comp=Z,144nm,0.9s,baz=125,slow=3.6,SNR=116						
ASAR				PKKP	**PKKPdf**	**10 45 57.0**	**-1.5**
	comp=Z,3.3nm,0.5s,baz=342,slow=2.3,SNR=6.2						
BJI	**Beijing**	**140.55**	**344**	PKP	**PKPdf**	**10 36 34.3**	**-0.4**
BJI				sPKP		10 37 22.3	
BJI				PP	**PP**	**10 39 34.4**	**+0.4**
BJI				SKP		10 39 57.3	
BJI				AMB	AMB		
	comp=Z,20μm,12.6s						
BJI				LR	LR		
	comp=Z,18μm,23.9s						
BJI				LR	LR		
	comp=Z,21μm,24.1s						
BJI				LR	LR		
	comp=Z,36μm,28.1s						
BJT	**Baijiatuau**	**140.57**	**344**	PKPdf	**PKPdf**	**10 36 34.4**	**-0.4**
BJT	**Baijiatuau**	**140.57**	**344**	PKIKP	**PKPdf**	**10 36 34.4**	**-0.4**
JASL	**Jaisalmer**	**140.68**	**48**	*e*P	**PKPdf**	**10 36 35.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**140.83**	**350**	⇑PKP	**PKPdf**	**10 36 33.3**	**-2.1**
HHC				PP	**PP**	**10 39 39.3**	**+3.5**
HHC				PKS	**PKSdf**	**10 40 05.3**	**-6.1**
HHC				SKS	**SKSdf**	**10 43 24.6**	**-7.2**
HHC				SKKS	**SKKSac**	**10 46 14.5**	**-1.6**
HHC				SS	**SS**	**10 57 45.5**	**-4.0**
HHC				LR	LR		
	comp=Z,42μm,23.5s						
HHC				LR	LR		
	comp=Z,19μm,19.6s						
HHC				LR	LR		
	comp=Z,54μm,22.5s						
DHRM	**DHARAMSHALA**	**141.02**	**37**	*e*P	**PKPdf**	**10 36 36.0**	**-0.2**
DHRM				IAMs_20	IAMs_20	10 40 24.3	
	comp=Z,13μm,20.4s						
DHRM				*e*S	**SKSdf**	**10 43 32.4**	**-0.4**
JSU	**Suzuyama**	**141.06**	**321**	P	**PKPdf**	**10 36 37.0**	**+1.1**
TABU	**Tabubil**	**141.08**	**259**	P	**PKPdf**	**10 36 34.0**	**-2.5**
MMPI	**Merauke**	**141.22**	**254**	PKP	PKPpre	10 36 29.7	
MMPI				PKP	**PKiKP**	**10 36 40.5**	**+1.1**
BTO	**Baotou**	**141.32**	**351**	*e*PKP	PKPpre	10 36 31.8	
BTO				AMB	AMB		
	comp=Z,9μm,9.8s						
BTO				LR	LR		
	comp=Z,117μm,24.7s						
BTO				LR	LR		
	comp=Z,98μm,22.9s						
BTO				LR	LR		
	comp=Z,190μm,24.7s						
BHUJ	**Bhuj**	**141.56**	**54**	*e*P	**PKPdf**	**10 36 38.0**	**+1.0**
BHUJ				IAMs_20	IAMs_20	10 40 22.8	
	comp=Z,11μm,16.2s						
BHUJ				*e*S	**SKSdf**	**10 43 34.4**	**+1.0**
H01W1	**Cape Leeuwin H**	**141.57**	**195**	PKP	PKPpre	10 36 32.6	
	baz=175,slow=4.2,SNR=34						
H01W2	**Cape Leeuwin H**	**141.57**	**195**	PKP	PKPpre	10 36 32.7	
	baz=175,slow=4.2,SNR=35						
H01W3	**Cape Leeuwin H**	**141.59**	**195**	PKP	PKPpre	10 36 32.7	
	baz=175,slow=4.2,SNR=30						
BHK	**Bhakra**	**141.67**	**38**	*e*P	**PKPdf**	**10 36 37.3**	**+0.3**
JAY	**Jayapura**	**142.00**	**263**	PKP	PKPpre	10 36 33.9	
WRA	**Warramunga Arr**	**142.13**	**233**	PKhKP	PKPpre	10 36 33.2	
	comp=Z,204nm,1.0s,baz=120,slow=2.8,SNR=453						
WRA				PP	**PP**	**10 39 42.9**	**-2.2**
	comp=Z,108nm,1.1s,baz=121,slow=5.5,SNR=9.1						
WRA				PKKP	**PKKPdf**	**10 45 54.5**	**-0.7**
	comp=Z,7.7nm,0.9s,baz=320,slow=1.4,SNR=9.8						
SMLA	**Simla**	**142.33**	**38**	*e*P	**PKPdf**	**10 36 36.0**	**-2.2**
SMLA				IAMs_20	IAMs_20	10 40 22.2	
	comp=Z,9μm,16.4s						
SMLA				*e*S	**SKSdf**	**10 43 34.4**	**+0.1**
GENI	**Genyem**	**142.52**	**263**	PKP	**PKPdf**	**10 36 35.7**	**-3.3**
KKR	**Kurukshetra**	**142.92**	**39**	*e*P	**PKPdf**	**10 36 37.3**	**-1.9**
GTA	**Gaotai**	**142.93**	**4**	PKP	**PKPdf**	**10 36 35.0**	**-4.2**
GTA				PP	**PP**	**10 39 55.3**	**+6.9**
GTA				SKKS		10 46 26.8	
GTA				SS	**SS**	**10 58 08.5**	**-5.3**
GTA				AMB	AMB		
	comp=Z,34μm,10.3s						
GTA				LR	LR		
	comp=Z,25μm,24.7s						
GTA				LR	LR		
	comp=Z,18μm,24.5s						
GTA				LR	LR		
	comp=Z,59μm,24.3s						
DDI	**Dehra Dun**	**143.44**	**38**	*e*P	**PKiKP**	**10 36 42.0**	**-1.6**
DDI				IAMs_20	IAMs_20	10 40 28.7	
	comp=Z,8μm,19.1s						
DDI				*e*S	**SKSdf**	**10 43 36.5**	**+0.2**
AJM	**Ajmer**	**143.68**	**46**	*e*P	**PKPdf**	**10 36 41.4**	**+0.7**
AJM				IAMs_20	IAMs_20	10 40 28.0	
	comp=Z,11μm,16.2s						
AJM				*e*S	**SKSdf**	**10 43 38.5**	**+1.8**
TIY	**Taiyuan**	**143.68**	**347**	*e*PKP	PKPbc	10 36 38.1	-0.2
TIY				pPKP	pPKPdf	10 37 19.3	-1.1
TIY				PP	**PP**	**10 39 59.5**	**+6.5**
TIY				SKKS		10 46 25.8	
TIY				SS	**SS**	**10 58 20.0**	**-2.5**
TIY				LR	LR		
	comp=Z,42μm,22.7s						
TIY				LR	LR		
	comp=Z,27μm,24.7s						
TIY				LR	LR		
	comp=Z,53μm,26.1s						
TIA	**Tai'an**	**143.79**	**340**	PKP	PKPab	10 36 36.8	-1.0
TIA				pPKP	pPKPdf	10 37 16.6	-4.0
TIA				PP	**PP**	**10 39 58.8**	**+5.1**
TIA				SKKS		10 46 27.8	
TIA				SS	**SS**	**10 58 25.6**	**+1.7**
TIA				AMB	AMB		
	comp=Z,24μm,13.4s						
TIA				LR	LR		
	comp=Z,33μm,20.6s						
TIA				LR	LR		
	comp=Z,21μm,18.2s						
TIA				LR	LR		
	comp=Z,46μm,23.0s						
BHGR	**Bahadurgarh**	**143.86**	**41**	*e*P	**PKPdf**	**10 36 41.4**	**+0.5**
MTKN	**Mount Kenneth**	**143.88**	**199**	P	**PKPdf**	**10 36 41.0**	**+0.1**
KUDL	**Kundal**	**143.92**	**42**	*e*P	**PKPdf**	**10 36 41.4**	**+0.4**
SMPI	**Sarmi**	**144.04**	**264**	PKP	**PKPab**	**10 36 39.6**	**+0.1**
NDI	**New Delhi**	**144.04**	**41**	*e*P	**PKPdf**	**10 36 41.4**	**+0.1**
NDI				IAMs_20	IAMs_20	10 40 44.7	
	comp=Z,13μm,18.3s						
NDI				*e*S	**SKSdf**	**10 43 34.4**	**-2.7**
MERT	**Meerut**	**144.18**	**40**	*e*P	**PKPdf**	**10 36 41.4**	**0.0**
MERT				IAMs_20	IAMs_20	10 40 44.7	
	comp=Z,10μm,16.4s						
MERT				⇓*e*S	**SKSdf**	**10 43 38.5**	**+1.2**
SONA	**Sohna**	**144.24**	**41**	*e*P	**PKPdf**	**10 36 41.4**	**-0.2**
SONA				*e*S	**SKSdf**	**10 43 38.5**	**+1.1**
ASOR	**Ausora**	**144.35**	**40**	*e*P	**PKPdf**	**10 36 41.4**	**-0.3**
ASOR				IAMs_20	IAMs_20	10 40 20.6	
	comp=Z,12μm,19.7s						
ASOR				*e*S	**SKSdf**	**10 43 40.5**	**+3.0**
BLDU	**Ballidu**	**144.77**	**201**	P	**PKPab**	**10 36 41.2**	**-0.5**
PTH	**Pithoragarh**	**145.30**	**36**	*e*P	**PKPdf**	**10 36 43.5**	**-0.2**
PTH				IAMs_20	IAMs_20	10 37 55.0	
	comp=Z,17μm,20.5s						
PTH				*e*S	**SKSdf**	**10 43 40.5**	**+1.2**
LGTI	**Lohaghat**	**145.39**	**36**	*e*P	**PKPdf**	**10 36 43.5**	**-0.1**
JOW	**Kunigami**	**145.59**	**318**	P	**PKPbc**	**10 36 44.6**	**+0.1**
LZH	**Lanzhou**	**146.35**	**359**	PKPbc	**PKPbc**	**10 36 46.4**	**-0.3**
LZH				AMB	AMB		
	comp=Z,17μm,6.2s						
LZH				LR	LR		
	comp=Z,31μm,19.6s						
LZH				LR	LR		
	comp=Z,44μm,18.2s						
LZH				LR	LR		
	comp=Z,56μm,18.5s						
MORW	**Morawa**	**146.42**	**201**	P	**PKPdf**	**10 36 44.9**	**-0.5**
SRPI	**Serui, Papua**	**146.51**	**263**	PKP	**PKPbc**	**10 36 47.6**	**0.0**
SSE	**Sheshan**	**146.57**	**331**	PKPdf	**PKPdf**	**10 36 46.0**	**+0.4**
SSE	**Sheshan**	**146.57**	**331**	PKPbc	**PKPdf**	**10 36 45.3**	**-0.2**
SSE				SS	SS	10 58 54.3	-1.8
SSE				AMB	AMB		
	comp=Z,8μm,8.6s						
SSE				LR	LR		
	comp=Z,4μm,24.5s						
BAKI	**Biak**	**146.71**	**264**	PKP	**PKPbc**	**10 36 48.3**	**+0.1**
NJ2	**Nanjing**	**146.83**	**335**	⇓PKPbc	**PKPdf**	**10 36 45.8**	**-0.1**
NJ2				PKPab	**PKiKP**	**10 36 52.3**	**+1.9**
NJ2				sPKP		10 37 34.3	
NJ2				PP	**PP**	**10 40 13.3**	**+1.4**
NJ2				PKS		10 40 19.1	
NJ2				SKKS		10 46 47.0	
NJ2				SS	**SS**	**10 58 55.9**	**-2.8**
NJ2				LR	LR		
	comp=Z,18μm,21.8s						
NJ2				LR	LR		
	comp=Z,39μm,22.7s						
NJ2				LR	LR		
	comp=Z,52μm,24.9s						
JHNI	**Jhansi**	**147.04**	**43**	*e*P	**PKPdf**	**10 36 47.6**	**+1.1**
KDU	**Kakadu**	**147.17**	**242**	P	**PKPdf**	**10 36 46.7**	**-0.2**
POO	**Poona**	**147.19**	**59**	*e*P	**PKPdf**	**10 36 46.1**	**-0.9**
MEEK	**Meekatharra**	**147.54**	**207**	P	**PKPdf**	**10 36 47.0**	**-0.3**
BHPL	**Bhopal**	**147.63**	**48**	*e*P	**PKPdf**	**10 36 46.1**	**-1.5**
XAN	**Xi'an**	**147.92**	**351**	PKPbc	**PKiKP**	**10 36 52.2**	**-0.5**
XAN	**Xi'an**	**147.92**	**351**	⇓PKPbc	**PKPdf**	**10 36 48.3**	**+0.5**
XAN				PKPab	**PKPab**	**10 36 57.0**	**+3.2**
XAN				PP	**PP**	**10 40 16.3**	**-1.7**
XAN				SKKS		10 46 56.3	
XAN				SS	**SS**	**10 59 08.4**	**-2.0**
XAN				AMB	AMB		
	comp=Z,33μm,7.7s						
XAN				LR	LR		
	comp=Z,62μm,21.8s						
XAN				LR	LR		
	comp=Z,47μm,23.7s						
XAN				LR	LR		
	comp=Z,130μm,23.3s						
XAN	**Xi'an**	**147.92**	**351**	PKP2	**PKiKP**	**10 36 52.3**	**-0.5**
H08S1	**Diego Garcia H**	**148.00**	**108**	PKPbc	**PKPbc**	**10 36 50.5**	**-0.8**
	baz=278,slow=74,SNR=310						
H08S3	**Diego Garcia H**	**148.01**	**108**	PKPbc	**PKPbc**	**10 36 50.5**	**-0.8**
H08S2	**Diego Garcia H**	**148.02**	**108**	PKPbc	**PKPbc**	**10 36 50.5**	**-0.8**
	baz=262,slow=74,SNR=308						
DGAR	**Diego Garcia**	**148.04**	**108**	PKPbc	**PKPbc**	**10 36 51.1**	**-0.6**
DGAR	**Diego Garcia**	**148.04**	**108**	PKIKP	**PKPbc**	**10 36 51.2**	**-0.6**
MTN	**Manton Dam**	**148.28**	**241**	PKPbc	**PKPbc**	**10 36 51.3**	**-1.0**
MTN	**Manton Dam**	**148.28**	**241**	P	**PKPdf**	**10 36 48.9**	**+0.1**
GOA	**Goa**	**148.40**	**64**	*e*P	**PKPdf**	**10 36 48.1**	**-0.8**
RKPI	**Ransiki, Papua**	**148.60**	**263**	PKP	**PKPdf**	**10 36 50.7**	**+1.3**
DRS	**Darwin Rock St**	**148.67**	**242**	P	**PKPdf**	**10 36 49.9**	**+0.5**
AKL	**Akola**	**148.74**	**52**	*e*P	**PKPdf**	**10 36 47.6**	**-1.8**
AKL				IAMs_20	IAMs_20	10 37 52.0	
	comp=Z,24μm,19.1s						
AKL				*e*S	**SKSdf**	**10 43 42.6**	**-1.6**
KMPI	**Kaimana, Papua**	**148.74**	**259**	PKP	**PKPbc**	**10 36 53.1**	**-0.5**
ALBI	**Allahabad**	**149.32**	**40**	*e*P	**PKPdf**	**10 36 49.6**	**-0.6**
ALBI				IAMs_20	IAMs_20	10 37 51.2	
	comp=Z,23μm,16.2s						
ALBI				*e*S	**SKSdf**	**10 43 42.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**149.88**	**227**	PKP	**PKPdf**	**10 36 51.5**	**+0.2**
	comp=Z,329nm,1.0s,baz=99,slow=0.9,SNR=70						
FITZ	**Fitzroy Crossi**	**149.88**	**227**	P	**PKPdf**	**10 36 51.1**	**-0.1**
WHN	**Wuhan**	**149.90**	**340**	⇓PKPbc	**PKPdf**	**10 36 50.9**	**-0.1**
WHN				PKPab	**PKPab**	**10 37 01.0**	**-0.8**
WHN				PP	**PP**	**10 40 30.8**	**+1.2**
WHN				SKKS		10 47 06.8	
WHN				SS	**SS**	**10 59 31.8**	**-1.0**
WHN				LR	LR		
	comp=Z,88μm,25.1s						
WHN				LR	LR		
	comp=Z,73μm,18.6s						
WHN				LR	LR		
	comp=Z,306μm,29.2s						
HMDM	**Hanimaadhoo**	**149.96**	**80**	PKPbc	**PKPbc**	**10 36 56.2**	**-0.4**
SAUI	**Saumlaki**	**149.98**	**250**	PKP	**PKPbc**	**10 36 54.1**	**-2.5**
MNGI	**Mangalore**	**150.18**	**68**	*e*P	**PKPdf**	**10 36 49.6**	**-2.2**
MNGI				*e*S	**SKSdf**	**10 43 48.7**	**+2.6**
FAKI	**Fak Fak**	**150.30**	**260**	P	**PKPdf**	**10 36 53.0**	**+0.9**
FAKI	**Fak Fak**	**150.30**	**260**	PKP	**PKPdf**	**10 36 52.6**	**+0.5**
LSA	**Lhasa**	**150.50**	**21**	PKPbc	**PKPbc**	**10 36 58.0**	**0.0**
LSA	**Lhasa**	**150.50**	**21**	PKPbc	**PKPdf**	**10 36 53.8**	**+1.2**
LSA				LR	LR		
	comp=Z,60μm,23.5s						
LSA				LR	LR		
	comp=Z,39μm,29.9s						
LSA	**Lhasa**	**150.50**	**21**	PKIKP	**PKPbc**	**10 36 58.0**	**0.0**
LSA	**Lhasa**	**150.50**	**21**	PKPbc	**PKPdf**	**10 36 54.4**	**+1.8**
YOJ	**Yonaguni jima**	**150.67**	**320**	PKPbc	**PKPbc**	**10 36 57.8**	**-0.2**
YOJ	**Yonaguni jima**	**150.67**	**320**	PKIKP	**PKPbc**	**10 36 57.8**	**-0.2**
PSA00	**Pilbara Seismi**	**151.13**	**214**	P	**PKPdf**	**10 36 53.2**	**+0.1**
ENH	**Enshi**	**151.48**	**348**	PKPbc	**PKPbc**	**10 36 58.3**	**-1.4**
ENH				PKPab	**PKPab**	**10 37 05.7**	**-2.7**
ENH	**Enshi**	**151.48**	**348**	P	**PKPdf**	**10 36 53.4**	**-0.1**
CD2	**Chengdu**	**151.51**	**359**	PKPbc	**PKPdf**	**10 36 54.3**	**+0.8**
CD2				sPKP		10 37 41.9	
CD2				PP	**PP**	**10 40 43.3**	**+4.7**
CD2				SKS	**SKSdf**	**10 43 46.8**	**-0.6**
CD2				SKKS	**SKKSac**	**10 47 16.4**	**0.0**
CD2				AMB	AMB		
	comp=Z,15μm,12.0s						
CD2				LR	LR		
	comp=Z,36μm,26.7s						
CD2				LR	LR		
	comp=Z,63μm,30.5s						
MBWA	**Marble Bar**	**151.52**	**214**	PKPbc	**PKPbc**	**10 37 00.1**	**+0.1**
MBWA	**Marble Bar**	**151.52**	**214**	P	**PKPdf**	**10 36 53.9**	**+0.2**
GTK	**Tadong**	**151.54**	**28**⇓	*e*P	**PKPdf**	**10 36 53.4**	**-0.4**
SWI	**Sorong**	**151.57**	**264**	PKP	**PKPdf**	**10 36 54.2**	**+0.2**
HYB	**Hyderabad**	**151.67**	**56**	*e*PKPdf	**PKPdf**	**10 36 54.4**	**+0.3**
HYB				*e*PKPbc	**PKiKP**	**10 37 02.1**	**+1.3**
HYB				*e*PKPab	**PKPab**	**10 37 09.7**	**0.0**
BNDI	**Bandanaira**	**152.27**	**256**	P	**PKPdf**	**10 36 57.7**	**+2.6**
BNDI	**Bandanaira**	**152.27**	**256**	PKP	**PKPdf**	**10 36 57.4**	**+2.3**
SSLB	**Suanglung**	**152.44**	**322**	PKPbc	**PKPbc**	**10 37 02.0**	**-0.1**
SSLB	**Suanglung**	**152.44**	**322**	P	**PKPdf**	**10 36 55.1**	**0.0**
CNSH	**ChangSha**	**152.55**	**341**	PKPbc	**PKPdf**	**10 36 55.3**	**+0.2**
CNSH				SKKS		10 47 20.1	
CNSH				AMB	AMB		
	comp=Z,7μm,11.6s						
CNSH				LR	LR		
	comp=Z,24μm,28.6s						
CNSH				LR	LR		
	comp=Z,39μm,29.8s						
CNSH				LR	LR		
	comp=Z,83μm,62.3s						
TAWA	**Tawang**	**152.67**	**22**	*e*P	**PKPdf**	**10 36 55.4**	**-0.3**
QZH	**Quanzhou**	**152.90**	**328**	PKPbc	**PKPdf**	**10 36 55.3**	**-0.4**
QZH				PKPab	**PKPab**	**10 37 20.1**	**+5.6**
QZH				pPKP	**pPKPdf**	**10 37 36.3**	**+0.6**
QZH				LR	LR		
	comp=Z,22μm,21.0s						
QZH				LR	LR		
	comp=Z,27μm,22.7s						
QZH				LR	LR		
	comp=Z,55μm,20.5s						
BOK	**Bokaro**	**152.95**	**36**	*e*P	**PKPdf**	**10 36 54.1**	**-1.7**
BOK				IAMs_20	IAMs_20	10 41 48.2	
	comp=Z,7μm,16.2s						
BOK				*e*S	**SKSdf**	**10 43 50.6**	**+1.3**
TPUB	**Ta-pu**	**153.00**	**322**	PKPdf	**PKPdf**	**10 36 55.7**	**-0.2**
TPUB				PKPbc	**PKPbc**	**10 37 02.7**	**-0.6**
TPUB				PKPab	**PKPab**	**10 37 13.8**	**-1.2**
TPUB	**Ta-pu**	**153.00**	**322**	P	**PKPdf**	**10 36 58.8**	**+2.9**
TWG	**Pinlang**	**153.08**	**321**	PKPdf	**PKPdf**	**10 36 56.1**	**+0.1**
TWG				PKPbc	**PKPbc**	**10 37 02.4**	**-1.1**
TWG				PKPab	**PKPab**	**10 37 14.7**	**-0.7**
JHSG	**JHARSUGUGA**	**153.08**	**43**	*e*P	**PKPdf**	**10 36 55.7**	**-0.3**
JHSG				IAMs_20	IAMs_20	10 41 46.0	
	comp=Z,11μm,16.4s						
JHSG				*e*S	**SKSdf**	**10 43 50.7**	**+1.2**
TRD	**Trivandrum**	**153.37**	**76**	*e*P	**PKPdf**	**10 36 58.2**	**+1.6**
KNMB	**Chin-men Tao**	**153.40**	**327**	PKPdf	**PKPdf**	**10 36 54.7**	**-1.7**
ZIRO	**ZIRO**	**153.41**	**18**	*e*P	**PKPdf**	**10 36 57.5**	**+0.9**
ZIRO				*e*S	**SKSdf**	**10 43 51.8**	**+1.6**
KOD	**Kodaikanal**	**153.44**	**72**	*e*P	**PKPdf**	**10 36 57.8**	**+0.7**
KOD				IAMs_20	IAMs_20	10 41 42.0	
	comp=Z,11μm,18.3s						
KOD				*e*S	**SKSdf**	**10 43 52.8**	**+1.9**
MSAI	**Masohi**	**153.48**	**258**	PKP	**PKPdf**	**10 36 57.6**	**+0.8**
SALM	**Salem**	**153.71**	**68**	*e*P	**PKPdf**	**10 36 55.7**	**-1.4**
ITAN	**ITANAGAR**	**153.72**	**19**	*e*P	**PKPdf**	**10 36 57.5**	**+0.6**
ITAN				IAMs_20	IAMs_20	10 41 42.0	
	comp=Z,23μm,18.3s						
ITAN				*e*S	**SKSdf**	**10 43 47.7**	**-2.4**
AAI	**Ambon**	**154.12**	**257**	PKP	**PKPdf**	**10 36 57.3**	**-0.4**
JORH	**JORHAT**	**154.27**	**18**	*e*P	**PKPdf**	**10 36 57.5**	**-0.1**
SHL	**Shillong**	**154.49**	**24**	PKPdf	**PKPdf**	**10 36 57.9**	**-0.3**
SHL				PKPbc	**PKiKP**	**10 37 07.1**	**+0.4**
SHL				PKPab	**PKPab**	**10 37 21.7**	**+0.2**
SHL	**Shillong**	**154.49**	**24**	*e*P	**PKPdf**	**10 36 58.2**	**0.0**
SHL	**Shillong**	**154.49**	**24**	PKIKP	**PKPdf**	**10 36 57.9**	**-0.3**
SHL						10 37 21.7	
RAGD	**RAYAGADA**	**154.51**	**47**	*e*P	**PKPdf**	**10 36 55.7**	**-2.4**
KOHI	**KOHIMA**	**155.17**	**19**	*e*P	**PKPdf**	**10 36 59.5**	**+0.4**
KOHI				*e*S	**SKSdf**	**10 43 51.8**	**-0.4**
NLAI	**Namlea**	**155.29**	**257**	PKP	**PKPdf**	**10 36 59.6**	**+0.3**
LBMI	**Labuha**	**155.33**	**264**	PKP	**PKPdf**	**10 37 05.2**	**+5.8**
CAL	**Calcutta**	**155.33**	**34**	*e*P	**PKPdf**	**10 36 57.8**	**-1.4**
CAL				IAMs_20	IAMs_20	10 37 55.7	
	comp=Z,22μm,11.8s						
CAL				*e*S	**SKSdf**	**10 43 52.8**	**+0.8**
VIS	**Vishakhapatnam**	**155.34**	**50**	*e*P	**PKPdf**	**10 36 58.2**	**-1.1**
VIS				*e*S	**SKSdf**	**10 43 52.6**	**+0.4**
TNTI	**Ternate**	**155.59**	**267**	P	**PKPdf**	**10 37 01.3**	**+1.5**
TNTI	**Ternate**	**155.59**	**267**	PKP	**PKPdf**	**10 37 00.1**	**+0.3**
SOEI	**Soe**	**155.67**	**240**	PKP	**PKPdf**	**10 36 59.3**	**-0.7**
SOEI	**Soe**	**155.67**	**240**	P	**PKPdf**	**10 37 01.1**	**+1.1**
SOEI	**Soe**	**155.67**	**240**	PKP	**PKPdf**	**10 37 01.0**	**+1.1**
GYA	**Guiyang**	**155.70**	**352**	PKP	**PKPdf**	**10 36 59.9**	**+0.2**
GYA				pPKP	pPKPdf	10 37 35.0	-4.8
GYA				PP	**PP**	**10 41 03.6**	**+1.3**
GYA				SKKS		10 47 41.6	
GYA				AMB	AMB		
	comp=Z,29μm,17.8s						
PZH	**PanZhiHua**	**155.88**	**3**	PKP	**PKPdf**	**10 36 59.8**	**-0.2**
PZH				PKPab	**PKPab**	**10 37 28.9**	**+1.6**
PZH				pPKP	**pPKPdf**	**10 37 32.5**	**-7.5**
PZH				PKS	**PKSdf**	**10 40 34.5**	**+0.3**
PZH				PP	**PP**	**10 41 03.3**	**0.0**
PZH				SKKS		10 47 41.6	
PZH				SS	**SS**	**11 00 37.0**	**-1.0**
PZH				AMB	AMB		
	comp=Z,28μm,7.3s						
PZH				LR	LR		
	comp=Z,28μm,26.5s						
PZH				LR	LR		
	comp=Z,29μm,27.0s						
PZH				LR	LR		
	comp=Z,84μm,31.4s						
IMP	**Imphal**	**155.94**	**21**	*e*P	**PKPdf**	**10 36 59.5**	**-0.5**
IMP				*e*S	**SKSdf**	**10 43 51.8**	**-1.1**
IMP				IAMs_20	IAMs_20	10 45 33.0	
	comp=Z,19μm,20.5s						
BATI	**Baumata**	**155.97**	**239**	PKP	**PKPdf**	**10 37 01.4**	**+1.1**
AZL	**Aizawl**	**156.45**	**24**	*e*P	**P

LUWI	Luwuk	159.95 261	P	PKPdf	10 37 05.8	+0.7
LUWI	Luwuk	159.95 261	PKP	PKPdf	10 37 05.6	+0.5
BSSI	Bau Bau, Buton	160.63 244	PKP	PKPdf	10 37 06.0	+0.1
MRSI	Marisa	160.97 265	PKP	PKPdf	10 37 04.6	-1.6
APSI	Ampana	161.08 261	PKP	PKPdf	10 37 07.0	+0.6
BKSI	Bulukumba	161.30 246	PKP	PKPdf	10 37 05.9	-0.7
PLAI	Plampang	161.59 233	P	PKPdf	10 37 06.4	-0.5
PLAI	Plampang	161.59 233	PKP	PKPdf	10 37 06.2	-0.7
KAPI	Kappang	161.76 247	P	PKPdf	10 37 07.2	+0.1
QIZ	Qiongzhong	162.05 339	PKPdf	PKPdf	10 37 07.5	+0.3
QIZ			PKPab	PKPab	10 37 51.2	-2.8
QIZ	Qiongzhong	162.05 339	PKP	PKPdf	10 37 07.9	+0.7
QIZ			sPKP		10 37 58.9	
QIZ			PP	PP	10 41 37.0	0.0
QIZ			SKKS		10 48 15.4	
QIZ			SS	SS	11 01 47.4	+3.8
QIZ			AMB	AMB		
	comp=Z,12μm,11.0s					
QIZ			LR	LR		
	comp=Z,22μm,39.4s					
QIZ			LR	LR		
	comp=Z,32μm,28.6s					
QIZ			LR	LR		
	comp=Z,89μm,56.4s					
QIZ	Qiongzhong	162.05 339	P	PKPdf	10 37 08.8	+1.6
SPSI	Sidrap Palu	162.12 250	PKP	PKPdf	10 37 07.0	-0.4
TOLI2	Tolitoli	162.18 267	PKPdf	PKPdf	10 37 06.4	-1.1
TOLI2			PKPab	PKPab	10 37 54.8	-0.3
TOLI2	Tolitoli	162.18 267	P	PKPdf	10 37 07.0	-0.5
TWSI	Taliwang, Sumb	162.35 232	PKP	PKPdf	10 37 06.5	-1.1
TTSI	Tana Toraja	162.37 253	PKP	PKPdf	10 37 08.0	+0.3
PCI	Palu	162.87 260	PKP	PKPdf	10 37 12.4	+4.2
CM31	Chiang Mai Arr	163.44 14	PKPdf	PKPdf	10 37 08.7	+0.1
CM31			PKPab	PKPab	10 38 00.1	0.0
CMAR	Chiang Mai Arr	163.44 14	PKPdf	PKPdf	10 37 07.8	-0.8
CMAR	Chiang Mai Arr	163.44 14	PKP	PKPdf	10 37 08.9	+0.3
	comp=Z,49nm,1.0s,baz=298,slow=1.9,SNR=127					
CMAR			pPKP	pPKPdf	10 37 49.2	+0.5
	comp=Z,93nm,1.0s,baz=302,slow=2.2,SNR=3.9					
CMAR			PKPab	PKPab	10 37 59.7	-0.4
	comp=Z,53nm,0.8s,baz=287,slow=2.9,SNR=7.2					
CMAR			pPKPab	pPKPab	10 38 41.3	+2.8
	comp=Z,167nm,0.8s,baz=326,slow=4.6,SNR=3.0					
CMAR			PP	PP	10 41 44.0	-0.1
	comp=Z,45nm,0.9s,baz=340,slow=5.9,SNR=5.1					
DNP	Denpasar	163.67 228	PKP	PKPdf	10 37 10.8	+1.9
SRBI	Singaraja	164.05 230	PKP	PKPdf	10 37 08.4	-0.8
MYLDM	Lahad Datu	164.26 281	PKPdf	PKPdf	10 37 09.4	-0.1
MYLDM			PKPab	sPKPdf	10 38 06.0	+1.1
MYLDM	Lahad Datu	164.26 281	P	PKPdf	10 37 10.9	+1.4
COCO	West Island	164.38 157	P	PKPdf	10 37 12.5	+3.0
JAGI	Jajag, Banyuwa	164.58 226	PKPdf	PKPdf	10 37 08.8	-1.0
JAGI			PKPab	sPKPdf	10 38 05.2	+0.1
JAGI	Jajag, Banyuwa	164.58 226	P	PKPdf	10 37 08.9	-0.8
JAGI	Jajag, Banyuwa	164.58 226	PKP	PKPdf	10 37 08.7	-1.0
ABJI	Asem Bagus	164.97 228	PKP	PKPdf	10 37 10.3	+0.2
GMJI	Gumukmas	165.22 225	PKP	PKPdf	10 37 10.1	-0.2
DGPR	DIGLIPUR	165.29 42	*eP*	PKPdf	10 37 10.3	+0.1
DGPR			IAMs_20	IAMs_20	10 42 45.3	
	comp=Z,11μm,16.4s					
DGPR			*eS*	SKSdf	10 44 02.7	+1.7
SMKI	Samarinda	165.53 259	PKP	PKPdf	10 37 12.4	+1.8
KMMI	Kalianget	165.66 230	PKP	PKPdf	10 37 10.8	+0.2
BKB	Balikpapan	165.66 256	P	PKPdf	10 37 13.4	+2.7
BKB	Balikpapan	165.66 256	PKP	PKPdf	10 37 12.8	+2.1
KKM	Kota Kinabalu	166.29 286	P	PKPdf	10 37 11.8	+0.5
PCJI	Pacitan	166.78 218	PKP	PKPdf	10 37 11.1	-0.4
GRJI	Gresik	166.85 226	PKP	PKPdf	10 37 12.4	+0.8
UBPT	Khong Chiam	166.85 349	P	PKPdf	10 37 11.9	+0.4
XMIS	Christmas Isla	167.05 192	P	PKPdf	10 37 12.8	+1.1
XMI	Christmas Isla	167.08 192	P	PKPdf	10 37 13.1	+1.3
NGJI	Ngawi	167.23 221	PKP	PKPdf	10 37 13.4	+1.6
TBJI	Tambak Boyo	167.36 224	PKP	PKPdf	10 37 13.4	+1.5
UGM	Wanagama	167.40 217	P	PKPdf	10 37 12.2	+0.2
UGM	Wanagama	167.40 217	PKP	PKPdf	10 37 11.7	-0.3
SRDT	SRDT	167.41 17	P	PKPdf	10 37 12.2	+0.3
YOGI	Yogyakarta	167.61 216	PKP	PKPdf	10 37 13.8	+1.7
NAYO	Nakonayok	167.92 8	P	PKPdf	10 37 12.8	+0.5
SMRI	Semarang	168.12 219	P	PKPdf	10 37 15.4	+2.9
SMRI	Semarang	168.12 219	PKP	PKPdf	10 37 14.8	+2.3
CMJI	Cimerak	168.62 209	PKP	PKPdf	10 37 12.1	-0.7
DLV	Lat	168.96 331	P	PKPdf	10 37 14.7	+1.5
BBJI	Bungbulang	169.27 206	P	PKPdf	10 37 13.2	-0.1
CNJI	Cibinong	169.62 203	PKP	PKPdf	10 37 12.8	-0.6
CMBY	CAMPBELL BAY	169.81 62	*eP*	PKPdf	10 37 14.4	+0.8
CMBY			IAMs_20	IAMs_20	10 43 21.6	
	comp=Z,11μm,16.2s					
CMBY			*eS*	SKSdf	10 44 02.7	-0.9
LEM	Lembang	169.85 207	PKP	PKPdf	10 37 14.1	+0.3
	comp=Z,724nm,1.1s,baz=138,slow=2.8,SNR=17					
LEM			PKPab	PKPab	10 38 30.4	+1.7
	comp=Z,845nm,0.9s,baz=131,slow=8.6,SNR=9.0					
LEM			PP	PP	10 42 19.6	+2.1
	comp=Z,395nm,1.1s,baz=142,slow=6.2,SNR=6.3					
SKJI	Sukabumi	170.12 201	PKP	PKPdf	10 37 13.4	-0.3
CGJI	Cibinong	170.77 197	PKP	PKPdf	10 37 13.3	-0.8
SBUM	Sibu	170.78 271	P	PKPdf	10 37 14.3	+0.2
TNG	Tangerang	170.85 203	PKP	PKPdf	10 37 16.5	+2.3
TNG			PKP	PKPdf	10 37 16.4	+2.3
SBJI	Serang	171.09 201	PKP	PKPdf	10 37 14.5	+0.2
STKI	Sintang	171.24 256	PKP	PKPdf	10 37 14.3	-0.1
BSI	Banda Aceh	171.68 67	PKP	PKPdf	10 37 13.6	-1.0
KSM	Kuching	172.65 264	P	PKPdf	10 37 14.9	-0.1
LWLI	Liwa	172.68 188	PKP	PKPdf	10 37 16.1	+0.9
MLSI	Meulaboh, Aceh	173.13 73	PKP	PKPdf	10 37 14.8	-0.4
TPI	Tanjungpandan	173.17 223	PKP	PKPdf	10 37 15.0	-0.2
MDSI	Maura Dua	173.18 190	PKP	PKPdf	10 37 13.1	-2.1
LHMI	Lhok Sumawe	173.29 64	PKPdf	PKPdf	10 37 14.8	-0.5
LHMI			PKPab	PKPab	10 38 41.7	-2.5
LHMI	Lhok Sumawe	173.29 64	P	PKPdf	10 37 17.0	+1.8
SNSI	Sinabang, Aceh	173.34 89	PKP	PKPdf	10 37 17.1	+1.8
MNAI	Manna	173.41 180	PKP	PKPdf	10 37 16.4	+1.1
KSI	Kapahiang	174.10 176	PKP	PKPdf	10 37 14.9	-0.7
PPSI	Pulau Pagai	174.17 149	PKP	PKPdf	10 37 17.4	+1.8
GSI	Gunungsitoli	174.50 100	P	PKPdf	10 37 15.7	0.0
GSI	Gunungsitoli	174.50 100	PKP	PKPdf	10 37 15.6	-0.1
PMBI	Palembang	174.53 199	PKPdf	PKPdf	10 37 15.5	-0.2
PMBI			PKPab	PKPab	10 38 51.0	+1.7
PMBI	Palembang	174.53 199	PKP	PKPdf	10 37 19.7	+4.0
PPBI	Pangkal Pinang	174.59 216	PKP	PKPdf	10 37 18.4	+2.7
SISI	Saibi	174.71 132	PKP	PKPdf	10 37 16.9	+1.2
PBSI	Pulau Batu	174.75 116	PKP	PKPdf	10 37 16.8	+1.0
TSI	Tuntungan	175.41 75	PKP	PKPdf	10 37 15.9	0.0
PSI	Prapat	175.90 83	PKP	PKPdf	10 37 15.2	-1.1
	comp=Z,184nm,1.1s,baz=231,slow=1.5,SNR=47					
PSI			pPKP	pPKPdf	10 37 58.1	+1.6
	comp=Z,101nm,1.1s,baz=207,slow=19,SNR=2.3					
PSI			PKPab	PKPab	10 38 56.0	-0.1
	comp=Z,86nm,0.9s,baz=353,slow=4.7,SNR=4.3					
PSI			PP	PP	10 42 51.0	+1.7
	comp=Z,41nm,1.0s,baz=343,slow=3.2,SNR=4.4					
PSI	Prapat	175.90 83	P	PKPdf	10 37 15.3	-0.9
KULM	Kulim	176.20 38	PKPdf	PKPdf	10 37 15.4	-0.7
KULM			PKPab	PKPab	10 38 56.6	-0.2
KULM	Kulim	176.20 38	P	PKPdf	10 37 15.6	-0.5
PPI	Padang Panjang	176.24 136	PKP	PKPdf	10 37 14.7	-1.4
MNSI	Mandailing Nat	176.28 113	PKP	PKPdf	10 37 15.2	-1.0
IPM	Ipoh	177.06 42	P	PKPdf	10 37 15.5	-0.8
BKNI	Bangkinang	177.25 135	PKPdf	PKPdf	10 37 14.8	-1.5
BKNI			PKPab	PKPab	10 39 03.3	+1.7
BKNI	Bangkinang	177.25 135	PKP	PKPdf	10 37 11.5	-4.8
BKNI	Bangkinang	177.25 135	P	PKPdf	10 37 16.8	+0.5
BKNI	Bangkinang	177.25 135	PKP	PKPdf	10 37 16.3	0.0
TPRI	Tanjung Pinang	177.96 229	PKP	PKPdf	10 37 16.4	0.0
MYKOM	Kota Tinggi	179.02 241	P	PKPdf	10 37 15.9	-0.6

RSNC ***22*** *10:20:18.0±1.2,2°S±8°×7°8W±1°0,h147km±8km,M5.9, ML5.3*
IGQ ***22*** *10:20:19.0±0.8,2°S±3°×7°8W±°,h143km±6km*
ISC 22 10:20:16.9±2.5,**2°39S**±0°.07×**77°4W**±0°.2,**h150**km,**n26,**
σ1♀**23**/28,**Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**1.34**	**236**	P	**Pn**	**10 20 44.5**	**-0.5**
BOSC				S	**Sn**	**10 21 06.5**	**0.0**
BPAT	**Tungurahua Vol**	**1.37**	**310**	P	**Pn**	**10 20 45.7**	**+0.1**
BPAT				S	**Sn**	**10 21 06.4**	**-1.2**
BULB	**Ulba Tungurahu**	**1.40**	**313**	P	**Pn**	**10 20 45.3**	**-0.6**
BMAS	**Trigal station**	**1.41**	**309**	P	**Pn**	**10 20 44.6**	**-1.3**
BMAS				S	**Sn**	**10 21 06.3**	**-1.7**
POND	**Pondoa**	**1.44**	**312**	P	**Pn**	**10 20 46.1**	**-0.1**
BBIL	**Ulba Tungurahu**	**1.45**	**310**	P	**Pn**	**10 20 46.4**	**+0.1**
JUI6	**Juive**	**1.45**	**311**	P	**Pn**	**10 20 47.2**	**+0.9**
AZOG	**Ecuador-Azogue**	**1.51**	**256**	P	**Pn**	**10 20 47.8**	**+0.9**
IGUA	**Igualata**	**1.54**	**305**	P	**Pn**	**10 20 49.0**	**+1.5**
ACUE	**Ecuador-Cuenca**	**1.66**	**252**	P	**Pn**	**10 20 49.0**	**+0.5**
COHC	**Cochancay**	**1.87**	**268**	P	**Pn**	**10 20 51.4**	**+0.8**
VC1	**Cotopaxi 1**	**2.01**	**330**	P	**Pn**	**10 20 53.3**	**+0.6**
TOMA	**Boca Toma-Volc**	**2.15**	**331**	P	**Pn**	**10 20 54.6**	**+0.3**
MILO	**Milagro-Astudi**	**2.17**	**273**	P	**Pn**	**10 20 54.0**	**0.0**
AZAM	**Ecuador-Zamora**	**2.29**	**223**	P	**Pn**	**10 20 56.1**	**+0.5**
ALJ1	**Ecuador-Loja-U**	**2.41**	**229**	P	**Pn**	**10 20 58.4**	**+1.2**
AQUE	**Quevedo**	**2.49**	**302**	P	**Pn**	**10 20 59.2**	**+1.3**
GYE3	**Ecuador-Guayaq**	**2.52**	**275**	P	**Pn**	**10 20 57.2**	**-1.1**
AGUAY	**Guayaquil**	**2.59**	**277**	P	**Pn**	**10 20 58.2**	**-0.9**
PAC1	**Pacto, Paraso**	**2.99**	**332**	P	Pn	10 21 17.7	+13
PAC1	**Pacto, Paraso**	**2.99**	**332**	P		10 21 17.7	
APO2	**Ecuador-Portov**	**3.34**	**293**	P	**Pn**	**10 21 09.8**	**+1.2**
AV18	**Acelerografo,**	**3.41**	**322**	P	**Pn**	**10 21 09.1**	**-0.4**
PPLP	**Puerto Lpez**	**3.49**	**284**	P	**Pn**	**10 21 09.8**	**-0.8**
PPLP	**Puerto Lpez**	**3.49**	**284**	P	**Pn**	**10 21 10.9**	**+0.2**
JAMA	**Jama**	**3.53**	**307**	P	**Pn**	**10 21 14.4**	**+3.3**
CAB1	**Cabo Pasado-Ma**	**3.64**	**303**	P	**Pn**	**10 21 15.2**	**+2.8**

STR 22 10:28:54.6±0.3,**44°N**±2°×°±°,**h0**km,**MLv2.1**/17,**Error ellipse: s-maj=0.0km s-min=0.0km az=137.6, preliminary,Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVIF	**Mont Vial**	**0.05**	**214**	Pg	Pg	10 28 55.4	-0.01
MVIF				Sg	Sg	10 28 56.6	+0.4
SPIF	**crte de Spivo**	**0.12**	**15**	Pg	Pg	10 28 57.1	+0.2
SPIF				Sg	Sg	10 28 59.5	+1.1
TURF	**col de Turini**	**0.15**	**76**	Pg	Pg	10 28 57.5	+0.1
TURF				Sg	Sg	10 29 00.3	+1.0
ESCA	**l'Escarene**	**0.17**	**130**	Pg	Pg	10 28 57.8	0.0
SAOF	**Saorge**	**0.27**	**80**	Sg	Sg	10 29 04.1	+1.0
CALF	**Calern**	**0.27**	**226**	Pg	Pg	10 29 00.2	+0.4
CALF				Sg	Sg	10 29 04.0	+0.7
STV	**Sant Anna di V**	**0.32**	**17**	Pg	Pg	10 29 00.5	-0.2
STV	**Sant Anna di V**	**0.32**	**17**	Sg	Sg	10 29 04.8	0.0
ENR	**Entracque**	**0.33**	**30**	Pg	Pg	10 29 01.4	+0.5
ENR	**Entracque**	**0.33**	**30**	Sg	Sg	10 29 05.6	+0.4
PIAF	**les Granges de**	**0.35**	**60**	Pg	Pg	10 29 01.6	+0.2
PIAF				Sg	Sg	10 29 06.9	+0.9
GBOS	**Grotte di Boss**	**0.56**	**57**	Pg	Pg	10 29 05.4	+0.2
GBOS	**Grotte di Boss**	**0.56**	**57**	Sg	Sg	10 29 09.2	-3.2
PZZ	**Stroppo**	**0.57**	**354**	Pg	Pg	10 29 05.7	+0.2
PZZ	**Stroppo**	**0.57**	**354**	Sg	Sg	10 29 14.2	+1.4
JAUF	**Jausiers**	**0.58**	**327**	Pg	Pg	10 29 05.6	-0.2
JAUF				Sg	Sg	10 29 14.2	+0.9
TRIGF	**Trigance**	**0.60**	**252**	Pg	Pg	10 29 06.4	+0.3
TRIGF				Sg	Sg	10 29 14.8	+0.9
SURF	**Saint Ours**	**0.61**	**333**	Pg	Pg	10 29 06.6	+0.4
SURF				Sg	Sg	10 29 14.7	+0.6
OGAG	**Argentiere**	**0.70**	**318**	Pg	Sg	10 29 17.1	+0.1
RUSF	**Rustrel**	**1.23**	**271**	Pg	Pb	10 29 18.7	-0.1

STR 22 10:29:00.5±2.6,**44°N**±17°×±2°4,**h0**km,**MLv1.0**/3,**Error ellipse: s-maj=0.0km s-min=0.0km az=125.7, preliminary,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANO	**Canova, Maglio**	**0.20**	**236**	Pg	Pg	10 29 04.6	+0.4
CANO	**Canova, Maglio**	**0.20**	**236**	Sg	Sg	10 29 07.6	+0.8
CANO	**Canova, Maglio**	**0.20**	**236**	Pg	Pg	10 29 04.7	+0.4
PCP	**Piancastagn**	**0.23**	**14**	Pg	Pg	10 29 05.4	+0.4
PCP	**Piancastagn**	**0.23**	**14**	Sg	Sg	10 29 08.6	+0.7
PCP	**Piancastagn**	**0.23**	**14**	Pg	Pg	10 29 05.4	+0.5
RORO	**Rocca Rossa**	**0.35**	**235**	Pg	Pg	10 29 07.6	+0.3
RORO	**Rocca Rossa**	**0.35**	**235**	Sg	Sg	10 29 12.6	+0.8
RORO	**Rocca Rossa**	**0.35**	**235**	Pg	Pg	10 29 07.6	+0.4

IGQ ***22*** *10:40:39.9±0.2,2°S±2°×8°0W±°,h38km±2km,MLv5.9/30*
MOS ***22*** *10:40:40.9±1.1,2°22S×79°80W,h98km,mb5.4/23,Error ellipse: s-maj=12.2km s-min=5.7km az=103.6*
NEIC ***22*** *10:40:40.2±2.2,2°24S±0°.06×79°74W±0°.07,h71km±3km, mb5.5/509,Error ellipse: s-maj=10.4km s-min=8.1km az=90.0*
IDC ***22*** *10:40:40.8±1.7,2°24S×79°80W,h86km±15km,mb4.7/23, mbtmp5.1/29,Error ellipse: s-maj=17.6km s-min=9.1km az=72.0*
RSNC ***22*** *10:40:41.6±0.4,2°S±3°×8°0W±°,h82km±7km,M5.5,mB6.4, mb5.8,ML5.2,Mw(mB)6.1*
VAO ***22*** *10:40:42.2±0.6,2°26S×79°58W,h90km±5km,mb5.6*
ISC 22 10:40:39.1±0.3,**2°28S**±0°.03×**79°91W**±0°.03,**h73**km±3km,
h74km:**pP-P,n976,**σ1♀**31**/906,**mb5.5**/260,**24C-68D,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYE3	**Ecuador-Guayaq**	**0.12**	**7**	⇓P	Pn	10 40 48.3	-1.6
GYE3				S	**Sn**	**10 40 55.2**	**-2.5**
AGUAY	**Guayaquil**	**0.22**	**350**	⇓P	Pn	10 40 48.5	-1.8
AGUAY				S	**Sn**	**10 40 56.1**	**-2.2**
PU06	**PU06**	**0.32**	**117**	⇑P	**Pn**	**10 40 49.2**	**-1.6**
MILO	**Milagro-Astudi**	**0.36**	**91**	⇑P	**Pn**	**10 40 50.0**	**-1.0**
MILO				S	**Sn**	**10 40 59.3**	**-0.6**
PU05	**PU05**	**0.49**	**121**	⇑P	**Pn**	**10 40 51.2**	**-0.9**
PU04	**PU04**	**0.52**	**141**	⇑P	**Pn**	**10 40 51.1**	**-1.3**
PU02	**PU02**	**0.56**	**195**	⇓P	**Pn**	**10 40 52.7**	**-0.2**
PU01	**PU01**	**0.61**	**211**	⇓P	Pn	10 40 52.7	-0.7
PU01				S	**Sn**	**10 41 03.5**	**-0.3**
ABAB	**Ecuador-Univer**	**0.62**	**40**	P	**Pn**	**10 40 52.2**	**-1.2**
PU03	**PU03**	**0.64**	**170**	⇓P	**Pn**	**10 40 52.3**	**-1.3**
COHC	**Cochancay**	**0.69**	**106**		**Pn**	**10 40 52.4**	**-1.7**
COHC				Sn	**Sn**	**10 41 03.3**	**-1.9**
COHC	**Cochancay**	**0.69**	**106**	P	**Pn**	**10 40 52.2**	**-1.9**
COHC				S	**Sn**	**10 41 03.1**	**-2.1**
COHC	**Cochancay**	**0.69**	**106**	⇑P	**Pn**	**10 40 52.4**	**-1.7**
COHC	**Cochancay**	**0.69**	**106**	P		10 40 52.2	
COHC				S		10 41 03.1	
ISPG	**Isla Puna-Puer**	**0.73**	**200**	⇓P	**Pn**	**10 40 55.0**	**+0.3**
ALIBE	**La Libertad**	**0.93**	**272**	P	Pn	10 40 56.2	-0.8
ALIBE				S	Sn	10 41 07.2	-3.0
SALI	**Salinas**	**1.08**	**275**	⇑P	Pn	10 40 58.1	-0.6
SALI				S	**Sn**	**10 41 11.4**	**-2.1**
JSCH	**Cashca Tororas**	**1.09**	**59**	⇓P	**Pn**	**10 40 58.0**	**-1.3**
JSCH				S	**Sn**	**10 41 12.3**	**-1.9**
JIPI	**JIPIJAPA**	**1.11**	**325**	⇓P	**Pn**	**10 40 59.0**	**-0.3**
PPLP	**Puerto Lpez**	**1.13**	**310**	P	Pn	10 40 57.8	-1.6
PPLP				S	**Sn**	**10 41 12.1**	**-2.5**
PPLP	**Puerto Lpez**	**1.13**	**310**	P	Pn	10 40 56.9	-2.5
PPLP	**Puerto Lpez**	**1.13**	**310**	P		10 40 57.8	
PPLP				S		10 41 12.1	
ACUE	**Ecuador-Cuenca**	**1.14**	**123**	⇑P	**Pn**	**10 40 59.5**	**-0.4**
AZOG	**Ecuador-Azogue**	**1.17**	**114**	⇑P	**Pn**	**10 41 00.0**	**-0.1**
AZOG				S	**Sn**	**10 41 16.3**	**+0.4**
ARNL	**Arenillas**	**1.27**	**187**	⇓P	**Pn**	**10 41 00.0**	**-1.2**
AQUE	**Quevedo**	**1.29**	**19**	⇓P	**Pn**	**10 41 01.0**	**-0.5**
AQUE				S	**Sn**	**10 41 18.6**	**+0.3**
APO2	**Ecuador-Portov**	**1.32**	**336**	P	**Pn**	**10 41 01.9**	**+0.1**
TAMH	**Tambohuasha Ch**	**1.35**	**57**	S	**Sn**	**10 41 21.2**	**+0.9**
TAMH				P	**Pn**	**10 41 03.0**	**+0.4**
ARIO	**Riobamba**	**1.36**	**63**	P	**Pn**	**10 41 03.0**	**+0.3**
IGUA	**Igualata**	**1.50**	**59**	⇓P	**Pn**	**10 41 05.0**	**+0.4**
PECV	**Mancha de Ca P**	**1.50**	**355**	P	**Pn**	**10 41 05.2**	**+1.0**
ISPT	**Isla de la Pla**	**1.54**	**311**	⇑P	**Pn**	**10 41 04.1**	**-0.5**
BMAS	**Trigal station**	**1.63**	**62**	P	**Pn**	**10 41 05.7**	**-0.5**
BBIL	**Ulba Tungurahu**	**1.65**	**60**	⇓P	**Pn**	**10 41 07.5**	**+1.1**
BBIL				S	**Sn**	**10 41 28.5**	**+1.5**
BOSC	**San Juan Bosco**	**1.66**	**122**	⇑P	**Pn**	**10 41 08.3**	**+1.8**
BPAT	**Tungurahua Vol**	**1.67**	**63**	P	**Pn**	**10 41 07.7**	**+0.8**
JUI6	**Juive**	**1.67**	**60**	P	**Pn**	**10 41 07.8**	**+1.0**
POND	**Pondoa**	**1.69**	**60**	⇓P	**Pn**	**10 41 08.0**	**+1.0**
POND				S	**Sn**	**10 41 29.7**	**+1.6**
BULB	**Ulba Tungurahu**	**1.72**	**61**	⇓P	**Pn**	**10 41 08.6**	**+1.1**
FLF1	**Flavio Alfaro-**	**1.91**	**2**	⇓P	**Pn**	**10 41 09.8**	**+0.2**
CAB1	**Cabo Pasado-Ma**	**1.95**	**345**	⇓P	**Pn**	**10 41 10.4**	**+0.3**
PIS1	**Pisayambo**	**1.95**	**52**	⇓P	**Pn**	**10 41 12.5**	**+1.9**
ILLI	**Illinizas Sur**	**1.95**	**37**	⇓P	**Pn**	**10 41 11.6**	**+1.0**
JAMA	**Jama**	**2.02**	**352**	⇓P	**Pn**	**10 41 10.4**	**-0.8**
SRAM	**San Ramn-Vol**	**2.03**	**42**	⇓P	**Pn**	**10 41 13.5**	**+1.9**
BRRN	**Barrancas-Volc**	**2.07**	**44**	⇓P	**Pn**	**10 41 14.1**	**+1.9**
SLOR	**San Lorenzo -**	**2.09**	**43**		**Pn**	**10 41 14.4**	**+2.0**
SLOR	**San Lorenzo -**	**2.09**	**43**	⇓P	**Pn**	**10 41 14.6**	**+2.1**
VCES	**Cotopaxi**	**2.11**	**46**	⇓P	**Pn**	**10 41 14.8**	**+2.0**
BMOR	**Cotopaxi Volca**	**2.12**	**43**	⇓P	**Pn**	**10 41 14.9**	**+2.0**
BNAS	**Cotopaxi Volca**	**2.14**	**42**	⇓P	**Pn**	**10 41 16.6**	**+3.4**
ASDO	**Santo Domingo**	**2.15**	**22**	⇓P	**Pn**	**10 41 11.8**	**-1.2**
SUCR	**Mariscal Sucre**	**2.16**	**41**	⇓P	**Pn**	**10 41 15.8**	**+2.4**
BREF	**Cotopaxi Volca**	**2.17**	**43**	⇓P	**Pn**	**10 41 16.2**	**+2.4**
BTAM	**Cotopaxi Volca**	**2.20**	**44**	⇓P	**Pn**	**10 41 16.3**	**+2.3**
BVC2	**Cotopaxi Volca**	**2.20**	**43**	⇓P	**Pn**	**10 41 16.3**	**+2.3**
TAMB	**Tambo**	**2.20**	**45**	⇓P	**Pn**	**10 41 16.2**	**+2.1**
VC1	**Cotopaxi 1**	**2.22**	**43**	⇓P	**Pn**	**10 41 16.7**	**+2.4**
PITA	**Cotopaxi Volc**	**2.26**	**41**	⇓P	**Pn**	**10 41 17.0**	**+2.2**
TOMA	**Boca Toma-Volc**	**2.30**	**40**	⇓P	**Pn**	**10 41 17.6**	**+2.3**
GGPT	**Toaza - Volcan**	**2.41**	**32**	⇓P	**Pn**	**10 41 18.1**	**+1.3**
JUA2	**San Juan 2**	**2.43**	**33**	⇓P	**Pn**	**10 41 18.7**	**+1.7**
TING	**Casa Alexandra**	**2.46**	**37**	⇓P	**Pn**	**10 41 19.6**	**+2.2**
GGPC	**Guagua Pichinc**	**2.46**	**32**	⇓P	**Pn**	**10 41 19.3**	**+1.7**
TERV	**Terraza Guagua**	**2.46**	**32**	⇓P	**Pn**	**10 41 19.2**	**+1.6**
ARDO	**Archidona, Ten**	**2.47**	**59**	⇓P	**Pn**	**10 41 18.8**	**+1.6**
APR2	**Miler**	**2.52**	**22**	P	**Pn**	**10 41 17.0**	**-1.0**
ANTI	**Antisana**	**2.52**	**44**	⇓P	**Pn**	**10 41 20.2**	**+1.8**
YANA	**Yana**	**2.53**	**32**	⇓P	**Pn**	**10 41 20.0**	**+1.6**
FENY	**Casa Vinicio C**	**2.55**	**34**	P	**Pn**	**10 41 21.0**	**+2.4**
APR1	**Acelerografo,**	**2.57**	**30**	⇓P	**Pn**	**10 41 19.9**	**+1.1**
AV18	**Acelerografo,**	**2.61**	**10**	⇓P	**Pn**	**10 41 18.8**	**-0.2**
AV11	**Acelerografo,**	**2.68**	**35**	P	**Pn**	**10 41 22.3**	**+2.0**
ZUMB	**Zumba**	**2.68**	**163**	⇓P	**Pn**	**10 41 21.3**	**+1.1**
PULU	**Pululahua**	**2.68**	**32**	⇓P	**Pn**	**10 41 22.2**	**+1.8**
PAC1	**Pacto, Paraso**	**2.76**	**24**	P	**Pn**	**10 41 21.0**	**-0.3**
PAC1	**Pacto, Paraso**	**2.76**	**24**	⇓P	**Pn**	**10 41 20.7**	**-0.6**
PAC1	**Pacto, Paraso**	**2.76**	**24**	P		10 41 21.0	
OTAV	**Otavalo**	**2.89**	**30**	Pn	**Pn**	**10 41 24.7**	**+1.4**
OTAV	**Otavalo**	**2.89**	**30**	P	**Pn**	**10 41 24.6**	**+1.3**
OTAV	**Otavalo**	**2.89**	**30**	P	**Pn**	**10 41 24.7**	**+1.4**
OTAV	**Otavalo**	**2.89**	**30**	*eP*	**Pn**	**10 41 24.3**	**+1.0**
OTAV	**Otavalo**	**2.89**	**30**	P		10 41 24.6	
AV21

GMAL Guarumal, Vera 10.06 352 P Pn 10 43 01.9 +1.1
212nm,0.8s
GMAL Guarumal, Vera 10.06 352 P 10 43 01.9
212nm,0.8s
NNA Nana 10.12 163 Pn **Pn 10 43 00.5 -1.2**
NNA Nana 10.12 163 P **Pn 10 43 00.2 -1.4**
572nm,0.4s,baz=332,slow=11,SNR=175
NNA S **Sn 10 44 49.4 -4.2**
2µm,0.5s,baz=97,slow=21,SNR=29
NNA Nana 10.12 163 P **Pn 10 43 00.7 -1.0**
972nm,0.6s
NNA Nana 10.12 163 *ce*P **Pn 10 43 00.1 -1.6**
NNA pmax pmax
comp=Z,941nm,0.6s
NNA Nana 10.12 163 P 10 43 00.7
comp=Z,972nm,0.6s
TBTG Tabatinga, AM 10.17 101 Pn 10 43 00.9 -1.4
TBTG Tabatinga, AM 10.17 101 P **Pn 10 42 59.8 -2.5**
comp=Z,1µm,0.8s
TBTG Tabatinga, AM 10.17 101 *e*P **Pn 10 42 59.3 -3.0**
TBTG Tabatinga, AM 10.17 101 P 10 42 59.8
comp=Z,1µm,0.8s
PTBC PUERTO BERRIO, 10.31 32 P 10 42 58.1
PTBC PUERTO BERRIO, 10.31 32 P Pn 10 42 58.1 -6.2
PAYG Puerto Ayora 10.49 279 Pn 10 43 09.1 +2.4
RUSC La Rusia 10.60 40 Pn **Pn 10 43 07.9 -0.8**
RUSC La Rusia 10.60 40 P **Pn 10 43 09.1 +0.5**
comp=Z,254nm,1.1s
RUSC La Rusia 10.60 40 P 10 43 09.1
comp=Z,254nm,1.1s
APAC Apartado, Choc 10.64 18 P 10 43 11.1
APAC Apartado, Choc 10.64 18 P **Pn 10 43 11.1 +2.3**
ZARC Zaragoza, Cauc 10.94 27 P 10 43 10.6
ZARC Zaragoza, Cauc 10.94 27 P **Pn 10 43 10.6 -2.2**
BRJC Barrancabermej 11.06 34 P 10 43 14.7
comp=Z,189nm,1.5s
BRJC Barrancabermej 11.06 34 P **Pn 10 43 14.7 +0.2**
comp=Z,189nm,1.5s
BARC Barichara 11.08 37 P **Pn 10 43 15.5 +0.5**
BARC Barichara 11.08 37 P 10 43 15.5
CAPC Capurgana 11.14 13 P **Pn 10 43 19.5 +4.0**
CAPC Capurgana 11.14 13 P 10 43 19.5
BCIP Isla Barro Col 11.37 0 Pn **Pn 10 43 22.3 +3.7**
BCIP Isla Barro Col 11.37 0 P **Pn 10 43 22.1 +3.4**
comp=Z,393nm,0.8s
BCIP Isla Barro Col 11.37 0 P **Pn 10 43 22.3 +3.7**
BCIP Isla Barro Col 11.37 0 P 10 43 22.1
comp=Z,393nm,0.8s
OCAC Ocana 12.34 32 P **Pn 10 43 30.4 -1.7**
OCAC Ocana 12.34 32 P 10 43 30.4
HDC Heredia 12.89 341 Pn 10 43 43.8 +4.2
HDC Heredia 12.89 341 *e*P **Pn 10 43 43.3 +3.7**
SJCC San Jacinto, C 12.98 21 P **Pn 10 43 41.6 +0.9**
comp=Z,108nm,0.9s
SJCC San Jacinto, C 12.98 21 P 10 43 41.6
comp=Z,108nm,0.9s
SOCE Pocosol 13.42 340 Pn 10 43 50.7 +4.2
JTS Las Juntas de 13.45 338 Pn **Pn 10 43 50.2 +3.2**
JTS Las Juntas de 13.45 338 P **Pn 10 43 49.6 +2.6**
comp=Z,59nm,1.0s,baz=152,slow=7.9,SNR=21
JTS Las Juntas de 13.45 338 P **Pn 10 43 51.2 +4.2**
JTS Las Juntas de 13.45 338 P 10 43 51.2
SDV Santo Domingo 14.44 40 P 10 43 58.4
SDV Santo Domingo 14.44 40 Pn **Pn 10 43 59.9 -0.2**
SDV Santo Domingo 14.44 40 P **Pn 10 44 00.7 +0.6**
comp=Z,104nm,0.7s,baz=178,slow=8.3,SNR=24
SDV Santo Domingo 14.44 40 P **Pn 10 43 58.4 -1.7**
SDV Santo Domingo 14.44 40 *e*P **Pn 10 43 59.1 -0.9**
BLUN Bluefields 14.70 345 P 10 44 05.8
BLUN Bluefields 14.70 345 P **Pn 10 44 05.8 +2.6**
CRJC Cerrejon, Guaj 14.95 28 P **Pn 10 44 04.7 -1.8**
CRJC Cerrejon, Guaj 14.95 28 P 10 44 04.7
ESPN Las Esperanzas 15.02 343 P 10 44 10.6
comp=Z,193nm,1.3s
ESPN Las Esperanzas 15.02 343 P **P 10 44 10.7 -0.4**
ESPN Las Esperanzas 15.02 343 P **P 10 44 10.6 -0.4**
comp=Z,193nm,1.3s
ACON Acoyapa 15.09 340 P 10 44 11.8
ACON Acoyapa 15.09 340 P **Pn 10 44 11.2 +3.0**
ACON Acoyapa 15.09 340 P **P 10 44 11.8 0.0**
PRVC Isla de Provid 15.62 355 P **Pn 10 44 16.5 +1.5**
MGAN Managua 15.65 336 P **P 10 44 18.4 +0.4**
BOAB BOACO BROADBAN 16.71 339 P **P 10 44 18.9 +0.3**
CNGN Cerro Negro 16.15 335 P **Pn 10 44 24.1 +2.4**
HERN Volcan Telica 16.31 335 P **P 10 44 26.7 +1.3**
CRIN San Cristobal 16.48 335 P **Pn 10 44 27.3 +1.4**
CRIN San Cristobal 16.48 335 P **P 10 44 29.8 +2.5**
CRIN San Cristobal 16.48 335 P 10 44 29.8
TGUH Tegucigalpa,Un 17.79 336 P **Pn 10 44 44.5 +2.5**
HATO Hato, Curacao 18.02 37 P **Pn 10 44 44.3 -0.4**
LPAZ La Paz 18.12 141 P **Pn 10 44 46.6 0.0**
LPAZ La Paz 18.12 141 P **Pn 10 44 47.5 +0.9**
comp=Z,107nm,0.6s,baz=301,slow=5.4,SNR=62
LPAZ La Paz 18.12 141 *e*P **P 10 44 45.4 -0.6**
PB18 Visviri 18.35 147 Pn 10 44 50.4 +1.3
AP01 Chacalluta 18.55 150 P **Pn 10 44 51.1 +0.1**
PB12 IPOC Station P 18.76 151 P **P 10 44 52.9 +0.5**
MTO3 Montecristo 19.03 331 P **P 10 44 57.5 +1.9**
MTO3 IAmb IAmb 10 45 01.9
comp=Z,395nm,1.8s
ESQI Esquipulas 19.16 331 P **Pn 10 44 59.5 +1.1**
ESQI IAmb IAmb 10 45 04.9
comp=Z,249nm,1.1s
MACA Manacapuru-AM 19.23 93 P **P 10 44 56.1 -1.4**
MACA Manacapuru-AM 19.23 93 *e*P **P 10 44 57.0 -0.6**
PCRV Puerto La Cruz 19.61 51 P **Pn 10 45 02.9 -0.9**
comp=Z,117nm,0.5s,baz=245,slow=3.6,SNR=64
PB11 IPOC Station P 20.06 151 P **P 10 45 07.3 +0.6**
PB11 IAmb IAmb 10 45 13.3
comp=Z,199nm,0.8s
APG El Apazote 20.10 329 P **P 10 45 09.8 +2.5**
comp=Z,4.6nm,0.8s,baz=161,slow=10.0,SNR=28
TA02 Huaiquique 20.28 153 P **P 10 45 09.4 +0.5**
TA02 IAmb IAmb 10 45 14.9
comp=Z,167nm,0.7s
RTAL Retalhuleu 20.37 325 P **P 10 45 12.8 +2.9**
MTDJ Mount Denham 20.51 6 P Pn 10 45 13.6 -0.7
MTDJ IAmb IAmb 10 45 18.3
comp=Z,174nm,0.9s
TA01 Diego Aracena 20.51 153 P **P 10 45 12.6 +1.2**
TA01 IAmb IAmb 10 45 20.7
comp=Z,154nm,0.8s
PB08 IPOC Station P 20.63 150 P **P 10 45 14.3 +1.1**
PB08 IAmb IAmb 10 45 15.8
comp=Z,746nm,1.8s
HUEH Huehuetenango 20.91 327 P **P 10 45 18.5 +2.5**
HUEH IAmb IAmb 10 45 22.5
comp=Z,183nm,0.7s
PB01 IPOC Station P 21.24 152 P **P 10 45 20.5 +1.1**
PB01 IAmb IAmb 10 45 24.6
comp=Z,198nm,0.8s
PETF Flores 21.45 333 P **P 10 45 23.6 +2.1**
PETF IAmb IAmb 10 45 25.4
comp=Z,244nm,1.6s
PAPH Port-au-Prince 21.98 20 P **P 10 45 26.1 -1.1**
PAPH IAmb IAmb 10 45 49.1
comp=Z,154nm,1.0s
PB09 IPOC Station P 22.01 153 P **P 10 45 29.2 +1.6**
PB09 IAmb IAmb 10 45 31.1
comp=Z,416nm,1.3s
CCIG Comitan 22.04 327 P **P 10 45 29.2 +1.2**
VILB Vilhena 22.21 120 P **P 10 45 29.6 -0.1**
VILB Vilhena 22.21 120 *e*P **P 10 45 29.4 -0.4**
CHIV Chivirico 22.38 9 P **P 10 45 31.1 -0.4**
CHIV IAmb IAmb 10 45 52.9
comp=Z,195nm,1.6s
GTBY Guantanamo Bay 22.56 12 P **P 10 45 34.8 +1.4**
BANI BANI 22.59 24 P **P 10 45 33.3 -0.5**
SDDR Presa de Saban 22.77 22 P **P 10 45 36.8 +1.2**
NMDO Nuevo Mundo 23.20 12 P **P 10 45 40.8 +0.9**
NMDO IAmb IAmb 10 46 06.1
comp=Z,89nm,1.0s
DR12 Loma Pena Alta 23.36 26 P **P 10 45 41.5 +0.1**
AF01 San Pedro de A 23.50 152 P **P 10 45 44.5 +1.6**
AF01 IAmb IAmb 10 46 06.3
comp=Z,177nm,0.8s
PCDR Punta Cana, DR 23.57 28 P **P 10 45 43.0 -0.3**
PCDR IAmb IAmb 10 46 04.1
comp=Z,316nm,0.9s
CRPR Cabo Rojo, PR 23.78 32 P **P 10 45 45.3 +0.2**
TEIG Tepich 23.82 340 P **P 10 45 46.2 +0.7**
PRSN Puerto Rico Se 23.93 31 P **P 10 45 47.4 +0.8**
PRSN IAmb IAmb 10 46 11.9
comp=Z,108nm,0.8s

PB14 IPOC Station P 24.04 158 P **P 10 45 48.5 +0.7**
OBIP Obispado Ponce 24.07 32 P **P 10 45 47.1 -0.7**
CELP Cerrillos 24.11 32 P **P 10 45 47.9 -0.3**
UUPR Utuado, UPR, P 24.19 32 P **P 10 45 48.9 +0.1**
UUPR IAmb IAmb 10 46 14.2
comp=Z,97nm,0.8s
ITTB Itaituba 24.23 96 *e*P **P 10 45 47.0 -2.2**
AOPR Arecibo Observ 24.25 32 P **P 10 45 50.3 +1.0**
AOPR IAmb IAmb 10 46 10.1
comp=Z,207nm,0.7s
IGPR InterUniversit 24.28 34 P **P 10 45 49.0 -0.7**
PDPR Patillas Dam, 24.37 34 P **P 10 45 50.9 +0.4**
SJG San Juan 24.38 33 P **P 10 45 50.9 +0.4**
SJG San Juan 24.38 33 P **P 10 45 50.9 +0.4**
SJG pmax pmax
comp=Z,104nm,0.9s
HUMP Col San Antoni 24.57 34 P **P 10 45 52.5 +0.3**
HUMP IAmb IAmb 10 46 17.8
comp=Z,283nm,1.5s
GCPR Guaynabo City 24.57 33 P **P 10 45 53.0 +0.7**
GO02 Mina Guanaco 24.84 157 P **P 10 45 56.0 +1.0**
GO02 IAmb IAmb 10 45 59.0
comp=Z,690nm,2.0s
NPGB Novo Progresso 24.92 102 *e*P **P 10 45 54.1 -1.6**
SOR Soroa 25.10 353 P **P 10 45 59.6 +2.5**
SOR Soroa 25.10 353 P **P 10 45 59.6 +2.5**
SOR pmax pmax
comp=Z,103nm,1.7s
AC01 Pan de Azucar 25.37 160 P **P 10 46 01.5 +1.9**
AC01 IAmb IAmb 10 46 04.4
comp=Z,506nm,1.8s
DSLB Salisbury 25.39 46 *e*P **P 10 45 57.7 -2.1**
CLDB Colider 25.41 111 *e*P **P 10 45 58.5 -1.6**
TDBA Terre de Bas, 25.51 44 P **P 10 46 02.2 +1.3**
TDBA IAmb IAmb 10 46 28.0
comp=Z,122nm,0.9s
SMRT St. Maarten 26.14 39 P **P 10 46 07.6 +1.1**
AC02 Maricunga 26.52 158 P **P 10 46 12.2 +1.7**
AC02 IAmb IAmb 10 46 19.6
comp=Z,161nm,1.6s
TLIG Tlapa 26.96 318 P **P 10 46 16.4 +2.3**
LCO Las Campanas 28.00 163 P **P 10 46 24.2 +0.8**
LCO Las Campanas 28.00 163 P **P 10 46 24.2 +0.8**
LCO pmax pmax
comp=Z,130nm,1.7s
CO05 La Serena 28.70 164 P **P 10 46 29.9 +0.6**
GO04 Tololo Observa 29.06 164 P **P 10 46 33.8 +1.0**
GO04 IAmb IAmb 10 46 40.3
comp=Z,176nm,1.4s
CO01 Juntas del Tor 29.09 162 P **P 10 46 34.1 +1.1**
CO06 Fray Jorge 29.31 165 P **P 10 46 35.5 +0.8**
CO06 IAmb IAmb 10 46 37.7
comp=Z,82nm,1.1s
CO03 El Pedregal 29.72 164 P **P 10 46 39.7 +1.2**
CO03 IAmb IAmb 10 46 40.8
comp=Z,179nm,1.5s
MOIG Morelia 30.21 317 P **P 10 46 45.9 +2.7**
MOIG IAmb IAmb 10 46 47.7
comp=Z,127nm,0.8s
JRQG Juriquilla Cam 30.44 320 P **P 10 46 47.9 +2.8**
H03N2 Juan Fernandez 31.02 178 T T 11 19 46.9
baz=355,slow=76,SNR=5.0
H03N1 Juan Fernandez 31.02 178 T T 11 19 47.2
baz=355,slow=76,SNR=6.8
H03N3 Juan Fernandez 31.03 178 T T 11 19 43.2
baz=355,slow=76,SNR=11
VA06 Catapilco 31.20 166 P **P 10 46 52.5 +1.1**
VA06 IAmb IAmb 10 46 53.5
comp=Z,193nm,1.5s
H03S3 Juan Fernandez 31.40 178 P **P 10 46 54.8 +1.9**
baz=359,slow=14,SNR=3.6
H03S2 Juan Fernandez 31.41 178 P **P 10 46 54.3 +1.3**
baz=359,slow=14,SNR=3.4
H03S1 Juan Fernandez 31.42 178 P **P 10 46 54.8 +1.8**
baz=359,slow=14,SNR=2.8
VA03 San Esteban 31.58 165 P **P 10 46 56.3 +1.4**
MT02 Curacav 31.90 166 P **P 10 46 58.9 +1.3**
MT02 IAmb IAmb 10 47 00.1
comp=Z,154nm,1.6s
PEL Peldehue 31.90 165 P **P 10 46 59.2 +1.5**
PEL IAmb IAmb 10 47 28.5
comp=Z,60nm,1.0s
PEL Peldehue 31.90 165 P **P 10 46 59.2 +1.5**
PEL pmax pmax
comp=Z,60nm,1.0s
MT05 Renca 32.13 165 P **P 10 47 02.0 +2.3**
MT03 Universidad Ad 32.28 165 P **P 10 47 02.5 +1.4**
CPUP Villa Florida 32.29 140 P **P 10 47 00.1 -1.0**
comp=Z,20nm,1.0s,baz=336,slow=19,SNR=4.7
comp=Z,20nm,1.0s
MT08 Bocatoma Ro 32.36 164 P **P 10 47 04.4 +2.5**
LMEL Las Melosas 32.70 165 IAmb IAmb 10 47 07.6
comp=Z,73nm,1.1s
BO04 La Punta 32.73 166 IAmb IAmb 10 47 34.9
comp=Z,100nm,1.1s
BO01 Tunca 33.00 167 P **P 10 47 07.3 +0.1**
ZAIG Zacatecas 33.28 320 P **P 10 47 12.8 +2.6**
BO02 Sierra Bellavi 33.45 166 IAmb IAmb 10 47 41.8
comp=Z,56nm,1.1s
BDFB Brasilia 34.12 115 P **P 10 47 17.3 0.0**
comp=Z,31nm,1.1s,baz=184,slow=25,SNR=1.5
comp=Z,31nm,1.1s
ML02 Panimavida 34.24 168 IAmb IAmb 10 47 19.6
comp=Z,104nm,0.9s
HBVL Hebbronville 34.32 329 IAmb IAmb 10 47 21.8
comp=Z,62nm,1.0s
KVTX Kingsville 34.34 331 P **P 10 47 21.0 +2.2**
BI05 Punta Hualpn 34.86 171 P **P 10 47 23.2 -0.1**
BI05 IAmb IAmb 10 47 25.0
comp=Z,50nm,0.9s
LDASE Londrina, Braz 34.91 129 *e*P **P 10 47 22.8 -1.2**
BI02 San Fabin de 35.14 168 P **P 10 47 26.0 +0.2**
HKT Hockley 35.47 336 P **P 10 47 29.7 +1.2**
HKT Hockley 35.47 336 *i* P **P 10 47 29.0 +0.4**
HKT pmax pmax
comp=Z,114nm,1.9s
HKT Hockley 35.47 336 P **P 10 47 29.7 +1.2**
HKT PcP **PcP 10 49 57.5 +0.8**
833A Chaparral WMA, 35.72 330 IAmb IAmb 10 47 34.9
comp=Z,79nm,1.1s
833A Chaparral WMA, 35.72 330 P **P 10 47 32.6 +1.8**
baz=145
LRAL Lakeview Retre 35.75 350 IAmb IAmb 10 47 55.4
comp=Z,52nm,0.8s
MLDN Muldoon 35.85 334 IAmb IAmb 10 47 34.4
comp=Z,77nm,0.9s
Y60A Bolivia 36.12 2 P **P 10 47 35.8 +1.7**
Y60A IAmb IAmb 10 47 56.4
comp=Z,56nm,0.8s
PMNB Patos De Minas 36.56 119 *e*P **P 10 47 36.6 -1.6**
435B Jarrell 36.94 334 P **P 10 47 43.0 +1.9**
baz=150
PAULI Pauline 36.95 357 IAmb IAmb 10 48 40.4
comp=Z,58nm,1.4s
TBOT Tacuaremb 36.97 145 *e*P **P 10 47 41.7 +0.3**
H06S1 SOCORRO T 36.99 306 P **P 10 47 43.5 +1.8**
FPAL Fort Paine 37.01 352 P **P 10 47 41.2 -0.5**
BG3 Lake Jocassee 37.18 356 P **P 10 47 43.2 +0.1**
BG3 IAmb IAmb 10 48 00.3
comp=Z,88nm,1.6s
CPCT Cooper Cave 37.78 354 IAmb IAmb 10 48 12.6
comp=Z,44nm,1.0s
PLAL Pickwick Lake 37.85 349 P **P 10 47 47.7 -1.1**
PLAL IAmb IAmb 10 47 49.2
comp=Z,84nm,1.8s
PLAL **PcP 10 50 03.1 -0.7**
V58A Windy Hill, Pi 37.88 1 P **P 10 47 48.3 -0.7**
TKL Tuckaleechee C 37.91 355 P **P 10 47 48.7 -0.6**
TKL Tuckaleechee C 37.91 355 P **P 10 47 48.7 -0.6**
TKL pmax pmax
comp=Z,24nm,1.0s
BRDY Brady 38.00 333 IAmb IAmb 10 47 52.3
comp=Z,46nm,0.7s
V48A Smith Brothers 38.37 351 IAmb IAmb 10 48 17.2
comp=Z,46nm,1.0s
PLTB Pedras Altas 38.41 143 *e*P **P 10 47 52.5 -1.1**
U56A King 38.43 359 P **P 10 47 53.8 +0.2**
SAND Sanderson 38.44 328 P **P 10 47 55.3 +1.4**
SAND IAmb IAmb 10 47 56.9
comp=Z,36nm,0.8s
CLTN Cedars of Leba 38.64 352 P **P 10 47 54.6 -0.8**
UALR University of 38.66 344 P **P 10 47 55.4 -0.2**
FW07 Weatherford 38.68 336 P **P 10 47 57.1 +1.2**
OZNA Ozona 38.71 330 IAmb IAmb 10 47 59.1
comp=Z,79nm,0.9s

TX31 Lajitas Ar. Si 38.80 326 P **P 10 47 58.0 +1.1**
TXAR Lajitas Array 38.80 326 P **P 10 47 58.1 +1.1**
TXAR Lajitas Array 38.80 326 P **P 10 47 58.3 +1.3**
comp=Z,8.4nm,0.7s,baz=150,slow=9.5,SNR=27
TXAR PcP **PcP 10 50 07.7 +0.6**
comp=Z,12nm,0.7s,baz=153,slow=6.6,SNR=13
comp=Z,8.4nm,0.7s
WVT Waverly 38.92 350 P **P 10 47 56.2 -1.5**
WVT Waverly 38.92 350 P **P 10 47 56.2 -1.5**
WVT pmax pmax
comp=Z,15nm,0.8s
WVT Waverly 38.92 350 P **P 10 47 56.1 -1.6**
WVT PcP **PcP 10 50 07.6 +0.4**
U49A Red Boiling Sp 38.98 352 P **P 10 47 57.3 -0.9**
U49A **PcP 10 50 07.4 0.0**
SLBS Sierra La Lagu 38.98 313 P **P 10 48 00.9 +2.3**
SLBS IAmb IAmb 10 48 03.4
comp=Z,99nm,0.9s
PLPT Palo Pinto 39.00 335 P **P 10 48 00.1 +1.6**
LL04 Puerto Octay 39.05 171 P **P 10 47 59.2 +0.4**
LL04 IAmb IAmb 10 48 00.4
comp=Z,71nm,0.8s
FW03 Perrin-Whitt E 39.09 335 P **P 10 48 00.6 +1.3**
T59A Double "B" Far 39.11 3 P **P 10 47 59.1 -0.2**
WHAR Wooly Hollow 39.13 344 P **P 10 47 59.3 -0.2**
PLCA Paso Flores 39.21 169 P **P 10 48 01.2 +0.9**
PLCA IAmb IAmb 10 48 02.3
comp=Z,138nm,1.2s
PLCA Paso Flores 39.21 169 P **P 10 48 00.7 +0.5**
comp=Z,46nm,1.1s,baz=343,slow=9.8,SNR=22
comp=Z,46nm,1.1s
PLCA Paso Flores 39.21 169 P **P 10 48 01.2 +0.9**
PLCA pmax pmax
comp=Z,138nm,1.3s
PLCA Paso Flores 39.21 169 *e*P **P 10 48 01.1 +0.9**
PARB Paraibuna 39.26 125 *e*P **P 10 47 59.5 -1.4**
TER01 Tubaro-SC 39.28 135 *e*P **P 10 48 01.1 +0.2**
LCAR Lake Charles 39.57 346 IAmb IAmb 10 48 24.3
comp=Z,36nm,0.8s
ALPN Alpine 39.58 327 IAmb IAmb 10 48 07.5
comp=Z,108nm,1.1s
FCAR Ozark Folk Cen 39.65 344 P **P 10 48 03.7 -0.1**
FCAR IAmb IAmb 10 48 39.8
comp=Z,103nm,1.7s
WTFS Witchita Falls 39.89 336 P **P 10 48 07.1 +1.3**
S54A Dingess, Beckl 39.90 358 P **P 10 48 05.4 -0.5**
S54A IAmb IAmb 10 48 07.6
comp=Z,64nm,1.3s
SN05 Snyder 5 40.20 332 IAmb IAmb 10 48 11.0
comp=Z,70nm,0.8s
R55A Marlinton 40.36 360 P **P 10 48 09.4 -0.3**
R55A IAmb IAmb 10 48 34.4
comp=Z,123nm,1.8s
X34A Smith Ranch, M 40.36 337 IAmb IAmb 10 48 12.1
comp=Z,115nm,0.9s
ODSA Odessa 40.39 330 IAmb IAmb 10 48 12.1
comp=Z,72nm,0.8s
PECS Pecos 40.48 328 IAmb IAmb 10 48 14.0
comp=Z,237nm,1.9s
W35A Tecumseh 40.48 338 IAmb IAmb 10 48 13.4
comp=Z,93nm,1.0s
LL01 San Ignacio de 40.49 171 P **P 10 48 10.7 0.0**
LL01 IAmb IAmb 10 48 12.0
comp=Z,72nm,0.8s
VHRN Van Horn 40.64 326 P **P 10 48 13.9 +1.6**
USIN University of 40.68 351 P **P 10 48 10.9 -1.4**
USIN **pP 10 48 29.6 -0.7**
USIN IAmb IAmb 10 48 35.8
comp=Z,60nm,1.0s
WCI Wyandotte Cave 40.73 352 P **P 10 48 11.4 -1.4**
WCI Wyandotte Cave 40.73 352 P **P 10 48 11.4 -1.4**
WCI pmax pmax
comp=Z,35nm,0.9s
WCI Wyandotte Cave 40.73 352 P **P 10 48 11.4 -1.4**
WCI pP **pP 10 48 29.2 -1.5**
WCI PcP **PcP 10 50 12.3 -0.6**
WMOK Wichita Mounta 40.86 336 IAmb IAmb 10 48 15.3
comp=Z,48nm,0.9s
DKNS Dickens 40.87 333 IAmb IAmb 10 48 17.3
comp=Z,88nm,0.7s
OKCSW OKLAHOMA CITY 40.92 338 IAmb IAmb 10 48 16.0
comp=Z,93nm,0.8s
Q54A Coxs Mills 41.06 359 P **P 10 48 15.0 -0.5**
Q54A **pP 10 48 31.9 -1.6**
OK031 S. Brethren Rd 41.19 339 P **P 10 48 17.0 +0.5**
FVM French Village 41.22 347 P **P 10 48 15.9 -0.9**
FVM pP **pP 10 48 33.0 -1.8**
FVM French Village 41.22 347 P **P 10 48 15.9 -0.9**
FVM pmax pmax
comp=Z,39nm,0.9s
QUOK Quay 41.34 339 IAmb IAmb 10 48 19.6
comp=Z,95nm,0.9s
LL02 Futaleuf 41.37 171 IAmb IAmb 10 48 20.1
comp=Z,86nm,0.9s
CCM Cathedral Cave 41.48 346 P **P 10 48 17.7 -1.2**
CCM Cathedral Cave 41.48 346 P **P 10 48 17.7 -1.2**
CCM pmax pmax
comp=Z,51nm,1.2s
OLIL Olney 41.50 350 P **P 10 48 17.6 -1.4**
OLIL IAmb IAmb 10 48 18.6
comp=Z,45nm,0.8s
OLIL **pP 10 48 36.3 -0.7**
P53A Whipple 41.58 358 IAmb IAmb 10 48 44.8
comp=Z,167nm,1.7s
P51A Williamsport 41.65 356 P **P 10 48 18.9 -1.4**
P51A **pP 10 48 37.0 -1.2**
OK051 E0350 and S346 41.68 339 IAmb IAmb 10 48 22.0
comp=Z,95nm,0.9s
RIB01 Linhares ES 42.19 117 *e*P **P 10 48 24.7 -0.3**
MVL Millersville 42.20 4 P **P 10 48 25.1 +0.5**
MVL pP **pP 10 48 41.8 -0.9**
AMTX Amarillo 42.23 333 P **P 10 48 26.2 +1.0**
AMTX IAmb IAmb 10 48 27.4
comp=Z,114nm,1.0s
ELIS Ellis County 42.27 336 IAmb IAmb 10 48 28.6
comp=Z,112nm,0.8s
KAN13 South Haven SW 42.36 339 IAmb IAmb 10 48 27.6
comp=Z,109nm,0.9s
AY01 Puyuhuapi 42.46 172 P **P 10 48 27.2 +0.4**
AY01 IAmb IAmb 10 48 28.9
comp=Z,77nm,1.0s
KAN14 Manchester OK 42.49 338 IAmb IAmb 10 48 28.3
comp=Z,54nm,0.8s
KAN17 Caldwell West 42.49 339 IAmb IAmb 10 48 29.0
comp=Z,104nm,0.8s
KAN09 Caldwell North 42.52 339 P **P 10 48 28.4 +0.9**
KAN01 Argonia South 42.59 339 IAmb IAmb 10 48 29.9
comp=Z,101nm,0.8s
NBLA Lagarto - SE 42.68 104 *e*P **P 10 48 27.0 -2.1**
KAN08 Anthony NE Sta 42.73 339 P **P 10 48 29.9 +0.7**
KAN08 IAmb IAmb 10 48 31.1
comp=Z,83nm,0.8s
SSPA Standing Stone 42.75 2 P **P 10 48 28.7 -0.5**
SSPA Standing Stone 42.75 2 P **P 10 48 28.9 -0.3**
SSPA pP **pP 10 48 46.4 -0.8**
KAN12 Harper NE Stat 42.80 339 IAmb IAmb 10 48 31.2
comp=Z,78nm,0.8s
HSIG 43.04 319 P **P 10 48 32.8 +1.0**
N51A Ashland 43.05 357 IAmb IAmb 10 48 55.8
comp=Z,88nm,1.4s
N47A Urbana 43.27 354 IAmb IAmb 10 48 56.3
comp=Z,158nm,1.8s
ODNJ Ogdensburg 43.42 6 P **P 10 48 33.8 -0.8**
ODNJ **pP 10 48 51.8 -0.9**
HDIL Hopedale 43.48 350 IAmb IAmb 10 48 34.9
comp=Z,55nm,0.7s
M57A Sunshine Farm, 43.48 3 P **P 10 48 35.6 +0.5**
TRNY Table Rock, Ra 43.52 6 IAmb IAmb 10 49 00.6
comp=Z,61nm,0.7s
121A Cookes Peak, D 43.53 325 P **P 10 48 38.0 +2.1**
121A IAmb IAmb 10 48 42.9
comp=Z,97nm,1.0s
121A Cookes Peak, D 43.53 325 P **P 10 48 38.2 +2.3**
baz=137
M50A Fremont 43.57 357 IAmb IAmb 10 48 35.6
comp=Z,52nm,0.8s
319A Douglas 43.58 323 IAmb IAmb 10 48 40.0
comp=Z,80nm,0.8s
WSPT Westport, CT 43.66 7 P **P 10 48 36.6 +0.2**
WSPT IAmb IAmb 10 49 01.5
comp=Z,56nm,0.8s
COYC Coyhaique 43.66 172 P **P 10 48 36.3 -0.2**
COYC IAmb IAmb 10 48 38.5
comp=Z,66nm,0.7s
KSPA Keystone Colle 43.79 4 IAmb IAmb 10 49 06.0

comp=Z,86nm,1.3s
RTBA Rita Blanca 44.00 333 IAmb IAmb 10 48 41.4
comp=Z,65nm,0.8s
CRNM Carthage 44.00 327 P **P** **10 48 41.5 +1.8**
R32A Long Quarter, 44.06 339 P **P** **10 48 41.2 +1.4**
BNM Barren Site 44.10 328 P **P** **10 48 42.3 +1.8**
KSCT Kent School, K 44.18 7 P **P** **10 48 40.4 -0.2**
Y22D IRIS PASSCAL I 44.20 327 IAmb IAmb 10 48 45.1
comp=Z,74nm,0.9s
Y22D IRIS PASSCAL I 44.20 327 P **P** **10 48 43.5 +2.4**
baz=139
L56A Greenwood 44.26 3 IAmb IAmb 10 48 58.2
comp=Z,130nm,1.6s
DUN6 Lazy B Ranch 44.30 324 P **P** **10 48 44.2 +2.2**
BINY Binghamton 44.41 4 P **P** **10 48 42.6 0.0**
BINY IAmb IAmb 10 49 08.2
comp=Z,63nm,0.8s
UCCT U. Connecticut 44.42 8 P **P** **10 48 43.0 +0.4**
UCCT pP **pP** **10 48 59.3 -1.4**
UCCT IAmb IAmb 10 49 07.9
comp=Z,58nm,0.8s
WVNY West Valley, N 44.49 1 P **P** **10 48 43.1 0.0**
WVNY IAmb IAmb 10 48 44.2
comp=Z,214nm,1.9s
N38A Joes South For 44.56 346 P **P** **10 48 43.0 -0.7**
N38A pP **pP** **10 49 00.9 -1.0**
ANMO Albuquerque 44.62 328 P **P** **10 48 46.3 +1.8**
ANMO Albuquerque 44.62 328 *i* P **P** **10 48 44.7 +0.2**
ANMO pmax pmax
comp=Z,91nm,0.8s
ANMO Albuquerque 44.62 328 P **P** **10 48 46.3 +1.8**
ANMO pP **pP** **10 49 04.1 +1.4**
ANMO PcP **PcP** **10 50 27.1 +0.8**
CBKS Cedar Bluff 44.79 338 P **P** **10 48 47.1 +1.4**
CBKS IAmb IAmb 10 48 47.6
comp=Z,84nm,0.8s
CBKS Cedar Bluff 44.79 338 P **P** **10 48 47.1 +1.4**
CBKS pmax pmax
comp=Z,84nm,0.8s
MMNY Mt. Morris Dam 44.84 2 P **P** **10 48 45.5 -0.4**
K57A Scipio Center 44.91 4 IAmb IAmb 10 49 11.6
comp=Z,78nm,1.0s
K50A Casco 44.91 357 IAmb IAmb 10 48 46.1
comp=Z,60nm,0.8s
L42A Oliver, Polo 44.95 350 IAmb IAmb 10 48 47.5
comp=Z,150nm,1.7s
BCX Boston College 45.10 9 P **P** **10 48 47.3 -0.7**
BCX **pP** **10 49 05.0 -1.2**
BCX IAmb IAmb 10 49 14.6
comp=Z,152nm,1.6s
TUC Tucson 45.15 322 P **P** **10 48 50.2 +1.5**
TUC Tucson 45.15 322 P **P** **10 48 50.2 +1.5**
TUC pmax pmax
comp=Z,32nm,0.9s
TUC Tucson 45.15 322 P **P** **10 48 50.0 +1.3**
TRY Troy 45.16 6 P **P** **10 48 48.3 -0.1**
TRY **pP** **10 49 05.2 -1.4**
TRY IAmb IAmb 10 49 14.2
comp=Z,52nm,0.8s
AY03 Cochrane 45.25 173 IAmb IAmb 10 48 51.9
comp=Z,58nm,0.9s
L40A Anamosa 45.31 348 IAmb IAmb 10 49 13.3
comp=Z,47nm,1.0s
T25A Trinidad 45.34 332 IAmb IAmb 10 48 52.8
comp=Z,73nm,0.8s
T25A Trinidad 45.34 332 P **P** **10 48 52.8 +2.6**
baz=144
K43A Burlington 45.41 351 IAmb IAmb 10 48 50.7
comp=Z,68nm,1.1s
J47A Sunmer 45.52 355 IAmb IAmb 10 49 15.5
comp=Z,81nm,0.9s
SCIA State Center 45.60 346 P **P** **10 48 51.3 -0.7**
SCIA IAmb IAmb 10 48 52.9
comp=Z,53nm,0.7s
SCIA **pP** **10 49 09.4 -0.8**
J59A Piesco 45.79 5 IAmb IAmb 10 49 18.4
comp=Z,44nm,0.8s
ACCN Adirondack Com 45.80 6 P **P** **10 48 53.7 +0.2**
ACCN **pP** **10 49 11.3 -0.5**
ACCN IAmb IAmb 10 49 18.9
comp=Z,54nm,0.8s
J61A Chester 45.90 7 P **P** **10 48 54.3 0.0**
J61A **pP** **10 49 11.7 -0.8**
J61A IAmb IAmb 10 49 18.7
comp=Z,70nm,1.2s
PECO Prince Edward 46.08 3 IAmb IAmb 10 49 19.7
comp=Z,42nm,0.9s
I49A Point Hope 46.08 357 IAmb IAmb 10 49 19.1
comp=Z,86nm,0.8s
KSCO Kaye Shedlock' 46.10 335 IAmb IAmb 10 48 58.7
comp=Z,84nm,1.0s
X18A Snowflake 46.22 325 IAmb IAmb 10 49 00.2
comp=Z,53nm,0.7s
SDCO Great Sand Dun 46.34 332 IAmb IAmb 10 49 00.9
comp=Z,66nm,0.8s
L34A Svendsen Farm, 46.50 343 P **P** **10 48 58.6 -0.4**
L34A IAmb IAmb 10 49 35.7
comp=Z,55nm,0.6s
BGNE Belgrade 46.54 341 P **P** **10 48 59.7 +0.3**
I62A Tamworth 46.58 9 P **P** **10 49 00.9 +1.2**
I62A **pP** **10 49 17.7 -0.3**
I62A IAmb IAmb 10 49 25.3
comp=Z,53nm,0.8s
DELO Deloro Mine 46.63 2 P **P** **10 48 58.8 -1.2**
I42A Draeger Farm, 46.66 351 P **P** **10 48 59.1 -1.2**
VT1 Waterbury 46.84 7 P **P** **10 49 01.8 +0.1**
VT1 **pP** **10 49 19.0 -1.0**
VT1 IAmb IAmb 10 49 27.9
comp=Z,54nm,0.8s
SADO Sadowa 46.84 1 P **P** **10 49 00.5 -1.2**
LBNH Lisbon 46.86 8 P **P** **10 49 02.2 +0.4**
LBNH Lisbon 46.86 8 P **P** **10 49 02.2 +0.4**
LBNH pmax pmax
comp=Z,106nm,0.9s
LONY Lake Ozonia 46.93 5 P **P** **10 49 01.9 -0.5**
LONY **pP** **10 49 19.1 -1.6**
LONY IAmb IAmb 10 49 27.9
comp=Z,134nm,1.8s
I40A Norwalk 46.95 349 P **P** **10 49 01.0 -1.5**
S22A 4UR Ranch, Cre 46.98 331 P **P** **10 49 05.2 +1.9**
baz=142
H43A Windswept, Lux 47.07 352 IAmb IAmb 10 49 03.1
comp=Z,68nm,0.8s
GLMI Grayling 47.08 355 IAmb IAmb 10 49 31.1
comp=Z,55nm,0.9s
Q24A Divide 47.16 333 P **P** **10 49 05.7 +1.0**
Q24A IAmb IAmb 10 49 07.4
comp=Z,190nm,1.9s
Q24A Divide 47.16 333 P **P** **10 49 06.4 +1.7**
baz=144,SNR=7.8
FRNY Flat Rock 47.24 6 pP 10 49 21.9 -1.2
WBO Williamsburg 47.25 4 P **P** **10 49 04.7 -0.1**
MVCO Mesa Verde 47.41 329 IAmb IAmb 10 49 09.6
comp=Z,87nm,0.8s
Y14A Wickenburg 47.62 322 IAmb IAmb 10 49 11.3
comp=Z,53nm,0.8s
I37A Lemond, Waseca 47.64 347 IAmb IAmb 10 49 06.9
comp=Z,57nm,1.3s
WUAZ Wupatki 47.74 325 P **P** **10 49 11.1 +2.1**
MNTQ Montreal, Queb 47.90 6 P **P** **10 49 09.9 +0.1**
MNTQ IAmb IAmb 10 49 35.3
comp=Z,165nm,1.5s
G62A West of Eustis 48.02 9 P **P** **10 49 10.9 +0.1**
G62A **pP** **10 49 28.5 -0.7**
BRIGG Briggsdale 48.13 335 IAmb IAmb 10 49 14.6
comp=Z,89nm,0.9s
GLA Glamis 48.18 320 IAmb IAmb 10 49 14.6
comp=Z,43nm,0.9s
ECSD EROS Data Cent 48.20 344 IAmb IAmb 10 49 12.2
comp=Z,30nm,0.8s
PV15 Paradox Valley 48.26 330 P **P** **10 49 14.9 +1.8**
PV07 Paradox Valley 48.42 330 P **P** **10 49 15.8 +1.5**
PV07 IAmb IAmb 10 49 16.9
comp=Z,80nm,0.8s
YUH Yuha Desert 48.64 319 P **P** **10 49 17.0 +1.1**
YUH IAmb IAmb 10 49 18.3
comp=Z,35nm,0.9s
U15A North Rim 48.91 325 P **P** **10 49 20.3 +2.1**
U15A IAmb IAmb 10 49 22.0
comp=Z,58nm,0.8s
CBX Cerro Bola 48.93 318 P **P** **10 49 20.1 +1.9**
W13A Hualapai Mount 48.94 323 P **P** **10 49 19.7 +1.4**
W13A IAmb IAmb 10 49 22.1
comp=Z,68nm,0.8s
TKX Tecate 49.05 318 P **P** **10 49 20.7 +1.7**

N23A Red Feather La 49.09 334 P **P** **10 49 20.8 +1.4**
baz=144
O20A White River Ci 49.53 331 IAmb IAmb 10 49 26.5
comp=Z,45nm,0.9s
PFO Pinyon Flats O 49.60 319 P **P** **10 49 24.9 +1.7**
PFO IAmb IAmb 10 49 25.6
comp=Z,32nm,0.9s
PFO Pinyon Flats O 49.60 319 *i* P **P** **10 49 22.8 -0.5**
PFO pmax pmax
comp=Z,62nm,1.0s
PFO Pinyon Flats O 49.60 319 P **P** **10 49 25.0 +1.7**
KNB Kanab 49.62 325 IAmb IAmb 10 49 26.6
comp=Z,50nm,0.8s
PKCU Pink Cliffs 49.64 326 P **P** **10 49 25.8 +2.1**
E38A The Farm, Brul 49.75 349 IAmb IAmb 10 49 47.8
comp=Z,75nm,1.7s
LCMT Little Creek M 49.86 325 IAmb IAmb 10 49 29.5
comp=Z,48nm,0.8s
SRU San Rafael Swe 49.89 329 IAmb IAmb 10 49 27.8
comp=Z,59nm,1.0s
V12A Nelson 49.94 322 IAmb IAmb 10 49 28.1
comp=Z,47nm,0.8s
D62A Allapoint, All 50.07 10 P **P** **10 49 26.9 +0.4**
D62A **pP** **10 49 43.8 -1.1**
Q16A Castle Valley 50.08 328 IAmb IAmb 10 49 29.9
comp=Z,49nm,0.8s
P18A Preston Nutter 50.13 329 IAmb IAmb 10 49 29.3
comp=Z,34nm,0.9s
ELS Elsinore Mount 50.25 319 P **P** **10 49 29.9 +1.7**
MSU Marysvale 50.33 327 P **P** **10 49 30.5 +1.6**
MSU Marysvale 50.33 327 P **P** **10 49 30.5 +1.6**
TMUT Trail Mountain 50.38 328 IAmb IAmb 10 49 31.1
comp=Z,30nm,0.9s
SHPR Sheep Range 50.65 323 P **P** **10 49 32.5 +1.3**
BATG Bathurst New B 50.82 12 P **P** **10 49 32.1 0.0**
BATG **pP** **10 49 49.6 -1.1**
BATG IAmb IAmb 10 49 50.2
comp=Z,45nm,1.0s
GSC Goldstone, Bar 50.88 321 P **P** **10 49 34.8 +1.9**
GSC Goldstone, Bar 50.88 321 P **P** **10 49 34.8 +1.9**
GSC pmax pmax
comp=Z,226nm,1.7s
RSSD Black Hills 50.99 338 P **P** **10 49 34.7 +1.0**
RSSD IAmb IAmb 10 49 35.5
comp=Z,26nm,0.8s
RSSD **pP** **10 49 52.4 +0.2**
RSSD Black Hills 50.99 338 P **P** **10 49 34.8 +1.0**
RSSD pP **pP** **10 49 52.6 +0.3**
PASC Pasadena Art C 51.07 319 IAmb IAmb 10 49 38.6
comp=Z,40nm,1.1s
BSUT Blindstream Ca 51.08 330 IAmb IAmb 10 49 37.2
comp=Z,63nm,0.9s
MPU Maple Canyon 51.13 329 IAmb IAmb 10 49 38.4
comp=Z,43nm,0.9s
PSUT Pine Spring 51.27 326 P **P** **10 49 37.8 +1.9**
PSUT IAmb IAmb 10 49 39.4
comp=Z,47nm,1.0s
GWY Greenwater Val 51.36 322 IAmb IAmb 10 49 39.8
comp=Z,35nm,0.9s
JLU Jordanelle 51.47 329 IAmb IAmb 10 49 39.3
comp=Z,55nm,1.1s
CCAC Calif City Air 51.56 320 P **P** **10 49 39.6 +1.7**
TPNV Topopah Spring 51.59 323 P **P** **10 49 40.3 +2.0**
TPNV IAmb IAmb 10 49 42.2
comp=Z,65nm,0.8s
TPNV Topopah Spring 51.59 323 P **P** **10 49 40.3 +2.0**
TPNV pmax pmax
comp=Z,65nm,0.9s
WCT Wildcat Mounta 51.72 322 IAmb IAmb 10 49 41.8
comp=Z,38nm,0.9s
TCUT Toone Canyon 51.84 330 IAmb IAmb 10 49 43.6
comp=Z,48nm,0.8s
SPR3 Spring Creek 3 51.86 326 IAmb IAmb 10 49 42.3
comp=Z,50nm,0.9s
DUG Dugway, Tooele 51.88 328 IAmb IAmb 10 49 42.5
comp=Z,42nm,0.9s
E28A Huff 51.98 342 P **P** **10 49 41.7 +0.9**
ISA Isabella, Lake 52.17 320 IAmb IAmb 10 49 46.7
comp=Z,146nm,1.7s
PD31 Pinedale Array 52.21 333 P **P** **10 49 43.1 +0.3**
PDAR Pinedale Array 52.21 333 P **P** **10 49 43.1 +0.3**
comp=Z,13nm,0.8s,baz=125,slow=8.8,SNR=30
PDAR PcP **PcP** **10 50 52.9 -0.7**
comp=Z,3.1nm,0.7s,baz=144,slow=4.6,SNR=1.6
comp=Z,13nm,0.8s
AGMN Agassiz Nation 52.25 347 P **P** **10 49 42.2 -0.6**
AGMN IAmb IAmb 10 49 43.0
comp=Z,35nm,0.8s
HWUT Hardware Ranch 52.28 330 P **P** **10 49 44.0 +0.7**
HWUT IAmb IAmb 10 49 45.3
comp=Z,68nm,0.8s
BCW Bitter Crk WRg 52.34 319 IAmb IAmb 10 49 46.2
comp=Z,47nm,0.9s
BGU Big Grassy Mou 52.52 329 IAmb IAmb 10 49 46.8
comp=Z,35nm,0.9s
EFI East Falkland 52.53 163 *i* P **P** **10 49 45.7 +1.0**
EFI pmax pmax
comp=Z,50nm,1.4s
EFI East Falkland 52.53 163 P **P** **10 49 45.9 +1.2**
ICQ Pointe Anglais 52.74 10 IAmb IAmb 10 50 11.2
comp=Z,52nm,0.9s
DSP Deep Springs 52.92 322 IAmb IAmb 10 49 50.4
comp=Z,44nm,0.9s
AHID Auburn Hatcher 52.93 331 P **P** **10 49 48.4 +0.2**
AHID IAmb IAmb 10 49 49.2
comp=Z,35nm,1.0s
HVU Hansel Valley 53.02 329 P **P** **10 49 49.9 +1.1**
HVU Hansel Valley 53.02 329 P **P** **10 49 49.9 +1.1**
HVU pmax pmax
comp=Z,26nm,0.8s
SNOW Snow King Moun 53.30 332 IAmb IAmb 10 49 53.1
comp=Z,122nm,1.9s
NV11 Mina Array Sit 53.70 323 IAmb IAmb 10 49 57.4
comp=Z,54nm,0.8s
FLWY Flagg Ranch 53.75 333 IAmb IAmb 10 49 55.9
comp=Z,65nm,1.2s
NVAR Mina Array Bea 53.79 323 P **P** **10 49 56.2 +1.6**
NVAR Mina Array Bea 53.79 323 P **P** **10 49 56.4 +1.8**
comp=Z,58nm,0.7s,baz=138,slow=7.1,SNR=126
comp=Z,58nm,0.7s
LHV Little Huntoon 53.80 323 P **P** **10 49 56.5 +2.2**
LHV IAmb IAmb 10 49 57.6
comp=Z,67nm,0.7s
H17A Grant Village 53.94 333 P **P** **10 49 59.1 +3.5**
H17A IAmb IAmb 10 50 00.2
comp=Z,175nm,2.0s
PMPB Monarch Peak 54.01 319 IAmb IAmb 10 49 58.6
comp=Z,58nm,0.8s
ULM Lac du Bonnet 54.09 347 IAmb IAmb 10 49 56.0
comp=Z,40nm,0.7s
ULM Lac du Bonnet 54.09 347 P **P** **10 49 55.2 -1.0**
comp=Z,36nm,0.7s,baz=265,slow=3.7,SNR=3.0
comp=Z,36nm,0.7s
ULM Lac du Bonnet 54.09 347 *i* P **P** **10 49 55.0 -1.2**
YNR Norris Junctio 54.23 333 IAmb IAmb 10 50 04.9
comp=Z,92nm,1.7s
YMR Madison River 54.33 333 P **P** **10 49 59.6 +1.3**
YMR IAmb IAmb 10 50 26.2
comp=Z,33nm,1.0s
BBGB Big Mountain B 54.38 319 IAmb IAmb 10 50 09.2
comp=Z,65nm,0.8s
WAKR Walker 54.53 322 IAmb IAmb 10 50 02.9
comp=Z,37nm,0.7s
YHL Hebgen Lake 54.56 333 P **P** **10 50 01.6 +1.4**
SAO San Andreas Ge 54.75 319 P **P** **10 50 02.6 +1.4**
SAO IAmb IAmb 10 50 04.0
comp=Z,122nm,1.7s
SAO San Andreas Ge 54.75 319 P **P** **10 50 02.7 +1.4**
SAO pmax pmax
comp=Z,123nm,1.7s
DGMT Dagmar 54.78 340 P **P** **10 50 02.1 +0.8**
DGMT IAmb IAmb 10 50 03.8
comp=Z,41nm,0.8s
CMB Columbia Colle 54.83 321 P **P** **10 50 02.9 +1.0**
CMB Columbia Colle 54.83 321 P **P** **10 50 02.9 +1.0**
CMB pmax pmax
comp=Z,16nm,0.9s
PNTR Pine Nut 54.99 323 IAmb IAmb 10 50 06.8
comp=Z,39nm,0.8s
PAHR Pah Rah Range 55.25 323 IAmb IAmb 10 50 09.4
comp=Z,36nm,1.1s
BOZ Bozeman (W) 55.34 333 P **P** **10 50 06.5 +0.9**
BOZ IAmb IAmb 10 50 09.0
comp=Z,153nm,1.8s
BOZ Bozeman (W) 55.34 333 P **P** **10 50 06.5 +0.9**
BOZ pmax pmax

comp=Z,153nm,1.8s
MFID Camas Ranch 55.76 329 IAmb IAmb 10 50 11.1
comp=Z,98nm,1.2s
J08A Circle Bar Ran 57.12 327 IAmb IAmb 10 50 21.4
comp=Z,38nm,0.9s
O02D Mt. Diablo Mer 57.61 322 P **P** **10 50 21.7 0.0**
KCPM Cahto Peak 57.81 321 IAmb IAmb 10 50 26.2
comp=Z,40nm,0.8s
SCHQ Schefferville 57.93 9 P **P** **10 50 22.8 -0.8**
comp=Z,9.7nm,0.7s,baz=220,slow=5.3,SNR=14
comp=Z,9.7nm,0.7s
I07A Izee 58.16 327 P **P** **10 50 26.3 +0.8**
I07A IAmb IAmb 10 50 28.0
comp=Z,31nm,0.8s
KMRM Mail Ridge 58.20 321 IAmb IAmb 10 50 28.1
comp=Z,58nm,0.9s
YBH Yreka Blue Hor 58.49 323 IAmb IAmb 10 50 28.2
comp=Z,27nm,0.9s
J05D Fort Rock, OR 58.60 326 P **P** **10 50 30.0 +1.4**
G08A Pilot Rock 58.68 329 P **P** **10 50 30.0 +0.9**
G08A IAmb IAmb 10 50 30.7
comp=Z,39nm,0.9s
E09A Wood Farm, Sta 59.10 330 IAmb IAmb 10 50 34.2
comp=Z,39nm,0.9s
L02F Cave Junction 59.24 323 P **P** **10 50 33.4 +0.4**
L02F IAmb IAmb 10 50 36.3
comp=Z,68nm,1.5s
KSXB Camp Six Broad 59.25 323 P **P** **10 50 34.5 +1.4**
I05D Terrebonne, OR 59.33 326 IAmb IAmb 10 50 36.6
comp=Z,52nm,0.8s
G06A Carlson Farm, 59.52 328 P **P** **10 50 36.6 +1.7**
FFC Flin Flon 59.66 345 P **P** **10 50 35.4 -0.1**
HAWA Hanford 59.72 329 IAmb IAmb 10 50 38.4
comp=Z,23nm,0.8s
HOOD Mount Hood Mea 60.13 327 IAmb IAmb 10 50 47.9
comp=Z,33nm,0.7s
BUCK Buck Mountain 60.16 326 IAmb IAmb 10 50 40.3
comp=Z,41nm,0.9s
COR Corvallis 60.58 326 P **P** **10 50 43.1 +1.2**
I02E Swisshome, OR 60.59 325 P **P** **10 50 43.2 +1.0**
G03D McMinnville, O 60.94 326 P **P** **10 50 45.9 +1.4**
LON Longmire 61.13 328 P **P** **10 50 46.7 +0.9**
LON Longmire 61.13 328 P **P** **10 50 46.7 +0.9**
LON pmax pmax
comp=Z,21nm,0.9s
F04D Rainier, OR 61.35 327 P **P** **10 50 48.9 +1.7**
F04D IAmb IAmb 10 50 49.1
comp=Z,55nm,0.8s
D05A Enumclaw 61.51 329 IAmb IAmb 10 50 50.1
comp=Z,46nm,0.8s
RADR Rader Ridge 61.98 327 P **P** **10 50 52.7 +1.2**
GNW Green Mountain 62.19 329 P **P** **10 50 53.2 +0.4**
HOPE Hope Point 62.78 153 P **P** **10 50 57.6 +1.0**
HOPE pP **pP** **10 51 16.6 +0.9**
PGC Sidney 63.20 329 IAmb IAmb 10 51 02.4
comp=Z,35nm,1.0s
PMSA Palmer Station 63.41 172 *e*P **P** **10 51 02.6 +2.0**
NUUK Nuuk 69.50 13 *i* P **P** **10 51 38.9 -0.5**
YKA Yellowknife Ar 69.72 344 P **P** **10 51 40.4 -0.5**
comp=Z,8.7nm,0.7s,baz=149,slow=5.8,SNR=45
comp=Z,8.7nm,0.7s
H02S1 DAWSON INLET T 70.50 330 P **P** **10 51 45.9 +0.1**
TOAD Toad River Com 70.64 337 P **P** **10 51 46.6 0.0**
baz=131
KOTAN Kotaneelee Air 71.05 338 P **P** **10 51 50.0 +0.9**
baz=132
V35K Ketchikan 71.25 332 P **P** **10 51 51.7 +1.5**
baz=124
T35M Bob Quinn 71.57 334 P **P** **10 51 53.7 +1.4**
baz=126
WRAK Wrangell Islan 72.20 332 P **P** **10 51 57.0 +1.0**
baz=124
DLBC Dease Lake 72.33 335 P **P** **10 51 58.0 +1.1**
baz=126
S34M Telegraph Cree 72.50 334 P **P** **10 51 58.9 +1.1**
baz=125
DY2G Dye2 72.68 13 *i* P **P** **10 51 57.1 -1.9**
DY2G IAmb IAmb 10 52 00.4
comp=Z,37nm,1.0s
WTLY Watson Lake, Y 72.85 337 P **P** **10 52 00.5 +0.7**
baz=128
WRGLY Wrigley 72.97 341 P **P** **10 52 01.5 +1.1**
baz=134
R33M Jennings River 73.29 335 P **P** **10 52 03.5 +0.8**
baz=126
TGTN Hyland Airport 73.53 338 P **P** **10 52 05.1 +1.3**
baz=129
Q32M Nakina River 73.59 335 P **P** **10 52 05.5 +1.1**
baz=124
S32K Killisnoo 73.79 333 P **P** **10 52 06.7 +1.3**
baz=122
R32K Eaglecrest 74.20 333 P **P** **10 52 08.8 +1.1**
baz=122
P33M Teslin, Yukon 74.53 336 P **P** **10 52 10.8 +1.0**
baz=124
P32M Atlin 74.56 335 P **P** **10 52 10.7 +0.8**
baz=123
N32M Quiet Lake 75.17 336 P **P** **10 52 14.1 +0.7**
baz=124
DBIC Dimbokro 75.44 83 P **P** **10 52 16.1 +0.3**
comp=Z,12nm,0.8s,baz=242,slow=4.6,SNR=8.1
comp=Z,12nm,0.8s
WHY Whitehorse 75.63 335 P **P** **10 52 16.3 +0.2**
baz=122
FARO Faro, Yukon 75.88 337 P **P** **10 52 18.1 +0.7**
baz=124
O30N Mendenhall 76.19 335 P **P** **10 52 19.9 +0.7**
baz=121
P30M Million Dollar 76.23 334 P **P** **10 52 19.9 +0.4**
baz=120
M31M Drury Creek, Y 76.27 337 P **P** **10 52 20.5 +0.9**
baz=123
ICESG Greenland Ices 76.30 14 *i* P **P** **10 52 17.5 -2.6**
ICESG IAmb IAmb 10 52 19.9
comp=Z,26nm,0.6s
UPNV Upernavik 76.43 7 *i* P **P** **10 52 22.8 +2.5**
N31M Braeburn, Yuko 76.44 336 P **P** **10 52 21.4 +0.8**
baz=122
HYT Haines Junctio 76.82 335 P **P** **10 52 23.6 +0.7**
baz=120
O29M Mount Kennedy 77.02 334 P **P** **10 52 25.3 +1.2**
baz=119
PBDV Barranco-do-Ve 77.12 51 *e*P **P** **10 52 24.7 -0.3**
PBDV *i* Amb 10 52 54.8
comp=Z,141nm,1.8s
YUK6 Outpost Mounta 77.24 335 P **P** **10 52 26.1 +0.7**
baz=119
PMTG Montargil 77.31 49 *e*pP pP 10 52 44.9 -0.8
PCAS Casmilo, Conde 77.34 48 *e*pP pP 10 52 45.2 -0.6
PBEJ Beja 77.35 50 *e*P **P** **10 52 27.7 +1.5**
PBEJ *i* Amb 10 53 46.6
comp=Z,45nm,1.5s
EVO Evora 77.35 50 *e*pP pP 10 52 45.3 -0.6
RES Resolute Bay 77.38 356 P **P** **10 52 24.8 -0.8**
comp=Z,8.6nm,0.8s,baz=203,slow=8.2,SNR=8.4
comp=Z,8.6nm,0.8s
M30M Minto, Yukon 77.42 337 P **P** **10 52 26.9 +0.8**
baz=121
COI Coimbra 77.44 48 *e*pP **pP** **10 52 46.4 +0.1**
COI *i* Amb 10 52 54.2
comp=Z,116nm,1.6s
YUK4 Talbot Arm 77.56 335 P **P** **10 52 28.2 +1.1**
baz=119
MAYO Mayo, Yukon 77.60 338 P **P** **10 52 28.0 +0.9**
baz=122
PESTR Estremoz 77.75 50 P **P** **10 52 27.8 -0.6**
PESTR Estremoz 77.75 50 *e*P **P** **10 52 28.8 +0.4**
PESTR *e*pP **pP** **10 52 47.6 -0.5**
PESTR *i* Amb 10 53 03.6
comp=Z,56nm,1.5s
PVIS Viseu 77.95 48 *e*P **P** **10 52 29.5 0.0**
PVIS *e*pP **pP** **10 52 48.4 -0.9**
O28M Mount Upton 77.95 334 P **P** **10 52 30.6 +1.2**
baz=117
KULLO Kullorsuaq 77.96 6 *i* P **P** **10 52 27.4 -1.4**
KULLO IAmb IAmb 10 52 29.2
comp=Z,26nm,1.4s
PGAV Gavieira, Arco 77.97 46 *e*pP **pP** **10 52 51.4 +2.0**
PGAV *i* Amb 10 53 04.9
comp=Z,136nm,1.8s
YUK8 Steele Glacier 78.00 335 P **P** **10 52 30.3 +0.6**
baz=118
M29M Somme Creek 78.02 336 P **P** **10 52 30.9 +1.3**
M29M Somme Creek 78.02 336 P **P** **10 52 30.6 +1.1**
baz=119
PCBR Castelo Branco 78.05 49 *e*P **P** **10 52 30.1 +0.1**

MTE	Manteigas	78.13	48	*e*pP	pP	10 52 49.2	-1.1
MTE				*i* Amb		10 52 57.2	
	comp=Z,60nm,2.1s						
POLO	Lamas de Olo	78.17	47	*e*pP	pP	10 52 49.6	-1.0
POLO				*i* Amb		10 52 57.3	
	comp=Z,39nm,1.7s						
L29M	L29M	78.22	337	P	P	10 52 31.4	+0.8
	baz=120						
H31M	Peel River	78.25	340	P	P	10 52 31.3	+0.7
	baz=124						
J30M	Hart River	78.29	338	P	P	10 52 32.3	+1.3
	baz=122						
K29M	Barlow Dome	78.35	338	P	P	10 52 31.8	+0.4
	baz=120						
I30M	Mount Dempster	78.65	339	P	P	10 52 33.8	+0.8
	baz=122						
MVO	Moncorvo	78.69	47	*e*P	P	10 52 34.0	+0.4
MVO				*e*pP	pP	10 52 52.9	-0.6
MVO				*i* Amb		10 53 03.0	
	comp=Z,51nm,1.7s						
G31M	Satah River	78.86	341	P	P	10 52 34.4	+0.6
	baz=124						
J29N	Klondike Camp	78.92	338	P	P	10 52 34.9	+0.5
	baz=120						
F31M	Tsiigehtchic	78.98	341	P	P	10 52 34.8	+0.3
	baz=125						
PBRG	Braganca	79.04	47	*e*pP	pP	10 52 54.3	-1.0
SUMG	Summit	79.17	12	P	P	10 52 35.8	-0.2
SUMG				IAmb	IAmb	10 53 11.4	
	comp=Z,166nm,1.9s						
SUMG	Summit	79.17	12	P	P	10 52 35.8	-0.2
SUMG				pmax	pmax		
	comp=Z,166nm,1.9s						
SUMG	Summit	79.17	12	*i* P	P	10 52 35.0	-1.0
SUMG				IAmb	IAmb	10 52 36.7	
	comp=Z,34nm,1.0s						
DAWY	Dawson	79.18	337	P	P	10 52 35.7	-0.1
DAWY				IAmb	IAmb	10 53 08.2	
	comp=Z,91nm,1.9s						
DAWY	Dawson	79.18	337	P	P	10 52 36.1	+0.3
	baz=119						
BELA	Belgrano 2	79.21	171	P	P	10 52 36.7	+1.0
M27K	Edge Creek, AK	79.39	335	P	P	10 52 37.3	+0.2
M27K	Edge Creek, AK	79.39	335	P	P	10 52 37.6	+0.6
	baz=116						
INK	Inuvik	79.41	342	P	P	10 52 37.3	+0.5
INK	Inuvik	79.41	342	P	P	10 52 37.1	+0.2
	comp=Z,24nm,0.9s,baz=119,slow=3.8,SNR=11						
	comp=Z,24nm,0.9s						
INK	Inuvik	79.41	342	P	P	10 52 37.3	+0.5
	baz=125,SNR=8.2						
INK	Inuvik	79.41	342	P	P	10 52 37.3	+0.5
INK				pmax	pmax		
	comp=Z,40nm,1.0s						
I29M	Ogilvie Camp,	79.41	339	P	P	10 52 37.4	+0.4
	baz=120						
G30M	tAoh Zraii Nji	79.53	341	P	P	10 52 38.6	+0.9
	baz=122						
A36M	Sachs Harbour	79.57	347	P	P	10 52 37.3	-0.4
A36M	Sachs Harbour	79.57	347	P	P	10 52 37.5	-0.2
	baz=134,SNR=58						
VRDI	Verde Repeater	79.58	334	P	P	10 52 38.6	+0.4
VRDI				IAmb	IAmb	10 53 07.3	
	comp=Z,57nm,1.4s						
BCAR	Beaver Creek A	79.67	336	P	P	10 52 39.0	+0.5
L27K	Beaver Creek,	79.68	336	P	P	10 52 39.3	+0.7
L27K	Beaver Creek,	79.68	336	P	P	10 52 39.5	+0.9
	baz=116						
F30M	Barrier River	79.73	341	P	P	10 52 39.0	+0.3
	baz=123						
GLB	Gilahina Butte	79.82	334	P	P	10 52 39.5	+0.2
M26K	Nabesna, AK	79.88	335	P	P	10 52 40.4	+0.8
	baz=115						
BMRM	Bremner River	79.98	333	P	P	10 52 40.8	+0.6
BMRM				IAmb	IAmb	10 52 41.2	
	comp=Z,34nm,0.8s						
BMRM	Bremner River	79.98	333	P	P	10 52 41.2	+1.0
	baz=113						
I28M	Miner Creek	80.05	338	P	P	10 52 40.7	+0.1
I28M	Miner Creek	80.05	338	P	P	10 52 41.2	+0.6
	baz=118						
G29M	Pine Creek	80.10	340	P	P	10 52 41.1	+0.4
G29M	Pine Creek	80.10	340	P	P	10 52 41.2	+0.4
	baz=120						
N25K	Chitina, Valde	80.24	334	P	P	10 52 42.0	+0.4
	baz=114						
L26K	Log Cabin Wild	80.29	336	P	P	10 52 42.3	+0.5
	baz=115						
EYAK	Cordova Ski Ar	80.34	333	P	P	10 52 42.5	+0.5
	baz=112						
DIV	Divide	80.57	333	P	P	10 52 44.0	+0.6
DIV				IAmb	IAmb	10 54 31.3	
	comp=Z,139nm,1.9s						
ESDC	Sonseca Array	80.67	49	P	P	10 52 44.1	-0.2
	comp=Z,2.8nm,0.9s,baz=264,slow=5.8,SNR=6.2						
	comp=Z,2.8nm,0.9s						
I27K	Kandik River	80.74	338	P	P	10 52 44.5	+0.3
	baz=117						
KLU	Klutina	80.78	334	P	P	10 52 44.6	+0.1
KLU	Klutina	80.78	334	P	P	10 52 44.7	+0.1
	baz=112						
HARP	HAARP	80.79	335	P	P	10 52 44.9	+0.4
	baz=113						
E29M	Blow River	80.82	341	P	P	10 52 44.2	-0.3
E29M	Blow River	80.82	341	P	P	10 52 44.6	+0.1
	baz=121,SNR=7.7						
DOT	Dot Lake	80.84	336	P	P	10 52 45.5	+0.8
DOT				IAmb	IAmb	10 52 48.8	
	comp=Z,84nm,1.9s						
P23K	Montague Islan	80.90	332	P	P	10 52 45.1	0.0
	baz=111						
SCRK	Sand Creek	80.95	336	P	P	10 52 45.6	+0.2
	baz=114						
H27K	Steamboat Moun	81.00	339	P	P	10 52 45.5	-0.1
	baz=117						
J26L	Joseph Creek	81.00	337	P	P	10 52 45.8	+0.1
	baz=115						
F28M	Old Crow	81.07	340	P	P	10 52 45.6	-0.3
F28M				IAmb	IAmb	10 52 48.3	
	comp=Z,87nm,1.9s						
F28M	Old Crow	81.07	340	P	P	10 52 46.1	+0.2
	baz=119						
GLI	Glacier Island	81.08	333	P	P	10 52 45.8	-0.2
	baz=111						
M24K	Tolsona, Glenn	81.12	334	P	P	10 52 46.6	+0.3
	baz=112						
PAX	Paxson	81.15	335	P	P	10 52 46.9	+0.4
PAX	Paxson	81.15	335	P	P	10 52 46.6	+0.1
	baz=113,SNR=7.3						
PAX	Paxson	81.15	335	P	P	10 52 46.9	+0.4
PAX				pmax	pmax		
	comp=Z,49nm,1.3s						
I26K	Coal Creek Min	81.19	338	P	P	10 52 46.2	-0.3
	baz=115						
RIDG	Independent Ri	81.20	336	P	P	10 52 46.5	-0.2
	baz=114						
NEEM	North Greenlan	81.20	6	*i* P	P	10 52 46.6	-0.1
NEEM				IAmb	IAmb	10 52 47.8	
	comp=Z,38nm,1.2s						
G27K	Doyon Strip	81.31	339	P	P	10 52 47.0	-0.2
	baz=117						
SCM	Sheep Creek Mo	81.53	334	IAmb	IAmb	10 52 49.0	
	comp=Z,54nm,0.8s						
SCM	Sheep Creek Mo	81.53	334	P	P	10 52 48.9	+0.4
	baz=111,SNR=7.5						
D28M	Stokes Point	81.56	342	P	P	10 52 48.8	+0.5
	baz=120,SNR=5.6						
VNA3	Neumayer Olymp	81.57	162	P	P	10 52 48.7	+0.2
VNA3	Neumayer Olymp	81.57	162	⇑P	P	10 52 48.7	+0.2
	comp=Z,76nm,0.8s						
PWL	Port Wells	81.64	333	P	P	10 52 49.0	0.0
	baz=110						
M23K	Glacier View	81.69	334	P	P	10 52 49.4	+0.1
	baz=111						
J25K	Salcha River,	81.76	337	P	P	10 52 50.0	+0.4
	baz=113						
KNK	Knik Glacier	81.88	333	IAmb	IAmb	10 53 51.3	
	comp=Z,121nm,1.8s						
KNK	Knik Glacier	81.88	333	P	P	10 52 50.6	+0.3
	baz=110						
SCO	Scoresbysund	81.89	17	*i* P	P	10 52 49.2	-0.9
SEW	Seward	81.90	332	P	P	10 52 50.1	-0.3
	baz=109						
SML	Sawmill	81.96	334	P	P	10 52 50.8	+0.1
	baz=110,SNR=6.3						
G26K	Porcupine Rive	82.12	339	P	P	10 52 51.8	+0.4
	baz=115						
PRP	Porcupine Dome	82.18	337	P	P	10 52 52.0	+0.1
	baz=113						
VNA2	Neumayer--Watz	82.19	162	P	P	10 52 52.1	+0.4
	baz=283,slow=6.6						
VNA2	Neumayer--Watz	82.19	162	⇑P	P	10 52 52.1	+0.4
	comp=Z,34nm,0.7s,baz=283,slow=6.6						
D27M	Malcolm River	82.21	342	P	P	10 52 51.7	-0.2
D27M	Malcolm River	82.21	342	P	P	10 52 52.1	+0.2
	baz=118						
GHO	Glory Hole Cre	82.21	333	IAmb	IAmb	10 52 52.9	
	comp=Z,46nm,0.8s						
PMR	Palmer	82.25	333	P	P	10 52 51.6	-0.5
	baz=109						
HDA	Harding Lake	82.31	336	IAmb	IAmb	10 52 53.0	
	comp=Z,148nm,2.0s						
HDA	Harding Lake	82.31	336	P	P	10 52 52.4	0.0
	baz=112,SNR=7.3						
EUNU	Eureka	82.31	359	IAmb	IAmb	10 52 53.5	
	comp=Z,54nm,1.1s						
TORD	Torodi Ar. Bea	82.35	76	P	P	10 52 53.3	-0.3
TORD				IAmb	IAmb	10 54 57.9	
	comp=Z,51nm,0.8s						
TORD	Torodi Ar. Bea	82.35	76	P	P	10 52 53.6	-0.1
	comp=Z,25nm,0.3s,baz=283,slow=6.1,SNR=2.1						
	comp=Z,25nm,0.3s						
RC01	Rabbit Creek A	82.36	333	P	P	10 52 53.1	+0.4
	baz=109,SNR=6.0						
BRSE	Bradley Lake S	82.41	331	P	P	10 52 53.5	+0.5
	baz=108						
ILAR	Eielson Array	82.42	337	P	P	10 52 52.5	-0.6
	comp=Z,5.4nm,0.8s,baz=112,slow=5.6,SNR=10						
	comp=Z,5.4nm,0.8s						
BRLK	Bradley Lake	82.48	331	IAmb	IAmb	10 52 53.8	
	comp=Z,37nm,0.8s						
F26K	Sheenjek River	82.57	340	P	P	10 52 54.5	+0.8
	baz=115						
H25L	Birch Creek	82.59	338	P	P	10 52 54.5	+0.7
	baz=113						
BMAR	Burnt Mountain	82.61	339	P	P	10 52 54.5	+0.5
RND	Reindeer	82.74	335	P	P	10 52 55.0	+0.2
RND	Reindeer	82.74	335	P	P	10 52 55.0	+0.2
RND				pmax	pmax		
	comp=Z,220nm,2.0s						
M22K	Willow	82.75	333	P	P	10 52 54.4	-0.3
	baz=108						
KDAK	Kodiak Island	82.75	329	P	P	10 52 55.2	+0.4
	baz=106						
POKR	Poker Plat Res	82.77	337	P	P	10 52 54.9	+0.1
	baz=111						
COLA	College	82.84	336	P	P	10 52 55.6	+0.4
COLA	College	82.84	336	P	P	10 52 55.5	+0.3
	baz=111						
COLA	College	82.84	336	P	P	10 52 55.6	+0.4
COLA				pmax	pmax		
	comp=Z,20nm,1.0s						
MCK	McKinley	82.89	335	P	P	10 52 55.6	+0.2
	baz=110						
G25K	Bearman Lake	82.89	339	P	P	10 52 55.9	+0.6
	baz=113						
Q20K	Shuyak Island	82.89	330	P	P	10 52 55.7	+0.2
	baz=106						
CAPN	Captain Cook N	82.91	332	P	P	10 52 56.0	+0.4
	baz=107						
OHAK	Old Harbor	82.97	328	P	P	10 52 56.0	+0.1
	baz=105						
CUT	Chulitna	83.02	334	P	P	10 52 56.0	-0.1
CUT	Chulitna	83.02	334	P	P	10 52 56.2	+0.1
	baz=108,SNR=5.3						
F25K	Christian Rive	83.05	339	P	P	10 52 57.0	+0.7
	baz=113						
H24K	Noodor Dome	83.20	337	P	P	10 52 57.5	+0.4
	baz=111,SNR=5.6						
E25K	Arctic Village	83.23	340	P	P	10 52 58.0	+0.8
	baz=113,SNR=5.4						
NEA2	Nenana	83.23	336	P	P	10 52 57.0	-0.3
	baz=110,SNR=6.6						
C27K	Jago River	83.25	342	P	P	10 52 57.9	+0.7
	baz=115,SNR=5.2						
TRF	Thorofare Moun	83.36	335	P	P	10 52 57.9	-0.2
	baz=108						
G24K	Hadweenzic Riv	83.37	338	P	P	10 52 58.2	+0.3
	baz=112						
SKT	Skwentna	83.45	333	P	P	10 52 58.2	-0.2
SKT				IAmb	IAmb	10 52 58.8	
	comp=Z,36nm,0.8s						
SKT	Skwentna	83.45	333	P	P	10 52 58.3	-0.1
	baz=107,SNR=7.5						
SPU	Mount Spurr	83.46	332	P	P	10 52 58.5	0.0
SPCR	Spurr Chakacha	83.53	332	P	P	10 52 58.9	0.0
	baz=106						
I23K	Minto, Yukon-K	83.54	337	P	P	10 52 58.8	0.0
I23K				IAmb	IAmb	10 52 59.8	
	comp=Z,32nm,0.8s						
I23K	Minto, Yukon-K	83.54	337	P	P	10 52 58.9	+0.2
	baz=110,SNR=6.1						
Q19K	Cape Douglas,	83.60	330	P	P	10 52 59.4	+0.1
	baz=105						
R18K	Karluk	83.67	328	P	P	10 52 59.7	+0.2
	baz=104						
C26K	Camden Bay	83.75	342	P	P	10 53 01.1	+1.4
	baz=114,SNR=6.6						
SNAA	Sanae	83.79	162	P	P	10 53 00.2	+0.1
SNAA	Sanae	83.79	162	IAmb	IAmb	10 53 01.5	
	comp=Z,54nm,1.2s						
SNAA	Sanae	83.79	162	⇑P	P	10 53 00.2	+0.1
	comp=Z,390nm,0.8s						
SNAA	Sanae	83.79	162	P	P	10 53 00.7	+0.6
	comp=Z,22nm,0.9s,baz=255,slow=6.8,SNR=14						
	comp=Z,22nm,0.9s						
SNAA	Sanae	83.79	162	*ce*P	P	10 52 58.3	-1.8
SNAA				pmax	pmax		
	comp=Z,76nm,1.7s						
F24K	Squaw Lake	83.82	339	P	P	10 53 01.1	+0.9
	baz=111						
BPAW	Bear Paw Mtn.	83.86	335	IAmb	IAmb	10 53 01.1	
	comp=Z,37nm,0.8s						
BPAW	Bear Paw Mtn.	83.86	335	P	P	10 53 00.3	-0.2
	baz=108,SNR=9.0						
D25K	Kavik River	83.98	341	IAmb	IAmb	10 53 02.3	
	comp=Z,29nm,0.8s						
D25K	Kavik River	83.98	341	P	P	10 53 01.6	+0.6
	baz=113						
PPLA	Purkeypile	84.02	334	P	P	10 53 01.0	-0.4
	baz=107						
CAST	Castle Rocks	84.12	334	P	P	10 53 01.4	-0.4
CAST				IAmb	IAmb	10 53 01.8	
	comp=Z,33nm,0.8s						
CAST	Castle Rocks	84.12	334	P	P	10 53 01.3	-0.4
	baz=107,SNR=9.6						
M20K	Styx River	84.15	333	P	P	10 53 01.2	-0.8
M20K				IAmb	IAmb	10 56 11.3	
	comp=Z,54nm,1.5s						
M20K	Styx River	84.15	333	P	P	10 53 01.2	-0.8
	baz=106						
E24K	Your Creek	84.23	339	P	P	10 53 02.7	+0.4
	baz=111						
O19K	Port Alsworth	84.26	331	P	P	10 53 01.7	-0.8
	baz=105						
G23K	Bananza Creek	84.32	338	P	P	10 53 03.8	+1.1
	baz=109						
EKA	Eskdalemuir Ar	84.35	34	P	P	10 53 02.6	-0.5
	comp=Z,9.0nm,0.8s,baz=252,slow=4.3,SNR=9.7						
	comp=Z,9.0nm,0.8s						
CHUM	Lake Minchumin	84.36	335	P	P	10 53 02.8	-0.1
	baz=107						
N19K	Bonanza Creek	84.50	332	P	P	10 53 03.3	-0.5
	baz=104						
COLD	Coldfoot	84.56	338	P	P	10 53 04.8	+0.9
	baz=109,SNR=5.5						
H22K	Ishtalitna Cre	84.58	337	P	P	10 53 03.8	-0.3
	baz=108						
I21K	Tanana	84.60	336	P	P	10 53 04.0	-0.2
	baz=107,SNR=6.0						
O18K	Koktuh Hills	84.61	331	P	P	10 53 03.9	-0.4
	baz=104						
E23K	Chandalar	84.62	339	P	P	10 53 04.0	-0.3
	baz=110						
L20K	Farewell, AK	84.65	333	P	P	10 53 03.9	-0.6
	baz=105						
D24K	Happy Valley	84.73	340	P	P	10 53 04.7	0.0
	baz=110						
M19K	Big River Lodg	84.73	333	P	P	10 53 04.4	-0.5
	baz=105						
TOLK	Toolik Lake Re	84.81	340	P	P	10 53 04.6	-0.6
	baz=110						
C24K	Franklin Bluff	84.89	341	P	P	10 53 06.2	+0.7
	baz=111						
G22K	Bettles	84.94	338	P	P	10 53 06.3	+0.4
	baz=108						
K20K	Telida	84.96	334	P	P	10 53 05.4	-0.6
	baz=105						
L19K	White Mountain	85.01	333	P	P	10 53 05.7	-0.6
	baz=104						
Q16K	King Salmon	85.06	329	P	P	10 53 06.5	-0.1
	baz=102						
H21K	Melozitna Rive	85.07	337	P	P	10 53 06.2	-0.3
	baz=106						
N18K	Kilae Creek	85.13	331	IAmb	IAmb	10 56 02.1	
	comp=Z,87nm,1.6s						
N18K	Kilae Creek	85.13	331	P	P	10 53 06.2	-0.8
	baz=103						
J20K	Nowinta River	85.21	335	P	P	10 53 06.8	-0.4
	baz=105						
M18K	Stony River	85.29	332	P	P	10 53 07.1	-0.6
	baz=103						
D23K	Nanushuk River	85.29	340	P	P	10 53 08.5	+0.9
	baz=109,SNR=6.9						
E22K	Anaktuvuk Pass	85.43	339	P	P	10 53 08.9	+0.6
	baz=108,SNR=7.7						
TROLL	Troll, Antarti	85.51	162	P	P	10 53 09.2	+0.4
TROLL	Troll, Antarti	85.51	162	⇑P	P	10 53 09.2	+0.4
	comp=Z,1μm,0.8s						
CHGN	Chignik	85.51	327	P	P	10 53 08.9	+0.1
	baz=101						
I20K	Naaghedeneel	85.51	336	P	P	10 53 08.9	+0.2
	baz=105						
O17K	Koliganek Bris	85.52	330	P	P	10 53 08.7	-0.1
	baz=102						
C23K	Itkillik River	85.55	341	P	P	10 53 09.7	+0.8
	baz=109						
TTA	Tatalina	85.71	334	P	P	10 53 09.3	-0.6
	baz=103						
N17K	Nushagak Hills	85.72	331	P	P	10 53 09.9	+0.1
	baz=102						
F21K	Alatna River	85.77	338	P	P	10 53 10.6	+0.6
	baz=106						
J19K	Poorman	85.79	335	P	P	10 53 10.1	-0.1
	baz=104						
P16K	Nushagak River	85.81	330	P	P	10 53 10.0	-0.3
	baz=101						
DAG	Danmarks Havn	85.86	12	*i* P	P	10 53 09.1	-1.1
H20K	Anotleneega Mo	85.86	336	P	P	10 53 10.3	-0.2
	baz=104						
L18K	Granite Mounta	85.86	333	P	P	10 53 10.1	-0.3
	baz=103						
CHNA	Chernabura Isl	85.90	325	P	P	10 53 11.4	+0.5
	baz=100						
D22K	Ayikyak River	85.96	340	P	P	10 53 11.5	+0.6
	baz=107						
M17K	Holitna River	86.03	332	P	P	10 53 11.2	-0.1
	baz=102						
J18K	Innoko River	86.14	334	P	P	10 53 12.2	+0.3
	baz=103						
E21K	Killik River	86.29	339	P	P	10 53 12.7	+0.2
	baz=106						
GCSA	Galena City Sc	86.50	335	P	P	10 53 14.0	+0.4
	baz=103						
H19K	Roundabout Mou	86.50	336	P	P	10 53 13.6	0.0
	baz=103						
F20K	Avaraart Lake	86.57	338	P	P	10 53 14.4	+0.5
	baz=104						
L17K	Donlin	86.58	333	P	P	10 53 14.5	+0.5
	baz=101						
M16K	Timber Creek	86.67	331	P	P	10 53 15.7	+1.1
	baz=100						
K17K	Iditarod	86.69	333	P	P	10 53 15.7	+1.2
	baz=101						
C21K	Knifeblade Rid	86.76	340	P	P	10 53 15.6	+0.8
	baz=105						
O15K	Ungalikthiuk R	86.77	329	P	P	10 53 14.5	-0.6
	baz=100						
B21K	Ikpikpuk River	86.82	340	IAmb	IAmb	10 55 51.7	
	comp=Z,89nm,1.4s						
B21K	Ikpikpuk River	86.82	340	P	P	10 53 15.2	+0.2
	baz=105						
G19K	Purcell Mounta	86.89	337	P	P	10 53 15.5	0.0
	baz=102						
E20K	Nigu River	87.03	339	P	P	10 53 16.7	+0.4
	baz=103						
L16K	Owhat River	87.04	332	P	P	10 53 16.8	+0.5
L16K				IAmb	IAmb	10 53 18.9	
	comp=Z,59nm,1.7s						
L16K	Owhat River	87.04	332	P	P	10 53 17.5	+1.2
	baz=100						
N15K	Kwethluk River	87.07	330	P	P	10 53 17.6	+1.1
	baz=100						
J17K	VABM Dome	87.17	334	P	P	10 53 18.1	+1.2
	baz=101						
H18K	Honhosa River	87.20	336	P	P	10 53 18.1	+1.0
H18K	Honhosa River	87.20	336	P	P	10 53 18.5	+1.4
	baz=101						
E19K	Redstone River	87.24	338	P	P	10 53 17.3	+0.2
	baz=102						
D20K	Etivluk River	87.29	339	P	P	10 53 18.2	+0.7
	baz=103						
F19K	Shaleruckik Mo	87.31	337	P	P	10 53 17.8	+0.3
	baz=102						
S12K	Black Hills	87.43	326	P	P	10 53 19.4	+1.1
	baz=98						
M15K	Kasigluk River	87.45	331	P	P	10 53 19.1	+0.8
	baz=99						
G18K	Tagagawik	87.47	336	P	P	10 53 19.1	+0.8
	baz=101						
B20K	Meade River	87.78	340	P	P	10 53 20.5	+0.9
	baz=103						
D19K	Kuna River	87.78	339	P	P	10 53 20.8	+1.0
	baz=102						
QSPA	South Pole Qui	87.79	180	P	P	10 53 21.2	+1.2
	comp=Z,44nm,0.9s,baz=146,slow=1.3,SNR=32						
	comp=Z,44nm,0.9s						
H17K	Granite Mounta	87.81	335	P	P	10 53 21.1	+1.1
	baz=100						
N14K	Kuskokwak Cree	87.83	330	P	P	10 53 20.7	+0.7
	baz=98						
J16K	Anvik River	87.83	333	IAmb	IAmb	10 55 53.3	
	comp=Z,46nm,1.2s						
J16K	Anvik River	87.83	333	P	P	10 53 21.0	+1.0
	baz=99						
A21K	Barrow	87.90	342	P	P	10 53 20.8	+0.7
	baz=103						
I17K	Unalakleet	87.97	334	P	P	10 53 21.8	+1.2
	baz=99						
L15K	Ungalak Mounta	87.98	332	P	P	10 53 21.9	+1.1
	baz=98						
F18K	Selawik	88.00	337	P	P	10 53 21.9	+1.1
	baz=100						
M14K	Bethel	88.08	331	IAmb	IAmb	10 53 23.0	
	comp=Z,23nm,0.7s						
M14K	Bethel	88.08	331	P	P	10 53 22.4	+1.1
	baz=98						
K15K	Wolf Creek Mou	88.10	332	P	P	10 53 22.2	+0.9
	baz=98						
FALS	False Pass	88.10	325	P	P	10 53 21.6	+0.2
	baz=96						
NOR	Nord	88.44	8	*i* P	P	10 53 21.8	-0.9
NVL	N'lazarevskaya	88.45	161	*e*P	P	10 53 23.4	+0.6
NVL				pmax	pmax		
	comp=Z,21nm,1.0s						
L14K	Kuka Creek	88.51	331	P	P	10 53 23.9	+0.7
	baz=97						
E18K	Tukpahlearik C	88.51	338	P	P	10 53 23.6	+0.5
	baz=99						
F17K	Baldwin Pennin	88.60	337	P	P	10 53 24.6	+1.0
	baz=99						
M13K	Dall Lake	88.72	330	P	P	10 53 25.6	+1.4
	baz=97						
H16K	Elim	88.75	335	P	P	10 53 25.8	+1.5
	baz=98						
G16K	Koyuk River	88.90	335	P	P	10 53 26.0	+1.0
	baz=98						
C18K	Utukok River	88.92	339	P	P	10 53 25.7	+0.5
	baz=99						
E17K	Hotham Inlet	88.92	337	P	P	10 53 25.9	+0.8
	baz=98						
J14K	Nanvaranak Lak	89.09	333	P	P	10 53 27.3	+1.3
J14K				IAmb	IAmb	10 53 28.5	
	comp=Z,38nm,0.9s						
J14K	Nanvaranak Lak	89.09	333	P	P	10 53 27.7	+1.7
	baz=96						
A19K	Wainwright	89.13	340	P	P	10 53 26.9	+0.9
	baz=99						
B18K	Kokolik River	89.25	339	P	P	10 53 28.0	+1.4
	baz=98						
RDOG	Red Dog Mine	89.47	338		P	10 53 28.3	+0.6
RDOG				IAmb	IAmb	10 53 29.3	
	comp=Z,37nm,0.8s						

RDOG	Red Dog Mine	89.47	338	P	P	10 53 28.8	+1.1
	baz=97						
D17K	Noatak River	89.49	338	P	P	10 53 28.9	+1.1
	baz=97						
K13K	Kusilvak Mount	89.51	332	P	P	10 53 29.0	+1.0
K13K	Kusilvak Mount	89.51	332	P	P	10 53 29.2	+1.2
	baz=96						
G15K	Niukluk	89.56	335	P	P	10 53 29.4	+1.3
	baz=96						
C17K	DeLong Mountai	89.62	338	P	P	10 53 29.5	+1.1
	baz=97						
UNV	Unalaska Valle	89.80	324	P	P	10 53 30.7	+1.2
	baz=94						
F15K	North Star Dit	89.88	336	P	P	10 53 31.1	+1.4
	baz=96						
ANM	Nome	90.08	335	P	P	10 53 31.6	+1.0
	baz=95						
C16K	Lisburne Hills	90.40	338	P	P	10 53 32.9	+0.9
	baz=95						
F14K	Arctic Creek	90.56	335	P	P	10 53 33.6	+0.8
	baz=94						
KEST	Kesra	90.71	54	P	P	10 53 34.8	+0.4
	comp=Z,3.8nm,0.7s,baz=201,slow=15,SNR=2.1						
	comp=Z,3.8nm,0.7s						
TNA	Tin City	91.23	335	P	P	10 53 37.0	+1.1
	baz=93						
ELIB	Princess Elisa	91.95	162	dP	P	10 53 39.7	+0.4
	comp=Z,14nm,0.0s						
ELIB				dPcP	PcP	10 53 40.7	+0.6
NOA	NORSAR Array B	92.52	29	P	P	10 53 41.9	-0.2
	comp=Z,1.6nm,0.8s,baz=269,slow=4.6,SNR=4.5						
	comp=Z,1.6nm,0.8s						
GAMB	Gambell	92.82	334	P	P	10 53 44.3	+1.0
	baz=89						
CLL	Collm	93.59	39	eP	P	10 53 47.0	-0.1
CLL	Collm	93.59	39	eP	P	10 53 47.0	-0.1
CLL				epP	pP	10 54 06.0	-1.3
CLL				esP	sP	10 54 17.0	+1.7
VNDA	Vanda	93.69	191	P	P	10 53 47.5	+0.4
	comp=Z,4.0nm,0.8s,baz=62,slow=4.6,SNR=3.7						
	comp=Z,4.0nm,0.8s						
HFS	Hagfors	93.76	30	P	P	10 53 47.2	-0.5
	comp=Z,2.4nm,0.7s,baz=262,slow=4.3,SNR=2.4						
	comp=Z,2.4nm,0.7s						
KHC	Kasperske Hory	94.00	41	ceP	P	10 53 46.8	-2.3
KHC				pmax	pmax		
	comp=Z,11nm,1.1s						
BRG	Berggiesshubel	94.19	39	eP	P	10 53 51.0	+1.0
BRG				Amp		10 53 51.8	
	comp=Z,8.2nm,0.9s						
SYO	Syowa Base	98.08	162	⇓iP	P	10 54 06.2	-1.0
FINES	FINESS Array B	99.61	28	P	Pdif	10 54 13.9	-0.2
	comp=Z,2.7nm,0.7s,baz=302,slow=4.3,SNR=4.3						
	comp=Z,2.7nm,0.7s						
APA	Apatity	100.85	21	⇓iP	Pdif	10 54 20.8	+1.3
APA				iS		11 05 49.0	
APA				iPPS	PPS	11 08 06.0	
APA				iSS	SS	11 13 02.0	+12
APA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MNK	Minsk	102.13	35	iP	Pdif	10 54 19.4	-6.1
MNK				iS	SKSac	11 04 51.4	-7.1
MNK				iSSS	SSS	11 17 00.0	
MNK				pmax	pmax		
	comp=N,35nm,0.8s						
MNK				pmax	pmax		
	comp=E,29nm,0.9s						
MNK				pmax	pmax		
	comp=Z,32nm,0.6s						
MOS	Moscow	107.09	32	eP	Pdif	10 54 45.1	-2.4
MOS				pmax	pmax		
	comp=Z,138nm,1.9s						
BRTR	Keskin Array B	109.45	49	PKKPbc	PKKPbc	11 10 19.6	+12
	comp=Z,0.6nm,0.5s,baz=152,slow=5.6,SNR=4.2						
KIRS	Kirsehir-Merke	109.80	49	⇑P	Pdif	10 55 06.1	+5.9
KBZ	Khabaz	114.81	42	PKP	PKiKP	10 59 11.3	-0.2
	comp=Z,2.7nm,0.7s,baz=259,slow=1.9,SNR=5.3						
ABKAR	Akbulak array	122.02	30		PKiKP	10 59 25.7	+0.2
YSS	Yuzhno-Sakhali	122.14	327	iPKIKP	PKPdf	10 59 23.5	-2.1
BRVK	Borovoye	123.70	21	⇑ePKIKP	PKPdf	10 59 26.6	-1.8
BRVK				pmax	pmax		
	comp=Z,19nm,2.5s						
BVAR	Borovoye Array	123.76	21	PKP	PKPdf	10 59 28.3	-0.2
	comp=Z,2.9nm,0.6s,baz=315,slow=1.7,SNR=8.3						
KLR	Kul'dur	125.97	335	PKP	PKPdf	10 59 32.2	-0.6
	comp=Z,4.9nm,0.6s,baz=63,slow=2.6,SNR=14						
KLR	Kul'dur	125.97	335	cePKIKP	PKPdf	10 59 30.8	-2.1
KLR				pmax	pmax		
	comp=Z,20nm,2.5s						
HEH	HeiHe	126.88	338	PKP	PKPdf	10 59 33.8	-0.8
ZAA0	Zalesovo Array	126.99	11	PKPdf	PKPdf	10 59 34.0	-0.6
ZALV	Zalesovo Beam	126.99	11	PKPdf	PKPdf	10 59 34.4	-0.2
ZALV	Zalesovo Beam	126.99	11	PKP	PKPdf	10 59 34.3	-0.4
	comp=Z,7.3nm,0.8s,baz=352,slow=1.4,SNR=20						
ZALV	Zalesovo Beam	126.99	11	PKIKP	PKPdf	10 59 34.4	-0.2
STKA	Stephens Creek	128.01	226	PKP	PKPdf	10 59 37.5	+0.2
	comp=Z,3.0nm,0.6s,baz=164,slow=1.8,SNR=5.5						
KURK	Kurchatov	128.43	17	PKPdf	PKPdf	10 59 37.4	-0.1
KURK	Kurchatov	128.43	17	cePKIKP	PKiKP	10 59 38.1	0.0
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURBB	Kurchatov Arra	128.49	17	PKP	PKPdf	10 59 37.8	+0.2
	comp=Z,8.9nm,0.7s,baz=323,slow=2.3,SNR=59						
USA0B	Ussuriysk Arra	129.61	330	PKPdf	PKPdf	10 59 39.6	-0.3
USA0B	Ussuriysk Arra	129.61	330	PKIKP	PKPdf	10 59 39.6	-0.3
USRK	Ussuriysk Ar.	129.61	330	PKP	PKPdf	10 59 39.8	-0.1
	comp=Z,5.9nm,0.8s,baz=58,slow=2.5,SNR=12						
USRK	Ussuriysk Ar.	129.61	330	PKIKP	PKPdf	10 59 39.9	0.0
BNX	BinXian	130.53	335	⇓P	PKPdf	10 59 40.5	-1.2
BNX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MAJO	Matsushiro	131.03	319	PKPdf	PKPdf	10 59 42.6	-0.3
MAJO	Matsushiro	131.03	319	PKIKP	PKPdf	10 59 42.6	-0.3
MJAR	Matsushiro Arr	131.03	319	PKP	PKPdf	10 59 42.2	-0.7
	comp=Z,2.8nm,0.7s,baz=78,slow=1.8,SNR=8.5						
MJB9	Matsu-Tunnel	131.03	319	PKPdf	PKPdf	10 59 43.0	+0.1
MAKZ	Makanchi	132.92	17	PKPdf	PKPdf	10 59 46.1	-0.1
MAKZ	Makanchi	132.92	17	PKIKP	PKPdf	10 59 46.1	-0.1
MK31	Makanchi Array	133.03	17		PKPdf	10 59 45.6	-0.8
MK31	Makanchi Array	133.03	17	PKIKP	PKPdf	10 59 45.6	-0.8
MKAR	Makanchi Array	133.03	17	PKPdf	PKPdf	10 59 46.4	0.0
MKAR	Makanchi Array	133.03	17	PKP	PKPdf	10 59 45.8	-0.6
	comp=Z,1.5nm,0.6s,baz=339,slow=1.7,SNR=16						
AAK	Ala-Archa	133.76	26	PKPdf	PKiKP	10 59 48.8	-0.6
AAK	Ala-Archa	133.76	26	cePKIKP	PKPdf	10 59 45.0	-3.1
AAK				pmax	pmax		
	comp=Z,27nm,2.5s						
CHGR	Chuyangaron	134.08	34		PKPdf	10 59 48.9	+0.2
CHGR	Chuyangaron	134.08	34	PKIKP	PKPdf	10 59 48.9	+0.2
ULN	Ulaanbaatar	134.19	353	iPKIKP	PKPdf	10 59 46.5	-2.2
SONM	Songino Array	134.29	354	PKP	PKPdf	10 59 48.6	-0.3
	comp=Z,3.1nm,0.7s,baz=16,slow=1.5,SNR=14						
XLT	XiLinHaoTe	136.19	343	ePKP	PKPdf	10 59 51.8	-0.7
XLT				PP	PP	11 02 27.0	-5.0
XLT	XiLinHaoTe	136.19	343	SS	SS	11 20 18.9	-7.4
XLT				pmax	pmax		
	comp=Z,16μm,17.6s						
KSRS	Korea Array	136.64	327	PKhKP	PKPpre	10 59 41.3	
	comp=Z,2.2nm,0.8s,baz=351,slow=1.3,SNR=8.8						
KSRS				PKP	PKPdf	10 59 53.2	-0.2
	comp=Z,8.1nm,0.7s,baz=11,slow=1.2,SNR=24						
KSAR	Wonju Array Be	136.67	327		PKPdf	10 59 53.1	-0.3
KSAR	Wonju Array Be	136.67	327	PKIKP	PKPdf	10 59 53.1	-0.3
WMQ	Urumqi	137.19	13	ePKP	PKPdf	10 59 54.8	+0.5
WMQ				LR	LR		
	comp=N,11μm,22.5s						
WMQ				LR	LR		
	comp=E,10μm,19.5s						
WMQ				LR	LR		
	comp=Z,12μm,20.9s						
ASAR	Alice Springs	138.19	230	PKhKP	PKPpre	10 59 46.5	
	comp=Z,2.1nm,0.6s,baz=119,slow=3.3,SNR=16						
WRA	Warramunga Arr	139.78	235	PKhKP	PKPpre	10 59 52.2	
	comp=Z,5.0nm,0.7s,baz=124,slow=2.0,SNR=26						
WB0	Warramunga Arr	139.82	235	PKPdf	PKPdf	10 59 59.9	+0.1
HHC	Hu-ho-hao-te	140.22	346	eP	PKPdf	10 59 58.4	-1.6
HNS	HongShan	142.55	341	⇑PKP	PKPdf	11 00 00.0	-4.1
TIA	Tai'an	142.73	337	PKP	PKPdf	11 00 00.8	-3.7
MORW	Morawa	145.28	205	PKPdf	PKPbc	11 00 08.4	-0.6
NJ2	Nanjing	145.51	331	⇓P	PKPdf	11 00 08.6	-0.8
NJ2				pmax	pmax		
	comp=Z,27nm,0.7s						
MTN	Manton Dam	145.71	243		PKPdf	11 00 10.6	+0.3
LYN	LuoYang	145.88	342	PKP	PKPdf	11 00 09.8	-0.2
LYN				LR	LR		
	comp=N,12μm,26.1s						
LYN				LR	LR		
	comp=E,10μm,17.2s						
LYN				LR	LR		
	comp=Z,37μm,29.5s						
LZH	Lanzhou	146.18	355	ePKP	PKPbc	11 00 12.3	+0.5
LZH				pPKP	pPKPdf	11 00 31.3	-0.4
LZH				sPKP		11 00 46.6	
KNRA	Kununurra	146.50	237	PKPbc	PKPbc	11 00 13.2	+0.2
XAN	Xi'an	147.34	346	PKP	PKPbc	11 00 14.4	-0.6
XAN				pPKP	pPKPdf	11 00 34.3	+0.7
FAKI	Fak Fak	147.44	261	PKPbc	PKPbc	11 00 16.6	+0.8
FITZ	Fitzroy Crossi	147.70	230	PKPbc	PKPbc	11 00 16.3	0.0
WHN	Wuhan	148.81	336	⇑P	PKPbc	11 00 18.3	-0.6
WHN				pP	PKiKP	11 00 21.3	+1.0
PSA00	Pilbara Seismi	149.42	218	PKPbc	PKPbc	11 00 19.9	-0.8
PSA00				PKPab	PKPab	11 00 25.7	+0.1
PSA00	Pilbara Seismi	149.42	218	PKPdf	PKPdf	11 00 14.7	-1.5
PSA00				PKPbc	PKPbc	11 00 19.6	-1.1
PSA00					PKPab	11 00 25.6	0.0
MBWA	Marble Bar	149.79	219	PKPbc	PKPbc	11 00 20.9	-0.8
MBWA				PKPab	PKPab	11 00 27.2	+0.1
NACB	Ninganchiao	149.90	318	PKPbc	PKPbc	11 00 20.6	-1.2
NACB				PKPab	PKPab	11 00 27.0	-0.5
SSLB	Suanglung	150.59	318	PKPbc	PKPbc	11 00 23.6	+0.1
SSLB				PKPab	PKPab	11 00 31.0	+0.7
ENH	Enshi	150.76	343		PKPbc	11 00 22.8	-1.0
TPUB	Ta-pu	151.14	318		PKPbc	11 00 23.8	-1.1
TPUB				PKPab	PKPab	11 00 32.4	-0.2
LSA	Lhasa	151.44	16	PKPdf	PKPdf	11 00 17.9	-1.9
LSA					PKPbc	11 00 25.1	-0.8
LSA				PKPab	PKPab	11 00 33.0	-1.2
LSA	Lhasa	151.44	16	PKIKP	PKPdf	11 00 17.9	-1.9
LSA						11 00 33.1	
HYB	Hyderabad	154.04	53	ePKPdf	PKPdf	11 00 23.1	-0.3
HYB				ePKiKP	PKiKP	11 00 32.6	+1.1
PZH	PanZhiHua	155.86	356	PKP	PKPab	11 00 51.4	-1.1
TOLI2	Tolitoli	159.28	267	PKPdf	PKPdf	11 00 29.4	-0.8
TOLI2				PKPab	PKPab	11 01 08.1	+0.3
JAGI	Jajag, Banyuwa	162.37	233	PKPdf	PKPdf	11 00 31.3	-2.2
JAGI				PKPab	PKPab	11 01 20.3	-0.8
BKB	Balikpapan	162.83	258	PKPdf	PKPdf	11 00 34.4	+0.4
CM31	Chiang Mai Arr	163.88	4	PKPdf	PKPdf	11 00 35.2	+0.4
CM31				PKPab	PKPab	11 01 26.9	-0.5
CMAR	Chiang Mai Arr	163.88	4	PKPdf	PKPdf	11 00 34.8	0.0
CMAR				PKPab	PKPab	11 01 25.7	-1.7
CMAR	Chiang Mai Arr	163.88	4	PKP	PKPdf	11 00 34.6	-0.2
	comp=Z,1.7nm,0.7s,baz=296,slow=1.6,SNR=9.6						
CMAR				PKPab	PKPab	11 01 26.6	-0.8
	comp=Z,6.4nm,0.8s,baz=334,slow=4.9,SNR=16						
CMAR	Chiang Mai Arr	163.88	4	PKIKP	PKPdf	11 00 34.8	0.0
CMAR						11 01 25.7	

WEL 22 10:51:45.4±0.6, 34°S±4°×17°9W±°, h120km, M4.3/17, mB4.9/8, MLL4.6/17, MLv4.5/17, Mw(mB)4.2/8, Error ellipse: s-maj=11.2km s-min=3.8km az=109.3, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.40	13	P	Pn	10 52 48.1	-2.2
GLKZ				S	Sn	10 53 37.8	-2.7
WMGZ	Waiomatatini S	4.73	206	P	Pn	10 52 57.1	+2.5
WMGZ				S	Sn	10 53 49.6	+1.2
PKGZ	Pakihiroa	4.89	208	P	Pn	10 52 57.2	+0.3
PKGZ				S	Sn	10 53 52.8	+0.3
HAZ	Te Kaha	4.92	211	P	Pn	10 52 58.2	+1.0
HAZ				S	Sn	10 53 53.7	+0.5
PUZ	Puketiti	5.01	205	P	Pn	10 52 58.3	-0.1
PUZ				S	Sn	10 53 55.0	-0.3
RUGZ	Raukumara Rang	5.14	211	P	Pn	10 53 00.6	+0.3
RUGZ				S	Sn	10 54 00.5	+1.8
TWGZ	Tauwhareparae	5.20	207	P	Pn	10 53 01.4	+0.3
TWGZ				S	Sn	10 54 00.4	+0.5
CNGZ	Carnagh Statio	5.39	204	P	Pn	10 53 04.1	+0.5
CNGZ				S	Sn	10 54 05.4	+0.9
TKGZ	Te Karaka	5.48	207	P	Pn	10 53 03.6	-1.2
TKGZ				S	Sn	10 54 06.5	-0.2
MWZ	Matawai	5.52	210	P	Pn	10 53 05.6	+0.3
MWZ				S	Sn	10 54 07.2	-0.3
URZ	Urewera	5.63	213	P	Pn	10 53 06.6	-0.2
URZ				S	Sn	10 54 08.3	-2.0
RIGZ	Rimuhau	5.75	206	P	Pn	10 53 09.1	+0.6
RIGZ				S	Sn	10 54 13.1	0.0
PRGZ	Paritu Road	5.90	204	P	Pn	10 53 10.8	+0.4
PRGZ				S	Sn	10 54 15.5	-1.3
MKAZ	Moumakai	5.92	232	P	Pn	10 53 13.8	+3.1
WCZ	Waipu Caves	5.95	245	P	Pn	10 53 14.4	+3.3
SNGZ	Shannon Statio	5.98	208	P	Pn	10 53 14.0	+2.5
SNGZ				S	Sn	10 54 18.7	+0.1
KNZ	Kokohu	6.06	205	P	Pn	10 53 10.3	-2.2
KNZ				S	Sn	10 54 16.3	-4.3
MHGZ	Mahia Peninsul	6.10	203	P	Pn	10 53 08.4	-4.7
MHGZ				S	Sn	10 54 19.3	-2.2
MTHZ	Maungataniwha	6.24	211	P	Pn	10 53 16.6	+1.5
OUZ	Omahuta	6.32	253	P	Pn	10 53 18.4	+2.2
OUZ				S	Sn	10 54 24.3	-2.7
NMHZ	Naumai	6.46	210	P	Pn	10 53 20.3	+2.2
NMHZ				S	Sn	10 54 30.6	+0.1
ARHZ	Aropaoanui	6.53	208	P	Pn	10 53 20.7	+1.9
ARHZ				S	Sn	10 54 32.1	+0.2
BKZ	Black Stump Fm	6.66	212	P	Pn	10 53 18.9	-1.8
BKZ				S	Sn	10 54 32.3	-2.8
MCHZ	McNeill Hill	6.80	209	P	Pn	10 53 24.1	+1.5
MCHZ				S	Sn	10 54 38.8	+0.2
KWHZ	Kaweka Forest	6.90	211	P	Pn	10 53 23.6	-0.4
KWHZ				S	Sn	10 54 37.4	-3.7
NTVZ	North Tongarir	6.98	216	P	Pn	10 53 26.8	+1.6
OTVZ	Oturere	7.04	216	P	Pn	10 53 27.1	+1.2
SNVZ	South Ngauruho	7.07	216	P	Pn	10 53 27.8	+1.5
PNHZ	Pukenui	7.40	210	P	Pn	10 53 30.3	-0.4
DVHZ	Dannevirke	7.74	208	P	Pn	10 53 33.8	-1.5
DVHZ				S	Sn	10 54 56.6	-4.8

*IDC **22** 11:38:49.2±1.5, 36°.32N×77°.82E, h0km, mb3.7/5, mbtmp3.7/9, ML3.3/3, Error ellipse: s-maj=32.4km s-min=17.1km az=59.0*

ISC 22 11:38:54.0±1.4, 36°.3N±0°.1×78°.0E±0°.1, h35km, n9, σ1§58/11, mb3.6/4, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.92	338	Pn	Pn	11 40 34.0	+0.9
	0.8nm,0.3s,baz=133,slow=20,SNR=9.5						
AAK				Sn	Sn	11 41 53.3	+2.6
	0.4nm,0.3s,baz=6.3,slow=23,SNR=1.3						
AAK				Lg	Lg	11 42 27.2	
	0.5nm,0.3s,baz=249,slow=23,SNR=3.7						
	2.5nm,0.5s						
MKAR	Makanchi Array	11.02	16	Pn	Pn	11 41 28.7	-0.3
	0.5nm,0.3s,baz=198,slow=13,SNR=27						
MKAR				Sn	Sn	11 43 31.2	+0.3
	0.3nm,0.3s,baz=199,slow=25,SNR=9.3						
	1.1nm,0.4s						
KURBB	Kurchatov Arra	14.37	1	Pn	Pn	11 42 13.3	-1.4
	0.3nm,0.8s,baz=180,slow=14,SNR=1.5						
KURBB				Lg	Lg	11 46 22.9	
	baz=180,slow=24,SNR=3.1						
BVAR	Borovoye Array	17.60	345	P	Pn	11 42 54.8	-1.5
	baz=156,slow=14,SNR=6.2						
	1.4nm,0.7s						
AKTO	Aktyubinsk	20.20	321	P	P	11 43 23.4	-2.2
	1.8nm,0.5s,baz=119,slow=12,SNR=8.8						
	1.8nm,0.5s						
SONM	Songino Array	23.93	52	P	P	11 44 05.9	+1.1
	0.8nm,0.7s,baz=253,slow=9.6,SNR=5.5						
	0.8nm,0.7s						
CMAR	Chiang Mai Arr	25.61	128	P	P	11 44 21.4	+1.2
	0.7nm,0.6s,baz=315,slow=9.7,SNR=7.5						
	0.7nm,0.6s						
FINES	FINESS Array B	40.89	325	P	P	11 46 31.9	-0.5
	0.7nm,0.4s,baz=111,slow=8.1,SNR=8.5						
	0.7nm,0.4s						
ARCES	ARCESS Array B	43.59	336	P	P	11 46 53.9	-0.4
	2.7nm,0.9s,baz=116,slow=8.5,SNR=4.0						
	2.7nm,0.9s						

*GUC **22** 12:30:28.7±0.6, 38°.22S×75°.11W, h30km±3km, ML3.6*
*SJA **22** 12:31:24.1±0.5, 35°.01S×71°.24W, h22km±264km, ML2.9, MW2.5*

ISC 22 12:30:27.4±2.9, 38°.28S±0°.09×75°.3W±0°.2, h35km, n19, σ1§44/23, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	Isla Mocha	1.10	97	eP	Pn	12 30 45.8	-0.5
BI04				eS	Sn	12 30 58.6	-1.7
BI04				IAML		12 31 02.4	
	comp=N,1μm,0.4s						
LC02	Puerto Saavedr	1.57	109	eP	Pn	12 30 53.1	+0.3
LC02				eS	Sn	12 31 11.2	-0.6
LC02				IAML		12 31 15.1	
	comp=N,2μm,0.5s						
LR04	Corral	2.15	138	eP	Pn	12 30 59.3	-1.4
BI05	Punta Hualpn	2.26	48	eP	Pn	12 31 02.3	+0.1
BI05				eS	Sn	12 31 29.0	+0.1
BI05				IAML		12 31 32.2	
	comp=N,217nm,0.2s						
LC01	Cunco	2.73	104	eP	Pn	12 31 10.0	+1.2
LC01				eS	Sn	12 31 41.2	+0.5
LR05	Currie	3.20	128	eP	Pn	12 31 17.0	+1.9
LR05				IAML		12 31 56.4	
	comp=E,129nm,0.4s						
GO06	Curarrehue	3.24	115	eP	Pn	12 31 17.6	+1.7
LL04	Puerto Octay	3.44	141	eP	Pn	12 31 18.8	+0.4
LL04				IAML		12 31 57.1	
	comp=N,261nm,0.1s						
BI02	San Fabin de	3.57	64	eP	Pn	12 31 21.4	+1.1
GO05	Hualane	4.23	41	eP	Pn	12 31 29.6	+0.2
BO03	Pichilemu	4.63	36	eP	Pn	12 31 34.9	+0.1
BO02	Sierra Bellavi	5.02	47	eP	Pn	12 31 41.0	+0.7
BO01	Tunca	5.15	42	eP	Pn	12 31 42.9	+0.9
ACCO	Cerro Coronel	9.23	36	iP	Pn	12 32 39.2	+0.9
AROD	Rodeo	9.41	32	iP	Pn	12 32 43.3	+2.6
ACDV	Cuesta del Vie	9.56	34	iP	Pn	12 32 43.5	+0.8
ACDV				IAML		12 33 50.1	
	comp=Z,5.8nm,2.7s						
AVFE	Valle Fertil	9.97	43	iP	Pn	12 32 47.0	-1.2
AVFE				IAML		12 34 06.1	
	comp=Z,2.1nm,1.6s						
ACHE	Chepes	10.03	47	iP	Pn	12 32 47.6	-1.5
AGUA	GUANDACOL	10.43	35	iP	Pn	12 32 50.9	-3.6
AGUA				eS		12 32 56.7	
AGUA				IAML		12 33 02.4	
	comp=Z,10nm,0.2s						

*NEIC **22** 12:31:07.2±1.4, 19°.36N±0°.02×154°.89W±0°.02, h5km±1km, Error ellipse: s-maj=5.1km s-min=2.9km az=316.0*

HVO 22 12:31:07.7±1.4, 19°.40N±0°.02×154°.93W±0°.02, h8km±2km, ML3.1/48, ML3.2/42(NEIC), Error ellipse: s-maj=3.8km s-min=1.1km az=130.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	Jonika Flow	0.07	293		Pg	12 31 10.1	+0.4
JOKA				IAML		12 31 12.2	
	comp=E,10μm,0.8s						
JOKA				Sg	Sg	12 31 12.2	+1.0
PAH	Pahoa	0.09	351	Pg	Pg	12 31 10.3	+0.4
JCUZ	Jacuzzi	0.16	263		Pg	12 31 11.5	+0.4
JCUZ					Sg	12 31 14.2	+0.8
NPOC	North of Pu'u	0.17	266		Pg	12 31 11.6	+0.4
NPOC					Sg	12 31 14.5	+0.9
STCH	Steam Cracks	0.18	264		Pg	12 31 11.9	+0.4
KNHH	Kane Nui o Ham	0.23	264		Pg	12 31 12.4	+0.2
PUH	Pauahi	0.27	264		Pg	12 31 13.1	+0.1
PUH				Sg	Sg	12 31 17.6	+0.8
BYL	Byron's Ledge	0.31	272		Pg	12 31 14.2	+0.3
BYL				Sg	Sg	12 31 19.2	+1.2
BYL				IAML		12 31 20.0	
	comp=E,3μm,0.3s						
HATHI	Halema'uma'u T	0.31	274		Pg	12 31 14.1	+0.2
HATHI					Sg	12 31 19.4	+1.3
HATHI				IAML		12 31 22.1	
	comp=E,2μm,0.4s						
KKO	Keanakako'i	0.32	269		Pg	12 31 13.9	0.0
KKO					Sg	12 31 18.6	+0.4
SBLHI	Steaming Bluff	0.32	274		Pg	12 31 13.9	-0.1
SBLHI					Sg	12 31 18.3	+0.1
RIM	Rim	0.32	269		Pg	12 31 14.0	-0.1
RIM					Sg	12 31 18.9	+0.5
UWB	Uwekahuna Bluf	0.33	274		Pg	12 31 14.0	-0.2
UWB					Sg	12 31 18.8	+0.2
OBL	Observatory Le	0.33	272		Pg	12 31 14.3	0.0
OBL					Sg	12 31 19.6	+0.9
RSD	Rainshed	0.33	280		Pg	12 31 14.5	+0.2
RSD					Sb	12 31 20.5	-1.0
UWE	Uwekahuna	0.34	273		Pg	12 31 14.6	+0.2
UWE				Sg	Sg	12 31 20.2	+1.2
UWE				IAML		12 31 21.9	
	comp=N,2μm,0.4s						
UWE				IAML		12 31 22.9	
	comp=E,3μm,0.4s						
SDHHI	Sand Hill	0.34	268		Pg	12 31 14.3	-0.1
SDHHI					Sg	12 31 19.5	+0.5
WRMHI	West Rim	0.35	270		Pg	12 31 14.4	-0.1
WRMHI					Sg	12 31 19.8	+0.7
HLP	Hilina Pali	0.37	253		Pg	12 31 15.4	+0.5
HLP				IAML		12 31 21.8	
	comp=E,3μm,0.5s						
MLH	Mauna Loa	0.44	282		Pg	12

100nm,0.3s,baz=10,slow=12,SNR=4.8
NNA Nana 3.96 206 P 12 32 38.6
NNA S 12 33 22.1
TBTG Tabatinga, AM 6.63 51 Pn 12 33 14.9 -0.1
TBTG Tabatinga, AM 6.63 51 *eP* **Pn 12 33 15.2 +0.2**
TBTG Tabatinga, AM 6.63 51 P 12 33 14.7
275nm,1.1s
TBTG S 12 34 28.9
275nm,1.1s
COHC Cochancay 7.20 325 Pn **Pn 12 33 21.6 -1.1**
COHC Cochancay 7.20 325 P 12 33 21.8
100nm,0.5s
COHC S 12 34 37.0
100nm,0.5s
SLOR San Lorenzo - 8.34 336 Pn **Pn 12 33 38.2 -0.2**
PTLC Puerto Leguiza 8.52 2 P 12 33 34.1
PPLP Puerto Lpez 8.85 320 P 12 33 44.1
37nm,0.6s
PPLP S 12 35 14.6
37nm,0.6s
ETMB Extrema 8.88 100 Pn **Pn 12 33 43.7 -1.5**
OTAV Otavalo 9.21 339 Pn **Pn 12 33 49.3 -0.8**
OTAV Otavalo 9.21 339 *eP* **Pn 12 33 50.9 +0.8**
FLF1 Flavio Alfaro- 9.29 329 P 12 33 50.4
46nm,0.5s
FLF1 S 12 35 28.6
46nm,0.5s
PAC1 Pacto, Paraso 9.36 337 P 12 33 53.9
PAC1 S 12 35 37.3
GCUF Volcan Galeras 9.82 347 P 12 33 56.4
35nm,0.5s
FLOC Florencia 9.93 357 P 12 33 59.4
32nm,1.2s
FLOC Florencia 9.93 357 Pn **Pn 12 33 59.1 -0.3**
LPAZ La Paz 10.38 140 Pn 12 34 04.5 -1.4
LPAZ La Paz 10.38 140 P **Pn 12 34 05.9 0.0**
1.7nm,0.5s,baz=308,slow=7.3,SNR=6.1
LPAZ S **Sn 12 36 02.3 +1.6**
7.8nm,0.8s,baz=236,slow=5.2,SNR=2.2
LPAZ La Paz 10.38 140 *eP* **Pn 12 34 07.0 +1.1**
GARC Garzon, Huila 10.52 358 P 12 34 07.9
6µm90nm,0.8s
BBAC Balboa, Cauca 10.57 348 P 12 34 08.1
71nm,0.9s
AP01 Chacalluta 10.93 156 Pn **Pn 12 34 12.0 -0.8**
POPC Popayan, Colom 10.98 352 P 12 34 15.1
6µm19nm,1.1s
PB12 IPOC Station P 11.16 156 Pn **Pn 12 34 15.0 -0.9**
TEFE Tefe 11.47 66 *eP* **Pn 12 34 19.1 -1.0**
URMC La Uribe, Meta 11.59 4 P 12 34 21.3
20nm,0.9s
GR1C Gorgona, Isla 11.73 345 P 12 34 23.1
PRAC Prado 12.03 1 P 12 34 29.3
16nm,1.1s
ORTC Ortega, Tolima 12.23 359 P 12 34 31.0
20nm,0.9s
MALC Bahia Malaga 12.53 350 P 12 34 30.2
ROSC El Rosal 13.17 3 Pn **Pn 12 34 41.9 -0.7**
RUSC La Rusia 14.34 8 Pn **Pn 12 34 56.9 -0.7**
MACA Manacapuru-AM 15.24 71 Pn **Pn 12 35 08.6 +0.1**
MACA Manacapuru-AM 15.24 71 *eP* **Pn 12 35 08.4 -0.1**
VILB Vilhena 15.31 108 Pn **Pn 12 35 09.5 +0.1**
VILB IAmb IAmb 12 35 37.4
comp=Z,36nm,1.0s
VILB Vilhena 15.31 108 *eP* **Pn 12 35 10.1 +0.7**
DBBC Dabeiba 15.35 356 P 12 35 14.6
SIV San Ignacio 15.63 120 P **Pn 12 35 13.4 0.0**
comp=Z,4.9nm,0.7s,baz=299,slow=12,SNR=24
SIV S **Sn 12 38 01.0 -6.0**
comp=Z,4.7nm,0.7s,baz=238,slow=7.7,SNR=3.7
PAMC Pamplona, Colo 15.81 9 P 12 35 20.6
PTLB Pontes e Lacer 17.10 116 P **P 12 35 31.1 +0.1**
PTLB Pontes e Lacer 17.10 116 *eP* **Pn 12 35 31.6 +0.3**
SDV Santo Domingo 17.73 15 P **P 12 35 37.0 -1.1**
SDV Santo Domingo 17.73 15 P **P 12 35 39.3 +1.1**
comp=Z,15nm,1.1s,baz=191,slow=1.9,SNR=7.4
SDV S **S 12 38 49.3 -6.8**
comp=Z,3.0nm,0.6s,baz=10.0,slow=18,SNR=2.0
SDV Santo Domingo 17.73 15 *eP* **P 12 35 39.0 +0.9**
BOAV Boa Vista 18.05 54 P **P 12 35 42.1 +0.6**
BOAV IAmb IAmb 12 35 45.3
comp=Z,56nm,1.1s
BOAV Boa Vista 18.05 54 *eP* **P 12 35 41.7 +0.2**
PDRB Porto dos Gac 18.36 102 *eP* **P 12 35 44.6 -0.3**
BAUV El Baul 18.60 22 P **P 12 35 48.6 +1.2**
CLDB Colider 19.18 99 *eP* **P 12 35 54.7 +0.9**
NPGB Novo Progresso 19.60 87 *eP* **P 12 35 57.4 -1.0**
ITTB Itaituba 19.64 79 *eP* **P 12 35 58.3 -0.5**
SALV Santo Antonio 20.36 113 *eP* **P 12 36 07.8 +1.2**
JTS Las Juntas de 21.00 332 P **P 12 36 14.1 +0.8**
comp=Z,3.3nm,0.3s,baz=138,slow=10,SNR=4.2
comp=Z,3.3nm,0.3s
PCRV Puerto La Cruz 21.18 30 P **P 12 36 18.1 +2.7**
comp=Z,7.2nm,0.5s,baz=223,slow=6.0,SNR=11
comp=Z,7.2nm,0.5s
MAL2 Monte Alegre, 21.76 74 P **P 12 36 20.7 -0.8**
MAL2 IAmb IAmb 12 36 21.2
comp=Z,24nm,0.8s
AQDB Aquidauana 22.26 125 P **P 12 36 25.1 -1.5**
SNDB Serra Nova Dou 23.68 101 *eP* **P 12 36 40.2 +0.1**
ARAG Araguaiana, MT 23.88 110 *eP* **P 12 36 41.6 -0.2**
SJPY San Joaquin 24.50 135 *eP* **P 12 36 48.3 +0.8**
CPUP Villa Florida 24.55 139 P **P 12 36 49.0 +1.2**
comp=Z,0.7nm,0.3s,baz=326,slow=10,SNR=3.4
comp=Z,0.7nm,0.3s
CPUP Villa Florida 24.55 139 *eP* **P 12 36 49.6 +1.8**
ITRB Iturama 26.45 118 *eP* **P 12 37 07.2 +2.0**
SMTB Santa Maria do 27.19 93 *eP* **P 12 37 12.7 +0.8**
PTGB Pitanga 27.32 129 *eP* **P 12 37 13.0 +0.1**
LDASE Londrina, Braz 27.39 126 *eP* **P 12 37 12.8 -0.7**
BDFB Brasilia 27.42 108 P **P 12 37 13.8 -0.1**
BDFB IAmb IAmb 12 37 17.9
comp=Z,8.3nm,0.7s
BDFB Brasilia 27.42 108 P **P 12 37 17.1 +3.1**
comp=Z,6.7nm,0.6s,baz=271,slow=12,SNR=9.3
comp=Z,6.7nm,0.6s
IPMB Ipameri, GO 27.81 113 *eP* **P 12 37 19.6 +2.3**
ITAB Concordia 28.69 134 *eP* **P 12 37 26.3 +1.3**
PMNB Patos De Minas 29.59 113 *eP* **P 12 37 33.5 +0.4**
SDBA SAO DESIDERIO 29.95 100 *eP* **P 12 37 36.9 +0.6**
JANB Januaria 30.83 105 *eP* **P 12 37 42.0 -2.1**
JANB epP **pP 12 38 12.4 +0.5**
TER01 Tubaro-SC 31.61 133 *eP* **P 12 37 51.7 +1.0**
HNDO Hondo 44.32 329 P **P 12 39 37.9 +0.6**
DRIO Del Rio 44.93 328 P **P 12 39 42.5 +0.4**
DRIO IAmb IAmb 12 39 43.6
comp=Z,10nm,0.9s
T59A Double "B" Far 45.19 357 P **P 12 39 43.4 -0.6**
BRDY Brady 45.62 331 P **P 12 39 47.8 +0.2**
S57A Dark Hollow, R 46.06 356 P **P 12 39 51.9 +1.1**
MIAR Mount Ida 46.16 339 P **P 12 39 52.0 +0.3**
OZNA Ozona 46.39 329 P **P 12 39 54.2 +0.6**
WHAR Wooly Hollow 46.39 340 P **P 12 39 53.1 -0.4**
WHAR IAmb IAmb 12 39 53.8
comp=Z,8.3nm,0.8s
TXAR Lajitas Array 46.53 325 P **P 12 39 55.5 +0.6**
comp=Z,2.5nm,0.6s,baz=150,slow=8.8,SNR=35
TXAR pP **pP 12 40 24.9 +0.6**
comp=Z,0.3nm,0.4s,baz=152,slow=9.0,SNR=2.2
TXAR PcP **PcP 12 41 27.4 +0.2**
comp=Z,0.7nm,0.8s,baz=144,slow=7.5,SNR=3.5
comp=Z,2.5nm,0.6s
TX31 Lajitas Ar. Si 46.53 325 P **P 12 39 55.6 +0.7**
FCAR Ozark Folk Cen 46.88 341 P **P 12 39 56.8 -0.5**
FCAR IAmb IAmb 12 39 57.2
comp=Z,6.1nm,0.7s
ALPN Alpine 47.30 326 P **P 12 40 00.4 -0.5**
T42A Van Buren 47.62 343 IAmb IAmb 12 40 02.4
comp=Z,5.3nm,0.6s
APMT Aspermont 47.84 331 IAmb IAmb 12 40 06.5
comp=Z,11nm,1.0s
HHAR Hobbs 47.85 339 IAmb IAmb 12 40 05.3
comp=Z,7.1nm,0.8s
X34A Smith Ranch, M 47.88 335 P **P 12 40 06.0 +0.9**
MCWV Mont Chateau 48.02 355 IAmb IAmb 12 40 22.3
comp=Z,12nm,0.7s
POST Post 48.29 330 P **P 12 40 08.9 +0.6**
POST IAmb IAmb 12 40 09.7
comp=Z,11nm,0.8s
VHRN Van Horn 48.37 325 IAmb IAmb 12 40 10.6
comp=Z,5.6nm,0.9s
DKNS Dickens 48.50 331 IAmb IAmb 12 40 11.5
comp=Z,8.2nm,0.8s
CCM Cathedral Cave 48.61 343 P **P 12 40 09.7 -0.9**
CCM IAmb IAmb 12 40 11.8
comp=Z,4.0nm,0.6s
OK031 S. Brethren Rd 48.64 336 P **P 12 40 11.5 +0.6**
OK031 IAmb IAmb 12 40 12.5
comp=Z,14nm,0.9s
OK029 Liberty Lake 48.75 336 P **P 12 40 11.7 -0.1**
KAN09 Caldwell North 49.97 336 P **P 12 40 21.7 +0.7**
KSU1 Kansas State U 51.31 339 P **P 12 40 30.7 -0.3**
KSU1 IAmb IAmb 12 40 31.3
comp=Z,6.8nm,0.7s
WUAZ Wupatki 55.48 324 IAmb IAmb 12 41 03.7
comp=Z,7.3nm,1.1s
K30B Basset 55.54 338 P **P 12 41 01.2 -0.7**
K30B IAmb IAmb 12 41 03.6
comp=Z,12nm,0.9s
PV13 Radium Mtn., P 55.99 328 P **P 12 41 05.3 -0.1**
PV13 IAmb IAmb 12 41 06.8
comp=Z,8.0nm,0.9s
W13A Hualapai Mount 56.68 322 IAmb IAmb 12 41 13.4
comp=Z,5.5nm,1.2s
E38A The Farm, Brul 56.70 346 IAmb IAmb 12 41 09.9
comp=Z,4.4nm,0.7s
SRU San Rafael Swe 57.59 328 IAmb IAmb 12 41 17.9
comp=Z,4.6nm,1.1s
PSUT Pine Spring 59.00 325 IAmb IAmb 12 41 28.3
comp=Z,6.5nm,1.1s
AGMN Agassiz Nation 59.35 344 IAmb IAmb 12 41 28.9
comp=Z,4.6nm,0.8s
DUG Dugway, Tooele 59.59 327 IAmb IAmb 12 41 32.2
comp=Z,5.3nm,0.9s
PDAR Pinedale Array 59.83 331 P **P 12 41 31.7 -0.5**
comp=Z,1.1nm,0.9s,baz=139,slow=7.0,SNR=7.2
comp=Z,1.1nm,0.9s
HWUT Hardware Ranch 59.96 329 P **P 12 41 33.0 0.0**
HWUT IAmb IAmb 12 41 33.9
comp=Z,5.8nm,0.8s
MDND Maddock 60.06 341 P **P 12 41 33.5 +0.1**
ULM Lac du Bonnet 61.15 345 P **P 12 41 39.9 -0.7**
comp=Z,3.8nm,0.6s,baz=159,slow=7.0,SNR=11
comp=Z,3.8nm,0.6s
NVAR Mina Array Bea 61.54 322 P **P 12 41 44.7 +0.9**
comp=Z,1.1nm,0.7s,baz=136,slow=8.2,SNR=7.7
comp=Z,1.1nm,0.7s
YHB Horse Butte 62.11 332 IAmb IAmb 12 41 49.1
comp=Z,6.8nm,0.9s
HLID Hailey 62.82 329 P **P 12 41 52.5 +0.3**
BOZ Bozeman (W) 62.95 332 P **P 12 41 53.6 +0.6**
MFID Camas Ranch 63.45 328 IAmb IAmb 12 41 58.1
comp=Z,8.6nm,1.1s
MSO Missoula 64.94 332 P **P 12 42 06.2 +0.2**
MSO IAmb IAmb 12 42 07.2
comp=Z,4.7nm,0.8s
I07A Izee 65.87 326 IAmb IAmb 12 42 13.3
comp=Z,4.0nm,0.7s
F10A Beach Ranch, E 65.94 329 P **P 12 42 13.2 +0.9**
YKA Yellowknife Ar 76.94 342 P **P 12 43 17.7 -0.2**
comp=Z,2.2nm,0.8s,baz=144,slow=6.2,SNR=39
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 81.71 180 P **P 12 43 45.3 +1.3**
comp=Z,1.4nm,0.6s,baz=178,slow=0.7,SNR=15
QSPA pP **pP 12 44 17.2 +0.7**
comp=Z,4.5nm,1.1s,baz=146,slow=4.6,SNR=4.6
comp=Z,1.4nm,0.6s
L27K Beaver Creek, 87.20 335 P **P 12 44 12.5 +1.0**
L27K IAmb IAmb 12 44 12.7
comp=Z,5.8nm,0.8s
SCRK Sand Creek 88.46 336 P **P 12 44 17.9 +0.4**
SCRK IAmb IAmb 12 44 18.6
comp=Z,3.9nm,0.8s
J26L Joseph Creek 88.49 336 P **P 12 44 18.4 +0.7**
J26L IAmb IAmb 12 44 18.8
comp=Z,6.6nm,0.7s
ILAR Eielson Array 89.92 336 P **P 12 44 23.9 -0.3**
comp=Z,0.9nm,0.9s,baz=151,slow=3.9,SNR=7.8
comp=Z,0.9nm,0.9s
ZALV Zalesovo Beam 131.78 16 PKP **PKPdf 12 50 38.1 +0.3**
comp=Z,0.6nm,0.6s,baz=316,slow=4.1,SNR=5.1
ZALV pPKP **pPKPdf 12 51 13.1 +0.8**
comp=Z,1.2nm,1.0s,baz=320,slow=3.9,SNR=2.4
MKAR Makanchi Array 137.13 23 PKP **PKPdf 12 50 48.1 0.0**
comp=Z,0.6nm,0.9s,baz=349,slow=1.2,SNR=3.9
ASAR Alice Springs 137.36 221 PKP **PKPdf 12 50 49.1 -0.1**
comp=Z,0.8nm,0.7s,baz=119,slow=1.7,SNR=4.9
ASAR pPKP **pPKPdf 12 51 24.2 +0.4**
comp=Z,0.8nm,0.9s,baz=132,slow=1.4,SNR=2.8
WRA Warramunga Arr 139.60 225 PKhKP PKPpre 12 50 46.9
comp=Z,0.5nm,0.5s,baz=121,slow=2.2,SNR=4.7
SONM Songino Array 140.68 358 PKhKP PKPpre 12 50 48.8
comp=Z,0.2nm,0.4s,baz=338,slow=3.4,SNR=2.4
KSRS Korea Array 144.35 328 PKP **PKPab 12 50 59.4 -0.2**
comp=Z,1.7nm,0.8s,baz=46,slow=3.4,SNR=6.0
FITZ Fitzroy Crossi 146.65 218 pPKPbc pPKPbc 12 51 42.0 +0.3
comp=Z,4.6nm,0.7s,baz=180,slow=1.0,SNR=3.6

*CNRM **22** 12:49:40.4, 32.°69N×5.°33W, h2km*
*MDD **22** 12:49:40.7±0.9, 32.°89N×5.°16W, h0km, Mb4.4/5, M_mb3.8/5, Error ellipse: s-maj=10.2km s-min=4.7km az=108.0*
*SFS **22** 12:49:42.8, 32.°86N×5.°24W, h20km, ML4.0/7, ML3.6/7, MLv3.3/7*
*INMG **22** 12:49:42.2±1.5, 32.°82N×5.°22W, h25km±11km, ML2.6, Error ellipse: s-maj=7.3km s-min=4.7km az=103.0, #DIST_RANGE: REGIONAL #IPMA_REGION: S Fez (Marr)*

ISC 22 12:49:40.2±0.8, 32.°86N±0.°02×5.°28W±0.°02, h10km, n58, σ1§65/77, 5C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MD31	**MD31**	**0.44**	**89**	P	**Pb**	**12 49 49.9**	**-0.2**
MD31	**MD31**	**0.44**	**89**	S	**Sb**	**12 49 57.1**	**+0.4**
MDT	**Midelt**	**0.57**	**95**	P	**Pb**	**12 49 51.8**	**-0.4**
MDT	**Midelt**	**0.57**	**95**	S	**Sb**	**12 50 00.9**	**+0.4**
IFR	**Ifrane**	**0.66**	**11**	Pg	**Pb**	**12 49 54.8**	**+0.9**
IFR				Sg	**Sb**	**12 50 04.8**	**+1.5**
LCRM	**LCR**	**0.89**	**23**	P	**Pn**	**12 49 59.0**	**+0.1**
LCRM	**LCR**	**0.89**	**23**	S	**Sn**	**12 50 11.4**	**-0.6**
GOLM	**Goulmima**	**1.19**	**166**	P	**Pb**	**12 50 02.6**	**-0.3**
GOLM	**Goulmima**	**1.19**	**166**	S	**Sb**	**12 50 18.4**	**0.0**
ZHG	**ZHG**	**1.28**	**297**	P	**Pg**	**12 50 05.6**	**+0.8**
ZHG	**ZHG**	**1.28**	**297**	S	**Sg**	**12 50 25.4**	**+3.9**
ARF	**Arif**	**1.69**	**148**	P	**Pn**	**12 50 10.0**	**+0.2**
ARF	**Arif**	**1.69**	**148**	S	**Sn**	**12 50 31.3**	**-0.1**
AVE	**Averroes**	**1.84**	**284**	Pn	**Pn**	**12 50 12.3**	**+0.5**
AVE				Sn	**Sn**	**12 50 35.2**	**-0.1**
AVE	**Averroes**	**1.84**	**284**	P	**Pn**	**12 50 12.8**	**+0.9**
AVE	**Averroes**	**1.84**	**284**	S	**Sb**	**12 50 38.3**	**+1.2**
AKLM	**AKL**	**2.02**	**35**	P	**Pg**	**12 50 18.1**	**-0.9**
AKLM	**AKL**	**2.02**	**35**	S	**Sg**	**12 50 47.1**	**+1.9**
TZRR	**Tazzarine**	**2.09**	**187**	P	**Pn**	**12 50 14.6**	**-0.7**
TZRR	**Tazzarine**	**2.09**	**187**	S	**Sn**	**12 50 39.9**	**-1.5**
CHEFC	**Chefchaouen**	**2.24**	**359**	P	**Pb**	**12 50 21.3**	**+0.5**
CHEFC	**Chefchaouen**	**2.24**	**359**	S	**Sg**	**12 50 52.4**	**+0.3**
SRHM	**Skhour des Reh**	**2.24**	**261**	P	**Pb**	**12 50 19.5**	**-1.4**
SRHM	**Skhour des Reh**	**2.24**	**261**	S	**Sb**	**12 50 50.0**	**+1.3**
OUZM	**OUZ**	**2.32**	**213**	P	**Pn**	**12 50 19.9**	**+1.4**
OUZM	**OUZ**	**2.32**	**213**	S	**Sb**	**12 50 50.4**	**-0.6**
TIO	**Tiouine**	**2.56**	**222**	Pn	**Pn**	**12 50 21.6**	**-0.3**
TIO				Sn	**Sn**	**12 50 52.9**	**-0.3**
TIO	**Tiouine**	**2.56**	**222**	P	**Pn**	**12 50 21.2**	**-0.7**
TIO	**Tiouine**	**2.56**	**222**	S	**Sn**	**12 50 52.8**	**-0.5**
JBK	**JBK**	**2.70**	**56**	P	**Pn**	**12 50 25.7**	**+1.9**
JBK	**JBK**	**2.70**	**56**	S	**Sb**	**12 51 00.2**	**-1.7**
OUK	**Oukaimeden**	**2.75**	**234**	P	**Pn**	**12 50 23.8**	**-0.8**
OUK	**Oukaimeden**	**2.75**	**234**	S	**Sn**	**12 50 57.0**	**-1.1**
ZGR	**Zagora**	**2.75**	**186**	P	**Pn**	**12 50 23.3**	**-1.2**
TAF	**Taforalt**	**3.08**	**50**	P	**Pn**	**12 50 31.4**	**+2.5**
FIGM	**Figuig**	**3.47**	**101**	P	**Pn**	**12 50 36.1**	**+1.7**
TTIG	**Tnine Tigouga,**	**3.55**	**230**	P	**Pn**	**12 50 34.4**	**-1.1**
EAH	**EAH**	**3.84**	**253**	P	**Pn**	**12 50 39.5**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.88**	**334**	*eP*	**Pn**	**12 50 53.8**	**+0.1**
PBDV				*eS*	**Sn**	**12 51 47.5**	**-2.7**
PBDV				*i* AML	AML	12 51 49.3	
PBDV				*i* AML	AML	12 51 52.5	
PBDV				*i* AML	AML	12 51 53.5	
PVAQ	**Vaqueiros**	**4.95**	**337**	*eP*	**Pn**	**12 50 54.9**	**+0.3**
PVAQ				*i* AML	AML	12 51 53.2	
EGRO	**El Granado**	**5.00**	**339**	Pn	**Pn**	**12 50 55.7**	**+0.5**
EGRO	**El Granado**	**5.00**	**339**	Pn	**Pn**	**12 50 55.4**	**+0.2**
EGRO				⇑*i*Vmb_V		12 51 01.3	
	407nm,SNR=1.8						
EGRO				Sn	**Sn**	**12 51 49.1**	**-3.9**
EMIN	**Mina Concepcio**	**5.02**	**347**	⇑*i*Vmb_V		12 50 54.8	
	213nm,SNR=1.6						
EMIN				Pn	**Pn**	**12 50 55.8**	**+0.2**
EMIN				Sn	**Sn**	**12 51 51.6**	**-2.1**
PFVI	**Vila Bisbo**	**5.16**	**327**	*eP*	**Pn**	**12 50 59.9**	**+2.4**
PFVI				*eS*	**Sn**	**12 51 55.3**	**-1.7**
ECAB	**El Cabril**	**5.20**	**359**	Pn	**Pn**	**12 50 58.8**	**+0.8**
ECAB				Sn	**Sn**	**12 51 54.1**	**-4.1**
ECAB	**El Cabril**	**5.20**	**359**	Pn	**Pn**	**12 50 58.2**	**+0.1**
ECAB				⇑*i*Vmb_V		12 51 06.8	
	201nm,SNR=1.9						
ECAB				Sn	**Sn**	**12 51 55.0**	**-3.1**
PCVE	**Castro Verde**	**5.27**	**335**	*eP*	**Pn**	**12 50 59.7**	**+0.8**
PCVE				*eS*	**Sn**	**12 51 56.9**	**-2.8**
PCVE				*i* AML	AML	12 52 03.8	
PCVE				*i* AML	AML	12 52 04.5	
PCVE				*i* AML	AML	12 52 07.7	
EADA	**Adamuz**	**5.32**	**6**	Pn	**Pn**	**12 51 00.3**	**+0.6**
EADA				⇑*i*Vmb_V		12 51 04.8	
	120nm,SNR=1.4						
EADA				Sn	**Sn**	**12 52 00.1**	**-1.0**
PTEO	**Sao Teotonio**	**5.46**	**330**	*eP*	**Pn**	**12 51 02.9**	**+1.4**
PTEO				*eS*	**Sn**	**12 52 03.2**	**-1.2**
PBAR	**Barrancos**	**5.49**	**345**	*eP*	**Pn**	**12 51 02.8**	**+0.8**
PBAR				*eS*	**Sn**	**12 52 01.5**	**-3.7**
PBAR				*i* AML	AML	12 52 07.5	
PBAR				*i* AML	AML	12 52 08.5	
PBAR				*i* AML	AML	12 52 11.2	
PBAR	**Barrancos**	**5.49**	**345**	Pn	**Pn**	**12 51 02.8**	**+0.8**
MESJ	**Messejana**	**5.52**	**335**	*eP*	**Pn**	**12 51 03.1**	**+0.7**
MESJ				*eS*	**Sn**	**12 52 03.3**	**-2.5**
MESJ				*i* AML	AML	12 52 09.3	
MESJ				*i* AML	AML	12 52 11.7	
MESJ				*i* AML	AML	12 52 18.0	
EBAD	**Badajoz**	**6.05**	**347**	Pn	**Pn**	**12 51 10.2**	**+0.5**
EBAD	**Badajoz**	**6.05**	**347**	Pn	**Pn**	**12 51 09.9**	**+0.3**
EBAD				⇑*i*Vmb_V		12 51 14.4	
	285nm,SNR=2.1						
EBAD				Sn	**Sn**	**12 52 15.4**	**-3.5**
PESTR	**Estremoz**	**6.28**	**343**	*eP*	**Pn**	**12 51 13.5**	**+0.6**
PESTR				*eS*	**Sn**	**12 52 22.5**	**-2.1**
PMTG	**Montargil**	**6.64**	**340**	*eP*	**Pn**	**12 51 18.4**	**+0.6**
PMTG				*eS*	**Sn**	**12 52 30.9**	**-2.5**
PMRV	**Marv??o**	**6.77**	**346**	*eP*	**Pn**	**12 51 20.4**	**+0.9**
PMRV				*eS*	**Sn**	**12 52 34.5**	**-2.2**
PCBR	**Castelo Branco**	**7.18**	**346**	*eP*	**Pn**	**12 51 26.2**	**+0.9**
PCBR				*eS*	**Sn**	**12 52 43.0**	**-3.9**

*NEIC **22** 12:54:02.0±1.6, 7.°67S±0.°07×127.°56E±0.°07, h170km±6km, mb4.5/77, Error ellipse: s-maj=10.7km s-min=9.8km az=204.0*
*DJA **22** 12:54:02.8±0.1, 8.°S±2.°×12.°8E±.°, h177km±2km, M4.9/57, mb4.7/57, mB5.4/18, MLv5.1/19, Mw(mB)4.9/18, MwMwp6.7/1, Mwp6.6/1*
*IDC **22** 12:54:02.6±1.9, 7.°59S×127.°44E, h175km±17km, mb4.0/14, mbtmp4.6/19, Error ellipse: s-maj=13.0km s-min=9.0km az=37.0*

ISC 22 12:54:01.6±0.3, 7.°72S±0.°04×127.°52E±0.°04, h170km, n224, σ1§47/234, mb4.5/70, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.75**	**94**		**Pn**	**12 55 00.8**	**+1.6**
SAUI	**Saumlaki**	**3.75**	**94**	P	**Pn**	**12 55 00.3**	**+1.1**
SAUI	**Saumlaki**	**3.75**	**94**	P	**Pn**	**12 55 00.9**	**+1.7**
SOEI	**Soe**	**3.80**	**238**		**Pn**	**12 55 02.2**	**+2.3**
SOEI	**Soe**	**3.80**	**238**	P	**Pn**	**12 55 01.8**	**+1.9**
SOEI	**Soe**	**3.80**	**238**	P	**Pn**	**12 55 02.1**	**+2.2**
SOEI				S	**Sn**	**12 55 47.8**	**+2.3**
BNDI	**Bandanaira**	**3.96**	**37**	P	**Pn**	**12 55 03.7**	**+1.8**
BNDI	**Bandanaira**	**3.96**	**37**	P	**Pn**	**12 55 03.6**	**+1.7**
AAI	**Ambon**	**4.07**	**9**	P	**Pn**	**12 55 05.5**	**+2.3**
NLAI	**Namlea**	**4.47**	**355**	P	**Pn**	**12 55 12.1**	**+3.6**
MSAI	**Masohi**	**4.57**	**18**	P	**Pn**	**12 55 11.9**	**+2.2**
MMRI	**Maumere**	**5.31**	**260**		**Pn**	**12 55 21.6**	**+2.2**
MMRI	**Maumere**	**5.31**	**260**	P	**Pn**	**12 55 21.6**	**+2.2**
302nm,0.9s							
MMRI	**Maumere**	**5.31**	**260**	S	**Sn**	**12 56 23.4**	**+2.9**
302nm,0.9s							
MMRI	**Maumere**	**5.31**	**260**	P	**Pn**	**12 55 21.2**	**+1.8**
BBSI	**Bau Bau**	**5.40**	**294**	P	**Pn**	**12 55 24.4**	**+3.8**
0.6nm207nm,1.0s							
DRS	**Darwin Rock St**	**5.74**	**145**	P	**Pn**	**12 55 26.0**	**+1.0**
SANI	**Sanana**	**5.84**	**345**	P	**Pn**	**12 55 29.3**	**+2.9**
34nm,0.7s							
SANI	**Sanana**	**5.84**	**345**	P	**Pn**	**12 55 28.6**	**+2.2**
KDI	**Kendari**	**6.15**	**307**	P	**Pn**	**12 55 32.9**	**+2.5**
MTN	**Manton Dam**	**6.21**	**145**		**Pn**	**12 55 31.9**	**+0.7**
MTN	**Manton Dam**	**6.21**	**145**	P	**Pn**	**12 55 32.1**	**+0.9**
MTN	**Manton Dam**	**6.21**	**145**	S	**Sn**	**12 56 41.6**	**-0.1**
FAKI	**Fak Fak**	**6.70**	**45**		**Pn**	**12 55 36.1**	**-1.7**
FAKI	**Fak Fak**	**6.70**	**45**	P	**Pn**	**12 55 36.3**	**-1.5**
0.7nm3µm107nm,0.6s							
KDU	**Kakadu**	**6.93**	**136**	P	**Pn**	**12 55 41.2**	**+0.4**
844nm,0.6s							
BSSI	**Bau Bau, Buton**	**7.16**	**282**	P	**Pn**	**12 55 46.1**	**+2.3**
0.3nm87nm,0.9s							
BASI	**Baing, Sumba**	**7.29**	**250**	P	**Pn**	**12 55 45.0**	**-0.6**
KMPI	**Kaimana, Papua**	**7.36**	**57**	P	**Pn**	**12 55 45.3**	**-1.1**
WSI	**Waingapu**	**7.40**	**254**	P	**Pn**	**12 55 47.7**	**+0.7**
BKSI	**Bulukumba**	**7.73**	**288**	P	**Pn**	**12 55 53.9**	**+2.5**
0.1nm45nm,1.0s							
SWI	**Sorong**	**7.77**	**29**	P	**Pn**	**12 55 52.0**	**+0.1**
KNRA	**Kununurra**	**8.00**	**171**		**Pn**	**12 55 55.2**	**+0.4**
LUWI	**Luwuk**	**8.15**	**324**	Pn	**Pn**	**12 55 57.7**	**+0.7**
LUWI	**Luwuk**	**8.15**	**324**	P	**Pn**	**12 56 00.5**	**+3.5**
57nm,0.9s							
KAPI	**Kappang**	**8.18**	**289**	Pn	**Pn**	**12 55 59.4**	**+2.0**
KAPI	**Kappang**	**8.18**	**289**	P	**Pn**	**12 55 56.5**	**-0.8**
6.1nm,0.3s,baz=92,slow=8.4,SNR=4.9							
WBSI	**Waikabubak, Su**	**8.26**	**256**	P	**Pn**	**12 55 57.5**	**-1.0**
4µm211nm,0.7s							
SPSI	**Sidrap Palu**	**8.57**	**295**	P	**Pn**	**12 56 04.1**	**+1.6**
PLAI	**Plampang**	**9.71**	**263**	P	**Pn**	**12 56 16.8**	**-0.7**
105nm,0.8s							
MRSI	**Marisa**	**9.87**	**325**	P	**Pn**	**12 56 21.8**	**+2.2**
18nm,0.7s							
FITZ	**Fitzroy Crossi**	**10.47**	**190**		**Pn**	**12 56 26.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.47**	**190**	P	**Pn**	**12 56 26.4**	**-1.2**
48nm,0.6s,baz=20,slow=10,SNR=101							
FITZ				S	**Sn**	**12 58 17.0**	**-6.8**
102nm,0.5s,baz=66,slow=20,SNR=15							
TWSI	**Taliwang, Sumb**	**10.58**	**264**	P	**Pn**	**12 56 27.2**	**-1.7**
2µm46nm,0.9s							
BAKI	**Biak**	**10.74**	**53**	P	**Pn**	**12 56 30.8**	**-0.2**
127nm,0.6s							
TOLI2	**Tolitoli**	**11.06**	**322**		**Pn**	**12 56 34.6**	**-0.6**
TOLI2	**Tolitoli**	**11.06**	**322**	P	**Pn**	**12 56 38.2**	**+3.1**
39nm,1.3s							
WAMI	**Wamena**	**11.76**	**72**	P	**P**	**12 56 47.8**	**-2.8**
SMPI	**Sarmi**	**12.51**	**63**	P	**Pn**	**12 56 52.8**	**-1.2**
53nm,1.1s							
JAGI	**Jajag, Banyuwa**	**13.26**	**266**	Pn	**Pn**	**12 57 03.4**	**-0.1**
JAGI	**Jajag, Banyu

PSA00 **Pilbara Seismi** 15.64 207 P **P** 12 57 35.2 +1.7
comp=Z,38nm,0.7s
MYLDM **Lahad Datu** 15.66 325 **Pn** 12 57 32.7 -0.6
MYLDM **Lahad Datu** 15.66 325 P **P** 12 57 36.7 +2.8
comp=Z,61nm,0.9s
PCJI **Pacitan** 16.20 267 P **P** 12 57 38.8 -1.0
COEN **Coen** 16.57 113 **Pn** 12 57 44.4 +0.1
COEN **Coen** 16.57 113 P **Pn** 12 57 45.0 +0.7
comp=Z,60nm,1.0s
UGM **Wanagama** 16.84 268 P **P** 12 57 47.2 +0.2
UGM IAmb IAmb 12 57 57.6
comp=Z,27nm,1.0s
UGM **Wanagama** 16.84 268 P **P** 12 57 47.6 +0.7
comp=Z,57nm,1.1s
AS31 **Alice Springs** 16.99 160 P **Pn** 12 57 49.9 +0.5
ASAR **Alice Springs** 16.99 160 P **Pn** 12 57 50.1 +0.7
comp=Z,58nm,0.6s,baz=342,slow=12,SNR=296
ASAR S **S** 13 00 53.9 -3.1
comp=Z,26nm,0.8s,baz=324,slow=18,SNR=9.4
AS01 **Alice Springs** 17.01 159 P **Pn** 12 57 50.8 +1.2
comp=Z,106nm,0.9s
WRKA **Warakurna** 17.23 178 P **Pn** 12 57 53.1 +0.8
comp=Z,62nm,0.8s
QIS **Mount Isa** 17.30 139 P **Pn** 12 57 54.0 +0.9
comp=Z,28nm,0.6s
KKM **Kota Kinabalu** 17.73 320 P **P** 12 57 56.8 +0.1
KKM **Kota Kinabalu** 17.73 320 P **Pn** 12 57 59.7 +1.4
comp=Z,70nm,1.1s
STKI **Sintang** 17.77 295 P **P** 12 57 57.8 +0.7
SBUM **Sibu** 18.31 303 P **P** 12 58 01.4 -1.6
SBUM IAmb IAmb 12 58 07.2
comp=Z,20nm,0.7s
SBUM **Sibu** 18.31 303 P **Pn** 12 58 06.2 +1.2
comp=Z,33nm,1.1s
CMJI **Cimerak** 18.90 269 P **P** 12 58 07.7 -1.7
comp=Z,70nm,1.1s
MTSU **Mount Surprise** 19.34 124 P **Pn** 12 58 16.2 -1.0
comp=Z,50nm,0.8s
KSM **Kuching** 19.45 297 P **P** 12 58 15.2 -0.1
PMG **Port Moresby** 19.49 96 P **Pn** 12 58 18.4 -0.5
comp=Z,71nm,0.8s,baz=297,slow=6.8,SNR=21
PMG S **S** 13 01 46.9 0.0
comp=Z,10.0nm,0.8s,baz=276,slow=22,SNR=2.1
LEM **Lembang** 19.77 271 P **P** 12 58 19.2 +0.3
comp=Z,24nm,0.6s,baz=131,slow=9.8,SNR=4.2
LEM S **S** 13 01 48.5 -4.2
comp=Z,11nm,0.4s,baz=0.0,slow=19,SNR=1.7
CNJI **Cibinong** 20.22 270 P **P** 12 58 24.3 +0.7
comp=Z,28nm,1.0s
TPI **Tanjungpandan** 20.39 283 P **P** 12 58 26.2 +0.8
comp=Z,24nm,0.8s
MEEK **Meekatharra** 20.63 203 P **P** 12 58 30.0 +2.1
comp=Z,41nm,0.4s
OOD **Oodnadatta** 21.41 160 P **P** 12 58 37.4 +1.3
comp=Z,63nm,0.6s
CGJI **Cibinong** 21.69 272 P **P** 12 58 37.5 -1.7
comp=Z,35nm,1.0s
TGY **Tagaytay City** 22.65 343 P **P** 12 58 48.5 0.0
comp=Z,263nm,0.4s,baz=158,slow=8.8,SNR=6.3
FORT **Forrest** 22.94 179 P **P** 12 58 52.0 +1.0
FORT **Forrest** 22.94 179 P **P** 12 58 53.1 +2.1
comp=Z,63nm,0.7s
PMBI **Palembang** 23.14 281 P **P** 12 58 56.9 +3.9
comp=Z,593nm,0.6s
PMBI **Palembang** 23.14 281 P **P** 12 58 57.5 +4.5
INKA **Innaminka** 23.52 149 P **P** 12 58 58.4 +2.1
comp=Z,69nm,1.0s
MORW **Morawa** 23.83 206 P **P** 12 58 59.0 -0.1
MORW **Morawa** 23.83 206 P **P** 12 59 01.3 +2.2
comp=Z,29nm,0.9s
QLP **Quilpie** 24.58 142 P **P** 12 59 08.0 +2.1
comp=Z,33nm,0.8s
LCRK **Leigh Creek** 24.73 157 P **P** 12 59 09.2 +1.9
comp=Z,59nm,0.8s
BLDU **Ballidu** 24.92 203 P **P** 12 59 11.1 +2.0
comp=Z,21nm,1.7s
MYKOM **Kota Tinggi** 25.43 291 P **P** 12 59 13.3 -0.6
MYKOM IAmb IAmb 12 59 16.4
comp=Z,14nm,0.8s
KLBR **Kellerberrin** 25.44 200 P **P** 12 59 15.7 +2.0
comp=Z,20nm,0.6s
BBOO **Buckleboo** 26.19 164 P **P** 12 59 19.6 -0.9
BBOO IAmb IAmb 12 59 23.3
comp=Z,16nm,1.0s
NWAO **Narrogin (SRO)** 26.83 199 P **P** 12 59 25.1 -1.1
NWAO IAmb IAmb 12 59 28.9
comp=Z,6.9nm,0.6s
STKA **Stephens Creek** 27.38 153 P **P** 12 59 29.8 -1.2
STKA **Stephens Creek** 27.38 153 P **P** 12 59 32.7 +1.6
comp=Z,3.6nm,0.5s,baz=328,slow=8.6,SNR=8.8
comp=Z,3.6nm,0.5s
PPI **Padang Panjang** 27.98 284 P **P** 12 59 37.4 +0.7
IPM **Ipoh** 29.08 294 P **P** 12 59 46.9 +0.4
CMSA **Čobar Meteorol** 29.13 147 P **P** 12 59 48.5 +1.9
comp=Z,14nm,1.3s
KULM **Kulim** 29.76 295 P **P** 12 59 52.5 +0.1
RPSI **Rantau Prapat** 30.35 289 P **P** 12 59 57.4 -0.2
GSI **Gunungsitoli** 31.19 285 P **P** 13 00 04.7 -0.3
comp=Z,15nm,1.3s
TPUB **Ta-pu** 31.56 348 P **P** 13 00 06.2 -1.9
UBPT **Khong Chiam** 31.62 316 P **P** 13 00 08.8 +0.1
ARPS **Mount Arapiles** 31.72 158 P **P** 13 00 11.0 +1.7
comp=Z,27nm,0.9s
SSLB **Suanglung** 31.97 349 P **P** 13 00 09.8 -1.8
SRIT **Nakonsritamara** 32.20 300 P **P** 13 00 14.7 +0.8
TOO **Toolangi** 33.89 154 P **P** 13 00 28.4 +0.2
BSI **Banda Aceh** 34.73 291 P **P** 13 00 36.0 +0.3
comp=Z,2μmcomp=Z,22nm,1.4s
CM31 **Chiang Mai Arr** 38.37 313 P **P** 13 01 07.0 +0.5
CM31 IAmb IAmb 13 01 08.6
comp=Z,5.6nm,0.7s
CMAR **Chiang Mai Arr** 38.37 313 P **P** 13 01 05.9 -0.6
CMAR **Chiang Mai Arr** 38.37 313 P **P** 13 01 06.2 -0.3
comp=Z,5.0nm,0.6s,baz=140,slow=6.7,SNR=42
CMAR PcP **PcP** 13 03 16.9 +0.2
comp=Z,1.9nm,0.6s,baz=132,slow=3.1,SNR=7.2
CMAR ScP **S** 13 06 48.3 -0.4
comp=Z,0.5nm,0.3s,baz=132,slow=3.4,SNR=2.1
comp=Z,5.0nm,0.6s
CHTO **Chiang Mai** 38.59 313 P **P** 13 01 08.3 -0.1
CHTO IAmb IAmb 13 01 09.3
comp=Z,6.8nm,0.6s
WHN **Wuhan** 40.09 342 P **P** 13 01 22.5 +2.0
NJ2 **Nanjing** 40.41 349 *e*P **P** 13 01 26.5 +3.4
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
PZH **PanZhiHua** 42.23 325 P **P** 13 01 38.3 0.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
TIA **Tai'an** 44.78 348 P **P** 13 01 57.3 -1.0
TIA pmax pmax
comp=Z,5.0nm,0.7s
KSRS **Korea Array** 44.94 0 P **P** 13 01 58.4 -1.1
comp=Z,1.2nm,0.6s,baz=182,slow=9.6,SNR=7.7
comp=Z,1.2nm,0.6s
XAN **Xi'an** 45.12 338 P **P** 13 02 00.3 -0.8
XAN sP sP 13 03 05.3 +10
XAN pmax pmax
comp=Z,17nm,0.9s
MJAR **Matsushiro Arr** 45.16 12 P **P** 13 02 00.4 -0.9
comp=Z,1.2nm,0.5s,baz=198,slow=9.2,SNR=4.1
comp=Z,1.2nm,0.5s
LZH **Lanzhou** 48.94 334 *e*P **P** 13 02 31.3 +0.5
LZH sP PcP 13 03 39.9 -13
LZH pmax pmax
comp=Z,26nm,1.4s
HHC **Hu-ho-hao-te** 50.52 344 *e*P **P** 13 02 46.6 +4.0
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.5s
LSA **Lhasa** 51.06 318 P **P** 13 02 47.6 +0.3
LSA IAmb IAmb 13 02 50.5
comp=Z,9.7nm,0.6s
USRK **Ussuriysk Ar.** 51.84 4 P **P** 13 02 51.2 -1.0
comp=Z,2.2nm,0.7s,baz=188,slow=6.7,SNR=2.1
comp=Z,2.2nm,0.7s
XLT **XiLinHaoTe** 52.42 350 *e*P **P** 13 02 56.1 -0.5
XLT pmax pmax
comp=Z,6.0nm,0.7s
JKA **Kamikawa-asahi** 53.37 14 P **P** 13 03 04.7 +1.3
JKA IAmb IAmb 13 03 29.6
comp=Z,10.0nm,1.1s
GTA **Gaotai** 53.47 333 *e*P **P** 13 03 05.0 +0.6
GTA pP pP 13 03 12.4 -29
GTA pmax pmax
comp=Z,13nm,0.8s
BKZ **Black Stump Fm** 53.86 133 P **P** 13 03 08.5 +1.2
BKZ IAmb IAmb 13 03 10.8
comp=Z,9.5nm,0.9s
RTZ **Ruatahuna** 54.01 133 P **P** 13 03 10.4 +2.0
RTZ IAmb IAmb 13 03 35.5
comp=Z,14nm,1.1s
ULN **Ulaanbaatar** 58.23 344 P **P** 13 03 38.9 +0.7
ULN IAmb IAmb 13 03 40.3
comp=Z,7.9nm,1.1s
SONM **Songino Array** 58.39 343 P **P** 13 03 39.2 -0.1
SONM **Songino Array** 58.39 343 P **P** 13 03 39.4 +0.2
comp=Z,2.9nm,0.7s,baz=163,slow=7.9,SNR=17
SONM PcP **PcP** 13 04 27.7 -0.5
comp=Z,0.8nm,0.7s,baz=162,slow=5.5,SNR=3.6
comp=Z,2.9nm,0.7s
NIL **Nilore** 65.85 312 P **P** 13 04 29.7 +0.5
KSH **Kashi** 66.92 319 P **P** 13 04 36.3 +0.4
KSH pmax pmax
comp=Z,7.0nm,0.6s
TARG **Taragay, Kyrgy** 66.98 322 P **P** 13 04 37.6 +1.1
MK31 **Makanchi Array** 67.51 328 **P** 13 04 39.3 -0.1
MK31 IAmb IAmb 13 04 40.0
comp=Z,5.7nm,0.9s
MKAR **Makanchi Array** 67.51 328 P **P** 13 04 39.4 0.0
MKAR **Makanchi Array** 67.51 328 P **P** 13 04 39.1 -0.3
comp=Z,5.4nm,0.6s,baz=122,slow=8.1,SNR=62
comp=Z,5.4nm,0.6s
MAKZ **Makanchi** 67.68 328 P **P** 13 04 40.2 -0.2
BOOM **Boomskoye usch** 68.55 321 P **P** 13 04 46.3 +0.2
BOOM IAmb IAmb 13 04 46.7
comp=Z,5.3nm,0.6s
KBL **Kabul** 69.37 311 P **P** 13 04 49.9 -1.5
KBL IAmb IAmb 13 04 52.1
comp=Z,5.5nm,0.6s
AAK **Ala-Archa** 69.53 321 P **P** 13 04 52.5 +0.4
YAK **Yakutsk** 69.56 1 P **P** 13 04 51.0 -0.7
ARSB **Arslanbob** 69.81 319 P **P** 13 04 53.8 0.0
ARSB IAmb IAmb 13 04 55.7
comp=Z,4.5nm,0.6s
GAR **Garm** 70.45 316 **P** 13 04 57.1 -0.7
GAR IAmb IAmb 13 04 59.2
comp=Z,10nm,0.8s
ZAA0 **Zalesovo Array** 71.17 335 P **P** 13 05 00.4 -1.2
ZALV **Zalesovo Beam** 71.17 335 P **P** 13 05 00.4 -1.2
ZALV **Zalesovo Beam** 71.17 335 P **P** 13 05 00.3 -1.3
comp=Z,4.0nm,0.4s,baz=143,slow=5.4,SNR=22
comp=Z,4.0nm,0.4s
SIMJ **Simiganj** 71.20 315 P **P** 13 05 01.6 -0.7
SIMJ IAmb IAmb 13 05 03.4
comp=Z,6.7nm,1.1s
KURBB **Kurchatov Arra** 71.86 330 P **P** 13 05 05.5 -0.4
comp=Z,5.3nm,0.6s,baz=133,slow=5.1,SNR=76
comp=Z,5.3nm,0.6s
KURK **Kurchatov** 71.88 330 **P** 13 05 05.7 -0.2
KURK IAmb IAmb 13 05 06.1
comp=Z,7.8nm,0.7s
VNDA **Vanda** 72.04 173 P **P** 13 05 08.6 +2.1
comp=Z,3.9nm,0.9s,baz=321,slow=9.8,SNR=2.4
comp=Z,3.9nm,0.9s
KK31 **Karatay Array** 72.28 320 P **P** 13 05 08.8 +0.3
KKAR **Karatay Array** 72.28 320 P **P** 13 05 08.4 -0.1
HRA **Herat** 74.47 309 P **P** 13 05 21.6 -0.2
HRA IAmb IAmb 13 05 23.2
comp=Z,6.6nm,0.8s
UOSS **Minazif** 76.58 298 P **P** 13 05 32.9 -0.8
BVAR **Borovoye Array** 77.38 329 P **P** 13 05 36.8 -0.8
comp=Z,3.1nm,0.4s,baz=131,slow=6.7,SNR=26
comp=Z,3.1nm,0.4s
BRVK **Borovoye** 77.45 329 P **P** 13 05 37.7 -0.3
TIXI **Tiksi** 79.21 0 P **P** 13 05 46.6 -0.6
TIXI IAmb IAmb 13 05 49.6
comp=Z,3.4nm,0.5s
ABKAR **Akbulak array** 81.56 322 P **P** 13 05 59.6 -0.6
NRIK **Noril'sk** 81.68 347 P **P** 13 06 00.7 +0.3
NRIK IAmb IAmb 13 06 03.1
comp=Z,8.1nm,1.1s
NRIK **Noril'sk** 81.68 347 P **P** 13 06 00.5 +0.1
comp=Z,5.9nm,0.8s,baz=140,slow=8.0,SNR=10
comp=Z,5.9nm,0.8s
SYO **Syowa Base** 82.10 201⇓ *e*P **P** 13 06 02.0 -0.7
QSPA **South Pole Qui** 82.26 180 P **P** 13 06 04.8 +1.1
comp=Z,3.3nm,0.8s,baz=268,slow=2.2,SNR=22
comp=Z,3.3nm,0.8s
ARTI **Arti** 85.11 329 P **P** 13 06 17.8 -0.4
ARTI IAmb IAmb 13 06 18.4
comp=Z,8.0nm,1.0s
RAYN **Ar Rayn** 85.80 294 P **P** 13 06 21.7 -0.7
RAYN IAmb IAmb 13 06 23.1
comp=Z,8.0nm,0.8s
L14K **Kuka Creek** 87.25 27 P **P** 13 06 28.5 0.0
L14K IAmb IAmb 13 06 37.5
comp=Z,9.5nm,1.1s
M14K **Bethel** 87.36 28 P **P** 13 06 28.6 -0.5
M14K IAmb IAmb 13 06 55.1
comp=Z,9.8nm,1.1s
K15K **Wolf Creek Mou** 88.10 26 P **P** 13 06 33.1 +0.6
K15K IAmb IAmb 13 06 40.2
comp=Z,6.4nm,1.1s
M16K **Timber Creek** 88.84 28 P **P** 13 06 35.1 -1.0
M16K IAmb IAmb 13 07 00.8
comp=Z,8.0nm,1.1s
C16K **Lisburne Hills** 88.88 20 P **P** 13 06 36.2 +0.1
H17K **Granite Mounta** 89.67 24 P **P** 13 06 39.6 -0.3
L18K **Granite Mounta** 90.23 27 P **P** 13 06 42.4 -0.1
C18K **Utukok River** 90.44 20 P **P** 13 06 43.0 -0.5
TTA **Tatalina** 90.72 26 P **P** 13 06 44.5 -0.4
G19K **Purcell Mounta** 91.16 23 P **P** 13 06 46.9 +0.1
H19K **Roundabout Mou** 91.24 24 P **P** 13 06 46.7 -0.5
D19K **Kuna River** 91.47 21 **P** 13 06 48.1 -0.1
E19K **Redstone River** 91.48 22 P **P** 13 06 48.4 +0.1
E19K IAmb IAmb 13 06 49.0
comp=Z,2.5nm,0.8s
J20K **Nowinta River** 91.85 25 P **P** 13 06 49.1 -0.8
STLK **Strandline Lak** 92.28 28 P **P** 13 06 51.3 -0.9
STLK IAmb IAmb 13 06 54.0
comp=Z,3.5nm,1.0s
B21K **Ikpikpuk River** 92.98 20 P **P** 13 06 54.6 -0.5
BELA **Belgrano 2** 93.95 184 P **P** 13 07 00.3 +0.7
BELA IAmb IAmb 13 07 08.6
comp=Z,4.2nm,1.1s
G23K **Bananza Creek** 94.06 23 P **P** 13 06 59.1 -1.1
G23K IAmb IAmb 13 07 01.3
comp=Z,2.9nm,0.9s
COLD **Coldfoot** 94.08 23 P **P** 13 06 60.0 -0.3
COLD IAmb IAmb 13 07 00.9
comp=Z,2.2nm,0.8s
D23K **Nanushuk River** 94.21 21 P **P** 13 07 01.1 +0.3
D23K IAmb IAmb 13 07 02.5
comp=Z,2.5nm,0.9s
C23K **Itkillik River** 94.39 20 P **P** 13 07 01.3 -0.3
F24K **Squaw Lake** 95.01 23 P **P** 13 07 05.1 +0.6
C24K **Franklin Bluff** 95.03 20 P **P** 13 07 04.0 -0.4
C24K IAmb IAmb 13 07 31.4
comp=Z,2.3nm,1.0s
ILAR **Eielson Array** 95.05 25 P **P** 13 07 04.0 -0.7
comp=Z,0.2nm,0.6s,baz=270,slow=5.4,SNR=4.1
comp=Z,0.2nm,0.6s
C27K **Jago River** 96.75 21 P **P** 13 07 12.9 +0.5
L27K **Beaver Creek,** 97.12 27 P **P** 13 07 14.1 -0.1
BCAR **Beaver Creek A** 97.14 27 P **P** 13 07 14.3 0.0
I28M **Miner Creek** 98.03 25 P **P** 13 07 18.1 -0.2
ARCES **ARCESS Array B** 101.39 339 P **Pdif** 13 07 31.1 -1.9
comp=Z,5.7nm,0.9s,baz=74,slow=5.0,SNR=5.2
ARCES PKiKP **PKiKP** 13 11 56.6 +0.3
comp=Z,3.4nm,0.9s,baz=90,slow=1.0,SNR=6.5
YKA **Yellowknife Ar** 109.47 26 PKiKP **PKiKP** 13 12 11.2 -0.2
comp=Z,0.5nm,0.5s,baz=290,slow=2.2,SNR=14
YKA PKKPbc **PKKPbc** 13 23 17.4 -2.0
comp=Z,0.3nm,0.8s,baz=131,slow=3.2,SNR=3.8
NVAR **Mina Array Bea** 113.66 51 PKiKP **PKiKP** 13 12 21.3 +0.9
comp=Z,1.2nm,1.0s,baz=244,slow=2.5,SNR=4.9
EKA **Eskdalemuir Ar** 118.60 330 PKP **PKPdf** 13 12 29.4 +0.3
comp=Z,0.4nm,0.2s,baz=32,slow=1.8,SNR=1.7
PDAR **Pinedale Array** 119.14 45 PKP **PKPdf** 13 12 31.1 +0.3
comp=Z,0.4nm,0.4s,baz=54,slow=3.3,SNR=12
PDAR PKKPbc **PKKPbc** 13 22 46.3 +0.2
comp=Z,0.3nm,0.6s,baz=114,slow=3.7,SNR=3.4
ULM **Lac du Bonnet** 124.38 32 PKP **PKPdf** 13 12 40.0 -0.4
comp=Z,2.8nm,0.6s,baz=342,slow=2.1,SNR=8.8
ESDC **Sonseca Array** 126.27 314 PKP **PKPdf** 13 12 44.8 +0.4
comp=Z,1.6nm,1.0s,baz=8.5,slow=3.0,SNR=4.4
TXAR **Lajitas Array** 127.40 59 PKP **PKiKP** 13 12 47.8 +0.3
comp=Z,0.3nm,0.5s,baz=167,slow=3.4,SNR=7.0
SCHQ **Schefferville** 131.63 11 PKP **PKiKP** 13 12 55.3 +0.2
comp=Z,2.1nm,0.5s,baz=316,slow=1.8,SNR=10
AC02 **Maricunga** 142.04 155 PKPdf **PKPdf** 13 13 12.1 -2.7
GO02 **Mina Guanaco** 143.31 153 PKPdf PKPbc 13 13 15.1 +0.7
CPUP **Villa Florida** 145.82 172 PKPbc **PKPab** 13 13 22.7 +0.5
comp=Z,2.4nm,0.4s,baz=144,slow=2.2,SNR=8.5
PB12 **IPOC Station P** 148.46 146 PKPab **PKiKP** 13 13 30.9 +0.3
LPAZ **La Paz** 151.55 147 PKPbc **PKiKP** 13 13 38.8 +1.1
comp=Z,3.5nm,0.4s,baz=30,slow=6.1,SNR=18
BOAV **Boa Vista** 170.40 123 PKPdf **PKPdf** 13 13 47.8 -2.5

---

*INMG **22** 13:02:10.5±1.7, 33.°30N×6.°40W, h31km±17km, ML2.2, Error ellipse: s-maj=8.2km s-min=6.0km az=165.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
*MDD **22** 13:02:10.5±0.6, 33.°31N×6.°46W, h37km±18km, Mb4.3/8, M_mb3.7/8, Error ellipse: s-maj=5.6km s-min=4.9km az=146.0*
*IGIL **22** 13:02:13.4, 33.°40N×6.°41W, h31km*
ISC 22 13:02:16.1±3.5, **33.°9N**±0.°2×**6.°32W**±0.°08, **h10**km, **n22**, σ1§**15**/36, **5C**, **Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**2.95**	**7**	Pn	**Pn**	**13 03 02.7**	**-0.3**
ESPR	188nm,SNR=1.5			⇑*i*Vmb_V		13 03 02.9	
ESPR				Sn	**Sb**	**13 03 42.6**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.55**	**339**	*e*P	**Pn**	**13 03 10.8**	**-0.5**
PBDV				*e*S	**Sn**	**13 03 54.4**	**+1.1**
PVAQ	**Vaqueiros**	**3.64**	**342**	*e*P	**Pn**	**13 03 12.6**	**+0.1**
PVAQ				*e*S	**Sn**	**13 03 56.8**	**+1.3**
EGRO	**El Granado**	**3.71**	**346**	Pn	**Pn**	**13 03 14.5**	**+1.0**
EGRO	267nm,SNR=1.9			⇑*i*Vmb_V		13 03 17.3	
EGRO				Sn	**Sn**	**13 03 57.7**	**+0.5**
PFVI	**Vila Bisbo**	**3.78**	**328**	*e*P	**Pn**	**13 03 13.4**	**-1.1**
EMIN	**Mina Concepcio**	**3.83**	**356**	Pn	**Pn**	**13 03 14.4**	**-0.8**
EMIN	197nm,SNR=1.7			⇑*i*Vmb_V		13 03 20.0	
EMIN				Sn	**Sn**	**13 04 00.4**	**+0.1**
MORF	**Marmelete**	**3.86**	**331**	*e*P	**Pn**	**13 03 14.6**	**-1.0**
MORF	**Marmelete**	**3.86**	**331**	*e*P	**Pn**	**13 03 14.7**	**-0.8**
PCVE	**Castro Verde**	**3.94**	**340**	*e*P	**Pn**	**13 03 16.7**	**0.0**
PCVE				*e*S	**Sn**	**13 04 04.0**	**+1.1**
PTEO	**Sao Teotonio**	**4.09**	**332**	*e*P	**Pn**	**13 03 18.2**	**-0.6**
MESJ	**Messejana**	**4.18**	**339**	*e*P	**Pn**	**13 03 19.5**	**-0.5**
MESJ	**Messejana**	**4.18**	**339**	*e*P	**Pn**	**13 03 20.2**	**+0.1**
MESJ				*e*S	**Sn**	**13 04 11.4**	**+2.4**
ECAB	**El Cabril**	**4.19**	**10**	Pn	**Pn**	**13 03 18.9**	**-1.2**
ECAB				Sn	**Sn**	**13 04 12.9**	**+3.7**
PBAR	**Barrancos**	**4.27**	**352**	*e*P	**Pn**	**13 03 22.0**	**+0.9**
PBAR				*e*S	**Sn**	**13 04 11.9**	**+0.9**
PBAR				*i* AML	AML	13 04 16.2	
PBAR				*i* AML	AML	13 04 16.4	
EADA	**Adamuz**	**4.45**	**18**	Pn	**Pn**	**13 03 23.8**	**+0.1**
EADA	145nm,SNR=1.7			⇑*i*Vmb_V		13 03 30.8	
EADA				Sn	**Sn**	**13 04 16.0**	**+0.4**
EQES	**Quesada**	**4.67**	**33**	Sn	**Sn**	**13 04 21.8**	**+0.6**
EBAD	**Badajoz**	**4.84**	**354**	Pn	**Pn**	**13 03 29.6**	**+0.6**
EBAD	202nm,SNR=1.9			⇑*i*Vmb_V		13 03 30.2	
EBAD				Sn	**Sn**	**13 04 24.0**	**-1.1**
PESTR	**Estremoz**	**5.02**	**349**	*e*S	**Sn**	**13 04 30.7**	**+1.0**
PSIM	**Granatula de C**	**5.29**	**22**	Pn	**Pn**	**13 03 35.7**	**+0.4**
PSIM				Sn	**Sn**	**13 04 37.7**	**+1.3**
PMTG	**Montargil**	**5.34**	**344**	*e*P	**Pn**	**13 03 36.9**	**+1.0**
PMTG				*e*S	**Sn**	**13 04 38.2**	**+0.7**
PMRV	**Marv??o**	**5.54**	**351**	*e*P	**Pn**	**13 03 38.7**	**0.0**
PMRV				*e*S	**Sn**	**13 04 43.0**	**+0.5**
PMRV				*i* AML	AML	13 04 44.4	
PMRV				*i* AML	AML	13 04 45.7	
PMRV				*i* AML	AML	13 04 45.8	
PAB	**San Pablo**	**5.81**	**15**	Sn	**Sn**	**13 04 48.6**	**-0.7**

KRSC 22 13:25:00.1±2.2, **48.°14N**×**156.°46E**, **h6**km±41km, **Ml4.0**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.55**	**355**	*e*P	Pn	13 25 41.8	-0.1
SKR				*e*S	Sn	13 26 14.5	+1.2
PAU	**Pauzhetka**	**3.34**	**4**	*e*P	Pn	13 25 56.0	+3.3
PAU				*e*S	Sb	13 26 37.0	-3.4
KDTR	**Khodutka, Kamc**	**3.82**	**15**	*e*P	Pn	13 26 02.7	+3.5
KDTR				*e*S	Sb	13 26 50.1	-4.0
RUS	**Russkaya**	**4.49**	**16**	*e*P	Pn	13 26 11.8	+3.3
GRL	**Gorelyy**	**4.53**	**13**	*e*P	Pn	13 26 13.3	+4.0
KRMR	**Karymshinskiy**	**4.81**	**12**	*e*P	Pn	13 26 17.5	+4.6
UGLR	**Uglovaya**	**5.29**	**16**	*e*P	Pn	13 26 24.2	+4.6
AVH	**Avacha**	**5.33**	**15**	*e*P	Pn	13 26 26.2	+6.1
KOK	**Koryaka**	**5.34**	**14**	*e*P	Pn	13 26 25.3	+5.1
KRX	**Arik**	**5.41**	**14**	*e*P	Pn	13 26 25.9	+4.7
KBTR	**Krutoberegovo**	**8.97**	**23**	*e*P	Pn	13 27 14.9	+4.9

---

*IDC **22** 14:02:30.8±1.9, 24.°09S×179.°48E, h537km±20km, mb3.3/10, mbtmp4.1/13, Error ellipse: s-maj=21.0km s-min=15.7km az=92.0*
ISC 22 14:02:30.3±0.7, **24.°18S**±0.°09×**179.°6E**±0.°2, **h537**km, **n25**, σ0§**92**/25, **mb3.7**/10, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.57**	**347**	P	**P**	**14 04 13.4**	**-0.5**
	2.1nm,0.4s,baz=285,slow=23,SNR=4.6						
DZM	**Mont Dzumac**	**12.24**	**277**	P	**P**	**14 05 12.6**	**+1.0**
	5.7nm,0.5s,baz=205,slow=21,SNR=14						
URZ	**Urewera**	**14.19**	**188**	P	**P**	**14 05 31.3**	**-0.1**
	8.8nm,0.6s,baz=327,slow=3.3,SNR=14						
URZ				S	**S**	**14 07 59.1**	**-1.5**
	6.6nm,0.6s,baz=133,slow=18,SNR=7.7						
ASAR	**Alice Springs**	**41.59**	**261**	P	**P**	**14 09 31.6**	**0.0**
	2.6nm,0.9s,baz=102,slow=6.6,SNR=20						
ASAR				PcP	**PcP**	**14 11 16.6**	**+0.4**
	0.5nm,0.9s,baz=117,slow=4.6,SNR=4.9						
	2.6nm,0.9s						
WRA	**Warramunga Arr**	**41.98**	**267**	P	**P**	**14 09 34.0**	**-0.8**
	3.1nm,0.6s,baz=96,slow=8.3,SNR=27						
	3.1nm,0.6s						
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**14 12 24.5**	**+1.6**
	1.2nm,0.5s,baz=331,slow=1.3,SNR=21						
	1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**71.90**	**326**	P	**P**	**14 12 58.3**	**-0.9**
	2.7nm,0.7s,baz=152,slow=5.0,SNR=7.0						
	2.7nm,0.7s						
KSRS	**Korea Array**	**78.20**	**320**	P	**P**	**14 13 35.0**	**+0.6**
	1.6nm,0.7s,baz=135,slow=6.0,SNR=7.6						
	1.6nm,0.7s						
PETK	**Petropavlovsk-**	**79.28**	**347**	P	**P**	**14 13 39.6**	**-0.1**
	1.3nm,0.6s,baz=126,slow=7.9,SNR=9.1						
	1.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**80.78**	**327**	P	**P**	**14 13 48.3**	**+0.5**
	1.7nm,0.7s,baz=142,slow=4.9,SNR=3.1						
	1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.24**	**291**	P	**P**	**14 14 30.8**	**+1.1**
	0.8nm,0.7s,baz=130,slow=3.6,SNR=7.6						
	0.8nm,0.7s						
TXAR	**Lajitas Array**	**90.93**	**58**	P	**P**	**14 14 39.2**	**+1.9**
	0.4nm,0.8s,baz=298,slow=2.5,SNR=3.0						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**92.40**	**14**	P	**P**	**14 14 42.2**	**-0.9**
	0.3nm,0.9s,baz=210,slow=4.7,SNR=2.6						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	**PKiKP**	**14 20 03.4**	**-1.2**
	0.2nm,0.5s,baz=85,slow=1.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**115.17**	**316**	PKiKP	**PKPdf**	**14 20 09.4**	**-1.0**
	0.2nm,0.2s,baz=103,slow=1.8,SNR=5.3						
BVAR	**Borovoye Array**	**120.38**	**319**	PKP	**PKPdf**	**14 20 19.8**	**-0.6**
	0.7nm,0.4s,baz=115,slow=1.5,SNR=4.8						
SPITS	**Spitsbergen Ar**	**125.37**	**356**	PKP	**PKPdf**	**14 20 28.9**	**-0.4**
	16nm,1.0s,baz=88,slow=2.8,SNR=6.3						
ARCES	**ARCESS Array B**	**132.08**	**348**	PKP	**PKPdf**	**14 20 41.6**	**-0.6**
	8.1nm,1.1s,baz=96,slow=2.5,SNR=9.1						
FINES	**FINESS Array B**	**138.58**	**341**	PKhKP	PKPpre	14 20 41.3	
	1.7nm,0.8s,baz=90,slow=5.7,SNR=3.6						
FINES				PKP	**PKPdf**	**14 20 54.2**	**-0.3**
	1.1nm,0.6s,baz=64,slow=4.4,SNR=6.7						
NOA	**NORSAR Array B**	**142.29**	**351**	PKhKP	PKPpre	14 20 57.2	
	0.2nm,0.5s,baz=312,slow=2.2,SNR=4.0						
HFS	**Hagfors**	**142.74**	**348**	PKhKP	PKPpre	14 20 58.7	
	6.8nm,0.3s,baz=60,slow=3.6,SNR=67						
AKASG	**Malin Array Be**	**144.98**	**327**	PKP	**PKPdf**	**14 21 05.7**	**-0.5**

2.3nm,0.5s,baz=42,slow=4.1,SNR=11
BRTR Keskin Array B 147.42 307 PKPbc **PKPbc 14 21 13.7 -0.6**
2.5nm,0.6s,baz=130,slow=5.2,SNR=7.0
MMAI Mount Meron Ar 147.44 294 PKPbc **PKPbc 14 21 14.6 +0.2**
2.5nm,0.5s,baz=60,slow=4.9,SNR=12
EKA Eskdalemuir Ar 148.82 3 PKPbc **PKPbc 14 21 16.2 -0.8**
0.5nm,0.3s,baz=351,slow=3.3,SNR=6.4

NOU 22 14:08:19.5, 15°.08S×167°.15E, h72km, mb3.7/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.81**	**159**	P	Pn	14 09 01.7	-0.5
DVP	**Devils Point**	**2.81**	**159**	S	Sn	14 09 35.6	+0.6
KOUNC	**Koumac, New Ca**	**6.09**	**206**	P	Pn	14 09 47.2	+0.3
YATNC	**Mamie plateau,**	**6.95**	**182**	P	Pn	14 09 58.8	+0.1
DZM	**Mont Dzumac**	**6.99**	**185**	P	Pn	14 09 57.9	-1.4
DZM	**Mont Dzumac**	**6.99**	**185**	S	Sn	14 11 17.2	-0.1
OUENC	**Ouen Island, N**	**7.30**	**182**	P	Pn	14 10 04.1	+0.5
OUENC	**Ouen Island, N**	**7.30**	**182**	S	Sn	14 11 25.8	+0.8
PINNC	**Pines Island,**	**7.50**	**178**	P	Pn	14 10 07.3	+1.1

---

*BUT **22** 14:09:50.7±1.5, 45°.90N±0°.03×111°.33W±0°.03, h5km±6km, Error ellipse: s-maj=4.3km s-min=2.8km az=220.0*

NEIC 22 14:09:51.3±1.0, 45°.87N±0°.03×111°.35W±0°.03, h5km±6km, ML2.7/54, ML2.8/24(BUT), Error ellipse: s-maj=4.3km s-min=2.7km az=223.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.04**	**14**		Pg	14 09 53.0	+0.3
BOZ	**Bozeman (W)**	**0.34**	**217**		Pg	14 09 58.0	+0.2
BOZ					Sg	14 10 02.4	+0.1
BOZ				IAML		14 10 02.7	
	1μm,0.2s						
YMV	**Mammoth Vault**	**1.00**	**152**		Pg	14 10 10.4	-0.2
DLMT	**Dillon**	**1.01**	**241**		Pg	14 10 10.3	-0.4
DLMT				IAML		14 10 27.7	
	284nm,0.3s						
DLMT				IAML		14 10 27.8	
	282nm,0.2s						
YHL	**Hebgen Lake**	**1.02**	**173**		Pg	14 10 10.4	-0.5
YHL				IAML		14 10 28.7	
	comp=E,188nm,0.5s						
YHL				IAML		14 10 28.9	
	comp=N,178nm,0.4s						
YHB	**Horse Butte**	**1.12**	**175**		Pg	14 10 12.2	-0.6
YHB				IAML		14 10 30.1	
	comp=N,195nm,0.4s						
YHB				IAML		14 10 30.3	
	comp=E,198nm,0.6s						
YHH	**Holmes Hill**	**1.13**	**162**		Pg	14 10 12.4	-0.6
YMC	**Maple Creek**	**1.13**	**168**		Pg	14 10 12.4	-0.6
YPDC	**Denny Creek**	**1.16**	**176**		Pn	14 10 14.2	-0.1
YMR	**Madison River**	**1.23**	**167**		Pg	14 10 14.2	-0.6
YMR				IAML		14 10 34.0	
	comp=E,119nm,0.6s						
YMR				IAML		14 10 37.0	
	comp=N,145nm,0.5s						
YNM	**Yellowstone No**	**1.23**	**158**	Pg	Pg	14 10 14.4	-0.3
YNM				IAML		14 10 18.2	
	comp=N,88nm,0.3s						
YNM				IAML		14 10 39.1	
	comp=E,95nm,0.3s						
YNR	**Norris Junctio**	**1.24**	**158**		Pg	14 10 14.5	-0.6
YNR				IAML		14 10 20.1	
	comp=E,59nm,0.5s						
YNR				IAML		14 10 34.9	
	comp=N,55nm,0.3s						
YPM	**Purple Mountai**	**1.25**	**164**		Pb	14 10 15.4	-0.1
YPWB	**West Boundary**	**1.27**	**172**		Pg	14 10 15.4	-0.2
YNE	**Yellowstone No**	**1.27**	**132**		Pg	14 10 15.0	-0.7
YNE				IAML		14 10 35.0	
	comp=E,248nm,0.5s						
YPSB	**Soda Butte**	**1.29**	**139**		Pn	14 10 16.1	0.0
YUF	**Upper Falls**	**1.29**	**153**		Pg	14 10 15.7	-0.4
YML	**Mary Lake**	**1.35**	**158**		Pb	14 10 17.7	+0.5
YMP	**Mirror Lake Pl**	**1.41**	**143**		Pn	14 10 17.6	-0.2
YMP				IAML		14 10 38.9	
	comp=E,181nm,0.4s						
YMP				IAML		14 10 39.3	
	comp=N,204nm,0.3s						
YFT	**Old Faithful**	**1.46**	**166**		Pn	14 10 18.7	+0.3
H17A	**Grant Village**	**1.57**	**159**		Pn	14 10 20.1	+0.1
RLMT	**Red Lodge**	**1.64**	**116**		Pn	14 10 20.6	-0.3
RLMT				IAML		14 10 45.4	
	comp=N,105nm,0.3s						
YTP	**The Promontory**	**1.66**	**153**		Pb	14 10 22.5	+0.2
MCID	**Moose Creek**	**1.68**	**176**		Pn	14 10 21.6	+0.2
FLWY	**Flagg Ranch**	**1.84**	**165**		Pb	14 10 24.8	-0.7
ICI	**Italian Canyon**	**1.91**	**217**		Pn	14 10 24.1	-0.5
MSO	**Missoula**	**2.04**	**299**	Pn	Pn	14 10 26.5	+0.2
MSO				IAML		14 10 58.5	
	comp=N,51nm,0.5s						
MSO				IAML		14 10 59.4	
	comp=N,61nm,0.5s						
BCYI	**Bear Canyon**	**2.13**	**224**		Pn	14 10 28.1	+0.5
MOOW	**Moose Ponds**	**2.16**	**168**		Pn	14 10 29.3	+1.2
FXWY	**Fox Creek**	**2.24**	**174**	Pn	Pb	14 10 31.6	-0.7
LOHW	**Long Hollow**	**2.31**	**167**	Pn	Pb	14 10 32.0	-1.5
TPAW	**Teton Pass**	**2.39**	**173**		Pb	14 10 33.4	-1.5
TPAW				IAML		14 11 18.9	
	comp=N,18nm,1.1s						
EGMT	**Eagleton**	**2.42**	**26**		Pn	14 10 32.1	+0.6
EGMT				IAML		14 11 12.9	
	comp=N,68nm,0.8s						
SNOW	**Snow King Moun**	**2.44**	**170**	Pn	Pb	14 10 34.3	-1.4
SNOW				IAML		14 11 48.8	
	comp=N,16nm,0.3s						
SNOW				IAML		14 11 53.3	
	comp=N,19nm,0.5s						
CNCI	**Crows Nest Can**	**2.45**	**218**		Pn	14 10 32.9	+0.9
HLID	**Hailey**	**3.18**	**225**		Pn	14 10 43.2	+1.2
HLID				IAML		14 11 30.9	
	comp=N,27nm,0.5s						
PLID	**Pearl Lake**	**3.37**	**258**		Pn	14 10 44.9	+0.3
PLID				IAML		14 11 38.3	
	comp=N,16nm,0.4s						
PLID				IAML		14 11 39.4	
	comp=N,13nm,0.6s						
LAO	**LASA Array**	**3.65**	**75**		Pn	14 10 50.2	+1.9
MFID	**Camas Ranch**	**4.03**	**234**		Pn	14 10 54.7	+1.0
F10A	**Beach Ranch, E**	**4.11**	**274**		Pn	14 10 55.2	+0.5
BMO	**Blue Mountains**	**4.32**	**259**	Pn	Pn	14 11 02.1	+4.4
BMO				IAML		14 12 16.5	
	comp=N,8.0nm,4.3s						
BMO				IAML		14 12 42.5	
	comp=N,8.7nm,4.9s						
E09A	**Wood Farm, Sta**	**4.77**	**280**	Pn	Pn	14 11 05.6	+1.9
C09A	**Chrisman Ranch**	**5.13**	**295**	Pn	Pn	14 11 08.3	-0.4

---

*IDC **22** 14:23:00.5±0.6, 29°.33S×178°.80W, h203km±6km, mb3.5/4, mbtmp4.1/6, Error ellipse: s-maj=21.3km s-min=17.7km az=98.0*

ISC 22 14:23:00.1±0.6, 29°.46S±0°.09×179°.0W±0°.1, h200km, n18, σ1§47/20, mb3.8/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**78**	P	**Pn**	**14 23 29.8**	**+0.3**
	943nm,0.2s,baz=95,slow=8.1,SNR=23						
RAO				S	**Sn**	**14 23 51.7**	**-0.5**
	512nm,0.3s,baz=127,slow=23,SNR=2.7						
URZ	**Urewera**	**9.36**	**199**	P	**Pn**	**14 25 12.3**	**+1.5**
	5.9nm,0.6s,baz=229,slow=11,SNR=2.0						
URZ				S	**Sn**	**14 26 51.6**	**-4.0**
	10nm,0.5s,baz=309,slow=24,SNR=17						
MSVF	**Nonsavu**	**11.98**	**346**	P	**Pn**	**14 25 43.1**	**-1.8**
	7.8nm,0.9s,baz=248,slow=18,SNR=4.4						
ASAR	**Alice Springs**	**42.31**	**266**	P	**P**	**14 30 35.5**	**+1.1**
	0.6nm,0.7s,baz=103,slow=8.4,SNR=17						
ASAR				PcP	**PcP**	**14 32 24.1**	**-0.2**
	0.2nm,0.5s,baz=115,slow=4.8,SNR=5.2						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.21**	**272**	P	**P**	**14 30 43.5**	**+1.8**
	1.1nm,0.4s,baz=110,slow=7.9,SNR=14						
	1.1nm,0.4s						
QSPA	**South Pole Qui**	**60.65**	**180**	P	**P**	**14 32 51.1**	**+1.3**
	1.2nm,0.5s,baz=13,slow=0.6,SNR=21						
	1.2nm,0.5s						
PETK	**Petropavlovsk-**	**84.69**	**346**	P	**P**	**14 35 11.8**	**+0.9**
	2.1nm,0.6s,baz=111,slow=7.4,SNR=9.6						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**116.51**	**311**	PKP	**PKPdf**	**14 41 19.0**	**-0.9**
	0.2nm,0.5s,baz=236,slow=1.2,SNR=4.5						
KURBB	**Kurchatov Arra**	**119.82**	**314**	PKP	**PKPdf**	**14 41 25.2**	**-0.8**
	0.7nm,0.5s,baz=106,slow=1.8,SNR=8.7						
BVAR	**Borovoye Array**	**125.14**	**316**	PKP	**PKPdf**	**14 41 35.6**	**-0.6**
	1.3nm,0.6s,baz=98,slow=0.4,SNR=7.3						
ARCES	**ARCESS Array B**	**137.49**	**348**	PKP	**PKPdf**	**14 41 57.4**	**-1.7**
	0.6nm,0.5s,baz=23,slow=4.0,SNR=4.1						
FINES	**FINESS Array B**	**143.97**	**340**	PKP	PKPab	14 42 08.6	-0.1
	3.3nm,0.4s,baz=50,slow=4.5,SNR=48						
NB2	**NORSAR Subarra**	**147.69**	**351**	PKP	**PKPbc**	**14 42 19.6**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=16,slow=2.9						
NOA	**NORSAR Array B**	**147.69**	**351**	PKPbc	**PKPdf**	**14 42 18.9**	**+1.7**
	comp=Z,0.7nm,0.8s,baz=68,slow=1.6,SNR=5.9						
HFS	**Hagfors**	**148.15**	**348**	PKPbc	**PKPbc**	**14 42 21.2**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=47,slow=6.5,SNR=11						
AKASG	**Malin Array Be**	**150.03**	**323**	PKPbc	**PKPbc**	**14 42 26.2**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=50,slow=2.7,SNR=13						
MMAI	**Mount Meron Ar**	**150.46**	**286**	PKPbc	**PKiKP**	**14 42 29.3**	**+0.4**
	comp=Z,5.0nm,0.5s,baz=80,slow=6.0,SNR=16						
BRTR	**Keskin Array B**	**151.40**	**300**	PKPbc	**PKPbc**	**14 42 30.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=143,slow=5.5,SNR=5.0						

---

*IDC **22** 14:35:24.9±4.0, 19°.66S×177°.27W, h576km±22km, mb3.4/4, mbtmp4.3/7, Error ellipse: s-maj=72.9km s-min=28.1km az=58.0*

*NEIC **22** 14:35:26.1±1.5, 19°.4S±0°.2×177°.4W±0°.2, h576km±18km, mb4.3/20, Error ellipse: s-maj=29.9km s-min=13.7km az=49.0*

ISC 22 14:35:26.9±1.4, 19°.4S±0°.1×177°.5W±0°.2, h600km, n31, σ1§02/32, mb4.3/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**290**	P	**P**	**14 36 55.7**	**-0.9**
MSVF	**Nonsavu**	**4.55**	**290**	P	**P**	**14 36 55.0**	**-1.5**
	8.3nm,0.4s,baz=73,slow=14,SNR=15						
FUTU	**Fugatoga**	**5.09**	**353**	P	**P**	**14 36 59.5**	**-1.1**
PINNC	**Pines Island,**	**14.45**	**255**	P	**P**	**14 38 28.6**	**-1.4**
DZM	**Mont Dzumac**	**15.28**	**257**	P	**P**	**14 38 39.5**	**+1.7**
DZM	**Mont Dzumac**	**15.28**	**257**	P	**P**	**14 38 38.6**	**+0.7**
	5.1nm,0.5s,baz=74,slow=20,SNR=13						
URZ	**Urewera**	**19.39**	**193**	P	**P**	**14 39 11.6**	**-3.3**
	2.1nm,0.3s,baz=338,slow=3.4,SNR=7.8						
WHZ	**Wether Hill Ro**	**29.05**	**201**	P	**P**	**14 40 40.5**	**+0.2**
ARMA	**Armidale**	**30.01**	**242**	P	**P**	**14 40 49.8**	**+0.9**
CAN	**Canberra**	**33.55**	**235**	P	**P**	**14 41 19.2**	**+0.5**
TOO	**Toolangi**	**36.96**	**233**	P	**P**	**14 41 47.0**	**0.0**
COEN	**Coen**	**38.02**	**272**	P	**P**	**14 41 56.4**	**+0.6**
COEN				IAmb	IAmb	14 41 57.8	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**14 42 01.4**	**+0.2**
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**14 42 01.6**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=83,slow=10,SNR=5.5						
	comp=Z,2.5nm,0.6s						
BBOO	**Buckleboo**	**43.49**	**243**	P	**P**	**14 42 39.0**	**+0.2**
BBOO				IAmb	IAmb	14 43 22.1	
	comp=Z,23nm,1.3s						
WR0	**Warramunga Arr**	**45.07**	**261**	P	**P**	**14 42 51.9**	**+0.8**
WR0				IAmb	IAmb	14 42 52.8	
	comp=Z,4.4nm,0.9s						
WB0	**Warramunga Arr**	**45.23**	**261**	P	**P**	**14 42 52.0**	**-0.3**
WB0				IAmb	IAmb	14 42 54.5	
	comp=Z,6.2nm,0.9s						
WRAB	**Tennant Creek**	**45.25**	**261**	P	**P**	**14 42 51.4**	**-1.1**
WRAB				IAmb	IAmb	14 42 53.8	
	comp=Z,7.1nm,0.9s						
WRA	**Warramunga Arr**	**45.26**	**261**	P	**P**	**14 42 52.0**	**-0.6**
WRA	**Warramunga Arr**	**45.26**	**261**	P	**P**	**14 42 52.5**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=98,slow=7.9,SNR=42						
	comp=Z,1.7nm,0.4s						
AS31	**Alice Springs**	**45.27**	**256**	P	**P**	**14 42 53.0**	**+0.4**
ASAR	**Alice Springs**	**45.27**	**256**	P	**P**	**14 42 52.5**	**-0.1**
ASAR	**Alice Springs**	**45.27**	**256**	P	**P**	**14 42 53.0**	**+0.3**
	comp=Z,6.6nm,0.7s,baz=88,slow=8.1,SNR=109						
ASAR				PcP	**PcP**	**14 44 20.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=87,slow=3.4,SNR=2.5						
	comp=Z,6.6nm,0.7s						
MTN	**Manton Dam**	**49.66**	**269**	P	**P**	**14 43 25.6**	**+0.2**
MTN				IAmb	IAmb	14 43 27.1	
	comp=Z,11nm,0.7s						
KNRA	**Kununurra**	**51.24**	**265**	P	**P**	**14 43 37.5**	**+0.6**
KNRA				IAmb	IAmb	14 43 38.2	
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	**P**	**14 43 55.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	**P**	**14 43 54.7**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=149,slow=4.1,SNR=7.9						
	comp=Z,2.9nm,0.5s						
SOEI	**Soe**	**56.97**	**271**	P	**P**	**14 44 16.9**	**-0.4**
SOEI				IAmb	IAmb	14 44 20.6	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**58.41**	**256**	P	**P**	**14 44 26.5**	**-0.2**
PSA00				IAmb	IAmb	14 44 37.5	
	comp=Z,41nm,1.4s						
MBWA	**Marble Bar**	**58.59**	**257**	P	**P**	**14 44 28.4**	**+0.5**
MBWA				IAmb	IAmb	14 44 44.9	
QSPA	**South Pole Qui**	**70.68**	**180**	P	**P**	**14 45 44.9**	**+1.7**

---

*IDC **22** 14:37:30.9±1.2, 1°.88N×127°.56E, h0km, mb3.5/8, mbtmp3.5/8, Error ellipse: s-maj=96.2km s-min=17.2km az=65.0*

*DJA **22** 14:37:32.5±0.3, 2°N±2°×12°8E±°, h10km, M3.7/7, MLv3.7/7*

ISC 22 14:37:32.4±0.8, 2°.23N±0°.08×128°.0E±0°.1, h10km, n11, σ1§89/13, mb3.7/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.57**	**203**	P	**Pn**	**14 38 01.4**	**+1.1**
TNTI				S	**Sb**	**14 38 23.6**	**+2.1**
LBMI	**Labuha**	**2.89**	**190**	P	**Pn**	**14 38 19.7**	**+1.2**
SWI	**Sorong**	**4.49**	**133**	P	**Pn**	**14 38 42.8**	**+2.2**
WRA	**Warramunga Arr**	**22.90**	**164**	P	**P**	**14 42 33.5**	**-3.0**
	1.3nm,0.7s,baz=344,slow=9.1,SNR=5.8						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**26.38**	**168**	P	**P**	**14 43 08.3**	**-0.8**
	0.4nm,0.6s,baz=355,slow=10,SNR=4.4						
ASAR				PcP	**PcP**	**14 46 34.2**	**-0.8**
	0.2nm,0.6s,baz=342,slow=3.1,SNR=1.7						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.71**	**302**	P	**P**	**14 44 03.9**	**-1.5**
	0.2nm,0.4s,baz=106,slow=8.7,SNR=2.2						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**36.30**	**160**	P	**P**	**14 44 34.0**	**-2.2**
	0.7nm,0.5s,baz=339,slow=12,SNR=3.6						
	0.7nm,0.5s						
SONM	**Songino Array**	**49.11**	**341**	P	**P**	**14 46 22.5**	**+2.2**
	0.1nm,0.4s,baz=152,slow=8.4,SNR=3.6						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**59.49**	**325**	P	**P**	**14 47 36.8**	**+1.0**
	0.4nm,0.6s,baz=115,slow=7.8,SNR=7.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.67**	**327**	P	**P**	**14 48 04.0**	**+0.1**
	0.4nm,0.6s,baz=128,slow=6.1,SNR=6.2						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**69.25**	**327**	P	**P**	**14 48 39.5**	**-0.1**
	0.4nm,0.6s,baz=98,slow=6.0,SNR=2.8						
	0.4nm,0.6s						

---

*UCC **22** 15:20:13.0, 50°.10N×1°.15E, h0km, ML3.2, Explosion.*

*STR **22** 15:20:14.3±0.3, 50°N±4°×°±°, h0km, MLv3.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=22.3, preliminary*

ISC 22 15:20:12.4±1.2, 50°.11N±0°.04×1°.10E±0°.04, h0km, n94, σ1§02/94, 17D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.90**	**328**	P	**Pb**	**15 20 31.3**	**+0.3**
ELSH	**Elham, Standar**	**1.04**	**1**	P	**Pb**	**15 20 33.2**	**-0.1**
BOST	**Ostende**	**1.63**	**45**	*dP*	**Pb**	**15 20 42.9**	**-0.3**
BBOU	**Bougnies**	**1.85**	**80**	*dP*	**Pb**	**15 20 46.6**	**-0.4**
BSKQ	**Steenkerk**	**1.98**	**73**	*dP*	**Pn**	**15 20 47.5**	**+0.3**
BRQR	**Ronquire**	**2.06**	**75**	*dP*	**Pn**	**15 20 48.9**	**+0.7**
LOUF	**Saint-Loup**	**2.12**	**228**	P	**Pn**	**15 20 49.9**	**+0.8**
UCC	**Uccle**	**2.19**	**70**	*dP*	**Pn**	**15 20 49.9**	**-0.2**
CLF	**Chambon-Foret**	**2.22**	**160**	P	**Pb**	**15 20 54.0**	**+0.6**
DOU	**Dourbes**	**2.25**	**89**	P	**Pn**	**15 20 51.0**	**+0.2**
DOU	**Dourbes**	**2.25**	**89**	*dP*	**Pn**	**15 20 51.5**	**+0.6**
SWN1	**Swindon**	**2.32**	**308**	P	**Pn**	**15 20 52.7**	**+0.9**
JSA	**Saint Aubin**	**2.32**	**248**	P	**Pn**	**15 20 52.5**	**+0.7**
BMRD	**Maredsous**	**2.36**	**84**	*dP*	**Pn**	**15 20 52.5**	**+0.1**
BGES	**Gesves**	**2.57**	**82**	*dP*	**Pn**	**15 20 55.2**	**-0.1**
RCHB	**Rochefort**	**2.66**	**87**	P	**Pn**	**15 20 56.8**	**+0.4**
RCHB	**Rochefort**	**2.66**	**87**	*dP*	**Pn**	**15 20 56.8**	**+0.4**
BCLA	**Clavier**	**2.71**	**82**	*dP*	**Pn**	**15 20 57.9**	**+0.7**
BDSL	**Dessel**	**2.75**	**65**	*dP*	**Pn**	**15 20 56.2**	**-1.6**
PLEF	**Pleven - 22200**	**2.77**	**236**	P	**Pn**	**15 20 58.6**	**+0.6**
SAVF	**Savonnieres en**	**3.02**	**118**	P	**Pn**	**15 21 01.4**	**-0.1**
BOPT	**Opiter**	**3.06**	**69**	*dP*	**Pn**	**15 21 00.4**	**-1.5**
BOPT				*dP*	Pb	15 21 00.5	-7.2
BHOU	**Houvegnez**	**3.16**	**84**	*dP*	**Pn**	**15 21 03.8**	**+0.5**
MEM	**Membach**	**3.18**	**79**	*dP*	**Pn**	**15 21 04.2**	**+0.5**
MCH1	**Michaelchurch**	**3.21**	**308**	P	**Pn**	**15 21 03.7**	**-0.3**
LKLB	**Kalborn**	**3.22**	**88**	*dP*	**Pn**	**15 21 04.9**	**+0.7**
DYA	**Yadsworthy**	**3.25**	**278**	P	**Pn**	**15 21 04.9**	**+0.4**
LVIA	**Vianden**	**3.29**	**91**	*dP*	**Pn**	**15 21 06.0**	**+0.8**
ROSF	**Rostrenen**	**3.37**	**240**	P	**Pn**	**15 21 05.7**	**-0.6**
LOR	**Lormes**	**3.38**	**146**	P	**Pn**	**15 21 06.8**	**+0.3**
MFF	**Saint Martin d**	**3.61**	**194**	P	**Pn**	**15 21 09.0**	**-0.5**
ETNF	**Estrennes**	**3.73**	**118**	P	**Pn**	**15 21 10.6**	**-0.6**
CCA1	**Carnmenellis**	**4.07**	**274**	P	**Pn**	**15 21 15.8**	**-0.1**
VOEL	**Voellerdingen**	**4.08**	**104**	P	**Pn**	**15 21 16.0**	**-0.1**
ABH	**Alteburg**	**4.16**	**91**	P	**Pn**	**15 21 16.9**	**-0.3**
CIEL	**Dossenheim-sur**	**4.28**	**105**	P	**Pn**	**15 21 18.7**	**-0.1**
AGO	**Saint Agoulin**	**4.28**	**161**	P	**Pn**	**15 21 18.7**	**-0.1**
ECH	**Echery**	**4.40**	**113**	P	**Pn**	**15 21 19.4**	**-1.1**
WLS	**Welschbruch**	**4.43**	**110**	P	**Pn**	**15 21 20.4**	**-0.5**
VERF	**Verneugheol**	**4.46**	**167**	P	**Pn**	**15 21 20.7**	**-0.6**
LEMB	**Lembach**	**4.46**	**101**	P	**Pn**	**15 21 20.6**	**-0.7**
PLDF	**La Plantade**	**4.47**	**157**	P	**Pn**	**15 21 20.8**	**-0.7**
RIVEL	**MONT RIVEL**	**4.64**	**134**	P	**Pn**	**15 21 23.9**	**+0.2**
CHMF	**Charmoille**	**4.66**	**126**	P	**Pn**	**15 21 23.9**	**-0.1**
BRANT	**Les Verrieres**	**4.77**	**130**	P	**Pn**	**15 21 25.3**	**-0.4**
FRNF	**Fournols**	**4.83**	**168**	P	**Pn**	**15 21 25.9**	**-0.4**
BOURR	**Bourrignon**	**4.88**	**121**	P	**Pn**	**15 21 26.9**	**-0.2**
OPP	**Oppenau**	**4.91**	**106**	P	**Pn**	**15 21 27.0**	**-0.4**
COLF	**Collangettes**	**4.91**	**158**	P	**Pn**	**15 21 27.4**	**-0.2**
GIMEL	**St. Georges /**	**4.96**	**134**	P	**Pn**	**15 21 28.7**	**+0.4**
KIZ	**Kirchzarten**	**4.97**	**113**	P	**Pn**	**15 21 27.6**	**-0.7**
ENDD	**Endenburg**	**4.99**	**116**	P	**Pn**	**15 21 28.2**	**-0.4**
OG35	**Corcelles**	**5.05**	**142**	P	**Pn**	**15 21 29.8**	**+0.3**
BFO	**Black Forest**	**5.06**	**108**	P	**Pn**	**15 21 29.2**	**-0.3**
LBL	**Lubilhac**	**5.09**	**163**	P	**Pn**	**15 21 29.7**	**-0.3**
TORNY	**Torny/Romont**	**5.13**	**128**	P	**Pn**	**15 21 30.5**	**0.0**
BALST	**Balsthal**	**5.17**	**120**	P	**Pn**	**15 21 31.3**	**+0.2**
OGMY	**Moye**	**5.31**	**141**	P	**Pn**	**15 21 33.4**	**+0.4**
SSB	**Saint Sauveur**	**5.36**	**153**	P	**Pn**	**15 21 33.4**	**-0.3**
SLE	**Schleitheim**	**5.41**	**113**	P	**Pn**	**15 21 34.1**	**-0.2**
LEUC	**Leucamp**	**5.44**	**169**	P	**Pn**	**15 21 33.6**	**-1.2**
OGSM	**Saint Maurice**	**5.46**	**144**	P	**Pn**	**15 21 35.2**	**+0.2**
OGSI	**Sixt**	**5.54**	**135**	P	**Pn**	**15 21 36.7**	**+0.6**
GUT	**Gutenstein**	**5.64**	**108**	P	**Pn**	**15 21 37.0**	**-0.6**
MONQ	**Montcuq**	**5.74**	**179**	P	**Pn**	**15 21 38.4**	**-0.5**
RSL	**Roselend**	**5.77**	**138**	P	**Pn**	**15 21 39.8**	**+0.4**
REMY	**Saint-Rhmy-en**	**5.90**	**134**	P	**Pn**	**15 21 42.2**	**+1.0**
ORIF	**Oris-en-Rattie**	**6.12**	**146**	P	**Pn**	**15 21 44.9**	**+0.8**
TRAV	**Traversella**	**6.41**	**133**	P	**Pn**	**15 21 50.3**	**+2.1**
RRL	**Rocca Remolon**	**6.46**	**141**	P	**Pn**	**15 21 50.8**	**+1.8**
RSP	**Reno Superiore**	**6.48**	**138**	P	**Pn**	**15 21 51.2**	**+2.2**
CREF	**Crivoux**	**6.71**	**144**	P	**Pn**	**15 21 53.7**	**+1.4**
BHB	**Bricherasio**	**6.72**	**139**	P	**Pn**	**15 21 54.4**	**+2.1**
OGAG	**Argentiere**	**6.76**	**145**	P	**Pn**	**15 21 51.0**	**-1.9**
SURF	**Saint Ours**	**6.84**	**143**	P	**Pn**	**15 21 56.3**	**+2.2**
JAUF	**Jausiers**	**6.86**	**144**	P	**Pn**	**15 21 56.2**	**+1.9**
PZZ	**Stroppo**	**6.93**	**142**	P	**Pn**	**15 21 57.4**	**+2.0**
ORDF	**Ordiarp**	**7.04**	**192**	P	**Pn**	**15 21 55.4**	**-1.2**
OSSF	**Osses**	**7.04**	**194**	P	**Pn**	**15 21 55.6**	**-1.1**
LBAF	**Labassere**	**7.10**	**186**	P	**Pn**	**15 21 55.6**	**-1.9**
ATE	**Arette**	**7.13**	**191**	P	**Pn**	**15 21 57.3**	**-0.7**
IRAF	**Chalets d'Irat**	**7.23**	**193**	P	**Pn**	**15 21 57.5**	**-1.9**
STV	**Sant Anna di V**	**7.24**	**142**	P	**Pn**	**15 22 01.3**	**+1.9**
VIEF	**Viey**	**7.26

MTBS *eS* **Sg** **15 24 59.6 +0.4**
9.9nm,0.2s
TNSS Tian-Shan 2.20 36 Pg **Pg** **15 24 34.7 -0.1**
5.1nm,0.3s
TNSS Lg Lg 15 25 02.5
5.8nm,0.4s
TNSS Tian-Shan 2.20 36 *eP* **Pg** **15 24 34.7 -0.1**
5.1nm,0.3s
TNSS *eS* **Sg** **15 25 02.5 -0.8**
5.8nm,0.4s
MNAS Manas 2.32 302⇑*eP* **Pb** **15 24 33.1 -1.3**
MNAS ⇑*eS* **Sb** **15 25 01.9 -1.1**
MDOK Medeo 2.34 36 Pg **Pg** **15 24 38.7 +1.1**
4.7nm,0.6s
MDOK Lg Lg 15 25 09.2
5.8nm,0.5s
MDOK Medeo 2.34 36 *eP* **Pg** **15 24 38.7 +1.1**
4.7nm,0.6s
MDOK *eS* **Sg** **15 25 09.2 +1.3**
5.8nm,0.5s
ANVS Anan'yevo 2.39 50⇓*eP* **Pb** **15 24 33.5 -2.1**
ANVS ⇓*eS* **Sb** **15 25 03.0 -2.0**
KOTS Kotyrbulak 2.43 36 Pg **Pg** **15 24 40.3 +1.1**
6.4nm,0.5s
KOTS Lg Lg 15 25 11.9
14nm,0.9s
KOTS Kotyrbulak 2.43 36 *eP* **Pg** **15 24 40.3 +1.1**
6.4nm,0.5s
KOTS *eS* **Sg** **15 25 11.9 +1.3**
14nm,0.9s
KRBS Karabastau 2.44 9 Pg **Pg** **15 24 38.3 -1.2**
3.3nm,0.4s
KTBS Karatobe 2.67 24 Pg **Pg** **15 24 43.5 -0.3**
2.4nm,0.3s
KTBS Lg Lg 15 25 17.3
21nm,0.5s
SATY Saty 2.99 53 Pg **Pg** **15 24 50.1 +0.1**
0.9nm,0.1s
SATY Lg Lg 15 25 28.5
7.0nm,0.2s
KPKS Kokpek 3.40 49 Pg **Pg** **15 24 56.5 -1.2**
1.8nm,0.3s
KPKS Lg Lg 15 25 39.6
7.2nm,0.6s
KPKS Kokpek 3.40 49 *eP* Pn 15 24 32.1 -13
5.8nm,0.3s
KPKS *eS* Sn 15 24 58.2 -27
25nm,0.5s
KPKS Kokpek 3.40 49 *eP* **Pg** **15 24 56.5 -1.2**
1.8nm,0.3s
KPKS *eS* **Sg** **15 25 39.6 -2.2**
7.2nm,0.6s
UZB Uzynbulak 3.42 56 Pg **Pg** **15 24 57.0 -1.0**
1.5nm,0.2s
UZB Lg Lg 15 25 40.4
3.6nm,0.4s
UZB Uzynbulak 3.42 56 *eP* **Pg** **15 24 57.4 -0.7**
2.5nm,0.3s
UZB *eS* **Sg** **15 25 41.0 -1.4**
3.6nm,0.4s
SHLS Shalkode 3.70 58 Pg **Pg** **15 25 07.2 +3.7**
2.2nm,0.3s
SHLS Lg Lg 15 25 57.8
7.5nm,0.4s
SHLS Shalkode 3.70 58 *eP* Pg 15 25 08.0 +4.5
2.0nm,0.3s
SHLS *eS* **Sg** **15 25 59.4 +8.0**
7.5nm,0.4s
BTLS Baital 3.85 348 Lg Lg 15 25 52.8
2.1nm,0.3s
BTLS Baital 3.85 348 *eP* **Pg** **15 25 04.2 -2.1**
0.2nm,0.2s
BTLS *eS* **Sg** **15 25 52.8 -3.3**
2.1nm,0.3s
KK31 Karatay Array 3.91 299 ⇓Pn **Pb** **15 25 04.1 +2.8**
0.5nm,0.3s,baz=125,slow=16,SNR=6.6
KK31 ⇑Lg Lg 15 25 55.9
0.5nm,0.3s,baz=130,slow=30
IUG Iuzhnay 3.94 284 Pg **Pg** **15 25 08.1 +0.1**
3.0nm,0.2s
DJR Jarkent 4.57 47 *eP* **Pg** **15 25 19.4 -0.6**
0.4nm,0.1s
DJR *eS* **Sg** **15 26 18.7 -0.5**
0.8nm,0.1s

---

*IDC **22** 15:42:50.8±1.6,0˚.14S×99˚.87E,h0km,mb3.6/6,*
mbtmp3.5/7,Error ellipse: s-maj=79.7km s-min=21.2km
az=53.0
*DJA **22** 15:43:11.5±0.4,0˚.N±3˚.×10˚0E±˚,h168km±4km,M4.2/12,*
mB4.9/1,mb4.1/5,MLv4.3/12,Mw(mB)4.2/1
ISC 22 15:43:10.8±0.8,0˚.27N±0˚.07×100˚.36E±0˚.06,h150km,n18,
σ2§87/22,mb3.6/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.68**	**85**	P	**Pn**	**15 43 37.3**	**+4.1**
BKNI				S	**Sn**	**15 43 55.7**	**+5.5**
PPI	**Padang Panjang**	**0.72**	**177**	P	**Pn**	**15 43 36.5**	**+3.0**
PPI				S	**Sn**	**15 43 55.9**	**+5.1**
SISI	**Saibi**	**2.03**	**219**	P	**Pn**	**15 43 48.3**	**+2.0**
SISI				S	**Sn**	**15 44 16.0**	**+2.4**
PBSI	**Pulau Batu**	**2.10**	**261**	P	**Pn**	**15 43 50.3**	**+3.1**
PBSI				S	**Sn**	**15 44 18.0**	**+2.9**
GSI	**Gunungsitoli**	**2.97**	**290**	P	**Pn**	**15 44 00.8**	**+3.0**
PPSI	**Pulau Pagai**	**3.03**	**187**	P	**Pn**	**15 43 58.7**	**+0.1**
SNSI	**Sinabang, Aceh**	**4.56**	**298**	P	**Pn**	**15 44 20.2**	**+1.8**
MNAI	**Manna**	**5.28**	**151**	P	**Pn**	**15 44 27.8**	**-0.2**
MDSI	**Maura Dua**	**6.07**	**141**	P	**Pn**	**15 44 37.2**	**-1.3**
BSI	**Banda Aceh**	**7.25**	**316**	P	**Pn**	**15 44 55.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**18.13**	**356**	P	**P**	**15 47 08.2**	**-3.4**
	0.2nm,0.4s,baz=186,slow=12,SNR=4.4						
PZH	**PanZhiHua**	**26.12**	**3**	P	**P**	**15 48 31.8**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,140nm,7.1s						
WRA	**Warramunga Arr**	**38.87**	**123**	P	**P**	**15 50 19.8**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=308,slow=8.9,SNR=4.5						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**40.33**	**128**	P	**P**	**15 50 31.5**	**-2.5**
	comp=Z,0.1nm,0.5s,baz=290,slow=8.4,SNR=4.1						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**48.96**	**344**	P	**P**	**15 51 41.5**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=154,slow=7.9,SNR=12						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**55.02**	**349**	P	**P**	**15 52 25.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=179,slow=8.2,SNR=2.2						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**58.20**	**339**	P	**P**	**15 52 47.5**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=129,slow=8.2,SNR=3.2						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**72.08**	**312**	P	**P**	**15 54 16.8**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=116,slow=8.4,SNR=3.6						
	comp=Z,0.4nm,0.6s						

IDC 22 15:50:32.0±5.6,11˚.71S×168˚.52E,h0km,mb4.1/3,
mbtmp4.1/3,Error ellipse: s-maj=282.2km
s-min=29.6km az=140.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.83**	**252**	P	P	15 57 16.9	+0.4
	1.1nm,0.4s,baz=83,slow=8.7,SNR=16						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**34.96**	**245**	P	P	15 57 25.6	-0.6
	2.2nm,0.4s,baz=71,slow=10,SNR=128						
	2.2nm,0.4s						
ILAR	**Eielson Array**	**83.30**	**18**	P	P	16 03 00.3	0.0
	0.5nm,0.6s,baz=236,slow=5.2,SNR=16						
	0.5nm,0.6s						

---

*IDC **22** 15:55:02.0±1.3,30˚.42N×67˚.28E,h0km,mb3.5/9,*
mbtmp3.6/11,MLJ3.7/2,Error ellipse: s-maj=30.8km
s-min=21.1km az=88.0
ISC 22 15:55:02.5±0.8,30˚.4N±0˚.1×67˚.1E±0˚.1,h10km,n11,
σ2§07/13,mb3.3/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.40**	**229**	Pn	**Pn**	**15 57 32.7**	**+0.8**
	0.5nm,0.3s,baz=76,slow=9.0,SNR=6.8						
WSAR				Sn	**Sn**	**15 59 24.6**	**-4.0**
	0.2nm,0.3s,baz=160,slow=7.8,SNR=2.0						
	1.2nm,0.4s						

AAK Ala-Archa 13.57 24 Pn **Pn** **15 58 14.4 -0.8**
0.5nm,0.3s,baz=217,slow=8.4,SNR=12
AAK Sn **Sn** **16 00 42.4 -3.7**
0.1nm,0.3s,baz=312,slow=16,SNR=3.2
2.0nm,0.6s
MKAR Makanchi Array 20.15 31 P **P** **15 59 36.1 -0.8**
0.6nm,0.5s,baz=211,slow=11,SNR=14
0.6nm,0.5s
AKTO Aktyubinsk 21.14 344 P **P** **15 59 49.2 +1.7**
0.6nm,0.5s,baz=204,slow=14,SNR=2.2
0.6nm,0.5s
KURBB Kurchatov Arra 21.93 20 P **P** **15 59 56.8 +0.7**
1.1nm,0.8s,baz=210,slow=11,SNR=6.6
1.1nm,0.8s
BVAR Borovoye Array 22.73 5 P **P** **16 00 05.2 +0.7**
0.7nm,0.8s,baz=171,slow=10,SNR=6.5
0.7nm,0.8s
ZALV Zalesovo Beam 26.79 24 P **P** **16 00 43.4 +0.8**
1.0nm,0.4s,baz=228,slow=10.0,SNR=6.9
1.0nm,0.4s
CMAR Chiang Mai Arr 31.21 105 P **P** **16 01 21.5 -0.8**
0.3nm,0.6s,baz=308,slow=6.5,SNR=4.1
0.3nm,0.6s
ARCES ARCESS Array B 45.69 341 P **P** **16 03 23.5 +0.3**
1.9nm,0.8s,baz=125,slow=7.8,SNR=3.6
1.9nm,0.8s
ASAR Alice Springs 83.61 122 P **P** **16 07 32.5 +1.0**
0.6nm,0.8s,baz=312,slow=5.7,SNR=7.5
0.6nm,0.8s
YKA Yellowknife Ar 87.42 1 P **P** **16 07 52.1 +2.3**
0.1nm,0.6s,baz=357,slow=5.2,SNR=2.0
0.1nm,0.6s

---

*DJA **22** 15:57:13.6±0.5,2˚S±5˚×14˚0E±˚,h16km±3km,M3.2/4,*
MLv3.2/4
*IDC **22** 15:57:28.8±6.5,4˚.60S×141˚.00E,h0km,mb3.1/2,*
mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=242.6km
s-min=34.4km az=91.0
ISC 22 15:57:12.4±1.3,2˚.4S±0˚.1×140˚.44E±0˚.05,h10km,n7,
σ2§47/10,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.29**	**116**	P	**Pb**	**15 57 21.1**	**+1.3**
JAY				S	**Sb**	**15 57 26.4**	**+1.6**
GENI	**Genyem**	**0.34**	**233**	P	**Pb**	**15 57 22.0**	**+1.4**
GENI				S	**Sb**	**15 57 27.6**	**+1.6**
SMPI	**Sarmi**	**1.77**	**283**	P	**Pn**	**15 57 43.5**	**+0.4**
SMPI				S	**Sn**	**15 58 06.2**	**+0.5**
WAMI	**Wamena**	**2.28**	**229**	P	**Pn**	**15 57 51.2**	**+1.1**
WAMI				S	**Sn**	**15 58 18.1**	**-0.2**
WRA	**Warramunga Arr**	**18.44**	**198**	Pn	**P**	**16 01 23.5**	**-4.7**
	0.1nm,0.3s,baz=25,slow=12,SNR=1.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**22.08**	**196**	P	**P**	**16 02 04.7**	**-3.2**
	0.3nm,0.7s,baz=26,slow=10,SNR=6.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**70.60**	**322**	P	P	16 08 58.6	+31
	0.2nm,0.5s,baz=114,slow=7.4,SNR=4.7						
	0.2nm,0.5s						

TXNET 22 15:57:12.6,31˚.3N±0˚.5×103˚.6W±0˚.5,h6km±1km,ML1.7/7,
Error ellipse: s-maj=0.8km s-min=0.6km az=37.2,final,
Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.16**	**14**	P	Pg	15 57 16.3	+0.4
PCOS				S	Sg	15 57 19.2	+1.0
TPB03	**Saragosa**	**0.17**	**168**	P	Pg	15 57 16.8	+0.7
TPB03				S	Sg	15 57 19.4	+1.0
TPB10	**Southeast of T**	**0.17**	**280**	P	Pg	15 57 16.8	+0.6
TPB10				S	Sg	15 57 19.9	+1.4
TPB04	**Verhalen**	**0.25**	**105**	P	Pg	15 57 18.1	+0.5
TPB16	**Coyonosa**	**0.29**	**116**	P	Pg	15 57 18.8	+0.5
TPB16				S	Sg	15 57 23.7	+1.5
PECS	**Pecos**	**0.29**	**294**	P	Pg	15 57 19.0	+0.6
PECS				S	Sg	15 57 23.3	+1.0
TPB07	**Mentone**	**0.34**	**344**	S	Sg	15 57 25.1	+1.3
TPB12	**Southwest of T**	**0.35**	**264**	P	Pg	15 57 20.0	+0.5
TPB12				S	Sg	15 57 25.2	+1.2
TPB01	**Permian Basin**	**0.36**	**212**	P	Pg	15 57 19.8	0.0
TPB01				S	Sb	15 57 26.0	-1.5
TPB05	**Hovey Rd**	**0.39**	**149**	P	Pg	15 57 20.7	+0.6
TPB05				S	Sg	15 57 26.7	+1.4
TPB08	**Permian Basin**	**0.66**	**123**	S	Sg	15 57 35.0	+1.0
MNHN	**Monahans**	**0.69**	**82**	P	Pg	15 57 26.3	+0.5
ALPN	**Alpine**	**0.88**	**185**	P	Pb	15 57 29.9	-0.4
ALPN				S	Sb	15 57 41.9	-0.4
CLN7	**Carlsbad 7**	**1.18**	**350**	P	Pn	15 57 35.8	+0.1
ODSA	**Odessa**	**1.22**	**45**	S	Sn	15 57 53.6	+0.5
TMB02	**Rankin**	**1.30**	**92**	S	Sn	15 57 57.1	+2.0
VHRN	**Van Horn**	**1.31**	**250**	P	Pn	15 57 36.7	-0.8
VHRN				S	Sg	15 57 54.6	-0.3
MNTX	**Cornudas Mount**	**1.62**	**286**	P	Pb	15 57 42.5	-0.4
TMB04	**Seminole**	**1.64**	**33**	P	Pn	15 57 42.3	+0.2
TMB04				S	Sg	15 58 05.4	0.0
SAND	**Sanderson**	**1.79**	**136**	P	Pn	15 57 44.8	+0.7
SAND				S	Sg	15 58 09.4	-0.7
CPRX	**Cap Rock**	**1.79**	**352**	P	Pb	15 57 45.1	-0.9
TX31	**Lajitas Ar. Si**	**1.91**	**183**	P	Pb	15 57 47.4	-0.6
TX31				S	Sb	15 58 13.1	+0.9
OZNA	**Ozona**	**2.11**	**98**	P	Pn	15 57 49.7	+1.2
OZNA				S	Sb	15 58 17.9	+0.2
SGCY	**Sterling City**	**2.18**	**72**	S	Sb	15 58 19.0	-0.7

---

*MEX **22** 15:57:16.2±1.1,14˚.40N×92˚.02W,h78km±11km,MD4.4*
*NEIC **22** 15:57:16.7±2.2,14˚.47N±0˚.08×92˚.10W±0˚.06,h73km±7km,*
mb4.0/7,Md4.4/70(MEX),Error ellipse: s-maj=12.5km
s-min=7.2km az=203.0
*GCG **22** 15:57:16.3±1.5,14˚.42N×92˚.08W,h64km±8km,MD4.4,*
ML3.8,MW3.8,Hypocentre not reviewed by the ISC
*SNET **22** 15:57:17.2±0.5,14˚.40N×92˚.08W,h56km±3km,ML4.0*
*IDC **22** 15:57:17.2±2.1,14˚.37N×92˚.11W,h90km±15km,mb3.5/3,*
mbtmp3.8/6,Error ellipse: s-maj=28.3km s-min=9.3km
az=20.0
ISC 22 15:57:15.4±0.9,14˚.44N±0˚.06×92˚.16W±0˚.04,h76km±7km,
n104,σ2§36/152,mb4.1/4,2D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.42**	**11**	*eP*		15 57 28.2	
SMCA				*eS*		15 57 36.9	
SMCA				IAML		15 57 41.4	
	comp=Z,3μm,0.7s						
RTAL	**Retalhuleu**	**0.45**	**79**		**Pn**	**15 57 27.8**	**-0.6**
RTAL	**Retalhuleu**	**0.45**	**79**	*i* P	**Pn**	**15 57 27.7**	**-0.6**
RTAL				*i* S	**Sn**	**15 57 35.2**	**-2.7**
RTAL	**Retalhuleu**	**0.45**	**79**	⇓*iP*	**Pn**	**15 57 27.8**	**-0.6**
RTAL				*eS*	**Sn**	**15 57 35.9**	**-2.0**
RTAL				IAML		15 57 40.0	
	comp=Z,3μm,0.3s						
THIG		**0.48**	**347**		**Pn**	**15 57 29.3**	**+0.7**
THIG					**Sn**	**15 57 39.4**	**+1.1**
THIG		**0.48**	**347**	*i* P	**Pn**	**15 57 29.3**	**+0.7**
THIG				*eS*	**Sn**	**15 57 39.4**	**+1.1**
THIG		**0.48**	**347**	*eP*		15 57 28.9	
THIG				*eS*		15 57 39.4	
THIG				IAML		15 57 41.3	
	comp=Z,6μm,0.2s						
CHUJ	**Union Juarez**	**0.65**	**4**	*eP*	**Pn**	**15 57 30.5**	**0.0**
CHUJ				*eS*	**Sn**	**15 57 41.6**	**-0.1**
PATR	**El Naranjo**	**0.68**	**353**	*eP*	**Pn**	**15 57 30.9**	**+0.1**
PATR				*eS*	**Sn**	**15 57 41.6**	**-0.5**
PAVE	**Pavencul**	**0.75**	**358**	*eP*	**Pn**	**15 57 31.8**	**+0.3**
PAVE				*eS*	**Sn**	**15 57 43.4**	**-0.1**
QUEO	**Labor Ovalle**	**0.75**	**55**	*eP*		15 57 32.1	
QUEO				*eS*		15 57 44.6	
QUEO				IAML		15 57 50.8	
	comp=Z,14μm,0.3s						
SOKI	**Kika Raxquin**	**0.82**	**62**	*eP*		15 57 32.7	
SOKI				*eS*		15 57 45.7	
SOKI				IAML		15 57 47.4	
	comp=Z,2μm,0.6s						
HUEH	**Huehuetenango**	**1.08**	**36**		**Pn**	**15 57 36.5**	**+1.1**
HUEH	**Huehuetenango**	**1.08**	**36**	*i* P	**Pn**	**15 57 36.5**	**+1.1**
HUEH				*eS*	**Sn**	**15 57 52.0**	**+1.7**
HUEH	**Huehuetenango**	**1.08**	**36**	⇓*eP*	**Pn**	**15 57 36.8**	**+1.3**
HUEH				*eS*	**Sn**	**15 57 52.2**	**+1.9**
HUEH	**Huehuetenango**	**1.08**	**36**	*eP*		15 57 36.7	

ESSG Sabana Grande 1.28 92 *eP* 15 57 37.2
PCIG 1.62 321 **Pn** **15 57 43.7 +1.6**
PCIG **Sn** **15 58 04.2 +1.8**
PCIG 1.62 321 *eP* **Pn** **15 57 43.7 +1.6**
PCIG *eS* **Sn** **15 58 04.2 +1.8**
APG El Apazote 1.73 71 P **Pn** **15 57 44.1 +0.3**
comp=Z,16nm,0.7s,baz=199,slow=13,SNR=78
APG S **Sn** **15 58 08.1 +2.8**
comp=Z,37nm,0.6s,baz=128,slow=10,SNR=19
APG El Apazote 1.73 71 *eP* 15 57 44.5
APG *eS* 15 58 06.0
CCIG Comitan 1.83 1 **Pn** **15 57 47.4 +2.2**
CCIG Comitan 1.83 1 *eP* **Pn** **15 57 47.8 +2.6**
CCIG *eS* **Sn** **15 58 07.6 -0.1**
CCIG Comitan 1.83 1 *eP* 15 57 47.6
comp=Z,437nm,0.6s
CCIG IAML 15 58 30.6
comp=Z,437nm,0.6s
NUBE Las Nubes 2.37 103 *eP* **Pn** **15 57 52.8 +0.6**
NUBE Las Nubes 2.37 103 *eP* 15 57 52.9
NUBE *eS* 15 58 20.2
CARR Arriaga 2.47 317 *eP* **Pn** **15 57 56.4 +2.9**
CARR *i* S **Sn** **15 58 26.4 +3.6**
TGIG 2.50 338 **Pn** **15 57 54.4 +0.3**
TGIG **Sn** **15 58 24.9 +1.3**
TGIG 2.50 338 *eP* **Pn** **15 57 54.4 +0.3**
TGIG *eS* **Sn** **15 58 24.9 +1.3**
TGIG 2.50 338 *eP* 15 57 54.2
TGIG IAML 15 58 42.9
comp=Z,330nm,0.8s
SBLS San Blas 2.53 103 *eP* **Pn** **15 57 55.9 +1.4**
CEVE Cerro Verde 2.53 104 *eP* **Pn** **15 57 55.9 +1.3**
SNJE San Jose 2.54 103 *eP* **Pn** **15 57 55.3 +0.7**
MTO3 Montecristo 2.71 91 **Pn** **15 57 57.3 +0.4**
MTO3 Montecristo 2.71 91 *eP* **Pn** **15 57 58.0 +1.1**
MTO3 Montecristo 2.71 91 P **Pn** **15 57 57.8 +0.8**
MTO3 Montecristo 2.71 91 *eP* 15 57 57.1
ESQI Esquipulas 2.73 87 **Pn** **15 57 59.2 +2.1**
JAYA Jayaque - finc 2.74 106 *eP* **Pn** **15 57 57.7 +0.4**
JAYA IAML 15 58 37.1
comp=Z,2μm,0.3s
JAYA Jayaque - finc 2.74 106 *eP* 15 57 57.3
JAYA *eS* 15 58 30.3
PMON Piamonte 2.85 104 *eP* **Pn** **15 57 59.9 +1.1**
PMON Piamonte 2.85 104 P **Pn** **15 58 00.2 +1.4**
BOQS Boqueron 2.88 104 *eP* **Pn** **15 58 00.5 +1.3**
LOMA Loma Larga 3.00 105 P **Pn** **15 58 03.5 +2.6**
LFRS El Faro 3.11 105 *eP* **Pn** **15 58 03.3 +1.0**
NILT Santiago Nilte 3.18 312 *eP* **Pn** **15 58 05.5 +2.4**
NILT *i* S **Sn** **15 58 40.5 +0.6**
COEG Centro de Oper 3.28 104 *eP* **Pn** **15 58 05.8 +1.2**
COEG Centro de Oper 3.28 104 P **Pn** **15 58 07.8 +3.2**
PETF Flores 3.30 42 **Pn** **15 58 04.5 -0.4**
PETF Flores 3.30 42 *eP* **Pn** **15 58 06.1 +1.3**
PETF *eS* **Sn** **15 58 44.1 +1.1**
PETF Flores 3.30 42 *eP* **Pn** **15 58 06.4 +1.6**
PETF Flores 3.30 42 *eP* 15 58 06.4
PETF IAML 15 59 09.9
comp=Z,88nm,0.6s
UXUV UXUV 3.44 326 *eP* **Pn** **15 58 08.8 +2.1**
UXUV *eS* **Sn** **15 58 46.4 0.0**
PQSS Presa 15 de Se 3.58 103 P **Pn** **15 58 12.9 +4.3**
CMIG Matias Romero 3.72 315 **Pn** **15 58 13.1 +2.5**
CMIG **Sn** **15 58 52.6 -0.6**
CMIG Matias Romero 3.72 315 P **Pn** **15 58 12.8 +2.3**
comp=Z,11nm,0.3s,baz=156,slow=9.9,SNR=46
CMIG S **Sn** **15 58 58.2 +5.0**
comp=Z,72nm,0.4s,baz=226,slow=17,SNR=11
CMIG Matias Romero 3.72 315 *eP* **Pn** **15 58 13.1 +2.5**
CMIG *eS* **Sn** **15 58 52.6 -0.6**
PACA Pacayal 3.84 104 P **Pn** **15 58 16.7 +4.4**
RANC El Ranchito 3.88 104 P **Pn** **15 58 14.1 +1.2**
HUIG Huatulco 4.04 290 **Pn** **15 58 16.0 +1.2**
HUIG **Sn** **15 58 58.3 -2.7**
HUIG Huatulco 4.04 290 *eP* **Pn** **15 58 16.0 +1.2**
HUIG *eS* **Sn** **15 58 58.3 -2.7**
NISHN Nisperales Com 4.33 72 *eP* 15 58 19.0
SCIG Sabancuy 4.60 12 *eP* **Pn** **15 58 21.7 -0.7**
SCIG *eS* **Sn** **15 59 10.3 -4.2**
NEUV Arroyo Zacate 4.78 313 *i* P **Pn** **15 58 26.7 +1.7**
NEUV *eS* **Sn** **15 59 20.3 +1.2**
PMUV Sontecomapan 4.98 326 *eP* Pn 15 58 35.8 +8.1
PMUV *eS* **Sn** **15 59 22.8 -1.1**
PEIG Puerto Escondi 5.06 288 **Pn** **15 58 30.2 +1.4**
PEIG **Sn** **15 59 22.8 -3.2**
PEIG Puerto Escondi 5.06 288 *eP* **Pn** **15 58 30.2 +1.4**
PEIG *eS* **Sn** **15 59 22.8 -3.2**
OXIG Oaxaca 5.13 301 **Pn** **15 58 32.5 +2.7**
OXIG **Sn** **15 59 28.3 +0.5**
VHO Vista Hermosa 5.13 301 *eP* **Pn** **15 58 32.5 +2.7**
VHO *eS* **Sn** **15 59 28.3 +0.5**
CRIN San Cristobal 5.26 109 Pn **Pn** **15 58 32.8 +1.2**
CNGN Cerro Negro 5.65 109 Pn **Pn** **15 58 38.6 +1.7**
YOIG Yosondua 5.72 296 **Pn** **15 58 42.1 +4.1**
YOIG **Sn** **15 59 42.7 +0.2**
YOIG Yosondua 5.72 296 *eP* **Pn** **15 58 42.1 +4.1**
YOIG *eS* **Sn** **15 59 42.7 +0.2**
TOIG Toxpalan 5.95 308 **Pn** **15 58 42.8 +1.7**
TOIG **Sn** **15 59 49.0 +1.1**
TOIG Toxpalan 5.95 308 *eP* **Pn** **15 58 42.8 +1.7**
TOIG *eS* **Sn** **15 59 49.0 +1.1**
PNIG Pinotepa 6.08 289 **Pn** **15 58 44.9 +2.2**
PNIG **Sn** **15 59 47.1 -3.8**
PNIG Pinotepa 6.08 289 *eP* **Pn** **15 58 44.9 +2.2**
PNIG *eS* **Sn** **15 59 47.1 -3.8**
TXIG Tlaxiaco 6.08 298 **Pn** **15 58 46.5 +3.5**
TXIG **Sn** **15 59 52.6 +1.2**
TXIG Tlaxiaco 6.08 298 *eP* **Pn** **15 58 46.5 +3.5**
TXIG *eS* **Sn** **15 59 52.6 +1.2**
TPIG Tehuac#an 6.37 309 **Sn** **16 00 01.3 +2.9**
TPIG Tehuac#an 6.37 309 *eS* **Sn** **16 00 01.3 +2.9**
HLIG Huajuapan de L 6.39 303 **Pn** **15 58 51.2 +4.0**
HLIG **Sn** **15 59 59.1 +0.3**
HLIG Huajuapan de L 6.39 303 *eP* **Pn** **15 58 51.2 +4.0**
HLIG *eS* **Sn** **15 59 59.1 +0.3**
BOAB BOACO BROADBAN 6.62 107 Pn **Pn** **15 58 48.9 -1.1**
JAUV Jalcomulco 6.62 318 *eP* **Pn** **15 58 49.0 -1.1**
JAUV *eS* **Sn** **16 00 01.6 -2.5**
LVIG Laguna Verde 6.65 323 *e* 16 00 00.1
FTIG Fresnillo de T 6.70 302 **Pn** **15 58 55.6 +4.4**
FTIG **Sn** **16 00 05.1 -1.1**
FTIG Fresnillo de T 6.70 302 *eP* **Pn** **15 58 55.6 +4.4**
FTIG *eS* **Sn** **16 00 05.1 -1.1**
MGIG Malinaltepec 6.83 295 **Pn** **15 58 55.0 +1.9**
MGIG **Sn** **16 00 07.2 -2.2**
MGIG Malinaltepec 6.83 295 *eP* **Pn** **15 58 55.0 +1.9**
MGIG *eS* **Sn** **16 00 07.2 -2.2**
TEIG Tepich 6.84 32 **Pn** **15 58 53.3 +0.2**
TEIG Tepich 6.84 32 P **Pn** **15 58 54.2 +1.1**
comp=Z,0.2nm,0.4s,baz=205,slow=24,SNR=24
TEIG S **Sn** **16 00 05.7 -3.8**
comp=Z,0.1nm,0.5s,baz=230,slow=24,SNR=10.0
CRIG Cruz Grande 7.10 290 **Pn** **15 58 57.6 +1.0**
CRIG **Sn** **16 00 17.3 +1.5**
CRIG Cruz Grande 7.10 290 *eP* **Pn** **15 58 57.6 +1.0**
CRIG *eS* **Sn** **16 00 17.3 +1.5**
DAIG Los Arroyos 7.66 291 *e* **Pn** **15 59 01.2 -3.1**
DAIG *e* 16 00 22.5
CXUV Coxquihui 7.71 318 *eP* **Pn** **15 59 02.0 -3.0**
CXUV *e* 16 00 13.7
PPM Popocatepetl 7.72 307 *eP* Pn 15 59 12.0 +6.4
PPM *e* 16 00 22.4
PPIG Popocatepetl 7.72 307 Pn 15 59 12.0 +6.4
PLIG Platanillo 8.07 300 **Pn** **15 59 14.3 +4.3**
PLIG **Sn** **16 00 38.8 -1.0**
PLIG Platanillo 8.07 300 *eP* **Pn** **15 59 14.3 +4.3**
PLIG *eS* **Sn** **16 00 38.8 -1.0**
JTS Las Juntas de 8.15 120 **Pn** **15 59 12.1 +0.9**
JTS Las Juntas de 8.15 120 P **Pn** **15 59 10.5 -0.6**
comp=Z,3.0nm,0.3s,baz=309,slow=18,SNR=7.1
JTS S **Sn** **16 00 45.6 +3.8**
comp=Z,1.5nm,0.3s,baz=342,slow=24,SNR=0.8
ARIG Puente Sto Nin 8.74 297 **Pn** **15 59 23.4 +4.3**
ARIG Puente Sto Nin 8.74 297 *eP* **Pn** **15 59 23.4 +4.3**
ARIG *eS* **Sn** **16 00 54.0 -2.1**
SOR Soroa 12.00 45 Pn **Pn** **16 00 02.0 -1.5**
BRDY Brady 17.90 341 P **P** **16 01 15.9 -3.1**
BRDY IAmb IAmb 16 01 22.2
comp=Z,8.9nm,0.9s
SAND Sanderson 17.97 331 P **P** **16 01 13.5 -6.3**
SAND IAmb IAmb 16 01 23.6

comp=Z,7.1nm,1.1s
TXAR Lajitas Array 18.25 326 P **P 16 01 17.6 -5.3**
TXAR Lajitas Array 18.25 326 P **Pn 16 01 24.4 +0.8**
comp=Z,2.4nm,1.0s,baz=147,slow=12,SNR=7.4
ALPN Alpine 19.06 328 P P 16 01 24.6 -7.3
ALPN IAmb IAmb 16 01 26.1
comp=Z,10.0nm,1.2s
PECS Pecos 19.98 329 P **P 16 01 37.9 -3.9**
ODSA Odessa 20.00 333 P **P 16 01 36.7 -5.3**
ODSA IAmb IAmb 16 02 05.9
comp=Z,22nm,1.1s
VHRN Van Horn 20.09 326 P **P 16 01 37.6 -5.5**
SMWD Samnorwood 21.83 342 P **P 16 02 01.5 0.0**
SMWD IAmb IAmb 16 02 04.2
comp=Z,5.6nm,0.5s
NVAR Mina Array Bea 33.24 321 P **P 16 03 48.1 +2.5**
comp=Z,3.3nm,0.9s,baz=126,slow=6.4,SNR=9.9
comp=Z,3.3nm,0.9s
YKA Yellowknife Ar 50.56 347 P **P 16 06 05.5 -0.4**
comp=Z,0.4nm,0.6s,baz=155,slow=7.1,SNR=7.8
comp=Z,0.4nm,0.6s
ILAR Eielson Array 62.38 337 P **P 16 07 30.6 +0.7**
comp=Z,1.3nm,1.0s,baz=134,slow=4.2,SNR=11
comp=Z,1.3nm,1.0s
CMAR Chiang Mai Arr 145.53 341 PKPbc **PKPab 16 16 46.0 -0.2**
comp=Z,1.2nm,0.7s,baz=339,slow=3.4,SNR=9.1

---

*WEL **22** 16:02:40.5±0.4, 42°S±2°×17°1E±°, h5km, M3.0/9, ML3.1/10, MLv3.0/9, Error ellipse: s-maj=4.6km s-min=2.0km az=124.5, confirmed*
*NOU **22** 16:02:41.7, 42.04S×171.25E, h18km, MLv3.6/14, South Island, New Zealand*
ISC 22 16:02:39.9±1.1, 42.05S±0.02×171.36E±0.03, h7km±9km, n59, σ0°78/76, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBCS	**Westport Bulle**	**0.35**	**32**	P	**Pg**	**16 02 46.7**	**0.0**
WBCS				S	**Sg**	**16 02 51.9**	**+0.6**
GMFS	**Greymouth Fire**	**0.42**	**196**	P	**Pg**	**16 02 48.3**	**+0.2**
GMFS				S	**Sg**	**16 02 53.8**	**+0.1**
DSZ	**Denniston Nort**	**0.45**	**48**	P	**Pb**	**16 02 49.5**	**-0.8**
DSZ				S	**Sb**	**16 02 55.6**	**-1.7**
INGS	**Inangahua Fire**	**0.48**	**67**	P	**Pg**	**16 02 49.8**	**+0.5**
INGS				S	**Sg**	**16 02 56.0**	**+0.4**
SJFS	**Springs Juncti**	**0.67**	**115**	P	**Pg**	**16 02 52.9**	**-0.1**
SJFS				S	**Sg**	**16 03 00.9**	**-0.8**
INZ	**Inchbonnie**	**0.68**	**175**	P	**Pg**	**16 02 53.1**	**+0.1**
INZ				S	**Sg**	**16 03 01.6**	**-0.2**
HMCS	**Hokitika Medic**	**0.73**	**203**	P	**Pg**	**16 02 53.9**	**0.0**
HMCS				S	**Sg**	**16 03 03.9**	**+0.5**
MCASZ	**Murchison**	**0.77**	**71**	P	**Pg**	**16 02 53.7**	**-1.0**
MCASZ				S	**Sg**	**16 03 03.7**	**-0.9**
KOKS	**Kokatahi**	**0.86**	**191**	P	**Pg**	**16 02 56.3**	**-0.1**
KOKS				S	**Sg**	**16 03 08.9**	**+1.4**
KASC	**Karamea School**	**0.98**	**36**	P	**Pn**	**16 02 59.8**	**-0.3**
KASC				S	**Sn**	**16 03 14.2**	**-0.1**
LTZ	**Lake Taylor**	**1.00**	**138**	P	**Pg**	**16 02 59.1**	**+0.1**
LTZ				S	**Sg**	**16 03 11.2**	**-0.8**
WVAS	**Waitaha Valley**	**1.12**	**204**	P	**Pg**	**16 03 01.7**	**+0.3**
WVZ	**Waitaha Valley**	**1.12**	**204**	P	**Pg**	**16 03 01.4**	**0.0**
WVZ				S	**Sg**	**16 03 16.4**	**+0.4**
MATW	**Matariki Wadsw**	**1.18**	**59**	P	**Pb**	**16 03 02.7**	**0.0**
MATW				S	**Sn**	**16 03 18.9**	**-0.4**
HSES	**Hanmer Springs**	**1.19**	**114**	P	**Pg**	**16 03 03.0**	**+0.2**
HSES				S	**Sg**	**16 03 18.2**	**-0.1**
THZ	**Tophouse**	**1.19**	**77**	P	**Pg**	**16 03 02.5**	**-0.3**
THZ				S	**Sb**	**16 03 18.3**	**-0.2**
KLDS	**Kikiwa Line De**	**1.20**	**72**	P	**Pg**	**16 03 01.5**	**-1.4**
CSHS	**Castle Hill**	**1.21**	**167**	P	**Pg**	**16 03 03.6**	**+0.5**
MRNZ	**Matariki Terra**	**1.23**	**59**	P	**Pg**	**16 03 03.4**	**-0.2**
MRNZ				S	**Sb**	**16 03 19.9**	**+0.2**
OXZ	**Oxford**	**1.37**	**159**	P	**Pn**	**16 03 04.9**	**-0.6**
OXZ				S	**Sb**	**16 03 23.1**	**-0.6**
AMCZ	**Amberley**	**1.48**	**140**	P	**Pn**	**16 03 07.6**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**1.48**	**211**	P	**Pn**	**16 03 06.8**	**-0.2**
MHCZ	**Mount Hutt**	**1.49**	**174**	P	**Pn**	**16 03 07.2**	**0.0**
QRZ	**Quartz Range**	**1.51**	**36**	P	**Pn**	**16 03 07.2**	**-0.2**
QRZ	**Quartz Range**	**1.51**	**36**	S	**Sg**	**16 03 27.6**	**-0.8**
QRZ	**Quartz Range**	**1.51**	**36**	P	**Pn**	**16 03 07.2**	**-0.2**
GVZ	**Greta Valley S**	**1.54**	**127**	P	**Pn**	**16 03 08.7**	**+0.8**
TKNZ	**Takaka Hill**	**1.57**	**50**	P	**Pn**	**16 03 08.3**	**0.0**
KHZ	**Kahutara**	**1.66**	**103**	P	**Pn**	**16 03 10.1**	**+0.6**
KHZ	**Kahutara**	**1.66**	**103**	S	**Sb**	**16 03 32.6**	**+0.6**
KHZ	**Kahutara**	**1.66**	**103**	P	**Pn**	**16 03 10.0**	**+0.6**
RPZ	**Rata Peaks**	**1.68**	**188**	P	**Pn**	**16 03 10.4**	**+0.6**
RPZ	**Rata Peaks**	**1.68**	**188**	S	**Sb**	**16 03 33.6**	**+1.1**
RPZ	**Rata Peaks**	**1.68**	**188**	P	**Pn**	**16 03 10.2**	**+0.5**
NNZ	**Nelson**	**1.73**	**62**	P	**Pn**	**16 03 10.6**	**+0.2**
FOZ	**Fox Glacier**	**1.87**	**217**	P	**Pn**	**16 03 11.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.91**	**81**	P	**Pb**	**16 03 15.0**	**-0.1**
MQZ	**McQueen's Vall**	**1.91**	**151**	P	**Pn**	**16 03 11.8**	**-1.1**
WACZ	**Wakanui South**	**1.92**	**170**	P	**Pn**	**16 03 12.8**	**-0.3**
OKCZ	**Okains Bay**	**2.09**	**144**	P	**Pn**	**16 03 15.2**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.15**	**148**	P	**Pn**	**16 03 15.8**	**-0.4**
DUWZ	**D'Urville Isla**	**2.30**	**58**	P	**Pn**	**16 03 19.1**	**+0.8**
TCW	**Tory Channel**	**2.34**	**70**	P	**Pn**	**16 03 20.1**	**+1.2**
TMZ	**Timaru**	**2.35**	**186**	P	**Pn**	**16 03 18.5**	**-0.5**
LBZ	**Lake Benmore**	**2.49**	**200**	P	**Pn**	**16 03 21.2**	**+0.4**
SNZO	**South Karori**	**2.61**	**75**	P	**Pn**	**16 03 24.7**	**+2.1**
JCZ	**Jackson Bay**	**2.76**	**222**	P	**Pn**	**16 03 24.1**	**-0.7**
JCZ	**Jackson Bay**	**2.76**	**222**	S	**Sn**	**16 03 57.0**	**-1.4**
JCZ	**Jackson Bay**	**2.76**	**222**	P	**Pn**	**16 03 24.2**	**-0.5**
KIW	**Kapiti Island**	**2.92**	**67**	P	**Pn**	**16 03 28.0**	**+1.2**
CAW	**Cannon Point**	**2.94**	**73**	P	**Pn**	**16 03 27.2**	**+0.2**
ODZ	**Otahua Downs**	**3.04**	**190**	P	**Pn**	**16 03 28.1**	**-0.3**
ODZ	**Otahua Downs**	**3.04**	**190**	S	**Sn**	**16 04 05.5**	**+0.5**
ODZ	**Otahua Downs**	**3.04**	**190**	P	**Pn**	**16 03 27.6**	**-0.8**
OGWZ	**Otaki Gorge**	**3.12**	**68**	P	**Pn**	**16 03 30.4**	**+0.8**
WKZ	**Wanaka**	**3.26**	**211**	P	**Pn**	**16 03 31.4**	**0.0**
KHEZ	**Kahui Hut**	**3.42**	**37**	P	**Pn**	**16 03 35.7**	**+2.0**
KHEZ	**Kahui Hut**	**3.42**	**37**	S	**Sn**	**16 04 16.0**	**+1.5**
HIZ	**Hauiti**	**4.43**	**38**	P	**Pn**	**16 03 49.7**	**+2.1**

---

*NEIC **22** 16:42:57.7±0.8, 36°46N±0°01×98°76W±0°02, h7km±2km, Error ellipse: s-maj=2.7km s-min=1.7km az=106.0*
NEIC 22 16:42:57.6±0.8, 36°45N±0°01×98°758W±0°008, h5km±1km, mb_Lg2.2/5, ML2.4/30, ML2.7/25, Error ellipse: s-maj=2.8km s-min=1.8km az=349.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**23**	Pg	Pg	16 42 59.3	+0.6
OK038				IAML		16 43 00.3	
	3μm,0.1s						
OK038					Sg	16 43 00.7	+1.1
NOKA	**Waynoka**	**0.23**	**323**		Pg	16 43 02.5	+0.3
NOKA					Sg	16 43 06.0	+0.8
CROK	**Carrier**	**0.63**	**85**		Pg	16 43 09.8	+0.1
CROK					Sg	16 43 18.5	+0.7
CROK				IAML		16 43 25.5	
	comp=E,128nm,0.2s						
ELIS	**Ellis County**	**0.66**	**235**		Pg	16 43 10.6	+0.3
ELIS					Sb	16 43 20.1	-1.0
ELIS				IAML		16 43 21.0	
	comp=N,145nm,0.2s						
ELIS				IAML		16 43 26.6	
	comp=E,212nm,0.3s						
CSTR	**Hydro, Custer**	**0.80**	**176**		Pg	16 43 12.8	-0.2
CSTR					Sb	16 43 24.8	-0.4
KAN14	**Manchester OK**	**0.82**	**51**		Pg	16 43 13.3	0.0
KAN14					Sg	16 43 24.1	+0.2
KAN14				IAML		16 43 27.4	
	comp=E,98nm,0.1s						
KAN14				IAML		16 43 27.9	
	comp=N,94nm,0.1s						
KAN17	**Caldwell West**	**0.99**	**53**		Pg	16 43 16.3	-0.4
KAN17					Sg	16 43 29.2	-0.4
KAN17				IAML		16 43 29.7	
	comp=E,133nm,0.2s						
KAN17				IAML		16 43 34.9	
	comp=N,87nm,0.2s						
KAN08	**Anthony NE Sta**	**1.00**	**39**		Pg	16 43 16.5	-0.4
KAN08					Sg	16 43 30.2	+0.3
KAN12	**Harper NE Stat**	**1.04**	**35**		Pg	16 43 16.9	-0.7
KAN12					Sg	16 43 31.4	+0.2
KAN12				IAML		16 43 40.7	
	comp=N,109nm,0.3s						
KAN09	**Caldwell North**	**1.14**	**53**		Pg	16 43 19.0	-0.5
KAN09					Sg	16 43 34.5	+0.2
KAN13	**South Haven SW**	**1.17**	**61**		Pg	16 43 19.4	-0.7
KAN13					Sg	16 43 35.0	-0.3
OK051	**E0350 and S346**	**1.55**	**87**		Pn	16 43 25.3	-0.6
OK052	**Battle Ridge R**	**1.65**	**105**		Pn	16 43 26.4	-0.8
WMOK	**Wichita Mounta**	**1.71**	**181**		Pn	16 43 28.2	+0.1
WMOK	**Wichita Mounta**	**1.71**	**181**	P	Pn	16 43 28.2	+0.1
WMOK				P	Sn	16 43 50.9	+0.6
SMWD	**Samnorwood**	**1.81**	**222**		Pn	16 43 29.6	+0.2
SMWD				IAmb_Lg		16 43 55.1	
	comp=Z,12nm,1.0s						
SMWD	**Samnorwood**	**1.81**	**222**	P	Pb	16 43 31.1	-0.1
SMWD				P	Sn	16 43 53.6	+0.9
X34A	**Smith Ranch, M**	**1.99**	**157**		Pb	16 43 33.7	-0.7
W35A	**Tecumseh**	**2.00**	**130**	Pn	Pn	16 43 33.3	+1.2
PH02	**Texas Public H**	**2.80**	**249**	P	Pb	16 43 49.6	+1.5
AMTX	**Amarillo**	**2.85**	**238**	IAmb_Lg		16 44 35.9	
	comp=Z,11nm,1.1s						
AMTX	**Amarillo**	**2.85**	**238**	P	Pb	16 43 47.8	-1.2
AMTX				P	Sn	16 44 26.7	+8.2
RTBA	**Rita Blanca**	**3.21**	**271**	P	Pn	16 43 50.2	+1.4
DKNS	**Dickens**	**3.29**	**213**	P	Pn	16 43 52.2	+2.3
DKNS				S	Sn	16 44 32.5	+2.9
T25A	**Trinidad**	**4.59**	**280**	IAmb_Lg		16 45 30.4	
	comp=Z,3.7nm,0.9s						

---

*SKHL **22** 17:03:24.9±0.1, 42°70N×141°90E, h54km±9km, mb4.7/2*
*JMA **22** 17:03:25.0±0.1, 42°8N±0°3×142°0E±0°3, h30km, MD3.9/39, MV3.8/39, ISHIKARI DEPRESSION*
JMA Felt III J1 at ISHIKARI DEPRESSION .
*MOS **22** 17:03:25.3±1.1, 42°78N×141°95E, h54km, mb4.4/12, Error ellipse: s-maj=9.2km s-min=6.1km az=86.7*
*NEIC **22** 17:03:25.4±1.7, 42°81N±0°03×141°88E±0°07, h35km±2km, mb4.3/36, Error ellipse: s-maj=8.1km s-min=5.5km az=91.0*
*IDC **22** 17:03:27.1±1.5, 42°79N×142°01E, h56km±12km, mb3.6/20, mbtmp3.8/26, Error ellipse: s-maj=16.2km s-min=10.5km az=122.0*
ISC 22 17:03:24.5±0.8, 42°78N±0°03×141°95E±0°02, h32km±6km, n154, σ1°48/166, mb4.2/38, 8C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.16**	**189**	⇓P	**Pn**	**17 03 30.5**	**-0.2**
JIAM				⇓S	**Sn**	**17 03 35.3**	**+0.8**
JIAM	**Iburiatsuma**	**0.16**	**189**	A	A	17 03 30.5	
	comp=N,515nm,0.4s,comp=E,868nm,0.3s						
JBT2	**Biratori 2**	**0.30**	**90**	P	**Pb**	**17 03 31.8**	**-0.4**
JBT2				S	**Sb**	**17 03 37.2**	**-0.2**
JBT2	**Biratori 2**	**0.30**	**90**	A	A	17 03 31.8	
	comp=N,14nm,0.3s,comp=E,37nm,0.3s						
JEW	**Eniwo**	**0.38**	**280**	⇓P	**Pb**	**17 03 33.9**	**+0.7**
JEW				⇓S	**Sn**	**17 03 40.7**	**+0.8**
JEW	**Eniwo**	**0.38**	**280**	A	A	17 03 33.9	
	comp=N,28nm,0.9s,comp=E,11nm,0.8s						
JSHD	**Hidakashinhida**	**0.53**	**134**	⇓P	**Pb**	**17 03 35.8**	**+0.3**
JSHD	**Hidakashinhida**	**0.53**	**134**	A	A	17 03 35.8	
	comp=N,14nm,1.7s,comp=E,11nm,1.3s						
JFR	**Furan**	**0.61**	**50**	⇓P	**Pb**	**17 03 36.7**	**-0.2**
JISS	**Ishikarishitsu**	**0.63**	**322**	⇓P	**Pb**	**17 03 37.8**	**+0.6**
JISS				⇓S	**Sn**	**17 03 47.8**	**+1.5**
JISS	**Ishikarishitsu**	**0.63**	**322**	A	A	17 03 37.8	
	comp=N,14nm,0.7s,comp=E,25nm,0.4s						
JNB	**Noboribetsu**	**0.74**	**246**	⇓P	**Pn**	**17 03 38.5**	**-0.3**
JNB				⇓S	**Sn**	**17 03 48.9**	**-0.1**
JAB	**Ashibetsu**	**0.75**	**15**	P	**Pb**	**17 03 40.1**	**+0.8**
JAB	**Ashibetsu**	**0.75**	**15**	A	A	17 03 40.1	
	comp=N,10.0nm,1.0s,comp=E,9.0nm,1.5s						
JNBK	**Urakawa-nobuka**	**0.77**	**130**	⇓*e*P	**Pn**	**17 03 39.0**	**-0.2**
JNBK				⇓*e*S	**Sn**	**17 03 50.9**	**+1.1**
JNBK	**Urakawa-nobuka**	**0.77**	**130**	A	A	17 03 39.0	
	comp=N,6.0nm,2.3s,comp=E,5.0nm,0.5s						
JHR	**Hokuryu**	**0.98**	**350**	P	**Pn**	**17 03 43.2**	**+1.1**
JHR	**Hokuryu**	**0.98**	**350**	A	A	17 03 43.2	
	comp=N,5.0nm,1.7s,comp=E,7.0nm,0.8s						
JCH	**Churui**	**1.05**	**98**	⇓P	**Pn**	**17 03 42.9**	**-0.1**
JCH				⇓S	**Sn**	**17 03 57.3**	**+0.7**
JCH	**Churui**	**1.05**	**98**	A	A	17 03 42.9	
	comp=N,4.0nm,1.2s,comp=E,2.0nm,1.0s						
JKB	**Kayabe**	**1.12**	**218**	P	**Pn**	**17 03 44.2**	**+0.2**
JKB				S	**Sn**	**17 03 59.0**	**+0.8**
ERM	**Erimo**	**1.17**	**130**		**Pn**	**17 03 45.5**	**+0.8**
ERM				Sn	**Sb**	**17 04 02.3**	**+1.2**
ERM	**Erimo**	**1.17**	**130**	P	**Pn**	**17 03 45.2**	**+0.5**
ERM	**Erimo**	**1.17**	**130**	*ce*PN	**Pn**	**17 03 45.2**	**+0.5**
ERM				pmax	pmax		
	comp=Z,161nm,0.6s						
JEM	**Erimo**	**1.17**	**130**	P	**Pn**	**17 03 45.2**	**+0.5**
ASAJ	**Asahikawa**	**1.42**	**19**	P	**Pn**	**17 03 49.8**	**+1.6**
	comp=Z,182nm,0.4s,baz=224,slow=13,SNR=498						
ASAJ				S	**Sb**	**17 04 07.7**	**-0.4**
	comp=Z,230nm,0.3s,baz=306,slow=19,SNR=8.5						
JKA	**Kamikawa-asahi**	**1.42**	**19**		**Pn**	**17 03 49.8**	**+1.7**
JKA				Sn	**Sn**	**17 04 04.8**	**-0.9**
JTM	**Tenmabayashi**	**2.10**	**199**		**Pn**	**17 03 57.9**	**+0.4**
JTM				Sn	**Sn**	**17 04 23.6**	**+1.2**
JTM	**Tenmabayashi**	**2.10**	**199**	P	**Pn**	**17 03 58.4**	**+1.0**
AKK	**Akkeshi**	**2.14**	**83**	*e*P	**Pn**	**17 03 57.9**	**-0.1**
RUSJ	**Misakicho**	**2.74**	**60**	*e*PN	**Pb**	**17 04 10.7**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.83**	**77**	*e*PN	**Pn**	**17 04 07.3**	**-0.2**
NMR				*i* S	**Sn**	**17 04 39.1**	**-1.3**
NMR	**Nemuro--Hokkai**	**2.83**	**77**	*e*P	**Pn**	**17 04 07.3**	**-0.2**
NMR				*i* S	**Sn**	**17 04 39.1**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**3.11**	**65**	*d i* PN	**Pn**	**17 04 15.1**	**+3.7**
YUK				*i* S	**Sn**	**17 04 52.9**	**+5.4**
YUK				pmax	pmax		
	comp=E,16nm,0.2s						
YUK				pmax	pmax		
	comp=Z,52nm,0.2s						
YUK				smax	smax		
	comp=N,380nm,0.4s						
YUK				smax	smax		
	comp=E,258nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.11**	**65**	*e*P	**Pn**	**17 04 13.7**	**+2.3**
YUK				AMB	AMB	17 04 20.6	
	comp=E,50nm,0.2s						
YUK				*e*S	**Sn**	**17 04 50.3**	**+2.8**
YUK				A	A	17 04 57.7	
	comp=E,380nm,0.4s						
YUK				A	A	17 04 57.7	
	comp=E,260nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.21**	**8**		**Pn**	**17 04 25.9**	**-0.6**
YSS	**Yuzhno-Sakhali**	**4.21**	**8**	*e*PN	**Pn**	**17 04 27.9**	**+1.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzhno-Sakhali**	**4.21**	**8**	*e*P	**Pn**	**17 04 27.9**	**+1.4**
YSS				*e*S	**Sn**	**17 05 15.9**	**+1.3**
TEY	**Ternei**	**4.48**	**302**	*e*PN	**Pn**	**17 04 31.3**	**+1.2**
TEY	**Ternei**	**4.48**	**302**	*e*P	**Pn**	**17 04 31.3**	**+1.2**
KUR	**Kuril'sk**	**4.92**	**58**	PN	Pn	17 04 43.4	+7.2
KUR				*e*S	**Sn**	**17 05 39.6**	**+7.6**
KUR				pmax	pmax		
	comp=Z,41nm,0.8s						
KUR				smax	smax		
	comp=N,28nm,0.5s						
KUR				smax	smax		
	comp=E,42nm,0.5s						
KUR	**Kuril'sk**	**4.92**	**58**	*e*P	**Pn**	**17 04 39.6**	**+3.4**
KUR				AMB	AMB	17 04 59.1	
	comp=E,40nm,0.4s						
KUR				*e*S	**Sn**	**17 05 35.5**	**+3.5**
KUR				A	A	17 05 46.9	
	comp=E,50nm,0.4s						
KUR				A	A	17 05 46.9	
	comp=E,70nm,0.4s						
JMM	**Marumori**	**4.99**	**191**		**Pn**	**17 04 38.7**	**+1.5**
JMM				Sn	**Sn**	**17 05 34.9**	**+1.2**
JMM	**Marumori**	**4.99**	**191**	P	**Pn**	**17 04 38.6**	**+1.5**
JSD	**Sado**	**5.51**	**212**		**Pn**	**17 04 46.8**	**+2.4**
MJB9	**Matsu-Tunnel**	**6.86**	**206**		**Pn**	**17 05 05.0**	**+2.0**
MAJO	**Matsushiro**	**6.86**	**206**		**Pn**	**17 05 06.5**	**+3.5**
MAJO	**Matsushiro**	**6.86**	**206**	*i* PN	**Pn**	**17 05 05.3**	**+2.3**
MJAR	**Matsushiro Arr**	**6.86**	**206**	P	**Pn**	**17 05 07.1**	**+4.1**
	comp=E,0.6nm,0.3s,baz=24,slow=14,SNR=5.2						
USA0B	**Ussuriysk Arra**	**7.38**	**284**	Pn	**Pn**	**17 05 08.8**	**-1.3**
USA0B	**Ussuriysk Arra**	**7.38**	**284**	PN	**Pn**	**17 05 08.8**	**-1.3**
USRK	**Ussuriysk Ar.**	**7.38**	**284**	P	**Pn**	**17 05 13.2**	**+3.1**
	comp=E,0.7nm,0.5s,baz=95,slow=15,SNR=4.9						
JGF	**Kuroka**	**8.00**	**208**	Pn	**Pn**	**17 05 19.9**	**+1.3**
INU	**Inuyama**	**8.35**	**209**	Pn	**Pn**	**17 05 25.2**	**+1.9**
KLR	**Kul'dur**	**9.59**	**316**	P	**Pn**	**17 05 41.9**	**+1.7**
	comp=E,0.3nm,0.3s,baz=125,slow=14,SNR=4.5						
JMN	**Monobe**	**11.04**	**218**	Pn	**Pn**	**17 05 58.3**	**-1.8**
KSRS	**Korea Array**	**11.98**	**248**	P	**Pn**	**17 06 16.8**	**+3.8**
	comp=E,0.3nm,0.4s,baz=56,slow=16,SNR=1.2						
ZEA	**Zeya**	**14.67**	**323**	*e*P	**P**	**17 06 54.7**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZEA	**Zeya**	**14.67**	**323**	*e*P	**Pn**	**17 06 51.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**14.74**	**40**	Pn	**Pn**	**17 06 53.1**	**+2.7**
PEA0B	**Petropavlovsk-**	**14.74**	**40**	P	**Pn**	**17 06 53.2**	**+2.7**
PETK	**Petropavlovsk-**	**14.74**	**40**	Pn	**Pn**	**17 06 52.5**	**+2.0**
PETK	**Petropavlovsk-**	**14.74**	**40**	P	**Pn**	**17 06 50.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=219,slow=12,SNR=3.6						
PETK	**Petropavlovsk-**	**14.74**	**40**	P	**Pn**	**17 06 52.5**	**+2.0**
MA2	**Magadan**	**17.68**	**15**		**Pn**	**17 07 28.3**	**+0.3**
MA2	**Magadan**	**17.68**	**15**	P	**P**	**17 07 29.5**	**+0.8**
	comp=Z,6.3nm,0.7s,baz=181,slow=12,SNR=14						
MA2	**Magadan**	**17.68**	**15**	*ce*P	**Pn**	**17 07 28.4**	**+0.3**
MA2				pmax	pmax		
	comp=Z,11nm,1.3s						
MA2	**Magadan**	**17.68**	**15**	*e*P	**Pn**	**17 07 28.4**	**+0.3**
YAK	**Yakutsk**	**20.62**	**343**		**P**	**17 08 01.3**	**+0.5**
	comp=Z,7.4nm,0.6s,baz=122,slow=1.5,SNR=5.6						
	comp=Z,7.4nm,0.6s						
YAK	**Yakutsk**	**20.62**	**343**	*ce*P	**P**	**17 08 02.4**	**+1.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	**Yakutsk**	**20.62**	**343**	*e*P	**P**	**17 08 02.4**	**+1.6**
SEY	**Seymchan**	**21.10**	**13**	P	**P**	**17 08 06.0**	**0.0**
	comp=Z,4.4nm,0.8s,baz=200,slow=7.8,SNR=27						
	comp=Z,4.4nm,0.8s						
SEY	**Seymchan**	**21.10**	**13**	*ce*P	**P**	**17 08 06.8**	**+0.8**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**25.36**	**294**	P	**P**	**17 08 48.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=92,slow=8.0,SNR=4.1						
	comp=Z,0.5nm,0.7s						
TIXI	**Tiksi**	**29.66**	**352**	*i* P	**P**	**17 09 28.8**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.0s						
TIXI	**Tiksi**	**29.66**	**352**	*e*P	**P**	**17 09 28.8**	**+2.1**
ZALV	**Zalesovo Beam**	**38.56**	**307**	P	**P**	**17 10 44.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=100,slow=9.6,SNR=3.5						
	comp=Z,0.8nm,0.6s						
G18K	**Tagagawik**	**39.56**	**34**	P	**P**	**17 10 52.5**	**+0.2**
H18K	**Honhosa River**	**39.62**	**35**	P	**P**	**17 10 52.9**	**+0.2**
H18K				IAmb	IAmb	17 11 03.2	
	comp=Z,5.8nm,1.4s						
G19K	**Purcell Mounta**	**40.22**	**33**	P	**P**	**17 10 57.7**	**-0.1**
G19K				IAmb	IAmb	17 11 34.4	
	comp=Z,4.3nm,1.4s						
B20K	**Meade River**	**40.66**	**27**	P	**P**	**17 11 00.2**	**-1.0**
B20K				IAmb	IAmb	17 11 01.9	
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**41.65**	**297**	P	**P**	**17 11 09.0**	**-0.8**
MK31	**Makanchi Array**	**41.65**	**297**	*ce*P	**P**	**17 11 11.4**	**+1.6**
MKAR	**Makanchi Array**	**41.65**	**297**	P	**P**	**17 11 09.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=81,slow=9.9,SNR=7.6						
MKAR				PcP	**PcP**	**17 13 05.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=9.9,slow=1.8,SNR=2.1						
	comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**41.65**	**297**	*ce*P	**P**	**17 11 10.3**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**41.65**	**297**	*e*P	**P**	**17 11 10.3**	**+0.5**
D22K	**Ayikyak River**	**42.11**	**29**	P	**P**	**17 11 12.1**	**-1.1**
CAST	**Castle Rocks**	**42.33**	**38**	P	**P**	**17 11 16.4**	**+1.3**
CAST				IAmb	IAmb	17 11 31.4	
	comp=Z,6.9nm,1.3s						
E22K	**Anaktuvuk Pass**	**42.39**	**31**	P	**P**	**17 11 15.2**	**-0.4**
E22K				IAmb	IAmb	17 11 25.7	
	comp=Z,7.8nm,1.4s						
KTH	**Kantishna Hill**	**42.84**	**37**	P	**P**	**17 11 20.2**	**+0.9**
KTH				IAmb	IAmb	17 11 35.8	
	comp=Z,6.2nm,1.2s						
C23K	**Itkillik River**	**42.89**	**28**	P	**P**	**17 11 19.2**	**-0.3**
C23K				IAmb	IAmb	17 11 36.0	
	comp=Z,8.9nm,1.5s						
KURK	**Kurchatov**	**42.

ASAR	Alice Springs	66.53	188	P	P	17 14 11.2	0.0
ASAR	Alice Springs	66.53	188	P	P	17 14 10.9	-0.2
	comp=Z,0.3nm,0.7s,baz=2.4,slow=6.6,SNR=8.5						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	66.53	188	P	P	17 14 11.2	0.0
NC405	NORSAR Array S	68.86	337	P	P	17 14 25.9	+0.3
HFS	Hagfors	69.04	335	P	P	17 14 26.7	+0.1
	comp=Z,3.0nm,0.5s,baz=22,slow=4.8,SNR=17						
	comp=Z,3.0nm,0.5s						
NB2	NORSAR Subarra	69.07	337	P	P	17 14 26.8	-0.1
	comp=Z,0.8nm,0.5s,baz=36,slow=6.5						
NOA	NORSAR Array B	69.07	337	P	P	17 14 26.8	-0.1
	comp=Z,1.2nm,0.7s,baz=37,slow=6.3,SNR=7.4						
	comp=Z,1.2nm,0.7s						
NC602	NORSAR Array S	69.22	336	P	P	17 14 28.1	+0.3
AKASG	Malin Array Be	70.04	321	P	P	17 14 32.6	-0.3
	comp=Z,0.4nm,0.4s,baz=45,slow=6.1,SNR=8.7						
	comp=Z,0.4nm,0.4s						
AKASG	Malin Array Be	70.04	321	*e*P	P	17 14 32.4	-0.6
AKBB	Malin Array Si	70.04	321	P	P	17 14 33.4	+0.4
AKBB				IAmb	IAmb	17 14 33.7	
	comp=Z,3.4nm,0.8s						
AKBB	Malin Array Si	70.04	321	P	P	17 14 33.4	+0.4
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIEV	Kiev	70.05	321	P	P	17 14 33.0	0.0
KIEV				IAmb	IAmb	17 14 33.7	
	comp=Z,3.0nm,0.8s						
KIEV	Kiev	70.05	321	P	P	17 14 33.0	0.0
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	Pinedale Array	73.39	47	P	P	17 14 53.8	+0.2
PDAR	Pinedale Array	73.39	47	P	P	17 14 53.4	-0.2
	comp=Z,0.3nm,0.7s,baz=300,slow=5.8,SNR=3.5						
	comp=Z,0.3nm,0.7s						
PRN	Pahroc Range	73.89	54	P	P	17 14 56.4	-0.1
PRN				IAmb	IAmb	17 15 14.5	
	comp=Z,7.3nm,1.5s						
BURAR	Buccovina Array	74.09	321	P	P	17 14 57.5	+0.1
BBOO	Buckleboo	75.42	185	P	P	17 15 02.2	-2.7
CLL	Collm	76.33	330	*e*P	P	17 15 11.0	+0.9
CLL	Collm	76.33	330	*e*P	P	17 15 11.0	+0.9
EKA	Eskdalemuir Ar	77.86	340	P	P	17 15 18.9	+0.4
	comp=Z,0.5nm,0.5s,baz=26,slow=5.5,SNR=4.3						
	comp=Z,0.5nm,0.5s						
EKA	Eskdalemuir Ar	77.86	340	P	P	17 15 19.0	+0.4
TXAR	Lajitas Array	86.31	53	P	P	17 16 04.0	+0.5
	comp=Z,0.3nm,0.5s,baz=323,slow=3.8,SNR=3.5						
	comp=Z,0.3nm,0.5s						

*GII **22** 17:05:24.2±0.0, 35°.845N±0°.002×27°.378E±0°.001, h10km, Mws3.4, confirmed*
*ISK **22** 17:05:24.9, 36°.15N×27°.48E, h5km, ML3.0/18*
*THE **22** 17:05:25.9, 36°.12N×27°.54E, h1km±1km, ML2.9/4, Error ellipse: s-maj=2.0km s-min=0.9km az=101.0*
*ATH **22** 17:05:25.9, 36°.17N×27°.51E, h17km±3km, ML3.0/7, Manual Solution by N.Liadopoulou First location: 2019/02/22 17:07:00, This location: 2020/07/15 11:15:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **22** 17:05:26.6, 36°.15N×27°.58E, h15km±3km, ML2.8*
ISC 22 17:05:26.3±1.0, 36°.12N±0°.02×27°.53E±0°.02, h25km±11km, n90, σ1§04/116, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.49	79	Pg	Pb	17 05 36.3	-0.2
ARG	Arkhangelos	0.49	79	P	Pb	17 05 36.2	-0.2
ARG				S	Sb	17 05 43.2	-0.1
	2μm,0.2s						
ARG	Arkhangelos	0.49	79	P	Pb	17 05 35.9	-0.5
ARG				S	Sb	17 05 42.8	-0.5
YAZI	Mula-Dat§a-	0.56	354	P	Pb	17 05 36.9	-0.6
YAZI				S	Sb	17 05 44.9	-0.2
YAZI				*i* AML	AML	17 05 52.0	
	comp=E,454nm,0.4s						
NISR	Nisiros	0.58	327	P	Pb	17 05 37.9	0.0
NISR				S	Sn	17 05 47.5	-0.3
DAT	Datca	0.61	4	Pg	Pb	17 05 37.8	-0.6
DAT	Datca	0.61	4	P	Pb	17 05 37.8	-0.6
DAT				S	Sb	17 05 46.9	+0.3
DAT				*i* AML	AML	17 05 50.0	
	comp=N,1μm,0.2s						
KARP	Karpathos	0.65	207	Pg	Pb	17 05 38.8	-0.2
KARP	Karpathos	0.65	207	P	Pb	17 05 38.5	-0.5
KARP				S	Sb	17 05 48.7	+1.1
	3μm,0.2s						
KARP	Karpathos	0.65	207	P	Pb	17 05 39.4	+0.4
KARP				S	Sb	17 05 48.9	+1.3
MRSB	Marmaris-Mugla	0.80	42	Pg	Pn	17 05 41.7	-0.4
MRSB				Sg	Sn	17 05 53.9	+0.6
TURN	Turunc	0.87	42	Pg	Pn	17 05 42.9	-0.1
TURN	Turunc	0.87	42	P	Pn	17 05 43.0	0.0
TURN				S	Sb	17 05 53.5	-0.5
TURN				*i* AML	AML	17 06 01.0	
	comp=N,262nm,0.2s						
BDRM	Kayabasi	0.94	356	P	Pn	17 05 43.8	-0.2
BDRM				S	Sn	17 05 57.6	+0.9
BDRM				*i* AML	AML	17 05 59.0	
	comp=E,509nm,0.4s						
KLNA	Kalymnos	0.94	332	P	Pb	17 05 43.2	-0.8
BODT	Bodrum	0.95	350	Pg	Pn	17 05 43.9	-0.3
BODT				Sg	Sn	17 05 57.7	+0.7
YKAV	Yalikavak-Bodr	1.02	349	Pg	Pn	17 05 44.8	-0.3
DALY	Dalyan (Mula)	1.14	52	Pn	Pb	17 05 47.8	+0.4
YER	Yerkesik	1.18	31	Pn	Pb	17 05 48.7	+0.6
MLSB	Milas	1.19	10	Pn	Pb	17 05 48.1	-0.1
MLSB				Sn	Sb	17 06 05.8	+2.7
MULA	Mugla, Merkez-	1.30	29	P	Pb	17 05 50.7	+0.6
MULA				S	Sb	17 06 07.0	+0.6
DDIM	Aydin, Didim	1.35	350	P	Pb	17 05 50.7	-0.2
DDIM				S	Sb	17 06 09.5	+1.8
DDIM				*i* AML	AML	17 06 20.0	
	comp=E,143nm,0.6s						
FETY	Fethiye	1.36	67	Pn	Pb	17 05 51.5	+0.4
FETY	Fethiye	1.36	67	P	Pb	17 05 52.1	+1.1
SABU	Mula-Dalaman	1.36	59	P	Pb	17 05 51.0	0.0
IZZE	Mula-Seydike	1.41	77	P	Pb	17 05 51.8	-0.1
IZZE				S	Sb	17 06 11.7	+2.3
IZZE				*i* AML	AML	17 06 19.0	
	comp=N,290nm,0.3s						
IZZE				*i* AML	AML	17 06 20.0	
	comp=E,234nm,0.3s						
ZKR	Zakros	1.47	227	Pn	Pb	17 05 53.3	+0.4
ZKR	Zakros	1.47	227	P	Pb	17 05 53.1	+0.2
ZKR				S	Sb	17 06 12.6	+1.5
	220nm,0.5s						
ZKR	Zakros	1.47	227	P	Pb	17 05 52.5	-0.4
ZKR				S	Sn	17 06 10.7	+1.1
AYDN	Tasoluk	1.56	10	P	Pb	17 05 53.5	-1.1
AYDN				S	Sn	17 06 12.3	+0.2
GCAM	G?zelcaml?	1.59	352	Pn	Pb	17 05 54.9	-0.1
GCAM	G?zelcaml?	1.59	352	P	Pb	17 05 56.0	+1.0
CAME	Cameli-Denizli	1.65	60	Pn	Pb	17 05 56.8	+0.7
DNZT	Denizli-Tavas-	1.67	46	P	Pb	17 05 57.1	+0.7
DNZT				S	Sb	17 06 19.2	+2.2
SMG	Samos	1.68	341	P	Pn	17 05 54.2	+0.1
SMG				S	Sb	17 06 17.4	+0.2
	235nm,0.4s						
SMG	Samos	1.68	341	P	Pn	17 05 54.1	+0.1
SMG				S	Sn	17 06 14.9	+0.1
AKAS	Kas	1.69	86	Pn	Pb	17 05 57.3	+0.6
AKAS	Kas	1.69	86	P	Pb	17 05 56.8	+0.1
THR3	Thira Island,	1.74	280	P	Pn	17 05 55.5	+0.5
TAVA	DENIZLI_Tavas	1.74	39	P	Pb	17 05 58.2	+0.5
TAVA				S	Sb	17 06 19.2	0.0
TAVA				*i* AML	AML	17 06 24.0	
	comp=E,79nm,0.4s						
CMBO	Columbo, Santo	1.75	282	P	Pn	17 05 54.9	-0.2
CAEL	Denizli, Camel	1.75	55	P	Pb	17 06 00.4	+2.5
CAEL				S	Sb	17 06 22.5	+2.9
ESEN	Aydn-Nazilli	1.80	21	P	Pb	17 05 57.4	-1.2
ESEN				S	Sn	17 06 17.8	0.0
ESEN				*i* AML	AML	17 06 27.0	
	comp=E,59nm,0.8s						
KNIK	Mula-Seydike	1.80	66	P	Pb	17 05 58.8	+0.1
AYDB	Zeytinkoy-Aydi	1.84	9	Pn	Pb	17 05 57.9	-1.5
APE	Apeiranthos	1.86	301	P	Pn	17 05 57.0	+0.3
APE	Apeiranthos	1.86	301	P	Pn	17 05 56.5	-0.2
APE	Apeiranthos	1.86	301	P	Pn	17 05 56.9	+0.2
DNIZ	Denizli-Tavas-	1.93	39	P	Pb	17 06 00.7	-0.2
NAZL	Nazilli-Aydin	1.94	18	Pn	Pb	17 06 00.4	-0.6
APMY	Acipayam-Deniz	1.96	46	Pn	Pb	17 06 01.4	0.0
GOLH	Golhisar	1.98	55	P	Pb	17 06 03.5	+1.8
GOLH				S	Sb	17 06 27.5	+1.5
DGB	zmir	1.99	345	P	Pn	17 05 57.1	-1.3
ELL	Elmali	2.02	71	Pn	Pb	17 06 01.8	-0.6
IZMR	zmir-demi	2.04	10	P	Pb	17 06 03.2	+0.5
IZMR				S	Sb	17 06 30.5	+3.0
IZMR				*i* AML	AML	17 06 37.0	
	comp=N,78nm,0.6s						
IZMR				*i* AML	AML	17 06 38.0	
	comp=E,72nm,0.6s						
ODEM	Odemis-Izmir	2.19	11	Pn	Pb	17 06 03.6	-1.7
ZEYE	Izmir, Urla-Ze	2.26	339	P	Pn	17 06 01.5	-0.6
INCE	Denizli-Bozkur	2.28	45	P	Pb	17 06 08.1	+1.3
IDI	Anoyia	2.30	250	P	Pn	17 06 03.4	+0.6
URLA	Izmir	2.35	342	P	Pn	17 06 03.7	+0.3
KORT	Korkueli	2.44	68	Pn	Pb	17 06 07.7	-1.8
KORT	Korkueli	2.44	68	P	Pb	17 06 08.1	-1.4
CSS	Mathiatis	4.87	102	P	Pn	17 06 38.5	+0.4
CSS	Mathiatis	4.87	102	S	Sn	17 07 35.9	+2.1
HNTI	Hanita	7.00	113	P	Pn	17 07 07.3	0.0
HNTI	Hanita	7.00	113	S	Sn	17 08 26.7	+0.6
MMLI	Mount Malkishu	7.50	117	P	Pn	17 07 13.6	-0.5
MMLI	Mount Malkishu	7.50	117	S	Sn	17 08 38.7	+0.3
KSHT	Keshet	7.52	112	P	Pn	17 07 14.6	+0.1
KSHT	Keshet	7.52	112	S	Sn	17 08 39.9	+1.0
AMAZ	Amatzia	7.67	125	P	Pn	17 07 15.6	-0.8
AMAZ	Amatzia	7.67	125	S	Sn	17 08 41.9	-0.6
HMDT	Nahal Hemdat	7.67	118	P	Pn	17 07 15.9	-0.6
HMDT	Nahal Hemdat	7.67	118	S	Sn	17 08 43.2	+0.6
KZIT	Kziot	7.74	130	P	Pn	17 07 15.9	-1.7
KZIT	Kziot	7.74	130	S	Sn	17 08 43.2	-1.3
YTIR	Yattir	7.91	125	P	Pn	17 07 18.9	-0.9
YTIR	Yattir	7.91	125	S	Sn	17 08 47.9	-0.6
DSI	Dead Sea	7.96	123	P	Pn	17 07 19.5	-0.9
DSI	Dead Sea	7.96	123	S	Sn	17 08 49.2	-0.4
GHAJ	Ghor Haditha	8.24	123	P	Pn	17 07 23.4	-1.0
GHAJ	Ghor Haditha	8.24	123	S	Sn	17 08 55.9	-0.7
PRNI	Paran	8.51	130	P	Pn	17 07 26.7	-1.3
PRNI	Paran	8.51	130	S	Sn	17 09 01.7	-1.5
HRFI	Mount Harif	8.75	132	P	Pn	17 07 29.9	-1.4
HRFI	Mount Harif	8.75	132	S	Sn	17 09 07.5	-1.7
MBRI	Mt Berech	8.85	133	P	Pn	17 07 31.4	-1.3
MBRI	Mt Berech	8.85	133	S	Sn	17 09 10.5	-1.3
EIL	Elat	8.96	134	P	Pn	17 07 33.1	-1.1
EIL	Elat	8.96	134	S	Sn	17 09 11.7	-2.7

*UPA **22** 17:12:38.9±2.1, 8°.35N×82°.94W, h0km±6km, MD4.4, MW4.6*
*IDC **22** 17:12:38.5±3.1, 8°.25N×83°.14W, h0km, mb3.9/5, mbtmp4.1/9, ML4.3/3, MS4.3/1, Error ellipse: s-maj=76.2km s-min=23.2km az=21.0*
*NEIC **22** 17:12:40.8±1.9, 8°.41N±0°.07×82°.91W±0°.07, h16km±5km, mb4.6/36, Error ellipse: s-maj=12.1km s-min=7.6km az=217.0*
ISC 22 17:12:39.9±0.7, 8°.33N±0°.03×82°.92W±0°.03, h13km±5km, n104, σ1§20/126, mb4.6/20, 6C-14D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.13	163	↑*i*P	Pg	17 12 42.7	-0.6
PTPM				*i* S	Sb	17 12 46.5	-0.5
LIMO3	Limones	0.23	167	↑*i*P	Pg	17 12 44.2	-0.7
LIMO3				*i* S	Sb	17 12 49.4	-0.5
MLIR3	Monte Lirio, C	0.47	11	↓*i*P	Pg	17 12 49.4	+0.1
MLIR3				*i* S	Sb	17 12 58.1	+1.0
DVD	David	0.47	77	↓*i*P	Pg	17 12 49.0	-0.3
DVD				*e*S	Sb	17 12 57.9	+0.9
PEDE3	Pedregal, Chir	0.49	83	↓*i*P	Pg	17 12 49.1	-0.5
PEDE3				*i* S	Sg	17 12 55.2	-1.0
BRU2	Volcan	0.52	26	↓*i*P	Pg	17 12 50.0	-0.1
BRU2				*i* S	Sn	17 12 59.9	-1.9
LOMA3	Las Lomas, Chi	0.53	79	↓*i*P	Pg	17 12 49.8	-0.5
LOMA3				*i* S	Sb	17 13 00.0	+1.4
PTAR3	Potrerillos Ar	0.55	49	↓*i*P	Pg	17 12 50.6	-0.2
PTAR3				*i* S	Sg	17 12 56.9	-1.3
BC3P	Paso Ancho	0.57	32	↓*i*P	Pg	17 12 50.9	-0.3
BC3P				*i* S	Sb	17 13 01.2	+1.2
GUAL3	Gualaca, Chiri	0.65	71	↓*i*P	Pg	17 12 51.8	-0.7
LNBQ3	Los Naranjos,	0.66	46	↓*i*P	Pg	17 12 51.9	-0.9
PSOM3	Paja de Sombre	0.69	59	↓*i*P	Pg	17 12 52.3	-1.0
PSOM3				*i* S	Sg	17 13 02.5	+0.1
CNI2	El Empalme, Bo	1.18	22	↑*e*P	Pn	17 13 00.6	-1.5
CNI2				*i* S	Sg	17 13 18.0	+0.1
MESA3	La Mesa, Verag	1.72	96	↑*e*P	Pn	17 13 08.1	-1.4
MESA3				*e*S	Sb	17 13 32.5	-0.5
GMAL	Guarumal, Vera	1.76	108	↑*e*P	Pn	17 13 07.8	-2.2
GMAL				*i* S	Sn	17 13 31.5	-0.8
STIA3	Santiago, Vera	1.94	97	*e*P	Pn	17 13 12.1	-0.4
STIA3				*i* S	Sb	17 13 39.2	0.0
HDC	Heredia	2.04	325		Pn	17 13 13.7	-0.4
HDC				Sn	Sn	17 13 39.8	+0.3
CALO3	Calobre, Verag	2.05	90	↓*i*P	Pn	17 13 14.2	+0.1
CALO3				*i* S	Sb	17 13 42.1	-0.4
CRIS3	El Cristo, Coc	2.28	92	*e*P	Pn	17 13 16.5	-0.7
CRIS3				*e*S	Sb	17 13 47.1	-1.8
PESE3	Pese, Herrera	2.32	100	*e*P	Pb	17 13 21.9	+0.4
CHIT3	Chitre	2.50	98	*e*P	Pn	17 13 20.8	+0.5
PNME	Penonome	2.57	86	*e*P	Pn	17 13 22.3	+1.1
PNME				*i* S	Sb	17 13 55.9	-1.4
SOCE	Pocosol	2.65	321		Pn	17 13 22.9	+0.6
AZU	Azuero	2.67	101	↓*e*P	Pn	17 13 23.2	+0.6
AZU				*i* S	Sb	17 13 58.5	-1.7
JTS	Las Juntas de	2.80	314		Pn	17 13 24.1	-0.4
JTS				Sn	Sn	17 13 56.9	-1.2
JTS	Las Juntas de	2.80	314	Pn	Pn	17 13 24.3	-0.1
	118nm,0.3s,baz=203,slow=9.8,SNR=111						
JTS				Sn	Sn	17 13 57.8	-0.3
	15nm,0.3s,baz=108,slow=20,SNR=3.9						
	211nm,0.3s						
JTS	Las Juntas de	2.80	314	↑*e*P	Pn	17 13 26.1	+1.6
PCRI3	Pocri, Los San	2.85	103	*e*P	Pn	17 13 25.6	+0.5
PCRI3				*i* S	Sb	17 14 05.5	+0.1
ACHO3	Achotines, Los	2.87	108	*e*P	Pn	17 13 27.3	+2.0
PEDA3	Pedasi	2.97	105	↓*e*P	Pn	17 13 21.2	-5.5
BCIP	Isla Barro Col	3.16	74		Pn	17 13 30.4	+1.2
BCIP	Isla Barro Col	3.16	74	↓*e*P	Pn	17 13 30.5	+1.2
BCIP				*e*S	Sn	17 14 09.8	+3.0
CHOR3	La Chorrera	3.17	79	*e*P	Pn	17 13 30.2	+0.7
CHOR3				*i* S	Sn	17 14 09.2	+2.1
ARRA3	Arraijan, Pana	3.29	79	*e*P	Pn	17 13 31.9	+0.8
TABO3	Taboga, Panama	3.36	82	*e*P	Pn	17 13 33.5	+1.4
UPA	Univ. de Panam	3.41	79	*e*P	Pn	17 13 33.6	+0.8
UPA				*i* S	Sn	17 14 14.6	+1.6
ESPN	Las Esperanzas	4.08	341		Pn	17 13 40.2	-1.8
CNTA3	Canitas, Panam	4.08	77	*e*P	Pn	17 13 43.4	+1.4
ACON	Acoyapa	4.25	329		Pn	17 13 44.2	-0.1
UPD2	Meteti	4.86	87	*e*P	Pn	17 13 53.9	+1.2
BOAB	BOACO BROADBAN	4.91	327		Pn	17 13 53.7	+0.3
PTAC	Punta Ardita,	5.20	103	*e*P	Pn	17 13 57.9	+0.5
PRVC	Isla de Provid	5.25	17	Pn	Pn	17 13 57.5	-0.5
CNGN	Cerro Negro	5.57	318		Pn	17 14 02.8	+0.2
HERN	Volcan Telica	5.74	318	Pn	Pn	17 14 05.1	+0.2
CRIN	San Cristobal	5.95	317	Pn	Pn	17 14 07.3	-0.4
TGUH	Tegucigalpa,Un	7.12	324	Pn	Pn	17 14 22.1	-1.9
MTO3	Montecristo	8.74	314		Pn	17 14 45.5	-0.7
ESQI	Esquipulas	8.83	315	Pn	Pn	17 14 47.9	+0.5
OTAV	Otavalo	9.19	151	Pn	Pn	17 14 54.7	+2.1
ROSC	El Rosal	9.21	112	Pn	Pn	17 14 55.6	+2.7
FLOC	Florencia	9.86	132	Pn	Pn	17 15 03.5	+2.0
APG	El Apazote	9.93	313	Pn	Pn	17 15 04.5	+1.9
	0.1nm,0.3s,baz=144,slow=9.9,SNR=12						
SLOR	San Lorenzo -	10.02	154		Pn	17 15 05.1	+1.1
RUSC	La Rusia	10.05	103		Pn	17 15 05.4	+0.9
MTDJ	Mount Denham	11.14	27	Pn	Pn	17 15 17.1	-2.0
COHC	Cochancay	11.33	161	Pn	Pn	17 15 21.4	-0.2
SDV	Santo Domingo	12.16	86		Pn	17 15 31.5	-1.6
SDV	Santo Domingo	12.16	86	Pn	Pn	17 15 35.3	+2.2
	2.5nm,0.5s,baz=246,slow=12,SNR=4.7						
CHIV	Chivirico	13.18	28	Pn	Pn	17 15 45.3	-1.6
HATO	Hato, Curacao	14.26	73		Pn	17 16 00.3	-1.4
CMIG	Matias Romero	14.56	308	Pn	Pn	17 16 06.0	+0.3
	0.5nm,0.3s,baz=112,slow=8.9,SNR=5.0						
	1.2nm,0.3s						
BAUV	El Baul	14.72	87	Pn	Pn	17 16 07.0	-1.0
SJG	San Juan	18.98	58	P	Pn	17 17 05.4	+3.4
	1.1nm,0.3s,baz=250,slow=7.8,SNR=5.4						
	23nm,0.7s						
MPOM	Morne Pois Mar	22.45	72	P	P	17 17 39.0	+0.1
BOAV	Boa Vista	23.05	104	P	P	17 17 45.3	+0.1
LRAL	Lakeview Retre	24.88	352	P	P	17 18 01.9	-0.5
GOGA	Godfrey	24.97	359	P	P	17 18 03.6	+0.4
GOGA				IAmb	IAmb	17 18 07.4	
	comp=Z,16nm,1.2s						
HNVL	Huntsville, TX	25.21	334	P	P	17 18 05.8	+0.4
WHAR	Wooly Hollow	28.18	344	P	P	17 18 31.4	-0.7
WHAR				IAmb	IAmb	17 18 33.5	
	comp=Z,11nm,1.2s						
LCAR	Lake Charles	28.62	346	P	P	17 18 35.0	-1.0
LCAR				IAmb	IAmb	17 18 38.7	
	comp=Z,12nm,1.0s						
FCAR	Ozark Folk Cen	28.70	344		P	17 18 35.7	-1.0
CGM3	Cape Girardeau	29.48	349	P	P	17 18 42.9	-0.7
CGM3				IAmb	IAmb	17 18 46.5	
	comp=Z,15nm,1.1s						
T42A	Van Buren	29.52	347	P	P	17 18 42.7	-1.4
T42A				IAmb	IAmb	17 18 47.0	
	comp=Z,14nm,1.5s						
MGMO	Mountain Grove	29.93	345		P	17 18 47.0	-0.7
MGMO				IAmb	IAmb	17 18 51.1	
	comp=Z,12nm,1.1s						
CCM	Cathedral Cave	30.54	347		P	17 18 51.7	-1.4
CCM				IAmb	IAmb	17 18 56.0	
	comp=Z,10.0nm,1.1s						
N41A	Harden Midland	33.01	349		P	17 19 13.8	-1.0
N38A	Joes South For	33.61	346	P	P	17 19 19.0	-1.0
L40A	Anamosa	34.39	349		P	17 19 25.8	-1.0
I42A	Draeger Farm,	35.81	353	P	P	17 19 37.8	-1.2
I42A				IAmb	IAmb	17 19 41.2	
	comp=Z,9.1nm,1.0s						
G40A	Rib Lake	37.34	352	P	P	17 19 50.4	-1.7
SPMN	Marine on St.	37.74	349		P	17 19 53.4	-2.0
SPMN				IAmb	IAmb	17 19 56.5	
	comp=Z,9.6nm,0.9s						
PDAR	Pinedale Array	41.52	330	P	P	17 20 28.6	+1.3
	comp=Z,0.5nm,0.8s,baz=142,slow=7.5,SNR=3.8						
	comp=Z,0.5nm,0.8s						
ULM	Lac du Bonnet	43.16	348	P	P	17 20 38.7	-1.4
ULM				IAmb	IAmb	17 20 41.2	
	comp=Z,21nm,1.2s						
ULM	Lac du Bonnet	43.16	348	P	P	17 20 39.3	-0.9
	comp=Z,6.1nm,0.6s,baz=159,slow=7.1,SNR=13						
	comp=Z,6.1nm,0.6s						
LL05	Los Muermos	50.24	171	P	P	17 21 35.7	0.0
LTY	Liberty	50.34	327	P	P	17 21 35.1	-1.4
FCC	Fort Churchill	51.04	353	P	P	17 21 40.9	-0.6
YKA	Yellowknife Ar	58.78	343	P	P	17 22 38.3	+0.9
	comp=Z,1.2nm,0.7s,baz=138,slow=7.6,SNR=23						
	comp=Z,1.2nm,0.7s						
RES	Resolute Bay	66.67	357	P	P	17 23 28.9	-1.0
INK	Inuvik	68.47	342	P	P	17 23 42.5	+1.2
INK				IAmb	IAmb	17 23 46.9	
	comp=Z,4.1nm,1.1s						
ILAR	Eielson Array	71.57	336	P	P	17 24 00.8	+0.2
	comp=Z,0.7nm,0.6s,baz=120,slow=5.4,SNR=12						
	comp=Z,0.7nm,0.6s						
H24K	Noodor Dome	72.33	337	P	P	17 24 06.2	+1.1
H24K				IAmb	IAmb	17 24 07.9	
	comp=Z,9.2nm,1.4s						
D25K	Kavik River	73.05	341	IAmb	IAmb	17 24 12.8	
	comp=Z,4.4nm,1.0s						
E23K	Chandalar	73.71	339	P	P	17 24 13.5	+0.2
C24K	Franklin Bluff	73.96	341	P	P	17 24 15.2	+0.6
C23K	Itkillik River	74.62	341	P	P	17 24 20.2	+1.7
C23K				IAmb	IAmb	17 24 25.4	
	comp=Z,10.0nm,1.2s						
F21K	Alatna River	74.89	338	IAmb	IAmb	17 24 24.7	
	comp=Z,5.9nm,1.2s						
G19K	Purcell Mounta	76.04	336	P	P	17 24 26.5	-0.2
G19K				IAmb	IAmb	17 24 30.2	
	comp=Z,8.7nm,1.3s						
ESDC	Sonseca Array	76.24	51	P	P	17 24 31.7	+3.2
	comp=Z,0.7nm,0.8s,baz=273,slow=6.5,SNR=2.1						
	comp=Z,0.7nm,0.8s						
E19K	Redstone River	76.36	338	P	P	17 24 28.8	+0.3
J17K	VABM Dome	76.41	333	P	P	17 24 28.6	-0.3
BEHE	Becsehely	90.64	43	P	P	17 25 41.8	-0.5
ASAR	Alice Springs	141.61	242	PKP	PKPdf	17 32 10.8	-1.1
	comp=Z,0.3nm,0.8s,baz=106,slow=3.1,SNR=2.4						

*WEL **22** 17:13:40.0±1.0, 37°.5S±5°.5×17°.9E±°, h12km, M3.0/13, ML3.3/18, MLv3.0/13, Error ellipse: s-maj=11.1km s-min=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.18**	**209**	P	**P**	**17 15 09.3**	**+0.9**
SOEI				S	**S**	**17 16 07.7**	**+0.5**
NLAI	**Namlea**	**3.90**	**19**	P	**P**	**17 15 14.7**	**+1.0**
NLAI				S	**S**	**17 16 17.1**	**+0.3**
MMRI	**Maumere**	**3.92**	**244**	P	**P**	**17 15 14.0**	**+0.2**
MMRI				S	**S**	**17 16 18.9**	**+1.7**
BNDI	**Bandanaira**	**4.72**	**60**	P	**P**	**17 15 21.6**	**+1.0**
MSAI	**Masohi**	**4.73**	**41**	P	**P**	**17 15 20.5**	**-0.2**
BKSI	**Bulukumba**	**5.89**	**286**	P	**P**	**17 15 31.5**	**+0.2**
WSI	**Waingapu**	**6.10**	**243**	P	**P**	**17 15 33.8**	**+0.5**
0.4nm46nm,0.6s							
WBSI	**Waikabubak, Su**	**6.90**	**247**	P	**P**	**17 15 41.0**	**-0.3**
0.2nm22nm,1.0s							
FAKI	**Fak Fak**	**7.55**	**58**	P	**P**	**17 15 46.9**	**-1.0**
SWI	**Sorong**	**8.12**	**42**	P	**P**	**17 15 54.5**	**+0.8**
PLAI	**Plampang**	**8.18**	**256**	P	**P**	**17 15 52.9**	**-1.4**
20nm,1.3s							
TWSI	**Taliwang, Sumb**	**9.03**	**258**	P	**P**	**17 16 02.2**	**-1.0**
10nm,0.9s							
RKPI	**Ransiki, Papua**	**9.93**	**57**	P	**P**	**17 16 11.6**	**-1.1**
WRA	**Warramunga Arr**	**15.34**	**148**	P	**P**	**17 17 11.0**	**+1.2**
0.7nm,0.6s,baz=333,slow=9.3,SNR=10							
ASAR	**Alice Springs**	**18.35**	**156**	P	**P**	**17 17 39.5**	**-0.2**
0.1nm,0.3s,baz=328,slow=8.1,SNR=7.6							
SONM	**Songino Array**	**57.18**	**345**	P	**P**	**17 22 55.2**	**+0.4**
0.3nm,0.4s,baz=154,slow=8.0,SNR=3.2							
0.3nm,0.4s							
PETK	**Petropavlovsk-**	**65.65**	**20**	P	**P**	**17 23 50.5**	**+0.4**
2.6nm,1.0s,baz=202,slow=6.9,SNR=4.6							
2.6nm,1.0s							
MKAR	**Makanchi Array**	**65.97**	**329**	P	**P**	**17 23 52.4**	**+0.1**
0.3nm,0.6s,baz=125,slow=7.5,SNR=4.6							
0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**69.76**	**336**	P	**P**	**17 24 14.9**	**-0.3**
0.9nm,0.4s,baz=127,slow=5.3,SNR=6.1							
0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**70.35**	**330**	P	**P**	**17 24 19.4**	**+0.6**
0.5nm,0.6s,baz=138,slow=5.1,SNR=9.4							
0.5nm,0.6s							
MAW	**Mawson**	**73.50**	**201**	P	**P**	**17 24 35.2**	**-1.7**
28nm,1.0s,baz=72,slow=8.2,SNR=1.9							

*KRNET **22** 17:30:56.7±0.1,41°.22N×72°.59E, h25km, mb2.6*
*SOME **22** 17:30:58.7,41°.35N×72°.58E, h5km*
*KNET **22** 17:31:00.3±0.6,41°.39N×72°.72E, h2km±3km, ml2.3, Error ellipse: s-maj=8.0km s-min=3.2km az=129.0*
*NNC **22** 17:31:02.4±2.0,41°.38N×72°.70E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=17.5km s-min=7.5km az=0.0*

ISC 22 17:30:55.7±1.2,**41°.19N**±0°.02×**72°.63E**±0°.02,**h0**km±10km, **n46**,σ0°**83**/78,**29C-24D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.30**	**63**	⇑*eP*	**Pb**	**17 31 03.6**	**-0.4**
ARSB				⇑*eS*	**Sb**	**17 31 08.7**	**-0.9**
OHH	**Osh**	**0.67**	**170**	⇑*eP*	**Pb**	**17 31 10.2**	**-0.1**
OHH				⇑*eS*	**Sb**	**17 31 20.0**	**-0.2**
ARK	**Arkit**	**0.79**	**321**	⇑*eP*	**Pg**	**17 31 11.0**	**+0.2**
ARK				⇑*eS*	**Sg**	**17 31 21.5**	**+0.5**
SALK	**Salom-Alik**	**0.95**	**108**	⇓*eP*	**Pb**	**17 31 15.2**	**0.0**
SALK				⇓*eS*	**Sb**	**17 31 28.6**	**+0.2**
TRKS	**Terek-Say**	**1.17**	**287**	⇑*eP*	**Pg**	**17 31 17.1**	**-1.0**
TRKS				⇑*eS*	**Sg**	**17 31 31.9**	**-1.4**
AML	**Almayashu**	**1.24**	**40**	⇑P	**Pn**	**17 31 20.3**	**-0.3**
20nm,0.2s,SNR=13							
AML				⇓S	**Sn**	**17 31 37.3**	**-0.8**
32nm,0.2s							
AML	**Almayashu**	**1.24**	**40**	⇑*eP*	**Pg**	**17 31 19.6**	**+0.2**
AML				⇑*eS*	**Sg**	**17 31 36.1**	**+0.7**
MNAS	**Manas**	**1.30**	**356**	⇑*eP*	**Pn**	**17 31 20.2**	**-1.0**
MNAS				⇑*eS*	**Sg**	**17 31 37.1**	**-0.4**
SFK	**Sufi-Kurgan**	**1.35**	**150**	⇑*eP*	**Pb**	**17 31 22.1**	**+0.1**
SFK				⇑*eS*	**Sn**	**17 31 40.5**	**-0.2**
ARLS	**Aral**	**1.44**	**62**	⇓*eP*	**Pn**	**17 31 23.2**	**0.0**
ARLS				⇓*eS*	**Sg**	**17 31 42.4**	**+0.4**
MRKS	**Merke**	**1.62**	**16**	*eP*	**Pg**	**17 31 27.8**	**+1.1**
1.9nm,0.1s							
MRKS				*eS*	**Sg**	**17 31 48.7**	**+1.0**
34nm,0.3s							
EKS2	**Erkin-Say**	**1.70**	**30**	⇓P	**Pb**	**17 31 28.3**	**+0.4**
2.6nm,0.1s							
EKS2				⇑S	**Sg**	**17 31 51.2**	**+0.8**
6.8nm,0.2s							
EKS2	**Erkin-Say**	**1.70**	**30**	⇓*eP*	**Pn**	**17 31 27.2**	**+0.4**
EKS2				⇓*eS*	**Sb**	**17 31 49.1**	**-0.9**
UCH	**Uchtor**	**1.75**	**53**	⇓P	**Pg**	**17 31 30.2**	**+0.9**
5.1nm,0.2s,SNR=7.0							
UCH				⇑S	**Sg**	**17 31 54.1**	**+2.1**
18nm,0.3s							
UCH	**Uchtor**	**1.75**	**53**	⇑*eP*	**Pn**	**17 31 28.2**	**+0.5**
UCH				⇑*eS*	**Sb**	**17 31 51.1**	**-0.6**
BTK	**Batken**	**1.78**	**231**	⇓*eP*	**Pn**	**17 31 28.3**	**+0.5**
BTK				⇓*eS*	**Sn**	**17 31 51.1**	**0.0**
DRK	**Karamyk**	**1.82**	**201**	⇓*eP*	**Pn**	**17 31 29.2**	**+0.7**
DRK				⇓*eS*	**Sb**	**17 31 53.0**	**-0.4**
AAK	**Ala-Archa**	**2.01**	**43**	⇓P	**Pg**	**17 31 34.4**	**+0.2**
24nm,0.2s,SNR=36							
AAK				⇓S	**Sg**	**17 32 01.1**	**+0.8**
8.8nm,0.2s							
AAK	**Ala-Archa**	**2.01**	**43**	Pn	**Pg**	**17 31 34.4**	**+0.2**
8.4nm,0.3s							
AAK				Sn	**Sg**	**17 32 00.2**	**0.0**
15nm,0.6s							
AAK	**Ala-Archa**	**2.01**	**43**	⇓*eP*	**Pn**	**17 31 31.6**	**+0.6**
AAK				⇓*eS*	**Sn**	**17 31 56.8**	**-0.1**
IUG	**Iuzhnay**	**2.17**	**297**	Pg	**Pg**	**17 31 37.3**	**+0.1**
37nm,0.2s							
IUG				Lg	Lg	17 32 05.0	
214nm,0.2s							
KBK	**Karagaybulak**	**2.27**	**49**	⇑P	**Pg**	**17 31 39.1**	**-0.1**
9.5nm,0.2s,SNR=18							
KBK				⇓S	**Sg**	**17 32 09.1**	**+0.5**
34nm,0.3s							
KBK	**Karagaybulak**	**2.27**	**49**	⇑*eP*	**Pn**	**17 31 35.3**	**+0.7**
KBK				⇑*eS*	**Sn**	**17 32 03.2**	**-0.1**
KK31	**Karatay Array**	**2.48**	**321**	⇑Pn	**Pb**	**17 31 41.6**	**+0.5**
1.7nm,0.2s,baz=138,slow=12,SNR=36							
KK31				⇑Sn	**Sb**	**17 32 13.7**	**+1.6**
15nm,0.3s,baz=132,slow=24							
KKAR	**Karatay Array**	**2.48**	**321**	⇑*eP*	**Pn**	**17 31 37.4**	**+0.1**
KKAR				⇑*eS*	**Sn**	**17 32 07.0**	**-1.2**
CHM	**Chimkent**	**2.53**	**298**	*eP*	**Pg**	**17 31 44.4**	**+0.3**
42nm,0.2s							
CHM				*eS*	**Sg**	**17 32 17.0**	**+0.1**
151nm,0.4s							
BRLS	**Borolday**	**2.77**	**312**	Pg	**Pb**	**17 31 46.8**	**+0.7**
7.8nm,0.3s							
BRLS				Lg	Lg	17 32 21.3	
23nm,0.5s							
BRLS	**Borolday**	**2.77**	**312**	*eP*	**Pb**	**17 31 46.8**	**+0.7**
7.8nm,0.3s							
BRLS				*eS*	**Sb**	**17 32 21.3**	**+0.6**
23nm,0.5s							
BOOM	**Boomskoye usch**	**2.80**	**61**	⇑*eP*	**Pn**	**17 31 42.7**	**+0.9**
BOOM				⇑*eS*	**Sn**	**17 32 16.5**	**+0.2**
TKM2	**Tokmak 2**	**2.81**	**51**	⇓P	**Pb**	**17 31 47.2**	**+0.4**
3.4nm,0.2s,SNR=8.1							
TKM2	**Tokmak 2**	**2.81**	**51**	⇑Pn	**Pb**	**17 31 48.2**	**+1.4**
6.5nm,0.7s							
TKM2				⇓Sn	**Sb**	**17 32 21.9**	**+0.1**
7.9nm,0.5s							
GAR	**Garm**	**2.81**	**220**	⇓*eP*	**Pn**	**17 31 42.8**	**+0.8**
GAR				⇓*eS*	**Sn**	**17 32 16.1**	**-0.6**
KST	**Kastek**	**3.10**	**52**	Lg	Lg	17 32 34.1	
15nm,0.5s							
KST	**Kastek**	**3.10**	**52**	*eP*	**Pg**	**17 31 54.0**	**-1.0**
8.6nm,0.3s							
KST				*eS*	**Sg**	**17 32 34.1**	**-1.1**
15nm,0.5s							
DGS	**Degeres**	**3.11**	**48**	Pg	**Pg**	**17 31 55.1**	**-0.2**
4.7nm,0.3s							
DGS				Lg	Lg	17 32 35.7	
12nm,0.5s							
KRBS	**Karabastau**	**3.37**	**41**	Lg	Lg	17 32 41.7	
5.7nm,0.6s							
MTBS	**Maitube**	**3.43**	**54**	Pg	**Pg**	**17 32 01.1**	**-0.3**
2.5nm,0.3s							
MTBS				Lg	Lg	17 32 45.6	
8.5nm,0.3s							
MTBS	**Maitube**	**3.43**	**54**	*eP*	**Pg**	**17 32 01.1**	**-0.3**
2.5nm,0.3s							
MTBS				*eS*	**Sg**	**17 32 45.6**	**-0.2**
8.5nm,0.3s							
KDJ	**Kajisay**	**3.54**	**73**	⇓*eP*	**Pn**	**17 31 53.4**	**+1.4**
KDJ				⇓*eS*	**Sn**	**17 32 34.0**	**-0.6**
TNSS	**Tian-Shan**	**3.71**	**59**	Lg	Lg	17 32 54.1	
3.4nm,0.5s							
TNSS	**Tian-Shan**	**3.71**	**59**	*eP*	**Pg**	**17 32 05.9**	**-0.8**
1.1nm,0.2s							
TNSS				*eS*	**Sg**	**17 32 54.1**	**-0.6**
3.4nm,0.5s							
MDOK	**Medeo**	**3.83**	**58**	Pg	**Pg**	**17 32 08.5**	**-0.6**
3.0nm,0.3s							
MDOK	**Medeo**	**3.83**	**58**	*eP*	**Pg**	**17 32 08.5**	**-0.6**
3.0nm,0.3s							
MDOK				*eS*	**Sg**	**17 32 58.5**	**-0.3**
2.5nm,0.2s							
KOTS	**Kotyrbulak**	**3.91**	**57**	Lg	Lg	17 32 60.0	
9.4nm,0.7s							
KOTS	**Kotyrbulak**	**3.91**	**57**	*eP*	**Pg**	**17 32 09.0**	**-1.6**
2.1nm,0.3s							
KOTS				*eS*	**Sg**	**17 32 60.0**	**-1.2**
9.4nm,0.7s							
BTLS	**Baital**	**3.99**	**15**	*eP*	**Pg**	**17 32 10.2**	**-1.9**
0.5nm,0.2s							
BTLS				*eS*	**Sg**	**17 33 01.1**	**-2.7**
1.8nm,0.2s							

*IDC **22** 17:42:58.0±1.0,32°.51N×105°.51E, h0km, mb3.4/6, mbtmp3.4/8, ML2.9/2, MS3.6/1, Error ellipse: s-maj=40.0km s-min=18.0km az=59.0*

ISC 22 17:42:59.7±1.1,**32°.6N**±0°.2×**105°.6E**±0°.2,**h11**km,**n9**, σ0°**92**/8,**mb3.6/6, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.24**	**2**	Pn	**Pn**	**17 46 34.5**	**-0.4**
baz=181,slow=11,SNR=5.6							
SONM				Lg	Lg	17 51 05.8	
0.2nm,0.3s,baz=192,slow=28,SNR=2.1							
0.1nm,0.5s							
KSRS	**Korea Array**	**18.89**	**69**	P	**Pn**	**17 47 21.0**	**+0.2**
0.1nm,0.3s,baz=261,slow=11,SNR=2.4							
0.9nm,0.8s							
MKAR	**Makanchi Array**	**22.76**	**315**	P	**P**	**17 48 02.8**	**+0.8**
0.6nm,0.8s,baz=113,slow=10.0,SNR=6.6							
0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**25.99**	**331**	P	**P**	**17 48 32.0**	**-0.3**
0.3nm,0.4s,baz=132,slow=8.5,SNR=1.7							
0.3nm,0.4s							
AKASG	**Malin Array Be**	**57.31**	**313**	P	**P**	**17 52 46.2**	**-1.3**
0.2nm,0.3s,baz=67,slow=8.0,SNR=3.1							
0.2nm,0.3s							
PMG	**Port Moresby**	**57.56**	**129**	LR	LR	18 17 29.1	
comp=Z,51nm,21.5s,baz=162,slow=36							
WRA	**Warramunga Arr**	**59.02**	**148**	P	**P**	**17 52 59.7**	**0.0**
0.6nm,0.6s,baz=339,slow=7.3,SNR=5.9							
0.6nm,0.6s							
ASAR	**Alice Springs**	**62.12**	**151**	P	**P**	**17 53 20.8**	**-0.1**
0.8nm,0.9s,baz=333,slow=8.1,SNR=14							
0.8nm,0.9s							
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**17 53 34.9**	**+1.3**
0.2nm,0.4s,baz=70,slow=6.7,SNR=1.0							
0.2nm,0.4s							

*SOF **22** 17:45:27.1,41°.93N±0°.01×23°.53E±0°.01, h12km±2km, MD2.8/6*
*BEO **22** 17:45:28.4±0.3,41°.90N×23°.37E, h0km, ML2.6/11*
*THE **22** 17:45:28.9,41°.85N×23°.55E, h7km, ML2.5/10, Error ellipse: s-maj=1.1km s-min=0.7km az=148.0*
*ATH **22** 17:45:35.5,41°.41N×23°.69E, h26km±6km, ML2.4/10, Manual Solution by N.Liadopoulou First location: 2019/02/22 17:46:03, This location: 2019/03/26 19:31:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 30 km; Longitude uncertainty: 9 km*

ISC 22 17:45:27.2±1.0,**41°.91N**±0°.02×**23°.54E**±0°.02,**h8**km±9km, **n46**,σ0°**78**/73,**Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.32**	**259**	Pg	**Pg**	**17 45 33.7**	**+0.3**
KKB				Sg	**Sg**	**17 45 38.0**	**+0.4**
MMB	**Musomishta**	**0.39**	**157**	Pg	**Pb**	**17 45 36.0**	**-0.4**
MMB				Sg	**Sb**	**17 45 41.7**	**-0.8**
PLNA	**Plana**	**0.58**	**351**	P	**Pg**	**17 45 38.6**	**+0.2**
NVR	**Nevrokopi**	**0.60**	**157**	P	**Pn**	**17 45 40.8**	**-1.3**
VTS	**Vitosha**	**0.75**	**342**	Pg	**Pg**	**17 45 41.1**	**-0.5**
VTS				Sg	**Sg**	**17 45 51.0**	**-0.4**
VTS	**Vitosha**	**0.75**	**342**	*e*Pg	**Pg**	**17 45 41.1**	**-0.5**
VTS				*e*Sg	**Sg**	**17 45 50.2**	**-1.2**
PGB	**Panagyurishte**	**0.77**	**37**	P	**Pb**	**17 45 42.3**	**-0.5**
SRS	**Serrai**	**0.79**	**177**	P	**Pb**	**17 45 43.0**	**-0.1**
SRS				S	**Sb**	**17 45 54.2**	**+0.2**
368nm,0.2s							
SRS	**Serrai**	**0.79**	**177**	*e*Pg	**Pb**	**17 45 43.0**	**-0.1**
SRS				*e*Sg	**Sb**	**17 45 53.9**	**-0.1**
SRS	**Serrai**	**0.79**	**177**	P	**Pb**	**17 45 42.8**	**-0.3**
KNT	**Kendrikon**	**0.89**	**213**	P	**Pg**	**17 45 44.4**	**+0.2**
KNT				S	**Sg**	**17 45 55.7**	**0.0**
368nm,0.2s							
RZN	**Rozhen**	**0.92**	**103**	P	**Pb**	**17 45 45.2**	**-0.3**
PLD	**Plovdiv**	**0.93**	**75**	*e*Pg	**Pn**	**17 45 47.4**	**+0.9**
PLD				*e*Sg	**Sn**	**17 45 59.8**	**-0.3**
BOSS	**Bosilegrad**	**0.99**	**307**	*e*Pg	**Pg**	**17 45 45.5**	**-0.6**
BOSS				*e*Sg	**Sg**	**17 45 58.1**	**-0.9**
SOH	**Sokhos**	**1.09**	**188**	P	**Pb**	**17 45 48.3**	**0.0**
SOH				S	**Sn**	**17 46 03.5**	**-0.6**
275nm,0.3s							
KOKK	**Kokkinochori,**	**1.14**	**162**	P	**Pn**	**17 45 49.6**	**+0.2**
KOKK				S	**Sn**	**17 46 04.9**	**-0.3**
130nm,0.3s							
TRAN	**Tran**	**1.14**	**325**	P	**Pb**	**17 45 48.7**	**-0.5**
TRAN				S	**Sg**	**17 46 04.0**	**+0.1**
KVLA	**Kavala**	**1.16**	**147**	P	**Pn**	**17 45 49.6**	**0.0**
KAVA	**Kavala**	**1.16**	**141**	P	**Pn**	**17 45 49.6**	**-0.1**
KAVA				S	**Sn**	**17 46 06.2**	**+0.4**
542nm,0.3s							
KAVA	**Kavala**	**1.16**	**141**	P	**Pn**	**17 45 49.7**	**-0.1**
THE	**Thessaloniki**	**1.34**	**199**	P	**Pg**	**17 45 53.1**	**+0.2**
THE				S	**Sg**	**17 46 10.8**	**+0.4**
148nm,0.4s							
THE	**Thessaloniki**	**1.34**	**199**	P	**Pg**	**17 45 53.0**	**0.0**
HORT	**Hortiatis**	**1.35**	**195**	P	**Pb**	**17 45 53.0**	**+0.3**
HORT				S	**Sg**	**17 46 11.2**	**+0.7**
120nm,0.6s							
HORT	**Hortiatis**	**1.35**	**195**	P	**Pb**	**17 45 52.8**	**+0.1**
KDZ	**Kurdzhali**	**1.37**	**101**	P	**Pg**	**17 45 53.7**	**+0.2**
KDZ				S	**Sg**	**17 46 13.0**	**+1.8**
MPEP	**Malo Peshtene**	**1.46**	**6**	S	**Sg**	**17 46 13.9**	**-0.1**
MPEP				P	**Pg**	**17 45 54.8**	**-0.3**
DIM	**Dimitrovgrad**	**1.52**	**84**	P	**Pg**	**17 45 56.3**	**-0.1**
ZAPS	**Zavoj**	**1.52**	**334**	*e*Pg	**Pb**	**17 45 55.8**	**+0.1**
ZAPS				*e*Sg	**Sn**	**17 46 14.4**	**-0.4**
THAS	**Thassos island**	**1.57**	**145**	P	**Pb**	**17 45 55.8**	**-0.7**
THAS				S	**Sg**	**17 46 18.4**	**+0.8**
142nm,0.2s							
THAS	**Thassos island**	**1.57**	**145**	P	**Pb**	**17 45 55.6**	**-0.9**
BARS	**Barje**	**1.57**	**306**	*e*Pg	**Pn**	**17 45 55.5**	**+0.1**
BARS				*e*Sg	**Sn**	**17 46 14.7**	**-1.3**
OUR	**Ouranopolis**	**1.60**	**168**	P	**Pn**	**17 45 56.1**	**+0.3**
OUR				S	**Sb**	**17 46 17.4**	**0.0**
242nm,0.3s							
OUR	**Ouranopolis**	**1.60**	**168**	P	**Pn**	**17 45 56.0**	**+0.3**
RDO	**Rodhopi**	**1.68**	**116**	P	**Pg**	**17 45 59.3**	**-0.1**
LIT	**Litokhoron**	**1.97**	**204**	P	**Pb**	**17 46 02.6**	**-0.7**
SMTH	**Samothraki Isl**	**2.07**	**133**	P	**Pn**	**17 46 02.9**	**+0.6**
ALN	**Alexandroupoli**	**2.13**	**117**	P	**Pb**	**17 46 04.0**	**-2.1**
ALN				S	**Sg**	**17 46 36.4**	**+0.7**
48nm,0.5s							
BOVS	**Bovan**	**2.20**	**323**	*e*Pg	**Pn**	**17 46 05.6**	**+1.6**
BOVS				*e*Sg	**Sb**	**17 46 35.3**	**+0.8**
SELS	**Selova**	**2.22**	**307**	*e*Pg	**Pn**	**17 46 04.4**	**0.0**
SELS				*e*Sg	**Sb**	**17 46 35.0**	**-0.3**
LIA	**Limnos Island**	**2.36**	**148**	P	**Pn**	**17 46 06.5**	**+0.4**
NEST	**Nestorio**	**2.40**	**233**	P	**Pb**	**17 46 10.2**	**-0.5**
BORS2	**Bor- Borsko je**	**2.46**	**333**	*e*Pn	**Pn**	**17 46 09.5**	**+2.0**
BORS2				*e*Sn	**Sn**	**17 46 39.6**	**+1.9**
XOR	**Xorichti**	**2.55**	**186**	P	**Pn**	**17 46 09.1**	**+0.2**
NEO	**Neokhori**	**2.61**	**185**	P	**Pn**	**17 46 09.8**	**+0.2**
GRUS	**Gruza**	**2.87**	**315**	*e*Pn	**Pn**	**17 46 13.0**	**-0.3**
GRUS				*e*Sn	**Sn**	**17 46 49.8**	**+1.8**
IVAS	**Ivanjica**	**3.00**	**305**	*e*Pn	**Pn**	**17 46 16.8**	**+1.6**
IVAS				*e*Sn	**Sn**	**17 46 49.5**	**-1.9**

DJA 22 17:48:36.8±0.9,**6°N**±3°×**12°6E**±°, **h12**km±7km, **M4.2**/12, **mB4.9**/2, **mb4.3**/6, **MLv4.2**/12, **Mw(mB)4.1**/2, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.03**	**194**	P	Pn	17 49 10.2	-0.7
SGSI				S	Sb	17 49 38.6	-0.4
TNTI	**Ternate**	**5.04**	**165**	P	Pn	17 49 51.4	-0.9
0.1nm639nm15nm,0.6s							
TNTI				S	Sn	17 50 51.4	+0.8
0.1nm639nm15nm,0.6s							
KMSI	**Cibinong**	**5.46**	**202**	P	Pn	17 49 58.4	+0.4
0.3nm63nm,1.0s							
LUWI	**Luwuk**	**7.42**	**206**	P	Pn	17 50 25.5	+0.5

*IDC **22** 17:55:24.4±0.9,19°.51N×145°.58E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=42.4km s-min=20.3km az=103.0*

ISC 22 17:55:41.8±0.9,**19°.4N**±0°.2×**145°.5E**±0°.3,**h147**km,**n14**, σ0°**43**/8,**mb3.5**/8,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.06**	**89**	T	T	18 20 50.9	
baz=275,slow=74,SNR=16							
H11S1	**WAKE ISLAND Hy**	**20.07**	**89**	T	T	18 20 51.5	
baz=275,slow=74,SNR=10							
H11S2	**WAKE ISLAND Hy**	**20.08**	**89**	T	T	18 20 52.7	
baz=275,slow=74,SNR=12							
H11N1	**WAKE ISLAND Hy**	**20.16**	**85**	T	T	18 21 03.2	
baz=273,slow=74							
H11N2	**WAKE ISLAND Hy**	**20.17**	**85**	T	T	18 21 02.2	
baz=273,slow=74							
H11N3	**WAKE ISLAND Hy**	**20.18**	**85**	T	T	18 21 03.0	
baz=273							
WRA	**Warramunga Arr**	**40.59**	**196**	P	**P**	**18 03 07.0**	**-0.2**
1.5nm,0.5s,baz=17,slow=8.2,SNR=16							
1.5nm,0.5s							
ASAR	**Alice Springs**	**44.26**	**195**	P	**P**	**18 03 36.9**	**0.0**
0.3nm,0.4s,baz=11,slow=7.6,SNR=19							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**60.69**	**318**	P	**P**	**18 05 37.7**	**+0.2**
0.3nm,0.6s,baz=96,slow=8.0,SNR=2.5							
0.3nm,0.6s							
ILAR	**Eielson Array**	**63.11**	**26**	P	**P**	**18 05 52.8**	**-0.7**
0.2nm,0.4s,baz=257,slow=6.7,SNR=5.1							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**65.83**	**320**	P	**P**	**18 06 11.4**	**+0.1**
0.4nm,0.6s,baz=99,slow=8.9,SNR=2.6							
0.4nm,0.6s							
YKA	**Yellowknife Ar**	**77.47**	**28**	P	**P**	**18 07 20.8**	**+0.1**
0.4nm,0.7s,baz=286,slow=5.6,SNR=5.1							
0.4nm,0.7s							
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**18 07 50.9**	**+0.5**
0.6nm,0.7s,baz=283,slow=8.5,SNR=2.9							
0.6nm,0.7s							
FINES	**FINESS Array B**	**86.18**	**335**	P	**P**	**18 08 06.1**	**-0.1**
1.1nm,0.7s,baz=71,slow=6.4,SNR=3.5							
1.1nm,0.7s							

*IDC **22** 17:56:12.4±2.9,2°.01S×97°.50E, h0km, mb3.1/3, mbtmp3.3/4, ML3.8/1, MS3.2/1, Error ellipse: s-maj=89.9km s-min=28.9km az=66.0*
*DJA **22** 17:56:41.0±0.4,0°N±2°×10°0E±°, h146km±4km, M4.1/15, mB4.9/2, mb4.5/5, MLv3.8/15, Mw(mB)4.2/2*

ISC 22 17:56:40.5±0.9,**0°.09N**±0°.06×**100°.27E**±0°.06,**h159**km±8km, **n15**,σ1°**91**/20,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.56**	**167**	P	**Pn**	**17 57 03.0**	**-0.1**
PPI				S	**Sn**	**17 57 20.9**	**+0.4**
BKNI	**Bangkinang**	**0.81**	**73**	P	**Pn**	**17 57 05.0**	**+0.4**
BKNI				S	**Sn**	**17 57 21.5**	**-1.5**
MNSI	**Mandailing Nat**	**0.98**	**316**	P	**Pn**	**17 57 05.0**	**-0.9**
MNSI				S	**Sn**	**17 57 25.0**	**-0.4**
SISI	**Saibi**	**1.83**	**220**	P	**Pn**	**17 57 14.4**	**+0.1**
SISI				S	**Sn**	**17 57 39.8**	**-0.5**
PBSI	**Pulau Batu**	**1.99**	**266**	P	**Pn**	**17 57 16.8**	**+0.8**
PBSI				S	**Sn**	**17 57 42.3**	**-1.1**
GSI	**Gunungsitoli**	**2.95**	**294**	P	**Pn**	**17 57 28.1**	**+0.5**
GSI				S	**Sn**	**17 58 02.4**	**-1.6**
PSI	**Prapat**	**3.01**	**334**	Pn	**Pn**	**17 57 27.6**	**-0.8**
4.0nm,0.3s,baz=170,slow=6.1,SNR=20							
17nm,0.4s							
SNSI	**Sinabang, Aceh**	**4.56**	**300**	P	**Pn**	**17 57 48.6**	**+0.3**
MNAI	**Manna**	**5.17**	**149**	P	**Pn**	**17 57 57.2**	**+0.8**
0.4nm120nm,1.1s							
MLSI	**Meulaboh, Aceh**	**5.67**	**317**	P	**Pn**	**17 58 02.1**	**-0.8**
BSI	**Banda Aceh**	**

SANL				*i* AML	AML	18 01 39.0	
	comp=N,4μm,0.7s						
SANL				*i* AML	AML	18 01 39.0	
	comp=E,3μm,0.3s						
HANI	**Diyarbakir_Han**	**1.25**	**86**	P	**Pg**	**18 01 24.0**	**+0.1**
HANI				S	**Sb**	**18 01 39.5**	**+0.1**
HANI				*i* AML	AML	18 01 41.0	
	comp=E,699nm,0.6s						
CUGUR	**Gurin_SVAS**	**1.27**	**288**	P	**Pb**	**18 01 23.5**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.32**	**270**	P	**Pg**	**18 01 25.7**	**+0.4**
ELBS				S	**Sg**	**18 01 44.5**	**+2.0**
ELBS				*i* AML	AML	18 01 48.0	
	comp=N,4μm,0.6s						
ELBS				*i* AML	AML	18 01 50.0	
	comp=E,3μm,0.6s						
GZT	**Gaziantep**	**1.39**	**226**	P	**Pb**	**18 01 25.8**	**0.0**
GZT				S	**Sb**	**18 01 43.2**	**-0.3**
GZT				*i* AML	AML	18 01 47.0	
	comp=E,1μm,0.6s						
CUKAN	**kangal_SIVAS**	**1.44**	**313**	P	**Pg**	**18 01 26.8**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.46**	**186**	P	**Pn**	**18 01 26.0**	**0.0**
SURC				S	**Sg**	**18 01 45.9**	**-0.8**
SURC				*i* AML	AML	18 01 48.0	
	comp=N,1μm,0.9s						
EUZM	**Uzumlu**	**1.54**	**26**	P	**Pb**	**18 01 27.7**	**-0.6**
EUZM				S	**Sg**	**18 01 50.3**	**+1.0**
EUZM				*i* AML	AML	18 01 54.0	
	comp=E,392nm,0.5s						
MAZI	**Mazidag**	**1.56**	**123**	Pn	**Pb**	**18 01 28.9**	**+0.3**
NZIP	**Nizip/Gaziante**	**1.57**	**216**	P	**Pn**	**18 01 27.1**	**-0.5**
NZIP				S	**Sb**	**18 01 47.8**	**-0.9**
NZIP				*i* AML	AML	18 01 55.0	
	comp=E,484nm,0.4s						
BNGB	**Bingl**	**1.60**	**65**	Pn	**Pg**	**18 01 30.9**	**+0.3**
KHMN	**Narli-Kahraman**	**1.61**	**235**	Pn	**Pb**	**18 01 29.6**	**+0.1**
KAHM	**Kahramanmaras,**	**1.66**	**241**	P	**Pb**	**18 01 29.9**	**-0.4**
KAHM				S	**Sb**	**18 01 51.4**	**+0.3**
KAHM				*i* AML	AML	18 01 57.0	
	comp=N,494nm,0.7s						
KAHM				*i* AML	AML	18 01 58.0	
	comp=E,267nm,1.2s						
GAZ	**Gaziantep**	**1.72**	**228**	Pn	**Pb**	**18 01 30.9**	**-0.4**
GAZ				Sn	**Sg**	**18 01 54.2**	**-0.9**
YEDI	**Yedisu-Bingol**	**1.74**	**50**	Pn	**Pg**	**18 01 33.0**	**-0.3**
CUZAR	**Zara_SIVAS**	**1.75**	**333**	P	**Pg**	**18 01 33.2**	**-0.3**
KHMR	**Kahramanmara**	**1.80**	**237**	P	**Pn**	**18 01 31.2**	**+0.5**
KHMR				P	**Pb**	**18 01 31.3**	**-1.4**
KELT	**Kelkit**	**1.85**	**11**	P	**Pb**	**18 01 34.3**	**+0.7**
MARD	**Mardin**	**1.86**	**123**	P	**Pn**	**18 01 32.1**	**+0.6**
MARD				S	**Sn**	**18 01 53.6**	**-1.3**
MARD				*i* AML	AML	18 02 06.0	
	comp=N,1μm,0.4s						
CUAYA	**Sivas-Altinyay**	**1.87**	**301**	P	**Pg**	**18 01 34.6**	**-1.0**
CUAYA				S	**Sg**	**18 02 02.1**	**+2.2**
CUAYA				*i* AML	AML	18 02 11.0	
	comp=E,221nm,0.8s						
SARI	**SarD1z-Kayseri**	**1.89**	**273**	Pn	**Pb**	**18 01 33.6**	**-0.7**
SUSE	**Susehri**	**1.94**	**346**	P	**Pg**	**18 01 36.0**	**-1.0**
BTMN	**Batman**	**1.98**	**102**	P	**Pn**	**18 01 34.3**	**+1.0**
BTMN				S	**Sn**	**18 01 58.0**	**0.0**
BTMN				*i* AML	AML	18 02 06.0	
	comp=N,793nm,0.7s						
BTMN				*i* AML	AML	18 02 06.0	
	comp=E,533nm,0.6s						
KARO	**Karliova-Bingo**	**2.00**	**60**	Pn	**Pb**	**18 01 36.4**	**+0.2**
ALUC	**Giresun/Alucra**	**2.01**	**359**	P	**Pg**	**18 01 37.4**	**-1.0**
SCER	**sogukcermik**	**2.02**	**320**	P	**Pb**	**18 01 36.9**	**+0.5**
ECAT	**Cat-ERZURUM**	**2.11**	**52**	P	**Pb**	**18 01 38.2**	**0.0**
SVSK	**Karacayir**	**2.12**	**319**	Pn	**Pb**	**18 01 37.3**	**-0.9**
KOPT	**Kop Dagi**	**2.13**	**37**	P	**Pb**	**18 01 39.3**	**+0.7**
MUSM	**Mu-Merkez**	**2.15**	**79**	P	**Pb**	**18 01 37.8**	**-1.0**
VRTB	**Varto-Mus**	**2.23**	**67**	Pn	**Pb**	**18 01 39.6**	**-0.4**
VRTB	**Varto-Mus**	**2.23**	**67**	P	**Pg**	**18 01 41.5**	**-1.0**
BAYB	**BAYBURT**	**2.23**	**30**	P	**Pb**	**18 01 40.4**	**+0.3**
MIDY	**Mardin/Midyat-**	**2.24**	**113**	P	**Pb**	**18 01 38.7**	**-1.6**
MIDY				S	**Sn**	**18 01 04.6**	**+0.2**
MIDY				*i* AML	AML	18 02 20.0	
	comp=E,500nm,0.6s						
BAYT	**Aydıntepe-Bayb**	**2.30**	**26**	Pn	**Pb**	**18 01 40.5**	**-0.9**
ETEKE	**Tekederesi - E**	**2.33**	**50**	P	**Pb**	**18 01 40.9**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.37**	**331**	Pn	**Pb**	**18 01 41.7**	**-0.6**
GURO	**Guroymak-BITLI**	**2.54**	**84**	Pn	**Pb**	**18 01 43.7**	**-1.6**
ESPY	**Espiye-Giresun**	**2.58**	**359**	Pn	**Pb**	**18 01 44.3**	**-1.8**
TOKT	**Tokat**	**2.66**	**319**	Pn	**Pb**	**18 01 45.3**	**-2.0**
KTUT	**Trabzon**	**2.75**	**15**	Pn	**Pb**	**18 01 47.3**	**-1.6**
KOPR	**Koprukoy-ERZUR**	**2.89**	**54**	Pn	**Pb**	**18 01 49.1**	**-2.2**
CHOM	**Cayeli-Rize**	**3.14**	**28**	Pn	**Pb**	**18 01 52.8**	**-2.8**
BEIL	**Beino**	**4.33**	**210**	*eP*	**Pn**	**18 02 06.9**	**+1.4**
FKH	**Fakeheh**	**4.52**	**206**	*eP*	**Pn**	**18 02 09.2**	**+1.2**
HWQ	**Hawqa**	**4.66**	**211**	*eP*	**Pn**	**18 02 11.4**	**+1.3**
ZAHL	**Zahle**	**5.05**	**209**	*eP*	**Pn**	**18 02 17.4**	**+1.9**
BHL	**Bhannes**	**5.10**	**211**	*eP*	**Pn**	**18 02 18.2**	**+2.0**
DQRL	**Deir Qamar**	**5.31**	**211**	*eP*	**Pn**	**18 02 21.5**	**+2.5**
RCY	**Rachaya**	**5.39**	**208**	*eP*	**Pn**	**18 02 22.2**	**+2.0**
QRWL	**Qaraoun**	**5.41**	**209**	*eP*	**Pn**	**18 02 22.3**	**+2.0**
SHBL	**Chebaa**	**5.56**	**208**	*eP*	**Pn**	**18 02 24.5**	**+2.0**
NATI	**Neve Ativ**	**5.64**	**207**	P	**Pn**	**18 02 25.3**	**+1.9**
NATI	**Neve Ativ**	**5.64**	**207**	S	**Sg**	**18 04 00.1**	**-0.8**
KSHT	**Keshet**	**5.87**	**206**	P	**Pn**	**18 02 29.1**	**+2.4**
KSHT	**Keshet**	**5.87**	**206**	S	**Sg**	**18 04 05.1**	**-3.1**
MMC7	**Mount Meron ar**	**5.98**	**209**	P	**Pn**	**18 02 29.8**	**+1.6**
MMA0B	**Mount Meron ar**	**5.99**	**209**	P	**Pn**	**18 02 29.6**	**+1.3**
MMA0B	**Mount Meron ar**	**5.99**	**209**	S	**Sg**	**18 04 07.4**	**-4.6**
HNTI	**Hanita**	**6.01**	**211**	P	**Pn**	**18 02 29.3**	**+0.7**
HNTI	**Hanita**	**6.01**	**211**	S	**Sg**	**18 04 06.9**	**-6.0**
BLGI	**Bet Lehem HaGe**	**6.32**	**209**	P	**Pn**	**18 02 33.8**	**+1.1**
OFRI	**`Ofer**	**6.50**	**210**	P	**Pn**	**18 02 35.6**	**+0.3**
OFRI	**`Ofer**	**6.50**	**210**	S	**Sb**	**18 04 18.9**	**+8.5**
MMLI	**Mount Malkishu**	**6.50**	**206**	P	**Pn**	**18 02 37.0**	**+1.7**
HMDT	**Nahal Hemdat**	**6.63**	**205**	P	**Pn**	**18 02 38.8**	**+1.8**
HMDT	**Nahal Hemdat**	**6.63**	**205**	S	**Sg**	**18 04 24.7**	**-8.0**
GHAJ	**Ghor Haditha**	**7.50**	**202**	P	**Pn**	**18 02 50.3**	**+1.4**
GHAJ	**Ghor Haditha**	**7.50**	**202**	S	**Sb**	**18 04 46.9**	**+7.7**
PRNI	**Paran**	**8.56**	**203**	P	**Pn**	**18 03 05.3**	**+1.8**

*NEIC **22** 18:10:06.0±1.1, 1°.7N±0°.1×124°.05E±0°.09, h302km±12km, mb4.1/11, Error ellipse: s-maj=16.3km s-min=12.8km az=182.0*
*IDC **22** 18:10:06.6±6.9, 1°.81N×124°.28E, h315km±73km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=83.9km s-min=16.4km az=64.0*
ISC 22 18:10:05.4±0.8, 1°.71N±0°.08×124°.07E±0°.08, h300km, n23, σ0s75/26, mb3.5/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**3.03**	**205**	Pn	**Pn**	**18 11 02.0**	**+0.5**
LUWI				Sn	**S**	**18 11 48.5**	**-1.8**
TOLI2	**Tolitoli**	**3.34**	**260**		**Pn**	**18 11 05.5**	**+0.9**
TNTI	**Ternate**	**3.43**	**106**	Pn	**Pn**	**18 11 06.3**	**+0.7**
TNTI				Sn	**S**	**18 11 53.0**	**-0.7**
SOEI	**Soe**	**11.39**	**179**	P	**P**	**18 12 43.6**	**+0.8**
MTN	**Manton Dam**	**16.07**	**154**	P	**P**	**18 13 34.9**	**+0.5**
MTN				IAmb	IAmb	18 13 53.7	
	comp=Z,30nm,1.2s						
KNRA	**Kununurra**	**17.89**	**165**	P	**P**	**18 13 54.4**	**+0.3**
KNRA				IAmb	IAmb	18 14 19.3	
	comp=Z,41nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.75**	**176**	P	**P**	**18 14 15.1**	**+1.3**
FITZ				IAmb	IAmb	18 14 16.1	
	comp=Z,3.4nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.75**	**176**	P	**P**	**18 14 15.1**	**+1.3**
	comp=Z,2.0nm,0.3s,baz=8.9,slow=9.7,SNR=16						
TPUB	**Ta-pu**	**21.72**	**351**	P	**P**	**18 14 33.1**	**+0.1**
WB0	**Warramunga Arr**	**23.63**	**155**	P	**P**	**18 14 49.6**	**-0.8**
WB0				IAmb	IAmb	18 14 50.4	
	comp=Z,4.1nm,1.0s						
WRA	**Warramunga Arr**	**23.77**	**155**	P	**P**	**18 14 51.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=333,slow=9.7,SNR=18						
	comp=Z,0.9nm,0.5s						
WR8	**Warramunga Arr**	**23.84**	**155**	P	**P**	**18 14 51.4**	**-1.0**
WR8				IAmb	IAmb	18 15 15.8	
	comp=Z,8.8nm,1.5s						
AS31	**Alice Springs**	**26.98**	**160**	P	**P**	**18 15 20.1**	**-0.3**
ASAR	**Alice Springs**	**26.98**	**160**	P	**P**	**18 15 20.0**	**-0.4**
ASAR	**Alice Springs**	**26.98**	**160**	P	**P**	**18 15 20.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=337,slow=8.8,SNR=34						
ASAR				PcP	**PcP**	**18 18 33.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=348,slow=2.1,SNR=6.0						
	comp=Z,0.4nm,0.3s						
BBOO	**Buckleboo**	**36.16**	**163**	P	**P**	**18 16 39.7**	**-0.3**
BBOO				IAmb	IAmb	18 16 52.9	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**37.32**	**155**	P	**P**	**18 16 49.7**	**+0.1**
STKA	**Stephens Creek**	**37.32**	**155**	P	**P**	**18 16 50.0**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=331,slow=13,SNR=4.7						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**48.42**	**344**	P	**P**	**18 18 18.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=152,slow=9.5,SNR=2.7						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**57.74**	**327**	P	**P**	**18 19 25.3**	**-0.3**
MKAR	**Makanchi Array**	**57.74**	**327**	P	**P**	**18 19 25.1**	**-0.5**
MKAR	**Makanchi Array**	**57.74**	**327**	P	**P**	**18 19 25.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=126,slow=8.2,SNR=14						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**62.05**	**329**	P	**P**	**18 19 54.2**	**-0.3**
KURK				IAmb	IAmb	18 20 33.2	
	comp=Z,3.4nm,1.5s						

*IDC **22** 18:12:59.1±0.8, 20°.75S×70°.79W, h0km, mb3.7/3, mbtmp3.8/6, ML4.4/3, MS3.7/1, Error ellipse: s-maj=32.6km s-min=25.6km az=80.0*
*NEIC **22** 18:13:00.4, 20°.88S×70°.72W, h16km*
*NEIC **22** 18:13:01.2±2.0, 20°.86S±0°.03×70°.70W±0°.05, h21km±6km, mb4.4/9, Mwr4.1/23, Error ellipse: s-maj=6.8km s-min=4.8km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}0.64; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-0.68; $M_{r\theta}$0.20; $M_{\theta\phi}$-0.05; $M_{\phi r}$~1.42; Fault plane solution: $M_0$1.58000×10^15^ NP1:ϕ_s14.82000°, δ13.07000°, λ111.22000°. NP2:ϕ_s173.09000°, δ77.83000°, λ85.20000°. Principal axes: T 1.5664, Plg57.0000°, Azm77.0000°; N 0.0185, Plg5.0000°, Azm174.0000°; P -1.5849, Plg33.0000°, Azm267.0000°;*
*GUC **22** 18:13:03.9±0.8, 20°.80S×70°.64W, h13km±7km, ML4.2*
*VAO **22** 18:13:05.5±2.5, 20°.81S×70°.61W, h56km±11km, mb4.1*
ISC 22 18:12:59.5±2.0, 20°.81S±0°.04×70°.78W±0°.05, h9km±12km, n83, σ1s24/90, mb4.3/9, 3C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.60**	**67**	Pg	**Pb**	**18 13 12.4**	**+0.1**
TA01	**Diego Aracena**	**0.60**	**67**	⇓*iP*	**Pb**	**18 13 12.6**	**+0.3**
TA01				*i* S	**Sg**	**18 13 19.9**	**+0.8**
TA02	**Huaiquique**	**0.81**	**49**		**Pb**	**18 13 16.1**	**+0.4**
TA02				Sg	**Sb**	**18 13 26.4**	**-0.2**
TA02	**Huaiquique**	**0.81**	**49**	*eP*	**Pb**	**18 13 16.1**	**+0.4**
TA02				*i* S	**Sb**	**18 13 25.7**	**-1.0**
TA02				IAML		18 13 29.2	
	comp=N,30μm,0.1s						
PB01	**IPOC Station P**	**1.23**	**101**		**Pn**	**18 13 21.9**	**-1.0**
PB01				Sn	**Sb**	**18 13 37.3**	**-1.6**
PB01	**IPOC Station P**	**1.23**	**101**	⇓*iP*	**Pn**	**18 13 22.6**	**-0.3**
PB01				*i* S	**Sb**	**18 13 37.3**	**-1.6**
PB11	**IPOC Station P**	**1.48**	**45**		**Pn**	**18 13 26.6**	**+0.2**
PB11				Sn	**Sn**	**18 13 45.2**	**-0.8**
PB11	**IPOC Station P**	**1.48**	**45**	⇑*iP*	**Pn**	**18 13 26.7**	**+0.2**
PB11				*i* S	**Sn**	**18 13 44.8**	**-1.2**
PB11				IAML		18 13 51.4	
	comp=N,8μm,0.3s						
PB08	**IPOC Station P**	**1.66**	**67**		**Pn**	**18 13 29.6**	**+0.5**
PB08				Sn	**Sn**	**18 13 50.7**	**-0.1**
PB09	**IPOC Station P**	**1.74**	**125**		**Pn**	**18 13 31.3**	**+1.3**
PB09				Sn	**Sn**	**18 13 53.1**	**+0.7**
PB09	**IPOC Station P**	**1.74**	**125**	⇑*iP*	**Pn**	**18 13 31.4**	**+1.3**
PB09				*i* S	**Sn**	**18 13 53.3**	**+0.8**
PB09				IAML		18 14 01.3	
	comp=N,3μm,0.4s						
PB06	**IPOC Station P**	**2.20**	**150**	⇑*iP*	**Pn**	**18 13 36.4**	**0.0**
PB06				*i* S	**Sn**	**18 14 03.0**	**-0.9**
PB06				IAML		18 14 13.4	
	comp=N,2μm,0.6s						
PB12	**IPOC Station P**	**2.22**	**11**		**Pn**	**18 13 37.2**	**+0.5**
PB12				Sn	**Sb**	**18 14 07.8**	**+0.3**
PB12	**IPOC Station P**	**2.22**	**11**	*eP*	**Pb**	**18 13 39.4**	**-0.5**
PB12				*i* S	**Sb**	**18 14 07.4**	**-0.1**
PB12				IAML		18 14 14.3	
	comp=N,2μm,0.4s						
AP01	**Chacalluta**	**2.46**	**10**		**Pn**	**18 13 40.0**	**+0.3**
AP01	**Chacalluta**	**2.46**	**10**	*eP*	**Pn**	**18 13 43.1**	**-0.7**
AP01				*i* S	**Sb**	**18 14 13.8**	**-0.4**
AP01				IAML		18 14 21.9	
	comp=N,3μm,0.5s						
AF01	**San Pedro de A**	**3.22**	**132**		**Pn**	**18 13 50.5**	**-0.1**
AF01	**San Pedro de A**	**3.22**	**132**	*eP*	**Pn**	**18 13 53.3**	**+2.7**
PB18	**Visviri**	**3.42**	**21**		**Pn**	**18 13 54.9**	**+1.2**
PB14	**IPOC Station P**	**3.82**	**175**	Pn	**Pn**	**18 13 57.4**	**-1.4**
GO02	**Mina Guanaco**	**4.47**	**166**	Pn	**Pn**	**18 14 07.7**	**-0.1**
LPAZ	**La Paz**	**5.15**	**30**	Pn	**Pn**	**18 14 18.3**	**+0.9**
LPAZ	**La Paz**	**5.15**	**30**	Pn	**Pn**	**18 14 21.9**	**+4.6**
	comp=N,2.4nm,0.3s,baz=273,slow=3.7,SNR=28						
LPAZ	**La Paz**	**5.15**	**30**	*eP*	**Pn**	**18 14 19.0**	**+1.7**
AC01	**Pan de Azucar**	**5.32**	**178**		**Pn**	**18 14 17.4**	**-1.8**
AC02	**Maricunga**	**6.19**	**166**		**Pn**	**18 14 29.4**	**-2.1**
AC04	**Llanos de Chal**	**7.37**	**182**	Pn	**Pn**	**18 14 46.0**	**-1.4**
LCO	**Las Campanas**	**8.17**	**180**	Pn	**Pn**	**18 14 57.3**	**-1.3**
CO01	**Juntas del Tor**	**9.15**	**176**	Pn	**Pn**	**18 15 10.2**	**-1.8**
CO06	**Fray Jorge**	**9.86**	**184**	Pn	**Pn**	**18 15 20.2**	**-1.3**
SIV	**San Ignacio**	**10.38**	**64**	Pn	**Pn**	**18 15 28.7**	**0.0**
	comp=N,0.3nm,0.3s,baz=256,slow=9.7,SNR=43						
	comp=N,12nm,0.6s						
CFA	**Coronel Fontan**	**10.99**	**169**	Pn	Pn	18 15 47.0	+10
	baz=314,slow=24,SNR=1.1						
CFA				Sn	Sn	18 17 54.7	+14
	baz=37,slow=20,SNR=1.1						
PTLB	**Pontes e Lacer**	**12.28**	**66**		**Pn**	**18 15 52.8**	**-1.9**
PTLB	**Pontes e Lacer**	**12.28**	**66**	*eP*	**Pn**	**18 15 55.8**	**+1.2**
MURT	**Porto Murtinho**	**12.31**	**96**	*eP*	**Pn**	**18 15 56.0**	**+1.0**
VILB	**Vilhena**	**12.78**	**54**	Pn	**Pn**	**18 15 58.1**	**-3.4**
VILB	**Vilhena**	**12.78**	**54**	*eP*	**Pn**	**18 16 03.0**	**+1.5**
BDQN	**Bodoquena, MS**	**13.14**	**91**	*eP*	**Pn**	**18 16 06.8**	**+0.4**
CPUP	**Villa Florida**	**13.50**	**117**	Pn	**Pn**	**18 16 11.8**	**+0.6**
	comp=N,0.6nm,0.3s,baz=211,slow=2.8,SNR=4.0						
	comp=N,1.3nm,0.3s						
H03N1	**Juan Fernandez**	**14.51**	**208**	Pn	**Pn**	**18 16 24.0**	**-0.9**
	baz=110,slow=14						
H03N1				T	T	18 31 31.8	
	baz=34,slow=72,SNR=608						
H03N2	**Juan Fernandez**	**14.52**	**208**	Pn	**Pn**	**18 16 24.8**	**-0.2**
	baz=110,slow=14						
H03N2				T	T	18 31 21.1	
	baz=34,slow=72,SNR=324						
H03N3	**Juan Fernandez**	**14.53**	**208**	Pn	**Pn**	**18 16 24.1**	**-1.1**
	baz=110,slow=14						
H03N3				T	T	18 31 20.1	
	baz=34,slow=72,SNR=345						
H03S1	**Juan Fernandez**	**14.85**	**207**	Pn	**Pn**	**18 16 29.6**	**+0.1**
SALV	**Santo Antonio**	**15.12**	**74**	*eP*	**Pn**	**18 16 33.9**	**+0.4**
BI02	**San Fabin de**	**15.81**	**181**	Pn	**Pn**	**18 16 40.4**	**-2.0**
PDRB	**Porto dos Gac**	**16.28**	**58**	*eP*	**Pn**	**18 16 50.2**	**+1.6**
LDASE	**Londrina, Braz**	**18.40**	**102**	*eP*	**P**	**18 17 15.0**	**0.0**
ARAG	**Araguaiana, MT**	**18.70**	**77**	*eP*	**P**	**18 17 16.5**	**-1.9**
PLCA	**Paso Flores**	**19.86**	**179**	P	**Pn**	**18 17 33.9**	**+1.3**
	comp=N,0.3nm,0.3s,baz=3.4,slow=17,SNR=4.3						
	comp=N,0.4nm,0.4s						
NPGB	**Novo Progresso**	**20.25**	**50**	*eP*	**P**	**18 17 35.7**	**+0.4**
SNDB	**Serra Nova Dou**	**20.63**	**68**	*eP*	**P**	**18 17 39.1**	**-0.4**
BB19B	**Bebedouro**	**20.78**	**95**	*eP*	**P**	**18 17 40.3**	**-0.9**
IPMB	**Ipameri, GO**	**21.46**	**86**	*eP*	**P**	**18 17 47.6**	**-1.0**
ITTB	**Itaituba**	**21.93**	**44**	*eP*	**P**	**18 17 51.3**	**-2.2**
FLOC	**Florencia**	**22.76**	**347**	P	**P**	**18 18 01.5**	**-0.8**
FLOC				IAmb	IAmb	18 18 45.9	
	comp=Z,7.4nm,0.8s						
PMNB	**Patos De Minas**	**23.02**	**89**	*eP*	**P**	**18 18 04.7**	**-0.5**
MAL2	**Monte Alegre,**	**24.71**	**43**	P	**P**	**18 18 20.3**	**-1.0**
MAL2				IAmb	IAmb	18 18 40.0	
	comp=Z,15nm,0.9s						
BOAV	**Boa Vista**	**25.15**	**25**	P	**P**	**18 18 24.7**	**-0.5**
BOAV				IAmb	IAmb	18 18 39.4	
	comp=Z,6.4nm,0.9s						
BOAV	**Boa Vista**	**25.15**	**25**	*eP*	**P**	**18 18 25.9**	**+0.6**
SMTB	**Santa Maria do**	**25.32**	**65**	*eP*	**P**	**18 18 26.6**	**-0.3**
JANB	**Januaria**	**25.80**	**82**	*eP*	**P**	**18 18 30.9**	**-0.4**
RUSC	**La Rusia**	**26.63**	**355**	P	**P**	**18 18 39.9**	**+0.8**
RUSC				IAmb	IAmb	18 19 15.3	
	comp=Z,13nm,1.3s						
BAUV	**El Baul**	**29.68**	**5**	P	**P**	**18 19 05.5**	**-0.4**
BAUV				IAmb	IAmb	18 19 06.5	
	comp=Z,12nm,1.0s						
NBLA	**Lagarto - SE**	**33.13**	**78**	*eP*	**P**	**18 19 34.4**	**-2.0**
RCBR	**Riachuelo**	**36.94**	**71**	P	**P**	**18 20 08.2**	**-1.1**
TXAR	**Lajitas Array**	**59.08**	**326**	P	**P**	**18 23 01.5**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=120,slow=9.2,SNR=2.0						
	comp=Z,0.2nm,0.7s						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**18 24 09.0**	**+1.4**
	comp=Z,2.2nm,1.0s,baz=150,slow=8.1,SNR=5.1						
	comp=Z,2.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**78.77**	**71**	P	**P**	**18 25 01.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**78.77**	**71**	P	**P**	**18 25 05.0**	**+1.9**
	comp=Z,55nm,0.4s,baz=265,slow=4.5,SNR=2.4						
YKA	**Yellowknife Ar**	**89.97**	**341**	P	**P**	**18 25 59.1**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=145,slow=4.2,SNR=6.9						
	comp=Z,0.6nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**26.06**	**278**	T	T	20 51 15.3	
	baz=103,slow=75,SNR=111						
H11S1	**WAKE ISLAND Hyl**	**26.07**	**278**	T	T	20 51 20.8	
	baz=103,slow=75,SNR=65						
H11S3	**WAKE ISLAND Hyl**	**26.08**	**278**	T	T	20 51 12.1	
	baz=103,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hyl**	**26.13**	**280**	T	T	20 51 13.2	
	baz=102,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hyl**	**26.14**	**280**	T	T	20 51 13.9	
	baz=102,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hyl**	**26.14**	**280**	T	T	20 51 15.1	
	baz=102,slow=75,SNR=11						
ASAR	**Alice Springs**	**129.68**	**210**	PKP	**PKPdf**	**18 32 09.4**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=177,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**132.63**	**213**	PKP	**PKPdf**	**18 32 14.5**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=134,slow=2.4,SNR=1.6						
ZALV	**Zalesovo Beam**	**142.04**	**23**	PKP	**PKPdf**	**18 32 32.7**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=264,slow=3.0,SNR=3.6						
MKAR	**Makanchi Array**	**146.06**	**34**	PKPbc	**PKPbc**	**18 32 40.1**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=323,slow=3.0,SNR=22						
USRK	**Ussuriysk Ar.**	**149.98**	**326**	PKPbc	**PKiKP**	**18 32 52.0**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=97,slow=9.3,SNR=4.6						
MJAR	**Matsushiro Art**	**150.28**	**308**	PKPbc	**PKiKP**	**18 32 52.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=41,slow=8.3,SNR=2.3						
SONM	**Songino Array**	**152.94**	**4**	PKPbc	**PKiKP**	**18 32 58.3**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=47,slow=1.4,SNR=2.4						

IDC 22 18:27:37.0±476.0, 35°.35N×121°.90W, h0km, Error ellipse: s-maj=216.0km s-min=134.1km az=85.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**4.82**	**110**	I	I	19 01 40.0	
	0.1nm,0.9s,baz=289,slow=300,SNR=2.4						
I56US	**NEWPORT INFRAS**	**13.39**	**14**	I	I	19 47 20.0	
	baz=197,slow=330,SNR=1.7						
I10CA	**LAC DU BONNET**	**23.94**	**44**	I	I	20 51 00.0	
	baz=235,slow=350,SNR=1.7						

*IDC **22** 18:27:54.9±6.4, 18°.36N×145°.60E, h473km±76km, mb2.7/10, mbtmp3.6/10, Error ellipse: s-maj=28.1km s-min=15.1km az=83.0*
*NEIC **22** 18:27:55.1±1.4, 18°.4N±0°.1×145°.6E±0°.1, h479km±10km, mb4.0/14, Error ellipse: s-maj=23.9km s-min=11.6km az=137.0*
ISC 22 18:27:56.9±0.7, 18°.3N±0°.1×145°.5E±0°.1, h500km, n28, σ0s81/30, mb3.6/18, Mariana Islands

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

TA02	**Huaiquique**	**1.33 308**	*e*P	**Pn**	**18 35 21.6**	**-0.1**
TA02			*e*S	**Sn**	**18 35 41.4**	**+0.6**
PB11	**IPOC Station P**	**1.46 335**	*i* P	**Pn**	**18 35 23.3**	**-0.1**
PB11			*e*S	**Sn**	**18 35 44.1**	**+0.4**
PB11			IAML		18 35 44.7	
	comp=Z,512nm,0.2s					
PB11	**IPOC Station P**	**1.46 335**	*e*P	**Pn**	**18 35 23.2**	**-0.2**
PB11			*e*S	**Sn**	**18 35 43.9**	**+0.2**
PB11			IAML		18 35 45.0	
	comp=E,2μm,0.3s					
PB06	**IPOC Station P**	**1.68 198**	*i* P	**Pn**	**18 35 25.8**	**-0.2**
PB06			*e*S	**Sn**	**18 35 48.5**	**+0.1**
PB06			IAML		18 35 51.2	
	comp=Z,336nm,0.3s					
PB06	**IPOC Station P**	**1.68 198** ⇑	*i*P	**Pn**	**18 35 25.9**	**-0.2**
PB06			*e*S	**Sn**	**18 35 48.1**	**-0.3**
PB06			IAML		18 35 51.6	
	comp=E,541nm,0.3s					
PB12	**IPOC Station P**	**2.76 333**	*i* P	**Pn**	**18 35 38.7**	**-1.0**
PB12			IAML		18 36 23.4	
	comp=Z,103nm,0.2s					
YJA	**Yavi**	**3.43 109**	*e*P	**Pn**	**18 35 48.8**	**+0.1**
YJA			IAML		18 36 53.9	
	comp=Z,1.7nm,0.3s					

*IDC **22** 19:01:20.7±1.4, 16°.70S×167°.96E, h0km, mb3.9/4, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=43.6km s-min=32.1km az=117.0*
*NOU **22** 19:01:24.4, 16°.62S×167°.97E, h63km, MLv5.0/7, Vanuatu Islands*
ISC 22 19:01:25.0±1.1, 16°.77S±0°.10×167°.7E±0°.1, h25km, n7, σ1§54/8, mb4.1/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.05**	**156**	P	**Pn**	**19 01 43.7**	**-0.4**
DVP	**Devils Point**	**1.05**	**156**	P	**Sn**	**19 01 59.8**	**+1.8**
DZM	**Mont Dzumac**	**5.42**	**193**	Pn	**Pn**	**19 02 44.6**	**+0.3**
	3.2nm,0.3s,baz=20,slow=12,SNR=56						
DZM				Sn	**Sn**	**19 03 43.8**	**-2.2**
	4.8nm,0.3s,baz=306,slow=19,SNR=14						
	8.7nm,0.3s						
ASAR	**Alice Springs**	**32.42**	**252**	P	**P**	**19 07 54.4**	**+1.1**
	1.4nm,0.6s,baz=78,slow=8.5,SNR=41						
	1.4nm,0.6s						
QSPA	**South Pole Qui**	**73.27**	**180**	P	**P**	**19 12 54.2**	**+0.1**
	2.3nm,1.0s,baz=7.9,slow=1.1,SNR=3.6						
	2.3nm,1.0s						
SONM	**Songino Array**	**84.39**	**324**	P	**P**	**19 13 55.9**	**+0.5**
	0.3nm,0.8s,baz=104,slow=6.1,SNR=1.8						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**88.26**	**49**	P	**P**	**19 14 13.2**	**-1.5**
	0.6nm,0.6s,baz=247,slow=5.1,SNR=3.7						
	0.6nm,0.6s						

*NEIC **22** 19:04:50.6±1.4, 44°.99N±0°.02×123°.92W±0°.06, h53km±2km, Error ellipse: s-maj=6.1km s-min=3.1km az=89.0*
*PNSN **22** 19:04:51.0, 44°.99N×123°.84W, h44km, MD3.0, Fault plane solution: NP1:φs45.00000°, δ20.00000°, λ140.00000°.*
SEA 22 19:04:51.0±1.3, 44°.99N±0°.02×123°.84W±0°.04, h44km±3km, ML3.0/8, ML2.9/88(NEIC), Error ellipse: s-maj=4.2km s-min=2.9km az=103.0, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEBO	**Mount Hebo**	**0.23**	**15**		Pn	19 04 59.5	+0.4
HEBO					Sn	19 05 05.6	+0.9
NEWO	**Newport DOGAMI**	**0.39**	**202**		Sn	19 05 08.8	+1.5
MONO	**Monmouth DOGAM**	**0.45**	**107**		Pn	19 05 01.8	+0.7
MONO					Sn	19 05 10.5	+2.2
G03D	**McMinnville, O**	**0.46**	**61**		Pn	19 05 01.6	+0.2
G03D					Sn	19 05 09.7	+0.9
MPOR	**Mary's Peak**	**0.53**	**157**		Pn	19 05 02.6	+0.2
MPOR					Sn	19 05 11.3	+1.0
COR	**Corvallis**	**0.55**	**136**		Pn	19 05 02.6	+0.1
COR					Sn	19 05 12.0	+1.2
I02E	**Swisshome, OR**	**0.88**	**180**		Pn	19 05 07.3	+0.3
I02E				Sn	Sn	19 05 18.6	+0.1
I02E				IAML		19 05 20.1	
	comp=E,317nm,0.3s						
I02E				IAML		19 05 20.4	
	comp=N,212nm,0.4s						
H04D	**Lebanon**	**0.91**	**120**		Pn	19 05 08.2	+0.8
H04D				Sn	Sn	19 05 20.7	+1.4
F03A	**Seaside**	**0.96**	**12**		Pn	19 05 08.5	+0.4
F03A				Sn	Sn	19 05 21.3	+0.8
G04A	**Mulino**	**0.99**	**77**		Pn	19 05 08.9	+0.5
BUCK	**Buck Mountain**	**1.00**	**142**		Pn	19 05 09.4	+0.8
BUCK				Sn	Sn	19 05 23.1	+1.6
BUCK				IAML		19 05 24.6	
	comp=E,251nm,0.7s						
BUCK				IAML		19 05 25.1	
	comp=N,201nm,0.6s						
H04A	**Detroit Lake**	**1.21**	**104**		Pn	19 05 11.9	+0.4
H04A				Sn	Sn	19 05 27.2	+0.4
BROR	**Big Rock Looko**	**1.22**	**126**		Pn	19 05 12.5	+0.9
F04D	**Rainier, OR**	**1.24**	**28**		Pn	19 05 12.0	+0.2
F04D				Sn	Sn	19 05 28.8	+1.5
B023	**Clatskanie**	**1.24**	**25**		Pn	19 05 12.6	+0.7
RADR	**Rader Ridge**	**1.43**	**1**	Pn	Pn	19 05 14.1	-0.5
RADR				Sn	Sn	19 05 31.8	-0.3
RADR				IAML		19 05 52.5	
	comp=E,114nm,2.1s						
TDH	**Tom, Dick, Har**	**1.48**	**78**		Pn	19 05 16.3	+1.1
MTMW	**Mount Mitchell**	**1.54**	**47**		Pn	19 05 16.9	+0.8
I04A	**Tendick Farm,**	**1.57**	**139**		Pn	19 05 16.5	+0.1
I04A				Sn	Sn	19 05 35.8	+0.2
I04A				IAML		19 05 36.6	
	comp=E,233nm,0.2s						
I04A				IAML		19 05 40.4	
	comp=N,261nm,0.2s						
HOOD	**Mount Hood Mea**	**1.58**	**77**		Pn	19 05 17.2	+0.5
HOOD				Sn	Sn	19 05 37.4	+1.4
FL2	**Flat Top 2**	**1.60**	**40**		Pn	19 05 18.1	+1.2
CDFW	**Cedar Flats**	**1.69**	**47**		Pn	19 05 19.4	+1.3
SHRK	**Shell Rock**	**1.70**	**73**		Pn	19 05 19.2	+1.0
B201	**Coldwater, Mou**	**1.72**	**39**		Pn	19 05 19.5	+1.1
B202	**Windy Ridge, M**	**1.73**	**43**		Pn	19 05 19.9	+1.2
J01E	**Myrtle Point**	**1.83**	**182**	Pn	Pn	19 05 19.8	-0.1
J01E				Sn	Sn	19 05 41.8	0.0
J01E				IAML		19 05 42.8	
	comp=E,66nm,0.2s						
J01E				IAML		19 05 43.0	
	comp=N,102nm,0.2s						
AWST	**Adams West**	**1.85**	**51**		Pn	19 05 22.0	+1.7
I05D	**Terrebonne, OR**	**1.90**	**109**		Pn	19 05 21.2	+0.3
I05D				IAML		19 05 50.4	
	comp=N,174nm,0.7s						
I05D				IAML		19 05 52.3	
	comp=E,151nm,0.6s						
DBO	**Dodson Butte**	**1.92**	**167**		Pn	19 05 22.3	+1.1
WISH	**Wishkah**	**2.13**	**1**	Pn	Pn	19 05 24.7	+0.7
WISH				IAML		19 06 04.5	
	comp=N,100nm,2.7s						
WISH				IAML		19 06 34.0	
	comp=E,88nm,2.7s						
J04A	**Umpqua Nationa**	**2.15**	**144**		Pn	19 05 24.5	0.0
LON	**Longmire**	**2.26**	**38**		Pn	19 05 26.6	+0.7
G06A	**Carlson Farm,**	**2.28**	**83**		Pn	19 05 26.3	+0.2
G06A				IAML		19 05 55.0	
	comp=E,44nm,0.7s						
G06A				IAML		19 05 55.3	
	comp=N,42nm,0.7s						
K02D	**Willamette Mer**	**2.30**	**177**	Pn	Pn	19 05 26.7	+0.3
REMR	**Mount Rainier-**	**2.30**	**37**		Pn	19 05 28.5	+2.0
PINE	**Pine Mountain**	**2.40**	**119**		Pn	19 05 28.2	+0.3
PINE				IAML		19 06 16.0	
	comp=N,39nm,1.0s						
PINE				IAML		19 06 16.3	
	comp=E,44nm,1.0s						
NLWA	**Neilton Lookou**	**2.40**	**359**	Pn	Pn	19 05 27.9	0.0
NLWA				IAML		19 05 57.4	
	comp=E,44nm,2.4s						
PANH	**Panhandle Gap,**	**2.42**	**39**		Pn	19 05 30.0	+1.8
J05D	**Fort Rock, OR**	**2.53**	**131**		Pn	19 05 29.6	-0.1
D05A	**Enumclaw**	**2.55**	**30**	Pn	Pn	19 05 29.7	-0.1
D05A				IAML		19 06 21.1	
	comp=E,35nm,1.3s						
GNW	**Green Mountain**	**2.67**	**15**	Pn	Pn	19 05 30.3	-1.1
KBO	**Bosley Butte**	**2.79**	**186**	Pn	Pn	19 05 31.7	-1.5
KBO				IAML		19 06 08.3	
	comp=N,67nm,2.3s						
KBO				IAML		19 06 46.7	
	comp=E,66nm,2.0s						
K04D	**Chiloquin, OR**	**2.80**	**147**	Pn	Pn	19 05 32.3	-1.1
K04D				IAML		19 06 36.4	
	comp=E,45nm,1.2s						
K04D				IAML		19 06 41.7	
	comp=N,53nm,1.8s						
F07A	**Phinny Hill Vi**	**2.90**	**70**	Pn	Pn	19 05 32.0	-2.5
F07A				IAML		19 06 23.8	
	comp=N,33nm,0.9s						
F07A				IAML		19 06 27.7	
	comp=E,36nm,0.7s						
MXC	**Moxie City**	**2.94**	**56**		Pn	19 05 33.0	-2.2
L04D	**Klamath Falls**	**2.98**	**158**	Pn	Pn	19 05 34.4	-1.5
L04D				IAML		19 06 35.9	
	comp=E,30nm,4.3s						
KSXB	**Camp Six Broad**	**3.16**	**181**	Pn	Pn	19 05 35.8	-2.4
KSXB				IAML		19 07 45.2	
	comp=N,30nm,3.8s						
LTY	**Liberty**	**3.16**	**43**	Pn	Pn	19 05 36.2	-2.1
E07A	**Sunnyside**	**3.20**	**59**	Pn	Pn	19 05 36.5	-2.3
E07A				IAML		19 06 34.4	
	comp=E,30nm,0.7s						
E07A				IAML		19 06 37.7	
	comp=N,31nm,0.8s						
I07A	**Izee**	**3.23**	**105**	Pn	Pn	19 05 36.9	-2.3
I07A				IAML		19 06 36.4	
	comp=E,20nm,1.1s						
HAWA	**Hanford**	**3.33**	**64**	Pn	Pn	19 05 38.1	-2.3
HAWA				IAML		19 06 42.8	
	comp=E,18nm,0.8s						
YBH	**Yreka Blue Hor**	**3.36**	**165**	Pn	Pn	19 05 37.7	-3.2
G08A	**Pilot Rock**	**3.46**	**83**		Pn	19 05 40.1	-2.3
G08A				IAML		19 06 41.0	
	comp=N,26nm,0.7s						
G08A				IAML		19 06 44.6	
	comp=E,17nm,0.8s						
KRMB	**Red Mountain**	**3.46**	**181**	Pn	Pn	19 05 40.3	-2.1
KRMB				IAML		19 07 21.6	
	comp=N,25nm,4.2s						
KRMB				IAML		19 07 44.7	
	comp=E,24nm,4.8s						
J08A	**Circle Bar Ran**	**4.19**	**111**	Pn	Pn	19 05 52.7	+0.3
J08A				IAML		19 07 17.7	
	comp=E,11nm,0.9s						
WVOR	**Wild Horse Val**	**4.55**	**122**	Pn	Pn	19 05 57.3	-0.1
WVOR				IAML		19 07 43.1	
	comp=E,10nm,5.0s						
WVOR				IAML		19 08 11.3	
	comp=E,7.7nm,4.8s						
BMO	**Blue Mountains**	**4.64**	**89**	Pn	Pn	19 05 59.0	+0.4
BMO				IAML		19 07 23.7	
	comp=E,9.4nm,4.7s						
BMO				IAML		19 08 53.4	
	comp=E,8.4nm,5.0s						
PLID	**Pearl Lake**	**5.55**	**86**	Pn	Pn	19 06 08.8	-2.4

*IDC **22** 19:12:12.5±1.0, 54°.92N×164°.59E, h0km, mb3.5/10, mbtmp3.5/12, ML2.8/2, Error ellipse: s-maj=35.3km s-min=16.0km az=162.0*
*KRSC **22** 19:12:13.5±0.8, 54°.80N×164°.59E, h61km±18km, Ml3.7*
ISC 22 19:12:15.9±0.7, 54°.81N±0°.05×164°.63E±0°.05, h27km, n33, σ1§05/37, mb3.5/10, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.87**	**63**	*e*P	**Pn**	**19 12 31.2**	**-1.1**
BKI				*e*S	**Sb**	**19 12 43.2**	**-0.4**
KBTR	**Krutoberegovo**	**1.74**	**324**	*e*P	**Pn**	**19 12 42.5**	**-1.7**
KBTR				*e*S	**Sn**	**19 13 02.9**	**-2.6**
KBG	**Krutoberegovo**	**1.81**	**324**	*e*P	**Pn**	**19 12 44.9**	**-0.4**
KBG				*e*S	**Sn**	**19 13 06.8**	**-0.6**
TUMD	**Tumrok D**	**2.47**	**281**	*e*P	**Pn**	**19 12 53.8**	**-0.5**
KMNR	**Kamenistaya**	**2.68**	**292**	*e*P	**Pn**	**19 12 57.6**	**+0.2**
KOZ	**Kozyrevsk**	**2.98**	**297**	*e*P	**Pn**	**19 13 02.9**	**+1.5**
SRDR	**Sredinnyy**	**3.17**	**300**	*e*P	**Pn**	**19 13 05.1**	**+1.0**
UGLR	**Uglovaya**	**3.78**	**247**	*e*P	**Pn**	**19 13 12.3**	**-0.2**
AVH	**Avacha**	**3.80**	**248**	*e*P	**Pn**	**19 13 12.9**	**+0.2**
AVH				*e*S	**Sn**	**19 13 54.9**	**-1.7**
KRX	**Arik**	**3.81**	**250**	*e*P	**Pn**	**19 13 12.4**	**-0.5**
KOK	**Koryaka**	**3.84**	**249**	*e*P	**Pn**	**19 13 13.4**	**0.0**
DALK	**Dalny**	**3.90**	**245**	*e*P	**Pn**	**19 13 14.0**	**0.0**
PET	**Petropavlovsk**	**3.96**	**246**	*e*P	**Pn**	**19 13 15.1**	**+0.2**
GNL	**Ganaly**	**4.08**	**257**	*e*P	**Pn**	**19 13 17.1**	**+0.6**
KRMR	**Karymshinskiy**	**4.33**	**245**	*e*P	**Pn**	**19 13 19.4**	**-0.6**
KRMR				*e*S	**Sn**	**19 14 07.2**	**-2.3**
PETK	**Petropavlovsk-**	**4.43**	**250**	Pn	**Pn**	**19 13 20.4**	**-1.0**
	1.4nm,0.3s,baz=68,slow=17,SNR=31						
PETK				Sn	**Sn**	**19 14 10.6**	**-1.5**
	0.9nm,0.3s,baz=284,slow=21,SNR=4.1						
	3.0nm,0.5s						
GRL	**Gorelyy**	**4.50**	**243**	*e*P	**Pn**	**19 13 22.1**	**-0.3**
OSSR	**Ossora**	**4.53**	**350**	*e*P	**Pn**	**19 13 23.5**	**+0.9**
OSSR				*e*S	**Sn**	**19 14 12.9**	**-1.5**
ASAJ	**Asahikawa**	**17.80**	**242**	P	**Pn**	**19 16 21.4**	**-0.1**
	0.1nm,0.3s,baz=52,slow=18,SNR=2.2						
	3.3nm,0.8s						
ILAR	**Eielson Array**	**25.69**	**48**	P	**P**	**19 17 42.0**	**-1.2**
	1.2nm,0.8s,baz=258,slow=8.5,SNR=13						
	1.2nm,0.8s						
MJAR	**Matsushiro Arr**	**25.72**	**236**	P	**P**	**19 17 45.2**	**+1.4**
	0.6nm,0.7s,baz=18,slow=11,SNR=4.7						
	0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**35.06**	**176**	T	T	19 57 35.3	
	baz=359,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	19 57 41.3	
	baz=359,slow=76,SNR=3.9						
H11N1	**WAKE ISLAND Hy**	**35.08**	**176**	T	T	19 57 43.0	
	baz=359,slow=76,SNR=7.4						
SONM	**Songino Array**	**36.11**	**284**	P	**P**	**19 19 15.4**	**0.0**
	0.2nm,0.6s,baz=20,slow=4.6,SNR=2.0						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**40.06**	**45**	P	**P**	**19 19 48.8**	**+0.5**
	0.2nm,0.6s,baz=297,slow=8.6,SNR=3.5						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.09**	**303**	P	**P**	**19 20 21.2**	**0.0**
	0.3nm,0.4s,baz=108,slow=14,SNR=1.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**49.18**	**303**	P	**P**	**19 21 01.5**	**+0.3**
	0.5nm,0.6s,baz=56,slow=8.1,SNR=5.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**49.79**	**297**	P	**P**	**19 21 05.8**	**-0.1**
	0.3nm,0.6s,baz=59,slow=7.8,SNR=5.3						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**54.35**	**65**	P	**P**	**19 21 40.3**	**+0.1**
	0.2nm,0.7s,baz=313,slow=7.9,SNR=2.1						
	0.2nm,0.7s						
HFS	**Hagfors**	**63.08**	**344**	P	**P**	**19 22 40.3**	**+0.1**
	2.4nm,0.9s,baz=71,slow=11,SNR=1.8						
	2.4nm,0.9s						
TXAR	**Lajitas Array**	**67.52**	**71**	P	**P**	**19 23 11.4**	**+1.8**
	0.4nm,0.5s,baz=316,slow=6.3,SNR=6.8						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**144.56**	**180**	PKP	**PKPab**	**19 31 47.0**	**+0.1**
	1.0nm,0.7s,baz=283,slow=2.5,SNR=6.1						

IDC 22 19:20:05.0±2.6, 5°.96S×133°.79E, h0km, mb3.2/2, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=116.1km s-min=27.6km az=86.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**178**	Pn	Pn	19 23 21.5	-2.2
	0.1nm,0.3s,baz=356,slow=13,SNR=6.0						
WRA				Sn	Sn	19 25 51.1	-7.9
	0.2nm,0.3s,baz=1.9,slow=22,SNR=5.6						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**14.45**	**213**	Pn	Pn	19 23 30.8	-0.3
	0.1nm,0.3s,baz=31,slow=11,SNR=8.5						
FITZ				Sn	Sn	19 26 01.0	-11
	0.5nm,0.3s,baz=38,slow=19,SNR=8.4						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**17.61**	**180**	P	P	19 24 13.5	+0.4
	0.1nm,0.3s,baz=1.9,slow=11,SNR=12						
ASAR				S	Sn	19 27 18.2	-11
	0.4nm,1.0s,baz=0.7,slow=29,SNR=4.3						
	0.5nm,0.6s						
SONM	**Songino Array**	**58.74**	**339**	P	P	19 30 04.6	-0.4
	0.1nm,0.3s,baz=167,slow=7.0,SNR=2.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**69.48**	**325**	P	P	19 31 15.8	+0.4
	0.2nm,0.6s,baz=122,slow=7.3,SNR=2.0						
	0.2nm,0.6s						

WEL 22 19:25:40.0±1.0, 35°.5S±17°.×17°.8W±2°.0, h33km, M4.0/9, mB5.4/1, ML4.3/15, MLv4.0/9, Mw(mB)4.8/1, Error ellipse: s-maj=32.9km s-min=7.6km az=129.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.87**	**222**	P	Pn	19 26 37.5	+0.4
MXZ				S	Sn	19 27 23.4	+2.1
WMGZ	**Waiomatatini S**	**4.00**	**218**	P	Pn	19 26 40.7	+1.8
WMGZ				S	Sn	19 27 27.2	+2.6
PKGZ	**Pakihiroa**	**4.21**	**221**	P	Pn	19 26 41.8	0.0
PKGZ				S	Sn	19 27 31.8	+1.9
PUZ	**Puketiti**	**4.27**	**217**	P	Pn	19 26 42.8	+0.1
PUZ				S	Sn	19 27 33.5	+2.1
HAZ	**Te Kaha**	**4.30**	**224**	P	Pn	19 26 43.4	+0.4
HAZ				S	Sn	19 27 34.2	+2.3
TWGZ	**Tauwhareparae**	**4.49**	**219**	P	Pn	19 26 47.4	+1.6
TWGZ				S	Sn	19 27 39.6	+2.7
RUGZ	**Raukumara Rang**	**4.50**	**223**	P	Pn	19 26 46.3	+0.3
RUGZ				S	Sn	19 27 38.4	+1.2
CNGZ	**Carnagh Statio**	**4.62**	**215**	P	Pn	19 26 47.6	+0.1
TKGZ	**Te Karaka**	**4.76**	**218**	P	Pn	19 26 50.6	+1.2
MWZ	**Matawai**	**4.85**	**221**	P	Pn	19 26 49.1	-1.6
MWZ				S	Sn	19 27 45.2	-0.5
RIGZ	**Rimuhau**	**5.01**	**216**	P	Pn	19 26 53.4	+0.5
RIGZ				S	Sn	19 27 50.4	+0.8
URZ	**Urewera**	**5.03**	**224**	P	Pn	19 26 52.7	-0.4
URZ				S	Sn	19 27 48.7	-1.3
OPRZ	**Ohinepanea**	**5.10**	**231**	P	Pn	19 26 54.0	0.0
PRGZ	**Paritu Road**	**5.12**	**214**	P	Pn	19 26 54.6	+0.2
SNGZ	**Shannon Statio**	**5.28**	**219**	P	Pn	19 26 56.3	-0.3
MHGZ	**Mahia Peninsul**	**5.30**	**212**	P	Pn	19 26 58.5	+1.6
MHGZ				S	Sn	19 27 58.6	+1.8
RTZ	**Ruatahuna**	**5.35**	**222**	P	Pn	19 26 56.8	-0.8
RTZ				S	Sn	19 27 57.5	-0.5
TOZ	**Tahuroa Road**	**5.74**	**237**	P	Pn	19 26 57.8	-5.0
BKZ	**Black Stump Fm**	**6.01**	**221**	P	Pn	19 27 05.1	-1.5
BKZ				S	Sn	19 28 12.7	-1.6
BFZ	**Birch Farm**	**7.29**	**214**	P	Pn	19 27 21.2	-2.9
BFZ				S	Sn	19 28 42.6	-3.1

TXNET 22 19:27:36.3, 31°.6N±0°.7×104°.3W±0°.7, h5km±1km, ML1.7/6, Error ellipse: s-maj=1.2km s-min=0.9km az=39.1, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	P	Pg	19 27 43.0	-0.2
TPB11				S	Sg	19 27 47.7	-0.2
PECS	**Pecos**	**0.42**	**129**	P	Pg	19 27 45.0	+0.5
PECS				S	Sg	19 27 50.1	+0.1
PECS	**Pecos**	**0.42**	**129**	P	Pg	19 27 44.7	+0.2
PECS				S	Sg	19 27 50.0	+0.1
TPB12	**Southwest of T**	**0.49**	**149**	S	Sg	19 27 52.6	+0.5
TPB07	**Mentone**	**0.50**	**96**	S	Sg	19 27 52.8	+0.4
TPB10	**Southeast of T**	**0.55**	**130**	S	Sg	19 27 54.7	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	19 27 47.6	+0.2
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	19 27 53.1	+0.1
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	19 27 55.1	+0.2
MNTX				S	Sg	19 28 08.2	-0.5
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	19 27 55.1	+0.1
MNTX				S	Sg	19 28 08.1	+0.6
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	19 27 56.5	0.0
VHRN				S	Sb	19 28 11.2	-0.2
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	19 27 56.4	-0.2
VHRN				S	Sb	19 28 11.2	-0.2
MNHN	**Monahans**	**1.30**	**103**	P	Pn	19 28 00.5	-0.7
MNHN				S	Sg	19 28 17.6	-0.6
MNHN	**Monahans**	**1.30**	**103**	P	Pn	19 28 00.4	-0.9
MNHN				S	Sg	19 28 17.5	-0.7
ALPN	**Alpine**	**1.36**	**157**	P	Pn	19 28 00.9	-1.2
ALPN				S	Sg	19 28 18.4	-1.6
ALPN	**Alpine**	**1.36**	**157**	P	Pn	19 28 00.8	-1.3
ALPN				S	Sg	19 28 18.3	-1.7
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	19 28 03.1	+0.1
ODSA	**Odessa**	**1.52**	**71**	P	Pn	19 28 03.9	-0.4
ODSA				S	Sn	19 28 24.0	-0.6
TMB04	**Seminole**	**1.79**	**56**	P	Pn	19 28 07.6	-0.4
TMB04				S	Sb	19 28 32.4	-0.1
TMB02	**Rankin**	**1.94**	**102**	S	Sb	19 28 35.8	-0.9
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	19 28 18.6	-0.6
TX31				S	Sb	19 28 49.7	+1.2

*IDC **22** 19:29:54.9±2.5, 8°.36N×82°.93W, h0km, mb3.6/5, mbtmp3.8/8, ML4.2/3, Error ellipse: s-maj=68.8km s-min=18.4km az=29.0*
*RSNC **22** 19:29:55.6±0.9, 8°N±6°×8°3W±°, h9km±3km, M3.2, ML4.3, ML3.2, MLv4.0*
*UCR **22** 19:29:56.7±0.6, 8°.31N×82°.97W, h5km±2km, MW4.3*
*UPA **22** 19:29:57.1±2.0, 8°.31N×82°.91W, h8km±4km, MW4.5*
ISC 22 19:29:56.7±0.8, 8°28N±0°.03×82°95W±0°.02, h16km±5km, n81, σ1§28/111, mb3.6/5, 4C-21D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.10**	**140** ⇑	*i*P	**Pg**	**19 30 00.3**	**+0.1**
PTPM				*i* S	**Sg**	**19 30 02.6**	**+0.3**
LIMO3	**Limones**	**0.20**	**156** ⇑	*i*P	**Pg**	**19 30 01.8**	**+0.4**
LIMO3				*i* S	**Sg**	**19 30 04.1**	**-0.5**
LPPC	**Paso Canoas**	**0.27**	**23**	*e*P	**Pg**	**19 30 02.3**	**-0.3**
LPPC				*e*S	**Sg**	**19 30 07.2**	**+0.6**
NELY	**Ciudad Neily**	**0.36**	**360** ⇓	*e*P	**Pg**	**19 30 03.9**	**-0.3**
NELY				*e*S	**Sb**	**19 30 09.8**	**-0.5**
PIRO	**Carate, Puerto**	**0.41**	**287** ⇓	*e*P	**Pg**	**19 30 04.4**	**-0.6**
EDAD	**Golfito**	**0.43**	**329**	*e*

RVLA	Villa Bonita	1.92	341	eP	Pn	19 30 29.3	+0.5
ACOS	Acosta	1.93	321	eP	Pn	19 30 29.7	+0.7
STIA3	Santiago, Vera	1.96	95⇓	eP	Pn	19 30 30.0	+0.6
CVIMO	Finca Echandi	1.99	330	eP	Pn	19 30 30.8	+0.9
CVTG	V. Turrialba,	2.02	336	eP	Pn	19 30 31.0	+0.8
CALO3	Calobre, Verag	2.08	89	eP	Pn	19 30 31.1	+0.1
CALO3				i S	Sn	19 30 57.9	+1.3
CRIS3	El Cristo, Coc	2.31	91⇓	eP	Pn	19 30 34.6	+0.5
CRIS3				i S	Sn	19 31 03.1	+1.0
PESE3	Pese, Herrera	2.34	99	eP	Pn	19 30 34.0	-0.6
CHIT3	Chitre	2.52	97	eP	Pn	19 30 37.7	+0.7
CHIT3				i S	Sn	19 31 06.6	-0.9
PNME	Penonome	2.60	85	eP	Pn	19 30 40.3	+2.2
AZU	Azuero	2.69	100	P	Pn	19 30 40.7	+1.4
AZU				S	Sn	19 31 15.3	+3.7
AZU	Azuero	2.69	100⇓	iP	Pn	19 30 41.0	+1.7
AZU				i S	Sb	19 31 16.1	-1.2
AZU	Azuero	2.69	100	P		19 30 40.7	
AZU				S		19 31 15.3	
JTS	Las Juntas de	2.81	315	Pn	Pn	19 30 42.3	+1.2
	49nm,0.3s,baz=101,slow=8.2,SNR=96						
JTS				Sn	Sn	19 31 17.2	+2.5
	14nm,0.3s,baz=68,slow=23,SNR=5.9						
JTS				Lg	Lg	19 31 21.1	
	17nm,0.3s,baz=163,slow=19,SNR=9.3						
	94nm,0.4s						
JTS	Las Juntas de	2.81	315	P	Pn	19 30 42.7	+1.7
JTS				S	Sb	19 31 18.9	-1.9
JTS	Las Juntas de	2.81	315⇑	eP	Pn	19 30 42.8	+1.7
JTS				i S	Sn	19 31 15.8	+1.2
JTS	Las Juntas de	2.81	315	P		19 30 42.7	
JTS				S		19 31 18.9	
PCRI3	Pocri, Los San	2.87	102	eP	Pn	19 30 41.4	-0.4
ACHO3	Achotines, Los	2.88	107	i P	Pn	19 30 43.8	+1.8
PEDA3	Pedasi	2.99	104	eP	Pn	19 30 44.8	+1.3
BCIP	Isla Barro Col	3.20	74	P	Pn	19 30 47.9	+1.6
BCIP				S	Sb	19 31 31.2	-0.7
BCIP	Isla Barro Col	3.20	74	eP	Pn	19 30 47.2	+0.9
BCIP				i S	Sb	19 31 31.2	-0.7
BCIP	Isla Barro Col	3.20	74	P		19 30 47.9	
BCIP				S		19 31 31.2	
CHOR3	La Chorrera	3.20	79	eP	Pn	19 30 50.1	+3.7
CHOR3				i S	Sb	19 31 32.9	+0.8
ARRA3	Arraijan, Pana	3.32	78	eP	Pb	19 30 53.4	-1.9
UPA	Univ. de Panam	3.44	78	eP	Pb	19 30 56.2	-1.1
BLUN	Bluefields	3.79	348	P	Pn	19 30 55.6	+1.2
BLUN				S	Sb	19 31 44.5	-4.4
BLUN	Bluefields	3.79	348	P		19 30 55.6	
BLUN				S		19 31 44.5	
ESPN	Las Esperanzas	4.11	341	P	Pn	19 31 00.2	+1.3
ESPN				S	Sb	19 31 57.2	-1.0
ESPN	Las Esperanzas	4.11	341	P		19 31 00.2	
ESPN				S		19 31 57.2	
CNTA3	Canitas, Panam	4.12	77	eP	Pg	19 31 15.9	+0.3
ACON	Acoyapa	4.27	329	P	Pn	19 31 03.2	+2.1
ACON				S	Sn	19 31 53.7	+3.1
ACON	Acoyapa	4.27	329	P		19 31 03.2	
ACON				S		19 31 53.7	
SAIC	Isla e San And	4.40	16	P	Pn	19 31 02.9	+0.1
SAIC				S	Sn	19 31 55.8	+2.0
SAIC	Isla e San And	4.40	16	P		19 31 02.9	
SAIC				S		19 31 55.8	
UPD2	Meteti	4.88	87	eP	Pn	19 31 10.0	+0.4
SJCC	San Jacinto, C	7.83	78	P	Pn	19 31 41.4	-8.8
SJCC	San Jacinto, C	7.83	78	P		19 31 41.4	
APG	El Apazote	9.94	313	Pn	Pn	19 32 18.9	-0.3
	baz=150,slow=10,SNR=5.2						
CMIG	Matias Romero	14.56	308	Pn	Pn	19 33 21.5	-0.8
	0.4nm,0.3s,baz=45,slow=18,SNR=3.1						
	1.0nm,0.2s						
SJG	San Juan	19.03	57	P	P	19 34 18.1	0.0
	1.8nm,0.3s,baz=272,slow=1.1,SNR=3.7						
	4.0nm,0.3s						
PDAR	Pinedale Array	41.55	330	P	P	19 37 43.9	+0.1
	0.2nm,0.5s,baz=68,slow=6.3,SNR=1.7						
	0.2nm,0.5s						
ULM	Lac du Bonnet	43.20	348	P	P	19 37 55.7	-1.1
	1.4nm,0.5s,baz=171,slow=6.8,SNR=4.9						
	1.4nm,0.5s						
YKA	Yellowknife Ar	58.81	343	P	P	19 39 55.3	+1.2
	0.4nm,0.7s,baz=145,slow=7.1,SNR=8.1						
	0.4nm,0.7s						
ILAR	Eielson Array	71.60	336	P	P	19 41 18.1	+1.1
	0.4nm,0.7s,baz=105,slow=6.5,SNR=5.2						
	0.4nm,0.7s						
ESDC	Sonseca Array	76.29	51	P	P	19 41 45.9	+0.8
	0.5nm,0.8s,baz=279,slow=6.0,SNR=2.3						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	153.36	356	PKPbc	PKPbc	19 49 54.1	-1.1
	0.1nm,0.4s,baz=66,slow=2.9,SNR=1.6						

*IDC **22** 19:36:26.2±1.2, 29°.05N×96°.89E, h0km, mb3.4/9, mbtmp3.4/10, ML3.1/1, MS3.5/1, Error ellipse: s-maj=45.0km s-min=17.8km az=69.0*

ISC 22 19:36:31.2±1.1, 29°.1N±0°.1×96°.8E±0°.3, h35km, n10, σ0.80/10, mb3.5/8, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.72	169	Pn	Pn	19 39 02.6	+0.3
	baz=342,slow=13,SNR=15						
	1.5nm,0.8s						
SONM	Songino Array	20.18	19	P	P	19 41 03.8	+1.1
	0.6nm,0.5s,baz=201,slow=10,SNR=5.9						
	0.6nm,0.5s						
MKAR	Makanchi Array	21.04	331	P	P	19 41 12.5	+0.5
	0.2nm,0.5s,baz=135,slow=13,SNR=32						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	25.59	332	P	P	19 41 56.7	-0.2
	0.3nm,0.6s,baz=138,slow=11,SNR=4.6						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	26.38	344	P	P	19 42 05.1	+1.0
	0.5nm,0.4s,baz=144,slow=11,SNR=4.1						
	0.5nm,0.4s						
PETK	Petropavlovsk-	50.04	43	P	P	19 45 22.4	+0.1
	1.3nm,0.6s,baz=294,slow=2.3,SNR=5.8						
	1.3nm,0.6s						
WRA	Warramunga Arr	60.69	139	P	P	19 46 39.3	+0.1
	0.3nm,0.4s,baz=322,slow=7.3,SNR=4.7						
	0.3nm,0.4s						
ASAR	Alice Springs	63.41	142	P	P	19 46 57.4	-0.1
	0.2nm,0.5s,baz=324,slow=6.5,SNR=7.4						
	0.2nm,0.5s						
ILAR	Eielson Array	74.33	24	P	P	19 48 04.2	-0.6
	0.6nm,1.0s,baz=327,slow=5.8,SNR=3.1						
	0.6nm,1.0s						
YKA	Yellowknife Ar	85.36	14	P	P	19 49 03.3	-1.2
	0.1nm,0.7s,baz=269,slow=8.4,SNR=3.6						
	0.1nm,0.7s						

*IDC **22** 19:53:39.8±1.2, 41°.39N×110°.07W, h0km, mb3.1/2, mbtmp3.3/4, ML1.7/1, Error ellipse: s-maj=15.1km s-min=8.3km az=130.0*

*NEIC **22** 19:53:46.5±0.7, 41°.69N±0°.02×109°.76W±0°.06, h1km±1km, Error ellipse: s-maj=7.8km s-min=2.6km az=111.0*

*UUSS **22** 19:53:47.8±0.6, 41°.69N±0°.02×109°.75W±0°.01, h-3km±2km, ML3.0/16, ML2.9/104(NEIC), Error ellipse: s-maj=2.9km s-min=1.2km az=181.0*

ISC 22 19:53:47.4±1.0, 41°.70N±0°.03×109°.78W±0°.04, h10km, n58, σ1.84/55, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PD31	Pinedale Array	1.08	9		Pg	19 54 08.4	+0.3
PDAR	Pinedale Array	1.08	9	Pg	Pg	19 54 07.7	-0.5
PDAR	Pinedale Array	1.08	9	Pg	Pg	19 54 08.5	+0.3
	1.5nm,0.3s,baz=178,slow=11,SNR=5.6						
PDAR				Lg	Lg	19 54 24.5	
	8.5nm,0.3s,baz=184,slow=20,SNR=7.7						
RDMU	Red Mountain	1.14	172		Pg	19 54 08.9	-0.4
TCUT	Toone Canyon	1.36	245		Pn	19 54 13.6	+1.0
BSUT	Blindstream Ca	1.38	213		Pn	19 54 14.0	+1.0
BSUT				IAML		19 54 38.9	
	comp=N,143nm,0.8s						
AHID	Auburn Hatcher	1.45	318		Pn	19 54 15.2	+1.4
AHID				IAML		19 54 47.7	
	comp=N,181nm,0.7s						
JLU	Jordanelle	1.67	230		Pn	19 54 18.1	+1.1
JLU				IAML		19 54 48.6	
	comp=N,88nm,0.7s						
SNOW	Snow King Moun	1.90	338		Pn	19 54 21.6	+1.5
SNOW				IAML		19 54 54.0	
	comp=N,117nm,0.8s						
SNOW				IAML		19 55 03.3	
	comp=N,141nm,0.7s						
O20A	White River Ci	1.95	143	Pn	Pn	19 54 22.0	+1.3
O20A				IAML		19 54 53.9	
	comp=N,88nm,0.8s						
O20A				IAML		19 55 00.6	
	comp=E,113nm,0.7s						
TPAW	Teton Pass	1.99	335		Pn	19 54 22.3	+1.0
TPAW				IAML		19 54 55.3	
	comp=E,104nm,0.8s						
TPAW				IAML		19 54 57.7	
	comp=E,242nm,0.8s						
LOHW	Long Hollow	2.01	343	Pn	Pn	19 54 23.0	+1.5
LOHW				IAML		19 54 54.3	
	comp=E,95nm,0.7s						
LOHW				IAML		19 54 54.6	
	comp=E,122nm,0.7s						
SPUT	South Promonto	2.04	260		Pn	19 54 23.4	+1.5
SPUT				IAML		19 54 56.8	
	comp=N,85nm,0.7s						
SPUT				IAML		19 54 57.8	
	comp=E,123nm,0.8s						
P18A	Preston Nutter	2.10	190		Pn	19 54 23.8	+0.9
P18A				IAML		19 55 00.1	
	comp=E,90nm,0.7s						
P18A				IAML		19 55 02.1	
	comp=N,67nm,0.8s						
FXWY	Fox Creek	2.15	335		Pn	19 54 24.4	+1.0
MOOW	Moose Ponds	2.17	341	Pn	Pn	19 54 25.1	+1.4
MPU	Maple Canyon	2.19	221		Pn	19 54 25.5	+1.4
MPU				IAML		19 55 05.3	
	comp=E,46nm,0.8s						
HVU	Hansel Valley	2.24	273		Pn	19 54 26.5	+1.8
HVU				IAML		19 55 03.6	
	comp=E,192nm,0.7s						
HVU				IAML		19 55 07.6	
	comp=N,168nm,0.7s						
FLWY	Flagg Ranch	2.48	344		Pn	19 54 29.5	+1.5
FLWY				IAML		19 55 14.9	
	comp=N,92nm,0.7s						
FLWY				IAML		19 55 15.4	
	comp=N,37nm,0.9s						
BGU	Big Grassy Mou	2.57	254		Pn	19 54 30.9	+1.7
K22A	Casper	2.60	67		Pn	19 54 30.8	+1.2
K22A				IAML		19 55 12.3	
	comp=E,137nm,0.7s						
TMUT	Trail Mountain	2.64	205		Pn	19 54 31.5	+1.2
SRU	San Rafael Swe	2.65	193		Pn	19 54 31.7	+1.4
SRU				IAML		19 55 16.9	
	comp=N,107nm,0.7s						
DUG	Dugway, Tooele	2.75	238	Pn	Pn	19 54 33.5	+1.9
DUG				IAML		19 55 20.9	
	comp=N,33nm,0.7s						
H17A	Grant Village	2.76	348		Pn	19 54 34.0	+2.1
H17A				IAML		19 55 18.8	
	comp=N,57nm,0.7s						
H17A				IAML		19 55 23.0	
	comp=E,38nm,0.7s						
YFT	Old Faithful	2.86	345		Pn	19 54 35.3	+2.0
YFT				IAML		19 55 27.5	
	comp=N,30nm,0.6s						
YFT				IAML		19 55 28.2	
	comp=E,25nm,0.8s						
Q16A	Castle Valley	2.98	201	Pn	Pn	19 54 36.5	+1.7
Q16A				IAML		19 55 23.3	
	comp=N,62nm,0.6s						
N23A	Red Feather La	3.00	104		Pn	19 54 36.7	+1.5
N23A				IAML		19 55 37.9	
	comp=N,77nm,0.8s						
YMP	Mirror Lake Pl	3.05	355		Pn	19 54 38.3	+2.4
YMP				IAML		19 55 33.1	
	comp=N,24nm,0.7s						
YMP				IAML		19 56 08.7	
	comp=E,29nm,3.3s						
YMR	Madison River	3.09	344		Pn	19 54 39.4	+3.0
YMR				IAML		19 55 34.1	
	comp=N,36nm,1.9s						
YMR				IAML		19 55 34.3	
	comp=E,29nm,0.8s						
PV21	Cone Mtn., Par	3.19	169	Pn	Pn	19 54 39.9	+2.0
YHB	Horse Butte	3.22	342		Pn	19 54 40.9	+2.7
YHB				IAML		19 56 00.6	
	comp=N,18nm,0.7s						
PV22	Blue Mesa, Par	3.25	166	Pn	Pn	19 54 40.7	+2.1
PV23	Carpenter Ridg	3.30	169		Pn	19 54 41.6	+2.3
YNE	Yellowstone No	3.31	357		Pn	19 54 42.0	+2.5
YNE				IAML		19 55 02.5	
	comp=N,18nm,0.8s						
YNE				IAML		19 55 34.6	
	comp=E,27nm,0.7s						
YHL	Hebgen Lake	3.31	342		Pn	19 54 42.3	+2.8
YHL				IAML		19 55 14.3	
	comp=E,17nm,2.8s						
YHL				IAML		19 56 13.0	
	comp=N,18nm,3.1s						
PV10	Paradox Valley	3.37	170		Pn	19 54 43.7	+3.5
PV07	Paradox Valley	3.37	165		Pn	19 54 42.7	+2.4
PV07				IAML		19 55 38.5	
	comp=E,65nm,0.7s						
PV07				IAML		19 55 40.8	
	comp=N,53nm,0.8s						
PV11	David Mesa, Pa	3.47	168		Pn	19 54 43.8	+2.3
PV15	Paradox Valley	3.50	163	Pn	Pn	19 54 44.0	+1.9
PV13	Radium Mtn., P	3.61	168		Pn	19 54 46.2	+2.6
MSU	Marysvale	3.68	211		Pn	19 54 45.9	+1.4
HLID	Hailey	3.89	300	Pn	Pn	19 54 48.7	+1.3
MTPU	Mount Pierson	4.09	208		Pn	19 54 51.6	+1.3
MTPU				IAML		19 56 05.9	
	comp=N,12nm,4.6s						
MTPU				IAML		19 56 09.2	
	comp=E,14nm,1.0s						
ELK	Elko	4.23	259		Pn	19 54 54.3	+2.2
ELK	Elko	4.23	259	Pg	Pn	19 54 51.0	-1.1
	comp=E,0.1nm,0.3s,baz=353,slow=19,SNR=1.3						
ELK				Lg	Lg	19 55 44.0	
	baz=100,slow=18						
SPR3	Spring Creek 3	4.40	234		Pn	19 54 56.8	+2.3
PSUT	Pine Spring	4.45	226		Pn	19 54 57.2	+2.2
PSUT				IAML		19 55 27.0	
	comp=N,7.3nm,0.9s						
PSUT				IAML		19 56 25.3	
	comp=E,7.4nm,4.7s						
Q24A	Divide	4.47	126		Pn	19 54 57.6	+2.2
Q24A				IAML		19 56 19.7	
	comp=E,12nm,0.8s						
Q24A				IAML		19 56 30.5	
	comp=N,13nm,1.9s						
S22A	4UR Ranch, Cre	4.56	149		Pn	19 54 56.2	-0.4
S22A				IAML		19 56 27.7	
	comp=E,12nm,4.1s						
MVCO	Mesa Verde	4.59	167	Pn	Pn	19 54 59.0	+1.9
RSSD	Black Hills	4.86	58		Pn	19 55 01.9	+1.2
WUAZ	Wupatki	6.30	192		Pn	19 55 20.8	+0.3
NVAR	Mina Array Bea	7.31	246	Pg	Pn	19 55 40.3	+5.9
	comp=E,0.2nm,0.3s,baz=61,slow=12,SNR=6.0						
ULM	Lac du Bonnet	12.89	44	Pn	Pn	19 56 48.0	-2.5
	comp=E,0.1nm,0.3s,baz=238,slow=10,SNR=3.0						
	comp=E,2.1nm,0.8s						
TXAR	Lajitas Array	13.30	156	Pn	Pn	19 56 49.1	-7.2
	comp=E,0.2nm,0.4s,baz=345,slow=19,SNR=4.0						
YKA	Yellowknife Ar	21.02	354	P	P	19 58 29.5	-1.4
	comp=E,0.6nm,0.8s,baz=174,slow=10,SNR=10.0						
	comp=E,0.6nm,0.8s						
ILAR	Eielson Array	31.27	330	P	P	20 00 00.7	-6.3
	comp=E,0.3nm,0.9s,baz=122,slow=8.7,SNR=2.1						
	comp=E,0.3nm,0.9s						

*IDC **22** 19:59:06.0±1.6, 41°.71N×109°.66W, h0km, mb2.9/1, mbtmp3.1/4, ML1.9/3, Error ellipse: s-maj=18.0km s-min=6.6km az=125.0*

*UUSS **22** 19:59:07.9±1.2, 41°.73N±0°.02×109°.73W±0°.02, h-1km±2km, ML2.6/6, ML2.8/116(NEIC), Error ellipse: s-maj=3.0km s-min=1.7km az=221.0*

*NEIC **22** 19:59:07.7±1.2, 41°.72N±0°.02×109°.74W±0°.03, h1km±1km, Error ellipse: s-maj=4.5km s-min=3.3km az=107.0*

ISC 22 19:59:07.9±0.9, 41°.71N±0°.03×109°.76W±0°.04, h10km, n67, σ1.24/64, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BW06	Boulder Array	1.07	8		Pg	19 59 28.2	-0.2
PD31	Pinedale Array	1.07	8		Pg	19 59 27.9	-0.6
PDAR	Pinedale Array	1.07	8		Pg	19 59 28.0	-0.4
PDAR	Pinedale Array	1.07	8	Pg	Pg	19 59 28.2	-0.2
	11nm,0.3s,baz=179,slow=16,SNR=26						
PDAR				Lg	Lg	19 59 39.5	
	6.7nm,0.3s,baz=179,slow=20,SNR=12						
BMUT	Black Mountain	1.13	283		Pb	19 59 29.7	+0.1
RDMU	Red Mountain	1.15	173		Pb	19 59 29.3	-0.6
LHUT	Little Humpy P	1.24	229		Pn	19 59 32.3	+0.7
MCU	Monte Cristo P	1.33	260		Pn	19 59 33.7	+0.8
HWUT	Hardware Ranch	1.36	266		Pn	19 59 33.3	+0.3
HWUT	Hardware Ranch	1.36	266	IAML		19 59 56.6	
	180nm,0.7s						
HWUT				IAML		19 59 57.1	
	191nm,0.7s						
TCUT	Toone Canyon	1.37	245		Pn	19 59 34.0	+0.7
BSUT	Blindstream Ca	1.39	213		Pn	19 59 34.0	+0.3
AHID	Auburn Hatcher	1.45	317		Pn	19 59 35.2	+0.8
AHID	Auburn Hatcher	1.45	317	IAML		19 59 59.6	
	132nm,0.5s						
AHID				IAML		20 00 05.4	
	111nm,0.6s						
HDU	Hyde Park	1.50	274		Pb	19 59 36.7	+0.7
HTU	Hoyt Peak	1.51	227		Pn	19 59 36.4	+1.1
BEI	Bear River Ran	1.56	286		Pn	19 59 37.0	+1.1
JLU	Jordanelle	1.69	230		Pn	19 59 39.0	+1.4
JLU				IAML		20 00 06.6	
	comp=N,56nm,0.7s						
SNOW	Snow King Moun	1.90	338		Pb	19 59 43.0	+0.2
SNOW				IAML		20 00 14.8	
	comp=N,89nm,0.7s						
SNOW				IAML		20 00 22.2	
	comp=N,81nm,0.8s						
O20A	White River Ci	1.95	143		Pb	19 59 43.8	+0.2
O20A				IAML		20 00 11.7	
	comp=E,64nm,0.6s						
O20A				IAML		20 00 12.3	
	comp=N,73nm,0.6s						
TPAW	Teton Pass	1.99	334		Pn	19 59 43.4	+1.6
TPAW				IAML		20 00 18.7	
	comp=N,62nm,0.8s						
LOHW	Long Hollow	2.00	342		Pn	19 59 42.8	+0.8
LOHW				IAML		20 00 12.7	
	comp=N,71nm,0.7s						
LOHW				IAML		20 00 20.5	
	comp=N,59nm,0.6s						
SPUT	South Promonto	2.06	260		Pb	19 59 45.7	+0.2
SPUT				IAML		20 00 14.9	
	comp=N,60nm,0.6s						
SPUT				IAML		20 00 15.5	
	comp=E,76nm,0.6s						
P18A	Preston Nutter	2.11	190		Pb	19 59 46.3	-0.1
P18A				IAML		20 00 18.4	
	comp=E,58nm,0.8s						
P18A				IAML		20 00 19.2	
	comp=N,36nm,0.8s						
FXWY	Fox Creek	2.14	335		Pn	19 59 45.0	+1.1
MOOW	Moose Ponds	2.17	341		Pn	19 59 45.4	+1.1
MPU	Maple Canyon	2.21	221		Pn	19 59 47.4	+2.6
HVU	Hansel Valley	2.26	273		Pn	19 59 47.9	+2.5
HVU				IAML		20 00 21.6	
	comp=N,92nm,0.7s						
FLWY	Flagg Ranch	2.47	344		Pn	19 59 50.2	+1.7
FLWY				IAML		20 00 34.7	
	comp=N,61nm,0.7s						
FLWY				IAML		20 00 35.3	
	comp=N,36nm,0.7s						
K22A	Casper	2.58	68		Pn	19 59 52.1	+2.2
BGU	Big Grassy Mou	2.58	253		Pn	19 59 51.4	+1.5
TMUT	Trail Mountain	2.65	205		Pn	19 59 52.3	+1.3
SRU	San Rafael Swe	2.66	193		Pb	19 59 54.6	-1.1
SRU				IAML		20 00 33.2	
	comp=N,58nm,0.6s						
H17A	Grant Village	2.75	348		Pn	19 59 55.0	+2.6
H17A				IAML		20 00 37.2	
	comp=N,36nm,0.6s						
H17A				IAML		20 00 41.4	
	comp=E,26nm,0.6s						
DUG	Dugway, Tooele	2.76	238		Pn	19 59 53.8	+1.4
DUG				IAML		20 00 37.4	
	comp=E,23nm,0.8s						
DUG				IAML		20 00 39.9	
	comp=E,19nm,0.5s						
YFT	Old Faithful	2.85	344		Pn	19 59 55.3	+1.6
YFT				IAML		20 01 27.9	
	comp=N,26nm,0.9s						
N23A	Red Feather La	2.99	105		Pn	19 59 56.2	+0.6
Q16A	Castle Valley	2.99	202		Pn	19 59 57.3	+1.8
Q16A				IAML		20 00 41.6	
	comp=N,46nm,0.6s						
YMP	Mirror Lake Pl	3.04	355		Pn	19 59 57.1	+0.7
YMP				IAML		20 00 52.0	
	comp=N,21nm,0.7s						
YMP				IAML		20 01 37.3	
	comp=E,20nm,2.3s						
YNR	Norris Junctio	3.08	348		Pn	19 59 57.9	+1.0
YHB	Horse Butte	3.22	341		Pn	19 59 58.7	0.0
YHB				IAML		20 00 52.6	
	comp=N,16nm,0.9s						
PV23	Carpenter Ridg	3.30	170		Pn	20 00 01.5	+1.6
YNE	Yellowstone No	3.30	357		Pn	19 59 59.3	-0.6
YNE				IAML		20 00 52.6	
	comp=E,21nm,0.8s						
YNE				IAML		20 00 55.3	
	comp=N,16nm,0.7s						
YHL	Hebgen Lake	3.31	342		Pn	19 59 59.3	-0.7
YHL				IAML		20 01 01.9	
	comp=N,13nm,2.8s						
PV10	Paradox Valley	3.37	170		Pn	20 00 02.9	+2.0
PV07	Paradox Valley	3.38	165		Pn	20 00 01.9	+1.0
PV07				IAML		20 00 54.8	
	comp=N,28nm,0.7s						
PV11	David Mesa, Pa	3.47	168		Pn	20 00 04.2	+2.0
PV15	Paradox Valley	3.50	163		Pn	20 00 04.5	+1.9
PV13	Radium Mtn., P	3.62	168		Pn	20 00 05.5	+1.3
MSU	Marysvale	3.69	211		Pn	20 00 05.8	+0.5
TCRU	Three Creeks R	3.72	215	IAML		20 01 09.4	
	comp=E,19nm,1.0s						
TCRU				IAML		20 01 10.3	
	comp=N,18nm,0.7s						
HLID	Hailey	3.90	300		Pn	20 00 07.8	-0.3
HLID				IAML		20 02 30.8	
	comp=N,7.3nm,4.9s						
MTPU	Mount Pierson	4.11	208		Pn	20 00 11.1	+0.1
MTPU				IAML		20 01 29.7	
	comp=E,9.7nm,4.2s						
MTPU				IAML		20 01 42.5	
	comp=N,8.2nm,5.0s						
BOZ	Bozeman (W)	4.12	341		Pn	20 00 10.3	-0.7
BOZ				IAML		20 01 02.4	
	comp=N,7.5nm,4.7s						
BOZ				IAML		20 02 44.7	
	comp=N,8.2nm,4.9s						
DLMT	Dillon	4.20	332		Pn	20 00 10.2	-1.8
DLMT				IAML		20 02 11.3	
	comp=N,20nm,0.2s						
ELK	Elko	4.24	259		Pn	20 00 12.9	+0.1
ELK	Elko	4.24	259	Pn	Pn	20 00 14.2	+1.4
	comp=N,0.1nm,0.3s,baz=158,slow=19,SNR=1.5						
ELK				Pg	Pb	20 00 23.1	+0.4
	comp=N,0.3nm,0.3s,baz=68,slow=11,SNR=6.8						
ELK				Lg	Lg	20 01 20.1	
	comp=N,0.4nm,0.3s,baz=183,slow=19,SNR=2.6						
	comp=N,0.3nm,0.4s						
SPR3	Spring Creek 3	4.42	234		Pn	20 00 14.9	-0.4

comp=E,8.4nm,4.9s
RSSD Black Hills 4.85 58 Pn 20 00 20.3 -0.8
NVAR Mina Array Bea 7.32 246 Pn **Pn 20 00 57.7 +2.6**
baz=66,slow=16,SNR=3.6
comp=E,0.7nm,0.7s
ULM Lac du Bonnet 12.88 44 Pn Pn 20 02 05.3 -5.5
comp=E,0.1nm,0.3s,baz=239,slow=12,SNR=3.0
comp=E,1.5nm,0.7s
YKA Yellowknife Ar 21.02 354 P **P 20 03 50.2 -1.2**
comp=E,0.4nm,0.6s,baz=167,slow=11,SNR=7.1
comp=E,0.4nm,0.6s

---

*IDC **22** 20:00:25.3±1.8, 41°.61N×109°.75W, h0km, mb2.9/1, mbtmp3.2/3, ML2.1/2, Error ellipse: s-maj=24.4km s-min=10.5km az=117.0*
*NEIC **22** 20:00:28.1±0.6, 41°.71N±0°.02×109°.76W±0°.03, h1km±1km, Error ellipse: s-maj=4.2km s-min=2.7km az=267.0*
*UUSS **22** 20:00:28.0±0.9, 41°.70N±0°.02×109°.74W±0°.04, h-3km±2km, ML2.9/9, ML2.6/38(NEIC), Error ellipse: s-maj=4.0km s-min=2.2km az=92.0*

ISC 22 20:00:27.8±0.9, 41°.70N±0°.03×109°.71W±0°.06, h10km, n32, σ1§22/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BW06	**Boulder Array**	**1.07**	**6**		**Pg**	**20 00 48.2**	**-0.2**
PD31	**Pinedale Array**	**1.07**	**6**		**Pg**	**20 00 48.5**	**+0.1**
PDAR	**Pinedale Array**	**1.07**	**6**	Pg	**Pg**	**20 00 48.1**	**-0.3**
	8.6nm,0.3s,baz=181,slow=16,SNR=8.4						
PDAR				Lg	Lg	20 01 03.2	
	6.6nm,0.3s,baz=180,slow=16,SNR=6.8						
RDMU	**Red Mountain**	**1.13**	**175**		**Pg**	**20 00 49.5**	**-0.1**
RDMU				IAML		20 01 10.3	
	comp=N,127nm,0.6s						
BMUT	**Black Mountain**	**1.17**	**283**		**Pg**	**20 00 49.9**	**-0.3**
LHUT	**Little Humpy P**	**1.26**	**231**		**Pb**	**20 00 52.4**	**+0.6**
MCU	**Monte Cristo P**	**1.37**	**261**		**Pn**	**20 00 53.7**	**+0.4**
HWUT	**Hardware Ranch**	**1.39**	**267**		**Pn**	**20 00 53.5**	**+0.1**
TCUT	**Toone Canyon**	**1.40**	**246**		**Pn**	**20 00 54.2**	**+0.6**
BSUT	**Blindstream Ca**	**1.41**	**215**		**Pn**	**20 00 54.5**	**+0.6**
BSUT	**Blindstream Ca**	**1.41**	**215**	IAML		20 01 17.2	
	comp=N,56nm,0.7s						
AHID	**Auburn Hatcher**	**1.48**	**316**		**Pn**	**20 00 55.6**	**+0.9**
AHID	**Auburn Hatcher**	**1.48**	**316**	IAML		20 01 19.7	
	comp=N,80nm,0.5s						
AHID				IAML		20 01 27.5	
	comp=N,93nm,0.5s						
HTU	**Hoyt Peak**	**1.53**	**229**		**Pn**	**20 00 56.5**	**+1.0**
N16A	**Rees Ranch, Co**	**1.53**	**239**		**Pn**	**20 00 56.7**	**+1.3**
HDU	**Hyde Park**	**1.54**	**275**		**Pn**	**20 00 56.4**	**+0.9**
BEI	**Bear River Ran**	**1.60**	**286**		**Pb**	**20 00 58.0**	**+0.4**
JLU	**Jordanelle**	**1.71**	**231**		**Pb**	**20 00 59.7**	**+0.2**
JLU	**Jordanelle**	**1.71**	**231**	IAML		20 01 27.0	
	comp=N,53nm,0.7s						
JLU				IAML		20 01 27.3	
	comp=E,55nm,0.7s						
SNOW	**Snow King Moun**	**1.92**	**337**	Pn	**Pn**	**20 01 02.9**	**+2.1**
SNOW				IAML		20 01 37.6	
	comp=E,69nm,1.2s						
SNOW				IAML		20 01 38.8	
	comp=E,76nm,0.7s						
TPAW	**Teton Pass**	**2.01**	**333**	Pn	**Pn**	**20 01 04.2**	**+2.1**
TPAW				IAML		20 01 33.4	
	comp=E,55nm,0.7s						
LOHW	**Long Hollow**	**2.02**	**341**	Pn	**Pb**	**20 01 04.6**	**-0.1**
LOHW				IAML		20 01 32.7	
	comp=E,53nm,0.6s						
LOHW				IAML		20 01 40.8	
	comp=E,59nm,0.6s						
SPUT	**South Promonto**	**2.09**	**260**		**Pb**	**20 01 06.0**	**+0.1**
SPUT				IAML		20 01 38.6	
	comp=E,66nm,0.6s						
P18A	**Preston Nutter**	**2.11**	**191**	Pn	**Pb**	**20 01 07.1**	**+0.8**
P18A				IAML		20 01 38.5	
	comp=E,58nm,0.6s						
P18A				IAML		20 01 47.4	
	comp=N,41nm,0.6s						
FXWY	**Fox Creek**	**2.17**	**334**	Pn	**Pb**	**20 01 07.4**	**+0.2**
MOOW	**Moose Ponds**	**2.18**	**340**	Pn	**Pn**	**20 01 07.0**	**+2.6**
MPU	**Maple Canyon**	**2.23**	**222**		**Pn**	**20 01 07.3**	**+2.4**
MPU				IAML		20 01 41.5	
	comp=N,27nm,0.7s						
HVU	**Hansel Valley**	**2.29**	**273**		**Pn**	**20 01 07.6**	**+1.7**
ELK	**Elko**	**4.28**	**259**	Lg	Lg	20 02 39.8	
	comp=N,0.2nm,0.3s,baz=156,slow=19,SNR=2.0						
NVAR	**Mina Array Bea**	**7.36**	**246**	Pn	**Pn**	**20 02 15.4**	**0.0**
	comp=N,0.1nm,0.3s,baz=67,slow=9.7,SNR=4.3						
	comp=N,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**12.86**	**44**	Pn	**Pn**	**20 03 28.0**	**-2.4**
	comp=N,0.1nm,0.3s,baz=233,slow=7.6,SNR=3.6						
	comp=N,1.9nm,0.7s						
YKA	**Yellowknife Ar**	**21.03**	**354**	P	**P**	**20 05 11.3**	**0.0**
	comp=N,0.4nm,0.7s,baz=171,slow=11,SNR=6.2						
	comp=N,0.4nm,0.7s						

KRSC 22 20:07:23.5±2.6, 49°.08N×157°.19E, h30km±28km, Ml4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.75**	**337**	*eP*	Pn	20 07 51.7	-0.1
SKR				*eS*	Sn	20 08 11.9	-1.2
PAU	**Pauzhetka**	**2.41**	**354**	*eP*	Pb	20 08 03.4	-2.6
PAU				*eS*	Sn	20 08 31.6	+2.4
KDTR	**Khodutka, Kamc**	**2.79**	**11**	*eP*	Pb	20 08 10.2	-2.5
KDTR				*eS*	Sb	20 08 43.0	-3.5
RUS	**Russkaya**	**3.46**	**14**	*eP*	Pn	20 08 18.3	+3.0
GRL	**Gorelyy**	**3.52**	**9**	*eP*	Pn	20 08 20.5	+4.2
KRMR	**Karymshinskiy**	**3.81**	**9**	*eP*	Pn	20 08 24.9	+4.9
KRMR				*eS*	Sb	20 09 11.2	-4.2
PET	**Petropavlovsk**	**4.06**	**13**	*eP*	Pn	20 08 27.8	+4.3
DALK	**Dalny**	**4.08**	**13**	*eP*	Pn	20 08 27.8	+4.0
UGLR	**Uglovaya**	**4.26**	**13**	*eP*	Pn	20 08 31.3	+4.9
AVH	**Avacha**	**4.31**	**13**	*eP*	Pn	20 08 32.2	+5.2
KOK	**Koryaka**	**4.32**	**12**	*eP*	Pn	20 08 32.5	+5.3
KRX	**Arik**	**4.39**	**12**	*eP*	Pn	20 08 33.1	+4.9
GNL	**Ganaly**	**4.65**	**6**	*eP*	Pn	20 08 36.3	+4.6
KBTR	**Krutoberegovo**	**7.92**	**23**	*eP*	Pn	20 09 20.7	+4.2

---

*IDC **22** 20:08:05.0±1.5, 41°.58N×109°.20W, h0km, mb2.9/1, mbtmp3.0/3, ML3.3/2, Error ellipse: s-maj=27.6km s-min=9.4km az=87.0*
*NEIC **22** 20:08:07.9±1.8, 41°.73N±0°.02×109°.73W±0°.03, h1km±1km, Error ellipse: s-maj=4.5km s-min=3.0km az=284.0*
*UUSS **22** 20:08:08.4±1.8, 41°.72N±0°.02×109°.73W±0°.03, h-3km±2km, ML2.8/11, ML2.8/140(NEIC), Error ellipse: s-maj=3.8km s-min=2.6km az=105.0*

ISC 22 20:08:08.5±0.9, 41°.72N±0°.03×109°.72W±0°.04, h10km, n78, σ1§19/77, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BW06	**Boulder Array**	**1.05**	**6**		**Pg**	**20 08 28.8**	**0.0**
PD31	**Pinedale Array**	**1.05**	**6**		**Pg**	**20 08 28.7**	**-0.1**
PDAR	**Pinedale Array**	**1.05**	**6**	Pg	**Pg**	**20 08 28.4**	**-0.3**
PDAR	**Pinedale Array**	**1.05**	**6**	Pg	**Pg**	**20 08 29.0**	**+0.2**
	7.5nm,0.3s,baz=162,slow=9.8,SNR=47						
PDAR				Lg	Lg	20 08 44.5	
	8.7nm,0.3s,baz=175,slow=15,SNR=8.8						
RDMU	**Red Mountain**	**1.15**	**174**		**Pb**	**20 08 30.3**	**-0.4**
RDMU				IAML		20 08 50.5	
	comp=N,184nm,0.7s						
RDMU				IAML		20 08 50.8	
	comp=E,140nm,0.9s						
BMUT	**Black Mountain**	**1.16**	**282**		**Pb**	**20 08 30.3**	**-0.5**
LHUT	**Little Humpy P**	**1.27**	**230**		**Pb**	**20 08 33.0**	**+0.2**
MCU	**Monte Cristo P**	**1.37**	**260**		**Pn**	**20 08 34.3**	**+0.3**
TCUT	**Toone Canyon**	**1.41**	**245**		**Pb**	**20 08 35.1**	**+0.1**
BSUT	**Blindstream Ca**	**1.42**	**214**		**Pn**	**20 08 34.7**	**0.0**
AHID	**Auburn Hatcher**	**1.47**	**316**		**Pb**	**20 08 35.9**	**-0.1**
HTU	**Hoyt Peak**	**1.54**	**228**		**Pb**	**20 08 37.0**	**-0.3**
BEI	**Bear River Ran**	**1.59**	**285**		**Pb**	**20 08 38.1**	**-0.1**
WVUT	**Wellsville**	**1.68**	**267**		**Pn**	**20 08 38.6**	**+0.4**
JLU	**Jordanelle**	**1.72**	**230**		**Pb**	**20 08 40.3**	**-0.1**
JLU	**Jordanelle**	**1.72**	**230**	IAML		20 09 07.8	
	comp=E,57nm,0.6s						
SNOW	**Snow King Moun**	**1.90**	**337**		**Pn**	**20 08 42.0**	**+0.7**
SNOW				IAML		20 09 15.5	
	comp=E,57nm,0.7s						
SNOW				IAML		20 09 19.2	
	comp=E,64nm,0.6s						
O20A	**White River Ci**	**1.94**	**144**		**Pb**	**20 08 44.7**	**+0.7**
O20A				IAML		20 09 12.9	
	comp=N,85nm,0.6s						
O20A				IAML		20 09 27.0	
	comp=E,77nm,0.8s						
TPAW	**Teton Pass**	**1.99**	**333**		**Pn**	**20 08 44.1**	**+1.6**
TPAW				IAML		20 09 15.6	
	comp=E,46nm,0.7s						
TPAW				IAML		20 09 19.4	
	comp=E,93nm,0.6s						
LOHW	**Long Hollow**	**2.00**	**341**	Pn	**Pn**	**20 08 44.2**	**+1.6**
LOHW				IAML		20 09 12.9	
	comp=E,54nm,0.7s						
LOHW				IAML		20 09 13.8	
	comp=E,65nm,0.7s						
SPUT	**South Promonto**	**2.09**	**260**		**Pn**	**20 08 45.2**	**+1.4**
SPUT				IAML		20 09 16.4	
	comp=E,50nm,0.8s						
SPUT				IAML		20 09 16.5	
	comp=N,58nm,1.0s						
P18A	**Preston Nutter**	**2.13**	**191**		**Pn**	**20 08 45.6**	**+1.2**
P18A				IAML		20 09 19.3	
	comp=E,56nm,0.7s						
P18A				IAML		20 09 27.9	
	comp=N,56nm,0.7s						
FXWY	**Fox Creek**	**2.15**	**334**		**Pn**	**20 08 45.7**	**+1.0**
MOOW	**Moose Ponds**	**2.16**	**340**	Pn	**Pn**	**20 08 45.9**	**+1.0**
MPU	**Maple Canyon**	**2.24**	**221**		**Pn**	**20 08 46.8**	**+0.9**
HVU	**Hansel Valley**	**2.29**	**272**		**Pn**	**20 08 47.3**	**+0.8**
HVU				IAML		20 09 25.9	
	comp=E,61nm,0.8s						
HVU				IAML		20 09 25.9	
	comp=N,61nm,0.8s						
FLWY	**Flagg Ranch**	**2.47**	**343**		**Pn**	**20 08 49.0**	**0.0**
FLWY				IAML		20 09 34.9	
	comp=N,34nm,0.8s						
K22A	**Casper**	**2.55**	**68**		**Pn**	**20 08 50.2**	**+0.2**
K22A				IAML		20 09 31.4	
	comp=E,67nm,0.6s						
K22A				IAML		20 09 32.0	
	comp=N,108nm,0.8s						
BGU	**Big Grassy Mou**	**2.62**	**253**		**Pn**	**20 08 51.5**	**+0.4**
TMUT	**Trail Mountain**	**2.67**	**206**	Pn	**Pn**	**20 08 51.3**	**-0.6**
TMUT				IAML		20 09 39.9	
	comp=E,97nm,0.7s						
SRU	**San Rafael Swe**	**2.68**	**194**	Pn	**Pn**	**20 08 51.9**	**0.0**
SRU				IAML		20 09 35.7	
	comp=N,77nm,0.7s						
H17A	**Grant Village**	**2.75**	**347**	Pn	**Pn**	**20 08 51.7**	**-1.2**
H17A				IAML		20 09 37.7	
	comp=N,30nm,0.6s						
H17A				IAML		20 09 41.6	
	comp=E,19nm,0.6s						
DUG	**Dugway, Tooele**	**2.80**	**238**	Pn	**Pn**	**20 08 53.3**	**-0.1**
DUG				IAML		20 09 40.8	
	comp=E,20nm,0.7s						
N23A	**Red Feather La**	**2.96**	**105**		**Pn**	**20 08 55.6**	**-0.2**
N23A				IAML		20 09 44.1	
	comp=E,62nm,0.7s						
N23A				IAML		20 09 47.3	
	comp=N,58nm,0.9s						
Q16A	**Castle Valley**	**3.01**	**202**		**Pn**	**20 08 56.5**	**0.0**
Q16A				IAML		20 09 48.6	
	comp=N,34nm,0.7s						
YMP	**Mirror Lake Pl**	**3.04**	**354**		**Pn**	**20 08 57.4**	**+0.5**
YMP				IAML		20 09 54.2	
	comp=N,16nm,2.0s						
YMP				IAML		20 10 43.3	
	comp=E,17nm,4.9s						
YNR	**Norris Junctio**	**3.08**	**347**		**Pn**	**20 08 58.1**	**+0.7**
YMR	**Madison River**	**3.08**	**343**		**Pn**	**20 08 58.5**	**+1.0**
YMR				IAML		20 09 52.1	
	comp=N,21nm,2.3s						
YMR				IAML		20 10 05.3	
	comp=E,19nm,4.0s						
PV21	**Cone Mtn., Par**	**3.21**	**170**	Pn	**Pn**	**20 08 59.5**	**+0.3**
YHB	**Horse Butte**	**3.22**	**341**		**Pn**	**20 08 59.9**	**+0.6**
PV22	**Blue Mesa, Par**	**3.26**	**167**	Pn	**Pn**	**20 09 00.7**	**+0.8**
PV22				IAML		20 09 50.5	
	comp=N,70nm,0.7s						
PV22				IAML		20 09 54.2	
	comp=E,62nm,0.8s						
YNE	**Yellowstone No**	**3.29**	**356**		**Pn**	**20 08 59.7**	**-0.6**
YNE				IAML		20 09 53.0	
	comp=E,20nm,0.7s						
YHL	**Hebgen Lake**	**3.31**	**342**		**Pn**	**20 08 59.1**	**-1.5**
YHL				IAML		20 10 16.8	
	comp=E,13nm,5.0s						
PV23	**Carpenter Ridg**	**3.31**	**170**		**Pn**	**20 08 59.8**	**-0.9**
PV07	**Paradox Valley**	**3.38**	**166**		**Pn**	**20 09 00.8**	**-0.7**
PV07				IAML		20 09 57.9	
	comp=N,37nm,0.8s						
PV07				IAML		20 10 05.2	
	comp=E,45nm,0.7s						
PV10	**Paradox Valley**	**3.38**	**171**		**Pn**	**20 09 04.0**	**+2.4**
PV04	**Paradox Valley**	**3.38**	**169**	Pn	**Pn**	**20 09 01.0**	**-0.5**
PV14	**Lion Creek, Pa**	**3.39**	**171**	Pn	**Pn**	**20 09 02.3**	**+0.6**
PV20	**West Nyswonger**	**3.42**	**170**	Pn	**Pn**	**20 09 03.7**	**+1.6**
PV19	**Morning Glory**	**3.45**	**170**	Pn	**Pn**	**20 09 04.0**	**+1.4**
PV19				IAML		20 09 55.8	
	comp=N,36nm,0.7s						
PV19				IAML		20 10 05.9	
	comp=E,47nm,0.8s						
PV16	**Nyswonger Mesa**	**3.46**	**170**	Pn	**Pn**	**20 09 04.4**	**+1.8**
PV12	**Saucer Basin,**	**3.47**	**168**	Pn	**Pn**	**20 09 04.1**	**+1.3**
PV11	**David Mesa, Pa**	**3.48**	**169**		**Pn**	**20 09 04.6**	**+1.7**
PV17	**East Wray Mesa**	**3.48**	**170**	Pn	**Pn**	**20 09 03.8**	**+0.8**
PV17				IAML		20 10 02.9	
	comp=N,45nm,0.7s						
PV17				IAML		20 10 07.3	
	comp=E,42nm,0.7s						
PV15	**Paradox Valley**	**3.50**	**164**		**Pn**	**20 09 03.8**	**+0.5**
PV18	**Skein Mesa, Pa**	**3.52**	**170**	Pn	**Pn**	**20 09 04.5**	**+0.9**
PV03	**Paradox Valley**	**3.53**	**169**	Pn	**Pn**	**20 09 05.1**	**+1.5**
PV03				IAML		20 10 03.5	
	comp=E,40nm,0.8s						
PV03				IAML		20 10 04.0	
	comp=N,50nm,0.7s						
PV02	**Paradox Valley**	**3.59**	**168**	Pn	**Pn**	**20 09 06.6**	**+2.2**
PV13	**Radium Mtn., P**	**3.62**	**169**		**Pn**	**20 09 05.8**	**+0.9**
PV13				IAML		20 10 09.1	
	comp=N,49nm,0.8s						
ISCO	**Idaho Springs**	**3.66**	**120**	Pn	**Pn**	**20 09 06.9**	**+1.5**
ISCO				IAML		20 10 16.4	
	comp=N,10nm,2.1s						
PV05	**Paradox Valley**	**3.67**	**172**	Pn	**Pn**	**20 09 06.5**	**+1.0**
PV01	**Paradox Valley**	**3.69**	**166**	Pn	**Pn**	**20 09 07.2**	**+1.4**
PV01				IAML		20 10 13.2	
	comp=E,27nm,1.1s						
PV01				IAML		20 10 13.4	
	comp=N,49nm,0.6s						
MSU	**Marysvale**	**3.72**	**211**		**Pn**	**20 09 06.7**	**+0.5**
TCRU	**Three Creeks R**	**3.75**	**215**		**Pn**	**20 09 08.3**	**+1.7**
TCRU				IAML		20 10 08.1	
	comp=E,15nm,0.8s						
TCRU				IAML		20 10 11.2	
	comp=N,15nm,0.7s						
HLID	**Hailey**	**3.92**	**300**		**Pn**	**20 09 11.1**	**+2.1**
BOZ	**Bozeman (W)**	**4.12**	**341**		**Pn**	**20 09 14.0**	**+2.4**
BOZ				IAML		20 10 04.7	
	comp=N,7.0nm,4.8s						
BOZ				IAML		20 10 33.6	
	comp=N,9.7nm,4.8s						
MTPU	**Mount Pierson**	**4.14**	**208**		**Pn**	**20 09 12.9**	**+0.8**
MTPU				IAML		20 10 25.9	
	comp=E,11nm,4.8s						
MTPU				IAML		20 10 32.9	
	comp=N,8.4nm,4.3s						
ELK	**Elko**	**4.28**	**259**		**Pn**	**20 09 12.7**	**-1.2**
Q24A	**Divide**	**4.45**	**127**		**Pn**	**20 09 17.2**	**+0.9**
Q24A				IAML		20 10 35.7	
	comp=E,9.3nm,0.7s						
Q24A				IAML		20 12 00.2	
	comp=N,9.7nm,3.9s						
SPR3	**Spring Creek 3**	**4.45**	**234**		**Pn**	**20 09 16.8**	**+0.5**
PSUT	**Pine Spring**	**4.49**	**226**		**Pn**	**20 09 16.9**	**+0.1**
PSUT				IAML		20 10 01.2	
	comp=E,5.3nm,3.6s						
PSUT				IAML		20 11 09.3	
	comp=N,5.1nm,3.8s						
S22A	**4UR Ranch, Cre**	**4.55**	**150**		**Pn**	**20 09 18.7**	**+1.0**
S22A				IAML		20 11 38.4	
	comp=E,7.7nm,4.0s						
MVCO	**Mesa Verde**	**4.60**	**168**		**Pn**	**20 09 19.1**	**+0.7**
RSSD	**Black Hills 4.81 58**				**Pn**	**20 09 22.1**	**+0.9**
RSSD				IAML		20 10 40.8	
	comp=E,17nm,0.8s						
SDCO	**Great Sand Dun 5.13 139**				**Pn**	**20 09 25.1**	**-0.6**
SDCO				IAML		20 10 16.1	
	comp=E,3.4nm,3.5s						
SDCO				IAML		20 11 49.0	
	comp=E,5.3nm,1.3s						
NVAR	**Mina Array Bea 7.36 246**	Pn			**Pn**	**20 10 00.2**	**+4.0**
	comp=E,0.1nm,0.3s,baz=64,slow=15,SNR=4.1						
	comp=E,0.6nm,0.6s						
TXAR	**Lajitas Array 13.30 156**	Pn			**Pn**	**20 11 13.7**	**-3.7**
	comp=E,0.1nm,0.3s,baz=346,slow=17,SNR=1.8						
	comp=E,0.1nm,0.5s						
YKA	**Yellowknife Ar 21.01 354**	P			**P**	**20 12 52.1**	**+0.3**
	comp=E,0.4nm,0.7s,baz=169,slow=11,SNR=2.7						
	comp=E,0.4nm,0.7s						

---

*IDC **22** 20:12:02.8±0.9, 36°.87N×140°.61E, h0km, mb3.6/9, mbtmp3.7/11, ML3.4/2, Error ellipse: s-maj=21.8km s-min=16.4km az=98.0*
*JMA **22** 20:12:04.7±0.0, 36°.8N±0°.1×140°.6E±0°.2, h7km, MV3.7/20, NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .

ISC 22 20:12:04.4±1.0, 36°.84N±0°.03×140°.61E±0°.04, h10km±7km, n30, σ0§78/30, mb3.7/9, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.23**	**188**	P	**Pg**	**20 12 09.1**	**-0.1**
JHO				S	**Sg**	**20 12 12.4**	**0.0**
JFFD	**Fukushimafurud**	**0.25**	**351**	P	**Pg**	**20 12 09.8**	**+0.4**
JFFD				S	**Sg**	**20 12 13.7**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.30**	**31**	P	**Pb**	**20 12 10.9**	**-1.1**
ONAJ				S	**Sb**	**20 12 15.8**	**-1.2**
JFK	**Kawauchi**	**0.56**	**22**	*i* P	**Pb**	**20 12 15.6**	**-0.8**
JSB	**Shiboa**	**0.56**	**283**	*i* P	**Pb**	**20 12 16.1**	**-0.3**
JYT	**Yasato**	**0.70**	**209**	⇓*i* P	**Pg**	**20 12 17.6**	**-0.3**
JYT				⇓S	**Sg**	**20 12 26.5**	**-0.6**
JOTO	**OTAMA OYAMA**	**0.75**	**343**	*i* P	**Pb**	**20 12 19.2**	**-0.4**
JOTO				S	**Sb**	**20 12 29.6**	**-0.2**
JFY	**Yanaizu**	**0.91**	**308**	*i* P	**Pb**	**20 12 22.1**	**-0.3**
JFY				S	**Sb**	**20 12 34.1**	**-0.5**
JAG	**Ashikaga**	**1.02**	**246**	*i* P	**Pg**	**20 12 23.2**	**-0.8**
MJAR	**Matsushiro Arr**	**1.95**	**262**	Pn	**Pn**	**20 12 38.1**	**+0.5**
	4.7nm,0.3s,baz=88,slow=15,SNR=286						
MJAR				Sn	**Sn**	**20 13 03.4**	**+1.1**
	12nm,0.3s,baz=76,slow=30,SNR=23						
JHJ	**Hachijo jima 2**	**3.78**	**191**	Pn	**Pn**	**20 13 04.7**	**+2.0**
	6.4nm,0.3s,baz=107,slow=18,SNR=9.3						
JHJ				Sn	**Sn**	**20 13 48.5**	**+1.2**
	6.5nm,0.3s,baz=80,slow=18,SNR=1.7						
	83nm,0.8s						
ASAJ	**Asahikawa**	**7.42**	**11**	Pn	**Pn**	**20 13 52.9**	**+0.1**
	0.7nm,0.3s,baz=229,slow=12,SNR=8.4						
ASAJ				Sn	**Sn**	**20 15 17.9**	**+0.9**
	0.1nm,0.3s,baz=277,slow=17,SNR=1.9						
	3.9nm,0.5s						
SONM	**Songino Array**	**27.36**	**304**	P	**P**	**20 17 49.6**	**-0.2**
	0.5nm,0.6s,baz=99,slow=8.9,SNR=4.1						
	0.5nm,0.6s						
H11N2	**WAKE ISLAND Hy 28.61 119**			T	T	20 47 46.6	
	baz=313,slow=75,SNR=304						
H11N1	**WAKE ISLAND Hy 28.62 119**			T	T	20 47 47.2	
	baz=313,slow=75,SNR=295						
H11N3	**WAKE ISLAND Hy 28.63 119**			T	T	20 47 48.0	
	baz=313,slow=75,SNR=239						
H11S1	**WAKE ISLAND Hy 29.30 121**			T	T	20 48 38.0	
	baz=314,slow=76,SNR=451						
H11S3	**WAKE ISLAND Hy 29.31 122**			T	T	20 48 38.1	
	baz=314,slow=76,SNR=236						
H11S2	**WAKE ISLAND Hy 29.32 122**			T	T	20 48 39.1	
	baz=314,slow=76,SNR=262						
ZALV	**Zalesovo Beam 41.57 313**			P	**P**	**20 19 51.3**	**-0.8**
	0.3nm,0.3s,baz=134,slow=8.3,SNR=2.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array 43.67 302**			P	**P**	**20 20 09.0**	**-0.3**
	0.3nm,0.7s,baz=85,slow=11,SNR=4.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra 45.61 308**			P	**P**	**20 20 23.5**	**-1.2**
	0.6nm,0.6s,baz=82,slow=7.9,SNR=8.2						
	0.6nm,0.6s						
ILAR	**Eielson Array 50.00 32**			P	**P**	**20 20 58.6**	**+0.1**
	0.3nm,0.8s,baz=286,slow=7.0,SNR=4.4						
	0.3nm,0.8s						
WRA	**Warramunga Arr 56.79 187**			P	**P**	**20 21 48.4**	**-0.5**
	0.5nm,0.5s,baz=3.3,slow=7.4,SNR=8.5						
	0.5nm,0.5s						
ASAR	**Alice Springs 60.52 187**			P	**P**	**20 22 14.5**	**-0.3**
	0.4nm,0.7s,baz=3.0,slow=12,SNR=2.3						
	0.4nm,0.7s						
ARCES	**ARCESS Array B 63.95 339**			P	**P**	**20 22 37.2**	**0.0**
	5.3nm,0.9s,baz=322,slow=7.7,SNR=1.5						
	5.3nm,0.9s						
TXAR	**Lajitas Array 90.75 52**			P	**P**	**20 25 08.2**	**+0.1**
	0.4nm,0.6s,baz=312,slow=1.8,SNR=2.9						
	0.4nm,0.6s						
H03N2	**Juan Fernandez 147.65 96**			T	T	23 16 41.2	
	baz=291,slow=76,SNR=18						
H03N3	**Juan Fernandez 147.66 96**			T	T	23 16 39.4	
	baz=291,slow=76,SNR=12						
H03N1	**Juan Fernandez 147.66 96**			T	T	23 16 45.5	
	baz=291,slow=76,SNR=17						

---

*NEIC **22** 20:24:10.9±2.5, 43°.62N±0°.05×105°.6W±0°.1, h0km±1km, ML3.4/48, Error ellipse: s-maj=14.7km s-min=7.0km az=290.0*
*IDC **22** 20:24:12.2±2.3, 43°.39N×105°.38W, h0km, mb4.2/1, mbtmp3.5/4, ML2.9/3, Error ellipse: s-maj=52.9km s-min=10.0km az=155.0*

ISC 22 20:24:12.9±1.0, 43°.76N±0°.06×105°.59W±0°.05, h0km, n32, σ1§95/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.18**	**71**	Pg	**Pb**	**20 24 34.6**	**-1.7**
LAO	**LASA Array**	**2.97**	**352

```
YHB                                  IAML                 20 26 35.0
      comp=N,44nm,2.3s
YHB                                  IAML                 20 26 46.0
      comp=E,36nm,2.4s
YHL   Hebgen Lake        4.16 287                Pn   Pn  20 25 16.6 -1.4
YHL                                  IAML                 20 26 46.2
      comp=N,54nm,1.4s
YHL                                  IAML                 20 26 58.8
      comp=E,47nm,1.4s
RDMU  Red Mountain       4.35 224    Pn           Pn  20 25 22.5 +2.1
RDMU                                 IAML                 20 26 41.0
      comp=N,35nm,1.4s
RDMU                                 IAML                 20 27 05.7
      comp=E,58nm,1.7s
E28A  Huff               4.46  49    Pn           Pn  20 25 23.5 +1.6
BOZ   Bozeman (W)        4.69 295                Pn   Pn  20 25 24.5 -0.5
BOZ                                  IAML                 20 26 54.6
      comp=E,20nm,2.0s
BOZ                                  IAML                 20 27 02.2
      comp=E,22nm,2.1s
DGMT  Dagmar             4.81  11                Pn   Pn  20 25 24.8 -1.8
EGMT  Eagleton           5.17 327                Pn   Pn  20 25 27.3 -4.2
BGNE  Belgrade           5.97 111                Pn   Pn  20 25 40.9 -1.6
PV13  Radium Mtn., P     6.10 205                Pn   Pn  20 25 45.1 +0.6
ECSD  EROS Data Cent     6.50  87                Pn   Pn  20 25 48.0 -1.8
I10CA LAC DU BONNET      9.18  42    I            I      21 15 40.0
      comp=E,0.2nm,1.1s,baz=223,slow=320,SNR=4.1
ULM   Lac du Bonnet      9.28  42    Pn           Pn  20 26 26.3 -1.6
      comp=E,0.3nm,0.3s,baz=226,slow=13,SNR=3.0
ULM                                  Lg           Lg  20 29 02.6
      comp=E,0.3nm,0.3s,baz=321,slow=20,SNR=6.6
      comp=E,0.9nm,0.2s
YKA   Yellowknife Ar     19.50 347   P            Pn  20 28 46.2 +3.7
      baz=157,slow=10,SNR=5.7
      comp=E,0.4nm,0.9s
SCHQ  Schefferville      27.25  52   P            P   20 29 59.5 +1.0
      comp=E,2.7nm,0.9s,baz=249,slow=8.6,SNR=3.7
      comp=E,2.7nm,0.9s
```

*IDC **22** 20:27:32.1±1.3, 35°.49N×69°.88E, h0km, mb3.7/8, mbtmp3.6/11, ML3.2/3, MS3.8/1, Error ellipse: s-maj=30.0km s-min=23.3km az=52.0*

ISC 22 20:27:45.9±1.3, 36°.0N±0°.1×70°.2E±0°.2, h100km, n13, σ1§05/13, mb3.4/7, 3C-1D, Hindu Kush region

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC            h m  s     ISC
KK31  Karatay Array      7.08   2  ⇑P    Pn             20 29 34.0 +7.1
      0.4nm,0.2s,baz=182,slow=13,SNR=16
KK31                                ⇑S    Sn             20 30 44.3 -1.5
      1.8nm,0.3s,baz=187,slow=21
AAK   Ala-Archa          7.42  26  ⇓P    Pn             20 29 38.4 +6.8
      1.2nm,0.6s
AAK                                 ⇑S    Sn             20 30 53.5 -0.6
      4.3nm,0.5s
MKAR  Makanchi Array    14.08  36  Pn    Pn             20 31 01.8 +1.0
      0.2nm,0.3s,baz=205,slow=10,SNR=14
      0.3nm,0.4s
KURBB Kurchatov Arra    15.80  20  Pn    Pn             20 31 21.3 -1.3
      0.1nm,0.3s,baz=207,slow=11,SNR=4.9
      0.3nm,0.5s
BVAR  Borovoye Array    17.01   0  P     P              20 31 38.9 +1.2
      0.1nm,0.3s,baz=177,slow=9.8,SNR=6.5
      0.7nm,0.4s
ZALV  Zalesovo Beam     20.64  25  P     P              20 32 17.4 +0.1
      1.3nm,0.5s,baz=215,slow=11,SNR=8.4
      1.3nm,0.5s
SONM  Songino Array     29.17  55  P     P              20 33 38.3 +0.6
      0.2nm,0.5s,baz=256,slow=5.6,SNR=2.3
      0.2nm,0.5s
FINES FINESS Array B    37.51 327  P     P              20 34 50.3 +0.7
      2.2nm,0.9s,baz=73,slow=8.6,SNR=1.2
      2.2nm,0.9s
ARCES ARCESS Array B    41.33 338  P     P              20 35 21.9 +0.5
      5.1nm,0.9s,baz=124,slow=8.4,SNR=4.4
      5.1nm,0.9s
HFS   Hagfors           43.03 322  P     P              20 35 35.3 +0.1
      1.2nm,0.7s,baz=97,slow=12,SNR=1.3
      1.2nm,0.7s
NOA   NORSAR Array B    44.36 323  P     P              20 35 46.1 +0.1
      0.4nm,0.7s,baz=97,slow=7.9,SNR=1.2
      0.4nm,0.7s
WRA   Warramunga Arr    82.32 121  P     P              20 39 56.5 -0.2
      0.3nm,0.8s,baz=317,slow=5.5,SNR=5.3
      0.3nm,0.8s
ASAR  Alice Springs     84.54 124  P     P              20 40 06.2 -1.8
      0.4nm,0.9s,baz=317,slow=5.2,SNR=1.5
      0.4nm,0.9s
```

*SJA **22** 20:29:24.5±1.3, 28°.32S×71°.52W, h15km, ML3.3, MW3.6*
*GUC **22** 20:29:27.2±0.7, 28°.42S×71°.35W, h35km±2km, ML3.5*

ISC 22 20:29:27.3±1.6, 28°.42S±0°.04×71°.37W±0°.08, h10km±10km, n27, σ2§39/41, 1C, Near coast of central Chile

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC            h m  s     ISC
AC04  Llanos de Chal     0.34  50  ⇑iP   Pg             20 29 34.9 +0.8
AC04                                iS    Sg             20 29 40.0 +1.5
AC04                                IAML                 20 29 40.1
      comp=E,5μm,0.2s
LCO   Las Campanas       0.83 135  eP    Pg             20 29 42.6 -0.7
LCO                                 iS    Sb             20 29 54.4 -0.9
CO05  La Serena          1.50 176  eP    Pn             20 29 52.9 -1.3
CO05                                eS    Sg             20 30 12.1 -3.4
CO05                                IAML                 20 30 20.3
      comp=E,815nm,0.4s
GO04  Tololo Observa     1.81 164  eP    Pn             20 29 58.0 -0.8
GO04                                eS    Sn             20 30 21.4 -0.7
CO01  Juntas del Tor     1.91 145  eS    Sn             20 30 23.9 -0.5
CO01                                IAML                 20 30 26.2
      comp=E,368nm,0.4s
AROD  Rodeo              2.40 137  eP    Pn             20 30 08.4 +1.4
AROD                                eS    Sn             20 30 35.0 -1.6
CO03  El Pedregal        2.48 166  eP    Pn             20 30 07.0 -0.9
CO03                                eS    Sn             20 30 37.6 -0.6
CO03                                IAML                 20 30 46.8
      comp=E,353nm,0.5s
AC02  Maricunga          2.54  52  eP    Pn             20 30 08.6 -0.4
AC02                                eS    Sn             20 30 36.0 -4.2
AC02                                eS    Sb             20 30 41.8 -2.9
AC02                                IAML                 20 30 41.8
      comp=Z,120nm,0.2s
AC02  Maricunga          2.54  52  eP    Pn             20 30 08.2 -0.8
AC02                                IAML                 20 30 48.1
      comp=N,267nm,0.1s
ACDV  Cuesta del Vie     2.62 132  eP    Pn             20 30 12.1 +2.2
ACDV                                IAML                 20 31 19.7
      comp=Z,106nm,0.2s
AGUA  GUANDACOL          2.73 114  eP    Pn             20 30 13.7 +2.3
AGUA                                IAML                 20 30 55.7
      comp=Z,101nm,0.4s
VCA   Vinchina           2.80  97  eP    Pn             20 30 14.4 +2.1
VCA                                 eS    Sb             20 30 51.0 -0.9
VCA                                 IAML                 20 31 00.4
      comp=Z,116nm,0.3s
ACCO  Cerro Coronel      2.95 138  eP    Pn             20 30 16.6 +2.1
ACCO                                eS    Sb             20 30 55.0 -1.3
RTLS  Leoncito           3.81 152  eP    Pn             20 30 28.1 +1.7
RTLS                                eS    Sb             20 31 19.5 -1.8
ZON   Zonda              3.89 144  eS    Sn             20 31 15.0 +2.0
ZON                                 IAML                 20 31 37.8
      comp=Z,28nm,0.7s
SJA   San Juan           3.94 143  eP    Pn             20 30 17.1 -11
SJA                                 IAML                 20 31 33.4
      comp=Z,138nm,0.3s
ACLC  CERRO LA CRUZ      4.00 106  eP    Pn             20 30 29.2 +0.4
ACLC                                eS    Sb             20 31 20.3 -6.1
ACLC                                IAML                 20 31 25.4
      comp=Z,17nm,0.3s
AVFE  Valle Fertil       4.07 124  eP    Pn             20 30 30.2 +0.4
AVFE                                eS    Sb             20 31 29.5 +1.0
AVFE                                IAML                 20 31 42.6
      comp=Z,20nm,0.5s
AUSP  Uspallata          4.16 156  eS    Sb             20 31 27.5 -3.7
VA03  San Esteban        4.38 171  eP    Pn             20 30 36.0 +1.9
VA03                                IAML                 20 31 54.2
      comp=Z,59nm,0.5s
ROC1  El Roble           4.55 176  eS    Sb             20 31 47.0 +4.6
APLL  PUNTA DE LOS L     4.66 116  eP    Pn             20 30 37.8  0.0
APLL                                eS    Sn             20 31 32.9 +1.0
ASAL  Salagasta          4.69 153  eP    Pn             20 30 21.8 -17
ASAL                                eS    Sn             20 31 36.6 +3.7
PEL   Peldehue           4.74 173  eP    Pn             20 30 42.4 +3.4
CYA   Choya              4.90  92  eP    Pn             20 30 42.9 +1.8
CYA                                 eS    Sn             20 31 40.8 +2.9
CYA                                 IAML                 20 31 41.8
      comp=Z,23nm,0.6s
FSA   Cafayete           5.32  66  eP    Pn             20 30 36.2 -11
FSA                                 eS    Sn             20 31 49.7 +1.2
AHML  Horco Molle        5.59  74  eP    Pn             20 30 54.2 +3.5
AHML                                IAML                 20 32 20.2
      comp=Z,6.2nm,2.0s
```

*IDC **22** 20:29:53.7±0.6, 52°.52S×18°.10E, h0km, mb4.4/9, mbtmp4.4/9, MS4.0/17, Error ellipse: s-maj=24.1km s-min=21.8km az=119.0*
*NEIC **22** 20:29:55.2±2.3, 52°.5S±0°.1×17°.7E±0°.3, h10km±1km, mb4.8/15, Error ellipse: s-maj=26.2km s-min=19.5km az=96.0*

ISC 22 20:29:55.5±0.5, 52°.46S±0°.08×17°.8E±0°.1, h10km, n83, σ1§49/64, mb4.6/14, MS4.0/17, 6C-1D, Southwest of Africa

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC            h m  s     ISC
SYO   Syowa Base        19.51 156  ⇑eP   P              20 34 20.4 -2.1
SYO   Syowa Base        19.51 156  ⇓esP  P              20 34 24.0 +1.5
SYO   Syowa Base        19.51 156  ⇑eP   Pn             20 34 27.0 +3.3
GRHM  Grahamstown, E    20.14  21   P     P              20 34 30.0 +0.3
SUR   Sutherland        20.18   7   P     P              20 34 29.7 -0.6
SUR                                 IAmb  IAmb           20 34 38.7
      comp=Z,29nm,1.1s
SUR   Sutherland        20.18   7   P     Pn             20 34 34.5 +2.4
      comp=Z,18nm,0.9s,baz=171,slow=13,SNR=13
SUR                                 LR    LR             20 40 27.1
      comp=Z,507nm,20.8s,baz=186,slow=31
SOE   Somerset East     20.52  19   P     P              20 34 33.6 -0.2
TROLL Troll, Antarti    20.74 193   P     P              20 34 36.4 +0.4
TROLL Troll, Antarti    20.74 193   ⇑P    P              20 34 36.4 +0.4
      comp=Z,1μm,0.8s
SNAA  Sanae             21.34 198   P     P              20 34 42.6 +0.3
SNAA  Sanae             21.34 198   P     P              20 34 41.9 -0.5
SNAA                                IAmb  IAmb           20 34 44.0
      comp=Z,70nm,1.1s
SNAA  Sanae             21.34 198  ⇑P    P              20 34 42.6 +0.3
      comp=Z,753nm,0.9s
SNAA  Sanae             21.34 198   P     P              20 34 42.5 +0.1
      comp=Z,36nm,0.9s,baz=30,slow=9.8,SNR=35
      comp=Z,36nm,0.9s
VNA2  Neumayer--Watz    21.72 202   P     P              20 34 46.5 +0.1
      baz=32,slow=7.3
VNA2  Neumayer--Watz    21.72 202  ⇑P    P              20 34 46.5 +0.1
      comp=Z,25nm,0.5s,baz=32,slow=7.3
VNA3  Neumayer Olymp    22.48 203   P     P              20 34 55.0 +0.4
VNA3  Neumayer Olymp    22.48 203  ⇑P    P              20 34 55.0 +0.4
      comp=Z,17nm,0.8s
H04S2 CROZET ISLANDS    22.61  89   T     T              20 58 26.0
      baz=243,slow=75,SNR=21
H04S3 CROZET ISLANDS    22.62  89   T     T              20 58 27.3
      baz=243,slow=75,SNR=22
H04S1 CROZET ISLANDS    22.63  89   T     T              20 58 26.8
      baz=243,slow=75,SNR=27
BOSA  Boshof            24.45  16   P     P              20 35 13.9 -0.6
BOSA                                IAmb  IAmb           20 35 28.5
      comp=Z,56nm,2.0s
BOSA  Boshof            24.45  16   P     P              20 35 14.5  0.0
      comp=Z,3.3nm,0.8s,baz=207,slow=14,SNR=4.7
BOSA                                LR    LR             20 43 47.2
      comp=Z,472nm,18.1s,baz=200,slow=34
      comp=Z,3.3nm,0.8s
MAW   Mawson            26.34 142   LR    LR             20 43 57.3
      comp=Z,108nm,21.5s,baz=304,slow=32
LBTB  Lobatse           28.04  15   LR    LR             20 45 37.8
      comp=Z,371nm,18.4s,baz=194,slow=34
BELA  Belgrano 2        31.58 199   P     P              20 36 16.9 -0.7
BELA                                IAmb  IAmb           20 36 17.9
      comp=Z,11nm,0.7s
MATP  Matopo            33.03  19   LR    LR             20 48 13.0
      comp=Z,491nm,20.5s,baz=241,slow=33
TSUM  Tsumeb            33.19 360   LR    LR             20 47 56.4
      comp=Z,314nm,21.4s,baz=188,slow=33
QSPA  South Pole Qui    37.77 180   P     P              20 37 10.3 -1.1
QSPA                                IAmb  IAmb           20 37 12.3
      comp=Z,16nm,0.8s
QSPA  South Pole Qui    37.77 180   P     P              20 37 10.3 -1.1
      comp=Z,13nm,0.7s,baz=242,slow=3.5,SNR=79
QSPA                                LR    LR             20 52 13.6
      comp=Z,267nm,18.1s,baz=212,slow=36
      comp=Z,13nm,0.7s
LSZ   Lusaka            38.00  16   LR    LR             20 51 44.3
      comp=Z,333nm,18.3s,baz=207,slow=34
PMSA  Palmer Station    41.26 220   LR    LR             20 53 05.4
      comp=Z,291nm,18.6s,baz=106,slow=34
VNDA  Vanda             48.37 170   P     P              20 38 35.5 -1.3
VNDA  Vanda             48.37 170   LR    LR             20 57 45.6
      comp=Z,208nm,21.7s,baz=188,slow=35
KMBO  Kilima Mbogo      53.67  24   LR    LR             21 00 04.6
      comp=Z,161nm,22.0s,baz=99,slow=34
TRQA  Tornquist         55.17 251   P     P              20 39 27.5 -0.5
TRQA                                IAmb  IAmb           20 39 29.1
      comp=Z,10nm,1.0s
PLCA  Paso Flores       58.17 243   P     P              20 39 49.5  0.0
      comp=Z,2.0nm,0.9s,baz=108,slow=6.2,SNR=4.0
PLCA                                LR    LR             21 02 37.7
      comp=Z,53nm,18.1s,baz=124,slow=34
      comp=Z,2.0nm,0.9s
LR05  Currie            59.32 243   P     P              20 39 56.4 -0.8
LR05                                IAmb  IAmb           20 39 58.4
      comp=Z,14nm,1.1s
CPUP  Villa Florida     60.68 264   P     P              20 40 05.5 -1.4
CPUP                                IAmb  IAmb           20 40 08.3
      comp=Z,6.1nm,0.9s
CPUP  Villa Florida     60.68 264   P     P              20 40 07.5 +0.7
      comp=Z,5.0nm,0.8s,baz=121,slow=5.0,SNR=8.2
      comp=Z,5.0nm,0.8s
BDFB  Brasilia          63.05 280   P     P              20 40 25.1 +2.2
      comp=Z,2.2nm,0.7s,baz=150,slow=14,SNR=2.1
      comp=Z,2.2nm,0.7s
CO01  Juntas del Tor    65.64 252   P     P              20 40 38.9 -1.1
TORD  Torodi Ar. Bea    66.81 343   P     P              20 40 45.7 -1.5
LPAZ  La Paz            74.81 263   P     P              20 41 35.2 -1.5
LPAZ                                IAmb  IAmb           20 41 47.6
      comp=Z,15nm,1.9s
LPAZ  La Paz            74.81 263   P     P              20 41 37.7 +0.9
      comp=Z,1.6nm,0.5s,baz=112,slow=3.5,SNR=4.9
      comp=Z,1.6nm,0.5s
PALK  Pallekele         79.79  64   LR    LR             21 08 23.0
      comp=Z,68nm,20.5s,baz=260,slow=29
STKA  Stephens Creek    82.75 135   P     P              20 42 19.8 +0.3
STKA  Stephens Creek    82.75 135   P     P              20 42 19.5  0.0
      comp=Z,2.3nm,0.8s,baz=230,slow=3.7,SNR=4.0
      comp=Z,2.3nm,0.8s
ASAR  Alice Springs     86.04 124   P     P              20 42 35.3 -1.1
      comp=Z,1.1nm,0.7s,baz=202,slow=4.8,SNR=11
      comp=Z,1.1nm,0.7s
URZ   Urewera           87.87 164   LR    LR             21 19 55.0
      comp=Z,146nm,19.9s,baz=240,slow=34
RAO   Raoul Island      97.48 166   LR    LR             21 25 14.4
      comp=Z,87nm,19.4s,baz=16,slow=34
BRDH  Bariadhala        98.38  64   LR    LR             21 24 09.6
      comp=Z,89nm,18.1s,baz=227,slow=33
CMAR  Chiang Mai Arr    99.16  72   LR    LR             21 22 53.1
      comp=Z,29nm,19.2s,baz=285,slow=32
ZALV  Zalesovo Beam    119.78  39   PKP   PKPdf          20 48 44.2 -0.5
      comp=Z,0.6nm,0.6s,baz=193,slow=5.9,SNR=2.6
SONM  Songino Array    125.05  55   PKP   PKPdf          20 48 54.5 -0.7
      comp=Z,0.7nm,0.7s,baz=208,slow=2.5,SNR=5.8
TXAR  Lajitas Array    131.65 265   PKP   PKPdf          20 49 07.4 -0.9
      comp=Z,0.6nm,0.9s,baz=83,slow=2.4,SNR=5.5
BSUT  Blindstream Ca   143.41 272   PKPdf PKPbc          20 49 29.7 +2.5
EUNU  Eureka           143.62 343   PKPdf PKPab          20 49 27.3 +1.9
PDAR  Pinedale Array   143.97 276                PKPpre   20 49 27.8
PDAR  Pinedale Array   143.97 276   PKP   PKPab          20 49 28.4 +0.4
      comp=Z,3.6nm,0.7s,baz=125,slow=5.6,SNR=22
DUG   Dugway, Tooele   144.46 270                PKPab    20 49 31.0 +1.2
TPNV  Topopah Spring   144.52 263                PKPab    20 49 32.6 +2.4
HWUT  Hardware Ranch   144.53 273                PKPab    20 49 30.3 +0.2
WCT   Wildcat Mounta   144.65 262                PKPab    20 49 31.6 +1.0
SPR3  Spring Creek 3   144.66 267                PKPab    20 49 31.2 +0.4
BGU   Big Grassy Mou   145.03 271                PKPbc    20 49 31.3 -0.6
TIXI  Tiksi            145.07  31                PKPbc    20 49 30.6 -0.3
FFC   Flin Flon        145.15 298                PKPbc    20 49 32.4 +0.7
GMN   Gold Mountain    145.36 262                PKPbc    20 49 31.7 -1.5
RES   Resolute Bay     145.62 334   PKPdf        PKPdf    20 49 33.2 +1.0
MZP   Montezuma Peak   145.70 263                PKPdf    20 49 33.6 -0.3
ELK   Elko             146.27 269                PKPdf    20 49 36.1 +1.3
NV11  Mina Array Sit   146.63 263                PKPdf    20 49 37.0 +1.7
NVAR  Mina Array Bea   146.72 263   PKPdf        PKPdf    20 49 37.0 +1.5
NVAR  Mina Array Bea   146.72 263   PKPbc        PKPdf    20 49 38.2 +2.6
      comp=Z,8.7nm,0.7s,baz=139,slow=2.9,SNR=38
LHV   Little Huntoon   146.73 262                PKPdf    20 49 36.1 +0.9
RYN   Ryan             146.98 263                PKPdf    20 49 38.1 +2.2
HLID  Hailey           147.37 274                PKPdf    20 49 38.5 +2.1
PLID  Pearl Lake       149.14 275                PKPdf    20 49 40.6 +1.3
WVOR  Wild Horse Val   149.33 269                PKPdf    20 49 43.9 +4.4
F10A  Beach Ranch, E   150.33 276                PKPdf    20 49 45.0 +4.1
YKA   Yellowknife Ar   153.15 311   PKP   PKPdf          20 49 43.3 -1.2
      comp=Z,0.2nm,0.6s,baz=81,slow=1.0,SNR=2.5
YKA                                 PKPbc sPKPdf         20 49 51.8 +4.2
      comp=Z,1.2nm,0.8s,baz=101,slow=1.9,SNR=14
MA2   Magadan          153.25  56   PKPbc PKPbc          20 49 51.4 -0.9
      comp=Z,1.2nm,0.4s,baz=180,slow=10,SNR=4.0
SEY   Seymchan         154.12  48   PKPbc PKPbc          20 49 54.5 +0.5
      comp=Z,1.7nm,0.8s,baz=342,slow=0.5,SNR=5.8
```

*MOS **22** 20:40:29.8±1.2, 43°.25N×144°.28E, h143km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=9.3km az=79.7*
*IDC **22** 20:40:30.1±1.6, 43°.25N×144°.39E, h123km±11km, mb3.4/13, mbtmp3.8/16, Error ellipse: s-maj=19.3km s-min=15.8km az=111.0*
*SKHL **22** 20:40:31.6±0.2, 43°.30N×144°.20E, h128km±1km, mb4.9/2, msha5.6/2*
*JMA **22** 20:40:31.5±0.1, 43°.3N±0°.5×144°.2E±0°.7, h130km±1km, MD3.5/36, MV3.5/36, KUSHIRO REGION*

ISC 22 20:40:30.7±0.7, 43°.24N±0°.05×144°.23E±0°.03, h132km±5km, n53, σ1§15/66, mb3.5/12, 1C-2D, Hokkaido region

```
Code  Station Name       Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC            h m  s     ISC
JAR   Ashorobuto        0.34 280   iP    Pn             20 40 50.1 +0.9
JAR                                 S     Sn             20 41 03.6 +0.4
JAR   Ashorobuto        0.34 280   A     A              20 40 50.1
      comp=N,6.0nm,0.9s,comp=E,7.0nm,0.4s
JAK   Akkeshi           0.42 125   iP    Pn             20 40 50.0 +0.5
JAK                                 S     Sn             20 41 04.1 +0.3
JAK   Akkeshi           0.42 125   A     A              20 40 50.0
      comp=N,7.0nm,0.4s,comp=E,8.0nm,0.5s
JOB   Onbets            0.44 221   iP    Pn             20 40 50.6 +1.0
JOB                                 S     Sn             20 41 04.6 +0.7
JNK   Nakash            0.50  46   iP    Pn             20 40 50.4 +0.4
JNK                                 S     Sn             20 41 04.8 +0.3
AKK   Akkeshi           0.50 116   eP    Pn             20 40 50.5 +0.5
JKHN  Kushirohamanak    0.70 102   P     Pn             20 40 51.8 +0.5
JKHN                                S     Sn             20 41 06.9 +0.1
JTKR  Abashiri--Toko    0.77 343   P     Pn             20 40 52.4 +0.6
JTKR                                S     Sn             20 41 07.7 -0.1
JCH   Churui            0.89 226   iP    Pn             20 40 53.4 +0.6
JCH                                 S     Sn             20 41 09.5  0.0
JRA   Rausu             0.96  43   P     Pn             20 40 54.0 +0.7
JMP   Maruseppu         0.99 321   iP    Pn             20 40 54.2 +0.4
JMP                                 S     Sn             20 41 10.7 -0.6
NMR   Nemuro--Hokkai    1.10  83  ⇑iPN   Pn             20 40 54.9 +0.2
NMR                                 iS    Sn             20 41 12.0 -1.0
NMR   Nemuro--Hokkai    1.10  83   iP    Pn             20 40 54.9 +0.2
NMR                                 iS    Sn             20 41 12.2 -0.8
NEM2  Nemuro 2          1.11  83   iP    Pn             20 40 54.9 +0.1
NEM2                                S     Sn             20 41 12.0 -1.1
RUSJ  Misakicho         1.14  40  ⇓iPN   Pn             20 40 55.9 +0.8
RUSJ                                eS    Sn             20 41 18.2 +4.5
JFR   Furan             1.20 267   S     Sn             20 41 14.4 -0.3
JKK2  Kamakawa 2        1.25 301   iP    Pn             20 40 57.0 +0.8
YUK   Yuzh-Kuril'sk     1.43  56d iPN   Pn             20 40 58.8 +0.7
YUK                                 iS    Sn             20 41 19.8 +0.8
YUK                                 pmax  pmax
      comp=N,53nm,0.2s
YUK                                 pmax  pmax
      comp=Z,250nm,0.2s
YUK                                 smax  smax
      comp=N,536nm,0.2s
YUK                                 smax  smax
      comp=E,791nm,0.2s
YUK   Yuzh-Kuril'sk     1.43  56   iP    Pn             20 40 58.8 +0.7
YUK                                 AMB   AMB            20 41 00.3
      comp=E,250nm,0.2s
YUK                                 iS    Sn             20 41 19.3 +0.3
YUK                                 A     A              20 41 23.5
      comp=E,540nm,0.2s
YUK                                 A     A              20 41 23.5
      comp=E,790nm,0.2s
JNBK  Urakawa-nobuka    1.45 229   iP    Pn             20 40 58.8 +0.4
JNBK                                S     Sn             20 41 18.8 -0.6
JKA   Kamikawa-asahi    1.47 307   eP    Pn             20 40 59.4 +0.8
ASAJ  Asahikawa         1.48 307   P     Pn             20 40 59.4 +0.8
      comp=E,208nm,0.4s,baz=165,slow=9.5,SNR=1155
ASAJ                                S     Sn             20 41 20.2 +0.3
      comp=E,59nm,0.6s,baz=118,slow=32,SNR=12
JEW   Eniwo             2.08 260   P     Pn             20 41 07.0 +1.3
JEW                                 S     Sn             20 41 33.1 +0.7
JSE   Soyaes            2.09 326   P     Pn             20 41 06.2 +0.4
KUR   Kuril'sk          3.29  51   PN    Pn             20 41 22.7 +1.6
KUR                                 iS    Sn             20 42 02.8 +2.8
KUR                                 smax  smax
      comp=E,75nm,0.3s
KUR                                 smax  smax
      comp=N,63nm,0.2s
KUR   Kuril'sk          3.29  51   eP    Pn             20 41 22.1 +1.0
KUR                                 AMB   AMB            20 41 23.1
      comp=N,30nm,0.3s
KUR                                 eS    Sn             20 42 00.1 +0.1
KUR                                 A     A              20 42 03.8
      comp=N,110nm,0.3s
KUR                                 A     A              20 42 03.8
      comp=N,90nm,0.3s
YSS   Yuzhno-Sakhali    3.86 345   ePN   Pn             20 41 29.1 +0.5
YSS                                 eS    Sn             20 42 12.8 -0.7
YSS                                 pmax  pmax
      comp=Z,10.0nm,0.6s
YSS                                 smax  smax
      comp=N,10.0nm,0.6s
YSS                                 smax  smax
      comp=E,10.0nm,0.7s
YSS   Yuzhno-Sakhali    3.86 345   eP    Pn             20 41 29.1 +0.5
YSS                                 eS    Sn             20 42 12.8 -0.7
MJAR  Matsushiro Arr    8.13 217   P     Pn             20 42 24.9 -1.0
      comp=E,0.8nm,0.4s,baz=33,slow=13,SNR=4.9
PETK  Petropavlovsk-    13.33  38   P     Pn             20 43 32.4 -2.2
      comp=E,1.2nm,0.6s,baz=159,slow=6.3,SNR=7.8
MA2   Magadan           16.85  12   P     P              20 44 16.5 -1.8
      comp=E,2.2nm,0.6s,baz=184,slow=7.6,SNR=4.2
SEY   Seymchan          20.30  11   P     P              20 44 53.9 -1.9
      comp=E,2.4nm,0.6s,baz=183,slow=9.5,SNR=21
      comp=E,2.4nm,0.6s
SEY   Seymchan          20.30  11   eP    P              20 44 53.0 -2.8
SONM  Songino Array     26.71 293   P     P              20 45 59.3 +1.6
      comp=E,0.4nm,0.5s,baz=82,slow=9.5,SNR=4.1
      comp=E,0.4nm,0.5s
H11N2 WAKE ISLAND Hy    30.19 134   T     T              21 17 53.3
      baz=328,slow=75,SNR=19
H11N1 WAKE ISLAND Hy    30.21 134   T     T              21 17 54.2
      baz=328,slow=75,SNR=20
H11N3 WAKE ISLAND Hy    30.21 134   T     T              21 17 53.3
      baz=328,slow=75,SNR=14
H11S1 WAKE ISLAND Hy    31.11 135   T     T              21 19 03.6
      baz=329,slow=76,SNR=22
H11S3 WAKE ISLAND Hy    31.11 135   T     T              21 19 05.4
      baz=329,slow=76,SNR=14
H11S2 WAKE ISLAND Hy    31.12 135   T     T              21 19 06.4
      baz=329,slow=76,SNR=16
ZALV  Zalesovo Beam     39.61 307   P     P              20 47 49.2 +0.1
      comp=E,0.3nm,0.4s,baz=78,slow=7.9,SNR=2.2
      comp=E,0.3nm,0.4s
MKAR  Makanchi Array    42.93 297   P     P              20 48 16.5 +0.2
      comp=E,0.2nm,0.6s,baz=80,slow=9.3,SNR=4.2
      comp=E,0.2nm,0.6s
ILAR  Eielson Array     43.15  36   P     P              20 48 17.5 -0.3
      comp=E,1.0nm,0.9s,baz=258,slow=5.8,SNR=9.2
      comp=E,1.0nm,0.9s
BVAR  Borovoye Array    48.18 309   P     P              20 48 57.6 +0.2
      comp=E,0.4nm,0.3s,baz=67,slow=8.7,SNR=1.7
      comp=E,0.4nm,0.3s
SPITS Spitsbergen Ar    54.87 349   P     P              20 49 46.1 -0.7
      comp=E,3.8nm,0.8s,baz=335,slow=6.4,SNR=1.1
      comp=E,3.8nm,0.8s
WRA   Warramunga Arr    63.52 190   P     P              20 50 46.8 -0.1
      comp=E,0.4nm,0.7s,baz=11,slow=7.0,SNR=2.1
      comp=E,0.4nm,0.7s
FINES FINESS Array B    64.35 332   P     P              20 50 51.9  0.0
      comp=E,1.4nm,0.5s,baz=36,slow=7.5,SNR=17
      comp=E,1.4nm,0.5s
ASAR  Alice Springs     67.25 190   P     P              20 51 11.8 +0.9
      comp=E,0.4nm,0.9s,baz=1.6,slow=5.3,SNR=2.8
      comp=E,0.4nm,0.9s
```

NOA	NORSAR Array B	69.29 338	P	P	20 51 24.9	+1.7
	comp=E,0.8nm,0.6s,baz=30,slow=5.3,SNR=5.7					
	comp=E,0.8nm,0.6s					
HFS	Hagfors	69.32 336	P	P	20 51 25.0	+1.6
	comp=E,1.6nm,0.4s,baz=51,slow=7.8,SNR=16					
	comp=E,1.6nm,0.4s					
HFS	Hagfors	69.32 336	P	P	20 51 25.0	+1.6
PDAR	Pinedale Array	71.85 48	P	P	20 51 39.8	+0.5
	comp=E,0.2nm,0.5s,baz=286,slow=5.3,SNR=1.8					
	comp=E,0.2nm,0.5s					

*IDC **22** 20:54:19.6±3.1, 54°.73N×164°.70E, h0km, mb3.1/2, mbtmp3.1/3, ML2.2/1, Error ellipse: s-maj=99.7km s-min=26.3km az=156.0*

*KRSC **22** 20:54:20.8±1.4, 54°.76N×164°.68E, h48km±26km, Ml3.5*

ISC 22 20:54:22.9±1.8, **54°.80N**±0°.06×**164°.76E**±0°.09, **h26**km±21km, **n22**, σ1§**46**/36, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.81	59	eP	Pb	20 54 38.2	-0.2
BKI				eS	Sb	20 54 49.3	+0.4
KBTR	Krutoberegovo	1.79	323	eP	Pn	20 54 50.0	-2.1
KBTR				eS	Sn	20 55 09.9	-4.1
TUMD	Tumrok D	2.54	281	eP	Pn	20 55 02.2	-0.2
TUMD				eS	Sn	20 55 30.9	-1.7
SMKR	Semkarok	2.58	315	eP	Pn	20 55 03.0	0.0
BZWR	Bezymyannyi-We	2.70	297	eP	Pn	20 55 05.2	+0.5
BZWR				eS	Sn	20 55 37.5	+0.9
KMNR	Kamenistaya	2.76	292	eP	Pn	20 55 05.6	+0.1
KMNR				eS	Sn	20 55 40.3	+2.4
KIRR	Kirishev	2.77	296	eP	Pn	20 55 06.6	+0.9
KIRR				eS	Sn	20 55 41.1	+2.7
KRSR	Krestovskiy	2.77	303	eP	Pn	20 55 05.2	-0.5
KRSR				eS	Sn	20 55 38.1	-0.3
KLY	Klyuchi	2.78	305	eP	Pn	20 55 04.5	-1.2
KPT	Kopyto	2.84	296	eP	Pn	20 55 06.8	+0.2
KPT				eS	Sn	20 55 41.1	+1.2
SRDR	Sredinnyy	3.24	300	eP	Pn	20 55 13.2	+1.1
ESO	Esso	3.64	291	eP	Pn	20 55 17.2	-0.3
ESO				eS	Sn	20 55 58.5	-1.0
UGLR	Uglovaya	3.84	248	eP	Pn	20 55 21.1	+0.6
AVH	Avacha	3.87	249	eP	Pn	20 55 21.3	+0.6
AVH				eS	Sn	20 56 03.4	-1.9
KRX	Arik	3.88	251	eP	Pn	20 55 21.1	+0.2
KRX				eS	Sn	20 56 03.1	-2.5
KOK	Koryaka	3.91	250	eP	Pn	20 55 21.8	+0.5
PET	Petropavlovsk	4.02	246	eP	Pn	20 55 23.3	+0.5
PET				eS	Sn	20 56 06.9	-2.1
GNL	Ganaly	4.15	257	eP	Pn	20 55 25.1	+0.5
KRMR	Karymshinskiy	4.39	246	eP	Pn	20 55 28.3	+0.4
KRMR				eS	Sn	20 56 15.9	-2.3
PETK	Petropavlovsk-	4.50	251	Pn	Pn	20 55 28.8	-0.6
	0.7nm,0.3s,baz=68,slow=17,SNR=40						
PETK				Sn	Sn	20 56 20.2	-0.6
	0.8nm,0.3s,baz=64,slow=40,SNR=5.5						
	2.0nm,0.4s						
ILAR	Eielson Array	25.64	48	P	P	20 59 51.1	+1.1
	0.3nm,0.8s,baz=271,slow=9.0,SNR=4.2						
	0.3nm,0.8s						
MKAR	Makanchi Array	49.87	297	P	P	21 03 14.3	+0.7
	0.2nm,0.8s,baz=60,slow=8.5,SNR=2.1						
	0.2nm,0.8s						

*IDC **22** 21:15:56.9±0.4, 17°.78S×13°.60W, h0km, mb4.8/33, mbtmp4.8/33, MS4.8/62, Error ellipse: s-maj=16.4km s-min=11.3km az=124.0*

*MOS **22** 21:15:57.4±1.0, 17°.79S×13°.60W, h16km, mb5.5/66, MS5.0/20, Error ellipse: s-maj=8.7km s-min=5.2km az=61.4*

*NEIC **22** 21:15:58.2, 17°.84S×13°.52W, h10km*

*RSNC **22** 21:15:58.9±1.8, 18°S±10°×1°4W±1°0, h10km±15km, M4.7, mB5.3, mb4.8, Mw(mB)5.5, Hypocentre not reviewed by the ISC*

*NEIC **22** 21:15:58.2±1.6, 17°.84S±0°.08×13°.53W±0°.08, h10km±1km, mb5.5/358, Ms_20 5.0/175, Mwb5.4/13, Mww5.4/11, Error ellipse: s-maj=13.7km s-min=13.6km az=177.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.12; $M_{\theta\theta}$=0.26; $M_{\phi\phi}$=-0.14; $M_{r\theta}$=0.49; $M_{\theta\phi}$=-1.62; $M_{\phi r}$=0.35; Fault plane solution: M_0=1.75000×10^{17} NP1: ϕ_s=265.39000°, δ=80.13000°, λ=166.21000°. NP2: ϕ_s=357.80000°, δ=76.42000°, λ=10.16000°. Principal axes: T 1.8746, Plg17.0000°, Azm221.0000°; N -0.2953, Plg73.0000°, Azm50.0000°; P -1.5793, Plg3.0000°, Azm312.0000°;*

*NEIC **22** 21:15:58.2, 18°.34S×13°.73W, h12km, Moment Tensor Solution. Duration: 2§8 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.11; $M_{\theta\theta}$=0.09; $M_{\phi\phi}$=-0.20; $M_{r\theta}$=-0.09; $M_{\theta\phi}$=-1.47; $M_{\phi r}$=-0.00; Fault plane solution: M_0=1.48000×10^{17} NP1: ϕ_s=357.14000°, δ=86.67000°, λ=0.34000°. NP2: ϕ_s=267.12000°, δ=89.66000°, λ=176.67000°. Principal axes: T 1.4302, Plg3.0000°, Azm222.0000°; N 0.1072, Plg87.0000°, Azm81.0000°; P -1.5374, Plg2.0000°, Azm312.0000°;*

*NEIC **22** 21:15:58.2, 17°.84S×13°.52W, h12km*

*GCMT **22** 21:16:03.2±0.2, 17°.86S±0°.01×13°.66W±0°.01, h16km±1km, MW5.6/144, Moment Tensor Solution. s50,c61; s144,c240; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.52±.07; $M_{\theta\theta}$=1.06±.06; $M_{\phi\phi}$=-0.54±.06; $M_{r\theta}$=1.81±.24; $M_{\theta\phi}$=-2.12±.05; $M_{\phi r}$=-1.00±.21; Best double couple: M_0=2.81900×10^{17} NP1: ϕ_s=175.00000°, δ=58.00000°, λ=7.00000°. NP2: ϕ_s=82.00000°, δ=84.00000°, λ=147.00000°. Principal axes: T 3.5650, Plg27.0000°, Azm34.0000°; N -1.4890, Plg57.0000°, Azm252.0000°; P -2.0740, Plg18.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **22** 21:16:05.4, 17°.04S×12°.84W, h33km, mb5.2, Ms4.9*

ISC 22 21:15:59.2±0.2, **17°.82S**±0°.05×**13°.59W**±0°.05, **h17km**, **n919**, σ1§**22**/817, **mb5.4**/284, **MS5.0**/168, **33C-27D, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	7.74	77	Pn	Pn	21 17 48.0	-3.1
SHEL	Horse Pasture	7.74	77	P	Pn	21 17 48.0	-3.1
H10S2	ASCENSION HYDR	8.87	353	T	T	21 27 19.4	
	baz=47,slow=74,SNR=1651						
H10S3	ASCENSION HYDR	8.88	353	T	T	21 27 19.4	
	baz=173,slow=74,SNR=148						
ASCN	Ascension	9.86	356	Pn	Pn	21 18 19.2	-1.1
H10N1	ASCENSION HYDR	9.95	355	T	T	21 28 40.0	
	baz=127,slow=80,SNR=106						
H10N3	ASCENSION HYDR	9.96	355	T	T	21 28 40.6	
	baz=127,slow=80,SNR=227						
H10N2	ASCENSION HYDR	9.97	355	T	T	21 28 46.4	
	baz=127,slow=80,SNR=88						
TRIS	Tristan da Cun	19.21	177	P	P	21 20 21.2	-1.1
H09W1	TRISTAN DA CUN	19.23	177	T	T	21 40 00.7	
	SNR=5.2						
NBAN	Anadia - AL	23.46	287	eP	P	21 21 07.4	-0.7
ABR01	Abrolhos, BA	23.89	266	eP	P	21 21 11.2	-0.9
NBLA	Lagarto - SE	24.38	283	eP	P	21 21 16.7	-0.1
RCBR	Riachuelo	24.84	296	P	P	21 21 20.2	-0.8
RCBR				IAmb	IAmb	21 21 25.3	
	comp=Z,220nm,1.4s						
RCBR	Riachuelo	24.84	296	LR	LR	21 28 31.2	
	comp=Z,579nm,21.3s,baz=116,slow=30						
RCBR	Riachuelo	24.84	296	P	P	21 21 20.2	-0.8
RCBR				pmax	pmax		
	comp=Z,220nm,1.4s						
RCBR				MLR	MLR		
	comp=Z,2μm,20.0s						
RCBR	Riachuelo	24.84	296	eP	P	21 21 20.4	-0.6
CMC01	Camacan, BA	24.96	272	eP	P	21 21 23.9	+1.8
NBLV	Livramento - P	25.00	292	eP	P	21 21 22.0	-0.4
GUA01	Guaratinga, BA	25.07	269	eP	P	21 21 23.3	+0.3
RIB01	Linhares ES	25.44	262	eP	P	21 21 25.9	-0.5
ALF01	Guarapari-ES	25.76	259	eP	P	21 21 29.4	+0.2
DBIC	Dimbokro	25.82	20	P	P	21 21 28.0	-1.7
DBIC	Dimbokro	25.82	20	P	P	21 21 29.2	-0.6
	comp=Z,22nm,1.0s,baz=182,slow=9.8,SNR=9.7						
DBIC				LR	LR	21 29 08.4	
	comp=Z,4μm,20.4s,baz=176,slow=31						
	comp=Z,22nm,1.0s						
BSFB	Barra de Sao F	25.89	263	eP	P	21 21 30.5	+0.1
SJMB	Sao Joao De Ma	26.21	264	eP	P	21 21 33.4	0.0
CAM01	Campos-RJ	26.68	257	eP	P	21 21 35.1	-2.5
ACRG	Accra	26.80	31	P	P	21 21 38.5	-0.2
ACRG				IAmb	IAmb	21 22 18.2	
	comp=Z,116nm,1.4s						
DUB01	Friburgo-RJ	27.36	256	eP	P	21 21 42.9	-0.9
DIAM	Diamantina, MG	28.59	264	eP	P	21 21 56.8	+1.9
MAN01	Angra dos Reis	28.89	255	eP	P	21 21 58.0	+0.6
BSCB	Bom Sucesso	29.55	259	eP	P	21 22 02.5	-0.8
TSUM	Tsumeb	29.57	98	P	P	21 22 01.9	-1.7
TSUM	Tsumeb	29.57	98	LR	LR	21 31 30.3	
	comp=Z,2μm,21.8s,baz=268,slow=32						
JANB	Januaria	29.58	271	eP	P	21 22 03.6	0.0
PARB	Paraibuna	30.44	254	eP	P	21 22 12.0	+0.8
SDBA	SAO DESIDERIO	30.68	276	eP	P	21 22 12.6	-0.7
PMNB	Patos De Minas	31.19	264	eP	P	21 22 17.8	-0.1
VAO	Valinhos	31.66	255	P	P	21 22 20.7	-1.2
VAO				IAmb	IAmb	21 22 22.6	
	comp=Z,72nm,1.4s						
VAO	Valinhos	31.66	255	eP	P	21 22 21.7	-0.3
KOOLE	Kule	32.04	105	i P	P	21 22 24.2	-1.2
SPB	Sao Paulo	32.12	254	P	P	21 22 25.0	-0.9
SPB				IAmb	IAmb	21 22 27.2	
	comp=Z,73nm,1.3s						
SPB				IAms_20	IAms_20	21 32 22.6	
	comp=Z,2μm,18.0s						
SPB	Sao Paulo	32.12	254	eP	P	21 22 26.2	+0.3
MBO	M'Bour	32.18	354	P	P	21 22 24.8	-1.5
MBO				IAmb	IAmb	21 22 28.1	
	comp=Z,45nm,0.8s						
BBTS	Babate	32.41	355	P	P	21 22 27.3	-1.0
	comp=Z,39nm,1.0s,baz=54,slow=3.6,SNR=7.6						
BBTS				LR	LR	21 33 02.2	
	comp=Z,2μm,20.0s,baz=60,slow=32						
	comp=Z,39nm,1.0s						
IPMB	Ipameri, GO	32.92	264	eP	P	21 22 32.4	-0.6
GRTLG	Ghanzi	32.94	102	i P	P	21 22 32.2	-1.1
QNGWA	Qangwa	32.95	99	i P	P	21 22 32.5	-0.9
BDFB	Brasilia	33.01	269	P	P	21 22 33.7	-0.2
BDFB				IAmb	IAmb	21 22 43.2	
	comp=Z,80nm,1.8s						
BDFB	Brasilia	33.01	269	P	P	21 22 33.8	-0.2
	comp=Z,9.0nm,0.8s,baz=77,slow=8.2,SNR=12						
BDFB				LR	LR	21 33 20.3	
	comp=Z,2μm,20.6s,baz=102,slow=32						
	comp=Z,9.0nm,0.8s						
BB19B	Bebedouro	33.06	259	eP	P	21 22 34.0	-0.2
KGCAE	Kacgae	33.88	105	i P	P	21 22 40.8	-0.7
MAJ01	Sao Joao Batis	33.96	247	eP	P	21 22 42.3	+0.4
FRTB	Fartura	34.06	255	eP	P	21 22 42.3	-0.6
SUR	Sutherland	34.19	122	LR	LR	21 33 53.7	
	comp=Z,1μm,19.2s,baz=291,slow=32						
SUR	Sutherland	34.19	122	P	P	21 22 45.3	+1.1
SMTB	Santa Maria do	34.21	281	eP	P	21 22 44.4	+0.2
TER01	Tubaro-SC	34.25	245	eP	P	21 22 45.0	+0.6
TORD	Torodi Ar. Bea	34.27	27	P	P	21 22 43.5	-1.1
TORD	Torodi Ar. Bea	34.27	27	P	P	21 22 43.8	-0.9
	comp=Z,20nm,0.4s,baz=207,slow=8.7,SNR=2.2						
	comp=Z,20nm,0.4s						
PHPEN	Phepeng	34.64	109	i P	P	21 22 47.4	-0.6
ITRB	Iturama	34.82	261	eP	P	21 22 49.1	-0.4
LDASE	Londrina, Braz	35.49	255	eP	P	21 22 55.5	+0.2
SKOMA	Sekoma	35.54	107	i P	P	21 22 54.9	-0.8
CNLB	Canela	35.87	244	eP	P	21 22 59.6	+1.1
KDWAN	Kaudwane	36.16	105	i P	P	21 23 00.2	-0.9
PTGB	Pitanga	36.41	252	eP	P	21 23 03.7	+0.5
MAKGR	Makgori	36.42	109	i P	P	21 23 02.0	-1.3
ARAG	Araguaiana, MT	36.62	267	eP	P	21 23 05.2	+0.2
ITAB	Concordia	36.69	248	P	P	21 23 05.9	+0.5
ITAB				IAmb	IAmb	21 23 07.8	
	comp=Z,84nm,1.0s						
ITAB				IAms_20	IAms_20	21 34 48.8	
	comp=Z,2μm,20.0s						
ITAB	Concordia	36.69	248	eP	P	21 23 06.6	+1.2
SNDB	Serra Nova Dou	36.85	274	eP	P	21 23 07.4	+0.5
KSANE	Kasane	36.85	96	i P	P	21 23 07.2	+0.2
KHWEE	KHWEE	36.87	103	i P	P	21 23 06.3	-0.9
LBTB	Lobatse	37.08	108	P	P	21 23 07.5	-1.4
LBTB	Lobatse	37.08	108	P	P	21 23 07.5	-1.4
LBTB				pmax	pmax		
	comp=Z,27nm,1.1s						
LBTB	Lobatse	37.08	108	i P	P	21 23 07.2	-1.7
BOSA	Boshof	37.13	114	P	P	21 23 07.7	-1.7
BOSA	Boshof	37.13	114	P	P	21 23 08.4	-0.9
	comp=Z,21nm,1.1s,baz=281,slow=5.9,SNR=12						
BOSA				LR	LR	21 35 49.6	
	comp=Z,2μm,20.2s,baz=282,slow=32						
	comp=Z,21nm,1.1s						
TMAB	Tom-Au,PA,Br	37.17	290	eP	P	21 23 11.9	+2.3
C2SB	Chapadao do Su	37.23	262	eP	P	21 23 11.5	+1.5
LPHEP	Lephephe	37.26	105	i P	P	21 23 09.7	-0.8
RPRD	Ribas do Rio P	37.92	259	eP	P	21 23 16.9	+0.9
SOE	Somerset East	38.15	120	P	P	21 23 17.2	-0.7
CPSB	Cacapava Do Su	38.27	243	eP	P	21 23 19.6	+0.7
BROLN	Tlhalogang	38.65	102	i P	P	21 23 20.9	-1.3
PLTB	Pedras Altas	38.66	241	P	P	21 23 22.6	+0.5
PLTB				IAmb	IAmb	21 23 24.6	
	comp=Z,72nm,1.0s						
GRHM	Grahamstown, E	38.95	121	P	P	21 23 22.9	-1.6
GRHM				IAmb	IAmb	21 23 54.3	
	comp=Z,185nm,2.0s						
MATP	Matopo	39.78	101	LR	LR	21 37 23.9	
	comp=Z,2μm,20.4s,baz=266,slow=32						
MATP	Matopo	39.78	101	i P	P	21 23 30.3	-1.4
AQDB	Aquidauana	39.79	259	P	P	21 23 32.0	+0.3
AQDB				IAMs_20	IAMs_20	21 37 20.2	
	comp=Z,2μm,21.0s						
AQDB	Aquidauana	39.79	259	eP	P	21 23 32.3	+0.7
BLWY	Bulawayo	39.90	100	i P	P	21 23 30.3	-2.5
LSZ	Lusaka	40.07	93	P	P	21 23 34.5	+0.3
LSZ	Lusaka	40.07	93	IAMs_20	IAMs_20	21 38 02.8	
	comp=Z,2μm,19.0s						
LSZ	Lusaka	40.07	93	LR	LR	21 39 19.6	
	comp=Z,1μm,18.2s,baz=267,slow=35						
LSZ	Lusaka	40.07	93	P	P	21 23 18.0	-16
LSZ				S	S	21 28 40.2	-60
LSZ	Lusaka	40.07	93	P	P	21 23 34.5	+0.3
LSZ				pmax	pmax		
	comp=Z,38nm,0.8s						
LSZ				MLR	MLR		
	comp=Z,2μm,19.0s						
LSZ	Lusaka	40.07	93	i P	P	21 23 32.3	-1.9
SJPY	San Joaquin	40.09	252	eP	P	21 23 34.6	+0.4
SALV	Santo Antonio	40.28	266	eP	P	21 23 36.6	+0.9
TBOT	Tacuaremb	40.60	242	eP	P	21 23 39.3	+1.1
BDQN	Bodoquena, MS	40.77	259	eP	P	21 23 40.3	+0.5
MUSN	Musina, Limpop	40.96	104	i P	P	21 23 39.3	-2.1
CPUP	Villa Florida	41.25	250	P	P	21 23 43.5	-0.1
CPUP	Villa Florida	41.25	250	P	P	21 23 44.2	+0.5
	comp=Z,30nm,0.7s,baz=95,slow=8.8,SNR=81						
CPUP				LR	LR	21 38 25.7	
	comp=Z,684nm,19.1s,baz=94,slow=33						
	comp=Z,30nm,0.7s						
CPUP	Villa Florida	41.25	250	eP	P	21 23 44.0	+0.4
CLDB	Colider	41.40	274	eP	P	21 23 45.9	+0.9
PAPY	Pozo Azul	42.02	254	eP	P	21 23 50.1	+0.1
NPGB	Novo Progresso	42.07	279	eP	P	21 23 51.3	+0.8
PDRB	Porto dos Gac	42.10	272	eP	P	21 23 51.3	+0.5
MOPA	Mopani	42.34	106	i P	P	21 23 50.3	-2.4
POGA	Pongola	42.69	111	IAMs_20	IAMs_20	21 38 50.0	
	comp=Z,2μm,20.0s						
MAL2	Monte Alegre,	42.81	287	P	P	21 23 56.0	-0.5
MAL2				IAMs_20	IAMs_20	21 38 38.7	
	comp=Z,2μm,20.0s						
ITTB	Itaituba	43.34	283	eP	P	21 24 01.9	+1.1
PTLB	Pontes e Lacer	43.62	266	P	P	21 24 03.2	+0.1
PTLB				IAmb	IAmb	21 24 13.3	
	comp=Z,121nm,1.4s						
PTLB	Pontes e Lacer	43.62	266	eP	P	21 24 04.1	+1.0
TAM	Tamanrasset	44.48	26	P	P	21 24 09.8	-0.2
TAM				IAMs_20	IAMs_20	21 40 07.7	
	comp=Z,2μm,20.0s						
TAM	Tamanrasset	44.48	26	P	P	21 24 09.8	-0.2
TAM				pmax	pmax		
	comp=Z,14nm,1.2s						
TAM				MLR	MLR		
	comp=Z,2μm,20.0s						
VILB	Vilhena	45.11	269	P	P	21 24 16.1	+1.0
VILB				IAmb	IAmb	21 24 31.5	
	comp=Z,79nm,1.0s						
VILB				IAMs_20	IAMs_20	21 39 54.4	
	comp=Z,2μm,21.0s						
VILB	Vilhena	45.11	269	eP	P	21 24 16.8	+1.8
SIV	San Ignacio	45.37	265	LR	LR	21 41 03.6	
	comp=Z,872nm,21.4s,baz=103,slow=33						
TRQA	Tornquist	46.68	234	P	P	21 24 26.5	-0.6
TRQA	Tornquist	46.68	234	P	P	21 24 26.5	-0.6
TRQA				pmax	pmax		
	comp=Z,62nm,0.9s						
TRQA				MLR	MLR		
	comp=Z,3μm,19.0s						
MBAR	Mbarara	46.80	73	IAMs_20	IAMs_20	21 42 10.8	
	comp=Z,1μm,19.0s						
AZAP	Zapla	48.26	253	i P	P	21 24 40.5	+0.6
AZAP				IAML		21 25 54.0	
	comp=Z,38nm,1.7s						
MACA	Manacapuru-AM	48.38	282	P	P	21 24 40.8	+0.2
MACA				IAMs_20	IAMs_20	21 43 17.9	
	comp=Z,2μm,19.0s						
MACA	Manacapuru-AM	48.38	282	eP	P	21 24 41.1	+0.5
AHML	Horco Molle	48.42	250	i P	P	21 24 39.9	-1.0
AHML				i P	P	21 24 40.5	-0.5
AHML				IAML		21 25 17.9	
	comp=Z,21nm,3.2s						
EFI	East Falkland	48.60	216	P	P	21 24 41.5	-0.3
EFI	East Falkland	48.60	216	IAMs_20	IAMs_20	21 39 44.9	
	comp=Z,1μm,22.0s						
EFI	East Falkland	48.60	216	i P	P	21 24 41.2	-0.6
EFI				pmax	pmax		
	comp=Z,63nm,1.4s						
SLA	San Lorenzo	48.63	253	i P	P	21 24 42.8	+0.1
SLA				IAML		21 25 41.1	
	comp=Z,6.7nm,1.0s						
CYA	Choya	48.84	248	i P	P	21 24 42.8	-1.3
CYA				i P	pP	21 24 43.0	-5.3
CYA				IAML		21 25 20.7	
	comp=Z,9.5nm,2.2s						
TIO	Tiouine	48.85	7	P	P	21 24 45.3	+1.2
FSA	Cafayete	49.01	251	i P	P	21 24 45.6	0.0
APLL	PUNTA DE LOS L	49.52	245	i P	P	21 24 47.4	-1.9
APLL				IAML		21 25 25.9	
	comp=Z,1.7nm,3.0s						
ACHE	Chepes	49.66	244	i P	P	21 24 40.5	-10
ACLC	CERRO LA CRUZ	49.86	246	i P	P	21 24 50.2	-1.8
ACLC				IAML		21 25 32.1	
	comp=Z,6.2nm,2.7s						
AVFE	Valle Fertil	50.33	245	i P	P	21 24 54.1	-1.4
AVFE				IAML		21 25 43.2	
	comp=Z,7.0nm,1.6s						
BOAV	Boa Vista	50.41	289	P	P	21 24 56.5	+0.3
BOAV				IAMs_20	IAMs_20	21 43 22.7	
	comp=Z,2μm,19.0s						
BOAV	Boa Vista	50.41	289	eP	P	21 24 56.8	+0.7
VCA	Vinchina	50.95	247	i P	P	21 24 59.5	-0.8
VCA				IAML		21 25 54.9	
	comp=Z,16nm,1.4s						
MDT	Midelt	51.08	10	P	P	21 25 02.2	+1.3
	comp=Z,15nm,1.2s,baz=192,slow=6.6,SNR=9.9						
MDT				LR	LR	21 44 39.7	
	comp=Z,2μm,18.8s,baz=209,slow=34						
	comp=Z,15nm,1.2s						
AVE	Averroes	51.17	7	P	P	21 25 02.5	+1.0
AVE				IAmb	IAmb	21 25 10.9	
	comp=Z,41nm,0.9s						
AVE	Averroes	51.17	7	P	P	21 25 02.0	+0.5
AGUA	GUANDACOL	51.20	246	i P	P	21 25 02.1	-0.1
AGUA				IAML		21 25 52.3	
	comp=Z,15nm,1.2s						
ZON	Zonda	51.40	244	P	P	21 25 03.3	-0.2
ZON				IAMs_20	IAMs_20	21 43 52.4	
	comp=Z,1μm,20.0s						
ZON	Zonda	51.40	244	P	P	21 25 03.3	-0.2
ZON				pmax	pmax		
	comp=Z,26nm,0.9s						
ZON				MLR	MLR		
	comp=Z,1μm,20.0s						
ASAL	Salagasta	51.57	242	i P	P	21 25 04.9	+0.1
AAGR	Agrelo	51.59	242	i P	P	21 25 05.2	+0.2
AAGR				IAML		21 25 59.0	
	comp=Z,17nm,1.8s						
IFR	Ifrane	51.69	9	P	P	21 25 06.7	+1.1
ACCO	Cerro Coronel	51.71	245	i P	P	21 25 06.7	+0.5
AC02	Maricunga	51.81	250	P	P	21 25 07.0	-0.1
AC02				IAmb	IAmb	21 25 11.6	
	comp=Z,41nm,0.9s						
AC02				IAMs_20	IAMs_20	21 44 50.4	
	comp=Z,2μm,21.0s						
AC02	Maricunga	51.81	250	i P	P	21 25 07.2	0.0
AC02				IAML		21 26 25.7	
	comp=Z,8.6nm,2.1s						
RTLS	Leoncito	51.94	243	i P	P	21 25 08.5	+0.7
RTLS				IAML		21 26 04.3	
	comp=Z,30nm,1.4s						
LPAZ	La Paz	52.01	263	P	P	21 25 08.8	-0.1
LPAZ	La Paz	52.01	263	P	P	21 25 08.4	-0.5
	comp=Z,9.1nm,0.9s,baz=121,slow=5.9,SNR=17						
LPAZ				LR	LR	21 46 33.0	
	comp=Z,905nm,18.0s,baz=98,slow=35						
	comp=Z,9.1nm,0.9s						
LPAZ	La Paz	52.01	263	P	P	21 25 08.8	-0.1
LPAZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LPAZ	La Paz	52.01	263	eP	P	21 25 08.8	-0.1
AUSP	Uspallata	52.03	243	i P	P	21 25 08.2	-0.2
AROD	Rodeo	52.06	245	i P	P	21 25 09.3	+0.5
PB09	IPOC Station P	52.28	256	P	P	21 25 10.4	+0.1
PB09				IAmb	IAmb	21 25 40.1	
	comp=Z,92nm,1.5s						
GO02	Mina Guanaco	52.31	252	P	P	21 25 10.7	0.0
GO02				IAmb	IAmb	21 25 21.1	
	comp=Z,129nm,1.9s						
PB08	IPOC Station P	52.39	258	P	P	21 25 10.3	-1.1
PB08				IAmb	IAmb	21 25 14.3	
	comp=Z,64nm,1.0s						
CO01	Juntas del Tor	52.60	246	IAmb	IAmb	21 25 16.3	
	comp=Z,118nm,1.5s						
CO01				IAMs_20	IAMs_20	21 44 38.0	
	comp=Z,2μm,20.0s						
KMBO	Kilima Mbogo	52.60	77	LR	L

PEL Peldehue 53.15 242 P **P** **21 25 16.5 0.0**
PEL pmax pmax
comp=Z,55nm,1.1s
AC01 Pan de Azucar 53.16 250 P **P** **21 25 16.8 +0.2**
AC01 IAmb IAmb 21 25 35.1
comp=Z,73nm,1.1s
AC01 IAMs_20 IAMs_20 21 45 35.1
comp=Z,2µm,18.0s
MT05 Renca 53.20 241 P **P** **21 25 17.0 +0.2**
MT05 IAmb IAmb 21 25 19.5
comp=Z,62nm,0.9s
GO04 Tololo Observa 53.21 245 P **P** **21 25 16.5 -0.7**
GO04 IAmb IAmb 21 25 18.7
comp=Z,82nm,1.1s
VNA2 Neumayer--Watz 53.23 177 P **P** **21 25 17.5 +1.2**
baz=343,slow=9.2
VNA2 Neumayer--Watz 53.23 177 ⇓P **P** **21 25 17.5 +1.2**
comp=Z,53nm,0.7s,baz=343,slow=9.2
TA01 Diego Aracena 53.29 257 IAMs_20 IAMs_20 21 44 19.8
comp=Z,1µm,20.0s
BO02 Sierra Bellavi 53.30 240 P **P** **21 25 17.1 -0.6**
VNA3 Neumayer Olymp 53.47 178 P **P** **21 25 19.9 +1.8**
VNA3 Neumayer Olymp 53.47 178 ⇓P **P** **21 25 19.9 +1.8**
comp=Z,11nm,0.6s
AC04 Llanos de Chal 53.49 248 P **P** **21 25 18.8 -0.2**
BO01 Tunca 53.53 240 IAmb IAmb 21 25 20.1
comp=Z,48nm,0.9s
MT02 Curacav 53.53 242 IAmb IAmb 21 25 22.4
comp=Z,57nm,1.2s
MT01 Popeta 53.65 241 IAmb IAmb 21 25 28.1
comp=Z,39nm,0.8s
PLCA Paso Flores 53.67 232 P **P** **21 25 19.6 -0.6**
PLCA Paso Flores 53.67 232 P **P** **21 25 20.0 -0.2**
comp=Z,23nm,1.1s,baz=80,slow=7.3,SNR=15
PLCA LR LR 21 45 00.6
comp=Z,2µm,20.4s,baz=86,slow=32
comp=Z,23nm,1.1s
PLCA Paso Flores 53.67 232 P **P** **21 25 20.0 -0.2**
PLCA Paso Flores 53.67 232 *e*P **P** **21 25 20.3 +0.1**
PB12 IPOC Station P 53.70 260 P **P** **21 25 19.6 -1.2**
PB12 IAmb IAmb 21 25 22.9
comp=Z,62nm,0.9s
PB12 IAMs_20 IAMs_20 21 47 14.7
comp=Z,1µm,19.0s
AP01 Chacalluta 53.75 260 IAMs_20 IAMs_20 21 47 33.0
comp=Z,1µm,19.0s
BI02 San Fabin de 53.82 237 P **P** **21 25 21.1 -0.2**
BI02 IAMs_20 IAMs_20 21 46 13.0
comp=Z,1µm,18.0s
ML02 Panimavida 53.88 238 P **P** **21 25 20.5 -1.2**
VA01 Torpederas 53.95 242 P **P** **21 25 22.9 +0.6**
SNAA Sanae 54.22 176 P **P** **21 25 24.3 +0.6**
SNAA Sanae 54.22 176 P **P** **21 25 23.1 -0.6**
SNAA Sanae 54.22 176 ⇓P **P** **21 25 24.3 +0.6**
comp=Z,315nm,0.8s
SNAA Sanae 54.22 176 P **P** **21 25 24.0 +0.3**
comp=Z,16nm,0.9s,baz=353,slow=9.9,SNR=33
SNAA LR LR 21 42 01.0
comp=Z,339nm,20.6s,baz=353,slow=29
comp=Z,16nm,0.9s
SNAA Sanae 54.22 176 P **P** **21 25 24.0 +0.3**
ESPZ Base Esperanza 54.32 202 IAMs_20 IAMs_20 21 45 09.1
comp=Z,1µm,18.0s
LR05 Currie 54.71 233 P **P** **21 25 25.9 -1.8**
ESPR Espera 54.88 8 P **P** **21 25 29.6 +0.8**
LL02 Futaleuf 54.97 229 P **P** **21 25 29.6 0.0**
LL02 IAMs_20 IAMs_20 21 44 58.1
comp=Z,1µm,20.0s
EMAL Malaga-Limoner 54.97 9 P **P** **21 25 29.4 0.0**
LIJA Lijar 54.98 8 P **P** **21 25 30.7 +1.1**
TROLL Troll, Antarti 55.00 174 P **P** **21 25 30.3 +0.8**
TROLL Troll, Antarti 55.00 174 ⇓P **P** **21 25 30.3 +0.8**
comp=Z,1µm,0.6s
NVL N'lazarevskaya 55.10 170 *e*P **P** **21 25 30.1 +0.1**
NVL *e*S **S** **21 33 11.6 -0.1**
NVL pmax pmax
comp=Z,25nm,0.8s
LL03 Petrohue 55.11 232 IAMs_20 IAMs_20 21 45 35.0
comp=Z,1µm,20.0s
MG01 Puerto William 55.16 215 P **P** **21 25 30.8 +0.2**
MG01 IAMs_20 IAMs_20 21 44 44.3
comp=Z,1µm,20.0s
PVAQ Vaqueiros 55.21 6 *e*P **P** **21 25 32.5 +1.4**
PVAQ *e*LR LR 21 43 10.5
PVAQ *i* AMs_20 21 46 44.4
comp=Z,1µm,22.0s
EBER Berja 55.35 10 P **P** **21 25 33.1 +0.7**
BI05 Punta Hualpn 55.36 237 IAMs_20 IAMs_20 21 47 19.8
comp=Z,2µm,18.0s
EGOR Sierra Gorda, 55.36 9 P **P** **21 25 32.0 -0.5**
PCVE Castro Verde 55.40 5 P **P** **21 25 32.0 -0.6**
COYC Coyhaique 55.51 227 IAMs_20 IAMs_20 21 44 36.9
comp=Z,1µm,21.0s
ENIJ Nijar 55.55 11 P **P** **21 25 34.0 +0.3**
EQTA Presa de Quent 55.56 10 P **P** **21 25 34.4 +0.6**
EMIN Mina Concepcio 55.67 7 P **P** **21 25 34.4 -0.1**
AY01 Puyuhuapi 55.73 228 P **P** **21 25 34.8 -0.1**
AY01 IAMs_20 IAMs_20 21 44 26.6
comp=Z,1µm,22.0s
LR04 Corral 55.76 234 P **P** **21 25 34.9 -0.4**
PBEJ Beja 55.81 5 *e*P **P** **21 25 36.3 +0.8**
PBEJ *i* Amb 21 25 52.7
comp=Z,46nm,1.8s
LL05 Los Muermos 55.95 232 IAMs_20 IAMs_20 21 45 50.6
comp=Z,2µm,21.0s
PBAR Barrancos 56.04 6 *e*P **P** **21 25 39.3 +2.3**
PBAR *i* Amb 21 25 47.8
comp=Z,46nm,1.6s
PBAR Barrancos 56.04 6 P **P** **21 25 37.9 +0.8**
LL07 Hotel Espejo d 56.11 230 IAMs_20 IAMs_20 21 44 43.9
comp=Z,1µm,21.0s
ECAB El Cabril 56.13 8 P **P** **21 25 38.1 +0.3**
AY03 Cochrane 56.16 225 P **P** **21 25 37.3 -0.6**
AY03 IAmb IAmb 21 25 40.3
comp=Z,40nm,1.0s
EVO Evora 56.30 5 *e*P **P** **21 25 41.1 +2.2**
EVO *i* Amb 21 25 50.4
comp=Z,58nm,1.7s
FOMA Nahampoana Res 56.46 108 IAMs_20 IAMs_20 21 47 06.1
comp=Z,1µm,20.0s
PMRV Marv??o 57.24 6 *e*P **P** **21 25 46.5 +0.8**
PMRV *i* Amb 21 25 58.6
comp=Z,54nm,1.7s
PMRV *e*LR LR 21 43 57.4
PMRV *i* AMs_20 21 47 45.7
comp=Z,1µm,22.0s
ABPO Ambohimpanom 57.45 102 IAMs_20 IAMs_20 21 47 36.7
comp=Z,1µm,18.0s
KEST Kesra 57.53 22 P **P** **21 25 46.9 -1.0**
KEST IAmb IAmb 21 26 13.2
comp=Z,81nm,1.6s
KEST Kesra 57.53 22 P **P** **21 25 48.8 +1.0**
comp=Z,18nm,1.1s,baz=210,slow=6.4,SNR=6.2
KEST LR LR 21 49 16.7
comp=Z,2µm,20.1s,baz=232,slow=35
comp=Z,18nm,1.1s
PCRV Puerto La Cruz 57.57 295 LR LR 21 47 26.8
comp=Z,614nm,22.0s,slow=33
PCBR Castelo Branco 57.64 6 *e*P **P** **21 25 50.6 +2.2**
PMSA Palmer Station 57.67 203 P **P** **21 25 47.5 -0.9**
PMSA Palmer Station 57.67 203 IAMs_20 IAMs_20 21 44 00.7
comp=Z,1µm,21.0s
PMSA Palmer Station 57.67 203 LR LR 21 46 06.5
comp=Z,572nm,19.0s,baz=56,slow=31
PMSA Palmer Station 57.67 203 *e*P **P** **21 25 48.9 +0.5**
ESDC Sonseca Array 57.90 9 P **P** **21 25 50.3 0.0**
ESDC IAmb IAmb 21 26 00.5
comp=Z,54nm,1.6s
ESDC Sonseca Array 57.90 9 P **P** **21 25 50.6 +0.2**
comp=Z,3.7nm,1.0s,baz=185,slow=6.9,SNR=18
ESDC PP **PP** **21 27 58.6 -0.4**
comp=Z,2.9nm,1.2s,baz=199,slow=8.1,SNR=2.7
ESDC LR LR 21 49 12.8
comp=Z,1µm,20.3s,baz=182,slow=34
comp=Z,3.7nm,1.0s
ESBB Sonseca Array 57.90 9 P **P** **21 25 50.3 0.0**
TDBA Terre de Bas, 57.97 302 P **P** **21 25 49.8 -1.4**
MTE Manteigas 58.19 5 *e*LR LR 21 45 10.0
MTE *i* AMs_20 21 47 44.7
comp=Z,1µm,20.0s
ELIB Princess Elisa 58.24 167 *d*P **P** **21 25 53.9 +1.4**
comp=Z,24nm,0.0s
CZSB Cruzeiro do Su 58.31 272 P **P** **21 25 53.2 -0.6**
CZSB Cruzeiro do Su 58.31 272 *e*P **P** **21 25 53.8 0.0**
MVO Moncorvo 59.00 6 *e*P **P** **21 25 59.8 +1.8**
MVO *i* Amb 21 26 09.5
comp=Z,43nm,1.7s
MVO *e*LR LR 21 45 02.4
MVO *i* AMs_20 21 48 30.4
comp=Z,1µm,22.0s
PCAB Cabril 59.45 5 *e*P **P** **21 26 02.2 +1.1**
PBRG Braganca 59.66 6 *e*P **P** **21 26 04.1 +1.6**
PGAV Gavieira, Arco 59.69 5 *e*P **P** **21 26 05.5 +2.7**
PGAV *e*LR LR 21 45 16.1
PGAV *i* AMs_20 21 49 38.1
comp=Z,1µm,18.0s
BAUV El Baul 59.98 292 P **P** **21 26 04.7 -0.6**
SYO Syowa Base 60.70 161 ⇓*es*P **P** **21 26 12.0 +2.7**
VSL Villasalto 60.92 20 IAMs_20 IAMs_20 21 50 52.2
comp=Z,1µm,20.0s
BELA Belgrano 2 60.97 185 P **P** **21 26 10.8 -0.3**
BELA IAmb IAmb 21 26 20.1
comp=Z,53nm,1.3s
VAE Valguarnera 61.00 25 LR LR 21 52 04.7
comp=Z,3µm,18.7s,baz=154,slow=36
NNA Nana 61.16 266 P **P** **21 26 13.7 +0.2**
NNA IAmb IAmb 21 26 22.1
comp=Z,43nm,1.4s
NNA Nana 61.16 266 LR LR 21 51 57.0
comp=Z,734nm,18.8s,baz=84,slow=35
NNA Nana 61.16 266 *i* P **P** **21 26 13.1 -0.3**
NNA pmax pmax
comp=Z,64nm,1.5s
CEST Esterri de Car 61.66 12 P **P** **21 26 15.9 -0.4**
CEST IAmb IAmb 21 26 27.1
comp=Z,44nm,1.3s
SDV Santo Domingo 62.26 290 P **P** **21 26 21.1 +0.1**
SDV IAMs_20 IAMs_20 21 52 41.0
comp=Z,1µm,19.0s
SDV Santo Domingo 62.26 290 LR LR 21 52 52.0
comp=Z,612nm,19.2s,baz=106,slow=36
SDV Santo Domingo 62.26 290 *e*P **P** **21 26 22.2 +1.2**
CEL Celeste 62.28 26 P **P** **21 26 19.6 -0.8**
CEL IAmb IAmb 21 26 23.5
comp=Z,30nm,1.1s
CEL Celeste 62.28 26 P **P** **21 26 21.4 +1.0**
comp=Z,24nm,1.1s
SJG San Juan 62.82 302 LR LR 21 47 54.0
comp=Z,425nm,20.6s,baz=136,slow=30
ATD Arta Tunnel 62.89 67 LR LR 21 51 04.7
comp=Z,26nm,21.6s,baz=236,slow=34
OBIP Obispado Ponce 63.15 302 IAMs_20 IAMs_20 21 50 14.5
comp=Z,814nm,21.0s
RUSC La Rusia 63.25 286 P **P** **21 26 27.1 -0.9**
TIP Timpagrande 63.41 26 P **P** **21 26 27.4 -0.6**
TIP IAmb IAmb 21 26 29.6
comp=Z,40nm,1.3s
TIP Timpagrande 63.41 26 ⇓P **P** **21 26 28.4 +0.4**
TIP Timpagrande 63.41 26 P **P** **21 26 28.6 +0.6**
comp=Z,20nm,1.2s
CUC Castrocucco 63.72 25 IAMs_20 IAMs_20 21 52 46.0
comp=Z,1µm,20.0s
ATAH Atahualpa 63.90 271 LR LR 21 52 13.4
comp=Z,1µm,21.6s,baz=114,slow=34
ROSC El Rosal 63.98 285 P **P** **21 26 34.9 +2.2**
comp=Z,6.1nm,0.4s,baz=132,slow=15,SNR=5.7
ROSC LR LR 21 51 51.4
comp=Z,2µm,21.6s,baz=154,slow=34
comp=Z,6.1nm,0.4s
FLOC Florencia 64.04 281 P **P** **21 26 33.6 +1.0**
IDI Anoyia 64.21 34 P **P** **21 26 31.2 -2.1**
IDI IAmb IAmb 21 26 46.4
comp=Z,37nm,1.2s
IDI Anoyia 64.21 34 LR LR 21 56 11.5
comp=Z,320nm,18.2s,baz=211,slow=38
INTR Introdacqua 64.73 22 IAMs_20 IAMs_20 21 52 48.8
comp=Z,826nm,20.0s
CESX Cesi 64.79 21 P **P** **21 26 36.9 0.0**
CESX IAmb IAmb 21 26 47.1
comp=Z,36nm,1.2s
SSB Saint Sauveur 64.93 14 P **P** **21 26 37.4 -0.4**
SSB IAmb IAmb 21 26 48.4
comp=Z,36nm,1.4s
SSB Saint Sauveur 64.93 14 P **P** **21 26 37.4 -0.4**
SSB pmax pmax
comp=Z,36nm,1.4s
CAMP Campotosto 65.01 22 P **P** **21 26 39.1 +0.7**
CAMP IAmb IAmb 21 27 01.0
comp=Z,85nm,1.9s
OSSC Osservatorio P 65.16 20 P **P** **21 26 38.4 -0.8**
KEK Kerkira 65.17 28 IAMs_20 IAMs_20 21 54 35.4
comp=Z,1µm,20.0s
NRCA Norcia 65.17 21 P **P** **21 26 38.8 -0.7**
BNI Bardonecchia 65.24 16 P **P** **21 26 40.2 +0.3**
BNI Bardonecchia 65.24 16 P **P** **21 26 40.2 +0.3**
BNI pmax pmax
comp=Z,17nm,1.1s
BNI MLR MLR
comp=Z,2µm,20.0s
FDMO Fiordimonte 65.34 21 P **P** **21 26 39.4 -1.1**
FDMO IAmb IAmb 21 26 51.1
comp=Z,49nm,1.5s
MSSA Maissana 65.34 18 P **P** **21 26 39.8 -0.7**
MSSA IAmb IAmb 21 26 51.3
comp=Z,54nm,1.3s
KARP Karpathos 65.64 36 P **P** **21 26 42.5 -0.1**
KARP Karpathos 65.64 36 P **P** **21 26 43.3 +0.7**
ZCCA Zocca 65.82 19 P **P** **21 26 43.6 0.0**
ZCCA IAmb IAmb 21 27 00.7
comp=Z,41nm,1.1s
ZCCA IAMs_20 IAMs_20 21 45 21.7
comp=Z,1µm,20.0s
SLOR San Lorenzo - 65.93 277 IAMs_20 IAMs_20 21 54 12.2
comp=Z,844nm,19.0s
PRMA PARMA 65.99 18 P **P** **21 26 43.2 -1.3**
COHC Cochancay 66.10 275 P **P** **21 26 46.3 +0.3**
OTAV Otavalo 66.21 278 P **P** **21 26 47.8 +0.5**
OTAV IAmb IAmb 21 27 13.7
comp=Z,30nm,1.3s
OTAV Otavalo 66.21 278 IAMs_20 IAMs_20 21 53 26.5
comp=Z,1µm,20.0s
OTAV Otavalo 66.21 278 P **P** **21 26 47.8 +0.5**
OTAV pmax pmax
comp=Z,30nm,1.3s
OTAV MLR MLR
comp=Z,2µm,20.0s
OTAV Otavalo 66.21 278 *e*P **P** **21 26 47.3 0.0**
KBN Korca 66.35 28 P **P** **21 26 47.9 +0.8**
KBN IAmb IAmb 21 26 59.3
comp=Z,22nm,0.9s
KBN Korca 66.35 28 P **P** **21 26 47.9 +0.8**
KBN pmax pmax
comp=Z,22nm,0.9s
KBN MLR MLR
comp=Z,2µm,19.0s
EIL Elat 66.48 45 LR LR 21 53 16.9
comp=Z,719nm,19.9s,baz=243,slow=34
TIR Tirane 66.53 27 P **P** **21 26 46.7 -1.5**
TIR IAmb IAmb 21 26 52.0
comp=Z,34nm,0.8s
TIR Tirane 66.53 27 P **P** **21 26 46.7 -1.5**
TIR pmax pmax
comp=Z,34nm,0.8s
TIR MLR MLR
comp=Z,2µm,19.0s
ARG Arkhangelos 66.67 36 P **P** **21 26 49.1 0.0**
ARG Arkhangelos 66.67 36 P **P** **21 26 49.1 0.0**
ARG pmax pmax
comp=Z,75nm,1.1s
LIT Litokhoron 66.71 29 P **P** **21 26 48.7 -0.7**
LIT IAmb IAmb 21 27 00.6
comp=Z,35nm,1.0s
LIT Litokhoron 66.71 29 P **P** **21 26 48.7 -0.7**
LIT pmax pmax
comp=Z,35nm,1.0s
LIT MLR MLR
comp=Z,500nm,20.0s
TEOL Teolo 66.94 19 P **P** **21 26 49.6 -1.1**
CLF Chambon-Foret 67.07 11 P **P** **21 26 51.3 -0.1**
PUK Puka 67.12 26 IAMs_20 IAMs_20 21 55 39.9
comp=Z,1µm,20.0s
PDG Podgorica 67.17 26 P **P** **21 26 51.6 -0.6**
PDG IAmb IAmb 21 27 39.6
comp=Z,77nm,1.8s
PDG IAMs_20 IAMs_20 21 55 13.4
comp=Z,1µm,20.0s
TUE Stuetta 67.27 17 P **P** **21 26 51.6 -1.3**
AKAS Kas 67.51 37 P **P** **21 26 54.4 -0.3**
AKAS IAmb IAmb 21 27 11.7
comp=Z,40nm,1.0s
CTI Castel Tesino 67.55 19 P **P** **21 26 54.3 -0.4**
CTI Castel Tesino 67.55 19 P **P** **21 26 54.3 -0.4**
CTI pmax pmax
comp=Z,18nm,1.1s
FUORN Ofenpass-Fuorn 67.66 18 P **P** **21 26 54.3 -1.2**
DAVOX Davos/Dischmat 67.70 17 LR LR 21 54 54.6
comp=Z,1µm,21.3s,baz=212,slow=35
GHAJ Ghor Haditha 67.92 44 P **P** **21 26 57.5 +0.4**
GHAJ IAmb IAmb 21 27 16.7
comp=Z,31nm,1.1s
GHAJ IAMs_20 IAMs_20 21 53 46.9
comp=Z,913nm,21.0s
ELL Elmali 68.05 37 P **P** **21 26 58.5 +0.4**
ELL Elmali 68.05 37 P **P** **21 26 58.5 +0.4**
ELL pmax pmax
comp=Z,92nm,1.2s
FETA Feichten 68.16 18 *e*P **P** **21 26 58.6 0.0**
comp=Z,27nm,1.3s,SNR=7.4
DAVA Damuels 68.16 17 *e*P **P** **21 26 58.4 -0.1**
comp=Z,34nm,1.0s,SNR=7.5
ECH Echery 68.31 15 P **P** **21 26 57.9 -1.4**
ECH Echery 68.31 15 P **P** **21 26 57.9 -1.4**
ECH pmax pmax
comp=Z,16nm,1.1s
ABTA Abfaltersbach 68.44 19 *i* P **P** **21 27 01.5 +1.3**
comp=Z,46nm,1.8s
SQTA Sankt Quirin 68.48 18 *e*P **P** **21 27 00.4 -0.1**
comp=Z,38nm,1.3s
MAW Mawson 68.50 156 LR LR 21 52 02.1
comp=Z,730nm,18.2s,baz=288,slow=32
MANT Manisa 68.55 34 P **P** **21 26 59.9 -1.3**
MANT IAmb IAmb 21 27 10.8
comp=Z,47nm,1.9s
MOTA Moosalm 68.56 18 *e*P **P** **21 27 01.0 0.0**
comp=Z,15nm,1.3s
UBR Ueberruh 68.58 17 *e*P **P** **21 27 01.2 +0.1**
comp=Z,35nm,1.0s,baz=204,slow=6.1
RETA Reutte 68.59 17 *e*P **P** **21 27 00.9 -0.3**
comp=Z,18nm,1.0s
WTTA Wattenberg 68.64 18 *e*P **P** **21 27 02.1 +0.5**
comp=Z,39nm,1.0s,SNR=6.7
MSEY Mahe Island 68.67 88 IAMs_20 IAMs_20 21 52 18.1
comp=Z,823nm,18.0s
WATA Walderalm 68.69 18 *e*P **P** **21 27 01.6 -0.2**
comp=Z,12nm,1.0s
MYKA Terra Mystica 68.70 20 *e*P **P** **21 27 02.8 +1.0**
comp=Z,29nm,1.6s
BFO Black Forest 68.70 16 P **P** **21 27 01.1 -0.7**
BFO IAmb IAmb 21 27 11.2
comp=Z,24nm,1.0s
BFO Black Forest 68.70 16 P **P** **21 27 01.1 -0.7**
BFO pmax pmax
comp=Z,24nm,1.0s
BFO Black Forest 68.70 16 *e*P **P** **21 27 01.6 -0.1**
comp=Z,13nm,0.8s,baz=204,slow=6.1
CSS Mathiatis 68.85 40 P **P** **21 27 02.4 -0.5**
MMAI Mount Meron Ar 68.89 43 P **P** **21 27 05.0 +1.7**
comp=Z,6.8nm,0.6s,baz=220,slow=5.1,SNR=24
MMAI LR LR 21 55 54.3
comp=Z,510nm,18.5s,baz=228,slow=35
comp=Z,6.8nm,0.6s
OBKA Obir 68.89 20 *e*P **P** **21 27 02.5 -0.6**
comp=Z,19nm,1.4s
RDO Rodhopi 68.98 31 P **P** **21 27 02.9 -0.7**
KBA Koelnbreinsper 69.00 19 *e*P **P** **21 27 04.7 +0.9**
comp=Z,16nm,1.1s
ALN Alexandroupoli 69.04 31 P **P** **21 27 03.1 -0.9**
ALN IAmb IAmb 21 27 14.8
comp=Z,34nm,1.4s
ALN IAMs_20 IAMs_20 21 58 08.5
comp=Z,760nm,20.0s
ALN Alexandroupoli 69.04 31 P **P** **21 27 03.1 -0.9**
ALN pmax pmax
comp=Z,34nm,1.4s
ALN MLR MLR
comp=Z,800nm,20.0s
LESA Schwarzleotal 69.10 19 *e*P **P** **21 27 04.1 -0.2**
comp=Z,11nm,1.1s
BOVS Bovan 69.19 27 ⇑P **P** **21 27 05.2 +0.4**
SOKA Soboth 69.20 21 *e*P **P** **21 27 04.5 -0.4**
comp=Z,25nm,1.2s,SNR=7.5
ASF Jabal al Asfar 69.34 44 LR LR 21 56 47.1
comp=Z,615nm,18.4s,baz=310,slow=35
FUR Furstenfeldbru 69.35 18 *e*P **P** **21 27 06.1 +0.3**
comp=Z,18nm,0.9s,baz=204,slow=6.1
RJOB Jochberg 69.42 19 *e*P **P** **21 27 05.5 -0.7**
comp=Z,7.2nm,0.8s,baz=204,slow=6.1
WLF Walferdange 69.43 14 P **P** **21 27 06.2 +0.1**
WLF Walferdange 69.43 14 P **P** **21 27 05.6 -0.6**
WLF Walferdange 69.43 14 *d*P **P** **21 27 06.9 +0.7**
comp=Z,15nm,1.4s
WLF Walferdange 69.43 14 P **P** **21 27 06.3 +0.1**
WLF pmax pmax
comp=Z,104nm,1.6s
WLF Walferdange 69.43 14 *e*P **P** **21 27 06.7 +0.5**
comp=Z,67nm,1.4s,baz=204,slow=6.1
DOU Dourbes 69.50 12 *d*P **P** **21 27 06.4 -0.3**
comp=Z,8.7nm,1.3s
BIOA Bad Ischl, Aus 69.64 19 *i* P **P** **21 27 06.9 -0.6**
comp=Z,24nm,1.4s
ARSA Arzberg 69.86 21 *i* P **P** **21 27 09.8 +0.9**
comp=Z,42nm,1.7s,SNR=7.6
ARSA Arzberg 69.86 21 P **P** **21 27 06.2 -2.8**
ARSA IAmb IAmb 21 27 19.2
comp=Z,64nm,1.6s
MOA Molln 69.97 20 *i* P **P** **21 27 09.4 -0.2**
comp=Z,33nm,1.5s
MORH Mrgy, Hungar 70.09 23 ⇑P **P** **21 27 10.6 +0.4**
MORH Mrgy, Hungar 70.09 23 P **P** **21 27 10.8 +0.5**
comp=Z,13nm,1.4s
MDVR Moldovita 70.12 26 ⇑P **P** **21 27 11.3 +0.7**
UCC Uccle 70.12 12 P **P** **21 27 10.8 +0.4**
UCC Uccle 70.12 12 P **P** **21 27 10.8 +0.4**
UCC pmax pmax
comp=Z,5.0nm,1.1s
MEM Membach 70.28 13 *d*P **P** **21 27 12.7 +1.3**
comp=Z,12nm,1.3s
HERR Herculane 70.49 26 ⇓P **P** **21 27 13.8 +0.9**
RONA Rosalia, Austr 70.51 21 *e*P **P** **21 27 14.3 +1.4**
comp=Z,43nm,1.3s,SNR=6.6
CONA Conrad Observa 70.56 21 *e*P **P** **21 27 14.0 +0.7**
comp=Z,41nm,1.6s,SNR=6.7
BORA Eskisehir 70.57 35 P **P** **21 27 13.0 -0.6**
GEC2 GERESS Array S 70.68 19 P **P** **21 27 13.9 -0.1**
GEC2 GERESS Array S 70.68 19 *e*P **P** **21 27 14.0 0.0**
comp=Z,46nm,1.5s,baz=204,slow=6.1
GERES GERESS Array B 70.68 19 P **P** **21 27 13.0 -1.0**
GERES GERESS Array B 70.68 19 P **P** **21 27 13.9 -0.1**
comp=Z,4.5nm,1.1s,baz=222,slow=3.2,SNR=8.0
GERES PP **PP** **21 29 53.3 +2.4**
comp=Z,1.7nm,0.8s,baz=204,slow=8.8,SNR=3.5
GERES LR LR 21 56 58.6
comp=Z,1µm,22.0s,baz=216,slow=35
comp=Z,4.5nm,1.1s
WET Wettzell 70.70 18 *e*P **P** **21 27 14.0 -0.1**
comp=Z,53nm,1.4s,baz=204,slow=6.1
GRFO Grafenberg 70.72 17 P **P** **21 27 14.0 -0.1**
GRFO IAmb IAmb 21 27 23.9
comp=Z,51nm,1.4s
GRFO Grafenberg 70.72 17 P **P** **21 27 14.0 -0.1**
GRFO pmax pmax
comp=Z,51nm,1.4s
GRA1 Grafenberg Arr 70.72 17 P **P** **21 27 13.4 -0.7**
GRA1 IAmb IAmb 21 27 23.9
comp=Z,57nm,1.4s
GRF Grafenberg Arr 70.72 17 P **P** **21 27 13.4 -0.7**
GRF pmax pmax
comp=Z,57nm,1.4s
GRF Grafenberg Arr 70.72 17 *e*P **P** **21 27 14.4 +0.3**
comp=Z,35nm,1.3s,baz=204,slow=6.1
GRF *e*L L 21 56 45.8
comp=Z,631nm,20.5s
RAYN Ar Rayn 70.83 56 P **P** **21 27 15.1 -0.3**
RAYN IAmb IAmb 21 27 29.4
comp=Z,61nm,1.8s
RAYN Ar Rayn 70.83 56 IAMs_20 IAMs_20 21 55 05.0
comp=Z,1µm,20.0s
RAYN Ar Rayn 70.83 56 P **P** **21 27 14.3 -1.2**
RAYN Ar Rayn 70.83 56 ⇓P **P** **21 27 17.9 +2.5**
RAYN Ar Rayn 70.83 56 *i* P **P** **21 27 17.1 +1.7**
SNR=9.1
KHC Kasperske Hory 70.89 19 *e*P **P** **21 27 15.1 -0.1**
KHC AMS AMS 21 59 30.0
comp=Z,1µm,19.1s
KHC Kasperske Hory 70.89 19 *ce*P **P** **21 27 15.4 +0.2**
KHC pmax pmax
comp=Z,19nm,1.3s

KHC Kasperske Hory 70.89 19 P **P 21 27 15.2 0.0**
comp=Z,12nm,1.3s
ROTZ Rotzenmuhle 71.06 17 *e*P **P 21 27 16.3 +0.1**
comp=Z,16nm,1.4s,baz=204,slow=6.1
SURR Surduc 71.08 26 ⇓P **P 21 27 17.0 +0.6**
MANZ Manzenberg 71.23 17 *e*P **P 21 27 17.5 +0.2**
comp=Z,6.9nm,1.3s,baz=204,slow=6.1
NMDO Nuevo Mundo 71.26 300 IAMs_20 IAMs_20 21 57 27.6
comp=Z,474nm,20.0s
ZVC Zvikov 71.36 19 *e*P **P 21 27 22.3 +4.3**
MDUB Mudurnu 71.39 35 P **P 21 27 18.4 -0.2**
MODS Modra-Piesok 71.43 21 *e*P **P 21 27 19.4 +0.9**
MODS pmax pmax
comp=Z,85nm,1.2s
MODS Modra-Piesok 71.43 21 *e*P **P 21 27 19.4 +0.9**
TREC Trest 71.63 20 AMS AMS 21 57 40.0
comp=Z,2μm,19.8s
MOX Moxa 71.69 17 *e*P **P 21 27 20.7 +0.7**
comp=Z,15nm,1.0s,baz=204,slow=6.1
MOX *e*L L 21 57 23.8
comp=Z,740nm,19.9s
TANN Tannenbergstha 71.72 17 *e*P **P 21 27 20.5 +0.2**
comp=Z,23nm,1.2s,baz=204,slow=6.1
KRUC Moravsky 71.72 20 *e*P **P 21 27 19.6 -0.6**
ARR Arges 71.83 27 ⇓P **P 21 27 21.3 +0.2**
ANTO Ankara 71.85 36 P **P 21 27 19.9 -1.4**
ANTO IAmb IAmb 21 27 47.1
comp=Z,37nm,1.1s
ANTO Ankara 71.85 36 P **P 21 27 26.1 +4.8**
ANTO Ankara 71.85 36 ⇑P **P 21 27 21.8 +0.5**
ANTO Ankara 71.85 36 ⇑P **P 21 27 21.8 +0.5**
PRU Pruhonice 71.95 19 *e*P **P 21 27 22.4 +0.9**
PRU Pruhonice 71.95 19 *e*P **P 21 27 22.4 +0.9**
JAVC Velka Javorina 71.98 21 *e*P **P 21 27 22.2 +0.4**
PSZ Piszkesteto 71.98 23 P **P 21 27 20.1 -1.8**
PSZ IAmb IAmb 21 27 32.8
comp=Z,90nm,1.8s
PSZ Piszkesteto 71.98 23 P **P 21 27 20.1 -1.8**
PSZ pmax pmax
comp=Z,90nm,1.8s
KIRS Kirsehir-Merke 71.98 37 ⇓P **P 21 27 23.7 +1.5**
VRAC Vranov 72.00 20 LR LR 21 58 27.6
comp=Z,1μm,19.3s,baz=210,slow=35
VRAC Vranov 72.00 20 *e*P **P 21 27 21.4 -0.5**
VRAC Vranov 72.00 20 ⇑P **P 21 27 22.6 +0.7**
VRAC Vranov 72.00 20 ⇑P **P 21 27 22.6 +0.7**
VOIR 72.07 28 ⇓P **P 21 27 22.7 +0.2**
VOIR 72.07 28 ⇓P **P 21 27 22.7 +0.2**
VYHS Vyhne 72.08 22 *e*P **P 21 27 22.7 +0.3**
VYHS pmax pmax
comp=Z,30nm,1.2s
VYHS Vyhne 72.08 22 *e*P **P 21 27 22.7 +0.3**
DRGR 72.15 25 ⇓P **P 21 27 23.7 +0.7**
DRGR 72.15 25 ⇓P **P 21 27 23.7 +0.7**
HSKC Hora Svate Kat 72.17 18 AMS AMS 21 58 10.0
comp=Z,2μm,22.8s
CHIV Chivirico 72.19 298 IAMs_20 IAMs_20 21 55 03.1
comp=Z,579nm,21.0s
BR105 Keskin Array S 72.21 36 P **P 21 27 24.7 +1.2**
comp=Z,229nmcomp=Z,30nm,0.9s
BR106 Keskin Array S 72.22 36 P **P 21 27 24.8 +1.2**
comp=Z,173nmcomp=Z,23nm,1.0s
BR131 Keskin Array S 72.23 36 P **P 21 27 24.4 +0.7**
BR131 Keskin Array S 72.23 36 *i* P **P 21 27 24.2 +0.6**
BRTR Keskin Array B 72.23 36 P **P 21 27 23.2 -0.4**
BRTR Keskin Array B 72.23 36 P **P 21 27 24.5 +0.9**
comp=Z,20nm,1.2s,baz=212,slow=8.0,SNR=44
comp=Z,20nm,1.2s
MARR Marisel-Cluj 72.23 26 ⇑P **P 21 27 24.0 +0.6**
NEUB Neuenburg 72.24 16 *e*P **P 21 27 23.2 0.0**
comp=Z,28nm,0.8s,baz=204,slow=6.1
IBBN Ibbenburen 72.26 14 *e*P **P 21 27 23.4 +0.1**
comp=Z,22nm,1.0s,baz=204,slow=6.1
QSPA South Pole Qui 72.36 180 P **P 21 27 25.5 +1.4**
comp=Z,36nm,1.0s,baz=212,slow=3.2,SNR=37
QSPA LR LR 21 54 03.6
comp=Z,610nm,21.8s,baz=200,slow=32
comp=Z,36nm,1.0s
PVCC Panska Ves 72.43 18 AMS AMS 21 57 50.0
comp=Z,700nm,18.7s
MAUC Maruska 72.47 21 *e*P **P 21 27 25.2 +0.5**
MLR Muntele Rosu 72.51 28 P **P 21 27 24.7 -0.5**
MLR Muntele Rosu 72.51 28 LR LR 22 00 06.2
comp=Z,1μm,20.8s,baz=250,slow=37
MLR Muntele Rosu 72.51 28 ⇓P **P 21 27 25.9 +0.8**
MLR Muntele Rosu 72.51 28 ⇓P **P 21 27 25.9 +0.8**
BRG Berggiesshubel 72.55 18 *e*P **P 21 27 25.4 +0.3**
BRG Amp 21 27 27.7
comp=Z,5.9nm,1.0s
BRG Berggiesshubel 72.55 18 P P 21 27 33.9 +8.8
BRG Amp 21 27 35.0
comp=Z,17nm,1.1s
BRG Berggiesshubel 72.55 18 *e*P **P 21 27 25.4 +0.3**
comp=Z,8.8nm,1.0s,baz=204,slow=6.1
DOPR Dopca 72.63 27 ⇑P **P 21 27 26.3 +0.6**
CLL Collm 72.67 17 P **P 21 27 25.0 -0.8**
CLL Collm 72.67 17 *i* P **P 21 27 25.6 -0.2**
CLL *e*S **S 21 36 53.0 +2.9**
CLL pmax pmax
comp=Z,13nm,1.6s
GAZ Gaziantep 72.67 40 P **P 21 27 26.5 +0.3**
GAZ IAmb IAmb 21 27 37.7
comp=Z,37nm,1.0s
KECS Kecovo 72.67 23 *e*P **P 21 27 27.9 +2.0**
KECS Kecovo 72.67 23 *e*P **P 21 27 27.9 +2.0**
MORC Moravsky Berou 72.72 21 P **P 21 27 25.1 -1.2**
MORC Moravsky Berou 72.72 21 *e*P **P 21 27 26.1 -0.1**
MORC Moravsky Berou 72.72 21 ⇑P **P 21 27 26.4 +0.2**
MORC Moravsky Berou 72.72 21 ⇑P **P 21 27 26.4 +0.2**
KRLC Kraliky 72.73 20 AMS AMS 21 59 00.0
comp=Z,800nm,18.3s
DPC Dobruska-Polom 72.82 20 *e*P **P 21 27 26.9 +0.1**
DPC *ep*P **pP 21 27 31.7 +0.6**
DPC AMS AMS 21 56 40.0
comp=Z,1μm,23.0s
DPC Dobruska-Polom 72.82 20 *e*P **P 21 27 26.9 +0.1**
DPC *e* 21 27 31.7
DPC MLR MLR
comp=Z,1μm,23.0s
DPC Dobruska-Polom 72.82 20 P **P 21 27 26.6 -0.2**
comp=Z,17nm,1.5s
UPC Upice 72.86 19 AMS AMS 21 55 50.0
comp=Z,900nm,20.8s
COVR Voineasa-Covas 72.90 28 ⇑P **P 21 27 27.3 0.0**
OZUR 72.91 28 ⇓P **P 21 27 28.0 +0.6**
BNN Bunyan 72.92 38 P **P 21 27 28.1 +0.3**
STEB Steborice 72.93 21 *e*P **P 21 27 27.6 +0.2**
STEB *ep*P **pP 21 27 32.3 +0.6**
CHVC Chvalec 72.94 19 *e*P **P 21 27 27.6 +0.1**
CHVC *ex* x 21 27 32.4
CHVC Chvalec 72.94 19 *e*P **P 21 27 27.6 +0.1**
CHVC *e* 21 27 32.4
OSTC Ostas 72.96 19 *e*P **P 21 27 28.1 +0.5**
OSTC *ex* x 21 27 32.4
OSTC AMS AMS 21 57 00.0
comp=Z,1μm,20.6s
OSTC Ostas 72.96 19 *e*P **P 21 27 28.1 +0.5**
OSTC *e* 21 27 32.4
OSTC MLR MLR
comp=Z,1μm,20.6s
OKC Ostrava-Krasne 72.98 21 AMS AMS 21 58 50.0
comp=Z,1μm,15.2s
NRDL Niedersach Rie 72.99 15 *e*P **P 21 27 28.4 +0.8**
comp=Z,24nm,1.0s,baz=204,slow=6.1
FLTG Flechtingen 73.12 16 *e*P **P 21 27 29.3 +0.9**
comp=Z,8.8nm,0.9s,baz=204,slow=6.1
VRI Vrincioaia 73.15 28 ⇑P **P 21 27 29.0 +0.2**
VRI Vrincioaia 73.15 28 ⇑P **P 21 27 29.0 +0.2**
ILGA Ilgaz 73.17 36 P **P 21 27 29.3 -0.1**
ILGA IAmb IAmb 21 27 40.2
comp=Z,55nm,1.0s
ILGA IAMs_20 IAMs_20 22 03 39.2
comp=Z,820nm,19.0s
BMR Baia Mare 73.18 25 ⇑P **P 21 27 29.0 +0.1**
BMR Baia Mare 73.18 25 ⇑P **P 21 27 29.0 +0.1**
KSP Ksiaz 73.24 19 *e*P **P 21 27 28.9 -0.3**
KSP Ksiaz 73.24 19 P **P 21 27 29.0 -0.2**
comp=Z,15nm,1.7s
NIE Niedzica 73.38 22 *e*P **P 21 27 31.0 +0.9**
NIE Niedzica 73.38 22 P **P 21 27 30.8 +0.7**
comp=Z,4.4nm,1.4s
EKA Eskdalemuir Ar 73.40 6 P **P 21 27 29.9 -0.1**
comp=Z,10nm,1.2s,baz=170,slow=5.9,SNR=3.6
comp=Z,10nm,1.2s

BUR08 Bucovina Ar. S 73.86 26 **P 21 27 33.5 +0.5**
OJC Ojcow 73.87 22 *e*P **P 21 27 32.9 -0.1**
OJC Ojcow 73.87 22 P **P 21 27 31.4 -1.5**
OJC Ojcow 73.87 22 P **P 21 27 31.4 -1.5**
OJC pmax pmax
comp=Z,15nm,0.9s
BZK Bozkurt 73.95 35 IAMs_20 IAMs_20 22 02 25.7
comp=Z,1μm,20.0s
TOKA Tokat 74.25 38 P **P 21 27 35.2 -0.3**
BSEG Bad Segeberg 74.36 14 *e*P **P 21 27 36.4 +0.7**
comp=Z,22nm,0.8s,baz=204,slow=6.1
DIKM Dikmen 74.43 36 ⇑P **P 21 27 37.7 +1.3**
KWP Kalwaria Pacla 74.45 24 *e*P **P 21 27 35.8 -0.6**
KWP Kalwaria Pacla 74.45 24 P **P 21 27 35.7 -0.6**
KWP Kalwaria Pacla 74.45 24 P **P 21 27 35.7 -0.6**
KWP pmax pmax
comp=Z,730nm,1.7s
KWP Kalwaria Pacla 74.45 24 P **P 21 27 36.4 +0.1**
comp=Z,28nm,1.9s
ABTO Aybut 74.52 66 P **P 21 27 38.2 +0.7**
MILM Milestii Mici 74.89 29 *e*P **P 21 27 40.0 +1.1**
MILM *e*S **S 21 37 15.0 -0.3**
MILM *e*L L 21 59 23.0
MILM LRM MLR 22 01 28.0
comp=Z,800nm,18.0s
MILM Milestii Mici 74.89 29 ⇓P **P 21 27 38.8 -0.1**
MILM Milestii Mici 74.89 29 ⇓P **P 21 27 38.8 -0.1**
KIS Kishinev 74.95 29 *e*P **P 21 27 40.0 +0.7**
KIS *e*L L 22 22 00.0
KIS LRM MLR 22 22 01.0
comp=Z,400nm,17.0s
KIS Kishinev 74.95 29 *e*P **P 21 27 40.0 +0.7**
KIS *e* 21 27 45.0
KIS MLR MLR
comp=Z,400nm,17.0s
MARD Mardin 75.00 42 P **P 21 27 39.2 -0.8**
RBK Rabkut 75.37 66 P **P 21 27 39.5 -2.9**
SORM Soroca 75.59 28 ⇑P **P 21 27 42.2 -0.7**
SORM Soroca 75.59 28 ⇑P **P 21 27 42.2 -0.7**
SORM Soroca 75.59 28 P **P 21 27 41.7 -1.2**
comp=Z,34nm,1.5s
GKP Gorka Klasztor 75.63 19 *e*P **P 21 27 44.1 +1.1**
SMRA Abu-Samra 75.67 58 P **P 21 27 44.9 +0.9**
DOK Doka 75.76 65 P **P 21 27 46.9 +2.4**
JTS Las Juntas de 75.78 286 IAMs_20 IAMs_20 21 58 34.3
comp=Z,1μm,22.0s
JTS Las Juntas de 75.78 286 LR LR 22 00 17.1
comp=Z,770nm,21.8s,baz=106,slow=35
TRNA Turayna 75.98 58 P **P 21 27 48.4 +2.7**
SLWR Sila 76.07 59 P **P 21 27 47.1 +0.9**
DMTO DMTO 76.10 66 P **P 21 27 45.2 -1.3**
SIRT Sirnak 76.18 43 P **P 21 27 47.6 +1.0**
SHMA Al-Shehemyia 76.30 57 P **P 21 27 45.4 -2.0**
KOPT Kop Dagi 76.45 40 P **P 21 27 48.7 +0.2**
KOPT IAmb IAmb 21 28 00.0
comp=Z,52nm,1.0s
KOPT IAMs_20 IAMs_20 22 00 57.6
comp=Z,704nm,20.0s
GURO Guroymak-BITLI 76.53 42 P **P 21 27 48.7 0.0**
ACON Acoyapa 76.59 287 IAMs_20 IAMs_20 21 59 09.8
comp=Z,876nm,20.0s
GHWR Ruwais 76.99 59 P **P 21 27 48.7 -2.7**
GEVA Gevas 77.05 42 P **P 21 27 52.4 +0.7**
GEVA IAmb IAmb 21 28 03.2
comp=Z,52nm,1.2s
GEVA IAMs_20 IAMs_20 21 59 44.4
comp=Z,821nm,21.0s
MZR Muzera 77.07 61 P **P 21 27 52.6 +0.6**
SNR=7.2
BOAB BOACO BROADBAN 77.22 288 P **P 21 27 52.7 -0.2**
BOAB BOACO BROADBAN 77.22 288 P **P 21 27 56.1 +3.2**
JRN Qarnain Island 77.40 59 P **P 21 27 54.2 +0.5**
MZWR Madinat Zayed 77.73 60 P **P 21 27 57.5 +2.0**
KIEV Kiev 77.89 26 P **P 21 27 55.0 -0.9**
KIEV IAmb IAmb 21 28 05.1
comp=Z,29nm,0.8s
KIEV Kiev 77.89 26 ⇓P **P 21 27 55.6 -0.2**
KIEV Kiev 77.89 26 ⇓P **P 21 27 55.6 -0.2**
KIEV Kiev 77.89 26 *i* P **P 21 27 55.0 -0.9**
SNR=11
KIEV Kiev 77.89 26 P **P 21 27 55.6 -0.2**
comp=Z,165nm,0.8s
AKASG Malin Array Be 77.90 26 P **P 21 27 55.2 -0.7**
AKASG Malin Array Be 77.90 26 P **P 21 27 55.4 -0.6**
comp=Z,5.4nm,0.5s,baz=226,slow=5.4,SNR=53
AKASG LR LR 22 02 20.7
comp=Z,251nm,21.8s,baz=236,slow=36
comp=Z,5.4nm,0.5s
AKBB Malin Array Si 77.90 26 P **P 21 27 55.0 -1.0**
AKBB IAmb IAmb 21 28 05.1
comp=Z,33nm,0.8s
AKBB Malin Array Si 77.90 26 *ce*P **P 21 27 55.5 -0.4**
AKBB pmax pmax
comp=Z,39nm,0.8s
SUW Suwalki 78.18 21 *e*P **P 21 27 57.9 +0.5**
SUW Suwalki 78.18 21 P **P 21 27 57.0 -0.4**
SUW IAmb IAmb 21 28 07.0
comp=Z,45nm,1.0s
SUW Suwalki 78.18 21 P **P 21 27 57.0 -0.4**
SUW pmax pmax
comp=Z,45nm,1.0s
SOC Sochi 78.19 37 *e*P **P 21 27 53.5 -4.2**
SOC *e* 21 30 56.0
SOC *e*PPP PPP 21 32 39.0
SOC *e*S **S 21 37 46.4 -5.3**
SOC *e*SS **SS 21 43 02.0 +7.7**
SOC *e*SSS SSS 21 46 14.7
HERN Volcan Telica 78.34 287 IAMs_20 IAMs_20 21 58 42.9
comp=Z,1μm,22.0s
UMZA Um Al Zommool 78.35 61 P **P 21 28 00.3 +1.3**
KARS Kars 78.40 40 P **P 21 27 57.6 -1.5**
KARS Kars 78.40 40 P **P 21 27 57.6 -1.5**
KARS pmax pmax
comp=Z,170nm,1.5s
SOR Soroa 78.94 298 P **P 21 28 02.5 +0.2**
SOR IAmb IAmb 21 28 13.4
comp=Z,44nm,1.1s
SOR Soroa 78.94 298 P **P 21 28 02.5 +0.2**
SOR pmax pmax
comp=Z,44nm,1.1s
AJN Ajban 78.98 60 P **P 21 28 05.2 +2.7**
NAX Nakhchivan 79.10 43 P **P 21 28 04.0 +1.0**
GNI Garni 79.17 42 P **P 21 28 03.1 -0.3**
GNI IAmb IAmb 21 28 14.6
comp=Z,64nm,1.2s
GNI Garni 79.17 42 LR LR 22 01 46.3
comp=Z,308nm,21.0s,baz=248,slow=35
GNI Garni 79.17 42 P **P 21 28 05.0 +1.6**
GNI S S 21 37 39.6 -23
GNI Garni 79.17 42 *i* P **P 21 28 03.5 +0.1**
GNI pmax pmax
comp=Z,62nm,1.2s
GNI Garni 79.17 42 P **P 21 28 03.5 +0.1**
GNI Garni 79.17 42 P **P 21 28 04.2 +0.8**
comp=Z,590nmcomp=Z,45nm,1.1s
TGUH Tegucigalpa,Un 79.26 289 IAMs_20 IAMs_20 22 02 16.5
comp=Z,748nm,20.0s
ASUD Al Ashush, Dub 79.29 60 P **P 21 28 03.0 -1.2**
ALNE Al Ain 79.40 60 P **P 21 28 06.9 +2.0**
SNR=6.1
ALNE Al Ain 79.40 60 *i* P **P 21 28 06.0 +1.1**
SNR=5.4
KONO Kongsberg 79.48 12 P **P 21 28 05.7 +1.3**
KONO IAmb IAmb 21 29 20.2
comp=Z,90nm,1.8s
KONO Kongsberg 79.48 12 P **P 21 28 05.7 +1.3**
KONO pmax pmax
comp=Z,90nm,1.8s
PABE Paberze 79.66 21 P **P 21 28 04.7 -0.8**
NAZ Nazwa, Dubai 79.72 60 P **P 21 28 08.9 +2.4**
SNR=7.0
ARQ Araqi 79.75 61 P **P 21 28 08.3 +1.6**
SNR=7.2
ASHO Ashiyiah 79.92 60 P **P 21 28 07.9 +0.2**
M63A Gales Ferry 79.95 319 P **P 21 28 07.6 +0.2**
M63A IAmb IAmb 21 28 18.2
comp=Z,60nm,1.1s
HATD Hatta, Dubai 80.04 60 P **P 21 28 09.1 +0.8**
HATD Hatta, Dubai 80.04 60 P **P 21 28 09.6 +1.3**
BSY Bisya 80.07 62 P **P 21 28 09.7 +1.1**
BATG Bathurst New B 80.07 327 P **P 21 28 08.0 0.0**
SOHO SOHO 80.08 61 P **P 21 28 11.0 +2.4**
SOHO SOHO 80.08 61 *i* P **P 21 28 09.9 +1.4**
SNR=6.1

KBZ Khabaz 80.11 38 P **P 21 28 08.9 +0.7**
comp=Z,6.9nm,1.0s,baz=255,slow=5.4,SNR=11
comp=Z,6.9nm,1.0s
KBZ Khabaz 80.11 38 *ce*P **P 21 28 08.8 +0.6**
KBZ pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 80.12 38 P **P 21 28 08.0 -0.4**
KIV IAmb IAmb 21 28 19.8
comp=Z,69nm,1.4s
KIV Kislovodsk 80.12 38 ⇑P **P 21 28 09.3 +0.9**
KIV Kislovodsk 80.12 38 *e*P **P 21 28 07.7 -0.7**
KIV *e*S **S 21 38 13.1 +0.7**
KIV *e*SS **SS 21 43 23.3 -0.3**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV Kislovodsk 80.12 38 *i* P **P 21 28 08.6 +0.2**
SNR=9.5
KIV Kislovodsk 80.12 38 P **P 21 28 09.3 +0.9**
comp=Z,21nm,0.8s
UOSS Minazif 80.15 60 P **P 21 28 09.3 +0.4**
UOSS Minazif 80.15 60 IAMs_20 IAMs_20 22 00 51.7
comp=Z,533nm,20.0s
UOSS Minazif 80.15 60 P **P 21 28 10.6 +1.7**
MNK Minsk 80.26 23 *i* P **P 21 28 08.1 -0.6**
MNK *i* 21 28 14.1
MNK *i* 21 31 12.0
MNK *i* PPP PPP 21 32 58.3
MNK *i* S **S 21 38 11.2 -2.0**
MNK *i* SS **SS 21 43 21.4 -3.5**
MNK *i* SSS SSS 21 46 47.5
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=N,278nm,18.0s
MNK MLR MLR
comp=Z,475nm,18.0s
MNK MLR MLR
comp=E,570nm,20.0s
HRV Adam Dziewonsk 80.28 321 P **P 21 28 09.0 -0.2**
HRV IAmb IAmb 21 28 20.2
comp=Z,62nm,1.0s
HRV Adam Dziewonsk 80.28 321 ⇑P **P 21 28 10.9 +1.7**
UCCT U. Connecticut 80.28 320 P **P 21 28 10.0 +0.8**
UCCT IAmb IAmb 21 28 20.2
comp=Z,61nm,1.1s
MASF Masafi 80.29 59 P **P 21 28 12.0 +2.4**
MDH Madha 80.38 60 P **P 21 28 12.6 +2.6**
NCK Nalchik 80.38 38 *i* P **P 21 28 10.1 +0.4**
NCK pmax pmax
comp=Z,55nm,1.1s
F64A Sherman 80.42 325 P **P 21 28 10.5 +0.7**
F64A IAmb IAmb 21 28 20.6
comp=Z,33nm,0.9s
GANJ Ganja 80.44 42 P **P 21 28 11.4 +1.2**
HOQ Hoqain 80.51 62 P **P 21 28 13.3 +2.4**
SHME Shamm 80.56 59 P **P 21 28 12.3 +1.3**
SNR=8.2
SHME Shamm 80.56 59 P **P 21 28 11.8 +0.7**
WSPT Westport, CT 80.62 319 P **P 21 28 11.6 +0.6**
WSPT IAmb IAmb 21 28 22.3
comp=Z,40nm,1.0s
JMDO Jabal Madar 80.69 63 P **P 21 28 15.0 +3.2**
HFS Hagfors 80.77 13 P **P 21 28 10.4 -1.0**
comp=Z,3.2nm,0.7s,baz=184,slow=8.7,SNR=7.0
comp=Z,3.2nm,0.7s
PAL Palisades 80.90 318 P **P 21 28 12.4 -0.1**
PAL Palisades 80.90 318 P **P 21 28 12.4 -0.1**
PAL pmax pmax
comp=Z,30nm,1.1s
SMDO Samad 80.92 62 P **P 21 28 16.2 +3.1**
L61B Northampton 80.93 320 P **P 21 28 11.7 -1.0**
L61B IAmb IAmb 21 28 23.8
comp=Z,41nm,1.1s
GOF Gofitskoye 80.98 37 *ce*P **P 21 28 13.6 +0.7**
NBO00 NORSAR Array S 80.98 12 P **P 21 28 12.7 +0.2**
NBO00 IAmb IAmb 21 30 45.0
comp=Z,115nm,2.0s
MNGR Mingechevir, A 81.00 42 P **P 21 28 14.2 +1.1**
LKRN Lenkeran, Azer 81.02 45 P **P 21 28 14.2 +1.0**
NB2 NORSAR Subarra 81.08 12 P **P 21 28 13.5 +0.4**
comp=Z,20nm,1.4s,baz=203,slow=5.9
NOA NORSAR Array B 81.08 12 P **P 21 28 13.6 +0.6**
comp=Z,2.7nm,1.0s,baz=205,slow=5.5,SNR=6.1
comp=Z,2.7nm,1.0s
TRNY Table Rock, Ra 81.17 318 P **P 21 28 13.2 -0.8**
TRNY IAmb IAmb 21 28 25.2
comp=Z,41nm,1.1s
T59A Double "B" Far 81.22 313 P **P 21 28 13.6 -0.7**
T59A IAmb IAmb 21 28 17.6
comp=Z,47nm,1.3s
H62A Milan 81.23 322 P **P 21 28 13.4 -0.8**
H62A IAmb IAmb 21 28 25.8
comp=Z,30nm,0.9s
G62A West of Eustis 81.25 323 P **P 21 28 14.1 -0.2**
G62A IAmb IAmb 21 28 24.9
comp=Z,89nm,1.5s
MTO3 Montecristo 81.27 288 P **P 21 28 13.8 -1.5**
MTO3 IAMs_20 IAMs_20 21 59 48.7
comp=Z,1μm,22.0s
NC303 NORSAR Array S 81.28 12 P **P 21 28 14.0 -0.1**
NC303 IAmb IAmb 21 28 26.0
comp=Z,43nm,1.2s
SEKA Sheki 81.31 42 P **P 21 28 16.1 +1.3**
J61A Chester 81.36 321 P **P 21 28 15.5 +0.5**
J61A IAmb IAmb 21 28 26.2
comp=Z,34nm,1.0s
ODNJ Ogdensburg 81.38 318 P **P 21 28 13.9 -1.2**
WUPA West Chester U 81.42 317 P **P 21 28 15.9 +0.7**
WSAR Wadi Sarin 81.48 62 LR LR 22 03 49.1
comp=Z,1μm,19.0s,baz=260,slow=35
WBK Wadi Bani Khal 81.52 63 P **P 21 28 19.7 +3.5**
E62A Clayton Lake 81.52 325 P **P 21 28 15.8 0.0**
E62A IAmb IAmb 21 28 26.6
comp=Z,34nm,1.0s
LUPA Lehigh Univers 81.62 317 P **P 21 28 15.4 -0.9**
TRY Troy 81.69 320 P **P 21 28 16.0 -0.7**
TRY IAmb IAmb 21 28 28.0
comp=Z,49nm,1.1s
V58A Windy Hill, Pi 81.74 312 P **P 21 28 14.4 -2.7**
V58A IAmb IAmb 21 28 21.9
comp=Z,94nm,1.9s
JASK Jask - Hormozg 81.90 60 P **P 21 28 22.1 +3.9**
JASK S S 21 37 59.4 -32
R58B Mineral 81.93 314 P **P 21 28 18.4 +0.4**
MVL Millersville 81.94 316 P **P 21 28 18.3 +0.2**
MVL IAMs_20 IAMs_20 21 55 18.3
comp=Z,615nm,21.0s
SDMD Soldier's Deli 81.96 316 P **P 21 28 17.1 -1.1**
VT1 Waterbury 82.03 322 P **P 21 28 18.4 -0.1**
ACCN Adirondack Com 82.05 320 P **P 21 28 15.9 -2.7**
ACCN IAmb IAmb 21 28 22.1
comp=Z,44nm,1.6s
W57A Gilead 82.06 311 P **P 21 28 17.4 -1.4**
W57A IAmb IAmb 21 28 29.7
comp=Z,44nm,1.2s
ICQ Pointe Anglais 82.13 328 P **P 21 28 16.1 -2.7**
KSPA Keystone Colle 82.38 318 P **P 21 28 20.6 +0.2**
KSPA IAmb IAmb 21 28 24.2
comp=Z,48nm,1.4s
TEIG Tepich 82.43 294 IAMs_20 IAMs_20 22 00 24.3
comp=Z,540nm,20.0s
MAK Makhachkala 82.45 40 *c i*P P 21 28 15.5 -5.1
MAK *e* 21 31 27.8
MAK *e*PPP PPP 21 33 17.0
MAK *e*S **S 21 38 28.9 -7.5**
MAK *e*SS **SS 21 44 00.3 +2.3**
MAK *e*SSS SSS 21 47 23.7
MAK pmax pmax
comp=Z,107nm,1.0s
MAK MLR MLR
comp=Z,322nm,18.0s
LMQ La Malbaie 82.52 325 P **P 21 28 21.1 +0.2**
BORG Borgarnes 82.52 357 LR LR 21 58 19.4
comp=Z,437nm,21.2s,baz=164,slow=31
S57A Dark Hollow, R 82.57 313 P **P 21 28 21.0 -0.4**
S57A IAmb IAmb 21 28 33.3
comp=Z,100nm,2.0s
JSC Jenkinsville 82.58 309 P **P 21 28 20.2 -1.3**
JSC IAmb IAmb 21 28 32.1
comp=Z,42nm,1.3s
JSC Jenkinsville 82.58 309 P **P 21 28 20.3 -1.3**

JSC pmax pmax
comp=Z,42nm,1.3s
J59A Piesco 82.61 320 P **P** **21 28 20.2 -1.3**
J59A IAmb IAmb 21 28 32.3
comp=Z,26nm,1.0s
N58A Sunbury 82.61 317 P **P** **21 28 20.0 -1.6**
VORD Divnogorie 82.66 31 *e*P **P** **21 28 21.0 -0.5**
VORD pmax pmax
comp=Z,10.0nm,0.9s
NCB Newcomb 82.71 321 P **P** **21 28 22.0 0.0**
VSR Storozhevoye 82.76 30 *e*P **P** **21 28 20.8 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
P57A Homestead Farm 82.78 315 P **P** **21 28 21.7 -0.8**
FRNY Flat Rock 82.81 322 P **P** **21 28 21.4 -1.1**
FRNY IAmb IAmb 21 28 32.5
comp=Z,66nm,1.9s
BINY Binghamton 82.85 318 P **P** **21 28 21.8 -1.1**
BINY IAmb IAmb 21 28 34.0
comp=Z,39nm,1.2s
U56A King 82.90 312 P **P** **21 28 20.8 -2.4**
U56A IAmb IAmb 21 28 34.8
comp=Z,47nm,1.3s
KMSC Kings Mountain 83.03 310 P **P** **21 28 23.1 -0.7**
KMSC IAmb IAmb 21 28 34.3
comp=Z,42nm,1.4s
VORR Voronezh 83.07 30 *i*P **P** **21 28 24.0 +0.3**
VORR pmax pmax
comp=Z,64nm,1.7s
M57A Sunshine Farm, 83.14 317 P **P** **21 28 23.4 -0.9**
PAULI Pauline 83.23 310 P **P** **21 28 24.9 0.0**
PAULI IAmb IAmb 21 28 35.5
comp=Z,29nm,1.3s
LDAQ Lac Daran 83.26 325 P **P** **21 28 25.4 +0.5**
LDAQ IAmb IAmb 21 28 34.9
comp=Z,29nm,0.8s
V55A Taylorsville 83.27 311 P **P** **21 28 24.4 -0.7**
V55A IAmb IAmb 21 28 35.9
comp=Z,41nm,1.4s
SSPA Standing Stone 83.28 316 P **P** **21 28 24.8 -0.2**
SSPA IAmb IAmb 21 28 35.2
comp=Z,88nm,1.9s
LONY Lake Ozonia 83.28 321 P **P** **21 28 23.4 -1.6**
HODGE Hodges 83.29 309 P **P** **21 28 24.4 -0.9**
Q56A Snyder Ridge, 83.36 314 P **P** **21 28 25.5 0.0**
K57A Scipio Center 83.47 319 P **P** **21 28 25.8 -0.2**
K57A IAmb IAmb 21 28 37.5
comp=Z,61nm,1.5s
J57A Williamstown 83.50 319 P **P** **21 28 25.4 -0.7**
J57A IAmb IAmb 21 28 36.9
comp=Z,24nm,0.8s
LPSR Galich'ya Gora 83.54 29 *e*P **P** **21 28 26.3 +0.2**
LPSR pmax pmax
comp=Z,73nm,1.6s
L56A Greenwood 83.82 318 P **P** **21 28 28.0 +0.2**
L56A IAmb IAmb 21 28 43.3
comp=Z,30nm,0.9s
WBO Williamsburg 83.90 321 P **P** **21 28 28.1 0.0**
VRH Novokhopyorsk 84.00 31 *e*P **P** **21 28 28.3 -0.1**
VRH pmax pmax
comp=Z,75nm,1.7s
U54A Nelsons Funny 84.01 311 P **P** **21 28 29.9 +0.9**
U54A IAmb IAmb 21 28 39.0
comp=Z,55nm,1.3s
MCWV Mont Chateau 84.10 315 P **P** **21 28 29.5 +0.2**
MCWV IAmb IAmb 21 28 33.1
comp=Z,62nm,1.6s
BG3 Lake Jocassee 84.13 309 P **P** **21 28 29.6 +0.1**
BG3 IAmb IAmb 21 28 40.3
comp=Z,42nm,1.3s
TRQ Mont Tremblant 84.14 322 P **P** **21 28 29.1 -0.4**
TRQ IAmb IAmb 21 28 40.2
comp=Z,48nm,1.1s
OBN Obninsk 84.17 26 P **P** **21 28 29.3 +0.1**
OBN IAmb IAmb 21 28 38.5
comp=Z,38nm,1.4s
OBN Obninsk 84.17 26 P **P** **21 28 29.0 -0.1**
comp=Z,6.6nm,0.5s,baz=129,slow=3.7,SNR=4.4
OBN LR LR 22 08 03.8
comp=Z,633nm,18.5s,baz=190,slow=37
comp=Z,6.6nm,0.5s
OBN Obninsk 84.17 26 *ce*P **P** **21 28 29.9 +0.7**
OBN pmax pmax
comp=Z,42nm,2.5s
S54A Dingess, Beckl 84.24 313 P **P** **21 28 29.5 -0.6**
S54A IAmb IAmb 21 28 43.0
comp=Z,34nm,1.3s
V53A Saluda 84.34 310 P **P** **21 28 30.9 +0.2**
V53A IAmb IAmb 21 28 41.0
comp=Z,32nm,1.3s
MMNY Mt. Morris Dam 84.34 318 P **P** **21 28 31.0 +0.5**
PECO Prince Edward 84.39 320 P **P** **21 28 30.3 -0.3**
PECO IAMs_20 IAMs_20 21 57 30.9
comp=Z,643nm,19.0s
NGCH Negor - Chabah 84.41 61 P **P** **21 28 35.0 +3.9**
CCIG Comitan 84.44 289 IAMs_20 IAMs_20 22 04 48.6
comp=Z,998nm,21.0s
WVNY West Valley, N 84.63 318 P **P** **21 28 31.4 -0.5**
WVNY IAmb IAmb 21 28 47.6
comp=Z,31nm,1.1s
O54A Avella 84.71 315 P **P** **21 28 31.3 -1.1**
VNDA Vanda 84.82 179 P **P** **21 28 31.7 -0.6**
VNDA Vanda 84.82 179 P **P** **21 28 33.5 +1.1**
comp=Z,12nm,0.9s,baz=187,slow=2.7,SNR=6.0
VNDA LR LR 22 01 08.6
comp=Z,757nm,21.5s,baz=178,slow=32
comp=Z,12nm,0.9s
VNDA Vanda 84.82 179 P **P** **21 28 31.7 -0.6**
VNDA pmax pmax
comp=Z,123nm,1.9s
MEDO Medina 84.91 318 P **P** **21 28 32.8 -0.4**
MOS Moscow 85.03 26 *e*P **P** **21 28 32.3 -1.3**
MOS pmax pmax
comp=Z,33nm,0.8s
MOS MLR MLR
comp=Z,800nm,20.0s
TKL Tuckaleechee C 85.04 310 P **P** **21 28 34.0 -0.1**
comp=Z,5.7nm,1.0s,baz=91,slow=7.7,SNR=3.5
TKL LR LR 21 58 20.2
comp=Z,321nm,21.7s,baz=140,slow=30
comp=Z,5.7nm,1.0s
TKL Tuckaleechee C 85.04 310 P **P** **21 28 34.0 -0.1**
DELO Deloro Mine 85.07 320 P **P** **21 28 33.6 -0.4**
FINES FINESS Array B 85.09 18 P **P** **21 28 34.0 +0.2**
comp=Z,5.0nm,0.8s,baz=220,slow=3.6,SNR=12
FINES LR LR 22 05 58.4
comp=Z,831nm,20.6s,baz=234,slow=35
comp=Z,5.0nm,0.8s
FINES FINESS Array B 85.09 18 P **P** **21 28 34.0 +0.2**
FIA1 FINESS Array S 85.09 18 P **P** **21 28 34.1 +0.3**
ALLY Alegheny Colle 85.26 316 P **P** **21 28 34.3 -0.8**
O53A New Philadelph 85.31 315 P **P** **21 28 34.7 -0.6**
SCHQ Schefferville 85.31 332 P **P** **21 28 34.6 -0.5**
SCHQ IAmb IAmb 21 28 54.6
comp=Z,40nm,1.7s
SCHQ Schefferville 85.31 332 P **P** **21 28 34.9 -0.1**
comp=Z,2.3nm,0.9s,baz=152,slow=5.2,SNR=2.5
SCHQ LR LR 22 00 53.0
comp=Z,477nm,20.0s,baz=124,slow=32
comp=Z,2.3nm,0.9s
N53A Lisbon 85.32 315 P **P** **21 28 35.0 -0.4**
N53A IAmb IAmb 21 28 46.8
comp=Z,44nm,1.4s
ERPA Erie 85.38 317 P **P** **21 28 35.5 -0.2**
ERPA IAmb IAmb 21 28 40.9
comp=Z,36nm,1.1s
P52A Corning 85.65 314 P **P** **21 28 35.4 -1.6**
O52A Adamsville 85.67 314 P **P** **21 28 38.0 +0.9**
FPAL Fort Paine 85.92 308 P **P** **21 28 37.2 -1.4**
SSFO Shawnee State 85.97 313 P **P** **21 28 38.6 0.0**
M52A Chesterland 86.01 316 P **P** **21 28 37.7 -1.1**
M52A IAmb IAmb 21 28 49.6
comp=Z,90nm,1.8s
SADO Sadowa 86.14 319 P **P** **21 28 37.5 -1.9**
SADO IAmb IAmb 21 28 49.9
comp=Z,32nm,1.1s
SADO Sadowa 86.14 319 LR LR 21 58 54.3
comp=Z,329nm,21.9s,baz=88,slow=30
P51A Williamsport 86.22 313 P **P** **21 28 38.4 -1.5**
P51A IAmb IAmb 21 28 49.6
comp=Z,41nm,1.3s
LRAL Lakeview Retre 86.36 306 P **P** **21 28 39.8 -1.0**
N51A Ashland 86.40 315 P **P** **21 28 40.4 -0.4**
N51A IAmb IAmb 21 28 52.4
comp=Z,58nm,1.4s

SWET Sewanee 86.45 309 P **P** **21 28 40.6 -0.6**
SWET IAmb IAmb 21 28 50.7
comp=Z,30nm,1.2s
CASY Casey 86.45 160 PP **PP** **21 32 00.7 -0.8**
ACSO Alum Creek Sta 86.50 314 P **P** **21 28 40.6 -0.7**
ACSO IAmb IAmb 21 28 51.3
comp=Z,67nm,1.5s
VLDQ Val d'Or 86.82 323 P **P** **21 28 42.7 +0.1**
M50A Fremont 87.07 315 P **P** **21 28 42.5 -1.5**
M50A IAmb IAmb 21 28 53.8
comp=Z,57nm,1.4s
CLTN Cedars of Leba 87.10 309 P **P** **21 28 44.4 0.0**
CMIG Matias Romero 87.19 289 P **P** **21 28 45.0 -0.1**
comp=Z,10nm,1.0s,baz=105,slow=3.2,SNR=12
CMIG LR LR 22 08 29.6
comp=Z,460nm,20.6s,baz=160,slow=36
comp=Z,10nm,1.0s
V48A Smith Brothers 87.32 309 P **P** **21 28 45.0 -0.4**
P49A Miami Univ. Ec 87.39 313 P **P** **21 28 45.1 -0.6**
P49A IAmb IAmb 21 28 54.8
comp=Z,35nm,1.2s
K50A Casco 87.41 317 P **P** **21 28 45.7 +0.1**
K50A IAmb IAmb 21 28 57.4
comp=Z,42nm,1.3s
N49A Columbus Grove 87.63 314 P **P** **21 28 44.9 -1.8**
N49A IAmb IAmb 21 28 56.3
comp=Z,41nm,1.3s
BELG Belogornoye 87.67 33 P **P** **21 28 47.8 +1.2**
comp=Z,9.9nm,0.7s,baz=76,slow=5.1,SNR=2.7
BELG LR LR 22 09 38.3
comp=Z,323nm,19.8s,baz=248,slow=37
comp=Z,9.9nm,0.7s
BELG Belogornoye 87.67 33 *i*P **P** **21 28 46.8 +0.2**
BELG pmax pmax
comp=Z,9.0nm,1.3s
WCI Wyandotte Cave 87.96 311 P **P** **21 28 46.9 -1.5**
WCI IAmb IAmb 21 28 57.1
comp=Z,23nm,0.8s
WCI Wyandotte Cave 87.96 311 P **P** **21 28 46.9 -1.5**
WCI pmax pmax
comp=Z,23nm,0.8s
O48B Farmland 88.01 313 P **P** **21 28 49.2 +0.7**
WVT Waverly 88.23 309 P **P** **21 28 48.4 -1.3**
WVT IAmb IAmb 21 28 59.0
comp=Z,44nm,1.2s
WVT Waverly 88.23 309 P **P** **21 28 48.4 -1.3**
WVT pmax pmax
comp=Z,44nm,1.3s
SCO Scoresbysund 88.27 357 P **P** **21 28 49.5 +0.4**
SCO IAmb IAmb 21 29 02.2
comp=Z,23nm,1.1s
SCO Scoresbysund 88.27 357 P **P** **21 28 49.5 +0.4**
SCO pmax pmax
comp=Z,23nm,1.1s
BLO Bloomington 88.51 312 P **P** **21 28 48.8 -2.2**
BLO IAmb IAmb 21 29 00.8
comp=Z,26nm,1.0s
BLO Bloomington 88.51 312 P **P** **21 28 48.8 -2.2**
BLO pmax pmax
comp=Z,26nm,1.0s
N47A Urbana 88.64 314 P **P** **21 28 50.4 -1.2**
N47A IAmb IAmb 21 29 05.9
comp=Z,20nm,0.9s
VBMS Vicksburg 88.78 304 P **P** **21 28 52.3 -0.1**
VBMS IAmb IAmb 21 29 02.8
comp=Z,37nm,0.9s
USIN University of 88.84 311 P **P** **21 28 51.9 -0.7**
SFJD Kangerlussuaq 88.90 346 P **P** **21 28 53.2 +1.2**
SFJD Kangerlussuaq 88.90 346 LR LR 22 01 42.5
comp=Z,216nm,19.0s,baz=156,slow=31
SFJD Kangerlussuaq 88.90 346 P **P** **21 28 53.3 +1.2**
SFJD pmax pmax
comp=Z,18nm,1.0s
J47A Sunmer 89.06 316 P **P** **21 28 53.5 0.0**
KLMR Klimovskoe 89.16 23 *e*P **P** **21 28 51.3 -2.2**
KLMR *e* 21 32 23.9
KLMR pmax pmax
comp=Z,32nm,1.6s
GLAT Glass 89.37 308 P **P** **21 28 54.2 -0.8**
OLIL Olney 89.46 311 P **P** **21 28 55.1 -0.3**
L46A Eue Claire 89.53 315 P **P** **21 28 54.9 -0.7**
PEBM Pemiscott Bayo 89.74 308 P **P** **21 28 57.6 +0.8**
GNAR Gosnell 89.80 308 P **P** **21 28 57.5 +0.4**
PARMO Parma 89.86 309 P **P** **21 28 58.4 +1.0**
SIUC Southern Illin 89.87 310 P **P** **21 28 56.6 -0.8**
CGM3 Cape Girardeau 90.04 309 P **P** **21 28 58.5 +0.3**
CGM3 IAmb IAmb 21 29 07.5
comp=Z,40nm,1.3s
E46A Sault Ste Mari 90.09 319 P **P** **21 28 57.9 -0.3**
PBMO Poplar Bluff 90.41 309 P **P** **21 29 01.4 +1.5**
M44A Midewin, Midew 90.47 314 P **P** **21 29 00.7 +0.6**
M44A IAmb IAmb 21 29 09.6
comp=Z,58nm,1.5s
TLIG Tlapa 90.67 288 P **P** **21 29 01.4 -0.3**
LCAR Lake Charles 90.69 308 P **P** **21 29 01.5 +0.2**
LCAR IAmb IAmb 21 29 11.3
comp=Z,45nm,1.5s
FVM French Village 90.86 310 P **P** **21 29 02.6 +0.7**
FVM French Village 90.86 310 P **P** **21 29 02.7 +0.7**
FVM pmax pmax
comp=Z,114nm,1.7s
SLM Saint Louis 90.96 310 P **P** **21 29 03.4 +1.0**
SLM IAmb IAmb 21 29 12.0
comp=Z,34nm,1.0s
SLM Saint Louis 90.96 310 P **P** **21 29 03.4 +1.0**
SLM pmax pmax
comp=Z,34nm,1.0s
T42A Van Buren 91.00 309 P **P** **21 29 03.2 +0.5**
T42A IAmb IAmb 21 29 12.0
comp=Z,37nm,1.4s
HDIL Hopedale 91.02 312 P **P** **21 29 03.1 +0.4**
UALR University of 91.13 306 P **P** **21 29 03.5 +0.2**
K43A Burlington 91.19 315 P **P** **21 29 03.0 -0.4**
K43A IAmb IAmb 21 29 13.4
comp=Z,54nm,1.6s
WHAR Wooly Hollow 91.27 307 P **P** **21 29 04.3 +0.3**
WLAR White Oak Lake 91.34 305 P **P** **21 29 04.5 +0.2**
FCAR Ozark Folk Cen 91.36 307 P **P** **21 29 04.2 -0.2**
FCAR IAmb IAmb 21 29 14.1
comp=Z,19nm,1.0s
X40A Basin Creek Fa 91.41 306 P **P** **21 29 05.1 +0.5**
ARCES ARCESS Array B 91.42 13 LR LR 22 09 20.9
comp=Z,710nm,21.0s,baz=237,slow=35
CCM Cathedral Cave 91.49 310 P **P** **21 29 05.0 +0.1**
CCM Cathedral Cave 91.49 310 P **P** **21 29 05.0 +0.1**
CCM pmax pmax
comp=Z,112nm,1.5s
H43A Windswept, Lux 91.51 316 P **P** **21 29 04.1 -0.8**
H43A IAmb IAmb 21 29 14.7
comp=Z,39nm,1.5s
FRB Frobisher Bay 91.67 339 LR LR 22 05 55.0
comp=Z,113nm,18.0s,baz=120,slow=33
APA Apatity 91.81 16 ||*i*P P 21 28 47.9 -18
APA pmax pmax
comp=Z,9.0nm,1.3s
APA MLR MLR
comp=Z,1μm,18.0s
L42A Oliver, Polo 91.83 314 P **P** **21 29 06.3 -0.1**
KIRV Kirov 91.87 28 P **P** **21 29 06.7 +0.6**
comp=Z,4.7nm,0.5s,baz=207,slow=2.3,SNR=5.4
KIRV LR LR 22 12 47.8
comp=Z,813nm,18.7s,baz=258,slow=37
comp=Z,4.7nm,0.5s
KIRV Kirov 91.87 28 *ce*P **P** **21 29 08.0 +1.9**
MGMO Mountain Grove 91.92 308 P **P** **21 29 06.6 -0.4**
MGMO IAmb IAmb 21 29 16.8
comp=Z,52nm,1.6s
MIAR Mount Ida 92.00 306 **P** **21 29 07.2 -0.2**
MIAR Mount Ida 92.00 306 P **P** **21 29 07.2 -0.2**
MIAR pmax pmax
comp=Z,11nm,1.2s
I42A Draeger Farm, 92.04 316 P **P** **21 29 07.6 +0.2**
I42A IAmb IAmb 21 29 17.1
comp=Z,24nm,1.2s
N41A Harden Midland 92.18 312 P **P** **21 29 07.7 -0.4**
F42A Maple Grove Fa 92.26 318 P **P** **21 29 08.6 +0.3**
F42A IAMs_20 IAMs_20 21 59 17.4
comp=Z,761nm,22.0s
HKT Hockley 92.26 301 P **P** **21 29 08.4 -0.2**
HKT IAmb IAmb 21 29 19.4
comp=Z,32nm,1.2s
HKT Hockley 92.26 301 *i*P **P** **21 29 08.9 +0.3**
HKT pmax pmax
comp=Z,41nm,1.6s
AKTO Aktyubinsk 92.39 37 LR LR 22 11 31.4

comp=Z,364nm,21.3s,baz=222,slow=36
JFWS Jewell Farm 92.57 314 P **P** **21 29 09.6 -0.2**
JFWS Jewell Farm 92.57 314 P **P** **21 29 09.6 -0.2**
JFWS pmax pmax
comp=Z,90nm,1.9s
HHAR Hobbs 92.88 307 P **P** **21 29 11.3 -0.1**
HHAR IAmb IAmb 21 29 21.6
comp=Z,40nm,1.4s
237A Washetta, Mont 92.91 303 P **P** **21 29 11.4 -0.3**
L40A Anamosa 92.93 313 P **P** **21 29 11.0 -0.5**
ABKAR Akbulak array 93.03 39 P **P** **21 29 11.8 0.0**
ABKAR Akbulak array 93.03 39 P **P** **21 29 11.9 +0.2**
ABKAR IAmb IAmb 21 29 21.8
comp=Z,8.9nm,1.2s
COWI Conover 93.04 318 P **P** **21 29 11.8 -0.2**
COWI IAmb IAmb 21 29 22.1
comp=Z,22nm,1.5s
I40A Norwalk 93.18 315 P **P** **21 29 11.9 -0.7**
I40A IAmb IAmb 21 29 22.3
comp=Z,25nm,1.1s
TREL Terrell 93.38 303 P **P** **21 29 14.8 +1.0**
G40A Rib Lake 93.42 317 **P** **21 29 14.3 +0.7**
G40A IAmb IAmb 21 29 24.2
comp=Z,30nm,1.9s
435B Jarrell 93.96 301 P **P** **21 29 17.2 +0.7**
KBL Kabul 94.06 55 P **P** **21 29 17.2 0.0**
KBL Kabul 94.06 55 P **P** 21 29 23.2 +6.0
KBL Kabul 94.06 55 P **P** **21 29 17.2 0.0**
KBL pmax pmax
comp=Z,16nm,1.9s
SCIA State Center 94.26 313 P **P** **21 29 16.9 -0.8**
FW13 Cleburne 94.33 302 P **P** **21 29 18.0 -0.1**
FW13 IAmb IAmb 21 29 28.0
comp=Z,34nm,1.4s
FW06 Azle 94.62 303 P **P** **21 29 20.2 +0.7**
FW06 IAmb IAmb 21 29 29.2
comp=Z,12nm,0.6s
DEOK Depew 94.69 306 P **P** **21 29 20.2 +0.5**
DEOK IAmb IAmb 21 29 29.4
comp=Z,41nm,1.5s
833A Chaparral WMA, 94.71 298 P **P** **21 29 19.9 -0.1**
W35A Tecumseh 94.76 305 P **P** **21 29 19.6 -0.5**
E38A The Farm, Brul 94.78 317 P **P** **21 29 18.8 -1.1**
E38A IAmb IAmb 21 29 29.2
comp=Z,40nm,1.8s
QUOK Quay 94.95 306 P **P** **21 29 22.0 +1.1**
QUOK IAmb IAmb 21 29 30.7
comp=Z,25nm,1.1s
OK052 Battle Ridge R 94.97 306 P **P** **21 29 21.2 +0.2**
HNDO Hondo 94.98 299 P **P** **21 29 20.9 -0.4**
HNDO IAmb IAmb 21 29 32.0
comp=Z,24nm,1.1s
OK031 S. Brethren Rd 94.99 306 P **P** **21 29 21.2 +0.1**
OK031 IAmb IAmb 21 29 30.8
comp=Z,13nm,0.9s
FW03 Perrin-Whitt E 95.05 303 P **P** **21 29 21.8 +0.3**
FW03 IAmb IAmb 21 29 32.0
comp=Z,41nm,1.7s
ARTI Arti 95.10 32 P **P** **21 29 19.6 -1.5**
ARTI Arti 95.10 32 P **P** **21 29 20.0 -1.1**
comp=Z,3.8nm,0.9s,baz=240,slow=5.6,SNR=4.2
ARTI LR LR 22 12 34.7
comp=Z,301nm,21.8s,baz=246,slow=36
comp=Z,3.8nm,0.9s
ARTI Arti 95.10 32 *c i*P **P** **21 29 19.2 -1.9**
ARTI 21 33 10.7
ARTI S **SKSac** **21 39 55.0 -0.9**
ARTI SS **SS** **21 47 07.3 +5.8**
ARTI pmax pmax
comp=Z,7.0nm,1.1s
ARTI MLR MLR
comp=Z,500nm,23.0s
I37A Lemond, Waseca 95.11 315 P **P** **21 29 21.7 +0.2**
SPMN Marine on St. 95.12 316 P **P** **21 29 20.6 -0.9**
SPMN IAmb IAmb 21 29 30.8
comp=Z,22nm,1.3s
OK051 E0350 and S346 95.16 307 P **P** **21 29 21.8 -0.1**
OK051 IAmb IAmb 21 31 04.3
comp=Z,28nm,1.1s
PLPT Palo Pinto 95.18 303 P **P** **21 29 21.8 -0.3**
PLPT IAmb IAmb 21 29 33.4
comp=Z,16nm,1.2s
BRDY Brady 95.27 301 P **P** **21 29 21.9 -0.6**
BRDY IAmb IAmb 21 29 32.2
comp=Z,17nm,1.2s
SIMJ Simiganj 95.35 51 P **P** **21 29 21.9 -0.9**
CHGR Chuyangaron 95.46 51 P **P** **21 29 22.3 -1.0**
CHGR Chuyangaron 95.46 51 P **P** **21 29 22.3 -1.0**
CHGR pmax pmax
comp=Z,16nm,0.3s
CHGR MLR MLR
comp=Z,1μm,19.0s
BLOK Blackwell 95.53 307 P **P** **21 29 23.5 -0.1**
BLOK IAmb IAmb 21 32 25.0
comp=Z,16nm,1.1s
WTFS Witchita Falls 95.59 304 P **P** **21 29 24.8 +0.9**
JCT Junction City 95.69 300 P **P** **21 29 24.4 -0.1**
JCT IAmb IAmb 21 29 34.9
comp=Z,16nm,0.9s
JCT Junction City 95.69 300 P **P** **21 29 24.4 -0.1**
JCT pmax pmax
comp=Z,16nm,1.0s
DRIO Del Rio 96.06 299 P **P** **21 29 26.1 0.0**
DRIO IAmb IAmb 21 29 36.4
comp=Z,37nm,1.8s
KAN01 Argonia South 96.06 307 P **P** **21 29 25.8 -0.2**
KAN01 IAmb IAmb 21 29 36.2
comp=Z,33nm,1.4s
WMOK Wichita Mounta 96.13 304 P **P** **21 29 25.8 -0.6**
WMOK Wichita Mounta 96.13 304 P **P** **21 29 25.8 -0.6**
WMOK pmax pmax
comp=Z,13nm,1.6s
KAN14 Manchester OK 96.16 307 P **P** **21 29 26.2 -0.2**
GAR Garm 96.42 51 P **P** **21 29 27.1 -0.6**
APMT Aspermont 96.78 303 P **P** **21 29 29.2 -0.2**
OZNA Ozona 96.91 300 P **P** **21 29 29.1 -1.0**
ELIS Ellis County 97.02 305 P **P** **21 29 30.3 -0.1**
NIL Nilore 97.12 57 IAMs_20 IAMs_20 22 14 45.7
comp=Z,596nm,20.0s
SGCY Sterling City 97.19 301 P **P** **21 29 30.3 -1.0**
SGCY IAmb IAmb 21 29 46.7
comp=Z,16nm,1.0s
SMWD Samnorwood 97.38 304 P **P** **21 29 31.7 -0.4**
SMWD IAmb IAmb 21 29 43.2
comp=Z,8.3nm,0.9s
SAND Sanderson 97.47 299 P **P** **21 29 31.7 -0.9**
SAND IAmb IAmb 21 29 42.1
comp=Z,22nm,1.7s
DKNS Dickens 97.52 303 P **P** **21 29 31.0 -1.8**
DKNS IAmb IAmb 21 29 44.9
comp=Z,31nm,1.9s
KKAR Karatay Array 97.78 47 P **P** **21 29 33.2 -0.5**
KKAR Karatay Array 97.78 47 P **P** **21 29 33.2 -0.5**
AGMN Agassiz Nation 98.10 318 P **P** **21 29 34.3 -0.6**
MNHN Monahans 98.37 300 P **P** **21 29 36.0 -0.7**
MNHN IAmb IAmb 21 29 47.2
comp=Z,15nm,0.9s
ODSA Odessa 98.41 301 P Pdif 21 29 37.1 +0.3
ODSA IAmb IAmb 21 29 47.1
comp=Z,11nm,0.8s
TXAR Lajitas Array 98.59 298 P **P** **21 29 36.1 -1.6**
TXAR Lajitas Array 98.59 298 P Pdif 21 29 37.8 0.0
comp=Z,0.5nm,0.8s,baz=100,slow=6.9,SNR=3.9
TXAR LR LR 22 15 57.3
comp=Z,71nm,18.8s,baz=95,slow=36
comp=Z,0.5nm,0.8s
ULM Lac du Bonnet 98.69 320 P **P** **21 29 37.5 0.0**
comp=Z,0.6nm,0.4s,baz=153,slow=2.3,SNR=2.9
ULM LR LR 22 05 56.3
comp=Z,377nm,21.9s,baz=119,slow=30
comp=Z,0.6nm,0.4s
ALPN Alpine 98.84 299 P **P** **21 29 37.9 -1.0**
ALPN IAmb IAmb 21 29 49.3
comp=Z,20nm,1.5s
ARSB Arslanbob 99.05 50 P **Pdif** **21 29 38.4 -1.1**
ARSB Arslanbob 99.05 50 P **Pdif** **21 29 38.4 -1.1**
ARSB pmax pmax
comp=Z,11nm,1.4s
HPIG 99.66 295 IAMs_20 IAMs_20 22 10 22.9
comp=Z,458nm,18.0s
VHRN Van Horn 100.07 299 Pdif **Pdif** **21 29 43.9 -0.5**
AAK Ala-Archa 100.47 49 IAMs_20 IAMs_20 22 13 34.8
comp=Z,618nm,20.0s
EPT El Paso 101.58 300 IAMs_20 IAMs_20 22 06 57.4
comp=Z,370nm,19.0s

KDJ	Kajisay	102.29	50	IAMs_20	IAMs_20	22 16 06.1		
	comp=Z,384nm,20.0s							
KURBB	Kurchatov Arra	104.89	41	PKKPbc	PKKPbc	21 45 48.6	-1.0	
	comp=Z,0.4nm,0.8s,baz=82,slow=3.1,SNR=5.5							
KURK	Kurchatov	104.96	41	IAMs_20	IAMs_20	22 23 14.3		
	comp=Z,336nm,20.0s							
RDMU	Red Mountain	105.82	308	IAMs_20	IAMs_20	22 10 48.2		
	comp=Z,423nm,20.0s							
MKAR	Makanchi Array	106.74	46	PKKPab	PKKPab	21 45 57.1	+0.3	
	comp=Z,1.1nm,0.9s,baz=72,slow=4.7,SNR=7.0							
JLU	Jordanelle	107.24	308	IAMs_20	IAMs_20	22 11 07.8		
	comp=Z,530nm,22.0s							
PIX	Pinacate	107.33	298	IAMs_20	IAMs_20	22 11 38.7		
	comp=Z,563nm,22.0s							
ZALV	Zalesovo Beam	109.13	38	PP	PP	21 34 58.5	+2.0	
	comp=Z,1.4nm,0.8s,baz=271,slow=8.1,SNR=4.3							
ZALV				PKKPab	PKKPab	21 45 45.5	-0.5	
	comp=Z,1.4nm,0.7s,baz=90,slow=7.4,SNR=5.7							
TKX	Tecate	110.13	299	IAMs_20	IAMs_20	22 15 58.9		
	comp=Z,545nm,20.0s							
S11A	Rachel	110.14	304	IAMs_20	IAMs_20	22 05 26.7		
	comp=Z,334nm,20.0s							
WMQ	Urumqi	110.17	49	*e*PKP	PKiKP	21 34 29.8	-0.5	
WMQ				LR	LR			
	comp=Z,300nm,18.9s							
GWY	Greenwater Val	110.68	303	IAMs_20	IAMs_20	22 12 06.3		
	comp=Z,443nm,19.0s							
YKA	Yellowknife Ar	110.73	331	PKKPbc	PKKPbc	21 45 31.5	+0.1	
	comp=Z,0.1nm,0.7s,baz=277,slow=4.5,SNR=6.3							
NVAR	Mina Array Bea	112.23	305	PKKPbc	PKKPbc	21 45 29.3	+3.2	
	comp=Z,0.1nm,0.4s,baz=247,slow=3.4,SNR=3.9							
KULM	Kulim	114.67	92	IAMs_20	IAMs_20	22 14 57.1		
	comp=Z,392nm,22.0s							
IPM	Ipoh	114.78	93	IAMs_20	IAMs_20	22 16 52.2		
	comp=Z,506nm,18.0s							
CMAR	Chiang Mai Arr	116.25	78	PKP	PKiKP	21 34 44.1	+1.6	
	comp=Z,1.3nm,0.9s,baz=254,slow=3.9,SNR=6.8							
PZH	PanZhiHua	120.02	69	PKP	PKiKP	21 34 52.6	+2.8	
TBI	Tubuai	120.57	228	*e*SS	SS	21 52 50.3	+4.2	
	comp=Z,2μm,28.2s							
TBI	Tubuai	120.57	228	*e*LR	LR	22 11 43.5		
	comp=Z,1μm,30.0s							
TBI				*e*LR	LR	22 11 44.3		
	comp=Z,4μm,36.0s							
TAOE	Nuku Hiva Isla	120.94	248	*e*LR	LR	22 12 02.8		
	comp=Z,452nm,26.8s							
TIXI	Tiksi	121.86	13	IAMs_20	IAMs_20	22 28 17.2		
	comp=Z,366nm,21.0s							
LZH	Lanzhou	122.27	58	*e*PKP	PKiKP	21 34 54.5	+0.5	
TOLK	Toolik Lake Re	122.28	342	PKPdf	PKiKP	21 34 56.1	+3.1	
SONM	Songino Array	123.06	44	PKP	PKiKP	21 34 55.5	+0.3	
	comp=Z,1.9nm,0.9s,baz=241,slow=0.6,SNR=10							
SONM				PP	PP	21 36 37.8	+3.2	
	comp=Z,0.3nm,0.6s,baz=280,slow=8.6,SNR=4.1							
ILAR	Eielson Array	123.70	338	PKP	PKiKP	21 34 56.7	+0.9	
	comp=Z,1.3nm,1.0s,baz=33,slow=1.5,SNR=8.5							
PPT2	Papeete2	124.20	233	*e*SS	SS	21 53 32.6	-0.4	
	comp=Z,267nm,28.2s							
PPT2	Papeete2	124.20	233	*e*LR	LR	22 13 25.9		
	comp=Z,722nm,24.0s							
PPT2				*e*LR	LR	22 13 34.8		
	comp=Z,837nm,35.0s							
SBUM	Sibu	124.74	100	IAMs_20	IAMs_20	22 23 16.7		
	comp=Z,329nm,19.0s							
STKA	Stephens Creek	125.15	154	PKP	PKiKP	21 35 00.1	+0.3	
	comp=Z,2.8nm,0.8s,baz=284,slow=4.2,SNR=4.2							
XAN	Xi'an	126.49	61	*e*PKP	PKiKP	21 35 03.1	+0.8	
XAN				LR	LR			
	comp=Z,530nm,17.2s							
XAN				LR	LR			
	comp=Z,340nm,19.9s							
XAN				LR	LR			
	comp=Z,570nm,20.8s							
QIZ	Qiongzhong	126.52	79	PKP	PKPdf	21 35 01.8	-0.5	
QIZ				PP	PP	21 36 56.1	-2.4	
QIZ				SS	SS	21 54 05.9	+2.4	
QIZ				LR	LR			
	comp=Z,260nm,17.9s							
QIZ				LR	LR			
	comp=Z,460nm,17.6s							
QIZ				LR	LR			
	comp=Z,370nm,16.7s							
BTO	Baotou	126.78	52	*e*PKP	PKPdf	21 35 00.0	-2.3	
BTO				PP	PP	21 37 01.0	+1.4	
BTO				SS	SS	21 54 03.0	-2.7	
BTO				LR	LR			
	comp=Z,550nm,20.3s							
BTO				LR	LR			
	comp=Z,640nm,17.9s							
BTO				LR	LR			
	comp=Z,880nm,20.2s							
HHC	Hu-ho-hao-te	127.90	52	*e*PKP	PKPdf	21 34 59.8	-4.6	
ASAR	Alice Springs	127.97	141	PKP	PKiKP	21 35 05.3	-0.3	
	comp=Z,2.1nm,0.9s,baz=196,slow=1.4,SNR=11							
YAK	Yakutsk	128.92	21	*ce*PKIKP	PKiKP	21 35 08.0	+1.8	
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BILL	Bilibino	129.80	0	PKPdf	PKiKP	21 35 10.3	+2.5	
BILL	Bilibino	129.80	0	*ce*PKIKP	PKPdf	21 35 07.3	+0.2	
BILL				pmax	pmax			
	comp=Z,11nm,1.7s							
XLT	XiLinHaoTe	130.53	47	*e*PKP	PKiKP	21 35 12.6	+2.4	
XLT				LR	LR			
	comp=Z,270nm,17.3s							
XLT				LR	LR			
	comp=Z,210nm,17.5s							
WRA	Warramunga Arr	131.02	139	PKP	PKiKP	21 35 11.6	-0.2	
	comp=Z,1.7nm,0.9s,baz=233,slow=2.5,SNR=7.0							
HIA	Hailar	131.15	39	IAMs_20	IAMs_20	22 37 29.9		
	comp=Z,407nm,21.0s							
BJI	Beijing	131.51	52	PKP	PKiKP	21 35 15.0	+2.9	
BJI				LR	LR			
	comp=Z,88nm,18.6s							
BJI				LR	LR			
	comp=Z,160nm,18.8s							
BJI				LR	LR			
	comp=Z,220nm,23.2s							
TIA	Tai'an	132.96	57	PKP	PKiKP	21 35 18.3	+3.1	
SEY	Seymchan	133.89	9	*ce*PKIKP	PKiKP	21 35 15.7	-0.5	
SEY				pmax	pmax			
	comp=Z,17nm,2.5s							
NJ2	Nanjing	134.96	62	*e*PKP	PKPdf	21 35 17.1	-0.8	
MA2	Magadan	136.78	12	*ce*PKIKP	PKPdf	21 35 20.3	-0.1	
MA2				pmax	pmax			
	comp=Z,13nm,2.5s							
CN2	Changchun	136.94	44	PKP	PKPdf	21 35 21.1	-0.1	
CN2				LR	LR			
	comp=Z,300nm,17.0s							
CN2				LR	LR			
	comp=Z,300nm,17.0s							
CN2				LR	LR			
	comp=Z,300nm,18.0s							
BNX	BinXian	137.35	41	PKP	PKiKP	21 35 25.3	+1.5	
KLR	Kul'dur	138.02	34	*e*PKIKP	PKPdf	21 35 16.3	-6.7	
KLR				pmax	pmax			
	comp=Z,7.0nm,1.4s							
DZM	Mont Dzumac	140.35	180	*e*LR	LR	22 20 58.8		
	comp=Z,678nm,29.2s							
KSRS	Korea Array	141.04	52	PKP	PKPdf	21 35 26.9	-2.0	
	comp=Z,1.6nm,0.7s,baz=289,slow=4.2,SNR=5.1							
TYV	Tymovskoe	141.99	24	*e*PKIKP	PKPdf	21 35 29.8	-0.4	
TYV				pmax	pmax			
	comp=Z,300nm,3.9s							
TYV				pmax	pmax			
	comp=Z,6.0nm,1.5s							
PETK	Petropavlovsk-	144.13	9	PKP	PKPdf	21 35 35.3	+1.3	
	comp=Z,8.8nm,1.1s,baz=57,slow=5.5,SNR=4.0							
YSS	Yuzhno-Sakhali	145.02	29		PKPdf	21 35 36.0	+0.4	
YSS	Yuzhno-Sakhali	145.02	29	*e*PKIKP	PKPab	21 35 35.1	+0.1	
YSS				*i*		21 35 39.3		
YSS				*e*		21 38 56.4		
YSS				*e*SS	SS	21 57 48.5	+6.5	
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
JKA	Kamikawa-asahi	147.01	32	IAMs_20	IAMs_20	22 42 03.8		
	comp=Z,385nm,22.0s							
MAJO	Matsushiro	148.92	47		PKiKP	21 35 49.0	+1.1	
MAJO	Matsushiro	148.92	47	PKP2	PKiKP	21 35 49.0	+1.1	
MJAR	Matsushiro Arr	148.92	47	PKPbc	PKPbc	21 35 45.9	-0.7	
	comp=Z,15nm,0.9s,baz=302,slow=3.0,SNR=23							

*IDC **22** 21:21:36.6±1.2, 1°.44S×27°.80E, h0km, mb4.0/8, mbtmp4.0/8, MS4.6/5, Error ellipse: s-maj=33.5km s-min=25.8km az=125.0*
ISC 22 21:21:38.3±1.2, **1°.4S**±0°.2×**27°.8E**±0°.2, **h10**km, **n10**, σ0§**28**/9, **mb4.1**/9, **Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	9.48	88	P	Pn	21 23 49.9	-5.3
	1.0nm,0.3s,baz=261,slow=20,SNR=9.2						
KMBO				Sn	Sn	21 25 30.5	-12
	0.8nm,0.3s,baz=205,slow=13,SNR=3.8						
KMBO				Lg	Lg	21 26 20.3	
	2.1nm,0.3s,baz=36,slow=20,SNR=4.3						
BOSA	Boshof	27.13	185	P	P	21 27 21.9	0.0
	3.6nm,0.8s,baz=9.2,slow=8.4,SNR=3.2						
	3.6nm,0.8s						
TORD	Torodi Ar. Bea	29.65	300	P	P	21 27 44.0	-0.4
	35nm,0.3s,baz=104,slow=7.5,SNR=1.7						
DBIC	Dimbokro	33.55	284	P	P	21 28 18.9	+0.2
	4.0nm,0.8s,baz=96,slow=11,SNR=2.2						
	4.0nm,0.8s						
BRTR	Keskin Array B	41.31	7	P	P	21 29 24.5	+0.2
	2.1nm,0.8s,baz=190,slow=7.3,SNR=6.0						
	2.1nm,0.8s						
AKASG	Malin Array Be	51.95	1	P	P	21 30 47.6	+0.3
	0.6nm,0.5s,baz=188,slow=6.7,SNR=2.0						
	0.6nm,0.5s						
BVAR	Borovoye Array	64.88	27	P	P	21 32 17.4	-0.2
	1.1nm,0.8s,baz=242,slow=3.1,SNR=3.5						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	67.44	32	P	P	21 32 34.2	+0.1
	0.6nm,0.7s,baz=241,slow=6.6,SNR=5.5						
	0.6nm,0.7s						
MKAR	Makanchi Array	67.63	37	P	P	21 32 35.2	-0.3
	0.6nm,0.7s,baz=241,slow=4.6,SNR=7.4						
	0.6nm,0.7s						
ARCES	ARCESS Array B	70.85	359	P	P	21 32 54.8	-0.1
	3.5nm,0.9s,baz=180,slow=4.5,SNR=6.8						
	3.5nm,0.9s						

*ROM **22** 21:23:39.8±0.1, 41°.914N±0°.007×15°.709E±0°.005, h7km, ML2.6/77, Error ellipse: s-maj=0.7km s-min=0.5km az=175.0*
ISC 22 21:23:40.1±1.0, **41°.93N**±0°.04×**15°.69E**±0°.03, **h10**km±9km, **n21**, σ0§**51**/36, **2C-2D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGRT	San Giovanni R	0.18	168	⇑P	Pg	21 23 43.9	-0.1
SGRT				S	Sg	21 23 46.9	+0.1
SGRT				AML	AML		
	comp=N,2340μm,0.3s						
SGRT				AML	AML		
	comp=E,2425μm,0.7s						
APRC	Apricena	0.21	213	⇓P	Pg	21 23 44.5	-0.1
APRC				S	Sg	21 23 47.7	+0.2
APRC				AML	AML		
	comp=E,2375μm,0.4s						
MSAG	Monte S. Angel	0.27	144	⇑P	Pg	21 23 45.4	-0.4
MSAG				S	Sg	21 23 49.6	+0.2
MSAG				AML	AML		
	comp=E,1225μm,0.3s						
MSAG				AML	AML		
	comp=N,3300μm,0.5s						
MSAG				AML	AML		
	comp=N,3300μm,1.5s						
MSAG				AML	AML		
	comp=E,468μm,0.1s						
MSAG				AML	AML		
	comp=E,1230μm,0.3s						
MELA	Melanico ??? S	0.48	242	⇓P	Pg	21 23 49.1	-0.4
MELA				S	Sb	21 23 56.9	-0.9
MELA				AML	AML		
	comp=E,850μm,1.0s						
MELA				AML	AML		
	comp=N,1140μm,1.1s						
GLNS	Guglionesi	0.58	268	P	Pb	21 23 51.9	-0.4
GLNS				S	Sb	21 24 00.8	+0.2
CIGN	Sant'Elia a Pi	0.65	245	P	Pg	21 23 52.6	-0.2
CIGN				S	Sb	21 24 02.5	-0.2
CIGN				AML	AML		
	comp=E,208μm,1.5s						
CIGN				AML	AML		
	comp=N,228μm,1.5s						
CIGN				AML	AML		
	comp=E,208μm,0.5s						
CIGN				AML	AML		
	comp=N,228μm,0.5s						
PLTA	Palata	0.68	266	P	Pb	21 23 54.1	+0.1
PLTA				S	Sb	21 24 03.9	+0.4
GDFR	Guardialfiera	0.68	259	P	Pb	21 23 54.5	+0.4
MOCO	Biccari - m.te	0.69	216	P	Pb	21 23 54.0	-0.3
MOCO				S	Sb	21 24 03.8	-0.2
MOCO				AML	AML		
	comp=N,212μm,0.6s						
GATE	Gambatesa	0.72	235	P	Pb	21 23 54.2	-0.5
GATE				S	Sb	21 24 04.5	-0.2
GATE				AML	AML		
	comp=E,370μm,0.4s						
GATE				AML	AML		
	comp=E,370μm,0.4s						
GATE				AML	AML		
	comp=N,437μm,0.5s						
FRES	Fresagrandinar	0.77	273	P	Pb	21 23 55.5	0.0
FRES				AML	AML		
	comp=E,545μm,1.4s						
FRES				AML	AML		
	comp=N,422μm,0.4s						
FRES				AML	AML		
	comp=N,422μm,1.6s						
FRES				AML	AML		
	comp=E,545μm,0.6s						
LSTV	Lastovo	1.22	46	*i* Pg	Pb	21 24 02.8	-0.5
LSTV				Sg	Sb	21 24 19.4	+0.4
HVAR	Hvar	1.36	24	*i* Pg	Pb	21 24 05.8	0.0
HVAR				Sg	Sb	21 24 22.1	-1.1
ZIRJ	Zirje	1.72	359	*e*Pn	Pb	21 24 11.4	-0.4
ZIRJ				Sn	Sn	21 24 32.0	-0.2
STON	Ston	1.76	57	*e*Pn	Pb	21 24 12.4	0.0
STON				Sn	Sb	21 24 34.0	-0.5
RICI	Ricice	1.89	34	*e*Pn	Pn	21 24 13.4	+1.0
RICI				Sn	Sn	21 24 37.2	+0.9
MORI	Morici	1.93	0	*e*Pn	Pn	21 24 13.0	0.0
MORI				Sn	Sn	21 24 36.9	-0.4
DBRK	Dubrovnik	1.96	67	*i* Pn	Pn	21 24 14.0	+0.6
DBRK				Sn	Sn	21 24 37.9	-0.3
DUGI	Dugi Otok	2.11	347	*i* Pn	Pn	21 24 16.5	+1.0
DUGI				Sn	Sn	21 24 41.0	-0.8
EL6	Elcito	2.37	307	AML	AML		
	comp=N,91μm,0.8s						
EL6				AML	AML		
	comp=E,83μm,1.4s						
MURB	Monte Urbino	2.69	301	AML	AML		
	comp=E,97μm,1.6s						
MURB				AML	AML		
	comp=E,1216μm,1.4s						
MURB				AML	AML		
	comp=N,1220μm,1.1s						
MURB				AML	AML		
	comp=N,80μm,0.7s						

RSNC 22 21:40:16.5±0.0, **6°N**±1°×**7°6W**±°, **h60**km±2km, **M3.2, mb4.2, ML3.0, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBOC	Ciudad Bolivar	0.08	73	P	Pn	21 40 25.4	-0.3
CBOC				S	Sn	21 40 32.7	+0.3
MEDEC	Medelln, Ant	0.66	49	P	Pn	21 40 28.8	-1.7
MEDEC				S	Sn	21 40 40.1	-0.6
GUY2C	Guyana, Caldas	0.95	130	P	Pn	21 40 33.2	-1.1
GUY2C				S	Sn	21 40 47.1	-0.3
PLMC	San Jos del P	0.95	192	P	Pn	21 40 33.1	-0.9
PLMC				S	Sn	21 40 47.1	+0.3
CMAN1	Manizales, Cal	0.95	144	P	Pn	21 40 33.5	-0.7
CMAN1				S	Sn	21 40 46.3	-0.9
NIZA	Niza - Manizal	0.99	142	P	Pn	21 40 34.1	-0.6
NIZA				S	Sn	21 40 47.8	-0.4
DBBC	Dabeiba	1.18	354	P	Pn	21 40 36.7	-0.3
DBBC				S	Sn	21 40 53.4	+1.2
NORC	Norcasia	1.25	103	P	Pn	21 40 36.6	-1.2
NORC				S	Sn	21 40 52.8	-1.0
SOLC	Bahia Solano	1.37	286	P	Pn	21 40 38.5	-0.9
SOLC				S	Sn	21 40 56.6	0.0
PIZC	Pizarro, Choco	1.53	236	P	Pn	21 40 41.9	+0.2
PIZC				S	Sn	21 41 02.1	+1.5
PTBC	PUERTO BERRIO,	1.77	67	P	Pn	21 40 44.5	-0.3
PTBC				S	Sn	21 41 05.5	-0.8
YOTC	Yotoco, Valle	1.86	188	P	Pn	21 40 44.9	-1.3
YOTC				S	Sn	21 41 08.0	-0.8
ROSC	El Rosal	2.02	119	P	Pn	21 40 49.3	+0.7
ROSC				S	Sn	21 41 15.6	+2.5
ZARC	Zaragoza, Cauc	2.05	37	P	Pn	21 40 48.2	-0.5
ZARC				S	Sn	21 41 13.9	+0.8
ORTC	Ortega, Tolima	2.09	156	P	Pn	21 40 49.5	+0.2
ORTC				S	Sn	21 41 15.5	+1.2
APAC	Apartado, Choc	2.10	347	P	Pn	21 40 51.0	+1.6
APAC				S	Sn	21 41 18.3	+3.8
PTAC	Punta Ardita,	2.15	307	P	Pn	21 40 48.4	-1.6
PTAC				S	Sn	21 41 12.5	-3.0
MALC	Bahia Malaga	2.20	214	P	Pn	21 40 50.8	+0.1
MALC				S	Sn	21 41 17.9	+1.1
PRAC	Prado	2.43	150	P	Pn	21 40 53.9	0.0
PRAC				S	Sn	21 41 23.2	+0.7
BRJC	Barrancabermej	2.59	64	P	Pn	21 40 54.4	-1.6
BRJC				S	Sn	21 41 25.9	-0.5
CHIC	Chingaza	2.64	117	P	Pn	21 40 57.4	+0.3
CHIC				S	Sn	21 41 28.6	+0.5
JAMC	Jamundi, Valle	2.67	193	P	Pn	21 40 55.7	-1.7
JAMC				S	Sn	21 41 27.2	-1.5
VILC	Villavicencio,	2.94	126	P	Pn	21 41 01.8	+0.8
VILC				S	Sn	21 41 37.0	+1.8
BARC	Barichara	2.99	75	P	Pn	21 41 02.2	+0.5
BARC				S	Sn	21 41 35.7	-0.7
RUSC	La Rusia	2.99	89	P	Pn	21 41 01.8	-0.2
RUSC				S	Sn	21 41 35.7	-1.2
LCBC	Los crdobas,	3.01	355	P	Pn	21 41 02.1	+0.3
LCBC				S	Sn	21 41 38.3	+1.6
URMC	La Uribe, Meta	3.09	146	P	Pn	21 41 02.3	-0.6
URMC				S	Sn	21 41 39.5	+0.8
BETC	Betania	3.20	168	P	Pn	21 41 01.6	-2.9
POPC	Popayan, Colom	3.33	190	P	Pn	21 41 06.2	-0.2
POPC				S	Sn	21 41 44.3	-0.6
GR1C	Gorgona, Isla	3.50	216	P	Pn	21 41 05.6	-2.9
GARC	Garzon, Huila	3.68	171	P	Pn	21 41 10.1	-1.1
GARC				S	Sn	21 41 52.3	-1.1
PAMC	Pamplona, Colo	3.68	66	P	Pn	21 41 11.3	-0.1
PAMC				S	Sn	21 41 53.0	-0.9
BBAC	Balboa, Cauca	3.96	197	P	Pn	21 41 15.9	+0.8
BBAC				S	Sn	21 42 01.1	+0.7
SJCC	San Jacinto, C	4.13	13	P	Pn	21 41 16.4	-0.8
SJCC				S	Sn	21 42 02.4	-1.9
FLOC	Florencia	4.25	174	P	Pn	21 41 18.4	-0.4
FLOC				S	Sn	21 42 07.1	-0.1
TAMC	Tame, Arauca	4.32	82	P	Pn	21 41 20.2	+0.5
TAMC				S	Sn	21 42 07.3	-1.5
AZU	Azuero	4.58	295	P	Pn	21 41 21.7	-1.6
AZU				S	Sn	21 42 12.5	-2.8
GCUF	Volcan Galeras	4.75	195	P	Pn	21 41 25.5	-0.6
GCUF				S	Sn	21 42 19.2	-0.9
CACAO	El Cacao, Vera	4.97	288	P	Pn	21 41 26.4	-2.2
BCIP	Isla Barro Col	4.97	312	P	Pn	21 41 25.9	-2.8
BCIP				S	Sn	21 42 20.0	-4.9
CRJC	Cerrejon, Guaj	6.05	31	P	Pn	21 41 41.5	-2.0
CRJC				S	Sn	21 42 46.3	-5.1
SDV	Santo Domingo	6.20	60	P	Pn	21 41 45.2	-0.5
	22nm,0.7s						
SDV				S	Sn	21 42 51.7	-3.6
	22nm,0.7s						
URIC	Uribia, Colomb	7.09	35	P	Pn	21 41 55.9	-1.8
URIC				S	Sn	21 43 10.6	-6.4

*CATAC **22** 22:13:04.8±2.5, 11°N±12°×8°8W±°, h2km±15km, M3.7/13, MLv3.7/13, Error ellipse: s-maj=29.5km s-min=11.7km az=29.4, rejected*
*SNET **22** 22:13:14.3±0.7, 11°.63N×88°.43W, h36km±640km, ML3.3*
ISC 22 22:13:03.3±3.8, **11°.1N**±0°.2×**88°.0W**±0°.2, **h35**km, **n22**, σ1§**81**/20, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	Masachapa	1.59	61	P	Pn	22 13 30.5	+1.5
COPN	Copaltepe	1.75	50	P	Pn	22 13 30.9	-0.2
LEVN	Ruinas Leon Vi	1.88	44	P	Pn	22 13 33.0	+0.1
MACN	El Madrono	1.89	42	P	Pn	22 13 32.6	-0.5
CNGA	Al SSO del Vol	1.89	40	P	Pn	22 13 32.7	-0.4
PLRN	Geotermica Pol	1.92	37	P	Pn	22 13 33.8	+0.3
MOMN	Momotombo	1.94	46	P	Pn	22 13 33.7	-0.1
POLN	Al Sur del Vol	1.94	35	P	Pn	22 13 27.8	-6.1
APQ2	Apoyeque	1.96	54	P	Pn	22 13 34.9	+0.8
TISN	Laguna Tiscapa	1.98	56	P	Pn	22 13 33.8	-0.5
MOM2	El Cardon	2.00	46	P	Pn	22 13 34.8	+0.2
CNCH	Conchagua	2.22	3	*e*P	Pn	22 13 42.4	+4.7
CNCH				*e*S	Sn	22 14 04.0	0.0
CNCH	Conchagua	2.22	3	P	Pn	22 13 41.4	+3.6
LCND	La Caada	2.25	2	*e*P	Pn	22 13 42.4	+4.3
LCND				*e*S	Sn	22 14 04.5	-0.1
LCND				IAML		22 14 09.6	
	comp=Z,297nm,0.3s						
LCND	La Caada	2.25	2	P	Pn	22 13 42.8	+4.8
CONN	Concepcion	2.34	77	P	Pn	22 13 40.5	+1.1
PACA	Pacayal	2.43	352	P	Pn	22 13 40.6	-0.2
CHOHN	Orocuina	2.54	18	P	Pn	22 13 44.8	+2.6
COEG	Centro de Oper	2.71	341	*e*S	Sn	22 14 11.3	-4.9
RCVN	Varillal2	3.05	34	P	Pn	22 13 50.0	+0.7
RCPN	Sur Rio San Ju	3.06	36	P	Pn	22 13 50.9	+1.5
YUSH	Yuscaran	3.09	21	P	Pn	22 13 51.8	+2.1

IDC 22 22:14:40.8±2.6, **6°.66S**×**128°.83E, h0**km, **mb3.0**/1, **mbtmp3.2**/3, **ML3.3/2, Error ellipse: s-maj=207.3km s-min=33.5km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.25	158	Pn	Pn	22 18 03.2	-0.8
	0.2nm,0.3s,baz=332,slow=14,SNR=7.7						
WRA				Sn	Sn	22 20 29.5	-13
	0.2nm,0.3s,baz=337,slow=22,SNR=6.2						
	0.4nm,0.4s						
ASAR	Alice Springs	17.60	164	P	P	22 18 48.4	-0.5
	0.1nm,0.3s,baz=350,slow=8.9,SNR=4.4						
	0.2nm,0.3s						
MKAR	Makanchi Array	67.31	327	P	P	22 25 37.6	0.0
	0.1nm,0.6s,baz=138,slow=5.2,SNR=1.6						
	0.1nm,0.6s						

*IDC **22** 23:11:52.3±1.9, 37°.90N×20°.87E, h0km, mb3.5/6, mbtmp3.5/9, ML1.2/2, Error ellipse: s-maj=36.4km s-min=21.6km az=40.0*
*ATH **22** 23:11:53.1, 37°.54N×20°.58E, h18km±3km, ML3.4/11, Manual Solution by A.Moschou First location: 2019/02/22 23:12:48, This location: 2019/02/22 23:35:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
ISC 22 23:11:55.4±0.9, **37

ZARO	Zacharo	0.81	102	P	Pn	23 12 10.1	-0.4
AMT	Artemida-Makis	0.85	98	P	Pn	23 12 10.1	-1.0
AMT				S	Sn	23 12 20.9	-1.5
DRO	Drossia	0.89	70	P	Pn	23 12 12.1	+0.5
EVGI	Lefkada island	0.96	0	P	Pn	23 12 13.1	+0.5
EVGI				S	Sn	23 12 26.9	+1.7
DRAG	Dragano-Lefkad	1.03	357	P	Pn	23 12 13.9	+0.4
DRAG				S	Sn	23 12 28.6	+1.9
NYDR	Nydri-Lefkada	1.05	2	P	Pn	23 12 14.8	+0.9
ITM	Ithomi	1.12	115	P	Pn	23 12 14.6	-0.2
OHR	Ohrid	3.45	2	*i* Pn	Pn	23 12 52.1	+5.3
IDI	Anoyia	4.16	123	Pn	Pn	23 12 57.9	+1.3
	0.6nm,0.3s,baz=253,slow=7.3,SNR=7.1						
IDI				Sn	Sn	23 13 45.5	+1.5
	1.9nm,0.3s,baz=315,slow=18,SNR=7.8 2.0nm,0.3s						
VAE	Valguarnera	4.96	270	Pn	Pn	23 13 10.4	+2.8
	0.6nm,0.3s,baz=328,slow=22,SNR=2.5						
VAE				Sn	Sn	23 14 00.1	-3.7
	1.5nm,0.3s,baz=120,slow=21,SNR=1.4 2.5nm,0.3s						
MMAI	Mount Meron Ar	12.90	107	Pn	Pn	23 14 57.5	+1.0
	0.1nm,0.3s,baz=296,slow=11,SNR=1.9						
HFS	Hagfors	22.93	351	P	P	23 16 56.2	-0.1
	4.7nm,1.0s,baz=150,slow=12,SNR=7.0 4.7nm,1.0s						
FINES	FINESS Array B	24.05	6	P	P	23 17 06.4	-0.8
	1.0nm,0.5s,baz=189,slow=9.9,SNR=8.9 1.0nm,0.5s						
ARCES	ARCESS Array B	32.05	3	P	P	23 18 18.2	-0.3
	12nm,1.2s,baz=186,slow=10,SNR=2.0						
BVAR	Borovoye Array	37.38	49	P	P	23 19 03.9	-0.9
	0.2nm,0.4s,baz=253,slow=4.4,SNR=1.8 0.2nm,0.4s						
KURBB	Kurchatov Arra	42.46	53	P	P	23 19 45.6	-1.4
	0.2nm,0.5s,baz=281,slow=8.7,SNR=2.5 0.2nm,0.5s						
MKAR	Makanchi Array	45.49	58	P	P	23 20 10.6	-0.8
	0.1nm,0.3s,baz=276,slow=7.9,SNR=5.7 0.1nm,0.3s						
ZALV	Zalesovo Beam	45.96	48	P	P	23 20 14.3	-0.7
	0.6nm,0.4s,baz=274,slow=6.6,SNR=3.3 0.6nm,0.4s						

IDC ***22*** *23:33:43.3±3.2, 43°.28S×169°.06E, h0km, mb3.6/2, mbtmp3.6/2, MS3.5/1, Error ellipse: s-maj=409.5km s-min=51.4km az=19.0*

NOU ***22*** *23:33:59.9, 45°.07S×167°.53E, h125km, MLv4.3/16, South Island, New Zealand*

WEL ***22*** *23:34:01.3±0.8, 45°.S±3°.×16°.7E±°, h114km±6km, M3.9/10, MLv3.9/10, Error ellipse: s-maj=6.4km s-min=3.3km az=121.7, confirmed*

ISC 22 23:33:59.6±0.9, 45°.04S±0°.04×167°.49E±0°.05, h137km±6km, n80, σ1.9/01/101, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.48	40	P	Pn	23 34 20.1	+0.8
MSZ				S	Sn	23 34 33.9	-0.3
DCZ	Deep Cove	0.49	209	P	Pn	23 34 18.7	-0.6
DCZ				S	Sn	23 34 32.2	-2.1
MLZ	Mavora Lakes	0.55	127	P	Pn	23 34 20.1	+0.4
MLZ				S	Sn	23 34 34.6	-0.5
MOSS	Mossburn Schoo	0.82	140	P	Pn	23 34 22.3	+0.7
MOSS				S	Sn	23 34 38.4	+0.1
QTPS	Queenstown Pol	0.83	90	P	Pn	23 34 22.6	+1.0
QTPS				S	Sn	23 34 38.3	-0.1
RLNS	Resolution Isl	0.86	221	P	Pn	23 34 21.8	-0.3
RLNS				S	Sn	23 34 37.4	-1.7
WHZ	Wether Hill Ro	0.91	160	P	Pn	23 34 22.6	+0.2
WHZ				S	Sn	23 34 38.5	-1.2
WKZ	Wanaka	1.10	79	P	Pn	23 34 25.4	+1.3
WKZ				S	Sn	23 34 43.1	+0.3
RRKS	Rarakau	1.11	181	P	Pn	23 34 24.3	+0.2
RRKS				S	Sn	23 34 41.9	-0.9
ORPS	Orepuki	1.26	171	P	Pn	23 34 25.6	0.0
ORPS				S	Sn	23 34 43.9	-1.6
PYZ	Puysegur Point	1.26	206	P	Pn	23 34 25.1	-0.5
PYZ	Puysegur Point	1.26	206	S	Sn	23 34 43.3	-2.2
PYZ	Puysegur Point	1.26	206	P	Pn	23 34 25.1	-0.5
PYZ				S	Sn	23 34 42.7	-2.8
EAZ	Earnscleugh	1.30	99	P	Pn	23 34 27.0	+1.0
EAZ				S	Sn	23 34 45.3	-0.8
JCZ	Jackson Bay	1.34	44	P	Pn	23 34 26.6	0.0
JCZ	Jackson Bay	1.34	44	P	Pn	23 34 27.3	+0.7
JCZ				S	Sn	23 34 46.7	-0.3
NSBS	Neils Beach	1.34	39	P	Pn	23 34 26.8	+0.4
NSBS				S	Sn	23 34 46.1	-0.7
MECS	Makarora Emerg	1.48	58	P	Pn	23 34 29.1	+1.1
MECS				S	Sn	23 34 50.4	+0.8
HDWS	Haast DOC Work	1.60	44	P	Pn	23 34 29.9	+0.6
HDWS				S	Sn	23 34 51.4	-0.6
TUZ	Tuapeka	1.76	122	P	Pn	23 34 32.1	+1.0
TUZ				S	Sn	23 34 53.7	-1.4
APZ	The Paps	1.83	169	P	Pn	23 34 31.8	-0.1
APZ				S	Sn	23 34 54.8	-1.9
SYZ	Scrubby Hill	1.89	143	P	Pn	23 34 32.7	+0.1
SYZ	Scrubby Hill	1.89	143	P	Pn	23 34 33.2	+0.6
SYZ				S	Sn	23 34 56.4	-1.4
TWAS	Twizel Area Sc	2.02	68	P	Pn	23 34 34.4	+0.2
TWAS				S	Sn	23 35 00.0	-0.7
LBZ	Lake Benmore	2.03	72	P	Pn	23 34 34.4	+0.1
LBZ				S	Sn	23 34 59.5	-1.4
ODZ	Otahua Downs	2.24	91	P	Pn	23 34 36.8	0.0
ODZ	Otahua Downs	2.24	91	P	Pn	23 34 37.3	+0.5
ODZ				S	Sn	23 35 03.6	-1.8
FOZ	Fox Glacier	2.25	49	P	Pn	23 34 36.8	-0.1
FOZ				S	Sn	23 35 04.4	-1.2
HHSZ	Highcliff Hill	2.34	112	P	Pn	23 34 39.0	+0.9
HHSZ				S	Sn	23 35 06.1	-1.7
TMZ	Timaru	2.59	77	P	Pn	23 34 41.2	-0.1
TMZ				S	Sn	23 35 10.9	-2.4
GCSZ	Gaunt Creek Bo	2.67	51	P	Pn	23 34 41.7	-0.6
GCSZ				S	Sn	23 35 13.5	-1.6
ARCZ	Arundel	2.85	69	P	Pn	23 34 44.2	-0.4
ARCZ				S	Sn	23 35 17.1	-2.2
RPZ	Rata Peaks	2.88	64	LR	LR	23 34 21.0	
	comp=Z,42nm,19.5s,baz=230,slow=25						
RPZ	Rata Peaks	2.88	64	P	Pn	23 34 44.8	-0.1
RPZ	Rata Peaks	2.88	64	P	Pn	23 34 44.7	-0.2
RPZ				S	Sn	23 35 19.0	-0.9
WVZ	Waitaha Valley	3.06	51	P	Pn	23 34 46.7	-0.4
WVZ				S	Sn	23 35 21.0	-2.8
MHCZ	Mount Hutt	3.29	64	P	Pn	23 34 49.6	-0.7
WACZ	Wakanui South	3.30	72	P	Pn	23 34 50.7	+0.4
INZ	Inchbonnie	3.68	52	P	Pn	23 34 55.1	-0.2
MQZ	McQueen's Vall	3.94	72	P	Pn	23 34 58.5	-0.1
AKCZ	Akaroa Harbour	4.05	75	P	Pn	23 35 00.9	+0.7
LTZ	Lake Taylor	4.13	59	P	Pn	23 35 00.2	-1.0
OKCZ	Okains Bay	4.20	74	P	Pn	23 35 03.4	+1.2
GVZ	Greta Valley S	4.50	65	P	Pn	23 35 06.6	+0.4
DSZ	Dennistoun Nort	4.55	45	P	Pn	23 35 06.3	-0.6
KHZ	Kahutara	5.11	61	P	Pn	23 35 14.7	+0.5
KHZ	Kahutara	5.11	61	S	Sn	23 36 11.8	-0.5
KHZ	Kahutara	5.11	61	P	Pn	23 35 14.9	+0.7
THZ	Tophouse	5.13	52	P	Pn	23 35 13.8	-0.8
MRNZ	Matariki Terra	5.30	48	P	Pn	23 35 16.5	-0.3
QRZ	Quartz Range	5.60	43	P	Pn	23 35 20.3	-0.6
QRZ	Quartz Range	5.60	43	P	Pn	23 35 20.3	-0.6
TKNZ	Takaka Hill	5.67	47	P	Pn	23 35 21.5	-0.2
NNZ	Nelson	5.76	50	P	Pn	23 35 23.8	+0.9
TCW	Tory Channel	6.27	55	P	Pn	23 35 29.7	-0.1
DUWZ	D'Urville Isla	6.34	50	P	Pn	23 35 31.3	+0.5
MSWZ	Moikau Station	6.72	60	P	Pn	23 35 35.4	-0.5
PAWZ	Paruwai Farm	6.85	61	P	Pn	23 35 37.3	-0.3
KIW	Kapiti Island	6.86	55	P	Pn	23 35 36.7	-1.0
MTW	Mount Morrison	7.03	59	P	Pn	23 35 39.3	-0.7
OGWZ	Otaki Gorge	7.04	56	P	Pn	23 35 39.3	-0.8
MRZ	Mangatainoka R	7.38	56	P	Pn	23 35 43.7	-1.0
KHEZ	Kahui Hut	7.51	42	P	Pn	23 35 47.6	+1.1
KHEZ	Kahui Hut	7.51	42	P	Pn	23 35 48.1	+1.5
PREZ	Palmer Road	7.54	43	P	Pn	23 35 48.1	+1.1
HIZ	Hauiti	8.53	43	P	Pn	23 35 59.4	-0.7
HIZ	Hauiti	8.53	43	S	Sn	23 37 35.3	+0.5
HIZ	Hauiti	8.53	43	P	Pn	23 35 59.3	-0.8
ASAR	Alice Springs	34.61	297	P	P	23 40 36.8	+1.2
	0.3nm,0.5s,baz=127,slow=6.8,SNR=7.8 0.3nm,0.5s						
WRA	Warramunga Arr	37.10	301	P	P	23 40 55.9	-0.9
	0.7nm,0.7s,baz=135,slow=8.3,SNR=5.5 0.7nm,0.7s						
H01W1	Cape Leeuwin H	41.45	265	T	T	00 25 35.5	
	baz=121,slow=75,SNR=4.4						
H01W2	Cape Leeuwin H	41.46	265	T	T	00 25 39.5	
	baz=121,slow=75,SNR=4.7						
H01W3	Cape Leeuwin H	41.46	265	T	T	00 25 40.1	
	baz=121,slow=75,SNR=3.6						
FITZ	Fitzroy Crossi	43.94	294	LR	LR	00 00 36.7	
	comp=Z,49nm,18.2s,baz=168,slow=36						
H08S2	Diego Garcia H	88.17	261	T	T	01 24 32.3	
	baz=135,slow=74						
H08S1	Diego Carcia H	88.18	261	T	T	01 24 30.9	
	baz=135,slow=74						
H08S3	Diego Garcia H	88.19	261	T	T	01 24 32.4	
	baz=135						
KURBB	Kurchatov Arra	122.37	311	PKP	PKiKP	23 52 38.2	+0.4
	0.2nm,0.6s,baz=94,slow=0.8,SNR=2.8						
AKASG	Malin Array Be	151.73	297	PKPbc	PKiKP	23 53 38.5	+1.1
	0.2nm,0.3s,baz=83,slow=1.7,SNR=1.7						
FINES	FINESS Array B	152.22	320	PKPbc	PKiKP	23 53 39.0	+0.8
	2.0nm,0.9s,baz=64,slow=3.2,SNR=4.2						

NEIC ***22*** *23:35:43.4±1.3, 61°.54N±0°.02×149°.91W±0°.04, h40km±5km, Error ellipse: s-maj=3.4km s-min=3.0km az=169.0*

AEIC 22 23:35:43.7±1.3, 61°.50N±0°.02×149°.91W±0°.05, h45km±4km, ML2.8, ML3.0/166(NEIC), **Error ellipse: s-maj=3.8km s-min=2.8km az=125.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.27	339		Pn	23 35 51.1	-0.9
M22K					Sn	23 35 58.1	0.0
M22K				IAML		23 35 58.4	
	comp=E,1μm,0.6s						
M22K				IAML		23 36 03.3	
	comp=N,1μm,0.6s						
PMR	Palmer	0.39	76		Pn	23 35 52.3	-1.0
PMR					Sn	23 35 59.5	-0.5
FIS	Fire Island	0.39	203		Pn	23 35 53.2	0.0
FIS					Sn	23 36 01.9	+1.9
FIS				IAML		23 36 02.4	
	comp=N,1μm,0.6s						
FIS				IAML		23 36 02.4	
	comp=E,2μm,0.4s						
RC01	Rabbit Creek A	0.42	168		Pn	23 35 52.8	-0.9
RC01					Sn	23 36 00.8	+0.1
RC01				IAML		23 36 01.1	
	comp=E,1μm,0.7s						
RC01				IAML		23 36 01.5	
	comp=N,2μm,0.2s						
GHO	Glory Hole Cre	0.54	60		Pn	23 35 54.5	-0.8
GHO				Sn	Sn	23 36 03.3	-0.3
KNK	Knik Glacier	0.70	97		Pn	23 35 56.7	-0.6
KNK				Sn	Sn	23 36 07.8	+0.7
SML	Sawmill	0.81	67		Pn	23 35 57.8	-1.1
SML				Sn	Sn	23 36 09.3	-0.6
SML				IAML		23 36 11.9	
	comp=N,437nm,0.8s						
SML				IAML		23 36 12.6	
	comp=E,533nm,0.7s						
SKT	Skwentna	0.91	303		Pn	23 35 58.9	-1.1
SKT				Sn	Sn	23 36 11.4	-0.7
STLK	Strandline Lak	0.92	271		Pn	23 35 59.6	-0.7
STLK				Sn	Sn	23 36 12.0	-0.4
STLK				IAML		23 36 12.9	
	comp=N,534nm,0.6s						
STLK				IAML		23 36 13.0	
	comp=E,374nm,0.4s						
CUT	Chulitna	0.92	350		Pn	23 35 59.4	-0.8
CUT				Sn	Sn	23 36 12.0	-0.4
CAPN	Captain Cook N	0.95	220		Pn	23 36 01.5	+0.9
CAPN				Sn	Sn	23 36 16.8	+3.9
PWL	Port Wells	1.00	129		Pn	23 36 00.6	-0.7
PWL	Port Wells	1.00	129		Sn	23 36 14.9	+0.7
SLKM	Skilak Lake	1.01	189		Pn	23 36 00.8	-0.7
SLKM				IAML		23 36 16.4	
	comp=N,479nm,0.2s						
SLKM				IAML		23 36 16.9	
	comp=E,653nm,0.6s						
O22K	Cooper Landing	1.03	175		Pn	23 36 00.8	-0.9
O22K				Sn	Sn	23 36 16.1	+1.3
SPU	Mount Spurr	1.08	254		Pn	23 36 01.8	-0.7
SPU				IAML		23 36 17.5	
	comp=N,437nm,0.4s						
SPU				IAML		23 36 18.2	
	comp=E,284nm,0.3s						
SPCN	Chakachatna No	1.13	257		Pn	23 36 03.0	-0.1
SPCR	Spurr Chakacha	1.15	256		Pn	23 36 02.8	-0.6
SPBG	Spurr Blockage	1.21	260		Pn	23 36 03.8	-0.4
SCM	Sheep Creek Mo	1.28	74		Pn	23 36 04.8	-0.3
SCM				IAML		23 36 22.9	
	comp=N,415nm,1.0s						
SEW	Seward	1.42	171	Pn	Pn	23 36 07.4	+0.4
GLI	Glacier Island	1.50	113		Pn	23 36 07.3	-0.8
GLI				IAML		23 36 28.9	
	comp=N,269nm,0.3s						
GLI				IAML		23 36 30.9	
	comp=E,320nm,0.4s						
M20K	Styx River	1.58	285		Pn	23 36 09.3	0.0
M20K	Styx River	1.58	285	IAML		23 36 31.4	
M20K				IAML		23 36 31.8	
	comp=N,103nm,1.1s						
M20K				IAML		23 36 31.8	
	comp=E,149nm,0.8s						
REF	Redoubt East F	1.70	234		Pn	23 36 10.4	-0.6
NCT	North Crescent	1.75	239		Pn	23 36 11.1	-0.5
PPLA	Purkeypile	1.76	324		Pn	23 36 11.1	-0.8
BRLK	Bradley Lake	1.81	196		Pn	23 36 12.3	-0.1
BRLK				IAML		23 36 39.5	
	comp=E,109nm,0.4s						
BRLK				IAML		23 36 41.4	
	comp=N,108nm,0.4s						
BRSE	Bradley Lake S	1.81	193		Pn	23 36 11.1	-1.3
M24K	Tolsona, Glenn	1.88	69		Pn	23 36 13.8	+0.4
M24K				IAML		23 36 41.4	
	comp=E,225nm,0.6s						
M24K				IAML		23 36 41.9	
	comp=N,226nm,0.8s						
KLU	Klutina	1.91	88		Pn	23 36 13.5	-0.3
KLU				IAML		23 36 45.2	
	comp=E,87nm,0.4s						
KLU				IAML		23 36 45.4	
	comp=N,170nm,0.6s						
P23K	Montague Islan	1.95	140		Pn	23 36 12.5	-1.7
O20K	Slope Mountain	1.95	224		Pn	23 36 14.2	-0.1
TRF	Thorofare Moun	1.96	355		Pn	23 36 13.7	-0.9
TRF				IAML		23 36 41.8	
	comp=E,170nm,0.6s						
TRF				IAML		23 36 41.9	
	comp=N,123nm,0.2s						
RND	Reindeer	1.98	14		Pn	23 36 13.5	-1.2
HIN	Hinchinbrook I	2.00	122	Pn	Pn	23 36 16.7	+1.7
HIN				IAML		23 36 48.9	
	comp=N,145nm,1.0s						
HIN				IAML		23 36 51.1	
	comp=E,188nm,0.5s						
DIV	Divide	2.03	99		Pn	23 36 15.3	-0.1
HOM	Homer	2.04	206	Pn	Pn	23 36 14.8	-0.6
CNPM	China Poot	2.09	199		Pn	23 36 15.2	-1.0
CNPM				IAML		23 36 46.9	
	comp=N,84nm,0.4s						
CNPM				IAML		23 36 50.0	
	comp=E,81nm,0.5s						
KTH	Kantishna Hill	2.11	348	Pn	Pn	23 36 16.4	-0.2
KTH				IAML		23 36 44.5	
	comp=N,114nm,0.7s						
L20K	Farewell, AK	2.12	299		Pn	23 36 16.0	-0.6
M19K	Big River Lodg	2.17	283		Pn	23 36 16.6	-0.7
M19K	Big River Lodg	2.17	283	IAML		23 36 46.6	
	comp=N,59nm,0.6s						
M19K				IAML		23 36 57.1	
	comp=E,64nm,0.8s						
CAST	Castle Rocks	2.17	333		Pn	23 36 16.5	-0.9
CAST	Castle Rocks	2.17	333	IAML		23 36 46.3	
	comp=E,67nm,0.5s						
CAST				IAML		23 36 47.5	
	comp=N,56nm,0.5s						
ILSW	Iliamna Southw	2.20	228	Pn	Pn	23 36 18.0	+0.2
EYAK	Cordova Ski Ar	2.24	113	Pn	Pn	23 36 19.8	+1.6
MCK	McKinley	2.29	11		Pn	23 36 18.4	-0.5
N19K	Bonanza Creek	2.32	255		Pn	23 36 18.9	-0.5
L19K	White Mountain	2.44	288		Pn	23 36 20.8	-0.3
P19K	Oil Pt	2.48	223	Pn	Pn	23 36 22.7	+1.2
P19K				IAML		23 37 01.2	
	comp=E,79nm,0.5s						
P19K				IAML		23 37 14.2	
	comp=N,92nm,0.5s						
O19K	Port Alsworth	2.52	241		Pn	23 36 22.0	-0.1
N25K	Chitina, Valde	2.54	85		Pn	23 36 23.1	+0.6
N25K				IAML		23 36 60.0	
	comp=E,53nm,0.5s						
N25K				IAML		23 37 01.1	
	comp=N,64nm,0.6s						
PAX	Paxson	2.55	53		Pn	23 36 24.5	+1.9
BMRM	Bremner River	2.62	99		Pn	23 36 25.0	+1.5
CHUM	Lake Minchumin	2.64	336		Pn	23 36 22.8	-0.8
BPAW	Bear Paw Mtn.	2.66	350		Pn	23 36 22.9	-1.1
BPAW				IAML		23 37 00.9	
	comp=E,36nm,0.5s						
K20K	Telida	2.69	316		Pn	23 36 23.6	-0.8
K20K	Telida	2.69	316	IAML		23 37 02.9	
	comp=N,40nm,0.7s						
K20K				IAML		23 37 03.1	
	comp=E,75nm,0.6s						
BWN	Browne	2.69	4	Pn	Pn	23 36 23.8	-0.6
WACK	Wrangell Chich	2.70	77		Pn	23 36 24.8	0.0
RAGM	Ragged Mountai	2.79	111	Pn	Pn	23 36 26.1	+0.3
M18K	Stony River	2.84	272		Pn	23 36 25.8	-0.6
GLB	Gilahina Butte	2.93	88		Pn	23 36 29.3	+1.5
GLB				IAML		23 37 10.5	
	comp=N,58nm,0.6s						
GLB				IAML		23 37 14.4	
	comp=E,30nm,0.5s						
HMT	Hamilton	3.00	110		Pn	23 36 29.9	+1.3
N18K	Kilae Creek	3.02	257		Pn	23 36 27.6	-1.3
O18K	Koktuh Hills	3.08	240	Pn	Pn	23 36 28.9	-1.0
WRH	Wood River Hil	3.10	15		Pn	23 36 29.3	-0.7
WRH	Wood River Hil	3.10	15	IAML		23 37 26.8	
	comp=E,25nm,1.2s						
VRDI	Verde Repeater	3.12	92	IAML		23 37 24.3	
	comp=N,30nm,0.6s						
SYI	Shuyak Island	3.15	204	Pn	Pn	23 36 29.3	-1.5
SYI				IAML		23 37 18.0	
	comp=N,29nm,1.1s						
SYI				IAML		23 37 36.7	
	comp=E,37nm,1.1s						
Q19K	Cape Douglas,	3.18	217		Pn	23 36 30.1	-1.1
TTA	Tatalina	3.20	299	IAML		23 37 27.1	
	comp=N,25nm,0.6s						
HDA	Harding Lake	3.22	24	IAML		23 37 26.3	
	comp=E,34nm,0.7s						
HDA				IAML		23 37 28.3	
	comp=N,41nm,0.5s						
MENT	Mentasta	3.24	61		Pn	23 36 33.5	+1.6
MENT				IAML		23 37 31.2	
	comp=E,61nm,0.9s						
RIDG	Independent Ri	3.24	44	IAML		23 37 18.9	
	comp=N,33nm,0.7s						
RIDG				IAML		23 37 30.4	
	comp=E,50nm,0.8s						
L18K	Granite Mounta	3.29	286		Pn	23 36 31.9	-0.7
L18K	Granite Mounta	3.29	286	IAML		23 37 29.8	
	comp=N,23nm,0.8s						
CCB	Clear Creek Bu	3.30	16		Pn	23 36 33.3	+0.5
J20K	Nowinta River	3.31	326		Pn	23 36 31.9	-1.1
J20K	Nowinta River	3.31	326	IAML		23 37 12.0	
	comp=N,54nm,0.7s						
J20K				IAML		23 37 12.4	
	comp=E,38nm,0.7s						
M26K	Nabesna, AK	3.39	72	Pn	Pn	23 36 35.8	+1.7
M26K				IAML		23 37 30.0	
	comp=N,24nm,1.0s						
M26K				IAML		23 37 33.4	
	comp=E,20nm,0.4s						
L26K	Log Cabin Wild	3.43	61	Pn	Pn	23 36 36.2	+1.6
L26K				IAML		23 37 30.2	
	comp=N,42nm,0.8s						
L26K				IAML		23 37 33.2	
	comp=E,28nm,0.4s						
COLA	College	3.51	15	Pn	Pn	23 36 35.2	-0.5
IL31		3.56	21		Pn	23 36 36.2	0.0
ILAR	Eielson Array	3.56	21	Pn	Pn	23 36 37.0	+0.7
M17K	Holitna River	3.62	272	Pn	Pn	23 36 36.4	-0.7
M17K				IAML		23 37 40.4	
	comp=N,35nm,0.9s						
M17K				IAML		23 37 43.0	
	comp=E,36nm,1.1s						
J19K	Poorman	3.63	316	Pn	Pn	23 36 35.9	-1.4
J19K				IAML		23 37 38.3	
	comp=E,22nm,0.4s						
J19K				IAML		23 37 39.0	
	comp=N,21nm,0.7s						
I23K	Minto, Yukon-K	3.67	4		Pn	23 36 37.2	-0.6
I23K				IAML		23 37 47.0	
	comp=N,18nm,0.8s						
N17K	Nushagak Hills	3.67	258	Pn	Pn	23 36 37.0	-0.9
SCRK	Sand Creek	3.69	45		Pn	23 36 41.1	+2.9
J18K	Innoko River	3.72	305	Pn	Pn	23 36 37.6	-1.0
J18K				IAML		23 37 21.7	
	comp=N,16nm,0.8s						
J18K				IAML		23 37 41.6	
	comp=E,15nm,1.1s						
J25K	Salcha River,	3.75	31		Pn	23 36 39.5	+0.5
J25K				IAML		23 37 29.6	
	comp=N,20nm,0.4s						
J25K				IAML		23 37 29.8	
	comp=E,19nm,0.5s						
POKR	Poker Plat Res	3.80	16	Pn	Pn	23 36 39.1	-0.5
POKR				IAML		23 37 50.4	
	comp=N,14nm,0.8s						
I21K	Tanana	3.81	347		Pn	23 36 39.2	-0.5
I21K	Tanana	3.81	347	IAML		23 37 42.6	
	comp=E,18nm,0.7s						
I21K				IAML		23 37 44.4	
	comp=N,17nm,0.8s						
I20K	Naaghedeneel	3.90	330	Pn	Pn	23 36 39.6	-1.4
L17K	Donlin	4.03	283		Pn	23 36 42.0	-0.8
L27K	Beaver Creek,	4.09	64	Pn	Pn	23 36 44.8	+1.2
BCAR	Beaver Creek A	4.11	64	Pn	Pn	23 36 44.1	+0.2
K17K	Iditarod	4.13	291		Pn	23 36 43.0	-1.1
K17K				IAML		23 37 51.4	
	comp=N,13nm,0.9s						
K17K				IAML		23 38 08.6	
	comp=E,22nm,0.9s						
J26L	Joseph Creek	4.18	41	Pn	Pn	23 36 46.0	+1.2
J26L				IAML		23 37 40.8	
	comp=E,18nm,0.6s						
J26L				IAML		23 37 48.2	
	comp=N,13nm,0.4s						
ACHA	Angle Creek He	4.28	222	Pn	Pn	23 36 46.4	+0.1
H21K	Melozitna Rive	4.37	344	Pn	Pn	23 36 46.8	-0.6
H21K				IAML		23 37 52.8	
	comp=E,12nm,0.9s						
M16K	Timber Creek	4.40	268	Pn	Pn	23 36 46.7	-1.1
H24K	Noodor

KBG **Krutoberegovo** 1.88 323 *e*P **Pn** **23 37 48.4 -2.6**
KBG *e*S **Sn** **23 38 10.9 -3.9**
TUMD Tumrok D 2.54 281 *e*P **Pn** **23 37 59.6 -0.6**
BZGR Bezymyannyi-Gr 2.59 298 PN **Pn** **23 38 00.7 -0.2**
BZGR S **Sn** **23 38 32.2 -0.3**
BZGR Bezymyannyi-Gr 2.59 298 *e*P **Pn** **23 38 00.5 -0.4**
BZGR *e*S **Sn** **23 38 32.2 -0.3**
SMKR Semkarok 2.59 315 PN **Pn** **23 38 00.7 -0.2**
SMKR S **Sn** **23 38 32.0 -0.5**
SMKR Semkarok 2.59 315 *e*P **Pn** **23 38 00.8 -0.1**
SMKR *e*S **Sn** **23 38 31.5 -0.9**
CIRR Tsirk 2.65 302 PN **Pn** **23 38 01.6 0.0**
CIRR Tsirk 2.65 302 *e*P **Pn** **23 38 01.7 0.0**
CIRR *e*S **Sn** **23 38 34.0 +0.2**
LGNR Loginova 2.66 301 PN **Pn** **23 38 01.7 -0.3**
LGNR Loginova 2.66 301 *e*P **Pn** **23 38 02.2 +0.3**
LGNR *e*S **Sn** **23 38 34.9 +0.5**
BDR Baidarnaya 2.69 313 *e*S **Sn** **23 38 34.9 0.0**
BZWR Bezymyannyi-We 2.70 298 *e*P **Pn** **23 38 02.8 +0.3**
BZWR *e*S **Sn** **23 38 35.6 +0.2**
KMNR Kamenistaya 2.76 293 PN **Pn** **23 38 03.2 0.0**
KMNR S **Sn** **23 38 38.3 +1.6**
KMNR Kamenistaya 2.76 293 *e*P **Pn** **23 38 03.3 +0.1**
KMNR *e*S **Sn** **23 38 37.4 +0.7**
KIRR Kirishev 2.78 297 PN **Pn** **23 38 03.5 0.0**
KIRR S **Sn** **23 38 36.1 -1.1**
KIRR Kirishev 2.78 297 *e*P **Pn** **23 38 03.7 +0.2**
KIRR *e*S **Sn** **23 38 37.1 0.0**
KRSR Krestovskiy 2.78 303 PN **Pn** **23 38 02.8 -0.7**
KRSR S **Sn** **23 38 35.7 -1.6**
KRSR Krestovskiy 2.78 303 *e*P **Pn** **23 38 02.9 -0.6**
KRSR *e*S **Sn** **23 38 35.6 -1.6**
KLY Klyuchi 2.79 305 PN **Pn** **23 38 01.8 -1.7**
KLY S **Sn** **23 38 33.2 -4.0**
KLY Klyuchi 2.79 305 *e*P **Pn** **23 38 01.9 -1.7**
KLY *e*S **Sn** **23 38 33.8 -3.4**
KPT Kopyto 2.85 297 PN **Pn** **23 38 04.8 +0.4**
KPT S **Sn** **23 38 38.2 -0.5**
KPT Kopyto 2.85 297 *e*P **Pn** **23 38 04.8 +0.4**
KOZ Kozyrevsk 3.06 297 PN **Pn** **23 38 08.9 +1.6**
KOZ S **Sn** **23 38 45.3 +1.3**
SRDR Sredinnyy 3.25 300 PN **Pn** **23 38 10.1 +0.3**
SRDR S **Sn** **23 38 49.2 +0.6**
SRDR Sredinnyy 3.25 300 *e*P **Pn** **23 38 10.2 +0.3**
SRDR *e*S **Sn** **23 38 49.2 +0.6**
SPN Mys Shipunski 3.27 241 *e*S **Sn** **23 38 44.3 -4.7**
NLC Nalytchevo 3.58 245 PN **Pn** **23 38 14.0 -0.3**
NLC Nalytchevo 3.58 245 *e*P **Pn** **23 38 14.0 -0.3**
NLC *e*S **Sn** **23 38 52.5 -4.1**
ESO Esso 3.64 291 PN **Pn** **23 38 14.7 -0.5**
ESO Esso 3.64 291 *e*P **Pn** **23 38 14.8 -0.4**
ESO *e*S **Sn** **23 38 56.0 -2.3**
UGLR Uglovaya 3.84 248 PN **Pn** **23 38 18.5 +0.5**
UGLR Uglovaya 3.84 248 *e*P **Pn** **23 38 18.0 0.0**
UGLR *e*S **Sn** **23 39 00.7 -2.6**
AVH Avacha 3.86 249 PN **Pn** **23 38 19.0 +0.7**
AVH Avacha 3.86 249 *e*P **Pn** **23 38 18.6 +0.3**
AVH *e*S **Sn** **23 39 01.3 -2.4**
KRX Arik 3.87 251 PN **Pn** **23 38 19.0 +0.5**
KRX Arik 3.87 251 *e*P **Pn** **23 38 18.5 +0.1**
KRX *e*S **Sn** **23 39 01.2 -2.8**
KOK Koryaka 3.90 250 PN **Pn** **23 38 19.3 +0.4**
KOK Koryaka 3.90 250 *e*P **Pn** **23 38 19.0 +0.1**
DALK Dalny 3.96 246 PN **Pn** **23 38 19.2 -0.3**
DALK Dalny 3.96 246 *e*P **Pn** **23 38 19.3 -0.3**
DALK *e*S **Sn** **23 39 01.6 -4.4**
PET Petropavlovsk 4.01 246 **Pn** **23 38 19.4 -0.9**
PET Petropavlovsk 4.01 246 *e*PN **Pn** **23 38 20.8 +0.5**
PET pmax pmax
comp=Z,65nm,0.8s
PET Petropavlovsk 4.01 246 *e*S **Sn** **23 39 04.2 -3.2**
GNL Ganaly 4.14 258 PN **Pn** **23 38 22.9 +0.7**
GNL Ganaly 4.14 258 *e*P **Pn** **23 38 23.1 +0.9**
KRMR Karymshinskiy 4.39 246 PN **Pn** **23 38 25.8 +0.4**
KRMR Karymshinskiy 4.39 246 *e*P **Pn** **23 38 25.9 +0.4**
KRMR *e*S **Sn** **23 39 13.4 -3.2**
RUS Russkaya 4.40 240 PN **Pn** **23 38 25.6 0.0**
RUS Russkaya 4.40 240 *e*P **Pn** **23 38 25.3 -0.3**
RUS *e*S **Sn** **23 39 14.4 -2.4**
PEA0B Petropavlovsk- 4.49 251 Pn **Pn** **23 38 26.9 -0.1**
PEA0B Petropavlovsk- 4.49 251 *i* PN **Pn** **23 38 26.8 -0.1**
PETK Petropavlovsk- 4.49 251 Pn **Pn** **23 38 25.9 -1.0**
PETK Petropavlovsk- 4.49 251 Pn **Pn** **23 38 26.5 -0.4**
comp=Z,21nm,0.6s,baz=67,slow=17,SNR=103
PETK Sn **Sn** **23 39 17.1 -2.1**
comp=Z,2.7nm,0.3s,baz=324,slow=15,SNR=6.0
PETK LR LR 23 40 01.6
comp=Z,78nm,19.3s,baz=56,slow=36
GRL Gorelyy 4.56 243 PN **Pn** **23 38 28.7 +0.8**
GRL Gorelyy 4.56 243 *e*P **Pn** **23 38 28.7 +0.8**
OSSR Ossora 4.58 349 PN **Pn** **23 38 27.4 -0.5**
OSSR Ossora 4.58 349 *e*P **Pn** **23 38 27.5 -0.5**
OSSR *e*S **Sn** **23 39 16.3 -4.8**
APC Apacha 4.87 251 PN **Pn** **23 38 33.4 +1.4**
APC Apacha 4.87 251 *e*P **Pn** **23 38 33.4 +1.4**
KDTR Khodutka, Kamc 4.99 236 PN **Pn** **23 38 32.8 -0.9**
KDTR Khodutka, Kamc 4.99 236 *e*P **Pn** **23 38 33.2 -0.5**
KDTR *e*S **Sn** **23 39 26.9 -4.5**
TILK Tilichiki 5.73 7 *e*P **Pn** **23 38 45.1 +1.3**
PAU Pauzhetka 5.82 238 PN **Pn** **23 38 48.1 +3.0**
MA2 Magadan 8.98 308 Pn **Pn** **23 39 29.6 +1.2**
comp=Z,0.5nm,0.3s,baz=71,slow=13,SNR=3.9
MA2 LR LR 23 42 24.9
comp=Z,51nm,21.4s,baz=105,slow=35
comp=Z,1.3nm,0.3s
ASAJ Asahikawa 17.85 242 P **Pn** **23 41 26.5 -0.5**
comp=Z,0.8nm,0.3s,baz=18,slow=2.9,SNR=5.9
comp=Z,7.7nm,0.6s
ERM Erimo 19.10 237 P **P** **23 41 38.3 -3.2**
ERM IAmb IAmb 23 42 02.8
comp=Z,48nm,1.3s
ERM Erimo 19.10 237 *i* P **P** **23 41 39.1 -2.4**
N15K Kwethluk River 19.48 60 P **P** **23 41 45.3 -0.4**
N15K IAmb IAmb 23 41 45.7
comp=Z,22nm,1.2s
YAK Yakutsk 19.55 306 P **P** **23 41 44.2 -2.1**
comp=Z,5.6nm,0.3s,baz=115,slow=17,SNR=5.3
comp=Z,18nm,0.4s
J17K VABM Dome 20.22 50 P Pn 23 41 55.6 +0.1
KLR Kul'dur 20.93 268 P **P** **23 42 00.1 -1.3**
comp=Z,1.4nm,0.8s,baz=82,slow=9.8,SNR=4.0
KLR LR LR 23 49 45.0
comp=Z,54nm,20.8s,baz=348,slow=36
comp=Z,1.4nm,0.8s
KLR Kul'dur 20.93 268 *i* P **P** **23 42 01.0 -0.4**
KLR pmax pmax
comp=Z,10.0nm,2.6s
TTA Tatalina 21.55 52 P **P** **23 42 08.6 +0.5**
TTA Tatalina 21.55 52 P **P** **23 42 08.6 +0.5**
TTA pmax pmax
comp=Z,6.0nm,1.4s
J19K Poorman 21.82 49 P **P** **23 42 12.1 +1.2**
P18K Big Mountain, 21.98 62 P **P** **23 42 11.5 -1.1**
P18K IAmb IAmb 23 42 18.2
comp=Z,25nm,1.4s
ACHA Angle Creek He 22.07 65 P **P** **23 42 11.9 -1.7**
J20K Nowinta River 22.48 49 P **P** **23 42 19.3 +1.3**
J20K IAmb IAmb 23 42 21.3
comp=Z,8.2nm,0.8s
TIXI Tiksi 22.81 331 *i* P **P** **23 42 21.8 +0.5**
TIXI pmax pmax
comp=Z,16nm,3.0s
Q19K Cape Douglas, 22.84 63 P **P** **23 42 20.6 -1.3**
ILSW Iliamna Southw 22.97 60 P **P** **23 42 22.6 -0.7**
ILSW IAmb IAmb 23 43 02.4
comp=Z,19nm,1.4s
H21K Melozitna Rive 23.22 45 P **P** **23 42 26.2 +0.5**
H21K IAmb IAmb 23 42 27.9
comp=Z,16nm,1.3s
PPLA Purkeypile 23.30 52 P **P** **23 42 27.4 +0.7**
PPLA IAmb IAmb 23 43 07.1
comp=Z,18nm,1.5s
CAST Castle Rocks 23.35 51 P **P** **23 42 27.3 +0.3**
SPU Mount Spurr 23.41 57 P **P** **23 42 27.9 +0.3**
STLK Strandline Lak 23.50 56 P **P** **23 42 28.4 -0.2**
SYI Shuyak Island 23.53 63 P **P** **23 42 27.3 -1.5**
KDAK Kodiak Island 23.58 65 P **P** **23 42 27.7 -1.6**
KDAK Kodiak Island 23.58 65 P **P** **23 42 27.7 -1.6**
KDAK pmax pmax
comp=Z,36nm,1.4s
SKT Skwentna 23.62 55 P **P** **23 42 29.3 -0.3**
SKT IAmb IAmb 23 42 32.5
comp=Z,12nm,1.5s
BPAW Bear Paw Mtn. 23.86 49 P **P** **23 42 31.6 -0.5**
BPAW IAmb IAmb 23 42 33.1
comp=Z,9.3nm,1.2s
KTH Kantishna Hill 23.88 51 P **P** **23 42 32.7 +0.5**
KTH IAmb IAmb 23 42 50.1
comp=Z,14nm,1.4s
CNPM China Poot 23.98 61 P **P** **23 42 32.4 -0.8**
BRLK Bradley Lake 24.13 60 P **P** **23 42 33.3 -1.3**
TRF Thorofare Moun 24.16 51 P **P** **23 42 35.1 +0.1**
TRF IAmb IAmb 23 42 37.1
comp=Z,14nm,1.0s
COLD Coldfoot 24.47 42 P **P** **23 42 37.9 +0.3**
COLD IAmb IAmb 23 42 39.5
comp=Z,13nm,1.0s
I23K Minto, Yukon-K 24.61 47 P **P** **23 42 39.3 +0.5**
I23K IAmb IAmb 23 42 41.2
comp=Z,8.9nm,0.7s
NEA2 Nenana 24.71 48 P **P** **23 42 40.0 +0.2**
RND Reindeer 24.81 51 P **P** **23 42 40.5 -0.2**
RND IAmb IAmb 23 42 42.8
comp=Z,7.9nm,0.9s
RND Reindeer 24.81 51 P **P** **23 42 40.5 -0.2**
RND pmax pmax
comp=Z,8.0nm,0.9s
TOLK Toolik Lake Re 24.94 38 P **P** **23 42 42.3 +0.4**
TOLK IAmb IAmb 23 42 44.5
comp=Z,5.7nm,1.0s
KNK Knik Glacier 25.12 56 P **P** **23 42 43.0 -0.5**
WRH Wood River Hil 25.13 48 P **P** **23 42 43.9 +0.3**
SML Sawmill 25.14 55 P **P** **23 42 43.3 -0.4**
SML IAmb IAmb 23 42 54.8
comp=Z,10nm,1.0s
COLA College 25.24 47 *i* P **P** **23 42 44.3 -0.2**
COLA pmax pmax
comp=Z,8.0nm,0.7s
E24K Your Creek 25.24 40 P **P** **23 42 45.1 +0.5**
E24K IAmb IAmb 23 42 47.8
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 25.26 48 P **P** **23 42 44.8 +0.1**
CCB IAmb IAmb 23 42 47.3
comp=Z,7.3nm,0.7s
F24K Squaw Lake 25.40 41 P **P** **23 42 46.1 +0.1**
POKR Poker Plat Res 25.42 47 P **P** **23 42 46.9 +0.6**
POKR IAmb IAmb 23 42 47.6
comp=Z,3.9nm,0.6s
C24K Franklin Bluff 25.46 36 P **P** **23 42 46.6 +0.1**
C24K IAmb IAmb 23 42 49.7
comp=Z,8.6nm,1.1s
SCM Sheep Creek Mo 25.61 55 P **P** **23 42 48.0 0.0**
SCM IAmb IAmb 23 42 50.9
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 25.61 55 P **P** **23 42 48.0 0.0**
SCM pmax pmax
comp=Z,11nm,0.8s
HDA Harding Lake 25.63 49 P **P** **23 42 47.4 -0.7**
HDA IAmb IAmb 23 42 48.2
comp=Z,5.9nm,1.0s
IL31 25.65 48 P **P** **23 42 48.2 0.0**
IL31 IAmb IAmb 23 42 49.0
comp=Z,7.1nm,0.8s
ILAR Eielson Array 25.65 48 P **P** **23 42 48.0 -0.3**
ILAR Eielson Array 25.65 48 P **P** **23 42 48.0 -0.3**
comp=Z,4.3nm,0.8s,baz=261,slow=8.6,SNR=52
comp=Z,4.3nm,0.8s
ILAR Eielson Array 25.65 48 P **P** **23 42 48.0 -0.3**
MJAR Matsushiro Arr 25.77 236 P **P** **23 42 50.8 +1.2**
comp=Z,1.0nm,0.4s,baz=24,slow=9.3,SNR=6.8
comp=Z,1.0nm,0.4s
M24K Tolsona, Glenn 26.12 54 P **P** **23 42 53.0 +0.3**
PRP Porcupine Dome 26.23 46 P **P** **23 42 53.8 +0.1**
F25K Christian Rive 26.26 41 P **P** **23 42 54.2 +0.3**
J25K Salcha River, 26.31 48 P **P** **23 42 52.8 -1.6**
KLU Klutina 26.32 55 P **P** **23 42 54.8 +0.3**
KLU IAmb IAmb 23 42 54.9
comp=Z,10.0nm,1.2s
E25K Arctic Village 26.34 40 P **P** **23 42 55.2 +0.7**
FYU Fort Yukon 26.37 44 P **P** **23 42 54.7 0.0**
FYU IAmb IAmb 23 42 56.3
comp=Z,6.9nm,0.7s
RIDG Independent Ri 26.58 50 P **P** **23 42 55.7 -1.1**
RIDG IAmb IAmb 23 42 56.9
comp=Z,8.7nm,1.1s
BMAR Burnt Mountain 26.66 42 P **P** **23 42 58.4 +1.0**
N25K Chitina, Valde 26.93 55 **P** **23 43 00.1 +0.1**
N25K IAmb IAmb 23 43 33.1
comp=Z,12nm,1.3s
SCRK Sand Creek 26.95 49 P **P** **23 42 59.3 -0.8**
BMRM Bremner River 27.03 56 P **P** **23 43 01.3 +0.4**
J26L Joseph Creek 27.09 48 P **P** **23 43 01.8 +0.4**
M26K Nabesna, AK 27.56 53 P **P** **23 43 06.5 +0.8**
G27K Doyon Strip 27.79 43 P **P** **23 43 08.3 +0.7**
BCAR Beaver Creek A 28.02 51 P **P** **23 43 10.6 +0.9**
M27K Edge Creek, AK 28.09 53 P **P** **23 43 11.2 +0.8**
D27M Malcolm River 28.10 38 P **P** **23 43 10.8 +0.4**
D27M IAmb IAmb 23 43 11.6
comp=Z,3.6nm,0.8s
F28M Old Crow 28.47 41 P **P** **23 43 14.4 +0.7**
DAWY Dawson 28.95 49 P **P** **23 43 18.1 +0.2**
E29M Blow River 29.20 40 P **P** **23 43 20.4 +0.3**
G29M Pine Creek 29.22 43 P **P** **23 43 21.1 +0.8**
M29M Somme Creek 29.64 52 P **P** **23 43 25.3 +1.1**
M29M IAmb IAmb 23 43 25.8
comp=Z,2.7nm,0.6s
L29M L29M 29.66 51 P **P** **23 43 25.2 +0.9**
G30M tAoh Zraii Nji 29.92 43 P **P** **23 43 26.9 +0.3**
G30M IAmb IAmb 23 43 40.1
comp=Z,6.6nm,1.3s
I30M Mount Dempster 30.07 46 P **P** **23 43 28.4 +0.5**
I30M IAmb IAmb 23 43 30.1
comp=Z,3.9nm,0.8s
J30M Hart River 30.19 47 P **P** **23 43 29.1 +0.1**
J30M IAmb IAmb 23 44 02.1
comp=Z,9.7nm,1.5s
M30M Minto, Yukon 30.36 51 P **P** **23 43 31.2 +0.7**
KSRS Koyukuk Array 30.39 251 P **P** **23 43 32.8 +2.0**
comp=Z,3.4nm,0.8s,baz=44,slow=8.9,SNR=8.2
comp=Z,3.4nm,0.8s
HYT Haines Junctio 30.45 55 P **P** **23 43 31.7 +0.4**
HYT IAmb IAmb 23 44 14.0
comp=Z,8.6nm,1.4s
G31M Satah River 30.69 42 P **P** **23 43 33.0 -0.2**
G31M IAmb IAmb 23 44 10.5
comp=Z,4.8nm,1.4s
H31M Peel River 30.82 45 P **P** **23 43 34.8 +0.3**
H31M IAmb IAmb 23 43 40.9
comp=Z,4.1nm,1.1s
INK Inuvik 30.82 40 P **P** **23 43 34.8 +0.4**
INK IAmb IAmb 23 43 35.6
comp=Z,2.7nm,0.7s
INK Inuvik 30.82 40 P **P** **23 43 34.8 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.7s
F31M Tsiigehtchic 30.84 41 P **P** **23 43 34.5 +0.1**
F31M IAmb IAmb 23 43 38.7
comp=Z,5.9nm,1.5s
O30N Mendenhall 31.13 55 P **P** **23 43 36.8 -0.5**
M31M Drury Creek, Y 31.54 52 P **P** **23 43 42.1 +1.3**
M31M IAmb IAmb 23 43 46.3
comp=Z,5.5nm,1.2s
WHY Whitehorse 31.73 54 P **P** **23 43 42.8 +0.1**
MMPY Sheldon Lake, 32.83 50 P **P** **23 43 53.6 +1.4**
A36M Sachs Harbour 33.25 32 P **P** **23 43 56.7 +1.1**
A36M IAmb IAmb 23 44 21.2
comp=Z,5.8nm,1.3s
Q32M Nakina River 33.54 57 P **P** **23 44 00.4 +1.9**
C36M Paulatuk 34.06 37 P **P** **23 44 03.1 +0.4**
C36M IAmb IAmb 23 44 03.8
comp=Z,4.1nm,0.7s
H11N2 WAKE ISLAND Hy 35.03 176 T T 00 22 45.4
baz=359,slow=76,SNR=97
H11N3 WAKE ISLAND Hy 35.04 176 T T 00 22 38.2
baz=359,slow=76,SNR=75
H11N1 WAKE ISLAND Hy 35.05 176 T T 00 22 40.6
baz=359,slow=76,SNR=98
SONM Songino Array 36.19 284 P **P** **23 44 21.6 +0.1**
comp=Z,0.3nm,0.6s,baz=69,slow=7.2,SNR=2.4
comp=Z,0.3nm,0.6s
H11S1 WAKE ISLAND Hy 36.24 177 T T 00 24 09.8
baz=354
H11S3 WAKE ISLAND Hy 36.25 177 T T 00 24 09.0
baz=354
H11S2 WAKE ISLAND Hy 36.26 177 T T 00 24 13.5
baz=354
GRNB Grenville Isla 36.86 64 P **P** **23 44 26.3 -0.6**
HHC Hu-ho-hao-te 37.40 271 *e*P **P** **23 44 31.1 -0.7**
HHC pmax pmax
comp=Z,3.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.0s
HOLB Holberg 39.47 67 P **P** **23 44 49.5 +0.5**
EUNU Eureka 39.63 15 P **P** **23 44 51.2 +1.2**
EUNU IAmb IAmb 23 44 51.3
comp=Z,4.2nm,0.7s
YKA Yellowknife Ar 40.03 45 P **P** **23 44 53.0 -0.5**
YKA Yellowknife Ar 40.03 45 P **P** **23 44 53.9 +0.4**
comp=Z,1.2nm,0.6s,baz=297,slow=8.3,SNR=15
comp=Z,1.2nm,0.6s
YKA Yellowknife Ar 40.03 45 P **P** **23 44 53.0 -0.5**
RES Resolute Bay 40.70 24 P **P** **23 44 59.1 +0.3**
RES Resolute Bay 40.70 24 P **P** **23 44 59.1 +0.3**
RES pmax pmax
comp=Z,1.0nm,0.7s
GTA Gaotai 45.13 278 *e*P **P** **23 45 36.8 +1.4**
GTA pP sP 23 45 41.3 +3.7
GTA pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 48.98 291 *e*P **P** **23 46 06.6 +1.3**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 49.15 303 P **P** **23 46 06.3 -0.1**
KURK IAmb IAmb 23 46 06.8
comp=Z,2.3nm,0.7s
KURK Kurchatov 49.15 303 *i* P **P** **23 46 06.0 -0.4**
KURK pmax pmax
comp=Z,17nm,4.2s
KURBB Kurchatov Arra 49.26 303 P **P** **23 46 06.9 -0.3**
comp=Z,1.2nm,0.6s,baz=56,slow=7.7,SNR=17
comp=Z,1.2nm,0.6s
MK31 Makanchi Array 49.87 297 P **P** **23 46 12.4 +0.4**
MK31 Makanchi Array 49.87 297 *i* P **P** **23 46 11.4 -0.6**
MKAR Makanchi Array 49.87 297 P **P** **23 46 12.4 +0.3**
MKAR Makanchi Array 49.87 297 P **P** **23 46 11.9 -0.1**
comp=Z,0.9nm,0.7s,baz=58,slow=6.4,SNR=10.0
comp=Z,0.9nm,0.7s
FCC Fort Churchill 50.41 42 P **P** **23 46 15.9 0.0**
FCC IAmb IAmb 23 46 16.7
comp=Z,2.6nm,0.7s
FCC Fort Churchill 50.41 42 P **P** **23 46 15.9 0.0**
FCC pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 51.47 310 P **P** **23 46 24.2 +0.3**
comp=Z,1.3nm,0.8s,baz=29,slow=3.6,SNR=4.8
comp=Z,1.3nm,0.8s
BRVK Borovoye 51.49 310 *i* P **P** **23 46 23.8 -0.3**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
ARCES ARCESS Array B 52.50 343 P **P** **23 46 31.0 -0.4**
comp=Z,4.0nm,0.8s,baz=9.8,slow=10.0,SNR=4.0
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 52.50 343 P **P** **23 46 31.0 -0.4**
NVAR Mina Array Bea 52.60 74 P **P** **23 46 34.4 +1.5**
comp=Z,1.0nm,0.9s,baz=319,slow=5.1,SNR=2.8
comp=Z,1.0nm,0.9s
PZH PanZhiHua 53.32 265 P **P** **23 46 38.1 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.1s
PDAR Pinedale Array 54.30 65 P **P** **23 46 46.2 +1.0**
comp=Z,0.6nm,0.8s,baz=318,slow=4.2,SNR=5.0
comp=Z,0.6nm,0.8s
ULM Lac du Bonnet 55.64 50 P **P** **23 46 54.8 +0.2**
comp=Z,1.8nm,0.8s,baz=344,slow=2.4,SNR=3.8
comp=Z,1.8nm,0.8s
TKX Tecate 57.79 78 P **P** **23 47 07.4 -2.7**
FINES FINESS Array B 59.61 338 P **P** **23 47 22.1 -0.2**
comp=Z,4.6nm,1.0s,baz=39,slow=7.3,SNR=6.7
comp=Z,4.6nm,1.0s
BTK Batken 60.53 298 P **P** **23 47 29.2 +0.1**
BTK IAmb IAmb 23 47 39.4
comp=Z,2.4nm,0.8s
BTK Batken 60.53 298 P **P** **23 47 29.2 +0.1**
BTK pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 61.20 261 P **P** **23 47 35.6 +1.8**
comp=Z,1.1nm,0.3s,baz=24,slow=7.2,SNR=7.7
comp=Z,1.1nm,0.3s
GAR Garm 61.58 298 P **P** **23 47 37.2 +1.0**
NB2 NORSAR Subarra 62.63 346 P **P** **23 47 42.4 -0.5**
comp=Z,1.0nm,0.5s,baz=18,slow=6.9
NOA NORSAR Array B 62.63 346 P **P** **23 47 42.3 -0.5**
comp=Z,1.3nm,0.6s,baz=18,slow=6.7,SNR=7.0
comp=Z,1.3nm,0.6s
SCHQ Schefferville 62.83 31 P **P** **23 47 43.9 -0.4**
comp=Z,1.8nm,0.7s,baz=326,slow=7.3,SNR=4.1
comp=Z,1.8nm,0.7s
HFS Hagfors 63.13 344 P **P** **23 47 45.7 -0.4**
comp=Z,2.4nm,0.5s,baz=34,slow=5.6,SNR=13
comp=Z,2.4nm,0.5s
TXAR Lajitas Array 67.46 71 P **P** **23 48 16.4 +1.6**
comp=Z,2.7nm,0.6s,baz=304,slow=5.2,SNR=13
comp=Z,2.7nm,0.6s
CLL Collm 71.69 342 *i* P **P** **23 48 40.5 +0.1**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 71.69 342 *i* P **P** **23 48 40.5 +0.1**
GERES GERESS Array B 73.91 341 P **P** **23 48 54.3 +0.5**
comp=Z,0.7nm,0.6s,baz=48,slow=1.5,SNR=2.7
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 76.99 323 P **P** **23 49 12.3 +0.6**
comp=Z,0.3nm,0.4s,baz=27,slow=3.5,SNR=2.2
comp=Z,0.3nm,0.4s
WRA Warramunga Arr 78.84 209 P **P** **23 49 22.2 +0.4**
comp=Z,0.7nm,0.8s,baz=10,slow=5.5,SNR=6.5
comp=Z,0.7nm,0.8s
MMAI Mount Meron Ar 82.33 319 P **P** **23 49 40.4 -0.3**
comp=Z,0.6nm,0.7s,baz=24,slow=11,SNR=1.8
comp=Z,0.6nm,0.7s
ASAR Alice Springs 82.49 208 P **P** **23 49 42.5 +1.1**
comp=Z,1.0nm,0.9s,baz=18,slow=5.6,SNR=8.1
comp=Z,1.0nm,0.9s
ESDC Sonseca Array 85.42 351 P **P** **23 49 56.9 +0.5**
comp=Z,1.5nm,0.7s,baz=355,slow=5.1,SNR=12
comp=Z,1.5nm,0.7s
QSPA South Pole Qui 144.53 180 PKP **PKPab** **23 56 52.1 -0.4**
comp=Z,2.7nm,1.0s,baz=344,slow=3.5,SNR=6.8

WEL 22 23:37:39.9±0.9, 35°S±12°×17°9E±1°4, h239km±18km,
M3.9/14, mB5.4/2, ML4.2/11, MLv3.9/14, Mw(mB)4.8/2,
Error ellipse: s-maj=19.0km s-min=14.1km az=115.7,
confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.08**	**195**	P	Pn		23 38 32.6	+0.2
WMGZ				S	S		23 39 15.2	+1.2
HAZ	**Te Kaha**	**3.19**	**204**	P	Pn		23 38 34.0	+0.3
HAZ				S	S		23 39 16.3	0.0
PKGZ	**Pakihiroa**	**3.21**	**199**	P	Pn		23 38 34.3	+0.4
PKGZ				S	S		23 39 16.9	+0.2
PUZ	**Puketiti**	**3.36**	**196**	P	Pn		23 38 35.4	-0.2
PUZ				S	S		23 39 19.9	+0.2
RUGZ	**Raukumara Rang**	**3.42**	**204**	P	Pn		23 38 36.3	-0.1
RUGZ				S	S		23 39 19.7	-1.5
TWGZ	**Tauwhareparae**	**3.52**	**199**	P	Pn		23 38 37.8	+0.3
CNGZ	**Carnagh Statio**	**3.76**	**195**	P	Pn		23 38 40.8	+0.5
MWZ	**Matawai**	**3.80**	**203**	P	Pn		23 38 40.8	0.0
MWZ				S	S		23 39 29.7	+0.6
TKGZ	**Te Karaka**	**3.81**	**199**	P	Pn		23 38 40.6	-0.1
URZ	**Urewera**	**3.88**	**208**	P	Pn		23 38 41.6	-0.1
URZ				S	S		23 39 30.4	-0.3
RIGZ	**Rimuhau**	**4.08**	**199**	P	Pn		23 38 43.9	-0.2
RIGZ				S	S		23 39 35.8	+0.9
RTZ	**Ruatahuna**	**4.25**	**207**	P	Pn		23 38 45.7	-0.4
SNGZ	**Shannon Statio**	**4.27**	**202**	P	Pn		23 38 47.2	+0.9
SNGZ				S	S		23 39 39.4	+0.2
WCZ	**Waipu Caves**	**4.29**	**254**	P	Pn		23 38 48.0	+1.4
KNZ	**Kokohu**	**4.40**	**198**	P	Pn		23 38 47.1	-0.7
MHGZ	**Mahia Peninsul**	**4.47**	**195**	P	Pn		23 38 49.1	+0.4
MHGZ				S	S		23 39 45.3	+1.8
RAHZ	**Arahi**	**4.48**	**204**	P	Pn		23 38 48.8	0.0
RAHZ				S	S		23 39 44.8	+1.2
MTHZ	**Maungataniwha**	**4.50**	**207**	P	Pn		23 38 49.4	+0.2
MTHZ				S	S		23 39 44.0	-0.2
WHHZ	**Waihua**	**4.57**	**202**	P	Pn		23 38 49.8	-0.2
WHHZ				S	S		23 39 46.6	+0.8
NMHZ	**Naumai**	**4.73**	**205**	P	Pn		23 38 52.3	+0.3
NMHZ				S	S		23 39 50.3	+0.9
ARHZ	**Aropaoanui**	**4.82**	**203**	P	Pn		23 38 52.8	-0.2

BKZ	Black Stump Fm	4.91 208	P	Pn	23 38 53.8	-0.4
MCHZ	McNeill Hill	5.08 205	P	Pn	23 38 55.7	-0.5
KWHZ	Kaweka Forest	5.16 207	P	Pn	23 38 56.4	-0.8
TMVZ	Te Maari	5.20 214	P	Pn	23 38 57.8	0.0
KRVZ	Karewarewa	5.21 214	P	Pn	23 38 57.5	-0.4
ETVZ	East Tongariro	5.21 214	P	Pn	23 38 57.4	-0.6
KAHZ	Kahuranaki	5.34 202	P	Pn	23 38 59.2	-0.2
PXZ	Pawanui	5.56 201	P	Pn	23 39 00.2	-2.0
PXZ			S	S	23 40 07.1	-0.7
PRHZ	Porangahau	5.85 201	P	Pn	23 39 04.0	-1.8
MHEZ	Mangahewa	5.87 223	P	Pn	23 39 05.7	-0.4
BFZ	Birch Farm	6.35 202	P	Pn	23 39 11.8	-0.3
TIWZ	Tintock	6.55 204	P	Pn	23 39 13.3	-1.3
MRZ	Mangatainoka R	6.56 207	P	Pn	23 39 13.3	-1.4
HOWZ	Holdsworth Sta	6.79 206	P	Pn	23 39 15.6	-2.0
OGWZ	Otaki Gorge	6.85 208	P	Pn	23 39 16.8	-1.5
KIW	Kapiti Island	6.99 209	P	Pn	23 39 18.1	-2.0
MTW	Mount Morrison	7.02 205	P	Pn	23 39 19.2	-1.4
CAW	Cannon Point	7.14 207	P	Pn	23 39 20.2	-1.8
MSWZ	Moikau Station	7.34 205	P	Pn	23 39 22.7	-1.9
PLWZ	Palliser	7.47 205	P	Pn	23 39 23.9	-2.5
TCW	Tory Channel	7.54 211	P	Pn	23 39 25.2	-2.0
TUWZ	Tuamarina	7.86 212	P	Pn	23 39 29.7	-1.6
THZ	Tophouse	8.60 215	P	Pn	23 39 39.8	-0.9

NEIC 22 23:56:45±1.4, 37°23N±0°02×104°601W±0°009, h5km±1km, ML1.1/14, Error ellipse: s-maj=2.9km s-min=2.8km az=179.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	Trinidad	0.17 120			Pg	23 56 50.8	+2.2
T25A				Sg	Sg	23 56 53.2	+2.3
T25A				IAML		23 56 53.6	
	comp=E,47nm,0.1s						
T25A				IAML		23 56 53.6	
	comp=N,49nm,0.1s						
SDCO	Great Sand Dun	0.88 306			Pn	23 57 04.3	-0.1
SDCO				Sg	Sb	23 57 14.7	-0.6
RTBA	Rita Blanca	1.69 117			Pb	23 57 16.0	-0.6
Q24A	Divide	1.79 346		Pn	Pb	23 57 17.9	-0.5
S22A	4UR Ranch, Cre	1.85 287			Pn	23 57 18.4	+0.7
S22A				IAML		23 57 51.5	
	comp=N,1.5nm,1.1s						

IDC 23 00:09:55.4±1.3, 7°02S×128°71E, h0km, mb3.8/5, mbtmp3.8/8, ML4.0/3, Error ellipse: s-maj=89.9km s-min=20.5km az=71.0

ISC 23 00:10:01.0±1.2, 7°38S±0°10×128°4E±0°2, h35km, n8, σ2§98/10, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.99 194		Pn	Pn	00 12 39.5	+3.6
	1.2nm,0.3s,baz=17,slow=10,SNR=28						
FITZ				Sn	Sn	00 14 33.5	-4.1
	1.3nm,0.3s,baz=282,slow=20,SNR=3.1						
	2.6nm,0.3s						
WRA	Warramunga Arr	13.74 156		Pn	Pn	00 13 16.0	+2.5
	0.8nm,0.3s,baz=327,slow=13,SNR=19						
WRA				Sn	Sn	00 15 40.9	-4.1
	0.7nm,0.3s,baz=324,slow=24,SNR=6.8						
	1.3nm,0.6s						
ASAR	Alice Springs	17.03 163		P	P	00 13 59.9	+1.8
	0.3nm,0.3s,baz=338,slow=10,SNR=28						
	1.7nm,0.7s						
STKA	Stephens Creek	27.29 155		P	P	00 15 42.7	+0.3
	1.6nm,0.7s,baz=336,slow=12,SNR=2.2						
	1.6nm,0.7s						
MKAR	Makanchi Array	67.70 328		P	P	00 20 54.0	-0.8
	0.2nm,0.5s,baz=125,slow=7.2,SNR=2.6						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	71.24 334		P	P	00 21 14.7	-1.7
	0.5nm,0.3s,baz=122,slow=5.2,SNR=2.1						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	72.02 329		P	P	00 21 20.4	-0.9
	0.4nm,0.5s,baz=140,slow=4.7,SNR=5.6						
	0.4nm,0.5s						
BVAR	Borovoye Array	77.56 328		P	P	00 21 52.1	-1.2
	0.4nm,0.4s,baz=107,slow=4.8,SNR=1.8						
	0.4nm,0.4s						

SOME 23 00:21:02.8, 41°82N×81°78E, h15km
NNC 23 00:21:04.1±2.5, 41°89N×81°77E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.4km s-min=12.3km az=160.0

ISC 23 00:21:06.1±2.8, 42°0N±0°1×81°55E±0°08, h7km±14km, n24, σ1§47/36, 8C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.95 308		Pg	Pn	00 21 39.2	-0.6
	38nm,0.2s						
SHLS				Lg	Lg	00 22 06.2	
	31nm,0.5s						
SHLS	Shalkode	1.95 308		eP	Pn	00 21 39.0	-0.7
	23nm,0.1s						
SHLS				eS	Sn	00 22 05.0	+0.4
	58nm,0.2s						
PDGK	Podgornoye	2.04 312		⇓Pn	Pb	00 21 43.2	-0.3
	5.1nm,0.3s						
PDGK				⇑Sn	Sg	00 22 14.6	+3.0
	53nm,0.8s						
UZB	Uzynbulak	2.21 303		Pg	Pg	00 21 47.7	-0.7
	9.3nm,0.3s						
UZB				Lg	Lg	00 22 20.6	
	56nm,0.3s						
UZB	Uzynbulak	2.21 303		eP	Pb	00 21 47.0	+0.5
	7.2nm,0.1s						
UZB				eS	Sg	00 22 18.9	+1.9
	51nm,0.5s						
SATY	Saty	2.57 296		Pg	Pb	00 21 51.9	-0.7
SATY				Lg	Lg	00 22 27.8	
KPKS	Kokpek	2.59 306		Pg	Pb	00 21 52.3	-0.6
	7.5nm,0.2s						
KPKS				Lg	Lg	00 22 28.2	
	36nm,0.4s						
KPKS	Kokpek	2.59 306		eP	Pb	00 21 52.7	-0.2
	7.5nm,0.2s						
KPKS				eS	Sg	00 22 28.7	-0.6
	51nm,0.4s						
DJR	Jarkent	2.69 332		Pg	Pb	00 21 55.2	+0.6
	5.4nm,0.4s						
DJR				Lg	Lg	00 22 33.2	
	6.7nm,0.5s						
DJR	Jarkent	2.69 332		eP	Pb	00 21 55.2	+0.6
	5.4nm,0.4s						
DJR				eS	Sg	00 22 33.2	+0.7
	6.7nm,0.5s						
KNOS	Konyrlen	2.95 325		Pg	Pb	00 22 00.4	+1.2
	3.8nm,0.2s						
KNOS				Lg	Lg	00 22 43.0	
	5.9nm,0.4s						
MDOK	Medeo	3.54 291		Pg	Pb	00 22 09.4	+0.4
	2.1nm,0.5s						
MDOK				Pg	Pg	00 22 11.5	-2.3
	2.9nm,0.3s						
MDOK				Lg	Lg	00 23 01.2	
	4.9nm,0.5s						
MDOK				⇑Lg	Lg	00 23 01.6	
	3.2nm,0.4s						
MDOK	Medeo	3.54 291		eP	Pg	00 22 11.5	-2.3
	2.9nm,0.3s						
MDOK				eS	Sg	00 23 01.2	+1.6
	4.9nm,0.5s						
TNSS	Tian-Shan	3.57 289		Pg	Pb	00 22 10.9	+1.1
	1.9nm,0.3s						
TNSS				Lg	Lg	00 23 00.4	
	5.3nm,0.5s						
TNSS	Tian-Shan	3.57 289		eP	Pb	00 22 11.6	+1.8
	1.8nm,0.2s						
TNSS				eS	Sg	00 23 01.2	+0.5
	7.4nm,0.5s						
IZV	Izvestkoviy	3.81 288		Pg	Pb	00 22 14.9	+1.2
	6.2nm,0.6s						
IZV				Lg	Lg	00 23 07.0	
	14nm,0.6s						
IZV	Izvestkoviy	3.81 288		eP	Pb	00 22 14.9	+1.2
	6.2nm,0.6s						
IZV				eS	Sg	00 23 07.0	-1.2
	14nm,0.6s						
KST	Kastek	4.27 286		Pg	Pg	00 22 26.4	-1.4
	3.1nm,0.5s						
KST				Lg	Lg	00 23 26.8	
	6.6nm,0.6s						
KST	Kastek	4.27 286		eP	Pb	00 22 24.1	+2.5
	1.5nm,0.2s						
KST				eS	Sg	00 23 22.3	-0.9
	2.5nm,0.3s						
DGS	Degeres	4.45 289		Pg	Pg	00 22 28.7	-2.7
	1.2nm,0.5s						
DGS				Lg	Lg	00 23 30.6	
	5.7nm,0.3s						
TKM2	Tokmak 2	4.51 284		⇑Pg	Pg	00 22 35.7	+3.3
	1.9nm,0.6s						
TKM2				⇓Lg	Lg	00 23 33.8	
	1.8nm,0.3s						
MAKZ	Makanchi	4.85 3		⇓Pn	Pn	00 22 19.8	+0.3
	1.4nm,0.4s						
MAKZ				⇑Sn	Sn	00 23 15.1	-0.8
	1.0nm,0.5s						
MAKZ				⇑Lg	Lg	00 23 40.9	
	0.9nm,0.5s						
MK31	Makanchi Array	4.85 6		⇓Pn	Pn	00 22 19.3	-0.3
	0.2nm,0.2s,baz=190,slow=12,SNR=20						
MK31				⇑Pg	Pg	00 22 38.5	-0.6
	0.9nm,0.5s,baz=198,slow=16,SNR=5.4						
MK31				⇓Lg	Lg	00 23 40.4	
	3.1nm,0.7s,baz=184,slow=27,SNR=3.6						
AAK	Ala-Archa	5.28 280		⇑Pg	Pg	00 22 46.1	-1.0
	0.1nm,0.3s						
AAK				⇑Lg	Lg	00 23 54.6	
	2.1nm,0.6s						

DJA 23 00:40:12.8±0.5, 0°N±3°×12°3E±°, h92km±6km, M3.9/8, MLv3.9/8
IDC 23 00:40:13.9±1.3, 1°95N×121°46E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=165.2km s-min=21.8km az=65.0

ISC 23 00:40:12.4±1.0, 0°33N±0°07×122°57E±0°07, h100km, n9, σ1§00/10, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.65 283		P	Pn	00 40 30.0	+0.7
MRSI				S	Sn	00 40 42.3	+0.2
LUWI	Luwuk	1.38 172		P	Pn	00 40 37.7	+0.5
LUWI				S	Sn	00 40 57.8	+1.9
KMSI	Cibinong	1.43 80		P	Pn	00 40 38.7	+0.9
KMSI				S	Sn	00 40 57.5	+0.4
SANI	Sanana	4.16 125		P	Pn	00 41 12.9	-0.8
KDI	Kendari	4.26 179		P	Pn	00 41 14.4	-0.7
WRA	Warramunga Arr	23.21 151		P	P	00 45 39.8	+29
	0.5nm,0.7s,baz=330,slow=9.3,SNR=5.8						
	0.5nm,0.7s						
ASAR	Alice Springs	26.27 156		P	P	00 46 10.2	+32
	0.6nm,0.8s,baz=339,slow=10,SNR=4.2						
	0.6nm,0.8s						
SONM	Songino Array	49.36 346		P	P	00 48 51.1	-0.7
	0.8nm,0.7s,baz=165,slow=8.7,SNR=6.8						
	0.8nm,0.7s						
MKAR	Makanchi Array	58.11 328		P	P	00 49 55.3	-0.2
	0.4nm,0.5s,baz=118,slow=9.1,SNR=9.4						
	0.4nm,0.5s						

NEIC 23 00:54:34.3±1.3, 6°89N±0°07×127°4E±0°1, h11km±5km, mb4.5/75, Error ellipse: s-maj=15.3km s-min=8.8km az=72.0
IDC 23 00:54:43.7±3.0, 6°79N×127°18E, h102km±26km, mb3.6/12, mbtmp4.0/12, MS3.0/1, Error ellipse: s-maj=40.8km s-min=15.2km az=63.0

ISC 23 00:54:35.8±0.5, 6°91N±0°07×127°46E±0°07, h31km, n99, σ1§59/103, mb4.4/50, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.87 275		Pn	Pn	00 55 04.7	-1.0
DAV	Davao City (W)	1.87 275		P	Pb	00 55 11.7	+2.4
	291nm,0.3s,baz=74,slow=13,SNR=4.0						
DAV				S	Sb	00 55 32.5	+0.2
	424nm,0.5s,baz=148,slow=18,SNR=7.4						
TOLI2	Tolitoli	8.80 229		Pn	Pn	00 56 40.6	-0.4
TOLI2				Sn	Sn	00 58 18.1	-1.1
SBUM	Sibu	15.82 254		Pn	Pn	00 58 15.8	-0.5
SOEI	Soe	16.86 191		Pn	Pn	00 58 28.7	-1.0
MTN	Manton Dam	19.96 169		P	P	00 59 06.3	+0.7
MTN				IAmb	IAmb	00 59 33.4	
	comp=Z,44nm,1.4s						
KNRA	Kununurra	22.48 177		P	P	00 59 33.2	+0.5
KNRA				IAmb	IAmb	00 59 55.2	
	comp=Z,26nm,1.3s						
FITZ	Fitzroy Crossi	24.91 184		P	P	00 59 57.4	+1.2
COEN	Coen	25.95 143		P	P	01 00 03.6	-2.1
COEN				IAmb	IAmb	01 00 22.6	
	comp=Z,8.6nm,1.2s						
WB0	Warramunga Arr	27.37 166		P	P	01 00 18.0	-0.5
WB0				IAmb	IAmb	01 00 24.7	
	comp=Z,7.1nm,0.9s						
WRA	Warramunga Arr	27.53 166		P	P	01 00 20.3	+0.4
WRA	Warramunga Arr	27.53 166		P	P	01 00 19.5	-0.4
	comp=Z,1.2nm,0.6s,baz=346,slow=8.8,SNR=6.8						
WRA				PcP	PcP	01 03 37.9	+0.2
	comp=Z,0.3nm,0.6s,baz=338,slow=2.5,SNR=1.3						
	comp=Z,1.2nm,0.6s						
WB2	Warramunga Arr	27.53 166		P	P	01 00 19.9	0.0
WB2				IAmb	IAmb	01 00 38.3	
	comp=Z,9.2nm,1.2s						
CMAR	Chiang Mai Arr	30.04 295		LR	LR	01 13 30.4	
	comp=Z,27nm,18.1s,baz=105,slow=38						
ASAR	Alice Springs	31.04 168		PcP	PcP	01 03 46.5	0.0
	comp=Z,0.4nm,0.4s,baz=340,slow=2.6,SNR=5.0						
FORT	Forrest	37.48 179		P	P	01 01 47.6	+0.9
BBOO	Buckleboo	40.34 169		P	P	01 02 10.9	+0.3
BBOO				IAmb	IAmb	01 02 25.7	
	comp=Z,21nm,1.4s						
NWAO	Narrogin (SRO)	40.79 193		P	P	01 02 15.9	+1.6
STKA	Stephens Creek	40.86 161		P	P	01 02 15.8	+0.8
STKA	Stephens Creek	40.86 161		P	P	01 02 15.6	+0.6
	comp=Z,5.0nm,0.8s,baz=334,slow=11,SNR=8.0						
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	44.56 340		P	P	01 02 45.6	+0.6
	comp=Z,0.5nm,0.7s,baz=153,slow=9.7,SNR=2.3						
SONM				PcP	PcP	01 04 26.1	-1.6
	comp=Z,0.2nm,0.5s,baz=183,slow=2.7,SNR=1.7						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	55.40 324		P	P	01 04 06.6	-0.6
	comp=Z,1.0nm,0.8s,baz=122,slow=8.1,SNR=11						
MKAR				PcP	PcP	01 05 07.0	-0.3
	comp=Z,1.0nm,0.8s,baz=114,slow=4.4,SNR=4.4						
	comp=Z,1.0nm,0.8s						
ZALV	Zalesovo Beam	58.12 332		P	P	01 04 25.6	-0.7
	comp=Z,0.4nm,0.4s,baz=125,slow=12,SNR=2.1						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	59.49 326		P	P	01 04 35.4	-0.5
	comp=Z,0.3nm,0.4s,baz=125,slow=5.9,SNR=4.3						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	65.08 326		P	P	01 05 13.5	+0.2
	comp=Z,0.7nm,0.4s,baz=79,slow=7.5,SNR=3.8						
	comp=Z,0.7nm,0.4s						
E19K	Redstone River	78.03 22		P	P	01 06 33.2	+2.1
E19K				IAmb	IAmb	01 06 35.5	
	comp=Z,3.6nm,0.9s						
KDAK	Kodiak Island	78.83 33		P	P	01 06 36.9	+1.2
B21K	Ikpikpuk River	79.36 20		P	P	01 06 40.5	+2.2
B21K				IAmb	IAmb	01 06 44.0	
	comp=Z,8.3nm,1.2s						
BRLK	Bradley Lake	79.86 31		P	P	01 06 40.5	-0.8
D22K	Ayikyak River	79.94 21		P	P	01 06 43.0	+1.5
E22K	Anaktuvuk Pass	80.17 22		P	P	01 06 44.7	+1.9
SLKM	Skilak Lake	80.24 30		P	P	01 06 44.2	+0.9
TRF	Thorofare Moun	80.39 27		P	P	01 06 45.4	+1.2
TRF				IAmb	IAmb	01 07 26.1	
	comp=Z,9.9nm,1.4s						
RC01	Rabbit Creek A	80.51 29		P	P	01 06 46.0	+1.3
RC01				IAmb	IAmb	01 07 09.7	
	comp=Z,12nm,1.4s						
D23K	Nanushuk River	80.67 21		P	P	01 06 47.4	+1.9
COLD	Coldfoot	80.70 23		P	P	01 06 47.4	+1.8
G23K	Bananza Creek	80.73 24		P	P	01 06 47.7	+1.8
C23K	Itkillik River	80.77 20		P	P	01 06 48.0	+2.1
I23K	Minto, Yukon-K	80.90 25		P	P	01 06 48.4	+1.7
E23K	Chandalar	80.98 22		P	P	01 06 49.0	+1.7
E23K				IAmb	IAmb	01 06 50.7	
	comp=Z,4.4nm,1.0s						
MCK	McKinley	81.01 27		P	P	01 06 48.6	+1.2
MCK				IAmb	IAmb	01 06 49.5	
	comp=Z,4.7nm,0.8s						
RND	Reindeer	81.03 27		P	P	01 06 48.1	+0.5
RND				IAmb	IAmb	01 06 50.5	
	comp=Z,4.8nm,0.8s						
KNK	Knik Glacier	81.14 29		P	P	01 06 49.6	+1.5
PWL	Port Wells	81.18 30		P	P	01 06 49.1	+0.7
SML	Sawmill	81.22 29		P	P	01 06 50.6	+2.0
D24K	Happy Valley	81.35 21		P	P	01 06 51.2	+2.2
D24K				IAmb	IAmb	01 06 52.0	
	comp=Z,4.0nm,0.7s						
E24K	Your Creek	81.41 22		P	P	01 06 51.0	+1.6
WRH	Wood River Hil	81.41 26		P	P	01 06 51.3	+1.9
WRH				IAmb	IAmb	01 06 53.3	
	comp=Z,8.7nm,1.4s						
C24K	Franklin Bluff	81.42 21		P	P	01 06 50.9	+1.5
C24K				IAmb	IAmb	01 07 05.2	
	comp=Z,7.4nm,1.4s						
CCB	Clear Creek Bu	81.54 26		P	P	01 06 51.5	+1.4
H24K	Noodor Dome	81.55 24		P	P	01 06 52.5	+2.3
H24K				IAmb	IAmb	01 07 03.0	
	comp=Z,3.8nm,1.1s						
F24K	Squaw Lake	81.61 23		P	P	01 06 49.0	-1.5
F24K				IAmb	IAmb	01 07 13.3	
	comp=Z,5.2nm,1.2s						
SCM	Sheep Creek Mo	81.69 29		P	P	01 06 52.8	+1.7
G24K	Hadweenzic Riv	81.74 24		P	P	01 06 53.2	+2.0
G24K				IAmb	IAmb	01 06 55.5	
	comp=Z,5.3nm,0.9s						
IL31		81.94 26		P	P	01 06 53.2	+1.1
IL31				IAmb	IAmb	01 06 54.1	
	comp=Z,4.7nm,1.2s						
ILAR	Eielson Array	81.94 26		P	P	01 06 53.3	+1.1
ILAR	Eielson Array	81.94 26		P	P	01 06 53.0	+0.8
	comp=Z,1.3nm,0.8s,baz=236,slow=5.4,SNR=20						
	comp=Z,1.3nm,0.8s						
KLU	Klutina	82.36 29		P	P	01 06 56.9	+2.3
KLU				IAmb	IAmb	01 07 01.8	
	comp=Z,9.6nm,1.4s						
F25K	Christian Rive	82.47 23		P	P	01 06 58.0	+2.9
PRP	Porcupine Dome	82.52 25		P	P	01 06 56.4	+0.9
J25K	Salcha River,	82.59 26		P	P	01 06 57.0	+1.3
J25K				IAmb	IAmb	01 06 57.2	
	comp=Z,3.3nm,0.8s						
FYU	Fort Yukon	82.64 24		P	P	01 06 55.3	-0.5
FYU				IAmb	IAmb	01 07 24.2	
	comp=Z,7.8nm,1.4s						
RIDG	Independent Ri	82.83 27		P	P	01 06 58.6	+1.6
RIDG				IAmb	IAmb	01 07 05.0	
	comp=Z,2.9nm,0.7s						
BMAR	Burnt Mountain	82.88 23		P	P	01 06 59.8	+2.6
N25K	Chitina, Valde	82.99 29		P	P	01 07 00.1	+2.2
N25K				IAmb	IAmb	01 07 36.9	
	comp=Z,6.7nm,1.1s						
F26K	Sheenjek River	83.05 23		P	P	01 07 00.8	+2.8
F26K				IAmb	IAmb	01 07 02.6	
	comp=Z,3.8nm,1.2s						
C27K	Jago River	83.16 21		P	P	01 07 01.1	+2.6
C27K				IAmb	IAmb	01 07 25.4	
	comp=Z,4.2nm,1.4s						
SCRK	Sand Creek	83.21 26		P	P	01 07 01.4	+2.3
J26L	Joseph Creek	83.37 26		P	P	01 07 01.2	+1.3
J26L				IAmb	IAmb	01 07 02.0	
	comp=Z,1.7nm,0.6s						
GLB	Gilahina Butte	83.38 29		P	P	01 07 01.5	+1.6
I26K	Coal Creek Min	83.52 25		P	P	01 07 01.6	+1.2
I26K				IAmb	IAmb	01 07 27.1	
	comp=Z,3.1nm,1.2s						
VRDI	Verde Repeater	83.56 29		P	P	01 07 02.2	+1.2
G27K	Doyon Strip	84.05 23		P	P	01 07 05.5	+2.4
G27K				IAmb	IAmb	01 07 07.2	
	comp=Z,2.3nm,0.9s						
D27M	Malcolm River	84.15 21		P	P	01 07 06.0	+2.3
D27M				IAmb	IAmb	01 07 06.8	
	comp=Z,3.3nm,0.8s						
L27K	Beaver Creek,	84.22 27		pP	P	01 07 06.9	+2.7
BCAR	Beaver Creek A	84.24 27		P	P	01 07 07.3	+3.0
M27K	Edge Creek, AK	84.24 28		P	P	01 07 06.3	+1.9
F28M	Old Crow	84.68 23		P	P	01 07 08.7	+2.4
I28M	Miner Creek	84.85 25		P	P	01 07 09.8	+2.5
DAWY	Dawson	85.22 26		P	P	01 07 10.6	+1.4
DAWY				IAmb	IAmb	01 07 12.3	
	comp=Z,3.4nm,0.8s						
G29M	Pine Creek	85.47 23		P	P	01 07 12.4	+2.1
M29M	Somme Creek	85.82 28		P	P	01 07 14.1	+1.9
L29M	L29M	85.89 27		P	P	01 07 14.6	+2.1
L29M				IAmb	IAmb	01 07 19.1	
	comp=Z,3.4nm,1.2s						
K29M	Barlow Dome	86.07 26		P	P	01 07 16.0	+2.6
G30M	tAoh Zraii Nji	86.17 23		P	P	01 07 14.5	+0.8
G30M				IAmb	IAmb	01 07 23.9	
	comp=Z,6.2nm,1.4s						
I30M	Mount Dempster	86.36 25		P	P	01 07 16.5	+1.6
HYT	Haines Junctio	86.48 29		P	P	01 07 17.0	+1.5
HYT				IAmb	IAmb	01 07 18.5	
	comp=Z,3.6nm,0.9s						
M30M	Minto, Yukon	86.57 27		P	P	01 07 17.8	+1.9
G31M	Satah River	86.93 23		P	P	01 07 18.6	+1.2
G31M				IAmb	IAmb	01 07 58.9	
	comp=Z,6.6nm,1.5s						
INK	Inuvik	86.96 22		P	P	01 07 18.9	+1.3
INK				IAmb	IAmb	01 08 00.5	
	comp=Z,4.4nm,1.4s						
F31M	Tsiigehtchic	87.04 22		P	P	01 07 18.8	+0.9
F31M				IAmb	IAmb	01 07 19.9	
	comp=Z,2.0nm,0.7s						
H31M	Peel River	87.10 24		P	P	01 07 19.9	+1.5
H31M				IAmb	IAmb	01 07 57.7	
	comp=Z,2.4nm,1.1s						
O30N	Mendenhall	87.17 29		P	P	01 07 18.4	-0.4
FARO	Faro, Yukon	88.21 28		P	P	01 07 25.0	+1.2
BRTR	Keskin Array B	88.56 310		P	P	01 07 24.5	-1.6
	comp=Z,0.5nm,0.8s,baz=140,slow=6.2,SNR=4.9						
	comp=Z,0.5nm,0.8s						
FINES	FINESS Array B	89.39 332		P	P	01 07 28.2	-1.1
	comp=Z,3.9nm,0.9s,baz=65,slow=4.7,SNR=2.3						
	comp=Z,3.9nm,0.9s						
AKASG	Malin Array Be	89.89 321		P	P	01 07 30.5	-1.3
	comp=Z,0.4nm,0.5s,baz=67,slow=3.7,SNR=2.3						
	comp=Z,0.4nm,0.5s						
YKA	Yellowknife Ar	96.32 24		P	P	01 08 01.9	+0.7
	comp=Z,0.5nm,0.7s,baz=298,slow=4.7,SNR=8.1						
	comp=Z,0.5nm,0.7s						
TORD	Torodi Ar. Bea	122.56 290		PKP	PKPdf	01 13 28.4	-0.9
	comp=Z,52nm,0.4s,baz=31,slow=3.4,SNR=2.1						

IDC 23 00:55:40.5±2.5, 4°03S×128°62E, h0km, mb3.5/2, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=191.1km s-min=30.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.77 161		Pn	Pn	00 59 36.9	-0.1
	0.2nm,0.3s,baz=339,slow=12,SNR=5.8						
	0.5nm,0.4s						
ASAR	Alice Springs	20.18 166		P	P	01 00 16.8	0.0
	1.9nm,0.5s,baz=350,slow=10,SNR=38						
	1.9nm,0.5s						
MKAR	Makanchi Array	65.00 327		P	P	01 06 22.4	0.0
	0.1nm,0.4s,baz=123,slow=8.9,SNR=1.4						
	0.1nm,0.4s						

**RSNC 23 01:39:16.7±0.0, 7°N±1°×7°8W±°, h20km±2km, M2.7, mb4.3, ML2.6,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP				S	Sn	01 40 37.1	-1.1
PTBC	**PUERTO BERRIO,**	**3.35**	**97**	P	Pn	01 40 08.0	+0.1
GMAL	**Guarumal, Vera**	**3.50**	**284**	P	Pn	01 40 10.6	+0.6
GMAL				S	Sn	01 40 50.6	-0.3
SJCC	**San Jacinto, C**	**3.91**	**41**	P	Pn	01 40 15.0	-0.7
SJCC				S	Sn	01 40 59.7	-1.4
BARC	**Barichara**	**4.60**	**94**	P	Pn	01 40 26.4	+1.0
BBAC	**Balboa, Cauca**	**4.93**	**174**	P	Pn	01 40 33.2	+3.3

IDC 23 01:47:01.0±3.8, 9°.93S×78°.53W, h86km±36km, mb2.9/1, mbtmp3.5/4, Error ellipse: s-maj=88.7km s-min=8.7km az=72.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.63**	**141**	P	Pn	01 47 41.5	-0.1
	60nm,0.3s,baz=330,slow=8.1,SNR=54						
NNA				S	Sn	01 48 13.0	+0.3
	60nm,0.3s,baz=320,slow=14,SNR=4.7						
ATAH	**Atahualpa**	**2.78**	**3**	P	Pn	01 47 44.4	+0.5
	26nm,0.3s,baz=128,slow=2.9,SNR=71						
ATAH				S	Sn	01 48 17.3	+0.6
	91nm,0.6s,baz=28,slow=15,SNR=6.8						
LPAZ	**La Paz**	**11.94**	**123**	P	Pn	01 49 50.6	+1.9
	0.6nm,0.6s,baz=286,slow=9.7,SNR=2.5						
YKA	**Yellowknife Ar**	**77.41**	**344**	P	P	01 58 45.6	-0.8
	0.2nm,0.6s,baz=139,slow=5.7,SNR=3.6						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**136.09**	**227**	PKP	PKiKP	02 06 14.9	-0.1
	0.2nm,0.6s,baz=112,slow=2.0,SNR=2.0						

IDC 23 01:47:50.0±5.0, 16°.53S×173°.17W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=388.6km s-min=27.8km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.81**	**258**	P	P	01 56 44.4	-0.7
	0.7nm,0.8s,baz=97,slow=7.9,SNR=2.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**49.98**	**253**	P	P	01 56 46.7	+0.3
	2.7nm,0.7s,baz=86,slow=8.2,SNR=26						
	2.7nm,0.7s						
NVAR	**Mina Array Bea**	**75.02**	**42**	P	P	01 59 34.0	+0.2
	0.5nm,0.7s,baz=239,slow=4.2,SNR=4.4						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**82.95**	**42**	P	P	02 00 17.0	-0.3
	0.3nm,0.8s,baz=264,slow=3.2,SNR=2.8						
	0.3nm,0.8s						

*IDC **23** 02:06:21.3±0.9, 34°.61N×23°.92E, h0km, mb4.0/11, mbtmp3.9/21, ML3.7/9, MS3.2/1, Error ellipse: s-maj=18.3km s-min=10.6km az=153.0*
*GII **23** 02:06:22.7±0.0, 34°.565N±0°.003×24°.282E±0°.001, h10km, confirmed*
*MOS **23** 02:06:24.6±1.2, 34°.70N×23°.99E, h27km, mb4.1/6, Error ellipse: s-maj=11.6km s-min=6.3km az=64.0*
*ISK **23** 02:06:26.4, 34°.80N×23°.98E, h26km, ML3.7/24*
*NEIC **23** 02:06:26.1±2.3, 34°.50N±0°.09×23°.95E±0°.08, h35km±2km, mb4.2/9, Error ellipse: s-maj=17.3km s-min=7.0km az=213.0*
*THE **23** 02:06:27.8, 34°.72N×24°.15E, h12km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=0.9km az=1.0*
*ATH **23** 02:06:28.2, 34°.85N×24°.07E, h17km±3km, ML3.7/7, Manual Solution by A.Moschou First location: 2019/02/23 02:07:33, This location: 2019/02/23 03:12:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 5 km*
*NAO **23** 02:07:03.1, 39°.84N×26°.82E, h10km, mb3.3*

ISC 23 02:06:25.7±0.8, 34°.68N±0°.05×24°.08E±0°.03, h29km±4km, n174, σ2°.65/180, mb4.0/24, 4C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.16**	**4**	Pg	**Pb**	**02 06 31.3**	**-0.1**
GVD				Sg	**Sb**	**02 06 35.2**	**-0.1**
GVD	**Gavdhos**	**0.16**	**4**	P	**Pb**	**02 06 31.1**	**-0.3**
GVD				S	**Sb**	**02 06 33.9**	**-1.4**
GVD	**Gavdhos**	**0.16**	**4**	S	**Sb**	**02 06 34.4**	**-0.9**
GVD				P	**Pb**	**02 06 31.3**	**-0.1**
TMBK	**Timbaki Herakl**	**0.69**	**55**	P	**Pn**	**02 06 40.7**	**+1.2**
PRNS	**Prines Rethymn**	**0.77**	**27**	P	**Pb**	**02 06 39.7**	**-0.8**
PRNS				S	**Sb**	**02 06 50.3**	**-0.3**
PRNS	**Prines Rethymn**	**0.77**	**27**	P	**Pb**	**02 06 40.0**	**-0.6**
PRNS				S	**Sb**	**02 06 48.7**	**-1.9**
CHNB	**Souda**	**0.80**	**359**	P	**Pn**	**02 06 41.5**	**+0.4**
CHAN	**Chania**	**0.84**	**358**	P	**Pb**	**02 06 41.4**	**-0.3**
CHAN				S	**Sb**	**02 06 50.8**	**-1.8**
IDI	**Anoyia**	**0.90**	**48**	Pg	**Pn**	**02 06 43.7**	**+1.3**
IDI				Sg	**Sn**	**02 06 56.3**	**+1.7**
IDI	**Anoyia**	**0.90**	**48**		**Pb**	**02 06 42.9**	**+0.1**
IDI	**Anoyia**	**0.90**	**48**	P	**Pb**	**02 06 42.8**	**-0.1**
IDI				S	**Sn**	**02 06 55.3**	**+0.7**
	3μm,0.6s						
IDI	**Anoyia**	**0.90**	**48**	Pg	**Pb**	**02 06 42.7**	**-0.2**
	85nm,0.3s,baz=263,slow=11,SNR=224						
IDI				Lg	Lg	02 06 57.5	
	229nm,0.3s,baz=332,slow=20,SNR=15						
IDI				LR	LR	02 07 28.1	
	comp=Z,397nm,20.5s,baz=244,slow=64						
IDI	**Anoyia**	**0.90**	**48**	P	**Pn**	**02 06 43.8**	**+1.3**
IDI				S	**Sn**	**02 06 55.9**	**+1.3**
IACM	**Heraklion**	**1.03**	**52**	P	**Pb**	**02 06 45.8**	**+0.9**
IACM				S	**Sn**	**02 07 00.3**	**+2.7**
IACM	**Heraklion**	**1.03**	**52**	P	**Pb**	**02 06 47.1**	**+2.2**
ANKY	**Antikythira Is**	**1.34**	**332**	P	**Pb**	**02 06 51.0**	**+0.8**
ANKY				S	**Sb**	**02 07 09.3**	**+2.3**
	2μm,0.9s						
ANKY	**Antikythira Is**	**1.34**	**332**	P	**Pb**	**02 06 50.7**	**+0.5**
ZKR	**Zakros**	**1.81**	**76**	Pn	**Pn**	**02 06 57.4**	**+2.5**
THR6	**Thira Island,**	**1.99**	**32**	P	**Pb**	**02 07 00.1**	**-1.1**
THR5	**Thira Island,**	**2.02**	**31**	P	**Pb**	**02 07 00.2**	**-1.5**
MHLO	**Agia Marina, M**	**2.02**	**7**	P	**Pb**	**02 07 00.8**	**-1.0**
MHLO				S	**Sb**	**02 07 25.2**	**-1.3**
	3μm,0.5s						
SNT5	**Nea Kammeni, S**	**2.03**	**32**	P	**Pn**	**02 07 00.1**	**+2.2**
THR3	**Thira Island,**	**2.04**	**32**	P	**Pb**	**02 07 00.5**	**-1.5**
THR8	**Santorini-Mono**	**2.07**	**33**	P	**Pn**	**02 07 00.7**	**+2.2**
THR2	**Thira island,**	**2.08**	**32**	P	**Pb**	**02 07 01.5**	**-1.3**
CMBO	**Columbo, Santo**	**2.09**	**31**	P	**Pn**	**02 07 00.8**	**+2.1**
CMBO				S	**Sn**	**02 07 25.9**	**+2.1**
	1μm,0.6s						
VLI	**Veliai**	**2.23**	**336**	P	**Pb**	**02 07 03.8**	**-1.6**
VLI				S	**Sb**	**02 07 30.8**	**-1.8**
	472nm,0.8s						
VLI	**Veliai**	**2.23**	**336**	P	**Pb**	**02 07 04.2**	**-1.2**
APE	**Apeiranthos**	**2.66**	**26**	Pn	**Pn**	**02 07 07.8**	**+1.1**
APE				Sn	**Sn**	**02 07 38.1**	**+0.2**
APE	**Apeiranthos**	**2.66**	**26**	*i* P	**Pn**	**02 07 07.6**	**+1.0**
APE	**Apeiranthos**	**2.66**	**26**	P	**Pn**	**02 07 07.7**	**+1.1**
APE	**Apeiranthos**	**2.66**	**26**	P	**Pn**	**02 07 08.2**	**+1.5**
KARP	**Karpathos**	**2.67**	**70**	Pn	**Pn**	**02 07 09.7**	**+2.9**
KARP	**Karpathos**	**2.67**	**70**	Pn	**Pn**	**02 07 10.6**	**+3.8**
KRND	**KRANIDI**	**2.80**	**345**	P	**Pn**	**02 07 10.6**	**+2.1**
KRND				S	**Sb**	**02 07 44.8**	**-4.0**
	295nm,0.7s						
KRND	**KRANIDI**	**2.80**	**345**	P	**Pn**	**02 07 10.9**	**+2.4**
MET6	**Megalochori,Me**	**2.96**	**349**	P	**Pn**	**02 07 12.8**	**+2.1**
MET4	**Agioi Theodoro**	**2.99**	**350**	P	**Pn**	**02 07 13.4**	**+2.3**
MET5	**Makryloggos,Me**	**2.99**	**349**	P	**Pn**	**02 07 13.6**	**+2.4**
ITM	**Ithomi**	**3.04**	**326**		**Pn**	**02 07 13.6**	**+1.7**
ITM	**Ithomi**	**3.04**	**326**	P	**Pn**	**02 07 14.6**	**+2.7**
ITM	**Ithomi**	**3.04**	**326**	P	**Pn**	**02 07 14.7**	**+2.8**
VLY	**Voula,Athens**	**3.17**	**356**	P	**Pn**	**02 07 15.2**	**+1.6**
ATHU	**Athens Univers**	**3.29**	**356**	P	**Pn**	**02 07 16.6**	**+1.4**
ATH	**Athens Observa**	**3.30**	**355**	P	**Pn**	**02 07 17.0**	**+1.7**
DAT	**Datca**	**3.51**	**53**	Pn	**Pn**	**02 07 21.0**	**+2.7**
BODT	**Bodrum**	**3.54**	**47**	Pn	**Pn**	**02 07 21.0**	**+2.3**
DATC	**Datca-Mugla**	**3.58**	**54**	Pn	**Pn**	**02 07 21.9**	**+2.7**
ARG	**Arkhangelos**	**3.64**	**64**	Pn	**Pn**	**02 07 23.3**	**+3.2**
ARG	**Arkhangelos**	**3.64**	**64**	Pn	**Pn**	**02 07 23.4**	**+3.3**
ARG	**Arkhangelos**	**3.64**	**64**	P	**Pn**	**02 07 23.4**	**+3.3**
MRSB	**Marmaris-Mugla**	**3.92**	**58**	Pn	**Pn**	**02 07 26.8**	**+2.9**
GCAM	**G?zelcaml?**	**3.95**	**39**	Pn	**Pn**	**02 07 26.6**	**+2.3**
MLSB	**Milas**	**3.98**	**48**	Pn	**Pn**	**02 07 27.4**	**+2.7**
TURN	**Turunc**	**3.98**	**57**	Pn	**Pn**	**02 07 27.7**	**+2.9**
YER	**Yerkesik**	**4.20**	**53**	Pn	**Pn**	**02 07 30.9**	**+3.1**
DALY	**Dalyan (Mula)**	**4.29**	**59**	Pn	**Pn**	**02 07 32.3**	**+3.3**
BLCB	**Balcova**	**4.40**	**32**	Pn	**Pn**	**02 07 32.8**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**4.48**	**42**	Pn	**Pn**	**02 07 34.5**	**+2.7**
FETY	**Fethiye**	**4.52**	**63**	Pn	**Pn**	**02 07 35.0**	**+2.8**
NAZL	**Nazilli-Aydin**	**4.72**	**45**	Pn	**Pn**	**02 07 37.9**	**+2.9**
AKAS	**Kas**	**4.77**	**69**	Pn	**Pn**	**02 07 38.1**	**+2.3**
AKAS	**Kas**	**4.77**	**69**	Pn	**Pn**	**02 07 38.0**	**+2.3**
CAME	**Cameli-Denizli**	**4.81**	**61**	Pn	**Pn**	**02 07 39.2**	**+2.9**
ODEM	**Odemis-Izmir**	**4.82**	**41**	Pn	**Pn**	**02 07 39.2**	**+2.8**
APMY	**Acipayam-Deniz**	**5.07**	**55**	Pn	**Pn**	**02 07 42.4**	**+2.6**
ELL	**Elmali**	**5.17**	**65**	Pn	**Pn**	**02 07 44.2**	**+3.0**
ELL	**Elmali**	**5.17**	**65**		**Pn**	**02 07 44.3**	**+3.0**
ELL	**Elmali**	**5.17**	**65**	P	**Pn**	**02 07 44.3**	**+3.0**
MANT	**Manisa**	**5.24**	**42**		**Pn**	**02 07 44.3**	**+2.1**
LIT	**Litokhoron**	**5.55**	**347**	Pn	**Pn**	**02 07 48.6**	**+2.2**
LIT	**Litokhoron**	**5.55**	**347**	P	**Pn**	**02 07 48.6**	**+2.2**
KEK	**Kerkira**	**6.07**	**327**	Pn	**Pn**	**02 07 54.6**	**+1.1**
SCTE	**Santa Cesarea**	**6.99**	**322**		**Pn**	**02 08 04.6**	**-1.5**
CSS	**Mathiatis**	**7.62**	**85**	Pn	**Pn**	**02 08 14.6**	**-0.2**
CSS	**Mathiatis**	**7.62**	**85**	P	**Pn**	**02 08 14.3**	**-0.4**
VAE	**Valguarnera**	**8.31**	**292**	Pn	**Pn**	**02 08 24.2**	**0.0**
	7.9nm,1.0s,baz=214,slow=20,SNR=2.5						
VAE				Sn	**Sn**	**02 09 50.4**	**-6.7**
	1.1nm,0.3s,baz=170,slow=18,SNR=6.2						
BR131	**Keskin Array S**	**9.14**	**54**	*i* P	**Pn**	**02 08 38.4**	**+2.7**
BRTR	**Keskin Array B**	**9.14**	**54**	Pn	**Pn**	**02 08 38.1**	**+2.5**
	0.3nm,0.3s,baz=236,slow=16,SNR=14						
BRTR				Sn	**Sn**	**02 10 17.9**	**+0.2**
	baz=223,slow=25,SNR=1.4						
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**9.14**	**54**	*ce*P	**Pn**	**02 08 38.7**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OFRI	**`Ofer**	**9.32**	**100**	P	Pn	02 08 34.1	-4.1
OFRI	**`Ofer**	**9.32**	**100**	S	**Sn**	**02 10 16.8**	**-5.2**
HNTI	**Hanita**	**9.37**	**97**	P	Pn	02 08 34.8	-3.9
HNTI	**Hanita**	**9.37**	**97**	S	**Sn**	**02 10 17.8**	**-5.2**
KZIT	**Kziot**	**9.47**	**111**	P	Pn	02 08 36.1	-4.0
KZIT	**Kziot**	**9.47**	**111**	S	**Sn**	**02 10 20.2**	**-5.4**
MMAI	**Mount Meron Ar**	**9.57**	**97**	Pn	**Pn**	**02 08 40.6**	**-0.9**
	comp=Z,4.4nm,0.3s,baz=279,slow=12,SNR=47						
MMAI				Sn	**Sn**	**02 10 23.6**	**-4.5**
	comp=Z,1.8nm,0.3s,baz=268,slow=22,SNR=4.2						
	comp=Z,3.8nm,0.4s						
MMA0B	**Mount Meron ar**	**9.57**	**97**	P	Pn	02 08 37.8	-3.8
MMA0B	**Mount Meron ar**	**9.57**	**97**	S	**Sn**	**02 10 23.5**	**-4.6**
AMAZ	**Amatzia**	**9.62**	**106**	P	Pn	02 08 38.0	-4.2
AMAZ	**Amatzia**	**9.62**	**106**	S	**Sn**	**02 10 24.0**	**-5.3**
MMLI	**Mount Malkishu**	**9.73**	**100**	P	Pn	02 08 39.9	-3.8
MMLI	**Mount Malkishu**	**9.73**	**100**	S	**Sn**	**02 10 27.2**	**-4.8**
NATI	**Neve Ativ**	**9.79**	**95**	P	Pn	02 08 40.6	-3.9
NATI	**Neve Ativ**	**9.79**	**95**	S	**Sn**	**02 10 28.9**	**-4.5**
YTIR	**Yattir**	**9.84**	**107**	P	Pn	02 08 41.3	-4.0
YTIR	**Yattir**	**9.84**	**107**	S	**Sn**	**02 10 29.7**	**-5.2**
HMDT	**Nahal Hemdat**	**9.87**	**101**	P	Pn	02 08 41.6	-4.0
HMDT	**Nahal Hemdat**	**9.87**	**101**	S	**Sn**	**02 10 31.0**	**-4.3**
KSHT	**Keshet**	**9.91**	**97**	P	Pn	02 08 42.8	-3.4
KSHT	**Keshet**	**9.91**	**97**	S	**Sn**	**02 10 31.8**	**-4.6**
UJAP	**Al Uja**	**9.91**	**103**	S	**Sn**	**02 10 31.0**	**-5.3**
DSI	**Dead Sea**	**9.97**	**105**	P	Pn	02 08 42.8	-4.2
DSI	**Dead Sea**	**9.97**	**105**	S	**Sn**	**02 10 32.9**	**-5.1**
PRNI	**Paran**	**10.19**	**112**	P	Pn	02 08 45.3	-4.6
PRNI	**Paran**	**10.19**	**112**	S	**Sn**	**02 10 38.6**	**-4.6**
GHAJ	**Ghor Haditha**	**10.22**	**106**	Pn	**Pn**	**02 08 51.5**	**+1.2**
GHAJ	**Ghor Haditha**	**10.22**	**106**	P	Pn	02 08 46.8	-3.6
GHAJ	**Ghor Haditha**	**10.22**	**106**	S	**Sn**	**02 10 39.5**	**-4.5**
ZFRI	**Zfri**	**10.23**	**111**	P	Pn	02 08 46.1	-4.4
ZFRI	**Zfri**	**10.23**	**111**	S	**Sn**	**02 10 38.7**	**-5.4**
BNN	**Bunyan**	**10.32**	**63**	Pn	**Pn**	**02 08 54.9**	**+3.0**
HRFI	**Mount Harif**	**10.36**	**114**	P	Pn	02 08 48.3	-4.0
HRFI	**Mount Harif**	**10.36**	**114**	S	**Sn**	**02 10 42.9**	**-4.6**
MBRI	**Mt Berech**	**10.39**	**115**	P	Pn	02 08 48.3	-4.5
MBRI	**Mt Berech**	**10.39**	**115**	S	**Sn**	**02 10 43.6**	**-4.7**
EIL	**Elat**	**10.48**	**115**	Pn	**Pn**	**02 08 53.6**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=342,slow=3.4,SNR=14						
EIL				Sn	**Sn**	**02 10 44.5**	**-5.9**
	comp=Z,0.4nm,0.3s,baz=0.7,slow=22,SNR=2.7						
	comp=Z,2.2nm,0.4s						
EIL	**Elat**	**10.48**	**115**	P	Pn	02 08 49.1	-4.9
EIL	**Elat**	**10.48**	**115**	S	**Sn**	**02 10 45.2**	**-5.2**
ASF	**Jabal al Asfar**	**11.00**	**100**	Pn	**Pn**	**02 08 59.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=321,slow=5.4,SNR=7.2						
ASF				Sn	**Sn**	**02 10 58.2**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=252,slow=18,SNR=1.6						
	comp=Z,1.0nm,0.4s						
ANN	**Anapa**	**14.39**	**41**	*e*P	**Pn**	**02 09 46.8**	**-0.5**
ANN				*e*S	**Sn**	**02 12 24.3**	**-1.6**
ANN				pmax	pmax		
	comp=Z,85nm,1.3s						
SOC	**Sochi**	**15.03**	**49**	*e*P	**Pn**	**02 09 55.9**	**0.0**
SOC				*e*		02 12 40.9	
SOC				MLR	MLR		
	comp=Z,128nm,18.0s						
LESA	**Schwarzleotal**	**15.34**	**330**	*i* P	**P**	**02 10 07.6**	**+3.0**
	comp=Z,5.6nm,0.7s						
WTTA	**Wattenberg**	**15.67**	**327**	*i* P	**P**	**02 10 12.1**	**+3.9**
	comp=Z,5.5nm,1.2s						
WATA	**Walderalm**	**15.75**	**327**	*e*P	**P**	**02 10 12.8**	**+3.7**
	comp=Z,7.5nm,1.3s						
FETA	**Feichten**	**15.90**	**325**	*e*P	**P**	**02 10 14.7**	**+3.8**
	comp=Z,10nm,2.2s						
GERES	**GERESS Array B**	**16.11**	**335**	Pn	**P**	**02 10 12.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=96,slow=7.0,SNR=3.6						
	comp=Z,0.5nm,0.6s						
DAVOX	**Davos/Dischmat**	**16.15**	**323**	Pn	**Pn**	**02 10 10.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=329,slow=17,SNR=1.8						
DAVOX				Sn	**Sn**	**02 12 58.8**	**-10**
	comp=Z,0.2nm,0.3s,baz=358,slow=14,SNR=2.1						
	comp=Z,1.9nm,1.0s						
DAVOX	**Davos/Dischmat**	**16.15**	**323**	P	**Pn**	**02 10 10.0**	**-0.7**
RETA	**Reutte**	**16.23**	**326**	*e*P	**P**	**02 10 17.6**	**+3.2**
	comp=Z,7.6nm,1.8s						
KHC	**Kasperske Hory**	**16.39**	**335**	*e*P	**P**	**02 10 19.1**	**+2.9**
KHC	**Kasperske Hory**	**16.39**	**335**	*i* P	**Pn**	**02 10 14.0**	**+0.4**
AKASG	**Malin Array Be**	**16.45**	**12**	Pn	**Pn**	**02 10 13.8**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=209,slow=9.7,SNR=12						
	comp=Z,0.3nm,0.4s						
KIV	**Kislovodsk**	**17.09**	**52**	*e*P	**Pn**	**02 10 24.2**	**+1.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KVAR	**Kislovodsk Arr**	**17.10**	**52**	P	**Pn**	**02 10 23.2**	**+0.6**
	baz=275,slow=22						
	comp=Z,1.6nm,0.5s						
KBZ	**Khabaz**	**17.13**	**53**	P	**Pn**	**02 10 23.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=265,slow=7.4,SNR=6.6						
	comp=Z,8.9nm,1.2s						
KBZ	**Khabaz**	**17.13**	**53**	*i* P	**Pn**	**02 10 24.4**	**+1.6**
GNI	**Garni**	**17.29**	**66**	LR	LR	02 18 19.0	
	comp=Z,84nm,21.3s,baz=300,slow=41						
OBN	**Obninsk**	**22.20**	**19**	*e*P	**P**	**02 11 21.4**	**+2.0**
OBN				*e*		02 11 43.8	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ESDC	**Sonseca Array**	**22.84**	**291**	P	**P**	**02 11 28.4**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=85,slow=10.0,SNR=7.8						
HFS	**Hagfors**	**26.35**	**348**	P	**P**	**02 11 58.7**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=157,slow=13,SNR=12						
	comp=Z,2.1nm,0.7s						
FINES	**FINESS Array B**	**26.81**	**2**	P	**P**	**02 12 02.0**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=180,slow=8.7,SNR=4.2						
	comp=Z,2.4nm,0.9s						
FINES	**FINESS Array B**	**26.81**	**2**	*i* P	**P**	**02 12 06.3**	**+3.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NC602	**NORSAR Array S**	**27.30**	**347**	P	**P**	**02 12 06.8**	**-0.6**
NB2	**NORSAR Subarra**	**27.64**	**346**	P	**P**	**02 12 09.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=148,slow=10						
NOA	**NORSAR Array B**	**27.64**	**346**	P	**P**	**02 12 10.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=152,slow=8.8,SNR=6.5						
	comp=Z,1.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**27.93**	**326**	P	**P**	**02 12 17.5**	**+4.3**
	comp=Z,1.1nm,0.8s,baz=124,slow=10,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.50**	**229**	P	**P**	**02 12 27.3**	**-0.2**
	comp=Z,69nm,0.4s,baz=36,slow=8.9,SNR=2.4						
ABKAR	**Abkulak array**	**30.06**	**50**	P	**P**	**02 12 32.8**	**+0.7**
ABKAR	**Abkulak array**	**30.06**	**50**	P	**P**	**02 12 32.9**	**+0.7**
ABKAR				IAmb	IAmb	02 12 36.7	
	comp=Z,3.6nm,1.5s						
ARTI	**Arti**	**31.86**	**36**	*d i*P	**P**	**02 12 47.7**	**-0.2**
ARTI						02 13 49.9	
ARTI				S	**S**	**02 17 56.6**	**0.0**
ARTI				SS	**SnSn**	**02 19 45.6**	**0.0**
ARTI				pmax	pmax		
	comp=Z,19nm,3.8s						
ARCES	**ARCESS Array B**	**34.92**	**1**	P	**P**	**02 13 13.3**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=176,slow=8.6,SNR=6.3						
	comp=Z,0.7nm,0.5s						
KK31	**Karatay Array**	**36.71**	**63**	IAmb	IAmb	02 13 32.9	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**36.71**	**63**	P	**P**	**02 13 31.1**	**+1.0**
KKAR	**Karatay Array**	**36.71**	**63**	P	**P**	**02 13 31.2**	**+1.0**
KKAR	**Karatay Array**	**36.71**	**63**	P	**P**	**02 13 31.1**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GAR	**Garm**	**36.95**	**69**	P	**P**	**02 13 33.8**	**+1.4**
BVAR	**Borovoye Array**	**37.32**	**46**	P	**P**	**02 13 36.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=263,slow=7.2,SNR=5.1						
	comp=Z,0.8nm,0.5s						
DBIC	**Dimbokro**	**38.57**	**230**	P	**P**	**02 13 46.6**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=37,slow=10,SNR=1.6						
	comp=Z,2.5nm,0.8s						
AAK	**Ala-Archa**	**39.67**	**63**	*ce*P	**P**	**02 13 58.0**	**+2.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
KURBB	**Kurchatov Arra**	**42.11**	**51**	P	**P**	**02 14 15.5**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=280,slow=8.5,SNR=20						
	comp=Z,2.3nm,0.6s						
KURK	**Kurchatov**	**42.17**	**50**	*ce*P	**P**	**02 14 17.0**	**+1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SPITS	**Spitsbergen Ar**	**43.73**	**358**	P	**P**	**02 14 28.2**	**+0.4**
	comp=Z,10nm,0.9s,baz=150,slow=12,SNR=5.1						
MK31	**Makanchi Array**	**44.78**	**56**	P	**P**	**02 14 37.6**	**+0.9**
MK31				IAmb	IAmb	02 14 38.6	
	comp=Z,1.4nm,0.6s						
MK31	**Makanchi Array**	**44.78**	**56**	*ce*P	**P**	**02 14 38.5**	**+1.8**
MKAR	**Makanchi Array**	**44.78**	**56**	P	**P**	**02 14 37.8**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=269,slow=7.9,SNR=32						
	comp=Z,1.3nm,0.4s						
ZAA0	**Zalesovo Array**	**45.98**	**46**	P	**P**	**02 14 46.5**	**+0.5**
ZAA0				IAmb	IAmb	02 14 47.7	
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.98**	**46**	P	**P**	**02 14 46.6**	**+0.6**
ZALV	**Zalesovo Beam**	**45.98**	**46**	P	**P**	**02 14 46.3**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=268,slow=8.9,SNR=17						
	comp=Z,2.8nm,0.4s						
SONM	**Songino Array**	**60.48**	**50**	P	**P**	**02 16 34.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=282,slow=6.8,SNR=6.6						
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**60.48**	**50**	P	**P**	**02 16 34.0**	**+1.1**
A36M	**Sachs Harbour**	**71.47**	**350**	P	**P**	**02 17 44.3**	**+1.4**
A36M				IAmb	IAmb	02 17 57.0	
	comp=Z,4.4nm,1.4s						
C36M	**Paulatuk**	**73.67**	**349**	P	**P**	**02 17 57.2**	**+1.2**
C36M				IAmb	IAmb	02 18 40.7	
	comp=Z,1.9nm,1.0s						
YKA	**Yellowknife Ar**	**77.63**	**342**	P	**P**	**02 18 19.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=320,slow=5.4,SNR=4.7						
	comp=Z,0.1nm,0.3s						

*IDC **23** 02:13:50.6±0.6, 6°.67N×72°.86W, h167km±7km, mb3.3/6, mbtmp3.9/9, Error ellipse: s-maj=21.0km s-min=7.2km az=133.0*
*RSNC **23** 02:13:52.0±0.0, 7°.N±1°.×7°.3W±°, h148km±2km, M3.4, mB5.0, mb4.2, ML3.

0.6nm,0.5s,baz=140,slow=6.4,SNR=17
0.6nm,0.5s
ILAR Eielson Array 76.98 335 P P 02 25 26.8 +1.7
0.1nm,0.6s,baz=103,slow=7.7,SNR=1.9
0.1nm,0.6s
KDAK Kodiak Island 78.66 328 P P 02 25 34.0 -0.5
5.4nm,1.0s,baz=111,slow=4.5,SNR=8.6
MKAR Makanchi Array 122.30 20 PKP PKPdf 02 32 26.7 0.0
0.1nm,0.5s,baz=308,slow=2.8,SNR=2.2
ASAR Alice Springs 149.16 234 PKPbc PKPbc 02 33 21.1 +0.3
0.4nm,0.7s,baz=95,slow=3.0,SNR=2.4
WRA Warramunga Arr 150.38 241 PKPbc PKPbc 02 33 23.8 0.0
0.3nm,0.7s,baz=112,slow=2.6,SNR=2.0

*NEIC **23** 02:18:04.5±2.4, 6°.86S±0°.10×116°.5E±0°.1, h524km±5km, mb4.1/22, Error ellipse: s-maj=21.9km s-min=11.1km az=64.0*
*IDC **23** 02:18:05.0±1.1, 6°.76S×116°.63E, h542km±11km, mb3.3/13, mbtmp4.2/15, Error ellipse: s-maj=23.3km s-min=7.8km az=55.0*
*DJA **23** 02:18:04.2±0.4, 7°.5S±4°×11°.7E±°, h531km±5km, M4.2/23, mB5.1/5, mb4.1/11, MLv4.1/23, Mw(mB)4.5/5*
ISC 23 02:18:05.0±0.4, 6°.95S±0°.06×116°.51E±0°.07, h550km, n95, σ1§72/101, mb4.0/28, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.71**	**229**	P	**P**	**02 19 11.2**	**-2.3**
TWSI	**Taliwang, Sumb**	**1.82**	**168**	P	**P**	**02 19 10.5**	**-3.5**
DNP	**Denpasar**	**2.15**	**217**	P	**P**	**02 19 12.5**	**-2.9**
PLAI	**Plampang**	**2.25**	**146**	P	**P**	**02 19 13.9**	**-2.0**
PLAI	**Plampang**	**2.25**	**146**	S	**S**	**02 20 07.7**	**-5.9**
PLAI	**Plampang**	**2.25**	**146**	P	**P**	**02 19 13.5**	**-2.4**
ABJI	**Asem Bagus**	**2.41**	**249**	P	**P**	**02 19 14.5**	**-2.2**
KMMI	**Kalianget**	**2.52**	**268**	P	**P**	**02 19 16.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**2.78**	**237**	P	**P**	02 19 14.2	-4.5
JAGI	**Jajag, Banyuwa**	**2.78**	**237**	P	**P**	**02 19 16.1**	**-2.7**
JAGI	**Jajag, Banyuwa**	**2.78**	**237**	S	**S**	**02 20 12.6**	**-6.1**
JAGI	**Jajag, Banyuwa**	**2.78**	**237**	P	**P**	02 19 14.9	-3.9
GMJI	**Gumukmas**	**3.31**	**246**	P	**P**	**02 19 19.1**	**-2.9**
KAPI	**Kappang**	**3.76**	**59**	P	**P**	**02 19 23.3**	**-1.9**
	26nm,0.4s,baz=239,slow=8.6,SNR=21						
KAPI				S	**S**	**02 20 26.6**	**-3.7**
	10nm,0.7s,baz=42,slow=23,SNR=15						
KAPI	**Kappang**	**3.76**	**59**	P	**P**	**02 19 23.4**	**-1.8**
WBSI	**Waikabubak, Su**	**3.91**	**133**	P	**P**	**02 19 22.8**	**-3.5**
BKSI	**Bulukumba**	**3.94**	**66**	P	**P**	**02 19 24.8**	**-1.7**
BKSI				S	**S**	**02 20 29.6**	**-3.2**
BSSI	**Bau Bau, Buton**	**4.04**	**79**	P	**P**	**02 19 25.2**	**-2.0**
SPSI	**Sidrap Palu**	**4.40**	**48**	P	**P**	**02 19 28.3**	**-1.7**
WSI	**Waingapu**	**4.62**	**126**	P	**P**	**02 19 28.9**	**-2.9**
TTSI	**Tana Toraja**	**5.09**	**41**	P	**P**	**02 19 34.1**	**-1.6**
	0.1nm28nm,0.7s						
BASI	**Baing, Sumba**	**5.17**	**129**	P	**P**	**02 19 35.5**	**-0.9**
BKB	**Balikpapan**	**5.66**	**4**	P	**P**	**02 19 40.9**	**+0.2**
MMRI	**Maumere**	**5.92**	**107**	P	**P**	**02 19 40.9**	**-2.1**
	0.3nm43nm,0.5s						
UGM	**Wanagama**	**6.01**	**260**	P	**P**	**02 19 43.5**	**-0.3**
UGM	**Wanagama**	**6.01**	**260**	P	**P**	**02 19 42.2**	**-1.6**
	0.5nm38nm,1.7s						
BBSI	**Bau Bau**	**6.20**	**77**	P	**P**	**02 19 44.7**	**-0.8**
	0.2nm22nm,0.8s						
KDI	**Kendari**	**6.77**	**64**	P	**P**	**02 19 49.9**	**-1.0**
PCI	**Palu**	**6.86**	**29**	P	**P**	**02 19 50.7**	**-1.1**
	98nm,0.9s						
MPSI	**Mapaga**	**7.99**	**25**	P	**P**	**02 20 00.9**	**-1.8**
	2μm34nm,0.9s						
SOEI	**Soe**	**8.17**	**110**	P	**P**	**02 20 03.0**	**-1.6**
SOEI	**Soe**	**8.17**	**110**	P	**P**	**02 20 02.9**	**-1.7**
BBJI	**Bungbulang**	**8.80**	**266**	P	**P**	**02 20 10.4**	**-0.5**
TOLI2	**Tolitoli**	**9.07**	**28**	P	**P**	**02 20 11.7**	**-1.8**
TOLI2	**Tolitoli**	**9.07**	**28**	P	**P**	**02 20 11.2**	**-2.4**
SBUM	**Sibu**	**10.27**	**335**	P	**P**	**02 20 25.6**	**-0.2**
SBUM	**Sibu**	**10.27**	**335**	P	**P**	**02 20 26.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.22**	**142**	P	**P**	**02 21 06.5**	**0.0**
	4.3nm,0.3s,baz=340,slow=8.4,SNR=44						
FITZ	**Fitzroy Crossi**	**14.22**	**142**	P	**P**	**02 21 06.1**	**-0.4**
MBWA	**Marble Bar**	**14.47**	**168**	P	**P**	**02 21 09.4**	**+0.3**
MBWA	**Marble Bar**	**14.47**	**168**	P	**P**	**02 21 09.6**	**+0.6**
PSA00	**Pilbara Seismi**	**14.89**	**168**	P	**P**	**02 21 13.5**	**+0.1**
PSA00	**Pilbara Seismi**	**14.89**	**168**	P	**P**	**02 21 13.7**	**+0.3**
GIRL	**Giralia**	**15.76**	**188**	P	**P**	**02 21 23.9**	**+1.7**
GIRL	**Giralia**	**15.76**	**188**	P	**P**	**02 21 23.1**	**+0.9**
MEEK	**Meekatharra**	**19.68**	**174**	P	**P**	**02 21 58.9**	**+0.6**
WRKA	**Warakurna**	**21.23**	**149**	P	**P**	**02 22 13.3**	**+1.0**
TGY	**Tagaytay City**	**21.37**	**12**	P	**P**	**02 22 13.2**	**-0.4**
	388nm,0.2s,baz=218,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**21.59**	**128**	P	**P**	**02 22 16.4**	**+0.8**
	0.9nm,0.5s,baz=310,slow=9.3,SNR=22						
WRA				S	**S**	**02 25 36.0**	**-1.9**
	0.8nm,0.9s,baz=306,slow=17,SNR=4.3						
	0.9nm,0.5s						
WB2	**Warramunga Arr**	**21.60**	**128**	P	**P**	**02 22 16.4**	**+0.7**
WB2				IAmb	IAmb	02 22 59.3	
	comp=Z,4.4nm,1.2s						
WR0	**Warramunga Arr**	**21.76**	**128**	P	**P**	**02 22 17.9**	**+0.8**
WR0				IAmb	IAmb	02 22 33.7	
	comp=Z,10nm,1.3s						
MORW	**Morawa**	**22.01**	**181**	P	**P**	**02 22 20.8**	**+1.6**
MORW				IAmb	IAmb	02 22 21.6	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**23.57**	**137**	P	**P**	**02 22 34.7**	**+1.4**
AS31				IAmb	IAmb	02 22 34.8	
	comp=Z,2.0nm,0.3s						
ASAR	**Alice Springs**	**23.57**	**137**	P	**P**	**02 22 34.4**	**+1.1**
	comp=Z,2.2nm,0.4s,baz=313,slow=8.3,SNR=43						
ASAR				PcP	**PcP**	**02 25 59.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=308,slow=1.6,SNR=7.2						
ASAR				S	**S**	**02 26 11.9**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=338,slow=27,SNR=4.9						
ASAR				ScP	**ScP**	**02 28 45.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=351,slow=3.1,SNR=2.0						
	comp=Z,2.2nm,0.4s						
FORT	**Forrest**	**26.07**	**157**	P	**P**	**02 22 56.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**30.62**	**326**	P	**P**	**02 23 34.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=151,slow=8.1,SNR=4.5						
CMAR				PcP	**PcP**	**02 26 17.7**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=152,slow=3.1,SNR=1.5						
	comp=Z,0.7nm,0.3s						
BBOO	**Buckleboo**	**31.50**	**147**	P	**P**	**02 23 43.6**	**+1.2**
STKA	**Stephens Creek**	**34.10**	**140**	P	**P**	**02 24 06.1**	**+1.8**
STKA	**Stephens Creek**	**34.10**	**140**	P	**P**	**02 24 06.1**	**+1.8**
	comp=Z,1.6nm,0.4s,baz=309,slow=6.6,SNR=5.0						
	comp=Z,1.6nm,0.4s						
PZH	**PanZhiHua**	**36.20**	**337**	P	**P**	**02 24 24.9**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**47.78**	**355**	*eP*	**P**	**02 25 55.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
SONM	**Songino Array**	**55.27**	**352**	P	**P**	**02 26 46.5**	**-0.3**
SONM	**Songino Array**	**55.27**	**352**	P	**P**	**02 26 46.1**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=169,slow=9.1,SNR=13						
SONM				PcP	**PcP**	**02 27 39.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=164,slow=3.2,SNR=2.7						
SONM				ScP	**ScP**	**02 30 45.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.9						
	comp=Z,1.9nm,0.6s						
KSH	**Kashi**	**59.50**	**324**	P	**P**	**02 27 15.5**	**-0.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBL	**Kabul**	**60.91**	**316**	P	**P**	**02 27 24.7**	**-0.6**
KBL				IAmb	IAmb	02 27 25.1	
	comp=Z,9.0nm,0.6s						
MK31	**Makanchi Array**	**61.53**	**334**	P	**P**	**02 27 28.7**	**-0.1**
MKAR	**Makanchi Array**	**61.53**	**334**	P	**P**	**02 27 28.5**	**-0.4**
MKAR	**Makanchi Array**	**61.53**	**334**	P	**P**	**02 27 28.6**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=150,slow=6.7,SNR=42						
	comp=Z,2.5nm,0.5s						
DRK	**Karamyk**	**61.97**	**322**	IAmb	IAmb	02 27 33.1	
	comp=Z,4.2nm,0.7s						
AAK	**Ala-Archa**	**62.41**	**326**	P	**P**	**02 27 34.6**	**-0.2**
AAK				IAmb	IAmb	02 27 35.9	
	comp=Z,2.9nm,0.8s						
ARSB	**Arslanbob**	**62.41**	**324**	P	**P**	**02 27 35.0**	**+0.2**
ARSB				IAmb	IAmb	02 27 35.7	
	comp=Z,9.3nm,0.7s						
GAR	**Garm**	**62.60**	**321**	P	**P**	**02 27 35.9**	**-0.2**
CHGR	**Chuyangaron**	**63.13**	**320**	P	**P**	**02 27 38.8**	**-0.7**
SIMJ	**Simiganj**	**63.23**	**320**	P	**P**	**02 27 39.3**	**-0.9**
SIMJ				IAmb	IAmb	02 27 39.7	
	comp=Z,4.3nm,0.6s						
KK31	**Karatay Array**	**64.95**	**324**	P	**P**	**02 27 49.8**	**-1.1**
KKAR	**Karatay Array**	**64.95**	**324**	P	**P**	**02 27 49.8**	**-1.1**
KKAR	**Karatay Array**	**64.95**	**324**	P	**P**	**02 27 50.3**	**-0.6**
KURBB	**Kurchatov Arra**	**66.06**	**335**	P	**P**	**02 27 56.9**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=145,slow=5.5,SNR=19						
	comp=Z,1.5nm,0.6s						
ZAA0	**Zalesovo Array**	**66.27**	**340**	P	**P**	**02 27 57.7**	**-1.1**
ZAA0				IAmb	IAmb	02 27 58.4	
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**66.27**	**340**	P	**P**	**02 27 57.7**	**-1.1**
	comp=Z,3.0nm,0.4s,baz=153,slow=6.0,SNR=16						
	comp=Z,3.0nm,0.4s						
PETK	**Petropavlovsk-**	**69.24**	**25**	P	**P**	**02 28 17.2**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=162,slow=6.1,SNR=3.7						
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**71.34**	**333**	P	**P**	**02 28 28.9**	**-0.5**
	comp=Z,4.4nm,0.7s,baz=140,slow=6.9,SNR=22						
	comp=Z,4.4nm,0.7s						
ABKAR	**Akbulak array**	**74.48**	**325**	P	**P**	**02 28 47.1**	**-0.3**
ABKAR				IAmb	IAmb	02 28 47.9	
	comp=Z,3.7nm,0.8s						
ABKAR	**Akbulak array**	**74.48**	**325**	P	**P**	**02 28 47.0**	**-0.3**
KMBO	**Kilima Mbogo**	**79.20**	**270**	P	**P**	**02 29 15.2**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=72,slow=7.8,SNR=5.5						
	comp=Z,1.5nm,0.5s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**02 29 33.9**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=67,slow=3.8,SNR=2.1						
	comp=Z,1.3nm,0.9s						
MMAI	**Mount Meron Ar**	**86.34**	**004**	P	**P**	**02 29 50.2**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=76,slow=6.1,SNR=2.1						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**121.58**	**49**	PKP	**PKiKP**	**02 35 58.3**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=345,slow=3.5,SNR=2.5						
PDAR	**Pinedale Array**	**126.05**	**41**	PKP	**PKiKP**	**02 36 05.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=289,slow=4.3,SNR=2.6						
P53A	**Whipple**	**143.82**	**24**		**PKPdf**	**02 36 37.6**	**-0.6**
HRV	**Adam Dziewonsk**	**143.88**	**10**	PKPdf	**PKPdf**	**02 36 38.4**	**+0.2**
U49A	**Red Boiling Sp**	**144.22**	**31**		**PKPdf**	**02 36 39.0**	**0.0**
CLTN	**Cedars of Leba**	**144.25**	**33**		**PKPdf**	**02 36 39.1**	**0.0**
N58A	**Sunbury**	**144.25**	**17**	PKPbc	**PKPdf**	**02 36 38.8**	**-0.1**
CPUP	**Villa Florida**	**146.38**	**190**	PKPbc	**PKPbc**	**02 36 46.4**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=137,slow=2.5,SNR=4.7						

*RSNC **23** 02:40:00.2±1.1, 2°.5S±10°×7°.7W±°, h148km±18km, M3.7, mB4.9, mb4.6, mBc5.5, ML3.2, MLv4.0, Mw(mB)4.2*
*IGQ **23** 02:40:06.8±0.4, 2°.5S±2°×7°.7W±°, h166km±4km, MLv3.7/37*
*NEIC **23** 02:40:07.8±1.8, 2°.15S±0°.09×77°.4W±0°.1, h135km±10km, mb4.2/8, Error ellipse: s-maj=20.9km s-min=11.5km az=65.0*
*IDC **23** 02:40:08.1±2.0, 2°.08S×77°.48W, h155km±20km, mb3.3/7, mbtmp3.9/12, Error ellipse: s-maj=24.7km s-min=14.8km az=83.0*
ISC 23 02:40:07.6±0.6, 2°.12S±0°.04×77°.38W±0°.05, h157km±5km, n110, σ1§58/126, mb3.8/10, 11C-43D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANGA	**Volcan Sangay**	**1.00**	**274**	⇓P	**Pn**	**02 40 33.1**	**-0.5**
SANGA				S	**Sn**	**02 40 53.0**	**-0.3**
ATEN	**Tena**	**1.19**	**339**	⇓P	**Pn**	**02 40 34.0**	**-0.8**
ARDO	**Archidona, Ten**	**1.20**	**339**	⇓P	**Pn**	**02 40 34.1**	**-0.9**
ARDO				S	**Sn**	**02 40 53.9**	**-2.0**
BPAT	**Tungurahua Vol**	**1.22**	**300**	⇓P	**Pn**	**02 40 34.9**	**-0.7**
BULB	**Ulba Tungurahu**	**1.24**	**303**	⇓P	**Pn**	**02 40 34.9**	**-0.7**
BULB				S	**Sn**	**02 40 55.9**	**-1.1**
BMAS	**Trigal station**	**1.26**	**299**	⇓P	**Pn**	**02 40 34.1**	**-1.8**
POND	**Pondoa**	**1.28**	**303**	⇓P	**Pn**	**02 40 35.2**	**-0.8**
JUI6	**Juive**	**1.29**	**302**	⇓P	**Pn**	**02 40 35.2**	**-0.8**
BBIL	**Ulba Tungurahu**	**1.30**	**301**	⇓P	**Pn**	**02 40 35.5**	**-0.6**
IGUA	**Igualata**	**1.41**	**296**	⇓P	**Pn**	**02 40 37.2**	**-0.3**
PIAT	**Ana Tenorio**	**1.43**	**322**	⇓P	**Pn**	**02 40 36.8**	**-0.7**
PIS1	**Pisayambo**	**1.46**	**316**	⇓P	**Pn**	**02 40 37.7**	**-0.2**
PIS1				S	**Sn**	**02 41 01.1**	**0.0**
BOSC	**San Juan Bosco**	**1.51**	**228**	⇑P	**Pn**	**02 40 37.3**	**-0.8**
BOSC				S	**Sn**	**02 41 00.3**	**-1.1**
TAMH	**Tambohuasha Ch**	**1.52**	**292**	⇓P	**Pn**	**02 40 38.6**	**+0.2**
TAMH				S	**Sn**	**02 41 03.2**	**+1.3**
PORT	**Chimborazo Vol**	**1.54**	**295**	⇓P	**Pn**	**02 40 38.8**	**0.0**
PORT				S	**Sn**	**02 41 04.0**	**+1.3**
JSCH	**Cashca Tororas**	**1.65**	**284**	⇓P	**Pn**	**02 40 39.9**	**+0.2**
JSCH				S	**Sn**	**02 41 04.8**	**+0.5**
VCES	**Cotopaxi**	**1.66**	**322**	⇓P	**Pn**	**02 40 40.2**	**+0.2**
BRRN	**Barrancas-Volc**	**1.73**	**320**	⇓P	**Pn**	**02 40 40.9**	**+0.2**
TAMB	**Tambo**	**1.73**	**325**	P	**Pn**	**02 40 40.9**	**+0.1**
BMOR	**Cotopaxi Volca**	**1.76**	**322**	⇓P	**Pn**	**02 40 41.3**	**+0.2**
ACUE	**Ecuador-Cuenca**	**1.76**	**244**	⇓P	**Pn**	**02 40 40.3**	**-0.6**
BTAM	**Cotopaxi Volca**	**1.76**	**325**	⇓P	**Pn**	**02 40 41.2**	**+0.1**
SLOR	**San Lorenzo -**	**1.78**	**321**	⇓P	**Pn**	**02 40 41.5**	**+0.3**
BVC2	**Cotopaxi Volca**	**1.79**	**325**	⇓P	**Pn**	**02 40 41.5**	**+0.1**
BREF	**Cotopaxi Volca**	**1.79**	**324**	⇓P	**Pn**	**02 40 41.8**	**+0.2**
VC1	**Cotopaxi 1**	**1.79**	**325**	P	**Pn**	**02 40 41.7**	**+0.3**
SRAM	**San Ramn-Vol**	**1.81**	**319**	⇓P	**Pn**	**02 40 41.7**	**+0.2**
BNAS	**Cotopaxi Volca**	**1.82**	**323**	⇓P	**Pn**	**02 40 43.1**	**+1.4**
CAMI	**Rancho Maria**	**1.83**	**322**	P	**Pn**	**02 40 42.1**	**+0.4**
ANTI	**Antisana**	**1.84**	**335**	⇓P	**Pn**	**02 40 42.1**	**+0.1**
SUCR	**Mariscal Sucre**	**1.85**	**323**	⇓P	**Pn**	**02 40 42.5**	**+0.5**
MONB	**Balzapamba Mon**	**1.85**	**281**	⇑P	**Pn**	**02 40 41.2**	**-0.4**
PITA	**Cotopaxi Volc**	**1.88**	**326**	P	**Pn**	**02 40 42.6**	**+0.3**
COHC	**Cochancay**	**1.91**	**260**	P	**Pn**	**02 40 41.3**	**-0.8**
COHC				S	**Sn**	**02 41 07.5**	**-1.2**
COHC	**Cochancay**	**1.91**	**260**	⇑P	**Pn**	**02 40 41.1**	**-1.0**
COHC	**Cochancay**	**1.91**	**260**	P		02 40 41.3	
COHC				S		02 41 07.5	
TOMA	**Boca Toma-Volc**	**1.93**	**327**	P	**Pn**	**02 40 43.5**	**+0.7**
ILLI	**Illinizas Sur**	**1.94**	**316**	⇓P	**Pn**	**02 40 43.2**	**+0.1**
MILO	**Milagro-Astudi**	**2.18**	**266**	⇓P	**Pn**	**02 40 44.0**	**-1.3**
PUEM	**Granja Avicola**	**2.21**	**333**	P	**Pn**	**02 40 46.8**	**+0.8**
CAYR	**Refugio Cayamb**	**2.21**	**343**	⇑P	**Pn**	**02 40 46.7**	**+0.3**
CASC	**Dorado de Casc**	**2.25**	**1**	P	**Pn**	**02 40 45.9**	**-0.3**
ANGU	**Angureal**	**2.25**	**344**	⇓P	**Pn**	**02 40 47.1**	**+0.4**
GGPT	**Toaza - Volcan**	**2.26**	**327**	⇓P	**Pn**	**02 40 46.4**	**-0.2**
JUA2	**San Juan 2**	**2.26**	**327**	⇑P	**Pn**	**02 40 46.4**	**-0.3**
GGPC	**Guagua Pichinc**	**2.28**	**328**	⇓P	**Pn**	**02 40 46.9**	**-0.2**
TERV	**Terraza Guagua**	**2.29**	**328**	⇓P	**Pn**	**02 40 47.0**	**-0.1**
PINO	**Pino**	**2.31**	**328**	⇑P	**Pn**	**02 40 47.4**	**-0.1**
YANA	**Yana**	**2.32**	**329**	⇓P	**Pn**	**02 40 47.3**	**-0.2**
PULU	**Pululahua**	**2.41**	**332**	⇓P	**Pn**	**02 40 48.2**	**-0.2**
AZAM	**Ecuador-Zamora**	**2.49**	**219**	P	**Pn**	**02 40 48.1**	**-1.1**
IMBA	**Imbabura, San**	**2.52**	**341**	⇓P	**Pn**	**02 40 50.8**	**+0.9**
BONI	**La Bonita**	**2.56**	**357**	P	**Pn**	**02 40 49.7**	**-0.4**
YAHU	**Yahuarcocha**	**2.57**	**344**	⇓P	**Pn**	**02 40 51.0**	**+0.6**
OTAV	**Otavalo**	**2.58**	**335**		**Pn**	**02 40 50.1**	**-0.5**
OTAV	**Otavalo**	**2.58**	**335**	⇓P	**Pn**	**02 40 50.0**	**-0.5**
ALJ1	**Ecuador-Loja-U**	**2.60**	**224**	⇓P	**Pn**	**02 40 50.3**	**-0.3**
CUIC	**Cuicocha-Domo**	**2.60**	**336**	⇓P	**Pn**	**02 40 50.9**	**+0.1**
CUSE	**Cuicocha Este**	**2.62**	**337**	⇓P	**Pn**	**02 40 51.3**	**+0.3**
URCU	**Urcuqui**	**2.69**	**341**	⇓P	**Pn**	**02 40 52.4**	**+0.5**
PAC1	**Pacto, Paraso**	**2.76**	**329**	⇓P	**Pn**	**02 40 52.4**	**-0.1**
GONZ	**Gonzanam**	**2.91**	**224**	P	**Pn**	**02 40 53.6**	**-1.0**
ISPG	**Isla Puna-Puer**	**2.91**	**253**	P	**Pn**	**02 40 52.9**	**-1.4**
PECV	**Mancha de Ca P**	**2.99**	**297**	P	**Pn**	**02 40 57.1**	**+1.9**
FLF1	**Flavio Alfaro-**	**3.02**	**305**	P	**Pn**	**02 40 54.5**	**-1.2**
FLF1				S	**Sn**	**02 41 31.4**	**-1.5**
FLF1	**Flavio Alfaro-**	**3.02**	**305**	P	**Pn**	**02 40 54.7**	**-1.0**
FLF1	**Flavio Alfaro-**	**3.02**	**305**	P		02 40 54.5	
FLF1				S		02 41 31.4	
LAMO	**ALAMOR**	**3.24**	**234**	P	**Pn**	**02 40 55.7**	**-2.8**
ZUMB	**Zumba**	**3.24**	**213**	⇑P	**Pn**	**02 40 57.9**	**-0.6**
PTLC	**Puerto Leguiza**	**3.44**	**49**	P	**Pn**	**02 40 57.8**	**-3.1**
PTLC	**Puerto Leguiza**	**3.44**	**49**	⇑P	**Pn**	**02 40 58.0**	**-2.9**
PTLC	**Puerto Leguiza**	**3.44**	**49**	P		02 40 57.8	
PPLP	**Puerto Lpez**	**3.44**	**280**	P	**Pn**	**02 40 58.1**	**-2.9**
PPLP				S	**Sn**	**02 41 36.4**	**-6.0**
PPLP	**Puerto Lpez**	**3.44**	**280**	P	**Pn**	**02 40 59.8**	**-1.1**
PPLP	**Puerto Lpez**	**3.44**	**280**	P		02 40 58.1	
PPLP				S		02 41 36.4	
SALI	**Salinas**	**3.61**	**269**	⇑P	**Pn**	**02 41 01.2**	**-1.8**
ISPT	**Isla de la Pla**	**3.79**	**283**	P	**Pn**	**02 41 03.0**	**-2.5**
FLOC	**Florencia**	**4.07**	**25**		**Pn**	**02 41 08.2**	**-0.7**
FLOC	**Florencia**	**4.07**	**25**	⇑P	**Pn**	**02 41 08.3**	**-0.7**
BBAC	**Balboa, Cauca**	**4.12**	**2**	⇑P	**Pn**	**02 41 10.2**	**+0.3**
ATAH	**Atahualpa**	**5.08**	**191**	P	**Pn**	**02 41 23.9**	**+1.2**
	90nm,0.5s,baz=22,slow=10,SNR=72						
ATAH				S	**Sn**	**02 42 21.3**	**0.0**
	58nm,0.7s,baz=199,slow=21,SNR=7.3						
CZSB	**Cruzeiro do Su**	**7.26**	**140**		**Pn**	**02 41 51.8**	**+0.6**
ROSC	**El Rosal**	**7.56**	**24**	P	Pn	02 42 02.9	+7.3
	4.3nm,0.4s,baz=102,slow=20,SNR=1.3						
TBTG	**Tabatinga, AM**	**7.73**	**106**	Pn	**Pn**	**02 41 56.4**	**-1.2**
RUSC	**La Rusia**	**9.04**	**28**		**Pn**	**02 42 17.0**	**+1.6**
NNA	**Nana**	**9.81**	**177**	P	**Pn**	**02 42 28.0**	**+2.8**
	4.2nm,0.4s,baz=308,slow=12,SNR=1.8						
NNA				S	**Sn**	**02 44 05.4**	**-8.7**
	7.8nm,0.3s,baz=266,slow=17,SNR=4.0						
SDV	**Santo Domingo**	**12.84**	**31**	P	**P**	**02 43 08.9**	**-0.8**
SDV	**Santo Domingo**	**12.84**	**31**	P	**Pn**	**02 43 06.7**	**+1.9**
	3.9nm,0.7s,baz=220,slow=11,SNR=6.0						
SDV				S	**Sn**	**02 45 21.2**	**-5.9**
	47nm,0.3s,baz=280,slow=13,SNR=77						
BAUV	**El Baul**	**14.40**	**40**	Pn	**Pn**	**02 43 25.4**	**+1.0**
LPAZ	**La Paz**	**16.76**	**148**	P	**Pn**	**02 43 57.1**	**+3.1**
LPAZ	**La Paz**	**16.76**	**148**	P	**Pn**	**02 43 56.5**	**+2.5**
	2.1nm,0.7s,baz=310,slow=4.3,SNR=7.4						
PCRV	**Puerto La Cruz**	**17.61**	**46**	P	**Pn**	**02 44 03.9**	**+0.2**
	2.1nm,0.4s,baz=207,slow=9.0,SNR=0.8						
PB11	**IPOC Station P**	**19.09**	**157**	P	**P**	**02 44 19.4**	**+0.9**
PB11				IAmb	IAmb	02 45 03.1	
	comp=Z,21nm,1.1s						
VILB	**Vilhena**	**20.12**	**123**	P	**P**	**02 44 30.9**	**+1.4**
VILB				IAmb	IAmb	02 44 32.0	
	comp=Z,10.0nm,0.8s						
SIV	**San Ignacio**	**21.16**	**132**	P	**P**	**02 44 41.4**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=317,slow=12,SNR=15						
	comp=Z,2.4nm,0.7s						
SDD	**Santo Domingo**	**21.73**	**19**	P	**P**	**02 44 48.6**	**+2.0**
PLCA	**Paso Flores**	**38.93**	**172**	P	**P**	**02 47 19.6**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=335,slow=8.7,SNR=6.6						
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**40.15**	**323**	PcP	**PcP**	**02 49 30.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.3,SNR=2.9						
ANMO	**Albuquerque**	**45.86**	**326**	P	**P**	**02 48 16.2**	**+1.8**
ANMO				IAmb	IAmb	02 48 16.9	
	comp=Z,6.1nm,1.4s						
PV13	**Radium Mtn., P**	**49.50**	**327**	P	**P**	**02 48 43.1**	**+0.6**
PDAR	**Pinedale Array**	**53.28**	**331**	P	**P**	**02 49 10.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=134,slow=6.8,SNR=2.8						
PDAR				PcP	**PcP**	**02 50 14.7**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=174,slow=3

SII	**Sitkinak Islan**	**12.28**	**55**	Pn	**Pn**	**02 54 33.3**	**-2.9**
OHAK	**Old Harbor**	**12.97**	**53**	Pn	**Pn**	**02 54 42.2**	**-3.5**
KDAK	**Kodiak Island**	**13.54**	**51**	Pn	Pn	02 54 49.3	-4.2
	0.3nm,0.3s,baz=283,slow=2.7,SNR=30						
KDAK	**Kodiak Island**	**13.54**	**51**	P	Pn	02 54 49.4	-4.0
H18K	**Honhosa River**	**16.20**	**22**	P	**P**	**02 55 33.7**	**+1.5**
H18K				IAmb	IAmb	02 55 45.1	
	comp=Z,20nm,1.1s						
CAST	**Castle Rocks**	**16.74**	**33**	Pn	**Pn**	**02 55 36.2**	**+0.4**
F20K	**Avaraart Lake**	**18.38**	**21**	P	**P**	**02 55 56.7**	**+0.5**
E19K	**Redstone River**	**18.40**	**19**	P	**Pn**	**02 55 56.4**	**0.0**
PETK	**Petropavlovsk-**	**18.52**	**289**	P	**Pn**	**02 55 57.7**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=86,slow=16,SNR=2.2						
I23K	**Minto, Yukon-K**	**18.76**	**31**	P	**P**	**02 55 59.7**	**-0.6**
C18K	**Utukok River**	**18.78**	**13**	P	**Pn**	**02 56 01.7**	**+0.6**
F21K	**Alatna River**	**19.05**	**23**	P	**Pn**	**02 56 04.7**	**+0.4**
IL31		**19.38**	**34**	P	**P**	**02 56 05.8**	**-1.3**
ILAR	**Eielson Array**	**19.38**	**34**	P	**P**	**02 56 05.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=230,slow=9.6,SNR=13						
	comp=Z,1.5nm,0.8s						
G23K	**Bananza Creek**	**19.60**	**27**	P	**Pn**	**02 56 12.1**	**+1.2**
H24K	**Noodor Dome**	**19.68**	**31**	P	**P**	**02 56 11.7**	**+1.2**
M26K	**Nabesna, AK**	**19.77**	**43**	P	**P**	**02 56 11.6**	**+0.1**
M26K				IAmb	IAmb	02 56 22.6	
	comp=Z,9.2nm,1.0s						
J25K	**Salcha River,**	**19.84**	**35**	P	**P**	**02 56 10.5**	**-1.7**
J25K				IAmb	IAmb	02 56 21.9	
	comp=Z,8.7nm,0.8s						
L26K	**Log Cabin Wild**	**19.88**	**41**	P	**P**	**02 56 12.1**	**-0.5**
SCRK	**Sand Creek**	**20.04**	**38**	P	**P**	**02 56 13.3**	**-1.2**
E22K	**Anaktuvuk Pass**	**20.16**	**22**	P	**P**	**02 56 16.7**	**+1.0**
E22K				IAmb	IAmb	02 56 22.1	
	comp=Z,8.2nm,1.2s						
BILL	**Bilibino**	**20.27**	**337**	*ce*P	**P**	**02 56 17.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s						
G24K	**Hadweenziz Riv**	**20.35**	**29**	IAmb	IAmb	02 56 27.1	
	comp=Z,12nm,1.4s						
J26L	**Joseph Creek**	**20.46**	**37**	IAmb	IAmb	02 56 30.5	
	comp=Z,7.2nm,0.7s						
D22K	**Ayikyak River**	**20.55**	**20**	IAmb	IAmb	02 56 25.6	
	comp=Z,8.6nm,0.8s						
B20K	**Meade River**	**20.63**	**15**	IAmb	IAmb	02 56 22.5	
	comp=Z,6.8nm,0.9s						
E23K	**Chandalar**	**20.66**	**24**	P	**P**	**02 56 21.1**	**-0.1**
E23K				IAmb	IAmb	02 56 35.4	
	comp=Z,7.7nm,0.9s						
B21K	**Ikpikpuk River**	**20.75**	**18**	IAmb	IAmb	02 56 24.2	
	comp=Z,7.4nm,0.9s						
F24K	**Squaw Lake**	**20.76**	**27**		**P**	**02 56 23.0**	**+0.8**
E24K	**Your Creek**	**20.98**	**25**	IAmb	IAmb	02 56 45.8	
	comp=Z,5.3nm,0.8s						
I26K	**Coal Creek Min**	**21.00**	**35**	IAmb	IAmb	02 56 36.6	
	comp=Z,7.2nm,0.8s						
D23K	**Nanushuk River**	**21.07**	**22**	P	**P**	**02 56 25.7**	**+0.2**
D23K				IAmb	IAmb	02 56 40.1	
	comp=Z,7.6nm,1.0s						
TOLK	**Toolik Lake Re**	**21.10**	**23**	P	**P**	**02 56 26.3**	**+0.5**
TOLK				IAmb	IAmb	02 56 29.0	
	comp=Z,9.6nm,0.8s						
O29M	**Mount Kennedy**	**21.19**	**50**	P	**P**	**02 56 29.0**	**+2.0**
D24K	**Happy Valley**	**21.66**	**23**	IAmb	IAmb	02 56 32.6	
	comp=Z,9.3nm,1.1s						
C23K	**Itkillik River**	**21.75**	**20**	P	**P**	**02 56 32.8**	**+0.1**
C23K				IAmb	IAmb	02 56 59.7	
	comp=Z,6.4nm,0.8s						
E25K	**Arctic Village**	**21.82**	**27**	P	**P**	**02 56 35.2**	**+1.5**
E25K				IAmb	IAmb	02 56 39.6	
	comp=Z,8.0nm,1.2s						
F26K	**Sheenjek River**	**21.99**	**29**	IAmb	IAmb	02 56 50.7	
	comp=Z,8.9nm,1.0s						
I28M	**Miner Creek**	**22.26**	**36**	P	**P**	**02 56 38.4**	**0.0**
I28M				IAmb	IAmb	02 57 13.9	
	comp=Z,7.1nm,1.1s						
D25K	**Kavik River**	**22.40**	**24**	IAmb	IAmb	02 56 42.9	
	comp=Z,5.2nm,0.9s						
SEY	**Seymchan**	**22.46**	**316**	P	**P**	**02 56 39.6**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=121,slow=9.3,SNR=7.5						
	comp=Z,1.7nm,0.7s						
SEY	**Seymchan**	**22.46**	**316**	*ce*P	**P**	**02 56 38.8**	**-1.6**
SEY				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MA2	**Magadan**	**22.55**	**307**	P	**P**	**02 56 41.3**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=92,slow=12,SNR=5.7						
MA2				LR	LR	03 06 39.2	
	comp=Z,42nm,18.1s,baz=112,slow=40						
	comp=Z,4.7nm,0.8s						
MA2	**Magadan**	**22.55**	**307**	*ce*P	**P**	**02 56 40.6**	**-0.8**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s						
K29M	**Barlow Dome**	**22.61**	**41**	IAmb	IAmb	02 57 00.2	
	comp=Z,10nm,1.5s						
I30M	**Mount Dempster**	**23.55**	**38**	P	**P**	**02 56 51.2**	**-0.6**
I30M				IAmb	IAmb	02 56 53.9	
	comp=Z,7.5nm,1.4s						
E29M	**Blow River**	**24.34**	**31**	P	**P**	**02 56 58.7**	**-0.4**
E29M				IAmb	IAmb	02 57 13.1	
	comp=Z,4.9nm,1.1s						
INK	**Inuvik**	**25.76**	**32**	IAmb	IAmb	02 57 14.9	
	comp=Z,5.7nm,0.8s						
ASAJ	**Asahikawa**	**30.75**	**275**	P	**P**	**02 57 57.3**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=28,slow=16,SNR=1.8						
	comp=Z,1.4nm,0.3s						
YKA	**Yellowknife Ar**	**32.76**	**47**	P	**P**	**02 58 14.4**	**+0.3**
YKA	**Yellowknife Ar**	**32.76**	**47**	P	**P**	**02 58 14.7**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=270,slow=8.3,SNR=22						
YKA				PcP	**PcP**	**03 00 59.1**	**0.0**
	comp=Z,0.3nm,0.8s,baz=270,slow=3.6,SNR=5.9						
	comp=Z,0.8nm,0.7s						
YAK	**Yakutsk**	**32.85**	**313**	LR	LR	03 11 18.0	
	comp=Z,39nm,19.2s,baz=336,slow=36						
KLR	**Kul'dur**	**35.21**	**290**	P	**P**	**02 58 33.8**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=90,slow=8.1,SNR=2.4						
	comp=Z,0.8nm,0.5s						
KLR	**Kul'dur**	**35.21**	**290**	*ce*P	**P**	**02 58 34.3**	**-1.3**
KLR				pmax	pmax		
	comp=Z,5.0nm,2.5s						
I07A	**Izee**	**35.76**	**80**	P	**P**	**02 58 41.6**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**36.19**	**215**	T	T	03 37 07.0	
	baz=22,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**36.20**	**215**	T	T	03 37 08.7	
	baz=22,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**36.21**	**215**	T	T	03 37 07.9	
	baz=22,slow=76,SNR=8.8						
J08A	**Circle Bar Ran**	**36.77**	**80**	P	**P**	**02 58 50.3**	**+1.1**
WVOR	**Wild Horse Val**	**37.15**	**81**	P	**P**	**02 58 54.1**	**+1.6**
WVOR	**Wild Horse Val**	**37.15**	**81**	P	**P**	**02 58 54.1**	**+1.6**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NVAR	**Mina Array Bea**	**39.60**	**87**	P	**P**	**02 59 13.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=309,slow=5.1,SNR=4.1						
NVAR				PcP	**PcP**	**03 01 20.9**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=321,slow=3.1,SNR=3.9						
NVAR				ScP	**ScP**	**03 05 07.7**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=2.1,slow=4.2,SNR=1.5						
	comp=Z,0.4nm,0.7s						
ELK	**Elko**	**40.21**	**82**	P	**P**	**02 59 19.4**	**+1.1**
ELK	**Elko**	**40.21**	**82**	P	**P**	**02 59 19.4**	**+1.1**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HVU	**Hansel Valley**	**41.18**	**79**	IAmb	IAmb	02 59 27.9	
	comp=Z,2.2nm,0.7s						
DUG	**Dugway, Tooele**	**42.05**	**81**	P	**P**	**02 59 34.0**	**+0.8**
DUG				IAmb	IAmb	02 59 35.1	
	comp=Z,8.9nm,1.5s						
DUG	**Dugway, Tooele**	**42.05**	**81**	P	**P**	**02 59 34.0**	**+0.8**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
GSC	**Goldstone, Bar**	**42.46**	**89**	IAmb	IAmb	02 59 38.0	
	comp=Z,5.9nm,1.1s						
PD31	**Pinedale Array**	**42.62**	**75**	IAmb	IAmb	02 59 39.1	
	comp=Z,2.2nm,0.8s						
PDAR	**Pinedale Array**	**42.62**	**75**	P	**P**	**02 59 38.1**	**0.0**
PDAR	**Pinedale Array**	**42.62**	**75**	P	**P**	**02 59 38.5**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=309,slow=3.8,SNR=26						
	comp=Z,1.6nm,0.5s						
JLU	**Jordanelle**	**42.66**	**79**	IAmb	IAmb	02 59 40.1	
	comp=Z,5.6nm,1.2s						
Q16A	**Castle Valley**	**43.82**	**81**	P	**P**	**02 59 48.7**	**+1.0**
P18A	**Preston Nutter**	**43.98**	**80**	P	**P**	**02 59 50.4**	**+1.3**
U15A	**North Rim**	**44.62**	**85**	IAmb	IAmb	02 59 56.3	
	comp=Z,5.2nm,1.0s						
O20A	**White River Ci**	**44.93**	**78**	P	**P**	**02 59 56.9**	**+0.3**
MVCO	**Mesa Verde**	**46.53**	**81**	P	**P**	**03 00 09.2**	**-0.1**
ULM	**Lac du Bonnet**	**46.61**	**59**	P	**P**	**03 00 08.7**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=292,slow=11,SNR=3.4						
	comp=Z,1.1nm,0.6s						
NRIK	**Noril'sk**	**46.95**	**331**	P	**P**	**03 00 11.0**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=90,slow=7.1,SNR=1.9						
	comp=Z,1.8nm,0.6s						
NRIK	**Noril'sk**	**46.95**	**331**	*ce*P	**P**	**03 00 13.0**	**+1.1**
NRIK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
SONM	**Songino Array**	**50.49**	**300**	P	**P**	**03 00 40.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=39,slow=6.4,SNR=5.4						
	comp=Z,0.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**51.72**	**290**	*e*P	**P**	**03 00 44.9**	**-3.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,56nm,4.1s						
TXAR	**Lajitas Array**	**54.73**	**85**	P	**P**	**03 01 10.9**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=332,slow=11,SNR=6.0						
	comp=Z,1.2nm,0.5s						
SCHQ	**Schefferville**	**57.93**	**41**	P	**P**	**03 01 34.3**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=16,slow=17,SNR=2.3						
	comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**62.31**	**317**	*ce*P	**P**	**03 02 04.5**	**+1.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KURBB	**Kurchatov Arra**	**62.41**	**317**	P	**P**	**03 02 04.4**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=42,slow=6.6,SNR=5.3						
	comp=Z,0.6nm,0.3s						
TKL	**Tuckaleechee C**	**62.59**	**67**	P	**P**	**03 02 04.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=280,slow=6.1,SNR=2.0						
	comp=Z,1.4nm,0.7s						
WMQ	**Urumqi**	**63.01**	**307**	*e*P	**P**	**03 02 09.5**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
MK31	**Makanchi Array**	**63.52**	**312**	P	**P**	**03 02 11.1**	**-0.6**
MK31				IAmb	IAmb	03 02 13.8	
	comp=Z,1.4nm,0.8s						
MK31	**Makanchi Array**	**63.52**	**312**	*ce*P	**P**	**03 02 13.5**	**+1.8**
MKAR	**Makanchi Array**	**63.52**	**312**	P	**P**	**03 02 11.4**	**-0.3**
MKAR	**Makanchi Array**	**63.52**	**312**	P	**P**	**03 02 11.2**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=50,slow=5.8,SNR=11						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**63.52**	**312**	*i* P	**P**	**03 02 11.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**63.90**	**323**	P	**P**	**03 02 13.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=87,slow=9.7,SNR=5.8						
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**63.91**	**323**	*ce*P	**P**	**03 02 15.8**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
PZH	**PanZhiHua**	**67.42**	**285**	P	**P**	**03 02 38.4**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
HFS	**Hagfors**	**69.38**	**357**	P	**P**	**03 02 48.7**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=343,slow=4.6,SNR=6.4						
	comp=Z,2.4nm,0.8s						
AAK	**Ala-Archa**	**70.29**	**314**	*ce*P	**P**	**03 02 56.4**	**+1.4**
AAK				pmax	pmax		
	comp=Z,11nm,1.7s						
ABKAR	**Akbulak array**	**70.79**	**327**	P	**P**	**03 02 58.2**	**+0.5**
ABKAR	**Akbulak array**	**70.79**	**327**	P	**P**	**03 02 58.6**	**+0.8**
ABKAR				IAmb	IAmb	03 03 01.3	
	comp=Z,4.0nm,1.1s						
KKAR	**Karatay Array**	**71.70**	**317**	P	**P**	**03 03 03.4**	**0.0**
KKAR	**Karatay Array**	**71.70**	**317**	P	**P**	**03 03 03.4**	**0.0**
OBN	**Obninsk**	**71.78**	**343**	*e*P	**P**	**03 03 06.0**	**+2.4**
OBN				*e*		03 03 23.5	
OBN				*e*		03 05 44.6	
OBN				*e*PPP	PPP	03 07 28.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KSH	**Kashi**	**72.04**	**311**	P	P	03 03 10.5	+4.8
KSH				sP	pwP	03 03 19.9	+4.7
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**75.09**	**281**	P	**P**	**03 03 23.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=44,slow=6.2,SNR=4.7						
	comp=Z,0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**75.09**	**281**	*i* P	**P**	**03 03 24.6**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**77.28**	**346**	P	**P**	**03 03 34.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=19,slow=5.9,SNR=3.1						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**87.06**	**340**	P	**P**	**03 04 29.1**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=25,slow=3.8,SNR=3.0						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**87.88**	**228**	P	**P**	**03 04 30.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=34,slow=4.1,SNR=7.2						
	comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**89.40**	**9**	P	**P**	**03 04 38.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=308,slow=6.2,SNR=2.4						
	comp=Z,0.6nm,0.8s						
DGAR	**Diego Garcia**	**111.50**	**285**	*c i* PKIKP	**PKiKP**	**03 10 17.1**	**+1.0**
DGAR				pmax	pmax		
	comp=Z,60nm,1.3s						
QSPA	**South Pole Qui**	**140.49**	**180**	PKP	**PKPdf**	**03 11 10.3**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=12,slow=0.5,SNR=7.5						

SJA ***23*** *03:15:49.0, 30.°10S×71.°51W, h10km, ML2.6*
GUC ***23*** *03:15:51.5±0.6, 30.°19S×71.°24W, h59km±2km, ML2.3*
ISC 23 03:15:53.7±1.4, 30.°15S±0.°04×71.°35W±0.°06, h43km, n19, σ1°33/23, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.25**	**22**	*e*P	**Pn**	**03 16 01.9**	**+0.2**
CO05				*e*S	**Sn**	**03 16 09.5**	**+2.3**
CO05				IAML		03 16 09.9	
	comp=E,825nm,0.4s						
GO04	**Tololo Observa**	**0.47**	**93**	*i* P	**Pn**	**03 16 03.2**	**-1.3**
GO04	**Tololo Observa**	**0.47**	**93**	*e*P	**Pn**	**03 16 03.7**	**-0.8**
GO04				*e*S	**Sn**	**03 16 12.9**	**+0.8**
CO06	**Fray Jorge**	**0.58**	**205**	*e*P	**Pn**	**03 16 05.5**	**-0.1**
CO06				*e*S	**Sn**	**03 16 15.3**	**+1.2**
CO06				IAML		03 16 16.1	
	comp=N,143nm,0.1s						
CO03	**El Pedregal**	**0.89**	**141**	*e*P	**Pn**	**03 16 08.2**	**-1.7**
CO03				*e*S	**Sn**	**03 16 20.7**	**-1.0**
CO01	**Juntas del Tor**	**1.10**	**81**	*i* P	**Pn**	**03 16 10.9**	**-2.0**
CO01	**Juntas del Tor**	**1.10**	**81**	↑*e*P	**Pn**	**03 16 11.6**	**-1.2**
CO01				IAML		03 16 26.6	
	comp=E,195nm,0.1s						
LCO	**Las Campanas**	**1.26**	**27**	*i* P	**Pn**	**03 16 13.1**	**-2.1**
AROD	**Rodeo**	**1.62**	**91**	*i* P	**Pn**	**03 16 20.2**	**+0.1**
AC04	**Llanos de Chal**	**1.95**	**7**	*i* P	**Pn**	**03 16 22.9**	**-1.4**
AC04	**Llanos de Chal**	**1.95**	**7**	*e*P	**Pn**	**03 16 23.9**	**-0.4**
ACCO	**Cerro Coronel**	**2.02**	**103**	*i* P	**Pn**	**03 16 26.6**	**+1.0**
AGUA	**GUANDACOL**	**2.57**	**76**	*i* P	**Pn**	**03 16 35.0**	**+2.1**
VCA	**Vinchina**	**3.08**	**64**	*i* P	**Pn**	**03 16 40.9**	**+0.9**
MT02	**Curacav**	**3.11**	**177**	*i* P	**Pn**	**03 16 39.4**	**-0.8**
MT01	**Popeta**	**3.71**	**179**	*i* P	**Pn**	**03 16 48.2**	**-0.2**
AC02	**Maricunga**	**3.83**	**31**	*i* P	**Pn**	**03 16 49.0**	**-1.7**
ACLC	**CERRO LA CRUZ**	**3.89**	**80**	*i* P	**Pn**	**03 16 51.1**	**0.0**
APLL	**PUNTA DE LOS L**	**4.17**	**95**	*i* P	**Pn**	**03 16 54.4**	**-0.5**

IDC 23 04:00:26.9±2.3, 31.°51S×178.°80W, h0km, mb3.6/3, mbtmp3.6/3, MS4.0/2, Error ellipse: s-maj=66.8km s-min=41.3km az=41.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.38**	**269**	P	P	04 08 23.2	-0.1
	0.4nm,0.5s,baz=108,slow=7.7,SNR=5.9						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.47**	**274**	P	P	04 08 31.9	-0.2
	0.4nm,0.3s,baz=115,slow=8.1,SNR=10						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**58.60**	**180**	P	P	04 10 25.5	0.0
	0.5nm,0.5s,baz=0.0,slow=3.0,SNR=1.5						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**145.94**	**339**	PKPbc	PKPdf	04 20 06.7	-0.3
	3.4nm,0.8s,baz=106,slow=4.5,SNR=3.4						

BJI ***23*** *04:14:41.4, 14.°95N×120.°08E, h66km, mB4.8/21, mb4.5/62, Ms4.3/46, Ms7 4.2/45*
DJA ***23*** *04:14:43.4±0.3, 15.°N±2.°×12.°0E±.°, h84km±5km, M5.0/59, mB5.5/25, mb5.0/59, MLv5.3/1, Mw(mB)4.9/25, MwMwp5.2/2, Mwp5.4/2*
IDC ***23*** *04:14:44.2±0.8, 14.°80N×120.°11E, h90km±8km, mb4.0/36, mbtmp4.4/38, MS3.9/52, Error ellipse: s-maj=14.2km s-min=9.5km az=77.0*
NEIC ***23*** *04:14:44.2±1.9, 14.°88N±0.°07×120.°15E±0.°09, h82km±7km, mb4.9/75, Error ellipse: s-maj=13.9km s-min=9.1km az=58.0*
ISC 23 04:14:42.6±0.5, 14.°86N±0.°04×120.°12E±0.°06, h72km±5km, h72km; pP-P, n296, σ1°24/252, mb4.8/129, 9C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.09**	**133**	P	**Pn**	**04 15 03.5**	**+1.0**
	12μm,0.5s,baz=299,slow=3.8,SNR=204						
TGY				S	**Sn**	**04 15 20.6**	**+3.2**
	22μm,0.5s,baz=332,slow=18,SNR=7.5						
TGY				LR	LR	04 15 38.5	
	comp=Z,4μm,19.0s,baz=244,slow=51						
TWGBT	**Beinan**	**7.97**	**6**	P	**Pn**	**04 16 36.5**	**+0.8**
TWG	**Pinlang**	**7.97**	**6**		**Pn**	**04 16 35.3**	**-0.5**
TPUB	**Ta-pu**	**8.41**	**3**	Pn	**Pn**	**04 16 41.7**	**-0.1**
TPUB	**Ta-pu**	**8.41**	**3**	P	**Pn**	**04 16 42.1**	**+0.3**
YULB	**Yu-li**	**8.56**	**7**		**Pn**	**04 16 44.7**	**+0.9**
YULB	**Yu-li**	**8.56**	**7**	P	**Pn**	**04 16 44.4**	**+0.6**
SSLB	**Suanglung**	**8.91**	**5**		**Pn**	**04 16 49.3**	**+0.5**
SSLB	**Suanglung**	**8.91**	**5**	P	**Pn**	**04 16 49.6**	**+0.9**
HKPS	**Hong Kong Po S**	**9.30**	**323**		Pn	04 16 49.6	-4.3
NACB	**Ninganchiao**	**9.37**	**8**		**Pn**	**04 16 55.0**	**+0.1**
NACB	**Ninganchiao**	**9.37**	**8**	P	**Pn**	**04 16 54.8**	**-0.1**
DAV	**Davao City (W)**	**9.42**	**145**	LR	LR	04 21 20.2	
	comp=Z,833nm,19.0s,baz=338,slow=42						
KKM	**Kota Kinabalu**	**9.56**	**204**	P	**Pn**	**04 17 00.0**	**+2.3**
MYLDM	**Lahad Datu**	**9.75**	**190**	Pn	**Pn**	**04 17 02.1**	**+1.9**
MYLDM	**Lahad Datu**	**9.75**	**190**	P	**Pn**	**04 17 02.0**	**+1.9**
YHNB	**Yeheng**	**9.83**	**7**	Pn	**Pn**	**04 17 02.4**	**+1.2**
YHNB	**Yeheng**	**9.83**	**7**	P	**Pn**	**04 17 02.1**	**+0.8**
QIZ	**Qiongzhong**	**10.67**	**294**	Pn	Pn	04 17 08.4	-4.3
QIZ	**Qiongzhong**	**10.67**	**294**	P	Pn	04 17 08.6	-4.1
QIZ				pmax	pmax		
	comp=Z,20nm,0.7s						
QIZ				LR	LR		
	comp=N,260nm,7.5s						
QIZ				LR	LR		
	comp=E,350nm,8.0s						
QIZ				LR	LR		
	comp=Z,540nm,11.2s						
TOLI2	**Tolitoli**	**13.68**	**177**	Pn	**Pn**	**04 17 54.7**	**+1.3**
TOLI2	**Tolitoli**	**13.68**	**177**	P	**P**	**04 17 57.3**	**-2.5**
JOW	**Kunigami**	**14.13**	**31**	P	**Pn**	**04 18 01.6**	**+2.3**
	14nm,0.5s,baz=236,slow=18,SNR=1.8						
JOW				LR	LR	04 23 09.9	
	comp=Z,386nm,21.3s,baz=152,slow=36						
MRSI	**Marisa**	**14.40**	**173**	P	**Pn**	**04 18 04.8**	**+1.8**
	83nm,1.1s						
MPSI	**Mapaga**	**14.43**	**181**	P	**Pn**	**04 18 04.6**	**+1.3**
	876nm35nm,0.9s						
SBUM	**Sibu**	**14.59**	**213**	Pn	**Pn**	**04 18 05.5**	**+0.2**
SBUM	**Sibu**	**14.59**	**213**	P	**Pn**	**04 18 06.7**	**+1.3**
KMSI	**Cibinong**	**14.70**	**165**	P	**P**	**04 18 10.3**	**-0.8**
SMKI	**Samarinda**	**15.48**	**191**	P	**P**	**04 18 24.2**	**+4.4**
PCI	**Palu**	**15.67**	**181**	P	**P**	**04 18 21.5**	**-0.4**
	81nm,1.1s						
APSI	**Ampana**	**15.74**	**174**	P	**P**	**04 18 21.8**	**-0.9**
	1μm137nm,1.2s						
LUWI	**Luwuk**	**16.02**	**170**	P	**P**	**04 18 27.8**	**+2.0**
LUWI	**Luwuk**	**16.02**	**170**	P	**P**	**04 18 27.3**	**+1.5**
KSM	**Kuching**	**16.46**	**217**	P	**P**	**04 18 30.0**	**-0.6**
WHN	**Wuhan**	**16.48**	**342**	⇑P	**P**	**04 18 32.0**	**+1.2**
WHN				pmax	pmax		
	comp=Z,120nm,1.2s						
WHN				LR	LR		
	comp=Z,2μm,20.0s						
STKI	**Sintang**	**17.00**	**211**	P	**P**	**04 18 36.1**	**-0.6**
GYA	**Guiyang**	**17.06**	**315**	P	**P**	**04 18 38.3**	**+0.9**
GYA				pmax	pmax		
	comp=Z,30nm,1.4s						
NJ2	**Nanjing**	**17.15**	**356**	*e*P	**P**	**04 18 39.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,17nm,1.2s						
SANI	**Sanana**	**17.78**	**160**	P	**P**	**04 18 43.7**	**-1.5**
	84nm,0.9s						
TTSI	**Tana Toraja**	**17.79**	**181**	P	**P**	**04 18 45.1**	**-0.3**
	39nm,0.9s						
SPSI	**Sidrap Palu**	**18.71**	**181**	P	**P**	**04 18 55.1**	**-0.3**
KDI

comp=Z,30nm,1.1s
XAN LR LR
comp=N,640nm,15.5s
XAN LR LR
comp=E,1µm,16.3s
XAN LR LR
comp=Z,1µm,15.7s
CD2 Chengdu 21.92 320 P P 04 19 30.3 +0.2
CD2 S S 04 23 26.8 -1.4
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 LR LR
comp=N,610nm,13.3s
CD2 LR LR
comp=Z,710nm,14.6s
KMMI Kalianget 22.61 196 P P 04 19 38.8 +1.3
2µm68nm,1.3s
TNCH TengChong 22.65 300 ⇑P P 04 19 38.5 +0.3
TNCH sP sP 04 20 02.9 +1.6
TNCH PP PnPn 04 20 08.9 +3.8
TNCH S S 04 23 39.9 -1.4
TNCH pmax pmax
comp=Z,57nm,1.3s
TNCH pmax pmax
comp=Z,190nm,4.0s
TNCH LR LR
comp=N,230nm,8.6s
TNCH LR LR
comp=E,310nm,10.8s
TNCH LR LR
comp=Z,210nm,15.7s
HNS HongShan 22.96 349 ⇑P P 04 19 40.5 -0.5
HNS pmax pmax
comp=Z,38nm,1.2s
HNS LR LR
comp=N,550nm,17.5s
HNS LR LR
comp=E,290nm,17.5s
HNS LR LR
comp=Z,600nm,18.3s
ABJI Asem Bagus 23.25 195 P P 04 19 44.8 +0.8
113nm,1.2s
SRBI Singaraja 23.31 192 P P 04 19 45.2 +0.7
2µm137nm,1.4s
MMRI Maumere 23.44 175 IAmb IAmb 04 19 53.1
comp=Z,62nm,0.7s
MMRI Maumere 23.44 175 P P 04 19 46.7 +1.0
comp=Z,85nm,1.4s
KSRS Korea Array 23.55 16 P P 04 19 47.6 +1.1
comp=Z,2.0nm,0.6s,baz=200,slow=11,SNR=6.7
KSRS LR LR 04 29 03.4
comp=Z,233nm,21.6s,baz=205,slow=36
comp=Z,2.0nm,0.6s
PLAI Plampang 23.65 186 P P 04 19 49.6 +2.0
PLAI Plampang 23.65 186 P P 04 19 48.1 +0.5
TWSI Taliwang, Sumb 23.66 188 P P 04 19 48.8 +1.0
comp=Z,1µmcomp=Z,169nm,1.0s
NGJI Ngawi 23.69 202 P P 04 19 49.0 +1.0
comp=Z,90nm,1.3s
SMRI Semarang 23.79 204 P P 04 19 49.0 +0.1
comp=Z,53nm,0.7s
JCJ Chichijima 23.89 56 LR LR 04 29 41.5
comp=Z,80nm,19.7s,baz=322,slow=38
GMJI Gumukmas 23.92 196 P P 04 19 51.2 +1.2
comp=Z,117nm,1.2s
JAGI Jajag, Banyuwa 23.92 195 P P 04 19 51.0 +0.9
JAGI Jajag, Banyuwa 23.92 195 P P 04 19 51.0 +0.9
comp=Z,135nm,0.9s
RPSI Rantau Prapat 24.15 242 P P 04 19 51.3 -0.9
WBSI Waikabubak, Su 24.35 182 P P 04 19 53.6 -0.4
comp=Z,2µmcomp=Z,126nm,0.7s
WSI Waingapu 24.37 180 P P 04 19 54.1 0.0
UGM Wanagama 24.54 203 P P 04 19 58.1 +2.3
UGM Wanagama 24.54 203 P P 04 19 56.9 +1.1
comp=Z,105nm,1.2s
PCJI Pacitan 24.56 202 P P 04 19 55.0 -0.9
comp=Z,83nm,1.4s
MNSI Mandailing Nat 24.64 237 P P 04 19 56.0 -0.6
comp=Z,89nm,1.0s
SOEI Soe 24.80 170 P P 04 19 57.9 -0.3
SOEI IAmb IAmb 04 20 29.2
comp=Z,63nm,0.9s
SOEI Soe 24.80 170 P P 04 20 00.2 +2.0
comp=Z,79nm,0.9s
LEM Lembang 24.86 211 LR LR 04 31 12.6
comp=Z,146nm,18.8s,baz=275,slow=40
LEM Lembang 24.86 211 P P 04 19 59.3 +0.5
comp=Z,27nm,0.7s
MDSI Maura Dua 24.88 221 P P 04 19 58.6 -0.2
comp=Z,1µmcomp=Z,38nm,0.7s
SBJI Serang 25.04 215 P P 04 20 01.2 +1.0
BJT Baijiatuau 25.30 353 P P 04 20 02.0 -0.4
BJI Beijing 25.32 353 P P 04 20 03.8 +1.2
BJI pmax pmax
comp=Z,9.0nm,1.0s
LWLI Liwa 25.37 220 P P 04 20 04.1 +0.7
JHJ Hachijo jima 2 25.48 41 LR LR 04 29 11.9
comp=Z,164nm,21.3s,baz=172,slow=34
MNAI Manna 25.57 223 P P 04 20 08.8 +3.7
LZH Lanzhou 25.67 328 *e*P **P 04 20 06.3 +0.3**
LZH pP pP 04 20 23.0 +0.2
LZH pmax pmax
comp=Z,28nm,1.5s
LZH LR LR
comp=Z,580nm,15.1s
LZH LR LR
comp=Z,500nm,15.5s
LZH LR LR
comp=Z,740nm,14.4s
CGJI Cibinong 25.68 215 P P 04 20 07.2 +1.1
comp=Z,44nm,1.3s
JAY Jayapura 26.71 129 LR LR 04 30 45.3
comp=Z,227nm,20.3s,baz=335,slow=36
HHC Hu-ho-hao-te 26.94 346 *e*P **P 04 20 16.1 -1.3**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.5s
MJAR Matsushiro Arr 26.96 33 P P 04 20 16.1 -1.3
comp=Z,1.2nm,0.7s,baz=217,slow=10.0,SNR=4.5
MJAR LR LR 04 29 06.3
comp=Z,93nm,20.8s,baz=212,slow=32
comp=Z,1.2nm,0.7s
BRDH Bariadhala 28.02 290 LR LR 04 31 03.9
comp=Z,156nm,21.9s,baz=19,slow=35
SHL Shillong 28.50 296 IAmb IAmb 04 20 59.3
comp=Z,16nm,0.9s
XLT XiLinHaoTe 29.15 354 *e*P **P 04 20 37.0 +0.1**
XLT pmax pmax
comp=Z,5.0nm,1.2s
GTA Gaotai 30.26 328 *e*P **P 04 20 47.8 +0.9**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=Z,350nm,16.3s
GTA LR LR
comp=Z,320nm,17.5s
GTA LR LR
comp=Z,600nm,19.1s
MDJ Mudanjiang 30.73 13 P P 04 20 50.9 +0.1
MDJ pmax pmax
comp=Z,4.0nm,0.6s
USRK Ussuriysk Ar. 30.94 17 P P 04 20 51.7 -1.0
comp=Z,1.2nm,0.6s,baz=216,slow=9.4,SNR=4.8
USRK LR LR 04 35 30.7
comp=Z,104nm,18.1s,baz=205,slow=40
comp=Z,1.2nm,0.6s
BNX BinXian 31.39 10 ⇑P P 04 20 57.3 +0.7
BNX pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 34.79 344 P P 04 21 25.4 -1.1
SONM Songino Array 34.79 344 P P 04 21 26.1 -0.3
comp=Z,3.3nm,0.5s,baz=168,slow=9.7,SNR=22
SONM LR LR 04 36 28.9
comp=Z,263nm,20.7s,baz=176,slow=37
comp=Z,3.3nm,0.5s
ASAJ Asahikawa 34.88 29 P P 04 21 27.4 +0.3
comp=Z,4.6nm,0.5s,baz=249,slow=8.6,SNR=4.9
ASAJ LR LR 04 36 52.4
comp=Z,187nm,19.8s,baz=158,slow=38
comp=Z,4.6nm,0.5s
KLR Kul'dur 35.58 13 P P 04 21 32.8 -0.2
comp=Z,5.2nm,0.8s,baz=230,slow=6.9,SNR=20
KLR LR LR 04 36 19.3
comp=Z,256nm,21.6s,baz=201,slow=36
comp=Z,5.2nm,0.8s
MBWA Marble Bar 35.80 181 P P 04 21 34.8 -0.3
comp=Z,51nm,0.6s
PMG Port Moresby 36.05 130 P P 04 21 37.0 -0.5
comp=Z,19nm,0.7s,baz=283,slow=6.0,SNR=5.3
comp=Z,19nm,0.7s
PSAC1 Pilbara Seismi 36.17 180 P P 04 21 37.2 -1.1
comp=Z,67nm,0.7s
PSA00 Pilbara Seismi 36.21 180 P P 04 21 38.3 -0.4
PSA00 Pilbara Seismi 36.21 180 P P 04 21 37.6 -1.0
comp=Z,72nm,1.2s
COEN Coen 36.61 140 P P 04 21 41.3 -0.8
COEN IAmb IAmb 04 21 42.0
comp=Z,20nm,0.8s
COEN Coen 36.61 140 P P 04 21 41.0 -1.2
comp=Z,27nm,0.8s
WRA Warramunga Arr 37.31 158 P P 04 21 45.7 -2.3
WRA Warramunga Arr 37.31 158 P P 04 21 46.5 -1.5
comp=Z,50nm,0.6s,baz=336,slow=9.5,SNR=223
WRA LR LR 04 38 56.2
comp=Z,78nm,21.1s,baz=6.0,slow=39
WR0 Warramunga Arr 37.40 157 P P 04 21 46.5 -2.3
PALK Pallekele 39.36 263 LR LR 04 37 05.0
comp=Z,75nm,19.8s,baz=70,slow=34
WMQ Urumqi 39.94 323 *e*P **P 04 22 12.3 +2.3**
WMQ LR LR
comp=Z,580nm,17.5s
WMQ LR LR
comp=Z,520nm,16.7s
WMQ LR LR
comp=Z,380nm,19.7s
QIS Mount Isa 40.07 151 P P 04 22 10.3 -0.9
comp=Z,5.8nm,0.5s
WRKA Warakurna 40.45 169 P P 04 22 13.4 -0.9
comp=Z,78nm,0.6s
MTSU Mount Surprise 40.55 143 P P 04 22 14.8 -0.3
comp=Z,16nm,0.7s
AS31 Alice Springs 40.59 160 IAmb IAmb 04 22 15.6
comp=Z,9.1nm,0.6s
AS31 Alice Springs 40.59 160 P P 04 22 15.0 -0.5
comp=Z,14nm,0.6s
ASAR Alice Springs 40.59 160 P P 04 22 14.6 -0.9
comp=Z,23nm,0.5s,baz=340,slow=6.8,SNR=349
comp=Z,23nm,0.5s
AS06 Alice Springs 40.60 160 P P 04 22 14.3 -1.2
comp=Z,32nm,0.7s
AS19 Alice Springs 40.65 160 P P 04 22 14.9 -1.0
comp=Z,42nm,0.7s
MEEK Meekatharra 41.27 182 P P 04 22 19.0 -2.0
comp=Z,55nm,1.3s
ZSN Zaisan 43.69 325 *e*P **P 04 22 40.8 +0.4**
MORW Morawa 43.85 185 P P 04 22 41.2 -0.6
MORW IAmb IAmb 04 22 42.5
comp=Z,31nm,0.9s
MORW Morawa 43.85 185 P P 04 22 40.9 -0.9
comp=Z,36nm,1.3s
SHLS Shalkode 44.72 317 *e*P **P 04 22 47.1 -1.8**
comp=Z,14nm,1.2s
MK31 Makanchi Array 44.77 323 P P 04 22 49.1 +0.1
MKAR Makanchi Array 44.77 323 P P 04 22 49.1 0.0
comp=Z,2.6nm,0.7s,baz=127,slow=9.3,SNR=29
MKAR LR LR 04 43 27.6
comp=Z,137nm,18.3s,baz=82,slow=38
comp=Z,2.6nm,0.7s
MAKZ Makanchi 44.96 323 P P 04 22 50.9 +0.3
MAKZ IAmb IAmb 04 22 52.1
comp=Z,16nm,1.5s
MAKZ Makanchi 44.96 323 P P 04 22 50.8 +0.3
UZB Uzynbulak 45.01 317 *e*P **P 04 22 51.6 +0.4**
comp=Z,6.7nm,0.7s
BLDU Ballidu 45.33 184 P P 04 22 51.1 -2.5
KPKS Kokpek 45.37 317 *e*P **P 04 22 54.3 +0.3**
comp=Z,10nm,1.5s
SATY Saty 45.38 317 *e*P **P 04 22 54.5 +0.4**
KSH Kashi 45.71 311 P P 04 22 59.1 +2.3
KSH pmax pmax
comp=Z,7.0nm,1.0s
KMBL Kambalda 45.99 178 P P 04 22 58.2 -0.6
comp=Z,43nm,0.6s
FORT Forrest 46.02 170 P P 04 22 58.6 -0.4
FORT Forrest 46.02 170 P P 04 22 58.6 -0.4
comp=Z,55nm,0.7s
NIL Nilore 46.21 303 P P 04 22 59.7 -0.9
NIL IAmb IAmb 04 23 30.3
comp=Z,16nm,0.9s
TDK Taldyqorghan 46.23 319 *e*P **P 04 23 01.1 +0.5**
comp=Z,5.5nm,0.9s
KLBR Kellerberrin 46.24 183 P P 04 22 59.8 -1.0
comp=Z,115nm,0.6s
HNR Honiara 46.28 119 LR LR 04 40 02.7
comp=Z,201nm,19.9s,baz=322,slow=33
MDOK Medeo 46.32 316 *e*P **P 04 23 01.9 +0.3**
TNSS Tian-Shan 46.34 316 *e*P **P 04 23 02.0 0.0**
AAA Alma-Ata 46.43 316 *e*P **P 04 23 02.7 +0.4**
MUN Mundaring 46.72 185 P P 04 23 03.6 -0.9
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 47.60 183 P P 04 23 11.2 -0.1
NWAO Narrogin (SRO) 47.60 183 P P 04 23 11.0 -0.3
comp=Z,63nm,0.7s
NWAO Narrogin (SRO) 47.60 183 LR LR 04 46 39.1
comp=Z,49nm,18.4s,baz=240,slow=40
NWAO Narrogin (SRO) 47.60 183 P P 04 23 11.3 0.0
YAK Yakutsk 47.60 6 LR LR 04 43 52.4
comp=Z,140nm,21.9s,baz=218,slow=37
ZALV Zalesovo Beam 47.77 333 P P 04 23 11.9 -0.5
ZALV Zalesovo Beam 47.77 333 P P 04 23 12.1 -0.3
comp=Z,1.9nm,0.5s,baz=124,slow=7.4,SNR=12
ZALV LR LR 04 44 13.9
comp=Z,150nm,18.7s,baz=128,slow=37
comp=Z,1.9nm,0.5s
AAK Ala-Archa 47.85 315 P P 04 23 14.7 +1.2
AAK Ala-Archa 47.85 315 LR LR 04 44 56.3
comp=Z,346nm,20.9s,baz=91,slow=38
PETK Petropavlovsk- 48.29 30 P P 04 23 17.3 +0.8
comp=Z,2.5nm,0.7s,baz=201,slow=6.3,SNR=4.6
PETK LR LR 04 46 11.8
comp=Z,77nm,18.9s,baz=239,slow=39
comp=Z,2.5nm,0.7s
KURBB Kurchatov Arra 48.92 326 P P 04 23 21.4 +0.1
comp=Z,6.3nm,0.7s,baz=124,slow=8.4,SNR=54
KURBB LR LR 04 45 02.3
comp=Z,176nm,18.8s,baz=162,slow=37
comp=Z,6.3nm,0.7s
KURK Kurchatov 48.92 326 P P 04 23 21.9 +0.6
KURK Kurchatov 48.92 326 P P 04 23 21.6 +0.3
KURK pP **pP 04 23 36.1 -2.9**
BTLS Baital 49.05 317 *e*P **P 04 23 22.7 +0.2**
BTK Batken 49.66 310 IAmb IAmb 04 23 29.4
comp=Z,20nm,1.4s
BBOO Buckleboo 49.79 162 P P 04 23 27.8 -0.4
comp=Z,28nm,1.0s
KBL Kabul 49.80 303 P P 04 23 28.5 -0.1
KBL IAmb IAmb 04 23 30.7
comp=Z,16nm,1.4s
MA2 Magadan 50.00 20 P P 04 23 30.7 +1.2
comp=Z,2.3nm,0.5s,baz=194,slow=6.8,SNR=5.1
MA2 LR LR 04 44 05.0
comp=Z,150nm,21.6s,baz=230,slow=35
comp=Z,2.3nm,0.5s
DZA Taraz 50.13 314 *e*P **P 04 23 31.2 +0.5**
SIMJ Simiganj 50.66 308 P P 04 23 34.7 -0.3
SIMJ IAmb IAmb 04 23 58.1
comp=Z,9.0nm,0.8s
SIMJ Simiganj 50.66 308 P P 04 23 35.0 0.0
SIMJ pP **pP 04 23 49.1 -3.4**
SIMJ sP **pwP 04 23 55.8 +0.5**
KK31 Karatay Array 50.77 314 IAmb IAmb 04 23 36.9
comp=Z,23nm,1.4s
KKAR Karatay Array 50.77 314 P P 04 23 35.6 0.0
KKAR Karatay Array 50.77 314 IAmb IAmb 04 23 36.8
comp=Z,5.5nm,1.4s
IUG Iuzhnay 50.82 313 *e*P **P 04 23 36.5 +0.5**
STKA Stephens Creek 50.83 156 P P 04 23 35.3 -0.7
STKA Stephens Creek 50.83 156 P P 04 23 35.0 -1.0
comp=Z,49nm,1.8s
STKA Stephens Creek 50.83 156 P P 04 23 34.6 -1.4
comp=Z,5.3nm,0.7s,baz=329,slow=8.7,SNR=11
STKA LR LR 04 47 51.2
comp=Z,58nm,18.2s,baz=19,slow=39
comp=Z,5.3nm,0.7s
BRLS Borolday 51.22 314 *e*P **P 04 23 39.5 +0.6**
BRZS Berezniki 51.91 323 *e*P **P 04 23 44.4 +0.4**
comp=Z,4.9nm,1.1s
SEY Seymchan 53.08 18 P P 04 23 53.2 +0.9
comp=Z,2.0nm,0.5s,baz=238,slow=6.1,SNR=6.8
SEY LR LR 04 47 17.6
comp=Z,327nm,21.5s,baz=151,slow=37
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 54.50 326 P P 04 24 02.9 0.0
comp=Z,4.3nm,0.6s,baz=118,slow=8.7,SNR=18
BVAR LR LR 04 49 06.7
comp=Z,175nm,18.5s,baz=140,slow=38
comp=Z,4.3nm,0.6s
BRVK Borovoye 54.57 326 P P 04 24 03.9 +0.4
BRVK IAmb IAmb 04 24 04.9
comp=Z,23nm,1.3s
BRVK Borovoye 54.57 326 P P 04 24 03.8 +0.4
ARPS Mount Arapiles 55.29 159 P P 04 24 06.9 -1.8
comp=Z,24nm,0.7s
TIXI Tiksi 57.01 3 P P 04 24 19.0 -1.5
TIXI IAmb IAmb 04 24 38.9
comp=Z,12nm,1.1s
TIXI Tiksi 57.01 3 P P 04 24 19.7 -0.8
comp=Z,3.3nm,0.7s,baz=144,slow=3.4,SNR=6.8
TIXI LR LR 04 51 04.5
comp=Z,152nm,20.1s,baz=191,slow=38
comp=Z,3.3nm,0.7s
TOO Toolangi 57.35 156 P P 04 24 22.6 -0.9
comp=Z,6.5nm,1.7s
NRIK Noril'sk 58.16 347 IAmb IAmb 04 24 46.3
comp=Z,11nm,0.9s
NRIK Noril'sk 58.16 347 P P 04 24 28.1 -0.5
comp=Z,8.9nm,0.8s,baz=122,slow=6.5,SNR=13
NRIK LR LR 04 50 06.9
comp=Z,211nm,21.3s,baz=148,slow=36
comp=Z,8.9nm,0.8s
DZM Mont Dzumac 58.39 128 *e*LR LR 04 41 41.1
comp=Z,211nm,31.4s
ABKAR Akbulak array 59.49 319 P P 04 24 38.3 +0.1
ABKAR Akbulak array 59.49 319 IAmb IAmb 04 24 39.6
comp=Z,12nm,1.2s
AKTO Aktyubinsk 60.97 320 LR LR 04 52 50.3
comp=Z,309nm,19.3s,baz=227,slow=38
ARTI Arti 62.19 326 P P 04 24 55.8 -0.6
ARTI IAmb IAmb 04 25 12.0
comp=Z,6.5nm,0.9s
ARTI Arti 62.19 326 LR LR 04 53 24.4
comp=Z,156nm,19.0s,baz=42,slow=37
ARTI Arti 62.19 326 P P 04 24 55.5 -0.9
ARTI pP pP 04 25 09.4 -5.7
ARTI sP sP 04 25 16.2 -7.0
BELG Belogornoye 67.69 321 LR LR 04 56 24.5
comp=Z,116nm,18.4s,baz=4.4,slow=37
GNI Garni 69.46 308 LR LR 04 58 34.6
comp=Z,67nm,20.5s,baz=20,slow=38
RAYN Ar Rayn 70.33 290 P P 04 25 49.5 +0.3
RAYN IAmb IAmb 04 25 50.4
comp=Z,7.9nm,0.8s
RAYN Ar Rayn 70.33 290 P P 04 25 49.6 +0.5
RAYN pP **PcP 04 26 04.6 -5.8**
KBZ Khabaz 70.69 311 P P 04 25 51.5 +0.6
comp=Z,3.5nm,1.1s,baz=73,slow=11,SNR=3.2
KBZ LR LR 05 01 50.7
comp=Z,118nm,18.5s,baz=42,slow=40
comp=Z,3.5nm,1.1s
RDOG Red Dog Mine 71.45 23 IAmb IAmb 04 25 57.7
comp=Z,16nm,1.0s
B20K Meade River 73.65 21 IAmb IAmb 04 27 38.5
comp=Z,28nm,1.9s
H19K Roundabout Mou 73.87 26 IAmb IAmb 04 27 01.5
comp=Z,18nm,1.4s
B21K Ikpikpuk River 74.53 21 IAmb IAmb 04 26 17.5
comp=Z,37nm,1.9s
J20K Nowinta River 74.89 27 IAmb IAmb 04 28 02.2
comp=Z,23nm,1.7s
BKZ Black Stump Fm 75.17 138 P P 04 26 17.2 -0.3
CAST Castle Rocks 75.86 28 P P 04 26 22.2 +1.2
CAST IAmb IAmb 04 26 34.5
comp=Z,8.4nm,0.9s
KDAK Kodiak Island 76.14 33 P P 04 26 22.3 -0.3
comp=Z,2.5nm,0.5s,baz=43,slow=1.4,SNR=7.5
comp=Z,2.5nm,0.5s
BPAW Bear Paw Mtn. 76.28 27 IAmb IAmb 04 27 08.5
comp=Z,42nm,1.9s
F24K Squaw Lake 77.16 23 IAmb IAmb 04 26 59.4
comp=Z,26nm,1.9s
MCK McKinley 77.22 27 P P 04 26 29.1 +0.4
MCK IAmb IAmb 04 27 27.1
comp=Z,42nm,1.7s
MMAI Mount Meron Ar 77.70 301 P P 04 26 33.1 +1.1
comp=Z,1.9nm,0.7s,baz=66,slow=9.2,SNR=8.1
comp=Z,1.9nm,0.7s
ARCES ARCESS Array B 77.81 339 P P 04 26 31.9 0.0
comp=Z,3.6nm,0.7s,baz=79,slow=7.0,SNR=19
comp=Z,3.6nm,0.7s
ILAR Eielson Array 77.96 26 P P 04 26 32.1 -0.6
comp=Z,0.3nm,0.6s,baz=258,slow=5.5,SNR=5.3
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 77.99 308 P P 04 26 32.5 -1.1
comp=Z,0.7nm,0.6s,baz=142,slow=6.3,SNR=5.4
comp=Z,0.7nm,0.6s
F25K Christian Rive 78.00 23 IAmb IAmb 04 27 57.3
comp=Z,21nm,1.9s
SPITS Spitsbergen Ar 78.35 348 P P 04 26 34.2 -0.4
comp=Z,5.3nm,0.8s,baz=82,slow=6.8,SNR=6.1
SPITS LR LR 05 07 22.2
comp=Z,196nm,18.0s,baz=56,slow=40
comp=Z,5.3nm,0.8s
EIL Elat 78.67 298 LR LR 05 07 43.0
comp=Z,44nm,18.3s,baz=65,slow=40
FINES FINESS Array B 79.00 331 P P 04 26 37.5 -1.0
comp=Z,1.9nm,0.5s,baz=48,slow=6.2,SNR=18
FINES LR LR 05 04 37.4
comp=Z,152nm,18.7s,baz=328,slow=38
comp=Z,1.9nm,0.5s
CSS Mathiatis 79.05 303 P P 04 26 39.7 +0.4
CSS IAmb IAmb 04 26 57.3
comp=Z,12nm,1.0s
AKASG Malin Array Be 79.22 320 P P 04 26 38.8 -1.1
comp=Z,1.3nm,0.7s,baz=68,slow=4.9,SNR=6.8
comp=Z,1.3nm,0.7s
I26K Coal Creek Min 79.42 25 IAmb IAmb 04 27 02.7
comp=Z,11nm,1.1s
F28M Old Crow 80.15 23 P P 04 26 45.8 +1.1
SORM Soroca 80.25 317 ⇓P P 04 26 45.9 +0.3
I28M Miner Creek 80.69 25 IAmb IAmb 04 26 54.0
comp=Z,23nm,1.8s
G29M Pine Creek 81.03 23 IAmb IAmb 04 26 51.7
comp=Z,46nm,1.9s
NOR Nord 81.46 354 *i* P **P 04 26 50.5 -1.0**
J29N Klondike Camp 81.67 25 IAmb IAmb 04 27 57.0
comp=Z,38nm,1.9s
VRI Vrincioaia 81.81 315 ⇑P P 04 26 55.2 +1.2
PLOR Plostina 81.87 315 ⇑P P 04 26 52.7 -1.6
SUW Suwalki 82.14 324 P P 04 26 55.5 +0.1
I30M Mount Dempster 82.19 24 IAmb IAmb 04 26 56.9
comp=Z,29nm,1.7s
INK Inuvik 82.22 21 P P 04 26 55.9 +0.3
comp=Z,1.9nm,0.8s,baz=277,slow=4.5,SNR=6.4
INK LR LR 05 08 32.2
comp=Z,43nm,18.4s,baz=240,slow=39
comp=Z,1.9nm,0.8s
BURAR Bucovina Array 82.43 317 ⇓P P 04 26 57.8 +0.5
BUR08 Bucovina Ar. S 82.43 317 P P 04 26 57.9 +0.6
BUR08 IAmb IAmb 04 28 38.7
comp=Z,20nm,1.8s
MLR Muntele Rosu 82.43 315 LR LR 05 06 13.2
comp=Z,232nm,18.2s,baz=66,slow=38
F31M Tsiigehtchic 82.45 22 IAmb IAmb 04 26 59.0
comp=Z,21nm,1.6s
KIBK Kibwezi 82.94 266 P P 04 27 01.9 +1.4
KMBO Kilima Mbogo 83.39 267 P P 04 27 05.0 +2.0
KMBO Kilima Mbogo 83.39 267 P P 04 27 01.8 -1.3
comp=Z,3.3nm,0.8s,baz=48,slow=6.3,SNR=8.0
KMBO LR LR 05 02 15.1
comp=Z,27nm,19.5s,baz=355,slow=34
comp=Z,3.3nm,0.8s
MARR Marisel-Cluj 84.05 317 ⇑P P 04 27 07.2 +1.6
DRGR 84.29 317 ⇓P P 04 27 07.9 +1.1
OJC Ojcow 85.18 321 P P 04 27 11.2 +0.1
OJC IAmb IAmb 04 27 12.4
comp=Z,7.2nm,0.8s
HFS Hagfors 85.19 331 P P 04 27 10.5 -0.4
comp=Z,2.7nm,0.5s,baz=94,slow=4.6,SNR=14
HFS LR LR 05 08 24.0
comp=Z,269nm,18.5s,baz=352,slow=38
comp=Z,2.7nm,0.5s
DAG Danmarks Havn 85.38 351 *i* P **P 04 27 11.0 -0.6**
DAG IAmb IAmb 04 28 10.4
comp=Z,194nm,3.3s
NB2 NORSAR Subarra 85.98 333 P P 04 27 14.1 -0.8
comp=Z,3.5nm,0.7s,baz=67,slow=5.1
NOA NORSAR Array B 85.98 333 P P 04 27 14.4 -0.5
comp=Z,3.5nm,0.8s,baz=68,slow=4.9,SNR=10.0
NOA LR LR 05 06 44.4
comp=Z,103nm,20.3s,baz=25,slow=36

comp=Z,3.5nm,0.8s
STEB Steborice 86.51 321 *e*P **P 04 27 18.1 +0.4**
MORC Moravsky Berou 86.70 321 *e*P **P 04 27 16.1 -2.6**
JAVC Velka Javorina 86.92 320 *e*P **P 04 27 21.2 +1.4**
KRLC Kraliky 87.06 321 *e*P **P 04 27 23.0 +2.5**
KSP Ksiaz 87.10 322 P **P 04 27 21.3 +0.8**
VRAC Vranov 87.44 320 LR LR 05 09 11.0
comp=Z,114nm,18.1s,baz=2.0,slow=37
VRAC Vranov 87.44 320 *e*P **P 04 27 22.8 +0.6**
JMIC Jan Mayen 87.54 345 LR LR 05 09 46.1
comp=Z,122nm,19.5s,baz=70,slow=38
NEEM North Greenlan 87.73 358 *i* P **P 04 27 24.4 +0.9**
NEEM IAmb IAmb 04 27 47.5
comp=Z,9.2nm,0.8s
RES Resolute Bay 87.98 9 IAmb IAmb 04 28 13.1
comp=Z,5.5nm,1.0s
RES Resolute Bay 87.98 9 P **P 04 27 24.7 +0.5**
comp=Z,1.8nm,0.9s,baz=317,slow=3.9,SNR=7.0
RES LR LR 05 11 45.2
comp=Z,59nm,18.0s,baz=28,slow=39
comp=Z,1.8nm,0.9s
CLL Collm 88.87 323 *e*P **P 04 27 32.0 +3.1**
KHC Kasperske Hory 89.35 321 *e*P P 04 27 36.8 +5.5
GERES GERESS Array B 89.38 321 P **P 04 27 31.5 -0.1**
comp=Z,1.1nm,0.8s,baz=90,slow=1.3,SNR=3.9
comp=Z,1.1nm,0.8s
MOA Molln 89.40 320 *i* PcP **PcP 04 27 32.9 0.0**
comp=Z,8.7nm,1.1s
MOA *i* pP **pP 04 27 50.3 -1.0**
comp=Z,2.7nm,0.9s
LESA Schwarzleotal 90.56 320 *e*PcP **PcP 04 27 37.5 -0.6**
comp=Z,7.8nm,1.2s
LESA *i* pP **pP 04 27 54.9 -1.8**
comp=Z,7.8nm,1.2s
ABTA Abfaltersbach 90.92 319 *e*PcP **PcP 04 27 39.6 -0.1**
comp=Z,5.8nm,0.9s
WTTA Wattenberg 91.27 320 *e*PcP **P 04 27 40.4 -0.1**
comp=Z,5.8nm,1.1s
WTTA *i* pP **pP 04 27 59.8 -0.3**
comp=Z,4.1nm,0.6s
SQTA Sankt Quirin 91.55 320 *e*PcP **P 04 27 41.7 0.0**
comp=Z,5.1nm,0.8s
MOTA Moosalm 91.57 320 *i* P **P 04 27 41.6 -0.2**
comp=Z,5.1nm,0.9s
RETA Reutte 91.72 320 *e*P **P 04 27 42.3 -0.1**
comp=Z,5.1nm,1.2s
YKA Yellowknife Ar 91.92 22 P **P 04 27 43.4 +0.5**
comp=Z,0.9nm,0.6s,baz=306,slow=4.4,SNR=11
YKA PKKPbc **PKKPdf 04 44 59.3 +1.1**
comp=Z,0.4nm,0.5s,baz=144,slow=2.5,SNR=9.5
comp=Z,0.9nm,0.6s
FETA Feichten 91.93 320 *e*PcP **PcP 04 27 43.6 -0.7**
comp=Z,5.0nm,1.0s
DAVOX Davos/Dischmat 92.56 320 LR LR 05 11 23.4
comp=Z,96nm,18.8s,baz=25,slow=37
PPT2 Papeete2 94.67 107 *e*LR LR 04 58 38.0
comp=Z,62nm,27.8s
VNDA Vanda 95.27 172 LR LR 05 13 34.0
comp=Z,24nm,18.2s,baz=333,slow=37
BORG Borgarnes 95.40 344 LR LR 05 13 03.2
comp=Z,74nm,21.8s,baz=41,slow=37
YBH Yreka Blue Hor 99.29 42 LR LR 05 05 35.1
comp=Z,67nm,21.7s,baz=316,slow=31
TAOE Nuku Hiva Isla 101.57 96 *e*LR LR 05 01 41.8
comp=Z,38nm,23.6s
TXAR Lajitas Array 119.04 44 PKP **PKiKP 04 33 24.5 +0.6**
comp=Z,0.4nm,0.6s,baz=352,slow=3.0,SNR=2.3
PLCA Paso Flores 152.60 162 PKPbc **PKiKP 04 34 30.8 -0.7**
comp=Z,1.3nm,0.7s,baz=238,slow=3.5,SNR=4.5

*NEIC **23** 04:18:23.7±1.1,65°.37N±0°.03×153°.29W±0°.06,h10km±1km, Error ellipse: s-maj=6.1km s-min=3.1km az=324.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.12; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$0.32; $M_{r\theta}$0.14; $M_{\theta\phi}$-1.04; $M_{r\phi}$0.94; Fault plane solution: $M_0$1.47000×1014 NP1: ϕ_s278.82000°,δ49.49000°,λ175.36000°. NP2: ϕ_s11.83000°,δ86.47000°,λ40.60000°. Principal axes: T 1.4561, Plg30.0000°, Azm243.0000°; N 0.0210, Plg49.0000°, Azm16.0000°; P -1.4770, Plg25.0000°, Azm138.0000°;*
*AEIC **23** 04:18:23.9±1.3,65°.38N±0°.03×153°.36W±0°.06,h16km±5km, ML3.4,ML3.6/182(NEIC),Mwr3.4/34(NEIC) Error ellipse: s-maj=4.5km s-min=3.1km az=152.0*
*NEIC **23** 04:18:24,65°.40N×153°.36W,h13km*
ISC 23 04:18:23.7±1.0,65°.38N±0°.03×153°.33W±0°.02,h12km±9km, n175,σ0°80/149,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H21K	**Melozitna Rive**	**0.35**	**39**		**Pg**	**04 18 30.6**	**-0.2**
H21K				Sg	**Sg**	**04 18 35.5**	**0.0**
H21K				IAML		04 18 35.7	
	comp=E,5μm,0.4s						
H21K				IAML		04 18 36.2	
	comp=N,7μm,0.3s						
H21K	**Melozitna Rive**	**0.35**	**39**	P	**Pg**	**04 18 30.8**	**+0.1**
	baz=222						
H21K				S	**Sg**	**04 18 35.4**	**-0.1**
	baz=222						
H21K				S	**Sg**	**04 18 35.4**	**-0.1**
	baz=222						
I21K	**Tanana**	**0.60**	**109**		**Pb**	**04 18 35.8**	**-0.4**
I21K					**Sg**	**04 18 43.6**	**+0.2**
I21K	**Tanana**	**0.60**	**109**	IAML		04 18 44.5	
	comp=E,2μm,0.7s						
I21K				IAML		04 18 48.0	
	comp=N,1μm,0.5s						
I21K	**Tanana**	**0.60**	**109**	P	**Pb**	**04 18 35.8**	**-0.4**
	baz=291						
I21K				S	**Sg**	**04 18 43.6**	**+0.2**
	baz=291						
I21K				S	**Sg**	**04 18 43.6**	**+0.2**
	baz=291						
H20K	**Anotleneega Mo**	**0.66**	**280**		**Pg**	**04 18 36.1**	**-0.4**
I20K	**Naaghedeneel**	**0.76**	**220**		**Pb**	**04 18 38.8**	**-0.1**
I20K					**Sb**	**04 18 49.4**	**+0.1**
I20K	**Naaghedeneel**	**0.76**	**220**	P	**Pg**	**04 18 38.6**	**+0.2**
	baz=38						
I20K				S	**Sb**	**04 18 49.3**	**+0.1**
	baz=38						
H22K	**Ishtalitna Cre**	**0.96**	**57**		**Pb**	**04 18 42.2**	**-0.1**
H22K					**Sg**	**04 18 54.7**	**0.0**
J20K	**Nowinta River**	**1.26**	**196**		**Sn**	**04 19 03.6**	**-0.4**
J20K	**Nowinta River**	**1.26**	**196**		**Pb**	**04 18 47.3**	**-0.2**
J20K	**Nowinta River**	**1.26**	**196**	IAML		04 19 06.4	
	comp=N,3μm,0.6s						
J20K				IAML		04 19 07.5	
	comp=E,2μm,0.7s						
H19K	**Roundabout Mou**	**1.31**	**278**		**Pn**	**04 18 47.4**	**-0.4**
H19K					**Sb**	**04 19 04.7**	**-0.3**
H19K	**Roundabout Mou**	**1.31**	**278**	IAML		04 19 07.0	
	comp=E,1μm,0.3s						
H19K	**Roundabout Mou**	**1.31**	**278**	P	**Pn**	**04 18 47.4**	**-0.4**
	baz=94						
H19K				S	**Sb**	**04 19 04.7**	**-0.3**
	baz=94						
CHUM	**Lake Minchumin**	**1.57**	**163**		**Pn**	**04 18 51.7**	**+0.2**
GCSA	**Galena City Sc**	**1.63**	**249**		**Pn**	**04 18 52.2**	**-0.1**
GCSA					**Sn**	**04 19 12.3**	**-0.9**
GCSA					**Sb**	**04 19 14.6**	**+0.3**
GCSA	**Galena City Sc**	**1.63**	**249**	P	**Pn**	**04 18 52.2**	**-0.1**
	baz=65						
GCSA				S	**Sb**	**04 19 14.6**	**+0.3**
	baz=65						
BPAW	**Bear Paw Mtn.**	**1.64**	**141**		**Pn**	**04 18 52.4**	**0.0**
BPAW				IAML		04 19 18.1	
	comp=N,551nm,0.3s						
BPAW	**Bear Paw Mtn.**	**1.64**	**141**	P	**Pn**	**04 18 52.4**	**0.0**
	baz=323						
I23K	**Minto, Yukon-K**	**1.69**	**96**		**Pn**	**04 18 52.8**	**-0.3**
I23K				IAML		04 19 20.5	
	comp=N,719nm,0.5s						
I23K				IAML		04 19 20.6	
	comp=E,738nm,0.6s						
I23K	**Minto, Yukon-K**	**1.69**	**96**	P	**Pn**	**04 18 52.8**	**-0.3**
	baz=280						
J19K	**Poorman**	**1.71**	**216**		**Pn**	**04 18 52.9**	**-0.5**
J19K				IAML		04 19 26.1	
	comp=N,790nm,0.6s						
G19K	**Purcell Mounta**	**1.73**	**298**		**Pn**	**04 18 53.2**	**-0.4**
G19K	**Purcell Mounta**	**1.73**	**298**	IAML		04 19 18.4	
	comp=E,713nm,0.5s						
F21K	**Alatna River**	**1.85**	**358**		**Pn**	**04 18 55.6**	**+0.3**
F21K	**Alatna River**	**1.85**	**358**	IAML		04 19 24.2	
	comp=E,455nm,0.8s						
G23K	**Bananza Creek**	**1.90**	**44**		**Pn**	**04 18 56.1**	**+0.1**
G23K				IAML		04 19 26.1	
	comp=E,399nm,0.7s						
G23K	**Bananza Creek**	**1.90**	**44**	P	**Pn**	**04 18 56.1**	**+0.1**
	baz=227						
F20K	**Avaraart Lake**	**1.93**	**331**		**Pn**	**04 18 56.8**	**+0.4**
NEA2	**Nenana**	**1.98**	**112**		**Pn**	**04 18 56.8**	**-0.3**
NEA2				IAML		04 19 29.4	
	comp=N,379nm,0.4s						
NEA2	**Nenana**	**1.98**	**112**	P	**Pn**	**04 18 56.8**	**-0.3**
	baz=296						
CAST	**Castle Rocks**	**2.05**	**164**		**Pn**	**04 18 58.1**	**+0.1**
CAST	**Castle Rocks**	**2.05**	**164**	P	**Pn**	**04 18 58.5**	**+0.5**
	baz=345						
BWN	**Browne**	**2.06**	**125**		**Pn**	**04 18 58.9**	**+0.7**
K20K	**Telida**	**2.06**	**189**		**Pn**	**04 18 58.7**	**+0.5**
K20K	**Telida**	**2.06**	**189**	P	**Pn**	**04 18 58.3**	**+0.1**
	baz=8.2						
KTH	**Kantishna Hill**	**2.12**	**149**		**Pn**	**04 18 59.3**	**+0.3**
H18K	**Honhosa River**	**2.13**	**266**		**Pn**	**04 18 58.9**	**-0.2**
COLD	**Coldfoot**	**2.24**	**33**		**Pn**	**04 19 00.2**	**-0.5**
COLD	**Coldfoot**	**2.24**	**33**	P	**Pn**	**04 19 01.6**	**+0.9**
	baz=216						
G18K	**Tagagawik**	**2.27**	**285**		**Pn**	**04 19 00.8**	**-0.2**
H24K	**Noodor Dome**	**2.31**	**76**		**Pn**	**04 19 00.9**	**-0.8**
H24K	**Noodor Dome**	**2.31**	**76**	IAML		04 19 40.3	
	comp=N,423nm,0.5s						
H24K				IAML		04 19 41.7	
	comp=E,386nm,0.5s						
F19K	**Shaleruckik Mo**	**2.32**	**311**		**Pn**	**04 19 01.6**	**-0.1**
TRF	**Thorofare Moun**	**2.35**	**144**		**Pn**	**04 19 02.6**	**+0.3**
TRF				IAML		04 19 40.0	
	comp=N,323nm,1.1s						
TRF	**Thorofare Moun**	**2.35**	**144**	P	**Pn**	**04 19 02.6**	**+0.3**
	baz=327						
COLA	**College**	**2.37**	**100**		**Pn**	**04 19 02.0**	**-0.5**
WRH	**Wood River Hil**	**2.41**	**110**		**Pn**	**04 19 02.7**	**-0.4**
WRH				IAML		04 19 39.8	
	comp=N,313nm,0.4s						
WRH				IAML		04 19 41.9	
	comp=E,327nm,0.5s						
J18K	**Innoko River**	**2.42**	**219**		**Pn**	**04 19 02.8**	**-0.4**
J18K	**Innoko River**	**2.42**	**219**	IAML		04 19 40.1	
	comp=E,354nm,0.5s						
J18K				IAML		04 19 44.5	
	comp=N,362nm,0.8s						
CCB	**Clear Creek Bu**	**2.46**	**105**		**Pn**	**04 19 03.2**	**-0.5**
CCB				IAML		04 19 46.9	
	comp=N,239nm,0.4s						
POKR	**Poker Plat Res**	**2.50**	**93**		**Pn**	**04 19 03.8**	**-0.4**
POKR	**Poker Plat Res**	**2.50**	**93**	IAML		04 19 43.1	
	comp=E,338nm,0.3s						
POKR				IAML		04 19 43.2	
	comp=N,256nm,0.3s						
MCK	**McKinley**	**2.52**	**129**		**Pn**	**04 19 04.7**	**+0.1**
MCK	**McKinley**	**2.52**	**129**	P	**Pn**	**04 19 04.7**	**+0.1**
	baz=313						
PPLA	**Purkeypile**	**2.55**	**168**		**Pn**	**04 19 05.4**	**+0.5**
PPLA	**Purkeypile**	**2.55**	**168**	P	**Pn**	**04 19 05.5**	**+0.5**
	baz=349						
E19K	**Redstone River**	**2.61**	**325**		**Pn**	**04 19 06.4**	**+0.8**
E19K	**Redstone River**	**2.61**	**325**	P	**Pn**	**04 19 06.2**	**+0.6**
	baz=141						
TTA	**Tatalina**	**2.73**	**207**		**Pn**	**04 19 07.5**	**0.0**
TTA				IAML		04 20 01.2	
	comp=N,206nm,0.6s						
TTA	**Tatalina**	**2.73**	**207**	P	**Pn**	**04 19 07.4**	**0.0**
	baz=24						
G24K	**Hadweenzic Riv**	**2.73**	**58**		**Pn**	**04 19 07.3**	**-0.1**
G24K	**Hadweenzic Riv**	**2.73**	**58**	IAML		04 19 57.3	
	comp=E,274nm,0.7s						
RND	**Reindeer**	**2.78**	**134**		**Pn**	**04 19 08.7**	**+0.6**
IL31		**2.80**	**100**		**Pn**	**04 19 07.7**	**-0.5**
ILAR	**Eielson Array**	**2.80**	**100**		**Pn**	**04 19 07.7**	**-0.6**
H17K	**Granite Mounta**	**2.81**	**264**		**Pn**	**04 19 08.5**	**0.0**
H17K	**Granite Mounta**	**2.81**	**264**	IAML		04 19 56.5	
	comp=E,170nm,0.5s						
H17K				IAML		04 19 57.4	
	comp=N,169nm,0.8s						
F18K	**Selawik**	**2.86**	**298**		**Pn**	**04 19 08.9**	**-0.1**
F18K	**Selawik**	**2.86**	**298**	P	**Pn**	**04 19 09.1**	**0.0**
	baz=112						
HDA	**Harding Lake**	**2.89**	**107**		**Pn**	**04 19 09.2**	**-0.4**
HDA				IAML		04 20 00.4	
	comp=N,186nm,0.5s						
L20K	**Farewell, AK**	**2.93**	**185**	P	**Pn**	**04 19 11.1**	**+1.0**
	baz=4.2						
F24K	**Squaw Lake**	**3.06**	**43**		**Pn**	**04 19 12.3**	**+0.3**
F24K	**Squaw Lake**	**3.06**	**43**	IAML		04 20 03.0	
	comp=E,190nm,0.3s						
F24K				IAML		04 20 05.6	
	comp=N,168nm,0.8s						
E23K	**Chandalar**	**3.06**	**27**		**Pn**	**04 19 12.6**	**+0.6**
E20K	**Nigu River**	**3.10**	**340**		**Pn**	**04 19 13.6**	**+1.1**
J17K	**VABM Dome**	**3.19**	**234**		**Pn**	**04 19 13.2**	**-0.5**
PRP	**Porcupine Dome**	**3.26**	**84**	Pn	**Pn**	**04 19 14.0**	**-0.8**
PRP				IAML		04 20 07.5	
	comp=E,166nm,0.6s						
PRP	**Porcupine Dome**	**3.26**	**84**	P	**Pn**	**04 19 14.1**	**-0.8**
	baz=271						
L19K	**White Mountain**	**3.29**	**193**		**Pn**	**04 19 15.3**	**+0.2**
L19K	**White Mountain**	**3.29**	**193**	IAML		04 20 19.9	
	comp=N,168nm,0.9s						
F17K	**Baldwin Pennin**	**3.42**	**292**		**Pn**	**04 19 17.4**	**+0.7**
F17K				IAML		04 20 14.4	
	comp=N,139nm,0.8s						
K17K	**Iditarod**	**3.46**	**221**		**Pn**	**04 19 16.7**	**-0.6**
K17K	**Iditarod**	**3.46**	**221**	IAML		04 20 23.9	
	comp=E,147nm,0.9s						
J25K	**Salcha River,**	**3.47**	**99**		**Pn**	**04 19 17.1**	**-0.5**
J25K	**Salcha River,**	**3.47**	**99**	IAML		04 20 15.6	
	comp=E,94nm,0.9s						
J25K				IAML		04 20 17.1	
	comp=N,96nm,0.5s						
I17K	**Unalakleet**	**3.51**	**248**		**Pn**	**04 19 17.9**	**-0.1**
I17K				IAML		04 20 24.0	
	comp=N,90nm,0.7s						
I17K				IAML		04 20 24.2	
	comp=E,119nm,0.7s						
I17K	**Unalakleet**	**3.51**	**248**	P	**Pn**	**04 19 18.2**	**+0.2**
	baz=61						
L18K	**Granite Mounta**	**3.51**	**207**		**Pn**	**04 19 18.5**	**+0.4**
L18K	**Granite Mounta**	**3.51**	**207**	IAML		04 20 21.0	
	comp=N,137nm,0.9s						
L18K				IAML		04 20 24.0	
	comp=E,101nm,0.6s						
L18K	**Granite Mounta**	**3.51**	**207**	P	**Pn**	**04 19 19.1**	**+1.0**
	baz=23						
SKT	**Skwentna**	**3.51**	**166**		**Pn**	**04 19 19.1**	**+1.0**
SKT				IAML		04 20 17.0	
	comp=N,107nm,0.6s						
SKT				IAML		04 20 19.2	
	comp=E,130nm,0.8s						
SKT	**Skwentna**	**3.51**	**166**	P	**Pn**	**04 19 19.2**	**+1.0**
	baz=348						
M20K	**Styx River**	**3.52**	**178**		**Pn**	**04 19 19.1**	**+0.8**
M20K	**Styx River**	**3.52**	**178**	IAML		04 20 24.8	
	comp=E,116nm,0.8s						
D22K	**Ayikyak River**	**3.52**	**4**	IAML		04 20 23.1	
	comp=E,148nm,1.1s						
D22K				IAML		04 20 23.4	
	comp=N,147nm,0.7s						
M19K	**Big River Lodg**	**3.53**	**188**		**Pn**	**04 19 19.5**	**+1.1**
E18K	**Tukpahlearik C**	**3.57**	**308**		**Pn**	**04 19 19.7**	**+0.9**
E18K	**Tukpahlearik C**	**3.57**	**308**	IAML		04 20 22.3	
	comp=E,89nm,0.8s						
D20K	**Etivluk River**	**3.58**	**340**		**Pn**	**04 19 20.3**	**+1.2**
TOLK	**Toolik Lake Re**	**3.59**	**23**		**Pn**	**04 19 21.0**	**+1.8**
TOLK				IAML		04 20 21.5	
	comp=E,141nm,0.9s						
K24K	**Donnelly Dome**	**3.62**	**113**		**Pn**	**04 19 19.7**	**+0.1**
D19K	**Kuna River**	**3.65**	**331**	Pn	**Pn**	**04 19 23.1**	**+3.1**
D19K				IAML		04 20 22.0	
	comp=E,113nm,0.7s						
D19K				IAML		04 20 26.4	
	comp=N,91nm,1.0s						
D23K	**Nanushuk River**	**3.74**	**15**		**Pn**	**04 19 22.8**	**+1.6**
D23K				IAML		04 20 25.6	
	comp=E,99nm,0.8s						
D23K				IAML		04 20 37.0	
	comp=N,80nm,0.9s						
G16K	**Koyuk River**	**3.77**	**274**		**Pn**	**04 19 21.6**	**-0.1**
G16K				IAML		04 20 26.3	
	comp=E,81nm,1.1s						
G16K				IAML		04 20 27.4	
	comp=N,111nm,0.7s						
F25K	**Christian Rive**	**3.80**	**51**		**Pn**	**04 19 22.1**	**+0.1**
F25K	**Christian Rive**	**3.80**	**51**	IAML		04 20 26.7	
	comp=E,101nm,0.8s						
F25K				IAML		04 20 29.8	
	comp=N,110nm,0.9s						
J16K	**Anvik River**	**3.80**	**240**		**Pn**	**04 19 21.6**	**-0.5**
J16K	**Anvik River**	**3.80**	**240**	IAML		04 20 27.4	
	comp=E,117nm,0.6s						
C21K	**Knifeblade Rid**	**3.83**	**352**		**Pn**	**04 19 23.7**	**+1.2**
H16K	**Elim**	**3.85**	**263**		**Pn**	**04 19 22.3**	**-0.5**
H16K	**Elim**	**3.85**	**263**	P	**Pn**	**04 19 23.4**	**+0.6**
	baz=75						
L17K	**Donlin**	**3.94**	**216**	P	**Pn**	**04 19 23.9**	**-0.1**
	baz=32						
RIDG	**Independent Ri**	**4.02**	**110**		**Pn**	**04 19 25.5**	**+0.4**
RIDG	**Independent Ri**	**4.02**	**110**	IAML		04 20 32.2	
	comp=N,88nm,0.8s						
M18K	**Stony River**	**4.07**	**197**		**Pn**	**04 19 26.1**	**+0.4**
M18K	**Stony River**	**4.07**	**197**	P	**Pn**	**04 19 26.5**	**+0.8**
	baz=15						
BMAR	**Burnt Mountain**	**4.07**	**56**		**Pn**	**04 19 25.5**	**-0.3**
E25K	**Arctic Village**	**4.12**	**45**		**Pn**	**04 19 26.4**	**-0.1**
E25K				IAML		04 20 47.7	
	comp=N,86nm,1.1s						
E25K				IAML		04 20 48.9	
	comp=E,74nm,0.9s						
E25K	**Arctic Village**	**4.12**	**45**	P	**Pn**	**04 19 26.4**	**-0.1**
	baz=232						
GHO	**Glory Hole Cre**	**4.13**	**149**	IAML		04 20 38.7	
	comp=N,59nm,0.6s						
GHO				IAML		04 20 43.8	
	comp=E,56nm,0.6s						
D24K	**Happy Valley**	**4.17**	**23**	IAML		04 20 45.6	
	comp=N,59nm,1.1s						
D24K				IAML		04 20 49.7	
	comp=E,75nm,0.8s						
PAX	**Paxson**	**4.21**	**122**	P	**Pn**	**04 19 29.0**	**+1.2**
	baz=309						
SML	**Sawmill**	**4.23**	**146**		**Pn**	**04 19 28.6**	**+0.6**
SML	**Sawmill**	**4.23**	**146**	IAML		04 20 39.9	
	comp=E,67nm,0.8s						
SML	**Sawmill**	**4.23**	**146**	P	**Pn**	**04 19 31.3**	**+3.3**
	baz=330						
J26L	**Joseph Creek**	**4.25**	**98**		**Pn**	**04 19 27.9**	**-0.5**
J26L	**Joseph Creek**	**4.25**	**98**	IAML		04 20 39.3	
	comp=N,81nm,0.4s						
J26L				IAML		04 20 42.5	
	comp=E,55nm,0.8s						
SCRK	**Sand Creek**	**4.26**	**105**		**Pn**	**04 19 27.5**	**-1.0**
SCRK	**Sand Creek**	**4.26**	**105**	IAML		04 20 40.6	
	comp=N,58nm,0.9s						
SCRK	**Sand Creek**	**4.26**	**105**	P	**Pn**	**04 19 28.2**	**-0.2**
	baz=294						
SPU	**Mount Spurr**	**4.26**	**172**		**Pn**	**04 19 30.3**	**+1.9**
I26K	**Coal Creek Min**	**4.27**	**86**		**Pn**	**04 19 27.4**	**-1.1**
B21K	**Ikpikpuk River**	**4.29**	**354**	IAML		04 20 44.1	
	comp=N,74nm,0.8s						
F26K	**Sheenjek River**	**4.34**	**54**		**Pn**	**04 19 29.4**	**-0.2**
F26K	**Sheenjek River**	**4.34**	**54**	IAML		04 20 52.2	
	comp=N,55nm,1.0s						
M17K	**Holitna River**	**4.40**	**207**		**Pn**	**04 19 30.6**	**+0.2**
SCM	**Sheep Creek Mo**	**4.46**	**140**		**Pn**	**04 19 32.0**	**+0.8**
SCM	**Sheep Creek Mo**	**4.46**	**140**	IAML		04 20 46.3	
	comp=N,50nm,1.2s						
SCM				IAML		04 20 53.9	
	comp=E,43nm,0.6s						
SCM	**Sheep Creek Mo**	**4.46**	**140**	P	**Pn**	**04 19 32.5**	**+1.3**
	baz=326						
C18K	**Utukok River**	**4.50**	**320**		**Pn**	**04 19 32.0**	**+0.3**
C18K				IAML		04 20 52.6	
	comp=E,44nm,0.8s						
KNK	**Knik Glacier**	**4.55**	**149**	IAML		04 20 47.8	
	comp=N,43nm,0.7s						
KNK				IAML		04 20 48.2	
	comp=E,49nm,0.5s						
M24K	**Tolsona, Glenn**	**4.57**	**133**		**Pn**	**04 19 33.7**	**+1.0**
M24K	**Tolsona, Glenn**	**4.57**	**133**	IAML		04 20 47.1	
	comp=E,56nm,0.8s						
M24K	**Tolsona, Glenn**	**4.57**	**133**	P	**Pn**	**04 19 35.1**	**+2.4**
	baz=319						
C23K	**Itkillik River**	**4.59**	**12**	IAML		04 20 59.5	
	comp=N,57nm,0.8s						
C23K				IAML		04 21 04.1	
	comp=E,60nm,0.9s						
L16K	**Owhat River**	**4.60**	**219**		**Pn**	**04 19 32.5**	**-0.4**
L16K				IAML		04 20 58.9	
	comp=E,57nm,0.7s						
L16K				IAML		04 21 02.8	
	comp=N,67nm,0.9s						
L16K	**Owhat River**	**4.60**	**219**	P	**Pn**	**04 19 33.1**	**+0.1**
	baz=34						
N19K	**Bonanza Creek**	**4.62**	**187**		**Pn**	**04 19 33.7**	**+0.3**
N19K	**Bonanza Creek**	**4.62**	**187**	IAML		04 20 53.9	
	comp=E,51nm,1.1s						
N19K				IAML		04 20 55.8	
	comp=N,66nm,1.1s						
HARP	**HAARP**	**4.69**	**126**		**Pn**	**04 19 35.7**	**+1.3**
HARP	**HAARP**	**4.69**	**126**	P	**Pn**	**04 19 37.0**	**+2.7**
	baz=313						
F15K	**North Star Dit**	**4.71**	**279**		**Pn**	**04 19 34.7**	**+0.1**
K15K	**Wolf Creek Mou**	**4.77**	**233**		**Pn**	**04 19 35.0**	**-0.4**
K15K	**Wolf Creek Mou**	**4.77**	**233**	IAML		04 20 54.7	
	comp=N,41nm,0.4s						
K15K				IAML		04 20 57.7	
	comp=E,40nm,0.6s						
N18K	**Kilae Creek**	**4.86**	**195**	IAML		04 21 07.3	
	comp=N,54nm,0.8s						
MENT	**Mentasta**	**4.87**	**116**	IAML		04 21 00.4	
	comp=N,48nm,0.7s						
I27K	**Kandik River**	**4.89**	**82**		**Pn**	**04 19 35.9**	**-1.1**
G27K	**Doyon Strip**	**4.96**	**68**	IAML		04 21 13.5	
	comp=E,30nm,1.1s						
M16K	**Timber Creek**	**5.06**	**213**		**Pn**	**04 19 38.8**	**-0.6**
M16K	**Timber Creek**	**5.06**	**213**	IAML		04 21 06.5	
	comp=E,38nm,0.7s						
M16K				IAML		04 21 15.5	
	comp=N,48nm,0.7s						
N17K	**Nushagak Hills**	**5.18**	**202**		**Pn**	**04 19 41.6**	**+0.6**
N17K	**Nushagak Hills**	**5.18**	**202**	IAML		04 21 21.6	
	comp=E,36nm,0.8s						
N17K				IAML		04 21 37.6	
	comp=N,27nm,0.8s						
L15K	**Ungalak Mounta**	**5.21**	**228**		**Pn**	**04 19 40.5**	**-0.9**
GLI	**Glacier Island**	**5.33**	**145**		**Pn**	**04 19 44.6**	**+1.6**
GLI	**Glacier Island**	**5.33**	**145**	IAML		04 21 19.3	
	comp=E,30nm,1.1s						
GLI				IAML		04 21 34.1	
	comp=N,28nm,1.0s						
F14K	**Arctic Creek**	**5.42**	**277**		**Pn**	**04 19 44.8**	**+0.5**
N25K	**Chitina, Valde**	**5.45**	**130**		**Pn**	**04 19 46.8**	**+2.1**
L27K	**Beaver Creek,**	**5.54**	**110**		**Pn**	**04 19 45.1**	**-0.8**
BCAR	**Beaver Creek A**	**5.55**	**109**		**Pn**	**04 19 45.2**	**-0.9**
M15K	**Kasigluk River**	**5.77**	**219**		**Pn**	**04 19 48.3**	**-0.8**
F28M	**Old Crow**	**5.83**	**61**		**Pn**	**04 19 49.8**	**-0.1**
M14K	**Bethel**	**6.08**	**224**

mbtmp4.1/20, ML4.0/4, MS3.2/6, Error ellipse: s-maj=26.5km s-min=14.2km az=14.0
*AEIC **23** 04:45:10.6±2.4, 56°.37N±0°.09×148°.52W±0°.06, h12km±6km, Error ellipse: s-maj=12.8km s-min=4.4km az=190.0*
ISC 23 04:45:06.5±0.6, 56°.48N±0°.07×148°.53W±0°.05, h10km, n112, σ1§68/96, mb4.3/25, MS3.0/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.57**	**302**		**Pn**	**04 45 47.7**	**-0.4**
KDAK	**Kodiak Island**	**2.57**	**302**		**Sn**	**04 46 16.5**	**-2.9**
KDAK	**Kodiak Island**	**2.57**	**302**	Pn	**Pn**	**04 45 47.8**	**-0.4**
	37nm,0.3s,baz=311,slow=2.2,SNR=1326						
KDAK				Sn	**Sn**	**04 46 16.4**	**-3.0**
	37nm,0.3s,baz=164,slow=1.6,SNR=18						
KDAK				LR	LR	04 46 31.2	
	comp=Z,167nm,21.8s,baz=219,slow=34						
	93nm,0.3s						
OHAK	**Old Harbor**	**2.72**	**288**		**Pn**	**04 45 49.2**	**-1.0**
OHAK	**Old Harbor**	**2.72**	**288**		**Sn**	**04 46 18.9**	**-4.2**
OHAK	**Old Harbor**	**2.72**	**288**	P	**Pn**	**04 45 49.4**	**-0.8**
SYI	**Shuyak Island**	**2.98**	**317**		**Pn**	**04 45 54.0**	**+0.1**
SYI	**Shuyak Island**	**2.98**	**317**		**Sn**	**04 46 29.0**	**-0.7**
SII	**Sitkinak Islan**	**3.14**	**274**		**Sn**	**04 46 29.1**	**-4.3**
SII	**Sitkinak Islan**	**3.14**	**274**		**Pn**	**04 45 54.5**	**-1.5**
SII	**Sitkinak Islan**	**3.14**	**274**	IAML		04 46 33.0	
	comp=N,748nm,0.7s						
SII				IAML		04 46 34.6	
	comp=E,767nm,0.9s						
SII	**Sitkinak Islan**	**3.14**	**274**	P	**Pn**	**04 45 54.7**	**-1.3**
Q23K	**Middleton Isla**	**3.18**	**20**	Pn	**Pn**	**04 45 56.9**	**+0.4**
Q23K				IAML		04 46 33.7	
	comp=N,851nm,0.6s						
Q23K				IAML		04 46 43.4	
	comp=E,840nm,0.6s						
CNPM	**China Poot**	**3.38**	**336**		**Pn**	**04 45 59.6**	**+0.2**
CNPM	**China Poot**	**3.38**	**336**		**Sn**	**04 46 38.1**	**-1.3**
BRSE	**Bradley Lake S**	**3.48**	**341**		**Pn**	**04 46 00.7**	**0.0**
BRSE					**Sn**	**04 46 40.1**	**-1.8**
BRLK	**Bradley Lake**	**3.52**	**340**		**Pn**	**04 46 01.2**	**-0.1**
BRLK				IAML		04 46 44.9	
	comp=E,809nm,0.5s						
BRLK				IAML		04 46 45.4	
	comp=N,682nm,0.3s						
P23K	**Montague Islan**	**3.58**	**9**		**Pn**	**04 46 02.5**	**+0.5**
P23K					**Sn**	**04 46 42.0**	**-2.3**
HOM	**Homer**	**3.59**	**334**		**Pn**	**04 46 03.0**	**+0.8**
HOM				IAML		04 46 45.9	
	comp=E,2μm,0.5s						
HOM				IAML		04 46 54.1	
	comp=N,1μm,0.8s						
SEW	**Seward**	**3.67**	**353**		**Sn**	**04 46 43.3**	**-3.2**
SEW	**Seward**	**3.67**	**353**		**Pn**	**04 46 03.2**	**0.0**
Q19K	**Cape Douglas,**	**3.69**	**314**		**Pn**	**04 46 04.1**	**+0.6**
Q19K				IAML		04 46 54.9	
	comp=N,773nm,0.7s						
Q19K				IAML		04 46 55.4	
	comp=E,1μm,0.7s						
CHIR	**Chirikof Islan**	**4.02**	**264**		**Pn**	**04 46 06.9**	**-1.3**
CHIR				IAML		04 46 51.0	
	comp=E,534nm,0.7s						
CHIR	**Chirikof Islan**	**4.02**	**264**	P	**Pn**	**04 46 06.7**	**-1.4**
P19K	**Oil Pt**	**4.05**	**324**		**Pn**	**04 46 09.0**	**+0.5**
P19K				IAML		04 46 58.4	
	comp=E,1μm,0.6s						
P19K				IAML		04 46 58.8	
	comp=N,1μm,0.6s						
O22K	**Cooper Landing**	**4.06**	**352**		**Pn**	**04 46 08.9**	**+0.2**
HIN	**Hinchinbrook I**	**4.07**	**14**		**Pn**	**04 46 09.4**	**+0.6**
ACHA	**Angle Creek He**	**4.07**	**298**		**Pn**	**04 46 09.8**	**+0.9**
KAIM	**Kayak Island**	**4.08**	**30**		**Pn**	**04 46 09.9**	**+0.9**
KAIM				IAML		04 46 58.4	
	comp=N,1μm,0.8s						
KAIM				IAML		04 46 58.8	
	comp=E,990nm,0.5s						
SLKM	**Skilak Lake**	**4.14**	**348**		**Pn**	**04 46 09.8**	**0.0**
SLKM				IAML		04 46 58.2	
	comp=N,799nm,0.2s						
SLKM				IAML		04 46 58.8	
	comp=E,1μm,0.3s						
ILSW	**Iliamna Southw**	**4.28**	**327**		**Pn**	**04 46 11.5**	**-0.3**
ILSW				IAML		04 47 01.8	
	comp=N,516nm,0.4s						
ILSW				IAML		04 47 07.7	
	comp=E,494nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.33**	**18**		**Pn**	**04 46 13.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**4.33**	**18**	P	**Pn**	**04 46 13.1**	**+0.7**
SUCK	**Suckling Hills**	**4.39**	**33**	IAML		04 47 05.0	
	comp=N,816nm,0.5s						
SUCK				IAML		04 47 05.8	
	comp=E,438nm,0.9s						
PWL	**Port Wells**	**4.40**	**1**	IAML		04 47 03.8	
	comp=N,870nm,0.4s						
GLI	**Glacier Island**	**4.48**	**9**		**Pn**	**04 46 14.7**	**+0.3**
GLI				IAML		04 47 04.4	
	comp=E,557nm,0.9s						
GLI				IAML		04 47 06.5	
	comp=N,479nm,0.6s						
RC01	**Rabbit Creek A**	**4.67**	**353**	IAML		04 47 10.8	
	comp=N,508nm,0.5s						
RC01				IAML		04 47 11.2	
	comp=E,759nm,0.5s						
FIS	**Fire Island**	**4.76**	**350**	IAML		04 47 20.5	
	comp=N,617nm,0.6s						
KNK	**Knik Glacier**	**4.95**	**0**	IAML		04 47 16.3	
	comp=E,287nm,0.5s						
KNK				IAML		04 47 22.7	
	comp=N,262nm,0.7s						
SPU	**Mount Spurr**	**5.06**	**340**	IAML		04 47 25.9	
	comp=E,264nm,0.4s						
SPU				IAML		04 47 26.0	
	comp=N,267nm,0.7s						
MESA	**MESA**	**5.08**	**40**	IAML		04 47 32.3	
	comp=N,224nm,0.8s						
PMR	**Palmer**	**5.14**	**357**	IAML		04 47 21.3	
	comp=E,364nm,0.6s						
PMR				IAML		04 47 23.1	
	comp=N,396nm,0.5s						
PMR	**Palmer**	**5.14**	**357**	P	**Pn**	**04 46 24.3**	**+0.9**
KLU	**Klutina**	**5.21**	**14**	IAML		04 47 24.3	
	comp=E,322nm,0.5s						
KLU				IAML		04 47 25.2	
	comp=N,417nm,0.5s						
CHGN	**Chignik**	**5.50**	**272**		**Pn**	**04 46 28.1**	**-0.3**
YKU2	**Yakutat**	**5.61**	**53**	P	**Pn**	**04 46 31.5**	**+1.7**
CHNA	**Chernabura Isl**	**6.48**	**260**	P	**Pn**	**04 46 41.4**	**-0.4**
MENT	**Mentasta**	**6.92**	**19**	P	**Pn**	**04 46 50.1**	**+2.2**
HYT	**Haines Junctio**	**7.21**	**48**		**Pn**	**04 46 53.6**	**+1.6**
SIT	**Sitka**	**7.28**	**80**	P	**Pn**	**04 46 50.3**	**-2.5**
BCAR	**Beaver Creek A**	**7.43**	**24**		**Pn**	**04 46 55.6**	**+0.7**
TTA	**Tatalina**	**7.49**	**333**	P	**Pn**	**04 46 55.4**	**-0.4**
SKAG	**Skagway**	**7.63**	**61**	P	**Pn**	**04 46 58.9**	**+1.4**
JIS	**Juneau Island**	**7.86**	**71**	P	**Pn**	**04 47 01.2**	**+0.5**
WHY	**Whitehorse**	**8.27**	**54**		**Pn**	**04 47 08.0**	**+1.5**
ILAR	**Eielson Array**	**8.36**	**5**		**Pn**	**04 47 08.7**	**+1.0**
ILAR	**Eielson Array**	**8.36**	**5**	Pn	**Pn**	**04 47 08.3**	**+0.7**
	comp=N,1.0nm,0.3s,baz=192,slow=13,SNR=39						
ILAR				Sn	**Sn**	**04 48 37.8**	**-4.2**
	comp=N,2.1nm,0.3s,baz=195,slow=15,SNR=5.9						
ILAR				LR	LR	04 50 40.7	
	comp=N,209nm,18.9s,baz=185,slow=40						
COLA	**College**	**8.43**	**2**		**Pn**	**04 47 10.8**	**+2.3**
COLA	**College**	**8.43**	**2**	P	**Pn**	**04 47 10.0**	**+1.5**
P32M	**Atlin**	**8.45**	**62**		**Pn**	**04 47 09.8**	**+0.8**
FALS	**False Pass**	**8.57**	**265**	P	**Pn**	**04 47 10.3**	**-0.2**
CRAG	**Craig**	**8.70**	**90**	P	**Pn**	**04 47 11.1**	**-1.2**
DLBC	**Dease Lake**	**10.16**	**71**		**Pn**	**04 47 33.5**	**+1.2**
DLBC	**Dease Lake**	**10.16**	**71**	Pn	**Pn**	**04 47 33.3**	**+1.0**
	comp=N,1.4nm,0.3s,baz=290,slow=5.7,SNR=40						
DLBC				Sn	**Sn**	**04 49 20.8**	**-5.3**
	comp=N,0.8nm,0.3s,baz=354,slow=21,SNR=5.6						
DLBC				LR	LR	04 50 47.4	
	comp=N,217nm,21.2s,baz=279,slow=34						
	comp=N,5.8nm,0.5s						
FYU	**Fort Yukon**	**10.24**	**7**		**Pn**	**04 47 34.5**	**+1.2**
COLD	**Coldfoot**	**10.82**	**357**		**Pn**	**04 47 43.2**	**+2.0**
ANM	**Nome**	**11.56**	**321**		**Pn**	**04 47 52.3**	**+0.8**
E19K	**Redstone River**	**11.74**	**343**		**Pn**	**04 47 55.2**	**+1.4**
INK	**Inuvik**	**13.69**	**24**		**Pn**	**04 48 23.0**	**+2.5**
INK	**Inuvik**	**13.69**	**24**	Pn	**Pn**	**04 48 21.8**	**+1.3**
	comp=N,0.2nm,0.3s,baz=209,slow=15,SNR=22						
	comp=N,19nm,1.1s						
WRGLY	**Wrigley**	**14.22**	**51**	P	**Pn**	**04 48 31.4**	**+3.8**
C36M	**Paulatuk**	**16.86**	**30**		**Pn**	**04 49 01.7**	**-0.5**
C36M				IAmb	IAmb	04 49 07.0	
	comp=Z,19nm,0.8s						
YKA	**Yellowknife Ar**	**18.08**	**57**	P	**P**	**04 49 19.0**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=264,slow=12,SNR=35						
	comp=Z,5.6nm,1.0s						
NEW	**Newport**	**20.71**	**100**	P	Pn	04 49 48.4	-0.6
	comp=Z,1.2nm,0.9s,baz=292,slow=19,SNR=4.3						
NEW				LR	LR	04 56 32.5	
	comp=Z,64nm,19.2s,baz=318,slow=33						
	comp=Z,1.2nm,0.9s						
SHEM	**Shemya Is, Ala**	**21.79**	**276**	LR	LR	04 57 52.5	
	comp=Z,62nm,20.1s,baz=143,slow=35						
BILL	**Bilibino**	**23.38**	**318**	P	**P**	**04 50 15.8**	**+0.9**
BILL				IAmb	IAmb	04 50 17.7	
	comp=Z,12nm,1.0s						
YNE	**Yellowstone No**	**26.58**	**99**	P	**P**	**04 50 41.2**	**-3.6**
YNE				IAmb	IAmb	04 50 43.3	
	comp=Z,4.8nm,0.7s						
NVAR	**Mina Array Bea**	**26.94**	**119**	P	**P**	**04 50 49.8**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=306,slow=8.9,SNR=4.4						
	comp=Z,0.9nm,0.9s						
RES	**Resolute Bay**	**27.19**	**28**	P	**P**	**04 50 50.7**	**+0.9**
PETK	**Petropavlovsk-**	**30.52**	**287**	P	**P**	**04 51 20.1**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=61,slow=12,SNR=1.8						
	comp=Z,1.6nm,0.8s						
ULM	**Lac du Bonnet**	**31.35**	**79**	P	**P**	**04 51 25.7**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=319,slow=9.9,SNR=2.9						
	comp=Z,1.2nm,0.7s						
EYMN	**Ely**	**35.03**	**79**	P	**P**	**04 52 00.1**	**+1.1**
EYMN				IAmb	IAmb	04 52 01.8	
	comp=Z,8.3nm,1.2s						
NEEM	**North Greenlan**	**37.25**	**21**	*i* P	**P**	**04 52 17.6**	**-0.4**
NEEM				IAmb	IAmb	04 52 20.7	
	comp=Z,6.5nm,0.9s						
SUMG	**Summit**	**42.61**	**25**	P	**P**	**04 53 04.5**	**+1.8**
SUMG				IAmb	IAmb	04 53 04.8	
	comp=Z,8.0nm,0.8s						
SUMG	**Summit**	**42.61**	**25**	*i* P	**P**	**04 53 03.0**	**+0.3**
SUMG				IAmb	IAmb	04 53 05.8	
	comp=Z,24nm,1.4s						
DAG	**Danmarks Havn**	**43.31**	**15**	*i* P	**P**	**04 53 08.0**	**+0.2**
DAG				IAmb	IAmb	04 53 09.0	
	comp=Z,4.7nm,0.5s						
SCHQ	**Schefferville**	**43.53**	**56**	P	**P**	**04 53 09.8**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=316,slow=6.8,SNR=7.3						
	comp=Z,4.0nm,0.8s						
ASAJ	**Asahikawa**	**43.85**	**284**	LR	LR	05 14 04.0	
	comp=Z,45nm,18.2s,baz=69,slow=40						
ICESG	**Greenland Ices**	**44.60**	**29**	*i* P	**P**	**04 53 18.0**	**-0.6**
ICESG				IAmb	IAmb	04 53 22.8	
	comp=Z,4.4nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**49.34**	**241**	T	T	05 47 13.1	
	baz=31,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**49.35**	**241**	T	T	05 47 05.7	
	baz=31,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**49.36**	**241**	T	T	05 47 04.5	
	baz=31,slow=76,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**50.49**	**240**	T	T	05 48 51.4	
	baz=29,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**50.50**	**240**	T	T	05 49 07.1	
	baz=29,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**50.50**	**240**	T	T	05 49 00.4	
	baz=29,slow=76,SNR=11						
CN2	**Changchun**	**53.01**	**295**	*e*P	**P**	**04 54 20.0**	**-3.1**
ARCES	**ARCESS Array B**	**54.22**	**3**	P	**P**	**04 54 31.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=15,slow=6.2,SNR=4.3						
	comp=Z,1.2nm,0.6s						
SONM	**Songino Array**	**58.83**	**311**	P	**P**	**04 55 06.1**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=39,slow=7.1,SNR=8.7						
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**61.62**	**327**	P	**P**	**04 55 24.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=4.6,slow=7.2,SNR=2.3						
	comp=Z,0.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**61.99**	**302**	*e*P	**P**	**04 55 28.8**	**+2.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
FINES	**FINESS Array B**	**62.34**	**3**	P	**P**	**04 55 28.8**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=5.7,slow=7.7,SNR=5.2						
	comp=Z,3.8nm,1.0s						
BVAR	**Borovoye Array**	**66.28**	**336**	P	**P**	**04 55 55.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=26,slow=7.2,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**66.39**	**329**	P	**P**	**04 55 56.6**	**+1.5**
	comp=Z,1.8nm,0.2s,baz=30,slow=5.9,SNR=1.3						
	comp=Z,1.8nm,0.2s						
MKAR	**Makanchi Array**	**68.67**	**325**	P	**P**	**04 56 09.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=37,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.4s						
AKASG	**Malin Array Be**	**73.17**	**1**	P	**P**	**04 56 37.0**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=2.1,slow=6.3,SNR=7.7						
	comp=Z,1.9nm,0.6s						
PPT2	**Papeete2**	**73.78**	**181**	*e*LR	LR	05 19 09.8	
	comp=Z,50nm,23.8s						
GERES	**GERESS Array B**	**74.00**	**12**	P	**P**	**04 56 41.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=338,slow=7.4,SNR=2.2						
	comp=Z,0.5nm,0.6s						
KSH	**Kashi**	**77.22**	**326**	P	P	04 57 08.5	+7.9
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PZH	**PanZhiHua**	**78.38**	**301**	P	**P**	**04 57 11.1**	**+3.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
ESDC	**Sonseca Array**	**79.62**	**27**	P	**P**	**04 57 14.7**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=337,slow=5.1,SNR=8.9						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**86.56**	**299**	P	**P**	**04 57 50.0**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=29,slow=5.2,SNR=1.7						
	comp=Z,1.1nm,0.3s						
QSPA	**South Pole Qui**	**146.27**	**180**	PKPbc	**PKPab**	**05 04 46.0**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=84,slow=2.8,SNR=5.7						

*SJA **23** 04:52:32.8±0.6, 24°.09S×66°.85W, h215km±4km, ML3.3, MW3.4*
*GUC **23** 04:52:34.6±0.5, 24°.08S×66°.88W, h201km±8km, ML3.5*
ISC 23 04:52:32.2±1.8, 24°.07S±0°.04×66°.82W±0°.05, h217km±15km, n31, σ1§63/47, 3C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.47**	**109**	*e*P	**Pn**	**04 53 02.4**	**+0.4**
SALTA		**0.47**	**109**	↓*i*P	**Pn**	**04 53 02.3**	**+0.4**
SLA	**San Lorenzo**	**1.37**	**119**	*e*P	**Pn**	**04 53 07.6**	**+1.0**
SLA				*e*S	**S**	**04 53 33.3**	**+0.1**
SLA	**San Lorenzo**	**1.37**	**119**	↓*i*P	**Pn**	**04 53 07.4**	**+0.8**
AZAP	**Zapla**	**1.61**	**96**	*e*P	**Pn**	**04 53 09.3**	**+0.5**
AF01	**San Pedro de A**	**1.67**	**312**	*e*P	Pn	04 52 59.3	-10
AF01				*e*S	**S**	**04 53 37.4**	**-0.6**
FSA	**Cafayete**	**2.17**	**160**	*e*P	**Pn**	**04 53 14.7**	**+0.7**
YJA	**Yavi**	**2.24**	**33**	*e*P	**Pn**	**04 53 16.7**	**+1.7**
YJA				*e*S	**S**	**04 53 43.8**	**-4.2**
YJA	**Yavi**	**2.24**	**33**	*e*P	**Pn**	**04 53 16.5**	**+1.5**
GO02	**Mina Guanaco**	**2.74**	**246**	*e*P	**Pn**	**04 53 20.8**	**+0.6**
GO02				*e*S	**S**	**04 53 57.9**	**+0.4**
GO02	**Mina Guanaco**	**2.74**	**246**	↑*i*P	**Pn**	**04 53 21.4**	**+1.1**
GO02				*e*S	**S**	**04 53 57.2**	**-0.3**
GO02				IAML		04 53 59.2	
	comp=E,137nm,0.1s						
PB06	**IPOC Station P**	**2.87**	**298**	*e*P	**Pn**	**04 53 22.7**	**+1.2**
PB06				*e*S	**S**	**04 53 59.2**	**-0.5**
PB06				IAML		04 54 02.4	
	comp=Z,67nm,0.1s						
PB06	**IPOC Station P**	**2.87**	**298**	↑*i*P	**Pn**	**04 53 22.9**	**+1.3**
PB06				*e*S	**S**	**04 53 59.0**	**-0.8**
PB06				IAML		04 54 00.4	
	comp=N,127nm,0.1s						
AHML	**Horco Molle**	**3.02**	**154**	*e*P	**Pn**	**04 53 24.1**	**+1.1**
AHML				*e*S	**S**	**04 54 02.4**	**-0.3**
PB09	**IPOC Station P**	**3.18**	**315**	*e*P	**Pn**	**04 53 26.8**	**+1.7**
PB09				*e*S	**S**	**04 54 08.9**	**+2.7**
PB09				IAML		04 54 09.8	
	comp=Z,43nm,0.3s						
PB09	**IPOC Station P**	**3.18**	**315**	*e*P	**Pn**	**04 53 26.8**	**+1.7**
PB09				*e*S	**S**	**04 54 06.1**	**-0.1**
PB09				IAML		04 54 10.3	
	comp=E,51nm,0.1s						
PB14	**IPOC Station P**	**3.31**	**260**	*e*P	**Pn**	**04 53 27.6**	**+0.8**
PB14				*e*S	**S**	**04 54 08.0**	**-1.2**
PB14				IAML		04 54 09.5	
	comp=Z,28nm,0.2s						
PB14	**IPOC Station P**	**3.31**	**260**	*e*P	**Pn**	**04 53 27.9**	**+1.1**
PB14				IAML		04 54 10.7	
	comp=E,27nm,0.3s						
PB03	**IPOC Station P**	**3.37**	**306**	*e*P	**Pn**	**04 53 28.4**	**+1.1**
PB03				*e*S	**S**	**04 54 09.0**	**-1.1**
PB03				IAML		04 54 10.2	
	comp=Z,103nm,0.3s						
PB03	**IPOC Station P**	**3.37**	**306**	↑*i*P	**Pn**	**04 53 28.3**	**+1.1**
AC02	**Maricunga**	**3.45**	**217**	*e*P	**Pn**	**04 53 29.6**	**+1.0**
PB01	**IPOC Station P**	**3.89**	**320**	*e*P	**Pn**	**04 53 34.5**	**+1.0**
PB01				*e*S	**S**	**04 54 16.1**	**-5.3**
PB01				IAML		04 54 24.8	
	comp=Z,38nm,0.2s						
PB01	**IPOC Station P**	**3.89**	**320**	*e*P	**Pn**	**04 53 34.5**	**+1.0**
AC01	**Pan de Azucar**	**4.00**	**238**	*e*P	**Pn**	**04 53 34.5**	**-0.1**
AC01				*e*S	**S**	**04 54 21.4**	**-2.3**
AC01				IAML		04 54 22.2	
	comp=Z,23nm,0.3s						
CYA	**Choya**	**4.45**	**168**	*e*P	**Pn**	**04 53 41.9**	**+1.7**
PB08	**IPOC Station P**	**4.47**	**331**	*e*P	**Pn**	**04 53 42.9**	**+2.0**
PB08				*e*S	**S**	**04 54 35.1**	**+0.4**
PB08				IAML		04 54 37.6	
	comp=Z,18nm,0.3s						
PB08	**IPOC Station P**	**4.47**	**331**	*e*P	**Pn**	**04 53 43.2**	**+2.4**
TA01	**Diego Aracena**	**4.67**	**318**	*e*P	**Pn**	**04 53 44.0**	**+1.0**
TA01				IAML		04 54 41.2	
	comp=Z,26nm,1.5s						
VCA	**Vinchina**	**4.81**	**195**	*e*P	**Pn**	**04 53 42.7**	**-2.1**
VCA				IAML		04 54 50.6	
	comp=Z,16nm,3.5s						
PB11	**IPOC Station P**	**5.03**	**328**	*e*P	**Pn**	**04 53 47.7**	**0.0**
PB11				*e*S	**S**	**04 54 44.8**	**-2.4**
PB11				IAML		04 54 50.7	
	comp=Z,18nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.34**	**181**	*e*P	**Pn**	**04 53 52.2**	**+0.7**
ACLC				*e*S	**S**	**04 54 54.0**	**-0.1**
ACLC				IAML		04 55 23.7	
	comp=Z,4.5nm,3.4s						

*IDC **23** 05:16:07.5±1.3, 33°.26N×94°.03E, h0km, mb3.7/5, mbtmp3.6/7, ML3.0/2, MS3.8/4, Error ellipse: s-maj=103.5km s-min=20.9km az=56.0*
ISC 23 05:16:12.7±1.4, 33°.4N±0°.3×94°.1E±0°.4, h35km, n7, σ1§33/7, mb3.7/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.09**	**330**	Pn	**Pn**	**05 19 55.1**	**-1.1**
	baz=134,slow=12,SNR=2.8						
	0.2nm,0.5s						
AAK	**Ala-Archa**	**17.93**	**307**	P	**P**	**05 20 18.7**	**-1.0**
	0.1nm,0.3s,baz=132,slow=15,SNR=1.9						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**20.64**	**331**	P	**P**	**05 20 49.3**	**+0.3**
	1.3nm,0.6s,baz=143,slow=11,SNR=8.4						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**21.56**	**345**	P	**P**	**05 20 58.9**	**0.0**
	0.3nm,0.3s,baz=165,slow=11,SNR=4.1						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**25.91**	**326**	P	**P**	**05 21 43.3**	**+2.1**
	0.6nm,0.6s,baz=120,slow=10,SNR=2.7						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**50.86**	**325**	P	**P**	**05 25 10.3**	**+0.7**
	3.2nm,0.9s,baz=103,slow=6.3,SNR=1.7						
	3.2nm,0.9s						
ASAR	**Alice Springs**	**68.27**	**141**	P	**P**	**05 27 09.8**	**-0.3**
	0.9nm,0.5s,baz=320,slow=6.3,SNR=13						
	0.9nm,0.5s						

*NEIC **23** 05:23:39.0±1.1, 6°.0S±0°.1×125°.33E±0°.10, h561km±12km, mb4.0/12, Error ellipse: s-maj=19.8km s-min=11.2km az=213.0*
*IDC **23** 05:23:39.5±1.3, 5°.98S×125°.27E, h567km±18km, mb3.1/12, mbtmp4.2/16, Error ellipse: s-maj=30.0km s-min=11.2km az=68.0*
ISC 23 05:23:38.4±0.5, 5°.99S±0°.07×125°.3E±0°.1, h550km, n53, σ0§96/54, mb3.6/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.86**	**195**	P	**P**	**05 25 00.4**	**+1.0**
SOEI	**Soe**	**3.86**	**195**	P	**P**	**05 25 00.9**	**+1.5**
SANI	**Sanana**	**3.99**	**11**	P	**P**	**05 25 01.8**	**+1.6**
LUWI	**Luwuk**	**5.50**	**333**	P	**P**	**05 25 13.6**	**+1.0**
KAPI	**Kappang**	**5.56**	**280**	P	**P**	**05 25 15.2**	**+2.2**
KAPI	**Kappang**	**5.56**	**280**	P	**P**	**05 25 16.1**	**+3.0**
	40nm,0.4s,baz=111,slow=6.7,SNR=36						
KAPI	**Kappang**	**5.56**	**280**	P	**P**	**05 25 14.4**	**+1.3**
PLAI	**Plampang**	**7.92**	**249**	P	**P**	**05 25 35.5**	**+0.1**
TOLI2	**Tolitoli**	**8.35**	**328**	P	**P**	**05 25 39.7**	**+0.1**
TOLI2	**Tolitoli**	**8.35**	**328**	P	**P**	**05 25 40.7**	**+1.1**
TOLI2	**Tolitoli**	**8.35**	**328**	S	**S**	**05 27 19.2**	**+0.1**
DRS	**Darwin Rock St**	**8.49**	**139**	P	**P**	**05 25 42.5**	**+1.5**
MTN	**Manton Dam**	**8.94**	**140**	P	**P**	**05 25 45.9**	**+0.3**
MTN	**Manton Dam**	**8.94**	**140**	P	**P**	**05 25 46.8**	**+1.2**
KNRA	**Kununurra**	**10.22**	**161**	P	**P**	**05 25 59.2**	**+0.6**

comp=Z,1.0nm,0.4s,baz=138,slow=5.8,SNR=1.7
comp=Z,1.0nm,0.4s
QSPA South Pole Qui 83.98 180 P P 05 35 10.1 -0.7
QSPA IAmb IAmb 05 35 29.4
comp=Z,1.7nm,1.1s
QSPA South Pole Qui 83.98 180 P P 05 35 10.3 -0.5
comp=Z,0.7nm,0.7s,baz=344,slow=1.4,SNR=1.9
comp=Z,0.7nm,0.7s

---

*IDC **23** 05:30:47.7±0.6,32°.46N×129°.84E,h0km,mb3.8/19, mbtmp3.8/25,ML3.7/6,MS3.5/19,Error ellipse: s-maj=14.7km s-min=13.3km az=110.0*
*NIED **23** 05:30:49.6,32°.53N×129°.94E,h14km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=0.42; Mθθ3.17; Mφφ-2.75; Mrθ0.35; Mθφ0.76; Mφr0.12; Fault plane solution: M0 3.08000×1015 NP1: φs128.00000°,δ85.00000°,λ3.00000°. NP2:φs38.00000°, δ87.00000°,λ175.00000°.*
*JMA **23** 05:30:49.6±0.1,32°.5N±0°.1×129°.9E±0°.2,h14km,MD4.4/39, MW4.3/39,W OFF AMAKUSA ISLAND*
JMA Felt III J1 at W OFF AMAKUSA ISLAND .
*BJI **23** 05:30:50.1,32°.40N×130°.02E,h25km,mB4.7/8,mb4.4/23, Ms4.2/11,Ms7 4.0/5*
*NEIC **23** 05:30:51.7±2.0,32°.72N±0°.10×129°.96E±0°.04,h10km±1km, mb4.5/25,Error ellipse: s-maj=16.2km s-min=5.1km az=171.0*
ISC 23 05:30:49.7±0.9,32°.51N±0°.03×129°.93E±0°.03,h10km±5km, n117,σ1°34/94,mb4.2/33,MS3.5/13,1C-5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NGSJ	**Nagasakinomoza**	**0.16**	**317**	P	**Pg**	**05 30 53.4**	**+0.2**
NGSJ				S	**Sg**	**05 30 56.1**	**+0.3**
NGSJ	**Nagasakinomoza**	**0.16**	**317**	A	A	05 30 53.4	
	comp=N,284nm,0.8s,comp=E,125nm,0.9s						
JHD	**Hondo**	**0.18**	**106**	⇓P	**Pg**	**05 30 53.8**	**+0.2**
JHD				⇓S	**Sg**	**05 30 56.6**	**+0.4**
JHD	**Hondo**	**0.18**	**106**	A	A	05 30 53.8	
	comp=N,415nm,0.8s,comp=E,128nm,0.4s						
JUR	**Ureshino**	**0.58**	**1**	A	A	05 31 00.6	
	comp=N,18nm,1.1s,comp=E,14nm,2.0s						
JZO	**Okuchi**	**0.68**	**123**	*i* P	**Pg**	**05 31 02.6**	**-0.2**
JZO				S	**Sg**	**05 31 11.5**	**-0.1**
JZO	**Okuchi**	**0.68**	**123**	A	A	05 31 02.6	
	comp=N,42nm,1.1s,comp=E,42nm,0.8s						
JTA	**Tamana**	**0.68**	**48**	*i* P	**Pg**	**05 31 02.2**	**-0.6**
JTA				S	**Sg**	**05 31 11.1**	**-0.6**
JTA	**Tamana**	**0.68**	**48**	A	A	05 31 02.2	
	comp=N,22nm,3.1s,comp=E,14nm,1.8s						
JIU3	**Izumi3**	**0.74**	**87**	⇓*i*P	**Pg**	**05 31 03.1**	**-1.0**
JIU3				⇓S	**Sg**	**05 31 13.1**	**-0.7**
JIU3	**Izumi3**	**0.74**	**87**	A	A	05 31 03.1	
	comp=N,21nm,0.8s,comp=E,19nm,0.4s						
JSJ	**Shimokoshiki**	**0.85**	**192**	*i* P	**Pg**	**05 31 05.0**	**-1.1**
JSJ				S	**Sg**	**05 31 17.1**	**-0.2**
JSJ	**Shimokoshiki**	**0.85**	**192**	A	A	05 31 05.0	
	comp=N,60nm,0.8s,comp=E,56nm,1.5s						
JFI	**Itaya**	**0.99**	**23**	A	A	05 31 07.8	
	comp=N,43nm,0.2s,comp=E,26nm,1.6s						
JNU	**Nakatsue**	**1.00**	**52**	Pg	**Pb**	**05 31 08.5**	**-0.7**
JNU	**Nakatsue**	**1.00**	**52**	Pn	**Pb**	**05 31 08.3**	**-0.8**
	comp=E,2μm,0.3s,baz=227,slow=10,SNR=4752						
JNU				Sn	**Sb**	**05 31 21.4**	**-0.9**
	comp=E,4μm,0.3s,baz=116,slow=21,SNR=35						
JNU				LR	LR	05 31 32.9	
	comp=E,858nm,19.1s,baz=5.0,slow=41						
JNU	**Nakatsue**	**1.00**	**52**	A	A	05 31 08.1	
	comp=N,30nm,2.1s,comp=E,44nm,1.1s						
JFU	**Fukue jima 2**	**1.01**	**278**	A	A	05 31 08.3	
	comp=N,15nm,1.7s,comp=E,10.0nm,1.1s						
JSU	**Suzuyama**	**1.10**	**156**	A	A	05 31 09.9	
	comp=N,19nm,0.2s,comp=E,23nm,2.1s						
JTZ	**Takazaki**	**1.16**	**122**	A	A	05 31 10.8	
	comp=N,18nm,1.6s,comp=E,14nm,1.4s						
JII	**Iki**	**1.29**	**353**	A	A	05 31 12.8	
	comp=N,11nm,0.5s,comp=E,12nm,6.7s						
JKIT	**Kitakata**	**1.29**	**85**	A	A	05 31 12.8	
	comp=N,14nm,1.2s,comp=E,9.0nm,0.4s						
JTSN	**Tsuno**	**1.36**	**101**	A	A	05 31 13.9	
	comp=N,17nm,1.4s,comp=E,10.0nm,1.2s						
JFA	**Akaike**	**1.40**	**31**	A	A	05 31 14.4	
	comp=N,12nm,2.8s,comp=E,14nm,3.1s						
JHHC	**Hyugahichiya**	**1.44**	**92**	A	A	05 31 15.3	
	comp=N,9.0nm,1.7s,comp=E,10.0nm,2.0s						
JBEP	**Beppuamama**	**1.49**	**56**	A	A	05 31 15.9	
	comp=N,20nm,1.4s,comp=E,14nm,1.7s						
JNKG	**Nichinankitago**	**1.49**	**124**	A	A	05 31 16.3	
	comp=N,12nm,1.1s,comp=E,14nm,2.8s						
JNAR	**Kushima--Naru**	**1.50**	**130**	A	A	05 31 16.4	
	comp=N,10.0nm,2.4s,comp=E,12nm,2.9s						
JUS	**Usuki**	**1.63**	**70**	A	A	05 31 18.1	
	comp=N,7.0nm,2.8s,comp=E,4.0nm,1.0s						
JKI	**Kunimi**	**1.77**	**50**	A	A	05 31 20.2	
	comp=N,10.0nm,2.8s,comp=E,13nm,2.2s						
JTY	**Toyota**	**1.98**	**28**	A	A	05 31 23.3	
	comp=N,6.0nm,4.2s,comp=E,6.0nm,2.3s						
JTU	**Tsushima**	**2.05**	**348**	A	A	05 31 24.4	
	comp=N,4.0nm,0.8s,comp=E,4.0nm,1.1s						
JKD	**Kudamatsu**	**2.24**	**46**	A	A	05 31 27.0	
	comp=N,7.0nm,2.3s,comp=E,9.0nm,2.3s						
JHGM	**Hagimishima**	**2.48**	**24**	A	A	05 31 30.4	
	comp=N,7.0nm,2.0s,comp=E,7.0nm,4.0s						
JMN	**Monobe**	**3.53**	**69**	Pn	**Pn**	**05 31 45.5**	**+1.0**
JISK	**Izumosakaura**	**3.84**	**38**	A	A	05 31 49.8	
	comp=N,5.0nm,1.8s,comp=E,7.0nm,2.9s						
TJN	**Taejon**	**4.40**	**332**	Pn	**Pn**	**05 31 56.7**	**+0.2**
KSAR	**Wonju Array Be**	**5.20**	**342**	Pn	**Pn**	**05 32 07.6**	**+0.2**
KSRS	**Korea Array**	**5.20**	**342**	Pn	**Pn**	**05 32 07.3**	**-0.1**
	comp=E,4.6nm,0.3s,baz=157,slow=14,SNR=40						
KSRS				Sn	**Sn**	**05 33 05.6**	**-1.8**
	comp=E,4.9nm,0.3s,baz=159,slow=17,SNR=5.0						
KSRS				Lg	Lg	05 33 30.8	
	comp=E,12nm,0.3s,baz=164,slow=30,SNR=6.5						
	comp=E,7.7nm,0.3s						
KS19	**Wonju Array Si**	**5.26**	**342**		**Pn**	**05 32 07.3**	**-0.9**
INCN	**Inchon**	**5.65**	**332**	Pn	**Pn**	**05 32 13.1**	**-0.5**
JOW	**Kunigami**	**5.84**	**195**	Pn	**Pn**	**05 32 15.1**	**-1.2**
	comp=E,3.4nm,0.3s,baz=23,slow=15,SNR=5.1						
	comp=E,18nm,0.8s						
INU	**Inuyama**	**6.53**	**62**	Pn	**Pn**	**05 32 27.8**	**+2.0**
JGF	**Kuroka**	**6.89**	**61**	Pn	**Pn**	**05 32 31.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**7.92**	**57**	Pn	**Pn**	**05 32 45.3**	**+0.5**
MAJO	**Matsushiro**	**7.92**	**57**	Pn	**Pn**	**05 32 45.1**	**+0.2**
MJAR	**Matsushiro Arr**	**7.92**	**57**	Pn	**Pn**	**05 32 46.2**	**+1.3**
	comp=E,0.3nm,0.3s,baz=246,slow=13,SNR=17						
MJAR				Lg	Lg	05 34 59.2	
	baz=236,slow=30						
MJAR				LR	LR	05 35 54.1	
	comp=E,308nm,21.1s,baz=234,slow=38						
	comp=E,3.3nm,0.3s						
JSD	**Sado**	**8.76**	**49**	Pn	**Pn**	**05 32 57.5**	**+1.2**
NJ2	**Nanjing**	**9.39**	**270**	*e*P	**Pn**	**05 33 06.8**	**+1.8**
NJ2				pmax	pmax		
	comp=E,8.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**11.78**	**7**	Pn	**Pn**	**05 33 37.9**	**+0.3**
	comp=E,0.6nm,0.3s,baz=188,slow=13,SNR=10						
USRK				LR	LR	05 38 05.8	
	comp=E,173nm,18.8s,baz=192,slow=37						
	comp=E,2.3nm,0.5s						
BNX	**BinXian**	**13.35**	**352**	⇑P	**P**	**05 34 06.0**	**-2.8**
HNS	**HongShan**	**13.40**	**296**	⇓P	**P**	**05 34 07.1**	**-2.3**
HNS				LR	LR		
	comp=E,920nm,15.9s						
HNS				LR	LR		
	comp=E,530nm,15.9s						
ASAJ	**Asahikawa**	**15.24**	**37**	Pn	**Pn**	**05 34 26.6**	**+1.7**
	comp=E,0.5nm,0.3s,baz=162,slow=10.0,SNR=4.3						
	comp=E,4.4nm,0.7s						
JKA	**Kamikawa-asahi**	**15.24**	**37**	Pn	**Pn**	**05 34 23.3**	**-1.6**
JKA				IAmb	IAmb	05 34 41.3	
	comp=Z,27nm,1.5s						
XLT	**XiLinHaoTe**	**15.71**	**320**	*e*P	**Pn**	**05 34 32.6**	**+1.5**
XLT				LR	LR		
	comp=Z,71nm,13.2s						
XLT				LR	LR		
	comp=Z,410nm,12.8s						
KLR	**Kul'dur**	**16.76**	**4**	Pn	**P**	**05 34 45.6**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=152,slow=10,SNR=18						
KLR				LR	LR	05 41 13.7	
	comp=Z,76nm,18.6s,baz=180,slow=37						
	comp=Z,2.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**16.90**	**305**	*e*P	**P**	**05 34 47.5**	**-0.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,82nm,4.6s						
HHC				LR	LR		
	comp=Z,280nm,9.3s						
HHC				LR	LR		
	comp=Z,380nm,10.1s						
YSS	**Yuzhno-Sakhali**	**17.44**	**30**	P	**Pn**	**05 34 52.8**	**0.0**
YSS				IAmb	IAmb	05 34 54.4	
	comp=Z,40nm,1.3s						
XAN	**Xi'an**	**17.64**	**281**	P	**Pn**	**05 34 54.5**	**-1.0**
XAN				S	**Sn**	**05 38 10.8**	**-1.2**
XAN				LR	LR		
	comp=Z,950nm,17.7s						
XAN				LR	LR		
	comp=Z,280nm,17.9s						
HEH	**HeiHe**	**17.82**	**355**	*e*P	**P**	**05 35 01.1**	**+2.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**18.39**	**338**	P	**P**	**05 35 03.3**	**-1.4**
QIZ	**Qiongzhong**	**22.48**	**238**	P	**P**	**05 35 51.3**	**+2.1**
QIZ				LR	LR		
	comp=Z,320nm,6.2s						
QIZ				LR	LR		
	comp=Z,280nm,6.8s						
QIZ				LR	LR		
	comp=Z,160nm,4.8s						
ULN	**Ulaanbaatar**	**23.13**	**318**	P	**P**	**05 35 54.7**	**-1.2**
ULN				IAmb	IAmb	05 36 33.6	
	comp=Z,4.8nm,0.5s						
SONM	**Songino Array**	**23.48**	**318**	P	**P**	**05 35 59.0**	**-0.5**
SONM	**Songino Array**	**23.48**	**318**	P	**P**	**05 35 59.5**	**0.0**
	comp=Z,1.2nm,0.9s,baz=132,slow=8.6,SNR=5.8						
SONM				LR	LR	05 45 34.3	
	comp=Z,97nm,19.3s,baz=344,slow=38						
	comp=Z,1.2nm,0.9s						
PZH	**PanZhiHua**	**25.21**	**264**	P	**P**	**05 36 16.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,4.5s						
GTA	**Gaotai**	**25.25**	**294**	*e*P	**P**	**05 36 18.3**	**+2.3**
GTA				sP	sP	05 36 26.8	+6.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PETK	**Petropavlovsk-**	**28.66**	**36**	LR	LR	05 48 36.9	
	comp=Z,102nm,18.2s,baz=245,slow=37						
MA2	**Magadan**	**30.42**	**21**	LR	LR	05 49 20.0	
	comp=Z,48nm,19.6s,baz=250,slow=36						
CMAR	**Chiang Mai Arr**	**31.15**	**251**	P	**P**	**05 37 07.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=56,slow=5.3,SNR=5.5						
CMAR				LR	LR	05 50 10.2	
	comp=Z,26nm,20.9s,baz=50,slow=37						
	comp=Z,0.7nm,0.3s						
WMQ	**Urumqi**	**34.73**	**301**	*e*P	**P**	**05 37 44.1**	**+4.2**
SHEM	**Shemya Is, Ala**	**37.51**	**44**	LR	LR	05 52 54.5	
	comp=Z,20nm,21.8s,baz=12,slow=35						
ZAA0	**Zalesovo Array**	**38.38**	**318**	P	**P**	**05 38 09.8**	**-1.0**
ZALV	**Zalesovo Beam**	**38.38**	**318**	P	**P**	**05 38 09.9**	**-0.9**
ZALV	**Zalesovo Beam**	**38.38**	**318**	P	**P**	**05 38 09.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=124,slow=7.7,SNR=1.7						
ZALV				LR	LR	05 54 44.1	
	comp=Z,111nm,18.0s,baz=30,slow=37						
	comp=Z,0.2nm,0.3s						
KAPI	**Kappang**	**38.55**	**196**	LR	LR	05 52 55.2	
	comp=Z,20nm,20.2s,baz=11,slow=34						
MKAR	**Makanchi Array**	**38.76**	**306**	P	**P**	**05 38 14.4**	**+0.3**
MKAR	**Makanchi Array**	**38.76**	**306**	P	**P**	**05 38 12.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=92,slow=10,SNR=5.0						
	comp=Z,0.2nm,0.5s						
TIXI	**Tiksi**	**39.20**	**359**	LR	LR	05 55 23.0	
	comp=Z,93nm,19.9s,baz=346,slow=38						
KURK	**Kurchatov**	**41.52**	**312**	P	**P**	**05 38 39.9**	**+2.9**
KURBB	**Kurchatov Arra**	**41.57**	**311**	P	**P**	**05 38 35.6**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=96,slow=9.5,SNR=8.5						
	comp=Z,0.6nm,0.7s						
KSH	**Kashi**	**43.65**	**295**	P	**P**	**05 38 55.1**	**+0.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NRIK	**Noril'sk**	**43.81**	**340**	P	**P**	**05 38 53.8**	**-1.4**
	comp=Z,1.8nm,0.4s,baz=128,slow=9.8,SNR=5.0						
	comp=Z,1.8nm,0.4s						
AAK	**Ala-Archa**	**44.38**	**300**	LR	LR	05 59 11.5	
	comp=Z,108nm,18.8s,baz=349,slow=38						
BVAR	**Borovoye Array**	**46.76**	**314**	P	**P**	**05 39 18.2**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=109,slow=9.5,SNR=6.3						
BVAR				PcP	**PcP**	**05 40 54.3**	**+2.1**
	comp=Z,1.0nm,0.6s,baz=108,slow=3.2,SNR=3.9						
BVAR				LR	LR	06 00 46.4	
	comp=Z,90nm,18.8s,baz=326,slow=38						
	comp=Z,1.3nm,0.6s						
KK31	**Karatay Array**	**47.23**	**301**	P	**P**	**05 39 22.5**	**-0.3**
KK31				IAmb	IAmb	05 39 35.6	
	comp=Z,4.8nm,1.3s						
KKAR	**Karatay Array**	**47.23**	**301**	P	**P**	**05 39 22.7**	**-0.1**
KKAR	**Karatay Array**	**47.23**	**301**	P	**P**	**05 39 22.9**	**+0.1**
KKAR				IAmb	IAmb	05 39 35.5	
	comp=Z,3.1nm,1.3s						
C16K	**Lisburne Hills**	**50.89**	**26**	P	**P**	**05 39 52.6**	**+2.2**
C16K				IAmb	IAmb	05 39 57.7	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**52.33**	**175**	P	**P**	**05 39 59.1**	**-2.5**
	comp=Z,0.5nm,0.5s,baz=357,slow=7.6,SNR=5.5						
	comp=Z,0.5nm,0.5s						
L16K	**Owhat River**	**52.84**	**34**	P	**P**	**05 40 05.2**	**+0.2**
J17K	**VABM Dome**	**53.02**	**32**	P	**P**	**05 40 07.0**	**+0.6**
J17K				IAmb	IAmb	05 40 14.5	
	comp=Z,8.9nm,1.0s						
K17K	**Iditarod**	**53.38**	**33**	P	**P**	**05 40 10.5**	**+1.5**
ABKAR	**Akbulak array**	**53.59**	**310**	P	**P**	**05 40 10.8**	**0.0**
E19K	**Redstone River**	**53.86**	**27**	P	**P**	**05 40 13.6**	**+1.1**
E19K				IAmb	IAmb	05 40 20.7	
	comp=Z,4.4nm,0.9s						
J19K	**Poorman**	**54.55**	**31**	P	**P**	**05 40 18.4**	**+0.8**
J19K				IAmb	IAmb	05 40 25.1	
	comp=Z,7.3nm,0.9s						
B21K	**Ikpikpuk River**	**54.88**	**24**	P	**P**	**05 40 19.5**	**-0.3**
B21K				IAmb	IAmb	05 40 28.0	
	comp=Z,7.1nm,1.1s						
J20K	**Nowinta River**	**55.19**	**31**	P	**P**	**05 40 23.0**	**+0.8**
J20K				IAmb	IAmb	05 40 29.9	
	comp=Z,6.5nm,0.8s						
K20K	**Telida**	**55.27**	**32**	P	**P**	**05 40 23.4**	**+0.6**
D22K	**Ayikyak River**	**55.57**	**25**	P	**P**	**05 40 25.6**	**+0.7**
D22K				IAmb	IAmb	05 40 33.7	
	comp=Z,5.3nm,0.9s						
E22K	**Anaktuvuk Pass**	**55.92**	**26**	P	**P**	**05 40 27.4**	**0.0**
ASAR	**Alice Springs**	**55.99**	**176**	P	**P**	**05 40 27.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=359,slow=6.5,SNR=17						
	comp=Z,0.8nm,0.6s						
E24K	**Your Creek**	**57.16**	**26**	P	**P**	**05 40 37.1**	**+0.8**
E24K				IAmb	IAmb	05 40 43.5	
	comp=Z,2.8nm,0.7s						
RND	**Reindeer**	**57.60**	**32**	P	**P**	**05 40 42.6**	**+3.1**
ILAR	**Eielson Array**	**58.24**	**30**	P	**P**	**05 40 45.7**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=262,slow=4.6,SNR=11						
ILAR				LR	LR	06 06 37.0	
	comp=Z,35nm,18.4s,baz=162,slow=37						
	comp=Z,0.8nm,0.9s						
SCRK	**Sand Creek**	**59.63**	**31**	P	**P**	**05 40 53.4**	**-0.3**
C36M	**Paulatuk**	**65.32**	**22**	P	**P**	**05 41 31.6**	**+0.2**
C36M				IAmb	IAmb	05 41 38.6	
	comp=Z,6.4nm,1.1s						
KBZ	**Khabaz**	**66.41**	**308**	P	**P**	**05 41 39.9**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=26,slow=8.1,SNR=5.0						
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**68.17**	**330**	P	**P**	**05 41 49.2**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=68,slow=6.1,SNR=9.5						
FINES				LR	LR	06 13 58.0	
	comp=Z,144nm,18.4s,baz=16,slow=38						
	comp=Z,3.1nm,0.8s						
AKASG	**Malin Array Be**	**71.76**	**319**	P	**P**	**05 42 11.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=57,slow=6.5,SNR=5.9						
	comp=Z,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**72.23**	**26**	P	**P**	**05 42 14.8**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=298,slow=5.8,SNR=8.6						
	comp=Z,0.5nm,1.0s						
NOA	**NORSAR Array B**	**74.35**	**334**	P	**P**	**05 42 26.0**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=51,slow=5.7,SNR=1.6						
NOA				LR	LR	06 15 46.0	
	comp=Z,43nm,18.3s,baz=20,slow=36						
	comp=Z,0.8nm,0.9s						
CLL	**Collm**	**79.85**	**325**	*e*P	**P**	**05 43 01.0**	**+2.8**
GERES	**GERESS Array B**	**81.09**	**323**	P	**P**	**05 43 05.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=51,slow=9.3,SNR=1.4						
	comp=Z,0.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**83.73**	**335**	P	**P**	**05 43 18.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=15,slow=5.9,SNR=1.4						
	comp=Z,0.7nm,0.6s						
NVAR	**Mina Array Bea**	**85.12**	**47**	P	**P**	**05 43 27.6**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=288,slow=4.6,SNR=10						
	comp=Z,1.4nm,0.8s						
PDAR	**Pinedale Array**	**87.36**	**39**	P	**P**	**05 43 38.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=48,slow=2.2,SNR=4.0						
	comp=Z,0.5nm,0.8s						

---

*JMA **23** 05:38:45.4±0.1,23°.7N±0°.7×122°.4E±0°.4,h32km,MV3.2/15, TAIWAN REGION*
*TAP **23** 05:38:46.1,23°.74N×122°.41E,h37km,ML3.9,C*
ISC 23 05:38:45.4±1.1,23°.67N±0°.02×122°.42E±0°.02,h29km±10km, n147,σ1°22/253,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.46**	**348**	*i* P	**Pb**	**05 38 54.8**	**0.0**
EOS4				*i* S	**Sb**	**05 39 01.4**	**+0.3**
EOS3	**EOS3**	**0.62**	**351**	⇑*i*P	**Pb**	**05 38 57.8**	**+0.1**
EOS3				*i* S	**Sb**	**05 39 06.2**	**+0.3**
EOS2	**EOS2**	**0.76**	**347**	*i* P	**Pn**	**05 39 00.2**	**+0.1**
EOS2				S	**Sb**	**05 39 10.8**	**+0.8**
TEYL	**Yanliau Villag**	**0.78**	**285**	P	**Pn**	**05 38 59.8**	**-0.7**
TEYL				*e*S	**Sb**	**05 39 10.9**	**+0.4**
SHUL	**Shoufeng**	**0.79**	**278**	*i* P	**Pn**	**05 39 00.1**	**-0.5**
SHUL				*i* S	**Sb**	**05 39 11.1**	**+0.1**
HWA	**Hwalien**	**0.81**	**292**	P	**Pn**	**05 39 00.1**	**-0.7**
HWA				*e*S	**Sb**	**05 39 10.9**	**-0.4**
TEGC	**Jichi Village**	**0.81**	**273**	*i* P	**Pn**	**05 39 00.4**	**-0.4**
TEGC				S	**Sb**	**05 39 10.7**	**-0.6**
TWD	**Chiawan**	**0.86**	**298**	*i* P	**Pn**	**05 39 00.4**	**-1.1**
TWD				*i* S	**Sb**	**05 39 11.0**	**-1.8**
ETL	**Fush Village**	**0.88**	**304**	*e*P	**Pn**	**05 39 00.8**	**-1.0**
ETL				S	**Sb**	**05 39 12.1**	**-1.3**
ETM	**Tongmen**	**0.90**	**289**	*i* P	**Pn**	**05 39 01.0**	**-1.1**
ETM				S	**Sn**	**05 39 13.0**	**-1.1**
EAHA	**Aohua**	**0.90**	**317**	P	**Pn**	**05 39 01.7**	**-0.5**
EAHA				*e*S	**Sn**	**05 39 13.0**	**-1.2**
NACB	**Ninganchiao**	**0.90**	**304**	P	**Pn**	**05 39 01.0**	**-1.2**
NACB	**Ninganchiao**	**0.90**	**304**	P	**Pn**	**05 39 01.1**	**-1.1**
NACB				S	**Sn**	**05 39 12.1**	**-2.2**
EGFH	**Guangfu**	**0.91**	**270**	P	**Pn**	**05 39 02.0**	**-0.3**
EGFH				S	**Sn**	**05 39 14.0**	**-0.4**
JYNG	**Yonagunijimaku**	**0.91**	**32**	*e*P	**Pn**	**05 39 02.0**	**-0.3**
JYNG				S	**Sn**	**05 39 13.8**	**-0.7**
ESL	**Shilin**	**0.91**	**279**	⇓*i*P	**Pn**	**05 39 01.2**	**-1.2**
ESL				*i* S	**Sn**	**05 39 12.0**	**-2.5**
HGSD	**Ruisui**	**0.93**	**259**	⇓P	**Pn**	**05 39 01.9**	**-0.6**
HGSD				*e*S	**Sn**	**05 39 13.4**	**-1.6**
WARBT	**Fenglin Townsh**	**0.95**	**273**	*i* P	**Pn**	**05 39 01.8**	**-1.0**
WARBT				S	**Sn**	**05 39 13.5**	**-1.9**
YOJ	**Yonaguni jima**	**0.95**	**34**	P	**Pn**	**05 39 03.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.95**	**34**	P	**Pn**	**05 39 03.0**	**+0.1**
YOJ				*i* S	**Sn**	**05 39 14.6**	**-0.9**
YOJ	**Yonaguni jima**	**0.95**	**34**	*e*P	**Pn**	**05 39 02.9**	**+0.1**
YOJ				*e*S	**Sn**	**05 39 15.0**	**-0.5**
EWUT	**Wuta**	**0.97**	**323**	P	**Pn**	**05 39 03.0**	**0.0**
EWUT				S	**Sn**	**05 39 15.7**	**-0.2**
ENA	**Nanau**	**0.97**	**321**	*e*P	**Pn**	**05 39 02.8**	**-0.3**
ENA				S	**Sn**	**05 39 15.3**	**-0.8**
LXIB	**Xiulin Townshi**	**0.98**	**291**	P	**Pn**	**05 39 02.7**	**-0.7**
LXIB				*e*S	**Sn**	**05 39 14.3**	**-2.1**
EHYH	**Wanrong**	**1.00**	**260**	P	**Pn**	**05 39 03.6**	**+0.1**
EHYH				S	**Sn**	**05 39 16.2**	**-0.5**
ETLH	**Xiulin Townshi**	**1.01**	**302**	P	**Pn**	**05 39 02.8**	**-1.0**
ETLH				S	**Sn**	**05 39 15.3**	**-1.7**
EHY	**Hungye**	**1.02**	**261**	*i* P	**Pn**	**05 39 03.7**	**-0.1**
EHY				S	**Sn**	**05 39 16.4**	**-0.8**
ESAO	**Su ao**	**1.04**	**330**	P	**Pn**	**05 39 04.0**	**-0.1**
ESAO				*e*S	**Sn**	**05 39 16.1**	**-1.6**
CHKH	**Chenggong**	**1.05**	**243**	P	**Pn**	**05 39 03.9**	**-0.3**
CHKH				S	**Sn**	**05 39 16.2**	**-1.7**
EYUL	**Yuli**	**1.06**	**252**	P	**Pn**	**05 39 04.4**	**0.0**
EYUL				S	**Sn**	**05 39 18.1**	**-0.1**
YULB	**Yu-li**	**1.07**	**255**	P	**Pn**	**05 39 04.5**	**0.0**
YULB	**Yu-li**	**1.07**	**255**	S	**Sn**	**05 39 18.1**	**-0.2**
YULB	**Yu-li**	**1.07**	**255**	P	**Pn**	**05 39 04.4**	**0.0**
YULB				*e*S	**Sn**	**05 39 17.7**	**-0.6**
TWC	**Suao**	**1.07**	**331**	P	**Pn**	**05 39 04.0**	**-0.4**
TWC				*e*S	**Sn**	**05 39 18.0**	**-0.3**
TWF1	**Yuli**	**1.08**	**253**	P	**Pn**	**05 39 04.5**	**0.0**

NFF			*e*S		**Sn**	**05 39 30.5 +0.7**
TATO	**Taipei**	**1.55 327**	P		**Pn**	**05 39 12.5 +1.4**
JKRS	**Kuro-shima**	**1.56 69**	P		**Pn**	**05 39 12.2 +1.0**
KSHI	**Guanxi Townshi**	**1.58 314**	P		**Pn**	**05 39 13.2 +1.7**
KSHI			*e*S		**Sn**	**05 39 32.7 +1.7**
STYH	**Taoyuan**	**1.59 252**	P		**Pn**	**05 39 12.6 +1.0**
STYH			*e*S		**Sn**	**05 39 31.3 +0.2**
CHN5	**Tsauling**	**1.60 268**	P		**Pn**	**05 39 13.7 +1.8**
CHN5			*e*S		**Sn**	**05 39 33.7 +2.1**
WNT	**Mingjian**	**1.60 278**	*e*P		**Pn**	**05 39 13.4 +1.6**
WNT			*e*S		**Sn**	**05 39 33.5 +1.9**
LIOB	**Emei**	**1.61 307**	*e*P		**Pn**	**05 39 13.8 +1.9**
LIOB			*e*S		**Sn**	**05 39 32.9 +1.2**
NSTT	**Nanjuang**	**1.61 307**	*e*S		**Sn**	**05 39 32.2 +0.5**
TWQ1	**Liyutan**	**1.65 294**	P		**Pn**	**05 39 14.4 +1.9**
TWQ1			*e*S		**Sn**	**05 39 34.3 +1.6**
YM01	**YM01**	**1.66 332**	P		**Pn**	**05 39 13.2 +0.6**
TCU	**Taichung**	**1.66 287**	P		**Pb**	**05 39 15.2 -0.2**
TCU			*e*S		**Sb**	**05 39 35.6 -0.3**
WCKO	**Fanlu**	**1.68 262**	*e*P		**Pb**	**05 39 15.3 -0.4**
TPUB	**Ta-pu**	**1.68 258**	P		**Pn**	**05 39 15.1 +2.2**
TPUB	**Ta-pu**	**1.68 258**	S		**Sn**	**05 39 35.9 +2.3**
TPUB	**Ta-pu**	**1.68 258**	P		**Pn**	**05 39 14.8 +1.8**
TPUB			*e*S		**Sn**	**05 39 36.0 +2.5**
ZUZH	**Zhuzihu**	**1.68 332**	P		**Pn**	**05 39 13.2 +0.2**
ZUZH			*e*S		**Sn**	**05 39 33.0 -0.6**
YM08	**YM08**	**1.69 334**	*e*P		**Pn**	**05 39 12.9 -0.1**
TWS1	**Kuangyinshan**	**1.69 328**	P		**Pn**	**05 39 13.1 +0.1**
TWS1			S		**Sn**	**05 39 33.3 -0.4**
WGK	**Gukeng**	**1.70 271**	*e*P		**Pn**	**05 39 15.3 +2.2**
WGK			S		**Sn**	**05 39 35.9 +2.0**
CHN4	**Tsaushan**	**1.71 260**	P		**Pn**	**05 39 15.5 +2.2**
CHN4			*e*S		**Sb**	**05 39 37.0 -0.1**
WTP	**Ta-pu**	**1.71 256**	P		**Pn**	**05 39 15.3 +2.0**
WTP			*e*S		**Sn**	**05 39 35.7 +1.4**
NMLH	**Miaoli**	**1.72 300**	*e*P		**Pb**	**05 39 16.2 -0.1**
NMLH			*e*S		**Sn**	**05 39 35.8 +1.4**
SBCB	**Hsinchu**	**1.72 311**	S		**Sn**	**05 39 36.5 +2.1**
JIJ	**Ishigaki jima**	**1.72 66**	P		**Pn**	**05 39 13.7 +0.3**
ECL	**Taimali**	**1.72 232**	*e*P		**Pn**	**05 39 13.5 +0.1**
ECL			S		**Sn**	**05 39 33.2 -1.2**
WDLH	**Douliu**	**1.72 271**	*e*P		**Pn**	**05 39 15.6 +2.2**
WDLH			*e*S		**Sn**	**05 39 36.1 +1.5**
NTST	**Danshui**	**1.73 329**	P		**Pn**	**05 39 14.5 +1.0**
NTST			S		**Sn**	**05 39 34.9 +0.3**
HSN	**Hsinchu**	**1.74 311**	*e*S		**Sn**	**05 39 36.8 +1.9**
WCHH	**Zhanghua**	**1.75 284**	P		**Pb**	**05 39 16.3 -0.5**
WCHH			*e*S		**Sn**	**05 39 37.9 +2.7**
WDJ	**Dajia District**	**1.76 293**	*e*S		**Sn**	**05 39 37.8 +2.3**
TWY	**Chenhua**	**1.76 335**	*e*P		**Pn**	**05 39 14.4 +0.4**
TWY			*e*S		**Sn**	**05 39 35.6 +0.2**
SGST	**Jiashian**	**1.79 251**	P		**Pn**	**05 39 16.6 +2.3**
SGST			S		**Sn**	**05 39 38.0 +1.9**
CHN1	**Nanshi**	**1.80 255**	P		**Pn**	**05 39 17.0 +2.4**
CHN1			*e*S		**Sb**	**05 39 39.7 -0.3**
LAY	**Lan-yu**	**1.81 206**	P		**Pn**	**05 39 14.1 -0.6**
LAY			S		**Sn**	**05 39 35.1 -1.7**
TWK	**Hsinying**	**1.82 258**	P		**Pn**	**05 39 17.0 +2.2**
TWK			S		**Sn**	**05 39 39.6 +2.7**
SNST	**Tainan City**	**1.82 256**	P		**Pb**	**05 39 18.0 0.0**
SNST			S		**Sb**	**05 39 39.9 -0.5**
LYUB	**Lan-yu**	**1.83 205**	*e*P		**Pn**	**05 39 14.1 -0.9**
LYUB			*e*S		**Sn**	**05 39 34.5 -2.7**
CHY	**Chiayi**	**1.84 265**	P		**Pn**	**05 39 17.4 +2.3**
CHY			S		**Sn**	**05 39 40.0 +2.6**
WTK	**Tuku**	**1.86 271**	*e*P		**Pn**	**05 39 17.8 +2.4**
WRL	**Guolierlin Hig**	**1.88 277**	P		**Pn**	**05 39 17.5 +1.9**
WRL			*e*S		**Sn**	**05 39 41.4 +3.0**
TSMG	**Majia**	**1.90 240**	*e*P		**Pn**	**05 39 17.9 +2.1**
TAW	**Tawu**	**1.92 227**	*e*P		**Pn**	**05 39 15.1 -1.0**
TAW			*e*S		**Sn**	**05 39 38.9 -0.4**
EAST	**Anshuo**	**1.93 229**	P		**Pn**	**05 39 16.8 +0.4**
EAST			*e*S		**Sn**	**05 39 39.7 -0.1**
SCST	**Cishan**	**1.94 247**	P		**Pb**	**05 39 19.4 -0.6**
SCST			*e*S		**Sb**	**05 39 43.9 +0.2**
TAWH	**Dawu Township**	**1.94 227**	*e*P		**Pn**	**05 39 15.8 -0.6**
TAWH			*e*S		**Sn**	**05 39 37.4 -2.3**
MASBT	**Mashibuluo**	**1.95 238**	P		**Pn**	**05 39 17.6 +1.0**
JISG	**Ishigakijimahi**	**1.95 62**	P		**Pn**	**05 39 16.6 0.0**
JISG			*e*S		**Sn**	**05 39 39.2 -1.0**
WTCT	**Ta-ch'eng**	**1.97 276**	P		**Pn**	**05 39 17.0 +0.2**
WTCT			S		**Sb**	**05 39 44.1 -0.5**
ICHU	**Yijhu**	**1.99 261**	P		**Pn**	**05 39 19.5 +2.4**
ICHU			S		**Sn**	**05 39 43.4 +2.4**
WSL	**Shuilin Townsh**	**2.02 266**	P		**Pn**	**05 39 19.1 +1.7**
WSL			S		**Sn**	**05 39 43.7 +2.0**
CHN8	**Yiju**	**2.05 261**	*e*S		**Sn**	**05 39 45.3 +2.7**
SLIU	**Shizi**	**2.08 226**	*e*P		**Pn**	**05 39 18.9 +0.6**
SCZT	**Fangliau**	**2.10 232**	*e*P		**Pn**	**05 39 19.9 +1.2**
TSCK	**Chigu Township**	**2.21 257**	*e*P		**Pn**	**05 39 22.4 +2.4**
TSCK			*e*S		**Sn**	**05 39 47.7 +1.3**
TSEB	**Hengchuen, Pin**	**2.25 219**	*e*P		**Pn**	**05 39 23.8 +3.1**
TSEB			*e*S		**Sn**	**05 39 50.1 +2.5**
TWKBT	**Hengchun**	**2.27 221**	*e*P		**Pn**	**05 39 22.6 +1.6**
TWKBT			*e*S		**Sn**	**05 39 49.6 +1.5**
JTJ	**Tarama**	**2.30 65**	P		**Pn**	**05 39 22.0 +0.7**
PHUB	**P'eng-hu**	**2.62 267**	P		**Pn**	**05 39 27.3 +1.6**
PHUB			S		**Sn**	**05 39 56.9 +0.4**
PNG	**Penghu**	**2.63 268**	P		**Pn**	**05 39 27.3 +1.4**
PNG			*e*S		**Sn**	**05 39 57.5 +0.7**
VWUC	**VWUC**	**3.01 296**	*e*P		**Pn**	**05 39 31.1 0.0**
PTMZ	**Houxiangcun**	**3.30 295**	*e*P		**Pn**	**05 39 35.4 +0.2**
MATB	**Ma-tsu**	**3.34 318**	*e*P		**Pn**	**05 39 35.7 +0.1**
KNM	**Kinmen**	**3.72 282**	*e*P		**Pn**	**05 39 42.8 +1.9**
KNM			*e*S		**Sn**	**05 40 24.4 +0.6**
KNMB	**Chin-men Tao**	**3.77 283**	P		**Pn**	**05 39 41.8 +0.2**
KNMB			*e*S		**Sn**	**05 40 22.6 -2.3**
XPSS	**Dashiqiu**	**3.82 329**	*e*P		**Pn**	**05 39 41.9 -0.4**
MHZQ	**Yeshan**	**3.91 309**	*e*P		**Pn**	**05 39 43.5 0.0**
AXDP	**Jialang**	**4.24 288**	*e*P		**Pn**	**05 39 48.6 +0.6**
AXDP			*e*S		**Sn**	**05 40 34.1 -2.5**

ISN ***23*** *05:39:21.8±0.6, 32.°87N×47.°46E, h7km±3km, ML2.7*
TEH ***23*** *05:39:22.9, 32.°93N×47.°44E, h13km±23km*
ISC 23 05:39:24.6±1.0, 32.°95N±0.°06×47.°45E±0.°04, h15km, n17, σ1§07/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.67**	**30**	Pg	**Pb**	**05 39 37.5**	**-0.4**
IDOB	**Doab**	**1.04**	**36**	Pg	**Pg**	**05 39 44.0**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.24**	**303**	Pg	**Pb**	**05 39 47.8**	**+0.1**
IBDR	**Badra**	**1.28**	**278**	*e*Pg	**Pn**	**05 39 47.0**	**-0.9**
IBDR				*e*Sg	**Sb**	**05 40 05.0**	**+0.3**
IBDR				AML	AML	05 40 11.1	
	comp=N,126nm,0.3s						
IBDR				AML	AML	05 40 15.2	
	comp=E,181nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.37**	**346**	Pg	**Pg**	**05 39 50.3**	**-0.6**
IGHG	**Ghaleghazi**	**1.56**	**332**	Pg	**Pg**	**05 39 53.9**	**-0.7**
BDRS	**Dareh Seyedi**	**1.56**	**50**	Pg	**Pg**	**05 39 54.1**	**-0.6**
HSAM	**Samen**	**1.59**	**37**	Pg	**Pg**	**05 39 54.6**	**-0.6**
RAFI	**Al-Rafai**	**1.66**	**223**	*e*Pn	**Pn**	**05 39 53.0**	**-0.1**
RAFI				*e*Sn	**Sb**	**05 40 15.0**	**-0.6**
GLG1	**Gilan-e-Gharb**	**1.73**	**313**	Pg	**Pn**	**05 39 54.8**	**+0.6**
SNQR	**Sonqor, Kerman**	**1.91**	**4**	Pn	**Pb**	**05 39 58.6**	**-0.7**
IDHR	**Dehrash**	**1.96**	**334**	Pn	**Pb**	**05 39 59.0**	**-1.0**
ILIN	**Lien**	**2.01**	**349**	Pn	**Pb**	**05 39 59.8**	**-1.1**
HAGD	**Aghdareh**	**2.34**	**37**	Pn	**Pb**	**05 40 04.9**	**-1.7**
BHD	**Baghdad**	**2.59**	**278**	*e*Pn	**Pn**	**05 40 06.0**	**+0.1**
BHD				*e*Sn	**Sn**	**05 40 39.0**	**+1.8**
IPIR	**Pirpir**	**2.91**	**94**	Pn	**Pn**	**05 40 12.4**	**+1.7**
IKRK	**Kirkuk**	**3.55**	**314**	*e*Pn	**Pn**	**05 40 20.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**05 41 03.0**	**+2.1**

NOU 23 05:45:54.4, 16.°26S×168.°45E, h2km, MLv4.4/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.48**	**190**	P	Pn	05 46 20.6	-1.5
DVP	**Devils Point**	**1.48**	**190**	S	Sb	05 46 40.9	-1.0
KOUNC	**Koumac, New Ca**	**5.82**	**222**	P	Pn	05 47 21.6	-0.1
DZM	**Mont Dzumac**	**6.08**	**198**	P	Pn	05 47 25.2	-0.3
OUENC	**Ouen Island, N**	**6.31**	**194**	P	Pn	05 47 28.9	+0.4

IDC ***23*** *05:47:26.2±1.3, 16.°94S×69.°50W, h180km±10km, mb3.1/4, mbtmp3.8/6, MS3.2/1, Error ellipse: s-maj=27.7km s-min=14.9km az=20.0*
GUC ***23*** *05:47:27.6±0.7, 16.°95S×69.°84W, h190km±5km, ML3.5*
ISC 23 05:47:26.7±0.8, 16.°98S±0.°06×69.°66W±0.°09, h200km, n14, σ1§91/18, mb3.4/3, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.63**	**164**	⇓*i*P	**Pn**	**05 47 54.5**	**-0.5**
PB18				*e*S	**Sn**	**05 48 16.1**	**-1.0**
LPAZ	**La Paz**	**1.62**	**65**	P	**Pn**	**05 47 59.8**	**-2.4**
	238nm,0.3s,baz=293,slow=6.2,SNR=1489						
LPAZ				S	Sn	05 48 23.7	-5.8
	68nm,0.8s,baz=124,slow=21,SNR=6.8						
PB12	**IPOC Station P**	**1.75**	**201**	*e*P	**Pn**	**05 48 01.8**	**-1.0**
PB12				*e*S	**Sn**	**05 48 28.2**	**-2.9**
PB12				IAML		05 48 30.3	
	comp=N,233nm,0.3s						
PB11	**IPOC Station P**	**2.77**	**180**	*e*P	**Pn**	**05 48 13.4**	**-0.4**
PB11				⇑*e*S	**Sn**	**05 48 49.2**	**-1.6**
PB11				IAML		05 48 52.5	
	comp=E,89nm,0.2s						
PB08	**IPOC Station P**	**3.19**	**171**	*e*P	**Pn**	**05 48 19.4**	**+0.6**
PB08				*e*S	**Sn**	**05 48 59.0**	**-0.8**
PB08				IAML		05 49 00.2	
	comp=E,65nm,0.5s						
TA01	**Diego Aracena**	**3.61**	**188**	*e*P	**Pn**	**05 48 23.2**	**-0.4**
TA01				*e*S	**Sn**	**05 49 05.4**	**-2.9**
SIV	**San Ignacio**	**8.29**	**84**	P	Pn	05 49 20.0	-3.9
	comp=E,4.2nm,0.4s,baz=273,slow=11,SNR=30						
SIV				S	Sn	05 50 48.8	-8.4
	comp=E,1.7nm,0.7s,baz=64,slow=1.6,SNR=3.2						
NNA	**Nana**	**8.54**	**305**	P	**Pn**	**05 49 27.1**	**0.0**
	comp=E,15nm,0.3s,baz=131,slow=12,SNR=12						
NNA				S	**Sn**	**05 51 00.2**	**-3.0**
	comp=E,4.0nm,0.4s,baz=288,slow=13,SNR=1.8						
BDFB	**Brasilia**	**20.82**	**89**	P	**P**	**05 51 51.4**	**-1.7**
	comp=E,1.3nm,0.5s,baz=233,slow=14,SNR=4.5						
	comp=E,1.3nm,0.5s						
PLCA	**Paso Flores**	**23.69**	**182**	P	**P**	**05 52 21.8**	**+1.5**
	comp=E,1.1nm,0.8s,baz=7.7,slow=11,SNR=3.7						
	comp=E,1.1nm,0.8s						
MDP	**Montagnes des**	**27.64**	**39**	LR	LR	06 05 50.1	
	comp=E,42nm,19.2s,baz=318,slow=40						
PDAR	**Pinedale Array**	**69.86**	**330**	P	**P**	**05 58 18.5**	**+2.5**
	comp=E,0.3nm,0.6s,baz=125,slow=7.0,SNR=5.3						
	comp=E,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**86.70**	**341**	P	**P**	**05 59 49.6**	**+2.2**
	comp=E,0.4nm,0.7s,baz=140,slow=5.5,SNR=6.6						
	comp=E,0.4nm,0.7s						
SONM	**Songino Array**	**149.05**	**5**	PKPbc	**PKiKP**	**06 06 53.3**	**+0.9**
	comp=E,0.5nm,0.4s,baz=322,slow=1.6,SNR=4.0						

IDC 23 06:08:42.4±5.2, 24.°53N×97.°49E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=682.6km s-min=27.2km az=58.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.33**	**335**	P	P	06 14 10.8	0.0
	0.4nm,0.5s,baz=137,slow=11,SNR=8.4						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**56.93**	**138**	P	P	06 18 28.1	-1.5
	0.4nm,0.7s,baz=316,slow=8.0,SNR=2.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**59.52**	**141**	P	P	06 18 48.7	+1.0
	0.2nm,0.4s,baz=316,slow=6.6,SNR=6.6						
	0.2nm,0.4s						

IDC 23 06:32:47.1±78.0, 12.°83S×168.°71E, h0km, mb3.5/3, mbtmp3.5/3, MS3.7/1, Error ellipse: s-maj=1331.0km s-min=137.0km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.29**	**228**	P	P	06 39 09.1	+0.1
	0.7nm,0.4s,baz=36,slow=14,SNR=3.2						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**33.67**	**253**	P	P	06 39 30.7	+0.7
	0.3nm,0.6s,baz=83,slow=8.6,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**34.68**	**247**	P	P	06 39 38.1	-0.7
	0.2nm,0.5s,baz=77,slow=9.7,SNR=6.4						
	0.2nm,0.5s						
JCJ	**Chichijima**	**47.31**	**327**	LR	LR	06 59 40.6	
	comp=Z,81nm,19.4s,baz=87,slow=34						

MOS ***23*** *06:48:56.6±1.3, 37.°06N×142.°00E, h38km, mb4.8/25, Error ellipse: s-maj=8.2km s-min=4.8km az=98.5*
BJI ***23*** *06:48:56.8, 37.°21N×141.°98E, h36km, mB4.9/13, mb4.5/29, Ms3.8/4, Ms7 3.5/4*
JMA ***23*** *06:48:58.5±0.2, 37.°0N±0.°6×14.°2E±.°, h59km±2km, MD4.5/39, MW4.5/39, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
NIED ***23*** *06:48:58.5, 37.°01N×141.°84E, h59km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}2.44; $M_{\theta\theta}$-2.96; $M_{\phi\phi}$0.52; $M_{r\theta}$3.34; $M_{\theta\phi}$-3.65; $M_{\phi r}$-0.94; Fault plane solution: $M_0$5.71000×10^15^ NP1: ϕ_s201.00000°, δ45.00000°, λ25.00000°. NP2: ϕ_s93.00000°, δ73.00000°, λ133.00000°.*
IDC ***23*** *06:48:59.0±0.5, 36.°83N×141.°91E, h49km±3km, mb4.2/24, mbtmp4.4/30, MS3.6/32 Error ellipse: s-maj=10.2km s-min=8.2km az=132.0*
NEIC ***23*** *06:48:59.3, 37.°05N×141.°90E, h42km*
NEIC ***23*** *06:48:59.3±1.5, 37.°03N±0.°07×141.°9E±0.°1, h43km±6km, mb4.8/80, Mwr4.4/23, Error ellipse: s-maj=12.7km s-min=9.5km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}3.47; $M_{\theta\theta}$-3.48; $M_{\phi\phi}$0.01; $M_{r\theta}$3.72; $M_{\theta\phi}$-2.77; $M_{\phi r}$-1.10; Fault plane solution: $M_0$5.90000×10^15^ NP1: ϕ_s90.12000°, δ68.51000°, λ120.41000°. NP2: ϕ_s212.10000°, δ36.63000°, λ37.88000°. Principal axes: T 5.8992, Plg56.0000°, Azm40.0000°; N 0.0046, Plg28.0000°, Azm258.0000°; P -5.9038, Plg18.0000°, Azm158.0000°;*
ISC 23 06:48:59.0±0.4, 36.°94N±0.°04×142.°01E±0.°05, h48km±3km, h48km: pP-P, n497, σ1§63/483, mb4.7/90, MS3.7/24, 14C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.99**	**280**	⇓P	**Pn**	**06 49 14.5**	**-2.0**
ONAJ				⇓*e*S	**Sn**	**06 49 26.0**	**-3.4**
ONAJ	**Iwakimizuishiy**	**0.99**	**280**	A	A	06 49 14.5	
	comp=N,34nm,1.9s,comp=E,26nm,0.3s						
JFK	**Kawauchi**	**1.00**	**295**	⇓P	**Pn**	**06 49 14.6**	**-2.1**
JFK				⇓S	**Sn**	**06 49 26.1**	**-3.7**
JFK	**Kawauchi**	**1.00**	**295**	A	A	06 49 14.6	
	comp=N,26nm,0.4s,comp=E,22nm,0.5s						
JFFD	**Fukushimafurud**	**1.17**	**278**	*i* P	**Pn**	**06 49 17.1**	**-1.9**
JFFD				*e*S	**Sn**	**06 49 30.3**	**-3.6**
JFFD	**Fukushimafurud**	**1.17**	**278**	A	A	06 49 17.1	
	comp=N,20nm,1.9s,comp=E,12nm,0.5s						
JMST	**Minamisoumatoc**	**1.19**	**311**	P	**Pn**	**06 49 17.0**	**-2.2**
JMST				*e*S	**Sn**	**06 49 30.8**	**-3.5**
JMST	**Minamisoumatoc**	**1.19**	**311**	A	A	06 49 17.0	
	comp=N,37nm,0.2s,comp=E,26nm,1.3s						
JHO	**Hitachi**	**1.21**	**255**	A	A	06 49 18.0	
	comp=N,10.0nm,0.8s,comp=E,12nm,1.0s						
JHYU	**Hitachinakayam**	**1.30**	**243**	A	A	06 49 19.6	
	comp=N,14nm,1.3s,comp=E,11nm,0.9s						
JMM	**Marumori**	**1.34**	**314**	P	**Pn**	**06 49 19.0**	**-2.3**
JMM	**Marumori**	**1.34**	**314**	P	**Pn**	**06 49 19.4**	**-1.9**
JMM	**Marumori**	**1.34**	**314**	⇓P	**Pn**	**06 49 19.2**	**-2.1**
JMM				⇓*e*S	**Sn**	**06 49 34.8**	**-3.2**
JIKH	**Ishinomakikobu**	**1.43**	**342**	A	A	06 49 21.2	
	comp=N,8.0nm,0.7s,comp=E,22nm,1.0s						
JOTO	**OTAMA OYAMA**	**1.48**	**295**	P	**Pn**	**06 49 22.0**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.48**	**295**	A	A	06 49 22.0	
	comp=N,27nm,0.9s,comp=E,31nm,0.8s						
JIO	**Ouri**	**1.60**	**341**	⇓P	**Pn**	**06 49 23.0**	**-1.8**
JIO				⇓*e*S	**Sn**	**06 49 41.0**	**-3.3**
JYT	**Yasato**	**1.63**	**245**	A	A	06 49 24.2	
	comp=N,17nm,0.4s,comp=E,30nm,0.4s						
JSB	**Shiboa**	**1.68**	**272**	A	A	06 49 24.2	
	comp=N,41nm,1.0s,comp=E,26nm,2.4s						
JYAR	**Yonezawaarcadi**	**1.78**	**304**	A	A	06 49 25.3	
	comp=N,25nm,1.1s,comp=E,24nm,0.8s						
JOU	**Okura**	**1.78**	**323**	⇓P	**Pn**	**06 49 25.6**	**-1.7**
JOU				⇓*e*S	**Sn**	**06 49 46.7**	**-2.1**
JOU	**Okura**	**1.78**	**323**	A	A	06 49 25.6	
	comp=N,23nm,0.7s,comp=E,15nm,0.5s						
JOFO	**Osakifurukawao**	**1.87**	**333**	A	A	06 49 27.1	
	comp=N,27nm,3.0s,comp=E,42nm,4.4s						
JFY	**Yanaizu**	**1.90**	**285**	P	**Pn**	**06 49 27.8**	**-1.2**
JFY	**Yanaizu**	**1.90**	**285**	A	A	06 49 27.8	
	comp=N,10.0nm,1.4s,comp=E,5.0nm,1.6s						
JKMT	**Kesennumamotoy**	**1.91**	**347**	A	A	06 49 28.1	
	comp=N,4.0nm,0.4s,comp=E,5.0nm,2.3s						
JYS	**Shiratake**	**2.01**	**310**	⇓P	**Pn**	**06 49 29.2**	**-1.2**
JYS				⇓*e*S	**Sn**	**06 49 53.0**	**-1.3**
JYS	**Shiratake**	**2.01**	**310**	A	A	06 49 29.2	
	comp=N,11nm,1.9s,comp=E,11nm,2.1s						
JMK	**Ichinoseki**	**2.10**	**343**	⇓P	**Pn**	**06 49 30.4**	**-1.3**
JAG	**Ashikaga**	**2.12**	**257**	P	**Pn**	**06 49 31.0**	**-1.0**
JAG	**Ashikaga**	**2.12**	**257**	A	A	06 49 31.0	
	comp=N,5.0nm,0.4s,comp=E,7.0nm,0.5s						
OFUJ	**Ofunato**	**2.15**	**353**	A	A	06 49 31.7	
	comp=N,4.0nm,1.5s,comp=E,4.0nm,0.5s						
JNS	**Sasagawa**	**2.32**	**293**	*e*P	**Pn**	**06 49 33.1**	**-1.6**
JYA	**Atsumi**	**2.46**	**313**	A	A	06 49 35.0	
	comp=N,8.0nm,1.0s,comp=E,9.0nm,0.9s						
JOM	**Ohasama**	**2.59**	**348**	A	A	06 49 37.7	
	comp=N,4.0nm,0.5s,comp=E,6.0nm,0.3s						
JRG	**Rokugo**	**2.68**	**336**	A	A	06 49 38.6	
	comp=N,8.0nm,0.6s,comp=E,6.0nm,0.7s						
JIZZ	**Izumozaki**	**2.70**	**284**	A	A	06 49 38.5	
	comp=N,26nm,1.0s,comp=E,11nm,1.2s						
JGK	**Kuni**	**2.74**	**263**	A	A	06 49 39.3	
	comp=N,5.0nm,5.3s,comp=E,4.0nm,1.9s						
JSZI	**Iwateshizukuis**	**2.92**	**344**	A	A	06 49 42.1	
	comp=N,11nm,1.6s,comp=E,12nm,3.3s						
JYW	**Yuwa**	**2.96**	**332**	A	A	06 49 42.4	
	comp=N,10.0nm,1.1s,comp=E,9.0nm,1.9s						
JIM2	**Oshima 3**	**3.06**	**224**	A	A	06 49 44.9	
	comp=N,8.0nm,1.3s,comp=E,7.0nm,1.1s						
MJAR	**Matsushiro Arr**	**3.08**	**264**	P	**Pn**	**06 49 45.3**	**+0.1**
	comp=E,31nm,0.3s,baz=89,slow=16,SNR=129						
MJAR				S	**Sn**	**06 50 20.3**	**-0.6**
	comp=E,62nm,0.4s,baz=227,slow=51,SNR=3.3						
MJAR				LR	LR	06 51 15.1	
	comp=E,725nm,20.4s,baz=58,slow=46						
MAJO	**Matsushiro**	**3.08**	**264**		**Pn**	**06 49 45.2**	**0.0**
MAJO	**Matsushiro**	**3.08**	**264**	P	**Pn**	**06 49 46.1**	**+0.9**
MAJO	**Matsushiro**	**3.08**	**264**	S	**Sn**	**06 50 24.6**	**+3.8**
MAJO	**Matsushiro**	**3.08**	**264**	P	**Pn**	**06 49 45.2**	**0.0**
JJN	**Nakama**	**3.09**	**274**	A	A	06 49 44.0	
	comp=N,6.0nm,2.7s,comp=E,4.0nm,1.4s						
MJB9	**Matsu-Tunnel**	**3.09**	**264**		**Pn**	**06 49 46.6**	**+1.3**
JSD	**Sado**	**3.18**	**291**		**Pn**	**06 49 44.4**	**-2.1**
JTM	**Tenmabayashi**	**3.91**	**349**		**Pn**	**06 49 54.9**	**-1.6**
JTM	**Tenmabayashi**	**3.91**	**349**	P	**Pn**	**06 49 55.3**	**-1.2**
JTM	**Tenmabayashi**	**3.91**	**349**	S	**Sn**	**06 50 40.0**	**-1.1**
JGF	**Kuroka**	**3.99**	**252**		**Pn**	**06 49 58.6**	**+0.8**
JGF	**Kuroka**	**3.99**	**252**	P	**Pn**	**06 49 59.2**	**+1.5**
JHJ2	**Mitsune**	**4.23**	**206**		**Pn**	**06 50 00.5**	**-0.3**
JHJ2	**Mitsune**	**4.23**	**206**	P	**Pn**	**06 50 00.1**	**-0.8**
JHJ	**Hachijo jima 2**	**4.23**	**206**	P	**Pn**	**06 50 00.5**	**-0.4**
	comp=E,476nm,0.2s,baz=85,slow=18,SNR=21						
JHJ				S	**Sn**	**06 50 43.9**	**-5.2**
	comp=E,1μm,0.3s,baz=301,slow=23,SNR=14						
JHJ				LR	LR	06 51 52.6	
	comp=E,668nm,21.2s,baz=69,slow=42						
INU	**Inuyama**	**4.34**	**250**		**Pn**	**06 50 04.1**	**+1.6**
INU	**Inuyama**	**4.34**	**250**	P	**Pn**	**06 50 04.3**	**+1.8**
ERM	**Erimo**	**5.14**	**10**		**Pn**	**06 50 11.5**	**-1.9**
ERM	**Erimo**	**5.14**	**10**	P	**Pn**	**06 50 11.3**	**-2.1**
ERM	**Erimo**	**5.14**	**10**	*i* P	**Pn**	**06 50 11.4**	**-1.9**
JEM	**Erimo**	**5.14**	**10**	P	**Pn**	**06 50

HEH pmax pmax
comp=Z,7.0nm,0.6s
PETK Petropavlovsk- 19.53 29 P **P 06 53 23.1 +0.8**
comp=Z,5.0nm,0.6s,baz=204,slow=10,SNR=5.4
PETK LR LR 07 00 38.4
comp=Z,76nm,21.1s,baz=222,slow=36
ZEA Zeya 19.67 333 *e*P **P 06 53 20.9 -3.0**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,40nm,0.6s
XLT XiLinHaoTe 20.88 297 *e*P **P 06 53 33.9 -3.2**
XLT pP pP 06 53 46.1 -2.1
XLT pmax pmax
comp=Z,35nm,0.8s
MA2 Magadan 23.35 11 P **P 06 54 01.7 -1.1**
MA2 IAmb IAmb 06 54 04.1
comp=Z,21nm,0.8s
MA2 Magadan 23.35 11 LR LR 07 02 40.0
comp=Z,99nm,20.4s,baz=202,slow=35
MA2 Magadan 23.35 11 *ce*P **P 06 54 03.0 +0.1**
MA2 pmax pmax
comp=Z,26nm,1.0s
MA2 Magadan 23.35 11 P **P 06 54 03.0 +0.1**
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 23.96 289 *e*P **P 06 54 07.4 -1.5**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,160nm,4.7s
BTO Baotou 25.14 288 *e*P **P 06 54 20.9 +1.3**
BTO pP **pP 06 54 32.4 +0.7**
BTO sP **sP 06 54 38.0 +0.6**
BTO PP **PnPn 06 54 59.6 +4.5**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,190nm,5.6s
YAK Yakutsk 26.27 347 LR LR 07 05 16.4
comp=Z,159nm,18.6s,baz=113,slow=37
YAK Yakutsk 26.27 347 *e*P **P 06 54 31.7 +2.2**
YAK *e**PP **pP 06 54 42.1 +0.6**
YAK *e* 06 55 14.4
YAK *e*S **S 06 59 04.6 +6.2**
YAK *e**SS **sS 06 59 18.7 +0.3**
YAK *e*SS **SnSn 07 00 07.6 +6.3**
YAK *e*SSS SSS 07 00 25.8
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,15nm,0.6s
YAK smax smax
comp=E,97nm,3.4s
YAK smax smax
comp=N,28nm,1.3s
YAK MLR MLR
comp=Z,164nm,16.0s
YAK MLR MLR
comp=N,127nm,15.0s
YAK MLR MLR
comp=E,34nm,14.0s
SEY Seymchan 26.79 11 *ce*P **P 06 54 36.0 +1.8**
SEY pmax pmax
comp=Z,27nm,1.3s
XAN Xi'an 27.02 274 *e*P **P 06 54 39.0 +2.3**
SHEM Shemya Is, Ala 27.39 45 LR LR 07 03 32.7
comp=Z,44nm,19.2s,baz=288,slow=32
H11N2 WAKE ISLAND Hy 27.69 121 T T 07 24 18.7
baz=314,slow=75,SNR=44
H11N1 WAKE ISLAND Hy 27.70 121 T T 07 24 19.8
baz=314,slow=75,SNR=65
H11N3 WAKE ISLAND Hy 27.71 121 T T 07 24 25.3
baz=314,slow=75,SNR=39
ULN Ulaanbaatar 27.80 304 P **P 06 54 41.9 -1.8**
ULN Ulaanbaatar 27.80 304 *i* P **P 06 54 43.3 -0.4**
ULN pmax pmax
comp=Z,6.0nm,1.0s
BOD Bodaibo 27.86 327 *e*P **P 06 54 43.9 0.0**
BOD pmax pmax
comp=Z,15nm,0.8s
SONM Songino Array 28.23 304 P **P 06 54 46.5 -1.0**
SONM IAmb IAmb 06 54 49.9
comp=Z,11nm,0.7s
SONM Songino Array 28.23 304 P **P 06 54 47.1 -0.4**
comp=Z,11nm,0.7s,baz=98,slow=8.3,SNR=38
SONM pP **pP 06 55 00.4 +0.6**
comp=Z,5.1nm,0.7s,baz=100,slow=9.0,SNR=7.8
SONM LR LR 07 06 28.5
comp=Z,46nm,18.2s,baz=14,slow=37
comp=Z,11nm,0.7s
H11S1 WAKE ISLAND Hy 28.41 124 T T 07 25 08.9
baz=316,slow=76,SNR=36
H11S3 WAKE ISLAND Hy 28.41 124 T T 07 25 15.0
baz=316,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 28.42 124 T T 07 25 01.9
baz=316,slow=76,SNR=34
ZAK Zakamensk 30.70 308 *e*P **P 06 55 08.4 -0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
MOY Mondy 32.37 310 *e*P **P 06 55 23.5 -0.4**
DAV Davao City (W) 33.30 211 LR LR 07 07 07.5
comp=Z,96nm,19.5s,baz=20,slow=33
BILL Biiibino 33.98 16 P **P 06 55 37.3 -0.3**
BILL Biiibino 33.98 16 *ce*P **P 06 55 38.1 +0.5**
BILL pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 35.44 353 P **P 06 55 48.7 -1.4**
TIXI Tiksi 35.44 353 LR LR 07 11 25.3
comp=Z,142nm,19.1s,baz=196,slow=38
TIXI Tiksi 35.44 353 *i* P **P 06 55 49.4 -0.7**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
PZH PanZhiHua 35.57 265 P **P 06 55 53.4 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
P08K Saint George I 37.58 43 P **P 06 56 09.9 +1.4**
baz=260
GOMU GeErMu 37.61 283 P **P 06 56 09.8 +0.2**
GOMU pmax pmax
comp=Z,5.0nm,0.5s
GAMB Gambell 38.55 31 P **P 06 56 18.1 +1.5**
baz=248
M11K Mekoryuk 40.04 37 P **P 06 56 30.6 +1.5**
baz=258
TNA Tin City 40.70 29 P **P 06 56 36.2 +1.8**
baz=251
K13K Kusilvak Mount 41.10 35 P **P 06 56 39.3 +1.4**
baz=258
F14K Arctic Creek 41.30 30 P **P 06 56 41.5 +2.1**
baz=252
ANM Nome 41.42 31 P **P 06 56 42.6 +2.1**
baz=254
M13K Dall Lake 41.44 38 P **P 06 56 43.2 +2.6**
baz=261
J14K Nanvaranak Lak 41.77 34 P **P 06 56 45.2 +1.9**
baz=258
L14K Kuka Creek 41.91 36 P **P 06 56 46.5 +2.0**
baz=261
CMAR Chiang Mai Arr 41.94 256 LR LR 07 16 37.6
comp=Z,65nm,18.2s,baz=55,slow=40
F15K North Star Dit 42.04 30 P **P 06 56 47.3 +1.8**
baz=254
G15K Niukluk 42.09 31 P **P 06 56 48.4 +2.5**
baz=255
M14K Bethel 42.17 37 P **P 06 56 47.5 +0.9**
M14K IAmb IAmb 06 56 49.4
comp=Z,28nm,0.8s
M14K Bethel 42.17 37 P **P 06 56 48.3 +1.7**
baz=262
N14K Kuskokwak Cree 42.19 39 P **P 06 56 48.2 +1.4**
baz=263
O14K Tigyukauivet M 42.33 40 P **P 06 56 49.6 +1.7**
baz=264
ZAA0 Zalesovo Array 42.33 312 P **P 06 56 48.1 +0.1**
ZAA0 IAmb IAmb 06 57 01.6
comp=Z,16nm,1.0s
ZALV Zalesovo Beam 42.33 312 P **P 06 56 47.7 -0.3**
ZALV Zalesovo Beam 42.33 312 P **P 06 56 48.0 -0.1**
comp=Z,6.0nm,0.6s,baz=92,slow=7.1,SNR=27
ZALV pP **pP 06 57 00.8 +0.2**
comp=Z,14nm,0.9s,baz=90,slow=7.4,SNR=12
ZALV PcP **PcP 06 58 40.6 -0.1**
comp=Z,1.7nm,0.6s,baz=56,slow=4.2,SNR=2.9
ZALV LR LR 07 15 10.0
comp=Z,78nm,18.7s,baz=42,slow=37
comp=Z,6.0nm,0.6s
ZALV Zalesovo Beam 42.33 312 *i* P **P 06 56 49.0 +1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
L15K Ungalak Mounta 42.53 36 P **P 06 56 50.9 +1.4**
baz=261
C16K Lisburne Hills 42.57 26 P **P 06 56 50.2 +0.4**
C16K IAmb IAmb 06 56 51.8
comp=Z,20nm,0.8s
C16K Lisburne Hills 42.57 26 P **P 06 56 50.7 +1.0**
baz=250
K15K Wolf Creek Mou 42.61 35 P **P 06 56 51.9 +1.7**
baz=261
H16K Elim 42.75 32 P **P 06 56 52.4 +1.1**
baz=258
M15K Kasigluk River 42.78 38 P **P 06 56 52.7 +1.1**
baz=263
G16K Koyuk River 42.88 31 P **P 06 56 53.4 +1.2**
baz=257
N15K Kwethluk River 43.02 38 P **P 06 56 55.1 +1.6**
baz=264
O15K Ungalikthiuk R 43.06 40 P **P 06 56 55.3 +1.4**
baz=266
J16K Anvik River 43.20 34 P **P 06 56 56.7 +1.8**
baz=260
D17K Noatak River 43.20 27 P **P 06 56 56.4 +1.5**
baz=253
I17K Unalakleet 43.26 33 P **P 06 56 57.1 +1.7**
baz=260
C17K DeLong Mountai 43.40 26 P **P 06 56 57.9 +1.3**
baz=252
L16K Owhat River 43.49 36 P **P 06 56 58.4 +1.1**
baz=263
NRIK Noril'sk 43.55 335 LR LR 07 15 53.3
comp=Z,95nm,18.2s,baz=94,slow=37
F17K Baldwin Pennin 43.56 29 P **P 06 56 59.2 +1.4**
baz=257
M16K Timber Creek 43.66 37 P **P 06 57 00.6 +1.9**
baz=264
H17K Granite Mounta 43.79 31 P **P 06 57 01.9 +2.2**
baz=260
J17K VABM Dome 43.89 34 P **P 06 57 02.6 +2.0**
baz=262
O16K Kokwok River B 43.97 39 P **P 06 57 02.7 +1.5**
baz=267
P16K Nushagak River 44.00 40 P **P 06 57 03.3 +1.9**
baz=267
E18K Tukpahlearik C 44.05 28 P **P 06 57 03.5 +1.8**
baz=256
L17K Donlin 44.09 36 P **P 06 57 03.9 +1.8**
baz=264
B18K Kokolik River 44.14 25 P **P 06 57 04.2 +1.8**
baz=253
C18K Utukok River 44.15 26 P **P 06 57 03.9 +1.4**
baz=254
K17K Iditarod 44.16 35 P **P 06 57 04.1 +1.5**
K17K IAmb IAmb 06 57 05.6
comp=Z,20nm,0.8s
K17K Iditarod 44.16 35 P **P 06 57 04.5 +1.9**
baz=263
F18K Selawik 44.23 29 P **P 06 57 04.8 +1.7**
baz=258,SNR=9.9
M17K Holitna River 44.43 37 P **P 06 57 06.4 +1.6**
baz=266
H18K Honhosa River 44.47 31 P **P 06 57 06.2 +1.1**
baz=261
G18K Tagagawik 44.48 30 P **P 06 57 06.5 +1.3**
baz=260
N17K Nushagak Hills 44.48 38 P **P 06 57 07.1 +1.8**
baz=267
O17K Koliganek Bris 44.49 39 P **P 06 57 07.0 +1.7**
baz=267
MK31 Makanchi Array 44.57 302 P **P 06 57 05.5 -0.8**
MK31 Makanchi Array 44.57 302 *ce*P **P 06 57 06.0 -0.2**
MKAR Makanchi Array 44.57 302 P **P 06 57 05.2 -1.1**
MKAR Makanchi Array 44.57 302 P **P 06 57 05.7 -0.5**
comp=Z,2.7nm,0.6s,baz=84,slow=9.6,SNR=31
MKAR pP **pP 06 57 19.2 +0.4**
comp=Z,5.8nm,0.8s,baz=82,slow=9.8,SNR=15
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 44.57 302 *ce*P **P 06 57 05.6 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
A19K Wainwright 44.63 24 P **P 06 57 07.9 +1.7**
baz=253
Q16K King Salmon 44.68 41 P **P 06 57 08.7 +1.9**
baz=269
MAKZ Makanchi 44.78 302 P **P 06 57 07.5 -0.4**
MAKZ Makanchi 44.78 302 P **P 06 57 07.5 -0.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
L18K Granite Mounta 44.85 36 P **P 06 57 09.9 +1.8**
baz=265
J18K Innoko River 44.96 34 P **P 06 57 10.8 +1.8**
baz=264
F19K Shaleruckik Mo 45.00 29 P **P 06 57 10.2 +0.9**
baz=260
GCSA Galena City Sc 45.04 32 P **P 06 57 10.2 +0.6**
baz=263
N18K Kiber Creek 45.13 38 P **P 06 57 12.0 +1.6**
baz=268
G19K Purcell Mounta 45.16 30 P **P 06 57 10.7 +0.1**
G19K IAmb IAmb 06 57 12.4
comp=Z,10.0nm,0.7s
G19K Purcell Mounta 45.16 30 P **P 06 57 11.5 +0.9**
baz=261,SNR=9.8
M18K Stony River 45.21 37 P **P 06 57 12.7 +1.7**
baz=267
D19K Kuna River 45.21 27 P **P 06 57 12.3 +1.4**
baz=258
TTA Tatalina 45.22 35 P **P 06 57 12.4 +1.2**
baz=265
CHIR Chirikof Islan 45.27 45 P **P 06 57 12.2 +0.6**
baz=273
H19K Roundabout Mou 45.32 31 P **P 06 57 12.4 +0.6**
H19K Roundabout Mou 45.32 31 P **P 06 57 13.3 +1.5**
baz=262
E19K Redstone River 45.33 28 P **P 06 57 13.0 +1.1**
baz=260
P18K Big Mountain, 45.43 40 P **P 06 57 14.2 +1.4**
baz=270
O18K Koktuh Hills 45.45 39 P **P 06 57 14.3 +1.4**
baz=269
J19K Poorman 45.49 33 P **P 06 57 14.8 +1.5**
baz=265
L19K White Mountain 45.70 36 P **P 06 57 16.6 +1.6**
baz=267
D20K Ettluk River 45.79 27 P **P 06 57 16.9 +1.3**
baz=259
N19K Bonanza Creek 45.83 38 P **P 06 57 17.8 +1.7**
baz=269
F20K Avaraart Lake 45.83 29 P **P 06 57 17.6 +1.8**
baz=262
E20K Nigu River 45.86 27 P **P 06 57 17.4 +1.2**
baz=260,SNR=7.7
O19K Port Alsworth 45.90 39 P **P 06 57 18.2 +1.8**
baz=270
M19K Big River Lodg 45.91 36 P **P 06 57 18.3 +1.8**
baz=268
H20K Anotleneega Mo 45.97 31 P **P 06 57 19.1 +2.1**
baz=264
SII Sitkinak Islan 46.04 44 P **P 06 57 20.0 +2.3**
baz=273
K20K Telida 46.13 34 P **P 06 57 20.1 +1.7**
baz=267
J20K Nowinta River 46.16 33 P **P 06 57 20.2 +1.7**
baz=266
L20K Farewell, AK 46.17 35 P **P 06 57 20.2 +1.5**
baz=268
Q19K Cape Douglas, 46.24 40 P **P 06 57 20.2 +0.9**
baz=271
A21K Barrow 46.35 23 P **P 06 57 21.4 +1.5**
baz=256,SNR=22
KURK Kurchatov 46.37 308 P **P 06 57 19.3 -1.0**
KURK Kurchatov 46.37 308 *ce*P **P 06 57 20.1 -0.2**
KURK pmax pmax
comp=Z,37nm,0.8s
KURBB Kurchatov Arra 46.44 308 P **P 06 57 21.0 +0.2**
comp=Z,23nm,0.7s,baz=78,slow=7.3,SNR=4.9
KURBB pP **pP 06 57 33.6 0.0**
comp=Z,3.9nm,0.4s,baz=82,slow=8.5,SNR=7.6
comp=Z,23nm,0.7s
P19K Oil Pt 46.45 39 P **P 06 57 22.1 +1.3**
baz=271
OHAK Old Harbor 46.50 43 P **P 06 57 22.4 +1.2**
baz=273
M20K Styx River 46.51 36 P **P 06 57 22.8 +1.4**
baz=269
C21K Knifeblade Rid 46.52 26 P **P 06 57 22.9 +1.7**
baz=260
KAPI Kappang 46.63 211 LR LR 07 16 39.1
comp=Z,43nm,19.9s,baz=298,slow=36
B21K Ikpikpuk River 46.66 26 P **P 06 57 23.8 +1.4**
baz=260,SNR=29
E21K Killik River 46.70 27 P **P 06 57 24.2 +1.4**
baz=262
F21K Alatna River 46.73 29 P **P 06 57 24.1 +1.2**
baz=264
O20K Slope Mountain 46.75 39 P **P 06 57 23.3 +0.1**
baz=271
H21K Melozitna Rive 46.84 31 P **P 06 57 25.4 +1.6**
baz=266
KDAK Kodiak Island 46.85 42 LR LR 07 16 47.3
comp=Z,43nm,21.2s,baz=99,slow=36
KDAK Kodiak Island 46.85 42 P **P 06 57 24.6 +0.7**
baz=273
Q20K Shuyak Island 46.91 41 P **P 06 57 24.6 +0.2**
baz=273
SPCR Spurr Chakacha 46.94 37 P **P 06 57 26.4 +1.6**
baz=270,SNR=5.6
CHUM Lake Minchumin 46.94 34 P **P 06 57 26.4 +1.8**
baz=268,SNR=7.0
PPLA Purkeypile 46.97 35 P **P 06 57 26.5 +1.4**
baz=269
SPU Mount Spurr 47.02 37 P **P 06 57 25.8 +0.5**
SPU IAmb IAmb 06 57 27.8
comp=Z,14nm,1.2s
CAST Castle Rocks 47.03 34 P **P 06 57 26.3 +1.0**
CAST IAmb IAmb 06 57 28.0
comp=Z,9.5nm,0.7s
CAST Castle Rocks 47.03 34 P **P 06 57 26.8 +1.5**
baz=268,SNR=13
STLK Strandline Lak 47.12 37 P **P 06 57 27.0 +0.9**
I21K Tanana 47.15 32 P **P 06 57 27.8 +1.5**
baz=267
D22K Ayikyak River 47.23 27 P **P 06 57 28.5 +1.7**
baz=263,SNR=24
SKT Skwentna 47.26 36 P **P 06 57 28.9 +1.7**
baz=270
H22K Ishtalitna Cre 47.45 31 P **P 06 57 30.2 +1.6**
baz=267
E22K Anaktuvuk Pass 47.46 28 P **P 06 57 29.3 +0.6**
E22K Anaktuvuk Pass 47.46 28 P **P 06 57 30.4 +1.7**
baz=264,SNR=23
CAPN Captain Cook N 47.46 38 P **P 06 57 30.3 +1.7**
baz=272
G22K Bettles 47.47 29 P **P 06 57 29.6 +1.0**
baz=266
BPAW Bear Paw Mtn. 47.54 33 P **P 06 57 30.3 +1.0**
BPAW IAmb IAmb 06 57 32.9
comp=Z,5.3nm,0.6s
BPAW Bear Paw Mtn. 47.54 33 P **P 06 57 30.7 +1.4**
baz=269
KTH Kantishna Hill 47.55 34 P **P 06 57 30.0 +0.5**
KTH IAmb IAmb 06 57 32.1
comp=Z,11nm,0.8s
BRSE Bradley Lake S 47.70 39 P **P 06 57 32.1 +1.4**
baz=273
TRF Thorofare Moun 47.84 34 P **P 06 57 32.2 +0.4**
TRF IAmb IAmb 06 57 34.6
comp=Z,8.9nm,0.7s
TRF Thorofare Moun 47.84 34 P **P 06 57 33.1 +1.3**
baz=270
CUT Chulitna 47.85 36 P **P 06 57 32.3 +0.7**
baz=271
FIS Fire Island 47.91 37 P **P 06 57 32.6 +0.5**
M22K Willow 47.93 36 P **P 06 57 33.0 +0.7**
baz=272
D23K Nanushuk River 47.96 27 P **P 06 57 34.0 +1.5**
baz=265
COLD Coldfoot 48.00 29 P **P 06 57 33.3 +0.5**
COLD Coldfoot 48.00 29 P **P 06 57 34.5 +1.7**
baz=267
G23K Bananza Creek 48.04 30 P **P 06 57 33.8 +0.6**
G23K IAmb IAmb 06 57 35.4
comp=Z,6.2nm,0.8s
G23K Bananza Creek 48.04 30 P **P 06 57 34.5 +1.3**
baz=267
C23K Itkillik River 48.07 25 P **P 06 57 34.4 +1.1**
C23K Itkillik River 48.07 25 P **P 06 57 35.0 +1.7**
baz=264
RC01 Rabbit Creek A 48.14 37 P **P 06 57 34.3 +0.3**
RC01 IAmb IAmb 06 57 35.4
comp=Z,16nm,1.0s
RC01 Rabbit Creek A 48.14 37 P **P 06 57 34.8 +0.8**
baz=273,SNR=5.4
I23K Minto, Yukon-K 48.26 32 P **P 06 57 35.5 +0.7**
I23K IAmb IAmb 06 57 38.2
comp=Z,9.6nm,0.9s
I23K Minto, Yukon-K 48.26 32 P **P 06 57 35.9 +1.2**
baz=269
E23K Chandalar 48.27 28 P **P 06 57 36.5 +1.4**
baz=266
TOLK Toolik Lake Re 48.33 27 P **P 06 57 36.2 +0.8**
TOLK IAmb IAmb 06 57 37.8
comp=Z,12nm,0.8s
TOLK PcP **PcP 06 59 03.0 +1.6**
TOLK Toolik Lake Re 48.33 27 P **P 06 57 36.6 +1.2**
baz=266,SNR=11
NEA2 Nenana 48.38 33 P **P 06 57 36.8 +1.0**
baz=270
PMR Palmer 48.41 37 P **P 06 57 36.2 +0.2**
PMR IAmb IAmb 06 57 37.9
comp=Z,24nm,1.4s
PMR PcP **PcP 06 59 01.9 +0.2**
PMR Palmer 48.41 37 P **P 06 57 36.8 +0.8**
baz=273,SNR=6.2
PMR Palmer 48.41 37 P **P 06 57 36.2 +0.2**
PMR 06 59 01.9
PMR pmax pmax
comp=Z,24nm,1.4s
MCK McKinley 48.44 34 P **P 06 57 36.6 +0.3**
MCK IAmb IAmb 06 57 38.0
comp=Z,9.2nm,0.8s
MCK McKinley 48.44 34 P **P 06 57 37.0 +0.7**
baz=271
MCK McKinley 48.44 34 P **P 06 57 36.6 +0.3**
MCK pmax pmax
comp=Z,9.0nm,0.8s
RND Reindeer 48.48 34 P **P 06 57 37.0 +0.3**
RND Reindeer 48.48 34 P **P 06 57 37.0 +0.3**
RND pmax pmax
comp=Z,14nm,0.7s
GHO Glory Hole Cre 48.50 36 P **P 06 57 37.3 +0.5**
D24K Happy Valley 48.64 26 P **P 06 57 39.0 +1.3**
baz=266
E24K Your Creek 48.70 28 P **P 06 57 39.5 +1.3**
baz=268
C24K Franklin Bluff 48.72 26 P **P 06 57 39.4 +1.1**
baz=266
KNK Knik Glacier 48.74 37 P **P 06 57 39.3 +0.7**
KNK Knik Glacier 48.74 37 P **P 06 57 39.5 +0.8**
baz=273,SNR=5.3
SML Sawmill 48.78 36 P **P 06 57 39.4 +0.4**
SML Sawmill 48.78 36 P **P 06 57 39.5 +0.6**
baz=273,SNR=6.7
WRH Wood River Hil 48.80 33 P **P 06 57 39.4 +0.4**
WRH IAmb IAmb 06 57 40.7
comp=Z,6.8nm,0.8s
WRH PcP **PcP 06 59 03.0 -0.1**
PWL Port Wells 48.84 38 P **P 06 57 39.8 +0.5**
baz=274
H24K Noodor Dome 48.88 31 P **P 06 57 41.0 +1.3**
baz=270
COLA College 48.90 32 P **P 06 57 40.7 +1.0**
baz=271
COLA College 48.90 32 *i* P **P 06 57 41.2 +1.5**
COLA pmax pmax
comp=Z,12nm,0.9s
F24K Squaw Lake 48.91 29 P **P 06 57 40.1 +0.2**
F24K Squaw Lake 48.91 29 P **P 06 57 41.2 +1.4**
baz=268
CCB Clear Creek Bu 48.92 33 P **P 06 57 40.1 +0.2**
CCB IAmb IAmb 06 57 44.9
comp=Z,8.1nm,1.2s
G24K Hadweenzic Riv 49.05 30 P **P 06 57 42.8 +1.9**
baz=270
M23K Glacier View 49.07 36 P **P 06 57 42.3 +1.2**
baz=274
POKR Poker Plat Res 49.07 32 P **P 06 57 42.4 +1.3**
POKR Poker Plat Res 49.07 32 P **P 06 57 42.5 +1.3**

baz=271,SNR=19
SCM Sheep Creek Mo 49.26 36 P **P 06 57 43.1 +0.5**
SCM Sheep Creek Mo 49.26 36 P **P 06 57 43.4 +0.8**
baz=274
SCM Sheep Creek Mo 49.26 36 P **P 06 57 43.1 +0.5**
SCM pmax pmax
comp=Z,19nm,0.9s
HDA Harding Lake 49.30 33 P **P 06 57 42.6 -0.2**
HDA IAmb IAmb 06 57 44.1
comp=Z,14nm,0.8s
HDA Harding Lake 49.30 33 P **P 06 57 43.6 +0.8**
baz=272,SNR=8.1
IL31 49.31 32 P **P 06 57 42.8 -0.1**
ILAR Eielson Array 49.31 32 P **P 06 57 42.9 0.0**
ILAR Eielson Array 49.31 32 P **P 06 57 43.4 +0.5**
comp=Z,10nm,0.7s,baz=264,slow=6.3,SNR=127
ILAR pP **pP 06 57 57.3 +1.8**
comp=Z,5.9nm,0.9s,baz=269,slow=5.3,SNR=9.0
comp=Z,10nm,0.7s
D25K Kavik River 49.52 26 P **P 06 57 45.6 +1.1**
baz=268
G25K Bearman Lake 49.60 30 P **P 06 57 46.9 +1.8**
baz=271
F25K Christian Rive 49.77 29 P **P 06 57 47.6 +1.2**
F25K IAmb IAmb 06 57 49.5
comp=Z,12nm,0.8s
F25K Christian Rive 49.77 29 P **P 06 57 48.0 +1.6**
baz=270
M24K Tolsona, Glenn 49.78 36 P **P 06 57 48.3 +1.8**
baz=275
E25K Arctic Village 49.80 28 P **P 06 57 47.9 +1.3**
E25K IAmb IAmb 06 57 49.6
comp=Z,9.1nm,0.8s
E25K Arctic Village 49.80 28 P **P 06 57 48.2 +1.7**
baz=270,SNR=9.2
K24K Donnelly Dome 49.84 34 P **P 06 57 47.9 +0.9**
baz=274
PRP Porcupine Dome 49.86 31 P **P 06 57 48.6 +1.4**
baz=272,SNR=5.3
FYU Fort Yukon 49.95 30 P **P 06 57 49.2 +1.5**
FYU IAmb IAmb 06 57 50.4
comp=Z,11nm,0.7s
KLU Klutina 49.95 37 P **P 06 57 49.3 +1.4**
baz=276
J25K Salcha River, 49.97 32 P **P 06 57 48.9 +0.9**
baz=273
PAX Paxson 50.04 35 P **P 06 57 49.8 +1.3**
baz=275
C26K Camden Bay 50.05 26 P **P 06 57 49.8 +1.4**
baz=269
EYAK Cordova Ski Ar 50.13 38 P **P 06 57 50.3 +1.2**
baz=276
BMAR Burnt Mountain 50.18 29 P **P 06 57 51.2 +1.7**
HARP HAARP 50.23 35 P **P 06 57 51.2 +1.3**
baz=275
RIDG Independent Ri 50.26 34 P **P 06 57 50.2 0.0**
baz=274
F26K Sheenjek River 50.34 28 P **P 06 57 52.8 +2.0**
baz=272
C27K Jago River 50.46 26 P **P 06 57 53.2 +1.7**
baz=271
G26K Porcupine Rive 50.51 29 P **P 06 57 53.7 +1.8**
baz=273
N25K Chitina, Valde 50.57 36 P **P 06 57 54.4 +1.8**
baz=276
SCRK Sand Creek 50.62 33 P **P 06 57 53.3 +0.3**
SCRK IAmb IAmb 06 57 54.6
comp=Z,13nm,0.8s
SCRK Sand Creek 50.62 33 P **P 06 57 53.7 +0.8**
baz=275,SNR=14
BMRM Bremner River 50.64 37 P **P 06 57 54.0 +1.0**
BMRM IAmb IAmb 06 57 55.5
comp=Z,19nm,1.0s
BMRM Bremner River 50.64 37 P **P 06 57 54.3 +1.2**
baz=277
J26L Joseph Creek 50.76 33 P **P 06 57 54.6 +0.6**
baz=275
MENT Mentasta 50.84 35 P **P 06 57 55.2 +0.7**
MENT IAmb IAmb 06 57 59.1
comp=Z,7.8nm,0.8s
I26K Coal Creek Min 50.87 32 P **P 06 57 55.5 +0.8**
baz=275
AAK Ala-Archa 50.95 299 LR LR 07 20 19.7
comp=Z,89nm,19.2s,baz=61,slow=37
AAK Ala-Archa 50.95 299 *i* P **P 06 57 57.3 +1.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BVA0 Borovoye Array 50.99 312 *i* P **P 06 57 56.0 +0.2**
BVAR Borovoye Array 50.99 312 P **P 06 57 55.1 -0.7**
comp=Z,1.8nm,0.5s,baz=78,slow=8.7,SNR=11
comp=Z,1.8nm,0.5s
L26K Log Cabin Wild 51.00 34 P **P 06 57 57.3 +1.5**
L26K IAmb IAmb 06 57 58.4
comp=Z,15nm,0.8s
L26K Log Cabin Wild 51.00 34 P **P 06 57 57.2 +1.5**
baz=276,SNR=11
BRVK Borovoye 51.05 313 *i* P **P 06 57 57.0 +0.8**
BRVK pmax pmax
comp=Z,10.0nm,1.9s
M26K Nabesna, AK 51.23 35 P **P 06 57 59.1 +1.6**
baz=277
G27K Doyon Strip 51.36 30 P **P 06 57 59.7 +1.4**
baz=275
D27M Malcolm River 51.45 26 P **P 06 58 00.8 +1.7**
baz=274
H27K Steamboat Moun 51.46 30 P **P 06 58 01.1 +2.0**
baz=275,SNR=7.5
I27K Kandik River 51.48 31 P **P 06 58 01.0 +1.6**
baz=276
L27K Beaver Creek, 51.68 34 P **P 06 58 01.8 +0.9**
baz=278
M27K Edge Creek, AK 51.75 35 P **P 06 58 03.0 +1.5**
baz=278
F28M Old Crow 51.98 28 P **P 06 58 03.5 +0.6**
F28M IAmb IAmb 06 58 05.9
comp=Z,8.0nm,0.8s
F28M Old Crow 51.98 28 P **P 06 58 04.6 +1.6**
baz=276,SNR=9.6
I28M Miner Creek 52.19 31 P **P 06 58 06.3 +1.6**
baz=277
D28M Stokes Point 52.23 26 P **P 06 58 06.8 +2.1**
baz=275
DAWY Dawson 52.62 33 P **P 06 58 10.0 +2.2**
baz=279
E29M Blow River 52.63 27 P **P 06 58 09.1 +1.3**
E29M IAmb IAmb 06 58 10.8
comp=Z,12nm,0.8s
E29M Blow River 52.63 27 P **P 06 58 09.9 +2.1**
baz=277,SNR=16
G29M Pine Creek 52.77 29 P **P 06 58 10.8 +1.9**
baz=278
O28M Mount Upton 52.80 37 P **P 06 58 10.6 +1.1**
baz=281
I29M Ogilvie Camp, 52.88 31 P **P 06 58 11.2 +1.6**
baz=279,SNR=7.2
YUK8 Steele Glacier 52.91 36 P **P 06 58 12.8 +2.5**
baz=281
J29N Klondike Camp 53.06 32 P **P 06 58 13.1 +2.0**
J29N Klondike Camp 53.06 32 P **P 06 58 13.2 +2.1**
baz=280
M29M Somme Creek 53.31 35 P **P 06 58 15.1 +2.1**
baz=281
L29M L29M 53.34 34 P **P 06 58 15.1 +2.0**
baz=281,SNR=7.6
EPYK Eagle Plains 53.37 30 P **P 06 58 14.5 +1.2**
EPYK Eagle Plains 53.37 30 P **P 06 58 15.2 +1.9**
baz=280,SNR=23
YUK4 Talbot Arm 53.43 36 P **P 06 58 15.9 +1.8**
baz=282
G30M tAoh Zraii Nji 53.46 29 P **P 06 58 15.4 +1.4**
baz=280
K29M Barlow Dome 53.47 33 P **P 06 58 15.8 +1.7**
baz=281
F30M Barrier River 53.53 28 P **P 06 58 16.0 +1.6**
baz=279,SNR=11
KK31 Karatay Array 53.59 300 *i* P **P 06 58 18.3 +3.1**
KKAR Karatay Array 53.59 300 P **P 06 58 14.9 -0.3**
KKAR Karatay Array 53.59 300 P **P 06 58 14.9 -0.3**
YUK6 Outpost Mounta 53.65 37 P **P 06 58 16.5 +0.9**
baz=282
O29M Mount Kennedy 53.68 37 P **P 06 58 17.1 +1.4**
baz=282
I30M Mount Dempster 53.70 31 P **P 06 58 17.1 +1.3**
I30M Mount Dempster 53.70 31 P **P 06 58 17.3 +1.4**
baz=281
J30M Hart River 53.84 32 P **P 06 58 17.1 +0.2**
J30M Hart River 53.84 32 P **P 06 58 18.8 +1.9**
baz=281
M30M Minto, Yukon 54.04 34 P **P 06 58 19.6 +1.3**
M30M Minto, Yukon 54.04 34 P **P 06 58 20.1 +1.9**
baz=282
HYT Haines Junctio 54.09 37 P **P 06 58 20.3 +1.6**
HYT Haines Junctio 54.09 37 P **P 06 58 20.4 +1.7**
baz=283,SNR=5.8
MAYO Mayo, Yukon 54.23 33 P **P 06 58 20.7 +1.1**
baz=282
G31M Satah River 54.23 29 P **P 06 58 20.1 +0.7**
G31M Satah River 54.23 29 P **P 06 58 20.8 +1.3**
baz=281,SNR=16
INK Inuvik 54.25 27 P **P 06 58 20.3 +0.7**
INK IAmb IAmb 06 58 21.5
comp=Z,10nm,0.7s
INK Inuvik 54.25 27 P **P 06 58 20.6 +1.0**
baz=281,SNR=13
INK Inuvik 54.25 27 P **P 06 58 20.3 +0.7**
INK pmax pmax
comp=Z,10.0nm,0.7s
F31M Tsiigehtchic 54.33 28 P **P 06 58 21.4 +1.2**
baz=281,SNR=14
H31M Peel River 54.42 30 P **P 06 58 22.6 +1.6**
baz=282
P30M Million Dollar 54.51 37 P **P 06 58 23.5 +1.8**
baz=284
N31M Braeburn, Yuko 54.75 36 P **P 06 58 24.8 +1.4**
baz=284
O30N Mendenhall 54.77 37 P **P 06 58 25.0 +1.4**
baz=284
M31M Drury Creek, Y 55.22 35 P **P 06 58 27.8 +1.1**
M31M IAmb IAmb 06 58 44.0
comp=Z,11nm,1.4s
M31M Drury Creek, Y 55.22 35 P **P 06 58 28.4 +1.6**
baz=284
WHY Whitehorse 55.38 36 P **P 06 58 29.9 +1.9**
baz=285
SVE Sverdlovsk 55.53 319 *e*P **P 06 58 29.4 +0.3**
FARO Faro, Yukon 55.68 34 P **P 06 58 31.6 +1.5**
baz=285
N32M Quiet Lake 56.09 36 P **P 06 58 34.2 +1.1**
baz=286
CHGR Chuyangaron 56.14 296 P **P 06 58 32.7 -1.1**
CHGR Chuyangaron 56.14 296 P **P 06 58 32.7 -1.1**
CHGR pmax pmax
comp=Z,14nm,0.7s
A36M Sachs Harbour 56.16 22 P **P 06 58 34.2 +0.9**
A36M IAmb IAmb 06 58 50.6
comp=Z,13nm,0.9s
A36M Sachs Harbour 56.16 22 P **P 06 58 34.9 +1.5**
baz=286,SNR=13
SIMJ Simiganj 56.25 296 P **P 06 58 33.9 -0.8**
SIMJ IAmb IAmb 06 58 49.8
comp=Z,6.1nm,0.8s
P33M Teslin, Yukon 56.48 37 P **P 06 58 37.6 +1.6**
baz=287
ARTI Arti 56.85 319 P **P 06 58 37.9 -0.6**
ARTI IAmb IAmb 06 58 42.0
comp=Z,7.5nm,0.5s
ARTI Arti 56.85 319 *c i* P **P 06 58 38.5 0.0**
ARTI S **S 07 06 30.5 +2.2**
ARTI SS **SS 07 10 12.3 -4.1**
ARTI pmax pmax
comp=Z,7.0nm,0.7s
WB0 Warramunga Arr 56.86 189 P **P 06 58 38.7 -0.2**
WB0 IAmb IAmb 06 58 38.9
comp=Z,5.2nm,0.6s
WR0 Warramunga Arr 57.03 188 P **P 06 58 39.2 -0.9**
WR0 IAmb IAmb 06 58 40.6
comp=Z,7.3nm,1.1s
WRA Warramunga Arr 57.04 189 P **P 06 58 39.7 -0.4**
WRA Warramunga Arr 57.04 189 P **P 06 58 39.3 -0.8**
comp=Z,2.9nm,0.5s,baz=7.8,slow=7.7,SNR=42
WRA LR LR 07 21 38.5
comp=Z,45nm,21.3s,baz=306,slow=34
comp=Z,2.9nm,0.5s
WRA Warramunga Arr 57.04 189 *i* P **P 06 58 39.7 -0.4**
WRA pmax pmax
comp=Z,3.0nm,0.5s
C36M Paulatuk 57.31 25 P **P 06 58 42.2 +0.8**
C36M Paulatuk 57.31 25 P **P 06 58 42.5 +1.0**
baz=288,SNR=19
WRAK Wrangell Islan 57.90 41 P **P 06 58 47.6 +1.7**
baz=290
S34M Telegraph Cree 58.03 39 P **P 06 58 48.6 +1.9**
baz=290
TGTN Hyland Airport 58.19 34 P **P 06 58 49.5 +1.6**
baz=290
AB31 Akbulak array 58.37 310 *i* P **P 06 58 48.1 -1.1**
ABKAR Akbulak array 58.37 310 P **P 06 58 48.2 -1.0**
ABKAR Akbulak array 58.37 310 P **P 06 58 48.3 -1.0**
ABKAR IAmb IAmb 06 59 04.2
comp=Z,4.1nm,0.8s
DLBC Dease Lake 58.40 38 P **P 06 58 51.4 +2.0**
baz=290
T35M Bob Quinn 58.80 40 P **P 06 58 53.7 +1.6**
baz=291
AKTO Aktyubinsk 59.09 312 LR LR 07 24 37.6
comp=Z,100nm,18.7s,baz=306,slow=36
WRGLY Wrigley 59.67 32 P **P 06 58 59.7 +1.6**
baz=292
EUNU Eureka 60.21 9 P **P 06 59 01.3 -0.3**
EUNU IAmb IAmb 06 59 15.8
comp=Z,6.4nm,0.8s
TOAD Toad River Com 60.58 37 P **P 06 59 05.9 +1.5**
baz=293
KIRV Kirov 60.61 323 *ce*P **P 06 59 05.0 +0.5**
SPITS Spitsbergen Ar 60.71 349 P **P 06 59 05.3 +0.4**
comp=Z,11nm,1.0s,baz=116,slow=3.4,SNR=2.2
comp=Z,11nm,1.0s
ASAR Alice Springs 60.77 189 P **P 06 59 06.0 0.0**
comp=Z,3.0nm,0.7s,baz=16,slow=7.0,SNR=48
ASAR pP **pP 06 59 17.2 -1.4**
comp=Z,2.5nm,0.8s,baz=9.8,slow=6.6,SNR=6.9
ASAR PKP2bc 07 28 33.0
comp=Z,0.6nm,1.1s,baz=157,slow=2.3,SNR=4.3
comp=Z,3.0nm,0.7s
BBB Bella Bella 61.79 44 LR LR 07 23 33.8
comp=Z,19nm,19.7s,baz=330,slow=34
YKA Yellowknife Ar 63.65 30 P **P 06 59 25.1 +0.4**
comp=Z,2.6nm,0.7s,baz=301,slow=6.8,SNR=51
YKA pP **pP 06 59 39.7 +1.9**
comp=Z,0.4nm,0.5s,baz=194,slow=20,SNR=4.6
comp=Z,2.6nm,0.7s
ARCES ARCESS Array B 64.25 340 P **P 06 59 28.5 -0.2**
comp=Z,4.8nm,0.9s,baz=46,slow=5.9,SNR=4.0
comp=Z,4.8nm,0.9s
NEEM North Greenlan 65.59 3 *i* P **P 06 59 36.7 -1.0**
NEEM IAmb IAmb 06 59 39.5
comp=Z,9.9nm,1.1s
DAG Danmarks Havn 65.91 355 *i* P **P 06 59 39.0 -0.3**
DAG IAmb IAmb 06 59 53.7
comp=Z,13nm,1.3s
OBN Obninsk 68.46 323 *e*P **P 06 59 56.7 +0.9**
OBN *e* 07 00 20.6
OBN *e* 07 02 27.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 68.46 180 P **P 06 59 55.8 -0.1**
comp=Z,1.8nm,0.9s,baz=324,slow=8.7,SNR=3.2
comp=Z,1.8nm,0.9s
FINES FINESS Array B 69.12 332 P **P 06 59 60.0 +0.2**
comp=Z,5.1nm,0.7s,baz=28,slow=8.6,SNR=9.2
FINES pP **pP 07 00 13.4 +0.2**
comp=Z,4.5nm,0.9s,baz=42,slow=8.8,SNR=3.5
comp=Z,5.1nm,0.7s
YBH Yreka Blue Hor 70.02 52 LR LR 07 30 10.9
comp=Z,21nm,18.2s,baz=6.0,slow=35
SUMG Summit 70.78 0 *i* P **P 07 00 08.0 -2.3**
SUMG IAmb IAmb 07 00 13.1
comp=Z,3.5nm,0.9s
KBZ Khabaz 71.33 311 P **P 07 00 13.7 +0.1**
comp=Z,2.5nm,0.8s,baz=46,slow=5.6,SNR=4.8
comp=Z,2.5nm,0.8s
KBZ Khabaz 71.33 311 *ce*P **P 07 00 14.3 +0.7**
KIV Kislovodsk 71.33 311 *e*P **P 07 00 11.4 -2.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
SOC Sochi 73.31 312 *e*P **P 07 00 23.2 -2.3**
SOC *e* 07 03 06.6
SOC *e*PPP PPP 07 04 51.4
SOC *e*S **S 07 09 49.9 -0.7**
SOC *e*SS **SS 07 14 34.8 +2.4**
MFID Camas Ranch 73.33 48 P **P 07 00 25.6 -0.1**
CMB Columbia Colle 73.53 55 P **P 07 00 28.3 +1.4**
CMB Columbia Colle 73.53 55 P **P 07 00 28.3 +1.4**
CMB pmax pmax
comp=Z,9.0nm,1.2s
FCC Fort Churchill 73.87 27 P **P 07 00 28.1 -0.3**
FCC Fort Churchill 73.87 27 P **P 07 00 28.1 -0.3**
FCC pmax pmax
comp=Z,5.0nm,0.7s
ICESG Greenland Ices 74.27 1 *i* P **P 07 00 30.5 -0.6**
ICESG IAmb IAmb 07 00 32.7
comp=Z,7.9nm,1.0s
HFS Hagfors 74.37 336 P **P 07 00 31.6 +0.2**
comp=Z,4.5nm,0.8s,baz=343,slow=4.5,SNR=3.5
HFS LR LR 07 37 16.0
comp=Z,240nm,18.6s,baz=352,slow=39
comp=Z,4.5nm,0.8s
NB2 NORSAR Subarra 74.45 338 P **P 07 00 31.9 0.0**
comp=Z,1.6nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.45 338 P **P 07 00 31.7 -0.2**
comp=Z,2.8nm,0.8s,baz=38,slow=5.8,SNR=8.2
NOA pP **PcP 07 00 45.4 -0.9**
comp=Z,2.6nm,0.8s,baz=39,slow=5.9,SNR=5.6
NOA LR LR 07 36 51.9
comp=Z,74nm,19.2s,baz=35,slow=39
comp=Z,2.8nm,0.8s
NVAR Mina Array Bea 74.66 53 P **P 07 00 35.4 +1.6**
comp=Z,3.9nm,0.9s,baz=285,slow=6.4,SNR=25
comp=Z,3.9nm,0.9s
AKASG Malin Array Be 74.66 323 P **P 07 00 32.6 -0.6**
comp=Z,2.1nm,0.4s,baz=47,slow=6.1,SNR=24
AKASG pP **pP 07 00 46.1 -0.5**
comp=Z,2.9nm,0.5s,baz=47,slow=6.0,SNR=8.8
AKASG LR LR 07 35 11.3
comp=Z,128nm,18.1s,baz=50,slow=37
comp=Z,2.1nm,0.4s
AKBB Malin Array Si 74.66 323 *ce*P **P 07 00 33.7 +0.5**
AKBB Malin Array Si 74.66 323 P **P 07 00 33.0 -0.2**
AK01 Malin Array Si 74.67 323 P **P 07 00 32.7 -0.6**
AK04 Malin Array Si 74.68 323 P **P 07 00 32.9 -0.4**
AK09 Malin Array Si 74.69 322 P **P 07 00 32.9 -0.5**
AK11 Malin Array Si 74.70 323 P **P 07 00 32.7 -0.8**
AK16 Malin Array Si 74.74 323 P **P 07 00 33.1 -0.6**
MI28 Mi28,Pidlybu 75.26 323 P **P 07 00 36.7 0.0**
RNPP5 Staryi Chortor 75.91 324 P **P 07 00 40.1 -0.3**
SFJD Kangerlussuaq 75.94 5 LR LR 07 34 36.7
comp=Z,44nm,19.9s,baz=36,slow=36
GWY Greenwater Val 77.02 54 P **P 07 00 47.9 +0.8**
GWY IAmb IAmb 07 00 49.4
comp=Z,6.2nm,0.8s
PDAR Pinedale Array 77.39 46 P **P 07 00 49.9 +0.7**
comp=Z,0.9nm,0.7s,baz=272,slow=2.2,SNR=11
PDAR pP **pP 07 01 05.7 +3.2**
comp=Z,1.0nm,0.7s,baz=77,slow=0.6,SNR=4.9
comp=Z,0.9nm,0.7s
PFO Pinyon Flats O 78.69 56 LR LR 07 28 43.6
comp=Z,36nm,20.1s,baz=260,slow=30
MTPU Mount Pierson 78.76 51 P **P 07 00 58.0 +1.0**
ULM Lac du Bonnet 79.31 34 P **P 07 00 59.1 -0.3**
ULM Lac du Bonnet 79.31 34 P **P 07 00 59.5 +0.1**
comp=Z,1.9nm,0.5s,baz=314,slow=4.7,SNR=6.0
comp=Z,1.9nm,0.5s
ESJX Sierra Juarez 80.00 58 P **P 07 01 04.8 +1.2**
ESJX IAmb IAmb 07 01 06.1
comp=Z,10nm,0.9s
N23A Red Feather La 80.66 45 P **P 07 01 08.7 +1.5**
baz=311
CLL Collm 81.41 330 *e*P **P 07 01 10.0 -0.6**
CLL *e**SP **pP 07 01 26.0 +1.9**
CLL Collm 81.41 330 *e*P **P 07 01 10.0 -0.6**
CLL *e*(pP) **pP 07 01 26.0 +1.9**
S22A 4UR Ranch, Cre 82.21 48 P **P 07 01 17.2 +1.7**
baz=311
Q24A Divide 82.39 46 P **P 07 01 18.1 +1.7**
baz=312
MMAI Mount Meron Ar 82.41 306 P **P 07 01 16.6 +0.3**
comp=Z,1.6nm,0.6s,baz=42,slow=10,SNR=7.1
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 82.87 329 *e*P **P 07 01 18.7 +0.3**
KHC Kasperske Hory 82.87 329 *e*P **P 07 01 18.7 +0.3**
EYMN Ely 82.95 33 P **P 07 01 18.9 +0.1**
GERES GERESS Array B 83.04 329 P **P 07 01 18.9 -0.4**
comp=Z,0.7nm,0.5s,baz=30,slow=11,SNR=4.1
GERES LR LR 07 41 58.5
comp=Z,71nm,18.3s,baz=355,slow=38
comp=Z,0.7nm,0.5s
T25A Trinidad 84.05 47 P **P 07 01 26.0 +1.1**
baz=313
121A Cookes Peak, D 85.03 53 P **P 07 01 31.5 +1.6**
baz=311
SCHQ Schefferville 85.29 16 P **P 07 01 30.4 -0.2**
comp=Z,2.5nm,0.8s,baz=5.9,slow=4.4,SNR=4.8
SCHQ LR LR 07 42 45.1
comp=Z,61nm,18.4s,baz=2.0,slow=38
comp=Z,2.5nm,0.8s
TXAR Lajitas Array 89.80 53 P **P 07 01 53.5 +0.6**
comp=Z,3.1nm,0.7s,baz=314,slow=3.8,SNR=11
comp=Z,3.1nm,0.7s
WHAR Wooly Hollow 92.19 42 P **P 07 02 03.7 0.0**
ESDC Sonseca Array 97.58 334 LR LR 07 51 53.2
comp=Z,62nm,18.2s,baz=24,slow=39
LPAZ La Paz 146.32 60 PKPbc **PKPbc 07 08 35.5 -0.2**
comp=Z,3.2nm,0.7s,baz=354,slow=3.4,SNR=10.0
LPAZ pPKPbc pPKPab 07 08 51.2 +1.2
comp=Z,3.3nm,0.8s,baz=30,slow=4.3,SNR=5.3
H03N2 Juan Fernandez 146.54 96 T T 09 52 43.4
baz=291,slow=76,SNR=16
H03N3 Juan Fernandez 146.55 96 T T 09 52 44.6
baz=291,slow=76,SNR=16
H03N1 Juan Fernandez 146.55 96 T T 09 52 50.2
baz=291,slow=76,SNR=20

---

*NEIC **23** 07:10:20.9±0.9, 60°.09N±0°.02×153°.08W±0°.07,*
h124km±3km, Error ellipse: s-maj=5.4km s-min=2.4km
az=99.0

AEIC 23 07:10:22.7±1.0, **60°.08N**±0°.03×**153°.09W**±0°.07,
h114km±4km, **ML2.8, ML2.9**/154(NEIC), **Error ellipse:**
s-maj=5.2km s-min=4.9km az=108.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILW	**Iliamna West**	**0.03**	**232**		Pn	07 10 37.9	-0.7
ILSW	**Iliamna Southw**	**0.10**	**196**		Pn	07 10 37.5	-1.0
ILSW	**Iliamna Southw**	**0.10**	**196**		Sn	07 10 50.1	-0.2
ILSW	**Iliamna Southw**	**0.10**	**196**	IAML		07 10 51.2	
ILSW	comp=N,68nm,0.5s			IAML		07 10 51.5	
	comp=E,98nm,0.7s						
ILS	**Iliamna Low So**	**0.12**	**175**		Pn	07 10 37.7	-0.8
ILS					Sn	07 10 50.6	+0.2
O20K	**Slope Mountain**	**0.23**	**89**		Pn	07 10 38.2	-0.5
O20K					Sn	07 10 50.9	+0.1
RED	**Redoubt Volcan**	**0.38**	**25**		Pn	07 10 38.6	-0.8
RED					Sn	07 10 51.4	-0.5
RDWB	**Redoubt West**	**0.43**	**17**		Pn	07 10 38.8	-0.9
OPT	**Oil Point**	**0.43**	**190**		Pn	07 10 39.1	-0.4
P19K	**Oil Pt**	**0.43**	**190**		Pn	07 10 38.8	-0.7
P19K	**Oil Pt**	**0.43**	**190**		Sn	07 10 52.1	-0.1
P19K	**Oil Pt**	**0.43**	**190**	IAML		07 10 53.0	
P19K	comp=N,530nm,0.6s			IAML		07 10 54.0	
	comp=E,299nm,0.6s						
NCT	**North Crescent**	**0.49**	**9**		Pn	07 10 39.2	-0.8
NCT					Sn	07 10 52.5	-0.6
RDJH	**Redoubt Jeurge**	**0.53**	**15**		Pn	07 10 39.9	-0.4
RDT	**Redoubt**	**0.60**	**34**		Pn	07 10 39.8	-0.9
RDT					Sn	07 10 53.3	-1.0
O19K	**Port Alsworth**	**0.63**	**281**		Pn	07 10 39.6	-1.1
O19K	**Port Alsworth**	**0.63**	**281**		Sn	07 10 53.9	-0.5
O19K	**Port Alsworth**	**0.63**	**281**	IAML		07 10 54.3	
O19K	comp=E,468nm,0.5s			IAML		07 10 54.7	
	comp=N,990nm,0.5s						
AUL	**Augustine Lava**	**0.72**	**194**		Pn	07 10 41.2	-0.4
AU22	**Augustine Moun**	**0.72**	**191**		Pn	07 10 41.1	-0.4
AUCH	**Augustine Cone**	**0.74**	**194**		Pn	07 10 41.4	-0.4
HOM	**Homer**	**0.84**	**119**		Pn	07 10 41.7	-0.9
HOM				IAML		07 11 00.7	
	comp=N,358nm,0.5s						
N19K	**Bonanza Creek**	**1.01**	**317**		Pn	07 10 43.4	-1.0
N19K					Sn	07 11 00.1	-0.6
N19K	**Bonanza Creek**	**1.01**	**317**	IAML		07 11 00.5	
N19K	comp=E,167nm,0.6s			IAML		07 11 00.5	
	comp=N,97nm,0.9s						
CNPM	**China Poot**	**1.09**	**120**		Pn	07 10 44.3	-0.8
CNPM	**China Poot**	**1.09**	**120**		Sn	07 11 01.1	-0.9
CNPM	**China Poot**	**1.09**	**120**	IAML		07 11 01.8	
	comp=N,613nm,0.6s						

CNPM IAML 07 11 01.9
comp=E,599nm,0.6s
O18K Koktuh Hills 1.09 259 Pn 07 10 44.0 -1.1
O18K IAML 07 11 02.2
comp=N,80nm,0.8s
BRLK Bradley Lake 1.15 105 Pn 07 10 44.9 -0.9
BRLK IAML 07 11 02.8
comp=E,222nm,0.3s
BRLK IAML 07 11 03.1
comp=N,294nm,0.3s
CKL Chakachamna La 1.18 18 Pn 07 10 45.4 -0.8
CAPN Captain Cook N 1.18 53 Pn 07 10 46.4 +0.3
CAPN IAML 07 11 07.9
comp=N,336nm,0.3s
Q19K Cape Douglas, 1.19 194 Pn 07 10 45.0 -1.2
Q19K IAML 07 11 08.9
comp=N,177nm,0.6s
Q19K IAML 07 11 17.6
comp=E,191nm,1.4s
SPCR Spurr Chakacha 1.21 21 Pn 07 10 45.5 -0.9
SPU Mount Spurr 1.22 24 Pn 07 10 45.1 -1.4
BRSE Bradley Lake S 1.23 105 Pn 07 10 45.9 -0.7
BRSE Sn 07 11 03.3 -1.4
SPCN Chakachatna No 1.23 21 Pn 07 10 46.0 -0.7
SPBG Spurr Blockage 1.24 16 Pn 07 10 46.1 -0.6
P18K Big Mountain, 1.28 239 Pn 07 10 46.0 -1.3
SPNN North Nagishla 1.31 8 Pn 07 10 46.7 -0.9
SPCG Spurr Capps Gl 1.33 23 Pn 07 10 46.9 -0.9
SLKM Skilak Lake 1.49 72 Pn 07 10 48.3 -1.3
SYI Shuyak Island 1.52 166 Pn 07 10 48.9 -1.0
SYI IAML 07 11 11.1
comp=N,133nm,0.6s
SYI IAML 07 11 11.4
comp=E,129nm,0.5s
N18K Kilae Creek 1.52 295 Pn 07 10 48.8 -1.1
STLK Strandline Lak 1.55 23 Pn 07 10 49.3 -1.1
O22K Cooper Landing 1.73 75 Pn 07 10 50.9 -1.5
KAHC Katmai Hardscr 1.74 215 Pn 07 10 51.8 -0.9
KAHG Katmai Hook Gl 1.76 206 Pn 07 10 52.3 -0.6
FIS Fire Island 1.77 52 Pn 07 10 52.5 -0.4
FIS IAML 07 11 20.1
comp=E,202nm,0.3s
M20K Styx River 1.81 359 Pn 07 10 52.6 -0.9
SEW Seward 1.82 88 Pn Pn 07 10 51.9 -1.7
P17K Kvichak River 1.92 244 Pn 07 10 54.2 -0.5
M19K Big River Lodg 1.94 341 Pn 07 10 54.0 -1.1
RC01 Rabbit Creek A 1.94 57 Pn 07 10 53.7 -1.3
M18K Stony River 1.95 318 Pn 07 10 53.9 -1.3
O17K Koliganek Bris 2.04 263 Pn 07 10 55.5 -0.7
KVTA Katmai Vly 10 2.04 215 Pn 07 10 55.8 -0.6
SKT Skwentna 2.05 21 Pn 07 10 55.1 -1.4
SKT IAML 07 11 25.4
comp=E,33nm,0.6s
SKT IAML 07 11 31.0
comp=N,32nm,0.2s
KAKN Katmai Knife C 2.06 210 Pn 07 10 55.8 -0.8
N17K Nushagak Hills 2.09 284 Pn 07 10 55.9 -1.0
KCE Katmai Mt Cerb 2.13 211 Pn 07 10 57.4 -0.2
ACHA Angle Creek He 2.20 213 Pn Pn 07 10 57.3 -1.1
M22K Willow 2.22 40 Pn 07 10 56.9 -1.6
ANCK Angle Creek 2.26 214 Pn 07 10 58.5 -0.6
L19K White Mountain 2.28 339 Pn 07 10 58.2 -1.2
L19K White Mountain 2.28 339 IAML 07 11 27.0
comp=E,22nm,0.7s
L19K IAML 07 11 27.3
comp=N,22nm,0.9s
KDAK Kodiak Island 2.32 173 Pn 07 10 57.6 -2.2
L20K Farewell, AK 2.44 351 Pn 07 11 00.5 -0.9
PMR Palmer 2.46 50 Pn Pn 07 10 59.5 -2.1
PMR IAML 07 11 29.8
comp=E,48nm,0.5s
PMR IAML 07 11 29.9
comp=N,55nm,0.3s
M17K Holitna River 2.51 304 Pn 07 11 01.0 -1.3
M17K Holitna River 2.51 304 IAML 07 11 33.2
comp=N,23nm,1.0s
M17K IAML 07 11 33.3
comp=E,30nm,1.0s
O16K Kokwok River B 2.57 261 Pn 07 11 02.5 -0.6
R18K Karluk 2.62 196 Pn 07 11 01.6 -2.1
R18K Karluk 2.62 196 IAML 07 11 37.5
comp=E,77nm,0.4s
R18K IAML 07 11 37.7
comp=N,58nm,0.5s
KNK Knik Glacier 2.64 58 Pn 07 11 01.7 -2.3
KNK IAML 07 11 40.9
comp=N,91nm,0.6s
GHO Glory Hole Cre 2.65 48 Pn 07 11 01.9 -2.3
GHO IAML 07 11 35.8
comp=N,61nm,0.5s
GHO IAML 07 11 36.1
comp=E,83nm,0.5s
CUT Chulitna 2.70 29 Pn 07 11 02.9 -1.9
CUT IAML 07 11 36.3
comp=N,76nm,0.4s
CUT IAML 07 11 36.8
comp=E,88nm,0.3s
P16K Nushagak River 2.71 249 Pn 07 11 04.3 -0.6
L18K Granite Mounta 2.77 322 Pn 07 11 03.9 -1.7
L18K IAML 07 11 37.7
comp=N,14nm,0.9s
P23K Montague Islan 2.85 89 Pn 07 11 05.1 -1.6
PPLA Purkeypile 2.86 8 Pn 07 11 06.7 -0.3
OHAK Old Harbor 2.87 182 Pn Pn 07 11 04.0 -2.9
OHAK IAML 07 11 40.1
comp=N,26nm,0.2s
OHAK IAML 07 11 40.1
comp=E,24nm,0.6s
SML Sawmill 2.90 51 Pn Pn 07 11 05.0 -2.4
SML IAML 07 11 40.9
comp=N,44nm,0.5s
SML IAML 07 11 47.3
comp=E,48nm,0.8s
M16K Timber Creek 3.05 291 Pn 07 11 08.5 -0.9
GLI Glacier Island 3.07 72 Pn Pn 07 11 06.8 -2.9
GLI IAML 07 11 43.7
comp=E,56nm,1.0s
GLI IAML 07 11 45.5
comp=N,44nm,0.7s
TTA Tatalina 3.19 335 Pn Pn 07 11 09.5 -1.7
HIN Hinchinbrook I 3.30 82 Pn Pn 07 11 10.8 -1.9
HIN IAML 07 11 48.4
comp=N,45nm,1.4s
HIN IAML 07 11 51.4
comp=E,51nm,0.5s
SCM Sheep Creek Mo 3.32 55 Pn 07 11 10.6 -2.4
SCM IAML 07 11 53.2
comp=N,51nm,0.7s
K20K Telida 3.32 352 Pn 07 11 12.0 -1.0
CAST Castle Rocks 3.39 8 Pn Pn 07 11 12.8 -1.1
Q23K Middleton Isla 3.47 98 Pn 07 11 13.5 -1.4
N15K Kwethluk River 3.51 275 Pn 07 11 14.4 -1.0
N15K Kwethluk River 3.51 275 IAML 07 11 50.5
comp=E,20nm,1.4s
N15K IAML 07 12 28.5
comp=N,13nm,1.3s
L16K Owhat River 3.52 300 Pn 07 11 14.4 -1.2
O15K Ungalikthiuk R 3.54 258 Pn 07 11 14.8 -1.0
SII Sitkinak Islan 3.58 190 IAML 07 11 54.8
comp=E,35nm,1.5s
SII IAML 07 12 09.9
comp=N,27nm,1.1s
KTH Kantishna Hill 3.64 15 Pn 07 11 15.3 -1.9
KTH IAML 07 12 04.8
comp=N,11nm,1.5s
KTH IAML 07 12 08.0
comp=E,8.2nm,1.3s
TRF Thorofare Moun 3.64 20 Pn Pn 07 11 15.4 -1.8
TRF IAML 07 11 58.5
comp=E,14nm,0.5s
TRF IAML 07 12 02.1
comp=N,20nm,1.4s
K17K Iditarod 3.65 319 Pn 07 11 15.8 -1.5
K17K IAML 07 12 17.0
comp=E,9.8nm,1.2s
K17K IAML 07 13 33.8
comp=N,10nm,1.5s
EYAK Cordova Ski Ar 3.68 79 Pn 07 11 16.1 -1.7
J18K Innoko River 3.81 335 Pn 07 11 18.3 -1.2
M15K Kasigluk River 3.82 283 Pn 07 11 19.1 -0.5
CHUM Lake Minchumin 3.84 5 Pn 07 11 18.7 -1.1
RND Reindeer 3.90 29 Pn Pn 07 11 18.9 -1.9
RND IAML 07 12 04.2
comp=N,13nm,1.3s
RND IAML 07 12 09.1
comp=E,13nm,1.3s
M24K Tolsona, Glenn 3.92 56 Pn 07 11 18.9 -2.1
J19K Poorman 4.11 344 Pn 07 11 22.1 -1.3
J20K Nowinta River 4.14 354 Pn 07 11 22.8 -1.1
BPAW Bear Paw Mtn. 4.16 13 Pn 07 11 21.7 -2.4
BPAW IAML 07 12 08.7
comp=N,5.4nm,1.2s
BPAW IAML 07 12 52.1
comp=E,5.5nm,1.4s
MCK McKinley 4.16 26 Pn 07 11 22.9 -1.2
GOAT Goat Mountain 4.19 79 Pn 07 11 22.7 -1.8
BMRM Bremner River 4.29 74 Pn 07 11 24.1 -1.8
KAIM Kayak Island 4.36 88 Pn 07 11 25.1 -1.6
J17K VABM Dome 4.38 322 Pn 07 11 25.5 -1.6
J17K VABM Dome 4.38 322 IAML 07 12 13.7
comp=N,5.0nm,1.3s
J17K IAML 07 12 57.8
comp=E,4.7nm,1.5s
CHIR Chirikof Islan 4.48 199 Pn 07 11 25.5 -2.9
K15K Wolf Creek Mou 4.65 302 Pn 07 11 29.8 -0.9
K15K Wolf Creek Mou 4.65 302 IAML 07 12 33.8
comp=N,4.8nm,1.5s
K15K IAML 07 13 17.6
comp=E,5.3nm,1.4s
PAX Paxson 4.66 48 Pn 07 11 28.9 -2.0
GLB Gilahina Butte 4.75 69 Pn 07 11 30.4 -1.8
GLB Gilahina Butte 4.75 69 IAML 07 12 25.0
comp=E,19nm,0.5s
GLB IAML 07 12 26.6
comp=N,20nm,1.4s
J16K Anvik River 4.81 315 Pn 07 11 31.4 -1.4
J16K Anvik River 4.81 315 IAML 07 13 01.9
comp=N,4.2nm,1.4s
J16K IAML 07 13 17.0
comp=E,4.9nm,1.2s
VRDI Verde Repeater 4.88 72 Pn 07 11 32.1 -1.9
VRDI IAML 07 12 29.5
comp=E,11nm,0.6s
NEA2 Nenana 4.90 21 Pn 07 11 32.1 -2.0
NEA2 IAML 07 13 28.7
comp=N,3.8nm,1.5s
NEA2 IAML 07 13 59.5
comp=E,4.4nm,1.5s
WRH Wood River Hil 4.99 26 Pn 07 11 32.8 -2.4
WRH IAML 07 12 42.2
comp=E,4.7nm,1.4s
WRH IAML 07 12 48.6
comp=N,2.7nm,1.0s
K24K Donnelly Dome 5.09 40 Pn 07 11 35.9 -0.7
CCB Clear Creek Bu 5.20 26 Pn 07 11 35.3 -2.9
CCB IAML 07 12 37.4
comp=E,5.6nm,0.6s
CCB IAML 07 12 37.5
comp=N,5.0nm,1.4s
HDA Harding Lake 5.21 31 Pn 07 11 35.6 -2.6
RIDG Independent Ri 5.35 43 Pn 07 11 38.1 -2.1
RIDG IAML 07 12 39.9
comp=N,14nm,1.5s
I23K Minto, Yukon-K 5.37 17 Pn 07 11 38.6 -1.8
I23K IAML 07 12 43.9
comp=E,2.4nm,1.5s
I23K IAML 07 13 34.6
comp=N,3.4nm,1.4s
KIAG Kiagna River 5.37 76 Pn 07 11 38.8 -1.8
BALM Baldy 5.39 75 Pn 07 11 39.1 -1.7
COLA College 5.39 25 Pn 07 11 37.9 -2.7
IL31 5.52 29 Pn 07 11 40.2 -2.1
ILAR Eielson Array 5.52 29 Pn 07 11 39.8 -2.6
H21K Melozitna Rive 5.60 1 Pn 07 11 41.9 -1.7
POKR Poker Plat Res 5.69 25 Pn 07 11 42.3 -2.5
SCRK Sand Creek 5.80 44 Pn 07 11 43.4 -2.9
RKAV Rock Avalanche 5.86 83 Pn 07 11 46.3 -0.9
H22K Ishtalitna Cre 5.89 7 Pn 07 11 46.1 -1.3
H24K Noodor Dome 6.25 20 Pn 07 11 50.3 -2.0
J26L Joseph Creek 6.28 41 Pn 07 11 50.6 -2.1
O28M Mount Upton 6.43 78 Pn 07 11 53.9 -1.1
PRP Porcupine Dome 6.46 29 Pn 07 11 53.1 -2.2
G23K Bananza Creek 6.80 10 Pn 07 11 58.5 -1.3
I26K Coal Creek Min 6.95 37 Pn 07 11 58.8 -3.0
COLD Coldfoot 7.29 9 Pn 07 12 04.3 -2.0
I27K Kandik River 7.63 39 Pn 07 12 08.6 -2.3
F24K Squaw Lake 7.81 15 Pn 07 12 11.9 -1.6
I28M Miner Creek 8.08 43 Pn 07 12 14.7 -2.4
H27K Steamboat Moun 8.08 35 Pn 07 12 14.2 -2.9
E22K Anaktuvuk Pass 8.11 3 Pn Pn 07 12 16.1 -1.3
E23K Chandalar 8.15 9 Pn Pn 07 12 16.1 -2.0
E24K Your Creek 8.28 12 Pn Pn 07 12 17.6 -2.1
TOLK Toolik Lake Re 8.73 9 Pn Pn 07 12 26.1 +0.3
D23K Nanushuk River 8.98 6 Pn Pn 07 12 27.6 -1.6
B21K Ikpikpuk River 9.61 357 Pn Pn 07 12 36.8 -0.8
D25K Kavik River 9.71 14 Pn Pn 07 12 37.7 -1.3
C23K Itkillik River 9.85 5 Pn Pn 07 12 39.0 -1.9

*NEIC **23** 07:11:10.8±0.5, 37°.31N±0°.02×97°.93W±0°.03, h6km±2km, ML1.5/12, ML1.8/26, Error ellipse: s-maj=4.0km s-min=1.0km az=49.0*
NEIC 23 07:11:11.4±0.5, 37°.30N±0°.02×97°.93W±0°.02, h4km±3km, Error ellipse: s-maj=3.4km s-min=1.4km az=53.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.05**	**267**		Pg	07 11 12.8	+0.2
KAN12				IAML		07 11 13.9	
comp=E,664nm,0.2s							
KAN12				Sg	Sg	07 11 14.0	+0.5
KAN08	**Anthony NE Sta**	**0.08**	**203**		Pg	07 11 13.3	+0.3
KAN08				Sg	Sg	07 11 14.6	+0.5
KAN05	**Bluff City Nor**	**0.20**	**166**	Pg	Pg	07 11 15.5	+0.3
KAN05				Sg	Sg	07 11 18.4	+0.6
KAN05				IAML		07 11 20.1	
comp=N,200nm,0.2s							
KAN01	**Argonia South**	**0.20**	**137**		Pg	07 11 15.6	+0.3
KAN01				IAML		07 11 18.7	
comp=E,216nm,0.3s							
KAN10	**Anthony SW Sta**	**0.22**	**217**		Pg	07 11 16.0	+0.3
KAN10					Sg	07 11 19.2	+0.7
KAN17	**Caldwell West**	**0.29**	**152**		Pg	07 11 17.1	+0.2
KAN09	**Caldwell North**	**0.30**	**123**		Pg	07 11 17.3	+0.2
KAN09				IAML		07 11 22.9	
comp=E,150nm,0.3s							
KAN09				IAML		07 11 25.8	
comp=N,124nm,0.2s							
KAN14	**Manchester OK**	**0.34**	**184**		Pg	07 11 18.1	+0.1
KAN14				IAML		07 11 23.2	
comp=E,134nm,0.1s							
KAN14				IAML		07 11 26.6	
comp=N,106nm,0.2s							
GC02	**Grant County #**	**0.45**	**173**	Pg	Pg	07 11 20.1	0.0
KAN13	**South Haven SW**	**0.46**	**128**	Pg	Pg	07 11 20.0	-0.3
KAN13				IAML		07 11 26.9	
comp=E,106nm,0.3s							
KAN13				IAML		07 11 27.0	
comp=N,87nm,0.2s							
OK051	**E0350 and S346**	**1.18**	**132**		Pg	07 11 33.6	-0.4
R32A	**Long Quarter,**	**1.28**	**331**	Pg	Pg	07 11 34.3	-1.6
R32A				IAML		07 11 56.7	
comp=N,18nm,0.4s							
R32A				IAML		07 11 56.0	
comp=E,23nm,0.9s							
QUOK	**Quay**	**1.50**	**139**		Pn	07 11 38.9	-0.2
OK052	**Battle Ridge R**	**1.59**	**145**		Pn	07 11 40.5	+0.2
OK031	**S. Brethren Rd**	**1.61**	**146**		Pn	07 11 40.7	+0.1

*IDC **23** 07:11:14.2±2.3, 9°.43S×112°.85E, h0km, mb3.4/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=116.1km s-min=17.8km az=44.0*
*DJA **23** 07:11:19.6±0.7, 10°.S±3°.×11°.3E±°, h30km±10km, M4.2/24, mB4.9/2, mb4.5/6, MLv4.1/24, Mw(mB)4.2/2*
ISC 23 07:11:20.6±0.9, 9°.66S±0°.08×112°.83E±0°.05, h36km, n25, σ1°.72/34, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.51**	**24**	P	**Pn**	**07 11 43.1**	**-2.0**
JAGI	**Jajag, Banyuwa**	**1.76**	**48**	P	**Pn**	**07 11 46.9**	**-1.7**
JAGI				S	**Sn**	**07 12 10.7**	**+0.9**
PCJI	**Pacitan**	**2.19**	**312**	P	**Pn**	**07 11 54.3**	**-0.2**
ABJI	**Asem Bagus**	**2.31**	**37**	P	**Pn**	**07 11 56.6**	**+0.4**
ABJI				S	**Sn**	**07 12 24.7**	**+1.2**
DNP	**Denpasar**	**2.55**	**68**	P	**Pn**	**07 11 59.6**	**+0.2**
DNP				S	**Sn**	**07 12 30.0**	**+0.8**
NGJI	**Ngawi**	**2.65**	**329**	P	**Pn**	**07 12 01.5**	**+0.7**
GRJI	**Gresik**	**2.75**	**353**	P	**Pn**	**07 12 03.4**	**+1.2**
KMMI	**Kalianget**	**2.83**	**24**	P	**Pn**	**07 12 03.0**	**-0.3**
SRBI	**Singaraja**	**2.83**	**57**	P	**Pn**	**07 12 03.1**	**-0.2**
UGM	**Wanagama**	**2.87**	**307**	P	**Pn**	**07 12 03.8**	**0.0**
UGM				S	**Sn**	**07 12 38.5**	**+1.4**
TBJI	**Tambak Boyo**	**2.99**	**341**	P	**Pn**	**07 12 05.9**	**+0.4**
TBJI				S	**Sn**	**07 12 41.3**	**+1.3**
YOGI	**Yogyakarta**	**3.10**	**306**	P	**Pn**	**07 12 07.5**	**+0.4**
SMRI	**Semarang**	**3.51**	**317**	P	**Pn**	**07 12 13.4**	**+0.7**
TWSI	**Taliwang, Sumb**	**4.11**	**77**	P	**Pn**	**07 12 21.2**	**+0.3**
TWSI				S	**Sn**	**07 13 07.9**	**+0.2**
CMJI	**Cimerak**	**4.71**	**293**	P	**Pn**	**07 12 29.9**	**+0.7**
PLAI	**Plampang**	**4.95**	**81**	P	**Pn**	**07 12 32.6**	**+0.1**
PLAI				S	**Sn**	**07 13 29.2**	**+0.6**
CNJI	**Cibinong**	**6.10**	**292**	P	**Pn**	**07 12 48.2**	**-0.1**
WBSI	**Waikabubak, Su**	**6.47**	**90**	P	**Pn**	**07 12 52.7**	**-0.7**
0.2nm1μm50nm,0.9s							
SKJI	**Sukabumi**	**6.74**	**293**	P	**Pn**	**07 12 57.2**	**+0.1**
BASI	**Baing, Sumba**	**7.65**	**95**	P	**Pn**	**07 13 08.5**	**-1.2**
128nm,1.2s							
MDSI	**Maura Dua**	**10.00**	**300**	P	**Pn**	**07 13 42.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**14.99**	**125**	Pn	**Pn**	**07 14 47.5**	**-2.5**
0.2nm,0.3s,baz=311,slow=6.6,SNR=8.3							
FITZ				Sn	Sn	07 17 21.7	-13
0.4nm,0.3s,baz=184,slow=22,SNR=7.6							
2.6nm,1.0s							
WRA	**Warramunga Arr**	**23.14**	**119**	P	**P**	**07 16 23.3**	**-0.7**
0.5nm,0.7s,baz=291,slow=12,SNR=1.9							
WRA				S	**S**	**07 20 37.2**	**+4.1**
0.3nm,0.8s,baz=163,slow=23,SNR=1.9							
0.5nm,0.7s							
ASAR	**Alice Springs**	**24.48**	**127**	P	**P**	**07 16 36.8**	**+0.2**
1.0nm,0.7s,baz=303,slow=9.2,SNR=17							
ASAR				S	**S**	**07 21 01.2**	**+6.5**
0.1nm,0.7s,baz=298,slow=22,SNR=1.2							
1.0nm,0.7s							
MKAR	**Makanchi Array**	**62.46**	**337**	P	**P**	**07 21 37.8**	**-2.4**
0.2nm,0.3s,baz=152,slow=6.9,SNR=8.7							
0.2nm,0.3s							

*TEH **23** 07:19:25.3, 27°.93N×57°.64E, h28km±7km*
*OMAN **23** 07:19:27.9±1.4, 27°.77N×57°.66E, h17km±18km, mb4.1/7, ml3.4/19, Error ellipse: s-maj=17.2km s-min=6.7km az=11.0*
*IDC **23** 07:19:42.1±22.0, 30°.91N×57°.36E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=498.2km s-min=36.4km az=175.0*
ISC 23 07:19:26.7±0.9, 27°.92N±0°.04×57°.69E±0°.04, h27km±6km, n61, σ1°.37/83, mb3.7/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.03**	**30**	Pg	**Pb**	**07 19 30.9**	**-0.6**
KHNJ				Sg	**Sb**	**07 19 35.3**	**+0.6**
IBND	**Bandar-abas**	**1.12**	**246**	Pg	**Pb**	**07 19 47.7**	**+0.2**
KBAM	**BAM**	**1.39**	**29**	Pg	**Pb**	**07 19 52.2**	**+0.1**
GENO	**Geno**	**1.44**	**249**	Pg	**Pb**	**07 19 53.0**	**0.0**
BNDS	**Bandar-Abbas**	**1.44**	**249**	Pg	**Pb**	**07 19 52.9**	**-0.1**
NGRK	**Negar Kerman**	**1.91**	**334**	Pn	**Pn**	**07 19 59.2**	**+1.3**
CHMN	**Cheshme madani**	**1.94**	**356**	Pn	**Pn**	**07 19 58.9**	**+0.6**
JASK	**Jask - Hormozg**	**2.05**	**175**	Pn	**Pn**	**07 20 00.8**	**+1.4**
JASK	**Jask - Hormozg**	**2.05**	**175**	P	**Pn**	**07 20 01.1**	**+1.6**
KRBR	**Kerman**	**2.21**	**339**	Pn	**Pn**	**07 20 03.3**	**+1.3**
SHME	**Shamm**	**2.32**	**217**	P	**Pn**	**07 20 04.9**	**+1.8**
SHME				S	**Sn**	**07 20 32.3**	**+1.7**
BANOM	**Banah**	**2.34**	**212**	P	**Pn**	**07 20 05.7**	**+2.2**
BANOM				S	**Sn**	**07 20 33.6**	**+2.3**
KRM1	**Kerman Provinc**	**2.60**	**352**	Pn	**Pn**	**07 20 08.4**	**+1.2**
MASF	**Masafi**	**2.88**	**209**	P	**Pn**	**07 20 13.2**	**+2.3**
MDH	**Madha**	**2.89**	**206**	P	**Pn**	**07 20 11.1**	**+0.1**
MDH				S	**Sn**	**07 20 45.2**	**+0.4**
UMQ	**Umm Al-Quwin**	**2.99**	**218**	P	**Pn**	**07 20 13.4**	**+1.1**
UMQ				S	**Sn**	**07 20 48.3**	**+0.9**
ZHSF	**Zahedan**	**3.19**	**57**	Pn	**Pn**	**07 20 17.1**	**+1.8**
ZRDN	**Zarand Kerman**	**3.20**	**342**	Pn	**Pn**	**07 20 17.1**	**+1.6**
UOSS	**Minazif**	**3.25**	**205**	Pn	**Pn**	**07 20 16.9**	**+1.0**
UOSS	**Minazif**	**3.25**	**205**	P	**Pn**	**07 20 17.5**	**+1.7**
HATD	**Hatta, Dubai**	**3.38**	**205**	P	**Pn**	**07 20 19.1**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.44**	**212**	P	**Pn**	**07 20 19.7**	**+1.2**
ASHO	**Ashiyiah**	**3.54**	**205**	P	**Pn**	**07 20 22.4**	**+2.5**
SNR=7.2							
FAQ	**Al Faqa, Dubai**	**3.68**	**211**	P	**Pn**	**07 20 24.3**	**+2.5**
ASUD	**Al Ashush, Dub**	**3.90**	**213**	P	**Pn**	**07 20 26.3**	**+1.4**
SOHO	**SOHO**	**3.91**	**196**	P	**Pn**	**07 20 25.0**	**0.0**
SOHO				S	**Sn**	**07 21 10.2**	**+0.2**
NGCH	**Negor - Chabah**	**4.00**	**129**	Pn	**Pn**	**07 20 27.7**	**+1.4**
NGCH	**Negor - Chabah**	**4.00**	**129**	P	**Pn**	**07 20 27.7**	**+1.4**
NGCH				S	**Sn**	**07 21 14.8**	**+2.5**
NHDN	**Nehbandan**	**4.03**	**30**	Pn	**Pn**	**07 20 28.3**	**+1.6**
IBAF	**Bafgh**	**4.10**	**334**	Pn	**Pn**	**07 20 29.6**	**+1.9**
AJN	**Ajban**	**4.13**	**217**	P	**Pn**	**07 20 30.5**	**+2.5**
AJN				S	**Sn**	**07 21 17.5**	**+2.1**
BSRN	**Basiran**	**4.22**	**17**	Pn	**Pn**	**07 20 31.3**	**+1.9**
HOQ	**Hoqain**	**4.33**	**185**	P	**Pn**	**07 20 30.6**	**-0.2**
SNR=5.4							
HOQ				S	**Sn**	**07 21 20.5**	**+0.1**
IMEH	**Mehriz**	**4.37**	**323**	Pn	**Pn**	**07 20 32.7**	**+1.1**
BIDO	**Bidbid**	**4.40**	**175**	P	**Pn**	**07 20 31.8**	**+0.1**
BIDO				S	**Sn**	**07 21 22.1**	**+0.1**
IKOO	**Kooshah**	**4.63**	**14**	Pn	**Pn**	**07 20 36.9**	**+1.7**
ARQ	**Araqi**	**4.68**	**193**	P	**Pn**	**07 20 38.0**	**+2.3**
SNR=20							
ARQ				S	**Sn**	**07 21 30.6**	**+1.5**
SMDO	**Samad**	**4.85**	**176**	P	**Pn**	**07 20 38.9**	**+0.8**
SMDO				S	**Sn**	**07 21 33.2**	**-0.1**
BSY	**Bisya**	**5.17**	**185**	P	**Pn**	**07 20 44.4**	**+2.0**
BSY				S	**Sn**	**07 21 42.2**	**+1.0**
MZWR	**Madinat Zayed**	**5.38**	**220**	P	**Pn**	**07 20 45.8**	**+0.6**
MZWR				S	**Sn**	**07 21 46.8**	**+0.6**
WBK	**Wadi Bani Khal**	**5.41**	**167**	P	**Pn**	**07 20 46.1**	**+0.4**
SNR=12							
WBK				S	**Sn**	**07 21 46.6**	**-0.5**
JMDO	**Jabal Madar**	**5.54**	**176**	P	**Pn**	**07 20 48.6**	**+1.2**
JMDO				S	**Sn**	**07 21 49.9**	**-0.3**
DSBU	**Dashti - Bushe**	**5.69**	**276**	Pn	**Pn**	**07 20 50.2**	**+0.6**
GHWR	**Ruwais**	**5.85**	**229**	P	**Pn**	**07 20 51.6**	**-0.1**
GHWR				S	**Sn**	**07 21 57.8**	**-0.2**
JLN	**Jalan Bani Buh**	**5.95**	**164**	P	**Pn**	**07 20 53.7**	**+0.6**
SNR=7.5							
JLN				S	**Sn**	**07 21 59.8**	**-0.6**
IRAM	**Ramesheh**	**6.02**	**311**	Pn	**Pn**	**07 20 54.8**	**+0.6**
KLNJ	**Kolanjah**	**6.14**	**302**	Pn	**Pn**	**07 20 56.7**	**+0.7**
SHMA	**Al-Shehemyia**	**6.34**	**253**	P	**Pn**	**07 20 59.7**	**+1.2**
SNR=11							
SHMA				S	**Sn**	**07 22 09.7**	**-0.3**
SNR=9.9							
TRNA	**Turayna**	**6.62**	**243**	P	**Pn**	**07 21 03.2**	**+1.0**
SNR=6.9							
TRNA				S	**Sn**	**07 22 15.6**	**-1.2**
SNR=21							
SAKB	**Bahrain**	**6.67**	**255**	P	**Pn**	**07 21 04.6**	**+1.7**
SAKB				S	**Sn**	**07 22 16.9**	**-1.1**
IBRJ	**Brojen**	**6.85**	**307**	Pn	**Pn**	**07 21 06.5**	**+0.8**
MHTO	**MHTO**	**6.91**	**178**	P	**Pn**	**07 21 07.6**	**+1.4**
SMRA	**Abu-Samra**	**6.92**	**244**	P	**Pn**	**07 21 07.6**	**+1.2**
SMRA				S	**Sn**	**07 22 23.0**	**-1.2**
SNR=14							
DOK	**Doka**	**9.82**	**200**	P	**Pn**	**07 21 44.9**	**-1.3**
DMTO	**DMTO**	**10.46**	**195**	P	**Pn**	**07 21 53.7**	**-1.3**
WHFO	**Wadi Hawf**	**10.59**	**201**	P	**Pn**	**07 21 54.9**	**-1.8**
ABTO	**Aybut**	**11.27**	**202**	P	**Pn**	**07 22 05.0**	**-1.0**
RAYN	**Ar Rayn**	**11.82**	**251**	P	**Pn**	**07 22 11.8**	**-1.9**
BRTR	**Keskin Array B**	**23.11**	**307**	P	**P**	**07 24 29.6**	**-1.1**
2.1nm,0.8s,baz=125,slow=11,SNR=8.0							
2.1nm,0.8s							
MKAR	**Makanchi Array**	**26.98**	**39**	P	**P**	**07 25 07.5**	**+1.4**
0.3nm,0.7s,baz=231,slow=9.2,SNR=3.6							
0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**32.73**	**30**	P	**P**	**07 25 54.4**	**-2.5**
0.6nm,0.3s,baz=226,slow=10,SNR=4.2							
0.6nm,0.3s							

*IDC **23** 07:41:44.7±1.0, 30°.90N×141°.75E, h0km, mb3.6/6, mbtmp3.6/7, ML3.0/1, MS3.3/1, Error ellipse: s-maj=35.7km s-min=21.0km az=86.0*
ISC 23 07:41:50.1±1.1, 30°.9N±0°.1×141°.7E±0°.2, h37km, n8,

σ1♀12/7, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	6.34	334	Pn	Pn	07 43 21.3	+0.4
	0.3nm,0.3s,baz=158,slow=11,SNR=28						
	3.2nm,0.4s						
MKAR	Makanchi Array	47.80	307	P	P	07 50 24.3	+0.6
	0.5nm,0.7s,baz=91,slow=8.9,SNR=5.8						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	50.14	312	P	P	07 50 39.9	-1.7
	0.6nm,0.3s,baz=61,slow=7.7,SNR=2.5						
	0.6nm,0.3s						
WRA	Warramunga Arr	51.04	189	P	P	07 50 48.4	-0.3
	0.8nm,0.4s,baz=5.2,slow=7.5,SNR=20						
	0.8nm,0.4s						
ILAR	Eielson Array	54.61	30	P	P	07 51 15.3	+0.8
	0.1nm,0.3s,baz=267,slow=6.8,SNR=4.4						
	0.1nm,0.3s						
ASAR	Alice Springs	54.77	189	P	P	07 51 16.9	+0.8
	0.4nm,0.4s,baz=351,slow=4.8,SNR=12						
	0.4nm,0.4s						
MSVF	Nonsavu	59.65	139	LR	LR	08 15 22.7	
	comp=Z,23nm,19.3s,baz=162,slow=34						
NVAR	Mina Array Bea	78.51	52	P	P	07 53 47.1	-0.7
	0.2nm,0.6s,baz=308,slow=5.3,SNR=2.2						
	0.2nm,0.6s						

*IDC **23** 08:32:06.9±2.5, 8°.38S×113°.52E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=145.8km s-min=26.9km az=49.0*
*DJA **23** 08:32:11.7±0.2, 8°S±2°×11°4E±°, h10km, M3.6/16, mb3.9/1, MLv3.5/16*
ISC 23 08:32:10.0±0.8, **8°.09S**±0°.06×**114°.09E**±0°.03, **h16km, n22,**

σ1♀13/21, mb3.2/3, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	Asem Bagus	0.32	27	P	Pg	08 32 15.9	-0.9
JAGI	Jajag, Banyuwa	0.39	171	P	Pn	08 32 20.8	-0.2
JAGI				S	Sn	08 32 27.9	-0.2
GMJI	Gumukmas	0.67	254	P	Pn	08 32 26.3	+1.5
KMMI	Kalianget	1.03	353	P	Pg	08 32 30.7	+0.6
SRBI	Singaraja	1.11	90	P	Pb	08 32 30.0	-0.9
SRBI				S	Sb	08 32 44.6	-0.6
DNP	Denpasar	1.26	118	P	Pb	08 32 33.7	+0.3
GRJI	Gresik	1.97	306	P	Pb	08 32 46.3	+0.7
GRJI				S	Sg	08 33 12.4	-1.2
PWJI	Pagerwojo	2.26	271	P	Pb	08 32 49.8	-0.7
TBJI	Tambak Boyo	2.55	299	P	Pb	08 32 55.1	-0.4
NGJI	Ngawi	2.70	285	P	Pb	08 32 57.9	-0.1
TWSI	Taliwang, Sumb	2.84	103	P	Pn	08 32 54.7	-0.1
PCJI	Pacitan	2.88	268	P	Pb	08 33 00.7	-0.5
UGM	Wanagama	3.54	273	P	Pb	08 33 09.5	-2.8
PLAI	Plampang	3.72	102	P	Pn	08 33 07.6	+0.7
BKSI	Bulukumba	6.59	66	P	Pn	08 33 46.5	+0.1
STKI	Sintang	8.50	342	P	Pn	08 34 24.8	+12
WRA	Warramunga Arr	22.88	123	P	P	08 37 15.3	+2.1
	0.4nm,0.5s,baz=296,slow=12,SNR=6.0						
	0.4nm,0.5s						
ASAR	Alice Springs	24.51	131	P	P	08 37 30.5	+1.5
	0.3nm,0.5s,baz=307,slow=9.2,SNR=12						
	0.3nm,0.5s						
MKAR	Makanchi Array	61.53	336	P	P	08 42 26.0	-0.3
	0.3nm,0.5s,baz=156,slow=6.6,SNR=5.0						
	0.3nm,0.5s						
H04N2	CROZET ISLANDS	65.13	223	T	T	09 52 38.4	
	baz=74,slow=75,SNR=9.7						
H04N1	CROZET ISLANDS	65.15	223	T	T	09 52 41.6	
	baz=74,slow=75,SNR=10						
H04N3	CROZET ISLANDS	65.15	223	T	T	09 52 40.0	
	baz=74,slow=75,SNR=11						

*STR **23** 08:36:22.3±0.4, 50°N±5°×°±°, h0km, MLv3.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=21.1, preliminary*
*UCC **23** 08:36:25.7, 50°.23N×1°.01E, h0km, ML2.2, Explosion.*
ISC 23 08:36:20.6±1.0, **50°.06N**±0°.05×**1°.16E**±0°.04, **h0km, n22,**

σ0♀48/23, 6D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	Herstmonceux	0.97	327	P	Pb	08 36 40.1	-0.1
ELSH	Elham, Standar	1.09	359	P	Pg	08 36 41.7	+0.2
BOST	Ostende	1.64	43	dP	Pn	08 36 51.1	+0.4
BSKQ	Steenkerk	1.96	71	dP	Pb	08 36 56.8	-0.4
LOUF	Saint-Loup	2.11	230	P	Pn	08 36 57.9	+0.7
DOU	Dourbes	2.22	88	P	Pn	08 36 58.8	+0.2
DOU	Dourbes	2.22	88	dP	Pn	08 36 59.3	+0.7
JSA	Saint Aubin	2.33	249	P	Pn	08 37 00.6	+0.5
BMRD	Maredsous	2.33	83	dP	Pg	08 37 05.2	-0.1
BGES	Gesves	2.55	81	dP	Pb	08 37 06.8	-0.3
RCHB	Rochefort	2.62	86	P	Pn	08 37 03.9	-0.3
BCLA	Clavier	2.69	81	dP	Pn	08 37 05.9	+0.8
PLEF	Pleven - 22200	2.77	237	P	Pn	08 37 06.8	+0.7
PLEF				S	Sn	08 37 39.8	-0.5
DYA	Yadsworthy	3.29	279	P	Pn	08 37 13.3	0.0
LOR	Lormes	3.32	146	P	Pn	08 37 14.2	+0.4
MANO	Manonville	3.34	110	P	Pn	08 37 14.9	+0.8
CCA1	Carnmenellis	4.11	274	P	Pn	08 37 24.3	-0.3
PLDF	La Plantade	4.41	157	P	Pn	08 37 28.8	-0.1
CHMF	Charmoille	4.60	126	P	Pn	08 37 31.4	-0.1
BRANT	Les Verrieres	4.71	129	P	Pn	08 37 33.3	+0.2
TORNY	Torny/Romont	5.07	128	P	Pn	08 37 38.3	+0.5
OGMY	Moye	5.25	141	P	Pn	08 37 40.7	+0.4

*UCC **23** 08:43:22.7, 50°.13N×1°.14E, h0km, ML3.1, Explosion.*
*STR **23** 08:43:23.4±0.4, 50°N±5°×°±°, h0km, MLv3.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=156.4, preliminary*
ISC 23 08:43:22.2±1.1, **50°.12N**±0°.06×**1°.12E**±0°.04, **h0km, n30,**

σ0♀46/35, 19D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZEV	Zevekote	1.52	47	dP	Pb	08 43 50.9	-0.3
BOST	Ostende	1.61	45	dP	Pn	08 43 51.4	-0.4
BBOU	Bougnies	1.83	80	dP	Pb	08 43 56.1	-0.4
BSKQ	Steenkerk	1.96	73	dP	Pn	08 43 56.6	0.0
BRQR	Ronquire	2.04	75	dP	Pn	08 43 57.6	-0.2
LOUF	Saint-Loup	2.14	228	Pn	Pn	08 43 58.9	-0.1
LOUF				Sn	Sn	08 44 26.9	+0.7
UCC	Uccle	2.18	71	dP	Pn	08 43 59.5	-0.1
UCC				dP	Pn	08 43 59.7	+0.1
DOU	Dourbes	2.23	89	Pn	Pn	08 44 00.4	-0.1
DOU				Sn	Sb	08 44 31.4	-0.1
DOU	Dourbes	2.23	89	dP	Pn	08 44 00.8	+0.3
JSA	Saint Aubin	2.33	248	Pn	Pn	08 44 01.9	+0.2
BMRD	Maredsous	2.35	84	dP	Pn	08 44 02.0	0.0
BGES	Gesves	2.56	83	dP	Pn	08 44 04.7	-0.2
RCHB	Rochefort	2.64	88	Pn	Pn	08 44 05.9	-0.1
RCHB	Rochefort	2.64	88	dP	Pn	08 44 06.1	+0.1
BCLA	Clavier	2.70	82	dP	Pn	08 44 06.5	-0.3
BDSL	Dessel	2.74	65	dP	Pn	08 44 07.2	-0.1
BMOL	Mol	2.75	65	dP	Pn	08 44 07.6	+0.1
PLEF	Pleven - 22200	2.79	236	Pn	Pn	08 44 07.5	-0.4
PLEF				Sn	Sn	08 44 43.8	+1.6
BOPT	Opiter	3.04	69	dP	Pn	08 44 11.6	+0.1
MEM	Membach	3.17	79	dP	Pn	08 44 13.0	-0.2
MEM				dP	Pn	08 44 13.0	-0.2
LKLB	Kalborn	3.21	88	dP	Pn	08 44 14.3	+0.5
MCH1	Michaelchurch	3.21	307	Pn	Pn	08 44 13.4	-0.4
DYA	Yadsworthy	3.26	278	Pn	Pn	08 44 14.2	-0.3
LVIA	Vianden	3.28	91	dP	Pn	08 44 15.5	+0.7
VERF	Verneugheol	4.47	168	P	Pn	08 44 30.3	-0.8
BRANT	Les Verrieres	4.77	130	P	Pn	08 44 35.3	0.0
FRNF	Fournols	4.83	168	P	Pn	08 44 35.7	-0.5
BOURR	Bourrignon	4.87	122	P	Pn	08 44 36.7	0.0
TORNY	Torny/Romont	5.13	129	P	Pn	08 44 40.3	+0.1
LEUC	Leucamp	5.45	169	P	Pn	08 44 43.7	-0.9

*NEIC **23** 09:24:09.5±1.7, 17°.2S±0°.2×178°.36W±0°.08, h442km±9km, mb4.3/17, Error ellipse: s-maj=22.5km s-min=11.4km az=177.0*
*IDC **23** 09:24:10.4±1.6, 17°.11S×178°.41W, h462km±15km, mb3.5/10, mbtmp4.2/12, Error ellipse: s-maj=21.5km s-min=16.1km az=129.0*
*NOU **23** 09:24:11.9, 17°.07S×178°.11W, h437km, MLv3.9/7, Fiji Islands Region*
ISC 23 09:24:09.2±0.6, **17°.1S**±0°.1×**178°.28W**±0°.08, **h453km, n46,**

σ1♀78/48, mb4.0/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	1.22	205	P	P	09 25 08.3	+1.9
TAVE	Taveuni	1.61	284	P	P	09 25 10.0	+1.9
DGTI	Dogotuki	2.07	293	P	P	09 25 11.9	+1.4
FUTU	Fugatoga	2.80	3	P	P	09 25 16.0	+0.9
FUTU	Fugatoga	2.80	3	P	P	09 25 16.6	+1.4
MSVF	Nonsavu	3.56	260	P	P	09 25 21.4	+0.5
MSVF	Nonsavu	3.56	260	P	P	09 25 23.6	+2.6
	29nm,0.7s,baz=68,slow=9.2,SNR=18						
MSVF				S	S	09 26 24.7	+5.5
	8.0nm,0.6s,baz=141,slow=22,SNR=1.6						
MSVF	Nonsavu	3.56	260	P	P	09 25 24.0	+3.1
AFI	Afiamalu	7.03	64	P	P	09 25 53.1	-1.4
NIUE	Niue	8.18	105	P	P	09 26 06.2	-0.4
NIUE	Niue	8.18	105	P	P	09 26 07.7	+1.1
DZM	Mont Dzumac	15.21	249	P	P	09 27 22.8	0.0
DZM	Mont Dzumac	15.21	249	P	P	09 27 21.5	-1.2
	8.3nm,0.9s,baz=72,slow=19,SNR=2.6						
URZ	Urewera	21.45	190	P	P	09 28 21.8	-1.6
	11nm,0.5s,baz=351,slow=3.1,SNR=9.7						
COEN	Coen	37.23	269	P	P	09 30 41.1	+0.1
COEN				IAmb	IAmb	09 30 42.5	
	comp=Z,8.4nm,1.0s						
STKA	Stephens Creek	39.12	240	P	P	09 30 54.9	-1.5
	comp=Z,2.0nm,0.7s,baz=74,slow=11,SNR=3.5						
	comp=Z,2.0nm,0.7s						
BBOO	Buckleboo	43.90	240	P	P	09 31 33.7	-0.7
BBOO				IAmb	IAmb	09 31 37.9	
	comp=Z,19nm,1.3s						
WR0	Warramunga Arr	44.71	259	P	P	09 31 40.3	-0.6
WB0	Warramunga Arr	44.87	259	P	P	09 31 41.2	-0.9
WB0				IAmb	IAmb	09 31 43.7	
	comp=Z,8.3nm,1.4s						
WB2	Warramunga Arr	44.89	259	P	P	09 31 40.7	-1.6
WB2				IAmb	IAmb	09 31 42.0	
	comp=Z,8.5nm,1.4s						
WRA	Warramunga Arr	44.90	259	P	P	09 31 40.8	-1.6
WRA	Warramunga Arr	44.90	259	P	P	09 31 41.0	-1.4
	comp=Z,1.8nm,0.6s,baz=90,slow=8.3,SNR=24						
WRA				S	S	09 37 39.2	-7.3
	comp=Z,0.3nm,0.7s,baz=335,slow=32,SNR=1.9						
	comp=Z,1.8nm,0.6s						
AS31	Alice Springs	45.13	253	P	P	09 31 43.2	-0.9
ASAR	Alice Springs	45.13	253	P	P	09 31 43.2	-0.9
	comp=Z,7.6nm,0.6s,baz=87,slow=8.0,SNR=98						
ASAR				PcP	PcP	09 33 15.2	-0.3
	comp=Z,0.5nm,0.7s,baz=84,slow=4.8,SNR=2.2						
ASAR				ScP	ScP	09 36 25.3	+0.9
	comp=Z,0.6nm,1.0s,baz=91,slow=3.7,SNR=4.0						
ASAR				S	S	09 37 48.6	-1.0
	comp=Z,0.3nm,0.8s,baz=93,slow=14,SNR=4.1						
	comp=Z,7.6nm,0.6s						
MTN	Manton Dam	48.95	268	P	P	09 32 12.8	-0.4
MTN				IAmb	IAmb	09 32 14.1	
	comp=Z,15nm,0.8s						
KNRA	Kununurra	50.70	264	P	P	09 32 26.7	+0.7
KNRA				IAmb	IAmb	09 32 27.2	
	comp=Z,13nm,0.7s						
FITZ	Fitzroy Crossi	53.28	260	P	P	09 32 44.8	-0.1
PSA00	Pilbara Seismi	58.23	255	P	P	09 33 19.1	-0.2
PSA00				IAmb	IAmb	09 33 28.5	
	comp=Z,21nm,1.2s						
MBWA	Marble Bar	58.39	255	P	P	09 33 20.8	+0.3
MBWA				IAmb	IAmb	09 33 27.9	
	comp=Z,23nm,1.2s						
JAGI	Jajag, Banyuwa	66.19	268	P	P	09 34 10.9	-0.5
JGF	Kuroka	67.20	322	P	P	09 34 17.9	+0.7
MJAR	Matsushiro Arr	67.35	323	P	P	09 34 17.7	-0.4
	comp=Z,3.0nm,0.8s,baz=153,slow=5.9,SNR=6.7						
	comp=Z,3.0nm,0.8s						
ASAJ	Asahikawa	70.65	331	P	P	09 34 38.5	+0.6
	comp=Z,3.2nm,0.8s,baz=112,slow=5.4,SNR=2.5						
	comp=Z,3.2nm,0.8s						
TPUB	Ta-pu	71.94	302	P	P	09 34 45.9	-0.2
QSPA	South Pole Qui	72.93	180	P	P	09 34 52.8	+1.6
QSPA				IAmb	IAmb	09 34 53.7	
	comp=Z,14nm,1.1s						
QSPA	South Pole Qui	72.93	180	P	P	09 34 52.0	+0.8
	comp=Z,10nm,0.8s,baz=14,slow=1.5,SNR=47						
	comp=Z,10nm,0.8s						
KSRS	Korea Array	74.20	318	P	P	09 34 59.9	+1.2
	comp=Z,1.0nm,0.6s,baz=125,slow=4.7,SNR=4.5						
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	85.09	13	P	P	09 35 54.5	-1.2
	comp=Z,1.1nm,1.0s,baz=212,slow=5.3,SNR=8.7						
	comp=Z,1.1nm,1.0s						
CMAR	Chiang Mai Arr	88.74	290	P	P	09 36 14.6	+0.5
	comp=Z,0.3nm,0.3s,baz=110,slow=3.8,SNR=5.6						
	comp=Z,0.3nm,0.3s						
YKA	Yellowknife Ar	93.57	25	P	P	09 36 35.4	+0.1
	comp=Z,0.3nm,0.8s,baz=240,slow=4.5,SNR=5.1						
	comp=Z,0.3nm,0.8s						
BRTR	Keskin Array B	144.31	316	PKP	PKPbc	09 42 51.2	-1.5
	comp=Z,1.1nm,0.5s,baz=110,slow=3.3,SNR=5.7						
CLL	Collm	144.72	348	*i* PKPbc	P	09 42 53.2	-9.2
	comp=Z,12nm,1.1s						
BRG	Berggiesshubel	144.93	346	*e*P	P	09 42 54.4	-12
BRG	Berggiesshubel	144.93	346	Amp		09 42 56.9	
	comp=Z,7.1nm,1.1s						
MMAI	Mount Meron Ar	145.81	304	PKPbc	PKPbc	09 42 57.6	+0.1
	comp=Z,0.9nm,0.4s,baz=93,slow=5.1,SNR=5.6						
FUORN	Ofenpass-Fuorn	149.74	348		PKiKP	09 43 08.8	+0.7
FUORN				PKPab	PKPab	09 43 15.4	+0.9

*IDC **23** 09:31:09.3±2.0, 40°.44N×111°.77W, h0km, mb2.6/1, mbtmp2.8/3, ML3.5/2, MS2.5/2, Error ellipse: s-maj=46.8km s-min=7.1km az=141.0*
*NEIC **23** 09:31:10.3±1.4, 40°.48N±0°.01×111°.97W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=335.0*
*UUSS **23** 09:31:10.5±1.2, 40°.47N±0°.02×111°.95W±0°.01, h9km±6km, ML3.1/17, ML3.1/80(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=196.0*
ISC 23 09:31:10.9±0.9, **40°.48N**±0°.02×**111°.95W**±0°.02, **h8km**±7km, **n82,** σ0♀70/84, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTU	Western Traver	0.03	180		Pg	09 31 12.4	-0.3
CWU	Camp Williams	0.12	252		Pg	09 31 13.7	-0.1
GMU	Granite Mounta	0.17	57		Pg	09 31 14.4	-0.2
MHD	Mile High Driv	0.21	33		Pg	09 31 15.3	-0.1
MHD	Mile High Driv	0.21	33		Sg	09 31 18.4	+0.1
NOQ	North Oquirrh	0.21	323		Pg	09 31 15.7	+0.4
NOQ					Sg	09 31 18.9	+0.6
AAU	Alta	0.26	66		Pg	09 31 16.1	-0.3
HRU	Hogsback Ridge	0.31	10		Pg	09 31 17.3	+0.2
RBU	Red Butte Cany	0.32	20		Pg	09 31 17.2	-0.1
RBU	Red Butte Cany	0.32	20		Sg	09 31 21.7	+0.2
DCU	Deer Creek Res	0.33	102		Pg	09 31 17.3	-0.3
JLU	Jordanelle	0.40	73		Pg	09 31 18.4	-0.5
JLU				IAML		09 31 24.5	
	comp=E,1μm,0.3s						
JLU				IAML		09 31 24.9	
	comp=N,1μm,0.3s						
SAIU	Southern Antel	0.41	335		Pg	09 31 19.0	0.0
WMUT	West Mountain	0.42	167		Pg	09 31 18.9	-0.2
LDJ	Lady	0.43	77		Pg	09 31 19.5	+0.2
RCJ	Ross Creek	0.43	66		Pg	09 31 19.2	-0.1
HLJ	Hailstone	0.44	73		Pg	09 31 19.5	-0.1
KLJ	Keetly	0.44	70		Pg	09 31 19.6	-0.1
HEB	Heber	0.47	88		Pg	09 31 20.2	+0.1
MPU	Maple Canyon	0.53	152		Pg	09 31 20.9	-0.3
DAU	Daniels Canyon	0.54	97		Pg	09 31 21.4	0.0
FPU	Francis Peak	0.55	9		Pg	09 31 21.6	-0.1
N16A	Rees Ranch, Co	0.56	44		Pg	09 31 22.3	+0.4
NAIU	Northern Antel	0.57	339		Pg	09 31 21.9	-0.2
SNUT	Stansbury Nort	0.58	314		Pg	09 31 22.2	-0.1
HTU	Hoyt Peak	0.59	71		Pg	09 31 22.6	+0.1
DUG	Dugway, Tooele	0.72	247	Pg	Pg	09 31 24.2	-0.6
DUG				IAML		09 31 38.2	
	comp=N,1μm,0.3s						
TCUT	Toone Canyon	0.76	33		Pg	09 31 25.0	-0.6
TCUT	Toone Canyon	0.76	33		Pg	09 31 25.7	+0.1
LHUT	Little Humpy P	0.83	60		Pb	09 31 27.4	-0.4
SPUT	South Promonto	0.91	336		Pg	09 31 27.8	-0.6
SPUT				IAML		09 31 42.3	
	comp=N,987nm,0.3s						
SPUT				IAML		09 31 42.7	
	comp=E,711nm,0.5s						
BSUT	Blindstream Ca	0.91	86	Pg	Pg	09 31 28.0	-0.5
BSUT				IAML		09 31 40.4	
	comp=N,394nm,0.5s						
BGU	Big Grassy Mou	0.93	299	Pg	Pg	09 31 28.3	-0.6
BGU				IAML		09 31 42.5	
	comp=N,532nm,0.4s						
BGU				IAML		09 31 43.6	
	comp=E,1μm,0.6s						
EPU	East Promontor	0.97	339		Pg	09 31 29.2	-0.4
LEVU	Levan	0.98	174		Pg	09 31 29.6	-0.2
ELLU	Electric Lake	1.02	145		Pg	09 31 30.6	+0.1
MCU	Monte Cristo P	1.03	19		Pg	09 31 30.2	-0.6
EMUT	Emma Park	1.10	127		Pg	09 31 31.7	-0.4
FLU	Fool Peak	1.12	189		Pg	09 31 31.6	-0.8
WVUT	Wellsville	1.13	360		Pg	09 31 32.0	-0.6
HWUT	Hardware Ranch	1.16	15	Pg	Pg	09 31 32.3	-0.9
HWUT				IAML		09 31 50.4	
	comp=E,805nm,0.7s						
HWUT				IAML		09 31 51.7	
	comp=E,457nm,0.5s						
SNO	Snow College	1.21	165		Pb	09 31 33.9	-0.3
ARGU	Argyle Ridge	1.27	121		Pn	09 31 34.9	-0.3
TMUT	Trail Mountain	1.32	154		Pn	09 31 35.1	-0.8
TMUT				IAML		09 32 00.2	
	comp=N,190nm,0.7s						
TMUT				IAML		09 32 03.0	
	comp=E,191nm,0.8s						
SGU	Sterling	1.32	170		Pn	09 31 35.7	-0.2
HDU	Hyde Park	1.33	6		Pn	09 31 35.4	-0.5
FSU	Fish Springs	1.34	236		Pn	09 31 34.7	-1.3
HVU	Hansel Valley	1.44	335		Pn	09 31 36.0	-1.4
HVU				IAML		09 31 59.8	
	comp=E,295nm,0.5s						
HVU				IAML		09 32 01.1	
	comp=N,347nm,0.6s						
ROA	Roan Cliffs	1.47	123		Pn	09 31 38.2	+0.2
BCE	Book Cliffs Ea	1.47	126		Pn	09 31 38.1	+0.1
MLI	Malad Range	1.55	355		Pn	09 31 37.9	-1.1
P18A	Preston Nutter	1.56	123		Pn	09 31 39.5	+0.2
P18A				IAML		09 32 06.7	
	comp=E,140nm,0.8s						
BMUT	Black Mountain	1.57	20		Pn	09 31 39.6	+0.3
BEI	Bear River Ran	1.64	4		Pn	09 31 40.2	0.0
Q16A	Castle Valley	1.68	159		Pn	09 31 40.2	-0.5
SRU	San Rafael Swe	1.76	141		Pn	09 31 41.6	-0.2
SRU				IAML		09 32 10.1	
	comp=N,132nm,0.5s						
SRU				IAML		09 32 13.6	
	comp=E,114nm,0.7s						
TCRU	Three Creeks R	1.91	192		Pn	09 31 43.7	-0.3
TCRU				IAML		09 32 12.7	
	comp=E,113nm,1.1s						
MSU	Marysvale	1.98	185		Pn	09 31 44.4	-0.5
SPR3	Spring Creek 3	2.36	232		Pn	09 31 51.2	+1.0
SPR3				IAML		09 32 35.5	
	comp=N,62nm,0.6s						
PSUT	Pine Spring	2.44	218		Pn	09 31 51.1	-0.2
GRRI	Grays Lake	2.48	9		Pn	09 31 52.5	+0.6
ELK	Elko	2.52	277		Pn	09 31 50.5	-1.8
ELK				IAML		09 32 31.9	
	comp=N,90nm,0.3s						
ELK				IAML		09 32 34.5	
	comp=N,53nm,0.4s						
O20A	White River Ci	2.86	96		Pb	09 31 59.9	-2.4
PD31	Pinedale Array	2.90	37		Pn	09 31 57.4	-0.2
PDAR	Pinedale Array	2.90	37		Pn	09 31 56.6	-1.0
PDAR	Pinedale Array	2.90	37	Pn	Pn	09 31 58.2	+0.6
	comp=N,1.3nm,0.3s,baz=233,slow=13,SNR=50						
PDAR				Pg	Pb	09 32 02.3	-0.8
	comp=N,6.4nm,0.3s,baz=215,slow=16,SNR=41						
PDAR				Lg	Lg	09 32 39.0	
	comp=N,33nm,0.3s,baz=212,slow=30,SNR=25						
PDAR				LR	LR	09 32 48.5	
	comp=N,38nm,21.3s,baz=48,slow=35						
	comp=N,4.5nm,0.4s						
PV23	Carpenter Ridg	3.05	131		Pn	09 31 59.2	-0.4
PV10	Paradox Valley	3.08	132		Pn	09 32 01.0	+0.8
PV10				IAML		09 32 50.0	
	comp=N,111nm,0.5s						
TPAW	Teton Pass	3.10	14		Pn	09 31 59.3	-1.0
TPAW				IAML		09 32 55.8	
	comp=N,59nm,0.9s						
TPAW				IAML		09 32 56.2	
	comp=N,99nm,0.7s						
FXWY	Fox Creek	3.23	12		Pn	09 32 02.2	+0.1
FXWY				IAML		09 32 56.8	
	comp=N,27nm,0.8s						
FXWY				IAML		09 33 02.1	
	comp=N,29nm,1.1s						
PV11	David Mesa, Pa	3.23	131		Pn	09 32 03.0	+0.9
LOHW	Long Hollow	3.28	17		Pn	09 32 03.1	+0.3
LOHW				IAML		09 32 55.7	
	comp=N,78nm,0.3s						
PV13	Radium Mtn., P	3.36	133		Pn	09 32 05.0	+1.1
PV13				IAML		09 33 11.4	
	comp=E,82nm,0.7s						
PV13				IAML		09 33 13.9	
	comp=N,52nm,0.8s						
MOOW	Moose Ponds	3.38	15		Pn	09 32 03.9	-0.3
MOOW				IAML		09 32 59.0	
	comp=N,24nm,0.5s						
PV15	Paradox Valley	3.44	127		Pn	09 32 04.5	-0.5
HLID	Hailey	3.58	330		Pn	09 32 06.7	-0.2
FLWY	Flagg Ranch	3.71	14		Pn	09 32 08.9	+0.2
FLWY				IAML		09 33 16.4	
	comp=N,25nm,0.8s						
FLWY				IAML		09 33 21.9	
	comp=N,33nm,0.9s						
N23A	Red Feather La	4.59	83		Pn	09 32 22.1	+1.3
N23A				IAML		09 33 45.9	
	comp=N,38nm,0.8s						
K22A	Casper	4.61	60		Pn	09 32 22.4	+1.3
V12A	Nelson	5.27	207	IAML		09 34

comp=E,194nm,0.1s
KAN01 IAML 09 33 11.7
comp=N,186nm,0.1s
KAN12 Harper NE Stat 0.90 24 Pg 09 32 55.0 -0.2
KAN12 IAML 09 33 09.8
comp=N,231nm,0.4s
KAN09 Caldwell North 0.94 45 Pg 09 32 55.6 -0.3
KAN13 South Haven SW 0.95 55 Pg 09 32 55.9 -0.2
KAN13 IAML 09 33 12.6
comp=E,236nm,0.3s
KAN13 IAML 09 33 20.6
comp=N,244nm,0.3s
BLOK Blackwell 1.04 73 Pg 09 32 57.6 -0.1
BLOK IAML 09 33 20.1
comp=E,229nm,0.2s
ADOK Arcadia Dam 1.20 133 Pg **Pn 09 33 00.2 -0.4**
OK051 E0350 and S346 1.30 88 Pn 09 33 02.2 +0.1
OKCSW OKLAHOMA CITY 1.34 142 Pn 09 33 02.7 +0.1
OKCSW IAmb_Lg 09 33 22.1
comp=Z,9.0nm,0.9s
OK031 S. Brethren Rd 1.40 111 Pn 09 33 03.9 +0.5
QUOK Quay 1.44 101 Pn 09 33 04.9 +1.0
FNO Franklin 1.48 144 Pn 09 33 05.0 +0.5
WMOK Wichita Mounta 1.75 189 Pn **Pn 09 33 08.7 +0.6**
WMOK Wichita Mounta 1.75 189 P **Pn 09 33 08.8 +0.6**
W35A Tecumseh 1.83 135 Pn 09 33 10.4 +1.1
X34A Smith Ranch, M 1.93 165 Pb 09 33 12.8 -0.2
X34A IAmb_Lg 09 33 38.5
comp=Z,7.9nm,0.8s
R32A Long Quarter, 1.96 354 Pb 09 33 12.6 -1.1
SMWD Samnorwood 1.99 227 Pn 09 33 12.6 +1.0
SMWD Samnorwood 1.99 227 P **Pb 09 33 13.5 -0.6**
CBKS Cedar Bluff 2.56 337 P **Pb 09 33 22.8 -0.9**
WTFS Witchita Falls 2.69 180 P **Pb 09 33 24.7 -1.4**
AMTX Amarillo 3.07 240 IAmb_Lg 09 34 21.7
comp=Z,8.6nm,0.7s
Z35A Perchaven, San 3.28 162 P **Pn 09 33 31.4 +2.2**
APMT Aspermont 3.42 204 IAmb_Lg 09 34 25.2
comp=Z,3.9nm,0.9s
APMT Aspermont 3.42 204 P **Pb 09 33 37.0 -1.4**
FW03 Perrin-Whitt E 3.44 175 P **Pn 09 33 31.2 -0.1**
DKNS Dickens 3.45 217 IAmb_Lg 09 34 33.8
comp=Z,5.6nm,0.8s
DKNS Dickens 3.45 217 P **Pb 09 33 38.7 -0.4**
RTBA Rita Blanca 3.46 271 P **Pn 09 33 33.9 +2.2**
FW06 Azle 3.56 168 P **Pn 09 33 34.2 +1.1**
PLPT Palo Pinto 3.65 178 P **Pb 09 33 39.7 -2.6**
MSTX Muleshoe 4.33 236 P **Pb 09 33 52.7 -1.3**
MIAR Mount Ida 4.42 114 P **Pn 09 33 46.5 +1.6**
WHTX Lake Whitney, 4.54 169 P **Pn 09 33 46.2 -0.4**
T25A Trinidad 4.83 280 IAmb_Lg 09 35 11.2
comp=Z,8.6nm,0.8s
N38A Joes South For 5.94 42 IAmb_Lg 09 35 53.4
comp=Z,7.6nm,0.9s
EF58 Charlotte 7.61 182 P **Pn 09 34 31.7 +2.9**

*DJA **23** 09:36:23.8±0.3, 7°S±2°×13°0E±°, h181km±11km, M4.6/18, mB5.1/6, mb4.6/10, MLv4.7/18, Mw(mB)4.5/6*
*IDC **23** 09:36:32.7±7.9, 7.48S×128.73E, h241km±78km, mb3.5/3, mbtmp4.2/5, MS3.0/1, Error ellipse: s-maj=83.9km s-min=22.3km az=61.0*
ISC 23 09:36:24.6±0.7, 6.93S±0.06×129.68E±0.06, h200km, n33, σ2§49/36, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**123**	P	**Pn**	**09 37 02.2**	**-0.1**
AAI	**Ambon**	**3.55**	**335**	P	**Pn**	**09 37 20.4**	**-0.5**
MSAI	**Masohi**	**3.64**	**348**	P	**Pn**	**09 37 21.9**	**-0.1**
NLAI	**Namlea**	**4.48**	**325**	P	**Pn**	**09 37 32.1**	**-0.3**
FAKI	**Fak Fak**	**4.74**	**33**	P	**Pn**	**09 37 33.9**	**-1.9**
FAKI	**Fak Fak**	**4.74**	**33**	S	**Sn**	**09 38 26.8**	**-5.0**
FAKI	**Fak Fak**	**4.74**	**33**	P	**Pn**	**09 37 34.4**	**-1.4**
FAKI				S	Sn	09 38 25.2	-6.6
KMPI	**Kaimana, Papua**	**5.16**	**51**	P	**Pn**	**09 37 40.3**	**-0.8**
1.8nm7μm271nm,0.7s							
KMPI				S	**Sn**	**09 38 35.6**	**-5.8**
1.8nm7μm271nm,0.7s							
DRS	**Darwin Rock St**	**5.59**	**168**	P	**Pn**	**09 37 45.9**	**-0.7**
DRS	**Darwin Rock St**	**5.59**	**168**	S	**Sn**	**09 38 47.7**	**-3.8**
SOEI	**Soe**	**6.04**	**242**	P	**Pn**	**09 37 50.8**	**-1.8**
SOEI	**Soe**	**6.04**	**242**	S	**Sn**	**09 38 58.4**	**-3.8**
SOEI	**Soe**	**6.04**	**242**	P	**Pn**	**09 37 51.6**	**-1.0**
0.4nm95nm,0.7s							
SOEI				S	**Sn**	**09 38 57.3**	**-4.9**
0.4nm95nm,0.7s							
MTN	**Manton Dam**	**6.04**	**166**	P	**Pn**	**09 37 51.4**	**-1.1**
SANI	**Sanana**	**6.09**	**323**	P	**Pn**	**09 37 52.6**	**-0.5**
SWI	**Sorong**	**6.23**	**15**	P	**Pn**	**09 37 55.9**	**+1.0**
0.5nm14nm,0.6s							
SWI				S	Sn	09 38 59.3	-7.2
0.5nm14nm,0.6s							
KDU	**Kakadu**	**6.34**	**154**	P	**Pn**	**09 37 55.3**	**-1.1**
LBMI	**Labuha**	**6.62**	**341**	P	**Pn**	**09 38 00.1**	**+0.1**
0.7nm3μm156nm,1.1s							
RKPI	**Ransiki, Papua**	**7.01**	**40**	P	**Pn**	**09 38 05.7**	**+0.7**
KDI	**Kendari**	**7.62**	**292**	P	**Pn**	**09 38 13.9**	**+0.9**
0.2nm2μm17nm,1.1s							
BAKI	**Biak**	**8.58**	**49**	P	**Pn**	**09 38 27.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.77**	**199**	P	**Pn**	**09 39 03.9**	**-2.8**
2.0nm,0.3s,baz=26,slow=11,SNR=31							
FITZ				S	Sn	09 41 06.0	-12
13nm,0.8s,baz=230,slow=18,SNR=7.0							
PLAI	**Plampang**	**11.94**	**260**	P	**Pn**	**09 39 08.1**	**-0.7**
WRA	**Warramunga Arr**	**13.70**	**161**	P	**Pn**	**09 39 28.5**	**-2.4**
1.7nm,0.4s,baz=335,slow=13,SNR=40							
WRA				S	S	09 41 52.2	-11
0.8nm,0.4s,baz=339,slow=22,SNR=3.6							
COEN	**Coen**	**14.99**	**119**	P	**P**	**09 39 49.2**	**+1.7**
QIS	**Mount Isa**	**16.61**	**146**	P	**Pn**	**09 40 08.3**	**+1.9**
ASAR	**Alice Springs**	**17.12**	**167**	P	**Pn**	**09 40 14.0**	**+1.5**
7.9nm,0.8s,baz=345,slow=9.6,SNR=72							
ASAR				S	**S**	**09 43 18.5**	**-0.6**
0.6nm,0.7s,baz=354,slow=28,SNR=2.9							
AS01	**Alice Springs**	**17.14**	**167**	P	**Pn**	**09 40 14.4**	**+1.8**
OOD	**Oodnadatta**	**21.52**	**165**	P	**P**	**09 41 00.0**	**+2.0**
STKA	**Stephens Creek**	**27.20**	**157**	P	**P**	**09 41 52.9**	**+3.0**
0.9nm,0.4s,baz=328,slow=13,SNR=3.4							
0.9nm,0.4s							
KSH	**Kashi**	**67.75**	**318**	P	**P**	**09 47 04.5**	**+3.5**
KSH				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**09 47 05.9**	**+3.7**
comp=Z,0.7nm,0.4s,baz=138,slow=6.9,SNR=21							
comp=Z,0.7nm,0.4s							
KURBB	**Kurchatov Arra**	**72.29**	**329**	P	**P**	**09 47 31.0**	**+2.9**
comp=Z,0.6nm,0.2s,baz=125,slow=5.2,SNR=2.8							
comp=Z,0.6nm,0.2s							

IDC 23 09:50:52.1±2.4, 7.02S×129.19E, h0km, mb3.3/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=158.5km s-min=34.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.78**	**159**	Pn	Pn	09 54 07.8	-1.2
0.1nm,0.3s,baz=341,slow=13,SNR=5.3							
WRA				Sn	Sn	09 56 31.4	-11
0.3nm,0.3s,baz=335,slow=22,SNR=9.5							
0.3nm,0.9s							
ASAR	**Alice Springs**	**17.16**	**165**	Pn	P	09 54 54.5	-0.8
0.1nm,0.3s,baz=344,slow=9.8,SNR=7.0							
ASAR				Sn	Sn	09 57 52.0	-13
0.1nm,0.3s,baz=332,slow=21,SNR=2.2							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	10 01 52.1	0.0
0.2nm,0.7s,baz=124,slow=7.8,SNR=2.4							
0.2nm,0.7s							

*SJA **23** 09:55:33.2±1.6, 23.32S×69.70W, h112km±13km, ML3.6, MW3.6*
*NEIC **23** 09:55:34.7±2.1, 23.42S±0.05×69.44W±0.05, h103km±11km, mb4.1/4, Error ellipse: s-maj=8.5km s-min=5.2km az=142.0*
*GUC **23** 09:55:35.6±0.7, 23.34S×69.47W, h93km±5km, ML4.0*
*IDC **23** 09:55:36.1±2.8, 23.42S×69.18W, h74km±29km, mb3.8/2, mbtmp3.8/6, MS3.1/2, Error ellipse: s-maj=44.0km s-min=22.4km az=108.0*
ISC 23 09:55:34.5±0.8, 23.37S±0.04×69.53W±0.05, h97km±9km, n67, σ1§47/76, 2C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.66**	**356**	*i* P	**Pn**	**09 55 51.9**	**+0.3**
PB06				IAML		09 56 08.2	
comp=Z,4μm,0.1s							
PB06	**IPOC Station P**	**0.66**	**356**	⇓*i* P	**Pn**	**09 55 51.9**	**+0.3**
PB06				*i* S	**Sn**	**09 56 03.6**	**-0.6**
PB06				IAML		09 56 04.6	
comp=E,11μm,0.4s							
AF01	**San Pedro de A**	**1.31**	**72**		**Pn**	**09 55 59.0**	**+0.3**
AF01				Sn	**Sn**	**09 56 16.5**	**-0.3**
AF01	**San Pedro de A**	**1.31**	**72**	⇓*i* P	**Pn**	**09 55 58.6**	**0.0**
AF01	**San Pedro de A**	**1.31**	**72**	⇑*i* P	**Pn**	**09 55 58.9**	**+0.3**
AF01				*i* S	**Sn**	**09 56 15.9**	**-0.9**
PB03	**IPOC Station P**	**1.33**	**351**	*i* P	**Pn**	**09 55 59.2**	**+0.5**
PB03				IAML		09 56 21.0	
comp=Z,3μm,0.2s							
PB03	**IPOC Station P**	**1.33**	**351**	⇓*i* P	**Pn**	**09 55 59.7**	**+1.0**
PB03				*i* S	**Sn**	**09 56 16.7**	**-0.3**
PB03				IAML		09 56 19.4	
comp=E,5μm,0.3s							
PB14	**IPOC Station P**	**1.49**	**212**		**Pn**	**09 56 02.8**	**+1.9**
PB14				Sn	**Sn**	**09 56 21.3**	**+0.5**
PB14	**IPOC Station P**	**1.49**	**212**	*i* P	**Pn**	**09 56 01.9**	**+1.0**
PB14				*i* S	**Sn**	**09 56 21.3**	**+0.5**
PB14				IAML		09 56 24.4	
comp=Z,749nm,0.4s							
PB14	**IPOC Station P**	**1.49**	**212**	*i* P	**Pn**	**09 56 02.5**	**+1.6**
PB14				*i* S	**Sn**	**09 56 21.2**	**+0.5**
PB09	**IPOC Station P**	**1.58**	**10**		**Pn**	**09 56 03.5**	**+1.6**
PB09				Sn	**Sn**	**09 56 24.2**	**+1.6**
PB09	**IPOC Station P**	**1.58**	**10**	*i* P	**Pn**	**09 56 02.6**	**+0.7**
PB09				⇓*i* S	**Sn**	**09 56 22.4**	**-0.2**
PB09				IAML		09 56 29.3	
comp=Z,1μm,1.0s							
PB09	**IPOC Station P**	**1.58**	**10**	⇓*i* P	**Pn**	**09 56 02.6**	**+0.7**
PB09				*i* S	**Sn**	**09 56 23.0**	**+0.4**
PB09				IAML		09 56 28.6	
comp=N,2μm,0.4s							
GO02	**Mina Guanaco**	**1.79**	**182**		**Pn**	**09 56 06.0**	**+1.4**
GO02	**Mina Guanaco**	**1.79**	**182**	*i* P	**Pn**	**09 56 05.4**	**+0.8**
GO02	**Mina Guanaco**	**1.79**	**182**	⇓*i* P	**Pn**	**09 56 06.1**	**+1.4**
GO02				*i* S	**Sn**	**09 56 28.5**	**+1.0**
GO02				IAML		09 56 31.4	
comp=E,2μm,0.1s							
PB01	**IPOC Station P**	**2.31**	**1**		**Pn**	**09 56 12.1**	**+0.9**
PB01	**IPOC Station P**	**2.31**	**1**	*i* P	**Pn**	**09 56 11.5**	**+0.3**
PB01				IAML		09 56 43.8	
comp=Z,827nm,0.2s							
PB01	**IPOC Station P**	**2.31**	**1**	⇓*i* P	**Pn**	**09 56 12.0**	**+0.8**
PB01				*i* S	**Sn**	**09 56 39.8**	**+0.6**
TA01	**Diego Aracena**	**2.85**	**348**	Pn	**Pn**	**09 56 18.3**	**0.0**
TA01	**Diego Aracena**	**2.85**	**348**	*i* P	**Pn**	**09 56 17.5**	**-0.8**
TA01				IAML		09 57 11.5	
comp=Z,276nm,0.5s							
TA01	**Diego Aracena**	**2.85**	**348**	*e*P	**Pn**	**09 56 18.2**	**0.0**
AC01	**Pan de Azucar**	**2.94**	**199**	Pn	**Pn**	**09 56 19.9**	**+0.5**
AC01	**Pan de Azucar**	**2.94**	**199**	⇓*i* P	**Pn**	**09 56 19.4**	**0.0**
AC01				IAML		09 57 20.5	
comp=Z,175nm,0.8s							
AC01	**Pan de Azucar**	**2.94**	**199**	*i* P	**Pn**	**09 56 19.7**	**+0.3**
SALTA		**3.04**	**107**	⇑*i* P	**Pn**	**09 56 22.9**	**+1.6**
TA02	**Huaiquique**	**3.13**	**350**		**Pn**	**09 56 24.4**	**+2.4**
PB08	**IPOC Station P**	**3.23**	**6**		**Pn**	**09 56 25.0**	**+1.3**
PB08	**IPOC Station P**	**3.23**	**6**	*i* P	**Pn**	**09 56 23.7**	**+0.1**
PB08				IAML		09 57 24.6	
comp=Z,222nm,0.3s							
PB08	**IPOC Station P**	**3.23**	**6**	*i* P	**Pn**	**09 56 24.1**	**+0.4**
PB08				IAML		09 57 22.2	
comp=E,344nm,0.6s							
AC02	**Maricunga**	**3.48**	**174**	Pn	**Pn**	**09 56 29.7**	**+2.6**
AC02	**Maricunga**	**3.48**	**174**	*i* P	**Pn**	**09 56 28.6**	**+1.6**
AC02				IAML		09 57 32.7	
comp=Z,127nm,0.9s							
AC02	**Maricunga**	**3.48**	**174**	⇓*i* P	**Pn**	**09 56 29.3**	**+2.3**
PB11	**IPOC Station P**	**3.59**	**358**		**Pn**	**09 56 28.4**	**+0.1**
PB11	**IPOC Station P**	**3.59**	**358**	*i* P	**Pn**	**09 56 27.7**	**-0.7**
PB11				IAML		09 57 39.2	
comp=Z,300nm,1.2s							
PB11	**IPOC Station P**	**3.59**	**358**	*i* P	**Pn**	**09 56 27.9**	**-0.4**
YJA	**Yavi**	**3.89**	**73**	*i* P	**Pn**	**09 56 35.2**	**+2.6**
YJA				IAML		09 57 30.2	
comp=Z,2.7nm,0.8s							
SLA	**San Lorenzo**	**3.92**	**111**	*i* P	**Pn**	**09 56 35.7**	**+3.0**
SLA				IAML		09 57 54.6	
comp=Z,6.3nm,0.8s							
AZAP	**Zapla**	**4.17**	**103**	*i* P	**Pn**	**09 56 38.9**	**+2.6**
AZAP				IAML		09 57 42.8	
comp=Z,20nm,1.1s							
PB12	**IPOC Station P**	**4.79**	**351**	*i* P	**Pn**	**09 56 43.4**	**-1.1**
PB12				IAML		09 58 09.9	
comp=Z,85nm,0.8s							
PB12	**IPOC Station P**	**4.79**	**351**	*i* P	**Pn**	**09 56 42.9**	**-1.5**
AC04	**Llanos de Chal**	**5.02**	**196**	Pn	**Pn**	**09 56 45.7**	**-1.9**
AC04	**Llanos de Chal**	**5.02**	**196**	*i* P	**Pn**	**09 56 45.6**	**-1.9**
AC04				IAML		09 58 01.4	
comp=Z,42nm,0.8s							
AC04	**Llanos de Chal**	**5.02**	**196**	*i* P	**Pn**	**09 56 45.6**	**-1.9**
AHML	**Horco Molle**	**5.10**	**133**	*i* P	**Pn**	**09 56 51.4**	**+2.7**
AHML				IAML		09 57 59.8	
comp=Z,5.5nm,2.2s							
LCO	**Las Campanas**	**5.72**	**190**		**Pn**	**09 56 56.2**	**-1.1**
CO01	**Juntas del Tor**	**6.61**	**184**		**Pn**	**09 57 09.2**	**-0.1**
CO05	**La Serena**	**6.70**	**193**	Pn	**Pn**	**09 57 08.4**	**-2.0**
GO04	**Tololo Observa**	**6.88**	**189**	Pn	**Pn**	**09 57 12.1**	**-0.8**
LPAZ	**La Paz**	**7.16**	**11**	P	**Pn**	**09 57 19.2**	**+1.9**
comp=Z,1.6nm,0.5s,baz=200,slow=5.6,SNR=10							
CO03	**El Pedregal**	**7.52**	**188**	Pn	**Pn**	**09 57 19.6**	**-2.0**
CO06	**Fray Jorge**	**7.52**	**194**	Pn	**Pn**	**09 57 20.3**	**-1.2**
CFA	**Coronel Fontan**	**8.29**	**172**	P	**Pn**	**09 57 31.5**	**-0.5**
baz=0.0,slow=20,SNR=35							
CFA				S	Sn	09 58 55.0	-8.9
baz=253,slow=19,SNR=1.6							
VA03	**San Esteban**	**9.41**	**185**	Pn	**Pn**	**09 57 45.3**	**-2.0**
MT02	**Curacav**	**9.96**	**188**	Pn	Pn	09 57 50.8	-3.9
MT01	**Popeta**	**10.57**	**188**	Pn	Pn	09 57 59.0	-4.0
SIV	**San Ignacio**	**10.82**	**49**	P	**Pn**	**09 58 05.0**	**-1.6**
comp=Z,1.2nm,0.5s,baz=236,slow=12,SNR=7.0							
SIV				S	Sn	09 59 53.4	-12
comp=Z,1.5nm,0.5s,baz=132,slow=20,SNR=5.5							
SIV				LR	LR	10 03 03.4	
comp=Z,41nm,20.9s,baz=268,slow=42							
CPUP	**Villa Florida**	**11.46**	**107**	Pn	**Pn**	**09 58 13.2**	**-1.9**
CPUP	**Villa Florida**	**11.46**	**107**	P	**Pn**	**09 58 13.7**	**-1.4**
comp=Z,1.3nm,0.6s,baz=290,slow=13,SNR=3.9							
TRQA	**Tornquist**	**16.01**	**158**	Pn	**Pn**	**09 59 12.5**	**-1.5**
TRQA				IAmb	IAmb	09 59 18.7	
comp=Z,6.9nm,0.9s							
PLCA	**Paso Flores**	**17.34**	**183**	P	**P**	**09 59 27.5**	**-2.8**
PLCA	**Paso Flores**	**17.34**	**183**	P	**Pn**	**09 59 32.7**	**+2.2**
comp=Z,1.2nm,0.7s,baz=13,slow=13,SNR=4.3							
VAO	**Valinhos**	**20.74**	**93**	P	**P**	**10 00 06.0**	**-1.6**
VAO				IAmb	IAmb	10 00 11.4	
comp=Z,11nm,0.7s							
BDFB	**Brasilia**	**21.67**	**73**	P	**P**	**10 00 17.4**	**-0.2**
comp=Z,1.2nm,0.3s,baz=243,slow=7.9,SNR=4.0							
comp=Z,1.2nm,0.3s							
PCRV	**Puerto La Cruz**	**33.68**	**9**	LR	LR	10 18 47.3	
comp=Z,64nm,19.7s,slow=41							
SNAA	**Sanae**	**60.72**	**161**	P	**P**	**10 05 35.3**	**-0.1**
QSPA	**South Pole Qui**	**66.83**	**180**	P	**P**	**10 06 19.6**	**+3.8**
comp=Z,2.1nm,0.5s,baz=132,slow=12,SNR=41							
comp=Z,2.1nm,0.5s							

*ISN **23** 09:55:40.0±1.2, 36.11N×45.92E, h18km±26km, ML2.8*
*TEH **23** 09:55:41.3, 35.96N×45.98E, h8km±47km*
ISC 23 09:55:41.3±0.9, 35.97N±0.03×45.97E±0.05, h10km, n14, σ1§22/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDS1	**Sardasht. Az.**	**0.43**	**295**	Pg	**Pb**	**09 55 51.2**	**+0.1**
SDS1				Sg	**Sb**	**09 55 58.4**	**+0.8**
MAHB	**Mahabad**	**0.82**	**345**	Pg	**Pn**	**09 55 58.8**	**-0.2**
ILIN	**Lien**	**1.33**	**142**	Pg	**Pg**	**09 56 06.8**	**-0.1**
IKRK	**Kirkuk**	**1.44**	**247**	*e*Pg	**Pn**	**09 56 07.0**	**-0.4**
IKRK				*e*Sg	**Sn**	**09 56 25.0**	**-1.4**
IKRK				AML	AML	09 56 32.2	
comp=N,111nm,0.3s							
IKRK				AML	AML	09 56 41.0	
comp=E,75nm,0.9s							
IHSH	**Hashtrud**	**1.69**	**38**	Pg	**Pg**	**09 56 13.9**	**+0.2**
IAZR	**Azarshahr**	**1.70**	**0**	Pg	**Pg**	**09 56 13.8**	**-0.1**
IGHG	**Ghaleghazi**	**1.71**	**163**	Pg	**Pg**	**09 56 14.5**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.75**	**129**	Pg	**Pg**	**09 56 14.6**	**-0.4**
GLG1	**Gilan-e-Gharb**	**1.85**	**181**	Pn	**Pg**	**09 56 16.4**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.91**	**152**	Pn	**Pb**	**09 56 16.7**	**+0.4**
ISRB	**Sarab**	**2.30**	**36**	Pn	**Pb**	**09 56 22.9**	**-0.1**
ISHB	**Shabestar**	**2.32**	**353**	Pn	**Pb**	**09 56 23.6**	**+0.2**
IBDR	**Badra**	**2.85**	**181**	*e*Pn	**Pn**	**09 56 28.0**	**+1.1**
IBDR				*e*Sn	**Sb**	**09 57 04.0**	**-3.3**
IBDR				AML	AML	09 57 18.2	
comp=N,98nm,0.5s							
IBDR				AML	AML	09 57 39.8	
comp=E,79nm,0.4s							
BHD	**Baghdad**	**3.00**	**206**	*e*Pn	**Pn**	**09 56 30.0**	**+1.2**
BHD				*e*Sn	**Sn**	**09 57 07.0**	**+2.3**

*IDC **23** 09:56:20.6±1.0, 15.15S×173.90W, h0km, mb3.9/7, mbtmp3.9/7, MS3.1/7, Error ellipse: s-maj=42.8km s-min=23.6km az=128.0*
ISC 23 09:56:30.3±1.0, 15.25S±0.2×174.0W±0.3, h73km, n20, σ0§81/8, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.07**	**250**	LR	LR	10 01 26.1	
comp=Z,105nm,19.0s,baz=12,slow=38							
RAR	**Rarotonga**	**14.78**	**116**	LR	LR	10 04 19.7	
comp=Z,23nm,20.9s,baz=280,slow=33							
HNR	**Honiara**	**26.09**	**280**	LR	LR	10 10 00.8	
comp=Z,93nm,18.9s,baz=186,slow=31							
H11S2	**WAKE ISLAND Hy**	**38.47**	**330**	T	T	10 44 22.3	
baz=146,slow=76							
H11S3	**WAKE ISLAND Hy**	**38.48**	**330**	T	T	10 44 21.8	
baz=146,slow=76							
H11S1	**WAKE ISLAND Hy**	**38.49**	**330**	T	T	10 44 22.7	
baz=146,slow=76							
H11N3	**WAKE ISLAND Hy**	**39.43**	**331**	T	T	10 45 27.1	
baz=147,slow=76							
H11N1	**WAKE ISLAND Hy**	**39.43**	**331**	T	T	10 45 29.5	
baz=147,slow=76							
H11N2	**WAKE ISLAND Hy**	**39.45**	**331**	T	T	10 45 28.5	
baz=147,slow=76							
STKA	**Stephens Creek**	**43.67**	**240**	P	**P**	**10 04 28.1**	**0.0**
0.8nm,0.4s,baz=103,slow=14,SNR=3.2							
0.8nm,0.4s							
ASAR	**Alice Springs**	**49.66**	**252**	P	**P**	**10 05 15.3**	**+0.3**
8.4nm,0.6s,baz=86,slow=8.2,SNR=137							
ASAR				LR	LR	10 24 21.0	
comp=Z,32nm,18.4s,baz=105,slow=34							
8.4nm,0.6s							
SHEM	**Shemya Is, Ala**	**68.39**	**352**	LR	LR	10 31 04.8	
comp=Z,23nm,21.6s,baz=288,slow=30							
MJAR	**Matsushiro Arr**	**68.39**	**320**	LR	LR	10 39 21.4	
comp=Z,23nm,18.1s,baz=225,slow=38							
PETK	**Petropavlovsk-**	**72.23**	**343**	P	**P**	**10 07 47.3**	**-0.1**
2.6nm,0.7s,baz=155,slow=6.3,SNR=4.6							
2.6nm,0.7s							
NVAR	**Mina Array Bea**	**74.53**	**42**	P	**P**	**10 08 01.1**	**-0.4**
0.2nm,0.5s,baz=243,slow=8.1,SNR=2.5							
0.2nm,0.5s							
QSPA	**South Pole Qui**	**74.88**	**180**	P	**P**	**10 08 02.8**	**-0.3**
1.3nm,0.7s,baz=60,slow=1.0,SNR=6.2							
1.3nm,0.7s							
KSRS	**Korea Array**	**75.60**	**316**	LR	LR	10 37 54.7	
comp=Z,7.8nm,19.6s,baz=70,slow=33							
ILAR	**Eielson Array**	**82.32**	**11**	P	**P**	**10 08 43.0**	**-0.5**
0.4nm,0.7s,baz=231,slow=6.5,SNR=12							
0.4nm,0.7s							
PDAR	**Pinedale Array**	**82.46**	**42**	P	**P**	**10 08 46.7**	**+1.6**
0.2nm,0.6s,baz=254,slow=6.2,SNR=2.3							
0.2nm,0.6s							
BRTR	**Keskin Array B**	**145.62**	**321**	PKPbc	**PKPdf**	**10 16 00.5**	**-0.3**
1.6nm,0.8s,baz=64,slow=3.4,SNR=6.1							

*IDC **23** 10:01:47.0±3.4, 7.46S×128.74E, h80km±31km, mb3.8/12, mbtmp4.2/15, Error ellipse: s-maj=31.6km s-min=15.8km az=77.0*
*NEIC **23** 10:01:52.3±1.2, 7.47S±0.07×128.82E±0.07, h125km±9km, mb4.3/16, Error ellipse: s-maj=11.6km s-min=9.4km az=224.0*
ISC 23 10:01:52.0±0.5, 7.61S±0.05×128.80E±0.06, h131km, n56, σ1§90/57, mb4.1/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.51**	**99**	Pn	**Pn**	**10 02 32.4**	**+0.1**
SAUI	**Saumlaki**	**2.51**	**99**	P	**Pn**	**10 02 34.9**	**+2.6**
SOEI	**Soe**	**4.96**	**244**	Pn	**Pn**	**10 03 05.8**	**+1.1**
SOEI	**Soe**	**4.96**	**244**	P	**Pn**	**10 03 05.6**	**+0.9**
SOEI	**Soe**	**4.96**	**244**	S	**Sn**	**10 04 01.8**	**+0.5**
DRS	**Darwin Rock St**	**5.22**	**157**	P	**Pn**	**10 03 09.5**	**+1.4**
DRS	**Darwin Rock St**	**5.22**	**157**	S	**Sn**	**10 04 07.2**	**-0.2**
MTN	**Manton Dam**	**5.69**	**156**		**Pn**	**10 03 15.6**	**+1.3**
MTN	**Manton Dam**	**5.69**	**156**	P	**Pn**	**10 03 15.4**	**+1.1**
MTN	**Manton Dam**	**5.69**	**156**	S	**Sn**	**10 04 17.7**	**-0.9**
FAKI	**Fak Fak**	**5.79**	**37**		**Pn**	**10 03 14.5**	**-1.1**
KDU	**Kakadu**	**6.21**	**145**	P	**Pn**	**10 03 21.8**	**+0.5**
KDU	**Kakadu**	**6.21**	**145**	S	**Sn**	**10 04 30.5**	**-0.7**
KNRA	**Kununurra**	**8.02**	**180**		**Pn**	**10 03 45.8**	**0.0**
FITZ	**Fitzroy Crossi**

ZALV	**Zalesovo Beam**	**71.60 334**	P		**P**	**10 12 57.9**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=117,slow=5.2,SNR=9.0						
	comp=Z,1.7nm,0.5s						
KURBB	**Kurchatov Arra**	**72.41 329**	P		**P**	**10 13 03.5**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=127,slow=4.9,SNR=19						
	comp=Z,2.9nm,0.4s						
KURK	**Kurchatov**	**72.42 329**	P		**P**	**10 13 04.2**	**+0.4**
KURK			IAmb		IAmb	10 13 05.5	
	comp=Z,9.4nm,1.4s						
KKAR	**Karatay Array**	**73.01 319**	P		**P**	**10 13 08.5**	**+0.9**
BVAR	**Borovoye Array**	**77.94 328**	P		**P**	**10 13 34.9**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=123,slow=9.5,SNR=8.5						
	comp=Z,1.4nm,0.5s						
TIXI	**Tiksi**	**79.09 0**	P		**P**	**10 13 40.2**	**-1.1**
ABKAR	**Akbulak array**	**82.24 322**	P		**P**	**10 13 58.7**	**+0.1**
QSPA	**South Pole Qui**	**82.38 180**	P		**P**	**10 14 01.2**	**+2.0**
QSPA			IAmb		IAmb	10 14 37.9	
	comp=Z,5.9nm,1.4s						
QSPA	**South Pole Qui**	**82.38 180**	P		**P**	**10 14 00.8**	**+1.6**
	comp=Z,1.6nm,0.6s,baz=241,slow=0.8,SNR=19						
	comp=Z,1.6nm,0.6s						
ILAR	**Eielson Array**	**94.40 25**	P		**P**	**10 14 55.5**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=235,slow=5.3,SNR=5.0						
	comp=Z,0.3nm,0.7s						
CPUP	**Villa Florida**	**145.75 170**	PKPbc		**PKPab**	**10 21 18.3**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=188,slow=5.8,SNR=3.5						
LPAZ	**La Paz**	**150.94 145**	PKPbc		**PKiKP**	**10 21 32.9**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=49,slow=3.3,SNR=11						

CATAC ***23*** *10:05:04.3±0.3, 14°N±2°×8°2W±°, h0km, Error ellipse: s-maj=5.0km s-min=3.9km az=26.5, confirmed*
IDC ***23*** *10:05:09.1±1.3, 14°36N×83°16W, h0km, mb3.7/7, mbtmp3.7/11, ML2.8/5, MS3.0/7, Error ellipse: s-maj=26.8km s-min=20.4km az=94.0*
NEIC ***23*** *10:05:11.2±1.4, 14°42N±0°06×83°23W±0°05, h15km±6km, mb4.1/12, Error ellipse: s-maj=9.1km s-min=7.4km az=158.0*
RSNC ***23*** *10:05:15.3±0.0, 14°N±3°×8°3W±°, h0km±6km, M4.1, mb4.6, mB5.1, ML4.1, Mw(mB)4.5*
ISC 23 10:05:12.9±0.4**, 14°63N**±0°03×**83°06W**±0°02**, h10**km**, n204,** σ2s**62**/178**, mb4.0**/12**, MS3.2**/4**, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**2.06 127**			**Pn**	**10 05 45.2**	**-2.4**
PRVC	**Isla de Provid**	**2.06 127**		P	**Pn**	**10 05 46.2**	**-1.5**
PRVC				S	**Sb**	**10 06 18.1**	**+1.9**
PRVC	**Isla de Provid**	**2.06 127**		P		10 05 46.2	
PRVC				S		10 06 18.1	
SAIC	**Isla e San And**	**2.46 147**		P	**Pn**	**10 05 50.2**	**-2.8**
SAIC	**Isla e San And**	**2.46 147**		P		10 05 50.2	
SERC	**Banco Serrana,**	**2.64 97**		P	**Pg**	**10 06 04.5**	**+1.0**
SERC				S	**Sg**	**10 06 42.4**	**+4.7**
SERC	**Banco Serrana,**	**2.64 97**		P		10 06 04.5	
SERC				S		10 06 42.4	
BLUN	**Bluefields**	**2.69 195**		P	Pn	10 05 51.5	-4.8
BLUN				S	**Sn**	**10 06 25.4**	**-3.6**
BLUN	**Bluefields**	**2.69 195**		S	**Sn**	**10 06 26.7**	**-2.3**
BLUN	**Bluefields**	**2.69 195**		P		10 05 51.5	
BLUN				S		10 06 25.4	
ESPN	**Las Esperanzas**	**2.70 207**			Pn	10 05 50.6	-5.8
ESPN	**Las Esperanzas**	**2.70 207**		P	Pn	10 05 50.5	-5.9
ESPN				S	**Sn**	**10 06 25.1**	**-4.0**
ESPN	**Las Esperanzas**	**2.70 207**		P		10 05 50.5	
ESPN				S		10 06 25.1	
RCPN	**Sur Rio San Ju**	**3.14 250**		P	**Pn**	**10 06 03.4**	**+0.9**
RCPN	**Sur Rio San Ju**	**3.14 250**		P	**Pn**	**10 06 00.7**	**-1.8**
RCPN	**Sur Rio San Ju**	**3.14 250**		P	Pn	10 05 57.4	-5.1
RCPN	**Sur Rio San Ju**	**3.14 250**		S	**Sn**	**10 06 38.2**	**-2.0**
RCVN	**Varilla2**	**3.21 252**		P	Pn	10 05 57.4	-6.2
RCVN	**Varilla2**	**3.21 252**		P	**Pn**	**10 06 01.0**	**-2.6**
RCVN	**Varilla2**	**3.21 252**		S	**Sn**	**10 06 41.5**	**-0.4**
RCVN	**Varilla2**	**3.21 252**		P	Pn	10 05 57.9	-5.6
RCVN	**Varilla2**	**3.21 252**		S	**Sn**	**10 06 40.3**	**-1.6**
BOAB	**BOACO BROADBAN**	**3.33 230**		Pn	Pn	10 05 58.5	-6.5
BOAB	**BOACO BROADBAN**	**3.33 230**		P	**Pn**	**10 06 03.1**	**-2.0**
BOAB	**BOACO BROADBAN**	**3.33 230**		P	**Pn**	**10 06 03.3**	**-1.8**
BOAB	**BOACO BROADBAN**	**3.33 230**		S	**Sn**	**10 06 43.8**	**-0.9**
BOAB	**BOACO BROADBAN**	**3.33 230**		P	Pn	10 05 58.7	-6.4
ACON	**Acoyapa**	**3.35 218**			Pn	10 05 59.0	-6.3
ACON	**Acoyapa**	**3.35 218**		P	**Pn**	**10 06 02.9**	**-2.4**
ACON				S	**Sn**	**10 06 43.1**	**-2.0**
ACON	**Acoyapa**	**3.35 218**		P		10 06 02.9	
ACON				S		10 06 43.1	
SBEN	**San Benito**	**3.71 232**		S	**Sn**	**10 06 55.6**	**+1.4**
YUSH	**Yuscaran**	**3.72 260**		P	Pn	10 06 05.1	-5.5
YUSH	**Yuscaran**	**3.72 260**		P	**Pn**	**10 06 07.9**	**-2.7**
YUSH	**Yuscaran**	**3.72 260**		S	**Sb**	**10 07 00.2**	**-3.9**
YUSH	**Yuscaran**	**3.72 260**		P	Pn	10 06 04.9	-5.6
YUSH	**Yuscaran**	**3.72 260**		S	**Sn**	**10 06 57.5**	**+2.9**
AERN	**Aeropuerto Man**	**3.90 231**		S	**Sn**	**10 07 00.5**	**+1.8**
MGAN	**Managua**	**3.96 232**		S	**Sn**	**10 07 03.0**	**+2.8**
ALLN	**Telcor Managua**	**3.97 232**		P	**Pn**	**10 06 14.0**	**+0.1**
ALLN	**Telcor Managua**	**3.97 232**		S	**Sn**	**10 07 03.3**	**+2.6**
MOM2	**El Cardon**	**3.98 237**		P	**Pn**	**10 06 15.1**	**+1.1**
MOM2	**El Cardon**	**3.98 237**		P	**Pn**	**10 06 14.6**	**+0.6**
MOM2				S	**Sb**	**10 07 06.0**	**-5.2**
MOM2	**El Cardon**	**3.98 237**		P	**Pn**	**10 06 13.5**	**-0.5**
MOM2				S	**Sb**	**10 07 06.3**	**-5.0**
APQ3	**Volcan Apoyequ**	**3.98 234**		P	**Pn**	**10 06 14.5**	**+0.6**
APQ3				S	**Sn**	**10 07 03.5**	**+2.9**
TISN	**Laguna Tiscapa**	**3.98 232**		P	**Pn**	**10 06 14.5**	**+0.6**
TISN	**Laguna Tiscapa**	**3.98 232**		P	**Pn**	**10 06 14.6**	**+0.6**
TISN				S	**Sn**	**10 07 04.9**	**+4.2**
TISN	**Laguna Tiscapa**	**3.98 232**		P	**Pn**	**10 06 13.9**	**-0.1**
MAFN	**Magfor**	**3.98 231**		P	**Pn**	**10 06 14.6**	**+0.5**
MAFN	**Magfor**	**3.98 231**		S	**Sn**	**10 07 03.3**	**+2.3**
APQ2	**Apoyeque**	**3.99 233**		P	**Pn**	**10 06 14.6**	**+0.5**
APQ2				S	**Sn**	**10 07 04.1**	**+3.1**
APQ2	**Apoyeque**	**3.99 233**		P	**Pn**	**10 06 15.6**	**+1.6**
APQ2				S	**Sn**	**10 07 04.9**	**+4.0**
ENAN	**Enatrel Managu**	**3.99 232**		P	**Pn**	**10 06 15.0**	**+0.9**
ENAN	**Enatrel Managu**	**3.99 232**		S	**Sn**	**10 07 03.8**	**+2.8**
MASN	**Masaya**	**3.99 229**		P	**Pn**	**10 06 13.9**	**-0.3**
MASN				S	**Sb**	**10 07 06.3**	**-5.4**
USIM	**UNAN**	**4.00 232**		Pn	Pn	10 06 09.1	-5.1
USIM	**UNAN**	**4.00 232**		P	**Pn**	**10 06 14.6**	**+0.3**
USIM	**UNAN**	**4.00 232**		S	**Sn**	**10 07 03.8**	**+2.6**
SABN	**Sabanita**	**4.02 229**		P	**Pn**	**10 06 13.0**	**-1.6**
ABCN	**Banco Central**	**4.02 232**		P	**Pn**	**10 06 15.5**	**+0.9**
ABCN	**Banco Central**	**4.02 232**		S	**Sn**	**10 07 05.2**	**+3.4**
MOMN	**Momotombo**	**4.04 237**		P	**Pn**	**10 06 15.5**	**+0.7**
MOMN	**Momotombo**	**4.04 237**		P	**Pn**	**10 06 14.8**	**0.0**
MOMN	**Momotombo**	**4.04 237**		P	**Pn**	**10 06 14.7**	**-0.2**
MOMN				S	**Sb**	**10 07 07.6**	**-5.4**
COVE	**Coope Vega, Sa**	**4.10 199**		P	Pn	10 06 20.0	+4.4
COVE	**Coope Vega, Sa**	**4.10 199**		P	Pn	10 06 19.6	+4.0
COVE	**Coope Vega, Sa**	**4.10 199**		S	**Sn**	**10 07 07.3**	**+3.6**
COVE	**Coope Vega, Sa**	**4.10 199**		P	Pn	10 06 19.1	+3.5
TRT2	**Tortugero**	**4.10 189**		P	Pn	10 06 20.4	+4.8
TRT2	**Tortugero**	**4.10 189**		P	Pn	10 06 10.7	-4.9
LEVN	**Ruinas Leon Vi**	**4.10 238**		P	**Pn**	**10 06 14.8**	**-0.9**
LEVN				S	**Sb**	**10 07 09.8**	**-5.1**
MACN	**El Madrono**	**4.12 239**		P	**Pn**	**10 06 16.8**	**+0.8**
MACN	**El Madrono**	**4.12 239**		P	**Pn**	**10 06 16.6**	**+0.7**
MACN	**El Madrono**	**4.12 239**		P	**Pn**	**10 06 16.7**	**+0.8**
MACN				S	**Sn**	**10 07 08.4**	**+4.3**
CNGN	**Cerro Negro**	**4.12 240**		Pn	Pn	10 06 11.0	-4.9
CNGN	**Cerro Negro**	**4.12 240**		P	**Pn**	**10 06 16.6**	**+0.6**
CNGN				S	**Sn**	**10 07 07.6**	**+3.4**
CNGN	**Cerro Negro**	**4.12 240**		P		10 06 16.6	
CNGN				S		10 07 07.6	
TGUH	**Tegucigalpa,Un**	**4.12 263**		Pn	Pn	10 06 11.3	-4.8
TGUH	**Tegucigalpa,Un**	**4.12 263**		P	**Pn**	**10 06 18.8**	**+2.8**
TGUH				S	**Sn**	**10 07 08.9**	**+4.5**
TGUH	**Tegucigalpa,Un**	**4.12 263**		P		10 06 18.8	
TGUH				S		10 07 08.9	
PLRN	**Geotermica Pol**	**4.13 241**		P	**Pn**	**10 06 17.2**	**+1.0**
PLRN	**Geotermica Pol**	**4.13 241**		P	**Pn**	**10 06 16.8**	**+0.6**
PLRN	**Geotermica Pol**	**4.13 241**		P	**Pn**	**10 06 16.6**	**+0.5**
PLRN				S	**Sn**	**10 07 07.3**	**+2.8**
BC86	**Nagarote**	**4.14 236**		S	**Sn**	**10 07 09.5**	**+4.9**
BC86	**Nagarote**	**4.14 236**		P	**Pn**	**10 06 19.1**	**+2.9**
ARIN	**Rivas**	**4.15 221**		S	**Sn**	**10 07 08.2**	**+3.2**
HERN	**Volcan Telica**	**4.17 242**			Pn	10 06 11.6	-5.1
COPN	**Copaltepe**	**4.21 235**		P	**Pn**	**10 06 19.2**	**+2.1**
COPN	**Copaltepe**	**4.21 235**		P	**Pn**	**10 06 18.8**	**+1.7**
COPN	**Copaltepe**	**4.21 235**		P	**Pn**	**10 06 17.5**	**+0.4**
CRIN	**San Cristobal**	**4.32 244**		Pn	Pn	10 06 13.9	-4.9
CRIN	**San Cristobal**	**4.32 244**		P	**Pn**	**10 06 20.8**	**+2.0**
CRIN				S	**Sb**	**10 07 18.9**	**-2.4**
CRIN	**San Cristobal**	**4.32 244**		P		10 06 20.8	
CRIN				S		10 07 18.9	
COMHN	**El Horno**	**4.35 268**		P	**Pn**	**10 06 15.5**	**-3.9**
COMHN	**El Horno**	**4.35 268**		P	**Pn**	**10 06 15.4**	**-3.9**
COMHN	**El Horno**	**4.35 268**		S	**Sb**	**10 07 17.2**	**-5.2**
COMHN	**El Horno**	**4.35 268**		P	Pn	10 06 13.3	-6.0
SOCE	**Pocosol**	**4.48 200**			Pn	10 06 15.9	-5.0
SOCE	**Pocosol**	**4.48 200**		P	Pn	10 06 25.0	+4.1
SOCE	**Pocosol**	**4.48 200**		P	Pn	10 06 24.0	+3.0
SOCE	**Pocosol**	**4.48 200**		P	Pn	10 06 15.7	-5.2
SOCE	**Pocosol**	**4.48 200**		S	**Sn**	**10 07 18.3**	**+5.0**
POTN	**Potosi Cosigui**	**4.61 250**		P	**Pn**	**10 06 25.7**	**+3.0**
POTN				S	**Sb**	**10 07 26.4**	**-3.0**
JTS	**Las Juntas de**	**4.69 203**		Pn	Pn	10 06 18.0	-5.7
JTS	**Las Juntas de**	**4.69 203**		Pn	Pn	10 06 18.1	-5.6
	1.8nm,0.3s,baz=108,slow=23,SNR=17						
JTS				Pg	Pb	10 06 28.5	-6.7
	9.3nm,0.3s,baz=28,slow=17,SNR=43						
JTS				Lg	Lg	10 07 23.0	
	61nm,0.3s,baz=332,slow=14,SNR=10						
JTS				LR	LR	10 08 00.9	
	comp=Z,175nm,18.8s,baz=291,slow=39						
	6.1nm,0.4s						
JTS	**Las Juntas de**	**4.69 203**		P	Pn	10 06 18.2	-5.6
JTS	**Las Juntas de**	**4.69 203**		P		10 06 18.2	
RAFA	**San Farael, Vo**	**4.70 189**		P	**Pn**	**10 06 20.4**	**-3.8**
RAFA	**San Farael, Vo**	**4.70 189**		S	**Sb**	**10 07 27.5**	**-4.8**
HDC	**Heredia**	**4.71 193**			Pn	10 06 18.2	-6.0
NISHN	**Nisperales Com**	**4.79 284**		P	Pn	10 06 19.2	-6.0
NISHN	**Nisperales Com**	**4.79 284**		S	**Sb**	**10 07 33.3**	**-1.6**
CNCH	**Conchagua**	**4.82 254**		P	**Pn**	**10 06 23.0**	**-2.7**
CNCH	**Conchagua**	**4.82 254**		S	**Sb**	**10 07 32.2**	**-3.6**
LCND	**La Caada**	**4.87 255**		P	**Pn**	**10 06 24.7**	**-1.5**
INTHN	**La Esperanza I**	**4.89 267**		P	Pn	10 06 22.2	-4.6
INTHN	**La Esperanza I**	**4.89 267**		S	**Sb**	**10 07 35.4**	**-2.5**
RANC	**El Ranchito**	**5.21 257**		P	**Pn**	**10 06 30.0**	**-1.0**
RANC	**El Ranchito**	**5.21 257**		S	**Sb**	**10 07 43.6**	**-3.3**
PACA	**Pacayal**	**5.23 258**		P	**Pn**	**10 06 30.8**	**-0.5**
PACA	**Pacayal**	**5.23 258**		S	**Sb**	**10 07 46.1**	**-1.5**
INDI	**Punta indio, G**	**5.30 207**		P	**Pn**	**10 06 30.9**	**-1.2**
PQSS	**Presa 15 de Se**	**5.42 260**		S	**Sb**	**10 07 50.2**	**-2.8**
PQSS	**Presa 15 de Se**	**5.42 260**		P	**Pn**	**10 06 34.3**	**+0.4**
IZABA	**Izabal, Puerto**	**5.44 282**		S	**Sb**	**10 07 51.0**	**-2.5**
ALJI	**Alcalda de J**	**5.50 257**		S	**Sb**	**10 07 53.2**	**-2.0**
OCHAL	**Ojochal**	**5.52 186**		P	**Pn**	**10 06 32.8**	**-2.5**
SCLA	**Alcaldia de Sa**	**5.57 261**		P	**Pn**	**10 06 32.7**	**-3.3**
SCLA	**Alcaldia de Sa**	**5.57 261**		S	**Sb**	**10 07 55.6**	**-1.6**
UESV	**Universidad de**	**5.64 261**		S	**Sb**	**10 07 55.9**	**-3.3**
TECO	**Alcaldia de Te**	**5.65 260**		S	**Sb**	**10 07 57.3**	**-2.3**
LLGN	**La Laguna**	**5.72 266**		P	Pn	10 06 32.6	-5.4
LLGN	**La Laguna**	**5.72 266**		S	**Sb**	**10 07 59.4**	**-2.1**
COEG	**Centro de Oper**	**5.73 261**		P	**Pn**	**10 06 35.7**	**-2.4**
COEG	**Centro de Oper**	**5.73 261**		S	**Sb**	**10 07 59.2**	**-2.7**
PAVA	**Las Pavas**	**5.77 262**		P	**Pn**	**10 06 36.0**	**-2.7**
PAVA	**Las Pavas**	**5.77 262**		S	**Sb**	**10 07 59.2**	**-3.8**
LOMA	**Loma Larga**	**6.00 261**		S	**Sb**	**10 08 10.6**	**+0.8**
CDITO	**Canoas**	**6.02 178**		P	**Pn**	**10 06 38.3**	**-3.7**
ESQI	**Esquipulas**	**6.08 270**		Pn	Pn	10 06 38.9	-4.1
ESQI	**Esquipulas**	**6.08 270**		P	**Pn**	**10 06 39.2**	**-3.8**
ESQI	**Esquipulas**	**6.08 270**		S	**Sb**	**10 08 10.6**	**-1.3**
MTO3	**Montecristo**	**6.10 269**			Pn	10 06 37.6	-5.8
MTO3	**Montecristo**	**6.10 269**		P	**Pn**	**10 06 39.9**	**-3.5**
MTO3	**Montecristo**	**6.10 269**		S	**Sb**	**10 08 09.0**	**-3.7**
PMON	**Piamonte**	**6.13 262**		S	**Sb**	**10 08 11.7**	**-1.7**
LALI	**Alcalda de L**	**6.18 260**		S	**Sb**	**10 08 13.4**	**-1.3**
CEDA	**San Andres**	**6.19 263**		S	**Sb**	**10 08 13.4**	**-1.8**
JAYA	**Jayaque - finc**	**6.27 262**		P	Pn	10 06 36.6	-9.1
JAYA	**Jayaque - finc**	**6.27 262**		S	**Sb**	**10 08 17.4**	**0.0**
BCIP	**Isla Barro Col**	**6.28 149**		Pn	Pn	10 06 41.2	-4.4
BCIP	**Isla Barro Col**	**6.28 149**		P	Pn	10 06 40.9	-4.7
	50nm,0.8s						
BCIP	**Isla Barro Col**	**6.28 149**		P		10 06 40.9	
	50nm,0.8s						
MTDJ	**Mount Denham**	**6.40 55**		Pn	**Pn**	**10 06 48.3**	**+0.9**
MTDJ	**Mount Denham**	**6.40 55**		*e*P	**Pn**	**10 06 48.7**	**+1.2**
MTDJ				*e*S	Sb	10 08 31.5	+10
MTDJ	**Mount Denham**	**6.40 55**		P	**Pn**	**10 06 48.6**	**+1.2**
	98nm,1.6s						
MTDJ	**Mount Denham**	**6.40 55**		P		10 06 48.6	
	98nm,1.6s						
CEVE	**Cerro Verde**	**6.41 264**		P	**Pb**	**10 07 01.6**	**-3.1**
CEVE	**Cerro Verde**	**6.41 264**		S	**Sb**	**10 08 27.0**	**+5.4**
SLOZ	**Alcaldia de Sa**	**6.54 266**		S	**Sb**	**10 08 29.2**	**+4.0**
NUBE	**Las Nubes**	**6.55 265**		P	**Pn**	**10 06 48.8**	**-0.7**
NUBE	**Las Nubes**	**6.55 265**		S	**Sb**	**10 08 23.4**	**-2.1**
PETF	**Flores**	**6.93 290**			**Pn**	**10 06 51.3**	**-3.3**
PETF	**Flores**	**6.93 290**		P	**Pn**	**10 06 51.5**	**-3.1**
GMAL	**Guarumal, Vera**	**7.05 165**		P	Pn	10 06 51.3	-5.0
	1µm43nm,0.9s						
GMAL	**Guarumal, Vera**	**7.05 165**		P		10 06 51.3	
	1µm43nm,0.9s						
APG	**El Apazote**	**7.17 274**		Pn	**Pn**	**10 06 55.2**	**-2.9**
	0.1nm,0.3s,baz=103,slow=14,SNR=13						
APG				Pg	**Pb**	**10 07 18.0**	**+0.4**
	0.1nm,0.3s,baz=234,slow=20,SNR=5.2						
APG				Lg	Lg	10 08 45.1	
	0.3nm,0.3s,baz=137,slow=10,SNR=5.7						
APG				LR	LR	10 09 19.7	
	comp=Z,28nm,18.0s,baz=48,slow=35						
	1.2nm,0.7s						
AZU	**Azuero**	**7.32 158**		P	Pn	10 06 55.1	-4.9
	40nm,1.0s						
AZU	**Azuero**	**7.32 158**		P		10 06 55.1	
	40nm,1.0s						
TEIG	**Tepich**	**7.47 319**		Pn	Pn	10 06 58.9	-3.0
TEIG	**Tepich**	**7.47 319**		Pn	**Pn**	**10 07 01.6**	**-0.4**
	baz=227,slow=24,SNR=3.3						
TEIG				Sn	Sn	10 08 19.0	-7.7
	baz=217,slow=20,SNR=1.4						
TEIG	**Tepich**	**7.47 319**		P	**Pn**	**10 06 59.3**	**-2.6**
TEIG	**Tepich**	**7.47 319**		P		10 06 59.3	
PILO	**Pilon**	**7.54 45**		*e*P	**Pn**	**10 07 03.7**	**+0.7**
LMGC	**Las Mercedes**	**7.92 46**		*e*P	**Pn**	**10 07 09.1**	**+0.9**
SOR	**Soroa**	**8.12 0**		Pn	**Pn**	**10 07 12.1**	**+1.1**
CHIV	**Chivirico**	**8.28 49**		Pn	**Pn**	**10 07 13.9**	**+0.8**
MARVS	**Santiago de Cu**	**8.68 51**		*e*P	**Pn**	**10 07 17.8**	**-0.8**
LCBC	**Los crdobas,**	**8.71 130**		P	**Pn**	**10 07 16.9**	**-2.1**
LCBC	**Los crdobas,**	**8.71 130**		P		10 07 16.9	
RCC	**Rio Carpintero**	**8.83 52**		*e*P	**Pn**	**10 07 21.4**	**+0.7**
SJCC	**San Jacinto, C**	**9.03 120**		P	**Pn**	**10 07 20.6**	**-2.8**
	27nm,0.7s						
SJCC	**San Jacinto, C**	**9.03 120**		P		10 07 20.6	
	27nm,0.7s						
PINC	**Pinares de May**	**9.06 49**		*e*P	**Pn**	**10 07 25.4**	**+1.7**
HLGC	**Holguin**	**9.13 46**		*e*P	**Pn**	**10 07 25.9**	**+1.1**
APAC	**Apartado, Choc**	**9.22 136**		P	**Pn**	**10 07 26.2**	**+0.1**
	25nm,0.8s						
APAC	**Apartado, Choc**	**9.22 136**		P		10 07 26.2	
	25nm,0.8s						
GTBY	**Guantanamo Bay**	**9.24 54**		*e*P	**Pn**	**10 07 27.8**	**+1.4**
GTBY	**Guantanamo Bay**	**9.24 54**		P	**Pn**	**10 07 27.2**	**+0.8**
	47nm,2.1s						
GTBY	**Guantanamo Bay**	**9.24 54**		P		10 07 27.2	
	47nm,2.1s						
NMDO	**Nuevo Mundo**	**9.70 51**		Pn	**Pn**	**10 07 33.4**	**+0.7**
CRJC	**Cerrejon, Guaj**	**10.56 109**		P	**Pn**	**10 07 42.1**	**-2.3**
	20nm,0.9s						
CRJC	**Cerrejon, Guaj**	**10.56 109**		P		10 07 42.1	
	20nm,0.9s						
URIC	**Uribia, Colomb**	**11.17 104**		P	**Pn**	**10 07 50.6**	**-2.1**
	16nm,0.9s						
URIC	**Uribia, Colomb**	**11.17 104**		P		10 07 50.6	
	16nm,0.9s						
CMIG	**Matias Romero**	**11.63 284**		Pn	**Pn**	**10 07 55.9**	**-3.3**
	0.1nm,0.3s,baz=96,slow=15,SNR=3.7						
	1.1nm,0.6s						
PAMC	**Pamplona, Colo**	**12.48 124**		P	**Pn**	**10 08 08.8**	**-2.4**
PAMC	**Pamplona, Colo**	**12.48 124**		P		10 08 08.8	
RUSC	**La Rusia**	**13.10 130**		Pn	Pn	10 08 14.6	-5.0
SDV	**Santo Domingo**	**13.44 114**		Pn	**Pn**	**10 08 22.0**	**-2.0**
SDV	**Santo Domingo**	**13.44 114**		Pn	**Pn**	**10 08 22.1**	**-1.9**
	1.8nm,0.3s,baz=336,slow=12,SNR=16						
SDV				Sn	**Sn**	**10 10 47.9**	**-5.7**
	0.6nm,0.3s,baz=7.1,slow=16,SNR=1.9						
SDV				LR	LR	10 13 44.2	
	comp=Z,42nm,20.9s,baz=58,slow=38						
	8.3nm,0.5s						
FLOC	**Florencia**	**14.88 150**		Pn	**Pn**	**10 08 39.7**	**-3.9**
OTAV	**Otavalo**	**15.01 162**		Pn	Pn	10 08 39.4	-6.2
BAUV	**El Baul**	**15.75 109**			**Pn**	**10 08 53.0**	**-1.9**
SLOR	**San Lorenzo -**	**15.91 163**		Pn	**Pn**	**10 08 51.9**	**-5.7**
TKL	**Tuckaleechee C**	**20.95 358**		P	**P**	**10 09 56.7**	**+0.7**
	4.5nm,1.1s,baz=184,slow=15,SNR=1.7						
	4.5nm,1.1s						
HNDO	**Hondo**	**21.07 317**		P	**P**	**10 09 54.8**	**-2.6**
HNDO				IAmb	IAmb	10 09 59.8	
	comp=Z,10.0nm,1.1s						
DRIO	**Del Rio**	**21.90 315**		P	**P**	**10 10 03.8**	**-2.6**
DRIO				IAmb	IAmb	10 10 32.8	
	comp=Z,7.1nm,1.3s						
MIAR	**Mount Ida**	**21.99 336**		P	**P**	**10 10 05.1**	**-2.0**
JCT	**Junction City**	**22.04 319**		P	**P**	**10 10 05.8**	**-2.1**
BRDY	**Brady**	**22.10 321**		P	**P**	**10 10 06.5**	**-1.9**
BRDY				IAmb	IAmb	10 10 12.3	
	comp=Z,6.0nm,0.8s						
FW06	**Azle**	**22.52 327**		P	**P**	**10 10 10.7**	**-2.2**
TBTG	**Tabatinga, AM**	**22.79 144**		P	**P**	**10 10 11.3**	**-4.6**
TXAR	**Lajitas Array**	**24.01 311**		P	**P**	**10 10 27.6**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=128,slow=6.3,SNR=9.8						
TXAR				LR	LR	10 19 56.1	
	comp=Z,14nm,20.6s,baz=52,slow=37						
	comp=Z,1.8nm,1.0s						
TX31	**Lajitas Ar. Si**	**24.01 311**		P	**P**	**10 10 24.6**	**-3.6**
TX31				IAmb	IAmb	10 10 31.5	
	comp=Z,5.0nm,1.2s						
WMOK	**Wichita Mounta**	**24.53 328**		P	**P**	**10 10 31.4**	**-1.4**
WMOK				IAmb	IAmb	10 10 35.5	
	comp=Z,7.2nm,0.8s						
SMWD	**Samnorwood**	**25.59 326**		P	**P**	**10 10 39.7**	**-2.6**
SMWD				IAmb	IAmb	10 10 46.2	
	comp=Z,4.8nm,0.7s						
MDP	**Montagnes des**	**31.39 104**		LR	LR	10 25 26.3	
	comp=Z,50nm,18.3s,baz=242,slow=39						
PDAR	**Pinedale Array**	**36.12 326**		P	**P**	**10 12 14.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=126,slow=9.7,SNR=5.0						
	comp=Z,0.5nm,0.8s						
ULM	**Lac du Bonnet**	**37.03 346**		P	**P**	**10 12 22.5**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=196,slow=7.4,SNR=4.9						
	comp=Z,1.6nm,0.7s						
NVAR	**Mina Array Bea**	**39.08 314**		P	**P**	**10 12 38.5**	**-2.1**
	comp=Z,0.9nm,0.9s,baz=92,slow=7.5,SNR=5.2						
	comp=Z,0.9nm,0.9s						
YBH	**Yreka Blue Hor**	**43.59 316**		LR	LR	10 33 28.0	
	comp=Z,25nm,18.1s,baz=129,slow=39						
BBB	**Bella Bella**	**51.77 326**		LR	LR	10 38 15.1	
	comp=

KMKR pmax pmax
comp=Z,84nm,0.2s
SHTL Shatili 0.90 260 P **Pg 10 45 00.5 -1.0**
SHTL S **Sg 10 45 12.1 -1.1**
SHTL Shatili 0.90 260 PG **Pg 10 45 00.5 -1.0**
SHTL S **Sg 10 45 12.1 -1.1**
KANR Karaman 0.91 65 *e*Pg **Pn 10 45 04.4 +0.8**
KANR *e*Sg **Sn 10 45 19.9 +2.8**
KANR Karaman 0.91 65 *e*PG **Pn 10 45 04.4 +0.8**
KANR *e*S **Sn 10 45 19.9 +2.8**
LGD Lagodekhi 0.99 185 P **Pg 10 45 03.3 +0.1**
LGD S **Sg 10 45 16.3 +0.3**
LGD Lagodekhi 0.99 185 PG **Pg 10 45 03.3 +0.1**
LGD S **Sg 10 45 16.3 +0.3**
SGKR Sergokala 1.03 110 *e*Pg **Pn 10 45 04.8 -0.5**
SGKR *e*Sg **Sn 10 45 20.7 +0.7**
SGKR Sergokala 1.03 110 *e*PG **Pn 10 45 04.8 -0.5**
SGKR *e*S **Sn 10 45 20.7 +0.7**
KMGR Komgaron 1.12 283 *e*Pg **Pn 10 45 06.7 +0.2**
KMGR *e*Sg **Sn 10 45 24.6 +2.3**
KMGR Komgaron 1.12 283 *e*PG **Pn 10 45 06.7 +0.2**
KMGR *e*S **Sn 10 45 24.6 +2.3**
URKR Urkarakh 1.15 124 *e*Pg **Pn 10 45 06.7 -0.3**
URKR *e*Sg **Sn 10 45 23.0 -0.2**
URKR Urkarakh 1.15 124 *e*PG **Pn 10 45 06.7 -0.3**
URKR *e*S **Sn 10 45 23.0 -0.2**
CHRG Chargali 1.16 246 P **Pb 10 45 05.5 -1.3**
CHRG S **Sb 10 45 20.3 -2.0**
VLKR Vladikavkaz 1.25 281 *e*Pg **Pg 10 45 08.7 +0.4**
VLKR *e*Pg **Pg 10 45 08.7 +0.4**
VLKR *e*Sg **Sn 10 45 28.4 +2.8**
VLKR *e*Sg **Sn 10 45 28.4 +2.8**
VLKR Vladikavkaz 1.25 281 *e*PG **Pg 10 45 08.7 +0.4**
VLKR *e*S **Sn 10 45 28.4 +2.8**
MTEO Meteo 1.35 265 P **Pn 10 45 08.8 -1.3**
MTEO Meteo 1.35 265 PG **Pn 10 45 08.8 -1.3**
GUDG Gudauri 1.43 256 *e*Pg **Pn 10 45 10.1 -0.9**
GUDG *e*Sg **Sn 10 45 28.8 -1.4**
GUDG Gudauri 1.43 256 *e*PG **Pn 10 45 10.1 -0.9**
GUDG *e*S **Sn 10 45 28.8 -1.4**
BTKR Batakoyurt 1.44 293 *e*Pg **Pg 10 45 12.3 +0.5**
BTKR *e*Sg **Sg 10 45 34.1 +3.6**
BTKR Batakoyurt 1.44 293 *e*PG **Pg 10 45 12.3 +0.5**
BTKR *e*S **Sg 10 45 34.1 +3.6**
TRKR Terskaya 1.49 308 *e*Pg **Pg 10 45 13.3 +0.5**
TRKR *e*Sg **Sg 10 45 33.5 +1.4**
TRKR Terskaya 1.49 308 *e*PG **Pg 10 45 13.3 +0.5**
TRKR *e*S **Sg 10 45 33.5 +1.4**
LACR Lac 1.51 271 *e*Pg **Pn 10 45 11.8 -0.2**
LACR *e*Sg **Sn 10 45 31.8 -0.3**
LACR Lac 1.51 271⇑*i*PG **Pb 10 45 12.6 -0.2**
LACR *e*S **Sg 10 45 33.5 +0.6**
DGRG David-gareji 1.55 208 P **Pg 10 45 16.6 +2.6**
DGRG David-gareji 1.55 208 PG **Pg 10 45 16.6 +2.6**
ARNR Ardon 1.56 284 *e*Pg **Pb 10 45 13.3 -0.3**
ARNR *e*Sg **Sg 10 45 35.2 +0.8**
ARNR Ardon 1.56 284 *e*PG **Pb 10 45 13.3 -0.3**
ARNR *e*S **Sg 10 45 35.2 +0.8**
VSHL Vashlovani 1.59 179 P **Pg 10 45 15.6 +0.9**
AKT Akhty 1.69 142 *e*Pg **Pb 10 45 15.7 -0.1**
AKT *e*Sg **Sg 10 45 39.3 +0.9**
AKT Akhty 1.69 142 *e*PN **Pb 10 45 15.7 -0.1**
AKT *e*S **Sg 10 45 39.3 +0.9**
KORR Kora 1.70 280 *e*Pg **Pb 10 45 16.1 +0.2**
KORR *e*Sg **Sg 10 45 41.3 +2.4**
KORR Kora 1.70 280 *e*PN **Pb 10 45 16.1 +0.2**
KORR pmax pmax
comp=Z,63nm,0.4s
STDR Stavd-Durt 1.77 289 *e*Pg **Pb 10 45 17.3 +0.2**
STDR *e*Sg **Sg 10 45 42.8 +1.8**
STDR Stavd-Durt 1.77 289 *e*PN **Pb 10 45 17.3 +0.2**
STDR *e*S **Sg 10 45 42.8 +1.8**
PRTR Priterechnaya 1.78 302 *e*Pg **Pg 10 45 17.9 -0.4**
PRTR *e*Sg **Sg 10 45 44.0 +2.7**
PRTR Priterechnaya 1.78 302 *e*PN **Pg 10 45 17.9 -0.4**
PRTR *e*S **Sg 10 45 44.0 +2.7**
KSMR Kasumkent 1.79 132 *e*Pg **Pg 10 45 20.8 +2.2**
KSMR *e*Sg **Sg 10 45 43.0 +1.1**
KSMR Kasumkent 1.79 132 *e*PN **Pg 10 45 20.8 +2.2**
KSMR *e*S **Sg 10 45 43.0 +1.1**
LSNR Lesken 1.91 285 *e*Pg **Pb 10 45 19.5 0.0**
LSNR *e*Sg **Sg 10 45 46.5 +0.9**
LSNR Lesken 1.91 285 *e*PN **Pb 10 45 19.5 0.0**
LSNR *e*S **Sg 10 45 46.5 +0.9**
DIGR Digorskoe uzhe 2.04 273 *e*Pg **Pb 10 45 21.1 -0.8**
DIGR *e*Sg **Sb 10 45 47.8 +0.2**
DIGR Digorskoe uzhe 2.04 273 *e*PN **Pb 10 45 21.1 -0.8**
DIGR *e*S **Sb 10 45 47.8 +0.2**
TRLG Trialeti 2.11 233 P **Pb 10 45 22.6 -0.4**
TRLG S **Sb 10 45 50.3 +0.9**
TRLG Trialeti 2.11 233 PN **Pb 10 45 22.5 -0.4**
TRLG S **Sb 10 45 50.3 +0.9**
NCK Nalchik 2.13 289 *i* PN **Pn 10 45 20.4 0.0**
GARIG Gari 2.14 265 P **Pb 10 45 23.1 -0.4**
GARIG S **Sb 10 45 50.4 +0.1**
KBTC Kuba-Taba 2.37 296 *e*Pn **Pb 10 45 26.8 -0.6**
KBTC *e*Sn **Sn 10 45 53.7 +0.5**
KBTC Kuba-Taba 2.37 296 *e*PN **Pb 10 45 26.8 -0.6**
KBTC *e*S **Sn 10 45 53.7 +0.5**
PYA1 Pyatigorsk 2.68 299 *e*Pn **Pn 10 45 28.1 +0.2**
PYA1 *e*Sn **Sn 10 45 59.8 -1.0**
PYA1 Pyatigorsk 2.68 299 *i* PN **Pn 10 45 28.4 +0.4**
KBZ Khabaz 2.68 291 *e*Pn **Pn 10 45 26.8 -1.2**
KBZ *e*Sn **Sn 10 46 02.6 +1.8**
KBZ Khabaz 2.68 291 *i* PN **Pn 10 45 27.1 -0.9**
NEUR Neytrino 2.71 281 *i* PN **Pn 10 45 27.1 -1.5**
BEYR Belyy Ugol+ 2.84 296 *e*Pn **Pn 10 45 29.2 -1.0**
BEYR *e*Sn **Sn 10 46 03.3 -1.5**
BEYR Belyy Ugol+ 2.84 296 *e*PN **Pn 10 45 29.2 -1.0**
BEYR *e*S **Sn 10 46 03.3 -1.5**
SHA1 Shidzhatmaz 2.85 290 *e*Pn **Pn 10 45 30.5 -0.1**
SHA1 *e*Sn **Sn 10 46 06.4 +1.1**
SHA1 Shidzhatmaz 2.85 290 *e*PN **Pn 10 45 31.2 +0.7**
SHA1 *e*S **Sb 10 46 09.7 -1.2**
KIV Kislovodsk 2.91 294 *e*Pn **Pn 10 45 31.0 -0.1**
KIV *e*Sn **Sn 10 46 05.4 -1.0**
KIV Kislovodsk 2.91 294 *e*PN **Pn 10 45 31.0 -0.1**
KIV *e*S **Sn 10 46 05.4 -1.0**
GNI Garni 2.93 205 *i* PN **Pn 10 45 32.2 +0.6**
GOF Gofitskoye 3.27 314 *ce*PN Pg 10 45 53.7 +6.7
GOF *e*S **Sg 10 46 28.7 -0.7**
LABN Labinsk 4.47 296 *e*PN **Pn 10 45 50.9 -1.6**
LABN *e*S **Sn 10 46 42.8 -2.0**
LABN pmax pmax
comp=Z,14nm,0.3s
ERBR Yeremizino-Bor 5.11 306 *e*PN **Pn 10 45 59.6 -1.8**
ERBR *e*S **Sn 10 46 58.7 -2.0**
ERBR pmax pmax
comp=Z,4.0nm,0.6s
ANN Anapa 6.75 290 *e*P **Pn 10 46 23.9 +0.1**
ANN *e*S **Sn 10 47 42.4 +1.4**
ANN pmax pmax
comp=Z,30nm,0.9s
OBN Obninsk 13.86 336 *e*P **Pn 10 48 00.6 -0.5**
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,388nm,7.0s

IDC ***23*** *11:06:59.8±12.0, 36°.84N×71°.96E, h119km±85km, mb3.4/4, mbtmp3.8/8, ML3.4/4, Error ellipse: s-maj=111.9km s-min=45.7km az=170.0*
NEIC ***23*** *11:07:06.5±0.6, 37°.21N±0°.07×71°.82E±0°.05, h169km±7km, mb4.0/4, Error ellipse: s-maj=10.6km s-min=5.3km az=200.0*
NNC ***23*** *11:07:12.7±3.6, 37°.72N×71°.86E, h182km±44km, mb3.1, mpv4.2, Error ellipse: s-maj=37.0km s-min=18.6km az=11.0*
ISC 23 11:07:05.0±0.6, 37°.16N±0°.05×71°.94E±0°.07, h150km, n56, σ1§59/62, mb4.0/6, 6C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.24**	**326**	Pn	**Pn**	**11 07 44.6**	**+1.6**
DRK	**Karamyk**	**2.32**	**357**		**Pn**	**11 07 46.9**	**+2.7**
CHGR	**Chuyangaron**	**2.66**	**305**		**Pn**	**11 07 48.9**	**+0.8**
SIMJ	**Simiganj**	**2.76**	**304**	Pn	**Pn**	**11 07 50.1**	**+0.7**
BTK	**Batken**	**3.03**	**343**		**Pn**	**11 07 55.2**	**+2.6**
KBL	**Kabul**	**3.51**	**223**	Pn	**Pn**	**11 08 00.9**	**+1.8**
NIL	**Nilore**	**3.66**	**163**		**Pn**	**11 08 04.0**	**+3.1**
KSH	**Kashi**	**3.95**	**52**	Pn	**Pn**	**11 08 02.4**	**-2.2**
KSH				Sn	Sn	11 08 44.3	-6.7
KSH				smax	smax		
	comp=N,230nm,0.6s						
KSH				smax	smax		
	comp=E,210nm,0.5s						
ARSB	**Arslanbob**	**4.24**	**11**		**Pn**	**11 08 09.4**	**+1.0**
AML	**Almayashu**	**5.15**	**15**	P	**Pn**	**11 08 22.0**	**+1.4**
	SNR=197						
UCH	**Uchtor**	**5.44**	**21**	P	**Pn**	**11 08 26.2**	**+1.7**
	SNR=20						
THN	**Thein Dam**	**5.64**	**145**	*e*P	**Pn**	**11 08 29.1**	**+2.1**
THN				*e*S	**Sn**	**11 09 29.9**	**-1.0**
THN				IAML		11 09 34.2	
	comp=E,172nm,0.3s						
THN				IAML		11 09 35.1	
	comp=N,143nm,0.4s						
EKS2	**Erkin-Say**	**5.67**	**14**	P	**Pn**	**11 08 28.9**	**+1.5**
	SNR=23						
AAK	**Ala-Archa**	**5.81**	**19**	Pn	**Pn**	**11 08 30.9**	**+1.6**
AAK	**Ala-Archa**	**5.81**	**19**	P	**Pn**	**11 08 31.0**	**+1.6**
	SNR=36						
AAK	**Ala-Archa**	**5.81**	**19**	⇑P	**Pn**	**11 08 30.9**	**+1.6**
	comp=N,18nm,0.4s						
AAK				⇑S	**Sn**	**11 09 33.1**	**-2.1**
	comp=N,40nm,0.7s						
FRU1	**Bishkek**	**6.01**	**19**	Pn	**Pn**	**11 08 34.3**	**+2.5**
KK31	**Karatay Array**	**6.04**	**350**	Pn	**Pn**	**11 08 32.8**	**+0.7**
KK31	**Karatay Array**	**6.04**	**350**	⇑P	**Pn**	**11 08 32.8**	**+0.7**
	comp=N,4.9nm,0.2s,baz=178,slow=13,SNR=103						
KK31				⇑S	**Sn**	**11 09 36.0**	**-4.3**
	comp=N,23nm,0.3s,baz=169,slow=21,SNR=25						
KKAR	**Karatay Array**	**6.04**	**350**		**Pn**	**11 08 32.8**	**+0.7**
KKAR	**Karatay Array**	**6.04**	**350**	Pn	**Pn**	**11 08 32.8**	**+0.7**
ULHL	**Ulahol**	**6.07**	**32**	P	**Pn**	**11 08 33.6**	**+1.0**
	SNR=6.8						
DHRM	**DHARAMSHALA**	**6.07**	**142**	*e*P	**Pn**	**11 08 34.4**	**+1.5**
DHRM				*e*S	**Sn**	**11 09 39.3**	**-2.3**
DHRM				IAML		11 09 42.2	
	comp=E,379nm,0.7s						
DHRM				IAML		11 09 42.7	
	comp=N,306nm,0.3s						
BOOM	**Boomskoye usch**	**6.15**	**29**		**Pn**	**11 08 35.1**	**+1.3**
KDJ	**Kajisay**	**6.40**	**38**		**Pn**	**11 08 38.6**	**+1.5**
USP	**Ospenovka**	**6.41**	**17**	P	**Pn**	**11 08 37.7**	**+0.7**
	SNR=7.9						
TARG	**Taragay, Kyrgy**	**6.44**	**43**		**Pn**	**11 08 39.1**	**+1.3**
BHK	**Bhakra**	**6.82**	**146**	*e*S	**Sn**	**11 09 57.3**	**-1.9**
BHK				IAML		11 10 00.1	
	comp=N,111nm,0.5s						
WUS	**Wushi**	**6.95**	**52**	Pn	**Pn**	**11 08 46.1**	**+1.7**
HNLY	**HANLEY**	**7.24**	**125**	*e*P	**Pn**	**11 08 50.2**	**+1.5**
HNLY				*e*S	**Sn**	**11 10 06.6**	**-3.3**
SMLA	**Simla**	**7.41**	**143**	*e*P	**Pn**	**11 08 50.9**	**+0.5**
SMLA				*i* P	**Pn**	**11 08 52.9**	**+2.4**
SMLA				*e*S	Sn	11 10 08.0	-5.3
SMLA				IAML		11 10 13.8	
	comp=N,110nm,0.3s						
SMLA				IAML		11 10 14.6	
	comp=E,155nm,0.3s						
KUDL	**Kundal**	**9.77**	**156**	*e*P	**Pn**	**11 09 20.3**	**-1.6**
KUDL				*e*S	Sn	11 11 01.4	-8.8
KUDL				IAML		11 11 04.2	
	comp=E,34nm,0.6s						
KUDL				IAML		11 11 05.7	
	comp=N,14nm,0.6s						
MAKZ	**Makanchi**	**12.19**	**35**		**Pn**	**11 09 53.7**	**+0.2**
MK31	**Makanchi Array**	**12.32**	**35**		**Pn**	**11 09 56.0**	**+0.8**
MK31	**Makanchi Array**	**12.32**	**35**	⇑P	**Pn**	**11 09 55.5**	**+0.2**
	comp=N,1.1nm,0.6s,baz=210,slow=9.0,SNR=15						
MKAR	**Makanchi Array**	**12.32**	**35**	Pn	**Pn**	**11 09 56.1**	**+0.9**
MKAR	**Makanchi Array**	**12.32**	**35**	P	**Pn**	**11 09 54.9**	**-0.3**
	comp=N,0.2nm,0.3s,baz=221,slow=14,SNR=18						
	comp=N,1.5nm,0.7s						
WMQ	**Urumqi**	**13.70**	**56**	*e*P	**Pn**	**11 10 15.4**	**+2.3**
KURBB	**Kurchatov Arra**	**14.27**	**17**	P	**Pn**	**11 10 18.2**	**-1.8**
	comp=N,0.1nm,0.3s,baz=209,slow=12,SNR=6.7						
	comp=N,0.7nm,0.6s						
KURK	**Kurchatov**	**14.37**	**17**		**P**	**11 10 24.7**	**+0.7**
AB31	**Akbulak array**	**14.90**	**328**	⇓P	**Pn**	**11 10 28.0**	**0.0**
	comp=N,1.4nm,0.5s,baz=139,slow=11,SNR=42						
ABKAR	**Akbulak array**	**14.90**	**328**		**Pn**	**11 10 28.5**	**+0.6**
BVAR	**Borovoye Array**	**15.90**	**357**	P	**Pn**	**11 10 40.5**	**+0.2**
	comp=N,0.1nm,0.3s,baz=167,slow=11,SNR=8.0						
	comp=N,2.6nm,0.6s						
BRVK	**Borovoye**	**15.94**	**356**		**Pn**	**11 10 40.6**	**-0.2**
BRVK				IAmb	IAmb	11 10 41.9	
	comp=Z,3.3nm,0.8s						
AKTO	**Aktyubinsk**	**16.61**	**327**	⇑P	**Pn**	**11 10 49.8**	**+0.9**
	comp=Z,0.8nm,0.3s						
ZAA0	**Zalesovo Array**	**19.01**	**24**	P	**P**	**11 11 14.7**	**-0.2**
ZAA0				IAmb	IAmb	11 11 16.2	
	comp=Z,8.9nm,0.9s						
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**11 11 14.7**	**-0.2**
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**11 11 15.4**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=214,slow=10,SNR=30						
	comp=Z,4.5nm,0.4s						
PZH	**PanZhiHua**	**27.36**	**104**	P	**P**	**11 12 38.0**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
ULN	**Ulaanbaatar**	**27.79**	**56**	P	**P**	**11 12 39.9**	**0.0**
HHC	**Hu-ho-hao-te**	**30.83**	**71**	*e*P	**P**	**11 13 07.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
ARCES	**ARCESS Array B**	**40.83**	**337**	P	**P**	**11 14 31.6**	**+0.3**
	comp=Z,4.7nm,1.0s,baz=120,slow=9.1,SNR=1.8						
	comp=Z,4.7nm,1.0s						
GSI	**Gunungsitoli**	**42.80**	**140**	P	**P**	**11 14 47.7**	**-0.3**
HFS	**Hagfors**	**43.02**	**321**	P	**P**	**11 14 49.2**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=84,slow=13,SNR=5.3						
	comp=Z,2.3nm,0.8s						
ESDC	**Sonseca Array**	**57.82**	**298**	P	**P**	**11 16 39.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=63,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**	**11 18 59.9**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=346,slow=5.4,SNR=2.8						
	comp=Z,0.1nm,0.6s						

IDC ***23*** *11:13:42.8±1.4, 1°.80N×125°.92E, h0km, mb3.6/4, mbtmp3.6/5, ML3.4/1, MS3.1/2, Error ellipse: s-maj=121.9km s-min=19.3km az=68.0*
DJA ***23*** *11:13:45.1±0.2, 2°N±3°×12°7E±°, h10km, M3.9/13, mB5.2/1, mb4.2/5, MLv3.8/13, Mw(mB)4.5/1*
ISC 23 11:13:48.0±1.1, 2°.03N±0°.08×126°.7E±0°.1, h47km, n13, σ1§04/13, mb3.7/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.40**	**153**	P	**Pn**	**11 14 09.8**	**-1.3**
SGSI	**Sangihe**	**2.04**	**324**	P	**Pn**	**11 14 19.1**	**-0.7**
KMSI	**Cibinong**	**3.11**	**242**	P	**Pn**	**11 14 33.6**	**-0.9**
SANI	**Sanana**	**4.12**	**190**	P	**Pn**	**11 14 48.3**	**-0.1**
LUWI	**Luwuk**	**5.00**	**232**	P	**Pn**	**11 15 00.2**	**-0.3**
APSI	**Ampana**	**5.86**	**240**	P	**Pn**	**11 15 11.5**	**-0.8**
KDI	**Kendari**	**7.23**	**215**	P	**Pn**	**11 15 30.5**	**-0.6**
	1μm15nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.03**	**183**	P	**P**	**11 18 16.6**	**-0.5**
	0.1nm,0.3s,baz=0.0,slow=9.1,SNR=1.8						
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**23.08**	**161**	P	**P**	**11 18 49.2**	**-0.5**
	1.0nm,0.5s,baz=335,slow=10,SNR=15						
WRA				LR	LR	11 28 38.7	
	comp=Z,74nm,18.7s,baz=302,slow=39						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.48**	**165**	P	**P**	**11 19 22.3**	**+1.3**
	0.4nm,0.4s,baz=344,slow=9.6,SNR=9.9						
ASAR				PcP	**PcP**	**11 22 47.3**	**+2.0**
	0.5nm,1.0s,baz=339,slow=2.6,SNR=2.8						
	0.4nm,0.4s						
NWAO	**Narrogin (SRO)**	**35.91**	**194**	LR	LR	11 36 53.5	
	comp=Z,15nm,20.0s,baz=13,slow=39						
MKAR	**Makanchi Array**	**58.95**	**326**	P	**P**	**11 23 42.1**	**-0.5**
	0.3nm,0.3s,baz=121,slow=7.4,SNR=10						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.16**	**328**	P	**P**	**11 24 11.0**	**-0.1**
	0.5nm,0.6s,baz=128,slow=6.3,SNR=6.5						
	0.5nm,0.6s						

JMA ***23*** *11:36:17.3±1.2, 46°N±10°×15°2E±1°0, h30km, MV3.9/10, KURILE ISLANDS REGION*
SKHL 23 11:36:19.0±0.0, 44°.90N×151°.90E, h40km±9km, mb4.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.88**	**278**	*e*P	Pn	11 37 02.7	+0.4
KUR				AMB	AMB	11 37 05.8	
	70nm,0.2s						
KUR				*e*S	Sn	11 37 35.5	-0.1
KUR				A	A	11 37 44.4	
	130nm,0.4s						
KUR				A	A	11 37 44.4	
	100nm,0.4s						
SHO	**Shikotan**	**3.78**	**256**	*e*P	Pn	11 37 15.6	+0.9
SHO				AMB	AMB	11 37 18.9	
	20nm,0.3s						
SHO				*e*S	Sn	11 37 58.0	+0.2
SHO				A	A	11 38 09.6	
	40nm,0.4s						
SHO				A	A	11 38 09.6	
	50nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.41**	**261**	*e*P	Pn	11 37 25.1	+1.8
YUK				AMB	AMB	11 37 29.6	
	90nm,0.7s						
YUK				*e*S	Sn	11 38 13.0	-0.4
YUK				A	A	11 38 21.7	
	110nm,0.8s						
YUK				A	A	11 38 21.7	
	120nm,0.8s						
NEM2	**Nemuro 2**	**4.69**	**253**	*e*P	Pn	11 37 28.5	+1.3
NEM2				*e*S	Sn	11 38 21.7	+1.4
NMR	**Nemuro--Hokkai**	**4.70**	**253**	*e*P	Pn	11 37 28.5	+1.2
NMR				*i* S	Sn	11 38 20.5	0.0
JRA	**Rausu**	**4.95**	**261**	*e*P	Pn	11 37 33.8	+3.0
JNK	**Nakash**	**5.32**	**258**	P	Pn	11 37 38.2	+2.3
AKK	**Akkeshi**	**5.43**	**252**	*e*P	Pn	11 37 38.6	+1.2
JAK	**Akkeshi**	**5.54**	**252**	P	Pn	11 37 40.1	+1.2
JAK				*e*S	Sn	11 38 41.8	+0.6
JTKR	**Abashiri--Toko**	**5.80**	**264**	P	Pn	11 37 45.2	+2.9
JAR	**Ashorobuto**	**6.07**	**258**	P	Pn	11 37 48.9	+2.8
JOB	**Onbets**	**6.16**	**254**	*e*P	Pn	11 37 49.3	+1.9
JOB				*e*S	Sn	11 38 56.7	+0.3
JCH	**Churui**	**6.59**	**253**	*e*P	Pn	11 37 55.2	+1.9
JCH				*e*S	Sn	11 39 05.4	-1.7
JNBK	**Urakawa-nobuka**	**7.14**	**252**	*e*P	Pn	11 38 04.9	+4.1
JNBK				*e*S	Sn	11 39 22.5	+1.9

NEIC ***23*** *11:43:57.5, 1°.09N×128°.20E, h18km*
NEIC ***23*** *11:43:57.5±1.3, 1°.09N±0°.06×128°.20E±0°.05, h10km±1km, mb5.2/210, Mww5.0/15, Error ellipse: s-maj=11.3km s-min=8.4km az=161.0*
NEIC ***23*** *11:43:57.5, 0°.99N×128°.00E, h18km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.43; $M_{\theta\theta}$0.28; $M_{\phi\phi}$2.15; $M_{r\theta}$-1.14; $M_{\theta\phi}$-2.52; $M_{\phi r}$-1.14; Fault plane solution: $M_0$3.77000×10^{16} NP1: ϕ_s114.24000°, δ52.96000°, λ-138.01000°. NP2: ϕ_s355.77000°, δ57.72000°, λ-45.44000°. Principal axes: T 3.9172, Plg3.0000°, Azm56.0000°; N -0.3040, Plg36.0000°, Azm148.0000°; P -3.6132, Plg53.0000°, Azm322.0000°;*
MOS ***23*** *11:43:59.7±0.9, 1°.18N×128°.13E, h45km, mb5.2/59, MS4.3/6 Error ellipse: s-maj=9.6km s-min=4.7km az=111.7*
DJA ***23*** *11:43:59.3±0.3, 1°N±2°×12°8E±°, h23km±2km, M5.1/88, mb5.3/88, mB5.6/49, MLv5.2/22, Mw(mB)5.1/49, MwMwp4.9/9, Mwp5.2/9*
GCMT ***23*** *11:44:00.5±0.2, 1°.25N±0°.02×128°.15E±0°.02, h18km±1km, MW5.0/98, Moment Tensor Solution. s36,c49; s98,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.47±.16; $M_{\theta\theta}$0.12±.10; $M_{\phi\phi}$2.35±.12; $M_{r\theta}$1.33±.29; $M_{\theta\phi}$-2.34±.08; $M_{\phi r}$-1.71±.27; Best double couple: $M_0$3.82800×10^{16} NP1:ϕ_s156.00000°, δ28.00000°, λ-77.00000°. NP2: ϕ_s322.00000°, δ62.00000°, λ-97.00000°. Principal axes: T 4.4950, Plg17.0000°, Azm57.0000°; N -1.3350, Plg6.0000°, Azm325.0000°; P -3.1600, Plg72.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***23*** *11:44:02.7±2.2, 1°.19N×128°.22E, h57km±19km, mb4.5/22, mbtmp4.8/25, ML5.3/4, MS4.2/48 Error ellipse: s-maj=21.9km s-min=8.8km az=78.0*
ISC 23 11:43:59.1±0.2, 1°.10N±0°.03×128°.17E±0°.04, h23km, n779, σ1§32/698, mb5.1/212, MS4.2/66, 13C-8D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.87**	**248**	Pg	**Pb**	**11 44 14.8**	**-0.8**
TNTI	**Ternate**	**0.87**	**248**	P	**Pb**	**11 44 14.2**	**-1.4**
LBMI	**Labuha**	**1.85**	**201**	P	**Pn**	**11 44 30.1**	**+0.6**
SWI	**Sorong**	**3.65**	**122**	P	**Pn**	**11 44 54.7**	**+0.5**
SGSI	**Sangihe**	**3.69**	**314**	P	**Pn**	**11 44 56.5**	**+1.7**
SANI	**Sanana**	**3.81**	**215**	P	**Pn**	**11 44 57.5**	**+1.0**
SANI	**Sanana**	**3.81**	**215**	S	**Sn**	**11 45 43.0**	**+2.3**
SANI	**Sanana**	**3.81**	**215**	P	**Pn**	**11 44 56.7**	**+0.2**
KMSI	**Cibinong**	**4.22**	**263**	P	**Pn**	**11 45 04.1**	**+1.9**
NLAI	**Namlea**	**4.44**	**194**	P	**Pn**	**11 45 06.9**	**+1.8**
MSAI	**Masohi**	**4.48**	**170**	P	**Pn**	**11 45 07.9**	**+2.3**
AAI	**Ambon**	**4.75**	**180**	P	**Pn**	**11 45 11.7**	**+2.3**
FAKI	**Fak Fak**	**5.70**	**134**	Pn	**Pn**	**11 45 22.3**	**-0.2**
FAKI	**Fak Fak**	**5.70**	**134**	P	**Pn**	**11 45 22.7**	**+0.2**
	120nm,1.0s						
LUWI	**Luwuk**	**5.80**	**249**		**Pn**	**11 45 24.2**	**+0.3**
LUWI	**Luwuk**	**5.80**	**249**	P	**Pn**	**11 45 26.9**	**+3.0**
LUWI	**Luwuk**	**5.80**	**249**	P	**Pn**	**11 45 25.5**	**+1.6**
	2.9nm5μm455nm,0.8s						
BNDI	**Bandanaira**	**5.84**	**163**	P	**Pn**	**11 45 26.4**	**+2.0**
	2.3nm15μm347nm,0.7s						
MRSI	**Marisa**	**6.26**	**264**	P	**Pn**	**11 45 30.9**	**+0.7**
	1.0nm3μm2μm234nm,0.6s						
DAV	**Davao City (W)**	**6.47**	**337**	Pn	**Pn**	**11 45 34.2**	**+1.1**
DAV	**Davao City (W)**	**6.47**	**337**	P	**Pn**	**11 45 34.6**	**+1.5**
	47nm,0.3s,baz=326,slow=4.1,SNR=4.7						
DAV				S	**Sn**	**11 46 47.5**	**+1.1**
	184nm,0.4s,baz=63,slow=9.0,SNR=1.3						
	116nm,0.3s						
DAV	**Davao City (W)**	**6.47**	**337**	P	**Pn**	**11 45 35.0**	**+1.9**
RKPI	**Ransiki, Papua**	**6.54**	**113**	P	**Pn**	**11 45 35.0**	**+1.0**
	1.3nm203nm,0.8s

MMRI	Maumere	11.34 211	P	Pn	11 46 45.6	+5.8
MMRI	Maumere	11.34 211	P	Pn	11 46 40.5	+0.7
	3μm115nm,1.4s					
SOEI	Soe	11.46 200	Pn	Pn	11 46 41.1	-0.5
SOEI	Soe	11.46 200	P	Pn	11 46 47.0	+5.3
SOEI	Soe	11.46 200	P	Pn	11 46 45.8	+4.1
	3μm95nm,1.5s					
GENI	Genyem	12.54 107	P	P	11 47 03.2	-4.5
GENI	Genyem	12.54 107	P	Pn	11 46 59.6	+3.3
	80nm,1.5s					
KKM	Kota Kinabalu	12.91 293	Pn	Pn	11 46 59.5	-1.9
KKM	Kota Kinabalu	12.91 293	P	Pn	11 47 03.8	+2.4
JAY	Jayapura	13.03 106	LR	LR	11 51 50.1	
	comp=Z,840nm,19.9s,baz=138,slow=36					
WSI	Waingapu	13.26 216	P	Pn	11 47 07.9	+1.7
	3μm199nm,1.3s					
BASI	Baing, Sumba	13.55 214	P	P	11 47 15.5	-3.5
	3μm222nm,1.5s					
DRS	Darwin Rock St	13.71 169	P	Pn	11 47 16.0	+3.7
WBSI	Waikabubak, Su	13.79 219	P	Pn	11 47 17.0	+3.5
	1μm156nm,0.6s					
MTN	Manton Dam	14.16 168	Pn	Pn	11 47 17.5	-0.9
MTN	Manton Dam	14.16 168	P	Pn	11 47 16.7	-1.7
MTN	Manton Dam	14.16 168	P	Pn	11 47 21.2	+2.8
PLAI	Plampang	14.30 226	P	P	11 47 25.0	-2.4
PLAI	Plampang	14.30 226	P	P	11 47 24.6	-2.8
	2μm162nm,0.9s					
KDU	Kakadu	14.34 163	P	Pn	11 47 19.5	-1.5
KDU	Kakadu	14.34 163	P	P	11 47 26.4	-1.4
TABU	Tabubil	14.49 116	P	P	11 47 29.8	+0.3
TGY	Tagaytay City	14.77 331	P	Pn	11 47 27.8	+0.9
	110nm,0.3s,baz=135,slow=7.1,SNR=3.8					
TGY		LR	LR		11 54 42.2	
	comp=Z,754nm,18.5s,baz=128,slow=44					
TWSI	Taliwang, Sumb	14.90 229	P	Pn	11 47 30.8	+2.2
	2μm102nm,0.9s					
SRBI	Singaraja	15.82 235	P	Pn	11 47 42.5	+1.9
	2μm149nm,1.1s					
SBUM	Sibu	16.00 275	Pn	Pn	11 47 43.1	+0.1
SBUM	Sibu	16.00 275	P	Pn	11 47 43.0	+0.1
DNP	Denpasar	16.16 233	P	P	11 47 47.3	-0.7
	283nm,1.2s					
KMMI	Kalianget	16.32 240	P	P	11 47 51.2	+1.4
	3μm230nm,1.4s					
ABJI	Asem Bagus	16.47 237	P	P	11 47 50.6	-0.9
	190nm,1.9s					
KNRA	Kununurra	16.68 178	Pn	Pn	11 47 50.3	-1.2
KNRA	Kununurra	16.68 178	P	Pn	11 47 50.6	-0.9
STKI	Sintang	16.73 267	P	Pn	11 47 52.3	+0.1
	108nm,1.2s					
JAGI	Jajag, Banyuwa	16.90 236		Pn	11 47 55.4	+1.0
JAGI			IAmb	IAmb	11 48 06.5	
	comp=Z,268nm,1.1s					
JAGI	Jajag, Banyuwa	16.90 236	P	P	11 47 57.2	+1.0
JAGI	Jajag, Banyuwa	16.90 236	P	P	11 47 57.3	+1.0
	comp=Z,3μmcomp=Z,232nm,1.2s					
GMJI	Gumukmas	17.39 237	P	P	11 48 03.5	+1.9
	comp=Z,3μmcomp=Z,124nm,1.1s					
GRJI	Gresik	17.57 243	P	P	11 48 05.0	+1.4
	comp=Z,4μmcomp=Z,5μmcomp=Z,399nm,1.2s					
KSM	Kuching	17.87 271		Pn	11 48 06.6	+0.2
KSM	Kuching	17.87 271	P	P	11 48 06.9	0.0
TBJI	Tambak Boyo	18.09 244	P	P	11 48 10.0	+0.6
	comp=Z,4μmcomp=Z,6μmcomp=Z,316nm,1.1s					
NGJI	Ngawi	18.67 243	P	Pn	11 48 18.6	+2.3
	comp=Z,144nm,1.4s					
FITZ	Fitzroy Crossi	19.24 187	P	P	11 48 21.4	-0.5
FITZ	Fitzroy Crossi	19.24 187	P	P	11 48 22.5	+0.6
	comp=Z,2.8nm,0.3s,baz=18,slow=8.1,SNR=70					
FITZ		LR	LR		11 56 45.8	
	comp=Z,565nm,19.3s,baz=8.5,slow=40					
	comp=Z,26nm,0.7s					
PCJI	Pacitan	19.30 241	P	Pn	11 48 23.9	+0.1
	comp=Z,4μmcomp=Z,259nm,1.8s					
SMRI	Semarang	19.46 245		P	11 48 24.5	0.0
SMRI			IAmb	IAmb	11 48 28.6	
	comp=Z,102nm,0.8s					
SMRI	Semarang	19.46 245	P	Pn	11 48 27.3	+1.6
SMRI	Semarang	19.46 245	P	Pn	11 48 27.9	+2.2
	comp=Z,2μmcomp=Z,153nm,1.1s					
UGM	Wanagama	19.75 243	P	Pn	11 48 29.3	+0.1
UGM	Wanagama	19.75 243	P	Pn	11 48 29.3	+0.1
	comp=Z,219nm,1.4s					
YOGI	Yogyakarta	19.91 243	P	P	11 48 29.1	-0.3
	comp=Z,159nm,1.4s					
GUMO	Guam	20.67 52	LR	LR	11 55 57.6	
	comp=Z,1μm,19.3s,baz=215,slow=35					
TPI	Tanjungpandan	20.87 259	P	P	11 48 40.2	+0.4
COEN	Coen	21.09 136	P	P	11 48 41.5	-0.6
COEN	Coen	21.09 136	P	P	11 48 43.8	+1.7
	comp=Z,47nm,1.5s					
JCJI	Jatiwangi	21.25 249	P	P	11 48 44.9	+1.0
CMJI	Cimerak	21.56 246	P	P	11 48 47.6	+0.4
	comp=Z,2μmcomp=Z,121nm,0.9s					
PMG	Port Moresby	21.60 119	LR	LR	11 59 34.7	
	comp=Z,803nm,18.7s,baz=300,slow=43					
WB0	Warramunga Arr	21.61 164	P	P	11 48 48.1	+0.3
WB0			IAmb	IAmb	11 48 49.8	
	comp=Z,83nm,0.8s					
WRAB	Tennant Creek	21.76 164	P	P	11 48 49.9	+0.5
WRAB			IAmb	IAmb	11 48 50.9	
	comp=Z,75nm,0.7s					
WRAB	Tennant Creek	21.76 164	*i* P	P	11 48 50.3	+1.0
WRAB			pmax	pmax		
	comp=Z,67nm,0.9s					
WRA	Warramunga Arr	21.77 164	P	P	11 48 48.8	-0.6
WRA	Warramunga Arr	21.77 164	P	P	11 48 50.1	+0.8
	comp=Z,81nm,0.7s,baz=343,slow=11,SNR=205					
WRA		PcP	PcP		11 52 48.5	-1.2
	comp=Z,1.2nm,0.8s,baz=330,slow=2.0,SNR=1.9					
WRA		LR	LR		12 00 05.7	
	comp=Z,945nm,18.5s,baz=340,slow=44					
	comp=Z,81nm,0.7s					
WRA	Warramunga Arr	21.77 164	*i* P	P	11 48 48.9	-0.5
WRA			pmax	pmax		
	comp=Z,83nm,0.7s					
WB2	Warramunga Arr	21.77 164	P	P	11 48 50.1	+0.7
WB2			IAmb	IAmb	11 48 51.4	
	comp=Z,94nm,0.8s					
WR0	Warramunga Arr	21.84 164	P	P	11 48 51.0	+0.9
WR0			IAmb	IAmb	11 48 52.1	
	comp=Z,65nm,0.8s					
LEM	Lembang	21.97 249	LR	LR	11 59 22.6	
	comp=Z,579nm,18.2s,baz=114,slow=42					
LEM	Lembang	21.97 249	P	P	11 48 52.5	+0.6
	comp=Z,2μmcomp=Z,90nm,1.3s					
BBJI	Bungbulang	22.17 247	P	P	11 48 54.4	+0.5
PPBI	Pangkal Pinang	22.27 262	P	P	11 48 55.8	+0.9
DLV	Lat	22.31 300	IAmb	IAmb	11 48 59.5	
	comp=Z,84nm,1.1s					
DLV	Lat	22.31 300	P	P	11 48 56.0	+0.5
CNJI	Cibinong	22.59 248	P	P	11 48 58.1	-0.3
	comp=Z,52nm,1.1s					
TWGBT	Beinan	22.66 343	P	P	11 48 57.0	-2.0
TWG	Pinlang	22.67 343	IAmb	IAmb	11 49 17.8	
	comp=Z,51nm,0.7s					
TNG	Tangerang	22.67 251	P	P	11 49 00.4	+1.2
YULB	Yu-li	23.15 344	IAmb	IAmb	11 49 20.2	
	comp=Z,40nm,0.8s					
YULB	Yu-li	23.15 344	P	P	11 49 02.4	-1.6
SBJI	Serang	23.15 252	P	P	11 49 05.3	+1.2
TPUB	Ta-pu	23.25 342	P	P	11 49 04.6	-0.5
MBWA	Marble Bar	23.61 200	P	P	11 49 08.0	-0.6
MBWA			IAmb	IAmb	11 49 16.9	
	comp=Z,66nm,1.1s					
MBWA	Marble Bar	23.61 200	P	P	11 49 08.6	0.0
	comp=Z,56nm,1.1s					
MBWA	Marble Bar	23.61 200	P	P	11 49 08.1	-0.5
SSLB	Suanglung	23.62 343	P	P	11 49 07.7	-1.0
SSLB			IAmb	IAmb	11 49 11.4	
	comp=Z,93nm,1.0s					
SSLB	Suanglung	23.62 343	P	P	11 49 07.6	-1.0
CGJI	Cibinong	23.71 251	P	P	11 49 09.1	-0.6
	comp=Z,2μmcomp=Z,146nm,1.2s					
NACB	Ninganchiao	23.81 345	P	P	11 49 12.3	+1.8
PSAC1	Pilbara Seismi	23.93 200	P	P	11 49 10.8	-0.8
	comp=Z,84nm,1.2s					
PSA00	Pilbara Seismi	23.96 199	IAmb	IAmb	11 49 13.6	
	comp=Z,78nm,1.1s					
PSA00	Pilbara Seismi	23.96 199	P	P	11 49 11.4	-0.5
	comp=Z,99nm,1.2s					
PSA00	Pilbara Seismi	23.96 199	P	P	11 49 11.4	-0.5
QIS	Mount Isa	24.26 153	P	P	11 49 15.5	+0.8
	comp=Z,107nm,0.8s					
MYKOM	Kota Tinggi	24.33 272	IAmb	IAmb	11 49 17.1	
	comp=Z,54nm,0.9s					
MYKOM	Kota Tinggi	24.33 272	P	P	11 49 16.6	+1.2
YHNB	Yeheng	24.34 345	IAmb	IAmb	11 49 22.6	
	comp=Z,92nm,1.0s					
YHNB	Yeheng	24.34 345	P	P	11 49 15.9	+0.4
RABL	Rabaul	24.54 103	P	P	11 49 17.6	+0.2
MDSI	Maura Dua	24.61 257	P	P	11 49 17.6	-0.4
	comp=Z,1μmcomp=Z,145nm,1.0s					
LWLI	Liwa	24.84 256	P	P	11 49 20.6	+0.3
MTSU	Mount Surprise	24.85 141	P	P	11 49 21.5	+1.3
	comp=Z,10nm,0.9s					
MTSU	Mount Surprise	24.85 141	P	P	11 49 21.5	+1.3
KNMB	Chin-men Tao	25.09 339	P	P	11 49 23.1	+0.9
XMI	Christmas Isla	25.14 242	P	P	11 49 22.6	-0.2
XMIS	Christmas Isla	25.19 242	P	P	11 49 22.6	-0.6
XMIS	Christmas Isla	25.19 242	P	P	11 49 22.7	-0.6
AS31	Alice Springs	25.24 168	P	P	11 49 24.6	+1.0
AS31	Alice Springs	25.24 168	P	P	11 49 24.6	+1.0
	comp=Z,20nm,0.7s					
ASAR	Alice Springs	25.24 168	P	P	11 49 24.9	+1.3
	comp=Z,26nm,0.8s,baz=354,slow=12,SNR=125					
ASAR		PcP	PcP		11 52 56.4	-0.5
	comp=Z,1.3nm,0.7s,baz=7.1,slow=3.0,SNR=2.5					
ASAR		S	S		11 53 47.5	-0.6
	comp=Z,0.4nm,0.8s,baz=350,slow=21,SNR=1.0					
	comp=Z,26nm,0.8s					
QIZ	Qiongzhong	25.31 316	P	P	11 49 23.5	-0.8
QIZ			IAmb	IAmb	11 49 47.4	
	comp=Z,56nm,1.2s					
QIZ	Qiongzhong	25.31 316	P	P	11 49 24.6	+0.3
QIZ			S	S	11 53 52.8	+3.5
QIZ			LR	LR		
	comp=Z,400nm,11.4s					
QIZ			LR	LR		
	comp=Z,470nm,8.6s					
QIZ			LR	LR		
	comp=Z,600nm,14.4s					
QZH	Quanzhou	25.45 339	P	P	11 49 26.4	+0.9
QZH			S	S	11 53 57.1	+5.8
QZH			pmax	pmax		
	comp=Z,190nm,1.1s					
JOW	Kunigami	25.59 0	LR	LR	11 58 52.7	
	comp=Z,823nm,20.6s,baz=156,slow=35					
MNAI	Manna	25.78 258	P	P	11 49 28.3	-0.3
	comp=Z,3μmcomp=Z,166nm,1.0s					
WRKA	Warakurna	25.98 180	P	P	11 49 31.3	+1.0
	comp=Z,249nm,1.1s					
KSI	Kapahiang	26.00 259	P	P	11 49 30.3	-0.4
	comp=Z,104nm,0.8s					
UBPT	Khong Chiam	26.48 303	P	P	11 49 35.8	+1.0
UBPT			IAmb	IAmb	11 49 37.1	
	comp=Z,51nm,1.1s					
UBPT	Khong Chiam	26.48 303	P	P	11 49 35.5	+0.6
BKNI	Bangkinang	27.14 269	P	P	11 49 41.7	+0.7
IPM	Ipoh	27.32 278	P	P	11 49 42.5	-0.1
IPM	Ipoh	27.32 278	P	P	11 49 42.5	-0.1
KULM	Kulim	27.79 279	P	P	11 49 46.2	-0.5
KULM	Kulim	27.79 279	P	P	11 49 47.4	+0.6
PPI	Padang Panjang	27.82 267	P	P	11 49 47.1	+0.1
MNSI	Mandailing Nat	28.59 270	P	P	11 49 53.8	-0.1
	comp=Z,26nm,0.9s					
MEEK	Meekatharra	29.07 198	P	P	11 49 57.0	-1.1
	comp=Z,28nm,0.8s					
MEEK	Meekatharra	29.07 198	P	P	11 49 57.6	-0.5
JCJ	Chichijima	29.14 26	LR	LR	11 59 07.7	
	comp=Z,477nm,20.1s,baz=266,slow=31					
SISI	Saibi	29.18 265	P	P	11 49 59.3	+0.1
	comp=Z,42nm,1.1s					
RPSI	Rantau Prapat	29.28 274	P	P	11 49 59.3	-0.7
PSI	Prapat	29.28 274	P	P	11 50 00.1	-0.1
PSI	Prapat	29.28 274	P	P	11 49 59.3	-0.9
PSI			pmax	pmax		
	comp=Z,20nm,0.8s					
SRIT	Nakonsritamara	29.41 286	P	P	11 50 01.9	+0.7
SRIT			IAmb	IAmb	11 50 02.0	
	comp=Z,22nm,0.8s					
SRIT	Nakonsritamara	29.41 286	P	P	11 50 01.7	+0.5
NAYO	Nakonayok	29.62 298	P	P	11 50 04.0	+1.0
OOD	Oodnadatta	29.62 166	P	P	11 50 04.2	+1.4
NONG	Nongkai	29.81 306	P	P	11 50 05.0	+0.4
GSI	Gunungsitoli	30.59 271	P	P	11 50 09.7	-1.9
GSI			IAmb	IAmb	11 50 12.5	
	comp=Z,32nm,1.0s					
GSI	Gunungsitoli	30.59 271	P	P	11 50 12.2	+0.5
GSI	Gunungsitoli	30.59 271	P	P	11 50 11.7	0.0
	comp=Z,36nm,1.0s					
INKA	Innaminka	31.11 158	P	P	11 50 17.5	+1.5
QLP	Quilpie	31.58 152	P	P	11 50 22.3	+2.1
SRDT	SRDT	31.59 296	P	P	11 50 21.7	+1.2
FORT	Forrest	31.70 180	P	P	11 50 21.1	-0.1
FORT	Forrest	31.70 180	P	P	11 50 21.8	+0.7
	comp=Z,309nm,0.8s					
SNSI	Sinabang, Aceh	31.86 273	P	P	11 50 22.9	+0.1
	comp=Z,75nm,1.1s					
JNU	Nakatsue	31.96 4	P	P	11 50 23.0	-0.4
JNU			IAmb	IAmb	11 50 28.3	
	comp=Z,32nm,1.0s					
JNU	Nakatsue	31.96 4	LR	LR	12 02 22.4	
	comp=Z,584nm,20.8s,baz=182,slow=34					
NJ2	Nanjing	32.02 345	*eP*	P	11 50 24.9	+0.9
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
WHN	Wuhan	32.09 337	⇓P	P	11 50 26.8	+2.2
WHN			pP	pP	11 50 29.3	-2.2
WHN			S	S	11 55 36.0	+0.3
WHN			pmax	pmax		
	comp=Z,110nm,0.8s					
WHN			LR	LR		
	comp=Z,1μm,17.4s					
MORW	Morawa	32.16 200	P	P	11 50 25.3	0.0
MORW			IAmb	IAmb	11 50 26.0	
	comp=Z,21nm,0.8s					
MORW	Morawa	32.16 200	P	P	11 50 23.7	-1.6
MORW	Morawa	32.16 200	P	P	11 50 25.3	0.0
GYA	Guiyang	32.62 322	P	P	11 50 32.8	+3.3
GYA			pmax	pmax		
	comp=Z,11nm,0.9s					
KMBL	Kambalda	32.83 190	P	P	11 50 32.0	+0.8
	comp=Z,81nm,1.1s					
KMBL	Kambalda	32.83 190	P	P	11 50 31.7	+0.6
TATA	Tatamba Isabel	32.91 107	P	P	11 50 35.8	+3.8
BSI	Banda Aceh	33.10 278	P	P	11 50 34.5	+0.7
	comp=Z,21nm,1.1s					
HNR	Honiara	33.33 109	LR	LR	12 03 49.4	
	comp=Z,360nm,20.3s,baz=274,slow=36					
BLDU	Ballidu	33.37 198	P	P	11 50 35.4	-0.5
	comp=Z,37nm,1.2s					
BLDU	Ballidu	33.37 198	P	P	11 50 35.4	-0.5
CM31	Chiang Mai Arr	33.47 303	P	P	11 50 36.5	-0.4
CM31			IAmb	IAmb	11 50 39.1	
	comp=Z,26nm,1.1s					
CMAR	Chiang Mai Arr	33.47 303	P	P	11 50 36.1	-0.8
CMAR	Chiang Mai Arr	33.47 303	P	P	11 50 37.5	+0.6
	comp=Z,11nm,1.1s,baz=124,slow=7.2,SNR=52					
	comp=Z,11nm,1.1s					
CMAR	Chiang Mai Arr	33.47 303	*ceP*	P	11 50 38.0	+1.1
CMAR			pmax	pmax		
	comp=Z,9.0nm,1.1s					
CHTO	Chiang Mai	33.64 303	P	P	11 50 38.5	+0.2
CHTO			IAmb	IAmb	11 50 40.3	
	comp=Z,49nm,1.4s					
CHTO	Chiang Mai	33.64 303	P	P	11 50 38.5	+0.2
CHTO			pmax	pmax		
	comp=Z,49nm,1.4s					
JHJ	Hachijo jima 2	33.67 18	LR	LR	12 02 40.8	
	comp=Z,583nm,20.1s,baz=209,slow=33					
KLBR	Kellerberrin	33.98 196	P	P	11 50 41.5	+0.4
	comp=Z,83nm,1.0s					
ENH	Enshi	34.02 330	P	P	11 50 41.0	-0.5
ENH	Enshi	34.02 330	P	P	11 50 42.9	+1.4
KMI	Kunming	34.26 316	⇓P	P	11 50 46.8	+2.9
KMI			pP	pP	11 50 49.8	-1.1
KMI			PP	PP	11 52 01.9	+0.2
KMI			S	S	11 56 12.5	+2.5
KMI			pmax	pmax		
	comp=Z,32nm,0.9s					
KMI			LR	LR		
	comp=Z,230nm,17.1s					
KMI			LR	LR		
	comp=Z,450nm,14.1s					
KMI			LR	LR		
	comp=Z,430nm,21.5s					
BBOO	Buckleboo	34.54 168	P	P	11 50 45.5	-0.5
MUN	Mundaring	34.80 198	P	P	11 50 47.5	-0.7
WHYH	Whyalla	35.09 166	P	P	11 50 52.3	+1.6
STKA	Stephens Creek	35.17 160	P	P	11 50 51.4	-0.1
STKA	Stephens Creek	35.17 160	P	P	11 50 52.0	+0.6
	comp=Z,9.6nm,0.8s,baz=328,slow=11,SNR=18					
STKA		PP	PP		11 52 11.3	-0.3
	comp=Z,9.2nm,0.8s,baz=327,slow=17,SNR=3.0					
STKA		LR	LR		12 06 57.2	
	comp=Z,422nm,21.3s,baz=342,slow=39					
	comp=Z,9.6nm,0.8s					
STKA	Stephens Creek	35.17 160	*i* P	P	11 50 52.3	+0.8
NWAO	Narrogin (SRO)	35.38 196	P	P	11 50 52.6	-0.6
NWAO			IAmb	IAmb	11 51 03.3	
	comp=Z,49nm,1.3s					
NWAO	Narrogin (SRO)	35.38 196	LR	LR	12 07 07.8	
	comp=Z,291nm,18.5s,baz=76,slow=39					
NWAO	Narrogin (SRO)	35.38 196	P	P	11 50 53.5	+0.3
NWAO	Narrogin (SRO)	35.38 196	P	P	11 50 52.6	-0.6
NWAO			pmax	pmax		
	comp=Z,49nm,1.3s					
AULRC	Lightning Ridg	35.77 150	P	P	11 51 01.0	+4.3
HTT	Hallett	35.81 165	P	P	11 50 58.2	+1.3
PZH	PanZhiHua	35.83 317	P	P	11 50 58.1	+0.7
PZH			S	S	11 56 36.1	+2.1
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,200nm,4.5s					
PZH			LR	LR		
	comp=Z,270nm,16.8s					
PZH			LR	LR		
	comp=Z,230nm,18.2s					
PZH			LR	LR		
	comp=Z,390nm,16.2s					
KSAR	Wonju Array Be	36.17 360	P	P	11 50 59.2	-0.7
KSAR	Wonju Array Be	36.17 360	P	P	11 50 59.2	-0.7
KSRS	Korea Array	36.18 360	P	P	11 50 59.3	-0.7
	comp=Z,5.4nm,0.7s,baz=177,slow=9.6,SNR=28					
KSRS		LR	LR		12 05 03.6	
	comp=Z,385nm,20.9s,baz=165,slow=35					
	comp=Z,5.4nm,0.7s					
KS19	Wonju Array Si	36.23 360	P	P	11 50 59.8	-0.6
LYN	LuoYang	36.37 338	P	P	11 51 02.8	+1.1
LYN			sP	sP	11 51 10.3	-1.3
LYN			S	S	11 56 44.8	+3.0
LYN			pmax	pmax		
	comp=Z,41nm,0.6s					
LYN			pmax	pmax		
	comp=Z,330nm,5.2s					
LYN			LR	LR		
	comp=Z,290nm,13.7s					
LYN			LR	LR		
	comp=Z,460nm,12.7s					
LYN			LR	LR		
	comp=Z,580nm,14.8s					
TIA	Tai'an	36.41 345	P	P	11 51 01.5	-0.5
TIA			pmax	pmax		
	comp=Z,16nm,1.2s					
CMSA	Cobar Meteorol	36.47 154	P	P	11 51 04.2	+1.7
MAJO	Matsushiro	36.47 14	P	P	11 51 00.8	-1.8
MAJO	Matsushiro	36.47 14	P	P	11 51 00.5	-2.1
MAJO	Matsushiro	36.47 14	*i* P	P	11 51 00.1	-2.5
MAJO			pmax	pmax		
	comp=Z,18nm,0.9s					
MJAR	Matsushiro Arr	36.47 14	P	P	11 51 00.8	-1.7
	comp=Z,17nm,1.0s,baz=187,slow=8.8,SNR=27					
MJAR		LR	LR		12 05 14.6	
	comp=Z,979nm,19.4s,baz=206,slow=35					
	comp=Z,17nm,1.0s					
MJB9	Matsu-Tunnel	36.48 14	P	P	11 51 01.8	-0.8
TNCH	TengChong	37.23 312	⇓P	P	11 51 10.1	+0.7
TNCH			PP	PnPn	11 52 39.3	+4.2
TNCH			S	S	11 56 58.0	+2.5
TNCH			SS	SnSn	11 59 25.1	-6.5
TNCH			pmax	pmax		
	comp=Z,33nm,0.3s					
TNCH			pmax	pmax		
	comp=Z,200nm,4.5s					
TNCH			LR	LR		
	comp=Z,280nm,5.5s					
TNCH			LR	LR		
	comp=Z,280nm,7.8s					
TNCH			LR	LR		
	comp=Z,260nm,12.8s					
XAN	Xi'an	37.40 333	⇑P	P	11 51 10.9	+0.4
XAN			S	S	11 56 58.9	+1.3
XAN			pmax	pmax		
	comp=Z,63nm,0.9s					
XAN			LR	LR		
	comp=Z,420nm,16.4s					
XAN			LR	LR		
	comp=Z,320nm,19.2s					
XAN			LR	LR		
	comp=Z,450nm,15.1s					
AUMBR	Murray Bridge	37.51 165	P	P	11 51 12.9	+1.5
CD2	Chengdu	37.61 324	P	P	11 51 12.8	+0.4
CD2			pmax	pmax		
	comp=Z,20nm,0.7s					
GC1S	Gold Coast 1 S	37.91 142	P	P	11 51 17.0	+2.1
DL2	Dalian	38.10 352	P	P	11 51 16.5	+0.2
DL2			pmax	pmax		
	comp=Z,50nm,1.0s					
HNS	HongShan	38.20 343	⇓P	P	11 51 17.4	+0.2
HNS			S	S	11 57 10.9	+1.4
HNS			pmax	pmax		
	comp=Z,59nm,1.0s					
HNS			LR	LR		
	comp=Z,240nm,15.9s					
HNS			LR	LR		
	comp=Z,220nm,15.9s					
HNS			LR	LR		
	comp=Z,280nm,19.1s					
JMM	Marumori	38.39 16	IAmb	IAmb	11 51 20.7	
	comp=Z,59nm,1.0s					
JMM	Marumori	38.39 16	P	P	11 51 19.3	+0.6
TIY	Taiyuan	39.22 340	*eP*	P	11 51 26.8	+1.0
TIY			S	S	11 57 27.1	+2.1
TIY			pmax	pmax		
	comp=Z,35nm,0.5s					
TIY			pmax	pmax		
	comp=Z,240nm,4.3s					
TIY			LR	LR		
	comp=Z,340nm,13.1s					
TIY			LR	LR		
	comp=Z,310nm,14.4s					
TIY			LR	LR		
	comp=Z,260nm,18.5s					
ARPS	Mount Arapiles	39.76 163	P	P	11 51 32.0	+1.8
BJT	Baijiatuau	40.25 346	P	P	11 51 33.7	-0.6
BJT			IAmb	IAmb	11 51 40.2	
	comp=Z,52nm,0.8s					
BJT	Baijiatuau	40.25 346	P	P	11 51 34.0	-0.3
BJT	Baijiatuau	40.25 346	P	P	11 51 33.7	-0.6
BJT			pmax	pmax		
	comp=Z,52nm,0.8s					
BJI	Beijing	40.27 346	P	P	11 51 33.8	-0.6
BJI			pP	pP	11 51 36.9	-4.6
BJI			sP	sP	11 51 44.8	+0.4
BJI			pmax	pmax		
	comp=Z,36nm,0.8s					
BJI			LR	LR		
	comp=Z,180nm,18.4s					
BJI			LR	LR		
	comp=Z,49nm,16.0s					
BJI			LR	LR		
	comp=Z,160nm,17.7s					
PSTR	Posyet	41.44 3	*i* P	P	11 51 42.0	-2.0
LZH	Lanzhou	41.49 330	*eP*	P	11 51 46.1	+1.3
LZH			pP	pP	11 51 50.9	-0.9
LZH			S	S	11 57 59.8	+0.6
LZH			pmax	pmax		
	comp=Z,31nm,1.5s					
LZH			LR	LR		
	comp=Z,410nm,16.2s					
LZH			LR	LR		
	comp=Z,380nm,13.7s					
LZH			LR	LR		
	comp=Z,270nm,14.8s					
H11S3	WAKE ISLAND Hy 41.55 63		T	T	12 35 33.4	
	baz=249					
H11S2	WAKE ISLAND Hy 41.56 63		T	T	12 35 33.8	
	baz=249					
H11S1	WAKE ISLAND Hy 41.56 63		T	T	12 35 37.7	
	baz=249					
H11N1	WAKE

baz=248,slow=75,SNR=14
HHC Hu-ho-hao-te 42.34 341 ⇓ *i*P **P 11 51 52.3 +0.7**
HHC pP pP 11 51 56.5 -2.1
HHC PP **PP 11 53 33.5 +3.6**
HHC S **S 11 58 11.9 +0.4**
HHC SS **SS 12 01 20.8 +0.1**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,180nm,3.6s
CN2 Changchun 42.59 357 *e*P **P 11 51 52.8 -0.6**
CN2 *es*P pP 11 51 59.8 -0.8
CN2 *e*S **S 11 58 09.1 -5.8**
CN2 *es*S pS 11 58 23.5 +0.4
CN2 pmax pmax
comp=Z,10.0nm,1.6s
CN2 pmax pmax
comp=Z,150nm,4.5s
CN2 LR LR
comp=Z,320nm,15.0s
CN2 LR LR
comp=Z,240nm,15.0s
CN2 LR LR
comp=Z,320nm,17.0s
SHL Shillong 42.61 308 P **P 11 51 54.1 0.0**
SHL Shillong 42.61 308 P **P 11 51 54.1 0.0**
SHL pmax pmax
comp=Z,66nm,0.7s
USA0B Ussuriysk Arra 43.05 4 P **P 11 51 56.2 -0.9**
USA0B Ussuriysk Arra 43.05 4 *i* P **P 11 51 55.7 -1.4**
USRK Ussuriysk Ar. 43.05 4 P **P 11 51 56.3 -0.8**
USRK Ussuriysk Ar. 43.05 4 P **P 11 51 55.6 -1.5**
comp=Z,6.4nm,0.7s,baz=197,slow=6.9,SNR=15
USRK LR LR 12 10 39.0
comp=Z,220nm,19.4s,baz=181,slow=37
comp=Z,6.4nm,0.7s
USRK Ussuriysk Ar. 43.05 4 P **P 11 51 56.3 -0.8**
MDJ Mudanjiang 43.35 1 P **P 11 51 58.8 -0.8**
MDJ Mudanjiang 43.35 1 P **P 11 51 59.0 -0.6**
MDJ sP pP 11 52 04.3 -2.4
MDJ PP **PP 11 53 41.5 +0.9**
MDJ S **S 11 58 31.6 +5.5**
MDJ pmax pmax
comp=Z,18nm,1.1s
MDJ pmax pmax
comp=Z,160nm,5.5s
MDJ LR LR
comp=Z,430nm,15.8s
MDJ LR LR
comp=Z,170nm,10.3s
MDJ LR LR
comp=Z,480nm,21.3s
MDJ Mudanjiang 43.35 1 P **P 11 51 59.5 -0.1**
DZM Mont Dzumac 43.86 124 *e*LR LR 12 04 17.8
comp=Z,383nm,23.2s
DZM Mont Dzumac 43.86 124 LR LR 12 11 17.8
comp=Z,261nm,18.7s,baz=317,slow=37
XLT XiLinHaoTe 43.96 347 *e*P **P 11 52 03.8 -0.8**
XLT pmax pmax
comp=Z,28nm,0.9s
XLT LR LR
comp=Z,220nm,13.8s
XLT LR LR
comp=Z,280nm,16.8s
BNX BinXian 44.46 359 ⇓P **P 11 52 06.8 -1.7**
BNX pmax pmax
comp=Z,9.0nm,0.7s
ASAJ Asahikawa 44.71 15 LR LR 12 10 27.3
comp=Z,633nm,19.9s,baz=208,slow=36
ASAJ Asahikawa 44.71 15 P **P 11 52 10.2 -0.3**
ASAJ pmax pmax
comp=Z,13nm,0.8s
JKA Kamikawa-asahi 44.72 15 P **P 11 52 10.2 -0.3**
LSA Lhasa 45.26 312 P **P 11 52 15.1 -0.6**
LSA IAmb IAmb 11 52 22.9
comp=Z,30nm,1.0s
LSA Lhasa 45.26 312 P **P 11 52 15.1 -0.6**
LSA pmax pmax
comp=Z,30nm,1.0s
GTA Gaotai 46.08 329 *e*P **P 11 52 22.6 +1.0**
GTA sP sP 11 52 35.6 +4.0
GTA pmax pmax
comp=Z,7.0nm,0.8s
GOMU GeErMu 46.63 322 P **P 11 52 27.8 +1.5**
GOMU pP pP 11 52 32.3 -1.1
GOMU sP sP 11 52 35.8 -0.5
GOMU PP **PP 11 54 18.3 +2.1**
GOMU S **S 11 59 16.6 +1.9**
GOMU pmax pmax
comp=Z,11nm,1.0s
GOMU LR LR
comp=Z,390nm,14.9s
GOMU LR LR
comp=Z,310nm,16.9s
GOMU LR LR
comp=Z,450nm,17.8s
YSS Yuzhno-Sakhali 47.41 14 P **P 11 52 30.7 -1.0**
YSS Yuzhno-Sakhali 47.41 14 P **P 11 52 31.6 -0.1**
YSS Yuzhno-Sakhali 47.41 14 *e*P **P 11 52 31.2 -0.5**
YSS *e*S **S 11 59 21.4 -3.2**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=E,200nm,16.0s
PALK Pallekele 47.71 279 P **P 11 52 34.2 -0.5**
PALK IAmb IAmb 11 52 35.4
comp=Z,14nm,0.8s
PALK Pallekele 47.71 279 LR LR 12 14 42.2
comp=Z,174nm,19.9s,baz=97,slow=38
PALK Pallekele 47.71 279 *i* P **P 11 52 34.8 +0.1**
PALK pmax pmax
comp=Z,50nm,1.7s
KLR Kul'dur 48.05 3 LR LR 12 14 53.0
comp=Z,250nm,18.0s,baz=184,slow=39
KLR Kul'dur 48.05 3*ce*P **P 11 52 35.9 -0.7**
KLR pmax pmax
comp=Z,28nm,2.5s
HIA Hailar 48.53 353 P **P 11 52 39.6 -0.8**
HIA Hailar 48.53 353 P **P 11 52 41.4 +1.0**
HIA Hailar 48.53 353 P **P 11 52 39.6 -0.8**
HIA pmax pmax
comp=Z,21nm,1.4s
HEH HeiHe 48.98 359 *e*P **P 11 52 41.8 -2.0**
HEH pmax pmax
comp=Z,29nm,1.0s
GRNR Gornyy 49.98 7 ⇓ *i*P **P 11 52 50.8 -0.7**
GRNR pmax pmax
comp=Z,6.0nm,0.9s
GRNR MLR MLR
comp=E,140nm,20.0s
GRNR MLR MLR
comp=N,180nm,19.0s
GRNR MLR MLR
comp=Z,300nm,16.0s
ULN Ulaanbaatar 50.05 342 P **P 11 52 52.2 -0.1**
ULN Ulaanbaatar 50.05 342 *i* P **P 11 52 52.4 +0.2**
ULN pmax pmax
comp=Z,57nm,1.1s
SONM Songino Array 50.24 341 P **P 11 52 53.3 -0.3**
SONM IAmb IAmb 11 53 00.1
comp=Z,22nm,1.0s
SONM Songino Array 50.24 341 P **P 11 52 53.6 0.0**
comp=Z,6.9nm,0.7s,baz=155,slow=8.7,SNR=34
SONM LR LR 12 15 38.3
comp=Z,230nm,20.2s,baz=152,slow=38
comp=Z,6.9nm,0.7s
TYV Tymovskoe 51.08 12 *e*P **P 11 52 59.7 0.0**
TYV pmax pmax
comp=Z,100nm,5.4s
TYV pmax pmax
comp=Z,7.0nm,1.0s
HYB Hyderabad 51.39 291 *e*P **P 11 53 03.2 +0.5**
CIT Chita 52.21 349 *e*P **P 11 53 08.0 -0.2**
CIT *e* 11 53 20.9
CIT *e* 11 53 30.2
CIT pmax pmax
comp=Z,79nm,1.5s
ZEA Zeya 52.47 359 *e*P **P 11 53 08.8 -1.2**
ZEA *e* 11 54 23.5
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MSVF Nonsavu 52.53 113 LR LR 12 13 15.5
comp=Z,250nm,21.4s,baz=249,slow=33
MSVF Nonsavu 52.53 113 P **P 11 53 14.5 +3.3**
ZAK Zakamensk 53.47 340 *e*P **P 11 53 16.3 -1.3**
ZAK *e* 11 54 20.3
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
IRK Irkutsk 54.76 342 *e*P **P 11 53 28.2 +1.3**
IRK pmax pmax
comp=Z,26nm,1.7s
MOY Mondy 55.33 340 *e*P **P 11 53 33.0 +1.8**
MOY pmax pmax
comp=Z,36nm,1.7s
WMQ Urumqi 55.70 325 *e*P **P 11 53 34.5 +0.6**
WMQ sP pP 11 53 42.6 +1.4
WMQ PP **PP 11 55 42.4 +4.0**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ LR LR
comp=Z,150nm,18.3s
PEA0B Petropavlovsk- 57.34 21 P **P 11 53 45.5 +0.2**
PEA0B Petropavlovsk- 57.34 21 P **P 11 53 45.5 +0.2**
PEA0B pmax pmax
comp=Z,54nm,1.4s
PETK Petropavlovsk- 57.34 21 P **P 11 53 45.3 0.0**
PETK Petropavlovsk- 57.34 21 P **P 11 53 44.6 -0.7**
comp=Z,16nm,1.0s,baz=196,slow=5.3,SNR=17
PETK LR LR 12 17 08.9
comp=Z,138nm,21.8s,baz=203,slow=35
comp=Z,16nm,1.0s
PETK Petropavlovsk- 57.34 21 P **P 11 53 45.3 0.0**
PET Petropavlovsk 57.61 21 *e*P P 11 53 53.4 +6.2
PET *e*S **S 12 01 51.4 +7.5**
PET MLR MLR
comp=Z,200nm,20.0s
BOD Bodaibo 57.67 351 *e*P **P 11 53 46.5 -1.0**
BOD pmax pmax
comp=Z,29nm,1.3s
WUS Wushi 59.48 319 P **P 11 54 00.4 -0.3**
WUS IAmb IAmb 11 54 28.6
comp=Z,39nm,1.5s
URZ Urewera 59.65 137 LR LR 12 19 54.2
comp=Z,328nm,20.2s,baz=35,slow=36
SHLS Shalkode 60.28 321 *e*P **P 11 54 03.1 -3.0**
SHLS pmax pmax
comp=Z,12nm,1.2s
SHLS Shalkode 60.28 321 *e*P **P 11 54 03.1 -3.0**
comp=Z,12nm,1.2s
MK31 Makanchi Array 60.53 325 P **P 11 54 07.5 -0.1**
MK31 IAmb IAmb 11 54 13.6
comp=Z,22nm,1.0s
MK31 Makanchi Array 60.53 325 *i* P **P 11 54 06.9 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,0.5s
MKAR Makanchi Array 60.53 325 P **P 11 54 07.5 -0.1**
MKAR Makanchi Array 60.53 325 P **P 11 54 07.2 -0.4**
comp=Z,16nm,0.5s,baz=117,slow=8.4,SNR=149
comp=Z,16nm,0.5s
MKAR Makanchi Array 60.53 325*ce*P **P 11 54 07.1 -0.5**
MKAR pmax pmax
comp=Z,16nm,0.5s
UZB Uzynbulak 60.56 321 *e*P **P 11 54 06.6 -1.4**
UZB pmax pmax
comp=Z,9.0nm,1.1s
UZB Uzynbulak 60.56 321 *e*P **P 11 54 06.7 -1.4**
comp=Z,8.9nm,1.1s
TARG Taragay, Kyrgy 60.66 319 IAmb IAmb 11 54 27.0
comp=Z,13nm,0.9s
NIL Nilore 60.67 308 P **P 11 54 08.6 -0.3**
NIL Nilore 60.67 308 P **P 11 54 08.6 -0.3**
NIL pmax pmax
comp=Z,68nm,1.5s
MAKZ Makanchi 60.71 325 P **P 11 54 08.2 -0.7**
MAKZ Makanchi 60.71 325 P **P 11 54 08.2 -0.7**
MAKZ pmax pmax
comp=Z,39nm,1.1s
YAK Yakutsk 60.79 1 LR LR 12 22 41.8
comp=Z,222nm,18.1s,baz=178,slow=38
YAK Yakutsk 60.79 1 *e*P **P 11 54 06.5 -2.5**
YAK *e* 11 54 46.6
YAK *e* 11 56 19.9
YAK *e*S **S 12 02 26.2 +1.4**
YAK *e*'SS **sS 12 02 35.4 -1.6**
YAK *e* 12 03 56.3
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK smax smax
comp=N,100nm,3.9s
YAK smax smax
comp=E,24nm,2.2s
YAK MLR MLR
comp=Z,308nm,17.0s
YAK MLR MLR
comp=N,199nm,18.0s
YAK MLR MLR
comp=E,97nm,18.0s
SATY Saty 60.91 320 *e*P **P 11 54 09.0 -1.4**
SATY pmax pmax
comp=Z,8.0nm,0.8s
SATY Saty 60.91 320 *e*P **P 11 54 09.0 -1.4**
comp=Z,7.8nm,0.8s
MA2 Magadan 60.91 13 P **P 11 54 10.1 +0.2**
MA2 IAmb IAmb 11 54 11.7
comp=Z,17nm,0.8s
MA2 Magadan 60.91 13 LR LR 12 19 50.5
comp=Z,136nm,19.9s,baz=212,slow=35
MA2 Magadan 60.91 13 P **P 11 54 09.9 0.0**
MA2 Magadan 60.91 13*ce*P **P 11 54 10.1 +0.2**
MA2 pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 60.91 13 P **P 11 54 09.9 0.0**
comp=Z,26nm,0.9s
KSH Kashi 60.92 316 P **P 11 54 11.5 +0.9**
KSH pmax pmax
comp=Z,8.0nm,1.3s
KPKS Kokpek 60.93 321 *e*P **P 11 54 09.2 -1.3**
KPKS pmax pmax
comp=Z,18nm,1.3s
KPKS Kokpek 60.93 321 *e*P **P 11 54 09.3 -1.3**
comp=Z,18nm,1.3s
ZHN Zhinishke 60.94 320 *e*P **P 11 54 09.2 -1.4**
ZHN Zhinishke 60.94 320 *e*P **P 11 54 09.3 -1.4**
KDJ Kajisay 61.26 319 P **P 11 54 12.7 -0.2**
KDJ IAmb IAmb 11 54 20.4
comp=Z,15nm,0.8s
KDJ Kajisay 61.26 319 P **P 11 54 12.7 -0.2**
KDJ pmax pmax
comp=Z,15nm,0.8s
MDOK Medeo 61.83 320 *e*P **P 11 54 15.3 -1.4**
MDOK Medeo 61.83 320 *e*P **P 11 54 15.3 -1.4**
TNSS Tian-Shan 61.84 320 *e*P **P 11 54 15.4 -1.6**
TNSS Tian-Shan 61.84 320 *e*P **P 11 54 15.5 -1.6**
TDK Taldyqorghan 61.87 322 *e*P **P 11 54 15.4 -1.3**
TDK pmax pmax
comp=Z,11nm,0.7s
TDK Taldyqorghan 61.87 322 *e*P **P 11 54 15.4 -1.3**
comp=Z,11nm,0.7s
AAA Alma-Ata 61.94 320 *e*P **P 11 54 16.2 -1.1**
AAA pmax pmax
comp=Z,13nm,0.9s
AAA Alma-Ata 61.94 320 *e*P **P 11 54 16.2 -1.1**
comp=Z,13nm,0.9s
BOOM Boomskoye usch 62.24 319 P **P 11 54 18.6 -0.9**
BOOM IAmb IAmb 11 54 28.0
comp=Z,21nm,1.4s
BOOM Boomskoye usch 62.24 319 P **P 11 54 18.6 -0.9**
BOOM pmax pmax
comp=Z,21nm,1.4s
AAK Ala-Archa 63.27 318 P **P 11 54 26.2 -0.1**
AAK IAmb IAmb 11 54 34.6
comp=Z,19nm,1.4s
AAK Ala-Archa 63.27 318 LR LR 12 24 15.6
comp=Z,198nm,22.0s,baz=94,slow=38
AAK Ala-Archa 63.27 318*ce*P **P 11 54 27.1 +0.8**
AAK pmax pmax
comp=Z,17nm,1.7s
SGDS Sogindy 63.53 319 *e*P **P 11 54 26.7 -1.2**
SGDS Sogindy 63.53 319 *e*P **P 11 54 26.7 -1.2**
ZAA0 Zalesovo Array 63.57 333 P **P 11 54 26.6 -1.3**
ZAA0 IAmb IAmb 11 54 34.1
comp=Z,18nm,1.3s
ZALV Zalesovo Beam 63.57 333 P **P 11 54 26.3 -1.6**
ZALV Zalesovo Beam 63.57 333 P **P 11 54 26.1 -1.8**
comp=Z,3.7nm,0.8s,baz=114,slow=7.3,SNR=14
ZALV LR LR 12 24 46.5
comp=Z,104nm,18.4s,baz=134,slow=38
comp=Z,3.7nm,0.8s
ZALV Zalesovo Beam 63.57 333 *i* P **P 11 54 26.3 -1.6**
ZALV pmax pmax
comp=Z,4.0nm,0.8s
SHEM Shemya Is, Ala 64.02 29 LR LR 12 17 06.7
comp=Z,173nm,21.8s,baz=270,slow=31
KBL Kabul 64.27 308 P **P 11 54 32.0 -1.1**
KBL IAmb IAmb 11 54 42.0
comp=Z,14nm,0.8s
KBL Kabul 64.27 308 P **P 11 54 32.1 -1.1**
KBL pmax pmax
comp=Z,14nm,0.8s
SEY Seymchan 64.27 12 *i* P **P 11 54 32.3 0.0**
SEY pmax pmax
comp=Z,26nm,1.7s
BTLS Baital 64.61 321 *e*P **P 11 54 33.4 -1.5**
BTLS Baital 64.61 321 *e*P **P 11 54 33.5 -1.5**
KURBB Kurchatov Arra 64.72 328 P **P 11 54 34.6 -0.9**
comp=Z,16nm,0.6s,baz=126,slow=6.1,SNR=137
comp=Z,16nm,0.6s
KURK Kurchatov 64.72 328 P **P 11 54 34.5 -0.9**
KURK Kurchatov 64.72 328 P **P 11 54 34.6 -0.9**
GAR Garm 64.76 313 P **P 11 54 35.5 -0.6**
BTK Batken 64.78 314 IAmb IAmb 11 54 42.1
comp=Z,15nm,0.8s
DZA Taraz 65.50 317 *e*P **P 11 54 39.6 -1.1**
DZA pmax pmax
comp=Z,8.0nm,0.6s
DZA Taraz 65.50 317 *e*P **P 11 54 39.7 -1.1**
comp=Z,7.7nm,0.6s
SIMJ Simiganj 65.60 312 P **P 11 54 40.6 -1.1**
SIMJ IAmb IAmb 11 54 46.3
comp=Z,25nm,1.2s
IUG Iuzhnay 66.10 316 *e*P **P 11 54 43.5 -1.2**
IUG pmax pmax
comp=Z,15nm,1.2s
IUG Iuzhnay 66.10 316 *e*P **P 11 54 43.5 -1.2**
comp=Z,15nm,1.2s
KK31 Karatay Array 66.13 317 P **P 11 54 44.2 -0.6**
KK31 IAmb IAmb 11 54 51.9
comp=Z,13nm,0.8s
KK31 Karatay Array 66.13 317 *i* P **P 11 54 43.8 -1.0**
KKAR Karatay Array 66.13 317 P **P 11 54 44.0 -0.8**
KKAR Karatay Array 66.13 317 P **P 11 54 44.0 -0.8**
BRLS Borolday 66.56 317 *e*P **P 11 54 46.4 -1.2**
BRLS pmax pmax
comp=Z,4.0nm,0.5s
BRLS Borolday 66.56 317 *e*P **P 11 54 46.5 -1.2**
comp=Z,4.1nm,0.5s
BRZS Berezniki 67.66 325 *e*P **P 11 54 52.9 -1.5**
BRZS Berezniki 67.66 325 *e*P **P 11 54 53.0 -1.5**
HRA Herat 69.64 306 P **P 11 55 06.0 -1.4**
BVA0 Borovoye Array 70.30 327 *i* P **P 11 55 08.4 -2.3**
BVAR Borovoye Array 70.30 327 P **P 11 55 09.6 -1.1**
comp=Z,9.2nm,0.8s,baz=126,slow=7.5,SNR=29
BVAR LR LR 12 26 24.7
comp=Z,90nm,18.6s,baz=147,slow=36
comp=Z,9.2nm,0.8s
BRVK Borovoye 70.37 327 P **P 11 55 09.9 -1.2**
BRVK IAmb IAmb 11 55 18.1
comp=Z,14nm,0.8s
BRVK Borovoye 70.37 327*ce*P **P 11 55 10.3 -0.9**
BRVK pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 70.45 0 P **P 11 55 09.7 -1.6**
TIXI IAmb IAmb 11 55 15.6
comp=Z,15nm,0.8s
TIXI Tiksi 70.45 0 LR LR 12 27 45.1
comp=Z,234nm,18.5s,baz=190,slow=37
TIXI Tiksi 70.45 0*ce*P **P 11 55 09.7 -1.6**
TIXI pmax pmax
comp=Z,22nm,1.3s
BILL Bilibino 71.72 14 P **P 11 55 18.3 -0.8**
BILL Bilibino 71.72 14*ce*P **P 11 55 19.0 -0.1**
BILL pmax pmax
comp=Z,11nm,1.7s
NRIK Noril'sk 73.31 346 P **P 11 55 28.6 +0.1**
NRIK IAmb IAmb 11 55 37.7
comp=Z,27nm,1.4s
NRIK Noril'sk 73.31 346 P **P 11 55 26.6 -1.9**
comp=Z,5.4nm,0.6s,baz=124,slow=6.1,SNR=11
NRIK LR LR 12 30 13.7
comp=Z,163nm,19.2s,baz=142,slow=38
comp=Z,5.4nm,0.6s
NRIK Noril'sk 73.31 346*ce*P **P 11 55 28.7 +0.1**
NRIK pmax pmax
comp=Z,23nm,1.6s
SPIA Saint Paul Isl 74.03 30 P **P 11 55 33.7 +0.7**
baz=246
P08K Saint George I 74.15 31 P **P 11 55 34.4 +0.8**
baz=247
UNV Unalaska Valle 74.77 34 P **P 11 55 37.8 +0.4**
baz=250
AB31 Akbulak array 75.09 321 *i* P **P 11 55 37.9 -1.4**
ABKAR Akbulak array 75.09 321 P **P 11 55 38.2 -1.1**
GAMB Gambell 76.21 23 IAmb IAmb 11 55 46.8
comp=Z,21nm,1.0s
GAMB Gambell 76.21 23 P **P 11 55 46.2 +0.8**
baz=243
AKTO Aktyubinsk 76.61 322 LR LR 12 31 50.4
comp=Z,214nm,20.2s,baz=107,slow=38
FALS False Pass 76.81 34 P **P 11 55 49.3 +0.4**
baz=253
SVE Sverdlovsk 76.94 329 *e*P **P 11 55 48.6 -1.1**
SVE pmax pmax
comp=Z,20nm,1.2s
M11K Mekoryuk 77.21 28 P **P 11 55 51.5 +0.5**
baz=249
S12K Black Hills 77.79 33 P **P 11 55 54.9 +0.5**
baz=254
ARTI Arti 78.00 328 P **P 11 55 54.6 -1.0**
ARTI IAmb IAmb 11 56 02.2
comp=Z,9.2nm,0.5s
ARTI Arti 78.00 328 LR LR 12 30 52.9
comp=Z,44nm,19.3s,baz=86,slow=36
ARTI Arti 78.00 328*c i*P **P 11 55 53.5 -2.1**
ARTI S **S 12 05 49.6 +1.7**
ARTI SS **SS 12 10 45.4 -3.9**
ARTI pmax pmax
comp=Z,8.0nm,1.4s
TNA Tin City 78.45 22 P **P 11 55 58.5 +0.6**
baz=246
K13K Kusilvak Mount 78.45 26 P **P 11 55 58.5 +0.6**
baz=250
CHNA Chernabura Isl 78.93 34 P **P 11 56 00.9 +0.2**
baz=256
F14K Arctic Creek 79.03 23 P **P 11 56 01.8 +0.8**
baz=248
ANM Nome 79.07 24 P **P 11 56 02.2 +0.8**
baz=249
L14K Kuka Creek 79.15 27 IAmb IAmb 11 56 03.5
comp=Z,42nm,1.1s
L14K Kuka Creek 79.15 27 P **P 11 56 02.4 +0.6**
baz=252
O14K Tigyukauivet M 79.21 30 P **P 11 56 02.1 -0.1**
baz=254
M14K Bethel 79.31 28 P **P 11 56 02.9 +0.3**
baz=253
G15K Niukluk 79.75 24 P **P 11 56 05.2 +0.1**
baz=250
F15K North Star Dit 79.76 23 P **P 11 56 05.5 +0.4**
baz=249
L15K Ungalak Mounta 79.80 27 P **P 11 56 05.7 +0.3**
baz=253
M15K Kasigluk River 79.89 28 P **P 11 56 06.2 +0.3**
baz=254
O15K Ungalikthiuk R 79.90 30 P **P 11 56 06.2 +0.2**
baz=255
CHGN Chignik 79.93 33 P **P 11 56 06.4 +0.2**
baz=257
K15K Wolf Creek Mou 79.96 27 P **P 11 56 06.5 +0.3**
baz=253
N15K Kwethluk River 80.03 29 P **P 11 56 06.9 +0.3**
baz=254
H16K Elim 80.37 24 P **P 11 56 08.5 +0.1**
baz=252,SNR=16
C16K Lisburne Hills 80.43 20 IAmb IAmb 11 56 10.6

comp=Z,34nm,1.1s
C16K Lisburne Hills 80.43 20 P **P 11 56 09.1 +0.5**
baz=248
G16K Koyuk River 80.56 23 P **P 11 56 09.7 +0.3**
baz=252,SNR=6.6
VNDA Vanda 80.65 173 P **P 11 56 08.9 -0.8**
comp=Z,9.2nm,0.7s,baz=352,slow=3.6,SNR=4.3
VNDA LR LR 12 33 35.1
comp=Z,240nm,18.2s,baz=338,slow=37
comp=Z,9.2nm,0.7s
J16K Anvik River 80.65 26 IAmb IAmb 11 56 12.0
comp=Z,21nm,0.9s
J16K Anvik River 80.65 26 P **P 11 56 10.4 +0.5**
baz=254
L16K Owhat River 80.73 27 IAmb IAmb 11 56 12.5
comp=Z,40nm,1.4s
L16K Owhat River 80.73 27 P **P 11 56 10.9 +0.6**
baz=255
P16K Nushagak River 80.78 30 P **P 11 56 11.0 +0.3**
baz=257
I17K Unalakleet 80.78 25 IAmb IAmb 11 56 12.8
comp=Z,33nm,1.1s
I17K Unalakleet 80.78 25 P **P 11 56 11.5 +0.9**
baz=253,SNR=6.5
M16K Timber Creek 80.79 28 IAmb IAmb 11 56 12.3
comp=Z,33nm,1.2s
M16K Timber Creek 80.79 28 P **P 11 56 11.2 +0.4**
baz=255
O16K Kokwok River B 80.86 30 P **P 11 56 11.6 +0.5**
baz=256
D17K Noatak River 81.03 21 P **P 11 56 12.6 +0.7**
baz=251
RDOG Red Dog Mine 81.21 21 IAmb IAmb 11 56 15.1
comp=Z,27nm,1.1s
RDOG Red Dog Mine 81.21 21 P **P 11 56 13.3 +0.4**
baz=251,SNR=6.4
C17K DeLong Mountai 81.26 20 P **P 11 56 13.6 +0.5**
baz=250
E17K Hotham Inlet 81.29 22 P **P 11 56 13.9 +0.7**
baz=252
F17K Baldwin Pennin 81.31 23 IAmb IAmb 11 56 22.6
comp=Z,25nm,1.3s
F17K Baldwin Pennin 81.31 23 P **P 11 56 14.2 +0.8**
baz=252
J17K VABM Dome 81.34 26 IAmb IAmb 11 56 20.3
comp=Z,27nm,1.1s
J17K VABM Dome 81.34 26 P **P 11 56 14.4 +0.7**
baz=255
CHIR Chirikof Islan 81.36 34 P **P 11 56 14.5 +0.7**
baz=259
L17K Donlin 81.37 27 P **P 11 56 14.6 +0.8**
baz=256
Q16K King Salmon 81.38 31 P **P 11 56 14.5 +0.7**
baz=259
O17K Koliganek Bris 81.39 30 P **P 11 56 14.5 +0.5**
baz=257
H17K Granite Mounta 81.41 24 IAmb IAmb 11 56 20.0
comp=Z,18nm,1.1s
H17K Granite Mounta 81.41 24 P **P 11 56 14.7 +0.7**
baz=254
K17K Iditarod 81.52 27 IAmb IAmb 11 56 20.9
comp=Z,20nm,0.9s
K17K Iditarod 81.52 27 P **P 11 56 15.7 +1.1**
baz=256
N17K Nushagak Hills 81.52 29 P **P 11 56 15.4 +0.8**
baz=257
M17K Holitna River 81.60 28 P **P 11 56 15.7 +0.7**
baz=257
P17K Kvichak River 81.60 30 P **P 11 56 15.2 +0.2**
baz=258
E18K Tukpahlearik C 81.85 22 P **P 11 56 17.1 +0.9**
baz=253
F18K Selawik 81.97 23 P **P 11 56 17.3 +0.5**
baz=254,SNR=6.2
C18K Utukok River 82.00 20 IAmb IAmb 11 56 21.6
comp=Z,25nm,1.2s
C18K Utukok River 82.00 20 P **P 11 56 17.5 +0.4**
baz=252
B18K Kokolik River 82.02 20 P **P 11 56 17.9 +0.8**
baz=252,SNR=5.0
H18K Honhosa River 82.10 24 IAmb IAmb 11 56 19.1
comp=Z,31nm,1.3s
H18K Honhosa River 82.10 24 P **P 11 56 18.0 +0.4**
baz=255
L18K Granite Mounta 82.13 27 IAmb IAmb 11 56 19.2
comp=Z,11nm,0.8s
L18K Granite Mounta 82.13 27 P **P 11 56 18.5 +0.8**
baz=257
G18K Tagagawik 82.17 23 IAmb IAmb 11 56 20.0
comp=Z,37nm,1.4s
G18K Tagagawik 82.17 23 P **P 11 56 18.4 +0.4**
baz=255
N18K Kilae Creek 82.18 29 P **P 11 56 18.7 +0.5**
baz=258
SII Sitkinak Islan 82.28 33 P **P 11 56 18.8 0.0**
baz=260
R18K Karluk 82.31 32 P **P 11 56 19.1 +0.3**
baz=260
O18K Koktuh Hills 82.34 30 P **P 11 56 19.3 +0.3**
baz=259
M18K Stony River 82.37 28 P **P 11 56 19.5 +0.4**
baz=258
J18K Innoko River 82.39 26 IAmb IAmb 11 56 20.6
comp=Z,18nm,1.1s
J18K Innoko River 82.39 26 P **P 11 56 19.4 +0.2**
baz=257
A19K Wainwright 82.52 19 P **P 11 56 20.0 +0.3**
baz=252
TTA Tatalina 82.59 27 IAmb IAmb 11 56 21.8
comp=Z,28nm,1.3s
TTA Tatalina 82.59 27 P **P 11 56 20.4 +0.1**
baz=258,SNR=8.0
TTA Tatalina 82.59 27 P **P 11 56 20.4 +0.1**
GCSA Galena City Sc 82.61 25 P **P 11 56 20.5 +0.3**
baz=257,SNR=21
F19K Shaleruckik Mo 82.75 23 IAmb IAmb 11 56 26.8
comp=Z,14nm,0.9s
F19K Shaleruckik Mo 82.75 23 P **P 11 56 21.1 +0.1**
baz=256
RAYN Ar Rayn 82.84 293 P **P 11 56 21.3 -1.1**
RAYN Ar Rayn 82.84 293 P **P 11 56 21.3 -1.1**
RAYN pmax pmax
comp=Z,11nm,1.1s
O19K Port Alsworth 82.85 29 P **P 11 56 21.9 +0.3**
baz=260
G19K Purcell Mounta 82.85 23 P **P 11 56 21.9 +0.4**
baz=256,SNR=54
OHAK Old Harbor 82.88 32 P **P 11 56 22.1 +0.3**
baz=261
OHAK Old Harbor 82.88 32 P **P 11 56 21.8 0.0**
N19K Bonanza Creek 82.88 29 P **P 11 56 22.1 +0.3**
baz=259,SNR=5.5
PPT Papeete 82.94 108 LR LR 12 31 45.0
comp=Z,92nm,18.8s,baz=286,slow=34
PPT2 Papeete2 82.94 108 *e*SS SS 12 12 01.5 -3.5
comp=Z,77nm,27.2s
PPT2 Papeete2 82.94 108 *e*LR LR 12 22 18.7
PPT2 *e*LR LR 12 22 22.9
comp=Z,115nm,28.2s
comp=Z,174nm,28.0s
L19K White Mountain 82.96 27 IAmb IAmb 11 56 24.0
comp=Z,24nm,1.2s
L19K White Mountain 82.96 27 P **P 11 56 22.5 +0.3**
baz=259
Q19K Cape Douglas, 82.97 31 P **P 11 56 22.7 +0.4**
baz=260
H19K Roundabout Mou 82.97 24 P **P 11 56 22.7 +0.6**
baz=257
J19K Poorman 82.98 26 P **P 11 56 22.8 +0.6**
baz=258
D19K Kuna River 83.05 21 P **P 11 56 22.9 +0.4**
baz=255
E19K Redstone River 83.11 22 P **P 11 56 23.5 +0.7**
baz=256
M19K Big River Lodg 83.12 28 IAmb IAmb 11 56 32.6
comp=Z,17nm,1.0s
M19K Big River Lodg 83.12 28 P **P 11 56 23.5 +0.5**
baz=259
KIRV Kirov 83.21 329 *i*P **P 11 56 22.4 -1.0**
P19K Oil Pt 83.29 30 P **P 11 56 24.3 +0.4**
baz=261
KDAK Kodiak Island 83.34 32 P **P 11 56 24.5 +0.4**
KDAK Kodiak Island 83.34 32 LR LR 12 29 46.9
comp=Z,176nm,20.5s,baz=85,slow=33
KDAK Kodiak Island 83.34 32 P **P 11 56 24.3 +0.2**
baz=261
KDAK Kodiak Island 83.34 32 P **P 11 56 24.5 +0.4**
KDAK pmax pmax
comp=Z,32nm,0.9s
BELG Belogornoye 83.36 323 *i*P **P 11 56 22.3 -2.1**
BELG pmax pmax
comp=Z,7.0nm,1.1s
TBI Tubuai 83.42 114 *e*LR LR 12 22 33.3
comp=Z,782nm,26.5s
L20K Farewell, AK 83.46 27 P **P 11 56 25.3 +0.5**
baz=260
K20K Telida 83.54 26 P **P 11 56 25.8 +0.7**
baz=260
Q20K Shuyak Island 83.56 31 P **P 11 56 25.8 +0.6**
baz=262
F20K Avaraart Lake 83.59 23 P **P 11 56 25.8 +0.6**
baz=258
H20K Anotleneega Mo 83.60 24 P **P 11 56 26.0 +0.6**
baz=258
I20K Naaghedeneel 83.63 25 P **P 11 56 26.3 +0.8**
baz=259
D20K Etivluk River 83.63 21 P **P 11 56 26.1 +0.6**
baz=256
J20K Nowinta River 83.65 26 P **P 11 56 26.3 +0.6**
baz=259
E20K Nigu River 83.68 21 P **P 11 56 26.5 +0.6**
baz=257,SNR=34
M20K Styx River 83.71 28 P **P 11 56 26.6 +0.4**
baz=260
SPCR Spurr Chakacha 84.04 29 P **P 11 56 27.6 -0.2**
baz=261,SNR=6.1
HOM Homer 84.09 30 P **P 11 56 28.2 +0.2**
baz=262
SPU Mount Spurr 84.11 29 IAmb IAmb 11 56 29.1
comp=Z,18nm,1.2s
A21K Barrow 84.25 18 P **P 11 56 29.1 +0.5**
baz=256,SNR=16
STLK Strandline Lak 84.26 28 IAmb IAmb 11 56 36.6
comp=Z,12nm,1.0s
C21K Knifeblade Rid 84.38 21 P **P 11 56 29.9 +0.6**
baz=258
CHUM Lake Minchumin 84.40 26 P **P 11 56 29.8 +0.4**
baz=261
CAST Castle Rocks 84.43 26 IAmb IAmb 11 56 38.9
comp=Z,10nm,0.8s
CAST Castle Rocks 84.43 26 P **P 11 56 30.0 +0.3**
baz=261
SKT Skwentna 84.47 28 P **P 11 56 29.2 -0.7**
baz=262,SNR=11
H21K Melozitna Rive 84.48 24 IAmb IAmb 11 56 36.2
comp=Z,22nm,1.4s
H21K Melozitna Rive 84.48 24 P **P 11 56 30.2 +0.3**
baz=260
F21K Alatna River 84.48 23 P **P 11 56 30.6 +0.7**
baz=260
CAPN Captain Cook N 84.48 29 P **P 11 56 30.4 +0.5**
baz=262
E21K Killik River 84.52 21 P **P 11 56 30.6 +0.5**
baz=259
B21K Ikpikpuk River 84.53 20 IAmb IAmb 11 56 32.2
comp=Z,22nm,1.1s
B21K Ikpikpuk River 84.53 20 P **P 11 56 30.7 +0.7**
baz=258
BRSE Bradley Lake S 84.56 30 P **P 11 56 30.2 -0.2**
baz=263,SNR=6.3
I21K Tanana 84.74 25 IAmb IAmb 11 56 37.4
comp=Z,24nm,1.2s
I21K Tanana 84.74 25 P **P 11 56 31.7 +0.5**
baz=261
KTH Kantishna Hill 84.96 26 IAmb IAmb 11 56 33.5
comp=Z,26nm,1.3s
BPAW Bear Paw Mtn. 85.01 26 P **P 11 56 33.1 +0.5**
baz=262
D22K Ayikyak River 85.07 21 IAmb IAmb 11 56 39.3
comp=Z,19nm,1.4s
D22K Ayikyak River 85.07 21 P **P 11 56 33.5 +0.7**
baz=260
H22K Ishtalitna Cre 85.10 24 P **P 11 56 33.7 +0.7**
baz=262
M22K Willow 85.10 28 P **P 11 56 32.2 -0.8**
baz=263
CUT Chulitna 85.11 28 P **P 11 56 32.7 -0.3**
baz=263,SNR=6.0
O22K Cooper Landing 85.15 29 P **P 11 56 32.9 -0.4**
baz=264
G22K Bettles 85.19 23 P **P 11 56 33.3 -0.1**
baz=262
RC01 Rabbit Creek A 85.21 29 P **P 11 56 33.0 -0.6**
baz=264,SNR=11
TRF Thorofare Moun 85.23 26 IAmb IAmb 11 56 39.0
comp=Z,18nm,1.0s
TRF Thorofare Moun 85.23 26 P **P 11 56 33.4 -0.5**
baz=263
SEW Seward 85.24 30 P **P 11 56 33.5 -0.3**
baz=264
E22K Anaktuvuk Pass 85.26 22 IAmb IAmb 11 56 36.1
comp=Z,25nm,1.3s
E22K Anaktuvuk Pass 85.26 22 P **P 11 56 33.8 0.0**
baz=261,SNR=20
PMR Palmer 85.56 28 IAmb IAmb 11 56 35.6
comp=Z,25nm,1.0s
PMR Palmer 85.56 28 P **P 11 56 34.8 -0.5**
baz=264,SNR=14
PMR Palmer 85.56 28 P **P 11 56 34.5 -0.8**
GHO Glory Hole Cre 85.67 28 IAmb IAmb 11 56 39.6
comp=Z,26nm,1.0s
BWN Browne 85.68 26 IAmb IAmb 11 56 59.5
comp=Z,24nm,1.2s
COLD Coldfoot 85.74 23 P **P 11 56 36.1 -0.1**
baz=263,SNR=10.0
G23K Bananza Creek 85.75 23 P **P 11 56 36.1 -0.1**
baz=263
D23K Nanushuk River 85.80 21 IAmb IAmb 11 56 42.1
comp=Z,12nm,1.0s
D23K Nanushuk River 85.80 21 P **P 11 56 36.9 +0.5**
baz=262
KBZ Khabaz 85.83 314 P **P 11 56 35.5 -1.5**
comp=Z,2.3nm,0.8s,baz=83,slow=2.8,SNR=4.6
comp=Z,2.3nm,0.8s
KBZ Khabaz 85.83 314 *ce*P **P 11 56 38.2 +1.2**
KBZ pmax pmax
comp=Z,13nm,1.5s
I23K Minto, Yukon-K 85.83 25 P **P 11 56 37.3 +0.6**
baz=264,SNR=5.5
KNK Knik Glacier 85.86 29 P **P 11 56 36.8 -0.1**
baz=265,SNR=9.3
MCK McKinley 85.87 26 IAmb IAmb 11 56 40.8
comp=Z,21nm,1.1s
MCK McKinley 85.87 26 P **P 11 56 36.5 -0.4**
baz=264,SNR=8.2
RND Reindeer 85.87 27 IAmb IAmb 11 56 36.9
comp=Z,22nm,1.3s
NEA2 Nenana 85.90 25 P **P 11 56 36.9 0.0**
baz=264
C23K Itkillik River 85.94 20 IAmb IAmb 11 56 42.6
comp=Z,11nm,0.8s
C23K Itkillik River 85.94 20 P **P 11 56 37.6 +0.6**
baz=262
SML Sawmill 85.95 28 P **P 11 56 37.1 -0.3**
baz=265,SNR=12
KIV Kislovodsk 85.99 314 *e*P **P 11 56 34.5 -3.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
E23K Chandalar 86.07 22 IAmb IAmb 11 56 43.4
comp=Z,16nm,0.9s
E23K Chandalar 86.07 22 P **P 11 56 38.0 +0.1**
baz=263
TOLK Toolik Lake Re 86.16 21 P **P 11 56 38.4 +0.1**
baz=263,SNR=7.0
M23K Glacier View 86.24 28 P **P 11 56 38.6 -0.1**
baz=265,SNR=5.4
P23K Montague Islan 86.26 30 P **P 11 56 39.6 +0.7**
baz=266
GURO Guroymak-BITLI 86.30 308 IAmb IAmb 11 56 49.7
comp=Z,23nm,1.1s
WRH Wood River Hil 86.31 26 IAmb IAmb 11 56 39.6
comp=Z,19nm,1.5s
SCM Sheep Creek Mo 86.43 28 P **P 11 56 40.5 +0.8**
baz=266,SNR=5.5
COLA College 86.44 25 P **P 11 56 42.2 +2.6**
GLI Glacier Island 86.47 29 P **P 11 56 40.4 +0.5**
baz=266
D24K Happy Valley 86.48 21 IAmb IAmb 11 56 45.9
comp=Z,12nm,0.7s
D24K Happy Valley 86.48 21 P **P 11 56 40.5 +0.7**
baz=264
E24K Your Creek 86.49 22 P **P 11 56 40.6 +0.6**
baz=264
H24K Noodor Dome 86.52 24 P **P 11 56 40.5 +0.4**
baz=265
C24K Franklin Bluff 86.59 20 IAmb IAmb 11 56 45.6
comp=Z,13nm,0.8s
C24K Franklin Bluff 86.59 20 P **P 11 56 40.9 +0.7**
baz=264
F24K Squaw Lake 86.67 23 P **P 11 56 41.3 +0.5**
baz=265
Q23K Middleton Isla 86.75 31 P **P 11 56 41.5 +0.3**
baz=267
G24K Hadweenzic Riv 86.75 23 P **P 11 56 41.4 +0.2**
baz=265
HDA Harding Lake 86.80 26 P **P 11 56 41.7 +0.2**
baz=266
ILAR Eielson Array 86.85 25 P **P 11 56 39.3 -2.4**
comp=Z,1.6nm,0.8s,baz=246,slow=5.9,SNR=26
ILAR LR LR 12 28 37.5
comp=Z,87nm,21.8s,baz=248,slow=31
comp=Z,1.6nm,0.8s
VRH Novokhopyorsk 86.92 321 *e*P **P 11 56 45.2 +2.9**
VRH pmax pmax
comp=Z,25nm,1.3s
M24K Tolsona, Glenn 86.99 28 P **P 11 56 42.5 0.0**
baz=267
KLU Klutina 87.08 29 P **P 11 56 42.7 -0.2**
baz=267
EYAK Cordova Ski Ar 87.11 30 P **P 11 56 42.6 -0.3**
baz=267
DIV Divide 87.13 29 IAmb IAmb 11 56 51.9
comp=Z,15nm,0.7s
K24K Donnelly Dome 87.27 26 P **P 11 56 43.6 -0.1**
baz=267
G25K Bearman Lake 87.31 23 P **P 11 56 43.7 -0.1**
baz=266
PAX Paxson 87.37 27 P **P 11 56 44.0 -0.4**
baz=267
D25K Kavik River 87.37 21 P **P 11 56 44.1 0.0**
baz=266
PRP Porcupine Dome 87.47 25 P **P 11 56 44.5 -0.3**
baz=267
HARP HAARP 87.48 28 P **P 11 56 44.8 -0.1**
baz=268
J25K Salcha River, 87.49 26 P **P 11 56 43.2 -1.7**
baz=267
F25K Christian Rive 87.53 23 P **P 11 56 45.0 0.0**
baz=267
E25K Arctic Village 87.59 22 P **P 11 56 45.0 -0.2**
baz=267,SNR=6.8
FYU Fort Yukon 87.64 24 IAmb IAmb 11 56 54.3
comp=Z,14nm,0.8s
RIDG Independent Ri 87.68 26 P **P 11 56 44.9 -0.9**
baz=268
BMRM Bremner River 87.69 29 P **P 11 56 45.8 -0.1**
baz=268
N25K Chitina, Valde 87.72 29 P **P 11 56 46.2 +0.2**
baz=268
KAIM Kayak Island 87.75 30 P **P 11 56 46.7 +0.5**
baz=268
C26K Camden Bay 87.91 20 P **P 11 56 47.1 +0.4**
baz=267
BMAR Burnt Mountain 87.93 23 P **P 11 56 47.1 +0.3**
SCRK Sand Creek 88.07 26 P **P 11 56 47.1 -0.6**
baz=268
F26K Sheenjek River 88.11 22 IAmb IAmb 11 56 51.8
comp=Z,12nm,1.4s
F26K Sheenjek River 88.11 22 P **P 11 56 47.6 -0.1**
baz=268
SOC Sochi 88.13 313 *e*P **P 11 56 45.0 -3.3**
SOC *e* 12 00 12.0
SOC *e*PPP PPP 12 02 07.2
SOC *e*S **SKSac 12 07 13.1 -2.6**
SOC *e*SS **SS 12 13 20.8 +0.8**
SOC pmax pmax
comp=Z,32nm,0.8s
SOC MLR MLR
comp=Z,105nm,15.0s
G26K Porcupine Rive 88.23 23 P **P 11 56 48.4 +0.2**
baz=269
J26L Joseph Creek 88.27 26 P **P 11 56 47.7 -0.9**
baz=269
C27K Jago River 88.32 20 IAmb IAmb 11 56 49.4
comp=Z,17nm,1.5s
C27K Jago River 88.32 20 P **P 11 56 48.7 +0.1**
baz=269
L26K Log Cabin Wild 88.34 27 P **P 11 56 47.8 -1.0**
baz=269
KLMR Klimovskoe 88.39 331 *e*P P 11 56 44.3 -4.8
KLMR pmax pmax
comp=Z,34nm,1.5s
I26K Coal Creek Min 88.45 25 P **P 11 56 49.1 -0.2**
baz=269
M26K Nabesna, AK 88.49 28 P **P 11 56 49.6 -0.1**
baz=269
VORR Voronezh 88.50 321 P P 11 56 55.0 +5.2
VORR pmax pmax
comp=Z,19nm,0.6s
VSR Storozhevoye 88.53 321 *e*P **P 11 56 47.5 -2.5**
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 88.68 322 *e*P **P 11 56 49.3 -1.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
MESA MESA 88.99 30 P **P 11 56 52.5 +0.3**
baz=270
M27K Edge Creek, AK 89.01 28 P **P 11 56 51.9 -0.3**
baz=270
L27K Beaver Creek, 89.03 27 IAmb IAmb 11 56 53.2
comp=Z,18nm,1.5s
L27K Beaver Creek, 89.03 27 P **P 11 56 52.8 +0.7**
baz=270
BCAR Beaver Creek A 89.05 27 P **P 11 56 51.9 -0.3**
G27K Doyon Strip 89.07 23 P **P 11 56 52.6 +0.3**
baz=271
I27K Kandik River 89.10 25 P **P 11 56 52.1 -0.3**
baz=271
H27K Steamboat Moun 89.12 24 P **P 11 56 52.0 -0.5**
baz=271
D27M Malcolm River 89.29 21 P **P 11 56 52.6 -0.7**
baz=271
F28M Old Crow 89.74 23 P **P 11 56 54.6 -0.8**
baz=272
I28M Miner Creek 89.80 25 IAmb IAmb 11 56 59.6
comp=Z,14nm,1.0s
I28M Miner Creek 89.80 25 P **P 11 56 55.5 -0.3**
baz=272
O28M Mount Upton 89.85 29 P **P 11 56 56.3 0.0**
baz=272
OBN Obninsk 90.03 325 *e*P **P 11 56 56.0 -0.9**
OBN *e* 12 00 29.2
OBN *e*PPP PPP 12 02 28.0
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,178nm,14.0s
YUK8 Steele Glacier 90.04 29 P **P 11 56 57.4 +0.2**
baz=272
D28M Stokes Point 90.08 21 P **P 11 56 56.6 -0.3**
baz=273
DAWY Dawson 90.09 26 P **P 11 56 56.6 -0.5**
baz=273
E29M Blow River 90.44 22 P **P 11 56 58.2 -0.4**
baz=274
I29M Ogilvie Camp, 90.48 25 IAmb IAmb 11 57 04.0
comp=Z,9.8nm,1.0s
I29M Ogilvie Camp, 90.48 25 P **P 11 56 58.7 -0.2**
baz=274
G29M Pine Creek 90.50 23 IAmb IAmb 11 57 02.3
comp=Z,24nm,1.4s
G29M Pine Creek 90.50 23 P **P 11 56 58.4 -0.5**
baz=274
SYO Syowa Base 90.51 201⇑ *es*P sP 11 57 06.2 -3.2
YUK4 Talbot Arm 90.58 29 P **P 11 56 59.7 0.0**
baz=273
J29N Klondike Camp 90.58 26 P **P 11 56 59.3 -0.1**
baz=274
M29M Somme Creek 90.60 28 P **P 11 56 59.8 +0.2**
baz=274
O29M Mount Kennedy 90.67 30 P **P 11 56 59.8 -0.2**
baz=273
L29M L29M 90.71 27 IAmb IAmb 11 57 06.1
comp=Z,9.8nm,0.9s
YUK6 Outpost Mounta 90.74 29 P **P 11 56 59.9 -0.5**
baz=274
K29M Barlow Dome 90.93 26 IAmb IAmb 11 57 02.1
comp=Z,18nm,1.5s
K29M Barlow Dome 90.93 26 P **P 11 57 01.1 0.0**
baz=274
KMBO Kilima Mbogo 90.94 269 LR LR 12 38 38.6
comp=Z,47nm,18.6s,baz=87,slow=36
KMBO Kilima Mbogo 90.94 269 *i*P P 11 56 54.9 -7.5
KMBO pmax pmax

comp=Z,1.0nm,0.3s
QSPA **South Pole Qui** 91.02 180 P **P** 11 57 01.5 +0.1
QSPA IAmb IAmb 11 57 17.2
comp=Z,9.7nm,1.2s
QSPA **South Pole Qui** 91.02 180 P **P** 11 57 01.4 -0.1
comp=Z,2.2nm,0.6s,baz=292,slow=1.4,SNR=21
QSPA LR LR 12 39 39.3
comp=Z,214nm,19.7s,baz=352,slow=37
comp=Z,2.2nm,0.6s
EPYK **Eagle Plains** 91.06 24 IAmb IAmb 11 57 19.4
comp=Z,11nm,1.1s
EPYK **Eagle Plains** 91.06 24 P **P** 11 57 00.8 -0.8
baz=275
HYT **Haines Junctio** 91.17 29 P **P** 11 57 02.0 -0.3
baz=274
G30M **tAoh Zrail Nji** 91.20 23 IAmb IAmb 11 57 07.5
comp=Z,14nm,1.4s
G30M **tAoh Zrail Nji** 91.20 23 P **P** 11 57 01.3 -0.9
baz=276
F30M **Barrier River** 91.30 22 P **P** 11 57 01.9 -0.7
baz=276
I30M **Mount Dempster** 91.31 25 P **P** 11 57 02.1 -0.7
baz=275
M30M **Minto, Yukon** 91.36 27 P **P** 11 57 02.8 -0.2
baz=275
J30M **Hart River** 91.39 25 IAmb IAmb 11 57 04.2
comp=Z,12nm,1.4s
J30M **Hart River** 91.39 25 P **P** 11 57 02.8 -0.4
baz=275
P30M **Million Dollar** 91.49 30 P **P** 11 57 03.2 -0.5
baz=275
MAYO **Mayo, Yukon** 91.67 26 IAmb IAmb 11 57 13.1
comp=Z,16nm,0.9s
MAYO **Mayo, Yukon** 91.67 26 P **P** 11 57 04.0 -0.4
baz=276
MMAI **Mount Meron Ar** 91.74 303 P **P** 11 57 05.3 -0.1
comp=Z,0.9nm,0.6s,baz=69,slow=7.9,SNR=1.6
comp=Z,0.9nm,0.6s
TAOE **Nuku Hiva Isla** 91.82 99 eLR LR 12 26 26.4
comp=Z,230nm,22.2s
O30N **Mendenhall** 91.86 29 P **P** 11 57 05.2 -0.2
baz=276
N31M **Braeburn, Yuko** 91.94 29 P **P** 11 57 05.2 -0.6
baz=276
G31M **Satah River** 91.97 23 IAmb IAmb 11 57 05.5
comp=Z,10nm,1.2s
G31M **Satah River** 91.97 23 P **P** 11 57 04.8 -0.8
baz=277
S31K **Pelican** 92.06 32 P **P** 11 57 05.0 -1.2
baz=275
INK **Inuvik** 92.06 22 P **P** 11 57 04.7 -1.4
baz=278
H31M **Peel River** 92.08 24 P **P** 11 57 05.1 -1.2
baz=277
F31M **Tsiigehtchic** 92.10 22 IAmb IAmb 11 57 14.1
comp=Z,12nm,1.4s
F31M **Tsiigehtchic** 92.10 22 P **P** 11 57 05.1 -1.2
baz=278
R31K **City Hall, Gus** 92.27 32 P **P** 11 57 07.4 +0.1
baz=276
SKAG **Skagway** 92.37 31 P **P** 11 57 07.9 +0.3
baz=276
WHY **Whitehorse** 92.46 29 P **P** 11 57 08.3 +0.1
WHY **Whitehorse** 92.46 29 P **P** 11 57 08.6 +0.3
baz=277
M31M **Drury Creek, Y** 92.51 28 P **P** 11 57 08.8 +0.4
baz=277
SIT **Sitka** 92.63 33 P **P** 11 57 09.5 +0.6
baz=276
BRTR **Keskin Array B** 92.80 310 P **P** 11 57 08.0 -2.3
comp=Z,0.8nm,0.8s,baz=72,slow=4.7,SNR=2.6
comp=Z,0.8nm,0.8s
R32K **Eaglecrest** 92.93 32 P **P** 11 57 11.0 +0.7
baz=277
S32K **Killisnoo** 92.99 32 P **P** 11 57 10.9 +0.3
baz=277
FARO **Faro, Yukon** 92.99 28 P **P** 11 57 10.7 +0.1
FARO **Faro, Yukon** 92.99 28 P **P** 11 57 10.7 +0.1
baz=278
P32M **Atlin** 93.17 30 P **P** 11 57 11.2 -0.3
baz=278
N32M **Quiet Lake** 93.27 29 P **P** 11 57 11.9 0.0
baz=278
SPITS **Spitsbergen Ar** 93.32 349 LR LR 12 43 49.3
comp=Z,65nm,21.0s,baz=64,slow=38
ARCES **ARCESS Array B** 93.40 340 P **P** 11 57 11.1 -1.2
comp=Z,4.8nm,0.8s,baz=78,slow=5.8,SNR=7.1
ARCES LR LR 12 43 08.6
comp=Z,132nm,18.2s,baz=48,slow=38
comp=Z,4.8nm,0.8s
P33M **Teslin, Yukon** 93.54 30 P **P** 11 57 12.5 -0.7
baz=278
T33K **Petersburg** 93.95 33 P **P** 11 57 13.8 -1.2
baz=278
U33K **Whale Pass** 93.96 34 P **P** 11 57 15.4 +0.4
baz=278
Q32M **Nakina River** 94.00 31 P **P** 11 57 15.6 +0.1
baz=279
CRAG **Craig** 94.04 34 P **P** 11 57 14.8 -0.7
baz=278
A36M **Sachs Harbour** 94.05 17 P **P** 11 57 16.0 +0.9
baz=286
WRAK **Wrangell Islan** 94.34 33 P **P** 11 57 17.0 +0.2
baz=278
R33M **Jennings River** 94.59 30 P **P** 11 57 18.4 +0.3
baz=280
S34M **Telegraph Cree** 94.76 32 P **P** 11 57 18.8 +0.1
baz=280
FINES **FINESS Array B** 94.82 332 P **P** 11 57 17.1 -1.8
comp=Z,3.6nm,0.9s,baz=64,slow=3.2,SNR=2.0
FINES LR LR 12 43 06.2
comp=Z,186nm,18.0s,baz=67,slow=37
comp=Z,3.6nm,0.9s
V35K **Ketchikan** 94.92 34 P **P** 11 57 20.2 +0.8
baz=279
MNK **Minsk** 95.09 325 *i* P **P** 11 57 17.6 -2.7
MNK *i* 12 01 07.2
MNK *i* PPP PPP 12 03 08.5
MNK *i* S **SKSac** 12 07 53.1 -1.6
MNK *i* SS **SS** 12 14 58.5 -1.0
MNK *i* SSS SSS 12 18 43.6
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=E,539nm,22.0s
MNK MLR MLR
comp=Z,64nm,9.0s
C36M **Paulatuk** 95.19 20 IAmb IAmb 11 57 25.0
comp=Z,7.8nm,0.9s
C36M **Paulatuk** 95.19 20 P **P** 11 57 20.2 -0.2
baz=287
DLBC **Dease Lake** 95.24 31 LR LR 12 35 04.9
comp=Z,117nm,21.9s,baz=284,slow=32
DLBC **Dease Lake** 95.24 31 P **P** 11 57 21.1 +0.1
baz=281
T35M **Bob Quinn** 95.39 33 P **P** 11 57 22.1 +0.5
baz=280
TGTN **Hyland Airport** 95.49 28 P **P** 11 57 22.1 0.0
baz=282
WTLY **Watson Lake, Y** 95.53 29 P **P** 11 57 22.3 0.0
baz=282
WRGLY **Wrigley** 97.22 26 P **P** 11 57 29.8 0.0
baz=287
BBB **Bella Bella** 97.52 37 LR LR 12 34 43.2
comp=Z,86nm,21.0s,baz=256,slow=31
KOTAN **Kotaneelee Air** 97.83 29 P **P** 11 57 31.5 -1.1
baz=286
LSZ **Lusaka** 99.92 255 LR LR 12 38 31.4
comp=Z,138nm,20.0s,baz=122,slow=33
YKA **Yellowknife Ar** 101.27 25 P **Pdif** 11 57 46.7 -1.2
comp=Z,0.5nm,0.8s,baz=290,slow=4.7,SNR=6.6
YKA **Yellowknife Ar** 101.27 25 *i* P **Pdif** 11 57 47.4 -0.5
YKA pmax pmax
comp=Z,1.0nm,0.8s
T25A **Trinidad** 118.30 46 P **PKPdf** 12 02 43.1 -2.3
baz=296
TXAR **Lajitas Array** 122.01 54 PKP **PKPdf** 12 02 51.6 -1.0
comp=Z,0.3nm,0.7s,baz=312,slow=1.8,SNR=4.2
SCHQ **Schefferville** 122.90 10 PKP **PKPdf** 12 02 52.7 -0.8
comp=Z,1.4nm,0.8s,baz=298,slow=5.4,SNR=4.2
JCT **Junction City** 124.63 51 PKPdf **PKPdf** 12 02 57.7 +0.1
JCT **Junction City** 124.63 51 PKIKP **PKPdf** 12 02 57.7 +0.1
E46A **Sault Ste Mari** 124.77 27 PKPdf **PKPdf** 12 02 57.2 -0.2
TORD **Torodi Ar. Bea** 125.08 287 **PKPdf** 12 02 57.5 -1.3

833A **Chaparral WMA,** 125.86 53 P **PKPdf** 12 02 58.3 -1.6
baz=294
L61B **Northampton** 132.74 21 P **PKPdf** 12 03 10.5 -2.1
baz=331
PLCA **Paso Flores** 137.05 159 PKP **PKPdf** 12 03 20.3 -0.6
comp=Z,1.3nm,0.9s,baz=217,slow=5.1,SNR=3.3
APG **El Apazote** 138.57 66 PKP **PKPdf** 12 03 23.4 -1.1
comp=Z,0.4nm,0.7s,baz=350,slow=6.1,SNR=3.9
MT08 **Bocatoma Ro** 143.57 154 **PKPdf** 12 03 31.9 -1.1
VA03 **San Esteban** 143.91 153 PKPbc 12 03 31.4 +0.2
AAGR **Agrelo** 144.39 155|| *e*P PKPbc 12 03 33.1 +0.4
ARCO **CERRO ARCO** 144.56 155 *e*P PKPbc 12 03 34.0 +0.7
ASAL **Salagasta** 144.81 155 *e*P PKPbc 12 03 34.5 +0.5
AUSP **Uspallata** 144.89 154 *e*P PKPbc 12 03 35.1 +0.5
JTS **Las Juntas de** 145.15 70 PKPbc **PKPbc** 12 03 34.0 -1.5
comp=Z,9.0nm,0.5s,baz=297,slow=8.3,SNR=9.1
RTLS **Leoncito** 145.29 153 *e*P **PKPab** 12 03 36.2 +0.2
ACCO **Cerro Coronel** 146.42 152 *e*P **PKPbc** 12 03 39.3 -0.1
AROD **Rodeo** 146.58 152 *e*P **PKPab** 12 03 41.0 +0.1
ACDV **Cuesta del Vie** 146.74 152 *e*P **PKPbc** 12 03 40.7 +0.5
ACHE **Chepes** 146.96 156 *e*P **PKPbc** 12 03 40.7 0.0
AVFE **Valle Fertil** 147.07 155 *e*P **PKPbc** 12 03 41.0 0.0
AGUA **GUANDACOL** 147.61 152 *e*P **PKPbc** 12 03 42.1 -0.4
APLL **PUNTA DE LOS L** 147.69 156 *e*P **PKPdf** 12 03 38.8 -1.2
CPUP **Villa Florida** 154.36 169 PKPbc **PKPbc** 12 03 57.5 -1.0
comp=Z,2.7nm,0.9s,baz=136,slow=2.4,SNR=5.4
CPUP PKPab **PKPab** 12 04 12.0 -0.3
comp=Z,5.5nm,0.9s,baz=144,slow=2.9,SNR=3.9
LPAZ **La Paz** 157.95 134 PKPab **PKPab** 12 04 28.1 -0.8
comp=Z,1.7nm,0.8s,baz=184,slow=2.0,SNR=4.6

JMA 23 11:50:18.7±0.3, 37°.7N±0°.8×14°.3E±°, h13km, MV2.4/17, FAR E OFF FUKUSHIMA PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.09**	**305**	P	Pb	11 50 39.0	-0.5
JIO	**Ouri**	**1.25**	**308**	P	Pn	11 50 41.5	-0.4
JKMT	**Kesennumamotoy**	**1.43**	**322**	P	Pn	11 50 44.5	+0.1
JMM	**Marumori**	**1.45**	**278**	P	Pn	11 50 44.4	-0.2
JMK	**Ichinoseki**	**1.67**	**320**	*e*P	Pn	11 50 48.1	+0.5
JOTO	**OTAMA OYAMA**	**1.81**	**267**	*e*P	Pb	11 50 51.3	-0.4

*IDC **23** 11:54:54.5±1.3, 6°.70N×72°.85W, h170km±17km, mb2.9/2, mbtmp3.6/4, MS2.2/1, Error ellipse: s-maj=50.2km s-min=14.3km az=130.0*
*RSNC **23** 11:54:55.9±0.0, 7°.N±1°×7°.3W±°, h146km±2km, M3.3, mB5.0, mb3.9, ML3.1, Mw(mB)4.3*
ISC 23 11:54:54.1±0.9, 6°.84N±0°.03×73°.11W±0°.04, h153km±6km, n43, σ1$43/82, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**196**	P	**Pn**	**11 55 15.5**	**+0.3**
BARC				S	**Sn**	**11 55 30.1**	**-1.1**
BRJC	**Barrancabermej**	**0.64**	**282**	P	**Pn**	**11 55 17.2**	**+0.7**
BRJC				S	**Sn**	**11 55 34.2**	**+0.6**
PAMC	**Pamplona, Colo**	**0.65**	**39**	P	**Pn**	**11 55 18.5**	**+1.4**
PAMC				S	**Sn**	**11 55 35.1**	**+0.4**
RUSC	**La Rusia**	**0.94**	**178**	P	**Pn**	**11 55 19.4**	**+0.2**
RUSC				S	**Sn**	**11 55 38.3**	**-0.1**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	P	**Pn**	**11 55 22.1**	**-0.4**
PTBC				S	**Sn**	**11 55 43.1**	**-1.1**
TAMC	**Tame, Arauca**	**1.37**	**107**	P	**Pn**	**11 55 24.0**	**+1.4**
TAMC				S	**Sn**	**11 55 44.8**	**+0.4**
OCAC	**Ocana**	**1.41**	**352**	P	**Pn**	**11 55 23.6**	**+0.5**
OCAC				S	**Sn**	**11 55 45.4**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	P	**Pn**	**11 55 28.1**	**+0.4**
ZARC				S	**Sn**	**11 55 53.2**	**-0.3**
NORC	**Norcasia**	**2.15**	**234**	P	**Pn**	**11 55 31.5**	**+0.2**
NORC				S	**Sn**	**11 55 59.8**	**-0.1**
CHIC	**Chingaza**	**2.28**	**196**	P	**Pn**	**11 55 33.6**	**+0.5**
CHIC				S	**Sn**	**11 56 02.9**	**-0.2**
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**11 55 35.4**	**+1.8**
93nm,0.3s,baz=79,slow=21,SNR=65							
ROSC				S	**Sn**	**11 56 02.0**	**-1.9**
165nm,0.4s,baz=116,slow=15,SNR=7.0							
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**11 55 35.3**	**+1.8**
ROSC				S	**Sn**	**11 56 03.3**	**-0.6**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	**Pn**	**11 55 39.7**	**+0.8**
GUY2C				S	**Sn**	**11 56 15.6**	**+2.1**
VILC	**Villavicencio,**	**2.77**	**192**	P	**Pn**	**11 55 39.1**	**+0.3**
VILC				S	**Sn**	**11 56 13.2**	**-0.2**
NIZA	**Niza - Manizal**	**2.94**	**233**	P	**Pn**	**11 55 43.8**	**+2.7**
NIZA				S	**Sn**	**11 56 20.6**	**+3.3**
CBOC	**Ciudad Bolivar**	**3.04**	**252**	P	**Pn**	**11 55 43.4**	**+1.2**
CBOC				S	**Sn**	**11 56 20.0**	**+0.6**
DBBC	**Dabeiba**	**3.08**	**274**	P	**Pn**	**11 55 42.9**	**+0.2**
DBBC				S	**Sn**	**11 56 17.6**	**-2.6**
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**11 55 45.2**	**+1.0**
27nm,0.3s,baz=244,slow=14,SNR=37							
SDV				S	**Sn**	**11 56 22.6**	**-0.4**
81nm,0.5s,baz=52,slow=22,SNR=30							
SDV				LR	LR	11 57 17.8	
comp=Z,35nm,18.3s,baz=264,slow=46							
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**11 55 44.9**	**+0.7**
SDV				S	**Sn**	**11 56 22.4**	**-0.6**
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	**Pn**	**11 55 46.6**	**+2.4**
ARGC				S	**Sn**	**11 56 24.3**	**+1.2**
PRAC	**Prado**	**3.57**	**210**	P	**Pn**	**11 55 49.2**	**+0.3**
PRAC				S	**Sn**	**11 56 32.0**	**+0.5**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**11 55 49.3**	**+0.1**
APAC				S	**Sn**	**11 56 32.2**	**+0.2**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	**Pn**	**11 55 49.9**	**+0.6**
ORTC				S	**Sn**	**11 56 33.1**	**+0.9**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**11 55 49.7**	**-0.4**
SJCC				S	**Sn**	**11 56 30.7**	**-3.0**
URMC	**La Uribe, Meta**	**3.78**	**200**	P	**Pn**	**11 55 52.3**	**+0.6**
URMC				S	**Sn**	**11 56 35.6**	**-0.9**
LCBC	**Los crdobas,**	**3.80**	**302**	P	**Pn**	**11 55 52.3**	**+0.5**
LCBC				S	**Sn**	**11 56 36.5**	**-0.2**
CRJC	**Cerrejon, Guaj**	**4.16**	**3**	P	**Pn**	**11 55 55.8**	**-0.9**
CRJC				S	**Sn**	**11 56 43.7**	**-1.7**
YOTC	**Yotoco, Valle**	**4.29**	**229**	P	**Pn**	**11 55 58.1**	**-0.2**
YOTC				S	**Sn**	**11 56 50.9**	**+2.6**
GUVC	**San Jose del G**	**4.29**	**173**	P	**Pn**	**11 55 59.1**	**+0.8**
GUVC				S	**Sn**	**11 56 46.7**	**-1.6**
SMRC	**Santa Marta, M**	**4.44**	**346**	P	**Pn**	**11 55 59.6**	**-0.6**
SMRC				S	**Sn**	**11 56 48.2**	**-3.5**
MACC	**Macarena, Meta**	**4.72**	**189**	P	**Pn**	**11 56 02.3**	**-1.6**
MACC				S	**Sn**	**11 56 54.6**	**-3.7**
BETC	**Betania**	**4.73**	**209**	P	**Pn**	**11 56 03.6**	**-0.6**
BETC				S	**Sn**	**11 56 55.6**	**-3.2**
URIC	**Uribia, Colomb**	**4.96**	**13**	P	**Pn**	**11 56 05.8**	**-1.2**
URIC				S	**Sn**	**11 57 03.5**	**-0.5**
JAMC	**Jamundi, Valle**	**5.05**	**225**	P	**Pn**	**11 56 08.5**	**0.0**
6.8nm,0.5s							
JAMC				S	**Sn**	**11 57 07.6**	**+1.1**
6.8nm,0.5s							
MALC	**Bahia Malaga**	**5.05**	**236**	P	**Pn**	**11 56 09.9**	**+1.6**
MALC				S	**Sn**	**11 57 08.8**	**+2.6**
GARC	**Garzon, Huila**	**5.19**	**207**	P	**Pn**	**11 56 09.7**	**-0.7**
GARC				S	**Sn**	**11 57 07.1**	**-2.8**
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**11 56 15.5**	**+0.4**
11nm,0.7s							
POPC				S	**Sn**	**11 57 16.4**	**-2.0**
11nm,0.7s							
FLOC	**Florencia**	**5.80**	**206**	P	**Pn**	**11 56 18.6**	**+0.3**
FLOC				S	**Sn**	**11 57 24.3**	**+0.2**
BBAC	**Balboa, Cauca**	**6.31**	**221**	P	**Pn**	**11 56 26.6**	**+1.4**
BBAC				S	**Sn**	**11 57 35.6**	**-1.0**
GR1C	**Gorgona, Isla**	**6.31**	**233**	P	**Pn**	**11 56 23.4**	**-1.6**
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**12 01 45.6**	**+1.0**
0.2nm,0.4s,baz=122,slow=8.3,SNR=3.2							
0.2nm,0.4s							
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**12 05 06.2**	**+0.1**
0.2nm,0.5s,baz=140,slow=6.2,SNR=7.3							
0.2nm,0.5s							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**12 14 26.4**	**-1.9**
0.2nm,0.6s,baz=105,slow=2.8,SNR=4.9							

*NOU **23** 12:03:28.1, 12°.04S×166°.71E, h156km, mb4.6/23, Santa Cruz Islands*
*IDC **23** 12:03:30.6±3.7, 12°.21S×166°.59E, h181km±33km, mb3.8/15, mbtmp4.2/16, Error ellipse: s-maj=21.2km s-min=15.3km az=91.0*
*NEIC **23** 12:03:30.8±1.3, 12°.1S±0°.1×166°.6E±0°.2, h179km±9km, mb4.3/23, Error ellipse: s-maj=23.3km s-min=16.2km az=80.0*
ISC 23 12:03:27.5±0.5, 12°.08S±0°.05×166°.69E±0°.08, h150km, n107, σ1$28/109, mb4.2/26, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.60**	**332**	P	**Pn**	**12 03 59.2**	**+1.1**
LUES	**Luesalemba Tem**	**1.60**	**332**	S	**Sn**	**12 04 23.2**	**+1.6**
NGOA	**Tingoa Renbel**	**6.50**	**274**	P	**Pn**	**12 05 01.3**	**+0.3**
ALEG	**Aligegeo Malai**	**6.75**	**299**	P	**Pn**	**12 05 04.6**	**+0.3**
HNR	**Honiara**	**7.12**	**291**	Pn	**Pn**	**12 05 10.5**	**+1.3**
TATA	**Tatamba Isabel**	**7.70**	**298**	P	**Pn**	**12 05 18.1**	**+1.1**
TATA	**Tatamba Isabel**	**7.70**	**298**	S	**Sn**	**12 06 43.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**8.73**	**195**	P	**Pn**	**12 05 33.4**	**+2.7**
KOUNC	**Koumac, New Ca**	**8.73**	**195**	S	**Sn**	**12 07 09.5**	**+1.8**
YATNC	**Mamie plateau,**	**9.93**	**179**	P	**Pn**	**12 05 46.9**	**+0.3**
YATNC	**Mamie plateau,**	**9.93**	**179**	S	**Sn**	**12 07 37.7**	**+1.2**
DZM	**Mont Dzumac**	**9.94**	**181**	Pn	**Pn**	**12 05 48.4**	**+1.6**
DZM	**Mont Dzumac**	**9.94**	**181**	P	**Pn**	**12 05 48.3**	**+1.5**
6.3nm,0.7s,baz=348,slow=13,SNR=16							
DZM				S	Sn	12 07 28.8	-8.2
3.7nm,0.3s,baz=132,slow=22,SNR=6.0							
DZM	**Mont Dzumac**	**9.94**	**181**	P	**Pn**	**12 05 48.0**	**+1.2**
ONTNC	**Ouen Toro**	**10.18**	**181**	Pn	**Pn**	**12 05 51.5**	**+1.7**
OUENC	**Ouen Island, N**	**10.28**	**179**	P	**Pn**	**12 05 53.3**	**+2.0**
PINNC	**Pines Island,**	**10.50**	**176**	Pn	**Pn**	**12 05 55.7**	**+1.6**
EIDS	**Eidsvold**	**19.80**	**226**	P	**P**	**12 07 47.5**	**+1.1**
EIDS				IAmb	IAmb	12 08 01.6	
comp=Z,30nm,1.4s							
EIDS	**Eidsvold**	**19.80**	**226**	P	**P**	**12 07 47.2**	**+0.8**
ARMA	**Armidale**	**22.97**	**215**	P	**P**	**12 08 19.1**	**0.0**
COEN	**Coen**	**22.98**	**263**	P	**P**	**12 08 16.3**	**-3.0**
COEN				IAmb	IAmb	12 08 29.7	
comp=Z,9.3nm,1.3s							
OUZ	**Omahuta**	**23.88**	**166**	P	**P**	**12 08 28.1**	**+0.9**
QIS	**Mount Isa**	**27.29**	**249**	P	**P**	**12 08 59.4**	**+1.2**
CMSA	**Cobar Meteorol**	**27.38**	**222**	P	**P**	**12 09 00.5**	**+1.6**
HAZ	**Te Kaha**	**27.43**	**161**	P	**P**	**12 08 59.4**	**+0.3**
URZ	**Urewera**	**27.68**	**162**	P	**P**	**12 09 02.4**	**+1.0**
MWZ	**Matawai**	**27.88**	**162**	P	**P**	**12 09 02.8**	**-0.4**
NGZ	**Ngauruhoe**	**28.12**	**165**	P	**P**	**12 09 07.0**	**+1.4**
MTHZ	**Maungataniwha**	**28.15**	**163**	P	**P**	**12 09 05.3**	**-0.3**
BKZ	**Black Stump Fm**	**28.35**	**164**	P	**P**	**12 09 06.0**	**-1.4**
BKZ	**Black Stump Fm**	**28.35**	**164**	P	**P**	**12 09 06.2**	**-1.2**
NMHZ	**Naumai**	**28.37**	**163**	P	**P**	**12 09 08.3**	**+0.7**
MCHZ	**McNeill Hill**	**28.66**	**164**	P	**P**	**12 09 10.1**	**0.0**
KRHZ	**Kereru**	**28.76**	**164**	P	**P**	**12 09 10.3**	**-0.8**
PNHZ	**Pukenui**	**28.97**	**165**	P	**P**	**12 09 12.6**	**-0.3**
KAHZ	**Kahuranaki**	**29.04**	**164**	P	**P**	**12 09 12.5**	**-1.1**
TSZ	**Takapari Road**	**29.05**	**165**	P	**P**	**12 09 13.0**	**-0.6**
QRZ	**Quartz Range**	**29.09**	**171**	P	**P**	**12 09 15.2**	**+1.3**
QRZ	**Quartz Range**	**29.09**	**171**	P	**P**	**12 09 14.1**	**+0.2**
PXZ	**Pawanui**	**29.26**	**164**	P	**P**	**12 09 14.5**	**-0.9**
DVHZ	**Dannevirke**	**29.33**	**165**	P	**P**	**12 09 14.8**	**-1.2**
MRZ	**Mangatainoka R**	**29.53**	**166**	P	**P**	**12 09 16.3**	**-1.5**
OGWZ	**Otaki Gorge**	**29.58**	**167**	P	**P**	**12 09 17.0**	**-1.3**
BFZ	**Birch Farm**	**29.71**	**165**	P	**P**	**12 09 17.9**	**-1.5**
BFZ	**Birch Farm**	**29.71**	**165**	P	**P**	**12 09 17.8**	**-1.5**
HOWZ	**Holdsworth Sta**	**29.74**	**166**	P	**P**	**12 09 18.2**	**-1.5**
SNZO	**South Karori**	**29.96**	**168**	P	**P**	**12 09 22.6**	**+1.1**
THZ	**Tophouse**	**30.07**	**171**	P	**P**	**12 09 22.0**	**-0.6**
STKA	**Stephens Creek**	**30.35**	**226**	P	**P**	**12 09 24.6**	**-0.6**
comp=Z,1.3nm,0.6s,baz=40,slow=8.1,SNR=4.2							
comp=Z,1.3nm,0.6s							
KHZ	**Kahutara**	**30.81**	**170**	P	**P**	**12 09 27.5**	**-1.6**
KHZ	**Kahutara**	**30.81**	**170**	P	**P**	**12 09 27.4**	**-1.6**
INZ	**Inchbonnie**	**30.81**	**173**	P	**P**	**12 09 28.6**	**-0.5**
LTZ	**Lake Taylor**	**30.97**	**172**	P	**P**	**12 09 29.9**	**-0.6**
WVZ	**Waitaha Valley**	**31.08**	**174**	P	**P**	**12 09 31.0**	**-0.4**
GVZ	**Greta Valley S**	**31.27**	**171**	P	**P**	**12 09 32.0**	**-1.0**
FOZ	**Fox Glacier**	**31.46**	**176**	P	**P**	**12 09 34.8**	**+0.1**
OXZ	**Oxford**	**31.48**	**173**	P	**P**	**12 09 34.3**	**-0.6**
RPZ	**Rata Peaks**	**31.75**	**174**	P	**P**	**12 09 37.2**	**-0.1**
WR0	**Warramunga Arr**	**31.83**	**252**	P	**P**	**12 09 36.6**	**-1.8**
JCZ	**Jackson Bay**	**31.93**	**177**	P	**P**	**12 09 40.3**	**+1.3**
MQZ	**McQueen's Vall**	**31.93**	**172**	P	**P**	**12 09 37.3**	**-1.6**
WB0	**Warramunga Arr**	**31.94**	**252**	P	**P**	**12 09 37.6**	**-1.7**
WB0				IAmb	IAmb	12 09 37.8	
comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**32.00**	**252**	P	**P**	**12 09 38.4**	**-1.5**
WRAB	**Tennant Creek**	**32.00**	**252**	P	**P**	**12 09 38.1**	**-1.7**
WRAB				IAmb	IAmb	12 09 41.6	
comp=Z,5.0nm,1.1s							
WRA	**Warramunga Arr**	**32.01**	**252**	P	**P**	**12 09 38.3**	**-1.6**
comp=Z,0.6nm,0.7s,baz=77,slow=8.9,SNR=9.0							
WRA				PcP	**PcP**	**12 12 24.3**	**-2.1**
comp=Z,0.5nm,0.8s,baz=74,slow=3.3,SNR=2.6							
comp=Z,0.6nm,0.7s							
LBZ	**Lake Benmore**	**32.33**	**175**	P	**P**	**12 09 41.6**	**-0.8**
TMZ	**Timaru**	**32.40**	**174**	P	**P**	**12 09 41.4**	**-1.6**
EAZ	**Earnscleugh**	**33.11**	**177**	P	**P**	**12 09 48.4**	**-0.8**
AS31	**Alice Springs**	**33.17**	**245**	P	**P**	**12 09 48.6**	**-1.5**
ASAR	**Alice Springs**	**33.17**	**245**	P	**P**	**12 09 48.7**	**-1.4**
ASAR	**Alice Springs**	**33.17**	**245**	P	**P**	**12 09 48.4**	**-1.7**
comp=Z,1.5nm,0.6s,baz=70,slow=9.6,SNR=39							
ASAR				PcP	**PcP**	**12 12 27.9**	**-1.7**
comp=Z,0.2nm,0.5s,baz=79,slow=2.3,SNR=4.3							
comp=Z,1.5nm,0.6s							
TUZ	**Tuapeka**	**33.85**	**176**	P	**P**	**12 09 55.2**	**-0.3**
BBOO	**Buckleboo**	**34.82**	**229**	P	**P**	**12 10 03.0**	**-1.1**
BBOO				IAmb	IAmb	12 10 03.4	
comp=Z,14nm,1.4s							
BBOO	**Buckleboo**	**34.82**	**229**	P	**P**	**12 10 05.5**	**+1.4**
comp=Z,6.3nm,2.1s							
KNRA	**Kununurra**	**36.96**	**260**	P	**P**	**12 10 21.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**40.02**	**256**	P	**P**	**12 10 48.3**	**+0.3**
JGF	**Kuroka**	**54.94**	**331**	P	**P**	**12 12 43.2**	**+0.2**
MJAR	**Matsushiro Arr**	**55.31**	**332**	P	**P**	**12 12 45.1**	**-0.5**
comp=Z,2.6nm,0.7s,baz=170,slow=8.3,SNR=11							
comp=Z,2.6nm,0.7s							
JKA	**Kamikawa-asahi**	**60.07**	**340**	P	**P**	**12 13 20.0**	**+1.3**
KSRS	**Korea Array**	**61.24**	**325**	P	**P**	**12 13 27.4**	**+0.6**
comp=Z,1.3nm,0.8s,baz=119,slow=7.2,SNR=5.5							
comp=Z,1.3nm,0.8s							
YSS	**Yuzhno-Sakhali**	**62.55**	**342**	P	**P**	**12 13 35.0**	**-0.3**
YSS				IAmb	IAmb	12 13 48.6	
comp=Z,5.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**64.28**	**333**	P	**P**	**12 13 46.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**64.28**	**333**	P	**P**	**12 13 47.9**	**+1.2**
comp=Z,3.3nm,0.7s,baz=149,slow=8.9,SNR=6.1							
comp=Z,3.3nm,0.7s							
PETK	**Petropavlovsk-**	**65.38**	**354**	P	**P**	**12 13 54.1**	**+0.5**
comp=Z,1.7nm,0.8s,baz=114,slow=5.2,SNR=4.4							
comp=Z,1.7nm,0.8s	

ZALV	**Zalesovo Beam**	94.93	324	P	P	12 16 31.4	-1.2
	comp=Z,1.3nm,0.7s,baz=116,slow=6.8,SNR=5.9						
	comp=Z,1.3nm,0.7s						
MAKZ	**Makanchi**	95.11	317	P	P	12 16 32.9	-0.7
MAKZ				IAmb	IAmb	12 16 34.1	
	comp=Z,3.3nm,1.0s						
KURBB	**Kurchatov Arra**	98.06	320	P	P	12 16 45.5	-1.3
	comp=Z,0.4nm,0.5s,baz=90,slow=3.9,SNR=1.6						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	117.56	346	PKP	PKPdf	12 21 54.3	-0.8
	comp=Z,1.3nm,0.3s,baz=63,slow=1.9,SNR=40						
FINES	**FINESS Array B**	123.06	339	PKP	PKPdf	12 22 05.0	-0.7
	comp=Z,3.9nm,0.9s,baz=52,slow=2.5,SNR=10						
NOA	**NORSAR Array B**	127.93	345	PKP	PKPdf	12 22 15.0	-0.2
	comp=Z,1.1nm,0.9s,baz=39,slow=2.1,SNR=2.1						
HFS	**Hagfors**	128.04	343	PKP	PKPdf	12 22 14.7	-0.7
	comp=Z,2.0nm,0.9s,baz=90,slow=1.9,SNR=5.6						
ESDC	**Sonseca Array**	151.29	345	PKPbc	PKPdf	12 23 03.2	+5.6
	comp=Z,1.8nm,0.8s,baz=29,slow=2.6,SNR=13						

*IDC **23** 12:12:06.5±1.1, 49.°62S×117.°48E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/21, Error ellipse: s-maj=47.0km s-min=24.8km az=104.0*

*NEIC **23** 12:12:08.2±0.2, 49.°6S±0.°1×117.°5E±0.°3, h10km±1km, mb4.3/11, Error ellipse: s-maj=35.0km s-min=13.2km az=118.0*

ISC 23 12:12:08.1±0.9, **49.°6S**±0.°1×**117.°5E**±0.°2, **h12**km, **n44**, σ0**§76**/**21**, **mb4.2**/10, **MS3.7**/20, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	14.94	349	T	T	12 30 48.2	
	baz=171,slow=74,SNR=106						
H01W1	**Cape Leeuwin H**	14.94	349	T	T	12 30 46.0	
	baz=171,slow=74,SNR=74						
H01W3	**Cape Leeuwin H**	14.95	349	T	T	12 30 50.7	
	baz=171,slow=74,SNR=79						
NWAO	**Narrogin (SRO)**	16.70	359	Pn	Pn	12 16 02.1	+0.3
NWAO				IAmb	IAmb	12 16 05.9	
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	16.70	359	LR	LR	12 20 55.8	
	comp=Z,292nm,18.5s,baz=255,slow=32						
BBOO	**Buckleboo**	21.74	46	P	P	12 16 59.2	0.0
BBOO				IAmb	IAmb	12 17 09.4	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	25.26	54	P	P	12 17 35.3	+1.3
	comp=Z,1.7nm,0.9s,baz=203,slow=7.7,SNR=3.4						
STKA				LR	LR	12 25 27.4	
	comp=Z,210nm,21.9s,baz=210,slow=32						
	comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	28.93	32	P	P	12 18 06.9	-0.2
ASAR	**Alice Springs**	28.93	32	P	P	12 18 06.7	-0.4
	comp=Z,1.0nm,0.7s,baz=210,slow=8.6,SNR=12						
ASAR				LR	LR	12 28 48.2	
	comp=Z,200nm,18.2s,baz=216,slow=35						
	comp=Z,1.0nm,0.7s						
FITZ	**Fitzroy Crossi**	32.13	15	P	P	12 18 35.0	-0.3
FITZ	**Fitzroy Crossi**	32.13	15	LR	LR	12 30 16.1	
	comp=Z,194nm,21.0s,baz=190,slow=34						
WRA	**Warramunga Arr**	32.53	30	P	P	12 18 36.7	-2.1
WRA	**Warramunga Arr**	32.53	30	P	P	12 18 37.5	-1.3
	comp=Z,1.4nm,0.8s,baz=200,slow=11,SNR=5.5						
WRA				LR	LR	12 30 11.8	
	comp=Z,139nm,21.2s,baz=209,slow=33						
	comp=Z,1.4nm,0.8s						
WB2	**Warramunga Arr**	32.53	30	P	P	12 18 38.6	-0.3
WRAB	**Tennant Creek**	32.54	30	P	P	12 18 38.8	-0.1
WRAB				IAmb	IAmb	12 18 47.2	
	comp=Z,4.3nm,1.1s						
WR0	**Warramunga Arr**	32.58	31	P	P	12 18 38.6	-0.6
WR0				IAmb	IAmb	12 19 02.2	
	comp=Z,4.6nm,1.3s						
WB0	**Warramunga Arr**	32.71	30	P	P	12 18 40.4	0.0
WB0				IAmb	IAmb	12 18 53.7	
	comp=Z,5.3nm,1.1s						
RPZ	**Rata Peaks**	36.53	102	LR	LR	12 30 06.8	
	comp=Z,99nm,19.9s,baz=130,slow=30						
QSPA	**South Pole Qui**	40.49	180	P	P	12 19 46.9	+0.5
QSPA				IAmb	IAmb	12 20 02.3	
	comp=Z,5.1nm,1.4s						
QSPA	**South Pole Qui**	40.49	180	P	P	12 19 45.9	-0.5
	comp=Z,0.8nm,0.7s,baz=336,slow=1.4,SNR=6.0						
	comp=Z,0.8nm,0.7s						
KAPI	**Kappang**	44.51	3	LR	LR	12 37 45.9	
	comp=Z,52nm,19.7s,baz=174,slow=35						
PMG	**Port Moresby**	47.08	42	LR	LR	12 39 54.6	
	comp=Z,113nm,18.3s,baz=147,slow=35						
DZM	**Mont Dzumac**	47.14	73	LR	LR	12 37 52.9	
	comp=Z,78nm,18.0s,baz=215,slow=33						
JAY	**Jayapura**	50.93	30	LR	LR	12 42 17.0	
	comp=Z,132nm,21.9s,baz=202,slow=36						
SNAA	**Sanae**	51.92	200	LR	LR	12 41 43.4	
	comp=Z,207nm,19.8s,baz=190,slow=34						
HNR	**Honiara**	53.32	56	LR	LR	12 42 53.3	
	comp=Z,55nm,18.1s,baz=129,slow=35						
PSI	**Prapat**	54.65	337	LR	LR	12 40 36.2	
	comp=Z,44nm,20.6s,baz=152,slow=31						
IPM	**Ipoh**	55.77	340	P	P	12 21 44.6	-0.2
H08S2	**Diego Garcia H**	56.23	302	T	T	13 22 09.9	
	baz=147,slow=76,SNR=22						
H08S1	**Diego Garcia H**	56.25	302	T	T	13 22 10.9	
	baz=147,slow=76,SNR=18						
H08S3	**Diego Garcia H**	56.26	302	T	T	13 22 11.4	
	baz=147,slow=76,SNR=20						
MSVF	**Nonsavu**	57.66	79	LR	LR	12 41 53.6	
	comp=Z,47nm,20.0s,baz=152,slow=31						
PALK	**Pallekele**	65.12	319	LR	LR	12 45 54.0	
	comp=Z,42nm,18.4s,baz=107,slow=31						
PMSA	**Palmer Station**	65.92	179	LR	LR	12 49 37.0	
	comp=Z,109nm,21.7s,baz=168,slow=34						
CM31	**Chiang Mai Arr**	69.77	341	P	P	12 23 18.6	+0.6
CM31				IAmb	IAmb	12 23 19.4	
	comp=Z,4.4nm,0.9s						
CMAR	**Chiang Mai Arr**	69.77	341	P	P	12 23 17.7	-0.3
CMAR	**Chiang Mai Arr**	69.77	341	P	P	12 23 18.4	+0.5
	comp=Z,0.8nm,0.4s,baz=189,slow=5.7,SNR=11						
CMAR				LR	LR	12 49 27.3	
	comp=Z,15nm,21.4s,baz=320,slow=32						
	comp=Z,0.8nm,0.4s						
LBTB	**Lobatse**	72.57	252	LR	LR	12 48 56.1	
	comp=Z,71nm,20.0s,baz=136,slow=30						
KSRS	**Korea Array**	87.20	8	LR	LR	13 06 54.1	
	comp=Z,6.6nm,18.3s,baz=0.0,slow=38						
PLCA	**Paso Flores**	89.73	174	LR	LR	13 03 19.9	
	comp=Z,69nm,19.4s,baz=196,slow=34						
AAK	**Ala-Archa**	99.33	329	LR	LR	13 09 20.7	
	comp=Z,38nm,18.4s,baz=331,slow=35						
TXAR	**Lajitas Array**	142.88	108	PKP	PKPdf	12 31 41.3	-0.1
	comp=Z,0.5nm,0.8s,baz=238,slow=2.3,SNR=4.0						
PDAR	**Pinedale Array**	147.14	84	PKPbc	PKPab	12 31 51.9	-0.5
	comp=Z,0.6nm,0.8s,baz=222,slow=2.0,SNR=5.6						
YKA	**Yellowknife Ar**	149.12	46	PKPbc	PKPbc	12 31 55.4	+0.4
	comp=Z,0.3nm,0.7s,baz=263,slow=2.4,SNR=6.6						

*IDC **23** 12:12:57.5±1.3, 56.°26N×148.°61W, h0km, mb3.5/5, mbtmp3.6/10, ML3.3/5, MS3.2/5, Error ellipse: s-maj=25.3km s-min=17.4km az=24.0*

*NEIC **23** 12:12:57.9±1.6, 56.°19N±0.°06×148.°8W±0.°1, h24km±9km, mb3.8/2, ML3.8/58, ML3.3(AEIC), Error ellipse: s-maj=11.6km s-min=3.3km az=138.0*

*AEIC **23** 12:13:00.6±1.5, 56.°24N±0.°09×148.°8W±0.°1, h3km±7km, Error ellipse: s-maj=13.8km s-min=8.2km az=173.0*

ISC 23 12:12:57.7±0.9, **56.°33N**±0.°08×**148.°77W**±0.°05, **h10**km, **n123**, σ1**§19**/**118**, **mb3.5**/5, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.54	307		Pn	12 13 38.3	-0.6
KDAK	**Kodiak Island**	2.54	307		Sn	12 14 07.5	-2.5
KDAK	**Kodiak Island**	2.54	307	Pn	Pn	12 13 38.6	-0.3
	4.2nm,0.3s,baz=236,slow=2.6,SNR=264						
KDAK				Sn	Sn	12 14 06.7	-3.2
	5.8nm,0.3s,baz=47,slow=5.9,SNR=5.4						
KDAK				LR	LR	12 14 53.8	
	comp=Z,561nm,19.7s,baz=354,slow=44						
	8.3nm,0.3s						
OHAK	**Old Harbor**	2.64	292		Pn	12 13 38.6	-1.7
OHAK	**Old Harbor**	2.64	292	P	Pn	12 13 38.8	-1.5
SYI	**Shuyak Island**	3.01	321		Pn	12 13 45.0	-0.4
SYI	**Shuyak Island**	3.01	321		Sn	12 14 20.9	-0.6
SII	**Sitkinak Islan**	3.01	277	Pn	Pn	12 13 43.7	-1.8
SII	**Sitkinak Islan**	3.01	277		Sn	12 14 17.6	-4.0
SII	**Sitkinak Islan**	3.01	277	IAML		12 14 20.4	
	comp=E,212nm,1.1s						
SII				IAML		12 14 23.8	
	comp=N,185nm,1.0s						
SII	**Sitkinak Islan**	3.01	277	P	Pn	12 13 45.3	-0.2
R18K	**Karluk**	3.35	294		Pn	12 13 49.9	-0.2
R18K					Sn	12 14 28.5	-1.3
R18K	**Karluk**	3.35	294	IAML		12 14 29.6	
	comp=N,198nm,0.4s						
R18K				IAML		12 14 30.5	
	comp=E,158nm,0.4s						
Q23K	**Middleton Isla**	3.37	22	Pn	Pn	12 13 50.1	-0.2
Q23K				IAML		12 14 29.9	
	comp=N,121nm,1.0s						
Q23K				IAML		12 14 57.7	
	comp=E,127nm,1.1s						
CNPM	**China Poot**	3.47	339		Pn	12 13 51.4	-0.3
CNPM				IAML		12 14 34.9	
	comp=N,83nm,0.5s						
CNPM	**China Poot**	3.47	339		Sn	12 14 32.4	-0.4
BRSE	**Bradley Lake S**	3.58	344		Pn	12 13 52.9	-0.3
BRLK	**Bradley Lake**	3.63	343		Pn	12 13 53.5	-0.4
BRLK				IAML		12 14 40.3	
	comp=E,102nm,0.5s						
HOM	**Homer**	3.67	337	Pn	Pn	12 13 54.7	+0.2
HOM				IAML		12 14 44.5	
	comp=N,251nm,1.1s						
HOM				IAML		12 15 09.2	
	comp=E,265nm,1.0s						
Q19K	**Cape Douglas,**	3.70	317	Pn	Pn	12 13 55.2	+0.4
Q19K				IAML		12 15 21.0	
	comp=N,235nm,1.2s						
KAHG	**Katmai Hook Gl**	3.81	307		Pn	12 13 57.2	+0.8
SEW	**Seward**	3.81	355	Pn	Pn	12 13 55.8	-0.5
KAKN	**Katmai Knife C**	3.94	303		Pn	12 13 58.6	+0.3
ACHA	**Angle Creek He**	4.03	301		Pn	12 14 00.2	+0.8
KVTA	**Katmai Vly 10**	4.09	303		Pn	12 14 01.5	+1.3
P19K	**Oil Pt**	4.09	326	Pn	Pn	12 14 00.9	+0.6
P19K				IAML		12 14 48.7	
	comp=N,122nm,0.7s						
P19K				IAML		12 14 50.3	
	comp=E,143nm,0.5s						
O22K	**Cooper Landing**	4.20	354		Pn	12 14 02.4	+0.7
HIN	**Hinchinbrook I**	4.25	15	Pn	Pn	12 14 02.4	-0.1
HIN				IAML		12 14 51.4	
	comp=N,158nm,0.6s						
HIN				IAML		12 14 56.5	
	comp=E,149nm,1.2s						
SLKM	**Skilak Lake**	4.26	350		Pn	12 14 03.0	+0.4
SLKM				IAML		12 14 52.5	
	comp=N,112nm,0.3s						
SLKM				IAML		12 14 55.6	
	comp=E,117nm,0.3s						
KAIM	**Kayak Island**	4.29	31		Pn	12 14 03.0	+0.1
KAIM				IAML		12 15 02.4	
	comp=E,124nm,1.1s						
ILSW	**Iliamna Southw**	4.34	330		Pn	12 14 03.8	0.0
ILSW				IAML		12 14 55.8	
	comp=N,66nm,0.9s						
ILSW				IAML		12 14 58.3	
	comp=E,73nm,0.8s						
EYAK	**Cordova Ski Ar**	4.52	19		Pn	12 14 06.3	+0.2
EYAK	**Cordova Ski Ar**	4.52	19	P	Pn	12 14 06.3	+0.2
SUCK	**Suckling Hills**	4.59	33		Pn	12 14 07.6	+0.5
SUCK				IAML		12 15 02.9	
	comp=N,103nm,0.5s						
SUCK				IAML		12 15 09.7	
	comp=E,55nm,0.6s						
RAGM	**Ragged Mountai**	4.61	26		Pn	12 14 07.7	+0.3
RED	**Redoubt Volcan**	4.61	335		Pn	12 14 07.0	-0.5
P18K	**Big Mountain,**	4.62	314		Pn	12 14 07.3	-0.3
GLI	**Glacier Island**	4.65	10	Pn	Pn	12 14 08.1	+0.2
GLI				IAML		12 15 01.0	
	comp=N,62nm,0.9s						
GLI				IAML		12 15 01.1	
	comp=E,65nm,0.7s						
RDT	**Redoubt**	4.67	337		Pn	12 14 07.1	-1.1
NICHA	**Nichawak Mount**	4.67	31		Pn	12 14 09.5	+1.3
HMT	**Hamilton**	4.67	29		Pn	12 14 08.5	+0.3
RDWB	**Redoubt West**	4.69	335		Pn	12 14 10.1	+1.5
DFR	**Drift River**	4.75	336		Pn	12 14 11.2	+1.9
NCT	**North Crescent**	4.78	335		Pn	12 14 10.2	+0.4
RC01	**Rabbit Creek A**	4.80	354	Pn	Pn	12 14 10.6	+0.5
RC01				IAML		12 15 07.7	
	comp=N,61nm,0.5s						
RC01				IAML		12 15 12.2	
	comp=E,60nm,0.6s						
O19K	**Port Alsworth**	4.86	325	Pn	Pn	12 14 11.0	+0.2
BERG	**Berg Lake**	4.87	31		Pn	12 14 11.1	+0.1
O18K	**Koktuh Hills**	4.92	319		Pn	12 14 11.1	-0.5
O18K				IAML		12 15 30.9	
	comp=N,32nm,1.1s						
P17K	**Kvichak River**	5.01	308		Pn	12 14 13.5	+0.7
DIV	**Divide**	5.07	17		Pn	12 14 13.9	+0.3
BMRM	**Bremner River**	5.14	23		Pn	12 14 15.0	+0.3
SPU	**Mount Spurr**	5.16	342		Pn	12 14 14.8	-0.1
SPU				IAML		12 15 23.2	
	comp=E,31nm,0.7s						
MESA	**MESA**	5.28	40	Pn	Pn	12 14 17.2	+0.5
PMR	**Palmer**	5.29	358	Pn	Pn	12 14 16.9	+0.3
PMR	**Palmer**	5.29	358	P	Pn	12 14 17.4	+0.8
CHGN	**Chignik**	5.37	274	Pn	Pn	12 14 16.3	-1.5
CHGN				IAML		12 15 16.4	
	comp=N,31nm,0.9s						
CHGN				IAML		12 15 18.9	
	comp=E,52nm,0.6s						
KLU	**Klutina**	5.39	15		Pn	12 14 18.5	+0.4
STLK	**Strandline Lak**	5.42	344		Pn	12 14 18.9	+0.3
GHO	**Glory Hole Cre**	5.46	359		Pn	12 14 20.1	+0.9
SML	**Sawmill**	5.50	2	Pn	Pn	12 14 20.4	+0.7
SCM	**Sheep Creek Mo**	5.57	7		Pn	12 14 21.7	+1.1
VRDI	**Verde Repeater**	5.64	27		Pn	12 14 21.7	0.0
N25K	**Chitina, Valde**	5.72	20		Pn	12 14 23.4	+0.8
GLB	**Gilahina Butte**	5.74	25		Pn	12 14 23.1	+0.2
SKT	**Skwentna**	5.85	347		Pn	12 14 25.0	+0.7
L19K	**White Mountain**	6.65	335		Pn	12 14 34.6	-0.7
PAX	**Paxson**	6.87	13		Pn	12 14 39.1	+0.7
S31K	**Pelican**	7.02	71	Pn	Pn	12 14 38.6	-1.7
M16K	**Timber Creek**	7.09	316	Pn	Pn	12 14 41.4	0.0
RND	**Reindeer**	7.10	360	Pn	Pn	12 14 42.4	+0.8
MENT	**Mentasta**	7.11	19		Pn	12 14 43.3	+1.7
L18K	**Granite Mounta**	7.16	329	Pn	Pn	12 14 41.8	-0.6
TRF	**Thorofare Moun**	7.19	355		Pn	12 14 43.7	+0.8
L26K	**Log Cabin Wild**	7.26	20		Pn	12 14 44.8	+1.1
KTH	**Kantishna Hill**	7.33	352		Pn	12 14 45.8	+1.0
HYT	**Haines Junctio**	7.41	48		Pn	12 14 46.7	+0.7
MCK	**McKinley**	7.43	359		Pn	12 14 47.2	+1.1
SIT	**Sitka**	7.44	79	Pn	Pn	12 14 43.6	-2.6
SIT	**Sitka**	7.44	79	P	Pn	12 14 43.7	-2.5
TTA	**Tatalina**	7.57	334	Pn	Pn	12 14 47.3	-0.7
TTA	**Tatalina**	7.57	334	P	Pn	12 14 48.3	+0.3
BCAR	**Beaver Creek A**	7.62	25	Pn	Pn	12 14 49.4	+0.6
RIDG	**Independent Ri**	7.69	13	Pn	Pn	12 14 51.4	+1.7
SKAG	**Skagway**	7.82	61	Pn	Pn	12 14 51.1	-0.2
SKAG	**Skagway**	7.82	61	P	Pn	12 14 52.1	+0.8
S32K	**Killisnoo**	7.86	76	Pn	Pn	12 14 50.2	-1.6
BPAW	**Bear Paw Mtn.**	7.88	353		Pn	12 14 52.9	+0.7
O30N	**Mendenhall**	7.98	51		Pn	12 14 53.6	-0.1
K17K	**Iditarod**	8.03	327	Pn	Pn	12 14 53.1	-1.1
WHY	**Whitehorse**	8.47	53		Pn	12 15 01.1	+0.7
N31M	**Braeburn, Yuko**	8.47	47		Pn	12 15 01.4	+1.0
ILAR	**Eielson Array**	8.53	5	Pn	Pn	12 15 02.1	+1.1
ILAR	**Eielson Array**	8.53	5	Pn	Pn	12 15 01.2	+0.2
	comp=E,0.4nm,0.3s,baz=190,slow=13,SNR=17						
ILAR				Sn	Sn	12 16 33.5	-3.6
	comp=E,0.5nm,0.3s,baz=181,slow=17,SNR=7.5						
ILAR				LR	LR	12 18 26.3	
	comp=E,77nm,20.2s,baz=246,slow=38						
	comp=E,0.7nm,0.4s						
COLA	**College**	8.59	3	P	Pn	12 15 03.5	+1.6
P32M	**Atlin**	8.64	62	Pn	Pn	12 15 03.1	+0.3
M30M	**Minto, Yukon**	8.73	39	Pn	Pn	12 15 05.0	+1.1
I23K	**Minto, Yukon-K**	8.86	358		Pn	12 15 06.8	+1.2
DAWY	**Dawson**	9.05	27		Pn	12 15 08.9	+0.6
P33M	**Teslin, Yukon**	9.26	59		Pn	12 15 11.6	+0.4
M31M	**Drury Creek, Y**	9.41	45		Pn	12 15 14.6	+1.3
J29N	**Klondike Camp**	9.67	28		Pn	12 15 17.7	+1.0
FARO	**Faro, Yukon**	9.85	47	Pn	Pn	12 15 20.7	+1.5
H18K	**Honhosa River**	10.01	336	Pn	Pn	12 15 20.6	-0.7
DLBC	**Dease Lake**	10.33	70	Pn	Pn	12 15 25.7	-0.2
	comp=E,0.3nm,0.3s,baz=249,slow=5.8,SNR=11						
DLBC				Sn	Sn	12 17 17.8	-3.9
	comp=E,0.2nm,0.3s,baz=252,slow=24,SNR=1.6						
	comp=E,0.8nm,0.3s						
FYU	**Fort Yukon**	10.41	8	Pn	Pn	12 15 27.3	+0.5
BBB	**Bella Bella**	12.75	100	LR	LR	12 19 36.1	
	comp=E,91nm,19.5s,baz=358,slow=32						
INK	**Inuvik**	13.89	24		Pn	12 16 14.4	+0.1
INK	**Inuvik**	13.89	24	Pn	Pn	12 16 15.6	+1.3
	comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=6.3						
INK				LR	LR	12 22 14.7	
	comp=E,99nm,20.0s,baz=259,slow=40						
	comp=E,3.2nm,1.1s						
C36M	**Paulatuk**	17.06	30	P	Pn	12 16 54.8	-1.1
C36M				IAmb	IAmb	12 16 59.9	
	comp=Z,6.5nm,1.0s						
YKA	**Yellowknife Ar**	18.28	56	P	Pn	12 17 09.8	-1.3
YKA	**Yellowknife Ar**	18.28	56	P	Pn	12 17 11.7	+0.6
	baz=266,slow=13,SNR=10.0						
YKA				LR	LR	12 24 01.3	
	comp=Z,86nm,18.6s,baz=298,slow=36						
	comp=Z,1.3nm,1.0s						
A36M	**Sachs Harbour**	18.53	23	P	P	12 17 14.2	+0.3
A36M				IAmb	IAmb	12 17 25.9	
	comp=Z,8.5nm,0.9s						
NVAR	**Mina Array Bea**	26.98	119	P	P	12 18 40.5	+0.8
	comp=Z,1.1nm,1.0s,baz=310,slow=5.7,SNR=5.1						
	comp=Z,1.1nm,1.0s						
PDAR	**Pinedale Array**	28.39	102	P	P	12 18 52.8	+0.6
	comp=Z,0.3nm,0.8s,baz=319,slow=8.3,SNR=1.8						
	comp=Z,0.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	49.15	240	T	T	13 15 27.1	
	baz=30,slow=74						
H11N3	**WAKE ISLAND Hy**	49.16	240	T	T	13 15 24.8	
	baz=30,slow=74						
H11N1	**WAKE ISLAND Hy**	49.17	240	T	T	13 15 27.7	
	baz=30						
H11S1	**WAKE ISLAND Hy**	50.29	240	T	T	13 16 48.5	
	baz=29,slow=74						
H11S2	**WAKE ISLAND Hy**	50.30	240	T	T	13 16 55.4	
	baz=29						
H11S3	**WAKE ISLAND Hy**	50.31	240	T	T	13 16 58.2	
	baz=29,slow=74						
SONM	**Songino Array**	58.83	310	P	P	12 22 58.4	+2.3
	comp=Z,0.8nm,0.9s,baz=40,slow=7.8,SNR=4.6						
	comp=Z,0.8nm,0.9s						
ZALV	**Zalesovo Beam**	61.68	327	P	P	12 23 17.2	+1.9
	comp=Z,0.8nm,0.8s,baz=12,slow=8.0,SNR=3.5						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	68.72	325	P	P	12 24 03.3	+2.1
	comp=Z,0.2nm,0.5s,baz=39,slow=5.5,SNR=2.1						
	comp=Z,0.2nm,0.5s						

*NEIC **23** 12:14:37.9±2.0, 23.°12S±0.°06×66.°62W±0.°08, h188km±5km, mb5.0/411, Mww4.9/26, Error ellipse: s-maj=11.1km s-min=8.6km az=74.0*

*MOS **23** 12:14:37.6±1.2, 23.°11S×66.°71W, h200km, mb4.9/19, Error ellipse: s-maj=12.6km s-min=7.2km az=104.9*

*NEIC **23** 12:14:38.3, 23.°23S×67.°00W, h180km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.78; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$2.21; $M_{r\theta}$0.48; $M_{\theta\phi}$-0.24; $M_{\phi r}$-2.46; Fault plane solution: $M_0$3.21000×10^{16} NP1: ϕ_s182.44000°, δ19.67000°, λ-78.01000°. NP2: ϕ_s349.73000°, δ70.78000°, λ-94.24000°. Principal axes: T 3.4336, Plg26.0000°, Azm83.0000°; N -0.4406, Plg4.0000°, Azm351.0000°; P -2.9931, Plg64.0000°, Azm253.0000°;*

*SJA **23** 12:14:38.0±0.7, 23.°26S×66.°67W, h228km±5km, ML4.9, MW4.8*

*NEIC **23** 12:14:38.3, 23.°13S×66.°61W, h180km*

*IDC **23** 12:14:39.3±0.9, 23.°12S×66.°58W, h206km±7km, mb4.4/21, mbtmp5.0/28, MS3.9/3, Error ellipse: s-maj=10.4km s-min=7.7km az=50.0*

*VAO **23** 12:14:40.0±0.3, 23.°10S×66.°62W, h223km, mb5.1*

*GUC **23** 12:14:40.3±0.8, 23.°09S×66.°65W, h210km±6km, ML4.9*

*GCMT **23** 12:14:44.2±0.3, 23.°16S±0.°02×66.°66W±0.°02, h240km±2km, MW5.1/98, Moment Tensor Solution. s39,c47; s98,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.76±.19; $M_{\theta\theta}$0.46±.23; $M_{\phi\phi}$3.31±.27; $M_{r\theta}$0.85±.16; $M_{\theta\phi}$-0.69±.20; $M_{\phi r}$-4.63±.18; Best double couple: $M_0$5.93500×10^{16} NP1: ϕ_s166.00000°, δ19.00000°, λ-93.00000°. NP2: ϕ_s349.00000°, δ71.00000°, λ-89.00000°. Principal axes: T 5.7870, Plg26.0000°, Azm78.0000°; N 0.3000, Plg1.0000°, Azm169.0000°; P -6.0830, Plg64.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function.*

ISC 23 12:14:39.4±0.5, **23.°17S**±0.°03×**66.°66W**±0.°03, **h212**km±4km, **n523**, σ1**§33**/**409**, **mb5.0**/215, **12C-7D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		1.09	164	*eP*	Pn	12 15 13.7	+2.1
SALTA				*eS*	S	12 15 36.5	-0.2
SALTA		1.09	164	⇓*iP*	Pn	12 15 13.7	+2.1
SALTA				*i S*	S	12 15 39.2	+2.5
AF01	**San Pedro de A**	1.41	278	Pn	Pn	12 15 15.6	+1.8
AF01	**San Pedro de A**	1.

TA02 eS **S** **12 16 35.8 -1.7**
PB11 IPOC Station P 4.39 320 Pn 12 15 45.6 -1.0
PB11 IPOC Station P 4.39 320 eP **Pn 12 15 45.4 -1.2**
PB11 eS **S** **12 16 37.5 -1.7**
AC01 Pan de Azucar 4.65 230 Pn 12 15 48.8 -0.9
AC01 Pan de Azucar 4.65 230 eP **Pn 12 15 48.5 -1.2**
AC01 eS **S** **12 16 41.7 -3.2**
GUSE Guasayan 4.98 161 eP **Pn 12 15 55.2 +1.3**
CYA Choya 5.31 172 eP **Pn 12 15 54.9 -3.1**
CYA eS **S** **12 16 59.6 -0.5**
PB12 IPOC Station P 5.68 322 Pn 12 16 00.9 -2.0
AC04 Llanos de Chal 6.40 217 Pn 12 16 09.8 -2.2
LCO Las Campanas 6.86 211 Pn Pn **12 16 16.3 -1.8**
LCO Las Campanas 6.86 211 P Pn **12 16 16.3 -1.8**
LPAZ La Paz 6.98 348 Pn Pn **12 16 18.9 -1.2**
LPAZ La Paz 6.98 348 P **Pn 12 16 20.3 +0.2**
comp=Z,73nm,0.6s,baz=156,slow=5.8,SNR=183
LPAZ S **S** **12 17 36.1 -3.9**
comp=Z,30nm,0.6s,baz=342,slow=24,SNR=4.0
LPAZ ScS **ScS** **12 29 31.3 -1.5**
comp=Z,1.3nm,0.5s,baz=63,slow=2.3,SNR=2.5
LPAZ La Paz 6.98 348 P **Pn 12 16 18.9 -1.2**
LPAZ La Paz 6.98 348 eP **Pn 12 16 20.3 +0.2**
LPAZ eS **S** **12 17 39.2 -0.8**
CO01 Juntas del Tor 7.45 204 Pn 12 16 25.0 -0.7
PAPY Pozo Azul 7.79 98 eP **Pn 12 16 30.1 +0.2**
CO05 La Serena 7.88 210 Pn 12 16 28.9 -2.0
GO04 Tololo Observa 7.98 207 Pn 12 16 29.9 -1.7
CO03 El Pedregal 8.44 204 Pn 12 16 36.6 -1.8
CFA Coronel Fontan 8.52 189 P **Pn 12 16 38.8 -0.6**
comp=Z,0.1nm,0.3s,baz=194,slow=24,SNR=54
CFA S **S** **12 18 07.8 -7.6**
comp=Z,0.1nm,0.3s,baz=208,slow=24,SNR=19
ZON Zonda 8.54 192 Pn **Pn 12 16 38.7 -0.9**
ZON Zonda 8.54 192 P **Pn 12 16 38.7 -0.9**
CO06 Fray Jorge 8.70 210 Pn 12 16 38.9 -2.7
SIV San Ignacio 8.87 37 P **Pn 12 16 42.4 -1.6**
comp=Z,54nm,0.5s,baz=216,slow=10,SNR=204
SIV S S 12 18 08.6 -15
comp=Z,13nm,0.7s,baz=214,slow=16,SNR=3.6
CPUP Villa Florida 9.05 112 Pn **Pn 12 16 45.8 -0.4**
CPUP Villa Florida 9.05 112 P **Pn 12 16 45.3 -0.8**
comp=Z,18nm,0.7s,baz=284,slow=12,SNR=33
CPUP ScP **ScP** **12 26 00.2 +0.4**
comp=Z,2.2nm,0.8s,baz=201,slow=2.6,SNR=2.3
CPUP Villa Florida 9.05 112 P **Pn 12 16 45.8 -0.4**
CPUP Villa Florida 9.05 112 eP **Pn 12 16 45.4 -0.8**
BDQN Bodoquena, MS 9.60 76 eP **Pn 12 16 52.6 -0.8**
SJPY San Joaquin 9.82 103 eP **Pn 12 16 55.4 -0.8**
VA03 San Esteban 10.16 199 Pn 12 16 59.9 -0.6
VA06 Catapilco 10.22 203 Pn 12 16 59.5 -1.7
PTLB Pontes e Lacer 10.46 44 Pn **Pn 12 17 03.8 -0.6**
PTLB Pontes e Lacer 10.46 44 eP **Pn 12 17 03.1 -1.3**
AQDB Aquidauana 10.53 77 Pn **Pn 12 17 05.0 -0.3**
AQDB Aquidauana 10.53 77 eP **Pn 12 17 04.7 -0.6**
MT08 Bocatoma Ro 10.66 195 Pn 12 17 05.6 -1.5
MT02 Curacav 10.80 200 Pn 12 17 06.7 -1.9
MT05 Renca 10.80 198 Pn 12 17 07.0 -1.7
MT09 Talagante 11.23 199 Pn 12 17 12.6 -1.8
MT01 Popeta 11.40 200 Pn 12 17 14.5 -1.8
BO01 Tunca 11.84 198 Pn **Pn 12 17 21.4 -0.4**
VILB Vilhena 11.87 32 Pn **Pn 12 17 21.1 -1.4**
VILB Vilhena 11.87 32 eP **Pn 12 17 20.9 -1.5**
RPRD Ribas do Rio P 12.33 80 eP **Pn 12 17 27.8 -0.4**
SALV Santo Antonio 12.61 57 eP **Pn 12 17 30.9 -0.9**
TBOT Tacuaremb 12.75 134 eP **Pn 12 17 33.5 +0.2**
PTGB Pitanga 13.44 100 eP **Pn 12 17 42.8 +0.7**
C2SB Chapadao do Su 13.63 74 eP **Pn 12 17 45.0 +0.6**
ITAB Concordia 13.76 110 eP **Pn 12 17 46.2 +0.3**
ITAB Concordia 13.76 110 eP **Pn 12 17 45.8 -0.1**
CPSB Cacapava Do Su 13.83 124 eP **Pn 12 17 46.4 -0.3**
LDASE Londrina, Braz 14.29 94 eP **Pn 12 17 52.3 -0.2**
PLTB Pedras Altas 14.40 129 Pn **Pn 12 17 52.8 -1.1**
PLTB Pedras Altas 14.40 129 eP **Pn 12 17 52.7 -1.1**
PLTB eS **S** **12 20 34.3 +0.9**
NNA Nana 14.75 317 Pn **Pn 12 17 55.6 -2.6**
NNA Nana 14.75 317 P **P 12 17 58.7 -0.1**
comp=Z,41nm,0.8s,baz=156,slow=11,SNR=16
NNA S **S** **12 20 38.1 -3.5**
comp=Z,7.4nm,0.4s,baz=250,slow=19,SNR=2.4
NNA Nana 14.75 317 *i* P **Pn 12 17 56.4 -1.8**
PDRB Porto dos Gac 14.88 41 eP **Pn 12 17 58.3 -1.6**
TRQA Tornquist 15.38 166 Pn 12 18 05.4 -0.2
TRQA Tornquist 15.38 166 P **Pn 12 18 05.4 -0.2**
TRQA pmax pmax
comp=Z,21nm,0.6s
CNLB Canela 15.45 117 eP **P 12 18 06.2 -0.3**
ITRB Iturama 15.56 80 eP **Pn 12 18 08.0 -0.1**
FRTB Fartura 15.72 94 eP **P 12 18 09.6 +0.1**
ARAG Araguaiana, MT 15.84 65 eP **P 12 18 10.8 -0.1**
CLDB Colider 16.03 42 eP **P 12 18 12.5 -0.6**
CZSB Cruzeiro do Su 16.41 338 P **P 12 18 15.6 -1.6**
CZSB IAmb IAmb 12 18 19.0
comp=Z,46nm,0.9s
CZSB Cruzeiro do Su 16.41 338 eP **P 12 18 15.6 -1.6**
MAJ01 Sao Joao Batis 16.51 108 eP **P 12 18 17.7 -0.5**
TER01 Tubaro-SC 16.66 112 eP **P 12 18 19.8 -0.1**
LR04 Corral 17.62 197 P **P 12 18 31.1 +0.9**
LR04 IAmb IAmb 12 18 48.7
comp=Z,72nm,1.1s
SPB Sao Paulo 17.66 95 P **P 12 18 31.5 +0.7**
SPB Sao Paulo 17.66 95 eP **P 12 18 30.7 -0.1**
PLCA Paso Flores 17.82 190 P **P 12 18 33.4 +0.9**
PLCA Paso Flores 17.82 190 P **P 12 18 33.1 +0.6**
comp=Z,25nm,0.6s,baz=6.9,slow=11,SNR=98
PLCA S **S** **12 21 44.5 -1.6**
comp=Z,1.6nm,0.8s,baz=26,slow=20,SNR=1.4
PLCA PcP **PcP** **12 22 59.6 +0.8**
comp=Z,4.8nm,0.9s,baz=61,slow=5.5,SNR=3.7
PLCA ScP **ScP** **12 26 14.5 +0.5**
comp=Z,1.4nm,0.9s,baz=315,slow=4.3,SNR=3.5
PLCA Paso Flores 17.82 190 P **P 12 18 33.4 +0.9**
PLCA pmax pmax
comp=Z,30nm,0.7s
PLCA Paso Flores 17.82 190 eP **Pn 12 18 34.4 -0.3**
IPMB Ipameri, GO 18.02 77 eP **P 12 18 34.8 -0.1**
VAO Valinhos 18.12 93 P **P 12 18 36.2 +0.2**
VAO Valinhos 18.12 93 eP **P 12 18 35.6 -0.4**
VAO eS **S** **12 21 52.1 -0.5**
LL04 Puerto Octay 18.34 194 P **P 12 18 38.5 +0.5**
SNDB Serra Nova Dou 18.38 55 eP **P 12 18 37.6 -1.1**
BDFB Brasilia 19.10 70 P **P 12 18 46.8 +0.2**
BDFB Brasilia 19.10 70 P **P 12 18 46.6 0.0**
comp=Z,339nm,0.9s,baz=245,slow=11,SNR=274
BDFB S **S** **12 22 12.9 +0.9**
comp=Z,13nm,0.8s,baz=116,slow=24,SNR=2.6
BDFB Brasilia 19.10 70 P **P 12 18 46.8 +0.2**
BDFB pmax pmax
comp=Z,417nm,1.0s
TBTG Tabatinga, AM 19.13 350 eP **P 12 18 46.9 +0.2**
PARB Paraibuna 19.34 95 eP **P 12 18 48.4 -0.6**
NPGB Novo Progresso 19.37 36 eP **P 12 18 47.2 -2.1**
PMNB Patos De Minas 19.45 80 eP **P 12 18 49.9 -0.4**
ATAH Atahualpa 19.53 323 P **Pn 12 18 53.8 -1.7**
comp=Z,27nm,0.9s,baz=155,slow=11,SNR=10
ATAH S **S** **12 22 25.9 +5.1**
comp=Z,2.2nm,0.5s,baz=290,slow=22,SNR=1.5
TEFE Tefe 19.64 6 eP **P 12 18 50.5 -1.7**
LL01 San Ignacio de 19.75 193 IAmb IAmb 12 18 56.3
comp=Z,36nm,0.7s
BSCB Bom Sucesso 20.40 88 eP **P 12 18 60.0 -0.4**
LL02 Futaleuf 20.43 191 P **P 12 18 58.7 -1.7**
MACA Manacapuru-AM 20.71 17 P **P 12 19 01.3 -2.3**
MACA Manacapuru-AM 20.71 17 eP **P 12 19 02.3 -1.4**
GO07 Milladeo Hill, 20.73 195 P **P 12 19 01.9 -1.6**
MAN01 Angra dos Reis 20.89 84 eP **P 12 19 04.9 -0.8**
ITTB Itaituba 21.47 31 eP **P 12 19 09.1 -2.4**
AY01 Puyuhuapi 21.77 192 P **P 12 19 12.4 -1.8**
AY01 IAmb IAmb 12 19 15.7
comp=Z,57nm,0.8s
DIAM Diamantina, MG 22.03 82 eP **P 12 19 16.6 -0.6**
DUB01 Friburgo-RJ 22.44 92 eP **P 12 19 20.4 -0.4**
JANB Januaria 22.59 73 eP **P 12 19 21.0 -1.2**
COYC Coyhaique 22.79 190 IAmb IAmb 12 19 26.9
comp=Z,44nm,1.0s
CAM01 Campos-RJ 23.14 92 eP **P 12 19 26.0 -1.1**
SMTB Santa Maria do 23.16 55 eP **P 12 19 26.2 -1.1**
SDBA SAO DESIDERIO 23.28 66 eP **P 12 19 27.0 -1.5**
ALF01 Guarapari-ES 24.19 89 eP **P 12 19 35.5 -1.1**
SJMB Sao Joao De Ma 24.19 84 eP **P 12 19 35.1 -1.6**
MAL2 Monte Alegre, 24.26 32 P **P 12 19 35.6 -1.7**
BSFB Barra de Sao F 24.47 85 eP **P 12 19 38.1 -1.2**

RIB01 Linhares ES 24.77 86 eP **P 12 19 40.7 -1.2**
OTAV Otavalo 25.93 332 P **P 12 19 52.9 0.0**
OTAV Otavalo 25.93 332 P **P 12 19 52.9 0.0**
OTAV pmax pmax
comp=Z,14nm,0.9s
OTAV Otavalo 25.93 332 eP **P 12 19 51.4 -1.5**
GUA01 Guaratinga, BA 26.07 80 eP **P 12 19 52.9 -0.8**
BOAV Boa Vista 26.10 14 P **P 12 19 53.1 -0.7**
BOAV Boa Vista 26.10 14 eP **P 12 19 54.1 +0.2**
FLOC Florencia 26.11 339 P **P 12 19 52.9 -1.1**
FLOC IAmb IAmb 12 19 55.0
comp=Z,40nm,0.8s
ABR01 Abrolhos, BA 26.67 84 eP **P 12 19 57.1 -1.8**
CMC01 Camacan, BA 26.74 78 eP **P 12 19 58.7 -0.9**
ROSC El Rosal 28.82 344 LR LR 12 32 18.5
comp=Z,153nm,18.8s,baz=130,slow=37
RUSC La Rusia 29.55 347 P **P 12 20 24.4 -0.7**
MG02 Cerro Sombrero 29.63 183 P **P 12 20 26.3 +1.5**
NBLA Lagarto - SE 30.07 71 eP **P 12 20 27.3 -1.9**
MPGF Montagnes des 31.26 28 P **P 12 20 39.0 -0.5**
NBPB Pedra_Branca-C 31.44 60 eP **P 12 20 40.9 -0.3**
BAUV El Baul 31.94 357 IAmb IAmb 12 20 49.8
comp=Z,34nm,0.9s
NBAN Anadia - AL 32.00 70 eP **P 12 20 44.7 -1.4**
SDV Santo Domingo 32.09 353 P **P 12 20 44.1 -2.9**
SDV Santo Domingo 32.09 353 LR LR 12 36 01.9
comp=Z,258nm,19.3s,baz=72,slow=40
NBLV Livramento - P 32.61 66 eP **P 12 20 50.3 -1.2**
NBCA Caruaru-PE 32.93 68 eP **P 12 20 53.9 -0.3**
RCBR Riachuelo 34.28 65 P **P 12 21 05.8 -0.1**
RCBR Riachuelo 34.28 65 P **P 12 21 05.8 -0.1**
RCBR pmax pmax
comp=Z,66nm,0.8s
RCBR Riachuelo 34.28 65 eP **P 12 21 04.8 -1.1**
RCBR Riachuelo 34.28 65 P **P 12 21 05.3 -0.6**
HDC Heredia 37.13 331 eP **P 12 21 28.4 -1.6**
JTS Las Juntas de 37.76 330 P **P 12 21 38.0 +2.7**
JTS IAmb IAmb 12 21 38.7
comp=Z,34nm,1.0s
JTS Las Juntas de 37.76 330 P **P 12 21 38.0 +2.7**
JTS pmax pmax
comp=Z,34nm,1.0s
JTS Las Juntas de 37.76 330 P **P 12 21 37.5 +2.2**
ESPN Las Esperanzas 39.16 332 IAmb IAmb 12 21 50.6
comp=Z,58nm,1.2s
BOAB BOACO BROADBAND 40.99 330 IAmb IAmb 12 21 58.8
comp=Z,61nm,1.2s
PMSA Palmer Station 41.63 178 P **P 12 22 07.5 +1.1**
MTO3 Montecristo 43.44 327 IAmb IAmb 12 22 24.0
comp=Z,56nm,1.0s
APG El Apazote 44.51 326 P **P 12 22 31.0 +0.6**
comp=Z,4.2nm,0.9s,baz=162,slow=9.9,SNR=22
comp=Z,4.2nm,0.9s
PETF Flores 45.84 328 IAmb IAmb 12 22 42.4
comp=Z,76nm,1.3s
CCIG Comitan 46.45 325 P **P 12 22 46.0 +0.5**
CCIG IAmb IAmb 12 22 47.1
comp=Z,50nm,1.0s
TEIG Tepich 48.01 332 P **P 12 22 57.2 -0.1**
TEIG IAmb IAmb 12 22 58.0
comp=Z,59nm,0.9s
TEIG Tepich 48.01 332 P **P 12 22 56.8 -0.5**
SOR Soroa 48.37 340 P **P 12 23 00.2 +0.2**
SOR IAmb IAmb 12 23 01.1
comp=Z,37nm,0.9s
SOR Soroa 48.37 340 P **P 12 23 00.2 +0.2**
SOR pmax pmax
comp=Z,37nm,0.9s
CMIG Matias Romero 48.60 323 P **P 12 23 02.2 +0.3**
comp=Z,19nm,0.9s,baz=131,slow=6.3,SNR=23
comp=Z,19nm,0.9s
TLIG Tlapa 51.09 320 P **P 12 23 21.9 +1.1**
TLIG IAmb IAmb 12 23 23.4
comp=Z,34nm,1.1s
BELA Belgrano 2 56.82 172 P **P 12 24 02.8 +1.6**
ZAIG Zacatecas 57.48 320 P **P 12 24 08.1 +1.1**
ZAIG IAmb IAmb 12 24 09.8
comp=Z,32nm,1.0s
VNA3 Neumayer Olymp 57.84 161 P **P 12 24 09.9 +1.4**
VNA3 Neumayer Olymp 57.84 161 ⇑P **P 12 24 09.9 +1.4**
comp=Z,10nm,0.8s
VNA2 Neumayer--Watz 58.40 161 P **P 12 24 14.9 +2.6**
baz=296,slow=8.9
VNA2 Neumayer--Watz 58.40 161 ⇑P **P 12 24 14.9 +2.6**
comp=Z,16nm,0.7s,baz=296,slow=8.9
HBVL Hebbronville 58.74 326 IAmb IAmb 12 24 16.9
comp=Z,25nm,1.1s
HODGE Hodges 58.98 345 IAmb IAmb 12 24 17.7
comp=Z,28nm,1.1s
LRAL Lakeview Retre 59.16 340 IAmb IAmb 12 24 18.2
comp=Z,27nm,1.0s
W57A Gilead 59.36 347 IAmb IAmb 12 24 20.2
comp=Z,37nm,0.9s
PAULI Pauline 59.43 346 IAmb IAmb 12 24 21.0
comp=Z,34nm,0.9s
HKT Hockley 59.79 331 P **P 12 24 20.7 -1.6**
HKT IAmb IAmb 12 24 24.1
comp=Z,30nm,1.1s
HKT Hockley 59.79 331 *i* P **P 12 24 21.9 -0.4**
HKT pmax pmax
comp=Z,13nm,0.9s
HKT Hockley 59.79 331 P **P 12 24 22.5 +0.2**
HKT PcP **PcP** **12 25 07.8 +1.1**
V58A Windy Hill, Pi 59.81 348 IAmb IAmb 12 24 23.2
comp=Z,40nm,1.1s
BG3 Lake Jocassee 59.86 345 IAmb IAmb 12 24 23.8
comp=Z,24nm,0.9s
SNAA Sanae 60.03 161 P **P 12 24 24.8 +1.2**
SNAA Sanae 60.03 161 P **P 12 24 24.6 +1.1**
SNAA Sanae 60.03 161 ⇑P **P 12 24 24.8 +1.2**
comp=Z,113nm,0.5s
SNAA Sanae 60.03 161 P **P 12 24 24.1 +0.6**
comp=Z,8.1nm,0.9s,baz=264,slow=6.1,SNR=18
comp=Z,8.1nm,0.9s
SNAA Sanae 60.03 161 *i* P **P 12 24 23.9 +0.3**
SNAA pmax pmax
comp=Z,23nm,1.8s
V53A Saluda 60.48 345 IAmb IAmb 12 24 27.8
comp=Z,26nm,1.0s
U56A King 60.59 347 IAmb IAmb 12 24 29.2
comp=Z,42nm,1.0s
CPCT Cooper Cave 60.70 343 IAmb IAmb 12 24 29.0
comp=Z,27nm,1.1s
TKL Tuckaleechee C 60.71 344 IAmb IAmb 12 24 28.8
comp=Z,37nm,1.1s
TKL Tuckaleechee C 60.71 344 P **P 12 24 27.8 -0.6**
comp=Z,25nm,1.0s,baz=162,slow=8.0,SNR=17
TKL LR LR 12 53 20.9
comp=Z,137nm,21.6s,baz=340,slow=38
comp=Z,25nm,1.0s
PLAL Pickwick Lake 61.30 340 IAmb IAmb 12 24 32.4
comp=Z,27nm,0.9s
435B Jarrell 61.30 330 IAmb IAmb 12 24 33.8
comp=Z,24nm,0.9s
Z41A Richland Creek 61.40 335 IAmb IAmb 12 24 34.5
comp=Z,19nm,0.8s
BLA Blacksburg 61.44 348 IAmb IAmb 12 24 35.5
comp=Z,39nm,1.1s
V48A Smith Brothers 61.62 341 IAmb IAmb 12 24 35.0
comp=Z,32nm,1.0s
DRIO Del Rio 61.65 326 P **P 12 24 34.1 -0.9**
DRIO IAmb IAmb 12 24 35.9
comp=Z,30nm,1.1s
R58B Mineral 61.71 350 IAmb IAmb 12 24 36.2
comp=Z,21nm,1.1s
TROLL Troll, Antarti 61.75 161 P **P 12 24 36.4 +1.3**
TROLL Troll, Antarti 61.75 161 ⇑P **P 12 24 36.4 +1.3**
comp=Z,299nm,0.5s
JCT Junction City 62.10 328 P **P 12 24 38.1 +0.1**
JCT Junction City 62.10 328 P **P 12 24 38.1 +0.1**
JCT pmax pmax
comp=Z,44nm,0.9s
S54A Dingess, Beckl 62.19 347 P **P 12 24 38.7 +0.3**
WVT Waverly 62.28 341 P **P 12 24 38.1 -0.8**
WVT Waverly 62.28 341 P **P 12 24 38.1 -0.8**
WVT pmax pmax
comp=Z,44nm,0.9s
WVT Waverly 62.28 341 P **P 12 24 37.8 -1.1**
BRDY Brady 62.38 329 P **P 12 24 39.8 0.0**
BRDY IAmb IAmb 12 24 40.7
comp=Z,26nm,0.9s
FW14 Alvarado 62.48 331 IAmb IAmb 12 24 41.5
comp=Z,19nm,0.8s
FW13 Cleburne 62.55 331 P **P 12 24 41.2 +0.4**
FW13 IAmb IAmb 12 24 43.3
comp=Z,22nm,0.8s

UALR University of 62.57 336 P **P 12 24 40.7 -0.1**
UALR IAmb IAmb 12 24 41.5
comp=Z,19nm,1.1s
SLBS Sierra La Lagu 62.74 315 P **P 12 24 44.4 +2.0**
MIAR Mount Ida 62.83 335 P **P 12 24 42.5 -0.1**
MIAR IAmb IAmb 12 24 43.5
comp=Z,26nm,1.0s
MIAR Mount Ida 62.83 335 P **P 12 24 42.5 -0.1**
MIAR pmax pmax
comp=Z,26nm,1.0s
SAND Sanderson 62.85 326 P **P 12 24 43.4 +0.4**
Q56A Snyder Ridge, 62.98 349 IAmb IAmb 12 24 44.7
comp=Z,21nm,1.0s
HICK Hickman 63.09 340 P **P 12 24 43.9 -0.4**
OZNA Ozona 63.12 327 IAmb IAmb 12 24 45.7
comp=Z,25nm,0.8s
FW06 Azle 63.13 331 IAmb IAmb 12 24 45.4
comp=Z,20nm,0.9s
TXAR Lajitas Array 63.19 324 P **P 12 24 45.4 +0.2**
comp=Z,3.6nm,0.7s,baz=150,slow=8.4,SNR=37
comp=Z,3.6nm,0.7s
P57A Homestead Farm 63.22 350 IAmb IAmb 12 24 46.6
comp=Z,24nm,1.1s
Q54A Coxs Mills 63.23 348 IAmb IAmb 12 24 45.9
comp=Z,21nm,1.0s
LPIG La Paz 63.27 315 P **P 12 24 46.7 +1.0**
comp=Z,33nm,0.8s,baz=321,slow=3.7,SNR=3.8
comp=Z,33nm,0.8s
LCAR Lake Charles 63.30 338 IAmb IAmb 12 24 46.0
comp=Z,20nm,1.1s
FCAR Ozark Folk Cen 63.48 337 IAmb IAmb 12 24 47.0
comp=Z,22nm,1.1s
MCWV Mont Chateau 63.70 349 IAmb IAmb 12 24 49.0
comp=Z,23nm,0.8s
WCI Wyandotte Cave 63.79 343 P **P 12 24 47.5 -1.3**
WCI IAmb IAmb 12 24 48.6
comp=Z,26nm,1.0s
WCI Wyandotte Cave 63.79 343 P **P 12 24 47.5 -1.3**
WCI pmax pmax
comp=Z,26nm,1.0s
WCI Wyandotte Cave 63.79 343 P **P 12 24 47.4 -1.5**
P52A Corning 64.12 347 IAmb IAmb 12 24 51.4
comp=Z,33nm,0.9s
P51A Williamsport 64.18 346 IAmb IAmb 12 24 52.1
comp=Z,32nm,1.4s
SSPA Standing Stone 64.33 351 P **P 12 24 52.5 +0.2**
SSPA Standing Stone 64.33 351 P **P 12 24 52.3 0.0**
N58A Sunbury 64.36 352 IAmb IAmb 12 24 53.9
comp=Z,21nm,1.0s
HHAR Hobbs 64.50 336 IAmb IAmb 12 24 54.2
comp=Z,33nm,1.0s
O52A Adamsville 64.52 347 IAmb IAmb 12 24 54.1
comp=Z,22nm,0.8s
O53A New Philadelph 64.53 348 IAmb IAmb 12 24 54.4
comp=Z,17nm,0.8s
P49A Miami Univ. Ec 64.61 345 IAmb IAmb 12 24 54.0
comp=Z,23nm,0.9s
MGMO Mountain Grove 64.67 338 IAmb IAmb 12 24 55.2
comp=Z,28nm,1.0s
W35A Tecumseh 64.69 333 IAmb IAmb 12 24 54.5
comp=Z,15nm,0.8s
BLO Bloomington 64.74 343 IAmb IAmb 12 24 54.3
comp=Z,16nm,0.7s
FVM French Village 64.80 339 IAmb IAmb 12 24 55.7
comp=Z,31nm,0.9s
ODSA Odessa 64.80 327 IAmb IAmb 12 24 56.5
comp=Z,34nm,0.9s
PECS Pecos 64.89 325 IAmb IAmb 12 24 57.9
comp=Z,36nm,1.5s
POST Post 65.05 328 IAmb IAmb 12 24 59.2
comp=Z,22nm,0.9s
CCM Cathedral Cave 65.13 339 P **P 12 24 57.0 -0.5**
CCM Cathedral Cave 65.13 339 P **P 12 24 57.0 -0.5**
CCM pmax pmax
comp=Z,40nm,0.8s
CCM Cathedral Cave 65.13 339 P **P 12 24 56.6 -0.9**
DKNS Dickens 65.26 329 IAmb IAmb 12 24 59.3
comp=Z,18nm,0.8s
N51A Ashland 65.41 347 IAmb IAmb 12 24 59.5
comp=Z,30nm,1.2s
O48B Farmland 65.41 345 IAmb IAmb 12 24 59.2
comp=Z,37nm,1.0s
L56A Greenwood 65.75 351 IAmb IAmb 12 25 02.6
comp=Z,31nm,1.0s
M52A Chesterland 65.80 348 IAmb IAmb 12 25 02.4
comp=Z,20nm,1.0s
TRY Troy 65.88 354 IAmb IAmb 12 25 03.9
comp=Z,38nm,0.9s
SFIN Lafayette 66.02 343 IAmb IAmb 12 25 02.5
comp=Z,19nm,1.0s
N47A Urbana 66.13 344 IAmb IAmb 12 25 03.6
comp=Z,42nm,1.1s
WVNY West Valley, N 66.17 350 P **P 12 25 04.6 +0.5**
WVNY IAmb IAmb 12 25 05.4
comp=Z,34nm,0.8s
K57A Scipio Center 66.19 352 IAmb IAmb 12 25 05.2
comp=Z,37nm,1.0s
KAN13 South Haven SW 66.53 333 IAmb IAmb 12 25 07.7
comp=Z,42nm,1.0s
ELIS Ellis County 66.56 331 IAmb IAmb 12 25 08.1
comp=Z,28nm,0.9s
AMTX Amarillo 66.61 329 IAmb IAmb 12 25 08.1
comp=Z,39nm,1.2s
EPT El Paso 66.61 324 IAmb IAmb 12 25 08.6
comp=Z,32nm,1.2s
KAN17 Caldwell West 66.68 333 IAmb IAmb 12 25 08.6
comp=Z,36nm,0.9s
HNH Hanover 66.74 356 IAmb IAmb 12 25 10.2
comp=Z,31nm,1.1s
J57A Williamstown 66.80 353 IAmb IAmb 12 25 09.1
comp=Z,39nm,1.0s
HDIL Hopedale 66.80 341 IAmb IAmb 12 25 07.7
comp=Z,18nm,0.8s
QSPA South Pole Qui 67.04 180 P **P 12 25 11.1 +1.6**
QSPA IAmb IAmb 12 25 12.3
comp=Z,26nm,0.8s
QSPA South Pole Qui 67.04 180 P **P 12 25 11.2 +1.6**
comp=Z,17nm,0.5s,baz=330,slow=0.9,SNR=359
QSPA S **S** **12 33 48.3 +2.6**
comp=Z,2.4nm,1.0s,baz=5.7,slow=18,SNR=9.3
comp=Z,17nm,0.5s
HSIG 67.16 318 IAmb IAmb 12 25 13.0
comp=Z,38nm,1.1s
K50A Casco 67.24 347 IAmb IAmb 12 25 10.9
comp=Z,41nm,1.0s
DBIC Dimbokro 67.25 72 P **P 12 25 11.4 -0.1**
comp=Z,13nm,0.5s,baz=225,slow=6.6,SNR=24
DBIC S **S** **12 33 45.2 -4.3**
comp=Z,4.1nm,0.7s,baz=39,slow=17,SNR=3.2
comp=Z,13nm,0.5s
DBIC Dimbokro 67.25 72 P **P 12 25 10.5 -1.0**
N41A Harden Midland 67.41 340 IAmb IAmb 12 25 11.9
comp=Z,38nm,0.9s
PECO Prince Edward 67.44 352 IAmb IAmb 12 25 13.1
comp=Z,38nm,0.9s
LONY Lake Ozonia 67.84 354 IAmb IAmb 12 25 15.9
comp=Z,25nm,1.1s
319A Douglas 67.88 321 IAmb IAmb 12 25 17.6
comp=Z,33nm,0.9s
121A Cookes Peak, D 67.90 323 IAmb IAmb 12 25 18.2
comp=Z,46nm,1.0s
FRNY Flat Rock 67.96 355 P **P 12 25 16.0 +0.7**
KSU1 Kansas State U 67.99 335 IAmb IAmb 12 25 16.2
comp=Z,38nm,1.0s
G62A West of Eustis 68.14 357 IAmb IAmb 12 25 19.4
comp=Z,54nm,1.4s
ELIB Princess Elisa 68.19 160 *d*P **P 12 25 17.9 +1.3**
comp=Z,9.4nm,0.6s
L42A Oliver, Polo 68.25 342 IAmb IAmb 12 25 17.2
comp=Z,22nm,1.0s
N38A Joes South For 68.26 339 IAmb IAmb 12 25 17.4
comp=Z,23nm,0.8s
WBO Williamsburg 68.29 353 IAmb IAmb 12 25 18.5
comp=Z,24nm,0.9s
RTBA Rita Blanca 68.38 329 IAmb IAmb 12 25 21.1
comp=Z,20nm,0.9s
I49A Point Hope 68.40 348 IAmb IAmb 12 25 18.1
comp=Z,32nm,0.9s
MNTQ Montreal, Queb 68.63 355 IAmb IAmb 12 25 20.6
comp=Z,26nm,1.0s
L40A Anamosa 68.76 341 IAmb IAmb 12 25 20.6
comp=Z,46nm,1.0s
ANMO Albuquerque 69.03 326 P **P 12 25 23.8 +1.4**
ANMO IAmb IAmb 12 25 24.7
comp=Z,28nm,0.9s
ANMO Albuquerque 69.03 326 P **P 12 25 22.9 +0.5**
comp=Z,18nm,0.9s,baz=307,slow=7.7,SNR=62
comp=Z,18nm,0.9s

ANMO	Albuquerque	69.03 326	*i* P	P	12 25 23.1	+0.8
ANMO			pmax	pmax		
	comp=Z,17nm,1.0s					
ANMO	Albuquerque	69.03 326	P	P	12 25 23.2	+0.8
N35A	Tabor	69.16 337	IAmb	IAmb	12 25 23.2	
	comp=Z,29nm,0.9s					
JFWS	Jewell Farm	69.25 342	IAmb	IAmb	12 25 23.8	
	comp=Z,29nm,0.9s					
SCIA	State Center	69.25 339	IAmb	IAmb	12 25 23.9	
	comp=Z,38nm,1.0s					
TUC	Tucson	69.43 321	P	P	12 25 25.8	+1.0
T25A	Trinidad	69.73 329	IAmb	IAmb	12 25 28.9	
	comp=Z,27nm,1.1s					
L34A	Svendsen Farm,	70.40 337	IAmb	IAmb	12 25 30.8	
	comp=Z,34nm,0.8s					
KSCO	Kaye Shedlock'	70.42 331	IAmb	IAmb	12 25 32.7	
	comp=Z,47nm,1.1s					
PIX	Pinacate	70.48 319	IAmb	IAmb	12 25 33.4	
	comp=Z,29nm,1.1s					
SDCO	Great Sand Dun	70.74 328	IAmb	IAmb	12 25 35.2	
	comp=Z,38nm,1.1s					
SFX	San Felipe	70.97 317	IAmb	IAmb	12 25 36.5	
	comp=Z,35nm,1.0s					
E46A	Sault Ste Mari	71.03 347	IAmb	IAmb	12 25 34.4	
	comp=Z,29nm,0.9s					
I37A	Lemond, Waseca	71.21 340	IAmb	IAmb	12 25 35.8	
	comp=Z,29nm,0.9s					
X16A	Lo Mia Camp, P	71.34 322	IAmb	IAmb	12 25 39.2	
	comp=Z,28nm,1.1s					
Q24A	Divide	71.54 329	IAmb	IAmb	12 25 39.9	
	comp=Z,39nm,0.9s					
VTX	Valle De La Tr	71.80 317	IAmb	IAmb	12 25 41.9	
	comp=Z,34nm,1.1s					
MVCO	Mesa Verde	71.83 326	IAmb	IAmb	12 25 41.7	
	comp=Z,52nm,1.1s					
ECSD	EROS Data Cent	72.03 338	IAmb	IAmb	12 25 40.9	
	comp=Z,31nm,1.1s					
WUAZ	Wupatki	72.10 323	IAmb	IAmb	12 25 43.8	
	comp=Z,39nm,0.9s					
BLYC	Blythe	72.65 320	P	P	12 25 45.4	+1.5
BLYC			IAmb	IAmb	12 25 46.8	
	comp=Z,31nm,1.1s					
PV13	Radium Mtn., P	72.71 326	IAmb	IAmb	12 25 46.9	
	comp=Z,31nm,1.1s					
YUH	Yuha Desert	72.74 318	P	P	12 25 45.4	+0.9
PV07	Paradox Valley	72.84 327	IAmb	IAmb	12 25 47.8	
	comp=Z,27nm,1.1s					
PV11	David Mesa, Pa	72.85 326	IAmb	IAmb	12 25 47.7	
	comp=Z,39nm,1.4s					
CBX	Cerro Bola	72.97 317	IAmb	IAmb	12 25 48.9	
	comp=Z,36nm,1.0s					
PV10	Paradox Valley	72.99 326	IAmb	IAmb	12 25 48.1	
	comp=Z,39nm,1.0s					
PV23	Carpenter Ridg	73.03 326	IAmb	IAmb	12 25 48.8	
	comp=Z,32nm,1.0s					
TKX	Tecate	73.11 318	IAmb	IAmb	12 25 49.3	
	comp=Z,29nm,1.0s					
U15A	North Rim	73.27 323	IAmb	IAmb	12 25 51.0	
	comp=Z,35nm,1.0s					
N23A	Red Feather La	73.44 330	IAmb	IAmb	12 25 51.1	
	comp=Z,26nm,0.9s					
SUSD	Miller	73.48 336	IAmb	IAmb	12 25 49.3	
	comp=Z,38nm,0.9s					
PFO	Pinyon Flats O	73.72 318	P	P	12 25 51.3	+0.9
PFO	Pinyon Flats O	73.72 318	P	P	12 25 51.1	+0.7
	comp=Z,13nm,1.0s,baz=111,slow=4.9,SNR=12					
	comp=Z,13nm,1.0s					
PFO	Pinyon Flats O	73.72 318	*i* P	P	12 25 49.6	-0.8
PFO			pmax	pmax		
	comp=Z,34nm,1.1s					
O20A	White River Ci	73.94 328	IAmb	IAmb	12 25 54.0	
	comp=Z,43nm,0.9s					
SYO	Syowa Base	74.21 159‖	*e*P	P	12 25 54.0	+1.5
V12A	Nelson	74.22 321	IAmb	IAmb	12 25 55.8	
	comp=Z,24nm,1.0s					
SRU	San Rafael Swe	74.31 326	IAmb	IAmb	12 25 56.0	
	comp=Z,41nm,1.0s					
ELS	Elsinore Mount	74.34 318	IAmb	IAmb	12 25 56.6	
	comp=Z,29nm,1.0s					
Q16A	Castle Valley	74.50 325	IAmb	IAmb	12 25 57.6	
	comp=Z,40nm,1.3s					
P18A	Preston Nutter	74.55 326	IAmb	IAmb	12 25 57.9	
	comp=Z,35nm,0.9s					
GSC	Goldstone, Bar	75.08 319	IAmb	IAmb	12 26 01.1	
	comp=Z,36nm,1.3s					
K22A	Casper	75.10 331	IAmb	IAmb	12 26 00.5	
	comp=Z,34nm,1.1s					
RSSD	Black Hills	75.20 333	P	P	12 25 59.5	+0.7
RSSD			IAmb	IAmb	12 26 00.6	
	comp=Z,21nm,0.9s					
RSSD	Black Hills	75.20 333	P	P	12 25 59.5	+0.7
RSSD			pmax	pmax		
	comp=Z,21nm,0.9s					
BSUT	Blindstream Ca	75.49 327	IAmb	IAmb	12 26 03.4	
	comp=Z,33nm,0.8s					
PRN	Pahroc Range	75.52 322	IAmb	IAmb	12 26 03.8	
	comp=Z,29nm,1.1s					
MPU	Maple Canyon	75.55 326	IAmb	IAmb	12 26 03.4	
	comp=Z,29nm,1.0s					
GWY	Greenwater Val	75.61 320	IAmb	IAmb	12 26 03.6	
	comp=Z,32nm,1.0s					
PSUT	Pine Spring	75.65 324	IAmb	IAmb	12 26 04.2	
	comp=Z,20nm,0.9s					
CCAC	Calif City Air	75.71 319	IAmb	IAmb	12 26 04.3	
	comp=Z,48nm,1.1s					
TPNV	Topopah Spring	75.89 321	IAmb	IAmb	12 26 05.9	
	comp=Z,39nm,1.1s					
JLU	Jordanelle	75.89 326	IAmb	IAmb	12 26 05.4	
	comp=Z,38nm,1.1s					
TORD	Torodi Ar. Bea	75.98 69	P	P	12 26 02.8	-0.7
TORD	Torodi Ar. Bea	75.98 69	P	P	12 26 02.3	-1.3
	comp=Z,15nm,0.3s,baz=254,slow=5.6,SNR=1.4					
TORD			S	S	12 35 24.9	-4.4
	comp=Z,25nm,0.3s,baz=232,slow=12,SNR=1.4					
	comp=Z,15nm,0.3s					
WCT	Wildcat Mounta	76.00 321	IAmb	IAmb	12 26 06.5	
	comp=Z,34nm,1.1s					
S11A	Rachel	76.08 322	IAmb	IAmb	12 26 17.6	
	comp=Z,46nm,1.4s					
SPR3	Spring Creek 3	76.24 324	IAmb	IAmb	12 26 07.4	
	comp=Z,28nm,1.2s					
DUG	Dugway, Tooele	76.30 325	IAmb	IAmb	12 26 07.7	
	comp=Z,30nm,1.1s					
BCW	Bitter Crk WRg	76.43 318	IAmb	IAmb	12 26 08.6	
	comp=Z,47nm,1.3s					
PDAR	Pinedale Array	76.59 329	P	P	12 26 07.2	+0.5
	comp=Z,5.9nm,0.7s,baz=139,slow=7.6,SNR=42					
	comp=Z,5.9nm,0.7s					
HWUT	Hardware Ranch	76.70 327	IAmb	IAmb	12 26 08.7	
	comp=Z,20nm,0.9s					
SPUT	South Promonto	76.92 326	IAmb	IAmb	12 26 10.8	
	comp=Z,33nm,1.0s					
BGU	Big Grassy Mou	76.94 326	IAmb	IAmb	12 26 10.9	
	comp=Z,31nm,1.2s					
HVU	Hansel Valley	77.43 326	IAmb	IAmb	12 26 13.4	
	comp=Z,31nm,1.0s					
ULM	Lac du Bonnet	77.54 341	IAmb	IAmb	12 26 12.2	
	comp=Z,36nm,1.5s					
ULM	Lac du Bonnet	77.54 341	P	P	12 26 11.0	-0.4
	comp=Z,5.3nm,0.7s,baz=152,slow=5.5,SNR=12					
	comp=Z,5.3nm,0.7s					
TSUM	Tsumeb	77.58 106	P	P	12 26 12.7	0.0
SCHQ	Schefferville	77.68 360	P	P	12 26 11.9	-0.2
	comp=Z,10.0nm,0.8s,baz=183,slow=2.8,SNR=18					
	comp=Z,10.0nm,0.8s					
SNOW	Snow King Moun	77.69 329	IAmb	IAmb	12 26 15.2	
	comp=Z,26nm,0.8s					
LOHW	Long Hollow	77.73 329	IAmb	IAmb	12 26 14.8	
	comp=Z,19nm,0.8s					
TPAW	Teton Pass	77.81 329	IAmb	IAmb	12 26 14.8	
	comp=Z,29nm,1.0s					
ELK	Elko	77.98 324	P	P	12 26 15.6	+1.2
ELK	Elko	77.98 324	P	P	12 26 15.2	+0.7
	comp=Z,14nm,1.0s,baz=126,slow=2.4,SNR=38					
	comp=Z,14nm,1.0s					
ELK	Elko	77.98 324	P	P	12 26 15.6	+1.2
ELK			pmax	pmax		
	comp=Z,20nm,1.0s					
LHV	Little Huntoon	78.08 321	IAmb	IAmb	12 26 17.8	
	comp=Z,39nm,1.5s					
NVAR	Mina Array Bea	78.08 321	P	P	12 26 15.9	+0.9
	comp=Z,8.8nm,0.9s,baz=153,slow=6.0,SNR=35					
	comp=Z,8.8nm,0.9s					
FLWY	Flagg Ranch	78.13 329	IAmb	IAmb	12 26 17.9	
	comp=Z,48nm,1.1s					
YMP	Mirror Lake Pl	78.38 330	IAmb	IAmb	12 26 27.4	
	comp=Z,20nm,0.9s					
YMR	Madison River	78.70 329	IAmb	IAmb	12 26 21.3	
	comp=Z,43nm,1.0s					
WAKR	Walker	78.80 320	IAmb	IAmb	12 26 22.0	
	comp=Z,26nm,1.2s					
YHB	Horse Butte	78.87 329	IAmb	IAmb	12 26 21.9	
	comp=Z,31nm,0.9s					
YHL	Hebgen Lake	78.94 329	IAmb	IAmb	12 26 22.0	
	comp=Z,18nm,0.7s					
DLMT	Dillon	79.99 329	IAmb	IAmb	12 26 27.6	
	comp=Z,39nm,1.1s					
MFID	Camas Ranch	80.17 326	IAmb	IAmb	12 26 28.8	
	comp=Z,27nm,1.1s					
EGMT	Eagleton	80.72 332	IAmb	IAmb	12 26 30.3	
	comp=Z,40nm,0.9s					
BOSA	Boshof	80.84 117	P	P	12 26 30.4	+0.2
BOSA	Boshof	80.84 117	P	P	12 26 29.6	-0.5
	comp=Z,9.4nm,0.9s,baz=277,slow=3.9,SNR=12					
	comp=Z,9.4nm,0.9s					
BOSA	Boshof	80.84 117	P	P	12 26 30.4	+0.2
BOSA			pmax	pmax		
	comp=Z,13nm,1.2s					
MORF	Marmelete	81.22 43	*e*P	P	12 26 32.1	+0.4
MORF			IAmb	IAmb	12 26 33.4	
	comp=Z,11nm,0.8s					
MORF	Marmelete	81.22 43	*e*P	P	12 26 32.7	+1.0
PLID	Pearl Lake	81.45 327	P	P	12 26 34.0	+1.1
HATC	Hat Creek Radi	81.49 321	IAmb	IAmb	12 26 35.1	
	comp=Z,42nm,1.0s					
PBDV	Barranco-do-Ve	81.63 44	*e*P	P	12 26 35.2	+1.3
PCVE	Castro Verde	81.80 43	*e*P	P	12 26 36.0	+1.3
MESJ	Messejana	81.81 43	*e*P	P	12 26 35.2	+0.5
MESJ			IAmb	IAmb	12 26 36.9	
	comp=Z,17nm,0.9s					
MESJ	Messejana	81.81 43	*e*P	P	12 26 35.8	+1.1
MESJ	Messejana	81.81 43	*e*P	P	12 26 35.2	+0.5
PVAQ	Vaqueiros	81.87 44	*e*P	P	12 26 36.2	+1.1
BMO	Blue Mountains	81.94 326	IAmb	IAmb	12 26 38.3	
	comp=Z,23nm,1.0s					
PBEJ	Beja	82.15 43	*e*P	P	12 26 38.0	+1.5
EVO	Evora	82.36 43	*e*P	P	12 26 38.5	+0.9
KMRM	Mail Ridge	82.43 320	IAmb	IAmb	12 26 40.7	
	comp=Z,38nm,1.2s					
PMTG	Montargil	82.56 42	*e*P	P	12 26 39.5	+0.9
F10A	Beach Ranch, E	82.68 327	IAmb	IAmb	12 26 42.0	
	comp=Z,27nm,0.8s					
PBAR	Barrancos	82.76 43	*e*P	P	12 26 40.6	+1.0
KMPM	Mount Pierce	82.80 320	IAmb	IAmb	12 26 42.5	
	comp=Z,30nm,1.1s					
K04D	Chiloquin, OR	82.83 322	IAmb	IAmb	12 26 42.1	
	comp=Z,37nm,0.8s					
PESTR	Estremoz	82.83 42	*e*P	P	12 26 40.9	+0.9
J05D	Fort Rock, OR	82.97 323	IAmb	IAmb	12 26 43.0	
	comp=Z,25nm,0.9s					
PCAS	Casmilo, Conde	83.00 41	*e*P	P	12 26 42.0	+1.2
PINE	Pine Mountain	83.14 324	IAmb	IAmb	12 26 44.3	
	comp=Z,35nm,0.9s					
FFC	Flin Flon	83.28 340	P	P	12 26 42.1	+0.2
FFC	Flin Flon	83.28 340	P	P	12 26 42.1	+0.2
FFC			pmax	pmax		
	comp=Z,11nm,1.3s					
J04A	Umpqua Nationa	83.43 323	IAmb	IAmb	12 26 45.1	
	comp=Z,36nm,0.9s					
PCBR	Castelo Branco	83.49 42	*e*P	P	12 26 43.8	+0.5
I05D	Terrebonne, OR	83.72 324	IAmb	IAmb	12 26 46.4	
	comp=Z,20nm,0.9s					
TAM	Tamanrasset	83.73 62	P	P	12 26 45.6	+0.4
TAM	Tamanrasset	83.73 62	P	P	12 26 45.6	+0.4
TAM			pmax	pmax		
	comp=Z,34nm,0.4s					
MTE	Manteigas	83.79 41	*e*P	P	12 26 45.7	+0.7
G06A	Carlson Farm,	83.93 325	IAmb	IAmb	12 26 47.4	
	comp=Z,36nm,1.4s					
DBO	Dodson Butte	83.99 322	IAmb	IAmb	12 26 48.0	
	comp=Z,33nm,1.1s					
F07A	Phinny Hill Vi	84.00 326	IAmb	IAmb	12 26 48.5	
	comp=Z,35nm,1.3s					
HAWA	Hanford	84.14 326	IAmb	IAmb	12 26 48.6	
	comp=Z,40nm,1.1s					
NEW	Newport	84.23 329	P	P	12 26 46.7	-0.3
	comp=Z,6.1nm,0.7s,baz=179,slow=3.7,SNR=8.2					
	comp=Z,6.1nm,0.7s					
D08A	Wollman Farm,	84.28 327	IAmb	IAmb	12 26 49.2	
	comp=Z,33nm,1.1s					
PGAV	Gavieira, Arco	84.31 40	*e*P	P	12 26 48.0	+0.5
HOOD	Mount Hood Mea	84.53 325	IAmb	IAmb	12 26 53.9	
	comp=Z,25nm,1.0s					
MVO	Moncorvo	84.56 41	*e*P	P	12 26 49.8	+1.0
PAB	San Pablo	85.26 43	P	P	12 26 53.1	+0.7
PAB	San Pablo	85.26 43	P	P	12 26 53.1	+0.7
PAB			pmax	pmax		
	comp=Z,8.0nm,0.8s					
LTY	Liberty	85.29 326	P	P	12 26 53.0	+0.7
LTY			IAmb	IAmb	12 26 53.9	
	comp=Z,27nm,1.1s					
LON	Longmire	85.55 326	P	P	12 26 54.1	+0.5
LON	Longmire	85.55 326	P	P	12 26 54.1	+0.5
LON			pmax	pmax		
	comp=Z,12nm,1.1s					
ESDC	Sonseca Array	85.58 43	P	P	12 26 54.9	+1.0
ESDC	Sonseca Array	85.58 43	P	P	12 26 54.6	+0.7
	comp=Z,2.9nm,0.8s,baz=246,slow=5.0,SNR=20					
	comp=Z,2.9nm,0.8s					
D05A	Enumclaw	85.92 326	IAmb	IAmb	12 26 56.8	
	comp=Z,36nm,1.0s					
LLLB	Lilloet	88.11 328	IAmb	IAmb	12 27 06.9	
	comp=Z,34nm,1.1s					
YKA	Yellowknife Ar	93.45 340	P	P	12 27 30.4	+0.2
YKA	Yellowknife Ar	93.45 340	P	P	12 27 30.3	+0.1
	comp=Z,3.5nm,0.7s,baz=137,slow=4.6,SNR=65					
	comp=Z,3.5nm,0.7s					
YKA	Yellowknife Ar	93.45 340	P	P	12 27 30.4	+0.2
DLBC	Dease Lake	96.64 332	P	P	12 27 44.5	-0.4
	comp=Z,4.9nm,0.8s,baz=321,slow=1.5,SNR=6.4					
	comp=Z,4.9nm,0.8s					
KMBO	Kilima Mbogo	102.34 97	*i* P	Pdif	12 28 12.7	+1.0
ILAR	Eielson Array	106.64 334	PKiKP	PKiKP	12 32 39.5	+0.8
	comp=Z,0.4nm,0.9s,baz=90,slow=3.6,SNR=4.7					
ILAR			PP	PP	12 32 57.9	+0.4
	comp=Z,0.7nm,0.9s,baz=100,slow=7.2,SNR=5.8					
FINES	FINESS Array B	111.36 31	PKKPbc	PKKPbc	12 43 43.5	-1.9
	comp=Z,1.8nm,0.9s,baz=106,slow=3.5,SNR=6.5					
ARCES	ARCESS Array B	112.23 22	PKKPbc	PKKPbc	12 43 40.4	-2.4
	comp=Z,1.0nm,0.5s,baz=86,slow=3.8,SNR=10					
OBN	Obninsk	116.18 39	*e*PKiKP	PKPdf	12 32 55.9	-1.0
OBN			*e*		12 33 50.5	
OBN			*e*		12 34 06.5	
OBN			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KBZ	Khabaz	119.52 52	PKP	PKiKP	12 33 03.8	0.0
	comp=Z,2.1nm,0.9s,baz=165,slow=3.9,SNR=4.6					
KBZ	Khabaz	119.52 52	*e*PKiKP	PKiKP	12 33 05.4	+1.6
KBZ			pmax	pmax		
	comp=Z,2.0nm,0.9s					
ARTI	Arti	128.24 35	*i* PKIKP	PKiKP	12 33 20.6	-0.1
ARTI					12 35 28.5	
ARTI					12 40 11.9	
ASAR	Alice Springs	129.34 205		PKPdf	12 33 23.2	-0.1
ASAR	Alice Springs	129.34 205	PKhKP	PKPpre	12 33 12.3	
	comp=Z,0.2nm,0.5s,baz=136,slow=1.3,SNR=5.3					
ASAR			PKP	PKPdf	12 33 23.4	+0.1
	comp=Z,5.8nm,0.9s,baz=158,slow=2.4,SNR=39					
ASAR			SKPbc	SKPbc	12 36 24.9	+0.3
	comp=Z,1.8nm,0.8s,baz=141,slow=4.2,SNR=10					
AS31	Alice Springs	129.34 205	PKPdf	PKPdf	12 33 23.6	+0.3
TIXI	Tiksi	130.68 354		PKPdf	12 33 24.2	0.0
TIXI	Tiksi	130.68 354	PKIKP	PKPdf	12 33 24.2	0.0
ABKAR	Akbulak array	130.92 44	PKPdf	PKiKP	12 33 26.6	+0.3
NRIK	Norilsk	131.28 12	PKP	PKPdf	12 33 25.4	-0.1
	comp=Z,0.7nm,0.3s,baz=134,slow=4.5,SNR=1.4					
SEY	Seymchan	132.44 337	*e*PKIKP	PKPdf	12 33 27.5	-0.3
SEY			pmax	pmax		
	comp=Z,11nm,1.3s					
WRA	Warramunga Arr	132.51 207		PKiKP	12 33 30.1	-0.4
WRA	Warramunga Arr	132.51 207	PKhKP	PKPpre	12 33 13.3	
	comp=Z,0.4nm,0.5s,baz=133,slow=2.1,SNR=9.1					
WRA			PKP	PKPdf	12 33 29.7	+0.3
	comp=Z,1.9nm,0.5s,baz=154,slow=1.9,SNR=6.4					
WRA			SKPbc	SKPbc	12 36 36.3	-0.1
	comp=Z,4.2nm,0.9s,baz=152,slow=3.3,SNR=15					
WRA	Warramunga Arr	132.51 207	PKIKP	PKiKP	12 33 30.1	-0.4
WRAB	Tennant Creek	132.51 207		PKiKP	12 33 30.1	-0.4
WRAB	Tennant Creek	132.51 207	PKIKP	PKiKP	12 33 30.1	-0.4
PMG	Port Moresby	133.70 229	SKPbc	SKPab	12 36 42.1	-1.1
	comp=Z,16nm,0.9s,baz=78,slow=3.6,SNR=5.6					
PETK	Petropavlovsk-	135.13 323	PKP	PKPdf	12 33 34.0	+0.8
	comp=Z,2.8nm,0.9s,baz=61,slow=3.3,SNR=7.0					
PETK			SKPbc	SKPbc	12 36 44.0	0.0
	comp=Z,5.0nm,0.8s,baz=90,slow=1.8,SNR=5.2					
PETK	Petropavlovsk-	135.13 323	PKIKP	PKPdf	12 33 34.0	+0.8
BVAR	Borovoye Array	135.94 36	PKP	PKPdf	12 33 35.2	+0.5
	comp=Z,2.1nm,0.8s,baz=288,slow=1.4,SNR=8.5					
BVAR			SKPbc	SKPbc	12 36 45.8	-0.6
	comp=Z,1.0nm,0.7s,baz=316,slow=4.1,SNR=4.5					
FITZ	Fitzroy Crossi	137.26 197	PKP	PKPdf	12 33 38.8	+0.6
	comp=Z,3.2nm,0.9s,baz=267,slow=1.9,SNR=5.9					
FITZ			SKPbc	SKPbc	12 36 52.1	+0.6
	comp=Z,5.4nm,0.9s,baz=186,slow=6.3,SNR=4.7					
KURK	Kurchatov	141.52 36	PKIKP	PKPdf	12 33 46.4	+1.4
KURBB	Kurchatov Arra	141.52 36	PKhKP	PKPpre	12 33 40.8	
	comp=Z,0.6nm,0.5s,baz=301,slow=3.0,SNR=8.3					
KURBB			PKP	PKPdf	12 33 46.4	+1.5
	comp=Z,2.3nm,0.8s,baz=300,slow=2.7,SNR=16					
KURBB			SKPbc	SKiKP	12 37 03.1	-0.7
	comp=Z,1.4nm,0.8s,baz=298,slow=3.3,SNR=5.8					
ZAA0	Zalesovo Array	142.51 28		PKPpre	12 33 43.4	
ZALV	Zalesovo Beam	142.51 28		PKPpre	12 33 43.0	
ZALV	Zalesovo Beam	142.51 28	PKhKP	PKPpre	12 33 42.7	
	comp=Z,2.7nm,0.5s,baz=302,slow=3.6,SNR=18					
ZALV			PKP	PKPdf	12 33 48.0	+1.3
	comp=Z,3.6nm,0.4s,baz=292,slow=2.0,SNR=14					
ZALV			SKPbc	SKiKP	12 37 05.5	-0.3
	comp=Z,1.3nm,0.5s,baz=300,slow=3.3,SNR=5.6					
KSH	Kashi	144.46 54	PKP	PKPdf	12 33 52.1	+1.4
KSH	Kashi	144.46 54	PP	PP	12 37 10.6	+1.6
BOD	Bodaibo	145.38 359	*e*PKIKP	PKPdf	12 33 51.0	-0.5
BOD			pmax	pmax		
	comp=Z,74nm,1.0s					
MK31	Makanchi Array	145.69 39	PKPdf	PKPbc	12 33 53.4	+0.2
MK31	Makanchi Array	145.69 39	PKP2	PKPbc	12 33 53.4	+0.2
MKAR	Makanchi Array	145.69 39	PKPbc	PKPbc	12 33 53.1	-0.1
	comp=Z,12nm,0.7s,baz=318,slow=2.6,SNR=106					
MKAR			SKPbc	SKiKP	12 37 12.7	+0.2
	comp=Z,3.0nm,0.9s,baz=304,slow=2.4,SNR=8.0					
YSS	Yuzhno-Sakhali	146.52 322	PKPdf	PKPdf	12 33 53.6	-0.1
YSS	Yuzhno-Sakhali	146.52 322	*e*PKP2	PKPbc	12 33 55.7	+0.1
YSS			pmax	pmax		
	comp=Z,20nm,1.0s					
GRNR	Gornyy	147.12 333⇑	*i*PKIKP	PKPbc	12 33 56.0	-1.2
GRNR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
ZEA	Zeya	147.71 344	*e*PKP2	PKPbc	12 33 58.9	+0.3
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.0s					
JKA	Kamikawa-asahi	148.17 318		PKPbc	12 34 00.7	+0.6
ASAJ	Asahikawa	148.17 318	PKP2	PKPbc	12 34 00.7	+0.5
MOY	Mondy	149.99 15	*e*PKP2	PKiKP	12 34 05.8	+0.4
MOY			pmax	pmax		
	comp=Z,32nm,1.6s					
KLR	Kul'dur	150.20 335	*e*PKIKP	PKPdf	12 33 58.6	-1.1
KLR			pmax	pmax		
	comp=Z,19nm,1.5s					
WMQ	Urumqi	150.51 40	*e*PKPbc	PKPdf	12 33 58.8	-1.7
WMQ			PKPab	PKPab	12 34 14.6	+1.2
HEH	HeiHe	150.81 341	*e*P	PKPbc	12 34 05.9	-0.5
HEH			pmax	pmax		
	comp=Z,15nm,0.9s					
KAPI	Kappang	151.30 193	PKPbc	PKiKP	12 34 09.8	+0.7
	comp=Z,14nm,0.8s,baz=166,slow=3.6,SNR=8.6					
ZAK	Zakamensk	151.72 14	*e*PKIKP	PKPdf	12 34 02.6	+0.4
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.4s					
USRK	Ussuriysk Ar.	154.02 328	PKP	PKPdf	12 34 05.7	+0.1
	comp=Z,0.6nm,0.6s,baz=71,slow=6.6,SNR=4.0					
USRK			PKPbc	PKiKP	12 34 14.1	+0.3
	comp=Z,2.9nm,0.8s,baz=260,slow=5.2,SNR=5.1					
USRK			PKPab	PKPab	12 34 27.8	-0.2
	comp=Z,2.1nm,0.7s,baz=44,slow=4.4,SNR=4.3					
MJAR	Matsushiro Arr	154.73 307	PKP	PKPdf	12 34 07.8	+1.0
	comp=Z,1.4nm,1.0s,baz=20,slow=0.7,SNR=3.1					
MJAR			PKPbc	PKiKP	12 34 15.8	+0.3
	comp=Z,3.4nm,0.9s,baz=130,slow=0.5,SNR=5.9					
MJAR			PKPab	PKPab	12 34 31.8	+0.4
	comp=Z,6.4nm,0.9s,baz=73,slow=2.7,SNR=8.3					
SONM	Songino Array	154.76 11	PKP	PKPdf	12 34 07.5	+0.8
	comp=Z,2.6nm,0.9s,baz=286,slow=0.8,SNR=14					
SONM			PKPbc	PKiKP	12 34 15.9	+0.5
	comp=Z,3.4nm,0.9s,baz=333,slow=1.7,SNR=11					
SONM			PKPab	PKPab	12 34 31.8	+0.5
	comp=Z,3.2nm,0.8s,baz=326,slow=4.1,SNR=10					
MDJ	Mudanjiang	154.80 332	P	PKPdf	12 34 05.4	-1.2
MDJ			pmax	pmax		
	comp=Z,6.0nm,1.2s					
XLT	XiLinHaoTe	159.19 354	*e*P	PKPdf	12 34 13.1	+0.8
XLT			pmax	pmax		
	comp=Z,6.0nm,1.1s					
GTA	Gaotai	160.14 32	*e*P	PKPdf	12 34 14.1	+0.5
GTA			pP	PKPab	12 34 23.3	-32
GTA			pmax	pmax		
	comp=Z,4.0nm,1.1s					
KSRS	Korea Array	161.03 322	PKP	PKPdf	12 34 14.7	+0.3
	comp=Z,2.8nm,1.0s,baz=61,slow=1.7,SNR=9.3					
KSRS			PKPab	PKPab	12 34 57.7	-0.8
	comp=Z,4.5nm,1.0s,baz=51,slow=3.9,SNR=10					
HHC	Hu-ho-hao-te	162.30 4	*e*P	PKPdf	12 34 12.8	-3.0
LZH	Lanzhou	164.72 30	*e*PKP	PKPdf	12 34 20.3	+2.0
LZH			sPKP		12 35 37.8	
CMAR	Chiang Mai Arr	165.75 107	PKP	PKPdf	12 34 19.9	+0.5
	comp=Z,1.4nm,0.9s,baz=273,slow=2.2,SNR=12					
CMAR			PKPab	PKPab	12 35 18.9	-1.0
	comp=Z,3.4nm,0.8s,baz=254,slow=5.4,SNR=21					
HNS	HongShan	165.

BHW				S	Sn	12 23 22.0	-2.0
CAW	**Cannon Point**	**1.67**	**95**	P	Pn	**12 22 58.8**	**+1.0**
OGWZ	**Otaki Gorge**	**1.76**	**85**	P	Pn	**12 22 59.8**	**+1.2**
OGWZ				S	Sn	**12 23 25.7**	**-1.4**
LTZ	**Lake Taylor**	**1.84**	**194**	P	Pn	**12 23 00.8**	**+1.3**
MSWZ	**Moikau Station**	**1.85**	**104**	P	Pn	**12 23 00.4**	**+0.9**
PLWZ	**Palliser**	**1.89**	**108**	P	Pn	**12 23 00.9**	**+0.9**
PAWZ	**Paruwai Farm**	**1.97**	**102**	P	Pn	**12 23 01.8**	**+1.0**
GVZ	**Greta Valley S**	**1.98**	**176**	P	Pn	**12 23 01.8**	**+1.1**
PKE	**Pukeiti**	**1.99**	**26**	P	Pn	**12 23 01.7**	**+0.6**
MTW	**Mount Morrison**	**2.00**	**96**	P	Pn	**12 23 02.0**	**+1.0**
HOWZ	**Holdsworth Sta**	**2.01**	**88**	P	Pn	**12 23 02.1**	**+1.0**
INZ	**Inchbonnie**	**2.03**	**211**	P	Pn	**12 23 02.5**	**+1.2**
MRZ	**Mangatainoka R**	**2.08**	**82**	P	Pn	**12 23 02.7**	**+0.8**
TMWZ	**Te Maipa**	**2.29**	**94**	P	Pn	**12 23 05.4**	**+1.3**
TIWZ	**Tintock**	**2.30**	**86**	P	Pn	**12 23 05.4**	**+1.2**
PRWZ	**Pori Road**	**2.40**	**80**	P	Pn	**12 23 06.8**	**+1.5**
OXZ	**Oxford**	**2.41**	**195**	P	Pn	**12 23 06.1**	**+0.8**
TSZ	**Takapari Road**	**2.54**	**69**	P	Pn	**12 23 07.7**	**+0.9**
BFZ	**Birch Farm**	**2.58**	**84**	P	Pn	**12 23 08.5**	**+1.2**
BFZ	**Birch Farm**	**2.58**	**84**	P	Pn	**12 23 08.4**	**+1.2**
WVZ	**Waitaha Valley**	**2.61**	**217**	P	Pn	**12 23 08.6**	**+1.1**
MHCZ	**Mount Hutt**	**2.71**	**200**	P	Pn	**12 23 09.6**	**+0.9**
MQZ	**McQueen's Vall**	**2.71**	**183**	P	Pn	**12 23 08.7**	**+0.1**
MOVZ	**Moawhango**	**2.72**	**55**	P	Pn	**12 23 10.4**	**+1.4**
OKCZ	**Okains Bay**	**2.73**	**177**	P	Pn	**12 23 09.5**	**+0.6**
TUVZ	**Tukino**	**2.75**	**52**	P	Pn	**12 23 11.3**	**+2.0**
PNHZ	**Pukenui**	**2.76**	**68**	P	Pn	**12 23 10.5**	**+1.2**
RACZ	**Rakaia**	**2.78**	**191**	P	Pn	**12 23 10.3**	**+0.9**
ETVZ	**East Tongariro**	**2.87**	**51**	P	Pn	**12 23 11.9**	**+1.2**
AKCZ	**Akaroa Harbour**	**2.88**	**179**	P	Pn	**12 23 10.9**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**2.99**	**218**	P	Pn	**12 23 12.9**	**+1.0**
RPZ	**Rata Peaks**	**3.03**	**206**	P	Pn	**12 23 12.9**	**+0.6**
RPZ	**Rata Peaks**	**3.03**	**206**	P	Pn	**12 23 12.6**	**+0.3**
WACZ	**Wakanui South**	**3.04**	**194**	P	Pn	**12 23 13.4**	**+1.0**
ARCZ	**Arundel**	**3.20**	**202**	P	Pn	**12 23 15.3**	**+0.9**
KAHZ	**Kahuranaki**	**3.29**	**70**	P	Pn	**12 23 17.3**	**+1.9**
MCHZ	**McNeill Hill**	**3.32**	**63**	P	Pn	**12 23 17.0**	**+1.3**
BKZ	**Black Stump Fm**	**3.33**	**58**	P	Pn	**12 23 16.2**	**+0.2**
BKZ	**Black Stump Fm**	**3.33**	**58**	P	Pn	**12 23 16.4**	**+0.5**
FOZ	**Fox Glacier**	**3.40**	**221**	P	Pn	**12 23 17.0**	**+0.4**
MRHZ	**Matea Rd**	**3.48**	**53**	P	Pn	**12 23 17.8**	**0.0**
TMZ	**Timaru**	**3.65**	**201**	P	Pn	**12 23 20.9**	**+1.2**
LIRZ	**Lichensteins R**	**4.04**	**43**	P	Pn	**12 23 25.5**	**+0.9**
SNGZ	**Shannon Statio**	**4.09**	**59**	P	Pn	**12 23 26.2**	**+1.0**
URZ	**Urewera**	**4.27**	**52**	P	Pn	**12 23 27.9**	**+0.5**
URZ	**Urewera**	**4.27**	**52**	P	Pn	**12 23 27.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**4.28**	**66**	P	Pn	**12 23 28.9**	**+1.3**
JCZ	**Jackson Bay**	**4.31**	**223**	P	Pn	**12 23 28.5**	**+0.6**
JCZ	**Jackson Bay**	**4.31**	**223**	P	Pn	**12 23 28.3**	**+0.5**
ODZ	**Otahua Downs**	**4.36**	**201**	P	Pn	**12 23 29.9**	**+1.5**
ODZ	**Otahua Downs**	**4.36**	**201**	P	Pn	**12 23 30.0**	**+1.5**
MWZ	**Matawai**	**4.47**	**55**	P	Pn	**12 23 30.5**	**+0.5**
WKZ	**Wanaka**	**4.76**	**215**	P	Pn	**12 23 33.4**	**0.0**
TWGZ	**Tauwhareparae**	**4.85**	**56**	P	Pn	**12 23 35.8**	**+1.0**
PKGZ	**Pakihiroa**	**5.11**	**54**	P	Pn	**12 23 38.9**	**+0.9**
WMGZ	**Waiomatatini S**	**5.34**	**55**	P	Pn	**12 23 41.2**	**+0.3**

DJA 23 12:23:12.2±0.6, 3°S±4°×13°1E±°, h12km±5km, M3.8/13, mB6.2/1, mb4.3/2, MLv3.6/13, Mw(mB)5.9/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.41**	**80**	P	Pn	12 23 36.8	-0.9
BNDI	**Bandanaira**	**1.65**	**215**	P	Pn	12 23 41.7	+0.7
MSAI	**Masohi**	**1.94**	**265**	P	Pn	12 23 44.8	-0.2
SWI	**Sorong**	**2.33**	**10**	P	Pn	12 23 50.6	+0.3
KMPI	**Kaimana, Papua**	**2.88**	**100**	P	Pn	12 23 57.3	-0.7
RKPI	**Ransiki, Papua**	**3.70**	**64**	P	Pn	12 24 09.0	-0.3
NLAI	**Namlea**	**3.75**	**269**	P	Pn	12 24 10.0	0.0
SANI	**Sanana**	**4.99**	**283**	P	Pn	12 24 25.2	-1.8
BAKI	**Biak**	**5.60**	**70**	P	Pn	12 24 36.3	+0.9
	83nm,1.1s						

IDC 23 12:37:49.5±8.4, 7°24S×145°18E, h0km, mb3.5/1, mbtmp3.1/3, ML3.1/1, MS3.4/2, Error ellipse: s-maj=270.5km s-min=38.9km az=102.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.44**	**219**	Pn	Pn	12 41 42.7	+0.9
	0.1nm,0.3s,baz=39,slow=11,SNR=6.9						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**19.60**	**212**	P	P	12 42 19.0	-0.6
	0.2nm,0.7s,baz=36,slow=10,SNR=1.1						
MKAR	**Makanchi Array**	**77.31**	**321**	P	P	12 49 46.2	+0.1
	0.2nm,0.4s,baz=101,slow=6.6,SNR=4.9						
	0.2nm,0.4s						

IDC 23 12:52:26.8±1.9, 2°68N×126°38E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=185.1km s-min=23.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.80**	**161**	P	P	12 57 41.5	+0.1
	0.5nm,0.4s,baz=340,slow=11,SNR=8.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**27.19**	**165**	P	P	12 58 12.7	+0.3
	0.2nm,0.7s,baz=341,slow=8.6,SNR=5.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.22**	**326**	P	P	13 02 23.3	+0.3
	0.1nm,0.5s,baz=116,slow=7.7,SNR=2.0						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**62.44**	**328**	P	P	13 02 50.9	-0.8
	1.1nm,0.2s,baz=125,slow=6.2,SNR=2.1						
	1.1nm,0.2s						

*SJA **23** 13:29:32.6±0.5, 27°67S×70°62W, h111km±14km, ML3.1, MW3.2*
*GUC **23** 13:29:35.2±0.7, 27°95S×71°56W, h34km±4km, ML3.1*
ISC 23 13:29:32.6±1.7, 27°64S±0°04×71°7W±0°1, h35km, n16, σ1°32/19, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.78**	**136**	⇑*iP*	**Pn**	**13 29 45.9**	**-1.3**
AC04				*eS*	**Sn**	**13 29 54.4**	**-3.3**
AC04				IAML		13 29 55.1	
	comp=E,2μm,0.2s						
LCO	**Las Campanas**	**1.62**	**148**	*eP*	**Pn**	**13 29 58.8**	**-0.1**
LCO				IAML		13 30 19.8	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.62**	**148**	*eP*	**Pn**	**13 29 59.3**	**+0.4**
LCO				*eS*	**Sn**	**13 30 17.8**	**-0.9**
AC01	**Pan de Azucar**	**1.78**	**33**	*eP*	**Pn**	**13 30 00.7**	**-0.2**
AC01				IAML		13 30 41.2	
	comp=Z,58nm,2.1s						
AC01	**Pan de Azucar**	**1.78**	**33**	*eP*	**Pn**	**13 30 01.4**	**+0.5**
CO05	**La Serena**	**2.30**	**170**	*eP*	**Pn**	**13 30 08.8**	**+0.8**
CO05				*eS*	**Sn**	**13 30 35.2**	**0.0**
CO05				IAML		13 30 47.4	
	comp=E,155nm,0.5s						
AC02	**Maricunga**	**2.42**	**71**	*eP*	**Pn**	**13 30 12.3**	**+2.2**
GO04	**Tololo Observa**	**2.64**	**163**	*eP*	**Pn**	**13 30 13.4**	**+0.5**
GO04	**Tololo Observa**	**2.64**	**163**	*eP*	**Pn**	**13 30 14.1**	**+1.2**
CO01	**Juntas del Tor**	**2.71**	**149**	*eP*	**Pn**	**13 30 16.1**	**+2.1**
CO01				*eS*	**Sn**	**13 30 46.5**	**+0.8**
CO01				IAML		13 30 48.8	
	comp=E,129nm,0.3s						
CO06	**Fray Jorge**	**3.02**	**179**	⇑*iP*	**Pn**	**13 30 17.9**	**0.0**
GO02	**Mina Guanaco**	**3.10**	**38**	*eP*	**Pn**	**13 30 20.3**	**+0.9**
PB14	**IPOC Station P**	**3.22**	**21**	*eP*	**Pn**	**13 30 20.7**	**-0.3**
PB14				IAML		13 30 59.9	
	comp=Z,17nm,1.1s						
VCA	**Vinchina**	**3.26**	**110**	*eP*	Pn	13 30 11.8	-10
VCA				IAML		13 31 16.2	
	comp=Z,70nm,0.7s						
CO03	**El Pedregal**	**3.30**	**165**	*eP*	**Pn**	**13 30 23.1**	**+1.1**
CO03				IAML		13 31 18.8	
	comp=E,80nm,0.4s						
PB06	**IPOC Station P**	**5.28**	**22**	*eP*	**Pn**	**13 30 49.2**	**0.0**
PB06				IAML		13 32 32.8	
	comp=Z,13nm,0.7s						

IDC 23 13:31:59.5±1.3, 55°30S×26°84W, h0km, mb4.1/1, mbtmp4.0/2, ML3.7/1, Error ellipse: s-maj=76.6km s-min=28.7km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.35**	**157**	P	P	13 36 26.2	-0.1
	0.2nm,0.3s,baz=297,slow=11,SNR=5.7						
	2.6nm,0.8s						
QSPA	**South Pole Qui**	**34.95**	**180**	P	P	13 38 52.8	-0.1
	1.7nm,0.6s,baz=256,slow=4.2,SNR=25						
	1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.30**	**29**	P	P	13 43 26.6	-0.2
	22nm,0.3s,baz=193,slow=7.9,SNR=1.4						
ILAR	**Eielson Array**	**149.76**	**313**	PKPbc	PKPbc	13 51 49.3	-0.5
	0.9nm,0.8s,baz=115,slow=1.2,SNR=7.0						
SONM	**Songino Array**	**150.47**	**85**	PKPbc	PKPbc	13 51 52.2	0.0
	0.5nm,0.6s,baz=224,slow=3.4,SNR=5.4						

*SJA **23** 13:56:32.3±0.8, 33°75S×71°53W, h37km±1km, ML2.9, MW3.3*
*GUC **23** 13:56:33.9±0.8, 33°69S×71°46W, h34km±3km, ML2.7*
ISC 23 13:56:34.4±1.4, 33°74S±0°03×71°53W±0°05, h35km, n20, σ0°83/39, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.11**	**322**	⇑*eP*	**Pn**	**13 56 40.2**	**-0.3**
VA05				*eS*	**Sn**	**13 56 45.1**	**+0.4**
VA05				IAML		13 56 46.5	
	comp=N,2μm,0.2s						
MT01	**Popeta**	**0.27**	**117**	*eP*	**Pn**	**13 56 40.7**	**-1.2**
MT01				IAML		13 56 47.6	
	comp=Z,1μm,0.2s						
MT01	**Popeta**	**0.27**	**117**	⇑*eP*	**Pn**	**13 56 41.5**	**-0.4**
MT01				*eS*	**Sn**	**13 56 47.4**	**+0.3**
MT01				IAML		13 56 47.9	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**0.46**	**94**	⇑*eP*	**Pn**	**13 56 43.6**	**-1.0**
MT09				*eS*	**Sn**	**13 56 51.2**	**-0.4**
MT09				IAML		13 56 51.7	
	comp=N,1μm,0.1s						
MT02	**Curacav**	**0.58**	**35**	*eP*	**Pn**	**13 56 45.1**	**-1.2**
MT02				*eS*	**Sn**	**13 56 54.1**	**-0.5**
MT02				IAML		13 56 54.9	
	comp=Z,230nm,0.1s						
MT02	**Curacav**	**0.58**	**35**	⇑*eP*	**Pn**	**13 56 45.3**	**-1.0**
MT02				*eS*	**Sn**	**13 56 54.0**	**-0.7**
MT02				IAML		13 56 56.0	
	comp=E,230nm,0.2s						
VA01	**Torpederas**	**0.72**	**352**	*eP*	**Pn**	**13 56 47.2**	**-1.0**
VA01				*eP*		13 56 47.7	
VA01				*eS*	**Sn**	**13 56 58.4**	**+0.4**
VA01				IAML		13 56 59.6	
	comp=Z,319nm,0.1s						
VA01	**Torpederas**	**0.72**	**352**	*eP*	**Pn**	**13 56 47.7**	**-0.5**
VA01				*eS*	**Sn**	**13 56 57.5**	**-0.5**
VA01				IAML		13 56 58.6	
	comp=E,982nm,0.1s						
BO01	**Tunca**	**0.75**	**150**	*eP*	**Pn**	**13 56 47.7**	**-0.8**
BO01				*eS*	**Sn**	**13 56 58.3**	**-0.3**
BO01				IAML		13 56 59.9	
	comp=Z,324nm,0.3s						
MT05	**Renca**	**0.75**	**62**	*eP*	**Pn**	**13 56 48.0**	**-0.5**
MT05				*eS*	**Sn**	**13 56 59.6**	**+0.8**
MT05				IAML		13 57 00.9	
	comp=Z,194nm,0.1s						
ROCH	**El Roble**	**0.89**	**30**	⇑*eP*	**Pn**	**13 56 49.9**	**-0.7**
ROCH				*eS*	**Sn**	**13 57 02.8**	**+0.5**
ROCH				IAML		13 57 05.5	
	comp=N,209nm,0.3s						
MT03	**Universidad Ad**	**0.89**	**74**	*eP*	**Pn**	**13 56 49.7**	**-0.8**
MT03				*eS*	**Sn**	**13 57 02.5**	**+0.2**
MT03				IAML		13 57 04.2	
	comp=Z,401nm,0.1s						
PEL	**Peldehue**	**0.93**	**50**	*eP*	**Pn**	**13 56 50.7**	**-0.3**
PEL				*eS*	**Sn**	**13 57 03.4**	**+0.2**
MT13	**San Alfonso**	**1.04**	**90**	*eP*	**Pn**	**13 56 52.1**	**-0.5**
MT13				IAML		13 57 06.3	
	comp=Z,497nm,0.2s						
MT13				*eS*	**Sn**	**13 57 06.3**	**+0.3**
LMEL	**Las Melosas**	**1.11**	**96**	*eP*	**Pn**	**13 56 53.0**	**-0.6**
LMEL				*eS*	**Sn**	**13 57 09.1**	**+1.2**
BO02	**Sierra Bellavi**	**1.22**	**149**	*eP*	**Pn**	**13 56 54.8**	**-0.3**
BO02				*eS*	**Sn**	**13 57 12.1**	**+1.7**
BO02				IAML		13 57 13.6	
	comp=Z,430nm,0.2s						
VA03	**San Esteban**	**1.28**	**40**	*eP*	**Pn**	**13 56 55.3**	**-0.5**
VA03				*eP*		13 56 56.0	
VA03				*eS*	**Sn**	**13 57 13.6**	**+1.8**
VA03				IAML		13 57 14.7	
	comp=Z,179nm,0.1s						
VA03	**San Esteban**	**1.28**	**40**	⇑*eP*	**Pn**	**13 56 56.0**	**+0.1**
VA03				*eS*	**Sn**	**13 57 13.0**	**+1.2**
VA03				IAML		13 57 15.2	
	comp=E,670nm,0.1s						
MT08	**Bocatoma Ro**	**1.30**	**77**	*eP*	**Pn**	**13 56 56.0**	**-0.3**
MT08				*eS*	**Sn**	**13 57 13.4**	**+0.8**
CO03	**El Pedregal**	**2.98**	**14**	*eP*	**Pn**	**13 57 19.3**	**0.0**
CO03				*eS*	**Sn**	**13 57 55.7**	**+1.7**

WEL 23 14:03:04.5±1.0, 35°S±10°×17°9E±1°1, h203km±16km, M3.5/8, ML3.7/13, MLv3.5/8, Error ellipse: s-maj=14.8km s-min=12.8km az=56.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.10**	**188**	S	S	14 04 14.6	-0.1
WMGZ	**Waiomatatini S**	**2.35**	**185**	P	Pn	14 03 47.4	+0.6
WMGZ				S	S	14 04 20.8	+1.4
HAZ	**Te Kaha**	**2.39**	**197**	P	Pn	14 03 47.1	-0.1
HAZ				S	S	14 04 20.9	+0.8
PKGZ	**Pakihiroa**	**2.43**	**191**	P	Pn	14 03 48.8	+1.1
PKGZ				S	S	14 04 22.2	+1.1
RUGZ	**Raukumara Rang**	**2.61**	**198**	P	Pn	14 03 49.9	+0.1
RUGZ				S	S	14 04 25.9	+1.1
PUZ	**Puketiti**	**2.61**	**187**	P	Pn	14 03 49.6	-0.2
PUZ				S	S	14 04 24.8	+0.1
MYRZ	**Mayor Island**	**2.67**	**227**	S	S	14 04 26.9	+1.2
TWGZ	**Tauwhareparae**	**2.75**	**192**	P	Pn	14 03 52.0	+0.6
TWGZ				S	S	14 04 28.9	+1.4
MWZ	**Matawai**	**3.00**	**198**	P	Pn	14 03 54.2	0.0
MWZ				S	S	14 04 33.1	+0.5
CNGZ	**Carnagh Statio**	**3.02**	**187**	P	Pn	14 03 54.6	+0.1
TKGZ	**Te Karaka**	**3.03**	**192**	P	Pn	14 03 54.3	-0.2
TKGZ				S	S	14 04 33.5	+0.3
URZ	**Urewera**	**3.05**	**204**	P	Pn	14 03 54.3	-0.5
URZ				S	S	14 04 35.4	+1.8
RIGZ	**Rimuhau**	**3.31**	**193**	P	Pn	14 03 57.5	-0.4
RIGZ				S	S	14 04 39.2	+0.1
MUGZ	**Murupara**	**3.36**	**207**	P	Pn	14 03 58.6	+0.1
MUGZ				S	S	14 04 41.0	+0.7
RTZ	**Ruatahuna**	**3.42**	**203**	P	Pn	14 03 58.7	-0.5
RTZ				S	S	14 04 43.3	+1.7
SNGZ	**Shannon Statio**	**3.47**	**198**	P	Pn	14 03 59.6	-0.2
SNGZ				S	S	14 04 43.8	+1.1
WCZ	**Waipu Caves**	**3.56**	**261**	P	Pn	14 04 01.0	+0.1
ALRZ	**Allen Road**	**3.60**	**211**	P	Pn	14 04 01.8	+0.4
RAHZ	**Arahi**	**3.66**	**200**	P	Pn	14 04 01.8	-0.4
RAHZ				S	S	14 04 47.7	+0.8
OUZ	**Omahuta**	**4.16**	**272**	P	Pn	14 04 07.9	-0.4
GLKZ	**Green Lake**	**6.83**	**26**	P	Pn	14 04 45.8	+3.3

RSNC 23 14:13:17.7±0.0, 8°N±1°×7°4W±°, h34km±2km, M1.6, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.46**	**78**	P	Pb	14 13 26.8	-1.0
OCAC				S	Sb	14 13 34.0	-0.8
SJCC	**San Jacinto, C**	**2.23**	**322**	P	Pn	14 13 51.9	-0.5
SJCC				S	Sn	14 14 18.3	-0.5

RSNC 23 14:13:18.9±0.0, 7°N±1°×7°3W±°, h140km±2km, M2.1, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**185**	P	Pn	14 13 38.0	-0.4
BARC				S	Sn	14 13 52.9	-0.3
PAMC	**Pamplona, Colo**	**0.68**	**43**	P	Pn	14 13 40.2	-0.5
PAMC				S	Sn	14 13 57.0	-0.3
PAMC	**Pamplona, Colo**	**0.68**	**43**	P	Pn	14 13 40.6	-0.1
PAMC				S	Sn	14 13 56.6	-0.7
RUSC	**La Rusia**	**0.94**	**175**	P	Pn	14 13 42.4	-0.4
RUSC				S	Sn	14 14 00.4	-0.6
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	P	Pn	14 13 44.5	-1.3
PTBC				S	Sn	14 14 06.2	-0.2
PTBC	**PUERTO BERRIO,**	**1.32**	**257**	P	Pn	14 13 44.5	-1.3
PTBC				S	Sn	14 14 06.1	-0.3
OCAC	**Ocana**	**1.40**	**354**	P	Pn	14 13 46.4	-0.4
OCAC				S	Sn	14 14 07.9	-0.2
TAMC	**Tame, Arauca**	**1.42**	**106**	P	Pn	14 13 46.3	-0.6
TAMC				S	Sn	14 14 08.3	+0.1
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	P	Pn	14 13 50.5	-0.7
ZARC				S	Sn	14 14 16.1	+0.2
NORC	**Norcasia**	**2.12**	**233**	P	Pn	14 13 54.6	-0.4
NORC				S	Sn	14 14 22.8	+0.2
CHIC	**Chingaza**	**2.27**	**195**	P	Pn	14 13 56.4	-0.7
CHIC				S	Sn	14 14 26.5	+0.1
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	14 14 07.1	+4.3
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	14 14 03.7	+0.9
GUY2C				S	Sn	14 14 37.4	+0.9
PRAC	**Prado**	**3.55**	**209**	P	Pn	14 14 12.3	-0.8
PRAC				S	Sn	14 14 55.0	0.0
ORTC	**Ortega, Tolima**	**3.58**	**216**	P	Pn	14 14 13.5	+0.1
ORTC				S	Sn	14 14 57.1	+1.4
URMC	**La Uribe, Meta**	**3.77**	**199**	P	Pn	14 14 15.2	-0.8
URMC				S	Sn	14 15 00.4	+0.1

*BUT **23** 14:23:51.8±2.0, 45°05N±0°03×114°40W±0°03, h11km±8km, Error ellipse: s-maj=4.1km s-min=2.6km az=194.0*
NEIC 23 14:23:51.2±2.2, 45°03N±0°03×114°40W±0°01, h10km±2km, ML3.2/50, ML3.5/28(BUT), Error ellipse: s-maj=4.3km s-min=3.1km az=168.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCYI	**Bear Canyon**	**1.01**	**135**		Pg	14 24 10.8	+0.1
BCYI					Sg	14 24 23.5	-0.4
PLID	**Pearl Lake**	**1.13**	**274**		Pg	14 24 12.7	-0.4
PLID	**Pearl Lake**	**1.13**	**274**		Sg	14 24 27.8	0.0
PLID	**Pearl Lake**	**1.13**	**274**	IAML		14 24 31.5	
	407nm,0.7s						
PLID				IAML		14 24 32.5	
	282nm,0.4s						
ICI	**Italian Canyon**	**1.26**	**123**		Pn	14 24 14.2	-0.9
ICI					Sn	14 24 32.6	+0.4
DLMT	**Dillon**	**1.32**	**75**		Pb	14 24 16.1	-0.1
DLMT	**Dillon**	**1.32**	**75**		Sg	14 24 34.1	+0.3
HLID	**Hailey**	**1.47**	**180**		Pb	14 24 19.0	+0.3
HLID					Sg	14 24 38.5	+0.1
HLID				IAML		14 24 40.5	
	329nm,0.2s						
HLID				IAML		14 24 41.5	
	333nm,0.3s						
BPMT	**Black Pine Rid**	**1.56**	**25**		Pn	14 24 19.6	+0.3
MSO	**Missoula**	**1.83**	**10**		Pn	14 24 23.2	+0.3
MSO				IAML		14 24 50.1	
	326nm,0.3s						
MSO				IAML		14 24 51.8	
	266nm,0.5s						
MFID	**Camas Ranch**	**1.91**	**213**		Pn	14 24 25.1	+1.1
MFID				IAML		14 24 56.8	
	378nm,0.8s						
BOZ	**Bozeman (W)**	**2.04**	**73**	Pn	Pn	14 24 26.9	+1.1
BMO	**Blue Mountains**	**2.07**	**266**		Pn	14 24 26.4	+0.2
BMO				IAML		14 25 00.1	
	123nm,0.7s						
F10A	**Beach Ranch, E**	**2.20**	**296**	Pn	Pb	14 24 29.7	-1.5
OVMT	**Ovando**	**2.26**	**25**	Pn	Pn	14 24 28.9	+0.1
YHL	**Hebgen Lake**	**2.29**	**93**		Pb	14 24 31.2	-1.7
YHL				IAML		14 25 09.3	
	comp=N,234nm,0.6s						
YHL				IAML		14 25 11.3	
	comp=E,282nm,0.8s						
YHB	**Horse Butte**	**2.30**	**96**		Pb	14 24 31.3	-1.6
YHB				IAML		14 25 04.6	
	comp=N,201nm,0.7s						
YHB				IAML		14 25 06.5	
	comp=E,270nm,0.4s						
YPWB	**West Boundary**	**2.39**	**99**		Pb	14 24 35.4	+0.9
YMC	**Maple Creek**	**2.43**	**95**		Pn	14 24 33.1	+1.9
LYMT	**Lyon Mountain**	**2.44**	**36**		Pn	14 24 31.4	0.0
MCID	**Moose Creek**	**2.45**	**109**		Pn	14 24 33.2	+1.7
YMR	**Madison River**	**2.47**	**97**		Pn	14 24 30.7	-1.1
YFT	**Old Faithful**	**2.61**	**102**	Pn	Pn	14 24 33.1	-0.6
YFT				IAML		14 25 21.3	
	comp=E,52nm,0.9s						
YNR	**Norris Junctio**	**2.67**	**95**	Pn	Pn	14 24 35.1	+0.6
YNR				IAML		14 25 18.7	
	comp=N,107nm,0.7s						
YNR				IAML		14 25 19.8	
	comp=E,106nm,0.3s						
FXWY	**Fox Creek**	**2.79**	**119**		Pn	14 24 37.6	+1.4
FLWY	**Flagg Ranch**	**2.81**	**108**		Pn	14 24 37.7	+1.2
FLWY				IAML		14 25 20.4	
	comp=E,84nm,0.8s						
FLWY				IAML		14 25 25.5	
	comp=E,102nm,0.8s						
MOOW	**Moose Ponds**	**2.92**	**115**	Pn	Pn	14 24 38.6	+0.7
TPAW	**Teton Pass**	**2.92**	**121**	Pn	Pn	14 24 37.4	-0.6
TPAW				IAML		14 25 26.8	
	comp=E,63nm,0.8s						
TPAW				IAML		14 25 27.3	
	comp=E,39nm,0.6s						
E09A	**Wood Farm, Sta**	**3.01**	**301**		Pn	14 24 37.8	-1.2
E09A				IAML

KAN10	Anthony SW Sta	0.41 312		Pg	14 38 27.9	+0.7
BLOK	Blackwell	0.41 102	Pg	Pg	14 38 28.1	+0.8
BLOK				Sg	14 38 34.1	+1.4
BLOK			IAML		14 38 37.0	
	comp=E,391nm,0.2s					
BLOK			IAML		14 38 37.3	
	comp=N,458nm,0.2s					
KAN08	Anthony NE Sta	0.43 332		Pg	14 38 28.2	+0.6
KAN08				Sg	14 38 34.6	+1.4
KAN08			IAML		14 38 34.8	
	comp=E,488nm,0.4s					
KAN12	Harper NE Stat	0.50 334		Pg	14 38 29.0	+0.1
KAN12			IAML		14 38 38.8	
	comp=N,539nm,0.4s					
OK051	E0350 and S346	0.79 115	Pg	Pg	14 38 34.7	+0.2
OK051				Sg	14 38 45.5	+0.9
OK051			IAML		14 38 49.7	
	comp=N,258nm,0.2s					
OK051			IAML		14 38 52.3	
	comp=N,214nm,0.2s					
NOKA	Waynoka	1.00 258		Pg	14 38 38.0	-0.5
NOKA			IAML		14 38 58.2	
	comp=N,206nm,0.5s					
QUOK	Quay	1.06 129		Pg	14 38 39.5	-0.1
OK031	S. Brethren Rd	1.14 141	Pg	Pg	14 38 41.0	-0.2
OK031				Pb	14 38 41.1	-0.4
OK031			IAML		14 38 57.0	
	comp=N,145nm,0.2s					
OK031			IAML		14 39 04.1	
	comp=N,98nm,0.2s					
DEOK	Depew	1.41 135		Pn	14 38 45.4	-0.2
CSTR	Hydro, Custer	1.43 213		Pn	14 38 45.6	-0.4
ELIS	Ellis County	1.58 241		Pn	14 38 48.2	+0.2
FNO	Franklin	1.61 171		Pn	14 38 48.7	+0.3
R32A	Long Quarter,	1.76 334		Pb	14 38 51.9	-0.2
W35A	Tecumseh	1.82 158		Pb	14 38 52.3	-0.9
WMOK	Wichita Mounta	2.28 203		Pn	14 38 57.8	+0.2
WMOK	Wichita Mounta	2.28 203	Pn	Pn	14 38 57.6	+0.1
WMOK			IAmb_Lg		14 39 33.1	
	comp=Z,6.8nm,1.0s					
HHAR	Hobbs	3.09 99	IAmb_Lg		14 40 03.0	
	comp=Z,10.0nm,0.8s					
RTBA	Rita Blanca	4.06 266	IAmb_Lg		14 40 28.8	
	comp=Z,6.2nm,0.7s					
N35A	Tabor	4.32 21	IAmb_Lg		14 40 44.2	
	comp=Z,16nm,1.0s					
MGMO	Mountain Grove	4.37 84	IAmb_Lg		14 40 37.1	
	comp=Z,7.2nm,0.8s					
WHAR	Wooly Hollow	4.67 108	IAmb_Lg		14 40 55.1	
	comp=Z,6.3nm,1.0s					
L34A	Svendsen Farm,	5.22 11	IAmb_Lg		14 41 08.7	
	comp=Z,13nm,0.7s					
CCM	Cathedral Cave	5.29 75	IAmb_Lg		14 41 10.0	
	comp=Z,7.7nm,0.9s					

*IDC **23** 14:38:27.6±2.5, 42°.84N×142°.01E, h32km±18km, mb3.4/10, mbtmp3.6/11, ML2.3/1, MS2.5/1, Error ellipse: s-maj=33.7km s-min=17.5km az=101.0*
*JMA **23** 14:38:28.3±0.1, 42°.8N±0°.3×142°.0E±0°.3, h37km, MV3.3/40, ISHIKARI DEPRESSION*
JMA Felt I J1 at ISHIKARI DEPRESSION .
*SKHL **23** 14:38:29.0±0.7, 42°.60N×142°.10E, h71km±7km, mb4.4/3*
ISC 23 14:38:28.0±0.9, 42°.73N±0°.03×141°.97E±0°.03, h37km±1km, n37, σ1°.34/43, mb3.5/10, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	Iburiatsuma	0.11	198	*i* P	Pn	14 38 34.6	-6.3
JIAM				*e*S	Sn	14 38 39.2	-14
JBT2	Biratori 2	0.30	80	⇓*i*P	Pn	14 38 35.9	-0.3
JBT2				⇓*e*S	Sn	14 38 42.0	-1.3
JEW	Eniwo	0.40	287	*i* P	Pn	14 38 37.6	+0.7
JEW				S	Sn	14 38 44.0	+0.3
JSHD	Hidakashinhida	0.49	130	*i* P	Pn	14 38 39.5	+1.2
JSHD				*e*S	Sn	14 38 49.1	+3.5
JFR	Furan	0.64	46	⇓*i*P	Pn	14 38 40.2	-0.4
JISS	Ishikarishitsu	0.68	324	*i* P	Pn	14 38 41.5	+0.3
JISS				*e*S	Sn	14 38 51.5	+1.0
JNB	Noboribetsu	0.73	250	⇓*i*P	Pn	14 38 41.7	0.0
JNB				⇓S	Sn	14 38 51.8	+0.2
JNBK	Urakawa-nobuka	0.73	127	*i* P	Pn	14 38 42.5	+0.7
JAB	Ashibetsu	0.80	14	⇓*i*P	Pn	14 38 43.8	+1.0
JAB				⇓*e*S	Sn	14 38 56.0	+2.6
JHR	Hokuryu	1.03	350	*i* P	Pn	14 38 46.8	+0.9
JHR				*e*S	Sn	14 39 00.7	+1.7
JCH	Churui	1.04	96	*i* P	Pn	14 38 46.3	+0.3
JKB	Kayabe	1.09	220	⇓*i*P	Pn	14 38 47.2	+0.6
JKB				⇓*e*S	Sn	14 39 01.7	+1.4
JEM	Erimo	1.13	128	P	Pn	14 38 48.7	+1.5
JKK2	Kamakawa 2	1.28	26	*i* P	Pn	14 38 50.0	+0.7
ASAJ	Asahikawa	1.47	18	Pg	Pn	14 38 52.9	+1.1
	19nm,0.3s,baz=218,slow=12,SNR=395						
ASAJ				Lg	Lg	14 39 11.0	
	27nm,0.3s,baz=336,slow=28,SNR=25						
AKK	Akkeshi	2.13	81	*e*P	Pn	14 39 01.3	+0.3
AKK				*e*S	Sn	14 39 25.3	-0.9
NMR	Nemuro--Hokkai	2.83	76	*e*P	Pn	14 39 10.6	0.0
NMR				*e*S	Sn	14 39 42.4	-1.0
YUK	Yuzh-Kuril'sk	3.13	64	*e*P	Pn	14 39 16.0	+1.4
YUK				AMB	AMB	14 39 22.0	
	40nm,0.2s						
YUK				*e*S	Sn	14 39 51.0	+0.3
YUK				A	A	14 40 01.2	
	90nm,0.3s						
YUK				A	A	14 40 01.2	
	100nm,0.3s						
SHO	Shikotan	3.73	70	*e*P	Pn	14 39 23.9	+1.0
SHO				AMB	AMB	14 39 24.5	
	30nm,0.5s						
SHO				*e*S	Sn	14 40 04.8	-0.8
SHO				A	A	14 40 07.1	
	120nm,0.4s						
SHO				A	A	14 40 07.1	
	80nm,0.4s						
YSS	Yuzhno-Sakhali	4.26	7	*e*P	Pn	14 39 32.8	+2.5
YSS				AMB	AMB	14 39 36.7	
	20nm,0.5s						
YSS				*e*S	Sn	14 40 21.1	+2.4
MJAR	Matsushiro Arr	6.82	206	Pn	Pn	14 40 08.4	+2.9
	0.1nm,0.3s,baz=21,slow=14,SNR=5.7						
MJAR				LR	LR	14 42 49.1	
	comp=Z,37nm,21.1s,baz=355,slow=38 0.5nm,0.4s						
SEY	Seymchan	21.14	13	P	P	14 43 07.0	-2.4
	0.7nm,0.6s,baz=204,slow=12,SNR=5.3 0.7nm,0.6s						
H11N2	WAKE ISLAND Hy 31.09	130		T	T	15 18 08.8	
	baz=322,slow=75,SNR=9.7						
H11N1	WAKE ISLAND Hy 31.10	130		T	T	15 18 09.7	
	baz=322,slow=75,SNR=7.2						
H11N3	WAKE ISLAND Hy 31.11	130		T	T	15 18 09.6	
	baz=322,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy 31.96	131		T	T	15 19 10.3	
	baz=324,slow=76,SNR=9.1						
H11S3	WAKE ISLAND Hy 31.97	131		T	T	15 19 11.5	
	baz=324,slow=76,SNR=6.0						
H11S2	WAKE ISLAND Hy 31.98	131		T	T	15 19 14.5	
	baz=324,slow=76,SNR=5.4						
KURBB	Kurchatov Arra	43.03	303	P	P	14 46 22.8	-0.9
	0.4nm,0.6s,baz=76,slow=8.7,SNR=3.5 0.4nm,0.6s						
ILAR	Eielson Array	44.53	35	P	P	14 46 34.5	-1.1
	0.2nm,0.8s,baz=279,slow=7.3,SNR=2.0 0.2nm,0.8s						
WRA	Warramunga Arr	62.75	188	P	P	14 48 49.4	0.0
	0.2nm,0.5s,baz=7.0,slow=6.9,SNR=1.8 0.2nm,0.5s						
FINES	FINESS Array B	64.01	331	P	P	14 48 57.0	-0.2
	3.2nm,1.0s,baz=38,slow=7.2,SNR=8.0 3.2nm,1.0s						
ASAR	Alice Springs	66.48	188	P	P	14 49 14.3	+0.7
	0.4nm,1.0s,baz=9.5,slow=7.0,SNR=2.3 0.4nm,1.0s						
HFS	Hagfors	69.09	335	P	P	14 49 29.4	-0.3
	0.4nm,0.4s,baz=32,slow=5.0,SNR=6.0 0.4nm,0.4s						
NOA	NORSAR Array B	69.12	337	P	P	14 49 29.6	-0.3
	0.7nm,0.9s,baz=28,slow=8.3,SNR=1.3 0.7nm,0.9s						
PDAR	Pinedale Array	73.42	47	P	P	14 49 57.0	+0.4
	0.2nm,0.5s,baz=327,slow=3.9,SNR=2.3 0.2nm,0.5s						
EKA	Eskdalemuir Ar	77.91	340	P	P	14 50 21.5	-0.2
	3.3nm,1.0s,baz=81,slow=5.2,SNR=2.4 3.3nm,1.0s						

KRSC 23 14:39:22.4±2.2, 54°.89N×164°.68E, h61km±27km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.81	66	*e*P	Pn	14 39 39.3	+1.3
BKI				*e*S	Sn	14 39 49.6	+0.1
KBTR	Krutoberegovo	1.69	322	*e*P	Pn	14 39 50.3	+0.6
KBTR				*e*S	Sn	14 40 08.6	-1.7
KBG	Krutoberegovo	1.77	322	*e*P	Pn	14 39 52.0	+1.3
KBG				*e*S	Sn	14 40 11.7	-0.4
TUMD	Tumrok D	2.48	279	*e*P	Pn	14 40 03.8	+3.4
TUMD				*e*S	Sn	14 40 33.2	+3.7
BZGR	Bezymyannyi-Gr	2.50	297	*e*P	Pn	14 40 04.4	+3.6
BZGR				*e*S	Sn	14 40 34.3	+4.1
BZWR	Bezymyannyi-We	2.62	296	*e*P	Pn	14 40 06.4	+4.0
KMNR	Kamenistaya	2.68	291	*e*P	Pn	14 40 07.2	+3.9
KMNR				*e*S	Sn	14 40 38.4	+3.8
KRSR	Krestovskiy	2.69	301	*e*P	Pn	14 40 06.3	+3.0
KIRR	Kirishev	2.69	295	*e*P	Pn	14 40 07.7	+4.3
KIRR				*e*S	Sn	14 40 39.7	+4.8
KLY	Klyuchi	2.69	304	*e*P	Pn	14 40 05.0	+1.8
KLY				*e*S	Sn	14 40 35.7	+1.0
KPT	Kopyto	2.76	295	*e*P	Pn	14 40 08.5	+4.2
KPT				*e*S	Sn	14 40 42.0	+5.5
KOZ	Kozyrevsk	2.98	295	*e*P	Pn	14 40 11.8	+4.6
KOZ				*e*S	Sn	14 40 47.7	+6.0
SRDR	Sredinnyy	3.16	299	*e*P	Pn	14 40 14.0	+4.3
SRDR				*e*S	Sn	14 40 51.4	+5.2
NLC	Nalytchevo	3.58	244	*e*S	Sn	14 40 57.6	+1.2
UGLR	Uglovaya	3.84	246	*e*P	Pn	14 40 23.4	+4.4
AVH	Avacha	3.86	248	*e*P	Pn	14 40 23.6	+4.3
AVH				*e*S	Sn	14 41 06.2	+2.9
KRX	Arik	3.86	249	*e*P	Pn	14 40 24.1	+4.8
KRX				*e*S	Sn	14 41 05.4	+1.9
KOK	Koryaka	3.90	248	*e*P	Pn	14 40 24.3	+4.5
DALK	Dalny	3.96	244	*e*P	Pn	14 40 24.4	+3.8
DALK				*e*S	Sn	14 41 06.8	+1.1
PET	Petropavlovsk	4.02	245	*e*P	Pn	14 40 25.5	+4.1
PET				*e*S	Sn	14 41 08.7	+1.6
GNL	Ganaly	4.12	256	*e*P	Pn	14 40 27.6	+4.7
KRMR	Karymshinskiy	4.39	245	*e*P	Pn	14 40 30.7	+4.3
KRMR				*e*S	Sn	14 41 18.4	+2.2
RUS	Russkaya	4.41	239	*e*P	Pn	14 40 29.8	+3.0
RUS				*e*S	Sn	14 41 16.6	-0.2
OSSR	Ossora	4.46	349	*e*S	Sn	14 41 18.3	+0.3
GRL	Gorelyy	4.57	242	*e*P	Pn	14 40 33.3	+4.3
GRL				*e*S	Sn	14 41 24.5	+3.8
KDTR	Khodutka, Kamc	5.01	235	*e*P	Pn	14 40 38.2	+3.3
KDTR				*e*S	Sn	14 41 30.5	-1.0

IDC 23 15:29:34.4±4.3, 6°.43S×128°.23E, h296km±44km, mb2.4/1, mbtmp3.7/4, Error ellipse: s-maj=64.1km s-min=17.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.87	192	P	Pn	15 32 14.7	-0.8
	2.2nm,0.7s,baz=29,slow=10,SNR=12						
FITZ				S	S	15 34 29.0	+1.3
	1.1nm,0.7s,baz=200,slow=13,SNR=1.1						
WRA	Warramunga Arr	14.69	157	P	Pn	15 32 49.0	-0.3
	1.2nm,0.4s,baz=335,slow=12,SNR=24						
WRA				S	S	15 35 35.5	+6.1
	0.3nm,0.8s,baz=332,slow=23,SNR=1.4						
ASAR	Alice Springs	17.99	163	P	P	15 33 24.6	+0.4
	2.5nm,0.6s,baz=343,slow=12,SNR=81						
ASAR				S	S	15 36 35.6	+0.5
	0.2nm,0.6s,baz=352,slow=22,SNR=4.7						
MKAR	Makanchi Array	66.79	328	P	P	15 39 54.6	0.0
	0.1nm,0.5s,baz=111,slow=7.9,SNR=1.9 0.1nm,0.5s						

*SJA **23** 15:48:21.8±5.8, 32°.41S×71°.96W, h24km±197km, ML3.2, MW3.3*
*GUC **23** 15:48:25.3±0.7, 32°.26S×71°.66W, h37km±6km, ML2.9*
ISC 23 15:48:24.6±1.9, 32°.43S±0°.04×71°.84W±0°.08, h13km±10km, n19, σ1°.76/38, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.48	106	⇓*i*P	Pg	15 48 34.5	+0.4
VA06				*e*S	Sg	15 48 41.5	+1.0
VA06				IAML		15 48 42.8	
	comp=E,4μm,0.4s						
VA01	Torpederas	0.62	165	*e*P	Pg	15 48 36.3	-0.4
VA01				*e*S	Sn	15 48 49.8	+0.9
VA01				IAML		15 48 52.8	
	comp=N,1μm,0.1s						
ROCH	El Roble	0.89	128	⇓*i*P	Pb	15 48 41.6	-0.4
ROCH				⇓*i*P	Pb	15 48 41.6	-0.4
ROCH				*e*S	Sb	15 48 54.2	+0.3
ROCH				*e*S	Sb	15 48 54.2	+0.3
ROCH				IAML		15 48 55.0	
	comp=N,477nm,0.4s						
ROCH				IAML		15 48 55.0	
	comp=N,233nm,0.4s						
MT02	Curacav	1.02	145	*e*P	Pb	15 48 44.3	+0.2
MT02				*e*S	Sb	15 48 58.9	+1.4
VA03	San Esteban	1.14	107	*i* P	Pn	15 48 44.1	-2.3
VA03				*e*S	Sb	15 48 57.9	-3.1
VA03				IAML		15 49 01.7	
	comp=E,1μm,0.2s						
PEL	Peldehue	1.21	127	*i* P	Pn	15 48 46.6	-0.7
PEL				*e*S	Sb	15 49 01.1	-1.8
PEL				IAML		15 49 05.2	
	comp=N,406nm,0.4s						
MT10	Hacienda Santa	1.38	128	*i* P	Pn	15 48 49.6	-0.2
MT10				*e*S	Sn	15 49 08.0	-0.1
MT10				IAML		15 49 10.9	
	comp=N,613nm,0.4s						
MT14	Cerro Calıın	1.46	132	*e*P	Pn	15 48 50.8	-0.1
MT14				*e*S	Sn	15 49 10.0	+0.1
MT14				IAML		15 49 13.3	
	comp=N,334nm,0.2s						
MT16	CCHEN	1.49	132	*i* P	Pn	15 48 51.3	+0.1
MT16				*e*S	Sn	15 49 11.2	+0.6
MT16				IAML		15 49 13.4	
	comp=N,115nm,0.3s						
AUSP	Uspallata	2.09	85	*e*P	Pn	15 48 59.9	+0.3
AUSP				*e*S	Sn	15 49 24.8	-0.9
ARCO	CERRO ARCO	2.49	100	*e*P	Pb	15 49 09.3	0.0
ARCO				*e*S	Sn	15 49 35.7	+0.4
ARCO				IAML		15 49 46.6	
	comp=Z,46nm,0.5s						
ZON	Zonda	2.83	73	*e*P	Pn	15 49 11.6	+2.0
ZON				*e*S	Sn	15 49 47.1	+3.6
ACCO	Cerro Coronel	3.00	53	*e*P	Pn	15 49 12.7	+0.5
ACCO				*e*S	Sb	15 49 51.9	-2.8
AROD	Rodeo	3.03	43	*e*P	Pn	15 49 08.6	-4.0
AROD				*e*S	Sn	15 49 48.8	-0.2
AGUA	GUANDACOL	4.11	45	*e*P	Pn	15 49 28.3	+1.0
AGUA				IAML		15 49 31.8	
	comp=Z,43nm,0.2s						
ACHE	Chepes	4.58	75	*e*P	Pn	15 49 33.4	-0.5
VCA	Vinchina	4.83	41	*e*P	Pn	15 49 37.9	+0.6
VCA				IAML		15 49 42.3	
	comp=Z,26nm,0.2s						
VCA				*e*S	Sn	15 50 38.3	+5.2
APLL	PUNTA DE LOS L	4.97	67	*e*P	Pn	15 49 38.5	-0.5
APLL				*e*S	Sn	15 50 39.2	+2.7
ACLC	CERRO LA CRUZ	5.16	56	*e*P	Pn	15 49 40.6	-1.2
ACLC				*e*S	Sn	15 50 39.7	-1.5

IDC 23 15:50:31.9±15.0, 7°.26S×127°.68E, h158km±165km, mb2.7/1, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=146.6km s-min=53.8km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.95	190	P	Pn	15 53 04.6	+0.3
	0.6nm,0.3s,baz=15,slow=12,SNR=17						
FITZ				S	Sn	15 54 56.7	-9.0
	1.0nm,0.3s,baz=273,slow=9.9,SNR=1.7 3.5nm,0.5s						
WRA	Warramunga Arr	14.17	154	P	Pn	15 53 44.8	-0.8
	0.4nm,0.3s,baz=327,slow=12,SNR=25						
WRA				S	Sn	15 56 11.4	-12
	1.2nm,0.7s,baz=326,slow=24,SNR=7.8 0.8nm,0.4s						
ASAR	Alice Springs	17.37	161	P	P	15 54 24.2	+0.4
	0.2nm,0.3s,baz=335,slow=10.0,SNR=22						
ASAR				S	S	15 57 29.2	-7.6
	0.1nm,0.3s,baz=325,slow=23,SNR=2.2 1.0nm,0.6s						
MKAR	Makanchi Array	67.20	328	P	P	16 01 09.0	0.0
	0.1nm,0.6s,baz=114,slow=8.8,SNR=1.7 0.1nm,0.6s						

*UPP **23** 15:52:32.0±0.1, 64°.17N×20°.52E, h7km±4km, ML1.8, Confirmed Earthquake*
*HEL **23** 15:52:32.3±0.0, 64°.17N×20°.53E, h6km, ML1.8, ML1.8(UPP), Confirmed Earthquake*
*IDC **23** 15:52:32.0±1.1, 64°.22N×20°.74E, h0km, mbtmp2.8/3, ML1.4/3, Error ellipse: s-maj=12.0km s-min=10.0km az=77.0.*
ISC 23 15:52:31.6±1.0, 64°.17N±0°.02×20°.53E±0°.02, h7km±8km, n39, σ1°.13/68, 6C-2D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODEU	Stanfors	0.26	18	⇑P	Pg	15 52 37.0	+0.3
ODEU				S	Sg	15 52 40.4	+0.3
ODEU	Stanfors	0.26	18	⇑*i*P	Pg	15 52 37.0	+0.3
ODEU				*i* S	Sg	15 52 40.4	+0.3
SVAU	Svanoeiden	0.53	308	⇓P	Pg	15 52 41.9	+0.1
SVAU				S	Sg	15 52 48.6	-0.1
SVAU	Svanoeiden	0.53	308	⇓*i*P	Pg	15 52 41.9	+0.1
SVAU				*i* S	Sg	15 52 48.6	-0.1
BURU	Burvik	0.56	41	⇑P	Pg	15 52 42.5	+0.2
BURU				S	Sg	15 52 49.6	0.0
BURU	Burvik	0.56	41	*e*P	Pg	15 52 42.5	+0.2
BURU				*e*S	Sg	15 52 49.5	0.0
BREU	Bredtraesk	0.90	253	⇑P	Pg	15 52 48.5	-0.3
BREU				S	Sg	15 53 00.3	-0.3
BREU	Bredtraesk	0.90	253	⇑*e*P	Pg	15 52 48.5	-0.3
BREU				*e*S	Sg	15 53 00.3	-0.3
HUSU	Husum	1.01	216	⇑P	Pg	15 52 50.5	-0.4
HUSU				S	Sg	15 53 03.4	-0.7
HUSU	Husum	1.01	216	*e*P	Pg	15 52 50.5	-0.4
HUSU				*e*S	Sg	15 53 03.2	-0.9
LILU	Lilltraesk	1.16	346	P	Pg	15 52 53.4	-0.5
LILU				S	Sg	15 53 08.2	-0.7
LILU	Lilltraesk	1.16	346	*e*P	Pg	15 52 53.4	-0.5
LILU				*e*S	Sg	15 53 08.2	-0.7
SJUU	Sjulsmark	1.42	18	P	Pn	15 52 58.2	+0.5
SJUU				S	Sb	15 53 16.5	-0.2
SJUU	Sjulsmark	1.42	18	*e*PN	Pn	15 52 58.2	+0.5
SJUU				*e*SG	Sb	15 53 16.5	-0.2
VAF	Ylistaro	1.48	139	*e*P	Pn	15 52 58.9	+0.5
VAF	Ylistaro	1.48	139	*e*PG	Pn	15 52 59.0	+0.5
VAF				*e*SG	Sn	15 53 18.0	0.0
VAF				MSG		15 53 20.2	
	comp=Z,9.6nm,0.1s						
OBF7	Kamusenper, K	1.54	88	*e*PG	Pn	15 52 59.8	+0.4
OBF7				*e*S	Sn	15 53 19.3	-0.2
OBF1	Elvisluoto, P	1.55	79	*e*PG	Pn	15 53 00.1	+0.6
OBF0	Syolatti, Pyha	1.65	77	*e*PG	Pn	15 53 01.9	+1.1
OBF0				*e*SG	Sn	15 53 22.7	+0.6
OBF0				MSG		15 53 24.4	
	comp=Z,10nm,0.1s						
SOLU	Sollefteaa	1.73	239	P	Pn	15 53 02.8	+0.9
SOLU				S	Sn	15 53 24.9	+0.8
SOLU	Sollefteaa	1.73	239	*e*PN	Pn	15 53 02.8	+0.9
SOLU				*e*S	Sn	15 53 24.9	+0.8
OUF	Merijarvi	1.84	82	*e*PN	Pn	15 53 04.5	+1.0
OUF				*e*SG	Sb	15 53 28.8	+0.1
OUF				MSG		15 53 29.9	
	comp=Z,6.3nm,0.1s						
HEMU	Hemsoen	1.87	218	*e*PB	Pn	15 53 04.8	+1.0
HEMU				*e*SG	Sb	15 53 29.5	+0.1
OBF3	Siikajoki	1.91	69	*e*P	Pn	15 53 05.5	+1.1
KALU	Kalix	2.08	34	*e*PG	Pb	15 53 09.1	-0.4
KALU				*e*SB	Sb	15 53 35.5	-0.1
OBF4	Vikkela, Lumij	2.08	70	*e*P	Pn	15 53 07.6	+0.8
OBF4				*e*SG	Sb	15 53 36.3	+0.7
OBF4				MSG		15 53 37.9	
	comp=Z,5.8nm,0.2s						
OBF5	Vihanti	2.09	81	*e*P	Pn	15 53 07.4	+0.5
KPF	Kankaanpaa	2.44	163	*e*PB	Pb	15 53 14.7	-1.0
KPF				*e*SB	Sb	15 53 45.4	-0.6
KPF				MSG		15 53 47.2	
	comp=Z,1.7nm,0.1s						
OUL	Oulu	2.49	66	*e*P	Pn	15 53 12.9	+0.6
ERTU	Ertsjaerv	2.50	15	*e*P	Pn	15 53 13.7	+1.2
ERTU				*e*S	Sn	15 53 44.1	+0.9
TOF	Tornio	2.50	38	*e*PG	Pb	15 53 16.6	-0.2
TOF				*e*SG	Sb	15 53 48.3	+0.6
TOF				MSG		15 53 48.7	
	comp=Z,3.0nm,0.1s						
KEF	Keuruu	2.81	134	*e*P	Pn	15 53 19.5	+2.7
RAF	Rauma	3.21	169	*e*P	Pb	15 53 27.2	-1.5
RAF	Rauma	3.21	169	*e*SB	Sb	15 54 08.3	+0.5
RAF				MSG		15 54 12.2	
	comp=Z,2.4nm,0.1s						
FINES	FINESS Array B	3.73	135	Pn	Pn	15 53 32.1	+2.6
	baz=326,slow=15,SNR=1.7						
FINES				Lg	Lg	15 54 27.7	
	comp=Z,0.7nm,0.3s,baz=318,slow=28,SNR=16 comp=Z,2.6nm,1.0s						
NSS	Namsos	3.74	279	*e*P	Pn	15 53 30.1	+0.5
NSS				*e*SG	Sb	15 54 26.7	+3.4
HFS	Hagfors	5.16	221	Sn	Sn	15 54 49.2	+0.4
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=1.9						
HFS				Lg	Lg	15 55 08.5	
	comp=Z,0.4nm,0.3s,baz=38,slow=32,SNR=7.6						
NOA	NORSAR Array B	5.32	238	Pn	Pn	15 53 51.2	-0.2
	baz=57,slow=10,SNR=1.5						
NOA				Sn	Sn	15 54 55.5	+2.6
	baz=45,slow=9.9,SNR=1.4						
NOA				Lg	Lg	15 55 19.1	
	baz=35,slow=14,SNR=6.0 comp=Z,0.9nm,1.0s						
ARCES	ARCESS Array B	5.74	18	Pn	Pn	15 53 56.0	-1.0
	comp=Z,0.1nm,0.3s,baz=200,slow=14,SNR=5.0						
ARCES				Sn	Sn	15 54 57.9	-5.1
	comp=Z,0.2nm,0.3s,baz=98,slow=25,SNR=5.4						
ARCES				Lg	Lg	15 55 23.8	
	comp=Z,0.1nm,0.3s,baz=0.0,slow=8.5,SNR=2.1 comp=Z,2.4nm,0.9s						

*JMA **23** 16:03:07.5±0.2, 30°.6N±0°.4×13°.1E±°, h29km, MV3.3/38, NEAR TANEGASHIMA ISLAND*
*IDC **23** 16:03:08.8±1.9, 30°.67N×131°.10E, h43km±18km, mb3.2/10, mbtmp3.5/15, ML3.0/5

baz=251,slow=13,SNR=4.5
0.3nm,0.3s
KLR Kul'dur 18.63 1 P P 16 07 22.8 +0.5
0.3nm,0.3s,baz=199,slow=9.3,SNR=6.4
1.3nm,0.6s
SONM Songino Array 25.58 319 P P 16 08 33.5 -0.1
0.3nm,0.6s,baz=132,slow=8.1,SNR=2.8
0.3nm,0.6s
CMAR Chiang Mai Arr 31.53 255 P P 16 09 26.5 -0.4
0.2nm,0.6s,baz=51,slow=7.0,SNR=1.4
CMAR LR LR 16 23 13.3
comp=Z,16nm,18.3s,baz=145,slow=38
0.2nm,0.6s
H11N2 WAKE ISLAND Hy 34.03 100 T T 16 45 46.2
baz=296,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 34.03 100 T T 16 45 49.0
baz=296,slow=74,SNR=13
H11N3 WAKE ISLAND Hy 34.05 100 T T 16 45 47.3
baz=296,slow=74,SNR=18
KAPI Kappang 37.02 199 LR LR 16 27 10.1
comp=Z,15nm,18.6s,baz=26,slow=39
MKAR Makanchi Array 40.70 308 P P 16 10 44.6 -0.4
0.3nm,0.8s,baz=97,slow=7.8,SNR=2.7
0.3nm,0.8s
KURBB Kurchatov Arra 43.60 313 P P 16 11 08.4 -0.1
0.3nm,0.6s,baz=96,slow=10.0,SNR=2.4
0.3nm,0.6s
BVAR Borovoye Array 48.83 316 P P 16 11 49.3 -0.2
1.5nm,0.5s,baz=94,slow=9.3,SNR=11
1.5nm,0.5s
WRA Warramunga Arr 50.33 176 P P 16 12 01.3 0.0
0.3nm,0.6s,baz=354,slow=8.3,SNR=4.6
0.3nm,0.6s
ASAR Alice Springs 54.01 177 P P 16 12 29.6 +1.0
0.3nm,0.5s,baz=9.9,slow=13,SNR=7.6
0.3nm,0.5s
ILAR Eielson Array 59.42 30 P P 16 13 06.7 +0.2
0.2nm,0.8s,baz=300,slow=6.1,SNR=6.1
0.2nm,0.8s
FINES FINESS Array B 70.33 330 P P 16 14 16.9 -0.6
4.2nm,1.1s,baz=67,slow=5.0,SNR=7.1
4.2nm,1.1s
YKA Yellowknife Ar 73.53 26 P P 16 14 35.7 -1.0
0.3nm,0.8s,baz=302,slow=5.7,SNR=5.7
0.3nm,0.8s

IDC 23 16:17:00.1±1.2,28.°11N×104.°96E, h0km, mb3.2/5, mbtmp3.2/6, ML3.5/1, Error ellipse: s-maj=44.7km s-min=21.7km az=61.0
ISC 23 16:17:05.2±1.4,28.°2N±0.°2×105.°0E±0.°2, h35km, n6, σ0°42/6, mb3.2/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	19.67	3	P	P	16 21 30.6	-0.5
	0.1nm,0.3s,baz=181,slow=12,SNR=1.8						
	0.3nm,0.5s						
KSRS	Korea Array	21.33	58	P	P	16 21 49.4	+0.3
	0.2nm,0.3s,baz=243,slow=11,SNR=1.4						
	0.2nm,0.3s						
MKAR	Makanchi Array	25.75	322	P	P	16 22 32.4	0.0
	0.2nm,0.7s,baz=128,slow=11,SNR=3.9						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	30.07	325	P	P	16 23 11.3	+0.3
	0.2nm,0.5s,baz=132,slow=9.9,SNR=2.7						
	0.2nm,0.5s						
WRA	Warramunga Arr	55.60	146	P	P	16 26 37.4	-0.2
	0.4nm,0.8s,baz=335,slow=8.4,SNR=5.5						
	0.4nm,0.8s						
ASAR	Alice Springs	58.58	149	P	P	16 26 58.6	0.0
	0.2nm,0.6s,baz=329,slow=6.7,SNR=6.1						
	0.2nm,0.6s						

SJA 23 16:19:46.7±0.8, 19.°65S×69.°45W, h89km±8km, ML3.8, MW3.8
GUC 23 16:19:48.2±0.7, 19.°68S×69.°46W, h84km±3km, ML3.7
IDC 23 16:19:54.1±6.5, 19.°42S×68.°88W, h143km±50km, mb3.4/1, mbtmp3.8/3, Error ellipse: s-maj=79.0km s-min=37.4km az=53.0
ISC 23 16:19:48.1±0.9, 19.°67S±0.°03×69.°47W±0.°07, h86km±7km, n25, σ1°27/38, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.20 243		eP	Pn	16 20 00.2	-0.6
PB11				IAML		16 20 12.1	
	comp=Z,4μm,0.1s						
PB11	IPOC Station P	0.20 243		⇓iP	Pn	16 20 00.9	+0.2
PB11				eS	Sn	16 20 10.9	+0.8
PB08	IPOC Station P	0.55 148		⇓iP	Pn	16 20 03.5	+0.3
PB08				eS	Sn	16 20 15.4	+0.9
PB08				IAML		16 20 16.3	
	comp=E,2μm,0.2s						
TA02	Huaiquique	0.86 226		eP	Pn	16 20 06.1	+0.2
TA02				eS	Sn	16 20 21.1	+1.9
TA02	Huaiquique	0.86 226		eP	Pn	16 20 06.1	+0.2
TA02				eS	Sn	16 20 20.2	+1.0
TA01	Diego Aracena	1.12 217		eP	Pn	16 20 08.9	0.0
TA01				eS	Sn	16 20 25.3	+0.9
TA01	Diego Aracena	1.12 217		⇑iP	Pn	16 20 08.8	0.0
TA01				eS	Sn	16 20 24.7	+0.3
TA01				IAML		16 20 25.8	
	comp=E,4μm,0.1s						
PB12	IPOC Station P	1.33 322		eP	Pn	16 20 11.3	-0.2
PB12				eS	Sn	16 20 30.1	+0.8
PB12	IPOC Station P	1.33 322		⇓iP	Pn	16 20 11.3	-0.2
PB12				eS	Sn	16 20 29.6	+0.4
PB01	IPOC Station P	1.37 181		eP	Pn	16 20 12.6	+0.6
PB01				eS	Sn	16 20 31.3	+1.2
PB01	IPOC Station P	1.37 181		eP	Pn	16 20 12.4	+0.4
PB01				eS	Sn	16 20 31.2	+1.1
PB01				IAML		16 20 34.1	
	comp=E,2μm,0.3s						
AP01	Chacalluta	1.54 327		eP	Pn	16 20 14.2	+0.1
AP01				eS	Sn	16 20 36.8	+3.1
AP01	Chacalluta	1.54 327		eP	Pn	16 20 14.4	+0.3
AP01				eS	Sn	16 20 35.2	+1.5
AP01				IAML		16 20 38.0	
	comp=N,2μm,0.3s						
PB18	Visviri	2.07 360		eP	Pn	16 20 23.6	+2.1
PB09	IPOC Station P	2.13 174		eP	Pn	16 20 22.4	+0.4
PB09				eS	Sn	16 20 50.6	+2.7
PB09	IPOC Station P	2.13 174		eP	Pn	16 20 22.9	+0.9
PB09				IAML		16 20 56.7	
	comp=N,334nm,0.3s						
PB03	IPOC Station P	2.38 186		eP	Pn	16 20 25.5	+0.1
PB06	IPOC Station P	3.02 182		eP	Pn	16 20 34.1	+0.1
LPAZ	La Paz	3.59 21		P	Pn	16 20 44.9	+2.8
	comp=N,5.9nm,0.3s,baz=166,slow=4.2,SNR=58						
LPAZ				S	Sn	16 21 23.3	-0.6
	comp=N,6.4nm,0.6s,baz=48,slow=18,SNR=5.4						
LPAZ	La Paz	3.59 21		eP	Pn	16 20 28.3	-14
PB14	IPOC Station P	5.01 190		eP	Pn	16 21 01.8	+0.7
SIV	San Ignacio	8.79 67		P	Pn	16 21 50.2	-2.2
	comp=N,4.5nm,0.3s,baz=255,slow=9.7,SNR=20						
YKA	Yellowknife Ar	89.30 341		P	P	16 32 33.5	-0.7
	comp=N,0.4nm,0.7s,baz=140,slow=4.2,SNR=8.1						
	comp=N,0.4nm,0.7s						
ASAR	Alice Springs	131.27 209		PKP	PKPdf	16 38 49.7	-1.4
	comp=N,0.9nm,1.1s,baz=136,slow=1.0,SNR=4.6						
SONM	Songino Array	151.70 6		PKPbc	PKPbc	16 39 31.3	-1.5
	comp=N,0.3nm,0.4s,baz=359,slow=1.0,SNR=2.6						

TAP 23 16:20:52.7,24.°88N×122.°42E, h16km, ML2.5, D
JMA 23 16:20:52.1±0.2,24.°8N±0.°9×122.°4E±0.°3, h0km±2km, MV2.5/9, NW OFF ISHIGAKIJIMA IS
ISC 23 16:20:52.4±1.1,24.°87N±0.°03×122.°43E±0.°02, h12km±9km, n81, σ0°46/152, 7C-18D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.42 289		⇓eP	Pg	16 21 01.2	+0.3
TWB1				iS	Sb	16 21 08.0	-0.3
EGS		0.46 267		⇓iP	Pb	16 21 02.5	0.0
EGS				eS	Sb	16 21 10.0	+0.8
EOS2	EOS2	0.49 202		⇓eP	Pb	16 21 03.2	+0.3
EOS2				S	Sb	16 21 10.8	+0.8
NTC	Toucheng	0.55 268		⇓P	Pb	16 21 04.3	+0.3
NTC				eS	Sb	16 21 12.8	+1.0
SXI1	Grass Mountain	0.55 294		⇓iP	Pb	16 21 03.9	-0.2
SXI1				S	Sb	16 21 11.9	-0.1
TIPB	Shuangxi	0.56 280		⇑iP	Pb	16 21 04.2	0.0
TIPB				eS	Sb	16 21 11.8	-0.5
TWC	Suao	0.59 244		P	Pb	16 21 04.4	-0.3
TWC				iS	Sb	16 21 13.5	+0.4
EOS3	EOS3	0.59 190		P	Pb	16 21 05.1	+0.4
EOS3				eS	Sn	16 21 14.8	-1.3
ESAO	Su ao	0.61 241		eP	Pg	16 21 04.0	-0.3
ESAO				eS	Sb	16 21 13.5	-0.2
NWF	Wu-fen Shan	0.62 289		iP	Pb	16 21 05.3	0.0
NWF				S	Sb	16 21 14.0	-0.1
WFSB	Wu-fen Shan	0.62 289		P	Pb	16 21 05.5	+0.2
WFSB				eS	Sb	16 21 15.0	+1.0
JYNG	Yonagunijimaku	0.63 132		P	Pg	16 21 04.4	-0.3
JYNG				eS	Sg	16 21 13.0	+0.1
TNOU	National Taiwa	0.66 295		P	Pg	16 21 05.6	+0.3
TNOU				S	Sb	16 21 14.7	-0.3
YOJ	Yonaguni jima	0.67 128		iP	Pg	16 21 05.2	-0.1
YOJ				eS	Sg	16 21 14.2	0.0
YOJ	Yonaguni jima	0.67 128		P	Pg	16 21 05.1	-0.3
YOJ				eS	Sg	16 21 13.7	-0.5
NDS	Dongshan	0.69 250		P	Pb	16 21 06.5	0.0
NDS				eS	Sb	16 21 16.0	0.0
TWE	Neicheng	0.71 258		P	Pb	16 21 06.6	-0.2
TWE				iS	Sb	16 21 16.6	+0.1
EWUT	Wuta	0.73 235		⇓eP	Pg	16 21 06.7	+0.1
EWUT				eS	Sb	16 21 16.6	-0.5
EOS4	EOS4	0.76 188		⇓P	Pb	16 21 07.9	+0.6
EOS4				eS	Sn	16 21 18.9	-0.9
ENA	Nanau	0.77 235		eP	Pg	16 21 07.5	+0.2
ENA				eS	Sb	16 21 17.9	-0.2
FUSB	Fushanzhiwuyua	0.78 262		P	Pb	16 21 07.8	-0.1
FUSB				S	Sb	16 21 19.1	+0.7
TWA	Mucha	0.78 278		eP	Pb	16 21 08.1	+0.2
TWA				eS	Sb	16 21 19.5	+1.0
ENTT	Nioudou	0.82 254		eP	Pb	16 21 09.0	+0.3
ENTT				S	Sb	16 21 19.8	+0.1
YM08	YM08	0.83 293		P	Pb	16 21 09.1	+0.3
YM08				eS	Sb	16 21 20.2	+0.3
NHDH	Xindian Distri	0.83 276		iP	Pb	16 21 08.8	0.0
NHDH				S	Sb	16 21 20.3	+0.4
YM01	YM01	0.83 289		eP	Pb	16 21 08.9	+0.1
YM01				iS	Sb	16 21 20.1	+0.2
EAHA	Aohua	0.83 230		iP	Pb	16 21 09.0	+0.1
EAHA				iS	Sb	16 21 20.7	+0.7
NWLT	Wulai	0.85 264		iP	Pb	16 21 09.3	+0.1
NWLT				eS	Sb	16 21 20.3	-0.3
TWY	Chenhua	0.85 298		⇓P	Pb	16 21 09.3	0.0
TWY				eS	Sb	16 21 21.0	+0.3
ZUZH	Zhuzihu	0.85 290		eP	Pn	16 21 10.1	-0.2
ZUZH				eS	Sn	16 21 22.1	-0.7
TATO	Taipei	0.86 277		⇓iP	Pg	16 21 09.2	0.0
TATO				S	Sb	16 21 21.2	+0.4
ANP	Anpu	0.88 291		⇑iP	Pg	16 21 09.4	-0.2
ANP				iS	Sb	16 21 21.9	+0.2
LATG	Datong	0.89 248		iP	Pb	16 21 09.9	0.0
LATG				eS	Sn	16 21 23.1	-0.7
TWS1	Kuangyinshan	0.95 284		iP	Pg	16 21 10.5	-0.2
TWS1				eS	Sb	16 21 23.9	+0.5
YHNB	Yeheng	0.98 258		iP	Pb	16 21 11.7	+0.2
YHNB				iS	Sb	16 21 25.0	+0.6
NSK	Sanguang	1.00 259		eP	Pb	16 21 11.9	+0.2
NSK				S	Sb	16 21 24.7	-0.1
ETL	Fush Village	1.02 226		iP	Pb	16 21 12.3	+0.1
ETL				eS	Sb	16 21 25.6	+0.1
NACB	Ninganchiao	1.03 228		iP	Pb	16 21 12.3	0.0
NACB				eS	Sg	16 21 25.5	-0.3
NNSB	Datong	1.05 245		P	Pg	16 21 12.4	-0.4
NNSB				iS	Sb	16 21 27.0	+0.6
NNSH	Datong	1.05 245		⇓P	Pg	16 21 12.4	-0.3
NNSH				S	Sb	16 21 26.9	+0.4
NNS	Nan Shan	1.05 246		⇑P	Pg	16 21 12.7	0.0
NNS				eS	Sb	16 21 26.6	0.0
ETLH	Xiulin Townshi	1.09 233		eP	Pb	16 21 13.1	-0.3
ETLH				eS	Sb	16 21 27.6	0.0
TWD	Chiawan	1.10 224		⇓eP	Pn	16 21 13.9	+0.2
TWD				S	Sn	16 21 28.4	-0.3
KSHI	Guanxi Townshi	1.15 265		⇓P	Pb	16 21 13.9	-0.3
KSHI				eS	Sn	16 21 29.8	-0.2
HWA	Hwalien	1.17 220		⇓P	Pb	16 21 14.3	-0.3
HWA				S	Sn	16 21 30.4	-0.1
NFF	Wufeng Townshi	1.22 259		⇓eP	Pn	16 21 14.7	-0.8
NFF				eS	Sn	16 21 32.3	+0.4
ETM	Tongmen	1.24 224		P	Pn	16 21 15.5	-0.2
ETM				eS	Sg	16 21 32.2	-0.3
FUSS	Fushou	1.25 240		eP	Pg	16 21 16.4	-0.1
FUSS				S	Sn	16 21 32.9	0.0
LXIB	Xiulin Townshi	1.26 228		eP	Pb	16 21 16.3	+0.1
LXIB				iS	Sg	16 21 32.9	-0.1
WHF	Hehuan Shan	1.29 236		P	Pn	16 21 16.5	-0.2
WHF				eS	Sg	16 21 33.9	-0.1
IRIF	Iriomote-Funau	1.30 114		P	Pb	16 21 17.1	+0.3
LIOB	Emei	1.31 260		⇓P	Pn	16 21 16.2	-0.3
LIOB				eS	Sb	16 21 33.2	-0.5
NSTT	Nanjuang	1.32 260		⇑eP	Pn	16 21 16.1	-0.7
NSTT				eS	Sg	16 21 35.3	+0.2
SHUL	Shoufeng	1.34 216		eP	Pn	16 21 16.9	-0.1
SHUL				eS	Sn	16 21 35.0	+0.3
ESL	Shilin	1.39 221		iP	Pn	16 21 17.7	0.0
ESL				eS	Sn	16 21 35.7	-0.4
OWD	Renai	1.47 232		eP	Pb	16 21 19.8	0.0
OWD				eS	Sg	16 21 40.2	+0.6
WHP	Taichung City	1.48 247		⇓P	Pb	16 21 19.6	-0.3
WHP				S	Sn	16 21 38.4	+0.1
WUSB	Renai	1.48 234		eP	Pb	16 21 20.4	+0.4
WUSB				eS	Sg	16 21 40.7	+0.4
WARBT	Fenglin Townsh	1.49 220		P	Pn	16 21 18.9	-0.2
WARBT				eS	Sn	16 21 38.5	-0.2
DPDB	Guoxing	1.61 239		eP	Pn	16 21 21.4	+0.7
DPDB				eS	Sb	16 21 42.7	+0.3
WCS	Beigang Elemen	1.61 240		eP	Pg	16 21 23.5	+0.3
WCS				eS	Sg	16 21 44.3	+0.1
VWDT	VWDT	1.62 227		⇑eP	Pb	16 21 21.6	-0.7
VWDT				eS	Sb	16 21 43.0	+0.3
HGSD	Ruisui	1.65 214		eP	Pn	16 21 20.5	-0.9
HGSD				eS	Sb	16 21 43.5	-0.2
EHY	Hungye	1.70 217		eP	Pn	16 21 21.8	-0.1
EHY				eS	Sn	16 21 43.2	-0.3
SMLT	Sun Moon Lake	1.71 235		eP	Pb	16 21 23.6	-0.3
SSLB	Suanglung	1.73 232		eP	Pg	16 21 24.9	-0.7
TYC	Yuchr	1.73 236		eP	Pb	16 21 24.1	-0.1
YULB	Yu-li	1.80 215		⇑P	Pn	16 21 23.3	-0.1
YULB				eS	Sn	16 21 46.2	0.0
WHYT	Xinyi Township	1.86 231		⇑eP	Pb	16 21 25.9	-0.4
FULB	Fuli	1.96 212		iP	Pn	16 21 26.1	+0.4
FULB				eS	Sn	16 21 50.8	+0.5
ALS	Alishan	2.01 228		P	Pn	16 21 26.7	+0.2
ALS				eS	Sn	16 21 51.1	-0.7
CHN5	Tsauling	2.04 232		S	Sn	16 21 52.2	-0.1
TPUB	Ta-pu	2.27 227		⇓P	Pn	16 21 30.7	+0.9
LONT	Longtian	2.29 212		S	Sn	16 21 58.7	+0.4
WTP	Ta-pu	2.32 226		⇓eP	Pb	16 21 32.8	-1.4
TWK	Hsinying	2.39 228		eP	Pn	16 21 31.7	+0.2
TWK				S	Sn	16 22 00.9	+0.1
TWGBT	Beinan	2.39 211		P	Pn	16 21 32.1	+0.7
TWGBT				eS	Sn	16 22 00.6	-0.1
TTN	Taitung	2.42 209		eP	Pn	16 21 32.3	+0.5
TTN				S	Sn	16 22 01.4	+0.1
CHN1	Nanshi	2.42 226		eP	Pn	16 21 32.3	+0.5
CHN1				eS	Sn	16 22 01.3	-0.2
SGST	Jiashian	2.46 224		eP	Pn	16 21 32.8	+0.4
SGST				eS	Sn	16 22 02.1	-0.3
MASBT	Mashibuluo	2.79 217		eP	Pn	16 21 39.3	+2.3

TAP 23 16:21:21.4,23.°25N×120.°98E, h18km, ML0.9, 4C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	Lidau	0.07 152		⇑P	Pg	16 21 24.8	-0.1
ELDTW				eS	Sg	16 21 25.9	-1.5
STYH	Taoyuan	0.21 246		⇑eP	Pg	16 21 27.6	+1.2
STYH				iS	Sg	16 21 30.4	+0.6
STYT	Tauyuan	0.22 246		⇑iP	Pg	16 21 27.0	+0.3
STYT				eS	Sb	16 21 30.1	-0.1
EHD	Haiduan	0.23 117		P	Pg	16 21 26.5	-0.4
EHD				iS	Sg	16 21 30.9	+0.3
TWF1	Yuli	0.31 71		P	Pg	16 21 28.1	+0.1
TWF1				S	Sb	16 21 33.3	+0.3
YULB	Yu-li	0.32 65		S	Sb	16 21 33.7	+0.2
EYUL	Yuli	0.33 73		eP	Pg	16 21 26.5	-1.8
EYUL				eS	Sg	16 21 32.8	-0.3
TPUB	Ta-pu	0.33 278		⇑P	Pb	16 21 28.9	+0.2
TPUB				S	Sb	16 21 34.0	+0.4
WTP	Ta-pu	0.34 269		iP	Pb	16 21 29.0	+0.1
WTP				eS	Sn	16 21 36.3	-1.5
LONT	Longtian	0.37 158		⇓P	Pb	16 21 29.9	+0.4
LONT	Longtian	0.37 158		⇓eP	Pb	16 21 29.8	+0.3
LONT				iS	Sb	16 21 35.0	0.0

TAP 23 16:23:56.6,24.°87N×122.°43E, h7km±1km, ML2.4, D
JMA 23 16:23:56.7±0.2,25.°N±1.°×122.°4E±0.°5, h0km, MV2.6/9, NW OFF ISHIGAKIJIMA IS
ISC 23 16:23:56.1±1.2,24.°91N±0.°03×122.°47E±0.°02, h8km±10km, n54, σ0°58/105, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.45 283		iP	Pb	16 24 05.9	-0.3
TWB1				iS	Sb	16 24 12.7	-0.3
EOS2	EOS2	0.53 204		eP	Pb	16 24 08.0	+0.5
EOS2				eS	Sb	16 24 16.0	+0.7
SXI1	Grass Mountain	0.57 289		iP	Pb	16 24 08.6	+0.3
SXI1				S	Sb	16 24 16.4	-0.2
TIPB	Shuangxi	0.58 277		iP	Pb	16 24 08.7	+0.1
TIPB				iS	Sb	16 24 16.8	-0.2
JYNG	Yonagunijimaku	0.63 136		P	Pb	16 24 08.8	-0.5
JYNG				eS	Sb	16 24 17.8	-0.5
EOS3	EOS3	0.63 192		eP	Pb	16 24 09.8	+0.6
EOS3				eS	Sb	16 24 19.4	+1.2
TWC	Suao	0.63 242		iP	Pb	16 24 09.1	-0.3
TWC				iS	Sb	16 24 18.2	-0.2
WFSB	Wu-fen Shan	0.64 285		P	Pb	16 24 09.8	+0.3
WFSB				S	Sb	16 24 19.5	+0.8
ESAO	Su ao	0.65 240		iP	Pb	16 24 09.7	0.0
ESAO				S	Sg	16 24 18.2	+1.0
YOJ	Yonaguni jima	0.67 132		iP	Pb	16 24 10.0	+0.1
YOJ				S	Sb	16 24 19.1	-0.2
YOJ	Yonaguni jima	0.67 132		P	Pb	16 24 09.8	-0.1
YOJ				eS	Sb	16 24 18.4	-0.9
NDS	Dongshan	0.73 248		eP	Pb	16 24 11.1	0.0
NDS				S	Sb	16 24 22.6	+1.2
TWE	Neicheng	0.75 256		iP	Pb	16 24 11.3	0.0
TWE				S	Sb	16 24 21.5	-0.3
EWUT	Wuta	0.78 234		iP	Pb	16 24 11.4	-0.5
EWUT				iS	Sg	16 24 21.9	+0.8
EOS4	EOS4	0.79 190		iP	Pb	16 24 12.1	+0.2
EOS4				S	Sn	16 24 24.0	-1.1
TWA	Mucha	0.80 275		eP	Pb	16 24 12.7	+0.3
TWA				S	Sn	16 24 25.2	-0.7
FUSB	Fushanzhiwuyua	0.81 260		iP	Pb	16 24 12.4	-0.1
FUSB				eS	Sb	16 24 24.3	+0.7
ENA	Nanau	0.81 234		iP	Pb	16 24 12.2	-0.2
ENA				iS	Sb	16 24 24.2	+0.6
ENTT	Nioudou	0.86 252		iP	Pb	16 24 13.6	+0.4
ENTT				S	Sb	16 24 25.1	+0.1
TWY	Chenhua	0.87 295		eP	Pb	16 24 13.3	-0.1
TWY				S	Sb	16 24 26.0	+0.8
ZUZH	Zhuzihu	0.87 287		iP	Pn	16 24 14.2	-0.6
ZUZH				eS	Sb	16 24 25.5	+0.1
EAHA	Aohua	0.88 229		eP	Pb	16 24 13.2	-0.3
EAHA				S	Sb	16 24 25.4	+0.1
NWLT	Wulai	0.88 262		iP	Pb	16 24 13.6	-0.1
NWLT				eS	Sb	16 24 25.4	-0.3
ANP	Anpu	0.90 288		iP	Pn	16 24 14.8	-0.4
ANP				S	Sb	16 24 26.2	0.0
LATG	Datong	0.93 247		iP	Pb	16 24 14.4	-0.1
LATG				S	Sb	16 24 27.1	0.0
YHNB	Yeheng	1.02 257		iP	Pb	16 24 15.6	-0.4
YHNB				eS	Sn	16 24 31.1	-0.2
NSK	Sanguang	1.03 257		iP	Pb	16 24 15.9	-0.3
NSK				eS	Sb	16 24 30.8	+0.8
NACB	Ninganchiao	1.08 228		iP	Pg	16 24 16.2	-0.6
NACB				S	Sg	16 24 30.3	-0.5
NNSB	Datong	1.09 244		iP	Pg	16 24 17.0	-0.1
NNSB				eS	Sg	16 24 31.0	-0.3
NNS	Nan Shan	1.10 245		iP	Pg	16 24 17.0	-0.2
NNS				S	Sb	16 24 32.1	+0.2
ETLH	Xiulin Townshi	1.13 232		iP	Pg	16 24 17.6	-0.2
ETLH				S	Sg	16 24 32.3	-0.3
NFF	Wufeng Townshi	1.25 258		iP	Pn	16 24 19.4	-0.6
NFF				eS	Sn	16 24 38.6	+1.4
IRIF	Iriomote-Funau	1.28 116		eP	Pg	16 24 21.2	+0.5
LXIB	Xiulin Townshi	1.30 228		iP	Pb	16 24 20.7	-0.2
LXIB				S	Sn	16 24 38.8	+0.4
WHF	Hehuan Shan	1.33 236		iP	Pg	16 24 21.7	+0.1
WHF				S	Sg	16 24 39.0	0.0
LIOB	Emei	1.34 259		eP	Pn	16 24 20.6	-0.6
LIOB				eS	Sg	16 24 39.7	+0.4
NSTT	Nanjuang	1.36 259		iP	Pn	16 24 20.5	-0.9
NSTT				eS	Sg	16 24 39.9	+0.1
HATJ	Hateruma jima	1.48 124		eP	Pg	16 24 24.9	+0.4
OWD	Renai	1.51 231		iP	Pb	16 24 23.8	-0.6
OWD				eS	Sn	16 24 43.5	0.0
WHP	Taichung City	1.52 246		iP	Pb	16 24 24.7	+0.1
WHP				eS	Sn	16 24 43.9	+0.2
WUSB	Renai	1.53 234		iP	Pb	16 24 24.8	0.0
WUSB				S	Sb	16 24 44.5	+0.1
WARBT	Fenglin Townsh	1.54 220		iP	Pn	16 24 23.2	-0.7
WARBT				eS	Sn	16 24 44.1	0.0
EGFH	Guangfu	1.55 218		eP	Pb	16 24 24.4	-0.7
EGFH				eS	Sb	16 24 45.4	+0.4
WCS	Beigang Elemen	1.65 239		P	Pb	16 24 26.8	+0.1
WCS				eS	Sn	16 24 46.9	+0.2
VWDT	VWDT	1.67 227		iP	Pb	16 24 26.2	-0.8
VWDT				eS	Sb	16 24 47.9	-0.3
HGSD	Ruisui	1.70 214		P	Pb	16 24 26.9	-0.6
HGSD				eS	Sn	16 24 48.4	+0.4
SMLT	Sun Moon Lake	1.75 235		P	Pb	16 24 28.0	-0.5
SMLT				eS	Sn	16 24 49.6	+0.1
SSLB	Suanglung	1.77 231		iP	Pb	16 24 28.3	-0.6
SSLB				eS	Sb	16 24 50.9	-0.4
YULB	Yu-li	1.85 216		P	Pn	16 24 28.7	+0.6
WHYT	Xinyi Township	1.90 231		iP	Pb	16 24 30.1	-0.9
WHYT				eS	Sn	16 24 53.5	+0.5
CHN5	Tsauling	2.09 232		P	Pb	16 24 33.3	-0.9
CHN5				eS	Sn	16 24 58.1	+0.4
WCKO	Fanlu	2.24 230		eP	Pn	16 24 34.8	+1.2
WCKO				eS	Sn	16 25 02.0	+0.6
CHN4

comp=Z,3µm,1.0s
ALOL LOMAS DE OLMED 2.28 199 *e*P **Pn 16 34 46.2 -0.2**
MOCB Mochara 2.32 279 Pg **Pn 16 34 48.2 +1.0**
MOCB Sg **Sn 16 35 18.9 +2.9**
MOCB IAML 16 35 24.2
comp=Z,10µm,0.3s
AZAP Zapla 3.10 214 *i* P **Pn 16 34 57.0 -0.8**
AZAP *e*S **Sg 16 35 46.4 -1.8**
SLA San Lorenzo 3.73 214 *i* P **Pn 16 35 06.6 +0.2**
SLA IAML 16 36 13.3
comp=Z,4µm,0.8s
AOEA Aiquile 3.95 330 Pn **Pn 16 35 11.2 +1.7**
AOEA Sn **Sn 16 35 58.2 +2.1**
AOEA IAML 16 36 52.5
comp=Z,1µm,2.0s
SOET ToroToro 4.29 324 Pn **Pn 16 35 16.0 +1.7**
AF01 San Pedro de A 4.80 253 **Pn 16 35 23.1 +1.9**
FSA Cafayete 5.13 209 *i* P **Pn 16 35 26.1 +0.5**
PAPY Pozo Azul 5.18 119 *e*P **Pn 16 35 27.1 +1.0**
MURT Porto Murtinho 5.19 91 *e*P **Pn 16 35 26.8 +0.5**
SOEO Opoqueri 5.38 304 Pn **Pn 16 35 30.6 +1.3**
PB09 IPOC Station P 5.63 267 **Pn 16 35 35.9 +3.3**
PB09 IPOC Station P 5.63 267 Pn **Pn 16 35 34.0 +1.4**
PB08 IPOC Station P 5.78 284 Pn **Pn 16 35 36.0 +1.2**
PB01 IPOC Station P 5.90 275 **Pn 16 35 38.3 +2.1**
PB01 IPOC Station P 5.90 275 Pn **Pn 16 35 37.1 +0.9**
SIV San Ignacio 5.97 20 Pn **Sn 16 35 38.0 +0.9**
comp=Z,2.5nm,0.3s,baz=202,slow=8.5,SNR=114
SIV Sn **Sg 16 36 42.0 -3.6**
comp=Z,1.9nm,0.3s,baz=238,slow=17,SNR=5.5
SIV Lg Lg 16 37 15.1
comp=Z,4.6nm,0.3s,baz=245,slow=20,SNR=7.6
SIV LR LR 16 37 48.5
comp=Z,406nm,20.5s,baz=218,slow=37
comp=Z,44nm,0.3s
SIV San Ignacio 5.97 20 Pn **Pn 16 35 37.9 +0.9**
BDQN Bodoquena, MS 6.13 80 *e*P **Pn 16 35 40.3 +1.1**
PB11 IPOC Station P 6.34 286 **Pn 16 35 43.7 +1.4**
PB11 IPOC Station P 6.34 286 Pn **Pn 16 35 43.4 +1.1**
TA01 Diego Aracena 6.62 278 **Pn 16 35 46.5 +0.6**
TA01 Sn **Sn 16 37 04.1 +2.6**
TA02 Huaiquique 6.63 281 **Pn 16 35 46.5 +0.3**
GO02 Mina Guanaco 6.84 238 **Pn 16 35 49.7 +0.3**
AQDB Aquidauana 7.09 82 Pn **Pn 16 35 54.0 +1.6**
AQDB Aquidauana 7.09 82 *e*P **Pn 16 35 53.8 +1.4**
LPAZ La Paz 7.09 318 **Pn 16 35 54.1 +1.1**
LPAZ La Paz 7.09 318 Pn **Pn 16 35 53.5 +0.5**
comp=Z,7.7nm,0.3s,baz=108,slow=6.9,SNR=72
LPAZ Sn **Sn 16 37 11.9 -2.1**
comp=Z,17nm,0.3s,baz=140,slow=18,SNR=6.5
LPAZ Lg Lg 16 37 50.2
comp=Z,2.7nm,0.3s,baz=197,slow=23,SNR=1.2
LPAZ LR LR 16 38 58.6
comp=Z,2µm,20.7s,baz=122,slow=41
comp=Z,18nm,0.4s
LPAZ La Paz 7.09 318 Pn **Pn 16 35 53.5 +0.5**
LPAZ La Paz 7.09 318 *e*P **Pn 16 35 53.1 +0.1**
LPAZ *e*S **Sn 16 37 13.9 -0.1**
CPUP Villa Florida 7.10 132 **Pn 16 35 52.3 -0.2**
CPUP Villa Florida 7.10 132 Pn **Pn 16 35 52.1 -0.5**
comp=Z,5.3nm,0.3s,baz=312,slow=13,SNR=33
CPUP Sn **Sn 16 37 08.7 -4.7**
comp=Z,20nm,0.3s,baz=308,slow=12,SNR=4.2
CPUP Lg Lg 16 37 53.3
comp=Z,15nm,0.3s,baz=246,slow=20,SNR=3.7
CPUP LR LR 16 38 57.6
comp=Z,2µm,21.8s,baz=310,slow=41
comp=Z,86nm,0.9s
CPUP Villa Florida 7.10 132 P **Pn 16 35 52.3 -0.2**
CPUP Villa Florida 7.10 132 *e*P **Pn 16 35 50.8 -1.8**
BBOD La Paz, Gloria 7.14 313 Pn **Pn 16 35 54.8 +1.2**
PB18 Visviri 7.17 303 Pn **Pn 16 35 54.5 +0.5**
PTLB Pontes e Lacer 7.26 33 **Pn 16 35 56.1 +1.4**
PTLB Pontes e Lacer 7.26 33 Pn **Pn 16 35 56.3 +1.5**
PTLB Pontes e Lacer 7.26 33 *e*P **Pn 16 35 56.1 +1.4**
PTLB *e*S **Sn 16 37 13.4 -3.9**
PB14 IPOC Station P 7.28 245 **Pn 16 35 55.0 -0.3**
SJPY San Joaquin 7.31 119 *e*P **Pn 16 35 55.0 -0.5**
PB12 IPOC Station P 7.36 293 **Pn 16 35 55.9 -0.3**
AC02 Maricunga 7.49 225 **Pn 16 35 59.4 +1.0**
AC01 Pan de Azucar 8.13 235 **Pn 16 36 08.3 +1.6**
RPRD Ribas do Rio P 8.93 84 *e*P **Pn 16 36 20.2 +2.4**
RPRD *e*S **Sn 16 37 59.2 +0.7**
VILB Vilhena 9.10 19 Pn **Pn 16 36 21.6 +1.5**
VILB Vilhena 9.10 19 Pn **Pn 16 36 21.6 +1.5**
VILB Vilhena 9.10 19 *e*P **Pn 16 36 21.5 +1.5**
VILB *e*S Sn 16 37 55.4 -7.3
SALV Santo Antonio 9.11 52 *e*P **Pn 16 36 19.9 -0.2**
SALV *e*S **Sn 16 38 01.4 -1.4**
AC04 Llanos de Chal 9.69 226 **Pn 16 36 28.9 +0.9**
LCO Las Campanas 10.00 221 Pn **Pn 16 36 31.7 -0.8**
LCO Las Campanas 10.00 221 *e*P **Pn 16 36 33.2 +0.6**
CO01 Juntas del Tor 10.37 215 **Pn 16 36 38.9 +1.3**
PTGB Pitanga 10.68 109 *e*P **Pn 16 36 42.8 +1.1**
CFA Coronel Fontan 10.90 203 Pn **Pn 16 36 43.8 -0.9**
baz=37,slow=20,SNR=10
CFA Sn **Sn 16 38 45.6 -1.1**
baz=19,slow=24,SNR=3.6
CFA Lg Lg 16 39 51.9
baz=73,slow=19,SNR=1.6
ZON Zonda 11.02 205 Pn **Pn 16 36 45.9 -0.4**
ZON Zonda 11.02 205 P **Pn 16 36 45.9 -0.4**
LDASE Londrina, Braz 11.29 101 *e*P **Pn 16 36 51.0 +0.9**
CO03 El Pedregal 11.36 215 Pn **Pn 16 36 50.5 -0.6**
ITAB Concordia 11.50 121 Pn **Pn 16 36 52.4 -0.5**
ITAB Concordia 11.50 121 *e*P **Pn 16 36 52.5 -0.5**
PDRB Porto dos Gac 11.73 33 *e*P **Pn 16 36 56.4 +0.2**
ETMB Extrema 12.12 346 Pn **Pn 16 37 00.3 -1.0**
ETMB Extrema 12.12 346 *e*P **Pn 16 37 00.7 -0.7**
ITRB Iturama 12.16 83 *e*P **Pn 16 37 05.2 +3.2**
ARAG Araguaiana, MT 12.29 63 *e*P **Pn 16 37 04.1 +0.4**
CLDB Colider 12.84 35 *e*P **Pn 16 37 13.5 +2.1**
PLTB Pedras Altas 13.22 142 Pn Pn 16 37 13.2 -3.2
CNLB Canela 13.50 127 *e*P **Pn 16 37 21.3 +1.0**
MT13 San Alfonso 13.59 206 **Pn 16 37 20.9 -0.6**
MT09 Talagante 13.91 208 Pn **Pn 16 37 23.2 -2.7**
BO04 La Punta 13.93 206 Pn Pn 16 37 22.6 -3.6
BO01 Tunca 14.48 207 Pn **Pn 16 37 34.2 +0.6**
IPMB Ipameri, GO 14.55 78 *e*P **Pn 16 37 36.1 +1.3**
SPB Sao Paulo 14.68 101 Pn **Pn 16 37 34.7 -1.7**
SPB Sao Paulo 14.68 101 *e*P **Pn 16 37 39.7 +3.4**
BO02 Sierra Bellavi 14.70 205 Pn **Pn 16 37 37.9 +1.2**
VAO Valinhos 15.07 98 Pn **Pn 16 37 42.7 +1.0**
VAO Valinhos 15.07 98 *e*P **P 16 37 49.2 +2.1**
BDFB Brasilia 15.56 70 Pn **Pn 16 37 48.5 +0.2**
BDFB Brasilia 15.56 70 Pn **Pn 16 37 48.3 -0.1**
comp=Z,1.0nm,0.3s,baz=254,slow=17,SNR=10
BDFB Lg Lg 16 42 23.9
comp=Z,1.4nm,0.3s,baz=184,slow=22,SNR=3.5
BDFB LR LR 16 44 42.2
comp=Z,1µm,20.3s,baz=250,slow=41
comp=Z,5.5nm,0.4s
ML02 Panimavida 15.80 205 **Pn 16 37 50.5 -0.7**
ML02 IAmb IAmb 16 37 58.5
comp=Z,121nm,1.2s
PMNB Patos De Minas 16.03 82 *e*P **Pn 16 37 53.9 -0.5**
NNA Nana 16.21 304 **Pn 16 37 56.8 +0.2**
NNA Nana 16.21 304 Pn **Pn 16 37 55.2 -1.4**
comp=Z,1.4nm,0.3s,baz=127,slow=8.4,SNR=5.8
comp=Z,5.1nm,0.3s
NNA Nana 16.21 304 *i* P **Pn 16 37 56.7 +0.1**
TRQA Tornquist 16.39 177 Pn **Pn 16 37 57.7 -1.1**
TRQA Tornquist 16.39 177 P **Pn 16 37 57.7 -1.1**
TRQA pmax pmax
comp=Z,71nm,1.3s
CZSB Cruzeiro do Su 16.61 325 Pn **Pn 16 37 59.7 -1.9**
MACA Manacapuru-AM 18.53 8 **P 16 38 25.1 -0.3**
MACA IAmb IAmb 16 38 29.3
comp=Z,112nm,1.4s
TBTG Tabatinga, AM 18.54 338 P **P 16 38 26.0 +0.5**
TBTG IAmb IAmb 16 38 40.5
comp=Z,84nm,1.1s
ITTB Itaituba 18.64 24 *e*P **P 16 38 28.6 +2.0**
DIAM Diamantina, MG 18.64 83 *e*P **Pn 16 38 30.0 +3.0**
LR05 Currie 19.99 200 P **P 16 38 40.0 -1.2**
LR05 IAmb IAmb 16 38 43.9
comp=Z,139nm,1.4s
CAM01 Campos-RJ 20.00 95 *e*P Pn 16 38 47.5 +4.3
PLCA Paso Flores 20.03 197 P **P 16 38 37.6 -4.1**
PLCA Paso Flores 20.03 197 P **P 16 38 41.0 -0.7**
comp=Z,12nm,1.1s,baz=16,slow=10,SNR=8.2
PLCA Lg Lg 16 44 38.5
comp=Z,0.1nm,0.3s,baz=353,slow=17,SNR=3.3
PLCA LR LR 16 46 41.2
comp=Z,923nm,18.8s,baz=22,slow=38
comp=Z,12nm,1.1s
PLCA Paso Flores 20.03 197 *e*P **P 16 38 41.7 0.0**
PLCA Paso Flores 20.03 197 *e*P **Pn 16 38 44.6 +1.2**
ATAH Atahualpa 20.59 312 P **P 16 38 47.4 -1.0**
comp=Z,7.6nm,0.8s,baz=123,slow=6.9,SNR=9.4
ATAH S Sn 16 42 43.8 +0.8
comp=Z,1.6nm,0.4s,baz=244,slow=22,SNR=1.1
comp=Z,7.6nm,0.8s
LL04 Puerto Octay 20.73 200 P **P 16 38 47.9 -1.4**
LL04 IAmb IAmb 16 38 54.0
comp=Z,44nm,1.1s
SJMB Sao Joao De Ma 20.86 86 *e*P Pn 16 38 54.6 +1.3
ALF01 Guarapari-ES 20.98 91 *e*P Pn 16 38 57.4 +2.8
BSFB Barra de Sao F 21.14 86 *e*P **P 16 38 53.2 -0.7**
MAL2 Monte Alegre, 21.39 25 P **P 16 38 56.8 +0.3**
LL01 San Ignacio de 22.08 198 P **P 16 39 03.8 +0.1**
LL01 IAmb IAmb 16 39 07.2
comp=Z,66nm,1.2s
GUA01 Guaratinga, BA 22.65 81 *e*P **P 16 39 14.4 +4.3**
LL02 Futaleuf 22.67 197 P **P 16 39 10.5 +0.4**
LL02 IAmb IAmb 16 39 11.5
comp=Z,33nm,1.1s
CMC01 Camacan, BA 23.28 78 *e*P **P 16 39 21.3 +4.6**
AY01 Puyuhuapi 24.02 197 P **P 16 39 23.3 -0.3**
AY01 IAmb IAmb 16 39 25.2
comp=Z,40nm,1.1s
BOAV Boa Vista 24.03 7 P **P 16 39 25.6 +1.6**
BOAV IAmb IAmb 16 39 28.4
comp=Z,53nm,1.2s
COHC Cochancay 24.65 318 P **P 16 39 29.8 +0.2**
COYC Coyhaique 24.96 195 P **P 16 39 31.4 -0.7**
COYC IAmb IAmb 16 39 43.6
comp=Z,49nm,1.4s
SLOR San Lorenzo - 25.59 322 P **P 16 39 37.9 -0.7**
SLOR IAmb IAmb 16 40 02.2
comp=Z,25nm,1.0s
FLOC Florencia 26.10 331 P **P 16 39 41.4 -1.4**
FLOC IAmb IAmb 16 39 42.3
comp=Z,60nm,1.5s
OTAV Otavalo 26.36 324 P **P 16 39 45.2 -0.4**
OTAV Otavalo 26.36 324 P **P 16 39 45.2 -0.4**
OTAV pmax pmax
comp=Z,22nm,1.2s
OTAV Otavalo 26.36 324 *e*P **P 16 39 46.6 +1.0**
NBLA Lagarto - SE 26.53 71 *e*P **P 16 39 50.3 +3.6**
NBAN Anadia - AL 28.46 69 *e*P **P 16 40 07.5 +3.5**
ROSC El Rosal 28.49 336 P **P 16 40 04.0 -0.7**
comp=Z,8.1nm,0.3s,baz=138,slow=16,SNR=2.0
comp=Z,8.1nm,0.3s
MDP Montagnes des 28.52 22 LR LR 16 53 24.3
comp=Z,271nm,20.1s,baz=186,slow=41
NBLV Livramento - P 29.05 65 *e*P **P 16 40 10.7 +1.3**
EFI East Falkland 30.24 174 *i* P **P 16 40 17.2 -2.1**
EFI pmax pmax
comp=Z,45nm,2.3s
RCBR Riachuelo 30.73 63 LR LR 16 52 54.7
comp=Z,330nm,18.9s,baz=237,slow=37
BAUV El Baul 30.77 351 P **P 16 40 22.8 -1.6**
PCRV Puerto La Cruz 31.66 357 LR LR 16 53 10.4
comp=Z,598nm,19.1s,slow=36
JTS Las Juntas de 38.26 324 P **P 16 41 28.8 -0.5**
JTS Las Juntas de 38.26 324 LR LR 16 58 11.2
comp=Z,410nm,18.6s,baz=125,slow=38
JTS Las Juntas de 38.26 324 P **P 16 41 28.8 -0.5**
JTS pmax pmax
comp=Z,14nm,1.1s
CELP Cerrillos 39.61 355 IAmb IAmb 16 41 41.8
comp=Z,47nm,1.1s
SJG San Juan 39.62 356 P **P 16 41 41.1 +0.6**
SJG San Juan 39.62 356 P **P 16 41 41.1 +0.6**
SJG pmax pmax
comp=Z,84nm,1.5s
PMSA Palmer Station 43.12 181 LR LR 17 00 20.3
comp=Z,248nm,18.3s,baz=308,slow=36
MTO3 Montecristo 44.08 322 P **P 16 42 17.4 +0.1**
MTO3 IAmb IAmb 16 42 23.3
comp=Z,18nm,1.0s
APG El Apazote 45.20 321 LR LR 17 01 50.0
comp=Z,26nm,20.4s,baz=342,slow=37
CMIG Matias Romero 49.46 319 LR LR 17 05 11.7
comp=Z,109nm,19.6s,baz=172,slow=38
BELA Belgrano 2 57.92 173 P **P 16 44 01.2 +0.8**
BELA IAmb IAmb 16 44 04.8
comp=Z,29nm,1.2s
VNA3 Neumayer Olymp 58.27 162 P **P 16 44 01.2 -1.9**
VNA3 Neumayer Olymp 58.27 162 ⇑P **P 16 44 01.2 -1.9**
comp=Z,7.3nm,1.0s
BBTS Babate 58.28 56 LR LR 17 07 05.2
comp=Z,333nm,20.2s,baz=120,slow=34
ZAIG Zacatecas 58.49 317 P **P 16 44 05.4 -0.1**
ZAIG IAmb IAmb 16 44 08.1
comp=Z,7.8nm,0.9s
V55A Taylorsville 59.68 343 P **P 16 44 12.4 -0.8**
HKT Hockley 60.15 327 P **P 16 44 16.8 +0.3**
HKT Hockley 60.15 327 *i* P **P 16 44 15.5 -0.9**
HKT pmax pmax
comp=Z,5.0nm,0.4s
SNAA Sanae 60.43 162 P **P 16 44 19.4 +1.4**
SNAA Sanae 60.43 162 P **P 16 44 18.8 +0.8**
SNAA Sanae 60.43 162 ⇓P **P 16 44 19.4 +1.4**
comp=Z,180nm,1.1s
SNAA Sanae 60.43 162 P **P 16 44 17.8 -0.2**
comp=Z,15nm,1.2s,baz=338,slow=4.5,SNR=6.7
SNAA LR LR 17 12 25.8
comp=Z,138nm,18.2s,baz=352,slow=38
comp=Z,15nm,1.2s
SNAA Sanae 60.43 162 *ce*P **P 16 44 15.8 -2.2**
SNAA pmax pmax
comp=Z,39nm,1.5s
U54A Nelsons Funny 60.47 343 P **P 16 44 18.6 -0.1**
V48A Smith Brothers 61.31 338 IAmb IAmb 16 44 23.8
comp=Z,12nm,0.9s
HNDO Hondo 61.62 324 IAmb IAmb 16 44 28.1
comp=Z,11nm,0.9s
WVT Waverly 62.01 338 P **P 16 44 27.2 -1.8**
WVT Waverly 62.01 338 P **P 16 44 27.2 -1.8**
WVT pmax pmax
comp=Z,18nm,0.9s
TROLL Troll, Antarti 62.13 161 P **P 16 44 29.9 +0.3**
TROLL Troll, Antarti 62.13 161 ⇓P **P 16 44 29.9 +0.3**
comp=Z,274nm,0.7s
BRDY Brady 62.85 326 IAmb IAmb 16 44 36.1
comp=Z,15nm,1.3s
MIAR Mount Ida 62.91 332 IAmb IAmb 16 44 35.5
comp=Z,8.1nm,0.9s
FCAR Ozark Folk Cen 63.44 334 IAmb IAmb 16 44 37.9
comp=Z,8.4nm,1.1s
SAND Sanderson 63.52 322 IAmb IAmb 16 44 40.9
comp=Z,16nm,1.3s
DBIC Dimbokro 63.71 71 P **P 16 44 40.6 -0.3**
DBIC Dimbokro 63.71 71 P **P 16 44 40.4 -0.5**
comp=Z,18nm,0.8s,baz=219,slow=5.7,SNR=11
DBIC LR LR 17 11 20.2
comp=Z,455nm,18.3s,baz=240,slow=35
comp=Z,18nm,0.8s
DBIC Dimbokro 63.71 71 P **P 16 44 40.6 -0.3**
DBIC pmax pmax
comp=Z,21nm,0.9s
KSCT Kent School, K 63.77 351 P **P 16 44 40.1 -0.5**
TXAR Lajitas Array 63.95 321 P **P 16 44 41.2 -1.0**
comp=Z,1.3nm,0.8s,baz=152,slow=8.1,SNR=7.8
TXAR LR LR 17 12 08.5
comp=Z,62nm,21.7s,baz=128,slow=36
comp=Z,1.3nm,0.8s
M57A Sunshine Farm, 63.98 348 IAmb IAmb 16 44 44.0
comp=Z,12nm,1.1s
HRV Adam Dziewonsk 64.30 353 P **P 16 44 44.6 +0.6**
HRV Adam Dziewonsk 64.30 353 P **P 16 44 44.6 +0.6**
HRV pmax pmax
comp=Z,28nm,1.1s
L61B Northampton 64.37 352 IAmb IAmb 16 44 46.3
comp=Z,15nm,0.9s
HHAR Hobbs 64.54 333 IAmb IAmb 16 44 46.6
comp=Z,15nm,1.2s
MGMO Mountain Grove 64.59 335 IAmb IAmb 16 44 46.6
comp=Z,14nm,0.9s
FVM French Village 64.61 336 IAmb IAmb 16 44 46.3
comp=Z,14nm,1.2s
NVL N'lazarevskaya 64.81 159 *e*P **P 16 44 50.0 +2.9**
NVL pmax pmax
comp=Z,14nm,1.0s
L56A Greenwood 64.84 348 IAmb IAmb 16 44 56.6
comp=Z,16nm,1.2s
O48B Farmland 64.90 342 IAmb IAmb 16 44 48.0
comp=Z,19nm,1.2s
MNHN Monahans 64.93 323 IAmb IAmb 16 44 49.8
comp=Z,14nm,1.2s
CCM Cathedral Cave 64.98 336 P **P 16 44 47.1 -1.5**
CCM IAmb IAmb 16 44 48.6
comp=Z,8.0nm,0.9s
CCM Cathedral Cave 64.98 336 P **P 16 44 47.1 -1.5**
CCM pmax pmax
comp=Z,8.0nm,1.0s
MMNY Mt. Morris Dam 65.48 348 IAmb IAmb 16 44 53.4
comp=Z,10nm,1.2s
N47A Urbana 65.63 341 IAmb IAmb 16 44 52.8
comp=Z,18nm,1.1s
VHRN Van Horn 65.79 321 IAmb IAmb 16 44 55.5
comp=Z,7.7nm,1.1s
NCB Newcomb 66.07 351 IAmb IAmb 16 44 59.7
comp=Z,26nm,1.4s
FRNY Flat Rock 66.83 352 IAmb IAmb 16 45 04.0
comp=Z,14nm,1.2s
DELO Deloro Mine 67.15 349 IAmb IAmb 16 45 05.5
comp=Z,25nm,1.4s
SADO Sadowa 67.68 348 IAmb IAmb 16 45 06.3
comp=Z,19nm,1.2s
HSIG 68.24 316 IAmb IAmb 16 45 11.8
comp=Z,10nm,1.1s
R32A Long Quarter, 68.42 331 IAmb IAmb 16 45 11.9
comp=Z,13nm,0.8s
QSPA South Pole Qui 68.55 180 P **P 16 45 10.1 -1.2**
QSPA IAmb IAmb 16 45 21.5
comp=Z,9.5nm,1.2s
QSPA South Pole Qui 68.55 180 P **P 16 45 11.0 -0.3**
comp=Z,6.9nm,1.0s,baz=212,slow=2.2,SNR=13
comp=Z,6.9nm,1.0s
BATG Bathurst New B 68.65 358 IAmb IAmb 16 45 14.1
comp=Z,13nm,1.1s
121A Cookes Peak, D 68.70 320 IAmb IAmb 16 45 16.1
comp=Z,13nm,1.2s
319A Douglas 68.79 319 IAmb IAmb 16 45 15.4
comp=Z,13nm,0.9s
N35A Tabor 69.12 334 IAmb IAmb 16 45 15.2
comp=Z,18nm,1.0s
LDAQ Lac Daran 69.66 354 P **P 16 45 18.2 0.0**
ANMO Albuquerque 69.67 323 P **P 16 45 18.7 0.0**
ANMO IAmb IAmb 16 45 22.3
comp=Z,12nm,1.4s
ANMO Albuquerque 69.67 323 LR LR 17 17 51.4
comp=Z,75nm,21.1s,baz=303,slow=38
ANMO Albuquerque 69.67 323 *i* P **P 16 45 17.9 -0.8**
ANMO pmax pmax
comp=Z,8.0nm,2.0s
VLDQ Val d'Or 70.61 350 IAmb IAmb 16 45 25.7
comp=Z,16nm,1.3s
SDCO Great Sand Dun 71.23 326 IAmb IAmb 16 45 31.9
comp=Z,11nm,1.2s
SPMN Marine on St. 71.81 338 IAmb IAmb 16 45 31.6
comp=Z,12nm,1.0s
ECSD EROS Data Cent 71.93 335 IAmb IAmb 16 45 33.1
comp=Z,12nm,1.2s
X16A Lo Mia Camp, P 72.20 320 IAmb IAmb 16 45 37.0
comp=Z,9.5nm,1.1s
TORD Torodi Ar. Bea 72.43 68 P P 16 45 32.6 -3.0
TORD IAmb IAmb 16 45 39.9
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 72.43 68 P **P 16 45 35.7 +0.1**
comp=Z,30nm,0.6s,baz=244,slow=5.3,SNR=2.2
TORD LR LR 17 16 22.3
comp=Z,236nm,18.1s,baz=229,slow=35
comp=Z,30nm,0.6s
MVCO Mesa Verde 72.45 323 IAmb IAmb 16 45 38.6
comp=Z,13nm,1.2s
113A Mohawk Valley, 72.53 317 IAmb IAmb 16 45 38.3
comp=Z,8.6nm,1.0s
E38A The Farm, Brul 72.62 340 IAmb IAmb 16 45 36.1
comp=Z,8.6nm,1.0s
Y14A Wickenburg 72.83 318 IAmb IAmb 16 45 40.4
comp=Z,12nm,1.0s
WUAZ Wupatki 72.91 320 IAmb IAmb 16 45 41.8
comp=Z,16nm,1.2s
BLYC Blythe 73.65 317 IAmb IAmb 16 45 45.4
comp=Z,15nm,1.1s
SUR Sutherland 73.87 119 LR LR 17 15 19.4
comp=Z,206nm,18.9s,baz=253,slow=34
W13A Hualapai Mount 74.14 319 P **P 16 45 45.4 -0.2**
SYO Syowa Base 74.46 159ǁ*e*P **P 16 45 50.3 +3.6**
TAOE Nuku Hiva Isla 74.72 266 *e*LR LR 17 08 46.2
comp=Z,348nm,28.8s
PFO Pinyon Flats O 74.80 316 P **P 16 45 48.9 -0.4**
PFO IAmb IAmb 16 45 52.4
comp=Z,14nm,1.2s
PFO Pinyon Flats O 74.80 316 LR LR 17 19 47.7
comp=Z,79nm,18.8s,baz=128,slow=37
PFO Pinyon Flats O 74.80 316 *i* P **P 16 45 48.8 -0.5**
PFO pmax pmax
comp=Z,30nm,1.6s
TSUM Tsumeb 74.88 105 P **P 16 45 49.7 -0.5**
TSUM IAmb IAmb 16 45 53.9
comp=Z,21nm,1.4s
TSUM Tsumeb 74.88 105 LR LR 17 17 05.8
comp=Z,422nm,18.1s,baz=314,slow=34
SRU San Rafael Swe 74.92 324 P **P 16 45 49.6 -0.4**
SRU San Rafael Swe 74.92 324 P **P 16 45 49.6 -0.4**
SRU pmax pmax
comp=Z,4.0nm,0.9s
LCMT Little Creek M 75.03 321 IAmb IAmb 16 45 54.3
comp=Z,12nm,1.4s
V12A Nelson 75.15 319 IAmb IAmb 16 45 54.0
comp=Z,9.6nm,1.0s
ELS Elsinore Mount 75.45 316 IAmb IAmb 16 45 55.8
comp=Z,10.0nm,1.1s
TCRU Three Creeks R 75.65 322 IAmb IAmb 16 46 02.8
comp=Z,6.1nm,0.5s
SHPR Sheep Range 75.84 319 P **P 16 45 55.7 +0.3**
BSUT Blindstream Ca 76.06 325 P **P 16 45 56.7 0.0**
GSC Goldstone, Bar 76.09 317 IAmb IAmb 16 45 59.7
comp=Z,17nm,1.2s
SCHQ Schefferville 76.23 358 IAmb IAmb 16 45 58.1
comp=Z,19nm,1.1s
SCHQ Schefferville 76.23 358 P **P 16 45 56.1 -0.7**
comp=Z,9.9nm,0.8s,baz=187,slow=6.1,SNR=13
comp=Z,9.9nm,0.8s
PRN Pahroc Range 76.37 320 IAmb IAmb 16 46 05.9
comp=Z,18nm,1.4s
JLU Jordanelle 76.48 324 IAmb IAmb 16 46 00.8
comp=Z,10nm,1.2s
MDND Maddock 76.51 336 IAmb IAmb 16 45 60.0
comp=Z,25nm,1.1s
GWY Greenwater Val 76.57 318 IAmb IAmb 16 46 02.1
comp=Z,12nm,1.1s
CCAC Calif City Air 76.77 317 IAmb IAmb 16 46 03.2
comp=Z,20nm,1.1s
TPNV Topopah Spring 76.80 319 IAmb IAmb 16 46 04.1
comp=Z,7.7nm,0.9s
WCT Wildcat Mounta 76.93 319 IAmb IAmb 16 46 04.8
comp=Z,13nm,1.2s
PDAR Pinedale Array 77.02 327 P **P 16 46 01.0 -1.0**
comp=Z,0.7nm,0.4s,baz=125,slow=9.4,SNR=20
PDAR LR LR 17 23 42.8
comp=Z,116nm,19.5s,baz=122,slow=39
comp=Z,0.7nm,0.4s
ULM Lac du Bonnet 77.20 339 P **P 16 46 01.1 -1.4**
comp=Z,2.2nm,0.6s,baz=133,slow=7.4,SNR=5.9
ULM LR LR 17 22 36.1
comp=Z,188nm,18.6s,baz=144,slow=38
comp=Z,2.2nm,0.6s
ULM Lac du Bonnet 77.20 339 *i* P **P 16 46 01.8 -0.7**
VNDA Vanda 77.59 189 LR LR 17 18 44.1
comp=Z,173nm,20.6s,baz=140,slow=34
AHID Auburn Hatcher 77.81 326 IAmb IAmb 16 46 07.7
comp=Z,7.3nm,0.9s
MDT Midelt 77.84 47 LR LR 17 20 03.8
comp=Z,165nm,18.2s,baz=222,slow=35
TBI Tubuai 78.46 249 *e*LR LR 17 10 30.3
comp=Z,497nm,26.5s
BOSA Boshof 78.64 116 P **P 16 46 11.2 -0.1**
BOSA Boshof 78.64 116 P **P 16 46 11.5 +0.2**
comp=Z,6.9nm,1.1s,baz=257,slow=5.8,SNR=5.2
BOSA LR LR 17 16 58.5
comp=Z,406nm,21.3s,baz=241,slow=33
comp=Z,6.9nm,1.1s
BOSA Boshof 78.64 116 P **P 16 46 11.2 -0.1**
BOSA pmax pmax
comp=Z,11nm,1.4s
ELK Elko 78.68 322 LR LR 17 23 38.3
comp=Z,125nm,18.3s,baz=112,slow=38
NV11 Mina Array Sit 78.91 319 IAmb IAmb 16 46 19.4
comp=Z,10nm,1.2s
NVAR Mina Array Bea 79.00 319 P **P 16 46 13.3 +0.3**
NVAR Mina Array Bea 79.00 319 P **P 16 46 12.6 -0.4**

comp=Z,3.9nm,1.0s,baz=130,slow=4.7,SNR=14
comp=Z,3.9nm,1.0s
LHV Little Huntoon 79.01 319 IAmb IAmb 16 46 15.4
comp=Z,10.0nm,1.2s
RYN Ryan 79.25 319 IAmb IAmb 16 46 18.7
comp=Z,16nm,1.4s
WAKR Walker 79.74 318 IAmb IAmb 16 46 21.0
comp=Z,14nm,1.4s
LBTB Lobatse 80.09 113 P **P** **16 46 19.1 -0.2**
LBTB IAmb IAmb 16 46 22.8
comp=Z,16nm,1.1s
LBTB Lobatse 80.09 113 LR LR 17 18 40.9
comp=Z,682nm,19.1s,baz=242,slow=33
LBTB Lobatse 80.09 113 P **P** **16 46 19.1 -0.2**
LBTB pmax pmax
comp=Z,16nm,1.2s
TAM Tamanrasset 80.18 61 P **P** **16 46 20.5 +0.8**
TAM IAmb IAmb 16 46 24.2
comp=Z,15nm,1.3s
TAM Tamanrasset 80.18 61 P **P** **16 46 20.5 +0.8**
TAM pmax pmax
comp=Z,15nm,1.3s
PNTR Pine Nut 80.20 319 P **P** **16 46 19.5 -0.1**
PNTR IAmb IAmb 16 46 22.6
comp=Z,17nm,0.9s
PPT2 Papeete2 80.44 255 *e*LR LR 17 11 26.7
PPT2 comp=Z,354nm,30.8s
*e*LR LR 17 11 26.7
comp=Z,508nm,28.2s
PAHR Pah Rah Range 80.45 319 P **P** **16 46 21.3 +0.5**
PAHR IAmb IAmb 16 46 23.9
comp=Z,16nm,1.1s
PPT Papeete 80.45 255 LR LR 17 15 09.9
comp=Z,72nm,21.0s,baz=155,slow=31
PAB San Pablo 81.97 42 P **P** **16 46 29.9 +1.1**
PAB IAmb IAmb 16 46 33.7
comp=Z,11nm,1.1s
PAB San Pablo 81.97 42 P **P** **16 46 29.9 +1.1**
PAB pmax pmax
comp=Z,11nm,1.2s
J08A Circle Bar Ran 82.21 323 IAmb IAmb 16 46 53.7
comp=Z,14nm,1.3s
ESDC Sonseca Array 82.29 42 P **P** **16 46 30.8 +0.3**
ESDC Sonseca Array 82.29 42 P **P** **16 46 30.4 -0.1**
comp=Z,4.1nm,1.1s,baz=238,slow=5.0,SNR=14
ESDC LR LR 17 19 45.6
comp=Z,196nm,20.2s,baz=234,slow=33
comp=Z,4.1nm,1.1s
BMO Blue Mountains 82.53 324 IAmb IAmb 16 46 54.2
comp=Z,13nm,1.4s
MAW Mawson 82.59 162 LR LR 17 24 51.0
comp=Z,80nm,18.5s,baz=244,slow=37
FFC Flin Flon 83.00 339 *i* P **P** **16 46 31.7 -2.0**
I07A Izee 83.25 323 IAmb IAmb 16 46 53.5
comp=Z,9.8nm,1.4s
YBH Yreka Blue Hor 83.69 320 LR LR 17 25 38.7
comp=Z,118nm,18.4s,baz=138,slow=37
PINE Pine Mountain 83.88 322 IAmb IAmb 16 46 43.2
comp=Z,17nm,1.2s
FRB Frobisher Bay 85.21 358 LR LR 17 27 08.7
comp=Z,118nm,18.9s,baz=144,slow=37
LSZ Lusaka 85.73 105 P **P** **16 46 49.0 +0.3**
LSZ Lusaka 85.73 105 LR LR 17 20 44.4
comp=Z,496nm,21.5s,baz=250,slow=33
LSZ Lusaka 85.73 105 P **P** **16 46 49.0 +0.3**
LSZ pmax pmax
comp=Z,25nm,1.5s
RAR Rarotonga 88.15 248 LR LR 17 17 05.9
comp=Z,102nm,21.4s,baz=128,slow=29
KEST Kesra 89.20 51 LR LR 17 29 34.3
comp=Z,271nm,18.1s,baz=250,slow=37
BBB Bella Bella 92.65 326 LR LR 17 32 43.0
comp=Z,102nm,19.9s,baz=140,slow=38
YKA Yellowknife Ar 93.18 339 P **P** **16 47 21.6 -0.9**
comp=Z,1.0nm,0.8s,baz=131,slow=4.3,SNR=20
YKA LR LR 17 31 10.3
comp=Z,141nm,20.2s,baz=288,slow=37
comp=Z,1.0nm,0.8s
DAVOX Davos/Dischmat 94.60 41 LR LR 17 27 40.5
comp=Z,244nm,20.2s,baz=253,slow=34
DLBC Dease Lake 96.86 331 LR LR 17 36 32.7
comp=Z,136nm,19.7s,baz=114,slow=39
GERES GERESS Array B 97.81 40 LR LR 17 27 23.6
comp=Z,53nm,21.4s,baz=254,slow=33
KHC Kasperske Hory 97.85 40 *ce*P P 16 47 40.2 -4.1
KHC pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 99.29 95 LR LR 17 29 29.2
comp=Z,183nm,19.4s,baz=354,slow=34
VRAC Vranov 99.74 41 LR LR 17 30 56.5
comp=Z,85nm,19.3s,baz=242,slow=34
OBN Obninsk 113.00 38 *i* PKIKP **PKiKP** **16 52 44.6 -1.0**
OBN pmax pmax
comp=Z,3.0nm,0.9s
DZM Mont Dzumac 114.96 231 *e*LR LR 17 27 21.1
comp=Z,99nm,25.2s
ABKAR Akbulak array 127.60 44 PKPdf **PKPdf** **16 53 13.6 -0.3**
TIXI Tiksi 129.50 355 *i* PKIKP **PKPdf** **16 53 14.0 -2.8**
ASAR Alice Springs 131.99 201 PKP **PKPdf** **16 53 23.1 -0.1**
comp=Z,1.5nm,0.9s,baz=165,slow=2.4,SNR=8.5
SEY Seymchan 132.24 339 *c i* PKIKP **PKPdf** **16 53 20.6 -1.7**
SEY *i* 16 53 24.8
SEY pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 132.74 37 PKPdf **PKPdf** **16 53 25.3 +1.8**
BRVK Borovoye 132.74 37 *c i* PKIKP **PKPdf** **16 53 23.0 -0.5**
BRVK *i* 16 53 26.5
BRVK pmax pmax
comp=Z,13nm,2.5s
BVAR Borovoye Array 132.81 37 PKP **PKPdf** **16 53 23.4 -0.2**
WRA Warramunga Arr 135.26 204 PKP **PKPdf** **16 53 28.7 -0.7**
comp=Z,1.0nm,0.7s,baz=166,slow=1.4,SNR=6.2
KURBB Kurchatov Arra 138.41 36 PKP **PKPdf** **16 53 33.5 -0.6**
comp=Z,2.2nm,0.9s,baz=296,slow=2.7,SNR=9.1
KURK Kurchatov 138.41 36 *c i* PKIKP **PKPdf** **16 53 34.0 -0.2**
KURK *i* 16 53 38.0
KURK pmax pmax
comp=Z,7.0nm,1.3s
YAK Yakutsk 138.68 351 *c i* PKIKP **PKPdf** **16 53 31.8 -2.5**
YAK *i* 16 53 37.3
YAK pmax pmax
comp=Z,9.0nm,1.3s
AAK Ala-Archa 139.03 49 *c i* PKIKP **PKPdf** **16 53 34.0 -1.8**
AAK *i* 16 53 40.1
AAK pmax pmax
comp=Z,5.0nm,1.3s
ARLS Aral 139.13 50 PKIKP **PKPdf** **16 53 38.5 +2.5**
ZAA0 Zalesovo Array 139.66 29 **PKPdf** **16 53 36.8 +0.5**
ZALV Zalesovo Beam 139.66 29 **PKPdf** **16 53 36.9 +0.6**
ZALV Zalesovo Beam 139.66 29 PKhKP PKPpre 16 53 30.8
comp=Z,3.6nm,0.8s,baz=293,slow=3.7,SNR=12
ZALV PKP **PKPdf** **16 53 35.6 -0.7**
comp=Z,5.6nm,1.0s,baz=288,slow=1.4,SNR=8.8
KSH Kashi 140.97 53 PKP **PKPdf** **16 53 41.9 +2.5**
KSH PP **PP** **16 56 39.3 -1.2**
MK31 Makanchi Array 142.47 40 *c i* PKIKP **PKPdf** **16 53 38.2 -3.5**
MK31 *i* 16 53 47.3
MKAR Makanchi Array 142.47 40 **PKPdf** **16 53 40.8 -0.9**
MKAR Makanchi Array 142.47 40 PKhKP PKPpre 16 53 37.2
comp=Z,0.7nm,0.8s,baz=295,slow=3.7,SNR=5.7
MKAR Makanchi Array 142.47 40 PKIKP **PKPdf** **16 53 40.8 -0.9**
ZEA Zeya 146.99 349 *e*PKIKP **PKPdf** **16 53 47.6 -1.6**
ZEA pmax pmax
comp=Z,10.0nm,1.6s
YSS Yuzhno-Sakhali 147.17 326 *e*PKP2 **PKPdf** **16 53 51.7 +2.0**
YSS pmax pmax
comp=Z,10.0nm,1.4s
WMQ Urumqi 147.28 41 PKPbc **PKPdf** **16 53 53.0 +2.8**
MOY Mondy 147.60 18 *e*PKP2 **PKPdf** **16 53 52.3 +1.8**
MOY pmax pmax
comp=Z,81nm,2.0s
ZAK Zakamensk 149.40 17 *e*PKHKP PKPpre 16 53 54.8
ZAK pmax pmax
comp=Z,9.0nm,1.5s
MMRI Maumere 149.44 191 **PKPdf** **16 53 57.4 +2.9**
CIT Chita 149.57 4 *e*PKP2 **PKPbc** **16 53 58.8 +0.6**
CIT *e* 16 57 27.6
CIT pmax pmax
comp=Z,97nm,2.9s
SONM Songino Array 152.56 15 PKP **PKPdf** **16 53 57.8 -0.6**
comp=Z,1.6nm,0.8s,baz=263,slow=0.4,SNR=10.0
SONM PKPbc **sPKPdf** **16 54 05.4 +2.2**
comp=Z,3.6nm,0.4s,baz=300,slow=1.3,SNR=39
GOMU GeErMu 155.97 48 P **PKPdf** **16 54 06.3 +2.4**
GOMU pP pPKPdf 16 54 10.3 +2.8
GOMU sP sPKPdf 16 54 14.8 +6.1
GOMU PcP **PKPab** **16 54 29.5 -1.5**
GOMU pmax pmax
comp=Z,4.0nm,1.3s
GTA Gaotai 157.09 36 PKP **PKPdf** **16 54 04.8 -0.2**
KSRS Korea Array 161.54 331 PKP **PKPdf** **16 54 09.2 -0.7**
comp=Z,1.1nm,0.8s,baz=64,slow=2.8,SNR=6.0
PZH PanZhiHua 165.41 68 PKP **PKPdf** **16 54 13.4 -0.7**
NJ2 Nanjing 169.48 350 *eP* **PKPdf** **16 54 15.8 -0.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s

*IDC **23** 16:40:37.0±0.7, 23°.93S×175°.66W, h0km, mb4.3/14, mbtmp4.3/17, ML3.8/3, MS3.8/9, Error ellipse: s-maj=24.5km s-min=18.0km az=131.0*
*NEIC **23** 16:40:38.8±2.5, 24°.1±0°.1×175°.9W±0°.2, h10km±2km, mb4.6/19, Error ellipse: s-maj=31.6km s-min=20.9km az=106.0*
ISC 23 16:40:41.5±0.6, 23°.94S±0°.08×175°.9W±0°.1, h31km, n60, σ1°69/49, mb4.6/26, MS3.6/4, 1D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**5.58**	**198**	Pn		**Pn**	**16 42 00.9**	**-1.5**
RAO	**Raoul Island**	**5.58**	**198**	Pn		**Pn**	**16 42 02.0**	**-0.5**
	7.1nm,0.3s,baz=75,slow=20,SNR=1.3							
RAO				Sn		**Sn**	**16 43 09.8**	**+4.2**
	117nm,0.3s,baz=49,slow=19,SNR=5.1							
	215nm,0.4s							
MSVF	**Nonsavu**	**8.35**	**317**			Pn	16 42 36.8	-3.8
MSVF	**Nonsavu**	**8.35**	**317**	Pn		Pn	16 42 46.9	+6.4
	1.0nm,0.3s,baz=140,slow=15,SNR=13							
MSVF				LR		LR	16 45 47.9	
	comp=Z,405nm,18.8s,baz=109,slow=36							
RAR	**Rarotonga**	**15.17**	**83**	Pn		Pn	16 44 00.7	-13
	5.9nm,0.3s,baz=258,slow=11,SNR=7.0							
URZ	**Urewera**	**15.46**	**201**	Pn		**Pn**	**16 44 17.9**	**+0.5**
	0.3nm,0.3s,baz=52,slow=18,SNR=1.9							
	7.9nm,1.0s							
DZM	**Mont Dzumac**	**16.33**	**273**	*e*LR		LR	16 48 42.6	
	172nm,27.1s							
DZM	**Mont Dzumac**	**16.33**	**273**	Pn		**P**	**16 44 31.5**	**+0.1**
	0.2nm,0.3s,baz=110,slow=22,SNR=2.6							
DZM				LR		LR	16 49 24.1	
	comp=Z,108nm,20.8s,baz=72,slow=32							
	7.5nm,1.1s							
BKZ	**Black Stump Fm**	**16.49**	**201**	Pn		**Pn**	**16 44 27.8**	**-2.8**
MRZ	**Mangataiinoka R**	**18.14**	**201**			**Pn**	**16 44 47.4**	**-3.7**
MRZ				IAmb		IAmb	16 45 11.4	
	comp=Z,23nm,1.1s							
TBI	**Tubuai**	**24.25**	**94**	*e*LR		LR	16 51 56.4	
	comp=Z,1μm,25.0s							
PPT2	**Papeete2**	**25.42**	**81**	*e*LR		LR	16 52 22.7	
	comp=Z,185nm,22.0s							
PPT2				*e*LR		LR	16 52 29.0	
	comp=Z,215nm,24.2s							
PPT	**Papeete**	**25.43**	**81**	LR		LR	16 53 56.3	
	comp=Z,138nm,20.0s,baz=210,slow=32							
HNR	**Honiara**	**27.17**	**298**	LR		LR	16 55 10.1	
	comp=Z,83nm,20.2s,baz=192,slow=32							
TAOE	**Nuku Hiva Isla**	**37.32**	**72**	*e*LR		LR	16 57 44.7	
	comp=Z,111nm,24.2s							
STKA	**Stephens Creek**	**38.16**	**248**	P		**P**	**16 47 55.4**	**-2.9**
STKA				IAmb		IAmb	16 48 02.2	
	comp=Z,24nm,1.2s							
STKA	**Stephens Creek**	**38.16**	**248**	P		**P**	**16 47 59.3**	**+1.0**
	comp=Z,2.2nm,0.9s,baz=84,slow=9.4,SNR=4.0							
	comp=Z,2.2nm,0.9s							
COEN	**Coen**	**39.80**	**277**	P		**P**	**16 48 08.8**	**-3.4**
COEN				IAmb		IAmb	16 48 34.7	
	comp=Z,9.2nm,1.1s							
BBOO	**Buckleboo**	**42.85**	**247**	P		**P**	**16 48 36.3**	**-0.8**
BBOO				IAmb		IAmb	16 48 59.7	
	comp=Z,10nm,1.1s							
AS31	**Alice Springs**	**45.69**	**260**	P		**P**	**16 48 58.3**	**-1.6**
ASAR	**Alice Springs**	**45.69**	**260**	P		**P**	**16 49 00.1**	**+0.1**
ASAR	**Alice Springs**	**45.69**	**260**	P		**P**	**16 49 01.6**	**+1.7**
	comp=Z,2.7nm,0.9s,baz=97,slow=6.8,SNR=20							
ASAR				LR		LR	17 08 24.6	
	comp=Z,117nm,18.0s,baz=94,slow=36							
	comp=Z,2.7nm,0.9s							
WR0	**Warramunga Arr**	**45.92**	**265**	P		**P**	**16 49 01.6**	**-0.1**
WR0				IAmb		IAmb	16 49 05.0	
	comp=Z,3.9nm,0.8s							
WB2	**Warramunga Arr**	**46.10**	**265**	P		**P**	**16 49 01.4**	**-1.8**
WB2				IAmb		IAmb	16 49 06.4	
	comp=Z,9.5nm,0.9s							
WRAB	**Tennant Creek**	**46.10**	**265**	P		**P**	**16 49 03.7**	**+0.5**
WRAB				IAmb		IAmb	16 49 06.4	
	comp=Z,9.3nm,1.0s							
WB0	**Warramunga Arr**	**46.11**	**265**	P		**P**	**16 49 01.4**	**-1.8**
WB0				IAmb		IAmb	16 49 06.4	
	comp=Z,8.4nm,0.9s							
WRA	**Warramunga Arr**	**46.11**	**265**	P		**P**	**16 49 01.2**	**-2.0**
WRA	**Warramunga Arr**	**46.11**	**265**	P		**P**	**16 49 04.5**	**+1.2**
	comp=Z,7.5nm,0.9s,baz=96,slow=8.3,SNR=32							
	comp=Z,7.5nm,0.9s							
FORT	**Forrest**	**49.78**	**249**	P		**P**	**16 49 31.4**	**0.0**
MTN	**Manton Dam**	**51.17**	**273**	P		**P**	**16 49 43.4**	**+1.2**
MTN				IAmb		IAmb	16 50 04.4	
	comp=Z,12nm,1.1s							
KNRA	**Kununurra**	**52.41**	**268**	P		**P**	**16 49 50.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**54.53**	**264**	P		**P**	**16 50 08.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**54.53**	**264**	LR		LR	17 13 23.7	
	comp=Z,76nm,18.2s,baz=115,slow=36							
QSPA	**South Pole Qui**	**66.15**	**180**	P		**P**	**16 51 24.9**	**-1.0**
QSPA				IAmb		IAmb	16 51 45.8	
	comp=Z,4.4nm,1.1s							
QSPA	**South Pole Qui**	**66.15**	**180**	P		**P**	**16 51 26.5**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=66,slow=0.5,SNR=11							
	comp=Z,3.5nm,0.8s							
YSS	**Yuzhno-Sakhali**	**79.81**	**333**	P		**P**	**16 52 47.5**	**+1.0**
PETK	**Petropavlovsk-**	**80.07**	**344**	P		**P**	**16 52 48.5**	**+0.6**
	comp=Z,6.1nm,0.8s,baz=156,slow=4.7,SNR=6.2							
	comp=Z,6.1nm,0.8s							
KSRS	**Korea Array**	**80.71**	**318**	P		**P**	**16 52 53.1**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=118,slow=4.8,SNR=2.9							
	comp=Z,0.8nm,0.8s							
NVAR	**Mina Array Bea**	**82.24**	**42**	P		**P**	**16 52 59.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=223,slow=9.5,SNR=8.8							
	comp=Z,1.7nm,0.8s							
USA0B	**Ussuriysk Arra**	**82.86**	**325**			**P**	**16 53 04.1**	**+1.2**
USRK	**Ussuriysk Ar.**	**82.86**	**325**			**P**	**16 53 03.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**82.86**	**325**	P		**P**	**16 53 05.2**	**+2.3**
	comp=Z,7.1nm,0.9s,baz=131,slow=3.4,SNR=15							
	comp=Z,7.1nm,0.9s							
MDJ	**Mudanjiang**	**84.41**	**324**	P		**P**	**16 53 13.4**	**+2.6**
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.1s							
SNAA	**Sanae**	**84.53**	**178**	P		**P**	**16 53 12.0**	**+0.8**
	comp=Z,3.9nm,1.0s,baz=198,slow=6.4,SNR=3.3							
	comp=Z,3.9nm,1.0s							
BNX	**BinXian**	**86.32**	**324**	P		**P**	**16 53 22.1**	**+1.8**
BNX				pmax		pmax		
	comp=Z,11nm,1.1s							
TXAR	**Lajitas Array**	**87.32**	**56**	P		**P**	**16 53 25.2**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=198,slow=3.6,SNR=5.2							
	comp=Z,0.9nm,0.9s							
HEH	**HeiHe**	**89.22**	**328**	*eP*		**P**	**16 53 36.3**	**+2.2**
HEH				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PDAR	**Pinedale Array**	**90.17**	**42**	P		**P**	**16 53 38.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=184,slow=1.9,SNR=4.9							
	comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**91.24**	**12**	P		**P**	**16 53 42.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=214,slow=5.2,SNR=6.6							
	comp=Z,0.5nm,0.8s							
J26L	**Joseph Creek**	**91.67**	**13**	P		**P**	**16 53 45.3**	**0.0**
J26L				IAmb		IAmb	16 53 46.8	
	comp=Z,4.9nm,0.8s							
XLT	**XiLinHaoTe**	**91.77**	**318**	*eP*		**P**	**16 53 47.5**	**+1.2**
XLT				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.04**	**289**	P		**P**	**16 53 56.1**	**+3.4**
	comp=Z,3.9nm,1.0s,baz=122,slow=2.8,SNR=26							
	comp=Z,3.9nm,1.0s							
HHC	**Hu-ho-hao-te**	**93.10**	**314**	*eP*		P	16 54 01.8	+9.2
YKA	**Yellowknife Ar**	**98.83**	**24**	P		**P**	**16 54 17.2**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=242,slow=5.6,SNR=2.4							
	comp=Z,0.2nm,0.7s							
MKAR	**Makanchi Array**	**114.92**	**312**	PKP		**PKiKP**	**16 59 19.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=197,slow=2.0,SNR=3.7							
KURBB	**Kurchatov Arra**	**117.85**	**316**	PKP		**PKiKP**	**16 59 24.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=1.6,SNR=2.0							
FINES	**FINESS Array B**	**139.59**	**344**	PKP		**PKiKP**	**17 00 07.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=106,slow=3.0,SNR=1.1							
HFS	**Hagfors**	**143.20**	**352**	PKhKP		PKPpre	17 00 08.6	
	comp=Z,1.5nm,0.8s,baz=84,slow=4.5,SNR=1.6							
BRTR	**Keskin Array B**	**150.52**	**309**	PKPbc		**PKPbc**	**17 00 29.2**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=38,slow=5.4,SNR=4.8							
MMAI	**Mount Meron Ar**	**151.09**	**295**	PKPbc		**PKiKP**	**17 00 33.6**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=76,slow=8.0,SNR=5.3							

IDC 23 16:44:05.4±3.2, 25°.09S×179°.47E, h533km±42km, mb2.9/4, mbtmp3.8/5, Error ellipse: s-maj=43.7km s-min=34.2km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**7.43**	**349**	P		P	16 45 57.2	0.0
	4.9nm,0.8s,baz=78,slow=19,SNR=1.9							
STKA	**Stephens Creek**	**33.84**	**250**	P		P	16 50 03.5	-0.1
	1.1nm,0.5s,baz=86,slow=14,SNR=3.6							
	1.1nm,0.5s							
ASAR	**Alice Springs**	**41.38**	**262**	P		P	16 51 05.2	-0.1
	0.9nm,0.4s,baz=94,slow=7.4,SNR=9.1							
	0.9nm,0.4s							
WRA	**Warramunga Arr**	**41.86**	**268**	P		P	16 51 08.8	-0.3
	1.0nm,0.8s,baz=100,slow=7.1,SNR=2.9							
	1.0nm,0.8s							
QSPA	**South Pole Qui**	**65.00**	**180**	P		P	16 53 52.4	-0.2
	0.7nm,0.6s,baz=45,slow=1.4,SNR=1.9							
	0.7nm,0.6s							
HFS	**Hagfors**	**143.60**	**348**	PKP		PKPdf	17 02 38.7	-0.3
	7.6nm,1.2s,baz=47,slow=2.6,SNR=6.7							

*UPP **23** 16:48:31.0±0.5, 65°.21N×23°.56E, h3km±4km, ML2.6, Confirmed Earthquake*
*HEL **23** 16:48:31.6±0.1, 65°.21N×23°.59E, h7km, ML2.3, ML2.6(UPP), ML2.2(BER), Confirmed Earthquake*
*DNK **23** 16:48:31.0±0.4, 65°.21N×23°.59E, h0km±2km, ML2.6(UPP), Confirmed Earthquake*
*IDC **23** 16:48:31.6±0.8, 65°.16N×23°.60E, h0km, mbtmp3.3/5, ML2.0/4, Error ellipse: s-maj=11.0km s-min=6.8km az=94.0*
*BER **23** 16:48:32.2±2.4, 65°.19N×23°.61E, h0km±5km, ML2.2, ML2.6(UPP), Confirmed Earthquake*
ISC 23 16:48:30.4±1.0, 65°.21N±0°.01×23°.48E±0°.02, h8km±8km, n95, σ1°24/181, 3C-11D, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KALU	**Kalix**	**0.66**	**356**	P		**Pg**	**16 48 43.2**	**+0.2**
KALU				S		**Sg**	**16 48 51.8**	**+0.2**
KALU	**Kalix**	**0.66**	**356**	P		**Pg**	**16 48 43.2**	**+0.2**
KALU				S		**Sg**	**16 48 51.8**	**+0.2**
KALU	**Kalix**	**0.66**	**356**	P		**Pg**	**16 48 43.2**	**+0.2**
KALU				S		**Sg**	**16 48 51.8**	**+0.2**
KALU	**Kalix**	**0.66**	**356**	*eP*		**Pg**	**16 48 43.3**	**+0.2**
KALU				*eS*		**Sg**	**16 48 51.8**	**+0.2**
OBF0	**Syolatti, Pyha**	**0.78**	**155**	*eP*		**Pg**	**16 48 45.3**	**-0.1**
OBF0				*eS*		**Sg**	**16 48 55.2**	**-0.4**
OBF0	**Syolatti, Pyha**	**0.78**	**155**	*eP*		**Pg**	**16 48 45.3**	**-0.1**
OBF0				*eS*		**Sg**	**16 48 55.2**	**-0.4**
OBF4	**Vikkela, Lumij**	**0.80**	**119**	*eP*		**Pg**	**16 48 45.3**	**-0.3**
OBF4				*eS*		**Sg**	**16 48 55.3**	**-0.7**
OBF4				MSG			16 48 55.9	
	comp=Z,66nm,0.1s							
OBF4	**Vikkela, Lumij**	**0.80**	**119**	*eP*		**Pg**	**16 48 45.3**	**-0.3**
OBF4				*eS*		**Sg**	**16 48 55.3**	**-0.7**
OBF4				MSG			16 48 55.9	
	comp=Z,66nm,0.1s							
SJUU	**Sjulsmark**	**0.84**	**292**	P		**Pb**	**16 48 47.2**	**0.0**
SJUU				S		**Sb**	**16 48 59.0**	**+0.4**
SJUU	**Sjulsmark**	**0.84**	**292**	P		**Pb**	**16 48 47.2**	**0.0**
SJUU				S		**Sb**	**16 48 59.0**	**+0.4**
SJUU	**Sjulsmark**	**0.84**	**292**	P		**Pb**	**16 48 47.2**	**0.0**
SJUU				S		**Sb**	**16 48 59.0**	**+0.4**
SJUU	**Sjulsmark**	**0.84**	**292**	*i* P		**Pb**	**16 48 47.2**	**0.0**
SJUU				*i* S		**Sb**	**16 48 59.0**	**+0.4**
TOF	**Tornio**	**0.95**	**21**	*eP*		**Pg**	**16 48 48.1**	**-0.4**
TOF				*eS*		**Sg**	**16 48 59.8**	**-1.0**
TOF				MSG			16 48 60.0	
	comp=Z,24nm,0.1s							
TOF	**Tornio**	**0.95**	**21**	*eP*		**Pg**	**16 48 48.1**	**-0.4**
TOF				*eS*		**Sg**	**16 48 59.8**	**-1.0**
TOF				MSG			16 48 60.0	
	comp=Z,24nm,0.1s							
OUF	**Merijarvi**	**1.00**	**147**	*eP*		**Pg**	**16 48 49.1**	**-0.4**
OUF				*eS*		**Sg**	**16 49 01.7**	**-0.8**
OUF				MSG			16 49 02.2	
	comp=Z,43nm,0.1s							
OUF	**Merijarvi**	**1.00**	**147**	*eP*		**Pg**	**16 48 49.1**	**-0.4**
OUF				*eS*		**Sg**	**16 49 01.7**	**-0.8**
OUF				MSG			16 49 02.2	
	comp=Z,43nm,0.1s							
OUL	**Oulu**	**1.03**	**96**	*eP*		**Pg**	**16 48 49.5**	**-0.7**
OUL	**Oulu**	**1.03**	**96**	*eP*		**Pg**	**16 48 49.5**	**-0.7**
BURU	**Burvik**	**1.09**	**236**	*eP*		**Pn**	**16 48 52.0**	**+0.1**
BURU				*eS*		**Sn**	**16 49 06.7**	**-0.5**
BURU	**Burvik**	**1.09**	**236**	*eP*		**Pn**	**16 48 52.0**	**+0.1**
BURU				*eS*		**Sn**	**16 49 06.7**	**-0.5**
ODEU	**Stanfors**	**1.43**	**237**	⇓P		**Pg**	**16 48 57.7**	**0.0**
ODEU				S		**Sg**	**16 49 16.8**	**+0.6**
ODEU	**Stanfors**	**1.43**	**237**	⇓P		**Pg**	**16 48 57.7**	**0.0**
ODEU				S		**Sg**	**16 49 16.8**	**+0.6**
ODEU	**Stanfors**	**1.43**	**237**	⇓P		**Pg**	**16 48 57.7**	**0.0**
ODEU				S		**Sg**	**16 49 16.8**	**+0.6**
ODEU	**Stanfors**	**1.43**	**237**	⇓*eP*		**Pg**	**16 48 57.7**	**0.0**
ODEU				*eS*		**Sg**	**16 49 16.8**	**+0.6**
ERTU	**Ertsjaerv**	**1.45**	**339**	⇑P		**Pb**	**16 48 57.6**	**-0.1**
ERTU				S		**Sb**	**16 49 16.9**	**+0.6**
ERTU	**Ertsjaerv**	**1.45**	**339**	⇑P		**Pb**	**16 48 57.6**	**-0.1**
ERTU				S		**Sb**	**16 49 16.9**	**+0.6**
ERTU	**Ertsjaerv**	**1.45**	**339**	⇑P		**Pb**	**16 48 57.6**	**-0.1**
ERTU				S		**Sb**	**16 49 16.9**	**+0.6**
ERTU	**Ertsjaerv**	**1.45**	**339**	*eP*		**Pb**	**16 48 57.6**	**-0.1**
ERTU				*eS*		**Sn**	**16 49 16.4**	**+0.2**
LILU	**Lilltraesk**	**1.53**	**275**	⇓P		**Pb**	**16 48 59.5**	**+0.5**
LILU				S		**Sg**	**16 49 20.2**	**+0.7**
LILU	**Lilltraesk**	**1.53**	**275**	⇓P		**Pb**	**16 48 59.5**	**+0.5**
LILU				S		**Sg**	**16 49 20.2**	**+0.7**
LILU	**Lilltraesk**	**1.53**	**275**	⇓P		**Pb**	**16 48 59.5**	**+0.5**
LILU				S		**Sg**	**16 49 20.2**	**+0.7**
LILU	**Lilltraesk**	**1.53**	**275**	⇓*eP*		**Pb**	**16 48 59.5**	**+0.5**
LILU				*eS*		**Sg**	**16 49 20.2**	**+0.7**
RANF	**Ranua**	**1.60**	**58**	*eP*		**Pn**	**16 48 59.3**	**+0.4**
RANF				*eS*		**S

VAF			eSG	Sb	16 49 39.0	+1.2
VAF			MSG		16 49 39.8	
	comp=Z,19nm,0.1s					
HUSU	**Husum**	**2.64 227**	eP	Pb	16 49 15.5	-2.3
HUSU			eS	Sn	16 49 47.5	+2.2
HUSU	**Husum**	**2.64 227**	eP	Pb	16 49 15.5	-2.3
HUSU			eS	Sn	16 49 47.5	+2.2
KEF	**Keuruu**	**3.11 168**	eP	Pn	16 49 22.4	+2.7
HEF	**Hetta**	**3.22 1**	eP	Pn	16 49 23.0	+1.8
HEF			eS	Sn	16 50 00.5	+0.8
HEF	**Hetta**	**3.22 1**	eP	Pn	16 49 23.0	+1.8
HEF			eS	Sn	16 50 00.5	+0.8
KTK1	**Kautokeino**	**3.83 359**	eP	Pn	16 49 31.0	+1.5
KTK1			eS	Sn	16 50 15.2	+0.6
KTK1			IAML		16 50 32.6	
	comp=Z,8.5nm,0.5s					
KTK1	**Kautokeino**	**3.83 359**	eP	Pn	16 49 31.0	+1.5
KTK1			eS	Sn	16 50 15.2	+0.6
KTK1			IAML		16 50 32.6	
	comp=Z,8.5nm,0.5s					
MOR8	**Moi Rana**	**3.86 289**	eP	Pn	16 49 30.2	+0.2
MOR8			eS	Sn	16 50 13.1	-2.5
MOR8			IAML		16 50 33.2	
	comp=Z,23nm,0.4s					
MOR8	**Moi Rana**	**3.86 289**	eP	Pn	16 49 30.2	+0.2
MOR8			eS	Sn	16 50 13.1	-2.5
MOR8			IAML		16 50 33.2	
	comp=Z,23nm,0.4s					
FINES	**FINESS Array B**	**3.96 162**	Pn	Pn	16 49 33.6	+2.3
	comp=Z,0.2nm,0.3s,baz=346,slow=17,SNR=15					
FINES			Pg	Pb	16 49 40.8	+0.5
	comp=Z,0.7nm,0.3s,baz=348,slow=16,SNR=3.7					
FINES			Sn	Sn	16 50 19.6	+1.8
	comp=Z,0.5nm,0.3s,baz=345,slow=22,SNR=1.9					
FINES			Lg	Lg	16 50 31.2	
	comp=Z,1.8nm,0.3s,baz=346,slow=27,SNR=9.1					
	comp=Z,0.5nm,0.3s					
KIF	**Kilpisjarvi**	**3.96 346**	eP	Pn	16 49 33.4	+2.2
KIF			eS	Sn	16 50 19.3	+1.5
KIF	**Kilpisjarvi**	**3.96 346**	eP	Pn	16 49 33.4	+2.2
KIF			eS	Sn	16 50 19.3	+1.5
FAUS	**Fauske**	**3.96 307**	eP	Pn	16 49 33.1	+1.7
FAUS			eS	Sn	16 50 18.4	+0.4
FAUS			eSg	Sg	16 50 35.3	-2.2
FAUS			IAML		16 50 37.6	
	comp=Z,26nm,0.5s					
FAUS	**Fauske**	**3.96 307**	eP	Pn	16 49 33.1	+1.7
FAUS			eS	Sn	16 50 18.4	+0.4
FAUS			eSG	Sg	16 50 35.3	-2.2
FAUS			IAML		16 50 37.6	
	comp=Z,26nm,0.5s					
JOF	**Joensuu**	**4.14 120**	eP	Pn	16 49 36.1	+2.4
RAF	**Rauma**	**4.27 191**	eP	Pn	16 49 39.0	+3.4
STEI	**Steigen**	**4.28 313**	eP	Pn	16 49 36.8	+1.1
STEI			eS	Sn	16 50 26.0	+0.3
STEI			IAML		16 50 49.5	
	comp=Z,10.0nm,0.6s					
STEI	**Steigen**	**4.28 313**	eP	Pn	16 49 36.8	+1.1
STEI			eS	Sn	16 50 26.0	+0.3
STEI			IAML		16 50 49.5	
	comp=Z,10.0nm,0.6s					
LEIR	**Leirfjorden**	**4.38 287**	eP	Pn	16 49 38.1	+1.0
LEIR			eS	Sn	16 50 28.1	-0.3
LEIR			IAML		16 50 38.8	
	comp=Z,4.5nm,0.7s					
ARA0	**ARCESS Array S**	**4.42 9**	eP	Pn	16 49 38.8	+1.1
ARA0			eS	Sn	16 50 27.8	-1.5
ARA0			IAML		16 50 52.3	
	comp=Z,6.8nm,0.6s					
ARA0	**ARCESS Array S**	**4.42 9**	eP	Pn	16 49 38.8	+1.1
ARA0			eS	Sn	16 50 27.8	-1.5
ARA0			IAML		16 50 52.3	
	comp=Z,6.8nm,0.6s					
ARCES	**ARCESS Array B**	**4.42 9**	Pn	Pn	16 49 39.0	+1.3
	comp=Z,0.5nm,0.3s,baz=185,slow=14,SNR=68					
ARCES			Sn	Sn	16 50 27.6	-1.6
	comp=Z,0.9nm,0.3s,baz=195,slow=23,SNR=10					
ARCES			Lg	Lg	16 50 44.4	
	comp=Z,1.2nm,0.3s,baz=185,slow=26,SNR=8.4					
	comp=Z,1.4nm,0.3s					
KONS	**Konsvik**	**4.45 292**	eP	Pn	16 49 38.4	+0.4
KONS			eS	Sn	16 50 30.1	+0.2
KONS			IAML		16 50 55.5	
	comp=Z,14nm,0.4s					
KONS	**Konsvik**	**4.45 292**	eP	Pn	16 49 38.4	+0.4
KONS			eS	Sn	16 50 30.1	+0.2
KONS			IAML		16 50 55.5	
	comp=Z,14nm,0.4s					
STOK	**Stokkvaagen**	**4.46 289**	eP	Pn	16 49 38.9	+0.8
STOK			eS	Sn	16 50 28.3	-1.8
STOK			IAML		16 50 51.3	
	comp=Z,8.1nm,0.8s					
STOK	**Stokkvaagen**	**4.46 289**	eP	Pn	16 49 38.9	+0.8
STOK			eS	Sn	16 50 28.3	-1.8
STOK			IAML		16 50 51.3	
	comp=Z,8.1nm,0.8s					
JETT	**Jettan, Norway**	**4.53 346**	eP	Pn	16 49 40.6	+1.4
JETT			eS	Sn	16 50 31.5	-0.4
JETT			IAML		16 50 51.0	
	comp=Z,16nm,0.3s					
JETT	**Jettan, Norway**	**4.53 346**	eP	Pn	16 49 40.6	+1.4
JETT			eS	Sn	16 50 31.5	-0.4
JETT			IAML		16 50 51.0	
	comp=Z,16nm,0.3s					
KEV	**Kevo**	**4.77 15**	eP	Pn	16 49 43.2	+0.8
KEV			eS	Sn	16 50 36.8	-0.9
KEV	**Kevo**	**4.77 15**	eP	Pn	16 49 43.2	+0.8
KEV			eS	Sn	16 50 36.8	-0.9
TRO	**Tromso**	**4.78 341**	eS	Sn	16 50 37.9	-0.2
TRO			IAML		16 51 01.0	
	comp=Z,8.0nm,0.4s					
TRO	**Tromso**	**4.78 341**	eS	Sn	16 50 37.9	-0.2
TRO			IAML		16 51 01.0	
	comp=Z,8.0nm,0.4s					
LOF	**Lofoten**	**4.92 311**	eP	Pn	16 49 45.0	+0.5
LOF			eS	Sn	16 50 41.4	-0.1
LOF			IAML		16 50 45.0	
	comp=Z,7.5nm,0.8s					
LOF	**Lofoten**	**4.92 311**	eP	Pn	16 49 45.0	+0.5
LOF			eS	Sn	16 50 41.4	-0.1
LOF			IAML		16 50 45.0	
	comp=Z,7.5nm,0.8s					
NSS	**Namsos**	**4.95 267**	eP	Pn	16 49 44.6	-0.3
NSS			eS	Sn	16 50 39.9	-2.5
NSS			IAML		16 51 08.4	
	comp=Z,7.1nm,0.7s					
NSS	**Namsos**	**4.95 267**	eP	Pn	16 49 44.6	-0.3
NSS			eS	Sn	16 50 39.9	-2.5
NSS			IAML		16 51 08.4	
	comp=Z,7.1nm,0.7s					
MEF	**Metsahovi**	**5.03 175**	eP	Pn	16 49 47.6	+1.6
VADS	**Vadso**	**5.42 22**	eP	Pn	16 49 52.3	+0.9
VADS			eS	Sn	16 50 52.3	-1.5
VADS			IAML		16 51 17.2	
	comp=Z,4.6nm,0.6s					
NC303	**NORSAR Array S**	**6.77 239**	eP	Pn	16 50 09.7	-0.2
NC303			eS	Sn	16 51 23.3	-3.8
HFS	**Hagfors**	**6.79 226**	Pn	Pn	16 50 11.2	+1.0
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=1.0					
HFS			Sn	Sn	16 51 25.5	-2.1
	comp=Z,0.5nm,0.3s,baz=45,slow=25,SNR=9.8					
HFS			Lg	Lg	16 52 01.2	
	comp=Z,0.7nm,0.3s,baz=40,slow=29,SNR=7.7					
	comp=Z,0.8nm,0.7s					
NB201	**NORSAR Array S**	**6.91 239**	eP	Pn	16 50 12.9	+1.0
NB201			eS	Sn	16 51 27.4	-3.3
NB201			IAML		16 51 28.0	
	comp=Z,1.7nm,0.9s					
NOA	**NORSAR Array B**	**6.95 239**	Pn	Pn	16 50 13.4	+1.0
	baz=133,slow=3.7,SNR=2.0					
NOA			Sn	Sn	16 51 29.2	-2.3
	baz=44,slow=22,SNR=3.8					
NOA			Lg	Lg	16 52 04.8	
	baz=44,slow=22,SNR=3.9					
	comp=Z,1.0nm,1.0s					
SKAR	**Skarslia**	**8.26 244**	eP	Pn	16 50 30.3	-0.1
SKAR			eS	Sn	16 51 56.8	-7.0
SKAR			IAML		16 52 11.2	
	comp=Z,2.2nm,0.8s					
SPITS	**Spitsbergen Ar**	**13.21 354**	Pn	Pn	16 51 38.1	+0.1
	comp=Z,8.6nm,1.0s,baz=162,slow=15,SNR=1.4					

*SJA **23** 16:48:34.8±0.7, 21°.11S×62°.39W, h30km, ML4.5, MW4.2*

*SCB **23** 16:48:44.3±1.1, 21°.61S×63°.19W, h22km±5km, ML4.2/3, Error ellipse: s-maj=3.7km s-min=3.1km az=0.0*
*IDC **23** 16:48:45.3±0.7, 21°.57S×63°.25W, h0km, mb4.0/7, mbtmp4.1/11, ML4.2/4, MS3.4/3, Error ellipse: s-maj=20.0km s-min=14.3km az=63.0*
ISC 23 16:48:50.9±0.6, 21°.55S±0°.05×63°.12W±0°.06, h35km, n39, σ2°02/45, mb4.2/8, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOVT	**TarijaAcel**	**1.48 270**		Pg	**Pn**	**16 49 11.9**	**-3.3**
MOCB	**Mochara**	**2.37 277**		Pg	**Pn**	**16 49 27.0**	**-0.6**
MOCB				Sg	**Sn**	**16 49 59.9**	**+4.2**
MOCB				IAML		16 50 14.1	
	5μm,0.8s						
ALOL	**LOMAS DE OLMED**	**2.39 199**		eP	**Pn**	**16 49 24.5**	**-3.1**
AZAP	**Zapla**	**3.21 214**		i P	**Pn**	**16 49 37.6**	**-1.5**
AZAP				eS	**Sn**	**16 50 23.8**	**+7.6**
AZAP				IAML		16 50 36.4	
	comp=Z,2μm,0.8s						
SLA	**San Lorenzo**	**3.84 214**		i P	**Pn**	**16 49 46.0**	**-1.7**
SLA				eS	Sn	16 50 43.2	+11
SLA				IAML		16 50 51.6	
	comp=Z,531nm,0.7s						
AOEA	**Aiquile**	**3.90 329**		Pn	**Pn**	**16 49 48.2**	**-0.4**
AOEA	**Aiquile**	**3.90 329**		Pn	**Pn**	**16 49 48.8**	**+0.2**
AOEA				Sn	**Sn**	**16 50 37.5**	**+4.2**
AOEA				IAML		16 51 01.0	
	comp=Z,514nm,0.5s						
SALTA		**3.99 228**		i P	**Pn**	**16 49 49.5**	**-0.5**
SALTA				IAML		16 50 53.2	
	comp=Z,171nm,1.0s						
SOET	**ToroToro**	**4.25 323**		Pn	**Pn**	**16 49 54.0**	**+0.5**
MURT	**Porto Murtinho**	**5.13 92**		Pn	**Pn**	**16 50 06.3**	**+1.1**
FSA	**Cafayete**	**5.24 209**		i P	**Pn**	**16 50 04.2**	**-2.8**
SOEO	**Opoqueri**	**5.38 303**		Pn	**Pn**	**16 50 08.7**	**-0.4**
SIV	**San Ignacio**	**5.86 20**		Pn	**Pn**	**16 50 15.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=216,slow=9.4,SNR=34						
SIV				Sn	**Sn**	**16 51 23.4**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=192,slow=14,SNR=4.5						
SIV				Lg	Lg	16 51 52.3	
	comp=Z,2.1nm,0.3s,baz=277,slow=19,SNR=3.5						
	comp=Z,22nm,0.5s						
SIV	**San Ignacio**	**5.86 20**		Pn	**Pn**	**16 50 16.5**	**+1.2**
PB06	**IPOC Station P**	**6.09 258**		Pn	**Pn**	**16 50 17.4**	**-1.2**
PB06				Sn	**Sn**	**16 51 27.8**	**+0.6**
PB06				IAML		16 51 35.6	
	comp=Z,18nm,0.9s						
PB03	**IPOC Station P**	**6.18 264**		Pn	**Pn**	**16 50 18.4**	**-1.5**
LPAZ	**La Paz**	**7.06 317**		Pn	**Pn**	**16 50 31.4**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=110,slow=8.4,SNR=32						
LPAZ				Sn	**Sn**	**16 51 50.6**	**-1.1**
	comp=Z,3.8nm,0.3s,baz=313,slow=10,SNR=6.6						
LPAZ				Lg	Lg	16 52 27.5	
	comp=Z,2.2nm,0.3s,baz=227,slow=16,SNR=2.0						
LPAZ				LR	LR	16 53 04.4	
	comp=Z,180nm,19.3s,baz=122,slow=37						
	comp=Z,6.0nm,0.4s						
LPAZ	**La Paz**	**7.06 317**		Pn	**Pn**	**16 50 32.1**	**-0.3**
BBOD	**La Paz, Gloria**	**7.12 312**		Pn	**Pn**	**16 50 32.9**	**-0.2**
CPUP	**Villa Florida**	**7.12 133**		Pn	**Pn**	**16 50 30.4**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=321,slow=12,SNR=15						
CPUP				Lg	Lg	16 52 34.7	
	comp=Z,2.7nm,0.3s,baz=292,slow=11,SNR=4.2						
CPUP				LR	LR	16 53 56.4	
	comp=Z,218nm,19.2s,baz=312,slow=43						
	comp=Z,19nm,0.8s						
CPUP	**Villa Florida**	**7.12 133**		Pn	**Pn**	**16 50 31.8**	**-0.8**
PTLB	**Pontes e Lacer**	**7.15 33**		Pn	**Pn**	**16 50 34.3**	**+1.3**
CYA	**Choya**	**7.28 199**		i P	**Pn**	**16 50 31.4**	**-3.4**
CYA				IAML		16 51 59.4	
	comp=Z,21nm,1.2s						
CFA	**Coronel Fontan**	**11.01 203**		Sn	**Sn**	**16 53 28.7**	**+0.8**
	baz=52,slow=19,SNR=1.2						
CFA				Lg	Lg	16 54 33.9	
	baz=323,slow=24,SNR=1.6						
BDFB	**Brasilia**	**15.47 70**		Pn	**Pn**	**16 52 26.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=258,slow=9.3,SNR=1.5						
BDFB				Lg	Lg	16 57 02.0	
	comp=Z,0.7nm,0.3s,baz=332,slow=27,SNR=3.5						
BDFB				LR	LR	16 59 18.2	
	comp=Z,224nm,18.7s,baz=321,slow=41						
	comp=Z,8.4nm,1.0s						
SNAA	**Sanae**	**60.50 162**		P	**P**	**16 58 56.7**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=326,slow=16,SNR=1.2						
	comp=Z,1.3nm,0.8s						
DBIC	**Dimbokro**	**63.62 71**		P	**P**	**16 59 19.8**	**+0.9**
	comp=Z,1.7nm,0.5s,baz=226,slow=8.0,SNR=1.5						
	comp=Z,1.7nm,0.5s						
QSPA	**South Pole Qui**	**68.64 180**		P	**P**	**16 59 50.9**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=153,slow=2.5,SNR=5.6						
	comp=Z,2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.34 68**		P	**P**	**17 00 14.0**	**+0.4**
	comp=Z,23nm,0.3s,baz=247,slow=5.3,SNR=1.6						
SCHQ	**Schefferville**	**76.14 358**		P	**P**	**17 00 34.8**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=203,slow=6.1,SNR=8.2						
	comp=Z,2.3nm,0.6s						
PDAR	**Pinedale Array**	**76.97 327**		P	**P**	**17 00 39.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=123,slow=8.6,SNR=8.8						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**78.96 319**		P	**P**	**17 00 50.3**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=162,slow=5.9,SNR=4.0						
	comp=Z,0.6nm,0.7s						
ESDC	**Sonseca Array**	**82.17 42**		P	**P**	**17 01 08.7**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=236,slow=4.7,SNR=4.9						
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**132.10 201**		PKP	**PKPdf**	**17 08 00.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=133,slow=1.8,SNR=5.3						
WRA	**Warramunga Arr**	**135.37 204**		PKP	**PKPdf**	**17 08 07.1**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=169,slow=1.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**138.29 36**		PKP	**PKPdf**	**17 08 11.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=316,slow=2.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**139.54 29**		PKP	**PKPdf**	**17 08 15.3**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=271,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**142.36 40**		PKP	**PKPdf**	**17 08 17.6**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=315,slow=3.2,SNR=2.9						
SONM	**Songino Array**	**152.45 15**		PKPbc	**PKiKP**	**17 08 44.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=316,slow=2.3,SNR=12						

*PRE **23** 16:55:40.8±0.8, 26°.00S×29°.26E, h0km, ML2.2, Suspected explosion*
*BUL **23** 16:55:51.3±1.3, 25°.70S×29°.36E, h10km, MD3.2*
*IDC **23** 16:55:53.3±8.0, 26°.02S×28°.58E, h0km, mbtmp2.9/1, ML2.3/1, Error ellipse: s-maj=76.9km s-min=54.6km az=138.0*
ISC 23 16:55:41.0±0.9, 26°.02S±0°.03×29°.25E±0°.03, h0km, n21, σ1°60/38, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.42 275**		eP	**Pg**	**16 56 07.3**	**-0.9**
HRAO				eS	**Sb**	**16 56 27.3**	**+0.2**
HRAO				IAML		16 56 30.7	
	comp=Z,34nm,0.4s						
PILG	**Pilgrimsrest,**	**1.71 51**		eP	**Pn**	**16 56 12.3**	**+0.2**
PILG				eS	**Sn**	**16 56 35.2**	**+0.4**
PILG				IAML		16 56 38.2	
	comp=Z,34nm,0.5s						
NWCL	**Newcastle**	**1.80 162**		eP	**Pn**	**16 56 13.7**	**+0.3**
NWCL				eS	**Sb**	**16 56 38.2**	**+0.1**
NWCL				IAML		16 56 41.9	
	comp=Z,36nm,0.4s						
PRYS	**Parys**	**1.92 242**		eP	**Pn**	**16 56 15.8**	**+0.7**
PRYS				eS	**Sb**	**16 56 41.6**	**0.0**
PRYS				IAML		16 56 44.5	
	comp=Z,42nm,0.6s						
LEPH	**Lephalale, Lim**	**2.53 328**		eP	**Pn**	**16 56 23.9**	**+0.5**
LEPH				eS	**Sn**	**16 56 55.2**	**+0.2**
LEPH				IAML		16 57 02.9	
	comp=Z,12nm,0.3s						
POGA	**Pongola**	**2.56 122**		eP	**Pn**	**16 56 24.8**	**+1.1**
POGA				eS	**Sn**	**16 56 55.9**	**+0.2**
POGA				IAML		16 57 03.2	
	comp=Z,17nm,0.3s						
SNKL	**Senekal, Frees**	**2.60 210**		eP	**Pn**	**16 56 25.1**	**+0.6**
SNKL				eS	**Sn**	**16 56 58.2**	**+1.2**
SNKL				IAML		16 57 09.6	
	comp=Z,17nm,0.4s						
MOPA	**Mopani**	**3.17 38**		eP	**Pn**	**16 56 32.9**	**+0.8**
MOPA				eS	**Sn**	**16 57 09.9**	**-0.7**
MOPA				IAML		16 57 22.6	
	comp=Z,18nm,0.3s						
MOPA	**Mopani**	**3.17 38**		i P	**Pn**	**16 56 34.1**	**+2.1**
MOPA				i S	**Sn**	**16 57 09.0**	**-1.6**
LBTB	**Lobatse**	**3.45 286**		eP	**Pn**	**16 56 37.0**	**+0.9**
LBTB				eS	**Sn**	**16 57 18.0**	**+0.2**
LBTB				IAML		16 57 33.0	
	comp=Z,11nm,0.4s						
LBTB	**Lobatse**	**3.45 286**		i P	**Pb**	**16 56 44.6**	**+1.5**
LBTB				i S	**Sb**	**16 57 24.4**	**-1.3**
PMBG	**Pietermaritzbu**	**3.65 163**		eP	**Pn**	**16 56 39.3**	**+0.5**
PMBG				eS	**Sn**	**16 57 22.6**	**0.0**
PMBG				IAML		16 57 40.7	
	comp=Z,13nm,0.3s						
MUSN	**Musina, Limpop**	**3.76 9**		eP	**Pn**	**16 56 40.8**	**+0.5**
MUSN				eS	**Sn**	**16 57 24.2**	**-1.1**
MUSN				IAML		16 57 47.2	
	comp=Z,6.6nm,0.4s						
MUSN	**Musina, Limpop**	**3.76 9**		i P	**Pn**	**16 56 44.3**	**+4.0**
MUSN				i S	**Sn**	**16 57 23.6**	**-1.6**
BOSA	**Boshof**	**4.39 233**		Pn	**Pb**	**16 56 56.0**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=3.3						
BOSA				Pg	**Pg**	**16 57 03.4**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=51,slow=16,SNR=12						
BOSA				Lg	Lg	16 57 58.6	
	comp=Z,3.4nm,0.3s,baz=330,slow=20,SNR=17						
	comp=Z,3.9nm,1.1s						
BOSA	**Boshof**	**4.39 233**		eP	**Pn**	**16 56 50.3**	**+1.2**
BOSA				eS	**Sn**	**16 57 41.1**	**0.0**
BOSA				IAML		16 58 08.0	
	comp=Z,8.5nm,0.5s						
BOSA	**Boshof**	**4.39 233**		i P	**Pb**	**16 57 01.4**	**+2.2**
BOSA				i S	**Sb**	**16 57 53.2**	**+0.5**
I47ZA	**BOSHOF INFRASO**	**4.41 233**		I	I	17 21 50.0	
	comp=Z,0.1nm,0.9s,baz=50,slow=337,SNR=2.2						
KSTD	**Kokstad**	**4.58 179**		eP	**Pn**	**16 56 53.0**	**+1.4**
KSTD				eS	**Sn**	**16 57 45.0**	**-0.7**
KSTD				IAML		16 58 10.3	
	comp=Z,4.2nm,0.4s						
BLWY	**Bulawayo**	**5.88 354**		i P	**Pn**	**16 57 13.3**	**+3.7**
BLWY				i S	**Sn**	**16 58 14.0**	**-3.9**
I35NA	**TSUMEB INFRASO**	**12.74 300**		I	I	18 04 06.4	
	baz=127,slow=310,SNR=5.4						

*IPEC **23** 16:57:49.6±0.2, 51°.52N×16°.18E, h1km, ML2.0/5, Error ellipse: s-maj=1.9km s-min=1.4km az=44.0*
*PRU **23** 16:57:51.9, 51°.44N×16°.10E, h0km*
*VIE **23** 16:57:51.3±0.7, 51°.38N×16°.18E, h0km, mb2.6/3, ml2.4/4, Error ellipse: s-maj=6.8km s-min=5.2km az=58.0, Suspected Mining induced.*
ISC 23 16:57:50.8±1.2, 51°.41N±0°.06×16°.14E±0°.03, h0km, n24, σ0°51/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58 170**		eP	**Pb**	**16 58 02.8**	**-1.0**
KSP				eSg	**Sb**	**16 58 11.8**	**-0.8**
CHVC	**Chvalec**	**0.83 184**		ePG	**Pb**	**16 58 07.6**	**-0.5**
CHVC				eSG	**Sb**	**16 58 19.6**	**-0.2**
OSTC	**Ostas**	**0.86 177**		ePG	**Pb**	**16 58 08.3**	**-0.3**
OSTC				eSG	**Sb**	**16 58 20.6**	**-0.1**
UPC	**Upice**	**0.91 185**		ePG	**Pb**	**16 58 08.8**	**-0.7**
UPC				eSG	**Sb**	**16 58 21.8**	**-0.3**
DPC	**Dobruska-Polom**	**1.07 174**		ePG	**Pg**	**16 58 11.6**	**+0.3**
DPC				eSG	**Sb**	**16 58 26.7**	**-0.1**
PIVO	**Bartosovice**	**1.26 168**		ePg	**Pg**	**16 58 15.0**	**+0.1**
	baz=350						
PIVO				eSg	**Sb**	**16 58 32.0**	**-0.1**
	24nm,0.2s,baz=350						
PVCC	**Panska Ves**	**1.33 229**		ePG	**Pg**	**16 58 16.3**	**0.0**
PVCC				eSG	**Sn**	**16 58 34.6**	**-0.4**
	comp=Z,55nm,0.2s						
KRLC	**Kraliky**	**1.40 163**		ePG	**Pb**	**16 58 17.8**	**-0.1**
KRLC				eSG	**Sn**	**16 58 36.5**	**-0.4**
	comp=Z,13nm,0.3s						
BRG	**Berggiesshubel**	**1.48 249**		Pg	**Pn**	**16 58 18.7**	**0.0**
BRG				Sg	**Sn**	**16 58 38.8**	**0.0**
BRG				Amp		16 58 40.1	
	comp=Z,21nm,0.4s						
STEB	**Steborice**	**1.81 144**		eSG	**Sg**	**16 58 49.2**	**+0.3**
MORC	**Moravsky Berou**	**1.87 151**		ePn	**Pn**	**16 58 23.6**	**-0.5**
	baz=334						
MORC				eSg	**Sg**	**16 58 50.9**	**+0.1**
	comp=Z,6.8nm,0.3s,baz=334						
MORC	**Moravsky Berou**	**1.87 151**		ePN	**Pn**	**16 58 23.6**	**-0.5**
MORC				eSG	**Sg**	**16 58 50.9**	**+0.1**
HSKC	**Hora Svate Kat**	**1.89 246**		ePG	**Pn**	**16 58 24.9**	**+0.5**
HSKC				eSG	**Sb**	**16 58 50.6**	**+0.3**
CLL	**Collm**	**1.97 268**		ePg	**Pb**	**16 58 27.0**	**-0.5**
CLL				eSg	**Sb**	**16 58 52.0**	**-0.5**
	comp=Z,10.0nm,0.5s						
VRAC	**Vranov**	**2.13 172**		ePn	**Pn**	**16 58 27.9**	**+0.3**
	baz=353						
VRAC				eSg	**Sg**	**16 58 59.3**	**+0.2**
	comp=Z,9.1nm,0.4s,baz=353						
VRAC	**Vranov**	**2.13 172**		ePN	**Pn**	**16 58 28.0**	**+0.3**
VRAC				eSG	**Sg**	**16 58 59.3**	**+0.2**
KRUC	**Moravsky**	**2.36 176**		ePn	**Pn**	**16 58 30.9**	**+0.1**
	baz=357						
KRUC				eSg	**Sg**	**16 59 07.1**	**+0.5**
	comp=Z,4.6nm,0.2s,baz=357						
KRUC	**Moravsky**	**2.36 176**		ePN	**Pn**	**16 58 30.9**	**+0.1**
KRUC				eSG	**Sg**	**16 59 07.1**	**+0.5**
OJC	**Ojcow**	**2.61 116**		ePg	**Pg**	**16 58 41.6**	**+0.7**
OJC				eSg	**Sg**	**16 59 14.8**	**+0.2**
KHC	**Kasperske Hory**	**2.81 217**		ePG	**Pb**	**16 58 43.0**	**+1.1**
KHC				eSG	**Sg**	**16 59 20.1**	**-1.1**
CONA	**Conrad Observa**	**3.49 183**		eSg	**Sg**	**16 59 43.7**	**+0.7**
	comp=Z,1.9nm,0.3s						
RONA	**Rosalia, Austr**	**3.72 178**		Sg	**Sg**	**16 59 51.6**	**+1.3**
	comp=Z,4.1nm,0.5s						
MOA	**Molln**	**3.77 200**		i Pn	**Pn**	**16 58 50.1**	**

MORC *e*Sg **Sg** **17 03 30.2 -0.8**
comp=Z,8.3nm,0.4s,baz=336
MORC Moravsky Berou 1.95 152 *e*PN **Pn** **17 03 02.1 -0.6**
MORC *e*SG **Sg** **17 03 30.2 -0.8**
CLL Collm 1.97 265 *e*Pg **Pb** **17 03 04.0 -0.9**
CLL *e*Sg **Sb** **17 03 30.0 0.0**
comp=Z,8.0nm,0.4s
OKC Ostrava-Krasne 2.11 142 *e*SG **Sg** **17 03 35.4 -0.6**
VRAC Vranov 2.22 172 *e*Pn **Pn** **17 03 06.3 -0.1**
baz=354
VRAC *e*Sg **Sg** **17 03 39.5 -0.1**
comp=Z,4.1nm,0.2s,baz=354
VRAC Vranov 2.22 172 *e*PN **Pn** **17 03 06.4 0.0**
VRAC *e*SG **Sg** **17 03 39.5 -0.1**
TREC Trest 2.25 191 *e*SG **Sg** **17 03 40.4 -0.2**
KRUC Moravsky 2.46 176 *e*Sg **Sg** **17 03 47.0 0.0**
comp=Z,2.0nm,0.2s,baz=358
KRUC Moravsky 2.46 176 *e*SG **Sg** **17 03 47.1 0.0**
NKC Novy Kostel 2.66 243 *e*PG **Pg** **17 03 18.2 -1.0**
NKC *e*SG **Sg** **17 03 54.1 +0.5**
comp=Z,12nm,0.5s
OJC Ojcow 2.66 118 *e*Pg **Pg** **17 03 19.6 +0.4**
OJC *e*Sg **Sg** **17 03 54.5 +0.8**
KHC Kasperske Hory 2.89 215 *e*PN **Pn** **17 03 15.6 +0.1**
KHC *e*PG **Pb** **17 03 21.6 +1.0**
KHC *e*SG **Sg** **17 03 59.9 -1.0**
CONA Conrad Observa 3.59 183 *i* Pn **Pn** **17 03 26.4 +1.2**
comp=Z,0.1nm,0.1s
CONA *e*Sg **Sg** **17 04 23.5 +0.1**
comp=Z,2.3nm,0.3s
MOA Molln 3.86 199 *i* Pn **Pn** **17 03 29.2 +0.4**
comp=Z,0.9nm,0.3s
MOA *e*Sg **Sg** **17 04 32.4 +0.3**
comp=Z,5.0nm,0.6s

---

*IDC **23** 17:06:09.2±1.9, 29°.99N×87°.40E, h0km, mb3.3/5, mbtmp3.3/8, ML3.3/3, Error ellipse: s-maj=65.0km s-min=20.8km az=66.0*
ISC 23 17:06:13.1±1.6, 30°.0N±0°.2×87°.2E±0°.3, h35km, n8, σ1§09/8, mb3.3/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.66**	**134**	Pn	**Pn**	**17 09 50.0**	**-1.2**
	0.1nm,0.3s,baz=320,slow=11,SNR=8.8						
	0.3nm,0.7s						
AAK	**Ala-Archa**	**16.26**	**325**	Pn	**P**	**17 10 00.6**	**-1.0**
	0.1nm,0.3s,baz=170,slow=16,SNR=1.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**17.24**	**349**	P	**P**	**17 10 12.1**	**-0.2**
	0.1nm,0.3s,baz=148,slow=12,SNR=4.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**21.65**	**345**	P	**P**	**17 10 60.0**	**-0.3**
	0.3nm,0.3s,baz=158,slow=10,SNR=4.7						
	0.3nm,0.3s						
SONM	**Songino Array**	**23.17**	**34**	P	**P**	**17 11 16.3**	**-0.3**
	1.0nm,1.0s,baz=219,slow=8.5,SNR=4.3						
	1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**24.04**	**357**	P	**P**	**17 11 25.9**	**+1.2**
	0.3nm,0.4s,baz=163,slow=10,SNR=2.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**67.24**	**132**	P	**P**	**17 17 04.7**	**+0.5**
	0.3nm,0.6s,baz=323,slow=6.4,SNR=1.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**69.67**	**135**	P	**P**	**17 17 20.5**	**+1.1**
	0.4nm,0.7s,baz=316,slow=6.3,SNR=5.1						
	0.4nm,0.7s						

---

*JMA **23** 17:06:47.4±0.1, 30°.6N±0°.3×131°.2E±0°.8, h30km, MV3.2/37, NEAR TANEGASHIMA ISLAND*
*IDC **23** 17:06:49.0±1.6, 30°.62N×130°.95E, h44km±18km, mb3.2/4, mbtmp3.4/9, ML2.9/5, MS2.5/1, Error ellipse: s-maj=32.0km s-min=9.6km az=103.0*
ISC 23 17:06:47.7±1.1, 30°.55N±0°.05×131°.12E±0°.06, h33km±3km, n25, σ1§10/32, mb3.4/4, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.16**	**309**	P	**Pb**	**17 06 53.2**	**-0.8**
JTN				*e*S	**Sb**	**17 06 57.8**	**-0.4**
JMTN	**Minamitane**	**0.25**	**231**	*i* P	**Pn**	**17 06 54.5**	**-0.2**
JMTN				*e*S	**Sb**	**17 07 00.2**	**+0.6**
JYAK	**Yakushimahirau**	**0.62**	**240**	P	**Pn**	**17 06 59.7**	**-0.3**
JYAK				*e*S	**Sn**	**17 07 08.9**	**+0.1**
JTSR	**Tashiro 2**	**0.64**	**344**	P	**Pb**	**17 06 59.6**	**-0.9**
JTSR				*e*S	**Sn**	**17 07 08.9**	**-0.5**
JKC	**Kuchinoerabu**	**0.81**	**264**	P	**Pb**	**17 07 02.8**	**-0.4**
JKC				*e*S	**Sb**	**17 07 15.0**	**+1.1**
JNAR	**Kushima--Naru**	**0.98**	**7**	*e*P	**Pn**	**17 07 05.2**	**+0.1**
JSU	**Suzuyama**	**1.11**	**329**	P	**Pn**	**17 07 06.9**	**0.0**
JNKG	**Nichinankitago**	**1.13**	**11**	P	**Pn**	**17 07 07.7**	**+0.6**
JNN	**Nakanoshima**	**1.29**	**237**	*e*P	**Pb**	**17 07 10.7**	**-0.8**
JTZ	**Takazaki**	**1.34**	**359**	*e*P	**Pn**	**17 07 10.9**	**+0.8**
JNU	**Nakatsue**	**2.57**	**355**	P	**Pn**	**17 07 27.8**	**+0.8**
	3.5nm,0.3s,baz=241,slow=2.1,SNR=37						
JNU				S	**Sn**	**17 07 56.6**	**-0.6**
	12nm,0.5s,baz=132,slow=18,SNR=1.2						
	19nm,0.7s						
JNU	**Nakatsue**	**2.57**	**355**	P	**Pn**	**17 07 27.8**	**+0.8**
JMN	**Monobe**	**3.94**	**36**	P	**Pn**	**17 07 45.5**	**-0.3**
JTU	**Tsushima**	**4.22**	**340**	P	**Pn**	**17 07 53.3**	**+3.7**
JOW	**Kunigami**	**4.47**	**215**	P	**Pn**	**17 07 54.3**	**+1.1**
	0.9nm,0.3s,baz=43,slow=19,SNR=6.8						
JOW				S	**Sn**	**17 08 44.3**	**+0.3**
	10.0nm,0.3s,baz=74,slow=27,SNR=9.7						
	19nm,0.9s						
INU	**Inuyama**	**6.88**	**44**	P	**Pn**	**17 08 28.2**	**+1.9**
JGF	**Kuroka**	**7.26**	**44**	P	**Pn**	**17 08 32.9**	**+1.5**
KSRS	**Korea Array**	**7.38**	**340**	P	**Pn**	**17 08 34.1**	**+1.2**
	0.3nm,0.3s,baz=157,slow=14,SNR=5.8						
KSRS				LR	LR	17 11 47.8	
	comp=Z,31nm,18.9s,baz=155,slow=41						
	0.8nm,0.4s						
MAJO	**Matsushiro**	**8.40**	**43**	P	**Pn**	**17 08 47.3**	**+0.2**
MJAR	**Matsushiro Arr**	**8.40**	**43**	P	**Pn**	**17 08 47.6**	**+0.5**
	0.1nm,0.3s,baz=239,slow=14,SNR=7.4						
	0.5nm,0.4s						
KLR	**Kul'dur**	**18.66**	**1**	P	**P**	**17 11 02.9**	**+0.2**
	0.2nm,0.3s,baz=170,slow=15,SNR=2.3						
	0.5nm,0.5s						
SONM	**Songino Array**	**25.62**	**319**	P	**P**	**17 12 12.9**	**-1.2**
	0.6nm,1.1s,baz=127,slow=11,SNR=1.9						
	0.6nm,1.1s						
WRA	**Warramunga Arr**	**50.30**	**176**	P	**P**	**17 15 41.6**	**+0.5**
	0.4nm,0.7s,baz=2.7,slow=7.7,SNR=5.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**53.98**	**177**	P	**P**	**17 16 09.7**	**+1.2**
	0.2nm,0.6s,baz=11,slow=13,SNR=6.1						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**70.37**	**330**	P	**P**	**17 17 56.6**	**-1.2**
	1.3nm,0.8s,baz=48,slow=2.8,SNR=4.6						
	1.3nm,0.8s						

AUST 23 17:23:55.1±0.9, 18°S±7°×12°0E±°, h10km, mb3.8/3, ML2.6/3, Error ellipse: s-maj=17.2km s-min=10.9km az=139.7, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.22**	**178**	P	Pn	17 24 47.1	+1.3
PSAD1	**Pilbara Seismi**	**3.52**	**177**	P	Pn	17 24 49.6	-0.3
PSAD1				S	Sn	17 25 31.5	0.0
FITZ	**Fitzroy Crossi**	**5.74**	**93**	P	Pn	17 25 19.7	-0.7
	comp=Z,1.8nm,1.9s						
GIRL	**Giralia**	**6.89**	**226**	P	Pn	17 25 35.6	-0.6
	comp=Z,0.4nmcomp=Z,147nm,1.5s						
MEEK	**Meekatharra**	**8.72**	**186**	P	Pn	17 26 01.7	+0.4
	comp=Z,0.1nmcomp=Z,13nm,2.6s						
WRKA	**Warakurna**	**10.74**	**133**	P	Pn	17 26 29.6	+0.5

---

*IDC **23** 17:35:56.3±2.0, 4°.90S×144°.61E, h91km±18km, mb3.2/5, mbtmp3.6/8, Error ellipse: s-maj=31.0km s-min=11.6km az=52.0*
ISC 23 17:35:55.4±0.9, 4°.8S±0°.1×144°.7E±0°.1, h82km, n8, σ1§03/10, mb3.5/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.59**	**300**	P	**Pn**	**17 37 02.0**	**-0.5**
	13nm,0.5s,baz=147,slow=11,SNR=10						
JAY				S	**Sn**	**17 37 56.4**	**+1.8**
	16nm,0.9s,baz=132,slow=18,SNR=1.6						
PMG	**Port Moresby**	**5.17**	**152**	P	**Pn**	**17 37 11.4**	**+1.1**
	8.0nm,0.5s,baz=5.0,slow=6.8,SNR=8.8						
PMG				S	**Sn**	**17 38 09.1**	**+0.3**
	6.6nm,0.4s,baz=288,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**18.10**	**213**	P	**P**	**17 39 59.5**	**-1.3**
	0.4nm,0.4s,baz=32,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**21.43**	**208**	P	**P**	**17 40 36.1**	**-0.9**
	0.3nm,0.4s,baz=30,slow=12,SNR=16						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**75.14**	**321**	P	**P**	**17 47 28.9**	**0.0**
	0.2nm,0.3s,baz=105,slow=7.7,SNR=7.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**84.47**	**324**	P	**P**	**17 48 19.2**	**+0.1**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=2.5						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**85.14**	**180**	P	**P**	**17 48 22.3**	**-0.1**
	1.1nm,1.1s,baz=283,slow=3.4,SNR=9.5						
	1.1nm,1.1s						
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**17 48 22.6**	**-0.6**
	0.3nm,0.8s,baz=248,slow=5.6,SNR=1.6						
	0.3nm,0.8s						

---

*IDC **23** 17:40:30.9±0.5, 9°.83S×150°.21E, h0km, mb4.7/17, mbtmp4.7/21, ML3.9/4, MS4.1/49, Error ellipse: s-maj=18.7km s-min=14.0km az=78.0*
*MOS **23** 17:40:31.0±0.9, 9°.81S×150°.10E, h9km, mb5.2/39, Error ellipse: s-maj=8.4km s-min=6.2km az=116.1*
*BJI **23** 17:40:32.2, 9°.76S×150°.11E, h14km, mB5.2/22, mb4.7/69, Ms4.7/16, Ms7 4.6/18*
*NEIC **23** 17:40:33.6±1.9, 9°.81S±0°.07×149°.93E±0°.07, h10km±1km, mb5.2/219, Mww5.1/16, Error ellipse: s-maj=11.9km s-min=11.6km az=114.0*
*NEIC **23** 17:40:33.2, 9°.77S×149°.92E, h12km*
*NEIC **23** 17:40:33.2, 9°.77S×149°.92E, h12km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.82; $M_{\theta\theta}$=3.83; $M_{\phi\phi}$=-0.01; $M_{r\theta}$=1.22; $M_{\theta\phi}$=-1.85; $M_{\phi r}$=2.04; Fault plane solution: M_0=4.85000×10^{16} NP1: ϕ_s=137.15000°, δ=48.95000°, λ=-51.07000°. NP2: ϕ_s=266.26000°, δ=54.08000°, λ=-125.82000°. Principal axes: T 4.5905, Plg3.0000°, Azm21.0000°; N 0.5127, Plg28.0000°, Azm289.0000°; P -5.1033, Plg62.0000°, Azm116.0000°;*
*GCMT **23** 17:40:35.6±0.1, 9°.84S±0°.01×150°.10E±0°.01, h12km, MW5.1/120, Moment Tensor Solution. s66,c85; s120,c215; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.79±.15; $M_{\theta\theta}$5.11±.11; $M_{\phi\phi}$=0.32±.10; $M_{r\theta}$1.33±.25; $M_{\theta\phi}$=2.17±.08; $M_{\phi r}$=0.22±.31; Best double couple: M_0=5.50000×10^{16} NP1:ϕ_s113.00000°, δ38.00000°, λ=85.00000°. NP2:ϕ_s286.00000°, δ52.00000°, λ=94.00000°. Principal axes: T 6.0330, Plg7.0000°, Azm19.0000°; N -1.0740, Plg3.0000°, Azm289.0000°; P -4.9670, Plg82.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **23** 17:40:39.8±0.5, 10°S±3°×15°0E±°, h50km±5km, M5.2/61, mB5.6/28, mb5.2/61, MLv5.4/1, Mw(mB)5.1/28, MwMwp5.0/1, Mwp5.2/1*
ISC 23 17:40:35.9±0.2, 9°.91S±0°.04×150°.04E±0°.04, h28km, n730, σ1§34/620, mb5.2/205, MS4.2/55, 13C-6D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**280**	Pn	**Pn**	**17 41 20.1**	**+0.1**
	244nm,0.5s,baz=91,slow=6.3,SNR=90						
PMG				Sn	**Sn**	**17 41 55.8**	**+2.0**
	185nm,0.3s,baz=90,slow=20,SNR=3.6						
PMG				LR	LR	17 42 22.4	
	comp=Z,3μm,20.1s,baz=102,slow=37						
BULU	**Kimbe**	**4.36**	**4**	P	**Pn**	**17 41 40.6**	**+0.3**
RABL	**Rabaul**	**6.06**	**20**		Pn	17 41 57.5	-6.2
KAVG	**Kavieng**	**7.32**	**6**	P	**Pn**	**17 42 21.0**	**0.0**
COEN	**Coen**	**7.83**	**238**	Pn	**Pn**	**17 42 25.8**	**-2.2**
COEN	**Coen**	**7.83**	**238**	P	**Pn**	**17 42 27.1**	**-0.9**
MANU	**Manus Island**	**8.26**	**341**	Pn	**Pn**	**17 42 32.8**	**-1.1**
TATA	**Tatamba Isabel**	**9.76**	**82**	P	Pn	17 42 59.0	+4.5
HNR	**Honiara**	**9.78**	**88**		**Pn**	**17 42 54.6**	**-0.1**
HNR	**Honiara**	**9.78**	**88**	Pn	**Pn**	**17 42 52.7**	**-2.0**
	1.6nm,0.3s,baz=221,slow=11,SNR=9.4						
HNR	**Honiara**	**9.78**	**88**	P	Pn	17 42 58.3	+3.5
MTSU	**Mount Surprise**	**9.88**	**214**	P	**Pn**	**17 42 57.1**	**+0.9**
	comp=Z,42nm,0.6s						
MTSU	**Mount Surprise**	**9.88**	**214**	P	**Pn**	**17 42 57.3**	**+1.2**
AUAYR	**Ayr State High**	**9.94**	**195**	P	**Pn**	**17 43 00.3**	**+3.4**
ALEG	**Aligegeo Malai**	**10.58**	**85**	P	Pn	17 43 10.0	+4.3
JAY	**Jayapura**	**11.83**	**308**	Pn	**Pn**	**17 43 23.9**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=106,slow=22,SNR=1.0						
JAY				LR	LR	17 49 26.4	
	comp=Z,2μm,18.3s,baz=114,slow=45						
	comp=Z,20nm,0.9s						
QIS	**Mount Isa**	**14.60**	**222**	P	**Pn**	**17 44 01.5**	**+0.8**
	comp=Z,117nm,1.4s						
QIS	**Mount Isa**	**14.60**	**222**	P	**Pn**	**17 44 02.1**	**+1.4**
EIDS	**Eidsvold**	**15.40**	**176**		**Pn**	**17 44 12.4**	**+1.0**
EIDS	**Eidsvold**	**15.40**	**176**	P	**P**	**17 44 14.8**	**-0.9**
	comp=Z,76nm,1.4s						
EIDS	**Eidsvold**	**15.40**	**176**	P	**P**	**17 44 14.5**	**-1.2**
LUES	**Luesalemba Tem**	**15.64**	**94**	P	**P**	**17 44 17.2**	**-1.2**
KOUNC	**Koumac, New Ca**	**17.33**	**129**	P	**P**	**17 44 40.4**	**+3.3**
KDU	**Kakadu**	**17.45**	**259**	P	**P**	**17 44 38.6**	**+0.2**
	comp=Z,122nm,1.2s						
KDU	**Kakadu**	**17.45**	**259**	P	**P**	**17 44 39.4**	**+1.0**
QLP	**Quilpie**	**17.47**	**198**	P	**P**	**17 44 40.4**	**+1.8**
	comp=Z,290nm,1.9s						
QLP	**Quilpie**	**17.47**	**198**	P	**P**	**17 44 40.6**	**+2.0**
AUWSH	**Wavell State H**	**17.62**	**171**	P	**P**	**17 44 42.5**	**+2.2**
RKPI	**Ransiki, Papua**	**17.84**	**297**	P	**P**	**17 44 44.8**	**+2.0**
WR0	**Warramunga Arr**	**17.98**	**234**		**Pn**	**17 44 41.3**	**-2.7**
WB0	**Warramunga Arr**	**18.00**	**235**	P	**Pn**	**17 44 42.5**	**-1.8**
WRAB	**Tennant Creek**	**18.12**	**235**	P	**Pn**	**17 44 43.0**	**-2.7**
WRAB	**Tennant Creek**	**18.12**	**235**	*i* P	**Pn**	**17 44 45.8**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,51nm,0.8s						
WB2	**Warramunga Arr**	**18.13**	**235**		**Pn**	**17 44 43.4**	**-2.4**
WRA	**Warramunga Arr**	**18.14**	**235**	P	**Pn**	**17 44 44.4**	**-1.5**
WRA	**Warramunga Arr**	**18.14**	**235**	P	**Pn**	**17 44 45.7**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=58,slow=12,SNR=24						
WRA				S	**Sn**	**17 47 59.0**	**-8.7**
	comp=Z,8.6nm,0.9s,baz=51,slow=24,SNR=6.4						
WRA				LR	LR	17 51 44.7	
	comp=Z,2μm,19.0s,baz=64,slow=37						
	comp=Z,12nm,1.0s						
SAUI	**Saumlaki**	**18.61**	**274**	P	**P**	**17 44 48.5**	**-2.7**
MTN	**Manton Dam**	**18.76**	**259**		**P**	**17 44 50.7**	**-2.2**
MTN	**Manton Dam**	**18.76**	**259**	P	**Pn**	**17 44 55.0**	**+1.5**
	comp=Z,65nm,1.0s						
MTN	**Manton Dam**	**18.76**	**259**	P	**Pn**	**17 44 54.2**	**+0.7**
DRS	**Darwin Rock St**	**18.94**	**261**	P	**Pn**	**17 44 56.1**	**+0.4**
FAKI	**Fak Fak**	**18.99**	**290**	P	**P**	**17 44 53.8**	**-1.6**
FAKI	**Fak Fak**	**18.99**	**290**	P	**Pn**	**17 44 56.6**	**+0.4**
FAKI	**Fak Fak**	**18.99**	**290**	P	**Pn**	**17 44 57.3**	**+1.1**
AULRC	**Lightning Ridg**	**19.51**	**185**	P	**Pn**	**17 45 03.4**	**+1.0**
INKA	**Innaminka**	**19.78**	**205**	P	**Pn**	**17 45 06.9**	**+1.3**
DZM	**Mont Dzumac**	**19.84**	**129**	*e*P	**Pn**	**17 45 06.2**	**-0.3**
	comp=Z,434nm,1.5s						
DZM				*e*S	**S**	**17 48 46.1**	**-1.0**
	comp=Z,4μm,28.2s						
DZM				*e*LR	LR	17 49 48.2	
	comp=Z,2μm,22.9s						
DZM	**Mont Dzumac**	**19.84**	**129**	P	**Pn**	**17 45 06.3**	**-0.2**
DZM	**Mont Dzumac**	**19.84**	**129**	P	**P**	**17 45 03.8**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=328,slow=8.2,SNR=8.5						
DZM				LR	LR	17 51 05.8	
	comp=Z,2μm,20.0s,baz=332,slow=32						
	comp=Z,38nm,1.1s						
DZM	**Mont Dzumac**	**19.84**	**129**	P	**Pn**	**17 45 07.4**	**+0.9**
ONTNC	**Ouen Toro**	**19.99**	**130**	P	Pn	17 45 08.0	-0.1
ONTNC				IAmb	IAmb	17 45 11.8	
	comp=Z,200nm,1.2s						
ONTNC	**Ouen Toro**	**19.99**	**130**	P	Pn	17 45 11.0	+2.9
YATNC	**Mamie plateau,**	**20.18**	**129**	P	Pn	17 45 12.8	+2.4
OUENC	**Ouen Island, N**	**20.34**	**130**	P	Pn	17 45 13.1	+0.8
ARMA	**Armidale**	**20.46**	**176**		**P**	**17 45 12.6**	**+1.2**
ARMA				IAmb	IAmb	17 45 23.9	
	comp=Z,145nm,1.4s						
ARMA	**Armidale**	**20.46**	**176**	P	Pn	17 45 14.0	+0.3
	comp=Z,84nm,1.7s						
ARMA	**Armidale**	**20.46**	**176**	P	Pn	17 45 15.0	+1.3
AS01	**Alice Springs**	**20.57**	**226**	P	Pn	17 45 14.7	-0.3
AS31	**Alice Springs**	**20.60**	**226**	P	**P**	**17 45 14.1**	**+1.1**
AS31	**Alice Springs**	**20.60**	**226**	P	**P**	**17 45 14.6**	**+1.6**
	comp=Z,57nm,0.9s						
ASAR	**Alice Springs**	**20.60**	**226**	P	**P**	**17 45 14.2**	**+1.1**
	comp=Z,24nm,0.9s,baz=63,slow=10,SNR=112						
ASAR				S	**S**	**17 49 02.2**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=46,slow=24,SNR=3.2						
ASAR				LR	LR	17 52 39.1	
	comp=Z,2μm,20.8s,baz=56,slow=35						
	comp=Z,24nm,0.9s						
SWI	**Sorong**	**20.73**	**295**	P	**P**	**17 45 14.8**	**+0.4**
	comp=Z,188nm,1.1s						
PINNC	**Pines Island,**	**20.91**	**129**	P	Pn	17 45 17.8	-1.2
PINNC				IAmb	IAmb	17 45 22.9	
	comp=Z,112nm,1.2s						
KNRA	**Kununurra**	**21.52**	**252**	P	**P**	**17 45 21.9**	**-0.9**
KNRA				IAmb	IAmb	17 45 29.9	
	comp=Z,115nm,0.8s						
KNRA	**Kununurra**	**21.52**	**252**	P	**P**	**17 45 23.6**	**+0.7**
	comp=Z,175nm,1.1s						
CMSA	**Cobar Meteorol**	**21.89**	**190**	P	**P**	**17 45 28.2**	**+1.4**
	comp=Z,60nm,1.4s						
CMSA	**Cobar Meteorol**	**21.89**	**190**	P	**P**	**17 45 28.2**	**+1.4**
MSAI	**Masohi**	**21.95**	**286**	P	**P**	**17 45 29.8**	**+2.2**
	comp=Z,71nm,1.1s						
AUDCS	**Dubbo College**	**22.25**	**183**	P	**P**	**17 45 31.8**	**+1.2**
OOD	**Oodnadatta**	**22.34**	**215**	P	**P**	**17 45 33.0**	**+1.4**
AAI	**Ambon**	**22.55**	**284**	P	**P**	**17 45 35.2**	**+1.2**
	comp=Z,1μmcomp=Z,116nm,1.1s						
LCRK	**Leigh Creek**	**23.21**	**207**	P	**P**	**17 45 41.9**	**+1.2**
STKA	**Stephens Creek**	**23.21**	**198**	P	**P**	**17 45 41.0**	**+0.2**
STKA	**Stephens Creek**	**23.21**	**198**	P	**P**	**17 45 41.5**	**+0.7**
	comp=Z,537nm,1.0s						
STKA	**Stephens Creek**	**23.21**	**198**	P	**P**	**17 45 41.0**	**+0.2**
	comp=Z,31nm,0.8s,baz=8.8,slow=10.0,SNR=37						
STKA				LR	LR	17 54 32.3	
	comp=Z,1μm,21.1s,baz=17,slow=36						
	comp=Z,31nm,0.8s						
STKA	**Stephens Creek**	**23.21**	**198**	P	**P**	**17 45 41.1**	**+0.4**
STKA	**Stephens Creek**	**23.21**	**198**	*i* P	**P**	**17 45 41.4**	**+0.7**
NLAI	**Namlea**	**23.72**	**285**	P	**P**	**17 45 48.1**	**+2.3**
	comp=Z,1μmcomp=Z,45nm,1.1s						
GUMO	**Guam**	**23.91**	**348**	LR	LR	17 53 17.2	
	comp=Z,414nm,21.9s,baz=168,slow=32						
YNG	**Young**	**24.32**	**183**	P	**P**	**17 45 53.1**	**+1.8**
	comp=Z,272nm,1.7s						
YNG	**Young**	**24.32**	**183**	P	**P**	**17 45 53.8**	**+2.6**
TNTI	**Ternate**	**24.94**	**294**	P	**P**	**17 45 54.8**	**-2.2**
TNTI				IAmb	IAmb	17 46 03.0	
	comp=Z,59nm,1.1s						
TNTI	**Ternate**	**24.94**	**294**	P	**P**	**17 45 58.2**	**+1.2**
TNTI	**Ternate**	**24.94**	**294**	P	**P**	**17 46 00.5**	**+3.5**
	comp=Z,1μmcomp=Z,49nm,1.1s						
FITZ	**Fitzroy Crossi**	**25.01**	**248**	P	**P**	**17 45 57.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**25.01**	**248**	P	**P**	**17 45 57.5**	**-0.2**
	comp=Z,31nm,1.0s						
FITZ	**Fitzroy Crossi**	**25.01**	**248**	LR	LR	17 55 37.4	
	comp=Z,2μm,18.5s,baz=79,slow=36						
FITZ	**Fitzroy Crossi**	**25.01**	**248**	P	**P**	**17 45 58.5**	**+0.9**
SANI	**Sanana**	**25.14**	**287**	P	**P**	**17 46 01.7**	**+2.8**
SANI	**Sanana**	**25.14**	**287**	P	**P**	**17 45 59.1**	**+0.2**
	comp=Z,1μmcomp=Z,64nm,1.1s						
CAN	**Canberra**	**25.31**	**182**	P	**P**	**17 46 00.4**	**+0.1**
CAN				IAmb	IAmb	17 46 16.4	
	comp=Z,64nm,1.2s						
CAN	**Canberra**	**25.31**	**182**	P	**P**	**17 46 00.4**	**+0.1**
CAN				pmax	pmax		
	comp=Z,64nm,1.2s						
SOEI	**Soe**	**25.39**	**268**	P	**P**	**17 45 59.9**	**-1.4**
SOEI	**Soe**	**25.39**	**268**	P	**P**	**17 46 05.2**	**+3.9**
SOEI	**Soe**	**25.39**	**268**	P	**P**	**17 46 03.4**	**+2.1**
	comp=Z,2μmcomp=Z,156nm,1.3s						
HTT	**Hallett**	**25.54**	**202**	P	**P**	**17 46 03.4**	**+1.0**
	comp=Z,64nm,1.0s						
HTT	**Hallett**	**25.54**	**202**	P	**P**	**17 46 03.9**	**+1.5**
WRKA	**Warakurna**	**25.56**	**231**	P	**P**	**17 46 02.9**	**+0.3**
	comp=Z,52nm,0.8s						
WRKA	**Warakurna**	**25.56**	**231**	P	**P**	**17 46 03.4**	**+0.8**
WHYH	**Whyalla**	**25.72**	**205**	P	**P**	**17 46 07.2**	**+3.3**
BBOO	**Buckleboo**	**26.18**	**207**	P	**P**	**17 46 08.3**	**+0.1**
BBOO				IAmb	IAmb	17 46 24.1	
	comp=Z,69nm,1.2s						
BBOO	**Buckleboo**	**26.18**	**207**	P	**P**	**17 46 09.2**	**+1.0**
	comp=Z,44nm,1.2s						
BBOO	**Buckleboo**	**26.18**	**207**	P	**P**	**17 46 10.2**	**+2.0**
AUMBR	**Murray Bridge**	**26.96**	**200**	P	**P**	**17 46 16.2**	**+1.1**
MMRI	**Maumere**	**27.46**	**270**	P	**P**	**17 46 18.6**	**-1.3**
MMRI	**Maumere**	**27.46**	**270**	P	**P**	**17 46 21.5**	**+1.6**
MMRI	**Maumere**	**27.46**	**270**	P	**P**	**17 46 20.1**	**+0.2**
BBSI	**Bau Bau**	**27.57**	**277**	P	**P**	**17 46 25.4**	**+4.6**
ARPS	**Mount Arapiles**	**27.75**	**194**	P	**P**	**17 46 23.7**	**+1.5**
	comp=Z,49nm,1.0s						
ARPS	**M

MEEK Meekatharra 34.03 237 P P 17 47 22.2 +4.5
SRBI Singaraja 34.44 270 P P 17 47 26.0 +4.6
comp=Z,20nm,1.0s
MYLDM Lahad Datu 34.81 294 P P 17 47 23.1 -1.5
MYLDM IAmb IAmb 17 47 42.3
comp=Z,68nm,1.4s
MYLDM Lahad Datu 34.81 294 P P 17 47 26.6 +2.0
ABJI Asem Bagus 35.43 270 P P 17 47 32.8 +2.8
comp=Z,53nm,1.0s
JAGI Jajag, Banyuwa 35.45 269 P P 17 47 27.9 -2.2
JAGI Jajag, Banyuwa 35.45 269 P P 17 47 30.6 +0.5
JAGI Jajag, Banyuwa 35.45 269 P P 17 47 28.9 -1.2
comp=Z,70nm,1.0s
RAO Raoul Island 35.61 127 LR LR 18 00 36.0
comp=Z,298nm,18.3s,baz=318,slow=34
KMMI Kalianget 35.78 272 P P 17 47 40.1 +7.1
TOZ Tahuroa Road 35.95 145 P P 17 47 35.3 +1.2
TOZ IAmb IAmb 17 47 36.7
comp=Z,54nm,1.2s
HIZ Hauiti 36.13 146 P P 17 47 37.3 +1.6
GMJI Gumukmas 36.16 270 P P 17 47 44.1 +7.9
GIRL Giralia 36.52 245 P P 17 47 39.6 +0.4
KLBR Kellerberrin 36.87 229 P P 17 47 41.6 -0.5
comp=Z,37nm,0.9s
KLBR Kellerberrin 36.87 229 P P 17 47 43.6 +1.5
DSZ Denniston Nort 37.04 153 P P 17 47 45.1 +1.6
MORW Morawa 37.09 234 P P 17 47 43.5 -0.4
MORW Morawa 37.09 234 P P 17 47 43.9 0.0
comp=Z,26nm,1.5s
MORW Morawa 37.09 234 P P 17 47 46.5 +2.5
BLDU Ballidu 37.22 232 P P 17 47 52.6 +7.5
BLDU Ballidu 37.22 232 P P 17 47 47.6 +2.5
URZ Urewera 37.24 144 LR LR 18 00 23.4
comp=Z,574nm,21.6s,baz=36,slow=32
KKM Kota Kinabalu 37.24 294 P P 17 47 44.1 -1.4
KKM IAmb IAmb 17 47 52.6
comp=Z,48nm,1.4s
RTZ Ruatahuna 37.40 144 P P 17 47 47.1 +0.5
RTZ IAmb IAmb 17 47 47.9
comp=Z,46nm,1.1s
TGY Tagaytay City 37.45 309 LR LR 18 03 18.7
comp=Z,150nm,21.6s,baz=136,slow=36
BKZ Black Stump Fm 37.50 145 P P 17 47 47.8 +0.4
THZ Tophouse 37.56 152 P P 17 47 47.9 0.0
TCW Tory Channel 37.80 150 P P 17 47 50.3 +0.5
NWAO Narrogin (SRO) 37.91 228 P P 17 47 50.3 -0.6
NWAO Narrogin (SRO) 37.91 228 LR LR 18 03 31.8
comp=Z,1µm,19.9s,baz=28,slow=36
NWAO Narrogin (SRO) 37.91 228 P P 17 47 50.3 -0.6
NWAO pmax pmax
comp=Z,33nm,1.2s
LTZ Lake Taylor 38.08 153 P P 17 47 53.7 +1.5
MUN Mundaring 38.22 230 P P 17 47 54.3 +0.8
comp=Z,35nm,1.2s
MUN Mundaring 38.22 230 P P 17 47 55.8 +2.3
PCJI Pacitan 38.40 269 P P 17 47 59.1 +3.8
BFZ Birch Farm 38.43 147 P P 17 47 55.0 -0.2
MSWZ Moikau Station 38.45 149 P P 17 47 55.6 +0.3
AUALB St Joseph's Co 38.50 225 P P 17 47 58.5 +2.7
SMRI Semarang 39.25 271 P P 17 48 04.0 +1.6
SBUM Sibu 39.62 286 P P 17 48 06.7 +1.3
STKI Sintang 39.63 282 P P 17 48 07.0 +1.5
comp=Z,36nm,0.9s
JMZ Minamidaito 2 39.96 333 P P 17 48 06.4 -1.7
BBJI Bungbulang 41.95 270 P P 17 48 26.7 +1.9
LEM Lembang 42.06 271 LR LR 18 09 07.6
comp=Z,116nm,19.2s,baz=85,slow=41
JOW Kunigami 42.20 330 P P 17 48 26.1 -0.4
JOW IAmb IAmb 17 48 56.3
comp=Z,77nm,1.3s
JOW Kunigami 42.20 330 LR LR 18 05 08.2
comp=Z,324nm,19.3s,baz=195,slow=35
TPI Tanjungpandan 42.69 277 P P 17 48 31.6 +0.9
comp=Z,24nm,1.0s
TPUB Ta-pu 43.79 319 P P 17 48 38.0 -1.5
JHJ Hachijo jima 2 43.89 348 LR LR 18 05 06.8
comp=Z,124nm,20.8s,baz=168,slow=34
CGJI Cibinong 43.98 271 P P 17 48 40.7 -0.5
MDSI Maura Dua 45.78 273 P P 17 48 53.8 -1.7
comp=Z,13nm,1.0s
DLV Lat 46.66 297 P P 17 49 03.7 +1.1
MJAR Matsushiro Arr 47.53 347 P P 17 49 07.4 -1.4
comp=Z,5.2nm,0.9s,baz=174,slow=8.1,SNR=13
MJAR LR LR 18 07 40.9
comp=Z,44nm,18.6s,baz=160,slow=34
comp=Z,5.2nm,0.9s
MAJO Matsushiro 47.53 347 P P 17 49 08.1 -0.7
MAJO IAmb IAmb 17 49 29.3
comp=Z,41nm,1.3s
MAJO Matsushiro 47.53 347 P P 17 49 11.2 +2.4
MAJO Matsushiro 47.53 347 *i* P **P 17 49 08.5 -0.3**
MAJO pmax pmax
comp=Z,16nm,1.1s
MJB9 Matsu-Tunnel 47.53 347 P P 17 49 08.7 -0.1
MJB9 IAmb IAmb 17 49 30.3
comp=Z,40nm,1.3s
RAR Rarotonga 49.45 109 LR LR 18 06 53.0
comp=Z,214nm,21.6s,baz=274,slow=32
IPM Ipoh 50.88 284 P P 17 49 33.7 -1.2
IPM IAmb IAmb 17 50 02.9
comp=Z,43nm,1.4s
IPM Ipoh 50.88 284 P P 17 49 35.5 +0.6
NJ2 Nanjing 51.29 326 ⇓P **P 17 49 39.1 +1.6**
NJ2 pmax pmax
comp=Z,18nm,1.4s
MNSI Mandailing Nat 51.33 279 P P 17 49 37.4 -0.9
comp=Z,38nm,0.9s
KULM Kulim 51.47 285 IAmb IAmb 17 49 46.7
comp=Z,82nm,1.9s
KSRS Korea Array 51.48 337 P P 17 49 38.0 -0.8
comp=Z,10nm,1.1s,baz=153,slow=8.4,SNR=20
KSRS LR LR 18 11 17.4
comp=Z,133nm,18.6s,baz=145,slow=36
comp=Z,10nm,1.1s
KSAR Wonju Array Be 51.48 337 P P 17 49 38.4 -0.5
KSAR Wonju Array Be 51.48 337 P P 17 49 38.4 -0.5
WHN Wuhan 52.85 321 ⇓P **P 17 49 51.8 +2.6**
WHN pmax pmax
comp=Z,88nm,1.2s
GSI Gunungsitoli 53.40 279 P P 17 49 52.6 -1.0
GSI IAmb IAmb 17 49 58.3
comp=Z,34nm,1.1s
NONG Nongkai 54.00 301 P P 17 49 59.0 +1.1
JKA Kamikawa-asahi 54.20 353 P P 17 49 58.6 -0.2
JKA IAmb IAmb 17 51 41.2
comp=Z,38nm,1.5s
ASAJ Asahikawa 54.20 353 LR LR 18 12 10.6
comp=Z,84nm,19.9s,baz=186,slow=35
ASAJ Asahikawa 54.20 353 P P 17 49 58.7 -0.1
ASAJ pmax pmax
comp=Z,38nm,1.5s
DL2 Dalian 55.31 333 *e*P **P 17 50 09.0 +2.0**
DL2 *e*S **S 17 57 52.5 +3.2**
DL2 pmax pmax
comp=Z,16nm,0.9s
DL2 pmax pmax
comp=Z,240nm,5.4s
DL2 LR LR
comp=Z,300nm,16.5s
DL2 LR LR
comp=Z,230nm,15.6s
DL2 LR LR
comp=Z,450nm,26.2s
VLA Vladivostok 55.32 344 *i* P **P 17 50 05.5 -1.5**
VLA pmax pmax
comp=Z,5.0nm,0.8s
TIA Tai'an 55.37 328 P P 17 50 08.6 +1.1
TIA pmax pmax
comp=Z,19nm,1.5s
TIA LR LR
comp=Z,240nm,17.2s
TIA LR LR
comp=Z,500nm,19.6s
ENH Enshi 55.82 317 P P 17 50 13.7 +2.8
SRDT SRDT 55.95 295 P P 17 50 13.8 +1.7
USA0B Ussuriysk Arra 56.29 344 *i* P **P 17 50 12.5 -1.5**
USRK Ussuriysk Ar. 56.29 344 P P 17 50 12.6 -1.4
USRK Ussuriysk Ar. 56.29 344 P P 17 50 13.3 -0.6
comp=Z,3.4nm,0.6s,baz=179,slow=11,SNR=10.0
USRK LR LR 18 10 40.2
comp=Z,118nm,21.1s,baz=169,slow=32
comp=Z,3.4nm,0.6s
LYN LuoYang 56.77 323 P P 17 50 19.3 +1.7
LYN S **S 17 58 11.4 +2.4**
LYN pmax pmax
comp=Z,44nm,1.0s
LYN pmax pmax
comp=Z,200nm,4.8s
LYN LR LR
comp=Z,270nm,18.6s
LYN LR LR
comp=Z,290nm,16.5s
LYN LR LR
comp=Z,390nm,14.4s
YSS Yuzhno-Sakhali 56.98 354 *e*P **P 17 50 19.7 +0.9**
YSS pmax pmax
comp=Z,10.0nm,1.2s
MDJ Mudanjiang 57.34 343 P P 17 50 19.8 -1.6
MDJ S **S 17 58 12.6 -3.6**
MDJ pmax pmax
comp=Z,7.0nm,1.6s
MDJ pmax pmax
comp=Z,190nm,4.5s
MDJ LR LR
comp=Z,570nm,22.0s
MDJ Mudanjiang 57.34 343 P P 17 50 23.1 +1.7
HNS HongShan 57.54 327 ⇓P **P 17 50 22.3 -0.6**
HNS pmax pmax
comp=Z,24nm,1.0s
HNS LR LR
comp=Z,290nm,19.1s
HNS LR LR
comp=Z,270nm,19.1s
CM31 Chiang Mai Arr 57.76 299 P P 17 50 25.1 +0.2
CMAR Chiang Mai Arr 57.76 299 P P 17 50 23.4 -1.5
CMAR Chiang Mai Arr 57.76 299 P P 17 50 25.6 +0.7
comp=Z,6.0nm,0.8s,baz=126,slow=5.2,SNR=52
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 57.76 299 *ce*P **P 17 50 26.2 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 57.91 300 P P 17 50 24.7 -1.2
CHTO Chiang Mai 57.91 300 P P 17 50 24.7 -1.2
CHTO pmax pmax
comp=Z,17nm,1.2s
CN2 Changchun 57.95 339 *e*P **P 17 50 26.3 +0.6**
CN2 *es*P pP 17 50 33.0 -1.1
CN2 *e*S **S 17 58 24.3 +0.2**
XAN Xi'an 58.60 320 P P 17 50 30.3 -0.2
XAN pmax pmax
comp=Z,36nm,1.4s
XAN LR LR
comp=Z,370nm,19.2s
XAN LR LR
comp=Z,230nm,17.9s
XAN LR LR
comp=Z,360nm,18.5s
BJT Baijiatuau 58.76 330 P P 17 50 33.8 +2.4
BJI Beijing 58.77 330 P P 17 50 32.8 +1.3
BJI pmax pmax
comp=Z,6.0nm,1.8s
PPT Papeete 58.95 105 LR LR 18 10 56.0
comp=Z,107nm,21.6s,baz=268,slow=31
PPT2 Papeete2 58.95 105 *e*S **S 17 58 40.6 +2.3**
comp=Z,136nm,27.2s
PPT2 *e*LQ LQ 18 05 22.9
comp=Z,720nm,26.2s
PPT2 *e*LR LR 18 07 49.9
comp=Z,278nm,26.5s
PPT2 *e*LR LR 18 07 58.1
comp=Z,397nm,25.5s
BNX BinXian 59.02 342 ⇓P **P 17 50 33.9 +0.8**
BNX pmax pmax
comp=Z,9.0nm,1.1s
TBI Tubuai 59.12 111 *e*S **S 17 58 41.4 +1.3**
comp=Z,661nm,31.0s
TBI *e*LQ LQ 18 05 26.9
comp=Z,2µm,34.0s
TBI *e*LR LR 18 08 04.0
comp=Z,895nm,27.2s
CD2 Chengdu 60.14 314 P P 17 50 41.3 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.4s
TNCH TengChong 61.04 306 P P 17 50 48.3 +0.6
TNCH pP pP 17 50 51.1 -5.1
TNCH PP **PP 17 53 02.5 +0.1**
TNCH S **S 17 59 04.8 -0.3**
TNCH sS pS 17 59 12.1 -3.5
TNCH pmax pmax
comp=Z,11nm,2.5s
TNCH pmax pmax
comp=Z,160nm,5.8s
TNCH LR LR
comp=Z,260nm,4.8s
TNCH LR LR
comp=Z,240nm,4.3s
TNCH LR LR
comp=Z,120nm,11.1s
KLR Kul'dur 61.05 346 LR LR 18 13 32.7
comp=Z,84nm,21.2s,baz=168,slow=32
KLR Kul'dur 61.05 346 *ce*P **P 17 50 46.1 -0.9**
KLR pmax pmax
comp=Z,10.0nm,1.3s
HHC Hu-ho-hao-te 61.73 328 *e*P **P 17 50 55.3 +3.4**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,94nm,4.6s
XLT XiLinHaoTe 61.80 333 *e*P **P 17 50 53.3 +1.0**
XLT PcP **PcP 17 51 34.3 +1.1**
XLT pmax pmax
comp=Z,9.0nm,1.1s
BTO Baotou 62.38 326 *e*P **P 17 50 59.6 +3.3**
BTO pP **pP 17 51 04.1 -0.9**
BTO sP **sP 17 51 06.6 -1.2**
BTO PP **PP 17 53 19.3 +5.4**
BTO sS **sS 17 59 35.6 -0.1**
BTO pmax pmax
comp=Z,24nm,0.9s
BTO pmax pmax
comp=Z,360nm,3.6s
BTO LR LR
comp=Z,660nm,21.5s
BTO LR LR
comp=Z,610nm,19.3s
BTO LR LR
comp=Z,1µm,24.1s
HEH HeiHe 63.09 344 *e*P **P 17 50 59.8 -0.8**
HEH pmax pmax
comp=Z,18nm,0.9s
PETK Petropavlovsk- 63.11 5 P P 17 50 59.7 -1.1
comp=Z,4.1nm,1.0s,baz=188,slow=6.3,SNR=4.1
PETK LR LR 18 14 54.0
comp=Z,110nm,21.0s,baz=198,slow=33
comp=Z,4.1nm,1.0s
LZH Lanzhou 63.12 319 *e*P **P 17 51 01.8 +0.4**
LZH sP sP 17 51 10.8 -2.5
LZH PcP **PcP 17 51 36.0 -2.9**
LZH pmax pmax
comp=Z,13nm,1.4s
HIA Hailar 64.66 339 P P 17 51 09.4 -1.7
HIA IAmb IAmb 17 51 21.4
comp=Z,24nm,1.0s
HIA Hailar 64.66 339 P P 17 51 12.7 +1.6
HIA Hailar 64.66 339 P P 17 51 09.4 -1.7
HIA pmax pmax
comp=Z,24nm,1.0s
SHEM Shemya Is, Ala 65.71 16 LR LR 18 15 24.1
comp=Z,96nm,20.6s,baz=198,slow=32
ZEA Zeya 66.30 345 *e*P **P 17 51 21.8 +0.3**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 66.67 303 P P 17 51 23.9 -0.8
SHL Shillong 66.67 303 P P 17 51 23.9 -0.8
SHL pmax pmax
comp=Z,44nm,1.0s
GTA Gaotai 67.66 320 *e*P **P 17 51 31.3 +0.6**
GTA pP pP 17 51 35.6 -3.7
GTA pmax pmax
comp=Z,4.0nm,1.3s
KIWB Kanaga Island 67.70 21 P P 17 51 31.1 +0.6
VNDA Vanda 67.87 177 P P 17 51 31.3 +0.1
comp=Z,11nm,1.0s,baz=48,slow=5.3,SNR=3.1
VNDA LR LR 18 19 05.8
comp=Z,217nm,18.0s,baz=8.5,slow=34
comp=Z,11nm,1.0s
TAOE Nuku Hiva Isla 68.77 96 *e*S **S 18 00 34.4 -6.1**
comp=Z,105nm,30.0s
TAOE Nuku Hiva Isla 68.77 96 *e*LR LR 18 12 24.9
comp=Z,160nm,23.3s
ULN Ulaanbaatar 68.97 331 P **P 17 51 38.1 -0.6**
ULN Ulaanbaatar 68.97 331 *i* P **P 17 51 37.5 -1.2**
ULN pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 68.98 307 P P 17 51 38.6 -1.0
LSA Lhasa 68.98 307 P P 17 51 38.6 -1.0
LSA pmax pmax
comp=Z,11nm,1.0s
CIT Chita 69.20 337 *e*P **P 17 51 39.8 -0.2**
CIT *e* 17 52 06.8
CIT pmax pmax
comp=Z,71nm,1.6s
MA2 Magadan 69.26 0 P P 17 51 39.0 -1.1
MA2 Magadan 69.26 0 LR LR 18 18 17.2
comp=Z,124nm,21.9s,baz=177,slow=33
MA2 Magadan 69.26 0 P P 17 51 40.3 +0.2
MA2 Magadan 69.26 0 *ce*P **P 17 51 39.6 -0.5**
MA2 pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 69.26 0 P P 17 51 39.6 -0.5
comp=Z,14nm,1.0s
SONM Songino Array 69.27 330 P P 17 51 40.5 -0.1
SONM Songino Array 69.27 330 P P 17 51 41.2 +0.6
comp=Z,15nm,1.2s,baz=147,slow=5.2,SNR=24
SONM LR LR 18 23 41.8
comp=Z,98nm,18.6s,baz=159,slow=37
comp=Z,15nm,1.2s
SONM Songino Array 69.27 330 P P 17 51 40.5 -0.1
SONM pmax pmax
comp=Z,28nm,1.0s
GOMU GeErMu 69.27 315 P P 17 51 41.9 +0.8
GOMU pP pP 17 51 47.5 -2.3
GOMU sP sP 17 51 50.4 -2.7
GOMU pmax pmax
comp=Z,8.0nm,1.3s
PALK Pallekele 71.13 281 LR LR 18 26 16.5
comp=Z,95nm,19.2s,baz=114,slow=38
ZAK Zakamensk 72.50 331 *e*P **P 17 51 59.4 -0.7**
ZAK pmax pmax
comp=Z,22nm,1.0s
SEY Seymchan 72.65 1 LR LR 18 26 11.8
comp=Z,111nm,18.6s,baz=151,slow=38
SEY Seymchan 72.65 1 *ce*P **P 17 51 59.8 -0.8**
SEY pmax pmax
comp=Z,4.0nm,0.9s
IRK Irkutsk 73.28 333 *e*P **P 17 52 06.4 +1.8**
IRK pmax pmax
comp=Z,47nm,2.0s
UNV Unalaska Valle 73.38 25 P P 17 52 06.9 +1.8
baz=225
YAK Yakutsk 73.46 350 P P 17 52 04.7 -0.7
YAK IAmb IAmb 17 52 15.5
comp=Z,22nm,1.1s
YAK Yakutsk 73.46 350 LR LR 18 31 53.5
comp=Z,24nm,18.0s,baz=122,slow=42
YAK Yakutsk 73.46 350 *e*P **P 17 52 04.7 -0.7**
YAK pmax pmax
comp=Z,10.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.3s
P08K Saint George I 74.19 22 P P 17 52 11.4 +1.6
baz=222
SPIA Saint Paul Isl 74.38 21 P P 17 52 11.9 +1.1
baz=221
MOY Mondy 74.43 331 *e*P **P 17 52 12.5 +1.0**
MOY pmax pmax
comp=Z,40nm,2.7s
FALS False Pass 75.39 26 P P 17 52 17.6 +0.9
baz=228
HYB Hyderabad 75.65 291 *e*P **P 17 52 18.7 -0.4**
S12K Black Hills 76.53 26 P P 17 52 24.0 +0.7
baz=229
DGAR Diego Garcia 76.59 265 P P 17 52 24.8 +0.3
DGAR Diego Garcia 76.59 265 *ce*P **P 17 52 25.4 +0.9**
DGAR pmax pmax
comp=Z,38nm,1.0s
CHNA Chernabura Isl 77.05 27 P P 17 52 27.8 +1.7
baz=231
WMQ Urumqi 77.70 319 *e*P **P 17 52 30.9 +0.7**
WMQ pmax pmax
comp=Z,14nm,0.9s
M11K Mekoryuk 78.17 21 P P 17 52 33.3 +1.0
baz=224
CHGN Chignik 78.49 26 P P 17 52 35.1 +1.0
baz=232
BILL Bilibino 78.62 6 P P 17 52 34.5 -0.1
BILL IAmb IAmb 17 52 51.5
comp=Z,22nm,1.0s
BILL Bilibino 78.62 6 *ce*P **P 17 52 35.0 +0.3**
BILL pmax pmax
comp=Z,16nm,1.0s
GAMB Gambell 79.02 16 P P 17 52 38.8 +1.8
baz=218
M13K Dall Lake 79.20 22 P P 17 52 39.4 +1.5
baz=227
O14K Tigyukauivet M 79.20 23 P P 17 52 39.3 +1.3
baz=229
N14K Kuskokwak Cree 79.48 22 P P 17 52 40.9 +1.3
baz=228
R16K Pilot Point 79.63 26 P P 17 52 41.9 +1.5
baz=233
O15K Ungalikthiuk R 79.71 24 P P 17 52 41.2 +0.4
baz=230
K13K Kusilvak Mount 79.80 20 P P 17 52 41.8 +0.5
baz=226
MAW Mawson 79.83 203 LR LR 18 25 44.0
comp=Z,209nm,20.6s,baz=81,slow=34
M14K Bethel 79.93 22 P P 17 52 42.7 +0.8
baz=228
L14K Kuka Creek 80.07 21 IAmb IAmb 17 52 44.7
comp=Z,47nm,1.2s
L14K Kuka Creek 80.07 21 P P 17 52 43.0 +0.3
baz=227
QSPA South Pole Qui 80.08 180 P P 17 52 43.4 +0.4
QSPA South Pole Qui 80.08 180 P P 17 52 43.4 +0.4
comp=Z,57nm,1.0s,baz=342,slow=1.3,SNR=125
QSPA LR LR 18 26 05.0
comp=Z,213nm,19.2s,baz=6.5,slow=34
comp=Z,57nm,1.0s
N15K Kwethluk River 80.25 23 P P 17 52 45.2 +1.5
baz=230
P16K Nushagak River 80.36 24 P P 17 52 46.3 +2.0
baz=232
SII Sitkinak Islan 80.54 28 P P 17 52 46.8 +1.4
baz=236
O16K Kokwok River B 80.67 24 P P 17 52 47.3 +1.4
baz=232
Q16K King Salmon 80.69 25 P P 17 52 47.5 +1.4
baz=233
L15K Ungalak Mounta 80.72 21 P P 17 52 47.6 +1.4
baz=228
J14K Nanvaranak Lak 80.74 20 IAmb IAmb 17 52 48.5
comp=Z,22nm,0.8s
J14K Nanvaranak Lak 80.74 20 P P 17 52 47.8 +1.6
baz=226
ACHA Angle Creek He 80.98 26 P P 17 52 46.7 -1.1
ACHA IAmb IAmb 17 53 10.3
comp=Z,56nm,1.9s
R18K Karluk 80.99 27 P P 17 52 49.3 +1.6
baz=235
ZSN Zaisan 81.07 321 *e*P **P 17 52 48.0 -0.5**
ZSN pmax pmax
comp=Z,11nm,1.5s
ZSN Zaisan 81.07 321 *e*P **P 17 52 48.0 -0.5**
comp=Z,11nm,1.5s
P17K Kvichak River 81.09 25 P P 17 52 50.0 +1.7
baz=233
K15K Wolf Creek Mou 81.12 21 IAmb IAmb 17 52 50.4
comp=Z,26nm,0.8s
K15K Wolf Creek Mou 81.12 21 P P 17 52 50.1 +1.7
baz=228
O17K Koliganek Bris 81.18 24 P P 17 52 50.2 +1.5
baz=233
M16K Timber Creek 81.23 23 IAmb IAmb 17 52 50.9
comp=Z,31nm,1.1s
M16K Timber Creek 81.23 23 P P 17 52 49.4 +0.5
baz=231
OHAK Old Harbor 81.32 27 P P 17 52 50.1 +0.7
baz=236
TNA Tin City 81.44 16 P P 17 52 49.5 -0.4
TNA IAmb IAmb 17 53 01.6
comp=Z,25nm,1.2s
TNA Tin City 81.44 16 P P 17 52 50.3 +0.4
baz=222
ANM Nome 81.44 18 P P 17 52 49.5 -0.5
ANM IAmb IAmb 17 52 52.0

comp=Z,29nm,1.2s
ANM **Nome** 81.44 18 P P 17 52 50.9 +0.9
baz=224,SNR=6.0
ANM **Nome** 81.44 18 P P 17 52 49.5 -0.5
ANM pmax pmax
comp=Z,29nm,1.2s
L16K **Owhat River** 81.47 22 P P 17 52 51.5 +1.3
baz=230
N17K **Nushagak Hills** 81.60 23 P P 17 52 52.2 +1.2
baz=233
P18K **Big Mountain,** 81.71 25 P P 17 52 52.8 +1.2
baz=234
F14K **Arctic Creek** 81.82 17 P P 17 52 53.4 +1.4
baz=224
KDAK **Kodiak Island** 81.94 27 LR LR 18 22 17.9
comp=Z,182nm,21.1s,baz=84,slow=31
KDAK **Kodiak Island** 81.94 27 P P 17 52 54.2 +1.5
baz=237
O18K **Koktuh Hills** 81.99 25 P P 17 52 54.8 +1.8
baz=234
M17K **Holitna River** 82.04 23 P P 17 52 54.3 +1.1
baz=232
J16K **Anvik River** 82.10 20 IAmb IAmb 17 52 55.7
comp=Z,26nm,0.9s
J16K **Anvik River** 82.10 20 P P 17 52 54.2 +0.7
baz=229
G15K **Niukluk** 82.15 18 P P 17 52 54.1 +0.4
baz=226
L17K **Donlin** 82.17 22 P P 17 52 53.2 -0.7
baz=231
N18K **Kilae Creek** 82.20 24 P P 17 52 54.7 +0.6
baz=234
MK31 **Makanchi Array** 82.41 320 *ce*P P 17 52 55.5 -0.1
MKAR **Makanchi Array** 82.41 320 P P 17 52 54.8 -0.7
MKAR **Makanchi Array** 82.41 320 P P 17 52 55.3 -0.2
comp=Z,2.0nm,0.8s,baz=108,slow=6.5,SNR=15
MKAR LR LR 18 31 06.5
comp=Z,44nm,18.8s,baz=106,slow=37
comp=Z,2.0nm,0.8s
MKAR **Makanchi Array** 82.41 320 *i*P P 17 52 55.2 -0.4
MKAR pmax pmax
comp=Z,2.0nm,0.8s
WUS **Wushi** 82.41 314 IAmb IAmb 17 53 05.5
comp=Z,17nm,1.1s
I17K **Unalakleet** 82.46 20 P P 17 52 55.6 +0.3
baz=229,SNR=5.1
H16K **Elim** 82.47 19 P P 17 52 55.9 +0.5
baz=228,SNR=6.5
F15K **North Star Dit** 82.48 17 IAmb IAmb 17 53 03.3
comp=Z,27nm,1.2s
F15K **North Star Dit** 82.48 17 P P 17 52 56.6 +1.1
baz=225,SNR=5.5
Q20K **Shuyak Island** 82.48 26 P P 17 52 55.9 +0.3
baz=237
K17K **Iditarod** 82.54 21 P P 17 52 56.5 +0.7
baz=231
TIXI **Tiksi** 82.60 353 P P 17 52 55.1 -0.8
TIXI **Tiksi** 82.60 353 LR LR 18 32 17.8
comp=Z,54nm,18.4s,baz=190,slow=38
TIXI **Tiksi** 82.60 353 *ce*P P 17 52 56.5 +0.6
TIXI pmax pmax
comp=Z,7.0nm,1.3s
MAKZ **Makanchi** 82.61 320 P P 17 52 55.4 -1.2
MAKZ **Makanchi** 82.61 320 P P 17 52 55.4 -1.2
MAKZ pmax pmax
comp=Z,22nm,1.7s
J17K **VABM Dome** 82.69 21 IAmb IAmb 17 52 58.2
comp=Z,15nm,0.8s
J17K **VABM Dome** 82.69 21 P P 17 52 57.5 +0.9
baz=230
P19K **Oil Pt** 82.70 25 P P 17 52 57.4 +0.7
baz=236
M18K **Stony River** 82.71 23 P P 17 52 57.8 +1.1
baz=234
L18K **Granite Mounta** 82.82 22 P P 17 52 57.5 +0.2
baz=233
N19K **Bonanza Creek** 82.84 24 P P 17 52 57.3 -0.3
baz=235
SHLS **Shalkode** 82.92 316 *e*P P 17 52 56.6 -1.8
SHLS **Shalkode** 82.92 316 *e*P P 17 52 56.6 -1.8
G16K **Koyuk River** 82.94 18 IAmb IAmb 17 52 59.1
comp=Z,19nm,0.9s
G16K **Koyuk River** 82.94 18 P P 17 52 58.7 +0.8
baz=227
O20K **Slope Mountain** 83.19 25 P P 17 52 59.5 +0.2
baz=237
UZB **Uzynbulak** 83.22 316 *e*P P 17 52 59.5 -0.5
UZB pmax pmax
comp=Z,11nm,1.5s
UZB **Uzynbulak** 83.22 316 *e*P P 17 52 59.6 -0.5
comp=Z,11nm,1.5s
HOM **Homer** 83.38 26 P P 17 53 00.3 +0.2
baz=238
H17K **Granite Mounta** 83.41 19 IAmb IAmb 17 53 11.7
comp=Z,20nm,1.1s
H17K **Granite Mounta** 83.41 19 P P 17 53 00.9 +0.7
baz=230
CNPM **China Poot** 83.48 26 P P 17 53 00.1 -0.7
L19K **White Mountain** 83.49 23 IAmb IAmb 17 53 02.5
comp=Z,20nm,1.0s
L19K **White Mountain** 83.49 23 P P 17 53 01.4 +0.6
baz=235
TTA **Tatalina** 83.50 22 IAmb IAmb 17 53 02.4
comp=Z,17nm,1.2s
TTA **Tatalina** 83.50 22 P P 17 53 01.5 +0.7
baz=233
TTA **Tatalina** 83.50 22 P P 17 53 01.8 +0.9
M19K **Big River Lodg** 83.51 23 P P 17 53 02.2 +1.3
baz=235
KPKS **Kokpek** 83.56 316 *e*P P 17 53 01.3 -0.4
KPKS **Kokpek** 83.56 316 *e*P P 17 53 01.3 -0.4
J18K **Innoko River** 83.57 21 IAmb IAmb 17 53 02.4
comp=Z,15nm,0.9s
J18K **Innoko River** 83.57 21 P P 17 53 01.5 +0.4
baz=233
SATY **Saty** 83.62 316 *e*P P 17 53 01.5 -0.5
SATY **Saty** 83.62 316 *e*P P 17 53 01.6 -0.5
BRLK **Bradley Lake** 83.76 26 P P 17 53 01.6 -0.7
BRSE **Bradley Lake S** 83.81 26 P P 17 53 02.7 +0.2
baz=238
ZAA0 **Zalesovo Array** 83.91 327 IAmb IAmb 17 53 08.4
comp=Z,11nm,0.9s
ZALV **Zalesovo Beam** 83.91 327 P P 17 53 01.3 -1.7
ZALV **Zalesovo Beam** 83.91 327 P P 17 53 01.6 -1.4
comp=Z,6.1nm,0.8s,baz=112,slow=5.8,SNR=18
ZALV LR LR 18 32 04.4
comp=Z,61nm,18.6s,baz=120,slow=37
comp=Z,6.1nm,0.8s
M20K **Styx River** 83.99 23 IAmb IAmb 17 53 11.0
comp=Z,22nm,1.2s
M20K **Styx River** 83.99 23 P P 17 53 03.6 +0.1
baz=236
F17K **Baldwin Pennin** 83.99 18 P P 17 53 03.9 +0.7
baz=228
L20K **Farewell, AK** 84.03 23 P P 17 53 03.9 +0.3
baz=235
H18K **Honhosa River** 84.05 19 P P 17 53 04.3 +0.7
baz=231
C16K **Lisburne Hills** 84.12 15 P P 17 53 04.8 +0.9
baz=224
KDJ **Kajisay** 84.16 314 IAmb IAmb 17 53 26.2
comp=Z,32nm,1.4s
CAPN **Captain Cook N** 84.18 25 P P 17 53 05.0 +0.8
baz=238
KSH **Kashi** 84.21 312 P P 17 53 06.4 +1.3
KSH pmax pmax
comp=Z,7.0nm,1.1s
E17K **Hotham Inlet** 84.25 17 P P 17 53 05.1 +0.6
baz=228
TDK **Taldyqorghan** 84.28 317 *e*P P 17 53 05.0 -0.2
TDK pmax pmax
comp=Z,9.0nm,0.8s
TDK **Taldygorghan** 84.28 317 *e*P P 17 53 05.0 -0.2
comp=Z,8.6nm,0.8s
J19K **Poorman** 84.28 21 P P 17 53 04.6 -0.1
J19K IAmb IAmb 17 53 05.9
comp=Z,14nm,0.8s
J19K **Poorman** 84.28 21 P P 17 53 05.1 +0.4
baz=234
GCSA **Galena City Sc** 84.30 20 P P 17 53 05.2 +0.5
baz=232,SNR=8.2
D17K **Noatak River** 84.32 16 P P 17 53 05.4 +0.6
baz=226
G18K **Tagagawik** 84.43 19 IAmb IAmb 17 53 06.2
comp=Z,18nm,0.8s
G18K **Tagagawik** 84.43 19 P P 17 53 06.0 +0.5
baz=231
K20K **Telida** 84.47 22 IAmb IAmb 17 53 07.5
comp=Z,16nm,0.9s
K20K **Telida** 84.47 22 P P 17 53 06.5 +0.8
baz=235
SEW **Seward** 84.55 26 P P 17 53 05.8 -0.4
baz=240
F18K **Selawik** 84.58 18 P P 17 53 05.8 -0.3
baz=230,SNR=8.0
MDOK **Medeo** 84.59 315 *e*P P 17 53 06.2 -0.8
MDOK **Medeo** 84.59 315 *e*P P 17 53 06.3 -0.8
RDOG **Red Dog Mine** 84.61 16 IAmb IAmb 17 53 08.0
comp=Z,15nm,0.8s
RDOG **Red Dog Mine** 84.61 16 P P 17 53 06.7 +0.3
baz=226
TNSS **Tian-Shan** 84.62 315 *e*P P 17 53 06.5 -0.9
TNSS **Tian-Shan** 84.62 315 *e*P P 17 53 06.6 -0.9
O22K **Cooper Landing** 84.63 26 P P 17 53 07.3 +0.7
baz=239
NIL **Nilore** 84.63 305 P P 17 53 05.9 -1.4
NIL IAmb IAmb 17 53 08.7
comp=Z,17nm,0.9s
NIL **Nilore** 84.63 305 P P 17 53 05.9 -1.4
NIL pmax pmax
comp=Z,17nm,1.0s
SKT **Skwentna** 84.67 24 P P 17 53 07.6 +0.8
baz=238
C17K **DeLong Mountai** 84.83 16 P P 17 53 07.9 +0.4
baz=226
J20K **Nowinta River** 84.91 21 IAmb IAmb 17 53 09.2
comp=Z,12nm,0.8s
J20K **Nowinta River** 84.91 21 P P 17 53 08.2 +0.3
baz=235
PPLA **Purkeypile** 84.92 23 P P 17 53 07.5 -0.6
baz=237
H19K **Roundabout Mou** 84.92 20 P P 17 53 08.3 +0.4
baz=233,SNR=18
RC01 **Rabbit Creek A** 84.94 25 P P 17 53 06.8 -1.3
RC01 IAmb IAmb 17 53 11.4
comp=Z,24nm,1.3s
RC01 **Rabbit Creek A** 84.94 25 P P 17 53 08.6 +0.5
baz=239
SEM **Semipalatinsk** 85.05 323 *e*P P 17 53 08.8 -0.4
SEM **Semipalatinsk** 85.05 323 *e*P P 17 53 08.9 -0.4
G19K **Purcell Mounta** 85.09 19 P P 17 53 08.7 -0.1
G19K **Purcell Mounta** 85.09 19 P P 17 53 09.1 +0.3
baz=232
M22K **Willow** 85.12 24 P P 17 53 09.0 +0.1
baz=239
BOOM **Boomskoye usch** 85.15 314 IAmb IAmb 17 53 19.5
comp=Z,32nm,1.5s
I20K **Naaghedeneel** 85.15 21 P P 17 53 09.5 +0.4
baz=235
CAST **Castle Rocks** 85.24 22 IAmb IAmb 17 53 10.2
comp=Z,15nm,0.9s
CAST **Castle Rocks** 85.24 22 P P 17 53 09.1 -0.6
baz=237
F19K **Shaleruckik Mo** 85.30 18 P P 17 53 09.0 -0.8
F19K IAmb IAmb 17 53 11.0
comp=Z,14nm,0.8s
F19K **Shaleruckik Mo** 85.30 18 P P 17 53 09.8 0.0
baz=232
CUT **Chulitna** 85.40 24 IAmb IAmb 17 53 10.1
comp=Z,25nm,1.1s
CUT **Chulitna** 85.40 24 P P 17 53 09.8 -0.6
baz=239
PWL **Port Wells** 85.41 26 P P 17 53 10.1 -0.4
baz=241
CHUM **Lake Minchumin** 85.41 22 P P 17 53 10.1 -0.3
baz=237
H20K **Anotleneega Mo** 85.42 20 P P 17 53 10.4 -0.1
baz=234
PMR **Palmer** 85.44 25 IAmb IAmb 17 53 11.3
comp=Z,13nm,1.0s
PMR **Palmer** 85.44 25 P P 17 53 10.4 -0.2
baz=240
PMR **Palmer** 85.44 25 P P 17 53 11.0 +0.4
C18K **Utukok River** 85.49 16 P P 17 53 10.4 -0.4
C18K IAmb IAmb 17 53 21.7
comp=Z,15nm,1.0s
C18K **Utukok River** 85.49 16 P P 17 53 10.6 -0.3
baz=228
Q23K **Middleton Isla** 85.59 27 P P 17 53 11.4 0.0
baz=242
GHO **Glory Hole Cre** 85.62 25 IAmb IAmb 17 53 18.0
comp=Z,19nm,1.0s
KNK **Knik Glacier** 85.63 25 IAmb IAmb 17 53 41.8
comp=Z,25nm,1.2s
KNK **Knik Glacier** 85.63 25 P P 17 53 11.7 +0.1
baz=240
KTH **Kantishna Hill** 85.75 23 P P 17 53 10.9 -1.3
KTH IAmb IAmb 17 53 12.4
comp=Z,15nm,1.0s
B18K **Kokolik River** 85.81 15 P P 17 53 12.8 +0.5
baz=228
E19K **Redstone River** 85.86 18 P P 17 53 12.7 +0.1
baz=232,SNR=37
SML **Sawmill** 85.88 25 IAmb IAmb 17 53 20.3
comp=Z,27nm,1.0s
SML **Sawmill** 85.88 25 P P 17 53 13.0 +0.1
baz=240
TRF **Thorofare Moun** 85.94 23 IAmb IAmb 17 53 18.8
comp=Z,20nm,1.3s
TRF **Thorofare Moun** 85.94 23 P P 17 53 13.4 +0.1
baz=239
GLI **Glacier Island** 85.95 26 P P 17 53 12.8 -0.4
baz=242
BPAW **Bear Paw Mtn.** 86.02 22 P P 17 53 13.7 +0.2
baz=238
F20K **Avaraart Lake** 86.07 19 P P 17 53 13.9 +0.3
baz=233
M23K **Glacier View** 86.12 25 P P 17 53 14.3 +0.3
baz=241
KURK **Kurchatov** 86.13 323 P P 17 53 13.6 -0.6
KURK IAmb IAmb 17 53 37.2
comp=Z,20nm,1.4s
KURK **Kurchatov** 86.13 323 *ce*P P 17 53 15.3 +1.0
KURK pmax pmax
comp=Z,15nm,1.7s
KURBB **Kurchatov Arra** 86.15 323 P P 17 53 13.4 -0.9
comp=Z,2.9nm,0.2s,baz=106,slow=3.9,SNR=9.5
comp=Z,2.9nm,0.2s
AAK **Ala-Archa** 86.21 314 P P 17 53 13.8 -1.3
AAK **Ala-Archa** 86.21 314 *ce*P P 17 53 15.2 +0.1
AAK pmax pmax
comp=Z,10.0nm,1.3s
H21K **Melozitna Rive** 86.22 20 P P 17 53 14.5 0.0
baz=236
D19K **Kuna River** 86.25 17 P P 17 53 14.9 +0.3
baz=231
I21K **Tanana** 86.25 21 IAmb IAmb 17 53 17.6
comp=Z,20nm,1.1s
I21K **Tanana** 86.25 21 P P 17 53 15.0 +0.5
baz=237
SCM **Sheep Creek Mo** 86.31 25 IAmb IAmb 17 53 16.3
comp=Z,24nm,1.0s
SCM **Sheep Creek Mo** 86.31 25 P P 17 53 15.2 +0.2
baz=241
EYAK **Cordova Ski Ar** 86.38 26 P P 17 53 16.1 +0.8
baz=243
RND **Reindeer** 86.47 23 IAmb IAmb 17 53 16.1
comp=Z,19nm,0.9s
A19K **Wainwright** 86.57 15 P P 17 53 16.5 +0.5
baz=228
MCK **McKinley** 86.61 23 P P 17 53 15.4 -1.0
MCK **McKinley** 86.61 23 P P 17 53 15.8 -0.6
baz=240,SNR=18
MCK **McKinley** 86.61 23 P P 17 53 15.4 -1.0
MCK pmax pmax
comp=Z,37nm,1.0s
DIV **Divide** 86.64 26 IAmb IAmb 17 53 18.1
comp=Z,16nm,1.0s
E20K **Nigu River** 86.66 18 P P 17 53 16.4 -0.2
baz=233
KLU **Klutina** 86.74 26 P P 17 53 17.0 -0.2
baz=243
D20K **Etivluk River** 86.82 17 P P 17 53 17.6 +0.3
baz=232
H22K **Ishtalitna Cre** 86.85 21 P P 17 53 17.4 -0.1
baz=238
F21K **Alatna River** 86.89 19 P P 17 53 17.1 -0.6
F21K **Alatna River** 86.89 19 P P 17 53 17.4 -0.3
baz=236
M24K **Tolsona, Glenn** 86.92 25 P P 17 53 18.0 0.0
baz=242,SNR=5.4
NEA2 **Nenana** 86.99 22 IAmb IAmb 17 53 18.5
comp=Z,20nm,1.1s
NEA2 **Nenana** 86.99 22 P P 17 53 17.6 -0.7
baz=240,SNR=12
BMRM **Bremner River** 87.07 26 IAmb IAmb 17 53 20.4
comp=Z,25nm,1.1s
BMRM **Bremner River** 87.07 26 P P 17 53 18.2 -0.6
baz=244
I23K **Minto, Yukon-K** 87.17 22 IAmb IAmb 17 53 20.7
comp=Z,31nm,1.8s
I23K **Minto, Yukon-K** 87.17 22 P P 17 53 18.6 -0.4
baz=239,SNR=6.6
BTLS **Baital** 87.22 316 *e*P P 17 53 19.2 -0.6
BTLS pmax pmax
comp=Z,7.0nm,1.4s
BTLS **Baital** 87.22 316 *e*P P 17 53 19.3 -0.6
comp=Z,6.9nm,1.4s
WRH **Wood River Hil** 87.30 22 IAmb IAmb 17 53 19.9
comp=Z,21nm,1.1s
N25K **Chitina, Valde** 87.36 26 P P 17 53 19.3 -0.9
baz=244
G22K **Bettles** 87.36 20 P P 17 53 19.8 -0.1
baz=237
B20K **Meade River** 87.46 16 P P 17 53 20.6 +0.3
baz=232
HARP **HAARP** 87.48 25 P P 17 53 21.4 +0.7
baz=243
CCB **Clear Creek Bu** 87.49 22 IAmb IAmb 17 53 25.7
comp=Z,18nm,1.0s
COLA **College** 87.59 22 P P 17 53 19.5 -1.5
COLA **College** 87.59 22 P P 17 53 20.3 -0.7
baz=241
COLA **College** 87.59 22 P P 17 53 20.5 -0.5
COLA **College** 87.59 22 *i*P P 17 53 20.2 -0.8
COLA pmax pmax
comp=Z,30nm,0.9s
PAX **Paxson** 87.61 24 P P 17 53 21.2 -0.2
baz=243
C21K **Knifeblade Rid** 87.61 17 P P 17 53 21.4 +0.2
baz=234
GLB **Gilahina Butte** 87.62 26 IAmb IAmb 17 53 22.5
comp=Z,13nm,1.0s
HDA **Harding Lake** 87.70 23 IAmb IAmb 17 53 23.7
comp=Z,12nm,0.9s
HDA **Harding Lake** 87.70 23 P P 17 53 21.2 -0.5
baz=242,SNR=10.0
G23K **Bananza Creek** 87.75 20 P P 17 53 21.1 -0.8
G23K IAmb IAmb 17 53 23.5
comp=Z,11nm,1.1s
G23K **Bananza Creek** 87.75 20 P P 17 53 22.2 +0.4
baz=239
K24K **Donnelly Dome** 87.87 24 P P 17 53 22.7 +0.2
baz=243,SNR=6.3
ILAR **Eielson Array** 87.90 22 P P 17 53 21.0 -1.6
comp=Z,13nm,0.7s,baz=253,slow=4.7,SNR=142
comp=Z,13nm,0.7s
MESA **MESA** 87.92 28 P P 17 53 23.4 +0.3
baz=246
E22K **Anaktuvuk Pass** 87.93 19 IAmb IAmb 17 53 41.0
comp=Z,12nm,1.2s
E22K **Anaktuvuk Pass** 87.93 19 P P 17 53 23.6 +0.9
baz=237
B21K **Ikpikpuk River** 87.94 17 P P 17 53 23.2 +0.6
baz=234
COLD **Coldfoot** 87.96 20 IAmb IAmb 17 54 14.2
comp=Z,14nm,1.3s
COLD **Coldfoot** 87.96 20 P P 17 53 22.7 -0.2
baz=238,SNR=7.0
SYO **Syowa Base** 87.96 200 *i*P P 17 53 23.6 +0.7
H24K **Noodor Dome** 88.05 21 P P 17 53 23.8 +0.4
baz=241
D22K **Ayikyak River** 88.07 18 IAmb IAmb 17 53 35.2
comp=Z,21nm,1.1s
D22K **Ayikyak River** 88.07 18 P P 17 53 24.0 +0.6
baz=236
BTK **Batken** 88.18 311 P P 17 53 22.6 -2.0
BTK **Batken** 88.18 311 P P 17 53 22.6 -2.0
BTK pmax pmax
comp=Z,9.0nm,1.3s
RIDG **Independent Ri** 88.21 24 IAmb IAmb 17 53 24.9
comp=Z,14nm,0.8s
RIDG **Independent Ri** 88.21 24 P P 17 53 24.3 +0.2
baz=244,SNR=8.8
MENT **Mentasta** 88.31 25 IAmb IAmb 17 53 35.1
comp=Z,19nm,1.2s
MENT **Mentasta** 88.31 25 P P 17 53 25.9 +1.3
M26K **Nabesna, AK** 88.38 25 IAmb IAmb 17 53 38.4
comp=Z,15nm,1.3s
M26K **Nabesna, AK** 88.38 25 P P 17 53 25.2 +0.2
baz=245
J25K **Salcha River,** 88.40 23 P P 17 53 24.8 -0.3
baz=243,SNR=26
L26K **Log Cabin Wild** 88.50 25 P P 17 53 25.6 0.0
L26K IAmb IAmb 17 53 36.9
comp=Z,13nm,1.1s
L26K **Log Cabin Wild** 88.50 25 P P 17 53 25.8 +0.3
baz=245,SNR=5.1
E23K **Chandalar** 88.58 19 IAmb IAmb 17 53 33.9
comp=Z,22nm,1.2s
E23K **Chandalar** 88.58 19 P P 17 53 26.4 +0.5
baz=239
G24K **Hadweenzic Riv** 88.62 21 IAmb IAmb 17 53 33.0
comp=Z,13nm,1.0s
G24K **Hadweenzic Riv** 88.62 21 P P 17 53 26.7 +0.7
baz=241
SCRK **Sand Creek** 88.66 24 P P 17 53 26.6 +0.2
baz=244,SNR=7.0
D23K **Nanushuk River** 88.73 18 P P 17 53 27.6 +1.2
baz=238
PRP **Porcupine Dome** 88.76 22 P P 17 53 27.5 +0.7
baz=243
M27K **Edge Creek, AK** 88.84 26 P P 17 53 27.7 +0.4
baz=246,SNR=23
F24K **Squaw Lake** 88.88 20 P P 17 53 27.4 +0.2
F24K IAmb IAmb 17 53 29.2
comp=Z,10nm,0.9s
F24K **Squaw Lake** 88.88 20 P P 17 53 28.1 +0.9
baz=241
TOLK **Toolik Lake Re** 88.90 19 IAmb IAmb 17 54 05.5
comp=Z,12nm,1.1s
TOLK **Toolik Lake Re** 88.90 19 P P 17 53 28.2 +0.9
baz=239
E24K **Your Creek** 88.96 19 P P 17 53 27.8 +0.2
baz=240
O28M **Mount Upton** 88.96 27 P P 17 53 28.8 +0.7
baz=248
H25L **Birch Creek** 89.00 21 P P 17 53 28.3 +0.6
baz=243
J26L **Joseph Creek** 89.05 23 IAmb IAmb 17 53 35.3
comp=Z,11nm,1.0s
J26L **Joseph Creek** 89.05 23 P P 17 53 29.0 +0.8
baz=245
CHGR **Chuyangaron** 89.09 309 IAmb IAmb 17 53 47.4
comp=Z,21nm,1.1s
G25K **Bearman Lake** 89.13 21 P P 17 53 29.1 +0.8
baz=242
L27K **Beaver Creek,** 89.15 25 IAmb IAmb 17 53 30.7
comp=Z,19nm,1.1s
L27K **Beaver Creek,** 89.15 25 P P 17 53 29.0 +0.4
baz=246
KK31 **Karatay Array** 89.16 314 IAmb IAmb 17 53 36.7
comp=Z,22nm,1.9s
KKAR **Karatay Array** 89.16 314 P P 17 53 26.9 -2.2
KKAR **Karatay Array** 89.16 314 P P 17 53 26.9 -2.2
BCAR **Beaver Creek A** 89.17 25 P P 17 53 29.1 +0.4
SIMJ **Simiganj** 89.21 309 P P 17 53 28.1 -1.5
C23K **Itkillik River** 89.21 17 IAmb IAmb 17 53 40.2
comp=Z,19nm,1.0s
C23K **Itkillik River** 89.21 17 P P 17 53 29.3 +0.7
baz=238
FYU **Fort Yukon** 89.34 21 IAmb IAmb 17 53 31.0
comp=Z,22nm,1.1s
YUK8 **Steele Glacier** 89.34 27 P P 17 53 29.8 0.0
baz=248,SNR=7.7
D24K **Happy Valley** 89.40 18 IAmb IAmb 17 53 31.6
comp=Z,12nm,1.0s
D24K **Happy Valley** 89.40 18 P P 17 53 30.1 +0.5
baz=240
O29M **Mount Kennedy** 89.53 28 IAmb IAmb 17 53 48.1
comp=Z,37nm,1.6s
O29M **Mount Kennedy** 89.53 28 P P 17 53 31.2 +0.7
baz=249
I26K **Coal Creek Min** 89.55 23 P P 17 53 31.2 +0.8
baz=245
BRLS **Borolday** 89.62 314 *e*P P 17 53 31.1 -0.1
BRLS **Borolday** 89.62 314 *e*P P 17 53 31.2 -0.1
F25K **Christian Rive** 89.67 20 P P 17 53 31.1 +0.1
F25K **Christian Rive** 89.67 20 P P 17 53 31.7 +0.7
baz=243
C24K **Franklin Bluff** 89.72 18 P P 17 53 31.6 +0.5
baz=240

YUK6	Outpost Mounta	89.85	28	P	P	17 53 33.0	+0.8
	baz=249						
S31K	Pelican	89.86	31	P	P	17 53 32.6	+0.7
	baz=251						
YUK4	Talbot Arm	89.87	27	P	P	17 53 33.3	+1.1
	baz=249,SNR=9.3						
NRIK	Noril'sk	89.91	342	P	P	17 53 30.7	-1.2
	comp=Z,4.8nm,0.7s,baz=96,slow=3.8,SNR=3.8						
NRIK				LR	LR	18 33 38.6	
	comp=Z,30nm,20.5s,baz=128,slow=36						
	comp=Z,4.8nm,0.7s						
NRIK	Noril'sk	89.91	342	*ce*P	P	17 53 31.1	-0.8
E25K	Arctic Village	89.94	20	IAmb	IAmb	17 53 43.8	
	comp=Z,17nm,1.4s						
E25K	Arctic Village	89.94	20	P	P	17 53 32.7	+0.6
	baz=243						
BMAR	Burnt Mountain	89.96	21	P	P	17 53 32.2	-0.1
G26K	Porcupine Rive	90.03	21	P	P	17 53 33.4	+0.8
	baz=244						
SIT	Sitka	90.03	32	P	P	17 53 33.2	+0.4
	baz=252						
HYT	Haines Junctio	90.20	28	IAmb	IAmb	17 53 41.5	
	comp=Z,19nm,1.0s						
HYT	Haines Junctio	90.20	28	P	P	17 53 34.3	+0.6
	baz=250,SNR=12						
P30M	Million Dollar	90.22	29	P	P	17 53 34.9	+1.2
	baz=251						
F26K	Sheenjek River	90.23	20	IAmb	IAmb	17 53 41.9	
	comp=Z,29nm,1.6s						
F26K	Sheenjek River	90.23	20	P	P	17 53 34.2	+0.6
	baz=244						
D25K	Kavik River	90.24	19	IAmb	IAmb	17 53 40.5	
	comp=Z,22nm,1.1s						
D25K	Kavik River	90.24	19	P	P	17 53 33.6	+0.1
	baz=242						
I27K	Kandik River	90.26	23	P	P	17 53 35.4	+1.6
	baz=246						
M29M	Somme Creek	90.34	26	IAmb	IAmb	17 53 41.8	
	comp=Z,15nm,0.9s						
M29M	Somme Creek	90.34	26	P	P	17 53 35.5	+1.2
	baz=249						
DAWY	Dawson	90.54	24	IAmb	IAmb	17 53 43.5	
	comp=Z,24nm,1.3s						
DAWY	Dawson	90.54	24	P	P	17 53 35.9	+0.8
	baz=248,SNR=8.0						
H27K	Steamboat Moun	90.55	22	P	P	17 53 36.0	+1.0
	baz=246						
S32K	Killisnoo	90.55	32	P	P	17 53 36.1	+1.0
	baz=253						
N30M	Aishikik Lake	90.61	27	IAmb	IAmb	17 53 43.1	
	comp=Z,14nm,1.2s						
N30M	Aishikik Lake	90.61	27	P	P	17 53 36.6	+1.1
	baz=250						
L29M	L29M	90.72	26	P	P	17 53 36.5	+0.5
L29M	L29M	90.72	26	P	P	17 53 37.0	+1.0
	baz=250						
G27K	Doyon Strip	90.73	22	P	P	17 53 37.3	+1.4
	baz=246						
CRAG	Craig	90.74	34	P	P	17 53 36.9	+0.8
	baz=254						
O30N	Mendenhall	90.84	28	P	P	17 53 36.9	+0.3
	baz=251						
I28M	Miner Creek	90.85	23	P	P	17 53 37.7	+1.2
	baz=248						
C26K	Camden Bay	90.97	18	P	P	17 53 37.1	+0.3
	baz=243						
M30M	Minto, Yukon	91.12	26	IAmb	IAmb	17 53 48.9	
	comp=Z,25nm,1.5s						
M30M	Minto, Yukon	91.12	26	P	P	17 53 38.1	+0.3
	baz=251						
J29N	Klondike Camp	91.16	24	IAmb	IAmb	17 53 46.0	
	comp=Z,11nm,1.1s						
J29N	Klondike Camp	91.16	24	P	P	17 53 38.4	+0.4
	baz=250						
ELIB	Princess Elisa	91.21	194	*d*P	P	17 53 39.0	+0.7
	comp=Z,8.5nm,1.0s						
ELIB				*d*x	x	17 53 44.9	
N31M	Braeburn, Yuko	91.21	28	P	P	17 53 39.1	+0.9
	baz=252						
C27K	Jago River	91.22	19	IAmb	IAmb	17 53 45.5	
	comp=Z,14nm,1.0s						
C27K	Jago River	91.22	19	P	P	17 53 39.3	+1.2
	baz=245						
K29M	Barlow Dome	91.24	25	P	P	17 53 38.8	+0.4
	baz=250,SNR=6.2						
WHY	Whitehorse	91.37	28	P	P	17 53 38.2	-0.9
	baz=252						
I29M	Ogilvie Camp,	91.45	23	P	P	17 53 40.0	+0.7
	baz=249						
V35K	Ketchikan	91.53	34	P	P	17 53 40.8	+1.0
	baz=255						
P32M	Atlin	91.61	30	P	P	17 53 40.4	+0.3
	baz=253						
BVAR	Borovoye Array	91.68	324	P	P	17 53 38.8	-1.8
	comp=Z,1.9nm,0.8s,baz=111,slow=5.9,SNR=11						
BVAR				LR	LR	18 37 18.3	
	comp=Z,57nm,18.5s,baz=132,slow=37						
	comp=Z,1.9nm,0.8s						
F28M	Old Crow	91.69	21	P	P	17 53 40.9	+0.6
	baz=248						
BRVK	Borovoye	91.75	324	P	P	17 53 40.2	-0.7
BRVK	Borovoye	91.75	324	*ce*P	P	17 53 42.6	+1.7
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
MAYO	Mayo, Yukon	91.84	25	P	P	17 53 42.1	+1.0
	baz=252						
D27M	Malcolm River	91.94	19	P	P	17 53 42.0	+0.5
	baz=247						
J30M	Hart River	91.97	24	P	P	17 53 42.3	+0.4
	baz=251						
M31M	Drury Creek, Y	92.06	27	P	P	17 53 42.2	+0.1
	baz=253						
G29M	Pine Creek	92.10	22	IAmb	IAmb	17 53 58.6	
	comp=Z,10.0nm,1.1s						
G29M	Pine Creek	92.10	22	P	P	17 53 42.7	+0.5
	baz=250						
Q32M	Nakina River	92.15	30	P	P	17 53 42.9	+0.1
	baz=255						
I30M	Mount Dempster	92.16	24	IAmb	IAmb	17 53 49.7	
	comp=Z,14nm,1.5s						
I30M	Mount Dempster	92.16	24	P	P	17 53 42.3	-0.4
	baz=251						
P33M	Teslin, Yukon	92.22	29	P	P	17 53 43.1	+0.1
	baz=254						
BELA	Belgrano 2	92.32	179	P	P	17 53 43.1	-0.1
N32M	Quiet Lake	92.36	28	P	P	17 53 43.1	-0.4
	baz=254						
EPYK	Eagle Plains	92.41	23	IAmb	IAmb	17 53 50.5	
	comp=Z,9.2nm,0.9s						
EPYK	Eagle Plains	92.41	23	P	P	17 53 44.0	+0.3
	baz=251						
S34M	Telegraph Cree	92.45	32	P	P	17 53 45.1	+1.1
	baz=256						
FARO	Faro, Yukon	92.54	27	P	P	17 53 44.8	+0.4
	baz=254						
E29M	Blow River	92.66	21	P	P	17 53 45.5	+0.7
	baz=250						
T35M	Bob Quinn	92.68	33	P	P	17 53 45.9	+0.8
	baz=256						
D28M	Stokes Point	92.71	20	P	P	17 53 45.9	+1.0
	baz=249						
G30M	tAoh Zraii Nji	92.80	22	IAmb	IAmb	17 53 49.1	
	comp=Z,13nm,1.4s						
G30M	tAoh Zraii Nji	92.80	22	P	P	17 53 45.4	0.0
	baz=251						
R33M	Jennings River	92.91	30	P	P	17 53 46.9	+0.7
	baz=256						
DLBC	Dease Lake	93.15	31	LR	LR	18 27 26.6	
	comp=Z,192nm,21.4s,baz=284,slow=30						
DLBC	Dease Lake	93.15	31	P	P	17 53 48.0	+0.7
	baz=256						
H31M	Peel River	93.15	24	P	P	17 53 47.8	+0.7
	baz=253						
F30M	Barrier River	93.16	22	P	P	17 53 47.8	+0.7
	baz=252						
G31M	Satah River	93.51	22	P	P	17 53 49.4	+0.7
	baz=253						
MMPY	Sheldon Lake,	93.58	27	P	P	17 53 49.7	+0.6
	baz=256						
F31M	Tsiigehtchic	93.86	22	P	P	17 53 50.8	+0.6
	baz=254						
INK	Inuvik	94.18	21	LR	LR	18 32 04.6	
	comp=Z,113nm,21.2s,baz=241,slow=33						
INK	Inuvik	94.18	21	P	P	17 53 52.3	+0.6
	baz=254						
YBH	Yreka Blue Hor	94.48	49	LR	LR	18 27 55.3	
	comp=Z,173nm,21.8s,baz=274,slow=30						
TGTN	Hyland Airport	94.69	28	P	P	17 53 55.2	+0.9
	baz=258						
NVL	N'lazarevskaya	94.71	193	*e*P	P	17 53 53.5	-0.7
NVL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NVL				MLR	MLR		
	comp=Z,747nm,18.0s						
AFDM	Forest Hills D	95.37	52	P	P	17 53 57.3	-0.6
AFDM				IAmb	IAmb	17 54 00.2	
	comp=Z,11nm,1.3s						
SNAA	Sanae	96.61	188	LR	LR	18 36 55.5	
	comp=Z,342nm,19.0s,baz=186,slow=35						
NVAR	Mina Array Bea	97.37	52	P	Pdif	17 54 06.6	-0.7
	comp=Z,1.3nm,0.8s,baz=268,slow=5.0,SNR=6.1						
NVAR				LR	LR	18 34 09.7	
	comp=Z,67nm,18.4s,baz=252,slow=33						
	comp=Z,1.3nm,0.8s						
NV11	Mina Array Sit	97.48	52	P	Pdif	17 54 07.0	-0.8
NV11				IAmb	IAmb	17 54 10.2	
	comp=Z,9.2nm,1.4s						
ABKAR	Akbulak array	97.49	319	IAmb	IAmb	17 54 25.4	
	comp=Z,8.1nm,1.6s						
A36M	Sachs Harbour	97.72	18	P	Pdif	17 54 08.5	+0.7
	baz=262						
PFO	Pinyon Flats O	98.31	57	LR	LR	18 34 35.3	
	comp=Z,91nm,18.1s,baz=248,slow=33						
WCT	Wildcat Mounta	98.51	54	P	Pdif	17 54 12.8	+0.5
AKTO	Aktyubinsk	98.84	320	LR	LR	18 39 43.0	
	comp=Z,115nm,21.2s,baz=182,slow=36						
ARTI	Arti	99.09	326	LR	LR	18 42 30.5	
	comp=Z,49nm,18.0s,baz=101,slow=38						
NEW	Newport	99.20	43	LR	LR	18 35 13.5	
	comp=Z,122nm,18.4s,baz=270,slow=33						
YKA	Yellowknife Ar	101.20	28	P	Pdif	17 54 21.5	-1.9
	comp=Z,0.1nm,0.4s,baz=266,slow=5.1,SNR=4.2						
N23A	Red Feather La	107.00	50	P	PKiKP	17 58 59.6	-0.2
	baz=272						
Q24A	Davide	107.67	52	P	PKiKP	17 59 00.8	-0.3
	baz=272						
T25A	Trinidad	108.29	54	P	PKiKP	17 59 01.9	-0.4
	baz=272						
OBN	Obninsk	111.44	326	*i* PKIKP	PKiKP	17 59 09.5	+2.3
OBN				*e*		17 59 47.1	
OBN				*e*PPP	PPP	18 02 07.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SOC	Sochi	111.48	313	*i* PKIKP	PKiKP	17 59 05.3	-2.4
SOC				*e*		17 59 45.6	
SOC				*e*PPP	PPP	18 02 08.1	
SOC				*e*SS	SS	18 15 20.5	-1.2
SOC				MLR	MLR		
	comp=Z,66nm,13.0s						
833A	Chaparral WMA,	112.70	63	P	PKiKP	17 59 10.5	0.0
	baz=271						
435B	Jarrell	114.20	61	P	PKiKP	17 59 14.2	+0.9
	baz=273						
FRB	Frobisher Bay	119.72	19	PKP	PKPdf	17 59 20.3	-2.6
	comp=Z,2.6nm,0.3s,baz=0.8,slow=2.8,SNR=3.0						
KRLC	Kraliky	124.46	325	*e*PKP	PKiKP	17 59 36.7	+3.9
KRLC	Kraliky	124.46	325	*e*PKIKP	PKiKP	17 59 36.7	+3.9
BRG	Berggiesshubel	125.60	327	*e*PKP	PKiKP	17 59 34.8	-0.2
BRG				Amp		17 59 36.9	
	comp=Z,5.1nm,1.1s						
CLL	Collm	125.85	328	*i* PKPdf	PKiKP	17 59 35.2	-0.3
KHC	Kasperske Hory	126.73	326	*e*PKP	PKiKP	17 59 37.2	-0.2
KHC	Kasperske Hory	126.73	326	*e*PKIKP	PKiKP	17 59 37.2	-0.2
GERES	GERESS Array B	126.82	325	PKP	PKiKP	17 59 36.8	-0.8
	comp=Z,1.1nm,0.8s,baz=106,slow=2.9,SNR=6.0						
AF01	San Pedro de A	130.33	132		PKPpre	17 59 37.3	
LPAZ	La Paz	134.12	124	PKP	PKPdf	17 59 51.7	-0.9
	comp=Z,2.2nm,0.9s,baz=283,slow=0.4,SNR=5.6						
RUSC	La Rusia	137.12	92		PKPdf	17 59 56.2	-1.9
SDV	Santo Domingo	139.88	88	PKPdf	PKPdf	18 00 01.2	-1.5
PTLB	Pontes e Lacer	141.66	131		PKPdf	18 00 03.6	-2.1
ESDC	Sonseca Array	142.39	326	PKP	PKPdf	18 00 05.0	-1.4
	comp=Z,0.8nm,1.0s,baz=49,slow=2.9,SNR=4.3						
PCBR	Castelo Branco	144.10	330	*e*PKP	PKPbc	18 00 06.2	-1.1
PMRV	Marv??o	144.38	329	*e*PKP	PKPdf	18 00 08.9	-0.9
PESTR	Estremoz	144.90	329	*e*PKP	PKPdf	18 00 10.0	-0.8
PMTG	Montargil	145.07	330	*e*PKP	PKPdf	18 00 10.3	-0.7
PBAR	Barrancos	145.13	328	*e*PKP	PKPdf	18 00 10.9	-0.2
EVO	Evora	145.37	329	*e*PKP	PKPdf	18 00 11.5	-0.1
PBEJ	Beja	145.68	328	*e*PKP	PKPab	18 00 12.7	-0.1
BOAV	Boa Vista	148.73	102	PKPdf	PKPdf	18 00 15.4	-2.5
BOAV					PKPbc	18 00 21.0	-0.8
TORD	Torodi Ar. Bea	148.83	279	PKPdf	PKPdf	18 00 15.2	-2.8
TORD				PKPbc	PKPbc	18 00 21.2	-0.7
TORD	Torodi Ar. Bea	148.83	279	PKPbc	PKiKP	18 00 22.0	-1.3
	comp=Z,29nm,0.3s,baz=40,slow=2.9,SNR=3.8						
BDFB	Brasilia	148.95	145	PKPdf	PKPdf	18 00 15.6	-2.8
BDFB	Brasilia	148.95	145	PKPbc	PKPdf	18 00 19.4	+1.0
	comp=Z,7.0nm,0.9s,baz=160,slow=2.0,SNR=7.0						
BDFB	Brasilia	148.95	145	PKHKP	PKPpre	18 00 15.6	
MAL2	Monte Alegre,	153.13	115	PKPdf	PKPdf	18 00 21.4	-3.3
MAL2					PKiKP	18 00 32.2	-0.1
DBIC	Dimbokro	154.95	265	PKP	PKPdf	18 00 27.0	-0.2
	comp=Z,3.7nm,0.6s,baz=135,slow=1.4,SNR=3.5						

IDC 23 17:51:04.1±1.7, 9°.83S×150°.26E, h0km, mb3.6/3, mbtmp3.7/5, ML2.5/2, Error ellipse: s-maj=30.5km s-min=20.6km az=4.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.09	278	Pn	Pn	17 51 53.8	-0.3
	5.2nm,0.3s,baz=100,slow=10,SNR=17						
PMG				P*g*	Pb	17 52 01.2	+1.3
	17nm,0.3s,baz=95,slow=7.4,SNR=22						
PMG				Lg	Lg	17 52 41.7	
	12nm,0.3s,baz=75,slow=23,SNR=6.2						
	14nm,0.4s						
WRA	Warramunga Arr	18.36	235	P	P	17 55 20.5	0.0
	0.1nm,0.3s,baz=57,slow=12,SNR=2.1						
	1.8nm,0.9s						
ASAR	Alice Springs	20.81	227	P	P	17 55 48.1	+0.8
	1.5nm,0.8s,baz=63,slow=11,SNR=11						
	1.5nm,0.8s						
STKA	Stephens Creek	23.36	199	P	P	17 56 13.4	-0.9
	2.2nm,0.7s,baz=6.4,slow=11,SNR=4.6						
	2.2nm,0.7s						
ILAR	Eielson Array	87.74	22	P	P	18 03 54.7	+0.1
	0.5nm,0.7s,baz=242,slow=3.7,SNR=6.0						
	0.5nm,0.7s						

*IDC **23** 17:54:45.5±2.9, 3°.34N×97°.67E, h0km, mb3.5/6, mbtmp3.5/6, MS3.7/1, Error ellipse: s-maj=135.5km s-min=23.1km az=57.0*
*DJA **23** 17:55:01.7±0.5, 3°N±3°×9°8E±°, h120km±5km, M3.4/11, MLv3.4/11*

ISC 23 17:55:00.3±0.8, 3°.42N±0°.06×97°.98E±0°.06, h100km, n15, σ3°74/16, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	0.59	82	P	Pn	17 55 21.3	+4.5
TSI				S	Sn	17 55 36.0	+6.8
MLSI	Meulaboh, Aceh	1.78	298	P	Pn	17 55 33.5	+3.4
MLSI				S	Sn	17 55 57.7	+4.9
SNSI	Sinabang, Aceh	1.93	239	P	Pn	17 55 35.1	+3.1
SNSI				S	Sn	17 55 59.2	+3.0
GSI	Gunungsitoli	2.14	191	P	Pn	17 55 36.9	+2.1
GSI				S	Sn	17 56 04.5	+3.4
BSI	Banda Aceh	3.38	308	P	Pn	17 55 53.7	+2.6
PBSI	Pulau Batu	3.47	175	P	Pn	17 55 53.9	+1.5
WRA	Warramunga Arr	42.59	125	P	P	18 02 44.6	-2.4
	0.3nm,0.7s,baz=302,slow=8.6,SNR=1.8						
	0.3nm,0.7s						
ASAR	Alice Springs	44.15	129	P	P	18 02 58.4	-1.0
	0.2nm,0.9s,baz=306,slow=8.4,SNR=1.8						
	0.2nm,0.9s						
SONM	Songino Array	44.84	8	P	P	18 03 02.6	-2.0
	0.3nm,0.4s,baz=187,slow=9.2,SNR=2.4						
	0.3nm,0.4s						
MKAR	Makanchi Array	45.30	345	P	P	18 03 05.5	-2.7
	0.2nm,0.4s,baz=158,slow=8.8,SNR=5.2						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	51.51	350	P	P	18 03 52.8	-2.9
	1.2nm,0.3s,baz=165,slow=5.9,SNR=7.7						
	1.2nm,0.3s						
BVAR	Borovoye Array	54.43	340	P	P	18 04 14.0	-3.2
	0.5nm,0.4s,baz=136,slow=11,SNR=5.6						
	0.5nm,0.4s						
H04N2	CROZET ISLANDS	64.04	214	T	T	19 13 39.8	
	baz=56						
H04N1	CROZET ISLANDS	64.05	214	T	T	19 13 37.8	
	baz=56						
H04N3	CROZET ISLANDS	64.06	214	T	T	19 13 36.8	
	baz=56						

*IDC **23** 18:04:36.9±1.4, 9°.78S×150°.21E, h0km, mb3.8/5, mbtmp3.8/7, ML2.2/2, Error ellipse: s-maj=36.4km s-min=27.8km az=141.0*

ISC 23 18:04:41.2±1.4, 9°.8S±0°.2×150°.2E±0°.1, h28km, n7, σ0°77/8, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.98	277	Pn	Pn	18 05 26.1	-0.5
	3.2nm,0.3s,baz=82,slow=15,SNR=14						
PMG				Sn	Sb	18 06 09.9	+0.4
	3.7nm,0.3s,baz=234,slow=8.0,SNR=4.0						
	9.5nm,0.3s						
WRA	Warramunga Arr	18.30	235	P	Pn	18 08 53.7	+0.5
	baz=61,slow=11,SNR=2.1						
	1.5nm,1.0s						
ASAR	Alice Springs	20.77	226	P	P	18 09 20.6	+0.5
	1.0nm,0.8s,baz=60,slow=11,SNR=11						
	1.0nm,0.8s						
STKA	Stephens Creek	23.37	199	P	P	18 09 46.4	-1.2
	1.6nm,0.7s,baz=0.3,slow=12,SNR=3.6						
	1.6nm,0.7s						
FITZ	Fitzroy Crossi	25.16	248	P	P	18 10 04.0	-0.3
	2.3nm,0.7s,baz=67,slow=12,SNR=6.8						
	2.3nm,0.7s						
QSPA	South Pole Qui	80.20	180	P	P	18 16 49.7	+0.7
	3.0nm,1.0s,baz=314,slow=1.6,SNR=9.5						
	3.0nm,1.0s						
ILAR	Eielson Array	87.74	22	P	P	18 17 27.2	0.0
	0.4nm,0.7s,baz=246,slow=5.5,SNR=6.9						
	0.4nm,0.7s						

*IDC **23** 18:25:01.2±2.2, 0°.48N×127°.34E, h0km, mb3.1/3, mbtmp3.2/3, MS2.7/1, Error ellipse: s-maj=179.1km s-min=27.5km az=66.0*
*DJA **23** 18:25:05.8±0.3, 0°N±3°×12°7E±°, h10km, M3.2/10, MLv3.2/10*

ISC 23 18:25:07.8±1.2, 0°.12N±0°.07×126°.7E±0°.1, h35km, n9, σ1°12/9, mb3.0/3, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.91	44	P	Pn	18 25 24.2	+0.1
TNTI				S	Sn	18 25 37.7	+1.7
LBMI	Labuha	1.07	134	P	Pn	18 25 26.2	-0.2
SANI	Sanana	2.28	199	P	Pn	18 25 44.0	+1.0
NLAI	Namlea	3.35	174	P	Pn	18 25 58.1	+0.3
AAI	Ambon	4.05	159	P	Pn	18 26 07.7	+0.3
WRA	Warramunga Arr	21.28	160	P	P	18 29 50.2	-1.3
	0.2nm,0.4s,baz=340,slow=11,SNR=5.6						
	0.2nm,0.4s						
ASAR	Alice Springs	24.65	164	P	P	18 30 26.0	+0.6
	0.2nm,0.5s,baz=344,slow=11,SNR=10						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	32.82	305	LR	LR	18 45 53.3	
	comp=Z,11nm,18.2s,baz=185,slow=38						
MKAR	Makanchi Array	60.53	326	P	P	18 35 13.5	-1.1
	0.3nm,0.6s,baz=123,slow=8.8,SNR=4.1						
	0.3nm,0.6s						

*IDC **23** 18:26:20.6±2.0, 51°.82N×171°.12W, h0km, mb4.0/11, mbtmp3.9/13, ML3.0/2, Error ellipse: s-maj=47.3km s-min=26.4km az=141.0*
*NEIC **23** 18:26:27.0±1.7, 51°.9N±0°.1×171°.42W±0°.10, h36km±9km, mb3.9/42, ML3.8/6, ML3.3(AEIC), Error ellipse: s-maj=17.7km s-min=8.4km az=169.0*
*AEIC **23** 18:26:29.4±2.2, 51°.9N±0°.1×171°.69W±0°.09, h23km±6km, Error ellipse: s-maj=17.3km s-min=7.6km az=170.0*

ISC 23 18:26:27.8±0.9, 51°.9N±0°.1×171°.45W±0°.07, h44km, n78, σ0°89/72, mb4.0/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	1.71	280	Pn	Pn	18 26 54.0	-1.1
ATKA				Sn	Sn	18 27 13.6	-2.1
ATKA				IAML		18 27 21.8	
	comp=N,418nm,0.5s						
GSTR	Great Sitkin T	2.85	275	Pn	Pn	18 27 09.9	-0.8
ADK	Adak	3.24	271		Pn	18 27 15.3	-0.7
ADK				Sn	Sn	18 27 52.4	-0.9
ADK				IAML		18 28 03.5	
	comp=N,247nm,0.9s						
ADK				IAML		18 28 04.8	
	comp=N,260nm,1.5s						
KIWB	Kanaga Island	3.53	271	Pn	Pn	18 27 19.4	-0.6
UNV	Unalaska Valle	3.55	56	Pn	Pn	18 27 18.9	-1.5
LVA	Lava Point	3.96	54	Pn	Pn	18 27 23.5	-2.4
LVA				IAML		18 29 08.5	
	comp=E,233nm,4.3s						
SPIA	Saint Paul Isl	5.30	7	Pn	Pn	18 27 45.3	+1.1
N15K	Kwethluk River	10.40	33	Pn	Pn	18 28 53.3	-0.8
O16K	Kokwok River B	10.73	39	Pn	Pn	18 28 59.8	+1.2
O18K	Koktuh Hills	12.05	43	Pn	Pn	18 29 15.1	-1.6
KDAK	Kodiak Island	12.32	54	Pn	Pn	18 29 19.8	-0.6
SYI	Shuyak Island	12.73	51	Pn	Pn	18 29 26.0	+0.1
K20K	Telida	14.68	32	Pn	Pn	18 29 47.7	-4.6
CAST	Castle Rocks	15.40	34	Pn	Pn	18 30 01.9	+0.2
CAST				IAmb	IAmb	18 30 39.7	
	comp=Z,7.8nm,1.4s						
E19K	Redstone River	17.06	19		Pn	18 30 23.3	+0.6
BMRM	Bremner River	17.26	48		P	18 30 26.2	-0.1
BMRM				IAmb	IAmb	18 31 07.8	
	comp=Z,18nm,1.5s						
ILAR	Eielson Array	18.04	35	P	P	18 30 33.7	-1.1
	comp=Z,0.1nm,0.3s,baz=235,slow=9.6,SNR=6.3						
	comp=Z,0.1nm,0.4s						
H24K	Noodor Dome	18.33	32	P	P	18 30 37.3	-0.8
J25K	Salcha River,	18.50	37	P	P	18 30 38.5	-1.5
SCRK	Sand Creek	18.72	39	P	P	18 30 42.1	-0.3
PETK	Petropavlovsk-	18.74	286	P	Pn	18 30 43.6	+0.2
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=4.7						
	comp=Z,1.0nm,0.5s						
M27K	Edge Creek, AK	18.95	45	P	P	18 30 43.5	-1.5
M27K				IAmb	IAmb	18 31 16.6	
	comp=Z,8.6nm,1.4s						
G24K	Hadweenzic Riv	19.00	30	P	P	18 30 44.7	-0.6
J26L	Joseph Creek	19.13	38	P	P	18 30 45.2	-1.6
B20K	Meade River	19.31	15	P	Pn	18 30 50.3	+0.3
B20K				IAmb	IAmb	18 31 07.0	
	comp=Z,13nm,1.5s						
F24K	Squaw Lake	19.41	28	P	P	18 30 50.0	+0.1
BILL	Bilibino	19.41	335	P	P	18 30 48.9	-1.0
BILL				IAmb	IAmb	18 30 56.6	
	comp=Z,3.1nm,0.7s						
B21K	Ikpikpuk River	19.42	18	P	Pn	18 30 52.0	+0.7
B21K				IAmb	IAmb	18 30 54.4	
	comp=Z,6.3nm,1.

comp=Z,4.3nm,1.4s
A36M Sachs Harbour 28.40 28 P P 18 32 18.7 +1.2
A36M IAmb IAmb 18 32 25.0
comp=Z,2.6nm,0.9s
NLWA Neilton Lookou 30.69 79 P P 18 32 38.0 0.0
H11N2 WAKE ISLAND Hy 36.33 216 T T 19 11 58.9
baz=21,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 36.34 216 T T 19 11 59.5
baz=21,slow=76,SNR=13
H11N1 WAKE ISLAND Hy 36.35 216 T T 19 11 55.8
baz=21,slow=76,SNR=8.4
H11S1 WAKE ISLAND Hy 37.53 215 T T 19 13 27.6
baz=22,slow=76,SNR=9.0
H11S2 WAKE ISLAND Hy 37.54 215 T T 19 13 30.6
baz=22,slow=76,SNR=4.7
H11S3 WAKE ISLAND Hy 37.55 215 T T 19 13 31.4
baz=22,slow=76,SNR=5.3
KSRS Korea Array 44.17 276 P P 18 34 32.5 +0.5
comp=Z,0.7nm,0.7s,baz=58,slow=8.2,SNR=2.7
comp=Z,0.7nm,0.7s
SPA1 Spitsbergen Ar 50.06 358 P P 18 35 17.3 -0.1
SPITS Spitsbergen Ar 50.06 358 P P 18 35 17.5 +0.1
comp=Z,5.6nm,0.9s,baz=3.3,slow=7.5,SNR=5.8
comp=Z,5.6nm,0.9s
ARCES ARCESS Array B 58.20 353 P P 18 36 14.6 -2.1
ARCES ARCESS Array B 58.20 353 P P 18 36 16.4 -0.3
comp=Z,4.5nm,1.0s,baz=6.6,slow=6.2,SNR=1.5
comp=Z,4.5nm,1.0s
KURBB Kurchatov Arra 61.94 317 P P 18 36 43.0 +0.4
comp=Z,1.7nm,0.7s,baz=43,slow=7.2,SNR=12
comp=Z,1.7nm,0.7s
MK31 Makanchi Array 63.16 312 P P 18 36 50.2 -0.6
MK31 IAmb IAmb 18 37 11.1
comp=Z,1.5nm,1.4s
MKAR Makanchi Array 63.16 312 P P 18 36 50.1 -0.7
MKAR Makanchi Array 63.16 312 P P 18 36 50.8 0.0
comp=Z,0.4nm,0.5s,baz=48,slow=6.1,SNR=8.5
comp=Z,0.4nm,0.5s
BVAR Borovoye Array 63.29 323 P P 18 36 52.6 +1.0
comp=Z,3.7nm,0.5s,baz=52,slow=6.3,SNR=18
comp=Z,3.7nm,0.5s
ARTI Arti 64.49 332 P P 18 36 59.8 +0.5
ARTI IAmb IAmb 18 37 01.1
comp=Z,2.6nm,0.8s
FINES FINESS Array B 66.10 351 P P 18 37 10.2 +0.5
FINES FINESS Array B 66.10 351 P P 18 37 09.5 -0.2
comp=Z,4.0nm,1.1s,baz=357,slow=7.7,SNR=3.8
comp=Z,4.0nm,1.1s
NC405 NORSAR Array S 67.27 358 P P 18 37 17.7 +0.5
HFS Hagfors 68.20 357 P P 18 37 22.4 -0.7
comp=Z,5.4nm,1.1s,baz=296,slow=4.4,SNR=7.0
comp=Z,5.4nm,1.1s
BOOM Boomskoye usch 69.36 313 P P 18 37 31.2 +0.4
AAK Ala-Archa 69.89 314 P P 18 37 34.4 +0.3
ABKAR Akbulak array 70.11 327 P P 18 37 35.5 +0.5
ABKAR Akbulak array 70.11 327 P P 18 37 35.2 +0.2
ABKAR IAmb IAmb 18 37 37.2
comp=Z,4.5nm,1.4s
KK31 Karatay Array 71.24 317 P P 18 37 41.9 -0.1
KK31 IAmb IAmb 18 37 43.5
comp=Z,1.6nm,0.8s
KKAR Karatay Array 71.24 317 P P 18 37 42.2 +0.1
KKAR IAmb IAmb 18 37 43.5
comp=Z,1.7nm,0.8s
KKAR Karatay Array 71.24 317 P P 18 37 42.1 +0.1
ARSB Arslanbob 71.61 314 P P 18 37 44.1 -0.4
ARSB IAmb IAmb 18 37 45.6
comp=Z,2.7nm,1.0s
BTK Batken 73.60 315 P P 18 37 56.5 +0.3
BTK IAmb IAmb 18 37 59.2
comp=Z,2.4nm,0.9s
GAR Garm 74.69 315 P P 18 38 02.9 +0.2
CMAR Chiang Mai Arr 75.45 281 P P 18 38 08.2 +1.0
comp=Z,0.3nm,0.6s,baz=44,slow=6.7,SNR=2.9
comp=Z,0.3nm,0.6s
CHGR Chuyangaron 75.48 315 P P 18 38 07.5 +0.3
SIMJ Simiganj 75.55 315 P P 18 38 07.8 +0.1
ASAR Alice Springs 89.14 228 P P 18 39 18.5 +0.1
comp=Z,0.4nm,0.9s,baz=27,slow=5.4,SNR=2.4
comp=Z,0.4nm,0.9s

IDC 23 18:35:05.6±2.1, 2°.13N×124°.18E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=236.1km s-min=27.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**156**	P	P	18 40 21.3	-1.7
	0.5nm,0.6s,baz=331,slow=9.9,SNR=9.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**27.33**	**160**	P	P	18 40 53.7	+1.3
	0.9nm,0.6s,baz=340,slow=7.1,SNR=30						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**57.46**	**327**	P	P	18 44 56.4	0.0
	0.2nm,0.5s,baz=132,slow=8.6,SNR=1.6						
	0.2nm,0.5s						

IDC 23 18:39:14.8±1.1, 13°.07N×93°.05E, h0km, mb3.7/10, mbtmp3.7/10, Error ellipse: s-maj=40.6km s-min=18.2km az=55.0

ISC 23 18:39:19.6±1.2, 13°.1N±0°.2×93°.1E±0°.2, h32km, n13, σ0s74/10, mb3.7/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**29.05**	**226**	T	T	19 15 06.5	
	baz=43,slow=76,SNR=4.7						
H08S2	**Diego Garcia H**	**29.06**	**226**	T	T	19 15 05.8	
	baz=43,slow=76,SNR=6.4						
H08S1	**Diego Garcia H**	**29.07**	**226**	T	T	19 15 06.1	
	baz=43,slow=76,SNR=4.3						
MKAR	**Makanchi Array**	**34.80**	**347**	P	P	18 46 08.0	+0.6
	0.7nm,0.6s,baz=163,slow=7.7,SNR=8.0						
	0.7nm,0.6s						
SONM	**Songino Array**	**36.36**	**15**	P	P	18 46 22.0	+1.1
	0.5nm,0.5s,baz=204,slow=8.0,SNR=6.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**39.26**	**345**	P	P	18 46 45.0	-0.1
	0.8nm,0.6s,baz=165,slow=8.0,SNR=9.8						
	0.8nm,0.6s						
KSRS	**Korea Array**	**39.38**	**46**	P	P	18 46 45.5	-0.9
	0.5nm,0.6s,baz=250,slow=8.5,SNR=2.5						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**41.27**	**353**	P	P	18 47 01.2	-0.6
	0.5nm,0.5s,baz=205,slow=6.6,SNR=3.7						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**43.75**	**340**	P	P	18 47 21.3	-0.7
	0.6nm,0.5s,baz=138,slow=9.6,SNR=6.4						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**52.20**	**128**	P	P	18 48 27.8	-0.1
	0.4nm,0.6s,baz=305,slow=9.9,SNR=6.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**54.10**	**132**	P	P	18 48 42.2	+0.4
	0.6nm,0.4s,baz=308,slow=6.9,SNR=28						
	0.6nm,0.4s						
BRTR	**Keskin Array B**	**58.32**	**309**	P	P	18 49 11.4	-0.5
	0.7nm,0.7s,baz=125,slow=7.6,SNR=3.6						
	0.7nm,0.7s						
GERES	**GERESS Array B**	**73.29**	**317**	P	P	18 50 48.6	+0.5
	0.6nm,0.6s,baz=134,slow=3.9,SNR=4.0						
	0.6nm,0.6s						

NOU 23 18:50:17.9, 20°.65S×169°.78E, h71km, ML3.6/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.83**	**243**	P	Pn	18 50 47.6	+0.3
MARNC	**Mare, Loyalty**	**1.83**	**243**	S	Sn	18 51 10.6	+1.0
PINNC	**Pines Island,**	**2.92**	**228**	P	Pn	18 51 02.3	+0.3
PINNC	**Pines Island,**	**2.92**	**228**	S	Sn	18 51 36.2	+0.2
YATNC	**Mamie plateau,**	**3.04**	**242**	P	Pn	18 51 02.9	-0.7
YATNC	**Mamie plateau,**	**3.04**	**242**	S	Sn	18 51 39.3	+0.4
OUENC	**Ouen Island, N**	**3.25**	**237**	P	Pn	18 51 07.0	+0.4
OUENC	**Ouen Island, N**	**3.25**	**237**	S	Sn	18 51 45.5	+1.4
DVP	**Devils Point**	**3.28**	**332**	P	Pn	18 51 06.4	-0.5
DVP	**Devils Point**	**3.28**	**332**	S	Sn	18 51 45.5	+0.8
DZM	**Mont Dzumac**	**3.42**	**245**	P	Pn	18 51 09.3	+0.4
DZM	**Mont Dzumac**	**3.42**	**245**	S	Sn	18 51 48.6	+0.3
ONTNC	**Ouen Toro**	**3.51**	**241**	P	Pn	18 51 10.3	+0.2
ONTNC	**Ouen Toro**	**3.51**	**241**	S	Sn	18 51 50.8	+0.4
KOUNC	**Koumac, New Ca**	**5.15**	**270**	P	Pn	18 51 33.1	+0.7

IDC 23 18:50:41.3±1.8, 30°.53S×178°.79W, h118km±18km, mb3.4/4, mbtmp3.8/4, Error ellipse: s-maj=30.7km s-min=23.7km az=148.0

ISC 23 18:50:40.7±1.1, 30°.7S±0°.2×178°.9W±0°.2, h100km, n9, σ2s01/9, mb3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.64**	**32**	P	**Pn**	**18 51 09.6**	**+1.0**
	158nm,0.2s,baz=104,slow=23,SNR=1.4						
RAO				S	**Sn**	**18 51 28.7**	**-1.2**
	429nm,0.3s,baz=190,slow=23,SNR=4.3						
URZ	**Urewera**	**8.27**	**202**	P	Pn	18 52 31.9	-5.8
	8.7nm,0.9s,baz=225,slow=14,SNR=2.1						
URZ				S	Sn	18 54 03.3	-6.1
	3.2nm,0.3s,baz=240,slow=22,SNR=9.1						
STKA	**Stephens Creek**	**33.65**	**258**	P	**P**	**18 57 12.9**	**+1.0**
	1.6nm,0.8s,baz=81,slow=8.7,SNR=3.6						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**42.31**	**268**	P	**P**	**18 58 24.1**	**-0.6**
	0.3nm,0.3s,baz=106,slow=7.2,SNR=15						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.32**	**273**	P	**P**	**18 58 32.0**	**-0.9**
	0.6nm,0.3s,baz=111,slow=8.1,SNR=9.1						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	**59.46**	**180**	P	**P**	**19 00 32.0**	**-0.8**
	1.0nm,0.8s,baz=56,slow=1.2,SNR=6.8						
	1.0nm,0.8s						
FINES	**FINESS Array B**	**145.10**	**339**	PKPbc	**PKPbc**	**19 10 02.5**	**-2.8**
	3.3nm,0.9s,baz=32,slow=3.6,SNR=9.3						
NOA	**NORSAR Array B**	**148.87**	**350**	PKPbc	**PKPdf**	**19 10 14.2**	**+2.2**
	0.2nm,0.4s,baz=18,slow=2.5,SNR=1.3						
HFS	**Hagfors**	**149.32**	**348**	PKPbc	**PKPdf**	**19 10 15.2**	**+2.5**
	0.5nm,0.3s,baz=354,slow=4.3,SNR=9.6						

IDC 23 19:04:35.2±1.1, 3°.22S×135°.87E, h0km, mb3.7/4, mbtmp3.8/7, ML3.6/3, MS2.9/1, Error ellipse: s-maj=28.4km s-min=23.5km az=100.0
DJA 23 19:04:43.1±0.5, 3°.5±4°×13°.6E±°, h16km±5km, M4.0/8, mb4.0/3, MLv4.0/8

ISC 23 19:04:39.4±0.8, 3°.36S±0°.06×135°.86E±0°.06, h35km, n15, σ2s46/19, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**2.17**	**7**	P	**Pn**	**19 05 13.4**	**+0.4**
BAKI				S	**Sn**	**19 05 37.8**	**-0.8**
KMPI	**Kaimana, Papua**	**2.17**	**262**	P	**Pn**	**19 05 17.2**	**+4.1**
RKPI	**Ransiki, Papua**	**2.49**	**317**	P	**Pn**	**19 05 17.3**	**-0.1**
RKPI				S	**Sn**	**19 05 45.8**	**-0.8**
SMPI	**Sarmi**	**3.15**	**65**	P	Pn	19 05 32.6	+6.0
FAKI	**Fak Fak**	**3.63**	**277**	P	**Pn**	**19 05 35.2**	**+2.0**
FAKI				S	**Sn**	**19 06 16.1**	**+1.2**
JAY	**Jayapura**	**4.91**	**80**	Pn	**Pn**	**19 05 50.9**	**+0.1**
	0.7nm,0.3s,baz=266,slow=19,SNR=1.3						
JAY				Sn	**Sn**	**19 06 47.9**	**+1.5**
	0.9nm,0.3s,baz=254,slow=22,SNR=1.7						
	10nm,0.9s						
SWI	**Sorong**	**5.22**	**298**	P	**Pn**	**19 05 55.6**	**+0.6**
SANI	**Sanana**	**9.95**	**277**	P	**Pn**	**19 07 01.5**	**+1.6**
WRA	**Warramunga Arr**	**16.55**	**185**	Pn	**Pn**	**19 08 28.8**	**-0.1**
	0.3nm,0.3s,baz=6.3,slow=13,SNR=16						
WRA				Sn	**Sn**	**19 11 30.4**	**-1.3**
	0.3nm,0.3s,baz=5.3,slow=23,SNR=4.8						
	0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**17.75**	**214**	P	**P**	**19 08 43.9**	**-0.5**
	0.4nm,0.3s,baz=32,slow=9.9,SNR=12						
FITZ				S	**Sn**	**19 11 52.7**	**-8.0**
	3.5nm,0.7s,baz=10,slow=19,SNR=3.6						
	2.6nm,0.7s						
ASAR	**Alice Springs**	**20.28**	**185**	P	Pn	19 09 16.0	+1.7
	5.7nm,0.9s,baz=8.1,slow=12,SNR=48						
ASAR				S	**S**	**19 12 57.6**	**-0.3**
	0.4nm,0.8s,baz=12,slow=22,SNR=2.9						
	5.7nm,0.9s						
HNR	**Honiara**	**24.67**	**105**	LR	LR	19 20 40.6	
	comp=Z,28nm,20.0s,baz=24,slow=39						
MKAR	**Makanchi Array**	**68.59**	**324**	P	**P**	**19 15 40.3**	**+1.5**
	0.5nm,0.5s,baz=118,slow=7.7,SNR=11						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.64**	**326**	P	**P**	**19 16 03.5**	**+0.1**
	0.2nm,0.4s,baz=116,slow=6.2,SNR=2.7						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**87.60**	**25**	P	**P**	**19 17 23.4**	**-0.4**
	0.3nm,0.5s,baz=258,slow=4.5,SNR=8.1						
	0.3nm,0.5s						

IDC 23 19:21:04.5±0.7, 19°.33N×67°.78W, h0km, mb3.9/11, mbtmp4.0/15, ML3.7/4, MS3.5/3, Error ellipse: s-maj=20.6km s-min=14.0km az=68.0
SDD 23 19:21:05.5±1.8, 19°.38N×67°.68W, h22km±103km, MD4.4, ML4.4, MW4.3
NEIC 23 19:21:07.4±1.6, 19°.22N±0°.04×67°.72W±0°.02, h20km±5km, mb4.4/40, ML4.3/44, Mwr4.2/36, ML4.1/20(RSPR), Error ellipse: s-maj=5.4km s-min=3.4km az=183.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.38; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-0.69; $M_{r\theta}$-0.94; $M_{\theta\phi}$1.14; $M_{\phi r}$1.80; Fault plane solution: $M_0$2.62000×10^{15} NP1: ϕ_s114.80000°, δ22.10000°, λ56.75000°. NP2: ϕ_s330.08000°, δ71.66000°, λ102.56000°. Principal axes: T 2.4488, Plg61.0000°, Azm259.0000°; N 0.3177, Plg12.0000°, Azm146.0000°; P -2.7665, Plg26.0000°, Azm50.0000°;
RSPR 23 19:21:07.8, 19°.26N×67°.80W, h77km±8km, MD3.5/20
NEIC 23 19:21:08.9, 19°.14N×67°.69W, h33km
OSPL 23 19:21:08.7±2.9, 19°.20N×67°.69W, h0km±15km, ML4.0, Hypocentre not reviewed by the ISC

ISC 23 19:21:05.3±1.2, 19°.30N±0°.04×67°.72W±0°.02, h10km±8km, n145, σ1s28/165, mb4.2/28, MS3.6/3, 26C-16D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.94**	**166**		**Pg**	**19 21 22.9**	**-0.4**
IDE					**Sg**	**19 21 34.4**	**-1.1**
IDE	**Isla Desecheo**	**0.94**	**166**	*eP*	**Pg**	**19 21 22.9**	**-0.4**
PCDR	**Punta Cana, DR**	**1.00**	**219**		**Pg**	**19 21 23.9**	**-0.7**
PCDR					**Sg**	**19 21 37.6**	**0.0**
PCDR				IAML		19 21 48.2	
	comp=N,9μm,0.7s						
PCDR	**Punta Cana, DR**	**1.00**	**219**	⇓*ePg*	**Pg**	**19 21 23.9**	**-0.7**
PCDR				⇓*eSg*	**Sg**	**19 21 37.9**	**+0.2**
PCDR				IAML		19 21 48.0	
	comp=N,8μm,0.7s						
PCDR	**Punta Cana, DR**	**1.00**	**219**	⇓*eP*	**Pg**	**19 21 24.0**	**-0.6**
PCDR	**Punta Cana, DR**	**1.00**	**219**	*eS*	**Sg**	**19 21 38.1**	**+0.5**
PCDR	**Punta Cana, DR**	**1.00**	**219**	*i P*		19 21 23.9	
PCDR				*eS*		19 21 37.6	
PCDR				IAML		19 21 41.4	
	comp=Z,3μm,0.5s						
AGPR	**Aguadilla, PR**	**1.01**	**145**		**Pg**	**19 21 24.5**	**-0.2**
AGPR				Sn	**Sg**	**19 21 37.5**	**-0.2**
AGPR				IAML		19 21 41.1	
	comp=N,12μm,0.3s						
AGPR				IAML		19 21 43.2	
	comp=E,9μm,0.3s						
AGPR	**Aguadilla, PR**	**1.01**	**145**	⇑*ePg*	**Pb**	**19 21 24.7**	**0.0**
AGPR				⇑*eSg*	**Sg**	**19 21 38.0**	**+0.3**
AGPR				IAML		19 21 41.2	
	comp=N,11μm,0.2s						
AGPR	**Aguadilla, PR**	**1.01**	**145**	⇑*eP*	**Pb**	**19 21 24.8**	**0.0**
AGPR	**Aguadilla, PR**	**1.01**	**145**	*eS*	**Sg**	**19 21 37.9**	**+0.2**
AGPR	**Aguadilla, PR**	**1.01**	**145**	*i P*		19 21 24.7	
AGPR				*eS*		19 21 38.1	
AGPR				IAML		19 21 40.9	
	comp=Z,5μm,0.5s						
HIDR	**Higuey Centro**	**1.18**	**234**	⇓*eP*	**Pg**	**19 21 26.6**	**-1.3**
HIDR	**Higuey Centro**	**1.18**	**234**	*eS*	**Sg**	**19 21 42.2**	**-1.1**
PRSN	**Puerto Rico Se**	**1.21**	**153**		**Pg**	**19 21 27.6**	**-0.9**
PRSN				Sn	**Sg**	**19 21 43.2**	**-0.9**
PRSN				IAML		19 21 53.1	
	comp=E,11μm,0.3s						
PRSN	**Puerto Rico Se**	**1.21**	**153**	⇓*ePg*	**Pg**	**19 21 27.8**	**-0.6**
PRSN				⇓*eSg*	**Sg**	**19 21 43.6**	**-0.5**
PRSN				IAML		19 21 47.0	
	comp=N,13μm,0.2s						
PRSN	**Puerto Rico Se**	**1.21**	**153**	⇑*eP*	**Pg**	**19 21 27.8**	**-0.6**
PRSN	**Puerto Rico Se**	**1.21**	**153**	*eS*	**Sg**	**19 21 44.0**	**-0.1**
LSP	**Las Mesas**	**1.27**	**152**		**Pg**	**19 21 29.0**	**-0.6**
LSP					**Sg**	**19 21 46.0**	**-0.2**
LSP	**Las Mesas**	**1.27**	**152**	⇑*eP*	**Pg**	**19 21 29.0**	**-0.6**
LSP	**Las Mesas**	**1.27**	**152**	*eS*	**Sg**	**19 21 46.0**	**-0.2**
MIDR	**Miches**	**1.30**	**256**	⇑*ePg*	**Pn**	**19 21 29.6**	**+0.1**
MIDR				⇑*eSg*	**Sn**	**19 21 47.5**	**+0.7**
MIDR				IAML		19 21 49.8	
	comp=N,2μm,0.5s						
AOPR	**Arecibo Observ**	**1.31**	**136**		**Pg**	**19 21 29.5**	**-1.0**
AOPR					**Sg**	**19 21 46.6**	**-1.0**
AOPR				IAML		19 21 55.7	
	comp=N,5μm,0.3s						
AOPR	**Arecibo Observ**	**1.31**	**136**	⇑*eP*	**Pg**	**19 21 29.5**	**-1.0**
AOPR	**Arecibo Observ**	**1.31**	**136**	*eS*	**Sb**	**19 21 48.2**	**+1.2**
EMPR	**Esperanza - Ma**	**1.39**	**126**		**Pn**	**19 21 31.0**	**+0.3**
EMPR					**Sg**	**19 21 49.4**	**-0.6**
EMPR				IAML		19 21 53.6	
	comp=E,6μm,0.4s						
EMPR				IAML		19 21 54.2	
	comp=N,6μm,0.5s						
EMPR	**Esperanza - Ma**	**1.39**	**126**	⇓*eP*	**Pb**	**19 21 31.6**	**+0.3**
EMPR	**Esperanza - Ma**	**1.39**	**126**	*eS*	**Sn**	**19 21 50.7**	**+1.6**
SMDR	**Samana, DR**	**1.39**	**270**	⇑*ePg*	**Pn**	**19 21 30.5**	**-0.1**
SMDR				*eSg*	**Sg**	**19 21 48.8**	**-1.2**
SMDR				IAML		19 21 56.3	
	comp=N,2μm,0.7s						
SMDR	**Samana, DR**	**1.39**	**270**	⇑*eP*	**Pn**	**19 21 30.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.41**	**138**		**Pn**	**19 21 30.6**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.41**	**138**	⇓*eP*	**Pn**	**19 21 31.2**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.41**	**138**	*eS*	**Sg**	**19 21 49.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.41**	**156**		**Pn**	**19 21 30.7**	**-0.3**
CRPR					**Sg**	**19 21 49.7**	**-0.9**
CRPR				IAML		19 21 52.9	
	comp=E,3μm,1.0s						
CRPR	**Cabo Rojo, PR**	**1.41**	**156**	⇑*ePg*	**Pn**	**19 21 30.9**	**-0.1**
CRPR				⇑*eSg*	**Sg**	**19 21 50.8**	**+0.2**
CRPR				IAML		19 21 54.3	
	comp=N,2μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.41**	**156**	⇑*eP*	**Pn**	**19 21 30.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**156**	*eS*	**Sg**	**19 21 50.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**156**	*i P*		19 21 32.1	
CRPR				*eS*		19 21 50.7	
CRPR				IAML		19 21 53.6	
	comp=Z,6μm,0.5s						
MLPR	**Magueyes Islan**	**1.47**	**154**	⇓*eP*	**Pn**	**19 21 31.8**	**0.0**
MLPR	**Magueyes Islan**	**1.47**	**154**	*eS*	**Sn**	**19 21 51.6**	**+0.6**
SADR	**Isla Saona**	**1.49**	**223**	⇑*ePg*	**Pn**	**19 21 32.0**	**0.0**
SADR				IAML		19 21 57.1	
	comp=N,5μm,0.7s						
ECPR	**Experimental S**	**1.61**	**127**	⇑*eP*	**Pn**	**19 21 34.4**	**+0.6**
ECPR	**Experimental S**	**1.61**	**127**	*eS*	**Sn**	**19 21 54.5**	**-0.2**
CELP	**Cerrillos**	**1.63**	**138**		**Pn**	**19 21 33.9**	**0.0**
CELP					**Sn**	**19 21 54.7**	**-0.3**
CELP				IAML		19 21 59.2	
	comp=E,4μm,0.6s						
CELP				IAML		19 22 01.4	
	comp=N,4μm,0.3s						
CELP	**Cerrillos**	**1.63**	**138**	⇑*ePg*	**Pn**	**19 21 34.3**	**+0.3**
CELP				⇓*eSg*	**Sn**	**19 21 56.5**	**+1.5**
CELP				IAML		19 22 01.4	
	comp=N,4μm,0.3s						
CELP	**Cerrillos**	**1.63**	**138**	⇓*eP*	**Pn**	**19 21 34.8**	**+0.8**
CELP	**Cerrillos**	**1.63**	**138**	*eS*	**Sn**	**19 21 56.0**	**+1.0**
OBIP	**Obispado Ponce**	**1.63**	**140**		**Pn**	**19 21 33.1**	**-1.0**
OBIP					**Sn**	**19 21 54.6**	**-0.5**
OBIP				IAML		19 21 57.2	
	comp=E,3μm,0.8s						
OBIP				IAML		19 22 06.5	
	comp=N,4μm,0.7s						
OBIP	**Obispado Ponce**	**1.63**	**140**	⇓*eP*	**Pn**	**19 21 33.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.63**	**140**	*eS*	**Sn**	**19 21 55.0**	**-0.1**
DR12	**Loma Pena Alta**	**1.65**	**252**		**Pn**	**19 21 34.7**	**+0.3**
HATOM	**Hato Mayor del**	**1.66**	**252**	⇑*ePg*	**Pn**	**19 21 35.0**	**+0.6**
HATOM				⇓*eSg*	**Sn**	**19 21 56.1**	**+0.3**
HATOM				IAML		19 22 02.8	
	comp=N,2μm,0.7s						
GCPR	**Guaynabo City**	**1.83**	**122**		**Pn**	**19 21 36.8**	**0.0**
GCPR	**Guaynabo City**	**1.83**	**122**	⇑*eP*	**Pn**	**19 21 37.4**	**+0.6**
GCPR	**Guaynabo City**	**1.83**	**122**	*eS*	**Sn**	**19 22 01.5**	**+1.4**
SJG	**San Juan**	**1.90**	**128**		**Pn**	**19 21 37.7**	**0.0**
SJG	**San Juan**	**1.90**	**128**		**Pn**	**19 21 38.0**	**+0.3**
SJG				IAML		19 22 02.2	
	comp=N,2μm,0.6s						
SJG				IAML		19 22 16.6	
	comp=N,2μm,0.6s						
SJG	**San Juan**	**1.90**	**128**	Pn	**Pn**	**19 21 38.4**	**+0.7**
	comp=N,87nm,0.3s,baz=306,slow=11,SNR=114						
SJG				Sn	**Sn**	**19 22 02.0**	**+0.4**
	comp=N,332nm,0.3s,baz=100,slow=21,SNR=16						
SJG				LR	LR	19 22 26.3	
	comp=N,760nm,18.0s,baz=358,slow=42						
SJG	**San Juan**	**1.90**	**128**	⇑*ePg*	**Pn**	**19 21 38.4**	**+0.7**
SJG				⇓*eSg*	**Sn**	**19 22 01.9**	**+0.2**
SJG	**San Juan**	**1.90**	**128**	⇑*eP*	**Pn**	**19 21 38.5**	**+0.7**
SJG	**San Juan**	**1.90**	**128**	*eS*	**Sn**	**19 22 02.0**	**+0.4**
SJG	**San Juan**	**1.90**	**128**	*i P*		19 21 38.4	
SJG				*eS*		19 22 01.6	
SJG				IAML		19 22 08.6	
	comp=Z,1μm,0.3s						
NADR	**Nagua**	**2.02**	**272**	⇓*ePg*	**Pn**	**19 21 40.4**	**+1.0**
NADR				*eSg*	**Sb**	**19 22 07.4**	**+0.1**
NADR				IAML		19 22 18.7	
	comp=N,5μm,0.9s						
IGPR	**InterUniversit**	**2.02**	**131**	Pn	**Pn**	**19 21 39.5**	**+0.1**
IGPR					**Sn**	**19 22 04.2**	**-0.6**
IGPR				IAML		19 22 10.7	
	comp=E,4μm,0.3s						
IGPR				IAML		19 22 13.9	
	comp=N,3μm,0.3s						
IGPR	**InterUniversit**	**2.02**	**131**	⇑*eP*	**Pn**	**19 21 40.3**	**+0.9**
IGPR	**InterUniversit**	**2.02**	**131**	*eS*	**Sn**	**19 22 04.8**	**+0.1**
PDPR	**Patillas Dam,**	**2.05**	**128**		**Pn**	**19 21 39.5**	**-0.2**
PDPR	**Patillas Dam,**	**2.05**	**128**	⇓*eP*	**Pn**	**19 21 40.3**	**+0.5**
PDPR	**Patillas Dam,**	**2.05**	**128**	*eS*	**Sn**	**19 22 05.6**	**+0.1**
HUMP	**Col San Antoni**	**2.11**	**123**		**Pn**	**19 21 40.7**	**+0.1**
HUMP		

BBSR	BB Station	13.30	11		Pn	19 24 13.8	-0.2
RUSC	La Rusia	14.31	202	Pn	Pn	19 24 23.1	-5.4
ROSC	El Rosal	15.75	205		Pn	19 24 46.2	-1.5
ROSC				IAmb	IAmb	19 25 03.8	
	comp=Z,28nm,1.0s						
ROSC	El Rosal	15.75	205	Pn	Pn	19 24 47.9	+0.2
	comp=Z,2.4nm,0.3s,baz=0.0,slow=13,SNR=5.6						
	comp=Z,7.2nm,0.4s						
656A	Willston	16.80	309		P	19 25 02.2	-0.7
BOAV	Boa Vista	18.22	156		Pn	19 25 16.7	-1.7
JTS	Las Juntas de	18.90	244	P	P	19 25 26.6	+0.4
	comp=Z,0.7nm,0.3s,baz=38,slow=5.5,SNR=4.6						
	comp=Z,2.3nm,0.2s						
BIRD	Birdtown, Kers	19.01	326	P	Pn	19 25 29.2	+1.2
FLOC	Florencia	19.25	205	P	P	19 25 27.5	-2.4
FLOC				IAmb	IAmb	19 25 36.0	
	comp=Z,22nm,1.0s						
V58A	Windy Hill, Pi	19.26	331	P	Pn	19 25 30.7	-0.2
V58A				IAmb	IAmb	19 25 37.8	
	comp=Z,16nm,0.4s						
BG3	Lake Jocassee	20.64	322	P	Pn	19 25 47.9	+0.6
BG3				IAmb	IAmb	19 26 11.8	
	comp=Z,17nm,1.3s						
V53A	Saluda	21.06	324	P	P	19 25 51.4	+1.8
MTO3	Montecristo	21.27	260	P	P	19 25 51.9	-0.3
MTO3				IAmb	IAmb	19 26 00.2	
	comp=Z,15nm,1.1s						
TKL	Tuckaleechee C	21.59	322	P	P	19 25 55.1	-0.1
	comp=Z,1.8nm,0.6s,baz=132,slow=12,SNR=1.4						
TKL				S	S	19 29 46.7	-7.8
	comp=Z,3.9nm,0.7s,baz=193,slow=22,SNR=3.0						
	comp=Z,1.8nm,0.6s						
OTAV	Otavalo	21.67	210	P	P	19 25 54.9	-1.8
OTAV				IAmb	IAmb	19 26 33.4	
	comp=Z,12nm,1.1s						
CPCT	Cooper Cave	21.89	321	P	P	19 25 59.7	+1.3
CPCT				IAmb	IAmb	19 26 00.5	
	comp=Z,25nm,1.4s						
LRAL	Lakeview Retre	22.01	312	P	P	19 26 01.0	+1.3
LRAL				IAmb	IAmb	19 26 02.1	
	comp=Z,13nm,1.2s						
APG	El Apazote	22.14	262	P	P	19 26 01.9	+0.3
	comp=Z,0.2nm,0.3s,baz=128,slow=10,SNR=5.3						
PAL	Palisades	22.27	348	P	P	19 26 03.9	+1.4
PAL				IAmb	IAmb	19 26 27.0	
	comp=Z,10.0nm,0.7s						
Q54A	Coxs Mills	22.67	333	P	P	19 26 09.1	+2.3
Q54A				IAmb	IAmb	19 26 41.7	
	comp=Z,18nm,1.3s						
Z47A	Carrollton	22.85	311	P	P	19 26 09.5	+0.8
T50A	Nancy	23.16	323	P	P	19 26 13.2	+1.3
T50A				IAmb	IAmb	19 26 14.7	
	comp=Z,8.3nm,0.9s						
CCIG	Comitan	23.44	267	P	P	19 26 14.5	-0.6
R50A	Paris	23.80	326	P	P	19 26 19.6	+1.4
WCI	Wyandotte Cave	24.83	323	P	P	19 26 29.5	+1.7
WCI				IAmb	IAmb	19 26 32.8	
	comp=Z,6.9nm,0.8s						
LNXT	Lenox	25.44	316	P	P	19 26 33.9	+0.7
S44A	Carbondale	26.24	319	P	P	19 26 41.4	+0.9
LCAR	Lake Charles	26.54	314	P	P	19 26 43.7	+0.5
WHAR	Wooly Hollow	26.92	311	P	P	19 26 47.4	+0.7
WHAR				IAmb	IAmb	19 26 48.7	
	comp=Z,12nm,1.0s						
MGMO	Mountain Grove	27.88	315	P	P	19 26 55.9	+0.6
ATAH	Atahualpa	28.30	203	LR	LR	19 38 36.7	
	comp=Z,61nm,21.6s,baz=39,slow=37						
TXAR	Lajitas Array	34.13	294	P	P	19 27 51.7	+1.1
	comp=Z,2.2nm,0.8s,baz=112,slow=9.2,SNR=13						
	comp=Z,2.2nm,0.8s						
TX31	Lajitas Ar. Si	34.13	294	P	P	19 27 50.3	-0.3
TX31				IAmb	IAmb	19 28 05.3	
	comp=Z,3.7nm,0.9s						
ALPN	Alpine	34.28	296	P	P	19 27 52.0	0.0
ALPN				IAmb	IAmb	19 27 53.5	
	comp=Z,5.8nm,0.9s						
ECSD	EROS Data Cent	34.34	322	P	P	19 27 52.7	+0.6
LPAZ	La Paz	35.37	181	P	P	19 28 04.5	+2.6
	comp=Z,1.2nm,0.6s,baz=0.0,slow=5.1,SNR=3.7						
	comp=Z,1.2nm,0.6s						
SCHQ	Schefferville	35.48	1	P	P	19 28 01.8	0.0
SCHQ				IAmb	IAmb	19 28 15.9	
	comp=Z,9.0nm,1.4s						
SCHQ	Schefferville	35.48	1	P	P	19 28 03.5	+1.6
	comp=Z,1.6nm,0.7s,baz=210,slow=8.4,SNR=4.8						
	comp=Z,1.6nm,0.7s						
VHRN	Van Horn	35.49	296	IAmb	IAmb	19 28 04.8	
	comp=Z,8.2nm,1.2s						
SDCO	Great Sand Dun	37.63	307	P	P	19 28 21.8	+1.0
SDCO				IAmb	IAmb	19 28 23.0	
	comp=Z,4.7nm,0.8s						
ULM	Lac du Bonnet	38.14	331	P	P	19 28 24.5	-0.1
	comp=Z,2.1nm,0.7s,baz=104,slow=7.4,SNR=7.0						
	comp=Z,2.1nm,0.7s						
PV13	Radium Mtn., P	40.26	307	P	P	19 28 43.2	+0.5
PV13				IAmb	IAmb	19 28 58.2	
	comp=Z,7.2nm,1.1s						
PDAR	Pinedale Array	42.23	313	P	P	19 28 59.3	+0.4
PDAR	Pinedale Array	42.23	313	P	P	19 28 59.5	+0.6
	comp=Z,0.3nm,0.5s,baz=97,slow=12,SNR=4.5						
PDAR				PcP	PcP	19 30 52.9	0.0
	comp=Z,0.5nm,0.6s,baz=110,slow=6.9,SNR=4.0						
	comp=Z,0.3nm,0.5s						
LOHW	Long Hollow	43.24	314	P	P	19 29 07.5	+0.5
MOOW	Moose Ponds	43.39	314	P	P	19 29 08.7	+0.5
V12A	Nelson	44.46	302	P	P	19 29 17.3	+0.5
WCT	Wildcat Mounta	46.03	303	P	P	19 29 30.1	+0.8
CPUP	Villa Florida	46.47	167	P	P	19 29 33.2	+0.7
	comp=Z,0.9nm,0.5s,baz=343,slow=6.5,SNR=3.4						
	comp=Z,0.9nm,0.5s						
NVAR	Mina Array Bea	47.60	305	P	P	19 29 42.1	+0.4
	comp=Z,0.7nm,0.7s,baz=81,slow=9.2,SNR=3.6						
	comp=Z,0.7nm,0.7s						
YKA	Yellowknife Ar	53.80	335	P	P	19 30 28.0	+0.2
	comp=Z,1.6nm,0.8s,baz=117,slow=7.2,SNR=16						
YKA				LR	LR	19 53 37.4	
	comp=Z,60nm,21.5s,baz=274,slow=36						
	comp=Z,1.6nm,0.8s						
ESDC	Sonseca Array	57.91	55	P	P	19 30 59.2	+1.5
	comp=Z,1.0nm,0.8s,baz=273,slow=6.7,SNR=5.9						
	comp=Z,1.0nm,0.8s						
A36M	Sachs Harbour	61.97	343	P	P	19 31 25.2	+0.2
A36M				IAmb	IAmb	19 31 45.8	
	comp=Z,5.7nm,1.1s						
E29M	Blow River	64.93	337	P	P	19 31 44.4	-0.2
E29M				IAmb	IAmb	19 31 45.9	
	comp=Z,4.0nm,0.8s						
TORD	Torodi Ar. Bea	66.56	84	P	P	19 31 54.6	-1.5
SCRK	Sand Creek	66.81	332	P	P	19 31 57.5	+0.4
ILAR	Eielson Array	68.11	333	P	P	19 32 05.5	+0.5
	comp=Z,1.2nm,0.8s,baz=96,slow=5.4,SNR=12						
	comp=Z,1.2nm,0.8s						
B21K	Ikpikpuk River	71.00	338	P	P	19 32 22.8	+0.1
TIXI	Tiksi	88.57	355	LR	LR	20 14 28.9	
	comp=Z,34nm,19.9s,baz=6.5,slow=36						
STKA	Stephens Creek	150.85	239	PKPbc	PKPbc	19 40 57.1	-1.4
	comp=Z,1.7nm,0.7s,baz=61,slow=4.3,SNR=4.1						
ASAR	Alice Springs	159.42	254	PKPab	PKPab	19 41 41.4	-1.2
	comp=Z,0.5nm,0.5s,baz=108,slow=4.5,SNR=8.9						

KRSC 23 19:29:19.4±1.9, 54.85N×164.65E, h54km±30km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.84	64	eP	Pn	19 29 36.9	+1.9
BKI				eS	Sn	19 29 47.7	+1.2
KBTR	Krutoberegovo	1.72	323	eP	Pn	19 29 48.0	+1.2
KBTR				eS	Sn	19 30 07.1	-0.5
KBG	Krutoberegovo	1.79	323	eP	Pn	19 29 49.5	+1.6
KBG				eS	Sn	19 30 09.9	+0.4
TUMD	Tumrok D	2.47	280	eP	Pn	19 30 00.3	+3.1
TUMD				eS	Sn	19 30 28.7	+2.5
BZGR	Bezymyannyi-Gr	2.51	298	eP	Pn	19 30 01.7	+4.0
BZGR				eS	Sn	19 30 31.2	+4.1
BZWR	Bezymyannyi-We	2.62	297	eP	Pn	19 30 03.8	+4.5
KMNR	Kamenistaya	2.68	292	eP	Pn	19 30 04.2	+4.1
KMNR				eS	Sn	19 30 36.3	+4.9
KIRR	Kirishev	2.70	296	eP	Pn	19 30 04.8	+4.5
KIRR				eS	Sn	19 30 38.4	+6.6
KRSR	Krestovskiy	2.70	302	eP	Pn	19 30 04.0	+3.7
KRSR				eS	Sn	19 30 35.5	+3.7
KLY	Klyuchi	2.71	305	eP	Pn	19 30 03.0	+2.7
KLY				eS	Sn	19 30 32.9	+1.1
KPT	Kopyto	2.76	296	eP	Pn	19 30 05.6	+4.4
KPT				eS	Sn	19 30 40.2	+6.8
KOZ	Kozyrevsk	2.98	296	eP	Pn	19 30 09.0	+4.9
KOZ				eS	Sn	19 30 44.6	+6.0
SPN	Mys Shipunski	3.25	239	eS	Sn	19 30 45.5	+0.4
NLC	Nalytchevo	3.55	244	eS	Sn	19 30 54.0	+1.4
ESO	Esso	3.56	290	eP	Pn	19 30 15.6	+3.5
ESO				eS	Sn	19 30 55.1	+2.2
UGLR	Uglovaya	3.81	247	eP	Pn	19 30 19.6	+4.1
AVH	Avacha	3.83	248	eP	Pn	19 30 20.1	+4.3
AVH				eS	Sn	19 31 02.5	+3.0
KRX	Arik	3.83	250	eP	Pn	19 30 20.1	+4.2
KRX				eS	Sn	19 31 01.5	+1.8
DALK	Dalny	3.93	245	eP	Pn	19 30 20.6	+3.6
DALK				eS	Sn	19 31 03.0	+1.1
PET	Petropavlovsk	3.99	245	eP	Pn	19 30 22.3	+4.5
GNL	Ganaly	4.10	256	eP	Pn	19 30 24.3	+4.8
KRMR	Karymshinskiy	4.36	245	eP	Pn	19 30 27.4	+4.4
KRMR				eS	Sn	19 31 14.6	+2.2
RUS	Russkaya	4.38	239	eP	Pn	19 30 26.9	+3.6
OSSR	Ossora	4.50	350	eP	Pn	19 30 27.7	+2.9
OSSR				eS	Sn	19 31 15.8	0.0
GRL	Gorelyy	4.53	242	eP	Pn	19 30 30.0	+4.5
GRL				eS	Sn	19 31 19.6	+2.7
APC	Apacha	4.83	250	eP	Pn	19 30 34.6	+5.2
KDTR	Khodutka, Kamc	4.98	235	eP	Pn	19 30 34.8	+3.4
TILK	Tilichiki	5.67	8	eP	Pn	19 30 45.3	+4.4

IDC 23 19:29:45.2±3.2, 14.82N×55.56E, h0km, mb3.4/5, mbtmp3.4/5, MS3.2/2, Error ellipse: s-maj=74.4km s-min=36.5km az=2.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	Wadi Sarin	8.87	19	LR	LR	19 35 12.2	
	comp=Z,105nm,21.1s,baz=238,slow=37						
GNI	Garni	26.96	341	LR	LR	19 48 11.8	
	comp=Z,66nm,18.0s,baz=204,slow=41						
MKAR	Makanchi Array	38.91	29	P	P	19 37 13.2	+0.6
	0.2nm,0.5s,baz=210,slow=7.3,SNR=4.2						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	40.26	23	P	P	19 37 23.8	0.0
	0.4nm,0.8s,baz=221,slow=8.0,SNR=4.5						
	0.4nm,0.8s						
CMAR	Chiang Mai Arr	41.65	79	P	P	19 37 35.6	-0.2
	0.2nm,0.3s,baz=285,slow=7.9,SNR=1.4						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	45.27	24	P	P	19 38 03.4	-1.1
	0.6nm,0.6s,baz=222,slow=7.8,SNR=2.5						
	0.6nm,0.6s						
ESDC	Sonseca Array	57.31	308	P	P	19 39 35.1	0.0
	0.3nm,0.6s,baz=103,slow=6.8,SNR=4.6						
	0.3nm,0.6s						

*IDC **23** 19:39:04.6±1.5, 9.79S×150.14E, h0km, mb3.7/5, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=31.9km s-min=19.0km az=11.0*

ISC 23 19:39:09.0±1.4, 9.8S±0.2×150.1E±0.1, h28km, n7, σ0°66/8, mb3.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	2.87	278	Pn	Pn	19 39 53.4	+0.4
	7.9nm,0.3s,baz=95,slow=7.3,SNR=10.0						
PMG				Pg	Pb	19 39 59.4	-0.3
	15nm,0.3s,baz=96,slow=5.5,SNR=27						
PMG				Lg	Lg	19 40 38.6	
	8.3nm,0.3s,baz=25,slow=19,SNR=3.6						
WRA	Warramunga Arr	18.21	235	P	Pn	19 43 19.1	-0.8
	0.1nm,0.3s,baz=61,slow=12,SNR=3.8						
	0.4nm,0.9s						
ASAR	Alice Springs	20.68	226	P	P	19 43 48.0	+0.9
	0.8nm,0.8s,baz=53,slow=9.1,SNR=8.4						
	0.8nm,0.8s						
STKA	Stephens Creek	23.32	198	P	P	19 44 14.4	-0.6
	2.7nm,1.0s,baz=12,slow=9.3,SNR=3.1						
	2.7nm,1.0s						
FITZ	Fitzroy Crossi	25.06	248	P	P	19 44 31.4	+0.1
	2.9nm,0.7s,baz=87,slow=7.2,SNR=5.9						
	2.9nm,0.7s						
QSPA	South Pole Qui	80.19	180	P	P	19 51 17.1	+0.3
	1.4nm,0.8s,baz=0.0,slow=5.1,SNR=5.8						
	1.4nm,0.8s						
ILAR	Eielson Array	87.79	22	P	P	19 51 55.0	-0.2
	0.3nm,0.7s,baz=252,slow=4.9,SNR=4.1						
	0.3nm,0.7s						

*IDC **23** 19:58:29.1±0.8, 16.92N×60.50W, h0km, mb4.1/13, mbtmp4.2/18, ML3.4/5, MS3.4/7, Error ellipse: s-maj=18.8km s-min=17.5km az=161.0*

*TRN **23** 19:58:32.4, 16.89N×60.68W, h21km, MD4.4, South-east of Antigua.*

*NEIC **23** 19:58:33.5±1.3, 16.92N±0.05×60.54W±0.05, h26km±5km, mb4.5/73, Mwr4.1/34, Error ellipse: s-maj=8.5km s-min=6.2km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.86; $M_{\theta\theta}$=0.48; $M_{\phi\phi}$=1.34; $M_{r\theta}$=0.61; $M_{r\phi}$=0.78; $M_{\theta\phi}$=-0.62; Fault plane solution: $M_0$1.66000×10^{15} NP1:ϕ_s125.10000°, δ50.90000°, λ-148.36000°. NP2:ϕ_s13.86000°, δ65.97000°, λ-43.67000°. Principal axes: T 1.6890, Plg9.0000°, Azm73.0000°; N -0.0680, Plg41.0000°, Azm171.0000°; P -1.6210, Plg47.0000°, Azm333.0000°;*

*NEIC **23** 19:58:33.5, 16.92N×60.54W, h26km*

ISC 23 19:58:32.1±0.5, 16.93N±0.04×60.55W±0.06, h21km±4km, n181, σ1°03/219, mb4.5/49, MS3.4/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDSD	La Dsirade Is	0.79	219		Pb	19 58 47.7	+0.5
GDSD				Sn	Sn	19 58 59.0	-0.2
ABD	La Joyeuse, An	1.01	243		Pb	19 58 51.1	+0.2
ABD					Sn	19 59 05.5	+0.9
ANBD	Bethesda, Anti	1.17	276	eP	Pn	19 58 53.6	+0.3
ANBD				eS	Sb	19 59 08.2	-0.1
ANBD	Bethesda, Anti	1.17	276	eP	Pn	19 58 53.6	+0.3
ANBD				eS	Sb	19 59 08.2	-0.1
MAGL	Barre de l'ile	1.20	216		Pn	19 58 54.0	+0.3
MAGL				Sn	Sb	19 59 09.4	+0.1
CBE	Ff, Capester	1.33	230		Pb	19 58 56.3	-0.1
CBE				Sn	Sb	19 59 13.2	+0.3
GDHS	Morne Mazeau,	1.34	241		Pb	19 58 56.8	+0.3
ANWB	Willy Bob	1.39	302		Pn	19 58 56.4	+0.1
ANWB	Willy Bob	1.39	302	eP	Pn	19 58 56.2	-0.1
ANWB				eS	Sb	19 59 15.5	+0.7
ANWB	Willy Bob	1.39	302	eP	Pn	19 58 56.2	-0.1
ANWB				eS	Sb	19 59 15.5	+0.7
TDBA	Terre de Bas,	1.50	224		Pb	19 58 59.2	-0.1
TBG	Guadaloupe-3	1.50	225	eP	Pb	19 58 59.0	-0.4
TBG				eS	Sb	19 59 18.3	+0.3
TBG	Guadaloupe-3	1.50	225	eP	Pb	19 58 59.0	-0.4
TBG				eS	Sb	19 59 18.3	+0.3
MBFL	Flemmings, Mon	1.61	264	eP	Pn	19 59 00.6	+1.3
MBFL				eS	Sn	19 59 18.9	-0.4
MBFL	Flemmings, Mon	1.61	264	eP	Pn	19 59 00.6	+1.3
MBFL				eS	Sn	19 59 18.9	-0.4
DSLB	Salisbury	1.71	210	eP	Pn	19 59 01.3	+0.6
DSLB				eS	Sb	19 59 23.1	-0.6
DSLB	Salisbury	1.71	210	eP	Pn	19 59 01.3	+0.6
DSLB				eS	Sb	19 59 23.1	-0.6
MDN	Morne-Daniel	1.80	207	eP	Pn	19 59 02.2	+0.3
MDN				eS	Sn	19 59 23.7	-0.4
MDN	Morne-Daniel	1.80	207	eP	Pn	19 59 02.2	+0.3
MDN				eS	Sn	19 59 23.7	-0.4
SKOC	St. Kitts, UWI	2.12	280	eP	Pn	19 59 07.3	+0.9
SKOC				eS	Sn	19 59 32.0	-0.1
SKOC	St. Kitts, UWI	2.12	280	eP	Pn	19 59 07.3	+0.9
SKOC				eS	Sn	19 59 32.0	-0.1
SKI	Saint Kitts	2.13	281	eP	Pn	19 59 07.6	+1.0
SKI				eS	Sn	19 59 33.2	+0.7
SKI	Saint Kitts	2.13	281	eP	Pn	19 59 07.6	+1.0
SKI				eS	Sn	19 59 33.2	+0.7
SVN	Savane Anatole	2.16	196		Pn	19 59 07.8	+0.9
SVN	Savane Anatole	2.16	196	eP	Pn	19 59 07.6	+0.6
SVN				eS	Sn	19 59 35.1	+1.9
SVN	Savane Anatole	2.16	196	eP	Pn	19 59 07.6	+0.6
SVN				eS	Sn	19 59 35.1	+1.9
ILAM	Ilet Lapin Mar	2.17	188		Pn	19 59 07.8	+0.8
FDF	Fort de France	2.26	195		Pn	19 59 08.8	+0.5
SEUS	St. Eustatius	2.39	284		Pn	19 59 11.1	+1.0
BIM	Bigot	2.45	192		Pn	19 59 11.0	0.0
BIM	Bigot	2.45	192	eP	Pn	19 59 12.6	+1.7
BIM				eS	Sn	19 59 41.6	+1.3
BIM	Bigot	2.45	192	eP	Pn	19 59 12.6	+1.7
BIM				eS	Sn	19 59 41.6	+1.3
MPOM	Morne Pois Mar	2.49	187		Pn	19 59 11.7	+0.2
SMRT	St. Maarten	2.66	295		Pn	19 59 14.0	+0.3
SABA	Saba	2.67	285		Pn	19 59 14.2	+0.3
SLW	Petit Monier	2.92	188	eP	Pn	19 59 19.8	+2.4
SLW				eS	Sn	19 59 53.2	+1.4
SLW	Petit Monier	2.92	188	eP	Pn	19 59 19.8	+2.4
SLW				eS	Sn	19 59 53.2	+1.4
SLBI	Saint Lucia, B	2.92	188	eP	Pn	19 59 18.5	+1.2
SLBI				eS	Sn	19 59 51.9	+0.1
SLBI	Saint Lucia, B	2.92	188	eP	Pn	19 59 18.5	+1.2
SLBI				eS	Sn	19 59 51.9	+0.1
SLAC	Saint Lucia, A	3.03	186	eP	Pn	19 59 20.1	+1.1
SLAC				eS	Sn	19 59 55.9	+1.2
SLAC	Saint Lucia, A	3.03	186	eP	Pn	19 59 20.1	+1.1
SLAC				eS	Sn	19 59 55.9	+1.2
SLB	Belfond	3.12	189	eP	Pn	19 59 22.1	+1.9
SLB				eS	Sn	19 59 57.3	+0.4
SLB	Belfond	3.12	189	eP	Pn	19 59 22.1	+1.9
SLB				eS	Sn	19 59 57.3	+0.4
SVB	Belmont	3.70	191	eP	Pn	19 59 29.4	+1.3
SVB				eS	Sn	20 00 11.8	+0.7
SVB	Belmont	3.70	191	eP	Pn	19 59 29.4	+1.3
SVB				eS	Sn	20 00 11.8	+0.7
SVT	Saint Vincent	3.80	190	eP	Pn	19 59 30.9	+1.4
SVT				eS	Sn	20 00 14.7	+1.2
SVT	Saint Vincent	3.80	190	eP	Pn	19 59 30.9	+1.4
SVT				eS	Sn	20 00 14.7	+1.2
SVOC	Richmond Hill,	3.81	190	eP	Pn	19 59 31.5	+1.9
SVOC				eS	Sn	20 00 13.4	-0.4
SVOC	Richmond Hill,	3.81	190	eP	Pn	19 59 31.5	+1.9
SVOC				eS	Sn	20 00 13.4	-0.4
GCMP	Grenada, Carri	4.50	191	eP	Pn	19 59 40.7	+1.7
GCMP				eS	Sn	20 00 30.8	0.0
GCMP	Grenada, Carri	4.50	191	eP	Pn	19 59 40.7	+1.7
GRHS	Sauteurs	4.80	193	eP	Pn	19 59 43.5	+0.3
GRHS				eS	Sn	20 00 37.9	-0.2
GRHS	Sauteurs	4.80	193	eP	Pn	19 59 43.5	+0.3
GRGR	Grenville	4.89	193	eP	Pn	19 59 46.3	+1.8
GRGR	Grenville	4.89	193	eP	Pn	19 59 46.3	+1.8
HUMP	Col San Antoni	5.20	284		Pn	19 59 49.1	+0.3
PDPR	Patillas Dam,	5.34	283		Pn	19 59 51.4	+0.8
IGPR	InterUniversit	5.41	282		Pn	19 59 52.6	+1.1
GCPR	Guaynabo City	5.46	285		Pn	19 59 53.0	+0.8
SJG	San Juan	5.47	283	Pn	Pn	19 59 52.4	-0.1
SJG	San Juan	5.47	283	Pn	Pn	19 59 52.8	+0.3
	6.2nm,0.3s,baz=102,slow=15,SNR=13						
SJG				Sn	Sn	20 00 53.8	-1.1
	6.7nm,0.3s,baz=286,slow=17,SNR=1.8						
SJG				LR	LR	20 02 20.8	
	comp=Z,346nm,18.6s,baz=190,slow=42						
	16nm,0.3s						
SJG	San Juan	5.47	283	eP	Pn	19 59 54.1	+1.6
SJG	San Juan	5.47	283	eP	Pn	19 59 54.1	+1.6
TOSP	Speyside	5.60	180	eP	Pn	19 59 55.8	+1.6
TOSP	Speyside	5.60	180	eP	Pn	19 59 55.8	+1.6
CELP	Cerrillos	5.87	282		Pn	19 59 58.5	+0.6
OBIP	Obispado Ponce	5.89	282		Pn	19 59 58.7	+0.1
UUPR	Utuado, UPR, P	6.03	284		Pn	20 00 00.7	+0.5
AOPR	Arecibo Observ	6.08	284		Pn	20 00 01.8	+0.9
AOPR	Arecibo Observ	6.08	284	eP	Pn	20 00 01.7	+0.9
AOPR	Arecibo Observ	6.08	284	eP	Pn	20 00 01.7	+0.9
TRN	Trinidad (W)	6.30	188	eP	Pn	20 00 07.4	+3.5
TRN	Trinidad (W)	6.30	188	eP	Pn	20 00 07.4	+3.5
CRPR	Cabo Rojo, PR	6.36	281	Pn	Pn	20 00 04.9	+0.4
AGPR	Aguadilla, PR	6.44	285	Pn	Pn	20 00 05.5	-0.3
PCRV	Puerto La Cruz	7.80	211	Pn	Pn	20 00 25.3	+0.8
	0.9nm,0.3s,baz=19,slow=9.5,SNR=1.6						
	12nm,0.8s						
DR12	Loma Pena Alta	8.61	284		Pn	20 00 34.7	-1.0
BANI	BANI	9.47	280	Pn	Pn	20 00 48.5	+1.0
SDDR	Presa de Saban	10.43	283		Pn	20 01 00.2	-0.3
SDDR	Presa de Saban	10.43	283	eP	Pn	20 01 01.1	+0.6
SDDR	Presa de Saban	10.43	283	eP	Pn	20 01 01.1	+0.6
BAUV	El Baul	10.79	224	Pn	Pn	20 01 05.5	+0.1
SDV	Santo Domingo	12.67	232	Pn	Pn	20 01 32.7	+1.3
	0.3nm,0.3s,baz=46,slow=5.3,SNR=4.6						
SDV				LR	LR	20 06 50.5	
	comp=Z,112nm,20.0s,baz=78,slow=40						
	3.2nm,0.6s						
MDP	Montagnes des	14.08	146	Pn	Pn	20 01 47.3	-3.2
	0.3nm,0.3s,baz=237,slow=17,SNR=1.5						
MDP				Sn	Sn	20 04 12.4	-14
	0.8nm,0.3s,baz=85,slow=20,SNR=1.9						
MDP				LR	LR	20 08 09.3	
	comp=Z,64nm,18.7s,baz=338,slow=41						
	11nm,0.9s						
BOAV	Boa Vista	14.44	180	Pn	Pn	20 01 52.5	-2.9
CHIV	Chivirico	15.36	284	Pn	Pn	20 02 06.0	-1.6
CHIV				IAmb	IAmb	20 02 13.2

comp=Z,0.5nm,0.6s,baz=275,slow=6.1,SNR=6.5
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 54.53 305 P P 20 08 00.2 +1.2
comp=Z,1.0nm,0.8s,baz=94,slow=6.7,SNR=5.1
comp=Z,1.0nm,0.8s
LHV Little Huntoon 54.67 305 P **P 20 08 01.0 +1.3**
DBIC Dimbokro 55.30 94 P **P 20 08 04.3 -0.2**
DBIC Dimbokro 55.30 94 P **P 20 08 04.1 -0.5**
comp=Z,1.8nm,0.5s,baz=249,slow=3.4,SNR=4.7
comp=Z,1.8nm,0.5s
NEW Newport 55.41 317 P **P 20 08 05.5 +0.4**
NEW IAmb IAmb 20 08 06.3
comp=Z,5.2nm,0.8s
PLCA Paso Flores 58.12 189 P **P 20 08 24.7 +0.5**
comp=Z,2.6nm,0.8s,baz=347,slow=5.1,SNR=4.0
comp=Z,2.6nm,0.8s
YKA Yellowknife Ar 58.86 334 P **P 20 08 28.9 -0.1**
comp=Z,4.8nm,0.7s,baz=111,slow=7.2,SNR=65
comp=Z,4.8nm,0.7s
A36M Sachs Harbour 66.28 342 P **P 20 09 19.0 +0.6**
A36M IAmb IAmb 20 09 20.5
comp=Z,4.2nm,0.8s
GERES GERESS Array B 67.11 44 P **P 20 09 24.4 +0.1**
comp=Z,0.5nm,0.6s,baz=266,slow=7.6,SNR=3.6
comp=Z,0.5nm,0.6s
FARO Faro, Yukon 67.15 331 P **P 20 09 25.5 +1.2**
FARO IAmb IAmb 20 09 26.5
comp=Z,4.9nm,0.9s
HFS Hagfors 67.62 31 P **P 20 09 27.2 0.0**
comp=Z,13nm,1.4s,baz=269,slow=8.4,SNR=1.0
comp=Z,13nm,1.4s
M31M Drury Creek, Y 67.64 331 P **P 20 09 28.6 +1.3**
INK Inuvik 68.11 337 P **P 20 09 30.2 +0.1**
G31M Satah River 68.18 336 P **P 20 09 30.7 +0.2**
N31M Braeburn, Yuko 68.22 330 P **P 20 09 31.8 +0.7**
M30M Minto, Yukon 68.78 331 P **P 20 09 34.6 +0.1**
I30M Mount Dempster 68.83 334 P **P 20 09 35.2 +0.4**
I30M IAmb IAmb 20 09 36.3
comp=Z,3.0nm,0.8s
DAWY Dawson 70.04 333 P **P 20 09 43.4 +1.1**
DAWY IAmb IAmb 20 09 43.8
comp=Z,3.4nm,0.6s
F28M Old Crow 70.41 336 P **P 20 09 44.8 +0.3**
F28M IAmb IAmb 20 09 45.1
comp=Z,3.3nm,0.8s
BCAR Beaver Creek A 71.09 332 P **P 20 09 50.2 +1.5**
L26K Log Cabin Wild 71.80 332 P **P 20 09 54.5 +1.5**
MENT Mentasta 71.98 331 P **P 20 09 55.3 +1.3**
SCRK Sand Creek 72.06 333 P **P 20 09 55.6 +1.0**
SCRK IAmb IAmb 20 09 56.2
comp=Z,3.8nm,1.0s
BMAR Burnt Mountain 72.22 336 P **P 20 09 55.6 +0.2**
N25K Chitina, Valde 72.44 330 P **P 20 09 58.4 +1.5**
N25K IAmb IAmb 20 10 01.3
comp=Z,3.9nm,0.9s
BMRM Bremner River 72.48 329 P **P 20 09 58.5 +1.4**
BMRM IAmb IAmb 20 10 02.4
comp=Z,6.2nm,1.0s
E25K Arctic Village 72.58 337 P **P 20 09 58.3 +0.8**
F25K Christian Rive 72.62 336 P **P 20 09 58.7 +0.9**
PAX Paxson 72.77 332 P **P 20 09 59.7 +0.8**
PAX IAmb IAmb 20 10 00.0
comp=Z,6.3nm,1.2s
D25K Kavik River 72.83 338 P **P 20 10 00.0 +1.0**
D25K IAmb IAmb 20 10 00.6
comp=Z,5.7nm,0.8s
KLU Klutina 73.08 330 P **P 20 10 02.2 +1.5**
ILAR Eielson Array 73.28 333 P **P 20 10 02.0 +0.3**
ILAR Eielson Array 73.28 333 P **P 20 10 01.9 +0.2**
comp=Z,3.5nm,0.7s,baz=92,slow=5.3,SNR=40
comp=Z,3.5nm,0.7s
HIN Hinchinbrook I 73.46 329 P **P 20 10 03.8 +0.9**
CCB Clear Creek Bu 73.69 333 P **P 20 10 04.3 +0.2**
CCB IAmb IAmb 20 10 04.9
comp=Z,3.8nm,0.7s
FINES FINESS Array B 73.69 30 P **P 20 10 04.3 +0.2**
FINES FINESS Array B 73.69 30 P **P 20 10 04.7 +0.6**
comp=Z,1.4nm,0.5s,baz=268,slow=4.2,SNR=19
comp=Z,1.4nm,0.5s
FIA1 FINESS Array S 73.69 30 P **P 20 10 04.6 +0.5**
GLI Glacier Island 73.70 329 P **P 20 10 04.5 +0.2**
SCM Sheep Creek Mo 73.72 330 P **P 20 10 05.5 +1.0**
TOLK Toolik Lake Re 74.02 338 P **P 20 10 05.5 +0.5**
SML Sawmill 74.20 330 P **P 20 10 06.9 -0.3**
SML IAmb IAmb 20 10 19.3
comp=Z,7.1nm,1.2s
NEA2 Nenana 74.23 333 P **P 20 10 07.9 +0.6**
RND Reindeer 74.27 332 P **P 20 10 08.7 +1.1**
RND IAmb IAmb 20 10 09.6
comp=Z,3.3nm,0.8s
MCK McKinley 74.27 332 P **P 20 10 08.2 +0.7**
MCK IAmb IAmb 20 10 09.0
comp=Z,3.4nm,1.1s
I23K Minto, Yukon-K 74.30 334 P **P 20 10 08.3 +0.8**
KNK Knik Glacier 74.31 330 P **P 20 10 09.3 +1.5**
KNK IAmb IAmb 20 10 10.0
comp=Z,4.0nm,1.0s
COLD Coldfoot 74.41 336 P **P 20 10 09.2 +1.0**
GHO Glory Hole Cre 74.48 330 P **P 20 10 09.0 +0.1**
GHO IAmb IAmb 20 10 14.7
comp=Z,7.4nm,1.2s
BUR08 Bucovina Ar. S 74.86 44 P **P 20 10 11.9 +0.5**
BURAR Bucovina Array 74.87 44 P **P 20 10 12.1 +0.6**
TRF Thorofare Moun 74.90 332 P **P 20 10 12.2 +0.8**
E22K Anaktuvuk Pass 74.91 337 P **P 20 10 11.7 +0.5**
E22K IAmb IAmb 20 10 13.0
comp=Z,5.3nm,0.9s
RC01 Rabbit Creek A 74.96 330 P **P 20 10 12.8 +1.2**
RC01 IAmb IAmb 20 10 21.8
comp=Z,7.4nm,1.2s
BPAW Bear Paw Mtn. 75.12 333 P **P 20 10 13.0 +0.5**
BPAW IAmb IAmb 20 10 13.0
comp=Z,5.2nm,0.7s
KTH Kantishna Hill 75.17 332 P **P 20 10 13.3 +0.5**
KTH IAmb IAmb 20 10 15.1
comp=Z,6.8nm,1.0s
SLKM Skilak Lake 75.28 329 P **P 20 10 13.8 +0.3**
SLKM IAmb IAmb 20 10 16.3
comp=Z,6.4nm,1.0s
SKT Skwentna 75.68 331 P **P 20 10 16.4 +0.7**
B21K Ikpikpuk River 75.68 339 P **P 20 10 16.3 +0.7**
B21K IAmb IAmb 20 10 17.4
comp=Z,5.8nm,0.9s
BRTR Keskin Array B 82.51 51 P **P 20 10 53.7 0.0**
comp=Z,0.5nm,0.7s,baz=261,slow=5.0,SNR=1.7
comp=Z,0.5nm,0.7s
TIXI Tiksi 91.41 357 P **P 20 11 36.5 +0.2**
TIXI IAmb IAmb 20 11 37.6
comp=Z,3.0nm,1.1s
SEY Seymchan 96.33 346 LR LR 20 58 01.5
comp=Z,87nm,20.3s,baz=150,slow=37

*IDC **23** 20:03:49.9±1.6, 27°.12N×55°.06E, h0km, mb3.7/12, mbtmp3.7/14, ML3.5/2, Error ellipse: s-maj=34.8km s-min=20.2km az=16.0*
*DSN **23** 20:03:51.5±2.1, 27°.07N×54°.96E, h22km, ML3.3/11, Error ellipse: s-maj=26.3km s-min=5.4km az=11.0*
*OMAN **23** 20:03:53.0±0.9, 26°.86N×55°.03E, h4km±6km, mb4.5/4, ml3.4/22, Error ellipse: s-maj=5.9km s-min=3.5km az=20.0*
*TEH **23** 20:03:53.5, 26°.97N×55°.23E, h22km±28km*
ISC 23 20:03:52.2±1.6, 27°.04N±0°.04×55°.07E±0°.04, h15km±11km, n86, σ1.138/106, mb3.8/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.04**	**69**	Pg	**Pb**	**20 04 11.0**	**-1.1**
GENO	**Geno**	**1.04**	**69**	Pg	**Pb**	**20 04 11.5**	**-0.7**
IBND	**Bandar-abas**	**1.37**	**72**	Pg	**Pb**	**20 04 17.2**	**-0.4**
SHME	**Shamm**	**1.37**	**136**	P	**Pn**	**20 04 16.7**	**-0.2**
SHME	SNR=56			S	**Sb**	**20 04 35.5**	**+0.6**
SHME	**Shamm**	**1.37**	**136**	*e*P	**Pn**	**20 04 15.8**	**-1.1**
SHME	SNR=75			S	**Sn**	**20 04 35.1**	**+0.3**
UMQ	**Umm Al-Quwin**	**1.60**	**161**	P	**Pb**	**20 04 21.5**	**0.0**
UMQ	SNR=8.3			S	**Sn**	**20 04 40.7**	**+0.4**
LMD1	**Lamerd**	**1.73**	**281**	Pn	**Pg**	**20 04 26.0**	**+0.6**
MASF	**Masafi**	**1.92**	**149**	P	**Pn**	**20 04 25.3**	**+0.8**
MASF	SNR=13			S	**Sn**	**20 04 49.3**	**+0.8**
MSFE	**Esma-Masafi**	**1.93**	**149**	*e*P	**Pn**	**20 04 24.1**	**-0.6**
	SNR=23						
JHRM	**Jahrom**	**1.97**	**318**	Pn	**Pg**	**20 04 29.4**	**-0.7**
MDH	**Madha**	**2.05**	**147**	P	**Pn**	**20 04 27.0**	**+0.8**
MDH	SNR=18			S	**Sn**	**20 04 53.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**2.11**	**165**	P	**Pn**	**20 04 28.3**	**+1.3**
NAZ	SNR=10			S	**Sn**	**20 04 53.1**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.11**	**165**	*e*P	**Pn**	**20 04 27.5**	**+0.5**
UOSS	**Minazif**	**2.32**	**154**	Pn	**Pn**	**20 04 30.6**	**+0.7**
UOSS	**Minazif**	**2.32**	**154**	P	**Pn**	**20 04 31.3**	**+1.4**
UOSS	**Minazif**	**2.32**	**154**	P	**Pn**	**20 04 29.9**	**0.0**
FAQ	**Al Faqa, Dubai**	**2.33**	**168**	P	**Pn**	**20 04 31.2**	**+1.1**
FAQ	SNR=7.3			S	**Sn**	**20 05 00.2**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.33**	**168**	*e*P	**Pn**	**20 04 29.7**	**-0.3**
HATD	**Hatta, Dubai**	**2.40**	**156**	P	**Pn**	**20 04 33.3**	**+2.3**
HATD	**Hatta, Dubai**	**2.40**	**156**	P	**Pn**	**20 04 31.1**	**0.0**
ASUD	**Al Ashush, Dub**	**2.41**	**174**	P	**Pn**	**20 04 32.7**	**+1.5**
ASUD	SNR=11			S	**Sn**	**20 04 59.7**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.41**	**174**	*e*P	**Pn**	**20 04 30.5**	**-0.7**
ASHO	**Ashiyiah**	**2.50**	**159**	P	**Pn**	**20 04 33.0**	**+0.4**
ASHO	**Ashiyiah**	**2.50**	**159**	*e*P	**Pn**	**20 04 32.6**	**+0.1**
KHNJ	**Kahnooj**	**2.51**	**68**	Pn	**Pn**	**20 04 32.7**	**+0.2**
JASK	**Jask - Hormozg**	**2.76**	**114**	Pn	**Pn**	**20 04 35.5**	**-0.5**
JASK	**Jask - Hormozg**	**2.76**	**114**	P	**Pn**	**20 04 35.7**	**-0.3**
JASK	SNR=11			S	**Sn**	**20 05 10.6**	**+1.4**
JRN	**Qarnain Island**	**2.89**	**224**	P	**Pn**	**20 04 37.7**	**-0.1**
NGRK	**Negar Kerman**	**2.98**	**29**	Pn	**Pn**	**20 04 41.2**	**+1.8**
ALNE	**Al Ain**	**3.03**	**168**	P	**Pn**	**20 04 40.4**	**+0.6**
ALNE	**Al Ain**	**3.03**	**168**	*i* P	**Pn**	**20 04 38.5**	**-1.2**
SOHO	**SOHO**	**3.18**	**155**	P	**Pn**	**20 04 41.5**	**-0.2**
SOHO	**SOHO**	**3.18**	**155**	*i* P	**Pn**	**20 04 40.8**	**-0.9**
KRBR	**Kerman**	**3.29**	**26**	Pn	**Pn**	**20 04 45.8**	**+2.3**
MZWR	**Madinat Zayed**	**3.44**	**199**	P	**Pn**	**20 04 46.7**	**+1.4**
KHGB	**Koh Gabri**	**3.55**	**20**	Pn	**Pn**	**20 04 49.4**	**+2.3**
CHMN	**Cheshme madani**	**3.55**	**37**	Pn	**Pn**	**20 04 49.3**	**+2.0**
DSBU	**Dashti - Bushe**	**3.63**	**292**	Pn	**Pn**	**20 04 51.6**	**+3.6**
KBAM	**BAM**	**3.65**	**54**	Pn	**Pn**	**20 04 50.2**	**+1.9**
SHMA	**Al-Shehemyia**	**3.87**	**253**	P	**Pn**	**20 04 49.2**	**-1.9**
ARQ	**Araqi**	**3.91**	**160**	P	**Pn**	**20 04 52.8**	**+0.9**
KRM1	**Kerman Provinc**	**3.96**	**29**	Pn	**Pn**	**20 04 54.8**	**+2.1**
HOQ	**Hoqain**	**3.99**	**149**	P	**Pn**	**20 04 51.0**	**-2.0**
TRNA	**Turayna**	**4.16**	**237**	P	**Pn**	**20 04 54.5**	**-0.8**
TRNA	SNR=7.9			S	**Sn**	**20 05 43.8**	**+0.1**
SLWR	**Sila**	**4.25**	**227**	P	**Pn**	**20 04 58.5**	**+2.0**
SLWR				S	**Sn**	**20 05 45.7**	**-0.1**
MZR	**Muzera**	**4.27**	**200**	P	**Pn**	**20 04 57.3**	**+0.6**
MZR	SNR=9.2			S	**Sn**	**20 05 45.1**	**-1.2**
UMZA	**Um Al Zommool**	**4.30**	**179**	P	**Pn**	**20 04 57.3**	**+0.1**
UMZA				S	**Sn**	**20 05 48.5**	**+1.3**
IMEH	**Mehriz**	**4.36**	**355**	Pn	**Pn**	**20 05 00.8**	**+2.6**
BIDO	**Bidbid**	**4.46**	**141**	P	**Pn**	**20 05 00.9**	**+1.6**
BIDO				S	**Sn**	**20 05 50.5**	**-0.6**
BSY	**Bisya**	**4.69**	**155**	P	**Pn**	**20 05 03.8**	**+1.3**
	SNR=5.5						
SMDO	**Samad**	**4.79**	**145**	P	**Pn**	**20 05 05.5**	**+1.5**
SMDO	SNR=10			S	**Sn**	**20 05 59.3**	**-0.1**
WSAR	**Wadi Sarin**	**4.97**	**139**	Pn	**Pn**	**20 05 07.2**	**+0.8**
	1.9nm,0.3s,baz=323,slow=5.2,SNR=21						
WSAR				Sn	**Sn**	**20 06 01.3**	**-2.3**
	1.8nm,0.3s,baz=341,slow=11,SNR=5.7						
	6.6nm,0.3s						
ISAD	**Sadrabad**	**5.01**	**346**	Pn	**Pn**	**20 05 10.7**	**+3.6**
CHBR	**Chabahar**	**5.06**	**105**	Pn	**Pn**	**20 05 07.0**	**-0.6**
ICHK	**Chekchek**	**5.22**	**354**	Pn	**Pn**	**20 05 12.7**	**+2.6**
JMDO	**Jabal Madar**	**5.40**	**149**	P	**Pn**	**20 05 13.6**	**+1.3**
JMDO				S	**Sn**	**20 06 15.3**	**+1.0**
WBK	**Wadi Bani Khal**	**5.65**	**140**	Pn	**Pn**	**20 05 15.9**	**+0.1**
WBK	**Wadi Bani Khal**	**5.65**	**140**	P	**Pn**	**20 05 16.8**	**+1.0**
WBK				S	**Sn**	**20 06 22.8**	**+2.2**
NGCH	**Negor - Chabah**	**5.70**	**106**	Pn	**Pn**	**20 05 16.4**	**0.0**
NGCH	**Negor - Chabah**	**5.70**	**106**	P	**Pn**	**20 05 17.3**	**+0.9**
TPRV	**Parvadeh(Tabas**	**6.13**	**13**	Pn	**Pn**	**20 05 24.5**	**+2.0**
JLN	**Jalan Bani Buh**	**6.26**	**140**	P	**Pn**	**20 05 23.4**	**-0.8**
JLN				S	**Sn**	**20 06 36.4**	**+0.8**
IKOO	**Kooshah**	**6.36**	**32**	Pn	**Pn**	**20 05 27.2**	**+1.4**
SRVN	**Saravan**	**6.53**	**85**	Pn	**Pn**	**20 05 28.7**	**+0.7**
TKDS	**Koohdasht(Taba**	**6.79**	**15**	Pn	**Pn**	**20 05 33.6**	**+2.1**
DQM	**DQM**	**7.43**	**162**	P	**Pn**	**20 05 39.0**	**-1.2**
	SNR=12						
DOK	**Doka**	**8.42**	**186**	P	**Pn**	**20 05 52.4**	**-1.5**
	SNR=5.7						
DMTO	**DMTO**	**9.28**	**181**	P	**Pn**	**20 06 03.6**	**-1.9**
DMTO				S	**Sn**	**20 07 49.5**	**-0.3**
RAYN	**Ar Rayn**	**9.34**	**250**	P	**Pn**	**20 06 06.4**	**-0.1**
ABTO	**Aybut**	**9.78**	**190**	P	**Pn**	**20 06 10.9**	**-1.6**
GNI	**Garni**	**15.64**	**329**	P	**P**	**20 07 38.6**	**+2.2**
KBZ	**Khabaz**	**19.35**	**333**	P	**P**	**20 08 16.0**	**-1.1**
	0.1nm,0.3s,baz=138,slow=14,SNR=4.2						
	1.1nm,0.8s						
KIV	**Kislovodsk**	**19.62**	**333**	P	**Pn**	**20 08 24.0**	**+2.4**
BRTR	**Keskin Array B**	**21.85**	**311**	P	**P**	**20 08 45.5**	**+1.0**
	1.3nm,0.7s,baz=133,slow=11,SNR=5.8						
	1.3nm,0.7s						
AAK	**Ala-Archa**	**22.20**	**40**	P	**P**	**20 08 48.4**	**+0.2**
	0.4nm,0.4s,baz=185,slow=10,SNR=5.3						
	0.4nm,0.4s						
HMDM	**Hanimaadhoo**	**26.50**	**136**	P	**P**	**20 09 32.6**	**+3.3**
BVAR	**Borovoye Array**	**28.36**	**20**	P	**P**	**20 09 45.4**	**-0.3**
	1.3nm,0.7s,baz=205,slow=7.4,SNR=3.8						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**29.13**	**40**	P	**P**	**20 09 51.2**	**-1.4**
	0.2nm,0.7s,baz=226,slow=7.8,SNR=3.1						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**34.67**	**31**	P	**P**	**20 10 40.4**	**-0.7**
	1.3nm,0.6s,baz=227,slow=10.0,SNR=6.1						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**39.52**	**339**	P	**P**	**20 11 21.3**	**-0.9**
	1.5nm,0.7s,baz=137,slow=9.4,SNR=3.7						
	1.5nm,0.7s						
HFS	**Hagfors**	**43.41**	**331**	P	**P**	**20 11 53.2**	**-0.9**
	0.8nm,0.4s,baz=126,slow=7.5,SNR=6.1						
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**44.93**	**331**	P	**P**	**20 12 04.8**	**-1.5**
	0.8nm,0.9s,baz=120,slow=7.4,SNR=1.4						
	0.8nm,0.9s						
ESDC	**Sonseca Array**	**50.08**	**300**	P	**P**	**20 12 46.1**	**-0.7**
	0.3nm,0.6s,baz=92,slow=6.9,SNR=4.0						
	0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**50.25**	**321**	P	**P**	**20 12 46.5**	**-1.2**
	2.6nm,0.9s,baz=96,slow=7.5,SNR=2.1						
	2.6nm,0.9s						
KSRS	**Korea Array**	**61.11**	**60**	P	**P**	**20 14 04.8**	**-1.2**
	0.5nm,0.6s,baz=276,slow=6.7,SNR=2.8						
	0.5nm,0.6s						
PETK	**Petropavlovsk-**	**75.92**	**37**	P	**P**	**20 15 39.0**	**+0.6**
	5.1nm,1.0s,baz=316,slow=13,SNR=3.8						
	5.1nm,1.0s						
YATNC	**Mamie plateau,**	**2.32**	**241**	S	**Sn**	**20 12 40.3**	**+1.0**
OUENC	**Ouen Island, N**	**2.54**	**235**	P	**Pn**	**20 12 15.4**	**+0.7**
DZM	**Mont Dzumac**	**2.69**	**245**		**Pn**	**20 12 16.8**	**-0.1**
DZM	**Mont Dzumac**	**2.69**	**245**	Pn	**Pn**	**20 12 16.4**	**-0.4**
	22nm,0.3s,baz=139,slow=16,SNR=162						
DZM				Sn	**Sn**	**20 12 48.4**	**-0.4**
	51nm,0.3s,baz=113,slow=23,SNR=7.1						
	69nm,0.3s						
DZM	**Mont Dzumac**	**2.69**	**245**	P	**Pn**	**20 12 17.1**	**+0.2**
ONTNC	**Ouen Toro**	**2.79**	**241**		**Pn**	**20 12 18.6**	**+0.5**
ONTNC	**Ouen Toro**	**2.79**	**241**	P	**Pn**	**20 12 18.6**	**+0.5**
DVP	**Devils Point**	**3.32**	**345**	P	**Pn**	**20 12 27.4**	**+2.0**
KOUNC	**Koumac, New Ca**	**4.50**	**274**	P	**Pn**	**20 12 41.9**	**+0.2**
MSVF	**Nonsavu**	**9.05**	**71**	LR	LR	20 16 22.9	
	comp=Z,542nm,18.6s,baz=189,slow=32						
HNR	**Honiara**	**14.44**	**321**	LR	LR	20 20 04.2	
	comp=Z,184nm,19.2s,baz=175,slow=36						
URZ	**Urewera**	**18.59**	**160**	LR	LR	20 21 58.3	
	comp=Z,206nm,20.3s,baz=76,slow=34						
PMG	**Port Moresby**	**24.03**	**295**	P	**P**	**20 16 47.7**	**-0.6**
	2.2nm,0.3s,baz=128,slow=12,SNR=4.6						
	2.2nm,0.3s						
COEN	**Coen**	**25.65**	**282**	P	**P**	**20 17 03.7**	**+0.7**
COEN				IAmb	IAmb	20 17 07.4	
	comp=Z,7.6nm,1.0s						
TOO	**Toolangi**	**26.30**	**226**	P	**P**	**20 17 09.6**	**+0.8**
STKA	**Stephens Creek**	**26.84**	**240**	P	**P**	**20 17 14.4**	**+0.8**
STKA				IAmb	IAmb	20 17 29.7	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**26.84**	**240**	P	**P**	**20 17 14.9**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=85,slow=13,SNR=5.2						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**32.50**	**266**	P	**P**	**20 18 03.1**	**-0.9**
WB0				IAmb	IAmb	20 18 16.7	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**32.53**	**266**	P	**P**	**20 18 04.7**	**+0.5**
WRA	**Warramunga Arr**	**32.53**	**266**	P	**P**	**20 18 03.7**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=83,slow=7.2,SNR=4.8						
	comp=Z,1.4nm,1.0s						
AS31	**Alice Springs**	**32.60**	**259**	P	**P**	**20 18 04.8**	**-0.1**
ASAR	**Alice Springs**	**32.61**	**259**	P	**P**	**20 18 04.7**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=86,slow=8.7,SNR=12						
ASAR				LR	LR	20 31 47.7	
	comp=Z,112nm,18.8s,baz=92,slow=37						
	comp=Z,2.1nm,0.7s						
MTN	**Manton Dam**	**37.12**	**276**	P	**P**	**20 18 43.5**	**-0.4**
KNRA	**Kununurra**	**38.56**	**271**	P	**P**	**20 18 55.7**	**-0.3**
KNRA				IAmb	IAmb	20 19 06.5	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.95**	**266**	P	**P**	**20 19 15.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**40.95**	**266**	P	**P**	**20 19 15.7**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=139,slow=9.6,SNR=9.6						
FITZ				LR	LR	20 36 29.1	
	comp=Z,122nm,18.1s,baz=115,slow=37						
	comp=Z,4.6nm,0.7s						
SOEI	**Soe**	**44.48**	**277**	P	**P**	**20 19 45.8**	**+1.0**
SOEI				IAmb	IAmb	20 19 52.0	
	comp=Z,12nm,1.0s						
PSA00	**Pilbara Seismi**	**45.73**	**260**	P	**P**	**20 19 55.0**	**+0.5**
PSA00				IAmb	IAmb	20 20 01.6	
	comp=Z,4.2nm,1.1s						
NWAO	**Narrogin (SRO)**	**47.32**	**244**	P	**P**	**20 20 06.3**	**-0.5**
NWAO				IAmb	IAmb	20 20 14.3	
	comp=Z,5.8nm,1.0s						
NWAO	**Narrogin (SRO)**	**47.32**	**244**	LR	LR	20 41 12.4	
	comp=Z,92nm,18.1s,baz=156,slow=38						
TOLI2	**Tolitoli**	**52.06**	**289**	P	**P**	**20 20 43.9**	**+0.8**
TOLI2				IAmb	IAmb	20 20 48.9	
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**64.19**	**333**	P	**P**	**20 22 06.0**	**-1.7**
	comp=Z,2.6nm,0.9s,baz=169,slow=5.8,SNR=4.5						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**69.11**	**180**	P	**P**	**20 22 39.1**	**+0.2**
QSPA				IAmb	IAmb	20 22 55.0	
	comp=Z,4.1nm,0.9s						
QSPA	**South Pole Qui**	**69.11**	**180**	P	**P**	**20 22 39.7**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=5.7,slow=1.1,SNR=8.8						
	comp=Z,3.4nm,0.9s						
JKA	**Kamikawa-asahi**	**69.14**	**340**	P	**P**	**20 22 38.9**	**-0.2**
ASAJ	**Asahikawa**	**69.15**	**340**	P	**P**	**20 22 39.5**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=223,slow=3.0,SNR=6.7						
	comp=Z,1.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**73.18**	**333**	P	**P**	**20 23 03.1**	**-0.5**
KLR	**Kul'dur**	**77.36**	**336**	P	**P**	**20 23 26.4**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=157,slow=2.9,SNR=5.7						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**79.07**	**295**	P	**P**	**20 23 38.2**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=133,slow=4.4,SNR=12						
	comp=Z,1.8nm,0.9s						
CHTO	**Chiang Mai**	**79.23**	**295**	P	**P**	**20 23 38.8**	**+0.2**
CHTO				IAmb	IAmb	20 23 46.2	
	comp=Z,4.9nm,0.8s						
BELA	**Belgrano 2**	**80.41**	**175**	P	**P**	**20 23 43.9**	**-0.1**
KDAK	**Kodiak Island**	**84.69**	**19**	LR	LR	20 59 56.6	
	comp=Z,50nm,18.0s,baz=27,slow=34						
L18K	**Granite Mounta**	**87.25**	**15**	P	**P**	**20 24 18.5**	**-0.4**
L18K				IAmb	IAmb	20 24 28.6	
	comp=Z,2.9nm,1.0s						
SNAA	**Sanae**	**87.45**	**183**	P	**P**	**20 24 20.6**	**+0.5**
SONM	**Songino Array**	**88.49**	**323**	P	**P**	**20 24 24.8**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=135,slow=5.3,SNR=7.9						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**90.04**	**49**	P	**P**	**20 24 32.5**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=218,slow=7.7,SNR=4.4						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**91.90**	**17**	P	**P**	**20 24 41.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=236,slow=4.0,SNR=8.1						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**126.67**	**345**	PKP	**PKPdf**	**20 30 33.8**	**-1.7**
	comp=Z,6.5nm,1.1s,baz=46,slow=3.5,SNR=4.7						
FINES	**FINESS Array B**	**132.10**	**337**	PKhKP	PKPpre	20 30 39.5	
	comp=Z,4.3nm,1.0s,baz=111,slow=23,SNR=4.2						
FINES				PKP	**PKPdf**	**20 30 45.0**	**-1.0**
	comp=Z,4.3nm,1.0s,baz=18,slow=7.9,SNR=2.8						
DPC	**Dobruska-Polom**	**143.64**	**330**	*e*PKP	PKPab	20 31 04.3	0.0
BRG	**Berggiesshubel**	**144.32**	**333**	*i* P	**PKPab**	**20 31 06.6**	**-0.2**
BRG				Amp		20 31 09.1	
	comp=Z,3.8nm,0.7s						
BRG	**Berggiesshubel**	**144.32**	**333**	P	**PKiKP**	**20 31 18.5**	**+6.1**
BRG				Amp		20 31 20.2	
	comp=Z,2.5nm,0.7s						
CLL	**Collm**	**144.39**	**334**	*i* PKPdf	**PKPab**	**20 31 06.1**	**-0.9**
	comp=Z,5.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.18**	**352**	PKPbc	**PKPbc**	**20 31 07.9**	**-1.8**
	comp=Z,4.9nm,0.6s,baz=355,slow=2.7,SNR=21						
EKB	**Eskdalemuir**	**145.18**	**352**	PKPbc	**PKPbc**	**20 31 07.8**	**-1.9**
ESK	**Eskdalemuir**	**145.20**	**352**	PKPbc	**PKPbc**	**20 31 08.2**	**-1.6**
ZVC	**Zvikov**	**145.26**	**331**	*e*PKP	**PKPbc**	**20 31 09.6**	**-0.6**
RONA	**Rosalia, Austr**	**145.44**	**327**	*i* PKP	**PKPbc**	**20 31 10.8**	**-0.1**
	comp=Z,3.5nm,0.8s						
CONA	**Conrad Observa**	**145.51**	**328**	*i* PK

WRA Warramunga Arr 43.99 265 P **P** **20 30 28.4 +0.3**
1.4nm,0.3s,baz=101,slow=8.2,SNR=9.9
1.4nm,0.3s
JAY Jayapura 44.76 291 LR LR 20 47 41.5
comp=Z,44nm,19.0s,baz=330,slow=34
QSPA South Pole Qui 66.69 180 P **P** **20 33 11.0 +0.1**
1.0nm,0.7s,baz=37,slow=5.8,SNR=9.8
1.0nm,0.7s
HFS Hagfors 142.33 350 PKP **PKPdf** **20 41 52.6 +0.5**
2.8nm,0.9s,baz=10,slow=1.7,SNR=8.8
BRTR Keskin Array B 148.49 309 PKPbc **PKPbc** **20 42 07.2 0.0**
0.4nm,0.9s,baz=40,slow=3.8,SNR=0.9
MMAI Mount Meron Ar 148.90 295 PKPbc **PKiKP** **20 42 08.9 -0.7**
0.5nm,0.4s,baz=67,slow=3.7,SNR=1.8

IDC 23 20:23:23.2±2.9, 11°.65S×137°.75E, h0km, mb3.3/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=70.8km s-min=26.9km az=99.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**8.87**	**201**	Pn	Pn	20 25 33.4	+0.6
	0.3nm,0.3s,baz=27,slow=13,SNR=20						
WRA				Sn	Sn	20 27 08.1	-5.4
	0.4nm,0.3s,baz=21,slow=23,SNR=5.0						
WRA				Lg	Lg	20 28 02.9	
	0.6nm,0.3s,baz=20,slow=29,SNR=6.6						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**12.50**	**197**	Pn	Pn	20 26 21.9	-0.6
	0.2nm,0.3s,baz=16,slow=16,SNR=12						
ASAR				Sn	Sn	20 28 35.3	-7.2
	baz=17,slow=25,SNR=1.6						
ASAR				Lg	Lg	20 29 54.1	
	baz=18,slow=30,SNR=3.8						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**13.34**	**240**	Pn	Pn	20 26 35.7	+1.8
	0.2nm,0.3s,baz=67,slow=12,SNR=9.1						
FITZ				Sn	Sn	20 28 59.6	-3.4
	0.1nm,0.3s,baz=149,slow=23,SNR=2.1						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**76.36**	**324**	P	P	20 35 14.1	-0.2
	0.2nm,0.6s,baz=108,slow=5.3,SNR=1.9						
	0.2nm,0.6s						

*SJA **23** 20:41:30.9±0.7, 23°.38S×67°.76W, h162km±10km, ML3.6, MW3.7*
*NEIC **23** 20:41:32.0±2.4, 23°.40S±0°.06×67°.7W±0°.1, h140km±7km, mb4.1/6, Error ellipse: s-maj=14.9km s-min=8.9km az=97.0*
*IDC **23** 20:41:31.1±2.1, 23°.47S×67°.36W, h106km±25km, mb3.2/2, mbtmp4.0/6, Error ellipse: s-maj=31.8km s-min=16.8km az=91.0*
*GUC **23** 20:41:32.3±0.7, 23°.43S×67°.75W, h158km±4km, ML4.3*
ISC 23 20:41:31.3±0.7, 23°.38S±0°.04×67°.75W±0°.04, h148km±7km, n61, σ2°.04/72, mb3.5/3, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.58**	**317**	Pn	**Pn**	20 41 54.6	+1.4
AF01				Sn	**Sn**	20 42 09.4	-0.5
AF01	**San Pedro de A**	**0.58**	**317**	*eP*	**Pn**	20 41 54.4	+1.2
AF01				IAML		20 42 18.7	
	comp=Z,843nm,0.5s						
AF01	**San Pedro de A**	**0.58**	**317**	*eP*	**Pn**	20 41 55.1	+1.8
AF01				*eS*	**Sn**	20 42 11.8	+1.9
SALTA		**1.54**	**124** ⇑	*iP*	**Pn**	20 42 03.4	+1.8
SALTA				*eS*	**Sn**	20 42 27.4	+2.6
PB06	**IPOC Station P**	**1.81**	**291**	*eP*	**Pn**	20 42 05.8	+1.5
PB06				IAML		20 42 34.7	
	comp=Z,925nm,0.3s						
PB06	**IPOC Station P**	**1.81**	**291**	*eP*	**Pn**	20 42 06.2	+1.9
PB06				*eS*	**Sn**	20 42 31.2	+1.6
PB06				IAML		20 42 33.9	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**2.10**	**318**		**Pn**	20 42 09.1	+1.5
PB09				Sn	**Sn**	20 42 36.9	+1.4
PB09	**IPOC Station P**	**2.10**	**318**	*eP*	**Pn**	20 42 09.7	+2.1
PB09				IAML		20 42 41.5	
	comp=Z,535nm,0.9s						
PB09	**IPOC Station P**	**2.10**	**318**	*eP*	**Pn**	20 42 10.0	+2.4
PB09				*eS*	**Sn**	20 42 38.1	+2.6
PB03	**IPOC Station P**	**2.28**	**305**	*eP*	**Pn**	20 42 10.9	+1.2
PB03				IAML		20 42 42.4	
	comp=Z,2μm,0.5s						
PB03	**IPOC Station P**	**2.28**	**305** ⇓	*iP*	**Pn**	20 42 11.6	+1.8
PB03				IAML		20 42 42.8	
	comp=N,1μm,0.5s						
YJA	**Yavi**	**2.38**	**60**	*eP*	**Pn**	20 42 13.4	+2.1
YJA				IAML		20 42 47.2	
	comp=Z,6.5nm,0.7s						
YJA	**Yavi**	**2.38**	**60**	*eP*	**Pn**	20 42 13.1	+1.8
SLA	**San Lorenzo**	**2.45**	**124**	*eP*	**Pn**	20 42 15.3	+3.5
SLA				IAML		20 42 59.0	
	comp=Z,55nm,1.2s						
GO02	**Mina Guanaco**	**2.45**	**223**	Pn	**Pn**	20 42 12.9	+0.9
GO02				Sn	**Sn**	20 42 44.1	+0.8
GO02	**Mina Guanaco**	**2.45**	**223**	*eP*	**Pn**	20 42 13.1	+1.1
GO02	**Mina Guanaco**	**2.45**	**223** ⇑	*iP*	**Pn**	20 42 13.8	+1.8
GO02				*eS*	**Sn**	20 42 44.6	+1.3
GO02				IAML		20 42 46.1	
	comp=E,1μm,0.3s						
AZAP	**Zapla**	**2.59**	**110**	*eP*	**Pn**	20 42 15.1	+1.4
AZAP				IAML		20 42 51.1	
	comp=Z,50nm,1.3s						
PB14	**IPOC Station P**	**2.73**	**242**	Pn	**Pn**	20 42 16.3	+0.8
PB14				Sn	**Sn**	20 42 49.4	-0.2
PB14	**IPOC Station P**	**2.73**	**242**	*eP*	**Pn**	20 42 16.2	+0.7
PB14				IAML		20 42 54.4	
	comp=Z,192nm,0.5s						
PB14	**IPOC Station P**	**2.73**	**242**	*eP*	**Pn**	20 42 16.8	+1.3
PB01	**IPOC Station P**	**2.83**	**325**		**Pn**	20 42 17.8	+1.3
PB01	**IPOC Station P**	**2.83**	**325**	*eP*	**Pn**	20 42 17.4	+0.9
PB01				IAML		20 42 54.7	
	comp=Z,324nm,0.2s						
PB01	**IPOC Station P**	**2.83**	**325** ⇓	*iP*	**Pn**	20 42 18.1	+1.5
PB01				IAML		20 42 55.5	
	comp=E,558nm,0.1s						
FSA	**Cafayete**	**3.16**	**150**	*eP*	**Pn**	20 42 23.2	+2.4
PB08	**IPOC Station P**	**3.48**	**338**		**Pn**	20 42 27.0	+1.9
PB08	**IPOC Station P**	**3.48**	**338** ⇓	*iP*	**Pn**	20 42 27.3	+2.2
TA01	**Diego Aracena**	**3.60**	**321**	Pn	**Pn**	20 42 26.4	+0.2
TA01	**Diego Aracena**	**3.60**	**321**	*eP*	**Pn**	20 42 26.5	+0.2
TA01				IAML		20 43 13.5	
	comp=Z,142nm,0.6s						
AC02	**Maricunga**	**3.67**	**200**	Pn	**Pn**	20 42 27.7	+0.2
AC01	**Pan de Azucar**	**3.79**	**223**	Pn	**Pn**	20 42 28.5	-0.2
AC01	**Pan de Azucar**	**3.79**	**223**	*eP*	**Pn**	20 42 28.0	-0.7
AC01				IAML		20 43 14.0	
	comp=Z,146nm,0.2s						
TA02	**Huaiquique**	**3.80**	**324**		**Pn**	20 42 28.9	0.0
PB11	**IPOC Station P**	**4.01**	**333**	Pn	**Pn**	20 42 32.1	+0.2
PB11	**IPOC Station P**	**4.01**	**333**	*eP*	**Pn**	20 42 31.7	-0.2
PB11				IAML		20 43 21.0	
	comp=Z,141nm,0.7s						
PB12	**IPOC Station P**	**5.32**	**333**	Pn	**Pn**	20 42 47.7	-1.3
PB12	**IPOC Station P**	**5.32**	**333**	*eP*	**Pn**	20 42 47.5	-1.6
PB12				IAML		20 44 16.4	
	comp=Z,31nm,0.9s						
CYA	**Choya**	**5.34**	**161**	*eP*	**Pn**	20 42 50.3	+1.2
CYA				IAML		20 44 15.9	
	comp=Z,6.7nm,2.7s						
VCA	**Vinchina**	**5.35**	**184**	*eP*	**Pn**	20 42 50.9	+1.4
VCA				IAML		20 44 00.1	
	comp=Z,23nm,0.5s						
LCO	**Las Campanas**	**6.21**	**205**	Pn	**Pn**	20 42 59.6	-1.3
LPAZ	**La Paz**	**7.06**	**357**	Pn	**Pn**	20 43 14.8	+2.0
LPAZ	**La Paz**	**7.06**	**357**	P	**Pn**	20 43 14.5	+1.7
	comp=Z,14nm,0.3s,baz=158,slow=8.0,SNR=81						
LPAZ				S	**Sn**	20 44 33.9	+1.7
	comp=Z,2.4nm,0.6s,baz=205,slow=6.0,SNR=1.3						
GO04	**Tololo Observa**	**7.30**	**201**	Pn	**Pn**	20 43 13.4	-2.1
CO03	**El Pedregal**	**7.88**	**199**	Pn	**Pn**	20 43 21.3	-1.8
CFA	**Coronel Fontan**	**8.21**	**183**	P	**Pn**	20 43 27.1	-0.3
	baz=0.0,slow=20,SNR=35						
CFA				S	**Sn**	20 44 53.0	-5.8
	baz=55,slow=24,SNR=7.1						
SIV	**San Ignacio**	**9.67**	**42**	P	**Pn**	20 43 44.8	-2.2
	comp=Z,6.6nm,0.4s,baz=215,slow=11,SNR=28						
SIV				S	**Sn**	20 45 25.4	-8.8
	comp=Z,3.3nm,0.6s,baz=243,slow=13,SNR=4.7						
MT09	**Talagante**	**10.74**	**195**	Pn	**Pn**	20 44 00.8	-0.4
BO04	**La Punta**	**10.87**	**193**	Pn	**Pn**	20 44 00.4	-2.4
PTLB	**Pontes e Lacer**	**11.32**	**47**		**Pn**	20 44 08.2	-0.6
VILB	**Vilhena**	**12.60**	**36**	Pn	**Pn**	20 44 26.5	+1.0
PLTB	**Pedras Altas**	**15.06**	**127**	Pn	**Pn**	20 44 55.1	-1.4
TRQA	**Tornquist**	**15.44**	**163**	Pn	**Pn**	20 44 60.0	-1.2
TRQA				IAmb	IAmb	20 45 08.6	
	comp=Z,13nm,1.1s						
PLCA	**Paso Flores**	**17.47**	**187**		**Pn**	20 45 26.9	+1.2
PLCA	**Paso Flores**	**17.47**	**187**	P	**Pn**	20 45 26.8	+1.0
	comp=Z,2.6nm,1.1s,baz=29,slow=13,SNR=2.1						
LL01	**San Ignacio de**	**19.34**	**190**	P	**P**	20 45 46.6	+1.4
LL01				IAmb	IAmb	20 45 48.0	
	comp=Z,5.2nm,0.5s						
BDFB	**Brasilia**	**20.11**	**71**	P	**P**	20 45 52.9	-0.9
BDFB				IAmb	IAmb	20 45 55.5	
	comp=Z,4.5nm,0.6s						
BDFB	**Brasilia**	**20.11**	**71**	P	**P**	20 45 54.0	+0.2
	comp=Z,4.4nm,0.6s,baz=236,slow=12,SNR=9.1						
TXAR	**Lajitas Array**	**62.78**	**325**	P	P	20 51 48.0	+7.0
	comp=Z,0.2nm,0.5s,baz=137,slow=6.6,SNR=2.2						
	comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**66.82**	**180**	P	**P**	20 52 09.3	+2.5
QSPA	**South Pole Qui**	**66.82**	**180**	P	**P**	20 52 10.3	+3.4
	comp=Z,0.7nm,0.9s,baz=143,slow=5.1,SNR=6.0						
	comp=Z,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.99**	**69**	P	**P**	20 53 08.9	+0.8
TORD				IAmb	IAmb	20 53 12.0	
	comp=Z,3.4nm,1.5s						

*IDC **23** 20:54:02.8±0.3, 13°.80N×144°.64E, h147km±3km, mb3.6/16, mbtmp4.1/16, MS3.1/2, Error ellipse: s-maj=18.7km s-min=12.4km az=81.0*
*NEIC **23** 20:54:03.6±1.0, 13°.79N±0°.09×144°.6E±0°.2, h148km±6km, mb4.5/30, Error ellipse: s-maj=22.7km s-min=11.6km az=108.0*
ISC 23 20:54:02.7±0.5, 13°.77N±0°.08×144°.5E±0°.1, h144km, n58, σ0°.79/53, mb4.3/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.37**	**120**	P	**Pn**	20 54 24.2	+1.4
	2μm,0.3s,baz=0.0,slow=2.0,SNR=382						
GUMO				S	**Sn**	20 54 39.6	+1.6
	1μm,0.4s,baz=43,slow=21,SNR=29						
JOW	**Kunigami**	**20.01**	**313**	P	**P**	20 58 25.5	+1.3
JOW	**Kunigami**	**20.01**	**313**	P	**P**	20 58 25.9	+1.7
	18nm,0.9s,baz=117,slow=14,SNR=2.2						
	18nm,0.9s						
FAKI	**Fak Fak**	**20.59**	**217**	P	**P**	20 58 31.7	+1.2
FAKI				IAmb	IAmb	20 58 48.0	
	comp=Z,23nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**21.78**	**75**	T	T	21 21 32.2	
	baz=260,slow=75,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**21.79**	**75**	T	T	21 21 34.4	
	baz=260,slow=75,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**21.79**	**75**	T	T	21 21 34.3	
	baz=260,slow=75,SNR=3.1						
JMN	**Monobe**	**22.10**	**336**	P	**P**	20 58 47.4	+0.9
H11N1	**WAKE ISLAND Hy**	**22.19**	**72**	T	T	21 22 05.3	
	baz=257,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**22.20**	**71**	T	T	21 22 04.0	
	baz=257,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**22.21**	**72**	T	T	21 22 03.0	
	baz=257,slow=75,SNR=10						
INU	**Inuyama**	**22.53**	**344**	P	**P**	20 58 51.1	+0.5
INU				IAmb	IAmb	20 58 54.7	
	comp=Z,33nm,1.4s						
JGF	**Kuroka**	**22.68**	**345**	P	**P**	20 58 51.6	-0.4
JGF				IAmb	IAmb	20 59 03.2	
	comp=Z,41nm,1.4s						
JNU	**Nakatsue**	**22.93**	**329**	P	**P**	20 58 54.5	0.0
JNU				IAmb	IAmb	20 59 08.0	
	comp=Z,35nm,1.4s						
MJAR	**Matsushiro Arr**	**23.37**	**347**	P	**P**	20 58 58.3	-0.1
	comp=Z,13nm,1.2s,baz=170,slow=5.5,SNR=26						
	comp=Z,13nm,1.2s						
MAJO	**Matsushiro**	**23.37**	**347**	P	**P**	20 58 57.9	-0.5
MAJO				IAmb	IAmb	20 59 00.4	
	comp=Z,11nm,0.6s						
MJB9	**Matsu-Tunnel**	**23.38**	**347**	P	**P**	20 58 59.2	+0.8
MJB9				IAmb	IAmb	20 59 01.4	
	comp=Z,11nm,0.6s						
YULB	**Yu-li**	**23.99**	**297**	P	**P**	20 59 02.6	-1.5
SSLB	**Suanglung**	**24.42**	**298**	P	**P**	20 59 08.3	+0.2
JSD	**Sado**	**24.80**	**348**	P	**P**	20 59 11.1	-0.2
JSD				IAmb	IAmb	20 59 14.7	
	comp=Z,23nm,1.3s						
COEN	**Coen**	**27.59**	**183**	P	**P**	20 59 36.1	-0.5
COEN				IAmb	IAmb	20 59 55.1	
	comp=Z,20nm,1.4s						
KSRS	**Korea Array**	**27.85**	**331**	P	**P**	20 59 38.6	-0.1
	comp=Z,1.6nm,0.8s,baz=143,slow=8.7,SNR=7.1						
	comp=Z,1.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**32.17**	**343**	P	**P**	21 00 16.9	+0.2
	comp=Z,1.7nm,0.7s,baz=146,slow=10,SNR=3.3						
	comp=Z,1.7nm,0.7s						
KNRA	**Kununurra**	**33.16**	**209**	P	**P**	21 00 25.2	-0.4
KNRA				IAmb	IAmb	21 00 27.6	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**34.80**	**197**	P	**P**	21 00 39.6	-0.2
WB0				IAmb	IAmb	21 00 47.5	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	21 00 39.6	-1.7
WRA	**Warramunga Arr**	**34.98**	**197**	P	**P**	21 00 41.5	+0.2
	comp=Z,1.6nm,0.5s,baz=18,slow=9.2,SNR=22						
WRA				PcP	**PcP**	21 03 10.5	0.0
	comp=Z,0.3nm,0.6s,baz=19,slow=3.5,SNR=1.9						
WRA				ScP	**ScP**	21 06 42.1	-0.7
	comp=Z,0.1nm,0.3s,baz=23,slow=4.0,SNR=4.9						
	comp=Z,1.6nm,0.5s						
ENH	**Enshi**	**36.22**	**303**	P	**P**	21 00 51.6	-0.3
FITZ	**Fitzroy Crossi**	**36.75**	**211**	P	**P**	21 00 56.3	-0.1
AS31	**Alice Springs**	**38.64**	**196**	P	**P**	21 01 11.9	-0.3
ASAR	**Alice Springs**	**38.64**	**196**	P	**P**	21 01 11.7	-0.6
ASAR	**Alice Springs**	**38.64**	**196**	P	**P**	21 01 12.0	-0.3
	comp=Z,0.6nm,0.4s,baz=16,slow=13,SNR=39						
	comp=Z,0.6nm,0.4s						
PETK	**Petropavlovsk-**	**40.61**	**12**	LR	LR	21 18 55.9	
	comp=Z,15nm,18.6s,baz=352,slow=37						
CMAR	**Chiang Mai Arr**	**43.97**	**282**	P	**P**	21 01 55.5	-0.4
	comp=Z,0.4nm,0.4s,baz=109,slow=5.8,SNR=4.5						
	comp=Z,0.4nm,0.4s						
PSI	**Prapat**	**46.35**	**261**	LR	LR	21 23 11.8	
	comp=Z,43nm,20.4s,baz=338,slow=38						
SONM	**Songino Array**	**46.40**	**325**	P	**P**	21 02 15.3	+0.5
	comp=Z,0.4nm,0.7s,baz=126,slow=6.4,SNR=4.5						
	comp=Z,0.4nm,0.7s						
BBOO	**Buckleboo**	**47.02**	**190**	P	**P**	21 02 19.7	0.0
BBOO				IAmb	IAmb	21 02 21.3	
	comp=Z,10nm,1.1s						
MK31	**Makanchi Array**	**61.14**	**316**	P	**P**	21 04 02.2	+0.3
MKAR	**Makanchi Array**	**61.14**	**316**	P	**P**	21 04 02.2	+0.3
	comp=Z,1.1nm,0.4s,baz=94,slow=8.2,SNR=35						
	comp=Z,1.1nm,0.4s						
MAKZ	**Makanchi**	**61.35**	**316**	P	**P**	21 04 03.5	+0.2
N19K	**Bonanza Creek**	**64.07**	**28**	P	**P**	21 04 21.4	+0.3
N19K				IAmb	IAmb	21 04 33.3	
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**64.28**	**320**	P	**P**	21 04 22.4	-0.1
	comp=Z,1.7nm,0.6s,baz=102,slow=6.8,SNR=16						
	comp=Z,1.7nm,0.6s						
CNPM	**China Poot**	**65.23**	**30**	P	**P**	21 04 28.1	-0.5
BRLK	**Bradley Lake**	**65.47**	**30**	P	**P**	21 04 29.1	-1.0
CAST	**Castle Rocks**	**65.97**	**26**	P	**P**	21 04 33.2	-0.1
ILAR	**Eielson Array**	**68.54**	**25**	P	**P**	21 04 48.1	-1.3
	comp=Z,0.4nm,0.4s,baz=254,slow=5.5,SNR=14						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**69.59**	**322**	P	**P**	21 04 55.6	-0.5
	comp=Z,1.4nm,0.5s,baz=115,slow=8.2,SNR=9.4						
	comp=Z,1.4nm,0.5s						
BMAR	**Burnt Mountain**	**70.06**	**23**	P	**P**	21 04 59.0	+0.3
YKA	**Yellowknife Ar**	**82.84**	**27**	P	**P**	21 06 09.0	-1.8
	comp=Z,0.2nm,0.5s,baz=288,slow=5.4,SNR=5.0						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**87.05**	**51**	P	**P**	21 06 32.1	-0.5
	comp=Z,1.3nm,0.6s,baz=270,slow=5.5,SNR=9.3						
	comp=Z,1.3nm,0.6s						
ELK	**Elko**	**88.69**	**48**	P	**P**	21 06 40.8	+0.4
ELK				IAmb	IAmb	21 06 41.3	
	comp=Z,2.8nm,0.8s						
WCT	**Wildcat Mounta**	**88.78**	**53**	P	**P**	21 06 40.9	+0.3
WCT				IAmb	IAmb	21 06 41.5	
	comp=Z,2.1nm,0.6s						
TPNV	**Topopah Spring**	**89.02**	**52**	P	**P**	21 06 41.8	-0.1
TPNV				IAmb	IAmb	21 06 42.8	
	comp=Z,3.6nm,0.7s						
SHPR	**Sheep Range**	**89.99**	**52**	P	**P**	21 06 47.0	+0.5
FINES	**FINESS Array B**	**90.86**	**335**	P	**P**	21 06 49.8	+0.1
	comp=Z,3.8nm,1.1s,baz=64,slow=6.9,SNR=3.4						
	comp=Z,3.8nm,1.1s						
PDAR	**Pinedale Array**	**92.06**	**45**	P	**P**	21 06 54.7	-1.3
PDAR	**Pinedale Array**	**92.06**	**45**	P	**P**	21 06 54.9	-1.1
	comp=Z,0.4nm,0.6s,baz=180,slow=0.1,SNR=4.2						
	comp=Z,0.4nm,0.6s						
LPAZ	**La Paz**	**148.36**	**99**	PKPbc	**PKPbc**	21 13 34.5	+0.7
	comp=Z,2.2nm,0.5s,baz=271,slow=2.7,SNR=11						

*NOU **23** 20:56:53.9, 41°.89S×174°.30E, h26km, MLv4.1/15, Cook Strait, New Zealand*
*WEL **23** 20:56:54.4±0.4, 42°.5S±2°.5×17°.4E±°, h9km±3km, M3.7/13, ML4.0/13, MLv3.7/13, Error ellipse: s-maj=3.0km s-min=2.9km az=101.2, confirmed*
*NEIC **23** 20:56:54.6±1.2, 41°.73S±0°.03×174°.13E±0°.04, h19km±3km, mb4.1/2, Error ellipse: s-maj=4.9km s-min=3.7km az=138.0*
ISC 23 20:56:53.8±0.8, 41°.75S±0°.02×174°.16E±0°.02, h19km±1km, n165, σ1°.02/182, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.04**	**83**		**Pg**	20 56 57.4	+0.3
CMWZ				Sg	**Sg**	20 57 00.2	+0.8
CMWZ	**Cape Campbell**	**0.04**	**83**	P	**Pg**	20 56 57.5	+0.3
SEDS	**Seddon Fire St**	**0.10**	**323**	P	**Pg**	20 56 57.4	-0.2
SEDS				S	**Sg**	20 56 60.0	-0.1
BSWZ	**Blackbirch Sta**	**0.21**	**280**		**Pb**	20 56 58.8	+0.1
BSWZ				Sg	**Sb**	20 57 01.8	-0.1
BSWZ	**Blackbirch Sta**	**0.21**	**280**	P	**Pb**	20 56 58.8	+0.1
KEKS	**Kekerengu Vall**	**0.24**	**213**	P	**Pb**	20 56 60.0	+0.6
KEKS				S	**Sb**	20 57 04.2	+1.2
MGCS	**Blenheim Marlb**	**0.29**	**327**	P	**Pb**	20 56 58.8	-1.6
MGCS				S	**Sb**	20 57 03.7	-1.2
TUWZ	**Tuamarina**	**0.36**	**334**		**Pb**	20 57 02.1	+0.4
TUWZ				Sg	**Sb**	20 57 07.1	0.0
TUWZ	**Tuamarina**	**0.36**	**334**	P	**Pb**	20 57 02.1	+0.4
TUWZ				S	**Sb**	20 57 07.4	+0.4
BWRS	**Waikakaho Road**	**0.37**	**329**	P	**Pg**	20 57 01.6	+0.1
BWRS				S	**Sb**	20 57 06.9	-0.3
TCW	**Tory Channel**	**0.55**	**9**		**Pb**	20 57 04.8	0.0
TCW	**Tory Channel**	**0.55**	**9**	P	**Pb**	20 57 04.7	0.0
TCW				S	**Sg**	20 57 12.8	+0.6
HAVS	**Havelock**	**0.56**	**330**	P	**Pb**	20 57 04.6	-0.3
HAVS				S	**Sb**	20 57 11.9	-0.5
SNZO	**South Karori**	**0.60**	**43**		**Pg**	20 57 06.4	+0.6
SNZO	**South Karori**	**0.60**	**43**	P	**Pb**	20 57 06.2	+0.5
SNZO	**South Karori**	**0.60**	**43**	S	**Sn**	20 57 16.3	-0.3
WVFS	**Wairau Valley**	**0.62**	**282**	P	**Pb**	20 57 04.9	-1.0
WVFS				S	**Sb**	20 57 13.9	-0.3
BHW	**Baring Head**	**0.64**	**57**		**Pg**	20 57 07.2	+0.8
BHW	**Baring Head**	**0.64**	**57**	P	**Pg**	20 57 07.3	+0.8
WEL	**Wellington**	**0.66**	**45**	P	**Pg**	20 57 07.4	+0.6
NNZ	**Nelson**	**0.79**	**312**		**Pb**	20 57 09.0	0.0
NNZ	**Nelson**	**0.79**	**312**	P	**Pb**	20 57 08.9	-0.1
NNZ				S	**Sg**	20 57 19.4	-0.5
KHZ	**Kahutara**	**0.81**	**215**		**Pg**	20 57 10.6	+1.0
KHZ	**Kahutara**	**0.81**	**215**	P	**Pg**	20 57 10.6	+1.0
KHZ	**Kahutara**	**0.81**	**215**	S	**Sb**	20 57 20.2	+0.5
KHZ	**Kahutara**	**0.81**	**215**	P	**Pg**	20 57 10.5	+1.0
KHZ				S	**Sn**	20 57 23.2	+1.6
PLWZ	**Palliser**	**0.84**	**78**		**Pg**	20 57 11.0	+0.7
PLWZ	**Palliser**	**0.84**	**78**	P	**Pg**	20 57 11.0	+0.7
MSWZ	**Moikau Station**	**0.89**	**68**		**Pg**	20 57 11.7	+0.7
MSWZ	**Moikau Station**	**0.89**	**68**	P	**Pg**	20 57 11.8	+0.7
THZ	**Tophouse**	**0.94**	**269**		**Pb**	20 57 11.8	+0.3
THZ	**Tophouse**	**0.94**	**269**	P	**Pb**	20 57 11.7	+0.3
CAW	**Cannon Point**	**0.94**	**47**	P	**Pb**	20 57 12.2	+0.7
DUWZ	**D'Urville Isla**	**0.97**	**349**	P	**Pb**	20 57 11.9	-0.1
DUWZ				S	**Sn**	20 57 25.4	-0.3
PAWZ	**Paruwai Farm**	**1.02**	**69**	P	**Pb**	20 57 13.4	+0.4
KIW	**Kapiti Island**	**1.06**	**33**	P	**Pb**	20 57 13.8	+0.3
MOTS	**Motueka DOC wo**	**1.07**	**306**	P	**Pg**	20 57 14.6	+0.1
MRNZ	**Matariki Terra**	**1.11**	**288**		**Pn**	20 57 14.8	+0.4
MRNZ	**Matariki Terra**	**1.11**	**288**	P	**Pn**	20 57 15.0	+0.6
MRNZ				S	**Sg**	20 57 30.6	+0.7
MATW	**Matariki Wadsw**	**1.14**	**286**	P	**Pg**	20 57 15.8	-0.1
TKNZ	**Takaka Hill**	**1.15**	**308**		**Pb**	20 57 15.3	+0.2
TKNZ	**Takaka Hill**	**1.15**	**308**	P

TMVZ	Te Maari	2.89	25	P	Pn	20 57 40.4 +1.4
NTVZ	North Tongarir	2.90	24	P	Pn	20 57 40.7 +1.7
KWHZ	Kaweka Forest	2.90	37	P	Pn	20 57 38.7 -0.4
MCHZ	McNeill Hill	3.01	41	P	Pn	20 57 40.0 -0.5
RPZ	Rata Peaks	3.01	228	Pn	Pn	20 57 39.9 -0.6
RPZ	Rata Peaks	3.01	228	P	Pn	20 57 40.2 -0.3
RPZ	Rata Peaks	3.01	228	S	Sn	20 58 14.8 -1.3
RPZ	Rata Peaks	3.01	228	P	Pn	20 57 40.2 -0.3
KATZ	Kakaramea	3.01	23	P	Pb	20 57 47.2 +0.2
RITZ	Rihia Road	3.06	26	P	Pb	20 57 46.2 -1.6
ARCZ	Arundel	3.10	224	P	Pn	20 57 41.5 -0.3
RATZ	Rangitukua	3.14	24	P	Pb	20 57 47.2 -1.8
BKZ	Black Stump Fm	3.14	35		Pn	20 57 41.3 -1.0
BKZ	Black Stump Fm	3.14	35	P	Pn	20 57 41.7 -0.6
BKZ	Black Stump Fm	3.14	35	P	Pn	20 57 41.7 -0.6
GCSZ	Gaunt Creek Bo	3.23	240	P	Pn	20 57 45.0 +1.4
WATZ	Wairara	3.27	22	P	Pb	20 57 50.3 -1.0
HIZ	Hauiti	3.28	10		Pn	20 57 45.9 +1.7
HIZ	Hauiti	3.28	10	P	Pn	20 57 46.7 +2.5
HIZ	Hauiti	3.28	10	P	Pn	20 57 46.9 +2.7
NMHZ	Naumai	3.34	38	P	Pb	20 57 50.5 -1.9
MRHZ	Matea Rd	3.39	31	P	Pn	20 57 45.2 -0.6
TMZ	Timaru	3.50	220	P	Pn	20 57 46.8 -0.4
MTHZ	Maungataniwha	3.55	36	P	Pn	20 57 47.3 -0.7
ALRZ	Allen Road	3.60	28	P	Pn	20 57 48.1 -0.6
FOZ	Fox Glacier	3.66	240	Pn	Pn	20 57 50.1 +0.7
FOZ	Fox Glacier	3.66	240	P	Pn	20 57 50.3 +0.8
LBZ	Lake Benmore	3.92	227		Pn	20 57 53.7 +0.6
LBZ	Lake Benmore	3.92	227	P	Pn	20 57 53.2 +0.2
TOZ	Tahuroa Road	4.15	15		Pn	20 57 56.8 +0.7
TOZ	Tahuroa Road	4.15	15	P	Pn	20 57 57.8 +1.6
URZ	Urewera	4.16	34	P	Pn	20 57 56.3 0.0
ODZ	Otahua Downs	4.17	217	Pn	Pn	20 57 55.8 -0.6
ODZ	Otahua Downs	4.17	217	P	Pn	20 57 55.4 -1.0
ODZ	Otahua Downs	4.17	217	S	Sn	20 58 42.2 -2.4
ODZ	Otahua Downs	4.17	217	P	Pn	20 57 55.3 -1.1
RUGZ	Raukumara Rang	4.65	37	P	Pn	20 58 03.9 +0.7
AWAZ	Awhitu Peninsu	4.70	5	P	Pn	20 58 06.9 +3.2
MKAZ	Moumakai	4.71	10	P	Pn	20 58 05.6 +1.7
ETAZ	East Tamaki Re	4.83	7	P	Pn	20 58 08.0 +2.5
WKZ	Wanaka	4.85	229		Pn	20 58 06.4 +0.6
PKGZ	Pakihiroa	4.92	39	P	Pn	20 58 05.2 -1.5
EAZ	Earnscleugh	4.95	224	P	Pn	20 58 07.1 -0.1
MXZ	Matakaoa Point	5.27	39	Pn	Pn	20 58 10.9 -0.6
TUZ	Tuapeka	5.32	216	P	Pn	20 58 11.4 -0.8
DCZ	Deep Cove	6.29	232	Pn	Pn	20 58 26.4 +0.9
ASAR	Alice Springs	37.96	286	P	P	21 04 10.1 -0.3
WB0	Warramunga Arr	40.12	291	P	P	21 04 27.0 -1.5
WB0				IAmb	IAmb	21 04 48.5
	comp=Z,7.2nm,1.4s					
QSPA	South Pole Qui	48.37	180	P	P	21 05 34.8 +0.6
QSPA				IAmb	IAmb	21 05 54.3
	comp=Z,1.5nm,1.1s					

*IDC **23** 21:05:15.1±14.0, 47.°14N×154.°43E, h382km±155km, mb2.9/9, mbtmp3.6/9, Error ellipse: s-maj=48.4km s-min=24.0km az=85.0*

ISC 23 21:04:41.8±1.9, 47.°9N±0.°4×155.°0E±0.°2, h35km, n15, σ0.°55/8, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	22.38	252	P	P	21 09 36.8	0.0
	1.0nm,0.8s,baz=60,slow=11,SNR=4.3 1.0nm,0.8s						
H11N2	WAKE ISLAND Hy	29.68	157	T	T	21 43 08.6	
	baz=342						
H11N1	WAKE ISLAND Hy	29.70	157	T	T	21 43 16.2	
	baz=342						
H11N3	WAKE ISLAND Hy	29.70	157	T	T	21 43 08.6	
	baz=342						
H11S1	WAKE ISLAND Hy	30.80	158	T	T	21 44 35.2	
	baz=343						
H11S3	WAKE ISLAND Hy	30.81	158	T	T	21 44 39.1	
	baz=343						
H11S2	WAKE ISLAND Hy	30.82	158	T	T	21 44 34.9	
	baz=343						
MKAR	Makanchi Array	47.59	297	P	P	21 13 13.9	0.0
	0.3nm,0.7s,baz=57,slow=7.8,SNR=3.6 0.3nm,0.7s						
KURBB	Kurchatov Arra	47.92	303	P	P	21 13 16.9	+0.6
	0.5nm,0.6s,baz=65,slow=8.6,SNR=5.2 0.5nm,0.6s						
BVAR	Borovoye Array	51.15	309	P	P	21 13 41.1	+0.1
	0.4nm,0.4s,baz=60,slow=7.7,SNR=4.4 0.4nm,0.4s						
FINES	FINESS Array B	63.57	335	P	P	21 15 08.3	-0.1
	0.7nm,0.6s,baz=25,slow=6.1,SNR=3.6 0.7nm,0.6s						
HFS	Hagfors	67.85	340	P	P	21 15 36.7	+0.8
	5.0nm,1.2s,baz=24,slow=4.9,SNR=1.4 5.0nm,1.2s						
ASAR	Alice Springs	73.70	200	P	P	21 16 03.3	-8.6
	0.2nm,0.5s,baz=17,slow=5.7,SNR=5.1 0.2nm,0.5s						
EKA	Eskdalemuir Ar	75.54	347	P	P	21 16 21.5	-0.7
	1.0nm,0.8s,baz=14,slow=6.1,SNR=1.5 1.0nm,0.8s						
TXAR	Lajitas Array	75.81	62	P	P	21 16 24.5	+0.1
	0.3nm,0.7s,baz=282,slow=6.0,SNR=2.5 0.3nm,0.7s						

*NEIC **23** 21:06:18.0±1.1, 43.°67N±0.°06×105.°33W±0.°09, h0km±1km, ML3.2/50, Error ellipse: s-maj=10.8km s-min=9.4km az=72.0*
*IDC **23** 21:06:18.9±1.6, 43.°91N×105.°57W, h0km, mbtmp3.8/2, ML3.6/2, Error ellipse: s-maj=45.5km s-min=8.3km az=148.0*

ISC 23 21:06:18.7±1.1, 43.°69N±0.°05×105.°34W±0.°05, h0km, n33, σ1.°22/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.03	65	Pg	Pg	21 06 38.3	-0.2
K22A	Casper	1.35	220		Pg	21 06 43.3	-1.3
K22A				IAML		21 07 06.6	
	comp=E,556nm,0.3s						
LAO	LASA Array	3.06	349		Pn	21 07 09.3	+0.8
RLMT	Red Lodge	3.16	298		Pn	21 07 11.0	+1.0
RLMT				IAML		21 08 04.4	
	comp=E,57nm,0.3s						
RLMT				IAML		21 08 04.8	
	comp=E,48nm,0.3s						
PD31	Pinedale Array	3.22	255		Pn	21 07 11.1	+0.3
PDAR	Pinedale Array	3.22	255		Pn	21 07 12.1	+1.3
PDAR	Pinedale Array	3.22	255	Pn	Pn	21 07 11.8	+1.0
	comp=E,5.4nm,0.3s,baz=64,slow=15,SNR=94						
PDAR				Pg	Pg	21 07 20.3	-0.1
	comp=E,12nm,0.3s,baz=66,slow=17,SNR=11						
PDAR				Lg	Lg	21 07 54.9	
	comp=E,13nm,0.3s,baz=74,slow=40,SNR=4.1 comp=E,7.4nm,0.3s						
YNE	Yellowstone No	3.60	293		Pn	21 07 16.6	+0.6
YMP	Mirror Lake Pl	3.62	289		Pn	21 07 17.5	+1.1
OGNE	Ogallala	3.68	137		Pn	21 07 18.0	+1.1
LOHW	Long Hollow	3.82	271		Pn	21 07 20.4	+1.3
H17A	Grant Village	3.84	282	Pn	Pn	21 07 20.6	+1.3
H17A				IAML		21 08 22.3	
	comp=E,41nm,0.4s						
H17A				IAML		21 08 24.1	
	comp=N,30nm,0.6s						
ISCO	Idaho Springs	3.89	183		Pn	21 07 21.1	+1.0
FLWY	Flagg Ranch	3.90	278		Pn	21 07 21.6	+1.5
FLWY				IAML		21 08 36.4	
	comp=N,28nm,2.0s						
FXWY	Fox Creek	4.13	271		Pn	21 07 23.9	+0.6
O20A	White River Ci	4.16	212		Pn	21 07 24.4	+0.7
O20A				IAML		21 08 42.0	
	comp=N,38nm,1.2s						
O20A				IAML		21 08 55.3	
	comp=E,40nm,1.0s						
K30B	Basset	4.31	102		Pn	21 07 26.3	+0.7
AHID	Auburn Hatcher	4.31	260		Pn	21 07 26.6	+0.8
AHID				IAML		21 08 40.7	
	comp=E,28nm,1.1s						
AHID				IAML		21 08 40.9	
	comp=E,33nm,0.8s						
YHL	Hebgen Lake	4.36	287		Pn	21 07 26.9	+0.4
YHL				IAML		21 09 00.8	
	comp=N,28nm,1.3s						
Q24A	Divide	4.72	178		Pn	21 07 32.2	+0.7
Q24A				IAML		21 08 50.5	
	comp=N,16nm,0.4s						
Q24A				IAML		21 08 51.7	
	comp=E,24nm,0.8s						
DGMT	Dagmar	4.85	9		Pn	21 07 34.8	+1.8
BOZ	Bozeman (W)	4.88	295		Pn	21 07 33.9	+0.4
BOZ				IAML		21 08 56.4	
	comp=E,15nm,0.4s						
HWUT	Hardware Ranch	5.04	248	Pn	Pn	21 07 36.2	+0.4
HWUT				IAML		21 08 58.7	
	comp=E,18nm,1.1s						
HWUT				IAML		21 09 03.5	
	comp=E,19nm,1.0s						
KSCO	Kaye Shedlock'	5.10	156	Pn	Pn	21 07 34.3	-2.2
EGMT	Eagleton	5.32	326	Pn	Pn	21 07 39.1	-0.4
HVU	Hansel Valley	5.80	253		Pn	21 07 47.5	+1.3
LYMT	Lyon Mountain	5.90	306		Pn	21 07 48.1	+0.5
PV23	Carpenter Ridg	5.92	209		Pn	21 07 49.3	+1.4
ECSD	EROS Data Cent	6.32	87	Pn	Pn	21 07 54.1	+0.9
DUG	Dugway, Tooele	6.58	240	Pn	Pn	21 07 58.4	+1.6
HLID	Hailey	6.59	272	Pn	Pn	21 07 58.6	+1.6
I10CA	LAC DU BONNET	9.10	41	I	I	21 58 40.0	
	baz=224,slow=337,SNR=1.3						
ULM	Lac du Bonnet	9.21	41	Pn	Pn	21 08 30.0	-2.7
	comp=E,1.8nm,0.3s,baz=229,slow=11,SNR=16						
ULM				Lg	Lg	21 11 00.8	
	comp=E,0.4nm,0.3s,baz=246,slow=11,SNR=1.7 comp=E,2.8nm,0.3s						

*UCR **23** 21:06:20.1±1.0, 11.°18N×85.°77W, h4km±4km, MW3.7*
*CATAC **23** 21:06:30.7±0.8, 12.°N±6.°×8.°6W±1.°2, h4km±7km, M2.6/7, MLv2.6/7, Error ellipse: s-maj=27.2km s-min=10.0km az=74.2, rejected*

ISC 23 21:06:20.4±1.5, 11.°24N±0.°04×85.°70W±0.°06, h13km±13km, n20, σ0.°48/23, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	La Cruz	0.17	157	eP	Pb	21 06 25.6	0.0
LCRUZ				eS	Sb	21 06 29.0	0.0
VORI	VORI	0.54	140	eP	Pb	21 06 31.9	-0.1
VRLE	La Escondida,	0.55	144	eP	Pg	21 06 31.7	+0.3
VRLE				eS	Sb	21 06 40.2	+0.2
GPS2	Hotel Rincn d	0.59	145	eP	Pg	21 06 32.1	+0.1
ACON	Acoyapa	0.89	35	eP	Pn	21 06 38.7	0.0
ACON				eS	Sn	21 06 51.9	+0.4
APQ2	Apoyeque	1.13	327	P	Pb	21 06 41.9	-0.1
JTS	Las Juntas de	1.19	142	eP	Pn	21 06 41.9	-1.1
ARE1	Arenal 1	1.23	129	eP	Pg	21 06 44.5	+0.3
VARE2	V. Arenal	1.23	129	eP	Pg	21 06 44.4	+0.2
COPN	Copaltepe	1.28	317	eP	Pn	21 06 43.6	-0.5
COPN	Copaltepe	1.28	317	P	Pn	21 06 43.9	-0.3
SOCE	Pocosol	1.36	129	eP	Pb	21 06 45.5	-0.3
INDI	Punta indio, G	1.38	172	P	Sn	21 07 04.1	+0.6
MOM2	El Cardon	1.42	327	P	Pn	21 06 46.1	+0.1
MOMN	Momotombo	1.43	325	P	Pn	21 06 45.9	-0.2
MACN	El Madrono	1.55	322	P	Pn	21 06 48.2	+0.3
ESPN	Las Esperanzas	1.67	55	eP	Pb	21 06 51.0	0.0
PKGN	Cerro Pekin	1.89	319	P	Pn	21 06 53.4	+0.8
RCPN	Sur Rio San Ju	2.31	350	P	Pb	21 07 01.6	-0.4
YUSH	Yuscaran	2.92	338	P	Pb	21 07 11.5	-1.0

*IDC **23** 21:19:00.5±1.9, 2.°65S×100.°19E, h0km, mb3.8/10, mbtmp3.8/10, MS3.8/5, Error ellipse: s-maj=82.6km s-min=16.6km az=57.0*
*NEIC **23** 21:19:05.4±1.3, 2.°61S±0.°09×100.°20E±0.°10, h29km±7km, mb4.2/9, Error ellipse: s-maj=18.1km s-min=6.2km az=47.0*

ISC 23 21:19:04.7±0.8, 2.°66S±0.°08×100.°14E±0.°09, h30km, n36, σ0.°79/30, mb3.9/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	3.10	17	Pn	Pn	21 19 51.0	-0.6
BKNI				Sn	Sn	21 20 28.5	+0.9
MNAI	Manna	3.28	121	Pn	Pn	21 19 53.6	-0.5
MNAI				Sn	Sn	21 20 31.0	-1.1
GSI	Gunungsitoli	4.70	327	Pn	Pn	21 20 13.4	-0.2
GSI				Sn	Sn	21 21 06.1	-1.0
MYKOM	Kota Tinggi	5.77	40	Pn	Pn	21 20 27.9	-0.4
IPM	Ipoh	7.15	7	Pn	Pn	21 20 46.3	-1.0
KULM	Kulim	7.91	4	Pn	Pn	21 20 57.5	-0.2
LEM	Lembang	8.52	119	LR	LR	21 24 56.4	
	comp=Z,107nm,18.5s,baz=32,slow=42						
CMAR	Chiang Mai Arr	21.02	357	P	P	21 23 44.1	-1.9
	0.5nm,0.7s,baz=188,slow=10.0,SNR=4.9 0.5nm,0.7s						
H08S2	Diego Garcia H	27.97	259	T	T	21 53 52.8	
	baz=81,slow=75,SNR=184						
H08S3	Diego Garcia H	27.97	259	T	T	21 53 45.4	
	baz=81,slow=75,SNR=229						
H08S1	Diego Carcia H	27.99	259	T	T	21 53 54.1	
	baz=81,slow=75,SNR=150						
WRA	Warramunga Arr	37.54	120	P	P	21 26 15.8	-0.8
	0.3nm,0.4s,baz=278,slow=7.6,SNR=8.1 0.3nm,0.4s						
ASAR	Alice Springs	38.76	126	P	P	21 26 27.2	+0.5
ASAR	Alice Springs	38.76	126	P	P	21 26 25.8	-0.9
	0.7nm,0.4s,baz=293,slow=7.5,SNR=13 0.7nm,0.4s						
AS31	Alice Springs	38.76	126	P	P	21 26 26.9	+0.1
STKA	Stephens Creek	48.61	131	P	P	21 27 46.9	+1.0
STKA	Stephens Creek	48.61	131	P	P	21 27 47.2	+1.3
	0.9nm,0.3s,baz=310,slow=8.2,SNR=5.1 0.9nm,0.3s						
ARSB	Arslanbob	50.27	333	P	P	21 27 58.4	-0.2
ARSB				IAmb	IAmb	21 28 10.5	
	comp=Z,6.1nm,1.5s						
SONM	Songino Array	50.58	5	P	P	21 28 01.1	+0.3
SONM				IAmb	IAmb	21 28 03.3	
	comp=Z,1.9nm,1.0s						
SONM	Songino Array	50.58	5	P	P	21 28 01.6	+0.8
	comp=Z,1.6nm,0.8s,baz=188,slow=9.2,SNR=12						
SONM				PcP	PcP	21 29 18.6	+0.4
	comp=Z,0.3nm,0.6s,baz=210,slow=1.8,SNR=2.5 comp=Z,1.6nm,0.8s						
MK31	Makanchi Array	51.70	344	P	P	21 28 09.1	0.0
MKAR	Makanchi Array	51.70	344	P	P	21 28 09.5	+0.5
MKAR	Makanchi Array	51.70	344	P	P	21 28 09.8	+0.8
	comp=Z,0.9nm,0.7s,baz=151,slow=8.0,SNR=14 comp=Z,0.9nm,0.7s						
KURBB	Kurchatov Arra	56.22	344	P	P	21 28 42.5	+0.6
	comp=Z,1.1nm,0.7s,baz=161,slow=7.0,SNR=6.2 comp=Z,1.1nm,0.7s						
ZALV	Zalesovo Beam	57.84	349	P	P	21 28 53.7	+0.3
	comp=Z,0.4nm,0.3s,baz=180,slow=5.8,SNR=4.7 comp=Z,0.4nm,0.3s						
H04N2	CROZET ISLANDS	60.35	217	T	T	22 34 20.1	
	baz=59,slow=75,SNR=215						
H04N1	CROZET ISLANDS	60.37	217	T	T	22 34 25.4	
	baz=59,slow=75,SNR=236						
H04N3	CROZET ISLANDS	60.37	217	T	T	22 34 19.3	
	baz=59,slow=75,SNR=185						
H04S1	CROZET ISLANDS	60.64	216	T	T	22 34 38.9	
	baz=58,slow=76,SNR=48						
H04S3	CROZET ISLANDS	60.65	216	T	T	22 34 38.6	
	baz=58,slow=76,SNR=89						
H04S2	CROZET ISLANDS	60.66	216	T	T	22 34 41.0	
	baz=58,slow=76,SNR=73						
BVAR	Borovoye Array	60.85	340	P	P	21 29 13.5	-0.7
	comp=Z,0.5nm,0.5s,baz=151,slow=3.3,SNR=2.9 comp=Z,0.5nm,0.5s						
ABKAR	Abkulak array	62.28	331	P	P	21 29 23.8	-0.1
ABKAR	Abkulak array	62.28	331	P	P	21 29 23.9	-0.1
ABKAR				IAmb	IAmb	21 29 25.1	
	comp=Z,0.8nm,0.8s						
PETK	Petropavlovsk-	73.36	32	P	P	21 30 34.8	+1.1
	comp=Z,6.1nm,1.2s,baz=246,slow=7.4,SNR=4.3 comp=Z,6.1nm,1.2s						
TXAR	Lajitas Array	145.13	38	PKPbc	PKPdf	21 38 39.8	-0.4
	comp=Z,0.4nm,0.5s,baz=336,slow=3.3,SNR=3.8						

*REY **23** 21:23:58.2, 64.°65N×17.°39W, h2km*
*IDC **23** 21:23:59.2±0.7, 64.°64N×17.°47W, h0km, mb3.9/15, mbtmp3.9/19, ML2.7/3, MS3.5/11, Error ellipse: s-maj=21.7km s-min=11.0km az=9.0*
*MOS **23** 21:23:59.2±1.4, 64.°54N×17.°48W, h10km, mb4.5/19, Error ellipse: s-maj=13.1km s-min=9.0km az=99.3*
*NEIC **23** 21:24:01.5±1.6, 64.°64N±0.°09×17.°6W±0.°2, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.4km s-min=11.1km az=196.0*

ISC 23 21:24:00.7±0.3, 64.°65N±0.°02×17.°39W±0.°02, h10km, n160, σ2.°10/174, mb4.3/51, MS3.5/11, 4C-2D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIS	Kista	0.08	289	P	Pg	21 24 00.0	-3.1
IDYN	Dyngjuhals	0.14	3	P	Pg	21 24 01.3	-2.7
IVON	Vonarskard	0.16	279	P	Pg	21 24 01.6	-2.7
IVON				S	Sg	21 24 04.4	-2.3
IURH	Urdarhals	0.20	31	P	Pg	21 24 02.5	-2.5
IHUS	Husbondi	0.37	198	P	Pg	21 24 05.5	-2.6
IHUS				S	Sg	21 24 11.2	-1.9
IVOT	Vottur	0.39	167	P	Pg	21 24 05.7	-2.7
THOR	Thorvaldshraun	0.42	46	P	Pg	21 24 06.2	-2.7
THOR				S	Sg	21 24 12.2	-2.2
ISKR	Skrokkalda	0.44	259	P	Pg	21 24 06.7	-2.6
ISKR				S	Sg	21 24 13.1	-2.0
IKRE	Kreppuhraun	0.45	72	P	Pg	21 24 06.7	-2.8
IKRE				S	Sg	21 24 13.2	-2.3
IJOK	Jokulheimar	0.49	228	P	Pg	21 24 07.3	-3.0
IJOK				S	Sg	21 24 14.2	-2.6
IASK	Askja	0.51	38	P	Pg	21 24 07.6	-3.1
IASK				S	Sg	21 24 14.8	-2.6
IMKO	Mokollar	0.56	53	P	Pg	21 24 08.6	-3.0
IKSK	Karasker	0.63	141	P	Pg	21 24 09.3	-3.6
IIEY	Innrieyrar	0.64	210	P	Pg	21 24 09.8	-3.3
IHAE	Haedir	0.65	164	P	Pg	21 24 09.9	-3.3
IHAE				S	Sg	21 24 19.1	-2.6
ISVA	Svartarkot	0.69	5	P	Pg	21 24 10.6	-3.5
ISVA				S	Sg	21 24 20.5	-2.7
IKAL	Kalfafell	0.72	191	P	Pg	21 24 11.3	-3.1
IVSH	V-Sauoahnukur	0.73	77	P	Pg	21 24 11.3	-3.4
IFAL	Falljokull	0.74	160	P	Pg	21 24 11.6	-3.3
SLET	Slettubjorg	0.79	155	P	Pg	21 24 12.5	-3.4
IKVI	Kvisker	0.79	148	P	Pg	21 24 12.3	-3.6
IKVI				S	Sg	21 24 23.1	-3.0
IFAG	Fagurholsmyri	0.84	157	P	Pg	21 24 13.2	-3.7
IADA	Aoalbol	0.86	64	P	Pg	21 24 13.3	-3.9
IADA				S	Sg	21 24 25.4	-3.0
IMEL	Melhnausar	0.97	18	P	Pg	21 24 15.3	-4.2
ISTE	Stelbrattur	0.98	283	P	Pg	21 24 15.4	-4.2
IREN	Reynihlio	1.02	11	P	Pg	21 24 15.9	-4.5
ISNB	Snabyli	1.07	211	P	Pg	21 24 17.3	-3.9
IKVO	Krokottuvotn	1.09	11	P	Pb	21 24 17.1	-4.6
IHES	Hestalda	1.12	238	P	Pb	21 24 18.4	-3.7
IGRS	Grimsstaoir	1.13	28	P	Pb	21 24 17.8	-4.5
IRJU	Rjupnafell	1.18	209	P	Pb	21 24 19.5	-3.6
BORG	Borgarnes	1.70	275	Pn	Pn	21 24 27.0	-3.3
BORG	Borgarnes	1.70	275	Pn	Pn	21 24 27.5	-2.8
	23nm,0.3s,baz=106,slow=7.7,SNR=51						
BORG				Sn	Sn	21 24 51.3	-0.7
	24nm,0.3s,baz=23,slow=22,SNR=7.9						
SCO	Scoresbysund	6.11	345		Pn	21 25 30.5	-0.4
SCO	Scoresbysund	6.11	345	P	Pn	21 25 30.5	-0.4
SUMG	Summit	10.98	325	Pn	Pn	21 26 36.2	-1.7
SUMG	Summit	10.98	325	P	Pn	21 26 36.3	-1.7
EKB	Eskdalemuir	11.70	136	Pn	Pn	21 26 47.0	-0.4
EKA	Eskdalemuir Ar	11.71	136	Pn	Pn	21 26 46.2	-1.5
	2.1nm,0.5s,baz=324,slow=13,SNR=19						
ESK	Eskdalemuir	11.71	136	Pn	Pn	21 26 46.6	-1.0
ESK	Eskdalemuir	11.71	136	P	Pn	21 26 46.6	-1.0
NC204	NORSAR Array S	13.18	92	Pn	Pn	21 27 05.5	-2.2
NOA	NORSAR Array B	13.48	92	Pn	Pn	21 27 09.8	-2.0
	baz=299,slow=13,SNR=3.3						
NOA				LR	LR	21 31 33.2	
	comp=Z,70nm,19.2s,baz=305,slow=34 0.7nm,0.8s						
NOA	NORSAR Array B	13.48	92	eP	Pn	21 27 12.8	+1.0
SFJD	Kangerlussuaq	13.72	295	LR	LR	21 32 27.6	
	comp=Z,185nm,21.3s,baz=92,slow=37						
HFS	Hagfors	15.00	93	Pn	Pn	21 27 32.7	+0.3
	0.2nm,0.3s,baz=283,slow=7.2,SNR=1.9 5.0nm,1.1s						
ARCES	ARCESS Array B	17.09	55	LR	LR	21 33 27.4	
	comp=Z,120nm,18.2s,baz=272,slow=33						
FIA1	FINESS Array S	19.66	79	P	Pn	21 28 30.4	-0.3
FIA1				IAmb	IAmb	21 28 46.5	
	comp=Z,48nm,1.4s						
FINES	FINESS Array B	19.66	79	P	Pn	21 28 30.8	+0.1
FINES	FINESS Array B	19.66	79	P	P	21 28 28.2	-1.0
	comp=Z,0.1nm,0.3s,baz=289,slow=7.1,SNR=5.1 comp=Z,3.9nm,1.0s						
FINES	FINESS Array B	19.66	79	P	Pn	21 28 30.8	+0.1
APA	Apatity	20.30	59	iP	Pn	21 28 36.4	-1.8
APA				i S	S	21 32 18.7	-4.6
APA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,1μm,12.0s						
CLL	Collm	20.65	116	eP	Pn	21 28 42.0	-0.5
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	Collm	20.65	116	eP	Pn	21 28 42.0	-0.5
	comp=Z,7.0nm,1.2s						
ECH	Echery	21.11	130	P	P	21 28 45.1	0.0
ECH	Echery	21.11	130	P	P	21 28 45.1	0.0
ECH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRG	Berggiesshubel	21.36	115	eP	P	21 28 49.3	+1.5
BRG				Amp		21 28 52.1	
	comp=Z,5.3nm,1.0s						
BRG	Berggiesshubel	21.36	115	P	P	21 28 55.9	+8.1
BRG				Amp		21 28 59.2	
	comp=Z,6.6nm,1.2s						
VSU	Vasula	21.52	86	i P	P	21 28 51.4	+2.0
VSU				pmax	pmax		
	comp=Z,29nm,0.9s						
CHVC	Chvalec	22.42	113	eP	P	21 29 01.4	+2.2
CHVC	Chvalec	22.42	113	eP	P	21 29 01.4	+2.2
KHC	Kasperske Hory	22.62	119	eP	P	21 29 02.6	+1.2
KHC	Kasperske Hory	22.62	119	i P	P	21 29 02.0	+0.6
DPC	Dobruska-Polom	22.71	113	eP	P	21 29 03.8	+1.5
DPC	Dobruska-Polom	22.71	113	eP	P	21 29 03.8	+1.5
GEC2	G

KWP				pmax	pmax	
	comp=Z,124nm,1.1s					
PSZ	**Piszkesteto**	**26.07**	**112**	P	**P**	**21 29 34.5 +0.5**
PSZ				IAmb	IAmb	21 29 40.5
	comp=Z,8.0nm,1.2s					
PSZ	**Piszkesteto**	**26.07**	**112**	P	**P**	**21 29 34.6 +0.5**
PSZ				pmax	pmax	
	comp=Z,8.0nm,1.2s					
SCHQ	**Schefferville**	**26.09**	**272**	P	**P**	**21 29 34.3 +0.2**
SCHQ				IAmb	IAmb	21 29 37.8
	comp=Z,5.7nm,0.8s					
SCHQ	**Schefferville**	**26.09**	**272**	P	**P**	**21 29 34.7 +0.6**
	comp=Z,4.4nm,0.7s,baz=41,slow=8.3,SNR=9.1					
	comp=Z,4.4nm,0.7s					
ESDC	**Sonseca Array**	**26.22**	**156**	P	**P**	**21 29 35.7 +0.2**
	comp=Z,0.9nm,0.9s,baz=346,slow=9.1,SNR=7.4					
	comp=Z,0.9nm,0.9s					
OBN	**Obninsk**	**27.84**	**84**	*e*P	**P**	**21 29 49.1 -0.6**
OBN				*e*		21 30 36.3
OBN				pmax	pmax	
	comp=Z,4.0nm,0.9s					
MLR	**Muntele Rosu**	**30.48**	**108**	LR	LR	21 43 36.6
	comp=Z,82nm,21.2s,baz=1.0,slow=39					
BELG	**Belogornoye**	**34.44**	**79**	*i* P	**P**	**21 30 49.1 +1.2**
BELG				pmax	pmax	
	comp=Z,2.0nm,0.9s					
A36M	**Sachs Harbour**	**35.24**	**329**	P	**P**	**21 30 55.4 +0.8**
A36M				IAmb	IAmb	21 30 58.5
	comp=Z,4.0nm,0.9s					
ANN	**Anapa**	**35.86**	**97**	*e*P	**P**	**21 30 57.0 -3.2**
ANN				*e**PP	**pP**	**21 31 01.3 -2.5**
ANN				*e*		21 32 17.3
ANN				*e*S	**S**	**21 36 33.2 -4.4**
ANN				pmax	pmax	
	comp=Z,40nm,0.9s					
ARTI	**Arti**	**36.01**	**66**	LR	LR	21 45 16.3
	comp=Z,85nm,18.1s,baz=336,slow=35					
ARTI	**Arti**	**36.01**	**66**	*d* *i*P	P	21 31 06.5 +5.2
ARTI						21 32 26.1
ARTI				S	**S**	**21 36 45.4 +5.8**
ARTI				SS	**SnSn**	**21 39 05.2 +1.8**
ARTI				pmax	pmax	
	comp=Z,6.0nm,1.2s					
NRIK	**Noril'sk**	**36.45**	**35**	*e*P	**P**	**21 31 08.6 +3.6**
NRIK				pmax	pmax	
	comp=Z,1.0nm,0.6s					
BRTR	**Keskin Array B**	**38.43**	**105**	P	**P**	**21 31 23.5 +1.3**
	comp=Z,1.3nm,1.1s,baz=320,slow=11,SNR=3.5					
	comp=Z,1.3nm,1.1s					
SADO	**Sadowa**	**38.87**	**270**	LR	LR	21 46 06.4
	comp=Z,71nm,18.4s,baz=189,slow=34					
KBZ	**Khabaz**	**39.07**	**93**	P	**P**	**21 31 28.3 +0.9**
	comp=Z,3.7nm,0.9s,baz=336,slow=7.8,SNR=8.0					
	comp=Z,3.7nm,0.9s					
KBZ	**Khabaz**	**39.07**	**93**	*e*P	**P**	**21 31 30.2 +2.9**
KBZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
YKA	**Yellowknife Ar**	**39.26**	**313**	P	**P**	**21 31 29.0 +0.2**
	comp=Z,1.0nm,0.9s,baz=45,slow=8.1,SNR=11					
YKA				PcP	**PcP**	**21 33 36.5 -0.8**
	comp=Z,0.1nm,0.3s,baz=41,slow=3.3,SNR=3.7					
	comp=Z,1.0nm,0.9s					
YKA	**Yellowknife Ar**	**39.26**	**313**	*e*P	**P**	**21 31 30.0 +1.2**
YKA				pmax	pmax	
	comp=Z,1.0nm,1.0s					
D27M	**Malcolm River**	**40.68**	**333**	P	**P**	**21 31 41.6 +1.1**
D27M				IAmb	IAmb	21 31 44.5
	comp=Z,6.1nm,1.1s					
C27K	**Jago River**	**40.88**	**334**	P	**P**	**21 31 44.0 +1.8**
C27K				IAmb	IAmb	21 31 46.6
	comp=Z,15nm,1.5s					
D25K	**Kavik River**	**41.62**	**335**	P	**P**	**21 31 49.5 +1.1**
D25K				IAmb	IAmb	21 31 52.6
	comp=Z,13nm,1.1s					
C24K	**Franklin Bluff**	**41.68**	**337**	P	**P**	**21 31 50.8 +2.0**
C23K	**Itkillik River**	**41.90**	**338**	P	**P**	**21 31 51.6 +1.1**
C23K				IAmb	IAmb	21 31 55.1
	comp=Z,12nm,1.2s					
ABKAR	**Akbulak array**	**41.95**	**73**	P	**P**	**21 31 49.8 -1.3**
ABKAR	**Akbulak array**	**41.95**	**73**	P	**P**	**21 31 50.2 -0.9**
ABKAR				IAmb	IAmb	21 31 53.8
	comp=Z,1.7nm,1.1s					
TIXI	**Tiksi**	**42.04**	**15**	P	**P**	**21 31 53.1 +1.6**
TIXI				IAmb	IAmb	21 31 55.3
	comp=Z,9.6nm,1.1s					
TIXI	**Tiksi**	**42.04**	**15**	*i* P	**P**	**21 31 53.0 +1.4**
TIXI				pmax	pmax	
	comp=Z,11nm,1.1s					
D24K	**Happy Valley**	**42.20**	**336**	P	**P**	**21 31 53.8 +0.8**
D24K				IAmb	IAmb	21 31 57.0
	comp=Z,8.2nm,1.0s					
E25K	**Arctic Village**	**42.52**	**334**	P	**P**	**21 31 56.9 +1.2**
GNI	**Garni**	**42.78**	**94**	LR	LR	21 49 46.0
	comp=Z,46nm,18.0s,baz=320,slow=36					
BMAR	**Burnt Mountain**	**42.93**	**333**	P	**P**	**21 32 00.9 +1.9**
F25K	**Christian Rive**	**42.99**	**334**	P	**P**	**21 32 00.6 +1.1**
F25K				IAmb	IAmb	21 32 03.4
	comp=Z,7.1nm,1.1s					
BRVK	**Borovoye**	**43.10**	**62**	*i* P	**P**	**21 32 01.5 +1.1**
BRVK				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BVAR	**Borovoye Array**	**43.16**	**62**	P	**P**	**21 32 02.0 +1.0**
	comp=Z,2.7nm,0.8s,baz=319,slow=7.7,SNR=10					
	comp=Z,2.7nm,0.8s					
G24K	**Hadweenzic Riv**	**44.13**	**334**	P	**P**	**21 32 09.8 +1.3**
G24K				IAmb	IAmb	21 32 13.6
	comp=Z,11nm,1.2s					
F20K	**Avaraart Lake**	**45.24**	**338**	P	**P**	**21 32 19.1 +1.7**
F20K				IAmb	IAmb	21 32 21.4
	comp=Z,7.8nm,1.1s					
ILAR	**Eielson Array**	**45.72**	**332**	P	**P**	**21 32 23.2 +1.9**
ILAR	**Eielson Array**	**45.72**	**332**	P	**P**	**21 32 22.0 +0.7**
	comp=Z,3.0nm,1.1s,baz=21,slow=7.7,SNR=15					
ILAR				PcP	**PcP**	**21 33 59.3 +0.5**
	comp=Z,1.0nm,0.9s,baz=14,slow=4.3,SNR=7.2					
	comp=Z,3.0nm,1.1s					
ILAR	**Eielson Array**	**45.72**	**332**	*e*P	**P**	**21 32 23.9 +2.6**
ILAR				pmax	pmax	
	comp=Z,3.0nm,1.1s					
H21K	**Melozitna Rive**	**46.03**	**336**	P	**P**	**21 32 25.3 +1.6**
BCAR	**Beaver Creek A**	**46.15**	**329**	P	**P**	**21 32 26.8 +2.1**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**21 32 36.9 +0.8**
ZALV	**Zalesovo Beam**	**47.61**	**51**	P	**P**	**21 32 35.9 -0.3**
	comp=Z,0.6nm,0.5s,baz=338,slow=11,SNR=4.5					
	comp=Z,0.6nm,0.5s					
ZALV	**Zalesovo Beam**	**47.61**	**51**	*e*P	**P**	**21 32 39.7 +3.6**
ZALV				pmax	pmax	
	comp=Z,1.0nm,0.6s					
KURK	**Kurchatov**	**48.08**	**58**	P	**P**	**21 32 40.8 +1.0**
KURK				IAmb	IAmb	21 32 42.4
	comp=Z,5.2nm,0.9s					
KURK	**Kurchatov**	**48.08**	**58**	*i* P	**P**	**21 32 39.1 -0.8**
KURK				pmax	pmax	
	comp=Z,5.0nm,0.9s					
KURBB	**Kurchatov Arra**	**48.12**	**58**	P	**P**	**21 32 39.9 -0.3**
	comp=Z,3.7nm,0.9s,baz=324,slow=7.4,SNR=21					
	comp=Z,3.7nm,0.9s					
EGMT	**Eagleton**	**48.93**	**297**	P	**P**	**21 32 47.8 +1.3**
KK31	**Karatay Array**	**51.24**	**70**	P	**P**	**21 33 05.0 +1.0**
KK31	**Karatay Array**	**51.24**	**70**	P	**P**	**21 33 05.0 +1.0**
KK31				pmax	pmax	
	comp=Z,3.0nm,1.2s					
KKAR	**Karatay Array**	**51.24**	**70**	P	**P**	**21 33 05.4 +1.4**
KKAR	**Karatay Array**	**51.24**	**70**	P	**P**	**21 33 05.4 +1.4**
SEY	**Seymchan**	**52.50**	**6**	*ce*P	**P**	**21 33 14.6 +1.5**
SEY				pmax	pmax	
	comp=Z,5.0nm,1.3s					
MK31	**Makanchi Array**	**52.69**	**58**	*ce*P	**P**	**21 33 15.5 +0.6**
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	**21 33 15.3 +0.4**
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	**21 33 14.2 -0.6**
	comp=Z,1.5nm,0.9s,baz=322,slow=6.4,SNR=14					
	comp=Z,1.5nm,0.9s					
MKAR	**Makanchi Array**	**52.69**	**58**	P	**P**	**21 33 15.3 +0.4**
TORD	**Torodi Ar. Bea**	**53.11**	**157**	P	**P**	**21 33 19.0 +0.8**
AAK	**Ala-Archa**	**53.22**	**67**	*ce*P	**P**	**21 33 20.6 +1.6**
AAK				pmax	pmax	
	comp=Z,2.0nm,1.0s					
PD31	**Pinedale Array**	**53.23**	**293**	P	**P**	**21 33 19.1 -0.1**
PD31				IAmb	IAmb	21 33 21.0
	comp=Z,4.8nm,1.0s					
PDAR	**Pinedale Array**	**53.23**	**293**	P	**P**	**21 33 19.3 +0.2**
PDAR	**Pinedale Array**	**53.23**	**293**	P	**P**	**21 33 18.0 -1.1**
	comp=Z,1.8nm,0.8s,baz=60,slow=6.6,SNR=14					
PDAR				LR	LR	21 55 52.5
	comp=Z,40nm,18.5s,baz=47,slow=36					
	comp=Z,1.8nm,0.8s					
GAR	**Garm**	**54.61**	**73**	P	**P**	**21 33 30.6 +1.5**
DRK	**Karamyk**	**54.81**	**71**	P	**P**	**21 33 32.1 +1.4**
DRK				IAmb	IAmb	21 33 35.1
	comp=Z,8.0nm,1.4s					
DRK	**Karamyk**	**54.81**	**71**	P	**P**	**21 33 32.2 +1.4**
DRK				pmax	pmax	
	comp=Z,8.0nm,1.4s					
MA2	**Magadan**	**55.77**	**7**	*ce*P	**P**	**21 33 38.4 +1.4**
MA2				pmax	pmax	
	comp=Z,10.0nm,2.5s					
KSH	**Kashi**	**56.46**	**68**	P	P	21 33 46.5 +4.1
KSH				pmax	pmax	
	comp=Z,4.0nm,0.9s					
WMQ	**Urumqi**	**57.20**	**56**	*e*P	**P**	**21 33 48.3 +0.8**
WMQ				PcP	PcP	21 34 48.6 +6.7
WMQ				pmax	pmax	
	comp=Z,10.0nm,0.9s					
WMQ				LR	LR	
	comp=Z,230nm,19.5s					
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**21 33 58.2 +1.0**
DBIC	**Dimbokro**	**58.56**	**165**	P	**P**	**21 33 58.2 +1.0**
DBIC				pmax	pmax	
	comp=Z,12nm,1.3s					
SONM	**Songino Array**	**59.62**	**40**	P	**P**	**21 34 04.2 -0.2**
	comp=Z,0.9nm,0.8s,baz=340,slow=5.8,SNR=8.4					
	comp=Z,0.9nm,0.8s					
SONM	**Songino Array**	**59.62**	**40**	*e*P	**P**	**21 34 06.2 +1.7**
SONM				pmax	pmax	
	comp=Z,1.0nm,0.8s					
NIL	**Nilore**	**60.41**	**74**	P	**P**	**21 34 11.1 +1.2**
NIL				IAmb	IAmb	21 34 12.2
	comp=Z,6.3nm,1.1s					
NIL	**Nilore**	**60.41**	**74**	P	**P**	**21 34 11.1 +1.2**
NIL				pmax	pmax	
	comp=Z,6.0nm,1.1s					
TXAR	**Lajitas Array**	**62.34**	**280**	P	**P**	**21 34 24.4 +1.3**
	comp=Z,0.4nm,0.7s,baz=24,slow=3.3,SNR=2.0					
	comp=Z,0.4nm,0.7s					
GTA	**Gaotai**	**65.28**	**49**	*e*P	**P**	**21 34 43.6 +1.2**
GTA				pP	sP	21 34 49.3 +1.9
GTA				pmax	pmax	
	comp=Z,2.0nm,1.0s					
HHC	**Hu-ho-hao-te**	**67.50**	**40**	*e*P	**P**	**21 34 55.1 -1.4**
HHC				pmax	pmax	
	comp=Z,5.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,130nm,6.3s					
PZH	**PanZhiHua**	**77.71**	**53**	P	**P**	**21 35 59.5 +2.0**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,100nm,4.8s					
NJ2	**Nanjing**	**77.72**	**37**	*e*P	**P**	**21 35 58.3 +1.0**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
SSE	**Sheshan**	**79.22**	**35**	P	**P**	**21 36 04.8 -0.8**
SSE				S	**S**	**21 46 03.0 -2.3**
SSE				pmax	pmax	
	comp=Z,6.0nm,0.9s					
SSE				pmax	pmax	
	comp=Z,91nm,5.2s					
SSE				LR	LR	
	comp=N,240nm,9.3s					
SSE				LR	LR	
	comp=E,530nm,10.0s					
CMAR	**Chiang Mai Arr**	**84.10**	**59**	P	**P**	**21 36 32.8 +1.2**
	comp=E,0.7nm,0.9s,baz=342,slow=6.7,SNR=2.1					
	comp=E,0.7nm,0.9s					

MOS ***23*** *21:38:07.7±0.8, 29°.44N×104°.59E, h10km, mb5.0/65, Error ellipse: s-maj=5.8km s-min=4.0km az=115.0*
IDC ***23*** *21:38:08.0±0.5, 29°.45N×104°.54E, h0km, mb4.5/28, mbtmp4.5/30, ML3.9/2, MS3.7/41, Error ellipse: s-maj=14.5km s-min=11.6km az=44.0*
BJI ***23*** *21:38:09.3, 29°.48N×104°.49E, h5km, mB4.8/8, mb4.6/48, ML4.7/28, Ms4.4/52, Ms7 4.1/52*
NEIC ***23*** *21:38:10.1±1.1, 29°.50N±0°.07×104°.54E±0°.08, h10km±1km, mb4.9/123, Error ellipse: s-maj=11.9km s-min=10.9km az=150.0*

ISC 23 21:38:09.6±0.7, 29°.47N±0°.03×104°.54E±0°.03, h9km±4km, n695, σ1§04/717, mb4.8/162, MS3.7/42, 44C-7D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
CD2	**Chengdu**	**1.59**	**335**	Pg	**Pb**	**21 38 38.8**		**-0.4**
CD2				Sg	**Sg**	**21 39 00.6**		**-0.1**
CD2				smax	smax			
	comp=N,13μm,1.0s							
GYA	**Guiyang**	**3.54**	**147**	Pn	**Pn**	**21 39 06.0**		**+1.1**
PZH	**PanZhiHua**	**3.85**	**221**	Pn	**Pn**	**21 39 12.4**		**+3.1**
PZH				Sn	**Sb**	**21 39 59.9**		**-4.9**
PZH				Sg	**Sg**	**21 40 13.1**		**-0.4**
PZH				smax	smax			
	comp=N,850nm,0.9s							
PZH				smax	smax			
	comp=E,1μm,1.3s							
PZH				LR	LR			
	comp=N,3μm,3.9s							
PZH				LR	LR			
	comp=E,3μm,4.1s							
PZH				LR	LR			
	comp=Z,1μm,3.8s							
ENH	**Enshi**	**4.37**	**78**	Pn	**Pn**	**21 39 17.4**		**+1.2**
KMI	**Kunming**	**4.62**	**201**	⇑Pn	**Pn**	**21 39 22.5**		**+2.7**
KMI				Sn	**Sn**	**21 40 17.6**		**+3.9**
KMI				smax	smax			
	comp=N,240nm,1.4s							
KMI				smax	smax			
	comp=E,310nm,1.3s							
KMI				LR	LR			
	comp=N,2μm,4.7s							
KMI				LR	LR			
	comp=E,3μm,4.5s							
KMI				LR	LR			
	comp=Z,1μm,4.9s							
XAN	**Xi'an**	**5.89**	**38**	Pn	**Pn**	**21 39 36.6**		**-0.5**
XAN				Pg	**Pb**	**21 39 56.3**		**+3.8**
XAN				Sg	**Sg**	**21 41 12.1**		**-6.5**
XAN				smax	smax			
	comp=N,4μm,1.4s							
XAN				smax	smax			
	comp=E,2μm,1.1s							
XAN				LR	LR			
	comp=N,3μm,4.2s							
XAN				LR	LR			
	comp=E,4μm,4.2s							
XAN				LR	LR			
	comp=Z,3μm,4.6s							
LZH	**Lanzhou**	**6.62**	**355**	Pn	**Pn**	**21 39 49.3**		**+2.0**
LZH				Pg	**Pb**	**21 40 08.6**		**+3.5**
LZH				Sn	**Sn**	**21 41 02.1**		**-1.0**
LZH				Sg	**Sg**	**21 41 40.3**		**-2.0**
LZH				smax	smax			
	comp=N,430nm,1.5s							
LZH				smax	smax			
	comp=E,410nm,1.6s							
LZH				LR	LR			
	comp=N,1μm,7.6s							
LZH				LR	LR			
	comp=E,2μm,8.6s							
LZH				LR	LR			
	comp=Z,1μm,6.5s							
GULI	**GuiLin**	**6.64**	**127**	Pn	**Pn**	**21 39 48.8**		**+1.3**
GULI				Sn	**Sn**	**21 41 01.9**		**-1.5**
TNCH	**TengChong**	**6.95**	**232**	Pn	**Pn**	**21 39 54.1**		**+2.3**
TNCH				Sn	**Sn**	**21 41 14.1**		**+2.9**
TNCH				Sg	**Sg**	**21 41 51.9**		**-0.8**
TNCH				smax	smax			
	comp=N,570nm,1.7s							
TNCH				smax	smax			
	comp=E,460nm,1.6s							
CNSH	**ChangSha**	**7.47**	**98**	Pn	**Pn**	**21 40 01.6**		**+2.8**
CNSH				Sn	**Sn**	**21 41 23.6**		**-0.2**
CNSH				smax	smax			
	comp=N,580nm,0.9s							
CNSH				smax	smax			
	comp=E,460nm,0.6s							
LYN	**LuoYang**	**8.42**	**51**	⇑P	**Pn**	**21 40 12.8**		**+0.9**
LYN				S	**Sn**	**21 41 43.8**		**-3.3**
LYN				smax	smax			
	comp=N,900nm,1.2s							
LYN				smax	smax			
	comp=E,640nm,1.4s							
LYN				LR	LR			
	comp=N,2μm,3.8s							
LYN				LR	LR			
	comp=E,2μm,4.1s							
LYN				LR	LR			
	comp=Z,2μm,4.0s							
WHN	**Wuhan**	**8.57**	**80**	⇑P	**Pn**	**21 40 15.8**		**+1.9**
WHN				S	**Sn**	**21 41 50.8**		**0.0**
WHN				pmax	pmax			
	comp=Z,120nm,0.7s							
WHN				LR	LR			
	comp=N,5μm,6.1s							
WHN				LR	LR			
	comp=E,6μm,9.2s							
WHN				LR	LR			
	comp=Z,5μm,11.3s							
GZH	**Guangzhou**	**10.14**	**127**	P	**Pn**	**21 40 34.8**		**-0.6**
GZH				S	**Sn**	**21 42 28.9**		**-0.4**
TIY	**Taiyuan**	**10.53**	**37**	*e*P	**Pn**	**21 40 39.9**		**-0.9**
TIY				pmax	pmax			
	comp=Z,23nm,0.9s							
GOMU	**GeErMu**	**10.57**	**312**	P	**Pn**	**21 40 41.8**		**+0.1**
GOMU				pP		21 40 45.0		
GOMU				sP		21 40 49.4		
GOMU				LR	LR			
	comp=N,2μm,9.2s							
GOMU				LR	LR			
	comp=E,2μm,12.9s							
GOMU				LR	LR			
	comp=Z,2μm,13.8s							
GTA	**Gaotai**	**10.65**	**340**	P	**Pn**	**21 40 46.3**		**+3.7**
GTA				pP		21 40 50.9		
GTA				pmax	pmax			
	comp=Z,12nm,0.8s							
GTA				LR	LR			
	comp=N,620nm,12.7s							
GTA				LR	LR			
	comp=E,1μm,11.9s							
GTA				LR	LR			
	comp=Z,770nm,15.1s							
QIZ	**Qiongzhong**	**11.46**	**154**	Pn	**Pn**	**21 40 54.2**		**+0.6**
QIZ	**Qiongzhong**	**11.46**	**154**	P	**Pn**	**21 40 55.4**		**+1.8**
QIZ				S	**Sn**	**21 43 05.3**		**+3.4**
QIZ				LR	LR			
	comp=N,680nm,6.1s							
QIZ				LR	LR			
	comp=E,670nm,8.2s							
QIZ				LR	LR			
	comp=Z,600nm,9.8s							
HNS	**HongShan**	**11.60**	**44**	⇑P	**Pn**	**21 40 57.5**		**+2.2**
HNS				S	**Sn**	**21 43 06.9**		**+1.9**
HNS				LR	LR			
	comp=E,830nm,6.8s							
HNS				LR	LR			
	comp=Z,330nm,9.3s							
LSA	**Lhasa**	**11.66**	**274**	Pn	**Pn**	**21 40 58.0**		**+1.3**
LSA	**Lhasa**	**11.66**	**274**	P	**Pn**	**21 40 59.0**		**+2.3**
LSA				S	**Sn**	**21 43 08.8**		**+1.5**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
LSA				LR	LR			
	comp=N,170nm,6.1s							
LSA				LR	LR			
	comp=Z,1μm,10.8s							
LSA	**Lhasa**	**11.66**	**274**	P	**Pn**	**21 40 58.0**		**+1.3**
CHTO	**Chiang Mai**	**11.77**	**207**	Pn	**Pn**	**21 40 58.5**		**+0.7**
CHTO	**Chiang Mai**	**11.77**	**207**	P	**Pn**	**21 40 58.6**		**+0.7**
SHL	**Shillong**	**11.89**	**254**	Pn	**Pn**	**21 40 59.1**		**-0.4**
SHL	**Shillong**	**11.89**	**254**	P	**Pn**	**21 40 59.2**		**-0.4**
BTO	**Baotou**	**11.98**	**21**	⇓*i*P	**Pn**	**21 41 00.8**		**+0.1**
BTO				pP		21 41 04.3		
BTO				sP		21 41 06.3		
BTO				PP	**PnPn**	**21 41 10.5**		**+1.9**
BTO				pmax	pmax			
	comp=Z,60nm,1.0s							
BTO				LR	LR			
	comp=N,1μm,12.0s							
BTO				LR	LR			
	comp=E,1μm,10.3s							
BTO				LR	LR			
	comp=Z,880nm,15.8s							
CM31	**Chiang Mai Arr**	**12.10**	**206**	Pn	**Pn**	**21 41 03.1**		**+0.8**
CMAR	**Chiang Mai Arr**	**12.10**	**206**	Pn	**Pn**	**21 41 02.1**		**-0.2**
	0.2nm,0.3s,baz=11,slow=14,SNR=8.9							
CMAR				PcP	**PcP**	**21 46 47.9**		**+0.7**
	0.5nm,0.6s,baz=326,slow=1.9,SNR=4.1							
	2.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**12.10**	**206**	*i* P	**Pn**	**21 41 04.9**		**+2.6**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIA	**Tai'an**	**12.53**	**54**	P	**Pn**	**21 41 08.8**		**+0.7**
TIA				pmax	pmax			
	comp=Z,34nm,0.7s							
TIA				LR	LR			
	comp=Z,430nm,8.4s							
TIA				LR	LR			
	comp=Z,1μm,14.3s							
TIA				LR	LR			
	comp=Z,1μm,15.1s							
NJ2	**Nanjing**	**12.58**	**75**	*e*P	**Pn**	**21 41 10.8**		**+2.0**
NJ2				pmax	pmax			
	comp=Z,16nm,0.8s							
NJ2				LR	LR			
	comp=Z,630nm,4.3s							
NJ2				LR	LR			
	comp=Z,1μm,7.1s							
NJ2				LR	LR			
	comp=Z,1μm,12.9s							
HHC	**Hu-ho-hao-te**	**12.72**	**25**	*e*P	**Pn**	**21 41 11.0**		**+0.2**
HHC				pmax	pmax			
	comp=Z,17nm,0.5s							
HHC				pmax	pmax			
	comp=Z,160nm,5.6s							
HHC				LR	LR			
	comp=Z,520nm,6.3s							
HHC				LR	LR			
	comp=Z,280nm,7.9s							
HHC				LR	LR			
	comp=Z,310nm,9.9s							
BRDH	**Bariadhala**	**13.41**	**243**	LR	LR	21 47 31.5		
	comp=Z,285nm,19.9s,baz=62,slow=42							
UBPT	**Khong Chiam**	**14.15**	**176**		**Pn**	**21 41 31.8**		**+1.5**
BJT	**Baijiatuau**	**14.20**	**39**	Pn	**Pn**	**21 41 30.4**		**-0.5**
BJT	**Baijiatuau**	**14.20**	**39**	P	**Pn**	**21 41 30.4**		**-0.5**
BJI	**Beijing**	**14.22**	**39**	P	**Pn**	**21 41 32.3**		**+1.1**
BJI				sP	**P**	**21 41 40.6**		**+1.9**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BJI				LR	LR			
	comp=Z,390nm,14.2s							
BJI				LR	LR			
	comp=Z,310nm,12.9s							
BJI				LR	LR			
	comp=Z,260nm,13.7s							
TPUB	**Ta-pu**	**15.67**	**109**	Pn	**Pn**	**21 41 49.7**		**-1.0**
SSLB	**Suanglung**	**15.73**	**107**	Pn	**Pn**	**21 41 52.4**		**+0.9**
YHNB	**Yeheng**	**15.74**	**104**	Pn	**Pn**	**21 41 52.8**		**+1.1**
DL2	**Dalian**	**16.96**	**52**	P	**Pn**	**21 42 08.0**		**+0.9**
DL2				pmax	pmax			
	comp=Z,44nm,1.1s							
DL2				LR	LR			
	comp=Z,500nm,11.1s							
DL2				LR	LR			
	comp=Z,490nm,12.4s							
DL2				LR	LR			
	comp=Z,550nm,9.3s							
XLT	**XiLinHaoTe**	**17.09**	**29**	*e*P	**Pn**	**21 42 09.4**		**+0.5**
XLT				pmax	pmax			
	comp=Z,17nm,1.3s							
XLT				LR	LR			
	comp=Z,400nm,4.6s							
XLT				LR	LR			
	comp=Z,350nm,12.1s							
DLV	**Lat**	**17.82**	**167**	P	**Pn**	**21 42 18.3**		**+0.1**
SONM	**Songino Array**	**18.39**	**4**	P	**Pn**	**21 42 24.2**		**-0.8**
SONM	**Songino Array**	**18.39**	**4**	P	**P**	**21 42 25.6**		**+0.6**
	comp=Z,0.4nm,0.3s,baz=185,slow=8.6,SNR=32							
	comp=Z,7.5nm,0.9s							
ULN	**Ulaanbaatar**	**18.47**	**5**	P	**P**	**21 42 25.2**		**-0.7**
ULN	**Ulaanbaatar**	**18.47**	**5**	*i* P	**P**	**21 42 25.6**		**-0.3**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WMQ	**Urumqi**	**19.64**	**321**	*e*P	**P**	**21 42 38.6**		**0.0**
WMQ				pmax	pmax			
	comp=Z,11nm,0.6s

comp=Z,260nm,21.1s
TJN Taejon 20.33 64 P **P 21 42 46.2 +0.1**
TJN IAmb IAmb 21 42 48.8
comp=Z,68nm,0.7s
TJN Taejon 20.33 64 P **P 21 42 46.3 +0.1**
TJN pmax pmax
comp=Z,68nm,0.7s
ZAK Zakamensk 20.91 358 *e*P **P 21 42 53.2 +0.8**
ZAK pmax pmax
comp=Z,24nm,1.3s
KSAR Wonju Array Be 21.00 62 P **P 21 42 53.5 +0.1**
KSAR Wonju Array Be 21.00 62 P **P 21 42 53.5 +0.1**
KSRS Korea Array 21.03 62 P **P 21 42 53.8 0.0**
comp=Z,111nm,0.8s,baz=245,slow=11,SNR=47
KSRS LR LR 21 51 50.4
comp=Z,275nm,18.2s,baz=255,slow=39
comp=Z,11nm,0.8s
JOW Kunigami 21.09 91 P **P 21 42 54.6 +0.2**
JOW IAmb IAmb 21 43 11.8
comp=Z,38nm,1.1s
JOW Kunigami 21.09 91 P **P 21 42 54.9 +0.5**
comp=Z,16nm,0.9s,baz=291,slow=19,SNR=1.5
JOW LR LR 21 51 48.5
comp=Z,193nm,19.9s,baz=302,slow=39
comp=Z,16nm,0.9s
SRIT Nakonsritamara 21.28 194 P **P 21 42 56.5 0.0**
SRIT IAmb IAmb 21 43 03.5
comp=Z,69nm,1.2s
TGY Tagaytay City 21.54 132 LR LR 21 51 17.8
comp=Z,156nm,19.3s,baz=284,slow=37
CN2 Changchun 21.96 44 *e*P **P 21 43 02.6 -1.1**
CN2 *e*PP **PnPn 21 43 28.5 +3.3**
CN2 *e*S **S 21 46 56.1 -10**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 LR LR
comp=Z,180nm,17.0s
CN2 LR LR
comp=Z,310nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
MOY Mondy 22.33 354 *e*P **P 21 43 08.6 +0.9**
MOY pmax pmax
comp=Z,40nm,2.2s
IRK Irkutsk 22.75 360 *e*P **P 21 43 13.4 +1.3**
IRK pmax pmax
comp=Z,59nm,1.0s
JNU Nakatsue 22.78 74 P **P 21 43 12.8 +0.3**
JNU IAmb IAmb 21 43 15.7
comp=Z,36nm,1.1s
JNU Nakatsue 22.78 74 LR LR 21 53 05.2
comp=Z,331nm,18.9s,baz=267,slow=39
HIA Hailar 22.92 26 P **P 21 43 12.9 -0.9**
HIA IAmb IAmb 21 43 16.4
comp=Z,30nm,0.9s
HIA Hailar 22.92 26 P **P 21 43 13.0 -0.9**
HIA pmax pmax
comp=Z,30nm,0.9s
CIT Chita 23.50 14 *e*P **P 21 43 21.0 +1.2**
CIT *e* 21 43 28.4
CIT *e* 21 43 51.7
CIT *e* 21 47 22.8
CIT *e* 21 48 17.4
CIT *e* 21 54 25.0
CIT pmax pmax
comp=Z,70nm,1.7s
ZSN Zaisan 23.54 325 *e*P **P 21 43 20.6 +0.4**
ZSN pmax pmax
comp=Z,18nm,1.0s
ZSN Zaisan 23.54 325 *e*P **P 21 43 20.7 +0.5**
comp=Z,18nm,1.0s
BNX BinXian 24.20 42 ⇑P **P 21 43 26.8 +0.3**
BNX pmax pmax
comp=Z,51nm,0.9s
SHLS Shalkode 24.28 311 *e*P **P 21 43 25.3 -2.1**
SHLS pmax pmax
comp=Z,23nm,1.0s
SHLS Shalkode 24.28 311 *e*P **P 21 43 25.4 -2.1**
comp=Z,23nm,1.0s
KULM Kulim 24.33 189 P **P 21 43 27.5 -0.3**
MK31 Makanchi Array 24.47 321 P **P 21 43 28.9 0.0**
MK31 IAmb IAmb 21 43 32.2
comp=Z,16nm,0.9s
MK31 Makanchi Array 24.47 321 *i* P **P 21 43 29.2 +0.2**
MK31 pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 24.47 321 P **P 21 43 28.7 -0.3**
MKAR **PcP 21 47 07.4 -0.1**
MKAR Makanchi Array 24.47 321 P **P 21 43 29.4 +0.4**
comp=Z,14nm,0.8s,baz=125,slow=11,SNR=85
MKAR PcP **PcP 21 47 07.1 -0.4**
comp=Z,2.9nm,0.9s,baz=121,slow=5.6,SNR=3.9
MKAR ScP **ScP 21 50 46.5 0.0**
comp=Z,0.7nm,0.8s,baz=134,slow=3.5,SNR=4.0
comp=Z,14nm,0.8s
UZB Uzynbulak 24.56 311 *e*P **P 21 43 30.4 +0.4**
UZB pmax pmax
comp=Z,16nm,0.7s
UZB Uzynbulak 24.56 311 *e*P **P 21 43 30.4 +0.4**
comp=Z,16nm,0.7s
MAKZ Makanchi 24.65 321 P **P 21 43 30.5 -0.1**
MAKZ IAmb IAmb 21 43 33.2
comp=Z,19nm,0.9s
MAKZ Makanchi 24.65 321 P **P 21 43 30.5 -0.1**
MAKZ pmax pmax
comp=Z,19nm,1.0s
KPKS Kokpek 24.92 311 *e*P **P 21 43 33.5 +0.3**
KPKS Kokpek 24.92 311 *e*P **P 21 43 33.6 +0.3**
MDJ Mudanjiang 24.93 46 P **P 21 43 33.0 -0.1**
MDJ IAmb IAmb 21 43 35.6
comp=Z,22nm,0.9s
MDJ Mudanjiang 24.93 46 P **P 21 43 34.9 +1.8**
MDJ S **S 21 48 03.1 +6.5**
MDJ pmax pmax
comp=Z,31nm,1.0s
MDJ LR LR
comp=Z,330nm,14.4s
MDJ LR LR
comp=Z,230nm,13.1s
MDJ LR LR
comp=Z,360nm,14.4s
SATY Saty 24.94 310 *e*P **P 21 43 33.9 +0.6**
SATY pmax pmax
comp=Z,14nm,0.8s
SATY Saty 24.94 310 *e*P **P 21 43 34.0 +0.6**
comp=Z,14nm,0.8s
IPM Ipoh 25.08 188 P **P 21 43 33.7 -1.0**
IPM IAmb IAmb 21 43 36.1
comp=Z,37nm,1.0s
LHMI Lhok Sumawe 25.16 198 P **P 21 43 34.8 -0.5**
BSI Banda Aceh 25.40 202 P **P 21 43 38.0 +0.5**
comp=Z,26nm,1.1s
KSH Kashi 25.50 301 P **P 21 43 43.1 +4.7**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH LR LR
comp=Z,370nm,12.0s
KSH LR LR
comp=Z,270nm,13.1s
KSH LR LR
comp=Z,320nm,9.6s
TDK Taldyqorghan 25.79 314 *e*P **P 21 43 41.5 +0.5**
TDK pmax pmax
comp=Z,18nm,0.9s
TDK Taldyqorghan 25.79 314 *e*P **P 21 43 41.5 +0.5**
comp=Z,18nm,0.9s
MDOK Medeo 25.89 309 *e*P **P 21 43 42.4 +0.4**
MDOK Medeo 25.89 309 *e*P **P 21 43 42.5 +0.4**
TNSS Tian-Shan 25.91 309 *e*P **P 21 43 42.7 +0.2**
TNSS Tian-Shan 25.91 309 *e*P **P 21 43 42.8 +0.2**
AAA Alma-Ata 26.00 309 *e*P **P 21 43 43.6 +0.7**
AAA pmax pmax
comp=Z,19nm,0.8s
AAA Alma-Ata 26.00 309 *e*P **P 21 43 43.6 +0.7**
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 26.28 48 P **P 21 43 44.5 -0.8**
USA0B IAmb IAmb 21 43 46.1
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 26.28 48 *i* P **P 21 43 43.9 -1.4**
USRK Ussuriysk Ar. 26.28 48 P **P 21 43 44.4 -0.9**
USRK Ussuriysk Ar. 26.28 48 P **P 21 43 45.2 -0.1**
comp=Z,12nm,0.7s,baz=252,slow=7.9,SNR=24
USRK LR LR 21 55 46.9
comp=Z,165nm,19.9s,baz=261,slow=40
comp=Z,12nm,0.7s
BOOM Boomskoye usch 26.40 307 P **P 21 43 47.2 +0.5**
BOOM IAmb IAmb 21 43 53.0
comp=Z,19nm,0.8s
BOOM Boomskoye usch 26.40 307 P **P 21 43 47.2 +0.5**
BOOM pmax pmax
comp=Z,19nm,0.8s
TSI Tuntungan 26.44 193 P **P 21 43 48.3 +1.3**
NIL Nilore 26.93 287 P **P 21 43 50.9 -0.5**
NIL IAmb IAmb 21 44 09.5
comp=Z,28nm,1.1s
NIL Nilore 26.93 287 P **P 21 43 50.9 -0.5**
NIL pmax pmax
comp=Z,28nm,1.2s
HEH HeiHe 26.99 33 *e*P **P 21 43 51.8 +0.1**
HEH pmax pmax
comp=Z,18nm,1.5s
PSI Prapat 27.05 192 LR LR 21 54 46.5
comp=Z,64nm,19.4s,baz=351,slow=37
PSI Prapat 27.05 192 P **P 21 43 52.9 +0.2**
PSI pmax pmax
comp=Z,50nm,1.3s
RPSI Rantau Prapat 27.16 192 P **P 21 43 52.9 -0.6**
RPSI IAmb IAmb 21 43 54.8
comp=Z,50nm,1.3s
AAK Ala-Archa 27.46 307 LR LR 21 56 36.7
comp=Z,279nm,20.6s,baz=92,slow=40
MYLDM Lahad Datu 27.53 149 P **P 21 43 57.2 +0.4**
MYLDM IAmb IAmb 21 44 00.0
comp=Z,25nm,1.1s
SBUM Sibu 27.85 163 P **P 21 43 59.8 +0.1**
JGF Kuroka 28.25 69 P **P 21 44 01.5 -1.7**
JGF IAmb IAmb 21 44 07.5
comp=Z,19nm,1.1s
ZAA0 Zalesovo Array 28.35 335 P **P 21 44 02.8 -1.0**
ZALV Zalesovo Beam 28.35 335 P **P 21 44 03.1 -0.7**
ZALV Zalesovo Beam 28.35 335 P **P 21 44 03.9 +0.1**
comp=Z,6.6nm,0.9s,baz=146,slow=7.4,SNR=16
ZALV PcP **PcP 21 47 14.5 -1.8**
comp=Z,0.9nm,0.6s,baz=130,slow=3.4,SNR=2.1
ZALV LR LR 21 55 55.7
comp=Z,139nm,20.0s,baz=152,slow=38
comp=Z,6.6nm,0.9s
ZALV Zalesovo Beam 28.35 335 *i* P **P 21 44 04.1 +0.3**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 28.60 39 LR LR 21 55 59.2
comp=Z,113nm,19.3s,baz=238,slow=37
KLR Kul'dur 28.60 39 *ce*P **P 21 44 04.6 -1.5**
KLR pmax pmax
comp=Z,20nm,1.7s
KURBB Kurchatov Arra 28.77 325 P **P 21 44 07.8 +0.2**
comp=Z,4.7nm,0.5s,baz=130,slow=9.5,SNR=49
KURBB PcP **PcP 21 47 16.7 -0.7**
comp=Z,2.1nm,0.8s,baz=115,slow=2.3,SNR=6.2
KURBB LR LR 21 57 10.9
comp=Z,229nm,18.8s,baz=182,slow=40
comp=Z,4.7nm,0.5s
KURK Kurchatov 28.79 325 P **P 21 44 07.1 -0.7**
KURK IAmb IAmb 21 44 09.0
comp=Z,50nm,1.9s
KURK Kurchatov 28.79 325 *ce*P **P 21 44 08.2 +0.5**
KURK pmax pmax
comp=Z,16nm,1.3s
MJAR Matsushiro Arr 29.00 67 P **P 21 44 09.1 -0.7**
comp=Z,6.3nm,1.0s,baz=271,slow=9.5,SNR=11
MJAR LR LR 21 56 09.3
comp=Z,83nm,19.2s,baz=242,slow=37
comp=Z,6.3nm,1.0s
ARK Arkit 29.02 304 P **P 21 44 14.2 +4.1**
BKNI Bangkinang 29.17 187 P **P 21 44 10.9 -0.5**
ZEA Zeya 29.35 28 *e*P **P 21 44 13.7 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
BTK Batken 29.49 300 P **P 21 44 13.7 -0.6**
BTK Batken 29.49 300 P **P 21 44 13.7 -0.6**
BTK pmax pmax
comp=Z,7.0nm,1.1s
GAR Garm 29.70 298 P **P 21 44 15.3 -0.9**
GAR IAmb IAmb 21 45 21.5
comp=Z,13nm,1.2s
DZA Taraz 29.76 306 *e*P **P 21 44 16.9 +0.4**
DZA Taraz 29.76 306 *e*P **P 21 44 16.9 +0.4**
STKI Sintang 29.98 166 P **P 21 44 20.0 +1.4**
JHJ Hachijo jima 2 30.25 74 LR LR 21 57 52.3
comp=Z,132nm,19.2s,baz=282,slow=39
KK31 Karatay Array 30.39 306 P **P 21 44 22.1 0.0**
KK31 **PcP 21 47 21.4 -0.4**
KK31 Karatay Array 30.39 306 P **P 21 44 22.1 0.0**
KK31 21 47 21.4
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 30.39 306 P **P 21 44 22.2 +0.2**
KKAR **PcP 21 47 21.2 -0.6**
KKAR Karatay Array 30.39 306 P **P 21 44 22.3 +0.2**
KKAR 21 47 21.2
KBL Kabul 30.42 289 P **P 21 44 21.9 -0.8**
KBL Kabul 30.42 289 P **P 21 44 21.9 -0.8**
KBL pmax pmax
comp=Z,6.0nm,1.0s
IUG Iuzhnay 30.50 304 *e*P **P 21 44 23.6 +0.4**
IUG Iuzhnay 30.50 304 *e*P **P 21 44 23.7 +0.5**
CHGR Chuyangaron 30.55 297 P **P 21 44 23.2 -0.5**
CHGR IAmb IAmb 21 44 26.1
comp=Z,9.3nm,0.7s
CHGR Chuyangaron 30.55 297 P **P 21 44 23.2 -0.5**
CHGR pmax pmax
comp=Z,9.0nm,0.7s
SIMJ Simiganj 30.67 297 P **P 21 44 24.2 -0.6**
BRLS Borolday 30.85 306 *e*P **P 21 44 27.1 +0.9**
BRLS Borolday 30.85 306 *e*P **P 21 44 27.1 +0.9**
PALK Pallekele 31.48 230 LR LR 21 58 12.5
comp=Z,66nm,22.0s,baz=30,slow=38
BRZS Berezniki 31.58 319 *e*P **P 21 44 32.9 +0.4**
BRZS Berezniki 31.58 319 *e*P **P 21 44 32.9 +0.4**
TPI Tanjungpandan 32.18 174 P **P 21 44 38.8 +0.8**
comp=Z,13nm,1.0s
JCJ Chichijima 33.14 85 LR LR 21 59 38.5
comp=Z,113nm,18.3s,baz=92,slow=39
ASAJ Asahikawa 33.48 54 LR LR 21 58 10.6
comp=Z,51nm,18.9s,baz=222,slow=36
MDSI Maura Dua 33.76 181 P **P 21 44 52.1 +0.3**
comp=Z,601nmcomp=Z,18nm,1.2s
BVAR Borovoye Array 34.31 323 P **P 21 44 56.4 +0.1**
comp=Z,2.2nm,0.6s,baz=118,slow=8.6,SNR=15
BVAR PcP **PcP 21 47 32.2 -0.1**
comp=Z,4.6nm,0.6s,baz=138,slow=2.9,SNR=15
BVAR LR LR 21 59 57.8
comp=Z,245nm,19.4s,baz=145,slow=38
comp=Z,2.2nm,0.6s
BRVK Borovoye 34.38 323 P **P 21 44 56.7 -0.2**
BRVK Borovoye 34.38 323 *ce*P **P 21 44 56.5 -0.4**
BRVK pmax pmax
comp=Z,26nm,2.5s
TTSI Tana Toraja 35.49 153 P **P 21 45 07.5 +0.7**
comp=Z,14nm,1.2s
SPSI Sidrap Palu 36.31 154 P **P 21 45 14.3 +0.5**
comp=Z,14nm,1.2s
YAK Yakutsk 36.50 20 P **P 21 45 14.3 -0.7**
YAK Yakutsk 36.50 20 *e*P **P 21 45 14.6 -0.4**
YAK *e**PP **sP 21 45 20.5 +1.6**
YAK *e* 21 46 36.5
YAK *e*S **S 21 50 54.9 -2.1**
YAK *e*SS **SnSn 21 53 28.5 +3.1**
YAK *e*SSS SSS 21 53 55.8
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,184nm,5.3s
YAK pmax pmax
comp=N,69nm,3.5s
YAK smax smax
comp=E,12nm,2.3s
YAK smax smax
comp=N,67nm,4.2s
YAK MLR MLR
comp=Z,166nm,14.0s
YAK MLR MLR
comp=N,59nm,12.0s
YAK MLR MLR
comp=E,29nm,13.0s
KAPI Kappang 37.27 154 P **P 21 45 21.5 -0.5**
KAPI IAmb IAmb 21 45 22.7
comp=Z,22nm,1.5s
KAPI Kappang 37.27 154 LR LR 22 00 16.0
comp=Z,26nm,21.2s,baz=306,slow=36
KAPI Kappang 37.27 154 P **P 21 45 21.5 -0.5**
KAPI pmax pmax
comp=Z,23nm,1.5s
UGM Wanagama 37.61 170 P **P 21 45 25.5 +0.6**
JAGI Jajag, Banyuwa 38.84 165 P **P 21 45 35.2 0.0**
ABKAR Akbulak array 39.05 313 P **P 21 45 36.8 0.0**
ABKAR Akbulak array 39.05 313 P **P 21 45 36.9 +0.2**
ABKAR IAmb IAmb 21 45 40.5
comp=Z,5.5nm,0.8s
SVE Sverdlovsk 41.04 325 *e*P **P 21 45 54.3 +1.2**
SVE pmax pmax
comp=Z,21nm,1.6s
NRIK Noril'sk 41.10 351 P **P 21 45 53.4 0.0**
NRIK IAmb IAmb 21 45 56.5
comp=Z,15nm,1.0s
NRIK Noril'sk 41.10 351 P **P 21 45 53.6 +0.2**
comp=Z,15nm,1.0s,baz=147,slow=8.0,SNR=25
comp=Z,15nm,1.0s
NRIK Noril'sk 41.10 351 *ce*P **P 21 45 54.2 +0.8**
NRIK pmax pmax
comp=Z,40nm,1.4s
WBSI Waikabubak, Su 41.44 158 P **P 21 45 55.0 -1.8**
MMRI Maumere 41.55 153 P **P 21 45 56.8 -0.9**
MMRI IAmb IAmb 21 45 57.9
comp=Z,47nm,1.2s
MMRI Maumere 41.55 153 P **P 21 45 57.0 -0.7**
comp=Z,16nm,0.9s
ARTI Arti 42.03 323 P **P 21 46 01.0 -0.3**
ARTI IAmb IAmb 21 46 02.5
comp=Z,21nm,1.6s
ARTI Arti 42.03 323 LR LR 22 05 18.8
comp=Z,119nm,20.6s,baz=152,slow=39
ARTI Arti 42.03 323 *d i*P **P 21 46 00.1 -1.2**
ARTI 21 47 35.1
ARTI S **S 21 52 20.8 +0.5**
ARTI pmax pmax
comp=Z,16nm,1.7s
UOSS Minazif 42.98 276 P **P 21 46 09.1 -0.4**
MA2 Magadan 43.25 32 P **P 21 46 11.4 +0.2**
MA2 Magadan 43.25 32 *ce*P **P 21 46 10.5 -0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
MA2 Magadan 43.25 32 P **P 21 46 10.9 -0.2**
comp=Z,9.0nm,1.7s
TIXI Tiksi 44.28 11 P **P 21 46 18.0 -1.2**
TIXI Tiksi 44.28 11 *ce*P **P 21 46 18.6 -0.6**
TIXI pmax pmax
comp=Z,24nm,1.7s
PEA0B Petropavlovsk- 45.11 43 P **P 21 46 25.7 -0.4**
PEA0B IAmb IAmb 21 46 47.4
comp=Z,20nm,1.1s
PEA0B Petropavlovsk- 45.11 43 P **P 21 46 25.7 -0.4**
PEA0B pmax pmax
comp=Z,20nm,1.1s
PETK Petropavlovsk- 45.11 43 P **P 21 46 25.5 -0.7**
PETK Petropavlovsk- 45.11 43 P **P 21 46 26.1 -0.1**
comp=Z,5.8nm,1.1s,baz=264,slow=3.0,SNR=4.2
comp=Z,5.8nm,1.1s
SEY Seymchan 45.33 28 *ce*P **P 21 46 27.1 -0.6**
SEY pmax pmax
comp=Z,3.0nm,0.6s
KIRV Kirov 47.30 324 *ce*P **P 21 46 44.2 +0.9**
DGAR Diego Garcia 47.93 225 *ce*P **P 21 46 50.0 +1.3**
DGAR pmax pmax
comp=Z,43nm,1.7s
KBZ Khabaz 50.40 304 P **P 21 47 07.8 +0.6**
comp=Z,1.4nm,0.8s,baz=76,slow=4.2,SNR=2.4
KBZ LR LR 22 11 45.8
comp=Z,69nm,19.0s,baz=62,slow=40
comp=Z,1.4nm,0.8s
KIV Kislovodsk 50.53 304 P **P 21 47 08.3 -0.2**
KIV IAmb IAmb 21 47 11.0
comp=Z,14nm,1.0s
KIV Kislovodsk 50.53 304 *e*P **P 21 47 09.2 +0.7**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,44nm,17.0s
KIV Kislovodsk 50.53 304 P **P 21 47 09.6 +1.1**
comp=Z,11nm,1.5s
KNRA Kununurra 50.61 149 P **P 21 47 07.9 -1.2**
KNRA IAmb IAmb 21 47 33.1
comp=Z,14nm,1.1s
VRH Novokhopyorsk 50.87 314 *e*P **P 21 47 11.1 +0.4**
VRH pmax pmax
comp=Z,20nm,1.1s
GURO Guroymak-BITLI 51.73 298 P **P 21 47 17.9 +0.4**
GURO IAmb IAmb 21 47 20.9
comp=Z,23nm,1.9s
VORD Divnogorie 52.41 314 *e*P **P 21 47 20.3 -1.9**
VORD pmax pmax
comp=Z,9.0nm,1.1s
VORR Voronezh 52.44 314 *e*P **P 21 47 23.1 +0.7**
VORR pmax pmax
comp=Z,21nm,1.2s
VSR Storozhevoye 52.48 314 *e*P **P 21 47 20.2 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 52.49 25 P **P 21 47 22.3 -0.3**
BILL IAmb IAmb 21 47 24.3
comp=Z,37nm,1.6s
BILL Bilibino 52.49 25 *ce*P **P 21 47 22.7 +0.1**
BILL pmax pmax
comp=Z,26nm,1.7s
LPSR Galich'ya Gora 52.59 316 *e*P **P 21 47 23.9 +0.3**
LPSR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 52.62 326 *e*P **P 21 47 22.1 -1.6**
KLMR pmax pmax
comp=Z,33nm,1.3s
RAYN Ar Rayn 52.70 278 P **P 21 47 24.4 -0.4**
RAYN IAmb IAmb 21 47 25.8
comp=Z,19nm,1.1s
RAYN Ar Rayn 52.70 278 P **P 21 47 24.7 -0.2**
MOS Moscow 53.34 320 *e*P **P 21 47 27.2 -1.9**
MOS pmax pmax
comp=Z,46nm,1.3s
OBN Obninsk 53.95 319 *e*P **P 21 47 33.9 +0.4**
OBN *e* 21 48 38.4
OBN *e* 21 49 33.9
OBN *e*PPP PPP 21 50 42.0
OBN pmax pmax
comp=Z,46nm,2.5s
OBN MLR MLR
comp=Z,68nm,9.0s
OBN Obninsk 53.95 319 P **P 21 47 33.9 +0.4**
comp=Z,8.9nm,0.7s
ANN Anapa 54.18 306 *e*P **P 21 47 33.5 -1.9**
ANN *e**PP **pP 21 47 36.5 -1.7**
ANN *e* 21 49 35.7
ANN *e*S **S 21 55 11.8 -0.7**
ANN pmax pmax
comp=Z,34nm,0.9s
APA Apatity 55.93 334 ⇓ *i*P **P 21 47 48.9 +1.2**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,900nm,15.0s
BNN Bunyan 56.41 299 P **P 21 47 51.0 -0.8**
WRAB Tennant Creek 56.91 146 P **P 21 47 54.9 -0.3**
WRAB Tennant Creek 56.91 146 P **P 21 47 54.9 -0.3**
WRAB pmax pmax
comp=Z,16nm,0.8s
WRA Warramunga Arr 56.91 146 P **P 21 47 54.5 -0.7**
WRA Warramunga Arr 56.91 146 P **P 21 47 54.9 -0.3**
comp=Z,13nm,0.8s,baz=337,slow=8.0,SNR=66
comp=Z,13nm,0.8s
WRA Warramunga Arr 56.91 146 *i* P **P 21 47 55.0 -0.3**
WRA pmax pmax
comp=Z,18nm,0.9s
WR0 Warramunga Arr 57.02 146 P **P 21 47 55.4 -0.7**
WR0 IAmb IAmb 21 47 56.7
comp=Z,11nm,0.7s
COEN Coen 57.04 134 P **P 21 47 55.8 -0.5**
COEN IAmb IAmb 21 47 57.5
comp=Z,14nm,1.1s
BR131 Keskin Array S 57.88 301 P **P 21 48 01.6 -0.6**
BR131 IAmb IAmb 21 48 04.2
comp=Z,11nm,1.4s
BR131 Keskin Array S 57.88 301 P **P 21 48 01.6 -0.6**
BR131 pmax pmax
comp=Z,11nm,1.4s
BRTR Keskin Array B 57.88 301 P **P 21 48 01.6 -0.6**

BRTR Keskin Array B 57.88 301 P **P 21 48 01.8 -0.4**
comp=Z,2.9nm,0.9s,baz=92,slow=4.3,SNR=11
BRTR PcP **PcP 21 48 54.3 -0.3**
comp=Z,1.0nm,0.9s,baz=91,slow=4.5,SNR=4.0
comp=Z,2.9nm,0.9s
BRTR Keskin Array B 57.88 301 *ce*P **P 21 48 02.2 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR104 Keskin Array S 57.89 301 P **P 21 48 02.3 +0.1**
comp=Z,5.0nm,0.9s
BR105 Keskin Array S 57.90 301 P **P 21 48 02.5 +0.2**
comp=Z,4.7nm,0.9s
MSEY Mahe Island 58.00 243 *i* P **P 21 48 02.0 -1.2**
MMAI Mount Meron Ar 58.24 293 P **P 21 48 04.1 -0.6**
comp=Z,1.7nm,0.8s,baz=57,slow=5.3,SNR=5.8
MMAI PcP **PcP 21 48 56.1 +0.1**
comp=Z,0.3nm,0.3s,baz=76,slow=2.4,SNR=2.0
MMAI LR LR 22 19 15.9
comp=Z,51nm,20.6s,baz=76,slow=42
NE56 Odesa 58.39 309 P **P 21 48 04.8 -0.6**
ANTO Ankara 58.48 301 ⇑P **P 21 48 06.8 +0.5**
ANTO Ankara 58.48 301 P **P 21 48 06.7 +0.5**
ANTO Ankara 58.48 301 P **P 21 48 06.8 +0.5**
comp=Z,12nm,1.4s
KIEV Kiev 58.79 314 P **P 21 48 07.4 -0.7**
KIEV IAmb IAmb 21 48 09.8
comp=Z,19nm,1.2s
KIEV Kiev 58.79 314 ⇑P **P 21 48 08.0 -0.1**
KIEV Kiev 58.79 314 P **P 21 48 08.0 -0.1**
KIEV Kiev 58.79 314 P **P 21 48 07.9 -0.2**
comp=Z,64nm,1.1s
ARCES ARCESS Array B 58.90 336 P **P 21 48 08.4 -0.2**
ARCES IAmb IAmb 21 49 35.1
comp=Z,9.8nm,1.1s
ARCES ARCESS Array B 58.90 336 P **P 21 48 08.7 +0.1**
comp=Z,3.3nm,0.8s,baz=86,slow=6.6,SNR=9.5
ARCES LR LR 22 17 03.2
comp=Z,152nm,19.2s,baz=356,slow=40
comp=Z,3.3nm,0.8s
MNK Minsk 59.00 319 *i* P **P 21 48 10.3 +0.7**
MNK *i* 21 50 21.6
MNK *i* S **S 21 56 18.5 +2.4**
MNK *i* SS **SS 22 00 13.7 +4.3**
MNK pmax pmax
comp=E,24nm,1.2s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK MLR MLR
comp=Z,113nm,12.0s
MNK MLR MLR
comp=E,535nm,23.0s
MNK MLR MLR
comp=N,518nm,21.0s
FIA1 FINESS Array S 59.13 327 P **P 21 48 10.2 -0.1**
FINES FINESS Array B 59.13 327 P **P 21 48 10.0 -0.3**
comp=N,4.4nm,0.8s,baz=90,slow=7.8,SNR=13
comp=N,4.4nm,0.8s
EIL Elat 59.62 289 LR LR 22 17 38.2
comp=N,52nm,21.5s,baz=68,slow=40
MI28 Mi28,Pidlybu 59.71 314 P **P 21 48 14.4 -0.1**
KIS Kishinev 59.73 310 P **P 21 48 15.8 +1.1**
comp=N,30nm,0.6s
SORM Soroca 59.81 311 ⇑P **P 21 48 15.3 0.0**
SORM Soroca 59.81 311 P **P 21 48 15.2 0.0**
SORM Soroca 59.81 311 P **P 21 48 15.2 0.0**
comp=N,7.5nm,2.1s
LUBAR Lubar, Ukraine 59.84 313 P **P 21 48 15.5 +0.1**
AS31 Alice Springs 59.90 149 P **P 21 48 16.0 -0.1**
ASAR Alice Springs 59.91 149 P **P 21 48 16.1 0.0**
ASAR Alice Springs 59.91 149 P **P 21 48 16.3 +0.2**
comp=N,7.5nm,0.6s,baz=332,slow=6.9,SNR=162
ASAR LR LR 22 16 31.4
comp=N,29nm,19.1s,baz=28,slow=38
comp=N,7.5nm,0.6s
NDNU Novodnistrovsk 60.36 312 P **P 21 48 18.9 -0.1**
KIWB Kanaga Island 60.43 44 P **P 21 48 19.1 -0.3**
TPGR Topolog 60.47 307 ⇑P **P 21 48 20.9 +1.1**
RNPP9 Sopachiv 60.72 315 P **P 21 48 21.4 0.0**
RNPP5 Staryi Chortor 60.76 315 P **P 21 48 21.9 +0.2**
HORU Horodok 60.84 313 P **P 21 48 22.3 0.0**
KMPD K-Podol'skiy 60.95 312 P **P 21 48 22.6 -0.4**
KMPD P **P 21 48 21.8 -1.2**
SPITS Spitsbergen Ar 61.01 346 P **P 21 48 23.5 +0.5**
comp=N,5.8nm,1.0s,baz=80,slow=3.4,SNR=5.6
comp=N,5.8nm,1.0s
GAMB Gambell 61.27 30 P **P 21 48 24.6 -0.4**
baz=279
VRI Vrincioaia 61.39 309 ⇑P **P 21 48 27.1 +0.9**
VRI Vrincioaia 61.39 309 P **P 21 48 27.0 +0.9**
PLOR Plostina 61.45 309 ⇓P **P 21 48 27.4 +0.8**
PLOR Plostina 61.45 309 P **P 21 48 27.3 +0.8**
ISR Istrita 61.70 308 ⇑P **P 21 48 29.2 +0.9**
ISR Istrita 61.70 308 P **P 21 48 29.1 +0.9**
SUW Suwalki 61.81 319 *eP* **P 21 48 29.0 +0.3**
SUW Suwalki 61.81 319 P **P 21 48 28.5 -0.2**
SUW Suwalki 61.81 319 P **P 21 48 28.5 -0.2**
SUW pmax pmax
comp=Z,46nm,1.1s
KSV Kosov 61.91 312 P **P 21 48 29.7 +0.1**
BURAR Bucovina Array 61.98 311 P **P 21 48 29.1 -1.1**
BURAR Bucovina Array 61.98 311 ⇑P **P 21 48 30.9 +0.7**
BURAR Bucovina Array 61.98 311 P **P 21 48 30.9 +0.7**
MLR Muntele Rosu 62.02 309 P **P 21 48 30.6 +0.2**
MLR IAmb IAmb 21 48 34.8
comp=Z,7.4nm,1.1s
MLR Muntele Rosu 62.02 309 ⇑P **P 21 48 30.4 -0.1**
MLR Muntele Rosu 62.02 309 P **P 21 48 30.7 +0.2**
MLR pmax pmax
comp=Z,7.0nm,1.1s
STNU Starunia 62.19 312 P **P 21 48 31.8 +0.4**
TNA Tin City 62.57 28 P **P 21 48 33.4 -0.2**
baz=281
VOIR 62.64 309 ⇑P **P 21 48 35.2 +0.6**
VOIR 62.64 309 P **P 21 48 35.2 +0.6**
ARCR ARCALIA 62.68 311 ⇑P **P 21 48 34.6 -0.2**
ARR Arges 62.94 309 ⇑P **P 21 48 37.0 +0.4**
C16K Lisburne Hills 63.02 25 P **P 21 48 36.6 -0.1**
C16K Lisburne Hills 63.02 25 P **P 21 48 36.7 +0.1**
baz=282
BMR Baia Mare 63.09 312 ⇑P **P 21 48 38.5 +1.0**
BMR Baia Mare 63.09 312 P **P 21 48 38.4 +1.0**
KWP Kalwaria Pacla 63.10 314 *eP* **P 21 48 38.5 +1.0**
KWP Kalwaria Pacla 63.10 314 P **P 21 48 37.3 -0.2**
KWP Kalwaria Pacla 63.10 314 P **P 21 48 37.3 -0.2**
KWP pmax pmax
comp=Z,295nm,1.1s
KWP Kalwaria Pacla 63.10 314 P **P 21 48 38.2 +0.7**
comp=Z,35nm,1.6s
NWAO Narrogin (SRO) 63.21 168 LR LR 22 16 33.5
comp=Z,34nm,21.1s,baz=232,slow=36
BRIU Brid 63.23 312 P **P 21 48 39.1 +0.8**
F14K Arctic Creek 63.24 28 P **P 21 48 37.9 -0.2**
baz=282
SPIA Saint Paul Isl 63.25 37 P **P 21 48 37.2 -1.0**
baz=283
MUKU Mukachevo 63.41 313 P **P 21 48 40.4 +0.8**
LOT Lotru 63.51 309 ⇑P **P 21 48 41.5 +1.1**
KOLS Kolonicke sedl 63.55 313 *eP* **P 21 48 42.3 +1.8**
KOLS pmax pmax
comp=Z,7.0nm,1.3s
KOLS Kolonicke sedl 63.55 313 *eP* **P 21 48 42.3 +1.8**
HOLU Holmets 63.59 313 P **P 21 48 41.2 +0.5**
MARR Marisel-Cluj 63.61 311 ⇓P **P 21 48 41.7 +0.6**
BEL Belsk 63.72 317 *eP* **P 21 48 42.6 +1.1**
C17K DeLong Mountai 63.76 24 P **P 21 48 40.9 -0.6**
baz=284,SNR=5.2
ANM Nome 63.84 29 P **P 21 48 41.2 -0.9**
baz=284
DRGR 63.84 311 ⇑P **P 21 48 43.5 +0.9**
DRGR 63.84 311 P **P 21 48 43.4 +0.9**
F15K North Star Dit 63.86 27 P **P 21 48 41.8 -0.4**
baz=284
RDOG Red Dog Mine 63.96 25 P **P 21 48 42.5 -0.4**
baz=284
KARP Karpathos 63.98 298 P **P 21 48 43.6 0.0**
comp=Z,56nm,0.9s
D17K Noatak River 63.98 25 P **P 21 48 43.3 +0.3**
baz=284
B18K Kokolik River 64.03 23 P **P 21 48 43.4 +0.1**
baz=284
A19K Wainwright 64.06 22 P **P 21 48 43.7 +0.3**
baz=285
GZR Gura Zlata 64.19 309 ⇑P **P 21 48 45.9 +1.1**

GZR Gura Zlata 64.19 309 P **P 21 48 45.9 +1.1**
G15K Niukluk 64.29 28 P **P 21 48 45.1 +0.1**
baz=285
C18K Utukok River 64.42 24 P **P 21 48 46.5 +0.6**
C18K Utukok River 64.42 24 P **P 21 48 45.3 -0.7**
baz=285
M11K Mekoryuk 64.50 33 P **P 21 48 46.3 -0.2**
baz=285
SURR Surduc 64.53 310 ⇑P **P 21 48 48.0 +1.0**
HERR Herculane 64.58 309 ⇑P **P 21 48 46.7 -0.6**
E17K Hotham Inlet 64.61 26 P **P 21 48 47.5 +0.4**
baz=286
NIE Niedzica 64.67 314 *eP* **P 21 48 49.5 +1.7**
NIE Niedzica 64.67 314 P **P 21 48 48.9 +1.0**
comp=Z,5.1nm,1.4s
SIRR Siria 64.69 310 ⇑P **P 21 48 49.0 +1.0**
OJC Ojcow 64.76 315 *eP* **P 21 48 48.9 +0.5**
OJC Ojcow 64.76 315 P **P 21 48 48.5 +0.2**
OJC IAmb IAmb 21 49 05.8
comp=Z,6.6nm,1.0s
OJC Ojcow 64.76 315 P **P 21 48 48.6 +0.2**
OJC pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 64.76 315 P **P 21 48 48.9 +0.5**
comp=Z,14nm,1.7s
BLKB Belogradchik 64.78 307 ⇑P **P 21 48 48.4 -0.3**
KECS Kecovo 64.82 313 *eP* **P 21 48 52.3 +3.5**
KECS Kecovo 64.82 313 *eP* **P 21 48 52.3 +3.5**
K13K Kusilvak Mount 64.82 32 P **P 21 48 49.3 +0.7**
baz=286
G16K Koyuk River 64.87 28 P **P 21 48 49.0 +0.2**
baz=286
E18K Tukpahlearik C 64.98 25 P **P 21 48 49.5 0.0**
baz=286
F17K Baldwin Pennin 65.01 26 P **P 21 48 49.7 0.0**
baz=286,SNR=8.8
J14K Nanvaranak Lak 65.09 30 P **P 21 48 50.1 -0.2**
baz=286
MDVR Moldovita 65.09 309 ⇑P **P 21 48 50.2 -0.5**
H16K Elim 65.12 28 P **P 21 48 50.1 -0.4**
baz=286
A21K Barrow 65.15 21 P **P 21 48 50.7 +0.2**
baz=288
HFS Hagfors 65.33 327 P **P 21 48 51.5 -0.4**
comp=Z,5.3nm,0.8s,baz=90,slow=4.4,SNR=10
comp=Z,5.3nm,0.8s
B20K Meade River 65.40 22 P **P 21 48 52.2 0.0**
baz=288
BOVS Bovan 65.45 308 ⇑P **P 21 48 52.6 -0.4**
D19K Kuna River 65.55 24 P **P 21 48 53.3 0.0**
baz=288
F18K Selawik 65.58 26 P **P 21 48 53.5 +0.1**
baz=288,SNR=8.2
M13K Dall Lake 65.86 33 P **P 21 48 55.6 +0.4**
baz=287
VYHS Vyhne 65.86 313 *eP* **P 21 48 56.6 +1.0**
VYHS pmax pmax
comp=Z,9.0nm,1.3s
VYHS Vyhne 65.86 313 *eP* **P 21 48 56.6 +1.0**
HNR Honiara 65.87 117 LR LR 22 14 36.9
comp=Z,57nm,21.7s,baz=291,slow=33
L14K Kuka Creek 65.89 32 P **P 21 48 55.1 -0.4**
baz=287
H17K Granite Mounta 65.99 28 P **P 21 48 56.0 -0.1**
baz=288
I17K Unalakleet 65.99 29 P **P 21 48 56.0 -0.1**
baz=288
D20K Etivluk River 66.00 23 P **P 21 48 56.2 0.0**
baz=289
K15K Wolf Creek Mou 66.12 31 P **P 21 48 56.6 -0.3**
baz=288
G18K Tagagawik 66.18 26 P **P 21 48 57.1 -0.2**
G18K Tagagawik 66.18 26 P **P 21 48 57.7 +0.4**
baz=289
E19K Redstone River 66.20 25 P **P 21 48 57.6 +0.2**
baz=289
F19K Shaleruckik Mo 66.21 25 P **P 21 48 57.1 -0.4**
baz=289
J16K Anvik River 66.22 29 P **P 21 48 57.5 -0.1**
baz=288
MAUC Maruska 66.23 315 *eP* **P 21 49 00.9 +2.9**
NB2 NORSAR Subarra 66.24 328 P **P 21 48 57.0 -0.8**
comp=Z,1.6nm,0.7s,baz=72,slow=6.9
NOA NORSAR Array B 66.24 328 P **P 21 48 56.9 -0.8**
comp=Z,3.0nm,0.8s,baz=74,slow=6.3,SNR=8.5
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 66.28 315 P **P 21 48 57.8 -0.5**
MORC IAmb IAmb 21 49 00.1
comp=Z,6.7nm,1.0s
MORC Moravsky Berou 66.28 315 *eP* **P 21 48 59.0 +0.7**
MORC Moravsky Berou 66.28 315 ⇑P **P 21 48 57.9 -0.4**
MORC Moravsky Berou 66.28 315 P **P 21 48 57.9 -0.4**
E20K Nigu River 66.30 24 P **P 21 48 58.1 0.0**
baz=290
L15K Ungalak Mounta 66.33 31 P **P 21 48 58.0 -0.3**
baz=288
B21K Ikpikpuk River 66.36 22 P **P 21 48 58.9 +0.6**
baz=291
NC204 NORSAR Array S 66.37 328 P **P 21 48 58.2 -0.5**
M14K Bethel 66.41 32 P **P 21 48 58.8 0.0**
baz=288
C21K Knifeblade Rid 66.47 23 P **P 21 48 59.5 +0.4**
baz=291
JAVC Velka Javorina 66.48 314 *eP* **P 21 49 01.4 +1.8**
H18K Honhosa River 66.54 27 P **P 21 48 59.6 0.0**
baz=289
KRLC Kraliky 66.65 315 *eP* **P 21 49 01.3 +0.6**
KRLC Kraliky 66.65 315 *eP* **P 21 49 01.3 +0.6**
MORH Mrgy, Hungar 66.70 311 ⇑P **P 21 49 00.9 -0.1**
MORH Mrgy, Hungar 66.70 311 P **P 21 49 01.6 +0.7**
comp=Z,9.9nm,1.7s
G19K Purcell Mounta 66.70 26 P **P 21 49 00.8 +0.1**
baz=290
KSP Ksiaz 66.71 316 *eP* **P 21 49 01.5 +0.6**
KSP Ksiaz 66.71 316 P **P 21 49 01.4 +0.5**
comp=Z,13nm,1.9s
N14K Kuskokwak Cree 66.80 33 P **P 21 49 01.5 +0.1**
baz=289
J17K VABM Dome 66.83 29 P **P 21 49 02.1 +0.6**
baz=290
DPC Dobruska-Polom 66.84 316 *eP* **P 21 49 02.8 +0.9**
DPC Dobruska-Polom 66.84 316 *eP* **P 21 49 02.8 +0.9**
DPC Dobruska-Polom 66.84 316 P **P 21 49 02.5 +0.6**
comp=Z,11nm,2.3s
F20K Avaraart Lake 66.89 25 P **P 21 49 02.6 +0.8**
baz=291
CHVC Chvalec 66.93 316 *eP* **P 21 49 03.4 +1.0**
CHVC Chvalec 66.93 316 *eP* **P 21 49 03.4 +1.0**
E21K Killik River 67.01 23 P **P 21 49 02.9 +0.3**
baz=292
VRAC Vranov 67.01 315 LR LR 22 20 07.6
comp=Z,124nm,20.6s,baz=14,slow=38
VRAC Vranov 67.01 315 *eP* **P 21 49 03.7 +0.8**
VRAC Vranov 67.01 315 ⇑P **P 21 49 03.5 +0.6**
VRAC Vranov 67.01 315 P **P 21 49 03.5 +0.6**
M15K Kasigluk River 67.02 32 P **P 21 49 03.1 +0.3**
baz=289
MPLH Magyarpolny 67.11 312 P **P 21 49 04.4 +0.8**
comp=Z,39nm,1.4s
H19K Roundabout Mou 67.16 27 P **P 21 49 03.6 +0.1**
baz=291
KRUC Moravsky 67.22 315 *eP* **P 21 49 04.7 +0.5**
L16K Owhat River 67.23 31 P **P 21 49 04.2 +0.1**
baz=290
GCSA Galena City Sc 67.27 27 P **P 21 49 04.1 -0.2**
baz=291
D22K Ayikyak River 67.28 23 P **P 21 49 04.5 +0.3**
baz=293,SNR=22
K17K Iditarod 67.40 30 P **P 21 49 05.2 +0.1**
baz=290
N15K Kwethluk River 67.47 33 P **P 21 49 05.9 +0.3**
baz=290
C23K Itkillik River 67.56 21 P **P 21 49 05.9 -0.1**
baz=294
L17K Donlin 67.61 30 P **P 21 49 06.3 -0.1**
baz=291
F21K Alatna River 67.64 24 P **P 21 49 06.5 -0.1**
baz=293
M16K Timber Creek 67.70 32 P **P 21 49 06.8 -0.3**
baz=291
RONA Rosalia, Austr 67.73 313 *ep*P **P 21 49 08.6 +1.0**
comp=Z,1.7nm,0.6s
H20K Anotleneega Mo 67.78 26 P **P 21 49 07.9 +0.3**
baz=292
J18K Innoko River 67.80 29 P **P 21 49 07.9 +0.2**
baz=291

E22K Anaktuvuk Pass 67.87 23 P **P 21 49 08.7 +0.6**
baz=294,SNR=18
D23K Nanushuk River 67.90 22 P **P 21 49 08.6 +0.4**
baz=294
CONA Conrad Observa 67.93 313 *i* pP **P 21 49 09.8 +0.9**
comp=Z,2.6nm,0.8s
O15K Ungalikthiuk R 67.94 34 P **P 21 49 08.9 +0.3**
baz=291
S12K Black Hills 68.02 38 P **P 21 49 09.3 +0.1**
baz=290
PRU Pruhonice 68.05 316 *eP* **P 21 49 10.2 +0.8**
PRU Pruhonice 68.05 316 *eP* **P 21 49 10.2 +0.8**
J19K Poorman 68.06 28 P **P 21 49 09.7 +0.5**
baz=292
BRG Berggiesshubel 68.10 317 *i* P **P 21 49 10.5 +0.7**
BRG Amp 21 49 12.7
comp=Z,7.8nm,1.0s
I20K Naaghedeneel 68.21 27 P **P 21 49 10.4 +0.3**
baz=293
C24K Franklin Bluff 68.22 21 P **P 21 49 10.4 +0.2**
baz=296
M17K Holitna River 68.25 31 P **P 21 49 09.7 -0.8**
baz=292
L18K Granite Mounta 68.28 30 P **P 21 49 11.0 +0.3**
baz=292
TTA Tatalina 68.30 29 P **P 21 49 10.7 -0.2**
baz=292
TOLK Toolik Lake Re 68.41 22 P **P 21 49 11.8 +0.4**
TOLK Toolik Lake Re 68.41 22 P **P 21 49 12.0 +0.6**
baz=296,SNR=15
D24K Happy Valley 68.43 22 P **P 21 49 11.7 +0.2**
baz=296
ZVC Zvikov 68.45 315 *eP* **P 21 49 12.7 +0.7**
CLL Collm 68.51 318 P **P 21 49 12.2 -0.1**
CLL Collm 68.51 318 ⇓*i*P **P 21 49 12.7 +0.4**
CLL pmax pmax
comp=Z,23nm,1.6s
CLL Collm 68.51 318 P **P 21 49 12.6 +0.3**
CLL Collm 68.51 318 ⇓*i*P **P 21 49 12.7 +0.4**
comp=Z,23nm,1.6s
H21K Melozitna Rive 68.52 26 P **P 21 49 12.3 +0.2**
baz=294,SNR=10
J20K Nowinta River 68.58 27 P **P 21 49 12.8 +0.2**
baz=293,SNR=11
O16K Kokwok River B 68.62 33 P **P 21 49 13.5 +0.7**
baz=292
E23K Chandalar 68.65 23 P **P 21 49 12.8 -0.2**
baz=296,SNR=14
N17K Nushagak Hills 68.69 32 P **P 21 49 13.6 +0.3**
baz=292
BBOO Buckleboo 68.78 152 P **P 21 49 13.9 -0.2**
BBOO IAmb IAmb 21 49 14.8
comp=Z,9.1nm,0.9s
COLD Coldfoot 68.81 24 P **P 21 49 13.9 0.0**
COLD IAmb IAmb 21 49 15.5
comp=Z,13nm,1.0s
COLD Coldfoot 68.81 24 P **P 21 49 14.3 +0.4**
baz=296,SNR=10
P16K Nushagak River 68.88 33 P **P 21 49 14.4 0.0**
baz=292
SOKA Soboth 68.89 312 *i* P **P 21 49 15.3 +0.4**
comp=Z,4.5nm,1.0s
KHC Kasperske Hory 68.93 315 *eP* **P 21 49 15.3 +0.2**
KHC Kasperske Hory 68.93 315 *ce*P **P 21 49 16.5 +1.4**
KHC pmax pmax
comp=Z,14nm,1.7s
KHC Kasperske Hory 68.93 315 P **P 21 49 15.7 +0.6**
comp=Z,3.7nm,1.4s
M18K Stony River 68.94 30 P **P 21 49 15.2 +0.4**
baz=293
K20K Telida 68.94 28 P **P 21 49 15.3 +0.4**
baz=294
H22K Ishtalitna Cre 68.95 25 P **P 21 49 15.0 +0.1**
baz=295
GEC2 GERESS Array S 68.96 315 P **P 21 49 15.2 -0.1**
GEC2 IAmb IAmb 21 49 16.4
comp=Z,5.1nm,0.9s
GERES GERESS Array B 68.96 315 P **P 21 49 15.4 +0.1**
GERES GERESS Array B 68.96 315 P **P 21 49 15.6 +0.3**
comp=Z,3.5nm,0.8s,baz=53,slow=5.2,SNR=14
GERES LR LR 22 21 12.5
comp=Z,120nm,21.4s,baz=76,slow=38
comp=Z,3.5nm,0.8s
GERES GERESS Array B 68.96 315 P **P 21 49 15.4 +0.1**
MOA Molln 68.96 314 *i* P **P 21 49 15.9 +0.6**
comp=Z,1.2nm,0.6s
E24K Your Creek 69.02 23 P **P 21 49 15.5 +0.2**
baz=297
O17K Koliganek Bris 69.02 32 P **P 21 49 15.5 +0.2**
baz=292
I21K Tanana 69.03 26 P **P 21 49 15.3 0.0**
baz=295
L19K White Mountain 69.08 30 P **P 21 49 15.9 +0.2**
baz=294
G23K Bananza Creek 69.09 24 P **P 21 49 15.6 -0.2**
baz=296
D25K Kavik River 69.13 21 P **P 21 49 16.1 +0.2**
baz=298
S14K Fog Glacier 69.13 36 P **P 21 49 16.1 -0.1**
baz=292
N18K Kilae Creek 69.22 31 P **P 21 49 16.9 +0.3**
baz=293
C26K Camden Bay 69.29 20 P **P 21 49 17.3 +0.4**
baz=299
L20K Farewell, AK 69.38 29 P **P 21 49 18.0 +0.4**
baz=294
M19K Big River Lodg 69.40 30 P **P 21 49 18.3 +0.6**
baz=294
CHUM Lake Minchumin 69.44 27 P **P 21 49 18.9 +1.0**
baz=295
F24K Squaw Lake 69.48 23 P **P 21 49 18.1 0.0**
baz=297
JMIC Jan Mayen 69.48 341 LR LR 22 21 17.6
comp=Z,45nm,20.8s,baz=133,slow=37
P17K Kvichak River 69.56 33 P **P 21 49 19.0 +0.3**
baz=293
R16K Pilot Point 69.64 35 P **P 21 49 20.2 +1.0**
baz=293
Q16K King Salmon 69.66 33 P **P 21 49 18.8 -0.5**
baz=293
CHNA Chernabura Isl 69.66 38 P **P 21 49 20.0 +0.6**
baz=292
CHGN Chignik 69.71 36 P **P 21 49 20.1 +0.4**
baz=293
CAST Castle Rocks 69.73 28 P **P 21 49 20.2 +0.5**
baz=295
C27K Jago River 69.80 20 P **P 21 49 20.5 +0.5**
baz=300
N19K Bonanza Creek 69.80 31 P **P 21 49 20.6 +0.3**
baz=294
O18K Koktuh Hills 69.87 32 P **P 21 49 21.3 +0.7**
baz=294
BPAW Bear Paw Mtn. 69.88 27 P **P 21 49 20.7 +0.1**
baz=296
PPLA Purkeypile 69.91 28 P **P 21 49 21.8 +0.8**
PPLA Purkeypile 69.91 28 P **P 21 49 21.5 +0.5**
baz=295
M20K Styx River 69.95 30 P **P 21 49 21.5 +0.3**
baz=295
E25K Arctic Village 69.97 22 P **P 21 49 20.9 -0.2**
E25K IAmb IAmb 21 50 11.6
comp=Z,19nm,1.9s
E25K Arctic Village 69.97 22 P **P 21 49 21.5 +0.4**
baz=299
G24K Hadweenzic Riv 70.00 24 P **P 21 49 22.0 +0.7**
baz=298
I23K Minto, Yukon-K 70.04 26 P **P 21 49 22.2 +0.7**
baz=297,SNR=6.5
P18K Big Mountain, 70.04 32 P **P 21 49 21.6 -0.1**
baz=294
LESA Schwarzleotal 70.12 314 *i* P **P 21 49 23.1 +0.6**
comp=Z,4.1nm,0.8s
O19K Port Alsworth 70.13 31 P **P 21 49 23.1 +0.9**
baz=295
F25K Christian Rive 70.20 23 P **P 21 49 22.9 +0.3**
baz=299
LODK Lodwar 70.22 263 P **P 21 49 22.8 -0.8**
H24K Noodor Dome 70.27 25 P **P 21 49 23.2 +0.2**
baz=298
NEA2 Nenana 70.40 26 P **P 21 49 23.8 0.0**
NEA2 Nenana 70.40 26 P **P 21 49 24.2 +0.4**
baz=297,SNR=19
STKA Stephens Creek 70.44 147 P **P 21 49 24.3 -0.1**
STKA Stephens Creek 70.44 147 P **P 21 49 24.3 -0.1**
comp=Z,3.9nm,0.8s,baz=331,slow=4.9,SNR=8.0
comp=Z,3.9nm,0.8s
TRF Thorofare Moun 70.44 27 P **P 21 49 24.8 +0.6**

baz=297
G25K Bearman Lake 70.45 23 P **P 21 49 24.7 +0.7**
baz=299
ABTA Abfaltersbach 70.48 313 *i* pP pP 21 49 26.1 -1.5
comp=Z,2.0nm,0.7s
EUNU Eureka 70.54 2 P **P 21 49 25.3 +0.8**
SKT Skwentna 70.59 29 P **P 21 49 24.7 -0.3**
SKT IAmb IAmb 21 49 26.5
comp=Z,17nm,1.1s
SKT Skwentna 70.59 29 P **P 21 49 24.7 -0.3**
baz=296,SNR=6.9
BMAR Burnt Mountain 70.64 22 P **P 21 49 25.6 +0.4**
SPCR Spurr Chakacha 70.64 30 P **P 21 49 25.3 -0.1**
baz=296
F26K Sheenjek River 70.64 22 P **P 21 49 25.1 -0.1**
baz=301
STLK Strandline Lak 70.67 30 P **P 21 49 25.3 -0.3**
STLK IAmb IAmb 21 49 26.5
comp=Z,8.8nm,0.8s
COLA College 70.73 26 P **P 21 49 25.6 -0.1**
COLA College 70.73 26 P **P 21 49 25.8 0.0**
baz=298
COLA College 70.73 26 ⇑*i* P **P 21 49 26.0 +0.3**
COLA pmax pmax
comp=Z,27nm,0.8s
H25L Birch Creek 70.79 24 P **P 21 49 26.3 +0.2**
baz=300
D27M Malcolm River 70.83 20 P **P 21 49 26.3 -0.1**
baz=303,SNR=9.5
WRH Wood River Hil 70.83 26 P **P 21 49 26.2 -0.2**
WRH IAmb IAmb 21 49 27.6
comp=Z,5.9nm,0.8s
WTTA Wattenberg 70.83 314 *i* P **P 21 49 27.0 +0.1**
comp=Z,3.1nm,0.8s
WATA Walderalm 70.84 314 *i* P **P 21 49 26.9 -0.1**
comp=Z,1.5nm,0.5s
FYU Fort Yukon 70.85 23 P **P 21 49 26.7 +0.3**
MCK McKinley 70.85 27 P **P 21 49 26.1 -0.5**
MCK IAmb IAmb 21 49 27.9
comp=Z,6.4nm,0.7s
MCK McKinley 70.85 27 P **P 21 49 26.7 +0.1**
baz=298,SNR=5.8
MCK McKinley 70.85 27 P **P 21 49 26.1 -0.5**
MCK pmax pmax
comp=Z,6.0nm,0.7s
P19K Oil Pt 70.86 32 P **P 21 49 26.3 -0.4**
baz=296
KMBO Kilima Mbogo 70.91 257 P **P 21 49 27.7 -0.3**
KMBO IAmb IAmb 21 49 29.4
comp=Z,9.5nm,0.9s
KMBO Kilima Mbogo 70.91 257 P **P 21 49 28.4 +0.4**
comp=Z,8.6nm,1.0s,baz=50,slow=10,SNR=21
comp=Z,8.6nm,1.0s
KMBO Kilima Mbogo 70.91 257 *i* P **P 21 49 28.5 +0.5**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
CUT Chulitna 70.93 28 P **P 21 49 27.6 +0.6**
baz=297
RND Reindeer 71.04 27 P **P 21 49 27.2 -0.6**
RND IAmb IAmb 21 49 28.4
comp=Z,16nm,1.0s
RND Reindeer 71.04 27 P **P 21 49 27.2 -0.6**
RND pmax pmax
comp=Z,16nm,1.0s
MOTA Moosalm 71.14 314 *i* P **P 21 49 28.7 0.0**
comp=Z,3.4nm,0.8s
ILAR Eielson Array 71.14 25 P **P 21 49 27.6 -0.7**
ILAR Eielson Array 71.14 25 P **P 21 49 27.4 -0.9**
comp=Z,4.8nm,1.0s,baz=296,slow=5.0,SNR=23
comp=Z,4.8nm,1.0s
ILAR Eielson Array 71.14 25 P **P 21 49 27.6 -0.7**
G26K Porcupine Rive 71.15 23 P **P 21 49 28.4 +0.2**
baz=301
R18K Karluk 71.18 34 P **P 21 49 28.2 -0.4**
baz=295
PRP Porcupine Dome 71.27 24 P **P 21 49 29.3 +0.1**
PRP Porcupine Dome 71.27 24 P **P 21 49 29.3 +0.1**
baz=300,SNR=14
M22K Willow 71.29 29 P **P 21 49 29.8 +0.6**
baz=297
CAPN Captain Cook N 71.30 30 P **P 21 49 29.1 -0.1**
baz=297
HDA Harding Lake 71.30 26 P **P 21 49 29.3 +0.1**
baz=299
CHIR Chirikof Islan 71.34 36 P **P 21 49 29.3 -0.3**
baz=295
D28M Stokes Point 71.44 20 P **P 21 49 30.0 +0.1**
baz=305
FETA Feichten 71.50 314 *e*P **P 21 49 30.0 -1.0**
comp=Z,5.0nm,0.9s
HOM Homer 71.58 31 P **P 21 49 31.2 +0.2**
baz=297
Q20K Shuyak Island 71.71 32 P **P 21 49 31.4 -0.4**
baz=297
RC01 Rabbit Creek A 71.76 30 P **P 21 49 31.6 -0.5**
RC01 IAmb IAmb 21 49 32.8
comp=Z,11nm,0.8s
RC01 Rabbit Creek A 71.76 30 P **P 21 49 31.4 -0.7**
baz=298,SNR=5.3
PMR Palmer 71.78 29 P **P 21 49 32.2 0.0**
PMR Palmer 71.78 29 P **P 21 49 32.1 0.0**
baz=298,SNR=14
PMR Palmer 71.78 29 P **P 21 49 32.2 0.0**
PMR pmax pmax
comp=Z,28nm,0.8s
GHO Glory Hole Cre 71.78 29 P **P 21 49 32.3 -0.1**
J25K Salcha River, 71.79 25 P **P 21 49 31.5 -0.8**
baz=300,SNR=8.5
CNPM China Poot 71.83 31 P **P 21 49 32.2 -0.4**
BRLK Bradley Lake 71.87 31 P **P 21 49 31.9 -0.9**
BRLK IAmb IAmb 21 49 32.7
comp=Z,10nm,0.8s
OHAK Old Harbor 71.90 34 P **P 21 49 32.7 -0.3**
baz=296
G27K Doyon Strip 71.94 22 P **P 21 49 32.8 -0.3**
baz=303
BRSE Bradley Lake S 71.95 31 P **P 21 49 32.7 -0.5**
baz=298
FUORN Ofenpass-Fuorn 71.95 314 P **P 21 49 33.2 -0.6**
FUORN IAmb IAmb 21 49 41.3
comp=Z,21nm,1.4s
KDAK Kodiak Island 71.99 33 LR LR 22 24 15.7
comp=Z,53nm,19.4s,baz=91,slow=38
KDAK Kodiak Island 71.99 33 P **P 21 49 33.5 +0.1**
baz=297
SML Sawmill 72.01 29 P **P 21 49 33.5 -0.2**
SML Sawmill 72.01 29 P **P 21 49 33.4 -0.2**
baz=299,SNR=12
K24K Donnelly Dome 72.05 26 P **P 21 49 33.2 -0.6**
baz=300,SNR=20
O22K Cooper Landing 72.05 30 P **P 21 49 33.6 -0.2**
baz=298
F28M Old Crow 72.07 21 P **P 21 49 33.8 0.0**
baz=304,SNR=5.6
DAVOX Davos/Dischmat 72.13 314 LR LR 22 24 56.5
comp=Z,122nm,18.4s,baz=56,slow=39
KNK Knik Glacier 72.15 29 P **P 21 49 34.0 -0.4**
KNK Knik Glacier 72.15 29 P **P 21 49 34.4 -0.1**
baz=299,SNR=5.6
E29M Blow River 72.23 20 P **P 21 49 35.3 +0.5**
baz=306
I26K Coal Creek Min 72.23 24 P **P 21 49 34.8 0.0**
baz=302
M23K Glacier View 72.27 28 P **P 21 49 35.2 0.0**
baz=299,SNR=5.2
H27K Steamboat Moun 72.30 23 P **P 21 49 35.7 +0.4**
baz=303
NEEM North Greenlan 72.31 355 *i* P **P 21 49 34.6 -0.9**
NEEM IAmb IAmb 21 49 37.2
comp=Z,30nm,1.1s
SEW Seward 72.35 30 P **P 21 49 34.8 -0.8**
SEW IAmb IAmb 21 49 36.2
comp=Z,14nm,1.1s
SEW Seward 72.35 30 P **P 21 49 35.5 -0.1**
baz=298
SCM Sheep Creek Mo 72.42 28 P **P 21 49 35.5 -0.6**
SCM Sheep Creek Mo 72.42 28 P **P 21 49 35.8 -0.3**
baz=300,SNR=5.9
SCM Sheep Creek Mo 72.42 28 P **P 21 49 35.5 -0.6**
SCM pmax pmax
comp=Z,51nm,1.5s
RIDG Independent Ri 72.43 26 P **P 21 49 35.7 -0.5**
baz=301,SNR=12
PWL Port Wells 72.47 29 P **P 21 49 36.3 -0.1**
baz=299
J26L Joseph Creek 72.51 25 P **P 21 49 36.5 -0.2**
baz=302

PAX Paxson 72.59 27 P **P 21 49 36.6 -0.6**
PAX IAmb IAmb 21 49 39.3
comp=Z,7.2nm,0.6s
PAX Paxson 72.59 27 P **P 21 49 36.9 -0.3**
baz=301
PAX Paxson 72.59 27 P **P 21 49 36.6 -0.6**
PAX pmax pmax
comp=Z,7.0nm,0.6s
I27K Kandik River 72.61 23 P **P 21 49 37.3 +0.1**
baz=303
SCRK Sand Creek 72.64 25 P **P 21 49 37.5 +0.1**
baz=302,SNR=12
M24K Tolsona, Glenn 72.75 28 P **P 21 49 38.5 +0.4**
M24K Tolsona, Glenn 72.75 28 P **P 21 49 38.0 0.0**
baz=300
GLI Glacier Island 72.99 29 P **P 21 49 39.5 0.0**
baz=300
HARP HAARP 73.01 27 P **P 21 49 39.5 -0.1**
baz=301
G29M Pine Creek 73.06 21 P **P 21 49 40.1 +0.3**
baz=306
A36M Sachs Harbour 73.14 14 P **P 21 49 40.5 +0.4**
baz=316,SNR=21
KLU Klutina 73.17 28 P **P 21 49 41.0 +0.4**
KLU Klutina 73.17 28 P **P 21 49 41.0 +0.4**
baz=301,SNR=10
WLF Walferdange 73.18 318 P **P 21 49 40.8 0.0**
WLF IAmb IAmb 21 49 42.9
comp=Z,13nm,0.9s
WLF Walferdange 73.18 318 P **P 21 49 40.8 0.0**
WLF pmax pmax
comp=Z,13nm,0.9s
I28M Miner Creek 73.28 23 P **P 21 49 41.2 0.0**
baz=305
P23K Montague Islan 73.30 30 P **P 21 49 41.4 +0.2**
baz=300
F30M Barrier River 73.34 20 P **P 21 49 41.5 +0.1**
baz=308
L26K Log Cabin Wild 73.39 26 P **P 21 49 41.9 +0.1**
baz=303
INK Inuvik 73.57 19 P **P 21 49 42.7 0.0**
INK IAmb IAmb 21 49 43.7
comp=Z,16nm,0.8s
INK Inuvik 73.57 19 LR LR 22 26 12.8
comp=Z,40nm,19.4s,baz=246,slow=39
INK Inuvik 73.57 19 P **P 21 49 42.3 -0.4**
baz=310,SNR=18
INK Inuvik 73.57 19 P **P 21 49 42.7 0.0**
INK pmax pmax
comp=Z,16nm,0.9s
G30M tAoh Zraii Nji 73.59 21 P **P 21 49 42.4 -0.5**
baz=308
N25K Chitina, Valde 73.65 28 P **P 21 49 43.5 +0.1**
baz=302,SNR=8.1
EYAK Cordova Ski Ar 73.73 29 P **P 21 49 43.8 +0.1**
baz=301
EPYK Eagle Plains 73.80 22 P **P 21 49 44.0 -0.2**
baz=307,SNR=7.3
M26K Nabesna, AK 73.86 27 P **P 21 49 44.7 +0.1**
baz=303
I29M Ogilvie Camp, 73.89 23 P **P 21 49 44.8 +0.2**
baz=306
L27K Beaver Creek, 73.94 26 P **P 21 49 45.0 -0.1**
baz=304
BCAR Beaver Creek A 73.96 26 P **P 21 49 45.9 +0.7**
BMRM Bremner River 73.99 28 P **P 21 49 45.6 +0.2**
baz=302,SNR=7.4
F31M Tsiigehtchic 74.06 20 P **P 21 49 45.3 -0.2**
baz=310,SNR=8.7
G31M Satah River 74.23 21 P **P 21 49 46.1 -0.4**
baz=309,SNR=6.3
DAWY Dawson 74.27 24 P **P 21 49 46.7 -0.2**
DAWY IAmb IAmb 21 49 47.8
comp=Z,8.3nm,0.9s
DAWY Dawson 74.27 24 P **P 21 49 47.0 0.0**
baz=306,SNR=8.3
M27K Edge Creek, AK 74.32 26 P **P 21 49 47.8 +0.4**
baz=304,SNR=6.3
J29N Klondike Camp 74.46 24 P **P 21 49 47.8 -0.3**
baz=306,SNR=6.4
I30M Mount Dempster 74.62 22 P **P 21 49 49.1 0.0**
baz=308
KAIM Kayak Island 74.62 29 P **P 21 49 49.2 +0.2**
baz=302
H31M Peel River 74.92 21 P **P 21 50 0.0 -0.6**
baz=309,SNR=9.1
BGLC Bering Glacier 75.00 29 P **P 21 49 51.7 +0.6**
baz=303
J30M Hart River 75.03 23 P **P 21 49 51.8 +0.4**
baz=308
K29M Barlow Dome 75.07 24 P **P 21 49 51.6 -0.1**
baz=307,SNR=10
SUMG Summit 75.11 349 P **P 21 49 51.8 -0.3**
SUMG Summit 75.11 349 P **P 21 49 51.8 -0.3**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 75.11 349 *i* P **P 21 49 51.0 -1.1**
SUMG IAmb IAmb 21 49 54.8
comp=Z,3.1nm,0.8s
L29M L29M 75.29 25 P **P 21 49 53.2 +0.3**
baz=307
RES Resolute Bay 75.32 5 P **P 21 49 52.8 0.0**
RES Resolute Bay 75.32 5 P **P 21 49 52.8 0.0**
RES pmax pmax
comp=Z,6.0nm,1.0s
C36M Paulatuk 75.34 16 P **P 21 49 53.0 0.0**
baz=317,SNR=16
VOI Vohitsoka 75.49 234 P **P 21 49 53.8 -0.8**
VOI IAmb IAmb 21 49 54.8
comp=Z,16nm,0.9s
EKA Eskdalemuir Ar 75.51 326 P **P 21 49 53.4 -0.8**
comp=Z,2.3nm,0.9s,baz=59,slow=8.3,SNR=2.2
comp=Z,2.3nm,0.9s
MESA MESA 75.52 28 P **P 21 49 54.2 -0.2**
baz=304
M29M Somme Creek 75.57 25 P **P 21 49 55.0 +0.5**
baz=307,SNR=6.8
YUK8 Steele Glacier 75.76 27 P **P 21 49 55.9 0.0**
baz=306
MAYO Mayo, Yukon 75.79 24 P **P 21 49 56.0 +0.3**
baz=309
O28M Mount Upton 75.89 27 P **P 21 49 56.8 +0.1**
baz=306
M30M Minto, Yukon 76.10 25 P **P 21 49 57.6 +0.1**
baz=308,SNR=7.0
YUK4 Talbot Arm 76.16 26 P **P 21 49 58.1 0.0**
baz=307
MBAR Mbarara 76.22 261 *ce*P **P 21 50 00.9 +1.7**
MBAR pmax pmax
comp=Z,12nm,2.5s
YUK6 Outpost Mounta 76.51 27 P **P 21 50 00.3 +0.2**
baz=307
O29M Mount Kennedy 76.81 27 P **P 21 50 02.4 +0.7**
baz=307
HYT Haines Junctio 76.92 26 P **P 21 50 02.5 +0.3**
HYT IAmb IAmb 21 50 03.9
comp=Z,10nm,1.0s
HYT Haines Junctio 76.92 26 P **P 21 50 02.4 +0.1**
baz=308,SNR=5.9
TOO Toolangi 76.93 148 P **P 21 50 02.6 +0.2**
TOO Toolangi 76.93 148 P **P 21 50 02.6 +0.2**
TOO pmax pmax
comp=Z,4.0nm,1.1s
BORG Borgarnes 77.11 339 LR LR 22 27 15.4
comp=Z,58nm,18.4s,baz=45,slow=38
N31M Braeburn, Yuko 77.16 25 P **P 21 50 03.7 +0.2**
baz=309
M31M Drury Creek, Y 77.21 24 P **P 21 50 04.1 +0.3**
baz=310
O30N Mendenhall 77.49 26 P **P 21 50 06.0 +0.5**
baz=309
P30M Million Dollar 77.56 27 P **P 21 50 05.7 -0.2**
baz=308
FARO Faro, Yukon 77.56 24 P **P 21 50 06.0 +0.2**
baz=311
WHY Whitehorse 78.02 26 P **P 21 50 08.7 +0.2**
baz=310
MMPY Sheldon Lake, 78.03 23 P **P 21 50 08.2 -0.2**
baz=312
N32M Quiet Lake 78.37 25 P **P 21 50 09.9 -0.4**
baz=311
SKAG Skagway 78.62 27 P **P 21 50 11.7 +0.1**
baz=310
P33M Teslin, Yukon 79.09 25 P **P 21 50 14.2 -0.1**
baz=312
R32K Eaglecrest 79.71 27 P **P 21 50 17.2 -0.5**
baz=311

TGTN Hyland Airport 79.80 23 P **P 21 50 18.3 +0.2**
baz=315
Q32M Nakina River 80.14 26 P **P 21 50 19.8 -0.4**
baz=312
SIT Sitka 80.17 29 P **P 21 50 19.9 -0.2**
baz=310
R33M Jennings River 80.33 25 P **P 21 50 21.4 +0.3**
baz=313
U33K Whale Pass 81.71 29 P **P 21 50 28.0 -0.3**
baz=312
DY2G Dye2 81.79 349 *i* P **P 21 50 28.4 -0.6**
DY2G IAmb IAmb 21 50 30.2
comp=Z,4.9nm,0.8s
SFJD Kangerlussuaq 82.01 350 P **P 21 50 29.9 +0.2**
SFJD IAmb IAmb 21 50 30.5
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 82.01 350 P **P 21 50 29.9 +0.2**
SFJD pmax pmax
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 82.01 350 *i* P **P 21 50 28.1 -1.5**
SFJD IAmb IAmb 21 50 31.3
comp=Z,13nm,1.0s
CRAG Craig 82.14 29 P **P 21 50 31.4 +0.8**
baz=312
KOTAN Kotaneelee Air 82.24 22 P **P 21 50 31.3 +0.2**
baz=319
T35M Bob Quinn 82.28 27 P **P 21 50 32.2 +0.8**
baz=314
TOAD Toad River Com 82.80 24 P **P 21 50 34.7 +0.6**
baz=318
YKA Yellowknife Ar 83.14 17 P **P 21 50 35.0 -0.7**
YKA Yellowknife Ar 83.14 17 P **P 21 50 35.8 +0.1**
YKA comp=Z,3.5nm,0.8s,baz=325,slow=4.8,SNR=46
YKA LR LR 22 32 21.8
comp=Z,37nm,18.8s,baz=286,slow=39
comp=Z,3.5nm,0.8s
YKA Yellowknife Ar 83.14 17 *ce*P **P 21 50 35.7 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.8s
ESDC Sonseca Array 84.39 313 P **P 21 50 42.0 -0.7**
ESDC IAmb IAmb 21 50 43.7
comp=Z,5.9nm,1.1s
ESDC Sonseca Array 84.39 313 P **P 21 50 42.6 0.0**
comp=Z,1.3nm,0.8s,baz=39,slow=6.0,SNR=10
comp=Z,1.3nm,0.8s
LSZ Lusaka 85.96 250 P **P 21 50 50.5 -0.4**
LSZ Lusaka 85.96 250 P **P 21 50 50.5 -0.4**
LSZ pmax pmax
comp=Z,24nm,1.2s
MESJ Messejana 88.17 313 *e*P **P 21 51 02.0 +0.8**
MESJ IAmb IAmb 21 51 03.2
comp=Z,12nm,0.9s
FFC Flin Flon 93.09 15 P **P 21 51 23.4 -0.4**
FFC IAmb IAmb 21 51 25.4
comp=Z,6.5nm,1.2s
FFC Flin Flon 93.09 15 P **P 21 51 23.4 -0.4**
FFC pmax pmax
comp=Z,7.0nm,1.2s
LBTB Lobatse 93.10 243 P **P 21 51 24.0 -0.4**
LBTB IAmb IAmb 21 53 46.0
comp=Z,7.4nm,1.1s
LBTB Lobatse 93.10 243 P **P 21 51 24.0 -0.4**
LBTB pmax pmax
comp=Z,7.0nm,1.2s
TORD Torodi Ar. Bea 94.49 288 P **P 21 51 29.8 -1.2**
BOSA Boshof 95.20 240 P **P 21 51 32.7 -1.3**
BOSA IAmb IAmb 21 51 33.6
comp=Z,7.4nm,1.1s
BOSA Boshof 95.20 240 P **P 21 51 33.0 -1.0**
comp=Z,4.3nm,1.0s,baz=38,slow=6.1,SNR=4.2
BOSA LR LR 22 33 40.2
comp=Z,34nm,18.8s,baz=14,slow=35
comp=Z,4.3nm,1.0s
BOSA Boshof 95.20 240 P **P 21 51 33.0 -1.0**
SCHQ Schefferville 95.72 355 P **P 21 51 35.4 -0.4**
comp=Z,1.9nm,0.7s,baz=5.2,slow=7.9,SNR=5.0
comp=Z,1.9nm,0.7s
YBH Yreka Blue Hor 96.80 34 LR LR 22 35 28.8
comp=Z,18nm,18.4s,baz=26,slow=36
QSPA South Pole Qui 119.25 180 PKP **PKPdf 21 56 57.4 -1.1**
comp=Z,3.1nm,0.7s,baz=290,slow=1.4,SNR=16
RUSC La Rusia 144.77 356 PKPdf **PKPab 21 57 46.4 -0.8**
ROSC El Rosal 145.87 358 PKPbc **PKPab 21 57 51.4 +0.4**
comp=Z,23nm,0.7s,baz=341,slow=15,SNR=8.0
FLOC Florencia 149.12 0 PKPbc **PKPbc 21 57 58.1 -1.2**
BDFB Brasilia 151.25 293 **PKPbc 21 58 03.5 -0.9**
BDFB Brasilia 151.25 293 PKPbc **PKPbc 21 58 03.8 -0.6**
comp=Z,4.3nm,0.7s,baz=360,slow=3.9,SNR=8.1
BDFB Brasilia 151.25 293 PKIKP **PKPbc 21 58 03.5 -0.9**
PTLB Pontes e Lacer 159.49 309 PKPdf **PKPdf 21 58 08.1 -1.2**
PTLB PKPab **PKPab 21 58 46.5 -0.7**
CPUP Villa Florida 163.67 277 PKPab **PKPab 21 59 04.4 -1.1**
comp=Z,1.3nm,0.8s,baz=74,slow=5.5,SNR=3.5

SJA ***23*** *21:48:18.4±1.9, 31°.37S×72°.56W, h15km±68km, ML3.4, MW3.6*

GUC ***23*** *21:48:22.3±0.5, 31°.37S×72°.16W, h15km±9km, ML2.7*

ISC 23 21:48:21.9±2.1, 31°.30S±0°.04×72°.13W±0°.09, h7km±14km, n13, σ1°.03/24, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.76**	**34**	*e*P		**Pb**	**21 48 37.6**	**+0.3**
CO06				*e*S		**Sn**	**21 48 49.7**	**-0.9**
CO03	**El Pedregal**	**1.32**	**70**	*e*P		**Pn**	**21 48 46.5**	**-0.2**
CO03				*e*S		**Sb**	**21 49 03.5**	**-0.5**
CO03				IAML			21 49 04.8	
comp=N,282nm,0.2s								
VA06	**Catapilco**	**1.44**	**151**	⇑*i*P		**Pn**	**21 48 46.8**	**-1.5**
VA06				IAML			21 49 06.8	
comp=N,192nm,0.3s								
CO05	**La Serena**	**1.58**	**29**	*e*P		**Pg**	**21 48 52.2**	**+0.1**
CO05				*e*S		**Sg**	**21 49 12.9**	**+0.3**
CO05				IAML			21 49 16.1	
comp=N,140nm,0.4s								
GO04	**Tololo Observa**	**1.60**	**46**	*e*P		**Pb**	**21 48 51.9**	**-0.1**
GO04				*e*S		**Sg**	**21 49 13.7**	**+0.3**
ROC1	**El Roble**	**1.92**	**151**	*i*P		**Pn**	**21 48 53.9**	**-1.3**
ROC1				*e*S		**Sb**	**21 49 23.0**	**+1.5**
VA03	**San Esteban**	**1.98**	**138**	*i*P		**Pn**	**21 48 56.3**	**+0.5**
PEL	**Peldehue**	**2.20**	**147**	*i*P		**Pn**	**21 49 00.1**	**+1.1**
PEL				⇓*e*S		**Sb**	**21 49 29.9**	**+0.3**
RTLS	**Leoncito**	**2.46**	**102**	*i*P		**Pb**	**21 49 06.9**	**+0.2**
RTLS				*e*S		**Sb**	**21 49 39.6**	**+2.3**
RTLS				IAML			21 49 45.5	
comp=Z,121nm,0.6s								
AUSP	**Uspallata**	**2.51**	**112**	*i*P		**Pb**	**21 49 06.8**	**-0.5**
AUSP				*e*S		**Sb**	**21 49 38.8**	**+0.3**
AROD	**Rodeo**	**2.55**	**64**	*i*P		**Pb**	**21 49 08.1**	**0.0**
AROD				*e*S		**Sg**	**21 49 44.5**	**+0.7**
ACCO	**Cerro Coronel**	**2.72**	**76**	*i*P		**Pb**	**21 49 11.6**	**+0.5**
ACCO				*e*S		**Sg**	**21 49 47.7**	**-1.7**
ASAL	**Salagasta**	**3.08**	**116**	*i*P		**Pb**	**21 49 17.8**	**+0.9**
ASAL				*e*S		**Sg**	**21 49 59.4**	**-1.3**

IDC ***23*** *21:59:53.5±1.7, 4°.81N×127°.63E, h155km±15km, mb3.6/15, mbtmp4.0/16, Error ellipse: s-maj=25.7km s-min=10.5km az=75.0*

NEIC ***23*** *21:59:54.1±1.3, 4°.73N±0°.07×127°.5E±0°.1, h155km±8km, mb4.3/24, Error ellipse: s-maj=17.1km s-min=9.8km az=79.0*

DJA ***23*** *21:59:56.4±1.1, 5°N±10°×12°7E±°, h115km±8km, M4.5/12, mB5.1/4, mb4.3/9, MLv4.6/12, Mw(mB)4.5/4*

ISC 23 21:59:52.9±0.5, 4.78N±0°.06×127°.57E±0°.09, h150km, n59, σ0°.83/61, mb4.2/25, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SGSI	**Sangihe**	**2.31**	**242**	P		**Pn**	**22 00 30.4**	**-1.3**
DAV	**Davao City (W)**	**3.02**	**319**	P		**Pn**	**22 00 41.8**	**+1.3**
62nm,0.4s,baz=126,slow=8.4,SNR=1.4								
DAV				S		**Sn**	**22 01 19.0**	**+1.6**
164nm,0.4s,baz=255,slow=23,SNR=5.7								
TNTI	**Ternate**	**3.99**	**183**	Pn		**Pn**	**22 00 53.5**	**+0.4**
KMSI	**Cibinong**	**5.50**	**221**	P		**Pn**	**22 01 13.2**	**+0.1**
SWI	**Sorong**	**6.71**	**147**	P		**Pn**	**22 01 30.6**	**+1.5**
0.1nm21nm,0.8s								
SANI	**Sanana**	**6.97**	**193**	P		**Pn**	**22 01 31.3**	**-1.3**
0.1nm15nm,1.4s								
MRSI	**Marisa**	**7.06**	**233**	P		**Pn**	**22 01 34.4**	**+0.5**
2um237nm,0.6s								
LUWI	**Luwuk**	**7.51**	**220**	Pn		**Pn**	**22 01 40.2**	**+0.4**

LUWI	Luwuk	7.51	220	P	Pn	22 01 41.6	+1.7
	0.2nm1μm54nm,0.8s						
TOLI2	Tolitoli	7.70	242	Pn	Pn	22 01 41.3	-1.0
MPSI	Mapaga	8.84	240	P	Pn	22 01 58.4	+0.8
	12nm,0.9s						
FAKI	Fak Fak	8.96	148		Pn	22 02 00.8	+1.6
MYLDM	Lahad Datu	9.04	273	Pn	Pn	22 02 00.1	-0.2
KDI	Kendari	9.99	210	P	Pn	22 02 11.7	-1.2
	1μm15nm,0.7s						
BSSI	Bau Bau, Buton	12.95	213	P	Pn	22 02 53.7	+2.1
	16nm,0.8s						
SOEI	Soe	14.81	193	Pn	Pn	22 03 14.9	-0.3
SBUM	Sibu	15.49	262		Pn	22 03 23.3	-0.3
SBUM				IAmb	IAmb	22 03 28.0	
	comp=Z,4.0nm,0.6s						
TWG	Pinlang	19.00	341		Pn	22 04 05.6	0.0
TWG				IAmb	IAmb	22 04 45.0	
	comp=Z,33nm,1.1s						
TPUB	Ta-pu	19.59	341	P	P	22 04 10.3	+0.7
KNRA	Kununurra	20.36	177	P	P	22 04 17.1	-0.7
KNRA				IAmb	IAmb	22 04 50.4	
	comp=Z,34nm,1.4s						
WB0	Warramunga Arr	25.30	165	P	P	22 05 05.2	-0.6
WB0				IAmb	IAmb	22 05 10.6	
	comp=Z,6.8nm,1.1s						
WRA	Warramunga Arr	25.45	165	P	P	22 05 06.6	-0.5
WRA	Warramunga Arr	25.45	165	P	P	22 05 06.8	-0.3
	comp=Z,0.8nm,0.6s,baz=344,slow=10,SNR=13						
	comp=Z,0.8nm,0.6s						
ASAR	Alice Springs	28.94	168	P	P	22 05 38.8	+0.6
	comp=Z,0.3nm,0.5s,baz=356,slow=8.0,SNR=8.4						
ASAR				PcP	PcP	22 08 44.0	+0.3
	comp=Z,0.1nm,0.3s,baz=340,slow=3.8,SNR=4.1						
	comp=Z,0.3nm,0.5s						
KSRS	Korea Array	32.52	1	P	P	22 06 09.2	-0.4
	comp=Z,3.0nm,0.6s,baz=177,slow=10.0,SNR=20						
	comp=Z,3.0nm,0.6s						
MJAR	Matsushiro Arr	33.09	16	P	P	22 06 12.8	-1.8
	comp=Z,1.2nm,0.8s,baz=186,slow=9.8,SNR=5.0						
	comp=Z,1.2nm,0.8s						
JMM	Marumori	35.07	18	P	P	22 06 31.1	-0.4
FORT	Forrest	35.36	179	P	P	22 06 34.3	+0.2
BBOO	Buckleboo	38.24	168	P	P	22 06 58.8	+0.2
BBOO				IAmb	IAmb	22 07 39.1	
	comp=Z,13nm,1.4s						
STKA	Stephens Creek	38.83	161	P	P	22 07 03.6	+0.2
STKA	Stephens Creek	38.83	161	P	P	22 07 03.7	+0.3
	comp=Z,2.7nm,0.5s,baz=348,slow=7.8,SNR=8.0						
	comp=Z,2.7nm,0.5s						
SHL	Shillong	39.95	305	P	P	22 07 13.0	-0.1
SHL				IAmb	IAmb	22 07 16.4	
	comp=Z,5.1nm,0.7s						
ASAJ	Asahikawa	41.35	16	P	P	22 07 24.6	+0.6
	comp=Z,3.7nm,0.6s,baz=198,slow=9.6,SNR=5.2						
	comp=Z,3.7nm,0.6s						
JKA	Kamikawa-asahi	41.35	16	P	P	22 07 24.2	+0.2
GTA	Gaotai	42.65	328	*e*P	P	22 07 36.3	+1.5
GTA				pP	pP	22 07 40.9	-26
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KLR	Kul'dur	44.43	4	P	P	22 07 48.7	-0.1
	comp=Z,1.4nm,0.6s,baz=182,slow=6.2,SNR=6.2						
	comp=Z,1.4nm,0.6s						
ULN	Ulaanbaatar	46.40	341	P	P	22 08 05.2	+0.7
SONM	Songino Array	46.59	340	P	P	22 08 06.1	+0.2
SONM	Songino Array	46.59	340	P	P	22 08 06.4	+0.5
	comp=Z,0.5nm,0.6s,baz=154,slow=8.7,SNR=5.3						
	comp=Z,0.5nm,0.6s						
PEA0B	Petropavlovsk-	54.15	22	P	P	22 09 02.0	-0.4
PETK	Petropavlovsk-	54.15	22	P	P	22 09 02.7	+0.2
	comp=Z,1.4nm,0.5s,baz=178,slow=5.8,SNR=8.9						
	comp=Z,1.4nm,0.5s						
MK31	Makanchi Array	57.18	324	P	P	22 09 24.9	+0.6
MKAR	Makanchi Array	57.18	324	P	P	22 09 24.7	+0.4
MKAR	Makanchi Array	57.18	324	P	P	22 09 24.8	+0.6
	comp=Z,1.5nm,0.5s,baz=113,slow=8.0,SNR=29						
	comp=Z,1.5nm,0.5s						
MAKZ	Makanchi	57.37	324	P	P	22 09 25.9	+0.3
MAKZ				IAmb	IAmb	22 09 28.3	
	comp=Z,5.5nm,1.4s						
ZALV	Zalesovo Beam	60.04	332	P	P	22 09 43.0	-0.8
	comp=Z,0.5nm,0.4s,baz=125,slow=7.8,SNR=4.8						
	comp=Z,0.5nm,0.4s						
ARSB	Arslanbob	60.70	315	P	P	22 09 48.6	-0.2
ARSB				IAmb	IAmb	22 09 51.6	
	comp=Z,4.7nm,1.4s						
KURK	Kurchatov	61.32	327	P	P	22 09 52.7	+0.1
KURK				IAmb	IAmb	22 09 53.7	
	comp=Z,5.8nm,1.1s						
KURBB	Kurchatov Arra	61.32	327	P	P	22 09 52.9	+0.3
	comp=Z,1.6nm,0.4s,baz=125,slow=6.0,SNR=17						
	comp=Z,1.6nm,0.4s						
GAR	Garm	61.84	312	P	P	22 09 56.7	+0.2
GAR				IAmb	IAmb	22 09 57.8	
	comp=Z,6.5nm,1.1s						
KKAR	Karatay Array	63.05	316	P	P	22 10 04.3	0.0
KKAR	Karatay Array	63.05	316	P	P	22 10 04.4	+0.1
TIXI	Tiksi	66.79	0	P	P	22 10 27.3	-0.5
TIXI				IAmb	IAmb	22 10 29.0	
	comp=Z,5.5nm,1.4s						
BVAR	Borovoye Array	66.91	327	P	P	22 10 28.7	-0.3
	comp=Z,0.7nm,0.5s,baz=108,slow=6.9,SNR=7.4						
	comp=Z,0.7nm,0.5s						
BRVK	Borovoye	66.98	327	P	P	22 10 28.6	-0.8
BRVK				IAmb	IAmb	22 10 30.6	
	comp=Z,4.2nm,1.1s						
ABKAR	Abkulak array	71.88	320	P	P	22 10 58.9	-0.7
ABKAR	Abkulak array	71.88	320	P	P	22 10 59.5	-0.1
ABKAR				IAmb	IAmb	22 11 01.2	
	comp=Z,3.7nm,1.4s						
ILAR	Eielson Array	83.80	25	P	P	22 12 04.2	-1.0
	comp=Z,0.5nm,0.8s,baz=258,slow=4.0,SNR=5.2						
	comp=Z,0.5nm,0.8s						
ARCES	ARCESS Array B	89.76	340	P	P	22 12 32.4	-1.6
	comp=Z,3.9nm,0.9s,baz=77,slow=5.2,SNR=2.1						
	comp=Z,3.9nm,0.9s						

*THE **23** 22:10:50.1, 37.°41N×20.°70E, h10km, ML3.7/6, Error ellipse: s-maj=1.7km s-min=0.8km az=45.0*
*ATH **23** 22:10:50.5, 37.°43N×20.°70E, h5km±1km, ML3.4/13, Manual Solution by A.Papageorgiou First location: 2019/02/23 22:11:20, This location: 2019/02/23 22:20:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*IDC **23** 22:10:51.1±1.5, 37.°86N×20.°92E, h0km, mb3.5/5, mbtmp3.5/6, ML3.4/1, MS3.0/1, Error ellipse: s-maj=33.5km s-min=24.6km az=138.0*

ISC 23 22:10:50.3±1.3, 37.°42N±0.°04×20.°69E±0.°04, h10km±8km, n50, σ0.°86/80, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.31	22	P	Pg	22 10 56.4	-0.2
LTHK				S	Sg	22 11 01.0	+0.2
	19μm,0.3s						
LTHK	Lithakia	0.31	22	P	Pg	22 10 56.3	-0.2
LTHK				S	Sg	22 11 00.6	-0.2
KYPS	Kipseli, Zakin	0.41	15	P	Pg	22 10 58.5	+0.1
KYPS				S	Sg	22 11 03.8	-0.1
ORTH	Orthonies,Zaky	0.43	1	P	Pg	22 10 58.7	-0.1
ORTH				S	Sg	22 11 04.6	+0.1
CLEM	Kyllini,Ilia,G	0.59	37	P	Pg	22 11 01.6	-0.1
CLEM				S	Sg	22 11 09.5	0.0
RTZL	Ratzakli, Kefa	0.66	6	P	Pg	22 11 02.7	-0.3
RTZL				S	Sb	22 11 12.7	-0.3
PSDA	Pessada-Kefalo	0.70	353	P	Pg	22 11 03.4	-0.4
PSDA				S	Sb	22 11 14.1	-0.1
	12μm,0.3s						
PSDA	Pessada-Kefalo	0.70	353	P	Pg	22 11 03.5	-0.2
PSDA				S	Sg	22 11 13.7	+0.8
VLS	Valsamata	0.76	354	P	Pg	22 11 04.5	-0.5
VLS				S	Sb	22 11 16.2	+0.2
	4μm,0.3s						
VLS	Valsamata	0.76	354	P	Pg	22 11 04.3	-0.7
VLS				S	Sg	22 11 15.3	+0.4
ZARO	Zacharo	0.77	85	P	Pg	22 11 05.1	0.0
ZARO				S	Sg	22 11 15.5	+0.3
SMHA	Samh	0.83	358	P	Pg	22 11 05.7	-0.6
SMHA				S	Sg	22 11 17.1	0.0
DMLN	Damoulianata-K	0.85	343	P	Pg	22 11 06.6	-0.1
DMLN				S	Sb	22 11 19.9	+1.2
	6μm,0.3s						
DMLN	Damoulianata-K	0.85	343	P	Pg	22 11 06.4	-0.3
DMLN				S	Sb	22 11 18.7	0.0
RLS	Riolos of Patr	0.89	44	P	Pg	22 11 06.6	-0.8
RLS				S	Sb	22 11 19.8	+0.2
	1μm,0.4s						
RLS	Riolos of Patr	0.89	44	P	Pg	22 11 07.0	-0.4
RLS				S	Sg	22 11 19.0	0.0
AXS	Araxos	0.95	35	P	Pg	22 11 07.9	-0.6
AXS				S	Sg	22 11 21.1	+0.2
DRO	Drossia	0.97	57	P	Pg	22 11 08.1	-0.9
DRO	Drossia	0.97	57	P	Pg	22 11 08.5	-0.5
DRO				S	Sg	22 11 21.9	+0.3
MTHA	Methoni	1.01	126	P	Pb	22 11 10.3	+0.4
MTHA				S	Sg	22 11 23.0	+0.2
ITM	Ithomi	1.02	103	P	Pg	22 11 09.4	-0.5
ITM	Ithomi	1.02	103	P	Pg	22 11 09.2	-0.6
ITM				S	Sg	22 11 23.5	+0.4
FSK	Fiskardo	1.04	355	P	Pg	22 11 09.1	-1.2
FSK	Fiskardo	1.04	355	P	Pg	22 11 10.0	-0.3
FSK				S	Sb	22 11 24.4	+0.3
EVGI	Lefkada island	1.20	359	P	Pg	22 11 11.9	-1.4
EVGI				S	Sb	22 11 29.8	+1.2
	1μm,0.4s						
EVGI	Lefkada island	1.20	359	P	Pg	22 11 13.0	-0.3
EVGI				S	Sg	22 11 28.9	0.0
DRAG	Dragano-Lefkad	1.27	356	P	Pg	22 11 13.0	-1.6
DRAG	Dragano-Lefkad	1.27	356	P	Pn	22 11 15.6	+1.6
DRAG				S	Sg	22 11 30.4	-0.6
NYDR	Nydri-Lefkada	1.29	0	P	Pn	22 11 13.1	-1.2
KLV	Kalavryta, Ach	1.32	61	P	Pn	22 11 14.1	-0.7
KLV	Kalavryta, Ach	1.32	61	P	Pb	22 11 16.0	+0.9
KLV				S	Sg	22 11 32.1	-0.6
LKD2	Lefkada island	1.37	359	P	Pb	22 11 16.4	+0.4
LKD2				S	Sn	22 11 34.9	+1.3
PVO	Paravola	1.37	29	P	Pn	22 11 15.4	+0.1
PVO				S	Sb	22 11 34.0	+0.6
TSLK	Tsoukalades, L	1.40	359	P	Pb	22 11 17.0	+0.5
TSLK				S	Sb	22 11 35.1	+0.6
GUR	Goura	1.41	68	P	Pn	22 11 15.5	-0.6
GUR	Goura	1.41	68	P	Pn	22 11 17.0	+0.9
GUR				S	Sn	22 11 35.9	+1.1
KALE	Kalithea	1.50	49	P	Pb	22 11 18.5	+0.2
KALE				S	Sg	22 11 38.3	-0.4
ANX	Ano Chora	1.52	39	P	Pb	22 11 19.2	+0.6
ANX				S	Sg	22 11 39.4	+0.1
VLI	Veliai	1.93	111	P	Pb	22 11 25.1	-0.5
MAKR	Makrakomi, Fth	1.96	35	P	Pn	22 11 25.1	+1.6
TETR	Tetrakomo, Epi	1.98	13	P	Pn	22 11 24.8	+0.9
AXAR	Agios Charalam	2.06	49	P	Pn	22 11 26.6	+1.7
OHR	Ohrid	3.69	1	*i* Pn	Pb	22 11 54.1	-1.4
ESDC	Sonseca Array	19.40	284	P	Pn	22 15 20.1	+2.6
	baz=76,slow=10,SNR=5.3						
	0.5nm,0.9s						
HFS	Hagfors	23.17	351	P	P	22 15 55.2	-1.4
	3.3nm,1.0s,baz=170,slow=9.0,SNR=5.5						
	3.3nm,1.0s						
EKA	Eskdalemuir Ar	24.12	326	P	P	22 16 05.6	-0.4
	1.2nm,0.9s,baz=126,slow=9.4,SNR=1.4						
	1.2nm,0.9s						
FINES	FINESS Array B	24.29	6	P	P	22 16 04.5	-2.9
	1.4nm,0.8s,baz=185,slow=9.2,SNR=3.4						
	1.4nm,0.8s						
TORD	Torodi Ar. Bea	29.53	220	P	P	22 17 01.1	+6.2
	47nm,0.4s,baz=37,slow=10,SNR=4.1						
MKAR	Makanchi Array	45.59	58	P	P	22 19 08.7	-1.7
	0.3nm,0.6s,baz=269,slow=6.7,SNR=3.7						
	0.3nm,0.6s						
ZALV	Zalesovo Beam	46.10	48	P	P	22 19 14.7	+0.5
	0.4nm,0.5s,baz=262,slow=8.2,SNR=2.4						
	0.4nm,0.5s						

RSNC 23 22:18:36.6±0.0, 7.°N±1.°×7.°3W±.°, h146km±1km, M3.0, mB6.4, mb3.3, ML2.8, Mw(mB)6.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.24	190	P	Pn	22 18 56.2	-0.6
BARC				S	Sn	22 19 11.1	-1.1
BRJC	Barrancabermej	0.62	283	P	Pn	22 18 57.9	-0.2
BRJC				S	Sn	22 19 14.7	+0.2
PAMC	Pamplona, Colo	0.67	41	P	Pn	22 18 58.9	-0.2
PAMC				S	Sn	22 19 15.8	-0.3
RUSC	La Rusia	0.93	177	P	Pn	22 19 00.3	-0.7
RUSC				S	Sn	22 19 18.8	-0.8
PTBC	PUERTO BERRIO,	1.34	258	P	Pn	22 19 02.8	-1.4
PTBC				S	Sn	22 19 24.6	-0.7
TAMC	Tame, Arauca	1.40	106	P	Pn	22 19 04.6	-0.2
TAMC				S	Sn	22 19 25.8	-0.6
OCAC	Ocana	1.41	353	P	Pn	22 19 04.3	-0.8
OCAC				S	Sn	22 19 26.2	-0.7
ZARC	Zaragoza, Cauc	1.83	291	P	Pn	22 19 09.3	-0.2
ZARC				S	Sn	22 19 34.4	-0.3
NORC	Norcasia	2.13	234	P	Pn	22 19 12.7	-0.4
NORC				S	Sn	22 19 40.2	-0.9
CHIC	Chingaza	2.26	195	P	Pn	22 19 14.6	-0.5
CHIC				S	Sn	22 19 44.3	-0.3
ROSC	El Rosal	2.30	211	P	Pn	22 19 16.2	+0.7
ROSC				S	Sn	22 19 46.9	+1.6
GUY2C	Guyana, Caldas	2.73	234	P	Pn	22 19 20.8	-0.1
GUY2C				S	Sn	22 19 55.5	+0.6
VILC	Villavicencio,	2.76	192	P	Pn	22 19 20.1	-0.6
VILC				S	Sn	22 19 54.6	-0.5
NIZA	Niza - Manizal	2.91	233	P	Pn	22 19 22.7	-0.3
NIZA				S	Sn	22 19 59.4	+0.7
CBOC	Ciudad Bolivar	3.01	252	P	Pn	22 19 24.3	+0.2
CBOC				S	Sn	22 20 00.5	-0.3
DBBC	Dabeiba	3.05	274	P	Pn	22 19 24.0	-0.6
DBBC				S	Sn	22 19 59.9	-1.7
ARGC	Ariguani, Magd	3.20	340	P	Pn	22 19 26.1	-0.3
ARGC				S	Sn	22 20 05.0	0.0
SDV	Santo Domingo	3.22	50	P	Pn	22 19 25.6	-1.2
SDV				S	Sn	22 20 03.8	-1.8
PRAC	Prado	3.55	209	P	Pn	22 19 30.3	-0.7
PRAC				S	Sn	22 20 12.2	-0.9
APAC	Apartado, Choc	3.57	288	P	Pn	22 19 30.7	-0.5
APAC				S	Sn	22 20 11.6	-1.9
ORTC	Ortega, Tolima	3.58	216	P	Pn	22 19 30.7	-0.7
ORTC				S	Sn	22 20 14.3	+0.5
SJCC	San Jacinto, C	3.66	327	P	Pn	22 19 30.0	-2.3
SJCC				S	Sn	22 20 12.2	-3.4
PLMC	San Jos del P	3.67	239	P	Pn	22 19 32.2	-0.3
PLMC				S	Sn	22 20 16.1	+0.3
URMC	La Uribe, Meta	3.77	199	P	Pn	22 19 33.1	-0.7
URMC				S	Sn	22 20 18.2	0.0
LCBC	Los crdobas,	3.78	302	P	Pn	22 19 33.4	-0.5
LCBC				S	Sn	22 20 19.1	+0.8
CRJC	Cerrejon, Guaj	4.17	3	P	Pn	22 19 36.4	-2.7
CRJC				S	Sn	22 20 23.2	-4.5
YOTC	Yotoco, Valle	4.26	229	P	Pn	22 19 39.6	-0.8
YOTC				S	Sn	22 20 32.9	+3.0
SMRC	Santa Marta, M	4.44	346	P	Pn	22 19 41.5	-1.0
SMRC				S	Sn	22 20 29.6	-4.3
MACC	Macarena, Meta	4.71	189	P	Pn	22 19 43.6	-2.5
MACC				S	Sn	22 20 36.6	-3.7
MALC	Bahia Malaga	5.03	236	P	Pn	22 19 51.1	+0.7
MALC				S	Sn	22 20 48.3	+1.0
POPC	Popayan, Colom	5.53	220	P	Pn	22 19 59.3	+2.0
	1.8nm,0.5s						
POPC				S	Sn	22 21 00.0	-0.2
	1.8nm,0.5s						
FLOC	Florencia	5.78	206	P	Pn	22 19 59.7	-0.8
	8.1nm,1.0s						
FLOC				S	Sn	22 21 05.8	-0.2
	8.1nm,1.0s						
BBAC	Balboa, Cauca	6.29	221	P	Pn	22 20 07.1	-0.3
BBAC				S	Sn	22 21 19.0	+0.6

AUST 23 22:24:49.9±0.3, 33.°S±2.°×13.°8E±.°, h10km, mb3.5/2, ML2.4/8, MwMwp4.9/1, Mwp5.2/1, Error ellipse: s-maj=5.6km s-min=4.6km az=57.7, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	Jamestown Cent	0.22	45	P	Pg	22 24 55.8	+1.3
AUJCS	Jamestown Cent	0.22	45	S	Sg	22 24 58.9	+1.3
NAPP	Napperby	0.29	307	P	Pg	22 24 56.4	+0.7
HTT	Hallett	0.42	100	P	Pg	22 24 58.9	+0.6
WHYH	Whyalla	0.78	294	P	Pg	22 25 04.7	-0.3
SDAN	Sedan	1.38	147	P	Pn	22 25 15.2	0.0
SDAN				S	Sn	22 25 33.6	+0.1
YAPP	Yappala Statio	1.49	356	P	Pn	22 25 17.1	+0.4
AUMBR	Murray Bridge	1.91	158	P	Pn	22 25 22.7	+0.1
BBOO	Buckleboo	2.06	285	P	Pn	22 25 24.6	0.0
KELC	Kelly Hill Cav	2.90	205	P	Pn	22 25 36.0	-0.1
LCRK	Leigh Creek	2.91	356	P	Pn	22 25 36.6	+0.4
STKA	Stephens Creek	3.06	62	P	Pn	22 25 40.8	+2.4
ARPS	Mount Arapiles	4.41	142	P	Pn	22 25 56.0	-0.9
OOD	Oodnadatta	6.03	336	P	Pn	22 26 19.2	+0.1
	comp=Z,0.0nmcomp=Z,0.0nmcomp=Z,11nm,2.9s						
CMSA	Cobar Meteorol	6.41	76	P	Pn	22 26 24.0	-0.3
	comp=Z,0.1nmcomp=Z,10nm,2.9s						

*CATAC **23** 22:55:40.4±1.6, 12.°N±10.°×8.°8W±.°, h5km±10km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=23.6km s-min=5.2km az=27.1, confirmed*
*SNET **23** 22:55:45.8±0.8, 12.°65N×88.°45W, h30km±3km, ML3.4*

ISC 23 22:55:42.7±1.6, 12.°50N±0.°06×88.°48W±0.°04, h19km±3km, n70, σ0.°72/83, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.82	354	P	Pn	22 55 59.6	+0.3
LCY	Lacayo	0.93	11	*e*P	Pn	22 56 01.2	+0.3
VSM	San Miguel	0.94	12	*e*P	Pn	22 56 01.5	+0.3
RANC	El Ranchito	0.94	12	*e*P	Pn	22 56 01.1	0.0
RANC	El Ranchito	0.94	12	P	Pg	22 56 01.4	+0.2
RANC	El Ranchito	0.94	12	P	Pn	22 56 01.1	0.0
BLLM	Bellamira	0.96	14	*e*P	Pn	22 56 01.2	-0.1
PACA	Pacayal	0.97	9	*e*P	Pg	22 56 01.6	0.0
PACA				*e*S	Sb	22 56 14.1	+0.5
PACA				*e*S	Sg	22 56 14.2	-0.3
PACA	Pacayal	0.97	9	P	Pg	22 56 02.2	+0.5
PACA	Pacayal	0.97	9	P	Pg	22 56 01.7	0.0
TECA	Tecapa	0.98	359	*e*P	Pn	22 56 01.7	-0.1
TECA				*e*P	Pg	22 56 01.9	-0.1
LCND	La Caada	0.99	36	*e*P	Pg	22 56 01.9	0.0
LCND				*e*S	Sb	22 56 13.5	-0.4
LCND	La Caada	0.99	36	P	Pg	22 56 02.0	0.0
LCND	La Caada	0.99	36	P	Pb	22 56 01.5	+0.2
CNCH	Conchagua	0.99	39	*e*P	Pg	22 56 02.7	+0.6
CNCH				*e*S	Sb	22 56 14.7	+0.5
CNCH	Conchagua	0.99	39	P	Pg	22 56 03.5	+1.4
CNCH	Conchagua	0.99	39	P	Pb	22 56 01.4	0.0
TECO	Alcaldia de Te	1.07	344	*e*P	Pb	22 56 02.6	-0.1
TECO				*e*S	Sb	22 56 16.0	-0.2
TECO	Alcaldia de Te	1.07	344	P	Pb	22 56 02.6	-0.1
PQSS	Presa 15 de Se	1.12	356	*e*P	Pb	22 56 03.6	+0.1
PQSS				*e*S	Sb	22 56 17.7	+0.1
PQSS	Presa 15 de Se	1.12	356	P	Pb	22 56 03.7	+0.3
PQSS	Presa 15 de Se	1.12	356	P	Pb	22 56 03.6	+0.1
SNVI	San Vicente	1.16	343	*e*S	Sb	22 56 18.7	-0.2
UESV	Universidad de	1.16	345	*e*P	Pn	22 56 04.1	0.0
UESV				*e*S	Sb	22 56 18.9	-0.1
UESV	Universidad de	1.16	345	P	Pb	22 56 04.4	+0.1
COEG	Centro de Oper	1.18	341	*e*P	Pb	22 56 04.8	+0.3
COEG				*e*S	Sb	22 56 19.3	-0.1
COEG				IAML		22 56 22.6	
	comp=Z,926nm,0.2s						
COEG	Centro de Oper	1.18	341	P	Pb	22 56 04.8	+0.3
COEG	Centro de Oper	1.18	341	P	Pb	22 56 04.7	+0.2
SCLA	Alcaldia de Sa	1.22	349	*e*P	Pb	22 56 05.3	+0.2
SCLA	Alcaldia de Sa	1.22	349	P	Pb	22 56 05.7	+0.5
SCLA	Alcaldia de Sa	1.22	349	P	Pb	22 56 05.4	+0.2
LFRS	El Faro	1.25	333	*i* P	Pb	22 56 05.8	0.0
PAVA	Las Pavas	1.28	340	*e*P	Pb	22 56 06.3	-0.1
PAVA				*e*S	Sn	22 56 22.4	-0.1
PAVA	Las Pavas	1.28	340	P	Pb	22 56 06.4	+0.1
LOMA	Loma Larga	1.32	329	*e*P	Pb	22 56 07.0	0.0
LOMA				*e*S	Sn	22 56 23.4	0.0
LOMA	Loma Larga	1.32	329	P	Pb	22 56 07.2	+0.2
LOMA	Loma Larga	1.32	329	P	Pb	22 56 07.0	0.0
UDBS	Universidad Do	1.37	332	*e*S	Sn	22 56 24.6	0.0
LFU	La Fuente	1.38	334	*e*P	Pb	22 56 08.0	0.0
UESS	Universidad de	1.40	330	*e*P	Pb	22 56 08.3	0.0
UEES	Universidad Ev	1.41	329	P	Pb	22 56 08.3	-0.3
PIC2	El Picacho	1.45	329	*e*P	Pb	22 56 09.2	0.0
PMON	Piamonte	1.45	326	*i* P	Pb	22 56 09.0	-0.2
PMON	Piamonte	1.45	326	P	Pb	22 56 09.1	-0.1
PMON	Piamonte	1.45	326	P	Pb	22 56 08.9	-0.2
BOQS	Boqueron	1.45	328	*e*P	Pb	22 56 09.2	-0.1
PKGN	Cerro Pekin	1.48	83	P	Pn	22 56 08.7	+0.4
JAYA	Jayaque - finc	1.48	321	*e*P	Pb	22 56 09.2	-0.6
JAYA	Jayaque - finc	1.48	321	P	Pb	22 56 09.1	-0.6
CHOHN	Orocuina	1.61	53	P	Pn	22 56 09.8	-0.6
CHOHN	Orocuina	1.61	53	P	Pn	22 56 09.7	-0.6
PLRN	Geotermica Pol	1.68	87	P	Pn	22 56 08.2	-2.9
LLGN	La Laguna	1.71	345	P	Pg	22 56 15.4	-0.3
CEVE	Cerro Verde	1.72	320	*e*P	Pb	22 56 13.4	-0.6
CEVE				*e*S	Sb	22 56 35.7	+0.4
CEVE				IAML		22 56 39.5	
	comp=Z,333nm,0.2s						
CEVE	Cerro Verde	1.72	320	P	Pb	22 56 13.2	-0.7
SBLS	San Blas	1.73	320	*e*P	Pb	22 56 13.6	-0.5
SNJE	San Jose	1.74	321	*e*P	Pb	22

comp=Z,155nm,0.3s
VA01 Torpederas 1.95 181 *eP* **Pn 23 06 54.5 +0.3**
VA01 IAML 23 07 18.9
comp=E,564nm,0.2s
ROCH El Roble 1.97 165 ||*iP* **Pn 23 06 54.9 +0.3**
ROCH IAML 23 07 23.1
comp=N,818nm,0.5s
AROD Rodeo 2.05 65 *iP* **Pn 23 06 57.5 +1.6**
AROD *eS* **Sn 23 07 22.0 +1.6**
RTLS Leoncito 2.11 111 *iP* **Pn 23 06 57.8 +1.2**
RTLS *eS* **Sn 23 07 22.6 +0.8**
RTLS IAML 23 07 23.7
comp=Z,3µm,0.3s
LCO Las Campanas 2.19 21 *iP* **Pn 23 06 57.9 +0.1**
LCO IAML 23 07 26.9
comp=Z,928nm,0.2s
LCO Las Campanas 2.19 21 *eP* **Pn 23 06 58.5 +0.7**
LCO *eS* **Sn 23 07 23.5 -0.5**
PEL Peldehue 2.21 159 ||*iP* **Pn 23 06 58.0 +0.2**
PEL IAML 23 07 27.7
comp=E,401nm,0.3s
MT02 Curacav 2.22 170 *iP* **Pn 23 06 57.0 -0.8**
MT02 IAML 23 07 29.4
comp=Z,154nm,0.2s
MT02 Curacav 2.22 170 *eP* **Pn 23 06 57.7 -0.2**
ACCO Cerro Coronel 2.24 78 *iP* **Pn 23 07 00.0 +1.6**
ACDV Cuesta del Vie 2.33 68 *iP* **Pn 23 06 59.0 -0.5**
ACDV IAML 23 07 33.7
comp=Z,156nm,0.2s
MT10 Hacienda Santa 2.38 158 *eP* **Pn 23 07 00.6 +0.4**
MT10 *eS* **Sn 23 07 27.4 -0.9**
MT10 IAML 23 07 34.3
comp=N,744nm,0.6s
MT05 Renca 2.43 163 *iP* **Pn 23 07 00.6 -0.2**
MT05 IAML 23 07 36.0
comp=Z,228nm,0.1s
MT05 Renca 2.43 163 *eP* **Pn 23 07 01.3 +0.5**
MT05 IAML 23 07 39.2
comp=E,884nm,0.1s
MT14 Cerro Calı¡n 2.50 159 *eP* **Pn 23 07 02.2 +0.6**
MT14 IAML 23 07 45.2
comp=E,671nm,0.3s
FCH Farellones 2.52 154 *eP* **Pn 23 07 02.8 +0.6**
FCH IAML 23 07 38.6
comp=N,360nm,0.2s
MT16 CCHEN 2.53 159 *eP* **Pn 23 07 02.5 +0.4**
MT16 IAML 23 07 44.5
comp=E,210nm,0.5s
VA05 Santo Domingo 2.58 180 *eP* **Pn 23 07 03.0 +0.3**
VA05 IAML 23 07 33.4
comp=E,542nm,0.2s
MT03 Universidad Ad 2.59 159 *iP* **Pn 23 07 03.0 0.0**
MT03 IAML 23 07 47.3
comp=Z,316nm,0.4s
MT03 Universidad Ad 2.59 159 *eP* **Pn 23 07 03.4 +0.4**
MT03 IAML 23 07 48.4
comp=E,1µm,0.4s
MT04 Ro Olivares 2.65 152 *iP* **Pn 23 07 04.5 +0.7**
MT04 IAML 23 07 42.4
comp=Z,164nm,0.3s
MT04 Ro Olivares 2.65 152 *eP* **Pn 23 07 05.1 +1.2**
MT04 IAML 23 07 41.1
comp=E,282nm,0.1s
MT15 Las Vizcachas 2.69 160 *eP* **Pn 23 07 04.7 +0.4**
MT08 Bocatoma Ro 2.73 151 *iP* **Pn 23 07 06.6 +1.6**
MT08 IAML 23 07 45.0
comp=Z,117nm,0.4s
MT01 Popeta 2.81 174 *iP* **Pn 23 07 05.4 -0.4**
MT01 IAML 23 07 53.8
comp=Z,176nm,0.3s
ASAL Salagasta 2.81 123 *iP* **Pn 23 07 08.3 +2.3**
ASAL IAML 23 08 03.8
comp=Z,74nm,0.4s
AC04 Llanos de Chal 2.89 9 *iP* **Pn 23 07 06.8 -0.1**
AC04 IAML 23 07 55.4
comp=Z,149nm,0.8s
MT13 San Alfonso 2.90 158 *iP* **Pn 23 07 07.8 +0.6**
MT13 IAML 23 07 51.8
comp=Z,122nm,0.2s
LMEL Las Melosas 3.02 157 *iP* **Pn 23 07 09.5 +0.7**
AAGR Agrelo 3.10 131 *iP* **Pn 23 07 12.7 +2.7**
AAGR IAML 23 07 53.2
comp=Z,112nm,0.3s
AGUA GUANDACOL 3.12 61 *iP* **Pn 23 07 13.3 +3.1**
AGUA IAML 23 07 54.8
comp=Z,157nm,0.2s
BO01 Tunca 3.34 173 *iP* **Pn 23 07 12.6 -0.5**
BO01 IAML 23 08 09.2
comp=Z,61nm,1.0s
BO02 Sierra Bellavi 3.78 170 *iP* **Pn 23 07 18.9 -0.3**
BO02 IAML 23 08 06.8
comp=Z,189nm,0.1s
ACLC CERRO LA CRUZ 4.35 69 *iP* **Pn 23 07 27.6 +0.5**
ACLC IAML 23 08 21.2
comp=Z,53nm,0.3s
APLL PUNTA DE LOS L 4.43 83 *iP* **Pn 23 07 28.0 -0.1**
APLL IAML 23 08 21.3
comp=Z,8.8nm,0.5s
AC02 Maricunga 4.74 28 *iP* **Pn 23 07 32.9 +0.1**
AC02 IAML 23 09 01.6
comp=Z,56nm,0.5s
AC01 Pan de Azucar 4.98 11 *iP* **Pn 23 07 34.4 -1.2**
AC01 IAML 23 09 13.4
comp=Z,42nm,1.9s

SJA 23 23:30:51.7±0.6, 27.05S×64.69W, h7km±9km, ML3.7, MW3.3, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.49**	**309**	*eP*	Pg	23 31 20.3	+0.1
FSA				*eS*	Sg	23 31 39.4	-0.1
CYA	**Choya**	**1.70**	**215**	*eP*	Pg	23 31 24.1	-0.3
CYA				*eS*	Sg	23 31 47.9	+1.4
CYA				IAML		23 31 49.0	
comp=Z,786nm,0.5s							
SLA	**San Lorenzo**	**2.43**	**342**	*eP*	Pb	23 31 34.9	-0.9
SLA				IAML		23 32 24.3	
comp=Z,310nm,0.8s							
AZAP	**Zapla**	**2.83**	**353**	*eP*	Pn	23 31 39.7	+2.2
AZAP				*eS*	Sg	23 32 21.4	-1.4
AZAP				IAML		23 32 27.0	
comp=Z,873nm,0.3s							
ACLC	**CERRO LA CRUZ**	**3.10**	**220**	*eP*	Pn	23 31 43.2	+2.0
ACLC				*eS*	Sb	23 32 25.2	-0.1
SALTA		**3.18**	**332**	*eP*	Pb	23 31 46.9	-2.0
SALTA				*eP*	Pn	23 31 47.1	+4.5
ALOL	**LOMAS DE OLMED**	**3.28**	**11**	*eP*	Pn	23 31 46.8	+3.2
VCA	**Vinchina**	**3.54**	**241**	*eP*	Pn	23 31 50.8	+3.6
VCA				*eS*	Sg	23 32 46.7	+1.3
VCA				IAML		23 32 50.0	
comp=Z,180nm,0.2s							
APLL	**PUNTA DE LOS L**	**3.71**	**205**	*eP*	Pn	23 31 51.4	+2.0
APLL				*eS*	Sb	23 32 44.2	+1.5
AGUA	**GUANDACOL**	**4.14**	**233**	*eP*	Pn	23 31 59.0	+3.6
AGUA				IAML		23 33 08.7	
comp=Z,60nm,0.2s							
TCA	**Tanti**	**4.28**	**179**	*eP*	Pn	23 32 00.2	+2.9
TCA				*eS*	Sg	23 33 04.2	-4.9
TCA				IAML		23 33 16.4	
comp=Z,78nm,0.4s							
ACCO	**Cerro Coronel**	**5.21**	**226**	*eP*	Pn	23 32 13.5	+3.1
AROD	**Rodeo**	**5.23**	**232**	*eP*	Pn	23 32 15.7	+5.0
AROD				*eS*	Sb	23 33 29.1	+2.2

*NEIC **23** 23:31:38.9±1.0, 51.8N±0.2×177.8E±0.2, h96km±12km, mb4.0/47, ML3.1(AEIC), Error ellipse: s-maj=28.0km s-min=13.9km az=169.0*
*IDC **23** 23:31:40.0±2.5, 51.83N×178.08E, h106km±16km, mb3.2/12, mbtmp3.7/14, MS3.5/2, Error ellipse: s-maj=46.7km s-min=13.5km az=4.0*
*AEIC **23** 23:31:41.7±2.5, 52.0N±0.1×177.8E±0.1, h70km±7km, Error ellipse: s-maj=18.1km s-min=6.3km az=216.0*
ISC 23 23:31:40.5±1.1, 51.8N±0.2×178.03E±0.05, h112km, n79, σ0.79/76, mb4.0/27, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.59**	**293**	P	**Pn**	**23 32 21.7**	**+0.7**
30nm,0.3s,baz=102,slow=5.7,SNR=12							
SHEM				S	**Sn**	**23 32 52.1**	**0.0**
84nm,0.3s,baz=272,slow=18,SNR=28							

KIWB	**Kanaga Island**	**2.99**	**87**	Pn	**Pn**	**23 32 26.3**	**0.0**
KIWB				Sn	**Sn**	**23 33 01.7**	**0.0**
ADK	**Adak**	**3.28**	**86**	Pn	**Pn**	**23 32 30.1**	**0.0**
ADK				Sn	**Sn**	**23 33 09.5**	**+0.9**
ATKA	**Atka Island**	**4.82**	**82**	Pn	**Pn**	**23 32 50.4**	**-0.4**
L14K	**Kuka Creek**	**14.24**	**40**	Pn	**Pn**	**23 34 57.8**	**+1.2**
K15K	**Wolf Creek Mou**	**15.22**	**38**	Pn	**Pn**	**23 35 09.4**	**+0.3**
K15K				IAmb	IAmb	23 35 19.7	
comp=Z,20nm,1.4s							
TNA	**Tin City**	**15.55**	**22**	Pn	**Pn**	**23 35 11.5**	**-1.7**
TNA				IAmb	IAmb	23 35 19.5	
comp=Z,9.1nm,1.1s							
M17K	**Holitna River**	**16.48**	**45**		**Pn**	**23 35 24.8**	**+0.1**
K17K	**Iditarod**	**16.72**	**40**		**Pn**	**23 35 27.3**	**-0.3**
G16K	**Koyuk River**	**16.92**	**29**	Pn	**Pn**	**23 35 28.5**	**-1.5**
O18K	**Koktuh Hills**	**16.96**	**51**		**Pn**	**23 35 31.4**	**+0.8**
L18K	**Granite Mounta**	**17.15**	**43**		**P**	**23 35 33.2**	**+0.4**
OHAK	**Old Harbor**	**17.44**	**61**	P	**P**	**23 35 35.2**	**-0.7**
OHAK				IAmb	IAmb	23 36 04.8	
comp=Z,19nm,1.3s							
Q19K	**Cape Douglas,**	**17.51**	**55**	P	**P**	**23 35 37.7**	**+0.9**
N19K	**Bonanza Creek**	**17.59**	**48**	P	**P**	**23 35 39.0**	**+1.3**
N19K				IAmb	IAmb	23 36 16.1	
comp=Z,12nm,1.2s							
KDAK	**Kodiak Island**	**17.88**	**59**	P	**P**	**23 35 39.6**	**-1.2**
KDAK	**Kodiak Island**	**17.88**	**59**	P	**P**	**23 35 39.6**	**-1.2**
comp=Z,3.2nm,0.4s,baz=61,slow=2.1,SNR=15							
M19K	**Big River Lodg**	**18.01**	**45**	P	**P**	**23 35 43.0**	**+0.8**
M19K				IAmb	IAmb	23 36 00.8	
comp=Z,18nm,1.4s							
C16K	**Lisburne Hills**	**18.38**	**20**	P	**P**	**23 35 46.5**	**+0.3**
C16K				IAmb	IAmb	23 35 50.5	
comp=Z,14nm,1.4s							
K20K	**Telida**	**18.73**	**41**	P	**P**	**23 35 51.3**	**+1.2**
K20K				IAmb	IAmb	23 35 52.0	
comp=Z,12nm,1.4s							
CNPM	**China Poot**	**18.84**	**54**	P	**P**	**23 35 51.9**	**+0.5**
E18K	**Tukpahlearik C**	**18.86**	**26**		**P**	**23 35 51.6**	**+0.2**
BRLK	**Bradley Lake**	**19.06**	**53**	P	**P**	**23 35 54.0**	**+0.3**
C18K	**Utukok River**	**19.61**	**23**	P	**P**	**23 35 59.3**	**-0.4**
SEW	**Seward**	**19.83**	**53**	P	**P**	**23 36 01.8**	**-0.2**
H21K	**Melozitna Rive**	**20.27**	**36**	P	**P**	**23 36 07.5**	**+0.7**
H21K				IAmb	IAmb	23 36 11.9	
comp=Z,4.2nm,0.8s							
PWL	**Port Wells**	**20.52**	**51**	P	**P**	**23 36 09.6**	**+0.2**
PWL				IAmb	IAmb	23 36 22.1	
comp=Z,7.0nm,1.2s							
F21K	**Alatna River**	**20.86**	**31**	P	**P**	**23 36 13.3**	**+0.3**
F21K				IAmb	IAmb	23 36 17.8	
comp=Z,4.9nm,0.8s							
NEA2	**Nenana**	**21.24**	**40**	P	**P**	**23 36 17.8**	**+0.6**
NEA2				IAmb	IAmb	23 36 18.9	
comp=Z,4.3nm,0.6s							
B20K	**Meade River**	**21.59**	**23**	P	**P**	**23 36 20.6**	**-0.1**
G23K	**Bananza Creek**	**21.77**	**35**	P	**P**	**23 36 22.3**	**-0.4**
G23K				IAmb	IAmb	23 36 25.9	
comp=Z,8.8nm,1.3s							
H24K	**Noodor Dome**	**22.18**	**38**	P	**P**	**23 36 28.3**	**+1.2**
H24K				IAmb	IAmb	23 36 31.0	
comp=Z,12nm,1.4s							
ILAR	**Eielson Array**	**22.19**	**41**	P	**P**	**23 36 27.0**	**-0.1**
comp=Z,0.6nm,0.5s,baz=243,slow=9.0,SNR=23							
comp=Z,0.6nm,0.5s							
E23K	**Chandalar**	**22.56**	**32**	P	**P**	**23 36 31.6**	**+0.6**
E23K				IAmb	IAmb	23 36 33.6	
comp=Z,3.1nm,0.6s							
G24K	**Hadweenzic Riv**	**22.67**	**36**	P	**P**	**23 36 32.3**	**+0.3**
D23K	**Nanushuk River**	**22.70**	**29**	P	**P**	**23 36 33.1**	**+0.8**
BERG	**Berg Lake**	**22.71**	**53**	P	**P**	**23 36 33.3**	**+0.8**
F24K	**Squaw Lake**	**22.88**	**34**	P	**P**	**23 36 35.2**	**+1.1**
F24K				IAmb	IAmb	23 36 37.3	
comp=Z,3.6nm,0.7s							
SCRK	**Sand Creek**	**23.17**	**44**	P	**P**	**23 36 36.4**	**-0.6**
L26K	**Log Cabin Wild**	**23.25**	**46**	P	**P**	**23 36 38.1**	**+0.5**
L26K				IAmb	IAmb	23 36 41.0	
comp=Z,8.0nm,1.3s							
D24K	**Happy Valley**	**23.37**	**30**	P	**P**	**23 36 38.8**	**+0.2**
D24K				IAmb	IAmb	23 36 40.5	
comp=Z,4.9nm,0.8s							
J26L	**Joseph Creek**	**23.48**	**42**	P	**P**	**23 36 39.7**	**0.0**
J26L				IAmb	IAmb	23 36 41.0	
comp=Z,4.0nm,0.7s							
M27K	**Edge Creek, AK**	**23.81**	**48**	P	**P**	**23 36 44.5**	**+1.7**
L27K	**Beaver Creek,**	**23.94**	**46**	P	**P**	**23 36 45.4**	**+1.6**
L27K				IAmb	IAmb	23 36 46.7	
comp=Z,6.6nm,0.8s							
BCAR	**Beaver Creek A**	**23.95**	**46**	P	**P**	**23 36 45.6**	**+1.5**
BMAR	**Burnt Mountain**	**24.00**	**35**	P	**P**	**23 36 44.4**	**0.0**
F26K	**Sheenjek River**	**24.26**	**35**	P	**P**	**23 36 47.9**	**+1.2**
F26K				IAmb	IAmb	23 36 50.1	
comp=Z,5.5nm,0.7s							
I28M	**Miner Creek**	**25.20**	**41**	P	**P**	**23 36 55.4**	**+0.1**
HYT	**Haines Junctio**	**25.79**	**52**	P	**P**	**23 37 02.6**	**+1.9**
HYT				IAmb	IAmb	23 37 47.9	
comp=Z,5.5nm,1.2s							
A36M	**Sachs Harbour**	**31.69**	**30**	P	**P**	**23 37 53.8**	**+1.0**
A36M				IAmb	IAmb	23 37 55.1	
comp=Z,3.6nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**33.17**	**199**	T	T	00 13 29.1	
baz=11,slow=76,SNR=6.7							
H11N3	**WAKE ISLAND Hy**	**33.18**	**199**	T	T	00 13 47.4	
baz=11,slow=76,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**33.19**	**199**	T	T	00 13 44.9	
baz=11,slow=76,SNR=8.1							
H11S1	**WAKE ISLAND Hy**	**34.40**	**199**	T	T	00 15 11.8	
baz=10							
H11S3	**WAKE ISLAND Hy**	**34.42**	**199**	T	T	00 15 10.0	
baz=10							
H11S2	**WAKE ISLAND Hy**	**34.42**	**199**	T	T	00 15 18.7	
baz=10							
YKA	**Yellowknife Ar**	**36.37**	**46**	P	**P**	**23 38 33.9**	**+0.5**
comp=Z,0.3nm,0.7s,baz=281,slow=8.5,SNR=5.0							
comp=Z,0.3nm,0.7s							
SONM	**Songino Array**	**44.68**	**295**	P	**P**	**23 39 42.6**	**+0.7**
comp=Z,0.2nm,0.7s,baz=46,slow=8.3,SNR=2.3							
comp=Z,0.2nm,0.7s							
NVAR	**Mina Array Bea**	**45.45**	**81**	P	**P**	**23 39 48.3**	**0.0**
comp=Z,0.3nm,0.5s,baz=312,slow=9.8,SNR=2.6							
comp=Z,0.3nm,0.5s							
PDAR	**Pinedale Array**	**48.05**	**71**	P	**P**	**23 40 08.3**	**-0.2**
comp=Z,0.3nm,0.7s,baz=311,slow=8.5,SNR=3.8							
comp=Z,0.3nm,0.7s							
KURK	**Kurchatov**	**57.28**	**312**	P	**P**	**23 41 15.0**	**-1.0**
KURK				IAmb	IAmb	23 41 29.9	
comp=Z,2.0nm,1.0s							
KURBB	**Kurchatov Arra**	**57.39**	**312**	P	**P**	**23 41 17.1**	**+0.3**
comp=Z,0.8nm,0.5s,baz=42,slow=6.7,SNR=11							
comp=Z,0.8nm,0.5s							
MKAR	**Makanchi Array**	**58.21**	**306**	P	**P**	**23 41 21.4**	**-1.2**
MKAR	**Makanchi Array**	**58.21**	**306**	P	**P**	**23 41 22.4**	**-0.2**
comp=Z,0.2nm,0.5s,baz=46,slow=6.5,SNR=6.1							
comp=Z,0.2nm,0.5s							
BVAR	**Borovoye Array**	**59.27**	**318**	P	**P**	**23 41 30.4**	**+0.7**
comp=Z,2.0nm,0.5s,baz=48,slow=6.7,SNR=15							
comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**59.29**	**318**	P	**P**	**23 41 29.9**	**0.0**
TX31	**Lajitas Ar. Si**	**60.53**	**79**	P	**P**	**23 41 38.9**	**0.0**
TXAR	**Lajitas Array**	**60.53**	**79**	P	**P**	**23 41 38.5**	**-0.4**
TXAR	**Lajitas Array**	**60.53**	**79**	P	**P**	**23 41 37.5**	**-1.4**
comp=Z,0.2nm,0.5s,baz=277,slow=5.2,SNR=4.3							
comp=Z,0.2nm,0.5s							
FIA1	**FINESS Array S**	**64.91**	**346**	P	**P**	**23 42 07.6**	**+0.4**
FINES	**FINESS Array B**	**64.91**	**346**	P	**P**	**23 42 07.5**	**+0.2**
FINES	**FINESS Array B**	**64.91**	**346**	P	**P**	**23 42 06.5**	**-0.8**
comp=Z,2.3nm,0.9s,baz=22,slow=6.2,SNR=4.6							
comp=Z,2.3nm,0.9s							
AB31	**Akbulak array**	**66.39**	**321**	P	**P**	**23 42 16.6**	**-0.3**
AB31				IAmb	IAmb	23 42 55.6	
comp=Z,3.0nm,1.5s							
ABKAR	**Akbulak array**	**66.39**	**321**	P	**P**	**23 42 16.9**	**0.0**
ABKAR	**Akbulak array**	**66.39**	**321**	P	**P**	**23 42 16.3**	**-0.6**
ABKAR				IAmb	IAmb	23 42 55.6	
comp=Z,3.0nm,1.5s							
KKAR	**Karatay Array**	**66.62**	**310**	P	**P**	**23 42 17.9**	**-0.7**
NOA	**NORSAR Array B**	**67.02**	**353**	P	**P**	**23 42 20.3**	**-0.6**
comp=Z,0.3nm,0.6s,baz=9.5,slow=6.4,SNR=1.1							
comp=Z,0.3nm,0.6s							
HFS	**Hagfors**	**67.71**	**352**	P	**P**	**23 42 24.7**	**-0.5**
comp=Z,1.8nm,0.9s,baz=11,slow=3.0,SNR=5.2							
comp=Z,1.8nm,0.9s							
BRTR	**Keskin Array B**	**83.71**	**333**	P	**P**	**23 43 57.0**	**+0.3**

RSNC 23 23:41:10.3±0.0, 7.7N±1.1×7.3W±.1, h146km±2km, M2.1, mB5.5, ML2.0, Mw(mB)5.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.18**	**196**	P	Pn	23 41 29.8	-0.6
BARC				S	Sn	23 41 45.2	-0.4
BRJC	**Barrancabermej**	**0.64**	**288**	P	Pn	23 41 31.6	-0.4
BRJC				S	Sn	23 41 48.6	+0.1
PAMC	**Pamplona, Colo**	**0.71**	**37**	P	Pn	23 41 32.8	-0.2
PAMC				S	Sn	23 41 50.2	-0.1
RUSC	**La Rusia**	**0.87**	**177**	P	Pn	23 41 33.7	-0.6
RUSC				S	Sn	23 41 51.7	-0.7
PTBC	**PUERTO BERRIO,**	**1.34**	**260**	P	Pn	23 41 36.7	-1.2
PTBC				S	Sn	23 41 58.0	-0.9
TAMC	**Tame, Arauca**	**1.37**	**104**	P	Pn	23 41 37.5	-0.8
TAMC				S	Sn	23 41 59.3	-0.3
OCAC	**Ocana**	**1.47**	**353**	P	Pn	23 41 39.0	-0.5
OCAC				S	Sn	23 42 00.7	-1.1
ZARC	**Zaragoza, Cauc**	**1.86**	**293**	P	Pn	23 41 43.8	+0.2
ZARC				S	Sn	23 42 09.3	+0.2
NORC	**Norcasia**	**2.10**	**235**	P	Pn	23 41 46.3	-0.2
NORC				S	Sn	23 42 13.0	-1.3
CHIC	**Chingaza**	**2.21**	**196**	P	Pn	23 41 47.8	-0.3
CHIC				S	Sn	23 42 17.1	-0.1
CBOC	**Ciudad Bolivar**	**3.00**	**253**	P	Pn	23 41 58.8	+1.1
CBOC				S	Sn	23 42 33.0	-1.3
DBBC	**Dabeiba**	**3.07**	**275**	P	Pn	23 41 58.6	+0.1
DBBC				S	Sn	23 42 35.4	-0.3
PRAC	**Prado**	**3.50**	**210**	P	Pn	23 42 04.2	+0.1
PRAC				S	Sn	23 42 45.5	-0.2
SJCC	**San Jacinto, C**	**3.71**	**327**	P	Pn	23 42 04.1	-2.6
SJCC				S	Sn	23 42 47.1	-3.4
URMC	**La Uribe, Meta**	**3.71**	**200**	P	Pn	23 42 06.7	-0.1
URMC				S	Sn	23 42 50.5	-0.2
MALC	**Bahia Malaga**	**5.00**	**237**	P	Pn	23 42 23.0	-0.7
MALC				S	Sn	23 43 20.7	-0.3

IDC 23 23:41:25.9±2.5, 3.72N×126.82E, h0km, mb3.5/3, mbtmp3.5/3, MS3.1/1, Error ellipse: s-maj=217.9km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.19**	**219**	LR	LR	23 48 39.6	
comp=Z,98nm,18.2s,baz=206,slow=39							
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	23 46 48.0	-0.5
1.1nm,0.7s,baz=342,slow=11,SNR=6.6							
1.1nm,0.7s							
ASAR	**Alice Springs**	**28.09**	**166**	P	P	23 47 20.3	+0.8
0.2nm,0.3s,baz=339,slow=8.8,SNR=1.8							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	23 51 17.7	-0.2
0.1nm,0.4s,baz=118,slow=8.1,SNR=4.9							
0.1nm,0.4s							

*PGC **23** 23:43:01.0±3.6, 50.19N×130.28W, h10km, MLSn3.4/22, Mw4.4, 202km west of Port Alice, Bc Vancouver Island, Canada Region*
*IDC **23** 23:43:01.8±0.9, 50.39N×130.22W, h0km, mb3.7/6, mbtmp3.7/15, ML3.6/8, MS3.4/26, Error ellipse: s-maj=17.1km s-min=10.8km az=68.0*
ISC 23 23:43:03.0±2.7, 50.33N±0.06×130.06W±0.07, h9km±17km, n69, σ1.48/46, mb3.8/6, MS3.4/18, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**75**	P	Pn	23 43 25.2	-1.9
HOLB				S	**Sg**	**23 43 41.9**	**-2.0**
BPEB	**Brooks Peninsu**	**1.48**	**96**	Pn	Pn	23 43 26.8	-3.1
PACB	**Port Alice, BC**	**1.65**	**85**	Pn	Pn	23 43 29.5	-2.6
PACB				Sn	Sn	23 43 49.3	-4.1
PHC	**Port Hardy**	**1.72**	**76**	Pn	**Pn**	**23 43 31.4**	**-1.8**
PHC				Sn	**Sn**	**23 43 52.5**	**-2.7**
MAYB	**Maynard**	**1.85**	**87**	Pn	Pn	23 43 32.9	-2.2
JEDB	**Jedway, Haida**	**2.09**	**341**	Pn	Pn	23 43 35.4	-2.8
BBB	**Bella Bella**	**2.23**	**33**	Pn	**Pn**	**23 43 39.0**	**-1.1**
30nm,0.3s,baz=226,slow=5.7,SNR=115							
BBB				Sn	**Sn**	**23 44 06.1**	**-1.5**
31nm,0.3s,baz=40,slow=20,SNR=12							
BBB				LR	LR	23 44 37.1	
comp=Z,576nm,18.2s,baz=231,slow=43							
107nm,0.4s							
BBB	**Bella Bella**	**2.23**	**33**	Pn	**Pn**	**23 43 39.0**	**-1.1**
BBB				Sn	**Sn**	**23 44 05.8**	**-1.8**
WOSB	**Woss**	**2.25**	**93**	Pn	**Pn**	**23 43 38.6**	**-1.9**
BAIB	**Barry Inlet**	**2.49**	**335**	Pn	Pn	23 43 40.6	-3.1
NCRB	**Newcastle Ridg**	**2.57**	**87**	Pn	**Pn**	**23 43 43.5**	**-1.4**
NCSB	**Newcastle Ridg**	**2.57**	**87**	Pn	**Pn**	**23 43 43.6**	**-1.3**
NCSB				Sn	**Sn**	**23 44 14.2**	**-2.1**
GDR	**Gold River**	**2.66**	**100**	Pn	Pn	23 43 43.2	-2.7
BUTB	**Butedale**	**2.91**	**19**	Pn	**Pn**	**23 43 49.4**	**-0.2**
BUTB				Sn	**Sn**	**23 44 24.6**	**-0.1**
CBB	**Campbell River**	**3.04**	**94**	Pn	**Pn**	**23 43 49.9**	**-1.3**
MOBC	**Moresby Island**	**3.06**	**338**	Pn	**Pn**	**23 43 49.6**	**-2.0**
GRIB	**Gribbell Islan**	**3.07**	**10**	Pn	**Pn**	**23 43 50.9**	**-0.7**
BNAB	**Bonilla**	**3.19**	**354**	Pn	**Pn**	**23 43 51.9**	**-1.4**
DI2B	**Dawson Inlet**	**3.24**	**333**	Pn	**Pn**	**23 43 51.7**	**-2.4**
DIB	**Dawson Inlet,**	**3.24**	**333**	Pn	**Pn**	**23 43 51.3**	**-2.7**
OZB	**Mount Ozzard**	**3.27**	**113**	Pn	**Pn**	**23 43 53.1**	**-1.4**
GRNB	**Grenville Isla**	**3.52**	**1**	Pn	**Pn**	**23 43 56.7**	**-1.2**
TXB	**Texada**	**3.68**	**98**	Pn	**Pn**	**23 43 59.8**	**-0.3**
PCLB	**Port Clements**	**3.71**	**337**	Pn	**Pn**	**23 43 58.0**	**-2.6**
MGRB	**Mount Grey**	**3.73**	**109**	Pn	**Pn**	**23 44 00.2**	**-0.7**
KITB	**Kitimat**	**3.86**	**13**	Pn	**Pn**	**23 44 02.4**	**0.0**
UBRB	**Upper Baezaeko**	**4.52**	**53**	Pn	**Pn**	**23 44 13.2**	**+1.5**
UBRB				Sn	**Sn**	**23 45 05.3**	**+0.8**
LLLB	**Lillooet**	**5.23**	**84**	Pn	**Pn**	**23 44 20.7**	**-0.8**
FSJB	**Fort St James**	**5.44**	**38**	P	**Pn**	**23 44 25.2**	**+1.0**
T35M	**Bob Quinn**	**6.67**	**359**	P	**Pn**	**23 44 42.8**	**+1.8**
B08A	**Colville Reser**	**7.28**	**102**	P	**Pn**	**23 44 49.1**	**-0.5**
DLBC	**Dease Lake**	**8.12**	**0**	Pn	**Pn**	**23 45 00.7**	**-0.4**
0.4nm,0.3s,baz=170,slow=14,SNR=5.0							
DLBC				Sn	**Sn**	**23 46 32.7**	**-0.3**
baz=177,slow=16							
DLBC				LR	LR	23 47 58.1	
comp=Z,172nm,18.7s,baz=232,slow=37							
1.3nm,0.3s							
NEW	**Newport**	**8.71**	**99**	Pn	**Pn**	**23 45 08.9**	**-0.2**
0.3nm,0.3s,baz=289,slow=16,SNR=2.9							
NEW				LR	LR	23 48 29.1	
comp=Z,411nm,18.0s,baz

comp=Z,44nm,20.2s,baz=38,slow=38
0.6nm,0.9s
LPIG La Paz 30.35 142 LR LR 00 02 06.0
comp=Z,50nm,19.1s,baz=34,slow=38
SADO Sadowa 34.25 79 LR LR 00 04 00.2
comp=Z,114nm,20.9s,baz=100,slow=37
FRB Frobisher Bay 34.57 44 LR LR 00 04 41.6
comp=Z,67nm,19.1s,baz=305,slow=38
TKL Tuckaleechee C 36.28 96 LR LR 00 05 26.6
comp=Z,129nm,18.5s,baz=288,slow=37
SFJD Kangerlussuaq 41.24 36 LR LR 00 05 58.2
comp=Z,84nm,20.9s,baz=357,slow=33
PETK Petropavlovsk- 43.09 303 LR LR 00 05 28.0
comp=Z,40nm,21.0s,baz=67,slow=31
MA2 Magadan 43.77 314 LR LR 00 10 07.7
comp=Z,45nm,18.6s,baz=68,slow=37
TIXI Tiksi 46.44 335 LR LR 00 11 03.8
comp=Z,47nm,18.6s,baz=0.5,slow=36
YAK Yakutsk 51.45 324 LR LR 00 13 56.7
comp=Z,46nm,19.0s,baz=303,slow=36
H11N2 WAKE ISLAND Hy 57.91 262 T T 00 55 39.7
baz=42,slow=76,SNR=41
H11N3 WAKE ISLAND Hy 57.91 262 T T 00 55 34.3
baz=42,slow=76,SNR=46
H11N1 WAKE ISLAND Hy 57.92 262 T T 00 55 25.2
baz=42,slow=76,SNR=42
KLR Kul'dur 58.68 311 LR LR 00 18 55.8
comp=Z,25nm,19.0s,baz=342,slow=37
H11S1 WAKE ISLAND Hy 58.93 262 T T 00 56 52.4
baz=42,slow=76,SNR=6.8
H11S2 WAKE ISLAND Hy 58.94 262 T T 00 56 54.5
baz=42,slow=76,SNR=5.2
H11S3 WAKE ISLAND Hy 58.95 262 T T 00 56 53.7
baz=42,slow=76,SNR=7.6
ARCES ARCESS Array B 59.11 10 LR LR 00 19 34.1
comp=Z,49nm,18.3s,baz=268,slow=37
SJG San Juan 59.65 98 LR LR 00 20 03.6
comp=Z,32nm,18.4s,baz=102,slow=37
NOA NORSAR Array B 64.71 20 LR LR 00 21 52.5
comp=Z,23nm,20.2s,baz=330,slow=36
ROSC El Rosal 64.92 115 LR LR 00 25 22.1
comp=Z,36nm,20.6s,baz=79,slow=39
SONM Songino Array 70.81 324 P **P 23 54 18.6 -1.1**
0.2nm,0.3s,baz=17,slow=6.0,SNR=2.2
0.2nm,0.3s
ZALV Zalesovo Beam 72.04 339 P **P 23 54 26.2 -0.6**
0.4nm,0.4s,baz=37,slow=9.8,SNR=2.4
ZALV LR LR 00 30 24.7
comp=Z,38nm,19.6s,baz=342,slow=40
0.4nm,0.4s
KURBB Kurchatov Arra 76.51 342 P **P 23 54 52.3 -0.7**
0.7nm,0.8s,baz=19,slow=5.9,SNR=5.7
0.7nm,0.8s
MKAR Makanchi Array 79.30 338 P **P 23 55 08.5 -0.1**
0.8nm,0.6s,baz=27,slow=5.0,SNR=11
0.8nm,0.6s

---

*NEIC **23** 23:50:34.9±1.4, 38°.88N±0°.03×111°.46W±0°.05, h5km±6km,*
Error ellipse: s-maj=6.1km s-min=2.4km az=119.0
UUSS 23 23:50:34.9±1.2, 38°.85N±0°.03×111°.42W±0°.05, h1km±2km,
ML2.7/13, **ML2.7**/94(NEIC), **Error ellipse: s-maj=6.6km**
s-min=2.3km az=128.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT	**Old Woman Plat**	**0.07**	**182**		Pg	23 50 36.7	+0.4
Q16A	**Castle Valley**	**0.21**	**70**	Pg	Pg	23 50 39.0	+0.1
Q16A				IAML		23 50 42.5	
	comp=N,2μm,0.6s						
Q16A				IAML		23 50 44.7	
	comp=E,2μm,0.5s						
SGU	**Sterling**	**0.38**	**333**		Pg	23 50 42.5	+0.3
TMUT	**Trail Mountain**	**0.48**	**20**	Pg	Pg	23 50 44.2	0.0
TMUT					Sg	23 50 51.1	+0.7
TMUT				IAML		23 50 53.0	
	comp=E,884nm,0.5s						
TMUT				IAML		23 50 54.5	
	comp=N,959nm,0.7s						
DBD	**Des Bee Dove**	**0.53**	**29**		Pg	23 50 45.1	-0.1
WCU	**Willow Creek**	**0.54**	**283**		Pg	23 50 45.6	+0.5
MSU	**Marysvale**	**0.68**	**241**		Pg	23 50 47.6	-0.4
LEVU	**Levan**	**0.73**	**335**		Pg	23 50 48.9	0.0
SRU	**San Rafael Swe**	**0.75**	**69**		Pg	23 50 48.9	-0.4
SRU				IAML		23 50 59.2	
	comp=N,546nm,0.5s						
SRU				IAML		23 51 03.1	
	comp=E,454nm,0.8s						
FLU	**Fool Peak**	**0.79**	**313**		Pg	23 50 50.0	-0.1
ELU	**Electric Lake**	**0.81**	**12**		Pg	23 50 50.3	-0.2
TCRU	**Three Creeks R**	**0.84**	**254**		Pg	23 50 51.4	+0.4
TCRU				IAML		23 51 08.3	
	comp=E,149nm,0.5s						
MTPU	**Mount Pierson**	**1.00**	**217**		Pg	23 50 53.9	-0.2
DCM	**Dugout Coal Mi**	**1.07**	**37**		Pg	23 50 54.6	-0.8
EMUT	**Emma Park**	**1.08**	**26**		Pg	23 50 54.8	-0.7
SUU	**Santaquin Cany**	**1.08**	**345**		Pg	23 50 55.7	0.0
BCE	**Book Cliffs Ea**	**1.10**	**45**		Pg	23 50 55.3	-0.7
ROA	**Roan Cliffs**	**1.16**	**45**		Pg	23 50 56.4	-0.7
NMUT	**North Mineral**	**1.17**	**254**		Pg	23 50 57.0	-0.2
MPU	**Maple Canyon**	**1.18**	**352**		Pg	23 50 57.0	-0.6
MPU				IAML		23 51 17.0	
	comp=N,153nm,0.5s						
MPU				IAML		23 51 17.2	
	comp=E,367nm,0.8s						
ARGU	**Argyle Ridge**	**1.19**	**35**		Pg	23 50 57.1	-0.6
P18A	**Preston Nutter**	**1.20**	**49**		Pg	23 50 57.4	-0.6
P18A				IAML		23 51 16.9	
	comp=N,104nm,0.3s						
P18A				IAML		23 51 22.7	
	comp=E,157nm,0.7s						
WMUT	**West Mountain**	**1.27**	**346**		Pb	23 50 59.5	-0.3
PKCU	**Pink Cliffs**	**1.56**	**207**	Pg	Pn	23 51 04.1	-0.1
PKCU				IAML		23 51 27.3	
	comp=E,141nm,0.7s						
PKCU				IAML		23 51 30.4	
	comp=N,95nm,0.8s						
DUG	**Dugway, Tooele**	**1.73**	**322**		Pn	23 51 05.2	-1.0
DUG				IAML		23 51 31.5	
	comp=N,39nm,0.8s						
JLU	**Jordanelle**	**1.75**	**359**		Pn	23 51 06.2	-0.6
JLU				IAML		23 51 32.8	
	comp=E,64nm,1.2s						
JLU				IAML		23 51 33.5	
	comp=N,41nm,0.7s						
BSUT	**Blindstream Ca**	**1.76**	**17**	Pg	Pn	23 51 07.3	+0.3
BSUT				IAML		23 51 35.0	
	comp=E,62nm,1.1s						
PV10	**Paradox Valley**	**1.93**	**103**		Pb	23 51 10.5	-0.5
PV23	**Carpenter Ridg**	**1.93**	**101**		Pb	23 51 10.4	-0.7
PSUT	**Pine Spring**	**1.93**	**261**		Pn	23 51 09.7	+0.6
PV11	**David Mesa, Pa**	**2.07**	**104**		Pn	23 51 11.5	+0.4
KNB	**Kanab**	**2.13**	**212**		Pb	23 51 13.2	-1.3
PV13	**Radium Mtn., P**	**2.15**	**108**		Pn	23 51 13.4	+1.2
PV07	**Paradox Valley**	**2.21**	**100**		Pn	23 51 14.1	+1.1
PV07				IAML		23 51 47.5	
	comp=N,127nm,0.7s						
RDMU	**Red Mountain**	**2.24**	**39**		Pb	23 51 15.3	-1.0
RDMU				IAML		23 51 46.9	
	comp=N,37nm,0.5s						
RDMU				IAML		23 51 55.5	
	comp=E,41nm,0.6s						
SPR3	**Spring Creek 3**	**2.27**	**275**		Pn	23 51 15.2	+1.3
SPR3				IAML		23 51 49.2	
	comp=E,31nm,0.9s						
SPR3				IAML		23 51 50.2	
	comp=N,22nm,1.0s						
LCMT	**Little Creek M**	**2.33**	**219**		Pb	23 51 16.6	-1.2
LCMT				IAML		23 51 51.2	
	comp=E,25nm,0.6s						
PV15	**Paradox Valley**	**2.36**	**101**		Pn	23 51 15.9	+0.9
BGU	**Big Grassy Mou**	**2.42**	**330**		Pn	23 51 14.8	-1.0
U15A	**North Rim**	**2.51**	**196**		Pn	23 51 18.8	+1.6
U15A				IAML		23 51 55.2	
	comp=E,73nm,0.5s						
U15A				IAML		23 51 59.0	
	comp=N,59nm,0.6s						
SPUT	**South Promonto**	**2.58**	**343**		Pn	23 51 17.1	-0.9
SPUT				IAML		23 51 58.1	
	comp=E,18nm,0.7s						
HWUT	**Hardware Ranch**	**2.76**	**358**		Pn	23 51 19.8	-0.7
HWUT				IAML		23 52 07.9	
	comp=E,24nm,1.0s						
HWUT				IAML		23 52 14.7	
	comp=E,19nm,1.0s						
O20A	**White River Ci**	**2.78**	**61**		Pn	23 51 22.2	+1.5
MVCO	**Mesa Verde**	**2.83**	**124**	Pn	Pn	23 51 22.5	+1.1
HVU	**Hansel Valley**	**3.11**	**341**		Pn	23 51 24.8	-0.5
HVU				IAML		23 52 16.8	
	comp=E,13nm,1.0s						
HVU				IAML		23 52 21.9	
	comp=N,13nm,0.6s						
PRN	**Pahroc Range**	**3.20**	**244**		Pn	23 51 27.1	+0.6
PRN				IAML		23 52 21.0	
	comp=N,26nm,0.5s						
PRN				IAML		23 52 29.9	
	comp=E,24nm,0.9s						
WUAZ	**Wupatki**	**3.32**	**179**	Pn	Pn	23 51 29.5	+1.3
ELK	**Elko**	**3.50**	**304**		Pn	23 51 31.8	+1.1
SHPR	**Sheep Range**	**3.77**	**233**		Pn	23 51 34.9	+0.5
S22A	**4UR Ranch, Cre**	**3.78**	**105**		Pn	23 51 35.5	+1.0
S22A				IAML		23 52 33.4	
	comp=E,18nm,0.6s						
S22A				IAML		23 52 33.5	
	comp=N,9.4nm,0.5s						
AHID	**Auburn Hatcher**	**3.92**	**3**		Pn	23 51 37.6	+1.1
AHID				IAML		23 52 42.0	
	comp=N,16nm,0.8s						
AHID				IAML		23 52 46.6	
	comp=N,15nm,1.1s						
PD31	**Pinedale Array**	**4.17**	**19**		Pn	23 51 40.6	+0.7
PDAR	**Pinedale Array**	**4.17**	**19**		Pn	23 51 39.9	+0.1
TPNV	**Topopah Spring**	**4.26**	**245**		Pn	23 51 41.5	+0.3
TPNV				IAML		23 53 18.6	
	comp=N,7.9nm,4.5s						
TPNV				IAML		23 53 50.9	
	comp=N,9.1nm,5.0s						
X18A	**Snowflake**	**4.47**	**164**	Pn	Pn	23 51 45.6	+1.6
X18A				IAML		23 53 00.6	
	comp=N,20nm,0.8s						

---

*NEIC **23** 23:53:30.4±1.2, 61°.51N±0°.02×149°.91W±0°.07, h39km±7km,*
Error ellipse: s-maj=5.1km s-min=1.9km az=111.0
AEIC 23 23:53:31.1±1.4, 61°.49N±0°.04×149°.96W±0°.07, h39km±6km,
ML2.3, ML2.6/100(NEIC), **Error ellipse: s-maj=5.4km**
s-min=4.7km az=147.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**343**		Pn	23 53 37.9	-1.3
M22K					Sn	23 53 44.4	-1.3
M22K				IAML		23 53 45.1	
	comp=E,468nm,0.4s						
M22K				IAML		23 53 45.2	
	comp=N,863nm,0.5s						
FIS	**Fire Island**	**0.37**	**200**		Pn	23 53 39.8	-0.2
FIS				Sn	Sn	23 53 47.7	+1.2
FIS				IAML		23 53 48.5	
	comp=E,548nm,0.4s						
FIS				IAML		23 53 48.8	
	comp=N,593nm,0.2s						
PMR	**Palmer**	**0.41**	**75**		Pn	23 53 39.0	-1.5
PMR					Sn	23 53 46.1	-1.1
PMR				IAML		23 53 46.7	
	comp=N,501nm,0.4s						
PMR				IAML		23 53 46.8	
	comp=E,471nm,0.3s						
RC01	**Rabbit Creek A**	**0.42**	**165**		Pn	23 53 39.3	-1.3
RC01				Sn	Sn	23 53 46.8	-0.7
RC01				IAML		23 53 47.8	
	comp=E,632nm,0.2s						
RC01				IAML		23 53 47.9	
	comp=N,403nm,0.2s						
GHO	**Glory Hole Cre**	**0.57**	**60**		Pn	23 53 41.4	-1.5
GHO				IAML		23 53 51.3	
	comp=N,500nm,0.5s						
GHO	**Glory Hole Cre**	**0.57**	**60**		Sn	23 53 50.3	-0.8
KNK	**Knik Glacier**	**0.72**	**96**		Pn	23 53 43.5	-1.4
KNK	**Knik Glacier**	**0.72**	**96**		Sn	23 53 54.4	-0.3
KNK	**Knik Glacier**	**0.72**	**96**	IAML		23 53 57.5	
	comp=N,284nm,0.2s						
KNK				IAML		23 53 57.7	
	comp=E,396nm,0.2s						
SML	**Sawmill**	**0.84**	**67**		Pn	23 53 44.9	-1.5
SML				IAML		23 53 59.4	
	comp=E,157nm,0.9s						
SML				IAML		23 54 01.0	
	comp=N,143nm,0.6s						
SML	**Sawmill**	**0.84**	**67**		Sn	23 53 56.6	-1.0
SKT	**Skwentna**	**0.90**	**304**	Pn	Pn	23 53 46.1	-1.2
SKT	**Skwentna**	**0.90**	**304**		Sn	23 53 58.6	-0.5
STLK	**Strandline Lak**	**0.90**	**271**		Pn	23 53 46.5	-0.9
STLK				IAML		23 53 59.7	
	comp=E,100nm,0.3s						
STLK				IAML		23 53 59.7	
	comp=N,237nm,0.3s						
CUT	**Chulitna**	**0.93**	**351**		Pn	23 53 46.5	-1.1
CUT	**Chulitna**	**0.93**	**351**		Sn	23 53 59.4	-0.3
CAPN	**Captain Cook N**	**0.93**	**219**	Pn	Pn	23 53 47.8	+0.2
CAPN				IAML		23 54 05.1	
	comp=E,271nm,0.4s						
CAPN				IAML		23 54 05.7	
	comp=N,242nm,0.5s						
SLKM	**Skilak Lake**	**1.00**	**188**	Pn	Pn	23 53 47.7	-0.9
SLKM				IAML		23 54 02.8	
	comp=E,137nm,0.4s						
SLKM				IAML		23 54 04.1	
	comp=N,100nm,0.2s						
PWL	**Port Wells**	**1.01**	**128**		Pn	23 53 47.4	-1.4
PWL					Sn	23 54 01.6	-0.1
SPCG	**Spurr Capps Gl**	**1.01**	**260**		Pn	23 53 48.2	-0.7
O22K	**Cooper Landing**	**1.02**	**174**		Pn	23 53 47.5	-1.4
O22K	**Cooper Landing**	**1.02**	**174**		Sn	23 54 01.7	-0.2
O22K	**Cooper Landing**	**1.02**	**174**	IAML		23 54 08.9	
	comp=N,243nm,0.5s						
O22K				IAML		23 54 10.2	
	comp=E,217nm,0.5s						
SPU	**Mount Spurr**	**1.06**	**254**		Pn	23 53 48.6	-0.9
SPU				IAML		23 54 03.4	
	comp=N,101nm,0.2s						
SPU	**Mount Spurr**	**1.06**	**254**		Sn	23 54 02.8	-0.2
M23K	**Glacier View**	**1.11**	**73**		Sn	23 54 04.3	+0.1
SPCR	**Spurr Chakacha**	**1.12**	**256**		Pn	23 53 49.7	-0.7
SCM	**Sheep Creek Mo**	**1.30**	**74**		Pn	23 53 52.1	-0.8
SPNN	**North Nagishla**	**1.32**	**266**		Pn	23 53 53.1	-0.1
SEW	**Seward**	**1.41**	**170**		Pn	23 53 53.8	-0.5
GLI	**Glacier Island**	**1.52**	**113**		Pn	23 53 54.6	-1.1
GLI				IAML		23 54 14.3	
	comp=E,115nm,0.2s						
GLI				IAML		23 54 15.4	
	comp=N,106nm,0.3s						
M20K	**Styx River**	**1.56**	**286**		Pn	23 53 56.1	-0.3
M20K				IAML		23 54 19.1	
	comp=E,53nm,0.8s						
M20K				IAML		23 54 19.6	
	comp=N,42nm,0.7s						
RDJH	**Redoubt Jeurge**	**1.65**	**238**		Pn	23 53 57.2	-0.6
REF	**Redoubt East F**	**1.67**	**234**		Pn	23 53 57.4	-0.7
RDWB	**Redoubt West**	**1.73**	**236**		Pn	23 53 58.3	-0.5
PPLA	**Purkeypile**	**1.76**	**324**		Pn	23 53 58.7	-0.4
BRLK	**Bradley Lake**	**1.79**	**195**	Pn	Pn	23 53 58.6	-1.0
BRLK				IAML		23 54 25.8	
	comp=N,43nm,0.3s						
BRLK				IAML		23 54 26.0	
	comp=E,53nm,0.5s						
BRSE	**Bradley Lake S**	**1.80**	**193**		Pn	23 53 58.2	-1.4
M24K	**Tolsona, Glenn**	**1.90**	**69**		Pn	23 54 01.1	0.0
O20K	**Slope Mountain**	**1.93**	**224**		Pn	23 54 01.5	0.0
KLU	**Klutina**	**1.93**	**88**		Pn	23 54 00.4	-1.2
KLU				IAML		23 54 25.3	
	comp=E,44nm,0.4s						
KLU				IAML		23 54 25.8	
	comp=N,54nm,0.4s						
P23K	**Montague Islan**	**1.95**	**139**		Pn	23 54 01.4	-0.3
TRF	**Thorofare Moun**	**1.97**	**356**		Pn	23 54 02.0	-0.2
TRF				IAML		23 54 30.4	
	comp=N,31nm,0.5s						
RND	**Reindeer**	**1.99**	**14**		Pn	23 54 02.1	-0.2
HIN	**Hinchinbrook I**	**2.01**	**122**		Pn	23 54 01.4	-1.2
HIN				IAML		23 54 36.7	
	comp=N,45nm,0.8s						
DIV	**Divide**	**2.05**	**98**		Pn	23 54 01.9	-1.2
CNPM	**China Poot**	**2.07**	**198**	Pn	Pn	23 54 02.3	-1.1
CNPM				IAML		23 54 32.0	
	comp=N,33nm,0.5s						
CNPM				IAML		23 54 37.2	
	comp=E,32nm,0.7s						
L20K	**Farewell, AK**	**2.10**	**300**		Pn	23 54 03.5	-0.2
KTH	**Kantishna Hill**	**2.12**	**348**	Pn	Pn	23 54 04.0	0.0
KTH				IAML		23 54 31.5	
	comp=E,35nm,0.5s						
KTH				IAML		23 54 32.2	
	comp=N,24nm,0.3s						
M19K	**Big River Lodg**	**2.15**	**283**		Pn	23 54 04.2	-0.3
M19K	**Big River Lodg**	**2.15**	**283**	IAML		23 54 49.9	
	comp=E,21nm,1.4s						
ILS	**Iliamna Low So**	**2.17**	**226**		Pn	23 54 04.7	-0.1
CAST	**Castle Rocks**	**2.17**	**334**		Pn	23 54 04.5	-0.3
ILSW	**Iliamna Southw**	**2.18**	**227**		Pn	23 54 04.9	0.0
MCK	**McKinley**	**2.30**	**11**		Pn	23 54 06.9	+0.4
N19K	**Bonanza Creek**	**2.30**	**255**		Pn	23 54 06.3	-0.3
L19K	**White Mountain**	**2.42**	**289**		Pn	23 54 08.2	0.0
L19K				IAML		23 54 38.7	
	comp=E,17nm,1.1s						
N25K	**Chitina, Valde**	**2.57**	**85**	Pn	Pn	23 54 08.9	-1.4
N25K				IAML		23 54 48.0	
	comp=E,18nm,0.5s						
N25K				IAML		23 54 48.1	
	comp=N,21nm,0.5s						
PAX	**Paxson**	**2.57**	**53**		Pn	23 54 10.5	+0.2
BMRM	**Bremner River**	**2.64**	**99**		Pn	23 54 09.0	-2.2
BPAW	**Bear Paw Mtn.**	**2.66**	**350**		Pn	23 54 10.6	-0.8
K20K	**Telida**	**2.68**	**316**		Pn	23 54 11.0	-0.7
GOAT	**Goat Mountain**	**2.70**	**107**		Pn	23 54 10.4	-1.6
WASW	**Wrangell South**	**2.79**	**78**		Pn	23 54 12.8	-0.6
RAGM	**Ragged Mountai**	**2.81**	**111**		Pn	23 54 12.1	-1.4
M18K	**Stony River**	**2.81**	**273**		Pn	23 54 13.2	-0.4
GLB	**Gilahina Butte**	**2.95**	**88**		Pn	23 54 15.8	+0.3
GLB				IAML		23 55 00.5	
	comp=N,15nm,1.3s						
GLB				IAML		23 55 06.6	
	comp=E,11nm,0.6s						
N18K	**Kilae Creek**	**3.00**	**257**		Pn	23 54 15.5	-0.6
HMT	**Hamilton**	**3.01**	**110**		Pn	23 54 14.4	-1.9
VRDI	**Verde Repeater**	**3.14**	**92**		Pn	23 54 17.9	-0.3
VRDI				IAML		23 55 04.1	
	comp=N,13nm,0.9s						
TTA	**Tatalina**	**3.18**	**300**	IAML		23 55 13.4	
	comp=N,8.6nm,1.3s						
BERG	**Berg Lake**	**3.24**	**107**		Pn	23 54 17.4	-2.0
L18K	**Granite Mounta**	**3.27**	**286**		Pn	23 54 19.4	-0.4
J20K	**Nowinta River**	**3.31**	**326**		Pn	23 54 19.9	-0.5
J20K	**Nowinta River**	**3.31**	**326**	IAML		23 55 00.2	
	comp=N,13nm,1.4s						
J20K				IAML		23 55 00.6	
	comp=E,11nm,0.6s						
M17K	**Holitna River**	**3.59**	**272**		Pn	23 54 23.9	-0.3
M17K	**Holitna River**	**3.59**	**272**	IAML		23 55 45.0	
	comp=N,16nm,1.3s						
J19K	**Poorman**	**3.62**	**316**		Pn	23 54 24.2	-0.4
J19K				IAML		23 55 20.3	
	comp=N,5.9nm,1.3s						
J19K				IAML		23 55 25.2	
	comp=E,7.3nm,0.9s						
J18K	**Innoko River**	**3.71**	**305**		Pn	23 54 25.5	-0.3
I21K	**Tanana**	**3.81**	**347**		Pn	23 54 27.4	+0.1
I21K	**Tanana**	**3.81**	**347**	IAML		23 56 02.7	
	comp=E,4.9nm,1.5s						
L17K	**Donlin**	**4.01**	**283**		Pn	23 54 29.5	-0.4
K17K	**Iditarod**	**4.11**	**291**		Pn	23 54 30.9	-0.5
K17K	**Iditarod**	**4.11**	**291**	IAML		23 55 56.5	
	comp=E,8.9nm,1.1s						

---

*IGQ **24** 00:15:51.6±1.5, 3°S±5°×7°.7W±°, h36km±46km, MLv3.4/23*
*RSNC **24** 00:15:52.8±0.4, 3°S±3°×7°.7W±°, h81km±28km, M3.2, mb4.1,*
ML2.9
ISC 24 00:15:52.8±1.2, 2°.52S±0°.07×76°.84W±0°.09, h77km±44km,
n62, σ1.904/72, 11D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANGA	**Volcan Sangay**	**1.60**	**287**	P	**Pn**	**00 16 19.7**	**-0.1**
SANGA				S	**Sn**	**00 16 40.5**	**+0.3**
BOSC	**San Juan Bosco**	**1.77**	**249**	P	**Pn**	**00 16 20.9**	**-0.8**
BOSC				S	**Sn**	**00 16 43.4**	**-0.3**
ARDO	**Archidona, Ten**	**1.80**	**328**	P	**Pn**	**00 16 21.8**	**-0.2**
ARDO				S	**Sn**	**00 16 44.7**	**+0.5**
BPAT	**Tungurahua Vol**	**1.89**	**302**	P	**Pn**	**00 16 23.3**	**-0.4**
BPAT				S	**Sn**	**00 16 47.6**	**+0.7**
BULB	**Ulba Tungurahu**	**1.90**	**304**	⇓P	**Pn**	**00 16 23.3**	**-0.4**
BMAS	**Trigal station**	**1.93**	**302**	⇓P	**Pn**	**00 16 22.6**	**-1.4**
BMAS				S	**Sn**	**00 16 46.6**	**-1.2**
POND	**Pondoa**	**1.95**	**304**	⇓P	**Pn**	**00 16 23.9**	**-0.4**
POND				S	**Sn**	**00 16 48.3**	**+0.1**
JUI6	**Juive**	**1.96**	**304**	P	**Pn**	**00 16 23.8**	**-0.6**
BBIL	**Ulba Tungurahu**	**1.96**	**303**	P	**Pn**	**00 16 23.6**	**-0.8**
IGUA	**Igualata**	**2.07**	**300**	P	**Pn**	**00 16 26.1**	**0.0**
PIAT	**Ana Tenorio**	**2.08**	**317**	P	**Pn**	**00 16 25.4**	**-0.7**
PIAT				S	**Sn**	**00 16 50.1**	**-1.3**
PIAT	**Ana Tenorio**	**2.08**	**317**	⇓P	**Pn**	**00 16 25.7**	**-0.4**
PIAT	**Ana Tenorio**	**2.08**	**317**	P		00 16 25.4	
PIAT				S		00 16 50.1	
PIS1	**Pisayambo**	**2.12**	**313**	⇓P	**Pn**	**00 16 26.6**	**-0.2**
TAMH	**Tambohuasha Ch**	**2.17**	**297**	P	**Pn**	**00 16 27.4**	**0.0**
PORT	**Chimborazo Vol**	**2.20**	**299**	⇓P	**Pn**	**00 16 28.1**	**+0.2**
JSCH	**Cashca Tororas**	**2.28**	**290**	P	**Pn**	**00 16 29.9**	**+1.1**
VCES	**Cotopaxi**	**2.31**	**318**	⇓P	**Pn**	**00 16 29.3**	**0.0**
TAMB	**Tambo**	**2.37**	**320**	P	**Pn**	**00 16 30.3**	**+0.1**
BRRN	**Barrancas-Volc**	**2.38**	**317**	P	**Pn**	**00 16 30.5**	**+0.4**
BMOR	**Cotopaxi Volca**	**2.41**	**318**	⇓P	**Pn**	**00 16 31.0**	**+0.3**
BTAM	**Cotopaxi Volca**	**2.41**	**320**	⇓P	**Pn**	**00 16 31.0**	**+0.4**
COHC	**Cochancay**	**2.41**	**271**	P	**Pn**	**00 16 29.8**	**-0.4**
COHC				S	**Sn**	**00 16 58.1**	**-0.8**
COHC	**Cochancay**	**2.41**	**271**	P	**Pn**	**00 16 29.2**	**-1.1**
COHC	**Cochancay**	**2.41**	**271**	P		00 16 29.8	
COHC				S		00 16 58.1	
BVC2	**Cotopaxi Volca**	**2.43**	**320**	⇓P	**Pn**	**00 16 31.4**	**+0.5**
SLOR	**San Lorenzo -**	**2.43**	**317**	P	**Pn**	**00 16 31.4**	**+0.5**
BREF	**Cotopaxi Volca**	**2.44**	**319**	⇓P	**Pn**	**00 16 31.8**	**+0.7**
ANTI	**Antisana**	**2.45**	**327**	P	**Pn**	**00 16 30.8**	**-0.4**
BNAS	**Cotopaxi Volca**	**2.46**	**318**	P	**Pn**	**00 16 32.6**	**+1.2**
MONB	**Balzapamba Mon**	**2.47**	**288**	P	**Pn**	**00 16 30.4**	**-0.6**
CAMI	**Rancho Maria**	**2.48**	**318**	P	**Pn**	**00 16 32.5**	**+0.9**
ILLI	**Illinizas Sur**	**2.60**	**314**	P	**Pn**	**00 16 33.2**	**0.0**
CASC	**Dorado de Casc**	**2.69**	**349**	P	**Pn**	**00 16 33.5**	**-0.5**
ANGU	**Angureal**	**2.81**	**335**	P	**Pn**	**00 16 36.2**	**+0.1**
CAYA	**Cayambe**	**2.82**	**336**	P	**Pn**	**00 16 36.4**	**+0.1**
GGPT	**Toaza - Volcan**	**2.90**	**322**	P	**Pn**	**00 16 37.2**	**+0.1**
BONI	**La Bonita**	**3.03**	**347**	P	**Pn**	**00 16 38.1**	**-0.8**
BONI	**La Bonita**	**3.03**	**347**	P	**Pn**	**00 16 38.1**	**-0.8**
BONI	**La Bonita**	**3.03**	**347**	P		00 16 38.1	
YAHU	**Yahuarcocha**	**3.13**	**337**	P	**Pn**	**00 16

16nm,0.7s
MACC Macarena, Meta 5.52 33 P **Pn 00 17 10.5 -2.0**
16nm,0.7s
GR1C Gorgona, Isla 5.65 346 P **Pn 00 17 11.6 -2.6**
GR1C Gorgona, Isla 5.65 346 P 00 17 11.6
JAMC Jamundi, Valle 5.70 2 P 00 17 15.4
26nm,0.8s
JAMC Jamundi, Valle 5.70 2 P **Pn 00 17 15.4 +0.2**
26nm,0.8s
URMC La Uribe, Meta 6.24 23 P **Pn 00 17 22.4 0.0**
16nm,0.7s
URMC La Uribe, Meta 6.24 23 P 00 17 22.4
16nm,0.7s
YOTC Yotoco, Valle 6.48 4 P 00 17 23.7
4.1nm,1.2s
YOTC Yotoco, Valle 6.48 4 P **Pn 00 17 23.7 -2.1**
4.1nm,1.2s
PRAC Prado 6.49 17 P **Pn 00 17 25.8 -0.1**
4.9nm,0.6s
PRAC Prado 6.49 17 P 00 17 25.8
4.9nm,0.6s
ORTC Ortega, Tolima 6.58 14 P **Pn 00 17 25.2 -1.9**
20nm,0.9s
ORTC Ortega, Tolima 6.58 14 P 00 17 25.2
20nm,0.9s
CZSB Cruzeiro do Su 6.61 142 P **Pn 00 17 28.3 +0.9**
21nm,0.5s
CZSB Cruzeiro do Su 6.61 142 P 00 17 28.3
21nm,0.5s
VILC Villavicencio, 7.30 26 P **Pn 00 17 37.4 +0.4**
19nm,0.5s
VILC Villavicencio, 7.30 26 P 00 17 37.4
19nm,0.5s
PLMC San Jos del P 7.40 4 P **Pn 00 17 36.0 -2.3**
12nm,1.2s
PLMC San Jos del P 7.40 4 P 00 17 36.0
12nm,1.2s
CHIC Chingaza 7.75 24 P **Pn 00 17 44.5 +1.1**
11nm,1.2s
CHIC Chingaza 7.75 24 P 00 17 44.5
11nm,1.2s
GUY2C Guyana, Caldas 7.83 11 P **Pn 00 17 46.7 +2.1**
7.1nm,0.7s
GUY2C Guyana, Caldas 7.83 11 P 00 17 46.7
7.1nm,0.7s
CBOC Ciudad Bolivar 8.37 6 P **Pn 00 17 53.9 +2.3**
15nm,0.7s
CBOC Ciudad Bolivar 8.37 6 P 00 17 53.9
15nm,0.7s
RUSC La Rusia 9.16 24 P **Pn 00 18 02.1 -0.6**
12nm,1.2s
RUSC La Rusia 9.16 24 P 00 18 02.1
12nm,1.2s
NNA Nana 9.40 180 P **Pn 00 18 05.9 +0.3**
NNA Nana 9.40 180 P 00 18 05.9

TXNET 24 00:32:40.5,31°.6N±0°.6×104°.3W±0°.7,h4km±2km,ML1.6/7, Error ellipse: s-maj=1.2km s-min=0.8km az=60.0,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	00 32 47.1	-0.2
TPB11				S	Sg	00 32 52.0	0.0
PECS	**Pecos**	**0.43**	**129**	P	Pg	00 32 48.8	0.0
PECS				S	Sg	00 32 54.5	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	00 32 50.1	0.0
TPB12				S	Sg	00 32 56.9	+0.5
TPB07	**Mentone**	**0.51**	**96**	P	Pg	00 32 50.5	+0.2
TPB07				S	Sg	00 32 57.3	+0.5
TPB10	**Southeast of T**	**0.56**	**129**	P	Pg	00 32 51.1	-0.1
TPB10				S	Sg	00 32 59.1	+0.7
GDL2	**Guadalupe Moun**	**0.57**	**351**	P	Pg	00 32 51.6	+0.1
CLNB	**Carlsbad**	**0.70**	**27**	P	Pb	00 32 54.9	-0.5
CLNB				S	Sg	00 33 03.7	+0.6
TPB01	**Permian Basin**	**0.80**	**149**	P	Pg	00 32 55.1	-0.8
TPB01				S	Sg	00 33 06.0	-0.4
TPB03	**Saragosa**	**0.84**	**131**	S	Sg	00 33 08.0	+0.4
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	00 32 57.0	0.0
TPB06	**Permian Basin**	**0.89**	**89**	S	Sb	00 33 10.0	-0.7
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	00 32 59.0	0.0
MNTX				S	Sg	00 33 12.1	+0.6
HTMS	**Hat Mesa**	**0.99**	**32**	P	Pb	00 32 59.9	-0.3
HTMS				S	Sb	00 33 14.0	+0.4
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	00 33 14.9	-0.1
MNHN	**Monahans**	**1.31**	**103**	P	Pg	00 33 04.2	-1.4
MNHN				S	Sg	00 33 22.6	-0.1
ALPN	**Alpine**	**1.37**	**157**	P	Pn	00 33 04.9	-1.6
ALPN				S	Sg	00 33 22.7	-1.7
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	00 33 07.1	-0.2
ODSA	**Odessa**	**1.53**	**71**	S	Sn	00 33 28.2	-0.9
TMB04	**Seminole**	**1.79**	**56**	P	Pn	00 33 12.6	+0.3
TMB04				S	Sb	00 33 36.9	0.0
TMB02	**Rankin**	**1.95**	**102**	P	Pn	00 33 15.1	+0.7
TMB02				S	Sn	00 33 40.3	+0.9
TX31	**Lajitas Ar. Si**	**2.35**	**167**	S	Sb	00 33 53.5	+0.5
SAND	**Sanderson**	**2.49**	**132**	P	Pb	00 33 24.6	-1.2
SAND				S	Sb	00 33 57.8	+1.0

*IDC **24** 00:33:14.2±0.5,37°.43N×142°.12E,h0km,mb4.4/31, mbtmp4.4/38,ML4.0/6,MS3.8/51,Error ellipse: s-maj=12.6km s-min=12.1km az=99.0*
*NIED **24** 00:33:18.4,37°.49N×142°.00E,h34km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}-2.02; $M_{\theta\theta}$0.74; $M_{\phi\phi}$1.28; $M_{r\theta}$2.53; $M_{\theta\phi}$0.35; $M_{\phi r}$6.50; Fault plane solution: $M_0$7.19000×10^15^ NP1:φs26.00000°, δ7.00000°,λ-85.00000°. NP2:φs201.00000°,δ83.00000°, λ-91.00000°.*
*MOS **24** 00:33:18.0±1.0,37°.57N×142°.04E,h32km,mb4.9/47 Error ellipse: s-maj=6.4km s-min=4.5km az=110.7*
*JMA **24** 00:33:18.4±0.2,37°.5N±0°.4×142°.0E±0°.8,h34km±2km, MD4.8/38,MW4.5/38,E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*BJI **24** 00:33:18.8,37°.41N×141°.94E,h39km,mB4.9/22,mb4.8/61, Ms4.3/40,Ms7 4.2/39*
*NEIC **24** 00:33:19.5±1.2,37°.50N±0°.02×141°.99E±0°.07,h26km±4km, mb4.9/102,Mwr4.4/25,Error ellipse: s-maj=8.7km s-min=0.7km az=107.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}-3.80; $M_{\theta\theta}$-0.86; $M_{\phi\phi}$4.66; $M_{r\theta}$0.91; $M_{\theta\phi}$0.12; $M_{\phi r}$1.71; Fault plane solution: $M_0$4.71000×10^15^ NP1:φs194.23000°,δ57.60000°, λ-74.21000°. NP2:φs346.41000°,δ35.67000°, λ-113.21000°. Principal axes: T 5.0043, Plg11.0000°, Azm273.0000°; N -0.6532, Plg13.0000°, Azm6.0000°; P -4.3511, Plg72.0000°, Azm144.0000°;*
*NEIC **24** 00:33:21,37°.54N×141°.94E,h35km*
ISC 24 00:33:18.4±0.5,37°.48N±0°.03×142°.12E±0°.03,h28km±3km, n618,σ1°35/35,mb4.8/127,MS4.0/53,9C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.97**	**328**	P	**Pb**	**00 33 35.1**	**-1.6**
JIKH				S	**Sb**	**00 33 46.6**	**-2.6**
JFK	**Kawauchi**	**1.00**	**264**	P	**Pb**	**00 33 35.0**	**-2.2**
JFK				S	**Sb**	**00 33 46.6**	**-3.3**
JFK	**Kawauchi**	**1.00**	**264**	A	A	00 33 35.0
comp=N,15nm,1.6s,comp=E,22nm,1.4s
JMST	**Minamisoumatoc**	**1.01**	**284**	*i* P	**Pn**	**00 33 35.1**	**-1.6**
JMST				S	**Sb**	**00 33 46.7**	**-3.5**
JMST	**Minamisoumatoc**	**1.01**	**284**	A	A	00 33 35.1
comp=N,27nm,0.3s,comp=E,40nm,1.2s
JMM	**Marumori**	**1.12**	**290**		**Pn**	**00 33 37.0**	**-1.3**
JMM				Sn	**Sb**	**00 33 48.7**	**-4.6**
JMM	**Marumori**	**1.12**	**290**	P	**Pn**	**00 33 37.0**	**-1.3**
JMM				*e*S	**Sb**	**00 33 50.4**	**-2.9**
JMM	**Marumori**	**1.12**	**290**	A	A	00 33 37.0
comp=N,15nm,1.1s,comp=E,19nm,0.9s
ONAJ	**Iwakimizuishiy**	**1.12**	**251**	*i* P	**Pn**	**00 33 36.6**	**-1.7**
ONAJ				*e*S	**Sb**	**00 33 49.7**	**-3.7**
ONAJ	**Iwakimizuishiy**	**1.12**	**251**	A	A	00 33 36.6
comp=N,51nm,0.3s,comp=E,96nm,0.3s
JIO	**Ouri**	**1.15**	**328**	P	**Pn**	**00 33 37.8**	**-0.9**
JIO				*e*S	**Sn**	**00 33 51.4**	**-2.0**
JFFD	**Fukushimafurud**	**1.30**	**253**	A	A	00 33 39.6
comp=N,11nm,1.0s,comp=E,14nm,0.4s
JKMT	**Kesennumamotoy**	**1.42**	**339**	A	A	00 33 42.1
comp=N,8.0nm,1.2s,comp=E,10.0nm,1.5s
JOTO	**OTAMA OYAMA**	**1.42**	**274**	P	**Pn**	**00 33 42.0**	**-0.5**
JOTO				S	**Sn**	**00 33 59.2**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.42**	**274**	A	A	00 33 42.0
comp=N,54nm,1.4s,comp=E,69nm,0.8s
JOU	**Okura**	**1.45**	**308**	P	**Pn**	**00 33 42.5**	**-0.4**
JOU				S	**Sn**	**00 34 00.3**	**-0.7**
JOU	**Okura**	**1.45**	**308**	A	A	00 33 42.5
comp=N,63nm,1.1s,comp=E,34nm,1.4s
JOFO	**Osakifurukawao**	**1.47**	**320**	A	A	00 33 42.4
comp=N,74nm,1.1s,comp=E,84nm,1.4s
JYAR	**Yonezawaarcadi**	**1.63**	**286**	A	A	00 33 44.3
comp=N,176nm,1.1s,comp=E,165nm,1.1s
JMK	**Ichinoseki**	**1.63**	**334**	P	**Pn**	**00 33 45.2**	**0.0**
JMK	**Ichinoseki**	**1.63**	**334**	A	A	00 33 45.2
comp=N,7.0nm,2.1s,comp=E,7.0nm,1.0s
OFUJ	**Ofunato**	**1.63**	**348**	A	A	00 33 45.5
comp=N,5.0nm,0.7s,comp=E,9.0nm,2.1s
JHYU	**Hitachinakayam**	**1.68**	**228**	A	A	00 33 45.4
comp=N,7.0nm,1.8s,comp=E,9.0nm,1.3s
JYS	**Shirataka**	**1.79**	**295**	P	**Pn**	**00 33 47.3**	**-0.2**
JYS				S	**Sn**	**00 34 09.9**	**+0.6**
JYS	**Shirataka**	**1.79**	**295**	A	A	00 33 47.3
comp=N,18nm,1.4s,comp=E,23nm,1.2s
JSB	**Shiboa**	**1.83**	**254**	A	A	00 33 47.3
comp=N,66nm,1.2s,comp=E,41nm,1.2s
JFY	**Yanaizu**	**1.92**	**268**	P	**Pn**	**00 33 49.1**	**-0.2**
JFY				*e*S	**Sn**	**00 34 12.2**	**-0.4**
JFY	**Yanaizu**	**1.92**	**268**	A	A	00 33 49.1
comp=N,9.0nm,2.3s,comp=E,13nm,1.1s
JIHU	**Itakohorinouch**	**1.98**	**221**	A	A	00 33 50.0
comp=N,30nm,3.9s,comp=E,30nm,4.9s
JYT	**Yasato**	**1.99**	**232**	A	A	00 33 49.9
comp=N,13nm,0.3s,comp=E,11nm,0.3s
JYK	**Kaneyama**	**1.99**	**316**	P	**Pn**	**00 33 50.3**	**0.0**
JYK	**Kaneyama**	**1.99**	**316**	A	A	00 33 50.3
comp=N,13nm,1.0s,comp=E,10.0nm,1.0s
JOM	**Ohasama**	**2.09**	**342**	A	A	00 33 52.0
comp=N,7.0nm,1.5s,comp=E,11nm,3.0s
JYA	**Atsumi**	**2.20**	**301**	A	A	00 33 52.8
comp=N,13nm,0.9s,comp=E,13nm,1.1s
JRG	**Rokugo**	**2.24**	**329**	A	A	00 33 53.8
comp=N,15nm,1.2s,comp=E,14nm,0.8s
JNS	**Sasagawa**	**2.25**	**279**	A	A	00 33 53.3
comp=N,3.0nm,1.7s,comp=E,6.0nm,1.4s
JYYZ	**Yamagatayuza**	**2.31**	**312**	A	A	00 33 54.4
comp=N,20nm,5.3s,comp=E,22nm,4.9s
JSZI	**Iwateshizukuis**	**2.43**	**338**	A	A	00 33 56.7
comp=N,15nm,1.5s,comp=E,15nm,1.5s
JYW	**Yuwa**	**2.54**	**324**	A	A	00 33 58.1
comp=N,22nm,1.2s,comp=E,22nm,1.0s
JIZZ	**Izumozaki**	**2.71**	**272**	A	A	00 33 59.9
comp=N,11nm,4.9s,comp=E,14nm,4.0s
JKEN	**Kujiedanarisaw**	**2.74**	**353**	A	A	00 34 01.4
comp=N,17nm,1.8s,comp=E,14nm,0.4s
JGK	**Kuni**	**2.93**	**253**	A	A	00 34 03.1
comp=N,6.0nm,1.0s,comp=E,6.0nm,1.2s
JAH	**Hinai**	**2.94**	**337**	A	A	00 34 04.0
comp=N,8.0nm,1.1s,comp=E,8.0nm,2.3s
JSD	**Sado**	**3.11**	**281**	Pn	**Pn**	**00 34 05.2**	**-0.4**
JSD	**Sado**	**3.11**	**281**	P	**Pn**	**00 34 06.2**	**+0.6**
JNTW	**Noshirotokiwa**	**3.18**	**332**	A	A	00 34 07.2
comp=N,26nm,2.1s,comp=E,21nm,1.9s
MJAR	**Matsushiro Arr**	**3.27**	**254**	Pn	**Pn**	**00 34 07.8**	**0.0**
comp=E,6.1nm,0.3s,baz=80,slow=15,SNR=126
MJAR				Sn	**Sn**	**00 34 49.1**	**+3.2**
comp=E,9.7nm,0.3s,baz=86,slow=27,SNR=4.2
MJAR				LR	LR	00 35 42.9
comp=E,3μm,18.0s,baz=80,slow=46
comp=E,71nm,0.6s
MAJO	**Matsushiro**	**3.27**	**254**	Pn	**Pn**	**00 34 08.8**	**+0.9**
MAJO	**Matsushiro**	**3.27**	**254**	P	**Pn**	**00 34 09.5**	**+1.6**
MAJO	**Matsushiro**	**3.27**	**254**	*i* P	**Pn**	**00 34 09.4**	**+1.6**
JTM	**Tenmabayashi**	**3.40**	**346**	Pn	**Pn**	**00 34 11.1**	**+1.5**
JTM	**Tenmabayashi**	**3.40**	**346**	P	**Pn**	**00 34 12.4**	**+2.8**
JTM	**Tenmabayashi**	**3.40**	**346**	S	**Sn**	**00 34 49.6**	**+0.6**
JHHS	**Hirosakihykuz**	**3.45**	**337**	A	A	00 34 11.1
comp=N,18nm,2.2s,comp=E,10.0nm,1.7s
JAHD	**Aomorihigashid**	**3.83**	**351**	A	A	00 34 16.8
comp=N,9.0nm,1.3s,comp=E,11nm,1.3s
JNY	**Yasuok**	**4.04**	**240**	A	A	00 34 18.9
comp=N,7.0nm,1.8s,comp=E,6.0nm,2.0s
JSG	**Sagara**	**4.24**	**230**	Pn	**Pn**	**00 34 22.6**	**+1.4**
JGF	**Kuroka**	**4.27**	**245**	Pn	**Pn**	**00 34 22.7**	**+1.0**
JGF	**Kuroka**	**4.27**	**245**	P	**Pn**	**00 34 24.3**	**+2.6**
ERM	**Erimo**	**4.60**	**10**		**Pn**	**00 34 26.7**	**+0.7**
ERM	**Erimo**	**4.60**	**10**	*i* P	**Pn**	**00 34 26.4**	**+0.4**
INU	**Inuyama**	**4.63**	**244**	Pn	**Pn**	**00 34 27.7**	**+1.1**
INU	**Inuyama**	**4.63**	**244**	P	**Pn**	**00 34 28.8**	**+2.2**
JHJ2	**Mitsune**	**4.75**	**204**	Pn	**Pn**	**00 34 28.4**	**+0.2**
JHJ	**Hachijo jima 2**	**4.75**	**204**	Pn	**Pn**	**00 34 27.7**	**-0.5**
comp=E,55nm,0.3s,baz=57,slow=18,SNR=8.9
JHJ				Sn	**Sn**	**00 35 18.2**	**-4.2**
comp=E,123nm,0.3s,baz=73,slow=19,SNR=6.6
JHJ				LR	LR	00 36 19.9
comp=E,600nm,21.0s,baz=85,slow=40
comp=E,121nm,0.3s
NMR	**Nemuro--Hokkai**	**6.49**	**24**	*e*P	**Pn**	**00 34 50.6**	**-1.5**
NMR				*i* S	**Sn**	**00 35 59.5**	**-5.7**
ASAJ	**Asahikawa**	**6.64**	**3**	Pn	**Pn**	**00 34 55.0**	**+0.9**
comp=E,3.6nm,0.3s,baz=191,slow=14,SNR=12
ASAJ				Sn	**Sn**	**00 36 09.1**	**+0.3**
comp=E,4.5nm,0.3s,baz=159,slow=23,SNR=1.6
ASAJ				Lg	Lg	00 36 34.0
comp=E,2.8nm,0.3s,baz=107,slow=19,SNR=4.5
comp=E,9.8nm,0.3s
JKA	**Kamikawa-asahi**	**6.64**	**3**	Pn	**Pn**	**00 34 55.4**	**+1.3**
RUSJ	**Misakicho**	**7.03**	**19**	*e*P	**Pn**	**00 35 00.1**	**+0.7**
RUSJ				*i* S	**Sn**	**00 36 16.0**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**7.13**	**22**	*e*P	**Pn**	**00 35 00.6**	**-0.3**
YUK				*i* S	**Sn**	**00 36 16.1**	**-4.8**
YUK				pmax	pmax
comp=Z,71nm,0.1s
YUK				pmax	pmax
comp=N,36nm,0.2s
YUK				pmax	pmax
comp=E,188nm,0.5s
YUK				smax	smax
comp=N,703nm,0.4s
YUK				smax	smax
comp=E,712nm,0.5s
JMN	**Monobe**	**7.69**	**243**	Pn	**Pn**	**00 35 08.9**	**+0.4**
TEY	**Ternei**	**8.61**	**333⇑**	*e*P	Pn	00 35 27.6	+6.5
TEY				*e*		00 36 48.3
TEY				pmax	pmax
comp=E,30nm,1.0s
TEY				pmax	pmax
comp=N,60nm,0.9s
TEY				pmax	pmax
comp=Z,50nm,1.0s
KUR	**Kuril'sk**	**8.86**	**27**	*e*P	**Pn**	**00 35 23.8**	**-0.8**
KUR				*e*S	**Sn**	**00 36 56.4**	**-7.1**
KUR				pmax	pmax
comp=Z,59nm,0.7s
KUR				pmax	pmax
comp=E,15nm,0.2s
KUR				pmax	pmax
comp=N,33nm,0.5s
KUR				smax	smax
comp=N,149nm,0.5s
KUR				smax	smax
comp=E,94nm,0.6s
YSS	**Yuzhno-Sakhali**	**9.48**	**3**		**Pn**	**00 35 33.8**	**+0.8**
YSS	**Yuzhno-Sakhali**	**9.48**	**3**	*e*P	**Pn**	**00 35 34.2**	**+1.2**
YSS				*e*S	**Sn**	**00 37 13.6**	**-4.9**
YSS				pmax	pmax
comp=Z,120nm,1.0s
YSS				MLR	MLR
comp=Z,300nm,18.0s
YSS				MLR	MLR
comp=N,400nm,17.0s
YSS				MLR	MLR
comp=E,500nm,17.0s
VLA	**Vladivostok**	**9.63**	**309**	*i* P	**Pn**	**00 35 34.7**	**-0.4**
MSHR	**Mys Shultsa**	**9.83**	**305**	*i* P	**Pn**	**00 35 39.7**	**+1.9**
JNU	**Nakatsue**	**10.16**	**248**	Pn	**Pn**	**00 35 43.7**	**+1.2**
JNU	**Nakatsue**	**10.16**	**248**	Pn	**Pn**	**00 35 42.8**	**+0.2**
comp=E,0.7nm,0.3s,baz=64,slow=7.7,SNR=15
JNU				LR	LR	00 39 52.7
comp=E,622nm,20.7s,baz=68,slow=39
comp=E,16nm,0.7s
USA0B	**Ussuriysk Arra**	**10.19**	**314**	*i* P	**Pn**	**00 35 43.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.19**	**314**	Pn	**Pn**	**00 35 43.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.19**	**314**	Pn	**Pn**	**00 35 43.3**	**+0.5**
comp=E,2.6nm,0.3s,baz=130,slow=13,SNR=70
USRK				Sn	**Sn**	**00 37 31.6**	**-4.5**
comp=E,0.2nm,0.3s,baz=125,slow=13,SNR=1.2
USRK				LR	LR	00 39 27.4
comp=E,724nm,19.4s,baz=134,slow=36
comp=E,9.7nm,0.6s
KSRS	**Korea Array**	**11.29**	**274**	Pn	**Pn**	**00 36 00.7**	**+2.8**
comp=E,0.8nm,0.3s,baz=91,slow=13,SNR=34
KSRS				LR	LR	00 40 11.4
comp=E,607nm,18.8s,baz=80,slow=37
KSAR	**Wonju Array Be**	**11.32**	**274**	Pn	**Pn**	**00 36 00.5**	**+2.3**
KSAR	**Wonju Array Be**	**11.32**	**274**	P	**Pn**	**00 36 00.5**	**+2.3**
KS19	**Wonju Array Si**	**11.33**	**274**		**Pn**	**00 35 60.0**	**+1.6**
MDJ	**Mudanjiang**	**11.83**	**311**	Pn	**Pn**	**00 36 06.3**	**+1.0**
MDJ	**Mudanjiang**	**11.83**	**311**	P	Pn	00 36 11.4	+6.1
MDJ				S	**Sn**	**00 38 22.3**	**+5.9**
MDJ				pmax	pmax
comp=E,24nm,0.7s
MDJ				LR	LR
comp=E,520nm,18.6s
MDJ				LR	LR
comp=E,650nm,16.5s
MDJ				LR	LR
comp=E,800nm,20.3s
TJN	**Taejon**	**11.86**	**269**		**Pn**	**00 36 06.3**	**+0.5**
TJN	**Taejon**	**11.86**	**269**	*i* P	**Pn**	**00 36 06.9**	**+1.2**
INCN	**Inchon**	**12.31**	**275**	Pn	**Pn**	**00 36 11.4**	**-0.4**
INCN	**Inchon**	**12.31**	**275**	P	**Pn**	**00 36 11.4**	**-0.4**
BNX	**BinXian**	**13.74**	**312**	⇑P	**Pn**	**00 36 32.6**	**+1.3**
BNX				pmax	pmax
comp=E,10.0nm,1.2s
KLR	**Kul'dur**	**13.94**	**331**	Pn	**Pn**	**00 36 33.7**	**-0.3**
comp=E,0.2nm,0.3s,baz=142,slow=9.6,SNR=8.1
KLR				LR	LR	00 41 59.1
comp=E,619nm,18.4s,baz=158,slow=38
comp=E,1.3nm,0.5s
KLR	**Kul'dur**	**13.94**	**331**	*i* P	**Pn**	**00 36 33.1**	**-0.9**
CN2	**Changchun**	**14.13**	**302**	*e*P	**Pn**	**00 36 38.3**	**+1.6**
CN2				*e*pP	P	00 36 46.0	+2.0
CN2				*e*S	**Sn**	**00 39 13.1**	**+0.6**
CN2				pmax	pmax
comp=E,10.0nm,0.7s
CN2				pmax	pmax
comp=E,100nm,5.0s
CN2				LR	LR
comp=E,200nm,12.0s
CN2				LR	LR
comp=E,400nm,12.0s
CN2				LR	LR
comp=E,300nm,13.0s
JOW	**Kunigami**	**15.80**	**232**	LR	LR	00 43 05.8
comp=E,99nm,19.7s,baz=74,slow=38
DL2	**Dalian**	**16.18**	**281**	P	**Pn**	**00 37 03.5**	**-0.2**
DL2				S	**Sn**	**00 40 03.8**	**+1.6**
DL2				pmax	pmax
comp=E,49nm,1.0s
DL2				pmax	pmax
comp=E,400nm,4.8s
DL2				LR	LR
comp=E,300nm,19.2s
DL2				LR	LR
comp=E,560nm,15.4s
DL2				LR	LR
comp=E,460nm,18.0s
SKR	**Severo-Kuril's**	**16.55**	**33**	*e*P	P	00 37 24.1	+13
SKR				*e*S	**Sn**	**00 40 05.9**	**-5.2**
SKR				pmax	pmax
comp=Z,500nm,4.7s
SKR				MLR	MLR
comp=Z,500nm,12.0s
HEH	**HeiHe**	**16.55**	**325**	*e*P	**Pn**	**00 37 07.3**	**-1.2**
HEH				pmax	pmax
comp=Z,11nm,0.9s
SSE	**Sheshan**	**18.42**	**256**	P	**P**	**00 37 30.8**	**-0.7**
SSE				S	**Sn**	**00 40 53.3**	**-3.3**
SSE				pmax	pmax
comp=Z,10.0nm,0.8s
SSE				pmax	pmax
comp=Z,120nm,3.7s
SSE				LR	LR
comp=Z,130nm,14.8s
SSE				LR	LR
comp=Z,200nm,14.3s
PEA0B	**Petropavlovsk-**	**19.02**	**30**	P	**P**	**00 37 38.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**19.02**	**30**	P	**P**	**00 37 38.4**	**+0.5**
PEA0B				pmax	pmax
comp=Z,33nm,1.3s
PETK	**Petropavlovsk-**	**19.02**	**30**	P	**Pn**	**00 37 39.0**	**+0.2**
PETK	**Petropavlovsk-**	**19.02**	**30**	P	**P**	**00 37 37.9**	**0.0**
comp=Z,6.4nm,0.9s,baz=201,slow=7.7,SNR=4.5
PETK				LR	LR	00 45 39.4
comp=Z,99nm,18.6s,baz=216,slow=39
ZEA	**Zeya**	**19.23**	**332**	*e*P	**P**	**00 37 39.2**	**-1.1**
ZEA				pmax	pmax
comp=E,10.0nm,0.5s
ZEA				pmax	pmax
comp=N,20nm,0.7s
ZEA				pmax	pmax
comp=Z,20nm,0.7s
ZEA				MLR	MLR
comp=E,200nm,17.0s
ZEA				MLR	MLR
comp=N,300nm,16.0s
ZEA				MLR	MLR
comp=Z,300nm,17.0s
HIA	**Hailar**	**20.00**	**313**	P	**P**	**00 37 48.3**	**-0.4**
HIA	**Hailar**	**20.00**	**313**	P	**P**	**00 37 48.3**	**-0.4**
HIA				pmax	pmax
comp=Z,19nm,1.4s
TIA	**Tai'an**	**20.03**	**274**	P	**P**	**00 37 47.9**	**-1.3**
TIA				PP	**PnPn**	**00 38 12.9**	**+7.4**
TIA				S	**S**	**00 41 32.3**	**-0.7**
TIA				pmax	pmax
comp=Z,20nm,0.8s
TIA				pmax	pmax
comp=Z,170nm,3.5s
BJT	**Baijiatuau**	**20.38**	**285**	P	**P**	**00 37 51.7**	**-1.2**
BJT	**Baijiatuau**	**20.38**	**285**	P	**P**	**00 37 51.7**	**-1.2**
BJT				pmax	pmax
comp=Z,23nm,0.9s
XLT	**XiLinHaoTe**	**20.71**	**296**	*e*P	**P**	**00 37 54.6**	**-2.0**
XLT				sP	sP	00 38 07.6	+0.2
XLT				pmax	pmax
comp=Z,17nm,1.0s
XLT				LR	LR
comp=Z,310nm,16.6s
XLT				LR	LR
comp=Z,400nm,20.6s
HNS	**HongShan**	**21.74**	**278**	⇓P	**P**	**00 38 05.0**	**-2.6**
HNS				*e*S	S	00 41 55.4	-11
HNS				pmax	pmax
comp=Z,120nm,0.8s
HNS				LR	LR
comp=Z,400nm,13.1s
HNS				LR	LR
comp=Z,480nm,12.9s
YHNB	**Yeheng**	**21.82**	**240**	P	**P**	**00 38 07.3**	**-1.4**
YHNB				IAmb	IAmb	00 38 46.1
comp=Z,64nm,1.3s
NACB	**Ninganchiao**	**22.00**	**239**	P	**P**	**00 38 09.0**	**-1.4**
MA2	**Magadan**	**22.80**	**11**	P	**P**	**00 38 19.4**	**+0.7**
MA2	**Magadan**	**22.80**	**11**	LR	LR	00 48 03.7
comp=Z,117nm,18.7s,baz=212,slow=39
MA2	**Magadan**	**22.80**	**11**	*i* P	**P**	**00 38 20.0**	**+1.3**
MA2	**Magadan**	**22.80**	**11**	P	**P**	**00 38 20.7**	**+2.0**
comp=Z,23nm,1.1s
TPUB	**Ta-pu**	**23.24**	**239**	P	**P**	**00 38 22.4**	**-1.2**
TPUB				IAmb	IAmb	00 38 49.5
comp=Z,66nm,1.3s
HHC	**Hu-ho-hao-te**	**23.87**	**288⇑**	*i* P	**P**	**00 38 30.8**	**+1.2**
HHC				pP	sP	00 38 38.0	-2.8
HHC				S	**S**	**00 42 35.9**	**-8.2**
HHC				pmax	pmax
comp=Z,18nm,0.7s
HHC				pmax	pmax
comp=Z,100nm,6.7s
HHC				LR	LR
comp=Z,190nm,11.2s
HHC				LR	LR
comp=Z,260nm,13.0s
HHC				LR	LR
comp=Z,430nm,14.0s
WHN	**Wuhan**	**23.98**	**261**	P	**P**	**00 38 31.0**	**+0.4**
WHN				pmax	pmax
comp=Z,92nm,0.6s
LYN	**LuoYang**	**24.12**	**272**	⇓P	**P**	**00 38 31.4**	**-0.5**
LYN				pmax	pmax
comp=Z,42nm,0.7s
LYN				pmax	pmax
comp=Z,220nm,6.2s

LYN				LR	LR		
	comp=Z,510nm,14.4s						
LYN				LR	LR		
	comp=Z,460nm,15.5s						
LYN				LR	LR		
	comp=Z,670nm,17.9s						
BTO	**Baotou**	**25.05**	**287**	*e*P	**P**	**00 38 41.1**	**+0.7**
BTO				pP	**sP**	**00 38 52.5**	**+0.9**
BTO				sP	pP	00 38 58.3	+10
BTO				PP	**PnPn**	**00 39 19.8**	**+5.5**
BTO				S	**S**	**00 43 00.5**	**-2.6**
BTO				sS	sS	00 43 19.3	+3.2
BTO				SS	**SnSn**	**00 44 00.6**	**+7.6**
BTO				pmax	pmax		
	comp=Z,14nm,0.6s						
BTO				pmax	pmax		
	comp=Z,320nm,8.8s						
BTO				LR	LR		
	comp=Z,500nm,8.0s						
BTO				LR	LR		
	comp=Z,610nm,12.8s						
YAK	**Yakutsk**	**25.76**	**346**	P	**P**	**00 38 46.1**	**-0.4**
YAK				IAmb	IAmb	00 38 48.0	
	comp=Z,26nm,0.6s						
YAK	**Yakutsk**	**25.76**	**346**	LR	LR	00 49 10.6	
	comp=Z,171nm,19.2s,baz=112,slow=37						
YAK	**Yakutsk**	**25.76**	**346**	*e*P	**P**	**00 38 46.1**	**-0.4**
YAK				*e**PP	**sP**	**00 38 57.7**	**+0.1**
YAK				*e*		00 39 24.0	
YAK				*e*PPP	PPP	00 39 32.2	
YAK				*e*		00 42 15.5	
YAK				*e*S	**S**	**00 43 12.2**	**-1.4**
YAK				*e*SS	**SnSn**	**00 44 11.0**	**+1.2**
YAK				*e*SSS	SSS	00 44 25.1	
YAK				*e*		00 49 39.7	
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,13nm,0.4s						
YAK				pmax	pmax		
	comp=N,18nm,1.5s						
YAK				pmax	pmax		
	comp=E,20nm,1.8s						
YAK				smax	smax		
	comp=N,125nm,2.3s						
YAK				smax	smax		
	comp=E,106nm,3.4s						
SEY	**Seymchan**	**26.24**	**11**	LR	LR	00 49 39.1	
	comp=E,284nm,19.8s,baz=148,slow=38						
SEY	**Seymchan**	**26.24**	**11**	*ce*P	**P**	**00 38 53.0**	**+2.2**
SEY				pmax	pmax		
	comp=Z,14nm,1.3s						
SHEM	**Shemya Is, Ala**	**26.95**	**45**	LR	LR	00 47 59.6	
	comp=Z,78nm,19.1s,baz=133,slow=33						
XAN	**Xi'an**	**27.08**	**273**	P	**P**	**00 38 58.3**	**-0.5**
XAN				S	**S**	**00 43 33.6**	**-1.5**
XAN				pmax	pmax		
	comp=Z,33nm,0.8s						
XAN				LR	LR		
	comp=Z,330nm,14.4s						
XAN				LR	LR		
	comp=Z,260nm,14.4s						
XAN				LR	LR		
	comp=Z,370nm,13.1s						
BOD	**Bodaibo**	**27.46**	**327**	*e*P	**P**	**00 39 02.0**	**+0.2**
BOD				pmax	pmax		
	comp=Z,17nm,1.1s						
ULN	**Ulaanbaatar**	**27.57**	**303**	P	**P**	**00 39 02.2**	**-1.0**
ULN	**Ulaanbaatar**	**27.57**	**303**	*i* P	**P**	**00 39 02.8**	**-0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.90**	**122**	T	T	01 08 29.0	
	baz=315,slow=75,SNR=633						
H11N1	**WAKE ISLAND Hy**	**27.91**	**123**	T	T	01 08 39.3	
	baz=315,slow=75,SNR=861						
H11N3	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	01 08 30.4	
	baz=315,slow=75,SNR=770						
ENH	**Enshi**	**27.93**	**265**	P	**P**	**00 39 05.7**	**-0.7**
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**00 39 06.8**	**-0.3**
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**00 39 07.5**	**+0.4**
	comp=Z,8.7nm,0.7s,baz=100,slow=8.9,SNR=72						
SONM				LR	LR	00 50 40.1	
	comp=Z,160nm,18.4s,baz=131,slow=37						
	comp=Z,8.7nm,0.7s						
SONM	**Songino Array**	**28.01**	**303**	P	**P**	**00 39 06.8**	**-0.3**
SONM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	01 09 31.4	
	baz=317,slow=76,SNR=706						
H11S3	**WAKE ISLAND Hy**	**28.64**	**125**	T	T	01 09 31.4	
	baz=317,slow=76,SNR=635						
H11S2	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	01 09 26.6	
	baz=317,slow=76,SNR=629						
ZAK	**Zakamensk**	**30.44**	**308**	*e*P	**P**	**00 39 28.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LZH	**Lanzhou**	**30.55**	**279**	*e*P	P	00 39 34.6	+4.8
LZH				sP	sP	00 39 47.8	+6.9
LZH				pmax	pmax		
	comp=Z,27nm,1.5s						
LZH				LR	LR		
	comp=Z,300nm,12.7s						
LZH				LR	LR		
	comp=Z,340nm,13.7s						
LZH				LR	LR		
	comp=Z,380nm,14.1s						
MOY	**Mondy**	**32.08**	**310**	*e*P	**P**	**00 39 43.5**	**+0.5**
BILL	**Bilibino**	**33.44**	**16**	P	**P**	**00 39 54.6**	**+0.1**
BILL	**Bilibino**	**33.44**	**16**	*ce*P	**P**	**00 39 55.9**	**+1.4**
BILL				pmax	pmax		
	comp=Z,17nm,2.5s						
TIXI	**Tiksi**	**34.91**	**353**	LR	LR	00 55 27.5	
	comp=Z,126nm,18.0s,baz=194,slow=38						
KMI	**Kunming**	**35.59**	**261**	⇑P	**P**	**00 40 15.6**	**+1.7**
KMI				pmax	pmax		
	comp=Z,26nm,0.6s						
KMI				LR	LR		
	comp=Z,250nm,17.1s						
KMI				LR	LR		
	comp=Z,240nm,17.7s						
KMI				LR	LR		
	comp=Z,310nm,23.8s						
PZH	**PanZhiHua**	**35.71**	**264**	P	**P**	**00 40 16.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
SPIA	**Saint Paul Isl**	**36.85**	**42**	P	**P**	**00 40 25.0**	**+1.0**
	baz=259						
P08K	**Saint George I**	**37.12**	**43**	P	**P**	**00 40 27.1**	**+0.8**
	baz=260						
GOMU	**GeErMu**	**37.57**	**283**	P	**P**	**00 40 31.8**	**+0.9**
GOMU				pP	pP	00 40 36.4	-2.5
GOMU				pmax	pmax		
	comp=Z,17nm,0.6s						
GAMB	**Gambell**	**38.04**	**31**	P	**P**	**00 40 34.3**	**+0.3**
	baz=249						
UNV	**Unalaska Valle**	**38.52**	**48**	P	**P**	**00 40 39.6**	**+1.4**
	baz=266						
M11K	**Mekoryuk**	**39.56**	**38**	P	**P**	**00 40 47.8**	**+1.1**
	baz=259						
JAY	**Jayapura**	**39.82**	**182**	LR	LR	00 54 20.7	
	comp=Z,87nm,22.0s,baz=346,slow=32						
TNA	**Tin City**	**40.19**	**30**	P	**P**	**00 40 52.5**	**+0.6**
	baz=251						
K13K	**Kusilvak Mount**	**40.61**	**36**	P	**P**	**00 40 56.2**	**+0.7**
	baz=258						
F14K	**Arctic Creek**	**40.79**	**30**	P	**P**	**00 40 57.3**	**+0.4**
	baz=253						
ANM	**Nome**	**40.92**	**32**	P	**P**	**00 40 58.4**	**+0.4**
	baz=255						
M13K	**Dall Lake**	**40.96**	**38**	P	**P**	**00 40 58.2**	**-0.1**
	baz=261						
S12K	**Black Hills**	**41.19**	**45**	P	**P**	**00 41 00.6**	**+0.2**
	baz=268						
FAKI	**Fak Fak**	**41.23**	**195**	P	**P**	**00 41 00.9**	**-0.1**
FAKI				IAmb	IAmb	00 41 20.2	
	comp=Z,19nm,1.0s						
J14K	**Nanvaranak Lak**	**41.28**	**35**	P	**P**	**00 41 01.3**	**+0.3**
	baz=259						
L14K	**Kuka Creek**	**41.43**	**37**	P	**P**	**00 41 02.2**	**0.0**
	baz=261						
F15K	**North Star Dit**	**41.52**	**30**	P	**P**	**00 41 03.3**	**+0.3**
	baz=254						
G15K	**Niukluk**	**41.58**	**31**	P	**P**	**00 41 03.7**	**+0.2**
	baz=256						
M14K	**Bethel**	**41.69**	**38**	P	**P**	**00 41 05.8**	**+1.5**
M14K				IAmb	IAmb	00 41 12.8	
	comp=Z,46nm,1.4s						
M14K	**Bethel**	**41.69**	**38**	P	**P**	**00 41 04.3**	**0.0**
	baz=262						
N14K	**Kuskokwak Cree**	**41.72**	**39**	P	**P**	**00 41 05.1**	**+0.6**
	baz=264						
O14K	**Tigyukauivet M**	**41.86**	**40**	P	**P**	**00 41 05.7**	**0.0**
	baz=265						
CHTO	**Chiang Mai**	**41.95**	**256**	P	**P**	**00 41 06.8**	**-0.2**
CHTO	**Chiang Mai**	**41.95**	**256**	P	**P**	**00 41 06.8**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZAA0	**Zalesovo Array**	**42.03**	**312**	P	**P**	**00 41 07.2**	**0.0**
ZALV	**Zalesovo Beam**	**42.03**	**312**	P	**P**	**00 41 07.1**	**-0.1**
ZALV	**Zalesovo Beam**	**42.03**	**312**	P	**P**	**00 41 07.8**	**+0.6**
	comp=Z,9.0nm,0.7s,baz=89,slow=7.2,SNR=47						
ZALV				PcP	**PcP**	**00 43 01.0**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=108,slow=4.7,SNR=1.9						
ZALV				LR	LR	00 59 17.9	
	comp=Z,204nm,18.8s,baz=80,slow=37						
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	**42.03**	**312**	*i* P	**P**	**00 41 08.0**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.6s						
L15K	**Ungalak Mounta**	**42.05**	**36**	P	**P**	**00 41 08.4**	**+1.1**
	baz=262						
C16K	**Lisburne Hills**	**42.05**	**26**	P	**P**	**00 41 08.9**	**+1.7**
C16K				IAmb	IAmb	00 41 09.8	
	comp=Z,11nm,0.8s						
C16K	**Lisburne Hills**	**42.05**	**26**	P	**P**	**00 41 07.4**	**+0.2**
	baz=251						
K15K	**Wolf Creek Mou**	**42.12**	**35**	P	**P**	**00 41 09.2**	**+1.3**
	baz=261						
CMAR	**Chiang Mai Arr**	**42.16**	**255**	P	**P**	**00 41 09.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=52,slow=8.6,SNR=5.9						
	comp=Z,1.2nm,0.6s						
H16K	**Elim**	**42.25**	**32**	P	**P**	**00 41 08.1**	**-0.7**
	baz=258						
M15K	**Kasigluk River**	**42.30**	**38**	P	**P**	**00 41 08.7**	**-0.6**
	baz=264						
G16K	**Koyuk River**	**42.37**	**31**	P	**P**	**00 41 09.6**	**-0.2**
	baz=257						
N15K	**Kwethluk River**	**42.54**	**39**	P	**P**	**00 41 11.1**	**-0.2**
	baz=265						
O15K	**Ungalikthiuk R**	**42.59**	**40**	P	**P**	**00 41 12.5**	**+0.7**
	baz=266						
CHNA	**Chernabura Isl**	**42.59**	**47**	P	**P**	**00 41 12.3**	**+0.5**
	baz=271						
S14K	**Fog Glacier**	**42.62**	**45**	P	**P**	**00 41 12.3**	**+0.2**
	baz=269						
D17K	**Noatak River**	**42.68**	**27**	P	**P**	**00 41 12.9**	**+0.5**
	baz=254						
J16K	**Anvik River**	**42.70**	**34**	P	**P**	**00 41 13.2**	**+0.6**
	baz=261						
I17K	**Unalakleet**	**42.76**	**33**	P	**P**	**00 41 13.9**	**+0.9**
	baz=260						
RDOG	**Red Dog Mine**	**42.85**	**27**	P	**P**	**00 41 15.2**	**+1.4**
RDOG				IAmb	IAmb	00 41 16.9	
	comp=Z,17nm,1.2s						
RDOG	**Red Dog Mine**	**42.85**	**27**	P	**P**	**00 41 14.2**	**+0.5**
	baz=254						
C17K	**DeLong Mountai**	**42.88**	**26**	P	**P**	**00 41 14.5**	**+0.5**
	baz=253						
E17K	**Hotham Inlet**	**42.98**	**28**	P	**P**	**00 41 15.3**	**+0.5**
	baz=256						
L16K	**Owhat River**	**43.00**	**37**	P	**P**	**00 41 15.4**	**+0.3**
	baz=264						
F17K	**Baldwin Pennin**	**43.05**	**29**	P	**P**	**00 41 15.8**	**+0.4**
	baz=257						
NRIK	**Noril'sk**	**43.10**	**335**	P	**P**	**00 41 16.0**	**+0.3**
NRIK	**Noril'sk**	**43.10**	**335**	P	**P**	**00 41 16.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=91,slow=9.5,SNR=7.1						
NRIK				LR	LR	01 00 14.9	
	comp=Z,247nm,18.8s,baz=80,slow=38						
	comp=Z,0.9nm,0.5s						
NRIK	**Noril'sk**	**43.10**	**335**	*i* P	**P**	**00 41 18.3**	**+2.6**
NRIK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
M16K	**Timber Creek**	**43.18**	**38**	P	**P**	**00 41 16.3**	**-0.1**
	baz=265						
H17K	**Granite Mounta**	**43.28**	**32**	P	**P**	**00 41 16.2**	**-1.1**
	baz=260						
J17K	**VABM Dome**	**43.40**	**34**	P	**P**	**00 41 17.3**	**-1.0**
	baz=262						
E18K	**Tukpahlearik C**	**43.53**	**28**	P	**P**	**00 41 20.5**	**+1.2**
E18K	**Tukpahlearik C**	**43.53**	**28**	P	**P**	**00 41 19.8**	**+0.6**
	baz=256						
L17K	**Donlin**	**43.60**	**36**	P	**P**	**00 41 20.3**	**+0.4**
	baz=264						
B18K	**Kokolik River**	**43.62**	**25**	P	**P**	**00 41 20.2**	**+0.3**
	baz=253						
C18K	**Utukok River**	**43.62**	**26**	P	**P**	**00 41 21.6**	**+1.5**
C18K				IAmb	IAmb	00 41 22.9	
	comp=Z,16nm,0.8s						
C18K	**Utukok River**	**43.62**	**26**	P	**P**	**00 41 20.6**	**+0.6**
	baz=255						
K17K	**Iditarod**	**43.66**	**35**	P	**P**	**00 41 21.0**	**+0.6**
	baz=264						
F18K	**Selawik**	**43.71**	**29**	P	**P**	**00 41 21.4**	**+0.7**
	baz=258						
M17K	**Holitna River**	**43.94**	**37**	P	**P**	**00 41 23.3**	**+0.6**
	baz=266						
H18K	**Honhosa River**	**43.97**	**32**	P	**P**	**00 41 23.5**	**+0.7**
	baz=261						
G18K	**Tagagawik**	**43.97**	**31**	P	**P**	**00 41 24.4**	**+1.6**
G18K	**Tagagawik**	**43.97**	**31**	P	**P**	**00 41 23.7**	**+0.9**
	baz=260						
SHL	**Shillong**	**43.98**	**269**	P	**P**	**00 41 22.5**	**-1.1**
SHL				IAmb	IAmb	00 41 28.3	
	comp=Z,14nm,0.6s						
SHL	**Shillong**	**43.98**	**269**	P	**P**	**00 41 22.5**	**-1.1**
SHL				pmax	pmax		
	comp=Z,14nm,0.6s						
N17K	**Nushagak Hills**	**44.01**	**38**	P	**P**	**00 41 23.1**	**-0.1**
	baz=267						
O17K	**Koliganek Bris**	**44.02**	**39**	P	**P**	**00 41 23.8**	**+0.6**
	baz=268						
A19K	**Wainwright**	**44.10**	**24**	P	**P**	**00 41 24.4**	**+0.7**
	baz=253						
P17K	**Kvichak River**	**44.33**	**40**	P	**P**	**00 41 26.8**	**+1.0**
	baz=269						
MK31	**Makanchi Array**	**44.36**	**302**	P	**P**	**00 41 26.2**	**0.0**
MK31				IAmb	IAmb	00 41 38.6	
	comp=Z,19nm,1.1s						
MK31	**Makanchi Array**	**44.36**	**302**	*i* P	**P**	**00 41 26.4**	**+0.2**
MK31				pmax	pmax		
	comp=Z,33nm,1.1s						
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**00 41 26.3**	**+0.1**
MKAR	**Makanchi Array**	**44.36**	**302**	P	**P**	**00 41 26.0**	**-0.2**
	comp=Z,8.3nm,0.7s,baz=85,slow=9.5,SNR=85						
MKAR				LR	LR	01 01 22.4	
	comp=Z,83nm,20.3s,baz=64,slow=38						
	comp=Z,8.3nm,0.7s						
MKAR	**Makanchi Array**	**44.36**	**302**	*i* P	**P**	**00 41 26.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
L18K	**Granite Mounta**	**44.36**	**36**	P	**P**	**00 41 26.8**	**+0.8**
	baz=266						
J18K	**Innoko River**	**44.46**	**34**	P	**P**	**00 41 27.7**	**+0.9**
	baz=264						
F19K	**Shaleruckik Mo**	**44.49**	**29**	P	**P**	**00 41 27.9**	**+1.0**
	baz=260						
GCSA	**Galena City Sc**	**44.54**	**32**	P	**P**	**00 41 28.2**	**+1.0**
	baz=263						
MAKZ	**Makanchi**	**44.57**	**302**	P	**P**	**00 41 28.1**	**+0.2**
MAKZ				IAmb	IAmb	00 41 40.4	
	comp=Z,19nm,1.1s						
MAKZ	**Makanchi**	**44.57**	**302**	P	**P**	**00 41 28.1**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,19nm,1.1s						
G19K	**Purcell Mounta**	**44.65**	**30**	P	**P**	**00 41 28.9**	**+0.7**
	baz=261						
N18K	**Kilae Creek**	**44.66**	**38**	P	**P**	**00 41 28.8**	**+0.5**
	baz=268						
D19K	**Kuna River**	**44.69**	**27**	P	**P**	**00 41 29.0**	**+0.5**
	baz=258						
M18K	**Stony River**	**44.72**	**37**	P	**P**	**00 41 29.2**	**+0.4**
	baz=267						
TTA	**Tatalina**	**44.73**	**35**	P	**P**	**00 41 28.8**	**-0.2**
	baz=266						
E19K	**Redstone River**	**44.81**	**28**	P	**P**	**00 41 30.0**	**+0.5**
	baz=260						
H19K	**Roundabout Mou**	**44.82**	**31**	P	**P**	**00 41 31.1**	**+1.6**
H19K				IAmb	IAmb	00 41 42.6	
	comp=Z,9.0nm,0.9s						
H19K	**Roundabout Mou**	**44.82**	**31**	P	**P**	**00 41 30.6**	**+1.0**
	baz=263						
CHIR	**Chirikof Islan**	**44.83**	**45**	P	**P**	**00 41 30.8**	**+1.0**
	baz=273						
P18K	**Big Mountain,**	**44.96**	**40**	P	**P**	**00 41 31.4**	**+0.6**
	baz=270						
O18K	**Koktuh Hills**	**44.97**	**39**	P	**P**	**00 41 31.7**	**+0.8**
	baz=269						
J19K	**Poorman**	**45.00**	**33**	P	**P**	**00 41 31.0**	**0.0**
	baz=265						
L19K	**White Mountain**	**45.22**	**36**	P	**P**	**00 41 33.0**	**+0.2**
	baz=267						
D20K	**Etivluk River**	**45.27**	**27**	P	**P**	**00 41 34.0**	**+0.8**
	baz=259						
F20K	**Avaraart Lake**	**45.32**	**29**	P	**P**	**00 41 34.4**	**+0.9**
	baz=262						
E20K	**Nigu River**	**45.34**	**27**	P	**P**	**00 41 34.1**	**+0.3**
	baz=260						
B20K	**Meade River**	**45.35**	**25**	P	**P**	**00 41 35.6**	**+1.9**
B20K				IAmb	IAmb	00 41 36.8	
	comp=Z,26nm,1.0s						
B20K	**Meade River**	**45.35**	**25**	P	**P**	**00 41 34.6**	**+1.0**
	baz=257						
N19K	**Bonanza Creek**	**45.35**	**38**	P	**P**	**00 41 34.4**	**+0.5**
	baz=269						
R18K	**Karluk**	**45.40**	**43**	P	**P**	**00 41 35.1**	**+0.9**
	baz=272						
O19K	**Port Alsworth**	**45.42**	**39**	P	**P**	**00 41 35.0**	**+0.6**
	baz=270						
H20K	**Anotleneega Mo**	**45.46**	**31**	P	**P**	**00 41 35.6**	**+0.8**
	baz=264						
I20K	**Naaghedeneel**	**45.56**	**32**	P	**P**	**00 41 35.8**	**+0.4**
	baz=265						
BRDH	**Bariadhala**	**45.59**	**266**	LR	LR	01 02 34.7	
	comp=Z,104nm,19.0s,baz=67,slow=39						
K20K	**Telida**	**45.64**	**34**	P	**P**	**00 41 36.7**	**+0.5**
	baz=267						
J20K	**Nowinta River**	**45.66**	**33**	P	**P**	**00 41 36.6**	**+0.3**
	baz=266						
L20K	**Farewell, AK**	**45.69**	**36**	P	**P**	**00 41 37.3**	**+0.7**
	baz=268						
Q19K	**Cape Douglas,**	**45.78**	**41**	P	**P**	**00 41 37.4**	**+0.1**
	baz=272						
A21K	**Barrow**	**45.82**	**23**	P	**P**	**00 41 37.9**	**+0.5**
	baz=257						
P19K	**Oil Pt**	**45.97**	**40**	P	**P**	**00 41 38.7**	**-0.2**
	baz=271						
C21K	**Knifeblade Rid**	**46.00**	**26**	P	**P**	**00 41 39.2**	**+0.3**
	baz=261						
M20K	**Styx River**	**46.02**	**37**	P	**P**	**00 41 39.5**	**+0.2**
	baz=269						
OHAK	**Old Harbor**	**46.04**	**43**	P	**P**	**00 41 39.9**	**+0.5**
	baz=274						
KURK	**Kurchatov**	**46.10**	**308**	P	**P**	**00 41 39.9**	**0.0**
KURK	**Kurchatov**	**46.10**	**308**	*ce*P	**P**	**00 41 40.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,34nm,1.0s						
B21K	**Ikpikpuk River**	**46.14**	**26**	P	**P**	**00 41 40.4**	**+0.5**
	baz=260						
KURBB	**Kurchatov Arra**	**46.17**	**308**	P	**P**	**00 41 40.6**	**+0.1**
	comp=Z,21nm,0.6s,baz=82,slow=8.1,SNR=77						
KURBB				LR	LR	01 01 40.8	
	comp=Z,220nm,19.5s,baz=172,slow=37						
	comp=Z,21nm,0.6s						
F21K	**Alatna River**	**46.21**	**29**	P	**P**	**00 41 41.4**	**+0.8**
	baz=264						
O20K	**Slope Mountain**	**46.27**	**39**	P	**P**	**00 41 41.5**	**+0.2**
	baz=271						
H21K	**Melozitna Rive**	**46.34**	**31**	P	**P**	**00 41 42.0**	**+0.4**
	baz=266						
KDAK	**Kodiak Island**	**46.39**	**42**	P	**P**	**00 41 42.1**	**+0.1**
KDAK				IAmb	IAmb	00 41 43.5	
	comp=Z,17nm,0.9s						
KDAK	**Kodiak Island**	**46.39**	**42**	LR	LR	01 01 04.8	
	comp=Z,88nm,20.0s,baz=86,slow=36						
KDAK	**Kodiak Island**	**46.39**	**42**	P	**P**	**00 41 42.6**	**+0.5**
	baz=274						
KDAK	**Kodiak Island**	**46.39**	**42**	P	**P**	**00 41 42.2**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,17nm,0.9s						
Q20K	**Shuyak Island**	**46.44**	**41**	P	**P**	**00 41 42.4**	**-0.1**
	baz=273						
CHUM	**Lake Minchumin**	**46.45**	**34**	P	**P**	**00 41 43.1**	**+0.7**
	baz=268						
SPCR	**Spurr Chakacha**	**46.46**	**37**	P	**P**	**00 41 42.6**	**-0.1**
	baz=271						
PPLA	**Purkeypile**	**46.48**	**35**	P	**P**	**00 41 43.4**	**+0.6**
	baz=269						
SPU	**Mount Spurr**	**46.53**	**38**	P	**P**	**00 41 45.0**	**+1.7**
SPU				IAmb	IAmb	00 41 46.5	
	comp=Z,15nm,1.2s						
CAST	**Castle Rocks**	**46.54**	**34**	P	**P**	**00 41 43.9**	**+0.7**
	baz=269						
I21K	**Tanana**	**46.65**	**32**	P	**P**	**00 41 45.0**	**+1.0**
	baz=267						
D22K	**Ayikyak River**	**46.71**	**27**	P	**P**	**00 41 45.0**	**+0.5**
	baz=263						
SKT	**Skwentna**	**46.78**	**36**	P	**P**	**00 41 45.9**	**+0.8**
	baz=271						
HOM	**Homer**	**46.78**	**40**	P	**P**	**00 41 45.5**	**+0.4**
	baz=273						
H22K	**Ishtalitna Cre**	**46.94**	**31**	P	**P**	**00 41 47.2**	**+0.9**
	baz=267						
E22K	**Anaktuvuk Pass**	**46.94**	**28**	P	**P**	**00 41 46.4**	**0.0**
	baz=264,SNR=8.5						
CAPN	**Captain Cook N**	**46.98**	**38**	P	**P**	**00 41 47.0**	**+0.3**
	baz=272						
BPAW	**Bear Paw Mtn.**	**47.04**	**34**	P	**P**	**00 41 48.2**	**+1.1**
	baz=269						
KTH	**Kantishna Hill**	**47.06**	**34**	P	**P**	**00 41 49.1**	**+1.7**
KTH				IAmb	IAmb	00 41 50.4	
	comp=Z,16nm,1.1s						
KAPI	**Kappang**	**47.14**	**211**	P	**P**	**00 41 48.2**	**-0.1**
KAPI				IAmb	IAmb	00 42 01.5	
	comp=Z,16nm,1.1s						
KAPI	**Kappang**	**47.14**	**211**	LR	LR	01 02 02.7	
	comp=Z,27nm,19.3s,baz=54,slow=37						
KAPI	**Kappang**	**47.14**	**211**	P	**P**	**00 41 48.2**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,16nm,1.1s						
TRF	**Thorofare Moun**	**47.34**	**34**	P	**P**	**00 41 50.1**	**+0.4**
	baz=270						
CUT	**Chulitna**	**47.36**	**36**	P	**P**	**00 41 50.4**	**+0.8**
	baz=271						
D23K	**Nanushuk River**	**47.44**	**27**	P	**P**	**00 41 50.8**	**+0.6**
	baz=265						
COLD	**Coldfoot**	**47.49**	**29**	P	**P**	**00 41 50.9**	**+0.3**
	baz=267						
G23K	**Bananza Creek**	**47.53**	**30**	P	**P**	**00 41 52.2**	**+1.3**
	baz=268						
C23K	**Itkillik River**	**47.55**	**26**	P	**P**	**00 41 51.3**	**+0.3**
	baz=264,SNR=9.0						
RC01	**Rabbit Creek A**	**47.66**	**38**	P	**P**	**00 41 52.3**	**+0.3**
	baz=273						
BWN	**Browne**	**47.71**	**33**	P	**P**	**00 41 54.6**	**+2.3**
I23K	**Minto, Yukon-K**	**47.76**	**32**	P	**P**	**00 41 53.2**	**+0.6**
	baz=270						
E23K	**Chandalar**	**47.76**	**28**	P	**P**	**00 41 53.3**	**+0.5**
	baz=267						
TOLK	**Toolik Lake Re**	**47.81**	**27**	P	**P**	**00 41 54.4**	**+1.3**
	baz=266						
WUS	**Wushi**	**47.85**	**295**	P	**P**	**00 41 53.4**	**-0.5**
SEW	**Seward**	**47.86**	**39**	P	**P**	**00 41 54.9**	**+1.5**
	baz=274						
NEA2	**Nenana**	**47.88**	**33**	P	**P**	**00 41 54.6**	**+1.0**
	baz=270						
PMR	**Palmer**	**

SML IAmb IAmb 00 41 59.4
comp=Z,12nm,1.0s
SML Sawmill 48.30 37 P **P 00 41 57.4 +0.4**
baz=274
PWL Port Wells 48.36 38 P **P 00 41 57.9 +0.5**
baz=274
H24K Noodor Dome 48.38 31 P **P 00 41 58.3 +0.8**
baz=270
F24K Squaw Lake 48.39 29 P **P 00 41 57.5 -0.1**
baz=269
G24K Hadweenzic Riv 48.54 30 P **P 00 41 59.1 +0.4**
baz=270
M23K Glacier View 48.59 37 P **P 00 41 59.6 +0.4**
baz=274
TARG Taragay, Kyrgy 48.71 296 P **P 00 42 01.3 +0.4**
TARG IAmb IAmb 00 42 08.6
comp=Z,14nm,0.8s
TARG Taragay, Kyrgy 48.71 296 P **P 00 42 01.3 +0.4**
TARG pmax pmax
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 48.77 37 P **P 00 42 01.8 +1.2**
SCM IAmb IAmb 00 42 03.2
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 48.77 37 P **P 00 42 01.1 +0.5**
baz=274
SCM Sheep Creek Mo 48.77 37 P **P 00 42 01.8 +1.2**
SCM pmax pmax
comp=Z,12nm,1.0s
HDA Harding Lake 48.80 33 P **P 00 42 00.2 -0.5**
baz=272
ILAR Eielson Array 48.81 33 P **P 00 42 01.4 +0.6**
ILAR Eielson Array 48.81 33 P **P 00 42 00.7 -0.1**
comp=Z,4.5nm,0.7s,baz=270,slow=5.9,SNR=74
ILAR PcP **PcP 00 43 24.6 -0.6**
comp=Z,1.4nm,0.8s,baz=281,slow=5.4,SNR=2.2
comp=Z,4.5nm,0.7s
MDOK Medeo 48.83 298 P **P 00 42 01.4 0.0**
P23K Montague Islan 48.89 39 P **P 00 42 01.1 -0.4**
baz=276
GLI Glacier Island 48.96 38 P **P 00 42 02.0 0.0**
baz=275
D25K Kavik River 49.00 27 P **P 00 42 02.5 +0.3**
baz=269
KDJ Kajisay 49.03 297 P **P 00 42 02.5 -0.6**
KDJ IAmb IAmb 00 42 08.9
comp=Z,8.3nm,0.8s
KDJ Kajisay 49.03 297 P **P 00 42 02.5 -0.6**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
G25K Bearman Lake 49.09 30 P **P 00 42 02.4 -0.5**
baz=271
H25L Birch Creek 49.21 31 P **P 00 42 04.2 +0.4**
baz=272
F25K Christian Rive 49.25 29 P **P 00 42 05.1 +0.9**
baz=271
E25K Arctic Village 49.28 28 P **P 00 42 05.1 +0.7**
baz=270
M24K Tolsona, Glenn 49.29 36 P **P 00 42 04.7 +0.1**
baz=275
K24K Donnelly Dome 49.34 34 P **P 00 42 05.4 +0.5**
baz=274
PRP Porcupine Dome 49.36 32 P **P 00 42 07.0 +1.9**
PRP Porcupine Dome 49.36 32 P **P 00 42 05.5 +0.3**
baz=273,SNR=6.3
KLU Klutina 49.47 37 P **P 00 42 07.5 +1.6**
KLU IAmb IAmb 00 42 18.2
comp=Z,15nm,1.2s
KLU Klutina 49.47 37 P **P 00 42 06.7 +0.7**
baz=276,SNR=5.0
J25K Salcha River, 49.47 33 P **P 00 42 06.3 +0.3**
baz=274
C26K Camden Bay 49.52 26 P **P 00 42 06.2 0.0**
baz=270
PAX Paxson 49.55 35 P **P 00 42 06.1 -0.5**
baz=275
HNR Honiara 49.57 157 LR LR 01 02 25.1
comp=Z,74nm,19.5s,baz=326,slow=35
DIV Divide 49.58 37 P **P 00 42 08.6 +1.8**
EYAK Cordova Ski Ar 49.65 38 P **P 00 42 07.6 +0.4**
baz=277
BMAR Burnt Mountain 49.67 29 P **P 00 42 09.7 +2.3**
HARP HAARP 49.74 36 P **P 00 42 08.1 +0.2**
baz=276
RIDG Independent Ri 49.76 34 P **P 00 42 08.0 -0.1**
baz=275
BOOM Boomskoye usch 49.80 298 P **P 00 42 09.3 +0.4**
BOOM IAmb IAmb 00 42 16.7
comp=Z,11nm,0.8s
BOOM Boomskoye usch 49.80 298 P **P 00 42 09.3 +0.4**
BOOM pmax pmax
comp=Z,11nm,0.8s
F26K Sheenjek River 49.83 29 P **P 00 42 08.6 +0.1**
baz=272,SNR=8.4
TKM2 Tokmak 2 49.91 298 *i* P **P 00 42 10.2 +0.4**
TKM2 pmax pmax
comp=Z,16nm,0.6s
C27K Jago River 49.94 26 P **P 00 42 09.1 -0.2**
baz=271
G26K Porcupine Rive 50.00 30 P **P 00 42 09.6 -0.2**
baz=273
N25K Chitina, Valde 50.09 37 P **P 00 42 11.0 +0.3**
baz=277
SCRK Sand Creek 50.12 34 P **P 00 42 12.3 +1.3**
SCRK IAmb IAmb 00 42 13.1
comp=Z,7.5nm,0.9s
SCRK Sand Creek 50.12 34 P **P 00 42 11.0 0.0**
baz=275,SNR=8.7
BMRM Bremner River 50.16 37 P **P 00 42 11.5 +0.3**
baz=277
J26L Joseph Creek 50.26 33 P **P 00 42 11.9 -0.1**
baz=275
I26K Coal Creek Min 50.36 32 P **P 00 42 12.6 0.0**
baz=275
KAIM Kayak Island 50.39 39 P **P 00 42 12.3 -0.6**
baz=278
L26K Log Cabin Wild 50.50 35 P **P 00 42 13.7 -0.1**
baz=277,SNR=7.4
FRU1 Bishkek 50.62 298 P **P 00 42 14.9 -0.1**
FRU1 IAmb IAmb 00 42 27.1
comp=Z,18nm,0.8s
FRU1 Bishkek 50.62 298 P **P 00 42 14.9 -0.1**
FRU1 pmax pmax
comp=Z,18nm,0.8s
BVAR Borovoye Array 50.69 312 P **P 00 42 15.3 0.0**
comp=Z,3.1nm,0.5s,baz=72,slow=8.4,SNR=12
BVAR PcP **PcP 00 43 32.4 +0.1**
comp=Z,1.6nm,0.7s,baz=76,slow=6.1,SNR=1.4
BVAR LR LR 01 04 44.6
comp=Z,139nm,19.1s,baz=136,slow=37
comp=Z,3.1nm,0.5s
KSH Kashi 50.74 294 P P 00 42 23.3 +7.3
KSH sP sP 00 42 35.5 +8.0
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,390nm,14.4s
KSH LR LR
comp=Z,240nm,16.1s
KSH LR LR
comp=Z,400nm,14.8s
M26K Nabesna, AK 50.74 35 P **P 00 42 15.6 0.0**
baz=278
BRVK Borovoye 50.74 312 P **P 00 42 14.7 -0.9**
BRVK IAmb IAmb 00 42 26.1
comp=Z,7.4nm,0.8s
BRVK Borovoye 50.74 312 *i* P **P 00 42 14.2 -1.5**
BRVK pmax pmax
comp=Z,3.0nm,0.4s
AAK Ala-Archa 50.77 298 P **P 00 42 16.5 +0.2**
AAK IAmb IAmb 00 42 28.0
comp=Z,8.6nm,0.8s
AAK Ala-Archa 50.77 298 P **P 00 42 16.7 +0.4**
comp=Z,5.4nm,0.7s,baz=63,slow=6.8,SNR=18
AAK LR LR 01 05 13.5
comp=Z,272nm,18.4s,baz=68,slow=38
comp=Z,5.4nm,0.7s
AAK Ala-Archa 50.77 298 *i* P **P 00 42 16.0 -0.3**
AAK pmax pmax
comp=Z,5.0nm,0.6s
G27K Doyon Strip 50.84 30 P **P 00 42 17.0 +0.8**
baz=275
D27M Malcolm River 50.92 27 P **P 00 42 17.1 +0.2**
baz=274
H27K Steamboat Moun 50.95 30 P **P 00 42 17.4 +0.3**
baz=276
I27K Kandik River 50.97 31 P **P 00 42 17.5 +0.2**
baz=276

COEN Coen 51.17 179 P **P 00 42 19.5 +0.3**
L27K Beaver Creek, 51.19 35 P **P 00 42 19.0 +0.1**
baz=278
BCAR Beaver Creek A 51.20 35 P **P 00 42 21.3 +2.2**
M27K Edge Creek, AK 51.26 35 P **P 00 42 20.0 +0.4**
baz=278
F28M Old Crow 51.46 29 P **P 00 42 22.9 +2.0**
F28M Old Crow 51.46 29 P **P 00 42 21.8 +1.0**
baz=276
MESA MESA 51.57 38 P **P 00 42 22.4 +0.4**
baz=280
I28M Miner Creek 51.69 31 P **P 00 42 23.2 +0.6**
baz=278
D28M Stokes Point 51.71 26 P **P 00 42 23.5 +0.9**
baz=276
E29M Blow River 52.11 28 P **P 00 42 26.2 +0.5**
baz=277
DAWY Dawson 52.12 33 P **P 00 42 26.5 +0.6**
baz=279
G29M Pine Creek 52.26 29 P **P 00 42 27.2 +0.4**
baz=278,SNR=7.3
ARSB Arslanbob 52.27 297 P **P 00 42 27.4 -0.1**
ARSB IAmb IAmb 00 42 42.8
comp=Z,18nm,0.9s
ARSB Arslanbob 52.27 297 P **P 00 42 27.4 -0.1**
ARSB pmax pmax
comp=Z,18nm,0.9s
O28M Mount Upton 52.32 37 P **P 00 42 28.0 +0.2**
baz=281
YUK8 Steele Glacier 52.43 37 P **P 00 42 28.3 -0.2**
baz=281
PSI Prapat 52.51 240 LR LR 01 04 58.3
comp=Z,58nm,21.0s,baz=36,slow=36
J29N Klondike Camp 52.56 32 P **P 00 42 29.6 +0.4**
baz=280
M29M Somme Creek 52.81 35 P **P 00 42 31.8 +0.7**
baz=281
L29M L29M 52.84 34 P **P 00 42 33.3 +2.1**
baz=281
EPYK Eagle Plains 52.86 30 P **P 00 42 33.4 +2.1**
EPYK Eagle Plains 52.86 30 P **P 00 42 32.2 +0.9**
baz=280,SNR=15
YUK4 Talbot Arm 52.95 36 P **P 00 42 32.9 +0.6**
baz=282
G30M tAoh Zraii Nji 52.95 29 P **P 00 42 32.5 +0.6**
baz=280
K29M Barlow Dome 52.97 33 P **P 00 42 32.0 -0.3**
baz=281
F30M Barrier River 53.01 28 P **P 00 42 33.3 +0.9**
baz=280
YUK6 Outpost Mounta 53.17 37 P **P 00 42 34.7 +0.9**
baz=282
I30M Mount Dempster 53.20 31 P **P 00 42 34.7 +0.8**
baz=281
O29M Mount Kennedy 53.20 38 P **P 00 42 33.6 -0.4**
baz=283
J30M Hart River 53.34 32 P **P 00 42 35.6 +0.6**
baz=281
KK31 Karatay Array 53.39 300 P **P 00 42 35.2 -0.4**
KK31 IAmb IAmb 00 42 42.9
comp=Z,28nm,1.3s
KK31 Karatay Array 53.39 300 *i* P **P 00 42 35.8 +0.3**
KKAR Karatay Array 53.39 300 P **P 00 42 35.6 +0.1**
KKAR Karatay Array 53.39 300 P **P 00 42 35.6 +0.1**
M30M Minto, Yukon 53.55 35 P **P 00 42 37.5 +1.1**
baz=282
HYT Haines Junctio 53.60 37 P **P 00 42 39.0 +2.0**
HYT IAmb IAmb 00 42 41.0
comp=Z,20nm,1.2s
HYT Haines Junctio 53.60 37 P **P 00 42 37.8 +0.9**
baz=283,SNR=7.0
G31M Satah River 53.72 29 P **P 00 42 39.6 +2.1**
baz=282,SNR=6.0
INK Inuvik 53.73 27 P **P 00 42 39.1 +1.6**
INK Inuvik 53.73 27 P **P 00 42 38.4 +0.9**
baz=281,SNR=5.1
INK Inuvik 53.73 27 P **P 00 42 39.1 +1.6**
INK pmax pmax
comp=Z,5.0nm,0.8s
DRK Karamyk 53.77 295 P **P 00 42 39.0 +0.3**
DRK IAmb IAmb 00 42 48.9
comp=Z,8.4nm,0.7s
DRK Karamyk 53.77 295 P **P 00 42 39.0 +0.3**
DRK pmax pmax
comp=Z,8.0nm,0.7s
F31M Tsiigehtchic 53.82 28 P **P 00 42 39.4 +1.2**
baz=282,SNR=5.5
H31M Peel River 53.91 30 P **P 00 42 40.6 +1.6**
H31M Peel River 53.91 30 P **P 00 42 40.2 +1.1**
baz=282
P30M Million Dollar 54.03 38 P **P 00 42 40.8 +0.8**
baz=284
BTK Batken 54.26 296 P **P 00 42 42.0 0.0**
BTK IAmb IAmb 00 43 12.0
comp=Z,9.4nm,1.1s
BTK Batken 54.26 296 P **P 00 42 42.0 0.0**
BTK pmax pmax
comp=Z,9.0nm,1.2s
N31M Braeburn, Yuko 54.26 36 P **P 00 42 41.9 +0.3**
baz=284
O30N Mendenhall 54.29 37 P **P 00 42 41.7 -0.2**
baz=284
KNRA Kununurra 54.35 196 P **P 00 42 42.9 +0.2**
KNRA IAmb IAmb 00 42 59.8
comp=Z,15nm,1.1s
PLBC Pleasant Camp 54.48 38 P **P 00 42 43.4 +0.1**
baz=285
GSI Gunungsitoli 54.51 239 P **P 00 42 44.5 +0.5**
M31M Drury Creek, Y 54.72 35 P **P 00 42 45.2 +0.2**
baz=285
WHY Whitehorse 54.89 37 P **P 00 42 46.1 -0.2**
baz=285
S31K Pelican 54.95 40 P **P 00 42 47.0 +0.4**
baz=286
SKAG Skagway 54.99 38 P **P 00 42 47.0 +0.1**
baz=286
NIL Nilore 55.01 288 P **P 00 42 47.5 0.0**
NIL Nilore 55.01 288 P **P 00 42 47.5 0.0**
NIL pmax pmax
comp=Z,16nm,0.8s
GAR Garm 55.02 295 P **P 00 42 47.6 0.0**
SVE Sverdlovsk 55.18 319 *e*P **P 00 42 49.5 +1.2**
SVE pmax pmax
comp=Z,21nm,0.9s
FARO Faro, Yukon 55.19 35 P **P 00 42 48.2 -0.1**
baz=286
A36M Sachs Harbour 55.63 22 P **P 00 42 53.2 +1.9**
A36M IAmb IAmb 00 42 54.5
comp=Z,10nm,0.7s
A36M Sachs Harbour 55.63 22 P **P 00 42 51.8 +0.5**
baz=286,SNR=12
SIT Sitka 55.68 41 P **P 00 42 52.0 +0.2**
baz=287
R32K Eaglecrest 55.73 39 P **P 00 42 52.9 +0.7**
baz=287
P32M Atlin 55.75 38 P **P 00 42 52.4 0.0**
baz=287
S32K Killisnoo 55.94 40 P **P 00 42 53.9 +0.2**
baz=288
CHGR Chuyangaron 55.98 295 P **P 00 42 54.5 0.0**
CHGR Chuyangaron 55.98 295 P **P 00 42 54.5 0.0**
CHGR pmax pmax
comp=Z,49nm,0.9s
P33M Teslin, Yukon 56.00 37 P **P 00 42 54.8 +0.5**
baz=287,SNR=6.3
MMPY Sheldon Lake, 56.01 34 P **P 00 42 55.9 +1.6**
MMPY IAmb IAmb 00 42 58.0
comp=Z,9.7nm,1.4s
MMPY Sheldon Lake, 56.01 34 P **P 00 42 55.3 +1.0**
baz=287
SIMJ Simiganj 56.09 295 P **P 00 42 55.4 +0.1**
ARTI Arti 56.50 318 P **P 00 42 58.2 +0.4**
ARTI Arti 56.50 318 P **P 00 42 57.7 -0.1**
comp=Z,8.9nm,0.5s,baz=82,slow=3.6,SNR=21
ARTI LR LR 01 09 38.4
comp=Z,189nm,18.6s,baz=57,slow=39
comp=Z,8.9nm,0.5s
ARTI Arti 56.50 318 *c i* P **P 00 42 58.2 +0.4**
ARTI 00 45 01.5
ARTI S **S 00 50 47.6 +0.4**
ARTI SS **SS 00 54 33.4 -0.7**
ARTI pmax pmax
comp=Z,9.0nm,0.6s
Q32M Nakina River 56.65 38 P **P 00 43 00.3 +1.3**
baz=288
C36M Paulatuk 56.78 25 P **P 00 43 00.1 +0.5**
baz=289,SNR=8.7

U33K Whale Pass 57.13 42 P **P 00 43 02.7 +0.5**
baz=290
R33M Jennings River 57.14 37 P **P 00 43 03.5 +1.0**
baz=289
CRAG Craig 57.35 42 P **P 00 43 04.0 +0.3**
baz=290
WB0 Warramunga Arr 57.41 189 P **P 00 43 03.9 -0.7**
WB0 IAmb IAmb 00 43 05.6
comp=Z,16nm,1.0s
WRAK Wrangell Islan 57.44 41 P **P 00 43 04.5 +0.1**
baz=290
S34M Telegraph Cree 57.55 39 P **P 00 43 05.0 -0.2**
baz=290
WB2 Warramunga Arr 57.59 189 P **P 00 43 05.1 -0.6**
WRA Warramunga Arr 57.59 189 P **P 00 43 04.9 -0.9**
WRA Warramunga Arr 57.59 189 P **P 00 43 04.7 -1.1**
comp=Z,10nm,0.9s,baz=8.8,slow=7.2,SNR=42
WRA LR LR 01 08 23.0
comp=Z,44nm,18.2s,baz=65,slow=37
comp=Z,10nm,0.9s
TGTN Hyland Airport 57.69 35 P **P 00 43 06.7 +0.5**
baz=290
KBL Kabul 57.78 291 P **P 00 43 06.5 -0.9**
KBL IAmb IAmb 00 43 18.2
comp=Z,9.1nm,0.9s
KBL Kabul 57.78 291 P **P 00 43 06.6 -0.9**
KBL pmax pmax
comp=Z,9.0nm,1.0s
DLBC Dease Lake 57.92 38 P **P 00 43 10.2 +2.3**
DLBC IAmb IAmb 00 43 11.9
comp=Z,10nm,1.1s
DLBC Dease Lake 57.92 38 P **P 00 43 08.3 +0.4**
baz=290
WTLY Watson Lake, Y 57.94 36 P **P 00 43 07.8 -0.1**
baz=290
AB31 Akbulak array 58.08 310 *i* P **P 00 43 08.9 -0.1**
ABKAR Akbulak array 58.08 310 P **P 00 43 08.8 -0.2**
ABKAR Akbulak array 58.08 310 P **P 00 43 08.9 -0.2**
ABKAR IAmb IAmb 00 43 19.6
comp=Z,7.3nm,0.7s
V35K Ketchikan 58.20 42 P **P 00 43 10.1 +0.3**
baz=291
T35M Bob Quinn 58.33 40 P **P 00 43 11.1 +0.5**
baz=291
AKTO Aktyubinsk 58.79 312 P **P 00 43 14.3 +0.3**
comp=Z,1.4nm,0.5s,baz=74,slow=10,SNR=11
AKTO LR LR 01 09 11.4
comp=Z,114nm,19.9s,baz=33,slow=37
comp=Z,1.4nm,0.5s
WRGLY Wrigley 59.17 32 P **P 00 43 16.9 +0.5**
baz=293
TOAD Toad River Com 60.09 37 P **P 00 43 23.2 +0.3**
baz=294
KOTAN Kotaneelee Air 60.13 35 P **P 00 43 22.7 -0.4**
baz=294
SPITS Spitsbergen Ar 60.19 349 LR LR 01 12 05.6
comp=Z,101nm,18.5s,baz=40,slow=39
KIRV Kirov 60.23 323 P **P 00 43 22.9 -0.8**
comp=Z,4.8nm,0.5s,baz=93,slow=2.0,SNR=5.6
KIRV LR LR 01 12 16.5
comp=Z,137nm,18.4s,baz=60,slow=39
comp=Z,4.8nm,0.5s
KIRV Kirov 60.23 323 *ce*P **P 00 43 25.2 +1.5**
AS31 Alice Springs 61.31 189 P **P 00 43 31.8 +0.3**
ASAR Alice Springs 61.31 189 P **P 00 43 31.2 -0.3**
comp=Z,8.5nm,0.8s,baz=9.9,slow=6.4,SNR=79
comp=Z,8.5nm,0.8s
BBB Bella Bella 61.35 45 LR LR 01 07 17.2
comp=Z,29nm,20.6s,baz=236,slow=33
MBWA Marble Bar 62.02 204 P **P 00 43 35.7 -0.5**
RES Resolute Bay 62.02 15 P **P 00 43 36.8 +1.2**
RES IAmb IAmb 00 43 37.4
comp=Z,7.6nm,1.2s
RES Resolute Bay 62.02 15 P **P 00 43 36.8 +1.2**
RES pmax pmax
comp=Z,8.0nm,1.2s
HRA Herat 62.85 294 P **P 00 43 41.8 -0.4**
PALK Pallekele 63.02 258 LR LR 01 12 25.7
comp=Z,46nm,21.3s,baz=20,slow=37
EIDS Eidsvold 63.08 171 P **P 00 43 43.5 +0.3**
YKA Yellowknife Ar 63.14 30 P **P 00 43 43.6 +0.3**
YKA Yellowknife Ar 63.14 30 P **P 00 43 44.3 +1.0**
comp=Z,2.5nm,0.7s,baz=302,slow=6.8,SNR=41
YKA LR LR 01 14 50.0
comp=Z,23nm,18.3s,baz=298,slow=40
comp=Z,2.5nm,0.7s
DZM Mont Dzumac 63.51 155 *e*LR LR 01 02 50.7
comp=Z,173nm,22.4s
ARCES ARCESS Array B 63.77 339 P **P 00 43 48.1 +0.7**
comp=Z,6.5nm,1.1s,baz=41,slow=6.6,SNR=1.9
ARCES LR LR 01 14 02.4
comp=Z,126nm,19.6s,baz=43,slow=38
comp=Z,6.5nm,1.1s
BELG Belogornoye 63.86 317 P **P 00 43 48.0 -0.2**
comp=Z,3.9nm,0.7s,baz=0.0,slow=20,SNR=5.3
BELG LR LR 01 13 27.1
comp=Z,103nm,18.6s,baz=58,slow=38
comp=Z,3.9nm,0.7s
BELG Belogornoye 63.86 317 P **P 00 43 48.0 -0.2**
MSVF Nonsavu 64.50 142 LR LR 01 06 11.5
comp=Z,102nm,20.4s,baz=96,slow=31
VRH Novokhopyorsk 67.62 318 *e*P **P 00 44 13.5 +1.0**
VRH pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 68.07 323 *i* P **P 00 44 17.1 +1.9**
OBN *i* 00 44 37.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 68.32 320 *e*P **P 00 44 18.5 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FINES FINESS Array B 68.68 332 P **P 00 44 19.4 +0.4**
FINES FINESS Array B 68.68 332 P **P 00 44 19.4 +0.5**
comp=Z,2.6nm,0.7s,baz=46,slow=8.2,SNR=14
FINES LR LR 01 15 11.0
comp=Z,93nm,20.0s,baz=43,slow=37
comp=Z,2.6nm,0.7s
VORR Voronezh 68.69 319 *e*P P 00 44 26.1 +6.9
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 68.97 319 *e*P **P 00 44 23.8 +2.9**
VSR pmax pmax
comp=Z,7.0nm,1.0s
STKA Stephens Creek 69.00 180 P **P 00 44 21.4 +0.2**
STKA Stephens Creek 69.00 180 P **P 00 44 20.8 -0.4**
comp=Z,2.9nm,0.8s,baz=349,slow=10,SNR=6.7
comp=Z,2.9nm,0.8s
VORD Divnogorie 69.04 319 *e*P **P 00 44 23.8 +2.5**
VORD pmax pmax
comp=Z,8.0nm,1.1s
FORT Forrest 69.17 193 P **P 00 44 22.7 +0.5**
NEW Newport 69.41 45 LR LR 01 15 32.6
comp=Z,26nm,18.0s,baz=28,slow=36
PINE Pine Mountain 69.62 50 P **P 00 44 27.6 +2.3**
KBZ Khabaz 71.04 311 P **P 00 44 34.5 +0.7**
comp=Z,2.1nm,0.8s,baz=23,slow=7.7,SNR=4.6
comp=Z,2.1nm,0.8s
KIV Kislovodsk 71.04 311 *e*P **P 00 44 33.8 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 71.89 307 LR LR 01 18 22.2
comp=Z,66nm,18.6s,baz=43,slow=38
UOSS Minazif 72.21 288 P **P 00 44 41.4 +0.2**
UOSS IAmb IAmb 00 44 53.7
comp=Z,8.2nm,0.9s
MNK Minsk 72.44 326 *i* P **P 00 44 41.4 -0.6**
MNK *i* 00 44 59.2
MNK *i* 00 47 22.1
MNK *i* PPP PPP 00 49 06.4
MNK *i* S **S 00 54 02.7 -1.2**
MNK *i* SS **SS 00 58 41.9 +0.3**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK MLR MLR
comp=E,151nm,19.0s
MNK MLR MLR
comp=N,89nm,12.0s
MNK MLR MLR
comp=Z,151nm,16.0s
CMB Columbia Colle 73.15 55 P **P 00 44 47.7 +1.1**
CMB Columbia Colle 73.15 55 P **P 00 44 47.7 +1.1**
CMB pmax pmax
comp=Z,6.0nm,1.0s

ANN	**Anapa**	**73.62**	**314**	*e*P	P		00 44 41.9 -7.3
ANN				pmax	pmax		
	comp=Z,89nm,1.3s						
HFS	**Hagfors**	**73.91**	**336**	P	**P**		**00 44 50.9 +0.3**
	comp=Z,2.7nm,0.8s,baz=40,slow=11,SNR=6.4						
HFS				LR	LR		01 20 24.6
	comp=Z,182nm,18.6s,baz=23,slow=38						
	comp=Z,2.7nm,0.8s						
NC204	**NORSAR Array S**	**73.94**	**338**	P	**P**		**00 44 51.5 +0.7**
NC204				IAmb	IAmb		00 44 60.0
	comp=Z,16nm,0.9s						
NB2	**NORSAR Subarra**	**73.99**	**338**	P	**P**		**00 44 51.5 +0.4**
	comp=Z,11nm,1.1s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**73.99**	**338**	P	**P**		**00 44 51.4 +0.4**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.0,SNR=7.6						
NOA				LR	LR		01 21 06.8
	comp=Z,125nm,18.9s,baz=35,slow=39						
	comp=Z,0.8nm,0.7s						
RYN	**Ryan**	**74.01**	**54**	P	**P**		**00 44 53.5 +1.7**
LHV	**Little Huntoon**	**74.24**	**54**	P	**P**		**00 44 54.7 +1.8**
LHV				IAmb	IAmb		00 44 56.4
	comp=Z,15nm,1.1s						
NVAR	**Mina Array Bea**	**74.27**	**54**	P	**P**		**00 44 54.2 +0.9**
NVAR	**Mina Array Bea**	**74.27**	**54**	P	**P**		**00 44 54.8 +1.4**
	comp=Z,4.3nm,0.8s,baz=306,slow=6.7,SNR=20						
	comp=Z,4.3nm,0.8s						
KIEV	**Kiev**	**74.30**	**323**	P	**P**		**00 44 52.9 -0.1**
KIEV				IAmb	IAmb		00 45 01.3
	comp=Z,4.5nm,0.7s						
KIEV	**Kiev**	**74.30**	**323**	P	**P**		**00 44 52.9 -0.1**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YHL	**Hebgen Lake**	**74.73**	**45**	P	**P**		**00 44 57.3 +1.3**
YHL				IAmb	IAmb		00 44 58.9
	comp=Z,7.7nm,0.9s						
ELK	**Elko**	**74.83**	**50**	P	**P**		**00 44 57.8 +1.2**
ELK	**Elko**	**74.83**	**50**	P	**P**		**00 44 57.8 +1.2**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YMR	**Madison River**	**74.97**	**45**	P	**P**		**00 44 58.9 +1.5**
YMR				IAmb	IAmb		00 44 59.9
	comp=Z,6.5nm,0.7s						
YFT	**Old Faithful**	**75.17**	**45**	P	**P**		**00 45 00.5 +2.0**
YFT				IAmb	IAmb		00 45 02.7
	comp=Z,9.5nm,0.9s						
FRB	**Frobisher Bay**	**76.21**	**14**	LR	LR		01 20 36.3
	comp=Z,37nm,18.9s,baz=333,slow=37						
PDAR	**Pinedale Array**	**76.95**	**46**	P	**P**		**00 45 09.7 +1.0**
	comp=Z,3.4nm,0.6s,baz=289,slow=4.5,SNR=50						
	comp=Z,3.4nm,0.6s						
CHRU	**Chernivtsi**	**77.49**	**322**	P	**P**		**00 45 14.0 +2.7**
	comp=Z,584nmcomp=Z,21nm,0.6s						
BUR08	**Bucovina Ar. S**	**78.30**	**322**	P	**P**		**00 45 16.9 +1.0**
ULM	**Lac du Bonnet**	**78.82**	**34**	P	**P**		**00 45 18.5 -0.1**
	comp=Z,3.2nm,0.6s,baz=301,slow=6.4,SNR=9.4						
	comp=Z,3.2nm,0.6s						
BRTR	**Keskin Array B**	**78.97**	**312**	P	**P**		**00 45 20.0 +0.2**
BRTR	**Keskin Array B**	**78.97**	**312**	P	**P**		**00 45 20.1 +0.2**
	comp=Z,1.8nm,1.0s,baz=353,slow=7.3,SNR=4.9						
	comp=Z,1.8nm,1.0s						
OJC	**Ojcow**	**78.98**	**326**	P	**P**		**00 45 21.3 +1.8**
	comp=Z,8.1nm,0.9s						
UZHM	**Uzhgorod**	**79.00**	**324**	P	**P**		**00 45 22.1 +2.5**
MLR	**Muntele Rosu**	**79.41**	**320**	LR	LR		01 22 34.8
	comp=Z,152nm,18.7s,baz=40,slow=37						
ESJX	**Sierra Juarez**	**79.64**	**58**	P	**P**		**00 45 24.4 +0.8**
ESJX				IAmb	IAmb		00 45 26.2
	comp=Z,9.8nm,1.0s						
LANS	**Liptovska Anna**	**79.91**	**326**	*e*P	**P**		**00 45 26.1 +1.5**
LANS	**Liptovska Anna**	**79.91**	**326**	*e*P	**P**		**00 45 26.1 +1.5**
STEB	**Steborice**	**80.07**	**327**	*e*P	**P**		**00 45 27.1 +1.6**
STEB				*ex*	x		00 45 32.8
N23A	**Red Feather La**	**80.22**	**46**	P	**P**		**00 45 26.5 -0.3**
	baz=312						
DPC	**Dobruska-Polom**	**80.38**	**328**	*e*P	**P**		**00 45 28.8 +1.7**
DPC	**Dobruska-Polom**	**80.38**	**328**	*e*P	**P**		**00 45 28.8 +1.7**
KRLC	**Kraliky**	**80.39**	**328**	*e*P	**P**		**00 45 28.9 +1.7**
KRLC				*e*PCP	**pP**		**00 45 35.3 -0.6**
KRLC	**Kraliky**	**80.39**	**328**	*e*P	**P**		**00 45 28.9 +1.7**
KRLC				*e*			00 45 35.3
VYHS	**Vyhne**	**80.67**	**326**	*e*P	**P**		**00 45 30.1 +1.4**
VYHS	**Vyhne**	**80.67**	**326**	*e*P	**P**		**00 45 30.1 +1.4**
CLL	**Collm**	**80.99**	**330**	*e*P	**P**		**00 45 30.0 -0.3**
CLL				*e**PP	**sP**		**00 45 43.0 +0.9**
CLL				pmax	pmax		
	comp=Z,23nm,1.8s						
CLL	**Collm**	**80.99**	**330**	*e*P	**P**		**00 45 30.0 -0.3**
	comp=Z,23nm,1.8s						
CLL				*e*PcP	**PcP**		**00 45 37.0 +0.3**
CLL				*es*P	**sP**		**00 45 43.0 +0.9**
CLL				*ex*	x		00 45 47.0
CLL				*e*PP	**PP**		**00 48 35.0 +0.6**
RAYN	**Ar Rayn**	**81.01**	**293**	P	**P**		**00 45 30.6 -0.4**
RAYN	**Ar Rayn**	**81.01**	**293**	P	**P**		**00 45 30.6 -0.4**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
VRAC	**Vranov**	**81.05**	**327**	LR	LR		01 25 31.2
	comp=Z,125nm,18.6s,baz=20,slow=39						
S22A	**4UR Ranch, Cre**	**81.78**	**48**	P	**P**		**00 45 35.0 -0.2**
	baz=312						
Q24A	**Divide**	**81.96**	**47**	P	**P**		**00 45 35.3 -0.8**
	baz=312						
ZVC	**Zvikov**	**81.96**	**329**	*e*P	**P**		**00 45 36.7 +1.2**
ZVC				*ex*	x		00 45 44.2
MMAI	**Mount Meron Ar**	**82.16**	**306**	P	**P**		**00 45 36.5 -0.4**
	comp=Z,1.6nm,0.7s,baz=40,slow=6.6,SNR=7.6						
MMAI				LR	LR		01 26 04.8
	comp=Z,59nm,18.2s,baz=9.0,slow=39						
	comp=Z,1.6nm,0.7s						
MPLH	**Magyarpolny**	**82.24**	**325**	P	**P**		**00 45 40.0 +3.0**
	comp=Z,23nm,2.9s						
RONA	**Rosalia, Austr**	**82.40**	**326**	*i* P	**P**		**00 45 39.2 +1.3**
	comp=Z,2.0nm,0.7s						
CONA	**Conrad Observa**	**82.41**	**327**	*i* P	**P**		**00 45 39.4 +1.4**
	comp=Z,0.5nm,0.4s						
KHC	**Kasperske Hory**	**82.45**	**329**	*e*P	**P**		**00 45 39.6 +1.4**
KHC				*e*PCP	**PcP**		**00 45 44.5 +1.2**
KHC	**Kasperske Hory**	**82.45**	**329**	*e*P	**P**		**00 45 39.6 +1.4**
KHC				*e*			00 45 44.5
KHC	**Kasperske Hory**	**82.45**	**329**	P	**P**		**00 45 39.6 +1.4**
	comp=Z,8.7nm,2.2s						
GERES	**GERESS Array B**	**82.62**	**329**	P	**P**		**00 45 39.5 +0.3**
GERES	**GERESS Array B**	**82.62**	**329**	P	**P**		**00 45 38.0 -1.1**
	comp=Z,0.7nm,0.7s,baz=48,slow=6.0,SNR=4.7						
GERES				LR	LR		01 24 05.7
	comp=Z,65nm,18.9s,baz=338,slow=37						
	comp=Z,0.7nm,0.7s						
ARSA	**Arzberg**	**83.08**	**327**	*i* P	**P**		**00 45 38.5 -3.0**
	comp=Z,1.3nm,0.5s						
T25A	**Trinidad**	**83.62**	**48**	P	**P**		**00 45 43.9 -0.8**
	baz=313						
SOKA	**Soboth**	**83.73**	**326**	*i* P	**P**		**00 45 44.7 -0.2**
	comp=Z,0.6nm,0.4s						
OBKA	**Obir**	**84.08**	**327**	*i* P	**P**		**00 45 46.3 -0.3**
	comp=Z,2.0nm,0.6s						
KBA	**Koelnbreinsper**	**84.15**	**328**	*e*P	**P**		**00 45 44.7 -2.4**
	comp=Z,1.2nm,0.5s						
PPT	**Papeete**	**84.33**	**117**	LR	LR		01 14 16.7
	comp=Z,52nm,21.0s,baz=232,slow=29						
PPT2	**Papeete2**	**84.35**	**117**	*e*LR	LR		01 12 18.6
	comp=Z,80nm,21.8s						
PPT2				*e*LR	LR		01 12 35.4
	comp=Z,115nm,30.8s						
EIL	**Elat**	**84.60**	**303**	LR	LR		01 27 16.7
	comp=Z,65nm,18.9s,baz=41,slow=38						
121A	**Cookes Peak, D**	**84.64**	**53**	P	**P**		**00 45 49.7 -0.2**
	baz=312						
SCHQ	**Schefferville**	**84.75**	**16**	P	**P**		**00 45 50.4 +0.6**
	comp=Z,3.1nm,0.7s,baz=5.0,slow=6.0,SNR=7.7						
	comp=Z,3.1nm,0.7s						
MOTA	**Moosalm**	**84.88**	**329**	*e*P	**P**		**00 45 51.2 +0.5**
	comp=Z,0.6nm,0.7s						
RETA	**Reutte**	**84.91**	**329**	*e*PcP	**P**		**00 45 51.9 +1.1**
	comp=Z,0.6nm,0.4s						
FETA	**Feichten**	**85.29**	**329**	*e*P	**P**		**00 45 51.8 -1.0**
	comp=Z,0.3nm,0.3s						
TAOE	**Nuku Hiva Isla**	**85.73**	**104**	*e*LR	LR		01 13 05.1
	comp=Z,168nm,26.4s						
DAVOX	**Davos/Dischmat**	**85.83**	**329**	LR	LR		01 27 48.8
	comp=Z,154nm,18.2s,baz=30,slow=38						
L44A	**Lake County Fo**	**88.54**	**35**	P	**P**		**00 46 07.4 -1.1**
	baz=323						
TXAR	**Lajitas Array**	**89.40**	**53**	P	**P**		**00 46 13.5 +0.5**
	comp=Z,3.0nm,1.0s,baz=306,slow=3.1,SNR=22						
	comp=Z,3.0nm,1.0s						
833A	**Chaparral WMA,**	**92.78**	**51**	P	**P**		**00 46 27.8 -0.7**
	baz=316						
L61B	**Northampton**	**94.36**	**25**	P	**P**		**00 46 34.1 -1.5**
	baz=333						
M65A	**Busby, Falmout**	**95.83**	**24**	P	**P**		**00 46 41.2 -1.0**
	baz=335						
ESDC	**Sonseca Array**	**97.13**	**334**	P	**P**		**00 46 47.9 -0.4**
	comp=Z,0.4nm,1.0s,baz=18,slow=3.5,SNR=3.1						
ESDC				LR	LR		01 34 57.8
	comp=Z,119nm,18.6s,baz=332,slow=38						
	comp=Z,0.4nm,1.0s						
QSPA	**South Pole Qui**	**127.22**	**180**	PKP	**PKPdf**		**00 52 18.5 -0.8**
	comp=Z,1.6nm,0.8s,baz=13,slow=4.3,SNR=6.8						
LPAZ	**La Paz**	**145.98**	**60**	PKPbc	**PKPbc**		**00 52 57.0 +0.3**
	comp=Z,7.8nm,0.9s,baz=336,slow=2.7,SNR=25						
H03N2	**Juan Fernandez**	**146.51**	**96**	T	T		03 37 13.0
	baz=291,slow=76,SNR=29						
H03N3	**Juan Fernandez**	**146.52**	**96**	T	T		03 37 04.2
	baz=291,slow=76,SNR=37						
H03N1	**Juan Fernandez**	**146.52**	**96**	T	T		03 37 11.7
	baz=291,slow=76,SNR=47						
PB11	**IPOC Station P**	**147.20**	**66**	PKPbc	**PKPbc**		**00 52 59.2 -0.4**
VILB	**Vilhena**	**148.47**	**45**	PKPbc	**PKPbc**		**00 53 03.3 +0.3**
LCO	**Las Campanas**	**151.39**	**83**	PKPbc	**PKPbc**		**00 53 09.8 -0.3**
LCO	**Las Campanas**	**151.39**	**83**	PKIKP	**PKPbc**		**00 53 09.8 -0.3**
LR04	**Corral**	**152.26**	**106**	PKPbc	**PKiKP**		**00 53 12.0 +0.4**
MT02	**Curacav**	**152.64**	**91**	PKPbc	**PKiKP**		**00 53 13.3 +0.6**
PLCA	**Paso Flores**	**154.52**	**108**	PKPbc	**PKPbc**		**00 53 16.1 -0.2**
	comp=Z,2.5nm,0.9s,baz=209,slow=7.8,SNR=3.9						

IDC 24 00:54:58.5±6.6, 22°20S×148°38E, h0km, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=55.1km s-min=39.8km az=56.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.38**	**211**	Pn	Pn	00 57 41.2	-1.2
	0.2nm,0.3s,baz=25,slow=16,SNR=1.7						
STKA				Lg	Lg	01 01 00.2	
	0.1nm,0.3s,baz=288,slow=19,SNR=2.9						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**13.30**	**277**	Pn	Pn	00 58 10.2	+1.4
	baz=96,slow=14,SNR=1.6						
WRA				Lg	Lg	01 02 00.9	
	baz=103,slow=26,SNR=5.2						
	0.3nm,0.9s						
I07AU	**WARRAMUNGA INF**	**13.31**	**277**	I	I	02 15 50.0	
	0.1nm,0.8s,baz=105,slow=309,SNR=5.6						
ASAR	**Alice Springs**	**13.42**	**261**	Pn	Pn	00 58 10.8	+0.4
	0.1nm,0.3s,baz=94,slow=12,SNR=2.4						
ASAR				Sn	Sn	01 00 42.2	+1.8
	baz=81,slow=23,SNR=4.7						
ASAR				Lg	Lg	01 02 03.1	
	baz=82,slow=28,SNR=4.8						
	0.4nm,0.8s						

ASIES ***24*** *00:57:32.2, 24°.30N×122°.02E, h23km, ML3.6, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=3.02; $M_{\theta\theta}$3.34; $M_{\phi\phi}$=0.32; $M_{r\theta}$=0.05; $M_{\theta\phi}$1.26; $M_{\phi r}$=1.25; Fault plane solution: $M_0$3.65205×10^{21} NP1: ϕ_s=273.93000°, δ45.75000°, λ-57.84000°. NP2:ϕ_s=51.91000°, δ52.67000°, λ-118.65000°. Principal axes: T Plg3.7050°, Azm161.7710°; N Plg22.4130°, Azm70.2410°; P Plg67.2500°, Azm260.6550°;*

JMA ***24*** *00:57:32.2±0.1, 24°.3N±0°.7×122°.1E±0°.3, h19km±3km, MV3.6/15, TAIWAN REGION*

TAP ***24*** *00:57:32.2, 24°.30N×122°.02E, h23km, ML3.6, B*

NIED ***24*** *00:57:32.2, 24°.26N×122°.10E, h19km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.83; $M_{\theta\theta}$0.33; $M_{\phi\phi}$0.50; $M_{r\theta}$-4.45; $M_{\theta\phi}$2.50; $M_{\phi r}$=0.97; Fault plane solution: $M_0$5.22000×10^{14} NP1: ϕ_s=181.00000°, δ27.00000°, λ-167.00000°. NP2: ϕ_s=79.00000°, δ84.00000°, λ-63.00000°.*

ISC 24 00:57:31.9±0.9, 24°31N±0°.02×122°.11E±0°.01, h14km±7km, n139, σ0°68/194, 23C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.16**	**46**	⇓*i*P	**Pb**	**00 57 37.1**	**+0.5**
EOS2				S	**Sb**	**00 57 40.9**	**+1.2**
EOS3	**EOS3**	**0.19**	**97**	⇓*i*P	**Pb**	**00 57 37.4**	**+0.3**
EOS3				*i* S	**Sb**	**00 57 41.4**	**+0.8**
EOS4	**EOS4**	**0.27**	**134**	⇑*e*P	**Pg**	**00 57 37.8**	**+0.4**
EWUT	**Wuta**	**0.33**	**294**	⇑*i*P	**Pg**	**00 57 38.7**	**0.0**
EWUT				*i* S	**Sg**	**00 57 43.5**	**+0.2**
EHP	**Heping Village**	**0.34**	**270**	P	**Pg**	**00 57 38.7**	**-0.1**
EHP				*i* S	**Sg**	**00 57 43.5**	**0.0**
EAHA	**Aohua**	**0.34**	**274**	⇑*i*P	**Pg**	**00 57 38.7**	**-0.1**
EAHA				S	**Sg**	**00 57 43.6**	**0.0**
ENA	**Nanau**	**0.36**	**290**	⇑*i*P	**Pg**	**00 57 39.1**	**-0.1**
ENA				*i* S	**Sg**	**00 57 43.7**	**-0.4**
ESAO	**Su ao**	**0.36**	**318**	⇑*i*P	**Pg**	**00 57 39.2**	**-0.1**
ESAO				S	**Sb**	**00 57 45.1**	**-0.4**
TWC	**Suao**	**0.38**	**322**	⇑*i*P	**Pg**	**00 57 39.5**	**-0.1**
TWC				S	**Sb**	**00 57 45.7**	**-0.6**
ETL	**Fush Village**	**0.47**	**252**	P	**Pg**	**00 57 41.1**	**-0.1**
ETL				*es*S	**Sg**	**00 57 47.9**	**+0.4**
NDS	**Dongshan**	**0.48**	**312**	⇑*i*P	**Pg**	**00 57 41.6**	**+0.1**
NDS				S	**Sb**	**00 57 48.5**	**-0.6**
NACB	**Ninganchiao**	**0.49**	**254**	P	**Pg**	**00 57 41.3**	**-0.3**
NACB	**Ninganchiao**	**0.49**	**254**	⇓*i*P	**Pg**	**00 57 41.4**	**-0.3**
NACB				*i* S	**Sg**	**00 57 48.1**	**-0.1**
TWD	**Chiawan**	**0.52**	**244**	*e*P	**Pg**	**00 57 42.1**	**-0.1**
ILA	**Ilan**	**0.56**	**324**	⇑*i*P	**Pb**	**00 57 43.3**	**-0.2**
ILA				*es*S	**Sb**	**00 57 52.2**	**+0.8**
HWA	**Hwalien**	**0.57**	**234**	*e*P	**Pb**	**00 57 45.0**	**+1.4**
TWE	**Neicheng**	**0.57**	**316**	⇑*i*P	**Pg**	**00 57 43.2**	**0.0**
TWE				S	**Sb**	**00 57 51.2**	**-0.6**
LATG	**Datong**	**0.58**	**293**	⇑*i*P	**Pg**	**00 57 43.2**	**-0.1**
LATG				*i* S	**Sg**	**00 57 50.4**	**-0.6**
ETLH	**Xiulin Townshi**	**0.58**	**260**	⇓P	**Pg**	**00 57 43.3**	**-0.1**
ETLH				S	**Sg**	**00 57 50.9**	**-0.3**
ENTT	**Nioudou**	**0.59**	**304**	⇑*i*P	**Pg**	**00 57 43.7**	**+0.1**
ENTT				S	**Sb**	**00 57 51.9**	**-0.5**
TEYL	**Yanliau Villag**	**0.64**	**227**	*e*P	**Pb**	**00 57 45.6**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.65**	**313**	⇑*i*P	**Pg**	**00 57 45.0**	**+0.2**
FUSB				S	**Sb**	**00 57 54.3**	**+0.1**
ETM	**Tongmen**	**0.66**	**239**	*e*P	**Pg**	**00 57 45.0**	**+0.2**
NNSH	**Datong**	**0.67**	**280**	*e*P	**Pg**	**00 57 44.9**	**-0.2**
NNSH				*es*S	**Sg**	**00 57 53.5**	**-0.5**
NNS	**Nan Shan**	**0.68**	**281**	⇑P	**Pg**	**00 57 45.1**	**-0.2**
NNS				*es*S	**Sg**	**00 57 53.8**	**-0.6**
LXIB	**Xiulin Townshi**	**0.70**	**246**	⇓*i*P	**Pg**	**00 57 45.3**	**-0.2**
LXIB				*es*S	**Sb**	**00 57 56.4**	**+0.9**
TWB1	**Santiao Chiao**	**0.70**	**351**	P	**Pb**	**00 57 45.7**	**-0.3**
TWB1				*es*S	**Sb**	**00 57 55.3**	**-0.2**
TIPB	**Shuangxi**	**0.71**	**339**	⇑P	**Pb**	**00 57 45.9**	**-0.2**
TIPB				*i* S	**Sb**	**00 57 55.7**	**0.0**
SHUL	**Shoufeng**	**0.72**	**224**	*e*P	**Pb**	**00 57 47.2**	**+1.0**
NWLT	**Wulai**	**0.72**	**310**	⇑*i*P	**Pg**	**00 57 46.1**	**+0.1**
NWLT				S	**Sb**	**00 57 55.8**	**-0.3**
YHNB	**Yeheng**	**0.76**	**298**	P	**Pg**	**00 57 46.6**	**-0.1**
YHNB	**Yeheng**	**0.76**	**298**	S	**Sg**	**00 57 56.4**	**-0.3**
YHNB	**Yeheng**	**0.76**	**298**	⇑*e*P	**Pg**	**00 57 46.9**	**+0.2**
YHNB				*i* S	**Sg**	**00 57 56.0**	**-0.7**
JYNG	**Yonaguni jimaku**	**0.78**	**79**	P	**Pb**	**00 57 47.3**	**+0.1**
JYNG				S	**Sb**	**00 57 57.8**	**+0.2**
NSK	**Sanguang**	**0.78**	**298**	⇑*i*P	**Pg**	**00 57 47.0**	**0.0**
NSK				*i* S	**Sg**	**00 57 56.4**	**-0.9**
WHF	**Hehuan Shan**	**0.79**	**258**	P	**Pg**	**00 57 47.3**	**0.0**
WHF				*es*S	**Sg**	**00 57 57.6**	**-0.2**
ESL	**Shilin**	**0.79**	**232**	⇓*e*P	**Pg**	**00 57 47.7**	**+0.4**
FUSS	**Fushou**	**0.79**	**266**	*e*P	**Pg**	**00 57 47.5**	**+0.1**
FUSS				*es*S	**Sg**	**00 57 57.7**	**-0.1**
SXI1	**Grass Mountain**	**0.81**	**345**	P	**Pb**	**00 57 48.1**	**+0.2**
SXI1				*es*S	**Sb**	**00 57 58.3**	**-0.4**
NWF	**Wu-fen Shan**	**0.81**	**339**	⇑P	**Pb**	**00 57 48.3**	**+0.3**
NWF				S	**Sn**	**00 57 59.7**	**-1.3**
WFSB	**Wu-fen Shan**	**0.81**	**339**	⇑P	**Pn**	**00 57 48.3**	**-0.7**
WFSB				S	**Sb**	**00 57 59.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.84**	**79**	P	**Pg**	**00 57 48.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.84**	**79**	⇓*i*P	**Pg**	**00 57 48.2**	**+0.1**
YOJ				*es*S	**Sb**	**00 57 59.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.84**	**79**	P	**Pb**	**00 57 48.3**	**+0.1**
YOJ				S	**Sb**	**00 57 59.7**	**+0.4**
TWT	**Tachien**	**0.85**	**266**	*e*P	**Pg**	**00 57 48.7**	**+0.2**
TWT				*es*S	**Sg**	**00 57 59.9**	**+0.1**
TDCB	**Techi**	**0.87**	**267**	P	**Pb**	**00 57 48.7**	**-0.2**
TDCB				S	**Sg**	**00 57 59.3**	**-0.9**
TATO	**Taipei**	**0.87**	**320**	P	**Pn**	**00 57 49.3**	**-0.5**
TATO	**Taipei**	**0.87**	**320**	S	**Sn**	**00 58 02.5**	**+0.3**
TATO	**Taipei**	**0.87**	**320**	⇑P	**Pg**	**00 57 49.1**	**+0.3**
TATO				*es*S	**Sn**	**00 58 01.6**	**-0.6**
NHY	**Taipei**	**0.88**	**326**	*e*P	**Pn**	**00 57 49.5**	**-0.3**
WARBT	**Fenglin Townsh**	**0.89**	**228**	⇓*e*P	**Pb**	**00 57 49.2**	**+0.2**
EGFH	**Guangfu**	**0.89**	**225**	*e*P	**Pb**	**00 57 49.2**	**0.0**
TAP	**Taipei**	**0.91**	**323**	*e*P	**Pg**	**00 57 49.7**	**+0.1**
OWD	**Renai**	**0.92**	**248**	*e*P	**Pb**	**00 57 50.3**	**+0.5**
NFF	**Wufeng Townshi**	**0.96**	**290**	*e*P	**Pg**	**00 57 50.8**	**+0.3**
NFF				S	**Sb**	**00 58 02.4**	**-0.5**
WUSB	**Renai**	**0.96**	**251**	*e*P	**Pb**	**00 57 50.5**	**+0.1**
WUSB				*es*S	**Sg**	**00 58 03.9**	**+0.8**
YM01	**YM01**	**0.97**	**330**	⇑*i*P	**Pn**	**00 57 51.4**	**+0.2**
YM01				S	**Sn**	**00 58 04.0**	**-0.7**
KSHI	**Guanxi Townshi**	**0.97**	**299**	*e*P	**Pn**	**00 57 51.2**	**+0.1**
ZUZH	**Zhuzihu**	**0.99**	**329**	P	**Pn**	**00 57 51.9**	**+0.4**
ZUZH				*es*S	**Sn**	**00 58 04.7**	**-0.6**
YM08	**YM08**	**0.99**	**332**	⇑P	**Pn**	**00 57 51.4**	**-0.1**
YM08				S	**Sg**	**00 58 04.2**	**0.0**
TWS1	**Kuangyinshan**	**1.01**	**322**	*i* P	**Pn**	**00 57 51.5**	**-0.1**
TWS1				*i* S	**Sn**	**00 58 05.8**	**+0.1**
ANP	**Anpu**	**1.02**	**329**	P	**Pn**	**00 57 52.1**	**+0.1**
HGSD	**Ruisui**	**1.03**	**218**	*e*P	**Pb**	**00 57 51.7**	**+0.2**
NTST	**Danshui**	**1.04**	**325**	*e*P	**Pn**	**00 57 52.7**	**+0.6**
NTST				*es*S	**Sn**	**00 58 07.3**	**+0.9**
VWDT	**VWDT**	**1.04**	**238**	⇓*e*P	**Pb**	**00 57 52.4**	**+0.7**
LIOB	**Emei**	**1.05**	**289**	*e*P	**Pg**	**00 57 52.8**	**+0.6**
NSTT	**Nanjuang**	**1.06**	**288**	*e*P	**Pg**	**00 57 52.6**	**+0.3**
NSTT				*es*S	**Sb**	**00 58 06.0**	**+0.2**
WHP	**Taichung City**	**1.06**	**269**	⇑*e*P	**Pg**	**00 57 53.0**	**+0.5**
WHP				S	**Sb**	**00 58 06.0**	**0.0**
NCUH	**Zhongli**	**1.07**	**308**	*e*P	**Pg**	**00 57 53.0**	**+0.5**
TWY	**Chenhua**	**1.07**	**334**	P	**Pn**	**00 57 52.3**	**-0.1**
TWY				S	**Sn**	**00 58 06.5**	**-0.6**
EHY	**Hungye**	**1.08**	**222**	*e*P	**Pb**	**00 57 51.4**	**-0.9**
NSM	**Shimen**	**1.08**	**334**	*e*P	**Pg**	**00 57 53.6**	**+0.8**
WPL	**Puli Township**	**1.09**	**255**	*e*P	**Pb**	**00 57 51.0**	**-1.6**
WCS	**Beigang Elemen**	**1.12**	**257**	*e*P	**Pn**	**00 57 53.8**	**+0.6**
SBCB	**Hsinchu**	**1.13**	**295**	*e*P	**Pg**	**00 57 54.8**	**+1.1**
HSN	**Hsinchu**	**1.15**	**296**	*e*P	**Pg**	**00 57 54.4**	**+0.3**
HSN				*es*S	**Sg**	**00 58 09.7**	**+0.7**
ECBN	**Changbin**	**1.16**	**212**	*e*P	**Pn**	**00 57 52.1**	**-1.5**
SSLB	**Suanglung**	**1.18**	**244**	P	**Pn**	**00 57 54.4**	**+0.4**
SSLB	**Suanglung**	**1.18**	**244**	*e*P	**Pn**	**00 57 54.4**	**+0.4**
YULB	**Yu-li**	**1.18**	**219**	P	**Pn**	**00 57 53.4**	**-0.6**
YULB	**Yu-li**	**1.18**	**219**	*e*P	**Pn**	**00 57 52.3**	**-1.7**
SMLT	**Sun Moon Lake**	**1.18**	**249**	*e*P	**Pn**	**00 57 53.8**	**-0.4**
EYUL	**Yuli**	**1.20**	**217**	*e*P	**Pn**	**00 57 54.8**	**+0.5**
TWF1	**Yuli**	**1.21**	**218**	*e*P	**Pn**	**00 57 53.1**	**-1.3**
TYC	**Yuchr**	**1.21**	**251**	*e*P	**Pb**	**00 57 55.2**	**+0.6**
TWQ1	**Liyutan**	**1.22**	**272**	*e*P	**Pg**	**00 57 56.3**	**+0.9**
NMLH	**Miaoli**	**1.22**	**281**	*e*P	**Pg**	**00 57 56.7**	**+1.2**
WHYT	**Xinyi Township**	**1.30**	**242**	*e*P	**Pb**	**00 57 56.6**	**+0.4**
PCYT	**Pengchaiyu**	**1.31**	**359**	*e*P	**Pg**	**00 57 57.1**	**-0.2**
TCU	**Taichung**	**1.32**	**263**	*e*P	**Pb**	**00 57

CNKL			*i* AML	AML	01 06 05.0		
	comp=N,455nm,0.7s						
CNKL			*i* AML	AML	01 06 12.0		
	comp=E,638nm,0.7s						
BAND	**Balkesir-Ban**	**0.71 92**	P	**Pg**	**01 05 53.5**	**-0.6**	
BAND			S	**Sg**	**01 06 03.8**	**+0.3**	
BAND			*i* AML	AML	01 06 05.0		
	comp=N,3μm,0.3s						
BAND			*i* AML	AML	01 06 05.0		
	comp=E,4μm,0.2s						
BALY	**Balya**	**0.73 152**	P	**Pg**	**01 05 54.4**	**-0.3**	
BALY			S	**Sb**	**01 06 04.6**	**-0.6**	
BALY			*i* AML	AML	01 06 09.0		
	comp=E,332nm,0.4s						
BALY			*i* AML	AML	01 06 10.0		
	comp=N,528nm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.81 217**	P	**Pg**	**01 05 55.3**	**-0.7**	
BAYC			S	**Sb**	**01 06 06.8**	**-0.4**	
BAYC			*i* AML	AML	01 06 10.0		
	comp=N,364nm,0.2s						
BAYC			*i* AML	AML	01 06 11.0		
	comp=E,464nm,0.1s						
SUSR	**Susurluk-Balik**	**0.82 121**	Pg	**Pg**	**01 05 56.0**	**-0.2**	
ECEA	**Canakkale, Ece**	**0.84 246**	P	**Pg**	**01 05 56.4**	**-0.2**	
ECEA			S	**Sb**	**01 06 08.2**	**+0.1**	
ECEA			*i* AML	AML	01 06 13.0		
	comp=E,1μm,0.4s						
ECEA			*i* AML	AML	01 06 16.0		
	comp=N,2μm,0.6s						
UKOP	**Uzunkopru-Edir**	**0.84 331**	Pg	**Pb**	**01 05 56.7**	**-0.3**	
ENEZ	**Enez**	**0.85 294**	Pg	**Pg**	**01 05 55.9**	**-0.9**	
ENEZ	**Enez**	**0.85 294**	P	**Pg**	**01 05 56.6**	**-0.2**	
ENEZ			S	**Sb**	**01 06 08.2**	**-0.3**	
	2μm,0.5s						
CRLT	**Corlu**	**0.85 30**	Pg	**Pg**	**01 05 56.2**	**-0.7**	
EZNE	**Ezine-Canakkal**	**0.89 225**	Pg	**Pg**	**01 05 57.1**	**-0.4**	
BUHA	**Balikesir, Bur**	**0.89 185**	P	**Pg**	**01 05 57.4**	**-0.2**	
BUHA			S	**Sb**	**01 06 09.6**	**-0.1**	
BUHA			*i* AML	AML	01 06 13.0		
	comp=E,618nm,0.3s						
BUHA			*i* AML	AML	01 06 14.0		
	comp=N,909nm,0.4s						
KCTX	**Karacabey (Bur**	**0.91 97**	Pg	**Pg**	**01 05 57.4**	**-0.7**	
GOAD	**anakkale-G¶**	**0.99 257**	P	**Pg**	**01 05 58.7**	**-0.8**	
GOAD			S	**Sb**	**01 06 13.2**	**+0.7**	
GOAD			*i* AML	AML	01 06 17.0		
	comp=E,2μm,0.3s						
GOAD			*i* AML	AML	01 06 19.0		
	comp=N,2μm,0.8s						
GADA	**Gvkgeada**	**0.99 259**	Pg	**Pg**	**01 05 58.5**	**-1.1**	
ALN	**Alexandroupoli**	**1.00 301**	Pg	**Pg**	**01 05 58.7**	**-0.9**	
ALN	**Alexandroupoli**	**1.00 301**	P	**Pg**	**01 05 58.9**	**-0.7**	
ALN			S	**Sb**	**01 06 13.1**	**+0.4**	
	1μm,0.6s						
BOZC	**Bozcaada**	**1.02 238**	Pg	**Pg**	**01 05 59.2**	**-0.8**	
ALEX	**Alexandroupoli**	**1.07 296**	P	**Pb**	**01 06 01.0**	**+0.1**	
ALEX			S	**Sn**	**01 06 16.0**	**-0.1**	
SLVT	**Silivri**	**1.15 43**	Pn	**Pg**	**01 06 01.8**	**-0.8**	
SMTH	**Samothraki Isl**	**1.25 274**	P	**Pn**	**01 06 03.5**	**-0.3**	
SMTH			S	**Sn**	**01 06 20.8**	**+0.2**	
	1μm,0.5s						
SMTH	**Samothraki Isl**	**1.25 274**	P	**Pn**	**01 06 03.5**	**-0.3**	
SMTH			S	**Sb**	**01 06 19.8**	**-0.3**	
SOMA	**Soma-Manisa**	**1.26 167**	Pn	**Pn**	**01 06 04.0**	**+0.1**	
PHSR	**Pinarhisar**	**1.27 12**	Pn	**Pn**	**01 06 03.4**	**-0.6**	
ARMT	**Armutlu**	**1.30 82**	Pn	**Pb**	**01 06 04.8**	**0.0**	
MDNY	**Mudanya-Bursa**	**1.31 90**	Pn	**Pb**	**01 06 04.9**	**0.0**	
CTKS	**Kestanelik-??a**	**1.32 50**	Pn	**Pn**	**01 06 03.9**	**-0.8**	
AVCI	**Avcilar-stanb**	**1.33 62**	Pn	**Pn**	**01 06 04.9**	**+0.2**	
DKL	**Dikili**	**1.33 189**	Pn	**Pb**	**01 06 05.2**	**-0.1**	
DKL	**Dikili**	**1.33 189**	P	**Pg**	**01 06 05.5**	**-0.5**	
DKL			S	**Sb**	**01 06 22.3**	**-0.1**	
PRK	**Paraskevi**	**1.34 212**	P	**Pb**	**01 06 05.2**	**-0.2**	
PRK			S	**Sg**	**01 06 24.1**	**+0.7**	
	4μm,0.8s						
PRK	**Paraskevi**	**1.34 212**	P	**Pn**	**01 06 04.9**	**0.0**	
PRK			S	**Sg**	**01 06 23.0**	**-0.4**	
DST	**Dursunbey**	**1.36 125**	Pn	**Pn**	**01 06 05.2**	**-0.1**	
ORLT	**Orhaneli**	**1.36 104**	Pn	**Pn**	**01 06 05.5**	**+0.2**	
CTYL	**Yalikoy Yolu**	**1.38 38**	Pn	**Pn**	**01 06 05.4**	**0.0**	
BGKT	**Bogazkoy**	**1.45 56**	Pn	**Pn**	**01 06 05.2**	**-1.3**	
RDO	**Rodhopi**	**1.45 302**	Pn	**Pn**	**01 06 06.6**	**+0.1**	
RDO	**Rodhopi**	**1.45 302**	P	**Pb**	**01 06 07.2**	**-0.2**	
RDO			S	**Sg**	**01 06 26.7**	**-0.5**	
	872nm,0.7s						
RDO	**Rodhopi**	**1.45 302**	P	**Pb**	**01 06 07.1**	**-0.2**	
RDO			S	**Sb**	**01 06 26.0**	**+0.1**	
TRGA	**Dikaia**	**1.47 334**	P	**Pb**	**01 06 07.5**	**-0.2**	
TRGA			S	**Sn**	**01 06 25.9**	**-0.1**	
EDRB	**Edirne**	**1.49 348**	Pn	**Pn**	**01 06 07.2**	**+0.2**	
EDRB	**Edirne**	**1.49 348**	P	**Pn**	**01 06 07.2**	**+0.2**	
EDRB			S	**Sb**	**01 06 27.2**	**+0.2**	
	845nm,0.3s						
KMT1	**Komotini**	**1.52 299**	P	**Pb**	**01 06 08.6**	**0.0**	
KMT1			S	**Sn**	**01 06 27.1**	**-0.1**	
SIGR	**SIGRI**	**1.55 221**	Pn	**Pn**	**01 06 07.8**	**-0.1**	
SIGR	**SIGRI**	**1.55 221**	P	**Pn**	**01 06 07.9**	**0.0**	
SIGR			S	**Sb**	**01 06 29.1**	**+0.4**	
	3μm,0.7s						
SIGR	**SIGRI**	**1.55 221**	P	**Pn**	**01 06 08.1**	**+0.3**	
SIGR			S	**Sn**	**01 06 28.0**	**+0.1**	
ISK	**Istanbul-Kandi**	**1.59 64**	Pn	**Pn**	**01 06 07.6**	**-0.7**	
ISK	**Istanbul-Kandi**	**1.59 64**	P	**Pn**	**01 06 07.8**	**-0.5**	
ISK			S	**Sg**	**01 06 30.7**	**-0.7**	
	385nm,0.5s						
LIA	**Limnos Island**	**1.60 253**	P	**Pb**	**01 06 09.4**	**-0.5**	
LIA			S	**Sb**	**01 06 30.4**	**+0.3**	
	2μm,0.6s						
LIA	**Limnos Island**	**1.60 253**	P	**Pb**	**01 06 09.2**	**-0.7**	
LIA			S	**Sn**	**01 06 29.2**	**+0.1**	
KLYT	**Kilyos**	**1.66 58**	Pn	**Pn**	**01 06 09.7**	**+0.4**	
GORD	**Gordes-Manisa**	**1.67 152**	Pn	**Pn**	**01 06 09.6**	**0.0**	
KDZ	**Kurdzhali**	**1.86 312**	Pn	**Pn**	**01 06 12.6**	**+0.5**	
KDZ	**Kurdzhali**	**1.86 312**	*i* P	**Pn**	**01 06 13.0**	**+0.9**	
KDZ			S	**Sg**	**01 06 38.8**	**-1.4**	
THAS	**Thassos island**	**1.88 277**	P	**Pn**	**01 06 11.9**	**-0.5**	
THAS	**Thassos island**	**1.88 277**	P	**Pn**	**01 06 12.1**	**-0.3**	
THAS			S	**Sn**	**01 06 34.8**	**-1.3**	
SIMA	**Simav-Kutahya**	**1.91 132**	Pn	**Pn**	**01 06 13.4**	**+0.5**	
HRT	**Hereke**	**1.95 76**	Pn	**Pn**	**01 06 13.9**	**+0.5**	
ADVT	**Abdulvahap**	**1.96 88**	Pn	**Pn**	**01 06 14.1**	**+0.6**	
TVSB	**Tavsanli**	**2.00 117**	Pn	**Pn**	**01 06 14.5**	**+0.4**	
BLCB	**Balcova**	**2.00 183**	Pn	**Pn**	**01 06 13.9**	**-0.2**	
DIM	**Dimitrovgrad**	**2.04 325**	*i* P	**Pn**	**01 06 15.8**	**+1.1**	
DIM			S	**Sb**	**01 06 42.4**	**-0.5**	
SHAP	**Saphane-Kutahy**	**2.09 130**	Pn	**Pn**	**01 06 16.0**	**+0.6**	
KAVA	**Kavala**	**2.11 288**	P	**Pn**	**01 06 16.2**	**+0.7**	
KAVA	**Kavala**	**2.11 288**	P	**Pn**	**01 06 16.2**	**+0.7**	
KAVA			S	**Sn**	**01 06 40.8**	**-0.9**	
JMB	**Yambol**	**2.15 347**	*eP*	**Pn**	**01 06 17.5**	**+1.3**	
JMB			S	**Sg**	**01 06 49.9**	**+0.2**	
KVLA	**Kavala**	**2.19 285**	P	**Pn**	**01 06 16.9**	**+0.3**	
KVLA			S	**Sn**	**01 06 42.3**	**-1.3**	
KULA	**Kula-Manisa**	**2.20 148**	Pn	**Pn**	**01 06 17.0**	**+0.2**	
ODEM	**Odemis-Izmir**	**2.22 161**	Pn	**Pn**	**01 06 16.9**	**-0.3**	
RZN	**Rozhen**	**2.25 306**	*i* P	**Pn**	**01 06 18.9**	**+1.2**	
RZN			S	**Sb**	**01 06 48.3**	**-0.8**	
OUR	**Ouranopolis**	**2.44 270**	P	**Pn**	**01 06 19.9**	**-0.2**	
OUR	**Ouranopolis**	**2.44 270**	P	**Pn**	**01 06 19.8**	**-0.2**	
KOKK	**Kokkinochori,**	**2.45 281**	P	**Pn**	**01 06 20.2**	**-0.1**	
PLD	**Plovdiv**	**2.53 315**	*eP*	**Pn**	**01 06 22.7**	**+1.3**	
PLD			S	**Sg**	**01 07 03.0**	**+1.2**	
NVR	**Nevrokopi**	**2.69 292**	P	**Pn**	**01 06 24.7**	**+1.2**	
NVR			S	**Sn**	**01 06 56.0**	**-0.1**	
SMG	**Samos**	**2.69 186**	P	**Pn**	**01 06 23.3**	**-0.2**	
SMG	**Samos**	**2.69 186**	P	**Pn**	**01 06 23.4**	**-0.2**	
SRS	**Serrai**	**2.81 286**	P	**Pn**	**01 06 25.5**	**+0.2**	
SRS	**Serrai**	**2.81 286**	P	**Pn**	**01 06 25.1**	**-0.1**	
MMB	**Musomishta**	**2.84 295**	S	**Sg**	**01 07 08.6**	**-3.0**	
PLG	**Polygyros**	**2.85 271**	P	**Pn**	**01 06 25.7**	**0.0**	
SZH	**Strazhitsa**	**3.01 343**	*eP*	**Pn**	**01 06 29.9**	**+2.0**	
SZH			S	**Sg**	**01 07 14.2**	**-2.9**	
PGB	**Panagyurishte**	**3.10 314**	S	**Sg**	**01 07 21.1**	**+1.3**	
VTS	**Vitosha**	**3.70 308**	*eS*	**Sn**	**01 07 24.2**	**+3.0**	
MPEP	**Malo Peshtene**	**3.92 320**	*i* P	**Pn**	**01 06 41.9**	**+1.5**	
MPEP			S	**Sg**	**01 07 48.1**	**+1.9**	
VLAD	**Vladila**	**4.15 331**	⇓P	**Pn**	**01 06 45.0**	**+1.4**	
MLR	**Muntele Rosu**	**5.18 350**	⇓P	**Pn**	**01 07 00.2**	**+2.4**	
BOVS	**Bovan**	**5.21 310**	⇓P	**Pn**	**01 06 59.6**	**+1.5**	
VOIR		**5.28 344**	⇓P	**Pn**	**01 07 01.3**	**+2.1**	
PLOR	**Plostina**	**5.47 356**	⇑P	**Pn**	**01 07 03.8**	**+2.0**	
VRI	**Vrincioaia**	**5.48 357**	⇑P	**Pn**	**01 07 04.3**	**+2.3**	
VLDR	**Vladesti**	**5.49 7**	⇑P	**Pn**	**01 07 04.0**	**+1.9**	
COVR	**Voineasa-Covas**	**5.50 353**	⇑P	**Pn**	**01 07 04.7**	**+2.5**	
LOT	**Lotru**	**5.64 335**	⇑P	**Pn**	**01 07 06.2**	**+2.0**	
DOPR	**Dopca**	**5.73 347**	⇓P	**Pn**	**01 07 06.8**	**+1.6**	
GZR	**Gura Zlata**	**5.95 329**	⇓P	**Pn**	**01 07 09.3**	**+0.9**	
MDVR	**Moldovita**	**5.96 319**	⇓P	**Pn**	**01 07 09.5**	**+1.0**	
TESR	**Tescani**	**6.13 357**	⇑P	**Pn**	**01 07 12.5**	**+1.7**	
SEV	**Sevastopol'**	**6.35 47**	*eP*	**Pn**	**01 07 13.9**	**+0.1**	
SEV			Pm		01 07 14.9		
	comp=Z,3.0nm,0.3s						
SEV			*eS*	**Sn**	**01 08 23.1**	**-3.0**	
SEV			Sm		01 08 23.2		
	comp=N,2.0nm,0.2s						
SEV			Sm		01 08 23.2		
	comp=E,1.0nm,0.3s						
SURR	**Surduc**	**6.51 327**	⇑P	**Pn**	**01 07 17.5**	**+1.5**	
DNZ2	**Donuzlav2**	**6.67 40**	*eP*	**Pn**	**01 07 19.9**	**+1.7**	
DNZ2			Pm		01 07 22.7		
	comp=Z,3.0nm,0.3s						
DNZ2			*eS*	**Sn**	**01 08 35.4**	**+1.3**	
DNZ2			Sm		01 08 43.1		
	comp=N,2.0nm,0.4s						
DNZ2			Sm		01 08 43.1		
	comp=E,3.0nm,0.3s						
SIM	**Simferopol'**	**6.85 46**	*eP*	**Pn**	**01 07 21.1**	**+0.4**	
SIM			Pm		01 07 21.3		
	comp=Z,12nm,0.3s						
MARR	**Marisel-Cluj**	**6.94 336**	⇓P	**Pn**	**01 07 24.1**	**+2.1**	
SIRR	**Siria**	**7.12 327**	⇑P	**Pn**	**01 07 25.3**	**+1.0**	
BURAR	**Bucovina Array**	**7.36 350**	⇓P	**Pn**	**01 07 30.7**	**+2.9**	
MORH	**Mrgy, Hungar**	**8.52 316**	⇓P	**Pn**	**01 07 44.3**	**+0.8**	
RONA	**Rosalia, Austr**	**10.70 317**	*e*Pn	**Pn**	**01 08 14.6**	**+1.1**	
	comp=Z,3.7nm,0.6s						
CONA	**Conrad Observa**	**11.07 317**	*e*Pn	**Pn**	**01 08 19.9**	**+1.3**	
	comp=Z,3.0nm,0.7s						

SOF ***24*** *01:22:23.5, 40°.40N±0°.02×27°.15E±0°.01, h1km±1km, MD3.8/11*
MCSM ***24*** *01:22:24.2±0.9, 40°.N±4°.×2°.7E±°, h5km±10km, mb4.7, mb4.7, MLv4.4, MLv4.3*
AFAD ***24*** *01:22:24.9, 40°.37N×27°.17E, h4km±1km, MW3.7*
IDC ***24*** *01:22:24.5±0.8, 40°.41N×27°.21E, h0km, mb3.4/9, mbtmp3.5/15, ML3.6/6, MS3.1/3, Error ellipse: s-maj=14.9km s-min=9.2km az=40.0*
ISK ***24*** *01:22:24.6, 40°.38N×27°.18E, h11km, ML3.9/40*
THE ***24*** *01:22:25.7, 40°.40N×27°.14E, h7km±1km, ML4.0/9, Error ellipse: s-maj=1.2km s-min=0.6km az=321.0*
ATH ***24*** *01:22:26.5, 40°.40N×26°.98E, h9km±4km, ML3.8/15, Manual Solution by A.Papageorgiou First location: 2019/02/24 01:23:12, This location: 2019/02/24 01:33:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 5 km*

ISC 24 01:22:25.2±0.8, 40°.38N±0°.01×27°.17E±0°.01, h10km±5km, n205, σ1§19/262, mb3.5/10, 27C-18D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.10**	**81**	Pg	**Pg**	**01 22 27.7**	**-0.1**
KRBG				Sg	**Sg**	**01 22 29.5**	**-0.1**
LPK	**Lapseki**	**0.31**	**269**	Pg	**Pg**	**01 22 31.7**	**+0.3**
LPK				Sg	**Sg**	**01 22 36.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**0.31**	**2**	Pg	**Pg**	**01 22 31.2**	**-0.3**
RKY				Sg	**Sg**	**01 22 35.8**	**+0.2**
SART	**Tekirdag**	**0.31**	**2**	P	**Pg**	**01 22 31.5**	**0.0**
SART				S	**Sg**	**01 22 36.2**	**+0.6**
SART				*i* AML	AML	01 22 37.0	
	comp=N,6μm,0.3s						
SART				*i* AML	AML	01 22 37.0	
	comp=E,1μm,0.9s						
CANM	**Can-anakkale**	**0.38**	**193**	Pg	**Pg**	**01 22 32.4**	**-0.2**
CANM				Sg	**Sg**	**01 22 38.2**	**+0.7**
YENI	**Yenice-Canakka**	**0.44**	**172**	Pg	**Pg**	**01 22 33.9**	**0.0**
YENI				Sg	**Sb**	**01 22 40.4**	**-1.5**
GONE	**Gonen-Balikesi**	**0.52**	**129**	Pg	**Pb**	**01 22 35.5**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.53**	**273**	Pg	**Pg**	**01 22 35.6**	**+0.1**
EDC	**Edincik**	**0.54**	**93**	Pg	**Pg**	**01 22 35.5**	**-0.1**
ERIK	**Erikli-Kesan**	**0.58**	**301**	Pg	**Pg**	**01 22 36.3**	**-0.1**
COMU	**Canakkale**	**0.60**	**243**	Pg	**Pg**	**01 22 37.0**	**+0.2**
CNKL	**anakkale-Mer**	**0.67**	**243**	P	**Pg**	**01 22 38.0**	**-0.2**
CNKL				S	**Sg**	**01 22 47.3**	**+0.3**
CNKL				*i* AML	AML	01 22 54.0	
	comp=E,2μm,0.5s						
CNKL				*i* AML	AML	01 22 59.0	
	comp=N,1μm,0.3s						
TKR	**Tekirdag**	**0.68**	**25**	Pg	**Pg**	**01 22 37.9**	**-0.4**
BAND	**Balkesir-Ban**	**0.71**	**91**	P	**Pg**	**01 22 38.4**	**-0.6**
BAND				S	**Sg**	**01 22 48.5**	**+0.2**
BAND				*i* AML	AML	01 22 50.0	
	comp=E,2μm,0.2s						
BAND				*i* AML	AML	01 22 53.0	
	comp=N,2μm,0.2s						
BALY	**Balya**	**0.72**	**151**	P	**Pg**	**01 22 39.1**	**-0.1**
BALY				*i* AML	AML	01 22 55.0	
	comp=N,1μm,0.4s						
BALY				*i* AML	AML	01 23 00.0	
	comp=E,767nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.79**	**217**	P	**Pg**	**01 22 40.5**	**0.0**
BAYC				S	**Sg**	**01 22 50.8**	**+0.1**
BAYC				*i* AML	AML	01 22 52.0	
	comp=E,2μm,0.4s						
BAYC				*i* AML	AML	01 22 53.0	
	comp=N,2μm,0.4s						
ENZZ	**Sultanice-Enez**	**0.81**	**287**	Pg	**Pg**	**01 22 40.8**	**-0.1**
SUSR	**Susurluk-Balik**	**0.82**	**120**	Pg	**Pg**	**01 22 40.8**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**0.82**	**293**	⇓P	**Pg**	**01 22 41.3**	**+0.2**
ECEA	**Canakkale, Ece**	**0.83**	**247**	P	**Pg**	**01 22 41.1**	**-0.1**
ECEA				S	**Sb**	**01 22 53.2**	**+0.3**
ECEA				*i* AML	AML	01 22 58.0	
	comp=N,7μm,0.5s						
ECEA				*i* AML	AML	01 22 59.0	
	comp=E,5μm,0.4s						
EZN	**Ezine**	**0.85**	**230**	Pg	**Pg**	**01 22 39.0**	**-2.5**
ENEZ	**Enez**	**0.85**	**295**	Pg	**Pg**	**01 22 41.4**	**-0.2**
ENEZ	**Enez**	**0.85**	**295**	P	**Pg**	**01 22 41.4**	**-0.2**
ENEZ				S	**Sg**	**01 22 53.0**	**+0.3**
	12μm,0.3s						
UKOP	**Uzunkopru-Edir**	**0.85**	**332**	Pg	**Pg**	**01 22 41.9**	**+0.3**
CRLT	**Corlu**	**0.87**	**30**	Pg	**Pg**	**01 22 41.9**	**0.0**
BKES	**Balkesir-Mer**	**0.87**	**137**	P	**Pb**	**01 22 41.9**	**-0.6**
BKES				S	**Sb**	**01 22 54.7**	**+0.5**
BKES				*i* AML	AML	01 22 58.0	
	comp=N,2μm,0.4s						
BKES				*i* AML	AML	01 22 58.0	
	comp=E,2μm,0.5s						
EZNE	**Ezine-Canakkal**	**0.87**	**225**	Pg	**Pg**	**01 22 41.7**	**-0.3**
BUHA	**Balikesir, Bur**	**0.88**	**184**	P	**Pb**	**01 22 42.4**	**-0.1**
BUHA				S	**Sb**	**01 22 53.7**	**-0.6**
BUHA				*i* AML	AML	01 22 58.0	
	comp=N,5μm,0.4s						
BUHA				*i* AML	AML	01 23 00.0	
	comp=E,3μm,0.4s						
KCTX	**Karacabey (Bur**	**0.92**	**97**	Pg	**Pg**	**01 22 41.6**	**-1.3**
GOKC	**Gokceada-Canak**	**0.97**	**260**	Pg	**Pg**	**01 22 43.7**	**-0.1**
GOAD	**anakkale-G¶**	**0.98**	**258**	P	**Pg**	**01 22 43.9**	**-0.2**
GOAD				S	**Sn**	**01 22 58.4**	**-0.7**
GOAD				*i* AML	AML	01 23 02.0	
	comp=E,7μm,0.3s						
GOAD				*i* AML	AML	01 23 04.0	
	comp=N,6μm,0.3s						
GADA	**Gvkgeada**	**0.99**	**260**	Pg	**Pg**	**01 22 43.7**	**-0.5**
ALN	**Alexandroupoli**	**1.00**	**302**	Pg	**Pg**	**01 22 43.7**	**-0.7**
ALN	**Alexandroupoli**	**1.00**	**302**	P	**Pg**	**01 22 43.6**	**-0.8**
ALN				S	**Sg**	**01 22 57.6**	**+0.2**
	6μm,0.5s						
ALN	**Alexandroupoli**	**1.00**	**302**	Pg	**Pg**	**01 22 44.2**	**-0.2**
BOZC	**Bozcaada**	**1.01**	**238**	Pg	**Pg**	**01 22 43.6**	**-0.9**
ALEX	**Alexandroupoli**	**1.07**	**297**	P	**Pg**	**01 22 45.1**	**-0.7**
ALEX				S	**Sg**	**01 22 56.3**	**-3.5**
SLVT	**Silivri**	**1.17**	**43**	Pn	**Pb**	**01 22 46.2**	**-1.3**
GPNR	**Gulpinar-Canak**	**1.21**	**221**	Pn	**Pb**	**01 22 47.9**	**-0.4**
SMTH	**Samothraki Isl**	**1.25**	**275**	P	**Pn**	**01 22 48.1**	**-0.7**
SMTH				S	**Sb**	**01 23 05.2**	**+0.1**
	6μm,0.4s						
SMTH	**Samothraki Isl**	**1.25**	**275**	P	**Pn**	**01 22 48.0**	**-0.9**
SMTH				S	**Sb**	**01 23 02.3**	**-2.9**
SOMA	**Soma-Manisa**	**1.25**	**167**	Pn	**Pn**	**01 22 48.4**	**-0.4**
PHSR	**Pinarhisar**	**1.28**	**12**	Pn	**Pn**	**01 22 48.5**	**-0.7**
ARMT	**Armutlu**	**1.31**	**81**	Pn	**Pn**	**01 22 49.1**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.31**	**90**	Pn	**Pn**	**01 22 49.1**	**-0.5**
DKL	**Dikili**	**1.32**	**189**	Pn	**Pn**	**01 22 49.4**	**-0.3**
DKL	**Dikili**	**1.32**	**189**	P	**Pg**	**01 22 50.9**	**+0.4**
DKL				S	**Sg**	**01 23 08.9**	**+1.3**
PRK	**Paraskevi**	**1.32**	**212**	P	**Pb**	**01 22 49.8**	**-0.4**
PRK				S	**Sg**	**01 23 08.1**	**+0.4**
	16μm,0.6s						
PRK	**Paraskevi**	**1.32**	**212**	P	**Pb**	**01 22 49.7**	**-0.4**
PRK				S	**Sg**	**01 23 07.7**	**-0.1**
CTKS	**Kestanelik-??a**	**1.33**	**49**	Pn	**Pn**	**01 22 48.5**	**-1.4**
AVCI	**Avcilar-stanb**	**1.34**	**62**	Pn	**Pn**	**01 22 49.5**	**-0.5**
DST	**Dursunbey**	**1.36**	**124**	Pn	**Pn**	**01 22 49.9**	**-0.4**
ORLT	**Orhaneli**	**1.37**	**103**	Pn	**Pn**	**01 22 49.9**	**-0.5**
CTYL	**Yalikoy Yolu**	**1.39**	**37**	Pn	**Pn**	**01 22 50.1**	**-0.6**
RDO	**Rodhopi**	**1.46**	**302**	Pn	**Pn**	**01 22 51.4**	**-0.2**
RDO	**Rodhopi**	**1.46**	**302**	P	**Pn**	**01 22 51.8**	**+0.2**
RDO				S	**Sn**	**01 23 10.8**	**0.0**
	3μm,0.4s						
RDO	**Rodhopi**	**1.46**	**302**	Pn	**Pn**	**01 22 51.9**	**+0.3**
RDO	**Rodhopi**	**1.46**	**302**	P	**Pn**	**01 22 51.9**	**+0.3**
RDO				S	**Sn**	**01 23 08.7**	**-2.0**
BGKT	**Bogazkoy**	**1.46**	**56**	Pn	**Pn**	**01 22 50.3**	**-1.4**
TRGA	**Dikaia**	**1.48**	**334**	P	**Pn**	**01 22 52.1**	**+0.2**
TRGA				S	**Sn**	**01 23 10.6**	**-0.8**
EDRB	**Edirne**	**1.50**	**348**	Pn	**Pn**	**01 22 51.9**	**-0.3**
EDRB	**Edirne**	**1.50**	**348**	P	**Pn**	**01 22 52.0**	**-0.3**
EDRB				S	**Sn**	**01 23 11.8**	**-0.2**
	2μm,0.5s						
SIGR	**SIGRI**	**1.54**	**221**	Pn	**Pn**	**01 22 52.3**	**-0.5**
SIGR	**SIGRI**	**1.54**	**221**	P	**Pn**	**01 22 52.8**	**0.0**
SIGR				S	**Sb**	**01 23 13.6**	**+0.2**
	10μm,0.5s						
SIGR	**SIGRI**	**1.54**	**221**	P	**Pn**	**01 22 52.8**	**0.0**
SIGR				S	**Sn**	**01 23 12.6**	**-0.3**
LIA	**Limnos Island**	**1.59**	**253**	P	**Pn**	**01 22 54.0**	**+0.5**
LIA				S	**Sb**	**01 23 14.7**	**-0.2**
	7μm,0.6s						
LIA	**Limnos Island**	**1.59**	**253**	P	**Pn**	**01 22 53.0**	**-0.4**
LIA				S	**Sn**	**01 23 12.4**	**-1.7**
ISK	**Istanbul-Kandi**	**1.60**	**64**	Pn	**Pn**	**01 22 52.7**	**-0.8**
ISK	**Istanbul-Kandi**	**1.60**	**64**	P	**Pn**	**01 22 52.6**	**-0.9**
ISK				S	**Sb**	**01 23 14.9**	**-0.1**
	1μm,0.7s						
KAVV	**Kandilli-Istan**	**1.60**	**64**	Pn	**Pn**	**01 22 53.2**	**-0.3**
GORD	**Gordes-Manisa**	**1.66**	**152**	Pn	**Pn**	**01 22 54.5**	**0.0**
KLYT	**Kilyos**	**1.67**	**58**	Pn	**Pn**	**01 22 54.3**	**-0.3**
KLYT	**Kilyos**	**1.67**	**58**	Pn	**Pn**	**01 22 54.6**	**0.0**
FOCM	**Foa**	**1.69**	**192**	Pn	**Pn**	**01 22 54.7**	**-0.2**
YLV	**Yalova**	**1.69**	**83**	Pn	**Pn**	**01 22 54.7**	**-0.3**
GOMA	**Golmarmara-Man**	**1.77**	**161**	Pn	**Pn**	**01 22 55.5**	**-0.4**
KDZ	**Kurdzhali**	**1.86**	**313**	*i* P	**Pn**	**01 22 57.8**	**+0.5**
KDZ				S	**Sb**	**01 23 22.9**	**+0.1**
THAS	**Thassos island**	**1.88**	**278**	P	**Pn**	**01 22 56.8**	**-0.6**
THAS	**Thassos island**	**1.88**	**278**	P	**Pn**	**01 22 56.5**	**-0.9**
THAS				S	**Sn**	**01 23 18.6**	**-2.6**
DIM	**Dimitrovgrad**	**2.05**	**325**	*i* P	**Pn**	**01 23 00.6**	**+0.8**
DIM				S	**Sg**	**01 23 30.3**	**-0.9**
KAVA	**Kavala**	**2.11**	**288**	P	**Pn**	**01 23 00.6**	**0.0**
KAVA	**Kavala**	**2.11**	**288**	P	**Pn**	**01 23 00.6**	**0.0**
KAVA				S	**Sn**	**01 23 24.4**	**-2.5**
JMB	**Yambol**	**2.17**	**347**	*i* P	**Pn**	**01 23 02.8**	**+1.4**
JMB				S	**Sb**	**01 23 32.2**	**+0.7**

HERR Herculane 5.70 324 ⇑P Pn 01 23 49.7 -0.3
DOPR Dopca 5.74 348 ⇑P Pn 01 23 51.9 +1.4
OZUR 5.80 350 ⇑P Pn 01 23 52.7 +1.2
GZR Gura Zlata 5.96 329 ⇑P Pn 01 23 53.8 +0.2
MDVR Moldovita 5.96 319 ⇑P Pn 01 23 54.2 +0.6
MDVR Moldovita 5.96 319 Pn Pn 01 23 53.9 +0.3
0.3nm0.3nm74nm,0.6s,74nm,0.6s
ONER Baraj Valea Uz 5.98 355 ⇑P Pn 01 23 56.0 +2.2
MDB Medias 6.11 341 ⇑P Pn 01 23 57.2 +1.6
TESR Tescani 6.14 357 ⇓P Pn 01 23 57.2 +1.2
TESR Tescani 6.14 357 Pn Pn 01 23 57.0 +1.0
0.3nm0.3nm86nm,0.6s,86nm,0.6s
DEV Deva 6.33 332 ⇓P Pn 01 23 59.4 +0.9
DEV Deva 6.33 332 Pn Pn 01 23 59.8 +1.3
0.3nm0.3nm47nm,0.8s,47nm,0.8s
SEV Sevastopol' 6.36 47⇑eP Pn 01 23 58.6 -0.4
SEV ⇓iP Pn 01 23 58.8 -0.2
SEV Pm 01 23 59.6
comp=Z,7.0nm,0.4s
SEV eS Sn 01 25 06.7 -5.0
SEV Sm 01 25 09.1
comp=N,8.0nm,0.4s
TARU Tarkhankut 6.36 36 eS Sn 01 25 10.1 -1.6
TARU Sm 01 25 11.8
comp=N,14nm,0.5s
TARU Sm 01 25 11.8
comp=E,7.0nm,0.4s
SURR Surduc 6.52 327 ⇑P Pn 01 24 01.2 +0.1
MILM Milestii Mici 6.65 10 ⇑P Pn 01 24 03.6 +0.7
MILM Milestii Mici 6.65 10 Pn Pn 01 24 03.1 +0.2
comp=E,0.1nmcomp=E,0.1nmcomp=E,34nm,0.5s,comp=E,34nm,0.5s
DNZ2 Donuzlav2 6.68 40 eS Sn 01 25 17.7 -1.9
DNZ2 Sm 01 25 23.1
comp=N,5.0nm,0.3s
DNZ2 Sm 01 25 23.1
comp=E,7.0nm,0.5s
SIM Simferopol' 6.86 46⇓iP Pn 01 24 05.9 0.0
SIM Pm 01 24 06.1
comp=Z,17nm,0.4s
SIM eS Sn 01 25 19.6 -4.5
SIM Sm 01 25 27.0
comp=N,15nm,0.5s,comp=E,4.0nm,0.5s
MARR Marisel-Cluj 6.95 336 ⇑P Pn 01 24 07.9 +0.7
ARCR ARCALIA 7.01 344 ⇑P Pn 01 24 09.2 +1.3
PRAR RASCA 7.02 355 ⇑P Pn 01 24 08.4 +0.3
SIRR Siria 7.12 328 ⇑P Pn 01 24 09.3 -0.2
SIRR Siria 7.12 328 Pn Pn 01 24 09.1 -0.4
comp=E,0.1nmcomp=E,0.1nmcomp=E,9.6nm,0.7s,comp=E,9.6nm,0.7s
DRGR 7.18 335 ⇑P Pn 01 24 11.3 +0.9
DRGR 7.18 335 Pn Pn 01 24 10.5 +0.2
comp=E,0.1nmcomp=E,0.1nmcomp=E,21nm,0.6s,comp=E,21nm,0.6s
BURAR Bucovina Array 7.37 350 ⇓P Pn 01 24 15.4 +2.4
BURAR Bucovina Array 7.37 350 Pn Pn 01 24 15.0 +2.0
comp=E,0.1nmcomp=E,0.1nmcomp=E,18nm,0.6s,comp=E,18nm,0.6s
MORH Mrgy, Hungar 8.52 316 Pn Pn 01 24 28.8 +0.2
comp=E,25nm,0.6s,comp=E,25nm,0.6s
KOVH Kovagotottos 8.74 314 Pn Pn 01 24 31.5 -0.1
comp=E,15nm,0.7s,comp=E,15nm,0.7s
BUD Budapest 9.21 323 Pn Pn 01 24 39.1 +1.0
comp=E,15nm,0.7s,comp=E,15nm,0.7s
KOLS Kolonicke sedl 9.24 339 ePN Pn 01 24 39.5 +1.0
MMAI Mount Meron Ar 9.88 135 Pn Pn 01 24 47.8 +0.3
comp=E,0.5nm,0.3s,baz=318,slow=12,SNR=23
comp=E,7.3nm,0.8s
MI28 Mi28,Pidlybu 10.56 2 Pn Pn 01 24 57.7 +1.1
comp=E,124nm,0.9s,comp=E,124nm,0.9s
MODS Modra-Piesok 10.67 322 ePN Pn 01 24 59.9 +1.8
RONA Rosalia, Austr 10.71 317 ePn Pn 01 24 59.8 +1.2
comp=E,7.0nm,0.7s
ARSA Arzberg 10.85 313 ePn Pn 01 25 01.9 +1.3
comp=E,1.2nm,0.5s
RNPP5 Staryi Chortor 10.89 356 Pn Pn 01 25 02.1 +1.0
comp=E,12nm,1.3s,comp=E,12nm,1.3s
CONA Conrad Observa 11.08 317 ePn Pn 01 25 05.1 +1.4
comp=E,6.1nm,0.8s
ASF Jabal al Asfar 11.34 133 Pn Pn 01 25 09.1 +1.7
comp=E,0.1nm,0.3s,baz=336,slow=11,SNR=5.4
ASF Sn Sn 01 27 17.1 +2.8
baz=323,slow=10,SNR=1.6
comp=E,0.7nm,0.7s
VRAC Vranov 11.65 324 Pn Pn 01 25 10.4 -1.1
comp=E,0.2nm,0.3s,baz=138,slow=14,SNR=2.4
comp=E,1.0nm,0.5s
GERES GERESS Array B 12.78 316 Pn Pn 01 25 28.9 +1.8
comp=E,0.2nm,0.3s,baz=121,slow=13,SNR=9.4
comp=E,1.2nm,0.5s
KHC Kasperske Hory 13.02 317 eP Pn 01 25 30.5 +0.3
WTTA Wattenberg 13.15 307 ePn P 01 25 38.4 -3.9
comp=E,2.5nm,0.8s
SQTA Sankt Quirin 13.39 306 ePn P 01 25 41.7 -3.3
comp=E,1.5nm,0.5s
GNI Garni 13.43 85 LR LR 01 30 58.8
comp=E,76nm,20.0s,baz=307,slow=38
MOTA Moosalm 13.51 306 ePn P 01 25 42.6 -3.7
comp=E,1.0nm,0.6s
FINES FINESS Array B 21.11 359 P P 01 27 08.7 -1.0
comp=E,2.8nm,1.0s,baz=198,slow=11,SNR=2.9
comp=E,2.8nm,1.0s
HFS Hagfors 21.49 341 P P 01 27 15.2 +1.3
comp=E,2.7nm,0.9s,baz=161,slow=14,SNR=1.3
comp=E,2.7nm,0.9s
NOA NORSAR Array B 22.90 340 LR LR 01 36 54.9
comp=E,53nm,18.7s,baz=350,slow=38
ESDC Sonseca Array 23.79 278 P P 01 27 38.3 +0.2
comp=E,0.2nm,0.6s,baz=76,slow=9.7,SNR=2.1
comp=E,0.2nm,0.6s
ARTI Arti 25.89 41 P P 01 27 57.0 -0.1
comp=E,2.5nm,0.8s,baz=230,slow=8.2,SNR=5.3
comp=E,2.5nm,0.8s
TORD Torodi Ar. Bea 35.15 227 P P 01 29 20.0 +0.8
comp=E,16nm,0.3s,baz=39,slow=9.2,SNR=1.7
AAK Ala-Archa 35.16 70 LR LR 01 48 42.3
comp=E,27nm,18.6s,baz=288,slow=45
KURBB Kurchatov Arra 36.75 56 P P 01 29 33.0 +0.4
comp=E,0.1nm,0.5s,baz=282,slow=9.1,SNR=2.3
comp=E,0.1nm,0.5s
MKAR Makanchi Array 39.74 62 P P 01 29 57.7 -0.2
comp=E,0.1nm,0.5s,baz=280,slow=6.7,SNR=2.0
comp=E,0.1nm,0.5s
ZALV Zalesovo Beam 40.35 50 P P 01 30 04.2 +1.4
comp=E,0.3nm,0.4s,baz=288,slow=5.9,SNR=1.4
comp=E,0.3nm,0.4s
YKA Yellowknife Ar 72.97 343 P P 01 33 55.7 +1.2
comp=E,0.5nm,1.1s,baz=46,slow=4.4,SNR=3.7
comp=E,0.5nm,1.1s
ILAR Eielson Array 75.09 357 P P 01 34 08.9 +2.1
comp=E,0.3nm,0.6s,baz=344,slow=5.2,SNR=5.1
comp=E,0.3nm,0.6s

CATAC ***24*** *01:25:35.6±0.5, 11°N±3°×8°7W±°, h23km±5km, M4.6/32, MLv4.6/32, Error ellipse: s-maj=5.4km s-min=4.2km az=170.5, confirmed*
SNET ***24*** *01:25:36.5±0.9, 11°.66N×86°.67W, h23km, ML4.4*
IDC ***24*** *01:25:37.7±1.3, 11°.90N×86°.44W, h46km±15km, mb3.7/13, mbtmp4.0/16, ML3.2/4, MS3.5/10, Error ellipse: s-maj=31.6km s-min=10.0km az=47.0*
UCR ***24*** *01:25:37.9±0.9, 11°.57N×86°.82W, h35km, MW4.5*
NEIC ***24*** *01:25:38.1±2.3, 11°.57N±0°.06×86°.82W±0°.06, h35km±1km, mb4.4/78, Error ellipse: s-maj=13.3km s-min=6.8km az=45.0*
GCG ***24*** *01:26:04.8±2.9, 12°.85N×88°.33W, h89km±122km, MD4.6, Hypocentre not reviewed by the ISC*
ISC 24 01:25:37.9±0.8, 11°.49N±0°.04×86°.85W±0°.04, h56km±7km, n267, σ1§03/251, mb4.2/45, MS3.4/8, 10C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSHP	Masachapa	0.46	43	P	Pn	01 25 48.3	-0.9
MSHP	Masachapa	0.46	43	P	Pn	01 25 48.2	-0.9
MSHP	Masachapa	0.46	43	P	Pn	01 25 48.1	-1.0
CRUN	El Crucero	0.73	48	P	Pn	01 25 52.3	-0.2
CRUN	El Crucero	0.73	48	P	Pn	01 25 52.3	-0.2
CRUN	El Crucero	0.73	48	P	Pn	01 25 47.3	-5.2
COPN	Copaltepe	0.73	20	P	Pn	01 25 51.7	-0.6
COPN	Copaltepe	0.73	20	P	Pn	01 25 51.8	-0.6
COPN	Copaltepe	0.73	20	P	Pn	01 25 51.7	-0.6
BC86	Nagarote	0.82	20	P	Pn	01 25 53.3	-0.2
BC86	Nagarote	0.82	20	S	Sn	01 26 05.5	+0.6
BC86	Nagarote	0.82	20	P	Pn	01 25 53.3	-0.2
SABN	Sabanita	0.82	56	⇑P	Pn	01 25 53.4	-0.1
SABN	Sabanita	0.82	56	P	Pn	01 25 53.4	-0.1
SABN	Sabanita	0.82	56	P	Pn	01 25 53.0	-0.5
ABCN	Banco Central	0.82	40	P	Pn	01 25 53.4	-0.2
ABCN	Banco Central	0.82	40	S	Sn	01 26 06.2	+1.2
ABCN	Banco Central	0.82	40	P	Pn	01 25 53.7	+0.2
USIM	UNAN	0.84	42		Pn	01 25 53.6	-0.2
USIM	UNAN	0.84	42	P	Pn	01 25 53.9	+0.2
USIM	UNAN	0.84	42	S	Sn	01 26 08.4	+3.0
USIM	UNAN	0.84	42	P	Pn	01 25 54.3	+0.6
MASN	Masaya	0.84	54	⇓P	Pn	01 25 54.0	+0.2
MASN				S	Sn	01 26 07.1	+1.5
MASN	Masaya	0.84	54	P	Pn	01 25 53.8	-0.1
ENAN	Enatrel Managu	0.85	43	P	Pn	01 25 54.2	+0.4
ENAN	Enatrel Managu	0.85	43	S	Sn	01 26 09.3	+3.7
ENAN	Enatrel Managu	0.85	43	P	Pn	01 25 54.2	+0.4
MAFN	Magfor	0.85	45	P	Pn	01 25 54.2	+0.4
MAFN	Magfor	0.85	45	S	Sn	01 26 07.5	+1.9
MAFN	Magfor	0.85	45	P	Pn	01 25 54.3	+0.4
TISN	Laguna Tiscapa	0.86	41	P	Pn	01 25 53.9	-0.2
TISN	Laguna Tiscapa	0.86	41	P	Pn	01 25 53.8	-0.3
TISN	Laguna Tiscapa	0.86	41	P	Pn	01 25 53.6	-0.5
ALLN	Telcor Managua	0.87	41	P	Pn	01 25 54.1	0.0
ALLN	Telcor Managua	0.87	41	S	Sn	01 26 08.0	+2.0
ALLN	Telcor Managua	0.87	41	P	Pn	01 25 54.2	0.0
APQ2	Apoyeque	0.87	36	⇓P	Pn	01 25 53.4	-0.7
APQ2				S	Sn	01 26 08.2	+2.1
APQ2	Apoyeque	0.87	36	P	Pn	01 25 53.9	-0.2
APQ2	Apoyeque	0.87	36	P	Pn	01 25 53.4	-0.7
APQ2	Apoyeque	0.87	36	P	Pn	01 25 53.9	-0.2
APQ2	Apoyeque	0.87	36	P	Pn	01 25 53.5	-0.7
APQ2	Apoyeque	0.87	36	P	Pn	01 25 53.7	-0.4
MGAN	Managua	0.88	42	P	Pn	01 25 54.4	+0.1
MGAN	Managua	0.88	42	S	Sn	01 26 07.6	+1.3
MGAN	Managua	0.88	42	P	Pn	01 25 54.3	0.0
APYN	Apoyeque	0.89	34	P	Pn	01 25 54.4	0.0
APYN	Apoyeque	0.89	34	P	Pn	01 25 54.7	+0.3
APYN	Apoyeque	0.89	34	P	Pn	01 25 54.6	+0.2
APQ3	Volcan Apoyequ	0.91	31	P	Pn	01 25 54.3	-0.3
AERN	Aeropuerto Man	0.93	46	P	Pn	01 25 49.3	-5.7
LEVN	Ruinas Leon Vi	0.93	14	⇑P	Pn	01 25 54.5	-0.4
LEVN				S	Sn	01 26 08.9	+1.4
LEVN	Ruinas Leon Vi	0.93	14	P	Pn	01 25 54.6	-0.4
LEVN	Ruinas Leon Vi	0.93	14	P	Pn	01 25 54.2	-0.7
BC84	Volcan Momotom	0.95	19	P	Pn	01 25 54.9	-0.2
BC84	Volcan Momotom	0.95	19	S	Sn	01 26 09.3	+1.4
BC84	Volcan Momotom	0.95	19	P	Pn	01 25 54.9	-0.2
MOMN	Momotombo	0.96	18	⇓P	Pn	01 25 54.9	-0.5
MOMN				S	Sn	01 26 09.7	+1.5
MOMN	Momotombo	0.96	18	P	Pn	01 25 54.9	-0.5
MOMN	Momotombo	0.96	18	P	Pn	01 25 54.7	-0.7
MACN	El Madrono	0.98	10	⇑P	Pn	01 25 55.2	-0.5
MACN				S	Sn	01 26 10.0	+1.2
MACN	El Madrono	0.98	10	P	Pn	01 25 54.9	-0.7
MACN	El Madrono	0.98	10	P	Pn	01 25 54.8	-0.9
PACN	Al O del Volca	1.00	3	⇑P	Pn	01 25 55.4	-0.5
PACN				S	Sn	01 26 10.9	+1.7
PACN	Al O del Volca	1.00	3	P	Pn	01 25 55.7	-0.2
PACN	Al O del Volca	1.00	3	P	Pn	01 25 55.3	-0.6
PACN	Al O del Volca	1.00	3	P	Pn	01 25 55.4	-0.5
MOM2	El Cardon	1.01	21	⇓P	Pn	01 25 55.8	-0.2
MOM2				S	Sn	01 26 11.2	+2.0
MOM2	El Cardon	1.01	21	P	Pn	01 25 55.7	-0.2
MOM2	El Cardon	1.01	21	P	Pn	01 25 55.5	-0.4
CNGA	Al SSO del Vol	1.01	8	⇑P	Pn	01 25 55.4	-0.6
CNGA				S	Sn	01 26 11.3	+2.0
CNGA	Al SSO del Vol	1.01	8	P	Pn	01 25 55.2	-0.8
CNGA	Al SSO del Vol	1.01	8	P	Pn	01 25 55.1	-0.8
CNGN	Cerro Negro	1.01	8		Pn	01 25 55.1	-1.0
ROCN	Rota Cerro Neg	1.03	6	⇓P	Pn	01 25 55.2	-1.0
ROCN				S	Sn	01 26 11.5	+1.7
ROCN	Rota Cerro Neg	1.03	6	P	Pn	01 25 55.0	-1.2
ROCN	Rota Cerro Neg	1.03	6	P	Pn	01 25 54.9	-1.3
ILCN	San Idelfonso	1.09	8	⇑P	Pn	01 25 56.2	-0.8
ILCN				S	Sn	01 26 11.5	+0.3
ILCN	San Idelfonso	1.09	8	P	Pn	01 25 56.0	-1.0
PLRN	Geotermica Pol	1.09	4	⇑P	Pn	01 25 56.3	-0.8
PLRN				S	Sn	01 26 12.2	+1.0
PLRN	Geotermica Pol	1.09	4	P	Pn	01 25 56.2	-0.8
HERN	Volcan Telica	1.11	1		Pn	01 25 56.3	-1.1
SBEN	San Benito	1.12	44	P	Pn	01 25 57.2	-0.3
SBEN	San Benito	1.12	44	P	Pn	01 25 57.4	-0.1
BC87	San Francisco	1.15	28	P	Pn	01 25 57.4	-0.4
BC87	San Francisco	1.15	28	S	Sn	01 26 14.7	+2.0
BC87	San Francisco	1.15	28	P	Pn	01 25 57.4	-0.4
JAPN	Al SSO del Vol	1.15	88	P	Pn	01 25 58.0	+0.1
JAPN	Al SSO del Vol	1.15	88	P	Pn	01 25 57.8	+0.1
JAPN	Al SSO del Vol	1.15	88	P	Pn	01 25 57.9	+0.1
POLN	Al Sur del Vol	1.15	2	⇑P	Pn	01 25 57.3	-0.6
POLN				S	Sn	01 26 14.7	+2.0
POLN	Al Sur del Vol	1.15	2	P	Pn	01 25 57.2	-0.6
POLN	Al Sur del Vol	1.15	2	P	Pn	01 25 56.9	-1.0
PKGN	Cerro Pekin	1.18	354	⇑P	Pn	01 25 57.8	-0.4
PKGN				S	Sn	01 26 14.6	+1.3
PKGN	Cerro Pekin	1.18	354	P	Pn	01 25 57.5	-0.7
PKGN	Cerro Pekin	1.18	354	P	Pn	01 25 57.4	-0.8
CONN	Concepcion	1.20	86	⇑P	Pn	01 25 57.5	-1.1
CONN				S	Sn	01 26 15.0	+1.1
CONN	Concepcion	1.20	86	P	Pn	01 25 57.5	-1.1
CONN	Concepcion	1.20	86	P	Pn	01 25 57.1	-1.4
CRIN	San Cristobal	1.22	351		Pn	01 25 58.0	-0.8
CRIN	San Cristobal	1.22	351	eP	Pn	01 25 57.6	-1.2
LCRUZ	La Cruz	1.27	109	eP	Pn	01 25 59.4	0.0
BOAB	BOACO BROADBAN	.50	51		Pn	01 26 02.2	-0.3
BOAB	BOACO BROADBAN	.50	51	P	Pn	01 26 02.4	-0.1
ELI1	Hacienda Flor	1.53	123	eP	Pn	01 26 03.0	+0.1
ALIBA	Liberia Airpor	1.56	125	eP	Pn	01 26 03.6	+0.3
VRLE	La Escondida,	1.62	115	eP	Pn	01 26 04.1	-0.1
CSGN	Cosiguina Volc	1.63	335	eP	Pn	01 26 03.3	-1.1
GPS3	Bodega del ICE	1.63	117	eP	Pn	01 26 03.7	-0.7
ACON	Acoyapa	1.71	74		Pn	01 26 04.6	-0.8
ACON	Acoyapa	1.71	74	eP	Pn	01 26 04.6	-0.8
HORNC	Hornillas	1.82	115	eP	Pn	01 26 06.8	-0.1
CHOHN	Orocuina	2.00	351	P	Pn	01 26 09.4	0.0
CHOHN	Orocuina	2.00	351	S	Sn	01 26 34.8	+1.4
CHOHN	Orocuina	2.00	351	P	Pn	01 26 09.3	-0.1
CHOHN	Orocuina	2.00	351	P	Pn	01 26 09.2	-0.2
CNCH	Conchagua	2.02	332	eP	Pn	01 26 08.6	-1.1
CNCH	Conchagua	2.02	332	P	Pn	01 26 08.6	-1.1
CNCH	Conchagua	2.02	332	S	Sn	01 26 34.3	+0.5
CNCH	Conchagua	2.02	332	P	Pn	01 26 08.8	-0.9
CNCH	Conchagua	2.02	332	P	Pn	01 26 08.7	-1.0
VERA	Finca Concepci	2.05	108	eP	Pn	01 26 09.0	-0.9
LCND	La Caada	2.07	331	eP	Pn	01 26 09.4	-1.0
LCND				eS	Sn	01 26 34.9	-0.1
LCND				IAML		01 26 39.1
	comp=Z,4µm,0.4s					
LCND	La Caada	2.07	331	P	Pn	01 26 09.4	-1.0
LCND	La Caada	2.07	331	P	Pn	01 26 09.4	-1.0
LCND	La Caada	2.07	331	P	Pn	01 26 09.3	-1.0
INDI	Punta indio, G	2.09	140	P	Pn	01 26 16.1	+5.5
INDI	Punta indio, G	2.09	140	P	Pn	01 26 15.6	+5.1
RCFN	Al S de San Ju	2.12	17	P	Pn	01 26 11.6	+0.4
RCFN	Al S de San Ju	2.12	17	P	Pn	01 26 11.7	+0.6
RCFN	Al S de San Ju	2.12	17	P	Pn	01 26 11.8	+0.6
RCPN	Sur Rio San Ju	2.15	20	P	Pn	01 26 12.5	+1.0
RCPN	Sur Rio San Ju	2.15	20	P	Pn	01 26 12.4	+0.8
RCPN	Sur Rio San Ju	2.15	20	P	Pn	01 26 12.3	+0.8
RCVN	Varillal2	2.18	17	P	Pn	01 26 12.6	+0.7
RCVN	Varillal2	2.18	17	S	Sn	01 26 40.0	+2.2
RCVN	Varillal2	2.18	17	P	Pn	01 26 12.5	+0.7
RCVN	Varillal2	2.18	17	P	Pn	01 26 12.4	+0.5
JTS	Las Juntas de	2.21	122		Pn	01 26 12.9	+0.5
JTS	Las Juntas de	2.21	122	P	Pn	01 26 13.0	+0.8
	comp=Z,19nm,0.3s,baz=309,slow=6.7,SNR=60					
JTS				S	Sn	01 26 37.4	-1.2
	comp=Z,375nm,0.8s,baz=330,slow=20,SNR=8.5					
JTS				LR	LR	01 26 54.3
	comp=Z,164nm,19.5s,baz=274,slow=35					
	comp=Z,66nm,0.4s					
JTS	Las Juntas de	2.21	122	eP	Pn	01 26 12.8	+0.5
ARE1	Arenal 1	2.33	116	eP	Pn	01 26 14.9	+1.0
VARE2	V. Arenal	2.33	116	eP	Pn	01 26 14.6	+0.6
BLLM	Bellamira	2.37	325	eP	Pn	01 26 13.8	-0.6
LCY	Lacayo	2.38	324	eP	Pn	01 26 14.5	-0.1
RANC	El Ranchito	2.39	324	eP	Pn	01 26 14.1	-0.6
RANC	El Ranchito	2.39	324	P	Pn	01 26 14.2	-0.6
RANC	El Ranchito	2.39	324	S	Sn	01 26 44.3	+1.3
RANC	El Ranchito	2.39	324	P	Pn	01 26 14.2	-0.6
RANC	El Ranchito	2.39	324	P	Pn	01 26 14.1	-0.6
PACA	Pacayal	2.44	324	eP	Pn	01 26 15.5	0.0
PACA				eS	Sn	01 26 44.9	+0.8
PACA	Pacayal	2.44	324	P	Pn	01 26 15.1	-0.2
PACA	Pacayal	2.44	324	S	Sn	01 26 45.6	+1.5
PACA	Pacayal	2.44	324	P	Pn	01 26 15.4	0.0
PACA	Pacayal	2.44	324	P	Pn	01 26 15.2	-0.2
YUSH	Yuscaran	2.45	0	P	Pn	01 26 16.2	+0.6
YUSH	Yuscaran	2.45	0	P	Pn	01 26 16.4	+0.8
YUSH	Yuscaran	2.45	0	P	Pn	01 26 16.2	+0.6
SOCE	Pocosol	2.46	116		Pn	01 26 17.4	+1.8
SOCE	Pocosol	2.46	116	eP	Pn	01 26 15.5	-0.1
TECA	Tecapa	2.56	321	eP	Pn	01 26 16.8	-0.4
TGUH	Tegucigalpa,Un	2.58	351		Pn	01 26 17.7	+0.2
ESPN	Las Esperanzas	2.59	74		Pn	01 26 17.8	+0.3
ESPN	Las Esperanzas	2.59	74	eP	Pn	01 26 17.5	0.0
SCLA	Alcaldia de Sa	2.86	320	P	Pn	01 26 20.3	-0.8
SCLA	Alcaldia de Sa	2.86	320	P	Pn	01 26 20.6	-0.6
SCLA	Alcaldia de Sa	2.86	320	P	Pn	01 26 20.4	-0.7
COEG	Centro de Oper	2.90	317	IAML		01 27 05.0
	comp=Z,1µm,0.5s					
COEG	Centro de Oper	2.90	317	P	Pn	01 26 26.9	+5.2
PAVA	Las Pavas	3.00	318	eP	Pn	01 26 22.8	-0.4
PAVA	Las Pavas	3.00	318	P	Pn	01 26 27.1	+3.9
COMHN	El Horno	3.01	347	P	Pn	01 26 22.9	-0.5
COMHN	El Horno	3.01	347	P	Pn	01 26 22.7	-0.7
LFRS	El Faro	3.02	315	eP	Pn	01 26 23.8	+0.4
LOMA	Loma Larga	3.12	314	eP	Pn	01 26 25.4	+0.6
LOMA	Loma Larga	3.12	314	P	Pn	01 26 25.3	+0.6
PIC2	El Picacho	3.24	314	eP	Pn	01 26 26.3	-0.3
PMON	Piamonte	3.26	313	P	Pn	01 26 27.9	+1.2
PMON	Piamonte	3.26	313	P	Pn	01 26 28.0	+1.2
JAYA	Jayaque - finc	3.32	311	eP	Pn	01 26 28.5	+0.9
JAYA	Jayaque - finc	3.32	311	P	Pn	01 26 28.8	+1.2
JAYA	Jayaque - finc	3.32	311⇓eP			01 26 28.8
JAYA				eS		01 27 03.0
RAFA	San Farael, Vo	3.35	117	P	Pn	01 26 32.8	+4.6
CEVE	Cerro Verde	3.57	311	IAML		01 27 27.0
	comp=Z,733nm,0.3s					
NUBE	Las Nubes	3.73	310	P	Pn	01 26 36.6	+3.5
NUBE	Las Nubes	3.73	310	eP		01 26 33.2
MTO3	Montecristo	3.79	320		Pn	01 26 33.5	-0.5
MTO3	Montecristo	3.79	320	P	Pn	01 26 38.6	+4.6
MTO3	Montecristo	3.79	320	eP		01 26 35.6
NISHN	Nisperales Com	4.38	347	eP		01 26 49.6
APG	El Apazote	4.96	315		Pn	01 26 50.0	-0.1
APG	El Apazote	4.96	315	P	Pn	01 26 50.0	-0.1
	comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=6.9					
APG	El Apazote	4.96	315	iP		01 26 50.3
CMIG	Matias Romero	9.57	306		Pn	01 27 53.0	-0.1
CMIG					Sn	01 29 38.1	-1.0
CMIG	Matias Romero	9.57	306	P	Pn	01 27 53.0	-0.1
	comp=Z,1.2nm,0.3s,baz=129,slow=11,SNR=13					
CMIG				S	Sn	01 29 38.1	-1.0
	comp=Z,2.3nm,0.7s,baz=72,slow=20,SNR=1.9					
CMIG				LR	LR	01 32 12.0
	comp=Z,278nm,21.3s,baz=142,slow=41					
	comp=Z,3.4nm,0.4s					
TLIG	Tlapa	12.84 299	Pn	Pn		01 28 39.3	+1.3
FLOC	Florencia	14.85 131	P	P		01 29 09.7	+0.4
SDV	Santo Domingo	16.17 98	P	Pn		01 29 18.0	-3.8
	comp=Z,0.5nm,0.3s,baz=213,slow=17,SNR=1.7					
	comp=Z,1.1nm,0.3s					
HBVL	Hebbronville	19.07 326	P	Pn		01 29 57.4	+0.3
HBVL			IAmb	IAmb		01 29 59.5
	comp=Z,32nm,0.8s					
ATAH	Atahualpa	20.33 155	LR	LR		01 37 11.7
	comp=Z,128nm,19.7s,baz=329,slow=34					
833A	Chaparral WMA,	20.45 327	P	P		01 30 11.1	+0.2
833A			IAmb	IAmb		01 30 12.6
	comp=Z,24nm,0.9s					
HNVL	Huntsville, TX	20.77 339	IAmb	IAmb		01 30 17.4
	comp=Z,21nm,0.8s					
LRAL	Lakeview Retre	21.44 360	P	P		01 30 23.2	+1.7
DRIO	Del Rio	21.98 326	P	P		01 30 28.9	+1.7
DRIO			IAmb	IAmb		01 30 31.1
	comp=Z,11nm,0.7s					
BRDY	Brady	22.68 332	P	P		01 30 34.7	-0.1
BRDY			IAmb	IAmb		01 30 38.7
	comp=Z,9.3nm,0.8s					
SAND	Sanderson	23.22 325	P	P		01 30 39.7	-0.6
TXAR	Lajitas Array	23.68 321	P	P		01 30 45.2	+0.5
TXAR	Lajitas Array	23.68 321	P	P		01 30 45.0	+0.3
	comp=Z,6.0nm,0.7s,baz=146,slow=9.2,SNR=52					
TXAR			PcP	PcP		01 34 29.3	+1.4
	comp=Z,0.6nm,0.6s,baz=143,slow=3.8,SNR=5.9					
	comp=Z,6.0nm,0.7s					
TX31	Lajitas Ar. Si	23.68 321	P	P		01 30 45.3	+0.6
MIAR	Mount Ida	23.75 346	P	P		01 30 45.4	+0.2
MIAR			IAmb	IAmb		01 30 47.0
	comp=Z,10nm,0.7s					
CPCT	Cooper Cave	23.95 5	P	P		01 30 47.7	+0.8
CPCT			IAmb	IAmb		01 30 49.5
	comp=Z,10nm,0.8s					
WHAR	Wooly Hollow	24.20 349	P	P		01 30 48.7	-0.5
WHAR			IAmb	IAmb		01 30 49.7
	comp=Z,7.8nm,0.8s					
TKL	Tuckaleechee C	24.22 6	P	P		01 30 45.9	-3.5
	comp=Z,2.2nm,0.7s

comp=Z,3.6nm,0.9s
PDAR Pinedale Array 36.89 332 P **P** **01 32 41.4 -0.1**
comp=Z,1.3nm,0.6s,baz=128,slow=11,SNR=20
PDAR PcP **PcP** **01 35 02.1 0.0**
comp=Z,0.3nm,0.7s,baz=150,slow=3.5,SNR=3.0
comp=Z,1.3nm,0.6s
HWUT Hardware Ranch 36.99 329 P **P** **01 32 42.3 0.0**
HWUT IAmb IAmb 01 32 51.3
comp=Z,6.4nm,1.1s
LOHW Long Hollow 38.03 332 IAmb IAmb 01 33 04.5
comp=Z,4.0nm,1.1s
ELK Elko 38.38 324 P **P** **01 32 54.7 +0.6**
comp=Z,1.4nm,0.7s,baz=118,slow=5.9,SNR=5.4
ELK PcP **PcP** **01 35 08.7 +1.9**
comp=Z,1.3nm,0.8s,baz=108,slow=3.2,SNR=4.5
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 38.81 319 P **P** **01 32 58.7 +1.1**
comp=Z,0.6nm,0.7s,baz=102,slow=4.9,SNR=2.7
comp=Z,0.6nm,0.7s
ULM Lac du Bonnet 39.35 351 IAmb IAmb 01 33 00.7
comp=Z,5.9nm,0.8s
ULM Lac du Bonnet 39.35 351 P **P** **01 32 58.7 -3.0**
comp=Z,5.7nm,0.7s,baz=164,slow=8.8,SNR=14
ULM PcP **PcP** **01 35 09.2 -0.1**
comp=Z,1.3nm,0.6s,baz=141,slow=1.6,SNR=3.9
comp=Z,5.7nm,0.7s
FFC Flin Flon 44.75 348 P **P** **01 33 44.9 -0.7**
FFC IAmb IAmb 01 33 45.8
comp=Z,2.9nm,0.7s
SCHQ Schefferville 46.03 16 P **P** **01 33 53.7 -2.0**
comp=Z,1.5nm,0.6s,baz=219,slow=7.6,SNR=9.1
comp=Z,1.5nm,0.6s
BDFB Brasilia 46.96 124 P **P** **01 34 03.4 -0.3**
comp=Z,2.1nm,0.7s,baz=294,slow=7.4,SNR=5.1
comp=Z,2.1nm,0.7s
CPUP Villa Florida 47.30 143 LR LR 01 55 51.8
comp=Z,51nm,18.9s,baz=346,slow=38
YKA Yellowknife Ar 54.69 345 P **P** **01 34 59.6 -1.3**
comp=Z,1.3nm,0.8s,baz=146,slow=7.4,SNR=23
YKA PcP **PcP** **01 36 03.1 0.0**
comp=Z,0.6nm,0.7s,baz=154,slow=4.3,SNR=8.3
comp=Z,1.3nm,0.8s
DLBC Dease Lake 57.02 335 P **P** **01 35 16.9 -1.0**
comp=Z,1.5nm,0.7s,baz=147,slow=6.9,SNR=4.5
comp=Z,1.5nm,0.7s
SFJD Kangerlussuaq 60.48 15 LR LR 02 03 51.8
comp=Z,68nm,18.3s,baz=165,slow=38
ILAR Eielson Array 67.13 336 P **P** **01 36 24.4 -1.1**
comp=Z,0.7nm,0.7s,baz=134,slow=4.2,SNR=16
comp=Z,0.7nm,0.7s
ESDC Sonseca Array 77.32 52 P **P** **01 37 24.6 -2.2**
comp=Z,0.3nm,0.7s,baz=277,slow=5.5,SNR=4.1
comp=Z,0.3nm,0.7s
OBN Obninsk 98.52 29 LR LR 02 24 57.8
comp=Z,32nm,18.1s,baz=202,slow=36
SONM Songino Array 119.77 350 PKP **PKPdf** **01 44 22.3 +0.2**
comp=Z,0.5nm,0.5s,baz=350,slow=0.9,SNR=3.3
KSRS Korea Array 121.39 328 **PKPdf** **01 44 26.6 +1.3**
KSRS Korea Array 121.39 328 PKP **PKPdf** **01 44 26.6 +1.3**
comp=Z,1.7nm,0.6s,baz=14,slow=1.7,SNR=8.5
HHC Hu-ho-hao-te 125.21 343 *e*P **PKPdf** **01 44 34.0 +1.2**
LZH Lanzhou 131.61 348 *e*P **PKPdf** **01 44 43.8 -1.4**
LZH pP pPKPdf 01 44 55.1 -6.7
LZH pmax pmax
comp=Z,16nm,1.5s
ASAR Alice Springs 139.45 247 PKP **PKPdf** **01 45 01.5 +1.6**
comp=Z,0.4nm,0.7s,baz=90,slow=2.2,SNR=2.9
WRA Warramunga Arr 139.56 253 PKP **PKPdf** **01 45 01.4 +1.3**
comp=Z,0.5nm,0.6s,baz=92,slow=2.1,SNR=8.0
PZH PanZhiHua 141.32 348 PKP **PKPdf** **01 45 03.8 +0.5**
CMAR Chiang Mai Arr 149.70 349 PKPbc **PKPdf** **01 45 19.8 +2.1**
comp=Z,1.2nm,0.4s,baz=0.2,slow=3.0,SNR=7.1

IDC 24 01:25:49.0±3.5, 9.75S×150.17E, h0km, mb3.0/1, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=69.3km s-min=54.9km az=131.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**276**	Pn	Pn	01 26 37.2	-0.4
	4.1nm,0.3s,baz=91,slow=13,SNR=2.5						
PMG				Sn	Sb	01 27 20.5	+0.4
	3.2nm,0.3s,baz=54,slow=17,SNR=3.1						
WRA	**Warramunga Arr**	**18.34**	**235**	P	P	01 30 05.8	+0.6
	baz=61,slow=12,SNR=2.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**20.81**	**226**	P	P	01 30 31.6	-0.5
	0.6nm,0.7s,baz=59,slow=11,SNR=9.2						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.93**	**279**	PKPbc	PKPbc	01 45 39.5	-0.4
	29nm,0.4s,baz=74,slow=2.9,SNR=1.5						

IDC 24 01:33:11.1±2.8, 18.15S×177.83W, h618km±22km, mb2.6/6, mbtmp3.5/7, Error ellipse: s-maj=99.5km s-min=19.8km az=151.0

ISC 24 01:33:09.8±1.7, 17.8S±0.6×178.0W±0.3, h600km, n10, σ0°84/10, mb3.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**270**	P	P	01 34 38.2	+4.6
	5.1nm,0.5s,baz=50,slow=17,SNR=7.7						
WRA	**Warramunga Arr**	**45.01**	**259**	P	**P**	**01 40 34.0**	**+0.5**
	0.3nm,0.5s,baz=95,slow=7.5,SNR=8.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**45.17**	**254**	P	**P**	**01 40 35.2**	**+0.4**
	0.6nm,0.4s,baz=98,slow=7.6,SNR=13						
ASAR				PcP	**PcP**	**01 42 01.7**	**-0.4**
	0.2nm,0.4s,baz=97,slow=3.6,SNR=4.6						
	0.6nm,0.4s						
NVAR	**Mina Array Bea**	**79.08**	**44**	P	**P**	**01 44 12.5**	**-1.0**
	0.4nm,0.8s,baz=248,slow=5.0,SNR=2.3						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**85.62**	**57**	P	**P**	**01 44 46.8**	**+0.3**
	0.3nm,0.7s,baz=237,slow=4.0,SNR=2.7						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.67**	**13**	P	**P**	**01 44 46.4**	**+0.6**
	0.1nm,0.4s,baz=210,slow=4.4,SNR=6.8						
	0.1nm,0.4s						
PDAR	**Pinedale Array**	**87.01**	**43**	P	**P**	**01 44 53.7**	**+0.9**
	0.1nm,0.5s,baz=186,slow=3.9,SNR=1.7						
	0.1nm,0.5s						
BRTR	**Keskin Array B**	**144.94**	**315**	PKPbc	**PKPab**	**01 51 41.3**	**-0.6**
	0.5nm,0.6s,baz=79,slow=3.4,SNR=2.3						
MMAI	**Mount Meron Ar**	**146.37**	**303**	PKPbc	**PKiKP**	**01 51 45.9**	**-1.3**
	0.6nm,0.5s,baz=70,slow=6.3,SNR=6.0						
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc	**PKPbc**	**01 51 47.7**	**-0.1**
	0.3nm,0.4s,baz=8.1,slow=3.6,SNR=2.4						

IDC 24 01:35:28.2±2.8, 39.74N×97.77E, h0km, mb3.5/1, mbtmp3.3/5, ML2.9/3, MS3.1/1, Error ellipse: s-maj=40.9km s-min=27.7km az=10.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**10.21**	**35**	Pn	Pn	01 37 55.9	-0.2
	0.2nm,0.3s,baz=220,slow=14,SNR=3.7						
SONM				Sn	Sn	01 39 51.4	+0.1
	0.1nm,0.3s,baz=228,slow=26,SNR=2.2						
SONM				Lg	Lg	01 40 53.1	
	0.2nm,0.3s,baz=218,slow=31,SNR=5.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**13.29**	**307**	Pn	Pn	01 38 34.5	-3.6
	0.1nm,0.3s,baz=119,slow=14,SNR=2.6						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**16.71**	**333**	Pn	P	01 39 24.8	-1.2
	0.2nm,0.3s,baz=148,slow=11,SNR=4.8						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**17.34**	**315**	Pn	Pn	01 39 26.8	-4.7
	0.5nm,0.8s,baz=120,slow=11,SNR=3.5						
KSRS	**Korea Array**	**23.62**	**86**	P	P	01 40 40.8	-0.1
	0.9nm,0.6s,baz=284,slow=9.0,SNR=5.7						
	0.9nm,0.6s						
JOW	**Kunigami**	**28.41**	**108**	LR	LR	01 54 25.5	
	comp=Z,34nm,18.1s,baz=304,slow=40						

TEH 24 01:43:30.9, 26.99N×55.20E, h19km±34km
OMAN 24 01:43:33.3±1.3, 26.84N×55.27E, h3km±8km, ml2.9/19, Error ellipse: s-maj=10.2km s-min=6.9km az=17.0

ISC 24 01:43:31.6±1.8, 26.97N±0.05×55.29E±0.04, h5km±13km, n43, σ1°25/57, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.89**	**61**	Pg	**Pb**	**01 43 49.3**	**-0.2**
GENO	**Geno**	**0.89**	**61**	Pg	**Pn**	**01 43 50.1**	**-0.8**
SHME	**Shamm**	**1.19**	**140**	P	**Pg**	**01 43 54.4**	**-0.1**
	SNR=14						
SHME				S	**Sb**	**01 44 10.6**	**+0.2**
IBND	**Bandar-abas**	**1.21**	**67**	Pg	**Pn**	**01 43 55.0**	**-0.1**
UMQ	**Umm Al-Quwin**	**1.48**	**167**	P	**Pg**	**01 44 00.7**	**+0.7**
UMQ				S	**Sb**	**01 44 17.5**	**-1.1**
MASF	**Masafi**	**1.78**	**154**	P	**Pn**	**01 44 03.5**	**+0.5**
MASF				S	**Sn**	**01 44 27.4**	**+1.5**
MDH	**Madha**	**1.90**	**151**	P	**Pn**	**01 44 05.0**	**+0.4**
MDH				S	**Sn**	**01 44 29.0**	**+0.1**
LMD1	**Lamerd**	**1.93**	**281**	Pn	**Pn**	**01 44 03.7**	**-1.4**
NAZ	**Nazwa, Dubai**	**2.00**	**170**	P	**Pn**	**01 44 06.0**	**0.0**
NAZ				S	**Sn**	**01 44 32.7**	**+1.2**
JHRM	**Jahrom**	**2.15**	**315**	Pn	**Pn**	**01 44 08.7**	**+0.5**
UOSS	**Minazif**	**2.18**	**158**	Pn	**Pn**	**01 44 09.0**	**+0.5**
UOSS	**Minazif**	**2.18**	**158**	P	**Pn**	**01 44 09.0**	**+0.5**
UOSS				S	**Sn**	**01 44 36.0**	**+0.2**
HATD	**Hatta, Dubai**	**2.27**	**160**	P	**Pn**	**01 44 11.1**	**+1.4**
HATD				S	**Sn**	**01 44 40.3**	**+2.2**
ASUD	**Al Ashush, Dub**	**2.34**	**179**	P	**Pn**	**01 44 10.8**	**+0.2**
KHNJ	**Kahnooj**	**2.35**	**65**	Pn	**Pn**	**01 44 10.5**	**-0.4**
ASHO	**Ashiyiah**	**2.38**	**163**	P	**Pn**	**01 44 11.4**	**+0.1**
	SNR=39						
AJN	**Ajban**	**2.42**	**187**	P	**Pn**	**01 44 13.0**	**+1.2**
AJN				S	**Sn**	**01 44 41.4**	**-0.3**
QIR1	**Qir**	**2.49**	**307**	Pn	**Pn**	**01 44 11.8**	**-1.1**
JASK	**Jask - Hormozg**	**2.56**	**115**	Pn	**Pn**	**01 44 13.4**	**-0.3**
JASK	**Jask - Hormozg**	**2.56**	**115**	P	**Pn**	**01 44 14.3**	**+0.6**
JASK				S	**Sb**	**01 44 47.3**	**-2.3**
NGRK	**Negar Kerman**	**2.95**	**25**	Pn	**Pn**	**01 44 19.2**	**-0.2**
JRN	**Qarnain Island**	**2.99**	**228**	P	**Pn**	**01 44 22.5**	**+2.9**
SOHO	**SOHO**	**3.04**	**158**	P	**Pn**	**01 44 20.6**	**+0.2**
SOHO				S	**Sn**	**01 44 56.5**	**-0.7**
KRBR	**Kerman**	**3.26**	**23**	Pn	**Pn**	**01 44 23.9**	**+0.3**
CHMN	**Cheshme madani**	**3.49**	**34**	Pn	**Pn**	**01 44 27.3**	**+0.5**
KHGB	**Koh Gabri**	**3.54**	**17**	Pn	**Pn**	**01 44 27.3**	**-0.2**
GHWR	**Ruwais**	**3.71**	**217**	P	**Pn**	**01 44 31.9**	**+2.4**
ARQ	**Araqi**	**3.79**	**163**	P	**Pn**	**01 44 32.0**	**+1.3**
	SNR=11						
KRM1	**Kerman Provinc**	**3.92**	**26**	Pn	**Pn**	**01 44 32.9**	**+0.2**
ZRDN	**Zarand Kerman**	**4.12**	**15**	Pn	**Pn**	**01 44 35.3**	**-0.2**
UMZA	**Um Al Zommool**	**4.24**	**182**	P	**Pn**	**01 44 37.8**	**+0.9**
UMZA				S	**Sn**	**01 45 25.1**	**-1.7**
MZR	**Muzera**	**4.28**	**203**	P	**Pn**	**01 44 38.1**	**+0.6**
IMEH	**Mehriz**	**4.44**	**352**	Pn	**Pn**	**01 44 38.6**	**-1.2**
BSY	**Bisya**	**4.55**	**157**	P	**Pn**	**01 44 42.4**	**+1.2**
BSY				S	**Sn**	**01 45 36.6**	**+2.1**
SMDO	**Samad**	**4.63**	**147**	P	**Pn**	**01 44 43.0**	**+0.7**
	SNR=7.7						
SMDO				S	**Sn**	**01 45 37.2**	**+0.7**
ISAD	**Sadrabad**	**5.12**	**344**	Pn	**Pn**	**01 44 48.4**	**-0.8**
JMDO	**Jabal Madar**	**5.25**	**150**	P	**Pn**	**01 44 51.5**	**+0.7**
WBK	**Wadi Bani Khal**	**5.48**	**142**	P	**Pn**	**01 44 54.8**	**+0.9**
WBK				S	**Sn**	**01 45 57.8**	**+0.4**
TPRV	**Parvadeh(Tabas**	**6.15**	**11**	Pn	**Pn**	**01 45 02.8**	**-0.4**
SRVN	**Saravan**	**6.34**	**85**	Pn	**Pn**	**01 45 06.9**	**+1.0**
DQM	**DQM**	**7.31**	**163**	P	**Pn**	**01 45 17.3**	**-1.8**
DOK	**Doka**	**8.39**	**188**	P	**Pn**	**01 45 30.5**	**-3.3**
ABTO	**Aybut**	**9.75**	**191**	P	**Pn**	**01 45 49.2**	**-3.4**

NEIC 24 01:46:48.9±1.2, 1.67N±0.07×127.5E±0.1, h117km±7km, mb4.6/19, Error ellipse: s-maj=18.9km s-min=6.6km az=61.0
DJA 24 01:46:49.2±0.3, 2.3N±3.×12.7E±., h80km±6km, M4.6/16, mB5.2/6, mb4.7/11, MLv4.5/16, Mw(mB)4.6/6
IDC 24 01:46:52.6±2.6, 1.53N×127.26E, h158km±24km, mb3.8/9, mbtmp4.3/12, MS3.6/1, Error ellipse: s-maj=25.6km s-min=10.0km az=72.0

ISC 24 01:46:49.3±0.5, 1.62N±0.06×127.34E±0.07, h128km, n73, σ1°38/75, mb4.5/20, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.84**	**178**	Pn	**Pn**	**01 47 09.6**	**-1.0**
TNTI	**Ternate**	**0.84**	**178**	P	**Pn**	**01 47 09.3**	**-1.3**
SGSI	**Sangihe**	**2.73**	**319**	S	**Sn**	**01 47 59.3**	**-6.3**
KMSI	**Cibinong**	**3.51**	**253**	P	**Pn**	**01 47 42.5**	**-0.1**
SANI	**Sanana**	**3.89**	**200**	P	**Pn**	**01 47 46.6**	**-0.9**
NLAI	**Namlea**	**4.83**	**183**	P	**Pn**	**01 48 00.6**	**+0.4**
MSAI	**Masohi**	**5.18**	**162**	P	**Pn**	**01 48 07.2**	**+2.3**
	0.3nm2μm42nm,0.5s						
LUWI	**Luwuk**	**5.28**	**240**	Pn	**Pn**	**01 48 08.0**	**+1.9**
LUWI	**Luwuk**	**5.28**	**240**	P	**Pn**	**01 48 05.9**	**-0.2**
	113nm,0.7s						
AAI	**Ambon**	**5.34**	**171**	P	**Pn**	**01 48 07.7**	**+0.7**
	0.2nm49nm,0.7s						
MRSI	**Marisa**	**5.51**	**258**	P	**Pn**	**01 48 09.2**	**-0.1**
	0.6nm2μm133nm,1.0s						
APSI	**Ampana**	**6.22**	**246**	P	**Pn**	**01 48 19.6**	**+0.8**
TOLI2	**Tolitoli**	**6.57**	**266**	Pn	**Pn**	**01 48 22.9**	**-0.7**
KDI	**Kendari**	**7.28**	**220**	P	**Pn**	**01 48 33.2**	**+0.2**
TTSI	**Tana Toraja**	**8.83**	**238**	P	**Pn**	**01 48 53.7**	**-0.3**
	75nm,0.8s						
SPSI	**Sidrap Palu**	**9.38**	**234**	P	**Pn**	**01 49 01.9**	**+0.5**
KAPI	**Kappang**	**10.04**	**229**	Pn	**Pn**	**01 49 12.4**	**+2.1**
KAPI	**Kappang**	**10.04**	**229**	P	**Pn**	**01 49 12.1**	**+1.8**
	15nm,0.4s,baz=63,slow=2.3,SNR=11						
KAPI				S	**Sn**	**01 50 59.6**	**-1.7**
	9.5nm,0.3s,baz=30,slow=20,SNR=7.6						
SOEI	**Soe**	**11.71**	**195**	P	P	01 49 47.7	+7.1
JAY	**Jayapura**	**13.98**	**107**	P	**P**	**01 50 04.9**	**-1.0**
	26nm,0.9s,baz=304,slow=7.3,SNR=5.5						
JAY	**Jayapura**	**13.98**	**107**	P	**P**	**01 50 04.8**	**-1.1**
DRS	**Darwin Rock St**	**14.40**	**166**	P	**P**	**01 50 12.4**	**+1.9**
MTN	**Manton Dam**	**14.86**	**165**	Pn	**Pn**	**01 50 12.0**	**-1.0**
KNRA	**Kununurra**	**17.24**	**175**	P	**Pn**	**01 50 42.8**	**+0.4**
KNRA				IAmb	IAmb	01 50 46.2	
	comp=Z,13nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	**P**	**01 51 08.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	**P**	**01 51 08.8**	**+0.4**
	comp=Z,8.8nm,0.5s,baz=11,slow=8.3,SNR=62						
FITZ	**Fitzroy Crossi**	**19.66**	**185**	P	**P**	**01 51 08.2**	**-0.2**
WRA	**Warramunga Arr**	**22.50**	**163**	P	**P**	**01 51 37.0**	**-1.5**
WRA	**Warramunga Arr**	**22.50**	**163**	P	**P**	**01 51 38.1**	**-0.3**
	comp=Z,7.2nm,0.4s,baz=340,slow=10,SNR=201						
WRA				S	**S**	**01 55 33.1**	**-3.0**
	comp=Z,0.4nm,0.7s,baz=342,slow=18,SNR=2.0						
	comp=Z,7.2nm,0.4s						
WR0	**Warramunga Arr**	**22.58**	**162**	P	**P**	**01 51 39.0**	**-0.2**
WR0				IAmb	IAmb	01 51 40.2	
	comp=Z,41nm,1.4s						
MBWA	**Marble Bar**	**23.83**	**198**	P	**P**	**01 51 50.7**	**-0.1**
MBWA				IAmb	IAmb	01 52 33.4	
	comp=Z,28nm,1.4s						
MBWA	**Marble Bar**	**23.83**	**198**	P	**P**	**01 51 51.8**	**+1.1**
PSA00	**Pilbara Seismi**	**24.19**	**197**	P	**P**	**01 51 54.2**	**+0.2**
PSA00				IAmb	IAmb	01 51 55.8	
	comp=Z,14nm,1.0s						
PSA00	**Pilbara Seismi**	**24.19**	**197**	P	**P**	**01 51 55.1**	**+1.1**
QIS	**Mount Isa**	**25.11**	**152**	P	**P**	**01 52 03.2**	**+0.8**
AS31	**Alice Springs**	**25.93**	**166**	P	**P**	**01 52 10.0**	**+0.2**
AS31				IAmb	IAmb	01 52 13.9	
	comp=Z,7.6nm,0.3s						
ASAR	**Alice Springs**	**25.93**	**166**	P	**P**	**01 52 10.1**	**+0.2**
	comp=Z,3.3nm,0.3s,baz=350,slow=7.5,SNR=80						
ASAR				PcP	**PcP**	**01 55 35.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=0.6,slow=2.8,SNR=2.7						
	comp=Z,3.3nm,0.3s						
AS01	**Alice Springs**	**25.94**	**166**	P	**P**	**01 52 10.4**	**+0.5**
WRKA	**Warakurna**	**26.52**	**178**	P	**P**	**01 52 15.4**	**+0.3**
MEEK	**Meekatharra**	**29.33**	**196**	P	**P**	**01 52 40.9**	**+0.8**
NJ2	**Nanjing**	**31.31**	**346**	*e*P	**P**	**01 53 00.4**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FORT	**Forrest**	**32.23**	**179**	P	**P**	**01 53 05.7**	**+0.2**
FORT				IAmb	IAmb	01 53 32.1	
	comp=Z,24nm,1.1s						
FORT	**Forrest**	**32.23**	**179**	P	**P**	**01 53 05.7**	**+0.2**
MORW	**Morawa**	**32.38**	**199**	P	**P**	**01 53 07.6**	**+0.8**
MORW				IAmb	IAmb	01 53 18.6	
	comp=Z,18nm,1.4s						
KMBL	**Kambalda**	**33.21**	**189**	P	**P**	**01 53 14.9**	**+0.8**
LCRK	**Leigh Creek**	**33.53**	**163**	P	**P**	**01 53 17.5**	**+0.6**
BLDU	**Ballidu**	**33.62**	**197**	P	**P**	**01 53 18.3**	**+0.7**
KLBR	**Kellerberrin**	**34.26**	**195**	P	**P**	**01 53 23.7**	**+0.5**
PZH	**PanZhiHua**	**34.88**	**317**	P	**P**	**01 53 31.1**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,200nm,4.5s						
MUN	**Mundaring**	**35.04**	**197**	P	**P**	**01 53 30.6**	**+0.7**
BBOO	**Buckleboo**	**35.22**	**167**	P	**P**	**01 53 31.6**	**+0.2**
BBOO	**Buckleboo**	**35.22**	**167**	P	**P**	**01 53 31.6**	**+0.2**
KSRS	**Korea Array**	**35.66**	**1**	P	**P**	**01 53 34.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=174,slow=9.5,SNR=4.4						
	comp=Z,0.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.66**	**195**	P	**P**	**01 53 36.0**	**+0.9**
STKA	**Stephens Creek**	**35.96**	**159**	P	**P**	**01 53 38.5**	**+0.8**
STKA	**Stephens Creek**	**35.96**	**159**	P	**P**	**01 53 38.0**	**+0.3**
	comp=Z,10nm,0.4s,baz=337,slow=8.7,SNR=28						
	comp=Z,10nm,0.4s						
HTT	**Hallett**	**36.54**	**164**	P	**P**	**01 53 43.4**	**+0.7**
XAN	**Xi'an**	**36.56**	**334**	P	**P**	**01 53 43.5**	**+0.6**
XAN				pP	pwP	01 54 13.0	-0.6
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
HHC	**Hu-ho-hao-te**	**41.58**	**342**	*e*P	**P**	**01 54 28.3**	**+3.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,58nm,5.9s						
SONM	**Songino Array**	**49.48**	**342**	P	**P**	**01 55 26.7**	**0.0**
	comp=Z,0.4nm,0.5s,baz=159,slow=11,SNR=2.6						
	comp=Z,0.4nm,0.5s						
LBZ	**Lake Benmore**	**59.61**	**146**	P	**P**	**01 56 39.7**	**-0.1**
MK31	**Makanchi Array**	**59.62**	**326**	P	**P**	**01 56 41.0**	**+1.1**
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**01 56 40.9**	**+1.0**
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**01 56 40.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=118,slow=7.3,SNR=29						
	comp=Z,0.9nm,0.3s						
RAO	**Raoul Island**	**60.62**	**125**	P	**P**	**01 56 44.3**	**-2.7**
ZALV	**Zalesovo Beam**	**62.73**	**333**	P	**P**	**01 57 01.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=127,slow=7.4,SNR=1.9						
	comp=Z,0.3nm,0.4s						
GAR	**Garm**	**63.79**	**313**	P	**P**	**01 57 07.6**	**-0.5**
KURBB	**Kurchatov Arra**	**63.83**	**328**	P	**P**	**01 57 08.1**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=129,slow=6.1,SNR=24						
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**63.84**	**328**	P	**P**	**01 57 08.6**	**+0.7**
KURK				IAmb	IAmb	01 57 12.0	
	comp=Z,4.9nm,0.7s						
KKAR	**Karatay Array**	**65.18**	**318**	P	**P**	**01 57 17.6**	**+0.7**
CASY	**Casey**	**68.81**	**187**	P	**P**	**01 57 37.6**	**-1.7**
NEA2	**Nenana**	**85.79**	**25**	P	**P**	**01 59 13.5**	**-0.5**
QSPA	**South Pole Qui**	**91.54**	**180**	P	**P**	**01 59 41.1**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=191,slow=5.2,SNR=17						
	comp=Z,0.8nm,0.5s						

TXNET 24 01:54:03.9, 31.6N±0.5×104.3W±0.8, h5km±2km, ML1.6/8, Error ellipse: s-maj=1.2km s-min=0.8km az=72.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**32**	P	Pg	01 54 10.6	-0.1
TPB11				S	Sg	01 54 15.5	+0.1
PECS	**Pecos**	**0.42**	**129**	P	Pg	01 54 12.2	+0.1
PECS				S	Sg	01 54 17.9	+0.3
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	01 54 13.5	+0.2
TPB12				S	Sg	01 54 20.2	+0.5
TPB07	**Mentone**	**0.50**	**96**	P	Pg	01 54 13.5	-0.1
TPB07				S	Sg	01 54 20.7	+0.6
TPB10	**Southeast of T**	**0.55**	**129**	P	Pg	01 54 14.6	0.0
TPB10				S	Sg	01 54 22.3	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	01 54 15.3	+0.4
CLNB	**Carlsbad**	**0.70**	**27**	P	Pb	01 54 18.5	-0.1
CLNB				S	Sg	01 54 27.1	+0.6
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	01 54 18.4	-0.8
TPB01				S	Sg	01 54 29.2	-0.4
TPB03	**Saragosa**	**0.84**	**131**	S	Sg	01 54 31.3	+0.5
TPB06	**Permian Basin**	**0.88**	**89**	S	Sg	01 54 32.2	0.0
TPB04	**Verhalen**	**0.95**	**118**	S	Sg	01 54 34.5	0.0
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	01 54 22.5	0.0
MNTX				S	Sg	01 54 35.5	+0.5
HTMS	**Hat Mesa**	**0.98**	**32**	S	Sb	01 54 36.7	-0.2
HTMS	**Hat Mesa**	**0.98**	**32**	P	Pg	01 54 22.7	-0.1
TPB16	**Coyonosa**	**1.00**	**121**	S	Sb	01 54 37.0	-0.1
NM01	**Eunice**	**1.02**	**45**	S	Sn	01 54 38.9	-0.8
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	01 54 23.8	-0.3
TPB05	**Hovey Rd**	**1.07**	**132**	S	Sg	01 54 37.9	-0.3
MNHN	**Monahans**	**1.31**	**103**	P	Pn	01 54 27.3	-1.5
MNHN				S	Sg	01 54 45.2	-0.8
ALPN	**Alpine**	**1.36**	**157**	P	Pn	01 54 28.4	-1.3
ALPN				S	Sg	01 54 46.1	-1.7
TPB08	**Permian Basin**	**1.37**	**122**	P	Pn	01 54 29.3	-0.4
TPB08				S	Sb	01 54 47.4	-0.5
ODSA	**Odessa**	**1.53**	**71**	P	Pn	01 54 31.5	-0.4
ODSA				S	Sn	01 54 51.7	-0.5
TMB04	**Seminole**	**1.79**	**56**	P	Pn	01 54 36.0	+0.5
TMB04				S	Sn

OKH	**Okha**	**3.20**	7	*e*PN	**Pn**	**02 31 44.2**	**+2.2**
OKH				*e*S	**Sb**	**02 32 25.4**	**-2.1**
OKH				smax	smax		
	comp=N,15nm,1.3s						
YSS	**Yuzhno-Sakhali**	**3.44 175**		*e*PN	**Pn**	**02 31 45.9**	**+0.6**
YSS	**Yuzhno-Sakhali**	**3.44 175**		*e*P	**Pn**	**02 31 44.5**	**-0.8**
YSS				*e*Pg	**Pg**	**02 31 57.2**	**-1.1**
YSS				AMB	AMB	02 31 58.7	
	comp=N,20nm,0.6s						
YSS				*e*S	**Sn**	**02 32 24.4**	**-1.3**
YSS				A	A	02 32 24.6	
	comp=N,20nm,0.5s						
YSS				A	A	02 32 24.6	
	comp=N,20nm,0.5s						
YSS				*e*Sg	**Sg**	**02 32 43.7**	**+0.8**
YSS				A	A	02 32 46.4	
	comp=N,20nm,0.6s						
YSS				A	A	02 32 46.4	
	comp=N,30nm,0.6s						
GRNR	**Gornyy**	**3.78 278**	⇑	*i*PN	**Pg**	**02 32 05.5**	**+0.7**
GRNR				pmax	pmax		
	comp=E,10.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,160nm,13.0s						
GRNR				MLR	MLR		
	comp=N,200nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,12.0s						
GRNR	**Gornyy**	**3.78 278**		*e*Sg	**Sg**	**02 32 51.5**	**-2.2**
GRNR				A	A	02 32 52.8	
	comp=Z,50nm,0.4s						
GRNR				A	A	02 32 52.8	
	comp=Z,70nm,0.4s						
KLR	**Kul'dur**	**6.94 265**		Pn	**Pn**	**02 32 35.7**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=61,slow=14,SNR=1.7						
KLR				Sn	**Sn**	**02 33 48.3**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=74,slow=17,SNR=2.0						
KLR				Lg	Lg	02 34 28.5	
	comp=Z,0.6nm,0.3s,baz=337,slow=18,SNR=9.1						
	comp=Z,0.4nm,0.3s						
SKR	**Severo-Kuril's**	**8.80 83**		*e*PN	Pn	02 33 15.3	+16
SKR				pmax	pmax		
	comp=Z,500nm,4.8s						
SKR				MLR	MLR		
	comp=Z,800nm,12.0s						
USRK	**Ussuriysk Ar.**	**9.35 233**		Pn	**Pn**	**02 33 06.3**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=41,slow=16,SNR=4.0						
USRK				Lg	Lg	02 35 55.4	
	comp=Z,0.2nm,0.3s,baz=36,slow=24,SNR=4.7						
	comp=Z,1.9nm,0.6s						
ZEA	**Zeya**	**9.87 296**		*i*PN	Pn	02 33 07.4	-6.1
SONM	**Songino Array**	**23.51 278**		LR	LR	02 44 59.9	
	comp=Z,40nm,18.0s,baz=172,slow=36						
ILAR	**Eielson Array**	**38.34 41**		P	**P**	**02 38 12.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=282,slow=8.0,SNR=12						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**38.34 41**		*e*P	**P**	**02 38 12.8**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**38.93 289**		P	**P**	**02 38 18.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=69,slow=6.6,SNR=4.1						
	comp=Z,0.3nm,0.7s						
KURK	**Kurchatov**	**39.35 296**		P	**P**	**02 38 21.8**	**+1.2**
KURK	**Kurchatov**	**39.35 296**		*e*P	**P**	**02 38 21.8**	**+1.2**
KURBB	**Kurchatov Arra**	**39.44 296**		P	**P**	**02 38 21.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=68,slow=8.7,SNR=4.5						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**52.19 35**		P	**P**	**02 40 00.9**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=310,slow=6.8,SNR=5.4						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**66.82 57**		P	**P**	**02 41 44.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=301,slow=6.0,SNR=3.9						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**68.10 49**		P	**P**	**02 41 51.2**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=284,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,0.9s						
ULM	**Lac du Bonnet**	**68.14 36**		*e*P	**P**	**02 41 50.8**	**-0.5**
ULM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**81.55 54**		P	**P**	**02 43 11.2**	**+1.9**
	comp=Z,0.6nm,1.1s,baz=329,slow=6.1,SNR=4.0						
	comp=Z,0.6nm,1.1s						

TRN 24 02:32:14.3, 14°.42N×59°.26W, h72km, MD3.9, North-east of Barbados., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.30**	**193**	*e*P	Pn	02 32 38.3	+1.6
BBGH				*e*S	Sn	02 32 55.9	+2.4
BBGH	**Gun Hill**	**1.30**	**193**	*e*P	Pn	02 32 38.3	+1.6
BBGH				*e*S	Sn	02 32 55.9	+2.4
SLAC	**Saint Lucia, A**	**1.67**	**252**	*e*P	Pn	02 32 42.8	+1.3
SLAC				*e*S	Sn	02 33 03.5	+1.3
SLAC	**Saint Lucia, A**	**1.67**	**252**	*e*P	Pn	02 32 42.8	+1.3
SLAC				*e*S	Sn	02 33 03.5	+1.3
SLW	**Petit Monier**	**1.67**	**257**	*e*P	Pn	02 32 43.2	+1.5
SLW				*e*S	Sn	02 33 04.0	+1.7
SLW	**Petit Monier**	**1.67**	**257**	*e*P	Pn	02 32 43.2	+1.5
SLW				*e*S	Sn	02 33 04.0	+1.7
SLBI	**Saint Lucia, B**	**1.70**	**257**	*e*P	Pn	02 32 42.8	+0.7
SLBI				*e*S	Sn	02 33 04.1	+1.0
SLBI	**Saint Lucia, B**	**1.70**	**257**	*e*P	Pn	02 32 42.8	+0.7
SLBI				*e*S	Sn	02 33 04.1	+1.0
BIM	**Bigot**	**1.75**	**274**	*e*P	Pn	02 32 44.9	+2.1
BIM				*e*S	Sn	02 33 06.9	+2.6
BIM	**Bigot**	**1.75**	**274**	*e*P	Pn	02 32 44.9	+2.1
BIM				*e*S	Sn	02 33 06.9	+2.6
SLB	**Belfond**	**1.82**	**251**	*e*P	Pn	02 32 45.9	+2.2
SLB				*e*S	Sn	02 33 08.1	+2.2
SLB	**Belfond**	**1.82**	**251**	*e*P	Pn	02 32 45.9	+2.2
SLB				*e*S	Sn	02 33 08.1	+2.2
SVN	**Savane Anatole**	**1.89**	**283**	*e*P	Pn	02 32 46.9	+2.3
SVN				*e*S	Sn	02 33 09.5	+1.8
SVN	**Savane Anatole**	**1.89**	**283**	*e*P	Pn	02 32 46.9	+2.3
SVN				*e*S	Sn	02 33 09.5	+1.8
SVB	**Belmont**	**2.24**	**240**	*e*P	Pn	02 32 50.9	+1.6
SVB				*e*S	Sn	02 33 17.4	+1.3
SVB	**Belmont**	**2.24**	**240**	*e*P	Pn	02 32 50.9	+1.6
SVB				*e*S	Sn	02 33 17.4	+1.3
SVOC	**Richmond Hill,**	**2.28**	**237**	*e*P	Pn	02 32 51.1	+1.4
SVOC				*e*S	Sn	02 33 18.3	+1.4
SVOC	**Richmond Hill,**	**2.28**	**237**	*e*P	Pn	02 32 51.1	+1.4
SVOC				*e*S	Sn	02 33 18.3	+1.4
SVT	**Saint Vincent**	**2.29**	**237**	*e*P	Pn	02 32 51.1	+1.2
SVT				*e*S	Sn	02 33 18.4	+1.3
SVT	**Saint Vincent**	**2.29**	**237**	*e*P	Pn	02 32 51.1	+1.2
SVT				*e*S	Sn	02 33 18.4	+1.3
DSLB	**Salisbury**	**2.32**	**296**	*e*P	Pn	02 32 52.2	+1.9
DSLB				*e*S	Sn	02 33 18.3	+0.3
DSLB	**Salisbury**	**2.32**	**296**	*e*P	Pn	02 32 52.2	+1.9
DSLB				*e*S	Sn	02 33 18.3	+0.3
TBG	**Guadaloupe-3**	**2.71**	**302**	*e*P	Pn	02 32 56.5	+0.9
TBG				*e*S	Sn	02 33 29.1	+1.8
TBG	**Guadaloupe-3**	**2.71**	**302**	*e*P	Pn	02 32 56.5	+0.9
TBG				*e*S	Sn	02 33 29.1	+1.8
GCMP	**Grenada, Carri**	**2.85**	**228**	*e*P	Pn	02 33 00.1	+2.6
GCMP				*e*S	Sn	02 33 31.8	+1.0
GCMP	**Grenada, Carri**	**2.85**	**228**	*e*P	Pn	02 33 00.1	+2.6
GCMP				*e*S	Sn	02 33 31.8	+1.0
GRHS	**Sauteurs**	**3.18**	**227**	*e*P	Pn	02 33 03.5	+1.5
GRHS				*e*S	Sn	02 33 40.5	+1.7
GRHS	**Sauteurs**	**3.18**	**227**	*e*P	Pn	02 33 03.5	+1.5
GRHS				*e*S	Sn	02 33 40.5	+1.7
GRGR	**Grenville**	**3.25**	**226**	*e*P	Pn	02 33 04.3	+1.3
GRGR				*e*S	Sn	02 33 42.3	+1.7
GRGR	**Grenville**	**3.25**	**226**	*e*P	Pn	02 33 04.3	+1.3
GRGR				*e*S	Sn	02 33 42.3	+1.7
TOSP	**Speyside**	**3.34**	**202**	*e*P	Pn	02 33 06.1	+2.0
TOSP				*e*S	Sn	02 33 43.0	+0.3
TOSP	**Speyside**	**3.34**	**202**	*e*P	Pn	02 33 06.1	+2.0
TOSP				*e*S	Sn	02 33 43.0	+0.3
GRFF	**Grenada Fort F**	**3.37**	**226**	*e*P	Pn	02 33 05.2	+0.6
GRFF				*e*S	Sn	02 33 45.0	+1.6
GRFF	**Grenada Fort F**	**3.37**	**226**	*e*P	Pn	02 33 05.2	+0.6
GRFF				*e*S	Sn	02 33 45.0	+1.6
ANBD	**Bethesda, Anti**	**3.56**	**318**	*e*P	Pn	02 33 09.3	+2.2
ANBD				*e*S	Sn	02 33 49.0	+0.9
ANBD	**Bethesda, Anti**	**3.56**	**318**	*e*P	Pn	02 33 09.3	+2.2
ANBD				*e*S	Sn	02 33 49.0	+0.9
ANWB	**Willy Bob**	**4.04**	**323**	*e*P	Pn	02 33 15.0	+1.3
ANWB				*e*S	Sn	02 33 59.8	-0.1
ANWB	**Willy Bob**	**4.04**	**323**	*e*P	Pn	02 33 15.0	+1.3
ANWB				*e*S	Sn	02 33 59.8	-0.1
TRN	**Trinidad (W)**	**4.29**	**209**	*e*P	Pn	02 33 20.4	+3.3
TRN				*e*S	Sn	02 34 04.9	-1.1
TRN	**Trinidad (W)**	**4.29**	**209**	*e*P	Pn	02 33 20.4	+3.3
TRN				*e*S	Sn	02 34 04.9	-1.1

NEIC ***24*** *02:40:31.2±1.9, 18°.1S±0°.1×177°.9W±0°.2, h607km±9km, mb4.2/18, Error ellipse: s-maj=26.4km s-min=13.3km az=120.0*
IDC ***24*** *02:40:31.5±1.3, 17°.98S×178°.07W, h610km±12km, mb3.1/10, mbtmp4.0/11, Error ellipse: s-maj=27.3km s-min=15.6km az=139.0*
ISC 24 02:40:29.4±0.6, 18°.1S±0°.1×177°.9W±0°.1, h590km, n38, σ1°.22/41, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.76**	**356**	P	**P**	**02 41 56.1**	**+3.4**
MSVF	**Nonsavu**	**3.90**	**275**	P	**P**	**02 41 56.4**	**+2.8**
	91nm,0.7s,baz=116,slow=5.2,SNR=84						
MSVF				S	**S**	**02 43 04.7**	**+2.5**
	14nm,1.1s,baz=113,slow=22,SNR=7.9						
MRZ	**Mangatainoka R**	**23.20**	**193**	P	**P**	**02 44 50.9**	**-1.1**
THZ	**Tophouse**	**24.89**	**197**	P	**P**	**02 45 06.7**	**-0.4**
THZ				IAmb	IAmb	02 45 35.3	
	comp=Z,24nm,1.1s						
TOO	**Toolangi**	**37.46**	**231**	P	**P**	**02 46 54.0**	**-0.1**
TOO				IAmb	IAmb	02 47 34.6	
	comp=Z,3.2nm,1.1s						
COEN	**Coen**	**37.62**	**270**	P	**P**	**02 46 56.1**	**+0.5**
COEN				IAmb	IAmb	02 46 56.5	
	comp=Z,9.6nm,0.7s						
STKA	**Stephens Creek**	**39.00**	**241**	P	**P**	**02 47 07.1**	**+0.5**
STKA	**Stephens Creek**	**39.00**	**241**	P	**P**	**02 47 06.9**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=94,slow=12,SNR=7.8						
	comp=Z,4.6nm,0.8s						
UWE	**Uwekahuna**	**43.37**	**32**	P	**P**	**02 47 40.5**	**-0.7**
BBOO	**Buckleboo**	**43.77**	**241**	P	**P**	**02 47 43.9**	**-0.3**
BBOO				IAmb	IAmb	02 48 04.3	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**45.07**	**260**	P	**P**	**02 47 53.6**	**-0.7**
WB0				IAmb	IAmb	02 47 53.9	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**02 47 53.5**	**-1.2**
WRA	**Warramunga Arr**	**45.10**	**260**	P	**P**	**02 47 53.4**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=96,slow=6.8,SNR=47						
WRA				PcP	**PcP**	**02 49 21.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=92,slow=3.4,SNR=2.7						
	comp=Z,2.9nm,0.7s						
AS31	**Alice Springs**	**45.24**	**254**	P	**P**	**02 47 55.3**	**-0.3**
AS31				IAmb	IAmb	02 47 56.5	
	comp=Z,3.5nm,1.1s						
ASAR	**Alice Springs**	**45.24**	**254**	P	**P**	**02 47 54.8**	**-0.8**
	comp=Z,7.1nm,0.6s,baz=89,slow=8.4,SNR=96						
ASAR				PcP	**PcP**	**02 49 22.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=102,slow=3.8,SNR=7.5						
	comp=Z,7.1nm,0.6s						
FORT	**Forrest**	**50.40**	**245**	P	**P**	**02 48 32.9**	**-0.9**
FORT				IAmb	IAmb	02 49 08.6	
	comp=Z,25nm,1.3s						
KNRA	**Kununurra**	**50.98**	**264**	P	**P**	**02 48 37.9**	**-0.3**
KNRA				IAmb	IAmb	02 48 47.5	
	comp=Z,23nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.51**	**261**	P	**P**	**02 48 55.8**	**-0.5**
MJAR	**Matsushiro Arr**	**68.36**	**323**	P	**P**	**02 50 31.5**	**-1.6**
	comp=Z,1.2nm,0.7s,baz=159,slow=5.4,SNR=2.6						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**71.97**	**180**	P	**P**	**02 50 55.2**	**+1.2**
QSPA	**South Pole Qui**	**71.97**	**180**	P	**P**	**02 50 54.6**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=45,slow=0.4,SNR=7.1						
	comp=Z,1.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**73.98**	**345**	P	**P**	**02 51 03.2**	**-2.2**
PETK	**Petropavlovsk-**	**73.98**	**345**	P	**P**	**02 51 03.6**	**-1.9**
NVAR	**Mina Array Bea**	**79.20**	**44**	P	**P**	**02 51 35.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=240,slow=4.8,SNR=4.0						
	comp=Z,0.3nm,0.6s						
L19K	**White Mountain**	**82.05**	**11**	P	**P**	**02 51 49.0**	**+0.4**
L19K				IAmb	IAmb	02 51 49.9	
	comp=Z,7.7nm,1.2s						
RND	**Reindeer**	**84.33**	**13**	P	**P**	**02 51 59.5**	**-0.3**
RND				IAmb	IAmb	02 52 00.2	
	comp=Z,4.4nm,0.8s						
TXAR	**Lajitas Array**	**85.66**	**57**	P	**P**	**02 52 08.7**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=221,slow=5.0,SNR=4.6						
	comp=Z,0.5nm,0.9s						
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**02 52 06.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=220,slow=4.8,SNR=12						
	comp=Z,0.4nm,0.4s						
J25K	**Salcha River,**	**86.13**	**13**	P	**P**	**02 52 08.5**	**0.0**
PDAR	**Pinedale Array**	**87.13**	**43**	P	**P**	**02 52 14.4**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=282,slow=2.9,SNR=3.6						
	comp=Z,0.6nm,1.0s						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**02 52 46.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=282,slow=3.5,SNR=3.6						
	comp=Z,0.2nm,0.7s						
BUR08	**Bucovina Ar. S**	**144.99**	**332**	PKPab	**PKPab**	**02 59 01.6**	**-0.7**
BURAR	**Bucovina Array**	**145.01**	**332**	PKPab	**PKPab**	**02 59 01.9**	**-0.5**
BRTR	**Keskin Array B**	**145.27**	**315**	PKPbc	**PKPbc**	**02 59 01.6**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=133,slow=4.1,SNR=6.8						
CLL	**Collm**	**145.75**	**348**		**PKPdf**	**02 59 02.0**	**+0.6**
MMAI	**Mount Meron Ar**	**146.67**	**303**	PKPbc	**PKPbc**	**02 59 06.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=64,slow=5.7,SNR=8.5						
GERES	**GERESS Array B**	**147.91**	**346**	PKPbc	**PKPbc**	**02 59 09.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=9.2,slow=4.2,SNR=5.7						
DAVOX	**Davos/Dischmat**	**150.68**	**349**	PKPbc	**PKPbc**	**02 59 13.9**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=160,slow=21,SNR=6.3						

ISK ***24*** *02:43:43.1, 38°.96N×26°.49E, h11km, ML2.7/30*
AFAD ***24*** *02:43:43.2, 38°.94N×26°.48E, h7km±1km, ML2.4*
THE ***24*** *02:43:43.3, 38°.98N×26°.54E, h5km±1km, ML2.8/3, Error ellipse: s-maj=2.1km s-min=0.7km az=308.0*
ATH ***24*** *02:43:43.6, 38°.98N×26°.50E, h13km±3km, ML2.8/6, Manual Solution by A.Papageorgiou First location: 2019/02/24 02:45:12, This location: 2019/02/24 02:49:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
ISC 24 02:43:43.4±0.9, 38°.97N±0°.02×26°.49E±0°.02, h14km±8km, n57, σ0°.48/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.31**	**191**	P	**Pg**	**02 43 49.8**	**-0.1**
KARB				S	**Sg**	**02 43 54.1**	**0.0**
KARB				*i* AML	AML	02 43 55.0	
	comp=E,380nm,0.1s						
KARB				*i* AML	AML	02 43 56.0	
	comp=N,636nm,0.3s						
PRK	**Paraskevi**	**0.32**	**328**	P	**Pb**	**02 43 50.6**	**-0.4**
PRK				S	**Sb**	**02 43 55.5**	**-0.6**
	3μm,0.6s						
PRK	**Paraskevi**	**0.32**	**328**	P	**Pg**	**02 43 50.3**	**+0.3**
PRK				S	**Sg**	**02 43 54.7**	**+0.1**
DKL	**Dikili**	**0.34**	**72**	Pg	**Pb**	**02 43 50.6**	**-0.6**
DKL				Sg	**Sb**	**02 43 55.8**	**-0.7**
DKL	**Dikili**	**0.34**	**72**	P	**Pg**	**02 43 50.5**	**+0.1**
DKL				S	**Sg**	**02 43 54.7**	**-0.3**
IZMD	**zmir-Dikili-**	**0.34**	**87**	P	**Pg**	**02 43 50.5**	**+0.1**
IZMD				S	**Sg**	**02 43 55.4**	**+0.2**
IZMD				*i* AML	AML	02 43 56.0	
	comp=N,103nm,0.3s						
IZMD				*i* AML	AML	02 43 56.0	
	comp=E,128nm,0.2s						
AYVA	**Ayvalik**	**0.37**	**25**	P	**Pb**	**02 43 51.2**	**-0.6**
AYVA				S	**Sb**	**02 43 56.9**	**-0.6**
AYVA				*i* AML	AML	02 44 00.0	
	comp=N,314nm,0.3s						
AYVA				*i* AML	AML	02 44 00.0	
	comp=E,359nm,0.6s						
ZEDA	**zmir-Bergama**	**0.46**	**90**	P	**Pg**	**02 43 52.5**	**0.0**
ZEDA				*i* AML	AML	02 43 59.0	
	comp=E,221nm,0.3s						
ZEDA				S	**Sb**	**02 43 59.1**	**-0.8**
ZEDA				*i* AML	AML	02 44 04.0	
	comp=N,296nm,0.4s						
EAG2	**Marmaro, Chios**	**0.52**	**215**	P	**Pg**	**02 43 53.6**	**0.0**
EAG2				S	**Sg**	**02 44 00.4**	**-0.2**
SIGR	**SIGRI**	**0.55**	**296**	Pg	**Pb**	**02 43 54.7**	**-0.1**
SIGR				Sg	**Sb**	**02 44 02.3**	**-0.3**
SIGR	**SIGRI**	**0.55**	**296**	P	**Pb**	**02 43 54.7**	**-0.1**
SIGR				S	**Sb**	**02 44 02.9**	**+0.3**
SIGR	**SIGRI**	**0.55**	**296**	P	**Pg**	**02 43 54.4**	**+0.2**
SIGR				S	**Sb**	**02 44 02.4**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.56**	**330**	Pg	**Pb**	**02 43 55.0**	**0.0**
URLA	**Izmir**	**0.61**	**172**	P	**Pg**	**02 43 54.7**	**-0.7**
URLA				S	**Sg**	**02 44 03.8**	**+0.2**
URLA				*i* AML	AML	02 44 08.0	
	comp=N,462nm,0.2s						
URLA				*i* AML	AML	02 44 09.0	
	comp=E,352nm,0.4s						
CESE	**eme**	**0.66**	**193**	Pg	**Pg**	**02 43 55.8**	**-0.4**
BLCB	**Balcova**	**0.73**	**143**	Pg	**Pg**	**02 43 57.4**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.73**	**179**	P	**Pg**	**02 43 56.9**	**-0.7**
ZEYE				S	**Sb**	**02 44 08.4**	**+0.7**
ZEYE				*i* AML	AML	02 44 10.0	
	comp=N,893nm,0.4s						
ZEYE				*i* AML	AML	02 44 10.0	
	comp=E,650nm,0.4s						
EZNE	**Ezine-Canakkal**	**0.79**	**353**	Pg	**Pb**	**02 43 58.9**	**-0.1**
SOMA	**Soma-Manisa**	**0.83**	**77**	Pg	**Pn**	**02 44 00.3**	**-0.4**
EZN	**Ezine**	**0.86**	**352**	P	**Pg**	**02 43 59.0**	**-1.1**
EZN				S	**Sb**	**02 44 12.1**	**+0.5**
	352nm,0.5s						
BOZC	**Bozcaada**	**0.94**	**339**	Pg	**Pg**	**02 44 00.9**	**-0.6**
GMLD	**Gumuldur**	**0.95**	**159**	Pg	**Pg**	**02 44 01.3**	**-0.5**
AKS	**Akhisar**	**1.03**	**95**	Pg	**Pb**	**02 44 03.4**	**+0.3**
CANM	**Can-anakkale**	**1.13**	**23**	Pn	**Pb**	**02 44 04.4**	**-0.3**
YENI	**Yenice-Canakka**	**1.13**	**31**	Pn	**Pb**	**02 44 04.7**	**0.0**
COMU	**Canakkale**	**1.13**	**359**	Pn	**Pn**	**02 44 05.3**	**+0.5**
GOMA	**Golmarmara-Man**	**1.15**	**103**	Pn	**Pg**	**02 44 05.5**	**+0.1**
SMG	**Samos**	**1.29**	**168**	P	**Pn**	**02 44 06.4**	**-0.6**
SMG				S	**Sg**	**02 44 25.2**	**+0.2**
	560nm,0.3s						
SMG	**Samos**	**1.29**	**168**	P	**Pn**	**02 44 07.0**	**0.0**
SMG				S	**Sn**	**02 44 24.4**	**+0.4**
GADA	**Gvkgeada**	**1.30**	**340**	Pn	**Pb**	**02 44 07.7**	**0.0**
GORD	**Gordes-Manisa**	**1.32**	**92**	Pn	**Pb**	**02 44 07.8**	**-0.1**
LIA	**Limnos Island**	**1.37**	**313**	P	**Pn**	**02 44 08.5**	**+0.4**
LIA				S	**Sg**	**02 44 27.4**	**-0.3**
LIA	**Limnos Island**	**1.37**	**313**	P	**Pb**	**02 44 08.8**	**0.0**
LIA				S	**Sb**	**02 44 25.7**	**-0.6**
GCAM	**G?zelcaml?**	**1.40**	**155**	Pn	**Pb**	**02 44 09.1**	**-0.1**
LPK	**Lapseki**	**1.42**	**8**	Pn	**Pb**	**02 44 09.3**	**-0.3**
GONE	**Gonen-Balikesi**	**1.42**	**40**	Pn	**Pb**	**02 44 09.3**	**-0.3**
ODEM	**Odemis-Izmir**	**1.42**	**119**	Pn	**Pn**	**02 44 09.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.43**	**359**	Pn	**Pb**	**02 44 09.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**132**	Pn	**Pn**	**02 44 10.4**	**+0.4**
SUSR	**Susurluk-Balik**	**1.58**	**51**	Pn	**Pn**	**02 44 11.6**	**+0.5**
SMTH	**Samothraki Isl**	**1.67**	**334**	P	**Pn**	**02 44 12.2**	**-0.1**
SMTH	**Samothraki Isl**	**1.67**	**334**	P	**Pn**	**02 44 12.1**	**-0.2**
SMTH				S	**Sn**	**02 44 34.0**	**+0.4**
ERIK	**Erikli-Kesan**	**1.70**	**1**	Pn	**Pn**	**02 44 13.3**	**+0.7**
NAZL	**Nazilli-Aydin**	**1.73**	**125**	Pn	**Pn**	**02 44 13.7**	**+0.5**
EDC	**Edincik**	**1.74**	**37**	Pn	**Pn**	**02 44 13.8**	**+0.6**
KULA	**Kula-Manisa**	**1.76**	**104**	Pn	**Pn**	**02 44 14.1**	**+0.6**
ENEZ	**Enez**	**1.78**	**352**	Pn	**Pn**	**02 44 14.6**	**+0.8**
ENEZ	**Enez**	**1.78**	**352**	P	**Pn**	**02 44 14.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.79**	**17**	Pn	**Pn**	**02 44 14.9**	**+0.9**
KCTX	**Karacabey (Bur**	**1.94**	**47**	Pn	**Pn**	**02 44 16.5**	**+0.6**
SIMA	**Simav-Kutahya**	**1.94**	**86**	Pn	**Pn**	**02 44 16.7**	**+0.6**
ALN	**Alexandroupoli**	**1.96**	**350**	Pn	**Pn**	**02 44 17.1**	**+0.9**
ALN	**Alexandroupoli**	**1.96**	**350**	P	**Pn**	**02 44 16.6**	**+0.4**
BODT	**Bodrum**	**2.01**	**161**	Pn	**Pn**	**02 44 17.9**	**+0.9**
APE	**Apeiranthos**	**2.04**	**202**	P	**Pn**	**02 44 17.2**	**-0.2**
RDO	**Rodhopi**	**2.29**	**342**	P	**Pn**	**02 44 21.4**	**+0.6**
TVSB	**Tavsanli**	**2.36**	**77**	Pn	**Pn**	**02 44 22.5**	**+0.7**

ISK ***24*** *02:44:48.5, 38°.97N×26°.50E, h13km, ML2.6/22*
AFAD ***24*** *02:44:48.3, 38°.94N×26°.49E, h7km±1km, ML2.4*
ISC 24 02:44:48.6±0.9, 38°.95N±0°.02×26°.49E±0°.03, h13km±9km, n38, σ0°.42/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.29**	**192**	P	**Pg**	**02 44 54.9**	**+0.1**
KARB				S	**Sg**	**02 44 59.2**	**+0.3**
KAR

CATAC 24 02:52:52.6±1.0, 13°N±7°×9°0W±°, h9km±10km, M3.3/7, MLv3.3/7, 1C-1D, Error ellipse: s-maj=15.8km s-min=9.8km az=148.2, confirmed, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.85**	**51**	*eP*	Pg	02 53 09.2	+0.2
NUBE				*eS*	Sb	02 53 21.1	-0.2
NUBE	**Las Nubes**	**0.85**	**51**	P	Pg	02 53 09.2	+0.1
NUBE	**Las Nubes**	**0.85**	**51**	P	Pg	02 53 09.2	+0.2
NUBE	**Las Nubes**	**0.85**	**51**	⇓*iP*		02 53 09.2	
NUBE				*i* S		02 53 21.2	
LOAL	**Lomas de Alarc**	**0.91**	**47**	*eP*	Pg	02 53 10.3	+0.1
LOAL				*eS*	Sb	02 53 23.2	+0.2
LOAL	**Lomas de Alarc**	**0.91**	**47**	P	Pg	02 53 10.3	+0.1
LOAL	**Lomas de Alarc**	**0.91**	**47**	P	Pg	02 53 10.4	+0.1
SLOZ	**Alcaldia de Sa**	**0.93**	**45**	*eP*	Pg	02 53 10.2	-0.4
SLOZ				*eS*	Sb	02 53 23.3	-0.1
SLOZ	**Alcaldia de Sa**	**0.93**	**45**	P	Pg	02 53 09.9	-0.7
SLOZ	**Alcaldia de Sa**	**0.93**	**45**	P	Pg	02 53 09.8	-0.7
CEVE	**Cerro Verde**	**0.94**	**61**	*eP*	Pg	02 53 10.9	+0.2
CEVE				*eS*	Sn	02 53 25.3	-0.5
CEVE				IAML		02 53 25.8	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**0.94**	**61**	P	Pb	02 53 11.0	-0.2
CEVE	**Cerro Verde**	**0.94**	**61**	S	Sb	02 53 24.4	+0.6
CEVE	**Cerro Verde**	**0.94**	**61**	P	Pb	02 53 11.0	-0.2
SBLS	**San Blas**	**0.94**	**60**	*eP*	Pb	02 53 11.1	-0.2
RTR	**El Retiro**	**0.95**	**57**	*eP*	Pb	02 53 11.3	-0.2
SNJE	**San Jose**	**0.97**	**59**	*eP*	Pg	02 53 11.3	-0.1
SNJE				*eP*	Pb	02 53 11.4	-0.4
SNJE				*eS*	Sb	02 53 25.3	+0.5
JAYA	**Jayaque - finc**	**1.03**	**74**	*eP*	Pg	02 53 12.3	-0.1
JAYA				*eS*	Sb	02 53 26.5	+0.2
JAYA	**Jayaque - finc**	**1.03**	**74**	P	Pg	02 53 12.3	-0.1
JAYA	**Jayaque - finc**	**1.03**	**74**	S	Sg	02 53 25.8	0.0
JAYA	**Jayaque - finc**	**1.03**	**74**	P	Pg	02 53 12.2	-0.2
JAYA	**Jayaque - finc**	**1.03**	**74**	*eP*		02 53 12.2	
JAYA				*eS*		02 53 26.9	
ESSG	**Sabana Grande**	**1.07**	**341**	⇑*iP*		02 53 11.1	
UNIC	**Universidad Ca**	**1.08**	**56**	*eP*	Pg	02 53 12.7	-0.7
UNIC	**Universidad Ca**	**1.08**	**56**	P	Pg	02 53 12.8	-0.6
UNIC	**Universidad Ca**	**1.08**	**56**	S	Sg	02 53 27.4	0.0
UNIC	**Universidad Ca**	**1.08**	**56**	P	Pg	02 53 12.7	-0.7
CEDA	**San Andres**	**1.12**	**67**	P	Pg	02 53 10.4	-3.9
PMON	**Piamonte**	**1.17**	**73**	*eP*	Pb	02 53 14.6	-0.5
PMON				*eS*	Sb	02 53 30.6	+0.2
PMON	**Piamonte**	**1.17**	**73**	P	Pb	02 53 14.5	-0.6
PMON	**Piamonte**	**1.17**	**73**	P	Pb	02 53 14.4	-0.7
LOMA	**Loma Larga**	**1.29**	**78**	*eP*	Pn	02 53 16.1	-0.9
LOMA	**Loma Larga**	**1.29**	**78**	P	Pn	02 53 16.4	-0.5
LOMA	**Loma Larga**	**1.29**	**78**	P	Pn	02 53 16.4	-0.6
LFRS	**El Faro**	**1.39**	**79**	*eP*	Pn	02 53 17.9	-0.4
MTO3	**Montecristo**	**1.48**	**46**	*eP*	Pn	02 53 18.0	-1.7
MTO3				*eS*	Sn	02 53 38.5	-0.8
MTO3	**Montecristo**	**1.48**	**46**	P	Pn	02 53 19.2	-0.5
MTO3	**Montecristo**	**1.48**	**46**	*i* P		02 53 18.2	
COEG	**Centro de Oper**	**1.56**	**81**	*eP*	Pn	02 53 20.8	+0.1
COEG				*eS*	Sn	02 53 41.2	+0.2
COEG				IAML		02 53 43.8	
	comp=Z,78nm,0.3s						
SOKI	**Kika Raxquin**	**1.71**	**328**	*i* P		02 53 20.5	
SOKI				*i* S		02 53 41.7	
SCLA	**Alcaldia de Sa**	**1.72**	**79**	P	Pg	02 53 26.0	+0.3

DJA 24 03:06:41.7±1.1, 6°S±5°×10°3E±°, h21km±17km, M3.9/7, mb4.0/2, MLv3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.48**	**54**	P	Pn	03 07 07.3	0.0
LWLI				S	Sn	03 07 26.0	-0.1
MNAI	**Manna**	**1.52**	**4**	P	Pn	03 07 08.2	+0.5
MNAI				S	Sn	03 07 27.3	+0.4
MDSI	**Maura Dua**	**1.92**	**44**	P	Pn	03 07 13.5	+0.3
MDSI				S	Sn	03 07 37.9	+1.1
KSI	**Kapahiang**	**2.24**	**353**	P	Pn	03 07 17.7	+0.1
CGJI	**Cibinong**	**2.92**	**104**	P	Pn	03 07 27.7	+0.8
CNJI	**Cibinong**	**4.48**	**109**	P	Pn	03 07 47.7	-0.7
CMJI	**Cimerak**	**5.87**	**109**	P	Pn	03 08 07.3	-0.2

*CATAC **24** 03:07:29.9±1.9, 12°N±9°×8°9W±°, h1km±11km, M4.0/25, MLv4.0/25, Error ellipse: s-maj=23.2km s-min=6.6km az=32.9, confirmed*
*GCG **24** 03:07:31.4±4.3, 12°.53N×89°.63W, h165km±170km, MD4.4, Hypocentre not reviewed by the ISC*
*SNET **24** 03:07:35.6±5.5, 12°.61N×89°.32W, h14km, ML4.0*
*NEIC **24** 03:07:35.1±2.4, 12°.58N±0°.07×89°.23W±0°.07, h35km±1km, mb4.5/76, Error ellipse: s-maj=14.8km s-min=7.8km az=45.0*
*UCR **24** 03:07:35.8±1.5, 12°.58N×89°.23W, h35km, MW3.9*
*IDC **24** 03:07:36.6±2.4, 12°.92N×88°.91W, h41km±20km, mb3.8/10, mbtmp4.0/13, ML3.2/3, MS3.7/11, Error ellipse: s-maj=31.9km s-min=17.8km az=39.0*

ISC 24 03:07:34.1±0.5, 12°.45N±0°.06×89°.34W±0°.05, h35km, n168, σ1§58/134, mb4.5/42, MS3.5/11, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.03**	**1**	*eP*	**Pn**	**03 07 51.2**	**-0.8**
LALI	**Alcalda de L**	**1.03**	**1**	P	**Pn**	**03 07 51.3**	**-0.8**
LALI	**Alcalda de L**	**1.03**	**1**	P	**Pn**	**03 07 51.7**	**-0.4**
LALI	**Alcalda de L**	**1.03**	**1**	*eP*		03 07 51.6	
ALJI	**Alcalda de J**	**1.15**	**41**	P	**Pn**	**03 07 53.2**	**-0.5**
LOMA	**Loma Larga**	**1.20**	**8**	P	**Pn**	**03 07 54.1**	**-0.4**
LOMA	**Loma Larga**	**1.20**	**8**	P	**Pn**	**03 07 53.8**	**-0.7**
JAYA	**Jayaque - finc**	**1.20**	**355**	P	**Pn**	**03 07 53.3**	**-1.2**
JAYA	**Jayaque - finc**	**1.20**	**355**	P	**Pn**	**03 07 53.8**	**-0.8**
JAYA	**Jayaque - finc**	**1.20**	**355**	*eP*		03 08 02.3	
TECO	**Alcaldia de Te**	**1.21**	**27**	P	**Pn**	**03 07 53.5**	**-1.1**
COEG	**Centro de Oper**	**1.25**	**21**	*eS*	**Sn**	**03 08 15.8**	**+5.0**
COEG	**Centro de Oper**	**1.25**	**21**	P	**Pn**	**03 07 55.8**	**+0.7**
COEG	**Centro de Oper**	**1.25**	**21**	P	**Pn**	**03 07 54.6**	**-0.5**
PMON	**Piamonte**	**1.26**	**1**	P	**Pn**	**03 07 54.4**	**-0.8**
PMON	**Piamonte**	**1.26**	**1**	P	**Pn**	**03 07 54.6**	**-0.7**
BOQS	**Boqueron**	**1.28**	**3**	*eP*	**Pn**	**03 07 55.0**	**-0.6**
UESV	**Universidad de**	**1.30**	**25**	P	**Pn**	**03 07 56.1**	**+0.4**
PAVA	**Las Pavas**	**1.32**	**17**	P	**Pn**	**03 07 55.6**	**-0.4**
PAVA	**Las Pavas**	**1.32**	**17**	P	**Pn**	**03 07 55.7**	**-0.4**
CEDA	**San Andres**	**1.35**	**358**	*eP*	**Pn**	**03 07 55.1**	**-1.4**
CEDA	**San Andres**	**1.35**	**358**	P	**Pn**	**03 07 56.9**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.38**	**26**	P	**Pn**	**03 07 56.5**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.38**	**26**	P	**Pn**	**03 07 56.8**	**-0.1**
CEVE	**Cerro Verde**	**1.40**	**349**	*eS*	**Sn**	**03 08 19.6**	**+4.9**
CEVE	**Cerro Verde**	**1.40**	**349**	P	**Pn**	**03 07 56.7**	**-0.6**
CEVE	**Cerro Verde**	**1.40**	**349**	P	**Pn**	**03 07 56.8**	**-0.6**
PACA	**Pacayal**	**1.42**	**44**	P	**Pn**	**03 07 57.2**	**-0.3**
PACA	**Pacayal**	**1.42**	**44**	P	**Pn**	**03 07 59.0**	**+1.5**
RANC	**El Ranchito**	**1.42**	**46**	P	**Pn**	**03 07 57.2**	**-0.4**
RANC	**El Ranchito**	**1.42**	**46**	P	**Pn**	**03 07 57.3**	**-0.3**
NUBE	**Las Nubes**	**1.51**	**344**	P	**Pn**	**03 07 57.5**	**-1.2**
NUBE	**Las Nubes**	**1.51**	**344**	P	**Pn**	**03 07 57.6**	**-1.1**
NUBE	**Las Nubes**	**1.51**	**344**	*eP*		03 07 58.4	
LOAL	**Lomas de Alarc**	**1.60**	**345**	P	**Pn**	**03 08 00.8**	**+0.9**
SLOZ	**Alcaldia de Sa**	**1.63**	**345**	P	**Pn**	**03 08 01.2**	**+0.9**
SLOZ	**Alcaldia de Sa**	**1.63**	**345**	P	**Pn**	**03 07 59.9**	**-0.4**
LCND	**La Caada**	**1.66**	**59**	P	**Pn**	**03 07 59.1**	**-1.5**
LCND	**La Caada**	**1.66**	**59**	P	**Pn**	**03 08 00.3**	**-0.3**
CNCH	**Conchagua**	**1.69**	**61**	*eP*	**Pn**	**03 08 01.4**	**+0.3**
CNCH	**Conchagua**	**1.69**	**61**	P	**Pn**	**03 08 01.2**	**+0.1**
CNCH	**Conchagua**	**1.69**	**61**	P	**Pn**	**03 08 00.9**	**-0.3**
CAHU	**Cacacuatique**	**1.72**	**40**	*eP*	**Pn**	**03 08 01.7**	**0.0**
LLGN	**La Laguna**	**1.75**	**13**	P	**Pn**	**03 08 03.8**	**+1.8**
CSGN	**Cosiguina Volc**	**1.82**	**73**	*eP*	**Pn**	**03 08 03.1**	**+0.2**
MTO3	**Montecristo**	**1.94**	**360**		**Pn**	**03 08 04.7**	**0.0**
MTO3	**Montecristo**	**1.94**	**360**	*eP*	**Pn**	**03 08 04.6**	**0.0**
MTO3	**Montecristo**	**1.94**	**360**	P	**Pn**	**03 08 04.8**	**0.0**
MTO3	**Montecristo**	**1.94**	**360**	P	**Pn**	**03 08 04.9**	**+0.1**
MTO3	**Montecristo**	**1.94**	**360**	*eP*		03 08 06.2	
ESQI	**Esquipulas**	**2.10**	**0**		**Pn**	**03 08 07.3**	**+0.4**
ESQI	**Esquipulas**	**2.10**	**0**	P	**Pn**	**03 08 07.4**	**+0.6**
CRIN	**San Cristobal**	**2.25**	**83**		**Pn**	**03 08 09.0**	**+0.1**
CRIN	**San Cristobal**	**2.25**	**83**	*eP*	**Pn**	**03 08 07.5**	**-1.4**
PKGN	**Cerro Pekin**	**2.32**	**84**	P	**Pn**	**03 08 09.8**	**0.0**
PKGN	**Cerro Pekin**	**2.32**	**84**	P	**Pn**	**03 08 09.3**	**-0.5**
CHOHN	**Orocuina**	**2.36**	**64**	P	**Pn**	**03 08 10.6**	**+0.1**
CHOHN	**Orocuina**	**2.36**	**64**	P	**Pn**	**03 08 10.2**	**-0.2**
HERN	**Volcan Telica**	**2.46**	**86**		**Pn**	**03 08 11.4**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.57**	**51**		**Pn**	**03 08 13.4**	**+0.1**
CNGA	**Al SSO del Vol**	**2.58**	**89**	P	**Pn**	**03 08 13.6**	**+0.2**
CNGN	**Cerro Negro**	**2.58**	**89**		**Pn**	**03 08 12.6**	**-0.9**
MACN	**El Madrono**	**2.61**	**89**	P	**Pn**	**03 08 13.2**	**-0.6**
MACN	**El Madrono**	**2.61**	**89**	P	**Pn**	**03 08 14.4**	**+0.6**
COMHN	**El Horno**	**2.64**	**41**	P	Pn	03 08 20.5	+6.1
COPN	**Copaltepe**	**2.70**	**95**	*eP*	**Pn**	**03 08 14.6**	**-0.4**
COPN	**Copaltepe**	**2.70**	**95**	P	**Pn**	**03 08 14.8**	**-0.3**
MOMN	**Momotombo**	**2.74**	**91**	P	**Pn**	**03 08 15.9**	**+0.3**
APG	**El Apazote**	**2.76**	**337**	P	**Pn**	**03 08 15.6**	**-0.5**
	2.8nm,0.8s,baz=159,slow=10.0,SNR=23						
APG	**El Apazote**	**2.76**	**337**	*eP*		03 08 17.9	
YUSH	**Yuscaran**	**2.86**	**58**	P	**Pn**	**03 08 17.9**	**+0.6**
YUSH	**Yuscaran**	**2.86**	**58**	P	**Pn**	**03 08 17.5**	**+0.2**
RCVN	**Varilla2**	**3.27**	**69**	P	**Pn**	**03 08 23.3**	**+0.3**
RCVN	**Varilla2**	**3.27**	**69**	P	**Pn**	**03 08 23.3**	**+0.3**
RCPN	**Sur Rio San Ju**	**3.34**	**71**	P	**Pn**	**03 08 24.6**	**+0.6**
HUEH	**Huehuetenango**	**3.54**	**324**		**Pn**	**03 08 27.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**3.59**	**90**		**Pn**	**03 08 26.7**	**-0.6**
LCRUZ	**La Cruz**	**3.88**	**110**	*eP*	**Pn**	**03 08 33.0**	**+1.8**
ACON	**Acoyapa**	**4.10**	**96**	Pn	**Pn**	**03 08 33.1**	**-1.3**
CUI	**Cuipilapa**	**4.46**	**113**	*eP*	**Pn**	**03 08 40.7**	**+1.3**
PETF	**Flores**	**4.47**	**354**	*eP*		03 08 40.0	
JTS	**Las Juntas de**	**4.81**	**116**		**Pn**	**03 08 45.6**	**+1.6**
JTS	**Las Juntas de**	**4.81**	**116**	P	**Pn**	**03 08 45.1**	**+1.0**
	3.0nm,0.3s,baz=271,slow=19,SNR=8.5						
JTS				S	**Sn**	**03 09 35.6**	**-3.0**
	26nm,0.6s,baz=241,slow=13,SNR=4.7						
	8.4nm,0.5s						
JTS	**Las Juntas de**	**4.81**	**116**	*eP*	**Pn**	**03 08 46.0**	**+1.9**
ARE1	**Arenal 1**	**4.95**	**113**	*eP*	**Pn**	**03 08 47.4**	**+1.4**
VARE2	**V. Arenal**	**4.95**	**113**	*eP*	**Pn**	**03 08 47.6**	**+1.6**
ACOS	**Acosta**	**5.72**	**117**	*eP*	**Pn**	**03 08 59.4**	**+2.6**
PICV	**PH. Pirrs**	**5.78**	**119**	*eP*	**Pn**	**03 09 00.1**	**+2.6**
PISJ	**San Jernim**	**5.84**	**118**	*eP*	**Pn**	**03 09 01.1**	**+2.8**
ABE2	**San Pablo**	**5.86**	**117**	*eP*	**Pn**	**03 09 01.5**	**+2.7**
LCR2	**La Lucha 2**	**5.89**	**117**	*eP*	**Pn**	**03 09 01.6**	**+2.5**
CMIG	**Matias Romero**	**7.07**	**311**	P	**Pn**	**03 09 16.1**	**+1.0**
	0.4nm,0.3s,baz=162,slow=9.6,SNR=6.7						
CMIG				S	**Sn**	**03 10 29.5**	**-4.8**
	7.1nm,0.8s,baz=106,slow=11,SNR=1.5						
	2.7nm,0.7s						
PIRO	**Carate, Puerto**	**7.14**	**124**	*eP*	**Pn**	**03 09 19.1**	**+3.0**
ALCO	**Alturas Coton,**	**7.28**	**118**	*eP*	**Pn**	**03 09 20.4**	**+2.2**
TEIG	**Tepich**	**7.80**	**7**	P	**Pn**	**03 09 26.8**	**+1.7**
	baz=170,slow=24,SNR=1.2						
TLIG	**Tlapa**	**10.26**	**301**	Pn	**Pn**	**03 10 01.3**	**+2.3**
ROSC	**El Rosal**	**16.66**	**116**	P	**P**	**03 11 31.0**	**+3.6**
	3.3nm,0.3s,baz=19,slow=12,SNR=5.8						
FLOC	**Florencia**	**17.34**	**127**	P	**P**	**03 11 35.5**	**+0.9**
SDV	**Santo Domingo**	**18.72**	**99**	P	**P**	**03 11 50.1**	**+0.1**
SDV	**Santo Domingo**	**18.72**	**99**	P	**P**	**03 11 48.5**	**-1.6**
	0.3nm,0.3s,baz=325,slow=3.8,SNR=6.1						
	4.6nm,0.6s						
HNDO	**Hondo**	**19.34**	**333**	P	**P**	**03 11 54.8**	**-1.8**
435B	**Jarrell**	**19.77**	**339**	P	**P**	**03 12 01.0**	**-0.2**
435B				IAmb	IAmb	03 12 02.5	
	comp=Z,27nm,0.8s						
NATX	**Nacogdoches**	**19.83**	**347**	P	**P**	**03 11 57.1**	**-4.8**
JCT	**Junction City**	**20.39**	**333**	P	**P**	**03 12 07.7**	**-0.3**
LRAL	**Lakeview Retre**	**20.60**	**6**	Pn	**P**	**03 12 10.7**	**+0.5**
BRDY	**Brady**	**20.76**	**336**	P	**P**	**03 12 11.0**	**-1.0**
BRDY				IAmb	IAmb	03 12 12.2	
	comp=Z,17nm,1.0s						
Z41A	**Richland Creek**	**20.95**	**352**	IAmb	IAmb	03 12 19.9	
	comp=Z,17nm,0.7s						
FW13	**Cleburne**	**21.16**	**341**	P	**P**	**03 12 15.3**	**-0.9**
FW13				IAmb	IAmb	03 12 17.0	
	comp=Z,20nm,0.9s						
BAUV	**El Baul**	**21.22**	**97**	P	**P**	**03 12 15.2**	**-1.8**
OZNA	**Ozona**	**21.37**	**331**		**P**	**03 12 18.3**	**-0.3**
WLAR	**White Oak Lake**	**21.42**	**351**	IAmb	IAmb	03 12 22.9	
	comp=Z,16nm,0.8s						
TXAR	**Lajitas Array**	**21.44**	**324**	P	**P**	**03 12 21.0**	**+1.5**
TXAR	**Lajitas Array**	**21.44**	**324**	P	**P**	**03 12 20.7**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=141,slow=10,SNR=43						
TXAR				PcP	**PcP**	**03 16 22.8**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=138,slow=2.0,SNR=3.0						
	comp=Z,3.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**21.44**	**324**	P	**P**	**03 12 20.6**	**+1.2**
FW03	**Perrin-Whitt E**	**22.00**	**340**	IAmb	IAmb	03 12 25.0	
	comp=Z,18nm,0.7s						
MIAR	**Mount Ida**	**22.33**	**351**	IAmb	IAmb	03 12 31.2	
	comp=Z,21nm,0.9s						
UALR	**University of**	**22.39**	**354**	IAmb	IAmb	03 12 37.0	
	comp=Z,17nm,1.1s						
MNHN	**Monahans**	**22.51**	**329**	IAmb	IAmb	03 12 33.3	
	comp=Z,9.3nm,0.7s						
HODGE	**Hodges**	**22.62**	**15**	IAmb	IAmb	03 12 32.8	
	comp=Z,13nm,0.9s						
WTFS	**Witchita Falls**	**22.79**	**340**	IAmb	IAmb	03 12 32.8	
	comp=Z,22nm,0.7s						
SN05	**Snyder 5**	**22.92**	**334**	IAmb	IAmb	03 12 36.0	
	comp=Z,12nm,0.7s						
APMT	**Aspermont**	**23.00**	**336**	IAmb	IAmb	03 12 36.4	
	comp=Z,14nm,0.8s						
SN07	**Snyder 07**	**23.11**	**335**	IAmb	IAmb	03 12 46.3	
	comp=Z,8.9nm,0.7s						
POST	**Post**	**23.34**	**333**	IAmb	IAmb	03 12 40.9	
	comp=Z,11nm,0.8s						
X34A	**Smith Ranch, M**	**23.36**	**342**	IAmb	IAmb	03 12 50.5	
	comp=Z,18nm,0.9s						
FCAR	**Ozark Folk Cen**	**23.47**	**354**	IAmb	IAmb	03 12 42.1	
	comp=Z,20nm,1.0s						
LCAR	**Lake Charles**	**23.58**	**356**	IAmb	IAmb	03 12 42.6	
	comp=Z,11nm,0.8s						
W35A	**Tecumseh**	**23.61**	**344**	IAmb	IAmb	03 12 41.4	
	comp=Z,10nm,0.7s						
DKNS	**Dickens**	**23.62**	**335**	P	**P**	**03 12 41.7**	**-0.3**
DKNS				IAmb	IAmb	03 12 52.1	
	comp=Z,13nm,0.8s						
TKL	**Tuckaleechee C**	**23.65**	**11**	P	**P**	**03 12 40.8**	**-1.4**
	comp=Z,7.8nm,0.8s,baz=186,slow=12,SNR=8.6						
TKL				LR	LR	03 22 18.5	
	comp=Z,92nm,18.6s,baz=138,slow=38						
	comp=Z,7.8nm,0.8s						
CLTN	**Cedars of Leba**	**23.70**	**6**	P	**P**	**03 12 41.9**	**-0.8**
KMSC	**Kings Mountain**	**23.73**	**16**	IAmb	IAmb	03 12 43.2	
	comp=Z,8.7nm,0.8s						
V53A	**Saluda**	**23.86**	**13**	IAmb	IAmb	03 12 45.3	
	comp=Z,12nm,1.0s						
U49A	**Red Boiling Sp**	**24.18**	**7**	IAmb	IAmb	03 12 47.3	
	comp=Z,8.4nm,0.8s						
OK052	**Battle Ridge R**	**24.39**	**345**	IAmb	IAmb	03 12 49.0	
	comp=Z,20nm,0.9s						
MGMO	**Mountain Grove**	**24.74**	**354**	IAmb	IAmb	03 12 53.8	
	comp=Z,14nm,0.8s						
U54A	**Nelsons Funny**	**24.91**	**15**	IAmb	IAmb	03 12 55.6	
	comp=Z,19nm,0.9s						
AMTX	**Amarillo**	**24.98**	**335**	IAmb	IAmb	03 12 55.6	
	comp=Z,15nm,1.1s						
CCM	**Cathedral Cave**	**25.56**	**357**	P	**P**	**03 12 58.4**	**-1.2**
WCI	**Wyandotte Cave**	**25.82**	**6**	P	**P**	**03 13 00.3**	**-1.7**
WCI				IAmb	IAmb	03 13 02.1	
	comp=Z,13nm,0.8s						
KSU1	**Kansas State U**	**27.32**	**348**	IAmb	IAmb	03 13 25.4	
	comp=Z,17nm,1.1s						
TUC	**Tucson**	**27.89**	**319**	P	**P**	**03 13 25.5**	**+4.6**
M50A	**Fremont**	**29.37**	**10**	IAmb	IAmb	03 13 32.5	
	comp=Z,11nm,0.7s						
PV23	**Carpenter Ridg**	**31.26**	**329**	IAmb	IAmb	03 13 52.8	
	comp=Z,6.1nm,0.8s						
O20A	**White River Ci**	**32.22**	**332**	P	**P**	**03 13 57.7**	**-1.5**
O20A				IAmb	IAmb	03 14 09.5	
	comp=Z,8.2nm,1.2s						
PFO	**Pinyon Flats O**	**32.48**	**315**	LR	LR	03 29 04.2	
	comp=Z,91nm,18.0s,baz=177,slow=40						
V12A	**Nelson**	**32.67**	**320**	P	**P**	**03 14 04.8**	**+1.7**
F33A	**5 Mile Ranch,**	**33.80**	**351**	IAmb	IAmb	03 14 11.4	
	comp=Z,4.9nm,0.8s						
PDAR	**Pinedale Array**	**34.92**	**334**	P	**P**	**03 14 24.2**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=140,slow=9.1,SNR=3.3						
PDAR				PcP	**PcP**	**03 16 55.4**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=151,slow=3.4,SNR=4.4						
	comp=Z,0.4nm,0.8s						
EYMN	**Ely**	**35.43**	**358**	IAmb	IAmb	03 14 25.4	
	comp=Z,6.9nm,0.8s						
AGMN	**Agassiz Nation**	**36.15**	**353**	IAmb	IAmb	03 14 32.0	
	comp=Z,6.3nm,0.7s						
ELK	**Elko**	**36.21**	**326**	LR	LR	03 32 32.3	
	comp=Z,66nm,19.0s,baz=122,slow=42						
NVAR	**Mina Array Bea**	**36.50**	**320**	P	**P**	**03 14 38.1**	**+1.7**
	comp=Z,1.7nm,0.9s,baz=139,slow=9.0,SNR=13						
NVAR				PcP	**PcP**	**03 17 01.4**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=137,slow=4.4,SNR=5.5						
	comp=Z,1.7nm,0.9s						
ULM	**Lac du Bonnet**	**38.07**	**353**	IAmb	IAmb	03 14 47.6	
	comp=Z,4.2nm,0.8s						
ULM	**Lac du Bonnet**	**38.07**	**353**	P	**P**	**03 14 47.0**	**-2.2**
	comp=Z,3.3nm,0.7s,baz=167,slow=9.8,SNR=11						
ULM				LR	LR	03 32 59.2	
	comp=Z,76nm,18.4s,baz=144,slow=40						
	comp=Z,3.3nm,0.7s						
VILB	**Vilhena**	**38.37**	**130**	P	**P**	**03 14 52.8**	**+0.5**
YBH	**Yreka Blue Hor**	**41.18**	**321**	LR	LR	03 33 24.9	
	comp=Z,53nm,18.1s,baz=158,slow=38						
SCHQ	**Schefferville**	**45.83**	**18**	P	**P**	**03 15 50.0**	**-2.5**
SCHQ				IAmb	IAmb	03 15 50.9	
	comp=Z,8.2nm,0.9s						
SCHQ	**Schefferville**	**45.83**	**18**	P	**P**	**03 15 49.4**	**-3.1**
	comp=Z,5.8nm,0.7s,baz=232,slow=9.7,SNR=13						
SCHQ				LR	LR	03 34 09.5	
	comp=Z,51nm,18.2s,baz=49,slow=35						
	comp=Z,5.8nm,0.7s						
YKA	**Yellowknife Ar**	**53.14**	**346**	P	**P**	**03 16 47.0**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=148,slow=7.8,SNR=22						
	comp=Z,2.1nm,0.8s						
FRB	**Frobisher Bay**	**53.28**	**11**	LR	LR	03 39 39.8	
	comp=Z,73nm,18.1s,baz=136,slow=36						
ITAB	**Concordia**	**53.48**	**138**	P	**P**	**03 16 51.1**	**0.0**
SFJD	**Kangerlussuaq**	**60.23**	**16**	LR	LR	03 44 43.3	
	comp=Z,52nm,18.1s,baz=168,slow=37						
RES	**Resolute Bay**	**62.30**	**358**	LR	LR	03 47 38.1	
	comp=Z,51nm,19.4s,baz=23,slow=39						
ILAR	**Eielson Array**	**65.28**	**337**	P	**P**	**03 18 11.2**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=119,slow=3.2,SNR=6.4						
	comp=Z,1.0nm,1.0s						
ESDC	**Sonseca Array**	**78.64**	**52**	P	**P**	**03 19 30.5**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=281,slow=5.2,SNR=2.4						
	comp=Z,0.4nm,0.8s						
SEY	**Seymchan**	**91.22**	**336**	P	**P**	**03 20 35.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=6.0,slow=24,SNR=2.1						
	comp=Z,0.4nm,0.3s						
MSVF	**Nonsavu**	**96.15**	**253**	LR	LR	03 55 26.0	
	comp=Z,261nm,19.0s,baz=167,slow=30						
NRIK	**Noril'sk**	**98.39**	**1**	LR	LR	04 07 11.7	
	comp=Z,44nm,20.0s,baz=331,slow=36						
SONM	**Songino Array**	**118.37**	**348**	PKP	**PKiKP**	**03 26 19.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=22,slow=1.6,SNR=1.9						
MKAR	**Makanchi Array**	**120.55**	**7**	PKP	**PKPdf**	**03 26 22.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=6.8,slow=3.6,SNR=1.7						
JAY	**Jayapura**	**129.49**	**277**	PKP	**PKiKP**	**03 26 44.0**	**+3.0**
	comp=Z,7.7n

GCMT 24 03:30:37.0±0.3, **62°19S**±0°02×**165°10E**±0°05, **h20**km±2km, **MW4.9**/77, **Moment Tensor Solution. s14,c15; s77,c100; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-0.84±.22; $M_{\theta\theta}$2.90±.16; $M_{\phi\phi}$-2.07±.13; $M_{r\theta}$-0.93±.25; $M_{\theta\phi}$-0.52±.11; $M_{\phi r}$-0.41±.31; **Best double couple:** $M_0$2.73300×10^{16} **NP1:**ϕ_s321.00000°, δ66.00000°, λ-6.00000°. **NP2:**ϕ_s53.00000°, δ85.00000°, λ-156.00000°. **Principal axes:** T 3.1530, Plg13.0000°, Azm185.0000°; N -0.8470, Plg65.0000°, Azm65.0000°; P -2.3130, Plg21.0000°, Azm280.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**40.10**	**2**	*e*LR	LR	03 49 19.8	
	127nm,27.3s						
TBI	**Tubuai**	**49.42**	**60**	*e*LR	LR	03 53 32.4	
	340nm,24.2s						
PPT2	**Papeete2**	**54.56**	**56**	*e*LR	LR	03 56 05.5	
	65nm,23.0s						
TAOE	**Nuku Hiva Isla**	**66.26**	**62**	*e*LR	LR	04 01 28.6	
	60nm,24.5s						

*IDC **24** 03:57:02.2±3.0, 22°01S×147°80E, h0km, mbtmp3.5/3, ML3.5/3 Error ellipse: s-maj=34.2km s-min=31.9km az=129.0*
*NOU **24** 03:57:03.1, 22°28S×148°04E, h0km, mb3.9/11, Queensland, Australia*
ISC 24 03:57:04.4±1.3, **22°23S**±0°08×**147°9E**±0°1, **h10**km, **n16,** σ1§**63**/17, **Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TV1H	**Townsville Har**	**3.12**	**341**	P	**Pn**	**03 57 55.7**	**+2.0**
EIDS	**Eidsvold**	**4.29**	**138**	P	**Pn**	**03 58 07.1**	**-2.6**
MTSU	**Mount Surprise**	**5.27**	**320**	P	**Pn**	**03 58 23.8**	**+0.5**
QLP	**Quilpie**	**5.46**	**217**	P	**Pn**	**03 58 27.3**	**+1.4**
QIS	**Mount Isa**	**7.89**	**281**	P	**Pn**	**03 59 00.1**	**+0.8**
COEN	**Coen**	**9.36**	**331**	P	**Pn**	**03 59 21.1**	**+1.6**
CMSA	**Cobar Meteorol**	**9.48**	**191**	P	**Pn**	**03 59 20.7**	**-0.3**
STKA	**Stephens Creek**	**11.12**	**209**	Pn	**Pn**	**03 59 43.2**	**-0.3**
	0.3nm,0.3s,baz=25,slow=10,SNR=5.2						
STKA				Sn	**Sn**	**04 01 50.1**	**+2.1**
	0.1nm,0.3s,baz=306,slow=19,SNR=1.6						
STKA				Lg	Lg	04 02 58.3	
	0.3nm,0.3s,baz=320,slow=18,SNR=3.2						
	0.7nm,0.3s						
STKA	**Stephens Creek**	**11.12**	**209**	P	**Pn**	**03 59 43.6**	**+0.1**
LCRK	**Leigh Creek**	**11.92**	**225**	P	**Pn**	**03 59 55.0**	**+0.6**
OOD	**Oodnadatta**	**12.37**	**241**	P	**Pn**	**04 00 01.7**	**+1.1**
WRA	**Warramunga Arr**	**12.85**	**278**	Pn	**Pn**	**04 00 05.4**	**-1.8**
	0.3nm,0.3s,baz=97,slow=13,SNR=12						
WRA				Lg	Lg	04 03 48.7	
	baz=100,slow=29,SNR=2.2						
	0.2nm,0.3s						
I07AU	**WARRAMUNGA INF**	**12.86**	**278**	I	I	05 17 30.0	
	baz=101,slow=308,SNR=1.8						
AS01	**Alice Springs**	**12.92**	**261**	P	**Pn**	**04 00 10.1**	**+1.9**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**12.96**	**261**	Pn	**Pn**	**04 00 07.5**	**-1.3**
	0.2nm,0.3s,baz=86,slow=13,SNR=8.5						
ASAR				Sn	**Sn**	**04 02 30.9**	**-2.3**
	0.1nm,0.3s,baz=90,slow=23,SNR=2.3						
ASAR				Lg	Lg	04 03 53.2	
	0.1nm,0.3s,baz=79,slow=31,SNR=5.0						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**146.61**	**260**	PKPbc	**PKPdf**	**04 16 46.4**	**+0.8**
	30nm,0.4s,baz=108,slow=3.4,SNR=1.4						

*CATAC **24** 04:17:21.3±5.4, 12°N±43°×8°9W±1°5, h5km, M3.7/8, MLv3.7/8, Error ellipse: s-maj=92.5km s-min=31.5km az=1.2, confirmed*
*SNET **24** 04:17:33.3±1.1, 12°40N×89°36W, h15km±5km, ML3.2*
*GCG **24** 04:17:33.1±1.1, 12°34N×89°31W, h28km±30km, MD4.4, Hypocentre not reviewed by the ISC*
ISC 24 04:17:31.7±2.6, **12°2N**±0°1×**89°43W**±0°09, **h33**km, **n48,** σ1§**23**/51, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.25**	**5**	*e*P	**Pn**	**04 17 53.4**	**+0.5**
LALI	**Alcalda de L**	**1.25**	**5**	P	**Pn**	**04 17 53.2**	**+0.3**
LALI	**Alcalda de L**	**1.25**	**5**	*i* P		04 17 53.4	
JAYA	**Jayaque - finc**	**1.41**	**359**	*e*P	**Pn**	**04 17 55.5**	**+0.2**
JAYA	**Jayaque - finc**	**1.41**	**359**	P	**Pb**	**04 17 56.3**	**-1.3**
JAYA	**Jayaque - finc**	**1.41**	**359**	*i* P		04 17 55.4	
LOMA	**Loma Larga**	**1.42**	**10**	*e*P	**Pn**	**04 17 55.7**	**+0.3**
LOMA	**Loma Larga**	**1.42**	**10**	P	**Pb**	**04 17 58.0**	**+0.2**
LFRS	**El Faro**	**1.42**	**14**	*e*P	**Pn**	**04 17 55.9**	**+0.5**
TECO	**Alcaldia de Te**	**1.44**	**26**	*e*P	**Pn**	**04 17 55.5**	**0.0**
TECO	**Alcaldia de Te**	**1.44**	**26**	P	**Pn**	**04 17 55.4**	**-0.1**
PMON	**Piamonte**	**1.47**	**4**	*e*P	**Pn**	**04 17 56.5**	**+0.4**
PMON				*e*S	**Sn**	**04 18 14.8**	**+0.6**
PMON	**Piamonte**	**1.47**	**4**	P	**Pn**	**04 17 56.7**	**+0.6**
COEG	**Centro de Oper**	**1.47**	**21**	*e*P	**Pn**	**04 17 56.2**	**+0.1**
COEG				*e*S	**Sn**	**04 18 14.2**	**-0.1**
COEG				IAML		04 18 22.5	
	comp=Z,320nm,0.3s						
COEG	**Centro de Oper**	**1.47**	**21**	P	**Pn**	**04 17 57.1**	**+1.0**
BOQS	**Boqueron**	**1.50**	**5**	*e*P	**Pn**	**04 17 57.3**	**+0.7**
PIC2	**El Picacho**	**1.51**	**6**	*e*P	**Pn**	**04 17 57.5**	**+0.9**
UESV	**Universidad de**	**1.52**	**24**	*e*P	**Pn**	**04 17 56.8**	**+0.1**
UESV	**Universidad de**	**1.52**	**24**	P	**Pn**	**04 17 57.0**	**+0.3**
TECA	**Tecapa**	**1.54**	**36**	*e*P	**Pn**	**04 17 57.4**	**+0.3**
TECA				*e*P	**Pb**	**04 17 57.6**	**-2.3**
PAVA	**Las Pavas**	**1.54**	**18**	*e*P	**Pn**	**04 17 57.7**	**+0.6**
PAVA	**Las Pavas**	**1.54**	**18**	P	**Pn**	**04 17 57.7**	**+0.6**
CEDA	**San Andres**	**1.56**	**1**	IAML		04 18 27.3	
	comp=Z,377nm,0.5s						
CEVE	**Cerro Verde**	**1.59**	**353**	*e*P	**Pb**	**04 17 59.5**	**-1.3**
CEVE				IAML		04 18 24.6	
	comp=Z,566nm,0.4s						
CEVE	**Cerro Verde**	**1.59**	**353**	P	**Pb**	**04 18 00.0**	**-0.7**
SBLS	**San Blas**	**1.60**	**353**	*e*P	**Pb**	**04 17 59.4**	**-1.6**
SCLA	**Alcaldia de Sa**	**1.61**	**25**	*e*P	**Pn**	**04 17 58.5**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.61**	**25**	P	**Pn**	**04 17 57.1**	**-0.8**
PQSS	**Presa 15 de Se**	**1.62**	**31**	P	**Pn**	**04 17 58.8**	**+0.8**
RANC	**El Ranchito**	**1.63**	**43**	*e*P	**Pb**	**04 17 59.8**	**-1.5**
RANC	**El Ranchito**	**1.63**	**43**	P	**Pb**	**04 18 00.4**	**-0.9**
PACA	**Pacayal**	**1.63**	**41**	*e*P	**Pb**	**04 18 00.3**	**-1.0**
PACA	**Pacayal**	**1.63**	**41**	P	**Pb**	**04 18 01.7**	**+0.4**
SNJE	**San Jose**	**1.63**	**354**	*e*P	**Pn**	**04 17 58.8**	**+0.5**
RTR	**El Retiro**	**1.66**	**353**	*e*P	**Pn**	**04 17 59.8**	**+1.1**
BLLM	**Bellamira**	**1.67**	**44**	*e*P	**Pn**	**04 17 59.3**	**+0.6**
NUBE	**Las Nubes**	**1.69**	**348**	*e*P	**Pn**	**04 17 59.6**	**+0.5**
NUBE				*e*S	**Sn**	**04 18 20.9**	**+1.2**
NUBE	**Las Nubes**	**1.69**	**348**	P	**Pn**	**04 17 59.7**	**+0.5**
NUBE	**Las Nubes**	**1.69**	**348**	*e*P		04 17 59.6	
NUBE				*i* S		04 18 21.8	
SLOZ	**Alcaldia de Sa**	**1.81**	**349**	*e*P	**Pn**	**04 18 02.0**	**+1.3**
SLOZ	**Alcaldia de Sa**	**1.81**	**349**	P	**Pb**	**04 18 02.6**	**-1.8**
LCND	**La Caada**	**1.84**	**54**	*e*P	**Pb**	**04 18 02.4**	**-2.4**
LCND				IAML		04 18 27.8	
	comp=Z,174nm,0.3s						
LCND	**La Caada**	**1.84**	**54**	P	**Pb**	**04 18 02.3**	**-2.4**
CNCH	**Conchagua**	**1.87**	**56**	P	**Pn**	**04 18 02.0**	**+0.5**
MTO3	**Montecristo**	**2.15**	**2**	*e*P	**Pn**	**04 18 06.6**	**+1.1**
MTO3	**Montecristo**	**2.15**	**2**	P	**Pb**	**04 18 08.3**	**-1.9**
MTO3	**Montecristo**	**2.15**	**2**	*i* P		04 18 06.9	
PKGN	**Cerro Pekin**	**2.43**	**80**	P	**Pb**	**04 18 12.4**	**-2.5**
INTHN	**La Esperanza I**	**2.43**	**32**	P	**Pb**	**04 18 14.7**	**-0.3**
CHOHN	**Orocuina**	**2.53**	**61**	P	**Pn**	**04 18 12.7**	**+2.0**
YUSH	**Yuscaran**	**3.04**	**56**	P	**Pn**	**04 18 20.3**	**+2.6**
RCPN	**Sur Rio San Ju**	**3.49**	**68**	P	**Pn**	**04 18 26.8**	**+2.9**

*IDC **24** 05:03:07.4±0.8, 60°16S×33°45W, h0km, mb4.0/5, mbtmp4.1/6, ML4.0/1, MS3.3/10, Error ellipse: s-maj=39.1km s-min=22.9km az=68.0*
*NEIC **24** 05:03:08.1±1.6, 60°28S±0°03×33°8W±0°3, h10km±1km, mb4.4/14, Error ellipse: s-maj=23.2km s-min=3.2km az=79.0*
ISC 24 05:03:08.4±0.5, **60°27S**±0°08×**33°83W**±0°10, **h10**km, **n66,** σ1§**22**/53, **mb4.3**/7, **MS3.3**/8, **5D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.17**	**345**	Pn	**Pn**	**05 04 38.7**	**-0.7**
PMSA	**Palmer Station**	**14.57**	**239**	Pn	**Pn**	**05 06 32.6**	**-1.6**
PMSA	**Palmer Station**	**14.57**	**239**	LR	LR	05 11 41.1	
	comp=Z,114nm,19.2s,baz=66,slow=35						
VNA3	**Neumayer Olymp**	**14.67**	**148**	P	**Pn**	**05 06 33.1**	**-2.5**
VNA3	**Neumayer Olymp**	**14.67**	**148**	⇓P	**Pn**	**05 06 33.1**	**-2.5**
	comp=Z,16nm,0.2s						
VNA1	**Neumayer--Stat**	**14.71**	**145**	P	**Pn**	**05 06 34.5**	**-1.7**
VNA1	**Neumayer--Stat**	**14.71**	**145**	⇓P	**Pn**	**05 06 34.5**	**-1.7**
	comp=Z,24nm,0.2s						
VNA2	**Neumayer--Watz**	**15.11**	**146**	P	**Pn**	**05 06 39.6**	**-1.9**
	baz=303,slow=16						
VNA2	**Neumayer--Watz**	**15.11**	**146**	⇓P	**Pn**	**05 06 39.6**	**-1.9**
	comp=Z,7.9nm,0.3s,baz=303,slow=16						
EFI	**East Falkland**	**15.98**	**292**		**P**	**05 06 56.4**	**-0.1**
EFI				IAmb	IAmb	05 07 04.9	
	comp=Z,40nm,1.0s						
SMAI	**San Martin Ant**	**16.28**	**227**	P	**P**	**05 07 01.3**	**+1.6**
SMAI				IAmb	IAmb	05 07 08.0	
	comp=Z,24nm,1.1s						
SNAA	**Sanae**	**16.75**	**146**	P	**Pn**	**05 07 02.5**	**-0.3**
SNAA	**Sanae**	**16.75**	**146**		**Pn**	**05 07 00.8**	**-2.0**
SNAA				IAmb	IAmb	05 07 06.2	
	comp=Z,38nm,1.5s						
SNAA	**Sanae**	**16.75**	**146**	⇓P	**Pn**	**05 07 02.5**	**-0.3**
	comp=Z,107nm,0.3s						
SNAA	**Sanae**	**16.75**	**146**	Pn	**Pn**	**05 07 02.7**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=311,slow=1.0,SNR=41						
SNAA				LR	LR	05 12 03.7	
	comp=Z,132nm,21.5s,baz=321,slow=32						
	comp=Z,3.8nm,0.3s						
BELA	**Belgrano 2**	**17.70**	**181**	P	**Pn**	**05 07 14.1**	**-0.4**
TROLL	**Troll, Antarti**	**18.43**	**144**	P	**P**	**05 07 25.0**	**+1.4**
TROLL	**Troll, Antarti**	**18.43**	**144**	⇓P	**P**	**05 07 25.0**	**+1.4**
	comp=Z,452nm,0.8s						
MG04	**Isla Riesco**	**21.82**	**273**	P	**P**	**05 07 59.3**	**-1.0**
MG05	**Puerto Natales**	**22.97**	**275**	P	**P**	**05 08 12.9**	**+0.3**
PLCA	**Paso Flores**	**29.87**	**294**	LR	LR	05 20 14.7	
	comp=Z,56nm,20.6s,baz=154,slow=34						
QSPA	**South Pole Qui**	**29.97**	**180**	P		**05 09 19.1**	**+2.5**
QSPA				IAmb	IAmb	05 09 26.8	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**29.97**	**180**	P	**P**	**05 09 19.6**	**+2.9**
	comp=Z,3.2nm,1.0s,baz=179,slow=4.2,SNR=5.4						
QSPA				LR	LR	05 20 13.5	
	comp=Z,64nm,18.9s,baz=201,slow=34						
	comp=Z,3.2nm,1.0s						
BO04	**La Punta**	**35.50**	**301**	P	**P**	**05 10 06.5**	**+1.4**
MT02	**Curacav**	**36.35**	**301**	P	**P**	**05 10 12.2**	**0.0**
CPUP	**Villa Florida**	**37.56**	**324**	P	**P**	**05 10 23.0**	**+0.4**
CPUP	**Villa Florida**	**37.56**	**324**	P	**P**	**05 10 23.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=153,slow=11,SNR=3.1						
CPUP				LR	LR	05 27 33.1	
	comp=Z,42nm,18.5s,baz=208,slow=39						
	comp=Z,1.0nm,0.7s						
CO01	**Juntas del Tor**	**38.77**	**305**	P	**P**	**05 10 32.4**	**-0.6**
MAW	**Mawson**	**38.88**	**143**	LR	LR	05 24 20.5	
	comp=Z,47nm,21.7s,baz=230,slow=33						
GO02	**Mina Guanaco**	**42.85**	**309**	P	**P**	**05 11 06.3**	**-0.5**
GO02				IAmb	IAmb	05 11 08.5	
	comp=Z,9.6nm,1.1s						
BDFB	**Brasilia**	**45.74**	**341**	LR	LR	05 28 00.4	
	comp=Z,44nm,21.5s,baz=164,slow=33						
SIV	**San Ignacio**	**48.42**	**324**	LR	LR	05 31 53.4	
	comp=Z,37nm,20.2s,baz=284,slow=36						
H04S2	**CROZET ISLANDS**	**49.01**	**115**	T	T	06 05 12.9	
	baz=222,slow=75,SNR=35						
H04S3	**CROZET ISLANDS**	**49.02**	**115**	T	T	06 05 27.5	
	baz=222,slow=75,SNR=47						
H04S1	**CROZET ISLANDS**	**49.02**	**115**	T	T	06 05 13.4	
	baz=222,slow=75,SNR=58						
LPAZ	**La Paz**	**50.42**	**315**	P	**P**	**05 12 08.2**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=93,slow=12,SNR=4.1						
LPAZ				LR	LR	05 34 23.4	
	comp=Z,29nm,19.2s,baz=97,slow=37						
	comp=Z,0.9nm,0.7s						
H10S2	**ASCENSION HYDR**	**53.18**	**24**	T	T	06 10 01.1	
	baz=192,slow=74,SNR=117						
H10S3	**ASCENSION HYDR**	**53.19**	**24**	T	T	06 10 14.4	
	baz=28,slow=74,SNR=80						
H10N1	**ASCENSION HYDR**	**54.30**	**24**	T	T	06 11 38.4	
	baz=192,slow=75,SNR=68						
H10N3	**ASCENSION HYDR**	**54.30**	**24**	T	T	06 11 17.9	
	baz=192,slow=75,SNR=115						
H10N2	**ASCENSION HYDR**	**54.32**	**24**	T	T	06 11 19.1	
	baz=192,slow=75,SNR=82						
RCBR	**Riachuelo**	**54.33**	**357**	LR	LR	05 31 07.7	
	comp=Z,20nm,21.1s,baz=275,slow=31						
DBIC	**Dimbokro**	**70.54**	**31**	P	**P**	**05 14 25.3**	**+2.1**
DBIC	**Dimbokro**	**70.54**	**31**	P	**P**	**05 14 24.2**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=292,slow=23,SNR=1.3						
	comp=Z,2.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.51**	**35**	P	**P**	**05 15 08.3**	**-1.1**
TORD				IAmb	IAmb	05 15 19.2	
	comp=Z,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.51**	**35**	P	**P**	**05 15 09.3**	**-0.2**
	comp=Z,35nm,0.4s,baz=198,slow=6.4,SNR=1.6						
ASAR	**Alice Springs**	**95.77**	**169**	P	**P**	**05 16 34.8**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=178,slow=3.5,SNR=4.5						
	comp=Z,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**136.94**	**318**	PKP	**PKPdf**	**05 22 29.2**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=137,slow=2.6,SNR=5.3						
KURBB	**Kurchatov Arra**	**142.10**	**74**	PKP	**PKPdf**	**05 22 39.2**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=218,slow=2.2,SNR=1.4						
M29M	**Somme Creek**	**145.69**	**307**		**PKPdf**	**05 22 45.2**	**-0.3**
A36M	**Sachs Harbour**	**145.86**	**326**		**PKPdf**	**05 22 45.1**	**-0.3**
L29M	**L29M**	**145.90**	**308**		**PKPbc**	**05 22 46.2**	**-0.2**
K29M	**Barlow Dome**	**146.03**	**310**		**PKPdf**	**05 22 45.9**	**-0.2**
INK	**Inuvik**	**146.72**	**318**		**PKPbc**	**05 22 48.2**	**-0.4**
INK	**Inuvik**	**146.72**	**318**	PKPbc	**PKPbc**	**05 22 47.8**	**-0.8**
	comp=Z,2.9nm,1.1s,baz=116,slow=4.4,SNR=5.7						
G30M	**tAoh Zraii Nji**	**147.05**	**315**	PKPbc	**PKPbc**	**05 22 49.4**	**-0.3**
VRDI	**Verde Repeater**	**147.10**	**303**	PKPbc	**PKPbc**	**05 22 49.7**	**-0.5**
ZALV	**Zalesovo Beam**	**147.19**	**73**	PKPbc	**PKPbc**	**05 22 49.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=245,slow=3.0,SNR=1.7						
G29M	**Pine Creek**	**147.65**	**314**		**PKPbc**	**05 22 50.4**	**-1.0**
E29M	**Blow River**	**148.22**	**317**		**PKPbc**	**05 22 51.9**	**-0.9**
J26L	**Joseph Creek**	**148.69**	**308**	PKPbc	**PKPbc**	**05 22 53.9**	**-0.3**
I26K	**Coal Creek Min**	**148.87**	**310**	PKPbc	**PKPbc**	**05 22 54.3**	**-0.2**
ILAR	**Eielson Array**	**150.10**	**308**		**PKPbc**	**05 22 56.9**	**-0.7**
ILAR	**Eielson Array**	**150.10**	**308**	PKPbc	**PKPbc**	**05 22 57.4**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=162,slow=1.7,SNR=18						
ILAR				PKPab	**pPKPab**	**05 23 05.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=142,slow=1.6,SNR=7.1						
C27K	**Jago River**	**150.62**	**318**	PKPbc	**PKPbc**	**05 22 59.0**	**+0.3**
SONM	**Songino Array**	**153.99**	**101**	PKPbc	**PKiKP**	**05 23 06.9**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=197,slow=1.5,SNR=1.4						

*MOS **24** 05:07:50.1±1.1, 53°45N×163°49W, h14km, mb4.7/11, Error ellipse: s-maj=23.6km s-min=11.5km az=103.6*
*IDC **24** 05:07:51.4±0.8, 53°62N×163°69W, h0km, mb4.0/27, mbtmp4.0/29, ML3.4/2, MS3.7/36, Error ellipse: s-maj=22.2km s-min=12.1km az=174.0*
*NEIC **24** 05:07:52.9±2.0, 53°46N±0°06×163°6W±0°1, h10km±1km, mb4.0/31, ML3.9/6, ML3.9(AEIC), Error ellipse: s-maj=13.7km s-min=6.2km az=127.0*
*AEIC **24** 05:07:53.1±2.4, 53°4N±0°1×163°56W±0°03, h25km±6km, Error ellipse: s-maj=15.1km s-min=2.4km az=176.0*
ISC 24 05:07:55.4±0.6, **53°51N**±0°08×**163°60W**±0°05, **h29**km, **n180,** σ1§**51**/153, **mb4.4**/57, **MS3.7**/36, **10C-2D, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.35**	**5**		**Pn**	**05 08 18.4**	**+0.1**
LVA	**Lava Point**	**1.58**	**295**		**Pn**	**05 08 20.9**	**-0.6**
LVA				IAML		05 08 54.1	
	comp=E,2μm,1.0s						
UNV	**Unalaska Valle**	**1.76**	**282**		**Pn**	**05 08 22.5**	**-1.3**
S12K	**Black Hills**	**2.37**	**22**		**Pn**	**05 08 32.9**	**+0.6**
S12K				IAML		05 09 14.7	
	comp=N,565nm,0.5s						
S12K				IAML		05 09 27.7	
	comp=E,580nm,0.9s						
CNBA	**Chernabura Isl**	**2.70**	**59**	Pn	**Pn**	**05 08 36.9**	**+0.1**
CNBA				Sn	**Sn**	**05 09 07.9**	**-0.5**
CNBA				IAML		05 09 09.2	
	comp=E,260nm,0.4s						
ATKA	**Atka Island**	**6.55**	**263**	Pn	**Pn**	**05 09 29.0**	**-0.7**
O16K	**Kokwok River B**	**6.81**	**24**	Pn	**Pn**	**05 09 33.4**	**+0.2**
M13K	**Dall Lake**	**6.92**	**1**	Pn	**Pn**	**05 09 34.6**	**-0.1**
N15K	**Kwethluk River**	**6.95**	**15**	Pn	**Pn**	**05 09 33.9**	**-1.2**
OHAK	**Old Harbor**	**6.95**	**54**	Pn	**Pn**	**05 09 33.5**	**-1.7**
M14K	**Bethel**	**7.31**	**6**	Pn	**Pn**	**05 09 40.0**	**-0.1**
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**05 09 43.1**	**-0.3**
KDAK	**Kodiak Island**	**7.56**	**51**	Pn	**Pn**	**05 09 41.9**	**-1.6**
	comp=E,0.9nm,0.3s,baz=347,slow=2.0,SNR=24						
KDAK				Sn	**Sn**	**05 11 00.8**	**-7.3**
	baz=124,slow=7.6						
KDAK				Lg	Lg	05 11 36.9	
	comp=E,0.5nm,0.3s,baz=324,slow=23,SNR=1.8						
	comp=E,2.4nm,0.3s						
KDAK	**Kodiak Island**	**7.56**	**51**	*i* P	**Pn**	**05 09 42.0**	**-1.5**
Q19K	**Cape Douglas,**	**7.76**	**42**	Pn	**Pn**	**05 09 45.9**	**-0.3**
O18K	**Koktuh Hills**	**7.86**	**33**	Pn	**Pn**	**05 09 46.8**	**-0.8**
M16K	**Timber Creek**	**7.94**	**17**	Pn	**Pn**	**05 09 48.9**	**+0.2**
ADK	**Adak**	**8.12**	**264**	Pn	**Pn**	**05 09 50.3**	**-0.8**
N18K	**Kilae Creek**	**8.32**	**27**	Pn	**Pn**	**05 09 53.8**	**-0.1**
KIWB	**Kanaga Island**	**8.40**	**264**		**Pn**	**05 09 54.9**	**-0.2**
L16K	**Owhat River**	**8.51**	**13**	Pn	**Pn**	**05 09 59.3**	**+2.7**
M17K	**Holitna River**	**8.57**	**20**		**Pn**	**05 09 58.3**	**+0.9**
N19K	**Bonanza Creek**	**8.83**	**30**		**Pn**	**05 10 03.5**	**+2.5**
CNPM	**China Poot**	**9.10**	**44**	Pn	**Pn**	**05 10 04.5**	**-0.1**
L18K	**Granite Mounta**	**9.47**	**20**	Pn	**Pn**	**05 10 10.5**	**+0.8**
K17K	**Iditarod**	**9.64**	**15**		**Pn**	**05 10 14.0**	**+1.9**
M19K	**Big River Lodg**	**9.74**	**27**	Pn	**Pn**	**05 10 15.0**	**+1.6**
SPU	**Mount Spurr**	**9.89**	**34**	Pn	**Pn**	**05 10 16.6**	**+1.1**
SLKM	**Skilak Lake**	**10.10**	**41**	Pn	**Pn**	**05 10 19.3**	**+0.9**
TTA	**Tatalina**	**10.25**	**20**		**Pn**	**05 10 23.1**	**+2.7**
O22K	**Cooper Landing**	**10.28**	**42**		**Pn**	**05 10 20.5**	**-0.2**
J18K	**Innoko River**	**10.60**	**17**	Pn	**Pn**	**05 10 27.7**	**+2.5**
SKT	**Skwentna**	**10.64**	**32**	Pn	**Pn**	**05 10 27.2**	**+1.5**
ANM	**Nome**	**11.12**	**356**	Pn	**Pn**	**05 10 31.5**	**-0.7**
PPLA	**Purkeypile**	**11.15**	**28**	Pn	**Pn**	**05 10 36.6**	**+3.8**
SML	**Sawmill**	**11.63**	**38**	Pn	**Pn**	**05 10 39.7**	**+0.4**
G16K	**Koyuk River**	**11.94**	**3**		**Pn**	**05 10 44.3**	**+0.9**
KTH	**Kantishna Hill**	**12.02**	**28**	Pn	**Pn**	**05 10 45.2**	**+0.6**
SCM	**Sheep Creek Mo**	**12.03**	**40**		**Pn**	**05 10 43.4**	**-1.3**
TRF	**Thorofare Moun**	**12.12**	**30**	Pn	**Pn**	**05 10 46.2**	**0.0**
KLU	**Klutina**	**12.38**	**43**		**Pn**	**05 10 47.6**	**-2.0**
BPAW	**Bear Paw Mtn.**	**12.44**	**26**	Pn	**Pn**	**05 10 51.3**	**+1.1**
RND	**Reindeer**	**12.53**	**32**	Pn	**Pn**	**05 10 50.9**	**-0.7**
M24K	**Tolsona, Glenn**	**12.63**	**40**	Pn	**Pn**	**05 10 51.0**	**-1.9**
N25K	**Chitina, Valde**	**12.99**	**44**		**Pn**	**05 10 56.0**	**-1.8**
GLB	**Gilahina Butte**	**13.24**	**45**	Pn	**Pn**	**05 10 59.9**	**-1.3**
PAX	**Paxson**	**13.40**	**38**		**Pn**	**05 11 02.6**	**-0.8**
SHEM	**Shemya Is, Ala**	**13.41**	**276**	LR	LR	05 15 55.3	
	comp=E,226nm,19.4s,baz=48,slow=36						
CCB	**Clear Creek Bu**	**13.75**	**30**	Pn	**Pn**	**05 11 07.4**	**-0.7**
COLA	**College**	**13.90**	**29**	*i* P	**Pn**	**05 11 09.5**	**-0.7**
ILAR	**Eielson Array**	**14.11**	**30**	Pn	**Pn**	**05 11 10.4**	**-2.6**
	comp=E,0.1nm,0.3s,baz=215,slow=9.6,SNR=5.8						
	comp=E,0.2nm,0.5s						
G23K	**Bananza Creek**	**14.81**	**21**		**Pn**	**05 11 23.4**	**+0.8**
BCAR	**Beaver Creek A**	**14.86**	**41**	Pn	**Pn**	**05 11 22.2**	**-1.0**
J26L	**Joseph Creek**	**15.01**	**35**	IAmb	IAmb	05 11 46.5	
	comp=Z,8.2nm,0.8s						
O29M	**Mount Kennedy**	**15.20**	**53**	IAmb	IAmb	05 11 44.0	
	comp=Z,5.9nm,0.6s						
G24K	**Hadweenzic Riv**	**15.40**	**25**		**Pn**	**05 11 27.9**	**-2.4**
G24K				IAmb	IA

KLR Kul'dur 39.35 291 LR LR 05 32 41.8
comp=Z,88nm,19.9s,baz=30,slow=38
KLR Kul'dur 39.35 291 *ce*P **P 05 15 19.2 -2.6**
KLR pmax pmax
comp=Z,10.0nm,2.5s
ZEA Zeya 39.51 299 *e*P **P 05 15 21.5 -1.6**
PV01 Paradox Valley 40.26 90 P **P 05 15 29.9 +0.2**
PV01 IAmb IAmb 05 15 49.1
comp=Z,2.7nm,0.9s
ULM Lac du Bonnet 40.51 66 P **P 05 15 31.8 +0.4**
comp=Z,1.2nm,0.8s,baz=290,slow=8.0,SNR=4.5
comp=Z,1.2nm,0.8s
H11N2 WAKE ISLAND Hy 40.64 225 T T 05 59 11.6
baz=26,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 40.65 225 T T 05 59 09.0
baz=26,slow=76,SNR=31
H11N1 WAKE ISLAND Hy 40.66 225 T T 05 59 12.2
baz=26,slow=76,SNR=24
H11S1 WAKE ISLAND Hy 41.81 225 T T 06 00 37.6
baz=26,slow=76,SNR=53
H11S2 WAKE ISLAND Hy 41.82 225 T T 06 00 40.9
baz=26,slow=76,SNR=44
H11S3 WAKE ISLAND Hy 41.83 225 T T 06 00 38.9
baz=26,slow=76,SNR=53
USRK Ussuriysk Ar. 42.03 284 LR LR 05 34 50.1
comp=Z,63nm,19.1s,baz=42,slow=39
MAJO Matsushiro 43.20 271 P **P 05 15 53.1 -0.4**
MJAR Matsushiro Arr 43.20 271 P **P 05 15 53.5 -0.1**
comp=Z,5.6nm,1.1s,baz=38,slow=7.0,SNR=8.3
MJAR LR LR 05 31 56.9
comp=Z,92nm,21.0s,baz=56,slow=34
comp=Z,5.6nm,1.1s
MJB9 Matsu-Tunnel 43.20 271 P **P 05 15 52.8 -0.8**
ANMO Albuquerque 43.65 91 LR LR 05 32 23.6
comp=Z,54nm,18.3s,baz=124,slow=34
BNX BinXian 43.74 289 ‖P **P 05 15 53.5 -4.3**
BNX pmax pmax
comp=Z,5.0nm,1.0s
FRB Frobisher Bay 45.98 38 LR LR 05 38 16.3
comp=Z,204nm,18.9s,baz=280,slow=40
NRIK Noril'sk 47.05 333 P **P 05 16 23.4 -0.3**
NRIK Noril'sk 47.05 333 P **P 05 16 23.4 -0.3**
comp=Z,1.9nm,0.6s,baz=60,slow=5.9,SNR=2.5
NRIK PcP **PcP 05 17 56.2 +1.0**
comp=Z,0.8nm,0.3s,baz=126,slow=10.0,SNR=1.5
NRIK LR LR 05 39 21.8
comp=Z,99nm,18.2s,baz=37,slow=40
comp=Z,1.9nm,0.6s
NRIK Noril'sk 47.05 333 *ce*P **P 05 16 23.4 -0.3**
NRIK pmax pmax
comp=Z,6.0nm,1.4s
SPITS Spitsbergen Ar 48.57 0 P **P 05 16 34.8 -0.6**
comp=Z,10nm,1.0s,baz=60,slow=8.5,SNR=1.9
comp=Z,10nm,1.0s
SUMG Summit 48.61 19 *i* P **P 05 16 37.0 +0.8**
KSRS Korea Array 48.70 280 P **P 05 16 37.2 +0.5**
comp=Z,4.0nm,0.8s,baz=54,slow=6.9,SNR=17
KSRS LR LR 05 36 56.7
comp=Z,30nm,19.8s,baz=90,slow=36
comp=Z,4.0nm,0.8s
TXAR Lajitas Array 49.29 95 P **P 05 16 42.5 +0.9**
comp=Z,0.5nm,0.8s,baz=300,slow=5.8,SNR=11
TXAR LR LR 05 36 16.4
comp=Z,29nm,18.8s,baz=326,slow=34
comp=Z,0.5nm,0.8s
SFJD Kangerlussuaq 49.77 28 LR LR 05 41 21.0
comp=Z,102nm,18.7s,baz=328,slow=40
JNU Nakatsue 49.92 273 LR LR 05 38 30.0
comp=Z,70nm,20.1s,baz=46,slow=37
XLT XiLinHaoTe 51.19 294 *e*P **P 05 16 55.5 -0.3**
XLT pmax pmax
comp=Z,7.0nm,1.1s
XLT pmax pmax
comp=Z,160nm,5.6s
SCHQ Schefferville 52.16 47 P **P 05 17 03.2 +0.4**
comp=Z,2.4nm,1.0s,baz=140,slow=8.3,SNR=1.6
comp=Z,2.4nm,1.0s
SADO Sadowa 52.84 63 LR LR 05 40 36.9
comp=Z,90nm,18.0s,baz=261,slow=37
ULN Ulaanbaatar 53.30 303 *i* P **P 05 17 10.6 -0.9**
ULN pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 53.65 303 P **P 05 17 13.8 -0.2**
comp=Z,4.9nm,0.9s,baz=50,slow=6.4,SNR=20
SONM PcP **PcP 05 18 20.7 +0.6**
comp=Z,0.5nm,0.6s,baz=55,slow=2.3,SNR=1.2
comp=Z,4.9nm,0.9s
HHC Hu-ho-hao-te 55.71 294 *e*P **P 05 17 29.5 +0.5**
HHC pmax pmax
comp=Z,17nm,0.7s
ARCES ARCESS Array B 57.08 356 P **P 05 17 36.9 -1.4**
comp=Z,3.1nm,0.9s,baz=13,slow=8.3,SNR=2.1
ARCES LR LR 05 44 40.2
comp=Z,84nm,18.0s,baz=336,slow=39
comp=Z,3.1nm,0.9s
BORG Borgarnes 58.54 18 LR LR 05 45 04.0
comp=Z,74nm,18.4s,baz=336,slow=38
ZALV Zalesovo Beam 58.86 320 P **P 05 17 49.7 -1.2**
comp=Z,1.6nm,0.7s,baz=64,slow=8.4,SNR=7.5
ZALV PcP **PcP 05 18 40.2 +0.1**
comp=Z,0.4nm,0.4s,baz=56,slow=5.4,SNR=3.6
ZALV LR LR 05 45 55.0
comp=Z,83nm,18.9s,baz=344,slow=39
comp=Z,1.6nm,0.7s
GTA Gaotai 62.99 300 *e*P **P 05 18 18.9 -0.5**
GTA pP pP 05 18 24.3 -3.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 63.76 321 *ce*P **P 05 18 24.6 +0.5**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURBB Kurchatov Arra 63.87 321 P **P 05 18 24.3 -0.5**
comp=Z,3.0nm,0.9s,baz=44,slow=7.0,SNR=18
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 64.72 327 P **P 05 18 30.6 +0.2**
comp=Z,4.2nm,0.7s,baz=39,slow=7.6,SNR=14
BVAR LR LR 05 50 01.0
comp=Z,90nm,20.7s,baz=326,slow=39
comp=Z,4.2nm,0.7s
BRVK Borovoye 64.72 327 *ce*P **P 05 18 31.1 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 65.11 342 LR LR 05 53 06.0
comp=Z,56nm,20.1s,baz=36,slow=42
KIRV Kirov 65.11 342 *i* P **P 05 18 32.5 -0.2**
FINES FINESS Array B 65.13 355 P **P 05 18 32.8 -0.1**
comp=Z,2.4nm,0.7s,baz=16,slow=7.0,SNR=7.9
comp=Z,2.4nm,0.7s
ARTI Arti 65.19 336 LR LR 05 50 11.1
comp=Z,52nm,18.2s,baz=26,slow=39
ARTI Arti 65.19 336 *d i* P **P 05 18 33.1 -0.2**
ARTI 05 19 04.7
ARTI 05 20 55.6
ARTI S **S 05 27 19.7 +5.7**
ARTI SS **SS 05 31 26.2 +0.5**
ARTI pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 65.47 316 *ce*P **P 05 18 34.9 -0.5**
MKAR Makanchi Array 65.47 316 P **P 05 18 34.3 -1.1**
comp=Z,0.9nm,0.7s,baz=46,slow=6.1,SNR=13
MKAR LR LR 05 50 40.1
comp=Z,80nm,19.2s,baz=330,slow=39
comp=Z,0.9nm,0.7s
NB2 NORSAR Subarra 65.72 3 PKP **P 05 18 34.2 -2.6**
comp=Z,2.0nm,0.8s,baz=7.1,slow=2.9
NOA NORSAR Array B 65.72 3 P **P 05 18 36.6 -0.2**
comp=Z,1.6nm,0.8s,baz=357,slow=6.8,SNR=4.0
comp=Z,1.6nm,0.8s
HFS Hagfors 66.69 1 P **P 05 18 42.1 -0.8**
comp=Z,3.5nm,0.5s,baz=35,slow=5.4,SNR=12
comp=Z,3.5nm,0.5s
EKA Eskdalemuir Ar 70.33 12 P **P 05 19 04.7 -1.0**
comp=Z,1.8nm,0.8s,baz=346,slow=3.8,SNR=6.4
comp=Z,1.8nm,0.8s
PZH PanZhiHua 71.79 290 P **P 05 19 15.5 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
PPT Papeete 71.81 166 LR LR 05 43 30.5
comp=Z,64nm,20.2s,baz=242,slow=30
MNK Minsk 71.93 353 *i* P **P 05 19 11.3 -4.1**
MNK *i* 05 19 29.5
MNK *i* 05 21 51.1
MNK *i* PPP PPP 05 23 35.0
MNK *i* S **S 05 28 33.9 -0.3**
MNK *i* 05 29 17.3
MNK *i* SS **SS 05 33 11.8 +2.2**
MNK pmax pmax
comp=E,17nm,0.9s
MNK pmax pmax
comp=N,22nm,1.2s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=Z,110nm,16.0s
MNK MLR MLR
comp=E,216nm,20.0s
MNK MLR MLR
comp=N,284nm,22.0s
AAK Ala-Archa 72.04 319 LR LR 05 53 35.6
comp=N,113nm,18.3s,baz=32,slow=38
AAK Ala-Archa 72.04 319 *ce*P **P 05 19 17.7 +1.2**
AAK pmax pmax
comp=Z,12nm,2.5s
KSH Kashi 74.08 316 P **P 05 19 32.1 +3.5**
KSH pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 77.70 2 *e*P **P 05 19 48.5 -0.5**
KHC Kasperske Hory 77.70 2 *e*P **P 05 19 48.5 -0.5**
GERES GERESS Array B 77.99 2 P **P 05 19 51.0 +0.3**
comp=Z,0.5nm,0.5s,baz=0.6,slow=12,SNR=4.0
comp=Z,0.5nm,0.5s
CONA Conrad Observa 78.94 0 *e*P **P 05 19 55.8 0.0**
comp=Z,8.0nm,1.8s
MOTA Moosalm 79.42 4 *e*P **P 05 19 57.2 -1.4**
comp=Z,4.5nm,1.1s
WTTA Wattenberg 79.52 3 *e*P **P 05 19 57.0 -2.2**
comp=Z,2.8nm,1.0s
SQTA Sankt Quirin 79.55 4 *e*P **P 05 19 59.2 -0.1**
comp=Z,3.1nm,0.8s
ARSA Arzberg 79.61 1 *e*P **P 05 19 59.0 -0.5**
comp=Z,2.1nm,0.9s
FETA Feichten 79.73 4 *e*P **P 05 20 00.4 +0.1**
comp=Z,5.3nm,1.3s
KBA Koelnbreinsper 79.75 2 *e*pP **P 05 20 01.7 +1.3**
comp=Z,10nm,1.3s
ABTA Abfaltersbach 80.06 3 *e*P **P 05 20 01.0 -1.0**
comp=Z,5.3nm,1.2s
SOKA Soboth 80.18 1 *e*pP **P 05 20 04.0 +1.3**
comp=Z,7.8nm,1.4s
KIV Kislovodsk 80.33 341 *e*P **P 05 20 00.5 -3.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,29nm,19.0s
OBKA Obir 80.34 1 *e*pP **P 05 20 04.2 +0.7**
comp=Z,9.8nm,1.0s
KBZ Khabaz 80.50 341 P **P 05 20 05.7 +1.4**
comp=Z,2.7nm,0.9s,baz=307,slow=5.3,SNR=4.6
KBZ LR LR 06 01 49.0
comp=Z,54nm,18.2s,baz=10.0,slow=40
comp=Z,2.7nm,0.9s
KBZ Khabaz 80.50 341 *i* P **P 05 20 04.3 0.0**
KBZ pmax pmax
comp=Z,16nm,3.0s
GNI Garni 83.56 339 LR LR 06 02 15.7
comp=Z,54nm,18.2s,baz=20,slow=39
ESDC Sonseca Array 85.53 16 P **P 05 20 30.8 +0.3**
comp=Z,0.2nm,0.6s,baz=346,slow=5.2,SNR=1.9
comp=Z,0.2nm,0.6s
BRTR Keskin Array B 85.95 347 P **P 05 20 33.3 +0.6**
comp=Z,2.3nm,0.8s,baz=26,slow=3.3,SNR=4.8
comp=Z,2.3nm,0.8s
WRA Warramunga Arr 90.50 236 P **P 05 20 54.7 +0.4**
comp=Z,0.4nm,0.7s,baz=47,slow=2.7,SNR=2.3
comp=Z,0.4nm,0.7s
H03N2 Juan Fernandez 113.17 115 T T 07 30 13.4
baz=320
H03N1 Juan Fernandez 113.19 115 T T 07 30 19.1
baz=320
H03N3 Juan Fernandez 113.19 115 T T 07 30 11.2
baz=320

NEIC ***24*** *05:13:07.4±1.1, 23°.8S±0°.1×175°.16W±0°.06, h10km±1km, mb4.7/14, Error ellipse: s-maj=23.4km s-min=9.8km az=182.0*
IDC ***24*** *05:13:07.6±0.6, 23°.75S×175°.51W, h0km, mb4.2/14, mbtmp4.3/16, ML5.3/2, MS4.0/17, Error ellipse: s-maj=21.9km s-min=18.1km az=136.0*
ISC 24 05:13:11.6±0.5, 23°.87S±0°.07×175°.6W±0°.1, h28km, n69, σ1§19/57, mb4.5/19, MS4.0/14, 2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.76**	**201**	Pn	**Pn**	**05 14 35.4**	**0.0**
	47nm,0.3s,baz=63,slow=21,SNR=1.5						
RAO				Sn	**Sn**	**05 15 39.4**	**-1.1**
	53nm,0.3s,baz=29,slow=17,SNR=1.3						
NIUE	**Niue**	**7.09**	**49**	Pn	Pn	05 14 45.8	-7.7
MSVF	**Nonsavu**	**8.54**	**314**	Pn	**Pn**	**05 15 13.9**	**+0.2**
MSVF	**Nonsavu**	**8.54**	**314**	Pn	**Pn**	**05 15 13.8**	**+0.1**
	1.8nm,0.3s,baz=138,slow=12,SNR=18						
MSVF				LR	LR	05 18 17.2	
	comp=Z,1μm,18.7s,baz=142,slow=36						
	56nm,1.1s						
RAR	**Rarotonga**	**14.82**	**83**	Pn	Pn	05 16 31.9	-7.5
RAR	**Rarotonga**	**14.82**	**83**	Pn	Pn	05 16 31.6	-7.8
	4.4nm,0.3s,baz=251,slow=4.5,SNR=9.1						
RAR				Sn	Sn	05 18 56.7	-26
	1.6nm,0.3s,baz=88,slow=19,SNR=2.1						
RAR				LR	LR	05 22 02.2	
	comp=Z,336nm,19.9s,baz=278,slow=36						
URZ	**Urewera**	**15.65**	**202**	Pn	**P**	**05 16 54.3**	**+0.2**
	0.5nm,0.3s,baz=64,slow=14,SNR=2.3						
URZ				Sn	Sn	05 19 30.6	-12
	1.7nm,0.3s,baz=107,slow=13,SNR=6.3						
DZM	**Mont Dzumac**	**16.67**	**273**	*e*P	Pn	05 16 46.5	-17
	103nm,32.8s						
DZM				*e*LR	LR	05 20 33.2	
	567nm,23.6s						
DZM	**Mont Dzumac**	**16.67**	**273**	Pn	**Pn**	**05 17 04.2**	**+0.7**
	4.9nm,0.8s,baz=12,slow=23,SNR=1.4						
DZM				LR	LR	05 22 29.6	
	comp=Z,475nm,19.1s,baz=136,slow=34						
RPZ	**Rata Peaks**	**22.65**	**206**	LR	LR	05 27 15.6	
	comp=Z,649nm,18.6s,baz=353,slow=37						
TBI	**Tubuai**	**23.91**	**94**	*e*LR	LR	05 23 48.7	
	1μm,22.5s						
PPT2	**Papeete2**	**25.07**	**80**	*e*LR	LR	05 24 08.1	
	333nm,22.2s						
PPT2				*e*LR	LR	05 24 29.3	
	362nm,21.8s						
PPT	**Papeete**	**25.07**	**80**	LR	LR	05 27 22.3	
	comp=Z,257nm,18.1s,baz=226,slow=34						
TAOE	**Nuku Hiva Isla**	**36.97**	**72**	*e*LR	LR	05 29 40.7	
	162nm,23.2s						
PMG	**Port Moresby**	**38.37**	**286**	LR	LR	05 33 52.1	
	comp=Z,198nm,19.1s,baz=188,slow=32						
STKA	**Stephens Creek**	**38.51**	**248**	P	**P**	**05 20 31.8**	**+0.1**
STKA				IAmb	IAmb	05 20 53.2	
	comp=Z,9.3nm,0.9s						
STKA	**Stephens Creek**	**38.51**	**248**	P	**P**	**05 20 32.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=96,slow=12,SNR=3.9						
STKA				LR	LR	05 35 53.5	
	comp=Z,316nm,18.1s,baz=46,slow=35						
	comp=Z,1.5nm,0.8s						
BBOO	**Buckleboo**	**43.20**	**247**	P	**P**	**05 21 09.4**	**-1.0**
BBOO				IAmb	IAmb	05 21 23.0	
	comp=Z,8.0nm,1.1s						
AS31	**Alice Springs**	**46.05**	**260**	P	**P**	**05 21 33.8**	**+0.6**
ASAR	**Alice Springs**	**46.05**	**260**	P	**P**	**05 21 33.9**	**+0.7**
ASAR	**Alice Springs**	**46.05**	**260**	P	**P**	**05 21 33.8**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=92,slow=8.5,SNR=29						
ASAR				LR	LR	05 40 37.0	
	comp=Z,361nm,18.4s,baz=108,slow=36						
	comp=Z,4.9nm,0.9s						
WR0	**Warramunga Arr**	**46.27**	**265**	P	**P**	**05 21 33.9**	**-1.2**
WR0				IAmb	IAmb	05 21 34.9	
	comp=Z,6.0nm,1.0s						
WB2	**Warramunga Arr**	**46.45**	**265**	P	**P**	**05 21 35.2**	**-1.2**
WB2				IAmb	IAmb	05 21 36.9	
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**46.45**	**265**	P	**P**	**05 21 35.9**	**-0.6**
WRAB				IAmb	IAmb	05 21 36.4	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**46.46**	**265**	P	**P**	**05 21 35.4**	**-1.1**
WB0				IAmb	IAmb	05 21 36.8	
	comp=Z,8.7nm,0.9s						
WRA	**Warramunga Arr**	**46.46**	**265**	P	**P**	**05 21 35.6**	**-0.9**
WRA	**Warramunga Arr**	**46.46**	**265**	P	**P**	**05 21 35.2**	**-1.3**
	comp=Z,6.6nm,0.8s,baz=100,slow=8.3,SNR=21						
WRA				LR	LR	05 40 55.4	
	comp=Z,270nm,19.0s,baz=86,slow=36						
	comp=Z,6.6nm,0.8s						
KNRA	**Kununurra**	**52.75**	**268**	P	**P**	**05 22 24.3**	**-0.2**
KNRA				IAmb	IAmb	05 22 38.0	
	comp=Z,13nm,1.1s						
GUMO	**Guam**	**53.69**	**310**	LR	LR	05 44 47.2	
	comp=Z,60nm,18.1s,baz=130,slow=35						
FITZ	**Fitzroy Crossi**	**54.88**	**264**	P	**P**	**05 22 40.6**	**+0.6**
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**05 23 55.9**	**-1.0**
QSPA				IAmb	IAmb	05 24 14.1	
	comp=Z,6.6nm,0.9s						
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**05 23 59.5**	**+2.6**
	comp=Z,6.1nm,1.1s,baz=338,slow=1.1,SNR=8.1						
	comp=Z,6.1nm,1.1s						
MJAR	**Matsushiro Arr**	**74.25**	**323**	P	**P**	**05 24 45.7**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=132,slow=1.8,SNR=2.9						
MJAR				LR	LR	05 56 02.6	
	comp=Z,59nm,18.4s,baz=141,slow=35						
	comp=Z,1.1nm,0.9s						
BELA	**Belgrano 2**	**75.94**	**172**	P	**P**	**05 24 54.2**	**-1.1**
LPIG	**La Paz**	**79.23**	**58**	LR	LR	05 53 53.7	
	comp=Z,196nm,18.4s,baz=228,slow=31						
PETK	**Petropavlovsk-**	**80.10**	**344**	P	**P**	**05 25 18.6**	**0.0**
	comp=Z,5.1nm,0.8s,baz=156,slow=11,SNR=5.5						
PETK				LR	LR	05 52 19.7	
	comp=Z,60nm,21.4s,baz=133,slow=29						
	comp=Z,5.1nm,0.8s						
KSRS	**Korea Array**	**80.89**	**318**	P	**P**	**05 25 24.2**	**+1.0**
	comp=Z,1.3nm,1.1s,baz=139,slow=7.8,SNR=4.1						
KSRS				LR	LR	05 57 13.2	
	comp=Z,69nm,20.3s,baz=150,slow=33						
	comp=Z,1.3nm,1.1s						
YBH	**Yreka Blue Hor**	**81.55**	**37**	LR	LR	05 56 49.8	
	comp=Z,101nm,18.9s,baz=228,slow=32						
NVAR	**Mina Array Bea**	**81.96**	**42**	P	**P**	**05 25 29.2**	**0.0**
	comp=Z,2.2nm,1.0s,baz=228,slow=9.3,SNR=9.5						
	comp=Z,2.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**83.01**	**325**	P	**P**	**05 25 33.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**83.01**	**325**	P	**P**	**05 25 35.8**	**+1.6**
	comp=Z,7.6nm,0.9s,baz=112,slow=2.9,SNR=9.2						
	comp=Z,7.6nm,0.9s						
USA0B	**Ussuriysk Arra**	**83.01**	**325**	P	**P**	**05 25 33.2**	**-0.9**
KDAK	**Kodiak Island**	**83.58**	**12**	LR	LR	05 55 53.0	
	comp=Z,138nm,20.3s,baz=57,slow=31						
SYO	**Syowa Base**	**83.94**	**192**	‖ *e*P	**P**	**05 25 37.0**	**-1.7**
SYO	**Syowa Base**	**83.94**	**192**	‖ *es*P	**P**	**05 25 42.8**	**+4.1**
SNAA	**Sanae**	**84.58**	**178**	P	**P**	**05 25 42.6**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=26,slow=17,SNR=2.9						
	comp=Z,3.5nm,0.9s						
RPSI	**Rantau Prapat**	**86.98**	**274**	P	**P**	**05 25 54.3**	**-0.6**
TXAR	**Lajitas Array**	**87.00**	**56**	P	**P**	**05 25 54.4**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=204,slow=8.2,SNR=13						
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**89.89**	**42**	P	**P**	**05 26 07.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=271,slow=6.7,SNR=2.0						
PDAR				LR	LR	06 01 59.7	
	comp=Z,31nm,18.2s,baz=282,slow=33						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**91.11**	**12**	P	**P**	**05 26 12.2**	**-0.9**
	comp=Z,1.8nm,1.1s,baz=209,slow=3.7,SNR=5.5						
	comp=Z,1.8nm,1.1s						
YKA	**Yellowknife Ar**	**98.63**	**24**	P	Pdif	05 26 48.1	+0.5
	comp=Z,0.1nm,0.3s,baz=216,slow=2.3,SNR=0.9						
	comp=Z,0.1nm,0.3s						
CPUP	**Villa Florida**	**102.19**	**126**	P	**Pdif**	**05 27 04.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=138,slow=20,SNR=2.3						
MKAR	**Makanchi Array**	**115.14**	**312**	PKP	**PKiKP**	**05 31 50.1**	**-0.1**
	comp=Z,0.1nm,0.2s,baz=145,slow=1.1,SNR=1.6						
KURBB	**Kurchatov Arra**	**118.04**	**316**	PKP	**PKPdf**	**05 31 54.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=113,slow=1.1,SNR=4.8						
BVAR	**Borovoye Array**	**123.10**	**319**	PKP	**PKiKP**	**05 32 05.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=131,slow=4.0,SNR=1.6						
FINES	**FINESS Array B**	**139.62**	**344**	PKP	**PKPdf**	**05 32 36.1**	**0.0**
	comp=Z,1.5nm,0.9s,baz=30,slow=5.9,SNR=1.6						
KIEV	**Kiev**	**147.06**	**331**	PKP	**PKPdf**	**05 32 49.9**	**+0.4**
MI28	**Mi28,Pidlybu**	**147.56**	**332**	PKP	**PKPdf**	**05 32 50.7**	**+0.3**
RNPP5	**Staryi Chortor**	**148.07**	**334**	PKP	**PKPdf**	**05 32 51.5**	**+0.3**
EKA	**Eskdalemuir Ar**	**148.07**	**8**	PKPbc	**PKPbc**	**05 32 53.9**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=324,slow=4.1,SNR=4.6						
LUBAR	**Lubar, Ukraine**	**148.26**	**331**	PKP	**PKPdf**	**05 32 51.9**	**+0.3**
KMPD	**K-Podol'skiy**	**149.83**	**330**	PKP	**PKPdf**	**05 32 54.4**	**+0.3**
KMPD				PKP	**PKPdf**	**05 32 54.4**	**+0.3**
BRTR	**Keskin Array B**	**150.75**	**310**	PKPbc	**PKPbc**	**05 33 00.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=64,slow=5.6,SNR=7.8						
KOLS	**Kolonicke sedl**	**151.31**	**335**	*e*PKP	**PKiKP**	**05 33 04.2**	**+1.2**
MMAI	**Mount Meron Ar**	**151.38**	**296**	PKPbc	**PKiKP**	**05 33 04.9**	**+1.2**
	comp=Z,0.8nm,0.2s,baz=72,slow=5.4,SNR=9.1						
CLL	**Collm**	**151.82**	**349**	*i* PKPbc	**PKiKP**	**05 33 03.9**	**0.0**
	comp=Z,6.0nm,1.0s						
CLL				*i* PKPmax		05 33 15.9	
	comp=Z,10.0nm,1.0s						
BRG	**Berggiesshubel**	**152.05**	**347**	*i* P	**PKiKP**	**05 33 05.2**	**+0.8**
BRG				Amp		05 33 08.3	
	comp=Z,5.5nm,0.8s						
BRG	**Berggiesshubel**	**152.05**	**347**	P	**PKPab**	**05 33 18.1**	**+4.6**
BRG				Amp		05 33 20.1	
	comp=Z,3.9nm,0.7s						
GERES	**GERESS Array B**	**154.02**	**346**	PKPbc	**PKPbc**	**05 33 07.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=38,slow=6.2,SNR=2.3						
GERES				PKPab	**PKPab**	**05 33 21.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=46,slow=3.9,SNR=3.5						

NEIC ***24*** *05:26:13.9±1.1, 19°.03N±0°.09×145°.4E±0°.2, h241km±9km, mb4.3/22, Error ellipse: s-maj=26.9km s-min=12.1km az=81.0*
IDC ***24*** *05:26:13.7±0.8, 19°.03N×145°.35E, h251km±7km, mb3.5/17, mbtmp4.1/20, Error ellipse: s-maj=17.9km s-min=8.8km az=84.0*
ISC 24 05:26:13.6±0.5, 19°.01N±0°.06×145°.4E±0°.1, h250km, n49, σ1§07/56, mb4.0/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.41**	**185**	P	**Pn**	**05 27 35.9**	**+1.4**
	62nm,0.4s,baz=42,slow=18,SNR=1.4						
GUMO				S	**S**	**05 28 35.9**	**-3.2**
	73nm,0.3s,baz=162,slow=20,SNR=4.1						
JCJ	**Chichijima**	**8.57**	**341**	Pn	**Pn**	**05 28 11.1**	**-3.0**
JOW	**Kunigami**	**17.56**	**299**	P	**P**	**05 30 01.0**	**-0.5**
JOW	**Kunigami**	**17.56**	**299**	P	**P**	**05 30 01.1**	**-0.5**
	9.8nm,0.5s,baz=66,slow=24,SNR=5.1						
INU	**Inuyama**	**17.88**	**337**	P	**P**	**05 30 04.8**	**-0.1**
INU				IAmb	IAmb	05 30 13.1	
	comp=Z,14nm,1.1s						
JGF	**Kuroka**	**17.99**	**338**	P	**P**	**05 30 07.1**	**+1.0**
JGF				IAmb	IAmb	05 30 14.1	
	comp=Z,10nm,0.8s						
MJAR	**Matsushiro Arr**	**18.57**	**342**	P	**P**	**05 30 12.0**	**-0.3**
	comp=Z,4.5nm,0.5s,baz=317,slow=29,SNR=4.1						
MAJO	**Matsushiro**	**18.57**	**342**	P	**P**	**05 30 12.4**	**0.0**
MAJO				IAmb	IAmb	05 30 18.4	
	comp=Z,19nm,1.3s						
MJB9	**Matsu-Tunnel**	**18.58**	**342**	P	**P**	**05 30 12.3**	**-0.2**
MJB9				IAmb	IAmb	05 30 18.4	
	comp=Z,21nm,1.4s						
JMM	**Marumori**	**19.21**	**349**	P	**P**	**05 30 20.4**	**+1.2**
JAY	**Jayapura**	**21.87**	**193**	P	**P**	**05 30 46.3**	**-0.4**
	comp=Z,12nm,0.7s,baz=322,slow=1.0,SNR=2.6						
JAY				pP	**pP**	**05 31 29.7**	**+2.5**
	comp=Z,8.4nm,0.7s,baz=176,slow=22,SNR=1.7						
	comp=Z,12nm,0.7s						
KSRS	**Korea Array**	**23.89**	**324**	P	**P**	**05 31 04.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=150,slow=8.7,SNR=5.4						
KSRS				pP	**pP**	**05 31 50.2**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=152,slow=8.8,SNR=3.1						
	comp=Z,0.7nm,0.8s						
ASAJ	**Asahikawa**	**25.14**	**355**	P	**P**	**05 31 16.2**	**+0.2**
	comp=Z,11nm,1.0s,baz=312,slow=27,SNR=1.9						
	comp=Z,11nm,1.0s						
USRK	**Ussuriysk Ar.**	**27.51**	**339**	P	**P**	**05 31 37.3**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=134,slow=8.4,SNR=2.2						
	comp=Z,1.5nm,0.7s						
KLR	**Kul'dur**	**32.09**	**343**	P	**P**	**05 32 17.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=169,slow=5.2,SNR=3.5						
	comp=Z,1.1nm,0.6s						
COEN	**Coen**	**32.83**	**184**	P	**P**	**05 32 24.0**	**-0.1**
COEN				IAmb	IAmb	05 32 24.9	

WR0 Warramunga Arr 40.16 196 P P 05 33 26.4 +0.6
WR0 IAmb IAmb 05 33 27.4
comp=Z,4.7nm,0.8s
WRAB Tennant Creek 40.18 196 P P 05 33 26.5 +0.5
WRAB IAmb IAmb 05 33 27.6
comp=Z,12nm,0.8s
WB2 Warramunga Arr 40.19 196 P P 05 33 26.8 +0.7
WB2 IAmb IAmb 05 33 27.7
comp=Z,11nm,0.8s
WRA Warramunga Arr 40.19 196 P P 05 33 26.6 +0.6
WRA Warramunga Arr 40.19 196 P P 05 33 26.7 +0.6
comp=Z,8.1nm,0.7s,baz=17,slow=9.0,SNR=55
WRA PcP **PcP 05 35 23.1 -2.0**
comp=Z,1.1nm,1.0s,baz=21,slow=3.5,SNR=3.0
comp=Z,8.1nm,0.7s
FITZ Fitzroy Crossi 41.66 209 P P 05 33 38.9 +0.9
SONM Songino Array 42.71 321 P P 05 33 46.4 0.0
comp=Z,0.2nm,0.5s,baz=123,slow=10,SNR=2.3
comp=Z,0.2nm,0.5s
ASAR Alice Springs 43.87 195 P P 05 33 56.4 +0.7
ASAR Alice Springs 43.87 195 P P 05 33 56.0 +0.4
comp=Z,4.8nm,0.6s,baz=18,slow=7.8,SNR=125
ASAR PcP **PcP 05 35 37.0 -0.3**
comp=Z,0.4nm,0.7s,baz=14,slow=5.4,SNR=2.2
comp=Z,4.8nm,0.6s
STKA Stephens Creek 50.72 184 P P 05 34 47.0 -1.2
comp=Z,1.7nm,0.5s,baz=15,slow=5.7,SNR=6.2
comp=Z,1.7nm,0.5s
FORT Forrest 52.22 199 P P 05 34 59.9 +0.5
BBOO Buckleboo 52.29 190 P P 05 34 59.8 +0.1
BBOO IAmb IAmb 05 35 00.1
comp=Z,5.8nm,0.8s
ZALV Zalesovo Beam 57.59 322 pP pP 05 36 32.1 +0.5
comp=Z,1.0nm,0.8s,baz=99,slow=8.9,SNR=2.7
MKAR Makanchi Array 58.03 314 P P 05 35 40.8 +0.2
comp=Z,0.6nm,0.6s,baz=93,slow=7.4,SNR=8.3
MKAR pP **pP 05 36 36.2 +1.5**
comp=Z,0.9nm,0.8s,baz=91,slow=11,SNR=4.6
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 60.88 318 P P 05 35 59.8 -0.1
comp=Z,0.7nm,0.7s,baz=93,slow=7.4,SNR=8.9
KURBB pP **pP 05 36 54.2 -0.5**
comp=Z,1.6nm,0.6s,baz=93,slow=7.6,SNR=5.2
comp=Z,0.7nm,0.7s
ILAR Eielson Array 63.51 26 P P 05 36 16.7 -0.4
comp=Z,0.6nm,0.9s,baz=253,slow=5.1,SNR=6.4
comp=Z,0.6nm,0.9s
RTZ Ruatahuna 64.53 153 P P 05 36 23.4 -0.7
ARSB Arslanbob 64.63 307 P P 05 36 26.5 +1.5
BMAR Burnt Mountain 64.96 24 P P 05 36 28.2 +1.8
L27K Beaver Creek, 65.44 29 P P 05 36 30.4 +0.8
BCAR Beaver Creek A 65.46 29 P P 05 36 31.0 +1.2
BVAR Borovoye Array 66.04 320 P P 05 36 33.7 +0.1
comp=Z,1.2nm,0.5s,baz=91,slow=7.5,SNR=8.5
BVAR pP **pP 05 37 31.1 +1.7**
comp=Z,1.6nm,0.5s,baz=99,slow=7.2,SNR=3.0
comp=Z,1.2nm,0.5s
BRVK Borovoye 66.11 320 P P 05 36 34.1 +0.1
ABKAR Abkulak array 72.91 317 P P 05 37 15.7 +0.1
YKA Yellowknife Ar 77.86 28 P P 05 37 43.8 +0.3
comp=Z,0.6nm,0.6s,baz=288,slow=5.7,SNR=11
comp=Z,0.6nm,0.6s
NVAR Mina Array Bea 83.19 52 P P 05 38 13.4 +0.9
comp=Z,3.2nm,0.6s,baz=269,slow=5.8,SNR=40
comp=Z,3.2nm,0.6s
FINES FINESS Array B 86.48 335 P P 05 38 26.2 -1.7
comp=Z,0.9nm,0.5s,baz=67,slow=3.3,SNR=16
comp=Z,0.9nm,0.5s
PDAR Pinedale Array 87.83 45 P P 05 38 34.4 -0.8
comp=Z,0.3nm,0.6s,baz=243,slow=1.7,SNR=4.6
comp=Z,0.3nm,0.6s
LPAZ La Paz 147.99 90 PKPbc PKPbc 05 45 31.4 +0.3
comp=Z,1.1nm,0.5s,baz=335,slow=6.6,SNR=3.9
CPUP Villa Florida 157.83 113 PKPab PKPab 05 46 14.7 -0.4
comp=Z,1.4nm,0.7s,baz=256,slow=7.2,SNR=5.9

*DJA **24** 05:36:59.4±0.3,5°S±3°×13°1E±°,h140km±7km,M4.6/12, mB5.1/4,mb4.6/5,MLv4.6/12,Mw(mB)4.5/4*
*NEIC **24** 05:37:00.5±1.0,5°48S±0°07×131°0E±0°2,h111km±8km, mb4.3/14,Error ellipse: s-maj=23.8km s-min=10.4km az=95.0*
*IDC **24** 05:37:02.4±6.1,5°63S×130°58E,h125km±57km,mb3.7/6, mbtmp4.0/9,Error ellipse: s-maj=71.4km s-min=22.2km az=73.0*
ISC 24 05:36:58.5±0.5,5°71S±0°05×131°04E±0°06,h100km,n46, σ1§**80**/47,**mb4.2**/12,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**316**	P	**Pn**	**05 37 28.3**	**+1.8**
BNDI				S	**Sn**	**05 37 48.0**	**+0.3**
SAUI	**Saumlaki**	**2.27**	**174**	Pn	Pn	05 37 40.5	+5.8
SAUI	**Saumlaki**	**2.27**	**174**	P	Pn	05 37 39.6	+4.9
FAKI	**Fak Fak**	**3.02**	**24**		**Pn**	**05 37 44.3**	**-0.3**
FAKI	**Fak Fak**	**3.02**	**24**	P	**Pn**	**05 37 43.6**	**-1.0**
MSAI	**Masohi**	**3.15**	**318**	P	**Pn**	**05 37 46.4**	**0.0**
KMPI	**Kaimana, Papua**	**3.34**	**53**	P	**Pn**	**05 37 49.1**	**+0.2**
AAI	**Ambon**	**3.48**	**305**	P	**Pn**	**05 37 51.1**	**+0.4**
SWI	**Sorong**	**4.82**	**3**	P	**Pn**	**05 38 07.5**	**-1.3**
RKPI	**Ransiki, Papua**	**5.21**	**37**	P	**Pn**	**05 38 13.9**	**-0.3**
	13μm78nm,0.7s						
SANI	**Sanana**	**6.22**	**306**	P	**Pn**	**05 38 27.6**	**-0.2**
	0.2nm1μm39nm,0.6s						
BAKI	**Biak**	**6.76**	**49**	P	**Pn**	**05 38 34.6**	**-0.6**
MTN	**Manton Dam**	**7.09**	**179**		Pn	05 38 45.4	+5.7
KNRA	**Kununurra**	**10.16**	**193**		**Pn**	**05 39 23.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**13.40**	**203**	P	**Pn**	**05 40 04.9**	**+0.2**
	1.9nm,0.4s,baz=31,slow=9.7,SNR=16						
FITZ				S	**Sn**	**05 42 24.9**	**-7.2**
	6.2nm,0.5s,baz=68,slow=15,SNR=11						
WB0	**Warramunga Arr**	**14.35**	**167**	Pn	**P**	**05 40 20.1**	**-1.1**
COEN	**Coen**	**14.49**	**125**	Pn	**Pn**	**05 40 20.4**	**+1.6**
WRA	**Warramunga Arr**	**14.51**	**168**	P	**P**	**05 40 23.2**	**+0.3**
	1.1nm,0.7s,baz=347,slow=12,SNR=15						
WRA				S	**Sn**	**05 42 54.1**	**-5.0**
	2.4nm,0.5s,baz=358,slow=23,SNR=7.9						
WB2	**Warramunga Arr**	**14.51**	**167**	Pn	**P**	**05 40 22.1**	**-0.8**
WR0	**Warramunga Arr**	**14.57**	**167**	Pn	**P**	**05 40 23.9**	**+0.3**
AS31	**Alice Springs**	**18.07**	**172**	P	**Pn**	**05 41 05.4**	**+2.2**
ASAR	**Alice Springs**	**18.07**	**172**	P	**Pn**	**05 41 05.1**	**+1.9**
ASAR	**Alice Springs**	**18.07**	**172**	P	**Pn**	**05 41 07.2**	**+4.1**
	2.1nm,0.3s,baz=348,slow=11,SNR=60						
ASAR				S	**Sn**	**05 44 25.1**	**+0.2**
	0.8nm,0.6s,baz=347,slow=28,SNR=5.2						
MBWA	**Marble Bar**	**18.87**	**214**	P	**Pn**	**05 41 13.3**	**+0.6**
MBWA				IAmb	IAmb	05 41 21.3	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**25.10**	**186**	P	**P**	**05 42 14.6**	**+0.6**
FORT				IAmb	IAmb	05 42 28.6	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**27.23**	**210**	P	**P**	**05 42 34.4**	**+1.2**
MORW				IAmb	IAmb	05 42 59.6	
	comp=Z,14nm,1.4s						
BBOO	**Buckleboo**	**27.37**	**171**	P	**P**	**05 42 37.0**	**+2.5**
BBOO				IAmb	IAmb	05 42 40.1	
	comp=Z,9.9nm,1.4s						
SONM	**Songino Array**	**57.56**	**341**	P	**P**	**05 46 37.8**	**0.0**
	comp=Z,0.6nm,0.5s,baz=167,slow=7.1,SNR=6.4						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**67.73**	**326**	P	**P**	**05 47 45.4**	**+0.1**
MK31				IAmb	IAmb	05 47 46.2	
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**05 47 45.1**	**-0.3**
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**05 47 45.4**	**0.0**
	comp=Z,2.2nm,0.4s,baz=112,slow=8.0,SNR=56						
	comp=Z,2.2nm,0.4s						
ZAA0	**Zalesovo Array**	**70.90**	**333**	P	**P**	**05 48 03.8**	**-0.8**
ZALV	**Zalesovo Beam**	**70.90**	**333**	P	**P**	**05 48 04.0**	**-0.7**
ZALV	**Zalesovo Beam**	**70.90**	**333**	P	**P**	**05 48 03.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=131,slow=6.5,SNR=4.9						
	comp=Z,0.8nm,0.5s						
GAR	**Garm**	**71.50**	**314**	P	**P**	**05 48 07.9**	**-1.0**
GAR				IAmb	IAmb	05 48 29.9	
	comp=Z,9.3nm,1.3s						
KURBB	**Kurchatov Arra**	**71.97**	**328**	P	**P**	**05 48 09.7**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=128,slow=5.0,SNR=13						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**71.97**	**328**	P	**P**	**05 48 10.8**	**-0.3**
KKAR	**Karatay Array**	**73.07**	**318**	P	**P**	**05 48 16.3**	**-1.6**
BVAR	**Borovoye Array**	**77.53**	**327**	P	**P**	**05 48 42.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=132,slow=8.5,SNR=3.2						
	comp=Z,0.6nm,0.6s						
GAMB	**Gambell**	**81.34**	**22**	P	**P**	**05 49 03.1**	**-0.5**
ABKAR	**Abkulak array**	**82.15**	**321**	P	**P**	**05 49 07.0**	**-1.2**
CNBA	**Chernabura Isl**	**82.97**	**33**	P	**P**	**05 49 11.8**	**-0.5**
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**05 49 20.8**	**+1.8**
QSPA				IAmb	IAmb	05 49 49.1	
	comp=Z,9.2nm,1.5s						
QSPA	**South Pole Qui**	**84.26**	**180**	P	**P**	**05 49 20.4**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=167,slow=2.9,SNR=9.5						
	comp=Z,1.0nm,0.6s						
ARTI	**Arti**	**85.25**	**328**	P	**P**	**05 49 23.4**	**-0.5**
ARTI				IAmb	IAmb	05 49 49.6	
	comp=Z,6.6nm,1.4s						
ACHA	**Angle Creek He**	**86.29**	**31**	P	**P**	**05 49 28.9**	**-0.3**

*BGR **24** 06:00:16.2,56°48S×165°90E,h42km±1km*
*IDC **24** 06:00:29.1±0.4,57°63S×157°76E,h0km,mb5.1/19, mbtmp5.1/20,ML4.8/1,MS4.7/40,Error ellipse: s-maj=19.4km s-min=12.5km az=79.0*
*BJI **24** 06:00:31.5,57°49S×157°38E,h9km,mB5.9/7,mb5.6/13, Ms5.3/8,Ms7 4.9/11*
*MOS **24** 06:00:31.6±0.9,57°57S×157°56E,h19km,mb5.6/27,Error ellipse: s-maj=23.2km s-min=8.6km az=98.6*
*NEIC **24** 06:00:31.6,57°61S×158°00E,h26km,Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.24; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-1.50; $M_{r\theta}$0.21; $M_{\theta\phi}$0.24; $M_{\phi r}$0.60; Fault plane solution: $M_0$1.53000×10^{17} NP1: ϕ_s157.58000°,δ35.66000°,λ66.64000°. NP2:ϕ_s5.57000°, δ57.65000°,λ105.88000°. Principal axes: T 1.4246, Plg72.0000°, Azm315.0000°; N 0.2152, Plg13.0000°, Azm177.0000°; P -1.6398, Plg11.0000°, Azm84.0000°;*
*NEIC **24** 06:00:31.6±1.6,57°61S±0°08×157°7E±0°2,h10km±1km, mb5.6/93,Ms_20 5.2/161,Mww5.4/16 Error ellipse: s-maj=16.9km s-min=13.3km az=95.0*
*NEIC **24** 06:00:31.6,57°61S×157°69E,h26km*
*GCMT **24** 06:00:36.6±0.1,57°64S±0°01×157°41E±0°01,h19km, MW5.4/139,Moment Tensor Solution. s125,c216; s139,c247; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.28±.02; $M_{\theta\theta}$0.13±.01; $M_{\phi\phi}$-1.41±.01; $M_{r\theta}$0.29±.03; $M_{\theta\phi}$0.19±.01; $M_{\phi r}$0.09±.03; Best double couple: $M_0$1.39500×10^{17} NP1:ϕ_s159.00000°,δ46.00000°, λ70.00000°. NP2:ϕ_s6.00000°,δ48.00000°,λ109.00000°. Principal axes: T 1.3550, Plg76.0000°, Azm349.0000°; N 0.0800, Plg14.0000°, Azm173.0000°; P -1.4350, Plg1.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 06:00:34.0±0.6,57°66S±0°04×157°71E±0°05,h28km±4km, n1044,σ1§18/989,mb5.5/134,MS5.0/111,72C-23D, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**3.25**	**13**	Pn	**Pn**	**06 01 20.9**	**-2.1**
MCQ	**Macquarie Isla**	**3.25**	**13**	P	**Pn**	**06 01 20.5**	**-2.5**
MCQ	**Macquarie Isla**	**3.25**	**13**	S	**Sn**	**06 02 00.2**	**-0.4**
MCQ	**Macquarie Isla**	**3.25**	**13**	P	**Pn**	**06 01 20.9**	**-2.1**
MCQ	**Macquarie Isla**	**3.25**	**13**	P	**Pn**	**06 01 20.3**	**-2.7**
MCQ				S	**Sn**	**06 01 55.0**	**-5.6**
APZ	**The Paps**	**12.52**	**34**	P	**Pn**	**06 03 28.8**	**-1.3**
APZ				S	**Sn**	**06 05 41.1**	**-7.5**
PYZ	**Puysegur Point**	**12.76**	**29**		**Pn**	**06 03 33.7**	**+0.3**
PYZ	**Puysegur Point**	**12.76**	**29**	P	**Pn**	**06 03 33.1**	**-0.2**
PYZ				S	**Sn**	**06 05 50.2**	**-4.1**
SYZ	**Scrubby Hill**	**13.15**	**37**	P	**Pn**	**06 03 38.7**	**+0.1**
SYZ	**Scrubby Hill**	**13.15**	**37**	P	**Pn**	**06 03 37.5**	**-1.1**
SYZ				S	Sn	06 05 55.9	-7.8
WHZ	**Wether Hill Ro**	**13.36**	**32**	Pn	**Pn**	**06 03 42.1**	**+0.5**
WHZ	**Wether Hill Ro**	**13.36**	**32**	P	**Pn**	**06 03 41.5**	**0.0**
WHZ				S	**Sn**	**06 06 02.4**	**-6.6**
DCZ	**Deep Cove**	**13.53**	**30**		**Pn**	**06 03 44.9**	**+1.1**
DCZ	**Deep Cove**	**13.53**	**30**	P	**Pn**	**06 03 45.1**	**+1.3**
DCZ				S	**Sn**	**06 06 11.4**	**-1.7**
BDCS	**Balclutha Dist**	**13.59**	**38**	P	**Pn**	**06 03 44.6**	**0.0**
MOSS	**Mossburn Schoo**	**13.65**	**33**	P	**Pn**	**06 03 46.8**	**+1.4**
TUZ	**Tuapeka**	**13.82**	**37**	P	**Pn**	**06 03 46.6**	**-1.2**
TUZ				S	**Sn**	**06 06 13.4**	**-6.8**
MLZ	**Mavora Lakes**	**13.89**	**32**	Pn	**Pn**	**06 03 48.7**	**-0.1**
MLZ	**Mavora Lakes**	**13.89**	**32**	P	**Pn**	**06 03 50.4**	**+1.6**
HHSZ	**Highcliff Hill**	**14.20**	**39**	P	**Pn**	**06 03 54.5**	**+1.4**
EAZ	**Earnscleugh**	**14.36**	**35**	P	**Pn**	**06 03 54.5**	**-0.8**
GLNY	**Glenorchy**	**14.43**	**32**	P	**Pn**	**06 03 58.8**	**+2.7**
MSZ	**Milford Sound**	**14.47**	**30**	P	**Pn**	**06 03 58.6**	**+1.9**
WKZ	**Wanaka**	**14.64**	**33**	Pn	**Pn**	**06 03 59.3**	**+0.2**
WKZ	**Wanaka**	**14.64**	**33**	P	**Pn**	**06 03 59.6**	**+0.5**
ODZ	**Otahua Downs**	**14.96**	**38**	Pn	**Pn**	**06 04 04.1**	**+0.8**
ODZ	**Otahua Downs**	**14.96**	**38**	P	**Pn**	**06 04 05.0**	**+1.7**
ODZ	**Otahua Downs**	**14.96**	**38**	P	**Pn**	**06 04 03.0**	**-0.3**
JCZ	**Jackson Bay**	**15.26**	**32**	P	**Pn**	**06 04 09.2**	**+1.8**
JCZ	**Jackson Bay**	**15.26**	**32**	P	**Pn**	**06 04 10.1**	**+2.7**
LBZ	**Lake Benmore**	**15.40**	**36**	Pn	**Pn**	**06 04 07.7**	**-1.4**
LBZ				IAmb	IAmb	06 04 16.6	
	comp=Z,474nm,1.9s						
LBZ	**Lake Benmore**	**15.40**	**36**	P	**Pn**	**06 04 07.3**	**-1.7**
TMZ	**Timaru**	**15.66**	**38**	P	**Pn**	**06 04 13.7**	**+1.1**
FOZ	**Fox Glacier**	**16.06**	**33**	P	**P**	**06 04 20.7**	**0.0**
ARCZ	**Arundel**	**16.11**	**37**	P	**Pn**	**06 04 19.6**	**+1.4**
AUTAR	**Taroona High S**	**16.12**	**332**	P	**Pn**	**06 04 18.7**	**+0.3**
TAU	**Tasmania Unive**	**16.16**	**332**		**Pn**	**06 04 16.2**	**-2.7**
TAU	**Tasmania Unive**	**16.16**	**332**	P	**Pn**	**06 04 19.2**	**+0.3**
TAU	**Tasmania Unive**	**16.16**	**332**	P	**Pn**	**06 04 16.2**	**-2.7**
TAU				pmax	pmax		
	comp=Z,409nm,1.3s						
RPZ	**Rata Peaks**	**16.27**	**37**		**Pn**	**06 04 20.9**	**+0.6**
RPZ	**Rata Peaks**	**16.27**	**37**	Pn	**Pn**	**06 04 19.3**	**-1.1**
	comp=Z,3.6nm,0.3s,baz=157,slow=1.9,SNR=8.2						
	comp=Z,16nm,0.5s						
RPZ	**Rata Peaks**	**16.27**	**37**	P	**Pn**	**06 04 20.9**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**16.41**	**34**	P	**P**	**06 04 27.0**	**+2.4**
MHCZ	**Mount Hutt**	**16.61**	**38**	P	**P**	**06 04 27.2**	**+0.4**
MOO	**Moorlands**	**16.63**	**332**	P	**Pn**	**06 04 24.5**	**-0.4**
	comp=Z,154nm,1.4s						
MOO	**Moorlands**	**16.63**	**332**	P	**Pn**	**06 04 25.5**	**+0.6**
MOO	**Moorlands**	**16.63**	**332**	P	**Pn**	**06 04 24.9**	**0.0**
WVZ	**Waitaha Valley**	**16.75**	**35**	P	**P**	**06 04 33.0**	**+4.5**
MQZ	**McQueen's Vall**	**16.82**	**40**	P	**Pn**	**06 04 28.4**	**+1.2**
MQZ	**McQueen's Vall**	**16.82**	**40**	P	**Pn**	**06 04 28.4**	**+1.2**
CSHS	**Castle Hill**	**16.93**	**37**	P	**P**	**06 04 32.3**	**+1.8**
INZ	**Inchbonnie**	**17.29**	**36**	P	**P**	**06 04 36.5**	**+2.2**
LTZ	**Lake Taylor**	**17.51**	**38**	P	**Pn**	**06 04 34.9**	**-1.0**
KHZ	**Kahutara**	**18.26**	**40**	P	**Pn**	**06 04 48.1**	**+3.0**
THZ	**Tophouse**	**18.63**	**38**	P	**Pn**	**06 04 52.6**	**+3.0**
NNZ	**Nelson**	**19.27**	**38**	P	**Pn**	**06 05 00.6**	**+3.2**
QRZ	**Quartz Range**	**19.35**	**36**	P	**Pn**	**06 05 04.3**	**+6.0**
VNDA	**Vanda**	**20.00**	**177**	P	**Pn**	**06 05 05.2**	**-0.4**
VNDA	**Vanda**	**20.00**	**177**	P	**P**	**06 05 04.1**	**+0.3**
	comp=Z,14nm,0.8s,baz=345,slow=9.3,SNR=4.6						
VNDA				PcP	**PcP**	**06 09 17.8**	**-0.9**
	comp=Z,5.6nm,1.1s,baz=27,slow=7.0,SNR=3.1						
VNDA				LR	LR	06 11 35.2	
	comp=Z,6μm,18.6s,baz=354,slow=33						
VNDA	**Vanda**	**20.00**	**177**	P	**Pn**	**06 05 05.3**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,37nm,1.0s						
SBA	**Scott Base**	**20.52**	**175**	P	Pn	06 05 10.7	-1.0
SBA				IAmb	IAmb	06 05 25.1	
	comp=Z,352nm,1.6s						
SBA	**Scott Base**	**20.52**	**175**	P	Pn	06 05 10.7	-1.0
SBA				pmax	pmax		
	comp=Z,352nm,1.6s						
MRZ	**Mangatainoka R**	**20.53**	**42**	IAMs_20	IAMs_20	06 12 55.7	
	comp=Z,6μm,18.0s						
MRZ	**Mangatainoka R**	**20.53**	**42**	P	Pn	06 05 16.4	+4.2
BFZ	**Birch Farm**	**20.75**	**43**	IAMs_20	IAMs_20	06 13 37.4	
	comp=Z,8μm,18.0s						
AUSSC	**Sale College,**	**20.78**	**336**	P	Pn	06 05 14.8	-0.3
CTZ	**Chatham Island**	**21.24**	**60**	IAMs_20	IAMs_20	06 13 10.1	
	comp=Z,10μm,18.0s						
MILA	**Mila**	**21.38**	**341**	P	**P**	**06 05 19.7**	**+0.6**
	comp=Z,81nm,1.6s						
TOO	**Toolangi**	**21.66**	**333**		**P**	**06 05 20.5**	**-1.6**
TOO	**Toolangi**	**21.66**	**333**	P	**P**	**06 05 22.6**	**+0.5**
	comp=Z,127nm,1.5s						
TOO	**Toolangi**	**21.66**	**333**	P	**P**	**06 05 20.5**	**-1.6**
TOO				pmax	pmax		
	comp=Z,170nm,1.3s						
AUHPC	**Hawkesdale P12**	**22.02**	**326**	P	**P**	**06 05 27.6**	**+1.7**
BKZ	**Black Stump Fm**	**22.18**	**42**	P	**P**	**06 05 26.8**	**-0.8**
BKZ				IAmb	IAmb	06 05 33.0	
	comp=Z,358nm,1.3s						
BKZ	**Black Stump Fm**	**22.18**	**42**	P	**P**	**06 05 30.2**	**+2.5**
MGBR	**Mount Gambier**	**22.91**	**323**	P	**P**	**06 05 34.2**	**-1.2**
CNB	**Canberra Magne**	**23.05**	**342**	P	**P**	**06 05 37.6**	**+0.7**
	comp=Z,119nm,1.7s						
CNB	**Canberra Magne**	**23.05**	**342**	P	**P**	**06 05 38.2**	**+1.3**
CAN	**Canberra**	**23.10**	**342**	IAMs_20	IAMs_20	06 13 02.3	
	comp=Z,4μm,19.0s						
URZ	**Urewera**	**23.20**	**42**	LR	LR	06 14 37.4	
	comp=Z,3μm,18.1s,baz=267,slow=37						
CASY	**Casey**	**23.22**	**229**	P	**P**	**06 05 38.8**	**+0.5**
CASY				IAmb	IAmb	06 06 01.6	
	comp=Z,219nm,1.7s						
AUMAG	**Moama Anglican**	**23.24**	**333**	P	**P**	**06 05 40.1**	**+1.4**
ARPS	**Mount Arapiles**	**23.40**	**326**	P	**P**	**06 05 41.9**	**+1.6**
	comp=Z,136nm,1.3s						
ARPS	**Mount Arapiles**	**23.40**	**326**	P	**P**	**06 05 41.9**	**+1.6**
YNG	**Young**	**24.20**	**341**	P	**P**	**06 05 48.3**	**+0.3**
	comp=Z,615nm,2.4s						
YNG	**Young**	**24.20**	**341**	P	**P**	**06 05 50.0**	**+2.0**
MXZ	**Matakaoa Point**	**24.25**	**43**	IAMs_20	IAMs_20	06 15 51.5	
	comp=Z,3μm,18.0s						
AUMBR	**Murray Bridge**	**25.70**	**323**	P	**P**	**06 06 02.0**	**+0.5**
HTT	**Hallett**	**27.39**	**324**	P	**P**	**06 06 17.3**	**+0.5**
	comp=Z,66nm,1.4s						
HTT	**Hallett**	**27.39**	**324**	P	**P**	**06 06 18.1**	**+1.3**
CMSA	**Cobar Meteorol**	**27.40**	**337**	P	**P**	**06 06 17.6**	**+0.7**
	comp=Z,64nm,1.7s						
CMSA	**Cobar Meteorol**	**27.40**	**337**	P	**P**	**06 06 18.1**	**+1.2**
ARMA	**Armidale**	**27.56**	**349**	IAMs_20	IAMs_20	06 14 38.2	
	comp=Z,3μm,19.0s						
STKA	**Stephens Creek**	**28.06**	**330**	P	**P**	**06 06 22.5**	**-0.2**
STKA	**Stephens Creek**	**28.06**	**330**	P	**P**	**06 06 23.3**	**+0.5**
	comp=Z,160nm,1.8s						
STKA	**Stephens Creek**	**28.06**	**330**	P	**P**	**06 06 22.2**	**-0.6**
	comp=Z,16nm,1.1s,baz=154,slow=10.0,SNR=22						
STKA				PcP	**PcP**	**06 09 36.8**	**+0.1**
	comp=Z,5.8nm,1.0s,baz=291,slow=0.4,SNR=3.7						
STKA				LR	LR	06 16 33.5	
	comp=Z,8μm,18.6s,baz=160,slow=34						
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**28.06**	**330**	P	**P**	**06 06 23.8**	**+1.1**
WHYH	**Whyalla**	**28.19**	**322**	P	**P**	**06 06 24.7**	**+0.9**
	comp=Z,108nm,1.0s						
BBOO	**Buckleboo**	**28.90**	**320**	P	**P**	**06 06 29.8**	**-0.5**
BBOO				IAmb	IAmb	06 06 31.9	
	comp=Z,82nm,1.1s						
BBOO	**Buckleboo**	**28.90**	**320**	P	**P**	**06 06 30.0**	**-0.3**
	comp=Z,87nm,1.3s						
BBOO	**Buckleboo**	**28.90**	**320**	P	**P**	**06 06 30.7**	**+0.5**
AULRC	**Lightning Ridg**	**29.03**	**342**	P	**P**	**06 06 33.4**	**+2.0**
	comp=Z,62nm,2.0s						
LCRK	**Leigh Creek**	**30.37**	**325**	P	**P**	**06 06 44.3**	**+1.0**
INKA	**Innaminka**	**32.21**	**331**	P	**P**	**06 07 00.9**	**+1.5**
QSPA	**South Pole Qui**	**32.44**	**180**	P	**P**	**06 07 02.7**	**+1.3**
QSPA				IAmb	IAmb	06 07 03.9	
	comp=Z,89nm,1.2s						
QSPA	**South Pole Qui**	**32.44**	**180**	P	**P**	**06 07 02.1**	**+0.7**
	comp=Z,37nm,1.1s,baz=12,slow=3.3,SNR=52						
QSPA				PcP	**PcP**	**06 09 47.8**	**0.0**
	comp=Z,9.9nm,0.8s,baz=241,slow=0.4,SNR=12						
QSPA				LR	LR	06 18 38.9	
	comp=Z,2μm,20.8s,baz=18,slow=34						
	comp=Z,37nm,1.1s						
QLP	**Quilpie**	**32.50**	**337**	P	**P**	**06 07 02.6**	**+0.5**
	comp=Z,197nm,1.3s						
QLP	**Quilpie**	**32.50**	**337**	P	**P**	**06 07 03.9**	**+1.9**
EIDS	**Eidsvold**	**32.61**	**349**	P	**P**	**06 07 02.4**	**-0.6**
EIDS				IAmb	IAmb	06 07 04.1	
	comp=Z,70nm,1.3s						
EIDS				IAMs_20	IAMs_20	06 17 51.8	
	comp=Z,3μm,19.0s						
EIDS	**Eidsvold**	**32.61**	**349**	P	**P**	**06 07 03.0**	**-0.1**
	comp=Z,51nm,1.7s						
EIDS	**Eidsvold**	**32.61**	**349**	P	**P**	**06 07 04.4**	**+1.4**
RAO	**Raoul Island**	**33.09**	**41**	LR	LR	06 19 49.9	
	comp=Z,2μm,18.6s,baz=200,slow=35						
OOD	**Oodnadatta**	**33.64**	**323**	P	**P**	**06 07 12.7**	**+0.8**
FORT	**Forrest**	**33.76**	**310**	P	**P**	**06 07 12.7**	**-0.3**
FORT	**Forrest**	**33.76**	**310**	P	**P**	**06 07 13.0**	**0.0**
	comp=Z,219nm,1.0s						
FORT	**Forrest**	**33.76**	**310**	P	**P**	**06 07 14.1**	**+1.1**
AUALB	**St Joseph's Co**	**34.87**	**293**	P	**P**	**06 07 23.5**	**+1.0**
KMBL	**Kambalda**	**35.95**	**301**	P	**P**	**06 07 32.3**	**+0.4**
	comp=Z,114nm,1.3s						
KMBL	**

WRA	**Warramunga Arr**	**41.40 326**	P	**P**	**06 08 16.6**	**-1.1**
WRA	**Warramunga Arr**	**41.40 326**	P	**P**	**06 08 16.9**	**-0.9**
	comp=Z,69nm,1.0s,baz=163,slow=7.1,SNR=146					
WRA			PcP	**PcP**	**06 10 14.8**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=159,slow=3.0,SNR=6.7					
WRA			ScP	**ScP**	**06 14 07.4**	**+4.3**
	comp=Z,0.8nm,1.0s,baz=153,slow=4.6,SNR=2.2					
WRA			LR	LR	06 23 09.4	
	comp=Z,882nm,19.7s,baz=164,slow=33					
	comp=Z,69nm,1.0s					
WRAB	**Tennant Creek**	**41.41 326**	P	**P**	**06 08 17.2**	**-0.6**
WRAB			IAmb	IAmb	06 08 18.4	
	comp=Z,129nm,1.1s					
WRAB	**Tennant Creek**	**41.41 326**	*i* P	**P**	**06 08 16.1**	**-1.7**
MEEK	**Meekatharra**	**41.46 302**	P	**P**	**06 08 17.9**	**-0.3**
	comp=Z,101nm,1.4s					
MEEK	**Meekatharra**	**41.46 302**	P	**P**	**06 08 18.4**	**+0.2**
WB0	**Warramunga Arr**	**41.55 326**	P	**P**	**06 08 18.2**	**-0.7**
WB0			IAmb	IAmb	06 08 19.4	
	comp=Z,107nm,1.0s					
MSVF	**Nonsavu**	**42.64 29**	LR	LR	06 22 37.9	
	comp=Z,836nm,20.7s,baz=182,slow=31					
BELA	**Belgrano 2**	**44.50 176**	P	**P**	**06 08 43.0**	**+0.8**
BELA			IAMs_20	IAMs_20	06 26 05.8	
	comp=Z,1μm,18.0s					
COEN	**Coen**	**44.99 340**	P	**P**	**06 08 46.2**	**-0.5**
COEN			IAMs_20	IAMs_20	06 25 44.6	
	comp=Z,2μm,20.0s					
COEN	**Coen**	**44.99 340**	P	**P**	**06 08 46.9**	**+0.2**
	comp=Z,108nm,1.6s					
COEN	**Coen**	**44.99 340**	P	**P**	**06 08 48.4**	**+1.7**
PSA00	**Pilbara Seismi**	**45.31 307**	P	**P**	**06 08 48.4**	**-0.9**
PSA00			IAmb	IAmb	06 08 50.3	
	comp=Z,86nm,1.1s					
PSA00	**Pilbara Seismi**	**45.31 307**	P	**P**	**06 08 48.5**	**-0.8**
PSA00			IAmb	IAmb	06 08 50.4	
	comp=Z,153nm,1.1s					
PSA00	**Pilbara Seismi**	**45.31 307**	P	**P**	**06 08 48.5**	**-0.8**
	comp=Z,133nm,1.4s					
PSA00	**Pilbara Seismi**	**45.31 307**	P	**P**	**06 08 49.6**	**+0.4**
PSAC1	**Pilbara Seismi**	**45.37 307**	P	**P**	**06 08 49.2**	**-0.5**
	comp=Z,121nm,1.1s					
MBWA	**Marble Bar**	**45.73 307**	P	**P**	**06 08 52.2**	**-0.3**
MBWA	**Marble Bar**	**45.73 307**	IAMs_20	IAMs_20	06 25 18.4	
	comp=Z,2μm,19.0s					
MBWA	**Marble Bar**	**45.73 307**	P	**P**	**06 08 52.0**	**-0.5**
	comp=Z,103nm,1.2s					
MBWA	**Marble Bar**	**45.73 307**	P	**P**	**06 08 52.4**	**-0.1**
SYO	**Syowa Base**	**45.95 206**	⇓*ep*P	**P**	**06 08 55.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**46.09 315**	P	**P**	**06 08 55.3**	**0.0**
FITZ	**Fitzroy Crossi**	**46.09 315**	P	**P**	**06 08 55.2**	**-0.1**
	comp=Z,26nm,1.4s					
FITZ	**Fitzroy Crossi**	**46.09 315**	LR	LR	06 26 12.6	
	comp=Z,1μm,19.7s,baz=160,slow=34					
FITZ	**Fitzroy Crossi**	**46.09 315**	P	**P**	**06 08 55.4**	**0.0**
	comp=Z,256nm,1.4s					
ELIB	**Princess Elisa**	**46.84 198**	*d*P	**P**	**06 09 01.2**	**+0.4**
	comp=Z,18nm,1.1s					
ELIB			*d*PcP	**PcP**	**06 10 33.3**	**0.0**
ELIB			*d*PP	**PP**	**06 10 45.1**	**-5.6**
GIRL	**Giralia**	**46.91 299**	P	**P**	**06 09 02.1**	**+0.4**
GIRL	**Giralia**	**46.91 299**	P	**P**	**06 09 03.4**	**+1.6**
	comp=Z,264nm,1.3s					
GIRL	**Giralia**	**46.91 299**	P	**P**	**06 09 03.0**	**+1.2**
KNRA	**Kununurra**	**47.20 321**	P	**P**	**06 09 03.7**	**-0.3**
KNRA	**Kununurra**	**47.20 321**	P	**P**	**06 09 03.8**	**-0.2**
	comp=Z,121nm,1.5s					
RAR	**Rarotonga**	**47.70 58**	P	**P**	**06 09 07.8**	**-0.1**
RAR	**Rarotonga**	**47.70 58**	P	**P**	**06 09 07.2**	**-0.7**
	comp=Z,37nm,0.9s,baz=107,slow=0.3,SNR=3.7					
RAR			LR	LR	06 26 03.1	
	comp=Z,1μm,19.6s,baz=210,slow=32					
	comp=Z,37nm,0.9s					
KDU	**Kakadu**	**48.82 326**	P	**P**	**06 09 16.0**	**-0.6**
	comp=Z,128nm,1.2s					
KDU	**Kakadu**	**48.82 326**	P	**P**	**06 09 16.7**	**+0.1**
PMG	**Port Moresby**	**48.83 346**	IAMs_20	IAMs_20	06 31 40.4	
	comp=Z,2μm,18.0s					
PMG	**Port Moresby**	**48.83 346**	LR	LR	06 27 50.2	
	comp=Z,1μm,18.6s,baz=163,slow=34					
ALEG	**Aligegeo Malai**	**48.85 4**	P	**P**	**06 09 18.8**	**+2.0**
MTN	**Manton Dam**	**49.08 325**	P	**P**	**06 09 18.1**	**-0.5**
MTN	**Manton Dam**	**49.08 325**	P	**P**	**06 09 18.4**	**-0.2**
	comp=Z,121nm,1.1s					
MTN	**Manton Dam**	**49.08 325**	P	**P**	**06 09 18.9**	**+0.3**
TATA	**Tatamba Isabel**	**49.18 3**	P	**P**	**06 09 21.3**	**+1.9**
TROLL	**Troll, Antarti**	**49.47 190**	P	**P**	**06 09 21.0**	**-0.1**
TROLL	**Troll, Antarti**	**49.47 190**	⇓P	**P**	**06 09 21.0**	**-0.1**
	comp=Z,853nm,1.0s					
TROLL			⇓PcP	**PcP**	**06 10 42.7**	**0.0**
	comp=Z,619nm,0.8s					
DRS	**Darwin Rock St**	**49.54 325**	P	**P**	**06 09 22.5**	**+0.4**
	comp=Z,100nm,1.0s					
NVL	**N'lazarevskaya**	**49.60 194**	*e*P	**P**	**06 09 20.6**	**-1.3**
NVL			*e*S	**S**	**06 16 20.3**	**-7.5**
NVL			pmax	pmax		
	comp=Z,20nm,1.0s					
NVL			MLR	MLR		
	comp=Z,2μm,16.0s					
SNAA	**Sanae**	**50.24 188**	P	**P**	**06 09 26.0**	**-0.9**
SNAA	**Sanae**	**50.24 188**	P	**P**	**06 09 26.8**	**-0.1**
SNAA			IAmb	IAmb	06 09 28.2	
	comp=Z,68nm,1.3s					
SNAA	**Sanae**	**50.24 188**	⇓P	**P**	**06 09 26.0**	**-0.9**
	comp=Z,338nm,0.9s					
SNAA	**Sanae**	**50.24 188**	P	**P**	**06 09 26.3**	**-0.5**
	comp=Z,24nm,1.1s,baz=169,slow=6.4,SNR=17					
SNAA			LR	LR	06 30 41.3	
	comp=Z,4μm,18.4s,baz=181,slow=36					
	comp=Z,24nm,1.1s					
SNAA	**Sanae**	**50.24 188**	*ce*P	**P**	**06 09 25.3**	**-1.6**
SNAA			pmax	pmax		
	comp=Z,79nm,1.7s					
TBI	**Tubuai**	**50.89 71**	*e*P	**P**	**06 09 31.1**	**-1.2**
	comp=Z,364nm,28.8s					
TBI	**Tubuai**	**50.89 71**	*e*PP	**PP**	**06 11 24.4**	**-4.2**
	comp=Z,108nm,23.5s					
TBI			*e*S	**S**	**06 16 47.7**	**+0.9**
	comp=Z,4μm,28.2s					
TBI			*e*SS	**SS**	**06 20 24.9**	**+3.4**
	comp=Z,1μm,26.8s					
TBI			*e*LR	LR	06 24 03.3	
	comp=Z,2μm,27.5s					
TBI			*e*LR	LR	06 24 11.4	
	comp=Z,4μm,23.0s					
VNA3	**Neumayer Olymp**	**51.08 185**	P	**P**	**06 09 32.5**	**-0.6**
VNA3	**Neumayer Olymp**	**51.08 185**	⇓P	**P**	**06 09 32.5**	**-0.6**
	comp=Z,23nm,0.8s					
VNA3			⇓PcP	**PcP**	**06 10 48.3**	**-0.2**
	comp=Z,9.7nm,0.8s					
VNA2	**Neumayer--Watz**	**51.27 186**	P	**P**	**06 09 34.7**	**+0.1**
	baz=165,slow=8.1					
VNA2	**Neumayer--Watz**	**51.27 186**	⇓P	**P**	**06 09 34.7**	**+0.1**
	comp=Z,19nm,1.0s,baz=165,slow=8.1					
VNA1	**Neumayer--Stat**	**51.59 186**	P	**P**	**06 09 37.3**	**+0.4**
VNA1	**Neumayer--Stat**	**51.59 186**	⇓P	**P**	**06 09 37.3**	**+0.4**
	comp=Z,62nm,1.0s					
SAUI	**Saumlaki**	**53.62 327**	IAMs_20	IAMs_20	06 31 33.4	
	comp=Z,2μm,18.0s					
PMSA	**Palmer Station**	**53.84 159**	LR	LR	06 29 06.0	
	comp=Z,616nm,20.7s,baz=221,slow=32					
SOEI	**Soe**	**54.27 318**	IAmb	IAmb	06 10 08.9	
	comp=Z,107nm,1.3s					
SOEI			IAMs_20	IAMs_20	06 33 40.5	
	comp=Z,1μm,20.0s					
SOEI	**Soe**	**54.27 318**	P	**P**	**06 09 58.9**	**+1.4**
SOEI	**Soe**	**54.27 318**	P	**P**	**06 09 57.6**	**+0.1**
	comp=Z,2μmcomp=Z,66nm,1.3s					
PPT2	**Papeete2**	**55.68 67**	*e*PKP1	**P**	**06 10 09.9**	**+2.3**
	comp=Z,104nm,25.2s					
PPT2	**Papeete2**	**55.68 67**	*e*PP	**PP**	**06 12 10.9**	**-1.0**
	comp=Z,57nm,25.5s					
PPT2			*e*S	**S**	**06 17 56.4**	**+4.3**
	comp=Z,1μm,28.5s					
PPT2			*e*SS	**SS**	**06 21 37.0**	**-0.3**
	comp=Z,497nm,25.2s					
PPT2			*e*LR	LR	06 26 12.3	
	comp=Z,856nm,32.2s					
PPT2			*e*LR	LR	06 26 21.4	
	comp=Z,2μm,32.5s					
PPT	**Papeete**	**55.69 67**	LR	LR	06 29 24.6	
	comp=Z,450nm,19.3s,baz=193,slow=31					
MANU	**Manus Island**	**56.06 348**	IAmb	IAmb	06 10 12.8	
	comp=Z,136nm,1.8s					
WBSI	**Waikabubak, Su**	**56.21 313**	P	**P**	**06 10 11.0**	**-0.4**
	comp=Z,72nm,1.1s					
JAY	**Jayapura**	**56.62 340**	LR	LR	06 35 07.7	
	comp=Z,1μm,18.7s,baz=154,slow=37					
JAY	**Jayapura**	**56.62 340**	P	**P**	**06 10 13.4**	**-0.9**
GENI	**Genyem**	**56.64 339**	P	**P**	**06 10 16.4**	**+2.0**
SMPI	**Sarmi**	**57.52 337**	P	**P**	**06 10 20.3**	**-0.3**
	comp=Z,108nm,1.5s					
PLAI	**Plampang**	**57.60 311**	P	**P**	**06 10 22.5**	**+1.3**
PLAI	**Plampang**	**57.60 311**	P	**P**	**06 10 21.6**	**+0.4**
	comp=Z,43nm,1.1s					
TWSI	**Taliwang, Sumb**	**58.04 310**	P	**P**	**06 10 24.8**	**+0.5**
	comp=Z,1μmcomp=Z,124nm,1.2s					
FAKI	**Fak Fak**	**58.18 330**	P	**P**	**06 10 26.9**	**+1.7**
FAKI	**Fak Fak**	**58.18 330**	P	**P**	**06 10 24.9**	**-0.3**
	comp=Z,2μmcomp=Z,138nm,1.5s					
BSSI	**Bau Bau, Buton**	**58.99 315**	P	**P**	**06 10 30.4**	**-0.5**
	comp=Z,2μmcomp=Z,145nm,1.4s					
SRBI	**Singaraja**	**59.32 309**	P	**P**	**06 10 33.2**	**0.0**
	comp=Z,2μmcomp=Z,146nm,1.3s					
NLAI	**Namlea**	**59.39 324**	P	**P**	**06 10 33.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**59.42 308**	IAmb	IAmb	06 10 49.0	
	comp=Z,68nm,1.2s					
JAGI	**Jajag, Banyuwa**	**59.42 308**	P	**P**	**06 10 35.2**	**+1.3**
JAGI	**Jajag, Banyuwa**	**59.42 308**	P	**P**	**06 10 33.8**	**-0.1**
	comp=Z,56nm,1.2s					
BKSI	**Bulukumba**	**59.88 315**	P	**P**	**06 10 36.3**	**-0.8**
	comp=Z,836nmcomp=Z,42nm,1.6s					
GMJI	**Gumukmas**	**59.90 307**	P	**P**	**06 10 36.9**	**-0.3**
	comp=Z,1μmcomp=Z,104nm,1.5s					
ABJI	**Asem Bagus**	**59.99 308**	P	**P**	**06 10 37.9**	**+0.1**
	comp=Z,133nm,1.1s					
KDI	**Kendari**	**60.23 319**	P	**P**	**06 10 39.5**	**+0.1**
	comp=Z,2μmcomp=Z,62nm,1.5s					
KAPI	**Kappang**	**60.30 315**	P	**P**	**06 10 39.9**	**0.0**
KAPI	**Kappang**	**60.30 315**	LR	LR	06 34 57.2	
	comp=Z,804nm,20.5s,baz=158,slow=34					
KAPI	**Kappang**	**60.30 315**	P	**P**	**06 10 41.5**	**+1.5**
KAPI	**Kappang**	**60.30 315**	*i* P	**P**	**06 10 40.2**	**+0.2**
KAPI			pmax	pmax		
	comp=Z,103nm,1.3s					
SWI	**Sorong**	**60.41 329**	P	**P**	**06 10 41.0**	**+0.3**
	comp=Z,102nm,1.5s					
KMMI	**Kalianget**	**60.78 308**	P	**P**	**06 10 44.1**	**+0.9**
	comp=Z,3μmcomp=Z,153nm,1.4s					
SANI	**Sanana**	**60.87 323**	P	**P**	**06 10 43.2**	**-0.6**
	comp=Z,80nm,1.3s					
SANI	**Sanana**	**60.87 323**	P	**P**	**06 10 41.7**	**-2.1**
PCJI	**Pacitan**	**60.96 305**	P	**P**	**06 10 44.6**	**+0.2**
	comp=Z,132nm,1.1s					
SPSI	**Sidrap Palu**	**61.26 316**	P	**P**	**06 10 46.3**	**-0.2**
	comp=Z,2μmcomp=Z,91nm,1.5s					
GRJI	**Gresik**	**61.53 307**	P	**P**	**06 10 50.0**	**+1.7**
NGJI	**Ngawi**	**61.57 305**	P	**P**	**06 10 49.9**	**+1.3**
	comp=Z,153nm,1.4s					
TTSI	**Tana Toraja**	**62.09 316**	P	**P**	**06 10 52.1**	**+0.1**
	comp=Z,64nm,1.5s					
SMRI	**Semarang**	**62.30 305**	P	**P**	**06 10 53.4**	**-0.2**
SMRI	**Semarang**	**62.30 305**	P	**P**	**06 10 54.9**	**+1.4**
BBJI	**Bungbulang**	**63.20 302**	P	**P**	**06 11 01.0**	**+1.5**
LEM	**Lembang**	**63.77 302**	LR	LR	06 38 38.6	
	comp=Z,264nm,18.1s,baz=160,slow=36					
MRSI	**Marisa**	**64.59 320**	P	**P**	**06 11 08.5**	**-0.1**
	comp=Z,56nm,1.4s					
CGJI	**Cibinong**	**64.84 300**	P	**P**	**06 11 11.2**	**+0.9**
	comp=Z,64μmcomp=Z,2μmcomp=Z,147nm,1.1s					
SBJI	**Serang**	**65.08 301**	P	**P**	**06 11 14.1**	**+2.3**
TOLI2	**Tolitoli**	**65.59 319**	P	**P**	**06 11 14.2**	**-0.9**
TOLI2			IAmb	IAmb	06 11 16.5	
	comp=Z,55nm,1.2s					
TOLI2	**Tolitoli**	**65.59 319**	P	**P**	**06 11 16.9**	**+1.9**
LWLI	**Liwa**	**67.01 299**	P	**P**	**06 11 26.2**	**+1.9**
	comp=Z,80nm,0.7s					
TPI	**Tanjungpandan**	**67.36 304**	P	**P**	**06 11 26.6**	**+0.2**
	comp=Z,1μmcomp=Z,88nm,1.2s					
MDSI	**Maura Dua**	**67.42 300**	P	**P**	**06 11 27.1**	**+0.3**
	comp=Z,1μmcomp=Z,53nm,1.7s					
TAOE	**Nuku Hiva Isla**	**67.84 71**	*e*PKP1	**P**	**06 11 31.6**	**+2.0**
	comp=Z,112nm,26.7s					
TAOE			*e*S	**S**	**06 20 27.7**	**+1.6**
	comp=Z,230nm,25.6s					
TAOE			*e*SS	**SS**	**06 24 55.3**	**+7.5**
	comp=Z,435nm,29.2s					
TAOE			*e*LR	LR	06 31 59.3	
	comp=Z,637nm,23.9s					
STKI	**Sintang**	**68.23 309**	P	**P**	**06 11 33.0**	**+1.1**
	comp=Z,171nm,1.1s					
COYC	**Coyhaique**	**69.11 145**	P	**P**	**06 11 37.0**	**-0.1**
COYC			IAmb	IAmb	06 11 38.3	
	comp=Z,52nm,1.5s					
DAV	**Davao City (W)**	**69.60 326**	LR	LR	06 43 53.8	
	comp=Z,594nm,18.3s,baz=137,slow=37					
KSM	**Kuching**	**69.99 308**	P	**P**	**06 11 42.7**	**-0.1**
KSM	**Kuching**	**69.99 308**	P	**P**	**06 11 43.9**	**+1.1**
SBUM	**Sibu**	**70.08 311**	P	**P**	**06 11 42.9**	**-0.5**
SBUM			IAmb	IAmb	06 11 45.4	
	comp=Z,82nm,1.9s					
SBUM	**Sibu**	**70.08 311**	P	**P**	**06 11 45.0**	**+1.6**
MYLDM	**Lahad Datu**	**70.17 318**	IAmb	IAmb	06 12 24.5	
	comp=Z,46nm,1.2s					
MYLDM	**Lahad Datu**	**70.17 318**	P	**P**	**06 11 45.7**	**+1.8**
PPSI	**Pulau Pagai**	**70.90 297**	P	**P**	**06 11 50.9**	**+2.5**
LL02	**Futaleuf**	**71.33 144**	P	**P**	**06 11 51.0**	**+0.3**
LL02			IAmb	IAmb	06 12 03.6	
	comp=Z,52nm,1.4s					
KKM	**Kota Kinabalu**	**71.81 316**	P	**P**	**06 11 53.3**	**-0.6**
KKM	**Kota Kinabalu**	**71.81 316**	P	**P**	**06 11 55.6**	**+1.7**
LL01	**San Ignacio de**	**71.88 143**	IAmb	IAmb	06 12 09.6	
	comp=Z,38nm,1.1s					
TPRI	**Tanjung Pinang**	**72.03 303**	P	**P**	**06 11 56.3**	**+1.2**
	comp=Z,32nm,0.5s					
SISI	**Saibi**	**72.59 297**	P	**P**	**06 12 00.9**	**+2.4**
	comp=Z,2μmcomp=Z,144nm,1.2s					
PPI	**Padang Panjang**	**72.73 298**	P	**P**	**06 11 59.2**	**-0.1**
	comp=Z,96nm,1.3s					
MYKOM	**Kota Tinggi**	**73.10 302**	IAmb	IAmb	06 12 03.7	
	comp=Z,100nm,1.4s					
MYKOM	**Kota Tinggi**	**73.10 302**	P	**P**	**06 12 03.0**	**+1.4**
BKNI	**Bangkinang**	**73.11 299**	P	**P**	**06 11 58.5**	**-3.1**
LR05	**Currie**	**73.95 143**	P	**P**	**06 12 06.2**	**-0.1**
LR05			IAmb	IAmb	06 12 19.5	
	comp=Z,98nm,1.4s					
PLCA	**Paso Flores**	**73.97 144**	P	**P**	**06 12 06.7**	**+0.1**
PLCA	**Paso Flores**	**73.97 144**	P	**P**	**06 12 06.6**	**+0.1**
	comp=Z,12nm,1.0s,baz=205,slow=7.9,SNR=12					
PLCA			LR	LR	06 37 07.5	
	comp=Z,255nm,21.3s,baz=209,slow=30					
	comp=Z,12nm,1.0s					
PLCA	**Paso Flores**	**73.97 144**	P	**P**	**06 12 06.7**	**+0.1**
PLCA			pmax	pmax		
	comp=Z,41nm,1.3s					
PLCA	**Paso Flores**	**73.97 144**	*e*P	**P**	**06 12 06.2**	**-0.3**
PBSI	**Pulau Batu**	**74.09 296**	P	**P**	**06 12 09.6**	**+2.2**
MNSI	**Mandailing Nat**	**74.21 298**	P	**P**	**06 12 08.0**	**-0.1**
	comp=Z,2μmcomp=Z,84nm,0.8s					
GSI	**Gunungsitoli**	**75.61 296**	P	**P**	**06 12 17.8**	**+1.6**
GSI	**Gunungsitoli**	**75.61 296**	P	**P**	**06 12 17.6**	**+1.4**
	comp=Z,176nm,1.3s					
RPSI	**Rantau Prapat**	**76.18 298**	P	**P**	**06 12 18.6**	**-0.8**
RPSI			IAmb	IAmb	06 12 20.1	
	comp=Z,58nm,1.2s					
PSI	**Prapat**	**76.28 298**	LR	LR	06 45 30.3	
	comp=Z,243nm,18.0s,baz=158,slow=36					
PSI	**Prapat**	**76.28 298**	P	**P**	**06 12 19.7**	**-0.4**
PSI	**Prapat**	**76.28 298**	P	**P**	**06 12 18.6**	**-1.5**
PSI			pmax	pmax		
	comp=Z,58nm,1.2s					
IPM	**Ipoh**	**76.77 301**	P	**P**	**06 12 22.4**	**-0.3**
IPM			IAmb	IAmb	06 12 24.0	
	comp=Z,57nm,1.2s					
IPM	**Ipoh**	**76.77 301**	P	**P**	**06 12 23.3**	**+0.6**
TSI	**Tuntungan**	**77.06 298**	P	**P**	**06 12 24.8**	**+0.5**
	comp=Z,88nm,1.2s					
SNSI	**Sinabang, Aceh**	**77.17 296**	P	**P**	**06 12 26.6**	**+1.6**
H03S2	**Juan Fernandez**	**77.21 135**	T	T	07 37 27.2	
	baz=206,slow=74,SNR=21					
H03S1	**Juan Fernandez**	**77.21 135**	T	T	07 37 28.9	
	baz=206,slow=74,SNR=18					
H03S3	**Juan Fernandez**	**77.23 135**	T	T	07 37 30.2	
	baz=206,slow=74,SNR=16					
H03N3	**Juan Fernandez**	**77.55 134**	T	T	07 38 00.9	
	baz=217,slow=77,SNR=8.6					
H03N2	**Juan Fernandez**	**77.56 134**	T	T	07 38 02.6	
	baz=217,slow=77,SNR=14					
H03N1	**Juan Fernandez**	**77.57 134**	T	T	07 38 03.5	
	baz=217,slow=77,SNR=15					
KULM	**Kulim**	**77.66 301**	P	**P**	**06 12 28.2**	**+0.5**
TGY	**Tagaytay City**	**77.67 324**	LR	LR	06 49 14.5	
	comp=Z,132nm,18.2s,baz=348,slow=38					
ML02	**Panimavida**	**78.19 141**	IAmb	IAmb	06 12 43.2	
	comp=Z,63nm,1.2s					
RER	**Riviere de l'E**	**78.55 249**	P	**P**	**06 12 32.8**	**0.0**
MLSI	**Meulaboh, Aceh**	**78.75 297**	P	**P**	**06 12 34.0**	**+0.2**
TRQA	**Tornquist**	**78.98 149**	P	**P**	**06 12 34.8**	**-0.1**
TRQA	**Tornquist**	**78.98 149**	P	**P**	**06 12 34.8**	**-0.1**
TRQA			pmax	pmax		
	comp=Z,43nm,1.2s					
BO02	**Sierra Bellavi**	**79.29 141**	P	**P**	**06 12 36.8**	**+0.2**
BO02			IAmb	IAmb	06 12 37.7	
	comp=Z,74nm,1.1s					
LHMI	**Lhok Sumawe**	**79.33 298**	P	**P**	**06 12 38.7**	**+1.8**
BO04	**La Punta**	**80.08 141**	IAmb	IAmb	06 12 53.6	
	comp=Z,60nm,1.1s					
DLV	**Lat**	**80.20 311**	IAmb	IAmb	06 12 43.5	
	comp=Z,70nm,1.3s					
DLV	**Lat**	**80.20 311**	P	**P**	**06 12 42.9**	**+1.1**
BSI	**Banda Aceh**	**80.36 296**	P	**P**	**06 12 42.0**	**-0.5**
	comp=Z,72nm,1.1s					
MT13	**San Alfonso**	**80.41 141**	IAmb	IAmb	06 12 56.0	
	comp=Z,51nm,1.0s					
MT03	**Universidad Ad**	**80.56 141**	IAmb	IAmb	06 12 44.4	
	comp=Z,59nm,1.2s					
MT05	**Renca**	**80.58 141**	IAmb	IAmb	06 12 57.8	
	comp=Z,64nm,1.1s					
VA01	**Torpederas**	**80.60 140**	IAMs_20	IAMs_20	06 50 17.5	
	comp=Z,589nm,18.0s					
H08S2	**Diego Garcia H**	**81.03 270**	T	T	07 42 13.8	
	baz=147,slow=76,SNR=42					
H08S1	**Diego Garcia H**	**81.04 270**	T	T	07 42 14.6	
	baz=147,slow=76,SNR=54					
H08S3	**Diego Garcia H**	**81.05 270**	T	T	07 42 15.3	
	baz=147,slow=76,SNR=52					
VA03	**San Esteban**	**81.22 140**	IAmb	IAmb	06 12 48.1	
	comp=Z,98nm,1.6s					
DGAR	**Diego Garcia**	**81.25 270**	*ce*P	**P**	**06 12 46.4**	**-0.9**
DGAR			pmax	pmax		
	comp=Z,130nm,1.7s					
VOI	**Vohitsoka**	**82.27 241**	P	**P**	**06 12 52.4**	**-0.4**
VOI			IAmb	IAmb	06 12 54.6	
	comp=Z,69nm,1.6s					
CFA	**Coronel Fontan**	**83.06 142**	P	**P**	**06 12 55.9**	**-0.8**
	baz=212,slow=24,SNR=1.6					
SUR	**Sutherland**	**83.26 216**	P	**P**	**06 12 58.0**	**0.0**
SUR	**Sutherland**	**83.26 216**	P	**P**	**06 12 58.3**	**+0.3**
	comp=Z,39nm,1.0s,baz=163,slow=3.9,SNR=21					
SUR			LR	LR	06 44 20.9	
	comp=Z,346nm,21.9s,baz=160,slow=32					
	comp=Z,39nm,1.0s					
POGA	**Pongola**	**84.02 226**	IAmb	IAmb	06 13 03.4	
	comp=Z,54nm,1.2s					
UBPT	**Khong Chiam**	**84.45 310**	P	**P**	**06 13 05.1**	**+1.4**
ABPO	**Ambohimpanom**	**84.54 243**	P	**P**	**06 13 04.6**	**0.0**
ABPO			IAMs_20	IAMs_20	06 45 30.4	
	comp=Z,494nm,20.0s					
ABPO	**Ambohimpanom**	**84.54 243**	P	**P**	**06 13 04.6**	**0.0**
ABPO			pmax	pmax		
	comp=Z,163nm,1.8s					
OPO	**Ambohidratompo**	**84.94 243**	P	**P**	**06 13 07.7**	**+1.1**
	comp=Z,19nm,1.1s,baz=128,slow=6.3,SNR=15					
OPO			LR	LR	06 44 33.3	
	comp=Z,152nm,19.1s,baz=349,slow=31					
	comp=Z,19nm,1.1s					
BOSA	**Boshof**	**85.25 221**	P	**P**	**06 13 08.2**	**+0.2**
BOSA			IAmb	IAmb	06 13 09.4	
	comp=Z,56nm,1.1s					
BOSA	**Boshof**	**85.25 221**	P	**P**	**06 13 08.0**	**0.0**
	comp=Z,29nm,1.0s,baz=161,slow=4.7,SNR=40					
BOSA			LR	LR	06 46 14.6	
	comp=Z,298nm,19.8s,baz=177,slow=32					
	comp=Z,29nm,1.0s					
BOSA	**Boshof**	**85.25 221**	P	**P**	**06 13 08.0**	**0.0**
NAYO	**Nakonayok**	**85.34 306**	P	**P**	**06 13 10.1**	**+1.9**
QIZ	**Qiongzhong**	**86.11 315**	P	**P**	**06 13 13.9**	**+1.9**
QIZ			S	**S**	**06 23 50.9**	**+6.5**
QIZ			LR	LR		
	comp=Z,440nm,7.8s					
QIZ			LR	LR		
	comp=Z,250nm,7.5s					
QIZ			LR	LR		
	comp=Z,420nm,10.9s					
HATHI	**Halema'uma'u T**	**86.16 44**	IAMs_20	IAMs_20	06 38 40.5	
	comp=Z,954nm,18.0s					
SRDT	**SRDT**	**86.34 304**	P	**P**	**06 13 15.0**	**+1.8**
TBOT	**Tacuaremb**	**86.60 152**	*e*P	**P**	**06 13 14.6**	**+0.1**
KIP	**Kipapa**	**87.00 41**	P	**P**	**06 13 18.2**	**+1.9**
KIP	**Kipapa**	**87.00 41**	P	**P**	**06 13 18.4**	**+2.1**
KIP	**Kipapa**	**87.00 41**	*i* P	**P**	**06 13 16.4**	**+0.1**
KIP			pmax	pmax		
	comp=Z,16nm,1.3s					
PLTB	**Pedras Altas**	**87.10 154**	*e*P	**P**	**06 13 16.6**	**-0.3**
JOW	**Kunigami**	**87.73 334**	LR	LR	06 53 21.1	
	comp=Z,349nm,18.7s,baz=147,slow=36					
NONG	**Nongkai**	**87.91 309**	P	**P**	**06 13 22.4**	**+1.7**
LBTB	**Lobatse

comp=Z,2.4nm,1.2s,baz=157,slow=6.6,SNR=1.9
MJAR LR LR 06 53 42.7
comp=Z,263nm,21.1s,baz=178,slow=34
comp=Z,7.7nm,1.2s
MAJO Matsushiro 95.27 344 P **P 06 13 56.1 +1.6**
MURT Porto Murtinho 95.65 147 *e*P **P 06 13 56.0 -0.8**
LDASE Londrina, Braz 95.72 154 *e*P **P 06 13 57.6 +0.5**
PZH PanZhiHua 96.01 312 P **P 06 14 00.8 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.1s
FRTB Fartura 96.13 155 *e*P **P 06 13 59.3 +0.2**
LSZ Lusaka 96.28 228 P **P 06 14 00.1 +0.2**
LSZ Lusaka 96.28 228 P **P 06 13 58.8 -1.1**
comp=Z,1.0nm,0.3s,baz=181,slow=5.4,SNR=6.0
LSZ PP **PP 06 17 52.5 -0.2**
comp=Z,1.0nm,0.3s,baz=141,slow=2.1,SNR=3.3
LSZ LR LR 06 54 30.1
comp=Z,332nm,18.0s,baz=146,slow=34
comp=Z,1.0nm,0.3s
LSZ Lusaka 96.28 228 P **P 06 14 00.1 +0.2**
LSZ pmax pmax
comp=Z,19nm,1.5s
TSUM Tsumeb 96.55 218 P **P 06 14 00.3 -0.8**
comp=Z,0.9nm,0.3s,baz=74,slow=0.8,SNR=4.9
TSUM LR LR 06 54 21.1
comp=Z,272nm,19.8s,baz=150,slow=34
comp=Z,0.9nm,0.3s
PARB Paraibuna 96.97 158 *e*P **P 06 14 03.1 +0.2**
BRDH Bariadhala 97.00 302 LR LR 06 58 12.8
comp=Z,156nm,19.1s,baz=162,slow=36
VAO Valinhos 97.03 157 *e*P Pdif 06 14 03.9 +0.6
LPAZ La Paz 97.15 136 P **P 06 14 03.2 -1.3**
LPAZ La Paz 97.15 136 P **P 06 14 03.0 -1.4**
comp=Z,1.7nm,1.0s,baz=269,slow=0.1,SNR=4.9
LPAZ LR LR 06 47 35.7
comp=Z,310nm,21.8s,baz=187,slow=29
comp=Z,1.7nm,1.0s
LPAZ La Paz 97.15 136 P **P 06 14 03.2 -1.3**
LPAZ pmax pmax
comp=Z,8.0nm,1.5s
LPAZ La Paz 97.15 136 *e*P **P 06 14 04.4 -0.1**
AQDB Aquidauana 97.32 149 IAMs_20 IAMs_20 06 53 46.0
comp=Z,386nm,19.0s
NNA Nana 97.53 126 LR LR 06 49 05.1
comp=Z,272nm,18.8s,baz=207,slow=30
KSAR Wonju Array Be 98.01 336 P **P 06 14 06.0 -0.8**
KSAR Wonju Array Be 98.01 336 P **P 06 14 06.1 -0.8**
KSRS Korea Array 98.02 336 P **P 06 14 06.4 -0.5**
comp=Z,0.3nm,0.4s,baz=190,slow=4.9,SNR=2.7
KSRS PP **PP 06 18 06.8 +0.3**
comp=Z,0.7nm,0.8s,baz=167,slow=6.3,SNR=4.5
KSRS LR LR 06 59 08.5
comp=Z,192nm,18.6s,baz=160,slow=36
comp=Z,0.3nm,0.4s
LYN LuoYang 99.42 324 P **Pdif 06 14 13.9 +0.6**
LYN pmax pmax
comp=Z,19nm,1.3s
LYN LR LR
comp=Z,280nm,21.0s
LYN LR LR
comp=Z,250nm,19.2s
LYN LR LR
comp=Z,420nm,19.9s
TIA Tai'an 99.55 328 P **Pdif 06 14 14.8 +1.0**
TIA pmax pmax
comp=Z,6.0nm,0.5s
XAN Xi'an 100.13 321 P **Pdif 06 14 14.1 -2.4**
XAN PP **PP 06 18 21.8 -1.0**
XAN LR LR
comp=Z,310nm,20.1s
XAN LR LR
comp=Z,440nm,20.1s
USRK Ussuriysk Ar. 103.74 341 PP **PP 06 18 48.2 -1.7**
comp=Z,8.7nm,1.2s,baz=159,slow=11,SNR=4.4
H06S1 SOCORRO T 106.32 81 T T 08 13 25.4
SNR=9.8
GTA Gaotai 108.18 316 PKP **PKiKP 06 18 59.8 +1.2**
MBAR Mbarara 108.33 237 IAMs_20 IAMs_20 07 03 05.6
comp=Z,341nm,18.0s
PETK Petropavlovsk- 110.41 360 PP **PP 06 19 39.3 +0.7**
comp=Z,2.8nm,1.0s,baz=125,slow=9.3,SNR=3.5
PETK PKKP **PKKPdf 06 30 19.8 0.0**
comp=Z,4.7nm,0.9s,baz=336,slow=3.2,SNR=3.9
TLIG Tlapa 112.00 92 IAMs_20 IAMs_20 06 56 46.7
comp=Z,655nm,19.0s
MOIG Morelia 112.32 88 IAMs_20 IAMs_20 06 58 29.1
comp=Z,721nm,19.0s
ATD Arta Tunnel 112.89 255 IAMs_20 IAMs_20 07 01 08.0
comp=Z,328nm,18.0s
UNM Universidad Na 113.11 90 IAMs_20 IAMs_20 06 58 59.4
comp=Z,663nm,18.0s
HDC Heredia 113.30 109 IAMs_20 IAMs_20 06 57 00.9
comp=Z,530nm,20.0s
SONM Songino Array 113.38 325 PKiKP **PKiKP 06 19 07.6 -0.5**
comp=Z,1.1nm,0.7s,baz=101,slow=1.8,SNR=5.7
SONM PKKPbc **PKKPbc 06 29 50.3 -1.9**
comp=Z,0.4nm,0.6s,baz=336,slow=3.3,SNR=3.8
ZEA Zeya 113.77 341 *i*PKIKP **PKiKP 06 19 07.8 -0.7**
ZAIG Zacatecas 114.10 85 IAMs_20 IAMs_20 06 58 09.5
comp=Z,494nm,19.0s
HERN Volcan Telica 114.11 105 IAMs_20 IAMs_20 07 09 01.5
comp=Z,343nm,19.0s
CPBX Cerro Prieto 115.21 69 IAMs_20 IAMs_20 07 19 20.9
comp=Z,496nm,20.0s
ZAK Zakamensk 116.59 324 *e*PKIKP **PKPdf 06 19 12.7 -1.5**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
WMQ Urumqi 116.67 310 *e*PKP **PKiKP 06 19 16.5 +2.0**
WMQ LR LR
comp=Z,91nm,23.7s
MA2 Magadan 117.02 356*c i*PKIKP **PKPdf 06 19 14.7 +0.1**
MA2 pmax pmax
comp=Z,18nm,2.5s
CMB Columbia Colle 117.23 62 IAMs_20 IAMs_20 07 04 36.2
comp=Z,568nm,19.0s
S12K Black Hills 117.57 24 P **PKiKP 06 19 16.1 +0.3**
baz=203
Y14A Wickenburg 117.58 70 IAMs_20 IAMs_20 06 58 30.6
comp=Z,663nm,20.0s
AFDM Forest Hills D 117.69 61 IAMs_20 IAMs_20 07 00 11.2
comp=Z,706nm,19.0s
KBL Kabul 117.75 291 **PKiKP 06 19 17.3 +0.2**
KBL Kabul 117.75 291 PKIKP **PKiKP 06 19 17.3 +0.2**
KSH Kashi 118.34 300 PKP **PKiKP 06 19 18.3 +0.3**
TPNV Topopah Spring 118.36 65 IAMs_20 IAMs_20 07 02 03.0
comp=Z,726nm,20.0s
MZP Montezuma Peak 118.40 64 IAMs_20 IAMs_20 06 58 17.2
comp=Z,375nm,20.0s
NVAR Mina Array Bea 118.54 63 **PKPdf 06 19 18.7 +0.2**
NVAR Mina Array Bea 118.54 63 PKP **PKPdf 06 19 18.2 -0.3**
comp=Z,3.7nm,0.9s,baz=195,slow=4.0,SNR=20
NVAR PKKPbc **PKKPab 06 29 35.7 -0.3**
comp=Z,0.4nm,0.9s,baz=30,slow=4.0,SNR=3.0
SHPR Sheep Range 118.54 66 PKPdf **PKiKP 06 19 19.7 +1.2**
S14K Fog Glacier 118.67 26 P **PKPdf 06 19 18.2 +0.3**
baz=205
TXAR Lajitas Array 118.77 80 PKP **PKPdf 06 19 17.9 -1.2**
comp=Z,0.5nm,0.9s,baz=224,slow=3.5,SNR=4.2
TXAR PP **PP 06 20 37.1 -0.9**
comp=Z,0.4nm,0.9s,baz=251,slow=4.4,SNR=2.1
TXAR PKKPab **PKKPab 06 29 35.0 -0.9**
comp=Z,0.7nm,0.9s,baz=6.7,slow=3.9,SNR=1.6
PAHR Pah Rah Range 119.04 61 IAMs_20 IAMs_20 07 05 49.9
comp=Z,701nm,19.0s
CHIR Chirikof Islan 119.21 28 P **PKiKP 06 19 19.4 +0.5**
baz=207
PRN Pahroc Range 119.31 66 IAMs_20 IAMs_20 07 02 35.1
comp=Z,671nm,19.0s
SHLS Shalkode 119.65 304 *e*PKIKP **PKPdf 06 19 19.6 -0.7**
SHLS Shalkode 119.65 304 *e*PKP **PKPdf 06 19 19.7 -0.6**
WUAZ Wupatki 119.65 70 IAMs_20 IAMs_20 07 00 07.4
comp=Z,718nm,20.0s
TEIG Tepich 119.68 99 IAMs_20 IAMs_20 07 03 31.5
comp=Z,488nm,19.0s
UZB Uzynbulak 119.83 304 *e*PKIKP **PKPdf 06 19 20.5 -0.2**
UZB Uzynbulak 119.83 304 *e*PKP **PKPdf 06 19 20.5 -0.2**
SATY Saty 120.04 304 *e*PKIKP **PKPdf 06 19 20.9 -0.2**
SATY *e* 06 20 45.2
SATY Saty 120.04 304 *e*PKP **PKPdf 06 19 20.1 -1.0**
SATY *e*PP **PP 06 20 45.2 -1.6**
ZHN Zhinishke 120.11 304 *e*PKIKP **PKPdf 06 19 20.9 -0.3**
ZHN Zhinishke 120.11 304 *e*PKP **PKPdf 06 19 20.9 -0.3**
SII Sitkinak Islan 120.23 28 P **PKiKP 06 19 21.6 +0.7**
baz=208
KPKS Kokpek 120.24 304 *e*PKIKP **PKPdf 06 19 21.2 -0.2**
KPKS Kokpek 120.24 304 *e*PKP **PKPdf 06 19 21.2 -0.2**
833A Chaparral WMA, 120.25 84 P **PKPdf 06 19 21.2 -0.6**
baz=217
R16K Pilot Point 120.30 26 P **PKiKP 06 19 21.4 +0.4**
baz=206
SEY Seymchan 120.33 357*c i*PKIKP **PKPdf 06 19 20.5 -0.3**
SEY pmax pmax
comp=Z,18nm,1.7s
TNSS Tian-Shan 120.68 303 *e*PKIKP **PKPdf 06 19 22.1 -0.6**
TNSS Tian-Shan 120.68 303 *e*PKP **PKPdf 06 19 22.2 -0.6**
PKCU Pink Cliffs 120.69 68 IAMs_20 IAMs_20 07 01 35.8
comp=Z,536nm,21.0s
MDOK Medeo 120.73 303 *e*PKIKP **PKPdf 06 19 22.2 -0.2**
MDOK Medeo 120.73 303 *e*PKP **PKPdf 06 19 22.3 -0.2**
PSUT Pine Spring 120.77 66 IAMs_20 IAMs_20 07 03 33.0
comp=Z,669nm,19.0s
ZSN Zaisan 120.78 311 *e*PKIKP **PKPdf 06 19 22.0 -0.2**
ZSN Zaisan 120.78 311 *e*PKP **PKPdf 06 19 22.1 -0.2**
SIMJ Simiganj 121.00 294 PKPdf **PKPdf 06 19 23.3 +0.1**
O14K Tigyukauivet M 121.01 23 P **PKiKP 06 19 23.0 +0.7**
baz=204
OHAK Old Harbor 121.05 29 P **PKiKP 06 19 22.9 +0.5**
baz=208
R18K Karluk 121.06 28 P **PKiKP 06 19 23.0 +0.5**
baz=208
M11K Mekoryuk 121.08 20 P **PKiKP 06 19 22.8 +0.4**
baz=202
O15K Ungalikthiuk R 121.25 24 P **PKiKP 06 19 23.0 +0.2**
baz=205
MK31 Makanchi Array 121.32 309*c i*PKIKP **PKPdf 06 19 21.3 -2.0**
MK31 *i* 06 19 22.4
MKAR Makanchi Array 121.32 309 PKPdf **PKPdf 06 19 22.4 -0.9**
MKAR Makanchi Array 121.32 309 PKP **PKPdf 06 19 22.6 -0.7**
comp=Z,7.5nm,1.0s,baz=116,slow=2.8,SNR=38
MKAR PP **PP 06 20 55.5 +0.2**
comp=Z,3.8nm,1.1s,baz=128,slow=7.9,SNR=5.6
MKAR Makanchi Array 121.32 309 PKIKP **PKPdf 06 19 22.4 -0.9**
YAK Yakutsk 121.33 345*c i*PKIKP **PKPdf 06 19 22.9 +0.2**
YAK pmax pmax
comp=Z,15nm,0.8s
RAYN Ar Rayn 121.41 265 PKPdf **PKPdf 06 19 23.9 -0.3**
RAYN Ar Rayn 121.41 265 PKIKP **PKPdf 06 19 23.9 -0.3**
AAK Ala-Archa 121.48 301 PKP **PKPdf 06 19 23.3 -0.7**
comp=Z,4.6nm,0.9s,baz=138,slow=3.8,SNR=7.4
Q16K King Salmon 121.51 26 P **PKPdf 06 19 23.4 +0.2**
baz=207
P16K Nushagak River 121.52 25 P **PKPdf 06 19 23.5 +0.3**
baz=206
N14K Kuskokwak Cree 121.53 23 P **PKPdf 06 19 23.5 +0.3**
baz=204
M13K Dall Lake 121.64 21 P **PKiKP 06 19 23.8 +0.3**
baz=203
ANMO Albuquerque 121.72 74 IAMs_20 IAMs_20 07 14 28.2
comp=Z,481nm,18.0s
ANMO Albuquerque 121.72 74 IAMs_20 IAMs_20 07 14 37.3
comp=Z,401nm,19.0s
ANMO Albuquerque 121.72 74 IAMs_20 IAMs_20 07 14 37.3
comp=Z,402nm,19.0s
KDAK Kodiak Island 121.73 29 P **PKPdf 06 19 23.8 +0.2**
baz=209
O16K Kokwok River B 122.01 25 P **PKPdf 06 19 24.2 +0.1**
baz=206
P17K Kvichak River 122.03 26 P **PKPdf 06 19 24.3 +0.1**
baz=207
N15K Kwethluk River 122.09 23 P **PKPdf 06 19 24.5 +0.2**
baz=205
M14K Bethel 122.23 22 P **PKiKP 06 19 25.0 +0.3**
baz=204
O17K Koliganek Bris 122.39 25 P **PKiKP 06 19 25.3 +0.2**
baz=207
HOOD Mount Hood Mea 122.41 56 IAMs_20 IAMs_20 07 03 23.9
comp=Z,454nm,21.0s
M15K Kasigluk River 122.44 23 P **PKiKP 06 19 25.4 +0.3**
baz=205
Q19K Cape Douglas, 122.47 27 P **PKPdf 06 19 25.1 0.0**
baz=209
P18K Big Mountain, 122.49 26 P **PKPdf 06 19 24.9 -0.2**
baz=208
Q20K Shuyak Island 122.50 28 P **PKPdf 06 19 25.0 -0.1**
baz=209
DUG Dugway, Tooele 122.57 65 IAMs_20 IAMs_20 07 06 30.5
comp=Z,606nm,19.0s
L14K Kuka Creek 122.63 21 P **PKPdf 06 19 25.3 +0.1**
baz=204
K13K Kusilvak Mount 122.80 20 P **PKPdf 06 19 25.9 +0.3**
baz=203
O18K Koktuh Hills 122.90 26 P **PKPdf 06 19 25.6 -0.3**
baz=208
N17K Nushagak Hills 123.05 25 P **PKPdf 06 19 26.4 +0.3**
baz=207
M16K Timber Creek 123.10 24 P **PKiKP 06 19 26.7 +0.2**
baz=206
435B Jarrell 123.15 84 P **PKPdf 06 19 26.7 -0.6**
baz=218
DZA Taraz 123.16 299 *e*PKIKP **PKPdf 06 19 26.9 -0.1**
DZA Taraz 123.16 299 *e*PKP **PKPdf 06 19 26.9 -0.1**
L15K Ungalak Mounta 123.17 22 P **PKiKP 06 19 26.8 +0.3**
baz=205
IUG Iuzhnay 123.20 297 *e*PKIKP **PKPdf 06 19 26.9 -0.3**
IUG *e* 06 21 06.9
IUG Iuzhnay 123.20 297 *e*PKP **PKPdf 06 19 26.1 -1.1**
IUG *e*PP **PP 06 21 07.0 -1.3**
P19K Oil Pt 123.20 27 P **PKPdf 06 19 26.7 +0.2**
baz=209
GAMB Gambell 123.36 16 P **PKiKP 06 19 27.0 +0.2**
baz=199
P18A Preston Nutter 123.40 68 IAMs_20 IAMs_20 07 04 49.6
comp=Z,598nm,20.0s
N18K Kilae Creek 123.48 25 P **PKiKP 06 19 27.4 +0.1**
baz=208
BTLS Baital 123.55 302 *e*PKIKP **PKPdf 06 19 27.6 0.0**
BTLS Baital 123.55 302 *e*PKP **PKPdf 06 19 27.6 0.0**
L16K Owhat River 123.61 23 P **PKiKP 06 19 27.5 +0.1**
baz=206
S22A 4UR Ranch, Cre 123.68 71 P **PKPdf 06 19 27.8 -0.8**
baz=220
KKAR Karatay Array 123.71 298 PKPdf **PKPdf 06 19 27.4 -0.6**
KKAR Karatay Array 123.71 298 PKIKP **PKPdf 06 19 27.4 -0.6**
K15K Wolf Creek Mou 123.72 22 P **PKPdf 06 19 27.6 +0.3**
baz=205
O20K Slope Mountain 123.73 27 P **PKPdf 06 19 27.8 +0.2**
baz=210
J14K Nanvaranak Lak 123.75 20 P **PKPdf 06 19 27.6 +0.3**
baz=204
M17K Holitna River 123.77 24 P **PKPdf 06 19 27.8 +0.4**
baz=207
BRSE Bradley Lake S 123.91 29 P **PKPdf 06 19 28.2 +0.4**
baz=210
N19K Bonanza Creek 123.92 26 P **PKPdf 06 19 28.2 +0.3**
baz=209
BRLS Borolday 123.97 298 *e*PKIKP **PKPdf 06 19 28.1 -0.4**
BRLS *e* 06 21 11.3
BRLS Borolday 123.97 298 *e*PKP **PKPdf 06 19 28.2 -0.4**
BRLS *e*PP **PP 06 21 11.4 -2.0**
M18K Stony River 124.21 25 P **PKiKP 06 19 28.9 +0.3**
baz=208
L17K Donlin 124.24 23 P **PKiKP 06 19 28.9 +0.3**
baz=207
T25A Trinidad 124.46 74 P **PKPdf 06 19 29.3 -0.6**
baz=220
SEW Seward 124.55 29 P **PKiKP 06 19 29.6 +0.3**
baz=211
SOR Soroa 124.57 102 IAMs_20 IAMs_20 07 03 45.9
comp=Z,423nm,21.0s
L18K Granite Mounta 124.67 24 P **PKiKP 06 19 29.7 +0.3**
baz=208
K17K Iditarod 124.76 23 P **PKiKP 06 19 29.9 +0.2**
baz=207
SPCR Spurr Chakacha 124.81 27 P **PKPdf 06 19 29.9 +0.3**
baz=210
J16K Anvik River 124.81 21 P **PKiKP 06 19 30.0 +0.3**
baz=206
O22K Cooper Landing 124.81 29 P **PKPdf 06 19 29.8 +0.4**
baz=211
Q23K Middleton Isla 124.81 31 P **PKiKP 06 19 29.9 +0.1**
baz=213
FW06 Azle 124.87 82 IAMs_20 IAMs_20 07 06 18.7
comp=Z,458nm,20.0s
M19K Big River Lodg 124.90 25 P **PKiKP 06 19 30.1 +0.1**
baz=209
P23K Montague Islan 125.01 30 P **PKPdf 06 19 30.3 +0.4**
baz=212
L19K White Mountain 125.04 25 P **PKiKP 06 19 30.4 +0.1**
baz=209
ANM Nome 125.10 18 P **PKiKP 06 19 30.7 +0.4**
baz=203
M20K Styx River 125.18 26 P **PKiKP 06 19 30.9 +0.2**
baz=210
J17K VABM Dome 125.21 22 P **PKiKP 06 19 31.1 +0.5**
baz=207
RC01 Rabbit Creek A 125.32 28 P **PKPdf 06 19 30.5 +0.1**
baz=212,SNR=12
I17K Unalakleet 125.33 21 P **PKiKP 06 19 31.1 +0.4**
baz=206
AHID Auburn Hatcher 125.36 65 IAMs_20 IAMs_20 07 05 17.3
comp=Z,613nm,20.0s
TTA Tatalina 125.44 24 P **PKiKP 06 19 31.2 +0.1**
baz=208
Q24A Divide 125.46 72 P **PKPdf 06 19 31.1 -0.8**
baz=221
PWL Port Wells 125.49 29 P **PKPdf 06 19 31.1 +0.3**
baz=212
L20K Farewell, AK 125.52 25 P **PKPdf 06 19 31.3 +0.4**
baz=210
BILL Bilibino 125.55 4 PKPdf **PKPdf 06 19 30.5 -0.2**
BILL Bilibino 125.55 4*c i*PKIKP **PKPdf 06 19 31.1 +0.4**
BILL pmax pmax
comp=Z,21nm,1.7s
WMOK Wichita Mounta 125.57 80 **PKPdf 06 19 31.9 0.0**
WMOK Wichita Mounta 125.57 80 PKIKP **PKPdf 06 19 31.9 0.0**
TNA Tin City 125.61 17 P **PKiKP 06 19 31.6 +0.4**
baz=202
SKT Skwentna 125.64 27 P **PKiKP 06 19 31.7 +0.2**
baz=211
H16K Elim 125.72 20 P **PKiKP 06 19 31.7 +0.2**
baz=205,SNR=5.8
G15K Niukluk 125.72 19 P **PKiKP 06 19 31.6 +0.1**
baz=204
J18K Innoko River 125.76 23 P **PKiKP 06 19 31.8 +0.2**
baz=208
KAIM Kayak Island 125.77 32 P **PKiKP 06 19 31.9 +0.1**
baz=214
F14K Arctic Creek 125.78 18 P **PKiKP 06 19 31.8 +0.2**
baz=203
M22K Willow 125.80 28 P **PKPdf 06 19 31.5 +0.2**
baz=212
GLI Glacier Island 125.83 30 P **PKPdf 06 19 31.6 +0.1**
baz=213
ISCO Idaho Springs 125.86 71 IAMs_20 IAMs_20 07 05 11.7
comp=Z,531nm,20.0s
KURBB Kurchatov Arra 125.86 309 PKP **PKPdf 06 19 30.4 -1.4**
comp=Z,11nm,0.9s,baz=134,slow=1.5,SNR=84
KURBB PP **PP 06 21 26.5 +0.7**
comp=Z,1.7nm,1.1s,baz=156,slow=6.3,SNR=7.3
KURK Kurchatov 125.89 310 PKPdf **PKPdf 06 19 31.1 -0.8**
KURK Kurchatov 125.89 310*c i*PKIKP **PKPdf 06 19 31.0 -0.8**
KURK pmax pmax
comp=Z,28nm,1.3s
PMR Palmer 125.91 28 P **PKPdf 06 19 31.6 +0.1**
baz=212,SNR=15
EYAK Cordova Ski Ar 125.92 31 P **PKPdf 06 19 32.0 +0.4**
baz=214
ZALV Zalesovo Beam 125.92 316 PKPdf **PKPdf 06 19 30.0 -1.8**
ZALV Zalesovo Beam 125.92 316 PKP **PKPdf 06 19 30.5 -1.4**
comp=Z,2.2nm,0.7s,baz=146,slow=2.9,SNR=12
KNK Knik Glacier 125.93 29 P **PKPdf 06 19 32.0 +0.3**
baz=212,SNR=8.0
FXWY Fox Creek 126.05 64 IAMs_20 IAMs_20 07 05 27.6
comp=Z,699nm,20.0s
GHO Glory Hole Cre 126.11 28 IAMs_20 IAMs_20 06 57 33.6
comp=Z,344nm,19.0s
PDAR Pinedale Array 126.11 66 PKPdf **PKPdf 06 19 32.5 -0.4**
PDAR Pinedale Array 126.11 66 PKP **PKPdf 06 19 31.9 -1.0**
comp=Z,5.8nm,1.1s,baz=221,slow=3.4,SNR=26
V35K Ketchikan 126.18 42 P **PKPdf 06 19 32.7 +0.4**
baz=219
K20K Telida 126.25 25 P **PKPdf 06 19 32.6 +0.4**
baz=210
SIT Sitka 126.25 39 P **PKPdf 06 19 32.5 +0.2**
baz=218
BGLC Bering Glacier 126.25 32 P **PKiKP 06 19 32.8 +0.1**
baz=215
U33K Whale Pass 126.26 40 P **PKPdf 06 19 32.6 +0.3**
baz=219
F15K North Star Dit 126.27 18 P **PKiKP 06 19 32.7 +0.1**
baz=204
PPLA Purkeypile 126.28 26 P **PKPdf 06 19 32.1 -0.4**
baz=211
SML Sawmill 126.29 28 P **PKPdf 06 19 32.4 0.0**
baz=213,SNR=8.0
CUT Chulitna 126.31 27 P **PKPdf 06 19 32.3 0.0**
baz=212,SNR=6.5
G16K Koyuk River 126.39 20 P **PKiKP 06 19 32.8 0.0**
baz=205
H17K Granite Mounta 126.43 21 P **PKiKP 06 19 33.1 +0.1**
baz=207
M23K Glacier View 126.44 29 P **PKPdf 06 19 32.7 +0.1**
baz=213,SNR=14
J19K Poorman 126.46 23 P **PKiKP 06 19 33.3 +0.2**
baz=209
N23A Red Feather La 126.51 70 P **PKPdf 06 19 33.1 -0.7**
baz=222
SCM Sheep Creek Mo 126.57 29 P **PKPdf 06 19 33.3 +0.4**
baz=213
BMRM Bremner River 126.58 31 P **PKPdf 06 19 33.0 +0.1**
baz=214,SNR=9.4
KLU Klutina 126.66 30 P **PKPdf 06 19 33.5 +0.4**
baz=214,SNR=8.8
S31K Pelican 126.67 37 P **PKPdf 06 19 33.3 +0.2**
baz=218
MESA MESA 126.69 33 P **PKPdf 06 19 33.7 +0.3**
baz=216
CAST Castle Rocks 126.75 26 P **PKPdf 06 19 33.4 +0.2**
baz=211,SNR=6.9
WRAK Wrangell Islan 126.77 41 P **PKPdf 06 19 33.5 +0.2**
baz=219
S32K Killisnoo 126.83 39 P **PKPdf 06 19 33.7 +0.3**
baz=218
YMR Madison River 126.85 63 IAMs_20 IAMs_20 07 09 18.6
comp=Z,474nm,19.0s
GCSA Galena City Sc 126.86 22 P **PKPdf 06 19 33.7 +0.5**
baz=209
H18K Honhosa River 126.92 22 P **PKiKP 06 19 33.9 0.0**
baz=208
J20K Nowinta River 126.94 24 P **PKiKP 06 19 34.1 +0.1**
baz=210
OK029 Liberty Lake 127.08 80 IAMs_20 IAMs_20 07 08 44.3
comp=Z,542nm,19.0s
CHUM Lake Minchumin 127.10 25 P **PKPdf 06 19 33.6 -0.1**
baz=211,SNR=9.1
M24K Tolsona, Glenn 127.10 29 P **PKPdf 06 19 34.2 +0.3**
baz=214,SNR=8.5
N25K Chitina, Valde 127.11 30 P **PKPdf 06 19 34.4 +0.4**
baz=215,SNR=13
R31K City Hall, Gus 127.19 37 P **PKPdf 06 19 34.2 +0.1**
baz=218
TRF Thorofare Moun 127.20 26 P **PKPdf 06 19 34.0 -0.2**
baz=212,SNR=15
I20K Naaghedeneel 127.41 24 P **PKiKP 06 19 34.9 0.0**
baz=210
R32K Eaglecrest 127.48 38 P **PKPdf 06 19 35.2 +0.5**
baz=219
RND Reindeer 127.51 27 PKPdf **PKPdf 06 19 34.2 -0.5**
RND Reindeer 127.51 27 PKIKP **PKPdf 06 19 34.2 -0.5**
OK031 S. Brethren Rd 127.52 80 IAMs_20 IAMs_20 07 04 59.1
comp=Z,458nm,20.0s
G18K Tagagawik 127.53 21 P **PKiKP 06 19 35.2 +0.1**
baz=208
F17K Baldwin Pennin 127.53 19 P **PKiKP 06 19 35.2 +0.2**
baz=206,SNR=5.7
YNE Yellowstone No 127.56 63 IAMs_20 IAMs_20 07 07 37.4
comp=Z,607nm,20.0s
OK052 Battle Ridge R 127.57 80 **PKPdf 06 19 35.8 +0.2**
OK052 IAMs_20 IAMs_20 07 07 49.4
comp=Z,674nm,21.0s
BPAW Bear Paw Mtn. 127.59 26 P **PKPdf 06 19 34.5 -0.3**
baz=212,SNR=14
HARP HAARP 127.61 30 P **PKPdf 06 19 35.2 +0.4**
baz=215,SNR=6.7
H19K Roundabout Mou 127.64 22 P **PKiKP 06 19 35.6 +0.3**
baz=209
O28M Mount Upton 127.68 33 P **PKPdf 06 19 35.7 +0.3**
baz=217
MCK McKinley 127.77 27 P **PKPdf 06 19 34.9 -0.2**
baz=213,SNR=21
O29M Mount Kennedy 127.79 34 P **PKPdf 06 19 35.5 +0.1**
baz=218
PLBC Pleasant Camp 127.81 36 P **PKPdf 06 19 35.5 +0.2**
baz=218
BRZS Berezniki 127.88 305 *e*PKIKP **PKPdf 06 19 35.5 -0.2**
BRZS Berezniki 127.88 305 *e*PKP **PKPdf 06 19 35.6 -0.2**
H20K Anotleneega Mo 127.93 23 P **PKiKP 06 19 36.2 +0.3**
baz=210
T35M Bob Quinn 127.95 41 P **PKPdf 06 19 36.1 +0.4**
baz=220

F18K	Selawik	127.96	20	P		PKiKP	06 19 36.0	+0.1
	baz=208							
RLMT	Red Lodge	128.00	64	IAMs_20	IAMs_20		07 17 37.1	
	comp=Z,701nm,21.0s							
PAX	Paxson	128.00	29	P		PKPdf	06 19 35.9	+0.3
	baz=215							
E17K	Hotham Inlet	128.01	19	P		PKiKP	06 19 36.0	0.0
	baz=206							
G19K	Purcell Mounta	128.05	21	P		PKiKP	06 19 36.3	+0.2
	baz=209							
SKAG	Skagway	128.14	37	P		PKPdf	06 19 36.4	+0.6
	baz=219							
P30M	Million Dollar	128.14	35	P		PKPdf	06 19 36.4	+0.4
	baz=218							
M26K	Nabesna, AK	128.20	31	P		PKPdf	06 19 36.5	+0.5
	baz=216							
YUK8	Steele Glacier	128.22	33	P		PKPdf	06 19 36.7	+0.3
	baz=217,SNR=8.4							
I21K	Tanana	128.28	24	P		PKiKP	06 19 36.7	+0.1
	baz=212							
S34M	Telegraph Cree	128.35	40	P		PKiKP	06 19 37.0	0.0
	baz=220							
D17K	Noatak River	128.35	18	P		PKiKP	06 19 37.0	+0.4
	baz=206							
YUK6	Outpost Mounta	128.36	34	P		PKPdf	06 19 36.6	0.0
	baz=218							
NEA2	Nenana	128.46	26	P		PKPdf	06 19 36.2	-0.1
	baz=213,SNR=7.2							
M27K	Edge Creek, AK	128.47	31	P		PKPdf	06 19 36.9	+0.2
	baz=217							
H21K	Melozitna Rive	128.51	24	P		PKiKP	06 19 37.3	+0.2
	baz=212							
C16K	Lisburne Hills	128.51	17	P		PKPdf	06 19 36.9	+0.5
	baz=204							
F19K	Shaleruckik Mo	128.52	21	P		PKiKP	06 19 37.3	+0.2
	baz=209							
E18K	Tukpahlearik C	128.53	19	P		PKiKP	06 19 37.2	+0.2
	baz=207							
HYT	Haines Junctio	128.53	35	P		PKPdf	06 19 37.0	+0.2
	baz=218							
YUK4	Talbot Arm	128.59	34	P		PKiKP	06 19 37.7	+0.1
	baz=218							
K24K	Donnelly Dome	128.61	28	P		PKPdf	06 19 37.1	+0.4
	baz=215,SNR=9.2							
L26K	Log Cabin Wild	128.61	30	P		PKiKP	06 19 37.7	+0.3
	baz=216							
RDOG	Red Dog Mine	128.70	18	P		PKiKP	06 19 37.5	+0.1
	baz=206							
OBIP	Obispado Ponce	128.72	122	IAMs_20	IAMs_20		07 04 39.3	
	comp=Z,485nm,20.0s							
Q32M	Nakina River	128.76	39	P		PKPdf	06 19 37.8	+0.4
	baz=220							
P32M	Atlin	128.76	37	P		PKiKP	06 19 37.9	0.0
	baz=220							
RIDG	Independent Ri	128.80	29	P		PKPdf	06 19 37.7	+0.6
	baz=216,SNR=17							
HDA	Harding Lake	128.82	27	P		PKPdf	06 19 37.2	+0.1
	baz=215,SNR=12							
I23K	Minto, Yukon-K	128.85	26	P		PKPdf	06 19 37.6	+0.6
	baz=214							
O30N	Mendenhall	128.92	35	P		PKPdf	06 19 37.8	+0.4
	baz=219							
COLA	College	128.98	27			PKPdf	06 19 37.3	0.0
COLA	College	128.98	27	P		PKPdf	06 19 37.3	0.0
	baz=214							
COLA	College	128.98	27	PKIKP		PKPdf	06 19 37.3	0.0
H22K	Ishtalitna Cre	129.03	24	P		PKPdf	06 19 37.9	+0.4
	baz=212							
C17K	DeLong Mountai	129.04	17	P		PKPdf	06 19 37.9	+0.5
	baz=206							
L27K	Beaver Creek,	129.05	31	P		PKPdf	06 19 37.9	+0.3
	baz=217							
BCAR	Beaver Creek A	129.07	31	PKPdf		PKPdf	06 19 37.6	-0.1
F20K	Avaraart Lake	129.11	22	P		PKPdf	06 19 38.0	+0.5
	baz=210							
DLBC	Dease Lake	129.13	40	P		PKPdf	06 19 38.0	0.0
	baz=221							
ILAR	Eielson Array	129.13	27	PKPdf		PKPdf	06 19 36.6	-1.1
ILAR	Eielson Array	129.13	27	PKP		PKPdf	06 19 37.0	-0.6
	comp=Z,12nm,1.0s,baz=274,slow=2.7,SNR=50							
ILAR				PP		PP	06 21 47.1	-0.1
	comp=Z,0.5nm,1.0s,baz=197,slow=5.4,SNR=1.3							
ILAR	Eielson Array	129.13	27	PKIKP		PKPdf	06 19 36.6	-1.1
E19K	Redstone River	129.17	21	P		PKPdf	06 19 38.1	+0.4
	baz=209,SNR=9.4							
SCRK	Sand Creek	129.21	29	P		PKPdf	06 19 38.5	+0.5
	baz=216,SNR=21							
WHY	Whitehorse	129.21	36	P		PKPdf	06 19 38.3	+0.2
	baz=220							
J25K	Salcha River,	129.38	28	P		PKPdf	06 19 38.8	+0.6
	baz=216							
M29M	Somme Creek	129.51	33	P		PKPdf	06 19 39.1	+0.6
	baz=219							
C18K	Utukok River	129.52	18	P		PKPdf	06 19 38.8	+0.5
	baz=207							
R33M	Jennings River	129.53	39	P		PKiKP	06 19 39.5	0.0
	baz=221							
P33M	Teslin, Yukon	129.53	37	P		PKiKP	06 19 39.3	-0.1
	baz=221							
N31M	Braeburn, Yuko	129.57	35	P		PKPdf	06 19 39.2	+0.5
	baz=220							
F21K	Alatna River	129.71	22	P		PKiKP	06 19 39.5	0.0
	baz=212							
J26L	Joseph Creek	129.75	29	P		PKiKP	06 19 39.7	0.0
	baz=217							
H24K	Noodor Dome	129.77	26	P		PKiKP	06 19 39.6	-0.1
	baz=215							
RSSD	Black Hills	129.84	68	PKPdf		PKPdf	06 19 40.2	+0.3
RSSD	Black Hills	129.84	68	PKIKP		PKPdf	06 19 40.2	+0.3
D19K	Kuna River	129.92	20	P		PKiKP	06 19 39.7	-0.1
	baz=209,SNR=5.7							
KSU1	Kansas State U	129.99	78	IAMs_20	IAMs_20		07 16 42.4	
	comp=Z,566nm,19.0s							
G23K	Bananza Creek	130.01	24	P		PKPdf	06 19 39.9	+0.6
	baz=214,SNR=7.5							
B18K	Kokolik River	130.06	18	P		PKiKP	06 19 39.9	-0.1
	baz=207							
E20K	Nigu River	130.07	21	P		PKiKP	06 19 40.1	-0.2
	baz=210							
PRP	Porcupine Dome	130.07	27	P		PKPdf	06 19 40.2	+0.6
	baz=216							
M30M	Minto, Yukon	130.11	33	P		PKPdf	06 19 39.9	+0.3
	baz=220,SNR=5.5							
L29M	L29M	130.13	32	P		PKPdf	06 19 40.2	+0.6
	baz=219							
N32M	Quiet Lake	130.16	36	P		PKPdf	06 19 40.4	+0.6
	baz=221							
SMRT	St. Maarten	130.31	125	IAMs_20	IAMs_20		07 05 00.3	
	comp=Z,467nm,21.0s							
D20K	Etivluk River	130.38	20	P		PKiKP	06 19 40.8	0.0
	baz=210							
COLD	Coldfoot	130.41	24	P		PKiKP	06 19 41.2	+0.3
	baz=214,SNR=8.9							
I26K	Coal Creek Min	130.50	28	P		PKiKP	06 19 40.9	-0.2
	baz=217							
DAWY	Dawson	130.52	31	P		PKPdf	06 19 40.8	+0.5
	baz=219,SNR=9.1							
M31M	Drury Creek, Y	130.55	35	P		PKPdf	06 19 40.9	+0.4
	baz=221							
G24K	Hadweenzic Riv	130.58	25	P		PKiKP	06 19 41.2	0.0
	baz=215							
TIXI	Tiksi	130.60	348	PKPdf		PKPdf	06 19 38.8	-1.4
TIXI	Tiksi	130.60	348	*c i* PKIKP		PKPdf	06 19 39.2	-1.0
TIXI				*i*			06 19 39.7	
TIXI				pmax		pmax		
	comp=Z,24nm,1.3s							
H25L	Birch Creek	130.61	26	P		PKiKP	06 19 41.2	0.0
	baz=216							
E21K	Killik River	130.65	21	P		PKiKP	06 19 41.2	-0.2
	baz=212							
WTLY	Watson Lake, Y	130.80	39	P		PKPdf	06 19 41.6	+0.6
	baz=223,SNR=5.9							
E22K	Anaktuvuk Pass	130.82	22	P		PKiKP	06 19 41.5	-0.2
	baz=213,SNR=10							
K29M	Barlow Dome	130.87	32	P		PKPdf	06 19 41.6	+0.4
	baz=220							
FARO	Faro, Yukon	130.89	35	P		PKPdf	06 19 41.5	+0.4
	baz=222,SNR=13							
A19K	Wainwright	130.93	17	P		PKiKP	06 19 41.8	0.0
	baz=208							
G25K	Bearman Lake	130.95	26	P		PKiKP	06 19 41.9	0.0
	baz=216							
K30B	Basset	131.03	73	IAMs_20	IAMs_20		07 18 48.8	
	comp=Z,504nm,19.0s							
BVAR	Borovoye Array	131.06	307	PKP		PKPdf	06 19 41.6	0.0
	comp=Z,9.6nm,0.9s,baz=146,slow=2.9,SNR=29							
BVAR				PP		PP	06 21 59.3	-0.6
	comp=Z,1.2nm,0.9s,baz=159,slow=5.6,SNR=2.3							
C21K	Knifeblade Rid	131.11	21	P		PKiKP	06 19 42.2	0.0
	baz=212							
I27K	Kandik River	131.13	29	P		PKPdf	06 19 42.2	+0.7
	baz=218							
BRVK	Borovoye	131.13	307	PKPdf		PKPdf	06 19 41.7	-0.1
BRVK	Borovoye	131.13	307	*c i* PKIKP		PKPdf	06 19 40.5	-1.3
BRVK				*i*			06 19 41.8	
BRVK				pmax		pmax		
	comp=Z,21nm,1.3s							
TOAD	Toad River Com	131.13	42	P		PKPdf	06 19 42.2	+0.6
	baz=224,SNR=8.9							
J29N	Klondike Camp	131.14	31	P		PKPdf	06 19 42.2	+0.6
	baz=220,SNR=9.4							
MAYO	Mayo, Yukon	131.15	33	P		PKiKP	06 19 42.4	0.0
	baz=221							
F24K	Squaw Lake	131.15	25	P		PKiKP	06 19 42.5	+0.1
	baz=216,SNR=7.9							
E23K	Chandalar	131.22	23	P		PKiKP	06 19 42.5	0.0
	baz=215							
D22K	Ayikyak River	131.28	22	P		PKiKP	06 19 42.4	-0.2
	baz=213							
I28M	Miner Creek	131.45	30	P		PKPdf	06 19 42.6	+0.5
	baz=220							
E24K	Your Creek	131.48	24	P		PKiKP	06 19 43.0	0.0
	baz=215							
B21K	Ikpikpuk River	131.53	20	P		PKiKP	06 19 43.0	-0.1
	baz=212							
H27K	Steamboat Moun	131.64	28	P		PKPdf	06 19 43.2	+0.7
	baz=219							
G26K	Porcupine Rive	131.65	27	P		PKiKP	06 19 43.2	-0.1
	baz=218							
TOLK	Toolik Lake Re	131.71	23	P		PKiKP	06 19 43.5	0.0
	baz=215,SNR=6.9							
F25K	Christian Rive	131.72	25	P		PKiKP	06 19 43.5	-0.1
	baz=217							
D23K	Nanushuk River	131.75	22	P		PKiKP	06 19 43.5	0.0
	baz=214							
J30M	Hart River	131.77	32	P		PKiKP	06 19 43.6	-0.2
	baz=221							
I29M	Ogilvie Camp,	131.82	30	P		PKiKP	06 19 43.6	-0.2
	baz=220,SNR=5.2							
BMAR	Burnt Mountain	131.84	26	PKPdf		PKPdf	06 19 43.4	+0.7
TORD	Torodi Ar. Bea	131.99	212	PKPdf		PKPdf	06 19 43.1	-1.5
TORD	Torodi Ar. Bea	131.99	212	PKP		PKPdf	06 19 43.3	-1.3
	comp=Z,58nm,0.3s,baz=108,slow=1.1,SNR=2.4							
TGTN	Hyland Airport	132.00	38	P		PKiKP	06 19 44.1	-0.2
	baz=224							
G27K	Doyon Strip	132.06	28	P		PKiKP	06 19 44.1	-0.1
	baz=219							
F26K	Sheenjek River	132.15	26	P		PKiKP	06 19 44.3	-0.1
	baz=218							
E25K	Arctic Village	132.16	25	P		PKiKP	06 19 44.2	-0.2
	baz=217,SNR=6.0							
I30M	Mount Dempster	132.24	31	P		PKPdf	06 19 44.5	+0.8
	baz=222							
D24K	Happy Valley	132.29	23	P		PKiKP	06 19 44.6	+0.1
	baz=216							
KOTAN	Kotaneelee Air	132.47	42	P		PKPdf	06 19 44.9	+0.8
	baz=226							
C23K	Itkillik River	132.48	22	P		PKiKP	06 19 45.0	+0.1
	baz=215							
A21K	Barrow	132.63	18	P		PKiKP	06 19 44.9	-0.3
	baz=212							
C24K	Franklin Bluff	132.77	22	P		PKiKP	06 19 45.3	-0.2
	baz=216							
SIUC	Southern Illin	132.90	85	IAMs_20	IAMs_20		07 23 23.5	
	comp=Z,406nm,20.0s							
D25K	Kavik River	132.94	24	P		PKPdf	06 19 45.4	+0.6
	baz=218							
G29M	Pine Creek	133.07	29	P		PKPdf	06 19 45.8	+0.7
	baz=222							
F28M	Old Crow	133.13	28	P		PKPdf	06 19 45.9	+0.7
	baz=221,SNR=9.9							
ABKAR	Akbulak array	133.21	297	PKPdf		PKPdf	06 19 45.4	-0.5
H31M	Peel River	133.25	32	P		PKPdf	06 19 45.9	+0.5
	baz=223							
G30M	tAoh Zraii Nji	133.60	30	P		PKPdf	06 19 47.0	+0.9
	baz=223							
C26K	Camden Bay	133.73	24	P		PKiKP	06 19 47.2	-0.3
	baz=219							
C27K	Jago River	133.77	24	P		PKPdf	06 19 47.1	+0.8
	baz=220							
D27M	Malcolm River	134.10	26	P		PKPdf	06 19 47.7	+0.7
	baz=221							
F30M	Barrier River	134.17	29	P		PKiKP	06 19 48.2	-0.3
	baz=224							
E29M	Blow River	134.20	28	P		PKiKP	06 19 48.2	-0.3
	baz=223							
OLIL	Olney	134.25	85	IAMs_20	IAMs_20		07 22 29.1	
	comp=Z,412nm,19.0s							
F31M	Tsiigehtchic	134.60	30	P		PKiKP	06 19 48.9	-0.4
	baz=225							
GNI	Garni	134.62	278	PKP		PKPdf	06 19 48.3	-0.7
	comp=Z,4.8nm,0.6s,baz=327,slow=6.3,SNR=4.6							
GNI				SKPab		SKiKP	06 23 22.7	-1.5
	comp=Z,1.8nm,0.3s,baz=322,slow=23,SNR=3.2							
D28M	Stokes Point	134.69	27	P		PKiKP	06 19 49.6	+0.1
	baz=223							
WRGLY	Wrigley	134.81	39	P		PKiKP	06 19 50.0	+0.1
	baz=228							
WCI	Wyandotte Cave	134.84	87	PKPdf		PKPdf	06 19 48.4	-0.9
WCI	Wyandotte Cave	134.84	87	PKIKP		PKPdf	06 19 48.4	-0.9
GURO	Guroymak-BITLI	134.91	274	PKPdf		PKPdf	06 19 50.3	+0.7
AKTO	Aktyubinsk	134.93	297	PKP		PKPdf	06 19 47.9	-1.2
	comp=Z,1.2nm,0.4s,baz=157,slow=4.4,SNR=5.5							
MAK	Makhachkala	135.15	282	*i* P		Pdif	06 16 45.3	-6.6
MAK				*e*			06 26 56.1	
MAK				*e*SSS		SSS	06 45 17.2	
MAK				pmax		pmax		
	comp=Z,157nm,1.3s							
MAK				MLR		MLR		
	comp=Z,162nm,16.0s							
INK	Inuvik	135.27	29	P		PKiKP	06 19 50.4	-0.2
	baz=226							
NRIK	Noril'sk	136.35	331	PKP		PKPdf	06 19 50.8	-0.3
	comp=Z,9.3nm,1.0s,baz=100,slow=1.6,SNR=9.7							
NRIK	Noril'sk	136.35	331	*c i* PKIKP		PKPdf	06 19 50.4	-0.7
NRIK				*i*			06 19 51.1	
L44A	Lake County Fo	136.80	82	P		PKPdf	06 19 53.6	+0.8
	baz=226							
YKA	Yellowknife Ar	137.46	43	PKhKP		PKPpre	06 19 41.5	
	comp=Z,2.0nm,0.9s,baz=233,slow=3.6,SNR=24							
YKA				PKP		PKPdf	06 19 54.0	+0.6
	comp=Z,3.7nm,0.9s,baz=220,slow=1.6,SNR=16							
YKA				PP		PP	06 22 42.1	+1.7
	comp=Z,0.6nm,1.0s,baz=236,slow=6.6,SNR=4.3							
YKA				SKPbc		SKPbc	06 23 25.7	+1.2
	comp=Z,0.2nm,0.7s,baz=244,slow=2.2,SNR=2.2							
YKA	Yellowknife Ar	137.46	43	PKIKP		PKPdf	06 19 54.0	+0.6
G40A	Rib Lake	137.71	77	IAMs_20	IAMs_20		07 16 15.7	
	comp=Z,354nm,18.0s							
SVE	Sverdlovsk	137.80	306	*e*PKIKP		PKPdf	06 19 54.7	+0.6
SVE				pmax		pmax		
	comp=Z,20nm,1.3s							
ULM	Lac du Bonnet	138.08	67	PKP		PKPdf	06 19 54.6	-0.2
	comp=Z,2.5nm,0.8s,baz=231,slow=6.1,SNR=4.3							
KBZ	Khabaz	138.11	280	PKhKP		PKPpre	06 19 48.0	
	comp=Z,1.7nm,0.9s,baz=34,slow=5.6,SNR=2.6							
KBZ				PKP		PKPdf	06 19 54.7	-0.5
	comp=Z,5.3nm,0.9s,baz=154,slow=1.6,SNR=8.6							
KBZ				PP		PP	06 22 44.1	-0.5
	comp=Z,3.1nm,1.0s,baz=12,slow=6.5,SNR=4.3							
KBZ	Khabaz	138.11	280	*c i* PKIKP		PKPdf	06 19 54.6	-0.5
KBZ				*i*			06 19 56.1	
KIV	Kislovodsk	138.37	280	⇑P		PKPdf	06 19 56.1	+0.3
KIV	Kislovodsk	138.37	280	*i* PKIKP		PKPdf	06 19 54.3	-1.5
KIV				*e*			06 22 42.1	
KIV				*e*SS		SS	06 40 53.9	-3.7
KIV				pmax		pmax		
	comp=Z,12nm,1.0s							
KIV	Kislovodsk	138.37	280	PKP		PKPdf	06 19 55.6	-0.2
ARTI	Arti	138.53	304	PKhKP		PKPpre	06 19 45.6	
	comp=Z,3.0nm,0.8s,baz=16,slow=4.7,SNR=4.8							
ARTI				PKP		PKPdf	06 19 55.7	+0.2
	comp=Z,8.0nm,0.8s,baz=148,slow=0.5,SNR=8.8							
ARTI	Arti	138.53	304	*i* PKIKP		PKPdf	06 19 54.6	-0.9
ARTI							06 22 43.3	
ARTI				SS		SS	06 41 02.1	+3.2
C36M	Paulatuk	138.54	32	P		PKiKP	06 19 56.6	-0.7
	baz=233							
KIRS	Kirsehir-Merke	139.69	268	⇑P		PKPdf	06 19 56.8	-1.5
SOC	Sochi	139.70	277	*e*PKIKP		PKPdf	06 19 55.7	-2.4
SOC				*e*			06 22 50.1	
SOC				*e*PPP		PPP	06 25 57.1	
SOC				*e*SSS		SSS	06 46 25.8	
SOC				MLR		MLR		
	comp=Z,87nm,14.0s							
A36M	Sachs Harbour	139.81	28	P		PKiKP	06 19 59.1	-0.7
	baz=234							
BRTR	Keskin Array B	140.27	268	PKP		PKPdf	06 19 59.0	-0.4
	comp=Z,2.7nm,1.0s,baz=147,slow=2.5,SNR=6.6							
BR105	Keskin Array S	140.27	268	PKP		PKPdf	06 19 59.3	-0.2
BELG	Belogornoye	141.22	293	PKhKP		PKPpre	06 19 53.6	
	comp=Z,22nm,1.0s,baz=87,slow=3.3,SNR=11							
CPNY	Central Park	143.31	95	IAMs_20	IAMs_20		07 23 36.1	
	comp=Z,529nm,21.0s							
VRH	Novokhopyorsk	143.48	288	*e*PKHKP		PKPpre	06 19 57.9	
VRH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KIRV	Kirov	143.78	303	PKP		PKPbc	06 20 02.6	+0.1
	comp=Z,16nm,0.8s,baz=133,slow=2.8,SNR=14							
VORD	Divnogorie	144.59	286	*e*PKHKP		PKPpre	06 20 01.9	
VORD				pmax		pmax		
	comp=Z,50nm,1.0s							
VSR	Storozhevoye	144.80	287	*e*PKHKP		PKPpre	06 20 01.9	
VSR				pmax		pmax		
	comp=Z,70nm,1.0s							
VORR	Voronezh	145.04	287	*e*PKIKP		PKPbc	06 20 06.2	-0.6
VORR				pmax		pmax		
	comp=Z,147nm,1.0s							
L61B	Northampton	145.15	94	P		PKPbc	06 20 07.7	+0.3
	baz=226							
M65A	Busby, Falmout	145.62	97	P		PKPab	06 20 09.9	+0.6
	baz=225							
LPSR	Galich'ya Gora	145.70	288	*e*PKIKP		PKPdf	06 20 08.3	-0.1
LPSR				pmax		pmax		
	comp=Z,420nm,1.0s							
HRV	Adam Dziewonsk	145.79	95			PKPdf	06 20 09.3	+0.4
HRV	Adam Dziewonsk	145.79	95	⇑PKP2		PKPdf	06 20 09.0	+0.1
TIRR	Tirgusor	146.34	269	⇓P		PKPbc	06 20 10.8	-0.3
TIRR	Tirgusor	146.34	269	⇓PKP2		PKPbc	06 20 10.8	-0.3
TIRR	Tirgusor	146.34	269	PKP		PKPdf	06 20 10.2	+0.5
NE56	Odesa	146.44	274	PKP		PKPdf	06 20 10.2	+0.4
TPGR	Topolog	146.60	270	⇑P		PKPbc	06 20 11.1	-0.7
TLCR		146.60	271	⇑P		PKPbc	06 20 11.4	-0.4
TLCR		146.60	271	⇑PKP2		PKPbc	06 20 11.4	-0.4
HARR	Harsova	146.76	269	⇑P		PKPbc	06 20 11.5	-0.7
HARR	Harsova	146.76	269	⇑PKP2		PKPbc	06 20 11.5	-0.7
PURM	Purcari	146.90	273	⇑P		PKPdf	06 20 11.5	+0.9
PURM	Purcari	146.90	273	PKP		PKPdf	06 20 11.0	+0.4
CFR	Carcaliu	146.96	270	⇑P		PKPdf	06 20 11.8	+1.0
CFR	Carcaliu	146.96	270	⇑PKP2		PKPdf	06 20 11.8	+1.0
SCHLR	Schela	147.32	270	⇑P		PKPbc	06 20 13.3	-0.5
I63A	Otisfield	147.37	93	IAMs_20	IAMs_20		07 30 19.5	
	comp=Z,422nm,19.0s							
VLDR	Vladesti	147.42	271	⇑P		PKPbc	06 20 14.2	+0.1
SULR		147.65	268	⇑P		PKPab	06 20 17.4	+0.4
MILM	Milestii Mici	147.71	273	*e*PKP		PKPdf	06 20 11.0	-0.9
	comp=Z,400nm,2.3s							
MILM	Milestii Mici	147.71	273	⇑P		PKPbc	06 20 14.3	-0.5
MILM	Milestii Mici	147.71	273	*e*PKIKP		PKPdf	06 20 11.0	-0.9
MILM				*e*			06 20 18.0	
MILM				pmax		pmax		
	comp=Z,400nm,2.3s							
KIS	Kishinev	147.75	273	*e*PKP		PKPbc	06 20 14.0	-0.9
	comp=Z,150nm,3.1s							
KIS	Kishinev	147.75	273	*e*PKP2		PKPbc	06 20 14.0	-0.9
KIS				pmax		pmax		
	comp=Z,150nm,3.1s							
ODBI	Odobesti	147.92	270	⇑P		PKPbc	06 20 16.4	+1.0
PANC	Panciu	147.94	270	⇑P		PKPab	06 20 18.9	+0.7
MOS	Moscow	147.98	293	*e*PKIKP		PKPdf	06 20 11.4	-0.7
MOS				pmax		pmax		
	comp=Z,176nm,1.5s							
OHR	Ohrid	148.10	258	*i* P		PKiKP	06 20 17.4	-0.5
NEHR	Nehoiu	148.12	269	⇓P		PKPbc	06 20 15.8	-0.3
VRI	Vrincioaia	148.16	270	⇑P		PKPbc	06 20 15.3	-0.8
VRI	Vrincioaia	148.16	270	⇑PKP2		PKPbc	06 20 15.3	-0.8
VLAD	Vladila	148.19	265	⇑P		PKPbc	06 20 16.0	-0.2
PLOR	Plostina	148.20	270	⇑P		PKPbc	06 20 15.5	-0.7
PLOR	Plostina	148.20	270	⇑PKP2		PKPbc	06 20 15.5	-0.7
OBN	Obninsk	148.20	291			PKPbc	06 20 16.6	+0.7
OBN	Obninsk	148.20	291	PKPbc		PKPdf	06 20 13.3	+0.9
	comp=Z,134nm,1.0s,baz=344,slow=1.2,SNR=38							
OBN	Obninsk	148.20	291	⇑P		PKPbc	06 20 16.1	+0.3
OBN	Obninsk	148.20	291	*i* PKIKP		PKPdf	06 20 11.9	-0.6
OBN				*i*			06 20 16.2	
OBN				*i*			06 23 43.0	
OBN				pmax		pmax		
	comp=Z,16nm,1.4s							
OBN				pmax		pmax		
	comp=Z,288nm,1.3s							
MLR	Muntele Rosu	148.34	269	PKPdf		PKPdf	06 20 12.8	-0.4
MLR	Muntele Rosu	148.34	269	PKPbc		PKPbc	06 20 15.6	-1.1
	comp=Z,29nm,1.0s,baz=38,slow=1.8,SNR=21							
MLR	Muntele Rosu	148.34	269	⇑P		PKPbc	06 20 15.8	-1.0
MLR	Muntele Rosu	148.34	269	PKIKP		PKPdf	06 20 12.8	-0.4
COVR	Voineasa-Covas	148.43	269	⇑P		PKPbc	06 20 16.2	-0.6
TESR	Tescani	148.62	271	⇑P		PKPbc	06 20 16.2	-1.0
SORM	Soroca	148.70	275	⇑P		PKPbc	06 20 16.4

MORH	Mrgy, Hungar	152.72 263	⇑P	PKPbc	06 20 25.7	-1.2
LVZ	Lovozero	153.06 316	⇑PKIKP	PKPbc	06 20 25.9	-1.2
AVE	Averroes	153.62 209	PKPab	PKPab	06 20 42.1	+0.1
NIE	Niedzica	153.77 270	*e*PKP	PKPbc	06 20 29.3	+0.1
SRO	Srobarova	153.90 266	*e*PKP2	PKPab	06 20 43.4	+0.6
SRO	Srobarova	153.90 266	*e*PKP	PKPab	06 20 43.4	+0.6
VYHS	Vyhne	154.02 267	*e*PKIKP	PKPbc	06 20 29.6	-0.2
VYHS			*e*		06 20 43.1	
VYHS	Vyhne	154.02 267	*e*PKP	PKPbc	06 20 29.6	-0.2
VYHS			*e*		06 20 43.1	
LANS	Liptovska Anna	154.07 269	*e*PKIKP	PKiKP	06 20 30.4	+0.5
LANS	Liptovska Anna	154.07 269	*e*PKP	PKiKP	06 20 30.4	+0.5
LANS			*e*		06 20 43.8	
OJC	Ojcow	154.49 271	*e*PKP	PKiKP	06 20 31.1	+0.4
OJC	Ojcow	154.49 271	PKPdf	PKPdf	06 20 21.7	-0.6
OJC			PKPbc	PKiKP	06 20 31.1	+0.4
OJC			PKPab	PKPab	06 20 43.1	-2.2
OJC	Ojcow	154.49 271	PKP2	PKPab	06 20 43.1	-2.2
OJC					07 20 21.7	
VSU	Vasula	154.51 293*c*	*i*PKIKP	PKiKP	06 20 30.7	+0.3
VSU			pmax	pmax		
	comp=Z,48nm,2.5s					
SUW	Suwalki	154.58 281	*e*PKP	PKPbc	06 20 30.6	-0.1
OSSC	Osservatorio P	154.76 250	IAMs_20	IAMs_20	07 33 50.8	
	comp=Z,489nm,21.0s					
MODS	Modra-Piesok	154.79 266	*e*PKIKP	PKiKP	06 20 31.8	+0.4
MODS			*e*		06 20 43.7	
MODS	Modra-Piesok	154.79 266	*e*PKP	PKiKP	06 20 31.8	+0.4
MODS			*e*		06 20 43.7	
PMAR	Madeira	154.79 191	*e*PKPab	PKPab	06 20 48.7	+1.5
JAVC	Velka Javorina	154.86 267	*e*PKP	PKPdf	06 20 22.9	0.0
RONA	Rosalia, Austr	154.91 263	*i* PKP	PKPab	06 20 47.0	-0.2
	comp=Z,16nm,1.0s,SNR=5.7					
SOKA	Soboth	154.94 260	*e*PKP	PKPbc	06 20 31.3	-0.5
	comp=Z,3.9nm,0.8s					
ARSA	Arzberg	155.04 262	*i* PKP	PKPab	06 20 47.9	+0.1
	comp=Z,19nm,1.0s					
OBKA	Obir	155.09 259	*e*PKP	PKPab	06 20 46.0	-2.1
	comp=Z,2.3nm,0.7s					
CONA	Conrad Observa	155.28 263	*i* PKP	PKPab	06 20 48.3	-0.6
	comp=Z,17nm,1.3s					
STEB	Steborice	155.42 269	*e*PKPAB	PKPab	06 20 48.3	-1.0
SCHQ	Schefferville	155.43 77	PKPbc	PKPdf	06 20 29.6	+6.2
	comp=Z,5.7nm,1.1s,baz=75,slow=2.4,SNR=3.8					
MORC	Moravsky Berou	155.46 269	PKPdf	PKPdf	06 20 22.9	-0.8
MORC	Moravsky Berou	155.46 269	*e*PKP	PKPdf	06 20 22.6	-1.1
MORC	Moravsky Berou	155.46 269	PKIKP	PKPdf	06 20 22.9	-0.8
FIA1	FINESS Array S	155.66 299	PKPab	PKPab	06 20 50.8	+0.8
FINES	FINESS Array B	155.66 299	PKP	PKPdf	06 20 21.9	-1.5
	comp=Z,1.5nm,0.8s,baz=180,slow=5.6,SNR=2.0					
FINES			PKPab	PKPab	06 20 49.9	-0.1
	comp=Z,8.5nm,0.9s,baz=64,slow=4.4,SNR=8.5					
KRUC	Moravsky	155.66 266	*e*PKP	PKPdf	06 20 22.9	-1.0
VRAC	Vranov	155.70 267	*e*PKP	PKPdf	06 20 23.1	-0.9
SPITS	Spitsbergen Ar	155.74 342	PKP	PKPdf	06 20 22.4	-0.8
	comp=Z,9.2nm,1.0s,baz=34,slow=48,SNR=2.1					
SPITS			PKPab	PKPab	06 20 49.3	-0.7
	comp=Z,26nm,1.0s,baz=82,slow=13,SNR=5.3					
TEOL	Teolo	155.83 254		PKPab	06 20 51.6	+0.4
NOR	Nord	155.89 358	*i* P	PKPab	06 20 48.4	-2.2
NOR			IAmb	IAmb	06 20 51.3	
	comp=Z,29nm,1.2s					
KRLC	Kraliky	156.03 268	*e*PKPAB	PKPab	06 20 47.4	-4.6
KRLC	Kraliky	156.03 268	*e*PKP2	PKPab	06 20 47.4	-4.6
MOA	Molln	156.08 262	*i* PKP	PKPab	06 20 51.7	-0.6
	comp=Z,15nm,1.1s					
KBA	Koelnbreinsper	156.09 259	*e*PKP	PKPab	06 20 50.6	-1.9
	comp=Z,3.9nm,0.8s					
CTI	Castel Tesino	156.31 255	PKPab	PKPab	06 20 53.8	+0.4
CTI	Castel Tesino	156.31 255	PKP2	PKPab	06 20 53.8	+0.4
ABTA	Abfaltersbach	156.31 258	*e*PKP	PKPab	06 20 53.8	+0.4
	comp=Z,9.1nm,0.9s,SNR=6.0					
BIOA	Bad Ischl, Aus	156.31 261	*e*PKP	PKPab	06 20 52.7	-0.5
	comp=Z,12nm,1.0s					
ARCES	ARCESS Array B	156.40 319	PKP	PKPdf	06 20 23.5	-0.8
	comp=Z,7.2nm,1.0s,baz=359,slow=6.6,SNR=2.8					
ARCES			PKPab	PKPab	06 20 52.6	-0.4
	comp=Z,14nm,0.9s,baz=4.8,slow=7.3,SNR=8.9					
DPC	Dobruska-Polom	156.43 269	*e*PKPAB	PKPab	06 20 53.8	+0.1
DPC	Dobruska-Polom	156.43 269	*e*PKP2	PKPab	06 20 53.8	+0.1
CHVC	Chvalec	156.70 269	*e*PKPAB	PKPab	06 20 55.1	+0.2
CHVC	Chvalec	156.70 269	*e*PKP2	PKPab	06 20 55.1	+0.2
KSP	Ksiaz	156.71 270	*e*PKP	PKPab	06 20 55.3	+0.5
RJOB	Jochberg	156.79 260	*e*PKPab	PKPab	06 20 54.9	-0.4
	baz=124,slow=4.5					
GEC2	GERESS Array S	156.98 263	*e*PKPab	PKPab	06 20 55.5	-0.7
	baz=124,slow=4.5					
GERES	GERESS Array B	156.98 263	PKPab	PKPab	06 20 55.1	-1.1
	comp=Z,2.5nm,0.8s,baz=123,slow=4.9,SNR=8.9					
ZVC	Zvikov	157.06 265	*e*PKPAB	PKPab	06 20 55.7	-0.7
WTTA	Wattenberg	157.10 258	*i* PKP	PKPab	06 20 56.3	-0.6
	comp=Z,16nm,1.0s,SNR=6.5					
WATA	Walderalm	157.18 258	*e*PKP	PKPab	06 20 56.3	-0.8
	comp=Z,7.9nm,0.6s,SNR=9.4					
KHC	Kasperske Hory	157.21 264	*e*PKPAB	PKPab	06 20 55.5	-1.6
KHC			*ex*	x	06 21 07.5	
KHC	Kasperske Hory	157.21 264	*e*PKP2	PKPab	06 20 55.5	-1.6
SQTA	Sankt Quirin	157.30 257	*e*PKP	PKPab	06 20 57.4	-0.2
	comp=Z,12nm,0.8s,SNR=7.7					
GKP	Gorka Klasztor	157.40 276	*e*PKP	PKPab	06 20 57.7	0.0
FETA	Feichten	157.42 256	*e*PKP	PKPab	06 20 58.4	+0.2
	comp=Z,15nm,1.0s,SNR=8.5					
MOTA	Moosalm	157.44 257	*e*PKP	PKPab	06 20 58.0	-0.2
	comp=Z,12nm,0.9s					
PVCC	Panska Ves	157.47 267	*e*PKPAB	PKPab	06 20 58.0	-0.1
PVCC	Panska Ves	157.47 267	*e*PKP2	PKPab	06 20 58.0	-0.1
PBDV	Barranco-de-Ve	157.47 211	*e*PKPab	PKPab	06 20 58.9	+0.4
PBDV			*etx*	tx	06 21 11.1	
PVAQ	Vaqueiros	157.56 212		PKPab	06 20 59.4	+0.6
PVAQ	Vaqueiros	157.56 212	*e*PKPab	PKPab	06 20 59.6	+0.8
PVAQ			*etx*	tx	06 21 11.3	
WET	Wettzell	157.59 263	*e*PKPab	PKPab	06 20 57.5	-1.2
	baz=124,slow=4.5					
WET			*ep*PKPab	sPKPab	06 21 10.2	+1.1
RETA	Reutte	157.70 257	*e*PKP	PKPab	06 20 59.1	-0.2
	comp=Z,9.8nm,0.9s,SNR=7.6					
MORF	Marmelete	157.73 210	*e*PKPab	PKPab	06 21 00.2	+0.7
MORF	Marmelete	157.73 210	*e*PKPab	PKPab	06 21 00.4	+0.9
MORF			*etx*	tx	06 21 12.2	
FUR	Furstenfeldbru	157.86 259	*e*PKPab	PKPab	06 20 59.9	0.0
	baz=124,slow=4.5					
PCVE	Castro Verde	157.87 211	*e*PKPab	PKPab	06 21 01.0	+0.9
PCVE			*etx*	tx	06 21 12.9	
BRG	Berggiesshubel	157.99 268	P	PKPab	06 20 49.1	-11
BRG			Amp		06 20 50.9	
	comp=Z,5.2nm,1.2s					
BRG			PKPab	PKPab	06 21 00.3	0.0
BRG			Amp		06 21 02.1	
	comp=Z,16nm,1.1s					
BRG	Berggiesshubel	157.99 268	*e*PKPab	PKPab	06 21 00.3	0.0
	baz=124,slow=4.5					
BRG			*ep*PKPab	sPKPab	06 21 12.7	+2.0
DAVA	Damuels	158.04 256	*e*PKP	PKPab	06 21 00.7	-0.2
	comp=Z,8.2nm,0.8s					
PBAR	Barrancos	158.08 214	*e*PKPab	PKPab	06 21 01.7	+0.6
PBAR			*etx*	tx	06 21 13.6	
MESJ	Messejana	158.11 211	*e*PKPab	PKPab	06 21 02.1	+1.0
MESJ	Messejana	158.11 211	*e*PKPab	PKPab	06 21 02.0	+0.8
MESJ			*etx*	tx	06 21 13.5	
UBR	Ueberruh	158.17 257	*e*PKPab	PKPab	06 21 01.5	+0.2
	baz=124,slow=4.5					
UBR			*ep*PKPab	sPKPab	06 21 14.1	+2.8
PBEJ	Beja	158.19 212	*e*PKPab	PKPab	06 21 02.4	+0.9
PBEJ			*etx*	tx	06 21 14.1	
ESDC	Sonseca Array	158.44 221	PKP	PKPdf	06 20 27.8	-0.1
	comp=Z,0.4nm,0.9s,baz=144,slow=1.5,SNR=3.2					
ESDC			PKPab	PKPab	06 21 02.2	-0.4
	comp=Z,9.6nm,1.1s,baz=151,slow=3.8,SNR=11					
ESDC			PP	PP	06 24 42.6	-0.4
	comp=Z,2.1nm,1.2s,baz=155,slow=4.3,SNR=4.5					
PAB	San Pablo	158.46 220	PKPab	PKPab	06 21 02.8	0.0
PAB	San Pablo	158.46 220	⇑PKP2	PKPab	06 21 02.9	+0.2
MANZ	Manzenberg	158.49 264	*e*PKPab	PKPab	06 21 02.2	-0.4
	baz=124,slow=4.5					
EVO	Evora	158.70 212	*e*PKPab	PKPab	06 21 04.2	+0.5
EVO			*etx*	tx	06 21 16.1	
CLL	Collm	158.72 268	*e*PKIKP	PKPdf	06 20 30.0	+2.3
CLL			*i*		06 21 02.7	
CLL			pmax	pmax		
	comp=Z,88nm,2.7s					
CLL			pmax	pmax		
	comp=Z,48nm,1.4s					
CLL	Collm	158.72 268	*e*PKPab	PKPab	06 21 03.5	0.0
	baz=124,slow=4.5					
CLL			*ep*PKPab	sPKPab	06 21 15.6	+1.7
GRA1	Grafenberg Arr	158.79 262	PKPab	PKPab	06 21 03.9	0.0
GRF	Grafenberg Arr	158.79 262	PKP2	PKPab	06 21 03.9	0.0
GRF	Grafenberg Arr	158.79 262	*e*PKPab	PKPab	06 21 03.6	-0.3
	baz=124,slow=4.5					
GRF			*ep*PKPab	sPKPab	06 21 15.9	+1.6
GRFO	Grafenberg	158.79 262	PKPab	PKPab	06 21 03.7	-0.2
GRFO	Grafenberg	158.79 262	PKP2	PKPab	06 21 03.7	-0.2
CEST	Esterri de Car	158.83 235	PKPab	PKPab	06 21 05.9	+1.5
PESTR	Estremoz	158.89 213	*e*PKPab	PKPab	06 21 05.2	+0.7
PESTR			*etx*	tx	06 21 17.4	
MOX	Moxa	159.12 265	*e*PKPab	PKPab	06 21 05.4	+0.1
	baz=124,slow=4.5					
PMTG	Montargil	159.26 212	*e*PKPab	PKPab	06 21 06.9	+0.8
PMTG			*etx*	tx	06 21 18.8	
STU	Stuttgart	159.32 258		PKPab	06 21 06.0	-0.2
STU	Stuttgart	159.32 258	PKP2	PKPab	06 21 06.0	-0.2
STU	Stuttgart	159.32 258	*e*PKPab	PKPab	06 21 06.1	-0.1
	baz=124,slow=4.5					
STU			*ep*PKPab	sPKPab	06 21 18.7	+2.6
NEUB	Neuenburg	159.33 266	*e*PKPab	PKPab	06 21 06.0	-0.2
	baz=124,slow=4.5					
NEUB			*ep*PKPab	sPKPab	06 21 17.9	+1.4
PMRV	Marv??o	159.34 214	*e*PKPab	PKPab	06 21 07.1	+0.6
PMRV			*etx*	tx	06 21 19.2	
BFO	Black Forest	159.51 256	*e*PKPab	PKPab	06 21 06.8	-0.3
	baz=124,slow=4.5					
PCBR	Castelo Branco	159.75 215	*e*PKPab	PKPab	06 21 08.4	+0.2
PCBR			*etx*	tx	06 21 20.4	
PSBE	So Bento	159.84 212	*e*PKPab	PKPab	06 21 09.1	+0.5
PSBE			*etx*	tx	06 21 21.0	
UBBA	Unterbreizbach	160.07 264	*e*PKPab	PKPab	06 21 09.3	0.0
	baz=124,slow=4.5					
FLTG	Flechtingen	160.18 269	*e*PKPab	PKPab	06 21 09.3	-0.6
	baz=124,slow=4.5					
FLTG			*ep*PKPab	sPKPab	06 21 21.7	+1.5
PCAS	Casmilo, Conde	160.25 213	*e*PKPab	PKPab	06 21 11.1	+0.7
PCAS			*etx*	tx	06 21 22.8	
MTE	Manteigas	160.28 215	*e*PKPab	PKPab	06 21 11.1	+0.5
MTE			*etx*	tx	06 21 22.6	
COI	Coimbra	160.37 213	*e*PKPab	PKPab	06 21 11.4	+0.5
COI			*etx*	tx	06 21 23.2	
ASSE	Asse, Remlinge	160.39 268	*e*PKPab	PKPab	06 21 10.3	-0.4
	baz=124,slow=4.5					
CLZ	Clausthal	160.41 267	*e*PKPab	PKPab	06 21 10.9	-0.1
	baz=124,slow=4.5					
CLZ			*ep*PKPab	sPKPab	06 21 23.3	+2.0
TNS	Taunus Mts	160.57 261	*e*PKPab	PKPab	06 21 11.9	+0.2
	baz=124,slow=4.5					
TNS			*ep*PKPab	sPKPab	06 21 24.2	+2.6
PVIS	Viseu	160.68 215	*e*PKPab	PKPab	06 21 12.6	+0.3
PVIS			*etx*	tx	06 21 24.5	
MVO	Moncorvo	160.81 217	*e*PKPab	PKPab	06 21 13.6	+0.7
MVO			*etx*	tx	06 21 25.6	
NRDL	Niedersach Rie	160.87 268	*e*PKPab	PKPab	06 21 12.7	0.0
	baz=124,slow=4.5					
KASTN	Kahler Asten	161.12 263	*e*PKPab	PKPab	06 21 14.0	0.0
	baz=124,slow=4.5					
PVRL	Vila Real	161.13 216	*e*PKPab	PKPab	06 21 14.9	+0.6
PVRL			*etx*	tx	06 21 26.7	
POLO	Lamas de Olo	161.25 216	*e*PKPab	PKPab	06 21 15.5	+0.7
POLO			*etx*	tx	06 21 27.3	
PBRG	Braganca	161.29 219	*e*PKPab	PKPab	06 21 15.6	+0.6
PBRG			*etx*	tx	06 21 27.5	
HFS	Hagfors	161.39 293	PKPab	PKPab	06 21 14.7	-0.3
	comp=Z,26nm,1.0s,baz=132,slow=2.2,SNR=15					
WLF	Walferdange	161.46 257	*d*PKP	PKPab	06 21 15.3	-0.2
WLF	Walferdange	161.46 257	*e*PKPab	PKPab	06 21 15.5	0.0
	baz=124,slow=4.5					
BUG	Bochum--Univer	161.86 263	*e*PKPab	PKPab	06 21 17.5	+0.3
	baz=124,slow=4.5					
BTNL	Ternell	162.00 259	*d*PKP	PKPab	06 21 18.2	+0.3
IBBN	Ibbenburen	162.04 266	*e*PKPab	PKPab	06 21 18.2	+0.3
	baz=124,slow=4.5					
RCHB	Rochefort	162.23 257	*d*PKP	PKPab	06 21 19.0	+0.1
BCLA	Clavier	162.34 258	*d*PKP	PKPab	06 21 19.5	+0.1
BGES	Gesves	162.44 257	*d*PKP	PKPab	06 21 19.8	0.0
DOU	Dourbes	162.53 256	*d*PKP	PKPab	06 21 20.2	0.0
BMRD	Maredsous	162.56 257	*d*PKP	PKPab	06 21 20.1	-0.1
NB2	NORSAR Subarra	162.71 295	P	PKPab	06 21 19.8	-0.9
	comp=Z,105nm,2.0s,baz=94,slow=4.6					
NB2	NORSAR Subarra	162.71 295	P	PKPab	06 21 19.8	-0.9
	baz=94,slow=4.6					
NOA	NORSAR Array B	162.71 295	PKPab	PKPab	06 21 19.8	-0.9
	comp=Z,5.3nm,0.9s,baz=94,slow=4.5,SNR=8.3					
UCC	Uccle	163.05 258	PKPab	PKPab	06 21 22.3	-0.1
UCC	Uccle	163.05 258	*d*PKP	PKPab	06 21 21.9	-0.6
UCC	Uccle	163.05 258	PKP2	PKPab	06 21 22.3	-0.1
KONO	Kongsberg	163.38 290	PKPab	PKPab	06 21 23.4	-0.3
KONO	Kongsberg	163.38 290	PKP2	PKPab	06 21 23.4	-0.3
SUMG	Summit	163.66 17	*i* P	PKPab	06 21 24.0	-1.0
SUMG			IAmb	IAmb	06 21 26.3	
	comp=Z,7.4nm,1.1s					
ICESG	Greenland Ices	166.22 27	*i* P	PKPab	06 21 34.0	-2.4
ICESG			IAmb	IAmb	06 21 39.0	
	comp=Z,9.2nm,1.1s					
EKA	Eskdalemuir Ar	169.18 266	PKPab	PKPab	06 21 48.2	-1.2
	comp=Z,2.2nm,1.0s,baz=82,slow=6.1,SNR=3.3					

*IDC **24** 06:23:43.3±1.3, 57°.65S×157°.52E, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=75.5km s-min=20.8km az=75.0*
*NEIC **24** 06:23:45.6±1.3, 57°.63S±0°.08×157°.7E±0°.3, h10km±1km, mb4.3/12, Error ellipse: s-maj=26.6km s-min=7.1km az=117.0*

ISC 24 06:23:45.0±0.7, 57°.60S±0°.09×157°.6E±0°.2, h10km, n26, σ0°81/25, mb4.3/9, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	3.20	14			Pn	06 24 34.3	-0.9
WHZ	Wether Hill Ro	13.33	33	Pn		Pn	06 26 55.1	+1.0
BBOO	Buckleboo	28.83	320	P		P	06 29 43.3	+0.1
BBOO				IAmb		IAmb	06 30 07.8	
	comp=Z,13nm,1.2s							
QSPA	South Pole Qui	32.50	180	P		P	06 30 16.5	+1.0
QSPA				IAmb		IAmb	06 30 17.0	
	comp=Z,2.8nm,0.9s							
QSPA	South Pole Qui	32.50	180	P		P	06 30 15.9	+0.4
	comp=Z,1.6nm,0.7s,baz=356,slow=17,SNR=15							
QSPA				PcP		PcP	06 33 01.2	-0.7
	comp=Z,0.9nm,0.6s,baz=119,slow=3.7,SNR=11							
	comp=Z,1.6nm,0.7s							
H01W1	Cape Leeuwin H	36.78	289	T		T	07 10 33.2	
	baz=144							
H01W2	Cape Leeuwin H	36.78	289	T		T	07 10 32.6	
	baz=144							
H01W3	Cape Leeuwin H	36.80	289	T		T	07 10 27.5	
	baz=144							
ASAR	Alice Springs	37.98	323	P		P	06 31 04.3	+1.4
ASAR	Alice Springs	37.98	323	P		P	06 31 03.5	+0.6
	comp=Z,2.1nm,0.7s,baz=164,slow=8.3,SNR=23							
ASAR				PcP		PcP	06 33 17.6	-0.9
	comp=Z,0.3nm,0.8s,baz=155,slow=3.9,SNR=2.3							
	comp=Z,2.1nm,0.7s							
AS31	Alice Springs	37.98	323	P		P	06 31 03.9	+1.0
WR0	Warramunga Arr	41.26	326	P		P	06 31 30.0	-0.2
WB2	Warramunga Arr	41.33	326	P		P	06 31 31.0	+0.2
WB2				IAmb		IAmb	06 31 42.1	
	comp=Z,7.7nm,1.4s							
WRA	Warramunga Arr	41.33	326	P		P	06 31 30.8	0.0
	comp=Z,1.4nm,0.7s,baz=162,slow=7.3,SNR=7.5							
	comp=Z,1.4nm,0.7s							
WB0	Warramunga Arr	41.48	326	P		P	06 31 32.5	+0.5
WB0				IAmb		IAmb	06 31 41.9	
	comp=Z,7.7nm,1.3s							
BELA	Belgrano 2	44.56	176	P		P	06 31 56.6	+0.2
BELA				IAmb		IAmb	06 32 24.0	
	comp=Z,5.2nm,1.3s							
FITZ	Fitzroy Crossi	46.02	316	P		P	06 32 09.5	+1.0
KNRA	Kununurra	47.13	321	P		P	06 32 17.8	+0.6
SNAA	Sanae	50.29	188	P		P	06 32 41.2	+0.2
SNAA				IAmb		IAmb	06 32 41.6	
	comp=Z,6.0nm,1.1s							
SNAA	Sanae	50.29	188	P		P	06 32 40.5	-0.5
	comp=Z,2.3nm,0.9s,baz=194,slow=17,SNR=2.3							
	comp=Z,2.3nm,0.9s							
SBUM	Sibu	70.02	311	P		P	06 34 57.5	+0.7
BOSA	Boshof	85.27	221	P		P	06 36 22.1	+0.1
BOSA	Boshof	85.27	221	P		P	06 36 21.6	-0.4
	comp=Z,1.7nm,0.8s,baz=141,slow=2.2,SNR=5.8							
	comp=Z,1.7nm,0.8s							
MKAR	Makanchi Array	121.25	309	PKP		PKPdf	06 42 35.4	-1.7
	comp=Z,0.2nm,0.5s,baz=151,slow=3.3,SNR=2.2							
KURBB	Kurchatov Arra	125.79	310	PKP		PKPdf	06 42 44.4	-1.3
	comp=Z,0.1nm,0.3s,baz=151,slow=2.3,SNR=4.4							
ILAR	Eielson Array	129.09	27	PKP		PKPdf	06 42 51.4	-0.1
	comp=Z,0.2nm,0.6s,baz=204,slow=4.0,SNR=4.3							

*JMA **24** 06:26:25.2±0.1, 42°.5N±0°.4×141°.4E±0°.5, h133km, MV2.7/33, S OFF TOMAKOMAI*
*IDC **24** 06:26:32.3±2.7, 41°.74N×141°.50E, h251km±31km, mb3.3/5, mbtmp3.7/8, Error ellipse: s-maj=41.5km s-min=33.9km az=159.0*

ISC 24 06:26:25.3±0.8, 42°.45N±0°.05×141°.42E±0°.05, h136km±6km, n29, σ1°.26/33, mb3.7/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.28	275	P		Pn	06 26 43.7	-0.3
JNB				*e*S		Sn	06 26 57.4	-0.7
JEW	Eniwo	0.40	3	P		Pn	06 26 44.2	-0.2
JEW				*e*S		Sn	06 26 58.3	-0.7
JIAM	Iburiatsuma	0.41	64	*e*P		Pn	06 26 44.5	0.0
JIAM				*e*S		Sn	06 26 59.1	+0.1
JKB	Kayabe	0.63	207	P		Pn	06 26 45.7	0.0
JKB				*e*S		Sn	06 27 00.8	-0.4
JBT2	Biratori 2	0.77	64	P		Pn	06 26 46.6	-0.1
JBT2				*e*S		Sn	06 27 03.1	+0.1
JISS	Ishikarishitsu	0.83	360	*e*P		Pn	06 26 47.1	-0.1
JISS				*e*S		Sn	06 27 03.3	-0.6
JYM2	Yakumo 2	0.84	248	P		Pn	06 26 47.5	+0.2
JYM2				*e*S		Sn	06 27 03.9	-0.1
JNBK	Urakawa-nobuka	1.00	99	*e*P		Pn	06 26 48.9	+0.3
JSH	Shimam	1.03	282	P		Pn	06 26 48.8	-0.1
JOT	Ohata	1.10	195	P		Pn	06 26 49.9	+0.3
JOT				*e*S		Sn	06 27 08.5	+0.5
JHR	Hokuryu	1.32	10	*e*P		Pn	06 26 51.7	0.0
JCH	Churui	1.45	83	*e*P		Pn	06 26 53.1	+0.1
JCH				*e*S		Sn	06 27 13.5	-0.8
JOSM	Okushiri--Mats	1.49	257	P		Pn	06 26 53.4	-0.1
JAR	Ashorobuto	1.93	63	*e*P		Pn	06 26 57.8	-0.8
JAR				*e*S		Sn	06 27 21.8	-2.3
JANG	Nango	2.07	178	P		Pn	06 26 59.7	-0.7
JANG				*e*S		Sn	06 27 25.4	-1.9
MJAR	Matsushiro Arr	6.40	204	P		Pn	06 27 57.7	+0.6
	1.4nm,0.5s,baz=15,slow=13,SNR=4.5							
USRK	Ussurisyk Ar.	7.10	287	P		Pn	06 28 18.1	+12
	1.8nm,0.6s,baz=95,slow=16,SNR=2.5							
PETK	Petropavlovsk-	15.24	40	P		P	06 30 00.3	+5.4
	2.6nm,0.9s,baz=220,slow=11,SNR=1.4							
H11N2	WAKE ISLAND Hy	31.23	129	T		T	07 05 00.4	
	baz=322							
H11N1	WAKE ISLAND Hy	31.24	129	T		T	07 04 58.4	
	baz=322							
H11N3	WAKE ISLAND Hy	31.25	129	T		T	07 05 24.7	
	baz=322							
H11S1	WAKE ISLAND Hy	32.08	130	T		T	07 06 23.3	
	baz=322							
H11S3	WAKE ISLAND Hy	32.09	130	T		T	07 06 19.5	
	baz=322							
H11S2	WAKE ISLAND Hy	32.10	130	T		T	07 06 09.0	
	baz=322							
MKAR	Makanchi Array	41.45	297	P		P	06 33 57.6	-0.8
	0.1nm,0.5s,baz=75,slow=7.4,SNR=3.0							
	0.1nm,0.5s							
KURBB	Kurchatov Arra	42.84	304	P		P	06 34 08.9	-0.7
	0.5nm,0.3s,baz=78,slow=8.6,SNR=4.8							
	0.5nm,0.3s							
BVAR	Borovoye Array	47.06	309	P		P	06 34 42.6	-0.3
	0.6nm,0.4s,baz=74,slow=8.8,SNR=6.8							
	0.6nm,0.4s							
FINES	FINESS Array B	64.06	331	P		P	06 36 42.9	-1.1
	2.8nm,1.1s,baz=66,slow=6.8,SNR=5.2							
	2.8nm,1.1s							
HFS	Hagfors	69.18	335	P		P	06 37 15.5	-1.1
	2.9nm,0.9s,baz=35,slow=5.3,SNR=5.7							
	2.9nm,0.9s							

ROM 24 06:40:52.9±0.1, 42°.938N±0°.003×13°.132E±0°.005, h13km, ML2.0/18, 5C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=60.0, Central Italy

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

ARVD	**Arcevia**	**0.58 346**	P	Pg	06 41 04.1	-0.1
ARVD			S	Sb	06 41 12.6	-0.4
NARO	**Abbazia di Nar**	**0.78 329**	P	Pb	06 41 08.4	0.0

ROM 24 06:41:37.1±0.0, 42°.809N±0°.003×13°.121E±0°.004, h10km, ML2.0/36, 6C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.03 349**		P	Pg	06 41 39.4	+0.4
NRCA				S	Sg	06 41 40.7	+0.3
NRCA				AML	AML		
	comp=E,11470μm,0.2s						
NRCA				AML	AML		
	comp=N,10790μm,0.1s						
NRCA				AML	AML		
	comp=E,12550μm,0.2s						
NRCA				AML	AML		
	comp=N,10815μm,0.1s						
NRCA				AML	AML		
	comp=E,8893μm,0.2s						
NRCA				AML	AML		
	comp=N,10787μm,0.1s						
NRCA				AML	AML		
	comp=N,10805μm,0.1s						
NRCA				AML	AML		
	comp=E,9169μm,0.1s						
MC2	**Monte Cornacci**	**0.12 26**		⇑P	Pg	06 41 40.6	+0.5
MC2				S	Sg	06 41 43.1	+0.9
FEMA	**Monte Fema**	**0.16 341**		P	Pg	06 41 41.2	+0.5
FEMA				S	Sg	06 41 44.2	+0.9
MMO1	**Montemonaco**	**0.18 59**		⇑P	Pg	06 41 41.4	+0.5
MMO1				S	Sg	06 41 44.6	+0.9
GAVE	**Gavelli**	**0.20 235**		⇓P	Pg	06 41 42.1	+0.7
GAVE				S	Sg	06 41 45.7	+1.3
MTCL	**Monte Cavallo**	**0.20 334**		⇓P	Pg	06 41 42.0	+0.5
MTCL				S	Sg	06 41 45.5	+1.1
MTRA	**Matera**	**0.21 104**		P	Pg	06 41 42.0	+0.5
MTRA				S	Sg	06 41 45.8	+1.3
MTRA				AML	AML		
	comp=N,748μm,0.7s						
MTRA				AML	AML		
	comp=E,544μm,0.1s						
MTRA				AML	AML		
	comp=N,748μm,0.7s						
MTRA				AML	AML		
	comp=E,552μm,0.1s						
MTRA				AML	AML		
	comp=E,552μm,1.9s						
MTRA				AML	AML		
	comp=E,544μm,1.9s						
MTRA				AML	AML		
	comp=N,654μm,0.7s						
MTRA				AML	AML		
	comp=E,552μm,0.1s						
MTRA				AML	AML		
	comp=N,602μm,0.2s						
MTRA				AML	AML		
	comp=E,545μm,0.1s						
MTRA				AML	AML		
	comp=N,581μm,0.2s						
LNSS	**Leonessa**	**0.21 196**		⇓P	Pg	06 41 42.2	+0.6
LNSS				S	Sg	06 41 45.9	+1.3
LNSS				AML	AML		
	comp=E,2010μm,0.7s						
LNSS				AML	AML		
	comp=E,1952μm,0.1s						
LNSS				AML	AML		
	comp=E,2128μm,0.1s						
LNSS				AML	AML		
	comp=N,1392μm,0.1s						
LNSS				AML	AML		
	comp=N,1369μm,0.2s						
FDMO	**Fiordimonte**	**0.23 354**		⇑P	Pg	06 41 42.4	+0.5
FDMO				S	Sg	06 41 46.2	+1.1
FDMO				AML	AML		
	comp=N,654μm,0.2s						
FDMO				AML	AML		
	comp=E,480μm,0.2s						
FDMO				AML	AML		
	comp=E,479μm,0.2s						
FDMO				AML	AML		
	comp=N,654μm,0.2s						
SMA1	**SAN MARTINO**	**0.24 138**		P	Pg	06 41 43.2	+1.1
CESI	**CESI - Serrava**	**0.25 321**		P	Pg	06 41 42.9	+0.6
CESI				S	Sb	06 41 47.1	-1.2
CESI				AML	AML		
	comp=E,228μm,1.2s						
CESI				AML	AML		
	comp=N,296μm,0.1s						
CESI				AML	AML		
	comp=E,187μm,0.1s						
CESI				AML	AML		
	comp=N,297μm,0.1s						
GUMA	**Gualdo di Mace**	**0.30 32**		⇑P	Pb	06 41 43.9	-0.7
GUMA				S	Sb	06 41 49.1	-0.5
GUMA				AML	AML		
	comp=E,780μm,0.7s						
GUMA				AML	AML		
	comp=N,986μm,1.6s						
GUMA				AML	AML		
	comp=E,794μm,0.4s						
GUMA				AML	AML		
	comp=N,921μm,0.7s						
GUMA				AML	AML		
	comp=E,639μm,0.2s						
GUMA				AML	AML		
	comp=E,795μm,0.4s						
GUMA				AML	AML		
	comp=N,910μm,0.7s						
GUMA				AML	AML		
	comp=N,844μm,0.2s						
RM33	**Pellescritta (**	**0.31 167**		P	Pg	06 41 43.7	+0.4
RM33				S	Sb	06 41 49.0	-0.9
RM33				AML	AML		
	comp=E,270μm,0.2s						
RM33				AML	AML		
	comp=N,226μm,0.5s						
RM33				AML	AML		
	comp=N,226μm,0.5s						
RM33				AML	AML		
	comp=E,267μm,0.2s						
RM33				AML	AML		
	comp=N,248μm,0.8s						
RM33				AML	AML		
	comp=N,189μm,0.1s						
RM33				AML	AML		
	comp=E,271μm,0.2s						
RM33				AML	AML		
	comp=N,219μm,0.1s						
MF5	**Montefalcone A**	**0.31 54**		⇑P	Pb	06 41 44.1	-0.7
MF5				S	Sb	06 41 49.5	-0.4
MF5				AML	AML		
	comp=N,467μm,0.3s						
MF5				AML	AML		
	comp=E,541μm,0.3s						
MML1	**Montelago di S**	**0.32 340**		P	Pg	06 41 44.1	+0.4
MML1				S	Sb	06 41 49.5	-0.9
PF6	**Pievefavera**	**0.34 9**		⇑P	Pg	06 41 44.1	+0.1
PF6				S	Sg	06 41 49.3	+0.7
CAMP	**Campotosto**	**0.35 142**		P	Pg	06 41 44.3	+0.2
CAMP				S	Sg	06 41 49.5	+0.9
ARRO	**Arrone**	**0.35 229**		P	Pg	06 41 44.6	+0.6
ARRO				S	Sb	06 41 50.1	-0.8
ARRO				AML	AML		
	comp=E,208μm,1.5s						
ARRO				AML	AML		
	comp=N,294μm,0.2s						
ARRO				AML	AML		
	comp=N,293μm,0.2s						
ARRO				AML	AML		
	comp=E,180μm,0.2s						
MDAR	**Monte D'Aria**	**0.38 2**		P	Pg	06 41 45.1	+0.3
TERO	**Teramo**	**0.40 117**		P	Pg	06 41 45.2	+0.1
TERO				S	Sg	06 41 51.4	+1.0
TERO				AML	AML		
	comp=E,140μm,1.0s						
TERO				AML	AML		
	comp=N,180μm,0.1s						
TERO				AML	AML		
	comp=N,180μm,0.1s						
TERO				AML	AML		
	comp=E,73μm,0.2s						
TERO				AML	AML		
	comp=E,121μm,0.1s						
TERO				AML	AML		
	comp=N,85μm,0.1s						
GNU	**Giano nell'Umb**	**0.41 269**		P	Pb	06 41 46.1	-0.4
MOMA	**Monte Martano**	**0.41 270**		P	Pb	06 41 46.1	-0.4
ASSB	**Assisi San Ben**	**0.41 305**		P	Pg	06 41 45.7	+0.5
ASSB				S	Sb	06 41 52.1	-0.8
ASSB				AML	AML		
	comp=E,90μm,0.2s						
ASSB				AML	AML		
	comp=N,112μm,0.2s						
OFFI	**Offida**	**0.43 73**		P	Pb	06 41 46.9	0.0
CESX	**Cesi**	**0.45 244**		P	Pg	06 41 46.2	+0.3
CESX				S	Sb	06 41 53.2	-0.6
CESX				AML	AML		
	comp=E,206μm,0.4s						
CESX				AML	AML		
	comp=N,167μm,1.1s						
CESX				AML	AML		
	comp=N,149μm,0.2s						
CESX				AML	AML		
	comp=E,207μm,0.4s						
ARVD	**Arcevia**	**0.70 349**		AML	AML		
	comp=E,110μm,1.5s						
ARVD				AML	AML		
	comp=N,99μm,1.6s						

*TRN **24** 06:43:49.8, 10°.99N×62°.30W, h114km, MD3.9, North of the Paria peninsula. Felt in Trinidad, MMI IV.*
*IDC **24** 06:43:49.9±2.1, 11°.06N×62°.52W, h110km±19km, mb3.3/4, mbtmp3.6/5, Error ellipse: s-maj=26.6km s-min=14.4km az=135.0*
*FUNV **24** 06:43:51.5, 10°.99N×62°.43W, h21km, MW3.9*
ISC 24 06:43:49.3±0.8, 10°.98N±0°.04×62°.37W±0°.05, h116km±8km, n59, σ1s 41/96, mb3.5/4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.88 110**		*eP*	**Pn**	**06 44 10.6**	**+0.8**
PSMG				*eS*	**Sn**	**06 44 24.0**	**-1.3**
PSMG	**Mucurapo Girls**	**0.88 110**		*eP*	**Pn**	**06 44 10.6**	**+0.8**
PSMG				*eS*	**Sn**	**06 44 24.0**	**-1.3**
PSKH	**Kent House, Po**	**0.89 110**		*eS*	**Sn**	**06 44 23.9**	**-1.4**
PSKH	**Kent House, Po**	**0.89 110**		*eS*	**Sn**	**06 44 23.9**	**-1.4**
PSQC	**Port of Spain**	**0.89 110**		*eP*	**Pn**	**06 44 10.7**	**+0.8**
PSQC				*eS*	**Sn**	**06 44 24.3**	**-1.2**
PSQC	**Port of Spain**	**0.89 110**		*eP*	**Pn**	**06 44 10.7**	**+0.8**
PSQC				*eS*	**Sn**	**06 44 24.3**	**-1.2**
TRN	**Trinidad (W)**	**1.01 109**		*eP*	**Pn**	**06 44 11.8**	**+0.7**
TRN				*eS*	**Sn**	**06 44 26.0**	**-1.5**
TRN	**Trinidad (W)**	**1.01 109**		*eP*	**Pn**	**06 44 11.8**	**+0.7**
TRN				*eS*	**Sn**	**06 44 26.0**	**-1.5**
GRFF	**Grenada Fort F**	**1.23 30**		*eP*	**Pn**	**06 44 13.3**	**-0.1**
GRFF				*eS*	**Sn**	**06 44 30.5**	**-1.2**
GRFF	**Grenada Fort F**	**1.23 30**		*eP*	**Pn**	**06 44 13.3**	**-0.1**
GRFF				*eS*	**Sn**	**06 44 30.5**	**-1.2**
GRGR	**Grenville**	**1.34 32**		*eP*	**Pn**	**06 44 14.9**	**+0.3**
GRGR				*eS*	**Sn**	**06 44 33.4**	**-0.5**
GRGR	**Grenville**	**1.34 32**		*eP*	**Pn**	**06 44 14.9**	**+0.3**
GRGR				*eS*	**Sn**	**06 44 33.4**	**-0.5**
GRHS	**Sauteurs**	**1.43 30**		*eP*	**Pn**	**06 44 15.9**	**+0.3**
GRHS				*eS*	**Sn**	**06 44 35.0**	**-0.6**
GRHS	**Sauteurs**	**1.43 30**		*eP*	**Pn**	**06 44 15.9**	**+0.3**
GRHS				*eS*	**Sn**	**06 44 35.0**	**-0.6**
GRIC	**Isle de Caille**	**1.51 31**		*eP*	**Pn**	**06 44 17.8**	**+1.2**
GRIC	**Isle de Caille**	**1.51 31**		*eP*	**Pn**	**06 44 17.8**	**+1.2**
GCMP	**Grenada, Carri**	**1.76 32**		*eP*	**Pn**	**06 44 19.6**	**0.0**
GCMP				*eS*	**Sn**	**06 44 41.8**	**-0.9**
GCMP	**Grenada, Carri**	**1.76 32**		*eP*	**Pn**	**06 44 19.6**	**0.0**
GCMP				*eS*	**Sn**	**06 44 41.8**	**-0.9**
TOSP	**Speyside**	**1.83 80**		*eP*	**Pn**	**06 44 19.8**	**-0.6**
TOSP				*eS*	**Sn**	**06 44 42.1**	**-2.1**
TOSP	**Speyside**	**1.83 80**		*eP*	**Pn**	**06 44 19.8**	**-0.6**
TOSP				*eS*	**Sn**	**06 44 42.1**	**-2.1**
PCRV	**Puerto La Cruz**	**2.37 250**		*eP*	**Pn**	**06 44 28.1**	**+0.8**
PCRV				*eS*	**Sn**	**06 44 54.8**	**-1.6**
PCRV	**Puerto La Cruz**	**2.37 250**		*eP*	**Pn**	**06 44 29.5**	**+2.2**
PCRV				*eS*	**Sn**	**06 44 56.8**	**+0.4**
PCRV	**Puerto La Cruz**	**2.37 250**		*eP*	**Pn**	**06 44 29.5**	**+2.2**
PCRV				*eS*	**Sn**	**06 44 56.8**	**+0.4**
SVOC	**Richmond Hill,**	**2.43 27**		*eP*	**Pn**	**06 44 27.5**	**-0.6**
SVOC				*eS*	**Sn**	**06 44 57.0**	**-0.9**
SVOC	**Richmond Hill,**	**2.43 27**		*eP*	**Pn**	**06 44 27.5**	**-0.6**
SVOC				*eS*	**Sn**	**06 44 57.0**	**-0.9**
SVT	**Saint Vincent**	**2.44 27**		*eP*	**Pn**	**06 44 27.5**	**-0.6**
SVT				*eS*	**Sn**	**06 44 56.4**	**-1.6**
SVT	**Saint Vincent**	**2.44 27**		*eP*	**Pn**	**06 44 27.5**	**-0.6**
SVT				*eS*	**Sn**	**06 44 56.4**	**-1.6**
SVB	**Belmont**	**2.53 26**		*eP*	**Pn**	**06 44 29.4**	**+0.1**
SVB				*eS*	**Sn**	**06 44 58.7**	**-1.3**
SVB	**Belmont**	**2.53 26**		*eP*	**Pn**	**06 44 29.4**	**+0.1**
SVB				*eS*	**Sn**	**06 44 58.7**	**-1.3**
SLB	**Belfond**	**3.11 25**		*eP*	**Pn**	**06 44 37.0**	**-0.1**
SLB				*eS*	**Sn**	**06 45 10.6**	**-3.2**
SLB	**Belfond**	**3.11 25**		*eP*	**Pn**	**06 44 37.0**	**-0.1**
SLB				*eS*	**Sn**	**06 45 10.6**	**-3.2**
SLAC	**Saint Lucia, A**	**3.24 26**		*eP*	**Pn**	**06 44 38.4**	**-0.2**
SLAC				*eS*	**Sn**	**06 45 13.8**	**-3.0**
SLAC	**Saint Lucia, A**	**3.24 26**		*eP*	**Pn**	**06 44 38.4**	**-0.2**
SLAC				*eS*	**Sn**	**06 45 13.8**	**-3.0**
SLBI	**Saint Lucia, B**	**3.32 24**		*eP*	**Pn**	**06 44 40.1**	**+0.4**
SLBI				*eS*	**Sn**	**06 45 17.4**	**-1.2**
SLBI	**Saint Lucia, B**	**3.32 24**		*eP*	**Pn**	**06 44 40.1**	**+0.4**
SLBI				*eS*	**Sn**	**06 45 17.4**	**-1.2**
BIM	**Bigot**	**3.74 20**		*eP*	**Pn**	**06 44 46.2**	**+0.9**
BIM				*eS*	**Sn**	**06 45 26.9**	**-1.8**
BIM	**Bigot**	**3.74 20**		*eP*	**Pn**	**06 44 46.2**	**+0.9**
BIM				*eS*	**Sn**	**06 45 26.9**	**-1.8**
H05S1	**Guadeloupe/Mar**	**3.74 23**		P	**Pn**	**06 44 46.4**	**+1.1**
	SNR=15						
H05S1				S	**Sn**	**06 45 28.9**	**+0.3**
MDN	**Morne-Daniel**	**4.42 12**		*eP*	**Pn**	**06 44 54.9**	**+0.5**
MDN	**Morne-Daniel**	**4.42 12**		*eP*	**Pn**	**06 44 54.9**	**+0.5**
DSLB	**Salisbury**	**4.53 12**		*eP*	**Pn**	**06 44 55.9**	**0.0**
DSLB	**Salisbury**	**4.53 12**		*eP*	**Pn**	**06 44 55.9**	**0.0**
TBG	**Guadaloupe-3**	**4.89 8**		*eP*	**Pn**	**06 45 00.4**	**-0.4**
TBG	**Guadaloupe-3**	**4.89 8**		*eP*	**Pn**	**06 45 00.4**	**-0.4**
BENV	**Beln**	**5.24 259**		*eP*	**Pn**	**06 45 06.9**	**+1.4**
BENV				*eS*	**Sn**	**06 46 01.8**	**-3.1**
CACV	**CAICARA DEL OR**	**5.33 231**		*i P*	**Pn**	**06 45 02.2**	**-4.6**
CACV				*eS*	Sn	06 45 55.5	-12
BAUV	**El Baul**	**5.94 251**		*eP*	**Pn**	**06 45 15.0**	**0.0**
BAUV				*eS*	**Sn**	**06 46 18.5**	**-3.3**
BAUV	**El Baul**	**5.94 251**		*eP*	**Pn**	**06 45 15.1**	**+0.2**
BAUV	**El Baul**	**5.94 251**		*eP*	**Pn**	**06 45 15.1**	**+0.2**
BAUV	**El Baul**	**5.94 251**		*eS*	**Sn**	**06 46 19.1**	**-2.6**
ANBD	**Bethesda, Anti**	**6.06 6**		*eP*	**Pn**	**06 45 17.3**	**+0.8**
ANBD	**Bethesda, Anti**	**6.06 6**		*eP*	**Pn**	**06 45 17.3**	**+0.8**
ANWB	**Willy Bob**	**6.67 5**		*eP*	**Pn**	**06 45 25.8**	**+1.0**
ANWB	**Willy Bob**	**6.67 5**		*eP*	**Pn**	**06 45 25.8**	**+1.0**
SDV	**Santo Domingo**	**8.40 256**		P	**Pn**	**06 45 47.7**	**-0.8**
	0.7nm,0.3s,baz=338,slow=22,SNR=1.6						
SDV				S	**Sn**	**06 47 18.5**	**-3.3**
	3.5nm,0.5s,baz=106,slow=23,SNR=3.9						
SIV	**San Ignacio**	**26.83 177**		P	**P**	**06 49 20.9**	**+1.8**
	0.7nm,0.6s,baz=3.0,slow=14,SNR=4.0						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**42.57 302**		P	**P**	**06 51 35.1**	**+1.0**
	0.2nm,0.5s,baz=128,slow=8.8,SNR=6.0						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**51.72 317**		P	**P**	**06 52 44.0**	**-1.1**
	0.4nm,0.6s,baz=112,slow=7.1,SNR=6.1						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**79.70 29**		P	**P**	**06 55 45.0**	**+0.9**
	1.4nm,0.7s,baz=284,slow=5.6,SNR=5.4						
	1.4nm,0.7s						

*ATH **24** 06:47:26.9, 39°.97N×19°.16E, h56km±6km, ML2.7/4, Manual Solution by S.Liakopoulos First location: 2019/02/24 06:48:08, This location: 2020/09/29 18:38:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 4 km*
*TIR **24** 06:47:27.0, 39°.57N×19°.16E, h1km±1km, Md2.5/1, Ml2.2/3*
ISC 24 06:47:27.7±1.4, 39°.62N±0°.06×19°.00E±0°.05, h26km±15km, n15, σ1s 39/26, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCTE	**Santa Cesarea**	**0.61 318**		P	**Pb**	**06 47 38.6**	**-1.1**
SCTE				S	**Sb**	**06 47 48.1**	**+0.2**
KEK	**Kerkira**	**0.62 81**		P	**Pb**	**06 47 38.6**	**-1.4**
KEK				S	**Sb**	**06 47 48.1**	**-0.3**
SRN	**Sarande**	**0.81 71**		P	**Pn**	**06 47 42.1**	**-1.4**
SRN				S	**Sb**	**06 47 53.6**	**-0.2**
SRN				AML	AML	06 47 56.7	
	0.3nm,0.5s						
SRN				AMd		06 48 20.9	
VLO	**Vlora**	**0.93 24**		P	**Pb**	**06 47 45.3**	**+0.2**
VLO				S	**Sb**	**06 47 59.0**	**+2.0**
IGT	**Igoumenitsa**	**1.03 95**		P	**Pn**	**06 47 45.4**	**-1.1**
IGT				S	**Sn**	**06 47 59.1**	**-1.1**
IGT				AML	AML	06 48 05.1	
	0.3nm,0.7s						
IGT	**Igoumenitsa**	**1.03 95**		P	**Pn**	**06 47 45.0**	**-1.6**
IGT				S	**Sn**	**06 47 58.4**	**-1.8**
PRGA	**Parga**	**1.14 107**		P	**Pn**	**06 47 46.9**	**-1.0**
LSK	**Leskovik**	**1.34 66**		P	**Pb**	**06 47 51.9**	**-0.3**
LSK				S	**Sb**	**06 48 10.4**	**+1.5**
TSLK	**Tsoukalades, L**	**1.51 121**		P	**Pn**	**06 47 53.2**	**+0.1**
TSLK				S	**Sn**	**06 48 12.8**	**+0.8**
LKD2	**Lefkada island**	**1.54 122**		P	**Pn**	**06 47 54.8**	**+1.3**
LKD2				S	**Sb**	**06 48 15.8**	**+1.3**
LKD2				AML	AML	06 48 24.3	
	0.4nm,0.7s						
LKD2	**Lefkada island**	**1.54 122**		P	**Pn**	**06 47 54.6**	**+1.2**
LKD2				S	**Sn**	**06 48 12.8**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.60 124**		P	**Pn**	**06 47 54.6**	**+0.3**
EVGI	**Lefkada island**	**1.63 127**		P	**Pn**	**06 47 55.6**	**+0.8**
NEST	**Nestorio**	**1.76 63**		P	**Pb**	**06 47 58.5**	**-0.9**
NEST				S	**Sb**	**06 48 24.7**	**+3.6**
PUK	**Puka**	**2.51 15**		P	**Pb**	**06 48 13.1**	**+1.0**

NEIC 24 06:53:00.2±1.1, 35°.15N±0°.01×97°.61W±0°.02, h5km±1km, ML1.8/33, Error ellipse: s-maj=2.9km s-min=2.2km az=331.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.20 58**			Pg	06 53 05.1	+0.9
FNO				Sg	Sg	06 53 08.4	+1.6
FNO				IAML		06 53 11.3	
	comp=E,143nm,0.6s						
OKCSW	**OKLAHOMA CITY**	**0.29 29**		Sg	Sg	06 53 10.7	+1.0
ADOK	**Arcadia Dam**	**0.54 21**		Pg	Pg	06 53 08.9	-1.6
X34A	**Smith Ranch, M**	**0.58 199**		Pg	Pg	06 53 11.2	0.0
X34A				Sg	Sg	06 53 19.8	+1.0
X34A				IAML		06 53 21.0	
	comp=N,44nm,0.5s						
W35A	**Tecumseh**	**0.60 90**		Pg		06 53 10.8	-0.9
W35A				Sg	Sg	06 53 20.1	+0.5
W35A				IAML		06 53 23.3	
	comp=E,31nm,0.4s						
OK029	**Liberty Lake**	**0.66 11**		Pg	Pg	06 53 13.1	+0.2
OK029				Sg	Sg	06 53 22.5	+1.1
OK029				IAML		06 53 28.9	
	comp=E,25nm,0.4s						
OK031	**S. Brethren Rd**	**1.02 38**		Pg	Pg	06 53 19.1	-0.6
OK031				IAML		06 53 35.3	
	comp=E,59nm,0.3s						
WMOK	**Wichita Mounta**	**1.05 247**		Pg	Pg	06 53 19.7	-0.6
OK052	**Battle Ridge R**	**1.07 38**		Pg	Pg	06 53 20.0	-0.7
OK052				Sg	Sg	06 53 34.2	-0.3
DEOK	**Depew**	**1.14 52**		Pg	Pg	06 53 20.7	-1.3
DEOK				Sg	Sg	06 53 36.6	-0.2
DEOK				IAML		06 53 38.7	
	comp=N,32nm,0.2s						
DEOK				IAML		06 53 41.8	
	comp=E,34nm,0.3s						
QUOK	**Quay**	**1.26 35**			Pg	06 53 23.7	-0.5
CROK	**Carrier**	**1.39 347**			Pn	06 53 25.4	-0.8
OK051	**E0350 and S346**	**1.49 25**			Pn	06 53 25.8	-1.8
WTFS	**Witchita Falls**	**1.55 207**			Pn	06 53 28.1	-0.4
PLPT	**Palo Pinto**	**2.40 194**		Pn	Pn	06 53 40.2	+0.1

*NOU **24** 07:15:40.5, 22°.05S×169°.41E, h0km, mb1.8/8, Southeast of Loyalty Islands*
*IDC **24** 07:15:40.7±1.5, 20°.53S×168°.84E, h0km, mb3.6/3, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=99.0km s-min=21.4km az=159.0*
ISC 24 07:15:42.4±1.0, 22°.15S±0°.1×169°.38E±0°.06, h25km, n13, σ1s 15/15, mb3.7/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.38 295**		P	**Pn**	**07 16 05.8**	**-0.3**
MARNC	**Mare, Loyalty**	**1.38 295**		S	**Sb**	**07 16 24.8**	**0.0**
PINNC	**Pines Island,**	**1.87 253**		P	**Pn**	**07 16 12.9**	**0.0**
YATNC	**Mamie plateau,**	**2.31 270**		P	**Pn**	**07 16 20.2**	**+1.3**
ONTNC	**Ouen Toro**	**2.72 264**		P	**Pn**	**07 16 26.5**	**+1.9**
DZM	**Mont Dzumac**	**2.72 269**		Pn	**Pn**	**07 16 24.8**	**+0.1**
	2.4nm,0.3s,baz=76,slow=19,SNR=69						
DZM				Sn	**Sn**	**07 16 56.9**	**0.0**
	14nm,0.3s,baz=99,slow=19,SNR=8.2						
	12nm,0.5s						
DZM	**Mont Dzumac**	**2.72 269**		P	**Pn**	**07 16 26.0**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.98 287**		P	**Pn**	**07 16 57.2**	**+1.5**
MSVF	**Nonsavu**	**9.22 64**		Pn	**Pn**	**07 17 53.5**	**-0.5**
	2.9nm,0.9s,baz=222,slow=12,SNR=1.5						
MSVF				Sn	**Sn**	**07 19 38.8**	**+1.7**
	0.3nm,0.3s,baz=278,slow=23,SNR=0.6						
ASAR	**Alice Springs**	**32.68 260**		P	**P**	**07 22 13.2**	**+0.3**
	0.8nm,0.8s,baz=83,slow=9.1,SNR=8.4						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**32.74 267**		P	**P**	**07 22 12.0**	**-1.4**
	0.5nm,0.7s,baz=93,slow=8.6,SNR=1.2						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**90.57 48**		P	**P**	**07 28 42.4**	**-0.5**
	0.4nm,0.7s,baz=222,slow=6.6,SNR=4.3						
	0.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**146.31 352**		PKP	**PKPdf**	**07 35 18.6**	**-0.8**
	0.9nm,0.6s,baz=5.0,slow=3.5,SNR=4.5						

*IDC **24** 07:28:33.5±1.7, 16°.06S×173°.68W, h0km, mb3.7/8, mbtmp3.7/8, MS4.1/13, Error ellipse: s-maj=115.0km s-min=20.7km az=148.0*
ISC 24 07:28:36.6±0.8, 15°.45S±0°.2×174°.0W±0°.1, h10km, n24, σ2s 15/12, mb3.7/8, MS4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.65 247**		*eP*	**P**	**07 33 04.2**	**-1.7**
	94nm,21.6s						
DZM				*eS*	**Sn**	**07 36 52.9**	**+4.7**
	606nm,24.6s						
DZM				*eLR*	LR	07 37 52.9	
	377nm,22.9s						
PPT2	**Papeete2**	**23.53 99**		*eS*	**S**	**07 38 01.4**	**-0.1**
	762nm,24.2s						
PPT2				*eLR*	LR	07 39 34.4	
	144nm,21.8s						
PPT2				*eLR*	LR	07 39 35.4	
	115nm,23.0s						
TBI	**Tubuai**	**24.45 113**		*eS*	**S**	**07 38 18.5**	**+2.4**
	3μm,24.0s						
RPZ	**Rata Peaks**	**30.97 201**		LR	LR	07 47 34.5	
	comp=Z,354nm,19.1s,baz=96,slow=37						
TAOE	**Nuku Hiva Isla**	**33.71 83**		*eLR*	LR	07 44 15.3	
	306nm,21.7s						
STKA	**Stephens Creek**	**43.53 240**		P	**P**	**07 36 38.7**	**-2.0**
	1.5nm,0.8s,baz=108,slow=11,SNR=3.8						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**49.27 257**		P	**P**	**07 37 25.3**	**-0.7**
	0.5nm,0.6s,baz=90,slow=7.3,SNR=5.5

1.0nm,1.0s,baz=226,slow=8.8,SNR=6.3
NVAR LR LR 08 07 20.4
comp=Z,129nm,18.1s,baz=300,slow=31
1.0nm,1.0s
KDAK Kodiak Island 75.03 12 LR LR 08 07 14.0
comp=Z,140nm,19.9s,baz=4.4,slow=31
USRK Ussuriysk Ar. 77.02 323 LR LR 08 09 15.0
comp=Z,105nm,20.6s,baz=119,slow=31
BBB Bella Bella 78.14 27 LR LR 08 07 44.9
comp=Z,137nm,19.1s,baz=188,slow=30
TXAR Lajitas Array 81.10 56 P **P 07 40 51.7 -0.9**
0.6nm,1.1s,baz=208,slow=5.1,SNR=3.4
0.6nm,1.1s
ILAR Eielson Array 82.55 11 P **P 07 41 01.4 +2.0**
0.4nm,1.0s,baz=223,slow=7.6,SNR=4.5
0.4nm,1.0s
PDAR Pinedale Array 82.65 42 P **P 07 41 00.3 -0.4**
0.3nm,0.8s,baz=264,slow=3.0,SNR=3.8
0.3nm,0.8s
YKA Yellowknife Ar 90.32 24 P **P 07 41 37.6 +0.1**
0.5nm,1.0s,baz=238,slow=4.4,SNR=3.8
0.5nm,1.0s
CMAR Chiang Mai Arr 92.05 288 LR LR 08 18 22.2
comp=Z,16nm,22.0s,baz=5.0,slow=32
ULM Lac du Bonnet 94.30 39 LR LR 08 19 10.6
comp=Z,151nm,20.3s,baz=258,slow=32

IDC 24 07:41:16.6±58.0, 16°.10S×173°.25W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1124.0km s-min=207.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.82**	**241**	P	P	07 49 24.5	0.0
	0.6nm,0.5s,baz=78,slow=9.2,SNR=3.7 0.6nm,0.5s						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	07 50 11.3	-0.5
	0.3nm,0.6s,baz=89,slow=7.7,SNR=4.9 0.3nm,0.6s						
ASAR	**Alice Springs**	**50.03**	**252**	P	P	07 50 13.4	+0.1
	2.3nm,0.5s,baz=89,slow=8.2,SNR=58 2.3nm,0.5s						

---

*IDC **24** 07:52:30.6±1.5, 9°.76S×150°.39E, h0km, mb3.6/3, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=32.6km s-min=21.3km az=169.0*

ISC 24 07:52:31.7±1.0, **9°.8S**±0°.2×**150°.44E**±0°.08, **h10**km, **n6**, σ1°**46**/8, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.26**	**277**	Pn	**Pn**	**07 53 21.0**	**-1.8**
	7.7nm,0.2s,baz=84,slow=9.8,SNR=5.8						
PMG				Pg	**Pb**	**07 53 29.3**	**-0.3**
	10nm,0.3s,baz=91,slow=8.5,SNR=16						
PMG				Sn	**Sn**	**07 54 04.1**	**+2.3**
	11nm,0.3s,baz=192,slow=20,SNR=8.6						
HNR	**Honiara**	**9.38**	**89**	Pn	**Pn**	**07 54 46.9**	**-0.2**
	30nm,0.5s,baz=191,slow=7.4,SNR=1.2						
WRA	**Warramunga Arr**	**18.52**	**235**	P	**P**	**07 56 48.1**	**-0.4**
	0.1nm,0.3s,baz=59,slow=12,SNR=7.4 0.7nm,0.8s						
ASAR	**Alice Springs**	**20.96**	**227**	P	**P**	**07 57 15.0**	**-0.2**
	1.6nm,0.7s,baz=63,slow=9.9,SNR=18 1.6nm,0.7s						
STKA	**Stephens Creek**	**23.45**	**199**	P	**P**	**07 57 42.2**	**+0.9**
	1.9nm,0.8s,baz=21,slow=10,SNR=4.0 1.9nm,0.8s						
ILAR	**Eielson Array**	**87.64**	**22**	P	**P**	**08 05 20.9**	**+0.9**
	0.3nm,0.8s,baz=251,slow=3.2,SNR=5.2 0.3nm,0.8s						

---

*SOME **24** 08:24:12.3, 41°.30N×83°.70E, h5km*
*NNC **24** 08:24:19.4±1.6, 41°.39N×83°.50E, h24km±5km, mb3.7, mpv3.3, Error ellipse: s-maj=12.1km s-min=7.6km az=158.0*

ISC 24 08:24:19.8±2.5, **41°.5N**±0°.1×**83°.42E**±0°.07, **h10**km, **n17**, σ1°**76**/29, **7C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.98**	**311**	*e*P	**Pb**	**08 25 12.7**	**-0.3**
	1.7nm,0.1s						
KTMS				*e*S	**Sg**	**08 25 56.3**	**+0.8**
	10nm,0.3s						
SHLS	**Shalkode**	**3.36**	**301**	Pg	**Pb**	**08 25 19.8**	**+0.2**
	12nm,0.2s						
SHLS				Lg	Lg	08 26 03.8	
	74nm,0.5s						
SHLS	**Shalkode**	**3.36**	**301**	*e*P	**Pn**	**08 25 14.4**	**+1.9**
	7.6nm,0.2s						
SHLS				*e*S	**Sb**	**08 25 59.2**	**-1.3**
	67nm,0.3s						
PDGK	**Podgornoye**	**3.43**	**303**	⇑Pn	**Pn**	**08 25 13.0**	**-0.4**
	0.6nm,0.3s						
PDGK				⇓Pg	**Pg**	**08 25 24.5**	**-1.0**
	3.1nm,0.5s						
PDGK				⇑Sn	**Sn**	**08 25 55.1**	**+0.9**
	14nm,0.5s						
PDGK				⇑Lg	Lg	08 26 11.6	
	17nm,0.6s						
DJR	**Jarkent**	**3.88**	**318**	Pg	**Pg**	**08 25 33.1**	**-1.0**
	5.3nm,0.4s						
DJR				Lg	Lg	08 26 27.0	
	6.6nm,0.6s						
DJR	**Jarkent**	**3.88**	**318**	*e*P	**Pb**	**08 25 29.9**	**+1.6**
	3.4nm,0.2s						
DJR				*e*S	**Sg**	**08 26 26.2**	**+1.9**
	8.2nm,0.3s						
KPKS	**Kokpek**	**4.01**	**301**	Pg	**Pg**	**08 25 34.4**	**-2.2**
	4.5nm,0.3s						
KPKS				Lg	Lg	08 26 29.1	
	36nm,0.4s						
KPKS	**Kokpek**	**4.01**	**301**	*e*P	**Pb**	**08 25 31.9**	**+1.4**
	1.9nm,0.1s						
KPKS				*e*S	**Sg**	**08 26 29.4**	**+0.9**
	36nm,0.4s						
SATY	**Saty**	**4.03**	**294**	Pg	**Pg**	**08 25 35.4**	**-1.6**
	8.9nm,0.5s						
SATY				Lg	Lg	08 26 31.0	
	34nm,0.6s						
ZHN	**Zhinishke**	**4.05**	**296**	Pg	**Pg**	**08 25 35.6**	**-1.7**
ZHN				Lg	Lg	08 26 30.6	
ZHN	**Zhinishke**	**4.05**	**296**	*e*P	**Pb**	**08 25 32.2**	**+0.9**
	7.1nm,0.1s						
ZHN				*e*S	**Sg**	**08 26 29.8**	**0.0**
	20nm,0.2s						
KURS	**Kuram**	**4.35**	**299**	Pg	**Pg**	**08 25 40.7**	**-2.4**
	3.7nm,0.6s						
KURS				Lg	Lg	08 26 39.5	
	9.8nm,0.5s						
BLB	**Baldybastay**	**4.46**	**307**	Pg	**Pg**	**08 25 43.3**	**-1.9**
	12nm,0.3s						
BLB				Lg	Lg	08 26 44.0	
	15nm,0.6s						
MK31	**Makanchi Array**	**5.34**	**352**	⇓Pn	**Pn**	**08 25 38.6**	**-0.9**
	baz=237,slow=11,SNR=4.2						
MK31				⇑Pg	**Pg**	**08 25 58.0**	**-4.0**
	1.2nm,0.5s,baz=167,slow=15,SNR=11						
MK31				⇑Sn	**Sn**	**08 26 43.1**	**+1.9**
	1.8nm,0.6s,baz=187,slow=23,SNR=3.6						
MK31				⇑Lg	Lg	08 27 12.9	
	5.7nm,0.5s,baz=168,slow=28,SNR=7.7						
MAKZ	**Makanchi**	**5.39**	**349**	⇓Pn	**Pn**	**08 25 39.5**	**-0.7**
	0.3nm,0.4s						
MAKZ				⇓Pg	**Pb**	**08 25 56.5**	**+2.4**
	0.3nm,0.3s						
MAKZ				⇓Sn	**Sn**	**08 26 43.3**	**+0.9**
	0.8nm,0.4s						
MAKZ				⇑Lg	Lg	08 27 16.5	
	5.4nm,0.8s						
ZSN	**Zaisan**	**6.02**	**9**	Pg	**Pg**	**08 26 14.0**	**-1.1**
	2.3nm,0.4s						
ZSN				Lg	Lg	08 27 36.5	
	15nm,0.8s						
ZSN	**Zaisan**	**6.02**	**9**	*e*P	**Pb**	**08 26 07.8**	**+3.0**
	1.5nm,0.1s						
ZSN				*e*S	**Sg**	**08 27 31.1**	**-2.0**
	5.2nm,0.2s						

---

*NEIC **24** 08:31:49.2±1.0, 37°.80N±0°.01×113°.15W±0°.02, h5km, Error ellipse: s-maj=2.4km s-min=1.9km az=288.0*

UUSS 24 08:31:49.7±1.1, **37°.80N**±0°.01×**113°.13W**±0°.02, **h11**km±8km,
ML2.9/12, **ML2.9**/23(NEIC), **Error ellipse: s-maj=2.4km s-min=1.8km az=98.0, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**0.25**	**268**		Pg	08 31 55.3	+0.5
DWU	**Dry Willow Pea**	**0.32**	**19**		Pg	08 31 56.4	+0.1
ZNPU	**Zion National**	**0.44**	**180**		Pg	08 31 58.3	-0.1
ZNPU					Sg	08 32 04.7	+0.4
PKCU	**Pink Cliffs**	**0.74**	**118**	Pg	Pg	08 32 03.7	-0.3
PKCU				IAML		08 32 14.2	
	comp=N,480nm,0.4s						
MTPU	**Mount Pierson**	**0.79**	**72**	Pg	Pg	08 32 04.8	-0.2
LCMT	**Little Creek M**	**0.79**	**187**		Pg	08 32 04.3	-0.6
LCMT				Sg	Sg	08 32 14.2	-1.0
KNB	**Kanab**	**0.82**	**162**	Pg	Pg	08 32 04.9	-0.6
KNB				IAML		08 32 15.8	
	comp=N,416nm,0.7s						
KNB				IAML		08 32 16.1	
	comp=E,433nm,0.3s						
ICU	**Indian Springs**	**0.90**	**225**		Pg	08 32 06.0	-1.1
PSUT	**Pine Spring**	**0.93**	**322**	Pg	Pg	08 32 07.5	-0.2
PSUT				IAML		08 32 23.1	
	comp=N,412nm,0.4s						
TCRU	**Three Creeks R**	**0.97**	**33**		Pg	08 32 08.1	-0.4
TCRU				IAML		08 32 22.2	
	comp=E,254nm,0.2s						
TCRU				IAML		08 32 22.4	
	comp=N,250nm,0.1s						
BTU	**Barney Top**	**0.99**	**92**		Pg	08 32 08.8	-0.1
MSU	**Marysvale**	**1.04**	**46**		Pg	08 32 09.3	-0.3
WCU	**Willow Creek**	**1.42**	**35**		Pb	08 32 16.1	-0.3
U15A	**North Rim**	**1.52**	**154**		Pn	08 32 17.4	+0.3
SPR3	**Spring Creek 3**	**1.53**	**322**	Pn	Pn	08 32 15.9	-1.3
SPR3				IAML		08 32 39.7	
	comp=E,146nm,0.3s						
SPR3				IAML		08 32 40.6	
	comp=N,133nm,0.4s						
PRN	**Pahroc Range**	**1.57**	**256**	Pn	Pb	08 32 18.6	-0.3
OWUT	**Old Woman Plat**	**1.66**	**53**		Pb	08 32 20.5	0.0
Q16A	**Castle Valley**	**1.90**	**53**		Pn	08 32 23.2	+0.9
SHPR	**Sheep Range**	**2.07**	**232**		Pn	08 32 25.2	+0.6
S11A	**Rachel**	**2.08**	**267**		Pn	08 32 25.6	+0.9
TMUT	**Trail Mountain**	**2.12**	**45**		Pn	08 32 26.4	+1.0
DUG	**Dugway, Tooele**	**2.41**	**6**		Pn	08 32 30.4	+1.3
SRU	**San Rafael Swe**	**2.43**	**57**		Pn	08 32 31.1	+1.6
V12A	**Nelson**	**2.49**	**214**		Pn	08 32 30.3	+0.1
MPU	**Maple Canyon**	**2.50**	**27**		Pn	08 32 31.5	+1.0
TPNV	**Topopah Spring**	**2.63**	**252**		Pn	08 32 32.5	+0.3
TPNV				IAML		08 33 19.3	
	comp=N,68nm,0.6s						
TPNV				IAML		08 33 29.0	
	comp=N,45nm,0.6s						
P18A	**Preston Nutter**	**2.90**	**50**		Pb	08 32 39.1	-2.5
WCT	**Wildcat Mounta**	**2.96**	**251**		Pn	08 32 37.4	+0.6
BGU	**Big Grassy Mou**	**3.12**	**1**		Pn	08 32 39.9	+0.9
GWY	**Greenwater Val**	**3.26**	**241**		Pn	08 32 41.5	+0.7
BSUT	**Blindstream Ca**	**3.30**	**33**		Pn	08 32 43.7	+2.1
GMN	**Gold Mountain**	**3.32**	**263**		Pn	08 32 41.9	+0.1
ELK	**Elko**	**3.37**	**332**		Pn	08 32 42.6	+0.1
MZP	**Montezuma Peak**	**3.37**	**270**		Pn	08 32 41.5	-1.1
DSP	**Deep Springs**	**3.87**	**265**		Pn	08 32 48.9	-0.2
HVU	**Hansel Valley**	**3.99**	**4**	Pn	Pn	08 32 51.7	+0.9
NV11	**Mina Array Sit**	**4.01**	**281**		Pn	08 32 51.3	+0.1
RYN	**Ryan**	**4.33**	**283**		Pn	08 32 54.8	-0.8

---

*NEIC **24** 08:33:03.7±0.8, 20°.46N±0°.06×155°.93W±0°.07, h49km±6km, Error ellipse: s-maj=13.3km s-min=1.8km az=47.0*

HVO 24 08:33:06.1±1.0, **20°.48N**±0°.04×**155°.90W**±0°.06, **h35**km±6km, **ML3.0**/43, **ML3.1**/54(NEIC), **Error ellipse: s-maj=10.2km s-min=2.5km az=52.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.29**	**180**	Pg	Pn	08 33 13.3	-0.5
MHA					Sn	08 33 18.5	-0.5
HLK	**Haleakala**	**0.43**	**311**		Pn	08 33 14.3	-1.7
HLK				Sg	Sn	08 33 20.9	-1.9
HPAH	**Hawaii Prepara**	**0.48**	**156**	Pn	Pn	08 33 14.9	-1.7
HPAH					Sn	08 33 21.5	-2.3
HPAH				IAML		08 33 21.8	
	comp=N,925nm,0.2s						
KHLH	**Kahului Airpor**	**0.65**	**311**		Pn	08 33 17.4	-1.3
KHLH					Sn	08 33 26.9	-0.8
HUH	**Hualalai**	**0.79**	**175**		Pn	08 33 19.3	-1.6
HUH				IAML		08 33 34.5	
	comp=E,795nm,0.2s						
POHA	**Pohakuloa**	**0.80**	**154**		Pn	08 33 19.1	-2.0
POHA				IAML		08 33 29.2	
	comp=E,463nm,0.3s						
POHA				IAML		08 33 29.3	
	comp=E,605nm,0.4s						
POHA	**Pohakuloa**	**0.80**	**154**		Sn	08 33 28.7	-3.1
HMH	**Humu'ula Sheep**	**0.95**	**155**	Pn	Pn	08 33 21.2	-2.1
ALEP	**Alea Permanent**	**0.96**	**165**		Pn	08 33 21.6	-1.8
ALEP					Sn	08 33 33.3	-2.7
CPH	**Captain Cook**	**0.98**	**181**		Pn	08 33 21.2	-2.2
MLOA	**Mauna Loa Obse**	**0.98**	**162**		Pn	08 33 21.8	-2.0
MLOA					Sn	08 33 33.9	-2.8
MWH	**Mokuaweoweo**	**1.03**	**164**	Pn	Pn	08 33 22.1	-2.4
MWH				IAML		08 33 44.5	
	comp=N,638nm,0.3s						
MWH				IAML		08 33 45.7	
	comp=E,512nm,0.3s						
MLH	**Mauna Loa**	**1.09**	**153**		Pn	08 33 23.0	-2.1
MLH					Sn	08 33 35.9	-3.2
MLH				IAML		08 33 36.0	
	comp=E,360nm,0.3s						
MLH				IAML		08 33 36.5	
	comp=N,381nm,0.2s						
RSD	**Rainshed**	**1.17**	**150**		Pn	08 33 24.0	-2.1
RSD				Pg	Pn	08 33 24.1	-1.9
UWE	**Uwekahuna**	**1.20**	**151**		Pn	08 33 24.2	-2.2
UWE				IAML		08 33 39.9	
	comp=N,388nm,0.2s						
UWB	**Uwekahuna Bluf**	**1.20**	**151**		Pn	08 33 24.1	-2.3
UWB					Sn	08 33 37.7	-3.9
SBLHI	**Steaming Bluff**	**1.20**	**150**		Pn	08 33 24.1	-2.4
SBLHI					Sn	08 33 37.7	-4.0
OBL	**Observatory Le**	**1.20**	**151**		Pn	08 33 24.2	-2.3
OBL					Sn	08 33 37.8	-3.9
WRMHI	**West Rim**	**1.21**	**152**		Pn	08 33 24.2	-2.3
WRMHI					Sn	08 33 37.7	-4.1
HATHI	**Halema'uma'u T**	**1.21**	**150**		Pn	08 33 24.2	-2.4
HATHI				IAML		08 33 38.4	
	comp=N,214nm,0.1s						
BYL	**Byron's Ledge**	**1.22**	**150**		Pn	08 33 24.4	-2.4
BYL				IAML		08 34 04.1	
	comp=E,215nm,3.3s						
SDHHI	**Sand Hill**	**1.22**	**152**		Pn	08 33 24.4	-2.4
SDHHI					Sn	08 33 38.3	-3.9
RIM	**Rim**	**1.23**	**151**		Pn	08 33 24.5	-2.4
RIM					Sn	08 33 38.8	-3.5
KKO	**Keanakako'i**	**1.23**	**151**		Pn	08 33 24.6	-2.3
KKO					Sn	08 33 38.5	-3.8
KHU	**Kahuku**	**1.25**	**167**		Pn	08 33 24.8	-2.5
KHU				IAML		08 33 40.5	
	comp=N,302nm,0.8s						
KHU				IAML		08 34 01.1	
	comp=E,288nm,3.8s						
PUH	**Pauahi**	**1.27**	**149**		Pn	08 33 25.1	-2.4
PUH				IAML		08 33 43.4	
	comp=N,243nm,3.4s						
KNHH	**Kane Nui o Ham**	**1.29**	**148**	Pn	Pn	08 33 25.3	-2.4
HLP	**Hilina Pali**	**1.30**	**154**		Pn	08 33 25.5	-2.3
STCH	**Steam Cracks**	**1.31**	**146**	Pn	Pn	08 33 25.7	-2.3
STCH				IAML		08 33 41.1	
	comp=N,282nm,0.2s						
STCH				IAML		08 33 41.2	
	comp=E,379nm,0.2s						
NPOC	**North of Pu'u**	**1.31**	**145**		Pn	08 33 25.6	-2.4
NPOC					Sn	08 33 40.2	-4.1
HTC	**Hot Caves**	**1.32**	**159**		Pn	08 33 25.9	-2.2
JCUZ	**Jacuzzi**	**1.32**	**145**		Pn	08 33 25.8	-2.4
JCUZ					Sn	08 33 40.7	-3.9
PAH	**Pahoa**	**1.33**	**137**	Pn	Pn	08 33 26.1	-2.1
PAH					Sn	08 33 41.2	-3.3
JOKA	**Jonika Flow**	**1.34**	**141**	Pn	Pn	08 33 26.1	-2.2
JOKA				IAML		08 33 49.1	
	comp=N,243nm,2.8s						
WMR	**Waimanalo Ridg**	**1.86**	**297**		Pn	08 33 33.1	-2.4
WMR					Sn	08 33 53.5	-4.3
DHH	**Diamond Head**	**1.94**	**294**		Pn	08 33 33.8	-2.7
DHH						08 33 33.9	
HON	**Honolulu**	**2.13**	**294**		Pn	08 33 36.8	-2.4
KIP	**Kipapa**	**2.19**	**296**		Pn	08 33 37.0	-2.9
KIP	**Kipapa**	**2.19**	**296**	IAML		08 33 55.6	
	comp=N,136nm,4.8s						
KIP				IAML		08 33 57.2	
	comp=N,130nm,5.0s						
OPA	**Opana**	**2.31**	**302**		Pn	08 33 38.9	-2.7
OPA					Sn	08 34 04.2	-4.6
KEKH	**Kekaha**	**3.86**	**294**		Pn	08 33 59.9	-3.0
KEKH						08 34 00.3	

---

*UPP **24** 08:38:09.4±0.0, 67°.88N×20°.15E, h0km, ML2.3, Confirmed Induced event*
*HEL **24** 08:38:10.1±0.1, 67°.81N×20°.20E, h0km, ML1.6, Explosion*
*IDC **24** 08:38:12.7±1.2, 67°.89N×20°.60E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=18.1km s-min=7.0km az=120.0*

ISC 24 08:38:09.7±0.9, **67°.88N**±0°.03×**20°.28E**±0°.04, **h0**km, **n23**, σ1°**31**/29, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.08**	**16**	P	**Pg**	**08 38 11.5**	**+0.4**
KUA				S	**Sg**	**08 38 13.5**	**+1.4**
RATU	**Laukkuluspa**	**0.27**	**258**	P	**Pg**	**08 38 13.6**	**-1.1**
KOVU	**Salmi**	**0.35**	**353**	P	**Pg**	**08 38 16.6**	**+0.3**
LANU	**Lannavaara**	**0.67**	**75**	P	**Pg**	**08 38 22.8**	**+0.4**
LANU	**Lannavaara**	**0.67**	**75**	*e*P	**Pg**	**08 38 22.8**	**+0.4**
LANU				*e*S	**Sg**	**08 38 32.0**	**+0.9**
DUNU	**Dundret**	**0.77**	**172**	P	**Pg**	**08 38 24.3**	**0.0**
MASU	**Masugnsbyn**	**0.78**	**122**	P	**Pg**	**08 38 25.3**	**+0.7**
KIF	**Kilpisjarvi**	**1.15**	**9**	*e*P	**Pn**	**08 38 33.7**	**+0.8**
KIF	**Kilpisjarvi**	**1.15**	**9**	*e*P	**Pn**	**08 38 32.8**	**-0.1**
KIF				*e*S	**Sn**	**08 38 48.7**	**-0.6**
KIF				MSG		08 38 57.4	
	comp=Z,7.7nm,0.2s						
HEF	**Hetta**	**1.37**	**66**	*e*P	**Pn**	**08 38 35.7**	**-0.4**
HEF	**Hetta**	**1.37**	**66**	*e*P	**Pn**	**08 38 35.6**	**-0.5**
HEF				MSG		08 38 46.5	
	comp=Z,2.9nm,0.2s						
HEF				*e*S	**Sg**	**08 38 54.0**	**+0.3**
PAJU	**Pajala**	**1.39**	**127**	P	**Pn**	**08 38 34.6**	**-1.7**
PAJU	**Pajala**	**1.39**	**127**	*e*P	**Pn**	**08 38 34.0**	**-2.3**
ERTU	**Ertsjaerv**	**1.52**	**150**	*e*PN	**Pn**	**08 38 37.7**	**-0.5**
KLF	**Kolari**	**1.56**	**113**	*e*P	**Pn**	**08 38 38.0**	**-0.5**
KLF				MSG		08 38 50.9	
	comp=Z,3.3nm,0.2s						
KTK1	**Kautokeino**	**1.58**	**42**	*e*P	**Pn**	**08 38 39.4**	**+0.5**
KALU	**Kalix**	**2.37**	**148**	*e*P	**Pn**	**08 38 49.2**	**-0.4**
TOF	**Tornio**	**2.41**	**137**	MSG		08 39 20.1	
	comp=Z,4.3nm,0.2s						
TOF				*e*SG	**Sb**	**08 39 23.3**	**-0.6**
ARCES	**ARCESS Array B**	**2.53**	**47**	Pn	**Pb**	**08 38 54.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=229,slow=15,SNR=33						
ARCES				Lg	Lg	08 39 29.0	
	comp=Z,1.4nm,0.3s,baz=225,slow=24,SNR=12 comp=Z,1.2nm,0.3s						
RNF	**Rovaniemi**	**2.57**	**117**	*e*PB	**Pb**	**08 38 54.7**	**-1.8**
BURU	**Burvik**	**3.34**	**172**	*e*PB	**Pn**	**08 39 05.6**	**+2.6**
FINES	**FINESS Array B**	**6.92**	**156**	Pn	**Pn**	**08 39 55.2**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=5.1						
FINES				Sn	**Sn**	**08 41 12.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=22,SNR=6.2						
FINES				Lg	Lg	08 41 48.2	
	comp=Z,0.5nm,0.3s,baz=344,slow=27,SNR=7.2 comp=Z,2.3nm,0.9s						
NOA	**NORSAR Array B**	**7.89**	**214**	Pn	**Pn**	**08 40 07.9**	**+2.3**
	baz=21,slow=11,SNR=2.1						
NOA				Sn	**Sn**	**08 41 34.9**	**-0.6**
	baz=58,slow=4.3,SNR=1.9						
NOA				Lg	Lg	08 42 22.2	
	baz=39,slow=23,SNR=5.2 comp=Z,0.9nm,0.9s						

---

*GCG **24** 08:48:03.5±2.8, 15°.87N×94°.28W, h167km±128km, MD4.1, ML3.7, MW3.5, Hypocentre not reviewed by the ISC*
*MEX **24** 08:48:08.0±0.9, 15°.89N×94°.11W, h88km±8km, MD4.5*
*NEIC **24** 08:48:09.1±1.4, 16°.06N±0°.08×93°.97W±0°.06, h80km±7km, mb4.0/20, Error ellipse: s-maj=13.2km s-min=6.3km az=209.0*
*IDC **24** 08:48:10.8±0.8, 16°.67N×93°.58W, h64km±25km, mb3.6/9, mbtmp3.8/11, ML3.2/2, Error ellipse: s-maj=67.4km s-min=6.9km az=28.0*

ISC 24 08:48:07.7±0.8, **15°.91N**±0°.04×**94°.13W**±0°.03, **h83**km±6km, **n83**, σ2°**35**/120, **mb4.0**/12, **1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**0.40**	**32**	*e*P	**Pn**	**08 48 20.7**	**-0.2**
CARR				*e*S	**Sn**	**08 48 30.6**	**-0.2**
NILT	**Santiago Nilte**	**0.80**	**325**	*e*P	**Pn**	**08 48 25.2**	**+0.5**
NILT				*e*S	**Sn**	**08 48 38.4**	**+1.0**
PCIG		**0.90**	**103**	*e*P	**Pn**	**08 48 24.7**	**-1.0**
PCIG				*e*S	**Sn**	**08 48 38.0**	**-1.2**
TGIG		**1.30**	**48**	*e*P	**Pn**	**08 48 30.2**	**-0.4**
TGIG				*e*S	**Sn**	**08 48 46.9**	**-1.1**
TGBT	**Tuxtla Gutierr**	**1.32**	**49**	*e*P	**Pn**	**08 48 30.2**	**-0.6**
TGBT				*e*S	**Sn**	**08 48 46.4**	**-1.9**
CMIG	**Matias Romero**	**1.38**	**329**	P	**Pn**	**08 48 32.0**	**+0.3**
	92nm,0.3s,baz=162,slow=14,SNR=284						
CMIG				S	**Sn**	**08 48 50.1**	**+0.4**
	414nm,0.3s,baz=145,slow=14,SNR=19						
CMIG				LR	LR	08 49 20.7	
	comp=Z,63nm,20.3s,baz=156,slow=53						
CMIG	**Matias Romero**	**1.38**	**329**	*e*P	**Pn**	**08 48 31.9**	**+0.3**
CMIG				*e*S	**Sn**	**08 48 49.7**	**0.0**
UXUV	**UXUV**	**1.40**	**359**	*e*P	**Pn**	**08 48 32.7**	**+0.8**
UXUV				*e*S	**Sn**	**08 48 50.0**	**-0.2**
HUIG	**Huatulco**	**1.91**	**266**	*e*P	**Pn**	**08 48 37.1**	**-1.4**
HUIG				*e*S	**Sn**	**08 48 58.0**	**-3.9**
HUIG	**Huatulco**	**1.91**	**266**	*e*P		08 48 37.0	
HUIG				IAML		08 49 16.0	
	comp=Z,183nm,0.6s						
CCIG	**Comitan**	**1.95**	**79**	Pn	**Pn**	**08 48 38.4**	**-0.8**
CCIG				Sn	**Sn**	**08 48 59.7**	**-3.5**
CCIG	**Comitan**	**1.95**	**79**	*e*P	**Pn**	**08 48 38.7**	**-0.5**
CCIG				*e*S	**Sn**	**08 48 59.8**	**-3.5**
PATR	**El Naranjo**	**1.99**	**113**	*e*P	**Pn**	**08 48 39.3**	**-0.5**
PATR				*e*S	**Sn**	**08 49 02.5**	**-1.6**
PAVE	**Pavencul**	**2.01**	**110**	*e*P	**Pn**	**08 48 40.0**	**0.0**
PAVE				*e*S	**Sn**	**08 49 03.2**	**-1.4**
THIG		**2.06**	**119**	*e*P	**Pn**	**08 48 39.9**	**-0.5**
THIG				*e*S	**Sn**	**08 49 03.0**	**-2.4**
THIG		**2.06**	**119**	*

TXIG	Tlaxiaco	3.74	292	eP		Pn	08 49 06.1	+2.8
TXIG				eS		Sn	08 49 39.7	-6.7
PNIG	Pinotepa	3.87	278	eP		Pn	08 49 04.4	-0.5
PNIG				eS		Sn	08 49 41.0	-8.3
TPIG	Tehuac#an	3.97	309	eP		Pn	08 49 08.2	+1.8
TPIG				eS		Sn	08 49 51.6	-0.4
HLIG	Huajuapan de L	4.00	299	eP		Pn	08 49 09.1	+2.2
HLIG				eS		Sn	08 49 50.0	-2.8
SCIG	Sabancuy	4.14	42	eP		Pn	08 49 08.3	-0.2
SCIG				eS		Sn	08 49 50.8	-5.1
SCIG	Sabancuy	4.14	42	eP			08 49 07.9	
SCIG				IAML			08 50 05.2	
	comp=Z,122nm,0.5s							
PETF	Flores	4.21	76			Pn	08 49 08.9	-0.6
PETF	Flores	4.21	76	eP		Pn	08 49 08.4	-1.2
PETF				eS		Sn	08 49 51.1	-6.5
JAUV	Jalcomulco	4.28	324	eP		Pn	08 49 10.3	-0.2
JAUV				eS		Sn	08 49 57.0	-2.4
FTIG	Fresnillo de T	4.32	298	eP		Pn	08 49 13.5	+2.4
FTIG				eS		Sn	08 49 58.0	-2.4
LVIG	Laguna Verde	4.38	330	eP		Pn	08 49 10.8	-0.9
LVIG				eS		Sn	08 49 55.1	-6.4
MGIG	Malinaltepec	4.51	288	eP		Pn	08 49 15.4	+1.5
MGIG				i S		Sn	08 50 02.2	-3.0
TLIG	Tlapa	4.56	292	Pn		Pn	08 49 16.8	+2.5
TLIG	Tlapa	4.56	292	eP		Pn	08 49 16.9	+2.6
TLIG				eS		Sn	08 50 04.0	-2.2
ESQI	Esquipulas	4.81	106	Pn		Pn	08 49 16.8	-1.0
MTO3	Montecristo	4.84	107			Pn	08 49 17.2	-1.2
CRIG	Cruz Grande	4.87	280	eP		Pn	08 49 18.2	-0.3
CRIG				eS		Sn	08 50 09.7	-4.0
PPM	Popocatepetl	5.32	307	i P		Pn	08 49 29.9	+4.9
PPM				eS		Sn	08 50 22.9	-2.4
IZABA	Izabal, Puerto	5.34	91	eP		Pn	08 49 21.9	-3.0
IZABA				eS		Sn	08 50 19.6	-5.5
CXUV	Coxquihui	5.37	323	eP		Pn	08 49 25.9	+0.6
CXUV				eS		Sn	08 50 24.0	-1.9
DAIG	Los Arroyos	5.41	283	eP		Pn	08 49 25.8	-0.1
DAIG				eS		Sn	08 50 20.5	-6.4
YAIG	Yautepec	5.55	303	eP		Pn	08 49 31.1	+3.1
YAIG				eS		Sn	08 50 24.8	-5.8
PLIG	Platanillo	5.70	296	eP		Pn	08 49 32.1	+2.2
PLIG				eS		Sn	08 50 28.6	-5.4
CAIG	El Cayaco	6.00	282	eP		Pn	08 49 34.1	+0.3
CAIG				eS		Sn	08 50 35.7	-5.5
NISHN	Nisperales Com	6.01	90	⇓i P			08 49 32.5	
TGUH	Tegucigalpa,Un	6.88	105	Pn		Pn	08 49 45.3	-0.8
TEIG	Tepich	7.03	51	Pn		Pn	08 49 46.4	-1.6
SOR	Soroa	12.53	55	Pn		Pn	08 51 00.1	-2.8
HNDO	Hondo	14.36	342			Pn	08 51 26.6	-0.4
DRIO	Del Rio	14.72	337	Pn		Pn	08 51 31.4	-0.2
435B	Jarrell	15.14	349	Pn		Pn	08 51 36.5	-0.5
435B				IAmb		IAmb	08 51 46.0	
	comp=Z,8.0nm,0.9s							
TXAR	Lajitas Array	15.99	328	Pn		Pn	08 51 47.9	0.0
TXAR	Lajitas Array	15.99	328	P		Pn	08 51 48.1	+0.3
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=7.6							
	comp=Z,0.2nm,0.4s							
TX31	Lajitas Ar. Si	15.99	328	Pn		Pn	08 51 47.0	-0.9
OZNA	Ozona	16.26	338	Pn		Pn	08 51 51.3	+0.1
OZNA				IAmb		IAmb	08 51 56.4	
	comp=Z,6.8nm,0.8s							
SGCY	Sterling City	17.16	339			Pn	08 52 01.9	-0.4
SGCY				IAmb		IAmb	08 52 05.7	
	comp=Z,11nm,1.0s							
MNHN	Monahans	17.27	334	P		P	08 52 04.6	+0.8
APMT	Aspermont	18.17	344	P		Pn	08 52 14.1	-0.4
SN07	Snyder 07	18.17	342	P		P	08 52 12.8	-1.0
POST	Post	18.34	340			Pn	08 52 16.8	+0.2
POST				IAmb		IAmb	08 52 18.6	
	comp=Z,5.5nm,0.7s							
HTMS	Hat Mesa	18.61	334	P		Pn	08 52 20.1	+0.2
AMTX	Amarillo	20.08	342	P		P	08 52 35.7	+1.1
121A	Cookes Peak, D	20.68	326	IAmb		IAmb	08 52 45.6	
	comp=Z,8.7nm,0.8s							
BNM	Barren Site	21.37	330	P		P	08 52 50.1	+1.5
RTBA	Rita Blanca	21.84	341	P		P	08 52 54.3	+0.8
RTBA				IAmb		IAmb	08 52 57.7	
	comp=Z,6.3nm,0.6s							
ANMO	Albuquerque	21.95	332	P		P	08 52 55.2	+0.5
ROSC	El Rosal	22.35	117	P		P	08 53 03.6	+4.2
	comp=Z,2.2nm,0.3s,baz=272,slow=18,SNR=1.6							
	comp=Z,2.2nm,0.3s							
T25A	Trinidad	23.03	339	IAmb		IAmb	08 53 11.6	
	comp=Z,5.7nm,1.0s							
N41A	Harden Midland	24.88	6	P		P	08 53 22.0	-0.6
PV23	Carpenter Ridg	26.00	333	IAmb		IAmb	08 53 36.4	
	comp=Z,6.1nm,0.8s							
PDAR	Pinedale Array	29.85	337	P		P	08 54 09.8	+2.3
	comp=Z,0.3nm,0.5s,baz=143,slow=9.7,SNR=5.9							
	comp=Z,0.3nm,0.5s							
NVAR	Mina Array Bea	30.90	321	P		P	08 54 20.4	+3.6
	comp=Z,1.4nm,0.7s,baz=131,slow=9.1,SNR=16							
	comp=Z,1.4nm,0.7s							
ULM	Lac du Bonnet	34.28	358	P		P	08 54 44.1	-1.7
	comp=Z,0.7nm,0.3s,baz=144,slow=7.8,SNR=2.3							
	comp=Z,0.7nm,0.3s							
YKA	Yellowknife Ar	48.72	348	P		P	08 56 43.7	+0.2
	comp=Z,1.2nm,0.6s,baz=157,slow=7.5,SNR=27							
	comp=Z,1.2nm,0.6s							
ILAR	Eielson Array	60.29	337	P		P	08 58 07.6	+0.3
	comp=Z,0.2nm,0.4s,baz=119,slow=6.3,SNR=5.1							
	comp=Z,0.2nm,0.4s							
EKA	Eskdalemuir Ar	77.63	36	P		P	08 59 55.0	+0.1
	comp=Z,1.7nm,0.9s,baz=258,slow=5.9,SNR=1.8							
	comp=Z,1.7nm,0.9s							
NOA	NORSAR Array B	83.45	28	P		P	09 00 27.0	+1.0
	comp=Z,0.6nm,1.0s,baz=273,slow=6.1,SNR=1.1							
	comp=Z,0.6nm,1.0s							
ARCES	ARCESS Array B	84.97	18	P		P	09 00 33.9	+0.4
	comp=Z,4.3nm,0.8s,baz=308,slow=4.5,SNR=6.8							
	comp=Z,4.3nm,0.8s							

*IDC **24** 09:18:18.9±1.7, 38°.98N×73°.38E, h0km, mb3.4/2, mbtmp3.4/8, ML2.9/6, MS3.5/2, Error ellipse: s-maj=28.1km s-min=18.9km az=76.0*
*KRNET **24** 09:18:20.9±0.1, 39°.13N×73°.38E, h15km, mb3.5*
*SOME **24** 09:18:22.3, 39°.20N×73°.37E, h5km*
*NNC **24** 09:18:26.6±1.7, 39°.37N×73°.49E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=13.0km s-min=6.7km az=172.0*

ISC 24 09:18:21.0±0.8, 39°.19N±0°.04×73°.44E±0°.03, h10km, n63, σ2§70/96, mb3.5/3, 36C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.82	3	⇑i P	Pb	09 18 37.9	+0.4
SFK				⇑i S	Sn	09 18 50.3	-0.9
DRK	Karamyk	1.31	283	⇑i P	Pn	09 18 45.0	-0.6
DRK				⇑i S	Sg	09 19 02.7	-0.4
OHH	Osh	1.42	339	⇑i P	Pg	09 18 48.2	-0.1
OHH				⇑i S	Sg	09 19 08.3	+1.5
SALK	Salom-Alik	1.71	10	⇑i P	Pg	09 18 53.9	0.0
SALK				⇑i S	Sg	09 19 18.2	+2.1
ARSB	Arslanbob	2.16	351	⇑i P	Pb	09 19 00.5	+0.2
ARSB				⇑i S	Sg	09 19 29.6	-0.8
BTK	Batken	2.21	294	⇓i P	Pb	09 19 00.2	-0.8
BTK				⇓i S	Sb	09 19 28.9	+0.5
GAR	Garm	2.44	266	⇑i P	Pb	09 19 03.1	-2.0
GAR				⇑i S	Sb	09 19 33.7	-1.6
ARLS	Aral	2.75	14	⇓e P	Pb	09 19 08.9	-1.4
ARLS				⇓i S	Sb	09 19 44.0	-0.1
ARK	Arkit	2.84	337	⇓i P	Pb	09 19 09.8	-2.0
ARK				⇓i S	Sb	09 19 45.5	-1.1
TRKS	Terek-Say	2.92	324	⇑i P	Pb	09 19 09.9	+2.2
TRKS				⇑i S	Sn	09 19 45.7	+2.7
AML	Almayashu	2.94	4	P	Pb	09 19 13.5	-0.2
	SNR=39						
UCH	Uchtor	3.14	15	⇓i P	Pb	09 19 14.6	-2.5
UCH				⇓i S	Sb	09 19 54.0	-1.6
MNAS	Manas	3.37	348	⇑i P	Pb	09 19 17.4	-3.5
MNAS				⇑i S	Sb	09 19 58.8	-3.1
EKS2	Erkin-Say	3.48	4	P	Pb	09 19 22.1	-0.6
	SNR=9.6						
EKS2	Erkin-Say	3.48	4	⇓i P	Pb	09 19 19.0	-3.7
EKS2				⇓i S	Sb	09 20 01.4	-3.6
AAK	Ala-Archa	3.53	13	Pn	Pb	09 19 21.9	-1.8
	2.5nm,0.3s,baz=206,slow=17,SNR=48						
AAK				Sn	Sb	09 20 07.9	+1.2
	0.7nm,0.3s,baz=199,slow=23,SNR=4.0						
	17nm,0.7s						
AAK	Ala-Archa	3.53	13	P	Pb	09 19 21.9	-1.8
	SNR=22						
AAK	Ala-Archa	3.53	13	Pn	Pb	09 19 21.2	-2.5
	19nm,0.8s						
AAK				Lg	Lg	09 20 07.8	
	33nm,0.8s						
AAK	Ala-Archa	3.53	13	⇑i P	Pb	09 19 19.9	-3.8
AAK				⇑i S	Sb	09 20 03.2	-3.5
MRKS	Merke	3.55	357	Pg	Pg	09 19 26.4	-2.6
	10nm,0.4s						
MRKS				Lg	Lg	09 20 12.6	
	16nm,0.6s						
MRKS	Merke	3.55	357	eP	Pg	09 19 26.4	-2.6
	10nm,0.2s						
MRKS				eS	Sg	09 20 12.6	-2.4
	24nm,0.4s						
KBK	Karagaybulak	3.64	18	⇑i P	Pb	09 19 21.6	-4.0
KBK				⇑i S	Sb	09 20 05.8	-4.1
ULHL	Ulahol	3.72	34	⇑i P	Pb	09 19 22.6	-4.3
ULHL				⇑i S	Sb	09 20 07.7	-4.4
BOOM	Boomskoye usch	3.80	29	⇓e P	Pn	09 19 23.7	+4.0
BOOM				⇓i S	Sb	09 20 09.8	-4.6
CHMS	Chumysh	3.93	14	P	Pb	09 19 27.3	-3.1
	SNR=8.3						
IUG	Iuzhnay	3.93	320	Pg	Pg	09 19 34.5	-1.8
	50nm,0.4s						
IUG				Lg	Lg	09 20 27.3	
	79nm,0.6s						
KDJ	Kajisay	4.08	43	⇑i P	Pn	09 19 27.7	+4.0
KDJ				⇑i S	Sn	09 20 16.6	+5.0
USP	Ospenovka	4.15	11	P	Pb	09 19 30.5	-3.6
	SNR=6.3						
USP	Ospenovka	4.15	11	⇑i P	Pn	09 19 28.4	+4.0
USP				⇑i S	Sn	09 20 17.7	+4.7
TARG	Taragay, Kyrgy	4.18	51	⇑i P	Pn	09 19 29.1	+3.9
TARG				⇑i S	Sn	09 20 19.0	+4.7
KST	Kastek	4.29	26	Pg	Pg	09 19 41.9	-1.3
	4.4nm,0.6s						
KST				Lg	Lg	09 20 39.3	
	37nm,0.6s						
KST	Kastek	4.29	26	eP	Pg	09 19 41.9	-1.3
	2.8nm,0.2s						
KST				eS	Sg	09 20 39.3	+0.5
	37nm,0.6s						
SGDS	Sogindy	4.35	11	Pg	Pg	09 19 42.0	-2.3
	3.2nm,0.5s						
SGDS				Lg	Lg	09 20 39.0	
	13nm,0.1s						
DGS	Degeres	4.41	23	Pg	Pg	09 19 44.8	-0.6
	10nm,0.6s						
DGS				Lg	Lg	09 20 44.1	
	15nm,0.6s						
KK31	Karatay Array	4.49	331	⇑Pn	Pn	09 19 33.3	+4.2
	2.0nm,0.4s,baz=145,slow=14,SNR=57						
KK31				⇓Pg	Pg	09 19 45.9	-1.1
	10nm,0.7s,baz=168,slow=16,SNR=7.0						
KK31				⇑Sn	Sb	09 20 28.6	-5.5
	17nm,0.7s,baz=150,slow=22,SNR=5.7						
KK31				⇓Lg	Lg	09 20 45.8	
	26nm,0.7s,baz=146,slow=30						
KKAR	Karatay Array	4.49	331	⇑i P	Pn	09 19 32.5	+3.4
KKAR				⇑i S	Sn	09 20 24.9	+3.5
IZV	Izvestkoviy	4.52	31	Pg	Pg	09 19 46.7	-1.0
	5.0nm,0.5s						
IZV				Lg	Lg	09 20 47.5	
	30nm,0.8s						
IZV	Izvestkoviy	4.52	31	eP	Pg	09 19 46.7	-1.0
	4.2nm,0.3s						
IZV				eS	Sg	09 20 47.6	+1.3
	33nm,0.4s						
MTBS	Maitube	4.53	29	Pg	Pg	09 19 46.1	-1.7
	5.2nm,0.4s						
MTBS				Lg	Lg	09 20 46.6	
	11nm,0.5s						
MTBS	Maitube	4.53	29	eP	Pg	09 19 46.1	-1.7
	4.3nm,0.2s						
MTBS				eS	Sg	09 20 46.6	+0.1
	9.7nm,0.3s						
TNSS	Tian-Shan	4.66	33	Pg	Pg	09 19 48.2	-2.1
	4.1nm,0.4s						
TNSS				Lg	Lg	09 20 50.0	
	4.4nm,0.4s						
TNSS	Tian-Shan	4.66	33	eP	Pg	09 19 48.2	-2.1
	4.1nm,0.4s						
TNSS				eS	Sg	09 20 50.1	-0.6
	10nm,0.5s						
BRLS	Borolday	4.70	326	Pg	Pb	09 19 46.4	+2.8
	4.9nm,0.3s						
BRLS				Lg	Lg	09 20 47.8	
	26nm,0.6s						
BRLS	Borolday	4.70	326	eP	Pb	09 19 46.4	+2.8
	4.9nm,0.3s						
BRLS				eS	Sg	09 20 46.9	-5.1
	26nm,0.6s						
KRBS	Karabastau	4.80	20	Pg	Pg	09 19 51.1	-1.8
	4.1nm,0.4s						
KRBS				Lg	Lg	09 20 55.8	
	18nm,0.5s						
ANVS	Anan'yevo	4.80	40	⇓e P	Pn	09 19 38.0	+4.4
ANVS				⇓e S	Sn	09 20 34.1	+4.7
MDOK	Medeo	4.81	33	Pg	Pg	09 19 50.9	-2.2
	7.1nm,0.7s						
MDOK				Pg	Pb	09 19 51.2	+5.8
	4.4nm,0.3s						
MDOK				Lg	Lg	09 20 53.1	
	29nm,1.4s						
MDOK				Lg	Lg	09 20 55.6	
	13nm,1.1s						
MDOK	Medeo	4.81	33	eP	Pg	09 19 51.2	-1.9
	1.0nm,0.1s						
MDOK				eS	Sg	09 20 55.3	-0.1
	15nm,0.5s						
KOTS	Kotyrbulak	4.89	33	Pg	Pg	09 19 53.0	-1.7
	6.4nm,0.5s						
KOTS				Lg	Lg	09 20 58.8	
	46nm,0.6s						
KOTS	Kotyrbulak	4.89	33	eP	Pg	09 19 53.0	-1.7
	6.4nm,0.4s						
KOTS				eS	Sg	09 20 58.4	+0.3
	46nm,0.6s						
PRZ	Przheval'sk	4.99	47	⇑e P	Pn	09 19 40.6	+4.4
PRZ				⇑e S	Sn	09 20 38.3	+4.3
KTBS	Karatobe	5.13	27	Pg	Pg	09 19 56.5	-2.7
	3.7nm,0.5s						
KTBS				Lg	Lg	09 21 05.0	
	21nm,0.7s						
KPKS	Kokpek	5.81	41	eP	Pn	09 19 44.8	-2.5
	6.3nm,0.4s						
KPKS				eS	Sn	09 20 44.3	-10
	24nm,0.6s						
PDGK	Podgornoye	6.15	46	⇑Pg	Pg	09 20 16.9	-1.8
	4.2nm,0.7s						
PDGK				⇑Lg	Lg	09 21 35.7	
	12nm,0.8s						
MKAR	Makanchi Array	9.98	38	Pn	Pn	09 20 47.9	+3.5
	0.1nm,0.3s,baz=206,slow=15,SNR=5.0						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	11.98	16	Pn	Pn	09 21 13.1	+1.4
	baz=206,slow=13,SNR=2.4						
KURBB				Lg	Lg	09 24 46.6	
	0.1nm,0.3s,baz=200,slow=30,SNR=4.2						
	0.1nm,0.6s						
BVAR	Borovoye Array	13.99	352	Pn	Pn	09 21 39.2	-0.1
	baz=162,slow=15,SNR=2.9						
	0.5nm,0.6s						
AKTO	Aktyubinsk	15.65	321	Pn	Pn	09 22 00.3	-1.2
	0.1nm,0.3s,baz=120,slow=13,SNR=4.2						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	16.67	24	Pn	P	09 22 17.4	+0.5
	0.4nm,0.3s,baz=214,slow=11,SNR=9.8						
	1.8nm,0.5s						
SONM	Songino Array	25.25	59	P	P	09 23 48.5	+1.3
	0.3nm,0.4s,baz=251,slow=9.2,SNR=3.8						
	0.3nm,0.4s						
CMAR	Chiang Mai Arr	30.25	126	P	P	09 24 30.5	-1.6
	2.5nm,0.3s,baz=301,slow=9.4,SNR=4.5						
CMAR				LR	LR	09 36 31.9	
	comp=Z,13nm,18.7s,baz=330,slow=36						
JCJ	Chichijima	57.56	80	LR	LR	09 54 53.3	
	comp=Z,220nm,19.1s,baz=90,slow=38						
YKA	Yellowknife Ar	78.45	4	P	P	09 30 22.4	+0.8
	0.4nm,0.8s,baz=348,slow=5.2,SNR=6.6						
	0.4nm,0.8s						

*NEIC **24** 09:37:33.2±1.5, 36°.08N±0°.06×70°.32E±0°.08, h118km±9km, mb4.1/9, Error ellipse: s-maj=9.4km s-min=9.1km az=154.0*

*IDC **24** 09:37:36.2±8.8, 36°.20N×70°.62E, h120km±57km, mb3.5/4, mbtmp3.9/9, MS4.0/1, Error ellipse: s-maj=74.7km s-min=39.0km az=175.0*

ISC 24 09:37:33.1±0.7, 36°.10N±0°.05×70°.54E±0°.07, h110km, n49, σ1§97/58, mb4.2/8, 1C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.98	219		Pn	09 38 05.3	-0.8
CHGR	Chuyangaron	2.78	337	Pn	Pn	09 38 16.2	-0.1
SIMJ	Simiganj	2.83	335	Pn	Pn	09 38 16.6	-0.4
GAR	Garm	2.90	357	Pn	Pn	09 38 18.4	+0.5
NIL	Nilore	3.31	137		Pn	09 38 24.6	+1.3
DRK	Karamyk	3.52	16		Pn	09 38 28.2	+1.9
BTK	Batken	3.96	3	Pn	Pn	09 38 33.2	+1.3
KSH	Kashi	5.49	50	Pn	Pn	09 38 51.8	-0.8
KSH				Sn	Sn	09 39 49.0	-5.6
KSH				smax	smax		
	comp=N,210nm,0.8s						
KSH				smax	smax		
	comp=E,140nm,0.9s						
ARSB	Arslanbob	5.55	19		Pn	09 38 54.3	+0.8
THN	Thein Dam	5.63	129	eP	Pn	09 38 55.4	+0.9
THN				eS	Sn	09 39 57.7	-0.3
THN				IAML		09 39 59.8	
	comp=N,78nm,0.5s						
THN				IAML		09 40 00.6	
	comp=E,94nm,0.6s						
DHRM	DHARAMSHALA	6.13	127	eP	Pn	09 39 01.2	-0.3
DHRM				eS	Sn	09 40 07.9	-2.4
DHRM				IAML		09 40 10.9	
	comp=N,182nm,0.7s						
DHRM				IAML		09 40 13.3	
	comp=E,173nm,0.6s						
BHK	Bhakra	6.77	132	eP	Pn	09 39 13.8	+3.9
BHK				eS	Sn	09 40 25.6	+0.1
KK31	Karatay Array	6.99	360	Pn	Pn	09 39 12.6	-0.3
KK31	Karatay Array	6.99	360	P	Pn	09 39 13.1	+0.2
	comp=E,4.3nm,0.3s,baz=190,slow=14,SNR=82						
KK31				⇑S	Sn	09 40 32.3	+1.5
	comp=E,20nm,0.6s,baz=194,slow=23,SNR=13						
KKAR	Karatay Array	6.99	360	Pn	Pn	09 39 12.8	-0.1
KKAR	Karatay Array	6.99	360	Pn	Pn	09 39 12.6	-0.3
AAK	Ala-Archa	7.21	24	P	Pn	09 39 17.3	+1.3
	comp=E,2.7nm,0.3s,baz=188,slow=5.8,SNR=12						
AAK				S	Sn	09 40 36.2	-0.1
	comp=E,10nm,0.5s,baz=331,slow=20,SNR=16						
AAK	Ala-Archa	7.21	24	P	Pn	09 39 17.0	+1.1
	comp=E,4.3nm,0.7s						
AAK				S	Sn	09 40 35.7	-0.6
	comp=E,11nm,0.5s						
SMLA	Simla	7.43	130	eP	Pn	09 39 18.1	-0.7
SMLA				eS	Sn	09 40 36.2	-5.3
SMLA				IAML		09 40 41.3	
	comp=N,51nm,0.3s						
SMLA				IAML		09 40 46.8	
	comp=E,40nm,0.3s						
BOOM	Boomskoye usch	7.63	32	Pn	Pn	09 39 22.3	+0.6
HNLY	HANLEY	7.71	113	eP	Pn	09 39 22.9	-0.3
HNLY				eS	Sn	09 40 44.7	-4.5
HNLY				IAML		09 40 48.8	
	comp=E,34nm,0.5s						
HNLY				IAML		09 40 54.0	
	comp=N,43nm,0.1s						
BKNR	BIKANER	8.39	163	eP	Pn	09 39 31.1	-0.8
BKNR				IAML		09 40 00.4	
	comp=E,410nm,0.3s						
BKNR				IAML		09 40 00.8	
	comp=N,667nm,0.2s						
BKNR				eS	Sn	09 40 52.9	-12
AJM	Ajmer	10.21	159	eP	Pn	09 39 55.6	-1.0
AJM				IAML		09 40 20.0	
	comp=E,111nm,0.5s						
AJM				IAML		09 40 22.1	
	comp=N,110nm,0.3s						
AJM				eS	Sn	09 41 39.9	-9.4
MAKZ	Makanchi	13.69	35		Pn	09 40 43.9	+1.3
MK31	Makanchi Array	13.83	36		Pn	09 40 45.1	+0.8
MKAR	Makanchi Array	13.83	36	Pn	Pn	09 40 45.3	+0.9
MKAR	Makanchi Array	13.83	36	P	Pn	09 40 46.1	+1.7
	comp=N,0.4nm,0.6s,baz=218,slow=9.1,SNR=12						
BHPL	Bhopal	14.14	153	eP	Pn	09 40 46.7	-1.8
WMQ	Urumqi	15.23	54	eP	P	09 41 05.8	+1.1
WMQ				pmax	pmax		
	comp=Z,21nm,0.8s						
ABKAR	Akbulak array	15.26	333		Pn	09 41 01.1	-1.3
ABKAR	Akbulak array	15.26	333		Pn	09 41 01.0	-1.5
ABKAR				IAmb	IAmb	09 41 02.5	
	comp=Z,14nm,0.6s						
KURBB	Kurchatov Arra	15.62	19	P	P	09 41 08.2	-0.6
	comp=Z,0.7nm,0.7s,baz=210,slow=10,SNR=8.1						
BVAR	Borovoye Array	16.92	360	P	P	09 41 24.5	+1.3
	comp=Z,1.2nm,0.4s,baz=160,slow=10,SNR=10						
AKTO	Aktyubinsk	16.95	332	P	P	09 41 25.0	+1.5
	comp=Z,7.7nm,0.7s,baz=142,slow=11,SNR=24						
AKTO				S	Sn	09 44 24.3	-7.4
	comp=Z,0.7nm,0.3s,baz=222,slow=9.0,SNR=1.4						
BRVK	Borovoye	16.95	359	P	P	09 41 23.0	-0.6
ZAA0	Zalesovo Array	20.43	25	P	P	09 42 02.4	+1.0
ZAA0				IAmb	IAmb	09 42 04.0	
	comp=Z,4.2nm,0.6s						
ZALV	Zalesovo Beam	20.43	25	P	P	09 42 02.0	+0.6
ZALV	Zalesovo Beam	20.43	25	P	Pn	09 42 03.5	-1.0
	comp=Z,5.1nm,0.4s,baz=217,slow=10,SNR=27						
	comp=Z,5.1nm,0.4s						
PZH	PanZhiHua	28.22	101	P	P	09 43 17.4	+1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.6s						
HHC	Hu-ho-hao-te	32.25	69	eP	P	09 43 52.4	+1.2
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARCES	ARCESS Array B	41.37	338	P	P	09 45 09.9	+2.0
	comp=Z,5.4nm,1.0s,baz=72,slow=7.8,SNR=4.4						
	comp=Z,5.4nm,1.0s						
NOA	NORSAR Array B	44.48	323	P	P	09 45 34.0	+0.9
	comp=Z,0.7nm,0.7s,baz=99,slow=7.9,SNR=1.8						
	comp=Z

TWGBT	Beinan	0.50 279	P	Pb	09 43 45.8	0.0
TWGBT	Beinan	0.50 279	S	Sb	09 43 52.7	0.0
TWGBT	Beinan	0.50 279			P	Pb	09 43 45.0	-0.8
TWGBT			S	Sb	09 43 52.0	-0.7
TWG	Pinlang	0.51 279			i P	Pb	09 43 45.0	-0.9
TWG			eS	Sb	09 43 51.5	-1.4
ECS	Chishang	0.51 314			i P	Pb	09 43 45.8	-0.2
ECS			eS	Sb	09 43 53.2	+0.2
FULB	Fuli	0.55 327			P	Pb	09 43 45.8	-0.8
FULB			i S	Sb	09 43 53.0	-1.1
EHD	Haiduan	0.56 317			i P	Pb	09 43 46.3	-0.5
EHD			eS	Sb	09 43 53.4	-1.0
ECBN	Changbin	0.60 345			i P	Pb	09 43 47.0	-0.4
ECBN			eS	Sb	09 43 54.3	-1.2
ECL	Taimali	0.63 257			i P	Pb	09 43 47.2	-0.8
ECL			eS	Sb	09 43 54.7	-1.7
EYUL	Yuli	0.67 336			eP	Pb	09 43 48.3	-0.3
EYUL			eS	Sb	09 43 57.2	-0.2
TWF1	Yuli	0.68 334			i P	Pb	09 43 48.2	-0.6
TWF1			S	Sb	09 43 57.3	-0.6
LAY	Lan-yu	0.70 185			i P	Pb	09 43 48.9	-0.3
LAY			eS	Sb	09 43 58.6	+0.2
ELDTW	Lidau	0.71 309			i P	Pb	09 43 48.2	-1.2
ELDTW			eS	Sb	09 43 56.7	-2.1
YULB	Yu-li	0.71 336	P	Pb	09 43 48.8	-0.6
YULB	Yu-li	0.71 336			i P	Pb	09 43 48.8	-0.6
YULB			S	Sb	09 43 58.1	-0.7
LYUB	Lan-yu	0.73 182			i P	Pb	09 43 48.6	-1.1
TAW	Tawu	0.77 241	eP	Pb	09 43 50.0	-0.3
TAW			eS	Sb	09 43 59.1	-1.1
HGSD	Ruisui	0.77 347			P	Pb	09 43 49.3	-1.0
HGSD			eS	Sb	09 43 58.4	-2.0
TAWH	Dawu Township	0.78 240	eP	Pb	09 43 48.5	-2.0
EHYH	Wanrong	0.79 342	P	Pb	09 43 50.1	-0.6
EHYH			eS	Sb	09 44 00.5	-0.5
EAST	Anshuo	0.80 244			P	Pb	09 43 50.0	-0.7
EAST			eS	Sb	09 43 59.5	-1.6
EHY	Hungye	0.81 340			i P	Pb	09 43 50.3	-0.7
EHY			eS	Sb	09 44 00.8	-0.8
STYH	Taoyuan	0.89 299	eP	Pb	09 43 51.5	-0.8
STYH			eS	Sb	09 44 03.8	0.0
TSMG	Majia	0.90 268	eP	Pb	09 43 51.5	-1.0
TSMG			eS	Sb	09 44 02.3	-1.8
MASBT	Mashibuluo	0.92 262			i P	Pb	09 43 51.9	-0.9
MASBT			eS	Sb	09 44 01.9	-2.7
SLIU	Shizi	0.92 236	eP	Pb	09 43 51.9	-0.9
SLIU			eS	Sb	09 44 03.2	-1.4
EGFH	Guangfu	0.94 349	eP	Pb	09 43 52.9	-0.4
EGFH			eS	Sb	09 44 05.4	+0.1
TEGC	Jichi Village	0.97 356	eP	Pn	09 43 54.0	0.0
TEGC			eS	Sb	09 44 04.8	-1.2
SCZT	Fangliau	0.99 249	eP	Pb	09 43 53.3	-0.8
SCZT			eS	Sb	09 44 05.5	-1.3
WARBT	Fenglin Townsh	1.00 348			i P	Pb	09 43 52.9	-1.3
SGST	Jiashian	1.01 290			P	Pb	09 43 53.3	-1.2
SGST			eS	Sb	09 44 06.8	-0.6
SGLT	Jiouru	1.04 270	eP	Pb	09 43 54.7	-0.2
SHUL	Shoufeng	1.05 357	eP	Pn	09 43 54.3	-0.8
SHUL			eS	Sb	09 44 07.9	-0.4
SCST	Cishan	1.05 278	eP	Pn	09 43 55.3	+0.2
WTP	Ta-pu	1.05 299	eP	Pn	09 43 55.0	-0.2
WTP			eS	Sb	09 44 08.3	-0.3
TSEB	Hengchuen, Pin	1.07 219	eP	Pn	09 43 54.0	-1.3
TSEB			eS	Sn	09 44 10.8	+1.3
TPUB	Ta-pu	1.07 302	P	Pn	09 43 55.0	-0.4
TPUB	Ta-pu	1.07 302	P	Pn	09 43 55.0	-0.4
TPUB			eS	Sb	09 44 09.0	+0.1
ALS	Alishan	1.07 316	eP	Pb	09 43 55.1	-0.6
ESL	Shilin	1.08 351	eP	Pn	09 43 54.6	-1.0
ESL			eS	Sb	09 44 07.7	-1.7
TWKBT	Hengchun	1.09 223	eP	Pn	09 43 55.5	-0.2
TWKBT			eS	Sb	09 44 09.2	-0.3
TWK1	Hengchun	1.09 224	eP	Pn	09 43 55.5	-0.2
TWK1			eS	Sb	09 44 09.4	-0.2
CHN1	Nanshi	1.10 294	i P	Pb	09 43 56.2	+0.3
CHN1			eS	Sb	09 44 09.7	-0.1
VWDT	VWDT	1.10 337	i P	Pn	09 43 55.2	-0.6
VWDT			eS	Sb	09 44 08.3	-1.6
TWM1	Shoushan	1.11 275	eP	Pb	09 43 57.2	+1.1
CHN4	Tsaushan	1.12 303	eP	Pb	09 43 56.2	-0.1
TEYL	Yanliau Villag	1.12 359	eP	Pb	09 43 56.3	-0.1
TEYL			eS	Sb	09 44 10.6	0.0
SNST	Tainan City	1.14 295	i P	Pb	09 43 56.9	+0.3
SNST			eS	Sn	09 44 11.4	0.0
WCKO	Fanlu	1.17 307	P	Pb	09 43 57.5	+0.5
WCKO			eS	Sn	09 44 12.1	+0.1
TWK	Hsinying	1.17 297	P	Pb	09 43 57.1	0.0
TWK			eS	Sn	09 44 12.3	+0.2
WHYT	Xinyi Township	1.19 324	eP	Pn	09 43 57.0	-0.1
WHYT			eS	Sb	09 44 11.3	-1.0
CHN3	Shinhua	1.20 286	P	Pb	09 43 59.4	+1.7
CHN3			eS	Sn	09 44 15.9	+3.0
SHHT	Tainan City	1.21 284	eP	Pb	09 43 59.5	+1.8
SHHT			eS	Sn	09 44 16.2	+3.2
SSLB	Suanglung	1.21 330	P	Pn	09 43 56.9	-0.5
SSLB	Suanglung	1.21 330	S	Sb	09 44 12.6	-0.4
SSLB	Suanglung	1.21 330			P	Pn	09 43 56.7	-0.6
SSLB			eS	Sb	09 44 10.2	-2.8
ETM	Tongmen	1.23 355	eP	Pn	09 43 56.7	-0.9
ETM			eS	Sn	09 44 12.2	-1.4
HWA	Hwalien	1.23 359	eP	Pn	09 43 57.0	-0.6
HWA			eS	Sn	09 44 11.4	-2.2
WSSB	Gushan	1.26 266	eP	Pb	09 43 58.4	-0.2
OWD	Renai	1.28 342	eP	Pn	09 43 57.6	-0.7
OWD			eS	Sn	09 44 14.0	-1.0
SSHA	Shanhua	1.29 288	eP	Pb	09 44 00.6	+1.5
SSHA			eS	Sb	09 44 18.7	+3.5
LXIB	Xiulin Townshi	1.29 352			P	Pn	09 43 57.3	-1.2
LXIB			i S	Sn	09 44 12.9	-2.4
SMLT	Sun Moon Lake	1.32 330	P	Pn	09 43 58.4	-0.5
SMLT			eS	Sn	09 44 15.9	0.0
WUSB	Renai	1.33 340	P	Pn	09 43 58.8	-0.3
WUSB			S	Sn	09 44 14.7	-1.5
CHY	Chiayi	1.33 305	eP	Pb	09 44 00.2	+0.3
CHY			eS	Sb	09 44 17.8	+1.3
TWD	Chiawan	1.34 359	eP	Pn	09 43 58.2	-0.8
TWD			eS	Sn	09 44 14.1	-2.1
WGK	Gukeng	1.35 314	eP	Pb	09 44 00.6	+0.3
WGK			S	Sb	09 44 18.4	+1.2
WJS	Zhushan	1.35 323	eP	Pb	09 44 00.8	+0.5
WJS			i S	Sb	09 44 18.6	+1.5
TYC	Yuchr	1.35 329	eP	Pb	09 44 00.2	0.0
TYC			eS	Sb	09 44 17.8	+0.6
WDLH	Douliu	1.37 314	eP	Pb	09 44 01.1	+0.5
WDLH			S	Sb	09 44 19.2	+1.6
ICHU	Yijhu	1.38 297	eP	Pb	09 44 01.0	+0.3
ICHU			S	Sb	09 44 18.6	+0.7
SCLT	Jiali	1.38 289	eP	Pb	09 44 00.9	+0.1
ETL	Fush Village	1.41 0	eP	Pn	09 44 00.0	-0.1
WNT	Mingjian	1.42 323	P	Pb	09 44 01.7	+0.2
WNT			S	Sb	09 44 19.9	+0.8
NACB	Ninganchiao	1.43 359	P	Pn	09 43 59.4	-0.9
NACB	Ninganchiao	1.43 359	eP	Pn	09 43 59.3	-1.1
NACB			eS	Sn	09 44 15.9	-2.6
CHN8	Yiju	1.43 295	eP	Pb	09 44 01.5	-0.1
CHN8			S	Sb	09 44 20.4	+1.0
WHF	Hehuan Shan	1.44 347	eP	Pn	09 44 00.5	-0.3
WHF			eS	Sn	09 44 19.0	-0.4
WCS	Beigang Elemen	1.47 334	eP	Pb	09 44 01.8	-0.4
WCS			eS	Sn	09 44 19.3	-0.1
ETLH	Xiulin Townshi	1.47 355	eP	Pn	09 44 00.3	-0.7
TSCK	Chigu Township	1.47 286	eP	Pb	09 44 02.1	-0.1
TSCK			i S	Sb	09 44 20.7	+0.2
WTK	Tuku	1.47 310	i P	Pb	09 44 01.9	-0.4
WTK			eS	Sb	09 44 20.8	+0.2
WSL	Shuilin Townsh	1.50 302	P	Pb	09 44 02.4	-0.3
WSL			S	Sb	09 44 21.5	+0.1
EOS4	EOS4	1.52 25	P	Pn	09 44 01.6	+0.3
EOS4			eS	Sn	09 44 19.2	-1.0
FUSS	Fushou	1.54 347	eP	Pn	09 44 02.4	+0.2
TWT	Tachien	1.56 345	eP	Pb	09 44 03.3	-0.6
TWT			eS	Sn	09 44 21.0	-1.0
TDCB	Techi	1.57 344	eP	Pb	09 44 03.2	-0.7
TDCB			eS	Sn	09 44 21.1	-1.0
WSF	Szhu	1.57 305	eP	Pb	09 44 03.0	-0.9
EAHA	Aohua	1.59 4	eP	Pn	09 44 03.3	+0.8
EAHA			eS	Sn	09 44 21.8	-0.6
WRL	Guolierlin Hig	1.62 316	eP	Pb	09 44 04.2	-0.6
TCU	Taichung	1.65 329	eP	Pb	09 44 05.3	0.0
WHP	Taichung City	1.65 338	eP	Pb	09 44 04.9	-0.5
WHP			eS	Sn	09 44 24.2	+0.1
WCHH	Zhanghua	1.65 324	eP	Pb	09 44 05.1	-0.2
WCHH			S	Sb	09 44 26.1	+0.4
EOS3	EOS3	1.67 22	eP	Pn	09 44 04.4	+0.9
EOS3			eS	Sn	09 44 23.9	-0.3
ENA	Nanau	1.69 4	eP	Pn	09 44 03.7	-0.2
NNSB	Datong	1.70 353	eP	Pn	09 44 04.2	+0.1
NNSB			eS	Sn	09 44 24.6	-0.7
NNS	Nan Shan	1.71 352	eP	Pn	09 44 05.3	+1.0
NNS			eS	Sn	09 44 24.3	-1.3
EOS2	EOS2	1.77 18	eP	Pn	09 44 05.9	+1.0
TWQ1	Liyutan	1.78 334	eP	Pb	09 44 07.5	-0.1
TWQ1			S	Sb	09 44 29.6	+0.1
LATG	Datong	1.79 357	eP	Pn	09 44 05.9	+0.5
WDJ	Dajia District	1.84 331	i P	Pb	09 44 08.5	0.0
WDJ			i S	Sb	09 44 31.9	+0.8
ESAO	Su ao	1.84 6	eP	Pn	09 44 06.5	+0.5
ESAO			S	Sn	09 44 27.7	-0.9
TWC	Suao	1.88 6	eP	Pn	09 44 07.2	+0.8
TWC			i S	Sn	09 44 29.3	-0.2
WDGT	Dungji	1.88 286	eP	Pn	09 44 06.9	+0.5
WDGT			i S	Sn	09 44 28.9	-0.6
ENTT	Nioudou	1.89 359	eP	Pn	09 44 07.1	+0.4
YHNB	Yeheng	1.94 353	P	Pn	09 44 08.1	+0.7
YHNB	Yeheng	1.94 353	eP	Pn	09 44 08.0	+0.6
YHNB			eS	Sn	09 44 30.9	-0.2
NFF	Wufeng Townshi	1.94 346	eP	Pb	09 44 09.5	-0.8
NFF			eS	Sb	09 44 32.6	-1.5
NSK	Sanguang	1.94 353	eP	Pn	09 44 08.4	+1.0
NSK			S	Sn	09 44 30.4	-1.0
NMLH	Miaoli	1.94 337	i P	Pb	09 44 09.4	-0.9
NMLH			eS	Sb	09 44 33.7	-0.5
NSTT	Nanjuang	1.97 343	eP	Pb	09 44 09.2	-1.5
NSTT			eS	Sn	09 44 33.2	+1.4
TWE	Neicheng	1.98 1	eP	Pn	09 44 08.3	+0.5
LIOB	Emei	1.98 344	P	Pb	09 44 09.8	-1.1
LIOB			eS	Sb	09 44 33.8	-1.3
FUSB	Fushanzhiwuyua	2.01 359	eP	Pn	09 44 09.1	+0.7
FUSB			eS	Sn	09 44 33.9	+0.9
NWLT	Wulai	2.03 357	eP	Pn	09 44 09.6	+0.9
NWLT			eS	Sn	09 44 33.3	-0.2
PHUB	P'eng-hu	2.04 293	eP	Pn	09 44 08.8	+0.1
PHUB			i S	Sn	09 44 32.2	-1.3
KSHI	Guanxi Townshi	2.07 349	eP	Pb	09 44 11.4	-1.0
PNG	Penghu	2.07 294	eP	Pn	09 44 09.2	0.0
PNG			S	Sn	09 44 33.4	-1.0
VCHM	Qimei	2.07 283	eP	Pn	09 44 09.3	+0.2
VCHM			eS	Sn	09 44 33.9	-0.4
JYNG	Yonaguni jima	2.10 35	eS	Sn	09 44 34.5	-0.4
YOJ	Yonaguni jima	2.14 36	P	Pn	09 44 11.4	+1.3
YOJ	Yonaguni jima	2.14 36	S	Sn	09 44 37.2	+1.2
YOJ	Yonaguni jima	2.14 36	eP	Pn	09 44 11.7	+1.6
YOJ			eS	Sn	09 44 35.6	-0.4
YOJ	Yonaguni jima	2.14 36	eP	Pn	09 44 11.3	+1.2
YOJ			eS	Sn	09 44 36.6	+0.6
TATO	Taipei	2.23 357	P	Pn	09 44 12.1	+0.7
TIPB	Shuangxi	2.23 5	eP	Pn	09 44 12.7	+1.3
TIPB			eS	Sn	09 44 38.8	+0.5
TWB1	Santiao Chiao	2.29 8	eP	Pn	09 44 13.2	+1.1
TWB1			eS	Sn	09 44 39.6	-0.1
NWF	Wu-fen Shan	2.33 4	eP	Pn	09 44 14.3	+1.5
NWF			eS	Sn	09 44 41.5	+0.7
SXI1	Grass Mountain	2.36 6	eP	Pn	09 44 14.6	+1.4
YM01	YM01	2.40 359	eP	Pn	09 44 15.8	+2.1
HATJ	Hateruma jima	2.40 56	P	Pn	09 44 14.4	+0.7
HATJ			S	Sn	09 44 41.7	-0.8
IRIF	Iriomote-Funau	2.51 50	P	Pn	09 44 16.3	+1.0
JKRS	Kuro-shima	2.65 55	P	Pn	09 44 17.0	-0.1
JKRS			S	Sn	09 44 48.6	-0.2
JIJ	Ishigaki jima	2.83 55	P	Pn	09 44 20.3	+0.8
JIJ			eS	Sn	09 44 52.6	-0.3
VWUC	VWUC	3.00 319	eP	Pn	09 44 21.7	-0.2
JISG	Ishigakijimahi	3.08 53	P	Pn	09 44 23.4	+0.4
JISG			eS	Sn	09 44 59.4	+0.2
PTMZ	Houxiangcun	3.24 316	eP	Pn	09 44 25.1	-0.1
KNM	Kinmen	3.37 300	eP	Pn	09 44 27.6	+0.7
JTJ	Tarama	3.40 56	P	Pn	09 44 28.4	+1.0
KNMB	Chin-men Tao	3.42 301	eP	Pn	09 44 26.9	-0.9
MATB	Ma-tsu	3.73 336	eP	Pn	09 44 31.6	-0.3
ZPLA	Ao Xicun	3.75 289	eP	Pn	09 44 32.4	+0.2
JIRB	Irabujima	3.86 57	P	Pn	09 44 35.1	+1.3
JMJ2	Miyako jima3	3.94 59	P	Pn	09 44 36.0	+1.1
JMJ	Miyako jima 2	3.95 58	P	Pn	09 44 36.2	+1.2
JIKM	Ikemajima	3.97 56	eP	Pn	09 44 36.2	+0.9
AXDP	Jialang	3.97 304	eP	Pn	09 44 35.0	+0.3
DSXP	Dongshan	3.98 285	eP	Pn	09 44 35.8	+0.4
JOGS	Gusukube	4.01 59	P	Pn	09 44 37.0	+1.2
MHZQ	Yeshan	4.09 325	eP	Pn	09 44 37.2	+0.3
XPSS	Dashiqiu	4.37 343	eP	Pn	09 44 40.6	-0.2
SXFK	Yanhouchang	5.13 316	eP	Pn	09 44 50.8	-0.5
JOW	Kunigami	7.29 55	P	Pn	09 45 22.0	+1.0

RSNC 24 09:46:24.3±0.0, 7°N±1°×7°7W±°, h8km±3km, M3.0, mb4.3, ML2.8, MLv3.5, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	Punta Ardita,	0.77	286	P	Pg	09 46 37.1	-2.1
PTAC				S	Sg	09 46 49.2	0.0
SOLC	Bahia Solano	0.79	206	P	Pg	09 46 38.1	-1.4
SOLC				S	Sg	09 46 49.9	+0.1
DBBC	Dabeiba	0.85	85	P	Pg	09 46 38.4	-2.2
DBBC				S	Sg	09 46 50.4	-1.3
APAC	Apartado, Choc	1.07	26	P	Pg	09 46 42.4	-2.4
APAC				S	Sg	09 46 58.7	0.0
CBOC	Ciudad Bolivar	1.49	136	P	Pn	09 46 48.4	-3.2
CBOC				S	Sn	09 47 06.6	-4.8
CAPC	Capurgana	1.71	350	P	Pn	09 46 53.3	-1.1
CAPC				S	Sn	09 47 16.0	-0.5
PIZC	Pizarro, Choco	1.98	189	P	Pn	09 46 57.2	-1.0
PIZC				S	Sn	09 47 22.8	-0.5
LCBC	Los crdobas,	2.02	20	P	Pn	09 46 57.0	-1.8
LCBC				S	Sn	09 47 25.0	+0.7
PLMC	San Jos del P	2.16	159	P	Pn	09 46 57.3	-3.5
PLMC				P	Pn	09 46 57.7	-3.1
PLMC				P	Pn	09 46 57.7	-3.1
ZARC	Zaragoza, Cauc	2.25	76	P	Pn	09 47 00.6	-1.3
GUY2C	Guyana, Caldas	2.40	135	P	Pn	09 47 03.3	-1.0
GUY2C				S	Sn	09 47 33.3	-0.8
NORC	Norcasia	2.57	122	P	Pn	09 47 06.3	0.0
NORC				S	Sn	09 47 39.5	+1.6
PTBC	PUERTO BERRIO,	2.62	99	P	Pn	09 47 06.0	-0.9
PTBC				S	Sn	09 47 39.9	+1.0
YOTC	Yotoco, Valle	3.02	166	P	Pn	09 47 09.5	-3.1
YOTC				P	Pn	09 47 09.8	-2.8
YOTC				S	Sn	09 47 43.8	-5.3
BRJC	Barrancabermej	3.29	89	P	Pn	09 47 17.1	+0.9
BRJC				S	Sn	09 47 56.1	+0.5
AZU	Azuero	3.30	285	P	Pn	09 47 13.9	-2.4
AZU				S	Sn	09 47 50.5	-5.2
SJCC	San Jacinto, C	3.48	32	P	Pn	09 47 16.6	-2.2
SJCC				S	Sn	09 47 59.9	-0.3
BCIP	Isla Barro Col	3.53	309	P	Pn	09 47 16.4	-3.1
BCIP				S	Sn	09 47 59.0	-2.4
JAMC	Jamundi, Valle	3.72	174	P	Pn	09 47 21.7	-0.6
JAMC				S	Sn	09 48 02.0	-4.5
BARC	Barichara	3.87	95	P	Pn	09 47 24.0	-0.3
BARC				S	Sn	09 48 10.3	+0.2
OCAC	Ocana	3.93	71	P	Pn	09 47 24.3	-0.8
OCAC				S	Sn	09 48 10.7	-0.8
PAMC	Pamplona, Colo	4.34	84	P	Pn	09 47 31.8	+0.7
PAMC				S	Sn	09 48 23.0	+0.7
CRJC	Cerrejon, Guaj	5.79	45	P	Pn	09 47 47.7	-2.9
CRJC				S	Sn	09 48 52.0	-5.2

IDC 24 09:47:02.6±2.1, 30°.55S×178°.54W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=60.5km s-min=42.5km az=42.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.63	267	P	P	09 55 01.2	+0.3
	0.2nm,0.4s,baz=109,slow=8.9,SNR=1.7						
	0.2nm,0.4s						
WRA	Warramunga Arr	43.63	273	P	P	09 55 08.6	-0.5
	0.3nm,0.4s,baz=111,slow=8.0,SNR=9.1						
	0.3nm,0.4s						
QSPA	South Pole Qui	59.56	180	P	P	09 57 07.6	-0.1
	1.5nm,1.1s,baz=48,slow=10,SNR=2.3						
	1.5nm,1.1s						
FINES	FINESS Array B	145.12	340	PKPbc	PKPbc	10 06 40.0	-0.7
	1.3nm,0.7s,baz=38,slow=4.8,SNR=8.0						

IDC 24 10:36:36.1±0.9, 2°.93S×129°.49E, h0km, mb3.9/8, mbtmp4.0/11, ML4.1/3, MS3.1/4, Error ellipse: s-maj=44.4km s-min=16.1km az=69.0
NEIC 24 10:36:39.9±2.2, 3°.10S±0°.09×129°.17E±0°.06, h10km±1km, mb4.2/14, Error ellipse: s-maj=14.4km s-min=10.8km az=184.0
DJA 24 10:36:40.8±0.3, 3°S±2°×12°9E±°, h10km, M4.3/12, mB5.3/2, mb4.5/3, MLv4.2/12, Mw(mB)4.7/2

ISC 24 10:36:39.3±0.5, 3°.00S±0°.05×129°.13E±0°.05, h10km, n53, σ19°76/55, mb4.1/13, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.40	210	P	Pg	10 36 47.0	-0.1
MSAI				S	Sg	10 36 51.0	-1.4
AAI	Ambon	1.16	234	P	Pn	10 37 01.1	-0.4
BNDI	Bandanaira	1.70	153	P	Pb	10 37 10.7	+0.1
NLAI	Namlea	2.04	263	P	Pb	10 37 16.3	-0.1
LBMI	Labuha	2.86	325	P	Pn	10 37 22.3	-2.6
SWI	Sorong	3.01	45	P	Pn	10 37 29.7	+2.7
FAKI	Fak Fak	3.12	89		Pn	10 37 29.2	+0.6
FAKI	Fak Fak	3.12	89	P	Pn	10 37 31.7	+3.2
FAKI	Fak Fak	3.12	89	P	Pn	10 37 31.6	+3.1
SANI	Sanana	3.28	287	P	Pn	10 37 31.0	+0.3
SANI	Sanana	3.28	287	P	Pn	10 37 30.5	-0.2
KDI	Kendari	6.57	261	P	Pn	10 38 15.3	-0.7
	3μm21nm,1.1s						
LUWI	Luwuk	6.64	287	Pn	Pn	10 38 16.9	-0.1
LUWI	Luwuk	6.64	287	P	Pn	10 38 16.6	-0.4
	2μm70nm,0.5s						
KAPI	Kappang	9.56	258	Pn	Pn	10 38 58.4	+1.2
KAPI	Kappang	9.56	258	Pn	Pn	10 38 59.6	+2.4
	3.2nm,0.3s,baz=131,slow=5.3,SNR=4.7						
	7.8nm,0.4s						
MTN	Manton Dam	9.98	169	Pn	Pn	10 39 02.9	0.0
DAV	Davao City (W)	10.61	341	LR	LR	10 44 21.2	
	comp=Z,83nm,19.4s,baz=164,slow=44						
KNRA	Kununurra	12.60	182		Pn	10 39 37.1	-1.7
FITZ	Fitzroy Crossi	15.39	193		Pn	10 40 14.3	-2.3
FITZ	Fitzroy Crossi	15.39	193	Pn	Pn	10 40 16.1	-0.6
	0.4nm,0.3s,baz=3.3,slow=10.0,SNR=6.0						
FITZ				Sn	Sn	10 43 13.2	+5.8
	0.1nm,0.3s,baz=141,slow=5.1,SNR=1.5						
FITZ				LR	LR	10 46 35.2	
	comp=Z,81nm,19.8s,baz=344,slow=39						
	7.9nm,1.2s						
FITZ	Fitzroy Crossi	15.39	193	P	Pn	10 40 16.7	0.0
WB0	Warramunga Arr	17.44	163		Pn	10 40 39.7	-3.2
WB0				IAmb	IAmb	10 40 50.5	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	17.59	164	Pn	Pn	10 40 41.9	-2.9
WRA	Warramunga Arr	17.59	164	P	Pn	10 40 40.6	-4.1
	comp=Z,0.7nm,0.3s,baz=335,slow=13,SNR=25						
	comp=Z,3.4nm,1.0s						
COEN	Coen	17.63	129	P	Pn	10 40 43.7	-1.6
COEN				IAmb	IAmb	10 40 51.6	
	comp=Z,9.0nm,0.7s						
COEN	Coen	17.63	129	P	P	10 40 48.3	+2.0
SMRI	Semarang	19.04	257	P	Pn	10 41 02.7	+0.1
SMRI				IAmb	IAmb	10 41 07.3	
	comp=Z,24nm,0.7s						
QIS	Mount Isa	20.22	150	P	P	10 41 15.3	+0.7
PSA00	Pilbara Seismi	20.55	205	P	P	10 41 19.0	+0.8
AS31	Alice Springs	21.06	168	P	P	10 41 22.9	-0.8
AS31				IAmb	IAmb	10 41 25.6	
	comp=Z,6.3nm,0.8s						
ASAR	Alice Springs	21.06	168	P	P	10 41 23.6	-0.1
	comp=Z,16nm,0.7s,baz=351,slow=11,SNR=362						
ASAR				PcP	PcP	10 45 29.1	-1.4
	comp=Z,0.4nm,0.4s,baz=8.3,slow=1.2,SNR=5.2						
ASAR				ScP	ScP	10 49 07.8	+0.1
	comp=Z,0.5nm,1.0s,baz=15,slow=3.8,SNR=1.3						
ASAR				LR	LR	10 49 24.5	
	comp=Z,78nm,18.4s,baz=7.0,slow=36						
	comp=Z,16nm,0.7s						
AS01	Alice Springs	21.07	168	P	P	10 41 23.9	+0.1
MTSU	Mount Surprise	21.16	136	P	P	10 41 26.8	+1.9
WRKA	Warakurna	21.92	182	P	P	10 41 33.0	0.0
BBOO	Buckleboo	30.36	168	P	P	10 42 50.4	-1.0
STKA	Stephens Creek	31.03	159	P	P	10 42 54.0	-3.4
	comp=Z,1.7nm,0.9s,baz=331,slow=16,SNR=2.5						
	comp=Z,1.7nm,0.9s						
CMAR	Chiang Mai Arr	36.58	307	P	P	10 43 46.2	+0.4
	comp=Z,0.4nm,0.3s,baz=136,slow=8.2,SNR=6.7						
	comp=Z,0.4nm,0.3s						
CHTO	Chiang Mai	36.77	307	P	P	10 43 47.8	+0.3
CHTO				IAmb	IAmb	10 43 56.2	
	comp=Z,4.5nm,1.1s						
JMN	Monobe	36.80	7	P	P	10 43 47.9	+0.4
KSRS	Korea Array	40.26	359	LR	LR	10 59 57.8	
	comp=Z,16nm,21.7s,baz=15,slow=35						
ULN	Ulaanbaatar	54.22	342

RONF	Ronchamp	4.41	120	Pg	Pn	10 42 05.0 -0.7
PLDF	La Plantade	4.44	155	Pg	Pn	10 42 05.1 -1.0
ECH	Echery	4.46	112	Pg	Pn	10 42 05.8 -0.6
WLS	Welschbruch	4.49	109	Pg	Pn	10 42 06.8 -0.1
LEMB	Lembach	4.54	100	Pg	Pn	10 42 06.6 -0.8
RIVEL	MONT RIVEL	4.65	133	Pg	Pn	10 42 08.8 -0.3
CHMF	Charmoille	4.69	124	Pg	Pn	10 42 09.1 -0.5
FRNF	Fournols	4.77	166	Pg	Pn	10 42 09.7 -1.0
BRANT	Les Verrieres	4.80	128	Pg	Pn	10 42 10.5 -0.6
COLF	Collangettes	4.88	157	Pg	Pn	10 42 11.3 -0.8
BOURR	Bourrignon	4.92	120	Pg	Pn	10 42 12.4 -0.3
OPP	Oppenau	4.98	105	Pg	Pn	10 42 12.9 -0.6
GIMEL	St. Georges /	4.98	133	Pg	Pn	10 42 13.7 +0.1
KIZ	Kirchzarten	5.03	112	Pg	Pn	10 42 14.2 0.0
ENDD	Endenburg	5.04	115	Pg	Pn	10 42 13.6 -0.8
LBL	Lubilhac	5.04	161	Pg	Pn	10 42 13.7 -0.7
OG35	Corcelles	5.05	140	Pg	Pn	10 42 14.2 -0.3
TORNY	Torny/Romont	5.16	127	Pg	Pn	10 42 16.1 +0.1
BALST	Balsthal	5.21	119	Pg	Pn	10 42 16.7 -0.1
OGMY	Moye	5.31	140	Pg	Pn	10 42 18.2 +0.1
SSB	Saint Sauveur	5.33	152	Pg	Pn	10 42 17.9 -0.5
LEUC	Leucamp	5.38	168	Pg	Pn	10 42 17.6 -1.4
AIGLE	Aigle	5.45	130	Pg	Pn	10 42 21.1 +1.1
OGSM	Saint Maurice	5.45	142	Pg	Pn	10 42 19.8 -0.3
SLE	Schleitheim	5.46	112	Pg	Pn	10 42 19.5 -0.7
RSL	Roselend	5.78	137	Pg	Pn	10 42 24.7 +0.1
ORIF	Oris-en-Rattie	6.10	145	Pg	Pn	10 42 29.3 +0.2
TRAV	Traversella	6.43	132	Pg	Pn	10 42 35.0 +1.5
CREF	Crivoux	6.70	143	Pg	Pn	10 42 39.0 +1.8
BHB	Bricherasio	6.72	138	Pg	Pn	10 42 39.4 +1.9
SURF	Saint Ours	6.83	142	Pg	Pn	10 42 41.6 +2.5
JAUF	Jausiers	6.85	143	Pg	Pn	10 42 41.5 +2.1
PZZ	Stroppo	6.93	140	Pg	Pn	10 42 42.3 +1.9

NEIC ***24*** *10:41:22.5±1.5,37°.28N±0°.08×20°.71E±0°.05,h10km±2km, mb4.3/13,Error ellipse: s-maj=14.7km s-min=3.8km az=204.0*
PDG ***24*** *10:41:23.3±0.1,37°.38N×20°.66E,h8km,ML4.4/10,Error ellipse: s-maj=0.5km s-min=0.2km az=90.0*
IDC ***24*** *10:41:23.3±0.9,37°.78N×21°.09E,h0km,mb3.8/13, mbtmp3.8/22,ML3.5/7,MS3.3/9,Error ellipse: s-maj=18.8km s-min=12.9km az=22.0*
THE ***24*** *10:41:23.1,37°.40N×20°.65E,h2km,ML3.9/14,Error ellipse: s-maj=1.2km s-min=0.7km az=41.0*
MOS ***24*** *10:41:24.6±1.3,37°.61N×20°.58E,h12km,mb4.5/10,Error ellipse: s-maj=9.3km s-min=4.6km az=84.8*
ATH ***24*** *10:41:24.4,37°.49N×20°.74E,h20km±1km,ML3.9/18, Manual Solution by S.Liakopoulos First location: 2019/02/24 10:42:24, This location: 2019/02/24 11:13:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
MED_RC ***24*** *10:41:24.0±1.1,37°.44N×20°.68E,h24km±1km,MW4.3/6, Moment Tensor Solution.Mantle waves: s6,c6; Duration: 1!0 Moment tensor: Scale 10^{15}Nm; M_{rr}3.95±1.11; $M_{\theta\theta}$-1.87±.69; $M_{\phi\phi}$-2.08±.69; $M_{r\theta}$1.17±.24; $M_{\theta\phi}$1.71±.64; $M_{\phi r}$0.37±.38; Best double couple: $M_0$3.99000×10^{15} NP1:ϕ_s330.00000°,δ43.00000°,λ110.00000°. NP2: ϕ_s123.00000°,δ51.00000°,λ72.00000°. Principal axes: T 4.2600, Plg76.0000°, Azm332.0000°; N -0.5300, Plg14.0000°, Azm134.0000°; P -3.7300, Plg4.0000°, Azm225.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MCSM ***24*** *10:41:31.1,38°.03N×21°.47E,h12km±1km,Md3.6/6,Ml3.9/5*
ISC 24 10:41:23.2±1.1,37°.46N±0°.03×20°.70E±0°.02,h6km±7km, n244,σ1§77/283,mb4.1/27,MS3.3/6,18C-10D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**23**	P	**Pb**	**10 41 29.9**	**-0.6**
LTHK				S	**Sb**	**10 41 34.5**	**-0.9**
	74μm,0.6s						
LTHK	**Lithakia**	**0.27**	**23**	P	**Pb**	**10 41 30.0**	**-0.6**
LTHK				S	**Sg**	**10 41 33.8**	**+1.7**
KYPS	**Kipseli, Zakin**	**0.37**	**15**	P	**Pb**	**10 41 32.2**	**0.0**
KYPS				S	**Sb**	**10 41 37.9**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.39**	**359**	P	**Pb**	**10 41 32.3**	**-0.3**
ORTH				S	**Sb**	**10 41 38.4**	**-0.5**
CLEM	**Kyllini,Ilia,G**	**0.55**	**38**	P	**Pb**	**10 41 35.0**	**-0.2**
CLEM				S	**Sg**	**10 41 41.4**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.62**	**5**	P	**Pb**	**10 41 36.1**	**-0.3**
RTZL				S	**Sb**	**10 41 46.0**	**+0.7**
LCHA	**Lechaina**	**0.65**	**43**	P	**Pb**	**10 41 37.3**	**+0.3**
LCHA				S	**Sb**	**10 41 45.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.66**	**352**	P	**Pb**	**10 41 36.9**	**-0.2**
PSDA				S	**Sb**	**10 41 47.5**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.66**	**352**	P	**Pb**	**10 41 36.9**	**-0.2**
PSDA				S	**Sb**	**10 41 47.2**	**+0.7**
VLS	**Valsamata**	**0.72**	**353**	P	**Pg**	**10 41 37.7**	**+0.6**
VLS				S	**Sb**	**10 41 49.3**	**+0.9**
	12μm,0.4s						
VLS	**Valsamata**	**0.72**	**353**	P	**Pg**	**10 41 37.7**	**+0.6**
VLS				S	**Sb**	**10 41 48.3**	**-0.1**
ZARO	**Zacharo**	**0.76**	**88**	P	**Pb**	**10 41 39.0**	**+0.2**
ZARO				S	**Sg**	**10 41 47.2**	**-0.4**
SMHA	**Samh**	**0.79**	**357**	P	**Pg**	**10 41 37.8**	**-0.7**
SMHA				S	**Sg**	**10 41 49.2**	**+0.5**
AMT	**Artemida-Makis**	**0.81**	**85**	P	**Pg**	**10 41 39.2**	**+0.5**
AMT				S	**Sb**	**10 41 50.8**	**+0.1**
DMLN	**Damoulianata-K**	**0.82**	**342**	P	**Pb**	**10 41 39.9**	**0.0**
DMLN				S	**Sn**	**10 41 52.7**	**-1.1**
	25μm,0.5s						
DMLN	**Damoulianata-K**	**0.82**	**342**	P	**Pb**	**10 41 39.8**	**0.0**
DMLN				S	**Sg**	**10 41 49.7**	**+0.1**
RLS	**Riolos of Patr**	**0.85**	**45**	P	**Pb**	**10 41 40.3**	**-0.1**
RLS				S	**Sn**	**10 41 53.3**	**-1.2**
	4μm,0.7s						
RLS	**Riolos of Patr**	**0.85**	**45**	P	**Pg**	**10 41 39.9**	**+0.3**
RLS				S	**Sg**	**10 41 49.0**	**-1.7**
AXS	**Araxos**	**0.91**	**36**	P	**Pg**	**10 41 40.5**	**-0.2**
AXS				S	**Sg**	**10 41 52.3**	**-0.2**
DRO	**Drossia**	**0.94**	**58**	P	**Pg**	**10 41 41.6**	**+0.3**
DRO				S	**Sn**	**10 41 56.6**	**-0.1**
	5μm,0.5s						
DRO	**Drossia**	**0.94**	**58**	P	**Pg**	**10 41 41.2**	**-0.1**
DRO				S	**Sg**	**10 41 52.0**	**-1.4**
ITM	**Ithomi**	**1.02**	**106**		**Pg**	**10 41 42.1**	**-0.7**
ITM	**Ithomi**	**1.02**	**106**	P	**Pg**	**10 41 42.9**	**+0.2**
ITM				S	**Sn**	**10 41 58.9**	**+0.3**
	2μm,0.8s						
ITM	**Ithomi**	**1.02**	**106**	P	**Pg**	**10 41 42.7**	**-0.1**
EVGI	**Lefkada island**	**1.16**	**358**	P	**Pg**	**10 41 45.2**	**-0.3**
EVGI				S	**Sn**	**10 42 04.1**	**+2.0**
	5μm,0.5s						
EVGI	**Lefkada island**	**1.16**	**358**	P	**Pg**	**10 41 44.9**	**-0.6**
UPR	**University Cam**	**1.19**	**46**	P	**Pn**	**10 41 47.2**	**+0.8**
UPR				S	**Sn**	**10 42 05.3**	**+2.5**
DRAG	**Dragano-Lefkad**	**1.23**	**355**	P	**Pb**	**10 41 46.6**	**-0.2**
DRAG				S	**Sn**	**10 42 06.5**	**+2.7**
DRAG	**Dragano-Lefkad**	**1.23**	**355**	P	**Pb**	**10 41 46.4**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.25**	**360**	P	**Pn**	**10 41 46.9**	**-0.3**
NYDR				S	**Sn**	**10 42 07.3**	**+2.9**
	4μm,0.8s						
KLV	**Kalavryta, Ach**	**1.29**	**63**	P	**Pn**	**10 41 47.8**	**0.0**
KLV				S	**Sn**	**10 42 07.5**	**+2.1**
	2μm,0.8s						
KLV	**Kalavryta, Ach**	**1.29**	**63**	P	**Pn**	**10 41 47.3**	**-0.5**
PVO	**Paravola**	**1.33**	**29**	P	**Pb**	**10 41 48.5**	**0.0**
LKD2	**Lefkada island**	**1.33**	**359**	Pg	**Pg**	**10 41 48.8**	**+0.1**
LKD2				Sg	**Sb**	**10 42 05.2**	**-0.6**
LKD2				AML	AML	10 42 21.2	
	19nm,0.6s						
LKD2				AMd		10 43 17.4	
LKD2	**Lefkada island**	**1.33**	**359**	P	**Pn**	**10 41 47.9**	**-0.4**
LKD2				S	**Sg**	**10 42 08.5**	**+2.6**
	5μm,0.6s						
LKD2	**Lefkada island**	**1.33**	**359**	P	**Pn**	**10 41 48.1**	**-0.2**
EFP	**Efpalio**	**1.36**	**44**	P	**Pn**	**10 41 48.4**	**-0.3**
EFP				S	**Sg**	**10 42 09.6**	**+2.8**
	2μm,0.7s						
EFP	**Efpalio**	**1.36**	**44**	P	**Pn**	**10 41 48.0**	**-0.7**
TSLK	**Tsoukalades, L**	**1.36**	**358**	P	**Pg**	**10 41 49.5**	**+0.1**
TSLK				S	**Sg**	**10 42 09.7**	**+2.6**
	6μm,0.7s						
TSLK	**Tsoukalades, L**	**1.36**	**358**	P	**Pn**	**10 41 48.0**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.37**	**54**	P	**Pb**	**10 41 49.2**	**-0.1**
GUR	**Goura**	**1.39**	**69**	P	**Pn**	**10 41 49.2**	**0.0**
GUR				S	**Sg**	**10 42 10.1**	**+2.3**
	3μm,0.7s						
GUR	**Goura**	**1.39**	**69**	P	**Pn**	**10 41 48.5**	**-0.6**
KALE	**Kalithea**	**1.47**	**50**	P	**Pb**	**10 41 51.0**	**+0.1**
ANX	**Ano Chora**	**1.49**	**40**	P	**Pn**	**10 41 50.9**	**+0.4**
ANX				S	**Sg**	**10 42 12.7**	**+1.7**
	4μm,0.6s						
ANX	**Ano Chora**	**1.49**	**40**	P	**Pn**	**10 41 50.9**	**+0.4**
VLI	**Veliai**	**1.94**	**112**	P	**Pn**	**10 41 57.5**	**+0.9**
IGT	**Igoumenitsa**	**2.09**	**352**	Pn	**Pg**	**10 42 04.0**	**+0.7**
IGT				Sn	**Sb**	**10 42 29.0**	**+1.2**
IGT				AML	AML	10 42 44.0	
	3.9nm,1.0s						
IGT				AMd		10 43 46.9	
IGT	**Igoumenitsa**	**2.09**	**352**	P	**Pn**	**10 41 59.7**	**+1.0**
VIL2	**Platees**	**2.17**	**69**	P	**Pn**	**10 42 00.6**	**+0.8**
THL	**Klokotos Trika**	**2.34**	**26**	P	**Pn**	**10 42 03.0**	**+0.8**
KEK	**Kerkira**	**2.36**	**343**	Pn	**Pn**	**10 42 02.5**	**+0.1**
KEK	**Kerkira**	**2.36**	**343**	P	**Pn**	**10 42 03.0**	**+0.5**
SRN	**Sarande**	**2.48**	**347**	Pn	**Pb**	**10 42 07.1**	**-1.0**
SRN				Sn	**Sg**	**10 42 41.3**	**-1.6**
SRN				AML	AML	10 42 59.5	
	2.0nm,1.1s						
SRN				AMd		10 44 18.4	
VLY	**Voula,Athens**	**2.49**	**80**	P	**Pn**	**10 42 03.5**	**-0.7**
ATHU	**Athens Univers**	**2.50**	**77**	P	**Pn**	**10 42 02.6**	**-1.7**
KPRO	**Kipourio**	**2.54**	**12**	P	**Pn**	**10 42 06.2**	**+1.1**
LRSO	**Larissa Observ**	**2.58**	**30**	P	**Pn**	**10 42 04.8**	**-0.6**
PTL	**Penteli**	**2.58**	**76**	P	**Pn**	**10 42 04.7**	**-0.8**
DION	**Dionisos Attik**	**2.63**	**75**	P	**Pn**	**10 42 06.7**	**+0.4**
LSK	**Leskovik**	**2.69**	**358**	Pn	**Pb**	**10 42 09.5**	**-2.3**
LSK				Sn	**Sn**	**10 42 41.5**	**+1.6**
LSK				AML	AML	10 43 14.3	
	4.5nm,0.7s						
NEST	**Nestorio**	**2.96**	**5**	Pn	**Pb**	**10 42 14.3**	**-2.2**
NEST				Sn	**Sn**	**10 42 46.4**	**-0.4**
NEST				AML	AML	10 43 18.2	
	1.4nm,0.9s						
NEST				AMd		10 44 20.0	
LIT	**Litokhoron**	**2.98**	**27**	Pn	**Pn**	**10 42 12.2**	**+1.1**
LIT	**Litokhoron**	**2.98**	**27**	P	**Pn**	**10 42 12.2**	**+1.1**
SCTE	**Santa Cesarea**	**3.14**	**327**	Pn	**Pn**	**10 42 14.1**	**+0.9**
VLO	**Vlora**	**3.15**	**343**	Pn	**Pb**	**10 42 20.4**	**+0.8**
VLO				AMd		10 44 16.4	
KBN	**Korca**	**3.16**	**1**		**Pn**	**10 42 13.4**	**-0.1**
KBN	**Korca**	**3.16**	**1**	P	**Pn**	**10 42 13.4**	**-0.1**
TIP	**Timpagrande**	**3.54**	**300**	Pn	**Pn**	**10 42 18.7**	**-0.2**
TIP	**Timpagrande**	**3.54**	**300**	⇑P	**Pb**	**10 42 23.4**	**-2.9**
TIP				⇑S	**Sn**	**10 43 03.3**	**+2.2**
TIP	**Timpagrande**	**3.54**	**300**	Pn	**Pn**	**10 42 21.5**	**+2.7**
THE	**Thessaloniki**	**3.62**	**28**	Pn	**Pn**	**10 42 20.7**	**+0.9**
THE				AMd		10 43 39.3	
OHR	**Ohrid**	**3.65**	**1**	*i* Pn	**Pb**	**10 42 24.5**	**-3.6**
APE	**Apeiranthos**	**3.87**	**94**	*i* P	**Pn**	**10 42 27.5**	**+4.2**
CEL	**Celeste**	**3.89**	**283**		**Pn**	**10 42 21.8**	**-1.8**
CEL	**Celeste**	**3.89**	**283**	Pn	**Pn**	**10 42 27.0**	**+3.5**
TIR	**Tirane**	**3.94**	**351**	Pn	**Pn**	**10 42 25.6**	**+1.5**
TIR	**Tirane**	**3.94**	**351**	⇑P	**Pn**	**10 42 24.7**	**+0.5**
TIR	**Tirane**	**3.94**	**351**	P	**Pn**	**10 42 24.6**	**+0.5**
TIR	**Tirane**	**3.94**	**351**	Pn	**Pn**	**10 42 26.2**	**+2.1**
IDI	**Anoyia**	**4.01**	**121**	Pn	**Pn**	**10 42 25.2**	**-0.1**
	17nm,1.0s,baz=275,slow=10,SNR=7.4						
IDI				Sn	**Sn**	**10 43 13.9**	**+1.2**
	3.7nm,0.3s,baz=61,slow=22,SNR=5.7						
MATE	**Matera**	**4.45**	**317**	⇓P	**Pn**	**10 42 34.4**	**+3.2**
CUC	**Castrocucco**	**4.58**	**305**		**Pn**	**10 42 34.1**	**+1.1**
PUK	**Puka**	**4.62**	**353**	Pn	**Pn**	**10 42 34.8**	**+1.2**
ULC	**Ulcinj**	**4.64**	**346**	*e*Pn	**Pn**	**10 42 34.8**	**+1.0**
ULC				*i* Sn	**Sn**	**10 43 27.6**	**-0.3**
DRME	**Dracevica, Mon**	**4.86**	**347**	*e*Pn	**Pn**	**10 42 37.9**	**+1.0**
DRME				*i* Sn	**Sn**	**10 43 33.1**	**-0.4**
VAE	**Valguarnera**	**5.00**	**272**	Pn	Pn	10 42 44.9	+6.1
	17nm,0.6s,baz=107,slow=17,SNR=2.3						
VAE				Sn	**Sn**	**10 43 42.0**	**+5.0**
	2.1nm,0.3s,baz=175,slow=20,SNR=3.7						
BUM	**Brajici-Budva**	**5.03**	**345**	*e*Pn	**Pn**	**10 42 40.3**	**+1.1**
BUM				*i* Sn	**Sn**	**10 43 37.0**	**-0.7**
RAFF	**Raffo Rosso**	**5.06**	**269**	Pn	**Pn**	**10 42 38.8**	**-0.8**
PDG	**Podgorica**	**5.09**	**348**	Pn	**Pn**	**10 42 43.0**	**+3.1**
PDG	**Podgorica**	**5.09**	**348**	⇑P	**Pn**	**10 42 41.0**	**+1.0**
PDG				⇓S	**Sn**	**10 43 35.6**	**-3.4**
PDG	**Podgorica**	**5.09**	**348**	*e*Pn	**Pn**	**10 42 41.0**	**+1.0**
PDG				*i* Sn	**Sn**	**10 43 38.4**	**-0.6**
PVY	**Plav**	**5.16**	**354**	*e*Pn	**Pn**	**10 42 42.1**	**+1.0**
PVY				*i* Sn	**Sn**	**10 43 40.4**	**-0.6**
RDO	**Rodhopi**	**5.25**	**44**	Pn	**Pn**	**10 42 43.6**	**+1.4**
CEME	**Cevo**	**5.26**	**345**	*e*Pn	**Pn**	**10 42 43.4**	**+1.0**
CEME				*i* Sn	**Sn**	**10 43 42.7**	**-0.7**
HCY	**Herceg Novi**	**5.26**	**342**	*e*Pn	**Pn**	**10 42 43.3**	**+0.9**
HCY				*i* Sn	**Sn**	**10 43 42.6**	**-0.7**
ALN	**Alexandroupoli**	**5.39**	**49**	Pn	**Pn**	**10 42 45.5**	**+1.4**
ALN	**Alexandroupoli**	**5.39**	**49**	P	**Pn**	**10 42 45.5**	**+1.4**
IVA	**Berane**	**5.44**	**354**	*e*Pn	**Pn**	**10 42 46.1**	**+1.2**
IVA				*i* Sn	**Sn**	**10 43 47.1**	**-0.7**
KOME	**Kolasin**	**5.46**	**351**	*e*Pn	**Pn**	**10 42 46.1**	**+0.9**
KOME				*i* Sn	**Sn**	**10 43 47.5**	**-0.8**
NKME	**Niksic**	**5.47**	**346**	*e*Pn	**Pn**	**10 42 46.3**	**+1.1**
NKME				*i* Sn	**Sn**	**10 43 47.5**	**-0.9**
SGRT	**San Giovanni R**	**5.75**	**320**	Pn	**Pn**	**10 42 48.9**	**-0.3**
PAOL	**Paolisi**	**5.95**	**309**	Pn	**Pn**	**10 42 52.1**	**+0.2**
BOVS	**Bovan**	**6.22**	**7**	⇓S	**Sn**	**10 44 03.3**	**-3.5**
BLKB	**Belogradchik**	**6.34**	**13**	⇓P	**Pn**	**10 42 58.5**	**+1.4**
INTR	**Introdacqua**	**6.93**	**313**	Pn	**Pn**	**10 43 05.9**	**+0.5**
MDVR	**Moldovita**	**7.35**	**6**	⇑P	**Pn**	**10 43 11.7**	**+0.6**
YLV	**Yalova**	**7.43**	**63**	Pn	**Pn**	**10 43 13.5**	**+1.3**
	0.1nm21nm,1.5s						
NRCA	**Norcia**	**7.91**	**315**	Pn	**Pn**	**10 43 19.6**	**+0.8**
GZR	**Gura Zlata**	**8.08**	**10**	⇓P	**Pn**	**10 43 22.1**	**+1.0**
GZR	**Gura Zlata**	**8.08**	**10**	P	**Pn**	**10 43 22.0**	**+1.0**
LOT	**Lotru**	**8.31**	**15**	⇑P	**Pn**	**10 43 26.1**	**+1.8**
MTUR	**Matau**	**8.42**	**22**	⇑P	**Pn**	**10 43 28.5**	**+2.7**
MTUR	**Matau**	**8.42**	**22**	P	**Pn**	**10 43 28.5**	**+2.7**
ARR	**Arges**	**8.43**	**19**	⇑P	**Pn**	**10 43 27.5**	**+1.5**
VOIR		**8.61**	**21**	⇑P	**Pn**	**10 43 30.4**	**+2.0**
VOIR		**8.61**	**21**	P	**Pn**	**10 43 30.4**	**+2.0**
SIRR	**Siria**	**8.83**	**4**	⇓P	**Pn**	**10 43 32.9**	**+1.5**
MORH	**Mrgy, Hungar**	**8.88**	**351**	⇑P	**Pn**	**10 43 34.1**	**+2.1**
MLR	**Muntele Rosu**	**8.93**	**24**	Pn	**Pn**	**10 43 34.2**	**+1.4**
MLR	**Muntele Rosu**	**8.93**	**24**	Pn	**Pn**	**10 43 28.7**	**-4.2**
	0.2nm,0.3s,baz=127,slow=18,SNR=4.6						
MLR				LR	LR	10 47 10.9	
	comp=Z,164nm,18.2s,baz=213,slow=41						
	1.3nm,0.5s						
MLR	**Muntele Rosu**	**8.93**	**24**	⇑P	**Pn**	**10 43 35.1**	**+2.2**
DOPR	**Dopca**	**9.19**	**21**	⇑P	**Pn**	**10 43 38.9**	**+2.6**
KEST	**Kesra**	**9.29**	**263**	Pn	Pn	10 43 44.0	+6.2
	0.4nm,0.3s,baz=297,slow=16,SNR=2.4						
KEST				LR	LR	10 47 47.6	
	comp=Z,106nm,18.2s,baz=6.2,slow=40						
	5.3nm,0.7s						
COVR	**Voineasa-Covas**	**9.33**	**24**	⇓P	**Pn**	**10 43 40.9**	**+2.6**
MARR	**Marisel-Cluj**	**9.38**	**10**	⇓P	**Pn**	**10 43 41.2**	**+2.2**
DRGR		**9.44**	**8**	⇓P	**Pn**	**10 43 41.0**	**+1.2**
DRGR		**9.44**	**8**	P	**Pn**	**10 43 41.0**	**+1.2**
PLOR	**Plostina**	**9.49**	**26**	⇑P	**Pn**	**10 43 43.1**	**+2.6**
PLOR	**Plostina**	**9.49**	**26**	P	**Pn**	**10 43 43.0**	**+2.6**
VRI	**Vrincioaia**	**9.53**	**26**	⇓P	**Pn**	**10 43 43.7**	**+2.8**
VRI	**Vrincioaia**	**9.53**	**26**	P	**Pn**	**10 43 43.7**	**+2.8**
MPLH	**Magyarpolny**	**9.98**	**347**	Pn	**Pn**	**10 43 49.2**	**+2.1**
	27nm,1.4s						
SABO	**M.te Sabotino**	**10.03**	**330**	Pn	**Pn**	**10 43 48.6**	**+0.9**
SOKA	**Soboth**	**10.13**	**337**	*e*Pn	**Pn**	**10 43 49.7**	**+0.5**
	2.5nm,0.5s						
OBKA	**Obir**	**10.13**	**335**	*e*Pn	**Pn**	**10 43 50.4**	**+1.1**
	1.3nm,0.5s						
BR131	**Keskin Array S**	**10.38**	**73**	*i* P	**Pn**	**10 43 56.8**	**+4.1**
BRTR	**Keskin Array B**	**10.38**	**73**	Pn	**Pn**	**10 43 51.1**	**-1.6**
	0.1nm,0.3s,baz=271,slow=11,SNR=1.8						
	0.2nm,0.4s						
ARSA	**Arzberg**	**10.50**	**340**	*e*Pn	**Pn**	**10 43 56.2**	**+2.0**
	1.2nm,0.5s						
BURAR	**Bucovina Array**	**10.68**	**17**	Pn	**Pn**	**10 43 59.0**	**+2.3**
BURAR	**Bucovina Array**	**10.68**	**17**	⇑P	**Pn**	**10 43 59.2**	**+2.5**
BURAR	**Bucovina Array**	**10.68**	**17**	P	**Pn**	**10 43 59.2**	**+2.5**
CTI	**Castel Tesino**	**10.92**	**325**	Pn	**Pn**	**10 44 00.5**	**+0.5**
CTI	**Castel Tesino**	**10.92**	**325**	P	**Pn**	**10 44 00.5**	**+0.5**
KBA	**Koelnbreinsper**	**11.04**	**333**	*e*Pn	**Pn**	**10 44 04.9**	**+3.1**
	1.6nm,0.6s						
CONA	**Conrad Observa**	**11.05**	**343**	*i* Pn	Pn	10 44 07.9	+6.1
	0.6nm,0.3s						
VYHS	**Vyhne**	**11.11**	**354**	*e*P	**Pn**	**10 44 07.0**	**+4.4**
VYHS	**Vyhne**	**11.11**	**354**	*e*PN	**Pn**	**10 44 07.0**	**+4.4**
MODS	**Modra-Piesok**	**11.19**	**348**	*e*P	Pn	10 44 09.9	+6.2
MODS	**Modra-Piesok**	**11.19**	**348**	*e*PN	Pn	10 44 09.9	+6.2
MOA	**Molln**	**11.41**	**338**	*e*Pn	**Pn**	**10 44 08.0**	**+1.3**
	0.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.47**	**335**	*e*Pn	**Pn**	**10 44 09.5**	**+2.0**
	2.1nm,0.4s						
KOLS	**Kolonicke sedl**	**11.53**	**5**	*e*P	Pn	10 44 15.0	+6.8
KOLS	**Kolonicke sedl**	**11.53**	**5**	*e*PN	Pn	10 44 15.0	+6.8
LESA	**Schwarzleotal**	**11.58**	**332**	*e*Pn	**Pn**	**10 44 11.6**	**+2.5**
	3.1nm,0.5s						
STNU	**Starunia**	**11.58**	**13**	P	**Pn**	**10 44 10.5**	**+1.5**
WTTA	**Wattenberg**	**11.86**	**329**	*e*Pn	Pn	10 44 18.6	+5.6
	1.3nm,0.4s						
SHIU	**Shidnytsya**	**11.92**	**8**	P	**Pn**	**10 44 15.3**	**+1.7**
WATA	**Walderalm**	**11.94**	**329**	*e*Pn	**Pn**	**10 44 17.6**	**+3.5**
	1.6nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**11.99**	**323**	Pn	**Pn**	**10 44 15.0**	**+0.2**
SORM	**Soroca**	**12.05**	**25**	P	**Pn**	**10 44 16.9**	**+1.5**
	12nm,2.8s						
FETA	**Feichten**	**12.07**	**325**	*e*Pn	**Pn**	**10 44 20.2**	**+4.4**
	1.3nm,0.6s						
DAVOX	**Davos/Dischmat**	**12.29**	**323**	Pn	**Pn**	**10 44 19.9**	**+1.0**
	0.1nm,0.3s,baz=54,slow=16,SNR=1.6						
DAVOX				Sn	**Sn**	**10 46 32.6**	**-3.5**
	0.2nm,0.3s,baz=312,slow=22,SNR=3.9						
	0.3nm,0.3s						
TUE	**Stuetta**	**12.34**	**320**	Pn	**Pn**	**10 44 19.7**	**+0.1**
TUE	**Stuetta**	**12.34**	**320**	P	**Pn**	**10 44 21.7**	**+2.2**
	34nm,1.9s						
GERES	**GERESS Array B**	**12.47**	**338**	Pn	**Pn**	**10 44 21.4**	**+0.2**
	0.2nm,0.3s,baz=157,slow=17,SNR=4.9						
GERES				Sn	**Sn**	**10 46 34.2**	**-6.2**
	0.1nm,0.3s,baz=156,slow=34,SNR=1.1						
	0.9nm,0.8s						
KHC	**Kasperske Hory**	**12.76**	**338**	*e*PN	**Pn**	**10 44 27.0**	**+1.9**
KHC	**Kasperske Hory**	**12.76**	**338**	*e*P	**Pn**	**10 44 27.0**	**+1.9**
MAHO	**Mahon**	**13.07**	**286**	Pn	**Pn**	**10 44 28.9**	**-0.5**
LUBAR	**Lubar, Ukraine**	**13.45**	**20**	P	**Pn**	**10 44 36.1**	**+1.6**
KSP	**Ksiaz**	**13.74**	**348**	P	**Pn**	**10 44 40.6**	**+2.1**
EIL	**Elat**	**14.19**	**119**	Pn	**Pn**	**10 44 42.9**	**-1.8**
	0.4nm,0.3s,baz=321,slow=11,SNR=3.7						
	1.3nm,0.4s						
MI28	**Mi28,Pidlybu**	**14.35**	**18**	P	**Pn**	**10 44 48.3**	**+1.5**
RNPP9	**Sopachiv**	**14.43**	**13**	P	**Pn**	**10 44 50.4**	**+2.6**
KIEV	**Kiev**	**14.56**	**22**	⇑P	**Pn**	**10 44 49.5**	**-0.1**
KIEV	**Kiev**	**14.56**	**22**	P	**Pn**	**10 44 51.7**	**+2.1**
CLL	**Collm**	**14.88**	**341**	Pn	**Pn**	**10 44 55.5**	**+1.4**
CLL				IAmb	IAmb	10 45 09.2	
	comp=Z

ARTI								10 48 47.6
ARTI					S	**S**		**10 52 57.9**	**+5.5**
ARTI					SS	**SnSn**		**10 54 37.8**	**+2.1**
ARTI					pmax	pmax		
	comp=Z,6.0nm,1.2s							
ARCES	**ARCESS Array B**	**32.24**	**3**	P		**P**		**10 47 51.6**	**-0.4**
	comp=Z,11nm,1.2s,baz=184,slow=9.7,SNR=4.9							
	comp=Z,11nm,1.2s							
BRVK	**Borovoye**	**37.41**	**49**	*i* P		**P**		**10 48 40.5**	**+3.7**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
CHGR	**Chuyangaron**	**37.82**	**73**	P		**P**		**10 48 37.1**	**-3.5**
CHGR	**Chuyangaron**	**37.82**	**73**	P		**P**		**10 48 37.1**	**-3.5**
CHGR				pmax		pmax		
	comp=Z,12nm,0.4s							
KK31	**Karatay Array**	**37.96**	**65**	P		**P**		**10 48 39.9**	**-1.7**
KK31				IAmb		IAmb		10 48 55.1
	comp=Z,3.6nm,1.3s							
KK31	**Karatay Array**	**37.96**	**65**	P		**P**		**10 48 39.9**	**-1.7**
KK31				pmax		pmax		
	comp=Z,4.0nm,1.3s							
KKAR	**Karatay Array**	**37.96**	**65**	P		**P**		**10 48 40.2**	**-1.4**
KKAR	**Karatay Array**	**37.96**	**65**	P		**P**		**10 48 40.2**	**-1.4**
DBIC	**Dimbokro**	**38.47**	**224**	LR		LR		11 05 15.7
	comp=Z,50nm,18.1s,baz=16,slow=37							
AAK	**Ala-Archa**	**40.92**	**65**	LR		LR		11 07 14.3
	comp=Z,27nm,19.9s,baz=338,slow=38							
KURBB	**Kurchatov Arra**	**42.54**	**53**	P		**P**		**10 49 16.9**	**-2.5**
	comp=Z,1.7nm,0.8s,baz=283,slow=8.6,SNR=9.7							
	comp=Z,1.7nm,0.8s							
KURK	**Kurchatov**	**42.59**	**53**	*i* P		**P**		**10 49 23.7**	**+3.9**
KURK				pmax		pmax		
	comp=Z,15nm,3.6s							
MK31	**Makanchi Array**	**45.56**	**58**	P		**P**		**10 49 41.2**	**-2.5**
MK31	**Makanchi Array**	**45.56**	**58**	P		**P**		**10 49 41.2**	**-2.5**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**45.56**	**58**	P		**P**		**10 49 41.5**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=277,slow=7.4,SNR=6.2							
	comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**46.07**	**48**	P		**P**		**10 49 45.2**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=278,slow=12,SNR=3.6							
	comp=Z,0.7nm,0.6s							
WMQ	**Urumqi**	**49.98**	**60**	*e*P		**P**		**10 50 21.1**	**+2.9**
WMQ				pP		pwP		10 50 23.5	+0.1
WMQ				pmax		pmax		
	comp=Z,13nm,0.9s							
MSEY	**Mahe Island**	**52.95**	**135**	*ce*P		P		10 50 45.8	+5.1
SONM	**Songino Array**	**60.80**	**50**	P		**P**		**10 51 33.4**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=296,slow=4.6,SNR=2.6							
	comp=Z,0.3nm,0.5s							
YAK	**Yakutsk**	**65.66**	**29**	*i* P		P		10 52 13.5	+5.6
YAK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**67.32**	**55**	*e*P		**P**		**10 52 17.8**	**-1.3**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
PZH	**PanZhiHua**	**67.67**	**73**	P		**P**		**10 52 20.5**	**-1.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.5s							
RCBR	**Riachuelo**	**68.00**	**244**	LR		LR		11 24 53.9
	comp=Z,24nm,18.1s,baz=81,slow=38							
ZEA	**Zeya**	**69.36**	**37**	*e*P		P		10 52 37.8	+6.4
CMAR	**Chiang Mai Arr**	**69.85**	**82**	P		**P**		**10 52 33.8**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=312,slow=8.4,SNR=9.1							
	comp=Z,0.9nm,0.6s							
BILL	**Bilibino**	**71.68**	**13**	*i* P		P		10 52 51.0	+5.6
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
YKA	**Yellowknife Ar**	**74.11**	**340**	P		**P**		**10 53 00.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=38,slow=4.9,SNR=10							
	comp=Z,0.3nm,0.6s							
KLR	**Kul'dur**	**74.34**	**39**	*i* P		P		10 53 06.4	+5.0
KLR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MA2	**Magadan**	**74.89**	**24**	*ce*P		P		10 53 09.8	+5.3
MA2				pmax		pmax		
	comp=Z,12nm,2.5s							
KSRS	**Korea Array**	**79.67**	**51**	P		**P**		**10 53 30.9**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=309,slow=4.4,SNR=4.2							
	comp=Z,0.7nm,0.7s							
KSRS	**Korea Array**	**79.67**	**51**	P		**P**		**10 53 31.0**	**-0.7**
PETK	**Petropavlovsk-**	**82.39**	**25**	LR		LR		11 37 07.4
	comp=Z,44nm,20.6s,baz=316,slow=41							

*IDC **24** 10:46:59.6±0.8, 3°.92N×127°.08E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=62.5km s-min=15.9km az=70.0*

ISC 24 10:47:05.0±0.9, 3°.9N±0°.2×127°.2E±0°.4, h36km, n8, σ0s58/9, mb4.0/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.74**	**164**	P			**P**	**10 52 23.7**	**+0.4**
	0.7nm,0.5s,baz=344,slow=10,SNR=9.6								
	0.7nm,0.5s								
ASAR	**Alice Springs**	**28.19**	**167**	P			**P**	**10 52 54.4**	**0.0**
	0.2nm,0.5s,baz=353,slow=7.6,SNR=7.8								
ASAR				PcP			**PcP**	**10 56 07.0**	**-0.7**
	0.4nm,0.5s,baz=347,slow=2.6,SNR=12								
	0.2nm,0.5s								
MJAR	**Matsushiro Arr**	**34.02**	**16**	P			**P**	**10 53 45.8**	**+0.3**
	0.2nm,0.3s,baz=133,slow=11,SNR=4.2								
	0.2nm,0.3s								
STKA	**Stephens Creek**	**38.15**	**160**	P			**P**	**10 54 21.0**	**+0.1**
	0.8nm,0.4s,baz=331,slow=11,SNR=6.2								
	0.8nm,0.4s								
MKAR	**Makanchi Array**	**57.65**	**325**	P			**P**	**10 56 52.1**	**+0.4**
	1.2nm,0.6s,baz=118,slow=8.3,SNR=20								
	1.2nm,0.6s								
ZALV	**Zalesovo Beam**	**60.62**	**333**	P			**P**	**10 57 11.1**	**-0.9**
	0.4nm,0.4s,baz=134,slow=6.2,SNR=1.9								
	0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**61.82**	**327**	P			**P**	**10 57 19.9**	**-0.3**
	1.7nm,0.6s,baz=125,slow=6.2,SNR=22								
	1.7nm,0.6s								
BVAR	**Borovoye Array**	**67.40**	**327**	P			**P**	**10 57 56.4**	**-0.3**
	0.9nm,0.4s,baz=126,slow=7.7,SNR=6.4								
	0.9nm,0.4s								

IDC 24 10:59:27.2±2.7, 5°.38S×153°.52E, h269km±27km, mb2.9/3, mbtmp3.9/5, Error ellipse: s-maj=42.5km s-min=18.5km az=152.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.47**	**237**	P			Pn	11 01 14.7	+0.7
	5.7nm,0.4s,baz=34,slow=6.3,SNR=5.8								
PMG				S			S	11 02 40.2	+0.1
	7.4nm,0.6s,baz=222,slow=8.0,SNR=2.0								
HNR	**Honiara**	**7.54**	**123**	P			Pn	11 01 14.9	0.0
	87nm,0.6s,baz=82,slow=20,SNR=4.1								
WRA	**Warramunga Arr**	**23.61**	**230**	P			P	11 04 15.3	+0.8
	1.2nm,0.7s,baz=54,slow=9.5,SNR=8.3								
	1.2nm,0.7s								
ASAR	**Alice Springs**	**26.22**	**224**	P			P	11 04 36.6	-1.3
	0.3nm,0.7s,baz=60,slow=9.3,SNR=6.6								
ASAR				PcP			PcP	11 07 57.8	+0.6
	0.2nm,0.6s,baz=71,slow=3.0,SNR=2.6								
	0.3nm,0.7s								
ILAR	**Eielson Array**	**82.43**	**22**	P			P	11 11 19.0	-0.2
	0.3nm,0.5s,baz=244,slow=5.1,SNR=14								
	0.3nm,0.5s								

*CATAC **24** 11:00:42.6±0.4, 13°.N±3°.×8°.9W±°, h28km±2km, M3.4/27, MLv3.4/27, Error ellipse: s-maj=5.9km s-min=3.0km az=27.4, confirmed*
*SNET **24** 11:00:42.5±1.0, 13°.15N×89°.29W, h52km±6km, ML3.3*
*GCG **24** 11:00:43.6±0.6, 13°.22N×89°.34W, h53km±10km, MD4.0, Hypocentre not reviewed by the ISC*

ISC 24 11:00:44.3±1.4, 13°.20N±0°.06×89°.26W±0°.04, h46km±9km, n126, σ1s06/138, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.30**	**348**	*e*P			**Pn**	**11 00 52.2**	**-0.8**
LALI				*e*S			**Sn**	**11 00 59.5**	**+0.3**
LALI				*e*S				11 00 59.6	
LALI	**Alcalda de L**	**0.30**	**348**	P			**Pn**	**11 00 52.2**	**-0.8**
LALI	**Alcalda de L**	**0.30**	**348**	P			**Pn**	**11 00 52.4**	**-0.7**
LALI	**Alcalda de L**	**0.30**	**348**	P			**Pn**	**11 00 52.3**	**-0.8**
PANCS	**Alcalda de**	**0.42**	**10**	P			**Pn**	**11 00 53.6**	**-0.9**
PANCS	**Alcalda de**	**0.42**	**10**	S			**Sn**	**11 01 02.1**	**+0.5**
PANCS	**Alcalda de**	**0.42**	**10**	P			**Pn**	**11 00 53.6**	**-0.9**
LOMA	**Loma Larga**	**0.45**	**10**	*e*P			**Pn**	**11 00 54.3**	**-0.6**
LOMA				*e*S			**Sn**	**11 01 04.1**	**+1.6**
LOMA	**Loma Larga**	**0.45**	**10**	P			**Pn**	**11 00 54.2**	**-0.7**
LOMA	**Loma Larga**	**0.45**	**10**	P			**Pn**	**11 00 54.3**	**-0.6**
LOMA	**Loma Larga**	**0.45**	**10**	P			**Pn**	**11 00 54.2**	**-0.7**
LFRS	**El Faro**	**0.47**	**24**	*e*P			**Pn**	**11 00 54.2**	**-0.8**
ITCA	**Escuela Especi**	**0.48**	**357**	*e*P			**Pn**	**11 00 54.4**	**-0.8**
ITCA				*e*S			**Sn**	**11 01 03.3**	**+0.5**
ITCA	**Escuela Especi**	**0.48**	**357**	P			**Pn**	**11 00 53.9**	**-1.2**
ITCA	**Escuela Especi**	**0.48**	**357**	P			**Pn**	**11 00 54.4**	**-0.8**
JAYA	**Jayaque - finc**	**0.49**	**338**	*e*P			**Pn**	**11 00 54.4**	**-1.0**
JAYA				*e*S			**Sn**	**11 01 03.7**	**+0.4**
JAYA	**Jayaque - finc**	**0.49**	**338**	P			**Pn**	**11 00 54.5**	**-1.0**
JAYA	**Jayaque - finc**	**0.49**	**338**	P			**Pn**	**11 00 54.4**	**-1.0**
JAYA	**Jayaque - finc**	**0.49**	**338**	P			**Pn**	**11 00 54.4**	**-1.0**
JAYA	**Jayaque - finc**	**0.49**	**338**	||*i*P			11 00 54.3	
JAYA				*e*S				11 01 02.9	
UTEC	**Universidad Te**	**0.51**	**6**	P			**Pn**	**11 00 54.9**	**-0.6**
UTEC	**Universidad Te**	**0.51**	**6**	S			**Sn**	**11 01 04.6**	**+1.2**
UTEC	**Universidad Te**	**0.51**	**6**	P			**Pn**	**11 00 54.2**	**-1.3**
SEMO	**Seminario San**	**0.51**	**3**	P			**Pn**	**11 00 54.8**	**-0.7**
SEMO	**Seminario San**	**0.51**	**3**	S			**Sn**	**11 01 04.0**	**+0.6**
SEMO	**Seminario San**	**0.51**	**3**	P			**Pn**	**11 00 54.6**	**-0.9**
PMON	**Piamonte**	**0.52**	**354**	P			**Pn**	**11 00 55.0**	**-0.7**
PMON	**Piamonte**	**0.52**	**354**	S			**Sn**	**11 01 04.6**	**+0.9**
PMON	**Piamonte**	**0.52**	**354**	P			**Pn**	**11 00 55.0**	**-0.7**
PMON	**Piamonte**	**0.52**	**354**	P			**Pn**	**11 00 54.9**	**-0.8**
UDBS	**Universidad Do**	**0.53**	**11**	P			**Pn**	**11 00 55.3**	**-0.5**
BOQS	**Boqueron**	**0.54**	**357**	*e*S			**Sn**	**11 01 05.2**	**+0.9**
COEG	**Centro de Oper**	**0.56**	**41**	*e*P			**Pn**	**11 00 55.0**	**-1.1**
COEG				*e*S			**Sn**	**11 01 05.5**	**+0.9**
COEG	**Centro de Oper**	**0.56**	**41**	P			**Pn**	**11 00 55.3**	**-0.8**
COEG	**Centro de Oper**	**0.56**	**41**	S			**Sn**	**11 01 04.9**	**+0.3**
COEG	**Centro de Oper**	**0.56**	**41**	P			**Pn**	**11 00 55.3**	**-0.8**
COEG	**Centro de Oper**	**0.56**	**41**	P			**Pn**	**11 00 55.0**	**-1.1**
LFU	**La Fuente**	**0.57**	**14**	*e*S			**Sn**	**11 01 06.0**	**+1.2**
TECO	**Alcaldia de Te**	**0.57**	**54**	P			**Pn**	**11 00 55.1**	**-1.2**
TECO	**Alcaldia de Te**	**0.57**	**54**	S			**Sn**	**11 01 05.1**	**+0.2**
TECO	**Alcaldia de Te**	**0.57**	**54**	P			**Pn**	**11 00 55.0**	**-1.2**
TECO	**Alcaldia de Te**	**0.57**	**54**	P			**Pn**	**11 00 54.9**	**-1.3**
PAVA	**Las Pavas**	**0.60**	**31**	P			**Pn**	**11 00 55.8**	**-0.9**
PAVA	**Las Pavas**	**0.60**	**31**	S			**Sn**	**11 01 06.8**	**+1.2**
PAVA	**Las Pavas**	**0.60**	**31**	P			**Pn**	**11 00 56.0**	**-0.7**
PAVA	**Las Pavas**	**0.60**	**31**	P			**Pn**	**11 00 56.0**	**-0.7**
CEDA	**San Andres**	**0.62**	**347**	*e*P			**Pn**	**11 00 56.1**	**-0.8**
CEDA				*e*S			**Sn**	**11 01 07.0**	**+1.1**
CEDA				IAML				11 01 10.3	
	comp=Z,1μm,0.2s								
CEDA	**San Andres**	**0.62**	**347**	P			**Pn**	**11 00 55.5**	**-1.4**
CEDA	**San Andres**	**0.62**	**347**	P			**Pn**	**11 00 55.5**	**-1.4**
UESV	**Universidad de**	**0.63**	**46**	P			**Pn**	**11 00 56.2**	**-0.9**
UESV	**Universidad de**	**0.63**	**46**	S			**Sn**	**11 01 06.6**	**+0.3**
UESV	**Universidad de**	**0.63**	**46**	P			**Pn**	**11 00 56.1**	**-0.9**
UESV	**Universidad de**	**0.63**	**46**	P			**Pn**	**11 00 56.0**	**-1.0**
ALJI	**Alcalda de J**	**0.68**	**79**	P			**Pn**	**11 00 56.6**	**-1.0**
ALJI	**Alcalda de J**	**0.68**	**79**	S			**Sn**	**11 01 07.6**	**+0.4**
ALJI	**Alcalda de J**	**0.68**	**79**	P			**Pn**	**11 00 56.7**	**-1.0**
ALJI	**Alcalda de J**	**0.68**	**79**	P			**Pn**	**11 00 56.5**	**-1.2**
SCLA	**Alcaldia de Sa**	**0.72**	**45**	P			**Pn**	**11 00 57.5**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.72**	**45**	S			**Sn**	**11 01 10.1**	**+1.8**
SCLA	**Alcaldia de Sa**	**0.72**	**45**	P			**Pn**	**11 00 57.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.72**	**45**	P			**Pn**	**11 00 57.5**	**-0.6**
CEVE	**Cerro Verde**	**0.72**	**330**	*e*P			**Pn**	**11 00 57.5**	**-1.0**
CEVE				*e*S			**Sn**	**11 01 09.5**	**+0.8**
CEVE				IAML				11 01 12.3	
	comp=Z,1μm,0.2s								
CEVE	**Cerro Verde**	**0.72**	**330**	P			**Pn**	**11 00 57.6**	**-1.0**
CEVE	**Cerro Verde**	**0.72**	**330**	P			**Pn**	**11 00 57.5**	**-1.0**
CEVE	**Cerro Verde**	**0.72**	**330**	P			**Pn**	**11 00 57.5**	**-1.0**
PQSS	**Presa 15 de Se**	**0.80**	**58**	P			**Pn**	**11 00 58.2**	**-1.1**
PQSS	**Presa 15 de Se**	**0.80**	**58**	S			**Sn**	**11 01 10.5**	**+0.4**
PQSS	**Presa 15 de Se**	**0.80**	**58**	P			**Pn**	**11 00 58.4**	**-0.9**
PQSS	**Presa 15 de Se**	**0.80**	**58**	P			**Pn**	**11 00 58.1**	**-1.1**
UNIC	**Universidad Ca**	**0.83**	**340**	P			Pn	11 00 54.4	-5.4
NUBE	**Las Nubes**	**0.87**	**324**	*e*P			**Pn**	**11 00 59.0**	**-1.4**
NUBE				*e*S			**Sn**	**11 01 11.6**	**-0.4**
NUBE	**Las Nubes**	**0.87**	**324**	P			**Pn**	**11 00 59.1**	**-1.2**
NUBE	**Las Nubes**	**0.87**	**324**	P			**Pn**	**11 00 59.1**	**-1.2**
NUBE	**Las Nubes**	**0.87**	**324**	P			**Pn**	**11 00 57.0**	**-3.3**
NUBE	**Las Nubes**	**0.87**	**324**	*e*P				11 00 59.0	
NUBE				*e*S				11 01 11.8	
PACA	**Pacayal**	**0.95**	**73**	*e*P			**Pn**	**11 01 01.1**	**-0.2**
PACA				*e*S			**Sn**	**11 01 14.8**	**+0.9**
PACA	**Pacayal**	**0.95**	**73**	P			**Pn**	**11 01 01.3**	**0.0**
PACA	**Pacayal**	**0.95**	**73**	P			**Pn**	**11 01 01.4**	**0.0**
PACA	**Pacayal**	**0.95**	**73**	P			**Pn**	**11 01 00.8**	**-0.6**
LOAL	**Lomas de Alarc**	**0.95**	**327**	P			**Pn**	**11 01 00.9**	**-0.4**
LOAL	**Lomas de Alarc**	**0.95**	**327**	S			**Sn**	**11 01 14.5**	**+0.8**
LOAL	**Lomas de Alarc**	**0.95**	**327**	P			**Pn**	**11 01 01.2**	**-0.1**
LCY	**Lacayo**	**0.96**	**76**	*e*P			**Pn**	**11 01 00.7**	**-0.8**
RANC	**El Ranchito**	**0.97**	**76**	P			**Pn**	**11 01 01.1**	**-0.5**
RANC	**El Ranchito**	**0.97**	**76**	S			**Sn**	**11 01 15.0**	**+0.6**
RANC	**El Ranchito**	**0.97**	**76**	P			**Pn**	**11 01 01.3**	**-0.3**
RANC	**El Ranchito**	**0.97**	**76**	P			**Pn**	**11 01 00.9**	**-0.8**
SLOZ	**Alcaldia de Sa**	**0.97**	**328**	P			**Pn**	**11 01 00.9**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.97**	**328**	S			**Sn**	**11 01 15.5**	**+1.1**
SLOZ	**Alcaldia de Sa**	**0.97**	**328**	P			**Pn**	**11 01 01.1**	**-0.6**
SLOZ	**Alcaldia de Sa**	**0.97**	**328**	P			**Pn**	**11 01 00.8**	**-0.8**
LLGN	**La Laguna**	**1.01**	**17**	*e*P			**Pn**	**11 01 01.7**	**-0.5**
LLGN				*e*S			**Sn**	**11 01 16.0**	**+0.7**
LLGN	**La Laguna**	**1.01**	**17**	P			**Pn**	**11 01 01.7**	**-0.5**
LLGN	**La Laguna**	**1.01**	**17**	P			**Pn**	**11 01 01.6**	**-0.6**
BLLM	**Bellamira**	**1.02**	**76**	*e*P			**Pn**	**11 01 01.5**	**-0.8**
CAHU	**Cacacuatique**	**1.17**	**60**	*e*P			**Pn**	**11 01 03.0**	**-1.4**
MTO3	**Montecristo**	**1.20**	**355**	*e*P			**Pn**	**11 01 04.1**	**-0.8**
MTO3	**Montecristo**	**1.20**	**355**	P			**Pn**	**11 01 04.1**	**-0.8**
MTO3	**Montecristo**	**1.20**	**355**	S			**Sn**	**11 01 20.4**	**+0.2**
MTO3	**Montecristo**	**1.20**	**355**	P			**Pn**	**11 01 04.3**	**-0.6**
MTO3	**Montecristo**	**1.20**	**355**	P			**Pn**	**11 01 04.3**	**-0.6**
MTO3	**Montecristo**	**1.20**	**355**	||*i*P			11 01 04.0	
MTO3				*e*S				11 01 20.1	
LCND	**La Caada**	**1.33**	**85**	*e*P			**Pn**	**11 01 05.5**	**-0.9**
LCND				*e*S			**Sn**	**11 01 23.1**	**0.0**
LCND				IAML				11 01 27.1	
	comp=Z,311nm,0.3s								
LCND	**La Caada**	**1.33**	**85**	P			**Sn**	**11 01 21.8**	**-1.3**
ESQI	**Esquipulas**	**1.36**	**356**	*e*P			**Pn**	**11 01 06.8**	**-0.2**
ESQI				*e*S			**Sn**	**11 01 24.6**	**+0.7**
CNCH	**Conchagua**	**1.39**	**87**	*e*P			**Pn**	**11 01 06.0**	**-1.4**
CNCH				*e*S			**Sn**	**11 01 25.3**	**+0.8**
CNCH	**Conchagua**	**1.39**	**87**	P			**Pn**	**11 01 04.9**	**-2.4**
CNCH	**Conchagua**	**1.39**	**87**	S			**Sn**	**11 01 24.9**	**+0.3**
CNCH	**Conchagua**	**1.39**	**87**	P			**Pn**	**11 01 04.9**	**-2.4**
INTHN	**La Esperanza I**	**1.58**	**45**	P			**Pn**	**11 01 09.4**	**-0.7**
INTHN	**La Esperanza I**	**1.58**	**45**	S			**Sn**	**11 01 29.6**	**+0.1**
INTHN	**La Esperanza I**	**1.58**	**45**	P			**Pn**	**11 01 11.4**	**+1.4**
CHOHN	**Orocuina**	**2.06**	**82**	P			**Pn**	**11 01 13.2**	**-3.4**
CHOHN	**Orocuina**	**2.06**	**82**	P			**Pn**	**11 01 14.9**	**-1.6**
PKGN	**Cerro Pekin**	**2.28**	**103**	P			**Pn**	**11 01 18.4**	**-1.1**
YUSH	**Yuscaran**	**2.46**	**72**	P			**Pn**	**11 01 20.8**	**-1.3**
YUSH	**Yuscaran**	**2.46**	**72**	P			**Pn**	**11 01 21.0**	**-1.1**
PACN	**AI O del Volca**	**2.50**	**106**	P			**Pn**	**11 01 20.6**	**-1.8**
PACN	**AI O del Volca**	**2.50**	**106**	P			**Pn**	**11 01 20.7**	**-1.8**
CNGA	**AI SSO del Vol**	**2.59**	**105**	P			**Pn**	**11 01 23.3**	**-0.4**
CNGA	**AI SSO del Vol**	**2.59**	**105**	P			**Pn**	**11 01 23.3**	**-0.4**
MACN	**El Madrono**	**2.62**	**106**	P			**Pn**	**11 01 23.7**	**-0.5**
MACN	**El Madrono**	**2.62**	**106**	P			**Pn**	**11 01 26.7**	**+2.5**
MACN	**El Madrono**	**2.62**	**106**	P			**Pn**	**11 01 23.8**	**-0.4**
MOMN	**Momotombo**	**2.76**	**106**	P			**Pn**	**11 01 25.9**	**-0.3**
MOMN	**Momotombo**	**2.76**	**106**	P			**Pn**	**11 01 25.7**	**-0.4**
COPN	**Copaltepe**	**2.79**	**111**	P			**Pn**	**11 01 27.1**	**+0.7**
COPN	**Copaltepe**	**2.79**	**111**	P			**Pn**	**11 01 27.6**	**+1.1**
JAPN	**AI SSO del Vol**	**3.87**	**115**	P			**Pn**	**11 01 43.7**	**+2.4**

*IDC **24** 11:19:27.6±1.6, 35°.45N×23°.25E, h0km, mb3.6/4, mbtmp3.5/5, ML2.6/1, Error ellipse: s-maj=202.0km s-min=26.0km az=141.0*
*ATH **24** 11:19:32.4, 34°.76N×23°.98E, h24km±6km, ML3.3/3, Manual Solution by E.Daskalaki First location: 2019/02/24 11:21:14, This location: 2019/03/28 07:01:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 10 km*

ISC 24 11:19:32.0±1.3, 34°.7N±0°.1×24°.0E±0°.1, h27km±7km, n11, σ0s88/14, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.13**	**43**	P			**Pb**	**11 19 37.1**	**-0.1**
GVD				S			**Sb**	**11 19 40.6**	**-0.1**
TMBK	**Timbaki Herakl**	**0.73**	**63**	P			**Pn**	**11 19 47.2**	**+0.7**
CHNB	**Souda**	**0.75**	**6**	P			**Pb**	**11 19 46.7**	**+0.2**
PRNS	**Prines Rethymn**	**0.76**	**35**	P			**Pb**	**11 19 45.9**	**-0.7**
PRNS				S			**Sb**	**11 19 56.1**	**-0.5**
IDI	**Anoyia**	**0.93**	**54**	P			**Pn**	**11 19 49.0**	**-0.4**
IDI				S			**Sb**	**11 20 01.4**	**-0.1**
BRTR	**Keskin Array B**	**9.17**	**54**	Pn			**Pn**	**11 21 45.0**	**+2.4**
	0.1nm,0.3s,baz=247,slow=16,SNR=1.7								
	0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**29.48**	**229**	P			**P**	**11 25 33.9**	**-0.1**
	63nm,0.4s,baz=25,slow=9.4,SNR=3.0								
KURBB	**Kurchatov Arra**	**42.14**	**51**	P			**P**	**11 27 21.6**	**-0.3**
	0.5nm,0.6s,baz=277,slow=8.5,SNR=6.2								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**44.81**	**56**	P			**P**	**11 27 43.5**	**-0.1**
	0.3nm,0.3s,baz=271,slow=8.0,SNR=10								
	0.3nm,0.3s								
ZALV	**Zalesovo Beam**	**45.99**	**46**	P			**P**	**11 27 52.1**	**-0.7**
	0.6nm,0.5s,baz=270,slow=8.6,SNR=2.9								
	0.6nm,0.5s								
SONM	**Songino Array**	**60.50**	**50**	P			**P**	**11 29 39.4**	**-0.3**
	0.2nm,0.5s,baz=282,slow=7.1,SNR=2.6								
	0.2nm,0.5s								

*IDC **24** 11:43:57.7±0.8, 2°.68N×125°.13E, h0km, mb3.9/9, mbtmp3.9/9, MS3.8/1, Error ellipse: s-maj=57.7km s-min=15.6km az=66.0*

ISC 24 11:44:02.8±0.9, 2°.63N±0°.10×125°.1E±0°.2, h35km, n10, σ1s00/11, mb4.0/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.44**	**7**	Sn			**Sn**	**11 45 58.7**	**+0.6**
	25nm,0.3s,baz=107,slow=19,SNR=1.7								
WRA	**Warramunga Arr**	**24.22**	**158**	P			**P**	**11 49 16.1**	**-0.3**
	1.9nm,0.7s,baz=338,slow=11,SNR=8.0								
	1.9nm,0.7s								
ASAR	**Alice Springs**	**27.52**	**162**	P			**P**	**11 49 46.6**	**+0.2**
	0.2nm,0.4s,baz=341,slow=11,SNR=4.9								
	0.2nm,0.4s								
CMAR	**Chiang Mai Arr**	**30.03**	**303**	P			**P**	**11 50 08.8**	**+0.1**
	1.5nm,0.3s,baz=104,slow=7.5,SNR=6.0								
	1.5nm,0.3s								
KSRS	**Korea Array**	**34.75**	**4**	P			**P**	**11 50 49.7**	**-0.1**
	0

*BER **24** 12:00:41.7s2.8, 71°.86N×1°.39W, h10km, mb(Pn)4.9, ML3.9(NAO), Confirmed Earthquake*
*KOLA **24** 12:00:42.3, 71°.76N×1°.01W, h0km, ML2.8, Norwegian sea, Mohn ridge*
*DNK **24** 12:00:44.7±3.8, 72°.23N×2°.34W, h0km±63km, ML1.9*
ISC 24 12:00:39.9±0.4, 71°.75N±0°.05×1°.18W±0°.04, h10km, n235, σ2s74/247, mb4.2/53, MS3.6/35, 3C-11D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.48**	**255**	Pn		**Pn**		**12 01 16.9**	**-3.2**
JMIC	**Jan Mayen**	**2.48**	**255**	*eP*		**Pn**		**12 01 16.9**	**-3.2**
DBG	**Daneborg**	**6.12**	**304**	Pn		**Pn**		**12 02 06.9**	**-3.2**
DBG				Sn		Sn		12 03 09.5	-11
DBG	**Daneborg**	**6.12**	**304**	*eP*		**Pn**		**12 02 07.1**	**-3.0**
DBG				*eS*		Sn		12 03 09.9	-10
DBG	**Daneborg**	**6.12**	**304**	*i P*		**Pn**		**12 02 05.5**	**-4.6**
DBG				*i* S		Sn		12 03 08.0	-12
LOF	**Lofoten**	**6.22**	**119**	Pn		**Pn**		**12 02 13.2**	**+1.6**
LOF				Sn		**Sn**		**12 03 18.1**	**-4.5**
LOF	**Lofoten**	**6.22**	**119**	*eP*		**Pn**		**12 02 13.4**	**+1.8**
LOF				*eS*		**Sn**		**12 03 18.4**	**-4.2**
LOF				IAML				12 03 21.6	
	comp=Z,26nm,0.5s								
BJO1	**Bjornoya**	**6.47**	**55**	Pn		**Pn**		**12 02 14.8**	**-0.1**
BJO1	**Bjornoya**	**6.47**	**55**	*eP*		**Pn**		**12 02 14.8**	**-0.1**
STEI	**Steigen**	**6.83**	**116**	Pn		**Pn**		**12 02 20.6**	**+0.6**
STEI				Sn		**Sn**		**12 03 33.1**	**-4.5**
STEI	**Steigen**	**6.83**	**116**	*eP*		**Pn**		**12 02 20.5**	**+0.6**
STEI				*eS*		**Sn**		**12 03 31.9**	**-5.7**
STEI				IAML				12 03 37.3	
	comp=Z,34nm,0.8s								
SCO	**Scoresbysund**	**6.84**	**269**	Pn		**Pn**		**12 02 19.3**	**-0.8**
SCO	**Scoresbysund**	**6.84**	**269**	*i P*		**Pn**		**12 02 19.0**	**-1.1**
SCO				*eS*		**Sn**		**12 03 32.4**	**-5.5**
SCO				IAML				12 03 41.9	
	comp=Z,1.6nm,0.4s								
DAG	**Danmarks Havn**	**6.89**	**325**	*eP*		**Pn**		**12 02 16.9**	**-3.8**
DAG				*eS*		Sn		12 03 24.9	-14
DAG	**Danmarks Havn**	**6.89**	**325**	*i P*		**Pn**		**12 02 18.3**	**-2.4**
DAG				*i* S		Sn		12 03 25.1	-14
DAG				IAML				12 03 26.4	
	comp=Z,13nm,0.4s								
HSPB	**Hornsund (broa**	**6.91**	**33**	Pn		**Pn**		**12 02 20.3**	**-0.6**
HSPB	**Hornsund (broa**	**6.91**	**33**	*eP*		**Pn**		**12 02 20.1**	**-0.8**
HSPB				IAML				12 02 21.4	
	comp=Z,20nm,0.6s								
TRO	**Tromso**	**6.98**	**98**	Pn		**Pn**		**12 02 21.6**	**-0.4**
TRO	**Tromso**	**6.98**	**98**	*eP*		**Pn**		**12 02 21.7**	**-0.3**
TRO				*eS*		**Sn**		**12 03 34.9**	**-6.3**
TRO				IAML				12 03 37.5	
	comp=Z,11nm,0.6s								
FAUS	**Fauske**	**7.22**	**119**	*eP*		**Pn**		**12 02 26.1**	**+0.8**
FAUS				*eS*		**Sn**		**12 03 40.9**	**-6.3**
FAUS				IAML				12 03 48.2	
	comp=Z,23nm,0.4s								
FAUS	**Fauske**	**7.22**	**119**	P		**Pn**		**12 02 25.0**	**-0.3**
FAUS				S		**Sn**		**12 03 41.7**	**-5.5**
KONS	**Konsvik**	**7.32**	**129**	Pn		**Pn**		**12 02 27.1**	**+0.4**
KONS				Sn		**Sn**		**12 03 42.9**	**-6.7**
KONS	**Konsvik**	**7.32**	**129**	*eP*		**Pn**		**12 02 26.9**	**+0.2**
KONS				*eS*		**Sn**		**12 03 42.5**	**-7.1**
KONS				IAML				12 03 46.9	
	comp=Z,57nm,0.5s								
STOK	**Stokkvaagen**	**7.43**	**130**	Pn		**Pn**		**12 02 29.5**	**+1.4**
STOK				Sn		**Sn**		**12 03 46.1**	**-6.1**
STOK	**Stokkvaagen**	**7.43**	**130**	*eP*		**Pn**		**12 02 28.8**	**+0.7**
STOK				*eS*		**Sn**		**12 03 45.7**	**-6.6**
STOK				IAML				12 03 51.5	
	comp=Z,36nm,0.4s								
BRBA	**Barentsburg A**	**7.47**	**25**	*eP*		**Pn**		**12 02 28.6**	**+0.1**
BRBA				IAML				12 02 30.6	
	comp=Z,12nm,0.5s								
JETT	**Jettan, Norway**	**7.48**	**97**	Pn		**Pn**		**12 02 28.4**	**-0.5**
JETT				Sn		**Sn**		**12 03 47.7**	**-5.9**
JETT	**Jettan, Norway**	**7.48**	**97**	Pn		**Pn**		**12 02 28.4**	**-0.5**
BRBB	**Barentsburg B**	**7.49**	**25**	*eP*		**Pn**		**12 02 29.1**	**+0.1**
LEIR	**Leirfjorden**	**7.63**	**131**	*eP*		**Pn**		**12 02 30.9**	**0.0**
LEIR				*eS*		**Sn**		**12 03 50.6**	**-6.7**
LEIR				IAML				12 03 54.5	
	comp=Z,63nm,0.4s								
SPB2	**Spitsbergen Ar**	**7.85**	**27**	Pn		**Pn**		**12 02 33.1**	**-0.8**
SPA0	**Spitsbergen Ar**	**7.86**	**27**	Pn		**Pn**		**12 02 34.0**	**0.0**
	baz=218,slow=16								
SPA0	**Spitsbergen Ar**	**7.86**	**27**	Pn		**Pn**		**12 02 34.3**	**+0.3**
	baz=218,slow=16								
SPA0				IAML				12 02 42.8	
	comp=Z,13nm,0.6s								
SPITS	**Spitsbergen Ar**	**7.86**	**27**	Pn		**Pn**		**12 02 33.8**	**-0.1**
	baz=198,slow=13								
	comp=Z,8.1nm,0.4s								
KIF	**Kilpisjarvi**	**7.87**	**100**	Pn		**Pn**		**12 02 34.2**	**+0.1**
KIF				Sn		**Sn**		**12 03 57.6**	**-5.5**
KIF	**Kilpisjarvi**	**7.87**	**100**	*eP*		**Pn**		**12 02 34.1**	**0.0**
KIF				*eS*		**Sn**		**12 03 55.6**	**-7.4**
MOR8	**Moi Rana**	**7.91**	**127**	*eP*		**Pn**		**12 02 36.1**	**+1.3**
MOR8				*eS*		**Sn**		**12 03 58.9**	**-5.2**
MOR8				IAML				12 04 03.1	
	comp=Z,44nm,0.4s								
KBS	**Kingsbay**	**7.91**	**19**	*eP*		**Pn**		**12 02 34.2**	**-0.5**
KBS				IAML				12 02 37.3	
	comp=Z,5.8nm,0.8s								
HAMF	**Hammerfest**	**8.08**	**86**	Pn		**Pn**		**12 02 34.9**	**-2.1**
KTK1	**Kautokeino**	**8.62**	**97**	*eP*		**Pn**		**12 02 44.5**	**0.0**
KTK1				*eS*		**Sn**		**12 04 14.5**	**-7.1**
KTK1				IAML				12 04 23.1	
	comp=Z,2.1nm,0.8s								
NSS	**Namsos**	**8.73**	**140**	*eP*		**Pn**		**12 02 47.1**	**+1.2**
NSS				*eS*		**Sn**		**12 04 17.5**	**-6.6**
NSS				IAML				12 04 24.6	
	comp=Z,38nm,0.4s								
HEF	**Hetta**	**9.07**	**100**	Pn		**Pn**		**12 02 50.3**	**-0.3**
HEF				Sn		**Sn**		**12 04 25.7**	**-7.0**
HEF	**Hetta**	**9.07**	**100**	*eP*		**Pn**		**12 02 50.1**	**-0.5**
HEF				*eS*		**Sn**		**12 04 23.8**	**-8.8**
ARA0	**ARCESS Array S**	**9.09**	**91**	Pn		**Pn**		**12 02 50.2**	**-0.7**
	baz=296,slow=12								
ARA0	**ARCESS Array S**	**9.09**	**91**	Pn		**Pn**		**12 02 50.2**	**-0.7**
	baz=290,slow=12								
ARA0				IAML				12 04 32.3	
	comp=Z,2.4nm,0.7s								
ARCES	**ARCESS Array B**	**9.09**	**91**	Pn		**Pn**		**12 02 49.8**	**-1.1**
ARCES	**ARCESS Array B**	**9.09**	**91**	Pn		**Pn**		**12 02 50.1**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=298,slow=12,SNR=29								
ARCES				Sn		**Sn**		**12 04 26.3**	**-6.8**
	baz=301,slow=24								
ARCES				LR		LR		12 05 59.9	
	comp=Z,191nm,18.6s,baz=298,slow=35								
	comp=Z,2.4nm,0.4s								
ARCES	**ARCESS Array B**	**9.09**	**91**	P		**Pn**		**12 02 50.2**	**-0.6**
ARCES				S		**Sn**		**12 04 26.9**	**-6.2**
KEV	**Kevo**	**9.47**	**89**	Pn		**Pn**		**12 02 54.1**	**-1.9**
KEV	**Kevo**	**9.47**	**89**	Pn		**Pn**		**12 02 54.2**	**-1.7**
KEV	**Kevo**	**9.47**	**89**	*eP*		**Pn**		**12 02 54.9**	**-1.1**
MOL	**Molde**	**9.81**	**156**	*eP*		**Pn**		**12 03 02.0**	**+1.3**
MOL				*eS*		Sn		12 04 41.2	-10
MOL				IAML				12 04 46.6	
	comp=Z,10nm,0.4s								
VADS	**Vadso**	**10.05**	**85**	*eP*		**Pn**		**12 03 02.8**	**-1.3**
VADS				*eS*		Sn		12 04 46.4	-10
VADS				IAML				12 04 55.4	
	comp=Z,3.5nm,0.6s								
VADS	**Vadso**	**10.05**	**85**	P		**Pn**		**12 03 01.5**	**-2.5**
NOR	**Nord**	**10.46**	**347**	Pn		**Pn**		**12 03 05.7**	**-3.8**
NOR	**Nord**	**10.46**	**347**	*eP*		**Pn**		**12 03 05.4**	**-4.1**
NOR				*eS*		Sn		12 04 48.5	-18
FOO	**Floro**	**10.48**	**163**	*eP*		**Pn**		**12 03 10.4**	**+0.5**
FOO				*eS*		Sn		12 04 57.5	-10
FOO				IAML				12 05 07.3	
	comp=Z,10nm,0.7s								
DOMB	**Dombas**	**10.52**	**153**	*eP*		**Pn**		**12 03 10.7**	**+0.1**
DOMB				*eS*		**Sn**		**12 05 00.5**	**-7.9**
DOMB				IAML				12 05 09.3	
	comp=Z,9.1nm,0.6s								
SUE	**Sulen**	**10.99**	**165**	*eP*		**Pn**		**12 03 15.8**	**-1.1**
HYA	**Hoyanger**	**11.02**	**161**	*eP*		**Pn**		**12 03 17.2**	**0.0**
HYA				IAML				12 05 23.5	
	comp=Z,8.1nm,0.4s								
SUMG	**Summit**	**11.33**	**292**	Pn		**Pn**		**12 03 20.5**	**-1.4**
SUMG	**Summit**	**11.33**	**292**	*i P*		**Pn**		**12 03 19.8**	**-2.0**
NC204	**NORSAR Array S**	**11.51**	**150**	Pn		**Pn**		**12 03 24.1**	**+0.1**
NC204	**NORSAR Array S**	**11.51**	**150**	*eP*		**Pn**		**12 03 23.9**	**-0.1**
ASK	**Askoy**	**11.60**	**164**	*eP*		**Pn**		**12 03 24.9**	**-0.2**
NC303	**NORSAR Array S**	**11.65**	**149**	Pn		**Pn**		**12 03 26.9**	**+0.9**
LRW	**Lerwick**	**11.67**	**180**	Pn		**Pn**		**12 03 28.6**	**+2.5**
LRW				Sn		**Sn**		**12 05 30.6**	**-5.6**
LRW	**Lerwick**	**11.67**	**180**	*eP*		**Pn**		**12 03 26.5**	**+0.4**
SKAR	**Skarslia**	**11.73**	**156**	*eP*		**Pn**		**12 03 28.4**	**+1.3**
NB2	**NORSAR Subarra**	**11.81**	**149**	Pn		**Pn**		**12 03 29.6**	**+1.5**
	baz=336,slow=14								
NB2	**NORSAR Subarra**	**11.81**	**149**	Pn		**Pn**		**12 03 29.2**	**+1.1**
	baz=336,slow=14								
NOA	**NORSAR Array B**	**11.81**	**149**	Pn		**Pn**		**12 03 29.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=20								
NOA				Sn		**Sn**		**12 05 31.9**	**-7.9**
	comp=Z,0.1nm,0.3s,baz=298,slow=19,SNR=3.7								
NOA				LR		LR		12 07 42.7	
	comp=Z,299nm,20.9s,baz=340,slow=36								
	comp=Z,2.3nm,0.5s								
NC405	**NORSAR Array S**	**11.82**	**148**	Pn		**Pn**		**12 03 28.7**	**+0.5**
NRA0	**NORESS Array S**	**12.15**	**149**	Pn		**Pn**		**12 03 33.6**	**+0.9**
	baz=336,slow=16								
NRA0	**NORESS Array S**	**12.15**	**149**	Pn		**Pn**		**12 03 33.5**	**+0.9**
	baz=336,slow=16								
ODD1	**Odda**	**12.29**	**161**	*eP*		**Pn**		**12 03 33.4**	**-1.4**
APA0	**Apatity Array**	**12.44**	**93**	Pn		**Pn**		**12 03 36.0**	**-0.7**
	baz=309,slow=12								
APA0	**Apatity Array**	**12.44**	**93**	Pn		**Pn**		**12 03 36.0**	**-0.7**
	baz=309,slow=12								
APA0	**Apatity Array**	**12.44**	**93**	P		**Pn**		**12 03 34.6**	**-2.0**
BLS5	**Blasjo**	**12.76**	**162**	*eP*		**Pn**		**12 03 41.9**	**+0.8**
LVZ	**Lovozero**	**12.80**	**90**	Pn		**Pn**		**12 03 39.7**	**-1.9**
KONO	**Kongsberg**	**12.90**	**155**	Pn		**Pn**		**12 03 43.0**	**0.0**
KONO	**Kongsberg**	**12.90**	**155**	*eP*		**Pn**		**12 03 43.7**	**+0.8**
KVDA	**Kovda**	**12.95**	**96**	P		**Pn**		**12 03 42.1**	**-1.4**
HFS	**Hagfors**	**13.08**	**145**	Pn		**Pn**		**12 03 46.6**	**+1.2**
	baz=339,slow=11								
HFS	**Hagfors**	**13.08**	**145**	Pn		**Pn**		**12 03 46.4**	**+0.9**
	baz=339,slow=11								
HFS	**Hagfors**	**13.08**	**145**	Pn		**Pn**		**12 03 46.6**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=346,slow=11,SNR=52								
HFS				Sn		**Sn**		**12 06 04.1**	**-6.7**
	comp=Z,1.3nm,0.3s,baz=350,slow=24,SNR=7.4								
HFS				LR		LR		12 08 32.3	
	comp=Z,390nm,18.5s,baz=332,slow=36								
	comp=Z,17nm,0.6s								
SNART	**Snartemo**	**13.90**	**161**	*eP*		**Pn**		**12 03 58.2**	**+1.6**
FIA0	**FINESS Array S**	**14.78**	**120**	P		**Pn**		**12 04 08.4**	**-0.2**
	baz=335,slow=14								
FIA0	**FINESS Array S**	**14.78**	**120**	P		**Pn**		**12 04 08.1**	**-0.5**
	baz=335,slow=14								
FIA1	**FINESS Array S**	**14.78**	**120**	Pn		**Pn**		**12 04 07.9**	**-0.7**
FINES	**FINESS Array B**	**14.78**	**120**	Pn		**Pn**		**12 04 07.8**	**-0.8**
FINES	**FINESS Array B**	**14.78**	**120**	Pn		**Pn**		**12 04 08.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=335,slow=12,SNR=18								
FINES				Sn		Sn		12 06 41.5	-11
	comp=Z,0.2nm,0.3s,baz=325,slow=23,SNR=2.3								
FINES				LR		LR		12 09 09.4	
	comp=Z,298nm,20.9s,baz=305,slow=34								
	comp=Z,6.3nm,0.7s								
EKA	**Eskdalemuir Ar**	**16.50**	**184**	Pn		**Pn**		**12 04 31.2**	**+0.1**
	baz=352,slow=13								
	comp=Z,0.6nm,0.4s								
ESK	**Eskdalemuir**	**16.52**	**184**	P		**Pn**		**12 04 32.8**	**+1.5**
ESK				IAmb		IAmb		12 05 12.1	
	comp=Z,37nm,1.5s								
SFJD	**Kangerlussuaq**	**17.60**	**279**	LR		LR		12 09 41.9	
	comp=Z,42nm,21.5s,baz=38,slow=31								
PABE	**Paberze**	**19.48**	**134**	P		**P**		**12 05 07.0**	**+0.6**
PABE				IAmb		IAmb		12 05 26.6	
	comp=Z,26nm,1.0s								
SUW	**Suwalki**	**20.68**	**136**	P		**P**		**12 05 20.2**	**+0.6**
NACGM	**Naroch**	**20.69**	**130**	*eP*		Pn		12 05 21.6	-0.4
MNK	**Minsk**	**21.32**	**129**	*i P*		**P**		**12 05 26.8**	**+0.3**
	comp=E,20nm,0.9s								
MNK				*i P*		**P**		**12 05 26.8**	**+0.3**
	comp=N,17nm,1.0s								
MNK				*i P*		**P**		**12 05 26.8**	**+0.3**
	comp=Z,34nm,0.7s,baz=335								
MNK				*i* PP		**PnPn**		**12 05 46.8**	**+0.9**
MNK				*i* PPP		PPP		12 05 54.7	
MNK				*i* S		**S**		**12 09 25.6**	**+2.7**
MNK				*i* SS		**SnSn**		**12 09 50.1**	**+5.2**
MNK				*i* SSS		SSS		12 10 03.3	
MNK				*i* LQ		LQ		12 10 44.4	
MNK				*i* LR		LR		12 12 41.6	
MNK				*i* LRM		MLR		12 13 20.4	
	comp=E,211nm,18.6s								
MNK				*i* LRM		MLR		12 13 30.1	
	comp=Z,274nm,16.3s								
MNK				*i* LRM		MLR		12 13 48.5	
	comp=N,199nm,16.6s								
MEM	**Membach**	**21.46**	**167**	*dP*		**P**		**12 05 32.3**	**+4.3**
CLL	**Collm**	**21.48**	**155**	P		**P**		**12 05 28.1**	**0.0**
CLL				IAmb		IAmb		12 05 33.4	
	comp=Z,13nm,1.3s								
CLL	**Collm**	**21.48**	**155**	P		**P**		**12 05 27.4**	**-0.8**
	comp=Z,8.2nm,1.2s								
CLL	**Collm**	**21.48**	**155**	*eP*		**P**		**12 05 30.0**	**+1.8**
CLL				*i* x		x		12 05 32.3	
	comp=Z,14nm,1.3s								
CLL				*i* x		x		12 05 41.7	
CLL				*e*PPP		PPP		12 05 58.0	
CLL				AMS		AMS		12 12 00.0	
	comp=Z,200nm,21.0s								
BCLA	**Clavier**	**21.61**	**169**	*dP*		**P**		**12 05 32.0**	**+2.5**
BGES	**Gesves**	**21.63**	**169**	*dP*		**P**		**12 05 29.6**	**-0.2**
BGES				*d*PP		**PnPn**		**12 05 49.8**	**-0.4**
DOU	**Dourbes**	**21.89**	**170**	*dP*		**P**		**12 05 31.7**	**-0.9**
BRG	**Berggiesshubel**	**22.03**	**154**	*eP*		**P**		**12 05 40.8**	**+6.7**
BRG				Amp				12 05 46.3	
	comp=Z,6.0nm,1.0s								
WLF	**Walferdange**	**22.41**	**167**	*dP*		**P**		**12 05 42.0**	**+3.8**
CHVC	**Chvalec**	**22.62**	**151**	*eP*		**P**		**12 05 42.9**	**+2.5**
OSTC	**Ostas**	**22.68**	**150**	*eP*		**P**		**12 05 43.3**	**+2.3**
DPC	**Dobruska-Polom**	**22.89**	**150**	*eP*		**P**		**12 05 45.8**	**+2.5**
DPC	**Dobruska-Polom**	**22.89**	**150**	P		**P**		**12 05 43.0**	**-0.3**
	comp=Z,13nm,1.2s								
OBN	**Obninsk**	**23.09**	**116**	LR		LR		12 14 08.4	
	comp=Z,219nm,18.5s,baz=354,slow=35								
ZVC	**Zvikov**	**23.47**	**154**	*eP*		**P**		**12 05 52.0**	**+2.8**
OJC	**Ojcow**	**23.61**	**145**	P		**P**		**12 05 50.4**	**-0.1**
OJC				IAmb		IAmb		12 05 58.1	
	comp=Z,7.9nm,0.8s								
OJC	**Ojcow**	**23.61**	**145**	P		**P**		**12 05 50.6**	**+0.1**
	comp=Z,16nm,1.8s								
MORC	**Moravsky Berou**	**23.64**	**149**	*eP*		**P**		**12 05 53.6**	**+2.7**
MORC	**Moravsky Berou**	**23.64**	**149**	⇑P		**P**		**12 05 55.0**	**+4.0**
KHC	**Kasperske Hory**	**23.69**	**155**	*eP*		P		12 05 58.9	+7.5
KHC				*ex*		x		12 06 05.2	
RNPP5	**Staryi Chortor**	**23.88**	**135**	P		**P**		**12 05 52.5**	**-0.6**
VRAC	**Vranov**	**23.95**	**151**	P		**P**		**12 05 55.4**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=2.1,slow=13,SNR=2.9								
VRAC				LR		LR		12 15 27.5	
	comp=Z,169nm,18.1s,baz=349,slow=37								
	comp=Z,2.3nm,0.6s								
VRAC	**Vranov**	**23.95**	**151**	*eP*		**P**		**12 05 55.0**	**+1.2**
VRAC	**Vranov**	**23.95**	**151**	⇓P		**P**		**12 05 57.5**	**+3.7**
GERES	**GERESS Array B**	**23.98**	**155**	P		**P**		**12 05 54.7**	**+0.4**
GERES	**GERESS Array B**	**23.98**	**155**	P		**P**		**12 05 56.4**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=346,slow=8.5,SNR=5.7								
GERES				LR		LR		12 15 15.6	
	comp=Z,164nm,19.7s,baz=330,slow=36								
	comp=Z,1.2nm,0.8s								
KIRV	**Kirov**	**24.05**	**97**	LR		LR		12 14 26.9	
	comp=Z,115nm,19.6s,baz=315,slow=34								
KRUC	**Moravsky**	**24.16**	**151**	*eP*		**P**		**12 05 56.6**	**+0.9**
NIE	**Niedzica**	**24.47**	**145**	P		**P**		**12 05 59.2**	**+0.6**
	comp=Z,6.7nm,1.0s								
RES	**Resolute Bay**	**24.56**	**320**	P		**P**		**12 06 00.4**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=29,slow=10,SNR=5.0								
RES				LR		LR		12 15 19.6	
	comp=Z,208nm,19.1s,baz=1.0,slow=36								
	comp=Z,0.8nm,0.7s								
MI28	**Mi28,Pidlybu**	**24.56**	**133**	P		**P**		**12 06 00.0**	**+0.6**
LANS	**Liptovska Anna**	**24.57**	**146**	*eP*		**P**		**12 06 03.0**	**+3.4**
STHS	**Stebnicka Huta**	**24.64**	**143**	*eP*		**P**		**12 06 06.7**	**+6.5**
MODS	**Modra-Piesok**	**24.96**	**150**	*eP*		**P**		**12 06 06.7**	**+3.6**
RETA	**Reutte**	**24.98**	**161**	*e*pP		**P**		**12 06 07.9**	**+4.6**
	comp=Z,5.6nm,1.4s								
MOA	**Molln**	**25.04**	**155**	*e*pP		**P**		**12 06 08.1**	**+4.4**
	comp=Z,8.3nm,2.0s								
VYHS	**Vyhne**	**25.10**	**148**	*eP*		**P**		**12 06 08.2**	**+3.9**
KIEV	**Kiev**	**25.14**	**131**	P		**P**		**12 06 04.6**	**0.0**
KIEV	**Kiev**	**25.14**	**131**	⇑P		**P**		**12 06 08.6**	**+3.9**
KIEV	**Kiev**	**25.14**	**131**	P		**P**		**12 06 04.7**	**0.0**
	comp=Z,38nm,1.7s								
CONA	**Conrad Observa**	**25.18**	**152**	*e*pP		**P**		**12 06 09.3**	**+4.2**
	comp=Z,9.3nm,1.5s								
SHIU	**Shidnytsya**	**25.24**	**140**	P		**P**		**12 06 06.0**	**+0.4**
WTTA	**Wattenberg**	**25.29**	**159**	pP		**P**		**12 06 10.1**	**+3.9**
	comp=Z,4.6nm,1.0s								
KOLS	**Kolonicke sedl**	**25.30**	**142**	*eP*		**P**		**12 06 09.1**	**+3.0**
FRB	**Frobisher Bay**	**25.32**	**286**	LR		LR		12 15 32.8	
	comp=Z,97nm,18.8s,baz=73,slow=35								
RONA	**Rosalia, Austr**	**25.47**	**152**	*e*pP		**P**		**12 06 12.6**	**+4.9**
	comp=Z,6.1nm,1.2s								
LUBAR	**Lubar, Ukraine**	**25.53**	**133**	P		**P**		**12 06 08.0**	**-0.1**
LUBAR				pP		**pP**		**12 06 10.9**	**+0.4**
DAVOX	**Davos/Dischmat**	**25.59**	**162**	LR		LR		12 15 47.3	
	comp=Z,104nm,18.5s,baz=44,slow=35								
HOLU	**Holmets**	**25.71**	**142**	P		**P**		**12 06 10.1**	**+0.3**
MUKU	**Mukachevo**	**25.84**	**142**	P		**P**		**12 06 11.0**	**0.0**
HORU	**Horodok**	**25.89**	**136**	P		**P**		**12 06 12.0**	**+0.5**
HORU				pP		**pP**		**12 06 14.6**	**+0.7**
BRIU	**Brid**	**26.02**	**141**	P		**P**		**12 06 12.0**	**-0.6**
NSLU	**Nyzhne Selyshc**	**26.44**	**139**	P		**P**		**12 06 13.9**	**-2.5**
KMPD	**K-Podol'skiy**	**26.52**	**136**	P		**P**		**12 06 16.5**	**-0.6**
KMPD				P		**P**		**12 06 16.5**	**-0.6**
KMPD				pP		**sP**		**12 06 20.6**	**+0.2**
BURAR	**Bucovina Array**	**27.15**	**139**	P		**P**		**12 06 22.8**	**-0.2**
BURAR	**Bucovina Array**	**27.15**	**139**	⇓P		**P**		**12 06 23.2**	**+0.2**
NRIK	**Noril'sk**	**27.16**	**51**	P		**P**		**12 06 23.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=275,slow=2.7,SNR=3.8								
	comp=Z,1.3nm,0.5s								
SORM	**Soroca**	**27.34**	**134**	⇓P		**P**		**12 06 27.0**	**+2.5**
SORM	**Soroca**	**27.34**	**134**	P		**P**		**12 06 24.4**	**-0.1**
	comp=Z,9.6nm,1.3s								
DRGR		**27.44**	**143**	⇓P		**P**		**12 06 29.4**	**+3.9**
MARR	**Marisel-Cluj**	**27.63**	**142**	⇑P		**P**		**12 06 30.5**	**+3.2**
ARTI	**Arti**	**28.66**	**91**	P		**P**		**12 06 35.8**	**-0.4**
ARTI				IAmb		IAmb		12 07 16.3	
	comp=Z,9.4nm,1.2s								
ARTI	**Arti**	**28.66**	**91**	P		**P**		**12 06 37.1**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=318,slow=7.6,SNR=3.5								
	comp=Z,2.6nm,0.6s								
MDVR	**Moldovita**	**29.20**	**145**	⇓P		**P**		**12 06 42.3**	**+1.1**
MLR	**Muntele Rosu**	**29.33**	**139**	LR		LR		12 18 49.0	
	comp=Z,308nm,18.7s,baz=358,slow=37								
SCHQ	**Schefferville**	**31.87**	**273**	P		**P**		**12 07 05.5**	**+0.9**
	comp=Z,3.2nm,0.9s,baz=47,slow=8.4,SNR=3.6								
	comp=Z,3.2nm,0.9s								
A36M	**Sachs Harbour**	**32.11**	**331**	P		**P**		**12 07 05.2**	**-1.3**
A36M				IAmb		IAmb		12 07 08.6	
	comp=Z,4.3nm,0.8s								
ESDC	**Sonseca Array**	**32.18**	**184**	P		**P**		**12 07 09.3**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=360,slow=8.6,SNR=8.5								
ESDC				LR		LR		12 19 02.9	

HEH	**HeiHe**	**53.02**	**39**	*eP*	**P**	**12 09 56.9**	**+0.7**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PDAR	**Pinedale Array**	**55.32**	**302**	P	**P**	**12 10 13.6**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=40,slow=7.7,SNR=4.5						
PDAR				LR	LR	12 32 45.5	
	comp=Z,52nm,18.1s,baz=30,slow=35						
	comp=Z,0.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**58.27**	**55**	*eP*	**P**	**12 10 33.6**	**-0.6**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**58.60**	**177**	P	**P**	**12 10 37.4**	**+0.8**
	comp=Z,46nm,0.3s,baz=359,slow=8.0,SNR=1.7						
ELK	**Elko**	**58.70**	**306**	LR	LR	12 34 52.9	
	comp=Z,68nm,19.0s,baz=24,slow=35						
YBH	**Yreka Blue Hor**	**59.60**	**312**	LR	LR	12 36 07.8	
	comp=Z,69nm,20.5s,baz=18,slow=36						
MVCO	**Mesa Verde**	**60.22**	**299**	P	**P**	**12 10 49.1**	**+1.2**
PSUT	**Pine Spring**	**60.42**	**304**	P	**P**	**12 10 49.8**	**+0.5**
PSUT				IAmb	IAmb	12 10 55.7	
	comp=Z,3.3nm,1.0s						
NVAR	**Mina Array Bea**	**61.66**	**307**	P	**P**	**12 10 58.2**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=325,slow=1.8,SNR=4.0						
	comp=Z,0.5nm,0.9s						
ANMO	**Albuquerque**	**61.77**	**296**	LR	LR	12 37 17.4	
	comp=Z,49nm,20.4s,baz=207,slow=36						
TIA	**Tai'an**	**64.06**	**52**	P	P	12 11 01.6	-12
TIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KSRS	**Korea Array**	**65.38**	**43**	P	**P**	**12 11 21.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=319,slow=7.9,SNR=1.9						
	comp=Z,0.6nm,0.7s						
PFO	**Pinyon Flats O**	**65.75**	**304**	LR	LR	12 40 50.4	
	comp=Z,36nm,18.5s,baz=342,slow=37						
TXAR	**Lajitas Array**	**66.23**	**291**	P	**P**	**12 11 28.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=59,slow=4.7,SNR=6.3						
TXAR				LR	LR	12 39 36.9	
	comp=Z,30nm,19.3s,baz=39,slow=35						
	comp=Z,0.5nm,0.7s						
MJAR	**Matsushiro Arr**	**68.28**	**34**	P	**P**	**12 11 39.7**	**-0.8**
	comp=Z,4.3nm,1.1s,baz=349,slow=5.7,SNR=7.6						
	comp=Z,4.3nm,1.1s						
PZH	**PanZhiHua**	**69.02**	**69**	P	**P**	**12 11 46.0**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
LPIG	**La Paz**	**73.08**	**296**	LR	LR	12 44 51.1	
	comp=Z,41nm,18.1s,baz=24,slow=36						
JOW	**Kunigami**	**75.69**	**45**	LR	LR	12 51 02.6	
	comp=Z,27nm,18.0s,baz=326,slow=40						
CMAR	**Chiang Mai Arr**	**75.75**	**75**	P	**P**	**12 12 26.1**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=327,slow=7.7,SNR=6.5						
	comp=Z,0.5nm,0.7s						
LBTB	**Lobatse**	**98.27**	**156**	LR	LR	13 04 23.5	
	comp=Z,22nm,20.0s,baz=261,slow=39						
ASAR	**Alice Springs**	**125.69**	**53**	PKP	**PKPdf**	**12 19 40.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=8.5,slow=1.6,SNR=9.2						

*SJA **24** 12:08:40.2±0.7,22°.81S×68°.90W,h112km±5km,ML3.3, MW3.5*
*GUC **24** 12:08:42.4±0.8,22°.77S×68°.90W,h103km±4km,ML3.0*
ISC 24 12:08:41.5±1.6,22°.78S±0'.04×68°.91W±0'.06, h110km±11km,n17,σ0°57/28,3C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.61**	**277**	*eP*	**Pn**	**12 08 59.2**	**-0.1**
PB06				*eP*		12 08 59.5	
PB06				*eS*	**Sn**	**12 09 13.0**	**+0.3**
PB06				IAML		12 09 15.2	
	comp=Z,390nm,0.1s						
PB06	**IPOC Station P**	**0.61**	**277⇑**	*iP*	**Pn**	**12 08 59.3**	**-0.1**
PB06				*eS*	**Sn**	**12 09 12.5**	**-0.2**
PB06				IAML		12 09 14.2	
	comp=N,660nm,0.1s						
AF01	**San Pedro de A**	**0.70**	**104**	*eP*	**Pn**	**12 08 59.5**	**-0.7**
AF01				*eS*	**Sn**	**12 09 14.1**	**-0.1**
AF01				IAML		12 09 31.4	
	comp=Z,962nm,0.5s						
AF01	**San Pedro de A**	**0.70**	**104⇓**	*iP*	**Pn**	**12 09 00.1**	**0.0**
AF01				*eS*	**Sn**	**12 09 13.8**	**-0.4**
AF01				IAML		12 09 14.8	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**1.03**	**343**	*eP*	**Pn**	**12 09 03.3**	**+0.1**
PB09				*eS*	**Sn**	**12 09 20.3**	**+0.9**
PB09				*eS*		12 09 20.4	
PB09				IAML		12 09 21.1	
	comp=Z,282nm,0.6s						
PB09	**IPOC Station P**	**1.03**	**343⇑**	*iP*	**Pn**	**12 09 03.7**	**+0.5**
PB09				*eS*	**Sn**	**12 09 19.6**	**+0.1**
PB09				IAML		12 09 21.7	
	comp=E,344nm,0.4s						
PB03	**IPOC Station P**	**1.07**	**313**	*eP*	**Pn**	**12 09 03.7**	**+0.1**
PB03				*eS*	**Sn**	**12 09 20.3**	**+0.2**
PB03				IAML		12 09 20.9	
	comp=Z,474nm,0.2s						
PB03	**IPOC Station P**	**1.07**	**313⇑**	*iP*	**Pn**	**12 09 03.7**	**+0.1**
PB03				*eS*	**Sn**	**12 09 20.0**	**-0.1**
PB03				IAML		12 09 20.6	
	comp=E,718nm,0.2s						
PB01	**IPOC Station P**	**1.81**	**343**	*eP*	**Pn**	**12 09 12.4**	**+0.2**
PB01				*eS*	**Sn**	**12 09 35.4**	**-0.2**
PB01				IAML		12 09 36.7	
	comp=E,349nm,0.2s						
PB14	**IPOC Station P**	**2.29**	**216**	*eP*	**Pn**	**12 09 18.1**	**-0.3**
PB14				*eS*	**Sn**	**12 09 47.0**	**+0.3**
GO02	**Mina Guanaco**	**2.45**	**194**	*eP*	**Pn**	**12 09 21.2**	**+0.7**
GO02				*eS*	**Sn**	**12 09 49.4**	**-1.1**
GO02	**Mina Guanaco**	**2.45**	**194**	*eP*	**Pn**	**12 09 21.5**	**+0.9**
GO02				IAML		12 09 52.4	
	comp=N,49nm,0.2s						
TA01	**Diego Aracena**	**2.50**	**332**	*eP*	**Pn**	**12 09 20.0**	**-0.9**
TA01				IAML		12 09 55.0	
	comp=N,36nm,0.3s						
PB08	**IPOC Station P**	**2.64**	**355**	*eP*	**Pn**	**12 09 23.6**	**+0.5**
PB08				IAML		12 10 00.6	
	comp=E,32nm,0.2s						
PB11	**IPOC Station P**	**3.08**	**347**	*eP*	**Pn**	**12 09 28.3**	**-0.5**
PB11				IAML		12 10 06.0	
AC01	**Pan de Azucar**	**3.69**	**204**	*eP*	**Pn**	**12 09 35.7**	**-0.9**
AC01				*eS*	Sn	12 10 07.6	-12
AC02	**Maricunga**	**4.04**	**183**	*eP*	**Pn**	**12 09 43.0**	**+1.2**
AC02				*eS*	Sn	12 10 14.2	-14

IDC 24 12:30:43.0±1.5,12°.76S×45°.43E,h0km,mb3.6/4, mbtmp3.6/4,MS3.5/2,Error ellipse: s-maj=63.1km s-min=33.1km az=130.0,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**24.53**	**227**	P	P	12 36 04.4	-0.3
	0.8nm,0.4s,baz=47,slow=8.2,SNR=4.2						
	0.8nm,0.4s						
TSUM	**Tsumeb**	**27.50**	**253**	LR	LR	12 48 28.8	
	comp=Z,41nm,18.8s,baz=147,slow=39						
MKAR	**Makanchi Array**	**67.86**	**26**	P	P	12 41 43.4	+0.2
	0.2nm,0.8s,baz=232,slow=7.0,SNR=1.9						
	0.2nm,0.8s						
QSPA	**South Pole Qui**	**77.33**	**180**	P	P	12 42 40.2	+0.6
	1.7nm,1.0s,baz=290,slow=4.1,SNR=3.0						
	1.7nm,1.0s						
ASAR	**Alice Springs**	**83.60**	**113**	P	P	12 43 13.7	-0.3
	0.4nm,0.7s,baz=263,slow=4.5,SNR=7.8						
	0.4nm,0.7s						
PMSA	**Palmer Station**	**86.62**	**204**	LR	LR	13 15 27.0	
	comp=Z,48nm,19.5s,baz=320,slow=31						

*NEIC **24** 12:35:49.9±1.4,18°.91N±0°.08×145°.4E±0°.1,h237km±8km, mb4.2/39,Error ellipse: s-maj=17.7km s-min=7.7km az=58.0*
*IDC **24** 12:35:50.4±2.4,18°.95N×145°.37E,h246km±24km, mb3.3/15,mbtmp4.0/18,Error ellipse: s-maj=18.7km s-min=10.7km az=79.0*
ISC 24 12:35:47.3±0.5,18°.93N±0°.05×145°.3E±0°.1,h214km,n64, σ0°90/64,mb4.0/31,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.33**	**185**	P	**Pn**	**12 37 09.8**	**+3.5**
	54nm,0.3s,baz=18,slow=3.0,SNR=6.9						
GUMO				S	**S**	**12 38 08.2**	**-0.4**
	58nm,0.3s,baz=342,slow=20,SNR=7.4						
JCJ	**Chichijima**	**8.62**	**341**	Pn	**Pn**	**12 37 49.4**	**+0.9**
JOW	**Kunigami**	**17.55**	**300**	P	**Pn**	**12 39 40.3**	**+0.9**
JOW	**Kunigami**	**17.55**	**300**	P	**Pn**	**12 39 40.5**	**+1.0**
	22nm,0.9s,baz=119,slow=11,SNR=6.4						
INU	**Inuyama**	**17.93**	**337**	P	**P**	**12 39 42.1**	**+0.7**
INU				IAmb	IAmb	12 39 53.2	
	comp=Z,6.3nm,0.8s						
JGF	**Kuroka**	**18.04**	**339**	P	**P**	**12 39 43.6**	**+1.0**
JGF				IAmb	IAmb	12 39 47.2	
	comp=Z,8.5nm,0.8s						
MJAR	**Matsushiro Arr**	**18.62**	**342**	P	**P**	**12 39 50.2**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=161,slow=9.9,SNR=7.0						
MAJO	**Matsushiro**	**18.63**	**342**	P	**P**	**12 39 50.5**	**+1.5**
MAJO				IAmb	IAmb	12 39 56.4	
	comp=Z,4.4nm,0.7s						
MJB9	**Matsu-Tunnel**	**18.63**	**342**	P	**Pn**	**12 39 51.0**	**-1.0**
MJB9				IAmb	IAmb	12 39 57.4	
	comp=Z,4.2nm,0.7s						
JMM	**Marumori**	**19.27**	**349**	P	**P**	**12 39 57.5**	**+1.6**
MANU	**Manus Island**	**20.94**	**174**	P	**P**	**12 40 13.7**	**-0.2**
JTM	**Tenmabayashi**	**22.09**	**351**	P	**P**	**12 40 25.8**	**+0.8**
KSRS	**Korea Array**	**23.92**	**324**	P	**P**	**12 40 42.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=144,slow=10.0,SNR=1.8						
	comp=Z,0.5nm,0.7s						
FAKI	**Fak Fak**	**25.24**	**212**	P	**P**	**12 40 54.0**	**+0.1**
LUWI	**Luwuk**	**29.75**	**231**	P	**P**	**12 41 32.9**	**-1.1**
COEN	**Coen**	**32.75**	**184**	P	**P**	**12 41 59.1**	**-1.1**
COEN				IAmb	IAmb	12 42 34.7	
	comp=Z,17nm,1.4s						
MTN	**Manton Dam**	**34.53**	**205**	P	**P**	**12 42 15.4**	**-0.3**
KNRA	**Kununurra**	**38.06**	**206**	P	**P**	**12 42 44.4**	**-1.0**
WB0	**Warramunga Arr**	**39.93**	**196**	P	**P**	**12 43 01.2**	**+0.3**
WB0				IAmb	IAmb	12 43 02.3	
	comp=Z,7.5nm,0.6s						
WR0	**Warramunga Arr**	**40.07**	**196**	P	**P**	**12 43 01.9**	**-0.1**
WR0				IAmb	IAmb	12 43 38.5	
	comp=Z,5.5nm,1.3s						
WRA	**Warramunga Arr**	**40.11**	**196**	P	**P**	**12 43 02.7**	**+0.3**
WRA	**Warramunga Arr**	**40.11**	**196**	P	**P**	**12 43 03.1**	**+0.7**
	comp=Z,7.2nm,0.7s,baz=15,slow=8.9,SNR=45						
	comp=Z,7.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.57**	**209**	P	**P**	**12 43 14.9**	**+0.6**
SONM	**Songino Array**	**42.74**	**321**	P	**P**	**12 43 24.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=141,slow=7.6,SNR=3.6						
	comp=Z,0.4nm,0.6s						
AS31	**Alice Springs**	**43.78**	**195**	P	**P**	**12 43 32.0**	**-0.1**
ASAR	**Alice Springs**	**43.78**	**195**	P	**P**	**12 43 31.6**	**-0.5**
ASAR	**Alice Springs**	**43.78**	**195**	P	**P**	**12 43 32.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=16,slow=6.0,SNR=65						
	comp=Z,1.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.83**	**277**	P	**P**	**12 43 31.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=54,slow=6.1,SNR=5.3						
	comp=Z,0.3nm,0.3s						
DZM	**Mont Dzumac**	**45.69**	**152**	P	**P**	**12 43 47.6**	**+0.5**
STKA	**Stephens Creek**	**50.65**	**184**	P	**P**	**12 44 23.6**	**-1.2**
STKA				IAmb	IAmb	12 44 25.2	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**50.65**	**184**	P	**P**	**12 44 23.7**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=51,slow=7.7,SNR=4.3						
	comp=Z,0.7nm,0.3s						
FORT	**Forrest**	**52.14**	**199**	P	**P**	**12 44 36.3**	**+0.4**
FORT				IAmb	IAmb	12 45 09.1	
	comp=Z,21nm,1.1s						
BBOO	**Buckleboo**	**52.21**	**190**	P	**P**	**12 44 35.4**	**-0.9**
BBOO				IAmb	IAmb	12 44 54.3	
	comp=Z,7.1nm,1.3s						
TOO	**Toolangi**	**56.20**	**180**	P	**P**	**12 45 05.0**	**-0.1**
TOO				IAmb	IAmb	12 45 10.1	
	comp=Z,3.8nm,1.1s						
ZALV	**Zalesovo Beam**	**57.61**	**322**	P	**P**	**12 45 15.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=139,slow=9.0,SNR=1.5						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**58.04**	**314**	P	**P**	**12 45 18.1**	**+0.1**
MKAR	**Makanchi Array**	**58.04**	**314**	P	**P**	**12 45 18.1**	**+0.1**
MKAR	**Makanchi Array**	**58.04**	**314**	P	**P**	**12 45 18.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=87,slow=9.3,SNR=11						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**58.26**	**314**	P	**P**	**12 45 19.2**	**-0.3**
MAKZ				IAmb	IAmb	12 45 59.6	
	comp=Z,3.9nm,1.5s						
C18K	**Utukok River**	**59.58**	**20**	P	**P**	**12 45 28.2**	**0.0**
C18K				IAmb	IAmb	12 46 11.7	
	comp=Z,6.0nm,1.4s						
KURBB	**Kurchatov Arra**	**60.91**	**318**	P	**P**	**12 45 37.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=7.4,SNR=9.8						
	comp=Z,0.8nm,0.5s						
CAST	**Castle Rocks**	**61.05**	**27**	P	**P**	**12 45 38.1**	**-0.1**
NRIK	**Noril'sk**	**61.27**	**340**	P	**P**	**12 45 39.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.1,SNR=1.5						
	comp=Z,0.4nm,0.3s						
B20K	**Meade River**	**61.47**	**19**	P	**P**	**12 45 41.5**	**+0.7**
B20K				IAmb	IAmb	12 45 53.0	
	comp=Z,5.1nm,1.4s						
RC01	**Rabbit Creek A**	**61.53**	**30**	P	**P**	**12 45 40.3**	**-1.2**
RC01				IAmb	IAmb	12 46 14.8	
	comp=Z,12nm,1.5s						
BPAW	**Bear Paw Mtn.**	**61.71**	**27**	P	**P**	**12 45 42.4**	**-0.2**
BPAW				IAmb	IAmb	12 45 43.8	
	comp=Z,2.4nm,0.8s						
SML	**Sawmill**	**62.34**	**29**	P	**P**	**12 45 46.5**	**-0.5**
SML				IAmb	IAmb	12 45 47.0	
	comp=Z,3.8nm,1.1s						
D22K	**Ayikyak River**	**62.51**	**21**	P	**P**	**12 45 48.7**	**+0.8**
D22K				IAmb	IAmb	12 46 24.0	
	comp=Z,7.0nm,1.4s						
E22K	**Anaktuvuk Pass**	**62.56**	**22**	P	**P**	**12 45 48.6**	**+0.4**
I23K	**Minto, Yukon-K**	**62.66**	**26**	P	**P**	**12 45 48.1**	**-0.7**
I23K				IAmb	IAmb	12 46 30.7	
	comp=Z,12nm,1.5s						
G23K	**Bananza Creek**	**62.80**	**24**	P	**P**	**12 45 49.8**	**-0.1**
D23K	**Nanushuk River**	**63.22**	**21**	P	**P**	**12 45 53.0**	**+0.5**
D23K				IAmb	IAmb	12 46 11.6	
	comp=Z,9.5nm,1.4s						
H24K	**Noodor Dome**	**63.42**	**25**	P	**P**	**12 45 54.3**	**+0.3**
TOLK	**Toolik Lake Re**	**63.51**	**22**	P	**P**	**12 45 54.7**	**+0.2**
ILAR	**Eielson Array**	**63.59**	**26**	P	**P**	**12 45 53.7**	**-1.3**
ILAR	**Eielson Array**	**63.59**	**26**	P	**P**	**12 45 53.5**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=258,slow=4.8,SNR=11						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**66.07**	**320**	P	**P**	**12 46 11.0**	**-0.2**
	comp=Z,2.7nm,0.5s,baz=98,slow=7.7,SNR=16						
	comp=Z,2.7nm,0.5s						
ABKAR	**Akbulak array**	**72.92**	**317**	P	**P**	**12 46 52.6**	**-0.5**
ABKAR				IAmb	IAmb	12 46 53.9	
	comp=Z,1.6nm,0.6s						
ABKAR	**Akbulak array**	**72.92**	**317**	P	**P**	**12 46 52.0**	**-1.2**
YKA	**Yellowknife Ar**	**77.95**	**28**	P	**P**	**12 47 21.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=289,slow=5.4,SNR=4.4						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**12 47 50.9**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=271,slow=5.4,SNR=12						
	comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**86.52**	**335**	P	**P**	**12 48 04.0**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=64,slow=4.4,SNR=8.6						
	comp=Z,1.5nm,0.7s						
PLCA	**Paso Flores**	**142.42**	**133**	PKhKP	PKPpre	12 54 50.1	
	comp=Z,1.9nm,0.9s,baz=233,slow=4.0,SNR=4.9						
LPAZ	**La Paz**	**148.03**	**91**	PKPbc	**PKPbc**	**12 55 09.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=270,slow=3.0,SNR=5.2						

*TAP **24** 12:37:12.6,24°.42N×122°.63E,h60km,ML2.7,C*
*JMA **24** 12:37:12.4±0.1,24°.N±2°.×122°.7E±0°.5,h62km±1km, MV1.7/11,NW OFF ISHIGAKIJIMA IS*
ISC 24 12:37:12.4±1.3,24°.38N±0°.04×122°.66E±0°.02,h64km±7km, n68,σ0°90/114,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**74**	P	**Pn**	**12 37 22.6**	**-0.1**
JYNG				S	**Sn**	**12 37 29.9**	**-0.3**
EOS3	**EOS3**	**0.32**	**254**	P	**Pn**	**12 37 23.5**	**+0.6**
EOS3				*eS*	**Sn**	**12 37 31.9**	**+1.4**
YOJ	**Yonaguni jima**	**0.33**	**75**	*eP*	**Pn**	**12 37 23.1**	**0.0**
YOJ				*eS*	**Sn**	**12 37 30.9**	**0.0**
YOJ	**Yonaguni jima**	**0.33**	**75**	P	**Pn**	**12 37 22.9**	**-0.2**
YOJ				S	**Sn**	**12 37 30.5**	**-0.4**
EOS2	**EOS2**	**0.39**	**276**	P	**Pn**	**12 37 23.6**	**+0.2**
EOS2				*eS*	**Sn**	**12 37 32.7**	**+1.1**
EOS4	**EOS4**	**0.40**	**231**	*eP*	**Pn**	**12 37 24.0**	**+0.7**
ESAO	**Su ao**	**0.77**	**285**	*eP*	**Pn**	**12 37 27.7**	**0.0**
ESAO				*eS*	**Sn**	**12 37 37.6**	**-1.3**
TWC	**Suao**	**0.77**	**288**	P	**Pn**	**12 37 27.2**	**-0.5**
TWC				*eS*	**Sn**	**12 37 37.6**	**-1.4**
EWUT	**Wuta**	**0.81**	**275**	*eP*	**Pn**	**12 37 27.9**	**-0.2**
EWUT				*eS*	**Sn**	**12 37 39.1**	**-0.7**
ENA	**Nanau**	**0.84**	**274**	*eP*	**Pn**	**12 37 28.6**	**0.0**
ENA				*eS*	**Sn**	**12 37 40.4**	**-0.1**
TIPB	**Shuangxi**	**0.96**	**308**	*eP*	**Pn**	**12 37 29.5**	**-0.6**
TIPB				*eS*	**Sn**	**12 37 41.6**	**-1.6**
TWE	**Neicheng**	**0.97**	**291**	*eP*	**Pn**	**12 37 30.0**	**-0.1**
TWE				*eS*	**Sn**	**12 37 42.1**	**-1.2**
ETL	**Fush Village**	**0.97**	**257**	*eP*	**Pn**	**12 37 30.0**	**-0.2**
IRIF	**Iriomote-Funau**	**0.98**	**92**	P	**Pn**	**12 37 30.4**	**+0.1**
IRIF				S	**Sn**	**12 37 43.6**	**0.0**
NACB	**Ninganchiao**	**0.99**	**259**	P	**Pn**	**12 37 30.1**	**-0.4**
SXI1	**Grass Mountain**	**1.01**	**315**	*eP*	**Pn**	**12 37 30.1**	**-0.7**
TWD	**Chiawan**	**1.01**	**253**	*eP*	**Pn**	**12 37 30.4**	**-0.4**
ENTT	**Nioudou**	**1.03**	**285**	P	**Pn**	**12 37 31.3**	**+0.3**
LATG	**Datong**	**1.04**	**279**	P	**Pn**	**12 37 31.5**	**+0.2**
LATG				*eS*	**Sn**	**12 37 45.6**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.05**	**292**	*eP*	**Pn**	**12 37 31.2**	**0.0**
FUSB				*eS*	**Sn**	**12 37 44.4**	**-0.8**
ETLH	**Xiulin Townshi**	**1.09**	**261**	*eP*	**Pn**	**12 37 31.3**	**-0.5**
ETLH				*eS*	**Sn**	**12 37 46.2**	**0.0**
NWLT	**Wulai**	**1.13**	**291**	*eP*	**Pn**	**12 37 32.5**	**+0.3**
NWLT				*eS*	**Sn**	**12 37 45.8**	**-1.3**
ETM	**Tongmen**	**1.14**	**249**	P	**Pn**	**12 37 31.9**	**-0.5**
ETM				*eS*	**Sn**	**12 37 47.4**	**0.0**
SHUL	**Shoufeng**	**1.16**	**240**	*eP*	**Pn**	**12 37 32.7**	**0.0**
SHUL				*eS*	**Sn**	**12 37 47.2**	**-0.6**
NNSB	**Datong**	**1.16**	**273**	P	**Pn**	**12 37 33.0**	**+0.1**
NNSB				*eS*	**Sn**	**12 37 47.8**	**-0.3**
NNS	**Nan Shan**	**1.17**	**273**	*eP*	**Pn**	**12 37 33.0**	**0.0**
NNS				*eS*	**Sn**	**12 37 48.0**	**-0.3**
LXIB	**Xiulin Townshi**	**1.19**	**253**	P	**Pn**	**12 37 32.8**	**-0.4**
LXIB				*eS*	**Sn**	**12 37 48.7**	**0.0**
YHNB	**Yeheng**	**1.21**	**284**	P	**Pn**	**12 37 33.5**	**+0.2**
YHNB				*eS*	**Sn**	**12 37 48.7**	**-0.3**
TEGC	**Jichi Village**	**1.22**	**237**	*eP*	**Pn**	**12 37 33.3**	**-0.1**
NSK	**Sanguang**	**1.22**	**284**	*eP*	**Pn**	**12 37 33.8**	**+0.3**
NSK				*eS*	**Sn**	**12 37 49.2**	**-0.1**
JKRS	**Kuro-shima**	**1.24**	**96**	P	**Pn**	**12 37 34.6**	**+0.9**
JKRS				S	**Sn**	**12 37 50.4**	**+0.8**
ESL	**Shilin**	**1.25**	**244**	*eP*	**Pn**	**12 37 33.2**	**-0.6**
WHF	**Hehuan Shan**	**1.29**	**260**	*eP*	**Pn**	**12 37 34.7**	**-0.1**
FUSS	**Fushou**	**1.30**	**265**	P	**Pn**	**12 37 34.9**	**+0.2**
WARBT	**Fenglin Townsh**	**1.33**	**241**	*eP*	**Pn**	**12 37 34.4**	**-0.6**
WARBT				*eS*	**Sn**	**12 37 50.9**	**-1.0**
JIJ	**Ishigaki jima**	**1.35**	**90**	P	**Pn**	**12 37 35.2**	**0.0**
JIJ				S	**Sn**	**12 37 52.1**	**-0.2**
KSHI	**Guanxi Townshi**	**1.41**	**287**	*eP*	**Pn**	**12 37 36.3**	**+0.4**
OWD	**Renai**	**1.42**	**253**	*eP*	**Pn**	**12 37 36.1**	**-0.1**
OWD				*eS*	**Sn**	**12 37 53.2**	**-0.9**
NFF	**Wufeng Townshi**	**1.43**	**281**	*eP*	**Pn**	**12 37 36.9**	**+0.6**
NFF				*eS*	**Sn**	**12 37 54.4**	**+0.2**
HGSD	**Ruisui**	**1.43**	**232**	*eP*	**Pn**	**12 37 35.7**	**-0.6**
HGSD				*eS*	**Sn**	**12 37 53.9**	**-0.3**
WUSB	**Renai**	**1.46**	**255**	P	**Pn**	**12 37 37.0**	**+0.3**
WUSB				*eS*	**Sn**	**12 37 54.9**	**-0.1**
EHY	**Hungye**	**1.50**	**235**	*eP*	**Pn**	**12 37 36.9**	**-0.2**
EHY				*eS*	**Sn**	**12 37 55.0**	**-0.9**
VWDT	**VWDT**	**1.52**	**246**	*eP*	**Pn**	**12 37 37.5**	**+0.1**
VWDT				*eS*	**Sn**	**12 37 56.1**	**-0.2**
JISG	**Ishigakijimahi**	**1.52**	**82**	P	**Pn**	**12 37 37.2**	**-0.3**
JISG				S	**Sn**	**12 37 56.0**	**-0.3**
LIOB	**Emei**	**1.52**	**281**	*eP*	**Pn**	**12 37 38.0**	**+0.5**
LIOB				*eS*	**Sn**	**12 37 57.0**	**+0.6**
WHP	**Taichung City**	**1.56**	**267**	*eP*	**Pn**	**12 37 38.9**	**+0.7**
WHP				*eS*	**Sn**	**12 37 58.1**	**+0.6**
YULB	**Yu-li**	**1.58**	**232**	P	**Pn**	**12 37 38.0**	**-0.4**
YULB				*eS*	**Sn**	**12 37 56.2**	**-1.7**
EYUL	**Yuli**	**1.60**	**230**	*eP*	**Pn**	**12 37 38.1**	**-0.4**
TWF1	**Yuli**	**1.61**	**231**	*eP*	**Pn**	**12 37 38.5**	**-0.2**
TWF1				*eS*	**Sn**	**12 37 57.5**	**-1.0**
WCS	**Beigang Elemen**	**1.63**	**259**	*eP*	**Pn**	**12 37 39.4**	**+0.6**
SSLB	**Suanglung**	**1.66**	**250**	P	**Pn**	**12 37 39.3**	**-0.1**
SMLT	**Sun Moon Lake**	**1.68**	**253**	*eP*	**Pn

PITA	Cotopaxi Volc	2.17	326	⇓P		Pn	12 55 21.8	+1.8	ELDTW	Lidau	0.45	108	⇓iP		Pb	12 55 27.6	-0.4
TOMA	Boca Toma-Volc	2.22	327	⇓P		Pn	12 55 22.5	+1.9	ELDTW				eS		Sb	12 55 34.3	-0.2
ILLI	Illinizas Sur	2.23	317	⇓P		Pn	12 55 22.2	+1.4	SCST	Cishan	0.45	188	⇑iP		Pb	12 55 28.5	+0.5
REVN	San Rafael	2.32	350	P		Pn	12 55 21.1	-0.5	SCST				eS		Sn	12 55 36.8	-1.0
MILO	Milagro-Astudi	2.34	272	⇑P		Pn	12 55 22.0	+0.4	WHYT	Xinyi Township	0.45	37	⇑P		Pb	12 55 27.9	-0.2
AZAM	Ecuador-Zamora	2.42	226	P		Pn	12 55 23.0	+0.2	WHYT				S		Sb	12 55 35.0	+0.4
CASC	Dorado de Casc	2.49	357	⇓P		Pn	12 55 23.4	-0.3	TSCK	Chigu Township	0.47	247	eP		Pb	12 55 28.2	-0.2
CAYR	Refugio Cayamb	2.50	341	⇑P		Pn	12 55 25.4	+1.2	TSCK				S		Sn	12 55 37.3	-1.1
ANGU	Angureal	2.53	342	⇓P		Pn	12 55 25.7	+1.1	WJS	Zhushan	0.51	18	⇑P		Pb	12 55 29.3	+0.1
ALJ1	Ecuador-Loja-U	2.55	231	P		Pn	12 55 25.5	+1.0	WJS				eS		Sb	12 55 38.0	+1.7
GGPT	Toaza - Volcan	2.55	327	P		Pn	12 55 25.9	+1.2	TWM1	Shoushan	0.52	194	⇑iP		Pn	12 55 30.7	-0.5
JUA2	San Juan 2	2.55	327	⇓P		Pn	12 55 25.9	+1.2	TWM1				eS		Sn	12 55 38.7	-1.0
GGPC	Guagua Pichinc	2.58	328	⇓P		Pn	12 55 26.4	+1.2	WNT	Mingjian	0.56	12	⇑iP		Pb	12 55 30.1	+0.2
TERV	Terraza Guagua	2.59	327	P		Pn	12 55 26.4	+1.2	WNT				S		Sb	12 55 38.9	+1.3
PINO	Pino	2.60	328	⇓P		Pn	12 55 26.7	+1.2	SSLB	Suanglung	0.58	38	P		Pb	12 55 30.1	-0.2
YANA	Yana	2.62	329	P		Pn	12 55 26.8	+1.3	SSLB	Suanglung	0.58	38	S		Sb	12 55 39.0	+0.7
IMBA	Imbabura, San	2.81	339	P		Pn	12 55 29.9	+2.0	SSLB	Suanglung	0.58	38	⇓iP		Pb	12 55 30.0	-0.3
YAHU	Yahuarcocha	2.85	343	⇓P		Pn	12 55 29.9	+1.4	SSLB				S		Sb	12 55 38.8	+0.5
GONZ	Gonzanam	2.86	230	P		Pn	12 55 29.1	+0.6	WTCT	Ta-ch'eng	0.59	334	P		Pg	12 55 30.1	-0.1
OTAV	Otavalo	2.87	334	P		Pn	12 55 29.3	+0.5	WTCT				S		Sb	12 55 39.4	+0.9
CUIC	Cuicocha-Domo	2.89	337	⇓P		Pn	12 55 30.3	+1.2	WRL	Guolierlin Hig	0.59	344	eP		Pg	12 55 30.2	-0.1
CUSE	Cuicocha Este	2.91	336	⇑P		Pn	12 55 33.3	+4.1	WRL				eS		Sb	12 55 39.9	+1.4
COTA	Cotacachi	2.91	337	P		Pn	12 55 31.0	+1.6	SGLT	Jiouru	0.61	186	eP		Pn	12 55 32.1	-0.3
URCU	Urcuqui	2.98	340	⇓P		Pn	12 55 31.7	+1.6	SGLT				eS		Sn	12 55 42.8	+1.1
ISPG	Isla Puna-Puer	3.01	259	P		Pn	12 55 30.6	+0.4	SNJT	Kaohsiung City	0.61	200	iP		Pn	12 55 32.4	0.0
PAC1	Pacto, Paraso	3.06	329	P		Pn	12 55 32.8	+2.0	SNJT				iS		Sn	12 55 43.4	+1.5
ZUMB	Zumba	3.14	218	P		Pn	12 55 32.3	+0.4	EHD	Haiduan	0.62	107	⇓eP		Pb	12 55 30.8	-0.2
CHL1	Volc¡n Chiles	3.23	347	⇓P		Pn	12 55 35.1	+1.6	EHD				eS		Sb	12 55 39.4	0.0
CHL2	Volc¡n Chiles	3.23	347	⇓P		Pn	12 55 35.4	+2.0	TSMG	Majia	0.63	173	eP		Pb	12 55 31.1	+0.1
LAMO	ALAMOR	3.24	240	P		Pn	12 55 32.2	-1.1	TSMG				eS		Sb	12 55 40.4	+0.8
CHMA	Chilma	3.32	345	P		Pn	12 55 36.3	+1.8	SMLT	Sun Moon Lake	0.63	30	⇑P		Pg	12 55 30.3	-0.8
LITE1	Lita	3.35	340	P		Pn	12 55 36.2	+1.6	SMLT				S		Sb	12 55 40.2	+0.3
PPLP	Puerto Lpez	3.65	283	P		Pn	12 55 36.9	-1.6	TYC	Yuchr	0.63	26	⇑P		Pb	12 55 31.3	+0.1
PPLP				S		Sn	12 56 19.1	-2.3	TYC				eS		Sb	12 55 41.0	+1.2
PPLP	Puerto Lpez	3.65	283	P		Pn	12 55 37.2	-1.4	ECS	Chishang	0.65	111	eP		Pb	12 55 31.4	0.0
PPLP	Puerto Lpez	3.65	283	P			12 55 36.9		ECS				eS		Sb	12 55 41.2	+0.9
PPLP				S			12 56 19.1		LONT	Longtian	0.67	129	⇓iP		Pb	12 55 31.8	-0.1
ISPT	Isla de la Pla	4.01	286	P		Pn	12 55 43.6	+0.3	LONT				eS		Sb	12 55 41.5	+0.6
ATAH	Atahualpa	4.88	194	P		Pn	12 55 57.5	+2.3	TWF1	Yuli	0.68	88	⇓iP		Pb	12 55 31.8	-0.2
	88nm,0.6s,baz=24,slow=8.2,SNR=104								TWF1				eS		Sb	12 55 40.9	-0.1
ATAH				S		Sn	12 56 51.9	+0.8	VWDT	VWDT	0.68	52	⇓iP		Pb	12 55 32.0	0.0
	283nm,0.8s,baz=349,slow=10,SNR=20								VWDT				eS		Sb	12 55 41.5	+0.4
ROSC	El Rosal	7.72	22	P		Pn	12 56 33.6	+0.2	YULB	Yu-li	0.68	85	P		Pg	12 55 31.5	-0.4
	3.4nm,0.3s,baz=150,slow=20,SNR=1.6								YULB	Yu-li	0.68	85	⇓iP		Pg	12 55 31.6	-0.4
NNA	Nana	9.56	178	P		Pn	12 57 00.3	+2.6	YULB				eS		Sb	12 55 41.7	+0.6
	10nm,0.4s,baz=28,slow=4.1,SNR=9.7								FULB	Fuli	0.69	101	⇓iP		Pb	12 55 32.5	+0.4
NNA				S		Sn	12 58 35.7	-7.9	FULB				eS		Sb	12 55 40.9	-0.5
	12nm,0.3s,baz=10.0,slow=17,SNR=8.0								TWG	Pinlang	0.69	137	⇓iP		Pb	12 55 32.2	0.0
SDV	Santo Domingo	12.96	30	P		Pn	12 57 42.4	-0.3	TWG				S		Sb	12 55 42.3	+0.8
	5.0nm,0.8s,baz=181,slow=5.2,SNR=5.4								EYUL	Yuli	0.70	88	⇓iP		Pb	12 55 32.1	-0.2
LPAZ	La Paz	16.47	148	P		P	12 58 29.1	+1.5	EYUL				eS		Sb	12 55 41.4	-0.3
	1.3nm,0.6s,baz=322,slow=13,SNR=5.0								TWGBT	Beinan	0.70	137	P		Pb	12 55 32.2	-0.1
SIV	San Ignacio	20.88	131	P		P	12 59 16.3	+1.4	TWGBT	Beinan	0.70	137	S		Sb	12 55 42.2	+0.5
	1.2nm,0.7s,baz=327,slow=11,SNR=6.1								TWGBT	Beinan	0.70	137	⇓iP		Pb	12 55 32.2	-0.1
	1.2nm,0.7s								TWGBT				S		Sb	12 55 41.9	+0.2
PLCA	Paso Flores	38.66	172	P		P	13 01 55.4	+1.6	MASBT	Mashibuluo	0.72	175	⇑eP		Pb	12 55 32.5	-0.1
	1.8nm,0.7s,baz=345,slow=9.0,SNR=7.2								MASBT				iS		Sn	12 55 43.8	-0.8
	1.8nm,0.7s								EHY	Hungye	0.72	76	⇓P		Pb	12 55 32.6	-0.1
TXAR	Lajitas Array	40.44	323	P		P	13 02 10.1	+1.4	EHY				iS		Sb	12 55 42.7	+0.3
	0.1nm,0.3s,baz=149,slow=9.2,SNR=1.8								WCH1	Changhua City	0.74	359	eP		Pb	12 55 33.1	+0.1
	0.1nm,0.3s								WCH1				S		Sn	12 55 44.2	-0.8
PDAR	Pinedale Array	53.57	331	P		P	13 03 50.1	-0.5	WSSB	Gushan	0.74	202	iP		Pb	12 55 33.1	+0.1
	0.2nm,0.6s,baz=117,slow=3.7,SNR=2.1								WSSB				eS		Sn	12 55 46.0	+0.9
	0.2nm,0.6s								EHYH	Wanrong	0.74	77	⇓P		Pb	12 55 32.9	-0.1
ULM	Lac du Bonnet	54.81	345	P		P	13 03 57.4	-1.8	EHYH				eS		Sb	12 55 43.1	+0.3
	3.1nm,0.5s,baz=170,slow=7.9,SNR=9.7								WCHH	Zhanghua	0.75	360	eP		Pb	12 55 33.1	0.0
	3.1nm,0.5s								WCHH				eS		Sb	12 55 44.2	+1.2
NVAR	Mina Array Bea	55.53	321	P		P	13 04 04.8	0.0	EDH	Donghe	0.77	117	⇓P		Pb	12 55 33.7	+0.2
	0.2nm,0.6s,baz=109,slow=5.7,SNR=2.3								EDH				eS		Sn	12 55 44.9	-1.0
	0.2nm,0.6s								CHKT	Chengkung	0.78	107	eP		Pn	12 55 34.1	-0.6
YKA	Yellowknife Ar	70.60	343	P		P	13 05 42.9	-0.7	CHKT				S		Sn	12 55 46.5	+0.5
	0.3nm,0.8s,baz=145,slow=5.9,SNR=5.1								CHKH	Chenggong	0.78	100	⇓P		Pb	12 55 34.0	+0.3
	0.3nm,0.8s								CHKH				eS		Sn	12 55 45.9	-0.3
ESDC	Sonseca Array	78.69	49	P		P	13 06 30.1	-0.7	TTN	Taitung	0.79	137	eP		Pn	12 55 34.8	-0.1
	0.3nm,0.6s,baz=272,slow=8.3,SNR=4.1								TTN				eS		Sn	12 55 46.8	+0.6
	0.3nm,0.6s								WCS	Beigang Elemen	0.79	24	eP		Pg	12 55 33.5	-0.5
TORD	Torodi Ar. Bea	79.75	76	P		P	13 06 35.9	-1.1	WCS				eS		Sb	12 55 45.2	+0.9
	87nm,0.5s,baz=294,slow=6.6,SNR=2.3								HGSD	Ruisui	0.81	78	⇓iP		Pn	12 55 34.7	-0.5
EKA	Eskdalemuir Ar	82.93	34	P		P	13 06 52.1	-0.9	HGSD				eS		Sn	12 55 45.8	-1.1
	0.4nm,0.5s,baz=263,slow=3.4,SNR=4.1								ECL	Taimali	0.82	153	eP		Pb	12 55 34.3	+0.1
	0.4nm,0.5s								ECL				eS		Sn	12 55 46.0	-1.0
QSPA	South Pole Qui	87.70	180	P		P	13 07 18.4	+1.8	ECBN	Changbin	0.82	91	⇓P		Pn	12 55 35.3	0.0
	3.2nm,1.0s,baz=153,slow=4.5,SNR=11								TCU	Taichung	0.82	8	eP		Pn	12 55 35.5	+0.1
	3.2nm,1.0s								TCU				eS		Sn	12 55 46.7	-0.4
MKAR	Makanchi Array	132.29	19	PKP		PKPdf	13 13 41.2	-0.5	WDGT	Dungji	0.83	265	P		Pg	12 55 33.9	-0.8
	0.1nm,0.8s,baz=321,slow=1.0,SNR=1.1								WDGT				eS		Sg	12 55 45.5	-0.2
ASAR	Alice Springs	140.16	228	PKhKP		PKPpre	13 13 49.8		WUSB	Renai	0.83	38	⇓iP		Pg	12 55 34.4	-0.5
	0.1nm,0.5s,baz=123,slow=2.7,SNR=1.1								WUSB				S		Sb	12 55 46.4	+0.7
WRA	Warramunga Arr	141.91	233	PKhKP		PKPpre	13 13 55.5		OWD	Renai	0.84	42	⇓iP		Pb	12 55 34.8	0.0
	0.3nm,0.8s,baz=115,slow=2.1,SNR=2.1								OWD				S		Sb	12 55 46.5	+0.7
WARBT	Fenglin Townsh	0.85	63	⇓iP		Pg	12 55 34.7	-0.5	WARBT				eS		Sg	12 55 45.4	-1.1
EGFH	Guangfu	0.87	67	iP		Pb	12 55 35.1	-0.1	EGFH				eS		Sn	12 55 47.4	-0.8
PHUB	P'eng-hu	0.92	282	eP		Pb	12 55 35.1	-1.0	PHUB				eS		Sb	12 55 47.7	-0.4
ESL	Shilin	0.94	59	⇓iP		Pg	12 55 36.2	-0.5	ESL				eS		Sg	12 55 49.0	0.0
PNG	Penghu	0.95	285	P		Pb	12 55 35.7	-0.9	PNG				eS		Sb	12 55 49.0	+0.1
SCZT	Fangliau	0.96	177	⇑P		Pn	12 55 37.0	-0.2	SCZT				eS		Sn	12 55 51.4	+1.0
TEGC	Jichi Village	0.98	67	eP		Pn	12 55 37.8	+0.3	EAST	Anshuo	0.98	164	⇑iP		Pn	12 55 37.4	-0.3
EAST	Anshuo	0.98	164	⇑iP		Pn	12 55 37.8	-0.3	EAST				S		Sn	12 55 51.4	+0.4
WLCH	Liuqiu	0.99	190	eP		Pn	12 55 39.9	+2.2	WLCH				eS		Sn	12 55 54.8	+3.6
TWP	Hsiaoliuchiu	1.00	190	eP		Pn	12 55 39.4	+1.7	TWP	Hsiaoliuchiu	1.00	190	eP		Pn	12 55 39.4	+1.7
WHP	Taichung City	1.01	21	eP		Pg	12 55 37.8	-0.3	WHP	Taichung City	1.01	21	eP		Pg	12 55 37.8	-0.3
WDJ	Dajia District	1.02	4	eP		Pg	12 55 37.9	-0.4	WHP				S		Sn	12 55 53.5	+1.6
WDJ				eS		Sn	12 55 52.7	+0.8	WDJ	Dajia District	1.02	4	eP		Pg	12 55 37.9	-0.4
TAW	Tawu	1.02	162	eP		Pn	12 55 38.2	+0.2	WDJ				eS		Sn	12 55 52.7	+0.8
TAW				eS		Sn	12 55 52.8	+0.9	TAW	Tawu	1.02	162	eP		Pn	12 55 38.2	+0.2
SHUL	Shoufeng	1.03	64	iP		Pn	12 55 38.6	+0.4	TAW				eS		Sn	12 55 52.8	+0.9
SHUL				eS		Sn	12 55 52.3	+0.1	SHUL	Shoufeng	1.03	64	iP		Pn	12 55 38.6	+0.4
TAWH	Dawu Township	1.03	163	eP		Pn	12 55 38.2	0.0	SHUL				eS		Sn	12 55 52.3	+0.1
TAWH				eS		Sn	12 55 53.1	+0.8	TAWH	Dawu Township	1.03	163	eP		Pn	12 55 38.2	0.0
TWQ1	Liyutan	1.03	11	eP		Pb	12 55 38.1	+0.1	TAWH				eS		Sn	12 55 53.1	+0.8
TWQ1				iS		Sn	12 55 53.1	+0.7	TWQ1	Liyutan	1.03	11	eP		Pb	12 55 38.1	+0.1
WHF	Hehuan Shan	1.04	38	⇓eP		Pn	12 55 38.6	-0.1	TWQ1				iS		Sn	12 55 53.1	+0.7
LXIB	Xiulin Townshi	1.04	49	⇓iP		Pb	12 55 38.0	-0.2	WHF	Hehuan Shan	1.04	38	⇓eP		Pn	12 55 38.6	-0.1
LXIB				iS		Sn	12 55 53.3	+0.5	LXIB	Xiulin Townshi	1.04	49	⇓iP		Pb	12 55 38.0	-0.2
VCHM	Qimei	1.04	264	eP		Pb	12 55 37.0	-1.2	LXIB				iS		Sn	12 55 53.3	+0.5
VCHM				eS		Sb	12 55 51.0	-0.6	VCHM	Qimei	1.04	264	eP		Pb	12 55 37.0	-1.2
LDUT	Ludao	1.06	128	P		Pn	12 55 38.5	-0.2	VCHM				eS		Sb	12 55 51.0	-0.6
LDUT				eS		Sn	12 55 54.2	+1.2	LDUT	Ludao	1.06	128	P		Pn	12 55 38.5	-0.2
ETM	Tongmen	1.06	53	eP		Pn	12 55 38.6	-0.1	LDUT				eS		Sn	12 55 54.2	+1.2
ETM				eS		Sg	12 55 52.4	-0.8	ETM	Tongmen	1.06	53	eP		Pn	12 55 38.6	-0.1
TDCB	Techi	1.07	31	eP		Pb	12 55 38.6	-0.1	ETM				eS		Sg	12 55 52.4	-0.8
TDCB				eS		Sg	12 55 53.1	-0.3	TDCB	Techi	1.07	31	eP		Pb	12 55 38.6	-0.1
TWT	Tachien	1.08	31	eP		Pn	12 55 39.0	-0.1	TDCB				eS		Sg	12 55 53.1	-0.3
TWT				eS		Sn	12 55 53.7	0.0	TWT	Tachien	1.08	31	eP		Pn	12 55 39.0	-0.1
TEYL	Yanliau Villag	1.09	60	eP		Pg	12 55 40.2	+0.5	TWT				eS		Sn	12 55 53.7	0.0
TEYL				eS		Sn	12 55 55.6	+1.8	TEYL	Yanliau Villag	1.09	60	eP		Pg	12 55 40.2	+0.5
FUSS	Fushou	1.11	34	iP		Pb	12 55 39.4	0.0	TEYL				eS		Sn	12 55 55.6	+1.8
FUSS				eS		Sn	12 55 55.3	+0.7	FUSS	Fushou	1.11	34	iP		Pb	12 55 39.4	0.0
SLIU	Shizi	1.13	169	iP		Pg	12 55 39.8	-0.6	FUSS				eS		Sn	12 55 55.3	+0.7
SLIU				eS		Sn	12 55 56.9	+2.2	SLIU	Shizi	1.13	169	iP		Pg	12 55 39.8	-0.6
HWA	Hwalien	1.16	56	eP		Pg	12 55 40.5	-0.4	SLIU				eS		Sn	12 55 56.9	+2.2
HWA				eS		Sg	12 55 56.6	+0.6	HWA	Hwalien	1.16	56	eP		Pg	12 55 40.5	-0.4
TWD	Chiawan	1.21	52	iP		Pg	12 55 41.4	-0.5	HWA				eS		Sg	12 55 56.6	+0.6
TWD				eS		Sg	12 55 57.8	+0.1	TWD	Chiawan	1.21	52	iP		Pg	12 55 41.4	-0.5
ETLH	Xiulin Townshi	1.22	44	P		Pb	12 55 41.2	0.0	TWD				eS		Sg	12 55 57.8	+0.1
ETLH				S		Sg	12 55 58.8	+0.8	ETLH	Xiulin Townshi	1.22	44	P		Pb	12 55 41.2	0.0
NMLH	Miaoli	1.22	10	eP		Pb	12 55 41.2	0.0	ETLH				S		Sg	12 55 58.8	+0.8
NMLH				iS		Sg	12 55 59.3	+1.2	NMLH	Miaoli	1.22	10	eP		Pb	12 55 41.2	0.0
NACB	Ninganchiao	1.27	48	P		Pb	12 55 42.0	+0.1	NMLH				iS		Sg	12 55 59.3	+1.2
NACB	Ninganchiao	1.27	48	S		Sg	12 56 00.0	+0.4	NACB	Ninganchiao	1.27	48	P		Pb	12 55 42.0	+0.1
NACB	Ninganchiao	1.27	48	iP		Pb	12 55 42.1	+0.1	NACB	Ninganchiao	1.27	48	iP		Pb	12 55 42.1	+0.1
NACB				iS		Sg	12 55 59.2	-0.4	NACB				iS		Sg	12 55 59.2	-0.4
ETL	Fush Village	1.28	50	eP		Pg	12 55 42.5	-0.7	ETL	Fush Village	1.28	50	eP		Pg	12 55 42.5	-0.7
NNSB	Datong	1.33	34	eP		Pn	12 55 42.5	0.0	NNSB	Datong	1.33	34	eP		Pn	12 55 42.5	0.0
NNSB				eS		Sn	12 56 00.1	+0.2	NNSB				eS		Sn	12 56 00.1	+0.2
HEN	Hengchun	1.33	173	eP		Pn	12 55 42.2	-0.1	HEN	Hengchun	1.33	173	eP		Pn	12 55 42.2	-0.1
NNS	Nan Shan	1.33	34	eP		Pg	12 55 43.5	-0.8	NNS	Nan Shan	1.33	34	eP		Pg	12 55 43.5	-0.8
NNS				eS		Sg	12 56 00.9	-0.8	NNS				eS		Sg	12 56 00.9	-0.8
NSTT	Nanjuang	1.36	17	eP		Pb	12 55 42.9	+0.1	NSTT	Nanjuang	1.36	17	eP		Pb	12 55 42.9	+0.1
NSTT				eS		Sb	12 56 01.1	+0.6	NSTT				eS		Sb	12 56 01.1	+0.6
LIOB	Emei	1.37	18	iP		Pn	12 55 43.2	+0.2	LIOB	Emei	1.37	18	iP		Pn	12 55 43.2	+0.2
LIOB				eS		Sg	12 56 02.1	-0.9	LIOB				eS		Sg	12 56 02.1	-0.9
NFF	Wufeng Townshi	1.39	21	eP		Pb	12 55 43.9	-0.3	NFF	Wufeng Townshi	1.39	21	eP		Pb	12 55 43.9	-0.3
NFF				eS		Sg	12 56 02.7	-0.9	NFF				eS		Sg	12 56 02.7	-0.9
TWK1	Hengchun	1.40	171	eP		Pn	12 55 43.4	+0.1	TWK1	Hengchun	1.40	171	eP		Pn	12 55 43.4	+0.1
TWKBT	Hengchun	1.40	170	eP		Pn	12 55 43.1	-0.2	TWKBT	Hengchun	1.40	170	eP		Pn	12 55 43.1	-0.2
TSEB	Hengchuen, Pin	1.46	167	eP		Pg	12 55 46.2	-0.4	TSEB	Hengchuen, Pin	1.46	167	eP		Pg	12 55 46.2	-0.4
EAHA	Aohua	1.47	47	eP		Pg	12 55 45.9	-0.9	EAHA	Aohua	1.47	47	eP		Pg	12 55 45.9	-0.9
EAHA				S		Sg	12 56 05.9	-0.1	EAHA				S		Sg	12 56 05.9	-0.1
LATG	Datong	1.49	36	iP		Pb	12 55 45.9	0.0	LATG	Datong	1.49	36	iP		Pb	12 55 45.9	0.0
LATG				S		Sg	12 56 06.5	-0.2	LATG				S		Sg	12 56 06.5	-0.2
SBCB	Hsinchu	1.51	15	eP		Pn	12 55 43.9	-0.9	SBCB	Hsinchu	1.51	15	eP		Pn	12 55 43.9	-0.9
SBCB				eS		Sg	12 56 06.2	-1.1	SBCB				eS		Sg	12 56 06.2	-1.1
NSK	Sanguang	1.53	28	eP		Pb	12 55 45.8	-0.6	NSK	Sanguang	1.53	28	eP		Pb	12 55 45.8	-0.6
NSK				iS		Sb	12 56 06.3	+0.8	NSK				iS		Sb	12 56 06.3	+0.8
YHNB	Yeheng	1.53	29	P		Pn	12 55 45.7	+0.6	YHNB	Yeheng	1.53	29	P		Pn	12 55 45.7	+0.6
YHNB	Yeheng	1.53	29	S		Sg	12 56 07.9	0.0	YHNB	Yeheng	1.53	29	S		Sg	12 56 07.9	0.0
YHNB	Yeheng	1.53	29	eP		Pb	12 55 45.8	+0.6	YHNB	Yeheng	1.53	29	eP		Pb	12 55 45.8	+0.6
YHNB				eS		Sb	12 56 05.5	-0.1	YHNB				eS		Sb	12 56 05.5	-0.1
ENA	Nanau	1.54	44	eP		Pb	12 55 46.5	-0.1	ENA	Nanau	1.54	44	eP		Pb	12 55 46.5	-0.1
ENA				S		Sg	12 56 08.3	+0.1	ENA				S		Sg	12 56 08.3	+0.1
KSHI	Guanxi Townshi	1.55	21	eP		Pb	12 55 46.1	-0.6	KSHI	Guanxi Townshi	1.55	21	eP		Pb	12 55 46.1	-0.6
KSHI				eS		Sg	12 56 07.3	-1.2	KSHI				eS		Sg	12 56 07.3	-1.2
EWUT	Wuta	1.57	45	eP		Pb	12 55 46.6	-0.6	EWUT	Wuta	1.57	45	eP		Pb	12 55 46.6	-0.6
EWUT				eS		Sg	12 56 08.0	-1.4	EWUT				eS		Sg	12 56 08.0	-1.4
LAY	Lan-yu	1.58	144	eP		Pn	12 55 45.3	-0.5	LAY	Lan-yu	1.58	144	eP		Pn	12 55 45.3	-0.5
LAY				eS		Sb	12 56 07.8	+0.8	LAY				eS		Sb	12 56 07.8	+0.8
ENTT	Nioudou	1.60	35	eP		Pb	12 55 47.5	-0.1	ENTT	Nioudou	1.60	35	eP		Pb	12 55 47.5	-0.1
ENTT				S		Sg	12 56 09.8	-0.3	ENTT				S		Sg	12 56 09.8	-0.3
LYUB	Lan-yu	1.63	144	eP		Pb	12 55 44.7	-1.8	LYUB	Lan-yu	1.63	144	eP		Pb	12 55 44.7	-1.8
NDS	Dongshan	1.68	39	eP		Pb	12 55 48.8	-0.2	NDS	Dongshan	1.68	39	eP		Pb	12 55 48.8	-0.2
NWLT	Wulai	1.68	31	eP		Pb	12 55 49.3	+0.3	NWLT	Wulai	1.68	31	eP		Pb	12 55 49.3	+0.3
NWLT				S		Sg	12 56 11.4	-1.4	NWLT				S		Sg	12 56 11.4	-1.4
FUSB	Fushanzhiwuyua	1.71	33	eP		Pb	12 55 48.9	-0.7	FUSB	Fushanzhiwuyua	1.71	33	eP		Pb	12 55 48.9	-0.7
FUSB				eS		Sb	12 56 10.7	0.0	FUSB				eS		Sb	12 56 10.7	0.0
ESAO	Su ao	1.71	43	eP		Pb	12 55 49.9	+0.4	ESAO	Su ao	1.71	43	eP		Pb	12 55 49.9	+0.4
ESAO				eS		Sg	12 56 12.0	-1.7	ESAO				eS		Sg	12 56 12.0	-1.7
TWE	Neicheng	1.72	36	eP		Pb	12 55 49.7	+0.1	TWE	Neicheng	1.72	36	eP		Pb	12 55 49.7	+0.1
TWE				S		Sg	12 56 12.6	-1.3	TWE				S		Sg	12 56 12.6	-1.3
TWC	Suao	1.74	43	eP		Pb	12 55 50.5	+0.6	TWC	Suao	1.74	43	eP		Pb	12 55 50.5	+0.6
TWC				S		Sg	12 56 13.3	-1.2	TWC				S		Sg	12 56 13.3	-1.2
EOS4	EOS4	1.79	64	eP		Pn	12 55 48.7	+0.3	EOS4	EOS4	1.79	64	eP		Pn	12 55 48.7	+0.3
EOS4				eS		Sb	12 56 12.7	-0.1	EOS4				eS		Sb	12 56 12.7	-0.1
TATO	Taipei	1.84	27	P		Pn	12 55 50.6	+1.2	TATO	Taipei	1.84	27	P		Pn	12 55 50.6	+1.2
EOS3	EOS3	1.87	59	eP		Pn

WMGZ	Waiomatatini S	2.37	75	P	Pn	13 05 55.7	+1.1
MXZ	Matakaoa Point	2.38	68	P	Pn	13 05 55.9	+1.1
MXZ	Matakaoa Point	2.38	68	P	Pn	13 05 56.1	+1.3
HOWZ	Holdsworth Sta	2.42	180	P	Pn	13 05 56.4	+1.1
KIW	Kapiti Island	2.43	191	P	Pn	13 05 56.5	+1.2
DUWZ	D'Urville Isla	2.64	208	P	Pn	13 05 58.8	+1.2
CAW	Cannon Point	2.66	188	P	Pn	13 05 59.0	+1.2
MTW	Mount Morrison	2.68	180	P	Pn	13 05 59.1	+1.0
WEL	Wellington	2.87	191	P	Pn	13 06 01.5	+1.3
TCW	Tory Channel	2.90	199	P	Pn	13 06 01.8	+1.3
SNZO	South Karori	2.91	192	P	Pn	13 06 01.4	+0.8
TRWZ	Traveller	2.93	178	P	Pn	13 06 02.0	+1.1
MSWZ	Moikau Station	2.95	184	P	Pn	13 06 02.0	+0.9
BHW	Baring Head	2.98	190	P	Pn	13 06 02.4	+1.0
PLWZ	Palliser	3.10	184	P	Pn	13 06 03.6	+0.7
TUWZ	Tuamarina	3.20	202	P	Pn	13 06 05.9	+1.9
NNZ	Nelson	3.20	210	P	Pn	13 06 04.9	+0.8
TKNZ	Takaka Hill	3.23	217	P	Pn	13 06 04.7	+0.2
QRZ	Quartz Range	3.30	224	P	Pn	13 06 06.0	+0.7
QRZ	Quartz Range	3.30	224	P	S	13 06 46.2	-0.5
QRZ	Quartz Range	3.30	224	P	Pn	13 06 05.8	+0.5
BSWZ	Blackbirch Sta	3.48	201	P	Pn	13 06 08.6	+1.1
MRNZ	Matariki Terra	3.62	215	P	Pn	13 06 09.7	+0.6
THZ	Tophouse	3.85	211	P	Pn	13 06 12.6	+0.5
KHZ	Kahutara	4.22	200	P	Pn	13 06 17.7	+1.2
KHZ	Kahutara	4.22	200	P	Pn	13 06 17.5	+1.0
DSZ	Denniston Nort	4.34	220	P	Pn	13 06 18.3	+0.2
GVZ	Greta Valley S	4.87	202	P	Pn	13 06 25.3	+0.5
LTZ	Lake Taylor	4.97	209	P	Pn	13 06 26.5	+0.5
INZ	Inchbonnie	5.26	215	P	Pn	13 06 30.8	+1.2
OXZ	Oxford	5.52	207	P	Pn	13 06 32.7	-0.3
OKCZ	Okains Bay	5.57	199	P	Pn	13 06 34.2	+0.6
MOZ	McQueen's Vall	5.66	202	P	Pn	13 06 34.2	-0.6
RACZ	Rakaia	5.84	205	P	Pn	13 06 36.7	-0.3
MHCZ	Mount Hutt	5.88	209	P	Pn	13 06 37.9	+0.4
WACZ	Wakanui South	6.13	206	P	Pn	13 06 40.5	-0.3
GCSZ	Gaunt Creek Bo	6.24	217	P	Pn	13 06 44.5	+2.3
ARCZ	Arundel	6.38	210	P	Pn	13 06 44.1	+0.1
TMZ	Timaru	6.81	208	P	Pn	13 06 49.8	+0.2
ODZ	Otahua Downs	7.51	207	P	Pn	13 07 00.0	+1.3
ODZ	Otahua Downs	7.51	207	P	Pn	13 06 59.2	+0.6

*IDC **24** 13:13:56.5±0.8, 52°.36N×168°.56W, h0km, mb3.9/19, mbtmp3.8/20, ML3.1/1, Error ellipse: s-maj=24.4km s-min=14.5km az=171.0*
*AEIC **24** 13:14:01.0±2.5, 52°.2N±0°.2×168°.4W±0°.1, h25km±8km, Error ellipse: s-maj=28.0km s-min=8.1km az=159.0*
*NEIC **24** 13:14:04.3±1.4, 52°.9N±0°.2×168°.9W±0°.1, h35km±2km, mb3.8/15, ML3.5/6, ML3.2(AEIC), Error ellipse: s-maj=29.7km s-min=8.0km az=158.0*

ISC 24 13:14:01.2±0.8, 52°.5N±0°.1×168°.54W±0°.07, h29km, n60, σ1§33/54, mb3.9/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	1.85	41		Pn	13 14 32.2	+1.3
LVA	Lava Point	2.27	41	Pn	Pn	13 14 38.1	+1.4
LVA				IAML		13 15 22.5	
	comp=E,388nm,0.7s						
ATKA	Atka Island	3.48	268	Pn	Pn	13 14 53.9	+0.6
ATKA				IAML		13 15 44.9	
	comp=E,47nm,1.0s						
GSTR	Great Sitkin T	4.63	268	Pn	Pn	13 15 10.6	+1.4
ADK	Adak	5.04	267	Pn	Pn	13 15 15.4	+0.6
ADK				IAML		13 16 35.6	
	comp=E,27nm,1.1s						
ADK				IAML		13 16 36.9	
	comp=E,48nm,1.0s						
KIWB	Kanaga Island	5.33	267	Pn	Pn	13 15 19.8	+1.0
CHGN	Chignik	7.05	53	Pn	Pn	13 15 45.2	+2.9
SII	Sitkinak Islan	9.30	58	Pn	Pn	13 16 15.8	+2.7
KDAK	Kodiak Island	10.56	53	Pn	Pn	13 16 30.4	0.0
	comp=E,0.7nm,0.3s,baz=295,slow=19,SNR=23						
KDAK				Sn	Sn	13 18 23.2	-4.4
	comp=E,0.1nm,0.3s,baz=311,slow=20,SNR=1.6						
Q19K	Cape Douglas,	10.60	46	Pn	Pn	13 16 33.3	+2.4
J14K	Nanvaranak Lak	10.65	13	Pn	Pn	13 16 30.6	-0.9
SYI	Shuyak Island	11.01	50	Pn	Pn	13 16 37.8	+1.3
CNPM	China Poot	11.97	47	Pn	Pn	13 16 51.1	+1.5
SEW	Seward	13.04	47	Pn	Pn	13 17 04.0	-0.1
O22K	Cooper Landing	13.10	45	Pn	Pn	13 17 05.4	+0.5
K20K	Telida	13.31	29	Pn	Pn	13 17 06.8	-1.1
RC01	Rabbit Creek A	13.40	43	Pn	Pn	13 17 09.4	+0.2
SML	Sawmill	14.35	41	Pn	Pn	13 17 22.6	+0.4
SCM	Sheep Creek Mo	14.78	42	Pn	Pn	13 17 27.0	-1.0
EYAK	Cordova Ski Ar	14.89	48	Pn	Pn	13 17 28.5	-0.9
KLU	Klutina	15.21	45		Pn	13 17 32.2	-1.5
KLU				IAmb	IAmb	13 17 35.4	
	comp=Z,9.7nm,1.2s						
M24K	Tolsona, Glenn	15.39	42	Pn	Pn	13 17 35.8	-0.2
GLB	Gilahina Butte	16.11	46	Pn	Pn	13 17 44.5	-0.8
VRDI	Verde Repeater	16.19	47	Pn	Pn	13 17 46.0	-0.4
VRDI				IAmb	IAmb	13 17 51.5	
	comp=Z,9.8nm,1.4s						
ILAR	Eielson Array	16.59	34	Pn	Pn	13 17 49.8	-1.5
	comp=Z,0.1nm,0.3s,baz=225,slow=11,SNR=4.2						
	comp=Z,0.5nm,0.9s						
MENT	Mentasta	16.78	42		Pn	13 17 55.9	+2.1
MENT				IAmb	IAmb	13 18 37.1	
	comp=Z,8.4nm,1.4s						
SCRK	Sand Creek	17.18	38	Pn	Pn	13 17 58.7	-0.2
M27K	Edge Creek, AK	17.31	45	Pn	Pn	13 18 00.7	+0.2
J26L	Joseph Creek	17.61	37		Pn	13 18 04.9	+0.7
J26L				IAmb	IAmb	13 18 14.8	
	comp=Z,7.8nm,1.3s						
HYT	Haines Junctio	18.84	51		Pn	13 18 21.2	+1.9
HYT				IAmb	IAmb	13 18 45.6	
	comp=Z,4.7nm,0.8s						
O30N	Mendenhall	19.51	52	IAmb	IAmb	13 18 47.3	
	comp=Z,5.2nm,1.0s						
PETK	Petropavlovsk-	20.32	285	P	P	13 18 34.1	-0.6
	comp=Z,3.4nm,0.5s,baz=82,slow=13,SNR=33						
	comp=Z,3.4nm,0.5s						
M31M	Drury Creek, Y	20.60	48	P	P	13 18 39.5	+1.9
M31M				IAmb	IAmb	13 18 55.9	
	comp=Z,4.2nm,0.8s						
G29M	Pine Creek	20.81	34	P	P	13 18 39.9	0.0
FARO	Faro, Yukon	21.08	49	P	P	13 18 45.1	+2.2
FARO				IAmb	IAmb	13 19 07.2	
	comp=Z,4.9nm,1.0s						
H31M	Peel River	21.68	39	P	P	13 18 49.5	+0.2
H31M				IAmb	IAmb	13 19 00.8	
	comp=Z,6.0nm,1.1s						
YKA	Yellowknife Ar	29.80	49	P	P	13 20 06.1	+1.1
	comp=Z,0.1nm,0.4s,baz=275,slow=8.9,SNR=4.0						
	comp=Z,0.1nm,0.4s						
NVAR	Mina Array Bea	37.16	92	P	P	13 21 08.8	-0.8
	comp=Z,0.3nm,0.8s,baz=313,slow=7.1,SNR=2.0						
	comp=Z,0.3nm,0.8s						
H11N2	WAKE ISLAND Hy	37.85	220	T	T	14 02 03.6	
	baz=28,slow=74						
H11N3	WAKE ISLAND Hy	37.86	220	T	T	14 02 03.8	
	baz=28,slow=74						
H11N1	WAKE ISLAND Hy	37.87	220	T	T	14 02 03.8	
	baz=28						
H11S1	WAKE ISLAND Hy	39.03	219	T	T	14 03 13.9	
	baz=23,slow=76,SNR=3.6						
H11S2	WAKE ISLAND Hy	39.05	219	T	T	14 03 09.3	
	baz=23,slow=76,SNR=3.5						
H11S3	WAKE ISLAND Hy	39.05	219	T	T	14 03 31.2	
	baz=23,slow=76,SNR=5.1						
PDAR	Pinedale Array	39.89	80	P	P	13 21 33.4	+0.9
	comp=Z,1.1nm,1.0s,baz=293,slow=3.0,SNR=9.4						
	comp=Z,1.1nm,1.0s						
MJAR	Matsushiro Arr	40.20	268	P	P	13 21 34.9	0.0
	comp=Z,1.2nm,0.8s,baz=61,slow=7.1,SNR=4.1						
	comp=Z,1.2nm,0.8s						
KSRS	Korea Array	45.89	277	P	P	13 22 21.2	+0.4
	comp=Z,1.7nm,0.8s,baz=64,slow=8.1,SNR=7.7						
	comp=Z,1.7nm,0.8s						
SPITS	Spitsbergen Ar	49.58	359	P	P	13 22 48.7	-0.3
	comp=Z,13nm,1.0s,baz=357,slow=6.2,SNR=2.0						
	comp=Z,13nm,1.0s						
SONM	Songino Array	51.68	301	P	P	13 23 05.2	-0.1
	comp=Z,0.7nm,0.6s,baz=64,slow=5.7,SNR=4.7						
	comp=Z,0.7nm,0.6s						
TXAR	Lajitas Array	52.24	90	P	P	13 23 08.9	-0.8
	comp=Z,0.3nm,0.7s,baz=297,slow=5.8,SNR=4.4						
	comp=Z,0.3nm,0.7s						
KURBB	Kurchatov Arra	62.74	319	P	P	13 24 23.9	+0.7
	comp=Z,1.2nm,0.2s,baz=45,slow=7.6,SNR=1.7						
	comp=Z,1.2nm,0.2s						
BVAR	Borovoye Array	63.91	325	P	P	13 24 31.4	+0.5
	comp=Z,0.9nm,0.6s,baz=46,slow=5.6,SNR=5.1						
	comp=Z,0.9nm,0.6s						
MKAR	Makanchi Array	64.10	314	P	P	13 24 32.0	-0.2
	comp=Z,1.2nm,0.8s,baz=54,slow=6.3,SNR=11						
	comp=Z,1.2nm,0.8s						
FINES	FINESS Array B	65.84	352	P	P	13 24 43.6	+0.4
	comp=Z,2.6nm,0.7s,baz=13,slow=7.1,SNR=15						
	comp=Z,2.6nm,0.7s						
NOA	NORSAR Array B	66.84	0	P	P	13 24 50.3	+0.6
	comp=Z,0.6nm,0.7s,baz=2.0,slow=2.4,SNR=1.9						
	comp=Z,0.6nm,0.7s						
HFS	Hagfors	67.74	359	P	P	13 24 55.5	+0.1
	comp=Z,1.4nm,0.4s,baz=9.5,slow=4.4,SNR=11						
	comp=Z,1.4nm,0.4s						
CMAR	Chiang Mai Arr	77.09	283	P	P	13 25 52.6	+0.8
	comp=Z,0.5nm,0.3s,baz=22,slow=6.3,SNR=9.6						
	comp=Z,0.5nm,0.3s						
ESDC	Sonseca Array	87.26	12	P	P	13 26 44.5	-0.3
	comp=Z,0.5nm,0.7s,baz=354,slow=6.3,SNR=4.7						
	comp=Z,0.5nm,0.7s						
WRA	Warramunga Arr	87.46	232	P	P	13 26 43.7	-2.0
	comp=Z,0.5nm,0.9s,baz=35,slow=5.0,SNR=1.5						
	comp=Z,0.5nm,0.9s						
ASAR	Alice Springs	90.85	231	P	P	13 27 00.6	-1.1
	comp=Z,0.2nm,0.7s,baz=28,slow=4.7,SNR=5.0						
	comp=Z,0.2nm,0.7s						

ISC 24 13:23:36.4±0.9, 61°.17N±0°.03×137°.73W±0°.03, h10km, n14, σ0§56/23, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYT	Haines Junctio	0.36	162	P	Pg	13 23 43.9	+0.3
	baz=341,SNR=113						
HYT				S	Sg	13 23 48.4	0.0
	baz=341						
YUK6	Outpost Mounta	0.38	234	P	Pg	13 23 44.3	+0.3
	baz=54,SNR=89						
YUK6				S	Sg	13 23 49.4	+0.3
	baz=54						
YUK4	Talbot Arm	0.48	292	P	Pg	13 23 45.8	+0.1
	baz=125,SNR=109						
YUK4				S	Sg	13 23 51.8	-0.2
	baz=125						
O30N	Mendenhall	0.90	116	P	Pg	13 23 53.7	0.0
	baz=297,SNR=17						
O30N				S	Sg	13 24 05.6	+0.3
	baz=297						
O29M	Mount Kennedy	0.96	206	P	Pg	13 23 54.5	-0.5
	baz=25						
O29M				S	Sg	13 24 07.4	-0.1
	baz=25						
N31M	Braeburn, Yuko	0.99	70	S	Sb	13 24 09.2	+0.3
	baz=252						
P30M	Million Dollar	1.12	160	P	Pb	13 23 57.1	-0.8
	baz=340						
P30M				S	Sg	13 24 11.7	-0.7
	baz=340						
O28M	Mount Upton	1.26	253	S	Sb	13 24 16.4	-0.5
	baz=71						
M29M	Somme Creek	1.33	345	Pb	Pn	13 24 01.3	+0.2
	baz=165						
M29M				S	Sb	13 24 18.6	0.0
	baz=165						
M30M	Minto, Yukon	1.48	17	Pb	Pb	13 24 04.3	+0.2
	baz=198						
M30M				Sb	Sg	13 24 23.8	-0.3
	baz=198						
WHY	Whitehorse	1.48	109	Sg	Sg	13 24 25.3	+1.2
	baz=291						
M31M	Drury Creek, Y	1.90	55	Sb	Sg	13 24 37.0	-0.4
	baz=238						
L29M	L29M	1.96	355	Pg	Pg	13 24 13.3	-0.6
	baz=175						
L29M				Sb	Sg	13 24 38.3	-1.0
	baz=175						
M27K	Edge Creek, AK	2.30	303	Pg	Pb	13 24 19.2	+1.1
	baz=120						

*BJI **24** 13:29:28.9, 0°.26N×122°.54E, h105km, mB5.2/28, mb5.4/78*
*MOS **24** 13:29:32.3±0.9, 0°.54N×122°.22E, h113km, mb5.2/53, Error ellipse: s-maj=7.9km s-min=4.4km az=107.3*
*IDC **24** 13:29:32.5±0.4, 0°.49N×122°.34E, h103km±2km, mb4.8/24, mbtmp5.2/29, MS3.7/42, Error ellipse: s-maj=12.5km s-min=6.5km az=73.0*
*NEIC **24** 13:29:33.2, 0°.51N×122°.21E, h100km*
*DJA **24** 13:29:33.3±0.1, 1°.N±1°.×12°.2E±°., h101km±1km, M5.2/121, mb5.5/121, mB5.7/83, MLv5.7/29, Mw(mB)5.2/83, MwMwp4.7/7, Mwp5.0/7*
*NEIC **24** 13:29:33.5±2.0, 0°.49N±0°.06×122°.18E±0°.06, h98km±4km, mb5.3/120, Mwws 1.1/32, Error ellipse: s-maj=9.5km s-min=7.2km az=223.0*
*NEIC **24** 13:29:33.2, 0°.51N×122°.00E, h100km, Moment Tensor Solution. Duration: 1§8 Moment tensor: Scale 10^{16}Nm; M_{rr}1.70; $M_{\theta\theta}$-3.74; $M_{\phi\phi}$2.04; $M_{r\theta}$-3.74; $M_{\theta\phi}$-0.81; $M_{\phi r}$1.03; Fault plane solution: $M_0$4.99000×10^{16} NP1:ϕ_s42.84000°, δ30.36000°, λ26.74000°. NP2:ϕ_s289.34000°, δ76.85000°, λ117.62000°. Principal axes: T 4.3256, Plg50.0000°, Azm230.0000°; N 1.3233, Plg27.0000°, Azm103.0000°; P -5.6489, Plg27.0000°, Azm358.0000°;*
*GCMT **24** 13:29:34.1±0.1, 0°.59N±0°.01×122°.20E±0°.01, h104km±2km, MW5.1/127, Moment Tensor Solution. s64,c87; s127,c196; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.01±.13; $M_{\theta\theta}$-2.00±.13; $M_{\phi\phi}$0.00±.14; $M_{r\theta}$-4.33±.07; $M_{\theta\phi}$-0.33±.13; $M_{\phi r}$1.27±.08; Best double couple: $M_0$4.94300×10^{16} NP1:ϕ_s65.00000°, δ14.00000°, λ52.00000°. NP2:ϕ_s284.00000°, δ79.00000°, λ99.00000°. Principal axes: T 5.0840, Plg55.0000°, Azm205.0000°; N -0.2790, Plg9.0000°, Azm102.0000°; P -4.8020, Plg33.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 13:29:32.5±0.2, 0°.44N±0°.03×122°.24E±0°.04, h102km±1km, h102km:pP-P, n662, σ1§49/732, mb5.2/163, 18C-10D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.30	278	P	Pn	13 29 47.4	+0.1
MRSI				S	Sn	13 29 56.7	-1.7
APSI	Ampana	1.46	204	P	Pn	13 30 00.6	+2.1
LUWI	Luwuk	1.56	160	Pn	Pn	13 30 01.5	+1.8
LUWI	Luwuk	1.56	160	P	Pn	13 30 02.1	+2.5
LUWI	Luwuk	1.56	160	P	Pn	13 30 01.9	+2.3
TOLI2	Tolitoli	1.61	295	Pn	Pn	13 29 59.3	-0.9
KMSI	Cibinong	1.74	85	P	Pn	13 30 03.2	+1.3
PCI	Palu	2.75	241	P	Pn	13 30 15.5	+0.5
TTSI	Tana Toraja	4.22	215	P	Pn	13 30 37.1	+2.3
KDI	Kendari	4.38	175	P	Pn	13 30 38.5	+1.6
SANI	Sanana	4.49	123	P	Pn	13 30 38.5	+0.2
SANI	Sanana	4.49	123	P	Pn	13 30 38.3	0.0
SGSI	Sangihe	4.61	45	P	Pn	13 30 39.4	-0.6
SPSI	Sidrap Palu	5.02	209	P	Pn	13 30 47.7	+2.1
SMKI	Samarinda	5.11	260	P	Pn	13 30 47.9	+1.1
	14nm14μm780nm,0.8s						
TNTI	Ternate	5.13	86	Pn	Pn	13 30 47.7	+0.5
TNTI	Ternate	5.13	86	P	Pn	13 30 48.2	+1.1
TNTI	Ternate	5.13	86	P	Pn	13 30 48.0	+0.9
	184nm,0.6s						
LBMI	Labuha	5.37	101	P	Pn	13 30 51.4	+1.1
	13nm7μm541nm,0.7s						
BKB	Balikpapan	5.61	253	Pn	Pn	13 30 53.6	+0.1
BKB	Balikpapan	5.61	253	P	Pn	13 30 54.7	+1.2
BKB	Balikpapan	5.61	253	P	Pn	13 30 54.6	+1.1
BBSI	Bau Bau	5.89	177	P	Pn	13 30 59.4	+2.0
KAPI	Kappang	5.96	205	Pn	Pn	13 30 59.7	+1.3
KAPI	Kappang	5.96	205	P	Pn	13 30 59.9	+1.6
	374nm,0.4s,baz=15,slow=6.3,SNR=163						
KAPI				S	Sn	13 32 07.1	+1.9
	148nm,0.5s,baz=45,slow=20,SNR=1.1						
KAPI	Kappang	5.96	205	P	Pn	13 30 59.8	+1.5
KAPI				S	Sn	13 32 07.6	+2.4
KAPI	Kappang	5.96	205	P	Pn	13 31 00.0	+1.7
MYLDM	Lahad Datu	6.01	322	Pn	Pn	13 30 59.8	+0.7
MYLDM	Lahad Datu	6.01	322	P	Pn	13 31 02.1	+3.0
NLAI	Namlea	6.07	127	P	Pn	13 31 01.9	+2.0
	6.1nm8μm711nm,0.8s						
BKSI	Bulukumba	6.10	200	P	Pn	13 31 01.9	+1.7
	2.3nm6μm650nm,0.6s						
BSSI	Bau Bau, Buton	6.76	195	P	Pn	13 31 10.7	+1.4
	2.1nm2μm5μm576nm,0.6s						
AAI	Ambon	7.22	125	P	Pn	13 31 18.6	+3.1
	1.7nm5μm534nm,0.8s						
DAV	Davao City (W)	7.38	27	Pn	Pn	13 31 18.6	+0.9
DAV	Davao City (W)	7.38	27	P	Pn	13 31 19.9	+2.2
	567nm,0.4s,baz=146,slow=1.6,SNR=17						
DAV				S	Sn	13 32 41.4	+1.4
	1μm,0.8s,baz=108,slow=23,SNR=7.4						
DAV	Davao City (W)	7.38	27	P	Pn	13 31 20.6	+2.9
DAV				S	Sn	13 32 43.7	+3.7
DAV	Davao City (W)	7.38	27	P	Pn	13 31 18.7	+1.0
DAV	Davao City (W)	7.38	27	P	Pn	13 31 19.0	+1.3
MSAI	Masohi	7.67	119	P	Pn	13 31 24.5	+2.9
	2.0nm3μm444nm,0.8s						
KKM	Kota Kinabalu	8.20	313		Pn	13 31 28.4	-0.5
KKM	Kota Kinabalu	8.20	313	P	Pn	13 31 30.4	+1.5
MMRI	Maumere	9.01	180	Pn	Pn	13 31 40.9	+1.0
MMRI	Maumere	9.01	180	P	Pn	13 31 43.4	+3.5
MMRI	Maumere	9.01	180	P	Pn	13 31 41.2	+1.3
	3μm245nm,0.6s						
BNDI	Bandanaira	9.10	123	P	Pn	13 31 42.2	+1.1
BNDI	Bandanaira	9.10	123	P	Pn	13 31 43.1	+2.0
	617nm,0.8s						
SWI	Sorong	9.11	98	P	Pn	13 31 42.0	+0.8
	83nm,0.7s						
SBUM	Sibu	10.22	281		Pn	13 31 55.2	-1.0
SBUM	Sibu	10.22	281	P	Pn	13 31 58.6	+2.3
PLAI	Plampang	10.22	206	P	Pn	13 31 59.3	+3.0
PLAI	Plampang	10.22	206	P	Pn	13 31 57.9	+1.6
	2μm248nm,0.8s						
WSI	Waingapu	10.22	191	P	Pn	13 31 59.9	+3.6
	3μm368nm,0.9s						
SOEI	Soe	10.32	169	Pn	Pn	13 31 59.7	+1.9
SOEI	Soe	10.32	169	P	Pn	13 31 59.7	+1.9
SOEI	Soe	10.32	169	P	Pn	13 32 00.0	+2.2
	2μm3μm287nm,0.9s						
WBSI	Waikabubak, Su	10.40	196	P	Pn	13 32 00.8	+1.9
	163nm,0.8s						
FAKI	Fak Fak	10.54	108		Pn	13 32 00.0	-0.7
FAKI	Fak Fak	10.54	108	P	Pn	13 32 01.9	+1.2
FAKI	Fak Fak	10.54	108	P	Pn	13 31 59.4	-1.3
TWSI	Taliwang, Sumb	10.56	210	P	Pn	13 31 59.3	-1.7
	2μm247nm,1.0s						
BASI	Baing, Sumba	10.71	189	P	Pn	13 32 06.6	+3.6
	4μm343nm,1.4s						
STKI	Sintang	10.77	268	P	Pn	13 32 04.3	+0.5
	242nm,1.1s						
SRBI	Singaraja	10.99	219	P	Pn	13 32 09.4	+2.7
	3μm260nm,1.1s						
KMMI	Kalianget	11.11	228	P	Pn	13 32 12.4	+4.0
	4μm397nm,1.1s						
ABJI	Asem Bagus	11.43	224	P	Pn	13 32 14.9	+2.2
	3μm299nm,1.2s						
DNP	Denpasar	11.45	218	P	Pn	13 32 16.1	+3.2
JAGI	Jajag, Banyuwa	11.97	222		Pn	13 32 20.9	+1.0
JAGI	Jajag, Banyuwa	11.97	222	P	Pn	13 32 22.6	+2.7
JAGI	Jajag, Banyuwa	11.97	222	P	Pn	13 32 21.5	+1.6
KSM	Kuching	11.98	275		Pn	13 32 19.5	-0.5
KSM	Kuching	11.98	275	P	Pn	13 32 20.7	+0.7
GRJI	Gresik	12.17	233	P	Pn	13 32 25.5	+2.9
	3μm195nm,1.0s						
SAUI	Saumlaki	12.31	133		Pn	13 32 26.4	+2.1
SAUI	Saumlaki	12.31	133	P	Pn	13 32 27.0	+2.6
GMJI	Gumukmas	12.32	225	P	Pn	13 32 24.5	0.0
	3μm279nm,1.1s						
TBJI	Tambak Boyo	12.63	235	P	Pn	13 32 30.8	+2.2
	3μm369nm,1.0s						
NGJI	Ngawi	13.26	234	P	Pn	13 32 38.4	+1.6
	241nm,1.2s						
TGY	Tagaytay City	13.64	355	P	Pn	13 32 43.1	+1.2
	213nm,0.4s,baz=151,slow=9.8,SNR=5.2						
SMRI	Semarang	13.93	238		Pn	13 32 46.7	+1.1
SMRI	Semarang	13.93	238	P	Pn	13 32 48.8	+3.2
SMRI	Semarang	13.93	238	P	Pn	13 32 48.1	+2.5
	1μm110nm,0.7s						
PCJI	Pacitan	13.97	232	P	Pn	13 32 48.7	+2.6
	5μm543nm,1.4s						
UGM	Wanagama	14.33	234	Pn	Pn	13 32 51.6	+0.8
UGM	Wanagama	14.33	234	P	Pn	13 32 53.7	+2.9
UGM	Wanagama	14.33	234	P	Pn	13 32 50.3	-0.5
	211nm,1.2s						
YOGI	Yogyakarta	14.46	235	P	Pn	13 32 55.1	+2.6
	3μm434nm,0.9s						
TPI	Tanjungpandan	14.93	258	P	Pn	13 32 59.2	+0.8
DRS	Darwin Rock St	15.40	146	P	Pn	13 33 06.1	+1.7
JCJI	Jatiwangi	15.55	244	P	P	13 33 10.7	+2.3
	6μm458nm,1.3s						
MTN	Manton Dam	15.87	147	Pn	Pn	13 33 11.4	+1.2
MTN	Manton Dam	15.87	147	P	Pn	13 33 11.8	+1.6
	comp=Z,266nm,0.9s						
MTN	Manton Dam	15.87	147	P	Pn	13 33 11.6	+1.4
CMJI	Cimerak	15.99	239	P	P	13 33 13.6	+0.3
	comp=Z,3μmcomp=Z,202nm,1.0s						
LEM	Lembang	16.28	243	P	P	13 33 18.3	+1.7
	comp=Z,156nm,0.7s,baz=65,slow=9.1,SNR=38						
LEM	Lembang	16.28	243	P	P	13 33 18.3	+1.7
	comp=Z,3μmcomp=Z,173nm,0.7s						
PPBI	Pangkal Pinang	16.31	261	P	Pn	13 33 15.9	+0.2
KDU	Kakadu	16.52	142	P	Pn	13 33 19.9	+1.6
	comp=Z,101nm,0.8

QIZ pmax pmax
comp=Z,480nm,3.7s
QIZ LR LR
comp=Z,310nm,6.6s
QIZ Qiongzhong 22.12 327 P **P** **13 34 20.8 +0.9**
UBPT Khong Chiam 22.18 312 P **P** **13 34 21.9 +1.3**
TWGBT Beinan 22.28 357 P **P** **13 34 22.0 +0.5**
PPSI Pulau Pagai 22.45 262 P **P** **13 34 24.0 +0.6**
comp=Z,3μmcomp=Z,405nm,1.0s
MNSI Mandailing Nat 22.66 271 P **P** **13 34 26.0 +0.4**
comp=Z,2μmcomp=Z,186nm,0.7s
TPUB Ta-pu 22.78 356 P **P** **13 34 26.8 +0.1**
TPUB Ta-pu 22.78 356 P **P** **13 34 28.3 +1.6**
YULB Yu-li 22.84 358 P **P** **13 34 27.8 +0.6**
HKPS Hong Kong Po S 23.10 341 P **P** **13 34 30.1 +0.3**
HKPS Hong Kong Po S 23.10 341 P **P** **13 34 30.0 +0.3**
SISI Saibi 23.22 266 P **P** **13 34 30.4 -0.6**
comp=Z,4μmcomp=Z,301nm,0.9s
SSLB Suanglung 23.25 357 P **P** **13 34 31.1 -0.1**
SSLB Suanglung 23.25 357 P **P** **13 34 31.8 +0.6**
WB0 Warramunga Arr 23.34 150 P **P** **13 34 31.9 -0.2**
RPSI Rantau Prapat 23.42 276 P **P** **13 34 33.0 +0.1**
RPSI Rantau Prapat 23.42 276 **S** **13 38 36.4 -2.1**
PSI Prapat 23.43 276 PcP **PcP** **13 38 16.1 -0.6**
comp=Z,1.9nm,0.3s,baz=157,slow=5.3,SNR=6.1
PSI S **S** **13 38 36.3 -2.5**
comp=Z,2.2nm,0.3s,baz=350,slow=23,SNR=1.7
PSI LR LR 13 44 08.3
comp=Z,237nm,21.7s,baz=104,slow=37
PSI Prapat 23.43 276 P **P** **13 34 33.5 +0.4**
WRAB Tennant Creek 23.46 150 P **P** **13 34 33.0 -0.1**
WRAB Tennant Creek 23.46 150 *c iP* **P** **13 34 32.9 -0.3**
WRAB pmax pmax
comp=Z,395nm,1.1s
WRA Warramunga Arr 23.47 150 P **P** **13 34 33.3 0.0**
comp=Z,231nm,0.9s,baz=324,slow=10,SNR=423
WRA PcP **PcP** **13 38 16.0 -0.5**
comp=Z,5.0nm,0.4s,baz=323,slow=2.3,SNR=7.9
WRA S **S** **13 38 34.2 -5.0**
comp=Z,1.6nm,0.6s,baz=336,slow=16,SNR=5.2
WRA ScP **ScP** **13 41 43.1 -2.5**
comp=Z,7.3nm,1.0s,baz=335,slow=2.8,SNR=9.9
WRA LR LR 13 43 59.2
comp=Z,184nm,20.0s,baz=349,slow=37
comp=Z,231nm,0.9s
NACB Ninganchiao 23.61 359 P **P** **13 34 34.4 0.0**
TSI Tuntungan 23.86 278 P **P** **13 34 37.9 +1.1**
YOJ Yonaguni jima 23.90 2 P **P** **13 34 37.7 +0.8**
YOJ Yonaguni jima 23.90 2 P **P** **13 34 38.0 +1.0**
YOJ Yonaguni jima 23.90 2 P **P** **13 34 37.7 +0.8**
SRIT Nakonsritamara 23.96 290 P **P** **13 34 39.6 +1.9**
PBSI Pulau Batu 23.97 269 P **P** **13 34 37.7 -0.1**
comp=Z,2μmcomp=Z,216nm,0.9s
YHNB Yeheng 24.11 358 P **P** **13 34 39.7 +0.7**
GIRL Giralia 24.23 198 P **P** **13 34 41.1 +1.1**
GIRL Giralia 24.23 198 P **P** **13 34 41.7 +1.7**
QZH Quanzhou 24.62 352⇑ *iP* **P** **13 34 45.8 +2.3**
QZH pP **pwP** **13 35 07.0 +1.3**
QZH sP **sP** **13 35 18.6 +0.8**
QZH S **S** **13 38 58.9 +1.4**
QZH pmax pmax
comp=Z,100nm,0.9s
KCSI Kotacane, Aceh 24.64 277 P **P** **13 34 44.0 0.0**
comp=Z,2μmcomp=Z,289nm,0.8s
GSI Gunungsitoli 24.68 272 P **P** **13 34 43.6 -0.7**
GSI Gunungsitoli 24.68 272 P **P** **13 34 43.9 -0.4**
GSI Gunungsitoli 24.68 272 P **P** **13 34 43.7 -0.6**
comp=Z,3μmcomp=Z,305nm,0.9s
NAYO Nakonayok 24.87 305 P **P** **13 34 47.6 +1.7**
COEN Coen 25.18 125 P **P** **13 34 49.8 +1.0**
COEN Coen 25.18 125 P **P** **13 34 50.2 +1.4**
MANU Manus Island 25.24 96 P **P** **13 34 49.4 0.0**
NONG Nongkai 25.68 314 P **P** **13 34 54.8 +1.6**
LHMI Lhok Sumawe 25.70 281 IAmb IAmb 13 34 57.7
comp=Z,106nm,0.7s
LHMI Lhok Sumawe 25.70 281 P **P** **13 34 54.7 +1.2**
LHMI Lhok Sumawe 25.70 281 P **P** **13 34 54.3 +0.8**
comp=Z,148nm,0.7s
SNSI Sinabang, Aceh 25.98 275 P **P** **13 34 54.5 -1.6**
comp=Z,2μmcomp=Z,134nm,0.8s
WRKA Warakurna 25.99 167 P **P** **13 34 56.7 +0.6**
MLSI Meulaboh, Aceh 26.09 279 P **P** **13 34 56.9 -0.2**
comp=Z,215nm,1.0s
ASAR Alice Springs 26.50 155 P **P** **13 35 01.4 +0.7**
comp=Z,59nm,0.8s,baz=344,slow=14,SNR=624
ASAR PcP **PcP** **13 38 22.7 -0.5**
comp=Z,11nm,0.4s,baz=344,slow=2.1,SNR=10
ASAR S **S** **13 39 24.6 -2.9**
comp=Z,9.1nm,0.9s,baz=349,slow=24,SNR=4.9
ASAR ScP **ScP** **13 41 51.6 -2.5**
comp=Z,7.3nm,0.6s,baz=340,slow=2.8,SNR=18
ASAR ScS **ScS** **13 45 40.5 -4.4**
comp=Z,1.6nm,1.0s,baz=313,slow=4.1,SNR=5.2
ASAR LR LR 13 45 57.5
comp=Z,313nm,20.4s,baz=6.0,slow=37
comp=Z,59nm,0.8s
AS01 Alice Springs 26.52 155 P **P** **13 35 01.7 +0.9**
SRDT SRDT 26.72 302 P **P** **13 35 05.1 +2.4**
JOW Kunigami 26.88 12 LR LR 13 44 19.2
comp=Z,124nm,20.9s,baz=137,slow=33
QIS Mount Isa 26.91 142 P **P** **13 35 05.2 +0.9**
BSI Banda Aceh 27.37 281 P **P** **13 35 08.0 -0.5**
MTSU Mount Surprise 28.49 131 P **P** **13 35 19.5 +1.0**
CMAR Chiang Mai Arr 29.06 309 P **P** **13 35 24.4 +0.9**
CMAR Chiang Mai Arr 29.06 309 P **P** **13 35 25.4 +2.0**
comp=Z,12nm,0.9s,baz=140,slow=7.8,SNR=93
CMAR PcP **PcP** **13 38 29.9 +0.4**
comp=Z,7.5nm,0.8s,baz=177,slow=1.9,SNR=12
CMAR S **S** **13 40 10.8 +2.9**
comp=Z,0.4nm,0.3s,baz=133,slow=11,SNR=4.5
CMAR ScP **ScP** **13 42 00.8 -1.3**
comp=Z,6.4nm,0.8s,baz=168,slow=2.5,SNR=21
CMAR LR LR 13 49 41.7
comp=Z,52nm,18.3s,baz=110,slow=42
comp=Z,12nm,0.9s
CHTO Chiang Mai 29.26 310 P **P** **13 35 25.6 +0.4**
CHTO IAmb IAmb 13 35 28.8
comp=Z,53nm,1.0s
CHTO Chiang Mai 29.26 310 P **P** **13 35 25.7 +0.4**
CHTO pmax pmax
comp=Z,53nm,1.0s
GYA Guiyang 29.91 331 P **P** **13 35 32.8 +1.7**
GYA pmax pmax
comp=Z,54nm,0.9s
RABL Rabaul 30.25 99 P **P** **13 35 35.1 +0.9**
WHN Wuhan 30.87 347 P **P** **13 35 41.3 +2.0**
WHN sP **sP** **13 36 17.1 +3.3**
WHN S **S** **13 40 36.5 +0.6**
WHN pmax pmax
comp=Z,160nm,0.9s
OOD Oodnadatta 30.89 156 P **P** **13 35 40.1 +0.5**
KMI Kunming 30.95 324 ⇓*iP* **P** **13 35 42.6 +2.2**
KMI sP sP 13 36 16.4 +1.1
KMI S **S** **13 40 44.0 +6.3**
KMI sS sS 13 41 22.4 +5.1
KMI pmax pmax
comp=Z,41nm,0.8s
KMI LR LR
comp=Z,210nm,11.4s
KMI LR LR
comp=Z,170nm,11.2s
KMI LR LR
comp=Z,320nm,35.3s
NJ2 Nanjing 31.61 355 ⇓*iP* **P** **13 35 47.4 +1.6**
NJ2 pmax pmax
comp=Z,49nm,0.8s
AUAYR Ayr State High 31.70 130 P **P** **13 35 49.2 +2.5**
ENH Enshi 32.06 339 IAmb IAmb 13 35 52.2
comp=Z,62nm,0.8s
ENH Enshi 32.06 339 P **P** **13 35 51.1 +1.3**
PZH PanZhiHua 32.58 324 P **P** **13 35 55.8 +1.3**
PZH pmax pmax
comp=Z,100nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.2s
JCJ Chichijima 32.71 34 P **P** **13 35 54.1 -1.4**
INKA Innaminka 33.17 149 P **P** **13 36 01.3 +1.7**
JNU Nakatsue 33.51 13 P **P** **13 36 01.1 -1.4**
JNU Nakatsue 33.51 13 LR LR 13 48 07.7
comp=Z,87nm,21.7s,baz=181,slow=33
JNU Nakatsue 33.51 13 P **P** **13 36 01.5 -1.0**
NWAO Narrogin (SRO) 33.52 188 P **P** **13 36 02.8 +0.3**
NWAO Narrogin (SRO) 33.52 188 P **P** **13 36 02.9 +0.5**
NWAO Narrogin (SRO) 33.52 188 P **P** **13 36 02.8 +0.3**
NWAO pmax pmax
comp=Z,254nm,0.8s
NWAO Narrogin (SRO) 33.52 188 P **P** **13 36 02.9 +0.3**
QLP Quilpie 34.21 143 P **P** **13 36 10.1 +1.5**
LCRK Leigh Creek 34.27 155 P **P** **13 36 09.9 +0.9**
JMN Monobe 34.87 17 P **P** **13 36 14.4 +0.2**
CD2 Chengdu 35.02 332 P **P** **13 36 16.4 +0.9**
CD2 pmax pmax
comp=Z,150nm,0.9s
LYN LuoYang 35.15 346 ⇓P **P** **13 36 17.8 +1.3**
LYN sP sP 13 36 50.3 -1.0
LYN S **S** **13 41 46.1 +3.9**
LYN ScP **ScP** **13 42 20.6 -1.8**
LYN sS sS 13 42 28.6 +6.5
LYN pmax pmax
comp=Z,160nm,0.8s
LYN pmax pmax
comp=Z,250nm,4.7s
AUALB St Joseph's Co 35.48 186 P **P** **13 36 21.2 +1.8**
BBOO Buckleboo 35.54 160 P **P** **13 36 20.2 +0.2**
XAN Xi'an 35.69 341 ⇓P **P** **13 36 21.9 +0.7**
XAN sP sP 13 36 57.6 +1.5
XAN S **S** **13 41 51.6 +1.1**
XAN ScP **ScP** **13 42 22.9 -1.6**
XAN ScS **ScS** **13 46 27.3 -2.4**
XAN pmax pmax
comp=Z,60nm,0.9s
TIA Tai'an 35.91 353 P **P** **13 36 23.3 +0.2**
TIA pmax pmax
comp=Z,32nm,1.3s
TJN Taejon 36.08 7 P **P** **13 36 25.0 +0.6**
WHYH Whyalla 36.29 158 P **P** **13 36 27.3 +1.0**
JHJ Hachijo jima 2 36.46 25 LR LR 13 52 17.9
comp=Z,59nm,18.2s,baz=357,slow=38
STKA Stephens Creek 36.99 152 P **P** **13 36 33.3 +0.9**
comp=Z,98nm,1.0s,baz=326,slow=8.9,SNR=153
STKA PP **PP** **13 37 57.5 -1.2**
comp=Z,26nm,0.8s,baz=316,slow=11,SNR=3.7
STKA S **S** **13 42 09.2 -1.3**
comp=Z,3.3nm,0.8s,baz=31,slow=16,SNR=2.5
STKA ScP **ScP** **13 42 26.7 -2.6**
comp=Z,11nm,0.8s,baz=314,slow=6.3,SNR=8.2
STKA LR LR 13 52 40.2
comp=Z,131nm,18.6s,baz=336,slow=38
comp=Z,98nm,1.0s
STKA Stephens Creek 36.99 152 P **P** **13 36 32.8 +0.5**
BRDH Bariadhala 37.07 309 LR LR 13 53 04.5
comp=Z,105nm,19.8s,baz=148,slow=38
HTT Hallett 37.16 157 P **P** **13 36 34.8 +1.0**
KSAR Wonju Array Be 37.19 7 P **P** **13 36 34.0 +0.1**
KSAR Wonju Array Be 37.19 7 P **P** **13 36 34.0 +0.1**
KSRS Korea Array 37.21 7 P **P** **13 36 34.4 +0.4**
comp=Z,11nm,0.8s,baz=183,slow=9.9,SNR=63
KSRS ScP **ScP** **13 42 28.1 -1.8**
comp=Z,2.4nm,0.6s,baz=183,slow=3.4,SNR=12
KSRS LR LR 13 52 29.1
comp=Z,70nm,19.5s,baz=195,slow=37
comp=Z,11nm,0.8s
KS19 Wonju Array Si 37.25 7 IAmb IAmb 13 36 35.8
comp=Z,72nm,1.8s
INU Inuyama 37.37 20 P **P** **13 36 34.9 -0.5**
INU Inuyama 37.37 20 P **P** **13 36 34.9 -0.5**
INU sP **sP** **13 37 09.5 -0.8**
HNS HongShan 37.44 350 ⇓P **P** **13 36 36.6 +0.7**
HNS sP **sP** **13 37 11.3 +0.4**
HNS S **S** **13 42 16.1 -0.8**
HNS ScP **ScP** **13 42 29.6 -1.2**
HNS pmax pmax
comp=Z,30nm,1.0s
JGF Kuroka 37.71 20 IAmb IAmb 13 36 38.3
comp=Z,26nm,0.8s
JGF Kuroka 37.71 20 P **P** **13 36 37.5 -0.9**
DL2 Dalian 38.29 359 P **P** **13 36 42.4 -0.7**
DL2 pP **pP** **13 37 05.3 -1.2**
DL2 sP **sP** **13 37 18.1 0.0**
DL2 pmax pmax
comp=Z,60nm,1.2s
GHSS Government Hou 38.36 158 P **P** **13 36 45.2 +1.5**
SHL Shillong 38.50 313 IAmb IAmb 13 37 22.5
comp=Z,51nm,0.9s
SHL Shillong 38.50 313 P **P** **13 36 46.0 +0.6**
SNR=20
AULRC Lightning Ridg 38.55 143 P **P** **13 36 46.9 +1.5**
CMSA Cobar Meteorol 38.80 147 P **P** **13 36 48.8 +1.3**
HNR Honiara 38.80 106 P **P** **13 36 48.0 +0.3**
HNR Honiara 38.80 106 LR LR 13 53 07.0
comp=Z,70nm,19.3s,baz=94,slow=36
HNR Honiara 38.80 106 P **P** **13 36 48.0 +0.3**
HNR pmax pmax
comp=Z,76nm,0.9s
AUMBR Murray Bridge 38.80 157 P **P** **13 36 48.8 +1.3**
MJAR Matsushiro Arr 38.86 21 P **P** **13 36 46.6 -1.3**
comp=Z,63nm,1.0s,baz=193,slow=8.4,SNR=114
MJAR pP **pP** **13 37 11.2 -0.1**
comp=Z,19nm,1.0s,baz=193,slow=8.4,SNR=3.7
MJAR ScP **ScP** **13 42 34.2 -2.1**
comp=Z,7.3nm,1.1s,baz=193,slow=4.0,SNR=10
MJAR LR LR 13 55 34.6
comp=Z,42nm,18.1s,baz=184,slow=40
comp=Z,63nm,1.0s
MAJO Matsushiro 38.86 21 P **P** **13 36 45.8 -2.2**
MAJO IAmb IAmb 13 36 47.6
comp=Z,78nm,1.1s
MAJO Matsushiro 38.86 21 P **P** **13 36 46.7 -1.3**
MAJO Matsushiro 38.86 21 P **P** **13 36 45.8 -2.2**
MAJO pmax pmax
comp=Z,78nm,1.1s
MAJO Matsushiro 38.86 21 P **P** **13 36 46.4 -1.5**
MAJO pP **pP** **13 37 09.8 -1.5**
MAJO sP **sP** **13 37 21.0 -1.9**
MJB9 Matsu-Tunnel 38.86 21 IAmb IAmb 13 36 48.6
comp=Z,76nm,1.1s
LZH Lanzhou 39.38 336 *eP* **P** **13 36 54.3 +1.8**
LZH pP pP 13 37 17.1 +1.2
LZH sP sP 13 37 29.8 +2.2
LZH ScP **ScP** **13 42 37.5 -1.0**
LZH pmax pmax
comp=Z,64nm,1.4s
BJT Baijiatuau 39.78 353 IAmb IAmb 13 36 57.9
comp=Z,78nm,1.4s
BJT Baijiatuau 39.78 353 P **P** **13 36 56.4 +0.8**
BJI Beijing 39.80 353 P **P** **13 36 55.9 +0.2**
BJI ScP **ScP** **13 42 38.3 -1.5**
BJI pmax pmax
comp=Z,18nm,0.6s
BJI pmax pmax
comp=Z,73nm,6.3s
JSD Sado 40.22 20 P **P** **13 36 58.0 -1.2**
JSD IAmb IAmb 13 36 59.0
comp=Z,27nm,0.8s
JSD Sado 40.22 20 P **P** **13 36 58.4 -0.8**
AUDCS Dubbo College 40.96 145 P **P** **13 37 07.2 +1.8**
JMM Marumori 40.98 23 P **P** **13 37 06.0 +0.5**
HHC Hu-ho-hao-te 41.38 348 *eP* **P** **13 37 09.8 +1.0**
HHC sP sP 13 37 43.4 -0.6
HHC S **S** **13 43 18.3 +2.1**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,85nm,5.9s
BTO Baotou 41.50 346 *eP* **P** **13 37 12.8 +3.0**
BTO pP **pP** **13 37 38.5 +5.1**
BTO sP **sP** **13 37 51.3 +6.3**
BTO PP **PnPn** **13 38 55.4 +2.1**
BTO S **S** **13 43 22.6 +4.7**
BTO sS **sS** **13 44 05.5 +6.9**
BTO pmax pmax
comp=Z,57nm,0.9s
BTO pmax pmax
comp=Z,230nm,4.4s
AUPHS Peel High Scho 41.51 142 P **P** **13 37 11.6 +1.7**
ARMA Armidale 41.51 140 P **P** **13 37 11.9 +1.8**
ARMA IAmb IAmb 13 37 14.0
comp=Z,57nm,0.9s
ARMA Armidale 41.51 140 P **P** **13 37 12.4 +2.3**
LSA Lhasa 41.52 317 IAmb IAmb 13 37 13.7
comp=Z,28nm,0.6s
LSA Lhasa 41.52 317 P **P** **13 37 12.9 +2.3**
LSA Lhasa 41.52 317 P **P** **13 37 12.9 +2.3**
MGBR Mount Gambier 41.58 158 P **P** **13 37 11.4 +1.1**
AUMAG Moama Anglican 41.95 152 P **P** **13 37 14.8 +1.4**
PALK Pallekele 41.97 280 P **P** **13 37 14.0 0.0**
PALK IAmb IAmb 13 37 15.1
comp=Z,27nm,0.7s
PALK Pallekele 41.97 280 ScP **ScP** **13 42 48.0 -1.0**
comp=Z,12nm,1.1s,baz=126,slow=2.0,SNR=6.0
PALK LR LR 13 54 47.6
comp=Z,105nm,21.1s,baz=100,slow=36
PALK Pallekele 41.97 280 P **P** **13 37 13.8 -0.2**
PALK Pallekele 41.97 280 P **P** **13 37 14.0 0.0**
PALK pmax pmax
comp=Z,27nm,0.7s
YNG Young 42.37 147 P **P** **13 37 18.5 +1.6**
MSHR Mys Shultsa 42.72 10 *iP* **P** **13 37 19.1 -0.4**
MSHR pmax pmax
comp=Z,22nm,0.7s
CN2 Changchun 43.27 3 *eP* **P** **13 37 26.4 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CAN Canberra 43.46 148 P **P** **13 37 27.5 +1.8**
GEXS Deakin Univers 43.48 155 P **P** **13 37 28.0 +2.2**
TOO Toolangi 43.49 153 P **P** **13 37 27.3 +1.4**
TOO IAmb IAmb 13 37 29.9
comp=Z,39nm,1.1s
TOO Toolangi 43.49 153 P **P** **13 37 27.3 +1.4**
TOO pmax pmax
comp=Z,39nm,1.1s
XLT XiLinHaoTe 43.62 354 *eP* **P** **13 37 27.1 +0.2**
XLT pP pP 13 37 50.5 -0.2
XLT sP sP 13 38 01.3 -0.9
XLT PcP **PcP** **13 39 15.4 +2.8**
XLT ScP **ScP** **13 42 53.1 -2.0**
XLT pmax pmax
comp=Z,38nm,1.4s
JTM Tenmabayashi 43.65 21 P **P** **13 37 27.6 +0.5**
GOMU GeErMu 43.75 327 P **P** **13 37 30.3 +1.9**
GOMU pmax pmax
comp=Z,33nm,0.9s
GTA Gaotai 43.88 335 P **P** **13 37 31.4 +2.3**
GTA sP sP 13 38 07.3 +2.5
GTA ScP **ScP** **13 42 55.3 -1.0**
GTA S **S** **13 43 56.3 +3.4**
GTA ScS **SS** **13 47 14.4 +1.3**
GTA pmax pmax
comp=Z,110nm,0.8s
AUSMG Snowy Mountain 44.09 149 P **P** **13 37 33.1 +2.3**
USA0B Ussuriysk Arra 44.43 10 IAmb IAmb 13 37 34.1
comp=Z,72nm,1.2s
USA0B Ussuriysk Arra 44.43 10 *iP* **P** **13 37 32.8 -0.5**
USRK Ussuriysk Ar. 44.43 10 P **P** **13 37 32.9 -0.3**
comp=Z,25nm,0.7s,baz=196,slow=6.3,SNR=42
comp=Z,25nm,0.7s
MDJ Mudanjiang 44.47 7 IAmb IAmb 13 37 34.5
comp=Z,48nm,0.8s
MDJ Mudanjiang 44.47 7 P **P** **13 37 33.3 -0.3**
MDJ pmax pmax
comp=Z,73nm,0.8s
MDJ Mudanjiang 44.47 7 P **P** **13 37 33.7 +0.1**
BNX BinXian 45.34 5 ⇑P **P** **13 37 39.6 -0.9**
BNX pmax pmax
comp=Z,24nm,1.0s
HYB Hyderabad 46.16 294 *eP* **P** **13 37 48.1 +0.7**
HYB IVmB_BB 13 37 49.6
comp=Z,683nm,1.5s
TEY Ternei 46.20 14⇑ *eP* **P** **13 37 46.6 -0.6**
TEY pmax pmax
comp=E,10.0nm,1.7s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=Z,40nm,1.0s
ASAJ Asahikawa 47.12 20 LR LR 13 55 15.4
comp=Z,77nm,21.8s,baz=7.0,slow=33
ASAJ Asahikawa 47.12 20 P **P** **13 37 54.4 0.0**
ASAJ pmax pmax
comp=Z,105nm,0.8s
JKA Kamikawa-asahi 47.12 20 P **P** **13 37 54.4 0.0**
SANVU Saraoutou 47.13 112 P **P** **13 37 56.4 +1.4**
SANVU pP **pP** **13 38 20.3 +1.9**
DZM Mont Dzumac 48.54 120 *e*LR LR 13 52 08.1
comp=Z,144nm,28.1s
HIA Hailar 48.69 358 IAmb IAmb 13 38 43.2
comp=Z,43nm,1.0s
HIA Hailar 48.69 358 P **P** **13 38 07.0 +0.5**
ULN Ulaanbaatar 49.05 346 P **P** **13 38 09.8 +0.4**
ULN IAmb IAmb 13 38 47.5
comp=Z,62nm,1.0s
ULN Ulaanbaatar 49.05 346 P **P** **13 38 09.7 +0.2**
ULN Ulaanbaatar 49.05 346 *d iP* **P** **13 38 09.2 -0.2**
ULN pmax pmax
comp=Z,42nm,0.9s
ULN Ulaanbaatar 49.05 346 P **P** **13 38 10.1 +0.6**
ULN pP **pP** **13 38 33.5 -0.4**
ULN sP **sP** **13 38 45.6 +0.2**
SONM Songino Array 49.18 346 P **P** **13 38 10.8 +0.4**
SONM Songino Array 49.18 346 P **P** **13 38 10.9 +0.5**
comp=Z,33nm,0.7s,baz=165,slow=8.2,SNR=132
SONM pP **pP** **13 38 34.5 -0.3**
comp=Z,16nm,0.9s,baz=163,slow=8.5,SNR=4.2
SONM sP **sP** **13 38 46.5 +0.1**
comp=Z,55nm,1.0s,baz=166,slow=8.6,SNR=9.2
SONM ScP **ScP** **13 43 15.5 -2.8**
comp=Z,2.1nm,0.7s,baz=161,slow=4.4,SNR=4.9
SONM LR LR 14 00 51.1
comp=Z,71nm,19.1s,baz=171,slow=38
comp=Z,33nm,0.7s
KLR Kul'dur 49.29 8 LR LR 14 01 55.2
comp=Z,60nm,18.4s,baz=200,slow=40
KLR Kul'dur 49.29 8 *ceP* **P** **13 38 10.1 -0.9**
KLR pmax pmax
comp=Z,18nm,1.0s
YSS Yuzhno-Sakhali 49.68 18 P **P** **13 38 13.3 -0.7**
YSS IAmb IAmb 13 38 14.4
comp=Z,35nm,0.8s
YSS Yuzhno-Sakhali 49.68 18 P **P** **13 38 14.1 +0.1**
YSS Yuzhno-Sakhali 49.68 18⇑ *eP* **P** **13 38 13.7 -0.3**
YSS *e* 13 38 36.6
YSS *e* 13 39 32.8
YSS pmax pmax
comp=Z,20nm,0.7s
HEH HeiHe 49.83 4 *eP* **P** **13 38 14.6 -0.5**
HEH pmax pmax
comp=Z,47nm,1.2s
UGL Uglegorsk 51.37 17 *eP* **P** **13 38 26.8 +0.1**
UGL *eS* **S** **13 45 43.5 +5.1**
UGL pmax pmax
comp=Z,200nm,1.0s
GRNR Gornyy 51.58 11 ⇓*iP* **P** **13 38 28.2 -0.1**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,0.9s
CIT Chita 51.92 353 *eP* **P** **13 38 31.0 +0.2**
CIT *e* 13 38 55.3
CIT *e* 13 39 05.6
CIT *e* 13 39 43.0
CIT pmax pmax
comp=Z,86nm,2.6s
ZAK Zakamensk 52.32 345 *eP* **P** **13 38 32.5 -1.4**
ZAK pmax pmax
comp=Z,21nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
WMQ Urumqi 53.03 329 *eP* **P** **13 38 40.8 +1.6**
WMQ sP sP 13 39 16.3 +0.9
WMQ ScP **ScP** **13 43 33.5 -1.4**
WMQ pmax pmax
comp=Z,58nm,0.7s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ Urumqi 53.03 329 P **P** **13 38 40.2 +1.0**
ZEA Zeya 53.28 4 *eP* **P** **13 38 40.0 -0.8**
ZEA *e* 13 39 16.5
ZEA pmax pmax
comp=Z,10.0nm,0.7s
IRK Irkutsk 53.78 346 *eP* **P** **13 38 44.1 -0.4**
IRK *e* 13 39 09.8
IRK pmax pmax
comp=Z,50nm,1.5s
MOY Mondy 54.10 344 *eP* **P** **13 38 47.8 +0.8**
MOY pmax pmax
comp=Z,59nm,1.4s
WUS Wushi 56.18 322 IAmb IAmb 13 39 05.5
comp=Z,50nm,1.1s
NIL Nilore 56.53 311 P **P** **13 39 05.1 +0.5**
NIL Nilore 56.53 311 P **P** **13 39 05.1 +0.5**
NIL pmax pmax
comp=Z,39nm,0.6s
NIL Nilore 56.53 311 P **P** **13 39 05.2 +0.6**
NIL sP **sP** **13 39 39.9 -1.0**

ZSN Zaisan 56.98 331 *e*P **P 13 39 07.2 -0.3**
ZSN pmax pmax
comp=Z,15nm,0.9s
ZSN Zaisan 56.98 331 *e*P **P 13 39 07.2 -0.3**
comp=Z,15nm,0.9s
SHLS Shalkode 57.16 324 *e*P **P 13 39 06.9 -2.1**
SHLS pmax pmax
comp=Z,26nm,1.0s
SHLS Shalkode 57.16 324 *e*P **P 13 39 07.0 -2.1**
comp=Z,26nm,1.0s
PDGK Podgornoye 57.25 324 P **P 13 39 10.5 +0.8**
KSH Kashi 57.35 318 P **P 13 39 12.5 +2.1**
KSH sP sP 13 39 47.3 +0.5
KSH S **S 13 47 03.3 +3.9**
KSH ScS **ScS 13 48 50.8 +0.4**
KSH pmax pmax
comp=Z,23nm,0.9s
TARG Taragay, Kyrgy 57.35 322 IAmb IAmb 13 39 21.3
comp=Z,26nm,0.7s
BOD Bodaibo 57.59 355 *e*P **P 13 39 11.0 -0.5**
BOD pmax pmax
comp=Z,55nm,1.1s
SATY Saty 57.74 323 *e*P **P 13 39 12.7 -0.3**
SATY Saty 57.74 323 *e*P **P 13 39 12.8 -0.3**
MSVF Nonsavu 57.77 111 P **P 13 39 15.6 +1.9**
MSVF IAmb IAmb 13 39 17.1
comp=Z,21nm,0.8s
MSVF Nonsavu 57.77 111 P **P 13 39 15.0 +1.3**
MSVF Nonsavu 57.77 111 P **P 13 39 15.6 +1.9**
MSVF pmax pmax
comp=Z,21nm,0.9s
ZHN Zhinishke 57.78 323 *e*P **P 13 39 12.8 -0.6**
ZHN pmax pmax
comp=Z,15nm,0.9s
ZHN Zhinishke 57.78 323 *e*P **P 13 39 12.8 -0.6**
comp=Z,15nm,0.9s
KPKS Kokpek 57.81 324 *e*P **P 13 39 12.9 -0.6**
KPKS pmax pmax
comp=Z,20nm,0.8s
KPKS Kokpek 57.81 324 *e*P **P 13 39 12.9 -0.6**
comp=Z,20nm,0.8s
MK31 Makanchi Array 57.85 329 IAmb IAmb 13 39 15.6
comp=Z,41nm,1.1s
MK31 Makanchi Array 57.85 329*de*P **P 13 39 14.4 +0.7**
MKAR Makanchi Array 57.85 329 P **P 13 39 14.0 +0.3**
MKAR Makanchi Array 57.85 329 P **P 13 39 14.6 +0.9**
comp=Z,16nm,0.4s,baz=127,slow=8.4,SNR=409
MKAR pP **pP 13 39 39.5 +0.8**
comp=Z,18nm,0.7s,baz=123,slow=8.8,SNR=4.8
MKAR ScP **ScP 13 43 53.3 -2.7**
comp=Z,1.8nm,0.9s,baz=132,slow=4.8,SNR=4.3
MKAR S **S 13 47 06.8 +1.4**
comp=Z,1.6nm,0.9s,baz=142,slow=12,SNR=5.4
MKAR PKPPKP **P'P'df 14 08 57.6 +1.1**
comp=Z,0.3nm,0.8s,baz=306,slow=3.2,SNR=3.2
comp=Z,16nm,0.4s
KDJ Kajisay 57.97 322 IAmb IAmb 13 39 18.1
comp=Z,28nm,0.7s
MAKZ Makanchi 58.02 328 P **P 13 39 15.2 +0.4**
MAKZ IAmb IAmb 13 39 16.7
comp=Z,50nm,1.1s
MAKZ Makanchi 58.02 328 P **P 13 39 15.2 +0.4**
MAKZ pmax pmax
comp=Z,50nm,1.2s
MAKZ Makanchi 58.02 328 P **P 13 39 15.5 +0.6**
MAKZ pP **pP 13 39 40.4 +0.4**
MAKZ sP **sP 13 39 51.9 +0.5**
TNSS Tian-Shan 58.61 322 *e*P **P 13 39 18.7 -0.8**
TNSS Tian-Shan 58.61 322 *e*P **P 13 39 18.8 -0.8**
ULHL Ulahol 58.61 321 P **P 13 39 21.4 +2.0**
SNR=13
MDOK Medeo 58.62 323 *e*P **P 13 39 19.0 -0.2**
MDOK Medeo 58.62 323 *e*P **P 13 39 19.0 -0.2**
AAA Alma-Ata 58.72 323 *e*P **P 13 39 20.5 +0.6**
AAA Alma-Ata 58.72 323 *e*P **P 13 39 19.4 -0.5**
comp=Z,14nm,0.7s
ARXS Arharly 58.74 324 *e*P **P 13 39 20.5 +0.5**
TDK Taldyqorghan 58.87 325 *e*P **P 13 39 20.4 -0.4**
TDK Taldyqorghan 58.87 325 *e*P **P 13 39 20.4 -0.4**
BOOM Boomskoye usch 58.93 321 IAmb IAmb 13 39 25.9
comp=Z,14nm,0.8s
DGTI Dogotuki 59.07 109 P **P 13 39 24.2 +1.5**
OUZ Omahuta 59.54 132 P **P 13 39 28.4 +2.9**
KBK Karagaybulak 59.64 321 P **P 13 39 27.9 +1.6**
SNR=20
AAK Ala-Archa 59.92 321 P **P 13 39 29.2 +1.0**
AAK IAmb IAmb 13 40 07.1
comp=Z,28nm,0.9s
AAK Ala-Archa 59.92 321 P **P 13 39 29.8 +1.6**
AAK Ala-Archa 59.92 321 P **P 13 39 29.7 +1.5**
SNR=28
AAK Ala-Archa 59.92 321 *i* P **P 13 39 27.9 -0.3**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 59.92 321 *i* P **P 13 39 29.5 +1.3**
SNR=10.0
KBL Kabul 60.08 310 P **P 13 39 30.1 +0.5**
KBL Kabul 60.08 310 P **P 13 39 30.3 +0.7**
SNR=41
KBL Kabul 60.08 310 P **P 13 39 30.1 +0.5**
KBL pmax pmax
comp=Z,103nm,0.7s
AML Almayashu 60.17 320 P **P 13 39 31.5 +1.3**
SNR=37
PEA0B Petropavlovsk- 60.19 24*ce*P **P 13 39 25.6 -4.1**
PETK Petropavlovsk- 60.19 24 P **P 13 39 29.8 +0.1**
PETK Petropavlovsk- 60.19 24 P **P 13 39 29.2 -0.5**
comp=Z,13nm,0.6s,baz=203,slow=2.9,SNR=67
PETK pP **pP 13 39 54.3 -0.7**
comp=Z,8.2nm,0.9s,baz=192,slow=5.6,SNR=2.7
PETK sP **sP 13 40 05.2 -1.1**
comp=Z,31nm,1.0s,baz=197,slow=4.6,SNR=6.9
PETK LR LR 14 03 39.0
comp=Z,44nm,21.8s,baz=225,slow=34
comp=Z,13nm,0.6s
ARSB Arslanbob 60.23 319 IAmb IAmb 13 39 34.4
comp=Z,30nm,0.7s
SGDS Sogindy 60.26 322 *e*P **P 13 39 29.9 -0.5**
SGDS Sogindy 60.26 322 *e*P **P 13 39 29.9 -0.5**
EKS2 Erkin-Say 60.38 321 P **P 13 39 33.0 +1.7**
SNR=15
MSZ Milford Sound 60.45 144 P **P 13 39 33.2 +1.6**
PET Petropavlovsk 60.52 24 P **P 13 39 31.7 -0.2**
PET IAmb IAmb 13 40 08.8
comp=Z,52nm,1.2s
PET Petropavlovsk 60.52 24 P **P 13 39 32.3 +0.4**
PET Petropavlovsk 60.52 24*ce*P **P 13 39 29.3 -2.6**
PET pmax pmax
comp=Z,29nm,1.2s
MLZ Mavora Lakes 60.96 145 P **P 13 39 35.9 +0.8**
BTK Batken 61.09 317 IAmb IAmb 13 40 18.8
comp=Z,26nm,0.8s
WHZ Wether Hill Ro 61.16 145 P **P 13 39 37.0 +0.6**
WVZ Waitaha Valley 61.29 141 P **P 13 39 39.6 +2.3**
DSZ Denniston Nort 61.29 140 P **P 13 39 39.2 +1.8**
QRZ Quartz Range 61.32 138 P **P 13 39 39.2 +1.7**
BTLS Baital 61.45 323 *e*P **P 13 39 38.2 -0.2**
BTLS Baital 61.45 323 *e*P **P 13 39 38.2 -0.2**
INZ Inchbonnie 61.55 141 P **P 13 39 40.3 +1.2**
EAZ Earnscleugh 61.58 144 P **P 13 39 41.0 +1.8**
ZALV Zalesovo Beam 61.61 336 P **P 13 39 38.5 -0.7**
ZALV Zalesovo Beam 61.61 336 P **P 13 39 38.8 -0.4**
comp=Z,49nm,0.8s,baz=124,slow=5.9,SNR=181
ZALV S **S 13 47 51.2 -2.2**
comp=Z,1.9nm,0.9s,baz=126,slow=15,SNR=4.3
ZALV LR LR 14 07 00.4
comp=Z,27nm,18.9s,baz=110,slow=36
ZALV PKPPKP **P'P'df 14 08 49.0 -1.1**
comp=Z,1.5nm,0.8s,baz=0.0,slow=0.4,SNR=5.4
comp=Z,49nm,0.8s
LBZ Lake Benmore 61.64 143 P **P 13 39 41.0 +1.3**
YAK Yakutsk 61.70 4 P **P 13 39 38.5 -1.1**
YAK Yakutsk 61.70 4 LR LR 14 06 03.6
comp=Z,61nm,21.8s,baz=126,slow=36
YAK Yakutsk 61.70 4 *e*P **P 13 39 38.7 -0.9**
YAK *e**PP **pP 13 40 02.8 -2.1**
YAK *e* 13 40 19.0
YAK *e* 13 41 55.6
YAK *e*S **S 13 47 52.9 -1.3**
YAK *e* 13 49 19.6
YAK *e*SS **SS 13 51 56.8 -0.7**
YAK pmax pmax
comp=Z,57nm,0.9s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,195nm,7.2s
YAK pmax pmax
comp=Z,198nm,6.2s
YAK pmax pmax
comp=E,111nm,3.6s
YAK smax smax
comp=N,101nm,3.8s
YAK smax smax
comp=E,153nm,5.7s
YAK Yakutsk 61.70 4 P **P 13 39 38.5 -1.1**
YAK pP **pP 13 40 02.9 -2.0**
YAK sP **sP 13 40 14.0 -2.2**
APZ The Paps 61.73 146 P **P 13 39 41.6 +1.3**
KUZ Kuaotunu 61.74 133 P **P 13 39 42.4 +2.0**
SIMJ Simiganj 61.75 315 P **P 13 39 40.9 +0.1**
SIMJ IAmb IAmb 13 39 42.9
comp=Z,48nm,0.9s
RPZ Rata Peaks 61.82 142 P **P 13 39 41.7 +0.8**
RPZ Rata Peaks 61.82 142 P **P 13 39 41.9 +1.1**
TOZ Tahuroa Road 61.99 134 P **P 13 39 44.0 +1.9**
TOZ IAmb IAmb 13 39 45.6
comp=Z,22nm,0.8s
TOZ Tahuroa Road 61.99 134 P **P 13 39 44.3 +2.2**
THZ Tophouse 62.02 139 P **P 13 39 44.3 +2.0**
VRZ Vera Road 62.06 136 P **P 13 39 44.6 +2.0**
DZA Taraz 62.06 320 *e*P **P 13 39 42.6 0.0**
DZA pmax pmax
comp=Z,4.0nm,0.4s
DZA Taraz 62.06 320 *e*P **P 13 39 42.6 0.0**
comp=Z,4.1nm,0.4s
NNZ Nelson 62.07 138 P **P 13 39 44.9 +2.3**
LTZ Lake Taylor 62.11 140 P **P 13 39 44.9 +2.1**
TUZ Tuapeka 62.17 145 P **P 13 39 44.3 +1.2**
KURBB Kurchatov Arra 62.21 330 P **P 13 39 43.8 +0.5**
comp=Z,52nm,0.8s,baz=127,slow=6.2,SNR=181
KURBB pP **pP 13 40 08.8 0.0**
comp=Z,6.9nm,0.8s,baz=131,slow=6.2,SNR=2.3
KURBB S **S 13 48 00.8 -0.3**
comp=Z,1.0nm,0.3s,baz=126,slow=13,SNR=4.1
comp=Z,52nm,0.8s
KURK Kurchatov 62.23 330 P **P 13 39 43.8 +0.4**
KURK Kurchatov 62.23 330 P **P 13 39 43.7 +0.4**
KURK Kurchatov 62.23 330 P **P 13 39 43.8 +0.4**
KURK *PP **pP 13 40 08.8 -0.1**
KURK S **S 13 48 00.8 -0.4**
KURK Kurchatov 62.23 330 P **P 13 39 43.8 +0.4**
KURK pP **pP 13 40 08.9 -0.1**
KURK sP **sP 13 40 19.6 -0.7**
OXZ Oxford 62.23 141 P **P 13 39 45.9 +2.3**
IUG Iuzhnay 62.57 319 *e*P **P 13 39 45.7 -0.3**
IUG pmax pmax
comp=Z,19nm,0.6s
IUG Iuzhnay 62.57 319 *e*P **P 13 39 45.7 -0.3**
comp=Z,19nm,0.6s
GVZ Greta Valley S 62.69 140 P **P 13 39 48.0 +1.3**
KK31 Karatay Array 62.69 320 *i* P **P 13 39 46.7 -0.1**
KKAR Karatay Array 62.69 320 P **P 13 39 46.6 -0.2**
KKAR Karatay Array 62.69 320 IAmb IAmb 13 39 50.6
comp=Z,12nm,0.9s
KKAR Karatay Array 62.69 320 P **P 13 39 46.6 -0.2**
KHZ Kahutara 62.74 139 P **P 13 39 47.6 +0.6**
MQZ McQueen's Vall 62.81 141 P **P 13 39 49.3 +1.9**
MA2 Magadan 63.02 16 P **P 13 39 48.4 -0.2**
MA2 Magadan 63.02 16 LR LR 14 10 05.8
comp=Z,33nm,18.0s,baz=228,slow=39
MA2 Magadan 63.02 16 P **P 13 39 49.3 +0.7**
MA2 Magadan 63.02 16*ce*P **P 13 39 49.0 +0.4**
MA2 pmax pmax
comp=Z,76nm,0.8s
MA2 Magadan 63.02 16 P **P 13 39 48.7 +0.1**
comp=Z,2μmcomp=Z,136nm,0.9s
MA2 pP **pP 13 40 13.0 -1.0**
comp=Z,2μmcomp=Z,136nm,0.9s
BRLS Borolday 63.10 319 *e*P **P 13 39 49.2 -0.2**
BRLS pmax pmax
comp=Z,7.0nm,0.6s
BRLS Borolday 63.10 319 *e*P **P 13 39 49.2 -0.2**
comp=Z,6.5nm,0.6s
BKZ Black Stump Fm 63.29 135 P **P 13 39 51.6 +0.7**
MRZ Mangatainoka R 63.30 137 P **P 13 39 50.6 -0.2**
TSZ Takapari Road 63.30 136 P **P 13 39 51.9 +1.1**
URZ Urewera 63.36 134 LR LR 14 09 06.0
comp=Z,59nm,18.3s,baz=38,slow=38
URZ Urewera 63.36 134 P **P 13 39 51.6 +0.4**
RTZ Ruatahuna 63.41 134 P **P 13 39 51.7 +0.1**
HAZ Te Kaha 63.65 133 P **P 13 39 53.5 +0.4**
MWZ Matawai 63.69 134 P **P 13 39 54.2 +0.7**
BFZ Birch Farm 63.77 137 P **P 13 39 54.8 +1.0**
NGCH Negor - Chabah 63.87 298 P **P 13 39 53.1 -1.7**
JLN Jalan Bani Buh 64.78 294 P **P 13 39 59.9 -0.9**
BRZS Berezniki 64.88 327 *e*P **P 13 40 00.7 -0.3**
BRZS pmax pmax
comp=Z,16nm,0.9s
BRZS Berezniki 64.88 327 *e*P **P 13 40 00.8 -0.3**
comp=Z,16nm,0.9s
WBK Wadi Bani Khal 65.26 295 P **P 13 40 03.6 -0.4**
MHTO MHTO 65.90 293 P **P 13 40 07.7 -0.3**
SNR=9.4
JMDO Jabal Madar 66.01 294 P **P 13 40 08.4 -0.3**
SNR=5.3
DQM DQM 66.14 292 P **P 13 40 08.6 -1.0**
SMDO Samad 66.18 295 P **P 13 40 09.1 -0.8**
BIDO Bidbid 66.19 295 P **P 13 40 09.4 -0.5**
SNR=9.1
SEY Seymchan 66.28 15*ce*P **P 13 40 09.9 +0.3**
SEY pmax pmax
comp=Z,29nm,1.0s
JASK Jask - Hormozg 66.87 298 P **P 13 40 13.1 -1.1**
BSY Bisya 66.90 295 P **P 13 40 13.9 -0.5**
SNR=5.5
HOQ Hoqain 66.94 295 P **P 13 40 14.7 0.0**
SNR=5.6
CASY Casey 67.09 185 P **P 13 40 14.4 -0.3**
CASY IAmb IAmb 13 40 17.0
comp=Z,54nm,0.9s
SHEM Shemya Is, Ala 67.57 31 LR LR 14 09 28.9
comp=Z,5.7nm,19.1s,baz=270,slow=36
ARQ Araqi 67.61 295 P **P 13 40 18.2 -0.7**
BVA0 Borovoye Array 67.72 329 *i* P **P 13 40 17.3 -1.7**
BVAR Borovoye Array 67.72 329 P **P 13 40 18.9 -0.1**
comp=Z,24nm,0.7s,baz=134,slow=8.5,SNR=114
BVAR pP **pP 13 40 43.7 -1.1**
comp=Z,13nm,0.8s,baz=138,slow=9.1,SNR=4.4
BVAR LR LR 14 10 32.0
comp=Z,35nm,21.8s,baz=148,slow=36
comp=Z,24nm,0.7s
SOHO SOHO 67.73 296 P **P 13 40 18.8 -0.8**
SOHO SOHO 67.73 296 P **P 13 40 18.9 -0.8**
BRVK Borovoye 67.79 329 P **P 13 40 19.1 -0.3**
BRVK IAmb IAmb 13 40 20.7
comp=Z,60nm,1.2s
BRVK Borovoye 67.79 329 P **P 13 40 19.9 +0.4**
BRVK Borovoye 67.79 329*ce*P **P 13 40 19.6 +0.1**
BRVK pmax pmax
comp=Z,37nm,1.0s
BRVK Borovoye 67.79 329 P **P 13 40 19.6 +0.1**
BRVK pP **PcP 13 40 45.2 -0.3**
UOSS Minazif 68.17 297 P **P 13 40 21.7 -0.7**
UOSS Minazif 68.17 297 P **P 13 40 21.9 -0.5**
UOSS Minazif 68.17 297 P **P 13 40 21.5 -0.9**
HATD Hatta, Dubai 68.22 297 P **P 13 40 22.3 -0.4**
SNR=5.0
HATD Hatta, Dubai 68.22 297 P **P 13 40 22.2 -0.4**
ASHO Ashiyiah 68.26 296 P **P 13 40 22.8 -0.2**
ASHO Ashiyiah 68.26 296 *i* P **P 13 40 22.6 -0.4**
SNR=7.8
BANOM Banah 68.26 298 P **P 13 40 22.3 -0.7**
DMTO DMTO 68.27 289 P **P 13 40 22.1 -1.0**
SHME Shamm 68.42 298 P **P 13 40 21.7 -2.2**
ALNE Al Ain 68.43 296 P **P 13 40 23.8 -0.2**
SNR=9.5
ALNE Al Ain 68.43 296 *i* P **P 13 40 23.6 -0.4**
SNR=7.8
UMZA Um Al Zommool 68.75 294 P **P 13 40 25.0 -1.0**
ASUD Al Ashush, Dub 68.90 296 P **P 13 40 26.9 0.0**
SNR=9.4
ASUD Al Ashush, Dub 68.90 296 *i* P **P 13 40 26.8 -0.2**
SNR=14
DOK Doka 69.15 290 P **P 13 40 27.3 -1.3**
AJN Ajban 69.20 296 P **P 13 40 28.2 -0.6**
SNR=12
AJN Ajban 69.20 296 *i* P **P 13 40 28.3 -0.5**
SNR=6.5
WHFO Wadi Hawf 69.41 289 P **P 13 40 28.3 -1.9**
ABTO Aybut 69.80 288 P **P 13 40 31.1 -1.6**
MZWR Madinat Zayed 70.07 295 P **P 13 40 33.7 -0.4**
MZR Muzera 70.33 294 P **P 13 40 35.2 -0.5**
SNR=6.2
MZR Muzera 70.33 294 *i* P **P 13 40 35.3 -0.5**
SNR=11
GHWR Ruwais 71.01 295 P **P 13 40 39.4 -0.5**
JRN Qarnain Island 71.18 296 P **P 13 40 39.9 -0.9**
TIXI Tiksi 71.23 2 LR LR 14 12 41.3
comp=Z,55nm,21.2s,baz=194,slow=36
TIXI Tiksi 71.23 2*ce*P **P 13 40 39.1 -1.1**
TIXI pmax pmax
comp=Z,53nm,0.9s
TIXI Tiksi 71.23 2 P **P 13 40 38.7 -1.5**
TIXI pP **pP 13 41 03.7 -2.6**
TIXI sP **sP 13 41 15.1 -2.3**
AB31 Akbulak array 71.92 322 *i* P **P 13 40 43.9 -1.0**
ABKAR Akbulak array 71.92 322 P **P 13 40 44.3 -0.5**
SLWR Sila 72.10 295 P **P 13 40 45.8 -0.5**
NRIK Noril'sk 72.61 348 P **P 13 40 47.6 -0.9**
comp=Z,14nm,0.5s,baz=136,slow=5.7,SNR=36
NRIK pP **pP 13 41 12.9 -1.7**
comp=Z,7.0nm,0.7s,baz=115,slow=8.0,SNR=2.8
NRIK LR LR 14 17 02.1
comp=Z,80nm,18.3s,baz=151,slow=39
comp=Z,14nm,0.5s
NRIK Noril'sk 72.61 348*ce*P **P 13 40 48.0 -0.5**
NRIK pmax pmax
comp=Z,17nm,0.7s
TRNA Turayna 72.62 296 P **P 13 40 48.4 -1.1**
SMRA Abu-Samra 72.97 296 P **P 13 40 50.7 -0.9**
AKTO Aktyubinsk 73.51 323 P **P 13 40 53.8 -0.4**
BILL Bilibino 73.89 16 P **P 13 40 55.3 -0.8**
BILL Bilibino 73.89 16*ce*P **P 13 40 56.1 0.0**
BILL pmax pmax
comp=Z,22nm,2.5s
SVE Sverdlovsk 74.47 330 *e*P **P 13 40 59.3 -0.4**
SVE pmax pmax
comp=Z,45nm,1.1s
ARTI Arti 75.44 329 P **P 13 41 04.1 -1.2**
ARTI IAmb IAmb 13 41 43.1
comp=Z,51nm,1.3s
ARTI Arti 75.44 329*d* *i* P **P 13 41 04.5 -0.8**
ARTI *PP **pP 13 41 30.9 -0.6**
ARTI 13 43 53.0
ARTI S **S 13 50 36.5 -0.7**
ARTI SS **SS 13 55 26.9 -2.9**
ARTI pmax pmax
comp=Z,13nm,0.7s
ABPO Ambohimpanom 75.98 250 P **P 13 41 07.4 -1.9**
ABPO Ambohimpanom 75.98 250 P **P 13 41 07.4 -1.9**
ABPO pmax pmax
comp=Z,35nm,1.8s
VOI Vohitsoka 76.67 247 P **P 13 41 11.2 -1.9**
LKRN Lenkeran, Azer 76.86 310 P **P 13 41 13.9 +0.2**
RAYN Ar Rayn 77.67 294 P **P 13 41 16.9 -1.7**
RAYN Ar Rayn 77.67 294 P **P 13 41 17.6 -1.0**
RAYN Ar Rayn 77.67 294 P **P 13 41 16.9 -1.7**
RAYN pmax pmax
comp=Z,24nm,0.8s
RAYN Ar Rayn 77.67 294 *i* P **P 13 41 16.8 -1.7**
SNR=32
SEKA Sheki 78.48 312 P **P 13 41 22.3 -0.5**
MNGR Mingechevir, A 78.50 311 P **P 13 41 22.8 +0.1**
RAR Rarotonga 78.96 112 LR LR 14 18 59.4
comp=Z,19nm,18.1s,baz=252,slow=38
GANJ Ganja 79.05 311 P **P 13 41 25.8 0.0**
MAW Mawson 79.15 200 LR LR 14 11 05.4
comp=Z,77nm,19.7s,baz=68,slow=32
NAX Nakhchivan 79.46 310 P **P 13 41 28.4 +0.2**
BELG Belogornoye 80.30 323 *i* P **P 13 41 31.8 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 80.73 330*ce*P **P 13 41 33.9 -0.5**
VNDA Vanda 80.78 172 P **P 13 41 35.2 +0.8**
VNDA Vanda 80.78 172 P **P 13 41 34.6 +0.2**
comp=Z,11nm,0.6s,baz=316,slow=6.4,SNR=27
VNDA LR LR 14 16 39.0
comp=Z,27nm,19.4s,baz=328,slow=35
comp=Z,11nm,0.6s
VNDA Vanda 80.78 172 P **P 13 41 35.2 +0.8**
VNDA pmax pmax
comp=Z,16nm,0.7s
GEVA Gevas 81.24 309 IAmb IAmb 13 42 16.1
comp=Z,32nm,0.9s
KBZ Khabaz 82.00 314 P **P 13 41 42.0 +0.6**
comp=Z,6.1nm,0.8s,baz=104,slow=3.8,SNR=16
KBZ pP **pP 13 42 07.5 -0.4**
comp=Z,5.7nm,0.8s,baz=68,slow=7.6,SNR=5.0
comp=Z,6.1nm,0.8s
KBZ Khabaz 82.00 314*ce*P **P 13 41 41.8 +0.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 82.18 314 *e*P **P 13 41 43.5 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
C16K Lisburne Hills 83.14 21 IAmb IAmb 13 41 48.6
comp=Z,37nm,1.1s
VRH Novokhopyorsk 83.72 321 *e*P **P 13 41 49.5 -0.7**
VRH *e**PP **pP 13 42 14.8 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.9s
RDOG Red Dog Mine 83.96 21 IAmb IAmb 13 42 29.3
comp=Z,53nm,1.4s
SOC Sochi 84.28 314 *e*P **P 13 41 53.6 +0.4**
SOC *e* 13 45 04.3
SOC *e*S **SKSac 13 52 06.7 -1.0**
SOC *e*SS **SS 13 57 41.1 -1.2**
SOC *e*SSS SSS 14 01 06.4
KMBO Kilima Mbogo 85.00 269 P **P 13 41 56.9 -0.9**
KMBO Kilima Mbogo 85.00 269 P **P 13 41 57.0 -0.9**
baz=47,slow=7.8,SNR=12
KMBO pP **pP 13 42 25.7 +1.4**
comp=Z,3.8nm,0.3s,baz=33,slow=8.3,SNR=2.2
VORD Divnogorie 85.21 321 *e*P **P 13 41 55.5 -2.2**
VORD pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 85.31 321 *e*P **P 13 41 54.9 -3.3**
VSR *e**PP **pP 13 42 22.8 -2.2**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 85.33 322 *e*P **P 13 41 57.2 -1.1**
VORR pmax pmax
comp=Z,51nm,1.2s
LPSR Galich'ya Gora 85.58 323 *e*P **P 13 41 58.3 -1.2**
LPSR *e**PP **pP 13 42 24.6 -1.7**
LPSR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 86.07 331 *e*P **P 13 41 59.0 -2.7**
KLMR *e**PP **pP 13 42 25.0 -3.5**
KLMR pmax pmax
comp=Z,35nm,1.3s
LODK Lodwar 86.86 273 P **P 13 42 06.0 -0.7**
BNN Bunyan 86.92 309 IAmb IAmb 13 42 43.7
comp=Z,60nm,1.2s
KDAK Kodiak Island 87.05 32 LR LR 14 24 12.5
comp=Z,14nm,19.5s,baz=112,slow=38
MMAI Mount Meron Ar 87.11 303 P **P 13 42 07.9 +0.3**
comp=Z,1.3nm,0.3s,baz=61,slow=11,SNR=5.8
MMAI pP **pP 13 42 34.6 +0.2**
comp=Z,0.9nm,0.3s,baz=125,slow=7.3,SNR=2.0
MMAI LR LR 14 28 32.6
comp=Z,27nm,18.1s,baz=82,slow=41
comp=Z,1.3nm,0.3s
OBN Obninsk 87.16 325 *i* P **P 13 42 06.2 -1.0**
OBN *i **PP **sP 13 42 40.3 -4.7**
OBN pmax pmax
comp=Z,15nm,1.2s
EIL Elat 87.43 300 LR LR 14 27 31.2
comp=Z,18nm,18.0s,baz=71,slow=40
SYO Syowa Base 87.76 201⇓ *e*P **P 13 42 11.0 +1.2**
SYO Syowa Base 87.76 201⇓ *e*PcP **PcP 13 42 14.0 +2.5**
BPAW Bear Paw Mtn. 88.19 26 IAmb IAmb 13 42 34.4
comp=Z,47nm,2.0s
PPT Papeete 88.39 107 LR LR 14 23 27.1
comp=Z,12nm,18.6s,baz=213,slow=37
PPT2 Papeete2 88.39 107 *e*S **S 13 52 49.9 -1.8**
comp=Z,37nm,26.2s
PPT2 Papeete2 88.39 107 *e*LR LR 14 10 29.2
comp=Z,44nm,25.8s
PPT2 *e*LR LR 14 10 35.9
comp=Z,138nm,31.5s

TBI **Tubuai** 88.61 113 *e*S S 13 52 55.3 +2.0
comp=Z,1μm,31.5s
BR104 **Keskin Array S** 88.65 310 P P 13 42 13.8 -1.0
comp=Z,8.6nm,0.9s
BR131 **Keskin Array S** 88.65 310 *i* P P 13 42 13.8 -1.0
BRTR **Keskin Array B** 88.65 310 P P 13 42 12.7 -2.1
BRTR **Keskin Array B** 88.65 310 P P 13 42 13.8 -1.0
comp=Z,5.6nm,0.8s,baz=130,slow=5.1,SNR=30
BRTR pP pP 13 42 40.3 -1.4
comp=Z,2.1nm,0.7s,baz=130,slow=3.8,SNR=4.0
comp=Z,5.6nm,0.8s
BRTR **Keskin Array B** 88.65 310 *i* P P 13 42 14.1 -0.7
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BR105 **Keskin Array S** 88.66 310 P P 13 42 13.7 -1.2
comp=Z,8.8nm,0.8s
BR105 pP pP 13 42 40.1 -1.7
comp=Z,8.8nm,0.8s
BR106 **Keskin Array S** 88.66 310 P P 13 42 13.9 -1.0
comp=Z,8.2nm,0.8s
LVZ **Lovozero** 88.69 338 *i* P P 13 42 13.6 -0.7
LVZ pmax pmax
comp=Z,16nm,1.1s
RND **Reindeer** 89.12 27 IAmb IAmb 13 44 59.6
comp=Z,41nm,1.8s
SML **Sawmill** 89.35 28 IAmb IAmb 13 42 27.5
comp=Z,55nm,1.8s
CCB **Clear Creek Bu** 89.59 26 IAmb IAmb 13 43 06.9
comp=Z,31nm,1.9s
ILAR **Eielson Array** 89.98 25 P P 13 42 18.2 -2.1
comp=Z,1.2nm,0.6s,baz=249,slow=4.9,SNR=29
ILAR PKKP PKKPdf 13 59 49.6 +0.3
comp=Z,0.6nm,0.9s,baz=89,slow=1.8,SNR=4.4
comp=Z,1.2nm,0.6s
QSPA **South Pole Qui** 90.36 180 P P 13 42 22.0 -0.2
comp=Z,8.6nm,0.8s,baz=318,slow=1.6,SNR=40
QSPA S SKSac 13 52 39.9 -4.2
comp=Z,0.8nm,0.8s,baz=45,slow=14,SNR=13
QSPA LR LR 14 21 44.6
comp=Z,82nm,20.5s,baz=304,slow=35
comp=Z,8.6nm,0.8s
KLU **Klutina** 90.50 29 IAmb IAmb 13 42 48.7
comp=Z,34nm,1.9s
SCRK **Sand Creek** 91.28 26 IAmb IAmb 13 45 57.8
comp=Z,25nm,1.8s
PURM **Purcari** 91.32 316 P P 13 42 26.5 -0.4
MBAR **Mbarara** 91.51 269*ce*P P 13 42 28.8 +0.1
MBAR pmax pmax
comp=Z,8.0nm,1.7s
KIEV **Kiev** 91.59 321 P P 13 42 27.1 -1.0
ARCES **ARCESS Array B** 91.96 340 P P 13 42 27.4 -2.0
comp=Z,4.4nm,0.9s,baz=85,slow=4.8,SNR=6.8
ARCES PKKP PKKPdf 13 59 45.3 -0.5
comp=Z,6.0nm,1.0s,baz=275,slow=6.0,SNR=4.7
comp=Z,4.4nm,0.9s
TIRR **Tirgusor** 92.44 314 P P 13 42 31.3 -0.8
VSU **Vasula** 92.52 328 *i* P P 13 42 30.1 -2.1
VSU pmax pmax
comp=Z,20nm,1.0s
LUBAR **Lubar, Ukraine** 92.57 320 P P 13 42 31.3 -1.3
FINES **FINESS Array B** 92.58 331 P P 13 42 30.4 -2.0
comp=Z,2.3nm,0.6s,baz=51,slow=6.1,SNR=8.6
comp=Z,2.3nm,0.6s
FINES **FINESS Array B** 92.58 331 *i* P P 13 42 31.2 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.6s
SPITS **Spitsbergen Ar** 92.81 349 P P 13 42 31.7 -1.5
comp=Z,18nm,0.8s,baz=96,slow=8.5,SNR=8.6
SPITS pP pP 13 42 59.0 -1.2
comp=Z,24nm,0.9s,baz=72,slow=4.7,SNR=3.7
SPITS LR LR 14 28 28.4
comp=Z,74nm,18.3s,baz=120,slow=38
comp=Z,18nm,0.8s
I28M **Miner Creek** 92.87 24 IAmb IAmb 13 43 13.3
comp=Z,24nm,1.4s
NDNU **Novodnistrovsk** 92.91 319 P P 13 42 32.9 -1.3
I29M **Ogilvie Camp,** 93.55 24 IAmb IAmb 13 43 09.9
comp=Z,17nm,1.4s
J29N **Klondike Camp** 93.73 25 IAmb IAmb 13 43 15.1
comp=Z,24nm,1.4s
M29M **Somme Creek** 93.92 27 IAmb IAmb 13 42 43.2
comp=Z,28nm,1.8s
M30M **Minto, Yukon** 94.67 27 IAmb IAmb 13 43 19.5
comp=Z,12nm,1.2s
INK **Inuvik** 94.84 21 IAmb IAmb 13 43 14.5
comp=Z,16nm,1.6s
F31M **Tsiigehtchic** 94.96 22 IAmb IAmb 13 46 13.8
comp=Z,17nm,1.6s
O30N **Mendenhall** 95.32 29 IAmb IAmb 13 43 12.6
comp=Z,17nm,1.5s
N31M **Braeburn, Yuko** 95.33 28 IAmb IAmb 13 43 22.4
comp=Z,16nm,1.1s
M31M **Drury Creek, Y** 95.84 27 IAmb IAmb 13 43 26.6
comp=Z,11nm,1.4s
WHY **Whitehorse** 95.92 29 IAmb IAmb 13 43 25.1
comp=Z,12nm,1.0s
LBTB **Lobatse** 96.21 245 LR LR 14 23 20.7
comp=Z,39nm,18.7s,baz=76,slow=34
KOLS **Kolonicke sedl** 96.23 319 *e*P P 13 42 50.4 +0.9
KOLS **Kolonicke sedl** 96.23 319 *e*PDIFF P 13 42 50.4 +0.9
BOSA **Boshof** 96.35 241 LR LR 14 27 54.5
comp=Z,42nm,18.6s,baz=98,slow=36
TAOE **Nuku Hiva Isla** 97.59 99 *e*LR LR 14 14 47.7
comp=Z,72nm,27.0s
HFS **Hagfors** 98.78 331 P P 13 42 58.3 -2.3
comp=Z,2.0nm,0.9s,baz=117,slow=5.6,SNR=4.5
HFS PP PP 13 47 03.4 +0.4
comp=Z,5.2nm,1.1s,baz=69,slow=7.9,SNR=3.7
comp=Z,2.0nm,0.9s
NOA **NORSAR Array B** 99.67 333 P Pdif 13 43 01.7 -3.0
comp=Z,0.6nm,0.7s,baz=73,slow=4.3,SNR=1.8
SNAA **Sanae** 100.89 195 P Pdif 13 43 11.1 +1.2
comp=Z,1.5nm,0.9s,baz=180,slow=11,SNR=1.8
SNAA **Sanae** 100.89 195 *i* P Pdif 13 43 10.7 +0.8
SNAA pmax pmax
comp=Z,3.0nm,1.3s
GERES **GERESS Array B** 101.79 320 PKKPbc PKKPbc 13 59 20.3 -1.5
comp=Z,0.5nm,0.8s,baz=224,slow=3.7,SNR=3.9
YKA **Yellowknife Ar** 104.31 24 Pdiff Pdif 13 43 25.4 +0.2
comp=Z,0.2nm,0.4s,baz=298,slow=4.7,SNR=4.3
YKA PKKPbc PKKPbc 13 59 09.2 -5.5
comp=Z,0.3nm,0.8s,baz=118,slow=2.5,SNR=4.7
NVAR **Mina Array Bea** 112.43 48 PKiKP PKiKP 13 47 57.5 0.0
comp=Z,1.0nm,0.6s,baz=268,slow=2.0,SNR=11
V12A **Nelson** 115.95 49 PKiKP 13 48 04.9 +0.7
PDAR **Pinedale Array** 116.76 40 PKP PKPdf 13 48 04.4 -1.3
comp=Z,0.4nm,0.5s,baz=84,slow=1.7,SNR=5.3
PDAR pPKP pPKPdf 13 48 33.7 0.0
comp=Z,0.4nm,0.6s,baz=29,slow=3.4,SNR=2.6
PDAR PKKPbc PKKPbc 13 58 34.1 +0.2
comp=Z,0.7nm,0.6s,baz=116,slow=6.7,SNR=7.9
ESDC **Sonseca Array** 116.81 316 PKP PKPdf 13 48 04.9 -0.7
comp=Z,1.0nm,0.8s,baz=36,slow=2.6,SNR=7.1
ESDC PP PP 13 49 15.7 +0.7
comp=Z,0.6nm,0.8s,baz=51,slow=6.0,SNR=5.0
ESDC PKKPab PKKPab 13 58 36.9 -0.1
comp=Z,0.9nm,0.9s,baz=252,slow=4.7,SNR=6.7
PVRL **Vila Real** 118.63 319 *e*PKPdf PKPdf 13 48 09.4 +0.3
PVRL *i* Amb 13 48 14.7
comp=Z,29nm,1.8s
POLO **Lamas de Olo** 118.63 319 *e*PKPdf PKPdf 13 48 09.1 -0.1
PGAV **Gaveira, Arco** 118.65 320 *e*PKPdf PKPdf 13 48 09.3 +0.1
MTE **Manteigas** 118.94 318 *e*PKPdf PKPdf 13 48 09.8 +0.1
PCBR **Castelo Branco** 119.16 317 *e*PKPdf PKPdf 13 48 10.1 0.0
PMRV **Marv??o** 119.29 317 *e*PKPdf PKPdf 13 48 10.4 0.0
RSSD **Black Hills** 119.51 37 PKPdf 13 48 09.9 -1.0
RSSD **Black Hills** 119.51 37 PKIKP PKPdf 13 48 09.9 -1.0
TORD **Torodi Ar. Bea** 119.56 285 PKPdf 13 48 10.2 -1.3
TORD **Torodi Ar. Bea** 119.56 285 PKP PKPdf 13 48 10.9 -0.6
comp=Z,42nm,0.3s,baz=56,slow=2.0,SNR=1.5
PBAR **Barrancos** 119.63 315 *e*PKPdf PKPdf 13 48 10.9 -0.1
PESTR **Estremoz** 119.69 316 *e*PKPdf PKPdf 13 48 10.9 -0.2
ULM **Lac du Bonnet** 119.95 27 PKPdf PKPdf 13 48 10.7 -0.6
ULM **Lac du Bonnet** 119.95 27 PKP PKPdf 13 48 09.9 -1.4
comp=Z,2.9nm,0.8s,baz=311,slow=2.7,SNR=8.0
ULM **Lac du Bonnet** 119.95 27 PKIKP PKPdf 13 48 10.7 -0.6
PMTG **Montargil** 120.03 317 *e*PKPdf PKPdf 13 48 11.3 -0.5
PSBE **So Bento** 120.20 318 *e*PKPdf PKPdf 13 48 12.5 +0.4
PCVE **Castro Verde** 120.58 315 *e*PKPdf PKPdf 13 48 13.2 +0.3
MESJ **Messejana** 120.61 316 *e*PKPdf PKPdf 13 48 13.2 +0.3
MESJ **Messejana** 120.61 316 *e*PKPdf PKPdf 13 48 13.2 +0.3
MORF **Marmelete** 121.16 315 *e*PKPdf PKPdf 13 48 14.3 +0.3
MORF **Marmelete** 121.16 315 *e*PKPdf PKiKP 13 48 15.1 +0.9
ANMO **Albuquerque** 122.54 47 PKPdf 13 48 16.4 -0.6
ANMO **Albuquerque** 122.54 47 PKIKP PKPdf 13 48 16.4 -0.6
SCHQ **Schefferville** 124.41 6 PKP PKPdf 13 48 19.1 -0.7
comp=Z,3.4nm,0.5s,baz=305,slow=2.5,SNR=9.6
SCHQ pPKP pPKPdf 13 48 46.2 -1.5
comp=Z,3.6nm,0.6s,baz=351,slow=2.7,SNR=3.4
DBIC **Dimbokro** 126.75 279 PKP PKPdf 13 48 24.7 -0.6
comp=Z,8.1nm,0.7s,baz=104,slow=0.8,SNR=9.7
DBIC pPKP pPKPdf 13 48 51.8 -1.4
comp=Z,6.8nm,0.8s,baz=94,slow=4.1,SNR=3.5
TXAR **Lajitas Array** 127.15 52 PKP PKPdf 13 48 26.0 +0.2
comp=Z,1.5nm,0.7s,baz=194,slow=1.6,SNR=13
TXAR pPKP pPKPdf 13 48 53.0 -0.8
comp=Z,2.1nm,0.9s,baz=252,slow=0.8,SNR=5.5
WVT **Waverly** 134.12 34 PKPdf 13 48 38.8 +0.1
WVT **Waverly** 134.12 34 PKIKP PKPdf 13 48 38.8 +0.1
PLCA **Paso Flores** 138.24 165 PKhKP PKPpre 13 48 39.1
comp=Z,1.7nm,0.8s,baz=225,slow=5.7,SNR=4.2
PLCA PKP PKPdf 13 48 46.7 +0.4
comp=Z,3.4nm,0.8s,baz=219,slow=1.2,SNR=7.8
PLCA SKPbc SKPbc 13 52 10.0 -1.7
comp=Z,4.9nm,1.0s,baz=181,slow=3.3,SNR=4.2
CFA **Coronel Fontan** 147.45 163 PKPbc PKPdf 13 49 04.2 +1.3
comp=Z,0.1nm,0.6s,baz=270,slow=20,SNR=20
CFA pPKPbc pPKPbc 13 49 33.1 +0.4
comp=Z,0.1nm,0.7s,baz=242,slow=23,SNR=2.6
PLTB **Pedras Altas** 148.59 187 PKPbc 13 49 07.8 -0.6
LCO **Las Campanas** 149.01 158 PKPbc PKPbc 13 49 09.6 -0.3
LCO **Las Campanas** 149.01 158 PKP2 PKPbc 13 49 09.6 -0.3
BOAB **BOACO BROADBAND** 150.49 64 PKPbc 13 49 10.7 -0.3
AC01 **Pan de Azucar** 151.60 155 PKPbc 13 49 15.8 0.0
ITAB **Concordia** 152.81 191 PKPbc 13 49 18.0 -0.5
PB14 **IPOC Station P** 153.01 154 PKPbc 13 49 19.1 -0.3
ALF01 **Guarapari-ES** 153.93 219 *e*P PKPdf 13 49 13.1 +0.1
MAN01 **Angra dos Reis** 153.98 210 *e*P PKPdf 13 49 13.2 +0.1
CPUP **Villa Florida** 154.25 181 PKPbc 13 49 21.1 -0.5
CPUP **Villa Florida** 154.25 181 PKP PKPdf 13 49 13.2 -0.1
comp=Z,4.1nm,0.9s,baz=200,slow=0.7,SNR=7.0
CPUP PKPbc PKPbc 13 49 20.9 -0.7
comp=Z,4.0nm,0.6s,baz=141,slow=1.8,SNR=8.4
CPUP PKPab PKPab 13 49 35.3 -0.3
comp=Z,6.6nm,0.7s,baz=183,slow=5.4,SNR=8.3
VAO **Valinhos** 155.24 204 PKPab 13 49 39.5 -0.5
NNA **Nana** 157.85 122 PKPab PKPab 13 49 52.5 +0.8
comp=Z,5.5nm,0.6s,baz=242,slow=5.7,SNR=2.0
BDQN **Bodoquena, MS** 160.09 183 *e*P PKPdf 13 49 20.9 +0.1
LPAZ **La Paz** 161.22 148 PKP PKPdf 13 49 23.1 +0.1
comp=Z,5.2nm,1.0s,baz=256,slow=4.2,SNR=12
LPAZ PKPab PKPab 13 50 07.3 +0.5
comp=Z,5.9nm,0.7s,baz=196,slow=4.2,SNR=12
BDFB **Brasilia** 162.09 212 PKP PKPdf 13 49 22.5 -0.8
comp=Z,2.0nm,0.7s,baz=137,slow=2.2,SNR=6.1
BDFB PKPab PKPab 13 50 09.3 -0.7
comp=Z,4.5nm,0.7s,baz=169,slow=6.5,SNR=7.4
SIV **San Ignacio** 164.20 168 PKP PKPdf 13 49 24.9 -0.3
comp=Z,3.8nm,0.9s,baz=230,slow=1.2,SNR=14
SIV PKPab PKPab 13 50 18.9 -0.1
comp=Z,3.2nm,0.7s,baz=198,slow=4.3,SNR=9.3
SIV pPKPab pPKPab 13 50 45.9 +0.5
comp=Z,2.0nm,0.7s,baz=217,slow=4.7,SNR=2.6

---

*IDC **24** 13:41:12.7±0.9, 2°.12N×99°.67E, h146km±27km, mb3.3/5, mbtmp3.7/5, Error ellipse: s-maj=165.8km s-min=16.2km az=55.0*

ISC 24 13:41:12.3±2.2, 2°.0N±0°.6×99°.5E±0°.7, h150km, n6, σ0.9s63/7, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	0.97	324	P	Pn	13 41 37.0	+0.1
22nm,0.3s,baz=131,slow=9.3,SNR=15							
PSI				S	Sn	13 41 55.4	-0.4
6.9nm,0.4s,baz=76,slow=21,SNR=7.7							
WRA	**Warramunga Arr**	40.56	124	P	P	13 48 36.5	-0.8
0.7nm,0.8s,baz=304,slow=9.0,SNR=8.3							
0.7nm,0.8s							
ASAR	**Alice Springs**	42.10	129	P	P	13 48 50.5	+0.6
0.2nm,0.4s,baz=302,slow=7.8,SNR=10							
0.2nm,0.4s							
MKAR	**Makanchi Array**	47.06	344	P	P	13 49 29.2	+0.4
0.5nm,0.5s,baz=156,slow=7.8,SNR=10.0							
0.5nm,0.5s							
ZALV	**Zalesovo Beam**	53.16	349	P	P	13 50 15.0	+0.5
1.4nm,0.4s,baz=162,slow=7.0,SNR=6.8							
1.4nm,0.4s							
BVAR	**Borovoye Array**	56.27	339	P	P	13 50 36.7	-0.3
0.6nm,0.5s,baz=134,slow=6.2,SNR=1.7							
0.6nm,0.5s							

---

*IDC **24** 14:03:49.0±1.5, 0°.95N×127°.57E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=140.0km s-min=20.8km az=69.0*

*DJA **24** 14:03:50.5±0.3, 1°.N±2°.×12°.8E±°, h10km, M3.7/7, mb4.1/1, MLv3.5/7*

ISC 24 14:03:51.8±1.0, 1°.11N±0°.10×128°.10E±0°.07, h23km, n10, σ1.9s08/11, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	0.81	245	P	Pn	14 04 06.6	-1.2
TNTI				S	Sn	14 04 21.5	+2.4
LBMI	**Labuha**	1.84	199	P	Pb	14 04 23.8	-1.0
SWI	**Sorong**	3.72	122	P	Pn	14 04 47.6	-0.2
SANI	**Sanana**	3.79	214	P	Pn	14 04 48.8	0.0
FAKI	**Fak Fak**	5.76	134	P	Pn	14 05 15.9	-0.1
WRA	**Warramunga Arr**	21.80	164	P	P	14 08 42.3	-0.1
1.0nm,0.5s,baz=342,slow=10,SNR=5.6							
1.0nm,0.5s							
ASAR	**Alice Springs**	25.27	167	P	P	14 09 17.3	+0.7
0.2nm,0.6s,baz=345,slow=8.8,SNR=11							
0.2nm,0.6s							
SONM	**Songino Array**	50.20	341	P	P	14 12 46.3	+0.3
0.4nm,0.7s,baz=156,slow=8.6,SNR=2.6							
0.4nm,0.7s							
MKAR	**Makanchi Array**	60.47	326	P	P	14 14 00.2	+0.3
0.3nm,0.5s,baz=112,slow=8.3,SNR=6.8							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	64.67	328	P	P	14 14 27.1	-0.7
1.0nm,0.2s,baz=126,slow=6.0,SNR=1.3							
1.0nm,0.2s							

DJA 24 14:15:20.6±0.3, 0°.N±3°.×12°.2E±°, h70km±6km, M3.8/12, mb4.1/3, MLv3.7/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	0.33	268	P	Pn	14 15 33.6	+1.6
MRSI				S	Sn	14 15 43.6	+3.3
APSI	**Ampana**	1.52	204	P	Pn	14 15 46.8	+0.9
LUWI	**Luwuk**	1.60	162	P	Pn	14 15 48.1	+1.2
LUWI				S	Sn	14 16 12.2	+5.4
KMSI	**Cibinong**	1.71	87	P	Pn	14 15 49.8	+1.4
KMSI				S	Sn	14 16 14.1	+4.6
PCI	**Palu**	2.80	240	P	Pn	14 16 02.9	-0.2
TTSI	**Tana Toraja**	4.28	215	P	Pn	14 16 23.9	+0.6
TTSI				S	Sn	14 17 12.5	+0.4
KDI	**Kendari**	4.43	175	P	Pn	14 16 25.0	-0.4
SANI	**Sanana**	4.49	124	P	Pn	14 16 24.4	-1.8
SPSI	**Sidrap Palu**	5.08	209	P	Pn	14 16 34.7	+0.4
0.1nm10nm,1.4s							

---

*BEO **24** 14:17:54.5±0.5, 45°.55N×15°.60E, h0km, ML2.8/6*

*LJU **24** 14:17:55.7, 45°.49N×15°.81E, h14km, ML2.9*

*RHSSO **24** 14:17:56.9±0.2, 45°.45N×15°.78E, h8km±2km, ML3.1/16*

*VIE **24** 14:17:57.2±0.6, 45°.52N×15°.67E, h14km±3km, mb2.6/17, ml2.9/18, Error ellipse: s-maj=3.8km s-min=2.4km az=140.0*

*PRU **24** 14:17:59.0, 45°.67N×15°.90E, h10km*

ISC 24 14:17:56.4±0.9, 45°.52N±0°.01×15°.83E±0°.01, h13km±7km, n94, σ1.9s47/170, 7C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZLJ	**Ozalj**	0.27	291	*i* Pg	Pg	14 18 02.1	+0.1
OZLJ				Sg	Sg	14 18 05.7	-0.1
ZAG	**Zagreb**	0.33	20	*i* Pg	Pg	14 18 03.6	+0.5
ZAG				Sg	Sb	14 18 09.4	0.0
GCIS	**Gornji Cirnik**	0.38	338	*i* Pg	Pg	14 18 03.9	-0.1
GCIS				*i* Sg	Sg	14 18 09.4	+0.4
GCIS				IAML		14 18 11.1	
comp=Z,455nm,0.1s							
PTJ	**Puntijarka**	0.40	14	*i* Pg	Pg	14 18 04.4	-0.1
PTJ				Sg	Sg	14 18 10.7	+0.8
CRES	**Cresnjevec Ost**	0.40	320	*i* Pg	Pg	14 18 04.2	-0.3
CRES				*i* Sg	Sg	14 18 10.0	+0.1
CRES				IAML		14 18 11.1	
comp=Z,463nm,0.1s							
BOJS	**Bojanci**	0.41	268⇑	*i* Pg	Pg	14 18 04.3	-0.2
BOJS				*i* Sg	Sg	14 18 09.7	-0.2
BOJS				IAML		14 18 10.7	
comp=Z,274nm,0.1s							
GOLS	**Golise**	0.51	344	*i* Pg	Pg	14 18 06.3	-0.2
GOLS				*i* Sg	Sb	14 18 14.3	-0.4
GOLS				IAML		14 18 19.3	
comp=Z,226nm,0.1s							
LOBO	**Lobor**	0.66	15	*i* Pg	Pb	14 18 09.9	0.0
LOBO				Sg	Sb	14 18 19.1	+0.3
MOSL	**Moslavina**	0.66	81	*e*Pg	Pg	14 18 09.8	+0.6
MOSL				Sg	Sb	14 18 19.6	+0.7
PLIT	**Plitvice**	0.66	193	*i* Pg	Pg	14 18 08.3	-0.9
PLIT				Sg	Sg	14 18 16.1	-1.8
KALN	**Kalnik**	0.75	35	*i* Pg	Pg	14 18 11.0	0.0
KALN				Sg	Sb	14 18 22.2	+0.6
PRIJ	**Prijedor**	0.83	131	*e*Pg	Pg	14 18 11.8	-0.7
PRIJ				*e*Sg	Sg	14 18 23.5	+0.2
A051A	**Mrakovica**	0.92	123⇑	*i*Pg	Pg	14 18 13.0	-1.1
A051A				*e*Sg	Sg	14 18 25.4	-0.7
RIY	**Rijeka**	0.97	259	*i* Pg	Pg	14 18 14.5	-0.6
RIY				Sg	Sg	14 18 26.4	-1.3
KOGS	**Kog**	0.97	17	*i* Pg	Pb	14 18 15.3	+0.1
KOGS				*i* Sg	Sn	14 18 30.5	+0.9
KOGS				IAML		14 18 32.4	
comp=Z,335nm,0.2s							
UDBI	**Udbina**	0.99	183	*e*Pg	Pb	14 18 14.2	-1.4
UDBI				Sg	Sg	14 18 27.6	-1.0
CEY	**Cerknica**	1.01	283⇑	*i*Pg	Pb	14 18 15.6	-0.2
CEY				*e*Sg	Sg	14 18 28.9	-0.1
KNDS	**Knezji Dol**	1.02	271	*i* Pg	Pb	14 18 15.6	-0.4
KNDS				*i* Sg	Sn	14 18 30.2	-0.6
KNDS				IAML		14 18 33.6	
comp=Z,96nm,0.1s							
RABC	**Rab**	1.07	224	*i* Pg	Pb	14 18 15.9	-0.8
RABC				Sg	Sb	14 18 30.0	-0.7
A050A	**Klekovaca**	1.15	154⇑	*i*Pg	Pb	14 18 17.0	-1.3
A050A				*e*Sg	Sb	14 18 32.0	-1.2
BEHE	**Becsehely**	1.16	34	*e*Pg	Pg	14 18 18.9	+0.2
BEHE				*e*Sg	Sn	14 18 36.5	+2.4
NVLJ	**Novalja**	1.17	216	*e*Pg	Pb	14 18 18.5	0.0
NVLJ				Sg	Sb	14 18 34.0	+0.3
PERS	**Pernice**	1.22	336	*i* Pg	Pb	14 18 19.6	+0.2
BLY	**Banja Luka**	1.23	128⇑	*i*Pg	Pn	14 18 18.5	-0.9
BLY				*e*Sg	Sb	14 18 34.8	-0.6
BLY	**Banja Luka**	1.23	128	*e*Pg	Pn	14 18 18.8	-0.6
BLY				*e*Sg	Sg	14 18 37.4	+1.3
CRNS	**Crni Vrh**	1.23	298	*i* Pg	Pb	14 18 19.7	+0.1
SKDS	**Skadanscina**	1.27	272⇑	*i*Pg	Pn	14 18 19.3	-0.7
SKDS				*e*Sg	Sb	14 18 35.2	-1.5
SOKA	**Soboth**	1.28	335	*e*Pg	Pb	14 18 20.5	0.0
comp=Z,0.1nm,0.0s,SNR=249							
SOKA				Sg	Sb	14 18 37.2	+0.2
comp=Z,158nm,0.4s							
OBKA	**Obir**	1.33	318	Pg	Pb	14 18 21.5	+0.1
comp=Z,11nm,0.2s,SNR=183							
OBKA				*e*Sg	Sg	14 18 41.0	+1.6
comp=Z,101nm,0.2s							
OBKA	**Obir**	1.33	318⇑	*i*Pg	Pb	14 18 21.4	+0.1
OBKA				*e*Sg	Sg	14 18 40.2	+0.8
VIRC	**Vir**	1.34	204	*e*Pg	Pb	14 18 21.8	+0.3
VIRC				Sg	Sg	14 18 39.8	+0.1
BRJN	**Brijuni**	1.59	248	*e*Pn	Pb	14 18 25.4	-0.3
BRJN				Sn	Sg	14 18 47.2	-0.4
DUGI	**Dugi Otok**	1.62	200	*e*Pn	Pb	14 18 25.8	-0.4
DUGI				Sn	Sb	14 18 47.9	+1.2
MORI	**Morici**	1.66	183	*e*Pn	Pn	14 18 26.2	+1.0
MORI				Sn	Sg	14 18 49.0	-0.7
ARSA	**Arzberg**	1.74	353	Pn	Pn	14 18 26.7	+0.2
comp=Z,13nm,0.2s,SNR=9.2							
ARSA				Sn	Sn	14 18 48.1	-0.5
comp=Z,17nm,0.3s							
ARSA	**Arzberg**	1.74	353	*e*Pn	Pn	14 18 27.4	+0.9
ARSA				*e*Sn	Sb	14 18 51.0	+0.8
ZIRJ	**Zirje**	1.87	184	*e*Pn	Pb	14 18 30.4	-0.1
ZIRJ				Sn	Sb	14 18 54.6	+0.9
MYKA	**Terra Mystica**	1.88	307	Pg	Pb	14 18 31.7	+0.9
comp=Z,22nm,0.2s,SNR=43							
MYKA				Sg	Sg	14 18 56.1	-0.9
comp=Z,25nm,0.2s							
MORH	**Mrgy, Hungar**	2.09	70	*e*Pn	Pb	14 18 33.0	-1.1
MORH				*e*Sn	Sb	14 18 59.4	-0.6
RONA	**Rosalia, Austr**	2.20	8	Pn	Pn	14 18 33.2	+0.4
comp=Z,16nm,0.1s,SNR=34							
RONA				Sg	Sg	14 19 09.6	+2.3
comp=Z,47nm,0.5s							
RICI	**Ricice**	2.23	155	*e*Pn	Pb	14 18 35.8	-0.8
RICI				Sn	Sb	14 19 04.1	-0.1
KBA	**Koelnbreinsper**	2.32	313	Pn	Pn	14 18 35.3	+0.7
comp=Z,0.4nm,0.1s,SNR=6.3							
KBA				Sg	Sg	14 19 11.0	-0.1
comp=Z,23nm,0.3s							
HVAR	**Hvar**	2.38	169	*e*Pn	Pb	14 18 37.8	-1.4
HVAR				Sn	Sb	14 19 07.0	-1.5
MAKA	**Makarska**	2.39	159	*i* Pn	Pn	14 18 37.3	+2.0
MAKA				Sn	Sb	14 19 07.9	-0.8
CONA	**Conrad Observa**	2.41	1	Pn	Pn	14 18 36.1	+0.4
comp=Z,9.4nm,0.4s,SNR=26							
CONA				Sn	Sn	14 19 05.3	+0.2
comp=Z,12nm,0.3s							
MOA	**Molln**	2.57	336	*e*Pn	Pn	14 18 38.8	+1.0
comp=Z,8.7nm,0.2s,SNR=36							
MOA				Sn	Sn	14 19 09.5	+0.6
comp=Z,0.2nm,0.1s							
MOA	**Molln**	2.57	336	*e*Pn	Pn	14 18 39.3	+1.5
MOA				*e*Sn	Sn	14 19 05.6	-3.3
ABTA	**Abfaltersbach**	2.61	299	Pn	Pn	14 18 39.9	+1.4
comp=Z,0.8nm,0.2s							
ABTA				*e*Pg	Pg	14 18 45.4	-1.1
comp=Z,4.8nm,0.2s							
ABTA				*e*Sg	Sg	14 19 20.7	+0.4
comp=Z,3.3nm,0.2s							
BIOA	**Bad Ischl, Aus**	2.65	326	Pn	Pn	14 18 39.7	+0.8
comp=Z,7.7nm,0.2s,SNR=11							
BIOA				Sn	Sn	14 19 10.6	-0.2
comp=Z,27nm,0.5s							
HAPS	**Han Pijesak,Bl**	2.65	122	*e*Pn	Pn	14 18 39.5	+0.6
HAPS				*e*Sn	Sn	14 19 12.0	+1.1
KALIN	**Kalinovik**	2.75	136	*e*Pn	Pn	14 18 41.6	+1.2
KALIN				*e*Sn	Sn	14 19 13.4	-0.2
TEKS	**Tekeris**	2.80	109	*e*Sn	Sn	14 19 16.4	+1.8
TEKS	**Tekeris**	2.80	109	*e*Pn	Pn	14 18 43.7	+2.8
TEKS				*e*Sn	Sb	14 19 20.3	-0.2
FRGS	**Fruska Gora**	2.83	96	*e*Pn	Pn	14 18 42.9	+1.5
FRGS				*e*Sn	Sn	14 19 17.5	+2.1
FRGS	**Fruska Gora**	2.83	96	*e*Pn	Pn	14 18 43.5	+2.1
FRGS				*e*Sn	Sb	14 19

IVAS	**Ivanjica**	**3.65**	**121**	*e*Pn	**Pn**	**14 18 53.7**	**+1.0**
MOTA	**Moosalm**	**3.74**	**301**	*e*Pn	**Pn**	**14 18 55.8**	**+1.8**
	comp=Z,0.1nm,0.1s						
MOTA				Sn	**Sn**	**14 19 40.2**	**+2.1**
	comp=Z,0.3nm,0.2s						
VRAC	**Vranov**	**3.83**	**8**	*e*PN	**Pn**	**14 18 55.1**	**0.0**
VRAC				*e*SN	**Sn**	**14 19 37.1**	**-2.8**
FETA	**Feichten**	**3.84**	**295**	*e*Pn	**Pn**	**14 18 57.9**	**+2.5**
	comp=Z,0.8nm,0.2s,SNR=4.6						
FETA				*e*Sg	**Sg**	**14 19 58.6**	**-1.2**
	comp=Z,5.0nm,0.5s						
GRUS	**Gruza**	**3.85**	**113**	*e*Pn	**Pn**	**14 18 55.8**	**+0.5**
KHC	**Kasperske Hory**	**3.92**	**338**	*e*PN	**Pn**	**14 18 57.3**	**+0.9**
KHC				*e*SN	**Sn**	**14 19 41.4**	**-1.0**
KHC				*e*x	x	14 19 59.0	
RETA	**Reutte**	**4.01**	**301**	Pg	**Pg**	**14 19 13.4**	**+0.1**
	comp=Z,0.1nm,0.1s						
RETA				Sg	**Sg**	**14 20 06.3**	**+1.1**
	comp=Z,3.6nm,0.4s						
ZVC	**Zvikov**	**4.08**	**345**	*e*PN	**Pn**	**14 18 59.7**	**+1.2**
ZVC				*e*SN	**Sn**	**14 19 44.7**	**-1.3**
LANS	**Liptovska Anna**	**4.39**	**33**	*e*SN	**Sn**	**14 19 49.7**	**-4.3**
MORC	**Moravsky Berou**	**4.41**	**15**	*e*PN	**Pn**	**14 19 04.0**	**+0.8**
MORC				*e*SN	**Sn**	**14 19 52.2**	**-2.3**
SELS	**Selova**	**4.44**	**119**	*e*Pn	**Pn**	**14 19 04.1**	**+0.6**
SELS				*e*Sn	**Sn**	**14 19 56.3**	**+1.3**
GOPC	**GO Pecny, Ondr**	**4.45**	**351**	*e*PN	**Pn**	**14 19 04.5**	**+0.8**
DAVA	**Damuels**	**4.48**	**295**	*e*Sn	**Sn**	**14 20 01.2**	**+4.9**
	comp=Z,0.2nm,0.1s						
PRU	**Pruhonice**	**4.55**	**349**	*e*PN	**Pn**	**14 19 06.3**	**+1.2**
PRU				*e*SN	**Sn**	**14 19 56.2**	**-1.6**
KRLC	**Kraliky**	**4.60**	**8**	*e*PN	**Pn**	**14 19 06.5**	**+0.7**
KRLC				*e*SN	**Sn**	**14 19 57.4**	**-1.7**
OSTC	**Ostas**	**5.05**	**3**	*e*PN	**Pn**	**14 19 13.1**	**+1.3**
CHVC	**Chvalec**	**5.07**	**2**	*e*PN	**Pn**	**14 19 13.5**	**+1.3**
NKC	**Novy Kostel**	**5.24**	**335**	*e*PN	**Pn**	**14 19 14.8**	**+0.4**
HSKC	**Hora Svate Kat**	**5.34**	**343**	*e*PN	**Pn**	**14 19 15.2**	**-0.6**
BRG	**Berggiesshubel**	**5.50**	**347**	*e*Pn	**Pn**	**14 19 18.6**	**+0.5**
BRG				Amp		14 19 19.1	
	comp=Z,1.3nm,0.4s						
BRG				r		14 19 55.1	
BRG				r		14 20 10.9	
BRG				r		14 20 17.7	
BRG				r		14 20 32.3	
BRG				r		14 20 52.8	
BRG				Amp		14 21 01.2	
	comp=Z,4.5nm,0.8s						
KOLS	**Kolonicke sedl**	**5.56**	**50**	*e*SN	**Sn**	**14 20 20.8**	**-1.9**
CLL	**Collm**	**6.09**	**343**	*e*Pn	**Pn**	**14 19 26.0**	**-0.1**
CLL				*e*Sn	**Sn**	**14 20 29.0**	**-6.6**
CLL				*e*Sg	**Sg**	**14 21 10.0**	**-1.7**
	comp=Z,10.0nm,0.8s						

NAO ***24*** *14:18:06.0±1.6, 71°.76N×1°.29W, ML4.0*
IDC ***24*** *14:18:07.3±0.7, 71°.76N×1°.14W, h0km, mb3.7/15, mbtmp3.8/21, ML3.7/6, MS3.6/31, Error ellipse: s-maj=16.4km s-min=13.4km az=40.0*
NEIC ***24*** *14:18:08.3±1.2, 71°.73N±0°.08×1°.1W±0°.2, h10km±1km, mb4.2/17, Error ellipse: s-maj=14.2km s-min=12.3km az=192.0*
KOLA ***24*** *14:18:10.1, 71°.91N×0°.58W, h0km, ML2.5, Norwegian sea, Mohn ridge*
DNK ***24*** *14:18:10.6±2.4, 72°.22N×1°.61W, h15km, ML2.1*
BER ***24*** *14:18:10.2±3.3, 71°.92N×1°.11W, h10km, mb(Pn)4.9, ML4.0(NAO), Confirmed Earthquake*
ISC 24 14:18:08.4±0.4, 71°.79N±0°.05×0°.87W±0°.05, h10km, n215, σ2S52/220, mb4.1/37, MS3.6/26, 8D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.58**	**255**	*e*S	**Sn**	**14 19 19.8**	**-1.7**
JMIC				IAML		14 19 28.4	
	comp=Z,293nm,0.3s						
LOF	**Lofoten**	**6.16**	**120**	Pn	**Pn**	**14 19 40.7**	**+1.5**
LOF				Sn	**Sn**	**14 20 45.2**	**-4.4**
LOF	**Lofoten**	**6.16**	**120**	*e*P	**Pn**	**14 19 40.9**	**+1.7**
LOF				*e*S	**Sn**	**14 20 44.4**	**-5.2**
LOF				IAML		14 20 49.9	
	comp=Z,24nm,0.5s						
LOF				*e*T	T	14 25 17.1	
DBG	**Daneborg**	**6.18**	**303**	Pn	**Pn**	**14 19 35.1**	**-4.4**
DBG	**Daneborg**	**6.18**	**303**	*i* P	**Pn**	**14 19 34.9**	**-4.6**
DBG				*i* S	Sn	14 20 38.4	-12
DBG				IAML		14 21 05.5	
	comp=Z,7.4nm,0.7s						
DBG				*i*		14 24 40.7	
DBG	**Daneborg**	**6.18**	**303**	*i* P	**Pn**	**14 19 34.9**	**-4.6**
DBG				*i* S	Sn	14 20 38.4	-12
DBG				IAML		14 21 05.5	
	comp=Z,7.4nm,0.7s						
BJO1	**Bjornoya**	**6.37**	**56**	Pn	**Pn**	**14 19 42.3**	**+0.2**
BJO1	**Bjornoya**	**6.37**	**56**	*e*P	**Pn**	**14 19 42.1**	**0.0**
STEI	**Steigen**	**6.76**	**117**	Pn	**Pn**	**14 19 48.9**	**+1.3**
STEI	**Steigen**	**6.76**	**117**	*e*P	**Pn**	**14 19 48.5**	**+1.0**
STEI				*e*S	**Sn**	**14 20 60.0**	**-4.5**
STEI				IAML		14 21 05.7	
	comp=Z,29nm,0.8s						
HSPB	**Hornsund (broa**	**6.82**	**33**	Pn	**Pn**	**14 19 47.6**	**-0.7**
HSPB	**Hornsund (broa**	**6.82**	**33**	*e*P	**Pn**	**14 19 48.2**	**-0.1**
TRO	**Tromso**	**6.89**	**99**	Pn	**Pn**	**14 19 49.1**	**-0.2**
TRO				Sn	**Sn**	**14 21 03.5**	**-4.1**
TRO	**Tromso**	**6.89**	**99**	*e*P	**Pn**	**14 19 48.6**	**-0.7**
TRO				*e*S	**Sn**	**14 21 02.2**	**-5.4**
TRO				IAML		14 21 12.3	
	comp=Z,7.2nm,0.6s						
TRO				*e*T	T	14 26 07.6	
DAG	**Danmarks Havn**	**6.92**	**324**	*i* P	**Pn**	**14 19 45.0**	**-4.6**
DAG				*e*S	Sn	14 20 50.9	-17
DAG				IAML		14 20 55.8	
	comp=Z,5.4nm,0.3s						
DAG	**Danmarks Havn**	**6.92**	**324**	*i* P	**Pn**	**14 19 45.0**	**-4.6**
DAG				*e*S	Sn	14 20 50.9	-17
DAG				IAML		14 20 55.8	
	comp=Z,5.4nm,0.3s						
SCO	**Scoresbysund**	**6.94**	**269**	Pn	**Pn**	**14 19 47.4**	**-2.6**
SCO	**Scoresbysund**	**6.94**	**269**	*i* P	**Pn**	**14 19 47.0**	**-3.0**
SCO	**Scoresbysund**	**6.94**	**269**	*i* P	**Pn**	**14 19 47.0**	**-3.0**
FAUS	**Fauske**	**7.16**	**120**	*e*P	**Pn**	**14 19 53.9**	**+0.9**
FAUS				*e*S	**Sn**	**14 21 08.1**	**-6.1**
FAUS				IAML		14 21 15.2	
	comp=Z,16nm,0.4s						
FAUS	**Fauske**	**7.16**	**120**	P	**Pn**	**14 19 53.1**	**+0.1**
FAUS				S	**Sn**	**14 21 08.8**	**-5.4**
KONS	**Konsvik**	**7.27**	**130**	Pn	**Pn**	**14 19 54.9**	**+0.4**
KONS				Sn	**Sn**	**14 21 11.4**	**-5.7**
KONS	**Konsvik**	**7.27**	**130**	*e*P	**Pn**	**14 19 53.8**	**-0.8**
KONS				*e*S	**Sn**	**14 21 09.2**	**-7.8**
KONS				IAML		14 21 14.7	
	comp=Z,54nm,0.5s						
STOK	**Stokkvaagen**	**7.38**	**131**	Pn	**Pn**	**14 19 57.4**	**+1.3**
STOK				Sn	**Sn**	**14 21 14.1**	**-5.6**
STOK	**Stokkvaagen**	**7.38**	**131**	*e*P	**Pn**	**14 19 56.7**	**+0.7**
STOK				*e*S	**Sn**	**14 21 12.0**	**-7.7**
STOK				IAML		14 21 19.8	
	comp=Z,36nm,0.7s						
JETT	**Jettan, Norway**	**7.39**	**97**	Pn	**Pn**	**14 19 56.2**	**0.0**
JETT				Sn	**Sn**	**14 21 15.5**	**-4.4**
JETT	**Jettan, Norway**	**7.39**	**97**	Pn	**Pn**	**14 19 56.2**	**0.0**
JETT				*e*S	**Sn**	**14 21 15.1**	**-4.8**
JETT				IAML		14 21 16.9	
	comp=Z,17nm,0.4s						
JETT				*e*T	T	14 26 11.8	
BRBA	**Barentsburg A**	**7.39**	**25**	Pn	**Pn**	**14 19 56.7**	**+0.6**
BRBA	**Barentsburg A**	**7.39**	**25**	*e*P	**Pn**	**14 19 55.9**	**-0.2**
BRBA				IAML		14 19 59.7	
	comp=Z,8.3nm,0.8s						
BRBB	**Barentsburg B**	**7.41**	**25**	*e*P	**Pn**	**14 19 56.5**	**0.0**
LEIR	**Leirfjorden**	**7.59**	**132**	*e*P	**Pn**	**14 19 58.9**	**0.0**
LEIR				*e*S	**Sn**	**14 21 16.7**	**-8.0**
LEIR				IAML		14 21 22.5	
	comp=Z,59nm,0.3s						
SPB3	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.4**	**+1.0**
SPA3	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.5**	**+1.1**
SPB4	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.5**	**+1.1**
SPA2	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.6**	**+1.2**
SPB2	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.4**	**+1.0**
SPA0	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.1**	**+0.7**
	baz=220,slow=16						
SPA0	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.1**	**+0.7**
	baz=220,slow=16						
SPA0				IAML		14 20 03.8	
	comp=Z,6.7nm,0.4s						
SPITS	**Spitsbergen Ar**	**7.77**	**27**	Pn	**Pn**	**14 20 02.3**	**+0.9**
	baz=207,slow=15						
	comp=Z,4.1nm,0.3s						
SPB1	**Spitsbergen Ar**	**7.78**	**27**	Pn	**Pn**	**14 20 02.5**	**+1.0**
KIF	**Kilpisjarvi**	**7.78**	**101**	Pn	**Pn**	**14 20 01.6**	**+0.1**
KIF	**Kilpisjarvi**	**7.78**	**101**	*e*P	**Pn**	**14 20 01.9**	**+0.4**
KIF				*e*S	**Sn**	**14 21 24.0**	**-5.5**
KBS	**Kingsbay**	**7.84**	**18**	*i* P	**Pn**	**14 19 58.1**	**-4.2**
MOR8	**Moi Rana**	**7.86**	**128**	*e*P	**Pn**	**14 20 03.3**	**+0.7**
MOR8				*e*S	**Sn**	**14 21 25.6**	**-5.9**
MOR8				IAML		14 21 31.1	
	comp=Z,47nm,0.3s						
HAMF	**Hammerfest**	**7.98**	**87**	*e*P	**Pn**	**14 20 03.6**	**-0.6**
KTK1	**Kautokeino**	**8.53**	**97**	*e*P	**Pn**	**14 20 12.7**	**+0.9**
NSS	**Namsos**	**8.70**	**141**	*e*P	**Pn**	**14 20 14.5**	**+0.4**
NSS				*e*S	**Sn**	**14 21 45.3**	**-6.7**
NSS				IAML		14 21 52.6	
	comp=Z,33nm,0.4s						
HEF	**Hetta**	**8.98**	**100**	Pn	**Pn**	**14 20 18.2**	**+0.2**
HEF				Sn	**Sn**	**14 21 54.1**	**-5.0**
HEF	**Hetta**	**8.98**	**100**	*e*P	**Pn**	**14 20 18.1**	**+0.1**
ARA0	**ARCESS Array S**	**8.99**	**92**	Pn	**Pn**	**14 20 17.9**	**-0.2**
	baz=290,slow=12						
ARA0	**ARCESS Array S**	**8.99**	**92**	Pn	**Pn**	**14 20 17.9**	**-0.2**
	baz=290,slow=12						
ARCES	**ARCESS Array B**	**8.99**	**92**	Pn	**Pn**	**14 20 17.9**	**-0.3**
ARCES	**ARCESS Array B**	**8.99**	**92**	Pn	**Pn**	**14 20 18.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=296,slow=14,SNR=39						
	comp=Z,5.5nm,0.7s						
ARCES	**ARCESS Array B**	**8.99**	**92**	P	**Pn**	**14 20 17.2**	**-0.9**
KEV	**Kevo**	**9.37**	**89**	Pn	**Pn**	**14 20 23.1**	**-0.2**
KEV	**Kevo**	**9.37**	**89**	Pn	**Pn**	**14 20 22.7**	**-0.6**
KEV	**Kevo**	**9.37**	**89**	*e*P	**Pn**	**14 20 22.8**	**-0.4**
MOL	**Molde**	**9.81**	**157**	*e*P	**Pn**	**14 20 30.3**	**+1.1**
MOL				*e*S	Sn	14 22 10.2	-9.0
MOL				IAML		14 22 18.4	
	comp=Z,9.4nm,0.5s						
VADS	**Vadso**	**9.96**	**85**	*e*P	**Pn**	**14 20 30.8**	**-0.4**
VADS	**Vadso**	**9.96**	**85**	P	**Pn**	**14 20 28.2**	**-3.1**
AKN	**Aaknes**	**10.12**	**159**	Pn	**Pn**	**14 20 33.5**	**-0.1**
AKN				Sn	Sn	14 22 18.5	-8.5
AKN	**Aaknes**	**10.12**	**159**	Pn	**Pn**	**14 20 33.5**	**-0.1**
AKN				Sn	Sn	14 22 18.5	-8.5
NOR	**Nord**	**10.44**	**347**	Pn	**Pn**	**14 20 35.5**	**-2.3**
NOR	**Nord**	**10.44**	**347**	*e*P	**Pn**	**14 20 34.6**	**-3.2**
FOO	**Floro**	**10.49**	**164**	*e*P	**Pn**	**14 20 38.2**	**-0.5**
FOO				*e*S	Sn	14 22 25.1	-11
FOO				IAML		14 22 34.9	
	comp=Z,15nm,0.4s						
DOMB	**Dombas**	**10.52**	**154**	*e*P	**Pn**	**14 20 39.2**	**+0.2**
DOMB				*e*S	**Sn**	**14 22 29.8**	**-7.0**
DOMB				IAML		14 22 36.2	
	comp=Z,6.3nm,0.3s						
SUE	**Sulen**	**11.01**	**166**	*e*P	**Pn**	**14 20 46.0**	**+0.3**
SUE				*e*S	Sn	14 22 38.5	-10
SUE				IAML		14 22 50.3	
	comp=Z,6.6nm,0.5s						
HYA	**Hoyanger**	**11.03**	**162**	*e*P	**Pn**	**14 20 45.9**	**0.0**
HYA				IAML		14 22 51.6	
	comp=Z,8.6nm,0.4s						
SUMG	**Summit**	**11.41**	**292**	Pn	**Pn**	**14 20 49.7**	**-1.8**
NC204	**NORSAR Array S**	**11.50**	**151**	Pn	**Pn**	**14 20 52.1**	**-0.3**
NC204	**NORSAR Array S**	**11.50**	**151**	*e*P	**Pn**	**14 20 52.2**	**-0.3**
NC204				*e*S	Sn	14 22 51.0	-10
NC204				IAML		14 22 58.5	
	comp=Z,4.3nm,1.1s						
ASK	**Askoy**	**11.61**	**165**	*e*P	**Pn**	**14 20 53.7**	**-0.2**
ASK				*e*S	Sn	14 22 51.3	-12
ASK				IAML		14 23 00.3	
	comp=Z,3.2nm,0.3s						
NC303	**NORSAR Array S**	**11.64**	**149**	Pn	**Pn**	**14 20 55.2**	**+0.8**
LRW	**Lerwick**	**11.71**	**181**	Pn	**Pn**	**14 20 55.5**	**+0.3**
LRW				Sn	Sn	14 22 57.2	-8.5
LRW	**Lerwick**	**11.71**	**181**	*e*P	**Pn**	**14 20 55.8**	**+0.5**
LRW				*e*S	Sn	14 22 54.9	-11
LRW				IAML		14 23 00.2	
	comp=Z,6.3nm,0.6s						
BER	**Bergen**	**11.72**	**165**	*e*P	**Pn**	**14 20 56.8**	**+1.4**
SKAR	**Skarslia**	**11.73**	**157**	*e*P	**Pn**	**14 20 55.8**	**+0.1**
SKAR				IAML		14 23 00.5	
	comp=Z,2.8nm,0.6s						
NBO00	**NORSAR Array S**	**11.73**	**151**	Pn	**Pn**	**14 20 55.5**	**-0.1**
NB2	**NORSAR Subarra**	**11.79**	**150**	Pn	**Pn**	**14 20 57.3**	**+0.8**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**11.79**	**150**	Pn	**Pn**	**14 20 57.7**	**+1.2**
	baz=336,slow=14						
NOA	**NORSAR Array B**	**11.79**	**150**	Pn	**Pn**	**14 20 57.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=339,slow=12,SNR=24						
NOA				Sn	**Sn**	**14 23 03.5**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=253,slow=12,SNR=1.6						
	comp=Z,2.1nm,0.5s						
NB201	**NORSAR Array S**	**11.80**	**150**	Pn	**Pn**	**14 20 56.9**	**+0.4**
NC405	**NORSAR Array S**	**11.80**	**149**	Pn	**Pn**	**14 20 57.3**	**+0.7**
NAO01	**NORSAR Array S**	**11.93**	**151**	Pn	**Pn**	**14 20 58.0**	**-0.2**
NC602	**NORSAR Array S**	**12.13**	**150**	Pn	**Pn**	**14 21 01.0**	**-0.1**
NRA0	**NORESS Array S**	**12.13**	**150**	Pn	**Pn**	**14 21 01.1**	**0.0**
	baz=346,slow=14						
NRA0	**NORESS Array S**	**12.13**	**150**	Pn	**Pn**	**14 21 01.1**	**0.0**
	baz=346,slow=14						
ODD1	**Odda**	**12.30**	**162**	*e*P	**Pn**	**14 21 03.8**	**+0.4**
APA0	**Apatity Array**	**12.35**	**93**	Pn	**Pn**	**14 21 03.5**	**-0.4**
	baz=325,slow=16						
APA0	**Apatity Array**	**12.35**	**93**	Pn	**Pn**	**14 21 04.0**	**0.0**
	baz=325,slow=16						
APA0	**Apatity Array**	**12.35**	**93**	P	**Pn**	**14 21 00.1**	**-3.8**
APA0				S	Sn	14 23 10.6	-11
LVZ	**Lovozero**	**12.70**	**90**	Pn	**Pn**	**14 21 08.1**	**-0.7**
BLS5	**Blasjo**	**12.77**	**163**	*e*P	**Pn**	**14 21 09.6**	**-0.2**
KVDA	**Kovda**	**12.86**	**97**	P	**Pn**	**14 21 06.7**	**-4.2**
KMY	**Karmoy**	**12.87**	**166**	*e*P	**Pn**	**14 21 11.7**	**+0.5**
KONO	**Kongsberg**	**12.90**	**156**	Pn	**Pn**	**14 21 10.3**	**-1.2**
KONO	**Kongsberg**	**12.90**	**156**	*e*P	**Pn**	**14 21 11.6**	**+0.1**
HFS	**Hagfors**	**13.06**	**146**	Pn	**Pn**	**14 21 14.1**	**+0.4**
	baz=339,slow=11						
HFS	**Hagfors**	**13.06**	**146**	Pn	**Pn**	**14 21 14.5**	**+0.8**
	baz=339,slow=11						
HFS	**Hagfors**	**13.06**	**146**	Pn	**Pn**	**14 21 14.6**	**+0.9**
	comp=Z,2.1nm,0.3s,baz=347,slow=12,SNR=59						
HFS				Sn	**Sn**	**14 23 32.1**	**-6.8**
	comp=Z,1.1nm,0.3s,baz=353,slow=24,SNR=5.6						
	comp=Z,14nm,0.6s						
SNART	**Snartemo**	**13.91**	**162**	*e*P	**Pn**	**14 21 25.3**	**0.0**
NEEM	**North Greenlan**	**13.99**	**316**	*i* P	Pn	14 21 21.8	-4.8
NEEM	**North Greenlan**	**13.99**	**316**	*i* P	Pn	14 21 21.8	-4.8
FIA0	**FINESS Array S**	**14.72**	**121**	P	**Pn**	**14 21 36.3**	**-0.1**
	baz=332,slow=12						
FIA0	**FINESS Array S**	**14.72**	**121**	P	**Pn**	**14 21 36.3**	**-0.1**
	baz=332,slow=12						
FIA1	**FINESS Array S**	**14.72**	**121**	Pn	**Pn**	**14 21 36.0**	**-0.4**
FINES	**FINESS Array B**	**14.72**	**121**	Pn	**Pn**	**14 21 36.2**	**-0.1**
FINES	**FINESS Array B**	**14.72**	**121**	Pn	**Pn**	**14 21 36.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=326,slow=13,SNR=18						
FINES				Sn	Sn	14 24 10.9	-8.3
	comp=Z,0.2nm,0.3s,baz=329,slow=26,SNR=2.5						
	comp=Z,4.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**16.55**	**185**	Pn	**Pn**	**14 22 00.6**	**+0.2**
	baz=0.5,slow=10.0						
	comp=Z,1.0nm,0.6s						
ESK	**Eskdalemuir**	**16.57**	**185**		**Pn**	**14 22 01.6**	**+1.0**
ESK				IAmb	IAmb	14 22 05.1	
	comp=Z,20nm,1.2s						
SFJD	**Kangerlussuaq**	**17.68**	**279**	LR	LR	14 28 18.0	
	comp=Z,160nm,18.3s,baz=15,slow=35						
EUNU	**Eureka**	**20.10**	**330**	P	**P**	**14 22 40.5**	**-1.3**
EUNU				IAmb	IAmb	14 22 45.2	
	comp=Z,19nm,1.5s						
NACGM	**Naroch**	**20.64**	**131**	*e*P	Pn	14 22 49.7	-0.3
	baz=335						
SUW	**Suwalki**	**20.65**	**137**	P	**P**	**14 22 47.7**	**0.0**
MNK	**Minsk**	**21.27**	**129**	*i* P	**P**	**14 22 54.7**	**+0.2**
	comp=E,40nm,1.1s						
MNK				*i* P	**P**	**14 22 54.7**	**+0.2**
	comp=N,14nm,0.9s,baz=335						
MNK				*i* P	**P**	**14 22 54.7**	**+0.2**
	comp=Z,36nm,0.8s						
MNK				*i* PP	**PnPn**	**14 23 14.6**	**+0.7**
MNK				*i* PPP	PPP	14 23 22.4	
MNK				*i* S	**S**	**14 26 52.8**	**+2.3**
MNK				*i* SS	**SnSn**	**14 27 16.9**	**+4.6**
MNK				*i* SSS	SSS	14 27 30.1	
MNK				*i* LQ	LQ	14 29 01.7	
MNK				*i* LR	LR	14 30 21.1	
MNK				*i* LRM	MLR	14 30 47.9	
	comp=E,186nm,16.8s						
MNK				*i* LRM	MLR	14 30 47.9	
	comp=N,254nm,17.4s						
MNK				*i* LRM	MLR	14 30 50.7	
	comp=Z,253nm,16.4s						
CLL	**Collm**	**21.48**	**156**	P	**P**	**14 22 56.3**	**-0.4**
	comp=Z,8.5nm,1.8s						
CLL	**Collm**	**21.48**	**156**	*e*P	**P**	**14 22 55.0**	**-1.7**
CLL				*i* x	x	14 23 00.2	
	comp=Z,16nm,1.5s						
CLL				*e*x	x	14 23 11.0	
CLL				*e*PPP	PPP	14 23 24.0	
CLL				*e*S	**S**	**14 26 57.0**	**+2.4**
MEM	**Membach**	**21.48**	**168**	*d*x	**P**	**14 23 03.8**	**+6.9**
BTNL	**Ternell**	**21.52**	**168**	*d*x	**P**	**14 23 02.3**	**+5.1**
BCLA	**Clavier**	**21.63**	**169**	*d*P	**P**	**14 23 00.5**	**+2.2**
BGES	**Gesves**	**21.65**	**170**	*d*P	**P**	**14 23 00.2**	**+1.6**
BMRD	**Maredsous**	**21.72**	**170**	*d*x	**P**	**14 23 05.3**	**+6.1**
BHOU	**Houvegnez**	**21.74**	**168**	*d*x	**P**	**14 23 06.0**	**+6.4**
RCHB	**Rochefort**	**21.89**	**169**	*d*x	**P**	**14 23 05.0**	**+3.8**
DOU	**Dourbes**	**21.91**	**171**	*d*P	**P**	**14 23 02.0**	**+0.6**
BRG	**Berggiesshubel**	**22.03**	**154**	*e*P	**P**	**14 23 09.3**	**+6.6**
BRG				Amp		14 23 09.7	
	comp=Z,3.3nm,0.9s						
KSP	**Ksiaz**	**22.40**	**151**	P	**P**	**14 23 06.2**	**-0.4**
	comp=Z,13nm,1.4s						
CHVC	**Chvalec**	**22.61**	**151**	*e*P	**P**	**14 23 10.9**	**+2.0**
OSTC	**Ostas**	**22.66**	**151**	*e*P	**P**	**14 23 11.2**	**+1.7**
UPC	**Upice**	**22.68**	**151**	*e*P	**P**	**14 23 12.6**	**+2.9**
GRA1	**Grafenberg Arr**	**22.85**	**159**	P	**P**	**14 23 07.6**	**-3.8**
GRA1				IAmb	IAmb	14 23 23.6	
	comp=Z,9.0nm,1.0s						
GRFO	**Grafenberg**	**22.85**	**159**	P	**P**	**14 23 07.5**	**-4.0**
GRFO				IAmb	IAmb	14 23 23.5	
	comp=Z,9.3nm,1.0s						
DPC	**Dobruska-Polom**	**22.88**	**151**	*e*P	**P**	**14 23 14.3**	**+2.5**
DPC	**Dobruska-Polom**	**22.88**	**151**	P	**P**	**14 23 11.3**	**-0.5**
	comp=Z,7.5nm,1.1s						
OBN	**Obninsk**	**23.02**	**117**	LR	LR	14 31 47.4	
	comp=Z,244nm,19.3s,baz=5.5,slow=36						
KRLC	**Kraliky**	**23.22**	**150**	*e*P	**P**	**14 23 18.2**	**+2.9**
ZVC	**Zvikov**	**23.46**	**155**	*e*P	**P**	**14 23 19.2**	**+1.5**
OJC	**Ojcow**	**23.58**	**145**	P	**P**	**14 23 18.7**	**-0.2**
	comp=Z,1μmcomp=Z,11nm,1.6s						
KHC	**Kasperske Hory**	**23.69**	**156**	*e*P	**P**	**14 23 22.2**	**+2.3**
KHC	**Kasperske Hory**	**23.69**	**156**	P	**P**	**14 23 19.1**	**-0.8**
RNPP8	**Varash**	**23.73**	**135**	P	**P**	**14 23 19.8**	**-0.5**
KIRV	**Kirov**	**23.95**	**97**	LR	LR	14 32 20.6	
	comp=Z,117nm,19.6s,baz=329,slow=36						
GERES	**GERESS Array B**	**23.98**	**156**	P	**P**	**14 23 23.6**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=351,slow=9.8,SNR=3.3						
GERES				LR	LR	14 31 58.3	
	comp=Z,210nm,18.0s,baz=350,slow=35						
	comp=Z,0.5nm,0.5s						
NIE	**Niedzica**	**24.45**	**145**	P	**P**	**14 23 26.3**	**-0.7**
	comp=Z,4.6nm,1.7s						
MI28	**Mi28,Pidlybu**	**24.52**	**133**	P	**P**	**14 23 27.0**	**-0.6**
RES	**Resolute Bay**	**24.59**	**320**	LR	LR	14 32 47.7	
	comp=Z,209nm,18.5s,baz=26,slow=36						
KWP	**Kalwaria Pacla**	**24.69**	**141**	P	**P**	**14 23 28.5**	**-0.7**
	comp=Z,23nm,1.9s						
LVV	**L'vov**	**24.78**	**139**	P	**P**	**14 23 29.2**	**-0.8**
MODS	**Modra-Piesok**	**24.95**	**151**	*e*P	**P**	**14 23 34.9**	**+3.3**
KIEV	**Kiev**	**25.10**	**131**	P	**P**	**14 23 31.7**	**-1.1**
KIEV				IAmb	IAmb	14 23 38.0	
	comp=Z,10.0nm,1.1s						
KIEV	**Kiev**	**25.10**	**131**	P	**P**	**14 23 32.6**	**-0.2**
	comp=Z,36nm,2.8s						
SHIU	**Shidnytsya**	**25.21**	**141**	P	**P**	**14 23 33.4**	**-0.5**
KOLS	**Kolonicke sedl**	**25.28**	**143**	*e*P	**P**	**14 23 38.0**	**+3

comp=Z,1.1nm,0.7s
ULM Lac du Bonnet 44.74 295 LR LR 14 44 09.9
comp=Z,55nm,18.2s,baz=342,slow=35
DLBC Dease Lake 45.34 325 LR LR 14 45 31.6
comp=Z,67nm,19.2s,baz=36,slow=36
KSH Kashi 48.93 88 P **P 14 26 58.8 +4.4**
KSH pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 50.31 57 P **P 14 27 06.1 +1.3**
comp=Z,0.5nm,0.8s,baz=330,slow=8.3,SNR=4.2
comp=Z,0.5nm,0.8s
BBB Bella Bella 50.88 321 LR LR 14 47 22.4
comp=Z,58nm,19.3s,baz=0.0,slow=34
NEW Newport 52.17 311 LR LR 14 49 26.1
comp=Z,82nm,18.6s,baz=16,slow=36
PDAR Pinedale Array 55.38 302 LR LR 14 50 25.5
comp=Z,40nm,20.5s,baz=5.0,slow=35
HHC Hu-ho-hao-te 58.16 56 *e*P **P 14 28 02.6 +0.5**
HHC pmax pmax
comp=Z,17nm,0.9s
YBH Yreka Blue Hor 59.64 313 LR LR 14 53 11.7
comp=Z,67nm,18.7s,baz=20,slow=35
NVAR Mina Array Bea 61.72 308 LR LR 14 56 13.5
comp=Z,54nm,18.1s,baz=328,slow=37
ANMO Albuquerque 61.84 296 LR LR 14 55 16.8
comp=Z,59nm,18.9s,baz=208,slow=36
PFO Pinyon Flats O 65.81 304 LR LR 14 57 20.8
comp=Z,33nm,21.0s,baz=22,slow=36
TXAR Lajitas Array 66.30 292 P **P 14 28 57.6 +0.9**
comp=Z,0.2nm,0.5s,baz=22,slow=6.3,SNR=2.5
comp=Z,0.2nm,0.5s
MJAR Matsushiro Arr 68.19 35 P **P 14 29 08.8 +0.3**
comp=Z,2.6nm,1.0s,baz=343,slow=6.6,SNR=5.5
comp=Z,2.6nm,1.0s
PZH PanZhiHua 68.91 70 P **P 14 29 14.5 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.8s
LPIG La Paz 73.15 296 LR LR 15 02 19.2
comp=Z,46nm,18.4s,baz=16,slow=36
CMAR Chiang Mai Arr 75.65 75 P **P 14 29 54.2 +0.8**
comp=Z,0.6nm,0.9s,baz=323,slow=7.1,SNR=5.5
comp=Z,0.6nm,0.9s
ASAR Alice Springs 125.59 53 PKP **PKPdf 14 37 08.9 -0.3**
comp=Z,0.2nm,0.9s,baz=0.0,slow=1.8,SNR=4.6

---

*GII **24** 14:30:13.6±0.0, 36°.06N×26°.41E, h15km, Mws3.5, confirmed*
*IDC **24** 14:30:19.6±1.1, 35°.26N×26°.42E, h0km, mb3.6/5, mbtmp3.5/8, ML3.5/3, MS2.8/1, Error ellipse: s-maj=29.7km s-min=11.1km az=174.0*
*ATH **24** 14:30:23.4, 35°.10N×26°.39E, h22km±1km, ML3.5/15, Manual Solution by G.Panopoulou First location: 2019/02/24 14:35:17, This location: 2020/09/16 18:19:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **24** 14:30:23.8, 35°.28N×26°.26E, h11km, ML3.4/21*
*THE **24** 14:30:24.5, 35°.27N×26°.27E, h0km±1km, ML3.4/4, Error ellipse: s-maj=1.6km s-min=0.9km az=314.0*
*AFAD **24** 14:30:28.0, 35°.21N×26°.48E, h34km, ML3.2*
ISC 24 14:30:22.4±0.8, 35°.15N±0°.03×26°.44E±0°.02, h26km±5km, n121, σ1§98/163, mb3.7/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.19**	**259**	Pg	**Pb**	**14 30 27.9**	**-0.2**
ZKR				Sg	**Sb**	14 30 31.5	-0.4
ZKR	**Zakros**	**0.19**	**259**	P	**Pb**	**14 30 27.9**	**-0.2**
ZKR				S	**Sb**	14 30 31.6	-0.4
	26μm,0.3s						
ZKR	**Zakros**	**0.19**	**259**	P	**Pb**	**14 30 27.9**	**-0.2**
ZKR				S	**Sb**	14 30 31.4	-0.4
SIT2	**Siteia**	**0.28**	**281**	P	**Pb**	**14 30 29.3**	**+0.1**
SIT2				S	**Sb**	14 30 33.8	-0.1
KARP	**Karpathos**	**0.71**	**56**	Pg	**Pn**	**14 30 39.3**	**+2.4**
KARP				Sg	**Sn**	14 30 50.8	+3.8
KARP	**Karpathos**	**0.71**	**56**	P	**Pn**	**14 30 39.3**	**+2.4**
KARP				S	**Sn**	14 30 51.9	+4.9
	4μm,0.6s						
KARP	**Karpathos**	**0.71**	**56**	P	**Pn**	**14 30 39.3**	**+2.4**
KARP				S	**Sn**	14 30 48.8	+1.8
IACM	**Heraklion**	**1.14**	**278**	P	**Pb**	**14 30 43.5**	**+0.1**
IACM	**Heraklion**	**1.14**	**278**	P	**Pb**	**14 30 43.5**	**+0.1**
IDI	**Anoyia**	**1.28**	**277**	Pn	**Pn**	**14 30 44.7**	**0.0**
IDI				Sn	**Sb**	14 31 01.9	-0.1
IDI	**Anoyia**	**1.28**	**277**	P	**Pn**	**14 30 44.9**	**+0.2**
IDI				S	**Sb**	14 31 02.1	+0.1
	722nm,0.5s						
IDI	**Anoyia**	**1.28**	**277**	Pg	**Pn**	**14 30 45.1**	**+0.3**
	45nm,0.3s,baz=94,slow=16,SNR=106						
IDI				Lg	Lg	14 31 00.7	
	66nm,0.3s,baz=342,slow=21,SNR=12						
IDI	**Anoyia**	**1.28**	**277**	P	**Pn**	**14 30 44.9**	**+0.2**
IDI				S	**Sn**	14 31 01.0	-0.1
TMBK	**Timbaki Herakl**	**1.38**	**267**	P	**Pb**	**14 30 47.3**	**-0.2**
TMBK				S	**Sn**	14 31 04.1	+0.7
ASTA	**Astypalaia**	**1.39**	**357**	P	**Pb**	**14 30 48.0**	**+0.2**
ASTA				S	**Sb**	14 31 06.9	+1.7
THR6	**Thira Island,**	**1.47**	**325**	P	**Pb**	**14 30 48.8**	**-0.4**
THR8	**Santorini-Mono**	**1.48**	**328**	P	**Pb**	**14 30 48.4**	**-0.8**
RGE1	**Gennadi, Rhode**	**1.49**	**54**	P	**Pb**	**14 30 50.5**	**+1.0**
THR9	**Santorini-Faro**	**1.50**	**324**	P	**Pb**	**14 30 49.1**	**-0.5**
THRA	**Thira**	**1.51**	**327**	P	**Pb**	**14 30 49.5**	**-0.2**
THRA				S	**Sb**	14 31 07.8	-0.6
THR3	**Thira Island,**	**1.52**	**326**	P	**Pb**	**14 30 49.4**	**-0.5**
THR2	**Thira island,**	**1.53**	**328**	P	**Pb**	**14 30 49.3**	**-0.8**
THR5	**Thira Island,**	**1.55**	**325**	P	**Pn**	**14 30 49.0**	**+0.6**
NISR	**Nisiros**	**1.56**	**21**	P	**Pb**	**14 30 51.5**	**+0.9**
NISR				S	**Sb**	14 31 13.0	+3.0
	1μm,0.5s						
NISR	**Nisiros**	**1.56**	**21**	P	**Pb**	**14 30 51.4**	**+0.7**
NISR				S	**Sb**	14 31 10.4	+0.5
SAP3	**Santorini-Thir**	**1.56**	**325**	P	**Pb**	**14 30 49.8**	**-0.9**
SAP3				S	**Sb**	14 31 10.8	+0.7
CMBO	**Columbo, Santo**	**1.56**	**328**	P	**Pb**	**14 30 50.0**	**-0.7**
PRNS	**Prines Rethymn**	**1.60**	**278**	P	**Pb**	**14 30 51.2**	**-0.2**
PRNS				S	**Sb**	14 31 11.8	+0.6
ARG	**Arkhangelos**	**1.73**	**52**	Pn	**Pb**	**14 30 55.6**	**+2.0**
ARG				Sn	**Sb**	14 31 18.4	+3.4
ARG	**Arkhangelos**	**1.73**	**52**	P	**Pb**	**14 30 56.0**	**+2.4**
ARG	**Arkhangelos**	**1.73**	**52**	P	**Pb**	**14 30 55.0**	**+1.4**
ARG				S	**Sb**	14 31 14.6	-0.4
YAZI	**Mula-Dat§a-**	**1.73**	**28**	P	**Pb**	**14 30 53.8**	**+0.2**
YAZI				S	**Sb**	14 31 13.6	-1.3
AMGA	**Amorgos Island**	**1.74**	**345**	P	**Pb**	**14 30 52.5**	**-1.2**
DAT	**Datca**	**1.82**	**30**	Pn	**Pb**	**14 30 55.4**	**+0.2**
DAT				Sn	**Sb**	14 31 18.8	+1.1
DAT	**Datca**	**1.82**	**30**	P	**Pb**	**14 30 55.3**	**+0.1**
DAT				S	**Sb**	14 31 18.2	+0.5
KLNA	**Kalymnos**	**1.85**	**13**	P	**Pb**	**14 30 55.3**	**-0.4**
GVD	**Gavdhos**	**1.96**	**262**	Pn	**Pn**	**14 30 55.7**	**+1.7**
GVD	**Gavdhos**	**1.96**	**262**	P	**Pb**	**14 30 56.6**	**-0.8**
GVD	**Gavdhos**	**1.96**	**262**	P	**Pn**	**14 30 54.7**	**+0.6**
BODT	**Bodrum**	**2.03**	**20**	Pn	**Pb**	**14 30 58.5**	**-0.2**
APE	**Apeiranthos**	**2.05**	**339**	Pn	**Pb**	**14 30 57.2**	**-1.9**
APE	**Apeiranthos**	**2.05**	**339**	P	**Pb**	**14 30 57.0**	**-2.1**
APE	**Apeiranthos**	**2.05**	**339**	P	**Pb**	**14 30 57.0**	**-2.1**
APE				S	**Sb**	14 31 22.3	-1.8
BDRM	**Kayabasi**	**2.08**	**23**	P	**Pb**	**14 30 57.8**	**-1.6**
BDRM				S	**Sn**	14 31 19.7	-1.0
TURN	**Turunc**	**2.18**	**41**	Pn	**Pb**	**14 31 01.2**	**0.0**
TURN	**Turunc**	**2.18**	**41**	P	**Pb**	**14 31 01.2**	**0.0**
TURN				*i* AML	AML	14 31 26.0	
	comp=N,153nm,1.3s						
TURN				*i* AML	AML	14 32 15.0	
	comp=E,278nm,2.8s						
MHLO	**Agia Marina, M**	**2.26**	**313**	P	**Pn**	**14 30 59.7**	**+1.5**
MHLO	**Agia Marina, M**	**2.26**	**313**	P	**Pn**	**14 31 00.0**	**+1.9**
DDIM	**Aydin, Didim**	**2.39**	**15**	P	**Pb**	**14 31 04.5**	**-0.2**
DDIM				S	**Sn**	14 31 29.0	+0.5
DDIM				*i* AML	AML	14 31 47.0	
	comp=N,135nm,1.8s						
DDIM				*i* AML	AML	14 31 56.0	
	comp=E,135nm,1.0s						
MLSB	**Milas**	**2.40**	**26**	Pn	**Pb**	**14 31 03.7**	**-1.2**
DALY	**Dalyan (Mula)**	**2.44**	**46**	Pn	**Pb**	**14 31 05.1**	**-0.6**
YER	**Yerkesik**	**2.48**	**36**	Pn	**Pb**	**14 31 05.6**	**-0.7**
SMG	**Samos**	**2.57**	**7**	P	**Pb**	**14 31 05.1**	**-2.8**
SMG				S	**Sb**	14 31 36.8	-2.3
MULA	**Mugla, Merkez-**	**2.59**	**35**	P	**Pb**	**14 31 06.9**	**-1.4**
MULA				S	**Sn**	14 31 33.0	-0.5
MULA				*i* AML	AML	14 31 42.0	
	comp=E,78nm,0.6s						
IZZE	**Mula-Seydike**	**2.60**	**60**	P	**Pn**	**14 31 05.8**	**+3.0**
IZZE				S	**Sn**	14 31 32.4	-1.2
IZZE				*i* AML	AML	14 31 42.0	
	comp=E,198nm,0.4s						
FETY	**Fethiye**	**2.60**	**55**	Pn	**Pb**	**14 31 06.7**	**-1.8**
GCAM	**G?zelcaml?**	**2.62**	**14**	Pn	**Pb**	**14 31 06.3**	**-2.4**
GCAM	**G?zelcaml?**	**2.62**	**14**	P	**Pb**	**14 31 08.5**	**-0.2**
GCAM				S	**Sn**	14 31 32.5	-1.6
GCAM				*i* AML	AML	14 32 08.0	
	comp=N,79nm,1.4s						
SABU	**Mula-Dalaman**	**2.64**	**50**	P	**Pb**	**14 31 07.1**	**-2.0**
SABU				S	**Sn**	14 31 37.9	+3.2
SABU				*i* AML	AML	14 31 59.0	
	comp=N,90nm,0.5s						
KSL	**Kastellorizon**	**2.74**	**68**	P	**Pn**	**14 31 07.0**	**+2.2**
KSL				S	**Sn**	14 31 39.7	+2.5
AYDN	**Tasoluk**	**2.76**	**24**	P	**Pb**	**14 31 09.1**	**-2.0**
AYDN				S	**Sn**	14 31 34.4	-3.2
AKAS	**Kas**	**2.79**	**66**	Pn	**Pb**	**14 31 10.8**	**-0.9**
DGB	**zmir**	**2.92**	**7**	P	**Pn**	**14 31 05.2**	**-2.0**
DGB				S	**Sn**	14 31 37.4	-4.0
CAME	**Cameli-Denizli**	**2.93**	**51**	Pn	**Pb**	**14 31 11.2**	**-2.8**
DNZT	**Denizli-Tavas-**	**2.98**	**44**	P	**Pb**	**14 31 12.3**	**-2.6**
DNZT				S	**Sb**	14 31 47.8	-3.0
AYDB	**Zeytinkoy-Aydi**	**3.02**	**22**	Pn	**Pb**	**14 31 12.3**	**-3.4**
CAEL	**Denizli, Camel**	**3.05**	**49**	P	**Pb**	**14 31 13.4**	**-2.7**
KNIK	**Mula-Seydike**	**3.05**	**55**	P	**Pb**	**14 31 13.1**	**-3.0**
KNIK				S	**Sn**	14 31 43.5	-1.3
TAVA	**DENIZLI_Tavas**	**3.05**	**40**	P	**Pb**	**14 31 13.1**	**-3.1**
TAVA				S	**Sn**	14 31 46.3	+1.4
TAVA				*i* AML	AML	14 32 05.0	
	comp=N,54nm,0.6s						
ESEN	**Aydn-Nazilli**	**3.06**	**30**	P	**Pb**	**14 31 13.2**	**-2.9**
ESEN				S	**Sn**	14 31 41.2	-3.6
URLA	**Izmir**	**3.21**	**2**	P	**Pn**	**14 31 12.0**	**+0.8**
IZMR	**zmir-demi**	**3.22**	**22**	P	**Pb**	**14 31 15.3**	**-3.6**
IZMR				S	**Sn**	14 31 41.1	-7.7
ELL	**Elmali**	**3.23**	**59**	Pn	**Pb**	**14 31 16.9**	**-2.3**
ELL	**Elmali**	**3.23**	**59**	P	**Pn**	**14 31 14.3**	**+2.7**
DNIZ	**Denizli-Tavas-**	**3.24**	**40**	P	**Pb**	**14 31 16.7**	**-2.6**
DNIZ				S	**Sn**	14 31 50.6	+1.1
DNIZ				*i* AML	AML	14 32 04.0	
	comp=N,105nm,0.5s						
DNIZ				*i* AML	AML	14 32 16.0	
	comp=E,104nm,0.4s						
VLI	**Veliai**	**3.25**	**300**	P	**Pn**	**14 31 12.6**	**+0.8**
VLI				S	**Sn**	14 31 49.8	+0.3
BLCB	**Balcova**	**3.26**	**8**	Pn	**Pn**	**14 31 15.0**	**+3.0**
APMY	**Acipayam-Deniz**	**3.27**	**44**	Pn	**Pb**	**14 31 16.8**	**-3.0**
GOLH	**Golhisar**	**3.27**	**50**	P	**Pb**	**14 31 16.6**	**-3.2**
GOLH				S	**Sn**	14 31 48.8	-1.5
GOLH				*i* AML	AML	14 32 12.0	
	comp=N,90nm,0.5s						
GOLH				*i* AML	AML	14 32 20.0	
	comp=E,66nm,1.5s						
KARY	**Karystos**	**3.30**	**331**	P	**Pn**	**14 31 14.7**	**+2.2**
ODEM	**Odemis-Izmir**	**3.38**	**22**	Pn	**Pn**	**14 31 17.4**	**+3.7**
VLY	**Voula,Athens**	**3.44**	**322**	P	**Pn**	**14 31 16.6**	**+2.2**
KRND	**KRANIDI**	**3.47**	**311**	P	**Pn**	**14 31 16.5**	**+1.7**
MET6	**Megalochori,Me**	**3.48**	**315**	P	**Pn**	**14 31 17.2**	**+2.2**
ATHU	**Athens Univers**	**3.53**	**323**	P	**Pn**	**14 31 17.1**	**+1.4**
DION	**Dionisos Attik**	**3.55**	**326**	P	**Pn**	**14 31 18.5**	**+2.5**
VIL2	**Platees**	**3.98**	**321**	P	**Pn**	**14 31 23.5**	**+1.7**
SIGR	**SIGRI**	**4.08**	**354**	P	**Pn**	**14 31 25.5**	**+2.3**
ITM	**Ithomi**	**4.18**	**300**	P	**Pn**	**14 31 25.9**	**+1.4**
GUR	**Goura**	**4.32**	**311**	P	**Pn**	**14 31 27.7**	**+1.2**
KLV	**Kalavryta, Ach**	**4.50**	**311**	P	**Pn**	**14 31 31.0**	**+2.0**
AXAR	**Agios Charalam**	**4.71**	**321**	P	**Pn**	**14 31 34.3**	**+2.4**
AKMS	**Akamas**	**4.83**	**90**	P	**Pn**	**14 31 34.5**	**+0.9**
ANX	**Ano Chora**	**5.00**	**315**	P	**Pn**	**14 31 37.2**	**+1.4**
ALFC	**Alefka**	**5.04**	**88**	P	**Pn**	**14 31 37.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**5.17**	**319**	P	**Pn**	**14 31 40.9**	**+2.7**
THL	**Klokotos Trika**	**5.64**	**323**	P	**Pn**	**14 31 46.2**	**+1.5**
CSS	**Mathiatis**	**5.65**	**90**	P	**Pn**	**14 31 41.8**	**-3.1**
CSS	**Mathiatis**	**5.65**	**90**	S	**Sn**	**14 32 44.3**	**-4.6**
CSS	**Mathiatis**	**5.65**	**90**	P	**Pn**	**14 31 45.4**	**+0.6**
PLG	**Polygyros**	**5.73**	**336**	P	**Pn**	**14 31 48.4**	**+2.5**
MVOU	**Mavrovouni**	**5.89**	**89**	P	**Pn**	**14 31 50.3**	**+2.2**
BRTR	**Keskin Array B**	**7.32**	**49**	Pn	**Pn**	**14 32 08.2**	**+0.4**
	0.1nm,0.3s,baz=232,slow=14,SNR=5.0						
	0.7nm,1.0s						
MMAI	**Mount Meron Ar**	**7.73**	**103**	Pn	**Pn**	**14 32 14.4**	**+0.9**
	2.6nm,0.3s,baz=287,slow=14,SNR=6.2						
MMAI				Sn	**Sn**	**14 33 37.6**	**-2.6**
	3.0nm,0.3s,baz=254,slow=20,SNR=2.0						
	0.9nm,0.3s						
KSHT	**Keshet**	**8.07**	**103**	P	Pn	14 32 13.6	-4.4
KSHT	**Keshet**	**8.07**	**103**	S	**Sn**	**14 33 47.8**	**-0.6**
HMDT	**Nahal Hemdat**	**8.10**	**108**	P	**Pn**	14 32 14.9	-3.5
HMDT	**Nahal Hemdat**	**8.10**	**108**	S	**Sn**	**14 33 50.2**	**+1.1**
YTIR	**Yattir**	**8.19**	**111**	P	**Pn**	**14 32 18.6**	**-1.1**
PRNI	**Paran**	**8.65**	**121**	P	**Pn**	**14 32 26.1**	**+0.1**
HRFI	**Mount Harif**	**8.86**	**123**	P	**Pn**	**14 32 29.4**	**+0.6**
MBRI	**Mt Berech**	**8.93**	**124**	P	**Pn**	**14 32 30.2**	**+0.4**
EIL	**Elat**	**9.03**	**125**	Pn	**Pn**	**14 32 31.4**	**+0.2**
	0.6nm,0.3s,baz=346,slow=2.9,SNR=8.6						
EIL				Sn	**Sn**	**14 34 06.6**	**-5.4**
	1.4nm,0.3s,baz=132,slow=22,SNR=5.8						
	2.6nm,0.5s						
EIL	**Elat**	**9.03**	**125**	P	**Pn**	**14 32 31.2**	**+0.1**
EIL	**Elat**	**9.03**	**125**	P	**Pn**	**14 32 31.3**	**+0.2**
ESDC	**Sonseca Array**	**24.51**	**290**	P	**P**	**14 35 39.4**	**-0.3**
	0.3nm,0.5s,baz=89,slow=10,SNR=4.5						
	0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**28.66**	**324**	P	**P**	**14 36 15.5**	**-1.4**
	0.2nm,0.4s,baz=122,slow=9.4,SNR=4.1						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**31.30**	**232**	P	**P**	**14 36 41.2**	**+0.6**
	48nm,0.3s,baz=39,slow=9.3,SNR=2.0						
KURBB	**Kurchatov Arra**	**40.31**	**51**	P	**P**	**14 37 58.3**	**+0.8**
	0.5nm,0.3s,baz=273,slow=8.7,SNR=8.2						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**42.90**	**57**	P	**P**	**14 38 20.2**	**+1.4**
	0.7nm,0.5s,baz=270,slow=8.4,SNR=7.2						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**44.25**	**46**	P	**P**	**14 38 30.3**	**+0.8**
	0.7nm,0.3s,baz=268,slow=9.6,SNR=3.5						
	0.7nm,0.3s						

IDC 24 14:31:15.7±1.6, 6°.56S×129°.31E, h0km, mb3.7/2, mbtmp3.8/4, ML3.9/2, MS4.3/1, Error ellipse: s-maj=116.0km s-min=25.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.92**	**237**	P	Pb	14 33 02.7	+2.7
WRA	**Warramunga Arr**	**14.17**	**160**	Pn	Pn	14 34 37.5	-0.4
	0.5nm,0.3s,baz=339,slow=13,SNR=15						
WRA				Sn	Sn	14 37 04.0	-12
	0.5nm,0.3s,baz=353,slow=24,SNR=6.2						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**17.58**	**166**	P	P	14 35 22.9	-0.6
	0.5nm,0.3s,baz=345,slow=12,SNR=33						
ASAR				S	Sn	14 38 25.7	-13
	0.2nm,0.4s,baz=356,slow=28,SNR=4.5						
	1.5nm,0.5s						
STKA	**Stephens Creek**	**27.68**	**157**	P	P	14 37 05.4	-0.2
	0.4nm,0.4s,baz=346,slow=12,SNR=1.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	14 42 13.6	0.0
	0.4nm,0.3s,baz=120,slow=5.7,SNR=12						
	0.4nm,0.3s						

---

*DJA **24** 15:00:14.6±0.4, 1°.S±4°.×13°.2E±°, h10km, M4.0/7, MLv4.0/7*
*IDC **24** 15:00:37.4±5.9, 0°.97S×132°.50E, h277km±66km, mb2.8/3, mbtmp3.4/4, Error ellipse: s-maj=129.2km s-min=15.2km az=77.0*
ISC 24 15:00:10.9±1.1, 0°.56S±0°.09×131°.87E±0°.05, h10km, n11, σ1§51/13, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.68**	**244**	P	**Pg**	**15 00 23.1**	**-1.1**
SWI				S	**Sg**	15 00 31.4	-1.7
FAKI	**Fak Fak**	**2.37**	**171**	P	**Pn**	**15 00 50.0**	**+0.1**
FAKI				Pg	**Pg**	15 00 57.5	+1.0
RKPI	**Ransiki, Papua**	**2.49**	**112**	P	**Pg**	**15 00 59.2**	**+0.5**
KMPI	**Kaimana, Papua**	**3.58**	**149**	P	**Pg**	**15 01 19.6**	**0.0**
MSAI	**Masohi**	**4.04**	**227**	P	**Pn**	**15 01 15.8**	**+2.9**
BAKI	**Biak**	**4.28**	**98**	P	**Pb**	**15 01 24.3**	**-2.0**
BNDI	**Bandanaira**	**4.40**	**207**	P	**Pn**	**15 01 19.1**	**+1.3**
WRA	**Warramunga Arr**	**19.41**	**173**	P	**P**	**15 04 36.7**	**-0.8**
	0.3nm,0.4s,baz=355,slow=11,SNR=5.1						
WRA				S	Sn	15 07 59.0	-18
	0.4nm,0.9s,baz=356,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**23.05**	**175**	P	**P**	**15 05 16.4**	**-0.3**
	0.5nm,0.5s,baz=358,slow=8.9,SNR=11						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**64.00**	**324**	P	**P**	**15 10 46.1**	**+1.4**
	0.3nm,0.7s,baz=122,slow=6.9,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**68.11**	**327**	P	**P**	**15 11 11.6**	**+0.6**
	0.4nm,0.6s,baz=115,slow=6.0,SNR=4.7						
	0.4nm,0.6s						

---

*NAO **24** 15:13:40.2±1.2, 71°.83N×1°.27W, ML4.3*
*IDC **24** 15:13:41.9±0.5, 71°.82N×1°.01W, h0km, mb3.9/22, mbtmp4.0/28, ML3.6/5, MS4.0/80, Error ellipse: s-maj=14.6km s-min=9.9km az=25.0*
*NEIC **24** 15:13:43.1±1.1, 71°.89N±0°.08×1°.2W±0°.2, h10km±1km, mb4.5/79, Error ellipse: s-maj=13.1km s-min=11.6km az=191.0*
*BER **24** 15:13:44.8±3.0, 71°.86N×1°.17W, h10km, mb(Pn)4.9, ML4.5(NAO), Confirmed Earthquake*
*FCIAR **24** 15:13:44.0, 71°.72N×0°.40W, h10km, station SVZ has station magnitude of 4.28*
*GCMT **24** 15:13:44.1±0.2, 71°.96N±0°.02×0°.81W±0°.05, h12km, MW4.9/111, Moment Tensor Solution. s28,c32; s111,c172; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.64±.06; Mθθ1.81±.06; Mφφ0.83±.06; Mrθ0.49±.28; Mθφ1.61±.06; Mφr-0.77±.23; Best double couple: M0=2.98200×10^16 NP1:φs=252.00000°, δ48.00000°, λ-63.00000°. NP2:φs35.00000°, δ49.00000°, λ-116.00000°. Principal axes: T 3.0050, Plg1.0000°, Azm143.0000°; N -0.0420, Plg19.0000°, Azm53.0000°; P -2.9590, Plg71.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **24** 15:13:46.8±2.3, 72°.10N×2°.18W, h21km±42km, ML2.3*
*KOLA **24** 15:13:46.3, 71°.82N×0°.59W, h0km, ML2.7, Error ellipse: s-maj=25.6km s-min=19.9km az=50.0, Norwegian sea, Mohn ridge*
ISC 24 15:13:42.8±0.3, 71°.88N±0°.04×0°.82W±0°.04, h10km, n328, σ2§75/290, mb4.5/79, MS4.1/79, 1C-11D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**2.71**	**253**	Pn	**Pn**	**15 14 22.2**	**-4.1**
DBG	**Daneborg**	**6.15**	**302**	Pn	**Pn**	**15 15 08.9**	**-4.6**
DBG	**Daneborg**	**6.15**	**302**	*i* P	Pn	15 15 08.6	-4.9
DBG				IAML		15 16 16.8	
	comp=Z,13nm,0.9s						
DBG	**Daneborg**	**6.15**	**302**	*i* P	Pn	15 15 08.6	-4.9
DBG				IAML		15 16 16.8	
	comp=Z,13nm,0.9s						
LOF	**Lofoten**	**6.18**	**120**	Pn	**Pn**	**15 15 14.7**	**+0.6**
LOF				Sn	**Sn**	**15 16 20.4**	**-4.2**
LOF	**Lofoten**	**6.18**	**120**	*e*P	**Pn**	**15 15 15.2**	**+1.2**
LOF				*e*S	**Sn**	**15 16 19.5**	**-5.1**
LOF				IAML		15 16 23.7	
	comp=Z,35nm,0.6s						
LOF				*e*T	T	15 20 35.8	
BJO1	**Bjornoya**	**6.30**	**56**	P	**Pn**	**15 15 16.7**	**+1.0**
BJO1	**Bjornoya**	**6.30**	**56**	*e*P	**Pn**	**15 15 16.7**	**+1.0**
BJO1	**Bjornoya**	**6.30**	**56**	*e*P	**Pn**	**15 15 16.2**	**+0.5**
HSPB	**Hornsund (broa**	**6.74**	**33**	*e*P	**Pn**	**15 15 23.4**	**+1.8**
HSPB	**Hornsund (broa**	**6.74**	**33**	Pn	**Pn**	**15 15 21.8**	**+0.2**
HSPB	**Hornsund (broa**	**6.74**	**33**	*e*P	**Pn**	**15 15 22.0**	**+0.4**
HSPB				IAML		15 15 29.9	
	comp=Z,32nm,0.5s						
STEI	**Steigen**	**6.79**	**118**	Pn	**Pn**	**15 15 23.5**	**+1.2**
STEI				Sn	**Sn**	**15 16 34.3**	**-5.2**
STEI	**Steigen**	**6.79**	**118**	*e*P	**Pn**	**15 15 23.2**	**+0.9**
STEI				*e*S	**Sn**	**15 16 34.3**	**-5.2**
STEI				IAML		15 16 37.2	
	comp=Z,36nm,0.6s						
STEI				*e*T	T	15 21 11.5	
DAG	**Danmarks Havn**	**6.86**	**324**	*i* P	**Pn**	**15 15 19.0**	**-4.2**
DAG				*i* S	Sn	15 16 26.8	-14
DAG				IAML		15 16 32.9	
	comp=Z,9.4nm,0.4s						
DAG	**Danmarks Havn**	**6.86**	**324**	*i* P	**Pn**	**15 15 19.0**	**-4.2**
DAG				*i* S	Sn	15 16 26.8	-14
DAG				IAML		15 16 32.9	
	comp=Z,9.4nm,0.4s						
TRO	**Tromso**	**6.89**	**99**	Pn	**Pn**	**15 15 22.5**	**-1.1**
TRO				Sn	**Sn**	**15 16 35.8**	**-6.1**
TRO	**Tromso**	**6.89**	**99**	*e*P	**Pn**	**15 15 23.4**	**-0.3**
TRO				*e*S	**Sn**	**15 16 36.0**	**-5.9**
TRO				IAML		15 16 38.

HAMF IAML 15 17 02.7
comp=Z,8.2nm,0.9s
HOPEN Hopen 8.37 45 Pn **Pn 15 15 45.6 +1.7**
HOPEN Hopen 8.37 45 *eP* **Pn 15 15 46.3 +2.4**
HOPEN Hopen 8.37 45 *eP* **Pn 15 15 46.0 +2.0**
KTK1 Kautokeino 8.53 98 *eP* **Pn 15 15 46.5 +0.3**
KTK1 *eS* **Sn 15 17 16.3 -5.9**
KTK1 IAML 15 17 22.4
comp=Z,6.5nm,0.6s
KTK1 *eT* T 15 22 08.9
NSS Namsos 8.75 141 *eP* **Pn 15 15 48.3 -0.9**
NSS *eS* **Sn 15 17 20.3 -7.5**
NSS IAML 15 17 26.6
comp=Z,31nm,0.4s
ARA0 ARCESS Array S 8.98 92 Pn **Pn 15 15 52.1 -0.3**
baz=295,slow=12
ARA0 Sn **Sn 15 17 27.6 -5.8**
ARA0 ARCESS Array S 8.98 92 Pn **Pn 15 15 52.1 -0.3**
baz=295,slow=12
ARA0 *eP* **Pn 15 15 52.3 0.0**
ARA0 *eS* **Sn 15 17 26.8 -6.6**
ARA0 IAML 15 17 47.5
comp=Z,4.2nm,0.6s
ARA0 *eT* T 15 22 33.1
ARCES ARCESS Array B 8.98 92 Pn **Pn 15 15 52.4 0.0**
comp=Z,1.1nm,0.3s,baz=295,slow=13,SNR=63
ARCES Sn **Sn 15 17 28.7 -4.7**
comp=Z,0.3nm,0.3s,baz=292,slow=19,SNR=1.7
ARCES LR LR 15 19 03.6
comp=Z,963nm,20.0s,baz=295,slow=36
comp=Z,3.5nm,0.4s
ARCES ARCESS Array B 8.98 92 P **Pn 15 15 52.3 0.0**
ARCES S **Sn 15 17 28.2 -5.1**
HEF Hetta 8.98 101 Pn **Pn 15 15 52.0 -0.3**
HEF Sn **Sn 15 17 27.8 -5.6**
HEF Hetta 8.98 101 *eP* **Pn 15 15 52.1 -0.3**
HEF *eS* **Sn 15 17 27.1 -6.3**
HEF *eT* T 15 22 19.4
KEV Kevo 9.35 90 Pn **Pn 15 15 57.1 -0.2**
KEV Kevo 9.35 90 Pn **Pn 15 15 57.1 -0.2**
KEV Kevo 9.35 90 *eP* **Pn 15 15 57.2 -0.2**
MOL Molde 9.88 157 *eP* **Pn 15 16 04.0 -0.6**
MOL *eS* Sn 15 17 45.8 -10
MOL IAML 15 17 56.2
comp=Z,9.1nm,0.6s
VADS Vadso 9.93 86 *eP* **Pn 15 16 04.8 -0.5**
VADS *eS* **Sn 15 17 49.4 -7.3**
VADS IAML 15 17 53.7
comp=Z,3.9nm,0.9s
VADS Vadso 9.93 86 P **Pn 15 16 04.8 -0.5**
VADS S **Sn 15 17 50.0 -6.7**
AKN Aaknes 10.19 159 Pn **Pn 15 16 07.6 -1.4**
AKN Aaknes 10.19 159 *eP* **Pn 15 16 07.5 -1.5**
AKN *eS* Sn 15 17 52.2 -11
AKN IAML 15 18 02.7
comp=Z,23nm,1.1s
NOR Nord 10.36 347 Pn **Pn 15 16 09.8 -1.3**
NOR Nord 10.36 347 *i* P **Pn 15 16 08.0 -3.1**
NOR *eS* Sn 15 17 51.1 -16
NOR Nord 10.36 347 *i* P **Pn 15 16 08.0 -3.1**
BORG Borgarnes 10.36 237 LR LR 15 19 12.2
comp=Z,547nm,19.0s,baz=356,slow=32
FOO Floro 10.57 165 *eP* **Pn 15 16 12.5 -1.6**
FOO *eS* Sn 15 17 57.0 -15
FOO IAML 15 18 06.8
comp=Z,8.4nm,0.4s
DOMB Dombas 10.58 154 *eP* **Pn 15 16 12.8 -1.6**
DOMB *eS* Sn 15 18 02.2 -11
DOMB IAML 15 18 12.2
comp=Z,10.0nm,0.4s
PRVG Vayda Guba 10.97 85 P **Pn 15 16 20.1 +0.6**
PRVG S **Sn 15 18 14.8 -7.3**
SUE Sulen 11.08 166 *eP* **Pn 15 16 19.1 -2.0**
SUE IAML 15 18 22.2
comp=Z,8.9nm,0.7s
HYA Hoyanger 11.10 162 *eP* **Pn 15 16 19.9 -1.4**
HYA *eS* Sn 15 18 13.8 -12
HYA IAML 15 18 25.8
comp=Z,7.4nm,0.8s
SUMG Summit 11.39 291 Pn Pn 15 16 20.1 -5.5
SUMG Summit 11.39 291 *i* P **Pn 15 16 23.6 -2.0**
SUMG Summit 11.39 291 *i* P **Pn 15 16 23.6 -2.0**
NC204 NORSAR Array S 11.56 151 **Pn 15 16 26.1 -1.6**
NC204 NORSAR Array S 11.56 151 *eP* **Pn 15 16 26.5 -1.3**
ASK Askoy 11.69 165 *eP* **Pn 15 16 27.9 -1.5**
ASK IAML 15 18 34.9
comp=Z,4.7nm,0.8s
NC303 NORSAR Array S 11.71 150 **Pn 15 16 29.1 -0.6**
NC303 NORSAR Array S 11.71 150 *eP* **Pn 15 16 28.9 -0.8**
LRW Lerwick 11.79 181 Pn **Pn 15 16 29.8 -1.0**
LRW Sn Sn 15 18 32.3 -10
LRW Lerwick 11.79 181 *eP* **Pn 15 16 28.5 -2.3**
LRW IAML 15 18 30.8
comp=Z,4.5nm,0.7s
NBO00 NORSAR Array S 11.80 151 Pn **Pn 15 16 29.7 -1.2**
SKAR Skarslia 11.80 158 *eP* **Pn 15 16 29.6 -1.4**
SKAR IAML 15 18 37.4
comp=Z,3.6nm,0.5s
NB2 NORSAR Subarra 11.86 150 Pn **Pn 15 16 31.9 +0.1**
baz=333,slow=14
NB2 NORSAR Subarra 11.86 150 Pn **Pn 15 16 31.9 +0.1**
baz=333,slow=14
NOA NORSAR Array B 11.86 150 Pn **Pn 15 16 31.9 +0.1**
comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=13
NOA Sn **Sn 15 18 39.2 -4.7**
comp=Z,0.1nm,0.3s,baz=331,slow=22,SNR=4.3
NOA LR LR 15 20 55.7
comp=Z,2μm,20.1s,baz=340,slow=37
comp=Z,4.8nm,0.8s
NB201 NORSAR Array S 11.86 150 Pn **Pn 15 16 30.6 -1.2**
NC405 NORSAR Array S 11.87 149 **Pn 15 16 31.8 -0.1**
TERR Teriberka 12.14 85 P **Pn 15 16 33.6 -1.9**
NC602 NORSAR Array S 12.20 150 Pn **Pn 15 16 35.8 -0.5**
NRA0 NORESS Array S 12.20 150 Pn **Pn 15 16 36.0 -0.3**
baz=344,slow=14
NRA0 NORESS Array S 12.20 150 Pn **Pn 15 16 36.0 -0.3**
baz=344,slow=14
APA0 Apatity Array 12.34 94 Pn **Pn 15 16 37.1 -1.1**
baz=312,slow=14
APA0 Apatity Array 12.34 94 Pn **Pn 15 16 37.1 -1.1**
baz=312,slow=14
APA0 Apatity Array 12.34 94 P **Pn 15 16 37.0 -1.2**
APA0 S **Sn 15 18 47.0 -8.4**
ODD1 Odda 12.38 162 *eP* **Pn 15 16 38.9 +0.1**
APA Apatity 12.48 93 S Sn 15 18 45.9 -13
LVZ Lovozero 12.69 91 Pn **Pn 15 16 42.2 -0.9**
LVZ Lovozero 12.69 91 P **Pn 15 16 40.9 -2.2**
KVDA Kovda 12.85 97 P **Pn 15 16 45.7 +0.5**
KVDA S **Sn 15 18 59.0 -9.0**
KONO Kongsberg 12.97 156 **Pn 15 16 46.1 -0.8**
HFS Hagfors 13.12 146 Pn **Pn 15 16 48.8 -0.2**
baz=343,slow=14
HFS Hagfors 13.12 146 Pn **Pn 15 16 49.0 0.0**
baz=343,slow=14
HFS Hagfors 13.12 146 Pn **Pn 15 16 48.8 -0.2**
comp=Z,1.6nm,0.3s,baz=343,slow=12,SNR=31
HFS Sn Sn 15 19 05.5 -9.3
comp=Z,1.2nm,0.3s,baz=357,slow=25,SNR=6.5
HFS LR LR 15 21 44.5
comp=Z,2μm,19.3s,baz=338,slow=37
comp=Z,16nm,0.7s
ZFI2 Zemlya Franca- **13.89 30** *eP* **Pn 15 16 59.6 +0.3**
comp=Z,69nm,2.2s
OMEGA Omega 13.89 30 *eP* **Pn 15 16 59.5 +0.1**
comp=Z,85nm,3.4s
NEEM North Greenlan 13.94 316 *i* P **Pn 15 16 56.3 -4.0**
NEEM North Greenlan 13.94 316 *i* P **Pn 15 16 56.3 -4.0**
FIA0 FINESS Array S 14.75 121 P **Pn 15 17 10.5 -0.6**
baz=339,slow=12
FIA0 FINESS Array S 14.75 121 P **Pn 15 17 10.5 -0.6**
baz=339,slow=12
FIA1 FINESS Array S 14.75 121 Pn **Pn 15 17 09.9 -1.2**
FINES FINESS Array B 14.75 121 Pn **Pn 15 17 10.2 -0.9**
FINES FINESS Array B 14.75 121 Pn **Pn 15 17 10.7 -0.4**
comp=Z,0.4nm,0.3s,baz=334,slow=12,SNR=19
FINES LR LR 15 22 22.4
comp=Z,2μm,18.8s,baz=326,slow=35
comp=Z,10nm,0.8s
EKA Eskdalemuir Ar 16.64 185 Pn **Pn 15 17 35.9 +0.1**
baz=8.0,slow=13
comp=Z,2.0nm,0.6s
SFJD Kangerlussuaq 17.69 279 LR LR 15 23 54.4
comp=Z,1μm,19.6s,baz=51,slow=35
LSH Leshukonskoye 18.06 89 *eP* **Pn 15 17 52.4 -0.9**
comp=Z,33nm,1.3s
KLMR Klimovskoe 19.10 104 *eP* **P 15 18 02.4 -2.8**
comp=Z,83nm,2.0s
EUNU Eureka 20.04 330 P **P 15 18 14.1 -1.4**
NACGM Naroch 20.68 131 *eP* Pn 15 18 24.8 -0.1
baz=336
SUW Suwalki 20.70 137 *eP* **P 15 18 22.1 -0.6**
SUW Suwalki 20.70 137 P **P 15 18 23.6 +0.9**
MNK Minsk 21.32 130 *i* P **P 15 18 29.1 -0.2**
comp=E,26nm,0.6s
MNK *i* P **P 15 18 29.1 -0.2**
comp=N,40nm,0.9s
MNK *i* P **P 15 18 29.1 -0.2**
comp=Z,52nm,0.8s,baz=335
MNK *i* PP **PnPn 15 18 49.1 +0.3**
MNK *i* PPP PPP 15 18 57.0
MNK *i* S **S 15 22 27.7 +2.0**
MNK *i* SS **SnSn 15 22 52.1 +4.4**
MNK *i* SSS SSS 15 23 05.3
MNK *i* LQ LQ 15 24 36.6
MNK *i* LR LR 15 25 43.6
MNK *i* LRM MLR 15 26 22.8
comp=E,1μm,18.9s
MNK *i* LRM MLR 15 26 24.7
comp=Z,2μm,17.8s
MNK *i* LRM MLR 15 26 27.6
comp=N,802nm,16.1s
CLL Collm 21.55 156 P **P 15 18 33.3 +1.4**
comp=N,9.7nm,1.6s
CLL Collm 21.55 156 *eP* **P 15 18 33.0 +1.1**
comp=Z,13nm,1.4s
CLL *i* x x 15 18 38.4
comp=Z,13nm,1.3s
CLL *eS* **S 15 22 32.0 +1.7**
CLL AMS AMS 15 26 00.0
comp=N,700nm,20.3s
CLL AMS AMS 15 26 00.0
comp=E,300nm,18.1s
CLL AMS AMS 15 26 00.0
comp=Z,1μm,20.9s
MEM Membach 21.56 168 *dP* **P 15 18 33.7 +1.7**
MEM *dx* x 15 18 39.1
MEM *dPP* **PnPn 15 18 52.4 +0.1**
BTNL Ternell 21.59 168 *dx* x 15 18 38.4
BCLA Clavier 21.71 169 *dP* **P 15 18 34.5 +0.9**
comp=Z,6.9nm,1.0s
BCLA *dPP* **PnPn 15 18 53.6 -0.6**
BGES Gesves 21.73 170 *dx* x 15 18 43.5
BGES *dx* x 15 18 51.9
BMRD Maredsous 21.80 170 *dx* x 15 18 39.7
DOU Dourbes 21.99 171 *dP* **P 15 18 38.3 +1.7**
comp=Z,4.8nm,1.2s
BRG Berggiesshubel 22.10 155 *eP* **P 15 18 40.0 +2.2**
BRG Amp 15 18 46.6
comp=Z,8.6nm,1.1s
BEL Belsk 22.27 143 *eP* **P 15 18 42.5 +2.8**
KSP Ksiaz 22.46 151 *eP* **P 15 18 41.3 -0.4**
WLF Walferdange 22.51 168 *dP* **P 15 18 44.5 +2.3**
CHVC Chvalec 22.67 151 *eP* **P 15 18 45.5 +1.5**
OSTC Ostas 22.73 151 *eP* **P 15 18 46.4 +1.8**
OSTC AMS AMS 15 28 20.0
comp=Z,1μm,18.0s
UPC Upice 22.75 151 *eP* **P 15 18 48.3 +3.6**
DPC Dobruska-Polom 22.95 151 *eP* **P 15 18 48.3 +1.4**
DPC AMS AMS 15 28 10.0
comp=Z,800nm,13.7s
DPC Dobruska-Polom 22.95 151 P **P 15 18 47.4 +0.5**
comp=Z,19nm,1.2s
SVZ Severnaya Zeml 23.03 28 *eP* **P 15 18 49.3 +1.8**
comp=Z,24nm,3.2s
OBN Obninsk 23.04 117 LR LR 15 27 21.7
comp=Z,2μm,19.1s,baz=353,slow=36
GOPC GO Pecny, Ondr 23.15 154 *eP* **P 15 18 52.0 +3.1**
KRLC Kraliky 23.28 150 *eP* **P 15 18 51.6 +1.3**
ZVC Zvikov 23.53 155 *eP* **P 15 18 54.7 +1.9**
STEB Steborice 23.58 149 *eP* **P 15 18 56.3 +3.1**
OJC Ojcow 23.64 146 *eP* **P 15 18 58.0 +4.1**
OJC Ojcow 23.64 146 P **P 15 18 55.5 +1.7**
OJC IAmb IAmb 15 18 57.6
comp=Z,14nm,1.1s
OJC Ojcow 23.64 146 P **P 15 18 57.3 +3.5**
comp=Z,14nm,1.2s
MORC Moravsky Berou 23.69 149 P **P 15 18 55.7 +1.3**
MORC Moravsky Berou 23.69 149 *eP* **P 15 18 55.9 +1.5**
RNPP9 Sopachiv 23.72 136 P **P 15 18 57.3 +2.8**
KHC Kasperske Hory 23.76 156 *eP* **P 15 18 55.1 +0.1**
KHC AMS AMS 15 28 50.0
comp=Z,900nm,16.4s
KHC Kasperske Hory 23.76 156 P **P 15 18 58.0 +3.0**
KIRV Kirov 23.95 97 LR LR 15 27 33.4
comp=Z,424nm,21.8s,baz=321,slow=35
VRAC Vranov 24.00 151 LR LR 15 28 59.8
comp=Z,791nm,18.9s,baz=347,slow=38
VRAC Vranov 24.00 151 *eP* **P 15 18 58.5 +1.2**
GERES GERESS Array B 24.05 156 P **P 15 18 59.0 +1.1**
comp=Z,1.2nm,0.7s,baz=356,slow=9.6,SNR=7.6
GERES LR LR 15 28 49.1
comp=Z,701nm,18.9s,baz=350,slow=38
comp=Z,1.2nm,0.7s
KRUC Moravsky 24.21 152 *eP* **P 15 19 00.7 +1.5**
NIE Niedzica 24.50 145 *eP* **P 15 19 04.8 +2.9**
NIE Niedzica 24.50 145 P **P 15 19 03.8 +1.9**
comp=Z,5.9nm,1.6s
RES Resolute Bay 24.54 320 P **P 15 19 03.1 +1.2**
comp=Z,0.9nm,0.9s,baz=52,slow=11,SNR=8.8
RES LR LR 15 28 22.1
comp=Z,1μm,18.6s,baz=16,slow=36
comp=Z,0.9nm,0.9s
MI28 Mi28,Pidlybu 24.57 133 P **P 15 19 04.2 +1.8**
LANS Liptovska Anna 24.62 147 *eP* **P 15 19 05.7 +2.7**
MODS Modra-Piesok 25.02 151 *eP* **P 15 19 09.9 +3.4**
KIEV Kiev 25.14 131 P **P 15 19 07.3 -0.3**
KIEV IAmb IAmb 15 19 23.7
comp=Z,13nm,1.1s
KIEV Kiev 25.14 131 P **P 15 19 08.6 +1.0**
comp=Z,43nm,1.3s
VYHS Vyhne 25.15 148 *eP* **P 15 19 13.0 +5.3**
DAVA Damuels 25.17 163 *epP* **P 15 19 11.8 +3.8**
comp=Z,6.4nm,1.1s
MOTA Moosalm 25.23 161 pP **P 15 19 13.3 +4.7**
comp=Z,5.6nm,1.1s
CONA Conrad Observa 25.24 153 *epP* **P 15 19 12.0 +3.4**
comp=Z,19nm,1.7s
WATA Walderalm 25.29 160 *eP* **P 15 19 11.6 +2.4**
comp=Z,4.9nm,1.1s
KOLS Kolonicke sedl 25.33 143 *eP* **P 15 19 13.5 +4.1**
SQTA Sankt Quirin 25.37 161 *eP* **P 15 19 11.6 +1.8**
comp=Z,7.0nm,1.5s
WTTA Wattenberg 25.37 160 pP **P 15 19 13.0 +3.1**
comp=Z,6.2nm,1.3s
FRB Frobisher Bay 25.39 286 P **P 15 19 10.4 +0.7**
comp=Z,3.1nm,0.8s,baz=33,slow=14,SNR=4.2
FRB LR LR 15 28 35.9
comp=Z,522nm,18.4s,baz=47,slow=35
comp=Z,3.1nm,0.8s
KECS Kecovo 25.44 146 *eP* **P 15 19 14.8 +4.5**
LUBAR Lubar, Ukraine 25.53 134 P **P 15 19 12.0 +0.8**
ARSA Arzberg 25.86 154 *epP* **P 15 19 17.6 +3.5**
comp=Z,2.4nm,0.9s
HORU Horodok 25.91 137 P **P 15 19 17.5 +2.9**
STNU Starunia 25.98 140 P **P 15 19 17.8 +2.5**
BRIU Brid 26.05 142 P **P 15 19 18.5 +2.7**
NRIK Noril'sk 26.99 51 P **P 15 19 24.4 +0.2**
comp=Z,0.6nm,0.4s,baz=338,slow=3.7,SNR=3.5
NRIK LR LR 15 34 15.8
comp=Z,174nm,18.1s,baz=312,slow=46
comp=Z,0.6nm,0.4s
BUR08 Bucovina Ar. S 27.14 139 P **P 15 19 27.1 +1.2**
BURAR Bucovina Array 27.17 139 P **P 15 19 28.1 +2.0**
ARTI Arti 28.54 91 P **P 15 19 39.5 +1.3**
ARTI IAmb IAmb 15 20 07.9
comp=Z,11nm,1.2s
ARTI Arti 28.54 91 LR LR 15 31 00.6
comp=Z,414nm,18.1s,baz=320,slow=36
BELG Belogornoye 28.63 107 LR LR 15 30 40.3
comp=Z,1μm,18.0s,baz=333,slow=36
MLR Muntele Rosu 29.35 140 LR LR 15 31 51.8
comp=Z,2μm,18.9s,baz=359,slow=37
PBRG Braganca 30.29 189 *eP* **P 15 19 56.1 +2.3**
MVO Moncorvo 30.94 189 *eP* **P 15 20 02.7 +3.0**
MTE Manteigas 31.73 190 *eP* **P 15 20 08.3 +1.7**
MTE *i* Amb 15 20 26.6
comp=Z,22nm,1.7s
SCHQ Schefferville 31.98 273 P **P 15 20 08.1 -0.4**
SCHQ IAmb IAmb 15 20 19.1
comp=Z,6.7nm,1.1s
SCHQ Schefferville 31.98 273 P **P 15 20 08.8 +0.3**
comp=Z,3.7nm,0.7s,baz=25,slow=3.5,SNR=7.8
SCHQ LR LR 15 31 46.2
comp=Z,378nm,21.4s,baz=29,slow=34
comp=Z,3.7nm,0.7s
ESBB Sonseca Array 32.31 185 P **P 15 20 12.4 +0.7**
ESBB IAmb IAmb 15 20 33.3
comp=Z,9.3nm,1.4s
ESDC Sonseca Array 32.31 185 P **P 15 20 11.4 -0.2**
comp=Z,0.8nm,0.6s,baz=0.1,slow=8.7,SNR=13
ESDC LR LR 15 32 47.7
comp=Z,216nm,19.0s,baz=351,slow=36
comp=Z,0.8nm,0.6s
PMRV Marv??o 32.69 189 *eP* **P 15 20 16.1 +1.2**
PMRV *i* Amb 15 20 33.0
comp=Z,20nm,1.5s
VSL Villasalto 32.86 165 P **P 15 20 17.6 +1.2**
PMTG Montargil 33.09 191 *eP* **P 15 20 20.1 +1.7**
TIXI Tiksi 33.12 26 LR LR 15 32 54.3
comp=Z,58nm,19.2s,baz=8.0,slow=35
PESTR Estremoz 33.26 190 P **P 15 20 20.2 +0.3**
PESTR IAmb IAmb 15 20 24.6
comp=Z,11nm,1.1s
PESTR Estremoz 33.26 190 *eP* **P 15 20 21.5 +1.6**
AKTO Aktyubinsk 33.51 98 LR LR 15 33 57.5
comp=Z,529nm,19.5s,baz=263,slow=36
PBAR Barrancos 33.92 189 *eP* **P 15 20 28.5 +2.9**
PCVE Castro Verde 34.52 190 *eP* **P 15 20 33.7 +2.9**
KVAR Kislovodsk Arr 34.83 119 LR LR 15 34 38.9
comp=Z,310nm,18.1s,baz=244,slow=36
KBZ Khabaz 35.09 119 P **P 15 20 37.6 +1.9**
comp=Z,4.4nm,0.9s,baz=353,slow=9.9,SNR=12
KBZ LR LR 15 34 52.5
comp=Z,632nm,18.3s,baz=342,slow=36
comp=Z,4.4nm,0.9s
BVAR Borovoye Array 35.13 84 P **P 15 20 37.7 +1.7**
comp=Z,2.9nm,0.7s,baz=323,slow=8.6,SNR=19
BVAR LR LR 15 34 49.9
comp=Z,169nm,21.3s,baz=326,slow=36
comp=Z,2.9nm,0.7s
ABKAR Akbulak array 35.15 97 P **P 15 20 37.0 +0.9**
VAE Valguarnera 35.34 159 LR LR 15 34 16.3
comp=Z,633nm,20.7s,baz=358,slow=35
BRTR Keskin Array B 36.52 133 P **P 15 20 49.7 +1.5**
comp=Z,1.3nm,0.8s,baz=345,slow=8.4,SNR=4.5
BRTR LR LR 15 36 27.0
comp=Z,197nm,20.4s,baz=347,slow=37
comp=Z,1.3nm,0.8s
KEST Kesra 36.60 166 LR LR 15 36 54.7
comp=Z,331nm,18.6s,baz=288,slow=38
INK Inuvik 36.61 333 P **P 15 20 48.5 +0.1**
INK IAmb IAmb 15 20 55.6
comp=Z,10.0nm,1.1s
INK Inuvik 36.61 333 LR LR 15 37 00.7
comp=Z,198nm,20.9s,baz=26,slow=38
ICQ Pointe Anglais 36.69 269 P **P 15 20 48.7 -0.6**
ICQ IAmb IAmb 15 20 56.8
comp=Z,14nm,1.1s
F31M Tsiigehtchic 37.44 332 P **P 15 20 55.4 -0.1**
TOLK Toolik Lake Re 38.21 342 IAmb IAmb 15 21 05.7
comp=Z,12nm,1.3s
E25K Arctic Village 38.30 340 IAmb IAmb 15 21 10.4
comp=Z,7.9nm,1.0s
YKA Yellowknife Ar 38.50 317 P **P 15 21 04.4 -0.2**
comp=Z,2.5nm,1.0s,baz=27,slow=8.6,SNR=22
YKA PcP **PcP 15 23 18.1 +1.1**
comp=Z,1.4nm,0.8s,baz=20,slow=2.5,SNR=17
YKA LR LR 15 36 19.5
comp=Z,376nm,21.4s,baz=36,slow=35
comp=Z,2.5nm,1.0s
ZALV Zalesovo Beam 38.73 70 P **P 15 21 07.1 +0.6**
comp=Z,1.2nm,0.8s,baz=328,slow=10,SNR=4.5
ZALV LR LR 15 40 14.5
comp=Z,108nm,20.6s,baz=322,slow=41
comp=Z,1.2nm,0.8s
BMAR Burnt Mountain 38.86 339 P **P 15 21 07.9 +0.4**
GNI Garni 38.93 119 P **P 15 21 10.4 +1.9**
GNI IAmb IAmb 15 21 18.8
comp=Z,9.0nm,0.7s
GNI Garni 38.93 119 LR LR 15 37 13.4
comp=Z,358nm,19.5s,baz=341,slow=36
GNI Garni 38.93 119 P **P 15 21 11.4 +2.9**
comp=Z,13nm,0.9s
GNI pP **pwP 15 21 13.9 -0.1**
comp=Z,13nm,0.9s
IDI Anoyia 39.02 146 LR LR 15 38 42.2
comp=Z,309nm,18.4s,baz=338,slow=38
MDT Midelt 39.17 185 LR LR 15 38 39.4
comp=Z,203nm,18.7s,baz=352,slow=38
KURK Kurchatov 39.68 78 P **P 15 21 15.6 +1.1**
KURBB Kurchatov Arra 39.73 78 P **P 15 21 16.4 +1.5**
comp=Z,3.5nm,0.8s,baz=332,slow=7.2,SNR=30
KURBB PcP **PcP 15 23 21.8 +0.7**
comp=Z,0.4nm,0.8s,baz=333,slow=3.7,SNR=2.8
KURBB LR LR 15 38 52.6
comp=Z,139nm,21.3s,baz=174,slow=38
comp=Z,3.5nm,0.8s
I30M Mount Dempster 39.90 333 IAmb IAmb 15 21 23.5
comp=Z,17nm,1.1s
I29M Ogilvie Camp, 40.04 334 IAmb IAmb 15 21 24.5
comp=Z,15nm,1.2s
GEVA Gevas 40.20 122 P **P 15 21 21.2 +2.0**
ILAR Eielson Array 41.69 339 P **P 15 21 32.3 +1.4**
comp=Z,1.7nm,0.9s,baz=6.6,slow=5.6,SNR=16
comp=Z,1.7nm,0.9s
YAK Yakutsk 42.12 32 LR LR 15 39 29.6
comp=Z,39nm,19.5s,baz=332,slow=37
FFC Flin Flon 42.40 302 P **P 15 21 36.5 -0.3**
FFC IAmb IAmb 15 21 44.1
comp=Z,7.8nm,1.1s
M30M Minto, Yukon 42.47 332 P **P 15 21 37.5 +0.1**
MMAI Mount Meron Ar 43.35 134 LR LR 15 43 00.6
comp=Z,166nm,18.4s,baz=344,slow=41
KKAR Karatay Array 43.94 91 P **P 15 21 51.1 +1.6**
KKAR Karatay Array 43.94 91 IAmb IAmb 15 21 52.4
comp=Z,2.7nm,0.8s
MAKZ Makanchi 44.17 78 P **P 15 21 52.4 +1.1**
MK31 Makanchi Array 44.28 78 P **P 15 21 53.5 +1.4**
MKAR Makanchi Array 44.28 78 P **P 15 21 53.3 +1.1**
MKAR Makanchi Array 44.28 78 P **P 15 21 53.8 +1.6**
comp=Z,2.0nm,0.8s,baz=333,slow=8.0,SNR=18
MKAR LR LR 15 43 40.3
comp=Z,99nm,19.0s,baz=318,slow=40
comp=Z,2.0nm,0.8s
SADO Sadowa 44.62 277 LR LR 15 38 56.1
comp=Z,181nm,21.4s,baz=64,slow=34
ULM Lac du Bonnet 44.73 295 P **P 15 21 55.2 -0.4**
comp=Z,1.8nm,0.8s,baz=10,slow=6.3,SNR=3.6
ULM LR LR 15 40 16.7
comp=Z,379nm,18.2s,baz=40,slow=36
comp=Z,1.8nm,0.8s
BMRM Bremner River 45.10 336 P **P 15 21 59.1 +0.6**
BMRM IAmb IAmb 15 22 03.1
comp=Z,6.4nm,0.8s
DLBC Dease Lake 45.28 325 LR LR 15 41 05.4
comp=Z,403nm,20.6s,baz=8.0,slow=36
AAK Ala-Archa 45.61 87 P **P 15 22 04.0 +1.1**
AAK IAmb IAmb 15 22 18.1
comp=Z,6.0nm,1.3s
BOOM Boomskoye usch 46.20 86 IAmb IAmb 15 22 11.3
comp=Z,5.6nm,0.9s
SLKM Skilak Lake 46.21 340 P **P 15 22 07.2 -0.1**
EIL Elat 46.47 135 LR LR 15 45 13.9
comp=Z,86nm,18.4s,baz=56,slow=41
MA2 Magadan 47.35 19 LR LR 15 42 12.0
comp=Z,140nm,18.0s,baz=356,slow=36
TARG Taragay, Kyrgy 47.47 85 IAmb IAmb 15 22 21.7
comp=Z,5.2nm,0.8s
SIMJ Simiganj 47.52 95 P **P 15 22 19.0 +1.1**
SIMJ IAmb IAmb 15 22 20.4
comp=Z,3.6nm,0.8s
WUS Wushi 48.39 84 IAmb IAmb 15 22 27.4
comp=Z,4.7nm,0.8s
WMQ Urumqi 48.61 75 *eP* **P 15 22 28.8 +2.6**
WMQ pmax pmax
comp=Z,12nm,0.9s
KSH Kashi 48.91 88 P P 15 22 33.4 +4.8
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH LR LR
comp=N,380nm,12.4s
KSH LR LR
comp=E,620nm,16.5s
KSH LR LR
comp=Z,390nm,10.0s
KDAK Kodiak Island 49.13 340 LR LR 15 43 20.4
comp=Z,139nm,21.0s,baz=238,slow=36

SONM Songino Array 50.25 57 P **P 15 22 40.0 +1.3**
comp=Z,0.9nm,0.9s,baz=320,slow=7.1,SNR=5.1
SONM LR LR 15 47 16.9
comp=Z,112nm,19.4s,baz=352,slow=40
comp=Z,0.9nm,0.9s
EGMT Eagleton 50.52 305 IAmb IAmb 15 22 43.2
comp=Z,8.3nm,0.9s
BBB Bella Bella 50.83 321 LR LR 15 46 46.7
comp=Z,305nm,18.3s,baz=8.5,slow=39
NEW Newport 52.12 311 LR LR 15 45 00.7
comp=Z,588nm,18.1s,baz=14,slow=36
HEH HeiHe 52.85 39 *e*P **P 15 22 59.0 +1.0**
HEH pmax pmax
comp=Z,5.0nm,0.9s
YHL Hebgen Lake 53.84 304 IAmb IAmb 15 23 08.1
comp=Z,5.3nm,1.0s
TKL Tuckaleechee C 54.38 276 LR LR 15 45 01.7
comp=Z,163nm,19.6s,baz=346,slow=35
PETK Petropavlovsk- 54.40 16 LR LR 15 45 55.3
comp=Z,88nm,18.0s,baz=359,slow=36
CCM Cathedral Cave 54.47 284 P **P 15 23 08.9 -1.1**
CCM IAmb IAmb 15 23 12.1
comp=Z,6.5nm,0.8s
KLR Kul'dur 54.66 36 LR LR 15 47 07.4
comp=Z,64nm,19.9s,baz=1.5,slow=37
PDAR Pinedale Array 55.35 302 P **P 15 23 16.8 +0.2**
comp=Z,0.8nm,0.9s,baz=45,slow=8.6,SNR=4.3
PDAR LR LR 15 46 22.1
comp=Z,128nm,21.1s,baz=7.0,slow=35
comp=Z,0.8nm,0.9s
SHEM Shemya Is, Ala 55.64 4 LR LR 15 47 07.2
comp=Z,42nm,19.2s,baz=358,slow=36
HLID Hailey 55.87 306 P **P 15 23 19.5 -0.8**
HLID IAmb IAmb 15 23 26.9
comp=Z,4.2nm,1.1s
Q24A Divide 57.70 297 IAmb IAmb 15 23 35.2
comp=Z,4.2nm,0.9s
BBTS Babate 57.96 198 LR LR 15 45 03.6
comp=Z,95nm,20.2s,baz=242,slow=32
HHC Hu-ho-hao-te 58.10 56 *e*P **P 15 23 37.5 +1.5**
HHC pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 58.62 304 IAmb IAmb 15 23 42.4
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 58.72 177 P **P 15 23 39.6 -0.8**
WSAR Wadi Sarin 58.74 112 LR LR 15 53 15.4
comp=Z,84nm,20.5s,baz=21,slow=40
SRU San Rafael Swe 59.03 301 IAmb IAmb 15 23 44.2
comp=Z,3.7nm,1.0s
S22A 4UR Ranch, Cre 59.30 298 IAmb IAmb 15 23 46.7
comp=Z,4.4nm,1.0s
USRK Ussuriysk Ar. 59.54 38 LR LR 15 50 34.0
comp=Z,66nm,18.9s,baz=310,slow=37
YBH Yreka Blue Hor 59.60 313 LR LR 15 49 41.8
comp=Z,442nm,18.9s,baz=12,slow=36
WMOK Wichita Mounta 59.80 289 IAmb IAmb 15 23 55.8
comp=Z,3.1nm,0.8s
PSUT Pine Spring 60.45 304 IAmb IAmb 15 23 55.2
comp=Z,6.5nm,1.0s
MTPU Mount Pierson 60.48 302 IAmb IAmb 15 24 00.8
comp=Z,4.3nm,1.0s
ASAJ Asahikawa 61.46 29 LR LR 15 51 18.5
comp=Z,60nm,18.4s,baz=76,slow=37
NVAR Mina Array Bea 61.68 308 P **P 15 24 02.2 +1.5**
comp=Z,0.9nm,0.8s,baz=7.1,slow=3.5,SNR=5.8
NVAR LR LR 15 50 22.7
comp=Z,224nm,19.6s,baz=356,slow=36
comp=Z,0.9nm,0.8s
LCMT Little Creek M 61.72 303 IAmb IAmb 15 24 03.9
comp=Z,3.0nm,0.9s
ANMO Albuquerque 61.82 296 LR LR 15 50 51.3
comp=Z,405nm,18.8s,baz=198,slow=36
TPNV Topopah Spring 62.56 305 IAmb IAmb 15 24 08.6
comp=Z,4.7nm,0.9s
WUAZ Wupatki 62.63 301 IAmb IAmb 15 24 08.9
comp=Z,5.3nm,1.1s
BRDY Brady 63.09 288 P **P 15 24 09.4 -0.6**
BRDY IAmb IAmb 15 24 46.0
comp=Z,2.2nm,0.9s
SGCY Sterling City 63.13 290 P **P 15 24 09.3 -1.0**
GWY Greenwater Val 63.39 305 IAmb IAmb 15 24 15.9
comp=Z,2.5nm,0.7s
TIA Tai'an 63.89 53 P **P 15 24 11.1 -4.2**
TIA pmax pmax
comp=Z,3.0nm,0.4s
DBIC Dimbokro 65.18 184 LR LR 15 52 39.1
comp=Z,119nm,18.8s,baz=24,slow=36
KSRS Korea Array 65.21 43 P **P 15 24 24.8 +0.9**
comp=Z,0.8nm,0.8s,baz=353,slow=6.7,SNR=3.5
KSRS LR LR 15 56 09.9
comp=Z,69nm,19.0s,baz=345,slow=39
comp=Z,0.8nm,0.8s
SAND Sanderson 65.25 290 P **P 15 24 23.3 -1.0**
SAND IAmb IAmb 15 24 31.8
comp=Z,5.2nm,1.2s
SJG San Juan 65.31 252 LR LR 15 47 05.6
comp=Z,79nm,21.9s,baz=82,slow=31
PFO Pinyon Flats O 65.78 304 LR LR 15 53 58.9
comp=Z,166nm,18.6s,baz=4.5,slow=37
TXAR Lajitas Array 66.29 292 P **P 15 24 30.5 -0.5**
comp=Z,1.1nm,0.9s,baz=50,slow=5.7,SNR=7.8
TXAR LR LR 15 53 15.5
comp=Z,124nm,19.0s,baz=9.5,slow=36
comp=Z,1.1nm,0.9s
MJAR Matsushiro Arr 68.12 35 P **P 15 24 43.4 +0.9**
comp=Z,3.8nm,0.9s,baz=352,slow=6.1,SNR=9.9
comp=Z,3.8nm,0.9s
NJ2 Nanjing 68.28 53 *e*P **P 15 24 43.0 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
PZH PanZhiHua 68.86 70 P **P 15 24 49.4 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
BRDH Bariadhala 69.41 80 LR LR 15 57 43.9
comp=Z,134nm,19.6s,baz=318,slow=38
JNU Nakatsue 70.01 42 LR LR 15 57 53.8
comp=Z,60nm,21.3s,baz=331,slow=38
KMI Kunming 70.46 69 ⇑P **P 15 25 00.8 +3.5**
KMI pmax pmax
comp=Z,11nm,0.9s
LPIG La Paz 73.13 296 LR LR 15 57 22.4
comp=Z,162nm,19.4s,baz=22,slow=36
MDP Montagnes des 73.94 235 LR LR 15 50 56.8
comp=Z,78nm,18.7s,baz=89,slow=30
CMIG Matias Romero 75.16 279 LR LR 16 00 49.5
comp=Z,54nm,19.0s,baz=3.0,slow=38
SDV Santo Domingo 75.38 253 LR LR 15 53 07.6
comp=Z,44nm,21.4s,baz=250,slow=31
JOW Kunigami 75.52 46 LR LR 16 03 22.6
comp=Z,62nm,19.7s,baz=128,slow=39
CM31 Chiang Mai Arr 75.61 75 P **P 15 25 27.1 -0.5**
CMAR Chiang Mai Arr 75.61 75 P **P 15 25 28.7 +1.1**
comp=Z,1.0nm,0.6s,baz=325,slow=6.8,SNR=12
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 76.83 141 LR LR 16 04 33.2
comp=Z,33nm,18.1s,baz=84,slow=40
JTS Las Juntas de 78.46 268 LR LR 16 00 32.8
comp=Z,50nm,19.8s,baz=67,slow=36
ROSC El Rosal 80.32 256 LR LR 15 56 04.8
comp=Z,34nm,21.4s,baz=304,slow=32
PALK Pallekele 80.49 96 LR LR 16 02 14.5
comp=Z,88nm,18.4s,baz=346,slow=36
RCBR Riachuelo 80.85 215 LR LR 15 53 28.6
comp=Z,27nm,18.9s,baz=58,slow=30
PSI Prapat 90.39 80 LR LR 16 13 16.8
comp=Z,77nm,18.4s,baz=338,slow=40
TSUM Tsumeb 91.71 163 LR LR 16 12 07.4
comp=Z,68nm,18.6s,baz=331,slow=38
BDFB Brasilia 92.84 225 LR LR 16 01 52.0
comp=Z,67nm,19.8s,baz=29,slow=31
ATAH Atahualpa 92.89 256 LR LR 16 05 35.5
comp=Z,38nm,21.9s,baz=13,slow=34
LBTB Lobatse 98.34 156 LR LR 16 16 20.7
comp=Z,80nm,18.4s,baz=352,slow=38
WRA Warramunga Arr 122.06 52 PKP **PKPdf 15 32 36.3 -0.7**
comp=Z,1.0nm,1.1s,baz=338,slow=2.3,SNR=4.7
ASAR Alice Springs 125.52 53 PKP **PKPdf 15 32 42.6 -0.9**
comp=Z,0.8nm,0.8s,baz=337,slow=1.9,SNR=10

*IDC **24** 15:23:22.9±1.8, 10°.23S×119°.32E, h0km, mb3.3/2, mbtmp3.3/6, ML3.1/4, MS2.7/1, Error ellipse: s-maj=82.8km s-min=22.8km az=57.0*
*DJA **24** 15:23:31.7±0.2, 10°S±3°×12°0E±°, h59km±8km, M3.8/13, mb3.9/7, MLv3.7/13*

ISC 24 15:23:30.7±0.8, 9°.91S±0°.06×120°.19E±0°.05, h74km±10km, n20, σ2§40/27, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.26**	**25**	P	**Pn**	**15 23 42.3**	**+0.2**
BASI	**Baing, Sumba**	**0.50**	**129**	P	**Pn**	**15 23 46.5**	**+2.7**
WBSI	**Waikabubak, Su**	**0.83**	**289**	P	**Pn**	**15 23 47.1**	**-0.3**
MMRI	**Maumere**	**2.39**	**58**	P	**Pn**	**15 24 09.0**	**+1.3**
MMRI				S	**Sn**	**15 24 35.8**	**-0.2**
PLAI	**Plampang**	**2.61**	**294**	P	**Pn**	**15 24 11.2**	**+0.6**
PLAI				S	**Sn**	**15 24 41.0**	**-0.3**
TWSI	**Taliwang, Sumb**	**3.46**	**289**	P	**Pn**	**15 24 23.2**	**+1.0**
TWSI				S	**Sn**	**15 25 02.6**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.75**	**5**	P	**Pn**	**15 24 26.0**	**-0.2**
SOEI	**Soe**	**4.03**	**88**	P	**Pn**	**15 24 33.7**	**+3.7**
BKSI	**Bulukumba**	**4.56**	**359**	P	**Pn**	**15 24 37.8**	**+0.6**
KAPI	**Kappang**	**4.88**	**355**	Pn	**Pn**	**15 24 42.7**	**+1.1**
	2.1nm,0.3s,baz=48,slow=1.5,SNR=6.4						
KAPI				Sn	**Sn**	**15 25 34.3**	**-2.5**
	0.9nm,0.3s,baz=73,slow=19,SNR=1.5						
	5.2nm,0.4s						
BBSI	**Bau Bau**	**4.99**	**28**	P	**Pn**	**15 24 44.6**	**+1.5**
SRBI	**Singaraja**	**5.24**	**290**	P	**Pn**	**15 24 46.8**	**+0.4**
	0.1nm14nm,1.5s						
JAGI	**Jajag, Banyuwa**	**6.12**	**283**	P	**Pn**	**15 24 57.3**	**-1.3**
	15nm,1.0s						
GMJI	**Gumukmas**	**6.85**	**283**	P	**Pn**	**15 25 07.0**	**-1.6**
PCJI	**Pacitan**	**9.06**	**280**	P	**Pn**	**15 25 38.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.71**	**148**	Pn	**Pn**	**15 25 47.6**	**0.0**
	0.1nm,0.3s,baz=337,slow=13,SNR=9.4						
FITZ				Sn	**Sn**	**15 27 31.7**	**-3.3**
	0.7nm,0.3s,baz=176,slow=21,SNR=16						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**16.91**	**128**	P	**P**	**15 27 26.4**	**+2.8**
	0.1nm,0.3s,baz=303,slow=12,SNR=1.5						
WRA				S	**Sn**	**15 30 23.6**	**-6.7**
	0.2nm,0.5s,baz=306,slow=23,SNR=1.7						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**18.94**	**138**	P	**Pn**	**15 27 50.1**	**+2.7**
	baz=322,slow=12,SNR=4.1						
ASAR				S	**S**	**15 31 13.0**	**-4.3**
	0.2nm,1.1s,baz=314,slow=23,SNR=5.1						
	0.5nm,1.1s						
MKAR	**Makanchi Array**	**65.79**	**332**	P	**P**	**15 34 08.8**	**+0.7**
	0.2nm,0.7s,baz=148,slow=7.7,SNR=3.5						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**70.30**	**333**	P	**P**	**15 34 37.7**	**+1.6**
	0.2nm,0.7s,baz=139,slow=5.8,SNR=2.4						
	0.2nm,0.7s						

*NEIC **24** 15:28:35.0±0.9, 35°.140N±0°.010×97°.583W±0°.010, h5km±1km, mb_Lg2.6/42, ML2.5/45, ML2.2/26, Error ellipse: s-maj=2.8km s-min=1.9km az=224.0*
*NEIC **24** 15:28:35.6±0.9, 35°.14N±0°.01×97°.59W±0°.01, h8km±4km, Error ellipse: s-maj=1.9km s-min=1.7km az=171.0*

ISC 24 15:28:34.8±1.0, 35°.12N±0°.03×97°.59W±0°.03, h5km, n61, σ1§36/44, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.21**	**49**		**Pg**	**15 28 39.0**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.31**	**24**		**Pg**	**15 28 40.7**	**-0.2**
OKCSW				IAML		15 28 49.5	
	comp=E,553nm,0.7s						
BCOK	**Bluff Creek, N**	**0.53**	**359**		**Pb**	**15 28 45.7**	**-1.0**
X34A	**Smith Ranch, M**	**0.56**	**201**		**Pb**	**15 28 46.6**	**-0.5**
X34A				IAML		15 28 56.1	
	comp=E,232nm,0.5s						
X34A				IAML		15 28 56.3	
	comp=N,381nm,0.5s						
ADOK	**Arcadia Dam**	**0.56**	**19**		**Pb**	**15 28 46.1**	**-1.1**
W35A	**Tecumseh**	**0.59**	**87**		**Pb**	**15 28 46.1**	**-1.5**
W35A				IAML		15 28 58.8	
	comp=E,164nm,0.4s						
OK029	**Liberty Lake**	**0.68**	**9**		**Pb**	**15 28 48.3**	**-0.9**
OK029				IAML		15 29 01.2	
	comp=E,129nm,0.6s						
OK031	**S. Brethren Rd**	**1.03**	**36**		**Pg**	**15 28 53.2**	**-1.5**
OK031				IAML		15 29 10.7	
	comp=E,170nm,0.3s						
CSTR	**Hydro, Custer**	**1.04**	**301**		**Pb**	**15 28 54.8**	**-0.5**
WMOK	**Wichita Mounta**	**1.05**	**249**		**Pg**	**15 28 54.3**	**-0.6**
WMOK	**Wichita Mounta**	**1.05**	**249**	P	**Pg**	**15 28 54.6**	**-0.3**
OK052	**Battle Ridge R**	**1.08**	**36**		**Pg**	**15 28 55.0**	**-0.6**
DEOK	**Depew**	**1.15**	**51**		**Pb**	**15 28 56.5**	**-0.7**
DEOK				IAML		15 29 21.4	
	comp=N,135nm,0.7s						
DEOK				IAML		15 29 21.4	
	comp=E,131nm,0.6s						
WTFS	**Witchita Falls**	**1.53**	**208**		**Pb**	**15 29 03.0**	**-0.7**
WTFS	**Witchita Falls**	**1.53**	**208**	P	**Pg**	**15 29 03.6**	**-0.6**
GC02	**Grant County #**	**1.74**	**353**		**Pb**	**15 29 06.3**	**-0.9**
ELIS	**Ellis County**	**1.76**	**303**		**Pb**	**15 29 07.0**	**-0.6**
Z35A	**Perchaven, San**	**1.81**	**171**	P	**Pb**	**15 29 07.8**	**-0.6**
Z35A				P	**Pb**	**15 29 07.8**	**-0.6**
KAN14	**Manchester OK**	**1.85**	**351**		**Pb**	**15 29 08.4**	**-0.9**
KAN09	**Caldwell North**	**2.01**	**359**	IAmb_Lg		15 29 43.1	
	comp=Z,34nm,0.8s						
KAN01	**Argonia South**	**2.03**	**356**		**Pb**	**15 29 10.5**	**-1.7**
KAN01				IAmb_Lg		15 29 39.7	
	comp=Z,28nm,0.9s						
FW03	**Perrin-Whitt E**	**2.11**	**191**	P	**Pb**	**15 29 12.9**	**-0.7**
KAN08	**Anthony NE Sta**	**2.12**	**352**	IAmb_Lg		15 29 45.3	
	comp=Z,26nm,1.1s						
FW06	**Azle**	**2.15**	**179**	P	**Pb**	**15 29 13.9**	**-0.3**
SMWD	**Samnorwood**	**2.17**	**270**		**Pb**	**15 29 13.1**	**-1.5**
SMWD	**Samnorwood**	**2.17**	**270**	P	**Pb**	**15 29 13.9**	**-0.7**
KAN12	**Harper NE Stat**	**2.19**	**352**	Pn	**Pb**	**15 29 12.8**	**-2.2**
PLPT	**Palo Pinto**	**2.38**	**195**		**Pn**	**15 29 15.6**	**+1.0**
PLPT				IAmb_Lg		15 29 57.1	
	comp=Z,14nm,0.8s						
PLPT	**Palo Pinto**	**2.38**	**195**	P	**Pb**	**15 29 16.6**	**-1.5**
FW07	**Weatherford**	**2.42**	**184**		**Pn**	**15 29 15.5**	**+0.5**
FW07	**Weatherford**	**2.42**	**184**	P	**Pb**	**15 29 17.9**	**-1.0**
TREL	**Terrell**	**2.69**	**152**	P	**Pb**	**15 29 22.6**	**-0.9**
APMT	**Aspermont**	**2.76**	**230**		**Pn**	**15 29 21.5**	**+1.8**
APMT	**Aspermont**	**2.76**	**230**	P	**Pb**	**15 29 22.8**	**-1.8**
FW13	**Cleburne**	**2.77**	**177**	IAmb_Lg		15 30 02.9	
	comp=Z,13nm,1.0s						
ABTX	**Abilene, Hawle**	**3.02**	**215**	P	**Pn**	**15 29 25.1**	**+1.7**
DKNS	**Dickens**	**3.11**	**243**	IAmb_Lg		15 30 21.6	
	comp=Z,24nm,0.9s						
DKNS	**Dickens**	**3.11**	**243**	P	**Pb**	**15 29 27.5**	**-3.2**
WHTX	**Lake Whitney,**	**3.12**	**178**	P	**Pn**	**15 29 26.6**	**+1.9**
HHAR	**Hobbs**	**3.19**	**68**	IAmb_Lg		15 30 22.8	
	comp=Z,10nm,0.8s						
MIAR	**Mount Ida**	**3.35**	**99**	IAmb_Lg		15 30 27.6	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**3.35**	**99**	P	**Pn**	**15 29 30.1**	**+2.3**
AMTX	**Amarillo**	**3.36**	**267**	P	**Pn**	**15 29 30.8**	**+2.7**
SN07	**Snyder 07**	**3.41**	**234**	IAmb_Lg		15 30 31.8	
	comp=Z,21nm,0.7s						
SN05	**Snyder 5**	**3.53**	**232**	IAmb_Lg		15 30 29.6	
	comp=Z,24nm,1.0s						
POST	**Post**	**3.84**	**239**	IAmb_Lg		15 30 45.1	
	comp=Z,24nm,1.0s						
POST	**Post**	**3.84**	**239**	P	**Pn**	**15 29 36.6**	**+2.0**
X40A	**Basin Creek Fa**	**3.97**	**98**	IAmb_Lg		15 30 49.0	
	comp=Z,17nm,1.2s						
BRDY	**Brady**	**4.00**	**198**	P	**Pn**	**15 29 37.9**	**+1.1**
UALR	**University of**	**4.33**	**93**	IAmb_Lg		15 30 54.5	
	comp=Z,13nm,0.9s						
WHAR	**Wooly Hollow**	**4.35**	**86**	IAmb_Lg		15 31 01.0	
	comp=Z,18nm,0.9s						
SGCY	**Sterling City**	**4.35**	**224**	IAmb_Lg		15 31 04.3	
	comp=Z,10nm,0.8s						
RTBA	**Rita Blanca**	**4.38**	**289**	P	**Pb**	**15 29 51.8**	**-0.6**
MSTX	**Muleshoe**	**4.43**	**256**	P	**Pn**	**15 29 44.6**	**+1.8**
MGMO	**Mountain Grove**	**4.76**	**63**	IAmb_Lg		15 31 14.9	
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**4.99**	**203**	P	**Pn**	**15 29 51.5**	**+1.1**
T42A	**Van Buren**	**5.60**	**68**	IAmb_Lg		15 31 47.3	
	comp=Z,7.7nm,0.9s						
MNHN	**Monahans**	**5.74**	**230**	IAmb_Lg		15 31 46.4	
	comp=Z,11nm,0.7s						
HNDO	**Hondo**	**5.76**	**195**	P	**Pn**	**15 30 01.6**	**+0.7**
ALPN	**Alpine**	**6.95**	**229**	IAmb_Lg		15 32 29.8	
	comp=Z,6.6nm,0.8s						
Y22A	**Socorro**	**7.83**	**264**	P	Pn	15 30 36.4	+6.9

*IDC **24** 15:42:13.7±0.8, 30°.67N×69°.70E, h0km, mb3.8/16, mbtmp3.9/19, ML3.7/2, MS3.6/19, Error ellipse: s-maj=18.0km s-min=16.1km az=55.0*
*MOS **24** 15:42:15.0±1.3, 30°.78N×69°.81E, h13km, mb4.0/8, Error ellipse: s-maj=13.9km s-min=8.2km az=89.2*

ISC 24 15:42:16.2±0.6, 30°.83N±0°.08×69°.74E±0°.08, h10km, n50, σ1§80/47, mb3.8/22, MS3.5/17, 4C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**10.06**	**29**	P	Pn	15 44 36.0	-4.8
KSH				S	Sn	15 46 24.0	-10
KSH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSH				smax	smax		
	comp=N,23nm,1.1s						
KSH				smax	smax		
	comp=E,34nm,0.9s						
AAK	**Ala-Archa**	**12.39**	**17**	Pn	**Pn**	**15 45 13.8**	**+1.1**
	0.4nm,0.3s,baz=279,slow=8.7,SNR=5.8						
AAK				Sn	**Sn**	**15 47 24.0**	**-6.9**
	baz=298,slow=16						
AAK				LR	LR	15 50 47.2	
	comp=Z,368nm,20.3s,baz=223,slow=41						
	2.4nm,0.5s						
AAK	**Ala-Archa**	**12.39**	**17**	*i* P	**Pn**	**15 45 12.9**	**+0.2**
WSAR	**Wadi Sarin**	**12.45**	**235**	Pn	**Pn**	**15 45 11.1**	**-2.4**
	0.5nm,0.3s,baz=76,slow=12,SNR=8.2						
WSAR				Sn	Sn	15 47 18.6	-14
	0.4nm,0.3s,baz=58,slow=22,SNR=4.6						
	1.5nm,0.5s						
MK31	**Makanchi Array**	**18.67**	**28**	*i* P	**P**	**15 46 33.5**	**-0.8**
MKAR	**Makanchi Array**	**18.67**	**28**	P	**P**	**15 46 33.6**	**-0.7**
	2.4nm,0.7s,baz=214,slow=11,SNR=4.5						
MKAR				LR	LR	15 54 17.3	
	comp=Z,93nm,19.5s,baz=216,slow=38						
MKAR	**Makanchi Array**	**18.67**	**28**	*ce*P	**P**	**15 46 34.9**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**20.84**	**16**	P	**P**	**15 46 57.6**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=207,slow=11,SNR=9.2						
KURBB				LR	LR	15 55 48.4	
	comp=Z,164nm,19.9s,baz=188,slow=39						
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**20.95**	**16**	*ce*P	**P**	**15 46 59.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**21.46**	**339**	P	**P**	**15 47 05.8**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=163,slow=8.5,SNR=16						
	comp=Z,1.8nm,0.7s						
BVAR	**Borovoye Array**	**22.19**	**1**	P	**P**	**15 47 12.9**	**+0.5**
	comp=Z,4.5nm,0.7s,baz=177,slow=10.0,SNR=16						
BVAR				LR	LR	15 56 55.9	
	comp=Z,129nm,19.8s,baz=330,slow=40						
	comp=Z,4.5nm,0.7s						
BRVK	**Borovoye**	**22.22**	**1**	*ce*P	**P**	**15 47 13.6**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GNI	**Garni**	**22.32**	**301**	LR	LR	15 57 23.7	
	comp=Z,74nm,18.9s,baz=68,slow=41						
GNI	**Garni**	**22.32**	**301**	*i* P	**P**	**15 47 16.1**	**+2.0**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBZ	**Khabaz**	**24.82**	**309**	P	**P**	**15 47 37.9**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=142,slow=6.1,SNR=4.1						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**25.54**	**21**	P	**P**	**15 47 45.8**	**+0.9**
	comp=Z,2.8nm,0.6s,baz=216,slow=9.0,SNR=16						
ZALV				LR	LR	15 59 01.5	
	comp=Z,138nm,19.0s,baz=234,slow=39						
	comp=Z,2.8nm,0.6s						
GTA	**Gaotai**	**25.96**	**62**	*e*P	**P**	**15 47 49.1**	**+0.1**
GTA				pP	pP	15 47 52.8	+0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARTI	**Arti**	**26.77**	**346**	P	**P**	**15 47 57.5**	**+1.5**
ARTI				S	**S**	**15 52 32.8**	**+1.1**
BELG	**Belogornoye**	**26.96**	**329**	LR	LR	16 01 46.2	
	comp=Z,176nm,18.1s,baz=120,slow=43						
BELG	**Belogornoye**	**26.96**	**329**	*i* P	**P**	**15 48 00.1**	**+2.4**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.6s						
MMAI	**Mount Meron Ar**	**29.15**	**283**	LR	LR	16 02 03.6	
	comp=Z,106nm,18.0s,baz=71,slow=41						
CMAR	**Chiang Mai Arr**	**29.17**	**108**	P	**P**	**15 48 17.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=287,slow=10.0,SNR=7.7						
	comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.17**	**108**	*e*P	**P**	**15 48 19.9**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EIL	**Elat**	**30.00**	**277**	LR	LR	16 01 56.3	
	comp=Z,94nm,18.8s,baz=74,slow=39						
BRTR	**Keskin Array B**	**30.61**	**297**	P	**P**	**15 48 30.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=98,slow=8.9,SNR=4.3						
	comp=Z,0.8nm,0.7s						
BRTR	**Keskin Array B**	**30.61**	**297**	*e*P	**P**	**15 48 34.1**	**+3.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**32.67**	**48**	P	**P**	**15 48 49.5**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=256,slow=7.8,SNR=7.7						
SONM				LR	LR	16 02 32.6	
	comp=Z,94nm,20.0s,baz=324,slow=37						
	comp=Z,1.3nm,0.9s						
SONM	**Songino Array**	**32.67**	**48**	*e*P	**P**	**15 48 50.5**	**+1.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MNK	**Minsk**	**38.01**	**321**	*i* P	**P**	**15 49 33.0**	**-1.2**
	comp=E,27nm,0.9s						
MNK				*i* P	**P**	**15 49 33.0**	**-1.2**
	comp=N,21nm,0.7s						
MNK				*i* P	**P**	**15 49 33.0**	**-1.2**
	comp=Z,9.0nm,0.7s,baz=111						
MNK				*i* PP	**PP**	**15 51 01.0**	**0.0**
MNK				*i* PPP	PPP	15 51 20.9	
MNK				*i* S	**S**	**15 55 25.6**	**-0.7**
MNK				*i* SS	**SS**	**15 58 13.1**	**0.0**
MNK				*i* SSS	SSS	15 58 31.0	
MNK				*i* LQ	LQ	16 02 32.1	
MNK				*i* LR	LR	16 05 27.0	
MNK				*i* LRM	MLR	16 07 04.4	
	comp=E,102nm,16.7s						
MNK				*i* LRM	MLR	16 07 18.1	
	comp=N,159nm,15.3s						
MNK				*i* LRM	MLR	16 08 10.7	
	comp=Z,151nm,15.9s						
MNK	**Minsk**	**38.01**	**321**	*i* P	**P**	**15 49 33.0**	**-1.2**
MNK				*i*		15 51 01.0	
MNK				*i* PPP	PPP	15 51 20.8	
MNK				*i*		15 51 46.4	
MNK				*i* S	**S**	**15 55 25.6**	**-0.7**
MNK				*i* SSS	SSS	15 58 30.9	
MNK				*i*		15 59 41.5	
MNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,27nm,0.9s						
MNK				pmax	pmax		
	comp=N,21nm,0.7s						
MNK				MLR	MLR		
	comp=E,102nm,17.0s						
MNK				MLR	MLR		
	comp=N,159nm,15.0s						
MNK				MLR	MLR		
	comp=Z,151nm,16.0s						
XLT	**XiLinHaoTe**	**38.59**	**57**	*e*P	**P**	**15 49 42.0**	**+2.6**
XLT				pmax	pmax		
	comp=Z,4.0nm,1.4s						
NRIK	**Noril'sk**	**39.88**	**10**	P	**P**	**15 49 50.1**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=212,slow=6.3,SNR=5.1						
NRIK				LR	LR	16 07 26.9	
	comp=Z,60nm,21.

comp=Z,1.5nm,0.9s
YAK Yakutsk 49.25 33 LR LR 16 15 33.5
comp=Z,51nm,19.1s,baz=289,slow=40
KLR Kul'dur 49.48 50 LR LR 16 13 35.1
comp=Z,62nm,19.2s,baz=276,slow=38
KLR Kul'dur 49.48 50 *i* P **P 15 51 06.0 -0.6**
KLR pmax pmax
comp=Z,2.0nm,1.4s
USRK Ussuriysk Ar. 50.03 56 LR LR 16 15 57.8
comp=Z,68nm,18.4s,baz=271,slow=40
TIXI Tiksi 51.43 20 *ce*P **P 15 51 20.6 -0.4**
TIXI pmax pmax
comp=Z,14nm,2.5s
KAPI Kappang 59.57 118 LR LR 16 21 55.7
comp=Z,31nm,18.9s,baz=329,slow=40
BOSA Boshof 72.74 220 P **P 15 53 43.5 -1.3**
comp=Z,1.8nm,0.8s,baz=63,slow=6.8,SNR=3.7
comp=Z,1.8nm,0.8s
WRA Warramunga Arr 79.97 120 P **P 15 54 24.0 -1.9**
comp=Z,1.0nm,0.9s,baz=315,slow=5.1,SNR=5.4
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 79.97 120 *e*P **P 15 54 25.0 -0.9**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 81.94 124 P **P 15 54 34.5 -1.9**
comp=Z,0.7nm,0.8s,baz=306,slow=5.2,SNR=14
comp=Z,0.7nm,0.8s
KDAK Kodiak Island 84.84 21 LR LR 16 34 33.4
comp=Z,40nm,19.3s,baz=132,slow=37
YKA Yellowknife Ar 86.94 2 P **P 15 55 00.5 -0.6**
comp=Z,0.2nm,0.6s,baz=343,slow=4.5,SNR=4.4
YKA LR LR 16 40 43.6
comp=Z,22nm,18.2s,baz=289,slow=40
comp=Z,0.2nm,0.6s

*NNC **24** 15:43:08.2±2.5, 41°.54N×81°.38E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=18.9km s-min=15.4km az=5.0*
*SOME **24** 15:43:09.7, 41°.73N×81°.30E, h5km*
ISC 24 15:43:12.0±3.1, 41°.92N±0°.10×81°.28E±0°.09, h4km±18km, n31, σ1s67/41, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.82**	**313**	Pg	**Pn**	**15 43 41.9**	**-2.3**
SHLS	43nm,0.2s			Lg	Lg	15 44 09.4	
SHLS	**Shalkode**	**1.82**	**313**	*e*P	**Pn**	**15 43 43.7**	**-0.5**
SHLS	86nm,0.3s 43nm,0.2s			*e*S	**Sb**	**15 44 08.4**	**-0.7**
PDGK	**Podgornoye**	**1.93**	**317**	⇑Pn	**Pg**	**15 43 48.8**	**0.0**
PDGK	17nm,0.6s			⇑Sn	**Sg**	**15 44 18.8**	**+5.0**
SATY	**Saty**	**2.41**	**299**	Pg	**Pb**	**15 43 55.7**	**-0.2**
SATY	3.7nm,0.2s			Lg	Lg	15 44 33.4	
ZHN	**Zhinishke**	**2.44**	**302**	Pg	**Pb**	**15 43 56.1**	**-0.3**
ZHN	7.5nm,0.3s			Lg	Lg	15 44 33.6	
ZHN	**Zhinishke**	**2.44**	**302**	*e*P	**Pg**	**15 43 57.6**	**-1.1**
ZHN	5.8nm,0.1s 70nm,0.4s			*e*S	**Sg**	**15 44 32.0**	**+1.7**
KPKS	**Kokpek**	**2.45**	**310**	Pg	**Pb**	**15 43 55.6**	**-1.1**
KPKS	9.2nm,0.3s			Lg	Lg	15 44 33.6	
KPKS	**Kokpek**	**2.45**	**310**	*e*P	**Pg**	**15 43 58.1**	**-0.9**
KPKS	4.4nm,0.1s 46nm,0.3s			*e*S	**Sg**	**15 44 32.7**	**+2.0**
DJR	**Jarkent**	**2.64**	**336**	Pg	**Pb**	**15 43 57.9**	**-1.9**
DJR	2.1nm,0.4s			Lg	Lg	15 44 37.0	
DJR	**Jarkent**	**2.64**	**336**	*e*P	**Pg**	**15 44 02.1**	**-0.4**
DJR	5.0nm,0.1s 35nm,0.6s			*e*S	**Sg**	**15 44 39.6**	**+2.9**
KURS	**Kuram**	**2.77**	**305**	Pg	**Pb**	**15 44 00.2**	**-1.9**
KURS	3.6nm,0.4s 12nm,0.9s			Lg	Lg	15 44 40.6	
KNOS	**Konyrlen**	**2.88**	**328**	Pg	**Pb**	**15 44 01.4**	**-2.6**
KNOS	3.4nm,0.3s 20nm,0.2s			Lg	Lg	15 44 42.5	
BLB	**Baldybastay**	**2.99**	**318**	Pg	**Pb**	**15 44 05.2**	**-0.6**
BLB	12nm,0.2s 38nm,0.6s			Lg	Lg	15 44 49.0	
KOTS	**Kotyrbulak**	**3.34**	**294**	Pg	**Pb**	**15 44 12.7**	**+0.9**
KOTS	4.8nm,0.3s 35nm,0.5s			Lg	Lg	15 45 02.2	
KOTS	**Kotyrbulak**	**3.34**	**294**	*e*P	**Pg**	**15 44 13.6**	**-2.4**
KOTS	4.8nm,0.2s 50nm,0.3s			*e*S	**Sg**	**15 44 59.4**	**+0.1**
MDOK	**Medeo**	**3.36**	**293**	Pg	**Pb**	**15 44 11.7**	**-0.4**
MDOK	0.8nm,0.1s 3.0nm,0.6s			Pg	**Pg**	**15 44 13.1**	**-3.2**
MDOK	30nm,0.5s			Lg	Lg	15 45 00.5	
MDOK	25nm,0.6s			Lg	Lg	15 45 03.6	
MDOK	**Medeo**	**3.36**	**293**	*e*P	**Pb**	**15 44 13.4**	**+1.2**
MDOK	1.7nm,0.1s 30nm,0.5s			*e*S	**Sg**	**15 44 59.0**	**-0.9**
TNSS	**Tian-Shan**	**3.39**	**291**	Pg	**Pb**	**15 44 13.4**	**+0.6**
TNSS	1.9nm,0.3s 10nm,0.5s			Lg	Lg	15 45 02.6	
TNSS	**Tian-Shan**	**3.39**	**291**	*e*P	**Pb**	**15 44 14.0**	**+1.2**
TNSS	0.5nm,0.1s 11nm,0.3s			*e*S	**Sg**	**15 45 00.1**	**-0.7**
ARXS	**Arharly**	**3.41**	**313**	Pg	**Pb**	**15 44 13.7**	**+0.7**
ARXS	0.6nm,0.1s 23nm,0.5s			Lg	Lg	15 45 03.7	
MTBS	**Maitube**	**3.78**	**290**	Pg	**Pb**	**15 44 19.4**	**+0.1**
MTBS	1.2nm,0.2s 8.6nm,0.3s			Lg	Lg	15 45 13.5	
MTBS	**Maitube**	**3.78**	**290**	*e*P	**Pb**	**15 44 21.0**	**+1.7**
MTBS	0.6nm,0.1s 15nm,0.4s			*e*S	**Sg**	**15 45 12.2**	**-1.2**
KTBS	**Karatobe**	**3.82**	**299**	Pg	**Pb**	**15 44 20.5**	**+0.5**
KTBS	1.0nm,0.3s 21nm,0.6s			Lg	Lg	15 45 15.8	
KST	**Kastek**	**4.08**	**288**	Pg	**Pb**	**15 44 24.4**	**-0.1**
KST	2.6nm,0.4s 23nm,0.6s			Lg	Lg	15 45 22.5	
DGS	**Degeres**	**4.27**	**290**	Pg	**Pb**	**15 44 29.2**	**+1.6**
DGS	3.2nm,0.5s 12nm,0.6s			Lg	Lg	15 45 30.8	
TKM2	**Tokmak 2**	**4.32**	**285**	⇑Pn	**Pn**	**15 44 21.4**	**+2.8**
TKM2	0.7nm,0.3s 8.5nm,0.6s			⇑Lg	Lg	15 45 34.7	
KRBS	**Karabastau**	**4.48**	**295**	Pg	**Pb**	**15 44 31.8**	**+0.6**
KRBS	0.8nm,0.4s 4.3nm,0.4s			Lg	Lg	15 45 34.2	
MAKZ	**Makanchi**	**4.91**	**6**	⇑Pn	**Pn**	**15 44 27.1**	**+0.6**
MAKZ	0.8nm,0.5s 3.4nm,0.6s			⇑Lg	Lg	15 45 56.2	
MK31	**Makanchi Array**	**4.92**	**8**	⇓Pn	**Pn**	**15 44 27.8**	**+1.1**
MK31	0.3nm,0.3s,baz=190,slow=13,SNR=42 3.7nm,0.7s,baz=190,slow=30,SNR=4.1			⇓Lg	Lg	15 45 51.5	
AAK	**Ala-Archa**	**5.08**	**280**	Pg	**Pg**	**15 44 48.9**	**-0.4**
AAK	1.5nm,0.6s 9.9nm,0.9s			Lg	Lg	15 45 56.7	
KK31	**Karatay Array**	**8.04**	**282**	⇑Pn	**Pn**	**15 45 09.6**	**+0.1**
KK31	3.1nm,0.6s,baz=186,slow=11,SNR=51 1.9nm,0.5s,baz=193,slow=20,SNR=5.6			⇑Lg	Lg	15 47 30.3	

*SJA **24** 15:57:05.3±0.6, 24°.04S×66°.92W, h214km±6km, ML3.2, MW3.4*
*GUC **24** 15:57:06.8±0.5, 24°.03S×66°.98W, h202km±6km, ML3.7*
ISC 24 15:57:04.3±2.0, 24°.03S±0°.04×66°.87W±0°.05, h220km±18km, n31, σ2s34/46, 1C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.52**	**112**	*e*P	**Pn**	**15 57 35.1**	**+0.7**
SALTA		**0.52**	**112**	⇓*i*P	**Pn**	**15 57 35.1**	**+0.7**
SLA	**San Lorenzo**	**1.42**	**119**	*e*P	**Pn**	**15 57 40.8**	**+1.4**
AF01	**San Pedro de A**	**1.61**	**312**	*e*P	Pn	15 57 25.8	-15
AF01				IAML		15 58 02.9	
AZAP	**Zapla**	**1.66**	**97**	*e*P	**Pn**	**15 57 42.8**	**+1.4**
ASTB	**Santa Barbara**	**2.21**	**88**	*e*P	**Pn**	**15 57 44.4**	**-2.2**
FSA	**Cafayete**	**2.22**	**159**	*e*P	**Pn**	**15 57 48.1**	**+1.4**
YJA	**Yavi**	**2.23**	**34**	*e*P	**Pn**	**15 57 49.2**	**+2.0**
YJA				*e*S	**S**	**15 58 21.6**	**+1.3**
YJA	**Yavi**	**2.23**	**34**	*e*P	**Pn**	**15 57 48.9**	**+1.7**
YJA				*e*S	**S**	**15 58 20.9**	**+0.5**
ALOL	**LOMAS DE OLMED**	**2.65**	**86**	*e*P	Pn	15 58 08.0	+17
GO02	**Mina Guanaco**	**2.72**	**245**	*e*P	**Pn**	**15 57 53.2**	**+1.0**
GO02				*e*S	**S**	**15 58 28.8**	**-0.6**
GO02	**Mina Guanaco**	**2.72**	**245**	⇑*i*P	**Pn**	**15 57 53.1**	**+1.0**
GO02				*e*S	**S**	**15 58 28.4**	**-1.0**
GO02				IAML		15 58 29.0	
PB06	**IPOC Station P**	**2.81**	**297**	*e*P	**Pn**	**15 57 53.9**	**+0.8**
PB06				*e*S	**S**	**15 58 29.5**	**-1.5**
PB06				IAML		15 58 32.0	
PB06	**IPOC Station P**	**2.81**	**297**	*e*P	**Pn**	**15 57 54.1**	**+1.0**
PB06				*e*S	**S**	**15 58 29.1**	**-1.9**
PB06				IAML		15 58 30.7	
AHML	**Horco Molle**	**3.07**	**153**	*e*P	Pn	15 57 41.1	-15
AHML				*e*S	**S**	**15 58 29.3**	**-6.9**
PB09	**IPOC Station P**	**3.12**	**315**	*e*P	**Pn**	**15 57 58.5**	**+1.8**
PB09				*e*S	**S**	**15 58 37.0**	**-0.4**
PB09				IAML		15 58 38.8	
PB09	**IPOC Station P**	**3.12**	**315**	*e*P	**Pn**	**15 57 57.9**	**+1.2**
PB09				*e*S	**S**	**15 58 36.4**	**-1.0**
PB09				IAML		15 58 39.0	
PB14	**IPOC Station P**	**3.28**	**259**	*e*P	**Pn**	**15 57 59.1**	**+0.5**
PB14				*e*S	**S**	**15 58 39.5**	**-1.3**
PB14				IAML		15 58 41.5	
PB14	**IPOC Station P**	**3.28**	**259**	*e*P	**Pn**	**15 57 59.0**	**+0.5**
PB03	**IPOC Station P**	**3.31**	**306**	*e*P	**Pn**	**15 57 59.6**	**+0.8**
PB03				*e*S	**S**	**15 58 38.9**	**-2.4**
PB03				IAML		15 58 42.0	
PB03	**IPOC Station P**	**3.31**	**306**	*e*P	**Pn**	**15 57 59.6**	**+0.8**
AC02	**Maricunga**	**3.46**	**216**	*e*P	**Pn**	**15 58 02.5**	**+1.7**
AC02				*e*S	**S**	**15 58 50.1**	**+5.0**
AC02				IAML		15 59 13.5	
AC02	**Maricunga**	**3.46**	**216**	*e*P	**Pn**	**15 58 02.4**	**+1.5**
PB01	**IPOC Station P**	**3.83**	**320**	*e*P	**Pn**	**15 58 06.5**	**+1.5**
PB01				*e*S	**S**	**15 58 51.2**	**-1.3**
PB01				IAML		15 58 52.8	
PB01	**IPOC Station P**	**3.83**	**320**	*e*P	**Pn**	**15 58 06.1**	**+1.1**
AC01	**Pan de Azucar**	**3.98**	**237**	*e*P	**Pn**	**15 58 06.5**	**-0.1**
AC01				*e*S	**S**	**15 58 53.0**	**-2.6**
AC01				IAML		15 58 53.9	
PB08	**IPOC Station P**	**4.41**	**331**	*e*P	**Pn**	**15 58 14.7**	**+2.3**
PB08				*e*S	**S**	**15 59 05.4**	**-0.4**
PB08				IAML		15 59 07.4	
PB08	**IPOC Station P**	**4.41**	**331**	*e*P	**Pn**	**15 58 14.6**	**+2.3**
TA01	**Diego Aracena**	**4.61**	**318**	*e*P	**Pn**	**15 58 17.0**	**+2.5**
TA01				*e*S	**S**	**15 59 01.9**	**-7.7**
TA01				IAML		15 59 33.1	
PB11	**IPOC Station P**	**4.97**	**328**	*e*P	**Pn**	**15 58 20.2**	**+1.1**
PB11				*e*S	**S**	**15 59 15.9**	**-2.2**
PB11				IAML		15 59 24.4	
ACLC	**CERRO LA CRUZ**	**5.37**	**181**	*e*P	**Pn**	**15 58 27.1**	**+3.0**
ACLC				*e*S	**S**	**15 59 28.0**	**+0.8**
ACLC				IAML		15 59 45.4	

*SJA **24** 16:29:40.3±1.0, 22°.15S×69°.91W, h71km±4km, ML3.5, MW3.6*
*GUC **24** 16:29:42.9±0.8, 22°.17S×69°.89W, h65km±3km, ML3.6*
ISC 24 16:29:42.9±1.3, 22°.15S±0°.03×69°.98W±0°.07, h57km±9km, n23, σ0s99/35, 6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB03	**IPOC Station P**	**0.23**	**64**	*i*P	**Pn**	**16 29 52.1**	**-0.3**
PB03				*e*S	**Sn**	**16 30 00.2**	**+1.0**
PB03				IAML		16 30 01.4	
PB03	**IPOC Station P**	**0.23**	**64**	⇓*i*P	**Pn**	**16 29 52.9**	**+0.4**
PB03				*e*S	**Sn**	**16 30 00.0**	**+0.8**
PB03				IAML		16 30 00.4	
PB06	**IPOC Station P**	**0.67**	**146**	*i*P	**Pn**	**16 29 55.7**	**-1.1**
PB06				⇓*e*S	**Sn**	**16 30 06.9**	**+0.1**
PB06				IAML		16 30 09.2	
PB06	**IPOC Station P**	**0.67**	**146**	⇓*i*P	**Pn**	**16 29 56.4**	**-0.4**
PB06				*e*S	**Sn**	**16 30 06.8**	**-0.1**
PB06				IAML		16 30 07.8	
PB09	**IPOC Station P**	**0.77**	**63**	*i*P	**Pn**	**16 29 56.6**	**-1.4**
PB09				*e*S	**Sn**	**16 30 08.0**	**-1.1**
PB09				IAML		16 30 08.2	
PB09	**IPOC Station P**	**0.77**	**63**	⇓*i*P	**Pn**	**16 29 57.3**	**-0.7**
PB09				*e*S	**Sn**	**16 30 07.7**	**-1.4**
PB09				IAML		16 30 08.5	
PB01	**IPOC Station P**	**1.19**	**23**	*i*P	**Pn**	**16 30 02.7**	**-0.8**
PB01				⇓*e*S	**Sn**	**16 30 19.0**	**+0.1**
PB01				IAML		16 30 19.4	
PB01	**IPOC Station P**	**1.19**	**23**	⇓*i*P	**Pn**	**16 30 03.4**	**-0.2**
PB01				*e*S	**Sn**	**16 30 18.8**	**0.0**
PB01				IAML		16 30 19.8	
TA01	**Diego Aracena**	**1.59**	**353**	*i*P	**Pn**	**16 30 08.2**	**-0.6**
TA01				IAML		16 30 34.6	
TA01	**Diego Aracena**	**1.59**	**353**	*e*P	**Pn**	**16 30 08.9**	**+0.1**
TA01				*e*S	**Sn**	**16 30 31.1**	**+2.9**
TA01				IAML		16 30 35.7	
AF01	**San Pedro de A**	**1.84**	**116**	*i*P	**Pn**	**16 30 13.3**	**+0.8**
AF01				IAML		16 30 57.4	
AF01	**San Pedro de A**	**1.84**	**116**	*e*P	**Pn**	**16 30 13.2**	**+0.8**
AF01				*e*S	**Sn**	**16 30 36.6**	**+1.7**
PB08	**IPOC Station P**	**2.14**	**21**	*e*P	**Pn**	**16 30 16.8**	**+0.1**
PB08				*e*S	**Sn**	**16 30 43.6**	**+1.3**
PB08				IAML		16 30 47.6	
PB11	**IPOC Station P**	**2.40**	**7**	*i*P	**Pn**	**16 30 18.8**	**-1.1**
PB11				IAML		16 30 54.7	
PB11	**IPOC Station P**	**2.40**	**7**	*e*P	**Pn**	**16 30 19.4**	**-0.6**
PB11				*e*S	**Sn**	**16 30 48.5**	**+0.3**
PB11				IAML		16 30 54.9	
PB14	**IPOC Station P**	**2.49**	**189**	*i*P	**Pn**	**16 30 20.6**	**-0.7**
PB14				IAML		16 31 02.0	
PB14	**IPOC Station P**	**2.49**	**189**	*e*P	**Pn**	**16 30 21.3**	**0.0**
GO02	**Mina Guanaco**	**3.02**	**173**	*i*P	**Pn**	**16 30 28.2**	**-0.4**
GO02	**Mina Guanaco**	**3.02**	**173**	*e*P	**Pn**	**16 30 28.6**	**0.0**
GO02				IAML		16 31 27.7	
PB12	**IPOC Station P**	**3.54**	**355**	*i*P	**Pn**	**16 30 34.5**	**-1.0**
PB12				IAML		16 31 32.9	
PB12	**IPOC Station P**	**3.54**	**355**	*e*P	**Pn**	**16 30 34.6**	**-0.8**
AC01	**Pan de Azucar**	**4.02**	**188**	*i*P	**Pn**	**16 30 40.4**	**-1.6**
AC01				IAML		16 31 44.5	
AC02	**Maricunga**	**4.73**	**171**	*i*P	**Pn**	**16 30 52.2**	**+0.1**
AC02				IAML		16 32 23.4	

comp=E,203nm,0.3s
comp=E,59nm,0.7s
comp=Z,30nm,0.6s
comp=Z,34nm,0.7s

*NEIC **24** 16:49:52.4±1.4, 10°.93S±0°.08×165°.97E±0°.08, h35km±2km, mb4.2/19, Error ellipse: s-maj=17.2km s-min=6.8km az=313.0*
*NOU **24** 16:49:54.1, 11°.00S×165°.67E, h4km, mb4.6/11, Santa Cruz Islands*
*IDC **24** 16:49:56.5±3.7, 11°.01S×165°.90E, h76km±31km, mb3.6/5, mbtmp4.0/7, MS3.1/3, Error ellipse: s-maj=29.0km s-min=22.7km az=55.0*
ISC 24 16:49:54.0±0.7, 10°.93S±0°.07×166°.00E±0°.07, h61km, n50, σ1s35/45, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.28**	**343**	P	**Pn**	**16 50 01.6**	**-2.5**
LUES	**Luesalemba Tem**	**0.28**	**343**	S	**Sn**	**16 50 08.8**	**-2.6**
HURO	**Huro Makira**	**4.05**	**276**	P	**Pn**	**16 50 52.1**	**-1.4**
HURO	**Huro Makira**	**4.05**	**276**	P	**Sn**	**16 51 37.8**	**-1.9**
ALEG	**Aligegeo Malai**	**5.66**	**292**	P	**Pn**	**16 51 15.6**	**+0.1**
NGOA	**Tingoa Renbel**	**5.85**	**263**	P	**Pn**	**16 51 16.3**	**-2.0**
HNR	**Honiara**	**6.14**	**284**		**Pn**	**16 51 21.1**	**-1.1**
HNR	**Honiara**	**6.14**	**284**	P	**Pn**	**16 51 23.1**	**+0.9**
HNR	88nm,0.4s,baz=184,slow=3.4,SNR=11 23nm,0.3s,baz=36,slow=22,SNR=1.5			S	**Sn**	**16 52 32.3**	**+1.2**
HNR	comp=Z,170nm,21.9s,baz=164,slow=38			LR	LR	16 53 45.2	
HNR	**Honiara**	**6.14**	**284**	P	**Pn**	**16 51 22.5**	**+0.3**
TATA	**Tatamba Isabel**	**6.61**	**292**	P	**Pn**	**16 51 28.6**	**0.0**
TATA	**Tatamba Isabel**	**6.61**	**292**	P	**Sn**	**16 52 42.3**	**-0.3**
KOUNC	**Koumac, New Ca**	**9.70**	**190**	P	**Pn**	**16 52 12.9**	**+2.0**
DZM	**Mont Dzumac**	**11.08**	**178**	Pn	**Pn**	**16 52 29.6**	**-0.3**
DZM	**Mont Dzumac**	**11.08**	**178**	P	**Pn**	**16 52 31.7**	**+1.8**
DZM	8.6nm,1.0s,baz=70,slow=9.3,SNR=8.6 baz=120,slow=20			S	**Sn**	**16 54 29.9**	**-2.4**
DZM	comp=Z,121nm,18.7s,baz=350,slow=35			LR	LR	16 56 19.9	
DZM	**Mont Dzumac**	**11.08**	**178**	P	**Pn**	**16 52 33.1**	**+3.2**
NIUE	**Niue**	**24.60**	**112**	P	**P**	**16 55 08.6**	**-0.1**
JAY	**Jayapura**	**26.45**	**287**	LR	LR	17 05 30.1	
H11S2	**WAKE ISLAND Hy**	**29.25**	**1**	T	T	17 26 18.9	
H11S3	**WAKE ISLAND Hy**	**29.25**	**1**	T	T	17 26 23.3	
H11S1	**WAKE ISLAND Hy**	**29.26**	**1**	T	T	17 26 17.6	
BKZ	**Black Stump Fm**	**29.63**	**163**	P	**P**	**16 55 54.9**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**30.47**	**2**	T	T	17 27 46.8	
H11N3	**WAKE ISLAND Hy**	**30.47**	**2**	T	T	17 27 47.2	
H11N2	**WAKE ISLAND Hy**	**30.48**	**2**	T	T	17 27 48.2	
MRZ	**Mangataiokа R**	**30.80**	**166**	P	**P**	**16 56 04.2**	**+0.3**
BFZ	**Birch Farm**	**30.98**	**165**	P	**P**	**16 56 05.8**	**+0.2**
BSWZ	**Blackbirch Sta**	**31.43**	**169**	P	**P**	**16 56 08.2**	**-1.3**
WB0	**Warramunga Arr**	**31.67**	**250**	P	**P**	**16 56 12.0**	**+0.1**
WB0				IAmb	IAmb	16 56 53.9	
WRA	**Warramunga Arr**	**31.75**	**250**	P	**P**	**16 56 12.9**	**+0.3**
WRA	**Warramunga Arr**	**31.75**	**250**	P	**P**	**16 56 13.1**	**+0.4**
LTZ	**Lake Taylor**	**32.20**	**171**	P	**P**	**16 56 17.3**	**+1.1**
AS31	**Alice Springs**	**33.06**	**243**	P	**P**	**16 56 23.4**	**-0.7**
ASAR	**Alice Springs**	**33.06**	**243**	P	**P**	**16 56 23.2**	**-0.9**
ASAR	**Alice Springs**	**33.06**	**243**	P	**P**	**16 56 24.1**	**0.0**
BBOO	**Buckleboo**	**35.08**	**227**	P	**P**	**16 56 41.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.65**	**255**	P	**P**	**16 57 19.7**	**-0.6**
SOEI	**Soe**	**41.05**	**268**	P	**P**	**16 57 30.7**	**-1.3**
SBA	**Scott Base**	**66.91**	**180**	P	**P**	**17 00 39.2**	**-0.2**
L19K	**White Mountain**	**79.00**	**18**	P	**P**	**17 01 52.4**	**+1.4**
L19K				IAmb	IAmb	17 02 22.5	
QSPA	**South Pole Qui**	**79.07**	**180**	P	**P**	**17 01 51.4**	**-0.2**
QSPA				IAmb	IAmb	17 01 57.0	
QSPA	**South Pole Qui**	**79.07**	**180**	P	**P**	**17 01 51.7**	**0.0**
M24K	**Tolsona, Glenn**	**81.73**	**21**	P	**P**	**17 02 07.4**	**+1.6**
E19K	**Redstone River**	**82.56**	**13**	P	**P**	**17 02 11.8**	**+1.8**
E19K				IAmb	IAmb	17 02 14.8	
ILAR	**Eielson Array**	**83.33**	**18**	P	**P**	**17 02 14.5**	**+0.5**
ILAR	**Eielson Array**	**83.33**	**18**	P	**P**	**17 02 15.4**	**+1.5**
J25K	**Salcha River,**	**83.70**	**19**	P	**P**	**17 02 16.9**	**+0.9**
BCAR	**Beaver Creek A**	**83.90**	**21**	P	**P**	**17 02 18.9**	**+1.8**
D22K	**Ayikyak River**	**84.74**	**14**	P	**P**	**17 02 22.6**	**+1.4**
D22K				IAmb	IAmb	17 02 42.9	
DAWY	**Dawson**	**85.36**	**21**	P	**P**	**17 02 25.8**	**+1.4**
DAWY				IAmb	IAmb	17 03 06.1	
MKAR	**Makanchi Array**	**93.61**	**317**	P	**P**	**17 03 04.2**	**+0.5**

comp=Z,2.5nm,1.2s
comp=Z,0.9nm,0.6s,baz=82,slow=9.0,SNR=7.0
comp=Z,0.9nm,0.6s
comp=Z,2.3nm,1.0s,baz=301,slow=4.0,SNR=6.2
comp=Z,2.3nm,1.0s
comp=Z,0.4nm,0.7s,baz=64,slow=10,SNR=21
comp=Z,0.4nm,0.7s
comp=Z,0.2nm,0.8s
comp=Z,0.5nm,0.5s,baz=236,slow=5.4,SNR=16
comp=Z,0.5nm,0.5s
comp=Z,0.3nm,0.7s,baz=105,slow=5.5,SNR=4.8
comp=Z,0.3nm,0.7s

*IDC **24** 16:57:31.0±4.8, 8°.75S×33°.43E, h0km, mb3.5/2, mbtmp3.9/3, ML4.4/1, MS3.4/6, Error ellipse: s-maj=755.9km s-min=23.8km az=115.0*
ISC 24 16:57:15.8±1.0, 8°.1S±0°.1×33°.5E±0°.2, h10km, n17, σ3s29/19, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**7.90**	**29**	Pn	**Pb**	**16 59 34.6**	**+1.6**
KMBO	4.3nm,0.3s,baz=204,slow=17,SNR=43 5.7nm,0.3s,baz=186,slow=15,SNR=3.8			Sn	**Sb**	**17 01 03.9**	**-3.4**
KMBO	8.7nm,0.3s,baz=233,slow=20,SNR=15			Lg	Lg	17 01 56.4	
KMBO	comp=Z,95nm,19.9s,baz=318,slow=37 11nm,0.4s			LR	LR	17 02 46.5	
LSZ	**Lusaka**	**8.80**	**215**	*i*P	Pn	16 59 31.0	+7.8
LSZ				*i*S	**Sn**	**17 01 05.7**	**+3.1**
BLWY	**Bulawayo**	**12.85**	**201**	*i*P	**Pn**	**17 00 22.1**	**+3.4**
BROLN	**Tlhalogang**	**14.20**	**204**	*i*P	**Pn**	**17 00 39.5**	**+2.2**
BROLN				*i*S	**Sn**	**17 03 08.9**	**-6.2**
BROLN				IAML		17 04 47.9	
MUSN	**Musina, Limpop**	**14.52**	**193**	*i*P	**Pn**	**17 00 43.2**	**+1.8**
MUSN				*i*S	**Sn**	**17 03 19.0**	**-3.5**
PHDHD	**Phuduhudu**	**14.80**	**215**	*i*P	**Pn**	**17 00 46.4**	**+1.0**
PHDHD				IAML		17 05 05.2	
MOPA	**Mopani**	**15.45**	**187**	*i*P	**P**	**17 00 57.8**	**-0.6**
MOPA				*i*S	**Sn**	**17 03 47.5**	**+2.4**
LPHEP	**Lephephe**	**16.83**	**205**	*i*P	**Pn**	**17 01 13.5**	**+1.8**
LPHEP				IAML		17 06 04.6	
KDWAN	**Kaudwane**	**17.37**	**208**	*i*P	**Pn**	**17 01 19.5**	**+0.9**
KDWAN				*i*S	**Sn**	**17 04 25.4**	**-6.7**
KDWAN				IAML		17 06 29.8	
LBTB	**Lobatse**	**18.41**	**203**	*i*P	**P**	**17 01 31.1**	**-0.2**
LBTB				*i*S	**Sn**	**17 04 53.4**	**-3.8**
SKOMA	**Sekoma**	**18.68**	**208**	*i*P	**Pn**	**17 01 37.2**	**+2.5**
SKOMA				IAML		17 07 05.6	
TSUM	**Tsumeb**	**18.94**	**233**	LR	LR	17 09 07.4	

comp=E,178nm,0.8s
comp=N,39nm,1.9s
comp=N,21nm,1.2s
comp=E,33nm,1.4s
comp=N,20nm,1.3s
comp=N,62nm,19.1s,baz=122,slow=38

BOSA	**Boshof**	**21.81 200**	P	P	17 02 17.3	+9.0
	comp=N,1.4nm,0.8s,baz=26,slow=9.7,SNR=5.9					
BOSA			S	**S**	**17 06 10.8**	**+1.0**
	comp=N,1.6nm,0.6s,baz=60,slow=10.0,SNR=3.5					
BOSA			Lg	Lg	17 08 25.5	
	comp=N,0.2nm,0.3s,baz=98,slow=13,SNR=5.3					
	comp=N,1.4nm,0.8s					
BOSA	**Boshof**	**21.81 200**	*i* P	**P**	**17 02 07.6**	**-0.7**
BOSA			*i* S	S	17 06 00.1	-10
SUR	**Sutherland**	**26.86 204**	LR	LR	17 13 02.3	
	comp=N,51nm,19.3s,baz=32,slow=36					
DAVOX	**Davos/Dischmat**	**58.55 341**	LR	LR	17 33 40.4	
	comp=N,38nm,19.9s,baz=296,slow=37					
MKAR	**Makanchi Array**	**69.76 33**	P	P	17 08 47.6	+21
	comp=N,1.0nm,1.1s,baz=229,slow=7.9,SNR=4.1					
	comp=N,1.0nm,1.1s					

*SDD **24** 16:58:37.6±1.5, 17°.99N×68°.03W, h168km±19km, MD3.6, ML2.3, MW2.2*
*RSPR **24** 16:58:41.1, 18°.20N×68°.00W, h127km±2km*
*NEIC **24** 16:58:43.5±1.6, 18°.7N±0°.2×67°.91W±0°.06, h50km±17km, ML2.1/14, Md2.9/1(RSPR), Error ellipse: s-maj=23.5km s-min=6.3km az=192.0*
ISC 24 16:58:42.1±1.5, 18°.6N±0°.2×67°.96W±0°.07, h100km, n21, σ2s02/24, 9C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.41**	**260**	Pn	**Pn**	**16 58 53.8**	**-3.5**
PCDR					**Sn**	**16 59 03.1**	**-5.5**
CRPR	**Cabo Rojo, PR**	**0.99**	**125**		**Sn**	**16 59 18.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**0.99**	**125**	Pn	**Pn**	**16 59 01.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**0.99**	**125**	⇑*e*Pg	**Pn**	**16 59 01.7**	**-0.8**
CRPR				⇑*e*Sg	**Sn**	**16 59 20.2**	**+2.5**
CRPR				IAML		16 59 53.6	
	comp=N,57nm,2.1s						
CRPR	**Cabo Rojo, PR**	**0.99**	**125**	⇓*e*P	**Pn**	**16 59 02.4**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.99**	**125**	*e*S	**Sn**	**16 59 18.3**	**+0.6**
MLPR	**Magueyes Islan**	**1.06**	**125**	⇑*e*Pg	**Pn**	**16 59 01.4**	**-1.8**
MLPR				⇓*e*Sg	**Sn**	**16 59 21.5**	**+2.4**
MLPR				IAML		16 59 22.4	
	comp=N,11nm,3.8s						
MLPR	**Magueyes Islan**	**1.06**	**125**	⇑*e*P	**Pn**	**16 59 03.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.06**	**125**	*e*S	**Sn**	**16 59 19.8**	**+0.7**
AOPR	**Arecibo Observ**	**1.17**	**102**	Pn	**Pn**	**16 59 03.0**	**-1.4**
AOPR				IAML		16 59 33.0	
	comp=N,40nm,2.1s						
AOPR				IAML		16 59 38.3	
	comp=E,35nm,2.0s						
UUPR	**Utuado, UPR, P**	**1.22**	**106**	Pn	**Pn**	**16 59 03.4**	**-1.6**
UUPR				IAML		16 59 31.7	
	comp=N,44nm,0.3s						
UUPR				IAML		16 59 40.8	
	comp=E,44nm,0.3s						
DR12	**Loma Pena Alta**	**1.36**	**279**	Pn	**Pn**	**16 59 08.0**	**+1.2**
DR12				IAML		16 59 33.4	
	comp=N,36nm,3.1s						
DR12				IAML		16 59 42.2	
	comp=E,27nm,2.6s						
HATOM	**Hato Mayor del**	**1.37**	**279**	⇑*e*Pg	**Pn**	**16 59 08.0**	**+1.2**
HATOM				⇑*e*Sg	**Sn**	**16 59 29.0**	**+3.5**
HATOM				IAML		16 59 32.8	
	comp=N,35nm,2.1s						
CELP	**Cerrillos**	**1.40**	**111**		**Pn**	**16 59 06.6**	**-0.6**
CELP	**Cerrillos**	**1.40**	**111**		**Sn**	**16 59 27.7**	**+1.5**
CELP	**Cerrillos**	**1.40**	**111**	IAML		16 59 20.4	
	comp=E,26nm,3.1s						
CELP	**Cerrillos**	**1.40**	**111**	IAML		16 59 43.3	
	comp=N,26nm,3.0s						
CELP	**Cerrillos**	**1.40**	**111**	⇑*e*P	**Pn**	**16 59 06.8**	**-0.5**
CELP				⇑*e*Sg	**Sn**	**16 59 26.9**	**+0.7**
CELP				IAML		16 59 42.7	
	comp=N,25nm,2.5s						
CELP	**Cerrillos**	**1.40**	**111**	⇑*e*P	**Pn**	**16 59 06.6**	**-0.6**
CELP	**Cerrillos**	**1.40**	**111**	*e*S	**Sn**	**16 59 27.7**	**+1.5**
SDD	**Santo Domingo**	**1.86**	**266**	Pn	**Pn**	**16 59 12.8**	**-0.2**

*NEIC **24** 17:12:11.4±2.3, 10°.25N±0°.07×93°.8E±0°.1, h10km±1km, mb4.3/17, Error ellipse: s-maj=22.1km s-min=3.0km az=236.0*
*NDI **24** 17:12:12.1, 10°.23N×93°.82E, h16km, mb4.2, ML4.2, mb4.3(NEIC)*
*IDC **24** 17:12:13.8±0.6, 10°.59N×94°.09E, h0km, mb4.0/16, mbtmp4.0/17, ML3.9/1, MS3.4/17, Error ellipse: s-maj=24.7km s-min=15.9km az=63.0*
*BKK **24** 17:12:21.6±3.3, 11°N±6°×93°.5E±3°.1, h60km±176km, M4.1/13, mB4.6/6, mb4.3/7, Mjma3.8/12, ML4.3/10, MLv4.2/13, Mw(mB)3.8/6*
ISC 24 17:12:14.8±0.5, 10°.38N±0°.07×93°.99E±0°.06, h19km, n78, σ1s89/68, mb4.2/25, MS3.5/12, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**2.96**	**340**	*e*P	**Pn**	**17 13 00.3**	**-0.6**
DGPR				*e*S	**Sn**	**17 13 34.2**	**-1.8**
DGPR				IAML		17 13 57.8	
	comp=N,1μm,0.7s						
DGPR				IAML		17 13 58.5	
	comp=E,1μm,0.5s						
CMBY	**CAMPBELL BAY**	**3.35**	**181**	*e*P	Pn	17 12 58.3	-7.9
CMBY				*e*S	Sn	17 13 35.2	-10
CMBY				IAML		17 14 01.1	
	comp=E,1μm,0.8s						
CMBY				IAML		17 14 03.6	
	comp=N,1μm,1.1s						
RNTT	**Ranong**	**4.53**	**102**	P	**Pn**	**17 13 21.6**	**-0.9**
SRIT	**Nakonsritamara**	**5.81**	**107**	Pn	**Pn**	**17 13 40.0**	**-0.1**
SRIT	**Nakonsritamara**	**5.81**	**107**	P	**Pn**	**17 13 40.0**	**-0.1**
	comp=N,51nm,0.6s						
KHLT	**Khaolaem Dam**	**6.28**	**45**	P	**Pn**	**17 13 45.3**	**-1.2**
	comp=N,0.1nmcomp=N,0.3nmcomp=N,14nm,0.7s						
SRDT	**SRDT**	**6.38**	**51**	P	**Pn**	**17 13 46.9**	**-1.0**
	comp=N,0.1nmcomp=N,0.1nmcomp=N,0.4nmcomp=N,385nm						
	comp=N,27nm,0.7s						
UTHA	**Uthaitani**	**7.40**	**45**	P	**Pn**	**17 14 01.0**	**-0.9**
	comp=N,0.0nmcomp=N,0.0nmcomp=N,9.0nm,0.6s						
KULM	**Kulim**	**8.31**	**127**	Pn	**Pn**	**17 14 14.1**	**-0.3**
PSI	**Prapat**	**8.98**	**147**	LR	LR	17 18 36.8	
	comp=N,343nm,18.8s,baz=338,slow=42						
IPM	**Ipoh**	**9.11**	**130**	Pn	**Pn**	**17 14 22.5**	**-2.9**
PHIT	**Phitsanulok**	**9.20**	**42**	P	Pn	17 14 39.6	+13
CM31	**Chiang Mai Arr**	**9.35**	**30**		**Pn**	**17 14 26.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**9.35**	**30**	Pn	**Pn**	**17 14 28.0**	**-0.7**
	comp=N,0.3nm,0.3s,baz=218,slow=15,SNR=23						
CMAR				LR	LR	17 18 23.0	
	comp=N,35nm,19.0s,baz=225,slow=40						
	comp=N,1.6nm,0.6s						
BRDH	**Bariadhala**	**12.43**	**350**	LR	LR	17 21 03.6	
	comp=N,216nm,19.6s,baz=182,slow=43						
VIS	**Vishakhapatnam**	**12.65**	**306**	*e*P	Pn	17 15 07.4	-6.5
VIS				IAML		17 15 18.4	
	comp=E,46nm,0.4s						
VIS				IAML		17 15 18.4	
	comp=N,42nm,0.3s						
VIS				*e*S	Sn	17 17 20.5	-14
AZL	**Aizawl**	**13.34**	**355**	*e*P	**Pn**	**17 15 22.1**	**-1.3**
MDRS	**Chennai**	**13.72**	**283**	*e*P	**Pn**	**17 15 25.8**	**-2.7**
MDRS				IAML		17 15 36.0	
	comp=E,91nm,0.3s						
MDRS				*e*S	Sn	17 17 43.1	-17
IMP	**Imphal**	**14.37**	**360**	*e*P	**Pn**	**17 15 36.0**	**-1.4**
IMP				IAmb	IAmb	17 15 40.7	
	comp=Z,13nm,0.8s						
IMP				*e*S	Sn	17 18 03.6	-13
KNTI	**KHUNTI**	**15.10**	**328**	*e*P	**P**	**17 15 51.7**	**-0.8**
KNTI				IAmb	IAmb	17 15 57.8	
	comp=Z,8.2nm,0.9s						
SHL	**Shillong**	**15.23**	**353**	Pn	**Pn**	**17 15 48.5**	**-0.7**
SHL				IAmb	IAmb	17 15 54.6	
	comp=Z,11nm,0.6s						
SHL	**Shillong**	**15.23**	**353**	*e*P	**Pn**	**17 15 49.0**	**-0.2**
SHL				IAmb	IAmb	17 15 55.1	
	comp=Z,9.0nm,0.4s						
KOHI	**KOHIMA**	**15.26**	**0**	*e*P	**Pn**	**17 15 46.3**	**-3.2**
KOHI				IAmb	IAmb	17 15 55.8	
	comp=Z,11nm,0.8s						
KOHI				*e*S	Sn	17 18 26.1	-12
KMI	**Kunming**	**16.85**	**28**	⇓P	**Pn**	**17 16 10.9**	**+0.9**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI				LR	LR		
	comp=N,160nm,5.6s						
KMI				LR	LR		
	comp=E,160nm,9.6s						
KMI				LR	LR		
	comp=Z,160nm,13.6s						
TRD	**Trivandrum**	**16.90**	**265**	*e*S	Sn	17 18 54.8	-23
ZIRO	**ZIRO**	**17.05**	**360**	*e*P	**Pn**	**17 16 08.8**	**-3.7**
ZIRO				IAmb	IAmb	17 16 18.9	
	comp=Z,12nm,0.6s						
ZIRO				*e*S	Sn	17 19 07.1	-15
TAWA	**Tawang**	**17.24**	**354**	*e*P	**Pn**	**17 16 14.9**	**-0.1**
TAWA				IAmb	IAmb	17 16 24.5	
	comp=Z,7.7nm,0.7s						
QIZ	**Qiongzhong**	**17.57**	**59**	P	**Pn**	**17 16 19.1**	**+0.3**
QIZ				S	**Sn**	**17 19 37.5**	**+3.4**
QIZ				LR	LR		
	comp=N,220nm,4.9s						
QIZ				LR	LR		
	comp=E,140nm,5.9s						
QIZ				LR	LR		
	comp=Z,170nm,5.3s						
PZH	**PanZhiHua**	**17.63**	**24**	P	**P**	**17 16 22.6**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,150nm,6.2s						
MNGI	**Mangalore**	**18.94**	**280**	*e*S	Sn	17 19 41.9	-26
LSA	**Lhasa**	**19.40**	**353**	P	**P**	**17 16 41.0**	**+0.6**
LSA				IAmb	IAmb	17 16 51.5	
	comp=Z,12nm,1.3s						
SBUM	**Sibu**	**19.74**	**112**	P	**P**	**17 16 41.5**	**-2.2**
SBUM				IAmb	IAmb	17 16 48.4	
	comp=Z,11nm,1.4s						
LEM	**Lembang**	**21.83**	**141**	LR	LR	17 26 54.5	
	comp=Z,248nm,19.4s,baz=308,slow=40						
SMRI	**Semarang**	**23.84**	**136**	P	**P**	**17 17 24.3**	**-2.8**
ENH	**Enshi**	**24.50**	**34**	P	**P**	**17 17 32.0**	**-1.0**
KAPI	**Kappang**	**29.87**	**120**	LR	LR	17 29 54.6	
	comp=Z,57nm,20.9s,baz=277,slow=36						
TIA	**Tai'an**	**33.18**	**35**	P	**P**	**17 18 50.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ	**Urumqi**	**33.76**	**352**	*e*P	**P**	**17 18 59.4**	**+4.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC	**Hu-ho-hao-te**	**34.09**	**24**	*e*P	**P**	**17 19 00.1**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.9s						
AAK	**Ala-Archa**	**36.37**	**335**	P	**P**	**17 19 14.8**	**-3.3**
MK31	**Makanchi Array**	**37.62**	**347**		**P**	**17 19 26.1**	**-2.4**
MKAR	**Makanchi Array**	**37.62**	**347**	P	**P**	**17 19 27.7**	**-0.8**
MKAR	**Makanchi Array**	**37.62**	**347**	LR	LR	17 37 36.2	
	comp=Z,43nm,19.4s,baz=198,slow=41						
MAKZ	**Makanchi**	**37.71**	**346**		P	17 19 22.9	-6.3
MAKZ				IAmb	IAmb	17 19 27.5	
	comp=Z,2.8nm,0.5s						
SONM	**Songino Array**	**38.77**	**13**	P	**P**	**17 19 39.2**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=195,slow=9.0,SNR=7.5						
SONM				LR	LR	17 36 09.2	
	comp=Z,76nm,19.7s,baz=44,slow=37						
	comp=Z,0.7nm,0.6s						
ULN	**Ulaanbaatar**	**38.95**	**14**	P	**P**	**17 19 39.2**	**-0.5**
KSRS	**Korea Array**	**40.71**	**43**	P	**P**	**17 19 53.4**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=251,slow=8.4,SNR=3.1						
KSRS				LR	LR	17 37 21.2	
	comp=Z,18nm,21.3s,baz=340,slow=37						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**42.09**	**345**	P	**P**	**17 20 05.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=164,slow=7.5,SNR=7.8						
KURBB				PcP	**PcP**	**17 22 02.9**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=156,slow=2.6,SNR=4.3						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**42.16**	**345**	P	**P**	**17 20 05.3**	**-0.8**
KURK				IAmb	IAmb	17 20 37.4	
	comp=Z,4.7nm,1.3s						
ZAA0	**Zalesovo Array**	**44.07**	**352**	P	**P**	**17 20 20.3**	**-1.2**
ZAA0				IAmb	IAmb	17 20 40.7	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**44.07**	**352**	P	**P**	**17 20 21.3**	**-0.1**
ZALV	**Zalesovo Beam**	**44.07**	**352**	P	**P**	**17 20 21.8**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=174,slow=8.0,SNR=12						
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	**46.59**	**341**	P	**P**	**17 20 42.9**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=134,slow=6.2,SNR=2.0						
BVAR				PcP	**PcP**	**17 22 18.2**	**+2.9**
	comp=Z,1.3nm,0.6s,baz=152,slow=4.6,SNR=4.7						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**47.98**	**330**	P	**P**	**17 20 49.2**	**-3.2**
WB0	**Warramunga Arr**	**49.80**	**127**	P	**P**	**17 21 04.2**	**-2.7**
WB0				IAmb	IAmb	17 21 10.3	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**49.86**	**127**	P	**P**	**17 21 04.5**	**-2.7**
WRA	**Warramunga Arr**	**49.86**	**127**	P	**P**	**17 21 09.2**	**+1.9**
	comp=Z,3.5nm,0.7s,baz=304,slow=9.0,SNR=34						
WRA				LR	LR	17 46 48.7	
	comp=Z,55nm,18.6s,baz=7.5,slow=42						
	comp=Z,3.5nm,0.7s						
WB2	**Warramunga Arr**	**49.87**	**127**	P	**P**	**17 21 05.0**	**-2.3**
WB2				IAmb	IAmb	17 21 11.0	
	comp=Z,5.0nm,0.7s						
WR0	**Warramunga Arr**	**50.03**	**127**	P	**P**	**17 21 06.9**	**-1.6**
WR0				IAmb	IAmb	17 21 12.2	
	comp=Z,4.6nm,0.8s						
AS31	**Alice Springs**	**51.65**	**131**	P	**P**	**17 21 19.7**	**-1.1**
ASAR	**Alice Springs**	**51.65**	**131**	P	**P**	**17 21 22.4**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=311,slow=6.9,SNR=40						
ASAR				PcP	**PcP**	**17 22 37.3**	**+2.9**
	comp=Z,1.0nm,0.7s,baz=325,slow=3.1,SNR=9.7						
ASAR				LR	LR	17 44 21.9	
	comp=Z,42nm,18.8s,baz=317,slow=37						
	comp=Z,2.5nm,0.8s						
ARTI	**Arti**	**53.58**	**336**	LR	LR	17 45 40.1	
	comp=Z,80nm,22.0s,baz=193,slow=38						
YAK	**Yakutsk**	**57.68**	**19**	P	**P**	**17 22 02.0**	**-1.9**
MMAI	**Mount Meron Ar**	**58.13**	**302**	LR	LR	17 49 19.0	
	comp=Z,33nm,20.3s,baz=208,slow=38						
NRIK	**Noril'sk**	**59.04**	**357**	P	**P**	**17 22 13.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=164,slow=6.7,SNR=4.2						
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**60.70**	**310**	P	**P**	**17 22 23.4**	**-2.0**
BRTR	**Keskin Array B**	**60.70**	**310**	P	**P**	**17 22 26.3**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=126,slow=8.1,SNR=7.7						
	comp=Z,1.1nm,0.7s						
STKA	**Stephens Creek**	**61.95**	**135**	LR	LR	17 51 39.5	
	comp=Z,33nm,18.2s,baz=232,slow=38						
FINES	**FINESS Array B**	**70.44**	**332**	P	**P**	**17 23 28.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=83,slow=6.0,SNR=6.2						
	comp=Z,1.2nm,0.6s						
ARCES	**ARCESS Array B**	**72.87**	**340**	P	**P**	**17 23 41.9**	**-0.3**
	comp=Z,4.2nm,1.0s,baz=90,slow=3.8,SNR=6.0						
ARCES				LR	LR	17 57 25.6	
	comp=Z,47nm,20.8s,baz=237,slow=37						
	comp=Z,4.2nm,1.0s						
GERES	**GERESS Array B**	**75.87**	**318**	P	**P**	**17 24 01.9**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=106,slow=4.3,SNR=4.5						
	comp=Z,0.6nm,0.6s						
BOSA	**Boshof**	**76.80**	**237**	P	**P**	**17 24 09.5**	**+3.7**
	comp=Z,1.1nm,0.8s,baz=99,slow=3.4,SNR=3.9						
	comp=Z,1.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**77.37**	**348**	P	**P**	**17 24 09.8**	**+1.7**
	comp=Z,4.0nm,0.7s,baz=95,slow=9.3,SNR=5.5						
	comp=Z,4.0nm,0.7s						
NOA	**NORSAR Array B**	**77.49**	**330**	LR	LR	18 00 00.6	
	comp=Z,16nm,21.0s,baz=350,slow=37						
ESDC	**Sonseca Array**	**89.50**	**310**	P	**P**	**17 25 13.0**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=54,slow=5.0,SNR=4.4						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**92.49**	**22**	P	**P**	**17 25 24.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=307,slow=4.7,SNR=12						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**122.89**	**21**	PKP	**PKiKP**	**17 31 13.1**	**+2.4**
	comp=Z,0.1nm,0.5s,baz=238,slow=4.9,SNR=1.9						
PLCA	**Paso Flores**	**146.82**	**202**	PKPbc	**PKiKP**	**17 31 59.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=128,slow=3.8,SNR=4.9						

*IDC **24** 17:16:20.3±6.1, 36°.35N×70°.85E, h189km±50km, mb3.2/6, mbtmp3.7/10, Error ellipse: s-maj=49.1km s-min=24.2km az=33.0*
ISC 24 17:16:21.6±1.3, 36°.5N±0°.1×70°.6E±0°.2, h200km, n18, σ1s80/21, mb3.2/5, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.16**	**22**	P	**Pn**	**17 17 51.2**	**0.0**
	SNR=179						
UCH	**Uchtor**	**6.52**	**27**	P	**Pn**	**17 17 56.0**	**+0.1**
	SNR=6.4						
KK31	**Karatay Array**	**6.63**	**360**	⇓P	**Pn**	**17 17 56.1**	**-0.8**
	2.8nm,0.2s,baz=183,slow=12,SNR=230						
KK31				⇑S	**Sn**	**17 19 08.9**	**-3.8**
	11nm,0.4s,baz=190,slow=25,SNR=19						
EKS2	**Erkin-Say**	**6.67**	**21**	P	**Pn**	**17 17 58.0**	**+0.4**
	SNR=35						
AAK	**Ala-Archa**	**6.88**	**25**	P	**Pn**	**17 17 59.5**	**-0.8**
	8.4nm,0.3s,baz=196,slow=7.0,SNR=110						
AAK				S	**Sn**	**17 19 15.7**	**-2.9**
	8.4nm,0.5s,baz=280,slow=22,SNR=19						
AAK	**Ala-Archa**	**6.88**	**25**	P	**Pn**	**17 18 00.6**	**+0.3**
	SNR=20						
AAK	**Ala-Archa**	**6.88**	**25**	⇑P	**Pn**	**17 17 59.6**	**-0.6**
	10.0nm,0.6s						
AAK				S	**Sn**	**17 19 23.5**	**+4.9**
	21nm,0.7s						
KBK	**Karagaybulak**	**7.05**	**27**	P	**Pn**	**17 18 03.0**	**+0.4**
	SNR=19						
ULHL	**Ulahol**	**7.26**	**36**	P	**Pn**	**17 18 05.1**	**-0.3**
	SNR=16						
MKAR	**Makanchi Array**	**13.53**	**37**	P	**Pn**	**17 19 25.4**	**-0.2**
	0.6nm,0.4s,baz=205,slow=8.0,SNR=22						
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**Pn**	**17 19 46.2**	**-0.8**
	0.4nm,0.3s,baz=208,slow=9.8,SNR=4.2						
BVAR	**Borovoye Array**	**16.56**	**360**	P	**Pn**	**17 20 02.8**	**+0.4**
	0.3nm,0.3s,baz=178,slow=9.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**20.10**	**25**	P	**P**	**17 20 40.0**	**+0.2**
	4.4nm,0.4s,baz=215,slow=11,SNR=20						
	4.4nm,0.4s						
FINES	**FINESS Array B**	**37.31**	**326**	P	**P**	**17 23 15.7**	**+1.5**
	2.5nm,1.0s,baz=112,slow=8.5,SNR=3.9						
	2.5nm,1.0s						
HFS	**Hagfors**	**42.88**	**322**	P	**P**	**17 24 01.4**	**+1.5**
	0.9nm,0.4s,baz=98,slow=10.0,SNR=6.6						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**17 24 11.7**	**+1.2**
	0.6nm,0.7s,baz=99,slow=7.9,SNR=1.6						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**81.30**	**2**	P	**P**	**17 28 15.2**	**+0.1**
	0.2nm,0.5s,baz=307,slow=7.1,SNR=4.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.53**	**125**	P	**P**	**17 28 30.6**	**-1.7**
	0.2nm,0.5s,baz=318,slow=4.9,SNR=6.2						
	0.2nm,0.5s						

AUST 24 17:24:25.1±1.1, 17°S±11°×12°0E±°, h10km, mb4.8/2, ML3.0/2, Error ellipse: s-maj=28.0km s-min=9.9km az=149.1, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.91**	**182**	P	Pn	17 25 25.5	+0.2
PSA00	**Pilbara Seismi**	**4.32**	**181**	P	Pn	17 25 31.8	+1.0
PSA00				S	Sn	17 26 18.9	-2.5
FITZ	**Fitzroy Crossi**	**5.53**	**100**	S	Sn	17 26 47.5	-3.7
FITZ	**Fitzroy Crossi**	**5.53**	**100**	P	Pn	17 25 47.8	+0.3
GIRL	**Giralia**	**7.58**	**224**	P	Pn	17 26 15.4	-0.2
	comp=Z,0.4nmcomp=Z,161nm,1.7s						
KNRA	**Kununurra**	**8.63**	**81**	P	Pn	17 26 30.2	0.0
	comp=Z,0.0nmcomp=Z,18nm,0.4s						
MEEK	**Meekatharra**	**9.44**	**187**	P	Pn	17 26 41.4	+0.2
WRKA	**Warakurna**	**11.02**	**136**	P	Pn	17 27 02.4	-0.6
FORT	**Forrest**	**15.39**	**153**	P	Pn	17 27 58.8	-3.7

IDC 24 17:28:59.7±5.5, 19°.45S×175°.18W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=394.0km s-min=32.4km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.34**	**255**	P	P	17 37 36.2	+0.5
	0.3nm,0.6s,baz=96,slow=7.1,SNR=11						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**47.38**	**260**	P	P	17 37 34.9	-1.1
	0.7nm,1.0s,baz=98,slow=7.4,SNR=2.7						
	0.7nm,1.0s						
NVAR	**Mina Array Bea**	**78.45**	**42**	P	P	17 41 02.9	+0.1
	0.8nm,0.7s,baz=209,slow=9.1,SNR=4.8						
	0.8nm,0.7s						

*HLW **24** 17:45:01.8, 25°.36N×35°.88E, h8km±3km, Md2.8, Ml3.1*
*SGS **24** 17:45:02.9, 25°.41N×36°.35E, h17km, Ml2.4*
ISC 24 17:44:57.4±0.9, 25°.38N±0°.04×36°.20E±0°.03, h10km, n50, σ0s94/52, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJ12	**UMJ12**	**0.84**	**84**	S	**Sn**	**17 45 27.3**	**-0.4**
UMJ12	**UMJ12**	**0.84**	**84**	P	**Pn**	**17 45 16.3**	**+1.0**
UMJ11	**UMJ11**	**0.84**	**71**	P	**Pn**	**17 45 15.9**	**+0.6**
UMJ11	**UMJ11**	**0.84**	**71**	S	**Sn**	**17 45 27.0**	**-0.8**
EWJHS	**Al Wajh**	**0.87**	**28**	S	**Sn**	**17 45 28.4**	**-0.2**
EWJHS	**Al Wajh**	**0.87**	**28**	P	**Pn**	**17 45 16.1**	**+0.3**
UMJS	**Umm Lajj**	**1.02**	**98**	P	**Pn**	**17 45 18.0**	**+0.2**
UMJS	**Umm Lajj**	**1.02**	**98**	S	**Sg**	**17 45 30.0**	**-0.3**
UMJ06	**UMJ06**	**1.07**	**71**	P	**Pn**	**17 45 19.5**	**+0.9**
UMJ01	**UMJ01**	**1.09**	**75**	P	**Pn**	**17 45 19.3**	**+0.5**

baz=287,slow=75,SNR=7.7
H11N3 WAKE ISLAND Hy 24.10 99 T T 18 15 39.6
baz=287,slow=75,SNR=10
H11S3 WAKE ISLAND Hy 24.32 102 T T 18 15 56.9
baz=291,slow=75,SNR=91
H11S1 WAKE ISLAND Hy 24.33 102 T T 18 15 57.4
baz=291,slow=75,SNR=88
H11S2 WAKE ISLAND Hy 24.34 102 T T 18 15 58.3
baz=291,slow=75,SNR=148
SONM Songino Array 35.37 318 P **P 17 52 03.2 +0.9**
0.6nm,0.8s,baz=132,slow=8.5,SNR=3.9
0.6nm,0.8s
CMAR Chiang Mai Arr 40.02 268 P **P 17 52 40.5 -1.3**
0.2nm,0.3s,baz=102,slow=8.1,SNR=1.6
0.2nm,0.3s
WRA Warramunga Arr 45.88 189 P **P 17 53 28.6 -0.6**
3.2nm,0.8s,baz=8.2,slow=8.4,SNR=17
3.2nm,0.8s
ASAR Alice Springs 49.61 189 P **P 17 53 58.1 +0.1**
0.4nm,1.0s,baz=6.1,slow=5.3,SNR=4.3
0.4nm,1.0s
MKAR Makanchi Array 50.96 310 P **P 17 54 08.5 +0.3**
0.5nm,0.7s,baz=93,slow=8.8,SNR=7.3
0.5nm,0.7s
KURBB Kurchatov Arra 53.64 315 P **P 17 54 28.1 +0.1**
0.8nm,0.3s,baz=95,slow=2.1,SNR=2.0
0.8nm,0.3s
BVAR Borovoye Array 58.72 318 P **P 17 55 05.0 +0.8**
1.0nm,0.6s,baz=72,slow=9.5,SNR=6.5
1.0nm,0.6s
ILAR Eielson Array 59.22 28 P **P 17 55 08.3 +0.8**
0.4nm,0.9s,baz=293,slow=3.4,SNR=2.8
0.4nm,0.9s
YKA Yellowknife Ar 73.65 28 P **P 17 56 41.9 +2.0**
0.5nm,0.8s,baz=290,slow=5.9,SNR=5.3
0.5nm,0.8s
FINES FINESS Array B 78.97 334 P **P 17 57 09.0 -1.1**
3.1nm,0.9s,baz=101,slow=1.9,SNR=3.6
3.1nm,0.9s

---

*IDC **24** 17:45:53.7±1.2, 35°.77N×34°.82W, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/27, Error ellipse: s-maj=40.6km s-min=24.5km az=170.0*
ISC 24 17:45:55.2±1.1, 35°.8N±0°.3×34°.8W±0°.2, h10km, n31, σ0$60/6, mb3.7/6, MS3.6/27, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**24.66**	**72**	P	**P**	**17 51 15.9**	**-0.3**
	1.0nm,0.9s,baz=279,slow=8.1,SNR=5.6 1.0nm,0.9s						
BBTS	**Babate**	**26.68**	**137**	LR	LR	17 59 05.7	
	comp=Z,141nm,20.0s,baz=220,slow=30						
SCHQ	**Schefferville**	**29.10**	**321**	LR	LR	18 02 25.7	
	comp=Z,147nm,20.8s,baz=90,slow=34						
BORG	**Borgarnes**	**30.12**	**12**	LR	LR	18 01 18.6	
	comp=Z,73nm,19.8s,baz=142,slow=31						
SFJD	**Kangerlussuaq**	**32.56**	**349**	LR	LR	18 03 02.0	
	comp=Z,234nm,18.6s,baz=152,slow=32						
SADO	**Sadowa**	**34.61**	**299**	LR	LR	18 05 11.9	
	comp=Z,43nm,20.9s,baz=67,slow=34						
FRB	**Frobisher Bay**	**34.69**	**334**	LR	LR	18 03 20.0	
	comp=Z,65nm,20.6s,baz=300,slow=30						
TKL	**Tuckaleechee C**	**39.39**	**285**	LR	LR	18 06 14.7	
	comp=Z,48nm,21.8s,baz=230,slow=31						
TORD	**Torodi Ar. Bea**	**39.83**	**115**	LR	LR	18 08 59.9	
	comp=Z,110nm,18.8s,baz=320,slow=35						
DBIC	**Dimbokro**	**39.94**	**129**	LR	LR	18 07 23.5	
	comp=Z,68nm,21.5s,baz=326,slow=32						
ULM	**Lac du Bonnet**	**45.64**	**308**	LR	LR	18 12 46.2	
	comp=Z,128nm,19.4s,baz=84,slow=35						
YKA	**Yellowknife Ar**	**54.36**	**326**	P	**P**	**17 55 22.4**	**+0.7**
	0.9nm,1.0s,baz=83,slow=7.2,SNR=7.5 0.9nm,1.0s						
CMIG	**Matias Romero**	**56.06**	**267**	LR	LR	18 19 07.3	
	comp=Z,30nm,18.7s,baz=9.5,slow=36						
PDAR	**Pinedale Array**	**56.52**	**302**	P	**P**	**17 55 37.3**	**-0.7**
	0.3nm,0.6s,baz=69,slow=9.1,SNR=2.6						
PDAR				LR	LR	18 19 53.7	
	comp=Z,70nm,18.2s,baz=39,slow=36 0.3nm,0.6s						
ANMO	**Albuquerque**	**57.14**	**292**	LR	LR	18 18 18.8	
	comp=Z,42nm,19.7s,baz=228,slow=34						
TXAR	**Lajitas Array**	**57.31**	**285**	P	**P**	**17 55 43.4**	**-0.1**
	0.4nm,0.7s,baz=56,slow=6.0,SNR=4.0						
TXAR				LR	LR	18 17 32.9	
	comp=Z,24nm,21.5s,baz=48,slow=33 0.4nm,0.7s						
KBZ	**Khabaz**	**58.25**	**56**	P	**P**	**17 55 49.9**	**+0.1**
	2.5nm,0.9s,baz=291,slow=8.3,SNR=5.5 2.5nm,0.9s						
BELG	**Belogornoye**	**58.30**	**46**	LR	LR	18 18 41.3	
	comp=Z,48nm,19.3s,baz=289,slow=34						
NEW	**Newport**	**59.60**	**310**	LR	LR	18 20 38.4	
	comp=Z,72nm,21.0s,baz=58,slow=35						
LPAZ	**La Paz**	**60.63**	**217**	P	**P**	**17 56 07.4**	**+0.2**
	1.1nm,0.8s,baz=27,slow=5.8,SNR=3.7 1.1nm,0.8s						
DLBC	**Dease Lake**	**62.84**	**324**	LR	LR	18 22 56.8	
	comp=Z,56nm,18.9s,baz=235,slow=35						
NVAR	**Mina Array Bea**	**64.34**	**300**	LR	LR	18 25 15.4	
	comp=Z,76nm,18.0s,baz=316,slow=37						
BBB	**Bella Bella**	**64.52**	**317**	LR	LR	18 23 11.8	
	comp=Z,100nm,19.5s,baz=12,slow=35						
PFO	**Pinyon Flats O**	**65.19**	**295**	LR	LR	18 24 02.6	
	comp=Z,34nm,20.4s,baz=33,slow=35						
YBH	**Yreka Blue Hor**	**65.88**	**305**	LR	LR	18 24 17.3	
	comp=Z,45nm,20.3s,baz=33,slow=35						
KDAK	**Kodiak Island**	**73.21**	**330**	LR	LR	18 29 29.4	
	comp=Z,38nm,18.0s,baz=272,slow=36						
LSZ	**Lusaka**	**78.26**	**119**	LR	LR	18 31 37.4	
	comp=Z,34nm,19.8s,baz=294,slow=35						
LBTB	**Lobatse**	**83.16**	**127**	LR	LR	18 32 21.3	
	comp=Z,41nm,19.0s,baz=319,slow=34						
MA2	**Magadan**	**84.88**	**357**	LR	LR	18 35 21.0	
	comp=Z,21nm,18.1s,baz=322,slow=35						
BOSA	**Boshof**	**85.47**	**130**	LR	LR	18 34 45.6	
	comp=Z,24nm,18.9s,baz=318,slow=34						
KLR	**Kul'dur**	**94.52**	**9**	LR	LR	18 38 10.5	
	comp=Z,18nm,20.1s,baz=351,slow=33						

---

*IDC **24** 17:54:15.2±0.6, 6°.79N×72°.93W, h159km±7km, mb3.4/8, mbtmp4.0/12, MS3.1/2, Error ellipse: s-maj=18.3km s-min=7.2km az=130.0*
*RSNC **24** 17:54:16.2±0.0, 7°.N±1°.×7°.3W±°., h145km±2km, M3.9, mB4.9, mb4.4, ML3.5, Mw(mB)4.2*
ISC 24 17:54:14.5±0.7, 6°.85N±0°.03×73°.11W±0°.04, h153km±5km, n60, σ1$45/100, mb3.7/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**196**	P	**Pn**	**17 54 35.7**	**+0.1**
BARC				S	**Sn**	**17 54 50.9**	**-0.8**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P	**Pn**	**17 54 38.6**	**+1.1**
PAMC				S	**Sn**	**17 54 55.3**	**+0.3**
BRJC	**Barrancabermej**	**0.64**	**281**	P	**Pn**	**17 54 37.5**	**+0.5**
BRJC				S	**Sn**	**17 54 54.1**	**+0.1**
RUSC	**La Rusia**	**0.95**	**178**	P	**Pn**	**17 54 39.6**	**-0.2**
RUSC				S	**Sn**	**17 54 57.9**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P	**Pn**	**17 54 42.8**	**-0.2**
PTBC				S	**Sn**	**17 55 03.2**	**-1.6**
TAMC	**Tame, Arauca**	**1.37**	**107**	P	**Pn**	**17 54 44.1**	**+1.0**
TAMC				S	**Sn**	**17 55 05.3**	**+0.4**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**17 54 44.2**	**+0.8**
OCAC				S	**Sn**	**17 55 05.7**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**17 54 49.0**	**+0.9**
ZARC				S	**Sn**	**17 55 14.6**	**+0.7**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**17 54 51.8**	**-0.1**
NORC				S	**Sn**	**17 55 19.0**	**-1.6**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**17 54 54.2**	**+0.5**
CHIC				S	**Sn**	**17 55 22.7**	**-1.2**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**17 54 55.9**	**+1.7**
	301nm,0.3s,baz=119,slow=19,SNR=22						
ROSC				S	**Sn**	**17 55 27.2**	**+2.6**
	488nm,0.3s,baz=44,slow=22,SNR=10						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**17 54 55.5**	**+1.3**
ROSC				S	**Sn**	**17 55 25.5**	**+0.8**
GUY2C	**Guyana, Caldas**	**2.76**	**234**	P	**Pn**	**17 55 00.4**	**+0.9**
GUY2C				S	**Sn**	**17 55 34.1**	**-0.1**
VILC	**Villavicencio,**	**2.78**	**192**	P	**Pn**	**17 54 59.8**	**+0.4**
VILC				S	**Sn**	**17 55 32.4**	**-1.8**
NIZA	**Niza - Manizal**	**2.95**	**233**	P	**Pn**	**17 55 03.5**	**+1.8**
NIZA				S	**Sn**	**17 55 39.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**17 55 03.9**	**+1.1**
CBOC				S	**Sn**	**17 55 39.5**	**-0.6**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**17 55 03.7**	**+0.5**
DBBC				S	**Sn**	**17 55 38.9**	**-1.8**
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**17 55 04.8**	**+0.3**
	122nm,0.3s,baz=138,slow=2.1,SNR=35						
SDV				S	**Sn**	**17 55 42.5**	**-0.6**
	286nm,0.5s,baz=255,slow=21,SNR=37						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**17 55 05.3**	**+0.8**
SDV				S	**Sn**	**17 55 41.3**	**-1.9**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**17 55 06.8**	**+2.3**
ARGC				S	**Sn**	**17 55 44.3**	**+1.1**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**17 55 09.6**	**+0.1**
PRAC				S	**Sn**	**17 55 50.7**	**-1.5**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**17 55 10.1**	**+0.4**
APAC				S	**Sn**	**17 55 50.6**	**-1.8**
ORTC	**Ortega, Tolima**	**3.61**	**216**	P	**Pn**	**17 55 10.5**	**+0.6**
ORTC				S	**Sn**	**17 55 52.9**	**0.0**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**17 55 10.1**	**-0.4**
SJCC				S	**Sn**	**17 55 51.3**	**-2.6**
PLMC	**San Jos del P**	**3.70**	**239**	P	**Pn**	**17 55 11.7**	**+0.6**
PLMC				S	**Sn**	**17 55 54.1**	**-0.9**
LCBC	**Los crdobas,**	**3.79**	**302**	P	**Pn**	**17 55 14.1**	**+1.9**
LCBC				S	**Sn**	**17 55 53.0**	**-4.0**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**17 55 12.9**	**+0.6**
URMC				S	**Sn**	**17 55 57.0**	**-0.2**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**17 55 16.1**	**-0.8**
CRJC				S	**Sn**	**17 56 03.4**	**-2.1**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**17 55 18.6**	**-0.3**
GUVC	**San Jose del G**	**4.30**	**174**	P	**Pn**	**17 55 19.3**	**+0.4**
GUVC				S	**Sn**	**17 56 05.8**	**-3.2**
SMRC	**Santa Marta, M**	**4.43**	**346**	P	**Pn**	**17 55 21.0**	**+0.5**
SMRC				S	**Sn**	**17 56 09.2**	**-2.7**
PIZC	**Pizarro, Choco**	**4.62**	**246**	P	**Pn**	**17 55 24.1**	**+1.0**
PTAC	**Punta Ardita,**	**4.67**	**274**	P	**Pn**	**17 55 23.7**	**0.0**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**17 55 23.4**	**-1.1**
MACC				S	**Sn**	**17 56 14.5**	**-4.6**
BETC	**Betania**	**4.75**	**209**	P	**Pn**	**17 55 24.3**	**-0.5**
BETC				S	**Sn**	**17 56 15.4**	**-4.2**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**17 55 26.2**	**-1.1**
URIC				S	**Sn**	**17 56 21.3**	**-2.8**
MALC	**Bahia Malaga**	**5.06**	**236**	P	**Pn**	**17 55 30.5**	**+1.6**
GARC	**Garzon, Huila**	**5.21**	**207**	P	**Pn**	**17 55 30.1**	**-0.9**
GARC				S	**Sn**	**17 56 28.2**	**-2.5**
POPC	**Popayan, Colom**	**5.56**	**220**	P	**Pn**	**17 55 36.0**	**+0.2**
	703nm35nm,0.4s						
POPC				S	**Sn**	**17 56 38.9**	**-0.3**
	703nm35nm,0.4s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**17 55 38.8**	**-0.1**
	844nm27nm,1.0s						
GR1C	**Gorgona, Isla**	**6.32**	**233**	P	**Pn**	**17 55 44.1**	**-1.5**
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**17 55 46.0**	**+0.1**
CRUC	**La Cruz**	**6.50**	**216**	P	**Pn**	**17 55 51.2**	**+2.9**
GCUF	**Volcan Galeras**	**7.00**	**217**	P	**Pn**	**17 55 55.7**	**+0.5**
	1µm46nm,0.5s						
BCIP	**Isla Barro Col**	**7.05**	**290**	P	**Pn**	**17 55 54.2**	**-1.1**
	54nm,2.5s						
BCIP				S	**Sn**	**17 57 13.0**	**-1.4**
	54nm,2.5s						
AZU	**Azuero**	**7.17**	**278**	P	**Pn**	**17 55 56.5**	**-0.4**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**17 56 20.2**	**-1.3**
	14nm,0.6s,baz=314,slow=2.7,SNR=9.1						
SJG	**San Juan**	**13.09**	**31**	P	**Pn**	**17 57 14.4**	**-0.4**
	5.2nm,0.3s,baz=209,slow=19,SNR=1.8						
CPUP	**Villa Florida**	**36.37**	**156**	P	**P**	**18 01 03.8**	**-0.3**
	1.8nm,1.0s,baz=65,slow=14,SNR=2.8 1.8nm,1.0s						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**18 01 06.7**	**+1.7**
	0.6nm,0.4s,baz=127,slow=9.0,SNR=14						
TXAR				PcP	**PcP**	**18 03 27.7**	**+1.9**
	0.2nm,0.6s,baz=114,slow=3.5,SNR=3.7 0.6nm,0.4s						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**18 02 32.8**	**+0.5**
	1.8nm,0.4s,baz=132,slow=6.0,SNR=4.7 1.8nm,0.4s						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**18 02 39.9**	**+1.0**
	0.5nm,0.5s,baz=126,slow=9.1,SNR=7.8						
PDAR				PcP	**PcP**	**18 04 04.4**	**0.0**
	0.2nm,0.6s,baz=72,slow=4.1,SNR=2.1 0.5nm,0.5s						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**18 02 40.2**	**+1.5**
	1.4nm,0.5s,baz=190,slow=7.8,SNR=7.7 1.4nm,0.5s						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**18 04 27.3**	**+0.9**
	1.1nm,0.6s,baz=139,slow=6.5,SNR=24 1.1nm,0.6s						
ESDC	**Sonseca Array**	**69.63**	**50**	P	**P**	**18 05 05.7**	**-1.9**
	0.2nm,0.9s,baz=245,slow=5.4,SNR=1.3 0.2nm,0.9s						
ILAR	**Eielson Array**	**76.94**	**335**	P	**P**	**18 05 50.1**	**+0.2**
	0.3nm,0.8s,baz=87,slow=6.7,SNR=2.5 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**117.73**	**20**	PKP	**PKPdf**	**18 12 41.6**	**-1.1**
	0.5nm,0.3s,baz=338,slow=2.2,SNR=1.6						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKiKP**	**18 12 51.3**	**-0.5**
	0.1nm,0.4s,baz=310,slow=2.7,SNR=1.9						
ASAR	**Alice Springs**	**149.14**	**234**	PKP	**PKPdf**	**18 13 40.9**	**-0.5**
	1.3nm,0.6s,baz=124,slow=1.6,SNR=2.6						
ASAR				PKPbc	**PKPbc**	**18 13 45.2**	**-0.6**
	1.3nm,0.5s,baz=119,slow=3.6,SNR=8.3						
WRA	**Warramunga Arr**	**150.36**	**241**	PKP	**PKPdf**	**18 13 43.6**	**+0.1**
	1.3nm,0.4s,baz=108,slow=2.6,SNR=1.8						
WRA				PKPbc	**PKiKP**	**18 13 48.6**	**-0.9**
	1.3nm,0.4s,baz=109,slow=2.6,SNR=28						

---

*IDC **24** 18:02:06.7±9.5, 22°.44S×179°.60W, h315km±54km, mb2.9/5, mbtmp3.6/6, Error ellipse: s-maj=141.2km s-min=30.3km az=136.0*
ISC 24 18:02:04.1±2.2, 22°.6S±0°.2×179°.4W±0°.3, h300km, n6, σ0$60/6, mb3.3/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.43**	**334**	P	**Pn**	**18 03 26.9**	**0.0**
	6.7nm,0.8s,baz=146,slow=19,SNR=4.4						
ASAR	**Alice Springs**	**42.77**	**259**	P	**P**	**18 09 32.5**	**-0.6**
	0.2nm,0.8s,baz=96,slow=7.1,SNR=8.9 0.2nm,0.8s						
WRA	**Warramunga Arr**	**43.03**	**265**	P	**P**	**18 09 35.7**	**+0.5**
	0.5nm,0.7s,baz=99,slow=6.8,SNR=6.4 0.5nm,0.7s						
KSRS	**Korea Array**	**77.63**	**320**	P	**P**	**18 13 27.1**	**-0.5**
	0.3nm,0.3s,baz=141,slow=6.1,SNR=1.7 0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**18 14 29.0**	**+0.5**
	0.5nm,0.9s,baz=97,slow=3.5,SNR=2.8 0.5nm,0.9s						
ILAR	**Eielson Array**	**90.69**	**13**	P	**P**	**18 14 32.6**	**+0.1**
	0.4nm,1.0s,baz=204,slow=4.0,SNR=2.5 0.4nm,1.0s						

---

*NEIC **24** 18:12:16.2±2.4, 38°.37N±0°.02×115°.84W±0°.02, h7km±5km, Error ellipse: s-maj=2.9km s-min=2.1km az=132.0*
REN 24 18:12:16.5±2.8, 38°.36N±0°.02×115°.81W±0°.02, h5km±5km, ML3.0/23, ML2.7/60(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=132.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S11A	**Rachel**	**0.72**	**176**		Pg	18 12 30.1	-0.2
S11A	**Rachel**	**0.72**	**176**		Sg	18 12 40.4	+0.7
Q12A	**Willow Creek R**	**1.02**	**48**		Pb	18 12 36.8	0.0
Q12A					Sb	18 12 50.2	-0.4
PRN	**Pahroc Range**	**1.13**	**148**		Pg	18 12 37.9	-0.2
PRN					Sb	18 12 53.7	+0.2
Q09A	**Carvers**	**1.17**	**294**		Pg	18 12 38.2	-0.9
SPR3	**Spring Creek 3**	**1.32**	**61**		Pg	18 12 40.6	-1.2
SPR3	**Spring Creek 3**	**1.32**	**61**	IAML		18 12 59.4	
	comp=E,84nm,0.5s						
MZP	**Montezuma Peak**	**1.41**	**242**		Pn	18 12 42.5	-0.6
CPY	**CP-1**	**1.44**	**188**		Pn	18 12 42.3	-1.1
CPY					Sb	18 13 01.9	-0.8
TPNV	**Topopah Spring**	**1.46**	**194**		Pn	18 12 42.6	-1.0
PSUT	**Pine Spring**	**1.54**	**83**		Pn	18 12 43.8	-1.0
PSUT					Sn	18 13 05.2	-0.1
PSUT	**Pine Spring**	**1.54**	**83**	IAML		18 13 06.3	
	comp=N,78nm,0.3s						
PSUT				IAML		18 13 07.0	
	comp=E,76nm,0.4s						
GMN	**Gold Mountain**	**1.56**	**228**		Pn	18 12 44.0	-1.2
GMN					Sg	18 13 07.5	+0.7
GMN	**Gold Mountain**	**1.56**	**228**	IAML		18 13 08.3	
	comp=N,76nm,0.5s						
GMN				IAML		18 13 10.5	
	comp=E,67nm,0.4s						
NSP	**Numbskull Pass**	**1.66**	**191**		Pn	18 12 45.5	-1.0
WCT	**Wildcat Mounta**	**1.70**	**203**		Pn	18 12 47.2	+0.3
WCT				IAML		18 13 12.2	
	comp=E,73nm,0.5s						
WCT				IAML		18 13 12.8	
	comp=N,72nm,0.5s						
WCT	**Wildcat Mounta**	**1.70**	**203**		Sb	18 13 10.3	+0.4
MCY	**Mercury**	**1.70**	**184**		Pn	18 12 45.5	-1.5
SDH	**Striped Hills**	**1.77**	**194**		Pn	18 12 47.1	-0.7
SDH					Sb	18 13 11.6	-0.3
LCH	**Last Change Ra**	**1.84**	**233**		Pn	18 12 48.7	-0.2
NV11	**Mina Array Sit**	**1.85**	**273**		Pn	18 12 47.4	-1.6
NV11					Sb	18 13 14.8	+0.5
NV11	**Mina Array Sit**	**1.85**	**273**	IAML		18 13 15.8	
	comp=N,72nm,0.6s						
NV11				IAML		18 13 16.1	
	comp=E,57nm,0.7s						
SHPR	**Sheep Range**	**1.93**	**164**		Pn	18 12 49.2	-0.9
NVAR	**Mina Array Bea**	**1.96**	**273**		Pn	18 12 49.0	-1.6
NV08	**Mina Array Sit**	**1.97**	**272**		Pn	18 12 50.2	-0.5
DSP	**Deep Springs**	**1.98**	**241**		Pn	18 12 50.0	-0.6
DSP				IAML		18 13 20.6	
	comp=E,77nm,0.7s						
NV09	**Mina Array Sit**	**1.99**	**273**		Pn	18 12 49.8	-1.2
LHV	**Little Huntoon**	**2.12**	**268**		Pn	18 12 51.7	-0.9
RYN	**Ryan**	**2.15**	**278**		Pn	18 12 51.9	-1.3
GWY	**Greenwater Val**	**2.28**	**198**		Pn	18 12 54.7	-0.2
GWY				IAML		18 13 33.6	
	comp=E,56nm,0.5s						
GWY				IAML		18 13 37.9	
	comp=N,53nm,0.5s						
ELK	**Elko**	**2.42**	**10**		Pn	18 12 56.9	0.0
LCMT	**Little Creek M**	**2.44**	**123**	Pn	Pn	18 12 56.2	-1.0
LCMT				IAML		18 13 35.4	
	comp=N,32nm,0.4s						
LCMT				IAML		18 13 36.1	
	comp=E,40nm,0.3s						
KNB	**Kanab**	**2.72**	**119**	Pn	Pn	18 13 00.7	-0.4
KNB				IAML		18 13 43.6	
	comp=N,18nm,0.8s						
V12A	**Nelson**	**2.74**	**163**	Pn	Pn	18 13 00.7	-0.6
V12A				IAML		18 13 45.6	
	comp=N,18nm,0.5s						
WAKR	**Walker**	**2.85**	**274**		Pn	18 13 03.4	+0.5
WAKR	**Walker**	**2.85**	**274**	IAML		18 13 46.3	
	comp=N,24nm,0.7s						
WAKR				IAML		18 13 50.9	
	comp=E,19nm,1.4s						
MSU	**Marysvale**	**2.85**	**86**	Pg	Pg	18 13 10.4	-0.8
MTPU	**Mount Pierson**	**2.87**	**95**	Pg	Pg	18 13 10.7	-0.9
MTPU				IAML		18 13 57.2	
	comp=E,22nm,1.2s						
MTPU				IAML		18 13 59.0	
	comp=N,23nm,1.5s						
PKCU	**Pink Cliffs**	**2.91**	**107**	Pg	Pb	18 13 10.7	+1.5
PKCU				IAML		18 13 53.8	
	comp=N,32nm,0.7s						
W13A	**Hualapai Mount**	**3.61**	**154**	Pg	Pg	18 13 23.6	-2.1
W13A				IAML		18 14 13.2	
	comp=E,11nm,0.4s						
HVU	**Hansel Valley**	**4.13**	**33**	Pg	Pb	18 13 32.5	+2.8
HWUT	**Hardware Ranch**	**4.59**	**44**	Pn	Pn	18 13 23.4	-3.4
HWUT				IAML		18 14 00.9	
	comp=E,9.5nm,4.9s						
HWUT				IAML		18 15 55.5	
	comp=E,7.7nm,4.7s						

---

*IDC **24** 18:26:02.8±1.6, 17°.84S×178°.56W, h619km±18km, mb3.0/8, mbtmp4.0/9, Error ellipse: s-maj=29.8km s-min=15.1km az=149.0*
ISC 24 18:26:01.3±0.8, 17°.8S±0°.2×178°.5W±0°.2, h600km, n10, σ1$22/12, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**271**	P	**P**	**18 27 24.7**	**+2.4**
	43nm,0.7s,baz=117,slow=1.7,SNR=38						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**18 32 34.8**	**+0.3**
	1.4nm,0.6s,baz=82,slow=10,SNR=8.0 1.4nm,0.6s						
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**18 33 21.2**	**-0.4**
	1.1nm,0.3s,baz=95,slow=7.5,SNR=21 1.1nm,0.3s						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**18 33 23.1**	**+0.3**
	5.7nm,0.5s,baz=88,slow=8.5,SNR=122						
ASAR				PcP	**PcP**	**18 34 51.6**	**-0.4**
	0.2nm,0.7s,baz=134,slow=4.0,SNR=1.3						
ASAR				S	**S**	**18 39 15.9**	**-1.5**
	0.4nm,0.8s,baz=85,slow=13,SNR=3.2 5.7nm,0.5s						
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**18 36 26.1**	**-0.5**
	0.6nm,0.7s,baz=104,slow=8.3,SNR=5.9 0.6nm,0.7s						
SEY	**Seymchan**	**83.68**	**347**	P	**P**	**18 37 27.2**	**-0.3**
	0.5nm,0.5s,baz=81,slow=13,SNR=5.9 0.5nm,0.5s						
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**18 37 37.0**	**-1.0**
	0.2nm,0.4s,baz=219,slow=5.8,SNR=8.9 0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**18 37 40.7**	**+0.9**
	0.7nm,0.8s,baz=233,slow=5.4,SNR=6.8 0.7nm,0.8s						
PDAR	**Pinedale Array**	**87.35**	**43**	P	**P**	**18 37 46.2**	**+0.3**
	0.3nm,0.5s,baz=208,slow=4.4,SNR=4.5 0.3nm,0.5s						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	**PKiKP**	**18 44 39.0**	**-1.6**
	0.6nm,0.6s,baz=33,slow=5.1,SNR=3.5						

---

*NAO **24** 18:27:35.1±1.7, 73°.43N×7°.26E, ML3.2*
*IDC **24** 18:27:36.0±1.1, 73°.24N×7°.27E, h0km, mb3.1/3, mbtmp3.4/9, ML3.1/6, M

comp=Z,0.3nm,0.3s,baz=311,slow=19,SNR=5.4
comp=Z,1.7nm,0.5s
ARA0 ARCESS Array S 6.73 116 Pn Pn 18 29 18.2 +3.0
baz=312,slow=11
ARA0 Sn **Sn 18 30 32.8 +1.1**
baz=303,slow=18
ARA0 ARCESS Array S 6.73 116 Pn **Pn 18 29 18.2 +3.0**
baz=312,slow=11
ARA0 Sn **Sn 18 30 31.7 0.0**
baz=303,slow=18
ARA0 IAML 18 30 41.6
comp=Z,2.1nm,0.8s
KEV Kevo 6.97 112 Pn **Pn 18 29 21.8 +3.2**
KEV Kevo 6.97 112 *eP* **Pn 18 29 21.5 +2.9**
KEV *eS* **Sn 18 30 35.4 -2.3**
KONS Konsvik 7.09 164 *eP* **Pn 18 29 21.7 +1.6**
KONS *eS* **Sn 18 30 34.9 -5.8**
KONS IAML 18 30 43.1
comp=Z,7.2nm,0.9s
HEF Hetta 7.10 127 Pn **Pn 18 29 24.1 +3.8**
HEF Hetta 7.10 127 *eP* **Pn 18 29 23.5 +3.2**
HEF *eS* **Sn 18 30 40.5 -0.3**
STOK Stokkvaagen 7.25 164 *eP* **Pn 18 29 24.7 +2.4**
DAG Danmarks Havn 7.66 309 *eP* Pn 18 29 23.0 -4.8
DAG *eS* Sn 18 30 39.6 -15
DBG Daneborg 7.92 290 Pn Pn 18 29 25.9 -5.6
DBG Sn Sn 18 30 44.5 -16
DBG Daneborg 7.92 290 *eP* **Pn 18 29 29.6 -1.8**
DBG *eS* Sn 18 30 44.6 -16
APA0 Apatity Array 10.05 112 Pn **Pn 18 30 02.0 +1.4**
baz=309,slow=11
APA0 Apatity Array 10.05 112 Pn **Pn 18 30 02.0 +1.4**
baz=309,slow=11
NB2 NORSAR Subarra 12.42 173 Pn **Pn 18 30 35.4 +2.2**
NB2 NORSAR Subarra 12.42 173 Pn **Pn 18 30 35.4 +2.2**
NOA NORSAR Array B 12.42 173 Pn **Pn 18 30 32.9 -0.3**
baz=353,slow=12,SNR=4.0
comp=Z,0.3nm,0.5s
NRA0 NORESS Array S 12.74 172 Pn **Pn 18 30 39.8 +2.3**
slow=16
NRA0 NORESS Array S 12.74 172 Pn **Pn 18 30 39.8 +2.3**
slow=16
HFS Hagfors 13.45 168 Pn **Pn 18 30 50.0 +2.9**
baz=3.8,slow=10
HFS Hagfors 13.45 168 Pn **Pn 18 30 50.0 +2.9**
baz=3.8,slow=10
HFS Hagfors 13.45 168 Pn **Pn 18 30 48.2 +1.1**
comp=Z,0.2nm,0.3s,baz=357,slow=12,SNR=1.9
HFS Sn **Sn 18 33 11.1 -5.2**
comp=Z,0.1nm,0.3s,baz=323,slow=25,SNR=2.1
comp=Z,3.1nm,1.0s
FIA0 FINESS Array S 13.71 141 Pn **Pn 18 30 52.8 +2.2**
baz=327,slow=14
FIA0 FINESS Array S 13.71 141 Pn **Pn 18 30 52.8 +2.2**
baz=327,slow=14
FINES FINESS Array B 13.71 141 Pn **Pn 18 30 52.6 +2.0**
comp=Z,0.2nm,0.3s,baz=328,slow=13,SNR=8.8
comp=Z,2.2nm,0.7s
EKA Eskdalemuir Ar 18.67 200 P **P 18 31 53.2 -1.1**
baz=17,slow=16
comp=Z,0.5nm,0.7s
GERES GERESS Array B 24.71 171 P **P 18 32 56.5 -1.1**
comp=Z,0.2nm,0.3s,baz=356,slow=9.8,SNR=2.6
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 35.76 80 LR LR 18 54 09.2
comp=Z,43nm,18.4s,baz=334,slow=44
YKA Yellowknife Ar 39.13 322 P **P 18 35 04.0 +0.5**
comp=Z,0.1nm,0.5s,baz=55,slow=6.4,SNR=2.0
comp=Z,0.1nm,0.5s
ILAR Eielson Array 41.13 344 P **P 18 35 22.8 +2.7**
comp=Z,0.3nm,1.0s,baz=16,slow=10,SNR=2.3
comp=Z,0.3nm,1.0s

---

*SJA **24** 18:33:18.0±0.5, 31.°58S×70.°72W, h9km, ML2.4, MW2.6*
ISC 24 18:33:18.4±1.7, 31.°55S±0.°05×71.°1W±0.°1, h86km, n19,
σ2s90/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.80**	**29**	*eP*	**Pn**	**18 33 32.4**	**-3.4**
CO03				IAML		18 33 56.5	
comp=Z,57nm,1.1s							
CO03	**El Pedregal**	**0.80**	**29**	*eP*	**Pn**	**18 33 36.2**	**+0.4**
CO03				IAML		18 34 10.3	
comp=E,90nm,0.2s							
CO06	**Fray Jorge**	**0.97**	**334**	*eP*	Pn	18 33 45.6	+8.1
CO06				*eS*	Sn	18 34 05.1	+13
CO06				IAML		18 34 07.6	
comp=N,103nm,0.3s							
VA03	**San Esteban**	**1.31**	**158**	*eP*	**Pn**	**18 33 39.5**	**-2.3**
VA03				*eS*	**Sn**	**18 33 54.4**	**-4.8**
VA03				IAML		18 33 56.0	
comp=N,300nm,0.4s							
GO04	**Tololo Observa**	**1.40**	**12**	*eP*	**Pn**	**18 33 45.1**	**+2.1**
ROCH	**El Roble**	**1.43**	**176**	*eP*	**Pn**	**18 33 43.9**	**+0.6**
ROCH				IAML		18 34 15.4	
comp=N,62nm,0.3s							
MT02	**Curacav**	**1.71**	**180**	*eP*	**Pn**	**18 33 45.7**	**-1.0**
MT02				IAML		18 34 06.7	
comp=Z,67nm,1.1s							
MT05	**Renca**	**1.87**	**170**	*eP*	**Pn**	**18 33 50.3**	**+1.4**
MT05				IAML		18 34 17.4	
comp=Z,47nm,0.3s							
MT03	**Universidad Ad**	**2.01**	**165**	*eP*	**Pn**	**18 33 52.7**	**+1.9**
MT03				IAML		18 34 24.8	
comp=Z,49nm,0.2s							
MT04	**Ro Olivares**	**2.04**	**156**	*eP*	**Pn**	**18 33 51.8**	**+0.6**
MT04				IAML		18 34 27.7	
comp=Z,25nm,0.2s							
MT08	**Bocatoma Ro**	**2.12**	**154**	*eP*	Pn	18 33 56.5	+4.3
MT08				IAML		18 34 41.1	
comp=Z,11nm,0.6s							
ASAL	**Salagasta**	**2.21**	**119**	*eP*	**Pn**	**18 33 52.6**	**-0.8**
ASAL				IAML		18 34 25.6	
comp=Z,14nm,1.6s							
ARCO	**CERRO ARCO**	**2.27**	**125**	*eP*	**Pn**	**18 33 53.8**	**-0.4**
ARCO				IAML		18 34 22.3	
comp=Z,22nm,0.8s							
MT13	**San Alfonso**	**2.31**	**162**	*eP*	**Pn**	**18 33 58.9**	**+4.2**
MT13				IAML		18 34 36.2	
comp=Z,22nm,0.2s							
BO01	**Tunca**	**2.84**	**179**	*eP*	**Pn**	**18 34 05.9**	**+4.2**
BO01				IAML		18 35 06.0	
comp=Z,16nm,3.5s							
BO02	**Sierra Bellavi**	**3.25**	**175**	*eP*	Pn	18 34 12.7	+5.4
BO02				IAML		18 35 05.8	
comp=Z,16nm,0.7s							
AVFE	**Valle Fertil**	**3.28**	**75**	*eP*	**Pn**	**18 34 11.2**	**+3.5**
AVFE				IAML		18 34 52.3	
comp=Z,37nm,0.3s							
ACHE	**Chepes**	**3.84**	**85**	*eP*	**Pn**	**18 34 18.3**	**+2.9**
RFA	**San Rafael**	**3.92**	**146**	*eP*	**Pn**	**18 34 19.4**	**+3.1**
RFA				IAML		18 35 27.1	
comp=Z,27nm,0.9s							

---

*NOU **24** 18:43:07.3, 27.°16S×147.°06E, h0km, MLv3.8/10, Queensland, Australia*
*AUST **24** 18:43:07.6±0.4, 27.°S±5.°×14.°7E±.°, h10km, mb3.4/1, ML3.2/5, Error ellipse: s-maj=10.9km s-min=6.5km az=164.1*
*IDC **24** 18:43:14.7±6.7, 26.°97S×146.°10E, h0km, mb3.7/1, mbtmp3.6/4, ML3.3/3, MS3.7/1, Error ellipse: s-maj=79.0km s-min=34.6km az=81.0*
ISC 24 18:43:06.7±0.9, 27.°15S±0.°08×147.°06E±0.°06, h10km, n27,
σ1s66/27, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMQ	**Roma**	**1.66**	**67**	P	**Pn**	**18 43 36.0**	**+0.1**
RMQ	**Roma**	**1.66**	**67**	P	**Pg**	**18 43 38.4**	**-0.2**
RMQ	**Roma**	**1.66**	**67**	S	**Sb**	**18 43 58.8**	**+0.4**
AULRC	**Lightning Ridg**	**2.41**	**160**	P	**Pn**	**18 43 47.2**	**+0.9**
QLP	**Quilpie**	**2.58**	**282**	P	**Pn**	**18 43 48.9**	**+0.3**
QLP	**Quilpie**	**2.58**	**282**	P	**Pn**	**18 43 49.1**	**+0.4**
EIDS	**Eidsvold**	**4.03**	**65**	P	**Pn**	**18 44 09.9**	**+1.4**
EIDS	**Eidsvold**	**4.03**	**65**	P	**Pn**	**18 44 09.9**	**+1.4**
AUTOO	**Toowoomba Stat**	**4.39**	**96**	P	**Pn**	**18 44 14.6**	**+1.1**
CMSA	**Cobar Meteorol**	**4.53**	**195**	P	**Pn**	**18 44 16.3**	**+0.9**
CMSA	**Cobar Meteorol**	**4.53**	**195**	P	**Pn**	**18 44 15.9**	**+0.5**
ARMA	**Armidale**	**5.17**	**130**	P	**Pn**	**18 44 23.4**	**-0.9**
ARMA	**Armidale**	**5.17**	**130**	P	**Pn**	**18 44 25.3**	**+1.1**
INKA	**Innaminka**	**5.64**	**263**	P	**Pn**	**18 44 31.5**	**+0.9**
comp=Z,11nm,2.8s,comp=Z,0.1nm							
INKA	**Innaminka**	**5.64**	**263**	P	**Pn**	**18 44 32.7**	**+2.1**
STKA	**Stephens Creek**	**6.69**	**224**	P	**Pn**	**18 44 46.5**	**+1.4**
STKA	**Stephens Creek**	**6.69**	**224**	Pn	**Pn**	**18 44 47.8**	**+2.6**
comp=Z,0.3nm,0.3s,baz=38,slow=14,SNR=6.4							
STKA				Sn	**Sn**	**18 46 01.3**	**-0.2**
comp=Z,1.3nm,0.3s,baz=324,slow=19,SNR=6.7							
comp=Z,1.5nm,0.4s							
STKA	**Stephens Creek**	**6.69**	**224**	P	**Pn**	**18 44 48.2**	**+3.1**
LCRK	**Leigh Creek**	**8.42**	**245**	P	**Pn**	**18 45 09.1**	**+0.2**
LCRK	**Leigh Creek**	**8.42**	**245**	P	**Pn**	**18 45 11.3**	**+2.4**
HTT	**Hallett**	**9.41**	**226**	P	**Pn**	**18 45 24.4**	**+1.9**
QIS	**Mount Isa**	**9.46**	**312**	P	**Pn**	**18 45 22.0**	**-1.2**
OOD	**Oodnadatta**	**10.12**	**264**	P	**Pn**	**18 45 33.4**	**+1.3**
ASAR	**Alice Springs**	**12.38**	**283**	**Pn**	**Pn**	**18 46 00.3**	**-2.9**
comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=26							
ASAR				Sn	Sn	18 48 11.1	-10
comp=Z,0.1nm,0.3s,baz=107,slow=24,SNR=6.0							
comp=Z,0.8nm,0.5s							
WRA	**Warramunga Arr**	**13.69**	**299**	Pn	**Pn**	**18 46 17.8**	**-3.3**
comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=12							
WRA				Sn	Sn	18 48 42.6	-11
comp=Z,0.2nm,0.3s,baz=122,slow=24,SNR=5.2							
comp=Z,0.5nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.70**	**290**	P	**P**	**18 47 59.4**	**+1.4**
comp=Z,3.1nm,0.9s,baz=122,slow=9.5,SNR=2.6							
comp=Z,3.1nm,0.9s							
ZALV	**Zalesovo Beam**	**96.94**	**328**	LR	LR	19 45 06.0	
comp=Z,29nm,18.9s,baz=336,slow=38							

---

*IDC **24** 18:53:37.1±1.0, 24.°29N×141.°83E, h0km, mb3.5/8, mbtmp3.6/11, ML3.3/3, MS3.6/1, Error ellipse: s-maj=39.4km s-min=17.1km az=94.0*
ISC 24 18:53:42.1±1.0, 24.°26N±0.°10×141.°8E±0.°2, h35km, n17,
σ0s57/12, mb3.5/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.84**	**7**	Pn	**Pn**	**18 54 25.0**	**0.0**
32nm,0.3s,baz=285,slow=19,SNR=35							
JCJ				Sn	**Sn**	**18 54 59.1**	**+1.0**
34nm,0.3s,baz=98,slow=24,SNR=6.1							
75nm,0.3s							
MJAR	**Matsushiro Arr**	**12.63**	**347**	Pn	**Pn**	**18 56 39.5**	**+0.2**
baz=155,slow=15,SNR=1.4							
1.1nm,0.9s							
ASAJ	**Asahikawa**	**19.82**	**2**	P	**P**	**18 58 09.6**	**-0.1**
0.2nm,0.3s,baz=163,slow=19,SNR=2.1							
6.1nm,0.9s							
H11N1	**WAKE ISLAND Hy**	**23.68**	**96**	T	T	19 23 51.6	
baz=283							
H11N2	**WAKE ISLAND Hy**	**23.68**	**96**	T	T	19 23 41.3	
baz=283							
H11N3	**WAKE ISLAND Hy**	**23.70**	**96**	T	T	19 23 51.8	
baz=283							
H11S3	**WAKE ISLAND Hy**	**23.85**	**99**	T	T	19 24 18.6	
baz=288,slow=75,SNR=5.0							
H11S1	**WAKE ISLAND Hy**	**23.86**	**99**	T	T	19 24 21.4	
baz=288,slow=75,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**23.87**	**99**	T	T	19 24 16.7	
baz=288,slow=75,SNR=9.0							
WRA	**Warramunga Arr**	**44.53**	**190**	P	**P**	**19 01 51.2**	**+0.6**
0.8nm,0.4s,baz=7.7,slow=8.3,SNR=12							
0.8nm,0.4s							
ASAR	**Alice Springs**	**48.25**	**190**	P	**P**	**19 02 20.4**	**+0.7**
0.1nm,0.3s,baz=9.4,slow=7.7,SNR=6.3							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**52.05**	**311**	P	**P**	**19 02 48.9**	**+0.5**
0.1nm,0.5s,baz=85,slow=8.7,SNR=2.4							
0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**54.80**	**316**	P	**P**	**19 03 08.0**	**-0.5**
0.2nm,0.7s,baz=96,slow=7.9,SNR=1.7							
0.2nm,0.7s							
BVAR	**Borovoye Array**	**59.91**	**319**	P	**P**	**19 03 44.1**	**-0.5**
0.3nm,0.4s,baz=102,slow=8.0,SNR=2.4							
0.3nm,0.4s							
ILAR	**Eielson Array**	**60.36**	**28**	P	**P**	**19 03 47.0**	**-0.4**
0.5nm,0.7s,baz=255,slow=5.7,SNR=5.7							
0.5nm,0.7s							
YKA	**Yellowknife Ar**	**74.79**	**28**	P	**P**	**19 05 18.2**	**-0.3**
0.1nm,0.4s,baz=293,slow=6.5,SNR=2.6							
0.1nm,0.4s							
FINES	**FINESS Array B**	**80.33**	**334**	P	**P**	**19 05 49.0**	**-0.4**
2.3nm,0.9s,baz=52,slow=5.4,SNR=1.9							
2.3nm,0.9s							

---

*NEIC **24** 18:54:25.6±1.4, 18.°56N±0.°10×145.°6E±0.°2, h190km±10km, mb3.7/13, Error ellipse: s-maj=32.6km s-min=13.4km az=97.0*
*IDC **24** 18:54:25.3±2.6, 18.°57N×145.°67E, h193km±25km, mb2.9/9, mbtmp3.5/10, Error ellipse: s-maj=28.9km s-min=17.3km az=101.0*
ISC 24 18:54:25.8±0.7, 18.°56N±0.°07×145.°5E±0.°2, h200km, n31,
σ1s10/33, mb3.5/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.98**	**187**	Pn	**Pn**	**18 55 40.3**	**+0.3**
GUMO				Sn	**Sn**	**18 56 36.8**	**-1.8**
GUMO	**Guam**	**4.98**	**187**	P	**Pn**	**18 55 40.7**	**+0.7**
52nm,0.4s,baz=5.2,slow=11,SNR=1.7							
GUMO				S	**Sn**	**18 56 38.3**	**-0.2**
113nm,0.8s,baz=103,slow=18,SNR=2.0							
JGF	**Kuroka**	**18.44**	**339**	P	**P**	**18 58 22.7**	**-3.7**
COEN	**Coen**	**32.39**	**184**	P	**P**	**19 00 35.5**	**-1.4**
MTN	**Manton Dam**	**34.27**	**205**	P	**P**	**19 00 53.6**	**+0.4**
WB0	**Warramunga Arr**	**39.62**	**197**	P	**P**	**19 01 37.3**	**-0.9**
WB0				IAmb	IAmb	19 01 38.1	
comp=Z,1.4nm,1.1s							
WR8	**Warramunga Arr**	**39.77**	**196**	P	**P**	**19 01 39.9**	**+0.5**
WR8				IAmb	IAmb	19 01 57.1	
comp=Z,2.1nm,0.9s							
WRA	**Warramunga Arr**	**39.80**	**197**	P	**P**	**19 01 40.5**	**+0.8**
WRA	**Warramunga Arr**	**39.80**	**197**	P	**P**	**19 01 40.1**	**+0.4**
comp=Z,0.5nm,0.4s,baz=31,slow=8.9,SNR=15							
comp=Z,0.5nm,0.4s							
FITZ	**Fitzroy Crossi**	**41.33**	**209**	P	**P**	**19 01 52.9**	**+0.7**
AS31	**Alice Springs**	**43.47**	**196**	P	**P**	**19 02 10.3**	**+0.9**
ASAR	**Alice Springs**	**43.47**	**196**	P	**P**	**19 02 09.4**	**0.0**
ASAR	**Alice Springs**	**43.47**	**196**	P	**P**	**19 02 09.9**	**+0.5**
comp=Z,0.1nm,0.3s,baz=6.1,slow=6.1,SNR=11							
comp=Z,0.1nm,0.3s							
BBOO	**Buckleboo**	**51.87**	**190**	P	**P**	**19 03 14.8**	**+1.0**
BBOO				IAmb	IAmb	19 03 25.7	
comp=Z,2.8nm,0.9s							
MKAR	**Makanchi Array**	**58.42**	**314**	P	**P**	**19 04 01.0**	**+0.4**
comp=Z,0.1nm,0.7s,baz=74,slow=7.1,SNR=1.3							
comp=Z,0.1nm,0.7s							
J20K	**Nowinta River**	**60.67**	**26**	P	**P**	**19 04 16.9**	**+1.3**
J20K				IAmb	IAmb	19 04 29.3	
comp=Z,1.0nm,1.1s							
SKT	**Skwentna**	**61.16**	**29**		**P**	**19 04 18.8**	**-0.1**
SKT				IAmb	IAmb	19 04 19.1	
comp=Z,1.8nm,0.9s							
KURBB	**Kurchatov Arra**	**61.29**	**318**	P	**P**	**19 04 21.4**	**+1.4**
comp=Z,0.1nm,0.6s,baz=100,slow=8.3,SNR=1.8							
comp=Z,0.1nm,0.6s							
B20K	**Meade River**	**61.76**	**19**	P	**P**	**19 04 23.6**	**+0.8**
H24K	**Noodor Dome**	**63.69**	**25**	P	**P**	**19 04 35.5**	**-0.2**
TOLK	**Toolik Lake Re**	**63.79**	**22**	P	**P**	**19 04 36.6**	**+0.3**
ILAR	**Eielson Array**	**63.85**	**26**	P	**P**	**19 04 35.7**	**-1.0**
comp=Z,0.6nm,0.9s,baz=250,slow=6.1,SNR=4.8							
comp=Z,0.6nm,0.9s							
J26L	**Joseph Creek**	**65.21**	**27**	P	**P**	**19 04 45.4**	**-0.3**
J26L				IAmb	IAmb	19 05 01.8	
comp=Z,1.0nm,1.0s							
BMAR	**Burnt Mountain**	**65.32**	**24**	P	**P**	**19 04 47.6**	**+1.4**
BVAR	**Borovoye Array**	**66.46**	**320**	P	**P**	**19 04 54.7**	**+1.0**
comp=Z,0.4nm,0.6s,baz=87,slow=8.8,SNR=4.2							
comp=Z,0.4nm,0.6s							
BRVK	**Borovoye**	**66.52**	**320**	P	**P**	**19 04 55.4**	**+1.4**
BRVK				IAmb	IAmb	19 05 13.7	
comp=Z,1.7nm,1.1s							
ABKAR	**Akbulak array**	**73.31**	**317**	P	**P**	**19 05 36.5**	**+1.0**
ABKAR	**Akbulak array**	**73.31**	**317**	P	**P**	**19 05 36.0**	**+0.6**
ABKAR				IAmb	IAmb	19 05 36.9	
comp=Z,1.0nm,1.0s							
YKA	**Yellowknife Ar**	**78.20**	**28**	P	**P**	**19 06 02.9**	**0.0**
comp=Z,0.2nm,0.6s,baz=283,slow=5.7,SNR=4.0							
comp=Z,0.2nm,0.6s							
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**19 06 31.0**	**-0.2**
comp=Z,0.6nm,0.6s,baz=253,slow=7.7,SNR=5.2							
comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**88.06**	**45**	P	**P**	**19 06 54.0**	**-0.1**
comp=Z,0.3nm,0.8s,baz=170,slow=3.5,SNR=3.9							
comp=Z,0.3nm,0.8s							

---

*NAO **24** 19:18:20.2±1.7, 73.°42N×7.°15E, ML3.3*
*IDC **24** 19:18:22.4±1.0, 73.°27N×7.°84E, h0km, mb3.6/6, mbtmp3.6/11, ML3.0/4, MS3.5/37, Error ellipse: s-maj=21.1km s-min=11.9km az=62.0*
*BER **24** 19:18:23.8±3.7, 73.°38N×7.°19E, h10km, mb(Pn)4.3, ML3.3(NAO), Confirmed Earthquake*
*FCIAR **24** 19:18:25.0, 73.°44N×8.°20E, h10km, station SPA0 has station magnitude of 3.30*
*KOLA **24** 19:18:37.9, 72.°83N×10.°53E, h0km, ML2.4, Norwegian sea*
ISC 24 19:18:23.3±0.8, 73.°39N±0.°05×8.°19E±0.°08, h10km, n99,
σ1s70/79, mb3.6/6, MS3.5/31, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.09**	**24**	Pn	**Pn**	**19 19 26.2**	**+0.4**
HSPB	**Hornsund (broa**	**4.09**	**24**	*eP*	**Pn**	**19 19 25.8**	**+0.1**
BRBA	**Barentsburg A**	**4.92**	**15**	*eP*	**Pn**	**19 19 37.5**	**+0.3**
BRBB	**Barentsburg B**	**4.96**	**15**	Pn	**Pn**	**19 19 36.8**	**-0.8**
BRBB	**Barentsburg B**	**4.96**	**15**	*eP*	**Pn**	**19 19 37.9**	**+0.3**
TRO	**Tromso**	**5.08**	**133**	Pn	**Pn**	**19 19 40.9**	**+1.6**
TRO				Sn	**Sn**	**19 20 36.6**	**-1.4**
TRO	**Tromso**	**5.08**	**133**	*eP*	**Pn**	**19 19 41.0**	**+1.6**
TRO				*eS*	**Sn**	**19 20 35.4**	**-2.7**
TRO				IAML		19 20 40.9	
comp=Z,7.2nm,0.4s							
SPA0	**Spitsbergen Ar**	**5.21**	**19**	Pn	**Pn**	**19 19 41.4**	**+0.2**
baz=187,slow=16							
SPA0	**Spitsbergen Ar**	**5.21**	**19**	Pn	**Pn**	**19 19 41.4**	**+0.2**
baz=187,slow=16							
SPA0	**Spitsbergen Ar**	**5.21**	**19**	*eP*	**Pn**	**19 19 41.2**	**0.0**
SPITS	**Spitsbergen Ar**	**5.21**	**19**	Pn	**Pn**	**19 19 41.3**	**+0.1**
comp=Z,4.3nm,0.3s,baz=194,slow=16,SNR=82							
SPITS				Sn	**Sn**	**19 20 37.6**	**-3.6**
baz=196,slow=18							
HOPEN	**Hopen**	**5.37**	**47**	Pn	**Pn**	**19 19 43.7**	**+0.4**
HOPEN	**Hopen**	**5.37**	**47**	*eP*	**Pn**	**19 19 43.8**	**+0.4**
HOPEN				IAML		19 20 50.4	
comp=Z,6.0nm,1.1s							
HOPEN	**Hopen**	**5.37**	**47**	*eP*	**Pn**	**19 19 43.4**	**+0.1**
HOPEN				*eS*	**Sn**	**19 20 42.9**	**-2.2**
JETT	**Jettan, Norway**	**5.47**	**129**	Pn	**Pn**	**19 19 46.6**	**+1.9**
JETT				Sn	**Sn**	**19 20 47.5**	**-0.1**
JETT	**Jettan, Norway**	**5.47**	**129**	Pn	**Pn**	**19 19 46.6**	**+1.9**
JETT				Sn	**Sn**	**19 20 47.5**	**-0.1**
HAMF	**Hammerfest**	**5.53**	**112**	Pn	**Pn**	**19 19 46.3**	**+0.8**
HAMF				Sn	**Sn**	**19 20 49.0**	**+0.1**
HAMF	**Hammerfest**	**5.53**	**112**	*eP*	**Pn**	**19 19 47.5**	**+2.0**
HAMF				*eS*	**Sn**	**19 20 45.1**	**-3.8**
HAMF				IAML		19 21 01.5	
comp=Z,5.1nm,0.9s							
LOF	**Lofoten**	**5.57**	**159**	*eP*	**Pn**	**19 19 46.2**	**+0.1**
LOF				*eS*	**Sn**	**19 20 44.0**	**-6.0**
LOF				IAML		19 20 45.6	
comp=Z,22nm,0.5s							
KBS	**Kingsbay**	**5.64**	**7**	*eP*	**Pn**	**19 19 47.3**	**+0.3**
KBS	**Kingsbay**	**5.64**	**7**	*eP*	**Pn**	**19 19 46.8**	**-0.2**
JMIC	**Jan Mayen**	**5.65**	**253**	LR	LR	19 21 21.3	
comp=Z,322nm,18.5s,baz=74,slow=32							
STEI	**Steigen**	**5.96**	**153**	*eP*	**Pn**	**19 19 52.3**	**+0.9**
STEI				*eS*	**Sn**	**19 20 54.3**	**-5.3**
STEI				IAML		19 21 02.5	
comp=Z,5.9nm,0.9s							
KIF	**Kilpisjarvi**	**5.99**	**131**	Pn	**Pn**	**19 19 53.4**	**+1.6**
KIF				Sn	**Sn**	**19 20 59.3**	**-1.0**
KIF	**Kilpisjarvi**	**5.99**	**131**	*eP*	**Pn**	**19 19 53.6**	**+1.8**
KIF				*eS*	**Sn**	**19 20 58.8**	**-1.5**
FAUS	**Fauske**	**6.49**	**155**	S	Sn	19 21 05.8	-6.8
KTK1	**Kautokeino**	**6.54**	**125**	*eP*	**Pn**	**19 20 01.8**	**+2.5**
ARA0	**ARCESS Array S**	**6.72**	**117**	Pn	**Pn**	**19 20 03.7**	**+1.8**
baz=304,slow=11							
ARA0				Sn	**Sn**	**19 21 17.1**	**-1.2**
baz=307,slow=22							
ARA0	**ARCESS Array S**	**6.72**	**117**	Pn	**Pn**	**19 20 03.7**	**+1.8**
baz=304,slow=11							
ARA0				Sn	**Sn**	**19 21 17.1**	**-1.2**
baz=307,slow=22							
ARA0				IAML		19 21 36.1	
comp=Z,2.6nm,0.7s							
ARCES	**ARCESS Array B**	**6.72**	**117**	Pn	**Pn**	**19 20 02.7**	**+0.8**
comp=Z,0.5nm,0.3s,baz=310,slow=10,SNR=30							
ARCES				Sn	**Sn**	**19 21 18.3**	**-0.1**
comp=Z,0.4nm,0.3s,baz=308,slow=20,SNR=6.4							
ARCES				LR	LR	19 22 50.4	
comp=Z,310nm,18.4s,baz=282,slow=40							
comp=Z,1.5nm,0.4s							
ARCES	**ARCESS Array B**	**6.72**	**117**	P	**Pn**	**19 20 03.9**	**+2.0**
ARCES				S	Sn	19 21 09.1	-9.3
KEV	**Kevo**	**6.97**	**112**	Pn	**Pn**	**19 20 07.3**	**+2.1**
KEV	**Kevo**	**6.97**	**112**	*eP*	**Pn**	**19 20 06.9**	**+1.7**
HEF	**Hetta**	**7.10**	**127**	Pn	**Pn**	**19 20 09.6**	**+2.5**
HEF	**Hetta**	**7.10**	**127**	*eP*	**Pn**	**19 20 09.1**	**+1.9**
HEF				*eS*	**Sn**	**19 21 25.7**	**-2.0**
KONS	**Konsvik**	**7.12**	**164**	*eP*	**Pn**	**19 20 07.0**	**-0.4**
KONS				*eS*	Sn	19 21 19.9	-8.4
KONS				IAML		19 21 24.6	
comp=Z,6.3nm,0.7s							
STOK	**Stokkvaagen**	**7.28**	**164**	*eP*	**Pn**	**19 20 10.0**	**+0.5**
STOK				IAML		19 21 23.6	
comp=Z,9.5nm,1.0s							
VADS	**Vadso**	**7.38**	**106**	*eP*	**Pn**	**19 20 13.4**	**+2.5**
VADS				IAML		19 21 39.2	
comp=Z,4.2nm,0.8s							
VADS	**Vadso**	**7.38**	**106**	P	**Pn**	**19 20 13.9**	**+3.0**
VADS				S	Sn	19 21 27.0	-7.5
LEIR	**Leirfjorden**	**7.50**	**164**	*eP*	**Pn**	**19 20 13.2**	**+0.5**
LEIR				*eS*	Sn	19 21 29.8	-7.8
LEIR				IAML		19 21 32.5	
comp

LSH	Leshukonskoye	15.54	104	P		Pn	19 22 00.1 -1.9
	comp=Z,78nm,3.4s						
SFJD	Kangerlussuaq	20.08	282	LR		LR	19 29 26.6
	comp=Z,171nm,20.4s,baz=78,slow=33						
KIRV	Kirov	21.70	111	LR		LR	19 31 54.2
	comp=Z,160nm,18.4s,baz=304,slow=37						
CLL	Collm	22.26	172	*e*P		P	19 23 22.0 +2.0
CLL				*ex*		x	19 23 25.0
	comp=Z,20nm,1.6s						
NRIK	Noril'sk	23.90	59	LR		LR	19 34 55.1
	comp=Z,82nm,18.3s,baz=301,slow=41						
VRAC	Vranov	24.45	167	LR		LR	19 33 32.9
	comp=Z,154nm,18.1s,baz=325,slow=37						
AKASG	Malin Array Be	24.51	147	P		P	19 23 42.7 +0.3
	comp=Z,1.6nm,0.7s,baz=347,slow=9.4,SNR=8.2						
AKASG				LR		LR	19 33 07.7
	comp=Z,188nm,21.2s,baz=326,slow=36						
	comp=Z,1.6nm,0.7s						
GERES	GERESS Array B	24.75	171	P		P	19 23 45.1 +0.4
	comp=Z,1.0nm,0.8s,baz=331,slow=11,SNR=5.4						
GERES				LR		LR	19 33 40.5
	comp=Z,149nm,18.6s,baz=308,slow=37						
	comp=Z,1.0nm,0.8s						
RES	Resolute Bay	25.04	322	LR		LR	19 32 37.2
	comp=Z,119nm,18.9s,baz=17,slow=34						
ARTI	Arti	26.05	103	LR		LR	19 34 17.7
	comp=Z,65nm,19.9s,baz=304,slow=37						
BELG	Belogornoye	26.75	120	LR		LR	19 34 36.9
	comp=Z,116nm,20.6s,baz=344,slow=36						
FRB	Frobisher Bay	27.48	290	LR		LR	19 33 13.4
	comp=Z,72nm,20.2s,baz=124,slow=32						
MLR	Muntele Rosu	29.14	154	LR		LR	19 35 08.7
	comp=Z,124nm,18.6s,baz=325,slow=35						
TIXI	Tiksi	30.47	32	LR		LR	19 36 26.3
	comp=Z,35nm,18.3s,baz=41,slow=35						
AKTO	Aktyubinsk	31.24	110	LR		LR	19 37 35.4
	comp=Z,146nm,18.1s,baz=106,slow=37						
BVAR	Borovoye Array	32.40	94	P		P	19 24 54.0 +1.3
	comp=Z,1.1nm,0.8s,baz=297,slow=6.3,SNR=2.6						
BVAR				LR		LR	19 40 58.4
	comp=Z,62nm,19.4s,baz=326,slow=42						
	comp=Z,1.1nm,0.8s						
KBZ	Khabaz	33.78	132	LR		LR	19 39 13.0
	comp=Z,92nm,19.9s,baz=355,slow=37						
SCHQ	Scheffer ville	34.49	279	LR		LR	19 36 51.8
	comp=Z,112nm,19.4s,baz=30,slow=32						
ZALV	Zalesovo Beam	35.73	80	LR		LR	19 42 15.4
	comp=Z,64nm,19.6s,baz=334,slow=40						
BRTR	Keskin Array B	35.91	146	P		P	19 25 25.2 +1.8
	comp=Z,0.9nm,1.0s,baz=349,slow=15,SNR=1.8						
	comp=Z,0.9nm,1.0s						
GNI	Garni	37.61	132	LR		LR	19 41 32.4
	comp=Z,85nm,18.2s,baz=331,slow=37						
YKA	Yellowknife Ar	39.11	322	P		P	19 25 52.0 +1.9
	comp=Z,0.2nm,0.2s,baz=28,slow=8.3,SNR=11						
YKA				LR		LR	19 41 17.3
	comp=Z,122nm,18.5s,baz=317,slow=35						
	comp=Z,0.2nm,0.2s						
ILAR	Eielson Array	41.10	344	P		P	19 26 06.6 -0.1
	comp=Z,0.4nm,0.9s,baz=10,slow=8.4,SNR=4.3						
	comp=Z,0.4nm,0.9s						
MKAR	Makanchi Array	41.41	88	LR		LR	19 46 17.7
	comp=Z,70nm,19.2s,baz=315,slow=40						
MMAI	Mount Meron Ar	42.75	146	LR		LR	19 45 58.0
	comp=Z,58nm,19.1s,baz=323,slow=39						
DLBC	Dease Lake	45.44	331	LR		LR	19 47 28.4
	comp=Z,84nm,18.3s,baz=6.5,slow=38						
SADO	Sadowa	47.02	283	LR		LR	19 45 38.3
	comp=Z,57nm,18.9s,baz=83,slow=35						
NEW	Newport	53.03	317	LR		LR	19 50 31.0
	comp=Z,121nm,18.5s,baz=72,slow=36						
USRK	Ussuriysk Ar.	56.61	46	LR		LR	19 53 18.5
	comp=Z,24nm,21.9s,baz=309,slow=37						
PDAR	Pinedale Array	56.68	309	LR		LR	19 55 24.2
	comp=Z,30nm,18.0s,baz=32,slow=39						
TKL	Tuckaleechee C	56.78	283	LR		LR	19 51 13.0
	comp=Z,100nm,18.6s,baz=106,slow=35						
YBH	Yreka Blue Hor	60.39	319	LR		LR	19 54 48.4
	comp=Z,93nm,18.2s,baz=21,slow=36						
ANMO	Albuquerque	63.41	303	LR		LR	19 56 29.9
	comp=Z,58nm,18.3s,baz=213,slow=36						
PFO	Pinyon Flats O	66.97	312	LR		LR	19 59 18.4
	comp=Z,42nm,18.5s,baz=24,slow=37						
TXAR	Lajitas Array	68.08	299	LR		LR	19 58 35.9
	comp=Z,36nm,18.3s,baz=48,slow=36						

*BJI **24** 19:27:52.9, 17°.80N×120°.40E, h52km, mB4.8/9, mb4.3/42, ML4.4/2, Ms4.1/3, Ms7 3.9/3*
*NEIC **24** 19:27:53.8±2.1, 17°.80N±0°.09×120°.29E±0°.10, h37km±8km, mb4.5/28, Error ellipse: s-maj=13.4km s-min=12.2km az=106.0*
*IDC **24** 19:27:58.0±2.1, 17°.81N×120°.45E, h81km±22km, mb3.8/21, mbtmp4.2/23, MS3.4/12, Error ellipse: s-maj=20.4km s-min=10.7km az=75.0*

ISC 24 19:27:52.7±0.4, 17°.77N±0°.05×120°.22E±0°.07, h32km, n89, σ2°.04/82, mb4.3/38, MS3.3/8, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	3.71	169	P		Pb	19 28 53.9 -3.8
	364nm,0.5s,baz=319,slow=3.7,SNR=21						
TGY				S		Sn	19 29 36.7 +6.1
	478nm,0.5s,baz=138,slow=12,SNR=3.1						
TWG	Pinlang	5.09	9			Pn	19 29 06.9 +0.1
TPUB	Ta-pu	5.52	4	Pn		Pn	19 29 12.2 -0.5
YULB	Yu-li	5.69	10			Pn	19 29 14.9 -0.1
SSLB	Suanglung	6.03	6	Pn		Pn	19 29 20.1 +0.4
NACB	Ninganchiao	6.50	11			Pn	19 29 26.9 +0.7
KNMB	Chin-men Tao	6.88	346	Pn		Pn	19 29 29.6 -1.8
YHNB	Yeheng	6.95	9	Pn		Pn	19 29 34.5 +2.0
HKPS	Hong Kong Po S	7.26	309	Pn		Pn	19 29 36.0 -0.7
TATO	Taipei	7.27	9	Pn		Pn	19 29 39.2 +2.5
QZH	Quanzhou	7.30	348	‖*i*P		Pn	19 29 35.8 -1.3
QIZ	Qiongzhong	9.93	279	Pn		Pn	19 30 12.9 -0.4
QIZ	Qiongzhong	9.93	279	P		Pn	19 30 08.0 -5.3
QIZ				S		Sn	19 31 59.8 -3.8
QIZ				pmax		pmax	
	comp=Z,10.0nm,1.0s						
QIZ				smax		smax	
	comp=N,39nm,0.6s						
QIZ				smax		smax	
	comp=E,27nm,1.7s						
QIZ				LR		LR	
	comp=N,160nm,8.7s						
QIZ				LR		LR	
	comp=E,260nm,7.3s						
QIZ				LR		LR	
	comp=Z,210nm,9.9s						
JOW	Kunigami	11.70	38	LR		LR	19 35 00.7
	comp=Z,150nm,19.6s,baz=288,slow=37						
MYLDM	Lahad Datu	12.62	188	Pn		P	19 30 57.7 -3.5
NJ2	Nanjing	14.27	355	*e*P		Pn	19 31 14.3 +1.7
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
TOLI2	Tolitoli	16.56	178	P		P	19 31 48.7 +3.7
KMI	Kunming	17.83	297	⇑P		P	19 32 02.0 +2.8
KMI				pP		sP	19 32 12.3 +1.2
KMI				sP		pwP	19 32 19.9 +10
KMI				pmax		pmax	
	comp=Z,9.0nm,0.5s						
KMI				LR		LR	
	comp=Z,410nm,13.8s						
KMI				LR		LR	
	comp=Z,190nm,12.2s						
KMI				LR		LR	
	comp=Z,170nm,8.6s						
JNU	Nakatsue	18.05	30	P		Pn	19 31 58.7 -2.5
JNU	Nakatsue	18.05	30	P		Pn	19 31 59.3 -1.8
	comp=Z,8.6nm,0.9s,baz=145,slow=8.5,SNR=5.0						
JNU				LR		LR	19 38 56.5
	comp=Z,107nm,21.9s,baz=216,slow=37						
LYN	LuoYang	18.09	339	P		P	19 32 04.3 +2.6
LYN				pmax		pmax	
	comp=Z,62nm,0.5s						
TIA	Tai'an	18.57	352	P		Pn	19 32 08.8 +1.3
TIA				pmax		pmax	
	comp=Z,15nm,0.9s						
XAN	Xi'an	19.10	330	P		Pn	19 32 14.9 +1.0
XAN				sP		sP	19 32 29.8 +5.2
XAN				pmax		pmax	
	comp=Z,17nm,1.1s						
PZH	PanZhiHua	19.18	300	P		Pn	19 32 19.1 +4.1
PZH				pmax		pmax	
	comp=Z,10.0nm,1.0s						
PZH				pmax		pmax	
	comp=Z,160nm,4.9s						
HNS	HongShan	20.15	347	‖P		Pn	19 32 26.6 +0.4
HNS				S		S	19 36 00.4 -8.4
HNS				sS		sS	19 36 22.6 +0.6
HNS				pmax		pmax	
	comp=Z,37nm,1.3s						
CHTO	Chiang Mai	20.23	276	P		P	19 32 22.7 -2.6
CMAR	Chiang Mai Arr	20.23	275	P		Pn	19 32 29.2 +1.8
	comp=Z,3.6nm,0.8s,baz=97,slow=8.3,SNR=37						
	comp=Z,3.6nm,0.8s						
KSRS	Korea Array	20.75	18	P		P	19 32 30.8 0.0
	comp=Z,3.8nm,0.9s,baz=203,slow=11,SNR=12						
KSRS				LR		LR	19 41 04.7
	comp=Z,56nm,19.5s,baz=175,slow=38						
	comp=Z,3.8nm,0.9s						
JCJ	Chichijima	22.30	62	P		P	19 32 45.3 -2.3
BJI	Beijing	22.47	352	P		P	19 32 49.6 +0.4
BJI				pmax		pmax	
	comp=Z,8.0nm,1.0s						
BJI				pmax		pmax	
	comp=Z,57nm,4.5s						
KAPI	Kappang	22.64	181	P		P	19 32 54.2 +2.9
	comp=Z,4.0nm,0.3s,baz=15,slow=6.6,SNR=5.3						
KAPI				LR		LR	19 42 43.8
	comp=Z,47nm,19.4s,baz=356,slow=39						
	comp=Z,4.0nm,0.3s						
KULM	Kulim	22.80	239	P		P	19 32 54.8 +1.8
KULM				IAmb		IAmb	19 32 57.2
	comp=Z,16nm,1.2s						
LZH	Lanzhou	23.30	325	*e*P		P	19 33 00.3 +2.2
LZH				pP		sP	19 33 14.5 +4.5
LZH				pmax		pmax	
	comp=Z,13nm,1.4s						
HHC	Hu-ho-hao-te	24.18	344	*e*P		P	19 33 07.4 +1.1
HHC				pmax		pmax	
	comp=Z,18nm,0.8s						
MJAR	Matsushiro Arr	24.54	37	P		P	19 33 09.7 +0.2
	comp=Z,1.4nm,0.9s,baz=212,slow=4.3,SNR=2.1						
	comp=Z,1.4nm,0.9s						
PSI	Prapat	25.64	237	LR		LR	19 43 53.5
	comp=Z,89nm,18.3s,baz=60,slow=37						
XLT	XiLinHaoTe	26.28	353	*e*P		P	19 33 26.9 +1.6
XLT				pmax		pmax	
	comp=Z,17nm,0.9s						
XLT				pmax		pmax	
	comp=Z,170nm,5.3s						
GSI	Gunungsitoli	27.61	236	P		P	19 33 37.7 +0.2
GSI				IAmb		IAmb	19 33 53.4
	comp=Z,11nm,1.0s						
GTA	Gaotai	27.91	325	*e*P		P	19 33 42.3 +2.2
GTA				pP		sP	19 33 55.3 +3.1
GTA				pmax		pmax	
	comp=Z,3.0nm,1.5s						
USRK	Ussuriysk Ar.	28.15	18	P		P	19 33 41.4 -0.6
	comp=Z,2.2nm,0.9s,baz=108,slow=17,SNR=2.3						
	comp=Z,2.2nm,0.9s						
SONM	Songino Array	32.05	342	P		P	19 34 17.1 +0.4
SONM	Songino Array	32.05	342	P		P	19 34 16.1 -0.5
	comp=Z,1.3nm,0.8s,baz=166,slow=8.7,SNR=10.0						
	comp=Z,1.3nm,0.8s						
KLR	Kul'dur	32.74	14	LR		LR	19 48 31.5
	comp=Z,69nm,19.6s,baz=310,slow=38						
FITZ	Fitzroy Crossi	36.04	171	P		P	19 34 50.1 -1.3
WMQ	Urumqi	37.73	321	*e*P		P	19 35 08.3 +2.7
WB0	Warramunga Arr	39.82	159	P		P	19 35 21.5 -1.7
WB0				IAmb		IAmb	19 35 22.4
	comp=Z,5.2nm,0.8s						
PALK	Pallekele	39.88	260	LR		LR	19 50 33.5
	comp=Z,44nm,20.4s,baz=66,slow=34						
WRAB	Tennant Creek	39.95	159	P		P	19 35 22.5 -1.9
WRAB				IAmb		IAmb	19 35 24.1
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	39.96	159	P		P	19 35 22.5 -1.9
WRA	Warramunga Arr	39.96	159	P		P	19 35 22.6 -1.8
	comp=Z,3.4nm,0.7s,baz=334,slow=11,SNR=24						
	comp=Z,3.4nm,0.7s						
WB2	Warramunga Arr	39.96	159	P		P	19 35 23.3 -1.2
WB2				IAmb		IAmb	19 35 24.1
	comp=Z,8.1nm,1.0s						
WR0	Warramunga Arr	40.05	159	P		P	19 35 24.0 -1.2
WR0				IAmb		IAmb	19 35 50.2
	comp=Z,7.2nm,0.5s						
MK31	Makanchi Array	42.54	321	P		P	19 35 47.4 +2.0
MK31				IAmb		IAmb	19 35 48.4
	comp=Z,8.6nm,0.9s						
MKAR	Makanchi Array	42.54	321	P		P	19 35 47.2 +1.8
MKAR	Makanchi Array	42.54	321	P		P	19 35 47.0 +1.6
	comp=Z,7.5nm,0.8s,baz=116,slow=9.1,SNR=74						
	comp=Z,7.5nm,0.8s						
MAKZ	Makanchi	42.73	321	P		P	19 35 48.0 +1.1
MAKZ				IAmb		IAmb	19 35 49.9
	comp=Z,6.9nm,1.0s						
AS31	Alice Springs	43.30	162	P		P	19 35 50.9 -0.8
AS31				IAmb		IAmb	19 35 52.7
	comp=Z,2.9nm,0.6s						
ASAR	Alice Springs	43.30	162	P		P	19 35 50.9 -0.8
ASAR	Alice Springs	43.30	162	P		P	19 35 51.3 -0.5
	comp=Z,6.1nm,0.6s,baz=341,slow=6.9,SNR=164						
	comp=Z,6.1nm,0.6s						
KSH	Kashi	43.92	309	P		P	19 36 01.3 +4.5
KSH				pmax		pmax	
	comp=Z,2.0nm,0.6s						
YAK	Yakutsk	44.71	6	LR		LR	19 57 31.5
	comp=Z,34nm,21.2s,baz=284,slow=40						
ZALV	Zalesovo Beam	45.27	331	P		P	19 36 06.7 -0.4
	comp=Z,2.1nm,0.7s,baz=122,slow=7.2,SNR=12						
	comp=Z,2.1nm,0.7s						
KURK	Kurchatov	46.59	324	P		P	19 36 18.4 +0.7
KURK				IAmb		IAmb	19 36 20.1
	comp=Z,13nm,0.9s						
KURBB	Kurchatov Arra	46.60	324	P		P	19 36 18.5 +0.8
	comp=Z,7.7nm,0.8s,baz=121,slow=8.3,SNR=59						
	comp=Z,7.7nm,0.8s						
MORW	Morawa	46.74	185	P		P	19 36 18.8 -0.2
GAR	Garm	48.06	307	P		P	19 36 29.4 0.0
GAR				IAmb		IAmb	19 36 55.2
	comp=Z,9.1nm,0.9s						
FORT	Forrest	48.85	171	P		P	19 36 35.2 -0.1
NWAO	Narrogin (SRO)	50.49	183	P		P	19 36 48.4 +0.7
BVAR	Borovoye Array	52.19	324	P		P	19 37 00.0 -0.3
	comp=Z,1.1nm,0.6s,baz=130,slow=14,SNR=3.8						
BVAR				LR		LR	20 02 27.3
	comp=Z,41nm,18.1s,baz=327,slow=40						
	comp=Z,1.1nm,0.6s						
BBOO	Buckleboo	52.53	163	P		P	19 37 03.0 0.0
STKA	Stephens Creek	53.45	157	P		P	19 37 09.3 -0.6
STKA	Stephens Creek	53.45	157	P		P	19 37 09.6 -0.3
	comp=Z,2.3nm,0.7s,baz=347,slow=5.6,SNR=7.0						
	comp=Z,2.3nm,0.7s						
NRIK	Noril'sk	55.37	347	IAmb		IAmb	19 37 24.2
	comp=Z,4.0nm,0.7s						
NRIK	Noril'sk	55.37	347	P		P	19 37 23.8 +0.5
	comp=Z,3.3nm,0.6s,baz=138,slow=5.4,SNR=7.8						
	comp=Z,3.3nm,0.6s						
ABKAR	Akbulak array	57.40	318	P		P	19 37 38.5 +0.3
ARTI	Arti	59.85	325	LR		LR	20 07 05.1
	comp=Z,64nm,19.3s,baz=330,slow=39						
TOO	Toolangi	59.97	157	P		P	19 37 56.0 -0.1
TOO				IAmb		IAmb	19 37 57.9
	comp=Z,5.3nm,1.4s						
KBZ	Khabaz	68.86	311	P		P	19 38 55.5 +1.3
	comp=Z,1.9nm,0.8s,baz=66,slow=3.3,SNR=3.8						
	comp=Z,1.9nm,0.8s						
H21K	Melozitna Rive	72.73	26	P		P	19 39 17.4 -0.1
H21K				IAmb		IAmb	19 39 20.4
	comp=Z,8.1nm,1.4s						
ILAR	Eielson Array	75.32	26	P		P	19 39 31.5 -1.1
	comp=Z,0.3nm,0.7s,baz=232,slow=5.3,SNR=1.7						
	comp=Z,0.3nm,0.7s						
BMAR	Burnt Mountain	75.73	23	P		P	19 39 35.5 +0.6
FIA1	FINESS Array S	76.53	330	P		P	19 39 39.0 -0.5
FINES	FINESS Array B	76.53	330	P		P	19 39 38.9 -0.6
FINES	FINESS Array B	76.53	330	P		P	19 39 39.6 +0.1
	comp=Z,2.7nm,0.8s,baz=54,slow=4.9,SNR=7.0						
	comp=Z,2.7nm,0.8s						
AKASG	Malin Array Be	77.08	319	P		P	19 39 42.0 -0.8
	comp=Z,0.5nm,0.6s,baz=74,slow=3.8,SNR=3.0						
	comp=Z,0.5nm,0.6s						
HFS	Hagfors	82.70	331	P		P	19 40 14.2 +1.1
	comp=Z,2.0nm,0.7s,baz=48,slow=7.0,SNR=6.0						
	comp=Z,2.0nm,0.7s						
NB2	NORSAR Subarra	83.45	332	P		P	19 40 16.8 -0.3
	comp=Z,0.8nm,0.6s,baz=61,slow=5.3						
NOA	NORSAR Array B	83.45	332	P		P	19 40 16.7 -0.3
	comp=Z,1.2nm,0.8s,baz=64,slow=5.0,SNR=4.9						
	comp=Z,1.2nm,0.8s						
YKA	Yellowknife Ar	89.21	22	P		P	19 40 45.7 +0.6
	comp=Z,0.6nm,0.8s,baz=305,slow=4.6,SNR=6.1						
	comp=Z,0.6nm,0.8s						

DJA 24 19:32:14.8±0.2, 6°.S±3°.×10°.0E±°, h133km±8km, M4.1/13, mB4.8/3, mb3.9/11, MLv4.2/13, Mw(mB)4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.84	149	P		Pn	19 32 47.7 +0.6
BNDI	Bandanaira	1.91	347	P		Pn	19 32 48.1 +0.2
MSAI	Masohi	3.34	335	P		Pn	19 33 06.3 +0.3
MSAI				S		Sn	19 33 46.0 +0.4
FAKI	Fak Fak	3.95	29	P		Pn	19 33 12.5 -1.5
KMPI	Kaimana, Papua	4.32	51	P		Pn	19 33 18.1 -0.9
SWI	Sorong	5.58	10	P		Pn	19 33 35.1 -0.6
	0.5nm2μm18nm,0.8s						
SANI	Sanana	6.12	315	P		Pn	19 33 45.0 +2.0
RKPI	Ransiki, Papua	6.19	38	P		Pn	19 33 43.3 -0.7
	0.4nm33nm,1.1s						
SOEI	Soe	6.87	241	P		Pn	19 33 52.8 -0.3
	0.1nm13nm,1.1s						
BAKI	Biak	7.75	48	P		Pn	19 34 06.7 +1.8

*THE **24** 19:33:47.2, 37°.51N×20°.40E, h0km±2km, ML3.2/8, Error ellipse: s-maj=2.5km s-min=0.7km az=221.0*
*ATH **24** 19:33:49.0, 37°.60N×20°.52E, h20km±6km, ML3.4/12, Manual Solution by M.Papanikolaou First location: 2019/02/24 19:34:18, This location: 2019/02/24 23:05:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 6 km*
*IDC **24** 19:33:53.3±38.0, 38°.35N×21°.50E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=704.7km s-min=62.7km az=46.0*

ISC 24 19:33:48.2±1.9, 37°.55N±0°.07×20°.51E±0°.06, h17km±9km, n30, σ1°.04/48, mb3.7/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.31	58	P		Pb	19 33 54.9 -0.4
LTHK				S		Sb	19 34 00.5 +0.4
	15μm,0.2s						
LTHK	Lithakia	0.31	58	P		Pb	19 33 55.0 -0.3
LTHK				S		Sb	19 34 00.0 -0.1
ORTH	Orthonies,Zaky	0.34	26	P		Pb	19 33 55.5 -0.3
ORTH				S		Sb	19 34 00.9 -0.1
KYPS	Kipseli, Zakin	0.37	43	P		Pb	19 33 56.5 +0.1
KYPS				S		Sb	19 34 01.8 -0.1
RTZL	Ratzakli, Kefa	0.57	22	P		Pg	19 33 59.2 -0.3
RTZL				S		Sn	19 34 08.6 -2.0
PSDA	Pessada-Kefalo	0.57	6	P		Pg	19 33 59.1 -0.5
PSDA				S		Sb	19 34 08.3 +0.7
	5μm,0.1s						
PSDA	Pessada-Kefalo	0.57	6	P		Pg	19 33 59.6 0.0
PSDA				S		Sb	19 34 07.2 -0.4
CLEM	Kyllini,Ilia,G	0.61	55	P		Pb	19 34 00.3 0.0
CLEM				S		Sb	19 34 07.7 -0.9
VLS	Valsamata	0.63	6	P		Pg	19 34 00.1 -0.7
VLS				S		Sb	19 34 09.0 -0.5
DMLN	Damoulianata-K	0.70	352	P		Pg	19 34 01.3 -0.6
DMLN				S		Sb	19 34 11.9 +0.6
	4μm,0.5s						
DMLN	Damoulianata-K	0.70	352	P		Pg	19 34 01.4 -0.6
DMLN				S		Sb	19 34 11.3 -0.1
SMHA	Samh	0.71	9	P		Pg	19 34 01.0 -1.2
SMHA				S		Sb	19 34 11.0 -0.7
FSK	Fiskardo	0.91	3	P		Pg	19 34 04.8 -1.2
FSK				S		Sn	19 34 19.5 +0.5
	1μm,0.2s						
FSK	Fiskardo	0.91	3	P		Pg	19 34 05.5 -0.5
FSK				S		Sb	19 34 17.2 -0.3
RLS	Riolos of Patr	0.92	56	P		Pb	19 34 05.9 +0.2
AMT	Artemida-Makis	0.96	90	P		Pb	19 34 07.2 +0.8
EVGI	Lefkada island	1.08	6	P		Pb	19 34 08.2 -0.2
EVGI				S		Sn	19 34 24.9 +1.7
	992nm,0.2s						
EVGI	Lefkada island	1.08	6	P		Pb	19 34 08.3 -0.2
DRAG	Dragano-Lefkad	1.14	3	P		Pb	19 34 09.2 -0.3
NYDR	Nydri-Lefkada	1.18	7	P		Pb	19 34 09.7 -0.4
NYDR				S		Sn	19 34 28.4 +2.9
	830nm,0.3s						
ITM	Ithomi	1.19	107	P		Pn	19 34 11.3 +1.2
LKD2	Lefkada island	1.25	6	P		Pb	19 34 11.0 -0.3
LKD2				S		Sn	19 34 30.7 +3.4
	930nm,0.5s						
LKD2	Lefkada island	1.25	6	P		Pb	19 34 11.3 0.0
TSLK	Tsoukalades, L	1.28	5	P		Pn	19 34 11.9 +0.6
TSLK				S		Sg	19 34 31.5 +1.8
	910nm,0.3s						
TSLK	Tsoukalades, L	1.28	5	P		Pn	19 34 12.0 +0.6
KLV	Kalavryta, Ach	1.40	69	P		Pg	19 34 14.5 -0.6
ANX	Ano Chora	1.53	46	P		Pg	19 34 16.5 -1.2
FINES	FINESS Array B	24.18	7	P		P	19 39 02.2 -1.1
	3.6nm,1.1s,baz=169,slow=12,SNR=6.4						
	3.6nm,1.1s						
MKAR	Makanchi Array	45.65	58	P		P	19 42 06.0 -1.7
	0.1nm,0.5s,baz=265,slow=7.6,SNR=5.2						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	46.12	48	P		P	19 42 11.1 -0.2
	0.3nm,0.3s,baz=260,slow=8.5,SNR=2.2						
	0.3nm,0.3s						

DJA 24 19:49:03.8±0.3, 8°.S±3°.×10°.7E±°, h10km, M3.9/12, mb4.6/3, MLv3.5/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	1.04	16	P		Pg	19 49 23.2 -0.7
CNJI				S		Sg	19 49 36.6 -0.9
SKJI	Sukabumi	1.34	348	P		Pn	19 49 28.2 -0.3
LEM	Lembang	1.67	28	P		Pb	19 49 34.2 -0.6
LEM				S		Sb	19 49 56.2 +0.2
CMJI	Cimerak	1.68	72	P		Pn	19 49 32.4 -0.9
CMJI				S		Sn	19 49 53.3 -1.6
CGJI	Cibinong	2.04	326	P		Pn	19 49 39.1 +0.9
SBJI	Serang	2.30	342	P		Pn	19 49 41.5 -0.3
UGM	Wanagama	3.67	84	P		Pn	19 50 01.1 +0.4
PCJI	Pacitan	4.29	89	P		Pn	19 50 10.5 +1.2
MDSI	Maura Dua	4.64	325	P	

ALEG	**Aligegeo Malai**	**5.44 290**	P		**Pn**	**19 51 37.3 +0.9**
VLAKA	**Lakatoro**	**5.61 165**	P		**Pn**	**19 51 40.2 +1.5**
NGOA	**Tingoa Renbel**	**5.76 261**	P		**Pn**	**19 51 39.3 -1.5**
NGOA	**Tingoa Renbel**	**5.76 261**	S		**Sn**	**19 52 41.6 -4.0**
HNR	**Honiara**	**5.96 281**	Pn		**Pn**	**19 51 43.0 -0.4**
HNR	**Honiara**	**5.96 281**	P		**Pn**	**19 51 45.2 +1.8**
	1μm,0.8s,baz=117,slow=2.3,SNR=85					
HNR			S		**Sn**	**19 52 54.9 +4.6**
	491nm,0.5s,baz=118,slow=17,SNR=6.1					
HNR			LR		LR	19 54 14.6
	comp=Z,548nm,18.4s,baz=180,slow=39					
HNR	**Honiara**	**5.96 281**	P		**Pn**	**19 51 45.3 +1.8**
TATA	**Tatamba Isabel**	**6.39 290**	P		**Pn**	**19 51 50.4 +1.0**
DVP	**Devils Point**	**7.37 162**	P		**Pn**	**19 52 05.0 +2.4**
KOUNC	**Koumac, New Ca**	**9.94 189**	P		**Pn**	**19 52 39.6 +2.0**
DZM	**Mont Dzumac**	**11.35 177**	*e*Pn		**Pn**	**19 52 59.0 +2.2**
	106nm,0.7s					
DZM			*e*Sn		Sn	19 54 50.2 -12
	180nm,1.3s					
DZM			*e*LR		LR	19 55 40.2
	318nm,30.8s					
DZM	**Mont Dzumac**	**11.35 177**	Pn		**Pn**	**19 52 58.2 +1.4**
DZM	**Mont Dzumac**	**11.35 177**	P		**Pn**	**19 52 59.1 +2.2**
	93nm,0.4s,baz=354,slow=13,SNR=99					
DZM			S		**Sn**	**19 54 59.1 -2.7**
	40nm,0.6s,baz=304,slow=24,SNR=7.9					
DZM	**Mont Dzumac**	**11.35 177**	P		**Pn**	**19 52 58.7 +1.8**
ONTNC	**Ouen Toro**	**11.59 177**	Pn		**Pn**	**19 53 02.4 +2.5**
ONTNC	**Ouen Toro**	**11.59 177**	P		**Pn**	**19 53 03.7 +3.8**
OUENC	**Ouen Island, N**	**11.72 176**	P		**Pn**	**19 53 04.6 +2.9**
PINNC	**Pines Island,**	**11.97 173**			**Pn**	**19 53 07.1 +2.0**
MSVF	**Nonsavu**	**13.74 122**	LR		LR	19 57 58.5
	comp=Z,219nm,19.9s,baz=247,slow=33					
PMG	**Port Moresby**	**18.46 272**	P		**P**	**19 54 26.4 +0.4**
	37nm,1.0s,baz=85,slow=4.1,SNR=6.3					
PMG			LR		LR	20 00 22.4
	comp=Z,310nm,18.8s,baz=105,slow=33					
EIDS	**Eidsvold**	**20.25 222**	P		Pn	19 54 47.8 -0.4
H11S2	**WAKE ISLAND Hy**	**28.99 2**	T		T	20 26 56.6
	baz=181,slow=76,SNR=55					
H11S3	**WAKE ISLAND Hy**	**28.99 2**	T		T	20 26 56.8
	baz=181,slow=76,SNR=51					
H11S1	**WAKE ISLAND Hy**	**29.01 2**	T		T	20 26 46.3
	baz=181,slow=76,SNR=42					
HAZ	**Te Kaha**	**29.02 160**	P		**P**	**19 56 08.2 -0.1**
BKZ	**Black Stump Fm**	**29.92 163**	P		**P**	**19 56 17.0 +0.5**
BKZ	**Black Stump Fm**	**29.92 163**	P		**P**	**19 56 17.4 +1.0**
MOVZ	**Moawhango**	**29.94 165**	P		**P**	**19 56 18.8 +2.1**
NMHZ	**Naumai**	**29.94 163**	P		**P**	**19 56 17.7 +1.0**
KWHZ	**Kaweka Forest**	**30.14 164**	P		**P**	**19 56 19.0 +0.6**
KRHZ	**Kereru**	**30.33 164**	P		**P**	**19 56 20.2 +0.2**
PNHZ	**Pukenui**	**30.54 164**	P		**P**	**19 56 22.4 +0.6**
TSZ	**Takapari Road**	**30.61 165**	P		**P**	**19 56 23.0 +0.6**
KAHZ	**Kahuranaki**	**30.61 163**	P		**P**	**19 56 23.1 +0.6**
STKA	**Stephens Creek**	**30.79 223**	P		**P**	**19 56 25.9 +1.7**
STKA	**Stephens Creek**	**30.79 223**	P		**P**	**19 56 25.4 +1.2**
	2.6nm,0.6s,baz=24,slow=11,SNR=7.9					
STKA			LR		LR	20 08 02.6
	comp=Z,84nm,18.3s,baz=34,slow=34					
	2.6nm,0.6s					
STKA	**Stephens Creek**	**30.79 223**	P		**P**	**19 56 25.9 +1.7**
STKA			pmax		pmax	
	comp=Z,50nm,1.4s					
MRZ	**Mangatainoka R**	**31.08 166**	P		**P**	**19 56 27.5 +0.9**
MRZ	**Mangatainoka R**	**31.08 166**	P		**P**	**19 56 26.9 +0.3**
BFZ	**Birch Farm**	**31.27 165**	P		**P**	**19 56 28.0 -0.3**
WB0	**Warramunga Arr**	**31.64 250**	P		**P**	**19 56 31.8 0.0**
WRAB	**Tennant Creek**	**31.71 249**	*i* P		**P**	**19 56 32.5 +0.1**
WRAB			pmax		pmax	
	comp=Z,25nm,1.0s					
WB2	**Warramunga Arr**	**31.71 249**	P		**P**	**19 56 31.9 -0.6**
WB2			IAmb		IAmb	19 56 33.6
	comp=Z,30nm,1.0s					
WRA	**Warramunga Arr**	**31.72 249**	P		**P**	**19 56 31.4 -1.1**
WRA	**Warramunga Arr**	**31.72 249**	P		**P**	**19 56 32.5 0.0**
	comp=Z,25nm,0.9s,baz=78,slow=9.1,SNR=58					
WRA			PcP		**PcP**	**19 59 22.5 +0.4**
	comp=Z,0.7nm,0.7s,baz=67,slow=3.6,SNR=3.2					
WRA			ScP		**ScP**	**20 02 53.3 -3.4**
	comp=Z,1.2nm,1.0s,baz=91,slow=2.3,SNR=4.3					
WRA			LR		LR	20 09 25.2
	comp=Z,49nm,18.2s,baz=308,slow=36					
	comp=Z,25nm,0.9s					
LTZ	**Lake Taylor**	**32.47 171**	P		**P**	**19 56 39.4 +0.6**
LTZ	**Lake Taylor**	**32.47 171**	P		**P**	**19 56 39.9 +1.1**
AS31	**Alice Springs**	**33.06 243**	P		**P**	**19 56 43.5 -0.8**
ASAR	**Alice Springs**	**33.07 243**	P		**P**	**19 56 43.0 -1.3**
ASAR	**Alice Springs**	**33.07 243**	P		**P**	**19 56 43.9 -0.4**
	comp=Z,7.3nm,0.9s,baz=74,slow=9.4,SNR=46					
ASAR			PcP		**PcP**	**19 59 25.9 +0.1**
	comp=Z,1.0nm,0.9s,baz=75,slow=2.6,SNR=5.0					
ASAR			LR		LR	20 08 09.4
	comp=Z,84nm,21.1s,baz=72,slow=32					
	comp=Z,7.3nm,0.9s					
RAR	**Rarotonga**	**34.59 112**	LR		LR	20 10 13.4
	comp=Z,38nm,19.1s,baz=278,slow=34					
BBOO	**Buckleboo**	**35.17 227**	P		**P**	**19 57 00.5 -1.8**
BBOO			IAmb		IAmb	19 57 04.0
	comp=Z,10nm,0.7s					
KNRA	**Kununurra**	**36.43 258**	P		**P**	**19 57 13.5 +0.2**
FITZ	**Fitzroy Crossi**	**39.59 255**	P		**P**	**19 57 38.8 -1.0**
FITZ			PcP		**PcP**	**19 59 46.0 +0.6**
FITZ	**Fitzroy Crossi**	**39.59 255**	P		**P**	**19 57 39.8 0.0**
	comp=Z,29nm,0.8s,baz=93,slow=7.5,SNR=26					
FITZ			LR		LR	20 12 05.2
	comp=Z,70nm,21.4s,baz=93,slow=33					
	comp=Z,29nm,0.8s					
FORT	**Forrest**	**40.35 235**	P		**P**	**19 57 47.4 +1.4**
FORT			IAmb		IAmb	19 57 47.7
	comp=Z,23nm,0.9s					
PPT	**Papeete**	**43.67 104**	LR		LR	20 14 04.5
	comp=Z,62nm,20.3s,baz=184,slow=33					
PPT2	**Papeete2**	**43.67 104**	*e*LR		LR	20 10 23.1
	comp=Z,124nm,31.8s					
PPT2			*e*LR		LR	20 10 31.7
	comp=Z,97nm,25.0s					
TBI	**Tubuai**	**44.36 112**	*e*LR		LR	20 10 54.4
	comp=Z,1μm,34.8s					
PSA00	**Pilbara Seismi**	**45.37 250**	P		**P**	**19 58 26.9 +0.3**
PSA00			IAmb		IAmb	19 58 40.8
	comp=Z,26nm,1.5s					
MBWA	**Marble Bar**	**45.43 251**	P		**P**	**19 58 26.4 -0.7**
MBWA			IAmb		IAmb	19 58 55.2
	comp=Z,38nm,1.6s					
MBWA	**Marble Bar**	**45.43 251**	P		**P**	**19 58 27.8 +0.7**
KHU	**Kahuku**	**48.22 52**	P		**P**	**19 58 49.9 +0.8**
KHU	**Kahuku**	**48.22 52**	P		**P**	**19 58 49.9 +0.8**
KHU			pmax		pmax	
	comp=Z,289nm,1.9s					
TGY	**Tagaytay City**	**50.90 298**	LR		LR	20 19 36.9
	comp=Z,17nm,20.3s,baz=329,slow=34					
JAGI	**Jajag, Banyuwa**	**50.99 268**	P		**P**	**19 59 08.1 -1.9**
JAGI			IAmb		IAmb	20 00 29.0
	comp=Z,17nm,1.1s					
JOW	**Kunigami**	**52.17 316**	P		**P**	**19 59 19.3 +0.8**
JOW	**Kunigami**	**52.17 316**	LR		LR	20 18 55.9
	comp=Z,32nm,20.9s,baz=122,slow=33					
JMN	**Monobe**	**53.62 327**	P		**P**	**19 59 28.9 -0.2**
MJAR	**Matsushiro Arr**	**53.70 332**	P		**P**	**19 59 28.9 -0.7**
	comp=Z,7.0nm,1.1s,baz=174,slow=7.8,SNR=10					
	comp=Z,7.0nm,1.1s					
MAJO	**Matsushiro**	**53.70 332**	P		**P**	**19 59 28.5 -1.1**
JNU	**Nakatsue**	**54.85 324**	P		**P**	**19 59 38.0 -0.1**
JTM	**Tenmabayashi**	**56.09 337**	P		**P**	**19 59 46.4 -0.4**
JKA	**Kamikawa-asahi**	**58.48 341**	P		**P**	**20 00 04.2 +0.7**
ASAJ	**Asahikawa**	**58.48 341**	LR		LR	20 22 29.8
	comp=Z,22nm,19.7s,baz=52,slow=33					
ASAJ	**Asahikawa**	**58.48 341**	P		**P**	**20 00 04.2 +0.7**
ASAJ			pmax		pmax	
	comp=Z,101nm,1.8s					
KSRS	**Korea Array**	**59.64 325**	P		**P**	**20 00 12.2 +0.6**
	comp=Z,1.3nm,0.7s,baz=142,slow=7.3,SNR=5.8					
	comp=Z,1.3nm,0.7s					
YSS	**Yuzhno-Sakhali**	**60.97 342**	*e*P		**P**	**20 00 21.9 +1.4**
YSS			pmax		pmax	
	comp=Z,10.0nm,1.1s					
NJ2	**Nanjing**	**61.84 315**	*e*P		**P**	**20 00 28.3 +1.6**
NJ2			pmax		pmax	
	comp=Z,4.0nm,0.6s					
USA0B	**Ussuriysk Arra**	**62.67 333**	P		**P**	**20 00 30.4 -1.6**
USA0B	**Ussuriysk Arra**	**62.67 333**	P		**P**	**20 00 30.4 -1.6**
USA0B			pmax		pmax	
	comp=Z,35nm,1.7s					
USRK	**Ussuriysk Ar.**	**62.67 333**	P		**P**	**20 00 30.8 -1.2**
USRK	**Ussuriysk Ar.**	**62.67 333**	P		**P**	**20 00 33.0 +1.1**
	comp=Z,4.6nm,0.7s,baz=127,slow=7.3,SNR=9.6					
	comp=Z,4.6nm,0.7s					
PEA0B	**Petropavlovsk-**	**63.91 355**	P		**P**	**20 00 36.7 -3.3**
PEA0B	**Petropavlovsk-**	**63.91 355**	P		**P**	**20 00 36.7 -3.3**
PEA0B			pmax		pmax	
	comp=Z,38nm,1.3s					
PETK	**Petropavlovsk-**	**63.91 355**	P		**P**	**20 00 37.6 -2.3**
PETK	**Petropavlovsk-**	**63.91 355**	P		**P**	**20 00 40.7 +0.7**
	comp=Z,2.7nm,0.6s,baz=165,slow=4.4,SNR=5.7					
PETK			LR		LR	20 22 38.0
	comp=Z,34nm,20.9s,baz=162,slow=30					
	comp=Z,2.7nm,0.6s					
MDJ	**Mudanjiang**	**64.08 332**	P		**P**	**20 00 42.1 +0.9**
MDJ			pmax		pmax	
	comp=Z,11nm,0.9s					
MDJ	**Mudanjiang**	**64.08 332**	P		**P**	**20 00 42.0 +0.7**
CN2	**Changchun**	**65.48 329**	*e*P		**P**	**20 00 53.4 +3.0**
CN2			pmax		pmax	
	comp=Z,10.0nm,0.8s					
BNX	**BinXian**	**65.94 332**	⇑P		**P**	**20 00 53.0 -0.3**
BNX			pmax		pmax	
	comp=Z,9.0nm,0.8s					
KLR	**Kul'dur**	**66.76 336**	*ce*P		**P**	**20 00 58.8 +0.3**
KLR			pmax		pmax	
	comp=Z,11nm,1.7s					
LYN	**LuoYang**	**67.67 314**	P		**P**	**20 01 05.0 +0.5**
LYN			pmax		pmax	
	comp=Z,21nm,0.8s					
HNS	**HongShan**	**67.69 318**	⇓P		**P**	**20 01 05.5 +1.0**
HNS			pmax		pmax	
	comp=Z,10.0nm,1.0s					
UNV	**Unalaska Valle**	**68.42 17**	P		**P**	**20 01 08.7 0.0**
	baz=209					
HEH	**HeiHe**	**69.33 335**	*e*P		**P**	**20 01 14.8 +0.3**
HEH			pmax		pmax	
	comp=Z,7.0nm,1.0s					
P08K	**Saint George I**	**70.06 14**	P		**P**	**20 01 19.8 +1.0**
	baz=206					
FALS	**False Pass**	**70.21 18**	P		**P**	**20 01 19.4 -0.3**
	baz=212					
SPIA	**Saint Paul Isl**	**70.42 14**	P		**P**	**20 01 20.8 -0.2**
	baz=205					
XLT	**XiLinHaoTe**	**70.63 324**	*e*P		**P**	**20 01 23.8 +1.0**
XLT			pP		pwP	20 01 48.8 -0.6
XLT			pmax		pmax	
	comp=Z,12nm,0.9s					
XLT			pmax		pmax	
	comp=Z,270nm,5.8s					
KMI	**Kunming**	**71.03 301**	⇓P		**P**	**20 01 27.8 +2.1**
KMI			pmax		pmax	
	comp=Z,7.0nm,1.4s					
MA2	**Magadan**	**71.06 352**	LR		LR	20 28 52.5
	comp=Z,29nm,18.7s,baz=119,slow=32					
MA2	**Magadan**	**71.06 352**	*ce*P		**P**	**20 01 24.3 -0.6**
MA2			pmax		pmax	
	comp=Z,4.0nm,1.3s					
MA2	**Magadan**	**71.06 352**	P		**P**	**20 01 24.2 -0.6**
S12K	**Black Hills**	**71.35 18**	P		**P**	**20 01 25.6 -1.1**
	baz=214					
HHC	**Hu-ho-hao-te**	**71.62 320**	*e*P		**P**	**20 01 30.3 +1.4**
HHC			pmax		pmax	
	comp=Z,11nm,0.8s					
HHC			pmax		pmax	
	comp=Z,280nm,5.9s					
ZEA	**Zeya**	**72.05 337**	*e*P		**P**	**20 01 32.1 +1.2**
ZEA			pmax		pmax	
	comp=Z,10.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**72.07 293**	P		**P**	**20 01 29.6 -2.2**
CMAR	**Chiang Mai Arr**	**72.07 293**	P		**P**	**20 01 33.0 +1.1**
	comp=Z,1.9nm,0.7s,baz=122,slow=4.5,SNR=17					
	comp=Z,1.9nm,0.7s					
CMAR	**Chiang Mai Arr**	**72.07 293**	*i* P		**P**	**20 01 33.2 +1.4**
CMAR			pmax		pmax	
	comp=Z,3.0nm,0.8s					
PZH	**PanZhiHua**	**72.38 302**	P		**P**	**20 01 33.9 +0.2**
PZH			pmax		pmax	
	comp=Z,10.0nm,0.6s					
PZH			pmax		pmax	
	comp=Z,80nm,5.4s					
CD2	**Chengdu**	**72.47 307**	*e*P		**P**	**20 01 33.0 -1.0**
BTO	**Baotou**	**72.49 319**	*e*P		**P**	**20 01 37.5 +3.5**
BTO			pP		**sP**	**20 02 05.6 -3.3**
BTO			sP		pwP	20 02 17.8 +17
BTO			pmax		pmax	
	comp=Z,9.0nm,0.9s					
BTO			pmax		pmax	
	comp=Z,390nm,7.1s					
S14K	**Fog Glacier**	**72.63 19**	P		**P**	**20 01 33.8 -0.6**
	baz=216					
CHGN	**Chignik**	**73.02 20**	P		**P**	**20 01 36.4 -0.2**
	baz=217					
CHIR	**Chirikof Islan**	**73.61 21**	P		**P**	**20 01 40.2 +0.1**
	baz=220					
SEY	**Seymchan**	**74.12 354**	*ce*P		**P**	**20 01 42.4 -0.5**
SEY			pmax		pmax	
	comp=Z,12nm,1.7s					
R16K	**Pilot Point**	**74.31 19**	P		**P**	**20 01 44.5 +0.4**
	baz=218					
O14K	**Tigyukauivet M**	**74.55 17**	P		**P**	**20 01 45.9 +0.4**
	baz=214					
LZH	**Lanzhou**	**74.59 312**	*e*P		**P**	**20 01 47.4 +0.9**
LZH			pmax		pmax	
	comp=Z,8.0nm,1.4s					
N14K	**Kuskokwak Cree**	**75.00 16**	P		**P**	**20 01 48.9 +0.8**
	baz=213					
P16K	**Nushagak River**	**75.34 18**	P		**P**	**20 01 50.1 0.0**
	baz=217					
R18K	**Karluk**	**75.36 21**	P		**P**	**20 01 49.6 -0.6**
	baz=220					
OHAK	**Old Harbor**	**75.52 22**	P		**P**	**20 01 51.4 +0.3**
	baz=222					
M14K	**Bethel**	**75.62 16**	P		**P**	**20 01 51.6 0.0**
M14K	**Bethel**	**75.62 16**	P		**P**	**20 01 52.1 +0.5**
	baz=213					
N15K	**Kwethluk River**	**75.65 17**	P		**P**	**20 01 52.1 +0.3**
	baz=215					
O16K	**Kokwok River B**	**75.77 18**	P		**P**	**20 01 52.6 +0.1**
	baz=217					
M15K	**Kasigluk River**	**75.92 16**	P		**P**	**20 01 53.6 +0.3**
	baz=214					
L14K	**Kuka Creek**	**75.93 15**	P		**P**	**20 01 53.3 -0.1**
	baz=212					
K13K	**Kusilvak Mount**	**75.96 14**	P		**P**	**20 01 53.7 +0.2**
	baz=210					
P17K	**Kvichak River**	**75.96 19**	P		**P**	**20 01 54.1 +0.5**
	baz=218					
KDAK	**Kodiak Island**	**76.19 21**	P		**P**	**20 01 55.0 +0.1**
	baz=222					
O17K	**Koliganek Bris**	**76.22 18**	P		**P**	**20 01 54.9 -0.1**
	baz=218					
P18K	**Big Mountain,**	**76.51 19**	P		**P**	**20 01 57.3 +0.5**
	baz=220					
L15K	**Ungalak Mounta**	**76.53 15**	P		**P**	**20 01 56.7 0.0**
	baz=213					
M16K	**Timber Creek**	**76.67 17**	P		**P**	**20 01 57.7 +0.1**
	baz=216					
Q19K	**Cape Douglas,**	**76.68 20**	P		**P**	**20 01 57.9 +0.2**
	baz=221					
N17K	**Nushagak Hills**	**76.79 18**	P		**P**	**20 01 58.7 +0.5**
	baz=217					
O18K	**Koktuh Hills**	**76.87 19**	P		**P**	**20 01 59.0 +0.2**
	baz=219					
Q20K	**Shuyak Island**	**76.87 21**	P		**P**	**20 01 59.0 +0.2**
	baz=222					
J14K	**Nanvaranak Lak**	**76.93 14**	P		**P**	**20 01 59.8 +0.9**
	baz=211					
K15K	**Wolf Creek Mou**	**77.03 15**	P		**P**	**20 01 59.1 -0.5**
	baz=213					
L16K	**Owhat River**	**77.09 16**	P		**P**	**20 01 59.7 -0.2**
	baz=215					
N18K	**Kilae Creek**	**77.30 18**	P		**P**	**20 02 01.0 -0.1**
	baz=219					
M17K	**Holitna River**	**77.41 17**	P		**P**	**20 02 01.9 +0.1**
	baz=217					
O19K	**Port Alsworth**	**77.42 19**	P		**P**	**20 02 02.0 +0.3**
	baz=220					
L17K	**Donlin**	**77.76 16**	P		**P**	**20 02 04.4 +0.8**
	baz=216					
YAK	**Yakutsk**	**77.77 343**	LR		LR	20 37 47.3
	comp=Z,27nm,18.0s,baz=58,slow=37					
YAK	**Yakutsk**	**77.77 343**	*e*P		**P**	**20 02 03.3 -0.4**
YAK			pmax		pmax	
	comp=Z,17nm,1.0s					
YAK			pmax		pmax	
	comp=N,3.0nm,1.3s					
YAK			pmax		pmax	
	comp=E,3.0nm,1.9s					
N19K	**Bonanza Creek**	**77.84 19**	P		**P**	**20 02 05.2 +0.9**
	baz=220					
O20K	**Slope Mountain**	**77.89 20**	P		**P**	**20 02 05.1 +0.6**
	baz=222					
CNPM	**China Poot**	**77.95 21**	P		**P**	**20 02 03.7 -1.1**
M18K	**Stony River**	**77.96 18**	P		**P**	**20 02 06.1 +1.3**
	baz=219					
J16K	**Anvik River**	**78.10 15**	P		**P**	**20 02 07.5 +2.0**
	baz=214					
ANM	**Nome**	**78.10 12**	P		**P**	**20 02 06.6 +1.1**
	baz=209					
K17K	**Iditarod**	**78.23 16**	IAmb		IAmb	20 02 08.3
	comp=Z,20nm,0.8s					
K17K	**Iditarod**	**78.23 16**	P		**P**	**20 02 07.7 +1.4**
	baz=216					
L18K	**Granite Mounta**	**78.28 17**	IAmb		IAmb	20 02 08.4
	comp=Z,23nm,0.9s					
L18K	**Granite Mounta**	**78.28 17**	P		**P**	**20 02 06.8 +0.2**
	baz=218					
BRSE	**Bradley Lake S**	**78.28 21**	P		**P**	**20 02 07.8 +1.2**
	baz=224					
SONM	**Songino Array**	**78.44 324**	P		**P**	**20 02 07.3 -0.6**
SONM	**Songino Array**	**78.44 324**	P		**P**	**20 02 08.5 +0.6**
	comp=Z,2.8nm,0.9s,baz=147,slow=6.6,SNR=16					
	comp=Z,2.8nm,0.9s					
TNA	**Tin City**	**78.49 11**	P		**P**	**20 02 08.2 +0.6**
	baz=206					
BILL	**Bilibino**	**78.51 0**	*ce*P		**P**	**20 02 07.4 -0.3**
BILL			pmax		pmax	
	comp=Z,29nm,1.3s					
I17K	**Unalakleet**	**78.58 14**	P		**P**	**20 02 09.1 +1.0**
	baz=214					
J17K	**VABM Dome**	**78.58 15**	IAmb		IAmb	20 02 10.4
	comp=Z,17nm,0.8s					
J17K	**VABM Dome**	**78.58 15**	P		**P**	**20 02 09.6 +1.4**
	baz=215					
M19K	**Big River Lodg**	**78.71 18**	IAmb		IAmb	20 02 10.9
	comp=Z,14nm,0.8s					
M19K	**Big River Lodg**	**78.71 18**	P		**P**	**20 02 09.9 +1.0**
	baz=220					
F14K	**Arctic Creek**	**78.71 11**	P		**P**	**20 02 09.5 +0.7**
	baz=208					
G15K	**Niukluk**	**78.76 13**	P		**P**	**20 02 10.1 +1.0**
	baz=210					
L19K	**White Mountain**	**78.79 18**	IAmb		IAmb	20 02 11.1
	comp=Z,16nm,0.8s					
L19K	**White Mountain**	**78.79 18**	P		**P**	**20 02 10.4 +1.0**
	baz=220					
H16K	**Elim**	**78.85 13**	P		**P**	**20 02 11.1 +1.5**
	baz=212					
SPCR	**Spurr Chakacha**	**78.86 19**	P		**P**	**20 02 10.5 +0.6**
	baz=222					
GTA	**Gaotai**	**78.89 314**	*e*P		**P**	**20 02 11.9 +1.3**
GTA			pP		pwP	20 02 36.9 +1.4
GTA			pmax		pmax	
	comp=Z,6.0nm,0.9s					
CAPN	**Captain Cook N**	**78.89 20**	P		**P**	**20 02 10.2 +0.3**
	baz=223					
SEW	**Seward**	**79.00 21**	P		**P**	**20 02 10.8 +0.3**
	baz=225					
SLKM	**Skilak Lake**	**79.02 20**	P		**P**	**20 02 10.4 -0.2**
SLKM			IAmb		IAmb	20 02 11.6
	comp=Z,17nm,1.0s					
TTA	**Tatalina**	**79.04 17**	P		**P**	**20 02 11.2 +0.4**
	baz=218					
M20K	**Styx River**	**79.08 18**	P		**P**	**20 02 11.7 +0.6**
	baz=221					
O22K	**Cooper Landing**	**79.17 21**	P		**P**	**20 02 12.2 +0.8**
	baz=224					
F15K	**North Star Dit**	**79.25 12**	P		**P**	**20 02 12.8 +1.0**
	baz=210					
J18K	**Innoko River**	**79.27 16**	IAmb		IAmb	20 03 20.4
	comp=Z,20nm,1.4s					
J18K	**Innoko River**	**79.27 16**	P		**P**	**20 02 12.9 +1.0**
	baz=218					
L20K	**Farewell, AK**	**79.31 18**	P		**P**	**20 02 13.3 +1.0**
	baz=220					
QSPA	**South Pole Qui**	**79.33 180**	P		**P**	**20 02 14.3 +1.8**
QSPA			IAmb		IAmb	20 03 35.8
	comp=Z,51nm,2.0s					
G16K	**Koyuk River**	**79.47 13**	IAmb		IAmb	20 02 14.9
	comp=Z,16nm,0.8s					
G16K	**Koyuk River**	**79.47 13**	P		**P**	**20 02 14.3 +1.3**
	baz=212					
RC01	**Rabbit Creek A**	**79.60 20**	P		**P**	**20 02 13.7 -0.1**
	baz=224					
H17K	**Granite Mounta**	**79.64 14**	P		**P**	**20 02 13.7 -0.3**
	baz=214					
P23K	**Montague Islan**	**79.66 22**	P		**P**	**20 02 14.8 +0.7**
	baz=227					
SKT	**Skwentna**	**79.66 19**	P		**P**	**20 02 14.8 +0.7**
	baz=223					
Q23K	**Middleton Isla**	**79.66 23**	P		**P**	**20 02 14.3 +0.2**
	baz=228					
PWL	**Port Wells**	**79.92 21**	P		**P**	**20 02 14.6 -0.9**
PWL			IAmb		IAmb	20 02 16.6
	comp=Z,14nm,0.8s					
PWL	**Port Wells**	**79.92 21**	P		**P**	**20 02 15.1 -0.5**
	baz=226					
K20K	**Telida**	**79.92 17**	P		**P**	**20 02 15.5 0.0**
	baz=220					
J19K	**Poorman**	**79.98 16**	P		**P**	**20 02 15.1 -0.7**
	baz=219					
PPLA	**Purkeypile**	**80.14 18**	P		**P**	**20 02 16.4 -0.4**
	baz=222					
PMR	**Palmer**	**80.17 20**	P		**P**	**20 02 17.0 +0.2**
	baz=225					
H18K	**Honhosa River**	**80.20 15**	P		**P**	**20 02 16.9 0.0**
	baz=216					
GCSA	**Galena City Sc**	**80.25 15**	P		**P**	**20 02 17.2 0.0**
	baz=217					
KNK	**Knik Glacier**	**80.27 20**	P		**P**	**20 02 17.5 0.0**
KNK			IAmb		IAmb	20 04 17.2
	comp=Z,50nm,1.9s					
KNK	**Knik Glacier**	**80.27 20**	P		**P**	**20 02 17.5 0.0**
	baz=226					
GLI	**Glacier Island**	**80.38 21**	P		**P**	**20 02 18.1 +0.1**
	baz=227					
J20K	**Nowinta River**	**80.53 17**	P		**P**	**20 02 19.1 +0.4**
	baz=220					
CAST	**Castle Rocks**	**80.56 18**	P		**P**	**20 02 18.9 0.0**
	baz=222					
SML	**Sawmill**	**80.59 20**	P		**P**	**20 02 19.7 +0.5**
	baz=226					
F17K	**Baldwin Pennin**	**80.60 13**	IAmb		IAmb	20 02 21.0
	comp=Z,16nm,0.8s					
F17K	**Baldwin Pennin**	**80.60 13**	P		**P**	**20 02 19.7 +0.7**
	baz=213					
EYAK	**Cordova Ski Ar**	**80.64 22**	P		**P**	**20 02 19.5 +0.2**
	baz=228					
KAIM	**Kayak Island**	**80.73 23**	P		**P**	**20 02 20.2 +0.3**
	baz=230					
G18K	**Tagagawik**	**80.74 14**	P		**P**	**20 02 20.1 +0.3**
	baz

C16K	Lisburne Hills	81.38	10	P	P	20 02 23.7	+0.7
	baz=209						
BPAW	Bear Paw Mtn.	81.39	18	P	P	20 02 24.0	+0.6
	baz=223						
ZAK	Zakamensk	81.47	325	*e*P	P	20 02 22.9	-1.2
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
M24K	Tolsona, Glenn	81.54	21	P	P	20 02 24.7	+0.6
	baz=228,SNR=7.4						
RND	Reindeer	81.55	19	IAmb	IAmb	20 02 27.1	
	comp=Z,17nm,1.2s						
E18K	Tukpahlearik C	81.56	12	IAmb	IAmb	20 02 26.1	
	comp=Z,13nm,0.8s						
E18K	Tukpahlearik C	81.56	12	P	P	20 02 24.3	+0.2
	baz=213						
RDOG	Red Dog Mine	81.64	11	P	P	20 02 24.8	+0.2
	baz=211						
F19K	Shaleruckik Mo	81.71	14	IAmb	IAmb	20 02 26.5	
	comp=Z,20nm,0.9s						
F19K	Shaleruckik Mo	81.71	14	P	P	20 02 26.3	+1.4
	baz=216						
MCK	McKinley	81.75	19	IAmb	IAmb	20 02 28.0	
	comp=Z,16nm,1.2s						
MCK	McKinley	81.75	19	P	P	20 02 26.1	+0.8
	baz=225						
N25K	Chitina, Valde	81.76	22	IAmb	IAmb	20 02 26.9	
	comp=Z,19nm,0.8s						
N25K	Chitina, Valde	81.76	22	P	P	20 02 26.1	+0.7
	baz=229,SNR=13						
MESA	MESA	81.84	24	P	P	20 02 26.7	+0.7
	baz=232						
I21K	Tanana	81.91	17	P	P	20 02 26.3	+0.4
	baz=222						
VRDI	Verde Repeater	81.93	22	IAmb	IAmb	20 02 27.5	
	comp=Z,11nm,0.6s						
GLB	Gilahina Butte	81.94	22	IAmb	IAmb	20 02 27.5	
	comp=Z,16nm,0.8s						
C17K	DeLong Mountai	81.95	11	P	P	20 02 27.2	+1.0
	baz=211						
H21K	Melozitna Rive	82.04	16	P	P	20 02 28.1	+1.4
	baz=221						
HARP	HAARP	82.09	21	P	P	20 02 28.0	+1.0
	baz=229,SNR=7.1						
NEA2	Nenana	82.33	18	IAmb	IAmb	20 02 28.6	
	comp=Z,25nm,1.8s						
NEA2	Nenana	82.33	18	P	P	20 02 28.6	+0.4
	baz=225						
E19K	Redstone River	82.34	14	P	P	20 02 29.2	+1.0
	baz=217						
PAX	Paxson	82.36	20	P	P	20 02 29.5	+1.0
	baz=228						
F20K	Avaraart Lake	82.37	14	IAmb	IAmb	20 02 33.7	
	comp=Z,18nm,1.6s						
F20K	Avaraart Lake	82.37	14	P	P	20 02 29.8	+1.4
	baz=218						
C18K	Utukok River	82.48	12	IAmb	IAmb	20 02 30.5	
	comp=Z,14nm,1.1s						
C18K	Utukok River	82.48	12	P	P	20 02 30.0	+1.0
	baz=213						
WRH	Wood River Hil	82.54	18	IAmb	IAmb	20 02 31.4	
	comp=Z,20nm,1.3s						
H22K	Ishtalitna Cre	82.61	16	P	P	20 02 30.3	+0.6
	baz=222						
I23K	Minto, Yukon-K	82.64	17	P	P	20 02 30.8	+1.0
	baz=224						
K24K	Donnelly Dome	82.82	20	P	P	20 02 30.9	+0.1
	baz=228,SNR=10						
HDA	Harding Lake	82.85	19	P	P	20 02 31.2	+0.3
	baz=227,SNR=26						
M26K	Nabesna, AK	82.85	21	P	P	20 02 31.4	+0.4
	baz=231						
COLA	College	82.90	18	P	P	20 02 32.3	+1.2
	baz=226						
O28M	Mount Upton	82.90	24	P	P	20 02 32.0	+0.4
	baz=233						
S31K	Pelican	82.95	27	P	P	20 02 32.3	+0.8
	baz=237						
B18K	Kokolik River	82.97	11	P	P	20 02 31.9	+0.5
	baz=212						
D19K	Kuna River	82.98	13	IAmb	IAmb	20 02 33.3	
	comp=Z,15nm,0.8s						
D19K	Kuna River	82.98	13	P	P	20 02 32.9	+1.4
	baz=216						
F21K	Alatna River	83.06	15	P	P	20 02 33.0	+1.0
	baz=220						
RIDG	Independent Ri	83.08	20	P	P	20 02 32.9	+0.7
	baz=229						
CRAG	Craig	83.11	30	P	P	20 02 33.4	+1.0
	baz=240						
ILAR	Eielson Array	83.12	18	P	P	20 02 32.0	-0.3
ILAR	Eielson Array	83.12	18	P	P	20 02 31.9	-0.5
	comp=Z,6.1nm,0.7s,baz=235,slow=5.4,SNR=97						
	comp=Z,6.1nm,0.7s						
ILAR	Eielson Array	83.12	18	P	P	20 02 32.0	-0.3
L26K	Log Cabin Wild	83.13	21	P	P	20 02 32.9	+0.5
	baz=230						
E20K	Nigu River	83.22	13	P	P	20 02 33.6	+0.8
	baz=218						
M27K	Edge Creek, AK	83.23	22	P	P	20 02 33.8	+0.7
	baz=232						
O29M	Mount Kennedy	83.27	24	P	P	20 02 33.3	0.0
	baz=235						
YUK8	Steele Glacier	83.37	23	P	P	20 02 34.2	+0.2
	baz=234						
U33K	Whale Pass	83.43	30	P	P	20 02 34.7	+0.7
	baz=240						
S32K	Killisnoo	83.44	28	P	P	20 02 35.0	+1.0
	baz=239						
D20K	Etivluk River	83.49	13	P	P	20 02 34.6	+0.5
	baz=217,SNR=12						
J25K	Salcha River,	83.49	19	P	P	20 02 34.6	+0.3
	baz=228,SNR=19						
SCRK	Sand Creek	83.53	20	IAmb	IAmb	20 02 36.2	
	comp=Z,24nm,1.3s						
SCRK	Sand Creek	83.53	20	P	P	20 02 34.4	-0.2
	baz=230,SNR=12						
H24K	Noodor Dome	83.56	17	P	P	20 02 35.0	+0.4
	baz=226						
G23K	Bananza Creek	83.58	16	P	P	20 02 34.7	0.0
	baz=224						
L27K	Beaver Creek,	83.69	21	IAmb	IAmb	20 02 37.0	
	comp=Z,8.6nm,0.8s						
L27K	Beaver Creek,	83.69	21	P	P	20 02 35.4	+0.1
	baz=232						
BCAR	Beaver Creek A	83.71	21	P	P	20 02 33.5	-1.9
PLBC	Pleasant Camp	83.71	26	P	P	20 02 35.6	+0.2
	baz=237						
YUK6	Outpost Mounta	83.72	24	P	P	20 02 36.3	+0.6
	baz=235						
V35K	Ketchikan	83.79	31	P	P	20 02 36.3	+0.5
	baz=241						
A19K	Wainwright	83.82	11	P	P	20 02 36.4	+0.7
	baz=213						
P30M	Million Dollar	83.83	25	P	P	20 02 36.8	+0.6
	baz=236						
YUK4	Talbot Arm	83.84	24	P	P	20 02 37.1	+0.7
	baz=235						
AFDM	Forest Hills D	83.87	49	P	P	20 02 37.5	+0.7
AFDM				IAmb	IAmb	20 02 38.1	
	comp=Z,10nm,1.0s						
E21K	Killik River	83.88	14	IAmb	IAmb	20 02 37.9	
	comp=Z,11nm,0.9s						
E21K	Killik River	83.88	14	P	P	20 02 36.6	+0.5
	baz=220						
COLD	Coldfoot	83.91	16	P	P	20 02 37.1	+0.8
	baz=223,SNR=5.4						
WRAK	Wrangell Islan	83.96	29	P	P	20 02 37.2	+0.5
	baz=241						
HYT	Haines Junctio	84.00	24	IAmb	IAmb	20 02 38.4	
	comp=Z,8.6nm,0.9s						
HYT	Haines Junctio	84.00	24	P	P	20 02 37.7	+0.7
	baz=236						
J26L	Joseph Creek	84.01	20	IAmb	IAmb	20 02 38.9	
	comp=Z,16nm,1.4s						
J26L	Joseph Creek	84.01	20	P	P	20 02 37.9	+0.9
	baz=230						
CMB	Columbia Colle	84.01	50	P	P	20 02 37.9	+0.3
CMB	Columbia Colle	84.01	50	P	P	20 02 37.9	+0.3
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PRP	Porcupine Dome	84.05	18	P	P	20 02 37.5	+0.3
	baz=228						
SKAG	Skagway	84.16	26	P	P	20 02 38.5	+0.8
	baz=238						
E22K	Anaktuvuk Pass	84.17	15	P	P	20 02 38.7	+1.0
	baz=222						
C21K	Knifeblade Rid	84.25	13	P	P	20 02 38.7	+0.8
	baz=219						
G24K	Hadweenzic Riv	84.29	17	IAmb	IAmb	20 02 39.7	
	comp=Z,11nm,0.8s						
G24K	Hadweenzic Riv	84.29	17	P	P	20 02 39.1	+0.9
	baz=226						
B20K	Meade River	84.42	12	IAmb	IAmb	20 02 40.4	
	comp=Z,16nm,0.9s						
B20K	Meade River	84.42	12	P	P	20 02 39.9	+1.2
	baz=216						
H25L	Birch Creek	84.47	18	P	P	20 02 39.6	+0.5
	baz=228						
D22K	Ayikyak River	84.52	14	IAmb	IAmb	20 02 41.6	
	comp=Z,12nm,0.7s						
D22K	Ayikyak River	84.52	14	P	P	20 02 40.7	+1.4
	baz=221						
N30M	Aishikik Lake	84.53	24	P	P	20 02 40.5	+0.9
	baz=236						
O30N	Mendenhall	84.55	25	P	P	20 02 40.7	+1.0
	baz=237						
M29M	Somme Creek	84.55	23	P	P	20 02 40.3	+0.5
	baz=235						
B21K	Ikpikpuk River	84.65	13	P	P	20 02 40.8	+0.9
	baz=219						
I26K	Coal Creek Min	84.66	19	P	P	20 02 40.2	+0.1
	baz=230						
E23K	Chandalar	84.67	15	P	P	20 02 41.0	+0.8
	baz=224						
G25K	Bearman Lake	84.73	17	P	P	20 02 41.6	+1.2
	baz=227						
F24K	Squaw Lake	84.75	16	IAmb	IAmb	20 02 42.3	
	comp=Z,31nm,1.9s						
F24K	Squaw Lake	84.75	16	P	P	20 02 40.7	+0.2
	baz=226						
U35K	Hyder	84.86	31	P	P	20 02 42.3	+1.0
	baz=243						
P32M	Atlin	84.93	26	P	P	20 02 43.1	+1.4
	baz=239						
E24K	Your Creek	84.98	16	P	P	20 02 42.8	+1.1
	baz=225						
WHY	Whitehorse	84.99	25	P	P	20 02 42.5	+0.5
	baz=238						
D23K	Nanushuk River	85.06	14	P	P	20 02 42.7	+0.6
	baz=223						
L29M	L29M	85.06	22	IAmb	IAmb	20 02 45.0	
	comp=Z,11nm,1.2s						
L29M	L29M	85.06	22	P	P	20 02 43.1	+0.9
	baz=235						
N31M	Braeburn, Yuko	85.06	24	IAmb	IAmb	20 02 43.6	
	comp=Z,12nm,1.1s						
N31M	Braeburn, Yuko	85.06	24	P	P	20 02 43.2	+1.0
	baz=237						
TOLK	Toolik Lake Re	85.10	15	P	P	20 02 42.8	+0.5
	baz=224						
DAWY	Dawson	85.17	21	P	P	20 02 43.6	+0.8
	baz=234						
T35M	Bob Quinn	85.24	30	P	P	20 02 44.2	+0.9
	baz=242						
Q32M	Nakina River	85.25	27	P	P	20 02 44.0	+0.5
	baz=240						
S34M	Telegraph Cree	85.26	29	P	P	20 02 44.9	+1.6
	baz=242						
M30M	Minto, Yukon	85.27	23	P	P	20 02 44.4	+1.1
	baz=236						
I27K	Kandik River	85.35	19	P	P	20 02 44.1	+0.4
	baz=232						
F25K	Christian Rive	85.42	17	IAmb	IAmb	20 02 47.0	
	comp=Z,24nm,1.6s						
F25K	Christian Rive	85.42	17	P	P	20 02 44.3	+0.3
	baz=228						
G26K	Porcupine Rive	85.53	18	P	P	20 02 44.4	0.0
	baz=230						
A21K	Barrow	85.58	11	P	P	20 02 44.4	-0.2
	baz=217						
BMAR	Burn Mountain	85.62	17	P	P	20 02 46.0	+1.1
P33M	Teslin, Yukon	85.63	26	P	P	20 02 45.5	+0.3
	baz=240						
DSP	Deep Springs	85.64	51	IAmb	IAmb	20 02 47.5	
	comp=Z,8.1nm,1.0s						
D24K	Happy Valley	85.66	15	P	P	20 02 45.9	+0.8
	baz=225						
NVAR	Mina Array Bea	85.69	50	P	P	20 02 45.0	-1.2
NVAR	Mina Array Bea	85.69	50	P	P	20 02 46.9	+0.7
	comp=Z,3.7nm,0.9s,baz=238,slow=7.6,SNR=17						
	comp=Z,3.7nm,0.9s						
K29M	Barlow Dome	85.71	22	IAmb	IAmb	20 02 47.8	
	comp=Z,27nm,1.9s						
K29M	Barlow Dome	85.71	22	P	P	20 02 46.0	+0.4
	baz=236						
C23K	Itkillik River	85.72	14	IAmb	IAmb	20 02 47.8	
	comp=Z,12nm,0.9s						
C23K	Itkillik River	85.72	14	P	P	20 02 45.7	+0.4
	baz=223						
TIXI	Tiksi	85.75	349	LR	LR	20 38 32.6	
	comp=Z,17nm,19.2s,baz=10,slow=34						
TIXI	Tiksi	85.75	349	*ce*P	P	20 02 45.2	-0.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
H27K	Steamboat Moun	85.77	19	P	P	20 02 46.5	+0.8
	baz=232						
E25K	Arctic Village	85.80	16	IAmb	IAmb	20 02 48.1	
	comp=Z,12nm,1.1s						
E25K	Arctic Village	85.80	16	P	P	20 02 46.6	+0.8
	baz=228						
I28M	Miner Creek	85.81	20	P	P	20 02 46.3	+0.4
	baz=233						
J29N	Klondike Camp	85.81	21	P	P	20 02 45.9	-0.1
	baz=235						
F26K	Sheenjek River	85.92	17	IAmb	IAmb	20 04 03.0	
	comp=Z,22nm,2.0s						
F26K	Sheenjek River	85.92	17	P	P	20 02 46.5	+0.1
	baz=229						
N32M	Quiet Lake	86.00	25	P	P	20 02 47.6	+0.7
	baz=240						
M31M	Drury Creek, Y	86.00	24	P	P	20 02 47.2	+0.3
	baz=238						
DLBC	Dease Lake	86.03	28	P	P	20 02 48.1	+1.0
	baz=242						
R33M	Jennings River	86.05	27	P	P	20 02 47.7	+0.3
	baz=242						
G27K	Doyon Strip	86.09	18	IAmb	IAmb	20 02 48.9	
	comp=Z,12nm,1.3s						
G27K	Doyon Strip	86.09	18	P	P	20 02 47.8	+0.6
	baz=232						
C24K	Franklin Bluff	86.10	14	P	P	20 02 48.2	+1.0
	baz=225						
D25K	Kavik River	86.40	15	IAmb	IAmb	20 02 50.3	
	comp=Z,7.9nm,0.9s						
D25K	Kavik River	86.40	15	P	P	20 02 48.9	+0.1
	baz=227						
FARO	Faro, Yukon	86.44	24	P	P	20 02 49.2	+0.1
	baz=239						
J30M	Hart River	86.55	21	P	P	20 02 50.5	+0.8
	baz=236						
H29M	Whitestone	86.79	20	P	P	20 02 51.5	+0.9
	baz=235						
I30M	Mount Dempster	86.90	21	P	P	20 02 51.5	+0.2
	baz=236						
F28M	Old Crow	87.14	18	IAmb	IAmb	20 02 54.8	
	comp=Z,17nm,1.7s						
F28M	Old Crow	87.14	18	P	P	20 02 52.9	+0.5
	baz=233						
C26K	Camden Bay	87.19	15	P	P	20 02 53.7	+1.2
	baz=228						
G08A	Pilot Rock	87.29	43	IAmb	IAmb	20 02 55.0	
	comp=Z,8.5nm,1.1s						
G29M	Pine Creek	87.30	19	IAmb	IAmb	20 02 55.5	
	comp=Z,14nm,1.1s						
G29M	Pine Creek	87.30	19	P	P	20 02 53.7	+0.6
	baz=235						
C27K	Jago River	87.31	16	IAmb	IAmb	20 02 54.9	
	comp=Z,13nm,1.1s						
C27K	Jago River	87.31	16	P	P	20 02 53.6	+0.5
	baz=229						
MMPY	Sheldon Lake,	87.47	24	P	P	20 02 54.4	+0.3
	baz=241						
D27M	Malcolm River	87.81	17	IAmb	IAmb	20 02 58.1	
	comp=Z,6.9nm,0.8s						
D27M	Malcolm River	87.81	17	P	P	20 02 55.9	+0.3
	baz=232						
E28M	Babbage River	87.83	17	IAmb	IAmb	20 02 57.9	
	comp=Z,9.0nm,0.9s						
E28M	Babbage River	87.83	17	P	P	20 02 56.2	+0.6
	baz=233						
PRN	Pahroc Range	87.88	51	IAmb	IAmb	20 02 58.8	
	comp=Z,8.0nm,1.1s						
H31M	Peel River	87.92	21	P	P	20 02 56.7	+0.6
	baz=236						
G30M	tAoh Zraii Nji	87.93	19	IAmb	IAmb	20 02 58.3	
	comp=Z,14nm,1.0s						
G30M	tAoh Zraii Nji	87.93	19	P	P	20 02 56.4	+0.2
	baz=236						
E29M	Blow River	88.20	18	P	P	20 02 58.0	+0.6
	baz=235						
F30M	Barrier River	88.42	19	P	P	20 02 58.4	0.0
	baz=237						
D28M	Stokes Point	88.50	17	P	P	20 02 59.0	+0.3
	baz=234						
WMQ	Urumqi	88.92	315	*e*P	P	20 03 02.1	+0.7
F31M	Tsiigehtchic	88.99	20	P	P	20 03 01.1	+0.1
	baz=239						
INK	Inuvik	89.51	19	P	P	20 03 04.2	+0.7
	baz=239						
KNB	Kanab	89.51	52	IAmb	IAmb	20 03 06.6	
	comp=Z,14nm,1.4s						
U15A	North Rim	89.79	53	IAmb	IAmb	20 03 08.0	
	comp=Z,6.2nm,0.8s						
PKCU	Pink Cliffs	90.01	52	IAmb	IAmb	20 03 09.7	
	comp=Z,13nm,1.2s						
MTPU	Mount Pierson	90.24	51	IAmb	IAmb	20 03 10.6	
	comp=Z,5.6nm,0.9s						
TMUT	Trail Mountain	91.27	50	IAmb	IAmb	20 03 16.0	
	comp=Z,4.0nm,0.9s						
BSUT	Blindstream Ca	91.87	49	IAmb	IAmb	20 03 16.7	
	comp=Z,4.9nm,1.1s						
BOZ	Bozeman (W)	92.35	44	IAmb	IAmb	20 03 19.0	
	comp=Z,3.7nm,0.9s						
PV23	Carpenter Ridg	92.77	52	IAmb	IAmb	20 03 21.6	
	comp=Z,5.5nm,0.7s						
PDAR	Pinedale Array	93.21	47	P	P	20 03 20.7	-0.9
	comp=Z,1.1nm,0.9s,baz=236,slow=1.6,SNR=7.6						
	comp=Z,1.1nm,0.9s						
ZALV	Zalesovo Beam	93.32	324	P	P	20 03 19.8	-1.6
ZALV	Zalesovo Beam	93.32	324	P	P	20 03 20.3	-1.2
	comp=Z,2.0nm,0.8s,baz=111,slow=3.3,SNR=9.0						
	comp=Z,2.0nm,0.8s						
MK31	Makanchi Array	93.33	317	P	P	20 03 20.9	-0.9
MK31				IAmb	IAmb	20 03 22.6	
	comp=Z,4.4nm,0.9s						
MK31	Makanchi Array	93.33	317	*ce*P	P	20 03 21.2	-0.6
MKAR	Makanchi Array	93.33	317	P	P	20 03 21.4	-0.4
MKAR	Makanchi Array	93.33	317	P	P	20 03 21.7	-0.1
	comp=Z,3.9nm,0.7s,baz=96,slow=6.2,SNR=50						
MKAR				PKKP	PKKPdf	20 20 28.0	-1.0
	comp=Z,0.5nm,0.6s,baz=286,slow=2.2,SNR=6.5						
	comp=Z,3.9nm,0.7s						
A36M	Sachs Harbour	93.71	17	P	P	20 03 23.5	+0.6
	baz=247						
S22A	4UR Ranch, Cre	94.33	53	P	P	20 03 27.2	+0.3
	baz=260						
YKA	Yellowknife Ar	94.59	27	P	P	20 03 25.9	-1.2
	comp=Z,0.7nm,0.6s,baz=256,slow=5.0,SNR=12						
	comp=Z,0.7nm,0.6s						
TXAR	Lajitas Array	95.55	61	P	P	20 03 32.5	+0.1
	comp=Z,0.3nm,0.7s,baz=216,slow=6.7,SNR=3.5						
	comp=Z,0.3nm,0.7s						
NRIK	Noril'sk	95.81	340	*ce*P	P	20 03 31.8	-0.8
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
T25A	Trinidad	96.13	53	P	P	20 03 34.5	-0.5
	baz=261						
KURK	Kurchatov	96.43	320	*i* P	P	20 03 33.1	-2.7
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KURBB	Kurchatov Arra	96.47	320	P	P	20 03 34.2	-1.7
	comp=Z,0.3nm,0.6s,baz=101,slow=4.5,SNR=4.7						
	comp=Z,0.3nm,0.6s						
KSH	Kashi	96.61	309	P	P	20 03 35.3	-1.8
KSH				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SNAA	Sanae	97.50	184	P	P	20 03 38.5	-1.9
SNAA	Sanae	97.50	184	P	P	20 03 38.5	-1.9
SNAA				pmax	pmax		
	comp=Z,21nm,1.9s						
AAK	Ala-Archa	98.14	312	*i* P	P	20 03 43.4	-0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
833A	Chaparral WMA,	99.12	63	P	Pdif	20 03 47.5	-0.9
	baz=263						
ARCES	ARCESS Array B	116.00	346	PKP	PKiKP	20 08 47.8	-0.8
	comp=Z,6.8nm,1.0s,baz=0.0,slow=2.4,SNR=8.0						
L61B	Northampton	120.22	47	P	PKPdf	20 08 56.5	-1.0
	baz=284						
LPAZ	La Paz	120.24	116	PKP	PKPdf	20 08 58.6	-0.4
	comp=Z,0.6nm,0.6s,baz=169,slow=4.0,SNR=3.6						
OBN	Obninsk	120.55	329	*i* PKIKP	PKPdf	20 08 56.9	-0.8
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	Kislovodsk	121.05	315	*e*PKIKP	PKPdf	20 08 57.2	-2.0
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	FINESS Array B	121.47	339	PKP	PKPdf	20 08 58.5	-0.8
	comp=Z,5.2nm,1.0s,baz=58,slow=4.7,SNR=6.7						
M65A	Busby, Falmout	121.91	48	P	PKiKP	20 09 01.2	+0.3
	baz=285						
MNK	Minsk	125.12	331	*i* P	Pdif	20 05 40.8	-2.6
MNK				*i*		20 09 04.2	
MNK				*i*		20 09 34.1	
MNK				*i*		20 10 54.7	
MNK				*i* PPP	PPP	20 13 35.5	
MNK				*i* PS	PS	20 20 56.3	-2.3
MNK				*i* SSS	SSS	20 32 22.2	
MNK				pmax	pmax		
	comp=N,18nm,1.1s						
MNK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,19nm,0.9s						
BOSA	Boshof	125.47	223	PKP	PKPdf	20 09 07.8	-0.4
	comp=E,2.9nm,0.8s,baz=145,slow=4.1,SNR=5.1						
NB2	NORSAR Subarra	126.37	345	PKPdf	PKPdf	20 09 07.6	-1.2
	comp=Z,0.6nm,0.7s,baz=39,slow=1.9						
NOA	NORSAR Array B	126.37	345	PKP	PKPdf	20 09 08.7	-0.2
	comp=Z,1.0nm,0.6s,baz=40,slow=2.3,SNR=4.2						
BRTR	Keskin Array B	128.80	313	*i* PKIKP	PKiKP	20 09 15.5	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KOLS	Kolonicke sedl	131.30	329	*e*PKIKP	PKiKP	20 09 20.3	+0.8
KOLS	Kolonicke sedl	131.30	329	*e*PKP	PKiKP	20 09 20.3	+0.8
KOLS				*e*		20 37 36.7	
LANS	Liptovska Anna	132.56	330	*e*PKIKP	PKiKP	20 09 22.3	+0.2
LANS	Liptovska Anna	132.56	330	*e*PKP	PKiKP	20 09 22.3	+0.2
CLL	Collm	133.81	337	*e*PKIKP	PKPdf	20 09 23.0	-0.2
CLL				*e*		20 09 54.0	
CLL	Collm	133.81	337	*e*PKPdf	PKPdf	20 09 23.0	-0.2
CLL				*i* PKiKP	PKiKP	20 09 24.4	-0.1
CLL				*ep*PKiKP	pPKiKP	20 09 54.0	+2.8
CLL				*e*SKPdf	SKPdf	20 12 49.0	-0.6
MODS	Modra-Piesok	134.14	331	*e*PKIKP	PKPdf	20 09 24.0	+0.1
MODS	Modra-Piesok	134.14	331	*e*PKP	PKPdf	20 09 24.0	+0.1
EKA	Eskdalemuir Ar	134.62	351	PKP	PKPdf	20 09 24.1	-0.5
	comp=Z,1.3nm,0.9s,baz=22,slow=4.6,SNR=1.4						
GERES	GERESS Array B	135.42	334	PKP	PKPdf	20 09 26.3	-0.1
	comp=Z,0.9nm,0.6s,baz=126,slow=1.8,SNR=6.9						
KEST	Kesra	147.19	323	PKPbc	PKPbc	20 09 49.7	-0.5
	comp=Z,11nm,0.9s,baz=336,slow=1.3,SNR=6.9						
PGAV	Gavieira, Arco	148.41	352	*e*PKPbc	PKPbc	20 09 53.3	+0.1
PCAB	Cabril	148.62	351	*e*PKPbc	PKPbc	20 09 54.0	+0.3
POLO	Lamas de Olo	148.91	351	*e*PKPbc	PKPbc	20 09 54.9	+0.3
MVO	Moncorvo	148.99	350	*e*PKPbc	PKPbc	20 09 55.0	+0.3
PVRL	Vila Real	149.00	351	*e*PKPbc	PKPbc	20 09 55.0	+0.3
PTO	Porto	149.26	352	*e*PKPbc	PKPbc	20 09 54.2	-1.0
PVIS	Viseu	149.57	351	*e*PKPbc	PKPbc	20 09 56.4	+0.3
ESDC	Sonseca Array	149.73	344	PKPbc	PKPbc	20

FITZ Fitzroy Crossi 10.93 200 Pn Pn 20 03 02.7 +0.4
0.4nm,0.3s,baz=27,slow=16,SNR=17
FITZ Sn Sn 20 05 00.8 -4.6
0.7nm,0.3s,baz=60,slow=14,SNR=7.4
1.4nm,0.5s
WRA Warramunga Arr 13.01 159 Pn Pn 20 03 31.1 +0.5
0.1nm,0.3s,baz=341,slow=12,SNR=7.7
WRA Sn Sn 20 05 51.6 -4.6
0.6nm,0.3s,baz=322,slow=24,SNR=18
0.2nm,0.5s
ASAR Alice Springs 16.39 165 Pn Pn 20 04 15.0 -1.0
0.1nm,0.3s,baz=339,slow=9.9,SNR=5.6
ASAR Sn Sn 20 07 11.9 -6.7
baz=352,slow=25,SNR=1.6
0.3nm,1.0s
NWAO Narrogin (SRO) 27.49 203 LR LR 20 17 48.2
comp=Z,186nm,18.1s,baz=133,slow=38
MKAR Makanchi Array 68.56 327 P P 20 11 29.1 0.0
0.1nm,0.6s,baz=111,slow=6.1,SNR=1.9
0.1nm,0.6s

---

*IDC **24** 20:05:40.2±3.1, 2°.26S×97°.43E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=119.4km s-min=22.4km az=59.0*
ISC 24 20:05:45.3±3.3, 2°.2S±0°.4×97°.5E±0°.7, h35km, n7, σ0s36/7, mb3.4/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.61**	**4**	P	**P**	**20 10 21.4**	**-0.4**
	1.5nm,0.8s,baz=194,slow=10,SNR=15						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**40.07**	**119**	P	**P**	**20 13 17.6**	**-0.1**
	0.3nm,0.5s,baz=301,slow=8.9,SNR=2.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**41.18**	**124**	P	**P**	**20 13 26.9**	**0.0**
	0.8nm,1.0s,baz=299,slow=7.1,SNR=6.5						
	0.8nm,1.0s						
SONM	**Songino Array**	**50.47**	**8**	P	**P**	**20 14 40.4**	**+0.5**
	0.3nm,0.7s,baz=208,slow=9.0,SNR=2.2						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**50.62**	**347**	P	**P**	**20 14 40.9**	**0.0**
	0.4nm,0.6s,baz=160,slow=8.2,SNR=6.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**56.97**	**351**	P	**P**	**20 15 26.8**	**-0.3**
	0.7nm,0.5s,baz=168,slow=7.6,SNR=4.9						
	0.7nm,0.5s						
TXAR	**Lajitas Array**	**146.37**	**35**	PKPbc	**PKPab**	**20 25 24.2**	**0.0**
	0.1nm,0.5s,baz=298,slow=6.4,SNR=2.5						

---

*IDC **24** 20:07:37.9±5.7, 10°.63S×165°.99E, h218km±52km, mb3.5/5, mbtmp4.1/6, Error ellipse: s-maj=32.8km s-min=26.6km az=167.0*
ISC 24 20:07:30.7±1.4, 10°.6S±0°.1×166°.2E±0°.2, h155km, n6, σ1s76/7, mb3.8/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.41**	**179**	P	**P**	**20 10 14.5**	**-2.4**
	3.8nm,0.4s,baz=305,slow=23,SNR=6.2						
DZM				S	**Sn**	**20 12 17.5**	**+1.9**
	7.3nm,0.9s,baz=323,slow=20,SNR=0.8						
STKA	**Stephens Creek**	**31.08**	**223**	P	**P**	**20 13 35.6**	**+1.3**
	0.7nm,0.6s,baz=37,slow=10,SNR=2.9						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**32.07**	**249**	P	**P**	**20 13 42.5**	**-0.6**
	2.5nm,0.7s,baz=82,slow=8.8,SNR=16						
	2.5nm,0.7s						
ASAR	**Alice Springs**	**33.40**	**243**	P	**P**	**20 13 54.1**	**-0.6**
	1.8nm,0.8s,baz=68,slow=9.4,SNR=18						
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**79.41**	**180**	P	**P**	**20 19 19.5**	**+0.1**
	1.2nm,0.6s,baz=57,slow=13,SNR=12						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**82.94**	**18**	P	**P**	**20 19 38.6**	**+0.8**
	0.5nm,0.6s,baz=236,slow=5.5,SNR=12						
	0.5nm,0.6s						

---

*IDC **24** 20:09:12.1±1.4, 23°.70S×115°.07W, h0km, mb3.9/5, mbtmp3.9/5, MS3.6/7, Error ellipse: s-maj=51.4km s-min=35.1km az=14.0*
ISC 24 20:09:13.6±1.4, 23°.8S±0°.3×115°.2W±0°.2, h10km, n26, σ1s10/11, mb3.8/5, MS3.5/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**32.73**	**274**	LR	LR	20 25 29.5	
	comp=Z,86nm,19.8s,baz=179,slow=30						
H03N2	**Juan Fernandez**	**33.10**	**115**	T	T	20 50 49.8	
	baz=283,slow=75,SNR=6.5						
H03N3	**Juan Fernandez**	**33.11**	**115**	T	T	20 50 52.6	
	baz=283,slow=75,SNR=7.0						
H03N1	**Juan Fernandez**	**33.12**	**115**	T	T	20 50 51.1	
	baz=283,slow=75,SNR=7.2						
ATAH	**Atahualpa**	**38.94**	**71**	LR	LR	20 28 46.6	
	comp=Z,57nm,19.9s,baz=246,slow=30						
RAR	**Rarotonga**	**41.18**	**264**	LR	LR	20 29 07.7	
	comp=Z,110nm,21.2s,baz=114,slow=29						
LPAZ	**La Paz**	**44.65**	**89**	P	**P**	**20 17 28.4**	**+0.9**
	1.2nm,0.8s,baz=265,slow=7.3,SNR=4.8						
LPAZ				LR	LR	20 31 55.3	
	comp=Z,58nm,18.6s,baz=248,slow=31						
	1.2nm,0.8s						
ROSC	**El Rosal**	**48.91**	**60**	P	**P**	**20 17 58.8**	**-1.8**
	5.9nm,0.4s,baz=210,slow=20,SNR=2.3						
	5.9nm,0.4s						
TXAR	**Lajitas Array**	**53.92**	**12**	LR	LR	20 36 34.5	
	comp=Z,43nm,18.1s,baz=48,slow=30						
URZ	**Urewera**	**58.65**	**239**	LR	LR	20 39 49.2	
	comp=Z,70nm,18.7s,baz=284,slow=31						
NVAR	**Mina Array Bea**	**61.92**	**357**	P	**P**	**20 19 33.4**	**-0.2**
	1.3nm,0.9s,baz=191,slow=12,SNR=5.0						
	1.3nm,0.9s						
PDAR	**Pinedale Array**	**66.38**	**5**	P	**P**	**20 20 03.7**	**+0.8**
	0.3nm,0.7s,baz=169,slow=6.6,SNR=2.9						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**85.94**	**0**	P	**P**	**20 21 54.5**	**+1.1**
	0.6nm,0.9s,baz=180,slow=5.3,SNR=7.1						
	0.6nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**86.99**	**292**	T	T	21 58 16.4	
	baz=116,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**87.00**	**292**	T	T	21 58 16.7	
	baz=116,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**87.00**	**292**	T	T	21 58 15.2	
	baz=116,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**87.35**	**293**	T	T	21 58 42.4	
	baz=110,slow=74						
H11N1	**WAKE ISLAND Hy**	**87.36**	**293**	T	T	21 58 39.4	
	baz=110						
H11N2	**WAKE ISLAND Hy**	**87.37**	**293**	T	T	21 58 35.2	
	baz=110,slow=74						
STKA	**Stephens Creek**	**88.17**	**236**	LR	LR	20 53 37.4	
	comp=Z,52nm,20.2s,baz=19,slow=30						
ZALV	**Zalesovo Beam**	**146.31**	**339**	PKPbc	**PKPdf**	**20 28 52.3**	**-0.7**
	0.2nm,0.4s,baz=37,slow=4.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**147.80**	**267**	PKPbc	**PKPab**	**20 29 01.2**	**-0.7**
	0.2nm,0.4s,baz=48,slow=2.3,SNR=2.0						
BRTR	**Keskin Array B**	**149.25**	**51**	PKPbc	**PKPdf**	**20 28 59.9**	**+1.3**
	1.0nm,0.8s,baz=323,slow=3.1,SNR=4.2						
BVAR	**Borovoye Array**	**150.46**	**353**	PKPbc	**PKPbc**	**20 29 04.4**	**-0.8**
	1.0nm,0.8s,baz=10,slow=3.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**151.14**	**342**	PKPbc	**PKPbc**	**20 29 06.2**	**-0.6**
	0.7nm,0.8s,baz=25,slow=1.7,SNR=6.2						
MKAR	**Makanchi Array**	**153.07**	**333**	PKPbc	**PKPbc**	**20 29 11.3**	**-0.1**
	0.3nm,0.5s,baz=15,slow=2.0,SNR=8.7						

---

*SOME **24** 20:54:18.7, 42°.58N×78°.70E, h15km*
*NNC **24** 20:54:18.5±0.6, 42°.61N×78°.74E, h0km, mb2.7, mpv3.0, Error ellipse: s-maj=4.0km s-min=2.3km az=160.0*
*KRNET **24** 20:54:20.2±0.1, 42°.58N×78°.68E, h22km, mb2.1*
ISC 24 20:54:20.9±1.2, 42°.68N±0°.03×78°.61E±0°.03, h7km±9km, n35, σ0s85/64, 14C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.25**	**218⇑**	*eP*	**Pg**	**20 54 25.7**	**-0.2**
PRZ			⇑	*eS*	**Sg**	**20 54 29.5**	**+0.2**
SATY	**Saty**	**0.41**	**339**	P	**Pg**	**20 54 28.7**	**-0.2**
	13nm,0.1s						
SATY				S	**Sg**	**20 54 35.9**	**+1.7**
	53nm,0.1s						
ZHN	**Zhinishke**	**0.50**	**345**	P	**Pg**	**20 54 30.2**	**-0.4**
	6.5nm,0.1s						
ZHN				S	**Sb**	**20 54 39.0**	**-0.8**
	64nm,0.2s						
ZHN	**Zhinishke**	**0.50**	**345**	*eP*	**Pg**	**20 54 30.2**	**-0.4**
	6.6nm,0.1s						
ZHN				*eS*	**Sg**	**20 54 38.8**	**+1.6**
	44nm,0.1s						
ANVS	**Anan'yevo**	**0.70**	**279⇑**	*iP*	**Pg**	**20 54 34.8**	**+0.4**
ANVS			⇑	*iS*	**Sb**	**20 54 45.7**	**+0.2**
KPKS	**Kokpek**	**0.79**	**4**	P	**Pg**	**20 54 34.8**	**-1.2**
	21nm,0.1s						
KPKS				S	**Sg**	**20 54 46.4**	**+0.2**
	17nm,0.2s						
KPKS	**Kokpek**	**0.79**	**4**	*eP*	**Pg**	**20 54 34.9**	**-1.2**
	21nm,0.1s						
KPKS				*eS*	**Sg**	**20 54 46.4**	**+0.2**
	16nm,0.1s						
SHLS	**Shalkode**	**0.79**	**53**	P	**Pb**	**20 54 37.5**	**+0.5**
	3.3nm,0.1s						
SHLS				S	**Sn**	**20 54 51.4**	**+0.7**
	24nm,0.3s						
SHLS	**Shalkode**	**0.79**	**53**	*eP*	**Pb**	**20 54 37.5**	**+0.5**
	3.3nm,0.1s						
SHLS				*eS*	**Sn**	**20 54 51.2**	**+0.5**
	16nm,0.1s						
KDJ	**Kajisay**	**1.19**	**243⇑**	*iP*	**Pb**	**20 54 42.0**	**-2.0**
KDJ			⇑	*iS*	**Sb**	**20 54 58.2**	**-1.5**
KOTS	**Kotyrbulak**	**1.23**	**297**	P	**Pb**	**20 54 43.6**	**-1.0**
	1.1nm,0.1s						
KOTS				S	**Sn**	**20 55 01.7**	**+0.1**
	5.5nm,0.2s						
KOTS	**Kotyrbulak**	**1.23**	**297**	*eP*	**Pb**	**20 54 43.6**	**-1.0**
	0.7nm,0.1s						
KOTS				*eS*	**Sn**	**20 55 01.7**	**+0.1**
	14nm,0.1s						
MDOK	**Medeo**	**1.24**	**293**	Pg	**Pn**	**20 54 43.7**	**-1.2**
	0.9nm,0.1s						
MDOK				Lg	Lg	20 55 01.7	
	7.2nm,0.3s						
MDOK	**Medeo**	**1.24**	**293**	*eP*	**Pn**	**20 54 43.7**	**-1.2**
	0.9nm,0.1s						
MDOK				*eS*	**Sn**	**20 55 01.7**	**-0.2**
	5.3nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**287**	P	**Pn**	**20 54 44.3**	**-1.2**
	0.9nm,0.2s						
TNSS				S	**Sn**	**20 55 02.8**	**-0.3**
	2.2nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**287**	*eP*	**Pn**	**20 54 44.3**	**-1.2**
	0.6nm,0.1s						
TNSS				*eS*	**Sn**	**20 55 02.8**	**-0.3**
	4.1nm,0.1s						
BLB	**Baldybastay**	**1.42**	**356**	P	**Pn**	**20 54 46.6**	**-0.7**
	27nm,0.1s						
BLB				S	**Sg**	**20 55 06.7**	**+0.3**
	31nm,0.1s						
IZV	**Izvestkoviy**	**1.51**	**284**	P	**Pn**	**20 54 47.9**	**-0.6**
	0.6nm,0.2s						
IZV				S	**Sb**	**20 55 09.1**	**+0.4**
	7.5nm,0.2s						
IZV	**Izvestkoviy**	**1.51**	**284**	*eP*	**Pn**	**20 54 47.9**	**-0.6**
	0.5nm,0.1s						
IZV				*eS*	**Sb**	**20 55 09.1**	**+0.4**
	8.6nm,0.1s						
ARXS	**Arharly**	**1.63**	**340**	P	**Pn**	**20 54 50.8**	**+0.6**
	0.9nm,0.1s						
ARXS				S	**Sg**	**20 55 14.2**	**+0.8**
	11nm,0.3s						
MTBS	**Maitube**	**1.66**	**286**	P	**Pb**	**20 54 51.8**	**-0.2**
	0.7nm,0.1s						
MTBS				S	**Sg**	**20 55 15.6**	**+1.2**
	4.2nm,0.2s						
MTBS	**Maitube**	**1.66**	**286**	*eP*	**Pn**	**20 54 51.0**	**+0.4**
	0.6nm,0.1s						
MTBS				*eS*	**Sg**	**20 55 14.3**	**-0.1**
	3.6nm,0.1s						
KNOS	**Konyrlen**	**1.73**	**14**	P	**Pn**	**20 54 51.1**	**-0.4**
	4.2nm,0.1s						
KNOS				S	**Sn**	**20 55 14.6**	**+0.7**
	7.0nm,0.1s						
KTBS	**Karatobe**	**1.74**	**307**	P	**Pb**	**20 54 53.1**	**-0.2**
	1.8nm,0.1s						
KTBS				S	**Sg**	**20 55 18.1**	**+1.1**
	8.7nm,0.2s						
ULHL	**Ulahol**	**1.81**	**257⇑**	*iP*	**Pn**	**20 54 53.1**	**+0.4**
ULHL			⇑	*iS*	**Sb**	**20 55 17.8**	**+0.5**
DJR	**Jarkent**	**1.86**	**27**	Pg	**Pn**	**20 54 52.9**	**-0.4**
	1.3nm,0.1s						
DJR				Lg	Lg	20 55 18.1	
	19nm,0.2s						
DJR	**Jarkent**	**1.86**	**27**	*eP*	**Pn**	**20 54 52.9**	**-0.4**
	1.6nm,0.1s						
DJR				*eS*	**Sn**	**20 55 18.0**	**+0.9**
	19nm,0.2s						
KST	**Kastek**	**1.98**	**281**	Pg	**Pb**	**20 54 57.0**	**-0.3**
	1.6nm,0.3s						
KST				Lg	Lg	20 55 24.6	
	3.1nm,0.3s						
KST	**Kastek**	**1.98**	**281**	*eP*	**Pn**	**20 54 55.6**	**+0.7**
	0.8nm,0.1s						
KST				*eS*	**Sb**	**20 55 22.4**	**+0.2**
	2.1nm,0.2s						
BOOM	**Boomskoye usch**	**1.98**	**265⇑**	*iP*	**Pn**	**20 54 56.0**	**+1.0**
BOOM			⇑	*iS*	**Sb**	**20 55 22.4**	**+0.1**
DGS	**Degeres**	**2.16**	**286**	Pg	**Pb**	**20 54 59.7**	**-0.6**
	1.1nm,0.4s						
DGS				Lg	Lg	20 55 30.2	
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**2.23**	**277⇑**	*iP*	**Pn**	**20 54 59.9**	**+1.4**
TKM2			⇑	*iS*	**Sb**	**20 55 29.0**	**-0.5**
KRBS	**Karabastau**	**2.37**	**296**	Pg	**Pb**	**20 55 03.5**	**-0.5**
	0.4nm,0.3s						
KRBS				Lg	Lg	20 55 35.7	
	4.5nm,0.3s						
KAPS	**Kapalarasan**	**2.66**	**11**	Pg	**Pb**	**20 55 07.9**	**-1.0**
	2.8nm,0.1s						
KAPS				Lg	Lg	20 55 43.3	
	16nm,0.1s						
KBK	**Karagaybulak**	**2.70**	**271⇑**	*iP*	**Pn**	**20 55 06.3**	**+1.4**
KBK			⇑	*iS*	**Sn**	**20 55 40.0**	**+2.0**

NEIC 24 20:54:44.2±1.4, 40°.37N±0°.04×125°.15W±0°.10, h18km±11km, Error ellipse: s-maj=10.8km s-min=4.9km az=79.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.63**	**80**		Pn	20 54 57.7	-0.6
KCTM					Sn	20 55 06.9	-1.1
KMPM	**Mount Pierce**	**0.79**	**86**		Pb	20 54 59.2	-0.3
KMPM				Sg	Sg	20 55 10.3	+0.1
JCC	**Jacoby Creek,**	**0.96**	**62**	Pg	Pb	20 55 01.9	-0.5
KCRM	**Chalk Rock**	**1.02**	**86**		Pb	20 55 03.2	-0.2
KMRM	**Mail Ridge**	**1.11**	**97**		Pb	20 55 04.8	-0.2
KRPM	**Rodgers**	**1.16**	**47**		Pn	20 55 05.1	-0.6
KRPM				Sg	Sb	20 55 18.6	-2.0
KRPM				IAML		20 55 19.6	
	comp=E,359nm,0.6s						
KRPM				IAML		20 55 19.6	
	comp=N,380nm,0.3s						
KHMM	**Horse Mountain**	**1.19**	**65**		Pn	20 55 05.7	-0.5
KHMM				IAML		20 55 10.7	
	comp=N,206nm,0.6s						
KHMM				IAML		20 55 15.1	
	comp=E,163nm,0.7s						
KCPM	**Cahto Peak**	**1.39**	**119**		Pn	20 55 08.7	-0.1
KIPM	**Iron Peak**	**1.40**	**113**		Pn	20 55 08.9	-0.1
KHBM	**Hayfork Bally**	**1.50**	**78**		Pn	20 55 09.9	-0.6
KBNM	**Bluenose Ridge**	**1.57**	**107**		Pn	20 55 11.5	+0.1
KOMM	**Orleans Mounta**	**1.58**	**54**		Pn	20 55 10.9	-0.5
DCMP	**DeCamp, Califo**	**1.66**	**122**		Pn	20 55 12.2	-0.3
DCMP	**DeCamp, Califo**	**1.66**	**122**	IAML		20 55 32.0	
	comp=N,98nm,0.3s						
DCMP				IAML		20 55 37.8	
	comp=E,94nm,3.9s						
WEAV	**Weaverville**	**1.69**	**77**		Pn	20 55 12.4	-0.6
SIGP	**Signal Peak, C**	**1.71**	**28**		Pn	20 55 12.5	-0.7
LBPM	**Beegum Peak**	**1.74**	**91**		Pn	20 55 13.3	-0.3
O02D	**Mt. Diablo Mer**	**1.82**	**95**		Pn	20 55 14.7	0.0
O02D				IAML		20 55 51.3	
	comp=N,74nm,1.1s						
GWRM	**Wonder Ranch**	**1.84**	**129**		Pn	20 55 14.6	-0.4
GROM	**Round Mountain**	**1.96**	**103**		Pn	20 55 17.0	+0.4
N02D	**Trinity Center**	**1.96**	**71**		Pn	20 55 16.2	-0.4
N02D	**Trinity Center**	**1.96**	**71**	IAML		20 55 29.4	
	comp=E,155nm,0.4s						
N02D				IAML		20 55 38.3	
	comp=N,102nm,0.4s						
KBO	**Bosley Butte**	**1.97**	**20**		Pn	20 55 17.4	+0.6
KBO	**Bosley Butte**	**1.97**	**20**	IAML		20 55 51.9	
	comp=N,229nm,2.5s						
GVV	**Valley View**	**1.99**	**107**		Pn	20 55 17.1	0.0
LBKM	**Bonanza King**	**2.02**	**69**		Pn	20 55 17.1	-0.4
M02C	**Callahan**	**2.02**	**59**		Pn	20 55 17.0	-0.5
HOPS	**Hopland Field**	**2.11**	**130**		Pn	20 55 18.4	-0.3
HOPS				IAML		20 56 13.5	
	comp=N,61nm,2.5s						
L02F	**Cave Junction**	**2.12**	**34**		Pn	20 55 18.2	-0.5
L02F				IAML		20 55 43.3	
	comp=N,116nm,0.9s						
L02F				IAML		20 55 44.2	
	comp=E,101nm,0.4s						
LAMM	**Antelope Mount**	**2.28**	**56**		Pn	20 55 21.1	-0.1
YBH	**Yreka Blue Hor**	**2.29**	**53**		Pn	20 55 21.2	0.0
LSHM	**Sage Hen Hill**	**2.41**	**79**		Pn	20 55 23.0	+0.2
LGBM	**Gray Butte**	**2.44**	**66**		Pn	20 55 24.4	+0.9
M03C	**McCloud**	**2.47**	**68**		Pn	20 55 24.6	+0.9
M03C	**McCloud**	**2.47**	**68**	IAML		20 55 38.6	
	comp=E,75nm,0.7s						
M03C				IAML		20 56 05.9	
	comp=N,67nm,0.6s						
LMPM	**Military Pass**	**2.52**	**63**		Pn	20 55 25.7	+1.2
B040	**Montague**	**2.53**	**54**		Pn	20 55 24.8	+0.4
LHEM	**Herd Peak**	**2.55**	**60**		Pn	20 55 25.7	+0.8
O03E	**Paynes Creek**	**2.56**	**91**		Pn	20 55 24.6	-0.4
O03E	**Paynes Creek**	**2.56**	**91**	IAML		20 55 47.8	
	comp=N,34nm,3.2s						
O03E				IAML		20 56 11.4	
	comp=E,48nm,1.1s						
LDBM	**Digger Butte**	**2.57**	**88**		Pn	20 55 25.1	+0.1
LBFM	**Black Fox Moun**	**2.66**	**67**		Pn	20 55 27.7	+1.4
LRDM	**Redding Peak**	**2.82**	**87**		Pn	20 55 29.4	+1.0
L04D	**Klamath Falls**	**2.83**	**48**		Pn	20 55 30.6	+1.9
L04D				IAML		20 56 05.8	
	comp=N,64nm,1.2s						
L04D				IAML		20 56 16.2	
	comp=E,83nm,2.4s						
MCCM	**Marconi Confer**	**2.84**	**141**		Pn	20 55 28.4	-0.3
MCCM				IAML		20 56 04.1	
	comp=E,50nm,1.3s						
MCCM				IAML		20 56 17.5	
	comp=N,35nm,1.9s						
HATC	**Hat Creek Radi**	**2.84**	**80**		Pn	20 55 29.8	+1.0
HATC				IAML		20 55 51.5	
	comp=N,85nm,3.7s						
LBCM	**Butte Creek Ri**	**2.93**	**80**		Pn	20 55 30.2	+0.1
NOLM	**Olema**	**2.96**	**141**		Pn	20 55 30.8	+0.4
DBO	**Dodson Butte**	**3.10**	**27**	Pn	Pn	20 55 33.3	+1.1
DBO				IAML		20 56 45.6	
	comp=E,90nm,3.4s						
K04D	**Chiloquin, OR**	**3.40**	**47**	Pn	Pn	20 55 36.4	-0.1
K04D				IAML		20 56 30.4	
	comp=E,78nm,2.8s						
SAC	**San Andreas**	**3.51**	**142**		Pn	20 55 38.2	+0.3
AFDM	**Forest Hills D**	**3.52**	**112**		Pn	20 55 39.2	+1.1
I02E	**Swisshome, OR**	**3.86**	**14**	Pn	Pn	20 55 44.3	+1.7
I04A	**Tendick Farm,**	**3.98**	**30**		Pn	20 55 46.8	+2.3
I04A				IAML		20 56 31.2	
	comp=N,45nm,3.8s						
I04A				IAML		20 57 01.1	
	comp=E,48nm,4.0s						
CMB	**Columbia Colle**	**4.38**	**121**		Pn	20 55 50.4	+0.6
PAHR	**Pah Rah Range**	**4.48**	**97**		Pn	20 55 51.3	0.0
PAHR				IAML		20 56 58.8	
	comp=E,9.8nm,3.9s						
SAO	**San Andreas Ge**	**4.63**	**140**	Pn	Pn	20 55 52.8	-0.4
PINE	**Pine Mountain**	**4.64**	**41**		Pn	20 55 55.5	+1.9
H04A	**Detroit Lake**	**4.83**	**26**	Pn	Pn	20 55 58.4	+2.3
H04A				IAML		20 57 09.5	
	comp=N,22nm,3.7s						
BBGB	**Big Mountain B**	**4.97**	**138**	Pn	Pn	20 55 57.7	-0.4
NVAR	**Mina Array Bea**	**5.65**	**108**	Pn	Pn	20 56 07.9	+0.5

---

*NEIC **24** 21:05:10.7±2.1, 40°.32N±0°.03×125°.17W±0°.05, h10km±1km, Error ellipse: s-maj=6.6km s-min=4.0km az=67.0*
*IDC **24** 21:05:13.3±1.3, 40°.45N×124°.58W, h0km, mb3.6/5, mbtmp3.6/10, ML4.1/4, MS2.9/7, Error ellipse: s-maj=14.8km s-min=11.1km az=87.0*
ISC 24 21:05:13.2±0.8, 40°.39N±0°.04×124°.93W±0°.06, h13km, n111, σ1s02/93, mb4.3/8, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.46**	**79**		**Pn**	**21 05 24.5**	**-1.1**
KCTM					**Sn**	**21 05 33.8**	**+0.2**
KMPM	**Mount Pierce**	**0.62**	**87**		**Pb**	**21 05 25.0**	**-0.9**
KMPM				Sg	**Sn**	**21 05 36.0**	**-1.5**
JCC	**Jacoby Creek,**	**0.81**	**57**		**Pb**	**21 05 28.7**	**-0.4**
JCC				Sg	**Sb**	**21 05 39.6**	**-0.3**
KCRM	**Chalk Rock**	**0.85**	**87**		**Pn**	**21 05 30.0**	**-0.9**
KMRM	**Mail Ridge**	**0.94**	**100**	Pn	**Pn**	**21 05 31.7**	**-0.6**
KMRM				Sg	**Sn**	**21 05 45.8**	**+0.1**
KHMM	**Horse Mountain**	**1.03**	**61**	Pn	**Pn**	**21 05 32.6**	**-1.0**
KHMM				IAML		21 05 47.2	
	comp=N,2μm,0.3s						
KHMM				IAML		21 05 47.2	
	comp=E,1μm,0.5s						
KRPM	**Rodgers**	**1.03**	**41**		**Pb**	**21 05 31.9**	**-1.2**
KRPM				IAML		21 05 46.4	
	comp=E,2μm,0.5s						
KCPM	**Cahto Peak**	**1.25**	**124**		**Pn**	**21 05 35.2**	**-1.3**
KIPM	**Iron Peak**	**1.25**	**117**		**Pn**	**21 05 35.6**	**-0.9**
KHBM	**Hayfork Bally**	**1.33**	**78**		**Pn**	**21 05 36.8**	**-0.9**
KHBM	**Hayfork Bally**	**1.33**	**78**	IAML		21 05 54.2	
	comp=E,622nm,0.5s						
KHBM				IAML		21 05 57.3	
	comp=N,581nm,0.6s						
KBNM	**Bluenose Ridge**	**1.42**	**110**		**Pb**	**21 05 38.2**	**-1.4**
KOMM	**Orleans Mounta**	**1.43**	**51**		**Pn**	**21 05 37.8**	**-1.2**
WEAV	**Weaverville**	**1.52**	**76**		**Pn**	**21 05 39.3**	**-1.0**
DCMP	**DeCamp, Califo**	**1.53**	**126**		**Pn**	**21 05 39.1**	**-1.2**
DCMP	**DeCamp, Califo**	**1.53**	**126**	IAML		21 05 58.9	
	comp=N,653nm,0.3s						
DCMP				IAML		21 05 59.0	
	comp=E,576nm,0.2s						
LBPM	**Beegum Peak**	**1.56**	**92**		**Pn**	**21 05 39.9**	**-0.9**
SIGP	**Signal Peak, C**	**1.62**	**23**		**Pn**	**21 05 39.3**	**-2.3**
O02D	**Mt. Diablo Mer**

GAXM	Alexander Vall	2.37	134			Pn	21 05 50.6 -1.2
B040	Montague	2.38	52			Pn	21 05 51.7 -0.3
O03E	Paynes Creek	2.39	91			Pn	21 05 51.4 -0.8
O03E	Paynes Creek	2.39	91	IAML			21 06 22.0
	comp=N,200nm,0.5s						
O03E				IAML			21 06 33.2
	comp=E,299nm,0.6s						
LHEM	Herd Peak	2.40	58			Pn	21 05 52.2 -0.2
LDBM	Digger Butte	2.40	88			Pn	21 05 51.7 -0.7
MNRC	McLaughlin Min	2.44	127			Pn	21 05 52.5 -0.3
NMTM	Middletown	2.48	129			Pn	21 05 52.7 -0.6
LBFM	Black Fox Moun	2.49	66			Pn	21 05 54.0 +0.3
HATC	Hat Creek Radi	2.67	80	IAML			21 06 35.9
	comp=E,216nm,1.9s						
HATC				IAML			21 06 43.4
	comp=N,241nm,2.1s						
L04D	Klamath Falls	2.69	46	Pn		Pn	21 05 56.5 +0.1
MCCM	Marconi Confer	2.74	144			Pn	21 05 55.9 -1.1
MCCM				IAML			21 06 30.4
	comp=N,136nm,0.6s						
MCCM				IAML			21 06 36.5
	comp=E,132nm,1.2s						
J01E	Myrtle Point	2.87	15			Pn	21 05 58.4 -0.3
J01E				IAML			21 06 33.0
	comp=N,245nm,0.3s						
J01E				IAML			21 06 34.1
	comp=E,242nm,0.3s						
DBO	Dodson Butte	3.01	24			Pn	21 06 00.5 -0.2
DBO				IAML			21 06 40.4
	comp=E,91nm,0.8s						
DBO				IAML			21 06 43.7
	comp=N,114nm,1.2s						
FARB	Farallon Islan	3.07	150	IAML			21 06 34.8
	comp=E,120nm,0.3s						
FARB				IAML			21 06 39.7
	comp=N,88nm,0.5s						
AFDM	Forest Hills D	3.37	114	Pn		Pn	21 06 04.8 -0.8
J04A	Umpqua Nationa	3.54	36	Pn		Pn	21 06 08.8 +0.7
I04A	Tendick Farm,	3.89	28			Pn	21 06 13.6 +0.9
I04A				IAML			21 06 59.4
	comp=N,65nm,0.3s						
I04A				IAML			21 07 00.6
	comp=E,104nm,0.2s						
J05D	Fort Rock, OR	4.00	42	Pn		Pn	21 06 14.6 +0.3
J05D				IAML			21 06 52.5
	comp=N,54nm,4.3s						
J05D				IAML			21 08 22.7
	comp=E,64nm,3.9s						
BUCK	Buck Mountain	4.07	20	Pn		Pn	21 06 16.1 +0.9
BUCK				IAML			21 08 21.3
	comp=N,109nm,3.4s						
CMB	Columbia Colle	4.24	122	Pn		Pn	21 06 17.9 +0.3
PNTR	Pine Nut	4.30	106			Pn	21 06 18.9 +0.3
PNTR				IAML			21 07 19.0
	comp=E,75nm,0.7s						
PNTR				IAML			21 07 29.9
	comp=N,60nm,1.0s						
H04D	Lebanon	4.44	21	IAML			21 07 13.1
	comp=N,74nm,0.9s						
H04D				IAML			21 07 45.2
	comp=E,79nm,3.5s						
PINE	Pine Mountain	4.51	40	IAML			21 07 04.3
	comp=E,41nm,3.8s						
PINE				IAML			21 08 36.2
	comp=N,32nm,4.6s						
SAO	San Andreas Ge	4.53	142	Pn		Pn	21 06 19.3 -2.2
WAKR	Walker	4.65	112	IAML			21 07 30.7
	comp=E,25nm,1.3s						
BBGB	Big Mountain B	4.87	140			Pn	21 06 25.0 -1.3
WVOR	Wild Horse Val	5.15	65	IAML			21 07 47.8
	comp=E,19nm,4.6s						
NVAR	Mina Array Bea	5.49	109	Pn		Pn	21 06 35.3 +0.4
NVAR	Mina Array Bea	5.49	109	Pn		Pn	21 06 35.5 +0.6
	comp=E,2.1nm,0.3s,baz=286,slow=14,SNR=25						
NVAR				Lg		Lg	21 07 56.0
	comp=E,0.4nm,0.3s,baz=337,slow=15,SNR=3.9						
NVAR				LR		LR	21 08 39.6
	comp=E,169nm,19.9s,baz=176,slow=38						
	comp=E,1.9nm,0.3s						
ELK	Elko	7.38	84	Pn		Pn	21 07 01.1 +0.2
	comp=E,1.2nm,0.5s,baz=293,slow=9.6,SNR=6.2						
ELK				LR		LR	21 09 21.9
	comp=E,59nm,21.3s,baz=251,slow=35						
PLID	Pearl Lake	8.07	51	Pn		Pn	21 07 10.2 -0.2
PFO	Pinyon Flats O	9.56	132	Pn		Pn	21 07 31.0 +0.3
	comp=E,1.0nm,0.3s,baz=323,slow=13,SNR=8.0						
PFO				LR		LR	21 11 24.3
	comp=E,43nm,20.9s,baz=293,slow=39						
	comp=E,2.0nm,0.3s						
NEW	Newport	9.65	33	LR		LR	21 11 26.5
	comp=E,95nm,21.6s,baz=302,slow=39						
MSO	Missoula	10.24	47	Pn		Pn	21 07 40.5 +0.6
MOOW	Moose Ponds	11.06	68	Pn		Pn	21 07 50.6 -0.7
YHL	Hebgen Lake	11.06	62			Pn	21 07 51.0 -0.4
FLWY	Flagg Ranch	11.18	66			Pn	21 07 52.6 -0.2
PDAR	Pinedale Array	11.76	73	Pn		Pn	21 08 02.0 +1.2
	comp=E,0.1nm,0.3s,baz=261,slow=7.4,SNR=8.6						
PDAR				LR		LR	21 12 24.3
	comp=E,69nm,19.3s,baz=54,slow=38						
	comp=E,0.3nm,0.7s						
PV23	Carpenter Ridg	12.46	94			Pn	21 08 09.4 -1.1
SDCO	Great Sand Dun	15.32	94	Pn		Pn	21 08 49.7 +0.3
DLBC	Dease Lake	18.36	351	P		P	21 09 30.5 +3.0
	comp=E,0.4nm,0.3s,baz=203,slow=13,SNR=2.3						
	comp=E,0.9nm,0.3s						
CBKS	Cedar Bluff	19.46	86			Pn	21 09 39.9 -0.9
CBKS				IAmb		IAmb	21 09 41.3
	comp=Z,14nm,0.6s						
R32A	Long Quarter,	20.33	87	P		Pn	21 09 49.6 -1.5
R32A				IAmb		IAmb	21 09 52.1
	comp=Z,23nm,0.9s						
LPIG	La Paz	20.36	138	LR		LR	21 17 26.4
	comp=Z,36nm,18.6s,baz=16,slow=36						
TXAR	Lajitas Array	20.59	116	P		Pn	21 09 52.4 -1.9
	comp=Z,1.3nm,0.9s,baz=306,slow=12,SNR=8.4						
	comp=Z,1.3nm,0.9s						
FFC	Flin Flon	20.97	39	P		P	21 09 56.3 +0.4
FFC				IAmb		IAmb	21 09 57.0
	comp=Z,12nm,0.8s						
KSU1	Kansas State U	21.78	84			P	21 10 03.9 -0.8
KSU1				IAmb		IAmb	21 10 10.2
	comp=Z,13nm,0.8s						
AGMN	Agassiz Nation	22.14	59	P		P	21 10 08.7 +0.1
AGMN				IAmb		IAmb	21 10 10.4
	comp=Z,17nm,1.1s						
OK052	Battle Ridge R	22.49	92	P		P	21 10 13.1 +0.7
OK052				IAmb		IAmb	21 10 15.6
	comp=Z,17nm,0.8s						
ULM	Lac du Bonnet	22.55	54	P		P	21 10 12.4 -0.5
ULM	Lac du Bonnet	22.55	54	P		P	21 10 11.7 -1.2
	comp=Z,6.9nm,0.8s,baz=262,slow=9.5,SNR=10.0						
	comp=Z,6.9nm,0.8s						
YKA	Yellowknife Ar	23.00	12	P		P	21 10 18.0 +0.6
	comp=Z,0.6nm,0.7s,baz=201,slow=9.8,SNR=7.6						
	comp=Z,0.6nm,0.7s						
CUT	Chulitna	26.80	334	P		P	21 10 52.4 -0.3
ILAR	Eielson Array	27.53	340	P		P	21 11 00.4 +1.1
	comp=Z,0.4nm,0.8s,baz=143,slow=7.7,SNR=4.6						
	comp=Z,0.4nm,0.8s						
CMIG	Matias Romero	34.82	123	LR		LR	21 25 39.0
	comp=Z,38nm,20.5s,baz=356,slow=35						
MTO3	Montecristo	40.40	120	P		P	21 12 50.8 -0.6
SCHQ	Schefferville	40.54	49	P		P	21 12 52.1 +0.3
	comp=Z,4.3nm,0.8s,baz=268,slow=9.3,SNR=9.8						
	comp=Z,4.3nm,0.8s						
H11N3	WAKE ISLAND Hy	61.05	272	T		T	22 22 09.0
	baz=53,slow=75,SNR=14						
H11N2	WAKE ISLAND Hy	61.05	272	T		T	22 22 13.5
	baz=53,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	61.06	272	T		T	22 22 16.7
	baz=53,slow=75,SNR=15						
H11S1	WAKE ISLAND Hy	61.91	271	T		T	22 22 57.3
	baz=54,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	61.92	271	T		T	22 22 57.8
	baz=54,slow=75,SNR=16						
H11S3	WAKE ISLAND Hy	61.93	271	T		T	22 22 58.6
	baz=54,slow=75,SNR=14						
HHC	Hu-ho-hao-te	84.23	321	*e*P		P	21 17 43.3 -1.3
HHC				pmax		pmax	
	comp=Z,7.0nm,0.7s						
PZH	PanZhiHua	100.56	318	P		Pdif	21 19 00.4 -0.6
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,4.8s						

2019 FEB

*IDC **24** 21:12:10.6±18.0, 32°.87N×47°.44E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=360.1km s-min=52.4km az=73.0*
*ISN **24** 21:12:13.5±0.6, 32°.97N×47°.50E, h6km±3km, ML3.4*
*TEH **24** 21:12:14.4, 32°.97N×47°.51E, h11km±22km*
ISC 24 21:12:14.9±0.8, 32°.99N±0°.04×47°.52E±0°.04, h15km, n32, σ1§40/36, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.60	27	Pg	Pg	21 12 25.8	-1.0
IDOB	Doab	0.97	34	Pg	Pb	21 12 33.1	-0.5
IBDR	Badra	1.34	276	*e*Pg	Pn	21 12 39.0	-0.1
IBDR				*e*Sg	Sn	21 12 57.1	+0.4
KCHF	Cheshme Sefid,	1.35	343	Pg	Pn	21 12 39.5	+0.1
BDRS	Dareh Seyedi	1.49	49	Pg	Pn	21 12 42.8	+1.3
HSAM	Samen	1.52	36	Pg	Pn	21 12 43.2	+1.3
IGHG	Ghaleghazi	1.56	330	Pg	Pn	21 12 43.3	+1.0
RAFI	Al-Rafai	1.73	224	*e*Pn	Pn	21 12 45.5	+1.0
RAFI				*e*Sn	Sb	21 13 09.0	+0.9
RAFI				AML	AML	21 13 13.0	
	comp=E,395nm,0.2s						
RAFI				AML	AML	21 13 14.8	
	comp=N,417nm,0.4s						
GLG1	Gilan-e-Gharb	1.75	310	Pg	Pn	21 12 45.2	+0.3
SNQR	Sonqor, Kerman	1.87	3	Pn	Pn	21 12 48.1	+1.4
AHWZ	Ahwaz	1.91	150	Pn	Pb	21 12 49.7	+0.3
IDHR	Dehrash	1.95	331	Pn	Pn	21 12 49.7	+2.0
ILIN	Lien	1.98	347	Pn	Pn	21 12 49.7	+1.5
KGS1	Ghasr-e-Shirin	2.21	314	Pn	Pn	21 12 52.4	+1.3
HAGD	Aghdareh	2.27	36	Pn	Pn	21 12 53.9	+1.8
BHD	Baghdad	2.65	277	*e*Pn	Pn	21 12 58.2	+1.1
BHD				*e*Sn	Sn	21 13 31.4	+2.4
BHD				AML	AML	21 13 36.2	
	comp=E,358nm,0.3s						
IPIR	Pirpir	2.85	95	Pn	Pn	21 13 01.7	+1.4
ZNGN	Zangian	2.94	106	Pn	Pn	21 13 02.2	+0.7
QABG	Abgarm-Qazvin	3.21	32	Pn	Pn	21 13 07.4	+2.4
IKLH	Kolahrood	3.42	83	Pn	Pn	21 13 09.4	+1.4
IKRK	Kirkuk	3.57	313	*e*Pn	Pn	21 13 11.5	+1.7
IKRK				*e*Sn	Sn	21 13 53.3	+1.6
KLNJ	Kolanjah	3.98	119	Pn	Pn	21 13 17.0	+1.2
IVRN	Varamin	4.03	59	Pn	Pn	21 13 18.0	+1.8
IZEF	Zefreh	4.04	90	Pn	Pn	21 13 18.4	+1.8
IGZV	Ghazvin	4.05	32	Pn	Pn	21 13 18.0	+1.3
IFIR	Firoozkooh	5.08	57	Pn	Pn	21 13 32.1	+1.3
IPRN	Peran	5.13	49	Pn	Pn	21 13 33.1	+1.8
BVAR	Borovoye Array	25.89	33	P	P	21 17 45.2	-0.8
	comp=E,1.2nm,0.8s,baz=218,slow=9.1,SNR=5.7						
	comp=E,1.2nm,0.8s						
KURBB	Kurchatov Arra	28.77	43	P	P	21 18 11.9	0.0
	comp=E,0.7nm,0.8s,baz=246,slow=8.9,SNR=4.5						
	comp=E,0.7nm,0.8s						
MKAR	Makanchi Array	29.76	52	P	P	21 18 19.7	-1.2
	comp=E,0.5nm,0.8s,baz=253,slow=7.0,SNR=4.8						
	comp=E,0.5nm,0.8s						
ZALV	Zalesovo Beam	33.67	40	P	P	21 18 53.4	-1.6
	comp=E,0.8nm,0.5s,baz=246,slow=7.4,SNR=4.8						
	comp=E,0.8nm,0.5s						
CMAR	Chiang Mai Arr	48.09	94	P	P	21 20 52.6	-1.6
	comp=E,0.6nm,0.7s,baz=297,slow=6.0,SNR=6.0						
	comp=E,0.6nm,0.7s						

*ISN **24** 21:16:38.0±0.3, 33°.00N×47°.45E, h9km±1km, ML2.7*
*TEH **24** 21:16:38.4, 33°.05N×47°.48E, h10km±117km*
ISC 24 21:16:39.1±1.1, 33°.01N±0°.06×47°.50E±0°.06, h15km, n10, σ1§10/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	Kafar-mosalman	0.59	30	Pg	Pg	21 16 49.0	-1.7
IKFM				Sg	Sg	21 16 58.4	-0.1
IDOB	Doab	0.96	36	Pg	Pg	21 16 57.5	-0.2
KCHF	Cheshme Sefid,	1.31	343	Pg	Pb	21 17 03.1	-0.5
IBDR	Badra	1.32	275	*e*Pg	Pn	21 17 02.5	-0.4
IBDR				*e*Sg	Sg	21 17 20.5	-1.1
IBDR				AML	AML	21 17 24.6	
	comp=E,106nm,0.7s						
IBDR				AML	AML	21 17 28.3	
	comp=N,124nm,0.6s						
BDRS	Dareh Seyedi	1.49	51	Pg	Pb	21 17 06.7	+0.1
HSAM	Samen	1.51	37	Pg	Pg	21 17 07.5	-0.7
RAFI	Al-Rafai	1.74	223	*e*Pn	Pb	21 17 10.0	-0.7
RAFI				*e*Sn	Sb	21 17 33.0	+0.7
RAFI				AML	AML	21 17 44.2	
	comp=N,216nm,0.3s						
RAFI				AML	AML	21 17 45.5	
	comp=E,124nm,0.3s						
SNQR	Sonqor, Kerman	1.84	3	Pn	Pg	21 17 13.3	-1.3
BHD	Baghdad	2.63	276	*e*Pn	Pn	21 17 22.0	+1.1
BHD				*e*Sn	Sn	21 17 54.0	+1.5
IKRK	Kirkuk	3.54	313	*e*Pn	Pn	21 17 34.7	+1.2
IKRK				*e*Sn	Sn	21 18 16.4	+1.4

*AFAD **24** 21:30:35.8, 36°.05N×29°.06E, h24km±1km, ML2.7*
*NIC **24** 21:30:35.7, 35°.92N×29°.14E, h32km±30km, Ml2.6/6*
*ISK **24** 21:30:36.1, 36°.11N×29°.07E, h13km, ML2.8/14*
*ATH **24** 21:30:36.6, 36°.11N×29°.11E, h32km±4km, ML2.7/3,*
Manual Solution by M.Kolligri First location: 2019/02/24 21:32:08, This location: 2019/03/22 09:16:11 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 17 km; Longitude uncertainty: 8 km
ISC 24 21:30:35.9±1.0, 36°.03N±0°.04×29°.12E±0°.02, h32km±9km, n56, σ0§99/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.40	72	P	Pb	21 30 45.0	+0.1
KSL				S	Sn	21 30 52.8	+1.0
KSL				AML	AML	21 30 55.7	
	1.3nm,0.3s						
KSL				AML	AML	21 30 56.5	
	2.3nm,0.4s						
KSL	Kastellorizon	0.40	72	P	Pb	21 30 45.0	+0.1
KSL				S	Sn	21 30 52.8	+1.0
IZZE	Mula-Seydike	0.42	12	P	Pb	21 30 44.6	-0.6
IZZE				S	Sb	21 30 50.8	-0.8
IZZE				*i* AML	AML	21 30 54.0	
	comp=E,988nm,0.3s						
AKAS	Kas	0.45	63	Pg	Pn	21 30 45.9	-0.3
AKAS	Kas	0.45	63	P	Pb	21 30 45.5	-0.2
FETY	Fethiye	0.60	358	Pg	Pb	21 30 46.9	-1.3
FETY	Fethiye	0.60	358	P	Pn	21 30 48.0	-0.4
FETY				S	Sn	21 30 58.7	+1.7
DEMR	Demre-Antalya	0.67	72	Pg	Pn	21 30 49.7	+0.5
SABU	Mula-Dalaman	0.80	352	P	Pb	21 30 50.8	-0.7
SABU				S	Sn	21 31 01.9	0.0
SABU				*i* AML	AML	21 31 08.0	
	comp=E,315nm,0.7s						
ARG	Arkhangelos	0.82	283	Pg	Pn	21 30 51.4	+0.1
ARG				Sg	Sn	21 31 03.1	+0.7
ARG	Arkhangelos	0.82	283	P	Pn	21 30 51.1	-0.1
ARG				S	Sn	21 31 03.5	+1.1
ARG				AML	AML	21 31 05.0	
	0.8nm,0.3s						
ARG				AML	AML	21 31 11.4	
	0.9nm,0.4s						
ARG	Arkhangelos	0.82	283	P	Pn	21 30 51.3	0.0
ARG				S	Sn	21 31 03.5	+1.1
DALY	Dalyan (Mula)	0.87	335	Pg	Pn	21 30 51.4	-0.5
KNIK	Mula-Seydike	0.89	24	P	Pb	21 30 52.9	-0.2
KNIK				S	Sn	21 31 05.9	+1.6
KNIK				*i* AML	AML	21 31 08.0	
	comp=E,145nm,0.9s						
CAME	Cameli-Denizli	0.93	9	Pg	Pb	21 30 52.9	-0.7
ELL	Elmali	0.96	41	Pg	Pb	21 30 54.5	+0.3
ELL	Elmali	0.96	41	P	Pb	21 30 54.1	-0.1
ELL				AML	AML	21 31 11.6	
	2.1nm,0.9s						
ELL				AML	AML	21 31 11.6	
	3.3nm,1.0s						
ELL	Elmali	0.96	41	P	Pb	21 30 54.6	+0.3
TURN	Turunc	1.02	317	Pg	Pn	21 30 54.3	+0.2
TURN				Sg	Sb	21 31 07.9	-0.4
TURN	Turunc	1.02	317	P	Pn	21 30 54.5	+0.4
AKUM	Antalya-Kumluc	1.03	73	P	Pb	21 30 55.0	-0.3
CAEL	Denizli, Camel	1.10	8	P	Pb	21 30 56.4	-0.2
DNZT	Denizli-Tavas-	1.25	357	P	Pb	21 30 58.3	-0.8
DNZT				P	Pb	21 30 58.3	-0.8
GOLH	Golhisar	1.26	16	P	Pb	21 30 59.1	0.0
GOLH				S	Sb	21 31 17.5	+2.4
GOLH				*i* AML	AML	21 31 25.0	
	comp=N,107nm,0.8s						
YER	Yerkesik	1.29	329	Pn	Pb	21 30 59.0	-0.7
YER				Sn	Sb	21 31 16.0	0.0
MULA	Mugla, Merkez-	1.38	333	P	Pb	21 31 00.1	-1.2
MULA				S	Sn	21 31 16.4	+0.1
DATC	Datca-Mugla	1.38	302	Pn	Pb	21 31 00.3	-0.9
KORT	Korkueli	1.39	45	Pn	Pb	21 31 01.2	-0.2
KORT	Korkueli	1.39	45	P	Pb	21 31 01.4	0.0
KORT				S	Sb	21 31 21.9	+3.0
KORT				*i* AML	AML	21 31 33.0	
	comp=E,131nm,0.7s						
DAT	Datca	1.42	300	Pn	Pn	21 31 00.9	+1.2
DAT	Datca	1.42	300	P	Pn	21 31 00.0	+0.3
TAVA	DENIZLI_Tavas	1.44	354	P	Pb	21 31 01.1	-1.2
TAVA				S	Sb	21 31 19.5	-0.9
TAVA				*i* AML	AML	21 31 20.0	
	comp=E,111nm,0.4s						
APMY	Acipayam-Deniz	1.45	6	Pn	Pb	21 31 01.4	-1.0
APMY				Sn	Sb	21 31 20.6	+0.1
YAZI	Mula-Dat§a-	1.49	296	P	Pb	21 31 02.2	-0.8
ANTB	Antalya	1.51	55	Pn	Pb	21 31 03.5	+0.1
DNIZ	Denizli-Tavas-	1.59	358	P	Pb	21 31 03.5	-1.3
DNIZ				S	Sb	21 31 24.3	-0.3
DNIZ				*i* AML	AML	21 31 30.0	
	comp=E,380nm,0.3s						
KARP	Karpathos	1.66	254	P	Pn	21 31 03.3	+0.4
KARP				AML	AML	21 31 23.6	
	0.2nm,0.7s						
KARP				S	Sn	21 31 23.6	+0.5
KARP				AML	AML	21 31 40.8	
	0.3nm,0.9s						
KARP	Karpathos	1.66	254	P	Pn	21 31 04.0	+1.2
BDRM	Kayabasi	1.70	308	P	Pb	21 31 05.8	-0.7
INCE	Denizli-Bozkur	1.72	12	P	Pb	21 31 05.3	-1.6
INCE				S	Sb	21 31 29.0	+0.9
INCE				*i* AML	AML	21 31 33.0	
	comp=E,161nm,1.0s						
BUCA	Burdur, Bucak-	1.74	41	P	Pb	21 31 05.9	-1.4
BRDR	BURDUR-Merkez	1.83	24	P	Pb	21 31 06.8	-2.0
BCK	Bucak	1.85	39	Pn	Pb	21 31 07.6	-1.7
ESEN	Aydn-Nazilli	1.87	341	P	Pn	21 31 06.5	+0.8
ESEN				S	Sb	21 31 31.3	-1.1
ESEN				*i* AML	AML	21 31 36.0	
	comp=N,43nm,0.3s						
BASM	Basmaki-Afyon	2.03	21	Pn	Pn	21 31 08.7	+0.7
ISP	Isparta	2.12	32	Pn	Pb	21 31 11.6	-2.1
KEPZ	Antalya-Kepez	2.19	66	P	Pn	21 31 11.6	+1.5
SMG	Samos	2.48	313	P	Pn	21 31 14.2	+0.1
ZKR	Zakros	2.53	250	P	Pn	21 31 17.1	+2.2
AKMS	Akamas	2.81	110	P	Pn	21 31 18.3	-0.4
AKMS				S	Sn	21 31 50.3	-1.2
AKMS				AML	AML	21 31 52.4	
	0.1nm,0.5s						
AKMS				AML	AML	21 31 53.6	
ALFC	Alefka	2.97	106	P	Pn	21 31 19.9	-1.0
ALFC				S	Sn	21 31 55.2	-0.2
ALFC				AML	AML	21 31 56.4	
	0.1nm,0.2s						
ALFC				AML	AML	21 31 56.6	
	0.1nm,0.4s						
NATA	Nata	3.08	113	P	Pn	21 31 22.2	-0.2
APOL	The Sanctuary	3.35	113	P	Pn	21 31 25.5	-0.5
APOL				S	Sn	21 32 03.3	-1.4
ASGA	Asgata	3.60	109	P	Pn	21 31 28.6	-0.9
CSS	Mathiatis	3.60	106	P	Pn	21 31 28.9	-0.7
CSS				S	Sn	21 32 10.4	-0.6
MVOU	Mavrovouni	3.82	104	P	Pn	21 31 32.4	-0.1
MVOU				S	Sn	21 32 16.1	-0.2

*NAO **24** 21:46:19.9±1.6, 66°.21N×12°.39E, h10km±8km, ML2.8*
*IDC **24** 21:46:19.9±1.5, 66°.15N×12°.61E, h0km, mbtmp3.2/5, ML2.6/5, Error ellipse: s-maj=17.9km s-min=8.2km az=115.0*
*BER **24** 21:46:21.3±3.4, 66°.20N×12°.44E, h0km±8km, ML2.2, MW2.5, ML2.8(NAO), Confirmed Earthquake*
ISC 24 21:46:19.6±1.1, 66°.17N±0°.03×12°.42E±0°.05, h12km±8km, n45, σ1§57/80, 3C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEIR	Leirfjorden	0.29	102	⇑*i*P	Pg	21 46 26.0	+0.5
LEIR				*e*S	Sg	21 46 29.8	+0.5
LEIR				IAML		21 46 30.8	
	comp=Z,551nm,0.2s						
STOK	Stokkvaagen	0.29	56	Pg	Pb	21 46 26.0	-0.7
STOK				Lg	Lg	21 46 29.7	
STOK	Stokkvaagen	0.29	56	⇑*i*P	Pb	21 46 26.0	-0.7
STOK				*e*S	Sb	21 46 29.7	-1.8
STOK				IAML		21 46 30.4	
	comp=Z,570nm,0.2s						
KONS	Konsvik	0.43	40	Pg	Pg	21 46 27.9	-0.2
KONS				Lg	Lg	21 46 33.7	
KONS	Konsvik	0.43	40	⇑*i*P	Pg	21 46 27.9	-0.2
KONS				*e*S	Sg	21 46 33.6	-0.2
KONS				IAML		21 46 34.4	
	comp=Z,309nm,0.1s						
MOR8	Moi Rana	0.82	89	Pg	Pn	21 46 37.1	+0.1
MOR8				Lg	Lg	21 46 49.6	
MOR8	Moi Rana	0.82	89	*e*P	Pn	21 46 37.0	+0.1
MOR8				*e*S	Sn	21 46 49.6	+0.6
MOR8				IAML		21 46 51.0	
	comp=Z,300nm,0.4s						
NSS	Namsos	1.66	187	*e*P	Pb	21 46 50.8	+0.8
NSS				*e*S	Sb	21 47 12.3	+1.5
NSS				IAML		21 47 17.0	
	comp=Z,36nm,0.2s						
FAUS	Fauske	1.66	42	*e*P	Pn	21 46 49.3	+0.8
FAUS				*e*S	Sb	21 47 10.8	-0.2
FAUS				IAML		21 47 16.4	
	comp=Z,64nm,0.5s						
LOF	Lofoten	2.02	12	Pn	Pn	21 46 51.9	-1.5
LOF	Lofoten	2.02	12	*e*P	Pn	21 46 53.0	-0.3
LOF				*e*S	Sn	21 47 17.4	-1.0
LOF				IAML		21 47 41.5	
	comp=Z,20nm,0.6s						
STEI	Steigen	2.08	31	Pn	Pn	21 46 53.6	-0.6
STEI				Pg	Pb	21 46 56.1	-1.2
STEI				Lg	Lg	21 47 25.9	
STEI	Steigen	2.

NOA	**NORSAR Array B**	**5.18**	**187**	Pn	**Pn**	**21 47 38.5**	**+1.6**
	baz=2.3,slow=13,SNR=5.6						
NOA				Sn	**Sn**	**21 48 35.4**	**-1.0**
	baz=322,slow=18,SNR=1.9						
NOA				Lg	Lg	21 49 01.3	
	comp=Z,0.1nm,0.3s,baz=360,slow=14,SNR=4.5 comp=Z,0.2nm,0.4s						
NRA0	**NORESS Array S**	**5.47**	**185**	Pn	**Pn**	**21 47 42.6**	**+1.7**
	baz=3.6,slow=16						
NRA0				Sn	**Sn**	**21 48 43.0**	**-0.6**
	baz=8.5,slow=18						
NRA0				Lg	Lg	21 49 11.8	
	baz=355,slow=37						
NRA0	**NORESS Array S**	**5.47**	**185**	Pn	**Pn**	**21 47 42.6**	**+1.7**
	baz=3.6,slow=16						
NRA0				Sn	**Sn**	**21 48 43.0**	**-0.6**
	baz=8.5,slow=18						
NRA0				Sg	**Sg**	**21 49 11.8**	**-3.2**
	baz=355,slow=37						
ARA0	**ARCESS Array S**	**5.98**	**50**	Pn	**Pn**	**21 47 48.3**	**+0.5**
	baz=238,slow=14						
ARA0				Sn	**Sn**	**21 48 55.0**	**-1.1**
	baz=237,slow=22						
ARA0	**ARCESS Array S**	**5.98**	**50**	Pn	**Pn**	**21 47 48.3**	**+0.5**
	baz=238,slow=14						
ARA0				Sn	**Sn**	**21 48 55.0**	**-1.1**
	baz=237,slow=22						
ARA0				IAML		21 49 01.2	
	comp=Z,2.5nm,1.0s						
ARCES	**ARCESS Array B**	**5.98**	**50**	Pn	**Pn**	**21 47 48.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=236,slow=13,SNR=16						
ARCES				Lg	Lg	21 49 22.8	
	comp=Z,0.7nm,0.3s,baz=242,slow=26,SNR=7.0 comp=Z,0.7nm,0.3s						
HFS	**Hagfors**	**6.09**	**174**	Pn	**Pn**	**21 47 51.3**	**+2.0**
	baz=354,slow=11						
HFS				Sn	**Sn**	**21 48 59.8**	**+1.0**
	baz=4.8,slow=28						
HFS	**Hagfors**	**6.09**	**174**	Pn	**Pn**	**21 47 51.3**	**+2.0**
	baz=354,slow=11						
HFS				Sn	**Sn**	**21 48 59.8**	**+1.0**
	baz=4.8,slow=28						
HFS	**Hagfors**	**6.09**	**174**	Pn	**Pn**	**21 47 49.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=356,slow=29,SNR=1.8						
HFS				Sn	**Sn**	**21 48 57.7**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=358,slow=26,SNR=1.8						
HFS				Lg	Lg	21 49 29.4	
	comp=Z,0.8nm,0.3s,baz=357,slow=26,SNR=6.3 comp=Z,1.9nm,0.8s						
KEV	**Kevo**	**6.55**	**50**	Pn	**Pn**	**21 47 55.5**	**-0.1**
KEV	**Kevo**	**6.55**	**50**	*e*P	**Pn**	**21 47 55.8**	**+0.2**
KEV				*e*		21 49 09.7	
VADS	**Vadso**	**7.44**	**50**	*e*P	**Pn**	**21 48 08.1**	**+0.3**
VADS				IAML		21 49 29.3	
	comp=Z,3.9nm,0.7s						
FIA0	**FINESS Array S**	**7.67**	**122**	Pn	**Pn**	**21 48 11.7**	**+0.7**
	baz=321,slow=12						
FIA0	**FINESS Array S**	**7.67**	**122**	Pn	**Pn**	**21 48 11.7**	**+0.7**
	baz=321,slow=12						
FINES	**FINESS Array B**	**7.67**	**122**	Pn	**Pn**	**21 48 10.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=321,slow=14,SNR=6.6						
FINES				Sn	**Sn**	**21 49 34.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=313,slow=18,SNR=2.7						
FINES				Lg	Lg	21 50 14.5	
	comp=Z,0.7nm,0.3s,baz=321,slow=26,SNR=8.2 comp=Z,3.2nm,1.0s						
APA0	**Apatity Array**	**8.21**	**71**	Pn	**Pn**	**21 48 18.7**	**+0.4**
	baz=291,slow=11						
APA0				Sn	**Sn**	**21 49 46.1**	**-4.7**
	baz=272,slow=28						
APA0	**Apatity Array**	**8.21**	**71**	Pn	**Pn**	**21 48 18.7**	**+0.4**
	baz=291,slow=11						
APA0				Sn	**Sn**	**21 49 46.1**	**-4.7**
	baz=272,slow=28						
EKA	**Eskdalemuir Ar**	**13.22**	**222**	Pn	**Pn**	**21 49 28.4**	**+1.6**
	baz=28,slow=12 comp=Z,1.6nm,1.0s						

*IDC **24** 21:56:57.4±1.9, 38.°41N×20.°31E, h0km, mb3.9/8, mbtmp3.8/13, ML3.8/4, Error ellipse: s-maj=30.1km s-min=18.2km az=34.0*
*TIR **24** 21:57:00.6, 38.°73N×20.°63E, h20km±1km, Ml3.8/8*
*ATH **24** 21:57:03.4, 38.°88N×20.°60E, h8km±2km, ML3.5/30, Manual Solution by M.Papanikolaou First location: 2019/02/24 21:57:19, This location: 2019/02/24 22:14:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km*
*THE **24** 21:57:03.6, 38.°87N×20.°65E, h10km, ML3.4/8, Error ellipse: s-maj=1.5km s-min=0.5km az=253.0*
*PDG **24** 21:57:04.2±1.0, 38.°87N×20.°53E, h4km±2km, ML3.7/10, Error ellipse: s-maj=1.4km s-min=1.9km az=0.0*
*NEIC **24** 21:57:05.5±1.2, 38.°91N±0.°04×20.°52E±0.°06, h10km±1km, mb4.1/13, Error ellipse: s-maj=8.9km s-min=4.1km az=231.0*

ISC 24 21:57:03.7±0.7, **38.°86N**±0.°01×**20.°59E**±0.°02, **h9**km±4km, **n193**, σ1§**60**/233, **mb4.0**/14, **17C-3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.07**	**124**	P	**Pg**	**21 57 05.0**	**-0.8**
TSLK				S	**Sg**	**21 57 07.2**	**0.0**
	84μm,0.3s						
TSLK	**Tsoukalades, L**	**0.07**	**124**	P	**Pg**	**21 57 05.4**	**-0.3**
TSLK				S	**Sg**	**21 57 07.3**	**0.0**
LKD2	**Lefkada island**	**0.09**	**142**	P	**Pg**	**21 57 06.0**	**-0.1**
LKD2				S	**Sg**	**21 57 08.8**	**+0.9**
LKD2				AML	AML	21 57 08.8	
	269nm,0.5s						
LKD2				AML	AML	21 57 11.1	
	182nm,0.7s						
LKD2	**Lefkada island**	**0.09**	**142**	P	**Pg**	**21 57 06.0**	**-0.1**
LKD2				S	**Sg**	**21 57 07.9**	**+0.1**
	57μm,0.6s						
LKD2	**Lefkada island**	**0.09**	**142**	P	**Pg**	**21 57 06.0**	**-0.1**
LKD2				S	**Sg**	**21 57 08.0**	**+0.2**
NYDR	**Nydri-Lefkada**	**0.17**	**149**	P	**Pg**	**21 57 07.2**	**-0.1**
NYDR				S	**Sg**	**21 57 10.0**	**+0.2**
	17μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.18**	**183**	P	**Pg**	**21 57 07.5**	**0.0**
DRAG				S	**Sg**	**21 57 11.4**	**+1.4**
DRAG	**Dragano-Lefkad**	**0.18**	**183**	P	**Pg**	**21 57 07.7**	**+0.3**
DRAG				S	**Sg**	**21 57 10.6**	**+0.6**
EVGI	**Lefkada island**	**0.25**	**167**	P	**Pg**	**21 57 08.7**	**0.0**
EVGI				S	**Sg**	**21 57 12.9**	**+0.9**
	11μm,0.3s						
EVGI	**Lefkada island**	**0.25**	**167**	P	**Pg**	**21 57 08.7**	**0.0**
EVGI				S	**Sg**	**21 57 12.6**	**+0.5**
FSK	**Fiskardo**	**0.40**	**183**	P	**Pg**	**21 57 11.2**	**-0.4**
FSK				S	**Sb**	**21 57 18.4**	**-0.8**
	4μm,0.6s						
FSK	**Fiskardo**	**0.40**	**183**	P	**Pg**	**21 57 11.4**	**-0.2**
FSK				S	**Sg**	**21 57 17.6**	**+0.7**
ARTB	**Arta**	**0.42**	**46**	P	**Pg**	**21 57 11.0**	**-1.0**
DMLN	**Damoulianata-K**	**0.64**	**195**	P	**Pg**	**21 57 15.6**	**-0.6**
DMLN				S	**Sb**	**21 57 26.6**	**+0.4**
	3μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**195**	P	**Pg**	**21 57 15.8**	**-0.4**
VLS	**Valsamata**	**0.68**	**180**	P	**Pg**	**21 57 16.2**	**-0.7**
VLS				S	**Sg**	**21 57 26.2**	**+0.4**
IGT	**Igoumenitsa**	**0.70**	**344**	P	**Pg**	**21 57 16.5**	**-0.7**
IGT				S	**Sn**	**21 57 29.4**	**-1.4**
IGT	**Igoumenitsa**	**0.70**	**344**	P	**Pg**	**21 57 16.0**	**-1.2**
IGT				S	**Sb**	**21 57 27.5**	**-0.3**
	2μm,0.5s						
IGT	**Igoumenitsa**	**0.70**	**344**	P	**Pg**	**21 57 16.4**	**-0.9**
LFKM	**Lefkimmi**	**0.71**	**325**	P	**Pb**	**21 57 17.8**	**-0.5**
LFKM				S	**Sb**	**21 57 28.8**	**+0.6**
TETR	**Tetrakomo, Epi**	**0.72**	**48**	P	**Pg**	**21 57 16.3**	**-1.4**
TETR				S	**Sg**	**21 57 27.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.75**	**180**	P	**Pg**	**21 57 17.3**	**-0.8**
PSDA				S	**Sb**	**21 57 28.9**	**-0.2**
	4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.75**	**180**	P	**Pg**	**21 57 17.3**	**-0.8**
PSDA				S	**Sg**	**21 57 28.2**	**+0.3**
PVO	**Paravola**	**0.77**	**108**	P	**Pg**	**21 57 18.0**	**-0.6**
PVO				S	**Sb**	**21 57 29.2**	**-0.8**
RTZL	**Ratzakli, Kefa**	**0.80**	**169**	P	**Pg**	**21 57 18.1**	**-1.0**
RTZL				S	**Sb**	**21 57 30.8**	**+0.2**
JAN	**Janina**	**0.82**	**14**	P	**Pg**	**21 57 19.0**	**-0.6**
AXS	**Araxos**	**0.91**	**137**	P	**Pg**	**21 57 20.0**	**-1.2**
AXS				S	**Sb**	**21 57 33.6**	**-0.2**
EVR	**Evrytania**	**0.96**	**86**	P	**Pg**	**21 57 22.0**	**-0.1**
KEK	**Kerkira**	**1.05**	**325**	Pg	**Pb**	**21 57 23.9**	**-0.1**
KEK				Sn	**Sn**	**21 57 39.5**	**+0.2**
RLS	**Riolos of Patr**	**1.06**	**139**	P	**Pg**	**21 57 22.6**	**-1.4**
CLEM	**Kyllini,Ilia,G**	**1.06**	**156**	P	**Pg**	**21 57 22.9**	**-1.1**
ANX	**Ano Chora**	**1.08**	**104**	P	**Pg**	**21 57 22.8**	**-1.6**
ANX	**Ano Chora**	**1.08**	**104**	P	**Pg**	**21 57 23.3**	**-1.2**
PATC	**Patra C**	**1.09**	**122**	P	**Pb**	**21 57 23.6**	**-1.2**
UPR	**University Cam**	**1.10**	**121**	P	**Pb**	**21 57 23.7**	**-1.2**
SRN	**Sarande**	**1.11**	**336**	P	**Pb**	**21 57 23.8**	**-1.3**
SRN				S	**Sn**	**21 57 43.0**	**+2.0**
SRN				AML	AML	21 57 51.1	
	1.8nm,0.6s						
SRN	**Sarande**	**1.11**	**336**	P	**Pb**	**21 57 23.6**	**-1.5**
EFP	**Efpalio**	**1.12**	**112**	P	**Pb**	**21 57 23.2**	**-2.0**
EFP	**Efpalio**	**1.12**	**112**	P	**Pb**	**21 57 23.6**	**-1.7**
LTHK	**Lithakia**	**1.17**	**170**	P	**Pb**	**21 57 24.7**	**-1.3**
LTHK	**Lithakia**	**1.17**	**170**	P	**Pb**	**21 57 25.0**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.22**	**82**	P	**Pb**	**21 57 25.8**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.22**	**82**	P	**Pb**	**21 57 25.7**	**-1.1**
KPRO	**Kipourio**	**1.25**	**29**	P	**Pn**	**21 57 26.5**	**-0.9**
KPRO	**Kipourio**	**1.25**	**29**	P	**Pn**	**21 57 26.6**	**-0.9**
DRO	**Drossia**	**1.27**	**135**	P	**Pn**	**21 57 25.9**	**-1.7**
DRO	**Drossia**	**1.27**	**135**	P	**Pn**	**21 57 26.0**	**-1.5**
LSK	**Leskovik**	**1.29**	**0**	P	**Pn**	**21 57 27.3**	**-0.6**
LSK				S	**Sn**	**21 57 47.1**	**+1.7**
LSK				AML	AML	21 58 02.5	
	11nm,0.7s						
LSK	**Leskovik**	**1.29**	**0**	P	**Pn**	**21 57 27.0**	**-0.9**
KALE	**Kalithea**	**1.30**	**111**	P	**Pn**	**21 57 27.0**	**-1.1**
THL	**Klokotos Trika**	**1.31**	**57**	P	**Pn**	**21 57 27.3**	**-0.9**
PENT	**Pentalofos**	**1.40**	**18**	P	**Pb**	**21 57 29.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.48**	**123**	P	**Pn**	**21 57 29.2**	**-1.3**
TYRN	**Tyrnavos**	**1.53**	**56**	P	**Pn**	**21 57 31.0**	**-0.3**
NEST	**Nestorio**	**1.59**	**13**	P	**Pg**	**21 57 33.5**	**-0.8**
NEST				S	**Sg**	**21 57 56.5**	**+1.5**
NEST				AML	AML	21 58 04.4	
	2.5nm,0.6s						
NEST				AML	AML	21 58 05.5	
	4.2nm,0.7s						
NEST	**Nestorio**	**1.59**	**13**	P	**Pb**	**21 57 33.2**	**-0.2**
AMT	**Artemida-Makis**	**1.59**	**146**	P	**Pn**	**21 57 32.3**	**+0.2**
AXAR	**Agios Charalam**	**1.62**	**93**	P	**Pb**	**21 57 33.4**	**-0.4**
GUR	**Goura**	**1.66**	**123**	P	**Pn**	**21 57 32.2**	**-0.9**
KZN	**Kozani**	**1.71**	**32**	P	**Pg**	**21 57 35.6**	**-0.9**
KBN	**Korca**	**1.77**	**5**	P	**Pg**	**21 57 38.2**	**+0.6**
KBN				S	**Sg**	**21 58 01.0**	**+0.5**
KBN				AML	AML	21 58 09.0	
	2.3nm,0.8s						
KBN				AML	AML	21 58 13.9	
	2.3nm,0.7s						
KBN	**Korca**	**1.77**	**5**	Pn	**Pb**	**21 57 35.6**	**-0.8**
VLO	**Vlora**	**1.81**	**333**	P	**Pb**	**21 57 37.1**	**+0.1**
LKR	**Lokris**	**1.90**	**96**	P	**Pb**	**21 57 38.2**	**-0.3**
LIT	**Litokhoron**	**1.92**	**49**		**Pb**	**21 57 38.5**	**-0.4**
LIT	**Litokhoron**	**1.92**	**49**	P	**Pb**	**21 57 38.4**	**-0.5**
ITM	**Ithomi**	**1.98**	**147**		**Pb**	**21 57 40.1**	**+0.1**
ITM	**Ithomi**	**1.98**	**147**	P	**Pb**	**21 57 39.1**	**-0.9**
SCTE	**Santa Cesarea**	**2.04**	**307**	Pn	**Pn**	**21 57 38.4**	**+0.2**
XOR	**Xorichti**	**2.09**	**75**	P	**Pb**	**21 57 40.3**	**-1.4**
NEO	**Neokhori**	**2.10**	**77**	P	**Pn**	**21 57 39.9**	**+0.9**
OHR	**Ohrid**	**2.25**	**4**	*i* Pn	**Pb**	**21 57 43.9**	**-0.7**
TIR	**Tirane**	**2.54**	**348**		**Pn**	**21 57 46.0**	**+0.9**
TIR	**Tirane**	**2.54**	**348**	⇓P	**Pn**	**21 57 46.9**	**+1.8**
THE	**Thessaloniki**	**2.55**	**45**	P	**Pn**	**21 57 46.3**	**+1.2**
THE				S	**Sb**	**21 58 19.4**	**-1.6**
THE				AML	AML	21 58 37.0	
	0.3nm,0.8s						
THE	**Thessaloniki**	**2.55**	**45**	P	**Pn**	**21 57 45.8**	**+0.6**
HORT	**Hortiatis**	**2.60**	**47**	P	**Pn**	**21 57 46.3**	**+0.3**
PHP	**Peshkopia**	**2.82**	**358**	P	**Pn**	**21 57 50.3**	**+1.3**
PHP				S	**Sb**	**21 58 27.9**	**-1.0**
PHP				AML	AML	21 58 46.8	
	0.9nm,1.0s						
TIP	**Timpagrande**	**3.00**	**277**		**Pn**	**21 57 52.2**	**+0.7**
PUK	**Puka**	**3.22**	**351**		**Pn**	**21 57 55.3**	**+0.8**
ULC	**Ulcinj**	**3.26**	**342**	Pn	**Pn**	**21 57 54.9**	**-0.2**
ULC	**Ulcinj**	**3.26**	**342**	⇑*i*Pn	**Pn**	**21 57 54.5**	**-0.6**
ULC				*i* Sn	**Sn**	**21 58 34.3**	**+0.3**
PEHC	**Pehcevo**	**3.41**	**31**	*i* Pn	**Pn**	**21 57 58.7**	**+1.6**
MATE	**Matera**	**3.48**	**302**	⇑P	**Pn**	**21 57 59.9**	**+1.9**
MATE				⇓S	**Sn**	**21 58 40.0**	**+0.6**
DRME	**Dracevica, Mon**	**3.49**	**343**	P	**Pn**	**21 57 58.3**	**+0.2**
DRME	**Dracevica, Mon**	**3.49**	**343**	*e*Pn	**Pn**	**21 57 58.0**	**-0.1**
DRME	**Dracevica, Mon**	**3.49**	**343**	*e*Pn	**Pn**	**21 57 57.6**	**-0.5**
DRME				*i* Sn	**Sn**	**21 58 39.8**	**+0.3**
BCI	**Bajram Curri**	**3.52**	**354**	P	**Pn**	**21 58 00.4**	**+1.7**
BCI				AML	AML	21 59 15.9	
	1.1nm,0.9s						
BUM	**Brajici-Budva**	**3.67**	**340**	⇑*i*Pn	**Pn**	**21 58 00.0**	**-0.7**
BUM				*i* Sn	**Sn**	**21 58 44.2**	**+0.1**
PDG	**Podgorica**	**3.71**	**345**		**Pn**	**21 58 01.3**	**+0.2**
PDG	**Podgorica**	**3.71**	**345**	*e*Pn	**Pn**	**21 58 00.7**	**-0.4**
PDG	**Podgorica**	**3.71**	**345**	*e*Pn	**Pn**	**21 58 00.7**	**-0.4**
PDG				*i* Sn	**Sn**	**21 58 44.7**	**-0.1**
CEL	**Celeste**	**3.73**	**262**	Pn	**Pn**	**21 58 02.1**	**+0.6**
CUC	**Castrocucco**	**3.86**	**289**	Pn	**Pn**	**21 58 05.2**	**+1.9**
CEME	**Cevo**	**3.89**	**342**	⇑*i*Pn	**Pn**	**21 58 03.0**	**-0.8**
CEME				*i* Sn	**Sn**	**21 58 48.8**	**-0.8**
HCY	**Herceg Novi**	**3.92**	**337**	*e*Pn	**Pn**	**21 58 03.0**	**-1.1**
HCY	**Herceg Novi**	**3.92**	**337**	*e*Pn	**Pn**	**21 58 03.2**	**-0.9**
HCY				*i* Sn	**Sn**	**21 58 48.5**	**-1.7**
IVA	**Berane**	**4.04**	**353**	*e*Pn	**Pn**	**21 58 05.7**	**-0.1**
IVA				*i* Sn	**Sn**	**21 58 53.5**	**+0.2**
KOME	**Kolasin**	**4.07**	**349**	*e*Pn	**Pn**	**21 58 06.0**	**-0.2**
KOME				*i* Sn	**Sn**	**21 58 54.2**	**+0.3**
NKME	**Niksic**	**4.09**	**343**	*e*Pn	**Pn**	**21 58 06.0**	**-0.5**
NKME				*i* Sn	**Sn**	**21 58 54.0**	**-0.5**
BRY	**Bratogost**	**4.32**	**340**	*e*Pn	**Pn**	**21 58 08.0**	**-1.7**
BRY	**Bratogost**	**4.32**	**340**	⇑*i*Pn	**Pn**	**21 58 09.0**	**-0.7**
BRY				*i* Sn	**Sn**	**21 58 58.7**	**-1.6**
SJES	**Sjenica**	**4.42**	**354**	*e*Pn	**Pn**	**21 58 10.5**	**-0.5**
RDO	**Rodhopi**	**4.43**	**57**	Pn	**Pn**	**21 58 12.3**	**+1.2**
STON	**Ston**	**4.56**	**332**	*e*Pn	**Pn**	**21 58 11.2**	**-1.7**
ALN	**Alexandroupoli**	**4.67**	**62**	Pn	**Pn**	**21 58 16.2**	**+1.9**
SGRT	**San Giovanni R**	**4.70**	**310**	Pn	**Pn**	**21 58 15.1**	**+0.3**
RUDO	**Rudo**	**4.84**	**349**	*e*Pn	**Pn**	**21 58 15.5**	**-1.2**
BOVS	**Bovan**	**4.84**	**10**	⇑P	**Pn**	**21 58 16.5**	**-0.3**
BOVS				⇑S	**Sn**	**21 59 10.5**	**-2.4**
IDI	**Anoyia**	**4.96**	**135**	Pn	**Pn**	**21 58 22.1**	**+3.7**
IDI	**Anoyia**	**4.96**	**135**	Pn	**Pn**	**21 58 20.1**	**+1.8**
	0.6nm,0.3s,baz=230,slow=21,SNR=1.3						
IDI				Sn	**Sn**	**21 59 11.3**	**-4.5**
	1.6nm,0.3s,baz=312,slow=18,SNR=1.7						
BLKB	**Belogradchik**	**5.01**	**18**	⇓P	**Pn**	**21 58 22.6**	**+3.5**
VAE	**Valguarnera**	**5.06**	**256**	Sn	**Sn**	**21 59 13.2**	**-5.1**
	0.7nm,0.3s,baz=80,slow=19,SNR=1.9						
BBLS	**Lazi&#263i**	**5.08**	**350**	*e*Pn	**Pn**	**21 58 21.2**	**+1.2**
PAOL	**Paolisi**	**5.11**	**297**		**Pn**	**21 58 22.1**	**+1.7**
RAFF	**Raffo Rosso**	**5.18**	**254**	Pn	**Pn**	**21 58 22.3**	**+0.9**
HAPS	**Han Pijesak,BI**	**5.36**	**347**	*e*Pn	**Pn**	**21 58 22.3**	**-1.7**
TEKS	**Tekeris**	**5.74**	**352**	*e*Pn	**Pn**	**21 58 26.5**	**-2.5**
MDVR	**Moldovita**	**5.97**	**8**	⇑P	**Pn**	**21 58 35.8**	**+3.5**
INTR	**Introdacqua**	**5.99**	**304**	Pn	**Pn**	**21 58 34.1**	**+1.5**
HERR	**Herculane**	**6.17**	**12**	⇑P	**Pn**	**21 58 38.1**	**+3.2**
FRGS	**Fruska Gora**	**6.32**	**355**	*e*Pn	**Pn**	**21 58 35.1**	**-1.9**
A050A	**Klekovaca**	**6.38**	**333**	*e*Pn	**Pn**	**21 58 37.7**	**-0.3**
BLY	**Banja Luka**	**6.41**	**338**	*e*Pn	**Pn**	**21 58 35.5**	**-2.7**
CAMP	**Campotosto**	**6.57**	**306**	Pn	**Pn**	**21 58 42.3**	**+1.7**
GZR	**Gura Zlata**	**6.73**	**13**	⇑P	**Pn**	**21 58 45.0**	**+2.4**
A051A	**Mrakovica**	**6.73**	**337**	*e*Pn	**Pn**	**21 58 41.1**	**-1.6**
GUMA	**Gualdo di Mace**	**6.91**	**310**	Pn	**Pn**	**21 58 46.0**	**+0.9**
NRCA	**Norcia**	**6.92**	**307**		**Pn**	**21 58 46.0**	**+0.7**
FDMO	**Fiordimonte**	**7.04**	**309**	Pn	**Pn**	**21 58 47.4**	**+0.4**
VOIR		**7.36**	**25**	⇑P	**Pn**	**21 58 54.2**	**+2.8**
ISR	**Istrita**	**7.67**	**33**	⇑P	Pn	21 59 00.1	+4.6
MLR	**Muntele Rosu**	**7.73**	**29**		**Pn**	**21 58 58.7**	**+2.3**
MLR	**Muntele Rosu**	**7.73**	**29**	Pn	**Pn**	**21 59 00.2**	**+3.8**
	0.7nm,0.3s,baz=214,slow=9.5,SNR=16						
MLR				Sn	**Sn**	**22 00 31.0**	**+7.0**
	0.2nm,0.3s,baz=252,slow=20,SNR=1.2 5.3nm,0.6s						
MLR	**Muntele Rosu**	**7.73**	**29**	⇑P	Pn	21 59 01.4	+5.0
BOJS	**Bojanci**	**7.73**	**331**	*i* Pn	**Pn**	**21 58 56.1**	**-0.2**
BOJS				*e*Sn	**Sn**	**22 00 18.4**	**-5.5**
GBRS	**Gornja Briga**	**7.92**	**329**	*i* Pn	**Pn**	**21 58 59.2**	**+0.2**
BISRR	**Bisoca**	**8.08**	**32**	⇑P	Pn	21 59 07.0	+5.8
CEY	**Cerknica**	**8.25**	**328**	*e*Pn	**Pn**	**21 59 01.5**	**-2.0**
SKDS	**Skadanscina**	**8.27**	**326**	*e*Pn	**Pn**	**21 59 00.6**	**-3.2**
PLOR	**Plostina**	**8.30**	**31**	⇑P	Pn	21 59 09.3	+5.1
VRI	**Vrincioaia**	**8.34**	**31**	⇑P	Pn	21 59 10.8	+6.0
ODBI	**Odobesti**	**8.40**	**33**	⇑P	**Pn**	**21 59 09.8**	**+4.3**
GROS	**Grobnik**	**8.47**	**335**	*i* Pn	**Pn**	**21 59 05.1**	**-1.4**
SABO	**M.te Sabotino**	**8.79**	**326**	Pn	**Pn**	**21 59 09.8**	**-1.1**
SOKA	**Soboth**	**8.81**	**334**	*e*Pn	**Pn**	**21 59 09.3**	**-1.9**
	0.8nm,0.3s						
OBKA	**Obir**	**8.84**	**332**	*e*Pn	**Pn**	**21 59 10.4**	**-1.3**
	0.9nm,0.2s						
OBKA	**Obir**	**8.84**	**332**	*e*Pn	**Pn**	**21 59 10.4**	**-1.3**
ARSA	**Arzberg**	**9.16**	**338**	*e*Pn	**Pn**	**21 59 16.8**	**+0.7**
	1.2nm,0.3s						
CONA	**Conrad Observa**	**9.69**	**341**	*e*Pn	**Pn**	**21 59 24.4**	**+1.1**
	0.4nm,0.4s						
CTI	**Castel Tesino**	**9.75**	**320**		**Pn**	**21 59 22.1**	**-2.1**
KBA	**Koelnbreinsper**	**9.77**	**330**	*e*Pn	**Pn**	**21 59 23.5**	**-1.0**
	0.7nm,0.3s						
ABTA	**Abfaltersbach**	**9.86**	**326**	*e*Pn	**Pn**	**21 59 24.0**	**-1.7**
	1.2nm,0.4s,SNR=5.6						
MOA	**Molln**	**10.09**	**335**	*e*Pn	**Pn**	**21 59 28.2**	**-0.5**
	2.1nm,0.4s						
BRTR	**Keskin Array B**	**10.16**	**81**	Pn	**Pn**	**21 59 31.8**	**+2.0**
	0.1nm,0.3s,baz=252,slow=9.7,SNR=4.2 0.7nm,0.6s						
BIOA	**Bad Ischl, Aus**	**10.17**	**332**	*e*Pn	**Pn**	**21 59 28.7**	**-1.2**
	1.8nm,0.3s						
LESA	**Schwarzleotal**	**10.32**	**329**	*e*Pn	**Pn**	**21 59 31.5**	**-0.4**
	2.7nm,0.4s,SNR=4.5						
WTTA	**Wattenberg**	**10.64**	**325**	*e*Pn	**Pn**	**21 59 34.1**	**-2.3**
	0.6nm,0.2s						
WATA	**Walderalm**	**10.72**	**325**	*e*Pn	**Pn**	**21 59 36.2**	**-1.3**
	0.9nm,0.2s						
SQTA	**Sankt Quirin**	**10.80**	**324**	*e*Pn	**Pn**	**21 59 38.4**	**-0.2**
	1.5nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**10.84**	**319**	Pn	**Pn**	**21 59 39.1**	**-0.1**
MOTA	**Moosalm**	**10.94**	**324**	*e*Pn	**Pn**	**21 59 38.6**	**-1.9**
	0.6nm,0.3s						
GERES	**GERESS Array B**	**11.14**	**336**	Pn	**Pn**	**21 59 41.8**	**-1.4**
	0.3nm,0.3s,baz=152,slow=14,SNR=5.7 0.8nm,0.4s						
TUE	**Stuetta**	**11.23**	**316**	Pn	**Pn**	**21 59 44.5**	**0.0**
KHC	**Kasperske Hory**	**11.43**	**336**	*e*PN	**Pn**	**21 59 45.4**	**-1.7**
KHC				*e*SN	**Sn**	**22 01 47.8**	**-7.1**
SENIN	**Lac Senin/Sane**	**12.32**	**312**	Pn	**Pn**	**21 59 59.4**	**0.0**
MMAI	**Mount Meron Ar**	**13.34**	**111**	Pn	**Pn**	**22 00 09.2**	**-4.1**
	0.4nm,0.3s,baz=24,slow=13,SNR=4.5 0.2nm,0.4s						
EIL	**Elat**	**14.99**	**123**	Pn	Pn	22 00 30.6	-5.1
	0.6nm,0.4s,baz=9.5,slow=5.7,SNR=4.3						
CLF	**Chambon-Foret**	**16.12**	**311**	Pn	**Pn**	**22 00 50.9**	**+0.5**
CLF				IAmb	IAmb	22 00 56.4	
	comp=Z,16nm,1.4s						
KIV	**Kislovodsk**	**17.32**	**66**		**P**	**22 01 08.7**	**+1.5**
ESDC	**Sonseca Array**	**19.02**	**280**	P	**Pn**	**22 01 26.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=87,slow=9.9,SNR=1.3						
HFS	**Hagfors**	**21.73**	**351**	P	**P**	**22 01 54.7**	**-0.3**
	comp=Z,4.3nm,1.1s,baz=153,slow=9.7,SNR=1.7 comp=Z,4.3nm,1.1s						
FINES	**FINESS Array B**	**22.86**	**7**	P	**P

comp=Z,1.3nm,0.8s,baz=235,slow=5.7,SNR=3.6
LPAZ LR LR 23 14 41.3
comp=Z,130nm,21.8s,baz=264,slow=30
comp=Z,1.3nm,0.8s
CMIG Matias Romero 44.71 28 LR LR 23 15 10.4
comp=Z,73nm,20.5s,baz=176,slow=31
MOIG Morelia 44.83 18 P **P 23 00 36.4 0.0**
TRQA Tornquist 47.14 121 P **P 23 00 56.7 +2.4**
LPIG La Paz 47.41 6 LR LR 23 15 49.0
comp=Z,134nm,21.5s,baz=179,slow=30
SIV San Ignacio 50.92 92 LR LR 23 19 58.7
comp=Z,138nm,18.6s,baz=283,slow=32
CPUP Villa Florida 51.90 106 P **P 23 01 31.7 +0.9**
CPUP Villa Florida 51.90 106 P **P 23 01 31.4 +0.6**
comp=Z,1.0nm,0.4s,baz=60,slow=5.0,SNR=3.7
CPUP LR LR 23 19 09.8
comp=Z,138nm,21.0s,baz=262,slow=31
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 53.51 12 P **P 23 01 41.7 -0.9**
comp=Z,0.5nm,0.9s,baz=193,slow=9.9,SNR=3.7
TXAR LR LR 23 18 50.5
comp=Z,31nm,19.6s,baz=94,slow=30
comp=Z,0.5nm,0.9s
SDV Santo Domingo 53.83 59 LR LR 23 21 12.7
comp=Z,91nm,19.6s,baz=264,slow=32
ALPN Alpine 54.53 12 P **P 23 01 50.8 +0.7**
121A Cookes Peak, D 56.02 7 P **P 23 02 01.6 +0.8**
121A IAmb IAmb 23 02 11.8
comp=Z,7.2nm,1.1s
PFO Pinyon Flats O 56.71 358 LR LR 23 21 24.1
comp=Z,68nm,18.4s,baz=113,slow=31
LENM Lemitar 57.73 8 P **P 23 02 13.7 +0.8**
X18A Snowflake 57.79 5 **P 23 02 13.0 -0.3**
X18A IAmb IAmb 23 02 22.5
comp=Z,7.5nm,1.2s
ANMO Albuquerque 58.56 8 LR LR 23 22 37.3
comp=Z,77nm,18.9s,baz=336,slow=31
SHPR Sheep Range 59.57 360 **P 23 02 27.4 +1.7**
WCT Wildcat Mounta 59.88 358 P **P 23 02 29.1 +1.3**
WCT IAmb IAmb 23 02 29.8
comp=Z,4.8nm,1.2s
SDCO Great Sand Dun 61.44 8 P **P 23 02 39.3 +0.7**
SDCO IAmb IAmb 23 02 47.0
comp=Z,6.2nm,1.3s
NV11 Mina Array Sit 61.58 357 P **P 23 02 40.1 +0.8**
NV11 IAmb IAmb 23 02 47.5
comp=Z,4.5nm,1.0s
NVAR Mina Array Bea 61.58 357 P **P 23 02 39.5 +0.1**
comp=Z,1.7nm,0.7s,baz=178,slow=7.5,SNR=7.9
NVAR LR LR 23 23 07.8
comp=Z,102nm,18.8s,baz=200,slow=30
PSUT Pine Spring 61.60 1 P **P 23 02 41.1 +1.5**
PSUT IAmb IAmb 23 02 43.1
comp=Z,3.5nm,1.0s
MSVF Nonsavu 62.60 261 LR LR 23 22 48.5
comp=Z,76nm,19.9s,baz=148,slow=29
BDFB Brasilia 62.99 96 P **P 23 02 47.1 -2.2**
comp=Z,0.7nm,0.5s,baz=275,slow=13,SNR=3.5
BDFB LR LR 23 27 23.7
comp=Z,74nm,19.2s,baz=328,slow=33
comp=Z,0.7nm,0.5s
RDMU Red Mountain 63.82 4 P **P 23 02 55.0 +0.6**
RDMU IAmb IAmb 23 02 58.9
comp=Z,4.6nm,1.0s
YBH Yreka Blue Hor 65.20 354 LR LR 23 25 27.5
comp=Z,78nm,19.0s,baz=162,slow=31
VNDA Vanda 65.88 194 LR LR 23 24 34.3
comp=Z,73nm,19.0s,baz=116,slow=29
PDAR Pinedale Array 66.01 4 P **P 23 03 05.3 -3.3**
comp=Z,0.7nm,0.8s,baz=158,slow=4.2,SNR=4.2
PDAR LR LR 23 28 01.6
comp=Z,28nm,19.7s,baz=63,slow=32
comp=Z,0.7nm,0.8s
HLID Hailey 66.62 0 P **P 23 03 13.1 +0.6**
QSPA South Pole Qui 66.76 180 P **P 23 03 14.2 +1.1**
QSPA South Pole Qui 66.76 180 P **P 23 03 12.9 -0.2**
comp=Z,1.1nm,0.8s,baz=102,slow=6.5,SNR=4.4
QSPA LR LR 23 28 04.2
comp=Z,64nm,18.8s,baz=68,slow=32
comp=Z,1.1nm,0.8s
MDP Montagnes des 66.92 73 LR LR 23 28 18.7
comp=Z,146nm,20.7s,baz=126,slow=32
G08A Pilot Rock 68.45 357 P **P 23 03 25.7 +1.8**
G08A IAmb IAmb 23 03 32.5
comp=Z,3.1nm,0.9s
NEW Newport 71.35 358 LR LR 23 29 21.9
comp=Z,79nm,20.8s,baz=110,slow=31
DZM Mont Dzumac 71.68 253 LR LR 23 27 35.8
comp=Z,215nm,19.8s,baz=104,slow=30
VNA2 Neumayer--Watz 73.61 161 P **P 23 03 54.8 0.0**
VNA2 Neumayer--Watz 73.61 161 ⇓P **P 23 03 54.8 0.0**
SNAA Sanae 74.60 162 P **P 23 03 59.1 -1.6**
SNAA Sanae 74.60 162 ⇓P **P 23 03 59.1 -1.6**
SNAA Sanae 74.60 162 P **P 23 03 59.3 -1.4**
comp=Z,2.3nm,0.8s,baz=280,slow=9.5,SNR=5.3
comp=Z,2.3nm,0.8s
SADO Sadowa 75.26 25 LR LR 23 36 15.9
comp=Z,64nm,18.8s,baz=86,slow=35
TROLL Troll, Antarti 75.88 163 P **P 23 04 08.2 +0.1**
TROLL Troll, Antarti 75.88 163 ⇓P **P 23 04 08.2 +0.1**
comp=Z,91nm,0.8s
HNR Honiara 81.96 263 LR LR 23 37 55.3
comp=Z,103nm,18.7s,baz=38,slow=34
YKA Yellowknife Ar 85.59 0 P **P 23 04 57.9 -1.8**
comp=Z,0.3nm,0.6s,baz=181,slow=5.6,SNR=6.7
comp=Z,0.3nm,0.6s
SYO Syowa Base 86.01 171⇓*e*P **P 23 05 02.2 +0.2**
H11S2 WAKE ISLAND Hy 87.13 291 T T 00 41 16.3
baz=116,slow=75,SNR=94
H11S1 WAKE ISLAND Hy 87.14 291 T T 00 41 17.0
baz=116,slow=75,SNR=41
H11S3 WAKE ISLAND Hy 87.15 291 T T 00 41 08.4
baz=116,slow=75,SNR=58
H11N3 WAKE ISLAND Hy 87.48 293 T T 00 41 39.4
baz=117,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 87.50 293 T T 00 41 34.3
baz=117,slow=75,SNR=10.0
H11N2 WAKE ISLAND Hy 87.50 293 T T 00 41 33.9
baz=117,slow=75,SNR=27
MAW Mawson 89.27 179 LR LR 23 41 10.1
comp=Z,101nm,19.3s,baz=156,slow=33
WRH Wood River Hil 91.31 346 P **P 23 05 29.8 +2.8**
WRH IAmb IAmb 23 06 01.6
comp=Z,4.7nm,1.4s
ZALV Zalesovo Beam 146.08 339 PKPbc **PKPdf 23 11 58.0 -2.8**
comp=Z,1.0nm,0.5s,baz=314,slow=0.4,SNR=5.4
CMAR Chiang Mai Arr 148.11 268 PKPbc **PKPbc 23 12 07.2 -1.3**
comp=Z,0.7nm,0.3s,baz=33,slow=2.4,SNR=10
BRTR Keskin Array B 148.80 51 PKPbc **PKPdf 23 12 06.0 0.0**
comp=Z,1.9nm,0.8s,baz=277,slow=1.8,SNR=9.5
BVAR Borovoye Array 150.14 354 PKPbc **PKPdf 23 12 10.1 +2.5**
comp=Z,2.1nm,0.6s,baz=1.9,slow=4.3,SNR=6.7
KURBB Kurchatov Arra 150.89 342 PKPbc **PKPdf 23 12 11.1 +2.3**
comp=Z,1.2nm,0.2s,baz=25,slow=1.9,SNR=12
KBZ Khabaz 152.67 37 PKPbc **PKPbc 23 12 17.2 -1.4**
comp=Z,1.8nm,0.9s,baz=288,slow=2.3,SNR=4.3
MKAR Makanchi Array 152.88 334 PKPbc **PKPbc 23 12 16.0 -3.1**
comp=Z,1.6nm,0.9s,baz=37,slow=2.3,SNR=10

*IDC **24** 23:08:18.7±0.8, 13°.02S×45°.28E, h0km, mb3.8/6, mbtmp3.9/8, ML4.5/3, MS3.3/4, Error ellipse: s-maj=26.4km s-min=23.0km az=139.0*
*NEIC **24** 23:08:19.3±0.9, 12°.89S±0°.09×45°.5E±0°.2, h10km±2km, mb4.2/6, Error ellipse: s-maj=27.7km s-min=14.3km az=76.0*
ISC 24 23:08:19.1±0.7, 12°.97S±0°.07×45°.33E±0°.09, h10km, n25, σ1§01/26, mb4.0/8, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.85**	**162**	Pn	**Pn**	**23 09 46.7**	**+0.6**
	5.4nm,0.3s,baz=335,slow=12,SNR=195						
OPO				Sn	**Sn**	**23 10 48.9**	**-4.3**
	6.1nm,0.3s,baz=228,slow=22,SNR=18						
ABPO	**Ambohimpanom**	**6.28**	**163**		**Pn**	**23 09 52.6**	**+0.6**
ABPO				Sn	**Sn**	**23 10 59.6**	**-4.3**
VOI	**Vohitsoka**	**8.99**	**171**		**Pn**	**23 10 30.2**	**+1.0**
ZOMB	**Zomba**	**9.97**	**255**	*i* PN	**Pn**	**23 10 43.1**	**+0.6**
ZOMB				*i* SN	Sn	23 12 27.3	-7.2
FOMA	**Nahampoana Res**	**12.04**	**173**	Pn	**Pn**	**23 11 11.5**	**+0.7**
KIBK	**Kibwezi**	**12.79**	**325**	Pn	**Pn**	**23 11 17.9**	**-3.2**
RER	**Riviere de l'E**	**12.86**	**131**	Pn	**Pn**	**23 11 21.2**	**-0.9**
KMBO	**Kilima Mbogo**	**14.23**	**325**	Pn	**Pn**	**23 11 38.4**	**-2.6**
	0.2nm,0.3s,baz=114,slow=13,SNR=3.6						
KMBO				Sn	**Sn**	**23 14 16.2**	**-3.0**
	0.4nm,0.3s,baz=55,slow=22,SNR=6.7						
KMBO				LR	LR	23 16 38.7	
	comp=Z,66nm,18.8s,baz=92,slow=35						
LSZ	**Lusaka**	**16.78**	**260**	P	**Pn**	**23 12 13.9**	**-0.5**
LSZ				IAmb	IAmb	23 12 19.6	
	comp=Z,14nm,0.9s						
LSZ	**Lusaka**	**16.78**	**260**	Pn	**Pn**	**23 12 14.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=93,slow=10,SNR=16						
LSZ				LR	LR	23 18 33.2	
	comp=Z,122nm,18.5s,baz=353,slow=37						
	comp=Z,12nm,0.8s						
MATP	**Matopo**	**17.73**	**243**	P	**Pn**	**23 12 27.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=65,slow=14,SNR=6.9						
	comp=Z,2.7nm,0.9s						
LODK	**Lodwar**	**19.06**	**328**	P	**Pn**	**23 12 45.2**	**+2.6**
LBTB	**Lobatse**	**22.13**	**234**	P	**P**	**23 13 15.5**	**+0.4**
LBTB				IAmb	IAmb	23 13 21.9	
	comp=Z,5.6nm,1.1s						
BOSA	**Boshof**	**24.32**	**227**	P	**P**	**23 13 37.9**	**+0.7**
BOSA				IAmb	IAmb	23 13 43.0	
	comp=Z,6.1nm,1.1s						
BOSA	**Boshof**	**24.32**	**227**	P	**P**	**23 13 37.5**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=59,slow=9.4,SNR=12						
	comp=Z,1.5nm,0.5s						
SUR	**Sutherland**	**29.62**	**225**	P	**P**	**23 14 26.8**	**+1.9**
PALK	**Pallekele**	**40.50**	**62**	LR	LR	23 28 39.9	
	comp=Z,25nm,20.8s,baz=314,slow=30						
ABKAR	**Akbulak array**	**63.29**	**11**	P	**P**	**23 18 47.0**	**-0.9**
ABKAR				IAmb	IAmb	23 18 53.1	
	comp=Z,3.4nm,1.1s						
NWAO	**Narrogin (SRO)**	**67.96**	**120**	LR	LR	23 44 36.2	
	comp=Z,39nm,19.4s,baz=268,slow=32						
MKAR	**Makanchi Array**	**68.10**	**26**	P	**P**	**23 19 20.1**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=216,slow=5.0,SNR=4.8						
	comp=Z,0.3nm,0.8s						
ESDC	**Sonseca Array**	**69.58**	**321**	P	**P**	**23 19 29.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=131,slow=8.2,SNR=4.8						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**74.65**	**23**	P	**P**	**23 20 01.0**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=204,slow=6.3,SNR=2.3						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**83.61**	**113**	P	**P**	**23 20 50.0**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=264,slow=4.8,SNR=23						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**84.75**	**109**	P	**P**	**23 20 55.2**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=258,slow=3.3,SNR=8.1						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**150.77**	**333**	PKPbc	**PKiKP**	**23 28 14.1**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=5.8,slow=1.5,SNR=1.8						

TXNET 24 23:18:25.7, 31°.7N±0°.7×104°.4W±0°.7, h6km±2km, ML1.7/6, Error ellipse: s-maj=1.2km s-min=0.9km az=31.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.40**	**44**	P	Pg	23 18 33.2	-0.2
TPB11				S	Sg	23 18 38.3	-0.3
PECS	**Pecos**	**0.51**	**123**	P	Pg	23 18 35.6	+0.2
PECS				S	Sg	23 18 42.4	+0.4
GDL2	**Guadalupe Moun**	**0.55**	**360**	P	Pg	23 18 36.3	0.0
TPB12	**Southwest of T**	**0.56**	**142**	P	Pg	23 18 36.5	+0.1
TPB12				S	Sg	23 18 44.0	+0.3
MNTX	**Cornudas Mount**	**0.87**	**273**	P	Pg	23 18 42.5	+0.1
MNTX				S	Sg	23 18 54.4	+0.7
TPB06	**Permian Basin**	**0.97**	**90**	S	Sb	23 18 58.3	0.0
VHRN	**Van Horn**	**1.01**	**212**	P	Pg	23 18 45.1	0.0
VHRN				S	Sb	23 18 59.1	-0.3
HTMS	**Hat Mesa**	**1.03**	**37**	S	Sb	23 18 59.9	+0.1
TPB05	**Hovey Rd**	**1.15**	**129**	S	Sg	23 19 02.6	0.0
MNHN	**Monahans**	**1.40**	**102**	P	Pn	23 18 51.9	0.0
MNHN				S	Sb	23 19 10.6	+0.1
ALPN	**Alpine**	**1.42**	**154**	P	Pn	23 18 51.2	-0.9
ALPN				S	Sb	23 19 09.6	-1.3
CPRX	**Cap Rock**	**1.44**	**17**	P	Pn	23 18 52.2	-0.3
ODSA	**Odessa**	**1.61**	**73**	S	Sn	23 19 15.5	-0.5
TMB04	**Seminole**	**1.86**	**58**	S	Sg	23 19 24.8	-0.8
TX31	**Lajitas Ar. Si**	**2.38**	**165**	Pg	Pb	23 19 08.4	-0.8

*NEIC **24** 23:27:13.7±1.8, 19°.05N±0°.06×66°.56W±0°.03, h22km±5km, ML3.5/40, Md3.2/19(RSPR), Error ellipse: s-maj=8.2km s-min=4.6km az=181.0*
*RSPR **24** 23:27:13.8, 19°.16N×66°.54W, h13km±4km, MD3.2/19*
ISC 24 23:27:11.5±1.5, 19°.14N±0°.05×66°.53W±0°.04, h18km±3km, n59, σ0§63/65, 9C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.66**	**180**		**Pn**	**23 27 25.4**	**-0.5**
EMPR					**Sn**	**23 27 35.4**	**-0.4**
EMPR				IAML		23 27 37.5	
	comp=E,4μm,0.5s						
EMPR				IAML		23 27 42.3	
	comp=N,3μm,0.5s						
EMPR	**Esperanza - Ma**	**0.66**	**180**⇓*e*P		**Pn**	**23 27 25.4**	**-0.5**
EMPR	**Esperanza - Ma**	**0.66**	**180** *e*S		**Sn**	**23 27 34.7**	**-1.1**
AOPR	**Arecibo Observ**	**0.82**	**195**		**Pn**	**23 27 28.0**	**-0.1**
AOPR					**Sn**	**23 27 39.0**	**-0.6**
AOPR	**Arecibo Observ**	**0.82**	**195**⇑*e*P		**Pn**	**23 27 28.0**	**-0.1**
AOPR	**Arecibo Observ**	**0.82**	**195** *e*S		**Sn**	**23 27 39.1**	**-0.6**
ECPR	**Experimental S**	**0.83**	**169**⇓*e*P		**Pg**	**23 27 27.9**	**+0.1**
ECPR	**Experimental S**	**0.83**	**169** *e*S		**Sn**	**23 27 39.5**	**-0.6**
AGPR	**Aguadilla, PR**	**0.86**	**219**		**Pn**	**23 27 29.1**	**+0.4**
AGPR					**Sb**	**23 27 38.4**	**-0.8**
AGPR	**Aguadilla, PR**	**0.86**	**219**⇓*e*P		**Pn**	**23 27 29.2**	**+0.4**
AGPR	**Aguadilla, PR**	**0.86**	**219** *e*S		**Sg**	**23 27 39.8**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.90**	**191**		**Pg**	**23 27 29.0**	**0.0**
UUPR					**Sg**	**23 27 40.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.90**	**191**⇑*e*P		**Pg**	**23 27 29.0**	**0.0**
UUPR	**Utuado, UPR, P**	**0.90**	**191** *e*S		**Sg**	**23 27 40.8**	**-0.2**
GCPR	**Guaynabo City**	**0.93**	**153**		**Pb**	**23 27 29.4**	**+0.3**
GCPR					**Sg**	**23 27 42.0**	**0.0**
GCPR	**Guaynabo City**	**0.93**	**153**⇓*e*P		**Pb**	**23 27 29.4**	**+0.3**
GCPR	**Guaynabo City**	**0.93**	**153** *e*S		**Sg**	**23 27 42.0**	**0.0**
CELP	**Cerrillos**	**1.06**	**182**		**Pb**	**23 27 31.4**	**+0.1**
CELP	**Cerrillos**	**1.06**	**182**		**Sb**	**23 27 44.4**	**-0.4**
CELP				IAML		23 27 47.5	
	comp=N,726nm,0.3s						
CELP	**Cerrillos**	**1.06**	**182**⇑*e*P		**Pb**	**23 27 31.4**	**+0.1**
CELP	**Cerrillos**	**1.06**	**182** *e*S		**Sg**	**23 27 45.2**	**-0.8**
PRSN	**Puerto Rico Se**	**1.09**	**212**		**Pg**	**23 27 32.6**	**+0.1**
PRSN	**Puerto Rico Se**	**1.09**	**212**⇑*e*P		**Pg**	**23 27 32.6**	**+0.1**
SJG	**San Juan**	**1.09**	**160**		**Pg**	**23 27 32.8**	**+0.2**
SJG	**San Juan**	**1.09**	**160**	IAML		23 27 52.9	
	comp=N,832nm,0.2s						
SJG				IAML		23 27 53.3	
	comp=N,707nm,0.3s						
SJG	**San Juan**	**1.09**	**160**⇑*e*P		**Pg**	**23 27 32.8**	**+0.2**
SJG	**San Juan**	**1.09**	**160** *e*S		**Sn**	**23 27 46.4**	**+0.1**
LSP	**Las Mesas**	**1.09**	**209**		**Pg**	**23 27 32.7**	**0.0**
LSP					**Sb**	**23 27 46.0**	**+0.2**
LSP	**Las Mesas**	**1.09**	**209**⇑*e*P		**Pg**	**23 27 32.7**	**0.0**
LSP	**Las Mesas**	**1.09**	**209** *e*S		**Sb**	**23 27 46.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.09**	**184**		**Pb**	**23 27 31.9**	**+0.1**
OBIP				IAML		23 27 52.2	
	comp=N,715nm,0.7s						
OBIP	**Obispado Ponce**	**1.09**	**184**		**Sb**	**23 27 45.9**	**+0.1**
OBIP	**Obispado Ponce**	**1.09**	**184**⇓*e*P		**Pb**	**23 27 31.5**	**-0.3**
OBIP	**Obispado Ponce**	**1.09**	**184** *e*S		**Sb**	**23 27 45.9**	**+0.1**
IDE	**Isla Desecheo**	**1.16**	**230**		**Pn**	**23 27 32.0**	**-0.8**
IDE	**Isla Desecheo**	**1.16**	**230**⇓*e*P		**Pn**	**23 27 32.0**	**-0.8**
HUMP	**Col San Antoni**	**1.19**	**147**		**Pn**	**23 27 33.1**	**-0.1**
HUMP					**Sb**	**23 27 48.4**	**-0.1**
HUMP	**Col San Antoni**	**1.19**	**147**	IAML		23 27 48.9	
	comp=E,1μm,0.2s						
HUMP				IAML		23 27 49.4	
	comp=N,952nm,0.2s						
HUMP	**Col San Antoni**	**1.19**	**147**⇑*e*P		**Pn**	**23 27 33.1**	**-0.1**
HUMP	**Col San Antoni**	**1.19**	**147** *e*S		**Sb**	**23 27 48.4**	**-0.1**
PDPR	**Patillas Dam,**	**1.22**	**156**	Pn	**Pg**	**23 27 35.3**	**+0.3**
PDPR				IAML		23 27 51.8	
	comp=N,638nm,0.1s						
PDPR				IAML		23 27 53.3	
	comp=E,581nm,0.3s						
PDPR	**Patillas Dam,**	**1.22**	**156**⇓*e*P		**Pn**	**23 27 33.8**	**+0.3**
PDPR	**Patillas Dam,**	**1.22**	**156** *e*S		**Sn**	**23 27 49.9**	**+0.4**
IGPR	**InterUniversit**	**1.24**	**161**		**Pn**	**23 27 33.9**	**0.0**
IGPR					**Sn**	**23 27 50.1**	**+0.1**
IGPR	**InterUniversit**	**1.24**	**161**	IAML		23 27 53.2	
	comp=N,1μm,0.3s						
IGPR				IAML		23 27 53.2	
	comp=E,2μm,0.3s						
IGPR	**InterUniversit**	**1.24**	**161**⇓*e*P		**Pn**	**23 27 33.9**	**0.0**
IGPR	**InterUniversit**	**1.24**	**161** *e*S		**Sn**	**23 27 50.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.25**	**206**		**Pb**	**23 27 35.0**	**+0.5**
CRPR					**Sn**	**23 27 50.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.25**	**206**⇑*e*P		**Pb**	**23 27 35.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.25**	**206** *e*S		**Sn**	**23 27 50.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.26**	**203**⇓*e*P		**Pn**	**23 27 34.3**	**+0.1**
MLPR	**Magueyes Islan**	**1.26**	**203** *e*S		**Sn**	**23 27 50.6**	**0.0**
PCDR	**Punta Cana, DR**	**1.86**	**251**	Pn	**Pb**	**23 27 44.9**	**0.0**
PCDR				IAML		23 28 19.1	
	comp=N,324nm,1.0s						
MIDR	**Miches**	**2.38**	**267**⇓*e*P		**Pn**	**23 27 49.0**	**-0.7**
DR12	**Loma Pena Alta**	**2.72**	**263**		**Pn**	**23 27 55.5**	**+1.3**
DR12				IAML		23 28 46.8	
	comp=E,116nm,0.8s						
BANI	**BANI**	**3.70**	**259**	Pn	**Pn**	**23 28 10.9**	**+3.1**
BANI				IAML		23 29 14.8	
	comp=E,147nm,0.8s						
BANI				IAML		23 29 19.2	
	comp=N,120nm,1.4s						
SC01	**Santiago de lo**	**3.97**	**275**	Pg	**Pg**	**23 28 26.8**	**-0.8**
SC01				IAML		23 29 34.8	
	comp=N,138nm,0.9s						
SDDR	**Presa de Saban**	**4.50**	**269**	Pn	**Pn**	**23 28 20.7**	**+1.9**
SDDR				IAML		23 29 35.1	
	comp=N,74nm,1.4s						
SDDR				IAML		23 29 38.3	
	comp=N,98nm,1.1s						
GRTK	**Grand Turk**	**4.92**	**299**	Pn	**Pn**	**23 28 23.5**	**-0.9**
GRTK				IAML		23 29 18.5	
	comp=N,68nm,1.1s						

*IDC **24** 23:35:55.5±1.1, 22°.72S×115°.12W, h0km, mb3.5/6, mbtmp3.5/6, MS3.8/13, Error ellipse: s-maj=47.1km s-min=28.5km az=49.0*
ISC 24 23:35:55.7±0.9, 22°.9S±0°.2×115°.4W±0°.3, h10km, n41, σ1§14/15, mb3.7/7, MS3.7/13, 3C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**32.49**	**273**	LR	LR	23 52 10.1	
	comp=Z,136nm,18.6s,baz=58,slow=30						
H03N2	**Juan Fernandez**	**33.62**	**116**	T	T	00 17 35.6	
	baz=283,slow=75,SNR=8.3						
H03N3	**Juan Fernandez**	**33.63**	**116**	T	T	00 17 36.2	
	baz=283,slow=75,SNR=12						
H03N1	**Juan Fernandez**	**33.64**	**116**	T	T	00 17 36.3	
	baz=283,slow=75,SNR=13						
NNA	**Nana**	**38.21**	**80**	LR	LR	23 54 56.2	
	comp=Z,144nm,19.9s,baz=253,slow=30						
ATAH	**Atahualpa**	**38.85**	**72**	LR	LR	23 54 58.2	
	comp=Z,118nm,20.0s,baz=294,slow=30						
RAR	**Rarotonga**	**41.08**	**264**	LR	LR	23 56 34.2	
	comp=Z,96nm,19.9s,baz=120,slow=30						
PLCA	**Paso Flores**	**41.51**	**126**	P	**P**	**23 43 45.2**	**+1.9**
	3.3nm,1.1s,baz=309,slow=13,SNR=3.2						
PLCA				LR	LR	23 56 16.9	
	comp=Z,83nm,20.3s,baz=338,slow=30						
	3.3nm,1.1s						
LPAZ	**La Paz**	**44.83**	**90**	P	**P**	**23 44 09.9**	**-1.1**
	1.7nm,1.0s,baz=306,slow=2.9,SNR=4.4						
LPAZ				LR	LR	23 58 36.7	
	comp=Z,81nm,19.0s,baz=281,slow=30						
	1.7nm,1.0s						
LPIG	**La Paz**	**47.00**	**6**	LR	LR	23 59 00.8	
	comp=Z,76nm,19.8s,baz=360,slow=30						
CPUP	**Villa Florida**	**52.49**	**106**	LR	LR	00 02 46.0	
	comp=Z,73nm,19.8s,baz=312,slow=31						
TXAR	**Lajitas Array**	**53.16**	**13**	P	**P**	**23 45 13.9**	**-0.1**
	0.2nm,0.6s,baz=206,slow=13,SNR=2.4						
	0.2nm,0.6s						
ANMO	**Albuquerque**	**58.17**	**9**	LR	LR	00 05 49.3	
	comp=Z,71nm,19.3s,baz=280,slow=31						
NVAR	**Mina Array Bea**	**61.09**	**357**	P	**P**	**23 46 12.1**	**+2.0**
	0.2nm,0.3s,baz=188,slow=5.8,SNR=2.5						
	0.2nm,0.3s						
BDFB	**Brasilia**	**63.52**	**97**	LR	LR	00 10 37.1	
	comp=Z,85nm,18.5s,baz=203,slow=33						
PDAR	**Pinedale Array**	**65.58**	**5**	P	**P**	**23 46 40.2**	**+0.4**
	0.2nm,0.6s,baz=216,slow=5.5,SNR=2.6						
	0.2nm,0.6s						
VNDA	**Vanda**	**66.22**	**194**	LR	LR	00 07 46.8	
	comp=Z,78nm,21.1s,baz=38,slow=29						
QSPA	**South Pole Qui**	**67.22**	**180**	LR	LR	00 10 50.0	
	comp=Z,59nm,21.2s,baz=162,slow=31						
NEW	**Newport**	**70.88**	**359**	LR	LR	00 12 56.6	
	comp=Z,96nm,19.3s,baz=78,slow=31						
VNA3	**Neumayer Olymp**	**73.39**	**161**	P	P	23 47 21.8	-5.8
VNA3	**Neumayer Olymp**	**73.39**	**161** ⇑P	P	P	23 47 21.8	-5.8
	comp=Z,1.8nm,0.8s						
VNA2	**Neumayer--Watz**	**74.20**	**161**	P	P	23 47 25.2	-7.0
	baz=338,slow=36						
VNA2	**Neumayer--Watz**	**74.20**	**161** ⇓P	P	P	23 47 25.2	-7.0
	baz=338,slow=36						
SNAA	**Sanae**	**75.19**	**162**	P	P	23 47 31.9	-6.2
SNAA	**Sanae**	**75.19**	**162** ⇑P	P	P	23 47 31.9	-6.2
	comp=Z,1nm,0.9s						
TROLL	**Troll, Antarti**	**76.46**	**164**	P	**P**	**23 47 44.8**	**-0.6**
TROLL	**Troll, Antarti**	**76.46**	**164** ⇑P	P	**P**	**23 47 44.8**	**-0.6**
	comp=Z,58nm,0.9s						
YKA	**Yellowknife Ar**	**85.12**	**0**	P	**P**	**23 48 30.0**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=177,slow=5.6,SNR=4.8						
	comp=Z,0.2nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**86.52**	**292**	T	T	01 24 50.2	
	baz=116,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**86.53**	**292**	T	T	01 24 51.1	
	baz=116,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**86.53**	**292**	T	T	01 24 51.6	
	baz=116,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**86.86**	**293**	T	T	01 25 08.4	
	baz=117,slow=75,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**86.88**	**293**	T	T	01 25 27.4	

EWUT	**Wuta**	**0.75 235**	P	**Pb**	**23 40 27.8**	**-0.2**
EWUT			eS	**Sb**	**23 40 38.5**	**+0.5**
EOS4	**EOS4**	**0.76 189**	eP	**Pn**	**23 40 28.9**	**-0.2**
EOS4			eS	**Sn**	**23 40 40.1**	**0.0**
ENA	**Nanau**	**0.79 236**	eP	**Pb**	**23 40 28.3**	**-0.4**
ENA			eS	**Sg**	**23 40 39.6**	**+0.5**
FUSB	**Fushanzhiwuyua**	**0.79 262**	P	**Pb**	**23 40 28.3**	**-0.5**
TWA	**Mucha**	**0.80 278**	P	**Pn**	**23 40 29.7**	**-0.2**
TWA			eS	**Sg**	**23 40 40.4**	**+0.9**
PCYT	**Pengchaiyu**	**0.82 335**	eP	**Pb**	**23 40 29.4**	**0.0**
ENTT	**Nioudou**	**0.84 254**	P	**Pg**	**23 40 29.8**	**+0.1**
ENTT			eS	**Sg**	**23 40 41.3**	**+0.5**
YM01	**YM01**	**0.84 289**	eP	**Pb**	**23 40 29.1**	**-0.6**
EAHA	**Aohua**	**0.85 230**	P	**Pb**	**23 40 29.4**	**-0.3**
EAHA			eS	**Sb**	**23 40 40.9**	**+0.1**
NWLT	**Wulai**	**0.87 264**	P	**Pb**	**23 40 30.0**	**-0.1**
TWY	**Chenhua**	**0.87 297**	P	**Pb**	**23 40 29.7**	**-0.4**
TWY			eS	**Sb**	**23 40 41.6**	**+0.1**
LATG	**Datong**	**0.91 248**	P	**Pb**	**23 40 30.9**	**+0.1**
YHNB	**Yeheng**	**1.00 258**	P	**Pb**	**23 40 32.2**	**-0.2**
YHNB			eS	**Sn**	**23 40 46.4**	**-0.1**
NSK	**Sanguang**	**1.01 259**	eP	**Pb**	**23 40 32.2**	**-0.4**
NACB	**Ninganchiao**	**1.05 228**	eP	**Pb**	**23 40 32.4**	**-0.7**
NACB			eS	**Sg**	**23 40 47.2**	**-0.3**
NNSB	**Datong**	**1.07 246**	P	**Pb**	**23 40 33.1**	**-0.5**
NNSB			eS	**Sg**	**23 40 48.0**	**-0.2**
NNS	**Nan Shan**	**1.07 246**	eP	**Pb**	**23 40 33.8**	**+0.1**
ETLH	**Xiulin Townshi**	**1.11 233**	eP	**Pb**	**23 40 33.7**	**-0.5**
FUSS	**Fushou**	**1.27 241**	eP	**Pb**	**23 40 36.9**	**-0.1**
LXIB	**Xiulin Townshi**	**1.27 228**	P	**Pb**	**23 40 37.1**	**0.0**
IRIF	**Iriomote-Funau**	**1.28 115**	P	**Pb**	**23 40 37.7**	**+0.5**
WHF	**Hehuan Shan**	**1.30 236**	eP	**Pb**	**23 40 38.2**	**+0.5**
TDCB	**Techi**	**1.33 242**	eP	**Pb**	**23 40 38.1**	**0.0**
HATJ	**Hateruma jima**	**1.48 123**	P	**Pn**	**23 40 39.7**	**+0.4**
OWD	**Renai**	**1.48 232**	P	**Pb**	**23 40 40.5**	**-0.1**
WHP	**Taichung City**	**1.50 247**	eP	**Pg**	**23 40 41.9**	**-0.3**
WUSB	**Renai**	**1.50 234**	P	**Pb**	**23 40 41.1**	**+0.2**
WUSB			eS	**Sg**	**23 41 01.5**	**-0.4**
HGSD	**Ruisui**	**1.67 214**	eP	**Pb**	**23 40 43.7**	**0.0**
SMLT	**Sun Moon Lake**	**1.73 235**	eP	**Pb**	**23 40 44.8**	**0.0**
SSLB	**Suanglung**	**1.74 232**	eP	**Pb**	**23 40 44.6**	**-0.4**

*IDC **24** 23:44:33.0±2.0, 10°.16N×93°.35E, h0km, mb3.4/6, mbtmp3.4/7, ML4.3/1, MS3.4/2, Error ellipse: s-maj=69.8km s-min=21.6km az=64.0*

ISC 24 23:44:36.7±1.7, 10°.2N±0°.2×93°.4E±0°.3, h24km, n9, σ0°93/7, mb3.3/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.17**	**143**	LR	LR	23 50 04.8	
	comp=Z,140nm,20.1s,baz=320,slow=36						
CMAR	**Chiang Mai Arr**	**9.82**	**33**	**Pn**	**Pn**	**23 46 56.5**	**-0.1**
	0.8nm,0.3s,baz=206,slow=14,SNR=2.5						
	1.1nm,0.3s						
LEM	**Lembang**	**22.06**	**139**	LR	LR	23 59 07.8	
	comp=Z,152nm,19.2s,baz=305,slow=40						
MKAR	**Makanchi Array**	**37.68**	**348**	P	**P**	**23 51 50.1**	**-0.1**
	0.2nm,0.6s,baz=146,slow=9.2,SNR=5.7						
	0.2nm,0.6s						
SONM	**Songino Array**	**39.09**	**14**	P	**P**	**23 52 01.9**	**-0.2**
	0.3nm,0.7s,baz=190,slow=7.3,SNR=4.3						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**42.13**	**346**	P	**P**	**23 52 26.3**	**-0.8**
	0.3nm,0.8s,baz=158,slow=6.9,SNR=3.8						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**44.18**	**353**	P	**P**	**23 52 45.0**	**+1.5**
	0.3nm,0.5s,baz=152,slow=9.5,SNR=2.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**50.22**	**127**	P	**P**	**23 53 30.6**	**-0.5**
	0.8nm,0.9s,baz=301,slow=8.2,SNR=3.9						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**51.97**	**131**	P	**P**	**23 53 44.8**	**+0.5**
	0.8nm,0.9s,baz=304,slow=7.5,SNR=6.6						
	0.8nm,0.9s						

*TAP **24** 23:46:43.8, 24°.90N×122°.38E, h14km, ML3.2, C*
*JMA **24** 23:46:43.1±0.3, 24°.8N±1°.0×122°.4E±0°.4, h2km±3km, MV2.9/11, NW OFF ISHIGAKIJIMA IS*

ISC 24 23:46:43.2±1.1, 24°.88N±0°.03×122°.42E±0°.02, h10km±9km, n79, σ0°49/118, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.41**	**288**	↑*iP*	**Pg**	**23 46 51.9**	**+0.5**
TWB1				S	**Sg**	**23 46 57.7**	**+0.8**
EOS2	**EOS2**	**0.49**	**201**	P	**Pb**	**23 46 54.0**	**+0.1**
EOS2				S	**Sb**	**23 47 01.7**	**+0.6**
SXI1	**Grass Mountain**	**0.54**	**294**	*iP*	**Pb**	**23 46 54.6**	**-0.3**
SXI1				S	**Sb**	**23 47 02.2**	**-0.6**
TIPB	**Shuangxi**	**0.55**	**280**	P	**Pb**	**23 46 54.8**	**-0.2**
TIPB				eS	**Sb**	**23 47 02.8**	**-0.2**
TWC	**Suao**	**0.58**	**243**	P	**Pg**	**23 46 54.8**	**+0.2**
TWC				S	**Sg**	**23 47 02.4**	**+0.2**
EOS3	**EOS3**	**0.60**	**189**	*iP*	**Pb**	**23 46 56.0**	**+0.3**
EOS3				S	**Sb**	**23 47 05.6**	**+1.4**
ESAO	**Su ao**	**0.60**	**240**	P	**Pb**	**23 46 55.7**	**-0.2**
ESAO				eS	**Sb**	**23 47 03.5**	**-1.0**
NWF	**Wu-fen Shan**	**0.61**	**288**	P	**Pb**	**23 46 56.2**	**0.0**
NWF				S	**Sb**	**23 47 04.6**	**-0.3**
WFSB	**Wu-fen Shan**	**0.61**	**288**	P	**Pb**	**23 46 56.2**	**+0.1**
WFSB				eS	**Sb**	**23 47 04.3**	**-0.5**
JYNG	**Yonagunijimaku**	**0.64**	**132**	P	**Pg**	**23 46 55.2**	**-0.4**
JYNG				S	**Sg**	**23 47 03.4**	**-0.5**
YOJ	**Yonaguni jima**	**0.68**	**128**	P	**Pg**	**23 46 55.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.68**	**128**	S	**Sg**	**23 47 04.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.68**	**128**	eP	**Pg**	**23 46 55.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.68**	**128**	P	**Pg**	**23 46 55.8**	**-0.6**
NDS	**Dongshan**	**0.69**	**249**	P	**Pb**	**23 46 57.3**	**-0.1**
NDS				eS	**Sb**	**23 47 06.8**	**-0.1**
TWE	**Neicheng**	**0.70**	**257**	*iP*	**Pb**	**23 46 57.3**	**-0.4**
TWE				S	**Sb**	**23 47 07.3**	**-0.1**
EWUT	**Wuta**	**0.73**	**234**	P	**Pg**	**23 46 57.5**	**+0.2**
EWUT				eS	**Sb**	**23 47 07.6**	**-0.5**
EOS4	**EOS4**	**0.76**	**187**	*iP*	**Pb**	**23 46 58.7**	**+0.3**
EOS4				eS	**Sb**	**23 47 09.5**	**+0.8**
ENA	**Nanau**	**0.76**	**234**	P	**Pb**	**23 46 58.3**	**-0.4**
ENA				eS	**Sg**	**23 47 08.1**	**+0.2**
FUSB	**Fushanzhiwuyua**	**0.77**	**261**	P	**Pg**	**23 46 58.1**	**+0.1**
FUSB				eS	**Sb**	**23 47 09.6**	**+0.3**
ENTT	**Nioudou**	**0.81**	**253**	P	**Pb**	**23 46 59.6**	**+0.1**
PCYT	**Pengchaiyu**	**0.81**	**337**	eP	**Pg**	**23 46 59.4**	**+0.5**
YM08	**YM08**	**0.82**	**292**	P	**Pb**	**23 46 59.6**	**0.0**
YM01	**YM01**	**0.82**	**289**	P	**Pg**	**23 46 59.3**	**+0.2**
YM01				eS	**Sb**	**23 47 10.8**	**+0.1**
EAHA	**Aohua**	**0.83**	**229**	P	**Pg**	**23 46 59.3**	**+0.1**
EAHA				eS	**Sb**	**23 47 10.6**	**-0.4**
NWLT	**Wulai**	**0.84**	**263**	P	**Pb**	**23 46 59.8**	**-0.2**
NWLT				eS	**Sg**	**23 47 10.5**	**0.0**
TWY	**Chenhua**	**0.84**	**298**	P	**Pg**	**23 46 59.3**	**-0.2**
TWY				eS	**Sb**	**23 47 11.2**	**-0.3**
ZUZH	**Zhuzihu**	**0.84**	**290**	P	**Pb**	**23 47 00.3**	**+0.3**
TATO	**Taipei**	**0.85**	**277**	P	**Pg**	**23 46 59.9**	**+0.2**
TATO	**Taipei**	**0.85**	**277**	S	**Sb**	**23 47 11.5**	**-0.2**
ANP	**Anpu**	**0.87**	**291**	P	**Pg**	**23 47 00.7**	**+0.1**
ANP				eS	**Sg**	**23 47 10.6**	**-0.9**
LATG	**Datong**	**0.88**	**247**	P	**Pg**	**23 47 00.4**	**+0.1**
LATG				eS	**Sb**	**23 47 13.2**	**+0.5**
NTST	**Danshui**	**0.93**	**288**	eP	**Pn**	**23 47 02.1**	**-0.3**
TWS1	**Kuangyinshan**	**0.94**	**284**	eP	**Pg**	**23 47 01.2**	**-0.1**
TWS1				eS	**Sg**	**23 47 13.4**	**-0.1**
YHNB	**Yeheng**	**0.97**	**258**	P	**Pb**	**23 47 02.4**	**+0.1**
YHNB	**Yeheng**	**0.97**	**258**	P	**Pg**	**23 47 01.9**	**0.0**
YHNB				eS	**Sb**	**23 47 15.6**	**+0.3**
NSK	**Sanguang**	**0.99**	**259**	eP	**Pg**	**23 47 02.3**	**0.0**
NSK				eS	**Sb**	**23 47 15.5**	**-0.2**
ETL	**Fush Village**	**1.02**	**226**	eP	**Pb**	**23 47 03.1**	**+0.1**
NACB	**Ninganchiao**	**1.03**	**227**	P	**Pg**	**23 47 02.2**	**-0.8**
NACB	**Ninganchiao**	**1.03**	**227**	P	**Pg**	**23 47 02.2**	**-0.8**
NACB				eS	**Sb**	**23 47 16.3**	**-0.4**
NNSH	**Datong**	**1.04**	**245**	eP	**Pg**	**23 47 03.1**	**-0.3**
NNSB	**Datong**	**1.05**	**245**	P	**Pg**	**23 47 02.8**	**-0.5**
NNSB				S	**Sb**	**23 47 17.6**	**+0.2**
NNS	**Nan Shan**	**1.05**	**246**	P	**Pb**	**23 47 03.5**	**-0.1**
NNS				eS	**Sb**	**23 47 17.3**	**-0.2**
ETLH	**Xiulin Townshi**	**1.08**	**232**	eP	**Pg**	**23 47 03.8**	**-0.3**
ETLH				eS	**Sn**	**23 47 19.2**	**-0.7**
TWD	**Chiawan**	**1.09**	**224**	P	**Pb**	**23 47 04.5**	**+0.2**
TWD				eS	**Sb**	**23 47 19.2**	**+0.5**
KSHI	**Guanxi Townshi**	**1.14**	**265**	eP	**Pg**	**23 47 04.8**	**-0.3**
NFF	**Wufeng Townshi**	**1.21**	**259**	P	**Pb**	**23 47 05.7**	**-0.7**
NFF				eS	**Sb**	**23 47 22.4**	**+0.3**
ETM	**Tongmen**	**1.24**	**223**	eP	**Pb**	**23 47 06.3**	**-0.6**
FUSS	**Fushou**	**1.24**	**240**	eP	**Pb**	**23 47 06.5**	**-0.5**
FUSS				eS	**Sn**	**23 47 24.2**	**+0.2**
LXIB	**Xiulin Townshi**	**1.25**	**227**	P	**Pb**	**23 47 06.9**	**-0.2**
LXIB				eS	**Sn**	**23 47 24.1**	**+0.1**
WHF	**Hehuan Shan**	**1.28**	**236**	P	**Pg**	**23 47 07.7**	**-0.2**
WHF				eS	**Sb**	**23 47 24.4**	**0.0**
TWT	**Tachien**	**1.29**	**242**	eP	**Pn**	**23 47 07.7**	**+0.1**
LIOB	**Emei**	**1.30**	**260**	eP	**Pn**	**23 47 07.0**	**-0.6**
IRIF	**Iriomote-Funau**	**1.31**	**114**	P	**Pn**	**23 47 07.6**	**0.0**
NSTT	**Nanjuang**	**1.31**	**260**	P	**Pb**	**23 47 08.1**	**0.0**
SHUL	**Shoufeng**	**1.34**	**216**	eP	**Pn**	**23 47 07.7**	**-0.4**
ESL	**Shilin**	**1.39**	**221**	eP	**Pn**	**23 47 08.9**	**+0.2**
ESL				eS	**Sg**	**23 47 28.0**	**0.0**
OWD	**Renai**	**1.46**	**231**	P	**Pn**	**23 47 10.2**	**+0.4**
OWD				eS	**Sg**	**23 47 29.8**	**-0.4**
WHP	**Taichung City**	**1.47**	**246**	eP	**Pb**	**23 47 10.7**	**-0.1**
WHP				eS	**Sg**	**23 47 31.0**	**+0.5**
WUSB	**Renai**	**1.48**	**234**	P	**Pb**	**23 47 10.8**	**-0.1**
WUSB				eS	**Sg**	**23 47 31.1**	**+0.2**
WARBT	**Fenglin Townsh**	**1.49**	**220**	eP	**Pn**	**23 47 09.3**	**-0.9**
HATJ	**Hateruma jima**	**1.50**	**123**	P	**Pn**	**23 47 11.1**	**+0.8**
JKRS	**Kuro-shima**	**1.58**	**113**	eP	**Pg**	**23 47 13.7**	**+0.1**
TWQ1	**Liyutan**	**1.59**	**251**	eP	**Pb**	**23 47 13.0**	**+0.2**
WCS	**Beigang Elemen**	**1.60**	**240**	eP	**Pb**	**23 47 12.9**	**0.0**
VWDT	**VWDT**	**1.62**	**227**	eP	**Pn**	**23 47 12.4**	**+0.5**
HGSD	**Ruisui**	**1.65**	**214**	eP	**Pn**	**23 47 12.9**	**+0.5**
EHY	**Hungye**	**1.69**	**217**	eP	**Pn**	**23 47 11.6**	**-1.4**
SMLT	**Sun Moon Lake**	**1.70**	**235**	eP	**Pn**	**23 47 13.7**	**+0.5**
SSLB	**Suanglung**	**1.72**	**231**	P	**Pn**	**23 47 14.1**	**+0.7**
SSLB	**Suanglung**	**1.72**	**231**	eP	**Pn**	**23 47 13.9**	**+0.6**
TWF1	**Yuli**	**1.83**	**214**	eP	**Pn**	**23 47 15.8**	**+0.9**
WHYT	**Xinyi Township**	**1.85**	**231**	P	**Pb**	**23 47 17.3**	**0.0**
WHYT				eS	**Sg**	**23 47 42.5**	**-0.4**
ALS	**Alishan**	**2.01**	**228**	eP	**Pn**	**23 47 18.6**	**+1.1**
CHN5	**Tsauling**	**2.04**	**232**	eP	**Pb**	**23 47 20.3**	**-0.2**
TPUB	**Ta-pu**	**2.27**	**227**	eP	**Pn**	**23 47 22.0**	**+1.2**
STYH	**Taoyuan**	**2.27**	**222**	eP	**Pn**	**23 47 20.4**	**-0.5**
WTP	**Ta-pu**	**2.32**	**226**	eP	**Pn**	**23 47 22.4**	**+0.9**
TWK	**Hsinying**	**2.39**	**228**	eP	**Pn**	**23 47 23.9**	**+1.3**

*IDC **24** 23:58:30.3±1.4, 23°.05S×114°.86W, h0km, mb3.6/3, mbtmp3.6/3, MS3.6/1, Error ellipse: s-maj=64.4km s-min=41.5km az=15.0*

ISC 24 23:58:31.3±1.5, 23°.1S±0°.4×114°.9W±0°.3, h10km, n19, σ0°42/9, mb3.7/3, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.15**	**116**	T	T	00 40 11.6	
	baz=283,slow=75,SNR=6.9						
H03N3	**Juan Fernandez**	**33.16**	**116**	T	T	00 40 12.7	
	baz=283,slow=75,SNR=8.9						
H03N1	**Juan Fernandez**	**33.17**	**116**	T	T	00 40 12.4	
	baz=283,slow=75,SNR=12						
LPAZ	**La Paz**	**44.41**	**90**	P	**P**	**00 06 43.2**	**0.0**
	2.0nm,1.0s,baz=253,slow=7.7,SNR=4.1						
	2.0nm,1.0s						
PCRV	**Puerto La Cruz**	**59.29**	**62**	LR	LR	00 31 51.3	
	comp=Z,44nm,18.7s,slow=34						
PDAR	**Pinedale Array**	**65.76**	**4**	P	**P**	**00 09 16.6**	**0.0**
	0.2nm,0.6s,baz=192,slow=6.8,SNR=1.9						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**85.33**	**0**	P	**P**	**00 11 08.5**	**+0.4**
	0.2nm,0.4s,baz=178,slow=5.9,SNR=3.6						
	0.2nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**86.98**	**291**	T	T	01 47 26.7	
	baz=116,slow=74,SNR=74						
H11S1	**WAKE ISLAND Hy**	**87.00**	**291**	T	T	01 47 28.7	
	baz=116,slow=74,SNR=35						
H11S3	**WAKE ISLAND Hy**	**87.00**	**291**	T	T	01 47 28.7	
	baz=116,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hy**	**87.33**	**293**	T	T	01 47 49.4	
	baz=117,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**87.35**	**293**	T	T	01 47 50.4	
	baz=117,slow=76,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**87.35**	**293**	T	T	01 47 52.1	
	baz=117,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**145.83**	**339**	PKPbc	**PKPab**	**00 18 10.5**	**-0.4**
	0.3nm,0.3s,baz=76,slow=6.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**148.06**	**268**	PKPbc	**PKPbc**	**00 18 18.4**	**+0.5**
	0.8nm,0.3s,baz=118,slow=2.9,SNR=5.0						
BRTR	**Keskin Array B**	**148.68**	**51**	PKPbc	**PKPbc**	**00 18 19.4**	**+0.3**
	0.6nm,0.8s,baz=32,slow=1.0,SNR=4.6						
BVAR	**Borovoye Array**	**149.89**	**354**	PKPbc	**PKiKP**	**00 18 21.9**	**-0.5**
	1.2nm,0.6s,baz=303,slow=1.2,SNR=7.3						
KURBB	**Kurchatov Arra**	**150.63**	**342**	PKPbc	**PKPbc**	**00 18 23.0**	**-0.4**
	0.9nm,0.7s,baz=20,slow=2.0,SNR=11						
MKAR	**Makanchi Array**	**152.63**	**334**	PKPbc	**PKPbc**	**00 18 28.1**	**-0.1**
	0.8nm,0.6s,baz=21,slow=1.8,SNR=13						

*IDC **24** 23:58:45.3±0.9, 12°.96N×88°.01W, h0km, mb4.1/11, mbtmp4.1/12, ML3.3/2, MS3.5/11, Error ellipse: s-maj=34.3km s-min=17.3km az=44.0*
*CATAC **24** 23:58:52.7±0.8, 13°.N±4°.×8°.9W±°., h25km±7km, M4.7/39, MLv4.7/39, Error ellipse: s-maj=10.5km s-min=3.2km az=28.7, confirmed*
*SNET **24** 23:58:53.0±0.8, 12°.74N×88°.60W, h35km±16km, ML4.7*
*NEIC **24** 23:58:54.3±2.2, 12°.75N±0°.06×88°.51W±0°.05, h54km±8km, mb4.5/112, Error ellipse: s-maj=10.3km s-min=5.9km az=215.0*
*UCR **24** 23:58:54.8±2.3, 12°.75N×88°.51W, h54km, MB4.5(NEIC)*
*GCG **24** 23:58:54.8±0.5, 12°.85N×88°.72W, h27km±4km, MD3.3, Hypocentre not reviewed by the ISC*

ISC 24 23:58:47.7±1.2, 12°.50N±0°.03×88°.69W±0°.02, h20km±5km, n331, σ1°33/329, mb4.5/63, MS3.5/9, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.83**	**8**	eP	**Pn**	**23 59 05.5**	**+1.1**
ALJI				eS	**Sg**	**23 59 14.9**	**-0.3**
ALJI	**Alcalda de J**	**0.83**	**8**	S	**Sb**	**23 59 15.3**	**+0.9**
ALJI	**Alcalda de J**	**0.83**	**8**	P	**Pn**	**23 59 05.5**	**+1.1**
ALJI	**Alcalda de J**	**0.83**	**8**	P	**Pn**	**23 59 05.6**	**+1.3**
LCY	**Lacayo**	**1.00**	**23**	eP	**Pn**	**23 59 07.5**	**+0.8**
TECA	**Tecapa**	**1.01**	**11**	↓*iP*	**Pn**	**23 59 07.8**	**+0.9**
RANC	**El Ranchito**	**1.01**	**23**	eP	**Pn**	**23 59 07.8**	**+0.9**
RANC	**El Ranchito**	**1.01**	**23**	P	**Pn**	**23 59 07.9**	**+0.9**
RANC	**El Ranchito**	**1.01**	**23**	P	**Pn**	**23 59 08.0**	**+1.1**
PACA	**Pacayal**	**1.03**	**20**	eP	**Pg**	**23 59 08.2**	**+0.4**
PACA				eS	**Sb**	**23 59 19.8**	**-0.3**
PACA	**Pacayal**	**1.03**	**20**	P	**Pg**	**23 59 08.2**	**+0.4**
PACA	**Pacayal**	**1.03**	**20**	P	**Pg**	**23 59 08.6**	**+0.8**
TECO	**Alcaldia de Te**	**1.04**	**355**	eP	**Pg**	**23 59 08.2**	**+0.3**
TECO	**Alcaldia de Te**	**1.04**	**355**	S	**Sb**	**23 59 19.7**	**-0.6**
TECO	**Alcaldia de Te**	**1.04**	**355**	P	**Pg**	**23 59 08.3**	**+0.3**
TECO	**Alcaldia de Te**	**1.04**	**355**	P	**Pg**	**23 59 08.2**	**+0.3**
BLLM	**Bellamira**	**1.04**	**25**	↑*iP*	**Pg**	**23 59 08.2**	**+0.3**
SNVI	**San Vicente**	**1.12**	**353**	eP	**Pg**	**23 59 09.8**	**+0.3**
LCND	**La Caada**	**1.12**	**44**	eP	**Pg**	**23 59 09.2**	**-0.3**
LCND				IAML		23 59 23.6	
	comp=Z,14μm,0.4s						
LCND	**La Caada**	**1.12**	**44**	P	**Pg**	**23 59 09.2**	**-0.3**
LCND	**La Caada**	**1.12**	**44**	P	**Pg**	**23 59 09.3**	**-0.2**
PQSS	**Presa 15 de Se**	**1.13**	**7**	eP	**Pg**	**23 59 09.5**	**0.0**
PQSS	**Presa 15 de Se**	**1.13**	**7**	S	**Sb**	**23 59 22.4**	**-0.4**
PQSS	**Presa 15 de Se**	**1.13**	**7**	P	**Pg**	**23 59 09.7**	**0.0**
PQSS	**Presa 15 de Se**	**1.13**	**7**	P	**Pg**	**23 59 09.6**	**0.0**
COEG	**Centro de Oper**	**1.13**	**351**	eP	**Pg**	**23 59 09.8**	**+0.1**
COEG				eS	**Sb**	**23 59 22.2**	**-0.8**
COEG				IAML		23 59 24.0	
	comp=Z,21μm,0.3s						
COEG	**Centro de Oper**	**1.13**	**351**	P	**Pg**	**23 59 09.8**	**+0.1**
COEG	**Centro de Oper**	**1.13**	**351**	P	**Pg**	**23 59 09.9**	**+0.1**
UESV	**Universidad de**	**1.14**	**355**	eP	**Pg**	**23 59 09.8**	**0.0**
UESV	**Universidad de**	**1.14**	**355**	S	**Sb**	**23 59 23.0**	**-0.1**
UESV	**Universidad de**	**1.14**	**355**	P	**Pg**	**23 59 09.7**	**0.0**
UESV	**Universidad de**	**1.14**	**355**	P	**Pg**	**23 59 10.0**	**+0.2**
CNCH	**Conchagua**	**1.14**	**47**	eP	**Pg**	**23 59 09.4**	**-0.4**
CNCH	**Conchagua**	**1.14**	**47**	P	**Pg**	**23 59 09.5**	**-0.4**
CNCH	**Conchagua**	**1.14**	**47**	P	**Pg**	**23 59 09.6**	**-0.4**
LALI	**Alcalda de L**	**1.16**	**328**	eP	**Pg**	**23 59 10.7**	**+0.4**
LALI	**Alcalda de L**	**1.16**	**328**	S	**Sb**	**23 59 24.1**	**+0.4**
LALI	**Alcalda de L**	**1.16**	**328**	P	**Pg**	**23 59 10.8**	**+0.6**
LALI	**Alcalda de L**	**1.16**	**328**	P	**Pg**	**23 59 11.4**	**+1.2**
LALI	**Alcalda de L**	**1.16**	**328**	eP		23 59 10.7	
LALI				eS		23 59 22.6	
LFRS	**El Faro**	**1.18**	**342**	eP	**Pg**	**23 59 10.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.20**	**358**	eP	**Pg**	**23 59 10.9**	**-0.1**
SCLA				eS	**Sb**	**23 59 24.3**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.20**	**358**	P	**Pg**	**23 59 10.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.20**	**358**	P	**Pg**	**23 59 11.0**	**+0.1**
CSGN	**Cosiguina Volc**	**1.20**	**67**	eP	**Pg**	**23 59 10.9**	**-0.1**
CSGN				eS	**Sb**	**23 59 25.0**	**-0.1**
CSGN	**Cosiguina Volc**	**1.20**	**67**	P	**Pg**	**23 59 11.1**	**+0.1**
LOMA	**Loma Larga**	**1.23**	**338**	eP	**Pg**	**23 59 11.7**	**+0.1**
LOMA	**Loma Larga**	**1.23**	**338**	S	**Sb**	**23 59 26.6**	**+0.6**
LOMA	**Loma Larga**	**1.23**	**338**	P	**Pg**	**23 59 11.7**	**+0.1**
LOMA	**Loma Larga**	**1.23**	**338**	P	**Pg**	**23 59 11.9**	**+0.3**
PAVA	**Las Pavas**	**1.23**	**349**	eP	**Pg**	**23 59 11.5**	**-0.1**
PAVA	**Las Pavas**	**1.23**	**349**	S	**Sb**	**23 59 25.8**	**-0.1**
PAVA	**Las Pavas**	**1.23**	**349**	P	**Pg**	**23 59 11.6**	**-0.1**
PAVA	**Las Pavas**	**1.23**	**349**	P	**Pg**	**23 59 11.7**	**0.0**
POTN	**Potosi Cosigui**	**1.26**	**66**	P	**Pg**	**23 59 11.9**	**-0.2**
UDBS	**Universidad Do**	**1.29**	**340**	eP	**Pg**	**23 59 12.8**	**+0.1**
UDBS	**Universidad Do**	**1.29**	**340**	S	**Sb**	**23 59 28.0**	**+0.3**
UDBS	**Universidad Do**	**1.29**	**340**	P	**Pg**	**23 59 13.0**	**+0.2**
UDBS	**Universidad Do**	**1.29**	**340**	P	**Pg**	**23 59 12.8**	**+0.1**
UTEC	**Universidad Te**	**1.30**	**338**	S	**Sn**	**23 59 28.2**	**+0.6**
UTEC	**Universidad Te**	**1.30**	**338**	P	**Pb**	**23 59 11.7**	**+0.2**
ITCA	**Escuela Especi**	**1.30**	**334**	P	**Pg**	**23 59 13.2**	**+0.3**
ITCA	**Escuela Especi**	**1.30**	**334**	P	**Pg**	**23 59 13.8**	**+0.8**
SEMO	**Seminario San**	**1.31**	**337**	P	**Pg**	**23 59 13.2**	**+0.2**
SEMO	**Seminario San**	**1.31**	**337**	P	**Pg**	**23 59 13.4**	**+0.4**
LFU	**La Fuente**	**1.31**	**342**	eP	**Pg**	**23 59 12.9**	**-0.2**
UEES	**Universidad Ev**	**1.32**	**336**	eP	**Pg**	**23 59 13.3**	**-0.1**
UEES	**Universidad Ev**	**1.32**	**336**	P	**Pg**	**23 59 13.4**	**0.0**
UEES	**Universidad Ev**	**1.32**	**336**	P	**Pg**	**23 59 13.4**	**0.0**
CAHU	**Cacacuatique**	**1.35**	**20**	eP	**Pb**	**23 59 13.0**	**+0.5**
PMON	**Piamonte**	**1.35**	**333**	eP	**Pg**	**23 59 13.5**	**-0.4**
PMON	**Piamonte**	**1.35**	**333**	P	**Pg**	**23 59 13.5**	**-0.4**
PMON	**Piamonte**	**1.35**	**333**	P	**Pg**	**23 59 13.8**	**-0.1**
PIC2	**El Picacho**	**1.36**	**336**	eP	**Pg**	**23 59 14.1**	**+0.1**
BOQS	**Boqueron**	**1.36**	**335**	eP	**Pg**	**23 59 13.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.37**	**327**	eP	**Pg**	**23 59 13.7**	**-0.4**
JAYA				IAML		23 59 29.9	
	comp=Z,23μm,0.2s						
JAYA	**Jayaque - finc**	**1.37**	**327**	P	**Pg**	**23 59 13.8**	**-0.4**
JAYA	**Jayaque -

ESPN Las Esperanzas 4.30 94 *eP* **Pn 23 59 56.6 +4.5**
ARE1 Arenal 1 4.39 117 *eP* **Pb 00 00 00.2 -3.9**
SOCE Pocosol 4.51 117 Pn Pn 23 59 59.8 +4.8
PETF Flores 4.54 346 Pn 23 59 58.1 +2.7
PETF Flores 4.54 346 P **Pn 23 59 59.1 +3.8**
PETF Flores 4.54 346 P **Pn 23 59 59.5 +4.1**
CCIG Comitan 5.03 319 Pn 00 00 05.7 +3.5
HDC Heredia 5.13 118 Pn Pn 00 00 08.9 +5.4
DRK0 Durika 6.24 120 *eP* Pn 00 00 26.5 +7.6
PIRO Carate, Puerto 6.65 127 *eP* Pn 00 00 32.4 +8.0
ALCO Alturas Coton, 6.75 121 *eP* Pn 00 00 32.9 +7.0
PRVC Isla de Provid 7.20 82 Pn **Pn 00 00 34.4 +2.5**
CMIG Matias Romero 7.53 308 Pn Pn 00 00 41.7 +5.3
comp=Z,2.3nm,0.3s,baz=116,slow=7.5,SNR=15
CMIG Sn **Sn 00 02 02.3 +1.0**
comp=Z,1.6nm,0.3s,baz=132,slow=13,SNR=3.6
comp=Z,6.3nm,0.4s
TEIG Tepich 7.70 3 Pn 00 00 40.7 +2.0
TLIG Tlapa 10.79 299 Pn 00 01 27.1 +5.9
SOR Soroa 11.58 27 Pn **Pn 00 01 32.6 +0.6**
ROSC El Rosal 16.11 117 LR LR 00 09 00.2
comp=Z,156nm,21.0s,baz=22,slow=39
FLOC Florencia 16.87 129 P 00 02 44.8 -0.1
SDV Santo Domingo 18.10 100 LR LR 00 12 00.4
comp=Z,71nm,18.1s,baz=258,slow=45
HKT Hockley 18.59 340 Pn **Pn 00 03 06.7 +2.7**
833A Chaparral WMA, 18.65 329 P Pn 00 03 06.0 +1.3
352A Blakely 19.21 10 P Pn 00 03 12.0 +0.5
HNDO Hondo 19.60 331 P Pn 00 03 16.3 +0.1
DRIO Del Rio 20.16 328 P Pn 00 03 22.7 -0.2
143A Socs Landing, 20.27 353 P Pn 00 03 23.5 -0.5
143A IAmb IAmb 00 03 28.9
comp=Z,17nm,0.8s
237A Washetta, Mont 20.49 342 Pn Pn 00 03 28.7 +2.1
237A IAmb IAmb 00 03 39.8
comp=Z,18nm,0.8s
LRAL Lakeview Retre 20.50 4 P Pn 00 03 27.0 +0.2
BAUV El Baul 20.59 98 P **P 00 03 25.5 -0.3**
BAUV IAmb IAmb 00 03 59.3
comp=Z,15nm,0.9s
BRDY Brady 20.98 335 P **P 00 03 30.7 +0.9**
WHTX Lake Whitney, 21.01 339 P **P 00 03 31.4 +1.3**
WHTX IAmb IAmb 00 03 48.7
comp=Z,24nm,1.2s
OZNA Ozona 21.64 330 P **P 00 03 39.0 +2.1**
OZNA IAmb IAmb 00 03 40.9
comp=Z,39nm,1.3s
TX31 Lajitas Ar. Si 21.79 323 P **P 00 03 40.1 +1.6**
TXAR Lajitas Array 21.79 323 P **P 00 03 40.3 +1.7**
comp=Z,1.0nm,0.4s,baz=142,slow=9.6,SNR=29
TXAR PcP **PcP 00 07 40.5 +1.8**
comp=Z,0.6nm,0.8s,baz=151,slow=1.7,SNR=4.7
TXAR ScP **ScP 00 11 15.2 +0.2**
comp=Z,0.3nm,0.8s,baz=145,slow=4.6,SNR=3.6
comp=Z,1.0nm,0.4s
PLPT Palo Pinto 22.06 338 P **P 00 03 43.1 +1.7**
MIAR Mount Ida 22.40 349 P **P 00 03 46.1 +1.2**
SJG San Juan 22.44 73 LR LR 00 13 10.6
comp=Z,64nm,18.9s,baz=180,slow=40
SGCY Sterling City 22.46 331 P **P 00 03 46.9 +1.2**
SGCY IAmb IAmb 00 03 50.3
comp=Z,9.9nm,0.6s
ALPN Alpine 22.54 324 P **P 00 03 48.1 +1.4**
JSC Jenkinsville 22.72 16 P **P 00 03 49.5 +1.2**
Y57A Sumter 22.72 18 P **P 00 03 48.7 +0.3**
MNHN Monahans 22.80 328 P **P 00 03 50.4 +1.0**
MNHN IAmb IAmb 00 03 53.3
comp=Z,14nm,0.7s
SN05 Snyder 5 23.16 333 P **P 00 03 54.1 +1.0**
SN05 IAmb IAmb 00 03 55.8
comp=Z,12nm,0.5s
APMT Aspermont 23.22 335 P **P 00 03 54.1 +0.5**
BIRD Birdtown, Kers 23.28 17 P **P 00 03 54.7 +0.5**
BIRD IAmb IAmb 00 03 56.2
comp=Z,18nm,1.1s
SN07 Snyder 07 23.34 333 P **P 00 03 55.9 +1.0**
SN07 IAmb IAmb 00 03 57.1
comp=Z,6.6nm,0.6s
TKL Tuckaleechee C 23.49 10 LR LR 00 12 17.9
comp=Z,112nm,21.0s,baz=185,slow=35
FCAR Ozark Folk Cen 23.50 353 IAmb IAmb 00 03 58.8
comp=Z,8.9nm,0.8s
X34A Smith Ranch, M 23.52 341 P **P 00 03 58.5 +1.9**
X34A IAmb IAmb 00 04 00.1
comp=Z,15nm,0.6s
POST Post 23.59 332 IAmb IAmb 00 04 00.3
comp=Z,11nm,0.8s
DKNS Dickens 23.85 334 P **P 00 04 01.1 +1.2**
DKNS IAmb IAmb 00 04 02.7
comp=Z,16nm,0.7s
WMOK Wichita Mounta 23.96 339 P **P 00 04 01.8 +0.9**
FNO Franklin 24.00 342 P **P 00 04 02.2 +1.1**
HHAR Hobbs 24.15 350 P **P 00 04 04.0 +1.5**
HHAR IAmb IAmb 00 04 05.2
comp=Z,17nm,1.5s
TUL3 Leonard 24.18 346 P **P 00 04 03.8 +1.0**
TUL3 IAmb IAmb 00 04 30.4
comp=Z,7.6nm,0.8s
V55A Taylorsville 24.21 15 P **P 00 04 03.2 0.0**
OK029 Liberty Lake 24.51 343 P **P 00 04 06.0 +0.2**
OK052 Battle Ridge R 24.51 344 P **P 00 04 05.8 -0.1**
OK052 IAmb IAmb 00 04 21.1
comp=Z,27nm,1.3s
SMWD Samnorwood 24.82 337 P **P 00 04 10.2 +1.4**
SMWD IAmb IAmb 00 04 12.8
comp=Z,11nm,0.5s
MSTX Muleshoe 24.93 331 P **P 00 04 09.9 +0.1**
MSTX IAmb IAmb 00 04 12.0
comp=Z,11nm,0.7s
OK051 E0350 and S346 25.00 344 P **P 00 04 11.3 +1.0**
OK051 IAmb IAmb 00 04 29.6
comp=Z,17nm,1.1s
AMTX Amarillo 25.21 334 P **P 00 04 14.0 +1.7**
AMTX IAmb IAmb 00 04 15.5
comp=Z,8.9nm,0.6s
S39A Bolivar 25.43 351 P **P 00 04 14.3 +0.1**
S39A IAmb IAmb 00 04 36.5
comp=Z,12nm,0.8s
CCM Cathedral Cave 25.56 355 P **P 00 04 14.8 -0.4**
CCM IAmb IAmb 00 04 15.5
comp=Z,12nm,1.2s
RTBA Rita Blanca 26.98 334 P **P 00 04 30.2 +1.8**
RTBA IAmb IAmb 00 04 47.0
comp=Z,7.0nm,0.9s
BNM Barren Site 27.04 326 P **P 00 04 29.8 +0.8**
P40A Paris 27.09 354 P **P 00 04 28.4 -0.7**
P40A IAmb IAmb 00 05 09.8
comp=Z,20nm,1.3s
SBM South Baldy 27.22 325 P **P 00 04 33.6 +2.8**
LENM Lemitar 27.24 325 P **P 00 04 34.2 +3.4**
ANMO Albuquerque 27.55 327 LR LR 00 17 52.6
comp=Z,49nm,18.1s,baz=248,slow=42
T25A Trinidad 28.30 333 P **P 00 04 41.7 +1.5**
O53A New Philadelph 28.42 12 P **P 00 04 42.3 +1.2**
P57A Homestead Farm 28.49 17 P **P 00 04 42.5 +0.8**
P57A IAmb IAmb 00 04 43.2
comp=Z,9.3nm,0.7s
O54A Avella 28.54 13 P **P 00 04 42.6 +0.5**
O54A IAmb IAmb 00 05 21.5
comp=Z,19nm,1.2s
SDCO Great Sand Dun 29.29 332 P **P 00 04 50.9 +1.8**
S22A 4UR Ranch, Cre 29.91 330 P **P 00 04 56.7 +2.0**
O20A White River Ci 32.48 331 P **P 00 05 19.8 +2.7**
O20A IAmb IAmb 00 05 21.6
comp=Z,7.3nm,0.9s
PFO Pinyon Flats O 32.90 314 LR LR 00 18 30.5
comp=Z,83nm,18.7s,baz=94,slow=36
RSSD Black Hills 34.16 340 P **P 00 05 33.1 +1.3**
RSSD IAmb IAmb 00 05 48.1
comp=Z,2.6nm,0.7s
LPAZ La Paz 35.09 144 P **P 00 05 41.9 +1.3**
comp=Z,0.4nm,0.4s,baz=325,slow=10,SNR=2.1
LPAZ LR LR 00 19 01.1
comp=Z,77nm,18.0s,baz=294,slow=35
comp=Z,0.4nm,0.4s
PD31 Pinedale Array 35.17 333 P **P 00 05 42.2 +1.6**
PDAR Pinedale Array 35.17 333 P **P 00 05 41.5 +0.9**
PDAR Pinedale Array 35.17 333 P **P 00 05 39.9 -0.7**
comp=Z,0.8nm,0.6s,baz=128,slow=9.7,SNR=14
PDAR PcP **PcP 00 08 12.2 +0.5**
comp=Z,0.8nm,0.6s,baz=130,slow=1.9,SNR=7.9
comp=Z,0.8nm,0.6s
SNOW Snow King Moun 36.26 332 P **P 00 05 51.4 +1.5**
LOHW Long Hollow 36.30 333 P **P 00 05 52.1 +1.8**
LOHW IAmb IAmb 00 05 52.1
comp=Z,5.6nm,1.2s
TPAW Teton Pass 36.37 332 P **P 00 05 52.0 +1.1**
TPAW IAmb IAmb 00 05 54.5
comp=Z,3.9nm,0.6s
MOOW Moose Ponds 36.48 333 P **P 00 05 53.1 +1.4**
FLWY Flagg Ranch 36.72 333 P **P 00 05 55.6 +1.8**
FLWY IAmb IAmb 00 06 37.4
comp=Z,9.9nm,1.4s
NVAR Mina Array Bea 36.88 320 P **P 00 05 56.8 +1.5**
comp=Z,0.6nm,0.5s,baz=125,slow=7.4,SNR=4.2
NVAR PcP **PcP 00 08 19.1 +2.3**
comp=Z,1.3nm,0.7s,baz=104,slow=3.7,SNR=6.4
NVAR LR LR 00 23 10.0
comp=Z,70nm,18.4s,baz=174,slow=40
comp=Z,0.6nm,0.5s
ULM Lac du Bonnet 38.10 353 P **P 00 06 02.9 -2.2**
comp=Z,3.5nm,0.5s,baz=168,slow=9.2,SNR=9.2
ULM LR LR 00 22 45.8
comp=Z,144nm,18.2s,baz=140,slow=38
comp=Z,3.5nm,0.5s
BOZ Bozeman (W) 38.32 334 P **P 00 06 08.9 +1.6**
BOZ IAmb IAmb 00 06 11.0
comp=Z,3.4nm,0.6s
EGMT Eagleton 39.54 338 P **P 00 06 18.6 +1.2**
LYMT Lyon Mountain 39.69 335 P **P 00 06 20.0 +1.2**
BPMT Black Pine Rid 39.77 333 P **P 00 06 20.4 +0.9**
PLID Pearl Lake 39.96 330 P **P 00 06 21.7 +0.6**
YBH Yreka Blue Hor 41.54 321 LR LR 00 25 47.5
comp=Z,62nm,19.4s,baz=128,slow=39
SCHQ Schefferville 45.59 18 P **P 00 07 01.9 -4.5**
comp=Z,4.0nm,0.7s,baz=218,slow=6.7,SNR=13
SCHQ PcP **PcP 00 08 42.7 -1.9**
comp=Z,0.9nm,0.3s,baz=279,slow=2.5,SNR=5.1
comp=Z,4.0nm,0.7s
FRB Frobisher Bay 53.11 11 LR LR 00 32 42.9
comp=Z,84nm,18.5s,baz=70,slow=39
YKA Yellowknife Ar 53.26 345 P **P 00 08 03.4 -1.3**
comp=Z,3.2nm,0.7s,baz=144,slow=7.9,SNR=45
YKA PcP **PcP 00 09 11.8 -0.5**
comp=Z,0.3nm,0.5s,baz=152,slow=3.7,SNR=4.5
comp=Z,3.2nm,0.7s
DLBC Dease Lake 55.35 335 P **P 00 08 22.0 +1.8**
DLBC IAmb IAmb 00 08 22.4
comp=Z,4.6nm,0.7s
RES Resolute Bay 62.27 358 P **P 00 09 06.2 -1.7**
RES IAmb IAmb 00 09 27.7
comp=Z,2.8nm,1.2s
F31M Tsiigehtchic 62.32 342 P **P 00 09 07.8 -0.5**
F31M IAmb IAmb 00 09 08.4
comp=Z,3.6nm,0.7s
VRDI Verde Repeater 62.56 334 P **P 00 09 10.5 +0.1**
BCAR Beaver Creek A 62.71 336 P **P 00 09 11.7 +0.6**
INK Inuvik 62.80 343 P **P 00 09 11.0 -0.5**
INK IAmb IAmb 00 09 11.8
comp=Z,4.0nm,0.7s
G30M tAoh Zraii Nji 62.81 341 P **P 00 09 11.3 -0.3**
G30M IAmb IAmb 00 09 18.5
comp=Z,6.6nm,1.5s
GLB Gilahina Butte 62.81 334 P **P 00 09 12.3 +0.5**
GLB IAmb IAmb 00 09 13.9
comp=Z,5.1nm,1.5s
BMRM Bremner River 62.96 333 P **P 00 09 13.4 +0.6**
N25K Chitina, Valde 63.22 334 P **P 00 09 15.6 +1.0**
N25K IAmb IAmb 00 09 53.4
comp=Z,7.1nm,1.4s
A36M Sachs Harbour 63.36 348 P **P 00 09 14.1 -1.0**
A36M IAmb IAmb 00 09 28.9
comp=Z,3.8nm,1.1s
HIN Hinchinbrook I 63.58 332 P **P 00 09 17.4 +0.5**
KLU Klutina 63.75 333 P **P 00 09 18.6 +0.6**
KLU IAmb IAmb 00 09 57.9
comp=Z,6.7nm,1.3s
JOKA Jonika Flow 63.81 286 P **P 00 09 21.4 +2.3**
SCRK Sand Creek 64.01 336 P **P 00 09 20.0 +0.2**
M24K Tolsona, Glenn 64.11 334 P **P 00 09 21.1 +0.7**
E29M Blow River 64.15 342 P **P 00 09 20.8 +0.4**
E29M IAmb IAmb 00 09 22.1
comp=Z,2.4nm,0.8s
PAX Paxson 64.17 335 P **P 00 09 21.2 +0.4**
RIDG Independent Ri 64.25 336 P **P 00 09 21.4 +0.1**
F28M Old Crow 64.34 341 P **P 00 09 22.0 +0.3**
SCM Sheep Creek Mo 64.50 333 P **P 00 09 22.9 -0.1**
SEW Seward 64.85 331 P **P 00 09 27.0 +1.9**
GHO Glory Hole Cre 65.19 333 P **P 00 09 27.5 0.0**
RC01 Rabbit Creek A 65.31 332 P **P 00 09 28.3 +0.1**
SLKM Skilak Lake 65.34 331 P **P 00 09 28.1 -0.3**
IL03 Eielson Array 65.48 336 P **P 00 09 28.8 -0.3**
ILAR Eielson Array 65.49 336 P **P 00 09 28.4 -0.9**
ILAR Eielson Array 65.49 336 P **P 00 09 28.1 -1.2**
comp=Z,1.1nm,0.7s,baz=160,slow=4.5,SNR=18
comp=Z,1.1nm,0.7s
FYU Fort Yukon 65.64 339 P **P 00 09 29.6 -0.6**
FYU IAmb IAmb 00 10 13.5
comp=Z,4.8nm,1.2s
RND Reindeer 65.75 335 P **P 00 09 31.6 +0.6**
RND IAmb IAmb 00 09 46.6
comp=Z,4.4nm,1.0s
CCB Clear Creek Bu 65.80 336 P **P 00 09 31.0 -0.2**
WRH Wood River Hil 65.85 336 P **P 00 09 30.4 -1.2**
SII Sitkinak Islan 66.21 327 P **P 00 09 35.9 +1.8**
F25K Christian Rive 66.25 339 P **P 00 09 34.4 +0.2**
F25K IAmb IAmb 00 09 35.4
comp=Z,3.6nm,0.7s
NEA2 Nenana 66.28 336 P **P 00 09 34.1 -0.3**
TRF Thorofare Moun 66.37 334 P **P 00 09 35.5 +0.3**
TRF IAmb IAmb 00 09 36.1
comp=Z,5.9nm,1.0s
STLK Strandline Lak 66.40 332 P **P 00 09 36.7 +1.4**
SPU Mount Spurr 66.41 332 P **P 00 09 34.9 -0.4**
SPU IAmb IAmb 00 09 59.6
comp=Z,7.0nm,1.4s
SKT Skwentna 66.42 333 P **P 00 09 35.4 0.0**
SKT IAmb IAmb 00 09 55.9
comp=Z,9.5nm,1.4s
E25K Arctic Village 66.46 340 P **P 00 09 35.6 +0.1**
E25K IAmb IAmb 00 09 36.5
comp=Z,3.4nm,0.8s
I23K Minto, Yukon-K 66.61 336 P **P 00 09 36.3 -0.1**
KTH Kantishna Hill 66.67 334 P **P 00 09 36.7 -0.3**
KTH IAmb IAmb 00 10 04.7
comp=Z,11nm,1.5s
BPAW Bear Paw Mtn. 66.89 335 P **P 00 09 37.9 -0.4**
BPAW IAmb IAmb 00 09 38.7
comp=Z,3.7nm,0.8s
PPLA Purkeypile 67.00 334 P **P 00 09 38.5 -0.7**
CAST Castle Rocks 67.12 334 P **P 00 09 39.1 -0.7**
CAST IAmb IAmb 00 09 45.1
comp=Z,3.6nm,1.2s
ACHA Angle Creek He 67.20 328 P **P 00 09 41.9 +1.4**
D25K Kavik River 67.27 341 P **P 00 09 41.1 +0.4**
EUNU Eureka 67.58 0 P **P 00 09 42.0 -0.5**
TOLK Toolik Lake Re 68.03 340 P **P 00 09 45.6 +0.1**
TOLK IAmb IAmb 00 10 04.6
comp=Z,4.1nm,1.1s
EFI East Falkland 69.20 160 P **P 00 09 56.3 +3.5**
L16K Owhat River 69.99 331 P **P 00 09 58.3 +0.7**
L16K IAmb IAmb 00 10 29.1
comp=Z,4.1nm,1.1s
M14K Bethel 71.01 330 P **P 00 10 05.2 +1.3**
J14K Nanvaranak Lak 72.05 332 P **P 00 10 11.2 +1.1**
ESDC Sonseca Array 78.11 52 P **P 00 10 43.9 -1.8**
comp=Z,0.7nm,0.9s,baz=249,slow=7.1,SNR=2.5
comp=Z,0.7nm,0.9s
SPITS Spitsbergen Ar 80.91 12 P **P 00 10 58.2 -1.9**
comp=Z,9.7nm,0.9s,baz=188,slow=4.4,SNR=1.8
comp=Z,9.7nm,0.9s
DBIC Dimbokro 82.59 85 P **P 00 11 08.4 -1.8**
comp=Z,2.4nm,0.7s,baz=308,slow=3.6,SNR=3.8
comp=Z,2.4nm,0.7s
SONM Songino Array 118.45 348 PKP **PKPdf 00 17 34.2 -0.1**
comp=Z,0.3nm,0.5s,baz=9.4,slow=1.9,SNR=4.7
MKAR Makanchi Array 120.43 7 PKP **PKPdf 00 17 36.2 -1.8**
comp=Z,0.1nm,0.3s,baz=284,slow=2.6,SNR=5.3
WRA Warramunga Arr 138.12 254 PKP **PKiKP 00 18 14.4 +0.2**
comp=Z,0.6nm,0.6s,baz=89,slow=2.5,SNR=8.1
ASAR Alice Springs 138.16 248 PKP **PKiKP 00 18 14.8 +0.6**
comp=Z,0.3nm,0.6s,baz=79,slow=2.4,SNR=2.3
PZH PanZhiHua 139.93 345 PKP **PKPdf 00 18 15.8 +0.2**
CMAR Chiang Mai Arr 148.33 346 PKP **PKPdf 00 18 28.3 -1.9**
comp=Z,0.9nm,0.3s,baz=340,slow=1.9,SNR=2.5
CMAR PKPbc **PKPbc 00 18 31.9 -1.7**
comp=Z,1.1nm,0.3s,baz=6.4,slow=1.6,SNR=5.7

NEIC ***25*** *00:10:39.9±2.0, 38.°30N×0.°02×115.°79W±0.°03, h3km±5km, Error ellipse: s-maj=2.9km s-min=2.3km az=79.0*
REN 25 00:10:39.4±2.1, 38.°37N±0.°03×115.°80W±0.°03, h7km±5km, ML2.7/12, **ML2.2**/58(NEIC), **Error ellipse: s-maj=4.2km s-min=2.8km az=197.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S11A	**Rachel**	**0.72**	**177**		Pg	00 10 52.5	-0.8
S11A	**Rachel**	**0.72**	**177**		Sg	00 11 03.3	+0.6
Q12A	**Willow Creek R**	**1.01**	**48**		Pg	00 10 58.8	-0.1
Q12A					Sg	00 11 12.3	+0.3
PRN	**Pahroc Range**	**1.13**	**148**		Pg	00 11 00.7	-0.3
Q09A	**Carvers**	**1.18**	**294**		Sn	00 11 19.6	+0.7
Q09A	**Carvers**	**1.18**	**294**	Pg	Pg	00 11 01.9	-0.2
SPR3	**Spring Creek 3**	**1.31**	**61**		Pn	00 11 03.3	-1.1
SPR3	**Spring Creek 3**	**1.31**	**61**	IAML		00 11 21.7	
	comp=N,44nm,0.8s						
SPR3				IAML		00 11 22.1	
	comp=E,50nm,0.6s						
MZP	**Montezuma Peak**	**1.42**	**242**		Pn	00 11 05.5	-0.4
CPY	**CP-1**	**1.45**	**188**		Pn	00 11 06.3	+0.1
TPNV	**Topopah Spring**	**1.46**	**194**		Pn	00 11 05.7	-0.7
PSUT	**Pine Spring**	**1.54**	**83**	Pg	Pg	00 11 08.8	-0.1
PSUT				IAML		00 11 29.9	
	comp=N,40nm,0.4s						
PSUT				IAML		00 11 30.0	
	comp=E,37nm,0.5s						
GMN	**Gold Mountain**	**1.57**	**228**		Pn	00 11 07.9	-0.1
GMN	**Gold Mountain**	**1.57**	**228**	IAML		00 11 32.7	
	comp=E,22nm,0.4s						
NSP	**Numbskull Pass**	**1.67**	**192**		Pn	00 11 08.2	-1.0
WCT	**Wildcat Mounta**	**1.70**	**203**		Pn	00 11 10.1	+0.4
WCT	**Wildcat Mounta**	**1.70**	**203**	IAML		00 11 35.7	
	comp=E,23nm,0.2s						
WCT				IAML		00 11 35.8	
	comp=N,19nm,0.4s						
MCY	**Mercury**	**1.71**	**184**		Pn	00 11 09.1	-0.7
SDH	**Striped Hills**	**1.77**	**194**		Pn	00 11 11.3	+0.7
LCH	**Last Change Ra**	**1.85**	**233**		Pb	00 11 12.9	-0.7
NV11	**Mina Array Sit**	**1.85**	**273**		Pb	00 11 13.4	-0.3
NV11	**Mina Array Sit**	**1.85**	**273**	IAML		00 11 38.4	
	comp=N,27nm,0.6s						
NV11				IAML		00 11 40.0	
	comp=E,21nm,0.3s						
SHPR	**Sheep Range**	**1.93**	**165**		Pn	00 11 11.8	-1.0
AMDNV	**Amargosa**	**1.95**	**192**		Pn	00 11 13.9	+1.0
NVAR	**Mina Array Bea**	**1.97**	**273**		Pn	00 11 13.4	0.0
NV08	**Mina Array Sit**	**1.98**	**272**		Pn	00 11 14.3	+0.8
DSP	**Deep Springs**	**1.99**	**241**		Pb	00 11 15.0	-0.9
DSP	**Deep Springs**	**1.99**	**241**	IAML		00 11 43.3	
	comp=E,29nm,0.6s						
DSP				IAML		00 11 43.8	
	comp=N,16nm,0.5s						
NV09	**Mina Array Sit**	**2.00**	**273**		Pb	00 11 15.1	-1.1
LHV	**Little Huntoon**	**2.13**	**268**		Pb	00 11 18.3	-0.1
RYN	**Ryan**	**2.15**	**278**		Pb	00 11 17.9	-0.9
GWY	**Greenwater Val**	**2.29**	**198**		Pb	00 11 20.8	-0.3
GWY				IAML		00 11 56.0	
	comp=N,18nm,0.6s						
GWY				IAML		00 11 56.1	
	comp=E,26nm,0.6s						
ELK	**Elko**	**2.41**	**10**		Pb	00 11 23.3	0.0
LCMT	**Little Creek M**	**2.44**	**123**		Pb	00 11 24.4	+0.8
KNB	**Kanab**	**2.72**	**119**	Pg	Pb	00 11 29.6	+1.2
KNB				IAML		00 12 10.2	
	comp=E,7.6nm,2.4s						
KNB				IAML		00 12 19.2	
	comp=N,7.5nm,3.1s						
V12A	**Nelson**	**2.74**	**164**		Pg	00 11 32.0	0.0
V12A				IAML		00 12 23.1	
	comp=E,7.2nm,4.9s						
MTPU	**Mount Pierson**	**2.87**	**95**	Pg	Pg	00 11 33.9	-0.4
MTPU				IAML		00 12 25.4	
	comp=N,9.0nm,4.5s						
MTPU				IAML		00 12 32.8	
	comp=E,8.6nm,4.7s						
PKCU	**Pink Cliffs**	**2.91**	**107**	Pg	Pg	00 11 34.4	-0.8
U15A	**North Rim**	**3.40**	**124**		Pb	00 11 41.9	+1.8
U15A				IAML		00 12 29.6	
	comp=N,6.2nm,2.4s						
U15A				IAML		00 13 27.5	
	comp=E,7.4nm,4.4s						
W13A	**Hualapai Mount**	**3.61**	**154**	Pg	Pg	00 11 46.9	-1.6
W13A				IAML		00 12 04.5	
	comp=E,4.5nm,4.3s						
W13A				IAML		00 12 23.2	
	comp=N,5.2nm,4.9s						
J05D	**Fort Rock, OR**	**6.41**	**322**		Pn	00 12 19.5	+5.1
PD31	**Pinedale Array**	**6.47**	**45**	Pn	Pn	00 12 17.1	+1.8

IDC 25 00:22:55.8±23.0, 17.°72S×179.°60W, h515km±61km, mb3.2/3, mbtmp3.9/4, Error ellipse: s-maj=474.8km s-min=111.0km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.24**	**269**	P	P	00 24 03.6	0.0
	7.2nm,0.6s,baz=103,slow=4.4,SNR=6.7						
STKA	**Stephens Creek**	**37.73**	**241**	P	P	00 29 27.6	+0.2
	1.4nm,0.4s,baz=85,slow=9.6,SNR=6.4						
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**43.55**	**259**	P	P	00 30 13.3	-0.7
	0.5nm,0.6s,baz=97,slow=7.4,SNR=8.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**43.75**	**254**	P	P	00 30 15.6	0.0
	5.2nm,0.4s,baz=89,slow=8.1,SNR=58						
	5.2nm,0.4s						

MOS ***25*** *00:40:24.9±0.8, 29.°46N×104.°54E, h12km, mb4.6/33, Error ellipse: s-maj=7.0km s-min=5.5km az=107.9*
NEIC ***25*** *00:40:27.4±1.4, 29.°47N±0.°07×104.°56E±0.°07, h10km±1km, mb4.6/180, Error ellipse: s-maj=12.0km s-min=9.4km az=202.0*
BJI ***25*** *00:40:27.0, 29.°48N×104.°52E, h5km, mB4.9/15, mb4.4/44, ML4.4/27, Ms4.2/33, Ms7 4.0/32*
IDC ***25*** *00:40:30.3±4.6, 29.°50N×104.°60E, h32km±35km, mb4.0/23, mbtmp4.1/25, ML4.1/2, MS3.7/17, Error ellipse: s-maj=16.2km s-min=12.0km az=59.0*
ISC 25 00:40:26.9±0.3, 29.°49N±0.°03×104.°54E±0.°03, h10km, n585, σ1§16/600, mb4.5/149, **MS3.7**/17, **7C-2D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.57**	**335**	Pn	**Pn**	**00 40 55.9**	**+1.0**
CD2				Pg	**Pg**	**00 40 57.3**	**+0.2**
CD2				Sg	**Sg**	**00 41 20.3**	**+2.8**
GYA	**Guiyang**	**3.56**	**148**	⇓Pn	**Pn**	**00 41 23.3**	**+1.0**
GYA				Sn	**Sn**	**00 42 08.4**	**+4.0**
GYA				Sg	**Sg**	**00 42 26.8**	**+5.7**
GYA				smax	smax		
	comp=N,1μm,0.8s						
GYA				smax	smax		
	comp=E,1μm,0.8s						
GYA				LR	LR		
	comp=N,2μm,3.8s						
GYA				LR	LR		
	comp=E,4μm,3.8s						
PZH	**PanZhiHua**	**3.87**	**220**	Pn	**Pn**	**00 41 29.4**	**+2.8**
PZH				Pg	**Pb**	**00 41 38.3**	**+3.0**
PZH				Sn	**Sn**	**00 42 13.4**	**+1.2**
PZH				Sg	**Sg**	**00 42 30.3**	**-0.9**
PZH				smax	smax		
	comp=N,610nm,1.1s						
PZH				smax	smax		
	comp=E,500nm,1.4s						
PZH				LR	LR		
	comp=N,880nm,6.1s						
PZH				LR	LR		
	comp=E,2μm,6.0s						
PZH				LR	LR		
	comp=Z,710nm,4.9s						
ENH	**Enshi**	**4.37**	**78**	Pn	**Pn**	**00 41 34.1**	**+0.7**
KMI	**Kunming**	**4.63**	**201**	⇑Pn	**Pn**	**00 41 39.4**	**+2.2**
KMI				Sn	**Sn**	**00 42 34.8**	**+3.6**
KMI				Sg	**Sg**	**00 42 56.8**	**+1.0**
KMI				smax	smax		
	comp=N,91nm,1.4s						
KMI				smax	smax		
	comp=E,130nm,1.4s						
KMI				LR	LR		
	comp=N,870nm,4.5s						

KMI LR LR
comp=E,1μm,5.6s
KMI LR LR
comp=Z,590nm,5.0s
XAN Xi'an 5.87 38 ⇓Pn **Pn 00 41 54.5 +0.4**
XAN Pg **Pb 00 42 13.3 +3.9**
XAN Sn **Sn 00 42 57.3 -4.2**
XAN Sg **Sg 00 43 33.0 -2.5**
XAN smax smax
comp=N,810nm,1.4s
XAN smax smax
comp=E,680nm,1.0s
XAN LR LR
comp=N,2μm,4.6s
XAN LR LR
comp=E,2μm,4.0s
XAN LR LR
comp=Z,1μm,4.9s
LZH Lanzhou 6.61 355 Pn **Pn 00 42 06.4 +2.2**
LZH Pg Pb 00 42 27.3 +5.3
LZH Sn **Sn 00 43 22.1 +2.4**
LZH Sg **Sg 00 43 57.3 -1.7**
LZH smax smax
comp=N,170nm,1.3s
LZH smax smax
comp=E,200nm,1.4s
LZH LR LR
comp=N,800nm,6.9s
LZH LR LR
comp=E,1μm,7.2s
LZH LR LR
comp=Z,760nm,7.2s
GULI GuiLin 6.66 128 Pn **Pn 00 42 06.8 +2.0**
GULI Sn **Sn 00 43 18.9 -1.8**
GULI LR LR
comp=E,600nm,3.8s
GULI LR LR
comp=Z,1μm,9.2s
TNCH TengChong 6.96 232 *e*Pn **Pn 00 42 10.5 +1.4**
TNCH Sg **Sg 00 44 11.3 +0.9**
TNCH smax smax
comp=N,400nm,0.4s
TNCH smax smax
comp=E,460nm,0.4s
TNCH LR LR
comp=N,2μm,5.5s
TNCH LR LR
comp=E,890nm,7.4s
TNCH LR LR
comp=Z,680nm,11.8s
CNSH ChangSha 7.47 98 Pn **Pn 00 42 18.5 +2.5**
CNSH Sn **Sn 00 43 39.3 -1.6**
CNSH smax smax
comp=N,230nm,1.1s
CNSH smax smax
comp=E,170nm,0.9s
LYN LuoYang 8.41 51 P **Pn 00 42 30.3 +1.4**
LYN S **Sn 00 44 08.4 +4.5**
LYN pmax pmax
comp=Z,24nm,0.6s
LYN smax smax
comp=N,130nm,1.7s
LYN smax smax
comp=E,220nm,1.4s
LYN LR LR
comp=N,890nm,4.6s
LYN LR LR
comp=E,720nm,4.5s
LYN LR LR
comp=Z,760nm,4.5s
WHN Wuhan 8.57 81 P **Pn 00 42 31.3 +0.3**
WHN S **Sn 00 44 08.6 +0.8**
WHN pmax pmax
comp=Z,48nm,0.7s
WHN LR LR
comp=E,1μm,4.9s
WHN LR LR
comp=Z,1μm,3.8s
GOMU GeErMu 10.56 312 P Pn 00 42 52.8 -5.9
GOMU S Sn 00 44 28.3 -29
GOMU sS 00 44 44.3
GOMU LR LR
comp=N,790nm,8.0s
GOMU LR LR
comp=E,950nm,12.9s
GOMU LR LR
comp=Z,1μm,13.5s
GTA Gaotai 10.64 340 *e*P **Pn 00 43 03.0 +3.5**
GTA pP 00 43 06.8
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,300nm,12.7s
GTA LR LR
comp=Z,530nm,12.4s
GTA LR LR
comp=Z,420nm,12.3s
QIZ Qiongzhong 11.48 154 P **Pn 00 43 11.8 +0.9**
QIZ S **Sn 00 45 20.8 +1.5**
QIZ LR LR
comp=Z,470nm,7.5s
QIZ LR LR
comp=Z,340nm,4.7s
QIZ LR LR
comp=Z,360nm,6.1s
HNS HongShan 11.58 44 ⇑P Pn 00 43 17.5 +5.2
HNS S **Sn 00 45 25.4 +3.7**
HNS LR LR
comp=Z,390nm,10.2s
HNS LR LR
comp=Z,490nm,8.0s
HNS LR LR
comp=Z,280nm,13.1s
LSA Lhasa 11.66 274 Pn **Pn 00 43 14.5 +0.7**
LSA Lhasa 11.66 274 P **Pn 00 43 16.8 +3.0**
LSA LR LR
comp=Z,330nm,9.2s
LSA LR LR
comp=Z,98nm,5.2s
LSA Lhasa 11.66 274 P **Pn 00 43 14.5 +0.7**
CHTO Chiang Mai 11.79 207 Pn **Pn 00 43 15.1 -0.1**
CHTO Chiang Mai 11.79 207 P **Pn 00 43 15.1 -0.1**
SHL Shillong 11.89 254 Pn **Pn 00 43 16.4 -0.4**
SHL Shillong 11.89 254 P **Pn 00 43 16.4 -0.4**
BTO Baotou 11.96 21 *e*P **Pn 00 43 18.3 +0.7**
BTO pP 00 43 21.9
BTO sP 00 43 24.8
BTO PP **PnPn 00 43 28.5 +3.0**
BTO S **Sn 00 45 34.1 +3.0**
BTO sS 00 45 39.8
BTO SS **SnSn 00 45 48.6 +5.2**
BTO pmax pmax
comp=Z,25nm,1.2s
BTO pmax pmax
comp=Z,330nm,8.3s
BTO LR LR
comp=Z,450nm,7.4s
BTO LR LR
comp=Z,1μm,6.2s
BTO LR LR
comp=Z,560nm,8.8s
CMAR Chiang Mai Arr 12.11 206 Pn **Pn 00 43 19.9 +0.3**
CMAR Chiang Mai Arr 12.11 206 Pn **Pn 00 43 21.4 +1.8**
comp=Z,0.9nm,0.3s,baz=16,slow=12,SNR=8.2
CMAR Lg Lg 00 46 57.6
comp=Z,0.7nm,0.3s,baz=23,slow=27,SNR=1.4
CMAR LR LR 00 48 31.8
comp=Z,56nm,18.1s,baz=330,slow=40
comp=Z,1.6nm,0.3s
TIA Tai'an 12.52 54 P **Pn 00 43 26.0 +0.9**
TIA pmax pmax
comp=Z,14nm,1.0s
TIA LR LR
comp=Z,280nm,3.8s
TIA LR LR
comp=Z,380nm,5.2s
TIA LR LR
comp=Z,330nm,6.4s
NJ2 Nanjing 12.57 75 *e*P **Pn 00 43 24.8 -1.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,500nm,5.6s
NJ2 LR LR
comp=Z,390nm,4.1s
NJ2 LR LR
comp=Z,500nm,6.9s
HHC Hu-ho-hao-te 12.70 25 *e*P **Pn 00 43 30.9 +3.2**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.5s
HHC LR LR
comp=Z,280nm,5.7s
HHC LR LR
comp=Z,320nm,6.9s
HHC LR LR
comp=Z,260nm,6.9s
NACB Ninganchiao 16.11 105 Pn **Pn 00 44 11.3 -2.2**
YULB Yu-li 16.18 108 **Pn 00 44 12.9 -1.6**
TWG Pinlang 16.25 110 Pn **Pn 00 44 12.8 -2.5**
XLT XiLinHaoTe 17.08 30 *e*P **P 00 44 29.3 +1.7**
XLT sP sP 00 44 35.9 +4.0
XLT pmax pmax
comp=Z,7.0nm,1.3s
XLT pmax pmax
comp=Z,130nm,6.4s
SONM Songino Array 18.38 4 P **Pn 00 44 39.7 -2.2**
SONM Songino Array 18.38 4 P **P 00 44 42.5 +0.6**
comp=Z,0.2nm,0.3s,baz=180,slow=10,SNR=14
comp=Z,3.9nm,1.1s
ULN Ulaanbaatar 18.45 5 P **P 00 44 41.6 -1.2**
ULN Ulaanbaatar 18.45 5 P **P 00 44 41.6 -1.2**
ULN pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 19.62 321 *e*P **P 00 44 55.5 -0.1**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ LR LR
comp=Z,150nm,18.1s
ZAK Zakamensk 20.89 358 *e*P **P 00 45 08.9 -0.4**
ZAK pmax pmax
comp=Z,11nm,1.4s
KSAR Wonju Array Be 20.99 62 P **P 00 45 10.0 -0.4**
KSAR Wonju Array Be 20.99 62 P **P 00 45 10.0 -0.4**
KS19 Wonju Array Si 21.00 62 P **P 00 45 09.4 -1.0**
KSRS Korea Array 21.03 62 P **P 00 45 10.7 -0.1**
comp=Z,3.9nm,0.8s,baz=247,slow=10,SNR=11
KSRS LR LR 00 54 07.8
comp=Z,103nm,18.2s,baz=275,slow=39
comp=Z,3.9nm,0.8s
JOW Kunigami 21.09 91 LR LR 00 52 56.3
comp=Z,113nm,20.6s,baz=44,slow=36
SRIT Nakonsritamara 21.30 194 P **P 00 45 13.1 -0.7**
SRIT IAmb IAmb 00 45 21.0
comp=Z,25nm,1.1s
MOY Mondy 22.31 354 *e*P **P 00 45 30.9 +6.3**
MOY pmax pmax
comp=Z,20nm,2.2s
JNU Nakatsue 22.77 74 P **P 00 45 28.1 -1.5**
JNU Nakatsue 22.77 74 LR LR 00 55 31.5
comp=Z,192nm,18.0s,baz=276,slow=40
HIA Hailar 22.90 26 P **P 00 45 30.2 -0.6**
HIA IAmb IAmb 00 45 33.5
comp=Z,10nm,0.9s
HIA Hailar 22.90 26 P **P 00 45 30.2 -0.6**
HIA pmax pmax
comp=Z,11nm,0.9s
WUS Wushi 23.64 306 P **P 00 45 38.0 -0.5**
BNX BinXian 24.19 42 ⇑P **P 00 45 44.0 +0.6**
BNX pmax pmax
comp=Z,21nm,0.9s
KULM Kulim 24.35 189 P **P 00 45 44.5 -0.7**
KULM IAmb IAmb 00 45 46.9
comp=Z,6.2nm,0.6s
MK31 Makanchi Array 24.46 321 P **P 00 45 45.7 -0.3**
MK31 Makanchi Array 24.46 321 P **P 00 45 45.7 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 24.46 321 P **P 00 45 46.2 +0.2**
comp=Z,3.6nm,0.7s,baz=125,slow=12,SNR=43
MKAR LR LR 00 56 15.2
comp=Z,189nm,19.0s,baz=114,slow=39
comp=Z,3.6nm,0.7s
MAKZ Makanchi 24.64 321 P **P 00 45 47.2 -0.4**
MAKZ IAmb IAmb 00 45 52.8
comp=Z,11nm,1.1s
MAKZ Makanchi 24.64 321 P **P 00 45 47.2 -0.4**
MAKZ pmax pmax
comp=Z,11nm,1.2s
MDJ Mudanjiang 24.92 46 P **P 00 45 48.5 -1.6**
MDJ IAmb IAmb 00 45 52.7
comp=Z,6.8nm,0.8s
MDJ Mudanjiang 24.92 46 P **P 00 45 51.3 +1.2**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,570nm,6.2s
IPM Ipoh 25.10 188 P **P 00 45 50.9 -1.1**
IPM IAmb IAmb 00 45 53.0
comp=Z,23nm,1.0s
KDJ Kajisay 25.40 307 P **P 00 45 54.4 -0.3**
KDJ IAmb IAmb 00 46 01.3
comp=Z,8.0nm,1.0s
KDJ Kajisay 25.40 307 P **P 00 45 54.4 -0.3**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 25.49 301 P **P 00 46 00.0 +4.5**
KSH pmax pmax
comp=Z,11nm,1.5s
KKM Kota Kinabalu 25.79 152 P **P 00 45 56.4 -2.0**
KKM IAmb IAmb 00 45 59.2
comp=Z,26nm,1.1s
USA0B Ussuriysk Arra 26.27 49 P **P 00 46 00.8 -1.5**
USA0B IAmb IAmb 00 46 03.2
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 26.27 49 P **P 00 46 00.8 -1.5**
USA0B pmax pmax
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 26.27 49 P **P 00 46 01.2 -1.1**
USRK Ussuriysk Ar. 26.27 49 P **P 00 46 02.2 -0.1**
comp=Z,3.8nm,0.7s,baz=250,slow=7.2,SNR=8.1
comp=Z,3.8nm,0.7s
BOOM Boomskoye usch 26.39 307 P **P 00 46 01.5 -2.2**
BOOM IAmb IAmb 00 46 07.9
comp=Z,7.9nm,0.8s
BOOM Boomskoye usch 26.39 307 P **P 00 46 01.5 -2.2**
BOOM pmax pmax
comp=Z,8.0nm,0.8s
NIL Nilore 26.92 287 P **P 00 46 08.1 -0.3**
NIL IAmb IAmb 00 46 26.4
comp=Z,18nm,1.1s
NIL Nilore 26.92 287 P **P 00 46 08.1 -0.3**
NIL pmax pmax
comp=Z,18nm,1.2s
HEH HeiHe 26.98 33 *e*P **P 00 46 09.1 +0.5**
HEH pmax pmax
comp=Z,10.0nm,1.3s
PSI Prapat 27.07 192 P **P 00 46 09.3 -0.6**
PSI pmax pmax
comp=Z,13nm,1.1s
RPSI Rantau Prapat 27.18 192 P **P 00 46 09.3 -1.4**
RPSI IAmb IAmb 00 46 11.2
comp=Z,12nm,1.1s
AAK Ala-Archa 27.45 307 P **P 00 46 11.9 -1.3**
AAK Ala-Archa 27.45 307 LR LR 00 58 51.7
comp=Z,127nm,20.9s,baz=117,slow=40
AAK Ala-Archa 27.45 307 P **P 00 46 11.9 -1.3**
AAK pmax pmax
comp=Z,4.0nm,1.1s
MYLDM Lahad Datu 27.55 149 P **P 00 46 12.8 -1.3**
MYLDM IAmb IAmb 00 46 20.4
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 28.34 335 P **P 00 46 20.4 -0.4**
ZALV Zalesovo Beam 28.34 335 P **P 00 46 19.0 -1.8**
ZALV Zalesovo Beam 28.34 335 P **P 00 46 20.7 -0.1**
comp=Z,1.9nm,0.8s,baz=127,slow=8.1,SNR=8.9
comp=Z,1.9nm,0.8s
KLR Kul'dur 28.58 39 LR LR 00 57 24.4
comp=Z,62nm,19.3s,baz=320,slow=36
KLR Kul'dur 28.58 39 *e*P **P 00 46 22.0 -1.0**
KLR pmax pmax
comp=Z,5.0nm,1.3s
DRK Karamyk 28.63 299 P **P 00 46 23.8 -0.2**
DRK Karamyk 28.63 299 P **P 00 46 23.8 -0.2**
DRK pmax pmax
comp=Z,18nm,0.6s
KURBB Kurchatov Arra 28.76 325 P **P 00 46 24.9 +0.3**
comp=Z,2.4nm,0.7s,baz=127,slow=9.5,SNR=36
KURBB PcP **PcP 00 49 34.4 -0.1**
comp=Z,0.6nm,0.6s,baz=118,slow=2.3,SNR=6.8
KURBB LR LR 00 59 41.3
comp=Z,122nm,19.4s,baz=168,slow=40
comp=Z,2.4nm,0.7s
KURK Kurchatov 28.77 325 P **P 00 46 24.5 -0.2**
KURK Kurchatov 28.77 325 P **P 00 46 24.9 +0.2**
KURK 00 49 34.4
GSI Gunungsitoli 28.80 195 P **P 00 46 22.9 -2.3**
GSI IAmb IAmb 00 46 25.5
comp=Z,14nm,1.0s
MJB9 Matsu-Tunnel 28.99 67 P **P 00 46 26.7 -0.1**
MJB9 IAmb IAmb 00 46 27.3
comp=Z,8.4nm,1.1s
MAJO Matsushiro 28.99 67 P **P 00 46 26.0 -0.8**
MAJO IAmb IAmb 00 46 26.3
comp=Z,7.8nm,1.1s
MAJO Matsushiro 28.99 67 P **P 00 46 26.0 -0.8**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 28.99 67 P **P 00 46 26.4 -0.4**
comp=Z,2.4nm,0.7s,baz=258,slow=11,SNR=2.6
MJAR LR LR 00 58 50.7
comp=Z,53nm,21.4s,baz=242,slow=38
comp=Z,2.4nm,0.7s
BTK Batken 29.48 300 P **P 00 46 29.8 -1.5**
BTK Batken 29.48 300 P **P 00 46 29.8 -1.5**
BTK pmax pmax
comp=Z,2.0nm,0.7s
GAR Garm 29.69 298 P **P 00 46 32.5 -0.7**
KK31 Karatay Array 30.38 306 P **P 00 46 39.2 +0.2**
KK31 **PcP 00 49 37.9 -1.0**
KK31 Karatay Array 30.38 306 P **P 00 46 39.3 +0.2**
KK31 00 49 37.9
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 30.38 306 P **P 00 46 39.5 +0.4**
KKAR Karatay Array 30.38 306 P **P 00 46 39.2 +0.1**
KKAR IAmb IAmb 00 46 44.4
comp=Z,1.0nm,0.8s
KKAR **PcP 00 49 38.0 -0.9**
KKAR Karatay Array 30.38 306 P **P 00 46 39.5 +0.4**
KKAR 00 49 38.0
KBL Kabul 30.42 289 P **P 00 46 39.6 -0.1**
KBL IAmb IAmb 00 46 59.1
comp=Z,2.7nm,0.5s
KBL Kabul 30.42 289 P **P 00 46 39.6 -0.1**
KBL pmax pmax
comp=Z,3.0nm,0.5s
CHGR Chuyangaron 30.55 297 P **P 00 46 40.5 -0.2**
CHGR IAmb IAmb 00 46 43.0
comp=Z,4.6nm,0.9s
CHGR Chuyangaron 30.55 297 P **P 00 46 40.5 -0.2**
CHGR pmax pmax
comp=Z,5.0nm,0.9s
MDSI Maura Dua 33.78 181 P **P 00 47 08.7 -0.4**
comp=Z,7.9nm,1.7s
BVAR Borovoye Array 34.30 323 P **P 00 47 13.4 +0.1**
comp=Z,1.0nm,0.6s,baz=132,slow=8.7,SNR=6.4
BVAR PcP **PcP 00 49 49.0 -0.3**
comp=Z,2.0nm,0.6s,baz=141,slow=2.8,SNR=9.6
BVAR LR LR 01 02 05.7
comp=Z,139nm,18.9s,baz=345,slow=38
comp=Z,1.0nm,0.6s
YSS Yuzhno-Sakhali 34.30 49 *e*P **P 00 47 13.0 -0.4**
YSS pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 34.37 323 P **P 00 47 14.2 +0.3**
BRVK Borovoye 34.37 323 P **P 00 47 14.2 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
ABKAR Akbulak array 39.04 313 P **P 00 47 53.6 -0.1**
ABKAR Akbulak array 39.04 313 P **P 00 47 54.1 +0.4**
XMIS Christmas Isla 39.75 178 P **P 00 47 58.9 -1.0**
NRIK Noril'sk 41.08 351 P **P 00 48 10.5 +0.1**
NRIK IAmb IAmb 00 48 11.6
comp=Z,7.3nm,1.1s
NRIK Noril'sk 41.08 351 P **P 00 48 10.9 +0.5**
comp=Z,5.9nm,0.9s,baz=147,slow=6.2,SNR=13
comp=Z,5.9nm,0.9s
MMRI Maumere 41.56 153 P **P 00 48 13.6 -1.3**
MMRI IAmb IAmb 00 48 14.3
comp=Z,16nm,0.7s
ARTI Arti 42.02 323 P **P 00 48 18.5 +0.3**
ARTI Arti 42.02 323 LR LR 01 05 33.9
comp=Z,144nm,19.7s,baz=256,slow=36
ARTI Arti 42.02 323*c i*P **P 00 48 18.8 +0.5**
ARTI S **S 00 54 40.4 +3.3**
ARTI pmax pmax
comp=Z,30nm,2.7s
TIXI Tiksi 44.26 11 P **P 00 48 35.6 -0.6**
TIXI Tiksi 44.26 11 P **P 00 48 35.6 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
SEY Seymchan 45.32 28⇑*e*P **P 00 48 45.5 +0.8**
SEY pmax pmax
comp=Z,5.0nm,1.3s
BELG Belogornoye 47.26 316 LR LR 01 10 15.3
comp=Z,155nm,19.2s,baz=268,slow=38
GNI Garni 49.41 299 LR LR 01 12 27.3
comp=Z,92nm,18.4s,baz=328,slow=39
KBZ Khabaz 50.39 304 LR LR 01 15 41.0
comp=Z,101nm,20.1s,baz=325,slow=42
KIV Kislovodsk 50.52 304 *e*P **P 00 49 25.6 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,95nm,16.0s
KIV Kislovodsk 50.52 304 P **P 00 49 25.4 -0.1**
comp=Z,4.9nm,1.0s
BILL Bilibino 52.48 25⇑*e*P **P 00 49 39.3 -0.3**
BILL pmax pmax
comp=Z,15nm,2.5s
RAYN Ar Rayn 52.69 278 P **P 00 49 41.1 -0.8**
RAYN IAmb IAmb 00 49 42.8
comp=Z,10nm,1.1s
RAYN Ar Rayn 52.69 278 P **P 00 49 41.1 -0.8**
RAYN pmax pmax
comp=Z,10.0nm,1.2s
OBN Obninsk 53.93 319 *e*P **P 00 49 49.6 -0.9**
OBN pmax pmax
comp=Z,4.0nm,1.1s
WRAB Tennant Creek 56.92 146⇑*i*P **P 00 50 11.9 -0.5**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 56.93 146 P **P 00 50 11.9 -0.5**
comp=Z,4.9nm,0.8s,baz=335,slow=7.7,SNR=28
comp=Z,4.9nm,0.8s
WB2 Warramunga Arr 56.93 146 P **P 00 50 11.8 -0.7**
WR0 Warramunga Arr 57.04 146 P **P 00 50 13.0 -0.2**
WR0 IAmb IAmb 00 50 13.7
comp=Z,4.4nm,0.8s
COEN Coen 57.06 134 P **P 00 50 12.3 -1.1**
COEN IAmb IAmb 00 50 19.8
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 57.88 301 P **P 00 50 19.2 -0.1**
BRTR Keskin Array B 57.88 301 P **P 00 50 19.6 +0.4**
comp=Z,1.2nm,1.0s,baz=93,slow=5.8,SNR=4.0
comp=Z,1.2nm,1.0s
BR104 Keskin Array S 57.88 301 P **P 00 50 19.0 -0.2**
comp=Z,2.5nm,0.9s
KEV Kevo 58.36 336 P **P 00 50 22.5 +0.6**
KEV Kevo 58.36 336 P **P 00 50 22.5 +0.6**
KEV pmax pmax
comp=Z,17nm,1.1s
AK09 Malin Array Si 58.74 314 P **P 00 50 24.8 -0.1**
AK08 Malin Array Si 58.76 314 P **P 00 50 24.9 -0.1**
AK03 Malin Array Si 58.77 314 P **P 00 50 24.8 -0.2**
AKASG Malin Array Be 58.77 314 P **P 00 50 24.8 -0.2**
comp=Z,1.5nm,0.7s,baz=74,slow=5.9,SNR=7.5
comp=Z,1.5nm,0.7s
AKBB Malin Array Si 58.77 314 P **P 00 50 25.1 +0.1**
AKBB Malin Array Si 58.77 314 P **P 00 50 25.1 +0.1**
AKBB Malin Array Si 58.77 314 P **P 00 50 25.4 +0.4**
KIEV Kiev 58.78 314 P **P 00 50 25.4 +0.3**
KIEV Kiev 58.78 314 P **P 00 50 25.4 +0.3**
KIEV Kiev 58.78 314 P **P 00 50 25.4 +0.3**
AK22 Malin Array Si 58.85 314 P **P 00 50 25.3 -0.3**
ARCES ARCESS Array B 58.88 336 P **P 00 50 24.9 -0.7**
ARCES ARCESS Array B 58.88 336 P **P 00 50 25.8 +0.2**
comp=Z,4.8nm,1.0s,baz=94,slow=8.2,SNR=2.2
ARCES LR LR 01 19 16.0
comp=Z,221nm,19.4s,baz=249,slow=40
comp=Z,4.8nm,1.0s
FIA1 FINESS Array S 59.12 327 P **P 00 50 27.1 -0.2**
FINES FINESS Array B 59.12 327 P **P 00 50 27.1 -0.2**
FINES FINESS Array B 59.12 327 P **P 00 50 26.0 -1.2**
comp=Z,1.9nm,0.7s,baz=55,slow=10.0,SNR=5.7

comp=Z,1.9nm,0.7s
FINES FINESS Array B 59.12 327 P P 00 50 27.1 -0.2
LUBAR Lubar, Ukraine 59.83 313 P P 00 50 31.5 -0.9
AS31 Alice Springs 59.92 149 P P 00 50 33.5 +0.2
ASAR Alice Springs 59.92 149 P P 00 50 33.2 -0.1
comp=Z,2.8nm,0.6s,baz=332,slow=6.7,SNR=36
comp=Z,2.8nm,0.6s
RNPP9 Sopachiv 60.71 315 P P 00 50 38.6 +0.2
RNPP5 Staryi Chortor 60.75 315 P P 00 50 38.9 +0.2
HORU Horodok 60.82 313 P P 00 50 38.7 -0.6
HORU Horodok 60.82 313 P P 00 50 38.7 -0.6
VRI Vrincioaia 61.38 309 P P 00 50 43.3 +0.2
VRI Vrincioaia 61.38 309 P P 00 50 43.3 +0.2
comp=Z,13nm,1.8s
ELL Elmali 61.49 298 P P 00 50 44.0 -0.1
ELL Elmali 61.49 298 P P 00 50 44.0 -0.1
ELL pmax pmax
comp=Z,21nm,1.0s
AKAS Kas 61.87 298 P P 00 50 47.2 +0.4
BURAR Bucovina Array 61.97 311 P P 00 50 47.0 -0.2
BURAR Bucovina Array 61.97 311 P P 00 50 47.0 -0.2
BUR08 Bucovina Ar. S 61.98 311 P P 00 50 48.2 +1.0
MLR Muntele Rosu 62.01 309 P P 00 50 48.2 +0.8
MLR IAmb IAmb 00 50 51.8
comp=Z,4.8nm,1.0s
MLR Muntele Rosu 62.01 309 P P 00 50 48.3 +0.8
MLR pmax pmax
comp=Z,5.0nm,1.0s
TNA Tin City 62.55 28 P P 00 50 51.3 +0.7
baz=281
C16K Lisburne Hills 63.01 25 P P 00 50 53.9 +0.3
C16K IAmb IAmb 00 51 03.7
comp=Z,4.9nm,1.0s
C16K Lisburne Hills 63.01 25 P P 00 50 53.1 -0.5
baz=282
ARG Arkhangelos 63.02 298 P P 00 50 55.0 +0.8
ARG Arkhangelos 63.02 298 P P 00 50 55.0 +0.8
ARG pmax pmax
comp=Z,113nm,1.2s
F14K Arctic Creek 63.22 28 P P 00 50 54.6 -0.5
baz=282
SPIA Saint Paul Isl 63.23 37 P P 00 50 54.9 -0.3
baz=283
P08K Saint George I 63.74 38 P P 00 50 59.0 +0.4
baz=284
C17K DeLong Mountai 63.74 24 P P 00 50 58.4 -0.1
baz=284
ANM Nome 63.82 29 P P 00 50 59.0 0.0
baz=284
F15K North Star Dit 63.85 27 P P 00 50 59.0 -0.3
baz=284
RDOG Red Dog Mine 63.95 25 P P 00 50 59.5 -0.3
baz=284
D17K Noatak River 63.97 25 P P 00 50 60.0 0.0
baz=284
B18K Kokolik River 64.01 23 P P 00 50 58.8 -1.4
baz=284
A19K Wainwright 64.04 22 P P 00 50 58.9 -1.5
baz=285
G15K Niukluk 64.27 28 P P 00 51 00.7 -1.3
baz=285
C18K Utukok River 64.41 24 P P 00 51 02.6 -0.4
C18K Utukok River 64.41 24 P P 00 51 02.4 -0.5
baz=285
M11K Mekoryuk 64.49 33 P P 00 51 02.9 -0.6
baz=285
K13K Kusilvak Mount 64.80 32 P P 00 51 05.2 -0.3
baz=286
G16K Koyuk River 64.85 28 P P 00 51 06.6 +0.8
G16K IAmb IAmb 00 51 07.3
comp=Z,6.6nm,0.9s
G16K Koyuk River 64.85 28 P P 00 51 05.3 -0.5
baz=286
E18K Tukpahlearik C 64.96 25 P P 00 51 06.8 +0.3
baz=286
F17K Baldwin Pennin 64.99 26 P P 00 51 06.5 -0.2
baz=286
J14K Nanvaranak Lak 65.08 30 P P 00 51 06.2 -1.1
baz=286
H16K Elim 65.11 28 P P 00 51 07.5 +0.1
baz=286
A21K Barrow 65.14 21 P P 00 51 08.3 +0.8
baz=288
HFS Hagfors 65.32 327 P P 00 51 09.0 +0.1
comp=Z,1.6nm,0.6s,baz=98,slow=5.1,SNR=5.6
comp=Z,1.6nm,0.6s
HFS Hagfors 65.32 327 P P 00 51 09.0 +0.1
B20K Meade River 65.38 22 P P 00 51 10.2 +1.1
B20K Meade River 65.38 22 P P 00 51 09.5 +0.4
baz=288
D19K Kuna River 65.53 24 P P 00 51 10.1 -0.2
baz=288
F18K Selawik 65.56 26 P P 00 51 10.8 +0.5
baz=288
M13K Dall Lake 65.84 33 P P 00 51 12.8 +0.5
M13K Dall Lake 65.84 33 P P 00 51 12.3 0.0
baz=287
L14K Kuka Creek 65.88 32 P P 00 51 12.8 +0.3
L14K Kuka Creek 65.88 32 P P 00 51 12.5 +0.1
baz=287
H17K Granite Mounta 65.97 28 P P 00 51 12.9 -0.2
baz=288
I17K Unalakleet 65.98 29 P P 00 51 14.0 +0.9
I17K IAmb IAmb 00 51 14.9
comp=Z,6.6nm,0.9s
I17K Unalakleet 65.98 29 P P 00 51 13.2 +0.2
baz=288
D20K Etivluk River 65.99 23 P P 00 51 13.2 +0.1
baz=289
K15K Wolf Creek Mou 66.11 31 P P 00 51 14.8 +0.8
K15K Wolf Creek Mou 66.11 31 P P 00 51 13.2 -0.8
baz=288
G18K Tagagawik 66.17 26 P P 00 51 13.2 -1.1
baz=289
UNV Unalaska Valle 66.18 40 P P 00 51 14.2 -0.3
baz=288
E19K Redstone River 66.19 25 P P 00 51 14.3 -0.2
baz=289
F19K Shaleruckik Mo 66.19 25 P P 00 51 14.8 +0.4
F19K IAmb IAmb 00 51 15.4
comp=Z,4.1nm,0.8s
F19K Shaleruckik Mo 66.19 25 P P 00 51 14.7 +0.3
baz=289
J16K Anvik River 66.20 29 P P 00 51 15.9 +1.4
J16K IAmb IAmb 00 51 16.4
comp=Z,1.8nm,0.7s
J16K Anvik River 66.20 29 P P 00 51 14.6 0.0
baz=288
NB2 NORSAR Subarra 66.22 328 P P 00 51 14.1 -0.7
comp=Z,1.5nm,0.7s,baz=74,slow=6.9
NOA NORSAR Array B 66.22 328 P P 00 51 14.4 -0.4
comp=Z,0.7nm,0.7s,baz=74,slow=6.5,SNR=3.9
comp=Z,0.7nm,0.7s
E20K Nigu River 66.29 24 P P 00 51 15.2 +0.1
baz=290
B21K Ikpikpuk River 66.34 22 P P 00 51 16.3 +1.0
B21K Ikpikpuk River 66.34 22 P P 00 51 15.4 0.0
baz=291
NC204 NORSAR Array S 66.36 328 P P 00 51 15.1 -0.5
M14K Bethel 66.39 32 P P 00 51 15.9 +0.2
M14K Bethel 66.39 32 P P 00 51 15.6 -0.2
baz=288
C21K Knifeblade Rid 66.45 23 P P 00 51 15.5 -0.6
baz=291
H18K Honhosa River 66.52 27 P P 00 51 17.5 +0.9
H18K IAmb IAmb 00 51 19.0
comp=Z,5.6nm,1.1s
H18K Honhosa River 66.52 27 P P 00 51 16.2 -0.4
baz=289
G19K Purcell Mounta 66.69 26 P P 00 51 19.2 +1.6
G19K Purcell Mounta 66.69 26 P P 00 51 17.1 -0.5
baz=290
N14K Kuskokwak Cree 66.78 33 P P 00 51 18.5 +0.2
baz=289
J17K VABM Dome 66.82 29 P P 00 51 18.9 +0.5
J17K VABM Dome 66.82 29 P P 00 51 17.6 -0.9
baz=290
F20K Avaraart Lake 66.88 25 P P 00 51 19.1 +0.3
F20K IAmb IAmb 00 51 20.1
comp=Z,4.6nm,0.9s
F20K Avaraart Lake 66.88 25 P P 00 51 18.7 -0.1
baz=291
E21K Killik River 66.99 23 P P 00 51 18.9 -0.7
baz=292
VRAC Vranov 67.00 315 LR LR 01 22 15.5
comp=Z,78nm,19.3s,baz=286,slow=37
M15K Kasigluk River 67.00 32 P P 00 51 19.2 -0.4
baz=289
H19K Roundabout Mou 67.15 27 P P 00 51 21.6 +1.0
H19K Roundabout Mou 67.15 27 P P 00 51 19.4 -1.2
baz=291
O14K Tigyukauivet M 67.21 34 P P 00 51 20.9 -0.1
baz=289
L16K Owhat River 67.21 31 P P 00 51 21.7 +0.7
L16K Owhat River 67.21 31 P P 00 51 20.5 -0.6
baz=290
GCSA Galena City Sc 67.26 27 P P 00 51 21.5 +0.3
baz=291
D22K Ayikyak River 67.26 23 P P 00 51 21.9 +0.7
D22K Ayikyak River 67.26 23 P P 00 51 21.1 -0.2
baz=293
K17K Iditarod 67.38 30 P P 00 51 23.6 +1.6
K17K Iditarod 67.38 30 P P 00 51 21.4 -0.7
baz=290
N15K Kwethluk River 67.46 33 P P 00 51 23.0 +0.3
N15K Kwethluk River 67.46 33 P P 00 51 23.0 +0.3
baz=290
PDG Podgorica 67.53 307 P P 00 51 22.9 -0.4
C23K Itkillik River 67.55 21 P P 00 51 23.8 +0.8
C23K Itkillik River 67.55 21 P P 00 51 23.0 0.0
baz=294
FALS False Pass 67.57 39 P P 00 51 23.0 -0.4
baz=290
L17K Donlin 67.59 30 P P 00 51 23.3 -0.1
baz=291
F21K Alatna River 67.63 24 P P 00 51 24.1 +0.5
F21K IAmb IAmb 00 51 24.9
comp=Z,5.1nm,0.9s
F21K Alatna River 67.63 24 P P 00 51 23.4 -0.2
baz=293
M16K Timber Creek 67.69 32 P P 00 51 24.6 +0.5
M16K Timber Creek 67.69 32 P P 00 51 24.0 -0.1
baz=290
RONA Rosalia, Austr 67.72 313 *i* pP **P 00 51 25.9 +1.4**
comp=Z,3.6nm,1.0s
H20K Anotleneega Mo 67.77 26 P P 00 51 24.6 +0.1
baz=292
J18K Innoko River 67.79 29 P P 00 51 25.3 +0.6
J18K IAmb IAmb 00 51 29.0
comp=Z,3.0nm,0.8s
J18K Innoko River 67.79 29 P P 00 51 24.7 0.0
baz=291
E22K Anaktuvuk Pass 67.85 23 P P 00 51 25.8 +0.8
E22K IAmb IAmb 00 51 27.2
comp=Z,5.2nm,0.8s
E22K Anaktuvuk Pass 67.85 23 P P 00 51 24.7 -0.3
baz=294
D23K Nanushuk River 67.89 22 P P 00 51 26.5 +1.3
D23K Nanushuk River 67.89 22 P P 00 51 25.5 +0.3
baz=294
O15K Ungalikthiuk R 67.93 34 P P 00 51 25.9 +0.3
baz=291
S12K Black Hills 68.01 38 P P 00 51 26.1 -0.1
baz=290
J19K Poorman 68.04 28 P P 00 51 27.0 +0.7
J19K Poorman 68.04 28 P P 00 51 26.1 -0.1
baz=292
I20K Naaghedeneel 68.19 27 P P 00 51 27.4 +0.3
baz=293
C24K Franklin Bluff 68.20 21 P P 00 51 27.0 -0.1
baz=296
M17K Holitna River 68.24 31 P P 00 51 28.5 +1.0
M17K IAmb IAmb 00 51 32.2
comp=Z,2.0nm,0.8s
M17K Holitna River 68.24 31 P P 00 51 27.0 -0.5
baz=292
L18K Granite Mounta 68.26 30 P P 00 51 28.5 +0.8
L18K Granite Mounta 68.26 30 P P 00 51 27.4 -0.2
baz=292
TTA Tatalina 68.28 29 P P 00 51 28.9 +1.0
TTA Tatalina 68.28 29 P P 00 51 27.8 -0.1
baz=292
TTA Tatalina 68.28 29 P P 00 51 28.9 +1.0
TTA pmax pmax
comp=Z,1.0nm,1.0s
TOLK Toolik Lake Re 68.39 22 P P 00 51 28.8 +0.4
TOLK Toolik Lake Re 68.39 22 P P 00 51 28.1 -0.3
baz=296
D24K Happy Valley 68.41 22 P P 00 51 28.2 -0.3
baz=296
G22K Bettles 68.46 24 P P 00 51 28.3 -0.5
baz=294
H21K Melozitna Rive 68.50 26 P P 00 51 29.6 +0.5
H21K IAmb IAmb 00 51 31.4
comp=Z,5.0nm,0.9s
H21K Melozitna Rive 68.50 26 P P 00 51 28.8 -0.3
baz=294
J20K Nowinta River 68.57 27 P P 00 51 30.3 +0.7
J20K IAmb IAmb 00 51 32.2
comp=Z,5.1nm,0.8s
J20K Nowinta River 68.57 27 P P 00 51 29.1 -0.4
baz=293
O16K Kokwok River B 68.61 33 P P 00 51 30.1 +0.2
O16K Kokwok River B 68.61 33 P P 00 51 29.2 -0.6
baz=292
E23K Chandalar 68.63 23 P P 00 51 29.3 -0.6
baz=296
N17K Nushagak Hills 68.68 32 P P 00 51 30.8 +0.5
N17K Nushagak Hills 68.68 32 P P 00 51 29.8 -0.5
baz=292
BBOO Buckleboo 68.79 152 P P 00 51 30.5 -0.7
BBOO IAmb IAmb 00 51 31.8
comp=Z,7.3nm,1.1s
COLD Coldfoot 68.79 24 P P 00 51 30.0 -0.9
baz=296
P16K Nushagak River 68.86 33 P P 00 51 30.3 -1.2
baz=292
M18K Stony River 68.92 30 P P 00 51 30.3 -1.5
baz=293
K20K Telida 68.93 28 P P 00 51 32.8 +1.0
K20K Telida 68.93 28 P P 00 51 30.9 -1.0
baz=294
H22K Ishtalitna Cre 68.94 25 P P 00 51 30.3 -1.5
baz=295
GEC2 GERESS Array S 68.95 315 P P 00 51 33.0 +0.7
GEC2 IAmb IAmb 00 51 40.7
comp=Z,3.3nm,1.2s
GERES GERESS Array B 68.95 315 P P 00 51 32.4 +0.1
GERES GERESS Array B 68.95 315 P P 00 51 32.7 +0.4
comp=Z,1.1nm,0.8s,baz=104,slow=5.6,SNR=5.2
comp=Z,1.1nm,0.8s
E24K Your Creek 69.00 23 P P 00 51 33.3 +1.0
E24K Your Creek 69.00 23 P P 00 51 31.5 -0.7
baz=297
O17K Koliganek Bris 69.01 32 P P 00 51 30.9 -1.4
baz=292
I21K Tanana 69.01 26 P P 00 51 33.0 +0.8
I21K Tanana 69.01 26 P P 00 51 31.8 -0.4
baz=295
L19K White Mountain 69.07 30 P P 00 51 33.7 +0.9
L19K White Mountain 69.07 30 P P 00 51 32.0 -0.8
baz=293
G23K Bananza Creek 69.08 24 P P 00 51 33.2 +0.5
G23K IAmb IAmb 00 51 34.2
comp=Z,4.3nm,1.0s
G23K Bananza Creek 69.08 24 P P 00 51 31.4 -1.3
baz=296
D25K Kavik River 69.11 21 P P 00 51 34.4 +1.5
D25K IAmb IAmb 00 51 34.4
comp=Z,7.4nm,1.1s
D25K Kavik River 69.11 21 P P 00 51 32.0 -0.9
baz=298
S14K Fog Glacier 69.11 36 P P 00 51 32.3 -0.9
baz=292
N18K Kilae Creek 69.21 31 P P 00 51 34.8 +1.2
N18K Kilae Creek 69.21 31 P P 00 51 32.3 -1.4
baz=293
C26K Camdeen Bay 69.27 20 P P 00 51 32.6 -1.2
baz=299
L20K Farewell, AK 69.37 29 P P 00 51 33.4 -1.2
baz=294
M19K Big River Lodg 69.38 30 P P 00 51 35.3 +0.7
M19K Big River Lodg 69.38 30 P P 00 51 33.2 -1.4
baz=294
BIOA Bad Ischl, Aus 69.40 314 *i* P **P 00 51 35.7 +0.7**
comp=Z,5.3nm,1.3s
CHUM Lake Minchumin 69.43 27 P P 00 51 33.9 -0.9
baz=295
F24K Squaw Lake 69.46 23 P P 00 51 35.6 +0.5
F24K Squaw Lake 69.46 23 P P 00 51 34.5 -0.6
baz=297
P17K Kvichak River 69.54 33 P P 00 51 34.8 -0.8
baz=293
R16K Pilot Point 69.63 35 P P 00 51 35.3 -0.9
baz=293
Q16K King Salmon 69.64 33 P P 00 51 35.1 -1.2
baz=293
CHNA Chernabura Isl 69.64 38 P P 00 51 34.3 -2.0
baz=292
CNBA Chernabura Isl 69.65 38 P P 00 51 36.9 +0.5
CHGN Chignik 69.70 36 P P 00 51 36.0 -0.6
baz=293
CAST Castle Rocks 69.72 28 P P 00 51 37.4 +0.7
CAST Castle Rocks 69.72 28 P P 00 51 35.6 -1.1
baz=295
C27K Jago River 69.78 20 P P 00 51 38.0 +1.0
C27K Jago River 69.78 20 P P 00 51 36.3 -0.6
baz=300
N19K Bonanza Creek 69.79 31 P P 00 51 37.8 +0.5
N19K Bonanza Creek 69.79 31 P P 00 51 36.3 -1.0
baz=294
O18K Koktuh Hills 69.85 32 P P 00 51 36.6 -1.0
baz=294
BPAW Bear Paw Mtn. 69.86 27 P P 00 51 38.0 +0.4
BPAW IAmb IAmb 00 51 40.3
comp=Z,4.1nm,0.8s
BPAW Bear Paw Mtn. 69.86 27 P P 00 51 36.7 -0.9
baz=296
PPLA Purkeypile 69.90 28 P P 00 51 38.0 0.0
PPLA Purkeypile 69.90 28 P P 00 51 36.9 -1.1
baz=295,SNR=6.2
M20K Styx River 69.93 30 P P 00 51 38.9 +0.7
M20K IAmb IAmb 00 51 40.3
comp=Z,4.1nm,0.8s
M20K Styx River 69.93 30 P P 00 51 37.1 -1.1
baz=295
E25K Arctic Village 69.95 22 P P 00 51 37.1 -0.9
baz=299
G24K Hadweenzic Riv 69.99 24 P P 00 51 38.9 +0.6
G24K IAmb IAmb 00 51 40.1
comp=Z,5.0nm,0.9s
G24K Hadweenzic Riv 69.99 24 P P 00 51 36.4 -1.9
baz=298
I23K Minto, Yukon-K 70.02 26 P P 00 51 39.7 +1.2
I23K IAmb IAmb 00 51 41.6
comp=Z,3.2nm,0.8s
I23K Minto, Yukon-K 70.02 26 P P 00 51 37.0 -1.4
baz=297
P18K Big Mountain, 70.03 32 P P 00 51 37.8 -0.9
baz=294
LESA Schwarzleotal 70.11 314 *i* pP **P 00 51 40.6 +1.1**
comp=Z,9.4nm,1.5s
O19K Port Alsworth 70.12 31 P P 00 51 37.8 -1.4
baz=294
KTH Kantishna Hill 70.13 27 P P 00 51 40.2 +0.9
F25K Christian Rive 70.18 23 P P 00 51 40.9 +1.3
F25K IAmb IAmb 00 51 41.6
comp=Z,5.0nm,1.1s
F25K Christian Rive 70.18 23 P P 00 51 38.0 -1.5
baz=299
H24K Noodor Dome 70.25 25 P P 00 51 40.8 +0.9
H24K IAmb IAmb 00 51 45.5
comp=Z,3.2nm,0.9s
H24K Noodor Dome 70.25 25 P P 00 51 38.1 -1.9
baz=298
NEA2 Nenana 70.39 26 P P 00 51 41.1 +0.3
NEA2 Nenana 70.39 26 P P 00 51 38.7 -2.1
baz=297,SNR=6.1
TRF Thorofare Moun 70.43 27 P P 00 51 42.3 +1.1
TRF Thorofare Moun 70.43 27 P P 00 51 39.1 -2.1
baz=297
G25K Bearman Lake 70.43 23 P P 00 51 40.5 -0.5
baz=299
STKA Stephens Creek 70.45 147 P P 00 51 41.9 +0.4
STKA Stephens Creek 70.45 147 P P 00 51 41.1 -0.4
comp=Z,1.6nm,0.7s,baz=346,slow=11,SNR=4.9
comp=Z,1.6nm,0.7s
STKA Stephens Creek 70.45 147 P P 00 51 41.9 +0.4
STKA pmax pmax
comp=Z,13nm,1.1s
EUNU Eureka 70.52 2 P P 00 51 42.1 +0.6
SKT Skwentna 70.57 29 P P 00 51 41.9 -0.1
SKT Skwentna 70.57 29 P P 00 51 41.4 -0.5
baz=296
BMAR Burnt Mountain 70.62 22 P P 00 51 43.8 +1.5
SPCR Spurr Chakacha 70.63 30 P P 00 51 41.6 -0.8
baz=296
F26K Sheenjek River 70.63 22 P P 00 51 41.3 -0.9
baz=301
STLK Strandline Lak 70.66 30 P P 00 51 43.3 +0.7
STLK IAmb IAmb 00 51 44.8
comp=Z,2.3nm,0.7s
SPU Mount Spurr 70.70 30 P P 00 51 43.1 +0.3
COLA College 70.72 26 P P 00 51 42.8 +0.1
COLA College 70.72 26 P P 00 51 42.1 -0.6
baz=298
COLA College 70.72 26 P P 00 51 42.8 +0.1
COLA pmax pmax
comp=Z,16nm,1.1s
H25L Birch Creek 70.78 24 P P 00 51 42.3 -0.8
baz=300
D27M Malcolm River 70.81 20 P P 00 51 44.4 +1.0
D27M IAmb IAmb 00 51 45.1
comp=Z,3.6nm,0.9s
D27M Malcolm River 70.81 20 P P 00 51 42.3 -1.1
baz=303
WRH Wood River Hil 70.82 26 P P 00 51 43.2 -0.2
WRH IAmb IAmb 00 51 44.7
comp=Z,3.0nm,0.8s
WATA Walderalm 70.83 314 *e*P **P 00 51 40.2 -3.8**
comp=Z,6.5nm,1.5s
MCK McKinley 70.84 27 P P 00 51 43.7 +0.1
MCK IAmb IAmb 00 51 44.5
comp=Z,4.8nm,0.9s
MCK McKinley 70.84 27 P P 00 51 42.4 -1.2
baz=298
MCK McKinley 70.84 27 P P 00 51 43.7 +0.1
MCK pmax pmax
comp=Z,5.0nm,0.9s
CCB Clear Creek Bu 70.84 26 P P 00 51 43.3 -0.2
P19K Oil Pt 70.84 32 P P 00 51 42.1 -1.6
baz=296
KMBO Kilima Mbogo 70.91 257 P P 00 51 45.5 +0.4
KMBO IAmb IAmb 00 51 46.3
comp=Z,3.1nm,0.8s
KMBO Kilima Mbogo 70.91 257 P P 00 51 45.5 +0.4
comp=Z,2.5nm,0.8s,baz=38,slow=10,SNR=8.9
comp=Z,2.5nm,0.8s
O20K Slope Mountain 70.93 31 P P 00 51 43.1 -1.2
baz=296
Q19K Cape Douglas, 70.97 32 P P 00 51 42.7 -1.7
baz=296
MOTA Moosalm 71.12 314 *e*P **P 00 51 46.0 +0.3**
comp=Z,9.6nm,1.4s
ILAR Eielson Array 71.13 25 P P 00 51 44.8 -0.5
comp=Z,1.4nm,0.8s,baz=307,slow=4.4,SNR=13
comp=Z,1.4nm,0.8s
G26K Porcupine Rive 71.13 23 P P 00 51 44.1 -1.1
baz=301
PRP Porcupine Dome 71.26 24 P P 00 51 47.2 +1.0
PRP Porcupine Dome 71.26 24 P P 00 51 44.6 -1.7
baz=300,SNR=11
M22K Willow 71.27 29 P P 00 51 45.8 -0.4
baz=297
CAPN Captain Cook N 71.28 30 P P 00 51 45.2 -1.0
baz=297
HDA Harding Lake 71.28 26 P P 00 51 45.2 -1.1
baz=299
RETA Reutte 71.28 314 *e*pP pP 00 51 50.1 0.0
comp=Z,7.7nm,1.7s
D28M Stokes Point 71.42 20 P P 00 51 47.0 +0.1
baz=305
FETA Feichten 71.49 314 *e*P **P 00 51 45.6 -2.4**
comp=Z,6.6nm,1.5s
HOM Homer 71.56 31 P P 00 51 47.9 -0.1
baz=297
Q20K Shuyak Island 71.69 32 P P 00 51 47.4 -1.3
baz=296
SII Sitkinak Islan 71.73 35 P P 00 51 47.7 -1.4
baz=296
RC01 Rabbit Creek A 71.75 30 P P 00 51 48.1 -1.0
baz=298
PMR Palmer 71.77 29 P P 00 51 49.4 +0.2
PMR Palmer 71.77 29 P P 00 51 47.7 -1.4
baz=298,SNR=5.4
PMR Palmer 71.77 29 P P 00 51 49.4 +0.2
GHO Glory Hole Cre 71.77 29 P P 00 51 50.2 +0.9
GHO IAmb IAmb 00 51 54.0
comp=Z,7.0nm,0.9s
J25K Salcha River, 71.77 25 P P 00 51 48.8 -0.4
J25K IAmb IAmb 00 51 49.7

	comp=Z,2.6nm,0.7s							
J25K	Salcha River,	71.77	25	P	P	00 51 47.8	-1.5	
	baz=300							
CNPM	China Poot	71.81	31	P	P	00 51 50.1	+0.6	
BRLK	Bradley Lake	71.86	31	P	P	00 51 49.4	-0.4	
BRLK				IAmb	IAmb	00 51 54.6		
	comp=Z,6.9nm,1.0s							
OHAK	Old Harbor	71.88	34	P	P	00 51 48.8	-1.1	
	baz=296							
DAVA	Damuels	71.91	314	*e*pP	pP	00 51 52.8	-1.2	
	comp=Z,2.9nm,0.9s							
G27K	Doyon Strip	71.92	22	P	P	00 51 51.0	+0.9	
G27K				IAmb	IAmb	00 51 51.8		
	comp=Z,3.1nm,0.8s							
G27K	Doyon Strip	71.92	22	P	P	00 51 49.1	-1.0	
	baz=303,SNR=5.7							
BRSE	Bradley Lake S	71.93	31	P	P	00 51 49.2	-1.0	
	baz=298							
FUORN	Ofenpass-Fuorn	71.94	314	P	P	00 51 51.9	+1.1	
KDAK	Kodiak Island	71.97	33	P	P	00 51 50.2	-0.2	
KDAK	Kodiak Island	71.97	33	P	P	00 51 49.6	-0.9	
	baz=297							
KDAK	Kodiak Island	71.97	33	P	P	00 51 50.3	-0.2	
KDAK				pmax	pmax			
	comp=Z,10.0nm,1.0s							
SML	Sawmill	72.00	29	P	P	00 51 50.9	+0.2	
SML	Sawmill	72.00	29	P	P	00 51 49.5	-1.2	
	baz=299							
K24K	Donnelly Dome	72.03	26	P	P	00 51 49.8	-1.0	
	baz=300,SNR=8.4							
O22K	Cooper Landing	72.04	30	P	P	00 51 49.5	-1.3	
	baz=298							
F28M	Old Crow	72.05	21	P	P	00 51 50.5	-0.3	
F28M	Old Crow	72.05	21	P	P	00 51 49.3	-1.5	
	baz=304							
DAVOX	Davos/Dischmat	72.12	314	LR	LR	01 28 54.1		
	comp=Z,185nm,20.3s,baz=284,slow=40							
KNK	Knik Glacier	72.14	29	P	P	00 51 52.2	+0.8	
KNK				IAmb	IAmb	00 51 53.0		
	comp=Z,4.5nm,0.9s							
KNK	Knik Glacier	72.14	29	P	P	00 51 49.6	-1.8	
	baz=299							
E29M	Blow River	72.22	20	P	P	00 51 52.2	+0.4	
E29M				IAmb	IAmb	00 51 53.4		
	comp=Z,3.8nm,0.8s							
E29M	Blow River	72.22	20	P	P	00 51 50.7	-1.0	
	baz=306							
I26K	Coal Creek Min	72.22	24	P	P	00 51 52.0	+0.2	
I26K				IAmb	IAmb	00 51 53.0		
	comp=Z,5.5nm,0.8s							
I26K	Coal Creek Min	72.22	24	P	P	00 51 50.9	-0.9	
	baz=302							
M23K	Glacier View	72.26	28	P	P	00 51 51.4	-0.8	
	baz=299							
H27K	Steamboat Moun	72.28	23	P	P	00 51 51.1	-1.1	
	baz=303,SNR=9.8							
SEW	Seward	72.34	30	P	P	00 51 51.6	-1.0	
	baz=298							
SCM	Sheep Creek Mo	72.40	28	P	P	00 51 53.5	+0.4	
SCM	Sheep Creek Mo	72.40	28	P	P	00 51 51.9	-1.2	
	baz=300							
SCM	Sheep Creek Mo	72.40	28	P	P	00 51 53.5	+0.4	
SCM				pmax	pmax			
	comp=Z,14nm,1.2s							
RIDG	Independent Ri	72.42	26	P	P	00 51 52.9	-0.2	
RIDG				IAmb	IAmb	00 51 53.5		
	comp=Z,7.0nm,0.8s							
RIDG	Independent Ri	72.42	26	P	P	00 51 52.0	-1.2	
	baz=301,SNR=7.0							
PWL	Port Wells	72.46	29	P	P	00 51 53.6	+0.2	
PWL				IAmb	IAmb	00 52 07.6		
	comp=Z,4.5nm,1.1s							
PWL	Port Wells	72.46	29	P	P	00 51 52.7	-0.7	
	baz=299							
J26L	Joseph Creek	72.50	25	P	P	00 51 53.4	-0.2	
J26L	Joseph Creek	72.50	25	P	P	00 51 52.4	-1.2	
	baz=302,SNR=14							
PAX	Paxson	72.58	27	P	P	00 51 55.4	+1.3	
PAX				IAmb	IAmb	00 51 56.3		
	comp=Z,3.0nm,0.7s							
PAX	Paxson	72.58	27	P	P	00 51 53.0	-1.1	
	baz=301							
PAX	Paxson	72.58	27	P	P	00 51 55.4	+1.3	
PAX				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TUE	Stuetta	72.58	314	P	P	00 51 54.3	-0.2	
TUE				IAmb	IAmb	00 51 59.1		
	comp=Z,4.2nm,1.1s							
I27K	Kandik River	72.60	23	P	P	00 51 53.0	-1.1	
	baz=303							
SCRK	Sand Creek	72.62	25	P	P	00 51 53.8	-0.6	
SCRK				IAmb	IAmb	00 51 55.1		
	comp=Z,5.4nm,0.9s							
SCRK	Sand Creek	72.62	25	P	P	00 51 54.5	+0.1	
	baz=302,SNR=6.1							
M24K	Tolsona, Glenn	72.73	28	P	P	00 51 55.6	+0.5	
M24K	Tolsona, Glenn	72.73	28	P	P	00 51 54.5	-0.5	
	baz=300							
RAFF	Raffo Rosso	72.97	303	P	P	00 51 57.4	+0.5	
GLI	Glacier Island	72.97	29	P	P	00 51 56.2	-0.2	
	baz=300							
HARP	HAARP	72.99	27	P	P	00 51 55.5	-1.0	
	baz=301							
G29M	Pine Creek	73.05	21	P	P	00 51 57.1	+0.4	
G29M	Pine Creek	73.05	21	P	P	00 51 55.9	-0.9	
	baz=306							
A36M	Sachs Harbour	73.12	14	P	P	00 51 57.1	0.0	
A36M				IAmb	IAmb	00 51 58.5		
	comp=Z,8.3nm,0.8s							
A36M	Sachs Harbour	73.12	14	P	P	00 51 56.6	-0.5	
	baz=316,SNR=5.5							
KLU	Klutina	73.15	28	P	P	00 51 58.3	+0.7	
KLU	Klutina	73.15	28	P	P	00 51 56.8	-0.8	
	baz=301							
I28M	Miner Creek	73.26	23	P	P	00 51 58.8	+0.7	
I28M				IAmb	IAmb	00 51 59.6		
	comp=Z,5.4nm,0.9s							
I28M	Miner Creek	73.26	23	P	P	00 51 57.2	-1.0	
	baz=305							
P23K	Montague Islan	73.29	30	P	P	00 51 57.4	-0.9	
	baz=300							
F30M	Barrier River	73.32	20	P	P	00 51 58.2	-0.1	
	baz=308							
H29M	Whitestone	73.34	22	P	P	00 51 57.3	-1.2	
	baz=306							
L26K	Log Cabin Wild	73.37	26	P	P	00 51 57.8	-1.0	
	baz=302							
INK	Inuvik	73.55	19	P	P	00 52 00.3	+0.6	
INK				IAmb	IAmb	00 52 00.8		
	comp=Z,4.8nm,0.8s							
INK	Inuvik	73.55	19	P	P	00 52 00.2	+0.6	
	baz=310,SNR=6.8							
INK	Inuvik	73.55	19	P	P	00 52 00.3	+0.6	
INK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
G30M	tAoh Zraii Nji	73.57	21	P	P	00 52 00.2	+0.3	
G30M				IAmb	IAmb	00 52 00.7		
	comp=Z,9.7nm,0.9s							
G30M	tAoh Zraii Nji	73.57	21	P	P	00 51 59.6	-0.3	
	baz=308							
N25K	Chitina, Valde	73.64	28	P	P	00 52 01.3	+0.9	
N25K				IAmb	IAmb	00 52 01.8		
	comp=Z,5.0nm,0.9s							
N25K	Chitina, Valde	73.64	28	P	P	00 51 59.5	-0.9	
	baz=302							
EYAK	Cordova Ski Ar	73.71	29	P	P	00 52 01.6	+0.9	
EYAK	Cordova Ski Ar	73.71	29	P	P	00 52 01.1	+0.3	
	baz=301							
EPYK	Eagle Plains	73.79	22	P	P	00 52 01.1	-0.1	
	baz=307							
M26K	Nabesna, AK	73.84	27	P	P	00 52 02.2	+0.6	
M26K				IAmb	IAmb	00 52 03.3		
	comp=Z,3.1nm,0.9s							
M26K	Nabesna, AK	73.84	27	P	P	00 52 01.2	-0.4	
	baz=303							
SENIN	Lac Senin/Sane	73.91	314	P	P	00 52 02.7	+0.2	
SENIN				IAmb	IAmb	00 52 11.3		
	comp=Z,3.3nm,0.8s							
L27K	Beaver Creek,	73.93	26	P	P	00 52 02.4	+0.4	
L27K				IAmb	IAmb	00 52 05.1		
	comp=Z,3.8nm,1.0s							
L27K	Beaver Creek,	73.93	26	P	P	00 52 01.3	-0.7	
	baz=304,SNR=7.5							
BCAR	Beaver Creek A	73.94	26	P	P	00 52 03.0	+0.8	
BMRM	Bremner River	73.97	28	P	P	00 52 03.0	+0.6	
BMRM	Bremner River	73.97	28	P	P	00 52 01.9	-0.4	
	baz=302							
Q23K	Middleton Isla	74.04	30	P	P	00 52 01.7	-0.9	
	baz=301							
F31M	Tsiigehtchic	74.04	20	P	P	00 52 02.3	-0.2	
F31M				IAmb	IAmb	00 52 02.8		
	comp=Z,4.4nm,1.0s							
F31M	Tsiigehtchic	74.04	20	P	P	00 52 01.5	-1.0	
	baz=310							
GLB	Gilahina Butte	74.04	28	P	P	00 52 03.6	+0.8	
GLB				IAmb	IAmb	00 52 04.2		
	comp=Z,4.8nm,0.8s							
DAWY	Dawson	74.25	24	P	P	00 52 03.8	-0.1	
DAWY				IAmb	IAmb	00 52 04.9		
	comp=Z,3.8nm,0.9s							
DAWY	Dawson	74.25	24	P	P	00 52 02.8	-1.2	
	baz=306							
VRDI	Verde Repeater	74.30	28	P	P	00 52 05.0	+0.6	
VRDI				IAmb	IAmb	00 52 05.9		
	comp=Z,3.7nm,0.8s							
M27K	Edge Creek, AK	74.30	26	P	P	00 52 05.3	+0.9	
M27K				IAmb	IAmb	00 52 06.4		
	comp=Z,5.2nm,1.0s							
M27K	Edge Creek, AK	74.30	26	P	P	00 52 02.6	-1.8	
	baz=304							
I30M	Mount Dempster	74.60	22	P	P	00 52 06.4	+0.4	
I30M				IAmb	IAmb	00 52 07.8		
	comp=Z,2.5nm,0.7s							
I30M	Mount Dempster	74.60	22	P	P	00 52 05.0	-1.0	
	baz=308							
KAIM	Kayak Island	74.61	29	P	P	00 52 05.2	-0.7	
	baz=302							
BNI	Bardonecchia	74.88	313	P	P	00 52 09.4	+1.4	
BNI	Bardonecchia	74.88	313	P	P	00 52 09.4	+1.4	
BNI				pmax	pmax			
	comp=Z,2.0nm,0.9s							
H31M	Peel River	74.90	21	P	P	00 52 07.3	-0.3	
H31M	Peel River	74.90	21	P	P	00 52 07.3	-0.3	
	baz=309							
J30M	Hart River	75.02	23	P	P	00 52 08.9	+0.5	
J30M	Hart River	75.02	23	P	P	00 52 07.8	-0.7	
	baz=308							
K29M	Barlow Dome	75.05	24	P	P	00 52 08.6	-0.1	
K29M				IAmb	IAmb	00 52 10.1		
	comp=Z,4.4nm,0.8s							
K29M	Barlow Dome	75.05	24	P	P	00 52 08.1	-0.6	
	baz=307,SNR=5.3							
L29M	L29M	75.28	25	P	P	00 52 10.4	+0.5	
L29M				IAmb	IAmb	00 52 11.9		
	comp=Z,4.9nm,0.8s							
L29M	L29M	75.28	25	P	P	00 52 08.7	-1.2	
	baz=307							
C36M	Paulatuk	75.32	16	P	P	00 52 10.0	+0.1	
C36M				IAmb	IAmb	00 52 11.5		
	comp=Z,7.2nm,0.8s							
C36M	Paulatuk	75.32	16	P	P	00 52 10.2	+0.3	
	baz=317,SNR=10							
VOI	Vohitsoka	75.50	234	P	P	00 52 11.1	-0.7	
VOI				IAmb	IAmb	00 52 11.6		
	comp=Z,8.0nm,0.8s							
MESA	MESA	75.50	28	P	P	00 52 10.6	-0.8	
	baz=304							
EKB	Eskdalemuir	75.51	326	P	P	00 52 10.6	-0.7	
EKB				IAmb	IAmb	00 52 14.6		
	comp=Z,5.6nm,0.9s							
M29M	Somme Creek	75.55	25	P	P	00 52 13.0	+1.4	
M29M				IAmb	IAmb	00 52 13.4		
	comp=Z,7.0nm,1.1s							
M29M	Somme Creek	75.55	25	P	P	00 52 12.1	+0.5	
	baz=307							
YUK8	Steele Glacier	75.74	27	P	P	00 52 13.0	+0.1	
	baz=306							
O28M	Mount Upton	75.88	27	P	P	00 52 13.5	-0.1	
	baz=306							
M30M	Minto, Yukon	76.09	25	P	P	00 52 15.5	+1.0	
M30M				IAmb	IAmb	00 52 16.0		
	comp=Z,3.2nm,0.9s							
M30M	Minto, Yukon	76.09	25	P	P	00 52 14.0	-0.5	
	baz=308							
YUK4	Talbot Arm	76.14	26	P	P	00 52 14.2	-0.8	
	baz=307							
MBAR	Mbarara	76.23	261	*i* P	P	00 52 15.9	-0.4	
MBAR				pmax	pmax			
	comp=Z,4.0nm,1.1s							
YUK6	Outpost Mounta	76.49	27	P	P	00 52 16.6	-0.5	
	baz=307							
O29M	Mount Kennedy	76.80	27	P	P	00 52 18.6	-0.1	
	baz=307							
HYT	Haines Junctio	76.90	26	P	P	00 52 18.7	-0.6	
HYT				IAmb	IAmb	00 52 20.9		
	comp=Z,3.1nm,0.9s							
HYT	Haines Junctio	76.90	26	P	P	00 52 18.0	-1.2	
	baz=308							
N31M	Braeburn, Yuko	77.14	25	P	P	00 52 20.9	+0.4	
N31M				IAmb	IAmb	00 52 22.2		
	comp=Z,6.6nm,0.8s							
N31M	Braeburn, Yuko	77.14	25	P	P	00 52 19.4	-1.1	
	baz=309							
M31M	Drury Creek, Y	77.19	24	P	P	00 52 22.0	+1.2	
M31M	Drury Creek, Y	77.19	24	P	P	00 52 19.0	-1.8	
	baz=310							
O30N	Mendenhall	77.48	26	P	P	00 52 21.3	-1.1	
	baz=309							
P30M	Million Dollar	77.55	27	P	P	00 52 21.8	-1.0	
	baz=308							
FARO	Faro, Yukon	77.55	24	P	P	00 52 21.8	-1.0	
	baz=311							
WHY	Whitehorse	78.01	26	P	P	00 52 23.9	-1.6	
	baz=310							
MMPY	Sheldon Lake,	78.01	23	P	P	00 52 24.5	-0.9	
	baz=312							
N32M	Quiet Lake	78.36	25	P	P	00 52 26.0	-1.2	
	baz=311							
SKAG	Skagway	78.61	27	P	P	00 52 27.2	-1.4	
	baz=310							
P33M	Teslin, Yukon	79.08	25	P	P	00 52 30.2	-1.1	
	baz=312							
P32M	Atlin	79.15	26	P	P	00 52 30.4	-1.3	
	baz=311							
S31K	Pelican	79.20	28	P	P	00 52 30.1	-1.7	
	baz=309							
R32K	Eaglecrest	79.69	27	P	P	00 52 33.5	-1.1	
	baz=310							
TGTN	Hyland Airport	79.79	23	P	P	00 52 33.5	-1.6	
	baz=315							
Q32M	Nakina River	80.12	26	P	P	00 52 35.9	-1.3	
	baz=312							
SIT	Sitka	80.15	29	P	P	00 52 35.4	-1.6	
	baz=310							
S32K	Killisnoo	80.20	28	P	P	00 52 36.7	-0.6	
	baz=311							
R33M	Jennings River	80.32	25	P	P	00 52 38.0	-0.2	
R33M	Jennings River	80.32	25	P	P	00 52 36.6	-1.5	
	baz=313							
WTLY	Watson Lake, Y	80.61	24	P	P	00 52 38.5	-1.0	
	baz=315							
ANGG	Ammassalik, Gr	80.81	345	P	P	00 52 38.8	-1.6	
S34M	Telegraph Cree	81.28	26	P	P	00 52 41.4	-1.7	
	baz=313							
DLBC	Dease Lake	81.33	26	P	P	00 52 41.8	-1.7	
	baz=314							
U33K	Whale Pass	81.69	29	P	P	00 52 43.9	-1.4	
	baz=312							
WRAK	Wrangell Islan	81.81	28	P	P	00 52 44.5	-1.4	
	baz=312							
CRAG	Craig	82.12	29	P	P	00 52 46.5	-1.1	
	baz=312							
KOTAN	Kotaneelee Air	82.22	22	P	P	00 52 46.9	-1.1	
	baz=319							
T35M	Bob Quinn	82.27	27	P	P	00 52 47.5	-0.9	
	baz=314							
TOAD	Toad River Com	82.78	24	P	P	00 52 49.8	-1.2	
	baz=318							
V35K	Ketchikan	82.85	29	P	P	00 52 49.1	-2.3	
	baz=313							
YKA	Yellowknife Ar	83.12	17	P	P	00 52 52.6	0.0	
	comp=Z,1.1nm,0.8s,baz=323,slow=4.8,SNR=15							
	comp=Z,1.1nm,0.8s							
ESDC	Sonseca Array	84.38	313	P	P	00 53 00.0	+0.3	
	comp=Z,0.5nm,0.7s,baz=41,slow=5.3,SNR=4.9							
	comp=Z,0.5nm,0.7s							
LSZ	Lusaka	85.97	250	P	P	00 53 07.6	-0.4	
LSZ				IAmb	IAmb	00 53 09.6		
	comp=Z,6.9nm,0.9s							
LSZ	Lusaka	85.97	250	P	P	00 53 07.6	-0.4	
LSZ				pmax	pmax			
	comp=Z,7.0nm,1.0s							
POGA	Pongola	89.71	238	P	P	00 53 24.4	-1.1	
POGA				IAmb	IAmb	00 53 27.7		
	comp=Z,5.3nm,0.8s							
SCHQ	Schefferville	95.70	355	P	P	00 53 53.1	+0.3	
	comp=Z,4.6nm,1.2s,baz=342,slow=9.6,SNR=2.1							
	comp=Z,4.6nm,1.2s							
N23A	Red Feather La	104.49	23	P	Pdif	00 54 30.3	-2.5	
	baz=333							
Q24A	Divide	106.48	24	P	PKiKP	00 58 51.0	-1.6	
	baz=333							
S22A	4UR Ranch, Cre	106.95	26	P	PKiKP	00 58 51.7	-1.9	
	baz=332							
L61B	Northampton	108.37	358	P	PKiKP	00 58 54.5	-1.1	
	baz=2.5							
T25A	Trinidad	108.38	24	P	PKiKP	00 58 54.6	-1.6	
	baz=334							
121A	Cookes Peak, D	111.11	29	P	PKiKP	00 58 58.9	-2.4	
	baz=330							
QSPA	South Pole Qui	119.27	180	PKP	PKPdf	00 59 14.9	-0.7	
	comp=Z,3.2nm,1.0s,baz=306,slow=1.6,SNR=5.7							
ROSC	El Rosal	145.85	358	PKPbc	PKPbc	01 00 06.5	-1.2	
	comp=Z,7.9nm,0.5s,baz=315,slow=19,SNR=5.3							
BDFB	Brasilia	151.24	293	PKPbc	PKPbc	01 00 21.7	+0.3	
	comp=Z,1.7nm,0.8s,baz=19,slow=10,SNR=4.5							

NEIC ***25*** *00:47:11.6±2.5, 14°.16N±0°.02×92°.68W±0°.04, h15km±6km, mb4.3/24, Md4.3/65(MEX), Error ellipse: s-maj=6.6km s-min=2.1km az=113.0*

IDC ***25*** *00:47:12.0±4.9, 14°.22N×92°.36W, h35km±30km, mb3.7/7, mbtmp3.9/9, ML3.6/2, Error ellipse: s-maj=47.2km s-min=17.4km az=21.0*

MEX ***25*** *00:47:11.3±0.8, 14°.05N×92°.73W, h10km, MD4.3*

GCG ***25*** *00:47:11.1±1.6, 14°.02N×92°.59W, h50km±13km, MD4.3, MW3.8, Hypocentre not reviewed by the ISC*

ISC 25 00:47:09.6±3.0, 14°.10N±0°.06×92°.73W±0°.04, h15km±20km, n96, σ2.9 35/138, mb4.2/15, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
THIG		0.92	29		Pb	00 47 26.7		-0.5
THIG					Sb	00 47 39.1		-0.2
THIG		0.92	29	*e*P	Pb	00 47 26.7		-0.5
THIG				*e*S	Sb	00 47 39.1		-0.2
THIG		0.92	29	*e*P		00 47 26.7		
THIG				*e*S		00 47 40.5		
SMCA	Catarina	0.99	40	*e*P		00 47 27.5		
SMCA				*e*S		00 47 41.4		
RTAL	Retalhuleu	1.09	67		Pb	00 47 29.5		-0.7
RTAL	Retalhuleu	1.09	67	*e*P	Pb	00 47 29.0		-1.1
RTAL				*i* S	Sb	00 47 43.6		-0.5
PATR	El Naranjo	1.12	25	*e*P	Pb	00 47 29.4		-1.4
PATR				*e*S	Sb	00 47 44.5		-0.8
CHUJ	Union Juarez	1.16	31	*i* P	Pb	00 47 30.2		-1.2
CHUJ				*i* S	Sb	00 47 45.7		-0.8
PAVE	Pavencul	1.22	26	*e*P	Pb	00 47 30.9		-1.6
PAVE				*e*S	Sb	00 47 41.3		-6.7
SOKI	Kika Raxquin	1.47	61	*e*P		00 47 35.1		
PCIG		1.67	344		Pn	00 47 38.0		-0.2
PCIG					Sn	00 47 53.8		-5.5
PCIG		1.67	344	*e*P	Pn	00 47 38.0		-0.2
PCIG				*e*S	Sn	00 47 53.8		-5.5
HUEH	Huehuetenango	1.70	44		Pn	00 47 39.2		+0.4
HUEH	Huehuetenango	1.70	44	*e*P	Pn	00 47 39.3		+0.4
HUEH				*i* S	Sn	00 47 58.1		-2.4
HUEH	Huehuetenango	1.70	44	*e*P		00 47 39.3		
ESSG	Sabana Grande	1.86	81	*e*P		00 47 38.8		
QUIS	Sacapulas	1.98	53	*e*P		00 47 43.5		
QUIS				*e*S		00 48 09.0		
CCIG	Comitan	2.25	15		Pn	00 47 48.1		+1.8
CCIG	Comitan	2.25	15	*e*P	Pn	00 47 48.3		+1.9
CCIG				*e*S	Sn	00 48 14.9		+0.9
CCIG	Comitan	2.25	15	*e*P		00 47 48.3		
CCIG				*e*S		00 48 18.4		
APG	El Apazote	2.37	67	Pg	Pn	00 47 48.1		-0.1
	3.4nm,0.3s,baz=197,slow=13,SNR=213							
APG				Lg	Lg	00 48 18.4		
	6.4nm,0.3s,baz=100,slow=15,SNR=7.0							
APG	El Apazote	2.37	67	*e*P		00 47 48.0		
APG				*e*S		00 48 14.4		
CARR	Arriaga	2.42	332	*e*P	Pn	00 47 49.6		+1.0
CARR				*i* S	Sn	00 48 20.7		+2.6
TGIG		2.69	352		Pn	00 47 53.7		+1.3
TGIG					Sn	00 48 26.5		+1.7
TGIG		2.69	352	*e*P	Pn	00 47 53.7		+1.3
TGIG				*e*S	Sn	00 48 26.5		+1.7
TGIG		2.69	352	*e*P		00 47 53.6		
TGIG				*e*S		00 48 26.8		
NUBE	Las Nubes	2.87	93	*e*P		00 47 52.6		
NUBE				*e*S		00 48 23.7		
NILT	Santiago Nilte	3.06	324	*e*P	Pn	00 47 58.3		+1.0
NILT				*i* S	Sn	00 48 33.0		-0.7
JAYA	Jayaque - finc	3.21	97	*e*P		00 47 58.9		
JAYA				*e*S		00 48 32.1		
MTO3	Montecristo	3.28	84	Pn	Pn	00 48 00.0		-0.6
MTO3	Montecristo	3.28	84	*i* P		00 47 59.2		
MTO3				*e*P		00 48 00.1		
ESQI	Esquipulas	3.31	82		Pn	00 48 02.4		+1.4
UXUV	UXUV	3.48	337	*e*P	Pn	00 48 04.8		+1.6
UXUV				*e*S	Sn	00 48 39.5		-4.7
CMIG	Matias Romero	3.63	325		Pn	00 48 06.3		+1.1
CMIG					Sn	00 48 48.2		+0.3
CMIG	Matias Romero	3.63	325	Pn	Pn	00 48 05.8		+0.5
	4.4nm,0.3s,baz=158,slow=13,SNR=30							
CMIG				Sn	Sn	00 48 51.4		+3.5
	18nm,0.3s,baz=43,slow=22,SNR=6.2							
	14nm,0.4s							
CMIG	Matias Romero	3.63	325	*e*P	Pn	00 48 06.3		+1.1
CMIG				*e*S	Sn	00 48 48.2		+0.3
HUIG	Huatulco	3.67	297		Pn	00 48 06.0		+0.2
HUIG					Sn	00 48 43.7		-5.0
HUIG	Huatulco	3.67	297	*e*P	Pn	00 48 06.0		+0.2
HUIG				*e*S	Sn	00 48 43.7		-5.0
PETF	Flores	3.93	44	Pn	Pn	00 48 10.2		+0.7
PETF	Flores	3.93	44	*e*P	Pn	00 48 09.7		+0.3
PETF				*i* S	Sn	00 48 57.0		+1.6
NEUV	Arroyo Zacate	4.66	321	*e*P	Pn	00 48 19.1		-0.2
NEUV				*e*S	Sn	00 49 09.8		-3.4
PEIG	Puerto Escondi	4.67	294		Pn	00 48 17.5		-2.0
PEIG					Sn	00 49 07.9		-5.6
PEIG	Puerto Escondi	4.67	294	*e*P	Pn	00 48 17.5		-2.0
PEIG				*e*S	Sn	00 49 07.9		-5.6
OXIG	Oaxaca	4.86	308		Pn	00 48 26.6		+4.2
OXIG					Sn	00 49 18.5		-0.1
VHO	Vista Hermosa	4.86	308	*e*P	Pn	00 48 26.6		+4.2
VHO				*e*S	Sn	00 49 18.5		-0.1
SCIG	Sabancuy	5.07	17	*e*P	Pn	00 48 26.3		+1.4
SCIG				*e*S	Sn	00 49 20.9		-2.3
TGUH	Tegucigalpa,Un	5.29	90	Pn	Pn	00 48 29.6		+1.3
YOIG	Yosondua	5.

TLIG	**Tlapa**	**6.59**	**302**	*e*P	**Pn**	**00 48 46.6**	**+0.5**
TLIG				*e*S	**Sn**	**00 50 00.6**	**-0.5**
CRIG	**Cruz Grande**	**6.71**	**294**		**Pn**	**00 48 48.1**	**+0.5**
CRIG					Sn	00 49 55.8	-8.0
CRIG	**Cruz Grande**	**6.71**	**294**	*e*P	**Pn**	**00 48 48.1**	**+0.5**
CRIG				*e*S	Sn	00 49 55.8	-8.0
BOAB	**BOACO BROADBAN**	**7.07**	**103**	Pn	**Pn**	**00 48 54.5**	**+2.0**
TEIG	**Tepich**	**7.43**	**34**		**Pn**	**00 48 58.0**	**+0.5**
TEIG	**Tepich**	**7.43**	**34**	Pn	**Pn**	**00 48 57.1**	**-0.4**
	baz=231,slow=20,SNR=21						
TEIG				Sn	**Sn**	**00 50 14.3**	**-7.3**
	baz=8.4,slow=24,SNR=1.1						
CXUV	**Coxquihui**	**7.62**	**323**	*e*P	**Pn**	**00 49 00.1**	**0.0**
CXUV				*e*S	**Sn**	**00 50 25.1**	**-1.3**
YAIG	**Yautepec**	**7.71**	**309**		**Pn**	**00 49 03.4**	**+2.0**
YAIG	**Yautepec**	**7.71**	**309**	*e*P	**Pn**	**00 49 03.4**	**+2.0**
YAIG				*e*S	Sn	00 50 17.9	-11
JTS	**Las Juntas de**	**8.49**	**116**	Pn	**Pn**	**00 49 11.8**	**-0.3**
	0.3nm,0.3s,baz=295,slow=17,SNR=1.6						
JTS				Sn	Sn	00 50 38.6	-9.1
	0.2nm,0.3s,baz=248,slow=19,SNR=0.9						
TXAR	**Lajitas Array**	**18.23**	**328**	P	**Pn**	**00 51 23.0**	**+0.7**
	baz=151,slow=11,SNR=15						
	2.3nm,1.0s						
TX31	**Lajitas Ar. Si**	**18.23**	**328**	P	**P**	**00 51 25.2**	**+2.8**
VHRN	**Van Horn**	**20.08**	**328**	P	**P**	**00 51 44.4**	**+1.7**
ROSC	**El Rosal**	**20.34**	**115**	P	**P**	**00 51 44.4**	**-1.5**
	6.2nm,0.8s,baz=297,slow=17,SNR=1.9						
	6.2nm,0.8s						
MIAR	**Mount Ida**	**20.38**	**358**	P	Pn	00 51 48.6	+0.8
MIAR				IAmb	IAmb	00 51 54.0	
	comp=Z,12nm,1.1s						
POST	**Post**	**20.51**	**339**	P	**P**	**00 51 47.9**	**+0.7**
SMWD	**Samnorwood**	**21.99**	**343**	P	**P**	**00 52 02.9**	**-0.3**
SMWD				IAmb	IAmb	00 52 06.4	
	comp=Z,13nm,0.9s						
TKL	**Tuckaleechee C**	**22.93**	**19**	P	**P**	**00 52 12.7**	**-0.5**
TKL				IAmb	IAmb	00 52 30.8	
	comp=Z,7.7nm,1.0s						
RTBA	**Rita Blanca**	**23.99**	**340**	P	**P**	**00 52 24.1**	**+0.4**
RTBA				IAmb	IAmb	00 52 25.7	
	comp=Z,13nm,0.9s						
ANMO	**Albuquerque**	**24.18**	**332**	P	**P**	**00 52 26.9**	**+1.3**
S22A	**4UR Ranch, Cre**	**26.68**	**335**	P	**P**	**00 52 50.2**	**+1.8**
MVCO	**Mesa Verde**	**26.97**	**331**	P	**P**	**00 52 53.5**	**+2.5**
MVCO				IAmb	IAmb	00 52 55.6	
	comp=Z,9.0nm,1.0s						
PV13	**Radium Mtn., P**	**27.89**	**332**	P	**P**	**00 53 01.7**	**+2.5**
PV13				IAmb	IAmb	00 53 04.0	
	comp=Z,3.3nm,0.9s						
PDAR	**Pinedale Array**	**32.05**	**336**	P	**P**	**00 53 36.8**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=134,slow=6.4,SNR=5.7						
	comp=Z,0.8nm,0.8s						
SNOW	**Snow King Moun**	**33.10**	**336**	P	**P**	**00 53 46.2**	**+1.0**
NVAR	**Mina Array Bea**	**33.16**	**322**	P	**P**	**00 53 47.5**	**+1.8**
NVAR	**Mina Array Bea**	**33.16**	**322**	P	**P**	**00 53 48.1**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=126,slow=9.2,SNR=7.1						
	comp=Z,1.1nm,0.6s						
YFT	**Old Faithful**	**33.96**	**337**	P	**P**	**00 53 54.0**	**+1.3**
J08A	**Circle Bar Ran**	**36.58**	**328**	P	**P**	**00 54 16.2**	**+1.1**
LYMT	**Lyon Mountain**	**36.63**	**337**	P	**P**	**00 54 15.4**	**-0.2**
BPMT	**Black Pine Rid**	**36.64**	**336**	P	**P**	**00 54 16.2**	**+0.5**
F10A	**Beach Ranch, E**	**37.89**	**332**	P	**P**	**00 54 27.4**	**+1.3**
F10A				IAmb	IAmb	00 54 31.9	
	comp=Z,6.6nm,0.9s						
YKA	**Yellowknife Ar**	**50.77**	**347**	P	**P**	**00 56 08.2**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=156,slow=7.5,SNR=43						
	comp=Z,3.0nm,0.7s						
M29M	**Somme Creek**	**58.05**	**337**	P	**P**	**00 57 02.7**	**+0.8**
F28M	**Old Crow**	**61.55**	**341**	P	**P**	**00 57 26.6**	**+0.7**
ILAR	**Eielson Array**	**62.47**	**337**	P	**P**	**00 57 31.7**	**-0.4**
	comp=Z,1.5nm,1.0s,baz=126,slow=5.0,SNR=10						
	comp=Z,1.5nm,1.0s						
C27K	**Jago River**	**63.86**	**342**	P	**P**	**00 57 43.2**	**+2.1**
C27K				IAmb	IAmb	00 57 47.3	
	comp=Z,3.2nm,1.1s						
O19K	**Port Alsworth**	**63.88**	**331**	P	**P**	**00 57 43.8**	**+2.3**
O19K				IAmb	IAmb	00 57 47.1	
	comp=Z,3.7nm,1.0s						
F21K	**Alatna River**	**65.95**	**338**	P	**P**	**00 57 55.0**	**+0.1**
F20K	**Avaraart Lake**	**66.71**	**338**	P	**P**	**00 58 01.2**	**+1.5**
F20K				IAmb	IAmb	00 58 04.2	
	comp=Z,1.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**78.30**	**36**	P	P	00 59 04.8	-4.1
	comp=Z,1.0nm,0.5s,baz=280,slow=5.7,SNR=6.5						
	comp=Z,1.0nm,0.5s						
ESDC	**Sonseca Array**	**80.21**	**52**	P	P	00 59 16.3	-3.5
	comp=Z,0.4nm,0.7s,baz=289,slow=3.9,SNR=1.9						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.67**	**340**	PKPbc	**PKPdf**	**01 06 47.9**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=16,slow=3.1,SNR=9.0						

DJA 25 00:52:57.1±0.6, 7°S±4°×10°2E±°, h10km, M4.1/9, mB4.7/1, mb4.2/5, MLv4.1/9, Mw(mB)3.9/1, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.71**	**32**	P	Pn	00 53 42.2	+1.4
MNAI				S	Sn	00 54 11.0	-2.7
KSI	**Kapahiang**	**3.19**	**20**	P	Pn	00 53 48.5	+1.1
MDSI	**Maura Dua**	**3.44**	**51**	P	Pn	00 53 52.4	+1.6
MDSI				S	Sn	00 54 27.3	-4.3
PPSI	**Pulau Pagai**	**4.16**	**339**	P	Pn	00 54 00.6	0.0
CGJI	**Cibinong**	**4.17**	**89**	P	Pn	00 54 01.2	+0.4
CNJI	**Cibinong**	**5.62**	**97**	P	Pn	00 54 20.3	-0.5
SISI	**Saibi**	**5.83**	**336**	P	Pn	00 54 22.5	-1.1
	0.1nm14nm,0.7s						
CMJI	**Cimerak**	**6.98**	**100**	P	Pn	00 54 40.0	+0.5

*IDC **25** 01:09:10.8±1.6, 1°46N×126°73E, h0km, mb3.5/4, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=119.7km s-min=20.3km az=69.0*
*DJA **25** 01:09:20.7±1.8, 1°N±3°×12°6E±°, h19km±17km, M3.9/9, mb4.3/1, MLv3.6/9*
ISC 25 01:09:22.9±1.6, 0°9N±0°1×126°30E±0°08, h35km, n10, σ2°86/9, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.07**	**98**	S	**Sn**	**01 09 58.1**	**+2.9**
KMSI	**Cibinong**	**2.35**	**262**	P	**Pn**	**01 09 59.3**	**+0.3**
SANI	**Sanana**	**2.97**	**186**	P	**Pn**	**01 10 08.8**	**+1.2**
SANI				S	**Sn**	**01 10 43.7**	**+1.7**
LUWI	**Luwuk**	**4.03**	**241**	P	**Pn**	**01 10 24.4**	**+2.2**
APSI	**Ampana**	**5.00**	**249**	P	**Pn**	**01 10 37.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**18.91**	**182**	P	**P**	**01 13 38.9**	**-1.9**
	0.1nm,0.3s,baz=8.4,slow=11,SNR=2.2						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**22.18**	**160**	P	**P**	**01 14 13.0**	**-3.2**
	1.0nm,0.4s,baz=340,slow=11,SNR=19						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**25.54**	**164**	P	**P**	**01 14 44.9**	**-3.6**
	0.4nm,0.4s,baz=345,slow=10,SNR=7.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	01 19 15.1	-8.4
	0.2nm,0.4s,baz=124,slow=8.1,SNR=4.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.87**	**328**	P	P	01 19 44.0	-8.0
	0.3nm,0.5s,baz=128,slow=6.3,SNR=6.2						
	0.3nm,0.5s						

IDC 25 01:15:08.6±44.0, 17°52S×178°69W, h594km±84km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=851.0km s-min=126.0km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**266**	P	P	01 16 28.0	0.0
	9.9nm,0.6s,baz=74,slow=14,SNR=12						
STKA	**Stephens Creek**	**38.58**	**241**	P	P	01 21 42.1	0.0
	1.1nm,0.6s,baz=90,slow=7.1,SNR=3.1						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	01 22 28.0	-0.4
	0.4nm,0.5s,baz=96,slow=7.0,SNR=8.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**44.64**	**254**	P	P	01 22 29.9	0.0
	3.0nm,0.6s,baz=88,slow=8.5,SNR=34						
	3.0nm,0.6s						

*IDC **25** 01:53:00.7±1.4, 5°54N×125°56E, h134km±11km, mb3.5/8, mbtmp3.9/8, MS2.9/1, Error ellipse: s-maj=46.6km s-min=14.8km az=76.0*
*NEIC **25** 01:53:04.4±0.6, 5°55N±0°06×125°5E±0°1, h157km±8km, mb4.1/14, Error ellipse: s-maj=20.9km s-min=8.7km az=84.0*
ISC 25 01:53:02.8±0.7, 5°60N±0°07×125°5E±0°1, h150km, n29, σ1°29/30, mb4.1/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.46**	**4**	Pn	**Pn**	**01 53 34.4**	**+2.4**
DAV	**Davao City (W)**	**1.46**	**4**	P	**Pn**	**01 53 30.3**	**-1.7**
	277nm,0.4s,baz=247,slow=14,SNR=2.2						
DAV				S	**Sn**	**01 53 51.0**	**-3.4**
	246nm,0.3s,baz=139,slow=22,SNR=12						
TOLI2	**Tolitoli**	**6.47**	**227**	Pn	**Pn**	**01 54 36.6**	**+0.8**
SBUM	**Sibu**	**13.59**	**257**	P	**P**	**01 56 12.3**	**-1.2**
JOW	**Kunigami**	**21.28**	**7**	P	**P**	**01 57 39.1**	**+1.6**
	6.6nm,0.4s,baz=199,slow=13,SNR=5.1						
JOW				LR	LR	02 08 15.0	
	comp=Z,33nm,18.4s,baz=238,slow=43						
	6.6nm,0.4s						
KNRA	**Kununurra**	**21.39**	**171**	P	**P**	**01 57 38.3**	**-0.4**
KNRA				IAmb	IAmb	01 58 13.8	
	comp=Z,18nm,1.3s						
FITZ	**Fitzroy Crossi**	**23.55**	**180**	P	**P**	**01 57 59.8**	**+0.1**
WB0	**Warramunga Arr**	**26.69**	**161**	P	**P**	**01 58 26.8**	**-1.3**
WB0				IAmb	IAmb	01 58 48.4	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**26.83**	**161**	P	**P**	**01 58 31.2**	**+1.9**
WRA	**Warramunga Arr**	**26.84**	**161**	P	**P**	**01 58 28.2**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=334,slow=9.9,SNR=8.1						
	comp=Z,0.3nm,0.8s						
WB2	**Warramunga Arr**	**26.84**	**161**	P	**P**	**01 58 29.1**	**-0.3**
WB2				IAmb	IAmb	01 58 34.8	
	comp=Z,9.7nm,1.4s						
ASAR	**Alice Springs**	**30.23**	**165**	P	**P**	**01 58 58.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=340,slow=8.5,SNR=6.3						
	comp=Z,0.3nm,0.4s						
KSRS	**Korea Array**	**31.78**	**4**	P	**P**	**01 59 13.6**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=187,slow=9.4,SNR=5.1						
	comp=Z,1.4nm,0.5s						
BBOO	**Buckleboo**	**39.50**	**166**	P	**P**	**02 00 18.7**	**-0.1**
BBOO				IAmb	IAmb	02 00 48.7	
	comp=Z,5.6nm,1.1s						
MK31	**Makanchi Array**	**55.32**	**325**	P	**P**	**02 02 21.6**	**+0.7**
MK31				IAmb	IAmb	02 02 50.4	
	comp=Z,1.3nm,1.4s						
MKAR	**Makanchi Array**	**55.32**	**325**	P	**P**	**02 02 21.2**	**+0.3**
MKAR	**Makanchi Array**	**55.32**	**325**	P	**P**	**02 02 21.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.5,SNR=15						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**59.50**	**327**	P	**P**	**02 02 50.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=118,slow=8.0,SNR=5.5						
	comp=Z,0.5nm,0.7s						
KURK	**Kurchatov**	**59.50**	**327**	P	**P**	**02 02 50.8**	**+0.8**
KURK				IAmb	IAmb	02 02 55.7	
	comp=Z,2.5nm,1.1s						
ABKAR	**Akbulak array**	**69.92**	**321**	P	**P**	**02 03 57.7**	**+0.1**
B21K	**Ikpikpuk River**	**81.26**	**20**	P	**P**	**02 05 02.7**	**+0.9**
B21K				IAmb	IAmb	02 05 04.6	
	comp=Z,1.4nm,0.8s						
BRLK	**Bradley Lake**	**81.98**	**31**	P	**P**	**02 05 05.6**	**-0.2**
SLKM	**Skilak Lake**	**82.35**	**30**	P	**P**	**02 05 07.3**	**-0.4**
C23K	**Itkillik River**	**82.67**	**20**	P	**P**	**02 05 10.3**	**+1.2**
I23K	**Minto, Yukon-K**	**82.91**	**25**	P	**P**	**02 05 11.6**	**+1.2**
H24K	**Noodor Dome**	**83.55**	**24**	P	**P**	**02 05 14.9**	**+1.1**
H24K				IAmb	IAmb	02 05 21.6	
	comp=Z,4.1nm,1.3s						
ILAR	**Eielson Array**	**83.96**	**26**	P	**P**	**02 05 13.9**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=264,slow=5.3,SNR=5.5						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**84.84**	**23**	P	**P**	**02 05 21.8**	**+1.5**
SPITS	**Spitsbergen Ar**	**88.41**	**349**	P	**P**	**02 05 37.3**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=86,slow=6.5,SNR=4.1						
	comp=Z,3.1nm,0.5s						

IDC 25 01:53:52.3±16.0, 10°47S×165°88E, h114km±171km, mb3.4/3, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=114.3km s-min=62.1km az=149.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.55**	**177**	P	Pn	01 56 35.6	+1.7
	0.9nm,0.3s,baz=3.0,slow=15,SNR=2.4						
DZM				S	Sn	01 58 37.6	-3.5
	10.0nm,0.8s,baz=330,slow=20,SNR=1.7						
	14nm,0.8s						
WRA	**Warramunga Arr**	**31.80**	**249**	P	P	02 00 06.7	+0.3
	0.5nm,0.5s,baz=75,slow=9.4,SNR=5.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**33.17**	**243**	P	P	02 00 17.9	-0.3
	0.9nm,0.8s,baz=82,slow=8.2,SNR=5.8						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**93.19**	**317**	P	P	02 06 53.4	-0.4
	0.2nm,0.6s,baz=92,slow=6.0,SNR=2.5						
	0.2nm,0.6s						

*NAO **25** 02:01:34.3±1.3, 71°84N×1°46W, ML3.3*
*BER **25** 02:01:37.0±2.6, 71°78N×1°31W, h0km, mb(Pn)4.6, ML3.3(NAO), Confirmed Earthquake*
*IDC **25** 02:01:38.1±1.1, 71°69N×0°29W, h0km, mb3.5/7, mbtmp3.7/13, ML3.0/5, MS3.6/12, Error ellipse: s-maj=21.3km s-min=17.7km az=90.0*
*DNK **25** 02:01:43.7±4.5, 72°31N×2°15W, h24km±69km, ML1.3*
ISC 25 02:01:35.9±0.7, 71°73N±0°07×1°18W±0°05, h10km, n77, σ2°66/79, mb3.5/8, MS3.5/9, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**2.43**	**257**	*e*S	**Sn**	**02 02 46.7**	**+1.4**
DBG	**Daneborg**	**6.13**	**304**	Pn	**Pn**	**02 03 03.2**	**-3.1**
DBG				Sn	Sn	02 04 05.7	-11
DBG	**Daneborg**	**6.13**	**304**	*e*P	**Pn**	**02 03 03.3**	**-3.1**
DBG				*e*S	Sn	02 04 06.0	-10
DBG	**Daneborg**	**6.13**	**304**	*i* P	**Pn**	**02 03 02.9**	**-3.5**
DBG				IAML		02 04 11.7	
	comp=Z,1.1nm,0.2s						
LOF	**Lofoten**	**6.21**	**118**	*e*P	**Pn**	**02 03 08.5**	**+1.0**
LOF				*e*S	**Sn**	**02 04 14.7**	**-3.7**
LOF				IAML		02 04 15.0	
	comp=Z,12nm,1.2s						
STEI	**Steigen**	**6.82**	**116**	*e*P	**Pn**	**02 03 17.1**	**+1.2**
STEI				*e*S	**Sn**	**02 04 28.4**	**-5.0**
STEI				IAML		02 04 33.6	
	comp=Z,14nm,0.8s						
SCO	**Scoresbysund**	**6.84**	**269**	*i* P	**Pn**	**02 03 15.1**	**-1.0**
SCO				*e*S	**Sn**	**02 04 28.0**	**-5.9**
SCO				IAML		02 04 34.3	
	comp=Z,0.4nm,0.2s						
DAG	**Danmarks Havn**	**6.91**	**325**	*e*P	**Pn**	**02 03 13.4**	**-3.6**
DAG				*e*S	Sn	02 04 21.0	-15
DAG	**Danmarks Havn**	**6.91**	**325**	*i* P	**Pn**	**02 03 13.5**	**-3.6**
DAG				*i* S	Sn	02 04 19.3	-16
DAG				IAML		02 04 24.1	
	comp=Z,4.0nm,0.2s						
HSPB	**Hornsund (broa**	**6.93**	**33**	Pn	**Pn**	**02 03 16.6**	**-0.7**
HSPB	**Hornsund (broa**	**6.93**	**33**	*e*P	**Pn**	**02 03 16.5**	**-0.7**
HSPB				IAML		02 04 32.9	
	comp=Z,5.8nm,0.8s						
TRO	**Tromso**	**6.98**	**98**	Pn	**Pn**	**02 03 17.7**	**-0.3**
TRO	**Tromso**	**6.98**	**98**	*e*P	**Pn**	**02 03 17.1**	**-0.9**
TRO				*e*S	Sn	02 04 30.4	-6.9
TRO				IAML		02 04 33.1	
	comp=Z,4.1nm,0.7s						
FAUS	**Fauske**	**7.21**	**119**	*e*P	**Pn**	**02 03 21.0**	**-0.2**
FAUS				*e*S	**Sn**	**02 04 37.6**	**-5.3**
FAUS				IAML		02 04 53.4	
	comp=Z,8.0nm,0.7s						
KONS	**Konsvik**	**7.31**	**129**	*e*P	**Pn**	**02 03 23.0**	**+0.5**
KONS				*e*S	**Sn**	**02 04 39.3**	**-6.1**
KONS				IAML		02 04 42.7	
	comp=Z,14nm,0.5s						
STOK	**Stokkvaagen**	**7.42**	**130**	*e*P	**Pn**	**02 03 24.5**	**+0.5**
STOK				*e*S	**Sn**	**02 04 41.8**	**-6.2**
STOK				IAML		02 04 47.5	
	comp=Z,11nm,0.7s						
JETT	**Jettan, Norway**	**7.48**	**96**	Pn	**Pn**	**02 03 24.6**	**-0.3**
JETT	**Jettan, Norway**	**7.48**	**96**	Pn	**Pn**	**02 03 24.6**	**-0.3**
BRBA	**Barentsburg A**	**7.49**	**25**	*e*P	**Pn**	**02 03 24.4**	**-0.6**
BRBB	**Barentsburg B**	**7.51**	**25**	Pn	**Pn**	**02 03 25.3**	**0.0**
BRBB	**Barentsburg B**	**7.51**	**25**	*e*P	**Pn**	**02 03 24.7**	**-0.6**
LEIR	**Leirfjorden**	**7.62**	**131**	*e*P	**Pn**	**02 03 27.5**	**+0.8**
LEIR				*e*S	**Sn**	**02 04 47.1**	**-5.8**
LEIR				IAML		02 04 52.8	
	comp=Z,15nm,0.4s						
KIF	**Kilpisjarvi**	**7.87**	**100**	Pn	**Pn**	**02 03 30.5**	**+0.4**
KIF	**Kilpisjarvi**	**7.87**	**100**	*e*P	**Pn**	**02 03 30.0**	**-0.1**
KIF				*e*S	Sn	02 04 51.9	-7.2
SPA0	**Spitsbergen Ar**	**7.88**	**27**	Pn	**Pn**	**02 03 30.5**	**+0.2**
	baz=216,slow=14						
SPA0	**Spitsbergen Ar**	**7.88**	**27**	*e*P	**Pn**	**02 03 30.5**	**+0.2**
SPA0				Pn	Pb	02 03 30.5	-22
	baz=216,slow=14						
SPITS	**Spitsbergen Ar**	**7.88**	**27**	Pn	**Pn**	**02 03 30.6**	**+0.2**
	comp=Z,3.0nm,0.2s,baz=203,slow=14,SNR=129						
MOR8	**Moi Rana**	**7.90**	**127**	*e*P	**Pn**	**02 03 32.5**	**+1.9**
MOR8				*e*S	**Sn**	**02 04 55.3**	**-4.6**
MOR8				IAML		02 04 59.1	
	comp=Z,9.5nm,0.4s						
KBS	**Kingsbay**	**7.93**	**19**	Pn	**Pn**	**02 03 31.5**	**+0.5**
KBS	**Kingsbay**	**7.93**	**19**	*e*P	**Pn**	**02 03 29.7**	**-1.3**
KBS	**Kingsbay**	**7.93**	**19**	*i* P	**Pn**	**02 03 29.5**	**-1.5**
HAMF	**Hammerfest**	**8.08**	**86**	Pn	**Pn**	**02 03 33.4**	**+0.3**
HAMF	**Hammerfest**	**8.08**	**86**	*e*P	**Pn**	**02 03 31.6**	**-1.5**
HAMF				*e*S	Sn	02 04 55.3	-9.0
HAMF				IAML		02 05 10.3	
	comp=Z,4.7nm,0.6s						
HOPEN	**Hopen**	**8.55**	**44**	*e*P	**Pn**	**02 03 37.8**	**-1.7**
KTK1	**Kautokeino**	**8.62**	**97**	*e*P	**Pn**	**02 03 40.5**	**0.0**
KTK1				*e*S	Sn	02 05 10.4	-7.3
KTK1				IAML		02 05 16.9	
	comp=Z,2.3nm,1.0s						
NSS	**Namsos**	**8.71**	**139**	*e*P	**Pn**	**02 03 43.3**	**+1.6**
NSS				*e*S	**Sn**	**02 05 14.1**	**-5.7**
NSS				IAML		02 05 20.8	
	comp=Z,11nm,0.7s						
HEF	**Hetta**	**9.07**	**99**	Pn	**Pn**	**02 03 46.7**	**0.0**
HEF	**Hetta**	**9.07**	**99**	*e*P	**Pn**	**02 03 45.8**	**-0.8**
HEF				*e*S	Sn	02 05 19.5	-9.1
ARA0	**ARCESS Array S**	**9.09**	**91**	Pn	**Pn**	**02 03 47.0**	**0.0**
	baz=296,slow=12						
ARA0	**ARCESS Array S**	**9.09**	**91**	*e*P	**Pn**	**02 03 46.3**	**-0.7**
ARA0				Pn	Pn	02 03 47.0	0.0
	baz=296,slow=12						
ARA0				*e*S	Sn	02 05 20.6	-8.5
ARA0				IAML		02 05 40.7	
	comp=Z,1.8nm,0.8s						
ARCES	**ARCESS Array B**	**9.09**	**91**	Pn	**Pn**	**02 03 46.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=298,slow=12,SNR=12						
ARCES				Sn	Sn	02 05 21.8	-7.3
	baz=304,slow=24						
	comp=Z,0.6nm,0.3s						
KEV	**Kevo**	**9.47**	**88**	*e*P	**Pn**	**02 03 49.7**	**-2.4**
VADS	**Vadso**	**10.06**	**84**	*e*P	**Pn**	**02 03 59.7**	**-0.4**
VADS				*e*S	Sn	02 05 43.2	-10
VADS				IAML		02 05 47.1	
	comp=Z,4.7nm,0.8s						
AKN	**Aaknes**	**10.10**	**158**	Pn	**Pn**	**02 04 03.1**	**+2.4**
AKN				Sn	**Sn**	**02 05 48.7**	**-5.2**
NOR	**Nord**	**10.48**	**348**	*e*P	**Pn**	**02 04 04.2**	**-1.6**
NOR	**Nord**	**10.48**	**348**	*e*P	Pn	02 04 00.6	-5.2
NOR				IAML		02 05 56.7	
	comp=Z,0.3nm,0.4s						
SUMG	**Summit**	**11.34**	**292**	*i* P	**Pn**	**02 04 17.8**	**-0.2**
LRW	**Lerwick**	**11.64**	**180**	Pn	**Pn**	**02 04 23.9**	**+2.1**
NB2	**NORSAR Subarra**	**11.79**	**149**	Pn	**Pn**	**02 04 25.5**	**+1.6**
	baz=334,slow=14						
NB2	**NORSAR Subarra**	**11.79**	**149**	Pn	**Pn**	**02 04 25.5**	**+1.6**
	baz=334,slow=14						
NOA	**NORSAR Array B**	**11.79**	**149**	Pn	**Pn**	**02 04 25.4**	**+1.6**
	baz=337,slow=13,SNR=5.0						
NOA				Sn	**Sn**	**02 06 31.1**	**-4.2**
	baz=329,slow=22,SNR=2.7						
NOA				LR	LR	02 08 13.5	
	comp=Z,156nm,18.2s,baz=345,slow=34						
	comp=Z,1.9nm,0.8s						
NRA0	**NORESS Array S**	**12.13**	**149**	Pn	**Pn**	**02 04 30.2**	**+1.7**
	baz=340,slow=12						
NRA0				Sn	**Sn**	**02 06 38.2**	**-5.4**
	baz=356,slow=28						
NRA0	**NORESS Array S**	**12.13**	**149**	Pn	**Pn**	**02 04 30.2**	**+1.7**
	baz=340,slow=12						
NRA0				Sn	**Sn**	**02 06 38.2**	**-5.4**
	baz=356,slow=28						
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**02 04 42.9**	**+1.6**
	baz=347,slow=11						
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**02 04 42.9**	**+1.6**
	baz=347,slow=11						
HFS	**Hagfors**	**13.06**	**145**	Pn	**Pn**	**02 04 42.9**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=346,slow=11,SNR=16						
HFS				Sn	Sn	02 06 57.5	-8.9
	comp=Z,0.2nm,0.3s,baz=359,slow=28,SNR=0.8						
HFS				LR	LR	02 09 14.9	
	comp=Z,132nm,19.9s,baz=266,slow=36						
	comp=Z,8.5nm,0.7s						
**FIA

SDDR				IAML		02 23 12.1	
	comp=N,176nm,0.3s						
SDDR				IAML		02 23 12.5	
	comp=N,94nm,0.2s						
SDDR	**Presa de Saban**	**0.29**	**144**	⇓*e*Pg	**Pn**	**02 23 03.1**	**-0.8**
SDDR				⇑*e*Sg	**Sn**	**02 23 12.0**	**-0.8**
SDDR				IAML		02 23 12.4	
	comp=N,182nm,0.8s						
SDDR	**Presa de Saban**	**0.29**	**144**	*i* P		02 23 03.1	
SDDR				*e*S		02 23 11.9	
SDDR				IAML		02 23 12.7	
	comp=Z,97nm,0.2s						
LODA1	**ITESIL, Dajabo**	**0.39**	**326**	*i* P		02 22 47.2	
LODA1				*e*S		02 22 56.6	
LONE3	**El Aguacate, B**	**0.61**	**179**	*i* P		02 23 05.8	
LONE3				*e*S		02 23 16.6	
LONE3				IAML		02 23 18.9	
	comp=Z,26nm,0.3s						
MCDR	**Montecristi**	**0.69**	**345**	⇑*e*Pg	**Pn**	**02 23 07.9**	**+0.7**
MCDR				IAML		02 23 23.3	
	comp=N,310nm,0.4s						
SC01	**Santiago de lo**	**0.73**	**73**	⇑*e*Pg	**Pn**	**02 23 07.7**	**+0.1**
SC01				⇑*e*Sg	**Sn**	**02 23 20.7**	**+1.3**
SC01				IAML		02 23 22.5	
	comp=N,186nm,0.9s						
SC01	**Santiago de lo**	**0.73**	**73**	*i* P		02 23 08.3	
SC01				*e*S		02 23 18.8	
SC01				IAML		02 23 22.8	
	comp=Z,60nm,0.5s						
JIDR	**Jimani**	**0.81**	**207**	⇑*e*Pg	**Pn**	**02 23 07.7**	**-0.7**
JIDR				⇑*e*Sg	**Sn**	**02 23 22.5**	**+1.7**
JIDR				IAML		02 23 22.8	
	comp=N,121nm,0.2s						
LODU1	**El Espartillar**	**0.86**	**180**	*i* P		02 23 09.3	
LODU1				*e*S		02 23 23.0	
LODU1				IAML		02 23 26.4	
	comp=Z,78nm,3.1s						
ABDR	**Alto Bandera**	**0.90**	**117**	⇑*e*Pg	**Pn**	**02 23 09.5**	**-0.3**
ABDR				⇑*e*Sg	**Sn**	**02 23 22.5**	**-0.7**
ABDR				IAML		02 23 26.6	
	comp=N,59nm,0.2s						
PAPH	**Port-au-Prince**	**1.05**	**229**	*e*P	**Pn**	**02 23 12.1**	**+0.8**
PAPH				*e*S	**Sn**	**02 23 27.6**	**+1.7**
PAPH				IAML		02 23 28.7	
	comp=E,22nm,0.2s						
PAPH				IAML		02 23 29.1	
	comp=N,38nm,0.3s						
PAPH	**Port-au-Prince**	**1.05**	**229**	*i* P		02 23 12.1	
PAPH				IAML		02 23 26.1	
	comp=Z,26nm,1.8s						
PODR	**Polo**	**1.06**	**170**	⇓*e*Pg	**Pn**	**02 23 11.7**	**0.0**
PODR				⇑*e*Sg	**Sn**	**02 23 26.6**	**0.0**
PODR				IAML		02 23 29.4	
	comp=N,35nm,0.6s						
PODR	**Polo**	**1.06**	**170**	*i* P		02 23 11.7	
PODR				*e*S		02 23 25.7	
LOBH	**Bahia de las A**	**1.36**	**187**	*i* P		02 23 15.9	
LOBH				IAML		02 23 42.8	
	comp=Z,39nm,0.8s						
DR08	**Loma La Naviza**	**1.39**	**100**	⇑*e*Pg	**Pn**	**02 23 15.9**	**+0.2**
DR08				⇑*e*Sg	**Sn**	**02 23 33.4**	**-0.3**
DR08				IAML		02 23 36.5	
	comp=N,1µm,0.1s						
HATOM	**Hato Mayor del**	**2.02**	**102**	⇑*e*Pg	**Pn**	**02 23 23.8**	**-0.1**
HATOM				⇑*e*Sg	**Sn**	**02 23 48.9**	**+0.5**
HATOM				IAML		02 23 50.3	
	comp=N,24nm,0.7s						
MIDR	**Miches**	**2.30**	**95**	⇑*e*Sg	**Sn**	**02 23 55.5**	**+0.5**
MIDR				IAML		02 24 32.8	
	comp=N,35nm,2.9s						
GRTK	**Grand Turk**	**2.30**	**8**	*e*S		02 23 53.8	
GRTK				IAML		02 24 00.5	
	comp=Z,34nm,1.9s						
MASC	**Masc**	**2.77**	**291**	*e*P	**Pn**	**02 23 33.7**	**-0.2**
MASC				*e*S	**Sn**	**02 24 07.2**	**+0.8**
MASC				IAML		02 24 09.8	
	comp=N,14nm,0.8s						
MASC				IAML		02 24 14.4	
	comp=E,11nm,0.7s						
QMBU	**Quimbuelo**	**3.30**	**288**	*e*P	**Pn**	**02 23 40.3**	**-0.8**
QMBU				*e*S	**Sn**	**02 24 17.1**	**-2.1**
QMBU				IAML		02 24 30.4	
	comp=E,21nm,1.9s						
QMBU				IAML		02 24 30.8	
	comp=N,12nm,1.2s						

*IDC **25** 02:22:56.0±5.0, 30.85S×179.83W, h321km±42km, mb3.2/2, mbtmp4.1/3, Error ellipse: s-maj=49.7km s-min=25.4km az=56.0*

ISC 25 02:22:55.7±1.3, 31.05S±0.1×180.0E±0.3, h300km, n8, σ2s42/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.60**	**197**	P	**Pn**	**02 24 46.4**	**+2.1**
	9.8nm,0.3s,baz=0.1,slow=3.7,SNR=9.3						
URZ				S	**S**	**02 26 10.6**	**-1.5**
	22nm,0.5s,baz=151,slow=19,SNR=12						
WRA	**Warramunga Arr**	**42.38**	**274**	P	**P**	**02 30 21.3**	**-0.2**
	0.4nm,0.3s,baz=113,slow=8.0,SNR=10						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**59.09**	**180**	P	**P**	**02 32 24.7**	**-0.2**
	1.3nm,0.5s,baz=54,slow=2.5,SNR=8.5						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**145.09**	**338**	PKPbc	**PKPdf**	**02 41 53.9**	**-2.8**
	2.7nm,0.5s,baz=39,slow=3.4,SNR=28						
HFS	**Hagfors**	**149.46**	**346**	PKPbc	**PKPdf**	**02 42 05.4**	**+1.4**
	2.9nm,0.9s,baz=11,slow=1.5,SNR=4.9						
MMAI	**Mount Meron Ar**	**149.97**	**283**	PKPbc	**PKPbc**	**02 42 09.6**	**-1.5**
	0.6nm,0.4s,baz=140,slow=4.7,SNR=2.1						
BRTR	**Keskin Array B**	**151.33**	**297**	PKPbc	**PKPdf**	**02 42 11.1**	**+3.3**
	0.5nm,0.8s,baz=155,slow=3.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**162.15**	**186**	PKPab	**PKPab**	**02 43 07.9**	**-2.3**
	47nm,0.4s,baz=155,slow=3.3,SNR=1.6						

*SOME **25** 02:33:57.4, 41.22N×69.15E, h5km*
*ISU **25** 02:33:58, 41.25N×68.88E, h19km*
*NNC **25** 02:33:59.0±2.2, 41.26N×69.08E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.2km s-min=9.6km az=29.0*

ISC 25 02:33:58.8±0.9, 41.29N±0.04×68.79E±0.04, h10km, n38, σ2s81/58, 2C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NZBK	**Nazarbek**	**0.26**	**106**	P	**Pg**	**02 34 03.4**	**-0.7**
NZBK				S	**Sg**	**02 34 07.1**	**-0.5**
TGS	**TashGRES**	**0.57**	**77**	P	**Pg**	**02 34 06.7**	**-3.1**
TGS				S	**Sg**	**02 34 12.6**	**-4.7**
CHMG	**Chimgan**	**0.95**	**74**	P	**Pg**	**02 34 15.7**	**-1.5**
CHMG				S	**Sg**	**02 34 28.5**	**-1.1**
CHM	**Chimkent**	**1.19**	**30**	*e*P	**Pn**	**02 34 19.1**	**-2.6**
	147nm,0.2s						
CHM				*e*S	**Sb**	**02 34 34.9**	**-2.1**
	2µm,0.4s						
CHDK	**Chadak**	**1.52**	**102**	P	**Pn**	**02 34 25.1**	**-1.0**
CHDK				S	**Sn**	**02 34 45.1**	**-0.9**
MINT	**Mingtut**	**1.85**	**116**	P	**Pn**	**02 34 30.8**	**+0.1**
MINT				S	**Sb**	**02 34 54.9**	**-1.1**
BRLS	**Borolday**	**1.90**	**24**	*e*P	Pn	02 34 26.6	-4.7
	20nm,0.3s						
BRLS				*e*S	**Sn**	**02 34 47.5**	**-7.9**
	263nm,0.1s						
KSNS	**Kasansay**	**2.06**	**93**	P	**Pn**	**02 34 34.3**	**+0.7**
KSNS				S	**Sb**	**02 35 01.4**	**-0.8**
KK31	**Karatay Array**	**2.22**	**35**	⇑Pn	**Pn**	**02 34 37.2**	**+1.6**
	3.7nm,0.2s,baz=219,slow=16,SNR=65						
KK31				⇑Sn	**Sn**	**02 35 04.5**	**+1.4**
	32nm,0.2s,baz=213,slow=27,SNR=7.7						
CHMI	**Chimion**	**2.31**	**115**	P	**Pn**	**02 34 38.1**	**+1.1**
CHMI				S	**Sb**	**02 35 08.3**	**-1.1**
FRG	**Fergana**	**2.45**	**111**	P	**Pn**	**02 34 40.1**	**+1.2**
FRG				S	**Sb**	**02 35 12.2**	**-1.1**
DZA	**Taraz**	**2.48**	**49**	*e*P	**Pn**	**02 34 41.0**	**+1.7**
	83nm,0.1s						
DZA				*e*S	**Sb**	**02 35 12.5**	**-1.5**
	687nm,0.4s						
SHAK	**Shakhimardan**	**2.61**	**120**	P	**Pn**	**02 34 42.4**	**+1.1**
SHAK				S	**Sb**	**02 35 16.5**	**-1.6**
TMD	**Tamdy-Bulak**	**3.15**	**280**	P	**Pb**	**02 34 52.3**	**-2.6**
TMD				S	**Sb**	**02 35 35.1**	**+1.8**
PKMR	**Pachkamar**	**3.31**	**215**	P	**Pn**	**02 34 53.7**	**+3.0**
PKMR				S	**Sb**	**02 35 37.9**	**-0.1**
MRKS	**Merke**	**3.61**	**65**	*e*P	**Pb**	**02 35 00.7**	**-2.1**
	13nm,0.5s						
MRKS				*e*S	**Sb**	**02 35 46.5**	**-0.2**
	49nm,0.3s						
AAK	**Ala-Archa**	**4.46**	**71**	⇓Pg	**Pb**	**02 35 16.7**	**-0.6**
	9.6nm,0.6s						
AAK				⇓Lg	Lg	02 36 14.6	
	22nm,0.8s						
SGDS	**Sogindy**	**4.83**	**62**	Pg	**Pb**	**02 35 22.9**	**-0.7**
	4.0nm,0.2s						
SGDS				Lg	Lg	02 36 24.0	
	7.7nm,0.3s						
TKM2	**Tokmak 2**	**5.32**	**70**	Pg	**Pb**	**02 35 31.0**	**-0.9**
	2.9nm,0.3s						
TKM2				⇓Lg	Lg	02 36 43.0	
	14nm,0.6s						
BTLS	**Baital**	**5.37**	**44**	Pg	**Pb**	**02 35 33.4**	**+0.7**
	1.4nm,0.3s						
BTLS				Lg	Lg	02 36 42.4	
	6.0nm,0.5s						
BTLS	**Baital**	**5.37**	**44**	*e*P	**Pb**	**02 35 33.4**	**+0.7**
	1.4nm,0.2s						
BTLS				*e*S	**Sb**	**02 36 42.3**	**+5.2**
	5.6nm,0.2s						
DGS	**Degeres**	**5.54**	**67**	Pg	**Pb**	**02 35 35.6**	**0.0**
	6.2nm,0.4s						
DGS				Lg	Lg	02 36 46.1	
	21nm,0.7s						
KST	**Kastek**	**5.61**	**69**	Pg	**Pb**	**02 35 36.8**	**-0.1**
	6.0nm,0.5s						
KST				Lg	Lg	02 36 48.2	
	25nm,0.8s						
KST	**Kastek**	**5.61**	**69**	*e*P	**Pb**	**02 35 36.7**	**-0.2**
	6.3nm,0.7s						
KST				*e*S	**Sb**	**02 36 48.2**	**+3.9**
	25nm,0.5s						
KRBS	**Karabastau**	**5.63**	**62**	Pg	**Pb**	**02 35 36.3**	**-0.9**
	3.8nm,0.5s						
KRBS				Lg	Lg	02 36 47.3	
	6.6nm,0.6s						
MTBS	**Maitube**	**5.96**	**70**	Pg	**Pb**	**02 35 44.6**	**+1.7**
	4.6nm,0.5s						
MTBS				Lg	Lg	02 37 01.5	
	11nm,0.5s						
MTBS	**Maitube**	**5.96**	**70**	*e*P	**Pb**	**02 35 44.6**	**+1.7**
	3.3nm,0.3s						
MTBS				*e*S	**Sb**	**02 37 01.5**	**+7.2**
	10nm,0.5s						
TNSS	**Tian-Shan**	**6.31**	**71**	Pg	**Pb**	**02 35 50.1**	**+1.2**
	4.7nm,0.3s						
TNSS				Lg	Lg	02 37 11.3	
	5.3nm,0.4s						
TNSS	**Tian-Shan**	**6.31**	**71**	*e*P	**Pb**	**02 35 50.1**	**+1.2**
	4.7nm,0.4s						
TNSS				*e*S	**Sb**	**02 37 11.4**	**+6.8**
	5.3nm,0.4s						
KTBS	**Karatobe**	**6.32**	**65**	Pg	**Pb**	**02 35 49.0**	**+0.2**
	3.4nm,0.7s						
KTBS				Lg	Lg	02 37 08.8	
	14nm,0.6s						
MDOK	**Medeo**	**6.41**	**70**	Pg	**Pb**	**02 35 51.3**	**+0.8**
	8.5nm,0.7s						
MDOK				Pg	Pg	02 35 52.6	-8.9
	5.6nm,0.5s						
MDOK				Lg	Lg	02 37 15.3	
	7.7nm,0.7s						
MDOK				Lg	Lg	02 37 20.5	
	14nm,0.7s						
MDOK	**Medeo**	**6.41**	**70**	*e*P	**Pb**	**02 35 52.5**	**+1.9**
	7.8nm,0.6s						
MDOK				*e*S	**Sb**	**02 37 15.1**	**+7.8**
	13nm,0.5s						
KOTS	**Kotyrbulak**	**6.47**	**70**	Pg	**Pb**	**02 35 52.4**	**+0.8**
	6.3nm,0.8s						
KOTS				Lg	Lg	02 37 15.0	
	21nm,0.9s						
KOTS	**Kotyrbulak**	**6.47**	**70**	*e*P	**Pb**	**02 35 53.2**	**+1.6**
	5.8nm,0.1s						
KOTS				*e*S	**Sb**	**02 37 15.0**	**+5.9**
	14nm,0.6s						
KPKS	**Kokpek**	**7.64**	**70**	Pg	**Pb**	**02 36 14.6**	**+3.1**
	3.4nm,0.7s						
KPKS				Lg	Lg	02 37 53.0	
	7.8nm,0.9s						
KPKS	**Kokpek**	**7.64**	**70**	*e*P	**Pb**	**02 36 14.5**	**+3.1**
	4.1nm,0.7s						
KPKS				*e*S	Sb	02 37 52.9	+10
	11nm,0.7s						
PDGK	**Podgornoye**	**8.19**	**72**	⇓Pg	Pb	02 36 27.3	+6.5
	2.8nm,0.8s						
PDGK				⇓Lg	Lg	02 38 13.3	
	5.0nm,0.7s						
AB31	**Akbulak array**	**10.11**	**325**	Pn	**Pn**	**02 36 26.0**	**+2.1**
	0.2nm,0.3s,baz=170,slow=11,SNR=12						

IDC 25 02:38:11.1±2.6, 0.23N×125.84E, h0km, mb3.2/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=297.9km s-min=28.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**6.80**	**358**	LR	LR	02 42 30.0	
	comp=Z,107nm,20.7s,baz=344,slow=38						
WRA	**Warramunga Arr**	**21.71**	**158**	P	P	02 43 03.0	-1.0
	0.8nm,0.8s,baz=336,slow=9.7,SNR=5.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**25.01**	**162**	P	P	02 43 37.8	+0.8
	0.2nm,0.3s,baz=344,slow=11,SNR=5.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.94**	**327**	P	P	02 48 19.1	-0.2
	0.1nm,0.5s,baz=112,slow=7.5,SNR=2.2						
	0.1nm,0.5s						

*JMA **25** 02:49:47.9±0.2, 24.1N±1.1×122.1E±0.4, h46km±2km, MV2.6/14, TAIWAN REGION*
*TAP **25** 02:49:48.5, 24.14N×122.02E, h50km, ML3.7, C*

ISC 25 02:49:48.7±1.2, 24.08N±0.02×122.11E±0.02, h41km±7km, n98, σ0s87/168, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.20**	**79**	P	**Pn**	**02 49 55.7**	**+0.1**
EOS4				*e*S	**Sn**	**02 50 01.1**	**+0.7**
EOS3	**EOS3**	**0.28**	**44**	*i* P	**Pn**	**02 49 56.9**	**+0.2**
EOS3				S	**Sn**	**02 50 03.2**	**+1.0**
EOS2	**EOS2**	**0.35**	**19**	*i* P	**Pn**	**02 49 57.5**	**0.0**
EOS2				S	**Sn**	**02 50 04.6**	**+0.9**
EHP	**Heping Village**	**0.40**	**304**	*e*S	**Sn**	**02 50 05.3**	**+0.4**
EAHA	**Aohua**	**0.41**	**306**	P	**Pn**	**02 49 57.8**	**-0.6**
EAHA				S	**Sn**	**02 50 04.9**	**-0.2**
ETL	**Fush Village**	**0.45**	**280**	*e*P	**Pn**	**02 49 58.3**	**-0.5**
ETL				*e*S	**Sn**	**02 50 06.1**	**+0.1**
TWD	**Chiawan**	**0.47**	**270**	P	**Pn**	**02 49 58.2**	**-0.8**
TWD				S	**Sn**	**02 50 05.9**	**-0.4**
EWUT	**Wuta**	**0.47**	**320**	P	**Pn**	**02 49 58.5**	**-0.5**
EWUT				S	**Sn**	**02 50 05.8**	**-0.5**
HWA	**Hwalien**	**0.47**	**257**	*e*P	**Pn**	**02 49 58.9**	**-0.1**
HWA				*e*S	**Sn**	**02 50 07.0**	**+0.7**
NACB	**Ninganchiao**	**0.48**	**281**	P	**Pn**	**02 49 58.6**	**-0.6**
NACB	**Ninganchiao**	**0.48**	**281**	S	**Sn**	**02 50 04.1**	**-2.4**
NACB	**Ninganchiao**	**0.48**	**281**	P	**Pn**	**02 49 58.5**	**-0.6**
NACB				S	**Sn**	**02 50 05.7**	**-0.8**
ENA	**Nanau**	**0.48**	**316**	*i* P	**Pn**	**02 49 58.6**	**-0.6**
ENA				*i* S	**Sn**	**02 50 06.2**	**-0.4**
TEYL	**Yanliau Villag**	**0.51**	**245**	*e*P	**Pn**	**02 49 59.5**	**-0.1**
TEYL				S	**Sn**	**02 50 07.7**	**+0.3**
ESAO	**Su ao**	**0.55**	**334**	*i* P	**Pn**	**02 49 59.4**	**-0.7**
ESAO				*e*S	**Sn**	**02 50 06.7**	**-1.4**
ETM	**Tongmen**	**0.57**	**258**	*e*P	**Pn**	**02 49 59.9**	**-0.6**
ETM				*e*S	**Sn**	**02 50 08.3**	**-0.5**
TWC	**Suao**	**0.57**	**336**	*i* P	**Pn**	**02 49 59.7**	**-0.7**
TWC				*i* S	**Sn**	**02 50 07.5**	**-1.3**
SHUL	**Shoufeng**	**0.58**	**239**	*i* P	**Pn**	**02 50 00.5**	**0.0**
SHUL				S	**Sn**	**02 50 09.3**	**+0.5**
ETLH	**Xiulin Townshi**	**0.58**	**282**	*i* P	**Pn**	**02 50 00.1**	**-0.5**
ETLH				S	**Sn**	**02 50 08.5**	**-0.7**
LXIB	**Xiulin Townshi**	**0.64**	**265**	*e*P	**Pn**	**02 50 00.8**	**-0.6**
LXIB				S	**Sn**	**02 50 09.8**	**-0.7**
TEGC	**Jichi Village**	**0.64**	**234**	*e*P	**Pn**	**02 50 01.2**	**-0.1**
TEGC				*i* S	**Sn**	**02 50 11.0**	**+0.7**
NDS	**Dongshan**	**0.65**	**327**	*e*P	**Pn**	**02 50 01.1**	**-0.4**
NDS				*e*S	**Sn**	**02 50 10.3**	**-0.4**
ESL	**Shilin**	**0.67**	**247**	*e*P	**Pn**	**02 50 01.3**	**-0.5**
LATG	**Datong**	**0.69**	**310**	P	**Pn**	**02 50 01.5**	**-0.7**
LATG				*e*S	**Sn**	**02 50 11.9**	**+0.1**
ENTT	**Nioudou**	**0.74**	**318**	*e*P	**Pn**	**02 50 02.1**	**-0.6**
ENTT				*e*S	**Sn**	**02 50 12.0**	**-0.9**
EGFH	**Guangfu**	**0.75**	**237**	*e*P	**Pn**	**02 50 02.4**	**-0.4**
EGFH				*e*S	**Sn**	**02 50 12.6**	**-0.3**
TWE	**Neicheng**	**0.75**	**328**	*i* P	**Pn**	**02 50 02.4**	**-0.4**
TWE				S	**Sn**	**02 50 12.4**	**-0.7**
ILA	**Ilan**	**0.75**	**334**	*e*P	**Pn**	**02 50 02.8**	**-0.1**
ILA				*e*S	**Sn**	**02 50 13.1**	**0.0**
WARBT	**Fenglin Townsh**	**0.75**	**241**	P	**Pn**	**02 50 02.4**	**-0.5**
WARBT				*e*S	**Sn**	**02 50 12.3**	**-0.9**
NNS	**Nan Shan**	**0.76**	**298**	*e*P	**Pn**	**02 50 02.5**	**-0.5**
NNS				*e*S	**Sn**	**02 50 12.4**	**-1.0**
WHF	**Hehuan Shan**	**0.77**	**275**	P	**Pn**	**02 50 02.8**	**-0.7**
WHF				*e*S	**Sn**	**02 50 13.0**	**-1.2**
EGS		**0.78**	**348**	P	**Pn**	**02 50 02.9**	**-0.3**
EGS				*e*S	**Sn**	**02 50 13.1**	**-0.6**
FUSS	**Fushou**	**0.80**	**282**	*e*P	**Pn**	**02 50 03.3**	**-0.5**
FUSS				*e*S	**Sn**	**02 50 13.7**	**-1.0**
FUSB	**Fushanzhiwuyua**	**0.82**	**325**	P	**Pn**	**02 50 03.5**	**-0.4**
FUSB				S	**Sn**	**02 50 14.6**	**-0.3**
JYNG	**Yonagunijimaku**	**0.85**	**64**	*e*S	**Sn**	**02 50 15.6**	**+0.1**
HGSD	**Ruisui**	**0.86**	**227**	*e*P	**Pn**	**02 50 04.0**	**-0.3**
HGSD				*e*S	**Sn**	**02 50 15.4**	**-0.3**
OWD	**Renai**	**0.86**	**262**	*e*P	**Pn**	**02 50 04.0**	**-0.4**
OWD				*e*S	**Sn**	**02 50 14.9**	**-1.0**
TWT	**Tachien**	**0.87**	**281**	*e*P	**Pn**	**02 50 04.6**	**0.0**
TWT				*e*S	**Sn**	**02 50 15.3**	**-0.8**
TDCB	**Techi**	**0.88**	**281**	P	**Pn**	**02 50 04.8**	**0.0**
TDCB				*e*S	**Sn**	**02 50 15.4**	**-1.1**
NWLT	**Wulai**	**0.88**	**322**	P	**Pn**	**02 50 04.1**	**-0.5**
NWLT				*e*S	**Sn**	**02 50 15.4**	**-0.9**
YHNB	**Yeheng**	**0.89**	**311**	P	**Pn**	**02 50 04.5**	**-0.3**
YHNB	**Yeheng**	**0.89**	**311**	*i* P	**Pn**	**02 50 04.2**	**-0.6**
NSK	**Sanguang**	**0.90**	**311**	P	**Pn**	**02 50 04.4**	**-0.5**
NSK				*e*S	**Sn**	**02 50 15.5**	**-1.4**
YOJ	**Yonaguni jima**	**0.91**	**65**	P	**Pn**	**02 50 04.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.91**	**65**	*e*P	**Pn**	**02 50 04.8**	**-0.1**
YOJ				*e*S	**Sn**	**02 50 17.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.91**	**65**	*e*P	**Pn**	**02 50 04.5**	**-0.4**
YOJ				*e*S	**Sn**	**02 50 16.7**	**-0.2**
WUSB	**Renai**	**0.91**	**264**	*e*P	**Pn**	**02 50 04.9**	**-0.2**
WUSB				*e*S	**Sn**	**02 50 16.4**	**-0.7**
EHYH	**Wanrong**	**0.91**	**230**	*e*P	**Pn**	**02 50 05.1**	**+0.1**
EHY	**Hungye**	**0.92**	**231**	*e*P	**Pn**	**02 50 04.8**	**-0.4**
TIPB	**Shuangxi**	**0.92**	**344**	P	**Pn**	**02 50 05.2**	**-0.1**
TIPB				S	**Sn**	**02 50 17.0**	**-0.3**
TWB1	**Santiao Chiao**	**0.93**	**353**	P	**Pn**	**02 50 04.5**	**-0.7**
TWB1				*e*S	**Sn**	**02 50 16.3**	**-1.1**
VWDT	**VWDT**	**0.94**	**250**	*e*P	**Pn**	**02 50 05.7**	**+0.2**
VWDT				*e*S	**Sn**	**02 50 17.6**	**-0.1**
ECBN	**Changbin**	**0.97**	**218**	*e*S	**Sn**	**02 50 17.8**	**-0.6**
YULB	**Yu-li**	**1.01**	**227**	P	**Pn**	**02 50 06.1**	**-0.3**
YULB	**Yu-li**	**1.01**	**227**	*e*P	**Pn**	**02 50 06.0**	**-0.5**
YULB				*e*S	**Sn**	**02 50 18.4**	**-1.1**
WFSB	**Wu-fen Shan**	**1.03**	**343**	P	**Pn**	**02 50 06.4**	**-0.2**
WFSB				*e*S	**Sn**	**02 50 20.4**	**+0.6**
SXI1	**Grass Mountain**	**1.03**	**348**	P	**Pn**	**02 50 06.2**	**-0.5**
SXI1				*e*S	**Sn**	**02 50 19.4**	**-0.6**
TWF1	**Yuli**	**1.04**	**226**	*e*P	**Pn**	**02 50 06.5**	**-0.3**
TATO	**Taipei**	**1.05**	**328**	P	**Pn**	**02 50 07.8**	**+0.9**
NFF	**Wufeng Townshi**	**1.05**	**301**	*e*P	**Pn**	**02 50 07.7**	**+0.7**
WHP	**Taichung City**	**1.08**	**281**	*e*P	**Pn**	**02 50 07.8**	**+0.4**
WHP				*e*S	**Sn**	**02 50 21.3**	**+0.1**
WCS	**Beigang Elemen**	**1.09**	**269**	*e*P	**Pn**	**02 50 07.8**	**+0.3**
WCS				*e*S	**Sn**	**02 50 22.0**	**+0.6**
KSHI	**Guanxi Townshi**	**1.09**	**309**	*e*P	**Pn**	**02 50 08.1**	**+0.6**
KSHI				*e*S	**Sn**	**02 50 22.9**	**+1.5**
SSLB	**Suanglung**	**1.09**	**255**	P	**Pn**	**02 50 07.9**	**+0.3**
SSLB	**Suanglung**	**1.09**	**255**	*e*P	**Pn**	**02 50 07.7**	**+0.1**
SSLB				*e*S	**Sn**	**02 50 22.0**	**+0.5**
CHKH	**Chenggong**	**1.10**	**216**	*e*S	**Sn**	**02 50 20.5**	**-1.1**
SMLT	**Sun Moon Lake**	**1.12**	**260**	P	**Pn**	**02 50 07.4**	**-0.6**
SMLT				*e*S	**Sn**	**02 50 21.3**	**-1.0**
LIOB	**Emei**	**1.14**	**300**	P	**Pn**	**02 50 09.1**	**+0.9**
LIOB				*e*S	**Sn**	**02 50 23.3**	**+0.6**
NSTT	**Nanjuang**	**1.15**	**299**	*e*P	**Pn**	**02 50 08.8**	**+0.6**
NSTT				*e*S	**Sn**	**02 50 23.1**	**+0.3**
FULB	**Fuli**	**1.15**	**220**	*e*P	**Pn**	**02 50 08.7**	**+0.3**
FULB				*e*S	**Sn**	**02 50 23.1**	**+0.1**
TYC	**Yuchr**	**1.16**	**261**	*e*P	**Pn**	**02 50 08.7**	**+0.3**
TYC				*e*S	**Sn**	**02 50 23.0**	**0.0**
YM01	**YM01**	**1.17**	**335**	*e*P	**Pn**	**02 50 08.4**	**-0.1**
YM01				*e*S	**Sn**	**02 50 23.6**	**+0.3**
ZUZH	**Zhuzihu**	**1.19**	**335**	P	**Pn**	**02 50 08.8**	**-0.1**
ZUZH				*e*S	**Sn**	**02 50 23.5**	**-0.4**
TWS1	**Kuangyinshan**	**1.19**	**328**	P	**Pn**	**02 50 08.0**	**-0.9**
CHKT	**Chengkung**	**1.19**	**215**	*e*S	**Sn**	**02 50 22.0**	**-1.8**
YM08	**YM08**	**1.20**	**337**	P	**Pn**	**02 50 08.5**	**-0.5**
TWQ1	**Liyutan**	**1.25**	**282**	P	**Pn**	**02 50 10.9**	**+1.3**
TWQ1				*e*S	**Sn**	**02 50 27.0**	**+1.8**
TWY	**Chenhua**	**1.27**	**339**	*e*P	**Pn**	**02 50 09.3**	**-0.7**
NMLH

TBG				eS	Sn	02 56 41.7	+2.1
BIM	**Bigot**	**1.20**	**186**	eP	Pb	02 56 38.5	+1.1
BIM				eS	Sn	02 56 54.1	+1.8
BIM	**Bigot**	**1.20**	**186**	eP	Pb	02 56 38.5	+1.1
BIM				eS	Sn	02 56 54.1	+1.8
ANBD	**Bethesda, Anti**	**1.54**	**330**	eP	Pb	02 56 43.8	+0.6
ANBD				eS	Sb	02 57 04.9	+2.7
ANBD	**Bethesda, Anti**	**1.54**	**330**	eP	Pb	02 56 43.8	+0.6
ANBD				eS	Sb	02 57 04.9	+2.7
SLBI	**Saint Lucia, B**	**1.68**	**181**	eS	Sb	02 57 06.9	+0.6
SLBI	**Saint Lucia, B**	**1.68**	**181**	eS	Sb	02 57 06.9	+0.6

UCR 25 03:05:28.3±0.8, 10°.04N×83°.48W, h15km±2km, MW3.7, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRES	**Siquirres**	**0.06**	**337**	eP	Pg	03 05 32.3	+1.1
IRES				eS	Sg	03 05 35.0	+1.9
TAAN	**Batan**	**0.14**	**72**	eP	Pb	03 05 33.0	+0.4
TURIB	**Turrialba**	**0.24**	**237**	eP	Pg	03 05 34.0	+0.3
VTCV	**VTCV, Calle Va**	**0.25**	**257**	eP	Pb	03 05 34.4	-0.2
CVTV	**Tajo**	**0.27**	**262**	eP	Pb	03 05 34.9	-0.1
CVTV				eS	Sg	03 05 38.7	+0.4
CVTR	**Volcan Turrial**	**0.28**	**266**	eP	Pg	03 05 34.8	+0.4
VTR0	**Volcan Turrial**	**0.28**	**265**	eP	Pb	03 05 34.9	-0.3
CVTQ	**Turrialba Volc**	**0.28**	**263**	eP	Pb	03 05 35.1	-0.2
VTLA	**Turrialba Volc**	**0.29**	**263**	eP	Pb	03 05 35.2	-0.3
VTLA				eS	Sb	03 05 40.4	+0.1
CVTG	**V. Turrialba,**	**0.31**	**290**	eP	Pb	03 05 35.5	0.0
CVTG				eS	Sb	03 05 41.0	+0.6
RAFA	**San Farael, Vo**	**0.34**	**256**	eP	Pg	03 05 35.8	+0.4
RAFA				eS	Sg	03 05 40.8	+0.6
PCAYA	**Pacayas**	**0.35**	**249**	eP	Pg	03 05 35.8	+0.3
PCAYA				eS	Sb	03 05 41.3	-0.5
VICA	**Volcano Irazu**	**0.36**	**261**	eP	Pg	03 05 36.0	+0.1
VICA				eS	Sb	03 05 41.9	-0.5
CARI	**Cariari**	**0.41**	**322**	eP	Pb	03 05 36.9	-0.3
CARI				eS	Sb	03 05 44.2	+0.9
REPA	**Paraso**	**0.44**	**241**	eP	Pg	03 05 37.4	+0.2
CVIMO	**Finca Echandi**	**0.46**	**268**	eP	Pg	03 05 37.8	+0.3
LCR2	**La Lucha 2**	**0.60**	**240**	eP	Pg	03 05 39.4	-0.7
LCR2				eS	Sg	03 05 47.6	-0.5
HDC	**Heredia**	**0.62**	**266**	eP	Pg	03 05 40.5	-0.2
HDC				eS	Sg	03 05 49.2	+0.3
RAZU	**San Marcos de**	**0.66**	**235**	eP	Pg	03 05 40.5	-0.7
BELE	**Belen**	**0.70**	**265**	eP	Pg	03 05 41.6	-0.4
ACOS	**Acosta**	**0.72**	**250**	eP	Pg	03 05 41.7	-0.6
DRK0	**Durika**	**0.81**	**163**	eP	Pg	03 05 42.5	-1.5
BURE	**Buenos Aires**	**0.87**	**171**	eP	Pb	03 05 43.9	-1.3
BURE				eS	Sb	03 05 55.5	-1.3
FIMO	**Fila Mora**	**1.05**	**173**	eP	Pb	03 05 47.5	-0.8
SOCE	**Pocosol**	**1.17**	**287**	eP	Pn	03 05 49.4	-0.8
ARE1	**Arenal 1**	**1.29**	**289**	eP	Pn	03 05 51.6	-0.2
BRU2	**Volcan**	**1.46**	**148**	eP	Pn	03 05 54.0	-0.4
JTS	**Las Juntas de**	**1.47**	**280**	eP	Pn	03 05 54.1	-0.2
PIRO	**Carate, Puerto**	**1.63**	**175**	eP	Pn	03 05 56.4	-0.1
CBL1	**Cabuya**	**1.65**	**254**	eP	Pn	03 05 55.8	-1.0

*MOS **25** 03:17:02.6±1.1, 50°.04N×156°.58E, h72km, mb4.2/3, Error ellipse: s-maj=16.4km s-min=5.3km az=77.7*
*KRSC **25** 03:17:04.2±2.0, 50°.18N×157°.13E, h48km±23km, Ml4.2*
ISC 25 03:17:02.6±1.5, 50°.0N±0°.1×156°.83E±0°.07, h58km±13km, n46, σ1º79/64, mb3.7/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**327**	⇑iPN	**Pn**	**03 17 19.6**	**+1.3**
SKR				iS	**Sn**	**03 17 29.4**	**-0.4**
SKR				pmax	pmax		
	comp=Z,356nm,0.2s						
SKR				smax	smax		
	comp=E,11μm,0.3s						
SKR				smax	smax		
	comp=N,11μm,0.4s						
SKR	**Severo-Kuril's**	**0.82**	**327**	eP	**Pn**	**03 17 19.5**	**+1.3**
SKR				eS	**Sn**	**03 17 29.4**	**-0.4**
PAU	**Pauzhetka**	**1.47**	**360**	PN	**Pn**	**03 17 27.3**	**+0.5**
PAU				S	**Sn**	**03 17 43.0**	**-2.0**
PAU	**Pauzhetka**	**1.47**	**360**	eP	**Pn**	**03 17 27.3**	**+0.5**
PAU				eS	**Sn**	**03 17 43.0**	**-2.0**
KDTR	**Khodutka, Kamc**	**1.98**	**23**	PN	**Pn**	**03 17 33.6**	**-0.1**
KDTR				S	**Sn**	**03 17 54.5**	**-2.9**
KDTR	**Khodutka, Kamc**	**1.98**	**23**	eP	**Pn**	**03 17 33.7**	**-0.1**
KDTR				eS	**Sn**	**03 17 54.5**	**-2.9**
RUS	**Russkaya**	**2.66**	**23**	PN	**Pn**	**03 17 42.7**	**-0.3**
RUS				S	**Sn**	**03 18 12.3**	**-1.7**
RUS	**Russkaya**	**2.66**	**23**	eP	**Pn**	**03 17 42.8**	**-0.3**
RUS				eS	**Sn**	**03 18 12.4**	**-1.7**
GRL	**Gorelyy**	**2.68**	**17**	PN	**Pn**	**03 17 45.0**	**+1.7**
GRL				S	**Sn**	**03 18 15.3**	**+0.7**
GRL	**Gorelyy**	**2.68**	**17**	eP	**Pn**	**03 17 45.0**	**+1.7**
GRL				eS	**Sn**	**03 18 15.3**	**+0.7**
APC	**Apacha**	**2.94**	**4**	PN	**Pn**	**03 17 49.0**	**+2.2**
APC	**Apacha**	**2.94**	**4**	eP	**Pn**	**03 17 49.1**	**+2.2**
KRMR	**Karymshinskiy**	**2.95**	**16**	PN	**Pn**	**03 17 48.7**	**+1.7**
KRMR				S	**Sn**	**03 18 21.3**	**+0.1**
KRMR	**Karymshinskiy**	**2.95**	**16**	eP	**Pn**	**03 17 48.7**	**+1.7**
KRMR				eS	**Sn**	**03 18 21.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**3.16**	**10**	i PN	**Pn**	**03 17 52.4**	**+2.5**
PET	**Petropavlovsk**	**3.24**	**20**	ePN	**Pn**	**03 17 52.4**	**+1.5**
PET				eS	**Sn**	**03 18 26.8**	**-1.4**
PET				pmax	pmax		
	comp=Z,19nm,0.6s						
PET				smax	smax		
	comp=E,134nm,0.6s						
PET				smax	smax		
	comp=N,130nm,0.6s						
PET	**Petropavlovsk**	**3.24**	**20**	eP	**Pn**	**03 17 53.7**	**+2.8**
PET				eS	**Sn**	**03 18 28.8**	**+0.6**
DALK	**Dalny**	**3.27**	**21**	PN	**Pn**	**03 17 53.0**	**+1.7**
DALK				S	**Sn**	**03 18 29.2**	**+0.3**
DALK	**Dalny**	**3.27**	**21**	eP	**Pn**	**03 17 53.1**	**+1.7**
DALK				eS	**Sn**	**03 18 29.2**	**+0.3**
UGLR	**Uglovaya**	**3.45**	**20**	PN	**Pn**	**03 17 56.8**	**+2.9**
UGLR	**Uglovaya**	**3.45**	**20**	eP	**Pn**	**03 17 56.9**	**+2.9**
AVH	**Avacha**	**3.48**	**19**	PN	**Pn**	**03 17 57.1**	**+2.8**
AVH	**Avacha**	**3.48**	**19**	eP	**Pn**	**03 17 57.1**	**+2.8**
KOK	**Koryaka**	**3.49**	**18**	PN	**Pn**	**03 17 56.8**	**+2.4**
KOK	**Koryaka**	**3.49**	**18**	eP	**Pn**	**03 17 56.9**	**+2.4**
NLC	**Nalytchevo**	**3.54**	**25**	PN	**Pn**	**03 17 55.5**	**+0.4**
NLC	**Nalytchevo**	**3.54**	**25**	eP	**Pn**	**03 17 55.5**	**+0.4**
KRX	**Arik**	**3.55**	**18**	PN	**Pn**	**03 17 58.2**	**+2.8**
KRX	**Arik**	**3.55**	**18**	eP	**Pn**	**03 17 58.2**	**+2.8**
SPN	**Mys Shipunski**	**3.69**	**31**	PN	**Pn**	**03 17 58.1**	**+1.0**
SPN				S	**Sn**	**03 18 37.9**	**-1.3**
SPN	**Mys Shipunski**	**3.69**	**31**	eP	**Pn**	**03 17 58.1**	**+1.0**
SPN				eS	**Sn**	**03 18 38.0**	**-1.3**
GNL	**Ganaly**	**3.77**	**10**	PN	**Pn**	**03 18 01.4**	**+3.1**
GNL	**Ganaly**	**3.77**	**10**	eP	**Pn**	**03 18 01.4**	**+3.1**
TUMD	**Tumrok D**	**5.65**	**21**	eP	**Pn**	**03 18 25.1**	**+1.2**
KBTR	**Krutoberegovo**	**7.19**	**28**	PN	**Pn**	**03 18 45.9**	**+1.0**
KBTR	**Krutoberegovo**	**7.19**	**28**	eP	**Pn**	**03 18 46.0**	**+1.0**
YSS	**Yuzhno-Sakhali**	**9.83**	**257**	ePN	**Pn**	**03 19 20.6**	**-0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ERM	**Erimo**	**12.40**	**235**	i PN	**Pn**	**03 19 57.2**	**+1.0**
KLR	**Kul'dur**	**16.25**	**277**	i P	**Pn**	**03 20 45.3**	**-1.6**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.2s						
ZEA	**Zeya**	**18.58**	**293**	i P	**P**	**03 21 12.2**	**-2.4**
BILL	**Bilibino**	**18.70**	**11**	i P	**Pn**	**03 21 18.5**	**+1.8**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
YAK	**Yakutsk**	**19.20**	**319**	eP	**P**	**03 21 20.0**	**-1.3**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
NRIK	**Noril'sk**	**37.33**	**327**	i P	**P**	**03 24 08.3**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KURK	**Kurchatov**	**47.66**	**303**	i P	**P**	**03 25 31.3**	**-1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
PFO	**Pinyon Flats O**	**63.14**	**69**	i P	**P**	**03 27 26.5**	**+2.1**
KIV	**Kislovodsk**	**70.26**	**316**	eP	**P**	**03 28 09.3**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						

*JMA **25** 03:36:11.3±0.2, 34°.N×3°.×13°.7E±°, h410km, MV2.7/20, SE OFF KII PENINSULA*
*IDC **25** 03:36:17.2±1.8, 33°.81N×137°.28E, h353km±16km, mb2.9/5, mbtmp3.6/8, Error ellipse: s-maj=35.7km s-min=23.3km az=78.0*
ISC 25 03:36:17.1±0.9, 33°.9N±0°.1×137°.25E±0°.07, h350km, n19, σ1º10/21, mb2.9/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.28**	**60**	eP	**Pn**	**03 37 02.5**	**+2.0**
TTO5	**TONANKAI O.B.S**	**0.55**	**45**	eP	**Pn**	**03 37 03.1**	**+2.0**
JIE	**Ise**	**0.69**	**319**	eP	**Pn**	**03 37 02.9**	**+1.2**
JTNC	**Tanabenakahech**	**1.36**	**268**	P	**Pn**	**03 37 05.1**	**+0.6**
JWY	**Kouya**	**1.42**	**285**	P	**Pn**	**03 37 05.5**	**+0.7**
JWT	**Wachi**	**2.08**	**313**	eP	**Pn**	**03 37 09.4**	**+0.6**
JAI	**Aioi**	**2.33**	**269**	eP	**Pn**	**03 37 10.9**	**+0.2**
JRY	**Ryogami san**	**2.54**	**32**	eP	**Pn**	**03 37 14.1**	**+1.7**
MJAR	**Matsushiro Arr**	**2.78**	**16**	P	**Pn**	**03 37 15.3**	**+0.9**
	2.1nm,0.5s,baz=186,slow=9.7,SNR=4.9						
JAG	**Ashikaga**	**3.12**	**35**	eP	**Pn**	**03 37 17.5**	**+0.1**
JAG				eS	**S**	**03 38 04.3**	**-1.8**
BSO1	**Boso 1**	**3.19**	**75**	eP	**Pn**	**03 37 17.4**	**0.0**
BSO1				eS	**S**	**03 38 04.9**	**-1.3**
JHS	**Saijyo**	**3.59**	**289**	eP	**Pn**	**03 37 22.3**	**+0.3**
JNU	**Nakatsue**	**5.37**	**264**	P	**Pn**	**03 37 40.7**	**-0.1**
	7.5nm,0.7s,baz=75,slow=4.7,SNR=6.6						
USRK	**Ussuriysk Ar.**	**11.09**	**340**	P	**P**	**03 38 48.5**	**+0.1**
	1.6nm,0.5s,baz=150,slow=12,SNR=5.7						
SONM	**Songino Array**	**26.98**	**310**	P	**P**	**03 41 29.5**	**+1.6**
	0.5nm,0.6s,baz=108,slow=9.3,SNR=3.1						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**43.00**	**304**	P	**P**	**03 43 43.2**	**+0.1**
	0.3nm,0.5s,baz=90,slow=7.5,SNR=6.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**45.34**	**310**	P	**P**	**03 44 00.9**	**-0.5**
	0.3nm,0.4s,baz=86,slow=6.6,SNR=2.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**53.58**	**183**	P	**P**	**03 45 02.8**	**-0.5**
	0.5nm,0.9s,baz=1.1,slow=7.3,SNR=1.0						
	0.5nm,0.9s						
FINES	**FINESS Array B**	**70.00**	**332**	P	**P**	**03 46 50.8**	**-0.3**
	2.2nm,0.8s,baz=68,slow=5.9,SNR=5.6						
	2.2nm,0.8s						

*IDC **25** 03:38:23.7±11.0, 23°.74S×179°.54W, h437km±101km, mb3.3/5, mbtmp4.2/6, Error ellipse: s-maj=90.6km s-min=23.5km az=42.0*
ISC 25 03:38:33.0±2.2, 24°.5S±0°.2×179°.9E±0°.3, h500km, n7, σ0º87/7, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.98**	**189**	P	**P**	**03 41 32.5**	**+0.3**
	2.5nm,0.4s,baz=56,slow=3.6,SNR=1.4						
URZ				S	**S**	**03 43 59.5**	**-0.6**
	5.0nm,0.6s,baz=98,slow=12,SNR=1.3						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**03 44 39.1**	**+0.7**
	1.4nm,0.3s,baz=103,slow=12,SNR=5.8						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**	**03 45 39.0**	**-0.1**
	0.8nm,0.4s,baz=94,slow=7.5,SNR=9.2						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**42.31**	**267**	P	**P**	**03 45 41.6**	**-0.8**
	3.1nm,0.5s,baz=98,slow=8.4,SNR=39						
	3.1nm,0.5s						
QSPA	**South Pole Qui**	**65.64**	**180**	P	**P**	**03 48 27.7**	**+0.8**
	1.7nm,0.6s,baz=19,slow=7.1,SNR=17						
	1.7nm,0.6s						
SNAA	**Sanae**	**84.12**	**179**	P	**P**	**03 50 09.6**	**-0.8**
	0.8nm,0.7s,baz=201,slow=8.6,SNR=7.1						
	0.8nm,0.7s						
HFS	**Hagfors**	**143.07**	**349**	PKP	PKPab	03 57 05.5	-0.9
	2.4nm,0.9s,baz=46,slow=4.2,SNR=4.7						

MRB 25 03:58:57.7±0.4, 41°.87N×2°.70E, ML-0.7/3, Error ellipse: s-maj=5.0km s-min=2.7km az=141.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAS	**Cassa de la Se**	**0.16**	**86**	P	Pg	03 59 01.8	+1.1
CCAS				S	Sg	03 59 04.5	+1.8
	2.0nm,0.1s						
CFON	**Fontmartina**	**0.22**	**241**	P	Pg	03 59 02.8	+0.8
CFON				S	Sg	03 59 05.9	+1.1
	0.9nm,0.1s						
CBEU	**Beuda**	**0.39**	**358**	P	Pg	03 59 05.3	+0.2
CPAL	**Palau Saverder**	**0.56**	**38**	P	Pg	03 59 08.0	-0.4

*INMG **25** 04:18:38.9±1.3, 36°.65N×7°.26W, h20km±3km, ML1.5, Error ellipse: s-maj=3.2km s-min=3.0km az=55.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cdiz*
*SFS **25** 04:18:39.3, 36°.71N×7°.23W, h20km, ML2.4/8, ML2.5/8, MLv2.5/8*
*MDD **25** 04:18:39.6±1.1, 36°.79N×7°.18W, h54km±15km, Mb3.0/6, Error ellipse: s-maj=9.3km s-min=4.8km az=26.0*
*IGIL **25** 04:18:39.5, 36°.65N×7°.28W, h22km, ML1.2*
ISC 25 04:18:38.5±1.4, 36°.71N±0°.06×7°.20W±0°.03, h30km±12km, n33, σ0º76/59, 6C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.79**	**312**	eP	**Pb**	**04 18 53.8**	**0.0**
PBDV				eS	**Sb**	**04 19 04.0**	**-0.2**
PBDV				i AML	AML	04 19 04.6	
PBDV				i AML	AML	04 19 04.7	
PBDV				i AML	AML	04 19 05.3	
PVAQ	**Vaqueiros**	**0.80**	**329**	⇓iP	**Pb**	**04 18 54.3**	**+0.3**
PVAQ				eS	**Sb**	**04 19 05.2**	**+0.6**
PVAQ				i AML	AML	04 19 05.4	
PVAQ	**Vaqueiros**	**0.80**	**329**	P	**Pb**	**04 18 54.1**	**+0.1**
PVAQ				S	**Sb**	**04 19 04.6**	**0.0**
EGRO	**El Granado**	**0.85**	**345**	S	**Sb**	**04 19 06.2**	**+0.3**
EGRO				P	**Pb**	**04 18 55.1**	**+0.3**
EGRO	**El Granado**	**0.85**	**345**	Pn	**Pb**	**04 18 55.2**	**+0.3**
EGRO				⇑iVmb_V		04 18 55.5	
	352nm,SNR=2.3						
EGRO				Sn	**Sb**	**04 19 05.8**	**-0.1**
ESPR	**Espera**	**1.09**	**81**	P	**Pn**	**04 18 59.5**	**+1.7**
ESPR				S	**Sb**	**04 19 12.6**	**-0.1**
ESPR	**Espera**	**1.09**	**81**	Pn	**Pn**	**04 18 58.0**	**+0.2**
ESPR				⇑iVmb_V		04 19 04.0	
	211nm,SNR=1.6						
ESPR				Sn	**Sb**	**04 19 13.0**	**+0.4**
EMIN	**Mina Concepcio**	**1.13**	**22**	P	**Pn**	**04 18 58.8**	**+0.3**
EMIN				S	**Sb**	**04 19 12.6**	**-1.3**
EMIN	**Mina Concepcio**	**1.13**	**22**	Pn	**Pn**	**04 18 58.8**	**+0.3**
EMIN				⇑iVmb_V		04 19 08.7	
	160nm,SNR=1.5						
EMIN				Sn	**Sb**	**04 19 12.4**	**-1.6**
PCVE	**Castro Verde**	**1.14**	**324**	eP	**Pn**	**04 18 59.2**	**+0.7**
PCVE				eS	**Sb**	**04 19 13.4**	**-0.6**
PCVE				i AML	AML	04 19 18.5	
PCVE				i AML	AML	04 19 20.2	
PCVE				i AML	AML	04 19 23.5	
PCVE	**Castro Verde**	**1.14**	**324**	P	**Pn**	**04 18 58.4**	**-0.1**
PCVE				S	**Sb**	**04 19 13.0**	**-1.0**
MORF	**Marmelete**	**1.30**	**297**	eS	**Sn**	**04 19 16.5**	**-0.8**
MORF				i AML	AML	04 19 17.4	
MORF				i AML	AML	04 19 22.5	
MORF				i AML	AML	04 19 26.0	
PFVI	**Vila Bisbo**	**1.37**	**288**	eS	**Sn**	**04 19 17.5**	**-1.3**
MESJ	**Messejana**	**1.39**	**324**	eP	**Pn**	**04 19 02.4**	**+0.5**
MESJ				eS	**Sn**	**04 19 18.8**	**-0.5**
MESJ				IAML		04 19 20.1	
	comp=N,2.8nm,0.1s						
MESJ	**Messejana**	**1.39**	**324**	⇓eP	**Pn**	**04 19 02.4**	**+0.5**
MESJ				eS	**Sn**	**04 19 18.9**	**-0.3**
MESJ				i AML	AML	04 19 19.0	
MESJ				i AML	AML	04 19 22.4	
MESJ				i AML	AML	04 19 23.8	
PBAR	**Barrancos**	**1.47**	**5**	eP	**Pn**	**04 19 03.9**	**+1.0**
PBAR				eS	**Sn**	**04 19 21.7**	**+0.5**
PBAR				i AML	AML	04 19 27.4	
PBAR				i AML	AML	04 19 29.0	
PBAR				i AML	AML	04 19 29.5	
PBAR	**Barrancos**	**1.47**	**5**	P	**Pn**	**04 19 03.7**	**+0.8**
PBAR				S	**Sn**	**04 19 21.6**	**+0.4**
PTEO	**Sao Teotonio**	**1.48**	**305**	eP	**Pn**	**04 19 03.5**	**+0.4**
PTEO				eS	**Sn**	**04 19 20.6**	**-0.8**
EVO	**Evora**	**1.93**	**341**	eP	**Pn**	**04 19 10.1**	**+0.8**
EVO				eS	**Sn**	**04 19 33.1**	**+0.5**
EVO				i AML	AML	04 19 35.3	
EVO				i AML	AML	04 19 35.6	
EVO				i AML	AML	04 19 35.8	
EVO	**Evora**	**1.93**	**341**	P	**Pn**	**04 19 09.7**	**+0.4**
EVO				S	**Sn**	**04 19 33.0**	**+0.4**
ECAB	**El Cabril**	**1.96**	**46**	P	**Pn**	**04 19 09.3**	**-0.6**
ECAB	**El Cabril**	**1.96**	**46**	Pn	**Pn**	**04 19 09.5**	**-0.4**
ECAB				⇑iVmb_V		04 19 10.3	
	comp=N,72nm,SNR=1.0						
EBAD	**Badajoz**	**2.04**	**4**	Pn	**Pn**	**04 19 10.3**	**-0.7**
EBAD				⇑iVmb_V		04 19 14.1	
	comp=N,116nm,SNR=1.0						
EBAD				Sn	**Sn**	**04 19 34.2**	**-1.3**
PESTR	**Estremoz**	**2.17**	**352**	eS	**Sn**	**04 19 39.2**	**+0.5**
PESTR	**Estremoz**	**2.17**	**352**	P	**Pn**	**04 19 12.5**	**-0.2**
PESTR				S	**Sn**	**04 19 40.1**	**+1.4**
PMTG	**Montargil**	**2.49**	**341**	eP	**Pn**	**04 19 17.8**	**+0.7**
PMTG				eS	**Sn**	**04 19 46.8**	**+0.4**
PMTG				i AML	AML	04 19 47.7	
PMTG				i AML	AML	04 19 52.4	
EADA	**Adamuz**	**2.54**	**54**	P	**Pn**	**04 19 18.9**	**+1.1**
EADA				S	**Sn**	**04 19 48.9**	**+1.1**
EADA	**Adamuz**	**2.54**	**54**	Sn	**Sn**	**04 19 47.1**	**-0.7**
PMRV	**Marv??o**	**2.71**	**357**	eP	**Pn**	**04 19 20.9**	**+0.7**
PMRV				eS	**Sn**	**04 19 51.8**	**-0.2**
PMRV				i AML	AML	04 19 52.1	
PMRV				i AML	AML	04 19 52.7	
PCBR	**Castelo Branco**	**3.13**	**356**	eP	**Pn**	**04 19 26.7**	**+0.9**
PCBR				eS	**Sn**	**04 20 01.8**	**-0.4**
PCBR				i AML	AML	04 20 02.8	
PCBR				i AML	AML	04 20 02.9	
PSIM	**Granatula de C**	**3.44**	**51**	Pn	**Pn**	**04 19 28.4**	**-1.8**
EPLA	**Plasencia**	**3.46**	**14**	Pn	**Pn**	**04 19 31.2**	**+0.7**
EPLA				Sn	**Sn**	**04 20 09.5**	**-0.9**
EQES	**Quesada**	**3.47**	**70**	Pn	**Pn**	**04 19 30.5**	**-0.1**
EQES				⇑iVmb_V		04 19 34.9	
	comp=N,76nm,SNR=1.3						
EQES				Sn	**Sn**	**04 20 10.3**	**-0.5**

IDC 25 04:20:44.4±1.7, 7°.38S×126°.97E, h0km, mb3.4/2, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=202.8km s-min=29.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.39**	**151**	Pn	Pn	04 24 08.7	-1.0
	0.3nm,0.3s,baz=329,slow=13,SNR=10.0						
WRA				Sn	Sn	04 26 34.9	-15
	0.5nm,0.3s,baz=327,slow=23,SNR=8.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.51**	**158**	P	P	04 24 51.0	-0.5
	0.3nm,0.3s,baz=339,slow=12,SNR=16						
	1.7nm,0.6s						
SONM	**Songino Array**	**57.90**	**344**	P	P	04 30 38.7	+0.3
	0.2nm,0.4s,baz=142,slow=7.3,SNR=2.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**66.93**	**328**	P	P	04 31 38.4	-0.3
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.3						
	0.2nm,0.5s						

*BJI **25** 05:01:16.0, 4°.34S×152°.13E, h169km, mB5.0/12, mb4.8/50*
*NEIC **25** 05:01:17.9±2.0, 4°.51S±0°.09×151°.89E±0°.08, h157km±5km, mb4.9/68, Error ellipse: s-maj=13.3km s-min=11.7km az=202.0*
*IDC **25** 05:01:17.4±0.7, 4°.51S×151°.93E, h164km±5km, mb4.3/24, mbtmp4.7/27, MS3.6/7, Error ellipse: s-maj=14.0km s-min=8.9km az=95.0*
*GCMT **25** 05:01:20.9±0.4, 4°.54S±0°.03×151°.73E±0°.03, h198km±5km, MW5.0/77, Moment Tensor Solution. s12,c13; s77,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.92±.21; $M_{\theta\theta}$3.48±.21; $M_{\phi\phi}$-4.40±.22; $M_{r\theta}$-0.55±.18; $M_{\theta\phi}$0.77±.30; $M_{\phi r}$-2.75±.20; Best double couple: $M_0$4.73200×10^{16} NP1:φs307.00000°, δ58.00000°, λ-1.00000°. NP2: φs37.00000°, δ89.00000°, λ-148.00000°. Principal axes: T 3.8710, Plg21.0000°, Azm167.0000°; N 1.7240, Plg58.0000°, Azm39.0000°; P -5.5930, Plg23.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **25** 05:01:21.8±0.5, 5°S±3°×15°2E±°, h197km±6km, M4.8/42, mb4.8/42, mB5.4/12, Mw(mB)4.9/12*
ISC 25 05:01:16.7±0.3, 4°.54S±0°.05×151°.87E±0°.05, h153km, n255, σ1º27/261, mb4.8/75, 3C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.45**	**41**		**Pn**	**05 01 40.0**	**+1.8**
MANU	**Manus Island**	**5.13**	**299**	Pn	**Pn**	**05 02 34.0**	**+2.0**
PMG	**Port Moresby**	**6.73**	**224**	P	**Pn**	**05 02 54.8**	**+1.6**
	70nm,0.6s,baz=36,slow=13,SNR=13						
PMG				S	**Sn**	**05 04 10.2**	**+1.4**
	101nm,0.9s,baz=273,slow=15,SNR=3.1						
PMG				LR	LR	05 05 41.9	
	comp=Z,130nm,18.3s,baz=114,slow=39						
TATA	**Tatamba Isabel**	**8.76**	**116**	P	**Pn

PINNC Pines Island, 23.45 141 P **P** **05 06 14.2 +1.8**
TNTI Ternate 25.04 282 P **P** **05 06 27.2 +0.2**
KNRA Kununurra 25.26 242 P **P** **05 06 28.9 0.0**
AS01 Alice Springs 25.70 221 P **P** **05 06 33.2 +0.4**
AS31 Alice Springs 25.73 221 P **P** **05 06 32.9 -0.2**
AS31 IAmb IAmb 05 06 35.5
comp=Z,8.1nm,0.3s
ASAR Alice Springs 25.73 221 P **P** **05 06 33.1 0.0**
comp=Z,4.6nm,0.3s,baz=53,slow=8.8,SNR=77
ASAR pP **pP** **05 07 06.8 +1.6**
comp=Z,8.7nm,0.7s,baz=58,slow=10,SNR=5.4
ASAR S **S** **05 10 45.8 -5.0**
comp=Z,3.1nm,0.9s,baz=58,slow=14,SNR=6.8
ASAR ScP **ScP** **05 13 22.4 -2.3**
comp=Z,0.9nm,0.7s,baz=36,slow=2.8,SNR=4.3
ASAR LR LR 05 16 24.5
comp=Z,45nm,18.6s,baz=72,slow=35
comp=Z,4.6nm,0.3s
ARMA Armidale 25.74 180 P **P** **05 06 33.1 -0.1**
ARMA IAmb IAmb 05 06 35.9
comp=Z,29nm,1.3s
ARMA Armidale 25.74 180 P **P** **05 06 34.8 +1.6**
SANI Sanana 25.95 275 P **P** **05 06 36.5 +1.3**
comp=Z,61nm,1.1s
CMSA Cobar Meteorol 27.48 191 P **P** **05 06 48.7 +0.1**
OOD Oodnadatta 27.79 212 P **P** **05 06 51.4 -0.1**
comp=Z,14nm,1.1s
KMSI Cibinong 28.32 280 P **P** **05 06 57.0 +0.7**
MSVF Nonsavu 28.78 119 P **P** **05 07 00.8 +0.3**
MSVF IAmb IAmb 05 07 28.1
comp=Z,19nm,1.2s
LCRK Leigh Creek 28.81 205 P **P** **05 07 00.6 +0.1**
STKA Stephens Creek 28.86 198 P **P** **05 07 00.8 0.0**
STKA IAmb IAmb 05 08 00.7
comp=Z,16nm,0.8s
STKA Stephens Creek 28.86 198 P **P** **05 07 00.5 -0.4**
comp=Z,3.0nm,0.6s,baz=10,slow=9.2,SNR=8.5
comp=Z,3.0nm,0.6s
FITZ Fitzroy Crossi 28.98 240 P **P** **05 07 01.1 -0.9**
FITZ IAmb IAmb 05 07 02.3
comp=Z,19nm,1.4s
WRKA Warakurna 30.47 226 P **P** **05 07 14.5 -0.7**
CAN Canberra 30.75 185 P **P** **05 07 18.6 +1.0**
FUTU Fugatoga 31.12 110 P **P** **05 07 19.0 -2.0**
HTT Hallett 31.18 201 P **P** **05 07 21.8 +0.4**
BBOO Buckleboo 31.77 206 P **P** **05 07 25.9 -0.6**
BBOO IAmb IAmb 05 07 27.4
comp=Z,13nm,0.8s
BBOO Buckleboo 31.77 206 P **P** **05 07 26.3 -0.3**
PLAI Plampang 34.12 261 P **P** **05 07 45.3 -1.9**
FORT Forrest 34.41 218 P **P** **05 07 49.0 -0.5**
FORT IAmb IAmb 05 07 50.4
comp=Z,28nm,0.7s
MBWA Marble Bar 35.30 239 P **P** **05 07 56.7 -0.6**
PSA00 Pilbara Seismi 35.37 239 P **P** **05 07 57.3 -0.6**
PSA00 IAmb IAmb 05 07 57.9
comp=Z,21nm,0.9s
OUZ Omahuta 36.55 149 P **P** **05 08 09.7 +2.0**
OUZ Omahuta 36.55 149 P **P** **05 08 09.6 +1.9**
WCZ Waipu Caves 37.49 149 P **P** **05 08 17.7 +2.1**
MOO Moorlands 37.97 186 P **P** **05 08 21.4 +1.8**
TAU Tasmania Unive 38.42 185 P **P** **05 08 24.6 +1.3**
TAU IAmb IAmb 05 09 48.4
comp=Z,42nm,1.1s
TAU Tasmania Unive 38.42 185 P **P** **05 08 24.9 +1.6**
JOW Kunigami 38.65 325 P **P** **05 08 26.4 +1.0**
JOW Kunigami 38.65 325 P **P** **05 08 26.8 +1.4**
KMBL Kambalda 38.80 223 P **P** **05 08 26.4 -0.3**
GIRL Giralia 40.59 240 P **P** **05 08 41.3 -0.3**
GIRL Giralia 40.59 240 P **P** **05 08 41.7 +0.1**
PCJI Pacitan 40.59 263 P **P** **05 08 40.8 -0.9**
comp=Z,35nm,0.9s
QRZ Quartz Range 40.62 156 P **P** **05 08 43.0 +1.5**
QRZ Quartz Range 40.62 156 P **P** **05 08 43.2 +1.6**
QRZ Quartz Range 40.62 156 P **P** **05 08 43.1 +1.5**
HAZ Te Kaha 40.66 148 P **P** **05 08 42.8 +0.9**
URZ Urewera 40.68 149 P **P** **05 08 43.0 +0.9**
URZ Urewera 40.68 149 P **P** **05 08 42.6 +0.5**
MWZ Matawai 40.95 149 P **P** **05 08 45.7 +1.3**
NACB Ninganchiao 41.03 315 P **P** **05 08 46.3 +1.1**
BKZ Black Stump Fm 41.07 150 P **P** **05 08 45.7 +0.4**
BKZ Black Stump Fm 41.07 150 P **P** **05 08 45.7 +0.4**
DSZ Denniston Nort 41.11 157 P **P** **05 08 45.9 +0.3**
PUZ Puketiti 41.14 148 P **P** **05 08 46.6 +0.7**
SSLB Suanglung 41.24 314 P **P** **05 08 47.8 +0.9**
NNZ Nelson 41.30 155 P **P** **05 08 47.9 +0.8**
YHNB Yeheng 41.50 316 P **P** **05 08 50.9 +1.8**
TSZ Takapari Road 41.51 152 P **P** **05 08 49.5 +0.7**
THZ Tophouse 41.56 156 P **P** **05 08 49.7 +0.4**
TCW Tory Channel 41.67 154 P **P** **05 08 50.9 +0.7**
TUWZ Tuamarina 41.71 155 P **P** **05 08 51.3 +0.8**
MORW Morawa 41.79 230 P **P** **05 08 50.7 -0.7**
MORW IAmb IAmb 05 08 51.7
comp=Z,45nm,1.0s
MORW Morawa 41.79 230 P **P** **05 08 50.7 -0.7**
MRZ Mangatainoka R 41.81 153 P **P** **05 08 51.2 0.0**
KLBR Kellerberrin 41.81 226 P **P** **05 08 50.4 -1.1**
WVZ Waitaha Valley 41.87 159 P **P** **05 08 52.3 +0.6**
BSWZ Blackbirch Sta 41.92 155 P **P** **05 08 52.4 +0.3**
FOZ Fox Glacier 41.95 160 P **P** **05 08 53.2 +0.8**
BLDU Ballidu 42.06 228 P **P** **05 08 52.6 -0.9**
JCZ Jackson Bay 42.10 162 P **P** **05 08 54.2 +0.5**
JCZ Jackson Bay 42.10 162 P **P** **05 08 54.4 +0.6**
BFZ Birch Farm 42.13 152 P **P** **05 08 54.4 +0.5**
BFZ Birch Farm 42.13 152 P **P** **05 08 54.1 +0.2**
LTZ Lake Taylor 42.18 158 P **P** **05 08 55.8 +1.5**
MSWZ Moikau Station 42.27 154 P **P** **05 08 55.2 +0.2**
KHZ Kahutara 42.37 156 P **P** **05 08 55.5 -0.2**
KHZ Kahutara 42.37 156 P **P** **05 08 55.4 -0.2**
JNU Nakatsue 42.41 334 P **P** **05 08 56.5 +0.2**
JNU IAmb IAmb 05 08 57.5
comp=Z,41nm,0.8s
JNU Nakatsue 42.41 334 P **P** **05 08 57.0 +0.7**
RPZ Rata Peaks 42.54 159 P **P** **05 08 57.5 +0.3**
RPZ IAmb IAmb 05 08 58.8
comp=Z,40nm,0.7s
RPZ Rata Peaks 42.54 159 P **P** **05 08 57.7 +0.6**
RPZ Rata Peaks 42.54 159 P **P** **05 08 57.4 +0.3**
OXZ Oxford 42.56 158 P **P** **05 08 57.2 -0.1**
GVZ Greta Valley S 42.63 157 P **P** **05 08 57.9 0.0**
GVZ Greta Valley S 42.63 157 P **P** **05 08 58.1 +0.2**
MJAR Matsushiro Arr 42.82 344 P **P** **05 08 57.3 -2.1**
comp=Z,2.4nm,0.6s,baz=164,slow=10.0,SNR=4.2
comp=Z,2.4nm,0.6s
LBZ Lake Benmore 42.83 161 P **P** **05 08 59.0 -0.6**
WKZ Wanaka 42.85 162 P **P** **05 09 00.1 +0.4**
MLZ Mavora Lakes 43.08 163 P **P** **05 09 01.9 +0.5**
TMZ Timaru 43.11 160 P **P** **05 09 01.2 -0.5**
TUZ Tuapeka 44.06 162 P **P** **05 09 09.6 +0.3**
TPI Tanjungpandan 44.16 271 P **P** **05 09 10.8 +0.2**
comp=Z,32nm,1.2s
SYZ Scrubby Hill 44.44 163 P **P** **05 09 13.2 +0.9**
CNJI Cibinong 44.57 264 P **P** **05 09 12.7 -1.2**
comp=Z,27nm,1.0s
JTM Tenmabayashi 46.18 349 P **P** **05 09 25.7 -0.3**
KSRS Korea Array 47.35 334 P **P** **05 09 34.5 -0.7**
comp=Z,6.3nm,0.8s,baz=148,slow=8.6,SNR=18
comp=Z,6.3nm,0.8s
KSAR Wonju Array Be 47.36 334 P **P** **05 09 35.2 0.0**
MDSI Maura Dua 47.54 268 P **P** **05 09 35.9 -1.2**
comp=Z,1μmcomp=Z,17nm,1.2s
INCN Inchon 47.95 333 P **P** **05 09 41.1 +1.2**
NJ2 Nanjing 48.06 322 *e*P **P** **05 09 43.3 +2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
RAR Rarotonga 49.73 114 P **P** **05 09 54.2 +0.5**
DL2 Dalian 51.48 330 P **P** **05 10 07.4 +0.9**
DL2 pmax pmax
comp=Z,44nm,0.9s
PPI Padang Panjang 51.57 273 P **P** **05 10 06.6 -1.0**
comp=Z,28nm,1.0s
USRK Ussuriysk Ar. 51.71 342 P **P** **05 10 07.4 -0.7**
USRK Ussuriysk Ar. 51.71 342 P **P** **05 10 07.2 -0.9**
comp=Z,6.4nm,0.9s,baz=138,slow=9.7,SNR=7.1
comp=Z,6.4nm,0.9s
MDJ Mudanjiang 52.86 340 P **P** **05 10 16.5 -0.1**
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,230nm,7.4s
CN2 Changchun 53.69 336 *e*P **P** **05 10 22.9 +0.3**
CN2 *e*S **S** **05 17 43.3 -1.4**
CN2 *es*S sS 05 18 47.6 +1.6
CN2 pmax pmax
comp=Z,10.0nm,1.0s
HNS HongShan 54.19 324 ⇑P **P** **05 10 27.3 +0.9**
HNS pmax pmax
comp=Z,14nm,1.6s
GSI Gunungsitoli 54.56 275 P **P** **05 10 28.5 -1.0**
BNX BinXian 54.59 339 ⇑P **P** **05 10 28.9 -0.3**
BNX pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an 55.80 317 P **P** **05 10 38.6 +0.5**
XAN pP pwP 05 11 14.8 -1.0
XAN pmax pmax
comp=Z,36nm,1.0s
XAN Xi'an 55.80 317 P **P** **05 10 38.3 +0.2**
KLR Kul'dur 56.34 344 P **P** **05 10 41.3 -0.3**
comp=Z,1.8nm,0.5s,baz=173,slow=3.5,SNR=12
comp=Z,1.8nm,0.5s
CM31 Chiang Mai Arr 56.93 295 P **P** **05 10 48.1 +1.8**
CM31 IAmb IAmb 05 10 48.8
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 56.93 295 P **P** **05 10 48.1 +1.8**
CMAR Chiang Mai Arr 56.93 295 P **P** **05 10 48.0 +1.7**
comp=Z,9.6nm,0.8s,baz=111,slow=7.2,SNR=12
CMAR pP **pwP** **05 11 23.7 -0.5**
comp=Z,0.9nm,0.3s,baz=105,slow=7.0,SNR=1.3
comp=Z,9.6nm,0.8s
CHTO Chiang Mai 57.04 296 P **P** **05 10 48.5 +1.4**
CHTO IAmb IAmb 05 10 49.7
comp=Z,11nm,1.0s
PZH PanZhiHua 57.46 305 P **P** **05 10 51.8 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
PETK Petropavlovsk- 57.64 4 P **P** **05 10 49.5 -1.1**
comp=Z,1.8nm,0.8s,baz=157,slow=6.2,SNR=4.9
comp=Z,1.8nm,0.8s
CD2 Chengdu 57.86 311 P **P** **05 10 53.8 +1.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
XLT XiLinHaoTe 57.98 330 *e*P **P** **05 10 53.3 0.0**
XLT pP pwP 05 11 32.8 +2.0
XLT pmax pmax
comp=Z,29nm,0.8s
HHC Hu-ho-hao-te 58.30 325 *e*P **P** **05 10 56.6 +1.0**
HHC *e*S **S** **05 18 44.0 -2.1**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.7s
PPT2 Papeete2 58.69 108 *e*S **S** **05 18 48.5 -3.3**
comp=Z,37nm,24.2s
PPTF Pamatai, Papee 58.70 108 P **P** **05 11 00.5 +1.7**
LZH Lanzhou 60.40 316 *e*P **P** **05 11 11.9 +1.7**
LZH pP PcP 05 11 51.4 -2.3
LZH pmax pmax
comp=Z,30nm,1.3s
HIA Hailar 60.42 336 P **P** **05 11 10.5 +0.6**
HIA Hailar 60.42 336 P **P** **05 11 10.6 +0.7**
MA2 Magadan 63.92 359 P **P** **05 11 33.0 0.0**
MA2 IAmb IAmb 05 11 33.2
comp=Z,11nm,1.2s
GTA Gaotai 64.84 318 *e*P **P** **05 11 41.4 +1.8**
GTA pP pwP 05 12 23.6 +8.0
GTA pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 65.29 329 P **P** **05 11 43.2 +0.9**
ULN IAmb IAmb 05 11 44.4
comp=Z,18nm,1.2s
ULN Ulaanbaatar 65.29 329 P **P** **05 11 43.2 +0.9**
SHL Shillong 65.38 301 P **P** **05 11 44.0 +0.6**
SHL IAmb IAmb 05 11 44.4
comp=Z,21nm,0.8s
SONM Songino Array 65.61 328 P **P** **05 11 45.3 +0.9**
SONM IAmb IAmb 05 11 46.4
comp=Z,29nm,1.4s
SONM Songino Array 65.61 328 P **P** **05 11 45.2 +0.8**
comp=Z,7.0nm,0.5s,baz=143,slow=5.5,SNR=44
comp=Z,7.0nm,0.5s
TAOE Nuku Hiva Isla 67.58 98 *e*LR LR 05 32 22.2
comp=Z,41nm,30.5s
VNDA Vanda 73.12 178 P **P** **05 12 29.9 +0.1**
comp=Z,2.2nm,0.7s,baz=318,slow=6.8,SNR=6.8
comp=Z,2.2nm,0.7s
WMQ Urumqi 74.92 318 *e*P **P** **05 12 42.8 +1.8**
MK31 Makanchi Array 79.52 319 P **P** **05 13 06.6 +0.1**
MKAR Makanchi Array 79.52 319 P **P** **05 13 06.7 +0.2**
MKAR Makanchi Array 79.52 319 P **P** **05 13 06.5 0.0**
comp=Z,5.0nm,0.6s,baz=101,slow=6.5,SNR=57
comp=Z,5.0nm,0.6s
F19K Shaleruckih Mo 79.66 18 P **P** **05 13 06.6 -0.1**
MAKZ Makanchi 79.73 319 P **P** **05 13 07.6 0.0**
MAKZ IAmb IAmb 05 13 08.6
comp=Z,13nm,0.8s
WUS Wushi 80.05 313 P **P** **05 13 10.2 +0.5**
E19K Redstone River 80.22 18 IAmb IAmb 05 13 58.7
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 80.42 326 IAmb IAmb 05 13 11.1
comp=Z,15nm,0.7s
ZALV Zalesovo Beam 80.42 326 P **P** **05 13 09.8 -1.3**
ZALV Zalesovo Beam 80.42 326 P **P** **05 13 10.5 -0.6**
comp=Z,16nm,0.6s,baz=110,slow=5.9,SNR=64
comp=Z,16nm,0.6s
KDJ Kajisay 81.76 314 IAmb IAmb 05 13 20.3
comp=Z,18nm,1.0s
KSH Kashi 82.06 311 P **P** **05 13 22.3 +2.0**
KSH pmax pmax
comp=Z,12nm,0.9s
ILAR Eielson Array 82.27 22 P **P** **05 13 18.4 -2.3**
comp=Z,1.1nm,0.6s,baz=248,slow=5.4,SNR=28
ILAR pP **pP** **05 14 00.6 +2.0**
comp=Z,4.2nm,0.9s,baz=259,slow=5.2,SNR=6.1
comp=Z,1.1nm,0.6s
KURK Kurchatov 82.99 322 P **P** **05 13 23.5 -1.2**
KURK IAmb IAmb 05 13 25.8
comp=Z,14nm,1.0s
KURBB Kurchatov Arra 83.02 322 P **P** **05 13 24.1 -0.7**
comp=Z,7.1nm,1.0s,baz=106,slow=4.4,SNR=39
comp=Z,7.1nm,1.0s
NIL Nilore 83.06 305 P **P** **05 13 25.7 +0.2**
NIL IAmb IAmb 05 13 26.3
comp=Z,23nm,0.8s
F24K Squaw Lake 83.24 20 P **P** **05 13 25.9 +0.3**
TOLK Toolik Lake Re 83.26 18 P **P** **05 13 25.1 -0.7**
CHMS Chumysh 83.70 314 P **P** **05 13 29.2 +0.6**
SNR=6.5
AAK Ala-Archa 83.81 314 P **P** **05 13 29.2 -0.1**
AAK Ala-Archa 83.81 314 P **P** **05 13 29.0 -0.3**
comp=Z,5.5nm,0.7s,baz=112,slow=4.6,SNR=8.8
comp=Z,5.5nm,0.7s
AAK Ala-Archa 83.81 314 P **P** **05 13 29.6 +0.3**
SNR=7.3
USP Ospenovka 83.94 314 P **P** **05 13 30.1 +0.3**
SNR=12
AML Almayashu 84.29 313 P **P** **05 13 33.0 +0.9**
SNR=25
EKS2 Erkin-Say 84.34 314 P **P** **05 13 32.6 +0.7**
SNR=13
NRIK Noril'sk 85.42 341 IAmb IAmb 05 13 37.5
comp=Z,12nm,0.6s
NRIK Noril'sk 85.42 341 P **P** **05 13 35.8 -0.7**
comp=Z,12nm,0.5s,baz=125,slow=4.6,SNR=28
NRIK pP **pP** **05 14 16.6 +2.1**
comp=Z,1.6nm,0.2s,baz=61,slow=9.4,SNR=1.4
comp=Z,12nm,0.5s
QSPA South Pole Qui 85.42 180 P **P** **05 13 36.1 -0.7**
QSPA South Pole Qui 85.42 180 P **P** **05 13 36.3 -0.5**
comp=Z,3.4nm,0.8s,baz=333,slow=1.0,SNR=20
comp=Z,3.4nm,0.8s
BTK Batken 86.06 311 IAmb IAmb 05 13 41.6
comp=Z,31nm,1.5s
GAR Garm 86.28 309 P **P** **05 13 41.4 -0.2**
GAR IAmb IAmb 05 13 42.5
comp=Z,15nm,1.0s
J30M Hart River 86.36 24 P **P** **05 13 41.6 +0.1**
KK31 Karatay Array 86.78 314 P **P** **05 13 41.7 -2.1**
KKAR Karatay Array 86.78 314 P **P** **05 13 42.7 -1.1**
CHGR Chuyangaron 87.13 309 P **P** **05 13 45.7 0.0**
CHGR IAmb IAmb 05 13 46.3
comp=Z,22nm,1.1s
SIMJ Simiganj 87.24 309 P **P** **05 13 43.9 -2.4**
SIMJ IAmb IAmb 05 13 46.9
comp=Z,11nm,1.1s
BVAR Borovoye Array 88.48 323 P **P** **05 13 50.5 -1.2**
comp=Z,8.8nm,0.6s,baz=100,slow=4.7,SNR=28
BVAR pP **pP** **05 14 33.4 +3.1**
comp=Z,1.4nm,0.6s,baz=74,slow=11,SNR=1.8
comp=Z,8.8nm,0.6s
INK Inuvik 88.54 21 P **P** **05 13 50.4 -1.2**
BRVK Borovoye 88.55 323 P **P** **05 13 50.1 -1.9**
BRVK IAmb IAmb 05 13 51.6
comp=Z,7.4nm,0.8s
HRA Herat 92.22 304 P **P** **05 14 08.8 -1.0**
HRA IAmb IAmb 05 14 10.4
comp=Z,8.0nm,1.1s
NVAR Mina Array Bea 92.65 52 P **P** **05 14 12.0 +0.3**
NVAR Mina Array Bea 92.65 52 P **P** **05 14 11.6 -0.1**
comp=Z,1.5nm,0.7s,baz=257,slow=6.0,SNR=13
comp=Z,1.5nm,0.7s
NV11 Mina Array Sit 92.77 52 P **P** **05 14 12.5 +0.3**
NV11 IAmb IAmb 05 14 14.4
comp=Z,15nm,1.9s
SYO Syowa Base 93.60 200⇑*e*PcP **PcP** **05 14 17.0 +1.4**
GWY Greenwater Val 93.83 54 P **P** **05 14 17.0 -0.1**
GWY IAmb IAmb 05 17 15.8
comp=Z,7.2nm,1.5s
WCT Wildcat Mounta 93.89 54 P **P** **05 14 17.0 -0.3**
ABKAR Akbulak array 94.66 319 P **P** **05 14 18.6 -1.8**
YKA Yellowknife Ar 95.63 28 P **P** **05 14 22.5 -2.0**
comp=Z,0.3nm,0.7s,baz=267,slow=4.8,SNR=5.1
YKA pP **pP** **05 15 05.2 +2.0**
comp=Z,0.4nm,0.8s,baz=266,slow=5.3,SNR=2.7
comp=Z,0.3nm,0.7s
ARTI Arti 95.68 326 P **P** **05 14 23.2 -1.7**
comp=Z,1.5nm,0.3s,baz=180,slow=5.1,SNR=5.2
comp=Z,1.5nm,0.3s
PDAR Pinedale Array 99.36 48 P **Pdif** **05 14 41.2 -0.8**
comp=Z,0.6nm,0.6s,baz=256,slow=4.1,SNR=7.4
comp=Z,0.6nm,0.6s
FINES FINESS Array B 110.43 335 Pdiff **Pdif** **05 15 28.2 -2.3**
comp=Z,3.7nm,1.0s,baz=57,slow=5.1,SNR=4.1
AKASG Malin Array Be 113.74 324 PKiKP **PKiKP** **05 19 35.8 -1.3**
comp=Z,0.6nm,0.6s,baz=60,slow=2.5,SNR=5.5
BRTR Keskin Array B 114.44 312 PKiKP PKPdf 05 19 38.0 -1.0
comp=Z,0.5nm,0.7s,baz=88,slow=2.1,SNR=2.0
NB2 NORSAR Subarra116.35 340 PKPdf **PKPdf** **05 19 40.8 -1.1**
comp=Z,0.8nm,0.8s,baz=44,slow=1.9
NOA NORSAR Array B116.35 340 PKP **PKPdf** **05 19 40.2 -1.7**
comp=Z,0.5nm,0.6s,baz=48,slow=1.8,SNR=4.0
KOLS Kolonicke sedl 118.56 325 *e*PKP **PKiKP** **05 19 47.0 +0.5**
LANS Liptovska Anna 120.04 326 *e*PKP **PKiKP** **05 19 50.4 +1.0**
VYHS Vyhne 120.75 326 *e*PKP **PKiKP** **05 19 51.6 +0.8**
CLL Collm 122.17 331 *e*PKPdf **PKPdf** **05 19 53.0 -0.3**
GERES GERESS Array B 123.34 328 PKP **PKPdf** **05 19 55.1 -0.6**
comp=Z,1.5nm,0.5s,baz=62,slow=1.6,SNR=9.7
LESA Schwarzleotal 124.75 327 *i* PKP **PKPdf** **05 19 57.8 -0.7**
comp=Z,2.3nm,0.4s
ABTA Abfaltersbach 125.25 327 *i* PKP **PKPdf** **05 19 58.7 -0.8**
comp=Z,1.8nm,0.6s
WATA Walderalm 125.40 328 *i* PKP **PKPdf** **05 19 59.3 -0.5**
comp=Z,3.4nm,0.4s
WTTA Wattenberg 125.41 328 *e*PKP **PKPdf** **05 19 59.5 -0.4**
comp=Z,1.4nm,0.4s
EKA Eskdalemuir Ar 125.51 343 PKP **PKPdf** **05 19 59.0 -0.6**
comp=Z,1.1nm,0.4s,baz=19,slow=3.1,SNR=13
ESK Eskdalemuir 125.54 343 PKPdf **PKPdf** **05 19 59.6 -0.1**
MOTA Moosalm 125.64 328 *i* PKP **PKPdf** **05 19 59.5 -0.8**
comp=Z,2.0nm,0.5s
SQTA Sankt Quirin 125.67 328 *e*PKP **PKPdf** **05 19 59.9 -0.5**
comp=Z,2.6nm,0.5s
FETA Feichten 126.05 328 *i* PKP **PKPdf** **05 20 00.5 -0.6**
comp=Z,1.7nm,0.7s
DAVA Damuels 126.32 329 *i* PKiKP **PKPdf** **05 20 01.4 -0.2**
comp=Z,0.3nm,0.2s
LCO Las Campanas 127.24 132 PKPdf **PKiKP** **05 20 05.5 +0.9**
CHIV Chivirico 130.59 68 PKPdf **PKPdf** **05 20 08.7 -1.6**
LPAZ La Paz 135.36 119 PKP **PKPdf** **05 20 19.8 -0.3**
comp=Z,0.5nm,0.6s,baz=245,slow=3.0,SNR=4.8
LPAZ SKP 05 23 39.1
comp=Z,5.4nm,0.9s,baz=0.9,slow=1.7,SNR=14
SIV San Ignacio 141.55 123 SKPbc **SKPbc** **05 23 53.0 -0.9**
comp=Z,2.6nm,0.8s,baz=225,slow=3.7,SNR=9.3
AVE Averroes 145.47 328 PKPdf **PKPdf** **05 20 36.1 -1.0**
ILAM Ilet Lapin Mar 146.21 70 PKPdf **PKPdf** **05 20 37.5 -1.3**
MACA Manacapuru-AM 146.59 103 PKPbc **PKPbc** **05 20 41.3 -0.1**
BOAV Boa Vista 147.60 93 PKPbc **PKPbc** **05 20 44.2 +0.1**
TORD Torodi Ar. Bea 149.34 288 PKPbc **PKPbc** **05 20 47.1 -1.5**
comp=Z,36nm,0.2s,baz=52,slow=1.6,SNR=1.1
BDFB Brasilia 151.90 136 PKPbc **PKiKP** **05 20 55.1 +0.1**
BDFB Brasilia 151.90 136 PKPbc **PKPbc** **05 20 54.6 -0.1**
comp=Z,2.2nm,0.5s,baz=240,slow=2.6,SNR=7.0
DBIC Dimbokro 156.74 276 PKPab **PKPab** **05 21 24.9 -0.1**
DBIC Dimbokro 156.74 276 PKPab **PKPab** **05 21 23.8 -1.2**
comp=Z,4.4nm,0.6s,baz=84,slow=4.5,SNR=7.1
SACV Santiago Islan 168.72 337 PKPab **PKPab** **05 22 14.9 -2.1**

IPEC ***25*** *05:07:44.7±0.2, 51°.61N×16°.19E, h1km, ML2.6/4, Error ellipse: s-maj=3.1km s-min=1.6km az=71.0*
VIE ***25*** *05:07:45.8±0.7, 51°.53N×16°.14E, h0km, mb2.9/14, ml2.8/15, ms3.8/2, Error ellipse: s-maj=5.6km s-min=3.7km az=45.0, Suspected Mining induced.*
DNK ***25*** *05:07:45.1±1.8, 51°.67N×15°.96E, h0km±78km, ML2.1*
IDC ***25*** *05:07:46.1±1.1, 51°.53N×16°.12E, h0km, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=14.8km s-min=8.4km az=134.0*
PRU ***25*** *05:07:47.8, 51°.50N×16°.13E, h0km*
ISC 25 05:07:43.4±0.7,**51°.67N**±0°.03×**16°.15E**±0°.02,**h0km**,**n60**, σ1§**14**/123,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.84**	**174**	*i* Pg	**Pg**	**05 07 59.6**	**+0.2**
KSP				*e*Sg	**Sg**	**05 08 09.4**	**-0.8**
CHVC	**Chvalec**	**1.09**	**183**	*e*PG	**Pg**	**05 08 04.6**	**+0.4**
CHVC				*e*SG	**Sg**	**05 08 17.9**	**-0.4**
comp=Z,77nm,0.4s							
OSTC	**Ostas**	**1.12**	**178**	*e*PG	**Pg**	**05 08 05.1**	**+0.3**
OSTC				*e*SG	**Sg**	**05 08 18.5**	**-0.8**
comp=Z,58nm,0.3s							
UPC	**Upice**	**1.17**	**184**	*e*PG	**Pg**	**05 08 05.7**	**-0.1**
UPC				*e*SG	**Sg**	**05 08 20.0**	**-0.9**
comp=Z,94nm,0.4s							
DPC	**Dobruska-Polom**	**1.33**	**175**	*e*PG	**Pg**	**05 08 08.5**	**-0.3**
DPC				*e*SG	**Sg**	**05 08 24.5**	**-1.5**
comp=Z,51nm,0.4s							
PIVO	**Bartosovice**	**1.51**	**170**	*e*Pg	**Pn**	**05 08 11.4**	**-0.3**
baz=351							
PVCC	**Panska Ves**	**1.52**	**222**	*e*PG	**Pn**	**05 08 12.2**	**+0.4**
PVCC				*e*SG	**Sn**	**05 08 33.0**	**+0.7**
comp=Z,250nm,0.2s							
BRG	**Berggiesshubel**	**1.60**	**241**	Pg	**Pg**	**05 08 14.4**	**+0.3**
BRG				Sg	**Sb**	**05 08 35.0**	**+0.4**
BRG				Amp		05 08 38.3	
comp=Z,94nm,0.4s							
KRLC	**Kraliky**	**1.65**	**166**	*e*PG	**Pn**	**05 08 13.5**	**-0.2**
KRLC				*e*SG	**Sn**	**05 08 35.1**	**-0.5**
comp=Z,54nm,0.3s							
RICC	**Richard**	**1.72**	**230**	*e*PG	**Pn**	**05 08 15.2**	**+0.7**
RICC				*e*SG	**Sb**	**05 08 38.6**	**+0.7**
comp=Z,132nm,0.5s							
PRU	**Pruhonice**	**1.97**	**212**	*e*PN	**Pn**	**05 08 18.0**	**0.0**
PRU				*e*PG	**Pb**	**05 08 20.0**	**-0.1**
PRU				*e*SG	**Sb**	**05 08 44.9**	**-0.3**
comp=Z,51nm,0.6s							
CLL	**Collm**	**2.00**	**261**	*i* Pn	**Pn**	**05 08 18.7**	**+0.3**
CLL				*e*Pg	**Pg**	**05 08 22.0**	**+0.3**
CLL				*i* x	x	05 08 25.7	
CLL				*e*Sg	**Sg**	**05 08 48.0**	**+0.3**
comp=Z,74nm,0.3s							
MORC	**Moravsky Berou**	**2.09**	**154**	*e*Pn	**Pn**	**05 08 19.6**	**-0.2**
baz=336							
MORC				*e*Sg	**Sb**	**05 08 48.2**	**-0.6**
comp=Z,43nm,0.5s,baz=336							
MORC	**Moravsky Berou**	**2.09**	**154**	*e*PN	**Pn**	**05 08 19.7**	**-0.1**
MORC				*e*SG	**Sb**	**05 08 48.3**	**-0.6**
OKC	**Ostrava-Krasne**	**2.23**	**145**	*e*PG	**Pg**	**05 08 26.0**	**-0.2**
OKC				*e*SG	**Sb**	**05 08 53.0**	**+0.3**
comp=Z,44nm,0.5s							
VRAC	**Vranov**	**2.38**	**173**	Pn	**Pn**	**05 08 24.4**	**+0.7**
comp=Z,2.8nm,0.3s,baz=350,slow=16,SNR=12							
VRAC				Pg	**Pg**	**05 08 28.7**	**-0.4**
comp=Z,4.0nm,0.3s,baz=354,slow=17,SNR=8.1							
VRAC				Lg		05 08 57.7	
comp=Z,6.2nm,0.3s,baz=99,slow=21,SNR=7.6							
comp=Z,12nm,0.3s							
VRAC	**Vranov**	**2.38**	**173**	*e*Pn	**Pn**	**05 08 24.1**	**+0.4**
baz=354							
VRAC				*e*Sg	**Sb**	**05 08 57.4**	**+0.3**
comp=Z,24nm,0.4s,baz=354							
VRAC	**Vranov**	**2.38**	**173**	*e*PN	**Pn**	**05 08 24.2**	**+0.5**

NP1:$\phi_0$3.00000°,δ36.00000°,λ74.00000°. NP2: $\phi_0$202.00000°,δ56.00000°,λ101.00000°. Principal axes: T 1.4850, Plg76.0000°, Azm148.0000°; N -0.0760, Plg9.0000°, Azm16.0000°; P -1.4100, Plg10.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 25 05:15:59.5±0.3, 29.47N±0.03×104.57E±0.03, h10km, n754, σ1§11/700, mb4.8/206, MS4.1/54, 21C-14D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.60**	**334**	Pg	**Pn**	**05 16 28.3**	**+0.4**
CD2				Sg	**Sn**	**05 16 49.5**	**+0.8**
CD2				smax	smax		
	comp=N,15μm,1.2s						
GYA	**Guiyang**	**3.52**	**148**	⇓Pn	**Pn**	**05 16 53.3**	**-1.1**
GYA				Sn	**Sn**	**05 17 36.8**	**+0.6**
GYA				Sg	**Sg**	**05 17 53.6**	**+0.9**
GYA				smax	smax		
	comp=N,990nm,1.2s						
GYA				smax	smax		
	comp=E,1μm,0.9s						
GYA				LR	LR		
	comp=N,8μm,3.8s						
GYA				LR	LR		
	comp=E,10μm,3.8s						
GYA				LR	LR		
	comp=Z,6μm,4.4s						
PZH	**PanZhiHua**	**3.87**	**221**	Pn	**Pn**	**05 17 02.6**	**+3.4**
PZH				Sn	**Sb**	**05 17 53.8**	**-1.1**
PZH				smax	smax		
	comp=N,940nm,1.8s						
PZH				smax	smax		
	comp=E,960nm,1.7s						
PZH				LR	LR		
	comp=N,5μm,5.5s						
PZH				LR	LR		
	comp=E,6μm,5.2s						
PZH				LR	LR		
	comp=Z,8μm,5.8s						
ENH	**Enshi**	**4.35**	**78**	Pn	**Pn**	**05 17 07.5**	**+1.9**
ENH				Sn	**Sn**	**05 17 57.9**	**+1.5**
KMI	**Kunming**	**4.62**	**201**	⇑Pn	**Pn**	**05 17 10.8**	**+1.2**
KMI				Sn	**Sn**	**05 18 04.4**	**+0.9**
KMI				Sg	**Sg**	**05 18 27.6**	**-0.4**
KMI				smax	smax		
	comp=N,360nm,1.8s						
KMI				smax	smax		
	comp=E,480nm,1.9s						
KMI				LR	LR		
	comp=N,5μm,5.0s						
KMI				LR	LR		
	comp=E,8μm,5.9s						
KMI				LR	LR		
	comp=Z,4μm,8.0s						
XAN	**Xi'an**	**5.88**	**38**	⇑Pn	**Pn**	**05 17 27.1**	**+0.4**
XAN				Pg	**Pb**	**05 17 46.3**	**+4.2**
XAN				Sn	**Sn**	**05 18 35.8**	**+1.7**
XAN				Sg	**Sg**	**05 19 06.3**	**-1.8**
XAN				smax	smax		
	comp=N,5μm,1.1s						
XAN				smax	smax		
	comp=E,4μm,1.2s						
XAN				LR	LR		
	comp=N,5μm,4.0s						
XAN				LR	LR		
	comp=E,8μm,4.0s						
XAN				LR	LR		
	comp=Z,4μm,4.1s						
GULI	**GuiLin**	**6.62**	**128**	Pn	**Pn**	**05 17 38.4**	**+1.5**
GULI				Sn	**Sn**	**05 18 53.3**	**+0.8**
GULI				LR	LR		
	comp=N,6μm,8.6s						
GULI				LR	LR		
	comp=E,5μm,8.2s						
GULI				LR	LR		
	comp=Z,9μm,9.2s						
LZH	**Lanzhou**	**6.63**	**355**	Pn	**Pn**	**05 17 39.0**	**+1.8**
LZH				Sn	**Sn**	**05 18 52.9**	**0.0**
LZH				Sg	**Sg**	**05 19 28.0**	**-4.3**
LZH				smax	smax		
	comp=N,1μm,1.4s						
LZH				smax	smax		
	comp=E,2μm,1.4s						
LZH				LR	LR		
	comp=N,3μm,7.2s						
LZH				LR	LR		
	comp=E,7μm,7.9s						
LZH				LR	LR		
	comp=Z,3μm,7.2s						
TNCH	**TengChong**	**6.96**	**232**	Sg	**Sg**	**05 19 42.8**	**-0.4**
TNCH	**TengChong**	**6.96**	**232**	Pg	Pb	05 18 10.1	+9.4
CNSH	**ChangSha**	**7.45**	**98**	Pn	**Pn**	**05 17 48.8**	**+0.6**
CNSH				Sn	**Sn**	**05 19 11.3**	**-1.5**
CNSH				smax	smax		
	comp=N,960nm,1.1s						
CNSH				smax	smax		
	comp=E,510nm,1.5s						
CNSH				LR	LR		
	comp=Z,5μm,10.3s						
LYN	**LuoYang**	**8.40**	**51**	P	**Pn**	**05 18 02.3**	**+0.9**
LYN				S	**Sn**	**05 19 36.4**	**+0.1**
LYN				pmax	pmax		
	comp=Z,100nm,1.3s						
LYN				pmax	pmax		
	comp=Z,410nm,7.9s						
LYN				smax	smax		
	comp=N,1μm,1.3s						
LYN				smax	smax		
	comp=E,530nm,1.2s						
LYN				LR	LR		
	comp=N,5μm,5.5s						
LYN				LR	LR		
	comp=E,4μm,5.8s						
LYN				LR	LR		
	comp=Z,6μm,11.7s						
WHN	**Wuhan**	**8.55**	**80**	⇑P	**Pn**	**05 18 04.3**	**+1.0**
WHN				S	**Sn**	**05 19 40.3**	**+0.4**
WHN				pmax	pmax		
	comp=Z,470nm,1.4s						
WHN				LR	LR		
	comp=N,11μm,6.7s						
WHN				LR	LR		
	comp=E,10μm,4.3s						
WHN				LR	LR		
	comp=Z,8μm,6.4s						
GZH	**Guangzhou**	**10.12**	**127**	P	**Pn**	**05 18 23.3**	**-1.5**
GZH				S	**Sn**	**05 20 19.8**	**+1.4**
GZH				pmax	pmax		
	comp=Z,46nm,0.7s						
GZH				LR	LR		
	comp=E,5μm,4.8s						
GZH				LR	LR		
	comp=Z,5μm,4.5s						
TIY	**Taiyuan**	**10.52**	**36**	P	**Pn**	**05 18 29.9**	**-0.4**
TIY				pmax	pmax		
	comp=Z,31nm,1.2s						
TIY				LR	LR		
	comp=N,2μm,8.9s						
TIY				LR	LR		
	comp=E,2μm,7.6s						
TIY				LR	LR		
	comp=Z,2μm,9.7s						
GOMU	**GeErMu**	**10.60**	**312**	P	**Pn**	**05 18 33.9**	**+2.1**
GOMU				pP		05 18 39.8	
GOMU				sP		05 18 42.9	
GOMU				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA	**Gaotai**	**10.66**	**340**	*e*P	**Pn**	**05 18 35.0**	**+2.5**
GTA				pP		05 18 38.6	
GTA				S	**Sn**	**05 20 30.4**	**-1.6**
GTA				pmax	pmax		
	comp=Z,22nm,1.1s						
GTA				LR	LR		
	comp=N,2μm,13.1s						
GTA				LR	LR		
	comp=E,2μm,11.5s						
QIZ	**Qiongzhong**	**11.45**	**154**	P	**Pn**	**05 18 43.1**	**0.0**
QIZ				S	**Sn**	**05 20 52.3**	**+1.2**
QIZ				LR	LR		
	comp=N,2μm,7.1s						
QIZ				LR	LR		
	comp=E,1μm,7.5s						
QIZ				LR	LR		
	comp=Z,2μm,7.7s						
HNS	**HongShan**	**11.58**	**44**	⇑Pn	**Pn**	**05 18 47.3**	**+2.4**
HNS				Sn	**Sn**	**05 20 54.8**	**+0.6**
HNS				LR	LR		
	comp=N,910nm,7.9s						
HNS				LR	LR		
	comp=E,2μm,8.5s						
LSA	**Lhasa**	**11.69**	**274**	Pn	**Pn**	**05 18 47.1**	**+0.3**
LSA	**Lhasa**	**11.69**	**274**	P	**Pn**	**05 18 49.0**	**+2.2**
LSA				S	Sn	05 20 52.0	-5.5
LSA				LR	LR		
	comp=Z,3μm,10.7s						
LSA	**Lhasa**	**11.69**	**274**	P	**Pn**	**05 18 47.1**	**+0.3**
CHTO	**Chiang Mai**	**11.78**	**207**		**Pn**	**05 18 48.1**	**+0.5**
CHTO	**Chiang Mai**	**11.78**	**207**	P	**Pn**	**05 18 48.2**	**+0.5**
SHL	**Shillong**	**11.91**	**254**		**Pn**	**05 18 50.0**	**+0.4**
SHL	**Shillong**	**11.91**	**254**	P	**Pn**	**05 18 50.0**	**+0.4**
BTO	**Baotou**	**11.97**	**20**	*e*P	**Pn**	**05 18 50.5**	**+0.2**
BTO				pP		05 18 53.9	
BTO				sP		05 18 57.0	
BTO				S	**Sn**	**05 21 05.3**	**+1.3**
BTO				sS		05 21 11.3	
BTO				pmax	pmax		
	comp=Z,48nm,1.1s						
BTO				pmax	pmax		
	comp=Z,240nm,4.7s						
BTO				LR	LR		
	comp=N,3μm,7.0s						
BTO				LR	LR		
	comp=E,4μm,8.9s						
BTO				LR	LR		
	comp=Z,3μm,13.0s						
CM31	**Chiang Mai Arr**	**12.10**	**206**	Pn	**Pn**	**05 18 52.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**12.10**	**206**	Pn	**Pn**	**05 18 53.6**	**+1.6**
	0.9nm,0.3s,baz=18,slow=12,SNR=12						
CMAR				Lg	Lg	05 22 27.9	
	0.7nm,0.3s,baz=20,slow=29,SNR=4.4						
CMAR				LR	LR	05 24 02.9	
	comp=Z,535nm,18.6s,baz=15,slow=40						
	1.3nm,0.3s						
TIA	**Tai'an**	**12.51**	**54**	P	**Pn**	**05 18 58.0**	**+0.4**
TIA				pmax	pmax		
	comp=Z,40nm,1.0s						
TIA				LR	LR		
	comp=N,1μm,7.4s						
TIA				LR	LR		
	comp=E,3μm,11.4s						
TIA				LR	LR		
	comp=Z,3μm,15.2s						
NJ2	**Nanjing**	**12.55**	**75**	*e*P	**Pn**	**05 18 57.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				LR	LR		
	comp=N,3μm,6.9s						
NJ2				LR	LR		
	comp=E,3μm,9.6s						
NJ2				LR	LR		
	comp=Z,2μm,13.3s						
HHC	**Hu-ho-hao-te**	**12.71**	**25**	*e*P	**Pn**	**05 19 01.6**	**+1.2**
HHC				*e*S	**Sn**	**05 21 19.4**	**-2.6**
HHC				SS	**SnSn**	**05 21 36.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,150nm,4.5s						
HHC				LR	LR		
	comp=N,1μm,6.5s						
HHC				LR	LR		
	comp=E,960nm,6.9s						
BRDH	**Bariadhala**	**13.44**	**243**	LR	LR	05 25 21.0	
	comp=Z,778nm,20.7s,baz=180,slow=42						
UBPT	**Khong Chiam**	**14.14**	**176**		**Pn**	**05 19 22.0**	**+2.1**
BJT	**Baijiatuau**	**14.19**	**39**	Pn	**Pn**	**05 19 21.2**	**+0.7**
BJT	**Baijiatuau**	**14.19**	**39**	P	**Pn**	**05 19 21.2**	**+0.7**
BJI	**Beijing**	**14.21**	**39**	P	**Pn**	**05 19 22.3**	**+1.6**
BJI				pmax	pmax		
	comp=Z,98nm,6.4s						
SSE	**Sheshan**	**14.45**	**79**	P	**Pn**	**05 19 22.8**	**-1.3**
SSE				S	**Sn**	**05 22 01.6**	**-2.9**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,98nm,3.6s						
SSE				LR	LR		
	comp=N,760nm,11.9s						
SSE				LR	LR		
	comp=E,2μm,11.9s						
SSLB	**Suanglung**	**15.70**	**107**	Pn	**Pn**	**05 19 40.5**	**-0.4**
SSLB				IAmb	IAmb	05 19 49.0	
	comp=Z,82nm,1.3s						
NACB	**Ninganchiao**	**16.08**	**105**	Pn	**Pn**	**05 19 44.8**	**-1.0**
YULB	**Yu-li**	**16.15**	**108**		**Pn**	**05 19 46.3**	**-0.4**
TWG	**Pinlang**	**16.22**	**110**	Pn	**Pn**	**05 19 47.0**	**-0.5**
TWG				IAmb	IAmb	05 20 01.0	
	comp=Z,28nm,0.4s						
DL2	**Dalian**	**16.94**	**52**	P	**Pn**	**05 19 57.0**	**+0.4**
DL2				S	**Sn**	**05 23 09.6**	**+4.6**
DL2				pmax	pmax		
	comp=Z,82nm,1.3s						
DL2				pmax	pmax		
	comp=Z,280nm,3.6s						
DL2				LR	LR		
	comp=Z,1μm,13.2s						
DL2				LR	LR		
	comp=Z,1μm,13.8s						
DL2				LR	LR		
	comp=Z,1μm,15.0s						
XLT	**XiLinHaoTe**	**17.08**	**29**	*e*P	**Pn**	**05 19 58.5**	**0.0**
XLT				pP	P	05 20 01.9	+1.7
XLT				sP	sP	05 20 07.9	+3.4
XLT				sS	Sn	05 23 14.5	+6.1
XLT				pmax	pmax		
	comp=Z,18nm,1.4s						
XLT				pmax	pmax		
	comp=Z,230nm,5.3s						
SONM	**Songino Array**	**18.39**	**4**	P	**Pn**	**05 20 14.8**	**+0.1**
SONM	**Songino Array**	**18.39**	**4**	P	**Pn**	**05 20 14.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=188,slow=9.3,SNR=28						
SONM				Lg	Lg	05 25 41.2	
	comp=Z,0.1nm,0.3s,baz=179,slow=24,SNR=4.3						
SONM				LR	LR	05 28 09.8	
	comp=Z,453nm,19.1s,baz=170,slow=40						
	comp=Z,7.3nm,0.9s						
ULN	**Ulaanbaatar**	**18.47**	**5**	P	**P**	**05 20 14.7**	**-0.9**
ULN	**Ulaanbaatar**	**18.47**	**5**	P	**P**	**05 20 14.7**	**-0.9**
ULN				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ	**Urumqi**	**19.66**	**321**	*e*P	**P**	**05 20 31.0**	**+2.5**
WMQ				S	**S**	**05 24 10.5**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,37nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,130nm,6.3s						
WMQ				LR	LR		
	comp=Z,860nm,14.1s						
WMQ				LR	LR		
	comp=Z,1μm,11.7s						
SNY	**Shenyang**	**19.72**	**46**	⇓P	**P**	**05 20 30.0**	**+0.9**
SNY				pmax	pmax		
	comp=Z,25nm,1.1s						
SNY				pmax	pmax		
	comp=Z,330nm,5.7s						
INCN	**Inchon**	**20.04**	**61**	P	**P**	**05 20 31.9**	**-0.7**
INCN				IAmb	IAmb	05 20 38.7	
	comp=Z,69nm,1.4s						
INCN	**Inchon**	**20.04**	**61**	P	**P**	**05 20 32.0**	**-0.7**
INCN				pmax	pmax		
	comp=Z,69nm,1.4s						
TJN	**Taejon**	**20.31**	**64**	P	**P**	**05 20 35.9**	**+0.3**
TJN	**Taejon**	**20.31**	**64**	P	**P**	**05 20 35.9**	**+0.3**
TJN				pmax	pmax		
	comp=Z,179nm,1.1s						
ZAK	**Zakamensk**	**20.91**	**358**	*e*P	**P**	**05 20 43.0**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,14nm,1.0s						
KSAR	**Wonju Array Be**	**20.98**	**62**	P	**P**	**05 20 43.0**	**+0.1**
KSAR	**Wonju Array Be**	**20.98**	**62**	P	**P**	**05 20 43.0**	**+0.1**
KS19	**Wonju Array Si**	**20.98**	**61**	P	**P**	**05 20 42.9**	**0.0**
KS19				IAmb	IAmb	05 20 45.6	
	comp=Z,49nm,1.1s						
KSRS	**Korea Array**	**21.01**	**62**	P	**P**	**05 20 43.4**	**+0.1**
	comp=Z,27nm,1.0s,baz=244,slow=9.9,SNR=44						
KSRS				LR	LR	05 29 50.6	
	comp=Z,761nm,20.2s,baz=255,slow=40						
	comp=Z,27nm,1.0s						
JOW	**Kunigami**	**21.06**	**91**	P	**P**	**05 20 41.7**	**-2.1**

---

*IDC **25** 05:15:57.8±0.5, 29.47N×104.64E, h0km, mb4.5/34, mbtmp4.5/36, ML4.3/2, MS4.0/55, Error ellipse: s-maj=14.9km s-min=10.4km az=34.0*

*MOS **25** 05:15:57.6±0.8, 29.40N×104.66E, h12km, mb5.0/60, MS4.2/5, Error ellipse: s-maj=5.8km s-min=3.9km az=123.4*

*BJI **25** 05:15:58.3, 29.47N×104.50E, h5km, mB4.9/27, mb4.7/55, ML4.9/25, Ms4.9/49, Ms7 4.7/44*

*NEIC **25** 05:15:59.9±1.1, 29.47N±0.06×104.61E±0.07, h10km±1km, mb4.9/217, Error ellipse: s-maj=12.3km s-min=8.4km az=138.0*

*GCMT **25** 05:16:00.8±0.4, 29.55N±0.04×104.64E±0.03, h13km±1km, MW4.7/76, Moment Tensor Solution. s10,c10; s76,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.36±.13; $M_{\theta\theta}$-0.09±.07; $M_{\phi\phi}$-1.27±.09; $M_{r\theta}$-0.35±.21; $M_{\phi\phi}$-0.27±.05; $M_{\phi r}$-0.41±.20; Best double couple: $M_0$1.44700×10^{16}*

JOW IAmb IAmb 05 20 52.2
comp=Z,45nm,1.1s
JOW Kunigami 21.06 91 P P 05 20 43.8 0.0
comp=Z,12nm,0.6s,baz=335,slow=4.4,SNR=4.3
JOW LR LR 05 29 37.2
comp=Z,534nm,19.4s,baz=292,slow=39
comp=Z,12nm,0.6s
TGY Tagaytay City 21.52 132 LR LR 05 29 07.7
comp=Z,324nm,18.2s,baz=166,slow=37
CN2 Changchun 21.95 44 *e*P P **05 20 53.4 +0.2**
CN2 *e*PP **PnPn 05 21 18.8 +4.0**
CN2 *e*S **S 05 24 48.8 -6.7**
CN2 pmax pmax
comp=Z,40nm,1.8s
CN2 pmax pmax
comp=Z,160nm,3.5s
MOY Mondy 22.34 354 *e*P P **05 21 00.3 +2.8**
MOY pmax pmax
comp=Z,29nm,1.4s
JNU Nakatsue 22.75 74 P P **05 21 01.9 -0.1**
JNU Nakatsue 22.75 74 P P **05 21 01.2 -0.8**
comp=Z,41nm,1.0s,baz=259,slow=5.7,SNR=13
JNU LR LR 05 30 55.5
comp=Z,842nm,19.4s,baz=272,slow=40
comp=Z,41nm,1.0s
IRK Irkutsk 22.76 360 *e*P P **05 21 03.8 +2.0**
IRK *e*S **S 05 25 15.0 +4.5**
IRK pmax pmax
comp=Z,104nm,1.7s
HIA Hailar 22.91 26 P P **05 21 03.1 -0.4**
HIA IAmb IAmb 05 21 06.3
comp=Z,37nm,1.2s
HIA Hailar 22.91 26 P P **05 21 03.1 -0.4**
HIA pmax pmax
comp=Z,37nm,1.2s
CIT Chita 23.50 14 *e*P P **05 21 11.4 +1.9**
CIT *e* 05 21 51.0
CIT *e* 05 32 24.4
CIT pmax pmax
comp=Z,76nm,1.9s
ZSN Zaisan 23.56 325 *e*P P **05 21 10.6 +0.6**
ZSN pmax pmax
comp=Z,36nm,1.2s
ZSN Zaisan 23.56 325 *e*P P **05 21 10.7 +0.6**
comp=Z,36nm,1.2s
WUS Wushi 23.68 306 P P **05 21 10.5 -0.9**
WUS IAmb IAmb 05 21 19.2
comp=Z,43nm,1.0s
BNX BinXian 24.19 42 ⇑P P **05 21 16.3 +0.3**
BNX pmax pmax
comp=Z,57nm,1.3s
SHLS Shalkode 24.30 311 *e*P P **05 21 14.9 -2.4**
SHLS pmax pmax
comp=Z,55nm,1.3s
SHLS Shalkode 24.30 311 *e*P P **05 21 14.9 -2.4**
comp=Z,54nm,1.3s
KULM Kulim 24.33 190 P P **05 21 17.3 -0.2**
MK31 Makanchi Array 24.49 321 P P **05 21 18.7 -0.1**
MK31 IAmb IAmb 05 21 22.2
comp=Z,30nm,1.1s
MK31 Makanchi Array 24.49 321 P P **05 21 18.7 -0.1**
MK31 pmax pmax
comp=Z,30nm,1.1s
MKAR Makanchi Array 24.49 321 P P **05 21 18.6 -0.3**
MKAR Makanchi Array 24.49 321 P P **05 21 19.2 +0.4**
comp=Z,12nm,0.6s,baz=116,slow=12,SNR=95
MKAR PcP **PcP 05 24 56.6 -0.6**
comp=Z,2.2nm,0.9s,baz=90,slow=5.8,SNR=2.7
MKAR ScP **ScP 05 28 34.5 -1.5**
comp=Z,1.0nm,0.9s,baz=116,slow=3.5,SNR=4.9
MKAR LR LR 05 31 40.2
comp=Z,680nm,18.3s,baz=126,slow=38
comp=Z,12nm,0.6s
MAKZ Makanchi 24.67 321 P P **05 21 19.8 -0.7**
MAKZ Makanchi 24.67 321 P P **05 21 19.8 -0.7**
MAKZ pmax pmax
comp=Z,68nm,1.2s
TARG Taragay, Kyrgy 24.86 307 P P **05 21 24.0 +1.4**
TARG IAmb IAmb 05 21 29.4
comp=Z,13nm,0.6s
TARG Taragay, Kyrgy 24.86 307 P P **05 21 24.0 +1.4**
TARG pmax pmax
comp=Z,13nm,0.6s
MDJ Mudanjiang 24.92 46 P P **05 21 21.6 -1.1**
MDJ IAmb IAmb 05 21 26.2
comp=Z,33nm,1.0s
MDJ Mudanjiang 24.92 46 P P **05 21 22.4 -0.3**
MDJ pP pP 05 21 25.3 -0.5
MDJ sP sP 05 21 26.9 -0.3
MDJ pmax pmax
comp=Z,43nm,1.6s
MDJ pmax pmax
comp=Z,170nm,3.9s
MDJ LR LR
comp=Z,770nm,13.7s
MDJ LR LR
comp=Z,460nm,13.1s
KPKS Kokpek 24.95 311 *e*P P **05 21 23.3 +0.2**
SATY Saty 24.96 310 *e*P P **05 21 23.5 +0.3**
SATY Saty 24.96 310 *e*P P **05 21 23.5 +0.3**
ZHN Zhinishke 24.98 310 *e*P P **05 21 23.9 +0.5**
ZHN pmax pmax
comp=Z,37nm,1.5s
ZHN Zhinishke 24.98 310 *e*P P **05 21 23.9 +0.5**
comp=Z,37nm,1.5s
IPM Ipoh 25.08 188 P P **05 21 23.4 -0.9**
IPM IAmb IAmb 05 21 31.1
comp=Z,32nm,1.0s
KDJ Kajisay 25.44 307 P P **05 21 28.4 +0.8**
KDJ Kajisay 25.44 307 P P **05 21 28.4 +0.8**
KDJ pmax pmax
comp=Z,71nm,1.2s
KSH Kashi 25.52 301 P P **05 21 31.5 +3.2**
KSH S **S 05 25 50.6 -5.3**
KSH pmax pmax
comp=Z,41nm,1.4s
KSH LR LR
comp=Z,730nm,14.3s
TDK Taldyqorghan 25.82 314 *e*P P **05 21 31.6 +0.8**
TDK Taldyqorghan 25.82 314 *e*P P **05 21 31.6 +0.8**
MDOK Medeo 25.91 309 *e*P P **05 21 32.2 +0.3**
MDOK Medeo 25.91 309 *e*P P **05 21 32.2 +0.3**
TNSS Tian-Shan 25.93 309 *e*P P **05 21 32.9 +0.6**
TNSS Tian-Shan 25.93 309 *e*P P **05 21 33.0 +0.6**
USA0B Ussuriysk Arra 26.26 48 P P **05 21 33.4 -1.5**
USA0B IAmb IAmb 05 21 35.4
comp=Z,36nm,1.4s
USA0B Ussuriysk Arra 26.26 48 P P **05 21 33.4 -1.5**
USA0B pmax pmax
comp=Z,36nm,1.5s
USRK Ussuriysk Ar. 26.26 48 P P **05 21 33.4 -1.5**
USRK Ussuriysk Ar. 26.26 48 P P **05 21 34.5 -0.4**
comp=Z,8.7nm,0.7s,baz=248,slow=7.7,SNR=15
USRK LR LR 05 33 36.0
comp=Z,473nm,19.9s,baz=249,slow=40
comp=Z,8.7nm,0.7s
BOOM Boomskoye usch 26.42 307 P P **05 21 36.7 +0.1**
BOOM IAmb IAmb 05 21 44.4
comp=Z,27nm,0.6s
BOOM Boomskoye usch 26.42 307 P P **05 21 36.7 +0.1**
BOOM pmax pmax
comp=Z,27nm,0.6s
NIL Nilore 26.95 287 P P **05 21 41.7 +0.4**
NIL Nilore 26.95 287 P P **05 21 41.7 +0.4**
NIL pmax pmax
comp=Z,60nm,1.2s
HEH HeiHe 26.98 33 *e*P P **05 21 42.3 +1.0**
HEH pmax pmax
comp=Z,18nm,1.6s
HEH LR LR
comp=Z,1μm,15.1s
HEH LR LR
comp=Z,940nm,15.7s
HEH LR LR
comp=Z,790nm,11.2s
PSI Prapat 27.06 192 P P **05 21 41.5 -0.9**
PSI pmax pmax
comp=Z,19nm,1.1s
RPSI Rantau Prapat 27.16 192 P P **05 21 41.5 -1.7**
FRU1 Bishkek 27.44 307 P P **05 21 45.0 -0.6**
FRU1 IAmb IAmb 05 21 52.5
comp=Z,27nm,0.6s
FRU1 Bishkek 27.44 307 P P **05 21 45.0 -0.6**
FRU1 pmax pmax
comp=Z,27nm,0.6s

AAK Ala-Archa 27.48 307 P P **05 21 46.4 +0.3**
AAK Ala-Archa 27.48 307 LR LR 05 34 26.4
comp=Z,626nm,20.2s,baz=92,slow=40
AAK Ala-Archa 27.48 307 P P **05 21 46.4 +0.3**
AAK pmax pmax
comp=Z,16nm,1.1s
MYLDM Lahad Datu 27.52 149 P P **05 21 45.0 -1.3**
MYLDM IAmb IAmb 05 22 07.9
comp=Z,35nm,1.3s
SBUM Sibu 27.84 163 P P **05 21 49.4 +0.2**
INU Inuyama 27.94 69 P P **05 21 48.9 -1.1**
INU IAmb IAmb 05 21 56.0
comp=Z,43nm,1.2s
JGF Kuroka 28.23 69 P P **05 21 51.3 -1.4**
JGF IAmb IAmb 05 21 58.2
comp=Z,14nm,0.6s
ZAA0 Zalesovo Array 28.37 335 P P **05 21 53.5 -0.2**
ZALV Zalesovo Beam 28.37 335 P P **05 21 53.4 -0.3**
ZALV Zalesovo Beam 28.37 335 P P **05 21 53.9 +0.3**
comp=Z,5.9nm,0.8s,baz=134,slow=8.4,SNR=20
ZALV LR LR 05 33 56.6
comp=Z,409nm,20.5s,baz=147,slow=38
comp=Z,5.9nm,0.8s
KLR Kul'dur 28.58 39 *e*P P **05 21 54.7 -0.9**
KLR pmax pmax
comp=Z,12nm,1.5s
BTLS Baital 28.63 311 *e*P P **05 21 56.2 +0.1**
BTLS Baital 28.63 311 *e*P P **05 21 56.2 +0.1**
GSI Gunungsitoli 28.79 195 P P **05 21 56.8 -0.9**
KURBB Kurchatov Arra 28.79 325 P P **05 21 57.7 +0.3**
comp=Z,12nm,0.8s,baz=129,slow=9.4,SNR=58
KURBB PcP **PcP 05 25 06.8 -0.3**
comp=Z,2.2nm,1.0s,baz=132,slow=2.6,SNR=3.4
KURBB ScP **ScP 05 28 47.3 -1.3**
comp=Z,1.2nm,1.0s,baz=116,slow=2.2,SNR=6.4
KURBB LR LR 05 35 02.0
comp=Z,510nm,18.7s,baz=166,slow=40
comp=Z,12nm,0.8s
KURK Kurchatov 28.80 325 P P **05 21 57.6 0.0**
KURK IAmb IAmb 05 22 00.6
comp=Z,20nm,1.1s
KURK Kurchatov 28.80 325 P P **05 21 57.7 +0.1**
KURK 05 25 06.8
MJB9 Matsu-Tunnel 28.97 67 P P 05 21 57.2 -2.0
MAJO Matsushiro 28.98 67 IAmb IAmb 05 21 56.2
comp=Z,26nm,1.4s
MAJO P P 05 21 56.7 -2.6
MJAR Matsushiro Arr 28.98 67 P P **05 21 58.6 -0.7**
comp=Z,2.5nm,0.5s,baz=266,slow=8.6,SNR=14
MJAR LR LR 05 34 00.5
comp=Z,206nm,21.6s,baz=253,slow=37
comp=Z,2.5nm,0.5s
ARK Arkit 29.04 304 P P **05 22 02.9 +2.9**
BKNI Bangkinang 29.17 187 P P **05 22 02.3 +1.2**
ZEA Zeya 29.34 28 *e*P P **05 22 02.9 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=Z,400nm,22.0s
BTK Batken 29.51 300 P P **05 22 05.0 +0.8**
BTK Batken 29.51 300 P P **05 22 05.0 +0.8**
BTK pmax pmax
comp=Z,13nm,1.3s
TRKS Terek-Say 29.58 303 P P **05 22 05.8 +1.0**
GAR Garm 29.73 298 P P **05 22 06.0 0.0**
GAR IAmb IAmb 05 22 10.7
comp=Z,10nm,0.7s
DZA Taraz 29.78 306 *e*P P **05 22 06.8 +0.4**
DZA pmax pmax
comp=Z,8.0nm,0.6s
DZA Taraz 29.78 306 *e*P P **05 22 06.8 +0.4**
comp=Z,8.1nm,0.6s
DAV Davao City (W) 29.80 134 LR LR 05 35 25.2
comp=Z,390nm,20.1s,baz=341,slow=39
JHJ Hachijo jima 2 30.23 74 LR LR 05 35 14.8
comp=Z,348nm,19.4s,baz=308,slow=38
KK31 Karatay Array 30.42 306 P P **05 22 11.9 -0.1**
KK31 Karatay Array 30.42 306 P P **05 22 11.9 -0.1**
KK31 pmax pmax
comp=Z,15nm,1.3s
KKAR Karatay Array 30.42 306 P P **05 22 11.9 -0.1**
KKAR Karatay Array 30.42 306 P P **05 22 10.8 -1.2**
KKAR IAmb IAmb 05 22 14.3
comp=Z,9.4nm,1.3s
KKAR Karatay Array 30.42 306 P P **05 22 11.9 -0.1**
KBL Kabul 30.45 289 P P **05 22 12.8 +0.2**
KBL Kabul 30.45 289 P P **05 22 12.8 +0.2**
KBL pmax pmax
comp=Z,7.0nm,1.0s
IUG Iuzhnay 30.52 304 *e*P P **05 22 13.4 +0.4**
IUG pmax pmax
comp=Z,13nm,1.2s
IUG Iuzhnay 30.52 304 *e*P P **05 22 13.5 +0.4**
comp=Z,13nm,1.2s
CHGR Chuyangaron 30.58 297 P P **05 22 12.7 -0.9**
CHGR IAmb IAmb 05 22 17.1
comp=Z,11nm,0.7s
CHGR Chuyangaron 30.58 297 P P **05 22 12.7 -0.9**
CHGR pmax pmax
comp=Z,11nm,0.7s
SIMJ Simiganj 30.70 297 P P **05 22 14.6 -0.1**
BRLS Borolday 30.88 306 *e*P P **05 22 16.5 +0.5**
BRLS Borolday 30.88 306 *e*P P **05 22 16.6 +0.5**
JMM Marumori 31.14 65 P P 05 22 16.1 -2.3
PALK Pallekele 31.49 230 P P **05 22 21.7 0.0**
PALK IAmb IAmb 05 22 40.3
comp=Z,25nm,1.4s
PALK Pallekele 31.49 230 LR LR 05 36 47.4
comp=Z,165nm,21.3s,baz=34,slow=40
PALK Pallekele 31.49 230 P P **05 22 21.7 0.0**
PALK pmax pmax
comp=Z,25nm,1.4s
BRZS Berezniki 31.60 319 *e*P P **05 22 22.9 +0.6**
BRZS Berezniki 31.60 319 *e*P P **05 22 22.9 +0.6**
TOLI2 Tolitoli 32.15 148 P P **05 22 27.3 -0.1**
TOLI2 IAmb IAmb 05 22 30.9
comp=Z,6.5nm,0.6s
JCJ Chichijima 33.12 85 LR LR 05 36 11.8
comp=Z,194nm,19.0s,baz=150,slow=37
ERM Erimo 33.45 57 P P 05 22 36.4 -2.3
ERM Erimo 33.45 57 P P 05 22 36.4 -2.2
ERM pmax pmax
comp=Z,47nm,1.1s
ASAJ Asahikawa 33.46 54 LR LR 05 36 00.4
comp=Z,132nm,19.4s,baz=114,slow=36
MDSI Maura Dua 33.76 181 P P **05 22 41.6 +0.1**
comp=Z,9.9nm,1.2s
YSS Yuzhno-Sakhali 34.30 49 P P **05 22 45.7 -0.3**
YSS IAmb IAmb 05 22 59.8
comp=Z,17nm,1.2s
YSS Yuzhno-Sakhali 34.30 49 *e*P P **05 22 44.6 -1.3**
YSS *e*S **S 05 28 08.0 -5.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,700nm,14.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,700nm,14.0s
BVAR Borovoye Array 34.33 323 P P **05 22 46.5 +0.4**
comp=E,4.7nm,0.7s,baz=123,slow=9.3,SNR=12
BVAR PcP **PcP 05 25 21.1 -0.9**
comp=E,2.8nm,0.6s,baz=130,slow=3.1,SNR=6.2
BVAR LR LR 05 37 49.3
comp=E,563nm,20.3s,baz=125,slow=38
comp=E,4.7nm,0.7s
BRVK Borovoye 34.40 323 P P **05 22 47.2 +0.5**
BRVK IAmb IAmb 05 22 49.9
comp=Z,18nm,1.1s
BRVK Borovoye 34.40 323 P P **05 22 47.2 +0.5**
BRVK pmax pmax
comp=Z,18nm,1.2s
TYV Tymovskoe 35.55 42 *e*P P **05 22 57.6 +0.9**
TYV pmax pmax
comp=Z,13μm,5.4s
YAK Yakutsk 36.50 20 P P **05 23 04.2 -0.4**
YAK Yakutsk 36.50 20 *e*P P **05 23 05.1 +0.5**
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.9s
KAPI Kappang 37.26 154 P P 05 23 10.0 -1.6

KAPI Kappang 37.26 154 LR LR 05 40 40.3
comp=E,71nm,19.0s,baz=322,slow=40
KAPI Kappang 37.26 154 P P **05 23 10.0 -1.5**
KAPI pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 39.07 313 P P **05 23 27.2 +0.7**
PLAI Plampang 40.14 159 P P **05 23 38.3 +2.5**
comp=Z,15nm,1.1s
AKTO Aktyubinsk 40.56 314 P P **05 23 39.6 +0.7**
comp=Z,4.4nm,1.0s,baz=107,slow=7.8,SNR=7.3
comp=Z,4.4nm,1.0s
SVE Sverdlovsk 41.06 324 *e*P P **05 23 44.6 +1.7**
SVE pmax pmax
comp=Z,30nm,1.3s
NRIK Noril'sk 41.10 351 P P **05 23 43.4 +0.2**
NRIK Noril'sk 41.10 351 P P **05 23 43.5 +0.2**
comp=Z,9.9nm,0.7s,baz=149,slow=8.6,SNR=18
NRIK LR LR 05 41 58.6
comp=Z,202nm,18.3s,baz=290,slow=38
comp=Z,9.9nm,0.7s
NRIK Noril'sk 41.10 351 P P **05 23 43.4 +0.2**
NRIK pmax pmax
comp=Z,12nm,0.9s
WSAR Wadi Sarin 41.42 273 LR LR 05 44 10.4
comp=Z,95nm,20.0s,baz=78,slow=41
MMRI Maumere 41.53 153 P P **05 23 46.2 -1.0**
ARTI Arti 42.05 323 P P **05 23 50.6 -0.6**
ARTI Arti 42.05 323 P P **05 23 51.3 +0.2**
comp=Z,13nm,1.1s,baz=127,slow=5.9,SNR=8.4
ARTI LR LR 05 42 33.6
comp=Z,399nm,19.6s,baz=117,slow=38
comp=Z,13nm,1.1s
ARTI Arti 42.05 323 *c i*P P **05 23 52.2 +1.1**
ARTI 05 25 27.9
ARTI S S 05 30 03.9 -6.2
ARTI SS **SS 05 33 11.3 -5.8**
ARTI pmax pmax
comp=Z,21nm,1.1s
MA2 Magadan 43.24 32 P P **05 23 60.0 -0.8**
MA2 Magadan 43.24 32 LR LR 05 42 51.2
comp=Z,88nm,20.2s,baz=274,slow=37
MA2 Magadan 43.24 32 P P **05 24 00.0 -0.8**
MA2 pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 44.28 11 P P **05 24 08.3 -0.6**
TIXI Tiksi 44.28 11 P P **05 24 08.3 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 45.10 43 LR LR 05 44 31.7
comp=Z,112nm,19.0s,baz=253,slow=38
SEY Seymchan 45.32 28 *e*P P **05 24 16.4 -0.9**
SEY pmax pmax
comp=Z,9.0nm,1.8s
BELG Belogornoye 47.29 316 P P **05 24 33.9 +0.9**
comp=Z,26nm,1.1s,baz=50,slow=7.9,SNR=4.0
BELG LR LR 05 45 43.8
comp=Z,236nm,20.6s,baz=3.9,slow=38
comp=Z,26nm,1.1s
KIRV Kirov 47.32 324 LR LR 05 46 21.4
comp=Z,340nm,20.3s,baz=91,slow=38
KIRV Kirov 47.32 324 ⇑*e*P P **05 24 34.1 +1.0**
GNI Garni 49.44 299 P P **05 24 49.5 -0.4**
GNI Garni 49.44 299 LR LR 05 50 40.8
comp=Z,108nm,20.9s,baz=16,slow=42
GNI Garni 49.44 299 P P **05 24 49.5 -0.4**
GNI pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 50.42 304 P P **05 24 58.0 +0.9**
comp=Z,2.7nm,1.1s,baz=66,slow=10.0,SNR=2.9
KBZ LR LR 05 49 36.3
comp=Z,163nm,18.1s,baz=56,slow=40
comp=Z,2.7nm,1.1s
KIV Kislovodsk 50.56 304 P P **05 24 58.4 +0.1**
KIV IAmb IAmb 05 25 06.7
comp=Z,28nm,1.3s
KIV Kislovodsk 50.56 304 *e*P P **05 24 59.4 +1.1**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,106nm,17.0s
KIV Kislovodsk 50.56 304 P P **05 24 59.4 +1.1**
comp=Z,12nm,1.2s
SHA1 Shidzhatmaz 50.60 304 *i* P P **05 24 59.7 +0.9**
VRH Novokhopyorsk 50.89 314 *e*P P **05 25 01.0 +0.4**
VRH pmax pmax
comp=Z,22nm,0.8s
FITZ Fitzroy Crossi 51.47 154 LR LR 05 49 15.4
comp=Z,56nm,18.3s,baz=317,slow=39
GURO Guroymak-BITLI 51.75 298 P P **05 25 08.0 +0.5**
BILL Biiibino 52.48 25 P P **05 25 11.4 -0.8**
BILL Biiibino 52.48 25 P P **05 25 12.9 +0.7**
LPSR Galich'ya Gora 52.61 316 *e*P P **05 25 14.0 +0.6**
LPSR pmax pmax
comp=Z,22nm,0.9s
KLMR Klimovskoe 52.64 326 *e*P P 05 25 09.5 -4.0
KLMR pmax pmax
comp=Z,48nm,1.5s
RAYN Ar Rayn 52.72 278 P P **05 25 14.8 +0.1**
RAYN IAmb IAmb 05 25 16.4
comp=Z,15nm,1.0s
RAYN Ar Rayn 52.72 278 P P **05 25 14.8 +0.1**
RAYN pmax pmax
comp=Z,15nm,1.0s
OBN Obninsk 53.97 319 LR LR 05 49 25.4
comp=Z,211nm,19.4s,baz=354,slow=37
OBN Obninsk 53.97 319‖ *e*P P **05 25 24.3 +1.0**
OBN *e* 05 27 25.3
OBN *e*S **S 05 32 58.0 -0.8**
OBN *e*SS **SKiKP 05 36 40.2 +3.9**
OBN pmax pmax
comp=Z,10.0nm,1.1s
OBN MLR MLR
comp=Z,277nm,18.0s
PATS Pohnpei 55.25 103 P P **05 25 32.6 -0.6**
GAZ Gaziantep 55.76 297 P P **05 25 36.2 -0.5**
GAZ IAmb IAmb 05 25 39.3
comp=Z,9.0nm,0.6s
SIM Simferopol' 56.51 307 *e*P P **05 25 42.2 +0.3**
SIM *e* 05 26 37.0
SIM pmax pmax
comp=Z,19nm,0.8s
WB0 Warramunga Arr 56.77 146 P P **05 25 43.3 -0.7**
WB0 IAmb IAmb 05 25 44.7
comp=Z,17nm,1.1s
WRAB Tennant Creek 56.89 146 P P **05 25 44.2 -0.6**
WRAB Tennant Creek 56.89 146 P P **05 25 44.2 -0.6**
WRAB pmax pmax
comp=Z,19nm,0.8s
WRA Warramunga Arr 56.89 146 P P **05 25 43.9 -0.9**
WRA Warramunga Arr 56.89 146 P P **05 25 44.6 -0.1**
comp=Z,12nm,0.7s,baz=338,slow=8.3,SNR=66
comp=Z,12nm,0.7s
WB2 Warramunga Arr 56.90 146 P P **05 25 44.1 -0.7**
WR0 Warramunga Arr 57.01 146 P P **05 25 45.1 -0.5**
WR0 IAmb IAmb 05 25 46.0
comp=Z,10nm,0.6s
COEN Coen 57.02 134 P P **05 25 45.3 -0.5**
COEN IAmb IAmb 05 25 46.8
comp=Z,24nm,1.1s
BZK Bozkurt 57.15 303 P P **05 25 46.6 +0.2**
ASF Jabal al Asfar 57.30 291 P P **05 25 48.7 +0.9**
comp=Z,3.1nm,0.6s,baz=23,slow=7.8,SNR=4.7
ASF LR LR 05 53 34.9
comp=Z,173nm,21.4s,baz=65,slow=39
comp=Z,3.1nm,0.6s
ILGA Ilgaz 57.55 302 P P **05 25 48.8 -0.8**
KIRS Kirsehir-Merke 57.84 300 ⇑P P **05 25 52.0 +0.5**
BR131 Keskin Array S 57.91 301 P P **05 25 52.4 +0.4**
BR131 IAmb IAmb 05 25 57.6
comp=Z,9.3nm,1.1s
BR131 Keskin Array S 57.91 301 P P **05 25 52.4 +0.4**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 57.91 301 P P **05 25 51.7 -0.3**
BRTR Keskin Array B 57.91 301 P P **05 25 52.6 +0.6**
comp=Z,2.5nm,0.9s,baz=114,slow=5.8,SNR=12
comp=Z,2.5nm,0.9s
BR104 Keskin Array S 57.91 301 P P **05 25 52.4 +0.4**
comp=Z,6.3nm,0.9s
BR106 Keskin Array S 57.92 301 P P **05 25 52.4 +0.3**
comp=Z,4.6nm,1.0s
BR105 Keskin Array S 57.93 301 P P **05 25 52.2 0.0**
comp=Z,5.0nm,0.9s
MMAI Mount Meron Ar 58.27 293 LR LR 05 56 56.6
comp=Z,155nm,19.3s,baz=74,slow=42
ANTO Ankara 58.51 301 P P **05 25 55.6 -0.5**

ANTO Ankara 58.51 301 P P 05 25 55.6 -0.5
ANTO pmax pmax
comp=Z,52nm,1.5s
ANTO Ankara 58.51 301 P P 05 25 57.1 +1.0
comp=Z,15nm,1.8s
AK08 Malin Array Si 58.79 314 P P 05 25 57.9 +0.1
AK03 Malin Array Si 58.80 314 P P 05 25 57.9 +0.1
AK10 Malin Array Si 58.80 314 P P 05 25 57.9 0.0
AKASG Malin Array Be 58.80 314 P P 05 25 57.7 -0.2
comp=Z,2.7nm,0.7s,baz=73,slow=6.4,SNR=12
comp=Z,2.7nm,0.7s
AKBB Malin Array Si 58.80 314⇑ eP P 05 25 58.2 +0.3
AKBB pmax pmax
comp=Z,8.0nm,1.2s
AKBB Malin Array Si 58.80 314 P P 05 25 58.7 +0.8
AK01 Malin Array Si 58.81 314 P P 05 25 58.3 +0.4
KIEV Kiev 58.81 314 P P 05 25 58.0 +0.1
KIEV IAmb IAmb 05 25 58.9
comp=Z,9.1nm,1.0s
KIEV Kiev 58.81 314 ⇓P P 05 25 58.8 +0.8
KIEV Kiev 58.81 314 P P 05 25 58.7 +0.8
KIEV Kiev 58.81 314 P P 05 25 58.7 +0.8
AK02 Malin Array Si 58.82 314 P P 05 25 58.7 +0.7
AK05 Malin Array Si 58.83 314 P P 05 25 57.6 -0.5
AK05 IAmb IAmb 05 26 00.6
comp=Z,11nm,1.1s
AK05 Malin Array Si 58.83 314 P P 05 25 57.9 -0.2
AK04 Malin Array Si 58.83 314 P P 05 25 57.9 -0.2
AK06 Malin Array Si 58.84 314 P P 05 25 58.2 +0.1
AK07 Malin Array Si 58.84 314 P P 05 25 58.7 +0.6
ARCES ARCESS Array B 58.91 336 P P 05 25 58.4 0.0
comp=Z,5.3nm,0.8s,baz=84,slow=6.1,SNR=6.6
ARCES LR LR 05 53 41.4
comp=Z,346nm,19.3s,baz=206,slow=38
comp=Z,5.3nm,0.8s
MNK Minsk 59.02 319 *i* P P 05 26 04.1 +4.7
MNK *i* 05 26 46.4
MNK *i* S S **05 34 08.7 +2.8**
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,17nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=E,94nm,17.0s
MNK MLR MLR
comp=Z,244nm,15.0s
MNK MLR MLR
comp=N,112nm,11.0s
VSU Vasula 59.14 323 *i* P P 05 26 00.7 +0.6
VSU pmax pmax
comp=Z,17nm,1.0s
FINES FINESS Array B 59.15 327 P P 05 25 59.8 -0.3
comp=Z,4.6nm,0.8s,baz=74,slow=6.8,SNR=13
comp=Z,4.6nm,0.8s
MDUB Mudurnu 59.55 302 P P 05 26 04.0 +0.6
EIL Elat 59.65 289 P P 05 26 04.2 +0.1
comp=Z,12nm,1.0s,baz=87,slow=13,SNR=6.1
EIL LR LR 05 55 07.0
comp=Z,137nm,18.6s,baz=84,slow=39
comp=Z,12nm,1.0s
MI28 MI28,Pidlybu 59.73 314 P P 05 26 04.8 +0.5
SORM Soroca 59.83 311 ⇑P P 05 26 05.6 +0.6
SORM Soroca 59.83 311 P P 05 26 05.6 +0.6
LUBAR Lubar, Ukraine 59.87 313 P P 05 26 05.0 -0.3
AS31 Alice Springs 59.89 149 P P 05 26 04.9 -0.8
ASAR Alice Springs 59.89 149 P P 05 26 05.0 -0.7
ASAR Alice Springs 59.89 149 P P 05 26 06.0 +0.3
comp=Z,9.6nm,0.6s,baz=330,slow=6.4,SNR=79
ASAR LR LR 05 54 26.5
comp=Z,40nm,20.1s,baz=334,slow=39
comp=Z,9.6nm,0.6s
NDNU Novodnistrovsk 60.38 312 P P 05 26 09.5 +0.7
TPGR Topolog 60.49 307 ⇓P P 05 26 11.2 +1.5
CFR Carcaliu 60.62 308 ⇑P P 05 26 11.8 +1.4
CFR Carcaliu 60.62 308 P P 05 26 11.8 +1.4
HARR Harsova 60.87 307 ⇑P P 05 26 13.8 +1.5
HARR Harsova 60.87 307 P P 05 26 13.7 +1.5
SPITS Spitsbergen Ar 61.02 346 LR LR 05 53 58.6
comp=Z,88nm,20.0s,baz=173,slow=37
TESR Tescani 61.32 310 ⇑P P 05 26 16.3 +1.1
VRI Vrincioaia 61.42 309 ⇑P P 05 26 17.4 +1.4
VRI Vrincioaia 61.42 309 P P 05 26 17.3 +1.4
PLOR Plostina 61.47 309 ⇓P P 05 26 18.4 +2.0
PLOR Plostina 61.47 309 P P 05 26 18.3 +2.0
ISR Istrita 61.72 308 ⇑P P 05 26 20.2 +2.1
ISR Istrita 61.72 308 P P 05 26 20.1 +2.1
ISR Istrita 61.72 308 P P 05 26 19.7 +1.6
comp=Z,28nm,0.8s
SUW Suwalki 61.83 319 *e*P P 05 26 17.9 -0.7
SUW Suwalki 61.83 319 P P 05 26 17.7 -0.8
SUW Suwalki 61.83 319 P P 05 26 17.7 -0.8
SUW pmax pmax
comp=Z,33nm,0.9s
BURAR Bucovina Array 62.00 311 P P 05 26 19.7 -0.3
BURAR Bucovina Array 62.00 311 ⇓P P 05 26 21.2 +1.1
BURAR Bucovina Array 62.00 311 P P 05 26 21.1 +1.1
MLR Muntele Rosu 62.04 309 P P 05 26 19.2 -1.1
MLR Muntele Rosu 62.04 309 P P 05 26 20.6 +0.3
comp=Z,7.3nm,1.0s,baz=108,slow=3.2,SNR=6.4
MLR LR LR 05 59 17.9
comp=Z,255nm,20.4s,baz=304,slow=42
comp=Z,7.3nm,1.0s
MLR Muntele Rosu 62.04 309 ⇓P P 05 26 22.1 +1.8
DOPR Dopca 62.30 309 ⇓P P 05 26 23.1 +1.2
TNA Tin City 62.56 28 P P 05 26 22.4 -0.8
baz=281
VOIR 62.66 309 ⇑P P 05 26 25.9 +1.4
VOIR 62.66 309 P P 05 26 25.8 +1.4
ARR Arges 62.96 309 ⇓P P 05 26 28.0 +1.6
C16K Lisburne Hills 63.02 25 P P 05 26 25.3 -0.9
baz=282
KWP Kalwaria Pacla 63.12 314 *e*P P 05 26 28.8 +1.5
KWP Kalwaria Pacla 63.12 314 P P 05 26 28.1 +0.8
comp=Z,43nm,1.1s
F14K Arctic Creek 63.23 28 P P 05 26 27.2 -0.5
baz=282
SPIA Saint Paul Isl 63.23 37 P P 05 26 26.0 -1.9
baz=283
MUKU Mukachevo 63.44 313 P P 05 26 30.7 +1.3
MARR Marisel-Cluj 63.63 311 ⇑P P 05 26 31.7 +0.9
P08K Saint George I 63.74 38 P P 05 26 29.9 -1.3
baz=284
C17K DeLong Mountai 63.76 24 P P 05 26 29.5 -1.7
baz=284
ANM Nome 63.83 29 P P 05 26 30.5 -1.2
baz=284
F15K North Star Dit 63.85 27 P P 05 26 31.3 -0.6
baz=284
RDOG Red Dog Mine 63.95 25 P P 05 26 32.4 -0.1
baz=284
D17K Noatak River 63.98 25 P P 05 26 31.9 -0.7
baz=284
B18K Kokolik River 64.02 23 P P 05 26 32.3 -0.6
baz=284
A19K Wainwright 64.05 22 P P 05 26 31.8 -1.2
baz=285
GZR Gura Zlata 64.22 309 ⇓P P 05 26 36.1 +1.4
GZR Gura Zlata 64.22 309 P P 05 26 36.1 +1.4
G15K Niukluk 64.28 28 P P 05 26 34.1 -0.5
baz=285
C18K Utukok River 64.42 24 P P 05 26 34.8 -0.8
baz=285
M11K Mekoryuk 64.49 33 P P 05 26 35.7 -0.3
baz=285
SURR Surduc 64.55 310 ⇑P P 05 26 37.9 +1.2
E17K Hotham Inlet 64.61 26 P P 05 26 35.3 -1.4
baz=286
HERR Herculane 64.61 309 ⇑P P 05 26 38.2 +1.1
NIE Niedzica 64.69 314 *e*P P 05 26 39.0 +1.4
NIE Niedzica 64.69 314 P P 05 26 38.4 +0.7
comp=Z,6.2nm,1.6s
OJC Ojcow 64.78 315 *e*P P 05 26 36.5 -1.7
OJC Ojcow 64.78 315 P P 05 26 38.5 +0.3
OJC IAmb IAmb 05 26 44.1
comp=Z,18nm,1.2s
OJC Ojcow 64.78 315 P P 05 26 38.5 +0.3
OJC pmax pmax
comp=Z,18nm,1.2s
OJC Ojcow 64.78 315 P P 05 26 39.0 +0.8
BLKB Belogradchik 64.80 307 ⇓P P 05 26 40.0 +1.5
K13K Kusilvak Mount 64.81 32 P P 05 26 37.2 -0.9
baz=286
G16K Koyuk River 64.86 28 P P 05 26 38.1 -0.3
G16K Koyuk River 64.86 28 P P 05 26 38.3 -0.1
baz=286
E18K Tukpahlearik C 64.97 25 IAmb IAmb 05 26 40.2
comp=Z,7.5nm,0.8s
E18K Tukpahlearik C 64.97 25 P P 05 26 38.6 -0.5
baz=286
F17K Baldwin Pennin 65.00 26 P P 05 26 40.3 +1.0
F17K Baldwin Pennin 65.00 26 P P 05 26 38.8 -0.5
baz=286
J14K Nanvaranak Lak 65.08 30 P P 05 26 38.8 -1.1
baz=286
MDVR Moldovita 65.11 309 ⇓P P 05 26 41.4 +0.9
H16K Elim 65.12 28 P P 05 26 39.5 -0.6
baz=286
A21K Barrow 65.15 21 P P 05 26 39.4 -0.8
baz=288
HFS Hagfors 65.35 327 P P 05 26 41.1 -0.6
comp=Z,6.5nm,1.0s,baz=104,slow=6.3,SNR=18
comp=Z,6.5nm,1.0s
BOVS Bovan 65.47 308 ⇓P P 05 26 43.6 +0.8
D19K Kuna River 65.55 24 P P 05 26 43.5 +0.6
D19K Kuna River 65.55 24 P P 05 26 42.5 -0.3
baz=288
F18K Selawik 65.57 26 P P 05 26 42.9 0.0
baz=288
M13K Dall Lake 65.85 33 P P 05 26 44.3 -0.6
baz=287
HNR Honiara 65.85 117 LR LR 05 52 37.5
comp=Z,81nm,21.8s,baz=219,slow=33
L14K Kuka Creek 65.88 32 IAmb IAmb 05 26 47.3
comp=Z,14nm,0.9s
L14K Kuka Creek 65.88 32 P P 05 26 45.1 0.0
baz=287
VYHS Vyhne 65.88 313 *e*P P 05 26 46.8 +1.4
VYHS Vyhne 65.88 313 *e*P P 05 26 46.8 +1.4
H17K Granite Mounta 65.98 28 IAmb IAmb 05 26 47.6
comp=Z,9.7nm,1.1s
H17K Granite Mounta 65.98 28 P P 05 26 45.3 -0.4
baz=288
I17K Unalakleet 65.98 29 P P 05 26 44.9 -0.8
baz=288
D20K Etivluk River 66.00 23 P P 05 26 45.5 -0.3
baz=289
K15K Wolf Creek Mou 66.11 31 P P 05 26 46.3 -0.3
baz=288
G18K Tagagawik 66.17 26 P P 05 26 46.8 -0.1
baz=289
UNV Unalaska Valle 66.18 40 P P 05 26 46.5 -0.6
baz=288
E19K Redstone River 66.20 25 IAmb IAmb 05 26 48.0
comp=Z,5.3nm,0.8s
E19K Redstone River 66.20 25 P P 05 26 46.8 -0.2
baz=289
F19K Shaleruckik Mo 66.20 25 IAmb IAmb 05 26 48.1
comp=Z,15nm,1.1s
F19K Shaleruckik Mo 66.20 25 P P 05 26 46.9 -0.2
baz=289
J16K Anvik River 66.21 29 P P 05 26 47.2 0.0
baz=288
NB2 NORSAR Subarra 66.25 328 P P 05 26 47.5 -0.1
comp=Z,2.8nm,0.7s,baz=73,slow=6.2
NOA NORSAR Array B 66.25 328 P P 05 26 47.0 -0.6
comp=Z,2.5nm,0.7s,baz=74,slow=6.4,SNR=10.0
comp=Z,2.5nm,0.7s
NOA NORSAR Array B 66.25 328 P P 05 26 47.0 -0.6
E20K Nigu River 66.30 24 P P 05 26 47.2 -0.6
baz=290
MORC Moravsky Berou 66.30 315 IAmb IAmb 05 26 50.1
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 66.30 315 *e*P P 05 26 49.3 +1.2
B21K Ikpikpuk River 66.36 22 IAmb IAmb 05 26 49.8
comp=Z,16nm,1.1s
B21K Ikpikpuk River 66.36 22 P P 05 26 48.0 0.0
baz=291
M14K Bethel 66.40 32 P P 05 26 47.9 -0.5
baz=288
SRO Srobarova 66.43 313 *e*P P 05 26 50.0 +1.2
SRO Srobarova 66.43 313 *e*P P 05 26 50.0 +1.2
C21K Knifeblade Rid 66.46 23 P P 05 26 48.8 0.0
baz=291
JAVC Velka Javorina 66.51 314 *e*P P 05 26 51.7 +2.3
H18K Honhosa River 66.53 27 P P 05 26 48.5 -0.7
baz=289
KRLC Kraliky 66.67 315 *e*P P 05 26 51.8 +1.3
KRLC Kraliky 66.67 315 *e*P P 05 26 51.8 +1.3
G19K Purcell Mounta 66.69 26 P P 05 26 49.7 -0.6
baz=290
MORH Mrgy, Hungar 66.72 311 ⇑P P 05 26 51.6 +0.8
MORH Mrgy, Hungar 66.72 311 P P 05 26 51.7 +0.9
comp=Z,8.2nm,1.1s
KSP Ksiaz 66.73 316 *e*P P 05 26 51.1 +0.4
KSP Ksiaz 66.73 316 P P 05 26 51.6 +0.9
N14K Kuskokwak Cree 66.79 33 P P 05 26 50.0 -0.9
baz=289
J17K VABM Dome 66.82 29 P P 05 26 49.7 -1.4
baz=290
OSTC Ostas 66.86 316 *e*P P 05 26 53.8 +2.1
OSTC Ostas 66.86 316 *e*P P 05 26 53.8 +2.1
DPC Dobruska-Polom 66.87 316 *e*P P 05 26 54.2 +2.5
DPC Dobruska-Polom 66.87 316 *e*P P 05 26 54.2 +2.5
DPC Dobruska-Polom 66.87 316 P P 05 26 52.5 +0.8
comp=Z,8.3nm,1.2s
F20K Avaraart Lake 66.89 25 P P 05 26 51.2 -0.2
F20K IAmb IAmb 05 26 52.8
comp=Z,9.3nm,1.1s
F20K Avaraart Lake 66.89 25 P P 05 26 50.9 -0.5
baz=291
CHVC Chvalec 66.95 316 *e*P P 05 26 54.4 +2.2
CHVC Chvalec 66.95 316 *e*P P 05 26 54.4 +2.2
E21K Killik River 67.00 23 P P 05 26 52.1 -0.2
E21K Killik River 67.00 23 P P 05 26 51.6 -0.6
baz=292
M15K Kasigluk River 67.01 32 P P 05 26 52.0 -0.3
baz=289
VRAC Vranov 67.03 315 P P 05 26 53.7 +1.0
comp=Z,4.9nm,0.8s,baz=77,slow=8.9,SNR=5.0
VRAC LR LR 05 57 42.0
comp=Z,253nm,19.0s,baz=294,slow=37
comp=Z,4.9nm,0.8s
VRAC Vranov 67.03 315 *e*P P 05 26 54.6 +1.9
VRAC Vranov 67.03 315 ⇑P P 05 26 54.2 +1.5
MPLH Magyarpolny 67.13 312 P P 05 26 54.5 +1.1
comp=Z,15nm,1.4s
H19K Roundabout Mou 67.16 27 P P 05 26 53.0 -0.2
H19K Roundabout Mou 67.16 27 P P 05 26 53.0 -0.2
baz=291
O14K Tigyukauivet M 67.21 34 P P 05 26 53.6 -0.1
baz=289
L16K Owhat River 67.22 31 P P 05 26 53.7 +0.1
baz=290
KRUC Moravsky 67.24 315 *e*P P 05 26 55.4 +1.4
GCSA Galena City Sc 67.27 27 P P 05 26 53.9 0.0
baz=291
D22K Ayikyak River 67.27 23 P P 05 26 53.9 0.0
D22K IAmb IAmb 05 26 55.3
comp=Z,11nm,0.8s
D22K Ayikyak River 67.27 23 P P 05 26 54.1 +0.2
baz=293
K17K Iditarod 67.39 30 P P 05 26 54.8 +0.1
K17K Iditarod 67.39 30 P P 05 26 54.8 +0.1
baz=290
N15K Kwethluk River 67.46 33 P P 05 26 55.4 +0.1
N15K Kwethluk River 67.46 33 P P 05 26 55.0 -0.2
baz=290
C23K Itkillik River 67.56 21 P P 05 26 55.5 -0.2
C23K Itkillik River 67.56 21 P P 05 26 55.8 +0.1
baz=294,SNR=12
FALS False Pass 67.57 39 P P 05 26 55.8 -0.1
baz=290
L17K Donlin 67.60 30 P P 05 26 56.1 +0.1
baz=291
F21K Alatna River 67.64 24 P P 05 26 56.5 +0.2
F21K IAmb IAmb 05 26 57.7
comp=Z,12nm,1.1s
F21K Alatna River 67.64 24 P P 05 26 56.2 0.0
baz=293
M16K Timber Creek 67.69 32 P P 05 26 56.6 -0.1
baz=290
RONA Rosalia, Austr 67.75 313 *i* pP P 05 26 58.8 +1.4
comp=Z,3.9nm,1.0s
H20K Anotleneega Mo 67.78 26 P P 05 26 56.9 -0.3
baz=292
J18K Innoko River 67.80 29 IAmb IAmb 05 26 58.6
comp=Z,6.4nm,0.9s
J18K Innoko River 67.80 29 P P 05 26 57.2 -0.1
baz=291
E22K Anaktuvuk Pass 67.86 23 P P 05 26 57.9 +0.2
baz=294,SNR=11
D23K Nanushuk River 67.90 22 P P 05 26 58.3 +0.4
D23K Nanushuk River 67.90 22 P P 05 26 57.1 -0.8
baz=294
O15K Ungalikthiuk R 67.93 34 P P 05 26 57.7 -0.6
baz=290
CONA Conrad Observa 67.95 313 *i* pP P 05 27 00.2 +1.5
comp=Z,7.2nm,1.2s
S12K Black Hills 68.01 38 P P 05 26 58.2 -0.6
baz=290
J19K Poorman 68.05 28 P P 05 26 58.4 -0.5
J19K IAmb IAmb 05 27 19.6
comp=Z,11nm,1.4s
J19K Poorman 68.05 28 P P 05 26 57.8 -1.1
baz=292
BRG Berggiesshubel 68.12 317 *e*P P 05 27 01.2 +1.6
BRG Amp 05 27 01.6
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 68.12 317 P P 05 27 03.8 +4.2
BRG Amp 05 27 04.5
comp=Z,6.5nm,0.8s
RICC Richard 68.14 317 *e*P P 05 26 57.5 -2.2
I20K Naaghedeneel 68.20 27 P P 05 26 58.5 -1.3
I20K Naaghedeneel 68.20 27 P P 05 26 58.4 -1.3
baz=293
C24K Franklin Bluff 68.21 21 P P 05 26 58.0 -1.7
baz=296
M17K Holitna River 68.24 31 P P 05 27 00.7 +0.6
M17K Holitna River 68.24 31 P P 05 26 58.7 -1.5
baz=292
L18K Granite Mounta 68.27 30 P P 05 26 59.4 -0.9
baz=292
TTA Tatalina 68.29 29 P P 05 26 59.9 -0.6
baz=292
ARSA Arzberg 68.40 313 *i* pP P 05 27 02.4 +1.0
comp=Z,5.9nm,1.1s
TOLK Toolik Lake Re 68.40 22 P P 05 27 00.8 -0.3
TOLK IAmb IAmb 05 27 02.2
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 68.40 22 P P 05 26 59.6 -1.5
baz=296,SNR=6.3
D24K Happy Valley 68.42 22 P P 05 27 00.1 -1.0
baz=296
ZVC Zvikov 68.47 315 *e*P P 05 27 03.6 +1.8
H21K Melozitna Rive 68.51 26 P P 05 27 01.4 -0.3
H21K IAmb IAmb 05 27 05.3
comp=Z,16nm,1.4s
H21K Melozitna Rive 68.51 26 P P 05 27 01.1 -0.6
baz=294
CLL Collm 68.53 318 P P 05 27 01.5 -0.5
CLL IAmb IAmb 05 27 06.6
comp=Z,6.1nm,1.0s
CLL Collm 68.53 318 *i* P P 05 27 02.8 +0.7
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 68.53 318 P P 05 27 02.4 +0.3
comp=Z,7.1nm,1.1s
CLL Collm 68.53 318 *i* P P 05 27 02.8 +0.7
comp=Z,6.0nm,0.8s
J20K Nowinta River 68.58 27 P P 05 27 02.7 +0.5
J20K IAmb IAmb 05 27 04.2
comp=Z,7.0nm,0.9s
J20K Nowinta River 68.58 27 P P 05 27 01.5 -0.7
baz=293
O16K Kokwok River B 68.61 33 P P 05 27 00.9 -1.6
baz=292
E23K Chandalar 68.64 23 IAmb IAmb 05 27 04.4
comp=Z,14nm,1.1s
E23K Chandalar 68.64 23 P P 05 27 01.0 -1.6
baz=296
N17K Nushagak Hills 68.68 32 P P 05 27 02.9 0.0
N17K IAmb IAmb 05 27 04.9
comp=Z,14nm,1.1s
N17K Nushagak Hills 68.68 32 P P 05 27 02.2 -0.7
baz=292
BBOO Buckleboo 68.76 152 P P 05 27 03.5 -0.1
BBOO IAmb IAmb 05 27 06.6
comp=Z,9.1nm,0.8s
COLD Coldfoot 68.80 24 P P 05 27 03.4 -0.2
COLD IAmb IAmb 05 27 05.3
comp=Z,12nm,1.1s
COLD Coldfoot 68.80 24 P P 05 27 03.2 -0.4
baz=296,SNR=6.7
P16K Nushagak River 68.87 33 P P 05 27 03.7 -0.3
baz=292
SOKA Soboth 68.91 312 *e*pP P 05 27 05.7 +1.0
comp=Z,4.1nm,0.9s
M18K Stony River 68.92 30 P P 05 27 03.4 -1.0
baz=293
K20K Telida 68.94 28 P P 05 27 05.1 +0.6
K20K IAmb IAmb 05 27 16.0
comp=Z,8.6nm,1.3s
K20K Telida 68.94 28 P P 05 27 03.1 -1.3
baz=294
H22K Ishtalitna Cre 68.95 25 P P 05 27 02.9 -1.5
baz=295
KHC Kasperske Hory 68.95 315 *e*P P 05 27 05.9 +1.0
KHC Kasperske Hory 68.95 315 *e*P P 05 27 05.9 +1.0
GEC2 GERESS Array S 68.98 315 P P 05 27 05.5 +0.4
GERES GERESS Array B 68.98 315 P P 05 27 04.9 -0.2
GERES GERESS Array B 68.98 315 P P 05 27 05.7 +0.6
comp=Z,5.2nm,1.0s,baz=57,slow=4.9,SNR=12
GERES LR LR 05 57 20.9
comp=Z,185nm,19.1s,baz=296,slow=36
comp=Z,5.2nm,1.0s
MOA Molln 68.98 314 *i* pP P 05 27 06.6 +1.5
comp=Z,6.2nm,1.0s
O17K Koliganek Bris 69.01 32 P P 05 27 04.5 -0.4
baz=292
E24K Your Creek 69.01 23 P P 05 27 04.9 0.0
E24K IAmb IAmb 05 27 06.6
comp=Z,17nm,1.1s
E24K Your Creek 69.01 23 P P 05 27 04.7 -0.2
baz=297,SNR=12
I21K Tanana 69.02 26 IAmb IAmb 05 27 06.9
comp=Z,12nm,1.1s
I21K Tanana 69.02 26 P P 05 27 04.3 -0.6
baz=295
L19K White Mountain 69.08 30 P P 05 27 05.6 +0.3
L19K White Mountain 69.08 30 P P 05 27 04.6 -0.8
baz=293
G23K Bananza Creek 69.09 24 P P 05 27 05.4 0.0
G23K IAmb IAmb 05 27 07.0
comp=Z,7.5nm,1.1s
G23K Bananza Creek 69.09 24 P P 05 27 05.2 -0.2
baz=296
S14K Fog Glacier 69.12 36 P P 05 27 05.2 -0.6
baz=292
D25K Kavik River 69.12 21 P P 05 27 05.8 +0.3
D25K IAmb IAmb 05 27 07.2
comp=Z,6.1nm,0.9s
D25K Kavik River 69.12 21 P P 05 27 05.5 0.0
baz=298
N18K Kilae Creek 69.21 31 P P 05 27 05.4 -0.8
baz=293
OBKA Obir 69.28 312 *e*pP P 05 27 08.6 +1.6
comp=Z,7.5nm,1.0s
C26K Camden Bay 69.29 20 P P 05 27 06.0 -0.5
baz=299
L20K Farewell, AK 69.37 29 P P 05 27 06.6 -0.6
baz=294
M19K Big River Lodg 69.39 30 P P 05 27 05.7 -1.6
baz=294
CHUM Lake Minchumin 69.43 27 P P 05 27 06.2 -1.3
baz=295
BIOA Bad Ischl, Aus 69.44 314 *e*pP P 05 27 09.4 +1.6
comp=Z,6.0nm,0.9s
F24K Squaw Lake 69.47 23 IAmb IAmb 05 27 09.4
comp=Z,9.5nm,1.4s
F24K Squaw Lake 69.47 23 P P 05 27 06.4 -1.3
baz=297
JMIC Jan Mayen 69.49 341 LR LR 05 58 54.4
comp=Z,128nm,21.2s,baz=184,slow=37
P17K Kvichak River 69.55 33 P P 05 27 07.6 -0.6
baz=293
R16K Pilot Point 69.63 35 P P 05 27 07.6 -1.2
baz=293
CHNA Chernabura Isl 69.64 38 P P 05 27 07.7 -1.3
baz=292
Q16K King Salmon 69.65 33 P P 05 27 07.5 -1.3
baz=293
CHGN Chignik 69.70 36 P P 05 27 09.0 -0.2
baz=293
CAST Castle Rocks 69.72 28 P P 05 27 08.2 -1.1
baz=295
N19K Bonanza Creek 69.79 31 P P 05 27 10.1 +0.2
N19K IAmb IAmb 05 27 12.4

comp=Z,21nm,1.4s
N19K Bonanza Creek 69.79 31 P **P** **05 27 09.1 -0.8**
baz=294
C27K Jago River 69.79 20 P **P** **05 27 08.9 -0.8**
baz=300
KBA Koelnbreinsper 69.85 313 *e*P **P** **05 27 10.4 -0.2**
comp=Z,4.3nm,0.7s
O18K Koktuh Hills 69.86 32 P P 05 27 08.7 -1.5
baz=294
BPAW Bear Paw Mtn. 69.87 27 IAmb IAmb 05 27 11.8
comp=Z,14nm,1.2s
BPAW Bear Paw Mtn. 69.87 27 P **P** **05 27 09.0 -1.2**
baz=296,SNR=7.6
PPLA Purkeypile 69.91 28 P **P** **05 27 10.8 +0.2**
PPLA Purkeypile 69.91 28 P P 05 27 08.8 -1.9
baz=295,SNR=5.8
M20K Styx River 69.94 30 IAmb IAmb 05 27 12.9
comp=Z,15nm,1.1s
M20K Styx River 69.94 30 P P 05 27 09.1 -1.7
baz=295
E25K Arctic Village 69.96 22 P **P** **05 27 09.5 -1.2**
baz=299
G24K Hadweenzic Riv 70.00 24 IAmb IAmb 05 27 12.8
comp=Z,8.0nm,0.9s
G24K Hadweenzic Riv 70.00 24 P **P** **05 27 10.2 -0.7**
baz=298
I23K Minto, Yukon-K 70.03 26 P **P** **05 27 11.4 +0.3**
I23K Minto, Yukon-K 70.03 26 P **P** **05 27 10.5 -0.6**
baz=297
P18K Big Mountain, 70.03 32 P **P** **05 27 10.4 -1.0**
baz=294
O19K Port Alsworth 70.12 31 P **P** **05 27 11.2 -0.5**
baz=294
KTH Kantishna Hill 70.14 27 IAmb IAmb 05 27 23.5
comp=Z,14nm,1.4s
LESA Schwarzleotal 70.14 314 *i* pP **P** **05 27 13.1 +0.8**
comp=Z,10.0nm,0.9s
GRA1 Grafenberg Arr 70.18 316 P **P** **05 27 12.4 +0.1**
GRA1 IAmb IAmb 05 27 14.7
comp=Z,10.0nm,0.9s
GRF Grafenberg Arr 70.18 316 P **P** **05 27 12.5 +0.1**
GRF pmax pmax
comp=Z,10.0nm,0.9s
F25K Christian Rive 70.19 23 P **P** **05 27 12.4 +0.2**
F25K IAmb IAmb 05 27 13.9
comp=Z,9.5nm,1.1s
F25K Christian Rive 70.19 23 P **P** **05 27 11.5 -0.7**
baz=299
LODK Lodwar 70.24 263 P P 05 27 11.9 -1.4
H24K Noodor Dome 70.26 25 P **P** **05 27 12.4 -0.2**
H24K IAmb IAmb 05 27 18.3
comp=Z,21nm,1.4s
H24K Noodor Dome 70.26 25 P **P** **05 27 11.4 -1.2**
baz=298
NEA2 Nenana 70.39 26 P **P** **05 27 12.9 -0.4**
NEA2 IAmb IAmb 05 27 15.0
comp=Z,16nm,1.0s
NEA2 Nenana 70.39 26 P **P** **05 27 13.0 -0.4**
baz=297,SNR=12
STKA Stephens Creek 70.42 147 P **P** **05 27 12.8 -1.1**
STKA Stephens Creek 70.42 147 P **P** **05 27 13.6 -0.3**
comp=Z,4.8nm,0.7s,baz=351,slow=22,SNR=12
comp=Z,4.8nm,0.7s
TRF Thorofare Moun 70.44 27 P **P** **05 27 12.6 -1.3**
baz=297
G25K Bearman Lake 70.44 23 P **P** **05 27 12.8 -0.8**
baz=299
ABTA Abfaltersbach 70.50 313 *e*P **P** **05 27 14.4 -0.1**
comp=Z,11nm,1.6s
SKT Skwentna 70.58 29 P **P** **05 27 14.5 -0.1**
SKT IAmb IAmb 05 27 15.9
comp=Z,13nm,1.1s
SKT Skwentna 70.58 29 P **P** **05 27 13.4 -1.3**
baz=296
BMAR Burnt Mountain 70.63 22 P **P** **05 27 15.4 +0.5**
SPCR Spurr Chakacha 70.63 30 P **P** **05 27 14.5 -0.5**
baz=296
F26K Sheenjek River 70.64 22 P **P** **05 27 14.4 -0.5**
baz=300
STLK Strandline Lak 70.67 30 P **P** **05 27 15.3 +0.1**
SPU Mount Spurr 70.71 30 P **P** **05 27 15.3 -0.2**
COLA College 70.72 26 P **P** **05 27 15.3 -0.1**
COLA College 70.72 26 P **P** **05 27 14.9 -0.5**
baz=298
COLA College 70.72 26 P **P** **05 27 15.3 -0.1**
COLA pmax pmax
comp=Z,18nm,0.9s
H25L Birch Creek 70.79 24 P **P** **05 27 15.4 -0.3**
baz=300
D27M Malcolm River 70.82 20 P **P** **05 27 15.8 -0.2**
D27M IAmb IAmb 05 27 17.9
comp=Z,7.3nm,1.0s
D27M Malcolm River 70.82 20 P P 05 27 14.5 -1.6
baz=303
FYU Fort Yukon 70.84 23 P **P** **05 27 16.4 +0.3**
FYU IAmb IAmb 05 27 18.3
comp=Z,14nm,1.1s
MCK McKinley 70.85 27 IAmb IAmb 05 27 37.8
comp=Z,9.1nm,1.2s
MCK McKinley 70.85 27 P **P** **05 27 15.1 -1.1**
baz=298
P19K Oil Pt 70.85 32 P **P** **05 27 15.1 -1.2**
baz=296
WTTA Wattenberg 70.86 314 *e*P **P** **05 27 17.1 +0.4**
comp=Z,9.3nm,1.2s
WATA Walderalm 70.86 314 *e*P **P** **05 27 17.0 +0.3**
comp=Z,2.6nm,0.6s
CUT Chulitna 70.92 28 P **P** **05 27 15.4 -1.2**
baz=297
KMBO Kilima Mbogo 70.93 257 P **P** **05 27 17.7 -0.1**
KMBO Kilima Mbogo 70.93 257 P **P** **05 27 17.9 +0.2**
comp=Z,5.7nm,0.9s,baz=41,slow=9.3,SNR=11
KMBO LR LR 05 59 35.2
comp=Z,74nm,18.6s,baz=34,slow=37
comp=Z,5.7nm,0.9s
KMBO Kilima Mbogo 70.93 257 P **P** **05 27 18.0 +0.2**
O20K Slope Mountain 70.94 31 P **P** **05 27 15.7 -1.2**
baz=296
Q19K Cape Douglas, 70.97 32 P P 05 27 15.1 -2.0
baz=295
ILAR Eielson Array 71.14 25 P **P** **05 27 16.9 -0.9**
comp=Z,1.9nm,0.8s,baz=291,slow=4.3,SNR=34
comp=Z,1.9nm,0.8s
ILAR Eielson Array 71.14 25 P **P** **05 27 17.0 -0.9**
SQTA Sankt Quirin 71.14 314 *i* pP **P** **05 27 19.4 +1.0**
comp=Z,13nm,1.0s
G26K Porcupine Rive 71.14 23 P **P** **05 27 16.9 -1.0**
baz=301
MOTA Moosalm 71.16 314 *i* pP **P** **05 27 19.5 +0.9**
comp=Z,9.4nm,1.0s
PRP Porcupine Dome 71.27 24 P **P** **05 27 19.5 +0.6**
PRP Porcupine Dome 71.27 24 P P 05 27 17.2 -1.7
baz=300,SNR=17
M22K Willow 71.28 29 P **P** **05 27 18.4 -0.4**
M22K Willow 71.28 29 P **P** **05 27 17.7 -1.1**
baz=297
CAPN Captain Cook N 71.29 30 P P 05 27 17.2 -1.7
baz=297
HDA Harding Lake 71.29 26 P P 05 27 17.4 -1.4
baz=299
RETA Reutte 71.31 314 *e*pP **P** **05 27 20.4 +1.0**
comp=Z,5.6nm,1.1s
CHIR Chirikof Islan 71.33 36 P **P** **05 27 18.2 -0.9**
baz=295
D28M Stokes Point 71.43 20 P **P** **05 27 18.8 -0.7**
baz=305
FETA Feichten 71.52 314 *e*pP **P** **05 27 21.5 +0.7**
comp=Z,13nm,1.1s
HOM Homer 71.57 31 P P 05 27 18.3 -2.3
baz=297
TEOL Teolo 71.58 312 P **P** **05 27 21.1 +0.2**
TEOL IAmb IAmb 05 27 23.5
comp=Z,16nm,0.9s
Q20K Shuyak Island 71.70 32 P P 05 27 18.9 -2.5
baz=296
SII Sitkinak Islan 71.74 35 P P 05 27 19.9 -1.8
baz=296
RC01 Rabbit Creek A 71.75 30 P **P** **05 27 20.8 -0.9**
RC01 IAmb IAmb 05 27 22.1
comp=Z,9.0nm,0.9s
RC01 Rabbit Creek A 71.75 30 P P 05 27 19.8 -1.9
baz=298
PMR Palmer 71.77 29 P **P** **05 27 21.4 -0.4**
PMR IAmb IAmb 05 27 22.7
comp=Z,15nm,0.8s
PMR Palmer 71.77 29 P **P** **05 27 20.5 -1.3**
baz=298,SNR=8.9
PMR Palmer 71.77 29 P **P** **05 27 21.4 -0.4**
PMR pmax pmax
comp=Z,15nm,0.8s
J25K Salcha River, 71.78 25 P **P** **05 27 21.1 -0.8**
J25K Salcha River, 71.78 25 P **P** **05 27 20.5 -1.4**
baz=300
OHAK Old Harbor 71.89 34 P P 05 27 20.9 -1.6
baz=296
G27K Doyon Strip 71.93 22 P **P** **05 27 22.8 +0.1**
G27K IAmb IAmb 05 27 24.1
comp=Z,8.9nm,1.1s
G27K Doyon Strip 71.93 22 P P 05 27 21.3 -1.5
baz=303
BRSE Bradley Lake S 71.94 31 P P 05 27 21.1 -1.8
baz=298
DAVA Damuels 71.94 314 *e*P **P** **05 27 22.6 -0.7**
comp=Z,8.3nm,1.5s
FUORN Ofenpass-Fuorn 71.97 314 P **P** **05 27 23.1 -0.5**
KDAK Kodiak Island 71.98 33 LR LR 05 59 54.6
comp=Z,155nm,20.8s,baz=147,slow=37
KDAK Kodiak Island 71.98 33 P P 05 27 21.5 -1.6
baz=297
SML Sawmill 72.00 29 P **P** **05 27 23.5 +0.2**
SML Sawmill 72.00 29 P **P** **05 27 22.5 -0.8**
baz=299,SNR=6.1
K24K Donnelly Dome 72.04 26 P P 05 27 21.9 -1.5
baz=300
O22K Cooper Landing 72.04 30 P P 05 27 21.7 -1.7
baz=298
F28M Old Crow 72.06 21 P **P** **05 27 22.4 -1.1**
baz=304
KNK Knik Glacier 72.14 29 P **P** **05 27 24.3 +0.2**
KNK IAmb IAmb 05 27 25.4
comp=Z,9.0nm,0.9s
KNK Knik Glacier 72.14 29 P **P** **05 27 22.8 -1.3**
baz=299
DAVOX Davos/Dischmat 72.15 314 P **P** **05 27 24.7 +0.1**
comp=Z,8.7nm,0.9s,baz=97,slow=5.5,SNR=13
comp=Z,8.7nm,0.9s
E29M Blow River 72.23 20 P **P** **05 27 24.7 +0.3**
E29M IAmb IAmb 05 27 26.2
comp=Z,16nm,1.1s
E29M Blow River 72.23 20 P **P** **05 27 23.3 -1.1**
baz=306
I26K Coal Creek Min 72.23 24 IAmb IAmb 05 27 25.7
comp=Z,9.1nm,0.9s
I26K Coal Creek Min 72.23 24 P P 05 27 22.9 -1.5
baz=302
M23K Glacier View 72.26 28 P **P** **05 27 23.4 -1.4**
baz=299
H27K Steamboat Moun 72.29 23 P **P** **05 27 24.1 -0.8**
baz=303
SEW Seward 72.34 30 P **P** **05 27 24.6 -0.6**
baz=298
SCM Sheep Creek Mo 72.41 28 P **P** **05 27 25.8 +0.1**
baz=300
RIDG Independent Ri 72.43 26 IAmb IAmb 05 27 26.2
comp=Z,19nm,1.2s
RIDG Independent Ri 72.43 26 P **P** **05 27 25.7 -0.1**
baz=301,SNR=7.0
PWL Port Wells 72.46 29 P **P** **05 27 26.1 +0.1**
baz=299
BFO Black Forest 72.47 316 P **P** **05 27 25.9 -0.3**
BFO Black Forest 72.47 316 P **P** **05 27 26.0 -0.3**
BFO pmax pmax
comp=Z,8.0nm,1.1s
J26L Joseph Creek 72.51 25 P **P** **05 27 26.3 0.0**
baz=302
PAX Paxson 72.58 27 P **P** **05 27 26.6 -0.1**
PAX Paxson 72.58 27 P **P** **05 27 27.0 +0.2**
baz=301
PAX Paxson 72.58 27 P **P** **05 27 26.7 -0.1**
PAX pmax pmax
comp=Z,10.0nm,1.4s
OSSC Osservatorio P 72.60 310 P **P** **05 27 27.2 +0.1**
I27K Kandik River 72.61 23 P **P** **05 27 27.6 +0.8**
baz=303
TUE Stuetta 72.61 314 P **P** **05 27 27.8 +0.4**
SCRK Sand Creek 72.63 25 P **P** **05 27 25.8 -1.2**
SCRK IAmb IAmb 05 27 28.0
comp=Z,13nm,1.1s
SCRK Sand Creek 72.63 25 P **P** **05 27 27.5 +0.4**
baz=302,SNR=10
M24K Tolsona, Glenn 72.74 28 P **P** **05 27 28.4 +0.8**
M24K Tolsona, Glenn 72.74 28 P **P** **05 27 28.1 +0.4**
baz=300,SNR=6.2
GLI Glacier Island 72.98 29 P **P** **05 27 28.8 -0.2**
baz=300
HARP HAARP 73.00 27 P **P** **05 27 29.6 +0.4**
baz=301
G29M Pine Creek 73.06 21 IAmb IAmb 05 27 55.7
comp=Z,12nm,1.4s
G29M Pine Creek 73.06 21 P **P** **05 27 30.0 +0.6**
baz=306
A36M Sachs Harbour 73.14 14 IAmb IAmb 05 27 31.2
comp=Z,18nm,1.1s
A36M Sachs Harbour 73.14 14 P **P** **05 27 30.2 +0.4**
baz=316
KLU Klutina 73.16 28 P **P** **05 27 30.3 +0.1**
KLU Klutina 73.16 28 P **P** **05 27 30.4 +0.2**
baz=301,SNR=6.9
WLF Walferdange 73.20 318 P **P** **05 27 31.2 +0.7**
WLF IAmb IAmb 05 27 33.0
comp=Z,16nm,0.9s
WLF Walferdange 73.20 318 P **P** **05 27 31.2 +0.7**
WLF pmax pmax
comp=Z,16nm,0.9s
ECH Echery 73.22 316 P **P** **05 27 30.4 -0.3**
ECH Echery 73.22 316 P **P** **05 27 30.4 -0.3**
ECH pmax pmax
comp=Z,5.0nm,1.1s
I28M Miner Creek 73.27 23 P **P** **05 27 30.7 -0.1**
I28M Miner Creek 73.27 23 P **P** **05 27 30.7 -0.1**
baz=305
P23K Montague Islan 73.29 30 P **P** **05 27 30.8 -0.1**
baz=300
F30M Barrier River 73.33 20 P **P** **05 27 31.4 +0.4**
baz=308
H29M Whitestone 73.35 22 P **P** **05 27 31.5 +0.4**
baz=306
L26K Log Cabin Wild 73.38 26 P **P** **05 27 31.2 -0.1**
baz=302
INK Inuvik 73.56 19 IAmb IAmb 05 27 33.5
comp=Z,10nm,1.1s
INK Inuvik 73.56 19 P **P** **05 27 32.4 +0.1**
baz=310
G30M tAoh Zraii Nji 73.58 21 IAmb IAmb 05 27 33.4
comp=Z,22nm,1.1s
G30M tAoh Zraii Nji 73.58 21 P **P** **05 27 32.7 +0.1**
baz=308
N25K Chitina, Valde 73.64 28 P **P** **05 27 33.1 +0.1**
N25K IAmb IAmb 05 27 34.5
comp=Z,8.2nm,0.8s
N25K Chitina, Valde 73.64 28 P **P** **05 27 32.9 -0.1**
baz=302,SNR=5.8
EYAK Cordova Ski Ar 73.72 29 P **P** **05 27 33.7 +0.4**
EYAK IAmb IAmb 05 27 35.2
comp=Z,16nm,1.1s
EYAK Cordova Ski Ar 73.72 29 P **P** **05 27 33.0 -0.3**
baz=301
M26K Nabesna, AK 73.85 27 P **P** **05 27 34.1 -0.1**
M26K Nabesna, AK 73.85 27 P **P** **05 27 33.6 -0.6**
baz=303
I29M Ogilvie Camp, 73.88 23 P **P** **05 27 34.3 0.0**
baz=306
L27K Beaver Creek, 73.94 26 P **P** **05 27 34.9 +0.2**
L27K IAmb IAmb 05 27 36.8
comp=Z,11nm,1.1s
L27K Beaver Creek, 73.94 26 P **P** **05 27 35.0 +0.2**
baz=304
SENIN Lac Senin/Sane 73.94 314 P **P** **05 27 35.6 +0.4**
SENIN IAmb IAmb 05 27 40.1
comp=Z,14nm,0.8s
BCAR Beaver Creek A 73.95 26 P **P** **05 27 35.7 +0.9**
BMRM Bremner River 73.98 28 P **P** **05 27 35.2 +0.3**
BMRM IAmb IAmb 05 27 36.6
comp=Z,22nm,1.0s
BMRM Bremner River 73.98 28 P **P** **05 27 34.9 -0.1**
baz=302,SNR=6.7
Q23K Middleton Isla 74.04 30 P **P** **05 27 34.7 -0.5**
baz=301
GLB Gilahina Butte 74.05 28 P **P** **05 27 35.7 +0.3**
GLB IAmb IAmb 05 27 37.0
comp=Z,9.0nm,1.0s
F31M Tsiigehtchic 74.05 20 P **P** **05 27 35.0 -0.2**
baz=310
TULEG Thule 74.17 358 P **P** **05 27 36.8 +1.1**
DAWY Dawson 74.26 24 P **P** **05 27 36.1 -0.5**
DAWY Dawson 74.26 24 P **P** **05 27 35.6 -1.0**
baz=306
VRDI Verde Repeater 74.31 28 P **P** **05 27 36.8 -0.3**
M27K Edge Creek, AK 74.31 26 P **P** **05 27 35.7 -1.3**
M27K IAmb IAmb 05 27 39.1
comp=Z,11nm,1.1s
M27K Edge Creek, AK 74.31 26 P **P** **05 27 36.5 -0.5**
baz=304
J29N Klondike Camp 74.45 24 P **P** **05 27 37.3 -0.4**
J29N Klondike Camp 74.45 24 P **P** **05 27 37.9 +0.2**
baz=306
I30M Mount Dempster 74.61 22 P **P** **05 27 38.9 +0.2**
baz=308
KAIM Kayak Island 74.61 29 P **P** **05 27 38.5 -0.1**
baz=302
BNI Bardonecchia 74.91 313 IAmb IAmb 05 27 49.7
comp=Z,9.7nm,1.1s
H31M Peel River 74.91 21 P **P** **05 27 40.5 +0.2**
baz=309
BGLC Bering Glacier 74.99 29 P **P** **05 27 40.3 -0.4**
baz=303
J30M Hart River 75.03 23 P **P** **05 27 41.0 -0.1**
J30M Hart River 75.03 23 P **P** **05 27 40.4 -0.7**
baz=308
K29M Barlow Dome 75.06 24 P **P** **05 27 41.1 -0.2**
K29M IAmb IAmb 05 27 42.8
comp=Z,9.7nm,1.0s
K29M Barlow Dome 75.06 24 P **P** **05 27 41.3 0.0**
baz=307
L29M L29M 75.28 25 P **P** **05 27 42.7 +0.2**
L29M IAmb IAmb 05 27 44.5
comp=Z,11nm,1.1s
L29M L29M 75.28 25 P **P** **05 27 42.9 +0.4**
baz=307
C36M Paulatuk 75.34 16 IAmb IAmb 05 27 44.3
comp=Z,14nm,1.1s
C36M Paulatuk 75.34 16 P **P** **05 27 42.5 -0.1**
baz=317
MESA MESA 75.51 28 P **P** **05 27 44.1 +0.1**
MESA IAmb IAmb 05 28 05.5
comp=Z,20nm,1.1s
MESA MESA 75.51 28 P **P** **05 27 43.1 -1.0**
baz=304
EKA Eskdalemuir Ar 75.53 326 P **P** **05 27 43.8 -0.1**
comp=Z,3.3nm,0.9s,baz=45,slow=6.3,SNR=6.7
comp=Z,3.3nm,0.9s
M29M Somme Creek 75.56 25 P **P** **05 27 44.7 +0.5**
M29M Somme Creek 75.56 25 P **P** **05 27 44.0 -0.2**
baz=307
YUK8 Steele Glacier 75.75 27 P **P** **05 27 45.4 -0.1**
baz=306
MAYO Mayo, Yukon 75.79 24 P **P** **05 27 46.4 +1.1**
O28M Mount Upton 75.88 27 P **P** **05 27 46.0 -0.3**
baz=306
M30M Minto, Yukon 76.10 25 P **P** **05 27 47.2 0.0**
M30M IAmb IAmb 05 27 48.8
comp=Z,8.9nm,1.1s
M30M Minto, Yukon 76.10 25 P **P** **05 27 47.2 0.0**
baz=308
YUK4 Talbot Arm 76.15 26 P **P** **05 27 47.4 -0.3**
baz=307
YUK6 Outpost Mounta 76.50 27 P **P** **05 27 49.5 -0.2**
baz=307
O29M Mount Kennedy 76.81 27 P **P** **05 27 50.8 -0.5**
baz=307
HYT Haines Junctio 76.91 26 P **P** **05 27 50.9 -1.0**
baz=308
N31M Braeburn, Yuko 77.15 25 P **P** **05 27 53.3 +0.1**
N31M IAmb IAmb 05 27 54.4
comp=Z,11nm,0.8s
N31M Braeburn, Yuko 77.15 25 P **P** **05 27 53.0 -0.2**
baz=309
M31M Drury Creek, Y 77.20 24 P **P** **05 27 53.6 +0.2**
M31M Drury Creek, Y 77.20 24 P **P** **05 27 53.1 -0.3**
baz=310
O30N Mendenhall 77.49 26 P **P** **05 27 55.4 +0.3**
O30N IAmb IAmb 05 27 56.9
comp=Z,14nm,1.3s
O30N Mendenhall 77.49 26 P **P** **05 27 54.9 -0.1**
baz=309
P30M Million Dollar 77.55 27 P **P** **05 27 55.0 -0.5**
baz=308
FARO Faro, Yukon 77.56 24 P **P** **05 27 55.2 -0.2**
baz=311
WHY Whitehorse 78.02 26 P **P** **05 27 57.2 -0.9**
baz=310
N32M Quiet Lake 78.36 25 IAmb IAmb 05 28 01.0
comp=Z,12nm,0.9s
N32M Quiet Lake 78.36 25 P **P** **05 27 59.4 -0.6**
baz=311
DZM Mont Dzumac 78.55 123 *e*LR LR 05 52 20.0
comp=Z,98nm,23.1s
DZM Mont Dzumac 78.55 123 LR LR 06 00 50.7
comp=Z,90nm,18.9s,baz=98,slow=34
SKAG Skagway 78.61 27 P **P** **05 28 00.9 -0.4**
baz=310
P33M Teslin, Yukon 79.08 25 P **P** **05 28 02.8 -1.2**
baz=312
P32M Atlin 79.16 26 P **P** **05 28 03.9 -0.4**
baz=311
S31K Pelican 79.20 28 P **P** **05 28 03.8 -0.7**
baz=309
CEST Esterri de Car 79.53 313 P **P** **05 28 06.4 -0.3**
CEST IAmb IAmb 05 28 09.7
comp=Z,18nm,1.4s
R33M Jennings River 80.33 25 P **P** **05 28 10.4 -0.4**
baz=313
WTLY Watson Lake, Y 80.62 24 P **P** **05 28 12.3 +0.1**
baz=315
S34M Telegraph Cree 81.28 26 P **P** **05 28 16.2 +0.5**
baz=313
DLBC Dease Lake 81.34 26 LR LR 06 09 58.5
comp=Z,210nm,18.0s,baz=13,slow=40
CRAG Craig 82.13 29 P **P** **05 28 19.0 -1.2**
baz=312
TOAD Toad River Com 82.79 24 P **P** **05 28 22.8 -0.8**
baz=318
V35K Ketchikan 82.86 29 P **P** **05 28 23.5 -0.5**
baz=313
YKA Yellowknife Ar 83.13 17 P **P** **05 28 25.4 +0.1**
comp=Z,1.4nm,0.7s,baz=324,slow=4.5,SNR=26
comp=Z,1.4nm,0.7s
ESDC Sonseca Array 84.42 313 P **P** **05 28 32.6 +0.1**
comp=Z,1.5nm,0.9s,baz=41,slow=5.5,SNR=7.9
comp=Z,1.5nm,0.9s
MSVF Nonsavu 84.94 113 LR LR 06 02 07.6
comp=Z,61nm,22.0s,baz=349,slow=33
LSZ Lusaka 85.98 250 P **P** **05 28 40.1 -0.5**
LSZ IAmb IAmb 05 28 42.1
comp=Z,8.9nm,0.9s
LSZ Lusaka 85.98 250 P **P** **05 28 40.1 -0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LBTB Lobatse 93.12 243 LR LR 06 08 48.9
comp=Z,59nm,20.8s,baz=2.5,slow=34
BOSA Boshof 95.22 240 LR LR 06 11 58.9
comp=Z,41nm,18.6s,baz=20,slow=35
ULM Lac du Bonnet 98.59 13 LR LR 06 21 26.7
comp=Z,103nm,18.2s,baz=47,slow=40
T25A Trinidad 108.39 24 P **PKiKP** **05 34 27.8 -1.0**
baz=334
L61B Northampton 108.39 358 P **PKiKP** **05 34 28.1 -0.2**
baz=2.5
PPT2 Papeete2 111.98 98 *e*LR LR 06 07 45.6
comp=Z,65nm,22.8s
TBI Tubuai 114.42 104 *e*LR LR 06 08 56.3
comp=Z,603nm,34.5s
TAOE Nuku Hiva Isla 116.29 85 *e*LR LR 06 09 51.9
comp=Z,88nm,22.4s
QSPA South Pole Qui 119.25 180 PKP **PKPdf** **05 34 46.8 -1.4**
comp=Z,2.1nm,0.7s,baz=305,slow=1.0,SNR=8.0
ROSC El Rosal 145.87 358 PKPbc **PKPdf** **05 35 39.9 0.0**
comp=Z,18nm,0.9s,baz=319,slow=11,SNR=8.4
BDFB Brasilia 151.27 293 PKPbc **PKPdf** **05 35 53.4 +5.3**
comp=Z,1.8nm,0.5s,baz=58,slow=1.9,SNR=6.1
SIV San Ignacio 161.18 312 PKP **PKPdf** **05 36 00.8 -0.1**
comp=Z,1.2nm,0.9s,baz=201,slow=2.3,SNR=5.0
SIV PKPab **PKPab** **05 36 44.3 0.0**
comp=Z,1.9nm,0.8s,baz=80,slow=6.1,SNR=6.8

*IDC **25** 05:22:58.1±2.0, 36.°70S×179.°24E, h0km, mb4.6/2,*
mbtmp4.6/3, ML4.2/1, MS3.6/5, Error ellipse: s-maj=63.5km
s-min=35.8km az=145.0
*NEIC **25** 05:22:59.8±1.7, 37.°05S±0.°07×179.°26E±0.°07, h10km±1km,*

mb4.6/17, Error ellipse: s-maj=13.1km s-min=8.4km az=160.0
*NOU **25** 05:23:03.2, 37°.17S×179°.22E, h15km, MLv4.4/15, Off E. Coast of N. Island, N.Z.*
*WEL **25** 05:23:03.5±1.5, 37°.5S±5°×17°.9E±1°.2, h22km±18km, M4.0/20, ML4.2/21, MLv4.0/20, Error ellipse: s-maj=15.8km s-min=6.0km az=92.0, confirmed*
ISC 25 05:23:00.2±2.0, 37°.08S±0°.06×179°.34E±0°.07, h13km±10km, n176, σ1§47/178, mb4.6/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.95**	**239**		**Pg**	**05 23 19.1**	**+0.5**
MXZ				Sg	**Sg**	05 23 29.8	-1.3
MXZ	**Matakaoa Point**	**0.95**	**239**	P	**Pg**	**05 23 18.9**	**+0.3**
MXZ	**Matakaoa Point**	**0.95**	**239**	P	**Pg**	**05 23 19.1**	**+0.5**
WMGZ	**Waiomatatini S**	**1.04**	**225**	P	**Pn**	**05 23 22.5**	**+1.9**
WMGZ				S	**Sb**	**05 23 36.2**	**+2.4**
PKGZ	**Pakihiroa**	**1.27**	**231**	P	**Pn**	**05 23 25.4**	**+1.7**
PKGZ				S	**Sb**	**05 23 41.4**	**+1.0**
PUZ	**Puketiti**	**1.31**	**221**	P	**Pn**	**05 23 26.2**	**+1.9**
PUZ				S	**Sb**	**05 23 43.0**	**+1.5**
HAZ	**Te Kaha**	**1.41**	**241**	P	**Pn**	**05 23 25.9**	**+0.2**
HAZ				S	**Sn**	**05 23 44.8**	**+0.7**
TWGZ	**Tauwhareparae**	**1.54**	**224**	P	**Pn**	**05 23 29.3**	**+1.8**
TWGZ				S	**Sn**	**05 23 48.9**	**+1.5**
RUGZ	**Raukumara Rang**	**1.59**	**236**	P	**Pn**	**05 23 30.2**	**+1.9**
RUGZ				S	**Sn**	**05 23 49.4**	**+0.7**
CNGZ	**Carnagh Statio**	**1.67**	**212**	P	**Pn**	**05 23 31.5**	**+2.4**
WIZ	**White Island**	**1.77**	**255**	P	**Pn**	**05 23 30.6**	**0.0**
TKGZ	**Te Karaka**	**1.80**	**221**	P	**Pn**	**05 23 32.5**	**+1.5**
MWZ	**Matawai**	**1.91**	**228**	P	**Pn**	**05 23 34.0**	**+1.5**
MWZ				S	**Sn**	**05 23 55.9**	**-0.5**
WHRZ	**Whale Island**	**2.04**	**247**	P	**Pn**	**05 23 35.7**	**+1.5**
RIGZ	**Rimuhau**	**2.05**	**217**	P	**Pn**	**05 23 35.7**	**+1.2**
RAGZ	**Rawiri**	**2.08**	**227**	P	**Pn**	**05 23 36.6**	**+1.7**
URZ	**Urewera**	**2.12**	**236**	Pn	**Pn**	**05 23 36.7**	**+1.2**
	60nm,0.3s,baz=334,slow=1.1,SNR=156						
URZ				Sn	**Sn**	**05 24 01.9**	**+0.2**
	53nm,0.3s,baz=239,slow=23,SNR=18						
URZ				LR	LR	05 24 50.7	
	comp=Z,333nm,19.1s,baz=82,slow=49 171nm,0.3s						
URZ	**Urewera**	**2.12**	**236**	P	**Pn**	**05 23 36.6**	**+1.2**
URZ	**Urewera**	**2.12**	**236**	S	**Sn**	**05 24 01.9**	**+0.2**
URZ	**Urewera**	**2.12**	**236**	P	**Pn**	**05 23 36.6**	**+1.2**
PRGZ	**Paritu Road**	**2.17**	**212**	P	**Pn**	**05 23 37.5**	**+1.3**
SNGZ	**Shannon Statio**	**2.32**	**222**	P	**Pn**	**05 23 39.3**	**+1.2**
OPRZ	**Ohinepanea**	**2.34**	**250**	P	**Pn**	**05 23 39.2**	**+0.8**
KNZ	**Kokohu**	**2.34**	**214**	P	**Pn**	**05 23 39.1**	**+0.6**
MHGZ	**Mahia Peninsul**	**2.36**	**208**	P	**Pn**	**05 23 40.0**	**+1.3**
RTZ	**Ruatahuna**	**2.42**	**230**		**Pn**	**05 23 40.6**	**+1.0**
RTZ				Sn	**Sn**	**05 24 08.2**	**-0.9**
RTZ	**Ruatahuna**	**2.42**	**230**	P	**Pn**	**05 23 41.2**	**+1.7**
MUGZ	**Murupara**	**2.47**	**235**	P	**Pn**	**05 23 41.2**	**+1.0**
MYRZ	**Mayor Island**	**2.48**	**264**	P	**Pn**	**05 23 40.9**	**+0.5**
TARZ	**Mount Tarawera**	**2.53**	**242**	P	**Pn**	**05 23 42.6**	**+1.5**
TGRZ	**Tauranga**	**2.54**	**254**	P	**Pn**	**05 23 41.9**	**+0.8**
RAHZ	**Arahi**	**2.56**	**223**	P	**Pn**	**05 23 42.5**	**+1.1**
RRRZ	**Republican Roa**	**2.57**	**240**	P	**Pn**	**05 23 43.0**	**+1.4**
OMRZ	**Omania**	**2.57**	**246**	P	**Pn**	**05 23 43.0**	**+1.4**
WHAZ	**Waihua**	**2.60**	**218**	P	**Pn**	**05 23 43.3**	**+1.4**
KARZ	**Kaharoa**	**2.63**	**248**	P	**Pn**	**05 23 43.6**	**+1.2**
HLRZ	**Highlands Stat**	**2.64**	**243**	P	**Pn**	**05 23 44.2**	**+1.5**
MTHZ	**Maungataniwha**	**2.65**	**227**	P	**Pn**	**05 23 44.0**	**+1.3**
HSRZ	**Hossack Road**	**2.75**	**242**	P	**Pn**	**05 23 45.9**	**+1.9**
ALRZ	**Allen Road**	**2.80**	**237**	P	**Pn**	**05 23 45.6**	**+0.9**
KMRZ	**Kaimai**	**2.81**	**253**	P	**Pn**	**05 23 45.5**	**+0.6**
NMHZ	**Naumai**	**2.84**	**224**	P	**Pn**	**05 23 46.6**	**+1.3**
ARHZ	**Aropaoanui**	**2.86**	**220**	P	**Pn**	**05 23 46.6**	**+1.0**
GRRZ	**Galatos Road**	**2.86**	**243**	P	**Pn**	**05 23 47.4**	**+1.8**
KUZ	**Kuaotunu**	**2.92**	**275**	P	**Pn**	**05 23 46.0**	**-0.3**
KUZ	**Kuaotunu**	**2.92**	**275**	P	**Pn**	**05 23 46.2**	**-0.2**
BKZ	**Black Stump Fm**	**3.06**	**226**		**Pn**	**05 23 49.1**	**+0.7**
BKZ				Sn	**Sn**	**05 24 23.7**	**-1.2**
BKZ	**Black Stump Fm**	**3.06**	**226**	P	**Pn**	**05 23 48.8**	**+0.4**
BKZ	**Black Stump Fm**	**3.06**	**226**	S	**Sn**	**05 24 23.8**	**-1.2**
BKZ	**Black Stump Fm**	**3.06**	**226**	P	**Pn**	**05 23 49.1**	**+0.7**
TOZ	**Tahuroa Road**	**3.12**	**257**		**Pn**	**05 23 49.4**	**+0.3**
TOZ	**Tahuroa Road**	**3.12**	**257**	P	**Pn**	**05 23 49.5**	**+0.3**
CKHZ	**Cape Kidnapper**	**3.13**	**214**	P	**Pn**	**05 23 49.8**	**+0.5**
MCHZ	**McNeill Hill**	**3.15**	**221**	P	**Pn**	**05 23 50.4**	**+0.9**
GRZ	**Great Barrier**	**3.23**	**284**	P	**Pn**	**05 23 51.6**	**+1.0**
KWHZ	**Kaweka Forest**	**3.28**	**224**	P	**Pn**	**05 23 51.7**	**+0.3**
KAHZ	**Kahuranaki**	**3.33**	**215**	P	**Pn**	**05 23 52.2**	**+0.1**
MKAZ	**Moumakai**	**3.34**	**268**	P	**Pn**	**05 23 52.6**	**+0.4**
WIAZ	**Waiheke Island**	**3.38**	**274**	P	**Pn**	**05 23 53.3**	**+0.5**
KRHZ	**Kereru**	**3.46**	**221**	P	**Pn**	**05 23 54.2**	**+0.3**
TMVZ	**Te Maari**	**3.52**	**234**	P	**Pn**	**05 23 55.6**	**+0.9**
PXZ	**Pawanui**	**3.53**	**213**	P	**Pn**	**05 23 54.4**	**-0.4**
OTVZ	**Oturere**	**3.57**	**233**	P	**Pn**	**05 23 56.2**	**+0.8**
MBAZ	**Motutapu North**	**3.57**	**274**	P	**Pn**	**05 23 56.2**	**+0.9**
WTVZ	**West Tongariro**	**3.59**	**234**	P	**Pn**	**05 23 57.9**	**+2.2**
SNVZ	**South Ngauruho**	**3.60**	**233**	P	**Pn**	**05 23 56.6**	**+0.7**
NGZ	**Ngauruhoe**	**3.62**	**233**	P	**Pn**	**05 23 56.9**	**+0.8**
TUVZ	**Tukino**	**3.63**	**232**	P	**Pn**	**05 23 57.8**	**+1.4**
ABAZ	**Army Bay**	**3.65**	**276**	P	**Pn**	**05 23 57.5**	**+1.2**
MOVZ	**Moawhango**	**3.66**	**229**	P	**Pn**	**05 23 57.0**	**+0.4**
TWVZ	**Taurewa**	**3.67**	**236**	P	**Pn**	**05 23 58.3**	**+1.6**
EPAZ	**Eden Park BICE**	**3.69**	**272**	P	**Pn**	**05 23 58.7**	**+1.9**
HBAZ	**Herne Bay Bore**	**3.70**	**272**	P	**Pn**	**05 23 59.5**	**+2.4**
WNVZ	**Wahianoa**	**3.71**	**232**	P	**Pn**	**05 23 57.7**	**+0.4**
WPHZ	**Waipukurau**	**3.75**	**216**	P	**Pn**	**05 23 57.8**	**0.0**
PNHZ	**Pukenui**	**3.75**	**220**	P	**Pn**	**05 23 57.1**	**-0.7**
AWAZ	**Awhitu Peninsu**	**3.75**	**269**	P	**Pn**	**05 23 59.1**	**+1.3**
WTAZ	**Waiatarua**	**3.82**	**271**	P	**Pn**	**05 24 00.2**	**+1.5**
RVAZ	**Riverhead Bore**	**3.83**	**273**	P	**Pn**	**05 24 00.2**	**+1.4**
HIZ	**Hauiti**	**3.83**	**247**	Pn	**Pn**	**05 24 00.3**	**+1.4**
HIZ	**Hauiti**	**3.83**	**247**	P	**Pn**	**05 24 00.5**	**+1.6**
HIZ	**Hauiti**	**3.83**	**247**	P	**Pn**	**05 24 00.8**	**+1.9**
TSZ	**Takapari Road**	**3.98**	**221**	P	**Pn**	**05 24 00.4**	**-0.7**
DVHZ	**Dannevirke**	**4.06**	**217**	P	**Pn**	**05 24 01.3**	**-0.8**
VRZ	**Vera Road**	**4.15**	**239**	P	**Pn**	**05 24 04.9**	**+1.6**
WOZ	**Waipu Caves**	**4.18**	**284**	P	**Pn**	**05 24 04.8**	**+1.1**
POWZ	**Post Office Ro**	**4.33**	**219**	P	**Pn**	**05 24 06.2**	**+0.4**
BFZ	**Birch Farm**	**4.33**	**213**	Pn	**Pn**	**05 24 04.9**	**-0.9**
BFZ	**Birch Farm**	**4.33**	**213**	P	**Pn**	**05 24 04.6**	**-1.2**
BFZ	**Birch Farm**	**4.33**	**213**	P	**Pn**	**05 24 04.7**	**-1.1**
WAZ	**Wanganui**	**4.34**	**231**	P	**Pn**	**05 24 07.3**	**+1.4**
PRWZ	**Pori Road**	**4.36**	**216**	P	**Pn**	**05 24 05.6**	**-0.5**
TIWZ	**Tintock**	**4.57**	**215**	P	**Pn**	**05 24 08.5**	**-0.6**
MRZ	**Mangatainoka R**	**4.63**	**218**	Pn	**Pn**	**05 24 08.8**	**-1.0**
MRZ	**Mangatainoka R**	**4.63**	**218**	P	**Pn**	**05 24 08.2**	**-1.6**
NEZ	**North Egmont**	**4.67**	**240**	P	**Pn**	**05 24 14.1**	**+3.5**
PKE	**Pukeiti**	**4.72**	**242**	P	**Pn**	**05 24 15.2**	**+4.1**
HOWZ	**Holdsworth Sta**	**4.84**	**217**	P	**Pn**	**05 24 11.0**	**-1.8**
OGWZ	**Otaki Gorge**	**4.95**	**220**	P	**Pn**	**05 24 12.8**	**-1.5**
OUZ	**Omahuta**	**5.00**	**290**	P	**Pn**	**05 24 16.5**	**+1.5**
OUZ	**Omahuta**	**5.00**	**290**	P	**Pn**	**05 24 16.6**	**+1.6**
MTW	**Mount Morrison**	**5.05**	**215**	P	**Pn**	**05 24 13.5**	**-2.1**
KIW	**Kapiti Island**	**5.12**	**221**	P	**Pn**	**05 24 15.4**	**-1.2**
TRWZ	**Traveller**	**5.16**	**212**	P	**Pn**	**05 24 14.3**	**-2.9**
CAW	**Cannon Point**	**5.22**	**218**	P	**Pn**	**05 24 16.3**	**-1.7**
PAWZ	**Paruwai Farm**	**5.26**	**214**	P	**Pn**	**05 24 16.2**	**-2.4**
MSWZ	**Moikau Station**	**5.37**	**215**	Pn	**Pn**	**05 24 17.6**	**-2.5**
MSWZ	**Moikau Station**	**5.37**	**215**	P	**Pn**	**05 24 17.6**	**-2.5**
PLWZ	**Palliser**	**5.49**	**214**	Pn	**Pn**	**05 24 19.8**	**-1.9**
PLWZ	**Palliser**	**5.49**	**214**	P	**Pn**	**05 24 19.0**	**-2.7**
BHW	**Baring Head**	**5.54**	**217**	Pn	**Pn**	**05 24 21.9**	**-0.5**
SNZO	**South Karori**	**5.55**	**219**	Pn	**Pn**	**05 24 20.6**	**-1.9**
SNZO	**South Karori**	**5.55**	**219**	P	**Pn**	**05 24 22.2**	**-0.3**
TCW	**Tory Channel**	**5.70**	**222**	Pn	**Pn**	**05 24 22.9**	**-1.6**
TCW	**Tory Channel**	**5.70**	**222**	P	**Pn**	**05 24 22.6**	**-2.0**
TUWZ	**Tuamarina**	**6.03**	**222**	Pn	**Pn**	**05 24 27.2**	**-1.9**
TUWZ	**Tuamarina**	**6.03**	**222**	P	**Pn**	**05 24 27.1**	**-2.0**
CMWZ	**Cape Campbell**	**6.12**	**219**	Pn	**Pn**	**05 24 30.0**	**-0.4**
NNZ	**Nelson**	**6.21**	**226**	Pn	**Pn**	**05 24 30.1**	**-1.5**
BSWZ	**Blackbirch Sta**	**6.27**	**221**	Pn	**Pn**	**05 24 32.0**	**-0.4**
BSWZ	**Blackbirch Sta**	**6.27**	**221**	P	**Pn**	**05 24 30.2**	**-2.2**
TKNZ	**Takaka Hill**	**6.34**	**230**	Pn	**Pn**	**05 24 31.7**	**-1.7**
TKNZ	**Takaka Hill**	**6.34**	**230**	P	**Pn**	**05 24 32.8**	**-0.6**
QRZ	**Quartz Range**	**6.49**	**233**	Pn	**Pn**	**05 24 34.8**	**-0.7**
QRZ	**Quartz Range**	**6.49**	**233**	P	**Pn**	**05 24 34.1**	**-1.3**
QRZ	**Quartz Range**	**6.49**	**233**	P	**Pn**	**05 24 34.2**	**-1.3**
MRNZ	**Matariki Terra**	**6.69**	**228**	Pn	**Pn**	**05 24 36.2**	**-1.9**
MRNZ	**Matariki Terra**	**6.69**	**228**	P	**Pn**	**05 24 36.1**	**-2.1**
THZ	**Tophouse**	**6.83**	**225**	Pn	**Pn**	**05 24 38.7**	**-1.5**
THZ	**Tophouse**	**6.83**	**225**	P	**Pn**	**05 24 37.8**	**-2.3**
KHZ	**Kahutara**	**6.96**	**218**	P	Pn	05 24 38.9	-2.9
CTZ	**Chatham Island**	**7.33**	**156**	Pn	**Pn**	**05 24 48.7**	**+1.7**
CTZ	**Chatham Island**	**7.33**	**156**	P	**Pn**	**05 24 49.2**	**+2.3**
CTZ	**Chatham Island**	**7.33**	**156**	P	**Pn**	**05 24 49.3**	**+2.3**
DSZ	**Denniston Nort**	**7.46**	**229**	Pn	**Pn**	**05 24 47.3**	**-1.6**
GVZ	**Greta Valley S**	**7.61**	**217**	Pn	**Pn**	**05 24 49.9**	**-1.0**
LTZ	**Lake Taylor**	**7.87**	**221**	Pn	**Pn**	**05 24 53.8**	**-0.6**
INZ	**Inchbonnie**	**8.28**	**225**	Pn	**Pn**	**05 25 00.6**	**+0.6**
OXZ	**Oxford**	**8.37**	**220**	Pn	**Pn**	**05 25 00.2**	**-1.1**
RPZ	**Rata Peaks**	**9.15**	**221**	Pn	Pn	05 25 08.7	-3.3
	1.3nm,0.3s,baz=54,slow=14,SNR=1.5						
RPZ				Sn	Sn	05 26 43.0	-12
	1.9nm,0.3s,baz=41,slow=18,SNR=9.4						
RPZ	**Rata Peaks**	**9.15**	**221**	P	**Pn**	**05 25 11.6**	**-0.4**
FOZ	**Fox Glacier**	**9.71**	**225**	Pn	**Pn**	**05 25 17.6**	**-2.1**
ODZ	**Otahua Downs**	**10.31**	**217**	Pn	**Pn**	**05 25 25.1**	**-2.7**
ODZ	**Otahua Downs**	**10.31**	**217**	P	**Pn**	**05 25 27.8**	**0.0**
JCZ	**Jackson Bay**	**10.64**	**226**	P	**Pn**	**05 25 32.1**	**-0.3**
JCZ	**Jackson Bay**	**10.64**	**226**	P	**Pn**	**05 25 31.4**	**-0.9**
WHZ	**Wether Hill Ro**	**12.26**	**221**	Pn	**Pn**	**05 25 54.1**	**-0.3**
DZM	**Mont Dzumac**	**18.66**	**320**	LR	LR	05 32 44.5	
	comp=Z,424nm,18.9s,baz=201,slow=32						
PPT	**Papeete**	**33.54**	**63**	LR	LR	05 40 39.2	
	comp=Z,23nm,20.8s,baz=43,slow=32						
BBOO	**Buckleboo**	**35.51**	**264**	P	**P**	**05 29 54.6**	**-2.2**
BBOO				IAmb	IAmb	05 30 28.4	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**39.58**	**296**	P	**P**	**05 30 30.9**	**-0.5**
COEN				IAmb	IAmb	05 30 32.4	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**41.05**	**276**	P	**P**	**05 30 42.6**	**-1.0**
AS31				IAmb	IAmb	05 30 43.4	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**41.05**	**276**	P	**P**	**05 30 41.8**	**-1.8**
ASAR	**Alice Springs**	**41.05**	**276**	P	**P**	**05 30 42.7**	**-0.9**
	comp=Z,7.4nm,0.6s,baz=120,slow=8.3,SNR=49 comp=Z,7.4nm,0.6s						
VNDA	**Vanda**	**41.25**	**186**	P	**P**	**05 30 45.5**	**+1.0**
WR0	**Warramunga Arr**	**42.48**	**281**	P	**P**	**05 30 54.3**	**-0.9**
WB2	**Warramunga Arr**	**42.63**	**281**	P	**P**	**05 30 55.2**	**-1.3**
WB2				IAmb	IAmb	05 30 55.7	
	comp=Z,6.5nm,0.5s						
WRAB	**Tennant Creek**	**42.64**	**281**	P	**P**	**05 30 55.2**	**-1.4**
WRAB				IAmb	IAmb	05 30 55.6	
	comp=Z,6.2nm,0.7s						
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**05 30 55.4**	**-1.2**
WRA	**Warramunga Arr**	**42.65**	**281**	P	**P**	**05 30 55.2**	**-1.4**
	comp=Z,5.4nm,0.7s,baz=120,slow=7.8,SNR=35 comp=Z,5.4nm,0.7s						
WB0	**Warramunga Arr**	**42.70**	**281**	P	**P**	**05 30 56.0**	**-1.1**
WB0				IAmb	IAmb	05 30 56.1	
	comp=Z,6.0nm,0.6s						
MTN	**Manton Dam**	**49.27**	**286**	P	**P**	**05 31 47.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**50.53**	**277**	P	**P**	**05 31 57.6**	**-0.9**
MORW	**Morawa**	**52.79**	**259**	P	**P**	**05 32 13.6**	**-1.7**
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**05 32 20.1**	**+3.2**
QSPA				IAmb	IAmb	05 32 33.0	
	comp=Z,3.8nm,0.8s						
MBWA	**Marble Bar**	**53.62**	**270**	P	**P**	**05 32 20.3**	**-1.2**
MBWA				IAmb	IAmb	05 32 48.6	
	comp=Z,18nm,1.3s						
SNAA	**Sanae**	**71.54**	**179**	P	**P**	**05 34 21.4**	**+0.9**
SNAA				IAmb	IAmb	05 34 31.2	
	comp=Z,9.0nm,1.5s						
KKM	**Kota Kinabalu**	**72.74**	**292**	P	**P**	**05 34 26.9**	**-1.7**
H03N3	**Juan Fernandez**	**78.85**	**123**	T	T	07 01 42.2	
	baz=234,slow=72,SNR=8.4						
H03N2	**Juan Fernandez**	**78.85**	**123**	T	T	07 01 41.3	
	baz=234,slow=72,SNR=6.3						
H03N1	**Juan Fernandez**	**78.87**	**123**	T	T	07 01 41.2	
	baz=234,slow=72,SNR=6.8						
NACB	**Ninganchiao**	**81.64**	**309**	P	**P**	**05 35 17.4**	**-0.8**
NVAR	**Mina Array Bea**	**94.60**	**44**	LR	LR	06 12 08.1	
	comp=Z,66nm,19.3s,baz=304,slow=31						
KURBB	**Kurchatov Arra**	**123.94**	**311**	PKP	**PKPdf**	**05 41 56.0**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=119,slow=2.3,SNR=6.5						
ARCES	**ARCESS Array B**	**144.53**	**344**	PKP	**PKPab**	**05 42 33.9**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=47,slow=1.9,SNR=5.1						
FINES	**FINESS Array B**	**150.42**	**334**	PKPbc	**PKPdf**	**05 42 50.0**	**+4.8**
	comp=Z,2.9nm,0.7s,baz=56,slow=5.2,SNR=8.8						

ATH 25 05:23:59.1, 37°.84N×22°.98E, h19km±3km, ML2.0/5, Manual Solution by G.Panopoulou First location: 2019/02/25 05:24:58, This location: 2019/03/21 14:26:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MET5	**Makryloggos,Me**	**0.37**	**126**	P	Pg	05 24 06.8	-0.1
MET5				S	Sb	05 24 13.2	+0.8
MET6	**Megalochori,Me**	**0.38**	**130**	P	Pb	05 24 07.3	0.0
MET6				S	Sb	05 24 13.4	+0.5
MET4	**Agioi Theodoro**	**0.39**	**123**	P	Pb	05 24 08.1	+0.6
MET4				S	Sb	05 24 13.6	+0.4
VIL2	**Platees**	**0.44**	**31**	P	Pg	05 24 07.9	-0.3
VIL2				S	Sg	05 24 14.1	-0.2
KRND	**KRANIDI**	**0.47**	**164**	P	Pg	05 24 08.5	-0.2
KRND				S	Sb	05 24 15.5	+0.1
GUR	**Goura**	**0.52**	**281**	P	Pb	05 24 09.2	-0.4
GUR				S	Sg	05 24 16.4	-0.3
VLY	**Voula,Athens**	**0.64**	**88**	P	Pb	05 24 11.5	-0.1
VLY				S	Sg	05 24 20.6	+0.1
ATHU	**Athens Univers**	**0.65**	**78**	P	Pb	05 24 11.4	-0.3
ATHU				S	Sg	05 24 20.6	-0.1
KLV	**Kalavryta, Ach**	**0.69**	**288**	P	Pb	05 24 12.2	-0.3
KLV				S	Sb	05 24 21.1	-0.5
DION	**Dionisos Attik**	**0.79**	**72**	P	Pb	05 24 13.9	-0.2
DION				S	Sb	05 24 24.6	+0.1
LKR	**Lokris**	**0.81**	**1**	P	Pb	05 24 14.5	-0.1
LKR				S	Sg	05 24 26.2	+0.4
SERG	**Sergoula**	**0.93**	**308**	P	Pg	05 24 17.5	+0.3
AXAR	**Agios Charalam**	**0.96**	**345**	P	Pn	05 24 17.7	+0.1
AXAR				S	Sg	05 24 30.6	0.0
DRO	**Drossia**	**1.01**	**277**	P	Pg	05 24 18.7	-0.1
DRO				S	Sb	05 24 30.7	-0.3
EFP	**Efpalio**	**1.03**	**305**	P	Pg	05 24 19.3	+0.1
VLI	**Veliai**	**1.12**	**182**	P	Pg	05 24 20.5	-0.3
VLI				S	Sg	05 24 35.1	-0.3
ANX	**Ano Chora**	**1.13**	**312**	P	Pg	05 24 20.9	-0.1
ANX				S	Sn	05 24 35.2	+0.2
KARY	**Karystos**	**1.17**	**80**	P	Pn	05 24 19.6	-0.7
KYMI	**Kymi, Euboea I**	**1.19**	**48**	P	Pb	05 24 21.4	+0.4
RLS	**Riolos of Patr**	**1.22**	**281**	P	Pb	05 24 22.0	+0.5
RLS				S	Sb	05 24 36.8	0.0

THE 25 05:24:48.6, 38°.08N×24°.02E, h5km±3km, ML1.5/5, Error ellipse: s-maj=3.6km s-min=0.5km az=340.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DION	**Dionisos Attik**	**0.07**	**270**	P	Pg	05 24 50.1	-0.1
DION				S	Sg	05 24 51.7	+0.4
	705nm,0.1s						
PTL	**Penteli**	**0.12**	**257**	P	Pg	05 24 51.0	-0.2
PTL				S	Sg	05 24 53.1	+0.2
	362nm,0.1s						
ATH	**Athens Observa**	**0.26**	**246**	P	Pg	05 24 53.9	+0.2
ATH				S	Sg	05 24 57.4	+0.3
	262nm,0.1s						
VLY	**Voula,Athens**	**0.29**	**218**	P	Pg	05 24 54.7	+0.5
VLY				S	Sg	05 24 58.3	+0.4
	150nm,0.2s						
KARY	**Karystos**	**0.33**	**98**	P	Pg	05 24 54.9	-0.2
KARY				S	Sg	05 25 00.0	+0.5
	98nm,0.1s						

*NEIC **25** 05:41:47.5±0.8, 31°.37N±0°.01×103°.53W±0°.02, h5km±1km, ML1.5/16, Error ellipse: s-maj=3.1km s-min=2.6km az=290.0*

TXNET 25 05:41:46.2, 31°N±2°×103°.5W±0°.9, h3km±1km, ML1.3/6, 1C, Error ellipse: s-maj=2.8km s-min=1.3km az=177.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.03**	**260**	⇑P	Pg	05 41 47.3	+0.3
PCOS				S	Sg	05 41 48.1	+0.5
TPB07	**Mentone**	**0.23**	**315**	P	Pg	05 41 52.4	+1.6
TPB07				S	Sg	05 41 56.0	+2.2
TPB10	**Southeast of T**	**0.27**	**241**	P	Pb	05 41 53.0	-0.8
TPB10				S	Sb	05 41 57.1	-1.8
TPB04	**Verhalen**	**0.29**	**142**	P	Pb	05 41 54.4	+0.3
TPB04				S	Sb	05 41 59.2	-0.2
TPB06	**Permian Basin**	**0.32**	**43**	P	Pb	05 41 54.0	-0.7
TPB06				S	Sb	05 42 00.6	+0.2
TPB03	**Saragosa**	**0.33**	**185**	P	Pb	05 41 55.2	+0.3
TPB03				S	Sb	05 42 00.4	-0.2
PECS	**Pecos**	**0.34**	**263**	Pg	Pg	05 41 53.4	+0.7
PECS				Sg	Sg	05 41 58.4	+1.3
PECS				IAML		05 41 60.0	
	63nm,0.4s						
PECS				IAML		05 42 01.6	
	56nm,0.4s						
PECS	**Pecos**	**0.34**	**263**	P	Pg	05 41 53.7	+1.0
PECS				S	Sb	05 41 59.1	-1.7
TPB16	**Coyonosa**	**0.35**	**146**	P	Pb	05 41 55.6	+0.4
TPB16				S	Sb	05 42 02.8	+1.7
TPB12	**Southwest of T**	**0.46**	**244**	P	Pg	05 41 55.8	+0.8
TPB12				S	Sb	05 42 02.7	-1.6
TPB05	**Hovey Rd**	**0.51**	**165**	P	Pb	05 41 59.0	+1.1
TPB05				S	Sb	05 42 07.6	+1.8
TPB01	**Permian Basin**	**0.54**	**209**	P	Pb	05 41 58.1	-0.3
MNHN	**Monahans**	**0.62**	**97**	Pg	Pb	05 42 00.1	+0.4
MNHN				Sg	Sb	05 42 08.6	-0.3
MNHN	**Monahans**	**0.62**	**97**	P	Pn	05 42 00.9	-1.1
MNHN				S	Sb	05 42 08.9	0.0
ALPN	**Alpine**	**1.04**	**188**		Pg	05 42 06.6	+0.3
ALPN				IAML		05 42 28.9	
	10nm,0.4s						
ODSA	**Odessa**	**1.06**	**48**	S	Sn	05 42 22.5	-0.9
HTMS	**Hat Mesa**	**1.06**	**353**		Pn	05 42 08.8	+0.5
HTMS	**Hat Mesa**	**1.06**	**353**	P	Pg	05 42 05.1	-1.5
GDL2	**Guadalupe Moun**	**1.09**	**316**	P	Pn	05 42 09.1	+0.5
TMB02	**Rankin**	**1.25**	**100**	P	Pb	05 42 10.6	0.0
TMB02				S	Sn	05 42 28.7	+0.5
VHRN	**Van Horn**	**1.44**	**245**		Pn	05 42 13.1	-0.3
VHRN				IAML		05 42 60.0	
	7.0nm,3.5s						
VHRN				IAML		05 43 00.8	
	5.8nm,3.6s						
VHRN	**Van Horn**	**1.44**	**245**	P	Pn	05 42 13.3	0.0
VHRN				S	Sn	05 42 32.7	-0.1
TMB04	**Seminole**	**1.47**	**35**	P	Pb	05 42 14.2	-0.2
TMB04				S	Sn	05 42 34.9	+1.2
MNTX	**Cornudas Mount**	**1.65**	**280**		Pb	05 42 16.8	-0.6
MNTX				IAML		05 42 49.2	
	5.8nm,3.3s						
MNTX	**Cornudas Mount**	**1.65**

*IDC **25** 06:39:09.6±3.7,3.°01S×102.°91E,h188km±32km,mb3.7/10, mbtmp4.2/10,Error ellipse: s-maj=48.0km s-min=11.0km az=58.0*
*DJA **25** 06:39:11.7±0.4,3.°S±4.°×10.°3E±.°,h205km±6km,M4.2/12, mB5.2/1,mb4.3/3,MLv4.2/12,Mw(mB)4.6/1*
*NEIC **25** 06:39:12.2±1.6,3.°07S±0.°07×102.°9E±0.°1,h212km±6km, mb4.1/21,Error ellipse: s-maj=18.5km s-min=10.3km az=77.0*
ISC 25 06:39:10.7±0.5,**3.°01S**±0.°06×**103.°00E**±0.°07,**h200**km,**n61**, σ1°**24**/64,**mb4.0**/19,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.75**	**213**	P	**Pn**	**06 39 39.9**	**+0.9**
MNAI	**Manna**	**1.34**	**182**	Pn	**Pn**	**06 39 45.2**	**+2.1**
MNAI				Sn	Sn	06 40 10.4	+2.2
MNAI	**Manna**	**1.34**	**182**	P	**Pn**	**06 39 45.1**	**+2.1**
MNAI				S	Sn	06 40 09.8	+1.5
PMBI	**Palembang**	**1.77**	**87**	P	**Pn**	**06 39 48.1**	**+1.2**
MDSI	**Maura Dua**	**1.88**	**141**	P	**Pn**	**06 39 49.7**	**+1.8**
MDSI				S	Sn	06 40 18.6	+1.6
LWLI	**Liwa**	**2.25**	**152**	P	**Pn**	**06 39 53.5**	**+1.5**
PPSI	**Pulau Pagai**	**3.00**	**275**	P	**Pn**	**06 40 02.5**	**+2.3**
PPBI	**Pangkal Pinang**	**3.25**	**75**	P	**Pn**	**06 40 05.0**	**+1.7**
PPI	**Padang Panjang**	**3.63**	**314**	P	**Pn**	**06 40 10.3**	**+2.3**
BKNI	**Bangkinang**	**3.85**	**329**	P	**Pn**	**06 40 12.9**	**+2.2**
SISI	**Saibi**	**4.25**	**293**	P	**Pn**	**06 40 17.3**	**+1.7**
CGJI	**Cibinong**	**4.47**	**143**	P	**Pn**	**06 40 17.5**	**-0.9**
MYKOM	**Kota Tinggi**	**4.85**	**10**	Pn	**Pn**	**06 40 25.3**	**+2.1**
PBSI	**Pulau Batu**	**5.56**	**302**	P	**Pn**	**06 40 33.6**	**+1.4**
	0.5nm64nm,0.6s						
GSI	**Gunungsitoli**	**6.91**	**308**	Pn	**Pn**	**06 40 50.4**	**+0.5**
UGM	**Wanagama**	**8.93**	**123**	Pn	**Pn**	**06 41 16.6**	**+0.5**
UBPT	**Khong Chiam**	**18.34**	**8**	P	**P**	**06 43 11.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**21.71**	**350**	P	**P**	**06 43 46.7**	**+0.6**
	2.4nm,0.3s,baz=164,slow=9.9,SNR=5.8						
	2.4nm,0.3s						
MBWA	**Marble Bar**	**24.30**	**139**	P	**P**	**06 44 08.5**	**-1.5**
PSA00	**Pilbara Seismi**	**24.67**	**140**	P	**P**	**06 44 12.7**	**-0.6**
PSA00				IAmb	IAmb	06 44 52.2	
	comp=Z,8.4nm,1.0s						
KNRA	**Kununurra**	**28.32**	**118**	P	**P**	**06 44 46.2**	**+0.2**
WB0	**Warramunga Arr**	**34.88**	**121**	P	**P**	**06 45 43.1**	**-0.2**
WRA	**Warramunga Arr**	**34.91**	**121**	P	**P**	**06 45 43.8**	**+0.3**
WRA	**Warramunga Arr**	**34.91**	**121**	P	**P**	**06 45 43.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=302,slow=8.1,SNR=18						
	comp=Z,0.6nm,0.3s						
WB2	**Warramunga Arr**	**34.91**	**121**	P	**P**	**06 45 43.4**	**-0.3**
WB2				IAmb	IAmb	06 45 46.1	
	comp=Z,9.6nm,1.5s						
WR0	**Warramunga Arr**	**35.08**	**121**	P	**P**	**06 45 44.9**	**-0.2**
WR0				IAmb	IAmb	06 45 46.4	
	comp=Z,3.8nm,0.9s						
AS31	**Alice Springs**	**36.25**	**127**	P	**P**	**06 45 55.2**	**+0.2**
ASAR	**Alice Springs**	**36.25**	**127**	P	**P**	**06 45 55.2**	**+0.2**
ASAR	**Alice Springs**	**36.25**	**127**	P	**P**	**06 45 55.5**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=302,slow=7.6,SNR=30						
ASAR				ScP	**ScP**	**06 51 44.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=295,slow=4.2,SNR=2.6						
	comp=Z,1.3nm,0.3s						
BBOO	**Buckleboo**	**42.86**	**138**	P	**P**	**06 46 49.2**	**-0.2**
BBOO				IAmb	IAmb	06 47 13.0	
	comp=Z,8.9nm,1.2s						
STKA	**Stephens Creek**	**46.25**	**133**	P	**P**	**06 47 16.0**	**-0.2**
STKA				IAmb	IAmb	06 47 54.5	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**46.25**	**133**	P	**P**	**06 47 17.0**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=315,slow=13,SNR=5.0						
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**50.73**	**3**	P	**P**	**06 47 51.5**	**+1.4**
SONM	**Songino Array**	**50.73**	**3**	P	**P**	**06 47 51.5**	**+1.4**
	comp=Z,1.7nm,0.4s,baz=184,slow=9.7,SNR=15						
SONM				PcP	**PcP**	**06 49 03.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=191,slow=4.4,SNR=1.9						
	comp=Z,1.7nm,0.4s						
ULN	**Ulaanbaatar**	**50.79**	**4**	P	**P**	**06 47 51.6**	**+0.9**
MK31	**Makanchi Array**	**52.85**	**342**	P	**P**	**06 48 05.1**	**-0.7**
MKAR	**Makanchi Array**	**52.85**	**342**	P	**P**	**06 48 05.2**	**-0.6**
MKAR	**Makanchi Array**	**52.85**	**342**	P	**P**	**06 48 05.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=153,slow=9.0,SNR=28						
	comp=Z,0.7nm,0.4s						
USA0B	**Ussuriysk Arra**	**53.70**	**26**	P	**P**	**06 48 12.7**	**+0.8**
USA0B				IAmb	IAmb	06 48 43.6	
	comp=Z,5.3nm,1.1s						
USRK	**Ussuriysk Ar.**	**53.70**	**26**	P	**P**	**06 48 11.3**	**-0.7**
KKAR	**Karatay Array**	**54.45**	**331**	P	**P**	**06 48 16.7**	**-0.7**
KURBB	**Kurchatov Arra**	**57.40**	**342**	P	**P**	**06 48 37.0**	**-1.2**
	comp=Z,0.5nm,0.2s,baz=160,slow=6.3,SNR=4.0						
	comp=Z,0.5nm,0.2s						
ZAA0	**Zalesovo Array**	**58.76**	**348**	P	**P**	**06 48 47.0**	**-0.5**
ZAA0				IAmb	IAmb	06 48 48.3	
	comp=Z,4.3nm,1.1s						
ZALV	**Zalesovo Beam**	**58.76**	**348**	P	**P**	**06 48 47.1**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=168,slow=6.8,SNR=11						
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**62.19**	**338**	P	**P**	**06 49 10.0**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=130,slow=7.4,SNR=10						
	comp=Z,1.5nm,0.3s						
BRVK	**Borovoye**	**62.26**	**338**	P	**P**	**06 49 10.8**	**-0.4**
BRVK				IAmb	IAmb	06 49 42.3	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**63.98**	**330**	P	**P**	**06 49 21.8**	**-0.8**
ABKAR				IAmb	IAmb	06 49 22.2	
	comp=Z,2.1nm,0.8s						
ARTI	**Arti**	**69.39**	**335**	P	**P**	**06 49 56.2**	**-0.5**
ARTI				IAmb	IAmb	06 50 30.0	
	comp=Z,4.3nm,1.3s						
QSPA	**South Pole Qui**	**86.95**	**180**	P	**P**	**06 51 32.0**	**-0.9**
QSPA				IAmb	IAmb	06 51 55.0	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**86.95**	**180**	P	**P**	**06 51 34.5**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=233,slow=2.1,SNR=6.5						
	comp=Z,1.0nm,0.8s						
SNAA	**Sanae**	**92.10**	**198**	P	**P**	**06 51 56.0**	**-0.9**
TXAR	**Lajitas Array**	**143.58**	**41**	PKPdf	PKPbc	06 58 20.8	+0.4
TXAR	**Lajitas Array**	**143.58**	**41**	PKP	PKPbc	06 58 21.1	+0.8
	comp=Z,0.1nm,0.4s,baz=184,slow=1.4,SNR=4.5						
PLPT	**Palo Pinto**	**144.25**	**32**	PKPdf	**PKPab**	**06 58 21.2**	**-0.6**
FCAR	**Ozark Folk Cen**	**144.42**	**21**	PKPbc	**PKPab**	**06 58 20.6**	**-1.6**
LCAR	**Lake Charles**	**144.60**	**20**	PKPbc	**PKPab**	**06 58 22.6**	**-0.3**
MIAR	**Mount Ida**	**145.04**	**24**	PKPdf	**PKPbc**	**06 58 22.9**	**-1.6**
CPUP	**Villa Florida**	**145.17**	**212**	PKPbc	**PKPbc**	**06 58 22.3**	**-2.8**
WVT	**Waverly**	**145.56**	**16**	PKPdf	**PKPdf**	**06 58 24.6**	**-0.9**
CO03	**El Pedregal**	**145.80**	**190**	PKPbc	**PKPdf**	**06 58 26.2**	**-0.1**
TKL	**Tuckaleechee C**	**146.92**	**10**	PKPbc	**PKPdf**	**06 58 28.9**	**+1.0**

*SJA **25** 06:44:42.5±0.7,31.°15S×68.°69W,h109km±2km,ML3.5, MW3.6*
*IDC **25** 06:44:42.8±1.1,31.°10S×68.°53W,h105km±7km,mb3.4/3, mbtmp3.7/6,Error ellipse: s-maj=37.3km s-min=21.9km az=94.0*
ISC 25 06:44:42.7±0.7,**31.°16S**±0.°03×**68.°67W**±0.°03,**h111**km±5km, **n50**,σ1°**55**/79,**mb3.8**/3,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.38**	**165**	*e*P	**Pn**	**06 44 59.6**	**+0.5**
SJA				*e*S	**Sn**	**06 45 12.0**	**+0.6**
SJA				IAML		06 45 13.1	
	comp=Z,1μm,0.1s						
ZON	**Zonda**	**0.39**	**181**	*e*P	**Pn**	**06 44 59.3**	**+0.2**
ZON				*e*S	**Sn**	**06 45 11.2**	**-0.3**
ZON				IAML		06 45 12.4	
	comp=Z,2μm,0.3s						
DOCA	**Reserva Natura**	**0.41**	**301**	*e*P	**Pn**	**06 44 59.4**	**-0.3**
DOCA				IAML		06 45 16.1	
	comp=Z,539nm,0.2s						
CFA	**Coronel Fontan**	**0.58**	**140**	P	**Pn**	**06 45 00.7**	**+0.4**
	baz=234,slow=23,SNR=1416						
CFA				S	**Sn**	**06 45 13.7**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=107,slow=19,SNR=47						
ACCO	**Cerro Coronel**	**0.66**	**329**	*e*P	**Pn**	**06 45 01.9**	**+0.7**
ACCO				*e*S	**Sn**	**06 45 16.1**	**+0.9**
RTLS	**Leoncito**	**0.83**	**220**	*e*P	**Pn**	**06 45 02.8**	**+0.2**
RTLS				IAML		06 45 19.5	
	comp=Z,3μm,0.4s						
ACDV	**Cuesta del Vie**	**1.06**	**339**	*e*P	**Pn**	**06 45 05.9**	**+1.1**
ACDV				IAML		06 45 23.3	
	comp=Z,1μm,0.4s						
AVFE	**Valle Fertil**	**1.16**	**65**	*e*P	Pn	06 45 00.2	-5.5
AVFE				IAML		06 45 26.4	
	comp=Z,1μm,0.3s						
AROD	**Rodeo**	**1.20**	**325**	*e*P	**Pn**	**06 45 07.5**	**+1.0**
AROD				*e*S	**Sn**	**06 45 25.6**	**+1.1**
ASAL	**Salagasta**	**1.44**	**185**	*e*P	**Pn**	**06 45 09.6**	**+0.7**
ASAL				*e*S	**Sn**	**06 45 29.8**	**+1.0**
ASAL				IAML		06 45 31.0	
	comp=Z,429nm,0.5s						
AGUA	**GUANDACOL**	**1.67**	**5**	*e*P	**Pn**	**06 45 13.4**	**+1.6**
AGUA				*e*S	**Sn**	**06 45 37.0**	**+3.1**
AGUA				IAML		06 45 38.5	
	comp=Z,854nm,0.2s						
ARCO	**CERRO ARCO**	**1.69**	**187**	*e*P	**Pn**	**06 45 12.8**	**+0.8**
ARCO				*e*S	**Sn**	**06 45 36.7**	**+2.3**
ARCO				IAML		06 45 39.5	
	comp=Z,427nm,0.4s						
CO01	**Juntas del Tor**	**1.70**	**313**	*e*P	**Pn**	**06 45 13.8**	**+1.6**
CO01				*e*S	**Sn**	**06 45 36.3**	**+1.7**
CO01				IAML		06 45 36.7	
	comp=Z,722nm,0.6s						
ACHE	**Chepes**	**1.72**	**91**	*e*P	**Pn**	**06 45 13.9**	**+1.5**
ACHE				*e*S	**Sn**	**06 45 37.5**	**+2.4**
CO03	**El Pedregal**	**1.76**	**280**	*e*P	**Pn**	**06 45 13.6**	**+0.8**
CO03				*e*S	**Sn**	**06 45 36.8**	**+1.0**
CO03				IAML		06 45 37.3	
	comp=Z,770nm,0.5s						
AAGR	**Agrelo**	**1.93**	**184**	*e*P	**Pn**	**06 45 15.7**	**+0.7**
AAGR				*e*S	**Sn**	**06 45 40.9**	**+1.4**
AAGR				IAML		06 45 42.3	
	comp=Z,296nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.00**	**68**	*e*P	**Pn**	**06 45 17.2**	**+1.5**
APLL				*e*S	**Sn**	**06 45 41.1**	**+0.1**
GO04	**Tololo Observa**	**2.08**	**298**	*e*P	**Pn**	**06 45 17.2**	**+0.3**
GO04				*e*S	**Sn**	**06 45 44.2**	**+1.1**
VA03	**San Esteban**	**2.26**	**224**	*e*P	**Pn**	**06 45 19.7**	**+0.6**
VA03				*e*S	**Sn**	**06 45 48.5**	**+1.4**
VA03				IAML		06 45 52.9	
	comp=Z,340nm,0.5s						
ACLC	**CERRO LA CRUZ**	**2.28**	**41**	*e*P	**Pn**	**06 45 20.6**	**+1.1**
ACLC				*e*S	Sn	06 46 07.7	+20
ACLC				IAML		06 46 19.0	
	comp=Z,226nm,0.4s						
AVIZ	**Vizcacheras**	**2.31**	**177**	*e*P	**Pn**	**06 45 20.7**	**+0.9**
AVIZ				*e*S	**Sn**	**06 45 43.6**	**-4.7**
VCA	**Vinchina**	**2.45**	**10**	*e*P	**Pn**	**06 45 23.4**	**+1.7**
VCA				*e*S	**Sn**	**06 45 51.0**	**-0.5**
VCA				IAML		06 45 57.4	
	comp=Z,466nm,0.4s						
MT08	**Bocatoma Ro**	**2.55**	**206**	*e*P	**Pn**	**06 45 24.7**	**+1.7**
MT08				*e*S	**Sn**	**06 45 57.8**	**+3.8**
MT04	**Ro Olivares**	**2.56**	**209**	*e*P	**Pn**	**06 45 24.9**	**+1.7**
MT04				*e*S	**Sn**	**06 45 54.9**	**+0.7**
MT04				IAML		06 46 01.9	
	comp=Z,84nm,0.9s						
PEL	**Peldehue**	**2.61**	**220**	*e*P	**Pn**	**06 45 23.6**	**0.0**
PEL				*e*S	**Sn**	**06 45 55.5**	**+0.4**
ROC1	**El Roble**	**2.69**	**227**	*e*P	**Pn**	**06 45 24.0**	**-0.9**
ROC1				*e*S	**Sn**	**06 45 57.0**	**-0.3**
LCO	**Las Campanas**	**2.77**	**320**	*e*P	**Pn**	**06 45 26.2**	**+0.3**
LCO				*e*S	**Sn**	**06 45 59.3**	**+0.1**
LCO				IAML		06 46 02.0	
	comp=Z,388nm,0.4s						
MT03	**Universidad Ad**	**2.80**	**213**	*e*P	**Pn**	**06 45 26.9**	**+0.7**
MT03				*e*S	**Sn**	**06 46 01.1**	**+1.5**
MT03				IAML		06 46 09.9	
	comp=Z,184nm,0.3s						
MT05	**Renca**	**2.83**	**218**	*e*P	**Pn**	**06 45 26.7**	**+0.1**
MT05				*e*S	**Sn**	**06 46 01.0**	**+0.6**
MT05				IAML		06 46 06.1	
	comp=Z,131nm,0.3s						
MT13	**San Alfonso**	**2.92**	**207**	*e*P	**Pn**	**06 45 29.1**	**+1.4**
MT13				*e*S	**Sn**	**06 46 02.8**	**+0.4**
MT13				IAML		06 46 10.9	
	comp=Z,68nm,0.5s						
MT02	**Curacav**	**2.96**	**224**	*e*P	Pn	06 45 18.3	-10
MT02				*e*P		06 45 26.9	
MT02				*e*S	Sn	06 45 52.5	-11
MT02				IAML		06 46 35.2	
	comp=Z,65nm,0.8s						
LMEL	**Las Melosas**	**2.98**	**205**	*e*P	**Pn**	**06 45 29.7**	**+1.2**
LMEL				*e*S	**Sn**	**06 46 07.2**	**+3.3**
TCA	**Tanti**	**3.50**	**94**	*e*P	**Pn**	**06 45 36.4**	**+1.0**
TCA				*e*S	Sn	06 46 04.6	-12
TCA				IAML		06 46 18.3	
	comp=Z,101nm,0.7s						
AC04	**Llanos de Chal**	**3.61**	**324**	*e*P	**Pn**	**06 45 36.6**	**-0.2**
AC04				*e*S	**Sn**	**06 46 15.4**	**-3.3**
AC04				IAML		06 46 27.6	
	comp=Z,66nm,0.3s						
CYA	**Choya**	**3.68**	**43**	*e*P	**Pn**	**06 45 38.2**	**+0.4**
CYA				*e*S	**Sn**	**06 46 20.4**	**-0.2**
CYA				IAML		06 46 22.1	
	comp=Z,66nm,0.5s						
BO01	**Tunca**	**3.81**	**212**	*e*P	**Pn**	**06 45 37.3**	**-2.2**
BO01				IAML		06 46 50.3	
	comp=Z,33nm,1.4s						
BO02	**Sierra Bellavi**	**4.03**	**205**	*e*P	**Pn**	**06 45 41.6**	**-1.0**
BO02				IAML		06 46 33.0	
	comp=Z,45nm,0.2s						
AC02	**Maricunga**	**4.33**	**355**	*e*P	**Pn**	**06 45 48.7**	**+1.8**
AC02				*e*S	**Sn**	**06 46 37.6**	**+1.0**
AC02				IAML		06 46 44.5	
	comp=Z,19nm,0.3s						
EDS3	**Malargue**	**4.64**	**187**	*e*P	**Pn**	**06 45 50.8**	**0.0**
AC01	**Pan de Azucar**	**5.27**	**341**	*e*P	**Pn**	**06 45 59.0**	**-0.3**
AC01				IAML		06 47 14.4	
	comp=Z,23nm,1.4s						
PLCA	**Paso Flores**	**9.68**	**189**	P	**Pn**	**06 46 56.9**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=357,slow=11,SNR=8.6						
CPUP	**Villa Florida**	**11.05**	**67**	P	**Pn**	**06 47 15.2**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=245,slow=12,SNR=5.1						
CPUP				S	**Sn**	**06 49 13.7**	**-5.4**
	comp=Z,1.4nm,0.5s,baz=216,slow=19,SNR=3.2						
LPAZ	**La Paz**	**14.81**	**2**	P	**Pn**	**06 48 07.3**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=181,slow=7.0,SNR=11						
SIV	**San Ignacio**	**16.62**	**26**	P	**Pn**	**06 48 27.7**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=184,slow=9.7,SNR=12						
QSPA	**South Pole Qui**	**59.07**	**180**	P	**P**	**06 54 31.9**	**+0.9**
	comp=Z,1.2nm,1.0s,baz=288,slow=2.0,SNR=5.9						
	comp=Z,1.2nm,1.0s						
TXAR	**Lajitas Array**	**68.76**	**328**	P	**P**	**06 55 35.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=157,slow=3.5,SNR=2.7						
	comp=Z,0.3nm,0.7s						
BOSA	**Boshof**	**78.83**	**117**	P	**P**	**06 56 34.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=315,slow=1.4,SNR=3.6						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**148.86**	**42**	PKPbc	**PKPbc**	**07 04 16.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=292,slow=2.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**150.31**	**32**	PKPbc	**PKiKP**	**07 04 21.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=318,slow=2.0,SNR=5.5						
MKAR	**Makanchi Array**	**152.76**	**47**	PKPbc	**PKiKP**	**07 04 26.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=299,slow=2.2,SNR=6.4						
MKAR				PKPab	**PKPab**	**07 04 37.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=319,slow=3.9,SNR=5.1						

*SJA **25** 06:50:50.1±0.6,24.°04S×68.°97W,h121km±4km,ML3.3, MW3.6*
*GUC **25** 06:50:51.5±0.8,24.°06S×68.°94W,h114km±7km,ML3.2*
ISC 25 06:50:50.8±1.6,**24.°05S**±0.°04×**68.°97W**±0.°06, **h123**km±15km,**n18**,σ0°**70**/30,**2C-1D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.24**	**207**	*i* P	**Pn**	**06 51 15.8**	**-0.1**
GO02				*i* S	**Sn**	**06 51 35.2**	**+0.2**
GO02	**Mina Guanaco**	**1.24**	**207**	*e*P	**Pn**	**06 51 16.2**	**+0.3**
GO02				*e*S	**Sn**	**06 51 35.1**	**+0.2**
GO02				IAML		06 51 36.4	
	comp=E,1μm,0.1s						
AF01	**San Pedro de A**	**1.31**	**34**	*i* P	**Pn**	**06 51 16.3**	**-0.3**
AF01				*i* S	**Sn**	**06 51 36.1**	**-0.1**
AF01				IAML		06 51 36.3	
	comp=Z,488nm,0.3s						
AF01	**San Pedro de A**	**1.31**	**34**	⇓*i*P	**Pn**	**06 51 16.4**	**-0.3**
AF01				*i* S	**Sn**	**06 51 35.0**	**-1.2**
PB14	**IPOC Station P**	**1.43**	**246**	*i* P	**Pn**	**06 51 17.9**	**-0.1**
PB14				*i* S	**Sn**	**06 51 38.6**	**0.0**
PB14				IAML		06 51 39.9	
	comp=Z,153nm,0.3s						
PB14	**IPOC Station P**	**1.43**	**246**	*e*P	**Pn**	**06 51 18.6**	**+0.7**
PB14				*e*S	**Sn**	**06 51 38.7**	**+0.2**
PB06	**IPOC Station P**	**1.45**	**337**	*i* P	**Pn**	**06 51 18.2**	**+0.2**
PB06				*i* S	**Sn**	**06 51 39.0**	**+0.3**
PB06				IAML		06 51 41.8	
	comp=Z,265nm,0.1s						
PB06	**IPOC Station P**	**1.45**	**337**	⇑*i*P	**Pn**	**06 51 18.3**	**+0.2**
PB06				*e*S	**Sn**	**06 51 38.2**	**-0.5**
PB06				IAML		06 51 42.0	
	comp=E,478nm,0.2s						
PB03	**IPOC Station P**	**2.12**	**340**	*i* P	**Pn**	**06 51 26.4**	**+0.3**
PB03				*i* S	**Sn**	**06 51 52.5**	**-0.6**
PB03				IAML		06 51 53.8	
	comp=Z,204nm,0.3s						
PB03	**IPOC Station P**	**2.12**	**340**	⇑*i*P	**Pn**	**06 51 26.7**	**+0.6**
PB03				*e*S	**Sn**	**06 51 52.5**	**-0.6**
PB03				IAML		06 51 56.9	
	comp=E,181nm,0.2s						
PB09	**IPOC Station P**	**2.26**	**354**	*e*P	**Pn**	**06 51 29.1**	**+1.3**
PB09				IAML		06 52 06.0	
	comp=E,82nm,0.4s						
SALTA		**2.41**	**95**	*e*P	**Pn**	**06 51 30.7**	**+0.7**
AC01	**Pan de Azucar**	**2.56**	**215**	*i* P	**Pn**	**06 51 31.6**	**+0.1**
AC01				*i* S	**Sn**	**06 52 02.7**	**-0.1**
AC01				IAML		06 52 24.2	
	comp=Z,27nm,0.3s						
AC01	**Pan de Azucar**	**2.56**	**215**	*e*P	**Pn**	**06 51 31.8**	**+0.3**
AC01				IAML		06 52 08.7	
	comp=N,71nm,0.2s						
AC02	**Maricunga**	**2.78**	**183**	*e*P	**Pn**	**06 51 36.1**	**+1.4**
AC02				IAML		06 52 22.1	
	comp=E,42nm,0.3s						
PB01	**IPOC Station P**	**3.03**	**351**	*e*P	**Pn**	**06 51 38.3**	**+0.5**
AC04	**Llanos de Chal**	**4.55**	**204**	*i* P	**Pn**	**06 51 55.9**	**-1.9**
AC04				IAML		06 53 06.7	
	comp=Z,18nm,3.3s						
VCA	**Vinchina**	**4.72**	**172**	*i* P	**Pn**	**06 52 00.8**	**+0.7**
VCA				*i* S	**Sn**	**06 52 53.2**	**-0.9**
VCA				IAML		06 52 55.1	
	comp=Z,114nm,0.9s						

*IDC **25** 07:09:08.9±0.8,29.°48N×140.°45E,h453km±11km,mb3.0/3, mbtmp3.9/7,Error ellipse: s-maj=44.5km s-min=11.4km az=79.0*
ISC 25 07:09:08.0±1.1,**29.°0N**±0.°1×**139.°1E**±0.°2,**h400**km,**n7**, σ1°**30**/8,**mb3.4**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.36**	**124**	P	**Pn**	**07 10 13.7**	**-0.6**
	31nm,0.4s,baz=8.7,slow=13,SNR=7.5						
JCJ				S	**S**	**07 11 09.1**	**+1.1**
	110nm,0.3s,baz=291,slow=22,SNR=22						
JHJ	**Hachijo jima 2**	**4.11**	**8**	P	**Pn**	**07 10 22.7**	**+1.7**
	301nm,1.1s,baz=230,slow=17,SNR=1.5						
JHJ				S	**S**	**07 11 20.8**	**+0.4**
	285nm,1.0s,baz=252,slow=19,SNR=2.3						
MJAR	**Matsushiro Arr**	**7.52**	**355**	P	**Pn**	**07 10 56.7**	**-0.6**
	1.1nm,0.3s,baz=174,slow=10,SNR=2.1						
USRK	**Ussuriysk Ar.**	**16.16**	**341**	P	**P**	**07 12 31.4**	**-1.2**
	2.6nm,0.5s,baz=139,slow=9.7,SNR=9.4						
PETK	**Petropavlovsk-**	**27.68**	**24**	P	P	07 14 10.5	-11
	3.3nm,1.0s,baz=214,slow=10.0,SNR=1.9						
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**48.91**	**186**	P	**P**	**07 17 16.5**	**+0.9**
	0.6nm,0.3s,baz=4.5,slow=7.7,SNR=25						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**52.63**	**186**	P	**P**	**07 17 43.9**	**+1.0**
	0.2nm,0.4s,baz=355,slow=5.4,SNR=4.7						
	0.2nm,0.4s						

IDC 25 07:20:38.8±6.5,**13.°02S**×**168.°35E**,**h0**km,**mb4.1**/4, **mbtmp4.1**/4,**MS3.7**/1,**Error ellipse: s-maj=150.8km s-min=50.9km az=19.0**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.90**	**228**	P	P	07 26 56.4	-0.9
	1.7nm,0.4s,baz=58,slow=9.0,SNR=12						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**33.28**	**253**	P	P	07 27 19.2	+0.9
	0.4nm,0.3s,baz=81,slow=8.4,SNR=6.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**34.28**	**247**	P	P	07 27 26.9	-0.2
	1.0nm,0.3s,baz=82,slow=8.6,SNR=27						
	1.0nm,0.3s						
QSPA	**South Pole Qui**	**77.00**	**180**	P	P	07 32 33.7	+0.3
	1.5nm,1.0s,baz=8.1,slow=7.1,SNR=2.8						
	1.5nm,1.0s						

*SSNC **25** 07:22:37.1±1.5,19.°73N×71.°29W,h12km±10km,MD3.2, ML2.4*
*SDD **25** 07:22:38.3±2.4,19.°64N×71.°57W,h31km±18km,MD3.

MASC	**Masc**	**2.67 282**	*e*P	**Pn**	**07 23 20.6**	**+1.2**
MASC			*e*S	**Sn**	**07 23 52.9**	**+1.5**
MASC			*e*Sg	**Sb**	**07 23 57.3**	**+0.3**
MASC			IAML		07 24 01.2	
	comp=E,21nm,0.7s					
MASC			IAML		07 24 05.8	
	comp=N,23nm,1.2s					
QMBU	**Quimbuelo**	**3.21 281**	*e*P	**Pn**	**07 23 26.5**	**-0.4**
QMBU			*e*S	**Sn**	**07 24 03.3**	**-1.5**
QMBU			IAML		07 24 11.6	
	comp=N,13nm,0.9s					
QMBU			IAML		07 24 12.5	
	comp=E,13nm,0.3s					
GTBY	**Guantanamo Bay**	**3.46 276**	*e*P	**Pn**	**07 23 29.3**	**-0.9**
GTBY			*e*S	**Sn**	**07 24 10.9**	**+0.1**
RCC	**Rio Carpintero**	**4.01 276**	*e*P	**Pn**	**07 23 37.2**	**-0.6**
RCC			*e*S	**Sn**	**07 24 23.5**	**-1.0**

*ASRS **25** 07:48:26.0±2.0,51.°36N×82.°02E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **25** 07:48:32.7±2.1,51.°35N×82.°32E,h0km,mbtmp2.3/2, ML1.9/2,Error ellipse: s-maj=52.8km s-min=11.5km az=106.0*
*NNC **25** 07:48:32.6±2.4,51.°27N×81.°98E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=24.1km s-min=8.7km az=23.0, Suspected Mining explosion.*

ISC 25 07:48:30.9±1.1,51.°45N±0.°06×81.°93E±0.°07,h0km,n7, σ0.°90/12,4C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.21**	**252**	⇓Pn	**Pn**	**07 49 09.8**	**+1.0**
	0.8nm,0.3s						
KURK				⇑Sn	**Sb**	**07 49 39.2**	**-0.4**
	3.1nm,0.4s						
KURBB	**Kurchatov Arra**	**2.30**	**250**	⇓Pn	**Pn**	**07 49 10.9**	**+0.9**
	1.9nm,0.3s						
KURBB				⇓Sn	**Sb**	**07 49 41.3**	**-0.8**
	7.4nm,0.5s						
ZALV	**Zalesovo Beam**	**3.06**	**34**	Pn	**Pn**	**07 49 21.0**	**+0.5**
	0.2nm,0.3s,baz=220,slow=14,SNR=2.7						
ZALV				Pg	**Pg**	**07 49 29.5**	**-0.1**
	0.5nm,0.3s,baz=209,slow=15,SNR=5.1						
ZALV				Lg	Lg	07 50 07.0	
	0.9nm,0.3s,baz=194,slow=29,SNR=6.3						
	0.4nm,0.3s						
I46RU	**ZALESOVO INFRA**	**3.06**	**34**	I	I	08 05 20.0	
	0.1nm,0.9s,baz=214,slow=326,SNR=2.0						
MAKZ	**Makanchi**	**4.64**	**180**	⇓Pn	**Pn**	**07 49 43.4**	**+1.2**
	1.7nm,1.2s						
MAKZ				⇑Pg	**Pb**	**07 49 52.7**	**-0.5**
	2.7nm,1.4s						
MAKZ				⇑Lg	Lg	07 50 52.5	
	2.8nm,1.1s						
MK31	**Makanchi Array**	**4.66**	**177**	Pn	**Pn**	**07 49 43.0**	**+0.4**
	0.1nm,0.2s,baz=276,slow=38,SNR=26						
MK31				⇑Pg	**Pb**	**07 49 52.9**	**-0.7**
	0.2nm,0.3s,baz=324,slow=9.0,SNR=6.0						
MK31				⇓Lg	Lg	07 50 53.9	
	0.5nm,0.3s,baz=3.9,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**4.66**	**177**	Pn	**Pn**	**07 49 43.8**	**+1.2**
	0.2nm,0.3s,baz=4.7,slow=11,SNR=22						
MKAR				Pg	**Pb**	**07 49 52.7**	**-0.8**
	0.3nm,0.3s,baz=355,slow=16,SNR=10						
MKAR				Lg	Lg	07 50 54.0	
	0.3nm,0.3s,baz=0.7,slow=28,SNR=7.6						
	0.2nm,0.2s						

*NEIC **25** 07:52:09.5±2.1,25.°98S±0.°06×175.°3W±0.°1,h10km±2km, mb4.5/8,Error ellipse: s-maj=20.6km s-min=8.3km az=110.0*
*IDC **25** 07:52:10.1±1.6,26.°06S×175.°61W,h0km,mb3.8/3, mbtmp4.0/4,ML4.2/2,MS3.4/2,Error ellipse: s-maj=41.2km s-min=33.8km az=84.0*

ISC 25 07:52:10.9±0.9,26.°04S±0.°09×175.°3W±0.°1,h21km,n21, σ1.°81/22,mb4.5/6,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.93**	**215**	Pn	**Pn**	**07 53 09.8**	**-0.2**
RAO	**Raoul Island**	**3.93**	**215**	Pn	**Pn**	**07 53 09.6**	**-0.4**
	103nm,0.3s,baz=349,slow=23,SNR=1.9						
RAO				Sn	**Sn**	**07 53 51.9**	**-3.6**
	143nm,0.3s,baz=18,slow=20,SNR=2.2						
NIUE	**Niue**	**8.54**	**37**	Pn	**Pn**	**07 54 11.7**	**-1.8**
MSVF	**Nonsavu**	**10.30**	**322**	Pn	**Pn**	**07 54 35.6**	**-1.9**
MSVF	**Nonsavu**	**10.30**	**322**	Pn	**Pn**	**07 54 40.9**	**+3.4**
	0.5nm,0.3s,baz=131,slow=18,SNR=4.6						
FUTU	**Fugatoga**	**11.96**	**347**	Pn	**Pn**	**07 54 58.0**	**-2.2**
URZ	**Urewera**	**13.75**	**206**	Pn	**Pn**	**07 55 23.6**	**-1.0**
	0.2nm,0.3s,baz=328,slow=13,SNR=2.0						
URZ				Sn	Sn	07 57 40.8	-16
	1.0nm,0.3s,baz=4.0,slow=20,SNR=6.2						
	12nm,1.0s						
MRZ	**Mangatainoka R**	**16.42**	**205**	Pn	**Pn**	**07 55 59.7**	**-0.3**
MRZ				IAmb	IAmb	07 56 27.0	
	comp=Z,64nm,1.4s						
STKA	**Stephens Creek**	**37.95**	**251**	P	**P**	**07 59 28.1**	**+1.1**
BBOO	**Buckleboo**	**42.57**	**249**	P	**P**	**08 00 05.5**	**+0.1**
BBOO				IAmb	IAmb	08 00 39.2	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**45.89**	**262**	P	**P**	**08 00 30.9**	**-1.2**
ASAR	**Alice Springs**	**45.89**	**262**	P	**P**	**08 00 32.1**	**-0.1**
ASAR	**Alice Springs**	**45.89**	**262**	P	**P**	**08 00 32.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=110,slow=8.0,SNR=7.9						
	comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**46.50**	**267**	P	**P**	**08 00 36.4**	**-0.5**
WRA	**Warramunga Arr**	**46.50**	**267**	P	**P**	**08 00 37.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=104,slow=7.7,SNR=2.8						
	comp=Z,0.4nm,0.5s						
WB0	**Warramunga Arr**	**46.50**	**267**	P	**P**	**08 00 36.5**	**-0.5**
WB0				IAmb	IAmb	08 00 51.1	
	comp=Z,4.0nm,0.8s						
KNRA	**Kununurra**	**52.91**	**270**	P	**P**	**08 01 27.1**	**+1.3**
KNRA				IAmb	IAmb	08 01 30.3	
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**64.05**	**180**	P	**P**	**08 02 45.4**	**+2.4**
QSPA	**South Pole Qui**	**64.05**	**180**	P	**P**	**08 02 45.6**	**+2.7**
	comp=Z,3.4nm,1.0s,baz=93,slow=0.5,SNR=15						
	comp=Z,3.4nm,1.0s						
NOA	**NORSAR Array B**	**144.73**	**354**	PKP	**PKPdf**	**08 11 47.2**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=2.1,slow=2.3,SNR=3.5						
HFS	**Hagfors**	**145.36**	**352**	PKPbc	**PKPdf**	**08 11 48.5**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=20,slow=4.6,SNR=4.2						

TXNET 25 07:54:55.1,31.°6N±0.°6×104.°3W±0.°7,h4km±2km,ML1.9/6, 2C,Error ellipse: s-maj=1.1km s-min=0.7km az=50.9, final,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.34**	**32**	⇑P	Pg	07 55 01.7	-0.1
TPB11				S	Sg	07 55 06.4	0.0
PECS	**Pecos**	**0.43**	**129**	⇑P	Pg	07 55 03.7	+0.3
PECS				S	Sg	07 55 09.3	+0.3
TPB12	**Southwest of T**	**0.50**	**150**	P	Pg	07 55 05.0	+0.3
TPB12				S	Sg	07 55 11.7	+0.6
TPB07	**Mentone**	**0.50**	**97**	S	Sg	07 55 11.7	+0.4
TPB10	**Southeast of T**	**0.56**	**130**	P	Pg	07 55 06.0	+0.2
TPB10				S	Sg	07 55 13.6	+0.5
GDL2	**Guadalupe Moun**	**0.56**	**350**	P	Pg	07 55 06.2	+0.2
TPB01	**Permian Basin**	**0.81**	**150**	P	Pg	07 55 10.0	-0.5
TPB01				S	Sg	07 55 20.5	-0.5
CLN7	**Carlsbad 7**	**0.85**	**26**	P	Pg	07 55 11.3	-0.2
MNTX	**Cornudas Mount**	**0.96**	**274**	P	Pg	07 55 13.7	+0.1
MNTX				S	Sg	07 55 26.7	+0.5
VHRN	**Van Horn**	**1.06**	**217**	P	Pg	07 55 15.2	-0.2
VHRN				S	Sb	07 55 30.1	-0.2
TPB05	**Hovey Rd**	**1.07**	**132**	P	Pg	07 55 15.2	-0.5
TPB05				S	Sg	07 55 29.3	-0.3
ALPN	**Alpine**	**1.37**	**157**	P	Pn	07 55 19.8	-1.3
ALPN				S	Sg	07 55 37.5	-1.7
ODSA	**Odessa**	**1.52**	**71**	S	Sn	07 55 42.4	-1.1
TMB04	**Seminole**	**1.79**	**56**	P	Pn	07 55 26.8	0.0
TMB02	**Rankin**	**1.94**	**103**	S	Sn	07 55 54.5	+0.7
TX31	**Lajitas Ar. Si**	**2.36**	**167**	Pg	Pb	07 55 37.6	-0.5

ISC 25 07:58:42.2±1.6,27.°93N±0.°05×112.°03W±0.°05, h12km±14km,n5,σ0.°84/10,3C,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.64**	**198**	⇑*e*P	**Pb**	**07 58 55.1**	**-0.1**
SRIG				*e*S	**Sb**	**07 59 04.4**	**+0.4**
SRIG				⇑*e*		07 59 04.8	
SRIG				IAML		07 59 04.8	
	comp=E,74nm,0.4s						
SRIG				IAML		07 59 05.0	
	comp=N,118nm,0.3s						
SFQB	**San Francisqui**	**0.88**	**303**	*e*P	**Pg**	**07 58 59.1**	**0.0**
SFQB				*e*S	**Sb**	**07 59 11.8**	**+0.9**
SFQB				⇑*e*		07 59 13.5	
BKIRB	**Bahia Kino**	**0.93**	**1**	*e*P	**Pg**	**07 59 00.0**	**0.0**
BKIRB				*e*S	**Sb**	**07 59 12.5**	**+0.1**
HSIG		**1.44**	**41**	*e*P	**Pn**	**07 59 07.8**	**-0.3**
HSIG				*e*S	**Sn**	**07 59 26.2**	**-0.7**
NOVRB	**El Novillo Son**	**2.33**	**64**	*e*P	**Pg**	**07 59 26.6**	**-0.2**
NOVRB				*e*S	**Sb**	**07 59 54.4**	**+1.6**

*NOU **25** 08:00:02.7,37.°05S×179.°37E,h2km,MLv4.2/10,Off E. Coast of N. Island, N.Z.*
*WEL **25** 08:00:07.8±1.1,37.°S±8.°×17.°9E±.°,h12km,M3.7/15, ML4.0/15,MLv3.7/15,Error ellipse: s-maj=13.2km s-min=8.5km az=119.3,confirmed*

ISC 25 08:00:04.8±2.6,37.°02S±0.°07×179.°2E±0.°1,h3km±12km, n80,σ0.°92/86,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**232**	P	**Pg**	**08 00 21.7**	**+0.1**
MXZ	**Matakaoa Point**	**0.88**	**232**	P	**Pg**	**08 00 21.8**	**+0.1**
MXZ				S	**Sg**	**08 00 30.9**	**-2.1**
WMGZ	**Waiomatatini S**	**1.00**	**217**	P	**Pn**	**08 00 25.9**	**+0.1**
PKGZ	**Pakihiroa**	**1.21**	**225**	P	**Pg**	**08 00 28.4**	**+0.3**
PKGZ				S	**Sn**	**08 00 45.2**	**-0.5**
PUZ	**Puketiti**	**1.28**	**214**	P	**Pg**	**08 00 30.4**	**+1.1**
PUZ				S	**Sn**	**08 00 47.7**	**+0.3**
HAZ	**Te Kaha**	**1.33**	**236**	P	**Pg**	**08 00 31.9**	**+1.6**
HAZ				S	**Sg**	**08 00 47.8**	**+0.3**
TWGZ	**Tauwhareparae**	**1.50**	**219**	P	**Pb**	**08 00 33.5**	**+0.2**
RUGZ	**Raukumara Rang**	**1.52**	**231**	P	**Pn**	**08 00 32.8**	**-0.2**
CNGZ	**Carnagh Statio**	**1.65**	**207**	P	**Pb**	**08 00 36.2**	**+0.3**
TKGZ	**Te Karaka**	**1.77**	**216**	P	**Pb**	**08 00 37.2**	**-0.6**
MWZ	**Matawai**	**1.85**	**224**	P	**Pn**	**08 00 38.0**	**+0.5**
WHRZ	**Whale Island**	**1.94**	**244**	P	**Pn**	**08 00 39.0**	**+0.3**
RIGZ	**Rimuhau**	**2.02**	**213**	P	**Pn**	**08 00 40.6**	**+0.7**
URZ	**Urewera**	**2.05**	**232**	P	**Pn**	**08 00 40.2**	**0.0**
URZ	**Urewera**	**2.05**	**232**	S	**Sb**	**08 01 07.3**	**-1.3**
URZ	**Urewera**	**2.05**	**232**	P	**Pn**	**08 00 40.7**	**+0.5**
URZ				S	**Sn**	**08 01 06.8**	**+0.5**
PRGZ	**Paritu Road**	**2.16**	**208**	P	**Pn**	**08 00 42.5**	**+0.8**
OPRZ	**Ohinepanea**	**2.24**	**248**	P	**Pn**	**08 00 42.4**	**-0.4**
SNGZ	**Shannon Statio**	**2.28**	**219**	P	**Pn**	**08 00 44.0**	**+0.6**
SNGZ				S	**Sn**	**08 01 12.7**	**+0.6**
KNZ	**Kokohu**	**2.32**	**210**	P	**Pn**	**08 00 44.0**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.35**	**205**	P	**Pn**	**08 00 44.7**	**+0.4**
RTZ	**Ruatahuna**	**2.36**	**227**	P	**Pn**	**08 00 45.1**	**+0.6**
MYRZ	**Mayor Island**	**2.36**	**263**	P	**Pn**	**08 00 43.6**	**-0.8**
MUGZ	**Murupara**	**2.40**	**232**	P	**Pn**	**08 00 45.4**	**+0.4**
TGRZ	**Tauranga**	**2.43**	**252**	P	**Pn**	**08 00 44.7**	**-0.6**
TARZ	**Mount Tarawera**	**2.44**	**239**	P	**Pn**	**08 00 45.5**	**-0.1**
OMRZ	**Omania**	**2.48**	**243**	P	**Pn**	**08 00 46.0**	**-0.1**
RRRZ	**Republican Roa**	**2.49**	**237**	P	**Pn**	**08 00 46.3**	**+0.1**
RAHZ	**Arahi**	**2.51**	**220**	P	**Pn**	**08 00 47.9**	**+1.3**
KARZ	**Kaharoa**	**2.54**	**246**	P	**Pn**	**08 00 47.6**	**+0.8**
HLRZ	**Highlands Stat**	**2.56**	**240**	P	**Pn**	**08 00 48.0**	**+0.8**
MTHZ	**Matangataniwha**	**2.60**	**225**	P	**Pn**	**08 00 49.0**	**+1.2**
PRRZ	**Plateau Road**	**2.65**	**235**	P	**Pn**	**08 00 49.2**	**+0.7**
HRRZ	**Handcock Road**	**2.67**	**238**	P	**Pn**	**08 00 49.5**	**+0.8**
KMRZ	**Kaimai**	**2.70**	**251**	P	**Pn**	**08 00 48.5**	**-0.7**
ALRZ	**Allen Road**	**2.72**	**235**	P	**Pn**	**08 00 50.2**	**+0.7**
KUZ	**Kuaotunu**	**2.78**	**275**	P	**Pn**	**08 00 48.8**	**-1.4**
KUZ	**Kuaotunu**	**2.78**	**275**	P	**Pn**	**08 00 49.3**	**-0.9**
NMHZ	**Naumai**	**2.79**	**221**	P	**Pn**	**08 00 51.4**	**+0.9**
ARHZ	**Aropaoanui**	**2.82**	**217**	P	**Pn**	**08 00 50.9**	**+0.1**
TOZ	**Tahuroa Road**	**3.01**	**255**	P	**Pn**	**08 00 52.3**	**-1.1**
BKZ	**Black Stump Fm**	**3.01**	**224**	P	**Pn**	**08 00 53.7**	**+0.2**
BKZ	**Black Stump Fm**	**3.01**	**224**	S	**Sn**	**08 01 31.4**	**+1.3**
BKZ	**Black Stump Fm**	**3.01**	**224**	P	**Pn**	**08 00 53.8**	**+0.4**
GRZ	**Great Barrier**	**3.08**	**283**	P	**Pn**	**08 00 52.2**	**-2.2**
MCHZ	**McNeill Hill**	**3.11**	**218**	P	**Pn**	**08 00 55.3**	**+0.6**
MKAZ	**Moumakai**	**3.21**	**267**	P	**Pn**	**08 00 55.6**	**-0.6**
KWHZ	**Kaweka Forest**	**3.23**	**221**	P	**Pn**	**08 00 56.3**	**-0.2**
WIAZ	**Waiheke Island**	**3.25**	**273**	P	**Pn**	**08 00 56.3**	**-0.3**
RITZ	**Rihia Road**	**3.27**	**232**	P	**Pn**	**08 00 57.9**	**+1.0**
KAHZ	**Kahuranaki**	**3.31**	**212**	P	**Pn**	**08 00 56.6**	**-0.9**
ETAZ	**East Tamaki Re**	**3.40**	**270**	P	**Pn**	**08 00 58.9**	**+0.1**
KRHZ	**Kereru**	**3.42**	**219**	P	**Pn**	**08 00 58.8**	**-0.3**
MBAZ	**Motutapu North**	**3.44**	**273**	P	**Pn**	**08 00 59.2**	**0.0**
TMVZ	**Te Maari**	**3.45**	**232**	P	**Pn**	**08 01 00.3**	**+0.8**
OTVZ	**Oturere**	**3.50**	**231**	P	**Pn**	**08 01 00.9**	**+0.6**
NNVZ	**North Ngauruho**	**3.51**	**232**	P	**Pn**	**08 01 01.7**	**+1.2**
SNVZ	**South Ngauruho**	**3.53**	**231**	P	**Pn**	**08 01 01.0**	**+0.4**
TUVZ	**Tukino**	**3.57**	**230**	P	**Pn**	**08 01 01.4**	**+0.2**
MOVZ	**Moawhango**	**3.60**	**227**	P	**Pn**	**08 01 01.4**	**-0.2**
AWAZ	**Awhitu Peninsu**	**3.62**	**268**	P	**Pn**	**08 01 02.5**	**+0.6**
WNVZ	**Wahianoa**	**3.64**	**230**	P	**Pn**	**08 01 02.2**	**0.0**
WTAZ	**Waiatarua**	**3.69**	**270**	P	**Pn**	**08 01 02.7**	**+0.1**
RVAZ	**Riverhead Bore**	**3.69**	**272**	P	**Pn**	**08 01 03.2**	**+0.5**
PNHZ	**Pukenui**	**3.71**	**218**	P	**Pn**	**08 01 02.0**	**-1.1**
HIZ	**Hauiti**	**3.73**	**245**	P	**Pn**	**08 01 04.5**	**+1.2**
HIZ	**Hauiti**	**3.73**	**245**	P	**Pn**	**08 01 04.4**	**+1.2**
PRHZ	**Porangahau**	**3.80**	**211**	P	**Pn**	**08 01 03.7**	**-0.6**
TSZ	**Takapari Road**	**3.94**	**219**	P	**Pn**	**08 01 05.6**	**-0.7**
DVHZ	**Dannevirke**	**4.03**	**215**	P	**Pn**	**08 01 05.9**	**-1.5**
WCZ	**Waipu Caves**	**4.04**	**284**	P	**Pn**	**08 01 08.3**	**+0.8**
VRZ	**Vera Road**	**4.07**	**238**	P	**Pn**	**08 01 09.1**	**+1.2**
WAZ	**Wanganui**	**4.28**	**229**	P	**Pn**	**08 01 11.3**	**+0.5**
BFZ	**Birch Farm**	**4.31**	**211**	P	**Pn**	**08 01 09.1**	**-2.2**
LREZ	**Lake Rotokare**	**4.48**	**236**	P	**Pn**	**08 01 15.6**	**+2.0**
NEZ	**North Egmont**	**4.59**	**239**	P	**Pn**	**08 01 17.2**	**+2.0**
HOWZ	**Holdsworth Sta**	**4.81**	**215**	P	**Pn**	**08 01 16.6**	**-1.6**
OUZ	**Omahuta**	**4.86**	**290**	P	**Pn**	**08 01 19.9**	**+1.1**
OUZ	**Omahuta**	**4.86**	**290**	P	**Pn**	**08 01 19.8**	**+1.0**
QRZ	**Quartz Range**	**6.42**	**232**	P	**Pn**	**08 01 38.6**	**-1.7**

*IDC **25** 08:12:27.1±4.1,13.°80N×92.°98W,h0km,mb3.4/2, mbtmp3.4/3,ML2.4/3,Error ellipse: s-maj=77.5km s-min=27.1km az=180.0*
*GCG **25** 08:12:33.6±1.5,14.°12N×92.°80W,h13km±26km,MD4.2, Hypocentre not reviewed by the ISC*
*MEX **25** 08:12:37.2±0.7,14.°38N×92.°94W,h11km±58km,MD4.0*

ISC 25 08:12:33.7±1.8,14.°38N±0.°07×92.°86W±0.°04,h14km±10km, n23,σ1.°68/40,mb3.5/3,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**48**	*e*P	**Pn**	**08 12 51.0**	**+0.7**
THIG				*i* S	**Sb**	**08 13 00.1**	**+0.6**
THIG		**0.78**	**48**	*e*P		08 12 51.0	
PATR	**El Naranjo**	**0.95**	**40**	*e*P	**Pn**	**08 12 52.9**	**0.0**
PATR				*e*S	**Sn**	**08 13 06.4**	**0.0**
PAVE	**Pavencul**	**1.05**	**39**	*e*P	**Pn**	**08 12 54.4**	**+0.2**
PAVE				*e*S	**Sn**	**08 13 09.2**	**+0.5**
RTAL	**Retalhuleu**	**1.14**	**83**	*e*P	**Pg**	**08 12 54.6**	**-1.1**
RTAL				*e*S	**Sb**	**08 13 09.7**	**-0.2**
PCIG		**1.36**	**345**	*e*P	**Pn**	**08 12 58.3**	**0.0**
PCIG				*e*P	**Pb**	**08 12 58.6**	**-0.4**
PCIG				*e*S	**Sb**	**08 13 12.1**	**-4.2**
PCIG				*i* S	**Sn**	**08 13 14.0**	**-2.2**
HUEH	**Huehuetenango**	**1.61**	**54**	*e*P	**Pg**	**08 13 03.9**	**-0.8**
HUEH				*e*S	**Sn**	**08 13 21.7**	**-1.0**
HUEH	**Huehuetenango**	**1.61**	**54**	*e*P		08 13 04.0	
CCIG	**Comitan**	**2.02**	**20**	*e*P	**Pg**	**08 13 11.9**	**-0.5**
CCIG				*e*S	**Sg**	**08 13 39.7**	**+1.1**
CCIG	**Comitan**	**2.02**	**20**	*e*P		08 13 12.1	
CCIG				*e*S		08 13 41.7	
TGIG		**2.40**	**354**	*e*P	**Pn**	**08 13 14.2**	**+1.6**
TGIG				*e*S	**Sn**	**08 13 42.2**	**+0.3**
TGIG		**2.40**	**354**	*e*P		08 13 15.7	
TGIG				*e*S		08 13 47.9	
APG	**El Apazote**	**2.40**	**75**	Pn	**Pn**	**08 13 13.6**	**+0.7**
	0.2nm,0.3s,baz=188,slow=8.9,SNR=18						
APG				Sn	**Sb**	**08 13 46.2**	**-0.2**
	0.4nm,0.3s,baz=178,slow=11,SNR=4.4						
APG	**El Apazote**	**2.40**	**75**	*e*P		08 13 13.4	
APG				*e*S		08 13 46.0	
NILT	**Santiago Nilte**	**2.75**	**322**	*i* P	**Pn**	**08 13 19.0**	**+1.5**
NILT				*e*S	**Sn**	**08 13 50.3**	**-0.3**
NUBE	**Las Nubes**	**3.03**	**99**	*e*P		08 13 21.3	
UXUV	**UXUV**	**3.17**	**337**	*e*P	**Pn**	**08 13 26.0**	**+2.8**
UXUV				*e*S	**Sn**	**08 13 59.5**	**-1.4**
CMIG	**Matias Romero**	**3.33**	**324**	Pn	**Pn**	**08 13 26.1**	**+0.7**
	2.1nm,0.3s,baz=151,slow=12,SNR=32						
CMIG				Sn	**Sn**	**08 14 05.1**	**+0.4**
	1.7nm,0.3s,baz=162,slow=13,SNR=7.1						
	3.4nm,0.3s						
CMIG	**Matias Romero**	**3.33**	**324**	*e*P	**Pn**	**08 13 26.2**	**+0.9**
CMIG				*e*S	**Sn**	**08 14 04.4**	**-0.3**
HUIG	**Huatulco**	**3.43**	**294**	*e*P	Pn	08 13 22.6	-4.1
HUIG				*e*S	Sn	08 13 59.6	-7.6
PETF	**Flores**	**3.83**	**48**	*e*P	**Pn**	**08 13 35.2**	**+2.9**
PETF				*e*S	**Sn**	**08 14 15.5**	**-1.6**
NEUV	**Arroyo Zacate**	**4.36**	**320**	*e*P	**Pn**	**08 13 41.6**	**+2.1**
NEUV				*e*S	**Sn**	**08 14 32.3**	**+2.2**
PEIG	**Puerto Escondi**	**4.44**	**292**	*e*P	**Pn**	**08 13 38.5**	**-2.2**
PEIG				*e*S	Sn	08 14 24.6	-7.6
YOIG	**Yosondua**	**5.14**	**299**	*e*P	**Pn**	**08 13 50.9**	**+0.4**
YOIG				*e*S	Sn	08 14 43.1	-6.7
TEIG	**Tepich**	**7.28**	**36**	Pn	**Pn**	**08 14 21.8**	**+2.1**
	baz=232,slow=20,SNR=17						
TEIG				Sn	**Sn**	**08 15 42.0**	**-0.1**
	baz=232,slow=19,SNR=1.1						
TXAR	**Lajitas Array**	**17.93**	**328**	P	**P**	**08 16 47.9**	**+4.5**
	0.4nm,0.8s,baz=159,slow=9.0,SNR=4.6						
NVAR	**Mina Array Bea**	**32.85**	**322**	P	**P**	**08 19 07.5**	**+0.1**
	0.3nm,0.7s,baz=128,slow=9.7,SNR=3.1						
	0.3nm,0.7s						
YKA	**Yellowknife Ar**	**50.47**	**347**	P	**P**	**08 21 30.1**	**-0.7**
	0.4nm,0.7s,baz=159,slow=7.4,SNR=8.5						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**86.04**	**18**	P	**P**	**08 25 11.3**	**-2.2**
	8.9nm,1.2s,baz=320,slow=5.3,SNR=1.2						

*IDC **25** 08:20:22.3±2.6,20.°10S×178.°25W,h580km±23km,mb2.9/3, mbtmp3.9/4,Error ellipse: s-maj=43.4km s-min=38.6km az=178.0*

ISC 25 08:20:22.4±1.8,19.°8S±0.°3×178.°2W±0.°3,h600km,n6, σ0.°95/7,mb3.6/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.09**	**299**	P	**P**	**08 21 48.1**	**-0.6**
	6.9nm,0.3s,baz=254,slow=22,SNR=29						
ASAR	**Alice Springs**	**44.52**	**256**	P	**P**	**08 27 42.5**	**+0.1**
	1.1nm,0.6s,baz=90,slow=8.5,SNR=13						
ASAR				PcP	**PcP**	**08 29 14.0**	**+1.7**
	0.2nm,0.4s,baz=108,slow=4.1,SNR=1.7						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**44.53**	**261**	P	**P**	**08 27 42.3**	**-0.2**
	0.8nm,0.4s,baz=98,slow=8.5,SNR=6.0						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**70.30**	**180**	P	**P**	**08 30 36.1**	**-0.4**
	1.2nm,1.0s,baz=45,slow=5.7,SNR=2.2						
	1.2nm,1.0s						
AKASG	**Malin Array Be**	**142.28**	**331**	PKP	**PKPdf**	**08 38 47.1**	**-0.3**
	0.2nm,0.4s,baz=46,slow=3.8,SNR=7.3						
BRTR	**Keskin Array B**	**146.21**	**313**	PKPbc	**PKPab**	**08 38 59.9**	**+0.4**
	0.4nm,0.4s,baz=86,slow=3.7,SNR=2.2						

IDC 25 08:41:20.2±2.4,7.°47S×130.°66E,h0km,mb3.3/1, mbtmp3.2/4,ML3.0/3,Error ellipse: s-maj=82.8km s-min=28.4km az=76.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.64**	**204**	Pn	Pn	08 44 06.7	-1.0
	0.1nm,0.3s,baz=25,slow=11,SNR=1.0						
FITZ				Sn	Sn	08 46 13.2	-5.2
	0.3nm,0.3s,baz=45,slow=17,SNR=1.6						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**12.90**	**164**	Pn	Pn	08 44 25.8	+0.8
	0.1nm,0.3s,baz=349,slow=13,SNR=

Error ellipse: s-maj=1.5km s-min=1.1km az=7.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.49**	**128**	*i* Pg	Pg	08 50 22.6	-0.1
	0.6nm,0.1s						
ARSA				*e*Sg	Sg	08 50 29.3	+0.2
	0.9nm,0.1s						
MOA	**Molln**	**0.55**	**303**	*i* Pg	Pg	08 50 24.0	0.0
	0.4nm,0.1s						
MOA				*i* Sg	Sg	08 50 31.3	+0.1
	0.9nm,0.1s						
CONA	**Conrad Observa**	**0.72**	**58**	*i* Pg	Pb	08 50 28.1	-0.8
	0.1nm,0.1s						
CONA				*i* Sg	Sg	08 50 37.1	+0.7
	0.6nm,0.1s						
BIOA	**Bad Ischl, Aus**	**0.90**	**279**	*i* Pg	Pg	08 50 30.9	+0.2
	0.4nm,0.1s						
BIOA				*e*Sg	Sg	08 50 43.4	+1.0
	0.8nm,0.1s						
RONA	**Rosalia, Austr**	**0.92**	**80**	*e*Pg	Pg	08 50 31.5	+0.5
	1.3nm,0.1s						
RONA				*i* Sg	Sg	08 50 43.5	+0.7
	1.1nm,0.1s						
OBKA	**Obir**	**1.08**	**195**	*i* Pg	Pg	08 50 33.5	-0.6
	0.2nm,0.1s						
OBKA				*e*Sg	Sb	08 50 49.6	-0.1
	0.2nm,0.1s						
KRUC	**Moravsky**	**1.79**	**32**	*e*PN	Pn	08 50 45.5	-0.1
KRUC				*e*SG	Sb	08 51 10.0	0.0

LJU 25 08:50:22.2, 45°.65N×14°.27E, h11km, ML0.9, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.14**	**53**	*i* Pg	Pg	08 50 25.6	+0.1
CEY				IAML		08 50 28.5	
	comp=Z,8.1nm,0.1s						
KNDS	**Knezji Dol**	**0.15**	**147**	⇑*i* Pg	Pg	08 50 25.8	+0.1
KNDS				*i* Sg	Sg	08 50 28.5	+0.3
KNDS				IAML		08 50 29.5	
	comp=Z,20nm,0.1s						
SKDS	**Skadanscina**	**0.21**	**239**	⇑*i* Pg	Pg	08 50 26.5	-0.1
SKDS				*i* Sg	Sg	08 50 29.9	+0.3
SKDS				IAML		08 50 30.1	
	comp=Z,20nm,0.1s						
JAVS	**Javornik**	**0.28**	**330**	*i* Pg	Pg	08 50 27.9	-0.1
JAVS				*i* Sg	Sg	08 50 32.5	+0.7
JAVS				IAML		08 50 33.2	
	comp=Z,5.0nm,0.1s						
GBRS	**Gornja Briga**	**0.40**	**108**	*i* Pg	Pg	08 50 30.4	+0.2
GBRS				*i* Sg	Sb	08 50 36.6	-1.0
GBRS				IAML		08 50 37.2	
	comp=Z,6.1nm,0.1s						
CRNS	**Crni Vrh**	**0.43**	**360**	*i* Pg	Pg	08 50 30.9	+0.3
CRNS				IAML		08 50 37.8	
	comp=Z,1.5nm,0.1s						
VISS	**Visnje**	**0.43**	**69**	*i* Sg	Sg	08 50 36.8	+0.5
VISS				IAML		08 50 37.6	
	comp=Z,3.3nm,0.1s						
VOJS	**Vojsko**	**0.46**	**325**	*i* Pg	Pg	08 50 31.1	-0.2
VOJS				*i* Sg	Sb	08 50 38.6	-0.8
VOJS				IAML		08 50 40.9	
	comp=Z,2.8nm,0.1s						

*THE **25** 08:54:32.7, 37°.37N×20°.69E, h10km, ML2.7/7, Error ellipse: s-maj=1.2km s-min=0.7km az=39.0*
*ATH **25** 08:54:33.9, 37°.46N×20°.73E, h20km±5km, ML2.7/5, Manual Solution by A.Pokaefs First location: 2019/02/25 08:55:32, This location: 2019/03/18 11:32:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 8 km*

ISC 25 08:54:32.9±2.2, 37°.40N±0°.09×20°.67E±0°.07, h16km±9km, n27, σ0°.45/39, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.34**	**23**	P	**Pg**	**08 54 39.8**	**-0.1**
LTHK				S	**Sg**	**08 54 44.8**	**+0.1**
	3μm,0.2s						
KYPS	**Kipseli, Zakin**	**0.44**	**16**	P	**Pg**	**08 54 41.9**	**+0.2**
KYPS				S	**Sb**	**08 54 48.1**	**-0.6**
ORTH	**Orthonies,Zaky**	**0.45**	**3**	P	**Pg**	**08 54 41.9**	**-0.1**
ORTH				S	**Sb**	**08 54 48.7**	**-0.4**
CLEM	**Kyllini,Ilia,G**	**0.62**	**37**	P	**Pg**	**08 54 44.9**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.68**	**7**	P	**Pg**	**08 54 46.2**	**0.0**
RTZL				S	**Sb**	**08 54 56.4**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.72**	**355**	P	**Pg**	**08 54 46.6**	**-0.3**
PSDA				S	**Sb**	**08 54 57.8**	**+1.1**
	868nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.72**	**355**	P	**Pg**	**08 54 46.5**	**-0.3**
PSDA				S	**Sb**	**08 54 57.4**	**+0.7**
VLS	**Valsamata**	**0.78**	**356**	P	**Pg**	**08 54 48.0**	**-0.1**
VLS				S	**Sb**	**08 54 59.6**	**+1.1**
	462nm,0.1s						
VLS	**Valsamata**	**0.78**	**356**	P	**Pg**	**08 54 47.5**	**-0.6**
VLS				S	**Sg**	**08 54 58.5**	**+0.1**
AMT	**Artemida-Makis**	**0.84**	**80**	P	**Pb**	**08 54 49.2**	**+0.1**
DMLN	**Damoulianata-K**	**0.87**	**345**	P	**Pb**	**08 54 49.4**	**-0.3**
DMLN				S	**Sn**	**08 55 03.0**	**0.0**
	890nm,0.4s						
DMLN	**Damoulianata-K**	**0.87**	**345**	P	**Pb**	**08 54 49.4**	**-0.3**
RLS	**Riolos of Patr**	**0.91**	**44**	P	**Pb**	**08 54 50.0**	**-0.4**
RLS	**Riolos of Patr**	**0.91**	**44**	P	**Pb**	**08 54 49.7**	**-0.6**
AXS	**Araxos**	**0.97**	**35**	P	**Pb**	**08 54 51.2**	**-0.2**
DRO	**Drossia**	**1.00**	**56**	P	**Pg**	**08 54 51.8**	**-0.4**
DRO				S	**Sn**	**08 55 05.8**	**-0.2**
	185nm,0.4s						
DRO	**Drossia**	**1.00**	**56**	P	**Pb**	**08 54 51.5**	**-0.3**
ITM	**Ithomi**	**1.03**	**102**	P	**Pn**	**08 54 52.8**	**+0.1**
FSK	**Fiskardo**	**1.06**	**356**	P	**Pb**	**08 54 52.5**	**-0.4**
FSK	**Fiskardo**	**1.06**	**356**	P	**Pb**	**08 54 52.3**	**-0.6**
EVGI	**Lefkada island**	**1.22**	**360**	P	**Pn**	**08 54 55.0**	**-0.3**
EVGI				S	**Sg**	**08 55 12.9**	**+0.5**
	242nm,0.3s						
EVGI	**Lefkada island**	**1.22**	**360**	P	**Pn**	**08 54 55.0**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.29**	**357**	P	**Pn**	**08 54 56.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.31**	**1**	P	**Pn**	**08 54 56.7**	**+0.1**
NYDR				S	**Sg**	**08 55 15.4**	**+0.1**
	108nm,0.5s						
KLV	**Kalavryta, Ach**	**1.34**	**61**	P	**Pb**	**08 54 57.7**	**0.0**
LKD2	**Lefkada island**	**1.39**	**360**	P	**Pn**	**08 54 58.2**	**+0.6**
TSLK	**Tsoukalades, L**	**1.43**	**360**	P	**Pn**	**08 54 58.2**	**+0.1**

*IDC **25** 08:57:15.2±3.3, 32°.04S×179°.83E, h336km±37km, mb3.2/2, mbtmp4.0/4, Error ellipse: s-maj=44.0km s-min=34.2km az=137.0*
*WEL **25** 08:57:21.2±0.6, 32°.5S±5°.×17°.9E±1°.1, h33km, M4.4/15, mB4.8/8, ML5.1/22, MLv4.8/15, Mw(mB)4.1/8, Error ellipse: s-maj=15.5km s-min=4.2km az=111.2, confirmed*

ISC 25 08:57:15.1±1.3, 32°.13S±0°.08×179°.9W±0°.2, h350km, n35, σ2°.23/56, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.32**	**31**	S	S	08 58 58.6	-9.0
MXZ	**Matakaoa Point**	**5.62**	**195**	P	**Pn**	**08 58 45.6**	**+4.1**
MXZ				S	**S**	**08 59 49.2**	**-2.3**
WMGZ	**Waiomatatini S**	**5.85**	**193**	P	**Pn**	**08 58 45.5**	**+1.5**
WMGZ				S	**S**	**08 59 51.5**	**-4.7**
HAZ	**Te Kaha**	**5.93**	**198**	P	**Pn**	**08 58 46.7**	**+1.7**
HAZ				S	**S**	**08 59 56.0**	**-2.0**
PKGZ	**Pakihiroa**	**5.96**	**196**	P	**Pn**	**08 58 49.6**	**+4.2**
PKGZ				S	**S**	**08 59 58.8**	**+0.2**
PUZ	**Puketiti**	**6.12**	**194**	P	**Pn**	**08 58 51.7**	**+4.5**
PUZ				S	**S**	**09 00 02.0**	**0.0**
WCZ	**Waipu Caves**	**6.12**	**230**	P	**Pn**	**08 58 49.9**	**+2.7**
RUGZ	**Raukumara Rang**	**6.16**	**198**	P	**Pn**	**08 58 49.4**	**+1.7**
RUGZ				S	**S**	**08 59 59.8**	**-3.0**
TWGZ	**Tauwhareparae**	**6.28**	**196**	P	**Pn**	**08 58 53.8**	**+4.7**
TWGZ				S	**S**	**09 00 06.5**	**+1.1**
CNGZ	**Carnagh Statio**	**6.53**	**193**	P	**Pn**	**08 58 53.1**	**+1.2**
MWZ	**Matawai**	**6.54**	**198**	P	**Pn**	**08 58 52.9**	**+0.8**
MWZ				S	**S**	**09 00 10.7**	**-0.1**
TKGZ	**Te Karaka**	**6.56**	**196**	P	**Pn**	**08 58 52.6**	**+0.3**
TKGZ				S	**S**	**09 00 10.6**	**-0.6**
URZ	**Urewera**	**6.59**	**201**	P	**Pn**	**08 58 53.3**	**+0.7**
	6.8nm,0.4s,baz=16,slow=18,SNR=102						
URZ				S	**S**	**09 00 10.1**	**-1.7**
	30nm,0.3s,baz=36,slow=17,SNR=19						
URZ	**Urewera**	**6.59**	**201**	P	**Pn**	**08 58 53.9**	**+1.3**
URZ				S	**S**	**09 00 10.3**	**-1.6**
RIGZ	**Rimuhau**	**6.84**	**196**	P	**Pn**	**08 58 57.0**	**+1.5**
RIGZ				S	**S**	**09 00 15.5**	**-1.7**
MUGZ	**Murupara**	**6.90**	**203**	P	**Pn**	**08 58 59.2**	**+3.0**
SNGZ	**Shannon Statio**	**7.01**	**198**	P	**Pn**	**08 59 01.1**	**+3.5**
SNGZ				S	**S**	**09 00 20.5**	**-0.4**
PRRZ	**Plateau Road**	**7.05**	**205**	P	**Pn**	**08 59 01.2**	**+3.3**
PRRZ				S	**S**	**09 00 22.0**	**+0.4**
ALRZ	**Allen Road**	**7.12**	**205**	P	**Pn**	**08 59 01.5**	**+2.7**
RAHZ	**Arahi**	**7.21**	**199**	P	**Pn**	**08 59 01.8**	**+2.0**
RAHZ				S	**S**	**09 00 24.1**	**-0.9**
MTHZ	**Maungataniwha**	**7.22**	**201**	P	**Pn**	**08 59 03.1**	**+3.1**
MTHZ				S	**S**	**09 00 24.3**	**-1.0**
KUTZ	**Kaahu Road**	**7.25**	**208**	P	**Pn**	**08 59 04.4**	**+4.0**
NMHZ	**Naumai**	**7.46**	**200**	P	**Pn**	**08 59 05.8**	**+3.0**
NMHZ				S	**S**	**09 00 30.4**	**0.0**
ARHZ	**Aropaoanui**	**7.56**	**199**	P	**Pn**	**08 59 06.7**	**+2.8**
ARHZ				S	**S**	**09 00 31.7**	**-0.8**
BKZ	**Black Stump Fm**	**7.62**	**202**	P	**Pn**	**08 59 05.5**	**+0.8**
BKZ				S	**S**	**09 00 32.6**	**-1.3**
HIZ	**Hauiti**	**7.69**	**213**	P	Pn	08 59 10.7	+5.3
KWHZ	**Kaweka Forest**	**7.87**	**201**	P	**Pn**	**08 59 09.6**	**+1.9**
KWHZ				S	**S**	**09 00 37.8**	**-1.7**
SNVZ	**South Ngauruho**	**7.93**	**206**	P	**Pn**	**08 59 10.8**	**+2.4**
SNVZ				S	**S**	**09 00 40.1**	**-0.8**
KAHZ	**Kahuranaki**	**8.09**	**198**	P	**P**	**08 59 12.6**	**-0.6**
KAHZ				S	**S**	**09 00 43.1**	**-1.0**
KRHZ	**Kereru**	**8.09**	**201**	P	**Pn**	**08 59 11.5**	**+1.2**
KRHZ				S	**S**	**09 00 41.7**	**-2.5**
PNHZ	**Pukenui**	**8.39**	**201**	P	**Pn**	**08 59 14.1**	**+0.3**
MSVF	**Nonsavu**	**14.46**	**352**	P	**P**	**09 00 23.5**	**-0.5**
	1.8nm,0.5s,baz=189,slow=20,SNR=1.6						
ASAR	**Alice Springs**	**41.46**	**270**	P	**P**	**09 04 28.3**	**-0.9**
	0.6nm,0.6s,baz=107,slow=7.6,SNR=16						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**42.61**	**275**	P	**P**	**09 04 37.5**	**-0.8**
	1.4nm,0.5s,baz=113,slow=7.7,SNR=19						
	1.4nm,0.5s						
FINES	**FINESS Array B**	**146.18**	**338**	PKPbc	**PKPbc**	**09 16 14.0**	**+0.1**
	1.7nm,0.6s,baz=68,slow=5.2,SNR=8.3						

*SOME **25** 09:22:04.3, 41°.82N×81°.45E, h10km*
*NNC **25** 09:22:04.8±1.6, 41°.71N×81°.42E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=11.6km s-min=7.7km az=159.0*

ISC 25 09:22:04.0±2.3, 41°.72N±0°.10×81°.35E±0°.07, h10km, n30, σ2°.14/45, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.88**	**337**	*e*P	**Pg**	**09 22 39.0**	**-0.9**
	21nm,0.2s						
KTMS				*e*S	**Sg**	**09 23 04.4**	**+0.1**
	57nm,0.4s						
SHLS	**Shalkode**	**2.00**	**316**	Pg	**Pn**	**09 22 38.7**	**+0.6**
	36nm,0.2s						
SHLS				Lg	Lg	09 23 04.3	
	94nm,0.3s						
SHLS	**Shalkode**	**2.00**	**316**	*e*P	**Pn**	**09 22 38.7**	**+0.6**
	36nm,0.2s						
SHLS				*e*S	**Sb**	**09 23 04.3**	**-1.4**
	94nm,0.3s						
PDGK	**Podgornoye**	**2.12**	**320**	⇑Pn	**Pb**	**09 22 43.3**	**+0.8**
	20nm,0.7s						
PDGK				⇑Sn	**Sg**	**09 23 12.8**	**+0.8**
	67nm,0.6s						
SATY	**Saty**	**2.56**	**302**	Pg	**Pg**	**09 22 51.9**	**-1.2**
	5.0nm,0.3s						
SATY				Lg	Lg	09 23 25.9	
	63nm,0.7s						
ZHN	**Zhinishke**	**2.60**	**305**	*e*P	**Pg**	**09 22 52.5**	**-1.3**
	4.4nm,0.1s						
ZHN				*e*S	**Sg**	**09 23 26.8**	**-0.6**
	70nm,0.3s						
KPKS	**Kokpek**	**2.63**	**312**	Pg	**Pg**	**09 22 53.0**	**-1.4**
	17nm,0.4s						
KPKS				Lg	Lg	09 23 28.2	
	48nm,0.5s						
KPKS	**Kokpek**	**2.63**	**312**	*e*P	**Pg**	**09 22 53.0**	**-1.4**
	17nm,0.4s						
KPKS				*e*S	**Sg**	**09 23 28.2**	**-0.3**
	48nm,0.5s						
DJR	**Jarkent**	**2.85**	**337**	Pg	**Pg**	**09 22 56.8**	**-1.8**
	5.7nm,0.6s						
DJR				Lg	Lg	09 23 34.7	
	43nm,0.6s						
DJR	**Jarkent**	**2.85**	**337**	*e*P	**Pg**	**09 22 56.8**	**-1.8**
	5.7nm,0.5s						
DJR				*e*S	**Sg**	**09 23 34.7**	**-0.8**
	43nm,0.4s						
KNOS	**Konyrlen**	**3.08**	**330**	Pg	**Pg**	**09 23 00.7**	**-2.3**
	7.7nm,0.4s						
KNOS				Lg	Lg	09 23 41.3	
	20nm,0.4s						
BLB	**Baldybastay**	**3.18**	**319**	Pg	**Pg**	**09 23 02.6**	**-2.2**
	24nm,0.5s						
BLB				Lg	Lg	09 23 44.7	
	31nm,0.3s						
KOTS	**Kotyrbulak**	**3.48**	**297**	Pg	**Pg**	**09 23 09.1**	**-1.6**
	6.5nm,0.8s						
KOTS				Lg	Lg	09 23 55.7	
	57nm,0.6s						
KOTS	**Kotyrbulak**	**3.48**	**297**	*e*P	**Pg**	**09 23 09.1**	**-1.6**
	6.4nm,0.3s						
KOTS				*e*S	**Sg**	**09 23 55.7**	**-0.1**
	50nm,0.3s						
MDOK	**Medeo**	**3.50**	**296**	Pg	**Pg**	**09 23 09.2**	**-1.8**
	4.1nm,0.7s						
MDOK				Lg	Lg	09 23 58.3	
	23nm,0.6s						
TNSS	**Tian-Shan**	**3.52**	**293**	Pg	**Pg**	**09 23 09.3**	**-2.1**
	2.6nm,0.5s						
TNSS				Lg	Lg	09 23 56.5	
	10nm,0.4s						
TNSS	**Tian-Shan**	**3.52**	**293**	*e*P	**Pg**	**09 23 09.3**	**-2.1**
	3.3nm,0.3s						
TNSS				*e*S	**Sg**	**09 23 56.5**	**-0.5**
	10nm,0.4s						
IZV	**Izvestkoviy**	**3.75**	**292**	*e*P	**Pg**	**09 23 13.2**	**-2.6**
	1.9nm,0.2s						
IZV				*e*S	**Sg**	**09 24 02.4**	**-1.9**
	29nm,0.6s						
KAPS	**Kapalarasan**	**3.85**	**339**	Pg	**Pg**	**09 23 14.7**	**-3.0**
	3.6nm,0.5s						
KAPS				Lg	Lg	09 24 05.2	
	12nm,0.5s						
MTBS	**Maitube**	**3.91**	**293**	Pg	**Pg**	**09 23 16.9**	**-1.9**
	2.6nm,0.5s						
MTBS				Lg	Lg	09 24 08.6	
	7.3nm,0.6s						
MTBS	**Maitube**	**3.91**	**293**	*e*P	**Pg**	**09 23 16.9**	**-1.9**
	1.5nm,0.2s						
MTBS				*e*S	**Sg**	**09 24 08.7**	**-0.8**
	14nm,0.4s						
KTBS	**Karatobe**	**3.98**	**302**	Pg	**Pb**	**09 23 16.8**	**+2.7**
	0.4nm,0.1s						
KTBS				Lg	Lg	09 24 08.8	
	11nm,0.6s						
KST	**Kastek**	**4.21**	**290**	Pg	**Pg**	**09 23 22.0**	**-2.5**
	4.5nm,0.6s						
KST				Lg	Lg	09 24 17.7	
	19nm,0.8s						
KST	**Kastek**	**4.21**	**290**	*e*P	**Pg**	**09 23 22.0**	**-2.5**
	5.1nm,0.7s						
KST				*e*S	**Sg**	**09 24 17.7**	**-1.3**
	20nm,0.5s						
DGS	**Degeres**	**4.40**	**292**	Pg	**Pg**	**09 23 25.0**	**-3.2**
	4.5nm,0.6s						
DGS				Lg	Lg	09 24 23.1	
	7.8nm,0.5s						
KRBS	**Karabastau**	**4.62**	**297**	Pg	**Pg**	**09 23 29.4**	**-3.2**
	2.8nm,0.4s						
KRBS				Lg	Lg	09 24 30.3	
	5.4nm,0.5s						
MAKZ	**Makanchi**	**5.11**	**5**	⇑Pn	**Pn**	**09 23 21.9**	**+1.3**
	1.9nm,0.9s						
MAKZ				⇑Sn	**Sn**	**09 24 22.0**	**+2.5**
	1.4nm,0.5s						
MAKZ				⇓Lg	Lg	09 24 45.6	
	3.0nm,0.6s						
MK31	**Makanchi Array**	**5.12**	**7**	Pn	**Pn**	**09 23 22.8**	**+2.1**
	0.2nm,0.3s,baz=186,slow=11,SNR=12						
MK31				Pg	**Pg**	**09 23 37.6**	**-4.4**
	0.4nm,0.3s,baz=184,slow=13,SNR=6.2						
MK31				⇓Sn	**Sn**	**09 24 23.6**	**+3.8**
	0.6nm,0.3s,baz=43,slow=22,SNR=4.2						
MK31				⇑Lg	Lg	09 24 44.9	
	3.2nm,0.6s,baz=191,slow=30,SNR=4.2						
MRKS	**Merke**	**6.12**	**282**	*e*P	**Pg**	**09 23 58.2**	**-2.9**
	1.3nm,0.4s						
MRKS				*e*S	**Sg**	**09 25 19.7**	**-0.7**
	3.5nm,0.5s						
ZSN	**Zaisan**	**6.25**	**22**	*e*P	Pg	09 23 58.0	-5.6
	2.7nm,0.2s						
ZSN				*e*S	**Sg**	**09 25 20.1**	**-4.5**
	11nm,0.6s						

*GCG **25** 09:31:54.7±0.7, 13°.25N×88°.04W, h0km±335km, MD4.0, Hypocentre not reviewed by the ISC*
*SNET **25** 09:31:55.1±0.9, 13°.29N×87°.98W, h9km, ML3.3*

CATAC 25 09:31:54.7±0.2, 13°N±2°×88°W±°, h5km±1km, M3.1/24, MLv3.1/24, 5C, Error ellipse: s-maj=4.2km s-min=2.0km az=14.7, confirmed, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.12**	**50**	⇑*i* P	Pg	09 31 58.1	+0.9
LCND				*e*S	Sg	09 31 59.9	+1.2
LCND	**La Caada**	**0.12**	**50**	P	Pg	09 31 58.1	+0.9
LCND	**La Caada**	**0.12**	**50**	P	Pg	09 31 58.1	+1.0
CNCH	**Conchagua**	**0.15**	**73**	⇑*i* P	Pg	09 31 58.8	+1.0
CNCH				*e*S	Sg	09 32 01.5	+1.7
CNCH	**Conchagua**	**0.15**	**73**	P	Pg	09 31 58.8	+1.0
CNCH	**Conchagua**	**0.15**	**73**	P	Pg	09 31 58.9	+1.1
BLLM	**Bellamira**	**0.33**	**310**	⇑*i* P	Pg	09 32 01.7	+0.6
LCY	**Lacayo**	**0.36**	**302**	*e*P	Pg	09 32 02.4	+0.7
RANC	**El Ranchito**	**0.36**	**304**	⇑*e*P	Pg	09 32 02.4	+0.7
RANC	**El Ranchito**	**0.36**	**304**	P	Pg	09 32 02.5	+0.7
RANC	**El Ranchito**	**0.36**	**304**	P	Pg	09 32 02.6	+0.8
PACA	**Pacayal**	**0.41**	**305**	⇑*e*P	Pg	09 32 03.2	+0.6
PACA	**Pacayal**	**0.41**	**305**	P	Pg	09 32 03.2	+0.6
PACA	**Pacayal**	**0.41**	**305**	P	Pg	09 32 03.5	+0.9
CSGN	**Cosiguina Volc**	**0.48**	**122**	P	Pg	09 32 04.7	+0.6
POTN	**Potosi Cosigui**	**0.52**	**117**	P	Pg	09 32 05.4	+0.7
TECA	**Tecapa**	**0.57**	**297**	*e*P	Pg	09 32 06.1	+0.4
CAHU	**Cacacuatique**	**0.58**	**337**	*e*P	Pg	09 32 06.0	+0.1
CAHU				*e*S	Sg	09 32 14.5	+1.0
ALJI	**Alcalda de J**	**0.58**	**279**	*e*P	Pg	09 32 06.3	+0.4
ALJI	**Alcalda de J**	**0.58**	**279**	S	Sb	09 32 14.9	-1.1
ALJI	**Alcalda de J**	**0.58**	**279**	P	Pg	09 32 06.4	+0.5
ALJI	**Alcalda de J**	**0.58**	**279**	P	Pg	09 32 06.6	+0.6
PQSS	**Presa 15 de Se**	**0.69**	**305**	*e*P	Pg	09 32 08.1	+0.2
PQSS	**Presa 15 de Se**	**0.69**	**305**	S	Sb	09 32 18.7	-0.3
PQSS	**Presa 15 de Se**	**0.69**	**305**	P	Pg	09 32 08.1	+0.2
PQSS	**Presa 15 de Se**	**0.69**	**305**	P	Pg	09 32 08.2	+0.3
TECO	**Alcaldia de Te**	**0.83**	**291**	*e*P	Pg	09 32 10.3	-0.5
TECO	**Alcaldia de Te**	**0.83**	**291**	S	Sg	09 32 22.0	+0.4
TECO	**Alcaldia de Te**	**0.83**	**291**	P	Pg	09 32 10.4	-0.4
TECO	**Alcaldia de Te**	**0.83**	**291**	P	Pg	09 32 10.6	-0.2
CHOHN	**Orocuina**	**0.84**	**73**	S	Sg	09 32 22.3	+0.6
CHOHN	**Orocuina**	**0.84**	**73**	P	Pg	09 32 10.4	-0.4
CHOHN	**Orocuina**	**0.84**	**73**	P	Pg	09 32 10.6	-0.3
SCLA	**Alcaldia de Sa**	**0.86**	**303**	*e*P	Pg	09 32 11.1	-0.2
SCLA	**Alcaldia de Sa**	**0.86**	**303**	P	Pg	09 32 11.2	-0.2
SCLA	**Alcaldia de Sa**	**0.86**	**303**	P	Pg	09 32 11.3	0.0
SCLA	**Alcaldia de Sa**	**0.86**	**303**	P	Pg	09 32 10.7	-0.6
UESV	**Universidad de**	**0.88**	**297**	S	Sb	09 32 24.3	-0.4
UESV	**Universidad de**	**0.88**	**297**	P	Pg	09 32 11.7	0.0
UESV	**Universidad de**	**0.88**	**297**	P	Pg	09 32 11.8	+0.1
COEG	**Centro de Oper**	**0.96**	**294**	*e*P	Pg	09 32 12.6	-0.5
COEG	**Centro de Oper**	**0.96**	**294**	P	Pg	09 32 12.0	-1.1
COEG	**Centro de Oper**	**0.96**	**294**	P	Pg	09 32 12.1	-1.0
COEG	**Centro de Oper**	**0.96**	**294**	P	Pg	09 32 13.1	0.0
PAVA	**Las Pavas**	**1.05**	**297**	*e*P	Pg	09 32 14.6	-0.2
PAVA	**Las Pavas**	**1.05**	**297**	P	Pg	09 32 14.7	-0.1
TGUH	**Tegucigalpa,Un**	**1.07**	**40**	P	Pg	09 32 14.3	-0.9
TGUH				S	Sg	09 32 29.5	+0.4
INTHN	**La Esperanza I**	**1.08**	**354**	S	Sg	09 32 29.5	0.0
INTHN	**La Esperanza I**	**1.08**	**354**	P	Pg	09 32 14.9	-0.6
INTHN	**La Esperanza I**	**1.08**	**354**	P	Pg	09 32 15.4	-0.1
INTHN	**La Esperanza I**	**1.08**	**354**	P	Pg	09 32 14.8	-0.7
LOMA	**Loma Larga**	**1.23**	**290**	P	Pg	09 32 17.5	-0.8
COMHN	**El Horno**	**1.27**	**19**	P	Pg	09 32 17.2	-1.9
COMHN	**El Horno**	**1.27**	**19**	S	Sg	09 32 34.5	-1.2
POLN	**Al Sur del Vol**	**1.28**	**117**	S	Sn	09 32 36.7	-0.2
POLN	**Al Sur del Vol**	**1.28**	**117**	P	Pg	09 32 18.1	-1.2
POLN	**Al Sur del Vol**	**1.28**	**117**	P	Pg	09 32 18.2	-1.0
UEES	**Universidad Ev**	**1.31**	**292**	P	Pn	09 32 19.3	-0.6
YUSH	**Yuscaran**	**1.32**	**57**	P	Pn	09 32 18.9	-1.1
YUSH	**Yuscaran**	**1.32**	**57**	P	Pn	09 32 18.7	-1.3
PLRN	**Geotermica Pol**	**1.35**	**118**	P	Pn	09 32 18.9	-1.3
PLRN	**Geotermica Pol**	**1.35**	**118**	P	Pn	09 32 20.0	-0.3
PACN	**Al O del Volca**	**1.37**	**122**	P	Pn	09 32 18.3	-2.2
PACN	**Al O del Volca**	**1.37**	**122**	P	Pn	09 32 18.5	-2.1
PACN	**Al O del Volca**	**1.37**	**122**	P	Pn	09 32 18.4	-2.2
PMON	**Piamonte**	**1.38**	**290**	*e*P	Pn	09 32 20.5	-0.4
PMON	**Piamonte**	**1.38**	**290**	P	Pn

SHO				AMB	AMB	09 36 19.0
	20nm,0.3s					
SHO				*e*S	**Sn**	**09 36 37.6 +0.1**
SHO				A	A	09 36 38.7
	140nm,0.3s					
SHO				A	A	09 36 38.7
	140nm,0.3s					
JOB	**Onbets**	**1.24**	**234**	P	**Pn**	**09 36 18.8 +0.3**
JOB				S	**Sn**	**09 36 37.6 -0.6**
JMP	**Maruseppu**	**1.38**	**286**	*i* P	**Pn**	**09 36 20.0 +0.1**
JCH	**Churui**	**1.69**	**233**	P	**Pn**	**09 36 23.2 -0.1**
JCH				S	**Sn**	**09 36 45.2 -1.7**
JKK2	**Kamakawa 2**	**1.79**	**278**	P	**Pn**	**09 36 24.6 +0.1**
ASAJ	**Asahikawa**	**1.94**	**285**	P	**Pn**	**09 36 26.8 +0.6**
JFR	**Furan**	**1.96**	**257**	P	**Pn**	**09 36 26.6 +0.2**
JEM	**Erimo**	**2.21**	**224**	P	**Pn**	**09 36 30.3 +0.8**
KUR	**Kuril'sk**	**2.49**	**49**	*e*P	**Pn**	**09 36 34.4 +1.6**
KUR				*e*S	**Sn**	**09 37 02.0 -1.9**

TEH ***25*** *09:41:33.5, 32°.93N×47°.45E, h9km±37km*
ISN ***25*** *09:41:33.5±0.5, 32°.88N×47°.45E, h7km±2km, ML3.1*
ISC 25 09:41:34.6±0.9**, 32°.93N**±0°.04×**47°.45E**±0°.03**, h15**km**, n25,**
σ1°.54/29**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.68**	**29**	Pg	**Pg**	**09 41 46.2**	**-1.8**
IDOB	**Doab**	**1.05**	**35**	Pg	**Pb**	**09 41 54.6**	**-0.1**
IBDR	**Badra**	**1.29**	**279**	*e*Pg	**Pb**	**09 41 58.5**	**-0.1**
IBDR				*e*Sg	**Sg**	**09 42 16.5**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.39**	**346**	Pg	**Pb**	**09 42 00.0**	**-0.4**
BDRS	**Dareh Seyedi**	**1.57**	**49**	Pg	**Pb**	**09 42 03.7**	**0.0**
IGHG	**Ghaleghazi**	**1.58**	**332**	Pg	**Pb**	**09 42 03.7**	**0.0**
HSAM	**Samen**	**1.60**	**37**	Pg	**Pb**	**09 42 03.6**	**-0.5**
RAFI	**Al-Rafai**	**1.65**	**224**	*e*Pn	**Pb**	**09 42 04.5**	**-0.2**
RAFI				*e*Sn	**Sg**	**09 42 26.5**	**-1.3**
RAFI				AML	AML	09 42 48.6
	comp=E,270nm,0.2s					
RAFI				AML	AML	09 42 50.2
	comp=N,309nm,1.0s					
GLG1	**Gilan-e-Gharb**	**1.75**	**313**	Pg	**Pn**	**09 42 05.2**	**+0.6**
AHWZ	**Ahwaz**	**1.89**	**147**	Pn	**Pg**	**09 42 09.7**	**-1.1**
SNQR	**Sonqor, Kerman**	**1.93**	**4**	Pn	**Pb**	**09 42 09.0**	**-0.8**
IDHR	**Dehrash**	**1.98**	**334**	Pn	**Pb**	**09 42 09.7**	**-0.8**
ILIN	**Lien**	**2.03**	**349**	Pn	**Pb**	**09 42 10.5**	**-0.9**
HAGD	**Aghdareh**	**2.36**	**36**	Pn	**Pb**	**09 42 14.9**	**-2.0**
BHD	**Baghdad**	**2.60**	**278**	*e*Pn	**Pn**	**09 42 18.0**	**+1.9**
BHD				*e*Sn	**Sb**	**09 42 50.5**	**-2.2**
HGHA	**Hamedan- Ghaye**	**2.81**	**24**	Pn	**Pn**	**09 42 21.0**	**+1.7**
IPIR	**Pirpir**	**2.91**	**94**	Pn	**Pn**	**09 42 22.4**	**+1.8**
ZNGN	**Zangian**	**2.98**	**105**	Pn	**Pn**	**09 42 22.8**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.29**	**32**	Pn	**Pn**	**09 42 27.8**	**+1.9**
QAMS	**Qamsar**	**3.40**	**72**	Pn	**Pn**	**09 42 28.9**	**+1.5**
IKLH	**Kolahrood**	**3.48**	**82**	Pn	**Pn**	**09 42 30.8**	**+2.2**
IKRK	**Kirkuk**	**3.57**	**315**	*e*Pn	**Pn**	**09 42 31.5**	**+2.0**
IKRK				*e*Sn	**Sn**	**09 43 14.2**	**+2.8**
IKRK				AML	AML	09 43 19.1
	comp=N,64nm,0.6s					
IKRK				AML	AML	09 43 33.4
	comp=E,82nm,0.8s					
IZEF	**Zefreh**	**4.10**	**89**	Pn	**Pn**	**09 42 38.8**	**+1.7**
IVRN	**Varamin**	**4.11**	**59**	Pn	**Pn**	**09 42 38.8**	**+1.8**
ISFB	**Sefidab**	**4.24**	**69**	Pn	**Pn**	**09 42 40.6**	**+1.8**

SNET ***25*** *09:47:35.0±0.5, 13°.28N×87°.97W, h10km±30km, ML2.7*
CATAC 25 09:47:34.6±0.3**, 13°N**±3°×**8°8W**±°**, h10**km**±2**km**, M2.5/13,**
MLv2.5/13, 3C, Error ellipse: s-maj=7.2km s-min=4.0km
az=7.6, confirmed, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.11**	**45**	*i* P	Pg	09 47 38.1	+0.8
LCND				*e*S	Sg	09 47 40.2	+1.0
LCND				IAML		09 47 42.1	
	comp=Z,3μm,0.3s						
LCND	**La Caada**	**0.11**	**45**	P	Pg	09 47 38.1	+0.8
CNCH	**Conchagua**	**0.14**	**71**	⇑*i* P	Pg	09 47 38.8	+1.0
CNCH				*e*S	Sg	09 47 41.6	+1.4
CNCH	**Conchagua**	**0.14**	**71**	P	Pg	09 47 38.9	+1.0
BLLM	**Bellamira**	**0.33**	**309**	⇑*i* P	Pg	09 47 41.8	+0.5
LCY	**Lacayo**	**0.37**	**302**	*e*P	Pg	09 47 42.5	+0.6
RANC	**El Ranchito**	**0.37**	**303**	*e*P	Pg	09 47 42.4	+0.5
RANC	**El Ranchito**	**0.37**	**303**	P	Pg	09 47 42.5	+0.5
RANC	**El Ranchito**	**0.37**	**303**	P	Pg	09 47 42.3	+0.4
PACA	**Pacayal**	**0.42**	**305**	*e*P	Pg	09 47 43.2	+0.4
PACA	**Pacayal**	**0.42**	**305**	P	Pg	09 47 43.3	+0.5
CSGN	**Cosiguina Volc**	**0.47**	**122**	P	Pb	09 47 44.8	-0.3
POTN	**Potosi Cosigui**	**0.51**	**117**	P	Pb	09 47 45.5	-0.1
ALJI	**Alcalda de J**	**0.59**	**280**	P	Pb	09 47 47.2	+0.2
PQSS	**Presa 15 de Se**	**0.69**	**304**	P	Pg	09 47 48.3	+0.2
CHOHN	**Orocuina**	**0.83**	**72**	S	Sb	09 48 02.2	-0.3
CHOHN	**Orocuina**	**0.83**	**72**	P	Pg	09 47 50.5	-0.2
CHOHN	**Orocuina**	**0.83**	**72**	P	Pg	09 47 50.5	-0.1
SCLA	**Alcaldia de Sa**	**0.87**	**303**	P	Pg	09 47 51.3	-0.1
SCLA	**Alcaldia de Sa**	**0.87**	**303**	P	Pg	09 47 50.2	-1.3
POLN	**Al Sur del Vol**	**1.27**	**117**	P	Pn	09 47 58.3	-0.1
YUSH	**Yuscaran**	**1.31**	**57**	S	Sn	09 48 16.8	0.0
YUSH	**Yuscaran**	**1.31**	**57**	P	Pn	09 47 58.8	-0.3
PACN	**Al O del Volca**	**1.36**	**122**	P	Pn	09 47 58.4	-1.3
ROCN	**Rota Cerro Neg**	**1.39**	**120**	P	Pn	09 47 58.6	-1.5
LIMN	**Finca el Limon**	**1.57**	**96**	P	Pn	09 48 02.3	-0.4
COPN	**Copaltepe**	**1.70**	**128**	P	Pn	09 48 04.7	+0.2
COPN	**Copaltepe**	**1.70**	**128**	P	Pb	09 48 05.6	-0.4
JAPN	**Al SSO del Vol**	**2.81**	**127**	P	Pn	09 48 20.0	+0.4

GCG ***25*** *09:49:26.1±1.8, 15°.10N×94°.68W, h98km±94km, MD4.6, ML3.9, MW3.5, Hypocentre not reviewed by the ISC*
MEX ***25*** *09:49:29.3±0.8, 15°.17N×94°.57W, h25km±16km, MD4.4*
IDC ***25*** *09:49:32.1±2.1, 15°.53N×94°.41W, h68km±19km, mb3.2/4, mbtmp3.5/7, Error ellipse: s-maj=27.4km s-min=8.3km az=39.0*
ISC 25 09:49:27.0±0.8**, 15°.22N**±0°.05×**94°.59W**±0°.03**, h28**km**, n51,**
σ2°.63/90**, mb3.5/4, 2C-1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.21**	**33**	*e*P	**Pn**	**09 49 47.2**	**-0.9**
CARR				*e*S	**Sn**	**09 50 00.5**	**-3.0**
NILT	**Santiago Nilte**	**1.33**	**359**	*e*P	**Pn**	**09 49 49.1**	**-0.7**
NILT				*e*S	**Sn**	**09 50 03.4**	**-3.2**
PCIG		**1.41**	**70**	*e*P	**Pn**	**09 49 50.6**	**-0.2**
PCIG				*e*S	**Sn**	**09 50 07.3**	**-1.1**
HUIG	**Huatulco**	**1.56**	**291**	*e*P	**Pn**	**09 49 53.0**	**+0.1**
HUIG				*e*S	**Sn**	**09 50 10.1**	**-2.2**
HUIG	**Huatulco**	**1.56**	**291**	*i* PA		09 49 52.9	
HUIG				IAML		09 50 14.2	
	comp=Z,152nm,0.5s						
CMIG	**Matias Romero**	**1.88**	**351**	P	**Pn**	**09 49 58.2**	**+0.9**
	comp=Z,753nm,0.4s,baz=174,slow=13,SNR=8214						
CMIG				S	**Sn**	**09 50 18.7**	**-1.4**
	comp=Z,1μm,0.4s,baz=82,slow=15,SNR=32						
CMIG	**Matias Romero**	**1.88**	**351**	*e*P	**Pn**	**09 49 58.0**	**+0.6**
CMIG				*i* S	**Sn**	**09 50 20.0**	**-0.1**
TGIG		**2.09**	**42**	*e*P	**Pn**	**09 50 01.6**	**+1.3**
TGIG				*e*S	**Sn**	**09 50 26.2**	**+0.8**
TGIG		**2.09**	**42**	*i* PA		09 50 01.4	
TGIG				IAML		09 50 33.5	
	comp=Z,2μm,0.4s						
TGBT	**Tuxtla Gutierr**	**2.11**	**43**	*e*P	**Pn**	**09 50 01.5**	**+0.9**
TGBT				*e*S	**Sn**	**09 50 26.6**	**+0.7**
UXUV	**UXUV**	**2.13**	**12**	*i* P	**Pn**	**09 50 02.5**	**+1.8**
UXUV				*e*S	**Sn**	**09 50 27.2**	**+1.0**
THIG		**2.27**	**98**	*e*P	**Pn**	**09 50 03.0**	**+0.4**
THIG				*e*S	**Sn**	**09 50 28.1**	**-1.6**
THIG		**2.27**	**98**	*i* PA		09 50 03.0	
THIG				IAML		09 50 35.0	
	comp=Z,252nm,0.6s						
PATR	**El Naranjo**	**2.28**	**92**	*e*P	**Pn**	**09 50 02.8**	**-0.2**
PATR				*e*S	**Sn**	**09 50 26.6**	**-3.7**
PAVE	**Pavencul**	**2.33**	**90**	*e*P	**Pn**	**09 50 04.2**	**+0.5**
PAVE				*e*S	**Sn**	**09 50 29.9**	**-1.7**
CHUJ	**Union Juarez**	**2.40**	**93**	*e*P	**Pn**	**09 50 04.7**	**0.0**
CHUJ				*e*S	**Sn**	**09 50 32.2**	**-1.1**
PEIG	**Puerto Escondi**	**2.58**	**288**	*e*P	**Pn**	**09 50 07.5**	**+0.5**
PEIG				*e*S	**Sn**	**09 50 32.7**	**-4.8**
CCIG	**Comitan**	**2.59**	**66**	*e*P	**Pn**	**09 50 09.1**	**+1.9**
CCIG				*e*S	**Sn**	**09 50 38.3**	**+0.5**
CCIG	**Comitan**	**2.59**	**66**	*i* PA		09 50 10.6	
CCIG				IAML		09 50 45.9	
	comp=Z,586nm,0.5s						
NEUV	**Arroyo Zacate**	**2.73**	**335**	*e*P	**Pn**	**09 50 10.0**	**+1.0**
NEUV				*e*S	**Sn**	**09 50 39.6**	**-1.6**
VHO	**Vista Hermosa**	**2.76**	**312**	*e*P	**Pn**	**09 50 12.0**	**+2.4**
VHO				*e*S	**Sn**	**09 50 42.3**	**+0.2**
TUIG	**Tuzandepetl**	**2.80**	**3**	*i* P	**Pn**	**09 50 11.4**	**+1.5**
RTAL	**Retalhuleu**	**2.88**	**104**	*e*S	**Sn**	**09 50 39.6**	**-5.3**
HUEH	**Huehuetenango**	**2.98**	**88**	*e*P	**Pn**	**09 50 14.8**	**+2.1**
HUEH				*e*S	**Sn**	**09 50 47.6**	**0.0**
VHSA	**Villahermosa**	**3.17**	**30**	*e*P	**Pn**	**09 50 16.0**	**+1.0**
VHSA				*i* S	**Sn**	**09 50 53.6**	**+1.7**
YOIG	**Yosondua**	**3.27**	**300**	*e*P	**Pn**	**09 50 19.6**	**+2.9**
YOIG				*i* S	**Sn**	**09 50 50.2**	**-4.7**
PMUV	**Sontecomapan**	**3.34**	**351**	*e*P	**Pn**	**09 50 17.0**	**-0.5**
PMUV				*i* S	**Sn**	**09 50 52.6**	**-3.7**
PNIG	**Pinotepa**	**3.60**	**289**	*e*P	**Pn**	**09 50 22.3**	**+1.3**
PNIG				*e*S	**Sn**	**09 50 58.9**	**-3.7**
TXIG	**Tlaxiaco**	**3.66**	**304**	*e*P	**Pn**	**09 50 25.0**	**+3.0**
TXIG				*e*S	**Sn**	**09 51 03.4**	**-1.0**
TOIG	**Toxpalan**	**3.71**	**321**	*e*P	**Pn**	**09 50 26.7**	**+4.1**
TOIG				*e*S	**Sn**	**09 51 03.7**	**-1.8**
APG	**El Apazote**	**3.99**	**93**	P	**Pn**	**09 50 29.6**	**+3.1**
	comp=Z,1.1nm,0.4s,baz=205,slow=15,SNR=13						
APG				S	**Sn**	**09 51 13.9**	**+1.3**
	comp=Z,3.6nm,0.5s,baz=225,slow=19,SNR=7.5						
HLIG	**Huajuapan de L**	**4.03**	**311**	*e*P	**Pn**	**09 50 30.7**	**+3.6**
HLIG				*e*S	**Sn**	**09 51 12.3**	**-1.1**
TPIG	**Tehuac#an**	**4.14**	**321**	*e*P	**Pn**	09 50 33.4	+4.9
TPIG				*e*S	**Sn**	**09 51 17.5**	**+1.3**
FTIG	**Fresnillo de T**	**4.32**	**309**	*e*P	**Pn**	**09 50 33.7**	**+2.7**
FTIG				*e*S	**Sn**	**09 51 18.0**	**-2.5**
MGIG	**Malinaltepec**	**4.37**	**298**	*e*P	**Pn**	**09 50 34.8**	**+3.0**
MGIG				*e*S	**Sn**	**09 51 18.1**	**-3.7**
TLIG	**Tlapa**	**4.47**	**302**	*e*P	**Pn**	**09 50 36.2**	**+3.2**
TLIG				*e*S	**Sn**	**09 51 22.3**	**-1.9**
CRIG	**Cruz Grande**	**4.62**	**290**	*e*P	**Pn**	**09 50 36.8**	**+1.8**
CRIG				*e*S	**Sn**	**09 51 22.1**	**-5.6**
JAUV	**Jalcomulco**	**4.63**	**333**	*e*P	**Pn**	**09 50 35.2**	**0.0**
JAUV				*e*S	**Sn**	**09 51 24.9**	**-3.2**
PETF	**Flores**	**4.84**	**69**	*e*P	**Pn**	**09 50 39.4**	**+1.3**
PETF				*e*S	**Sn**	**09 51 27.5**	**-5.8**
PETF	**Flores**	**4.84**	**69**	⇓*i* P		09 50 40.2	
PETF				IAML		09 51 48.5	
	comp=Z,111nm,0.4s						
SCIG	**Sabancuy**	**4.95**	**41**	*e*P	**Pn**	**09 50 40.4**	**+0.9**
SCIG				*e*S	**Sn**	**09 51 29.9**	**-5.8**
SCIG	**Sabancuy**	**4.95**	**41**	⇑*i* P		09 50 40.6	
SCIG				IAML		09 51 43.4	
	comp=Z,81nm,0.4s						
DAIG	**Los Arroyos**	**5.18**	**291**	*e*P	**Pn**	**09 50 45.2**	**+2.4**
DAIG				*e*S	**Sn**	**09 51 37.2**	**-4.5**
YAIG	**Yautepec**	**5.61**	**311**	*e*P	**Pn**	**09 50 53.0**	**+4.2**
YAIG				*e*S	**Sn**	**09 51 49.0**	**-3.3**
PLIG	**Platanillo**	**5.66**	**304**	*e*P	**Pn**	**09 50 51.0**	**+1.6**
PLIG				*e*S	**Sn**	**09 51 50.8**	**-2.8**
CXUV	**Coxquihui**	**5.69**	**330**	*e*P	**Pn**	**09 50 51.9**	**+2.1**
CXUV				*e*S	**Sn**	**09 51 53.6**	**-0.6**
CAIG	**El Cayaco**	**5.75**	**289**	*e*P	**Pn**	**09 50 53.0**	**+2.4**
CAIG				*e*S	**Sn**	**09 51 49.3**	**-6.3**
TLVM	**San Miguel Top**	**5.89**	**313**	*e*P	**Pn**	**09 50 54.3**	**+1.5**
MAVM	**Malinalco, Edo**	**5.98**	**309**	*e*	Pn	09 50 43.6	-10
MAVM				*e*		09 51 45.4	
AOVM	**Tlapan**	**6.05**	**312**	*e*P	**Pn**	**09 50 56.8**	**+1.7**
AOVM				*e*S	**Sn**	**09 51 59.2**	**-4.5**
NISHN	**Nisperales Com**	**6.49**	**84**	⇑*i* P		09 51 01.3	
TEIG	**Tepich**	**7.81**	**49**	P	**Pn**	**09 51 19.0**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=232,slow=20,SNR=24						
TEIG				S	**Sn**	**09 52 41.3**	**-5.0**
	comp=Z,0.2nm,0.4s,baz=182,slow=24,SNR=7.3						
JTS	**Las Juntas de**	**10.60**	**116**	P	**Pn**	**09 52 00.6**	**+3.5**
	comp=Z,4.9nm,0.8s,baz=307,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**16.35**	**331**	P	**Pn**	**09 53 15.0**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=156,slow=12,SNR=8.1						
NVAR	**Mina Array Bea**	**31.16**	**322**	P	**P**	**09 55 45.5**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=125,slow=6.4,SNR=1.5						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**49.29**	**348**	P	**P**	**09 58 11.6**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=158,slow=7.3,SNR=5.5						
	comp=Z,0.3nm,0.6s						
PLCA	**Paso Flores**	**59.98**	**159**	P	**P**	**09 59 32.7**	**+1.6**
	comp=Z,2.0nm,1.0s,baz=318,slow=12,SNR=3.4						
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**60.74**	**337**	P	**P**	**09 59 34.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=107,slow=6.4,SNR=4.4						
	comp=Z,0.3nm,0.6s						

THE ***25*** *10:09:18.1, 37°.61N×20°.72E, h6km±4km, ML2.8/7, Error ellipse: s-maj=4.5km s-min=0.7km az=37.0*
ATH ***25*** *10:09:18.2, 37°.63N×20°.67E, h12km±3km, ML2.8/12, Manual Solution by E.Daskalaki First location: 2019/02/25 10:10:12, This location: 2019/02/25 10:53:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
ISC 25 10:09:18.1±1.5**, 37°.64N**±0°.06×**20°.68E**±0°.05**, h11**km**±6**km**,**
n32, σ0°.43/56**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.14**	**60**	P	**Pg**	**10 09 21.2**	**-0.3**
LTHK				S	**Sg**	**10 09 23.0**	**-0.8**
	9μm,0.2s						
KYPS	**Kipseli, Zakin**	**0.21**	**32**	P	**Pg**	**10 09 23.0**	**+0.4**
KYPS				S	**Sg**	**10 09 26.4**	**+0.6**
ORTH	**Orthonies,Zaky**	**0.21**	**3**	P	**Pg**	**10 09 23.2**	**+0.5**
ORTH				S	**Sg**	**10 09 26.3**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.44**	**55**	P	**Pg**	**10 09 27.1**	**+0.3**
CLEM				S	**Sb**	**10 09 33.8**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.44**	**9**	P	**Pg**	**10 09 26.9**	**0.0**
PSDA	**Pessada-Kefalo**	**0.48**	**351**	P	**Pg**	**10 09 27.4**	**-0.2**
PSDA				S	**Sb**	**10 09 35.7**	**0.0**
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.48**	**351**	P	**Pg**	**10 09 27.2**	**-0.4**
PSDA				S	**Sb**	**10 09 35.1**	**-0.6**
VLS	**Valsamata**	**0.54**	**352**	P	**Pg**	**10 09 29.0**	**+0.2**
VLS				S	**Sb**	**10 09 37.4**	**-0.1**
	740nm,0.2s						
VLS	**Valsamata**	**0.54**	**352**	P	**Pg**	**10 09 28.7**	**0.0**
VLS				S	**Sb**	**10 09 37.2**	**-0.4**
SMHA	**Samh**	**0.61**	**357**	P	**Pg**	**10 09 29.3**	**-0.7**
SMHA				S	**Sg**	**10 09 38.6**	**+0.4**
DMLN	**Damoulianata-K**	**0.65**	**338**	P	**Pg**	**10 09 31.2**	**+0.5**
DMLN				S	**Sb**	**10 09 41.3**	**+0.8**
	1μm,0.6s						
DMLN	**Damoulianata-K**	**0.65**	**338**	P	**Pg**	**10 09 30.9**	**+0.2**
DMLN				S	**Sb**	**10 09 40.8**	**+0.3**
RLS	**Riolos of Patr**	**0.75**	**56**	P	**Pg**	**10 09 32.3**	**-0.3**
RLS				S	**Sg**	**10 09 42.7**	**+0.2**
	180nm,0.4s						
RLS	**Riolos of Patr**	**0.75**	**56**	P	**Pg**	**10 09 32.6**	**0.0**
RLS				S	**Sg**	**10 09 42.7**	**+0.2**
AXS	**Araxos**	**0.78**	**44**	P	**Pb**	**10 09 34.0**	**+0.3**
AXS				S	**Sg**	**10 09 43.3**	**-0.2**
AMT	**Artemida-Makis**	**0.82**	**97**	P	**Pb**	**10 09 34.2**	**-0.2**
AMT				S	**Sb**	**10 09 46.4**	**+0.9**
FSK	**Fiskardo**	**0.83**	**353**	P	**Pg**	**10 09 33.9**	**-0.2**
FSK	**Fiskardo**	**0.83**	**353**	P	**Pg**	**10 09 33.6**	**-0.5**
FSK				S	**Sb**	**10 09 45.8**	**+0.2**
DRO	**Drossia**	**0.87**	**69**	P	**Pg**	**10 09 34.7**	**-0.3**
DRO				S	**Sg**	**10 09 46.4**	**0.0**
	428nm,0.6s						
DRO	**Drossia**	**0.87**	**69**	P	**Pg**	**10 09 35.1**	**+0.1**
DRO				S	**Sb**	**10 09 47.4**	**+0.4**
EVGI	**Lefkada island**	**0.98**	**359**	P	**Pg**	**10 09 36.4**	**-0.7**
EVGI				S	**Sn**	**10 09 52.2**	**+0.4**
	302nm,0.4s						
EVGI	**Lefkada island**	**0.98**	**359**	P	**Pg**	**10 09 36.3**	**-0.8**
EVGI				S	**Sg**	**10 09 49.9**	**0.0**
DRAG	**Dragano-Lefkad**	**1.05**	**355**	P	**Pb**	**10 09 38.0**	**-0.3**
DRAG				S	**Sb**	**10 09 52.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.07**	**1**	P	**Pg**	**10 09 38.9**	**+0.1**
ITM	**Ithomi**	**1.09**	**114**	P	**Pb**	**10 09 38.8**	**-0.2**
ITM				S	**Sn**	**10 09 54.5**	**+0.1**
LKD2	**Lefkada island**	**1.15**	**359**	P	**Pb**	**10 09 39.2**	**-0.8**
LKD2				S	**Sn**	**10 09 56.6**	**+0.7**
PVO	**Paravola**	**1.18**	**34**	P	**Pb**	**10 09 40.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.19**	**359**	P	**Pb**	**10 09 40.3**	**-0.3**
TSLK				S	**Sn**	**10 09 57.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.23**	**70**	P	**Pn**	**10 09 41.0**	**-0.3**
EFP	**Efpalio**	**1.25**	**50**	P	**Pg**	**10 09 42.1**	**0.0**
GUR	**Goura**	**1.35**	**77**	P	**Pg**	**10 09 43.9**	**-0.1**
ANX	**Ano Chora**	**1.37**	**45**	P	**Pn**	**10 09 43.2**	**0.0**

BER ***25*** *10:16:21.7±2.4, 80°.20N×1°.05W, h10km, mb(Pn)3.6, ML1.9(DNK), Confirmed Earthquake*
DNK ***25*** *10:16:22.9±3.0, 80°.21N×0°.58W, h36km±22km, ML1.9*
FCIAR ***25*** *10:16:25.0, 80°.09N×0°.73E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*
KOLA ***25*** *10:16:29.6, 80°.40N×4°.15E, h0km, ML2.2, Error ellipse: s-maj=81.0km s-min=26.0km az=50.0, Greenland sea*
ISC 25 10:16:18.1±1.0**, 80°.15N**±0°.06×**0°.90W**±0°.05**, h10**km**, n25,**
σ2°.71/45**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.64**	**111**	*e*P	**Pn**	**10 17 03.0**	**+2.3**
KBS				*e*S	**Sn**	**10 17 31.5**	**-1.3**
KBS				IAML		10 17 33.3	
	comp=Z,34nm,0.3s						
KBS	**Kingsbay**	**2.64**	**111**	P	**Pn**	**10 17 02.9**	**+2.2**
KBS				S	Sn	10 17 27.6	-5.1
KBS	**Kingsbay**	**2.64**	**111**	*e*P	**Pn**	**10 17 02.8**	**+2.2**
KBS				*e*S	**Sn**	**10 17 30.9**	**-1.8**
KBS	**Kingsbay**	**2.64**	**111**	*i* P	**Pn**	**10 17 02.6**	**+1.9**
KBS				*i* S	**Sn**	**10 17 31.0**	**-1.8**
NOR	**Nord**	**2.90**	**308**	*i* P	**Pn**	**10 17 05.0**	**+0.8**
NOR				*i* S	**Sn**	**10 17 37.1**	**-1.9**
NOR				IAML		10 17 38.5	
	comp=Z,5.4nm,0.2s						
NOR	**Nord**	**2.90**	**308**	*i* P	**Pn**	**10 17 05.0**	**+0.8**
NOR				*i* S	**Sn**	**10 17 37.1**	**-1.9**
NOR				IAML		10 17 38.5	
	comp=Z,5.4nm,0.2s						
BRBB	**Barentsburg B**	**3.52**	**118**	*e*P	**Pn**	**10 17 16.6**	**+3.8**
BRBB				*e*S	**Sn**	**10 17 54.9**	**+0.5**
BRBB	**Barentsburg B**	**3.52**	**118**	P	**Pn**	**10 17 16.9**	**+4.2**
BRBB				S	**Sn**	**10 17 52.0**	**-2.4**
BRBA	**Barentsburg A**	**3.55**	**119**	*e*P	**Pn**	**10 17 17.3**	**+4.2**
BRBA				*e*S	**Sn**	**10 17 55.6**	**+0.7**
BRBA				IAML		10 18 02.0	
	comp=Z,16nm,0.2s						
SPA0	**Spitsbergen Ar**	**3.80**	**113**	*e*P	**Pn**	**10 17 19.6**	**+3.0**
SPA0				*e*S	**Sn**	**10 18 00.4**	**-0.9**
SPA0				IAML		10 18 09.9	
	comp=Z,26nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.80**	**113**	*e*P	**Pn**	**10 17 19.6**	**+3.0**
SPA0				*e*S	**Sn**	**10 18 00.1**	**-1.2**
SPITS	**Spitsbergen Ar**	**3.80**	**113**	P	**Pn**	**10 17 19.6**	**+3.0**
SPITS				S	**Sn**	**10 17 58.3**	**-3.0**
HSPB	**Hornsund (broa**	**4.53**	**126**	*e*P	**Pn**	**10 17 30.3**	**+3.8**
HSPB				*e*S	**Sn**	**10 18 19.0**	**-0.1**
HSPB				IAML		10 18 25.2	
	comp=Z,25nm,0.6s						
DAG	**Danmarks Havn**	**4.90**	**235**	*i* P	**Pn**	**10 17 33.1**	**+1.5**
DAG				*i* S	**Sn**	**10 18 24.5**	**-3.7**
DAG				IAML		10 18 28.6	
	comp=Z,14nm,0.2s						
DAG	**Danmarks Havn**	**4.90**	**235**	*i* P	**Pn**	**10 17 33.1**	**+1.5**
DAG				*i* S	**Sn**	**10 18 24.5**	**-3.7**
DAG				IAML		10 18 28.6	
	comp=Z,14nm,0.2s						
HOPEN	**Hopen**	**6.33**	**112**	*e*P	**Pn**	**10 17 53.9**	**+2.6**
HOPEN				*e*S	**Sn**	**10 19 00.5**	**-3.1**
HOPEN				IAML		10 19 04.1	
	comp=Z,13nm,0.5s						
HOPEN	**Hopen**	**6.33**	**112**	*e*P	**Pn**	**10 17 53.0**	**+1.7

baz=89,slow=339,SNR=0.7
ZALV Zalesovo Beam 3.12 278 Pn Pn 10 31 38.1 +2.2
0.4nm,0.3s,baz=95,slow=13,SNR=12
ZALV Lg Lg 10 32 22.7
0.8nm,0.3s,baz=96,slow=28,SNR=7.9
2.5nm,0.5s
MKAR Makanchi Array 8.47 219 Pn Pn 10 32 49.9 +0.5
baz=34,slow=11,SNR=3.1
0.1nm,0.4s
I34MN SONGINO INFRAS 11.89 113 I I 11 38 30.0
baz=311,slow=335,SNR=0.9

FUNV 25 10:34:40.1, 10°.26N×68°.07W, h21km, MW2.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BENV	**Beln**	**0.55**	**122**	*e*P	Pb	10 34 50.9	-0.3
BENV	**Beln**	**0.55**	**122**	*e*P	Pb	10 34 50.4	-0.8
BENV				*e*S	Sb	10 34 58.9	+0.2
TACV	**Tcata**	**1.03**	**97**	*e*P	Pb	10 34 58.9	-0.4
TACV				*e*S	Sn	10 35 15.1	+1.8
TACV	**Tcata**	**1.03**	**97**	*e*P	Pb	10 34 58.9	-0.4
TACV				*e*S	Sn	10 35 13.8	+0.6
FUNV	**FUNVISIS**	**1.26**	**80**	*e*P	Pn	10 35 02.3	-0.2
FUNV				*e*S	Sb	10 35 19.5	+0.5
FUNV	**FUNVISIS**	**1.26**	**80**	*e*P	Pn	10 35 02.4	-0.1
FUNV				*e*S	Sn	10 35 18.7	-0.2
BAUV	**El Baul**	**1.31**	**179**	*e*P	Pn	10 35 02.9	-0.2
BAUV				*e*S	Sn	10 35 19.7	-0.3
BAUV	**El Baul**	**1.31**	**179**	*e*P	Pb	10 35 03.6	-0.4
BAUV				*e*S	Sn	10 35 19.5	-0.5

BEO 25 11:20:57.9±0.2, 43°.99N×21°.22E, h1km±3km, ML1.8/12, 9C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.38**	**254**	*e*Pg	Pg	11 21 04.4	-0.8
GRUS				*e*Sg	Sg	11 21 09.8	-0.3
GOCS	**Kraljevo Serbi**	**0.50**	**210**	*e*Pg	Pg	11 21 06.8	-0.6
GOCS				*e*Sg	Sg	11 21 13.6	-0.3
BOVS	**Bovan**	**0.50**	**135**	⇓P	Pg	11 21 07.3	-0.2
BOVS				⇑S	Sg	11 21 14.9	+0.9
BOVS	**Bovan**	**0.50**	**135**	*e*Pg	Pg	11 21 07.1	-0.4
BOVS				*e*Sg	Sg	11 21 13.9	-0.1
BORS2	**Bor- Borsko je**	**0.58**	**80**	*e*Pg	Pg	11 21 07.8	-1.3
BORS2				*e*Sg	Sg	11 21 17.2	+0.6
ZAGS	**Zajecar**	**0.75**	**103**	*e*Pg	Pg	11 21 12.2	-0.1
ZAGS				*e*Sg	Sg	11 21 22.0	-0.1
SELS	**Selova**	**0.78**	**185**	*e*Pg	Pg	11 21 12.3	-0.5
SELS				*e*Sg	Sg	11 21 22.5	-0.3
MDVR	**Moldovita**	**0.86**	**24**	⇑P	Pg	11 21 13.6	-0.9
MDVR				⇑S	Sg	11 21 25.6	-0.1
AVAS	**Avala Beograd**	**0.87**	**324**	*e*Pg	Pg	11 21 14.4	-0.1
AVAS				*e*Sg	Sg	11 21 26.3	+0.5
DIVS	**Divibare**	**0.89**	**277**	*e*Pg	Pg	11 21 14.6	-0.4
DIVS				*e*Sg	Sg	11 21 26.7	+0.2
BLKB	**Belogradchik**	**1.12**	**109**	⇓P	Pg	11 21 18.7	-0.6
BLKB				⇓S	Sg	11 21 34.3	+0.6
VRSS	**Vrsac**	**1.13**	**4**	*e*Pg	Pg	11 21 18.3	-1.3
VRSS				*e*Sg	Sg	11 21 32.8	-1.5
SJES	**Sjenica**	**1.16**	**231**	*e*Pg	Pg	11 21 19.0	-1.2
SJES				*e*Sg	Sg	11 21 35.2	-0.1
HERR	**Herculane**	**1.23**	**44**	⇑P	Pg	11 21 20.0	-1.6
HERR				⇑S	Sb	11 21 38.1	-0.3
ZAPS	**Zavoj**	**1.25**	**125**	*e*Pg	Pg	11 21 21.0	-0.9
ZAPS				*e*Sg	Sg	11 21 36.5	-1.6
BARS	**Barje**	**1.25**	**160**	*e*Pg	Pg	11 21 20.8	-1.1
BARS				*e*Sg	Sg	11 21 37.7	-0.4
PUNG	**Punghina**	**1.27**	**76**	⇓P	Pg	11 21 20.5	-1.7
PUNG				⇓S	Sb	11 21 39.4	+0.1
BBLS	**Lazi&#263i**	**1.32**	**265**	*e*Pg	Pg	11 21 21.2	-1.9
BBLS				*e*Sg	Sg	11 21 40.0	-0.2
TEKS	**Tekeris**	**1.34**	**295**	*e*Pg	Pg	11 21 21.9	-1.6
TEKS				*e*Sg	Sg	11 21 39.0	-1.8
BANR	**Banloc**	**1.39**	**358**	⇓P	Pn	11 21 21.4	-3.1
BANR				⇑S	Sg	11 21 39.7	-2.9
BZS	**Buzias**	**1.65**	**10**	⇑P	Pn	11 21 25.7	-2.3
BZS				⇓S	Sn	11 21 46.8	-3.0
BOSS	**Bosilegrad**	**1.76**	**148**	*e*Pg	Pn	11 21 27.8	-1.7
BOSS				*e*Sg	Sg	11 21 54.0	-0.3
GZR	**Gura Zlata**	**1.79**	**38**	⇑P	Pn	11 21 27.7	-2.2
GZR				⇑S	Sn	11 21 51.5	-1.9
SURR	**Surduc**	**1.88**	**20**	⇓S	Sn	11 21 53.6	-1.8

*KRNET **25** 11:21:40.8±0.1, 39°.53N×73°.60E, h12km, mb3.4*
*SOME **25** 11:21:40.4, 39°.75N×73°.10E, h5km*
*NNC **25** 11:21:46.9±2.1, 39°.82N×73°.51E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=17.2km s-min=10.5km az=162.0*
ISC 25 11:21:39.9±1.8, 39°.54N±0°.07×73°.71E±0°.03, h14km±12km, n42, σ1°67/68, 26C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.50**	**342**	⇑*e*P	Pb	11 21 50.9	+0.3
SFK				⇑*e*S	Sb	11 21 57.4	-0.5
OHH	**Osh**	**1.22**	**325**	⇑*i*P	Pg	11 22 03.4	+0.1
OHH				⇑*i*S	Sg	11 22 19.8	+0.6
SALK	**Salom-Alik**	**1.35**	**4**	⇓*i*P	Pg	11 22 06.6	+0.7
SALK				⇓*i*S	Sg	11 22 25.7	+2.3
DRK	**Karamyk**	**1.48**	**268**	⇑*i*P	Pn	11 22 07.1	+0.8
DRK				⇑*i*S	Sn	11 22 26.3	+0.7
ARSB	**Arslanbob**	**1.87**	**343**	⇓*e*P	Pg	11 22 15.2	-0.6
ARSB				⇓*i*S	Sg	11 22 40.6	+0.5
BTK	**Batken**	**2.29**	**284**	⇑*e*P	Pb	11 22 20.8	-0.1
BTK				⇑*e*S	Sb	11 22 49.8	+0.7
ARLS	**Aral**	**2.37**	**11**	⇑*i*P	Pb	11 22 23.2	+0.8
ARLS				⇑*i*S	Sg	11 22 54.5	-1.6
AML	**Almayashu**	**2.59**	**360**	⇑*i*P	Pb	11 22 26.6	+0.3
AML				⇑*i*S	Sb	11 22 59.7	+1.5
ARK	**Arkit**	**2.62**	**330**	⇓*i*P	Pb	11 22 26.0	-0.7
ARK				⇓*i*S	Sb	11 22 59.0	+0.2
UCH	**Uchtor**	**2.76**	**13**	⇑*i*P	Pb	11 22 28.8	-0.4
UCH				⇑*i*S	Sb	11 23 04.2	+1.2
TRKS	**Terek-Say**	**2.79**	**316**	⇓*i*P	Pb	11 22 27.3	-2.3
TRKS				⇓*i*S	Sb	11 23 01.1	-2.6
MNAS	**Manas**	**3.09**	**343**	⇑*i*P	Pb	11 22 32.7	-1.9
MNAS				⇑*i*S	Sb	11 23 10.5	-1.7
AAK	**Ala-Archa**	**3.16**	**11**	Pn	Pb	11 22 36.9	+1.2
AAK	8.1nm,0.5s			Lg	Lg	11 23 20.3	
	29nm,0.7s						
AAK	**Ala-Archa**	**3.16**	**11**	⇑*i*P	Pb	11 22 34.4	-1.4
AAK				⇑*i*S	Sb	11 23 13.4	-0.8
MRKS	**Merke**	**3.23**	**354**	Pg	Pb	11 22 36.7	-0.3
MRKS	9.6nm,0.4s			Lg	Lg	11 23 17.6	
	52nm,0.4s						
MRKS	**Merke**	**3.23**	**354**	*e*P	Pb	11 22 36.9	0.0
MRKS	9.6nm,0.4s			*e*S	Sb	11 23 17.6	+1.4
	52nm,0.4s						
KBK	**Karagaybulak**	**3.26**	**16**	⇑*e*P	Pb	11 22 35.8	-1.7
KBK				⇑*i*S	Sb	11 23 16.0	-1.0
ULHL	**Ulahol**	**3.32**	**35**	⇓*i*P	Pb	11 22 36.9	-1.7
ULHL				⇓*i*S	Sb	11 23 18.1	-0.8
BOOM	**Boomskoye usch**	**3.40**	**29**	⇑*i*P	Pb	11 22 37.9	-2.1
BOOM				⇑*i*S	Sb	11 23 19.9	-1.3
KDJ	**Kajisay**	**3.69**	**44**	⇑*i*P	Pb	11 22 42.4	-2.6
KDJ				⇑*i*S	Sb	11 23 27.5	-2.2
IUG	**Iuzhnay**	**3.82**	**314**	Pg	Pn	11 22 41.3	+3.0
IUG	7.7nm,0.5s			Lg	Lg	11 23 24.9	
	40nm,0.4s						
KST	**Kastek**	**3.89**	**25**	Pg	Pg	11 22 54.6	+0.2
KST	4.7nm,0.5s			Lg	Lg	11 23 47.5	
	24nm,0.8s						
KST	**Kastek**	**3.89**	**25**	*e*P	Pg	11 22 54.6	+0.2
KST	4.7nm,0.5s			*e*S	Sg	11 23 47.5	+2.6
	24nm,0.8s						
DGS	**Degeres**	**4.01**	**22**	Pg	Pg	11 22 56.3	-0.5
DGS	9.9nm,0.7s			Lg	Lg	11 23 51.0	
	19nm,1.1s						
IZV	**Izvestkoviy**	**4.12**	**31**	Pg	Pg	11 22 58.5	-0.3
IZV	2.9nm,0.5s			Lg	Lg	11 23 54.6	
	23nm,0.5s						
IZV	**Izvestkoviy**	**4.12**	**31**	*e*P	Pg	11 22 58.5	-0.3
IZV	2.9nm,0.5s			*e*S	Sg	11 23 54.6	+2.3
	23nm,0.5s						
MTBS	**Maitube**	**4.13**	**29**	Pg	Pg	11 22 57.5	-1.5
MTBS	8.1nm,0.4s			Lg	Lg	11 23 53.4	
	11nm,0.6s						
MTBS	**Maitube**	**4.13**	**29**	*e*P	Pg	11 22 57.5	-1.5
MTBS	8.1nm,0.4s			*e*S	Sg	11 23 53.4	+0.8
	11nm,0.6s						
TNSS	**Tian-Shan**	**4.26**	**34**	Pg	Pg	11 23 01.9	+0.3
TNSS	6.1nm,0.5s			Lg	Lg	11 24 00.3	
	8.4nm,0.8s						
TNSS	**Tian-Shan**	**4.26**	**34**	*e*P	Pg	11 23 01.9	+0.3
TNSS	6.1nm,0.5s			*e*S	Sg	11 24 00.3	+3.5
	8.4nm,0.8s						
KK31	**Karatay Array**	**4.30**	**327**	⇑Pn	Pb	11 22 50.1	-5.1
KK31	0.8nm,0.4s,baz=2.7,slow=40,SNR=12			⇓Pg	Pg	11 23 00.5	-1.8
KK31	1.3nm,0.3s,baz=135,slow=13,SNR=11			⇑Lg	Lg	11 23 53.9	
	5.8nm,0.3s,baz=152,slow=32,SNR=7.8						
KRBS	**Karabastau**	**4.41**	**19**	Pg	Pg	11 23 03.2	-1.1
KRBS	3.7nm,0.5s			Lg	Lg	11 24 03.1	
	9.4nm,0.4s						
MDOK	**Medeo**	**4.41**	**34**	Pg	Pg	11 23 04.1	-0.2
MDOK	4.6nm,0.5s			Lg	Lg	11 24 04.1	
	15nm,0.8s						
MDOK	**Medeo**	**4.41**	**34**	*e*P	Pg	11 23 04.1	-0.2
MDOK	4.6nm,0.5s			*e*S	Sg	11 24 04.1	+2.6
	15nm,0.8s						
KOTS	**Kotyrbulak**	**4.50**	**34**	Pg	Pg	11 23 05.8	-0.1
KOTS	7.0nm,0.5s			Lg	Lg	11 24 07.2	
	44nm,1.0s						
KOTS	**Kotyrbulak**	**4.50**	**34**	*e*P	Pg	11 23 05.8	-0.1
KOTS	7.0nm,0.5s			*e*S	Sg	11 24 07.2	+3.0
	44nm,1.0s						
KTBS	**Karatobe**	**4.73**	**27**	Pg	Pg	11 23 09.3	-1.1
KTBS	4.7nm,0.4s			Lg	Lg	11 24 13.0	
	22nm,0.6s						
KPKS	**Kokpek**	**5.42**	**42**	Pg	Pg	11 23 21.8	-1.8
KPKS	4.6nm,0.6s			Lg	Lg	11 24 34.2	
	12nm,0.8s						
KPKS	**Kokpek**	**5.42**	**42**	*e*P	Pg	11 23 21.8	-1.8
KPKS	4.6nm,0.6s			*e*S	Sg	11 24 34.1	+0.4
	12nm,0.8s						
BTLS	**Baital**	**5.51**	**2**	Pg	Pg	11 23 21.2	-4.1
BTLS	3.3nm,0.4s			Lg	Lg	11 24 33.5	
	2.8nm,0.5s						
BTLS	**Baital**	**5.51**	**2**	*e*P	Pg	11 23 21.2	-4.1
BTLS	3.3nm,0.4s			*e*S	Sg	11 24 33.5	-3.0
	2.8nm,0.5s						
BLB	**Baldybastay**	**5.78**	**36**	Pg	Pg	11 23 29.0	-1.6
BLB	11nm,0.4s			Lg	Lg	11 24 47.3	
	9.9nm,0.7s						

*VIE **25** 11:23:01.7±0.3, 46°.16N×11°.13E, h14km±4km, mb1.7/4, ml1.4/5, Error ellipse: s-maj=1.3km s-min=1.0km az=169.0*
ROM 25 11:23:01.7±0.1, 46°.141N±0°.005×11°.18E±0°.01, h0km, ML1.0/4, Error ellipse: s-maj=0.8km s-min=0.6km az=275.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANI	**Panarotta**	**0.14**	**129**	*e*Pg	Pg	11 23 05.1	+0.6
PANI	**Panarotta**	**0.14**	**129**	P	Pg	11 23 05.1	+0.6
GAGG	**Gaggia**	**0.16**	**249**	*e*Pg	Pg	11 23 05.6	+0.8
GAGG	**Gaggia**	**0.16**	**249**	P	Pg	11 23 05.5	+0.7
LUSI	**Trento, Gardas**	**0.24**	**222**	P	Pg	11 23 07.1	+0.7
LUSI				AML	AML		
	comp=E,63μm,0.4s						
LUSI				AML	AML		
	comp=N,107μm,0.2s						
LUSI				AML	AML		
	comp=E,63μm,1.6s						
DOSS	**Dosso del Somm**	**0.26**	**178**	*e*Pg	Pg	11 23 07.7	+1.0
DOSS	**Dosso del Somm**	**0.26**	**178**	P	Pg	11 23 07.4	+0.7
OZOL	**Ozolo**	**0.28**	**342**	*e*Pg	Pg	11 23 07.9	+0.9
OZOL	**Ozolo**	**0.28**	**342**	P	Pg	11 23 07.8	+0.8
ZIAN	**Ziano**	**0.30**	**63**	*e*Pg	Pg	11 23 08.1	+0.6
APPI	**Appiano**	**0.34**	**6**	P	Pg	11 23 09.1	+0.9
APPI				AML	AML		
	comp=E,30μm,1.3s						
APPI				AML	AML		
	comp=N,30μm,1.6s						
APPI				AML	AML		
	comp=E,30μm,0.7s						
VARA	**Varagna**	**0.37**	**212**	P	Pg	11 23 09.6	+0.8
ABTA	**Abfaltersbach**	**1.11**	**56**	*e*Pg	Pg	11 23 23.1	+0.2
	comp=E,0.1nm,0.1s						
ABTA				*e*Sg	Sb	11 23 39.1	+0.4
	comp=E,0.3nm,0.2s						
WTTA	**Wattenberg**	**1.17**	**16**	*e*Pg	Pg	11 23 24.4	+0.3
	comp=E,0.2nm,0.1s						
WTTA				*e*Sg	Sb	11 23 39.9	-0.7
	comp=E,1.4nm,0.3s						
MOTA	**Moosalm**	**1.21**	**358**	*e*Sg	Sb	11 23 41.3	-0.3
	comp=E,0.1nm,0.1s						

TXNET 25 11:33:35.1, 31°.3N±0°.6×103°.6W±0°.5, h6km±1km, ML2.0/8, Error ellipse: s-maj=1.0km s-min=0.6km az=32.8, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.16**	**12**	P	Pg	11 33 38.4	-0.1
PCOS				S	Sg	11 33 41.7	+0.9
TPB03	**Saragosa**	**0.17**	**169**	P	Pg	11 33 39.3	+0.7
TPB03				S	Sg	11 33 41.7	+0.9
TPB10	**Southeast of T**	**0.18**	**281**	P	Pg	11 33 39.4	+0.7
TPB10				S	Sg	11 33 42.7	+1.6
TPB04	**Verhalen**	**0.25**	**104**	P	Pg	11 33 40.7	+0.7
TPB04				S	Sg	11 33 44.9	+1.5
TPB16	**Coyonosa**	**0.28**	**116**	P	Pg	11 33 41.4	+0.7
TPB16				S	Sg	11 33 45.9	+1.4
PECS	**Pecos**	**0.30**	**294**	P	Pg	11 33 41.4	+0.4
PECS				S	Sg	11 33 46.2	+1.3
TPB07	**Mentone**	**0.34**	**343**	P	Pg	11 33 42.4	+0.6
TPB07				S	Sg	11 33 47.9	+1.5
TPB12	**Southwest of T**	**0.35**	**264**	P	Pg	11 33 42.5	+0.5
TPB12				S	Sb	11 33 48.3	-1.4
TPB01	**Permian Basin**	**0.36**	**213**	P	Pg	11 33 42.5	+0.2
TPB01				S	Sg	11 33 48.2	+1.2
TPB05	**Hovey Rd**	**0.38**	**149**	P	Pg	11 33 43.0	+0.4
TPB05				S	Sb	11 33 49.2	-1.4
TPB06	**Permian Basin**	**0.49**	**36**	P	Pg	11 33 44.8	+0.2
TPB08	**Permian Basin**	**0.66**	**123**	S	Sb	11 33 57.4	-1.1
MNHN	**Monahans**	**0.68**	**82**	P	Pg	11 33 48.2	-0.1
MNHN				S	Sg	11 33 57.5	+0.4
TPB11	**China Draw**	**0.80**	**329**	S	Sg	11 34 01.7	+0.8
ALPN	**Alpine**	**0.88**	**185**	P	Pg	11 33 51.2	-0.7
ALPN				S	Sg	11 34 03.6	+0.3
GDL2	**Guadalupe Moun**	**1.18**	**324**	P	Pn	11 33 58.9	+0.6
CLN7	**Carlsbad 7**	**1.18**	**349**	P	Pg	11 33 57.8	0.0
ODSA	**Odessa**	**1.22**	**44**	P	Pg	11 33 57.1	-1.5
ODSA				S	Sg	11 34 13.9	-0.4
HTMS	**Hat Mesa**	**1.22**	**357**	P	Pg	11 33 57.9	-0.7
TMB02	**Rankin**	**1.30**	**92**	S	Sg	11 34 16.5	-0.4
VHRN	**Van Horn**	**1.31**	**250**	P	Pn	11 33 59.7	-0.6
VHRN				S	Sg	11 34 17.0	-0.4
MNTX	**Cornudas Mount**	**1.63**	**286**	P	Pb	11 34 05.3	-0.4
MNTX				S	Sg	11 34 28.3	+0.8
TMB04	**Seminole**	**1.64**	**33**	P	Pn	11 34 05.0	+0.4
TMB04				S	Sg	11 34 28.6	+0.6
SAND	**Sanderson**	**1.78**	**136**	P	Pn	11 34 07.1	+0.5
SAND				S	Sb	11 34 31.6	+0.7
TX31	**Lajitas Ar. Si**	**1.91**	**183**	P	Pn	11 34 09.2	+0.8
TX31				S	Sb	11 34 35.2	+0.6
OZNA	**Ozona**	**2.10**	**98**	P	Pn	11 34 12.3	+1.3
OZNA				S	Sb	11 34 40.5	+0.3

*VIE **25** 12:04:21.2±0.3, 48°.21N×8°.79E, h0km, mb2.0/2, ml2.1/4, Error ellipse: s-maj=2.1km s-min=1.2km az=17.0, Suspected Mining explosion.*
*STR **25** 12:04:21.3±0.5, 48°.N±4°.×8°.8E±0°.9, h0km, MLv2.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=9.0, preliminary*
ISC 25 12:04:21.4±0.9, 48°.21N±0°.04×8°.81E±0°.03, h10km, n18, σ0°.58/24, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.25**	**123**	Pg	**Pg**	**12 04 25.6**	**-0.8**
GUT				Sg	**Sg**	**12 04 29.6**	**-0.2**
SLE	**Schleitheim**	**0.49**	**206**	Pg	**Pg**	**12 04 30.3**	**-0.6**
OPP	**Oppenau**	**0.51**	**305**	Pg	**Pg**	**12 04 30.6**	**-0.7**
KIZ	**Kirchzarten**	**0.65**	**248**	Pg	**Pg**	**12 04 33.3**	**-0.6**
BABA	**Baden-Baden-Ne**	**0.66**	**322**	Pg	**Pg**	**12 04 33.6**	**-0.5**
BABA	**Baden-Baden-Ne**	**0.66**	**322**	Sg	**Sg**	**12 04 43.3**	**+0.6**
ZELS	**Zelsheim**	**0.79**	**277**	Pg	**Pg**	**12 04 37.0**	**+0.4**
ZELS				Sn	**Sn**	**12 04 50.4**	**0.0**
SULZ	**Cheisacher**	**0.82**	**215**	Pg	**Pg**	**12 04 37.5**	**+0.2**
ENDD	**Endenburg**	**0.87**	**236**	Pg	**Pg**	**12 04 38.0**	**-0.2**
HOHE	**HOHENGOEFT**	**0.99**	**298**	Pg	**Pg**	**12 04 40.4**	**0.0**
LEMB	**Lembach**	**1.08**	**320**	Pg	**Pg**	**12 04 41.9**	**-0.2**
ECH	**Echery**	**1.10**	**271**	Pg	**Pb**	**12 04 42.1**	**-0.5**
BALST	**Balsthal**	**1.15**	**221**	Pg	**Pb**	**12 04 43.0**	**-0.4**
DAVA	**Damuels**	**1.17**	**141**	*i* Pg	**Pn**	**12 04 44.2**	**+0.2**
DAVA	0.6nm,0.1s			*i* Sg	**Sn**	**12 05 01.1**	**+1.1**
	6.5nm,0.3s						
RETA	**Reutte**	**1.50**	**118**	*e*Pn	**Pb**	**12 04 49.5**	**+0.2**
RETA	0.6nm,0.1s			*e*Sn	**Sg**	**12 05 10.2**	**+0.6**
	13nm,0.5s						
FETA	**Feichten**	**1.76**	**132**	*e*Pg	**Pg**	**12 04 55.4**	**+0.3**
FETA	0.9nm,0.4s			*e*Sn	**Sg**	**12 05 17.1**	**-0.9**
	2.3nm,0.5s						
MOTA	**Moosalm**	**1.77**	**118**	*e*Pn	**Pb**	**12 04 53.1**	**-1.0**
MOTA	0.6nm,0.1s			*e*Sn	**Sb**	**12 05 17.0**	**+0.6**
	2.5nm,0.2s						
CLL	**Collm**	**4.13**	**40**	*e*Sg	**Sg**	**12 06 34.0**	**+0.1**

KOLA 25 12:05:19.0, 67°.64N×33°.74E, h0km, ML1.5, Error ellipse: s-maj=2.0km s-min=1.1km az=150.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.15**	**241**	P	Pg	12 05 21.2	-0.6
APA0	**Apatity Array**	**0.29**	**263**	P	Pg	12 05 23.9	-0.6
APA0				S	Sg	12 05 27.6	-0.7
LVZ	**Lovozero**	**0.43**	**53**	P	Pg	12 05 26.5	-0.8
LVZ				S	Sg	12 05 32.4	-0.4
KVDA	**Kovda**	**1.01**	**200**	P	Pg	12 05 36.9	-1.5
KVDA				S	Sg	12 05 50.4	-1.1
ARCES	**ARCESS Array B**	**3.57**	**306**	P	Pn	12 06 14.8	-0.8
ARCES				S	Sn	12 06 57.9	-0.5

*IDC **25** 12:08:50.5±1.2, 27°.89N×142°.70E, h0km, mb3.9/10, mbtmp3.9/14, MLS.6/4, Error ellipse: s-maj=34.4km s-min=12.9km az=91.0*
*JMA **25** 12:08:52.5±0.2, 28°.3N±0°.7×14°.3E±°, h18km±3km, MV4.4/14, NEAR CHICHIJIMA ISLAND*
ISC 25 12:08:54.3±1.0, 28°.12N±0°.05×142°.7E±0°.2, h25km, n28, σ1°69/27, mb4.0/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.13**	**206**	P	**Pb**	**12 09 15.0**	**-0.1**
CBIJ				*e*S	**Sn**	**12 09 31.3**	**+2.2**
JCJ	**Chichijima**	**1.13**	**206**	Pn	Pn	12 09 08.9	-5.6
JCJ	34nm,0.3s,baz=84,slow=23,SNR=28			Sn	**Sb**	**12 09 25.1**	**-4.3**
	82nm,0.3s,baz=343,slow=22,SNR=12						
JHH2	**Haha-jima-NKT2**	**1.56**	**199**	*e*P	**Pb**	**12 09 21.7**	**-0.8**
JHJ2	**Mitsune**	**5.57**	**334**	*e*P	**Pn**	**12 10 15.7**	**+0.1**
JHJ2				*e*S	**Sn**	**12 11 17.6**	**-1.2**
JHJ	**Hachijo jima 2**	**5.59**	**334**	Pn	**Pn**	**12 10 17.0**	**+1.1**
JHJ	5.8nm,0.3s,baz=43,slow=22,SNR=6.8			Sn	**Sn**	**12 11 16.0**	**-3.3**
	1.4nm,0.3s,baz=250,slow=20,SNR=1.9						
	35nm,0.5s						
BSO1	**Boso 1**	**6.69**	**347**	*e*P	**Pn**	**12 10 29.3**	**-1.1**
BSO1				*e*S	**Sn**	**12 11 43.0**	**-2.5**
BSO3	**Boso 3**	**6.93**	**345**	*e*P	**Pn**	**12 10 32.6**	**-1.3**
BSO4	**Boso 4**	**7.15**	**344**	*e*P	**Pn**	**12 10 37.6**	**+0.4**
JRY	**Ryogami san**	**8.52**	**339**	P	**Pn**	**12 10 56.3**	**+0.3**
MJAR	**Matsushiro Arr**	**9.23**	**337**	Pn	**Pn**	**12 11 05.5**	**-0.3**
MJAR	0.4nm,0.3s,baz=163,slow=11,SNR=14			Sn	**Sn**	**12 12 50.7**	**+1.9**
	0.1nm,0.3s,baz=154,slow=22,SNR=1.8						
	2.2nm,0.4s						
KSRS	**Korea Array**	**15.53**	**311**	Pn	**P**	**12 12 34.5**	**-1.2**
	0.4nm,0.3s,baz=125,slow=10.0,SNR=9.4						
	1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**18.21**	**335**	P	**Pn**	**12 13 05.0**	**-0.3**
	0.1nm,0.3s,baz=156,slow=11,SNR=2.7						
	1.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**23.58**	**105**	T	T	12 38 46.2	
	baz=297,slow=74,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**23.59**	**105**	T	T	12 38 17.1	
	baz=297,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**23.60**	**105**	T	T	12 38 32.5	
	baz=297,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**23.96**	**108**	T	T	12 39 17.3	
	baz=295						
H11S1	**WAKE ISLAND Hy**	**23.96**	**108**	T	T	12 39 25.3	
	baz=295						
H11S2	**WAKE ISLAND Hy**	**23.98**	**108**	T	T	12 39 11.0	
	baz=295						
SONM	**Songino Array**	**34.33**	**315**	P	**P**	**12 15 41.1**	**+2.2**
	0.9nm,0.6s,baz=115,slow=7.7,SNR=3.6						
	0.9nm,0.6s						
WRA	**War

WBSI S **Sn** **12 16 54.3 -0.3**
WSI Waingapu 1.25 77 P **Pb** **12 17 00.4 -0.3**
WSI S **Sb** **12 17 16.0 -0.4**
BASI Baing, Sumba 1.51 101 P **Pb** **12 17 05.7 +0.5**
BASI S **Sb** **12 17 25.2 +1.1**
PLAI Plampang 1.69 311 P **Pb** **12 17 06.8 -1.4**
TWSI Taliwang, Sumb 2.46 299 P **Pb** **12 17 18.8 -2.6**
TWSI S **Sn** **12 17 47.4 +2.8**
BSSI Bau Bau, Buton 4.03 21 P **Pn** **12 17 39.4 +2.2**
BKSI Bulukumba 4.71 13 P **Pn** **12 17 48.4 +1.9**
JAGI Jajag, Banyuwa 5.07 286 P **Pn** **12 17 53.0 +1.6**
JAGI S **Sn** **12 18 51.7 +2.8**
FITZ Fitzroy Crossi 10.31 143 Pn **Pn** **12 19 05.3 +1.8**
0.1nm,0.3s,baz=331,slow=10,SNR=1.9
FITZ Sn **Sn** **12 20 53.6 -4.3**
0.1nm,0.3s,baz=168,slow=14,SNR=2.9
2.6nm,1.1s
WRA Warramunga Arr 17.78 126 P **Pn** **12 20 41.2 -1.6**
baz=296,slow=14,SNR=1.5
0.4nm,0.9s
ASAR Alice Springs 19.67 136 P **Pn** **12 21 05.8 0.0**
baz=317,slow=11,SNR=4.6
0.3nm,0.8s
MKAR Makanchi Array 65.32 333 P **P** **12 27 14.6 -2.0**
0.4nm,0.8s,baz=148,slow=6.6,SNR=3.7
0.4nm,0.8s

---

*NEIC **25** 12:17:11.8±1.6,50°.8N±0°.1×172°.6W±0°.1,h10km±2km, mb3.7/17, Error ellipse: s-maj=19.0km s-min=11.6km az=197.0*
*IDC **25** 12:17:12.8±2.0,51°.51N×172°.10W,h0km,mb3.4/4, mbtmp3.4/6,ML3.2/2, Error ellipse: s-maj=58.0km s-min=24.1km az=180.0*
ISC 25 12:17:12.3±1.3,50°.9N±0°.2×172°.5W±0°.1,h10km,n33, σ1ᵍ12/29,mb3.7/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.73**	**322**	Pn	**Pn**	**12 17 41.5**	**-0.9**
ATKA				Sn	**Sn**	**12 18 04.0**	**-0.5**
ADK	**Adak**	**2.84**	**293**	Pn	Pn	12 17 55.9	-1.7
UNV	**Unalaska Valle**	**4.72**	**48**		**Pn**	**12 18 23.2**	**-0.3**
KDAK	**Kodiak Island**	**13.48**	**51**	Pn	Pn	12 20 20.6	-2.8
	0.1nm,0.3s,baz=351,slow=2.4,SNR=8.3						
	4.7nm,1.0s						
STLK	**Strandline Lak**	**15.59**	**39**	Pn	**Pn**	**12 20 53.5**	**+1.6**
SLKM	**Skilak Lake**	**15.76**	**44**	Pn	**Pn**	**12 20 54.1**	**+0.1**
H18K	**Honhosa River**	**16.10**	**22**	Pn	**Pn**	**12 20 59.4**	**+0.9**
CAST	**Castle Rocks**	**16.65**	**33**		**Pn**	**12 21 06.6**	**+1.2**
GHO	**Glory Hole Cre**	**16.92**	**41**	Pn	**Pn**	**12 21 09.1**	**+0.2**
GHO				IAmb	IAmb	12 21 47.1	
	comp=Z,5.7nm,1.2s						
KTH	**Kantishna Hill**	**17.14**	**34**		**Pn**	**12 21 12.4**	**+0.7**
KTH				IAmb	IAmb	12 21 22.1	
	comp=Z,6.3nm,1.2s						
SML	**Sawmill**	**17.18**	**41**	Pn	**Pn**	**12 21 12.1**	**-0.1**
SML				IAmb	IAmb	12 21 17.6	
	comp=Z,10nm,1.4s						
FID	**Port Fidalgo**	**17.53**	**46**		**Pn**	**12 21 16.2**	**-0.2**
RND	**Reindeer**	**17.81**	**36**		**Pn**	**12 21 20.5**	**+0.5**
M24K	**Tolsona, Glenn**	**18.22**	**42**	Pn	**Pn**	**12 21 25.3**	**+0.2**
N25K	**Chitina, Valde**	**18.70**	**44**	P	**P**	**12 21 31.1**	**+0.5**
N25K				IAmb	IAmb	12 21 53.4	
	comp=Z,4.9nm,1.4s						
VRDI	**Verde Repeater**	**19.07**	**46**	P	**P**	**12 21 34.3**	**-0.5**
VRDI				IAmb	IAmb	12 22 15.2	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**19.29**	**34**	P	**P**	**12 21 37.5**	**+0.6**
ILAR	**Eielson Array**	**19.29**	**34**	P	**P**	**12 21 32.6**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=246,slow=11,SNR=8.9						
	comp=Z,0.2nm,0.8s						
H24K	**Noodor Dome**	**19.59**	**31**	P	**P**	**12 21 40.0**	**-0.2**
H24K				IAmb	IAmb	12 21 47.8	
	comp=Z,6.3nm,1.5s						
TOLK	**Toolik Lake Re**	**21.00**	**23**	P	**P**	**12 21 56.2**	**+0.7**
TOLK				IAmb	IAmb	12 22 20.9	
	comp=Z,2.7nm,1.1s						
BMAR	**Burnt Mountain**	**21.60**	**29**	P	**P**	**12 22 02.8**	**+0.9**
HYT	**Haines Junctio**	**21.75**	**49**	P	**P**	**12 22 05.2**	**+1.4**
INK	**Inuvik**	**25.67**	**33**	P	**P**	**12 22 42.5**	**+0.7**
INK				IAmb	IAmb	12 22 54.5	
	comp=Z,2.8nm,1.3s						
H11S1	**WAKE ISLAND Hy**	**36.27**	**215**	T	T	13 02 38.7	
	baz=22,slow=76,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**36.29**	**215**	T	T	13 02 39.6	
	baz=22,slow=76,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**36.29**	**215**	T	T	13 02 37.4	
	baz=22,slow=76,SNR=4.4						
PDAR	**Pinedale Array**	**42.62**	**76**	P	**P**	**12 25 08.8**	**0.0**
PDAR	**Pinedale Array**	**42.62**	**76**	P	**P**	**12 25 07.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=279,slow=10,SNR=2.1						
	comp=Z,0.2nm,0.5s						
SONM	**Songino Array**	**50.41**	**300**	P	**P**	**12 26 10.5**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=66,slow=7.0,SNR=2.0						
	comp=Z,0.8nm,0.9s						
TXAR	**Lajitas Array**	**54.75**	**85**	P	**P**	**12 26 41.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=307,slow=4.6,SNR=3.9						
	comp=Z,0.1nm,0.4s						
MKAR	**Makanchi Array**	**63.42**	**312**	P	**P**	**12 27 41.1**	**-0.7**
MKAR	**Makanchi Array**	**63.42**	**312**	P	**P**	**12 27 42.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=46,slow=7.0,SNR=4.8						
	comp=Z,0.5nm,0.7s						
ABKAR	**Akbulak array**	**70.67**	**327**	P	**P**	**12 28 27.6**	**-0.1**

---

*SNET **25** 12:39:52.7±0.8,11°.49N×87°.12W,h30km,ML3.3*
*CATAC **25** 12:39:53.1±0.8,12°.N±6°.×8°.7W±°,h128km±4km,M3.0/10, MLv3.0/10, Error ellipse: s-maj=18.7km s-min=6.1km az=45.6, confirmed*
ISC 25 12:39:51.9±1.8,12°.05N±0°.09×86°.65W±0°.06, h143km±11km,n28,σ0ᵍ73/34,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.14**	**25**	P	**Pn**	**12 40 12.2**	**+1.0**
COPN	**Copaltepe**	**0.14**	**25**	P	**Pn**	**12 40 10.8**	**-0.4**
MOMN	**Momotombo**	**0.37**	**17**	P	**Pn**	**12 40 11.7**	**-0.2**
MOMN	**Momotombo**	**0.37**	**17**	P	**Pn**	**12 40 11.7**	**-0.2**
MOMN				S	**Sn**	**12 40 26.0**	**-1.3**
CNGA	**Al SSO del Vol**	**0.45**	**354**	P	**Pn**	**12 40 12.3**	**0.0**
CNGA	**Al SSO del Vol**	**0.45**	**354**	P	**Pn**	**12 40 12.1**	**-0.2**
CNGA				S	**Sn**	**12 40 28.3**	**+0.6**
POLN	**Al Sur del Vol**	**0.62**	**345**	P	**Pn**	**12 40 13.8**	**+0.6**
POLN	**Al Sur del Vol**	**0.62**	**345**	P	**Pn**	**12 40 13.3**	**+0.2**
POLN				S	**Sn**	**12 40 29.3**	**0.0**
ARIN	**Rivas**	**1.00**	**126**	P	**Pn**	**12 40 16.7**	**+0.7**
ARIN	**Rivas**	**1.00**	**126**	S	**Sn**	**12 40 34.9**	**+0.6**
BOAB	**BOACO BROADBAN**	**.04**	**68**	P	**Pn**	**12 40 16.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**.04**	**68**	P	**Pn**	**12 40 16.4**	**+0.1**
CONN	**Concepcion**	**1.12**	**115**	P	**Pn**	**12 40 15.3**	**-1.8**
CONN				S	**Sn**	**12 40 36.4**	**+0.1**
CSGN	**Cosiguina Volc**	**1.28**	**316**	P	**Pn**	**12 40 18.9**	**+0.2**
ACON	**Acoyapa**	**1.45**	**93**	P	**Pn**	**12 40 20.8**	**+0.4**
RCPN	**Sur Rio San Ju**	**1.57**	**20**	P	**Pn**	**12 40 20.5**	**-1.3**
RCPN	**Sur Rio San Ju**	**1.57**	**20**	P	**Pn**	**12 40 22.1**	**+0.3**
CNCH	**Conchagua**	**1.68**	**317**	*e*P	**Pn**	**12 40 23.5**	**+0.5**
CNCH				*e*S	**Sn**	**12 40 48.0**	**+1.2**
LCND	**La Caada**	**1.74**	**316**	*e*P	**Pn**	**12 40 23.8**	**+0.2**
LCND				IAML		12 40 52.7	
	comp=Z,235nm,0.3s						
YUSH	**Yuscaran**	**1.90**	**354**	P	**Pn**	**12 40 26.2**	**+0.6**
YUSH	**Yuscaran**	**1.90**	**354**	P	**Pn**	**12 40 26.0**	**+0.4**
TECA	**Tecapa**	**2.31**	**309**	*e*P	**Pn**	**12 40 31.0**	**+0.5**
TECA				*e*S	**Sn**	**12 41 00.5**	**+0.4**
ESPN	**Las Esperanzas**	**2.31**	**86**	P	**Pn**	**12 40 30.8**	**+0.5**
COEG	**Centro de Oper**	**2.67**	**306**	*e*S	**Sn**	**12 41 06.8**	**-1.3**
BLUN	**Bluefields**	**2.82**	**91**	P	**Pn**	**12 40 36.8**	**+0.2**
LFRS	**El Faro**	**2.82**	**304**	*e*S	**Sn**	**12 41 10.8**	**-0.7**
PMON	**Piamonte**	**3.08**	**303**	*e*S	**Sn**	**12 41 16.8**	**-0.5**
NUBE	**Las Nubes**	**3.56**	**301**	*e*S	**Sn**	**12 41 27.6**	**-1.0**

IDC 25 12:53:15.4±2.4,17°.88S×178°.11W,h590km±23km, mb2.9/4,mbtmp3.8/5,Error ellipse: s-maj=42.2km s-min=31.4km az=149.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.66**	**272**	P	P	12 54 38.2	+0.2
	8.3nm,0.8s,baz=142,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**44.91**	**259**	P	P	13 00 38.7	-0.4
	0.5nm,0.5s,baz=95,slow=7.3,SNR=12						
WRA				PcP	PcP	13 02 07.8	+0.1
	0.5nm,0.9s,baz=99,slow=3.3,SNR=2.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.07**	**254**	P	P	13 00 40.2	-0.1
	1.9nm,0.6s,baz=87,slow=8.9,SNR=37						
ASAR				PcP	PcP	13 02 08.3	+0.1
	0.4nm,0.8s,baz=87,slow=3.5,SNR=2.3						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**72.18**	**180**	P	P	13 03 41.1	-0.1
	2.2nm,1.1s,baz=303,slow=10,SNR=2.9						
	2.2nm,1.1s						
ILAR	**Eielson Array**	**85.79**	**13**	P	P	13 04 52.5	-0.3
	0.4nm,1.1s,baz=228,slow=4.0,SNR=4.8						
	0.4nm,1.1s						

---

*IDC **25** 13:08:18.0±2.8,29°.54N×141°.25E,h37km±25km,mb3.5/5, mbtmp3.7/8,ML3.1/3,MS3.4/2, Error ellipse: s-maj=42.3km s-min=15.7km az=80.0*
ISC 25 13:08:19.8±0.8,29°.54N±0°.10×141°.2E±0°.3,h67km,n10, σ2ᵍ10/13,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.58**	**160**	Pn	**Pn**	**13 08 56.6**	**-2.7**
	12nm,0.3s,baz=306,slow=22,SNR=18						
JCJ				Sn	**Sn**	**13 09 27.0**	**-2.6**
	47nm,0.3s,baz=296,slow=21,SNR=13						
	26nm,0.3s						
JHJ	**Hachijo jima 2**	**3.77**	**342**	Pn	**Pn**	**13 09 14.2**	**-1.3**
	4.3nm,0.3s,baz=337,slow=22,SNR=6.3						
JHJ				Sn	**Sn**	**13 09 56.1**	**-2.6**
	27nm,0.3s,baz=114,slow=23,SNR=7.0						
	106nm,0.8s						
MJAR	**Matsushiro Arr**	**7.42**	**341**	Pn	**Pn**	**13 10 04.6**	**-0.8**
	0.1nm,0.3s,baz=146,slow=9.1,SNR=4.4						
MJAR				Sn	**Sn**	**13 11 26.6**	**-1.5**
	0.1nm,0.3s,baz=47,slow=37,SNR=1.4						
	0.7nm,0.3s						
YAK	**Yakutsk**	**33.37**	**350**	LR	LR	13 29 31.9	
	comp=Z,56nm,18.8s,baz=326,slow=38						
PSI	**Prapat**	**48.10**	**245**	LR	LR	13 36 12.5	
	comp=Z,47nm,18.0s,baz=339,slow=35						
WRA	**Warramunga Arr**	**49.64**	**188**	P	**P**	**13 17 05.1**	**+0.4**
	0.4nm,0.3s,baz=7.1,slow=7.7,SNR=17						
WRA				PcP	**PcP**	**13 18 27.4**	**+2.1**
	0.6nm,0.7s,baz=0.2,slow=3.6,SNR=4.9						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**53.36**	**188**	P	**P**	**13 17 34.5**	**+2.0**
	0.2nm,0.5s,baz=4.4,slow=4.3,SNR=11						
ASAR				PcP	**PcP**	**13 18 41.5**	**+2.3**
	0.5nm,0.8s,baz=2.3,slow=4.8,SNR=4.7						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**79.69**	**52**	P	**P**	**13 20 22.0**	**+1.3**
	0.3nm,0.5s,baz=302,slow=6.3,SNR=3.1						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**83.72**	**312**	P	**P**	**13 20 42.7**	**+0.9**
	1.0nm,0.6s,baz=29,slow=2.8,SNR=4.9						
	1.0nm,0.6s						
TXAR	**Lajitas Array**	**94.82**	**52**	P	**P**	**13 21 36.1**	**+1.3**
	0.1nm,0.5s,baz=305,slow=3.7,SNR=2.3						
	0.1nm,0.5s						

---

*DJA **25** 13:12:34.2±0.5,8°.S±2°.×10°.7E±°,h12km±3km,M4.0/16, mb4.1/1,MLv4.0/16*
*IDC **25** 13:12:35.2±5.8,7°.61S×106°.28E,h42km±49km,mb3.3/7, mbtmp3.5/7, Error ellipse: s-maj=36.7km s-min=19.7km az=50.0*
ISC 25 13:12:32.6±1.9,7°.80S±0°.08×106°.39E±0°.05,h25km±12km, n32,σ1ᵍ58/31,mb3.5/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.81**	**12**	P	**Pn**	**13 12 49.9**	**+1.5**
SKJI				S	**Sn**	**13 13 00.2**	**+0.6**
CNJI	**Cibinong**	**0.88**	**56**	P	**Pn**	**13 12 49.6**	**+0.2**
CNJI				S	**Sb**	**13 12 59.2**	**-1.5**
CGJI	**Cibinong**	**1.37**	**330**	P	**Pb**	**13 12 59.5**	**+2.0**
LEM	**Lembang**	**1.56**	**52**	P	**Pb**	**13 13 00.7**	**-0.2**
	1μm,0.4s,baz=344,slow=5.2,SNR=176						
LEM				S	**Sn**	**13 13 19.2**	**+0.9**
	551nm,0.4s,baz=322,slow=18,SNR=9.0						
LEM				LR	LR	13 13 45.7	
	comp=Z,162nm,21.4s,baz=126,slow=46						
LEM	**Lembang**	**1.56**	**52**	P	**Pb**	**13 13 01.0**	**+0.1**
LEM				S	**Sb**	**13 13 20.2**	**0.0**
SBJI	**Serang**	**1.69**	**351**	P	**Pb**	**13 13 04.1**	**+1.0**
SBJI				S	**Sb**	**13 13 25.3**	**+1.4**
CMJI	**Cimerak**	**2.04**	**90**	P	**Pn**	**13 13 06.2**	**+0.9**
JCJI	**Jatiwangi**	**2.28**	**55**	P	**Pn**	**13 13 08.2**	**-0.4**
JCJI				S	**Sn**	**13 13 33.5**	**-2.4**
YOGI	**Yogyakarta**	**3.87**	**90**	P	**Pn**	**13 13 31.7**	**+1.2**
MDSI	**Maura Dua**	**3.96**	**326**	P	**Pb**	**13 13 37.2**	**-4.5**
SMRI	**Semarang**	**4.09**	**80**	P	**Pn**	**13 13 33.6**	**+0.1**
UGM	**Wanagama**	**4.10**	**92**	P	**Pn**	**13 13 34.7**	**+1.0**
PCJI	**Pacitan**	**4.76**	**95**	P	**Pn**	**13 13 44.0**	**+1.3**
MNAI	**Manna**	**4.83**	**315**	P	Pn	13 13 48.6	+4.8
TPI	**Tanjungpandan**	**5.17**	**14**	P	**Pn**	**13 13 51.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**27.11**	**344**	P	**P**	**13 18 12.1**	**-1.5**
	0.4nm,0.5s,baz=163,slow=8.9,SNR=5.4						
	0.4nm,0.5s						
H01W3	**Cape Leeuwin H**	**27.88**	**166**	T	T	13 47 59.2	
	baz=343,slow=78,SNR=9.4						
H01W1	**Cape Leeuwin H**	**27.89**	**166**	T	T	13 47 53.7	
	baz=343,slow=78,SNR=9.5						
H01W2	**Cape Leeuwin H**	**27.89**	**166**	T	T	13 47 57.2	
	baz=343,slow=78,SNR=12						
WRA	**Warramunga Arr**	**29.64**	**117**	P	**P**	**13 18 37.3**	**+1.0**
	0.4nm,1.0s,baz=292,slow=9.1,SNR=1.5						
WRA				PcP	**PcP**	**13 21 41.1**	**+0.4**
	0.5nm,1.0s,baz=298,slow=2.8,SNR=1.9						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**30.73**	**124**	P	**P**	**13 18 48.3**	**+2.4**
	0.2nm,0.6s,baz=298,slow=8.7,SNR=1.1						
ASAR				PcP	**PcP**	**13 21 44.8**	**+1.4**
	0.5nm,1.0s,baz=298,slow=2.6,SNR=2.0						
	0.2nm,0.6s						
H08S2	**Diego Garcia H**	**33.58**	**268**	T	T	13 54 44.9	
	baz=91,slow=76,SNR=37						
H08S3	**Diego Garcia H**	**33.59**	**268**	T	T	13 54 45.9	
	baz=91,slow=76,SNR=53						
H08S1	**Diego Garcia H**	**33.60**	**268**	T	T	13 54 46.4	
	baz=91,slow=76,SNR=29						
SONM	**Songino Array**	**55.40**	**0**	P	**P**	**13 22 03.8**	**-0.9**
	0.2nm,0.4s,baz=174,slow=6.1,SNR=2.0						
SONM				PcP	**PcP**	**13 23 04.7**	**-0.2**
	0.3nm,0.4s,baz=175,slow=1.1,SNR=3.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.44**	**341**	P	**P**	**13 22 24.7**	**-1.5**
	0.3nm,0.5s,baz=142,slow=8.5,SNR=7.2						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.26**	**221**	T	T	14 28 36.9	
	baz=66,slow=75,SNR=76						
H04N1	**CROZET ISLANDS**	**60.27**	**221**	T	T	14 28 37.6	
	baz=66,slow=75,SNR=101						
H04N3	**CROZET ISLANDS**	**60.28**	**221**	T	T	14 28 36.3	
	baz=66,slow=75,SNR=102						
KURBB	**Kurchatov Arra**	**63.00**	**340**	P	**P**	**13 22 56.0**	**-1.1**
	0.2nm,0.3s,baz=149,slow=6.3,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**67.87**	**337**	P	**P**	**13 23 28.0**	**-0.7**
	0.7nm,0.4s,baz=141,slow=9.8,SNR=6.1						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**144.55**	**49**	PKP	**PKPdf**	**13 32 08.5**	**+0.8**
	0.3nm,0.8s,baz=322,slow=4.7,SNR=2.6						

---

*RSNC **25** 13:13:11.6±0.0,7°.N±1°.×7°.3W±°,h8km±2km,M3.1,ML2.9*
*IDC **25** 13:13:15.0±0.9,6°.37N×73°.00W,h84km±12km,mb3.0/2, mbtmp3.6/5, Error ellipse: s-maj=33.7km s-min=7.7km az=133.0*
ISC 25 13:13:11.6±0.8,6°.55N±0°.02×73°.24W±0°.03,h24km±6km, n31,σ1ᵍ85/56,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.07**	**54**	P	**Pb**	**13 13 15.9**	**-0.2**
BARC				S	**Sb**	**13 13 19.3**	**+0.1**
BRJC	**Barrancabermej**	**0.66**	**310**	P	**Pb**	**13 13 24.4**	**0.0**
BRJC				S	**Sb**	**13 13 33.9**	**+0.8**
RUSC	**La Rusia**	**0.67**	**167**	P	**Pb**	**13 13 22.7**	**-2.3**
RUSC				S	**Sb**	**13 13 31.1**	**-3.0**
PAMC	**Pamplona, Colo**	**0.95**	**34**	P	**Pb**	**13 13 28.9**	**-0.8**
PAMC				S	**Sb**	**13 13 42.0**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.21**	**270**	P	**Pn**	**13 13 32.5**	**-0.5**
PTBC				S	**Sn**	**13 13 48.8**	**+0.1**
TAMC	**Tame, Arauca**	**1.44**	**94**	P	**Pb**	**13 13 36.8**	**-1.0**
TAMC				S	**Sb**	**13 13 55.3**	**-0.5**
OCAC	**Ocana**	**1.68**	**357**	P	**Pn**	**13 13 40.1**	**+0.5**
OCAC				S	**Sb**	**13 14 03.8**	**+1.1**
ZARC	**Zaragoza, Cauc**	**1.86**	**300**	P	**Pn**	**13 13 42.2**	**+0.2**
ZARC				S	**Sb**	**13 14 07.0**	**-0.8**
NORC	**Norcasia**	**1.90**	**239**	P	**Pn**	**13 13 41.6**	**-0.9**
NORC				S	**Sn**	**13 14 05.5**	**-0.2**
CHIC	**Chingaza**	**1.97**	**194**	P	**Pn**	**13 13 43.7**	**-0.2**
CHIC				S	**Sb**	**13 14 12.4**	**+1.1**
ROSC	**El Rosal**	**2.01**	**212**	P	**Pb**	**13 13 47.5**	**-0.2**
	20nm,0.3s,baz=47,slow=23,SNR=6.4						
ROSC				S	**Sb**	**13 14 12.6**	**+0.1**
	45nm,0.4s,baz=42,slow=21,SNR=5.0						
ROSC	**El Rosal**	**2.01**	**212**	P	**Pb**	**13 13 46.4**	**-1.3**
ROSC				S	**Sb**	**13 14 12.3**	**-0.2**
VILC	**Villavicencio,**	**2.46**	**191**	P	**Pb**	**13 13 56.4**	**+1.1**
VILC				S	**Sb**	**13 14 31.2**	**+5.9**
GUY2C	**Guyana, Caldas**	**2.49**	**238**	P	**Pn**	**13 13 52.0**	**+0.9**
GUY2C				S	**Sn**	**13 14 23.0**	**+2.0**
NIZA	**Niza - Manizal**	**2.67**	**236**	P	**Pn**	**13 13 55.5**	**+2.1**
NIZA				S	**Sn**	**13 14 26.0**	**+0.8**
CBOC	**Ciudad Bolivar**	**2.84**	**256**	P	**Pn**	**13 13 57.4**	**+1.8**
CBOC				S	**Sb**	**13 14 33.8**	**-2.4**
DBBC	**Dabeiba**	**2.99**	**279**	P	**Pn**	**13 13 59.6**	**+2.0**
DBBC				S	**Sb**	**13 14 37.1**	**-3.2**
PRAC	**Prado**	**3.26**	**210**	P	**Pn**	**13 14 02.2**	**+0.9**
PRAC				S	**Sb**	**13 14 45.6**	**-2.5**
ORTC	**Ortega, Tolima**	**3.30**	**217**	P	**Pn**	**13 14 02.5**	**+0.7**
ORTC				S	**Sn**	**13 14 43.5**	**+3.1**
PLMC	**San Jos del P**	**3.44**	**242**	P	**Pn**	**13 14 07.3**	**+3.5**
SDV	**Santo Domingo**	**3.47**	**48**	P	**Pn**	**13 14 06.0**	**+1.7**
	6.4nm,0.3s,baz=225,slow=13,SNR=16						
SDV				S	**Sn**	**13 14 47.2**	**+2.4**
	36nm,0.3s,baz=88,slow=22,SNR=14						
SDV	**Santo Domingo**	**3.47**	**48**	P	**Pn**	**13 14 05.8**	**+1.5**
SDV				S	**Sn**	**13 14 46.0**	**+1.2**
URMC	**La Uribe, Meta**	**3.47**	**199**	P	**Pn**	**13 14 04.9**	**+0.6**
URMC				S	**Sn**	**13 14 48.5**	**+3.8**
APAC	**Apartado, Choc**	**3.58**	**292**	P	**Pn**	**13 14 06.9**	**+1.3**
APAC				S	**Sn**	**13 14 50.3**	**+3.2**
SJCC	**San Jacinto, C**	**3.84**	**330**	P	**Pn**	**13 14 11.1**	**+1.8**
SJCC				S	**Sn**	**13 14 56.2**	**+2.5**
CRJC	**Cerrejon, Guaj**	**4.46**	**5**	P	**Pn**	**13 14 18.2**	**+0.4**
CRJC				S	**Sn**	**13 15 08.9**	**-0.1**
PCRV	**Puerto La Cruz**	**9.24**	**66**	P	**Pn**	**13 15 22.9**	**-0.6**
	20nm,1.1s,baz=27,slow=12,SNR=1.9						
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**13 20 14.5**	**-1.3**
	0.2nm,0.5s,baz=136,slow=7.4,SNR=2.5						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**63.48**	**340**	P	**P**	**13 23 37.2**	**-2.2**
	0.3nm,0.6s,baz=133,slow=6.3,SNR=5.2						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**148.86**	**234**	PKPbc	**PKPdf**	**13 32 54.0**	**-0.2**
	0.4nm,0.6s,baz=117,slow=3.9,SNR=6.3						
WRA	**Warramunga Arr**	**150.10**	**241**	PKPbc	**PKPdf**	**13 32 57.4**	**+1.1**
	0.2nm,0.4s,baz=109,slow=2.1,SNR=1.4						

IDC 25 13:40:23.3±904.0,52°.25N×5°.91E,h0km,Error ellipse: s-maj=439.9km s-min=131.2km az=115.0,The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**6.03**	**121**	I	I	14 13 00.0	
	0.1nm,0.5s,baz=309,slow=314,SNR=1.6						
I43RU	**DUBNA INFRASONI**	**8.63**	**64**	I	I	15 34 30.0	
	baz=272,slow=313,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**32.05**	**72**	I	I	16 58 40.0	
	baz=293,slow=330,SNR=1.1						

---

*DJA **25** 13:49:01.6±1.0,7°.S±2°.×12°.8E±°,h14km±7km,M4.0/13, mb4.0/6,MLv4.0/13*
ISC 25 13:48:59.6±1.0,6°.63S±0°.07×128°.44E±0°.06,h10km,n15, σ2ᵍ20/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.15**	**116**	P	**Pn**	**13 49 52.8**	**+3.5**
SAUI				S	**Sn**	**13 50 30.4**	**+3.5**
MSAI	**Masohi**	**3.30**	**9**	P	**Pn**	**13 49 54.0**	**+2.6**
NLAI	**Namlea**	**3.62**	**338**	P	**Pn**	**13 49 57.6**	**+1.8**
SANI	**Sanana**	**5.16**	**332**	P	**Pn**	**13 50 16.9**	**-0.1**
SANI				S	**Sn**	**13 51 18.1**	**+1.4**
SOEI	**Soe**	**5.17**	**233**	P	**Pn**	**13 50 18.0**	**+0.7**
SOEI	**Soe**	**5.17**	**233**	P	**Pn**	**13 50 17.9**	**+0.7**
SOEI				S	**Sn**	**13 51 18.0**	**+1.0**
FAKI	**Fak Fak**	**5.29**	**46**	P	**Pn**	**13 50 17.2**	**-1.6**
FAKI	**Fak Fak**	**5.29**	**46**	S	**Sn**	**13 51 17.0**	**-2.9**
FAKI	**Fak Fak**

RSNC 25 14:25:34.5±0.0, 7°N±1°×7°3W±°, h146km±2km, M3.0, mb3.3, mB5.1, ML2.8, Mw(mB)4.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	P	Pn	14 25 54.1	-0.6
BARC				S	Sn	14 26 08.9	-1.1
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	14 25 54.9	-1.1
BRJC				S	Sn	14 26 12.3	0.0
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	14 25 57.1	0.0
PAMC				S	Sn	14 26 13.7	-0.5
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	14 25 58.0	-0.9
RUSC				S	Sn	14 26 16.6	-0.8
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	14 26 00.6	-1.4
PTBC				S	Sn	14 26 21.3	-1.7
TAMC	**Tame, Arauca**	**1.40**	**106**	P	Pn	14 26 02.6	-0.2
TAMC				S	Sn	14 26 24.5	+0.1
OCAC	**Ocana**	**1.42**	**353**	P	Pn	14 26 02.9	-0.2
OCAC				S	Sn	14 26 24.4	-0.6
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	14 26 06.6	-0.7
ZARC				S	Sn	14 26 32.7	+0.2
NORC	**Norcasia**	**2.12**	**234**	P	Pn	14 26 10.1	-0.7
NORC				S	Sn	14 26 38.3	-0.4
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	14 26 12.4	-0.4
CHIC				S	Sn	14 26 41.8	-0.5
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	14 26 13.9	+0.7
ROSC				S	Sn	14 26 44.4	+1.4
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	14 26 18.4	-0.2
GUY2C				S	Sn	14 26 56.5	+4.0
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	14 26 18.0	-0.7
VILC				S	Sn	14 26 52.1	-0.6
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	14 26 21.6	-0.3
CBOC				S	Sn	14 26 58.4	0.0
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	14 26 21.9	-0.5
DBBC				S	Sn	14 26 57.8	-1.5
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	14 26 24.5	+0.1
ARGC				S	Sn	14 27 03.2	+0.2
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	14 26 23.8	-1.1
SDV				S	Sn	14 27 01.2	-2.6
PRAC	**Prado**	**3.54**	**209**	P	Pn	14 26 27.7	-1.0
PRAC				S	Sn	14 27 09.9	-0.8
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	14 26 28.5	-0.6
ORTC				S	Sn	14 27 12.0	+0.6
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	14 26 27.9	-1.1
APAC				S	Sn	14 27 12.2	+0.9
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	14 26 29.7	-0.5
PLMC				S	Sn	14 27 14.0	+0.6
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	14 26 28.3	-2.0
SJCC				S	Sn	14 27 09.9	-3.6
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	14 26 31.1	-0.5
URMC				S	Sn	14 27 14.3	-1.5
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	14 26 34.6	-2.6
CRJC				S	Sn	14 27 22.3	-3.6
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	14 26 37.3	-0.8
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	14 26 41.6	-2.3
MACC				S	Sn	14 27 32.3	-5.6
MALC	**Bahia Malaga**	**5.01**	**236**	P	Pn	14 26 49.6	+1.5
MALC				S	Sn	14 27 48.2	+2.8
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	14 26 49.8	+1.5
JAMC				S	Sn	14 27 47.3	+1.5
FLOC	**Florencia**	**5.77**	**206**	P	Pn	14 26 57.4	-0.8
	6.5nm,1.5s						
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	14 27 04.8	-0.3
CRUC	**La Cruz**	**6.45**	**216**	P	Pn	14 27 12.1	+4.5

*NEIC **25** 14:35:59.4±1.5, 21°.50S±0°.05×68°.66W±0°.06, h110km±5km, mb4.4/10, Error ellipse: s-maj=10.1km s-min=4.6km az=54.0*
*SJA **25** 14:35:59.4±0.7, 21°.54S×68°.82W, h118km±5km, ML3.7, MW3.7*
*GUC **25** 14:36:01.5±0.7, 21°.54S×68°.70W, h98km±3km, ML3.5*
*IDC **25** 14:36:01.8±2.6, 21°.54S×68°.20W, h115km±23km, mb3.6/4, mbtmp4.0/8, Error ellipse: s-maj=33.1km s-min=19.6km az=97.0*
*VAO **25** 14:36:03.5±1.4, 21°.26S×68°.27W, h119km±7km, mb4.4*
ISC 25 14:35:59.1±0.6, 21°.49S±0°.04×68°.62W±0°.05, h108km±6km, n82, σ1°39/101, mb4.1/6, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**242**		**Pn**	**14 36 17.3**	**+0.2**
PB09				Sn	**Sn**	**14 36 30.2**	**-0.4**
PB09	**IPOC Station P**	**0.65**	**242**	*e*P	**Pn**	**14 36 17.6**	**+0.5**
PB09				*e*S	**Sn**	**14 36 31.6**	**+1.0**
PB09				IAML		14 36 32.2	
	comp=Z,2μm,0.6s						
PB09	**IPOC Station P**	**0.65**	**242**	⇑*i*P	**Pn**	**14 36 17.6**	**+0.5**
PB09				*e*S	**Sn**	**14 36 30.1**	**-0.6**
PB09				IAML		14 36 34.0	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**0.92**	**299**		**Pn**	**14 36 19.8**	**+0.3**
PB01				Sn	**Sn**	**14 36 34.3**	**-0.5**
PB01	**IPOC Station P**	**0.92**	**299**	*e*P	**Pn**	**14 36 19.9**	**+0.3**
PB01				*e*S	**Sn**	**14 36 35.4**	**+0.6**
PB01				IAML		14 36 37.9	
	comp=Z,922nm,0.4s						
PB01	**IPOC Station P**	**0.92**	**299**	⇑*i*P	**Pn**	**14 36 19.8**	**+0.3**
PB01				*e*S	**Sn**	**14 36 34.8**	**0.0**
PB01				IAML		14 36 36.8	
	comp=N,2μm,0.4s						
PB03	**IPOC Station P**	**1.19**	**242**	*e*P	**Pn**	**14 36 22.5**	**+0.1**
PB03				*e*S	**Sn**	**14 36 39.5**	**-0.4**
PB03				IAML		14 36 41.3	
	comp=Z,2μm,0.5s						
PB03	**IPOC Station P**	**1.19**	**242**	⇑*i*P	**Pn**	**14 36 22.4**	**+0.1**
PB03				*e*S	**Sn**	**14 36 39.4**	**-0.6**
PB03				IAML		14 36 41.2	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**1.43**	**340**		**Pn**	**14 36 26.9**	**+1.5**
PB08	**IPOC Station P**	**1.43**	**340**	*e*P	**Pn**	**14 36 27.5**	**+2.0**
PB08				*e*S	**Sn**	**14 36 47.6**	**+2.2**
PB08				IAML		14 36 50.0	
	comp=Z,320nm,0.5s						
PB08	**IPOC Station P**	**1.43**	**340**	⇓*i*P	**Pn**	**14 36 27.4**	**+2.0**
PB08				*e*S	**Sn**	**14 36 47.6**	**+2.2**
PB08				IAML		14 36 50.5	
	comp=E,520nm,0.4s						
PB06	**IPOC Station P**	**1.50**	**216**	*e*P	**Pn**	**14 36 26.2**	**+0.2**
PB06				*e*S	**Sn**	**14 36 46.1**	**-0.2**
PB06				IAML		14 36 48.0	
	comp=Z,1μm,0.3s						
PB06	**IPOC Station P**	**1.50**	**216**	⇑*i*P	**Pn**	**14 36 26.1**	**+0.2**
PB06				*e*S	**Sn**	**14 36 45.7**	**-0.5**
PB06				IAML		14 36 48.1	
	comp=E,1μm,0.6s						
AF01	**San Pedro de A**	**1.51**	**164**		**Pn**	**14 36 27.3**	**+1.1**
AF01	**San Pedro de A**	**1.51**	**164**	*e*P	**Pn**	**14 36 27.5**	**+1.3**
AF01				*e*S	**Sn**	**14 36 48.5**	**+1.7**
AF01				IAML		14 37 07.4	
	comp=E,1μm,0.6s						
TA01	**Diego Aracena**	**1.72**	**302**	Pn	**Pn**	**14 36 29.1**	**+0.6**
TA01	**Diego Aracena**	**1.72**	**302**	*e*P	**Pn**	**14 36 28.8**	**+0.2**
TA01				*e*S	**Sn**	**14 36 50.4**	**-0.6**
TA01				IAML		14 36 59.8	
	comp=Z,563nm,0.7s						
TA01	**Diego Aracena**	**1.72**	**302**	*e*P	**Pn**	**14 36 29.1**	**+0.6**
TA01				*e*S	**Sn**	**14 36 50.8**	**-0.1**
TA01				IAML		14 36 57.7	
	comp=N,702nm,0.3s						
TA02	**Huaiquique**	**1.86**	**310**		**Pn**	**14 36 30.8**	**+0.5**
TA02	**Huaiquique**	**1.86**	**310**	*e*P	**Pn**	**14 36 31.1**	**+0.8**
TA02				*e*S	**Sn**	**14 36 53.9**	**-0.2**
TA02				IAML		14 37 03.4	
	comp=N,1μm,0.1s						
PB11	**IPOC Station P**	**1.98**	**330**	Pn	**Pn**	**14 36 33.0**	**+1.0**
PB11	**IPOC Station P**	**1.98**	**330**	*e*P	**Pn**	**14 36 32.9**	**+1.0**
PB11				*e*S	**Sn**	**14 36 58.8**	**+1.9**
PB11				IAML		14 37 00.1	
	comp=Z,306nm,0.6s						
PB11	**IPOC Station P**	**1.98**	**330**	⇓*i*P	**Pn**	**14 36 33.0**	**+1.0**
PB11				*e*S	**Sn**	**14 36 58.0**	**+1.1**
PB11				IAML		14 37 02.4	
	comp=N,533nm,0.3s						
YJA	**Yavi**	**2.97**	**104**	*e*P	**Pn**	**14 36 47.6**	**+2.5**
PB12	**IPOC Station P**	**3.28**	**330**		**Pn**	**14 36 48.8**	**-0.2**
PB14	**IPOC Station P**	**3.52**	**207**		**Pn**	**14 36 53.1**	**+0.7**
GO02	**Mina Guanaco**	**3.76**	**194**		**Pn**	**14 36 55.1**	**-0.4**
AC01	**Pan de Azucar**	**4.97**	**201**	Pn	**Pn**	**14 37 09.1**	**-2.5**
LPAZ	**La Paz**	**5.20**	**5**	Pn	**Pn**	**14 37 13.5**	**-1.7**
LPAZ	**La Paz**	**5.20**	**5**	P	**Pn**	**14 37 19.1**	**+3.8**
	comp=N,9.7nm,0.4s,baz=199,slow=5.6,SNR=26						
LPAZ				S	**Sn**	**14 38 08.5**	**-5.8**
	comp=N,3.5nm,0.7s,baz=147,slow=4.3,SNR=1.4						
LPAZ	**La Paz**	**5.20**	**5**	*e*P	**Pn**	**14 37 17.0**	**+1.8**
AC02	**Maricunga**	**5.34**	**185**	Pn	**Pn**	**14 37 16.5**	**-0.5**
AC04	**Llanos de Chal**	**7.04**	**198**	Pn	**Pn**	**14 37 35.0**	**-4.6**
CO01	**Juntas del Tor**	**8.55**	**189**	Pn	**Pn**	**14 37 57.6**	**-2.7**
GO04	**Tololo Observa**	**8.86**	**192**	Pn	**Pn**	**14 38 02.6**	**-2.0**
SIV	**San Ignacio**	**9.00**	**54**	P	**Pn**	**14 38 04.5**	**-1.8**
	comp=N,25nm,0.7s,baz=240,slow=11,SNR=99						
PAPY	**Pozo Azul**	**9.93**	**107**	*e*P	**Pn**	**14 38 18.7**	**-0.1**
PTLB	**Pontes e Lacer**	**10.82**	**58**	Pn	**Pn**	**14 38 29.4**	**-1.5**
PTLB	**Pontes e Lacer**	**10.82**	**58**	*e*P	**Pn**	**14 38 29.4**	**-1.5**
BDQN	**Bodoquena, MS**	**11.14**	**87**	*e*P	**Pn**	**14 38 34.3**	**-1.0**
CPUP	**Villa Florida**	**11.39**	**117**	P	**Pn**	**14 38 36.7**	**-1.9**
	comp=N,0.8nm,0.5s,baz=315,slow=12,SNR=3.2						
PANT	**Pantanal (Braz**	**11.54**	**80**	*e*P	**Pn**	**14 38 37.6**	**-3.0**
VILB	**Vilhena**	**11.69**	**45**		**Pn**	**14 38 41.5**	**-1.2**
VILB	**Vilhena**	**11.69**	**45**	*e*P	**Pn**	**14 38 41.8**	**-0.9**
MT02	**Curacav**	**11.93**	**190**	Pn	**Pn**	**14 38 45.0**	**-0.7**
AQDB	**Aquidauana**	**12.12**	**88**		**Pn**	**14 38 48.0**	**-0.2**
AQDB	**Aquidauana**	**12.12**	**88**	*e*P	**Pn**	**14 38 48.0**	**-0.2**
SALV	**Santo Antonio**	**13.45**	**68**	*e*P	**Pn**	**14 39 04.9**	**-0.8**
PDRB	**Porto dos Gac**	**15.04**	**51**	*e*P	**Pn**	**14 39 26.1**	**0.0**
PTGB	**Pitanga**	**15.57**	**105**	*e*P	**P**	**14 39 34.5**	**-0.2**
ITAB	**Concordia**	**16.07**	**114**		**P**	**14 39 40.5**	**+0.3**
ITAB				IAmb	IAmb	14 40 01.0	
	comp=Z,30nm,1.4s						
LDASE	**Londrina, Braz**	**16.29**	**100**	*e*P	**P**	**14 39 42.7**	**-0.1**
ARAG	**Araguaiana, MT**	**16.94**	**73**	*e*P	**Pn**	**14 39 48.7**	**-0.9**
TRQA	**Tornquist**	**17.48**	**162**		**Pn**	**14 39 55.9**	**-0.2**
BB19B	**Bebedouro**	**18.73**	**92**	*e*P	**P**	**14 40 10.5**	**+0.9**
SNDB	**Serra Nova Dou**	**19.09**	**63**	*e*P	**P**	**14 40 12.9**	**-0.5**
NPGB	**Novo Progresso**	**19.25**	**44**	*e*P	**P**	**14 40 14.1**	**-1.1**
PLCA	**Paso Flores**	**19.25**	**184**	P	**Pn**	**14 40 16.4**	**-0.8**
	comp=Z,3.7nm,1.1s,baz=4.2,slow=10,SNR=3.3						
IPMB	**Ipameri, GO**	**19.52**	**83**	*e*P	**P**	**14 40 19.1**	**+0.9**
MACA	**Manacapuru-AM**	**19.79**	**24**	P	**P**	**14 40 20.5**	**-0.5**
MACA				IAmb	IAmb	14 40 23.2	
	comp=Z,12nm,0.7s						
MACA	**Manacapuru-AM**	**19.79**	**24**	*e*P	**P**	**14 40 20.3**	**-0.7**
VAO	**Valinhos**	**20.10**	**98**	P	**P**	**14 40 23.8**	**-0.7**
VAO				IAmb	IAmb	14 40 33.2	
	comp=Z,25nm,1.4s						
ITTB	**Itaituba**	**21.13**	**38**	*e*P	**P**	**14 40 34.5**	**-0.9**
SMTB	**Santa Maria do**	**23.83**	**61**	*e*P	**P**	**14 41 02.5**	**0.0**
MAL2	**Monte Alegre,**	**23.93**	**38**	P	**P**	**14 41 03.4**	**0.0**
JANB	**Januaria**	**23.94**	**79**	*e*P	**P**	**14 41 03.3**	**-0.2**
SDBA	**SAO DESIDERIO**	**24.39**	**72**	*e*P	**P**	**14 41 07.3**	**-0.3**
BOAV	**Boa Vista**	**25.03**	**19**	P	**P**	**14 41 14.2**	**+0.9**
BOAV	**Boa Vista**	**25.03**	**19**	*e*P	**P**	**14 41 13.1**	**-0.2**
RCBR	**Riachuelo**	**35.29**	**69**	P	**P**	**14 42 43.2**	**-0.7**
RCBR				IAmb	IAmb	14 43 24.8	
	comp=Z,5.2nm,1.1s						
BOAB	**BOACO BROADBAN**	**37.65**	**332**	P	**P**	**14 43 02.4**	**-1.5**
SNAA	**Sanae**	**62.20**	**161**	P	**P**	**14 46 09.3**	**+0.4**
SNAA	**Sanae**	**62.20**	**161**	P	**P**	**14 46 09.9**	**+1.1**
	comp=Z,1.4nm,1.0s,baz=211,slow=12,SNR=1.9						
	comp=Z,1.4nm,1.0s						
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**14 46 49.6**	**-0.6**
DBIC	**Dimbokro**	**68.48**	**73**	P	**P**	**14 46 49.5**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=186,slow=7.9,SNR=4.0						
	comp=Z,2.5nm,0.6s						
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**14 46 52.7**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=297,slow=0.9,SNR=15						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.10**	**70**	P	**P**	**14 47 41.0**	**-0.1**
	comp=Z,42nm,0.4s,baz=248,slow=5.7,SNR=1.5						
YKA	**Yellowknife Ar**	**91.27**	**340**	P	**P**	**14 48 53.6**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=139,slow=4.2,SNR=2.4						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**130.04**	**207**	PKP	**PKiKP**	**14 54 58.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=118,slow=1.6,SNR=8.5						
WRA	**Warramunga Arr**	**133.09**	**210**	PKP	**PKiKP**	**14 55 05.0**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=141,slow=1.8,SNR=2.0						
KURBB	**Kurchatov Arra**	**141.18**	**33**	PKP	**PKPdf**	**14 55 17.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc	**PKPab**	**14 55 26.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=311,slow=4.9,SNR=6.8						

*IDC **25** 14:37:52.9±2.0, 28°.58N×69°.00E, h0km, mb3.5/6, mbtmp3.5/7, ML3.2/1, MS3.6/1, Error ellipse: s-maj=62.3km s-min=25.3km az=77.0*
ISC 25 14:37:58.5±1.6, 28°.7N±0°.1×69°.1E±0°.3, h35km, n8, σ0°76/8, mb3.5/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**14.60**	**16**	Pn	**Pn**	**14 41 21.5**	**-1.1**
	0.1nm,0.3s,baz=241,slow=8.6,SNR=1.6						
AAK				Sn	**Sn**	**14 44 04.0**	**+0.7**
	0.2nm,0.3s,baz=180,slow=4.4,SNR=2.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**20.83**	**26**	P	**P**	**14 42 36.9**	**-0.1**
	0.2nm,0.4s,baz=222,slow=9.1,SNR=5.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**23.05**	**15**	P	**P**	**14 43 01.3**	**+0.7**
	0.8nm,0.9s,baz=205,slow=9.3,SNR=4.3						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**24.34**	**2**	P	**P**	**14 43 13.6**	**+0.7**
	1.1nm,0.8s,baz=169,slow=8.5,SNR=5.8						
	1.1nm,0.8s						
ARCES	**ARCESS Array B**	**47.88**	**341**	P	**P**	**14 46 32.5**	**-0.2**
	3.6nm,0.9s,baz=119,slow=7.8,SNR=5.1						
	3.6nm,0.9s						
TGY	**Tagaytay City**	**50.04**	**95**	LR	LR	15 10 43.2	
	comp=Z,67nm,19.6s,baz=150,slow=39						
WRA	**Warramunga Arr**	**79.39**	**120**	P	**P**	**14 50 01.1**	**-0.2**
	0.5nm,0.9s,baz=305,slow=5.4,SNR=1.2						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**81.24**	**123**	P	**P**	**14 50 11.6**	**+0.4**
	0.4nm,0.9s,baz=316,slow=5.4,SNR=2.9						
	0.4nm,0.9s						

*JMA **25** 14:49:50.6±0.5, 44°N±2°×14°8E±°, h0km, MV5.1/31, SE OFF ETOROFU*
*NIED **25** 14:49:50.6, 43°.81N×148°.23E, h0km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.78; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-2.14; $M_{r\theta}$2.01; $M_{\theta\phi}$-1.58; $M_{\phi r}$2.23; Fault plane solution: $M_0$4.22000×10^{15} NP1: ϕ_s203.00000°, δ23.00000°, λ75.00000°. NP2:ϕ_s40.00000°, δ68.00000°, λ96.00000°.*
*SKHL **25** 14:49:52.9±0.2, 43°.90N×148°.50E, h48km±8km, mb5.5/5*
*BJI **25** 14:49:53.4, 43°.97N×148°.50E, h48km, mB4.9/14, mb4.6/48, Ms4.1/8, Ms7 4.0/9*
*MOS **25** 14:49:53.7±1.1, 44°.01N×148°.35E, h46km, mb4.9/12, Error ellipse: s-maj=7.6km s-min=6.2km az=105.9*
MOS Felt (II) at Kuril'sk.
*NEIC **25** 14:49:55.5±1.1, 43°.98N±0°.10×148°.3E±0°.1, h35km±2km, mb4.6/94, Error ellipse: s-maj=18.5km s-min=15.0km az=135.0*
*IDC **25** 14:49:58.0±2.0, 44°.13N×148°.19E, h62km±17km, mb4.0/26, mbtmp4.3/35, MS3.5/17, Error ellipse: s-maj=14.9km s-min=11.2km az=147.0*
ISC 25 14:49:55.0±0.8, 44°.02N±0°.05×148°.30E±0°.05, h40km±6km, n491, σ1°01/478, mb4.6/112, MS3.6/8, 5C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.07**	**263**	*e*P	**Pn**	**14 50 11.7**	**-1.8**
SHO				AMB	AMB	14 50 14.5	
	480nm,0.2s						
SHO				*e*S	**Sn**	**14 50 25.7**	**-1.4**
SHO				A	A	14 50 31.2	
	9μm,0.4s						
SHO				A	A	14 50 31.2	
	8μm,0.4s						
KUR	**Kuril'sk**	**1.25**	**346**	*d*iPN	**Pn**	**14 50 15.6**	**-0.4**
KUR				S	**Sn**	**14 50 33.8**	**+2.2**
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=E,329nm,0.3s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR	**Kuril'sk**	**1.25**	**346**	*i* P	**Pn**	**14 50 15.6**	**-0.4**
KUR				AMB	AMB	14 50 15.7	
	comp=N,2μm,0.5s						
KUR				*e*S	**Sn**	**14 50 32.8**	**+1.2**
KUR				A	A	14 50 35.4	
	comp=N,4μm,0.5s						
KUR				A	A	14 50 35.4	
	comp=N,6μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.76**	**271**	*d*iPN	**Pn**	**14 50 21.7**	**-1.1**
YUK				*e*S	**Sn**	**14 50 43.7**	**-0.3**
YUK				pmax	pmax		
	comp=N,508nm,0.2s						
YUK				pmax	pmax		
	comp=E,699nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,7μm,0.3s						
YUK				smax	smax		
	comp=E,14μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.76**	**271**	*e*P	**Pn**	**14 50 21.8**	**-1.1**
YUK				AMB	AMB	14 50 23.9	
	comp=E,2μm,0.3s						
YUK				*e*S	**Sn**	**14 50 43.7**	**-0.3**
YUK				A	A	14 50 46.7	
	comp=E,11μm,0.4s						
YUK				A	A	14 50 46.7	
	comp=E,12μm,0.4s						
NEM2	**Nemuro 2**	**1.97**	**251**	P	**Pn**	**14 50 23.7**	**-2.0**
NEM2				*e*S	**Sn**	**14 50 47.7**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.98**	**252**	*e*PN	**Pn**	**14 50 23.9**	**-2.0**
NMR				*e*S	**Sn**	**14 50 48.4**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.98**	**252**	*e*P	**Pn**	**14 50 24.5**	**-1.4**
NMR				*e*S	**Sn**	**14 50 48.6**	**-0.8**
RUSJ	**Misakicho**	**2.20**	**273**	⇓*i*PN	**Pn**	**14 50 28.9**	**-0.1**
RUSJ				*i* S	**Sn**	**14 50 56.2**	**+1.2**
JRA	**Rausu**	**2.29**	**269**	*e*P	**Pn**	**14 50 30.0**	**-0.2**
JRA				*e*S	**Sn**	**14 50 59.7**	**+2.4**
JNSB	**Nemuroshibetsu**	**2.39**	**265**	P	**Pn**	**14 50 31.3**	**-0.4**
JKHN	**Kushirohamanak**	**2.47**	**249**	*e*P	**Pn**	**14 50 31.1**	**-1.5**
JKHN				*e*S	**Sn**	**14 51 02.0**	**+0.5**
JNK	**Nakash**	**2.63**	**262**	P	**Pn**	**14 50 34.1**	**-0.8**
JNK				*e*S	**Sn**	**14 51 06.1**	**+0.6**
AKK	**Akkeshi**	**2.71**	**249**	*e*P	**Pn**	**14 50 34.9**	**-1.0**
JAK	**Akkeshi**	**2.81**	**250**	*e*P	**Pn**	**14 50 36.6**	**-0.8**
JAK				*e*S	**Sn**	**14 51 10.8**	**+0.8**
JTKR	**Abashiri--Toko**	**3.17**	**271**	P	**Pn**	**14 50 42.7**	**+0.4**
JAR	**Ashorobuto**	**3.37**	**259**	*e*P	**Pn**	**14 50 44.9**	**0.0**
JKA	**Kamikawa-asahi**	**4.11**	**273**	Pn	**Pn**	**14 50 56.2**	**+1.0**
JKA	**Kamikawa-asahi**	**4.11**	**273**	*e*P	**Pn**	**14 50 56.2**	**+1.0**
ASAJ	**Asahikawa**	**4.11**	**273**	P	**Pn**	**14 50 57.8**	**+2.5**
	comp=E,34nm,0.5s,baz=76,slow=15,SNR=49						
ASAJ				S	**Sn**	**14 51 49.9**	**+7.8**
	comp=E,51nm,0.5s,baz=220,slow=29,SNR=1.5						
ASAJ				LR	LR	14 52 39.3	
	comp=E,838nm,20.1s,baz=156,slow=40						
JSE	**Soyaes**	**4.20**	**285**	*e*P	**Pn**	**14 50 56.9**	**+0.5**
ERM	**Erimo**	**4.27**	**244**	Pn	**Pn**	**14 50 58.5**	**+1.1**
ERM	**Erimo**	**4.27**	**244**	PN	**Pn**	**14 50 58.5**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.42**	**249**	*e*P	**Pn**	**14 50 58.5**	**-0.9**
YSS	**Yuzhno-Sakhali**	**4.88**	**309**	Pn	**Pn**	**14 51 06.6**	**+0.9**
YSS	**Yuzhno-Sakhali**	**4.88**	**309**	*ke*PN	**Pn**	**14 51 06.8**	**+1.1**
YSS				pmax	pmax		
	comp=Z,80nm,0.4s						
YSS				MLR	MLR		
	comp=N,600nm,13.0s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS				MLR	MLR		
	comp=E,300nm,16.0s						
YSS	**Yuzhno-Sakhali**	**4.88**	**309**	*e*P	**Pn**	**14 51 07.0**	**+1.3**
YSS				*e*S	**Sn**	**14 52 01.4**	**+0.5**
JEW	**Eniwo**	**5.13**	**259**	*e*P	**Pn**	**14 51 11.4**	**+2.2**
JRBN	**Rebuntou**	**5.34**	**288**	*e*P	**Pn**	**14 51 14.0**	**+1.9**
JOT	**Ohata**	**5.96**	**246**	*e*P	**Pn**	**14 51 20.0**	**-0.6**
JANG	**Nango**	**6.22**	**236**	P	**Pn**	**14 51 22.2**	**-1.9**
JTM	**Tenmabayashi**	**6.25**	**241**	Pn	**Pn**	**14 51 24.0**	**-0.6**
TYV	**Tymovskoe**	**7.84**	**333**	*e*PN	**Pn**	**14 51 49.5**	**+3.1**
TYV				pmax	pmax		
	comp=Z,400nm,5.1s						
TYV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TYV	**Tymovskoe**	**7.84**	**333**	*e*P	**Pn**	**14 51 49.1**	**+2.7**
TYV				*e*S	**Sn**	**14 53 15.3**	**+1.6**
TEY	**Ternei**	**8.42**	**281**	*e*PN	Pn	14 51 59.9	+5.6
TEY	**Ternei**	**8.42**	**281**	*e*P	Pn	14 51 59.9	+5.6

YAK				pmax	pmax	
	comp=E,3.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,230nm,5.2s					
YAK				pmax	pmax	
	comp=N,93nm,4.9s					
YAK				pmax	pmax	
	comp=E,188nm,5.2s					
YAK				smax	smax	
	comp=E,322nm,6.7s					
YAK				smax	smax	
	comp=N,68nm,5.8s					
XLT	**XiLinHaoTe**	**23.12**	**281**	*e*P	**P**	**14 54 56.3 -1.1**
XLT				pP	pP	14 55 07.3 -0.2
XLT				sP	sP	14 55 13.3 +0.9
XLT				PP	**PnPn**	**14 55 24.8 +1.3**
XLT				pmax	pmax	
	comp=N,11nm,0.8s					
JOW	**Kunigami**	**23.57**	**230**	LR	LR	15 04 37.3
	comp=N,92nm,18.8s,baz=74,slow=37					
BJI	**Beijing**	**24.11**	**272**	P	**P**	**14 55 07.8 +1.1**
BJI				pmax	pmax	
	comp=N,7.0nm,0.7s					
BJI				pmax	pmax	
	comp=N,59nm,6.8s					
TIA	**Tai'an**	**24.98**	**263**	P	**P**	**14 55 15.3 +0.6**
TIA				pmax	pmax	
	comp=N,23nm,0.7s					
TIA				pmax	pmax	
	comp=N,200nm,6.4s					
NJ2	**Nanjing**	**25.95**	**253**	*e*P	**P**	**14 55 24.5 +1.0**
NJ2				pmax	pmax	
	comp=N,16nm,0.6s					
HNS	**HongShan**	**26.18**	**267**	⇑P	**P**	**14 55 26.8 +1.2**
HNS				pmax	pmax	
	comp=N,9.0nm,0.7s					
HHC	**Hu-ho-hao-te**	**27.15**	**276**	*e*P	**P**	**14 55 35.8 +1.3**
HHC				S	**S**	**15 00 08.3 -1.9**
HHC				pmax	pmax	
	comp=N,25nm,0.5s					
HHC				pmax	pmax	
	comp=N,160nm,6.0s					
HHC				LR	LR	
	comp=N,170nm,13.0s					
HHC				LR	LR	
	comp=N,240nm,13.8s					
HHC				LR	LR	
	comp=N,240nm,12.2s					
ULN	**Ulaanbaatar**	**28.69**	**292**	P	**P**	**14 55 48.8 +0.6**
ULN	**Ulaanbaatar**	**28.69**	**292**	P	**P**	**14 55 48.8 +0.6**
ULN				pmax	pmax	
	comp=Z,2.0nm,0.8s					
ULN	**Ulaanbaatar**	**28.69**	**292**	*e*P	**P**	**14 55 48.8 +0.6**
H11N2	**WAKE ISLAND Hy**	**28.78**	**141**	T	T	15 26 35.5
	baz=332,slow=76,SNR=374					
H11N1	**WAKE ISLAND Hy**	**28.79**	**141**	T	T	15 26 33.3
	baz=332,slow=76,SNR=413					
H11N3	**WAKE ISLAND Hy**	**28.79**	**141**	T	T	15 26 39.0
	baz=332,slow=76,SNR=381					
SPIA	**Saint Paul Isl**	**28.93**	**48**	P	**P**	**14 55 50.3 +0.4**
	baz=261					
SONM	**Songino Array**	**29.14**	**292**	P	**P**	**14 55 51.4 -0.7**
	comp=Z,1.5nm,0.5s,baz=83,slow=8.8,SNR=10					
SONM				LR	LR	15 08 34.4
	comp=Z,174nm,18.4s,baz=26,slow=38					
	comp=Z,1.5nm,0.5s					
P08K	**Saint George I**	**29.22**	**49**	P	**P**	**14 55 52.7 +0.2**
	baz=263					
TIXI	**Tiksi**	**29.27**	**348**	LR	LR	15 09 38.0
	comp=Z,33nm,20.3s,baz=352,slow=40					
H11S1	**WAKE ISLAND Hy**	**29.76**	**143**	T	T	15 27 52.0
	baz=333,slow=76,SNR=992					
H11S3	**WAKE ISLAND Hy**	**29.77**	**143**	T	T	15 27 49.6
	baz=333,slow=76,SNR=549					
H11S2	**WAKE ISLAND Hy**	**29.78**	**143**	T	T	15 27 47.2
	baz=333,slow=76,SNR=584					
WHN	**Wuhan**	**29.95**	**255**	P	**P**	**14 56 03.8 +4.5**
UNV	**Unalaska Valle**	**30.79**	**55**	P	**P**	**14 56 06.5 +0.1**
	baz=270					
M11K	**Mekoryuk**	**31.55**	**43**	P	**P**	**14 56 13.2 +0.1**
	baz=260					
XAN	**Xi'an**	**31.91**	**265**	*e*P	**P**	**14 56 17.0 +0.4**
TNA	**Tin City**	**32.17**	**33**	P	**P**	**14 56 18.8 +0.3**
	baz=250					
K13K	**Kusilvak Mount**	**32.58**	**40**	P	**P**	**14 56 22.4 +0.3**
	baz=259					
F14K	**Arctic Creek**	**32.77**	**33**	P	**P**	**14 56 24.4 +0.6**
	baz=252					
ANM	**Nome**	**32.89**	**35**	P	**P**	**14 56 24.9 +0.1**
	baz=254					
M13K	**Dall Lake**	**32.95**	**43**	P	**P**	**14 56 26.4 +1.1**
	baz=262					
J14K	**Nanvaranak Lak**	**33.24**	**39**	P	**P**	**14 56 27.7 -0.1**
	baz=259					
S12K	**Black Hills**	**33.35**	**52**	P	**P**	**14 56 29.3 +0.4**
	baz=271					
L14K	**Kuka Creek**	**33.41**	**41**	P	**P**	**14 56 29.9 +0.7**
	baz=262					
G15K	**Niukluk**	**33.56**	**35**	P	**P**	**14 56 31.4 +0.8**
	baz=255					
M14K	**Bethel**	**33.68**	**43**	P	**P**	**14 56 32.4 +0.7**
	baz=263					
N14K	**Kuskokwak Cree**	**33.72**	**44**	P	**P**	**14 56 32.8 +0.8**
	baz=265					
O14K	**Tigyukauivet M**	**33.88**	**45**	P	**P**	**14 56 34.2 +0.7**
	baz=266					
K15K	**Wolf Creek Mou**	**34.09**	**40**	P	**P**	**14 56 34.7 -0.5**
	baz=261					
C16K	**Lisburne Hills**	**34.10**	**29**	P	**P**	**14 56 35.6 +0.4**
	baz=249					
H16K	**Elim**	**34.22**	**36**	P	**P**	**14 56 36.5 +0.2**
	baz=257					
M15K	**Kasigluk River**	**34.29**	**43**	P	**P**	**14 56 37.2 +0.2**
	baz=264					
G16K	**Koyuk River**	**34.35**	**34**	P	**P**	**14 56 38.2 +0.8**
	baz=256					
N15K	**Kwethluk River**	**34.54**	**44**	P	**P**	**14 56 39.5 +0.3**
	baz=266					
LZH	**Lanzhou**	**34.59**	**272**	*e*P	**P**	**14 56 40.8 +0.7**
LZH				sP	sP	14 56 55.0 -0.7
LZH				pmax	pmax	
	comp=Z,24nm,1.2s					
O15K	**Ungalikthiuk R**	**34.62**	**45**	P	**P**	**14 56 39.5 -0.3**
	baz=267					
J16K	**Anvik River**	**34.67**	**38**	P	**P**	**14 56 39.9 -0.3**
	baz=261					
D17K	**Noatak River**	**34.71**	**30**	P	**P**	**14 56 39.8 -0.7**
	baz=252					
I17K	**Unalakleet**	**34.73**	**37**	P	**P**	**14 56 40.2 -0.5**
	baz=260					
CHNA	**Chernabura Isl**	**34.80**	**53**	P	**P**	**14 56 41.3 -0.1**
	baz=274					
RDOG	**Red Dog Mine**	**34.88**	**30**	P	**P**	**14 56 42.4 +0.4**
	baz=252					
C17K	**DeLong Mountai**	**34.92**	**29**	P	**P**	**14 56 42.1 -0.3**
	baz=251					
L16K	**Owhat River**	**34.98**	**41**	P	**P**	**14 56 42.5 -0.4**
	baz=264					
E17K	**Hotham Inlet**	**34.99**	**31**	P	**P**	**14 56 43.6 +0.6**
	baz=254					
F17K	**Baldwin Pennin**	**35.04**	**33**	P	**P**	**14 56 44.6 +1.2**
F17K				IAmb	IAmb	14 56 45.8
	comp=Z,11nm,0.8s					
F17K	**Baldwin Pennin**	**35.04**	**33**	P	**P**	**14 56 43.0 -0.4**
	baz=256					
M16K	**Timber Creek**	**35.16**	**42**	P	**P**	**14 56 44.9 +0.4**
	baz=266					
H17K	**Granite Mounta**	**35.25**	**35**	P	**P**	**14 56 46.2 +0.9**
	baz=259					
J17K	**VABM Dome**	**35.36**	**38**	P	**P**	**14 56 45.6 -0.6**
	baz=262					
L17K	**Donlin**	**35.57**	**40**	P	**P**	**14 56 48.6 +0.5**
	baz=265					
K17K	**Iditarod**	**35.63**	**39**	P	**P**	**14 56 49.3 +0.8**
	baz=264					
C18K	**Utukok River**	**35.67**	**29**	P	**P**	**14 56 49.5 +0.6**
	baz=253					
B18K	**Kokolik River**	**35.68**	**28**	P	**P**	**14 56 49.9 +1.0**
	baz=251					
F18K	**Selawik**	**35.70**	**33**	P	**P**	**14 56 49.8 +0.7**
	baz=257					
M17K	**Holitna River**	**35.92**	**42**	P	**P**	**14 56 52.3 +1.3**
	baz=266					
H18K	**Honhosa River**	**35.94**	**35**	P	**P**	**14 56 52.6 +1.4**
H18K	**Honhosa River**	**35.94**	**35**	P	**P**	**14 56 51.1 -0.1**
	baz=260					
G18K	**Tagagawik**	**35.95**	**34**	P	**P**	**14 56 51.9 +0.6**
	baz=259					
N17K	**Nushagak Hills**	**36.00**	**43**	P	**P**	**14 56 52.7 +0.9**
	baz=268					
O17K	**Koliganek Bris**	**36.03**	**45**	P	**P**	**14 56 52.9 +0.9**
	baz=269					
GTA	**Gaotai**	**36.07**	**280**	*e*P	**P**	**14 56 53.5 +0.8**
GTA				pP	pP	14 57 04.3 +0.7
GTA				pmax	pmax	
	comp=Z,9.0nm,1.0s					
A19K	**Wainwright**	**36.20**	**26**	P	**P**	**14 56 54.0 +0.8**
	baz=251					
Q16K	**King Salmon**	**36.25**	**46**	P	**P**	**14 56 54.2 +0.4**
	baz=271					
L18K	**Granite Mounta**	**36.33**	**40**	P	**P**	**14 56 54.6 0.0**
	baz=266					
P17K	**Kvichak River**	**36.36**	**46**	P	**P**	**14 56 55.4 +0.6**
	baz=270					
J18K	**Innoko River**	**36.43**	**38**	P	**P**	**14 56 55.9 +0.6**
	baz=264					
F19K	**Shaleruckik Mo**	**36.48**	**33**	P	**P**	**14 56 56.2 +0.5**
F19K				IAmb	IAmb	14 57 01.2
	comp=Z,5.7nm,0.7s					
F19K	**Shaleruckik Mo**	**36.48**	**33**	P	**P**	**14 56 56.8 +1.0**
	baz=259					
GCSA	**Galena City Sc**	**36.50**	**36**	P	**P**	**14 56 56.1 +0.2**
	baz=262					
G19K	**Purcell Mounta**	**36.63**	**34**	P	**P**	**14 56 58.0 +1.0**
G19K	**Purcell Mounta**	**36.63**	**34**	P	**P**	**14 56 57.2 +0.2**
	baz=260					
N18K	**Kilae Creek**	**36.65**	**43**	P	**P**	**14 56 57.8 +0.5**
	baz=269					
TTA	**Tatalina**	**36.70**	**39**	P	**P**	**14 56 58.4 +0.7**
	baz=266					
M18K	**Stony River**	**36.70**	**42**	P	**P**	**14 56 58.6 +0.9**
	baz=268					
D19K	**Kuna River**	**36.72**	**30**	P	**P**	**14 56 59.1 +1.3**
D19K	**Kuna River**	**36.72**	**30**	P	**P**	**14 56 58.4 +0.6**
	baz=256					
H19K	**Roundabout Mou**	**36.79**	**35**	P	**P**	**14 56 59.2 +0.9**
	baz=262					
E19K	**Redstone River**	**36.81**	**32**	P	**P**	**14 56 59.7 +1.1**
E19K				IAmb	IAmb	14 57 00.8
	comp=Z,8.7nm,0.7s					
E19K	**Redstone River**	**36.81**	**32**	P	**P**	**14 56 59.3 +0.7**
	baz=258,SNR=12					
J19K	**Poorman**	**36.96**	**37**	P	**P**	**14 57 01.2 +1.4**
J19K				IAmb	IAmb	14 57 02.6
	comp=Z,13nm,1.1s					
J19K	**Poorman**	**36.96**	**37**	P	**P**	**14 57 00.2 +0.4**
	baz=265					
CHIR	**Chirikof Islan**	**36.98**	**51**	P	**P**	**14 56 59.9 -0.2**
	baz=276					
P18K	**Big Mountain,**	**36.98**	**45**	P	**P**	**14 57 00.6 +0.5**
	baz=271					
O18K	**Koktuh Hills**	**36.98**	**44**	P	**P**	**14 56 59.9 -0.2**
	baz=270					
L19K	**White Mountain**	**37.19**	**41**	P	**P**	**14 57 01.7 -0.2**
	baz=268					
D20K	**Etivluk River**	**37.30**	**30**	P	**P**	**14 57 03.5 +0.7**
	baz=258					
F20K	**Avaraart Lake**	**37.31**	**32**	P	**P**	**14 57 03.4 +0.7**
	baz=260					
N19K	**Bonanza Creek**	**37.34**	**43**	P	**P**	**14 57 03.8 +0.5**
	baz=270					
E20K	**Nigu River**	**37.36**	**30**	P	**P**	**14 57 03.8 +0.6**
	baz=258					
B20K	**Meade River**	**37.42**	**27**	P	**P**	**14 57 04.1 +0.5**
	baz=255					
O19K	**Port Alsworth**	**37.42**	**44**	P	**P**	**14 57 03.8 0.0**
	baz=271					
H20K	**Anotleneega Mo**	**37.43**	**35**	P	**P**	**14 57 04.3 +0.5**
	baz=263					
R18K	**Karluk**	**37.47**	**48**	P	**P**	**14 57 04.3 +0.1**
	baz=274					
I20K	**Naaghedeneel**	**37.53**	**36**	P	**P**	**14 57 03.8 -0.8**
	baz=265					
J20K	**Nowinta River**	**37.62**	**37**	P	**P**	**14 57 06.8 +1.4**
J20K				IAmb	IAmb	14 57 08.1
	comp=Z,6.5nm,0.8s					
J20K	**Nowinta River**	**37.62**	**37**	P	**P**	**14 57 05.1 -0.3**
	baz=266					
L20K	**Farewell, AK**	**37.65**	**40**	P	**P**	**14 57 05.2 -0.6**
	baz=268					
SII	**Sitkinak Islan**	**37.70**	**50**	P	**P**	**14 57 05.7 -0.6**
	baz=276					
Q19K	**Cape Douglas,**	**37.81**	**46**	P	**P**	**14 57 06.2 -1.0**
	baz=273					
A21K	**Barrow**	**37.95**	**25**	P	**P**	**14 57 08.3 +0.2**
	baz=254					
P19K	**Oil Pt**	**37.99**	**45**	P	**P**	**14 57 08.8 +0.1**
	baz=272					
M20K	**Styx River**	**37.99**	**41**	P	**P**	**14 57 09.2 +0.4**
	baz=270					
C21K	**Knifeblade Rid**	**38.04**	**29**	P	**P**	**14 57 09.2 +0.3**
	baz=259,SNR=7.1					
OHAK	**Old Harbor**	**38.13**	**49**	P	**P**	**14 57 09.4 -0.4**
	baz=276					
B21K	**Ikpikpuk River**	**38.20**	**28**	P	**P**	**14 57 11.0 +0.8**
	baz=258					
F21K	**Alatna River**	**38.21**	**32**	P	**P**	**14 57 10.8 +0.4**
	baz=262					
O20K	**Slope Mountain**	**38.28**	**44**	P	**P**	**14 57 11.6 +0.4**
	baz=272					
H21K	**Melozitna Rive**	**38.31**	**35**	P	**P**	**14 57 12.4 +1.2**
H21K				IAmb	IAmb	14 57 13.7
	comp=Z,12nm,1.2s					
H21K	**Melozitna Rive**	**38.31**	**35**	P	**P**	**14 57 11.8 +0.5**
	baz=265,SNR=6.6					
CHUM	**Lake Minchumin**	**38.41**	**38**	P	**P**	**14 57 12.0 -0.1**
	baz=268					
PPLA	**Purkeypile**	**38.44**	**39**	P	**P**	**14 57 12.5 -0.1**
	baz=269					
SPCR	**Spurr Chakacha**	**38.44**	**42**	P	**P**	**14 57 12.8 +0.3**
	baz=271					
KDAK	**Kodiak Island**	**38.45**	**48**	P	**P**	**14 57 12.6 0.0**
	baz=275					
Q20K	**Shuyak Island**	**38.48**	**46**	P	**P**	**14 57 12.6 -0.2**
	baz=274					
CAST	**Castle Rocks**	**38.50**	**39**	P	**P**	**14 57 14.5 +1.6**
CAST	**Castle Rocks**	**38.50**	**39**	P	**P**	**14 57 13.4 +0.5**
	baz=269					
I21K	**Tanana**	**38.62**	**36**	P	**P**	**14 57 15.3 +1.5**
I21K				IAmb	IAmb	14 57 17.2
	comp=Z,15nm,1.4s					
I21K	**Tanana**	**38.62**	**36**	P	**P**	**14 57 13.9 +0.1**
	baz=267					
D22K	**Ayikyak River**	**38.74**	**30**	P	**P**	**14 57 16.0 +1.2**
D22K				IAmb	IAmb	14 57 18.1
	comp=Z,16nm,1.2s					
D22K	**Ayikyak River**	**38.74**	**30**	P	**P**	**14 57 15.1 +0.2**
	baz=261,SNR=7.7					
SKT	**Skwentna**	**38.75**	**41**	P	**P**	**14 57 15.0 0.0**
	baz=271					
H22K	**Ishtalitna Cre**	**38.91**	**35**	P	**P**	**14 57 16.6 +0.3**
	baz=266					
E22K	**Anaktuvuk Pass**	**38.95**	**31**	P	**P**	**14 57 18.0 +1.4**
E22K				IAmb	IAmb	14 57 18.8
	comp=Z,10.0nm,0.8s					
E22K	**Anaktuvuk Pass**	**38.95**	**31**	P	**P**	**14 57 17.3 +0.6**
	baz=263,SNR=18					
CAPN	**Captain Cook N**	**38.97**	**43**	P	**P**	**14 57 16.7 -0.2**
	baz=273					
BPAW	**Bear Paw Mtn.**	**39.00**	**37**	P	**P**	**14 57 17.1 0.0**
	baz=269					
KTH	**Kantishna Hill**	**39.02**	**38**	P	**P**	**14 57 18.9 +1.5**
KTH				IAmb	IAmb	14 57 20.2
	comp=Z,8.8nm,1.0s					
BRSE	**Bradley Lake S**	**39.24**	**44**	P	**P**	**14 57 18.9 -0.3**
	baz=274					
TRF	**Thorofare Moun**	**39.31**	**39**	P	**P**	**14 57 19.2 -0.7**
	baz=270					
CUT	**Chulitna**	**39.33**	**40**	P	**P**	**14 57 19.8 0.0**
	baz=272					
M22K	**Willow**	**39.43**	**41**	P	**P**	**14 57 20.4 -0.2**
	baz=272					
D23K	**Nanushuk River**	**39.47**	**30**	P	**P**	**14 57 20.4 -0.5**
	baz=263					
COLD	**Coldfoot**	**39.48**	**33**	P	**P**	**14 57 22.3 +1.3**
COLD				IAmb	IAmb	14 57 23.1
	comp=Z,6.7nm,0.6s					
COLD	**Coldfoot**	**39.48**	**33**	P	**P**	**14 57 21.0 0.0**
	baz=266,SNR=8.0					
G23K	**Bananza Creek**	**39.51**	**33**	P	**P**	**14 57 21.0 -0.3**
	baz=266					
C23K	**Itkillik River**	**39.60**	**28**	IAmb	IAmb	14 57 24.5
	comp=Z,18nm,1.1s					
C23K	**Itkillik River**	**39.60**	**28**	P	**P**	**14 57 22.1 +0.1**
	baz=262					
RC01	**Rabbit Creek A**	**39.65**	**42**	P	**P**	**14 57 22.2 -0.2**
	baz=274					
O22K	**Cooper Landing**	**39.69**	**43**	P	**P**	**14 57 22.5 -0.3**
	baz=274					
I23K	**Minto, Yukon-K**	**39.72**	**36**	P	**P**	**14 57 23.3 +0.3**
	baz=269					
E23K	**Chandalar**	**39.77**	**31**	P	**P**	**14 57 23.1 -0.4**
	baz=265					
TOLK	**Toolik Lake Re**	**39.84**	**30**	IAmb	IAmb	14 57 30.5
	comp=Z,4.6nm,0.5s					
TOLK	**Toolik Lake Re**	**39.84**	**30**	P	**P**	**14 57 24.1 +0.1**
	baz=265,SNR=6.1					
NEA2	**Nenana**	**39.84**	**37**	P	**P**	**14 57 23.8 -0.2**
	baz=270					
SEW	**Seward**	**39.86**	**44**	P	**P**	**14 57 23.8 -0.4**
	baz=275					
PMR	**Palmer**	**39.91**	**41**	P	**P**	**14 57 24.6 0.0**
	baz=274					
MCK	**McKinley**	**39.91**	**38**	IAmb	IAmb	14 57 30.4
	comp=Z,11nm,1.4s					
MCK	**McKinley**	**39.91**	**38**	P	**P**	**14 57 24.6 0.0**
	baz=271					
RND	**Reindeer**	**39.95**	**39**	IAmb	IAmb	14 57 27.5
	comp=Z,12nm,1.4s					
D24K	**Happy Valley**	**40.15**	**30**	P	**P**	**14 57 26.7 +0.1**
	baz=265					
E24K	**Your Creek**	**40.19**	**31**	P	**P**	**14 57 27.4 +0.4**
	baz=266					
KNK	**Knik Glacier**	**40.24**	**42**	P	**P**	**14 57 27.3 -0.2**
	baz=274					
C24K	**Franklin Bluff**	**40.25**	**29**	P	**P**	**14 57 27.1 -0.2**
	baz=264					
SML	**Sawmill**	**40.27**	**41**	P	**P**	**14 57 28.5 +0.7**
SML				IAmb	IAmb	14 57 29.7
	comp=Z,11nm,0.9s					
SML	**Sawmill**	**40.27**	**41**	P	**P**	**14 57 27.5 -0.2**
	baz=274					
PWL	**Port Wells**	**40.34**	**43**	P	**P**	**14 57 28.5 +0.2**
	baz=275					
H24K	**Noodor Dome**	**40.35**	**35**	P	**P**	**14 57 28.4 +0.1**
	baz=270					
COLA	**College**	**40.36**	**36**	P	**P**	**14 57 28.5 +0.1**
	baz=271					
COLA	**College**	**40.36**	**36**	*i* P	**P**	**14 57 28.9 +0.6**
COLA				pmax	pmax	
	comp=Z,15nm,1.0s					
F24K	**Squaw Lake**	**40.39**	**32**	P	**P**	**14 57 29.3 +0.7**
	baz=268					
G24K	**Hadweenzic Riv**	**40.52**	**33**	P	**P**	**14 57 30.1 +0.4**
	baz=269					
M23K	**Glacier View**	**40.56**	**41**	P	**P**	**14 57 30.6 +0.5**
	baz=274					
SCM	**Sheep Creek Mo**	**40.74**	**41**	P	**P**	**14 57 31.2 -0.5**
	baz=275					
HDA	**Harding Lake**	**40.76**	**37**	P	**P**	**14 57 31.5 -0.2**
	baz=272					
ILAR	**Eielson Array**	**40.78**	**36**	P	**P**	**14 57 33.1 +1.3**
ILAR	**Eielson Array**	**40.78**	**36**	P	**P**	**14 57 32.5 +0.7**
	comp=Z,4.5nm,0.8s,baz=273,slow=7.8,SNR=45					
	comp=Z,4.5nm,0.8s					
P23K	**Montague Islan**	**40.89**	**44**	P	**P**	**14 57 32.4 -0.4**
	baz=277					
GLI	**Glacier Island**	**40.95**	**42**	P	**P**	**14 57 32.7 -0.5**
	baz=276					
D25K	**Kavik River**	**41.04**	**29**	P	**P**	**14 57 33.6 -0.4**
	baz=267					
G25K	**Bearman Lake**	**41.07**	**33**	P	**P**	**14 57 34.1 -0.1**
	baz=270					
H25L	**Birch Creek**	**41.19**	**34**	P	**P**	**14 57 34.6 -0.5**
	baz=271					
PZH	**PanZhiHua**	**41.24**	**261**	P	**P**	**14 57 37.5 +1.3**
PZH				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,110nm,5.1s					
F25K	**Christian Rive**	**41.25**	**32**	P	**P**	**14 57 35.6 -0.2**
	baz=270					
M24K	**Tolsona, Glenn**	**41.26**	**40**	P	**P**	**14 57 35.1 -0.8**
	baz=275					
E25K	**Arctic Village**	**41.29**	**31**	P	**P**	**14 57 35.9 -0.1**
	baz=269,SNR=6.1					
K24K	**Donnelly Dome**	**41.31**	**38**	P	**P**	**14 57 36.3 0.0**
	baz=274					
PRP	**Porcupine Dome**	**41.33**	**35**	P	**P**	**14 57 37.4 +0.9**
PRP				IAmb	IAmb	14 57 39.0
	comp=Z,9.8nm,0.8s					
PRP	**Porcupine Dome**	**41.33**	**35**	P	**P**	**14 57 36.5 +0.1**
	baz=272,SNR=10.0					
FYU	**Fort Yukon**	**41.42**	**34**	IAmb	IAmb	14 57 39.7
	comp=Z,12nm,0.7s					
J25K	**Salcha River,**	**41.44**	**37**	P	**P**	**14 57 37.3 0.0**
	baz=273					
KLU	**Klutina**	**41.45**	**41**	P	**P**	**14 57 37.0 -0.4**
	baz=276					
Q23K	**Middleton Isla**	**41.50**	**45**	P	**P**	**14 57 38.4 +0.7**
	baz=278					
ZALV	**Zalesovo Beam**	**41.50**	**307**	P	**P**	**14 57 37.1 -0.7**
	comp=Z,0.7nm,0.4s,baz=83,slow=7.1,SNR=3.8					
ZALV				PcP	**PcP**	**14 59 34.8 0.0**
	comp=Z,4.1nm,0.7s,baz=84,slow=2.8,SNR=14					
ZALV				LR	LR	15 15 55.5
	comp=Z,87nm,20.1s,baz=18,slow=38					
	comp=Z,0.7nm,0.4s					
PAX	**Paxson**	**41.51**	**39**	P	**P**	**14 57 38.6 +0.6**
	baz=275					
C26K	**Camden Bay**	**41.58**	**29**	P	**P**	**14 57 38.5 +0.3**
	baz=268					
EYAK	**Cordova Ski Ar**	**41.64**	**43**	P	**P**	**14 57 39.2 +0.3**
	baz=278					
BMAR	**Burnt Mountain**	**41.66**	**32**	P	**P**	**14 57 40.9 +1.9**
HARP	**HAARP**	**41.71**	**40**	P	**P**	**14 57 39.8 +0.3**
	baz=276					
RIDG	**Independent Ri**	**41.73**	**38**	P	**P**	**14 57 39.7 0.0**
	baz=275					
F26K	**Sheenjek River**	**41.83**	**32**	IAmb	IAmb	14 57 43.9
	comp=Z,12nm,1.4s					
F26K	**Sheenjek River**	**41.83**	**32**	P	**P**	**14 57 41.1 +0.8**
	baz=271,SNR=6.5					
G26K	**Porcupine Rive**	**41.98**	**33**	P	**P**	**14 57 42.2 +0.6**
	baz=272					
C27K	**Jago River**	**41.98**	**29**	IAmb	IAmb	14 57 44.6
	comp=Z,8.5nm,0.7s					
C27K	**Jago River**	**41.98**	**29**	P	**P**	**14 57 42.3 +0.7**
	baz=269					
N25K	**Chitina, Valde**	**42.06**	**41**	P	**P**	**14 57 41.9 -0.5**
	baz=277					
SCRK	**Sand Creek**	**42.09**	**38**	P	**P**	**14 57 42.9 +0.2**
	baz=275,SNR=5.6					
BMRM	**Bremner River**	**42.14**	**42**	P	**P**	**14 57 44.5 +1.4**
BMRM				IAmb	IAmb	14 57 45.4
	comp=Z,8.8nm,0.9s					
BMRM	**Bremner River**	**42.14**	**42**	P	**P**	**14 57 43.4 +0.3**
	baz=278					
J26L	**Joseph Creek**	**42.22**	**37**	P	**P**	**14 57 43.7 0.0**
	baz=275					
MENT	**Mentasta**	**42.31**	**39**	IAmb	IAmb	14 57 47.5
	comp=Z,5.3nm,0.5s					
I26K	**Coal Creek Min**	**42.33**	**35**	P	**P**	**14 57 44.7 +0.2**
	baz=274					
KAIM	**Kayak Island**	**42.39**	**44**	P	**P**	**14 57 45.4 +0.4**
	baz=279					
L26K	**Log Cabin Wild**	**42.47**	**39**	P	**P**	**14 57 45.6 -0.1**
	baz=277					
M26K	**Nabesna, AK**	**42.71**	**40**	P	**P**	**14 57 47.3 -0.4**
	baz=278					
WMQ	**Urumqi**	**42.77**	**292**	*e*P	**P**	**14 57 49.5 +1.1**
WMQ				pmax	pmax	
	comp=Z,12nm,1.3s					
G27K	**Doyon Strip**	**42.83**	**33**	P	**P**	**14 57 48.6 0.0**
	baz=274					
H27K	**Steamboat Moun**	**42.93**	**34**	P	**P**	**14 57 49.8 +0.5**
	baz=275,SNR=11					
I27K	**Kandik River**	**42.95**	**35**	P	**P**	**14 57 49.7 +0.1**
	baz=275					
L27K	**Beaver Creek,**	**43.15**	**39**	P	**P**	**14 57 51.4 +0.2**
	baz=278					
M27K	**Edge Creek, AK**	**43.23**	**40**	P	**P**	**14 57 51.6 -0.4**
	baz=279					
F28M	**Old Crow**	**43.46**	**32**	IAmb	IAmb	14 57 56.6
	comp=Z,9.7nm,0.8s					
F28M	**Old Crow**	**43.46**	**32**	P	**P**	**14 57 53.7 0.0**
	baz=275,SNR=11					
MESA	**MESA**	**43.57**	**43**	IAmb	IAmb	14 57 57.4
	comp=Z,

D28M	Stokes Point	43.75	29	P	P	14 57 55.5	-0.3	
	baz=274							
DAWY	Dawson	44.08	37	P	P	14 57 58.9	+0.2	
	baz=279							
E29M	Blow River	44.13	31	IAmb	IAmb	14 58 03.3		
	comp=Z,9.3nm,0.9s							
E29M	Blow River	44.13	31	P	P	14 57 59.9	+1.0	
	baz=276							
H29M	Whitestone	44.20	34	P	P	14 58 00.4	+0.8	
	baz=278							
G29M	Pine Creek	44.25	33	P	P	14 58 00.9	+0.9	
	baz=277,SNR=11							
O28M	Mount Upton	44.30	42	P	P	14 58 01.0	+0.2	
	baz=282							
I29M	Ogilvie Camp,	44.35	35	IAmb	IAmb	14 58 03.3		
	comp=Z,14nm,0.8s							
I29M	Ogilvie Camp,	44.35	35	P	P	14 58 01.6	+0.8	
	baz=278,SNR=11							
YUK8	Steele Glacier	44.41	41	P	P	14 58 01.6	0.0	
	baz=281							
J29N	Klondike Camp	44.53	36	P	P	14 58 03.3	+1.1	
	baz=280							
M29M	Somme Creek	44.78	39	P	P	14 58 05.1	+0.8	
	baz=281							
L29M	L29M	44.80	38	IAmb	IAmb	14 58 08.4		
	comp=Z,14nm,1.4s							
L29M	L29M	44.80	38	P	P	14 58 04.9	+0.4	
	baz=281							
YUK4	Talbot Arm	44.92	41	P	P	14 58 05.4	-0.2	
	baz=282							
K29M	Barlow Dome	44.93	37	IAmb	IAmb	14 58 08.5		
	comp=Z,11nm,1.3s							
K29M	Barlow Dome	44.93	37	P	P	14 58 05.8	+0.2	
	baz=281							
G30M	tAoh Zraii Nji	44.94	33	P	P	14 58 06.0	+0.5	
	baz=279							
F30M	Barrier River	45.02	32	P	P	14 58 06.2	+0.1	
	baz=278							
YUK6	Outpost Mounta	45.14	41	P	P	14 58 06.9	-0.6	
	baz=283							
I30M	Mount Dempster	45.17	35	P	P	14 58 08.1	+0.6	
	baz=280							
O29M	Mount Kennedy	45.19	42	P	P	14 58 08.1	+0.4	
	baz=283							
MK31	Makanchi Array	45.20	298⇑	eP	P	14 58 07.8	0.0	
MKAR	Makanchi Array	45.20	298	P	P	14 58 07.5	-0.3	
MKAR	Makanchi Array	45.20	298	P	P	14 58 08.0	+0.2	
	comp=Z,3.4nm,0.7s,baz=78,slow=8.0,SNR=36							
MKAR				PcP	PcP	14 59 47.7	+0.3	
	comp=Z,1.4nm,0.7s,baz=62,slow=2.8,SNR=5.8							
MKAR				LR	LR	15 18 38.2		
	comp=Z,179nm,19.1s,baz=3.5,slow=38							
	comp=Z,3.4nm,0.7s							
J30M	Hart River	45.31	36	IAmb	IAmb	14 58 11.3		
	comp=Z,11nm,1.4s							
J30M	Hart River	45.31	36	P	P	14 58 08.5	-0.1	
	baz=281							
MAKZ	Makanchi	45.39	298	P	P	14 58 09.2	-0.1	
MAKZ				IAmb	IAmb	14 58 10.3		
	comp=Z,5.2nm,0.8s							
MAKZ	Makanchi	45.39	298	P	P	14 58 09.3	-0.1	
MAKZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
M30M	Minto, Yukon	45.51	39	P	P	14 58 10.1	0.0	
	baz=282							
HYT	Haines Junctio	45.58	41	P	P	14 58 12.7	+2.0	
HYT				IAmb	IAmb	14 58 14.2		
	comp=Z,11nm,0.8s							
HYT	Haines Junctio	45.58	41	P	P	14 58 10.8	0.0	
	baz=284,SNR=8.9							
MAYO	Mayo, Yukon	45.69	37	P	P	14 58 12.1	+0.6	
	baz=282							
INK	Inuvik	45.75	31	IAmb	IAmb	14 58 14.1		
	comp=Z,12nm,1.1s							
INK	Inuvik	45.75	31	P	P	14 58 12.5	+0.7	
	baz=280,SNR=10							
F31M	Tsiigehtchic	45.82	32	P	P	14 58 12.4	0.0	
	baz=280,SNR=14							
H31M	Peel River	45.89	34	P	P	14 58 13.2	+0.2	
	baz=281,SNR=9.3							
P30M	Million Dollar	46.01	42	P	P	14 58 14.2	+0.1	
	baz=285							
KURK	Kurchatov	46.07	304	P	P	14 58 14.3	-0.2	
KURK				IAmb	IAmb	14 58 15.4		
	comp=Z,13nm,1.4s							
KURK	Kurchatov	46.07	304	P	P	14 58 14.3	-0.2	
KURK				pmax	pmax			
	comp=Z,13nm,1.4s							
KURK	Kurchatov	46.07	304	eP	P	14 58 14.3	-0.2	
KURBB	Kurchatov Arra	46.15	304	P	P	14 58 15.1	-0.2	
	comp=Z,3.1nm,0.6s,baz=73,slow=8.7,SNR=20							
KURBB				PcP	PcP	14 59 51.0	+0.4	
	comp=Z,2.4nm,0.7s,baz=73,slow=3.6,SNR=12							
	comp=Z,3.1nm,0.6s							
N31M	Braeburn, Yuko	46.23	40	P	P	14 58 16.2	+0.5	
	baz=284							
O30N	Mendenhall	46.26	41	P	P	14 58 15.9	-0.1	
	baz=285							
PLBC	Pleasant Camp	46.48	43	P	P	14 58 17.7	+0.1	
	baz=286							
M31M	Drury Creek, Y	46.69	39	P	P	14 58 18.8	-0.6	
	baz=285							
WHY	Whitehorse	46.87	41	P	P	14 58 20.7	-0.1	
	baz=286							
S31K	Pelican	46.97	45	P	P	14 58 21.7	+0.2	
	baz=287							
SKAG	Skagway	46.98	43	P	P	14 58 20.9	-0.7	
	baz=286							
R31K	City Hall, Gus	47.09	44	P	P	14 58 22.3	0.0	
	baz=287							
FARO	Faro, Yukon	47.15	39	P	P	14 58 22.8	-0.1	
	baz=286							
N32M	Quiet Lake	47.57	40	P	P	14 58 26.5	+0.2	
	baz=287							
SIT	Sitka	47.72	46	P	P	14 58 27.9	+0.6	
	baz=289							
P32M	Atlin	47.73	42	P	P	14 58 27.8	+0.3	
	baz=288							
R32K	Eaglecrest	47.74	44	P	P	14 58 27.3	-0.2	
	baz=288							
A36M	Sachs Harbour	47.78	25	P	P	14 58 28.3	+0.7	
	baz=284,SNR=8.4							
S32K	Killisnoo	47.97	45	P	P	14 58 29.8	+0.6	
	baz=289							
P33M	Teslin, Yukon	47.98	41	P	P	14 58 29.6	+0.1	
	baz=288,SNR=5.6							
CMAR	Chiang Mai Arr	48.40	254	P	P	14 58 33.5	+0.4	
	comp=Z,1.2nm,0.7s,baz=43,slow=7.4,SNR=13							
CMAR				LR	LR	15 20 50.1		
	comp=Z,41nm,20.2s,baz=30,slow=38							
	comp=Z,1.2nm,0.7s							
Q32M	Nakina River	48.64	43	P	P	14 58 34.8	+0.1	
	baz=289							
C36M	Paulatuk	48.85	28	P	P	14 58 35.7	-0.2	
	baz=287,SNR=13							
R33M	Jennings River	49.12	42	P	P	14 58 38.7	+0.4	
	baz=290							
CRAG	Craig	49.41	47	P	P	14 58 39.9	-0.4	
	baz=291							
WRAK	Wrangell Islan	49.48	46	P	P	14 58 40.5	-0.3	
	baz=291							
DLBC	Dease Lake	49.92	43	P	P	14 58 44.2	-0.1	
	baz=291							
BVAR	Borovoye Array	49.97	310	P	P	14 58 44.2	-0.6	
	comp=Z,0.8nm,0.4s,baz=62,slow=9.5,SNR=7.6							
BVAR				PcP	PcP	15 00 04.5	+0.2	
	comp=Z,1.2nm,0.5s,baz=5.7,slow=1.5,SNR=5.3							
	comp=Z,0.8nm,0.4s							
BRVK	Borovoye	50.02	310⇑	eP	P	14 58 46.2	+1.1	
BRVK				pmax	pmax			
	comp=Z,7.0nm,2.5s							
BRVK	Borovoye	50.02	310	eP	P	14 58 46.2	+1.1	
V35K	Ketchikan	50.26	47	P	P	14 58 47.1	+0.3	
	baz=292							
T35M	Bob Quinn	50.34	45	P	P	14 58 46.6	-0.9	
	baz=292							
KDJ	Kajisay	50.47	294	IAmb	IAmb	14 58 50.3		
	comp=Z,10nm,1.1s							
U35K	Hyder	50.87	46	P	P	14 58 51.0	-0.3	
	baz=293							
AAK	Ala-Archa	51.99	296	P	P	14 59 00.4	+0.2	
AAK				IAmb	IAmb	14 59 01.4		
	comp=Z,16nm,1.4s							
AAK	Ala-Archa	51.99	296	P	P	14 59 00.4	+0.2	
AAK				pmax	pmax			
	comp=Z,16nm,1.4s							
AAK	Ala-Archa	51.99	296	eP	P	14 59 00.4	+0.2	
TOAD	Toad River Com	52.07	41	P	P	14 59 00.3	-0.1	
	baz=294							
KOTAN	Kotaneelee Air	52.10	39	P	P	14 59 00.6	+0.1	
	baz=294							
KSH	Kashi	52.53	292	P	P	14 59 08.5	+4.2	
KSH				sP	sP	14 59 22.3	+2.0	
KSH				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KK31	Karatay Array	54.32	298	IAmb	IAmb	14 59 18.0		
	comp=Z,7.2nm,0.8s							
KKAR	Karatay Array	54.32	298	P	P	14 59 17.1	-0.1	
KKAR	Karatay Array	54.32	298	IAmb	IAmb	14 59 17.9		
	comp=Z,4.6nm,0.8s							
KKAR	Karatay Array	54.32	298	P	P	14 59 17.1	-0.1	
SPITS	Spitsbergen Ar	54.68	349	P	P	14 59 19.2	0.0	
	comp=Z,7.7nm,1.1s,baz=15,slow=6.0,SNR=1.0							
	comp=Z,7.7nm,1.1s							
ARTI	Arti	54.82	317	d iP	P	14 59 19.3	-1.3	
ARTI						15 00 27.2		
ARTI						15 01 20.9		
ARTI				S	S	15 06 55.3	-3.2	
ARTI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
YKA	Yellowknife Ar	55.11	34	P	P	14 59 23.1	+0.5	
	comp=Z,1.5nm,0.6s,baz=298,slow=7.0,SNR=22							
YKA				PcP	PcP	15 00 24.2	+0.8	
	comp=Z,0.7nm,0.8s,baz=300,slow=3.9,SNR=5.0							
	comp=Z,1.5nm,0.6s							
DRK	Karamyk	55.33	294	IAmb	IAmb	14 59 29.8		
	comp=Z,9.8nm,1.2s							
ABKAR	Akbulak array	57.54	309	P	P	14 59 39.9	-0.2	
ABKAR	Akbulak array	57.54	309	IAmb	IAmb	14 59 40.9		
	comp=Z,5.4nm,0.7s							
SIMJ	Simiganj	57.60	294	P	P	14 59 40.9	0.0	
KIRV	Kirov	57.89	322⇑	eP	P	14 59 41.0	-1.4	
ARCES	ARCESS Array B	59.28	340	P	P	14 59 50.1	-1.8	
	comp=Z,6.7nm,0.9s,baz=37,slow=6.3,SNR=8.1							
ARCES				PcP	PcP	15 00 39.1	-0.7	
	comp=Z,3.3nm,0.8s,baz=79,slow=3.6,SNR=1.7							
	comp=Z,6.7nm,0.9s							
WRA	Warramunga Arr	64.92	195	P	P	15 00 29.8	-0.5	
	comp=Z,0.6nm,0.7s,baz=9.3,slow=6.8,SNR=3.3							
	comp=Z,0.6nm,0.7s							
FINES	FINESS Array B	65.01	333	P	P	15 00 28.9	-1.5	
	comp=Z,3.5nm,0.7s,baz=46,slow=6.9,SNR=20							
	comp=Z,3.5nm,0.7s							
LHV	Little Huntoon	66.72	59	IAmb	IAmb	15 00 44.2		
	comp=Z,3.8nm,0.7s							
NVAR	Mina Array Bea	66.73	59	P	P	15 00 43.5	+1.3	
	comp=Z,1.6nm,0.6s,baz=293,slow=7.5,SNR=10							
	comp=Z,1.6nm,0.6s							
DSP	Deep Springs	67.60	59	P	P	15 00 49.1	+1.7	
ASAR	Alice Springs	68.64	194	P	P	15 00 54.5	+0.7	
	comp=Z,0.5nm,0.6s,baz=12,slow=7.0,SNR=13							
	comp=Z,0.5nm,0.6s							
PD31	Pinedale Array	69.10	50	P	P	15 00 57.5	+0.5	
PDAR	Pinedale Array	69.10	50	P	P	15 00 57.7	+0.7	
	comp=Z,1.2nm,0.7s,baz=158,slow=0.2,SNR=13							
	comp=Z,1.2nm,0.7s							
NB2	NORSAR Subarra	69.65	339	P	P	15 00 59.3	-0.5	
	comp=Z,5.8nm,0.8s,baz=30,slow=6.2							
NOA	NORSAR Array B	69.65	339	P	P	15 00 59.6	-0.2	
	comp=Z,1.6nm,0.6s,baz=32,slow=6.6,SNR=16							
	comp=Z,1.6nm,0.6s							
HFS	Hagfors	69.76	338	P	P	15 01 00.1	-0.3	
	comp=Z,1.7nm,0.4s,baz=34,slow=3.7,SNR=17							
	comp=Z,1.7nm,0.4s							
KIV	Kislovodsk	70.20	312	P	P	15 01 04.0	+0.4	
KIV	Kislovodsk	70.20	312	eP	P	15 01 03.1	-0.5	
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV	Kislovodsk	70.20	312	P	P	15 01 04.9	+1.3	
	comp=Z,26nm,1.0s							
KBZ	Khabaz	70.24	312	P	P	15 01 04.0	+0.3	
	comp=Z,10nm,0.9s,baz=67,slow=4.9,SNR=21							
	comp=Z,10nm,0.9s							
KBZ	Khabaz	70.24	312	P	P	15 01 04.0	+0.3	
ULM	Lac du Bonnet	70.78	38	P	P	15 01 06.8	-0.1	
	comp=Z,1.0nm,0.4s,baz=323,slow=6.2,SNR=2.2							
	comp=Z,1.0nm,0.4s							
SRU	San Rafael Swe	70.96	54	IAmb	IAmb	15 01 10.6		
	comp=Z,3.9nm,0.7s							
SUW	Suwalki	71.70	329	eP	P	15 01 19.7	+7.4	
AK03	Malin Array Si	71.83	324	P	P	15 01 12.9	-0.3	
AKASG	Malin Array Be	71.85	324	P	P	15 01 13.3	0.0	
AKASG	Malin Array Be	71.85	324	P	P	15 01 12.9	-0.3	
	comp=Z,17nm,1.0s,baz=40,slow=6.0,SNR=33							
	comp=Z,17nm,1.0s							
AKASG	Malin Array Be	71.85	324	P	P	15 01 13.0	-0.3	
AKBB	Malin Array Si	71.85	324	P	P	15 01 13.1	-0.2	
KIEV	Kiev	71.86	324	P	P	15 01 12.7	-0.6	
KIEV	Kiev	71.86	324	P	P	15 01 12.7	-0.6	
KIEV				pmax	pmax			
	comp=Z,15nm,1.2s							
KIEV	Kiev	71.86	324	P	P	15 01 13.1	-0.3	
N23A	Red Feather La	72.36	50	P	P	15 01 16.4	-0.5	
	baz=313							
PV13	Radium Mtn., P	72.58	54	IAmb	IAmb	15 01 20.1		
	comp=Z,3.8nm,0.6s							
RNPP9	Sopachiv	72.68	326	P	P	15 01 18.3	+0.1	
LUBAR	Lubar, Ukraine	73.06	324	P	P	15 01 20.3	-0.2	
LUBAR				pP	pP	15 01 30.8	-1.4	
S22A	4UR Ranch, Cre	74.02	53	P	P	15 01 26.2	-0.6	
	baz=314							
Q24A	Divide	74.13	51	P	P	15 01 27.0	-0.4	
	baz=314							
SORM	Soroca	74.16	323	P	P	15 01 26.8	-0.2	
	comp=Z,20nm,0.8s							
NDNU	Novodnistrovsk	74.24	324	P	P	15 01 27.4	-0.1	
KMPD	K-Podol'skiy	74.65	324	P	P	15 01 29.2	-0.6	
KWP	Kalwaria Pacla	75.34	327	eP	P	15 01 34.9	+1.0	
KWP	Kalwaria Pacla	75.34	327	P	P	15 01 34.5	+0.7	
	comp=Z,37nm,1.9s							
STNU	Starunia	75.35	325	P	P	15 01 34.0	+0.1	
KSV	Kosov	75.42	325	P	P	15 01 33.5	-0.8	
T25A	Trinidad	75.82	52	P	P	15 01 36.1	-0.9	
	baz=315							
MARD	Mardin	75.83	308	P	P	15 01 37.9	+0.9	
MARD				IAmb	IAmb	15 01 38.8		
	comp=Z,7.2nm,0.6s							
BUR08	Bucovina Ar. S	75.89	324	P	P	15 01 37.3	+0.1	
BUR08				IAmb	IAmb	15 01 38.4		
	comp=Z,5.0nm,0.8s							
BURAR	Bucovina Array	75.91	324	P	P	15 01 37.4	+0.2	
OJC	Ojcow	75.98	329	eP	P	15 01 37.8	+0.3	
OJC	Ojcow	75.98	329	P	P	15 01 38.1	+0.6	
	comp=Z,18nm,1.1s							
KOLS	Kolonicke sedl	76.07	327	eP	P	15 01 39.0	+1.0	
KOLS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KOLS	Kolonicke sedl	76.07	327	eP	P	15 01 39.0	+1.0	
TESR	Tescani	76.15	323	P	P	15 01 38.9	+0.4	
	comp=Z,14nm,1.1s							
HOLU	Holmets	76.35	326	P	P	15 01 40.4	+0.8	
NIE	Niedzica	76.45	328	eP	P	15 01 41.6	+1.4	
NIE	Niedzica	76.45	328	P	P	15 01 41.2	+1.0	
	comp=Z,5.4nm,1.0s							
BERU	Beregovo	76.48	326	P	P	15 01 40.4	+0.1	
KSP	Ksiaz	76.74	331	eP	P	15 01 42.0	+0.3	
LANS	Liptovska Anna	76.98	328	eP	P	15 01 44.6	+1.4	
LANS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
LANS	Liptovska Anna	76.98	328	eP	P	15 01 44.6	+1.4	
121A	Cookes Peak, D	77.05	57	P	P	15 01 43.9	-0.2	
	baz=314							
SCHQ	Schefferville	77.09	20	P	P	15 01 44.1	+0.4	
	comp=Z,1.9nm,0.5s,baz=294,slow=4.9,SNR=9.2							
	comp=Z,1.9nm,0.5s							
DPC	Dobruska-Polom	77.14	331	P	P	15 01 45.2	+1.1	
	comp=Z,8.0nm,2.9s							
MORC	Moravsky Berou	77.18	330	eP	P	15 01 44.4	+0.1	
CLL	Collm	77.45	333	i P	P	15 01 45.8	0.0	
CLL				pmax	pmax			
	comp=Z,12nm,0.8s							
CLL	Collm	77.45	333	P	P	15 01 45.8	0.0	
	comp=Z,16nm,0.9s							
CLL	Collm	77.45	333	i P	P	15 01 45.8	0.0	
	comp=Z,12nm,0.8s							
VYHS	Vyhne	77.76	328	eP	P	15 01 48.8	+1.3	
VYHS	Vyhne	77.76	328	eP	P	15 01 48.8	+1.3	
JAVC	Velka Javorina	77.89	329	eP	P	15 01 49.8	+1.5	
VRAC	Vranov	77.91	330	eP	P	15 01 49.0	+0.6	
BRTR	Keskin Array B	77.96	314	P	P	15 01 48.8	-0.2	
	comp=Z,1.4nm,0.7s,baz=82,slow=4.2,SNR=8.0							
	comp=Z,1.4nm,0.7s							
EKA	Eskdalemuir Ar	78.10	344	P	P	15 01 49.1	-0.2	
	comp=Z,1.3nm,0.4s,baz=24,slow=5.4,SNR=8.2							
	comp=Z,1.3nm,0.4s							
KRUC	Moravsky	78.19	330	eP	P	15 01 50.1	+0.2	
SMOL	Smolenice	78.27	329	eP	P	15 01 51.6	+1.2	
SMOL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MODS	Modra-Piesok	78.44	329	eP	P	15 01 53.1	+1.8	
MODS	Modra-Piesok	78.44	329	eP	P	15 01 53.1	+1.8	
KHC	Kasperske Hory	79.12	332	eP	P	15 01 55.8	+0.7	
KHC	Kasperske Hory	79.12	332	eP	P	15 01 55.8	+0.7	
KHC	Kasperske Hory	79.12	332	P	P	15 01 56.0	+0.9	
	comp=Z,15nm,0.8s							
GERES	GERESS Array B	79.33	331	P	P	15 01 56.6	+0.3	
	comp=Z,1.9nm,0.6s,baz=38,slow=6.8,SNR=8.9							
	comp=Z,1.9nm,0.6s							
CONA	Conrad Observa	79.33	330	i P	P	15 01 57.3	+1.0	
	comp=Z,4.5nm,0.7s							
RONA	Rosalia, Austr	79.37	329	i P	P	15 01 57.3	+0.8	
	comp=Z,6.0nm,0.9s							
BIOA	Bad Ischl, Aus	80.33	331	i P	P	15 02 02.2	+0.5	
	comp=Z,7.1nm,1.0s							
SOKA	Soboth	80.69	329	i P	P	15 02 04.1	+0.4	
	comp=Z,4.5nm,0.7s							
LESA	Schwarzleotal	80.90	331	i P	P	15 02 05.3	+0.5	
	comp=Z,4.1nm,0.7s							
KBA	Koelnbreinsper	80.96	331	eP	P	15 02 05.8	+0.6	
	comp=Z,4.5nm,0.6s							
WATA	Walderalm	81.35	332	i P	P	15 02 07.7	+0.4	
	comp=Z,4.6nm,0.6s							
WTTA	Wattenberg	81.39	332	i P	P	15 02 08.2	+0.7	
	comp=Z,5.9nm,0.6s							
RETA	Reutte	81.49	332	i P	P	15 02 08.4	+0.5	
	comp=Z,3.6nm,0.6s							
MOTA	Moosalm	81.50	332	i P	P	15 02 08.4	+0.3	
	comp=Z,8.4nm,0.8s							
TX31	Lajitas Ar. Si	81.81	57	IAmb	IAmb	15 02 11.7		
	comp=Z,3.9nm,0.6s							
TXAR	Lajitas Array	81.81	57	P	P	15 02 10.3	+0.4	
TXAR	Lajitas Array	81.81	57	P	P	15 02 11.1	+1.2	
	comp=Z,3.3nm,0.5s,baz=301,slow=4.2,SNR=40							
	comp=Z,3.3nm,0.5s							
TXAR	Lajitas Array	81.81	57	P	P	15 02 10.3	+0.4	
DAVA	Damuels	81.96	333	i P	P	15 02 10.5	0.0	
	comp=Z,5.9nm,0.8s							
MMAI	Mount Meron Ar	81.97	309	P	P	15 02 11.7	+1.0	
	comp=Z,3.0nm,0.5s,baz=47,slow=7.4,SNR=5.9							
	comp=Z,3.0nm,0.5s							
TAOE	Nuku Hiva Isla	83.12	109	eLR	LR	15 28 24.5		
	comp=Z,50nm,24.8s							
PPT2	Papeete2	83.47	122	eLR	LR	15 28 36.9		
	comp=Z,72nm,27.2s							
DRIO	Del Rio	83.57	55	P	P	15 02 19.6	+0.7	
DRIO				IAmb	IAmb	15 02 20.5		
	comp=Z,6.4nm,0.9s							
833A	Chaparral WMA,	85.10	55	P	P	15 02 26.6	-0.1	
	baz=318							
M65A	Busby, Falmout	87.90	28	P	P	15 02 39.8	-0.4	
	baz=333							
H03N2	Juan Fernandez	142.13	90	T	T	17 48 25.5		
	baz=304,slow=77,SNR=50							
H03N3	Juan Fernandez	142.15	90	T	T	17 48 17.5		
	baz=304,slow=77,SNR=58							
H03N1	Juan Fernandez	142.15	90	T	T	17 48 12.0		
	baz=304,slow=77,SNR=62							
TROLL	Troll, Antarti	147.52	199	PKPbc	PKiKP	15 09 34.7	-0.9	
TROLL	Troll, Antarti	147.52	199	⇓PKPbc	PKiKP	15 09 34.7	-0.9	
	comp=Z,186nm,0.6s							
SNAA	Sanae	148.96	197	PKPbc	PKPbc	15 09 36.7	-0.5	
SNAA	Sanae	148.96	197	⇓PKPbc	PKPbc	15 09 36.7	-0.5	
	comp=Z,17nm,0.7s							
SNAA	Sanae	148.96	197	PKPbc	PKPbc	15 09 36.9	-0.3	
	comp=Z,1.9nm,1.0s,baz=19,slow=15,SNR=2.2							
VNA2	Neumayer--Watz	150.47	196	PKPbc	PKiKP	15 09 41.8	+0.2	
	baz=156,slow=10							
VNA2	Neumayer--Watz	150.47	196	⇓PKPbc	PKiKP	15 09 41.8	+0.2	
	baz=156,slow=10							
VNA3	Neumayer Olymp	150.64	194	PKPbc	PKiKP	15 09 41.8	-0.1	
VNA3	Neumayer Olymp	150.64	194	⇓PKPbc	PKiKP	15 09 41.8	-0.1	
	comp=Z,2.5nm,0.8s							
PLCA	Paso Flores	151.29	97	PKPbc	PKPbc	15 09 43.9	+0.2	
	comp=Z,4.0nm,1.1s,baz=280,slow=2.2,SNR=3.5							

*IDC **25** 15:01:37.6±14.0, 6°.75S×129°.48E, h108km±156km, mb3.5/2, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=112.0km s-min=58.7km az=34.0*
*DJA **25** 15:01:41.5±0.5, 7°.S±3°×13°.0E±°, h200km±11km, M3.9/12, mb3.5/6, MLv4.1/12*

ISC 25 15:01:42.4±0.9, 6°.80S±0°.07×129°.80E±0°.10, h200km, n13, σ2°.40/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.90	128	P	Pn	15 02 18.8	-1.2
AAI	Ambon	3.48	333	P	Pn	15 02 35.0	-2.8
MSAI	Masohi	3.54	346	P	Pn	15 02 37.1	-1.5
MSAI				S	Sn	15 03 21.2	-1.4
FAKI	Fak Fak	4.56	33	P	Pn	15 02 48.7	-2.7
KMPI	Kaimana, Papua	4.99	52	P	Pn	15 02 56.4	-0.3
SANI	Sanana	6.05	321	P	Pn	15 03 09.7	-0.8
SWI	Sorong	6.07	14	P	Pn	15 03 09.0	-1.7
	0.2nm12nm,1.1s						
SOEI	Soe	6.21	241	P	Pn	15 03 10.9	-1.7
	0.1nm11nm,0.7s						
FITZ	Fitzroy Crossi	11.94	199	P	Pn	15 04 24.5	-2.1
	0.3nm,0.3s,baz=29,slow=12,SNR=7.9						
FITZ				S	Sn	15 06 25.9	-14
	0.7nm,0.3s,baz=32,slow=17,SNR=1.3						
	0.6nm,0.3s						
WRA	Warramunga Arr	13.79	162	P	Pn	15 04 48.8	-

3.6nm,1.0s,baz=267,slow=4.7,SNR=4.0
3.6nm,1.0s
NOA NORSAR Array B 65.51 22 P **P 15 15 53.9 -0.9**
1.4nm,0.9s,baz=229,slow=6.5,SNR=3.3
1.4nm,0.9s
BRTR Keskin Array B 69.09 49 P **P 15 16 17.6 -0.5**
1.0nm,0.9s,baz=267,slow=14,SNR=3.5
1.0nm,0.9s
AKASG Malin Array Be 69.13 37 P **P 15 16 19.6 +1.8**
1.6nm,1.0s,baz=250,slow=7.9,SNR=7.3
1.6nm,1.0s
TXAR Lajitas Array 71.46 299 P **P 15 16 31.0 -1.7**
0.3nm,0.5s,baz=103,slow=5.1,SNR=2.5
0.3nm,0.5s
FINES FINESS Array B 71.72 26 P **P 15 16 32.9 -0.5**
2.2nm,0.9s,baz=214,slow=12,SNR=1.8
2.2nm,0.9s
PDAR Pinedale Array 77.58 313 P **P 15 17 06.4 -1.8**
0.3nm,0.6s,baz=95,slow=5.2,SNR=3.8
0.3nm,0.6s
YKA Yellowknife Ar 82.57 332 P **P 15 17 32.9 -1.5**
0.3nm,0.9s,baz=108,slow=5.9,SNR=2.7
0.3nm,0.9s
QSPA South Pole Qui 94.28 180 P **P 15 18 31.3 +0.5**
1.8nm,1.0s,baz=178,slow=4.5,SNR=2.4
1.8nm,1.0s

---

*BGR **25** 15:05:19.5, 1˚.86N×32˚.79W, h25km±3km, mb4.7*
*IDC **25** 15:05:30.3±0.3, 4˚.28N×32˚.56W, h0km, mb4.6/33, mbtmp4.6/35, ML4.5/2, MS4.9/77, Error ellipse: s-maj=11.8km s-min=10.3km az=133.0*
*MOS **25** 15:05:30.4±1.0, 4˚.30N×32˚.63W, h10km, mb5.4/41, MS5.1/12, Error ellipse: s-maj=10.5km s-min=5.5km az=50.8*
*RSNC **25** 15:05:33.6±4.2, 4˚N±10˚×3˚3W±1˚0, h10km, M5.5, mB5.9, mb5.2, Mw(mB)5.6, Hypocentre not reviewed by the ISC*
*NEIC **25** 15:05:33.2±1.6, 4˚.29N±0˚.09×32˚.62W±0˚.09, h10km±1km, mb5.5/378, Ms_20 5.2/411, Mwb5.3/21, Mww5.5/41, Error ellipse: s-maj=16.5km s-min=12.9km az=309.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=1.04; Mθθ=0.20; Mφφ 1.24; Mrθ=0.18; Mθφ=0.42; Mφr0.01; Fault plane solution: M0 1.24000×1017 NP1: φs357.60000°, δ45.03000°, λ-71.68000°. NP2: φs152.50000°, δ47.81000°, λ-107.47000°. Principal axes: T 1.3538, Plg1.0000°, Azm255.0000°; N -0.2731, Plg13.0000°, Azm164.0000°; P -1.0808, Plg77.0000°, Azm351.0000°;*
*NEIC **25** 15:05:33.2, 4˚.30N×32˚.61W, h12km*
*NEIC **25** 15:05:33.2, 4˚.00N×33˚.00W, h12km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 1017 Nm; Mrr=1.74; Mθθ=0.14; Mφφ 1.89; Mrθ=0.20; Mθφ=0.32; Mφr~1.01; Fault plane solution: M0 2.11000×1017 NP1: φs160.13000°, δ32.09000°, λ-108.46000°. NP2: φs1.64000°, δ59.74000°, λ-78.77000°. Principal axes: T 2.1761, Plg14.0000°, Azm83.0000°; N -0.1321, Plg10.0000°, Azm176.0000°; P -2.0440, Plg73.0000°, Azm299.0000°;*
*NEIC **25** 15:05:33.2, 4˚.30N×32˚.61W, h10km*
*GCMT **25** 15:05:35.2±0.1, 4˚.30N±0˚.01×32˚.57W, h12km, MW5.5/164, Moment Tensor Solution. s114,c187; s164,c339; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr=1.94±.02; Mθθ=0.06±.02; Mφφ 2.00±.02; Mrθ=0.18±.06; Mθφ=0.18±.02; Mφr=0.04±.05; Best double couple: M0 1.98700×1017 NP1: φs169.00000°, δ45.00000°, λ-98.00000°. NP2: φs0.00000°, δ46.00000°, λ-82.00000°. Principal axes: T 2.0170, Plg0.0000°, Azm85.0000°; N -0.0600, Plg5.0000°, Azm175.0000°; P -1.9570, Plg85.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **25** 15:05:36.0±9.7, 4˚.01N×32˚.69W, h10km, mb5.0, Ms4.8, MW5.3, #DIST_RANGE: DISTANT*
ISC 25 15:05:32.8±0.5, 4˚.29N±0˚.05×32˚.61W±0˚.05, h16km±2km, h15km:pP-P, n828, σ1§29/550, mb5.4/278, MS5.2/241, 31C-39D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.57**	**198**	Pn		**Pn**	**15 08 01.7**	**-2.2**
RCBR	**Riachuelo**	**10.57**	**198**	Pn		**Pn**	**15 08 02.1**	**-1.7**
2.4nm,0.3s,baz=17,slow=21,SNR=35								
RCBR				Sn		Sn	15 09 54.4	-7.7
1.1nm,0.3s,baz=282,slow=23,SNR=7.7								
RCBR				LR		LR	15 11 06.9	
comp=Z,3μm,20.8s,baz=9.0,slow=32								
12nm,0.6s								
RCBR	**Riachuelo**	**10.57**	**198**	*e*P		**Pn**	**15 08 02.7**	**-1.2**
NBPB	**Pedra_Branca-C**	**12.00**	**216**	*e*P		**Pn**	**15 08 21.6**	**-1.8**
NBLV	**Livramento - P**	**12.35**	**200**	*e*P		**Pn**	**15 08 28.1**	**-0.1**
NBCA	**Caruaru-PE**	**12.89**	**195**	*e*P		**Pn**	**15 08 34.6**	**-0.9**
SACV	**Santiago Islan**	**13.82**	**39**	Pn		**Pn**	**15 08 45.0**	**-3.3**
NBAN	**Anadia - AL**	**14.34**	**195**	*e*P		**Pn**	**15 08 56.7**	**+1.4**
NBLA	**Lagarto - SE**	**16.03**	**199**	*e*P		**Pn**	**15 09 18.5**	**+0.7**
TMAB	**Tom-Au,PA,Br**	**16.83**	**247**	*e*P		**Pn**	**15 09 28.1**	**0.0**
MBO	**M'Bour**	**18.40**	**56**			**P**	**15 09 46.8**	**-0.6**
BBTS	**Babate**	**18.89**	**56**	P		**P**	**15 09 52.7**	**-0.1**
2.4nm,0.3s,baz=284,slow=4.2,SNR=7.1								
BBTS				LR		LR	15 15 18.9	
comp=Z,6μm,20.7s,baz=114,slow=31								
43nm,0.9s								
SMTB	**Santa Maria do**	**19.84**	**229**	*e*P		**P**	**15 10 04.2**	**+0.9**
MDP	**Montagnes des**	**19.98**	**273**	P		**P**	**15 10 05.2**	**+0.3**
55nm,1.1s,baz=86,slow=14,SNR=7.2								
MDP				LR		LR	15 16 21.0	
comp=Z,4μm,21.2s,baz=94,slow=32								
55nm,1.1s								
SDBA	**SAO DESIDERIO**	**20.61**	**216**	*e*P		**P**	**15 10 12.1**	**+0.5**
CMC01	**Camacan, BA**	**20.69**	**199**	*e*P		**P**	**15 10 14.0**	**+1.6**
H10N3	**ASCENSION HYDR**	**21.71**	**124**	T		T	15 32 49.3	
baz=302,slow=75,SNR=793								
H10N2	**ASCENSION HYDR**	**21.72**	**124**	T		T	15 32 49.6	
baz=302,slow=75,SNR=678								
H10N1	**ASCENSION HYDR**	**21.73**	**124**	T		T	15 32 50.8	
baz=302,slow=75,SNR=755								
GUA01	**Guaratinga, BA**	**21.93**	**199**	*e*P		**P**	**15 10 27.0**	**+1.3**
H10S3	**ASCENSION HYDR**	**22.20**	**126**	T		T	15 33 28.2	
baz=281,slow=74,SNR=658								
H10S2	**ASCENSION HYDR**	**22.22**	**126**	T		T	15 33 27.5	
baz=299,slow=74,SNR=688								
JANB	**Januaria**	**22.45**	**211**	*e*P		**P**	**15 10 31.9**	**+0.4**
MAL2	**Monte Alegre,**	**22.45**	**254**	P		**P**	**15 10 31.8**	**+0.4**
ABR01	**Abrolhos, BA**	**22.91**	**195**	*e*P		**P**	**15 10 37.0**	**+0.7**
SJMB	**Sao Joao De Ma**	**24.36**	**200**	*e*P		**P**	**15 10 50.7**	**+0.4**
BSFB	**Barra de Sao F**	**24.37**	**199**	*e*P		**P**	**15 10 50.9**	**+0.5**
SNDB	**Serra Nova Dou**	**24.62**	**229**	*e*P		**P**	**15 10 54.4**	**+1.6**
ITTB	**Itaituba**	**24.65**	**250**	*e*P		**P**	**15 10 53.4**	**+0.3**
RIB01	**Linhares ES**	**24.68**	**198**	*e*P		**P**	**15 10 53.3**	**+0.1**
DIAM	**Diamantina, MG**	**24.95**	**206**	*e*P		**P**	**15 10 56.0**	**+0.2**
BDFB	**Brasilia**	**25.00**	**217**	P		**P**	**15 10 56.2**	**-0.1**
BDFB				IAmb		IAmb	15 11 05.1	
comp=Z,124nm,1.8s								
BDFB	**Brasilia**	**25.00**	**217**	P		**P**	**15 10 56.4**	**+0.1**
comp=Z,8.6nm,0.8s,baz=42,slow=14,SNR=8.3								
BDFB				LR		LR	15 19 40.6	
comp=Z,5μm,20.9s,baz=40,slow=34								
comp=Z,8.6nm,0.8s								
BDFB	**Brasilia**	**25.00**	**217**	P		**P**	**15 10 56.2**	**-0.1**
BDFB				pmax		pmax		
comp=Z,124nm,1.8s								
NPGB	**Novo Progresso**	**25.35**	**244**	*e*P		**P**	**15 10 58.8**	**-0.5**
ALF01	**Guarapari-ES**	**26.00**	**198**	*e*P		**P**	**15 11 04.4**	**-0.8**
PMNB	**Patos De Minas**	**26.46**	**211**	*e*P		**P**	**15 11 09.7**	**+0.1**
IPMB	**Ipameri, GO**	**26.96**	**214**	*e*P		**P**	**15 11 14.1**	**+0.2**
CAM01	**Campos-RJ**	**27.43**	**199**	*e*P		**P**	**15 11 19.1**	**+1.1**
ARAG	**Araguaiana, MT**	**27.50**	**223**	*e*P		**P**	**15 11 19.5**	**+0.7**
CLDB	**Colider**	**27.56**	**237**	*e*P		**P**	**15 11 21.5**	**+2.1**
DBIC	**Dimbokro**	**27.72**	**84**	P		**P**	**15 11 20.3**	**-0.5**
DBIC	**Dimbokro**	**27.72**	**84**	P		**P**	**15 11 20.3**	**-0.5**
comp=Z,9.4nm,1.0s,baz=259,slow=13,SNR=6.1								
DBIC				LR		LR	15 20 10.9	
comp=Z,5μm,18.6s,baz=264,slow=32								
comp=Z,9.4nm,1.0s								
BSCB	**Bom Sucesso**	**27.82**	**205**	*e*P		**P**	**15 11 22.8**	**+1.1**
DUB01	**Friburgo-RJ**	**27.90**	**200**	*e*P		**P**	**15 11 23.6**	**+1.3**
BOAV	**Boa Vista**	**27.93**	**267**	P		**P**	**15 11 23.4**	**+0.7**
BOAV				IAMs_20		IAMs_20	15 21 02.6	
comp=Z,5μm,22.0s								
BOAV	**Boa Vista**	**27.93**	**267**	*e*P		**P**	**15 11 23.9**	**+1.2**
PDRB	**Porto dos Gac**	**28.73**	**236**	*e*P		**P**	**15 11 30.1**	**+0.3**
MACA	**Manacapuru-AM**	**29.02**	**256**	P		**P**	**15 11 30.9**	**-1.5**
MACA				IAmb		IAmb	15 11 42.9	
comp=Z,116nm,1.7s								
MACA	**Manacapuru-AM**	**29.02**	**256**	*e*P		**P**	**15 11 33.5**	**+1.1**
MAN01	**Angra dos Reis**	**29.18**	**202**	*e*P		**P**	**15 11 34.4**	**+0.7**
ITRB	**Iturama**	**29.55**	**216**	*e*P		**P**	**15 11 38.7**	**+1.7**
H05S1	**Guadeloupe/Mar**	**29.58**	**292**	T		T	15 42 46.1	
SNR=84								
PARB	**Paraibuna**	**30.25**	**204**	*e*P		**P**	**15 11 44.0**	**+0.7**
C2SB	**Chapadao do Su**	**30.37**	**220**	*e*P		**P**	**15 11 44.9**	**+0.6**
H05N1	**Guadeloupe/Mar**	**30.38**	**295**	T		T	15 43 37.9	
SNR=18								
SALV	**Santo Antonio**	**30.40**	**228**	*e*P		**P**	**15 11 41.7**	**-2.9**
PMOZ	**Porto Moniz, M**	**31.84**	**25**	*e*LR		LR	15 20 12.4	
PMOZ				*i* AMs_20			15 22 02.6	
comp=Z,2μm,20.0s								
FRTB	**Fartura**	**32.06**	**210**	*e*P		**P**	**15 11 59.9**	**+0.7**
ACRG	**Accra**	**32.30**	**86**	IAMs_20		IAMs_20	15 22 28.2	
comp=Z,6μm,20.0s								
VILB	**Vilhena**	**32.32**	**238**	P		**P**	**15 12 01.3**	**-0.3**
VILB				IAmb		IAmb	15 12 10.9	
comp=Z,66nm,1.2s								
VILB				IAMs_20		IAMs_20	15 23 57.7	
comp=Z,5μm,20.0s								
VILB	**Vilhena**	**32.32**	**238**	*e*P		**P**	**15 12 03.3**	**+1.7**
PTLB	**Pontes e Lacer**	**32.78**	**233**	P		**P**	**15 12 06.4**	**+0.8**
PTLB	**Pontes e Lacer**	**32.78**	**233**	*e*P		**P**	**15 12 06.9**	**+1.4**
SMRT	**St. Maarten**	**32.79**	**297**	P		**P**	**15 12 06.6**	**+0.9**
LDASE	**Londrina, Braz**	**32.91**	**212**	*e*P		**P**	**15 12 08.0**	**+1.3**
TEFE	**Tefe**	**32.93**	**257**	*e*P		**P**	**15 12 09.8**	**+2.9**
PANT	**Pantanal (Braz**	**33.08**	**225**	*e*P		**P**	**15 12 09.6**	**+1.5**
PSMA	**Santa Maria**	**33.27**	**11**	*e*T		T	15 46 34.8	
PSMN	**Pico do Norte,**	**33.29**	**11**	*e*T		T	15 46 34.0	
AQDB	**Aquidauana**	**33.46**	**222**	P		**P**	**15 12 11.8**	**+0.3**
AQDB	**Aquidauana**	**33.46**	**222**	*e*P		**P**	**15 12 13.5**	**+2.0**
BDQN	**Bodoquena, MS**	**34.15**	**223**	*e*P		**P**	**15 12 19.5**	**+2.1**
PTGB	**Pitanga**	**34.49**	**212**	*e*P		**P**	**15 12 22.4**	**+2.0**
SIV	**San Ignacio**	**34.63**	**234**	LR		LR	15 25 56.4	
comp=Z,11μm,19.9s,baz=96,slow=35								
TORD	**Torodi Ar. Bea**	**34.99**	**73**	P		**P**	**15 12 23.1**	**-1.7**
comp=Z,52nm,0.3s,baz=264,slow=8.7,SNR=1.8								
MAJ01	**Sao Joao Batis**	**35.26**	**206**	*e*P		**P**	**15 12 29.0**	**+2.1**
HUMP	**Col San Antoni**	**35.31**	**296**	P		**P**	**15 12 27.6**	**+0.1**
PDPR	**Patillas Dam,**	**35.42**	**295**	P		**P**	**15 12 29.3**	**+0.8**
IGPR	**InterUniversit**	**35.48**	**295**	P		**P**	**15 12 29.2**	**+0.2**
BAUV	**El Baul**	**35.49**	**279**	P		**P**	**15 12 29.7**	**+0.6**
BAUV				IAMs_20		IAMs_20	15 26 26.7	
comp=Z,5μm,20.0s								
MURT	**Porto Murtinho**	**35.56**	**223**	*e*P		**P**	**15 12 30.5**	**+0.9**
SJG	**San Juan**	**35.57**	**295**	P		**P**	**15 12 30.9**	**+1.2**
SJG	**San Juan**	**35.57**	**295**	LR		LR	15 23 51.5	
comp=Z,3μm,21.6s,baz=115,slow=31								
SJG	**San Juan**	**35.57**	**295**	P		**P**	**15 12 30.9**	**+1.2**
SJG				pmax		pmax		
comp=Z,229nm,1.5s								
GCPR	**Guaynabo City**	**35.57**	**296**	P		**P**	**15 12 28.7**	**-1.1**
GCPR				IAmb		IAmb	15 12 38.7	
comp=Z,130nm,1.4s								
TIO	**Tiouine**	**35.66**	**39**	P		**P**	**15 12 33.7**	**+3.1**
CELP	**Cerrillos**	**35.94**	**295**	P		**P**	**15 12 33.5**	**+0.5**
CELP				IAmb		IAmb	15 12 41.2	
comp=Z,108nm,1.4s								
OBIP	**Obispado Ponce**	**35.96**	**295**	P		**P**	**15 12 33.3**	**+0.2**
OBIP				IAmb		IAmb	15 12 40.3	
comp=Z,138nm,1.4s								
AOPR	**Arecibo Observ**	**36.19**	**295**	P		**P**	**15 12 34.1**	**-1.0**
AOPR				IAmb		IAmb	15 12 42.9	
comp=Z,116nm,1.4s								
ETMB	**Extrema**	**36.30**	**247**	P		**P**	**15 12 35.8**	**-0.3**
ETMB				IAmb		IAmb	15 12 44.7	
comp=Z,103nm,1.3s								
ETMB	**Extrema**	**36.30**	**247**	*e*P		**P**	**15 12 36.5**	**+0.5**
TER01	**Tubaro-SC**	**36.30**	**205**	*e*P		**P**	**15 12 37.7**	**+1.8**
ITAB	**Concordia**	**36.58**	**210**	P		**P**	**15 12 39.1**	**+0.8**
ITAB	**Concordia**	**36.58**	**210**	*e*P		**P**	**15 12 39.0**	**+0.8**
SJPY	**San Joaquin**	**37.00**	**217**	*e*P		**P**	**15 12 42.8**	**+0.9**
AVE	**Averroes**	**37.22**	**36**	P		**P**	**15 12 44.7**	**+1.0**
AVE				IAMs_20		IAMs_20	15 27 25.2	
comp=Z,3μm,18.0s								
PAPY	**Pozo Azul**	**37.66**	**220**	*e*P		**P**	**15 12 48.4**	**+0.9**
PCDR	**Punta Cana, DR**	**37.71**	**295**	P		**P**	**15 12 49.7**	**+1.7**
CNLB	**Canela**	**37.73**	**207**	*e*P		**P**	**15 12 50.4**	**+2.4**
SDV	**Santo Domingo**	**38.03**	**279**	P		**P**	**15 12 52.6**	**+1.5**
SDV	**Santo Domingo**	**38.03**	**279**	*e*P		**P**	**15 12 51.9**	**+0.9**
MDT	**Midelt**	**38.60**	**39**	LR		LR	15 27 44.8	
comp=Z,3μm,19.4s,baz=241,slow=35								
CPUP	**Villa Florida**	**38.73**	**217**	P		**P**	**15 12 56.5**	**+0.1**
CPUP	**Villa Florida**	**38.73**	**217**	P		**P**	**15 12 57.0**	**+0.6**
comp=Z,16nm,1.0s,baz=34,slow=7.9,SNR=17								
CPUP				LR		LR	15 28 37.7	
comp=Z,4μm,20.0s,baz=56,slow=36								
comp=Z,16nm,1.0s								
CPUP	**Villa Florida**	**38.73**	**217**	*e*P		**P**	**15 12 57.4**	**+1.0**
IFR	**Ifrane**	**38.74**	**38**	P		**P**	**15 12 58.3**	**+1.5**
BANI	**BANI**	**39.47**	**294**	P		**P**	**15 13 02.7**	**-0.2**
PBDV	**Barranco-do-Ve**	**39.83**	**31**	*e*P		**P**	**15 13 07.5**	**+1.8**
CPSB	**Cacapava Do Su**	**39.84**	**209**	*e*P		**P**	**15 13 08.0**	**+2.3**
PVAQ	**Vaqueiros**	**40.06**	**31**	*e*P		**P**	**15 13 09.1**	**+1.6**
PVAQ				*i* Amb			15 13 15.1	
comp=Z,70nm,2.1s								
PVAQ				*e*LR		LR	15 24 14.9	
PVAQ				*i* AMs_20			15 26 01.9	
comp=Z,1μm,20.0s								
PVAQ	**Vaqueiros**	**40.06**	**31**	P		**P**	**15 13 07.2**	**-0.3**
EGRO	**El Granado**	**40.28**	**31**	P		**P**	**15 13 09.4**	**+0.1**
RUSC	**La Rusia**	**40.34**	**274**	P		**P**	**15 13 10.9**	**+0.2**
RUSC				IAmb		IAmb	15 13 27.8	
comp=Z,161nm,1.3s								
SDDR	**Presa de Saban**	**40.48**	**294**	P		**P**	**15 13 11.1**	**-0.1**
SDDR				IAmb		IAmb	15 13 20.2	
comp=Z,203nm,1.4s								
LPAZ	**La Paz**	**40.65**	**239**	P		**P**	**15 13 13.3**	**0.0**
LPAZ	**La Paz**	**40.65**	**239**	P		**P**	**15 13 14.2**	**+0.9**
comp=Z,6.9nm,0.9s,baz=29,slow=8.4,SNR=19								
LPAZ				LR		LR	15 29 13.0	
comp=Z,4μm,20.9s,baz=78,slow=35								
comp=Z,6.9nm,0.9s								
LPAZ	**La Paz**	**40.65**	**239**	P		**P**	**15 13 13.3**	**0.0**
LPAZ				pmax		pmax		
comp=Z,73nm,1.5s								
LPAZ	**La Paz**	**40.65**	**239**	*e*P		**P**	**15 13 14.6**	**+1.3**
ESPR	**Espera**	**40.67**	**34**	P		**P**	**15 13 13.4**	**+0.9**
EVO	**Evora**	**40.78**	**30**	*e*P		**P**	**15 13 15.0**	**+1.6**
EVO				*i* Amb			15 13 30.2	
comp=Z,66nm,1.8s								
EVO	**Evora**	**40.78**	**30**	P		**P**	**15 13 14.5**	**+1.2**
LIJA	**Lijar**	**40.94**	**34**	P		**P**	**15 13 17.1**	**+2.2**
PBAR	**Barrancos**	**41.00**	**31**	*e*P		**P**	**15 13 18.3**	**+3.1**
PBAR				*i* Amb			15 13 19.9	
comp=Z,33nm,1.5s								
PBAR	**Barrancos**	**41.00**	**31**	P		**P**	**15 13 15.7**	**+0.5**
PMTG	**Montargil**	**41.09**	**29**	*e*P		**P**	**15 13 17.7**	**+1.7**
PMTG				*i* Amb			15 13 32.5	
comp=Z,53nm,2.0s								
TAM	**Tamanrasset**	**41.19**	**60**	P		**P**	**15 13 17.6**	**+0.3**
TAM				IAMs_20		IAMs_20	15 29 16.7	
comp=Z,4μm,20.0s								
TAM	**Tamanrasset**	**41.19**	**60**	P		**P**	**15 13 17.6**	**+0.3**
TAM				pmax		pmax		
comp=Z,61nm,1.7s								
TAM				MLR		MLR		
comp=Z,4μm,20.0s								
EBAD	**Badajoz**	**41.45**	**31**	P		**P**	**15 13 20.8**	**+1.9**
ROSC	**El Rosal**	**41.58**	**272**	P		**P**	**15 13 21.4**	**+0.5**
ROSC				IAmb		IAmb	15 13 30.2	
comp=Z,196nm,1.4s								
ROSC	**El Rosal**	**41.58**	**272**	P		**P**	**15 13 21.9**	**+1.1**
comp=Z,7.2nm,0.3s,baz=114,slow=6.6,SNR=8.7								
ROSC				LR		LR	15 31 24.6	
comp=Z,6μm,18.2s,baz=104,slow=37								
comp=Z,7.2nm,0.3s								
ROSC	**El Rosal**	**41.58**	**272**	P		**P**	**15 13 21.4**	**+0.5**
ROSC				pmax		pmax		
comp=Z,196nm,1.5s								
CZSB	**Cruzeiro do Su**	**41.75**	**253**	P		**P**	**15 13 21.6**	**-0.2**
CZSB	**Cruzeiro do Su**	**41.75**	**253**	*e*P		**P**	**15 13 22.3**	**+0.6**
SMRC	**Santa Marta, M**	**41.77**	**282**	P		**P**	**15 13 23.2**	**+1.3**
SMRC				IAmb		IAmb	15 13 36.6	
comp=Z,160nm,1.3s								
PMRV	**Marv??o**	**41.77**	**30**	*e*P		**P**	**15 13 23.4**	**+1.8**
PMRV				*i* Amb			15 13 37.8	
comp=Z,59nm,2.0s								
PMRV				*e*S		**S**	**15 19 45.3**	**+6.8**
PMRV				*e*LR		LR	15 25 04.8	
PMRV				*i* AMs_20			15 27 01.1	
comp=Z,1μm,20.0s								
PCBR	**Castelo Branco**	**42.05**	**29**	*e*P		**P**	**15 13 26.1**	**+2.2**
PCBR				*i* Amb			15 13 39.5	
comp=Z,40nm,1.9s								
TBOT	**Tacuaremb**	**42.11**	**210**	*e*P		**P**	**15 13 24.2**	**-0.2**
PB18	**Visviri**	**42.39**	**238**	IAmb		IAmb	15 14 26.5	
comp=Z,213nm,1.8s								
MTE	**Manteigas**	**42.45**	**29**	*e*P		**P**	**15 13 30.2**	**+3.1**
MTE				*i* Amb			15 13 36.1	
comp=Z,48nm,1.6s								
MTE				*e*S		S	15 20 02.4	+14
MTE				*e*LR		LR	15 25 24.2	
MTE				*i* AMs_20			15 27 18.4	
comp=Z,2μm,22.0s								
PSAL	**Palomas, Salto**	**42.50**	**212**	*e*P		**P**	**15 13 28.6**	**+1.0**
PVIS	**Viseu**	**42.53**	**28**	*e*P		**P**	**15 13 29.4**	**+1.6**
FLOC	**Florencia**	**43.07**	**268**	IAmb		IAmb	15 13 41.1	
comp=Z,172nm,1.5s								
MVO	**Moncorvo**	**43.29**	**28**	*e*P		**P**	**15 13 35.3**	**+1.3**
MVO				*i* Amb			15 13 42.2	
comp=Z,52nm,1.6s								
MVO				*e*LR		LR	15 25 42.0	
MVO				*i* AMs_20			15 27 54.7	
comp=Z,1μm,20.0s								
PB08	**IPOC Station P**	**43.34**	**235**	IAMs_20		IAMs_20	15 31 13.6	
comp=Z,4μm,19.0s								
PB08	**IPOC Station P**	**43.34**	**235**	PP		PP	15 15 18.0	+2.2
PGAV	**Gavieira, Arco**	**43.35**	**27**	*e*P		P	15 13 39.4	+4.8
PGAV				*i* Amb			15 13 51.0	
comp=Z,68nm,1.8s								
PGAV				*e*LR		LR	15 25 44.9	
PGAV				*i* AMs_20			15 27 41.8	
comp=Z,1μm,20.0s								
AP01	**Chacalluta**	**43.47**	**238**	IAMs_20		IAMs_20	15 30 55.2	
comp=Z,3μm,21.0s								
PB11	**IPOC Station P**	**43.56**	**235**	IAMs_20		IAMs_20	15 31 18.5	
comp=Z,3μm,21.0s								
PB12	**IPOC Station P**	**43.57**	**237**	IAMs_20		IAMs_20	15 30 58.9	
comp=Z,3μm,21.0s								
ESDC	**Sonseca Array**	**43.72**	**32**	P		**P**	**15 13 38.0**	**+0.5**
ESDC				IAmb		IAmb	15 13 46.4	
comp=Z,208nm,1.8s								
ESDC	**Sonseca Array**	**43.72**	**32**	P		**P**	**15 13 38.4**	**+0.9**
comp=Z,4.4nm,0.9s,baz=229,slow=8.4,SNR=17								
comp=Z,4.4nm,0.9s								
PBRG	**Braganca**	**43.93**	**28**	*e*P		**P**	**15 13 40.7**	**+1.7**
PBRG				*i* Amb			15 13 54.8	
comp=Z,37nm,1.8s								
PB01	**IPOC Station P**	**44.06**	**234**	IAMs_20		IAMs_20	15 34 14.7	
comp=Z,4μm,19.0s								
TA02	**Huaiquique**	**44.20**	**235**	IAMs_20		IAMs_20	15 31 39.4	
comp=Z,3μm,20.0s								
PB09	**IPOC Station P**	**44.25**	**233**	P		**P**	**15 13 41.8**	**-0.3**
PB09				IAMs_20		IAMs_20	15 32 17.8	
comp=Z,4μm,20.0s								
NMDO	**Nuevo Mundo**	**44.25**	**295**	IAmb		IAmb	15 13 50.8	
comp=Z,81nm,1.2s								
NMDO				IAMs_20		IAMs_20	15 28 50.8	
comp=Z,3μm,22.0s								
TA01	**Diego Aracena**	**44.38**	**235**	IAMs_20		IAMs_20	15 31 45.3	
comp=Z,3μm,20.0s								
H09N1	**TRISTAN DA CUN**	**45.29**	**157**	T		T	16 02 53.7	
SNR=4.0								
CHIV	**Chivirico**	**45.40**	**294**	IAMs_20		IAMs_20	15 30 03.3	
comp=Z,1μm,21.0s								
OTAV	**Otavalo**	**45.97**	**266**	IAMs_20		IAMs_20	15 32 55.6	
comp=Z,3μm,19.0s								
OTAV	**Otavalo**	**45.97**	**266**	*e*P		**P**	**15 13 56.0**	**-0.3**
SLOR	**San Lorenzo -**	**46.12**	**265**	IAMs_20		IAMs_20	15 32 50.6	
comp=Z,2μm,20.0s								
GO02	**Mina Guanaco**	**46.33**	**229**	IAmb		IAmb	15 14 06.6	
comp=Z,90nm,1.2s								
GO02				IAMs_20		IAMs_20	15 34 13.8	
comp=Z,4μm,19.0s								
PB14	**IPOC Station P**	**46.66**	**230**	IAMs_20		IAMs_20	15 31 52.4	
comp=Z,2μm,20.0s								
NNA	**Nana**	**46.86**	**249**	IAMs_20		IAMs_20	15 33 23.0	
comp=Z,3μm,19.0s								
NNA	**Nana**	**46.86**	**249**	LR		LR	15 33 35.7	
comp=Z,3μm,18.7s,baz=82,slow=36								
NNA	**Nana

comp=Z,72nm,1.2s
BI02 San Fabin de 54.41 218 IAmb IAmb 15 15 07.3
comp=Z,63nm,1.3s
KMSC Kings Mountain 54.43 311 IAMs_20 IAMs_20 15 32 48.0
comp=Z,3µm,22.0s
Q56A Snyder Ridge, 54.52 316 IAMs_20 IAMs_20 15 33 30.2
comp=Z,2µm,20.0s
TSUM Tsumeb 54.61 117 P **P 15 15 02.8 +1.5**
TSUM IAmb IAmb 15 15 10.2
comp=Z,60nm,1.3s
TSUM Tsumeb 54.61 117 IAMs_20 IAMs_20 15 33 07.9
comp=Z,3µm,20.0s
TSUM Tsumeb 54.61 117 P **P 15 15 01.8 +0.6**
comp=Z,19nm,1.2s,baz=290,slow=7.5,SNR=16
TSUM LR LR 15 33 39.1
comp=Z,3µm,19.5s,baz=324,slow=31
comp=Z,19nm,1.2s
V55A Taylorsville 54.62 312 IAMs_20 IAMs_20 15 32 22.0
comp=Z,2µm,22.0s
LDAQ Lac Daran 54.65 329 P **P 15 15 01.6 +0.5**
LDAQ IAmb IAmb 15 15 09.5
comp=Z,92nm,1.4s
PAULI Pauline 54.67 310 IAMs_20 IAMs_20 15 32 54.2
comp=Z,3µm,21.0s
VLC Villacollemand 54.79 37 P **P 15 15 03.3 +1.2**
HODGE **Hodges 54.79 309** IAMs_20 IAMs_20 15 33 18.4
comp=Z,3µm,20.0s
U54A Nelsons Funny 55.34 312 IAMs_20 IAMs_20 15 33 05.7
comp=Z,2µm,21.0s
DOU Dourbes 55.36 28 *d*P **P 15 15 06.2 +0.2**
DOU *d*x x 15 15 13.7
TRQ Mont Tremblant 55.36 326 P **P 15 15 06.8 +0.6**
TRQ IAmb IAmb 15 15 14.7
comp=Z,83nm,1.3s
ECH Echery 55.40 31 IAMs_20 IAMs_20 15 35 06.1
comp=Z,2µm,18.0s
GOGA Godfrey 55.44 308 IAmb IAmb 15 15 17.2
comp=Z,56nm,1.5s
CEL Celeste 55.53 46 IAMs_20 IAMs_20 15 41 41.1
comp=Z,2µm,18.0s
BMRD Maredsous 55.58 28 *d*P **P 15 15 07.9 +0.3**
BMRD *d*x x 15 15 15.0
comp=Z,8.0nm,1.3s
BG3 Lake Jocassee 55.59 310 IAmb IAmb 15 15 18.8
BG3 IAMs_20 IAMs_20 15 33 21.5
comp=Z,2µm,20.0s
BI05 Punta Hualpn 55.66 219 IAMs_20 IAMs_20 15 39 16.1
comp=Z,2µm,19.0s
RCHB Rochefort 55.70 29 *d*P **P 15 15 09.0 +0.6**
RCHB *d*x x 15 15 15.6
comp=Z,9.4nm,1.0s
UCC Uccle 55.73 28 *d*P **P 15 15 09.7 +1.0**
comp=Z,20nm,1.1s
V53A Saluda 55.75 311 IAmb IAmb 15 15 18.3
comp=Z,77nm,1.7s
V53A IAMs_20 IAMs_20 15 33 05.7
comp=Z,3µm,22.0s
BGES Gesves 55.79 28 *d*P **P 15 15 09.6 +0.4**
WLF Walferdange 55.82 29 IAMs_20 IAMs_20 15 35 28.4
comp=Z,2µm,20.0s
WLF Walferdange 55.82 29 P **P 15 15 10.1 +0.7**
BCLA Clavier 55.91 28 *d*P **P 15 15 11.1 +1.1**
BFO Black Forest 56.08 32 P **P 15 15 12.3 +1.0**
BFO Black Forest 56.08 32 P **P 15 15 12.3 +1.0**
BFO pmax pmax
comp=Z,37nm,1.3s
BFO Black Forest 56.08 32 *e*P **P 15 15 12.9 +1.7**
comp=Z,7.6nm,1.0s,baz=233,slow=6.8
EKA Eskdalemuir Ar 56.14 20 P **P 15 15 11.2 -0.3**
comp=Z,1.5nm,0.5s,baz=217,slow=7.5,SNR=8.7
EKA PcP **PcP 15 16 07.3 -2.0**
comp=Z,2.0nm,0.8s,baz=232,slow=4.1,SNR=3.7
comp=Z,1.5nm,0.5s
TEOL Teolo 56.22 36 IAmb IAmb 15 15 20.1
comp=Z,49nm,1.0s
DAVA Damuels 56.28 34 *e*P **P 15 15 13.7 +0.8**
comp=Z,12nm,0.8s,SNR=6.8
DAVA *i* pP **pwP 15 15 19.8 -0.7**
comp=Z,29nm,0.9s
MEM Membach 56.38 29 *d*P **P 15 15 13.8 +0.5**
comp=Z,22nm,1.2s
TEIG Tepich 56.38 291 P **P 15 15 15.3 +1.5**
BTNL Ternell 56.42 29 *d*P **P 15 15 14.2 +0.6**
comp=Z,18nm,1.2s
N53A Lisbon 56.45 317 IAMs_20 IAMs_20 15 34 53.2
comp=Z,2µm,19.0s
O53A New Philadelph 56.46 316 IAmb IAmb 15 15 22.9
comp=Z,52nm,1.1s
TKL Tuckaleechee C 56.47 310 LR LR 15 34 12.5
comp=Z,2µm,21.6s,baz=114,slow=30
FETA Feichten 56.60 34 *e*P **P 15 15 15.5 +0.3**
comp=Z,12nm,0.9s,SNR=8.3
FETA *i* pP **pwP 15 15 22.0 -0.8**
comp=Z,24nm,1.0s
TZTN Tazewell 56.63 312 IAMs_20 IAMs_20 15 34 30.0
comp=Z,2µm,21.0s
UBR Ueberruh 56.64 33 *e*P **P 15 15 16.5 +1.2**
comp=Z,7.6nm,0.8s,baz=233,slow=6.8
UBR *e*pP **pwP 15 15 23.2 +0.3**
PLCA Paso Flores 56.68 214 P **P 15 15 16.4 +0.7**
PLCA IAmb IAmb 15 15 23.8
comp=Z,51nm,1.6s
PLCA Paso Flores 56.68 214 P **P 15 15 16.1 +0.4**
comp=Z,10nm,1.3s,baz=43,slow=12,SNR=4.0
PLCA PcP **PcP 15 16 10.9 -0.9**
comp=Z,4.4nm,1.0s,baz=51,slow=10,SNR=3.2
PLCA LR LR 15 39 42.1
comp=Z,2µm,19.8s,baz=44,slow=36
comp=Z,10nm,1.3s
PLCA Paso Flores 56.68 214 P **P 15 15 16.4 +0.7**
PLCA pmax pmax
comp=Z,51nm,1.6s
PLCA Paso Flores 56.68 214 *e*P **P 15 15 16.9 +1.2**
MTO3 Montecristo 56.76 284 IAmb IAmb 15 15 24.3
comp=Z,75nm,1.6s
O52A Adamsville 56.83 316 IAmb IAmb 15 15 25.6
comp=Z,53nm,1.1s
O52A IAMs_20 IAMs_20 15 35 03.2
comp=Z,2µm,20.0s
RETA Reutte 56.89 34 *i* P **P 15 15 17.6 +0.5**
comp=Z,6.6nm,1.0s
RETA *i* pP **sP 15 15 23.0 +0.1**
comp=Z,17nm,1.2s
CPCT Cooper Cave 56.97 310 IAMs_20 IAMs_20 15 34 27.0
comp=Z,3µm,21.0s
SQTA Sankt Quirin 56.99 34 *i* P **P 15 15 17.7 -0.2**
comp=Z,13nm,0.9s
SQTA *i* pP **pwP 15 15 24.3 -1.2**
comp=Z,33nm,1.0s
MOTA Moosalm 57.00 34 *i* P **P 15 15 18.3 +0.3**
comp=Z,25nm,1.4s
MOTA *i* pP **pwP 15 15 24.3 -1.3**
comp=Z,18nm,1.0s
LR05 Currie 57.17 215 P **P 15 15 19.6 +0.5**
LR05 IAmb IAmb 15 15 20.8
comp=Z,78nm,1.6s
WTTA Wattenberg 57.25 34 *i* P **P 15 15 20.2 +0.4**
comp=Z,9.4nm,0.8s
WTTA *i* pP **pwP 15 15 26.4 -1.1**
comp=Z,30nm,1.0s
WATA Walderalm 57.26 34 *i* P **P 15 15 20.2 +0.4**
comp=Z,11nm,1.0s
WATA *i* pP **pwP 15 15 26.2 -1.3**
comp=Z,20nm,0.9s
TNS Taunus Mts 57.32 30 *e*P **P 15 15 20.7 +0.7**
comp=Z,6.9nm,0.9s,baz=233,slow=6.8
TNS *e*pP **pwP 15 15 28.1 +0.5**
ABTA Abfaltersbach 57.46 35 *i* P **P 15 15 22.1 +0.9**
comp=Z,14nm,1.0s
ABTA *i* pP **pwP 15 15 28.1 -0.7**
comp=Z,44nm,1.2s
SCHQ Schefferville 57.48 337 IAmb IAmb 15 15 36.6
comp=Z,35nm,1.1s
SCHQ Schefferville 57.48 337 P **P 15 15 21.0 -0.1**
comp=Z,16nm,0.9s,baz=127,slow=5.5,SNR=17
comp=Z,16nm,0.9s
FPAL Fort Paine 57.50 309 IAmb IAmb 15 15 30.7
comp=Z,70nm,1.8s
BUG Bochum–Univer 57.52 28 *e*P **P 15 15 22.8 +1.4**
comp=Z,9.0nm,0.8s,baz=233,slow=6.8
BUG *e*pP **pwP 15 15 29.2 +0.3**
BRAL Brewton 57.63 304 IAMs_20 IAMs_20 15 38 44.8
comp=Z,2µm,18.0s
ACSO Alum Creek Sta 57.68 316 IAmb IAmb 15 15 31.4
comp=Z,39nm,1.1s
SABO M.te Sabotino 57.69 37 IAmb IAmb 15 15 31.9
comp=Z,58nm,0.9s
SKDS Skadanscina 57.71 37 *i* P **P 15 15 24.1 +1.2**
SKDS *i* 15 15 30.6
PAYG Puerto Ayora 57.84 267 IAMs_20 IAMs_20 15 41 57.0
comp=Z,2µm,19.0s
CADS Cadrg 57.90 36 *i* P **P 15 15 25.4 +1.1**
QNGWA **Qangwa 57.92 116** *i* P **P 15 15 25.2 +0.3**
KASTN **Kahler Asten 57.92 29** *e*P **P 15 15 25.4 +1.1**
comp=Z,8.0nm,1.1s,baz=233,slow=6.8
KASTN *e*pP **pwP 15 15 32.1 +0.3**
LESA Schwarzleotal 57.93 35 *i* P **P 15 15 25.4 +1.0**
comp=Z,13nm,1.1s,SNR=5.1
LESA *i* pP **pwP 15 15 30.9 -1.2**
comp=Z,49nm,1.1s
SWET Sewanee 57.97 309 IAMs_20 IAMs_20 15 34 46.6
comp=Z,2µm,21.0s
MYKA Terra Mystica 58.06 36 *i* P **P 15 15 26.7 +1.4**
comp=Z,14nm,1.1s
MYKA *i* pP **pwP 15 15 32.8 -0.2**
comp=Z,52nm,1.1s
KBA Koelnbreinsper 58.12 35 *i* P **P 15 15 26.9 +0.9**
comp=Z,6.2nm,1.0s
KBA *i* pP **pwP 15 15 32.7 -0.9**
comp=Z,24nm,1.2s
RJOB Jochberg 58.17 34 *e*P **P 15 15 26.5 +0.4**
comp=Z,3.4nm,0.8s,baz=233,slow=6.8
KOOLE **Kule 58.22 120** *i* P **P 15 15 27.4 +0.5**
LJU Ljubljana 58.28 37 *i* P **P 15 15 26.5 -0.3**
LJU *i* 15 15 35.0
U49A Red Boiling Sp 58.29 311 IAmb IAmb 15 15 43.4
comp=Z,60nm,1.4s
IBBN Ibbenburen 58.32 28 *e*P **P 15 15 27.9 +1.0**
comp=Z,16nm,0.9s,baz=233,slow=6.8
IBBN *e*pP **pwP 15 15 34.9 +0.4**
GRFO Grafenberg 58.42 32 P **P 15 15 27.8 +0.1**
GRFO IAmb IAmb 15 15 36.6
comp=Z,83nm,1.4s
GRFO IAMs_20 IAMs_20 15 39 10.1
comp=Z,1µm,19.0s
GRFO Grafenberg 58.42 32 P **P 15 15 27.8 +0.1**
GRFO pmax pmax
comp=Z,83nm,1.4s
GRA1 Grafenberg Arr 58.42 32 IAMs_20 IAMs_20 15 39 10.1
comp=Z,1µm,19.0s
OBKA Obir 58.53 36 *i* P **P 15 15 30.2 +1.5**
comp=Z,17nm,1.1s
OBKA *i* pP **pwP 15 15 36.0 -0.3**
comp=Z,18nm,0.9s
GRTLG **Ghanzi 58.55 118** *i* P **P 15 15 29.9 +0.6**
CLTN Cedars of Leba 58.57 310 IAMs_20 IAMs_20 15 35 16.4
comp=Z,1µm,20.0s
P49A Miami Univ. Ec 58.62 314 IAmb IAmb 15 15 37.9
comp=Z,80nm,1.4s
P49A IAMs_20 IAMs_20 15 36 08.6
comp=Z,2µm,19.0s
BIOA Bad Ischl, Aus 58.62 35 *i* P **P 15 15 29.6 +0.4**
comp=Z,14nm,1.1s
BIOA *i* pP **pwP 15 15 36.8 -0.1**
comp=Z,36nm,1.4s
LL01 San Ignacio de 58.82 214 IAmb IAmb 15 16 31.5
comp=Z,26nm,0.7s
V48A Smith Brothers 58.83 310 IAMs_20 IAMs_20 15 35 55.3
comp=Z,2µm,20.0s
GTTG Gottingen 58.89 30 *e*P **P 15 15 32.3 +1.3**
comp=Z,13nm,0.8s,baz=233,slow=6.8
GTTG *e*pP **pwP 15 15 39.3 +0.8**
KEK Kerkira 58.90 46 IAMs_20 IAMs_20 15 38 32.2
comp=Z,1µm,19.0s
SOKA Soboth 58.90 36 *e*P **P 15 15 32.0 +0.7**
comp=Z,26nm,0.9s,SNR=7.1
SOKA *i* pP **pwP 15 15 38.4 -0.5**
comp=Z,62nm,1.0s
ROTZ Rotzenmuhle 58.98 32 *e*P **P 15 15 32.4 +0.7**
comp=Z,3.1nm,0.9s,baz=233,slow=6.8
ROTZ *e*pP **pwP 15 15 39.6 +0.3**
WET Wettzell 58.99 33 *e*P **P 15 15 32.4 +0.6**
comp=Z,7.0nm,0.9s,baz=233,slow=6.8
WET *e*pP **pwP 15 15 39.3 -0.1**
LL02 Futaleuf 59.06 213 IAmb IAmb 15 15 40.2
comp=Z,52nm,1.3s
LL02 IAMs_20 IAMs_20 15 36 53.7
comp=Z,2µm,20.0s
MANZ Manzenberg 59.06 32 *e*P **P 15 15 33.1 +0.8**
comp=Z,2.1nm,0.9s,baz=233,slow=6.8
MANZ *e*pP **pwP 15 15 40.1 +0.2**
MOA Molln 59.06 35 *i* P **P 15 15 32.9 +0.6**
comp=Z,4.3nm,0.6s
MOA *i* pP **pwP 15 15 39.1 -0.8**
comp=Z,18nm,1.0s
MOX Moxa 59.18 31 *e*pP pP 15 15 40.9 +3.7
GEC2 GERESS Array S 59.28 34 IAmb IAmb 15 15 42.4
comp=Z,50nm,1.2s
GEC2 GERESS Array S 59.28 34 *e*P **P 15 15 33.5 -0.4**
comp=Z,11nm,1.0s,baz=233,slow=6.8
GEC2 *e*pP **pwP 15 15 41.5 0.0**
GERES GERESS Array B 59.28 34 P **P 15 15 33.7 -0.2**
GERES GERESS Array B 59.28 34 P **P 15 15 33.3 -0.6**
comp=Z,8.2nm,0.9s,baz=243,slow=5.8,SNR=21
comp=Z,8.2nm,0.9s
GERES GERESS Array B 59.28 34 P **P 15 15 33.7 -0.2**
KHC Kasperske Hory 59.37 33 AMS AMS 15 37 40.0
comp=Z,1µm,23.8s
KHC Kasperske Hory 59.37 33 *e*P **P 15 15 35.3 +0.9**
KHC *e*pP **pwP 15 15 42.2 +0.2**
KHC *e*S S 15 23 55.7 +13
KHC AMS AMS 15 37 40.0
comp=Z,1µm,23.8s
KHC Kasperske Hory 59.37 33 *e*P **P 15 15 35.3 +0.9**
KHC *e**PP **pwP 15 15 42.2 +0.2**
KHC *e*S S 15 23 55.7 +13
KHC MLR MLR
comp=Z,1µm,23.8s
KHC Kasperske Hory 59.37 33 P **P 15 15 35.3 +0.9**
comp=Z,32nm,1.2s
NKC Novy Kostel 59.38 32 AMS AMS 15 35 00.0
comp=Z,900nm,22.5s
NKC Novy Kostel 59.38 32 *e*S S 15 24 00.6 +18
NKC *e*S S 15 24 05.7 +23
NKC AMS AMS 15 35 00.0
comp=Z,900nm,22.5s
LL06 Loncomilla 59.39 215 IAMs_20 IAMs_20 15 40 56.6
comp=Z,3µm,19.0s
ARSA Arzberg 59.48 36 *i* P **P 15 15 35.5 +0.3**
comp=Z,10nm,1.1s
ARSA *i* pP **pwP 15 15 42.4 -0.5**
comp=Z,19nm,1.1s
ARSA Arzberg 59.48 36 IAmb IAmb 15 15 48.6
comp=Z,30nm,1.2s
TANN Tannenbergstha 59.49 32 *e*P **P 15 15 36.3 +1.0**
comp=Z,19nm,0.9s,baz=233,slow=6.8
TANN *e*pP **pwP 15 15 43.4 +0.6**
ITM Ithomi 59.55 49 IAMs_20 IAMs_20 15 40 47.5
comp=Z,2µm,22.0s
NRDL Niedersach Rie 59.55 29 *e*P **P 15 15 36.9 +1.5**
comp=Z,10.0nm,1.0s,baz=233,slow=6.8
NRDL *e*pP **pwP 15 15 43.9 +0.9**
PLAL Pickwick Lake 59.56 308 IAmb IAmb 15 15 43.7
comp=Z,45nm,1.2s
CCIG Comitan 59.58 286 IAmb IAmb 15 15 45.4
comp=Z,66nm,1.3s
NEUB Neuenburg 59.60 31 *e*P **P 15 15 36.9 +1.0**
comp=Z,6.1nm,0.8s,baz=233,slow=6.8
NEUB *e*pP **pwP 15 15 43.8 +0.4**
ASSE Asse, Remlinge 59.60 29 *e*pP pP 15 15 43.7 +3.7
LL07 Hotel Espejo d 59.71 214 IAMs_20 IAMs_20 15 39 01.0
comp=Z,2µm,21.0s
WVT Waverly 59.73 310 P **P 15 15 37.5 +0.4**
WVT IAmb IAmb 15 15 52.5
comp=Z,36nm,1.4s
WVT Waverly 59.73 310 IAMs_20 IAMs_20 15 36 02.1
comp=Z,2µm,19.0s
WVT Waverly 59.73 310 P **P 15 15 37.5 +0.4**
WVT pmax pmax
comp=Z,36nm,1.4s
ZVC Zvikov 59.87 33 AMS AMS 15 38 40.0
comp=Z,1µm,9.7s
ZVC Zvikov 59.87 33 *e*P **P 15 15 38.6 +0.8**
ZVC *e*pP **pwP 15 15 45.5 +0.1**
ZVC AMS AMS 15 38 10.0
comp=Z,1µm,20.7s
KGCAE **Kacgae 59.91 119** *i* P **P 15 15 38.4 -0.3**
FLTG Flechtingen 60.00 29 *e*P **P 15 15 39.5 +1.0**
comp=Z,6.4nm,0.8s,baz=233,slow=6.8
CONA Conrad Observa 60.02 36 *i* P **P 15 15 39.8 +0.8**
comp=Z,11nm,1.0s
CONA *i* pP **pwP 15 15 46.0 -0.6**
comp=Z,30nm,1.1s
HSKC Hora Svate Kat 60.11 32 AMS AMS 15 35 10.0
comp=Z,2µm,27.7s
HSKC Hora Svate Kat 60.11 32 *e*P **P 15 15 41.3 +1.8**
HSKC *e*S S 15 24 01.5 +9.4
HSKC AMS AMS 15 35 30.0
comp=Z,2µm,22.6s
RONA Rosalia, Austr 60.16 36 *i* P **P 15 15 40.9 +1.0**
comp=Z,23nm,1.0s,SNR=6.5
RONA *i* pP **pwP 15 15 47.0 -0.5**
comp=Z,51nm,1.1s
USIN University of 60.20 312 IAMs_20 IAMs_20 15 35 13.6
comp=Z,2µm,21.0s
CLL Collm 60.28 31 P **P 15 15 41.4 +0.8**
CLL Collm 60.28 31 *i* P **P 15 15 42.1 +1.5**
CLL *i* 15 15 48.0
CLL *e*S **S 15 23 53.0 -1.2**
CLL pmax pmax
comp=Z,156nm,2.6s
CLL MLR MLR
comp=Z,900nm,18.1s
CLL Collm 60.28 31 P **P 15 15 42.5 +1.9**
comp=Z,22nm,1.4s
CLL Collm 60.28 31 *i* P **P 15 15 42.1 +1.5**
comp=Z,156nm,2.6s
CLL *i* x x 15 15 48.0
comp=Z,37nm,1.4s
CLL *i* x x 15 15 59.1
CLL *e*S **S 15 23 53.0 -1.2**
comp=N,500nm,24.9s
CLL *e*S **S 15 23 53.0 -1.2**
comp=E,700nm,22.4s
CLL *e*SS **SS 15 27 54.0 +2.2**
CLL AMS AMS 15 39 00.0
comp=Z,900nm,18.1s
AY01 Puyuhuapi 60.31 212 IAMs_20 IAMs_20 15 41 40.0
comp=Z,2µm,20.0s
PRA Prague 60.35 33 AMS AMS 15 37 50.0
comp=Z,1µm,12.4s
PRA Prague 60.35 33 *e*S S 15 24 23.8 +29
PRA AMS AMS 15 38 00.0
comp=Z,1µm,12.4s
PRU Pruhonice 60.36 33 AMS AMS 15 38 00.0
comp=Z,2µm,22.0s
PRU Pruhonice 60.36 33 AMS AMS 15 38 10.0
comp=Z,2µm,22.0s
RICC Richard 60.43 32 AMS AMS 15 37 10.0
comp=Z,2µm,22.7s
RICC Richard 60.43 32 AMS AMS 15 37 00.0
comp=Z,2µm,23.9s
GOPC GO Pecny, Ondr 60.45 33 AMS AMS 15 38 20.0
comp=Z,1µm,9.0s
GOPC GO Pecny, Ondr 60.45 33 AMS AMS 15 38 30.0
comp=Z,1µm,9.0s
TREC Trest 60.51 34 AMS AMS 15 37 40.0
comp=Z,1µm,7.5s
TREC Trest 60.51 34 *e*P **P 15 15 43.4 +1.1**
TREC *e*pP **pwP 15 15 50.3 +0.4**
TREC AMS AMS 15 37 40.0
comp=Z,1µm,21.5s
TREC Trest 60.51 34 *e*P **P 15 15 43.4 +1.1**
TREC *e**PP **pwP 15 15 50.3 +0.4**
TREC MLR MLR
comp=Z,1µm,21.5s
BRG Berggiesshubel 60.53 32 *e*P **P 15 15 43.8 +1.5**
BRG Amp 15 15 44.6
comp=Z,8.9nm,1.0s
BRG Berggiesshubel 60.53 32 P P 15 15 50.4 +8.1
BRG Amp 15 15 51.4
comp=Z,29nm,1.2s
BRG Berggiesshubel 60.53 32 S S 15 24 09.0 +12
BRG Berggiesshubel 60.53 32 *e*P **P 15 15 43.3 +1.1**
comp=Z,5.1nm,0.8s,baz=233,slow=6.8
BRG *e*pP **pwP 15 15 50.3 +0.4**
BSEG Bad Segeberg 60.55 28 *e*P **P 15 15 43.1 +0.8**
comp=Z,14nm,0.8s,baz=233,slow=6.8
BSEG *e*pP **pwP 15 15 50.0 -0.1**
SFIN Lafayette 60.63 314 P **P 15 15 44.1 +1.0**
SFIN IAMs_20 IAMs_20 15 37 26.8
comp=Z,2µm,20.0s
T45A Paducah 60.63 310 IAMs_20 IAMs_20 15 36 41.0
comp=Z,2µm,21.0s
MPLH Magyarpolny 60.64 37 P **P 15 15 44.3 +1.2**
comp=Z,120nm,1.2s
PVCC Panska Ves 60.67 32 AMS AMS 15 37 50.0
comp=Z,1µm,12.6s
PVCC Panska Ves 60.67 32 AMS AMS 15 37 30.0
comp=Z,2µm,30.7s
VBMS Vicksburg 60.76 305 IAMs_20 IAMs_20 15 37 31.6
comp=Z,2µm,19.0s
OLIL Olney 60.78 312 P **P 15 15 44.8 +0.5**
OLIL IAMs_20 IAMs_20 15 36 40.9
comp=Z,2µm,21.0s
COYC Coyhaique 60.80 211 IAMs_20 IAMs_20 15 42 18.0
comp=Z,2µm,19.0s
HALT Halls 60.83 309 IAMs_20 IAMs_20 15 36 14.2
comp=Z,2µm,21.0s
MORH Mrgy, Hungar 60.86 38 ||P **P 15 15 45.8 +1.1**
MORH Mrgy, Hungar 60.86 38 P **P 15 15 45.7 +1.1**
comp=Z,14nm,1.2s
GLAT Glass 60.89 309 IAMs_20 IAMs_20 15 36 27.9
comp=Z,3µm,22.0s
KRUC Moravsky 60.90 35 *e*P **P 15 15 45.6 +0.7**
KRUC *e* 15 15 51.5
HICK Hickman 60.93 310 IAMs_20 IAMs_20 15 36 49.9
comp=Z,2µm,21.0s
LNXT Lenox 61.00 309 IAMs_20 IAMs_20 15 37 01.8
comp=Z,2µm,20.0s
MODS Modra-Piesok 61.07 36 *e*P **P 15 15 47.3 +1.3**
MODS *e* 15 15 53.6
MODS pmax pmax
comp=Z,445nm,2.5s
MODS Modra-Piesok 61.07 36 *e*P **P 15 15 47.3 +1.3**
MODS *e* 15 15 53.6
VRAC Vranov 61.14 34 *e*P **P 15 15 47.1 +0.6**
VRAC *e* 15 15 53.6
VRAC Vranov 61.14 34 ||P **P 15 15 47.1 +0.6**
VRAC Vranov 61.14 34 ||P **P 15 15 47.1 +0.6**
SMOL Smolenice 61.22 36 *e*P **P 15 15 48.1 +1.0**
SMOL *e* 15 15 55.1
SMOL pmax pmax
comp=Z,68nm,2.5s
PVMO Portageville 61.26 309 IAMs_20 IAMs_20 15 36 03.5
comp=Z,3µm,22.0s
SIUC Southern Illin 61.28 311 IAMs_20 IAMs_20 15 36 19.2
comp=Z,3µm,22.0s
PEBM Pemiscott Bayo 61.29 309 IAMs_20 IAMs_20 15 36 38.5
comp=Z,2µm,21.0s
GNAR Gosnell 61.37 309 IAMs_20 IAMs_20 15 37 10.6
comp=Z,2µm,21.0s
PARMO **Parma 61.37 310** IAMs_20 IAMs_20 15 36 52.5
comp=Z,2µm,20.0s
SRO Srobarova 61.41 37 *e*P **P 15 15 49.8 +1.5**
SRO pmax pmax
comp=Z,38nm,1.0s
SRO Srobarova 61.41 37 *e*P **P 15 15 49.8 +1.5**
UPC Upice 61.44 33 AMS AMS 15 38 20.0
comp=Z,1µm,10.7s
UPC Upice 61.44 33 *e*P **P 15 15 50.6 +2.1**
UPC *e*pP **pwP 15 15 56.9 +0.8**
UPC AMS AMS 15 38 20.0
comp=Z,1µm,10.7s
UPC Upice 61.44 33 *e*P **P 15 15 50.6 +2.1**
UPC *e**PP **pwP 15 15 56.9 +0.8**
UPC MLR MLR
comp=Z,1µm,10.7s
VAY Valandovo 61.46 45 *i* P **P 15 15 50.5 +1.7**
CGM3 Cape Girardeau 61.49 310 IAMs_20 IAMs_20 15 37 08.6
comp=Z,2µm,22.0s
CHVC Chvalec 61.50 33 AMS AMS 15 38 40.0
comp=Z,1µm,23.6s
CHVC Chvalec 61.50 33 *e*P **P 15 15 50.1 +1.1**
CHVC *e*pP **pwP 15 15 57.0 +0.4**
CHVC AMS AMS 15 38 50.0
comp=Z,1µm,23.6s
CHVC Chvalec 61.50 33 *e*P **P 15 15 50.1 +1.1**
CHVC *e**PP **pwP 15 15 57.0 +0.4**
CHVC MLR MLR
comp=Z,1µm,23.6s
DPC Dobruska-Polom 61.52 33 AMS AMS 15 38 40.0
comp=Z,1µm,20.1s
DPC Dobruska-Polom 61.52 33 *e*P **P 15 15 50.5 +1.4**
DPC *e*pP **pwP 15 15 57.4 +0.6**
DPC AMS AMS 15 38 30.0
comp=Z,1µm,20.1s
DPC Dobruska-Polom 61.52 33 *e*P **P 15 15 50.5 +1.4**

DPC *e**PP **pwP** **15 15 57.4 +0.6**
DPC MLR MLR
comp=Z,1µm,20.1s
DPC Dobruska-Polom 61.52 33 P **P** **15 15 50.3 +1.2**
comp=Z,28nm,1.2s
JAVC Velka Javorina 61.53 35 *e*P **P** **15 15 49.8 +0.6**
OSTC Ostas 61.57 33 AMS AMS 15 38 30.0
comp=Z,2µm,7.3s
OSTC Ostas 61.57 33 *e*P **P** **15 15 50.9 +1.5**
OSTC *e*pP **pwP** **15 15 57.9 +0.9**
OSTC *e*S S 15 24 40.1 +29
OSTC AMS AMS 15 38 40.0
comp=Z,1µm,19.9s
OSTC Ostas 61.57 33 *e*P **P** **15 15 50.9 +1.5**
OSTC *e**PP **pwP** **15 15 57.9 +0.9**
OSTC *e*S S 15 24 40.1 +29
OSTC MLR MLR
comp=Z,1µm,19.9s
KRLC Kraliky 61.64 34 AMS AMS 15 39 00.0
comp=Z,1µm,25.0s
KRLC Kraliky 61.64 34 AMS AMS 15 39 00.0
comp=Z,1µm,25.0s
BOVS Bovan 61.74 42 ⇑P **P** **15 15 51.7 +1.1**
KSP Ksiaz 61.77 33 *e*P **P** **15 15 51.3 +0.6**
KSP *e*pP **pwP** **15 15 58.9 +0.6**
KSP Ksiaz 61.77 33 P **P** **15 15 51.9 +1.2**
comp=Z,28nm,1.6s
PEHC Pehcevo 61.85 44 *i* P P 15 15 58.7 +7.1
MORC Moravsky Berou 61.91 34 P **P** **15 15 52.4 +0.6**
MORC Moravsky Berou 61.91 34 *e*P **P** **15 15 53.0 +1.3**
MORC Moravsky Berou 61.91 34 ⇑P **P** **15 15 53.1 +1.3**
MORC Moravsky Berou 61.91 34 ⇑P **P** **15 15 53.1 +1.3**
PBMO Poplar Bluff 61.92 310 IAMs_20 IAMs_20 15 37 40.2
comp=Z,2µm,20.0s
VYHS Vyhne 62.03 36 *e*P **P** **15 15 53.4 +0.8**
VYHS *e* 15 15 59.8
VYHS pmax pmax
comp=Z,55nm,2.1s
VYHS Vyhne 62.03 36 *e*P **P** **15 15 53.4 +0.8**
VYHS *e* 15 15 59.8
MDVR Moldovita 62.20 41 ⇑P **P** **15 15 54.6 +0.8**
KDWAN Kaudwane 62.21 119 *i* P **P** **15 15 54.1 -0.2**
AY03 Cochrane 62.22 210 P **P** **15 15 54.8 +1.1**
AY03 IAmb IAmb 15 16 02.8
comp=Z,55nm,1.4s
AY03 IAMs_20 IAMs_20 15 41 20.3
comp=Z,1µm,20.0s
HDIL Hopedale 62.26 314 IAMs_20 IAMs_20 15 38 30.0
comp=Z,1µm,18.0s
FVM French Village 62.28 311 IAmb IAmb 15 16 01.5
FVM IAMs_20 IAMs_20 15 37 32.5
comp=Z,3µm,21.0s
OKC Ostrava-Krasne 62.28 35 AMS AMS 15 40 40.0
comp=Z,2µm,6.7s
OKC Ostrava-Krasne 62.28 35 AMS AMS 15 40 50.0
comp=Z,2µm,6.7s
LCAR Lake Charles 62.28 309 IAmb IAmb 15 16 01.9
comp=Z,30nm,1.1s
LCAR IAMs_20 IAMs_20 15 37 08.7
comp=Z,3µm,22.0s
SLM Saint Louis 62.33 312 IAMs_20 IAMs_20 15 37 15.0
comp=Z,2µm,21.0s
PSZ Piszkesteto 62.40 37 P **P** **15 15 55.5 +0.4**
PSZ Piszkesteto 62.40 37 ⇓P **P** **15 15 56.9 +1.8**
PSZ Piszkesteto 62.40 37 ⇓P **P** **15 15 56.9 +1.8**
SUR Sutherland 62.40 130 P **P** **15 15 56.6 +1.1**
SUR IAmb IAmb 15 16 04.8
comp=Z,61nm,1.2s
SUR Sutherland 62.40 130 P **P** **15 15 55.6 +0.1**
comp=Z,11nm,1.0s,baz=271,slow=4.9,SNR=3.4
comp=Z,11nm,1.0s
BZS Buzias 62.48 40 ⇑P **P** **15 15 57.5 +1.9**
BZS Buzias 62.48 40 ⇑P **P** **15 15 57.5 +1.9**
T42A Van Buren 62.50 310 IAmb IAmb 15 16 03.2
comp=Z,36nm,1.2s
T42A IAMs_20 IAMs_20 15 37 58.6
comp=Z,2µm,19.0s
H43A Windswept, Lux 62.63 319 IAMs_20 IAMs_20 15 37 20.6
comp=Z,2µm,20.0s
HERR Herculane 62.70 41 ⇓P **P** **15 15 58.6 +1.6**
LANS Liptovska Anna 62.71 36 *e*P **P** **15 15 58.9 +1.8**
LANS *e* 15 16 06.0
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 62.71 36 *e*P **P** **15 15 58.9 +1.8**
LANS *e* 15 16 06.0
SIRR Siria 62.77 39 ⇑P **P** **15 15 59.5 +1.9**
SURR Surduc 62.86 40 ⇑P **P** **15 15 60.0 +1.9**
UALR University of 62.88 307 IAmb IAmb 15 16 06.2
comp=Z,56nm,1.1s
Z41A Richland Creek 62.88 305 IAMs_20 IAMs_20 15 39 35.7
comp=Z,2µm,21.0s
CCM Cathedral Cave 62.92 311 P **P** **15 15 58.1 -0.6**
CCM IAmb IAmb 15 16 06.3
comp=Z,42nm,1.2s
CCM Cathedral Cave 62.92 311 P **P** **15 15 58.1 -0.6**
CCM pmax pmax
comp=Z,43nm,1.2s
WHAR Wooly Hollow 62.97 308 IAmb IAmb 15 16 06.6
comp=Z,45nm,1.3s
FCAR Ozark Folk Cen 62.99 308 IAmb IAmb 15 16 05.6
comp=Z,29nm,1.4s
FCAR IAMs_20 IAMs_20 15 37 39.5
comp=Z,2µm,21.0s
MAKGR Makgori 63.13 122 *i* P **P** **15 15 59.7 -0.7**
GZR Gura Zlata 63.13 41 ⇓P **P** **15 16 01.5 +1.5**
GZR Gura Zlata 63.13 41 ⇓P **P** **15 16 01.5 +1.5**
X40A Basin Creek Fa 63.20 307 IAMs_20 IAMs_20 15 37 48.1
comp=Z,3µm,21.0s
WLAR White Oak Lake 63.23 306 IAMs_20 IAMs_20 15 39 36.0
comp=Z,2µm,20.0s
LSZ Lusaka 63.24 109 P **P** **15 16 01.9 +0.6**
LSZ IAmb IAmb 15 16 10.4
comp=Z,88nm,1.9s
LSZ Lusaka 63.24 109 P **P** **15 16 01.2 -0.2**
comp=Z,11nm,1.1s,baz=288,slow=6.5,SNR=13
LSZ LR LR 15 37 58.7
comp=Z,1µm,21.6s,baz=288,slow=31
comp=Z,11nm,1.1s
LSZ Lusaka 63.24 109 P **P** **15 16 01.9 +0.6**
LSZ pmax pmax
comp=Z,88nm,1.9s
LPHEP Lephephe 63.26 119 *i* P **P** **15 16 01.0 -0.2**
NIE Niedzica 63.32 36 *e*P **P** **15 16 03.1 +1.9**
NIE *e*pP **pwP** **15 16 10.1 +1.3**
NIE Niedzica 63.32 36 P **P** **15 16 03.0 +1.9**
comp=Z,23nm,1.2s
OJC Ojcow 63.40 35 *e*P **P** **15 16 03.1 +1.4**
OJC *e*pP **pwP** **15 16 09.5 +0.2**
OJC Ojcow 63.40 35 P **P** **15 16 02.8 +1.2**
comp=Z,62nm,1.3s
N41A Harden Midland 63.44 314 IAmb IAmb 15 16 09.2
comp=Z,26nm,0.8s
MBAR Mbarara 63.48 93 P **P** **15 16 03.6 +0.7**
MBAR Mbarara 63.48 93 P **P** **15 16 03.7 +0.7**
MBAR pmax pmax
comp=Z,16nm,1.2s
LBTB Lobatse 63.55 121 P **P** **15 16 02.0 -1.2**
LBTB Lobatse 63.55 121 P **P** **15 16 01.9 -1.2**
comp=Z,27nm,1.2s,baz=284,slow=7.0,SNR=16
LBTB LR LR 15 38 24.4
comp=Z,2µm,20.5s,baz=284,slow=31
comp=Z,27nm,1.2s
LBTB Lobatse 63.55 121 P **P** **15 16 02.0 -1.2**
DRGR 63.65 39 ⇑P **P** **15 16 04.4 +1.0**
DRGR 63.65 39 ⇑P **P** **15 16 04.4 +1.0**
JFWS Jewell Farm 63.74 316 IAmb IAmb 15 16 11.7
comp=Z,31nm,1.0s
MIAR Mount Ida 63.81 306 IAmb IAmb 15 16 11.7
comp=Z,25nm,1.1s
MARR Marisel-Cluj 63.86 39 ⇓P **P** **15 16 05.4 +0.5**
STHS Stebnicka Huta 63.87 36 *e*P **P** **15 16 06.5 +1.7**
STHS *e* 15 16 12.8
STHS Stebnicka Huta 63.87 36 *e*P **P** **15 16 06.5 +1.7**
STHS *e* 15 16 12.8
BROLN Tlhalogang 63.91 116 *i* P **P** **15 16 05.5 -0.1**
MESR Meseseni 63.94 39 ⇑P P 15 16 13.2 +7.9
NATX Nacogdoches 64.09 303 IAMs_20 IAMs_20 15 38 25.7
comp=Z,2µm,21.0s
L40A Anamosa 64.13 315 IAmb IAmb 15 16 08.8
comp=Z,32nm,1.1s
HOLU Holmets 64.16 37 P **P** **15 16 07.6 +1.0**
CJR Cluj-Napoca 64.18 39 ⇓P **P** **15 16 09.3 +2.4**
CJR Cluj-Napoca 64.18 39 ⇓P **P** **15 16 09.3 +2.4**

BERU Beregovo 64.20 38 P **P** **15 16 07.6 +0.7**
HUMR Humele 64.26 42 ⇓P **P** **15 16 08.8 +1.4**
KOLS Kolonicke sedl 64.27 37 *e*P **P** **15 16 08.8 +1.4**
KOLS *e* 15 16 15.9
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 64.27 37 *e*P **P** **15 16 08.8 +1.4**
KOLS *e* 15 16 15.9
ARR Arges 64.34 41 ⇓P **P** **15 16 09.6 +1.7**
BOSA Boshof 64.47 124 P **P** **15 16 08.5 -0.7**
BOSA Boshof 64.47 124 P **P** **15 16 08.2 -1.0**
comp=Z,17nm,0.9s,baz=301,slow=5.5,SNR=15
BOSA LR LR 15 38 29.4
comp=Z,2µm,21.1s,baz=286,slow=31
comp=Z,17nm,0.9s
BOSA Boshof 64.47 124 P **P** **15 16 08.5 -0.7**
BOSA pmax pmax
comp=Z,126nm,1.4s
BRIU Brid 64.47 38 P **P** **15 16 09.7 +1.0**
HHAR Hobbs 64.51 308 IAMs_20 IAMs_20 15 38 38.8
comp=Z,2µm,21.0s
G40A Rib Lake 64.53 319 IAMs_20 IAMs_20 15 38 39.9
comp=Z,2µm,21.0s
HKT Hockley 64.74 301 *i* P **P** **15 16 09.6 -1.1**
HKT pmax pmax
comp=Z,31nm,1.2s
ARCR ARCALIA 64.80 39 ⇑P **P** **15 16 12.8 +1.9**
KWP Kalwaria Pacla 64.82 36 *e*P **P** **15 16 10.9 -0.1**
KWP *e*pP **pwP** **15 16 19.2 +0.5**
KWP Kalwaria Pacla 64.82 36 P **P** **15 16 11.9 +0.9**
comp=Z,58nm,1.3s
DOPR Dopca 65.05 41 ⇓P **P** **15 16 13.0 +0.5**
RAKU Rahkiv 65.05 38 P **P** **15 16 13.9 +1.4**
N38A Joes South For 65.19 313 IAmb IAmb 15 16 20.8
comp=Z,33nm,0.9s
N38A IAMs_20 IAMs_20 15 40 38.4
comp=Z,1µm,18.0s
NAO01 NORSAR Array S 65.23 22 IAmb IAmb 15 16 21.8
comp=Z,64nm,1.2s
MLR Muntele Rosu 65.24 41 P **P** **15 16 14.1 +0.2**
MLR IAMs_20 IAMs_20 15 42 22.0
comp=Z,2µm,20.0s
MLR Muntele Rosu 65.24 41 LR LR 15 42 43.9
comp=Z,2µm,21.7s,baz=260,slow=34
MLR Muntele Rosu 65.24 41 ⇑P **P** **15 16 14.9 +0.9**
MLR Muntele Rosu 65.24 41 ⇑P **P** **15 16 14.9 +0.9**
MLR Muntele Rosu 65.24 41 P **P** **15 16 15.3 +1.3**
comp=Z,122nm,1.3s
OZUR 65.35 41 ⇓P **P** **15 16 15.9 +1.3**
NC204 NORSAR Array S 65.47 21 IAmb IAmb 15 16 24.7
comp=Z,51nm,1.2s
NB2 NORSAR Subarra 65.48 22 P **P** **15 16 15.3 +0.3**
comp=Z,69nm,1.2s,baz=230,slow=6.5
NB2 NORSAR Subarra 65.48 22 P **P** **15 16 15.3 +0.3**
baz=230,slow=6.5
NOA NORSAR Array B 65.48 22 P **P** **15 16 15.7 +0.6**
comp=Z,7.7nm,0.9s,baz=230,slow=6.3,SNR=18
comp=Z,7.7nm,0.9s
ISR Istrita 65.51 42 ⇑P **P** **15 16 17.1 +1.5**
ISR Istrita 65.51 42 ⇑P **P** **15 16 17.1 +1.5**
COVR Voineasa-Covas 65.54 41 ⇑P **P** **15 16 16.6 +0.8**
BURAR Bucovina Array 65.54 39 P **P** **15 16 16.5 +0.7**
LVV L'vov 65.68 36 P **P** **15 16 17.9 +1.4**
KSV Kosov 65.71 38 P **P** **15 16 17.6 +0.8**
TLIG Tlapa 65.81 287 IAmb IAmb 15 16 27.4
comp=Z,51nm,1.4s
HFS Hagfors 65.85 23 P **P** **15 16 17.2 -0.2**
comp=Z,5.1nm,0.7s,baz=225,slow=5.7,SNR=7.6
comp=Z,5.1nm,0.7s
VRI Vrincioaia 65.89 41 ⇑P **P** **15 16 18.7 +0.7**
VRI Vrincioaia 65.89 41 ⇑P **P** **15 16 18.7 +0.7**
TESR Tescani 66.06 40 ⇓P **P** **15 16 19.9 +0.9**
SPMN Marine on St. 66.25 318 IAmb IAmb 15 16 27.0
comp=Z,36nm,1.1s
ISP Isparta 66.28 50 IAMs_20 IAMs_20 15 44 31.7
comp=Z,2µm,22.0s
DEOK Depew 66.43 307 IAmb IAmb 15 16 29.3
comp=Z,48nm,1.4s
DEOK IAMs_20 IAMs_20 15 39 42.6
comp=Z,2µm,19.0s
SCO Scoresbysund 66.46 4 IAmb IAmb 15 16 30.1
comp=Z,37nm,1.1s
QUOK Quay 66.67 308 IAmb IAmb 15 16 30.8
comp=Z,54nm,1.1s
KMPD K-Podol'skiy 66.67 38 P **P** **15 16 23.2 +0.3**
OK052 Battle Ridge R 66.70 307 IAMs_20 IAMs_20 15 40 07.8
comp=Z,2µm,22.0s
OK031 S. Brethren Rd 66.72 307 IAMs_20 IAMs_20 15 40 08.4
comp=Z,2µm,20.0s
OK051 E0350 and S346 66.84 308 IAMs_20 IAMs_20 15 40 11.4
comp=Z,2µm,18.0s
FW07 Weatherford 66.87 304 IAMs_20 IAMs_20 15 44 24.3
comp=Z,1µm,18.0s
N35A Tabor 66.96 313 IAMs_20 IAMs_20 15 40 22.4
comp=Z,2µm,20.0s
SUW Suwalki 66.99 32 *e*P **P** **15 16 23.7 -1.1**
SUW *e*pP **pwP** **15 16 32.1 -0.3**
GRHM Grahamstown, E 67.05 129 IAmb IAmb 15 16 33.8
comp=Z,63nm,1.3s
KSU1 Kansas State U 67.25 311 IAmb IAmb 15 16 33.2
comp=Z,30nm,0.9s
KSU1 IAMs_20 IAMs_20 15 40 27.0
comp=Z,2µm,20.0s
PLPT Palo Pinto 67.33 304 IAmb IAmb 15 16 34.7
comp=Z,50nm,1.1s
RNPP5 Staryi Chortor 67.33 36 P **P** **15 16 28.0 +1.0**
SORM Soroca 67.70 39 ⇓P **P** **15 16 29.2 -0.2**
SORM Soroca 67.70 39 ⇓P **P** **15 16 29.2 -0.2**
SORM Soroca 67.70 39 P **P** **15 16 29.4 0.0**
comp=Z,100nm,1.2s
CROK Carrier 67.74 308 IAMs_20 IAMs_20 15 40 27.3
comp=Z,2µm,22.0s
L34A Svendsen Farm, 67.78 314 IAMs_20 IAMs_20 15 42 09.0
comp=Z,1µm,18.0s
LODK Lodwar 67.80 88 P **P** **15 16 31.2 +0.4**
LUBAR Lubar, Ukraine 67.95 37 P **P** **15 16 31.5 +0.5**
MI28 Mi28,Pidlybu 68.26 36 P **P** **15 16 33.9 +1.0**
OK038 West end E0370 68.34 308 IAMs_20 IAMs_20 15 42 00.1
comp=Z,1µm,19.0s
EIL Elat 68.41 60 LR LR 15 47 28.2
comp=Z,4µm,18.3s,baz=268,slow=37
F33A 5 Mile Ranch, 68.77 318 IAmb IAmb 15 16 50.6
comp=Z,61nm,1.8s
DRIO Del Rio 68.78 300 IAmb IAmb 15 16 44.8
comp=Z,52nm,1.1s
APMT Aspermont 68.90 304 IAmb IAmb 15 16 45.1
comp=Z,58nm,1.2s
BGNE Belgrade 68.93 313 IAMs_20 IAMs_20 15 41 33.5
comp=Z,2µm,21.0s
AK13 Malin Array Si 68.97 37 P **P** **15 16 38.5 +1.1**
AK07 Malin Array Si 69.04 37 P **P** **15 16 38.4 +0.6**
BR131 Keskin Array S 69.08 49 IAmb IAmb 15 16 47.4
comp=Z,48nm,1.2s
BR131 Keskin Array S 69.08 49 *i* P **P** **15 16 36.8 -1.7**
BRTR Keskin Array B 69.08 49 P **P** **15 16 37.3 -1.2**
BRTR Keskin Array B 69.08 49 P **P** **15 16 39.3 +0.8**
comp=Z,5.0nm,0.9s,baz=231,slow=5.1,SNR=16
comp=Z,5.0nm,0.9s
KIEV Kiev 69.09 37 P **P** **15 16 38.3 +0.3**
KIEV Kiev 69.09 37 ⇓P **P** **15 16 39.5 +1.4**
KIEV Kiev 69.09 37 ⇓P **P** **15 16 39.5 +1.4**
KIEV Kiev 69.09 37 P **P** **15 16 39.2 +1.1**
comp=Z,162nm,1.5s
AKASG Malin Array Be 69.10 37 P **P** **15 16 37.3 -0.9**
AKASG IAmb IAmb 15 16 47.1
comp=Z,65nm,1.4s
AKASG Malin Array Be 69.10 37 P **P** **15 16 38.9 +0.8**
comp=Z,6.9nm,0.9s,baz=249,slow=7.3,SNR=22
comp=Z,6.9nm,0.9s
AKBB Malin Array Si 69.10 37 ⇑*e*P **P** **15 16 37.1 -1.1**
AKBB pmax pmax
comp=Z,81nm,1.4s
KIRS Kirsehir-Merke 69.17 50 ⇑P **P** **15 16 39.0 +0.1**
SMWD Samnorwood 69.29 306 IAmb IAmb 15 16 47.3
comp=Z,39nm,1.0s
ILGA Ilgaz 69.42 48 IAMs_20 IAMs_20 15 48 11.9
comp=Z,2µm,21.0s
DKNS Dickens 69.62 304 IAmb IAmb 15 16 49.2
comp=Z,41nm,1.1s
MNK Minsk 69.70 33 *i* P **P** **15 16 41.4 -0.4**
MNK *i* 15 17 04.1
MNK *i* 15 19 15.2
MNK *i* PPP PPP 15 20 56.2
MNK *i* S **S** **15 25 50.5 +0.5**
MNK *i* SSS SSS 15 33 22.8
MNK pmax pmax

comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.7s
ULM Lac du Bonnet 69.82 322 IAmb IAmb 15 16 49.7
comp=Z,61nm,1.6s
ULM Lac du Bonnet 69.82 322 P **P** **15 16 41.6 -1.1**
comp=Z,3.2nm,0.8s,baz=50,slow=3.2,SNR=6.3
comp=Z,3.2nm,0.8s
BZK Bozkurt 69.83 47 IAMs_20 IAMs_20 15 47 57.7
comp=Z,2µm,20.0s
ZAIG Zacatecas 69.88 293 IAmb IAmb 15 16 53.6
comp=Z,59nm,1.2s
POST Post 70.01 304 IAmb IAmb 15 16 52.3
comp=Z,39nm,1.0s
SAND Sanderson 70.14 300 IAmb IAmb 15 16 53.1
comp=Z,57nm,1.0s
SUSD Miller 70.22 316 IAMs_20 IAMs_20 15 42 48.6
comp=Z,1µm,19.0s
K30B Basset 70.28 314 IAMs_20 IAMs_20 15 44 10.2
comp=Z,2µm,20.0s
ASF Jabal al Asfar 70.40 57 LR LR 15 49 07.1
comp=Z,992nm,18.5s,baz=250,slow=37
AMTX Amarillo 70.42 305 IAmb IAmb 15 16 54.8
comp=Z,39nm,1.0s
KIBK Kibwezi 70.91 94 P **P** **15 16 50.6 +0.5**
TXAR Lajitas Array 71.41 299 P **P** **15 16 52.6 -0.3**
TXAR Lajitas Array 71.41 299 P **P** **15 16 52.9 0.0**
comp=Z,3.8nm,0.9s,baz=111,slow=7.1,SNR=15
comp=Z,3.8nm,0.9s
TX31 Lajitas Ar. Si 71.41 299 IAmb IAmb 15 17 07.7
comp=Z,60nm,1.7s
ALPN Alpine 71.49 300 IAmb IAmb 15 17 01.8
comp=Z,50nm,1.1s
RTBA Rita Blanca 71.50 307 IAmb IAmb 15 17 01.5
comp=Z,66nm,1.2s
FINES FINESS Array B 71.69 26 P **P** **15 16 54.2 +0.4**
comp=Z,8.1nm,0.8s,baz=219,slow=2.4,SNR=11
comp=Z,8.1nm,0.8s
FIA1 FINESS Array S 71.69 26 IAmb IAmb 15 17 01.8
comp=Z,56nm,1.0s
OGNE Ogallala 71.70 312 IAMs_20 IAMs_20 15 42 58.0
comp=Z,2µm,20.0s
PECS Pecos 71.79 301 IAmb IAmb 15 17 03.9
comp=Z,79nm,1.4s
FCC Fort Churchill 71.85 331 IAmb IAmb 15 17 02.6
comp=Z,49nm,1.3s
PMSA Palmer Station 72.69 194 *e*P **P** **15 17 02.4 +2.8**
ANN Anapa 72.87 44 *e*P **P** **15 17 01.2 0.0**
ANN pmax pmax
comp=Z,53nm,1.2s
T25A Trinidad 72.93 307 IAmb IAmb 15 17 11.2
comp=Z,56nm,1.1s
SDCO Great Sand Dun 73.87 308 IAMs_20 IAMs_20 15 44 36.5
comp=Z,2µm,19.0s
EPT El Paso 74.07 302 IAMs_20 IAMs_20 15 52 27.1
comp=Z,992nm,21.0s
ISCO Idaho Springs 74.22 310 IAmb IAmb 15 17 19.1
comp=Z,59nm,1.2s
SOC Sochi 74.27 46 *e*P **P** **15 17 08.2 -1.3**
SOC *e* 15 19 55.3
SOC *e*PPP PPP 15 21 36.0
SOC *e*S **S** **15 26 42.4 -0.5**
SOC *e*SS **SS** **15 31 28.3 -0.4**
SOC MLR MLR
comp=Z,201nm,20.0s
ANMO Albuquerque 74.32 305 P **P** **15 17 10.7 +0.5**
ANMO IAmb IAmb 15 17 19.4
comp=Z,47nm,1.2s
ANMO Albuquerque 74.32 305 IAMs_20 IAMs_20 15 45 47.6
comp=Z,2µm,20.0s
ANMO Albuquerque 74.32 305 IAMs_20 IAMs_20 15 45 47.6
comp=Z,2µm,20.0s
ANMO Albuquerque 74.32 305 LR LR 15 46 00.9
comp=Z,2µm,20.8s,baz=258,slow=33
ANMO Albuquerque 74.32 305 P **P** **15 17 10.7 +0.5**
ANMO pmax pmax
comp=Z,47nm,1.2s
VSLR Vesyoloye 74.48 46 *i* P **P** **15 17 12.1 +1.4**
VSLR pmax pmax
comp=Z,34nm,1.1s
N23A Red Feather La 74.62 311 IAmb IAmb 15 17 21.2
comp=Z,76nm,1.1s
Y22D IRIS PASSCAL I 74.62 304 IAMs_20 IAMs_20 15 46 21.6
comp=Z,2µm,21.0s
DGMT Dagmar 74.63 319 IAMs_20 IAMs_20 15 45 13.1
comp=Z,1µm,19.0s
OBN Obninsk 74.66 34 *e*P **P** **15 17 11.8 +0.4**
OBN pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 74.67 326 P **P** **15 17 11.0 -0.6**
FFC IAmb IAmb 15 17 19.8
comp=Z,74nm,1.4s
FFC Flin Flon 74.67 326 P **P** **15 17 11.0 -0.6**
FFC pmax pmax
comp=Z,74nm,1.4s
S22A 4UR Ranch, Cre 74.92 308 IAmb IAmb 15 17 23.0
comp=Z,40nm,1.1s
ERBR Yeremizino-Bor 75.15 44 *e*P **P** **15 17 16.4 +1.9**
ERBR pmax pmax
comp=Z,59nm,1.8s
LABN Labinsk 75.15 45 *e*P **P** **15 17 16.3 +1.7**
LABN pmax pmax
comp=Z,41nm,0.6s
121A Cookes Peak, D 75.21 302 IAmb IAmb 15 17 25.1
comp=Z,66nm,1.1s
ARCES ARCESS Array B 75.24 18 P **P** **15 17 13.9 -0.7**
comp=Z,5.3nm,0.8s,baz=242,slow=5.0,SNR=3.6
comp=Z,5.3nm,0.8s
K22A Casper 75.29 313 IAmb IAmb 15 17 31.2
comp=Z,63nm,1.6s
VSR Storozhevoye 75.29 38 *e*P **P** **15 17 14.0 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 75.32 38 *e*P **P** **15 17 14.2 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 75.40 33 *e*P **P** **15 17 14.9 -0.8**
MOS MLR MLR
comp=Z,1µm,20.0s
VORR Voronezh 75.41 38 *e*P **P** **15 17 17.5 +1.7**
VORR pmax pmax
comp=Z,94nm,0.4s
LPSR Galich'ya Gora 75.43 37 *e*P **P** **15 17 16.8 +0.8**
LPSR pmax pmax
comp=Z,11nm,0.6s
SIRT Sirnak 75.54 53 IAmb IAmb 15 17 26.7
comp=Z,60nm,1.0s
MVCO Mesa Verde 76.19 307 IAmb IAmb 15 17 41.5
comp=Z,65nm,1.5s
MVCO IAMs_20 IAMs_20 15 46 07.7
comp=Z,2µm,21.0s
PV15 Paradox Valley 76.28 308 IAmb IAmb 15 17 30.5
comp=Z,28nm,1.0s
319A Douglas 76.40 301 IAmb IAmb 15 17 31.6
comp=Z,57nm,1.1s
SHA1 Shidzhatmaz 76.41 46 *i* P **P** **15 17 21.2 -0.8**
KIV Kislovodsk 76.45 46 *e*P **P** **15 17 23.1 +1.0**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,224nm,18.0s
PV13 Radium Mtn., P 76.52 308 IAmb IAmb 15 17 32.2
comp=Z,62nm,1.1s
VNA1 Neumayer--Stat 76.54 172 P **P** **15 17 23.1 +1.3**
VNA1 Neumayer--Stat 76.54 172 ⇑P **P** **15 17 23.1 +1.3**
comp=Z,9.5nm,1.2s
VNA1 ⇓sP **pwP** **15 17 29.6 -0.8**
KBZ Khabaz 76.58 46 P **P** **15 17 23.8 +1.1**
comp=Z,3.3nm,0.9s,baz=259,slow=4.1,SNR=6.6
comp=Z,3.3nm,0.9s
VRH Novokhopyorsk 76.87 38 *e*P **P** **15 17 23.7 -0.5**
VRH pmax pmax
comp=Z,9.0nm,0.8s
VNA3 Neumayer Olymp 76.89 173 P **P** **15 17 24.5 +0.6**
VNA3 Neumayer Olymp 76.89 173 ⇑P **P** **15 17 24.5 +0.6**
comp=Z,5.2nm,1.2s
VNA3 ⇓sP **pwP** **15 17 30.8 -1.7**
VNA2 Neumayer--Watz 76.91 172 P **P** **15 17 25.9 +1.9**
baz=319,slow=3.3
VNA2 Neumayer--Watz 76.91 172 ⇑P **P** **15 17 25.9 +1.9**
comp=Z,5.2nm,0.7s,baz=319,slow=3.3
VNA2 ⇓sP **pwP** **15 17 31.3 -1.3**
baz=338,slow=10
APA Apatity 77.05 21 ⇓*i*P **P** **15 17 22.0 -2.8**
APA pmax pmax

comp=Z,13nm,0.9s
X18A Snowflake 77.16 304 IAmb IAmb 15 17 35.8
comp=Z,48nm,1.2s
X18A IAMs_20 IAMs_20 15 48 03.7
comp=Z,2μm,20.0s
PDAR Pinedale Array 77.52 313 P **P** **15 17 27.8 -0.6**
PDAR Pinedale Array 77.52 313 P **P** **15 17 28.4 0.0**
comp=Z,4.4nm,0.9s,baz=103,slow=6.0,SNR=19
comp=Z,4.4nm,0.9s
GNI Garni 77.58 50 *i* P **P** **15 17 30.1 +1.5**
GNI pmax pmax
comp=Z,39nm,2.3s
KLMR Klimovskoe 77.61 28 *e*P **P** **15 17 30.6 +2.5**
KLMR pmax pmax
comp=Z,58nm,1.5s
TUC Tucson 77.73 302 P **P** **15 17 29.4 -0.1**
TUC IAmb IAmb 15 17 38.6
comp=Z,46nm,1.0s
TUC Tucson 77.73 302 IAMs_20 IAMs_20 15 48 12.0
comp=Z,806nm,19.0s
TUC Tucson 77.73 302 P **P** **15 17 29.4 -0.1**
TUC pmax pmax
comp=Z,46nm,1.0s
P18A Preston Nutter 77.76 309 IAmb IAmb 15 17 39.0
comp=Z,62nm,1.2s
SRU San Rafael Swe 77.93 309 IAMs_20 IAMs_20 15 47 20.0
comp=Z,1μm,20.0s
SPITS Spitsbergen Ar 78.02 9 P **P** **15 17 33.1 +2.9**
comp=Z,42nm,1.2s,baz=209,slow=8.3,SNR=3.8
YNE Yellowstone No 78.07 315 IAmb IAmb 15 17 40.0
comp=Z,30nm,1.1s
YMP Mirror Lake Pl 78.15 315 IAmb IAmb 15 17 40.7
comp=Z,37nm,1.1s
BSUT Blindstream Ca 78.22 310 IAmb IAmb 15 17 41.5
comp=Z,66nm,1.3s
SNAA Sanae 78.26 171 P **P** **15 17 32.3 +0.6**
SNAA Sanae 78.26 171 P **P** **15 17 32.0 +0.4**
SNAA Sanae 78.26 171 ⇑P **P** **15 17 32.3 +0.6**
comp=Z,82nm,0.8s
SNAA ⇓sP **pwP** **15 17 38.6 -1.6**
SNAA Sanae 78.26 171 P **P** **15 17 32.2 +0.6**
comp=Z,4.9nm,1.0s,baz=304,slow=6.4,SNR=9.2
comp=Z,4.9nm,1.0s
SNAA Sanae 78.26 171 P **P** **15 17 32.0 +0.4**
SNAA pmax pmax
comp=Z,25nm,1.3s
LOHW Long Hollow 78.36 314 IAmb IAmb 15 17 41.6
comp=Z,37nm,1.1s
X16A Lo Mia Camp, P 78.38 304 IAmb IAmb 15 17 43.0
comp=Z,41nm,1.2s
X16A IAMs_20 IAMs_20 15 49 03.1
comp=Z,2μm,21.0s
WUAZ Wupatki 78.38 305 IAmb IAmb 15 17 42.8
comp=Z,66nm,1.1s
Q16A Castle Valley 78.42 309 IAmb IAmb 15 17 42.3
comp=Z,41nm,1.4s
Q16A IAMs_20 IAMs_20 15 48 07.0
comp=Z,1μm,21.0s
FLWY Flagg Ranch 78.48 314 IAmb IAmb 15 17 42.6
comp=Z,60nm,1.2s
TMUT Trail Mountain 78.48 309 IAmb IAmb 15 17 50.3
comp=Z,122nm,1.8s
TPAW Teton Pass 78.61 313 IAMs_20 IAMs_20 15 48 08.7
comp=Z,1μm,19.0s
AHID Auburn Hatcher 78.65 313 IAMs_20 IAMs_20 15 47 02.9
comp=Z,2μm,22.0s
YMR Madison River 78.72 315 IAmb IAmb 15 17 44.3
comp=Z,70nm,1.2s
JLU Jordanelle 78.75 310 IAmb IAmb 15 17 45.9
comp=Z,65nm,1.3s
TCUT Toone Canyon 78.76 311 IAmb IAmb 15 17 44.0
comp=Z,59nm,1.2s
TCUT IAMs_20 IAMs_20 15 47 49.7
comp=Z,1μm,18.0s
RES Resolute Bay 78.77 346 IAmb IAmb 15 17 42.9
comp=Z,60nm,1.4s
YHB Horse Butte 78.89 315 IAmb IAmb 15 17 46.5
comp=Z,44nm,1.3s
YHL Hebgen Lake 78.89 315 IAmb IAmb 15 17 45.6
comp=Z,40nm,1.3s
HWUT Hardware Ranch 78.91 311 IAmb IAmb 15 17 44.5
comp=Z,65nm,1.1s
MTPU Mount Pierson 79.16 308 IAmb IAmb 15 17 47.2
comp=Z,56nm,1.1s
MTPU IAMs_20 IAMs_20 15 47 29.6
comp=Z,2μm,22.0s
U15A North Rim 79.17 306 IAMs_20 IAMs_20 15 48 24.9
comp=Z,2μm,21.0s
PKCU Pink Cliffs 79.23 307 IAmb IAmb 15 17 47.1
comp=Z,59nm,1.2s
PKCU IAMs_20 IAMs_20 15 47 54.5
comp=Z,1μm,22.0s
TCRU Three Creeks R 79.40 308 IAmb IAmb 15 17 48.4
comp=Z,53nm,1.2s
TCRU IAMs_20 IAMs_20 15 49 44.9
comp=Z,1μm,18.0s
TROLL Troll, Antarti 79.47 170 P **P** **15 17 39.2 +0.9**
TROLL Troll, Antarti 79.47 170 ⇑P **P** **15 17 39.2 +0.9**
comp=Z,208nm,0.9s
TROLL ⇑sP **pwP** **15 17 44.8 -2.1**
Y14A Wickenburg 79.66 304 IAMs_20 IAMs_20 15 50 32.9
comp=Z,1μm,19.0s
DUG Dugway, Tooele 79.77 310 IAmb IAmb 15 17 57.0
comp=Z,87nm,1.6s
HVU Hansel Valley 79.83 312 IAMs_20 IAMs_20 15 48 32.9
comp=Z,2μm,21.0s
MAK Makhachkala 79.85 47 *c i* P P 15 17 37.1 -3.8
MAK *e*S **S** **15 27 40.2 -3.5**
MAK pmax pmax
comp=Z,88nm,1.1s
MAK MLR MLR
comp=Z,627nm,17.0s
BGU Big Grassy Mou 79.97 311 IAmb IAmb 15 17 50.6
comp=Z,56nm,1.3s
BGU IAMs_20 IAMs_20 15 47 55.8
comp=Z,1μm,21.0s
NVL N'lazarevskaya 80.45 166 *e*P **P** **15 17 44.8 +1.3**
NVL *e*S **S** **15 27 46.4 -2.5**
NVL pmax pmax
comp=Z,8.0nm,1.0s
PSUT Pine Spring 80.50 308 IAmb IAmb 15 17 54.2
comp=Z,41nm,1.1s
PSUT IAMs_20 IAMs_20 15 50 30.9
comp=Z,1μm,20.0s
SPR3 Spring Creek 3 80.89 309 IAmb IAmb 15 17 56.4
comp=Z,46nm,1.3s
SPR3 IAMs_20 IAMs_20 15 48 00.2
comp=Z,1μm,22.0s
BLYC Blythe 80.92 303 IAmb IAmb 15 17 56.3
comp=Z,43nm,1.0s
BLYC IAMs_20 IAMs_20 15 51 39.3
comp=Z,1μm,19.0s
PRN Pahroc Range 81.41 307 IAmb IAmb 15 17 59.5
comp=Z,65nm,1.1s
SHPR Sheep Range 81.48 306 IAMs_20 IAMs_20 15 49 58.0
comp=Z,1μm,21.0s
ELK Elko 81.64 310 LR LR 15 49 31.8
comp=Z,1μm,22.0s,baz=101,slow=32
VOI Vohitsoka 81.79 113 IAMs_20 IAMs_20 15 49 21.0
comp=Z,1μm,20.0s
S11A Rachel 81.97 307 IAMs_20 IAMs_20 15 49 19.9
comp=Z,2μm,22.0s
BELA Belgrano 2 82.06 180 P **P** **15 17 49.9 -2.0**
BELA IAmb IAmb 15 18 00.4
comp=Z,40nm,1.2s
MFID Camas Ranch 82.15 313 IAMs_20 IAMs_20 15 50 23.3
comp=Z,1μm,20.0s
KIRV Kirov 82.20 32 ⇑*e*P **P** **15 17 54.0 +1.0**
TPNV Topopah Spring 82.36 307 IAmb IAmb 15 18 04.3
comp=Z,39nm,1.2s
TPNV IAMs_20 IAMs_20 15 50 40.4
comp=Z,2μm,20.0s
YKA Yellowknife Ar 82.52 332 P **P** **15 17 53.1 -1.5**
YKA Yellowknife Ar 82.52 332 P **P** **15 17 54.3 -0.3**
comp=Z,1.6nm,0.8s,baz=100,slow=5.1,SNR=20
YKA PP **PP** **15 21 03.9 +0.1**
comp=Z,0.6nm,1.0s,baz=96,slow=8.8,SNR=4.3
YKA PKKPbc **PKKPbc** **15 36 20.3 -2.8**
comp=Z,0.1nm,0.4s,baz=279,slow=2.6,SNR=5.3
comp=Z,1.6nm,0.8s
PFO Pinyon Flats O 82.53 303 P **P** **15 17 55.7 +0.2**
PFO Pinyon Flats O 82.53 303 LR LR 15 52 50.0
comp=Z,787nm,18.9s,baz=95,slow=34
PFO Pinyon Flats O 82.53 303 P **P** **15 17 55.7 +0.2**
PFO pmax pmax
comp=Z,24nm,1.2s
WCT Wildcat Mounta 82.66 306 IAmb IAmb 15 18 05.8
comp=Z,53nm,1.3s

GWY Greenwater Val 82.70 306 IAmb IAmb 15 18 05.9
comp=Z,59nm,1.2s
GSC Goldstone, Bar 82.81 305 IAmb IAmb 15 18 06.1
comp=Z,36nm,1.1s
GSC IAMs_20 IAMs_20 15 50 29.3
comp=Z,2μm,20.0s
Q09A Carvers 83.11 308 IAMs_20 IAMs_20 15 50 15.0
comp=Z,1μm,21.0s
NEW Newport 83.17 318 IAmb IAmb 15 18 06.3
comp=Z,36nm,1.4s
NEW Newport 83.17 318 LR LR 15 50 36.8
comp=Z,1μm,21.2s,baz=92,slow=32
BMO Blue Mountains 83.24 315 IAmb IAmb 15 18 07.8
comp=Z,28nm,1.1s
BMO IAMs_20 IAMs_20 15 49 56.1
comp=Z,1μm,20.0s
ELS Elsinore Mount 83.33 303 IAmb IAmb 15 18 08.5
comp=Z,32nm,1.1s
DSP Deep Springs 83.74 307 IAmb IAmb 15 18 11.1
comp=Z,43nm,1.3s
E09A Wood Farm, Sta 83.84 316 IAmb IAmb 15 18 10.2
comp=Z,33nm,1.2s
NVAR Mina Array Bea 83.99 308 P **P** **15 18 03.0 -0.1**
NVAR Mina Array Bea 83.99 308 P **P** **15 18 03.8 +0.7**
comp=Z,2.7nm,0.8s,baz=105,slow=4.8,SNR=14
comp=Z,2.7nm,0.8s
ELIB Princess Elisa 84.06 165 *d*P **P** **15 18 03.7 +1.1**
J08A Circle Bar Ran 84.08 313 IAmb IAmb 15 18 12.7
comp=Z,68nm,1.5s
J08A IAMs_20 IAMs_20 15 51 14.3
comp=Z,1μm,20.0s
LHV Little Huntoon 84.15 308 IAmb IAmb 15 18 18.6
comp=Z,33nm,1.0s
RYN Ryan 84.16 308 IAmb IAmb 15 18 12.8
comp=Z,32nm,1.2s
RYN IAMs_20 IAMs_20 15 51 07.8
comp=Z,986nm,20.0s
WVOR Wild Horse Val 84.20 312 IAmb IAmb 15 18 20.9
comp=Z,47nm,1.5s
D08A Wollman Farm, 84.37 317 IAmb IAmb 15 18 23.1
comp=Z,75nm,1.8s
E08A Dider Farm, El 84.47 316 IAmb IAmb 15 18 13.7
comp=Z,46nm,1.3s
B08A Colville Reser 84.64 318 IAmb IAmb 15 18 20.3
comp=Z,29nm,1.5s
HAWA Hanford 84.80 316 IAmb IAmb 15 18 27.0
comp=Z,43nm,1.6s
PAHR Pah Rah Range 84.81 309 IAMs_20 IAMs_20 15 52 21.9
comp=Z,1μm,21.0s
I07A Izee 84.81 314 IAmb IAmb 15 18 56.3
comp=Z,76nm,2.0s
WAKR Walker 84.88 308 IAmb IAmb 15 18 17.3
comp=Z,56nm,1.8s
WAKR IAMs_20 IAMs_20 15 51 52.9
comp=Z,1μm,21.0s
BCW Bitter Crk WRg 84.95 305 IAmb IAmb 15 18 30.8
comp=Z,54nm,1.2s
PNTR Pine Nut 84.99 309 IAmb IAmb 15 18 17.5
comp=Z,44nm,1.0s
E07A Sunnyside 85.02 316 IAmb IAmb 15 18 16.9
comp=Z,41nm,1.3s
LTY Liberty 85.56 317 IAmb IAmb 15 18 26.4
comp=Z,57nm,1.8s
PINE Pine Mountain 85.86 313 IAmb IAmb 15 18 21.5
comp=Z,24nm,1.0s
PMPB Monarch Peak 86.04 306 IAmb IAmb 15 18 22.4
comp=Z,60nm,1.2s
AFDM Forest Hills D 86.06 309 IAmb IAmb 15 18 22.0
comp=Z,30nm,1.1s
AFDM IAMs_20 IAMs_20 15 54 13.1
comp=Z,1μm,20.0s
I05D Terrebonne, OR 86.13 314 IAmb IAmb 15 18 23.1
comp=Z,58nm,1.2s
A36M Sands Harbour 86.77 342 IAmb IAmb 15 18 24.2
comp=Z,37nm,1.2s
ARTI Arti 87.01 34 P **P** **15 18 17.8 +0.3**
ARTI IAmb IAmb 15 18 26.6
comp=Z,20nm,1.0s
ARTI Arti 87.01 34 LR LR 15 54 57.8
comp=Z,858nm,21.3s,baz=267,slow=34
ARTI Arti 87.01 34 *d i* P **P** **15 18 19.1 +1.7**
ARTI 15 21 37.9
ARTI S **SKSac** **15 28 44.8 +0.7**
ARTI SS **SS** **15 34 33.2 -5.1**
ARTI pmax pmax
comp=Z,45nm,2.4s
GNW Green Mountain 87.02 317 IAmb IAmb 15 18 25.9
comp=Z,25nm,1.1s
YBH Yreka Blue Hor 87.25 311 LR LR 15 53 15.7
comp=Z,1μm,22.0s,baz=85,slow=33
PGC Sidney 87.37 318 IAMs_20 IAMs_20 15 52 25.2
comp=Z,1μm,20.0s
SYO Syowa Base 87.67 160 ⇓*e*P **P** **15 18 19.0 -1.3**
SYO Syowa Base 87.67 160 ⇓*e*PcP **P** **15 18 22.0 +1.7**
SVE Sverdlovsk 88.22 33 *e*P **P** **15 18 21.2 -2.0**
MSEY Mahe Island 88.44 95 IAMs_20 IAMs_20 15 53 33.5
comp=Z,1μm,21.0s
ABKAR Abkulak array 88.45 41 P **P** **15 18 24.3 -0.2**
ABKAR Abkulak array 88.45 41 IAmb IAmb 15 18 33.6
comp=Z,26nm,1.6s
WTLY Watson Lake, Y 89.40 330 IAMs_20 IAMs_20 15 53 24.1
comp=E,887nm,18.0s
WSAR Wadi Sarin 89.46 67 LR LR 15 58 26.6
comp=E,2μm,21.9s,baz=320,slow=36
F31M Tsiigehtchic 90.33 338 IAmb IAmb 15 18 48.6
comp=Z,35nm,1.4s
M31M Drury Creek, Y 91.71 333 IAmb IAmb 15 18 48.3
comp=Z,23nm,1.2s
D27M Malcolm River 92.44 340 IAMs_20 IAMs_20 15 56 34.0
comp=Z,895nm,22.0s
I29M Ogilvie Camp, 92.62 336 IAmb IAmb 15 18 58.7
comp=Z,31nm,1.8s
BRVK Borovoye 94.30 36 *i* P **P** **15 18 51.1 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BMAR Burnt Mountain 94.33 339 P **P** **15 18 51.0 -0.5**
QSPA South Pole Qui 94.33 180 P **P** **15 18 51.9 +0.4**
comp=Z,18nm,1.4s,baz=232,slow=0.8,SNR=11
comp=Z,18nm,1.4s
C23K Itkillik River 95.32 342 IAmb IAmb 15 19 05.3
comp=Z,34nm,1.4s
SCRK Sand Creek 95.38 336 IAmb IAmb 15 19 04.5
comp=Z,22nm,1.6s
TOLK Tolik Lake Re 95.54 341 IAmb IAmb 15 19 06.3
comp=Z,24nm,1.1s
ILAR Eielson Array 96.24 337 P **P** **15 18 58.5 -1.7**
ILAR Eielson Array 96.24 337 P **P** **15 19 00.1 -0.1**
comp=Z,0.8nm,0.8s,baz=55,slow=4.2,SNR=8.1
comp=Z,0.8nm,0.8s
SIMJ Simiganj 96.37 51 IAMs_20 IAMs_20 16 06 42.4
comp=Z,626nm,19.0s
COLA College 96.57 337 *e*P **P** **15 18 59.6 -2.0**
COLA pmax pmax
comp=Z,13nm,1.4s
G23K Bananza Creek 96.57 339 IAmb IAmb 15 19 10.3
comp=Z,17nm,1.6s
GLI Glacier Island 97.90 333 IAMs_20 IAMs_20 15 59 11.5
comp=Z,1μm,19.0s
GHO Glory Hole Cre 98.33 334 IAMs_20 IAMs_20 15 59 33.8
comp=Z,668nm,20.0s
E19K Redstone River 98.62 341 IAMs_20 IAMs_20 15 59 42.2
comp=Z,1μm,20.0s
AAK Ala-Archa 99.57 46 IAMs_20 IAMs_20 16 12 04.6
comp=Z,521nm,18.0s
KURBB Kurchatov Arra 99.89 37 P **Pdif** **15 19 15.9 -1.0**
comp=Z,0.3nm,0.7s,baz=280,slow=5.5,SNR=1.9
comp=Z,0.3nm,0.7s
KURK Kurchatov 99.92 37 IAMs_20 IAMs_20 16 01 18.9
comp=Z,701nm,21.0s
KURK Kurchatov 99.92 37 P **Pdif** **15 19 15.9 -1.1**
KSH Kashi 101.46 48 P **Pdif** **15 19 22.3 -2.0**
KSH pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 102.22 32 P **Pdif** **15 19 27.2 0.0**
comp=Z,0.5nm,0.5s,baz=336,slow=6.3,SNR=2.2
HMDM Hanimaadhoo 105.11 82 IAMs_20 IAMs_20 16 05 19.2
comp=Z,925nm,20.0s
TAOE Nuku Hiva Isla 107.96 262 *e*PP **PP** **15 24 18.0 -5.1**
comp=Z,50nm,23.3s
TAOE *e*S 15 31 50.3
comp=Z,218nm,25.8s
TAOE *e*SS **SS** **15 39 30.3 -5.9**
comp=Z,229nm,25.6s
TAOE Nuku Hiva Isla 107.96 262 *e*LR LR 15 55 30.5
comp=Z,769nm,21.9s
WMQ Urumqi 108.24 41 Pdif **Pdif** **15 19 56.0 +1.7**
WMQ LR LR
comp=Z,590nm,22.3s

WMQ LR LR
comp=Z,470nm,23.7s
TBI Tubuai 116.31 246 *e*P **PKiKP** **15 24 20.5 +4.0**
comp=Z,303nm,30.2s
TBI *e*S 15 31 45.9
comp=Z,2μm,32.2s
TBI *e*SS **SS** **15 41 26.7 +0.1**
comp=Z,1μm,33.8s
TBI Tubuai 116.31 246 *e*LR LR 15 59 27.8
comp=Z,2μm,23.8s
LSA Lhasa 116.45 54 IAMs_20 IAMs_20 16 19 19.9
comp=Z,755nm,19.0s
SONM Songino Array 116.88 30 PKP **PKPdf** **15 24 16.8 -0.4**
comp=Z,0.2nm,0.3s,baz=307,slow=3.1,SNR=2.0
SONM PP **PP** **15 25 21.8 -3.4**
comp=Z,1.2nm,1.0s,baz=328,slow=5.1,SNR=4.6
PPT2 Papeete2 116.98 253 *e*S 15 31 50.1
comp=Z,319nm,27.5s
PPT2 *e*SS **SS** **15 41 36.6 +0.8**
comp=Z,742nm,27.2s
PPT2 Papeete2 116.98 253 *e*LR LR 15 59 45.9
comp=Z,910nm,35.2s
PPT2 *e*LR LR 15 59 45.9
comp=Z,1μm,29.5s
ULN Ulaanbaatar 117.19 29 IAMs_20 IAMs_20 16 16 08.0
comp=Z,709nm,20.0s
XLT XiLinHaoTe 124.37 27 *e*PKP **PKPdf** **15 24 30.0 -1.6**
XLT sPKP 15 24 40.0
XLT PP **PP** **15 26 20.5 +4.2**
XLT AMB AMB
comp=Z,160nm,8.1s
XLT LR LR
comp=Z,42nm,19.1s
XLT LR LR
comp=Z,310nm,19.1s
XLT LR LR
comp=Z,610nm,20.4s
HHC Hu-ho-hao-te 124.40 33 *e*PKP **PKPdf** **15 24 28.0 -3.8**
HHC LR LR
comp=Z,300nm,15.3s
HHC LR LR
comp=Z,420nm,16.8s
HHC LR LR
comp=Z,500nm,15.3s
KLR Kul'dur 124.99 12 *e*PKIKP **PKPdf** **15 24 30.1 -2.4**
KLR pmax pmax
comp=Z,7.0nm,1.9s
CD2 Chengdu 125.62 47 PKP **PKPdf** **15 24 34.0 -0.3**
PZH PanZhiHua 126.28 53 PKP **PKPdf** **15 24 35.3 -0.5**
PZH AMB AMB
comp=Z,200nm,8.1s
PZH LR LR
comp=Z,310nm,18.0s
PZH LR LR
comp=Z,300nm,18.6s
PZH LR LR
comp=Z,390nm,19.6s
CHTO Chiang Mai 127.06 63 IAMs_20 IAMs_20 16 24 41.5
comp=Z,595nm,20.0s
CMAR Chiang Mai Arr 127.19 63 PKPdf **PKPdf** **15 24 37.0 -0.6**
CMAR Chiang Mai Arr 127.19 63 PKP **PKPdf** **15 24 37.8 +0.3**
comp=Z,1.5nm,0.8s,baz=287,slow=3.5,SNR=9.9
CMAR Chiang Mai Arr 127.19 63 PKIKP **PKPdf** **15 24 37.0 -0.6**
XAN Xi'an 127.37 41 PKP **PKPdf** **15 24 38.3 +0.7**
XAN PP **PP** **15 26 36.3 -0.4**
XAN SS SS 15 43 49.0 +3.0
XAN LR LR
comp=Z,590nm,19.2s
XAN LR LR
comp=Z,690nm,22.0s
XAN LR LR
comp=Z,860nm,19.8s
YSS Yuzhno-Sakhali 128.81 4 *e*PKIKP **PKiKP** **15 24 44.0 +3.5**
YSS pmax pmax
comp=Z,10.0nm,1.1s
USRK Ussuriysk Ar. 129.78 14 PKP **PKPdf** **15 24 42.0 +0.2**
comp=Z,1.3nm,0.8s,baz=169,slow=1.9,SNR=4.1
USRK Ussuriysk Ar. 129.78 14 PKIKP **PKPdf** **15 24 42.0 +0.2**
ENH Enshi 130.05 44 IAMs_20 IAMs_20 16 28 20.3
comp=Z,420nm,21.0s
GYA Guiyang 130.13 50 ⇑PKP **PKPdf** **15 24 43.3 +0.2**
GYA PP **PP** **15 26 58.3 +3.0**
GYA AMB AMB
comp=Z,92nm,4.5s
GYA LR LR
comp=Z,310nm,24.9s
GYA LR LR
comp=Z,380nm,20.4s
GYA LR LR
comp=Z,670nm,26.4s
RPSI Rantau Prapat 131.07 83 IAMs_20 IAMs_20 16 16 42.2
comp=Z,564nm,21.0s
KULM Kulim 132.35 79 IAMs_20 IAMs_20 16 16 51.0
comp=Z,545nm,21.0s
BKNI Bangkinang 133.46 86 IAMs_20 IAMs_20 16 22 37.7
comp=Z,404nm,20.0s
NJ2 Nanjing 134.80 35 *e*PKP **PKPdf** **15 24 51.3 -0.3**
NJ2 LR LR
comp=Z,540nm,19.9s
NJ2 LR LR
comp=Z,320nm,17.5s
NJ2 LR LR
comp=Z,450nm,16.1s
MYKOM Kota Tinggi 136.07 83 IAMs_20 IAMs_20 16 19 57.6
comp=Z,436nm,21.0s
QIZ Qiongzhong 136.38 57 IAMs_20 IAMs_20 16 29 20.5
comp=Z,431nm,19.0s
QIZ Qiongzhong 136.38 57 PKP **PKPdf** **15 24 54.5 -0.4**
QIZ PP **PP** **15 27 36.0 +0.6**
QIZ SS SS 15 45 37.8 +0.8
QIZ LR LR
comp=Z,240nm,13.1s
QIZ LR LR
comp=Z,260nm,12.8s
QIZ LR LR
comp=Z,330nm,27.5s
H01W2 Cape Leeuwin H 136.70 139 T T 17 57 10.7
baz=239,slow=75,SNR=4.1
H01W3 Cape Leeuwin H 136.71 139 T T 17 57 05.1
baz=239,slow=75,SNR=3.7
H01W1 Cape Leeuwin H 136.71 139 T T 17 57 06.0
baz=239,slow=75,SNR=4.9
PMBI Palembang 137.44 90 IAMs_20 IAMs_20 16 16 27.4
comp=Z,428nm,22.0s
DLV Lat 138.09 67 IAMs_20 IAMs_20 16 27 55.8
comp=Z,454nm,20.0s
MJAR Matsushiro Arr 138.48 11 PKP **PKPdf** **15 24 58.2 -0.2**
comp=Z,2.3nm,0.8s,baz=338,slow=4.0,SNR=5.7
KSM Kuching 142.50 82 IAMs_20 IAMs_20 16 22 14.2
comp=Z,343nm,21.0s
SBUM Sibu 144.22 80 PKPdf **PKPab** **15 25 08.2 +1.2**
TOO Toolangi 146.83 177 PKPbc **PKPdf** **15 25 14.6 +1.5**
TOO Toolangi 146.83 177 PKP2 **PKPdf** **15 25 14.6 +1.5**
KKM Kota Kinabalu 147.22 72 IAMs_20 IAMs_20 16 37 07.5
comp=Z,407nm,20.0s
BBOO Buckleboo 149.71 161 **PKPbc** **15 25 22.1 -0.4**
STKA Stephens Creek 152.02 169 PKPdf **PKPdf** **15 25 21.1 -0.4**
STKA Stephens Creek 152.02 169 PKPbc **PKPbc** **15 25 28.2 +0.2**
comp=Z,6.9nm,0.9s,baz=107,slow=2.4,SNR=8.2
STKA Stephens Creek 152.02 169 PKIKP **PKPdf** **15 25 21.1 -0.4**
KAPI Kappang 152.44 93 **PKPbc** **15 25 28.8 -0.7**
KAPI Kappang 152.44 93 IAMs_20 IAMs_20 16 23 28.8
comp=Z,390nm,21.0s
KAPI Kappang 152.44 93 PKPbc **PKPbc** **15 25 29.0 -0.5**
comp=Z,5.7nm,0.3s,baz=244,slow=3.1,SNR=11
KAPI Kappang 152.44 93 PKIKP **PKPbc** **15 25 28.8 -0.7**
KAPI MLR MLR
comp=Z,400nm,21.0s
TOLI2 Tolitoli 152.87 79 IAMs_20 IAMs_20 16 32 57.9
comp=Z,335nm,21.0s
DZM Mont Dzumac 154.44 225 *e*LR LR 16 17 02.6
comp=Z,761nm,22.8s
FITZ Fitzroy Crossi 154.68 125 **PKPbc** **15 25 32.4 -1.8**
FITZ Fitzroy Crossi 154.68 125 PKPbc **PKPbc** **15 25 33.1 -1.1**
comp=Z,9.4nm,1.0s,baz=264,slow=1.2,SNR=6.8
ASAR Alice Springs 156.75 147 **PKPdf** **15 25 26.5 -1.9**
ASAR Alice Springs 156.75 147 PKP **PKPdf** **15 25 27.2 -1.2**
comp=Z,1.5nm,0.8s,baz=231,slow=0.6,SNR=8.9
ASAR Alice Springs 156.75 147 PKIKP **PKPdf** **15 25 26.5 -1.9**
WRA Warramunga Arr 159.90 142 PKPdf **PKPdf** **15 25 30.6 -1.6**
WRA PKPab **PKPab** **15 26 10.3 -1.1**
WRA Warramunga Arr 159.90 142 PKP **PKPdf** **15 25 31.7 -0.6**
comp=Z,2.4nm,1.1s,baz=246,slow=2.0,SNR=5.9
WRA PKPab **PKPab** **15 26 10.8 -0.5**
comp=Z,1.6nm,0.7s,baz=214,slow=3.6,SNR=7.6

*NOU **25** 15:08:40.7, 42°.51S×173°.86E, h10km, MLv4.2/19, South Island, New Zealand*
*NEIC **25** 15:08:41.2±0.8, 42°.51S±0°.02×173°.92E±0°.07, h13km±7km, mb4.2/3, Error ellipse: s-maj=7.1km s-min=3.0km az=98.0*
*WEL **25** 15:08:42.7±0.5, 42°.53S×17°.4E±°, h13km±3km, M3.7/14, ML3.9/14, MLv3.7/14, Error ellipse: s-maj=5.7km s-min=2.9km az=126.0, confirmed*
ISC 25 15:08:40.9±1.2, 42°.52S±0°.03×173°.92E±0°.03, h12km±9km, n136, σ0.96/145, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.20**	**297**	P	**Pb**	**15 08 46.2**	**-0.1**
KHZ	**Kahutara**	**0.30**	**290**	Pg	**Pg**	**15 08 47.3**	**+0.4**
KHZ	**Kahutara**	**0.30**	**290**	P	**Pg**	**15 08 46.8**	**-0.2**
KHZ	**Kahutara**	**0.30**	**290**	P	**Pn**	**15 08 50.5**	**-0.5**
KHZ	**Kahutara**	**0.30**	**290**	P	**Pg**	**15 08 47.4**	**+0.4**
KHZ				S	**Pn**	**15 08 50.5**	**-0.5**
CECS	**Cheviot Emerge**	**0.56**	**238**	P	**Pn**	**15 08 55.2**	**+0.6**
KEKS	**Kekerengu Vall**	**0.56**	**5**	P	**Pb**	**15 08 53.5**	**+0.8**
KEKS				S	**Sb**	**15 09 01.4**	**+0.7**
WTMC	**Te Mara Farm W**	**0.65**	**260**	P	**Pn**	**15 08 55.3**	**-0.5**
WDFS	**Ward Fire Stat**	**0.71**	**14**	P	**Pn**	**15 08 56.7**	**0.0**
GVZ	**Greta Valley S**	**0.79**	**235**	Pn	**Pn**	**15 08 58.7**	**+0.8**
GVZ	**Greta Valley S**	**0.79**	**235**	P	**Pn**	**15 08 58.8**	**+1.0**
GVZ				S	**Sn**	**15 09 10.9**	**+1.2**
CMWZ	**Cape Campbell**	**0.80**	**16**	Pn	**Pn**	**15 08 58.3**	**+0.3**
CMWZ	**Cape Campbell**	**0.80**	**16**	P	**Pn**	**15 08 58.3**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.80**	**358**	Pg	**Pb**	**15 08 56.9**	**+0.1**
BSWZ	**Blackbirch Sta**	**0.80**	**358**	P	**Pb**	**15 08 57.0**	**+0.3**
BSWZ				S	**Sb**	**15 09 07.6**	**+0.1**
HSES	**Hanmer Springs**	**0.80**	**269**	P	**Pb**	**15 08 57.1**	**+0.3**
THZ	**Tophouse**	**1.06**	**315**		**Pb**	**15 09 00.6**	**-0.7**
THZ	**Tophouse**	**1.06**	**315**	P	**Pb**	**15 09 00.7**	**-0.6**
TUWZ	**Tuamarina**	**1.09**	**1**		**Pn**	**15 09 01.5**	**-0.1**
TUWZ	**Tuamarina**	**1.09**	**1**	P	**Pn**	**15 09 01.9**	**0.0**
AMCZ	**Amberley**	**1.14**	**234**		**Pg**	**15 09 03.0**	**+0.1**
AMCZ	**Amberley**	**1.14**	**234**	P	**Pg**	**15 09 03.6**	**+0.7**
LTZ	**Lake Taylor**	**1.24**	**257**		**Pn**	**15 09 04.1**	**-0.1**
LTZ	**Lake Taylor**	**1.24**	**257**	P	**Pb**	**15 09 04.2**	**-0.1**
LTZ				S	**Sg**	**15 09 20.5**	**-0.5**
BHW	**Baring Head**	**1.32**	**33**	Pn	**Pb**	**15 09 05.4**	**-0.1**
BHW	**Baring Head**	**1.32**	**33**	P	**Pb**	**15 09 05.6**	**+0.1**
TCW	**Tory Channel**	**1.33**	**12**		**Pn**	**15 09 05.1**	**-0.2**
TCW	**Tory Channel**	**1.33**	**12**	P	**Pn**	**15 09 05.2**	**-0.1**
SNZO	**South Karori**	**1.34**	**26**		**Pn**	**15 09 05.7**	**+0.3**
SNZO	**South Karori**	**1.34**	**26**	P	**Pn**	**15 09 05.5**	**+0.1**
NNZ	**Nelson**	**1.36**	**343**		**Pn**	**15 09 05.2**	**-0.4**
NNZ	**Nelson**	**1.36**	**343**	P	**Pn**	**15 09 05.2**	**-0.4**
OKCZ	**Okains Bay**	**1.36**	**207**	P	**Pg**	**15 09 07.1**	**+0.1**
PLWZ	**Palliser**	**1.38**	**47**		**Pn**	**15 09 06.3**	**+0.4**
PLWZ	**Palliser**	**1.38**	**47**	P	**Pb**	**15 09 06.5**	**-0.1**
WEL	**Wellington**	**1.39**	**28**	P	**Pb**	**15 09 06.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.41**	**322**		**Pn**	**15 09 06.3**	**-0.1**
MRNZ	**Matariki Terra**	**1.41**	**322**	P	**Pn**	**15 09 06.5**	**+0.1**
MRNZ				S	**Sn**	**15 09 23.9**	**-1.0**
MSWZ	**Moikau Station**	**1.48**	**43**		**Pn**	**15 09 07.7**	**+0.3**
MSWZ	**Moikau Station**	**1.48**	**43**	P	**Pn**	**15 09 07.9**	**+0.5**
MQZ	**McQueen's Vall**	**1.51**	**217**	Pn	**Pn**	**15 09 08.0**	**+0.3**
MQZ	**McQueen's Vall**	**1.51**	**217**	P	**Pn**	**15 09 08.1**	**+0.4**
MQZ				S	**Sn**	**15 09 27.3**	**0.0**
AKCZ	**Akaroa Harbour**	**1.54**	**208**	P	**Pb**	**15 09 09.4**	**0.0**
OXZ	**Oxford**	**1.60**	**239**		**Pn**	**15 09 08.7**	**-0.3**
OXZ	**Oxford**	**1.60**	**239**	P	**Pn**	**15 09 08.9**	**0.0**
PAWZ	**Paruwai Farm**	**1.60**	**45**	P	**Pn**	**15 09 09.2**	**+0.2**
TKNZ	**Takaka Hill**	**1.65**	**334**		**Pn**	**15 09 09.7**	**+0.1**
TKNZ	**Takaka Hill**	**1.65**	**334**	P	**Pn**	**15 09 09.9**	**+0.3**
TKNZ				S	**Sn**	**15 09 30.4**	**-0.3**
CAW	**Cannon Point**	**1.65**	**32**	P	**Pn**	**15 09 10.1**	**+0.4**
DUWZ	**D'Urville Isla**	**1.71**	**0**	P	**Pn**	**15 09 10.4**	**-0.1**
TRWZ	**Traveller**	**1.73**	**50**	P	**Pn**	**15 09 11.1**	**+0.3**
DSZ	**Denniston Nort**	**1.75**	**295**	Pn	**Pn**	**15 09 11.6**	**+0.5**
DSZ	**Denniston Nort**	**1.75**	**295**	P	**Pn**	**15 09 11.1**	**0.0**
DSZ				S	**Sn**	**15 09 33.2**	**-0.1**
RACZ	**Rakaia**	**1.78**	**226**	P	**Pn**	**15 09 11.8**	**+0.4**
MTW	**Mount Morrison**	**1.80**	**42**	P	**Pn**	**15 09 11.8**	**+0.1**
KIW	**Kapiti Island**	**1.81**	**25**	P	**Pn**	**15 09 12.3**	**+0.4**
INZ	**Inchbonnie**	**1.84**	**263**		**Pn**	**15 09 12.3**	**+0.1**
INZ	**Inchbonnie**	**1.84**	**263**	P	**Pn**	**15 09 12.3**	**+0.1**
OGWZ	**Otaki Gorge**	**1.94**	**29**	P	**Pn**	**15 09 13.9**	**+0.3**
QRZ	**Quartz Range**	**1.98**	**328**	Pn	**Pn**	**15 09 14.7**	**+0.5**
QRZ	**Quartz Range**	**1.98**	**328**	P	**Pn**	**15 09 14.7**	**+0.5**
QRZ	**Quartz Range**	**1.98**	**328**	S	**Sn**	**15 09 39.5**	**+0.5**
QRZ	**Quartz Range**	**1.98**	**328**	P	**Pn**	**15 09 14.8**	**+0.6**
MHCZ	**Mount Hutt**	**2.00**	**239**	P	**Pn**	**15 09 14.5**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.01**	**37**	P	**Pn**	**15 09 14.7**	**+0.1**
TMWZ	**Te Maipa**	**2.04**	**47**	P	**Pn**	**15 09 15.0**	**+0.0**
WACZ	**Wakanui South**	**2.08**	**226**	P	**Pn**	**15 09 16.2**	**+0.6**
MRZ	**Mangatainoka R**	**2.23**	**34**		**Pn**	**15 09 17.6**	**-0.1**
MRZ	**Mangatainoka R**	**2.23**	**34**	P	**Pn**	**15 09 17.7**	**0.0**
TIWZ	**Tintock**	**2.28**	**41**	P	**Pn**	**15 09 18.3**	**-0.1**
WVZ	**Waitaha Valley**	**2.41**	**256**	P	**Pn**	**15 09 20.7**	**+0.7**
RPZ	**Rata Peaks**	**2.41**	**239**	Pn	**Pn**	**15 09 20.0**	**-0.1**
RPZ	**Rata Peaks**	**2.41**	**239**	P	**Pn**	**15 09 20.1**	**-0.1**
RPZ	**Rata Peaks**	**2.41**	**239**	S	**Sn**	**15 09 48.1**	**-1.6**
RPZ	**Rata Peaks**	**2.41**	**239**	P	**Pn**	**15 09 20.3**	**+0.1**
ARCZ	**Arundel**	**2.46**	**234**	P	**Pn**	**15 09 21.0**	**+0.2**
PRWZ	**Pori Road**	**2.49**	**39**	P	**Pn**	**15 09 21.1**	**-0.1**
BFZ	**Birch Farm**	**2.53**	**44**	P	**Pn**	**15 09 21.2**	**-0.6**
BFZ	**Birch Farm**	**2.53**	**44**	P	**Pn**	**15 09 21.3**	**-0.6**
OHWZ	**Ohakea**	**2.54**	**25**	P	**Pn**	**15 09 23.3**	**+1.4**
POWZ	**Post Office Ro**	**2.54**	**34**	P	**Pn**	**15 09 21.8**	**-0.1**
GCSZ	**Gaunt Creek Bo**	**2.75**	**252**	P	**Pn**	**15 09 26.1**	**+1.2**
DVHZ	**Dannevirke**	**2.79**	**38**	P	**Pn**	**15 09 24.5**	**-0.8**
ANWZ	**Angora Road**	**2.81**	**44**	P	**Pn**	**15 09 24.6**	**-1.0**
TMZ	**Timaru**	**2.82**	**228**	P	**Pn**	**15 09 26.3**	**+0.4**
WAZ	**Wanganui**	**2.88**	**17**	P	**Pn**	**15 09 28.4**	**+1.8**
TSZ	**Takapari Road**	**2.90**	**33**	P	**Pn**	**15 09 26.4**	**-0.4**
LREZ	**Lake Rotokare**	**3.08**	**7**	P	**Pn**	**15 09 31.4**	**+2.2**
NMEZ	**Namu Road**	**3.10**	**359**	P	**Pb**	**15 09 33.0**	**-2.9**
WPHZ	**Waipukurau**	**3.10**	**39**	P	**Pn**	**15 09 29.1**	**-0.6**
PNHZ	**Pukenui**	**3.12**	**34**	P	**Pn**	**15 09 29.3**	**-0.7**
FOZ	**Fox Glacier**	**3.17**	**250**	Pn	**Pn**	**15 09 31.2**	**+0.6**
FOZ	**Fox Glacier**	**3.17**	**250**	P	**Pn**	**15 09 31.7**	**+1.1**
KHEZ	**Kahui Hut**	**3.22**	**1**	P	**Pn**	**15 09 31.8**	**+0.5**
KHEZ	**Kahui Hut**	**3.22**	**1**	P	**Pn**	**15 09 33.9**	**+2.6**
NEZ	**North Egmont**	**3.25**	**2**	P	**Pn**	**15 09 34.6**	**+2.9**
LBZ	**Lake Benmore**	**3.30**	**234**	P	**Pn**	**15 09 32.7**	**+0.4**
PKE	**Pukeiti**	**3.32**	**1**	P	**Pn**	**15 09 35.0**	**+2.3**
PKVZ	**Pokaka**	**3.40**	**19**	P	**Pn**	**15 09 35.1**	**+1.3**
MOVZ	**Moawhango**	**3.40**	**25**	P	**Pn**	**15 09 34.1**	**+0.2**
KRHZ	**Kereru**	**3.42**	**34**	P	**Pn**	**15 09 33.1**	**-0.9**
WNVZ	**Wahianoa**	**3.43**	**22**	P	**Pn**	**15 09 35.2**	**+0.9**
VRZ	**Vera Road**	**3.45**	**11**	P	**Pn**	**15 09 36.0**	**+1.6**
ODZ	**Otahua Downs**	**3.46**	**222**	Pn	**Pn**	**15 09 34.8**	**+0.1**
ODZ	**Otahua Downs**	**3.46**	**222**	P	**Pn**	**15 09 35.1**	**+0.5**
ODZ	**Otahua Downs**	**3.46**	**222**	S	**Sn**	**15 10 14.6**	**-0.9**
ODZ	**Otahua Downs**	**3.46**	**222**	P	**Pn**	**15 09 35.0**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.47**	**22**	P	**Pn**	**15 09 36.0**	**+1.1**
FWVZ	**Far West T-bar**	**3.49**	**21**	P	**Pn**	**15 09 36.6**	**+1.4**
TUVZ	**Tukino**	**3.50**	**23**	P	**Pn**	**15 09 36.2**	**+0.9**
KAHZ	**Kahuranaki**	**3.52**	**40**	P	**Pn**	**15 09 34.6**	**-0.8**
COVZ	**Chateau Observ**	**3.54**	**21**	P	**Pn**	**15 09 37.0**	**+1.3**
NGZ	**Ngauruhoe**	**3.57**	**22**	P	**Pn**	**15 09 37.3**	**+1.1**
SNVZ	**South Ngauruho**	**3.57**	**22**	P	**Pn**	**15 09 37.2**	**+0.9**
OTVZ	**Oturere**	**3.60**	**22**	P	**Pn**	**15 09 37.4**	**+0.7**
NNVZ	**North Ngauruho**	**3.62**	**21**	P	**Pn**	**15 09 38.2**	**+1.3**
KWHZ	**Kaweka Forest**	**3.62**	**32**	P	**Pn**	**15 09 37.0**	**+0.1**
WTVZ	**West Tongariro**	**3.63**	**21**	P	**Pn**	**15 09 38.7**	**+1.2**
ETVZ	**East Tongariro**	**3.64**	**23**	P	**Pn**	**15 09 38.2**	**+1.0**
TMVZ	**Te Maari**	**3.66**	**22**	P	**Pn**	**15 09 38.0**	**+0.6**
KRVZ	**Karewarewa**	**3.66**	**22**	P	**Pn**	**15 09 39.9**	**+2.5**
NTVZ	**North Tongarir**	**3.67**	**22**	P	**Pn**	**15 09 38.4**	**+0.9**
BKZ	**Black Stump Fm**	**3.88**	**31**	Pn	**Pn**	**15 09 39.0**	**-1.3**
BKZ	**Black Stump Fm**	**3.88**	**31**	P	**Pn**	**15 09 39.1**	**-1.3**
BKZ	**Black Stump Fm**	**3.88**	**31**	S	**Sn**	**15 10 27.0**	**+1.2**
BKZ	**Black Stump Fm**	**3.88**	**31**	P	**Pn**	**15 09 39.0**	**-1.3**
JCZ	**Jackson Bay**	**4.06**	**246**	P	**Pn**	**15 09 43.6**	**+0.8**
HIZ	**Hauiti**	**4.06**	**10**	Pn	**Pn**	**15 09 44.0**	**+1.1**
HIZ	**Hauiti**	**4.06**	**10**	P	**Pn**	**15 09 44.2**	**+1.4**
URZ	**Urewera**	**4.90**	**31**	P	**Pn**	**15 09 53.1**	**-1.3**
SYZ	**Scrubby Hill**	**5.27**	**219**	P	**Pn**	**15 10 00.6**	**+1.2**
CTZ	**Chatham Island**	**7.03**	**103**	P	**Pn**	**15 10 24.4**	**+0.8**
OUZ	**Omahuta**	**7.29**	**358**	P	**Pn**	**15 10 27.9**	**+0.7**
WB2	**Warramunga Arr**	**40.14**	**292**	P	**P**	**15 16 16.4**	**-0.3**
WB2				IAmb	IAmb	15 16 35.2	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**40.23**	**292**	P	**P**	**15 16 16.9**	**-0.6**
WB0				IAmb	IAmb	15 16 43.2	
	comp=Z,4.4nm,1.2s						
MTN	**Manton Dam**	**47.32**	**296**	P	**P**	**15 17 14.5**	**0.0**

*IDC **25** 15:12:45.7±1.5, 4°.21N×32°.57W, h0km, mb3.7/5, mbtmp3.7/6, ML3.0/1, MS4.5/1, Error ellipse: s-maj=43.1km s-min=28.8km az=92.0*
ISC 25 15:12:48.7±1.0, 4°.2N±0°.1×32°.6W±0°.2, h19km, n12, σ0.61/7, mb3.9/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.50**	**199**	Pn	**Pn**	**15 15 18.5**	**+0.1**
	0.1nm,0.3s,baz=58,slow=20,SNR=2.6 1.6nm,0.8s						
H10N3	**ASCENSION HYDR**	**21.63**	**124**	T	T	15 40 02.6	
	baz=302,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**21.64**	**123**	T	T	15 40 03.0	
	baz=302,slow=75,SNR=31						
H10N1	**ASCENSION HYDR**	**21.65**	**124**	T	T	15 40 04.1	
	baz=302,slow=75,SNR=36						
H10S3	**ASCENSION HYDR**	**22.12**	**126**	T	T	15 40 40.3	
	baz=299,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	**22.14**	**126**	T	T	15 40 41.6	
	baz=281,slow=74,SNR=22						
TORD	**Torodi Ar. Bea**	**34.97**	**73**	P	**P**	**15 19 39.8**	**-0.3**
	35nm,0.3s,baz=259,slow=9.3,SNR=1.2						
ESDC	**Sonseca Array**	**43.77**	**32**	P	**P**	**15 20 54.1**	**+0.8**
	0.5nm,0.6s,baz=219,slow=6.6,SNR=2.1 0.5nm,0.6s						
EKA	**Eskdalemuir Ar**	**56.21**	**20**	P	**P**	**15 22 26.6**	**-0.8**
	0.9nm,0.8s,baz=223,slow=8.3,SNR=1.0 0.9nm,0.8s						
GERES	**GERESS Array B**	**59.33**	**34**	P	**P**	**15 22 49.9**	**+0.3**
	0.8nm,0.7s,baz=223,slow=13,SNR=4.1 0.8nm,0.7s						
BOSA	**Boshof**	**64.39**	**124**	P	**P**	**15 23 23.9**	**-0.1**
	2.6nm,0.8s,baz=303,slow=5.9,SNR=5.8 2.6nm,0.8s						
YKA	**Yellowknife Ar**	**82.61**	**332**	P	**P**	**15 25 10.4**	**-0.1**
	0.2nm,0.5s,baz=111,slow=5.4,SNR=1.9 0.2nm,0.5s						

*DJA **25** 15:15:38.7±0.6, 2°.S±4°×13°.9E±°, h11km±3km, M4.3/6, mb4.9/1, MLv4.0/6*
*IDC **25** 15:15:40.0±0.8, 2°.26S×138°.70E, h0km, mb3.7/9, mbtmp3.8/10, ML3.8/1, MS3.5/1, Error ellipse: s-maj=19.4km s-min=14.1km az=17.0*
ISC 25 15:15:41.2±1.5, 2°.13S±0°.09×138°.49E±0°.04, h11km±10km, n21, σ1.71/22, mb3.8/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.26**	**57**	P	**Pg**	**15 15 46.7**	**+0.1**
SMPI				S	**Sg**	**15 15 50.9**	**+0.6**
GENI	**Genyem**	**1.74**	**105**	P	**Pn**	**15 16 10.2**	**-1.2**
GENI				S	**Sn**	**15 16 33.4**	**-0.2**
JAY	**Jayapura**	**2.25**	**100**	Pg	**Pn**	**15 16 17.1**	**-1.3**
	7.2nm,0.3s,baz=240,slow=9.7,SNR=32						
JAY				Lg	Lg	15 16 44.0	
	6.9nm,0.3s,baz=113,slow=23,SNR=8.0						
JAY	**Jayapura**	**2.25**	**100**	P	**Pn**	**15 16 16.1**	**-2.3**
JAY				S	**Sn**	**15 16 44.6**	**-1.6**
SRPI	**Serui, Papua**	**2.26**	**277**	P	**Pn**	**15 16 15.5**	**-3.1**
SRPI				S	**Sn**	**15 16 47.0**	**+0.5**
BAKI	**Biak**	**2.56**	**291**	P	**Pn**	**15 16 20.3**	**-2.3**
BAKI				S	**Sn**	**15 16 51.4**	**-2.4**
KMPI	**Kaimana, Papua**	**5.01**	**252**	P	**Pn**	**15 16 57.1**	**+0.7**
PMG	**Port Moresby**	**11.25**	**130**	LR	LR	15 24 05.4	
	comp=Z,278nm,20.1s,baz=311,slow=46						
WRA	**Warramunga Arr**	**18.16**	**193**	P	**Pn**	**15 19 52.9**	**-0.7**
	0.3nm,0.3s,baz=16,slow=11,SNR=9.4 1.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.26**	**218**	P	**P**	**15 20 17.6**	**+0.7**
	2.3nm,1.0s,baz=31,slow=12,SNR=1.0 2.3nm,1.0s						
ASAR	**Alice Springs**	**21.86**	**191**	P	**P**	**15 20 34.1**	**-0.1**
	1.1nm,0.6s,baz=20,slow=11,SNR=20 1.1nm,0.6s						
STKA	**Stephens Creek**	**29.73**	**175**	P	**P**	**15 21 47.0**	**-0.7**
	1.1nm,0.7s,baz=329,slow=17,SNR=2.9 1.1nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**34.50**	**52**	T	T	15 58 21.8	
	baz=236,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**34.51**	**52**	T	T	15 58 17.5	
	baz=236,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**34.52**	**52**	T	T	15 58 18.0	
	baz=236,slow=75,SNR=12						
MKAR	**Makanchi Array**	**69.20**	**322**	P	**P**	**15 26 49.3**	**+1.2**
	0.6nm,0.6s,baz=125,slow=6.4,SNR=4.6 0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**71.33**	**330**	P	**P**	**15 27 03.2**	**+2.3**
	0.3nm,0.4s,baz=120,slow=5.8,SNR=1.6 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**73.13**	**325**	P	**P**	**15 27 14.4**	**+2.6**
	0.6nm,0.7s,baz=101,slow=3.9,SNR=1.5 0.6nm,0.7s						
BVAR	**Borovoye Array**	**78.72**	**325**	P	**P**	**15 27 45.8**	**+2.1**
	2.3nm,0.7s,baz=128,slow=12,SNR=8.6 2.3nm,0.7s						
ILAR	**Eielson Array**	**85.40**	**24**	P	**P**	**15 28 19.1**	**+0.6**
	0.4nm,1.0s,baz=268,slow=7.2,SNR=2.0 0.4nm,1.0s						
QSPA	**South Pole Qui**	**87.81**	**180**	P	**P**	**15 28 30.0**	**-0.5**
	1.4nm,1.0s,baz=92,slow=7.3,SNR=2.3 1.4nm,1.0s						

*MOS **25** 15:28:39.7±1.1, 29°.85S×71°.76W, h10km, mb5.2/10, Error ellipse: s-maj=15.7km s-min=8.3km az=95.0*
*IDC **25** 15:28:39.8±0.5, 29°.86S×71°.53W, h0km, mb4.6/13, mbtmp4.5/18, ML4.7/5, MS4.4/12, Error ellipse: s-maj=18.3km s-min=13.5km az=84.0*
*BJI **25** 15:28:41.4, 29°.88S×72°.45W, h20km, mB5.5/2, Ms5.2/2, Ms7 5.3/2*
*NEIC **25** 15:28:42.1, 29°.78S×71°.81W, h12km*
*NEIC **25** 15:28:42.1, 29°.78S×71°.70W, h12km, Moment Tensor Solution. Duration: 19.8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-1.05; $M_{r\theta}$-0.32; $M_{\theta\phi}$0.12; $M_{\phi r}$0.57; Fault plane solution: $M_0$1.11000×10^{17} NP1: ϕ_s202.44000°, δ33.68000°, λ132.76000°. NP2: ϕ_s334.42000°, δ65.98000°, λ65.65000°. Principal axes: T 0.9730, Plg61.0000°, Azm207.0000°; N 0.2771, Plg22.0000°, Azm345.0000°; P -1.2502, Plg17.0000°, Azm82.0000°;*
*NEIC **25** 15:28:42.1±1.9, 29°.78S±0°.03×71°.81W±0°.06, h10km±1km, mb5.0/108, Mww5.3/13 Error ellipse: s-maj=8.2km s-min=5.4km az=99.0*
*SJA **25** 15:28:43.5±2.1, 29°.86S×71°.61W, h10km±12km, ML5.3, MW4.7*
*GUC **25** 15:28:44.1±0.7, 29°.78S×71°.65W, h36km±3km, ML5.3*
*VAO **25** 15:28:45.9±1.5, 29°.86S×71°.31W, h25km±10km, mb4.8*
*GCMT **25** 15:28:49.1±0.3, 29°.70S±0°.02×71°.78W±0°.03, h48km±2km, MW5.0/80, Moment Tensor Solution. s32,c36; s80,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.23±.31; $M_{\theta\theta}$0.30±.22; $M_{\phi\phi}$-3.53±.25; $M_{r\theta}$-1.71±.14; $M_{\theta\phi}$-2.86±.14; $M_{\phi r}$-0.10±.23; Best double couple: $M_0$4.68400×10^{16} NP1:ϕ_s359.00000°, δ47.00000°, λ45.00000°. NP2: ϕ_s235.00000°, δ58.00000°, λ127.00000°. Principal axes: T 4.2110, Plg58.0000°, Azm199.0000°; N 0.9470, Plg31.0000°, Azm33.0000°; P -5.1560, Plg6.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 15:28:41.9±1.2, 29°.76S±0°.02×71°.72W±0°.04, h14km±7km, n328, σ1.42/293, mb5.0/63, MS4.4/9, 8C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.45**	**111**		**Pb**	**15 28 52.8**	**+1.2**
CO05	**La Serena**	**0.45**	**111**	⇓*iP*	**Pb**	**15 28 52.8**	**+1.2**
CO05				*eS*	**Sb**	**15 28 58.7**	**+0.5**
CO05				IAML		15 29 00.0	
	comp=N,216μm,0.4s						
GO04	**Tololo Observa**	**0.90**	**118**		**Pb**	**15 29 00.0**	**+0.6**
GO04	**Tololo Observa**	**0.90**	**118**	*eP*	**Pg**	**15 28 59.6**	**+0.2**
GO04				*eS*	**Sg**	**15 29 10.0**	**-1.1**
GO04	**Tololo Observa**	**0.90**	**118**	*eP*	**Pg**	**15 28 59.7**	**+0.4**
GO04				*eS*	**Sg**	**15 29 11.3**	**+0.2**
CO06	**Fray Jorge**	**0.92**	**175**		**Pg**	**15 29 00.2**	**+0.6**
CO06	**Fray Jorge**	**0.92**	**175**	⇑*iP*	**Pg**	**15 29 00.4**	**+0.8**
CO06				*eS*	**Sg**	**15 29 12.2**	**+0.6**
CO06				IAML		15 29 13.3	
	comp=E,139μm,0.2s						
LCO	**Las Campanas**	**1.16**	**50**		**Pn**	**15 29 04.2**	**+0.3**
LCO	**Las Campanas**	**1.16**	**50**	*eP*	**Pn**	**15 29 04.4**	**+0.4**
LCO				*eS*	**Sn**	**15 29 21.5**	**+1.8**
LCO				IAML		15 29 22.4	
	comp=Z,69μm,0.7s						
LCO	**Las Campanas**	**1.16**	**50**	*eP*	**Pn**	**15 29 03.9**	**0.0**
LCO				*eS*	**Sg**	**15 29 18.8**	**-0.6**
LCO				IAML		15 29 23.0	
	comp=Z,257μm,0.5s						
LCO	**Las Campanas**	**1.16**	**50**	P	**Pn**	**15 29 04.2**	**+0.3**
CO03	**El Pedregal**	**1.40**	**141**	Pn	**Pn**	**15 29 07.3**	**+0.2**
CO03	**El Pedregal**	**1.40**	**141**	*i P*	**Pn**	**15 29 06.5**	**-0.7**
CO03				*eP*	**Pb**	**15 29 07.9**	**+0.1**
CO03				*eS*	**Sn**	**15 29 25.3**	**-0.1**
CO03				*eS*	**Sb**	**15 29 25.4**	**-0.2**
CO03				IAML		15 29 28.6	
	comp=Z,23μm,0.3s						
CO03	**El Pedregal**	**1.40**	**141**	⇓*iP*	**Pn**	**15 29 07.0**	**-0.1**
CO01	**Juntas del Tor**	**1.43**	**99**	*eP*	**Pb**	**15 29 08.5**	**+0.1**
CO01				*eS*	**Sn**	**15 29 25.9**	**-0.5**
CO01				*eS*	**Sb**	**15 29 26.5**	**-0.1**
CO01				*eS*		15 29 26.7	
CO01				IAML		15 29 29.0	
	comp=Z,41μm,0.8s						
CO01	**Juntas del Tor**	**1.43**	**99**	*eP*	**Pn**	**15 29 08.2**	**+0.6**
CO01				*eS*	**Sn**	**15 29 25.9**	**-0.5**
CO01				IAML		15 29 27.5	
	comp=N,36μm,0.4s						
AC04	**Llanos de Chal**	**1.65**	**20**	Pn	**Pb**	**15 29 11.2**	**-0.9**
AC04	**Llanos de Chal**	**1.65**	**20**	*eP*	**Pn**	**15 29 10.6**	**+0.2**
AC04				IAML		15 29 39.4	
	comp=E,17μm,0.7s						
AROD	**Rodeo**	**1.99**	**102**	*eP*	**Pb**	**15 29 18.2**	**+0.1**
ACDV	**Cuesta del Vie**	**2.29**	**101**	*i P*	**Pb**	**15 29 23.8**	**+0.6**
ACDV				IAML		15 30 03.4	
	comp=Z,10μm,1.0s						
ACCO	**Cerro Coronel**	**2.44**	**110**	*eP*	**Pb**	**15 29 26.1**	**+0.3**
ACCO				*eS*	**Sb**	**15 29 54.3**	**-1.6**
VA06	**Catapilco**	**2.82**	**173**	Pn	**Pn**	**15 29 27.0**	**+0.5**
VA06	**Catapilco**	**2.82**	**173**	*eP*	**Pn**	**15 29 27.1**	**+0.5**
VA06				IAML		15 30 18.6	
	comp=N,26μm,0.4s						
RTLS	**Leoncito**	**2.91**	**135**	*eP*	**Pb**	**15 29 31.7**	**-2.1**
RTLS				IAML		15 30 16.5	
	comp=Z,19μm,0.7s						
VA03	**San Esteban**	**3.16**	**162**		**Pn**	**15 29 32.9**	**+1.6**
VA03	**San Esteban**	**3.16**	**162**	*eP*	**Pn**	**15 29 34.1**	**+2.7**
VA03				IAML		15 30 26.3	
	comp=Z,10μm,0.6s						
VA03	**San Esteban**	**3.16**	**162**	*eP*	**Pn**	**15 29 32.9**	**+1.6**
ZON	**Zonda**	**3.17**	**125**		**Pn**	**15 29 34.3**	**+2.9**
ZON	**Zonda**	**3.17**	**125**	*eP*	**Pn**	**15 29 35.0**	**+3.6**
ZON				IAML		15 30 36.5	
	comp=Z,4μm,0.7s						

SIV San Ignacio 16.84 38 Pn **Pn 15 32 37.3 0.0**
comp=Z,0.2nm,0.3s,baz=211,slow=8.8,SNR=13
SIV LR LR 15 40 09.3
comp=Z,2μm,21.3s,baz=277,slow=41
comp=Z,6.3nm,0.5s
AQDB Aquidauana 17.18 61 Pn **Pn 15 32 40.1 -1.5**
AQDB Aquidauana 17.18 61 *e*P **Pn 15 32 41.3 -0.3**
ITAB Concordia 17.40 86 Pn **Pn 15 32 43.1 -1.2**
ITAB IAmb IAmb 15 32 49.2
comp=Z,168nm,1.6s
ITAB Concordia 17.40 86 *e*P **Pn 15 32 43.2 -1.1**
PANT Pantanal (Braz 17.42 55 *e*P **P 15 32 45.8 0.0**
CNLB Canela 18.16 94 *e*P **Pn 15 32 52.5 -1.3**
PTGB Pitanga 18.18 79 *e*P **Pn 15 32 52.8 -1.3**
NNA Nana 18.31 344 P **P 15 32 57.0 +1.3**
comp=Z,1.1nm,0.3s,baz=198,slow=11,SNR=4.4
comp=Z,5.8nm,0.4s
PTLB Pontes e Lacer 18.35 42 **Pn 15 32 55.7 -0.4**
PTLB Pontes e Lacer 18.35 42 *e*P **P 15 32 56.9 +0.7**
RPRD Ribas do Rio P 18.73 65 *e*P **Pn 15 33 00.8 +0.1**
LDASE Londrina, Braz 19.47 76 *e*P **P 15 33 08.4 -0.1**
TER01 Tubaro-SC 19.77 92 *e*P **P 15 33 11.2 -0.5**
VILB Vilhena 19.84 35 P **P 15 33 11.1 -1.4**
VILB IAmb IAmb 15 33 21.9
comp=Z,54nm,0.9s
VILB Vilhena 19.84 35 *e*P **Pn 15 33 14.0 -0.1**
MAJ01 Sao Joao Batis 20.08 89 *e*P **P 15 33 14.5 -0.5**
SALV Santo Antonio 20.17 50 *e*P **P 15 33 16.1 0.0**
C2SB Chapadao do Su 20.36 62 *e*P **P 15 33 18.7 +0.6**
ETMB Extrema 20.50 16 *e*P Pn 15 33 23.7 +1.9
FRTB Fartura 20.81 77 *e*P **P 15 33 22.8 -0.2**
ITRB Iturama 21.80 68 *e*P **P 15 33 32.0 -1.6**
CZSB Cruzeiro do Su 21.93 357 *e*P **P 15 33 37.6 +2.5**
SPB Sao Paulo 22.53 80 P **P 15 33 42.2 +0.7**
SPB Sao Paulo 22.53 80 *e*P **P 15 33 41.5 0.0**
BB19B Bebedouro 22.63 73 *e*P **P 15 33 40.5 -2.1**
PDRB Porto dos Gac 22.81 41 *e*P **P 15 33 43.2 -1.4**
ARAG Araguaiana, MT 23.03 57 *e*P **P 15 33 44.4 -2.3**
VAO Valinhos 23.15 79 *e*P **P 15 33 46.7 -1.4**
CLDB Colider 23.94 42 *e*P **P 15 33 56.1 +0.3**
PARB Paraibuna 24.18 81 *e*P **P 15 33 55.9 -2.1**
IPMB Ipameri, GO 24.43 67 *e*P **P 15 34 00.3 -0.1**
TBTG Tabatinga, AM 25.49 4 *e*P **P 15 34 14.2 +4.3**
PMNB Patos De Minas 25.57 70 *e*P **P 15 34 10.5 -0.2**
BSCB Bom Sucesso 25.81 77 *e*P **P 15 34 11.1 -1.8**
BDFB Brasilia 25.92 62 P **P 15 34 11.1 -2.8**
BDFB IAmb IAmb 15 34 34.8
comp=Z,23nm,0.9s
BDFB Brasilia 25.92 62 P **P 15 34 12.7 -1.3**
comp=Z,16nm,0.7s,baz=240,slow=8.6,SNR=15
BDFB LR LR 15 44 53.3
comp=Z,609nm,18.0s,baz=258,slow=38
comp=Z,16nm,0.7s
SNDB Serra Nova Dou 25.95 51 *e*P **P 15 34 14.4 +0.4**
TEFE Tefe 26.96 16 *e*P **P 15 34 26.6 +3.5**
NPGB Novo Progresso 27.34 38 *e*P **P 15 34 27.5 +0.9**
DUB01 Friburgo-RJ 27.42 81 *e*P **P 15 34 28.0 +0.5**
DIAM Diamantina, MG 27.97 72 *e*P **P 15 34 32.3 -0.1**
CAM01 Campos-RJ 28.14 81 *e*P **P 15 34 33.2 -0.4**
JANB Januaria 29.16 66 *e*P **P 15 34 42.7 -0.2**
ITTB Itaituba 29.44 34 *e*P **P 15 34 45.8 +0.6**
BSFB Barra de Sao F 30.08 76 *e*P **P 15 34 50.7 -0.3**
SDBA SAO DESIDERIO 30.28 61 *e*P **P 15 34 52.0 -0.8**
OTAV Otavalo 30.51 347 *e*P **P 15 34 58.8 +3.5**
SMTB Santa Maria do 30.70 52 *e*P **P 15 34 58.0 +1.4**
GUA01 Guaratinga, BA 32.02 73 *e*P **P 15 35 07.9 -0.2**
CMC01 Camacan, BA 32.87 71 *e*P **P 15 35 15.5 -0.1**
BOAV Boa Vista 33.72 20 P **P 15 35 22.6 -0.3**
BOAV IAmb IAmb 15 35 38.0
comp=Z,21nm,0.9s
BOAV Boa Vista 33.72 20 *e*P **P 15 35 23.5 +0.6**
ROSC El Rosal 34.49 355 P P 15 35 38.0 +7.9
comp=Z,4.9nm,0.4s,baz=346,slow=23,SNR=1.6
PMSA Palmer Station 35.37 174 P **P 15 35 37.3 +0.6**
PMSA Palmer Station 35.37 174 LR LR 15 49 57.4
comp=Z,579nm,19.6s,baz=334,slow=36
PMSA Palmer Station 35.37 174 *e*P **P 15 35 38.3 +1.6**
RUSC La Rusia 35.47 358 P **P 15 35 37.2 -1.4**
NBLA Lagarto - SE 36.68 67 *e*P **P 15 35 47.4 -1.1**
SDV Santo Domingo 38.43 2 LR LR 15 53 21.3
comp=Z,468nm,18.4s,baz=204,slow=38
SDV Santo Domingo 38.43 2 *e*P **P 15 36 06.4 +2.9**
BAUV El Baul 38.64 6 P **P 15 36 04.6 -0.4**
BAUV IAmb IAmb 15 36 25.7
comp=Z,53nm,1.0s
NBAN Anadia - AL 38.66 66 *e*P **P 15 36 02.8 -2.5**
NBPB Pedra_Branca-C 38.71 58 *e*P **P 15 36 07.1 +1.3**
NBLV Livramento - P 39.55 63 *e*P **P 15 36 14.0 +1.2**
NBCA Caruaru-PE 39.72 65 *e*P **P 15 36 15.0 +0.8**
PCRV Puerto La Cruz 40.28 11 LR LR 15 54 32.2
comp=Z,605nm,18.4s,slow=38
JTS Las Juntas de 41.81 340 LR LR 15 50 13.6
comp=Z,230nm,19.0s,baz=124,slow=31
CELP Cerrillos 47.81 7 P **P 15 37 19.3 +0.3**
BELA Belgrano 2 51.00 171 P **P 15 37 42.7 -0.2**
BELA IAmb IAmb 15 37 44.3
comp=Z,26nm,1.1s
VNA3 Neumayer Olymp 53.19 159 P **P 15 37 59.5 +0.3**
VNA3 Neumayer Olymp 53.19 159 ⇑P **P 15 37 59.5 +0.3**
comp=Z,16nm,0.9s
VNA1 Neumayer--Stat 53.48 158 P **P 15 38 02.1 +0.8**
VNA1 Neumayer--Stat 53.48 158 ⇑P **P 15 38 02.1 +0.8**
comp=Z,16nm,1.0s
VNA2 Neumayer--Watz 53.83 158 P **P 15 38 03.8 -0.1**
baz=284,slow=9.3
VNA2 Neumayer--Watz 53.83 158 ⇓P **P 15 38 03.8 -0.1**
comp=Z,15nm,0.8s,baz=284,slow=9.3
SNAA Sanae 55.42 159 P **P 15 38 15.2 -0.3**
SNAA Sanae 55.42 159 P **P 15 38 14.4 -1.1**
SNAA Sanae 55.42 159 ⇓P **P 15 38 15.2 -0.3**
comp=Z,538nm,1.0s
SNAA Sanae 55.42 159 P **P 15 38 15.0 -0.5**
comp=Z,24nm,0.9s,baz=283,slow=5.6,SNR=32
SNAA LR LR 16 02 21.8
comp=Z,280nm,18.2s,baz=306,slow=37
comp=Z,24nm,0.9s
TROLL Troll, Antarti 57.13 159 P **P 15 38 27.3 -0.5**
TROLL Troll, Antarti 57.13 159 ⇓P **P 15 38 27.3 -0.5**
comp=Z,552nm,0.9s
TROLL ⇑PcP **PcP 15 39 22.5 +0.1**
NVL N'lazarevskaya 60.11 158 *e*P **P 15 38 46.7 -1.7**
NVL pmax pmax
comp=Z,20nm,1.0s
QSPA South Pole Qui 60.47 180 P **P 15 38 51.1 +0.1**
comp=Z,18nm,1.0s,baz=148,slow=2.7,SNR=28
comp=Z,18nm,1.0s
833A Chaparral WMA, 63.52 333 IAmb IAmb 15 39 29.6
comp=Z,15nm,0.8s
ELIB Princess Elisa 63.56 160 *d*P **P 15 39 11.5 -0.3**
comp=Z,11nm,1.1s
X48A Hartselle 65.48 346 P **P 15 39 24.6 +0.1**
TXAR Lajitas Array 66.20 330 P **P 15 39 31.1 +1.7**
comp=Z,1.2nm,0.7s,baz=150,slow=8.4,SNR=12
comp=Z,1.2nm,0.7s
WVT Waverly 67.27 346 P **P 15 39 36.3 +0.4**
WVT Waverly 67.27 346 P **P 15 39 36.3 +0.4**
WVT pmax pmax
comp=Z,20nm,0.9s
MNHN Monahans 67.55 331 IAmb IAmb 15 39 53.5
comp=Z,7.1nm,0.8s
VNDA Vanda 68.31 191 P **P 15 39 43.1 +1.1**
VNDA IAmb IAmb 15 39 44.6
comp=Z,15nm,1.2s
VNDA Vanda 68.31 191 P **P 15 39 40.9 -1.2**
comp=Z,6.9nm,1.0s,baz=126,slow=6.3,SNR=7.4
comp=Z,6.9nm,1.0s
CGM3 Cape Girardeau 68.79 345 IAmb IAmb 15 39 58.9
comp=Z,16nm,0.9s
SYO Syowa Base 69.71 159 ⇓*i*P **P 15 39 50.2 -0.6**
SYO Syowa Base 69.71 159 ⇓*ep*P **P 15 39 52.0 +1.2**
CCM Cathedral Cave 69.89 344 P **P 15 39 52.7 +0.5**
CCM Cathedral Cave 69.89 344 P **P 15 39 52.7 +0.5**
CCM pmax pmax
comp=Z,39nm,1.3s
ANMO Albuquerque 72.22 331 *i*P **P 15 40 06.4 -0.3**
ANMO pmax pmax
comp=Z,4.0nm,1.6s
DBIC Dimbokro 73.59 72 P **P 15 40 14.5 -0.6**
DBIC IAmb IAmb 15 40 16.0
comp=Z,15nm,0.9s
DBIC Dimbokro 73.59 72 P **P 15 40 14.5 -0.6**
comp=Z,10nm,0.9s,baz=236,slow=5.0,SNR=7.7
comp=Z,10nm,0.9s
SDCO Great Sand Dun 74.22 333 IAmb IAmb 15 40 43.3
comp=Z,21nm,1.9s
WUAZ Wupatki 74.90 327 IAmb IAmb 15 40 34.2
comp=Z,16nm,1.2s
MVCO Mesa Verde 75.01 330 IAmb IAmb 15 40 40.8
comp=Z,12nm,1.1s
Q24A Divide 75.14 334 IAmb IAmb 15 40 43.7
comp=Z,11nm,0.9s
PFO Pinyon Flats O 75.92 323 P **P 15 40 28.8 +0.5**
PFO pmax pmax
comp=Z,24nm,2.5s
PV13 Radium Mtn., P 75.94 331 IAmb IAmb 15 40 45.1
comp=Z,34nm,1.6s
PV10 Paradox Valley 76.22 331 IAmb IAmb 15 40 45.6
comp=Z,16nm,0.8s
ECSD EROS Data Cent 76.61 342 IAmb IAmb 15 40 45.7
comp=Z,19nm,0.9s
SUR Sutherland 76.66 120 P **P 15 40 33.0 +0.1**
SUR IAmb IAmb 15 40 48.4
comp=Z,21nm,0.9s
KNB Kanab 76.80 327 IAmb IAmb 15 40 51.4
comp=Z,32nm,1.6s
MAW Mawson 77.16 164 LR LR 16 15 38.1
comp=Z,302nm,19.1s,baz=230,slow=37
O20A White River Ci 77.37 332 IAmb IAmb 15 40 52.7
comp=Z,20nm,0.9s
SRU San Rafael Swe 77.47 330 IAmb IAmb 15 40 52.9
comp=Z,9.3nm,0.9s
Q16A Castle Valley 77.59 329 IAmb IAmb 15 40 54.6
comp=Z,35nm,1.7s
P18A Preston Nutter 77.78 331 IAmb IAmb 15 40 55.2
comp=Z,15nm,0.9s
PRN Pahroc Range 78.17 326 IAmb IAmb 15 40 58.2
comp=Z,9.3nm,0.9s
TPNV Topopah Spring 78.40 325 IAmb IAmb 15 40 59.7
comp=Z,14nm,1.4s
BSUT Blindstream Ca 78.75 331 IAmb IAmb 15 41 00.6
comp=Z,17nm,1.0s
K22A Casper 78.85 335 IAmb IAmb 15 41 04.2
comp=Z,17nm,0.8s
JLU Jordanelle 79.10 330 IAmb IAmb 15 41 05.2
comp=Z,10nm,0.9s
RSSD Black Hills 79.24 337 P **P 15 40 46.8 +0.1**
RSSD Black Hills 79.24 337 P **P 15 40 46.8 +0.1**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway, Tooele 79.37 329 IAmb IAmb 15 41 07.3
comp=Z,18nm,1.4s
HWUT Hardware Ranch 79.98 331 IAmb IAmb 15 41 06.8
comp=Z,14nm,0.8s
BGU Big Grassy Mou 80.06 329 IAmb IAmb 15 41 21.1
comp=Z,20nm,1.8s
PDAR Pinedale Array 80.12 333 P **P 15 40 51.8 +0.3**
PDAR Pinedale Array 80.12 333 P **P 15 40 52.5 +1.0**
comp=Z,1.2nm,0.6s,baz=133,slow=6.1,SNR=11
comp=Z,1.2nm,0.6s
TSUM Tsumeb 80.13 106 P **P 15 40 51.7 -0.5**
TSUM IAmb IAmb 15 40 55.1
comp=Z,15nm,1.0s
NVAR Mina Array Bea 80.58 325 P **P 15 40 56.1 +2.0**
comp=Z,1.5nm,0.8s,baz=166,slow=5.7,SNR=7.0
comp=Z,1.5nm,0.8s
AHID Auburn Hatcher 80.74 332 IAmb IAmb 15 41 09.9
comp=Z,10nm,1.1s
PMOZ Porto Moniz, M 80.88 44 *e*T T 15 44 43.1
FUL Funchal 80.94 44 *e*T T 15 44 45.8
PMAR Madeira 80.98 44 *e*T T 15 44 54.6
FLWY Flagg Ranch 81.67 333 IAmb IAmb 15 41 15.7
comp=Z,13nm,1.1s
BOSA Boshof 81.81 118 IAmb IAmb 15 41 15.8
comp=Z,14nm,0.8s
BOSA Boshof 81.81 118 P **P 15 41 00.1 -0.9**
comp=Z,9.4nm,0.9s,baz=246,slow=5.0,SNR=17
comp=Z,9.4nm,0.9s
PAHR Pah Rah Range 82.09 325 IAmb IAmb 15 41 14.4
comp=Z,17nm,1.3s
LAO LASA Array 82.23 337 IAmb IAmb 15 41 17.3
comp=Z,15nm,1.0s
ULM Lac du Bonnet 82.49 345 IAmb IAmb 15 41 20.9
comp=Z,16nm,1.1s
ULM Lac du Bonnet 82.49 345 P **P 15 41 03.4 -0.2**
comp=Z,5.8nm,0.9s,baz=149,slow=3.4,SNR=7.6
comp=Z,5.8nm,0.9s
ULM Lac du Bonnet 82.49 345 *i*P **P 15 41 02.3 -1.3**
TORD Torodi Ar. Bea 82.52 70 P **P 15 41 03.7 -1.0**
TORD IAmb IAmb 15 44 00.9
comp=Z,8.3nm,0.8s
HLID Hailey 82.79 330 IAmb IAmb 15 41 21.8
comp=Z,10.0nm,1.1s
CASY Casey 84.26 181 P **P 15 41 13.1 +0.4**
SCHQ Schefferville 84.35 3 P **P 15 41 13.4 +0.3**
comp=Z,6.5nm,1.1s,baz=193,slow=12,SNR=3.4
comp=Z,6.5nm,1.1s
J08A Circle Bar Ran 84.45 328 IAmb IAmb 15 41 30.8
comp=Z,26nm,1.4s
PLID Pearl Lake 84.69 330 IAmb IAmb 15 41 32.5
comp=Z,11nm,1.1s
BMO Blue Mountains 85.08 329 IAmb IAmb 15 41 29.1
comp=Z,21nm,1.9s
G08A Pilot Rock 86.16 329 IAmb IAmb 15 41 34.1
comp=Z,25nm,1.9s
MRZ Mangatainoka R 86.26 225 P **P 15 41 23.0 -0.3**
SFS San Fernando 90.10 47 P **P 15 41 41.6 +0.2**
SFS San Fernando 90.10 47 P **P 15 41 41.6 +0.2**
SFS pmax pmax
comp=Z,399nm,0.7s
LSZ Lusaka 90.86 108 P **P 15 41 45.9 +0.1**
LSZ IAmb IAmb 15 41 48.2
comp=Z,14nm,1.2s
LSZ Lusaka 90.86 108 P **P 15 41 45.9 +0.1**
LSZ pmax pmax
comp=Z,14nm,1.2s
FRB Frobisher Bay 93.22 1 LR LR 16 27 46.5
comp=Z,190nm,18.8s,baz=128,slow=38
ESDC Sonseca Array 93.44 46 P **P 15 41 57.0 +0.1**
comp=Z,1.2nm,0.9s,baz=232,slow=5.3,SNR=5.4
ESDC LR LR 16 21 21.1
comp=Z,201nm,20.2s,baz=212,slow=34
comp=Z,1.2nm,0.9s
YKA Yellowknife Ar 98.14 341 P **P 15 42 17.1 -0.6**
comp=Z,1.0nm,1.0s,baz=146,slow=4.6,SNR=11
comp=Z,1.0nm,1.0s
AKASG Malin Array Be 119.08 46 PKP **PKPdf 15 47 30.5 +0.6**
comp=Z,0.1nm,0.3s,baz=268,slow=3.0,SNR=0.9
AS19 Alice Springs 121.39 208 P **PKPdf 15 47 35.0 -0.5**
ASAR Alice Springs 121.45 208 PKP **PKPdf 15 47 34.3 -1.2**
comp=Z,0.8nm,0.4s,baz=129,slow=1.7,SNR=30
ASAR PKKPbc **PKKPbc 15 57 35.4 -0.1**
comp=Z,0.4nm,0.8s,baz=336,slow=3.6,SNR=5.9
OBN Obninsk 124.12 41 *e*PKIKP **PKPdf 15 47 39.3 -0.1**
OBN pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 124.57 210 **PKPdf 15 47 40.7 -0.9**
WRA Warramunga Arr 124.57 210 PKP **PKPdf 15 47 40.5 -1.1**
comp=Z,3.6nm,0.7s,baz=157,slow=1.7,SNR=35
WRA PKKPbc **PKKPbc 15 57 21.8 -1.4**
comp=Z,0.9nm,0.9s,baz=333,slow=4.3,SNR=2.2
WRAB Tennant Creek 124.58 210 *i*PKIKP **PKPdf 15 47 39.3 -2.3**
WB0 Warramunga Arr 124.70 210 **PKPdf 15 47 40.9 -0.9**
KLMR Klimovskoe 125.79 34 *e*PKIKP **PKPdf 15 47 39.7 -2.8**
KLMR pmax pmax
comp=Z,28nm,1.9s
H11S2 WAKE ISLAND Hyl 26.00 272 T T 18 06 43.8
baz=115,slow=75,SNR=232
H11S1 WAKE ISLAND Hyl 26.01 272 T T 18 06 37.1
baz=115,slow=75,SNR=227
H11S3 WAKE ISLAND Hyl 26.02 272 T T 18 06 41.0
baz=115,slow=75,SNR=145
H11N3 WAKE ISLAND Hyl 26.31 274 T T 18 07 06.8
baz=115,slow=75,SNR=29
H11N1 WAKE ISLAND Hyl 26.32 274 T T 18 07 00.6
baz=115,slow=75,SNR=16
H11N2 WAKE ISLAND Hyl 26.32 274 T T 18 07 08.0
baz=115,slow=75,SNR=48
KIV Kislovodsk 126.94 55 *e*PKIKP **PKPdf 15 47 44.0 -1.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 127.06 56 PKP **PKiKP 15 47 46.5 +0.6**
comp=Z,1.6nm,0.9s,baz=200,slow=7.3,SNR=3.6
KBZ Khabaz 127.06 56 *i*PKIKP **PKPdf 15 47 45.9 +0.5**
BILL Bilibino 129.12 336 *i*PKIKP **PKPdf 15 47 46.9 -1.8**
SEY Seymchan 136.45 332 *i*PKIKP **PKPdf 15 48 02.1 -0.5**
TIXI Tiksi 136.57 351 *i*PKIKP **PKPdf 15 48 01.0 -1.6**
MA2 Magadan 138.71 329 *i*PKIKP **PKPdf 15 48 05.8 -1.1**
ABKAR Akbulak array 138.75 48 **PKPdf 15 48 08.0 +0.7**
KAPI Kappang 143.72 200 PKPbc 15 48 15.3 +0.6
KAPI Kappang 143.72 200 PKIKP PKPbc 15 48 15.3 +0.6
BRVK Borovoye 143.84 39 PKPbc 15 48 15.1 +1.1
BRVK Borovoye 143.84 39 *ce*PKIKP PKPbc 15 48 15.2 +1.2
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BVAR Borovoye Array 143.91 39 PKP PKPbc 15 48 14.8 +0.6
comp=Z,1.1nm,0.4s,baz=293,slow=3.5,SNR=9.2
YAK Yakutsk 144.80 343 PKPbc 15 48 17.2 +0.5
YAK Yakutsk 144.80 343 *e*PKIKP **PKPab 15 48 16.3 -0.3**
YAK *e* 15 48 23.1
YAK *e* 15 51 34.1
YAK pmax pmax
comp=Z,103nm,0.9s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,298nm,6.8s
YAK pmax pmax
comp=N,200nm,5.7s
YAK pmax pmax
comp=E,208nm,5.1s
PALK Pallekele 145.77 125 **PKPdf 15 48 19.9 -1.0**
PALK Pallekele 145.77 125 PKP2 **PKPdf 15 48 19.9 -1.0**
KSI Kapahiang 146.34 170 PKP **PKPab 15 48 25.2 +1.4**
LUWI Luwuk 146.39 207 PKP **PKPab 15 48 24.8 +0.8**
SIMJ Simiganj 146.54 64 PKPdf **PKPdf 15 48 22.5 +0.9**
KKAR Karatay Array 147.10 56 PKPdf **PKPdf 15 48 23.0 +0.7**
KKAR Karatay Array 147.10 56 PKP2 **PKPdf 15 48 23.0 +0.7**
TPI Tanjungpandan 147.66 179 PKP **PKPbc 15 48 26.9 +0.1**
YSS Yuzhno-Sakhali 148.30 312 *e*PKP2 **PKPbc 15 48 27.1 -0.4**
YSS pmax pmax
comp=Z,10.0nm,4.5s
PPI Padang Panjang 149.03 165 PKP **PKPbc 15 48 29.6 -0.7**
KURK Kurchatov 149.49 38 **PKPdf 15 48 26.0 +0.2**
KURK Kurchatov 149.49 38 PKHKP PKPpre 15 48 26.0
KURBB Kurchatov Arra 149.49 39 PKPbc **PKPbc 15 48 30.4 0.0**
comp=Z,4.9nm,0.8s,baz=299,slow=3.1,SNR=10
MNSI Mandailing Nat 150.03 162 PKP **PKPbc 15 48 32.0 -0.8**
NIL Nilore 150.03 73 **PKPbc 15 48 31.8 -0.5**
NIL Nilore 150.03 73 PKIKP **PKPbc 15 48 31.8 -0.5**
AAK Ala-Archa 150.06 55 **PKPbc 15 48 32.5 +0.3**
AAK Ala-Archa 150.06 55 *ce*PKIKP **PKPdf 15 48 27.7 +0.4**
AAK pmax pmax
comp=Z,5.0nm,2.5s
HYB Hyderabad 150.21 108 *e*PKPbc **PKPbc 15 48 33.3 +0.1**
GRNR Gornyy 150.27 323 ⇓*i*PKIKP **PKPbc 15 48 33.0 +0.7**
GRNR pmax pmax
comp=Z,7.0nm,1.0s
ZALV Zalesovo Beam 150.44 28 **PKPdf 15 48 27.3 +0.1**
ZALV PKPbc **PKPbc 15 48 32.5 -0.1**
ZALV Zalesovo Beam 150.44 28 PKPbc **PKPbc 15 48 32.7 +0.2**
comp=Z,20nm,0.7s,baz=298,slow=3.2,SNR=82
ZALV Zalesovo Beam 150.44 28 PKIKP **PKPbc 15 48 32.5 -0.1**
BOD Bodaibo 151.66 354 *e*PKIKP **PKPbc 15 48 34.6 -0.7**
BOD pmax pmax
comp=Z,24nm,1.8s
KSH Kashi 151.82 61 PKPbc **PKPbc 15 48 36.8 +0.3**
ZEA Zeya 152.34 335 *e*PKIKP **PKPbc 15 48 37.3 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
SBUM Sibu 152.59 189 **PKPbc 15 48 38.5 -0.2**
MAKZ Makanchi 153.42 43 **PKPbc 15 48 38.9 -0.7**
MAKZ Makanchi 153.42 43 PKIKP **PKPbc 15 48 38.9 -0.7**
KLR Kul'dur 153.61 324 *e*PKIKP **PKPbc 15 48 37.9 -2.0**
KLR pmax pmax
comp=Z,8.0nm,1.5s
MKAR Makanchi Array 153.62 43 **PKPbc 15 48 39.6 -0.5**
MKAR Makanchi Array 153.62 43 PKPbc **PKPbc 15 48 40.0 0.0**
comp=Z,1.9nm,0.9s,baz=308,slow=2.1,SNR=13
MKAR Makanchi Array 153.62 43 PKIKP **PKPbc 15 48 39.6 -0.5**
IPM Ipoh 153.94 163 **PKPbc 15 48 40.5 -1.3**
MJAR Matsushiro Arr 154.11 293 PKPab **PKPab 15 48 55.9 +0.8**
comp=Z,4.6nm,0.9s,baz=93,slow=2.2,SNR=7.0
HEH HeiHe 154.96 330 *e*P **PKPab 15 48 54.3 -3.9**
HEH pmax pmax
comp=Z,7.0nm,1.6s
IRK Irkutsk 157.34 6 *e*PKIKP **PKPdf 15 48 44.8 +7.7**
IRK pmax pmax
comp=Z,25nm,2.2s
WMQ Urumqi 158.43 44 *e*PKP **PKPdf 15 48 39.5 +0.7**
SONM Songino Array 161.89 4 PKP **PKPdf 15 48 42.3 -0.4**
comp=Z,0.7nm,1.0s,baz=270,slow=0.7,SNR=2.7
SONM PKPab **PKPab 15 49 30.1 +1.8**
comp=Z,1.6nm,0.8s,baz=332,slow=1.9,SNR=7.5
SONM PP **PP 15 53 14.7 +3.3**
comp=Z,0.3nm,0.4s,baz=345,slow=4.5,SNR=4.9
ULN Ulaanbaatar 161.89 3 **PKPab 15 49 29.0 +0.6**
ULN Ulaanbaatar 161.89 3 PKP2 **PKPab 15 49 29.0 +0.6**
XLT XiLinHaoTe 164.58 338 *e*PKP **PKPdf 15 48 42.0 -3.3**
XLT pPKP sPKPdf 15 48 51.0 +0.2
XLT PKPab **PKPab 15 49 41.0 +0.8**
XLT PP **PP 15 53 28.5 +2.6**
XLT AMB AMB
comp=Z,180nm,6.4s
XLT LR LR
comp=Z,53nm,17.4s
XLT LR LR
comp=Z,250nm,19.1s
CMAR Chiang Mai Arr 165.90 141 PKP **PKPdf 15 48 47.1 +0.1**
comp=Z,0.3nm,0.4s,baz=219,slow=1.7,SNR=1.8
CMAR PKPab **PKPab 15 49 45.2 -1.4**
comp=Z,3.6nm,1.0s,baz=228,slow=4.8,SNR=14
CHTO Chiang Mai 166.18 140 **PKPab 15 49 46.6 -1.3**
CHTO Chiang Mai 166.18 140 PKP2 **PKPab 15 49 46.6 -1.3**
HHC Hu-ho-hao-te 168.61 347 *e*PKP **PKPdf 15 48 45.5 -3.0**
NJ2 Nanjing 170.63 287 *e*PKP **PKPdf 15 48 49.3 -0.5**
PZH PanZhiHua 173.38 118 PKP **PKPdf 15 48 49.8 -1.6**
CD2 Chengdu 175.92 72 PKP **PKPdf 15 48 52.0 0.0**

*IDC **25** 15:47:07.8±0.9, 4°.24N×32°.62W, h0km, mb3.9/10,*
mbtmp3.8/11, ML3.1/1, MS4.2/27, Error ellipse:
s-maj=28.8km s-min=21.8km az=142.0
ISC 25 15:47:10.3±0.6, 4°.1N±0°.1×32°.6W±0°.2, h19km, n14,
σ1°35/14, mb3.9/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.35**	**199**		Pn	**Pn**		**15 49 39.0**	**+1.0**
	0.1nm,0.3s,baz=28,slow=20,SNR=2.4								
RCBR				Sn		**Sn**		**15 51 30.5**	**-3.1**
	0.1nm,0.3s,baz=283,slow=23,SNR=1.8								
	0.8nm,0.4s								
TORD	**Torodi Ar. Bea**	**35.04**	**73**	P		**P**		**15 54 01.8**	**-0.5**
	42nm,0.4s,baz=264,slow=9.0,SNR=2.2								
LPAZ	**La Paz**	**40.54**	**239**	P		**P**		**15 54 51.5**	**+2.1**
	0.4nm,0.3s,baz=306,slow=4.2,SNR=1.3								
	0.4nm,0.3s								
ESDC	**Sonseca Array**	**43.91**	**32**	P		**P**		**15 55 16.3**	**+0.3**
	1.5nm,1.1s,baz=225,slow=27,SNR=4.9								
	1.5nm,1.1s								
JTS	**Las Juntas de**	**52.27**	**280**	LR		LR		16 20 09.7	
	comp=Z,109nm,20.3s,baz=116,slow=38								
GERES	**GERESS Array B**	**59.47**	**34**	P		**P**		**15 57 11.5**	**-0.7**
	0.8nm,0.7s,baz=232,slow=4.8,SNR=4.0								
	0.8nm,0.7s								
BOSA	**Boshof**	**64.32**	**124**	P		**P**		**15 57 46.3**	**+1.1**
	3.6nm,1.1s,baz=277,slow=6.3,SNR=4.5								
	3.6nm,1.1s								
HFS	**Hagfors**	**66.06**	**23**	P		**P**		**15 57 55.5**	**-0.3**
	4.1nm,1.0s,baz=191,slow=4.4,SNR=2.6								
	4.1nm,1.0s								
BRTR	**Keskin Array B**	**69.22**	**49**	P		**P**		**15 58 16.5**	**+0.2**
	2.1nm,1.1s,baz=232,slow=5.8,SNR=4.0								
	2.1nm,1.1s								
AKASG	**Malin Array Be**	**69.28**	**37**	P		**P**		**15 58 16.1**	**-0.2**
	0.4nm,0.4s,baz=248,slow=8.0,SNR=5.7								
	0.4nm,0.4s								
PDAR	**Pinedale Array**	**77.70**	**313**	P		**P**		**15 59 05.7**	**-0.7**
	0.5nm,0.8s,baz=90,slow=4.9,SNR=3.6								
	0.5nm,0.8s								
YKA	**Yellowknife Ar**	**82.73**	**332**	P		**P**		**15 59 31.5**	**-1.2**
	0.2nm,0.5s,baz=93,slow=4.8,SNR=4.8								
	0.2nm,0.5s								
NVAR	**Mina Array Bea**	**84.15**	**308**	P		**P**		**15 59 40.7**	**-0.2**
	0.6nm,0.8s,baz=84,slow=5.4,SNR=2.2								
	0.6nm,0.8s								
CMAR	**Chiang Mai Arr**	**127.28**	**63**	PKP		**PKiKP**		**16 06 16.1**	**+0.9**
	0.3nm,0.7s,baz=210,slow=1.3,SNR=2.4								

*IDC **25** 15:47:32.6±0.6, 4°.22N×32°.64W, h0km, mb4.1/19,*
mbtmp4.1/20, ML3.4/1, MS4.2/29, Error ellipse:
s-maj=18.8km s-min=17.8km az=124.0
*GCMT **25** 15:47:32.1±0.4, 4°.26N±0°.05×32°.55W±0°.02, h23km±1km,*

MW4.9/86, Moment Tensor Solution. s13,c13; s86,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.55±.27; $M_{\theta\theta}$0.64±.15; $M_{\phi\phi}$2.91±.16; $M_{r\theta}$-0.20±.30; $M_{\theta\phi}$0.11±.08; $M_{\phi r}$0.01±.21; Best double couple: $M_0$3.23700×10^{16} NP1:ϕ_S180.00000°, δ45.00000°, λ-94.00000°. NP2: ϕ_S5.00000°, δ45.00000°, λ-86.00000°. Principal axes: T 2.9150, Plg0.0000°, Azm93.0000°; N 0.6450, Plg3.0000°, Azm183.0000°; P -3.5590, Plg87.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **25** 15:47:35.1±1.9, 4°.3N±0°.1×32°.7W±0°.1, h10km±1km, mb4.9/34 Error ellipse: s-maj=19.7km s-min=15.9km az=134.0*

ISC 25 15:47:34.4±0.4, 4°.27N±0°.08×32°.68W±0°.08, h11km, n93, σ0°86/82, mb4.7/44, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.53**	**198**	Pn	**Pn**	**15 50 05.3**	**-0.1**
RCBR	**Riachuelo**	**10.53**	**198**	Pn	**Pn**	**15 50 04.3**	**-1.1**
	0.3nm,0.3s,baz=22,slow=20,SNR=4.8						
RCBR				Sn	Sn	15 51 54.4	-9.1
	0.4nm,0.3s,baz=291,slow=21,SNR=4.2						
	1.0nm,0.4s						
H10N3	**ASCENSION HYDR**	**21.76**	**124**	T	T	16 14 51.3	
	baz=302,slow=75,SNR=187						
H10N2	**ASCENSION HYDR**	**21.77**	**123**	T	T	16 14 51.6	
	baz=302,slow=75,SNR=163						
H10N1	**ASCENSION HYDR**	**21.79**	**123**	T	T	16 14 52.8	
	baz=302,slow=75,SNR=239						
H10S3	**ASCENSION HYDR**	**22.25**	**126**	T	T	16 15 29.3	
	baz=278,slow=74,SNR=170						
H10S2	**ASCENSION HYDR**	**22.27**	**126**	T	T	16 15 14.0	
	baz=302,slow=74,SNR=147						
MAL2	**Monte Alegre,**	**22.37**	**254**	P	**P**	**15 52 33.7**	**+0.8**
MAL2				IAmb	IAmb	15 52 44.0	
	comp=Z,36nm,1.1s						
BDFB	**Brasilia**	**24.93**	**217**	P	**P**	**15 52 58.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=64,slow=16,SNR=1.2						
	comp=Z,0.7nm,0.3s						
DBIC	**Dimbokro**	**27.80**	**84**	P	**P**	**15 53 23.9**	**+0.1**
	comp=Z,9.8nm,1.2s,baz=177,slow=13,SNR=2.4						
	comp=Z,9.8nm,1.2s						
H05S1	**Guadeloupe/Mar**	**29.52**	**292**	T	T	16 24 42.6	
	SNR=4.6						
H05N1	**Guadeloupe/Mar**	**30.32**	**295**	T	T	16 25 38.8	
PCRV	**Puerto La Cruz**	**32.22**	**282**	LR	LR	16 06 43.0	
	comp=Z,321nm,19.1s,slow=36						
TORD	**Torodi Ar. Bea**	**35.07**	**73**	P	**P**	**15 54 27.4**	**-0.3**
TORD				IAmb	IAmb	15 55 44.9	
	comp=Z,19nm,0.8s						
TORD	**Torodi Ar. Bea**	**35.07**	**73**	P	**P**	**15 54 27.2**	**-0.5**
	comp=Z,44nm,0.3s,baz=266,slow=8.5,SNR=2.3						
ETMB	**Extrema**	**36.22**	**247**	P	**P**	**15 54 37.7**	**0.0**
AGPR	**Aguadilla, PR**	**36.48**	**296**	P	**P**	**15 54 38.3**	**-1.6**
TAM	**Tamanrasset**	**41.27**	**60**	P	**P**	**15 55 18.4**	**-1.8**
CZSB	**Cruzeiro do Su**	**41.67**	**253**	P	**P**	**15 55 21.9**	**-1.6**
CZSB				IAmb	IAmb	15 55 31.8	
	comp=Z,31nm,1.2s						
ESDC	**Sonseca Array**	**43.78**	**32**	P	**P**	**15 55 39.8**	**-0.5**
ESDC				IAmb	IAmb	15 56 08.6	
	comp=Z,27nm,1.9s						
ESDC	**Sonseca Array**	**43.78**	**32**	P	**P**	**15 55 40.2**	**0.0**
	comp=Z,2.3nm,1.1s,baz=240,slow=8.0,SNR=5.8						
	comp=Z,2.3nm,1.1s						
GO02	**Mina Guanaco**	**46.26**	**229**	P	**P**	**15 56 01.8**	**+1.3**
GO02				IAmb	IAmb	15 56 34.5	
	comp=Z,20nm,1.5s						
CEST	**Esterri de Car**	**48.64**	**33**	P	**P**	**15 56 16.6**	**-1.9**
CEST				IAmb	IAmb	15 56 31.3	
	comp=Z,20nm,1.5s						
GO04	**Tololo Observa**	**50.02**	**224**	P	**P**	**15 56 29.9**	**+0.5**
BO01	**Tunca**	**52.79**	**220**	P	**P**	**15 56 51.4**	**+1.5**
BNI	**Bardonecchia**	**53.22**	**34**	P	**P**	**15 56 53.8**	**+0.8**
BNI				IAmb	IAmb	15 56 55.9	
	comp=Z,13nm,1.2s						
TSUM	**Tsumeb**	**54.67**	**117**	P	**P**	**15 57 05.3**	**+1.3**
TSUM				IAmb	IAmb	15 57 12.3	
	comp=Z,24nm,1.6s						
ECH	**Echery**	**55.45**	**31**	P	**P**	**15 57 09.2**	**+0.1**
ECH				IAmb	IAmb	15 57 25.4	
	comp=Z,26nm,1.8s						
BI05	**Punta Hualpn**	**55.60**	**219**	P	**P**	**15 57 09.8**	**-0.4**
UCC	**Uccle**	**55.79**	**28**	P	**P**	**15 57 11.1**	**-0.2**
EKA	**Eskdalemuir Ar**	**56.19**	**20**	P	**P**	**15 57 14.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=217,slow=7.5,SNR=7.5						
	comp=Z,0.8nm,0.5s						
FETA	**Feichten**	**56.66**	**34**	*e*P	**P**	**15 57 18.4**	**+0.4**
	comp=Z,7.0nm,1.2s						
SQTA	**Sankt Quirin**	**57.05**	**34**	*e*P	**P**	**15 57 20.9**	**+0.3**
	comp=Z,12nm,1.4s						
WTTA	**Wattenberg**	**57.31**	**34**	*i* P	**P**	**15 57 23.0**	**+0.4**
	comp=Z,5.0nm,1.1s						
SCHQ	**Schefferville**	**57.47**	**337**	P	**P**	**15 57 24.6**	**+1.3**
	comp=Z,2.9nm,1.0s,baz=252,slow=16,SNR=4.1						
	comp=Z,2.9nm,1.0s						
ABTA	**Abfaltersbach**	**57.52**	**35**	*i* P	**P**	**15 57 24.8**	**+0.9**
	comp=Z,16nm,1.2s						
Y49A	**Blount Mountai**	**57.86**	**308**	P	**P**	**15 57 25.0**	**-1.5**
LESA	**Schwarzleotal**	**57.99**	**35**	*i* P	**P**	**15 57 27.6**	**+0.4**
	comp=Z,11nm,1.2s						
MYKA	**Terra Mystica**	**58.12**	**36**	*i* P	**P**	**15 57 28.6**	**+0.5**
	comp=Z,3.3nm,0.5s						
SOKA	**Soboth**	**58.96**	**36**	*e*P	**P**	**15 57 34.5**	**+0.5**
	comp=Z,19nm,1.3s						
MOA	**Molln**	**59.12**	**35**	*e*P	**P**	**15 57 35.0**	**-0.1**
	comp=Z,15nm,1.7s						
GEC2	**GERESS Array S**	**59.34**	**34**	P	**P**	**15 57 36.5**	**-0.1**
GERES	**GERESS Array B**	**59.34**	**34**	P	**P**	**15 57 36.7**	**+0.1**
GERES	**GERESS Array B**	**59.34**	**34**	P	**P**	**15 57 36.5**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=239,slow=7.3,SNR=9.3						
	comp=Z,4.3nm,1.0s						
KHC	**Kasperske Hory**	**59.43**	**33**	*e*P	**P**	**15 57 37.5**	**+0.4**
ARSA	**Arzberg**	**59.54**	**36**	*i* P	**P**	**15 57 38.4**	**+0.4**
	comp=Z,5.2nm,1.1s						
CONA	**Conrad Observa**	**60.08**	**36**	*e*P	**P**	**15 57 41.3**	**-0.4**
	comp=Z,9.7nm,1.3s						
RONA	**Rosalia, Austr**	**60.22**	**36**	*e*P	**P**	**15 57 43.2**	**+0.6**
	comp=Z,13nm,1.0s						
BRG	**Berggiesshubel**	**60.59**	**32**	*e*P	P	15 57 52.3	+7.3
BRG				Amp		15 57 53.9	
	comp=Z,4.6nm,0.9s						
KRUC	**Moravsky**	**60.96**	**35**	*e*P	**P**	**15 57 47.7**	**+0.1**
MODS	**Modra-Piesok**	**61.13**	**36**	*e*P	**P**	**15 57 49.6**	**+0.8**
VRAC	**Vranov**	**61.20**	**34**	*e*P	**P**	**15 57 49.6**	**+0.4**
IDI	**Anoyia**	**61.31**	**52**	LR	LR	16 24 05.2	
	comp=Z,151nm,20.5s,baz=288,slow=36						
KSP	**Ksiaz**	**61.83**	**33**	*e*P	P	15 58 01.3	+7.9
MORC	**Moravsky Berou**	**61.97**	**34**	P	**P**	**15 57 55.2**	**+0.7**
MORC	**Moravsky Berou**	**61.97**	**34**	*e*P	**P**	**15 57 55.1**	**+0.7**
VYHS	**Vyhne**	**62.10**	**36**	*e*P	**P**	**15 57 55.8**	**+0.5**
PSZ	**Piszkesteto**	**62.46**	**37**	P	**P**	**15 57 58.7**	**+0.9**
LANS	**Liptovska Anna**	**62.77**	**36**	*e*P	**P**	**15 58 01.5**	**+1.6**
LSZ	**Lusaka**	**63.31**	**109**	P	**P**	**15 58 04.9**	**+0.8**
LSZ				IAmb	IAmb	15 58 12.4	
	comp=Z,12nm,1.5s						
NIE	**Niedzica**	**63.38**	**36**	*e*P	**P**	**15 58 00.4**	**-3.5**
OJC	**Ojcow**	**63.46**	**35**	*e*P	**P**	**15 58 04.1**	**-0.3**
OJC	**Ojcow**	**63.46**	**35**	P	**P**	**15 58 04.4**	**0.0**
LBTB	**Lobatse**	**63.60**	**121**	P	**P**	**15 58 04.7**	**-1.2**
LBTB				IAmb	IAmb	15 58 07.7	
	comp=Z,14nm,1.1s						
BOSA	**Boshof**	**64.52**	**124**	P	**P**	**15 58 11.9**	**+0.1**
BOSA	**Boshof**	**64.52**	**124**	P	**P**	**15 58 10.4**	**-1.5**
	comp=Z,8.8nm,1.1s,baz=295,slow=6.0,SNR=7.5						
	comp=Z,8.8nm,1.1s						
NB2	**NORSAR Subarra**	**65.52**	**22**	P	**P**	**15 58 18.1**	**+0.4**
	comp=Z,18nm,1.4s,baz=230,slow=6.5						
NOA	**NORSAR Array B**	**65.52**	**22**	P	**P**	**15 58 18.0**	**+0.3**
	comp=Z,3.7nm,1.0s,baz=230,slow=6.4,SNR=5.2						
	comp=Z,3.7nm,1.0s						
HFS	**Hagfors**	**65.90**	**23**	P	**P**	**15 58 20.2**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=190,slow=7.4,SNR=4.6						
	comp=Z,1.6nm,0.7s						
SUMG	**Summit**	**68.32**	**358**		**P**	**15 58 35.9**	**+0.2**
BRTR	**Keskin Array B**	**69.15**	**49**	P	**P**	**15 58 41.1**	**-0.1**
BRTR	**Keskin Array B**	**69.15**	**49**	P	**P**	**15 58 42.0**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=276,slow=1.9,SNR=7.6						
	comp=Z,3.0nm,1.0s						
AKASG	**Malin Array Be**	**69.16**	**37**	P	**P**	**15 58 41.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=250,slow=7.3,SNR=8.0						
	comp=Z,1.5nm,0.7s						
AKBB	**Malin Array Si**	**69.16**	**37**	P	**P**	**15 58 40.3**	**-0.6**
ULM	**Lac du Bonnet**	**69.79**	**322**	P	**P**	**15 58 44.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=120,slow=5.5,SNR=3.0						
	comp=Z,1.3nm,0.6s						
SAND	**Sanderson**	**70.08**	**300**	P	**P**	**15 58 47.4**	**+0.3**
SAND				IAmb	IAmb	15 58 49.6	
	comp=Z,6.1nm,1.0s						
TXAR	**Lajitas Array**	**71.35**	**299**	P	**P**	**15 58 55.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.4,SNR=4.3						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**71.74**	**26**	P	**P**	**15 58 56.9**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=260,slow=6.9,SNR=2.2						
	comp=Z,3.8nm,1.0s						
N23A	**Red Feather La**	**74.58**	**311**	P	**P**	**15 59 14.9**	**+0.9**
FFC	**Flin Flon**	**74.65**	**326**		**P**	**15 59 14.1**	**+0.3**
FFC				IAmb	IAmb	15 59 15.7	
	comp=Z,20nm,1.5s						
ARCES	**ARCESS Array B**	**75.28**	**18**	P	**P**	**15 59 15.9**	**-1.2**
	comp=Z,3.1nm,0.9s,baz=235,slow=4.3,SNR=5.2						
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	**77.48**	**313**	P	**P**	**15 59 30.9**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=111,slow=8.1,SNR=5.6						
	comp=Z,0.8nm,0.8s						
WUAZ	**Wupatki**	**78.33**	**305**	P	**P**	**15 59 37.1**	**+1.9**
RES	**Resolute Bay**	**78.77**	**346**	P	**P**	**15 59 37.0**	**+0.4**
HWUT	**Hardware Ranch**	**78.87**	**311**	P	**P**	**15 59 38.5**	**+0.3**
HWUT				IAmb	IAmb	15 59 46.5	
	comp=Z,9.1nm,1.1s						
SPR3	**Spring Creek 3**	**80.84**	**309**	P	**P**	**15 59 48.7**	**-0.3**
YKA	**Yellowknife Ar**	**82.50**	**332**	P	**P**	**15 59 56.9**	**0.0**
	comp=Z,0.2nm,0.4s,baz=91,slow=5.0,SNR=4.6						
	comp=Z,0.2nm,0.4s						
WCT	**Wildcat Mounta**	**82.61**	**306**	P	**P**	**15 59 59.0**	**+0.8**
WCT				IAmb	IAmb	16 00 07.5	
	comp=Z,12nm,1.5s						
NVAR	**Mina Array Bea**	**83.94**	**308**	P	**P**	**16 00 05.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=88,slow=9.0,SNR=4.2						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**96.22**	**337**	P	**P**	**16 01 02.6**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=62,slow=6.3,SNR=4.4						
	comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**127.27**	**63**	PKP	**PKPdf**	**16 06 40.3**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=288,slow=4.3,SNR=4.6						
ASAR	**Alice Springs**	**156.77**	**147**	PKPab	**PKPab**	**16 07 59.9**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=226,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**159.93**	**142**	PKPab	**PKPab**	**16 08 13.8**	**0.0**
	comp=Z,2.6nm,1.1s,baz=220,slow=2.3,SNR=4.5						

IDC 25 15:57:01.5±3.3, 5°.27S×140°.38E, h0km, mb3.3/1, mbtmp3.2/4, ML3.1/3, MS4.0/1, Error ellipse: s-maj=147.3km s-min=23.5km az=100.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.75**	**7**	Pn	Pn	15 57 47.3	+0.4
	2.3nm,0.3s,baz=229,slow=19,SNR=11						
JAY				Sn	Sn	15 58 21.1	+0.2
	1.2nm,0.3s,baz=143,slow=20,SNR=1.2						
	13nm,0.6s						
WRA	**Warramunga Arr**	**15.73**	**201**	Pn	Pn	16 00 46.2	+1.6
	0.1nm,0.3s,baz=22,slow=13,SNR=2.0						
WRA				Sn	Sn	16 03 32.7	-7.0
	baz=19,slow=29,SNR=1.6						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**19.33**	**198**	P	P	16 01 27.9	-0.7
	0.1nm,0.3s,baz=20,slow=11,SNR=7.7						
ASAR				S	Sn	16 04 58.0	-9.1
	0.2nm,0.8s,baz=20,slow=27,SNR=1.3						
	0.6nm,0.9s						
ASAJ	**Asahikawa**	**49.20**	**2**	LR	LR	16 25 59.7	
	comp=Z,176nm,21.6s,baz=343,slow=35						
MKAR	**Makanchi Array**	**72.82**	**322**	P	P	16 08 32.1	0.0
	0.3nm,0.9s,baz=134,slow=4.2,SNR=2.1						
	0.3nm,0.9s						

GCMT 25 16:04:04.0±0.4, 4°.24N±0°.04×32°.80W±0°.03, h24km±1km, MW5.0/74, Moment Tensor Solution. s26,c27; s74,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.20±.29; $M_{\theta\theta}$-0.23±.18; $M_{\phi\phi}$3.44±.20; $M_{r\theta}$0.18±.26; $M_{\theta\phi}$-0.77±.12; $M_{\phi r}$1.15±.20; **Best double couple:** $M_0$3.59600×10^{16} **NP1:**ϕ_S341.00000°, δ37.00000°, λ-102.00000°. **NP2:**ϕ_S176.00000°, δ54.00000°, λ-81.00000°. **Principal axes:** T 3.7680, Plg9.0000°, Azm259.0000°; N -0.3380, Plg7.0000°, Azm351.0000°; P -3.4230, Plg78.0000°, Azm119.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Central Mid-Atlantic Ridge**

*IDC **25** 16:04:15.2±1.5, 52°.96N×168°.41W, h0km, mb3.5/5, mbtmp3.5/6, ML2.5/1, MS4.2/1 Error ellipse: s-maj=44.5km s-min=25.7km az=179.0*

*NEIC **25** 16:04:18.1±1.2, 52°.62N±0°.07×168°.4W±0°.1, h39km±12km, mb3.7/10, ML3.2(AEIC), Error ellipse: s-maj=12.4km s-min=8.3km az=120.0*

*AEIC **25** 16:04:20.3±1.2, 52°.74N±0°.07×168°.03W±0°.10, h29km±7km, Error ellipse: s-maj=10.2km s-min=8.3km az=175.0*

ISC 25 16:04:18.3±0.9, 52°.71N±0°.10×168°.41W±0°.08, h29km, n46, σ0°98/43, mb3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**0.71**	**18**		**Pn**	**16 04 33.1**	**+0.6**
OKCE	**Okmok Cone E**	**0.74**	**11**		**Pn**	**16 04 33.7**	**+0.9**
OKCE					**Sn**	**16 04 43.9**	**+0.9**
OKFG	**Magazine Ridge**	**0.77**	**23**		**Pn**	**16 04 33.4**	**+0.2**
OKFG					**Sn**	**16 04 43.3**	**-0.4**
OKNC	**Okmok New Cone**	**0.77**	**13**		**Pn**	**16 04 34.4**	**+1.1**
OKWE	**Okmok W'ng Wal**	**0.77**	**7**		**Pn**	**16 04 34.4**	**+1.1**
OKER	**Okmok East Rim**	**0.78**	**16**		**Pn**	**16 04 34.2**	**+0.8**
OKRE	**Okmok R'deer P**	**0.83**	**10**		**Pn**	**16 04 35.2**	**+1.2**
MAPS	**Pakushin South**	**1.41**	**38**		**Pn**	**16 04 41.5**	**-0.6**
MAPS					**Sn**	**16 04 58.5**	**-1.2**
MGOD	**Makushin Gods**	**1.43**	**40**		**Pn**	**16 04 41.6**	**-0.7**
MSW	**Makushin Switc**	**1.55**	**38**		**Pn**	**16 04 43.9**	**-0.1**
UNV	**Unalaska Valle**	**1.61**	**44**		**Pn**	**16 04 44.4**	**-0.4**
MTBL	**Makushin Table**	**1.64**	**39**		**Pn**	**16 04 45.5**	**+0.3**
ZRO	**Akutan Zero**	**2.01**	**45**		**Pn**	**16 04 50.6**	**+0.3**
LVA	**Lava Point**	**2.03**	**43**	Pn	**Pn**	**16 04 50.7**	**+0.1**
GSTR	**Great Sitkin T**	**4.73**	**266**	Pn	**Pn**	**16 05 25.5**	**-2.1**
KIWB	**Kanaga Island**	**5.44**	**264**	Pn	**Pn**	**16 05 37.5**	**+0.1**
M14K	**Bethel**	**8.80**	**21**	Pn	**Pn**	**16 06 21.6**	**-1.8**
OHAK	**Old Harbor**	**9.79**	**57**	Pn	**Pn**	**16 06 36.2**	**-0.8**
CNPM	**China Poot**	**11.74**	**48**	Pn	**Pn**	**16 07 04.5**	**+0.8**
SLKM	**Skilak Lake**	**12.67**	**45**	Pn	**Pn**	**16 07 17.0**	**+0.7**
SEW	**Seward**	**12.81**	**47**	Pn	**Pn**	**16 07 18.6**	**+0.4**
GHO	**Glory Hole Cre**	**13.86**	**41**	Pn	**Pn**	**16 07 32.1**	**-0.6**
SCM	**Sheep Creek Mo**	**14.54**	**43**	Pn	**Pn**	**16 07 41.5**	**-0.5**
M24K	**Tolsona, Glenn**	**15.15**	**43**	Pn	**Pn**	**16 07 49.5**	**-0.6**
N25K	**Chitina, Valde**	**15.60**	**46**	Pn	**Pn**	**16 07 55.5**	**-0.5**
N25K				IAmb	IAmb	16 08 31.9	
	comp=Z,9.7nm,1.4s						
WRH	**Wood River Hil**	**15.75**	**34**	P	**P**	**16 08 00.7**	**-0.8**
WRH				IAmb	IAmb	16 08 38.2	
	comp=Z,11nm,1.5s						
GLB	**Gilahina Butte**	**15.89**	**47**	Pn	**Pn**	**16 07 59.2**	**-0.4**
GLB				IAmb	IAmb	16 08 05.3	
	comp=Z,3.9nm,1.2s						
ILAR	**Eielson Array**	**16.34**	**34**	Pn	**Pn**	**16 08 02.5**	**-2.9**
	baz=233,slow=12,SNR=4.1						
	comp=Z,0.8nm,1.1s						
H24K	**Noodor Dome**	**16.71**	**30**	P	**P**	**16 08 11.8**	**-0.4**
M27K	**Edge Creek, AK**	**17.08**	**45**		**Pn**	**16 08 14.7**	**-0.1**
M27K				IAmb	IAmb	16 08 26.4	
	comp=Z,7.3nm,1.4s						
I26K	**Coal Creek Min**	**17.95**	**36**	P	**P**	**16 08 25.5**	**-0.2**
L29M	**L29M**	**18.96**	**45**	P	**Pn**	**16 08 37.6**	**-0.2**
L29M				IAmb	IAmb	16 09 00.0	
	comp=Z,11nm,1.5s						
G29M	**Pine Creek**	**20.57**	**35**	P	**P**	**16 08 53.6**	**-0.7**
G29M				IAmb	IAmb	16 09 33.1	
	comp=Z,4.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**38.09**	**220**	T	T	16 52 20.1	
	baz=24,slow=76,SNR=61						
H11N3	**WAKE ISLAND Hy**	**38.09**	**220**	T	T	16 52 25.6	
	baz=24,slow=76,SNR=68						
H11N1	**WAKE ISLAND Hy**	**38.10**	**220**	T	T	16 52 21.5	
	baz=24,slow=76,SNR=80						
H11S1	**WAKE ISLAND Hy**	**39.27**	**219**	T	T	16 53 50.5	
	baz=24,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**39.29**	**219**	T	T	16 53 44.3	
	baz=24,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**39.29**	**219**	T	T	16 53 44.5	
	baz=24,slow=76,SNR=45						
PDAR	**Pinedale Array**	**39.77**	**80**	P	**P**	**16 11 48.9**	**+0.3**
PDAR	**Pinedale Array**	**39.77**	**80**	P	**P**	**16 11 49.4**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=308,slow=3.4,SNR=4.0						
	comp=Z,0.3nm,0.5s						
TXAR	**Lajitas Array**	**52.16**	**90**	P	**P**	**16 13 26.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=307,slow=5.4,SNR=3.9						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**64.00**	**314**	P	**P**	**16 14 47.9**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=27,slow=4.8,SNR=1.6						
	comp=Z,0.1nm,0.5s						
NC405	**NORSAR Array S**	**66.53**	**360**	P	**P**	**16 15 03.9**	**-0.9**
HFS	**Hagfors**	**67.50**	**359**	P	**P**	**16 15 10.1**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=2.9,slow=3.0,SNR=4.2						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**77.11**	**283**	P	**P**	**16 16 11.3**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=20,slow=6.3,SNR=5.1						
	comp=Z,0.4nm,0.6s						

*RSNC **25** 16:12:52.9±0.0, 8°.N±2°×7°.8W±°, h7km±4km, M2.2, ML2.2*

*UPA **25** 16:12:53.0±0.9, 8°.36N×77°.84W, h6km±3km, ML3.7*

ISC 25 16:12:51.4±1.3, 8°.39N±0°.04×77°.79W±0°.03, h5km±11km, n12, σ0°81/23, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.27**	**306**	↓*i* P	**Pb**	**16 12 58.5**	**-0.3**
UPD2				AMP		16 12 58.5	
	comp=Z,26μm,0.1s						
UPD2				*e*S	**Sb**	**16 13 03.5**	**-0.3**
CAPC	**Capurgana**	**0.50**	**60**	P	**Pg**	**16 13 01.1**	**+0.1**
CAPC				S	**Sg**	**16 13 07.5**	**0.0**
CAPC	**Capurgana**	**0.50**	**60**	P		16 13 01.1	
CAPC				S		16 13 07.5	
PTAC	**Punta Ardita,**	**1.23**	**181**	P	**Pg**	**16 13 14.3**	**-0.7**
PTAC				S	**Sg**	**16 13 31.0**	**0.0**
PTAC	**Punta Ardita,**	**1.23**	**181**	*e*P	**Pg**	**16 13 14.7**	**-0.3**
PTAC				AMP		16 13 16.1	
	comp=Z,672nm,0.1s						
PTAC				*e*S	**Sg**	**16 13 32.2**	**+1.2**
PTAC	**Punta Ardita,**	**1.23**	**181**	P		16 13 14.3	
PTAC				S		16 13 31.0	
APAC	**Apartado, Choc**	**1.29**	**112**	P	**Pn**	**16 13 15.9**	**-0.2**
APAC				S	**Sn**	**16 13 36.1**	**+2.2**
APAC	**Apartado, Choc**	**1.29**	**112**	P		16 13 15.9	
APAC				S		16 13 36.1	
LCBC	**Los crdobas,**	**1.48**	**72**	P	**Pn**	**16 13 18.9**	**+0.1**
LCBC				S	**Sb**	**16 13 37.8**	**-0.8**
LCBC	**Los crdobas,**	**1.48**	**72**	*e*P	**Pg**	**16 13 19.9**	**+0.1**
LCBC	**Los crdobas,**	**1.48**	**72**	P		16 13 18.9	
LCBC				S		16 13 37.8	
CHPO	**Chepo, Panama**	**1.52**	**301**	*e*P	**Pn**	**16 13 19.4**	**+0.1**
CHPO				*e*S	**Sn**	**16 13 39.2**	**-0.3**
BCIP	**Isla Barro Col**	**2.17**	**291**	P	**Pn**	**16 13 28.8**	**+0.6**
BCIP				S	**Sn**	**16 13 55.6**	**+0.1**
BCIP	**Isla Barro Col**	**2.17**	**291**	*e*P	**Pn**	**16 13 28.8**	**+0.6**
BCIP				*e*S	**Sn**	**16 13 55.8**	**+0.3**
BCIP	**Isla Barro Col**	**2.17**	**291**	P		16 13 28.8	
BCIP				S		16 13 55.6	
AZU	**Azuero**	**2.53**	**257**	*e*P	**Pn**	**16 13 34.3**	**+1.1**
AZU				*e*S	**Sn**	**16 14 03.6**	**-0.8**
PTBC	**PUERTO BERRIO,**	**3.78**	**119**	P	**Pn**	**16 13 50.8**	**+0.4**
PTBC				S	**Sn**	**16 14 34.2**	**-1.2**
PTBC	**PUERTO BERRIO,**	**3.78**	**119**	P		16 13 50.8	
PTBC				S		16 14 34.2	

IDC 25 16:25:23.8±1.9, 4°.29S×148°.10E, h0km, mb3.3/3, mbtmp3.4/4, ML1.7/1, Error ellipse: s-maj=98.9km s-min=29.4km az=118.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**190**	Pn	Pn	16 26 42.5	+0.1
	1.7nm,0.3s,baz=9.5,slow=12,SNR=6.5						
	3.7nm,0.3s						
WRA	**Warramunga Arr**	**20.54**	**220**	P	P	16 30 03.4	-0.6
	0.4nm,0.6s,baz=44,slow=11,S

comp=Z,12nm,1.4s
WRAB Tennant Creek 22.37 162 P P 16 48 09.1 -0.7
WRAB IAmb IAmb 16 48 36.4
comp=Z,11nm,1.4s
WRA Warramunga Arr 22.37 163 P P 16 48 09.1 -0.7
comp=Z,2.2nm,0.4s,baz=339,slow=11,SNR=34
comp=Z,2.2nm,0.4s
WB2 Warramunga Arr 22.38 163 P P 16 48 09.2 -0.7
WR0 Warramunga Arr 22.45 162 P P 16 48 09.9 -0.6
WR0 IAmb IAmb 16 48 16.0
comp=Z,9.0nm,1.4s
AS31 Alice Springs 25.80 166 P P 16 48 40.6 -0.7
ASAR Alice Springs 25.80 166 P P 16 48 40.8 -0.6
ASAR Alice Springs 25.80 166 P P 16 48 40.9 -0.4
comp=Z,0.7nm,0.5s,baz=343,slow=7.9,SNR=21
comp=Z,0.7nm,0.5s
BBOO Buckleboo 35.09 167 P P 16 50 02.5 -0.5
KSAR Wonju Array Be 35.78 1 P P 16 50 09.6 +0.8
KSRS Korea Array 35.79 1 P P 16 50 08.7 -0.2
comp=Z,0.5nm,0.5s,baz=182,slow=9.8,SNR=5.0
comp=Z,0.5nm,0.5s
STKA Stephens Creek 35.83 159 P P 16 50 08.7 -0.6
CAN Canberra 41.84 153 P P 16 50 58.9 -0.5
SONM Songino Array 49.61 342 P P 16 51 59.6 -0.7
comp=Z,0.4nm,0.7s,baz=152,slow=6.5,SNR=2.9
comp=Z,0.4nm,0.7s
PEA0B Petropavlovsk- 57.26 21 P P 16 52 55.6 -0.4
PETK Petropavlovsk- 57.26 21 P P 16 52 55.7 -0.3
MK31 Makanchi Array 59.75 326 P P 16 53 13.5 +0.1
MKAR Makanchi Array 59.75 326 P P 16 53 13.5 +0.1
MKAR Makanchi Array 59.75 326 P P 16 53 13.8 +0.4
comp=Z,0.5nm,0.4s,baz=112,slow=7.9,SNR=13
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 63.95 328 P P 16 53 41.0 -0.4
comp=Z,0.6nm,0.6s,baz=129,slow=6.2,SNR=8.2
comp=Z,0.6nm,0.6s
ABKAR Akbulak array 74.27 321 P P 16 54 44.3 -0.9
TTA Tatalina 82.60 27 P P 16 55 31.6 +0.8
TTA IAmb IAmb 16 55 52.4
comp=Z,3.4nm,1.5s
B21K Ikpikpuk River 84.44 20 P P 16 55 40.5 +0.6
B21K IAmb IAmb 16 56 07.6
comp=Z,4.0nm,1.4s
SKT Skwentna 84.50 28 P P 16 55 39.8 -0.6
SKT IAmb IAmb 16 56 10.8
comp=Z,9.7nm,1.5s
C23K Itkillik River 85.85 20 P P 16 55 47.5 +0.6
C23K IAmb IAmb 16 56 07.4
comp=Z,6.6nm,1.4s
BMAR Burnt Mountain 87.88 23 P P 16 55 57.1 +0.2
BCAR Beaver Creek A 89.07 27 P P 16 56 02.3 -0.2
I28M Miner Creek 89.78 25 P P 16 56 05.6 -0.2
I28M IAmb IAmb 16 56 27.3
comp=Z,5.0nm,1.4s

---

*IDC **25** 16:46:17.3±2.1,55°.77S×147°.31E,h0km,mb3.9/6, mbtmp3.9/6,MS3.9/17,Error ellipse: s-maj=145.0km s-min=24.3km az=78.0*
*NEIC **25** 16:46:17.3±2.0,56°.0S±0°.2×147°.1E±0°.1,h10km±2km, mb4.6/11,Error ellipse: s-maj=33.4km s-min=8.9km az=170.0*
ISC 25 16:46:19.6±0.9,55°.7S±0°.1×147°.4E±0°.1,h10km,n41, σ1=15/21,mb4.4/12,MS3.9/16,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**6.75**	**85**	Pn	**Pn**	**16 47 59.0**	**+0.5**
TOO	**Toolangi**	**18.16**	**355**	P	**Pn**	**16 50 31.7**	**-0.1**
RPZ	**Rata Peaks**	**19.32**	**62**	LR	LR	16 56 50.7	
comp=Z,649nm,20.9s,baz=214,slow=33							
VNDA	**Vanda**	**22.53**	**172**	P	**P**	**16 51 18.4**	**-0.6**
1.8nm,0.9s,baz=10.0,slow=8.3,SNR=3.0							
VNDA				LR	LR	16 59 42.5	
comp=Z,84nm,18.6s,baz=172,slow=36							
1.8nm,0.9s							
MRZ	**Mangatainoka R**	**23.84**	**63**	P	**P**	**16 51 31.8**	**-0.9**
MRZ				IAmb	IAmb	16 52 01.1	
comp=Z,32nm,1.3s							
STKA	**Stephens Creek**	**24.14**	**348**	P	**P**	**16 51 36.7**	**+1.1**
STKA				IAmb	IAmb	16 51 47.4	
comp=Z,32nm,1.0s							
STKA	**Stephens Creek**	**24.14**	**348**	P	**P**	**16 51 35.8**	**+0.2**
comp=Z,5.9nm,0.9s,baz=170,slow=9.7,SNR=8.3							
comp=Z,5.9nm,0.9s							
CTZ	**Chatham Island**	**25.85**	**78**	P	**P**	**16 51 49.7**	**-1.3**
URZ	**Urewera**	**26.44**	**61**	LR	LR	17 01 18.8	
comp=Z,348nm,21.6s,baz=311,slow=34							
EIDS	**Eidsvold**	**30.40**	**7**	P	**P**	**16 52 32.4**	**+0.6**
EIDS				IAmb	IAmb	16 52 36.9	
comp=Z,28nm,1.3s							
H01W1	**Cape Leeuwin H**	**30.82**	**298**	T	T	17 25 00.5	
baz=143,slow=75,SNR=46							
H01W2	**Cape Leeuwin H**	**30.83**	**298**	T	T	17 24 52.9	
baz=143,slow=75,SNR=39							
H01W3	**Cape Leeuwin H**	**30.84**	**298**	T	T	17 25 01.7	
baz=143,slow=75,SNR=36							
NWAO	**Narrogin (SRO)**	**30.94**	**305**	P	**P**	**16 52 35.7**	**-0.7**
NWAO	**Narrogin (SRO)**	**30.94**	**305**	LR	LR	17 02 34.5	
comp=Z,278nm,19.3s,baz=85,slow=32							
ASAR	**Alice Springs**	**33.49**	**337**	P	**P**	**16 52 57.1**	**-1.9**
ASAR	**Alice Springs**	**33.49**	**337**	P	**P**	**16 52 58.8**	**-0.2**
comp=Z,1.4nm,0.7s,baz=166,slow=9.1,SNR=18							
comp=Z,1.4nm,0.7s							
AS31	**Alice Springs**	**33.49**	**337**	P	**P**	**16 52 57.6**	**-1.4**
DZM	**Mont Dzumac**	**36.44**	**31**	LR	LR	17 04 32.2	
comp=Z,442nm,19.3s,baz=214,slow=30							
WR0	**Warramunga Arr**	**36.95**	**340**	P	**P**	**16 53 28.0**	**-0.8**
WR0				IAmb	IAmb	16 53 33.6	
comp=Z,4.7nm,0.9s							
WB2	**Warramunga Arr**	**37.01**	**339**	P	**P**	**16 53 28.6**	**-0.7**
WB2				IAmb	IAmb	16 53 29.4	
comp=Z,6.1nm,0.7s							
WRA	**Warramunga Arr**	**37.01**	**339**	P	**P**	**16 53 28.8**	**-0.5**
comp=Z,3.9nm,0.7s,baz=166,slow=7.6,SNR=30							
comp=Z,3.9nm,0.7s							
WRAB	**Tennant Creek**	**37.02**	**339**	P	**P**	**16 53 28.4**	**-1.0**
WRAB				IAmb	IAmb	16 53 29.4	
comp=Z,5.2nm,0.6s							
WB0	**Warramunga Arr**	**37.17**	**339**	P	**P**	**16 53 29.4**	**-1.2**
WB0				IAmb	IAmb	16 53 30.6	
comp=Z,5.7nm,0.8s							
MAW	**Mawson**	**38.56**	**218**	LR	LR	17 09 19.2	
comp=Z,224nm,18.4s,baz=106,slow=36							
FITZ	**Fitzroy Crossi**	**40.99**	**328**	P	**P**	**16 54 02.9**	**+0.4**
comp=Z,1.7nm,1.0s,baz=176,slow=9.5,SNR=1.3							
FITZ				LR	LR	17 10 10.7	
comp=Z,143nm,18.8s,baz=238,slow=35							
comp=Z,1.7nm,1.0s							
MSVF	**Nonsavu**	**44.45**	**44**	LR	LR	17 09 40.9	
comp=Z,121nm,18.1s,baz=178,slow=32							
PMG	**Port Moresby**	**46.16**	**360**	LR	LR	17 12 08.1	
comp=Z,248nm,19.6s,baz=166,slow=34							
HNR	**Honiara**	**47.19**	**17**	LR	LR	17 12 26.8	
comp=Z,96nm,18.3s,baz=310,slow=33							
SNAA	**Sanae**	**51.23**	**192**	LR	LR	17 16 46.9	
comp=Z,194nm,18.1s,baz=148,slow=36							
LEM	**Lembang**	**58.02**	**312**	LR	LR	17 17 09.5	
comp=Z,76nm,21.0s,baz=126,slow=32							
H08S2	**Diego Garcia H**	**75.21**	**278**	T	T	18 20 21.2	
baz=147,slow=76,SNR=11							
H08S1	**Diego Carcia H**	**75.22**	**278**	T	T	18 20 18.3	
baz=147,slow=76,SNR=7.1							
H08S3	**Diego Garcia H**	**75.23**	**278**	T	T	18 20 21.6	
baz=147,slow=76,SNR=11							
PLCA	**Paso Flores**	**78.68**	**152**	LR	LR	17 26 09.8	
comp=Z,52nm,18.4s,baz=164,slow=30							
SUR	**Sutherland**	**81.16**	**223**	LR	LR	17 28 47.6	
comp=Z,60nm,19.0s,baz=160,slow=32							
JOW	**Kunigami**	**83.79**	**343**	LR	LR	17 33 49.5	
comp=Z,53nm,21.7s,baz=156,slow=34							
CMAR	**Chiang Mai Arr**	**84.42**	**314**	P	**P**	**16 58 53.0**	**+1.0**
comp=Z,0.1nm,0.3s,baz=181,slow=5.7,SNR=4.2							
CMAR				LR	LR	17 33 18.9	
comp=Z,32nm,21.9s,baz=180,slow=33							
comp=Z,0.1nm,0.3s							
LSZ	**Lusaka**	**92.92**	**238**	LR	LR	17 34 16.9	
comp=Z,66nm,21.3s,baz=128,slow=31							
FINES	**FINESS Array B**	**149.79**	**305**	PKPbc	**PKPbc**	**17 06 07.3**	**-0.9**
comp=Z,2.0nm,0.9s,baz=108,slow=4.5,SNR=5.2							
GERES	**GERESS Array B**	**151.30**	**276**	PKPbc	**PKPdf**	**17 06 09.0**	**+2.7**
comp=Z,0.7nm,0.8s,baz=90,slow=3.9,SNR=3.9							

---

*VIE **25** 16:55:37.5±0.9,51°.37N×16°.21E,h0km,mb2.5/2,ml2.5/3, Error ellipse: s-maj=10.1km s-min=5.7km az=85.0,*
Suspected Mining induced.
*PRU **25** 16:55:37.1,51°.48N×16°.12E,h0km*
ISC 25 16:55:35.6±1.3,51°.51N±0°.06×16°.11E±0°.03,h0km,n24, σ0=71/42,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**170**	*e*Pg	**Pg**	**16 55 48.8**	**+0.2**
KSP				*e*Sg	**Sg**	**16 55 57.5**	**0.0**
CHVC	**Chvalec**	**0.93**	**182**	*e*PG	**Pg**	**16 55 53.6**	**+0.2**
CHVC				*e*SG	**Sg**	**16 56 05.7**	**+0.4**
comp=Z,12nm,0.4s							
OSTC	**Ostas**	**0.96**	**176**	*e*PG	**Pg**	**16 55 54.3**	**+0.3**
OSTC				*e*SG	**Sg**	**16 56 06.7**	**+0.3**
comp=Z,22nm,0.4s							
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**16 55 54.5**	**-0.4**
UPC				*e*SG	**Sg**	**16 56 08.1**	**+0.1**
comp=Z,36nm,0.3s							
DPC	**Dobruska-Polom**	**1.17**	**173**	*e*PG	**Pg**	**16 55 57.8**	**-0.2**
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**16 56 01.9**	**-0.3**
PVCC				*e*SG	**Sb**	**16 56 21.1**	**+0.5**
comp=Z,42nm,0.4s							
KRLC	**Kraliky**	**1.50**	**163**	*e*PG	**Pn**	**16 56 04.1**	**+0.3**
KRLC				*e*SG	**Sg**	**16 56 23.3**	**-0.5**
comp=Z,28nm,0.9s							
BRG	**Berggiesshubel**	**1.51**	**246**	Pg	**Pn**	**16 56 04.1**	**+0.3**
BRG				Sg	**Sg**	**16 56 24.0**	**0.0**
BRG				Amp		16 56 25.8	
comp=Z,18nm,0.4s							
RICC	**Richard**	**1.60**	**233**	*e*SG	**Sn**	**16 56 27.0**	**+0.5**
PRU	**Pruhonice**	**1.82**	**214**	*e*PG	**Pn**	**16 56 09.1**	**+0.9**
PRU				*e*SG	**Sg**	**16 56 35.6**	**+1.4**
comp=Z,8.0nm,0.4s							
HSKC	**Hora Svate Kat**	**1.92**	**243**	*e*SG	**Sb**	**16 56 36.0**	**0.0**
CLL	**Collm**	**1.96**	**265**	*e*(Pn)	**Pn**	**16 56 09.0**	**-1.0**
CLL				*e*Pg	**Pb**	**16 56 11.0**	**-1.1**
CLL				*ex*	x	16 56 17.0	
CLL				*ex*	x	16 56 29.0	
CLL				*e*Sg	**Sn**	**16 56 36.0**	**+0.7**
comp=Z,10.0nm,0.4s							
MORC	**Moravsky Berou**	**1.96**	**152**	*e*PN	**Pn**	**16 56 09.7**	**-0.5**
MORC				*e*SG	**Sb**	**16 56 36.3**	**-0.9**
VRAC	**Vranov**	**2.23**	**172**	*e*PN	**Pn**	**16 56 13.0**	**-0.8**
VRAC				*e*SG	**Sb**	**16 56 44.8**	**-0.1**
KRUC	**Moravsky**	**2.46**	**176**	*e*PN	**Pn**	**16 56 16.8**	**-0.2**
KRUC				*e*SG	**Sb**	**16 56 51.9**	**+0.4**
NKC	**Novy Kostel**	**2.65**	**243**	*e*SG	**Sg**	**16 57 01.7**	**+1.0**
comp=Z,12nm,0.4s							
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**16 56 28.0**	**+1.3**
OJC				*e*Sg	**Sg**	**16 57 02.6**	**+1.2**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**16 56 22.6**	**-0.2**
KHC				*e*PG	**Pb**	**16 56 28.4**	**+0.5**
KHC				*e*SN	**Sn**	**16 56 58.1**	**-0.2**
KHC				*e*SG	**Sg**	**16 57 08.2**	**0.0**
comp=Z,4.1nm,0.5s							
LANS	**Liptovska Anna**	**3.20**	**136**	*e*SG	**Sg**	**16 57 17.2**	**-1.0**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*	**Pg**	**16 56 36.8**	**-0.7**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*SG	**Sg**	**16 57 20.0**	**+0.6**
CONA	**Conrad Observa**	**3.59**	**183**	*i* Pn	**Pn**	**16 56 31.8**	**-0.8**
comp=Z,0.3nm,0.2s							
CONA				*e*Sg	**Sg**	**16 57 29.6**	**-1.3**
comp=Z,4.3nm,0.3s							
MOA	**Molin**	**3.86**	**199**	*e*Sg	**Sg**	**16 57 40.7**	**+1.2**
comp=Z,6.7nm,0.6s							
ARSA	**Arzberg**	**4.29**	**185**	Sg	**Sg**	**16 57 53.9**	**+0.7**
comp=Z,1.1nm,0.3s							

---

*UPA **25** 17:00:33.1±1.3,8°.44N×82°.83W,h0km±7km,MD3.5*
*UCR **25** 17:00:34.0±1.2,8°.30N×82°.79W,h25km±6km,MW4.1*
ISC 25 17:00:33.7±1.2,8°.37N±0°.04×82°.81W±0°.03,h16km±11km, n13,σ0=96/20,2C-4D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.17**	**351**	*e*P	**Pb**	**17 00 40.0**	**+1.6**
PTPM	**Petroterminale**	**0.18**	**202**	⇑*i*P	**Pb**	**17 00 38.6**	**0.0**
PTPM				*e*S	**Sb**	**17 00 43.0**	**+1.1**
NELY	**Ciudad Neily**	**0.31**	**335**	*e*P	**Pb**	**17 00 42.1**	**+1.2**
NELY				*e*S	**Sn**	**17 00 48.5**	**-1.4**
DVD	**David**	**0.36**	**79**	*i* S	**Sb**	**17 00 48.7**	**+1.4**
EDAD	**Golfito**	**0.45**	**309**	⇑*e*P	**Pg**	**17 00 42.9**	**+0.1**
EDAD				*e*S	**Sb**	**17 00 50.2**	**+0.4**
PIRO	**Carate, Puerto**	**0.52**	**274**	⇓*e*P	**Pg**	**17 00 43.9**	**-0.2**
JIME	**Puerto Jimenez**	**0.53**	**288**	⇓*e*P	**Pb**	**17 00 44.7**	**0.0**
JIME				*e*S	**Sn**	**17 00 54.2**	**-1.2**
ALCO	**Alturas Coton,**	**0.58**	**358**	⇓*e*P	**Pb**	**17 00 46.2**	**+0.6**
FIMO	**Fila Mora**	**0.82**	**319**	*e*P	**Pb**	**17 00 50.2**	**+0.5**
CHGR2	**Aguacate**	**0.87**	**49**	⇓*i*P	**Pg**	**17 00 50.0**	**-0.6**
CHGR2				*e*S	**Sb**	**17 01 02.6**	**+0.7**
DRK0	**Durika**	**0.99**	**334**	*e*P	**Pg**	**17 00 52.5**	**-0.4**
CNI2	**El Empalme, Bo**	**1.10**	**18**	*e*P	**Pb**	**17 00 53.2**	**-1.2**
CNI2				*e*S	**Sg**	**17 01 09.0**	**-0.5**
GMAL	**Guarumal, Vera**	**1.68**	**111**	*e*P	**Pn**	**17 01 02.5**	**+0.1**
GMAL				*e*S	**Sb**	**17 01 26.2**	**+1.1**

---

*BJI **25** 17:13:50.6,44°.89N×147°.92E,h96km,mB5.2/36,mb5.3/80*
*SKHL **25** 17:13:50.9±0.1,44°.70N×148°.30E,h102km±8km,mb5.9/15, mbv5.9/5,ms4.5/5,msh5.3/3,msha6.8/4*
*JMA **25** 17:13:51.6±0.5,45°.N±2°.×14°.8E±°.,h100km,MD5.4/39, MW5.0/39,NEAR ETOROFU ISLAND*
JMA Felt I J1 at NEAR ETOROFU ISLAND .
*NIED **25** 17:13:51.6,44°.64N×148°.27E,h100km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}-1.22; $M_{\theta\theta}$2.55; $M_{\phi\phi}$-1.33; $M_{r\theta}$-1.22; $M_{\theta\phi}$-1.56; $M_{\phi r}$-2.07; Fault plane solution: $M_0$3.55000×10^16^ NP1: ϕ_s325.00000°,δ56.00000°,λ-26.00000°. NP2:ϕ_s71.00000°, δ68.00000°,λ-143.00000°.*
*IDC **25** 17:13:52.5±1.2,45°.05N×147°.79E,h95km±9km,mb4.3/30, mbtmp4.7/35,MS3.7/49 Error ellipse: s-maj=11.3km s-min=10.1km az=142.0*
*MOS **25** 17:13:52.0±1.4,45°.00N×147°.91E,h107km,mb4.8/48, MS3.3/5,Error ellipse: s-maj=5.6km s-min=4.3km az=113.9*
MOS Felt (II-III) at Kuril'sk, Reydovo, Goryachiye Klyuchi, Malokuril'skoye, (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh.
*GCMT **25** 17:13:53.9±0.2,44°.87N±0°.01×147°.99E±0°.02,h97km±2km, MW5.0/117,Moment Tensor Solution. s44,c51; s117,c193; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.13±.11; $M_{\theta\theta}$3.80±.11; $M_{\phi\phi}$-1.67±.11; $M_{r\theta}$-0.64±.08; $M_{\theta\phi}$-0.98±.10; $M_{\phi r}$-2.14±.06; Best double couple: $M_0$4.09800×10^16^ NP1:ϕ_s314.00000°,δ56.00000°, λ-35.00000°. NP2:ϕ_s65.00000°,δ61.00000°, λ-141.00000°. Principal axes: T 3.9830, Plg3.0000°, Azm189.0000°; N 0.2290, Plg43.0000°, Azm96.0000°; P -4.2120, Plg47.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **25** 17:13:53.9±2.0,45°.05N±0°.09×147°.8E±0°.1,h105km±4km, mb5.0/386,Mww5.0/19 Error ellipse: s-maj=13.5km s-min=11.7km az=155.0*
*NEIC **25** 17:13:53.1,44°.84N×148°.26E,h110km,Moment Tensor Solution. Duration: 1!5 Moment tensor: Scale 10^16^Nm; M_{rr}-1.00; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-0.71; $M_{r\theta}$-0.93; $M_{\theta\phi}$-3.08; $M_{\phi r}$-1.74; Fault plane solution: $M_0$3.94000×10^16^ NP1: ϕ_s84.23000°,δ65.35000°,λ-157.62000°. NP2: ϕ_s344.48000°,δ69.76000°,λ-26.40000°. Principal axes: T 3.8245, Plg3.0000°, Azm35.0000°; N 0.2409, Plg57.0000°, Azm130.0000°; P -4.0654, Plg33.0000°, Azm303.0000°;*
*NEIC **25** 17:13:53.1,45°.04N×147°.84E,h110km*
*BGR **25** 17:13:58.5,45°.32N×146°.93E,h94km,mb4.7*
ISC 25 17:13:52.6±0.3,44°.93N±0°.03×147°.96E±0°.03,h100km±2km, h100km:pP-P,n1115,σ1=30/990,mb4.9/347,55C-41D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.31**	**348**	*d*iPN	**Pn**	**17 14 07.3**	**+0.1**
KUR				*i* S	**Sn**	**17 14 18.5**	**+0.4**
KUR				pmax	pmax		
comp=Z,6μm,0.6s							
KUR				pmax	pmax		
comp=E,2μm,0.4s							
KUR				pmax	pmax		
comp=N,2μm,0.5s							
KUR				smax	smax		
comp=N,36μm,0.5s							
KUR				smax	smax		
comp=E,25μm,0.4s							
KUR				smax	smax		
comp=E,177μm,3.5s							
KUR				smax	smax		
comp=N,119μm,1.7s							
KUR	**Kuril'sk**	**0.31**	**348**	*e*P	**Pn**	**17 14 07.3**	**+0.1**
KUR				AMB	AMB	17 14 08.2	
comp=N,5μm,0.5s							
KUR				*e*S	**Sn**	**17 14 19.0**	**+0.9**
KUR				A	A	17 14 19.9	
comp=N,43μm,0.5s							
KUR				A	A	17 14 19.9	
comp=N,54μm,0.5s							
KUR				A	A	17 14 20.5	
comp=N,119μm,3.0s							
KUR				A	A	17 14 20.5	
comp=N,177μm,3.0s							
SHO	**Shikotan**	**1.33**	**218**	*e*P	**Pn**	**17 14 15.5**	**-1.2**
SHO				AMB	AMB	17 14 16.3	
comp=N,16μm,0.7s							
SHO				*e*S	**Sn**	**17 14 32.7**	**-2.3**
SHO				A	A	17 14 35.5	
comp=N,42μm,0.6s							
SHO				A	A	17 14 35.5	
comp=N,24μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.74**	**240**	*c i*PN	**Pn**	**17 14 22.2**	**+0.4**
YUK				*e*S	**Sn**	**17 14 44.8**	**+0.7**
YUK				pmax	pmax		
comp=Z,12μm,0.4s							
YUK				pmax	pmax		
comp=N,1μm,0.3s							
YUK				pmax	pmax		
comp=E,2μm,0.2s							
YUK				pmax	pmax		
comp=Z,22μm,1.3s							
YUK				smax	smax		
comp=N,30μm,0.5s							
YUK				smax	smax		
comp=E,42μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.74**	**240**	*e*P	**Pn**	**17 14 22.4**	**+0.6**
YUK				AMB	AMB	17 14 23.6	
comp=E,14μm,0.4s							
YUK				AMB	AMB	17 14 27.4	
comp=E,22μm,1.3s							
YUK				*e*S	**Sn**	**17 14 45.1**	**+1.0**
YUK				A	A	17 14 46.8	
comp=E,72μm,0.8s							
YUK				A	A	17 14 46.8	
comp=E,60μm,0.8s							
RUSJ	**Misakicho**	**2.10**	**248**	⇑*i*PN	**Pn**	**17 14 27.4**	**+1.0**
RUSJ				*e*S	**Sn**	**17 14 57.8**	**+5.5**
NEM2	**Nemuro 2**	**2.23**	**226**	P	**Pn**	**17 14 27.2**	**-0.9**
NEM2				S	**Sn**	**17 14 53.7**	**-1.6**
NEM2	**Nemuro 2**	**2.23**	**226**	A	A	17 14 27.2	
comp=N,14nm,0.6s,comp=E,18nm,1.6s							
NMR	**Nemuro--Hokkai**	**2.23**	**227**	⇑*i*PN	**Pn**	**17 14 27.2**	**-0.9**
NMR				*i* S	**Sn**	**17 14 53.1**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.23**	**227**	*i* P	**Pn**	**17 14 27.3**	**-0.9**
NMR				*i* S	**Sn**	**17 14 53.1**	**-2.2**
JRA	**Rausu**	**2.26**	**245**	P	**Pn**	**17 14 29.5**	**+1.1**
JRA				*e*S	**Sn**	**17 14 57.9**	**+2.0**
JRA	**Rausu**	**2.26**	**245**	A	A	17 14 29.5	
comp=N,49nm,2.4s,comp=E,33nm,3.5s							
JNSB	**Nemuroshibetsu**	**2.41**	**243**	P	**Pn**	**17 14 31.6**	**+1.2**
JNSB				*e*S	**Sn**	**17 15 01.9**	**+2.4**
JNSB	**Nemuroshibetsu**	**2.41**	**243**	A	A	17 14 31.6	
comp=N,110nm,4.6s,comp=E,58nm,3.8s							
JNK	**Nakash**	**2.68**	**241**	P	**Pn**	**17 14 35.2**	**+1.1**
JNK				*e*S	**Sn**	**17 15 07.9**	**+1.9**
JNK	**Nakash**	**2.68**	**241**	A	A	17 14 35.2	
comp=N,36nm,3.3s,comp=E,22nm,2.4s							
JKHN	**Kushirohamanak**	**2.73**	**229**	P	**Pn**	**17 14 34.2**	**-0.4**
JKHN				*e*S	**Sn**	**17 15 06.1**	**-0.9**
JKHN	**Kushirohamanak**	**2.73**	**229**	A	A	17 14 34.2	
comp=N,41nm,0.6s,comp=E,35nm,0.8s							
AKK	**Akkeshi**	**2.95**	**231**	*e*P	**Pn**	**17 14 37.2**	**-0.4**
JAK	**Akkeshi**	**3.04**	**232**	*e*P	**Pn**	**17 14 38.5**	**-0.3**
JAK	**Akkeshi**	**3.04**	**232**	A	A	17 14 38.5	
comp=N,46nm,0.8s,comp=E,38nm,1.1s							
JTKR	**Abashiri--Toko**	**3.05**	**253**	⇓P	**Pn**	**17 14 40.4**	**+1.5**
JTKR	**Abashiri--Toko**	**3.05**	**253**	A	A	17 14 40.4	
comp=N,8.0nm,3.1s,comp=E,5.0nm,2.8s							
JMP	**Maruseppu**	**3.42**	**256**	A	A	17 14 46.1	
comp=N,18nm,1.5s,comp=E,7.0nm,1.3s							
JAR	**Ashorobuto**	**3.43**	**243**	P	**Pn**	**17 14 45.7**	**+1.8**
JAR				*e*S	**Sn**	**17 15 26.8**	**+3.1**
JAR	**Ashorobuto**	**3.43**	**243**	A	A	17 14 45.7	
comp=N,22nm,0.5s,comp=E,38nm,0.9s							
JOB	**Onbets**	**3.60**	**237**	A	A	17 14 47.0	
comp=N,45nm,0.7s,comp=E,42nm,0.8s							
JSE	**Soyaes**	**3.81**	**272**	⇓P	**Pn**	**17 14 51.4**	**+2.3**
JKK2	**Kamakawa 2**	**3.88**	**256**	⇓P	**Pn**	**17 14 52.2**	**+2.1**
JKA	**Kamikawa-asahi**	**3.92**	**260**	Pn	**Pn**	**17 14 52.2**	**+1.7**
JKA	**Kamikawa-asahi**	**3.92**	**260**	*e*P	**Pn**	**17 14 52.2**	**+1.7**
ASAJ	**Asahikawa**	**3.92**	**260**	P	**Pn**	**17 14 52.4**	**+1.8**
comp=E,422nm,0.6s,baz=81,slow=16,SNR=408							
ASAJ				S	**Sn**	**17 15 36.3**	**+0.7**
comp=E,440nm,0.6s,baz=332,slow=33,SNR=7.1							
ASAJ	**Asahikawa**	**3.92**	**260**	PN	**Pn**	**17 14 52.2**	**+1.6**
JCH	**Churui**	**4.05**	**237**	P	**Pn**	**17 14 52.4**	**+0.1**
JCH	**Churui**	**4.05**	**237**	A	A	17 14 52.4	
comp=N,24nm,0.6s,comp=E,18nm,0.7s							
YSS	**Yuzhno-Sakhali**	**4.16**	**301**	**Pn**	**Pn**	**17 14 55.1**	**+1.4**
YSS	**Yuzhno-Sakhali**	**4.16**	**301**	P	**Pn**	**17 14 56.3**	**+2.5**
YSS	**Yuzhno-Sakhali**	**4.16**	**301**	*k i*PN	**Pn**	**17 14 56.5**	**+2.7**
YSS				*e*S	**Sn**	**17 15 42.4**	**+1.1**
YSS				pmax	pmax		
comp=Z,670nm,1.0s							
YSS				pmax	pmax		
comp=Z,800nm,4.4s							
YSS				pmax	pmax		
comp=N,800nm,4.7s							
YSS				pmax	pmax		
comp=E,500nm,4.0s							
YSS				smax	smax		
comp=N,600nm,3.1s							
YSS				smax	smax		
comp=E,2μm,4.1s							
YSS				smax	smax

UGL pmax pmax
comp=Z,1μm,0.9s
UGL pmax pmax
comp=Z,1μm,0.9s
UGL smax smax
comp=E,800nm,3.4s
UGL smax smax
comp=N,1μm,2.0s
UGL Uglegorsk 5.79 318 *i* P **Pn 17 15 19.2 +3.4**
UGL AMB AMB 17 15 20.1
comp=N,1μm,2.0s
UGL AMB AMB 17 15 20.7
comp=N,1μm,0.9s
UGL *e*S **Sn 17 16 25.2 +4.5**
UGL A A 17 16 25.6
comp=N,1μm,3.0s
UGL A A 17 16 25.6
comp=N,800nm,3.0s
UGL AMS AMS 17 17 05.6
comp=N,3μm,12.0s
UGL AMS AMS 17 17 05.6
comp=N,3μm,12.0s
JKB Kayabe 5.89 241 A A 17 15 18.7
comp=N,8.0nm,1.0s,comp=E,6.0nm,1.2s
JAHD Aomorihigashid 6.07 235 A A 17 15 20.7
comp=N,21nm,1.5s,comp=E,41nm,1.6s
JOT Ohata 6.17 237 ⇓P **Pn 17 15 19.9 -1.1**
JTM Tenmabayashi 6.54 233 Pn **Pn 17 15 24.0 -2.0**
JANG Nango 6.57 228 P **Pn 17 15 24.2 -2.4**
JOSM Okushiri--Mats 6.79 248 P **Pn 17 15 30.2 +0.7**
TYV Tymovskoe 6.92 331 *e*PN **Pn 17 15 34.4 +3.1**
TYV *e*S **Sn 17 16 51.1 +2.7**
TYV pmax pmax
comp=Z,157nm,0.8s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV smax smax
comp=N,97nm,0.9s
TYV smax smax
comp=E,90nm,0.9s
TYV smax smax
comp=E,800nm,3.3s
TYV Tymovskoe 6.92 331 *e*P **Pn 17 15 34.4 +3.1**
TYV AMB AMB 17 15 38.0
comp=E,300nm,3.1s
TYV *e*S **Sn 17 16 51.1 +2.7**
TYV A A 17 16 54.7
comp=E,1μm,3.3s
TYV A A 17 16 54.7
comp=E,800nm,3.3s
TYV AMS AMS 17 17 55.0
comp=E,2μm,17.0s
TYV AMS AMS 17 17 55.0
comp=E,3μm,17.0s
JMK Ichinoseki 7.80 222 *e*P **Pn 17 15 40.0 -3.2**
SKR Severo-Kuril's 7.96 41 ⇓*i*PN **Pn 17 15 45.9 +0.6**
SKR *e*S **Sn 17 17 15.9 +2.4**
SKR pmax pmax
comp=Z,2μm,2.7s
SKR pmax pmax
comp=Z,489μm,0.5s
SKR smax smax
comp=N,206nm,1.0s
SKR smax smax
comp=E,252nm,0.8s
SKR MLR MLR
comp=Z,900nm,19.0s
SKR MLR MLR
comp=N,1μm,15.0s
SKR MLR MLR
comp=E,1μm,18.0s
SKR Severo-Kuril's 7.96 41 *i* P **Pn 17 15 45.5 +0.2**
SKR AMB AMB 17 15 49.5
comp=E,2μm,2.7s
SKR AMB AMB 17 15 51.1
comp=E,660nm,0.8s
SKR *e*S **Sn 17 17 09.6 -3.9**
SKR A A 17 17 10.7
comp=E,210nm,0.8s
SKR A A 17 17 10.7
comp=E,250nm,0.8s
SKR AMS AMS 17 17 51.1
comp=E,2μm,17.0s
SKR AMS AMS 17 17 51.1
comp=E,3μm,17.0s
TEY Ternei 8.05 275 ⇑*e*PN **Pn 17 15 49.4 +2.8**
TEY *e* 17 17 20.1
TEY pmax pmax
comp=Z,500nm,1.9s
TEY pmax pmax
comp=E,600nm,2.0s
TEY pmax pmax
comp=N,40nm,0.5s
TEY pmax pmax
comp=E,480nm,0.9s
TEY pmax pmax
comp=Z,440nm,0.9s
TEY Ternei 8.05 275 *e*P **Pn 17 15 50.1 +3.5**
TEY AMB AMB 17 15 51.3
comp=Z,440nm,0.7s
TEY AMB AMB 17 15 51.5
comp=Z,500nm,2.0s
PAU Pauzhetka 8.82 39 *e*P **Pn 17 15 57.0 0.0**
PAU AMB AMB 17 16 00.1
comp=Z,1μm,0.6s
PAU *e*S **Sn 17 17 32.4 -2.0**
PAU AMS AMS 17 18 11.5
comp=Z,2μm,14.0s
PAU AMS AMS 17 18 11.5
comp=Z,1μm,14.0s
JMM Marumori 8.87 220 Pn **Pn 17 15 53.9 -3.9**
JMM Marumori 8.87 220 P **Pn 17 15 54.4 -3.4**
OKH Okha 9.23 341 *de*PN **Pn 17 16 00.6 -2.0**
OKH pmax pmax
comp=Z,300nm,6.0s
OKH MLR MLR
comp=E,400nm,18.0s
OKH MLR MLR
comp=N,400nm,8.0s
OKH MLR MLR
comp=Z,200nm,8.0s
OKH Okha 9.23 341 *e*P **Pn 17 16 03.1 +0.5**
OKH AMB AMB 17 16 04.4
comp=Z,300nm,6.0s
OKH *e*S **Sn 17 17 47.4 +2.9**
OKH A A 17 17 56.3
comp=Z,700nm,7.0s
OKH A A 17 17 56.3
comp=Z,500nm,7.0s
OKH AMS AMS 17 22 20.5
comp=Z,400nm,17.0s
OKH AMS AMS 17 22 20.5
comp=Z,400nm,17.0s
NKL Nikolayevsk 9.51 333 *e*PN **Pn 17 16 06.6 +0.2**
NKL *e*S **Sn 17 17 55.5 +4.2**
NKL pmax pmax
comp=E,169nm,1.0s
NKL pmax pmax
comp=N,23nm,0.9s
NKL pmax pmax
comp=Z,222nm,0.9s
NKL smax smax
comp=E,237nm,1.2s
NKL smax smax
comp=N,293nm,2.2s
NKL Nikolayevsk 9.51 333 *e*P **Pn 17 16 08.5 +2.1**
NKL AMB AMB 17 16 09.6
comp=N,220nm,0.9s
GRNR Gornyy 9.71 311 ⇓*i*PN **Pn 17 16 12.6 +3.5**
GRNR *e*S **Sn 17 18 04.4 +8.3**
GRNR pmax pmax
comp=E,140nm,1.2s
GRNR pmax pmax
comp=N,80nm,1.1s
GRNR pmax pmax
comp=Z,160nm,1.1s
GRNR smax smax
comp=N,5.0nm,0.8s
GRNR MLR MLR
comp=E,270nm,14.0s
GRNR MLR MLR
comp=N,440nm,17.0s
GRNR MLR MLR
comp=Z,270nm,21.0s
JSD Sado 10.01 230 Pn **Pn 17 16 10.8 -2.4**
JSD Sado 10.01 230 P **Pn 17 16 11.3 -2.0**
PEA0B Petropavlovsk- 10.38 34 Pn **Pn 17 16 17.5 -0.8**
PEA0B Petropavlovsk- 10.38 34 *ce*PN **Pn 17 16 17.2 -1.1**
PETK Petropavlovsk- 10.38 34 **Pn 17 16 17.9 -0.4**
PETK Petropavlovsk- 10.38 34 P **Pn 17 16 18.3 0.0**
comp=Z,135nm,0.7s,baz=200,slow=8.0,SNR=158
PETK LR LR 17 20 27.6
comp=Z,209nm,18.5s,baz=224,slow=38
PET Petropavlovsk 10.72 37 **Pn 17 16 18.7 -4.1**
PET Petropavlovsk 10.72 37 P **Pn 17 16 22.2 -0.6**
PET Petropavlovsk 10.72 37 *e*PN **Pn 17 16 20.0 -2.8**
PET pmax pmax
comp=Z,180nm,1.0s
PET MLR MLR
comp=Z,400nm,9.0s
PET Petropavlovsk 10.72 37 P **Pn 17 16 22.3 -0.6**
PET Petropavlovsk 10.72 37 *e*P **Pn 17 16 22.1 -0.7**
MJB9 Matsu-Tunnel 11.16 225 Pn **Pn 17 16 27.2 -1.8**
MAJO Matsushiro 11.16 225 Pn **Pn 17 16 25.6 -3.4**
MAJO Matsushiro 11.16 225 P **Pn 17 16 26.8 -2.2**
MAJO Matsushiro 11.16 225 PN **Pn 17 16 25.6 -3.4**
MJAR Matsushiro Arr 11.16 225 P **Pn 17 16 26.3 -2.7**
comp=Z,29nm,0.8s,baz=27,slow=14,SNR=35
MJAR S **Sn 17 18 27.8 -4.0**
comp=Z,8.2nm,0.6s,baz=314,slow=46,SNR=2.3
MJAR LR LR 17 21 14.4
comp=Z,196nm,18.3s,baz=77,slow=40
USA0B Ussuriysk Arra 11.42 272 **Pn 17 16 32.9 +0.5**
USA0B Ussuriysk Arra 11.42 272 *i* PN **Pn 17 16 32.5 +0.2**
USRK Ussuriysk Ar. 11.42 272 **Pn 17 16 32.6 +0.3**
USRK Ussuriysk Ar. 11.42 272 P **Pn 17 16 33.6 +1.3**
comp=Z,76nm,0.7s,baz=83,slow=13,SNR=156
USRK LR LR 17 21 00.6
comp=Z,235nm,19.0s,baz=97,slow=38
USRK Ussuriysk Ar. 11.42 272 PN **Pn 17 16 32.7 +0.3**
VLA Vladivostok 11.71 267 *i* PN **Pn 17 16 36.6 +0.3**
KLR Kul'dur 11.85 297 P **Pn 17 16 39.9 +1.7**
comp=Z,111nm,1.1s,baz=106,slow=14,SNR=169
KLR LR LR 17 21 15.2
comp=Z,244nm,21.7s,baz=120,slow=38
KLR ScP **ScP 17 25 41.1 +0.9**
comp=Z,3.7nm,0.9s,baz=35,slow=2.8,SNR=8.3
KLR Kul'dur 11.85 297 *ce*PN **Pn 17 16 38.5 +0.4**
KLR pmax pmax
comp=Z,149nm,1.3s
KLR Kul'dur 11.85 297 *e*P **Pn 17 16 38.5 +0.4**
JGF Kuroka 12.33 225 Pn **Pn 17 16 41.9 -2.7**
JGF Kuroka 12.33 225 P **Pn 17 16 42.6 -2.0**
MSHR Mys Shultsa 12.37 265 *i* PN **Pn 17 16 44.7 -0.3**
PSTR Posyet 12.60 266 *i* PN **Pn 17 16 48.2 +0.1**
PSTR Posyet 12.60 266 *e*P **Pn 17 16 48.2 +0.1**
INU Inuyama 12.70 225 Pn **Pn 17 16 46.9 -2.5**
INU Inuyama 12.70 225 P **Pn 17 16 48.5 -0.9**
INU Inuyama 12.70 225 S **Sn 17 19 06.7 -2.2**
MDJ Mudanjiang 13.06 275 Pn **Pn 17 16 53.2 -0.8**
MDJ Mudanjiang 13.06 275 P **Pn 17 16 54.8 +0.8**
MDJ S **Sn 17 19 21.0 +3.5**
MDJ pmax pmax
comp=Z,22nm,1.2s
MDJ pmax pmax
comp=Z,250nm,6.4s
MDJ Mudanjiang 13.06 275 P **Pn 17 16 56.6 +2.6**
JHJ2 Mitsune 13.38 211 P **Pn 17 16 56.6 -1.7**
JHJ Hachijo jima 2 13.38 211 P **Pn 17 16 55.6 -2.8**
comp=Z,138nm,0.9s,baz=16,slow=11,SNR=7.9
JHJ S Sn 17 19 14.6 -11
comp=Z,161nm,0.6s,baz=52,slow=22,SNR=9.2
JHJ LR LR 17 23 15.0
comp=Z,49nm,18.3s,baz=43,slow=42
BNX BinXian 14.48 281 ⇓P **Pn 17 17 11.0 -1.5**
BNX S **Sn 17 19 51.5 -0.4**
BNX pmax pmax
comp=Z,52nm,0.7s
BNX pmax pmax
comp=Z,360nm,4.3s
BNX LR LR
comp=Z,480nm,10.6s
BNX LR LR
comp=Z,380nm,5.7s
BNX LR LR
comp=Z,370nm,9.8s
MA2 Magadan 14.77 6 P **Pn 17 17 17.1 +1.0**
comp=Z,46nm,0.7s,baz=166,slow=9.0,SNR=56
MA2 LR LR 17 23 07.7
comp=Z,93nm,18.0s,baz=193,slow=38
MA2 Magadan 14.77 6 P **P 17 17 18.7 -0.8**
MA2 Magadan 14.77 6 *ce*P **Pn 17 17 16.5 +0.4**
MA2 pmax pmax
comp=Z,55nm,0.8s
MA2 Magadan 14.77 6 P **Pn 17 17 15.5 -0.6**
comp=Z,1μmcomp=Z,84nm,0.8s
HEH HeiHe 14.83 298 *e*P **Pn 17 17 17.3 +0.4**
HEH pmax pmax
comp=Z,110nm,1.1s
JMN Monobe 15.58 229 Pn **Pn 17 17 26.2 -0.4**
JMN Monobe 15.58 229 P **Pn 17 17 26.5 -0.1**
ZEA Zeya 16.07 311 *e*P **P 17 17 33.6 -0.3**
ZEA pmax pmax
comp=E,400nm,4.5s
ZEA pmax pmax
comp=N,200nm,5.9s
ZEA pmax pmax
comp=Z,300nm,5.8s
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=E,40nm,0.9s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA Zeya 16.07 311 *e*P **Pn 17 17 30.5 -2.0**
CN2 Changchun 16.13 274 *e*P **Pn 17 17 31.8 -1.5**
CN2 *e*S **Sn 17 20 26.5 -5.3**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,290nm,5.0s
CN2 LR LR
comp=Z,940nm,17.0s
CN2 LR LR
comp=Z,240nm,17.0s
CN2 LR LR
comp=Z,430nm,17.0s
KSRS Korea Array 16.80 251 P **Pn 17 17 40.4 -1.2**
comp=Z,18nm,0.7s,baz=59,slow=12,SNR=48
KSRS S **Sn 17 20 48.9 +0.9**
comp=Z,12nm,0.8s,baz=65,slow=24,SNR=8.4
KSRS PcP **PcP 17 22 24.9 +1.3**
comp=Z,3.5nm,0.9s,baz=86,slow=1.9,SNR=5.4
KSRS LR LR 17 23 31.4
comp=Z,229nm,18.8s,baz=55,slow=34
KSRS ScP **ScP 17 25 49.3 +0.3**
comp=Z,3.3nm,0.9s,baz=49,slow=0.8,SNR=9.1
KS19 Wonju Array Si 16.81 251 P **Pn 17 17 39.7 -2.0**
KSAR Wonju Array Be 16.83 251 P **Pn 17 17 39.1 -2.9**
KSAR Wonju Array Be 16.83 251 P **Pn 17 17 39.1 -2.9**
JTU Tsushima 17.61 240 P **Pn 17 17 53.7 +2.2**
INCN Inchon 17.65 253 P **P 17 17 50.2 -1.2**
INCN Inchon 17.65 253 P **P 17 17 50.6 -1.0**
INCN Inchon 17.65 253 P **P 17 17 50.3 -1.2**
JNU Nakatsue 17.71 234 P **P 17 17 52.2 +0.1**
JNU Nakatsue 17.71 234 P **Pn 17 17 53.2 +0.5**
comp=Z,43nm,0.7s,baz=60,slow=8.4,SNR=39
JNU LR LR 17 25 25.0
comp=Z,123nm,18.9s,baz=38,slow=39
JNU Nakatsue 17.71 234 P **Pn 17 17 53.5 +0.8**
TJN Taejon 17.77 248 P **P 17 17 52.2 -0.5**
TJN Taejon 17.77 248 P **Pn 17 17 54.5 +1.1**
TJN Taejon 17.77 248 *i* P **Pn 17 17 53.1 -0.3**
TJN pmax pmax
comp=Z,3.0nm,1.0s
SEY Seymchan 18.22 6 P **Pn 17 17 58.0 -0.5**
comp=Z,21nm,0.6s,baz=183,slow=9.8,SNR=109
SEY S **Sn 17 21 22.9 +1.1**
comp=Z,13nm,1.1s,baz=114,slow=22,SNR=5.9
SEY Seymchan 18.22 6 *i* P **P 17 17 57.4 -0.1**
SEY Seymchan 18.22 6 *e*P **P 17 17 57.4 -0.1**
JCJ Chichijima 18.39 197 P **P 17 17 55.5 -4.1**
comp=Z,50nm,0.5s,baz=337,slow=13,SNR=2.0
JCJ S S 17 21 05.6 -19
comp=Z,124nm,0.6s,baz=262,slow=22,SNR=4.4
JCJ LR LR 17 23 30.2
comp=Z,181nm,20.8s,baz=98,slow=31
JCJ Chichijima 18.39 197 P **P 17 17 58.7 -0.9**
HIA Hailar 19.64 293 P **P 17 18 10.8 -2.3**
HIA Hailar 19.64 293 P **P 17 18 10.8 -2.3**
YAK Yakutsk 20.16 335 P **P 17 18 16.7 -1.9**
YAK Yakutsk 20.16 335 P **P 17 18 17.1 -1.5**
comp=Z,89nm,0.7s,baz=134,slow=2.7,SNR=63
YAK S **S 17 21 55.5 -3.7**
comp=Z,73nm,0.8s,baz=154,slow=19,SNR=15
YAK LR LR 17 25 47.9
comp=Z,296nm,21.2s,baz=138,slow=36
YAK ScS **ScS 17 29 36.4 -1.9**
comp=Z,3.1nm,0.4s,baz=169,slow=5.2,SNR=17
YAK Yakutsk 20.16 335 *e*P **P 17 18 17.6 -1.0**
YAK *e*S **S 17 21 57.8 -1.4**
YAK *e**SS **sS 17 22 26.2 -4.5**
YAK *e* 17 29 34.5
YAK pmax pmax
comp=Z,73nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,23nm,1.2s
YAK smax smax
comp=N,541nm,2.5s
YAK smax smax
comp=E,271nm,2.1s
DL2 Dalian 20.45 262 P **P 17 18 22.0 +0.1**
DL2 S **S 17 22 05.8 +0.7**
DL2 sS **sS 17 22 35.5 -1.3**
DL2 pmax pmax
comp=E,140nm,0.7s
DL2 pmax pmax
comp=E,330nm,4.2s
XLT XiLinHaoTe 22.72 279 *e*P **P 17 18 43.8 -2.2**
XLT pP pP 17 19 01.0 -4.2
XLT PP **sP 17 19 18.5 +1.4**
XLT pmax pmax
comp=E,35nm,0.8s
XLT pmax pmax
comp=E,250nm,3.0s
CIT Chita 23.72 300 *e*P **P 17 18 52.4 -2.8**
CIT *e* 17 19 18.4
CIT *e* 17 19 28.6
CIT pmax pmax
comp=Z,29nm,3.4s
BJI Beijing 23.85 269 P **P 17 18 56.3 -0.1**
BJI pmax pmax
comp=Z,30nm,0.9s
BJI pmax pmax
comp=Z,240nm,6.4s
BJT Baijiatuan 23.86 269 P **P 17 18 55.9 -0.7**
BJT Baijiatuan 23.86 269 P **P 17 18 55.9 -0.7**
JOW Kunigami 23.98 228 P **P 17 18 57.6 -0.1**
JOW Kunigami 23.98 228 P **P 17 18 59.2 +1.5**
BOD Bodaibo 24.51 314 *e*P **P 17 18 58.9 -3.3**
BOD pmax pmax
comp=Z,12nm,0.9s
TIA Tai'an 24.87 260 P **P 17 19 06.0 +0.3**
TIA pmax pmax
comp=Z,58nm,0.9s
TIA pmax pmax
comp=Z,320nm,3.5s
TIA LR LR
comp=Z,260nm,10.2s
TIA LR LR
comp=Z,270nm,12.3s
TIA LR LR
comp=Z,160nm,6.7s
BILL Bilibino 25.07 16 P **P 17 19 06.9 -0.3**
BILL Bilibino 25.07 16 *i* P **P 17 19 05.3 -1.9**
BILL pmax pmax
comp=Z,18nm,0.8s
HNS HongShan 26.00 265 ⇓P **P 17 19 16.5 +0.6**
HNS sP **sP 17 19 52.5 +3.5**
HNS PcP **PcP 17 22 43.5 +2.0**
HNS S **S 17 23 34.0 -5.2**
HNS ScP **ScP 17 26 13.8 +2.0**
HNS pmax pmax
comp=Z,130nm,1.0s
HNS LR LR
comp=Z,420nm,15.1s
HNS LR LR
comp=Z,360nm,15.1s
HNS LR LR
comp=Z,290nm,17.3s
NJ2 Nanjing 26.00 250 ⇑*i*P **P 17 19 17.0 +1.0**
NJ2 sP **sP 17 19 49.0 -0.5**
NJ2 PcS **PcS 17 26 24.0 +1.4**
NJ2 pmax pmax
comp=Z,60nm,0.7s
HHC Hu-ho-hao-te 26.83 274 *e*P **P 17 19 23.8 +0.3**
HHC pP pP 17 19 42.8 -2.4
HHC PP **PnPn 17 20 14.8 +3.7**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,310nm,5.7s
HHC LR LR
comp=Z,640nm,14.5s
HHC LR LR
comp=Z,200nm,15.3s
HHC LR LR
comp=Z,210nm,15.3s
TIY Taiyuan 27.47 267 P **P 17 19 30.5 +1.3**
TIY pmax pmax
comp=Z,33nm,0.8s
BTO Baotou 28.01 275 *e*P **P 17 19 35.5 +1.5**
BTO pmax pmax
comp=Z,48nm,1.4s
BTO pmax pmax
comp=Z,590nm,4.0s
BTO LR LR
comp=Z,2μm,15.5s
BTO LR LR
comp=Z,760nm,15.2s
ULN Ulaanbaatar 28.13 291 P **P 17 19 34.2 -0.9**
ULN Ulaanbaatar 28.13 291 P **P 17 19 35.5 +0.4**
ULN Ulaanbaatar 28.13 291 *e*P **P 17 19 33.8 -1.3**
ULN pmax pmax
comp=Z,11nm,1.1s
ULN Ulaanbaatar 28.13 291 *e*P **P 17 19 33.8 -1.3**
TIXI Tiksi 28.33 347 P **P 17 19 32.7 -3.7**
TIXI Tiksi 28.33 347 LR LR 17 31 08.4
comp=Z,177nm,18.9s,baz=188,slow=37
TIXI Tiksi 28.33 347 *ce*P **P 17 19 33.1 -3.3**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
SPIA Saint Paul Isl 28.51 49 P **P 17 19 38.2 0.0**
baz=263
SONM Songino Array 28.57 291 P **P 17 19 39.7 +0.7**
SONM Songino Array 28.57 291 P **P 17 19 38.7 -0.3**
comp=Z,4.9nm,0.6s,baz=81,slow=8.6,SNR=20
SONM ScP **ScP 17 26 20.3 +0.7**
comp=Z,2.4nm,1.0s,baz=104,slow=2.9,SNR=5.5
SONM LR LR 17 31 34.4
comp=Z,224nm,19.2s,baz=98,slow=37
comp=Z,4.9nm,0.6s
SONM Songino Array 28.57 291 P **P 17 19 39.7 +0.7**
SONM pmax pmax
comp=Z,8.0nm,0.8s
P08K Saint George I 28.83 51 P **P 17 19 41.4 +0.4**
baz=265
LYN LuoYang 28.98 261 P **P 17 19 43.5 +0.9**
LYN pmax pmax
comp=Z,62nm,0.6s
LYN pmax pmax
comp=Z,690nm,6.3s
H11N2 WAKE ISLAND Hy 29.64 142 T T 17 50 52.4
baz=334,slow=76,SNR=1185
H11N1 WAKE ISLAND Hy 29.65 142 T T 17 50 53.7
baz=334,slow=76,SNR=2334
H11N3 WAKE ISLAND Hy 29.66 142 T T 17 50 56.9
baz=334,slow=76,SNR=5047
WHN Wuhan 29.96 253 ⇓P **P 17 19 51.5 +0.2**
WHN pmax pmax
comp=Z,150nm,0.6s
ZAK Zakamensk 30.22 297 *e*P **P 17 19 52.7 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.6s
SSLB Suanglung 30.45 235 P **P 17 19 51.4 -4.2**
UNV Unalaska Valle 30.48 56 P **P 17 19 55.9 +0.3**
baz=272
YULB Yu-li 30.55 234 P **P 17 19 59.2 +2.6**
H11S1 WAKE ISLAND Hy 30.64 143 T T 17 52 09.5
baz=335,slow=76,SNR=496
H11S3 WAKE ISLAND Hy 30.64 143 T T 17 52 13.7
baz=335,slow=76,SNR=1628
H11S2 WAKE ISLAND Hy 30.65 143 T T 17 52 01.2
baz=335,slow=76,SNR=1567
TPUB Ta-pu 31.01 235 P **P 17 20 01.3 +0.7**
TPUB Ta-pu 31.01 235 P **P 17 20 02.1 +1.5**

M11K	**Mekoryuk**	**31.06**	**44**	P	**P**	**17 20 00.4 -0.2**
	baz=261					
GUMO	**Guam**	**31.34**	**186**	LR	LR	17 30 46.8
	comp=Z,69nm,21.5s,baz=76,slow=32					
MOY	**Mondy**	**31.50**	**299**	*e*P	**P**	**17 20 04.7 -0.1**
MOY				*e*		17 21 09.4
MOY				pmax	pmax	
	comp=Z,13nm,2.0s					
TNA	**Tin City**	**31.55**	**34**	P	**P**	**17 20 05.2 +0.3**
	baz=251					
XAN	**Xi'an**	**31.75**	**264**	⇓P	**P**	**17 20 07.3 +0.2**
XAN				sP	sP	17 20 41.3 +0.8
XAN				pmax	pmax	
	comp=Z,42nm,1.3s					
XAN				LR	LR	
	comp=Z,320nm,18.6s					
XAN				LR	LR	
	comp=Z,280nm,17.2s					
XAN				LR	LR	
	comp=Z,490nm,16.7s					
XAN	**Xi'an**	**31.75**	**264**	P	**P**	**17 20 07.3 +0.2**
K13K	**Kusilvak Mount**	**32.05**	**41**	P	**P**	**17 20 09.1 -0.2**
	baz=260					
F14K	**Arctic Creek**	**32.16**	**34**	P	**P**	**17 20 10.4 +0.2**
	baz=253					
ANM	**Nome**	**32.30**	**36**	P	**P**	**17 20 11.6 +0.2**
	baz=256					
M13K	**Dall Lake**	**32.46**	**44**	P	**P**	**17 20 13.2 +0.3**
	baz=264					
J14K	**Nanvaranak Lak**	**32.70**	**40**	P	**P**	**17 20 15.4 +0.5**
	baz=260					
F15K	**North Star Dit**	**32.89**	**34**	P	**P**	**17 20 16.9 +0.2**
	baz=254					
L14K	**Kuka Creek**	**32.90**	**42**	P	**P**	**17 20 16.8 +0.1**
	baz=263					
G15K	**Niukluk**	**32.96**	**36**	P	**P**	**17 20 17.9 +0.7**
	baz=256					
M14K	**Bethel**	**33.18**	**43**	P	**P**	**17 20 19.3 +0.1**
	baz=265					
N14K	**Kuskokwak Cree**	**33.25**	**45**	P	**P**	**17 20 19.9 +0.1**
	baz=266					
C16K	**Lisburne Hills**	**33.43**	**29**	P	**P**	**17 20 20.1 -1.1**
C16K				IAmb	IAmb	17 20 25.2
	comp=Z,14nm,0.8s					
C16K	**Lisburne Hills**	**33.43**	**29**	P	**P**	**17 20 21.9 +0.7**
	baz=250					
O14K	**Tigyukauivet M**	**33.43**	**46**	P	**P**	**17 20 21.6 +0.2**
	baz=268					
ENH	**Enshi**	**33.47**	**257**	P	**P**	**17 20 21.7 -0.3**
ENH	**Enshi**	**33.47**	**257**	P	**P**	**17 20 21.8 -0.3**
ENH				PcP	**PcP**	**17 23 01.7 +0.7**
L15K	**Ungalak Mounta**	**33.50**	**42**	P	**P**	**17 20 22.5 +0.5**
	baz=264					
K15K	**Wolf Creek Mou**	**33.56**	**41**	P	**P**	**17 20 23.0 +0.5**
	baz=263					
H16K	**Elim**	**33.63**	**36**	P	**P**	**17 20 23.1 0.0**
	baz=259					
G16K	**Koyuk River**	**33.74**	**35**	P	**P**	**17 20 24.3 +0.4**
	baz=257					
M15K	**Kasigluk River**	**33.80**	**44**	P	**P**	**17 20 25.0 +0.4**
	baz=266					
D17K	**Noatak River**	**34.05**	**31**	P	**P**	**17 20 26.5 -0.1**
	baz=253,SNR=13					
N15K	**Kwethluk River**	**34.06**	**45**	P	**P**	**17 20 27.1 +0.3**
	baz=267					
J16K	**Anvik River**	**34.11**	**39**	P	**P**	**17 20 27.0 -0.2**
	baz=262					
I17K	**Unalakleet**	**34.16**	**38**	P	**P**	**17 20 27.8 +0.1**
	baz=261					
O15K	**Ungalikthiuk R**	**34.16**	**46**	P	**P**	**17 20 28.1 +0.3**
	baz=269					
RDOG	**Red Dog Mine**	**34.22**	**30**	P	**P**	**17 20 28.6 +0.5**
	baz=253					
C17K	**DeLong Mountai**	**34.25**	**30**	P	**P**	**17 20 28.9 +0.5**
	baz=252					
LZH	**Lanzhou**	**34.32**	**271**	⇓P	**P**	**17 20 30.5 +0.9**
LZH				pP	pP	17 20 54.0 +2.2
LZH				pmax	pmax	
	comp=Z,130nm,1.3s					
LZH				LR	LR	
	comp=Z,420nm,13.1s					
LZH				LR	LR	
	comp=Z,190nm,12.4s					
LZH				LR	LR	
	comp=Z,360nm,13.4s					
E17K	**Hotham Inlet**	**34.35**	**32**	P	**P**	**17 20 29.7 +0.4**
	baz=256					
F17K	**Baldwin Pennin**	**34.42**	**33**	IAmb	IAmb	17 20 55.5
	comp=Z,17nm,0.8s					
F17K	**Baldwin Pennin**	**34.42**	**33**	P	**P**	**17 20 30.1 +0.3**
	baz=257,SNR=8.1					
CHNA	**Chernabura Isl**	**34.46**	**54**	P	**P**	**17 20 31.0 +0.6**
	baz=276					
L16K	**Owhat River**	**34.46**	**42**	P	**P**	**17 20 30.9 +0.6**
	baz=266					
H17K	**Granite Mounta**	**34.66**	**36**	P	**P**	**17 20 32.6 +0.6**
	baz=261					
M16K	**Timber Creek**	**34.66**	**43**	IAmb	IAmb	17 20 56.3
	comp=Z,31nm,1.1s					
M16K	**Timber Creek**	**34.66**	**43**	P	**P**	**17 20 32.2 +0.1**
	baz=267					
J17K	**VABM Dome**	**34.81**	**39**	IAmb	IAmb	17 21 04.8
	comp=Z,13nm,0.9s					
J17K	**VABM Dome**	**34.81**	**39**	P	**P**	**17 20 33.5 +0.2**
	baz=264					
B18K	**Kokolik River**	**35.00**	**28**	P	**P**	**17 20 35.1 +0.2**
	baz=252					
C18K	**Utukok River**	**35.00**	**30**	IAmb	IAmb	17 20 39.5
	comp=Z,16nm,0.7s					
C18K	**Utukok River**	**35.00**	**30**	P	**P**	**17 20 34.8 -0.1**
	baz=254					
L17K	**Donlin**	**35.05**	**41**	P	**P**	**17 20 35.4 +0.1**
	baz=266					
O16K	**Kokwok River B**	**35.05**	**46**	IAmb	IAmb	17 20 37.5
	comp=Z,27nm,1.1s					
O16K	**Kokwok River B**	**35.05**	**46**	P	**P**	**17 20 35.4 +0.1**
	baz=270					
F18K	**Selawik**	**35.08**	**33**	P	**P**	**17 20 35.2 -0.3**
	baz=258					
K17K	**Iditarod**	**35.09**	**40**	IAmb	IAmb	17 20 37.6
	comp=Z,24nm,1.1s					
K17K	**Iditarod**	**35.09**	**40**	P	**P**	**17 20 35.4 -0.2**
	baz=265					
P16K	**Nushagak River**	**35.11**	**47**	P	**P**	**17 20 36.0 +0.2**
	baz=271					
G18K	**Tagagawik**	**35.34**	**35**	P	**P**	**17 20 38.1 +0.2**
	baz=260					
H18K	**Honhosa River**	**35.35**	**36**	P	**P**	**17 20 38.0 +0.1**
	baz=262,SNR=12					
M17K	**Holitna River**	**35.42**	**43**	P	**P**	**17 20 38.8 +0.3**
	baz=268,SNR=5.3					
A19K	**Wainwright**	**35.50**	**27**	P	**P**	**17 20 39.5 +0.5**
	baz=252					
N17K	**Nushagak Hills**	**35.52**	**44**	P	**P**	**17 20 39.5 +0.1**
	baz=270					
O17K	**Koliganek Bris**	**35.56**	**45**	P	**P**	**17 20 40.9 +1.2**
	baz=271,SNR=5.7					
GTA	**Gaotai**	**35.68**	**278**	⇓P	**P**	**17 20 42.0 +0.8**
GTA				sP	sP	17 21 15.5 +0.8
GTA				PcP	**PcP**	**17 23 09.0 +1.7**
GTA				PcS	**PcS**	**17 26 56.0 +1.2**
GTA				ScS	ScS	17 30 50.3 +1.0
GTA				pmax	pmax	
	comp=Z,24nm,0.8s					
L18K	**Granite Mounta**	**35.81**	**41**	IAmb	IAmb	17 21 07.6
	comp=Z,13nm,0.9s					
L18K	**Granite Mounta**	**35.81**	**41**	P	**P**	**17 20 42.1 +0.3**
	baz=268					
Q16K	**King Salmon**	**35.81**	**47**	P	**P**	**17 20 41.6 -0.3**
	baz=272					
F19K	**Shaleruckik Mo**	**35.85**	**33**	IAmb	IAmb	17 20 48.4
	comp=Z,16nm,0.8s					
F19K	**Shaleruckik Mo**	**35.85**	**33**	P	**P**	**17 20 43.1 +0.9**
	baz=260					
J18K	**Innoko River**	**35.87**	**39**	P	**P**	**17 20 42.6 +0.3**
	baz=266					
P17K	**Kvichak River**	**35.91**	**46**	P	**P**	**17 20 42.5 -0.2**
	baz=272					
GCSA	**Galena City Sc**	**35.92**	**37**	P	**P**	**17 20 42.8 +0.1**
	baz=264					
G19K	**Purcell Mounta**	**36.02**	**34**	IAmb	IAmb	17 21 08.2
	comp=Z,13nm,0.9s					
G19K	**Purcell Mounta**	**36.02**	**34**	P	**P**	**17 20 44.0 +0.5**
	baz=262					
D19K	**Kuna River**	**36.06**	**30**	P	**P**	**17 20 44.1 +0.2**
	baz=258,SNR=23					
TTA	**Tatalina**	**36.16**	**40**		**P**	**17 20 45.5 +0.6**
TTA				IAmb	IAmb	17 21 09.8
	comp=Z,15nm,1.1s					
TTA	**Tatalina**	**36.16**	**40**	P	**P**	**17 20 44.8 -0.1**
	baz=267					
TTA	**Tatalina**	**36.16**	**40**	P	**P**	**17 20 47.1 +2.2**
TTA	**Tatalina**	**36.16**	**40**	P	**P**	**17 20 45.5 +0.6**
TTA				pmax	pmax	
	comp=Z,15nm,1.1s					
N18K	**Kilae Creek**	**36.16**	**44**	P	**P**	**17 20 45.1 +0.3**
	baz=270					
E19K	**Redstone River**	**36.17**	**32**	P	**P**	**17 20 45.4 +0.5**
	baz=260					
H19K	**Roundabout Mou**	**36.19**	**36**	P	**P**	**17 20 45.0 -0.1**
	baz=263,SNR=28					
M18K	**Stony River**	**36.20**	**42**	P	**P**	**17 20 45.5 +0.4**
	baz=269					
J19K	**Poorman**	**36.40**	**38**	P	**P**	**17 20 47.0 +0.1**
	baz=266					
O18K	**Koktuh Hills**	**36.51**	**45**	P	**P**	**17 20 48.3 +0.4**
O18K				IAmb	IAmb	17 20 53.4
	comp=Z,37nm,1.2s					
O18K	**Koktuh Hills**	**36.51**	**45**	P	**P**	**17 20 48.4 +0.5**
	baz=272					
P18K	**Big Mountain,**	**36.52**	**46**	P	**P**	**17 20 48.1 +0.2**
P18K	**Big Mountain,**	**36.52**	**46**	P	**P**	**17 20 48.6 +0.6**
	baz=273					
CHIR	**Chirikof Islan**	**36.61**	**52**	P	**P**	**17 20 49.2 +0.5**
	baz=277					
D20K	**Ettivluk River**	**36.64**	**30**	P	**P**	**17 20 49.1 +0.3**
	baz=259					
L19K	**White Mountain**	**36.67**	**41**	P	**P**	**17 20 49.6 +0.4**
	baz=269					
F20K	**Avaraart Lake**	**36.69**	**33**	P	**P**	**17 20 49.8 +0.6**
	baz=262					
E20K	**Nigu River**	**36.71**	**31**	P	**P**	**17 20 49.6 +0.1**
	baz=260					
B20K	**Meade River**	**36.73**	**28**	P	**P**	**17 20 49.7 +0.1**
	baz=256					
H20K	**Anotleneega Mo**	**36.84**	**36**	P	**P**	**17 20 50.9 +0.3**
	baz=265					
N19K	**Bonanza Creek**	**36.85**	**44**	P	**P**	**17 20 51.1 +0.3**
	baz=271					
M19K	**Big River Lodg**	**36.88**	**42**	P	**P**	**17 20 51.2 +0.2**
	baz=270					
O19K	**Port Alsworth**	**36.95**	**45**	IAmb	IAmb	17 21 18.4
	comp=Z,18nm,1.0s					
O19K	**Port Alsworth**	**36.95**	**45**	P	**P**	**17 20 51.5 0.0**
	baz=272					
I20K	**Naaghedeneel**	**36.95**	**37**	P	**P**	**17 20 51.7 +0.3**
	baz=266					
J20K	**Nowinta River**	**37.05**	**38**	IAmb	IAmb	17 20 58.7
	comp=Z,14nm,0.7s					
J20K	**Nowinta River**	**37.05**	**38**	P	**P**	**17 20 53.2 +0.8**
	baz=267					
K20K	**Telida**	**37.05**	**39**	P	**P**	**17 20 53.0 +0.5**
	baz=268					
L20K	**Farewell, AK**	**37.12**	**41**	P	**P**	**17 20 52.9 -0.1**
	baz=270					
A21K	**Barrow**	**37.23**	**26**	P	**P**	**17 20 54.2 +0.4**
	baz=255					
SII	**Sitkinak Islan**	**37.31**	**51**	P	**P**	**17 20 55.1 +0.4**
	baz=277					
Q19K	**Cape Douglas,**	**37.36**	**47**	P	**P**	**17 20 55.3 +0.1**
	baz=275					
C21K	**Knifeblade Rid**	**37.37**	**30**	P	**P**	**17 20 55.2 +0.1**
	baz=260					
M20K	**Styx River**	**37.48**	**42**	IAmb	IAmb	17 21 21.1
	comp=Z,14nm,0.9s					
M20K	**Styx River**	**37.48**	**42**	P	**P**	**17 20 56.4 +0.2**
	baz=271					
B21K	**Ikpikpuk River**	**37.52**	**29**	P	**P**	**17 20 56.4 +0.2**
	baz=260,SNR=32					
P19K	**Oil Pt**	**37.52**	**45**	P	**P**	**17 20 56.7 +0.2**
	baz=274					
E21K	**Killik River**	**37.55**	**31**	IAmb	IAmb	17 21 30.3
	comp=Z,12nm,0.8s					
F21K	**Alatna River**	**37.58**	**33**	IAmb	IAmb	17 21 34.2
	comp=Z,11nm,0.8s					
F21K	**Alatna River**	**37.58**	**33**	P	**P**	**17 20 56.8 0.0**
	baz=264,SNR=9.9					
H21K	**Melozitna Rive**	**37.71**	**36**	IAmb	IAmb	17 21 01.3
	comp=Z,11nm,0.7s					
H21K	**Melozitna Rive**	**37.71**	**36**	P	**P**	**17 20 57.9 -0.1**
	baz=266					
OHAK	**Old Harbor**	**37.72**	**49**	P	**P**	**17 20 57.6 -0.4**
	baz=277					
OHAK	**Old Harbor**	**37.72**	**49**	P	**P**	**17 20 58.3 +0.2**
GYA	**Guiyang**	**37.78**	**255**	⇓P	**P**	**17 20 59.0 -0.1**
GYA				pP	pP	17 21 21.5 -0.4
GYA				S	**S**	**17 26 39.3 -3.2**
GYA				pmax	pmax	
	comp=Z,45nm,0.9s					
GYA				pmax	pmax	
	comp=Z,240nm,4.7s					
GYA				LR	LR	
	comp=Z,120nm,6.8s					
GYA				LR	LR	
	comp=Z,150nm,5.6s					
GYA				LR	LR	
	comp=Z,100nm,11.3s					
O20K	**Slope Mountain**	**37.80**	**45**	P	**P**	**17 20 59.0 +0.2**
	baz=274					
CHUM	**Lake Minchumin**	**37.85**	**39**	P	**P**	**17 20 59.1 0.0**
	baz=269,SNR=7.5					
PPLA	**Purkeypile**	**37.90**	**40**	P	**P**	**17 20 59.6 -0.2**
	baz=271					
SPCR	**Spurr Chakacha**	**37.94**	**43**	P	**P**	**17 21 00.5 +0.5**
	baz=273					
CAST	**Castle Rocks**	**37.95**	**39**	IAmb	IAmb	17 21 05.7
	comp=Z,12nm,0.6s					
CAST	**Castle Rocks**	**37.95**	**39**	P	**P**	**17 21 00.4 +0.4**
	baz=270,SNR=13					
SPU	**Mount Spurr**	**38.02**	**43**	IAmb	IAmb	17 21 26.0
	comp=Z,21nm,1.0s					
I21K	**Tanana**	**38.03**	**36**	IAmb	IAmb	17 21 26.1
	comp=Z,15nm,1.1s					
I21K	**Tanana**	**38.03**	**36**	P	**P**	**17 21 00.7 +0.1**
	baz=268					
KDAK	**Kodiak Island**	**38.03**	**48**	P	**P**	**17 21 00.4 -0.3**
KDAK	**Kodiak Island**	**38.03**	**48**	P	**P**	**17 21 00.2 -0.5**
	baz=277					
KDAK	**Kodiak Island**	**38.03**	**48**	P	**P**	**17 21 00.4 -0.3**
KDAK				pmax	pmax	
	comp=Z,45nm,1.0s					
Q20K	**Shuyak Island**	**38.04**	**47**	P	**P**	**17 21 00.6 -0.1**
	baz=276					
B22K	**Teshekpuk Lake**	**38.05**	**28**	IAmb	IAmb	17 21 24.2
	comp=Z,15nm,0.8s					
B22K	**Teshekpuk Lake**	**38.05**	**28**	P	**P**	**17 21 00.2 -0.5**
	baz=260					
D22K	**Ayikyak River**	**38.08**	**30**	IAmb	IAmb	17 21 06.0
	comp=Z,17nm,0.7s					
D22K	**Ayikyak River**	**38.08**	**30**	P	**P**	**17 21 00.6 -0.4**
	baz=262					
STLK	**Strandline Lak**	**38.11**	**42**	IAmb	IAmb	17 21 26.2
	comp=Z,16nm,0.8s					
SKT	**Skwentna**	**38.23**	**42**	P	**P**	**17 21 02.1 -0.3**
	baz=272					
E22K	**Anaktuvuk Pass**	**38.31**	**32**	P	**P**	**17 21 02.9 -0.1**
	baz=264,SNR=29					
H22K	**Ishtalitna Cre**	**38.31**	**35**	P	**P**	**17 21 03.5 +0.5**
	baz=268					
HOM	**Homer**	**38.33**	**45**	P	**P**	**17 21 03.4 +0.2**
	baz=275					
BPAW	**Bear Paw Mtn.**	**38.44**	**38**	P	**P**	**17 21 04.2 +0.1**
	baz=270					
KTH	**Kantishna Hill**	**38.47**	**39**	IAmb	IAmb	17 21 30.0
	comp=Z,27nm,0.9s					
CAPN	**Captain Cook N**	**38.48**	**44**	P	**P**	**17 21 04.7 +0.3**
	baz=274					
NRIK	**Norit'sk**	**38.51**	**330**	P	**P**	**17 21 04.2 -0.4**
	comp=Z,1.5nm,0.5s,baz=96,slow=10,SNR=2.4					
NRIK				PcP	**PcP**	**17 23 16.0 +0.8**
	comp=Z,6.4nm,0.7s,baz=161,slow=2.5,SNR=5.7					
NRIK				ScP	**ScP**	**17 26 54.4 +0.5**
	comp=Z,4.4nm,0.8s,baz=90,slow=4.0,SNR=5.8					
NRIK				LR	LR	17 38 48.1
	comp=Z,114nm,18.3s,baz=99,slow=39					
	comp=Z,1.5nm,0.5s					
TRF	**Thorofare Moun**	**38.76**	**39**	IAmb	IAmb	17 21 22.7
	comp=Z,55nm,1.9s					
TRF	**Thorofare Moun**	**38.76**	**39**	P	**P**	**17 21 07.6 +0.7**
	baz=272					
BRSE	**Bradley Lake S**	**38.77**	**45**	P	**P**	**17 21 07.8 +0.9**
	baz=276					
CUT	**Chulitna**	**38.80**	**41**	P	**P**	**17 21 07.9 +0.8**
	baz=273					
D23K	**Nanushuk River**	**38.81**	**30**	IAmb	IAmb	17 21 33.9
	comp=Z,58nm,1.9s					
D23K	**Nanushuk River**	**38.81**	**30**	P	**P**	**17 21 07.6 +0.5**
	baz=264					
COLD	**Coldfoot**	**38.85**	**33**	IAmb	IAmb	17 21 44.5
	comp=Z,12nm,0.7s					
COLD	**Coldfoot**	**38.85**	**33**	P	**P**	**17 21 07.6 +0.1**
	baz=267					
G23K	**Bananza Creek**	**38.90**	**34**	IAmb	IAmb	17 21 33.1
	comp=Z,20nm,0.9s					
G23K	**Bananza Creek**	**38.90**	**34**	P	**P**	**17 21 07.6 -0.3**
	baz=268,SNR=16					
M22K	**Willow**	**38.91**	**42**	P	**P**	**17 21 07.8 -0.2**
	baz=274					
C23K	**Itkillik River**	**38.93**	**29**	IAmb	IAmb	17 21 34.4
	comp=Z,24nm,1.0s					
C23K	**Itkillik River**	**38.93**	**29**	P	**P**	**17 21 08.6 +0.6**
	baz=263					
E23K	**Chandalar**	**39.12**	**32**	IAmb	IAmb	17 21 15.5
	comp=Z,24nm,0.7s					
E23K	**Chandalar**	**39.12**	**32**	P	**P**	**17 21 10.3 +0.4**
	baz=266					
I23K	**Minto, Yukon-K**	**39.14**	**37**	IAmb	IAmb	17 21 16.7
	comp=Z,53nm,1.9s					
I23K	**Minto, Yukon-K**	**39.14**	**37**	P	**P**	**17 21 09.9 +0.1**
	baz=270					
RC01	**Rabbit Creek A**	**39.15**	**43**	IAmb	IAmb	17 21 34.2
	comp=Z,16nm,0.9s					
RC01	**Rabbit Creek A**	**39.15**	**43**	P	**P**	**17 21 10.6 +0.6**
	baz=275,SNR=6.2					
TOLK	**Toolik Lake Re**	**39.18**	**31**	ScP	**ScP**	**17 26 58.2 +1.6**
TOLK	**Toolik Lake Re**	**39.18**	**31**	P	**P**	**17 21 09.9 -0.3**
	baz=266,SNR=12					
O22K	**Cooper Landing**	**39.21**	**44**	P	**P**	**17 21 10.8 +0.4**
	baz=276					
NEA2	**Nenana**	**39.27**	**37**	IAmb	IAmb	17 21 35.7
	comp=Z,21nm,0.8s					
NEA2	**Nenana**	**39.27**	**37**	P	**P**	**17 21 11.0 0.0**
	baz=271,SNR=6.8					
MCK	**McKinley**	**39.35**	**39**	IAmb	IAmb	17 21 36.5
	comp=Z,18nm,1.0s					
MCK	**McKinley**	**39.35**	**39**	P	**P**	**17 21 11.7 0.0**
	baz=272,SNR=6.4					
SEW	**Seward**	**39.38**	**44**	P	**P**	**17 21 12.5 +0.6**
	baz=276					
PMR	**Palmer**	**39.39**	**42**	P	**P**	**17 21 12.2 +0.2**
	baz=275					
RND	**Reindeer**	**39.40**	**39**	IAmb	IAmb	17 21 14.8
	comp=Z,66nm,1.9s					
GHO	**Glory Hole Cre**	**39.48**	**42**	IAmb	IAmb	17 21 37.4
	comp=Z,17nm,0.8s					
D24K	**Happy Valley**	**39.49**	**30**	P	**P**	**17 21 13.2 +0.4**
	baz=266					
E24K	**Your Creek**	**39.55**	**32**	IAmb	IAmb	17 21 19.3
	comp=Z,22nm,0.7s					
E24K	**Your Creek**	**39.55**	**32**	P	**P**	**17 21 13.8 +0.5**
	baz=268					
C24K	**Franklin Bluff**	**39.58**	**29**	P	**P**	**17 21 13.4 0.0**
	baz=265					
WRH	**Wood River Hil**	**39.69**	**38**	P	**P**	**17 21 14.5 0.0**
WRH				IAmb	IAmb	17 21 51.4
	comp=Z,14nm,0.9s					
KNK	**Knik Glacier**	**39.73**	**42**	IAmb	IAmb	17 21 39.5
	comp=Z,25nm,1.0s					
KNK	**Knik Glacier**	**39.73**	**42**	P	**P**	**17 21 15.4 +0.5**
	baz=276,SNR=11					
H24K	**Noodor Dome**	**39.75**	**35**	P	**P**	**17 21 15.4 +0.4**
	baz=271					
SML	**Sawmill**	**39.76**	**42**	P	**P**	**17 21 15.1 0.0**
	baz=275,SNR=16					
F24K	**Squaw Lake**	**39.76**	**33**	P	**P**	**17 21 15.5 +0.5**
	baz=269,SNR=12					
COLA	**College**	**39.78**	**37**	P	**P**	**17 21 15.9 +0.8**
COLA				IAmb	IAmb	17 21 40.5
	comp=Z,27nm,0.8s					
COLA	**College**	**39.78**	**37**	P	**P**	**17 21 15.5 +0.4**
	baz=272					
COLA	**College**	**39.78**	**37**	*i* P	**P**	**17 21 13.8 -1.4**
COLA				pmax	pmax	
	comp=Z,20nm,0.8s					
COLA	**College**	**39.78**	**37**	P	**P**	**17 21 16.3 +1.1**
COLA				pP	**pP**	**17 21 39.1 +1.0**
PWL	**Port Wells**	**39.85**	**43**	IAmb	IAmb	17 21 40.0
	comp=Z,29nm,1.0s					
PWL	**Port Wells**	**39.85**	**43**	P	**P**	**17 21 16.1 +0.3**
	baz=276					
G24K	**Hadweenzic Riv**	**39.91**	**34**	P	**P**	**17 21 16.7 +0.4**
	baz=270					
M23K	**Glacier View**	**40.04**	**42**	P	**P**	**17 21 17.9 +0.5**
	baz=276					
HDA	**Harding Lake**	**40.19**	**38**	IAmb	IAmb	17 21 43.6
	comp=Z,13nm,0.7s					
HDA	**Harding Lake**	**40.19**	**38**	P	**P**	**17 21 19.1 +0.5**
	baz=273,SNR=7.2					
IL31		**40.20**	**37**	IAmb	IAmb	17 21 43.5
	comp=Z,30nm,1.4s					
ILAR	**Eielson Array**	**40.20**	**37**	P	**P**	**17 21 18.3 -0.4**
ILAR	**Eielson Array**	**40.20**	**37**	P	**P**	**17 21 18.6 0.0**
	comp=Z,6.0nm,0.9s,baz=242,slow=4.3,SNR=38					
ILAR				ScP	**ScP**	**17 26 59.6 -1.0**
	comp=Z,0.5nm,0.8s,baz=262,slow=4.8,SNR=3.0					
	comp=Z,6.0nm,0.9s					
SCM	**Sheep Creek Mo**	**40.23**	**42**	IAmb	IAmb	17 21 21.9
	comp=Z,36nm,1.3s					
SCM	**Sheep Creek Mo**	**40.23**	**42**	P	**P**	**17 21 19.6 +0.6**
	baz=276,SNR=6.8					
D25K	**Kavik River**	**40.37**	**30**	IAmb	IAmb	17 21 22.9
	comp=Z,20nm,0.8s					
D25K	**Kavik River**	**40.37**	**30**	P	**P**	**17 21 20.3 +0.2**
	baz=268					
P23K	**Montague Islan**	**40.41**	**44**	P	**P**	**17 21 21.6 +1.1**
	baz=278					
GLI	**Glacier Island**	**40.45**	**43**	P	**P**	**17 21 21.8 +1.1**
	baz=277					
G25K	**Bearman Lake**	**40.45**	**34**	P	**P**	**17 21 21.6 +0.9**
	baz=271					
H25L	**Birch Creek**	**40.58**	**35**	P	**P**	**17 21 21.8 0.0**
	baz=272					
F25K	**Christian Rive**	**40.62**	**33**	IAmb	IAmb	17 22 10.6
	comp=Z,42nm,1.9s					
F25K	**Christian Rive**	**40.62**	**33**	P	**P**	**17 21 22.0 -0.1**
	baz=271					
E25K	**Arctic Village**	**40.64**	**32**	P	**P**	**17 21 22.5 +0.1**
	baz=270,SNR=12					
GOMU	**GeErMu**	**40.67**	**277**	P	**P**	**17 21 24.0 +0.7**
GOMU				pmax	pmax	
	comp=Z,95nm,0.8s					
GOMU				LR	LR	
	comp=Z,880nm,19.2s					
GOMU				LR	LR	
	comp=Z,560nm,18.6s					
GOMU				LR	LR	
	comp=Z,570nm,18.1s					
PRP	**Porcupine Dome**	**40.73**	**36**	IAmb	IAmb	17 21 48.3
	comp=Z,14nm,0.8s					
PRP	**Porcupine Dome**	**40.73**	**36**	P	**P**	**17 21 22.8 -0.4**
	baz=273,SNR=14					
M24K	**Tolsona, Glenn**	**40.74**	**41**	P	**P**	**17 21 23.3 +0.1**
	baz=277					
K24K	**Donnelly Dome**	**40.75**	**38**	P	**P**	**17 21 23.0 -0.3**
	baz=275,SNR=9.4					
ZALV	**Zalesovo Beam**	**40.76**	**306**	P	**P**	**17 21 21.1 -2.3**
ZALV	**Zalesovo Beam**	**40.76**	**306**	P	**P**	**17 21 21.9 -1.5**
	comp=Z,2.2nm,0.6s,baz=77,slow=6.3,SNR=10					
ZALV				PcP	**PcP**	**17 23 23.2 +0.5**
	comp=Z,12nm,0.7s,baz=85,slow=2.7,SNR=15					
ZALV				ScP	**ScP**	**17 27 02.9 0.0**
	comp=Z,5.4nm,0.9s,baz=72,slow=4.8,SNR=7.5					
ZALV				LR	LR	17 38 11.1
	comp=Z,99nm,20.8s,baz=73,slow=36					
	comp=Z,2.2nm,0.6s					
ZALV	**Zalesovo Beam**	**40.76**	**306**	*i* P	**P**	**17 21 24.1 +0.7**
ZALV				pmax	pmax	
	comp=Z,2.0nm,0.6s					
QIZ	**Qiongzhong**	**40.81**	**243**	P	**P**	**17 21 25.3 +1.1**
QIZ				S	**S**	**17 27 30.8 +3.0

baz=278,SNR=12
PAX Paxson 40.97 40 P **P 17 21 25.2 +0.1**
baz=276,SNR=5.1
BMAR Burnt Mountain 41.03 33 P **P 17 21 26.7 +1.1**
DIV Divide 41.05 43 IAmb IAmb 17 21 50.4
comp=Z,20nm,0.8s
EYAK Cordova Ski Ar 41.15 43 P **P 17 21 26.8 +0.3**
baz=279
PZH PanZhiHua 41.16 259 P **P 17 21 27.5 +0.3**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,120nm,5.7s
RIDG Independent Ri 41.17 39 IAmb IAmb 17 21 51.6
comp=Z,16nm,0.8s
RIDG Independent Ri 41.17 39 P **P 17 21 26.6 -0.1**
baz=276
HARP HAARP 41.18 41 P **P 17 21 27.1 +0.3**
baz=277
F26K Sheenjek River 41.19 32 P **P 17 21 26.8 0.0**
baz=272
C27K Jago River 41.31 30 IAmb IAmb 17 21 33.2
comp=Z,23nm,0.7s
C27K Jago River 41.31 30 P **P 17 21 27.9 +0.1**
baz=270
KMI Kunming 41.34 257 ⇓P **P 17 21 29.5 +0.7**
KMI pmax pmax
comp=Z,110nm,1.0s
KMI LR LR
comp=Z,190nm,13.2s
KMI LR LR
comp=Z,190nm,20.8s
KMI LR LR
comp=Z,210nm,21.0s
KMI Kunming 41.34 257 P **P 17 21 29.4 +0.7**
G26K Porcupine Rive 41.36 34 P **P 17 21 28.2 +0.1**
baz=273
SCRK Sand Creek 41.52 38 P **P 17 21 29.5 -0.2**
baz=276,SNR=10
N25K Chitina, Valde 41.55 42 P **P 17 21 29.9 0.0**
baz=279
BMRM Bremner River 41.64 43 P **P 17 21 30.9 +0.3**
BMRM IAmb IAmb 17 22 00.1
comp=Z,21nm,0.8s
BMRM Bremner River 41.64 43 P **P 17 21 30.6 +0.1**
baz=279,SNR=6.1
J26L Joseph Creek 41.65 37 IAmb IAmb 17 21 31.1
comp=Z,31nm,1.9s
J26L Joseph Creek 41.65 37 P **P 17 21 30.4 -0.3**
baz=276
I26K Coal Creek Min 41.74 36 P **P 17 21 31.6 +0.3**
baz=276
MENT Mentasta 41.77 40 P **P 17 21 33.1 +1.5**
KAIM Kayak Island 41.91 44 P **P 17 21 32.7 0.0**
baz=281
L26K Log Cabin Wild 41.92 39 IAmb IAmb 17 21 58.6
comp=Z,19nm,0.8s
L26K Log Cabin Wild 41.92 39 P **P 17 21 32.8 -0.1**
baz=278,SNR=12
GLB Gilahina Butte 41.94 42 P **P 17 21 33.8 +0.7**
VRDI Verde Repeater 42.15 42 P **P 17 21 35.5 +0.6**
VRDI IAmb IAmb 17 21 59.8
comp=Z,18nm,0.9s
M26K Nabesna, AK 42.17 40 P **P 17 21 35.5 +0.6**
baz=279
G27K Doyon Strip 42.21 34 P **P 17 21 34.9 -0.2**
baz=275
WMQ Urumqi 42.21 291 *eP* **P 17 21 39.0 +3.5**
WMQ PP **PP 17 23 20.0 +5.1**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,53nm,4.3s
WMQ LR LR
comp=Z,180nm,24.5s
D27M Malcolm River 42.30 30 P **P 17 21 36.1 +0.3**
baz=273
H27K Steamboat Moun 42.32 35 P **P 17 21 36.7 +0.6**
baz=276
I27K Kandik River 42.35 36 P **P 17 21 36.0 -0.3**
baz=277
BGLC Bering Glacier 42.43 44 P **P 17 21 37.1 +0.2**
baz=281
DAV Davao City (W) 42.44 214 LR LR 17 42 09.0
comp=Z,20nm,18.1s,baz=329,slow=40
L27K Beaver Creek, 42.60 39 IAmb IAmb 17 22 03.9
comp=Z,27nm,0.8s
L27K Beaver Creek, 42.60 39 P **P 17 21 38.5 +0.1**
baz=279
BCAR Beaver Creek A 42.62 39 P **P 17 21 39.8 +1.3**
ZSN Zaisan 42.68 297 *eP* **P 17 21 39.4 +0.2**
ZSN Zaisan 42.68 297 *eP* **P 17 21 39.4 +0.2**
M27K Edge Creek, AK 42.69 40 IAmb IAmb 17 22 05.2
comp=Z,30nm,0.9s
M27K Edge Creek, AK 42.69 40 P **P 17 21 39.4 +0.1**
baz=280
F28M Old Crow 42.83 32 P **P 17 21 40.1 0.0**
baz=276,SNR=9.7
I28M Miner Creek 43.06 36 IAmb IAmb 17 22 07.5
comp=Z,18nm,0.8s
I28M Miner Creek 43.06 36 P **P 17 21 42.6 +0.5**
baz=278
MESA MESA 43.07 43 P **P 17 21 42.7 +0.3**
baz=282
D28M Stokes Point 43.08 30 P **P 17 21 42.5 +0.5**
baz=275
E29M Blow River 43.48 31 IAmb IAmb 17 22 12.7
comp=Z,18nm,1.1s
E29M Blow River 43.48 31 P **P 17 21 45.5 +0.2**
baz=277,SNR=9.1
DAWY Dawson 43.51 38 P **P 17 21 45.6 0.0**
baz=280
H29M Whitestone 43.59 34 IAmb IAmb 17 22 34.8
comp=Z,16nm,0.9s
H29M Whitestone 43.59 34 P **P 17 21 46.8 +0.5**
baz=279
G29M Pine Creek 43.62 33 IAmb IAmb 17 22 13.2
comp=Z,28nm,1.1s
G29M Pine Creek 43.62 33 P **P 17 21 47.0 +0.5**
baz=278
I29M Ogilvie Camp, 43.75 36 IAmb IAmb 17 22 12.8
comp=Z,19nm,0.8s
I29M Ogilvie Camp, 43.75 36 P **P 17 21 48.0 +0.4**
baz=280,SNR=15
O28M Mount Upton 43.80 42 P **P 17 21 48.1 -0.2**
baz=283
YUK8 Steele Glacier 43.89 42 P **P 17 21 48.7 -0.3**
baz=283
J29N Klondike Camp 43.95 37 P **P 17 21 49.3 +0.1**
baz=281
M29M Somme Creek 44.24 40 P **P 17 21 52.1 +0.5**
baz=283
L29M L29M 44.25 39 IAmb IAmb 17 22 19.4
comp=Z,14nm,0.8s
L29M L29M 44.25 39 P **P 17 21 52.2 +0.6**
baz=282,SNR=11
G30M tAoh Zraii Nji 44.31 33 IAmb IAmb 17 22 42.0
comp=Z,20nm,0.8s
G30M tAoh Zraii Nji 44.31 33 P **P 17 21 52.2 +0.1**
baz=280,SNR=17
TNCH TengChong 44.34 260 ⇓P **P 17 21 54.0 +1.1**
TNCH pP pP 17 22 13.8 -2.5
TNCH pmax pmax
comp=Z,58nm,0.9s
TNCH pmax pmax
comp=Z,150nm,4.1s
K29M Barlow Dome 44.36 38 P **P 17 21 53.0 +0.4**
baz=282
F30M Barrier River 44.38 32 P **P 17 21 53.1 +0.6**
baz=280,SNR=21
YUK4 Talbot Arm 44.40 41 P **P 17 21 53.4 +0.4**
baz=284
MK31 Makanchi Array 44.56 297 P **P 17 21 51.5 -2.8**
MKAR Makanchi Array 44.56 297 P **P 17 21 52.9 -1.4**
MKAR Makanchi Array 44.56 297 P **P 17 21 53.1 -1.2**
comp=Z,2.5nm,0.5s,baz=73,slow=6.6,SNR=36
MKAR PcP **PcP 17 23 36.4 +0.8**
comp=Z,5.1nm,0.7s,baz=46,slow=3.5,SNR=4.1
MKAR ScP **ScP 17 27 17.7 -0.7**
comp=Z,1.5nm,0.8s,baz=57,slow=4.5,SNR=3.8
MKAR LR LR 17 41 33.4
comp=Z,122nm,21.4s,baz=62,slow=37
comp=Z,2.5nm,0.5s
MKAR Makanchi Array 44.56 297 *i* P **P 17 21 53.4 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
I30M Mount Dempster 44.57 36 IAmb IAmb 17 22 19.7
comp=Z,26nm,0.9s
I30M Mount Dempster 44.57 36 P **P 17 21 55.2 +1.0**
baz=281
YUK6 Outpost Mounta 44.63 42 P **P 17 21 55.5 +0.7**
baz=284
O29M Mount Kennedy 44.68 43 P **P 17 21 56.6 +1.4**
baz=285
J30M Hart River 44.72 36 P **P 17 21 56.4 +1.0**
baz=282
MAKZ Makanchi 44.75 297 P **P 17 21 55.4 -0.4**
M30M Minto, Yukon 44.96 39 P **P 17 21 58.5 +1.2**
baz=284,SNR=8.6
HYT Haines Junctio 45.06 42 P **P 17 21 59.1 +0.9**
baz=285,SNR=32
INK Inuvik 45.09 31 P **P 17 21 58.9 +0.8**
baz=281,SNR=9.9
N30M Aishikik Lake 45.10 41 P **P 17 21 58.8 +0.4**
baz=285
F31M Tsiigehtchic 45.18 32 IAmb IAmb 17 22 24.1
comp=Z,16nm,0.9s
F31M Tsiigehtchic 45.18 32 P **P 17 21 59.5 +0.6**
baz=281,SNR=7.5
H31M Peel River 45.28 35 IAmb IAmb 17 22 03.9
comp=Z,18nm,1.0s
H31M Peel River 45.28 35 P **P 17 22 00.4 +0.7**
baz=282
KURK Kurchatov 45.36 303 P **P 17 21 58.5 -1.9**
KURK IAmb IAmb 17 23 39.6
comp=Z,12nm,0.8s
KURK Kurchatov 45.36 303 P **P 17 21 58.8 -1.6**
KURK Kurchatov 45.36 303 *i* P **P 17 21 58.4 -2.1**
KURK pmax pmax
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 45.45 303 P **P 17 21 59.3 -1.8**
comp=Z,4.4nm,0.6s,baz=72,slow=8.2,SNR=45
KURBB PcP **PcP 17 23 38.9 +0.3**
comp=Z,8.7nm,0.7s,baz=78,slow=3.2,SNR=12
KURBB LR LR 17 41 01.9
comp=Z,107nm,20.1s,baz=168,slow=36
comp=Z,4.4nm,0.6s
P30M Million Dollar 45.51 43 P **P 17 22 02.2 +0.5**
baz=286
N31M Braeburn, Yuko 45.70 41 IAmb IAmb 17 22 29.8
comp=Z,46nm,1.4s
N31M Braeburn, Yuko 45.70 41 P **P 17 22 04.2 +1.1**
baz=286,SNR=12
O30N Mendenhall 45.75 42 IAmb IAmb 17 23 07.9
comp=Z,28nm,1.6s
O30N Mendenhall 45.75 42 P **P 17 22 04.8 +1.3**
baz=286
PLBC Pleasant Camp 45.99 43 P **P 17 22 05.9 +0.6**
baz=287
M31M Drury Creek, Y 46.14 39 P **P 17 22 08.2 +1.7**
baz=286
WHY Whitehorse 46.35 42 IAmb IAmb 17 22 34.9
comp=Z,43nm,1.9s
WHY Whitehorse 46.35 42 P **P 17 22 09.5 +1.2**
baz=287,SNR=7.8
UBPT Khong Chiam 46.38 244 P **P 17 22 10.6 +1.7**
SKAG Skagway 46.49 43 P **P 17 22 10.4 +1.2**
baz=288
S31K Pelican 46.51 45 P **P 17 22 10.0 +0.7**
baz=288
FARO Faro, Yukon 46.60 39 P **P 17 22 11.0 +0.8**
baz=287,SNR=7.3
LSA Lhasa 46.74 271 IAmb IAmb 17 22 14.3
comp=Z,17nm,0.7s
LSA Lhasa 46.74 271 P **P 17 22 13.5 +1.4**
LSA pmax pmax
comp=Z,25nm,1.0s
LSA Lhasa 46.74 271 P **P 17 22 14.1 +1.9**
LSA Lhasa 46.74 271 P **P 17 22 13.5 +1.4**
LSA Lhasa 46.74 271 P **P 17 22 13.6 +1.4**
N32M Quiet Lake 47.04 41 P **P 17 22 14.0 +0.4**
baz=288
A36M Sachs Harbour 47.06 25 P **P 17 22 13.8 +0.3**
baz=284
MYLDM Lahad Datu 47.22 222 P **P 17 22 15.5 +0.1**
MYLDM IAmb IAmb 17 22 19.6
comp=Z,25nm,1.0s
P32M Atlin 47.23 43 P **P 17 22 15.8 +0.7**
baz=289
SIT Sitka 47.26 46 P **P 17 22 15.5 +0.2**
baz=290
R32K Eaglecrest 47.27 45 P **P 17 22 15.6 +0.3**
baz=289
MMPY Sheldon Lake, 47.41 38 IAmb IAmb 17 22 44.0
comp=Z,42nm,1.9s
MMPY Sheldon Lake, 47.41 38 P **P 17 22 16.8 +0.3**
baz=288,SNR=7.5
P33M Teslin, Yukon 47.46 42 IAmb IAmb 17 22 19.8
comp=Z,17nm,1.1s
P33M Teslin, Yukon 47.46 42 P **P 17 22 17.1 +0.2**
baz=289,SNR=16
S32K Killisnoo 47.51 46 P **P 17 22 17.2 +0.1**
baz=290
JAY Jayapura 47.67 190 LR LR 17 39 03.6
comp=Z,78nm,21.1s,baz=347,slow=32
SHLS Shalkode 47.91 293 *eP* **P 17 22 18.9 -1.8**
SHLS Shalkode 47.91 293 *eP* **P 17 22 19.0 -1.8**
Q32M Nakina River 48.14 43 P **P 17 22 22.3 0.0**
baz=290
CHTO Chiang Mai 48.17 254 P **P 17 22 23.4 +0.6**
CHTO Chiang Mai 48.17 254 P **P 17 22 23.4 +0.6**
CHTO pmax pmax
comp=Z,53nm,1.0s
C36M Paulatuk 48.17 28 P **P 17 22 22.2 +0.1**
baz=288,SNR=5.2
KPKS Kokpek 48.28 294 *eP* **P 17 22 23.9 +0.4**
KPKS Kokpek 48.28 294 *eP* **P 17 22 23.9 +0.4**
CM31 Chiang Mai Arr 48.41 253 IAmb IAmb 17 22 26.9
comp=Z,24nm,0.8s
CMAR Chiang Mai Arr 48.41 253 P **P 17 22 25.3 +0.6**
CMAR Chiang Mai Arr 48.41 253 P **P 17 22 25.9 +1.2**
comp=Z,16nm,0.8s,baz=40,slow=7.1,SNR=175
CMAR PcP **PcP 17 23 50.8 +1.2**
comp=Z,4.1nm,0.8s,baz=1.7,slow=3.0,SNR=6.4
CMAR ScP **ScP 17 27 35.8 +0.8**
comp=Z,1.9nm,0.9s,baz=20,slow=3.4,SNR=7.8
CMAR LR LR 17 44 01.7
comp=Z,56nm,18.7s,baz=55,slow=37
comp=Z,16nm,0.8s
ZHN Zhinishke 48.58 294 *eP* **P 17 22 26.1 +0.4**
ZHN Zhinishke 48.58 294 *eP* **P 17 22 26.2 +0.4**
R33M Jennings River 48.62 42 P **P 17 22 25.3 -0.5**
baz=291
SATY Saty 48.65 294 *eP* **P 17 22 26.8 +0.5**
SATY pmax pmax
comp=Z,11nm,1.2s
SATY Saty 48.65 294 *eP* **P 17 22 26.8 +0.5**
comp=Z,11nm,1.2s
SHL Shillong 48.69 266 P **P 17 22 26.4 -0.5**
SHL Shillong 48.69 266 P **P 17 22 27.1 +0.2**
SHL Shillong 48.69 266 P **P 17 22 26.4 -0.5**
SHL pmax pmax
comp=Z,63nm,0.8s
U33K Whale Pass 48.74 47 P **P 17 22 26.3 -0.4**
baz=292
CRAG Craig 48.98 48 P **P 17 22 28.0 -0.5**
baz=293
WUS Wushi 48.99 291 P **P 17 22 30.1 +1.1**
S34M Telegraph Cree 49.08 44 P **P 17 22 29.6 +0.3**
baz=292
BRZS Berezniki 49.15 304 *eP* **P 17 22 30.1 +0.2**
BRZS Berezniki 49.15 304 *eP* **P 17 22 30.1 +0.2**
BVAR Borovoye Array 49.21 309 P **P 17 22 28.6 -1.7**
comp=Z,5.0nm,0.8s,baz=57,slow=11,SNR=18
BVAR PcP **PcP 17 23 52.4 +0.5**
comp=Z,11nm,0.7s,baz=68,slow=2.0,SNR=12
BVAR ScP **ScP 17 27 37.9 +0.1**
comp=Z,1.7nm,0.8s,baz=19,slow=2.8,SNR=2.5
comp=Z,5.0nm,0.8s
BRVK Borovoye 49.26 309 P **P 17 22 29.0 -1.6**
BRVK IAmb IAmb 17 23 53.6
comp=Z,14nm,0.8s
BRVK Borovoye 49.26 309 P **P 17 22 29.2 -1.4**
BRVK Borovoye 49.26 309 *i* P **P 17 22 29.0 -1.6**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 49.26 309 *eP* **P 17 22 29.0 -1.6**
DLBC Dease Lake 49.42 43 P **P 17 22 31.8 -0.1**
baz=292,SNR=5.6
AAA Alma-Ata 49.54 295 *eP* **P 17 22 33.7 +0.7**
AAA pmax pmax
comp=Z,8.0nm,0.5s
AAA Alma-Ata 49.54 295 *eP* **P 17 22 33.8 +0.7**
comp=Z,8.4nm,0.5s
TNSS Tian-Shan 49.60 294 *eP* **P 17 22 34.1 +0.2**
TNSS Tian-Shan 49.60 294 *eP* **P 17 22 34.2 +0.2**
FAKI Fak Fak 49.66 201 P **P 17 22 34.6 +0.5**
TARG Taragay, Kyrgy 49.66 293 IAmb IAmb 17 23 56.8
comp=Z,14nm,0.8s
V35K Ketchikan 49.83 48 P **P 17 22 35.5 +0.5**
baz=294
T35M Bob Quinn 49.88 45 IAmb IAmb 17 22 39.3
comp=Z,23nm,1.0s
T35M Bob Quinn 49.88 45 P **P 17 22 36.3 +1.0**
baz=293,SNR=9.8
KDJ Kajisay 49.88 293 IAmb IAmb 17 22 37.5
comp=Z,11nm,0.8s
MRSI Marisa 49.89 215 P **P 17 22 36.7 +0.8**
comp=Z,852nmcomp=Z,51nm,1.5s
BTLS Baital 50.51 298 *eP* **P 17 22 40.5 +0.3**
BTLS Baital 50.51 298 *eP* **P 17 22 40.6 +0.3**
BOOM Boomskoye usch 50.51 294 IAmb IAmb 17 22 47.0
comp=Z,12nm,0.7s
BRDH Bariadhala 50.67 263 LR LR 17 45 03.5
comp=Z,142nm,18.5s,baz=323,slow=37
SANI Sanana 50.70 209 P **P 17 22 42.5 +0.6**
SANI Sanana 50.70 209 P **P 17 22 41.6 -0.3**
comp=Z,29nm,1.0s
SGDS Sogindy 50.89 296 *eP* **P 17 22 43.7 +0.4**
SGDS pmax pmax
comp=Z,5.0nm,0.9s
SGDS Sogindy 50.89 296 *eP* **P 17 22 43.7 +0.4**
comp=Z,5.2nm,0.9s
MSAI Masohi 50.98 205 P **P 17 22 44.4 +0.4**
comp=Z,26nm,0.6s
SRDT SRDT 51.20 249 P **P 17 22 47.3 +1.5**
AAK Ala-Archa 51.38 295 P **P 17 22 46.8 -0.2**
AAK Ala-Archa 51.38 295 LR LR 17 47 17.6
comp=Z,129nm,19.0s,baz=38,slow=39
AAK Ala-Archa 51.38 295 P **P 17 22 47.1 +0.1**
AAK Ala-Archa 51.38 295 *i* P **P 17 22 46.6 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 51.38 295 *i* P **P 17 22 47.1 +0.1**
SNR=11
AAK Ala-Archa 51.38 295 *eP* **P 17 22 46.6 -0.4**
AAK Ala-Archa 51.38 295 P **P 17 22 47.3 +0.3**
AAK pP **pP 17 23 10.6 +0.1**
AAK PcP **PcP 17 24 01.8 +1.5**
AAI Ambon 51.52 206 P **P 17 22 50.0 +1.9**
TOAD Toad River Com 51.55 42 P **P 17 22 48.9 +1.0**
baz=295,SNR=8.1
EUNU Eureka 51.60 10 IAmb IAmb 17 24 06.4
comp=Z,33nm,1.6s
KSH Kashi 51.98 291 P **P 17 22 55.5 +4.0**
KSH pP pwP 17 23 19.0 +1.8
KSH sP sP 17 23 29.8 +3.9
KSH pmax pmax
comp=Z,14nm,1.5s
PCI Palu 52.02 217 P **P 17 22 52.1 +0.3**
comp=Z,45nm,1.2s
SVE Sverdlovsk 52.69 316 *eP* **P 17 22 54.9 -1.4**
SVE *eS* **S 17 30 14.2 -1.8**
SVE pmax pmax
comp=Z,12nm,0.7s
SBUM Sibu 52.70 227 P **P 17 22 57.0 +0.1**
DZA Taraz 53.27 297 *eP* **P 17 23 01.5 +0.7**
DZA pmax pmax
comp=Z,6.0nm,0.8s
DZA Taraz 53.27 297 *eP* **P 17 23 01.6 +0.7**
comp=Z,6.5nm,0.8s
RES Resolute Bay 53.67 17 IAmb IAmb 17 23 05.4
comp=Z,12nm,0.8s
RES Resolute Bay 53.67 17 LR LR 17 48 29.2
comp=Z,160nm,18.3s,baz=355,slow=39
KK31 Karatay Array 53.68 297 IAmb IAmb 17 23 05.5
comp=Z,13nm,0.8s
KKAR Karatay Array 53.68 297 P **P 17 23 02.8 -1.0**
KKAR Karatay Array 53.68 297 IAmb IAmb 17 23 05.5
comp=Z,8.0nm,0.7s
KKAR Karatay Array 53.68 297 P **P 17 23 02.8 -1.0**
KDI Kendari 53.68 212 P **P 17 23 05.0 +1.0**
comp=Z,22nm,1.1s
SPITS Spitsbergen Ar 53.74 349 P **P 17 23 02.9 -0.8**
comp=Z,5.5nm,0.8s,baz=75,slow=6.1,SNR=7.3
comp=Z,5.5nm,0.8s
ARTI Arti 53.99 317 P **P 17 23 03.6 -2.2**
ARTI IAmb IAmb 17 23 07.3
comp=Z,17nm,1.0s
ARTI Arti 53.99 317 LR LR 17 48 21.8
comp=Z,126nm,18.0s,baz=56,slow=38
ARTI Arti 53.99 317 *c i* P **P 17 23 04.3 -1.5**
ARTI S **S 17 30 31.5 -2.2**
ARTI SS **SS 17 34 13.7 -1.9**
ARTI pmax pmax
comp=Z,19nm,1.0s
ARTI Arti 53.99 317 P **P 17 23 03.9 -2.0**
ARTI PcP **PcP 17 24 09.8 +0.1**
PMG Port Moresby 54.08 181 LR LR 17 45 53.5
comp=Z,33nm,18.9s,baz=352,slow=35
BRLS Borolday 54.14 298 *eP* **P 17 23 09.2 +2.0**
BRLS Borolday 54.14 298 *eP* **P 17 23 09.2 +2.0**
IUG Iuzhnay 54.48 297 *eP* **P 17 23 10.1 +0.4**
IUG pmax pmax
comp=Z,14nm,1.0s
IUG Iuzhnay 54.48 297 *eP* **P 17 23 10.2 +0.5**
comp=Z,14nm,1.0s
YKA Yellowknife Ar 54.50 34 P **P 17 23 10.4 +0.9**
comp=Z,2.8nm,0.5s,baz=300,slow=7.2,SNR=30
comp=Z,2.8nm,0.5s
CHM Chimkent 54.66 297 *eP* **P 17 23 11.6 +0.7**
CHM pmax pmax
comp=Z,10.0nm,0.7s
CHM Chimkent 54.66 297 *eP* **P 17 23 11.7 +0.7**
comp=Z,9.9nm,0.7s
DRK Karamyk 54.74 293 IAmb IAmb 17 23 21.2
comp=Z,12nm,0.6s
SAUI Saumlaki 54.76 200 P **P 17 23 12.9 +1.1**
SAUI Saumlaki 54.76 200 P **P 17 23 11.6 -0.2**
comp=Z,48nm,1.2s
BBSI Bau Bau 55.11 211 P **P 17 23 15.2 +0.9**
comp=Z,24nm,1.0s
STKI Sintang 55.11 226 P **P 17 23 15.5 +1.1**
comp=Z,8μmcomp=Z,30nm,0.4s
HNR Honiara 55.18 166 LR LR 17 43 27.6
comp=Z,73nm,21.6s,baz=13,slow=32
KAPI Kappang 55.77 215 LR LR 17 46 26.6
comp=Z,19nm,21.3s,baz=10.0,slow=35
BKSI Bulukumba 55.90 214 P **P 17 23 19.1 -0.9**
comp=Z,14nm,1.0s
BSSI Bau Bau, Buton 56.50 213 P **P 17 23 23.6 -0.7**
comp=Z,17nm,1.6s
ABKAR Akbulak array 56.78 308 P **P 17 23 24.5 -1.4**
ABKAR Akbulak array 56.78 308 IAmb IAmb 17 23 26.9
comp=Z,38nm,1.6s
NIL Nilore 57.01 286 P **P 17 23 28.2 +0.4**
NIL Nilore 57.01 286 P **P 17 23 28.8 +1.0**
NIL Nilore 57.01 286 P **P 17 23 28.2 +0.4**
NIL pmax pmax
comp=Z,79nm,1.1s
SIMJ Simiganj 57.01 294 P **P 17 23 27.8 -0.1**
SIMJ Simiganj 57.01 294 P **P 17 23 27.9 0.0**
KIRV Kirov 57.02 322 LR LR 17 48 55.6
comp=Z,140nm,18.6s,baz=51,slow=37
KULM Kulim 57.03 241 P **P 17 23 28.7 +0.5**
KULM Kulim 57.03 241 P **P 17 23 29.5 +1.4**
AKTO Aktyubinsk 57.21 310 LR LR 17 49 19.8
comp=Z,130nm,19.1s,baz=94,slow=37
LLLB Lillooet 57.24 49 IAmb IAmb 17 23 54.7
comp=Z,9.9nm,0.9s
NEEM North Greenlan 57.33 5 *i* P **P 17 23 25.0 -4.8**
NEEM IAmb IAmb 17 23 37.4
comp=Z,6.6nm,0.5s
APA Apatity 57.55 336 ⇓*i* P **P 17 23 31.3 +0.3**
APA *i* *PP **pwP 17 23 56.9 +1.9**
APA *i* 17 24 27.0
APA pmax pmax
comp=Z,12nm,0.9s
MMRI Maumere 58.14 210 P **P 17 23 35.3 -0.5**
comp=Z,31nm,1.6s
TPRI Tanjung Pinang 58.19 234 P **P 17 23 36.1 -0.1**
comp=Z,40nm,1.2s
DAG Danmarks Havn 58.28 356 *i* P **P 17 23 32.0 -4.0**
DAG IAmb IAmb 17 23 37.0
comp=Z,3.7nm,0.9s
ARCES ARCESS Array B 58.35 340 P **P 17 23 34.3 -2.3**
comp=Z,7.9nm,1.1s,baz=41,slow=5.2,SNR=5.9
comp=Z,7.9nm,1.1s
SOEI Soe 58.48 208 P **P 17 23 36.9 -1.4**
comp=Z,21nm,0.8s
KDU Kakadu 59.03 198 P **P 17 23 41.9 0.0**

comp=Z,15nm,1.3s
KBL Kabul 59.34 290 P P 17 23 42.9 -1.4
KBL Kabul 59.34 290 P P 17 23 43.7 -0.6
KBL Kabul 59.34 290 P P 17 23 42.9 -1.4
KBL pmax pmax
comp=Z,22nm,0.9s
MTN Manton Dam 59.49 199 P P 17 23 44.7 -0.4
MTN Manton Dam 59.49 199 P P 17 23 45.4 +0.4
comp=Z,35nm,1.1s
TPI Tanjungpandan 59.50 229 P P 17 23 45.5 +0.2
comp=Z,26nm,1.0s
PPBI Pangkal Pinang 59.82 230 P P 17 23 46.5 -1.0
B08A Colville Reser 59.87 50 IAmb IAmb 17 24 12.8
comp=Z,12nm,0.9s
PSI Prapat 60.04 241 LR LR 17 50 35.2
comp=Z,21nm,20.6s,baz=30,slow=37
PSI Prapat 60.04 241 P P 17 23 49.6 +0.4
PSI pmax pmax
comp=Z,17nm,1.0s
KMMI Kalianget 60.08 220 P P 17 23 48.4 -0.8
comp=Z,28nm,1.2s
RPSI Rantau Prapat 60.12 240 P P 17 23 49.6 0.0
RPSI IAmb IAmb 17 23 50.7
comp=Z,16nm,1.0s
TWSI Taliwang, Sumb 60.31 216 P P 17 23 49.8 -1.0
comp=Z,15nm,0.9s
SRBI Singaraja 60.44 218 P P 17 23 51.3 -0.3
comp=Z,85nm,1.5s
MLSI Meulaboh, Aceh 60.49 244 P P 17 23 51.1 -1.0
comp=Z,47nm,1.2s
E07A Sunnyside 60.62 52 IAmb IAmb 17 23 55.1
comp=Z,16nm,1.1s
ABJI Asem Bagus 60.62 219 P P 17 23 53.0 +0.2
comp=Z,43nm,1.5s
BKNI Bangkinang 60.71 237 P P 17 23 55.0 +1.4
HAWA Hanford 60.89 52 P P 17 23 54.8 +0.3
HAWA IAmb IAmb 17 24 20.3
comp=Z,14nm,1.1s
E08A Dider Farm, El 61.10 52 IAmb IAmb 17 24 21.4
comp=Z,13nm,1.0s
NEW Newport 61.12 49 IAmb IAmb 17 23 58.7
comp=Z,15nm,0.9s
BELG Belogornoye 61.44 317 LR LR 17 54 49.1
comp=Z,76nm,20.5s,baz=26,slow=40
BELG Belogornoye 61.44 317 *i* P **P 17 23 56.3 -1.7**
BELG pmax pmax
comp=Z,2.0nm,0.9s
J05D Fort Rock, OR 61.74 56 P P 17 24 02.2 +1.8
J05D IAmb IAmb 17 24 03.9
comp=Z,20nm,0.9s
YBH Yreka Blue Hor 61.78 58 LR LR 17 50 57.0
comp=Z,66nm,18.0s,baz=356,slow=36
G08A Pilot Rock 61.87 53 IAmb IAmb 17 24 27.0
comp=Z,14nm,1.1s
SNSI Sinabang, Aceh 61.97 243 P P 17 24 02.9 +0.9
comp=Z,29nm,0.8s
GSI Gunungsitoli 62.04 241 P P 17 24 03.0 +0.5
GSI Gunungsitoli 62.04 241 P P 17 24 02.7 +0.1
comp=Z,2µrncomp=Z,24nm,1.6s
I07A Izee 62.27 54 IAmb IAmb 17 24 47.7
comp=Z,19nm,1.4s
F10A Beach Ranch, E 62.43 52 IAmb IAmb 17 24 08.4
comp=Z,11nm,1.1s
SUMG Summit 62.71 2 *i* P **P 17 24 05.0 -1.7**
SUMG IAmb IAmb 17 24 18.2
comp=Z,8.0nm,0.8s
HYB Hyderabad 63.39 268 *e*P **P 17 24 11.6 0.0**
HYB IVmB_BB 17 24 11.9
comp=Z,540nm,2.0s
PLID Pearl Lake 63.66 52 IAmb IAmb 17 24 15.8
comp=Z,14nm,0.8s
MSO Missoula 63.71 49 IAmb IAmb 17 24 39.7
comp=Z,20nm,1.0s
HRA Herat 63.92 293 P P 17 24 14.2 -0.9
FINES FINESS Array B 64.09 333 P P 17 24 13.5 -2.0
comp=Z,8.8nm,0.6s,baz=40,slow=6.2,SNR=38
comp=Z,8.8nm,0.6s
FINES FINESS Array B 64.09 333 *i* P **P 17 24 13.6 -1.8**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FFC Flin Flon 64.41 37 P P 17 24 18.4 +0.7
FFC IAmb IAmb 17 24 20.1
comp=Z,10nm,0.8s
FFC Flin Flon 64.41 37 P P 17 24 18.4 +0.7
FFC pmax pmax
comp=Z,10.0nm,0.8s
FFC Flin Flon 64.41 37 P P 17 24 18.6 +0.9
FFC pP **pP 17 24 44.1 +1.5**
FFC sP **sP 17 24 55.0 +1.4**
OBN Obninsk 64.71 324 *e*P **P 17 24 19.0 -0.5**
OBN *e* 17 26 44.1
OBN *e*S **S 17 32 49.7 -1.9**
OBN *e*SS **SS 17 37 05.2 +1.9**
OBN pmax pmax
comp=Z,96nm,4.0s
OBN Obninsk 64.71 324 *e*P **P 17 24 19.0 -0.5**
FCC Fort Churchill 64.72 31 IAmb IAmb 17 24 22.9
comp=Z,13nm,0.6s
PAHR Pah Rah Range 65.01 58 IAmb IAmb 17 24 48.4
comp=Z,20nm,1.3s
VRH Novokhopyorsk 65.03 318 *e*P **P 17 24 19.2 -2.5**
VRH pmax pmax
comp=Z,10.0nm,1.0s
EGMT Eagleton 65.16 46 IAmb IAmb 17 24 49.2
comp=Z,22nm,1.0s
DLMT Dillon 65.36 50 IAmb IAmb 17 24 50.9
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 65.39 321 *e*P **P 17 24 22.6 -1.4**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 65.44 60 IAmb IAmb 17 24 50.5
comp=Z,14nm,1.0s
WB0 Warramunga Arr 65.56 194 IAmb IAmb 17 24 26.8
comp=Z,32nm,1.3s
QIS Mount Isa 65.61 189 P P 17 24 25.9 +0.2
WR0 Warramunga Arr 65.72 194 IAmb IAmb 17 24 27.8
comp=Z,21nm,1.4s
WRAB Tennant Creek 65.73 194 P P 17 24 26.4 -0.1
WRAB IAmb IAmb 17 24 28.6
comp=Z,35nm,1.4s
WRAB Tennant Creek 65.73 194 *i* P **P 17 24 23.3 -3.2**
WRAB pmax pmax
comp=Z,29nm,1.3s
WAKR Walker 65.73 59 IAmb IAmb 17 24 52.9
comp=Z,13nm,1.0s
BOZ Bozeman (W) 65.73 49 IAmb IAmb 17 24 52.7
comp=Z,15nm,0.8s
WB2 Warramunga Arr 65.74 194 IAmb IAmb 17 24 28.0
comp=Z,37nm,1.4s
WRA Warramunga Arr 65.74 194 P P 17 24 25.9 -0.6
WRA Warramunga Arr 65.74 194 P P 17 24 26.2 -0.4
comp=Z,10.0nm,1.0s,baz=11,slow=6.6,SNR=27
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 65.74 194 *i* P **P 17 24 26.2 -0.4**
WRA pmax pmax
comp=Z,5.0nm,0.5s
FITZ Fitzroy Crossi 65.94 203 P P 17 24 28.6 +0.8
FITZ Fitzroy Crossi 65.94 203 P P 17 24 28.4 +0.5
comp=Z,1.7nm,2.7s
ICESG Greenland Ices 66.17 3 *i* P **P 17 24 28.0 -1.2**
ICESG IAmb IAmb 17 24 30.9
comp=Z,4.8nm,0.5s
RYN Ryan 66.21 59 IAmb IAmb 17 24 55.7
comp=Z,13nm,0.9s
VSR Storozhevoye 66.22 319 *e*P **P 17 24 26.9 -2.4**
VSR pmax pmax
comp=Z,8.0nm,0.9s
YHL Hebgen Lake 66.45 50 IAmb IAmb 17 24 57.6
comp=Z,9.4nm,0.8s
NVAR Mina Array Bea 66.47 59 P P 17 24 32.5 +1.0
NVAR Mina Array Bea 66.47 59 P P 17 24 32.1 +0.6
comp=Z,7.4nm,0.8s,baz=285,slow=6.9,SNR=31
comp=Z,7.4nm,0.8s
YNR Norris Junctio 66.81 49 IAmb IAmb 17 25 01.1
comp=Z,15nm,1.2s
YFT Old Faithful 66.90 50 IAmb IAmb 17 25 03.5
comp=Z,10nm,0.7s
YNE Yellowstone No 66.98 49 IAmb IAmb 17 26 46.3
comp=Z,18nm,0.9s
H17A Grant Village 67.08 50 IAmb IAmb 17 25 03.7
comp=Z,20nm,1.1s
FLWY Flagg Ranch 67.22 50 IAmb IAmb 17 25 05.2
comp=Z,30nm,1.5s
DSP Deep Springs 67.35 59 IAmb IAmb 17 25 03.8
comp=Z,18nm,1.0s
MOOW Moose Ponds 67.41 50 IAmb IAmb 17 25 04.7
comp=Z,27nm,1.4s

TPAW Teton Pass 67.47 51 IAmb IAmb 17 25 04.2
comp=Z,18nm,0.8s
SFJD Kangerlussuaq 67.51 8 LR LR 17 54 27.4
comp=Z,149nm,18.6s,baz=98,slow=36
LOHW Long Hollow 67.58 50 IAmb IAmb 17 25 05.9
comp=Z,38nm,1.6s
DGMT Dagmar 67.64 43 IAmb IAmb 17 24 40.5
comp=Z,16nm,0.8s
LAO LASA Array 67.84 46 IAmb IAmb 17 25 07.0
comp=Z,22nm,1.1s
BGU Big Grassy Mou 67.98 54 IAmb IAmb 17 25 07.2
comp=Z,26nm,1.9s
GOF Gofitskoye 68.47 313 *ce*P **P 17 24 44.1 +0.4**
TPNV Topopah Spring 68.67 59 IAmb IAmb 17 25 12.8
comp=Z,34nm,1.2s
PDAR Pinedale Array 68.71 50 P P 17 24 45.9 +0.3
PDAR Pinedale Array 68.71 50 P P 17 24 46.0 +0.4
comp=Z,5.5nm,0.8s,baz=275,slow=1.9,SNR=49
PDAR LR LR 17 58 55.5
comp=Z,36nm,18.1s,baz=20,slow=39
comp=Z,5.5nm,0.8s
NB2 NORSAR Subarra 68.71 339 P P 17 24 43.4 -1.6
comp=Z,2.6nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 68.71 339 P P 17 24 43.6 -1.4
comp=Z,2.9nm,0.5s,baz=36,slow=7.1,SNR=6.6
NOA LR LR 17 57 32.5
comp=Z,73nm,21.5s,baz=305,slow=38
comp=Z,2.9nm,0.5s
CCAC Calif City Air 68.75 61 IAmb IAmb 17 25 11.3
comp=Z,19nm,0.8s
DZM Mont Dzumac 68.78 162 LR LR 17 49 10.7
comp=Z,76nm,21.2s,baz=208,slow=31
TCUT Toone Canyon 68.78 53 IAmb IAmb 17 25 25.5
comp=Z,15nm,0.8s
HFS Hagfors 68.83 337 P P 17 24 44.2 -1.4
comp=Z,4.0nm,0.5s,baz=57,slow=5.5,SNR=21
HFS LR LR 18 00 24.9
comp=Z,126nm,18.1s,baz=16,slow=41
comp=Z,4.0nm,0.5s
PALK Pallekele 68.84 259 P P 17 24 46.2 -0.2
PALK Pallekele 68.84 259 P P 17 24 47.1 +0.7
PALK Pallekele 68.84 259 ⇑P **P 17 24 47.2 +0.7**
PALK Pallekele 68.84 259 P P 17 24 46.8 +0.3
PALK pP **pP 17 25 11.9 +0.2**
GWY Greenwater Val 68.91 60 IAmb IAmb 17 25 12.6
comp=Z,20nm,0.8s
GSC Goldstone, Bar 69.40 60 PcP 17 25 14.3 +1.8
KIV Kislovodsk 69.41 312 P P 17 24 49.3 -0.3
KIV IAmb IAmb 17 25 20.6
comp=Z,24nm,0.8s
KIV Kislovodsk 69.41 312 P P 17 24 51.4 +1.8
KIV Kislovodsk 69.41 312 ⇑P **P 17 24 51.8 +2.2**
KIV Kislovodsk 69.41 312 ⇑P **P 17 24 51.8 +2.2**
KIV Kislovodsk 69.41 312 *i* P **P 17 24 50.3 +0.6**
SNR=8.3
KIV Kislovodsk 69.41 312 P P 17 24 50.2 +0.6
comp=Z,19nm,0.7s
KIV Kislovodsk 69.41 312 *e*P **P 17 24 51.8 +2.2**
AS06 Alice Springs 69.43 194 P P 17 24 50.5 +0.7
comp=Z,6.0nm,1.1s
AS01 Alice Springs 69.45 194 P P 17 24 50.4 +0.5
KBZ Khabaz 69.45 312 P P 17 24 49.7 -0.1
comp=Z,9.2nm,0.7s,baz=68,slow=3.3,SNR=28
KBZ LR LR 17 59 34.2
comp=Z,151nm,18.1s,baz=37,slow=40
comp=Z,9.2nm,0.7s
KBZ Khabaz 69.45 312 *i* P **P 17 24 49.9 +0.2**
KBZ pmax pmax
comp=Z,24nm,1.6s
KBZ Khabaz 69.45 312 *e*P **P 17 24 49.9 +0.2**
AS31 Alice Springs 69.45 194 P P 17 24 50.6 +0.7
comp=Z,1.6nm,0.7s
ASAR Alice Springs 69.46 194 P P 17 24 50.1 +0.2
ASAR Alice Springs 69.46 194 P P 17 24 50.5 +0.5
comp=Z,2.6nm,0.5s,baz=13,slow=7.3,SNR=46
ASAR PKP2bc 17 52 57.2
comp=Z,0.9nm,1.0s,baz=183,slow=3.1,SNR=6.6
comp=Z,2.6nm,0.5s
AS19 Alice Springs 69.48 194 P P 17 24 50.9 +0.8
comp=Z,6.4nm,1.1s
SHA1 Shidzhatmaz 69.57 312 *i* P **P 17 24 50.0 -0.8**
SHPR Sheep Range 69.62 59 PcP 17 25 15.8 +2.3
SHPR IAmb IAmb 17 25 18.2
comp=Z,47nm,1.9s
ULM Lac du Bonnet 70.22 38 P P 17 24 53.7 -0.6
ULM IAmb IAmb 17 25 20.5
comp=Z,39nm,1.9s
ULM Lac du Bonnet 70.22 38 P P 17 24 54.2 -0.2
comp=Z,4.2nm,0.6s,baz=311,slow=6.6,SNR=9.5
comp=Z,4.2nm,0.6s
MDND Maddock 70.27 41 IAmb IAmb 17 24 57.4
comp=Z,17nm,0.9s
P18A Preston Nutter 70.43 53 IAmb IAmb 17 25 24.3
comp=Z,20nm,1.2s
K22A Casper 70.44 49 IAmb IAmb 17 25 22.8
comp=Z,44nm,1.5s
SRU San Rafael Swe 70.62 54 IAmb IAmb 17 25 24.9
comp=Z,19nm,0.9s
KNB Kanab 70.68 57 IAmb IAmb 17 25 25.9
comp=Z,22nm,1.1s
RSSD Black Hills 70.72 47 P P 17 24 58.3 +0.5
RSSD Black Hills 70.72 47 P P 17 24 58.3 +0.5
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 70.72 47 P P 17 24 58.5 +0.7
RSSD pP **pP 17 25 23.8 +0.7**
GNI Garni 70.88 308 P P 17 24 58.4 -0.4
GNI IAmb IAmb 17 26 08.7
comp=Z,13nm,0.8s
GNI Garni 70.88 308 LR LR 17 58 39.0
comp=Z,66nm,19.3s,baz=32,slow=38
GNI Garni 70.88 308 P P 17 25 00.2 +1.4
GNI Garni 70.88 308 *i* P **P 17 24 58.8 0.0**
GNI pmax pmax
comp=Z,30nm,1.7s
GNI Garni 70.88 308 P P 17 24 59.9 +1.1
GNI Garni 70.88 308 P P 17 25 00.1 +1.3
comp=Z,18nm,0.8s
AK03 Malin Array Si 70.95 324 P P 17 24 58.1 -0.7
AKASG Malin Array Be 70.97 324 P P 17 24 57.4 -1.5
AKASG Malin Array Be 70.97 324 P P 17 24 57.3 -1.6
comp=Z,9.8nm,0.6s,baz=38,slow=6.2,SNR=56
AKASG LR LR 17 57 58.7
comp=Z,144nm,18.9s,baz=56,slow=37
comp=Z,9.8nm,0.6s
AKASG Malin Array Be 70.97 324 P P 17 24 57.4 -1.5
AKASG pmax pmax
comp=Z,7.0nm,1.3s
AKBB Malin Array Si 70.97 324 IAmb IAmb 17 24 59.8
comp=Z,14nm,0.7s
AKBB Malin Array Si 70.97 324 *i* P **P 17 24 56.6 -2.3**
AKBB pmax pmax
comp=Z,100nm,4.3s
KIEV Kiev 70.98 324 P P 17 24 57.9 -1.1
KIEV IAmb IAmb 17 24 59.8
comp=Z,12nm,0.7s
KIEV Kiev 70.98 324 ⇑P **P 17 24 57.9 -1.1**
KIEV Kiev 70.98 324 ⇑P **P 17 24 57.9 -1.1**
KIEV Kiev 70.98 324 *i* P **P 17 24 57.6 -1.4**
SNR=8.3
KIEV Kiev 70.98 324 P P 17 24 58.7 -0.3
comp=Z,76nm,0.7s
AK20 Malin Array Si 71.03 324 P P 17 24 58.1 -1.2
W13A Hualapai Mount 71.33 59 IAmb IAmb 17 25 28.4
comp=Z,36nm,1.8s
U15A North Rim 71.39 57 IAmb IAmb 17 25 30.3
comp=Z,24nm,1.2s
MI28 Mi28,Pidlybu 71.44 325 P P 17 25 01.7 0.0
AGMN Agassiz Nation 71.66 39 P P 17 25 02.8 -0.4
WRKA Warakurna 71.90 199 P P 17 25 05.4 +0.7
comp=Z,15nm,1.3s
WRKA Warakurna 71.90 199 P P 17 25 05.7 +1.0
RNPP5 Staryi Chortor 71.93 326 P P 17 25 04.9 +0.2
PV23 Carpenter Ridg 71.94 54 IAmb IAmb 17 25 44.0
comp=Z,20nm,0.8s
N23A Red Feather La 71.96 50 P P 17 25 05.7 +0.3
baz=314
ESJX Sierra Juarez 72.11 63 IAmb IAmb 17 25 32.4
comp=Z,16nm,1.0s
PV11 David Mesa, Pa 72.12 54 IAmb IAmb 17 25 34.7
comp=Z,19nm,0.9s
LUBAR Lubar, Ukraine 72.18 324 P P 17 25 06.2 0.0
PV13 Radium Mtn., P 72.25 54 IAmb IAmb 17 25 33.2
comp=Z,16nm,0.8s
JASK Jask - Hormozg 72.28 289 P P 17 25 09.1 +2.0
WUAZ Wupatki 72.56 57 IAmb IAmb 17 25 36.4

comp=Z,69nm,1.9s
INKA Innaminka 72.61 187 P P 17 25 09.2 +0.4
Y14A Wickenburg 72.64 59 IAmb IAmb 17 25 36.2
comp=Z,55nm,1.8s
SIM Simferopol' 73.04 317 *e*P **P 17 25 09.8 -1.6**
SIM *e* 17 25 27.0
SIM pmax pmax
comp=Z,24nm,1.3s
GEVA Gevas 73.09 307 IAmb IAmb 17 25 14.2
comp=Z,59nm,1.9s
OOD Oodnadatta 73.23 191 P P 17 25 13.3 +0.8
X16A Lo Mia Camp, P 73.27 58 IAmb IAmb 17 25 40.6
comp=Z,68nm,2.0s
SORM Soroca 73.29 323 ⇑P **P 17 25 13.5 +0.7**
SORM Soroca 73.29 323 ⇑P **P 17 25 13.5 +0.7**
SORM Soroca 73.29 323 P P 17 25 13.1 +0.3
comp=Z,20nm,1.4s
SHME Shamm 73.31 290 P P 17 25 13.4 +0.2
SHME Shamm 73.31 290 P P 17 25 12.9 -0.4
KOPT Kop Dagi 73.31 310 IAmb IAmb 17 25 16.2
comp=Z,22nm,1.4s
NDNU Novodnistrovsk 73.36 323 P P 17 25 13.0 -0.2
GURO Guroymak-BITLI 73.50 308 IAmb IAmb 17 25 17.6
comp=Z,13nm,0.7s
BIDO Bidbid 73.67 287 P P 17 25 17.4 +2.0
S22A 4UR Ranch, Cre 73.67 53 P P 17 25 15.8 +0.2
baz=315
WBK Wadi Bani Khal 73.70 286 P P 17 25 17.3 +1.6
JLN Jalan Bani Buh 73.71 285 P P 17 25 17.0 +1.3
Q24A Divide 73.75 51 P P 17 25 16.2 +0.1
baz=315
MASF Masafi 73.75 290 P P 17 25 16.6 +0.7
MSFE Esma-Masafi 73.76 290 P P 17 25 16.3 +0.4
KMPD K-Podol'skiy 73.77 324 P P 17 25 15.6 +0.1
UOSS Minazif 74.01 289 P P 17 25 17.6 +0.3
UOSS Minazif 74.01 289 P P 17 25 17.9 +0.5
UOSS Minazif 74.01 289 P P 17 25 17.4 0.0
SMDO Samad 74.03 287 P P 17 25 19.4 +1.7
HATD Hatta, Dubai 74.14 289 P P 17 25 19.1 +1.0
HATD Hatta, Dubai 74.14 289 *i* P **P 17 25 18.7 +0.6**
SNR=7.6
HOQ Hoqain 74.18 288 P P 17 25 19.4 +1.0
ASHO Ashiyiah 74.28 289 P P 17 25 19.9 +0.9
SOHO SOHO 74.33 288 P P 17 25 19.8 +0.6
NAZ Nazwa, Dubai 74.34 290 P P 17 25 19.8 +0.5
NAZ Nazwa, Dubai 74.34 290 P P 17 25 19.4 +0.1
SDCO Great Sand Dun 74.41 52 IAmb IAmb 17 25 47.2
comp=Z,37nm,1.9s
KWP Kalwaria Pacla 74.45 327 *e*P **P 17 25 21.3 +1.7**
JMDO Jabal Madar 74.45 286 P P 17 25 21.0 +1.0
SNR=10
FAQ Al Faqa, Dubai 74.55 290 P P 17 25 21.0 +0.5
FAQ Al Faqa, Dubai 74.55 290 P P 17 25 20.6 0.0
ECSD EROS Data Cent 74.71 43 IAmb IAmb 17 25 48.6
comp=Z,15nm,1.0s
ASUD Al Ashush, Dub 74.81 290 P P 17 25 22.9 +0.9
ASUD Al Ashush, Dub 74.81 290 P P 17 25 22.4 +0.4
BSY Bisya 74.82 287 P P 17 25 23.4 +1.3
ARQ Araqi 74.88 288 P P 17 25 23.4 +1.0
DIKM Dikmen 74.90 314 ⇑P **P 17 25 23.7 +1.4**
ALNE Al Ain 74.91 289 P P 17 25 23.3 +0.7
ALNE Al Ain 74.91 289 *i* P **P 17 25 22.9 +0.3**
SNR=13
ALNE P **P 17 25 23.4 +0.7**
BURAR Bucovina Array 75.03 324 ⇑P **P 17 25 23.5 +0.5**
BURAR Bucovina Array 75.03 324 ⇑P **P 17 25 23.5 +0.5**
OJC Ojcow 75.08 328 *e*P **P 17 25 23.1 -0.1**
OJC Ojcow 75.08 328 IAmb IAmb 17 26 28.7
comp=Z,27nm,1.6s
TUC Tucson 75.11 59 P P 17 25 24.8 +1.0
TUC IAmb IAmb 17 25 51.0
comp=Z,28nm,1.6s
TUC Tucson 75.11 59 P P 17 25 24.8 +1.0
TUC pmax pmax
comp=Z,28nm,1.6s
VLDR Vladesti 75.17 321 ⇑P **P 17 25 24.2 +0.5**
KOLS Kolonicke sedl 75.18 326 *e*P **P 17 25 25.3 +1.5**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 75.18 326 *e*P **P 17 25 25.3 +1.5**
STHS Stebnicka Huta 75.19 327 *e*P **P 17 25 26.7 +2.9**
STHS Stebnicka Huta 75.19 327 *e*P **P 17 25 26.7 +2.9**
TESR Tescani 75.28 322 ⇑P **P 17 25 25.2 +0.8**
TESR Tescani 75.28 322 P P 17 25 24.3 -0.1
comp=Z,37nm,1.2s
TLCR 75.35 320 ⇑P **P 17 25 25.6 +0.9**
TLCR 75.35 320 ⇑P **P 17 25 25.6 +0.9**
T25A Trinidad 75.45 52 P P 17 25 25.7 -0.2
baz=316
MHTO MHTO 75.48 285 P P 17 25 27.4 +1.6
LCRK Leigh Creek 75.54 189 P P 17 25 26.6 +0.8
NIE Niedzica 75.55 328 *e*P **P 17 25 27.2 +1.3**
NIE Niedzica 75.55 328 P P 17 25 27.0 +1.1
CFR Carcaliu 75.66 321 ⇑P **P 17 25 26.6 +0.1**
CFR Carcaliu 75.66 321 ⇑P **P 17 25 26.6 +0.1**
VRI Vrincioaia 75.75 322 ⇑P **P 17 25 27.8 +0.7**
VRI Vrincioaia 75.75 322 ⇑P **P 17 25 27.8 +0.7**
TPGR Topolog 75.78 320 ⇑P **P 17 25 27.6 +0.4**
PLOR5 Plostina Array 75.80 322 P P 17 25 28.8 +1.4
comp=Z,13nm,0.7s
KSP Ksiaz 75.83 331 *e*P **P 17 25 28.6 +1.2**
ANMO Albuquerque 75.85 55 *i* P **P 17 25 25.7 -2.4**
ANMO pmax pmax
comp=Z,7.0nm,3.3s
OZUR 75.98 323 ⇑P **P 17 25 28.9 +0.4**
I37A Lemond, Waseca 76.02 41 IAmb IAmb 17 25 32.0
comp=Z,22nm,0.7s
LANS Liptovska Anna 76.08 328 *e*P **P 17 25 29.9 +1.0**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 76.08 328 *e*P **P 17 25 29.9 +1.0**
CMSA Cobar Meteorol 76.13 182 P P 17 25 30.6 +1.5
comp=Z,9.7nm,1.9s
FLTG Flechtingen 76.21 334 *e*P **P 17 25 29.1 -0.5**
comp=Z,7.5nm,0.8s,baz=30,slow=5.6
UMZA Um Al Zommool 76.22 288 P P 17 25 30.3 +0.2
DPC Dobruska-Polom 76.23 330 *e*P **P 17 25 31.3 +1.5**
DPC Dobruska-Polom 76.23 330 *e*P **P 17 25 31.3 +1.5**
DPC Dobruska-Polom 76.23 330 P P 17 25 30.4 +0.6
comp=Z,9.3nm,1.8s
KECS Kecovo 76.24 327 *e*P **P 17 25 30.3 +0.5**
KECS pmax pmax
comp=Z,10.0nm,0.6s
KECS Kecovo 76.24 327 *e*P **P 17 25 30.3 +0.5**
JRN Qarnain Island 76.25 291 P P 17 25 29.6 -0.6
MORC Moravsky Berou 76.27 329 *e*P **P 17 25 30.4 +0.4**
MORC Moravsky Berou 76.27 329 ⇑P **P 17 25 29.5 -0.5**
MORC Moravsky Berou 76.27 329 ⇑P **P 17 25 29.5 -0.5**
KRLC Kraliky 76.30 330 *e*P **P 17 25 31.4 +1.2**
KRLC Kraliky 76.30 330 *e*P **P 17 25 31.4 +1.2**
SCHQ Schefferville 76.32 20 P P 17 25 31.0 +0.9
comp=Z,6.3nm,0.8s,baz=327,slow=5.8,SNR=13
comp=Z,6.3nm,0.8s
MZWR Madinat Zayed 76.37 290 P P 17 25 30.3 -0.6
MLR Muntele Rosu 76.39 322 IAmb IAmb 17 25 32.8
comp=Z,60nm,1.9s
MLR Muntele Rosu 76.39 322 LR LR 18 02 28.3
comp=Z,159nm,18.4s,baz=56,slow=38
MLR Muntele Rosu 76.39 322 ⇑P **P 17 25 31.2 +0.3**
MLR Muntele Rosu 76.39 322 ⇑P **P 17 25 31.2 +0.3**
CLL Collm 76.54 333 IAmb IAmb 17 25 32.3
comp=Z,14nm,0.8s
CLL Collm 76.54 333 *i* P **P 17 25 31.1 -0.3**
CLL *e**PP **pP 17 25 56.0 -0.6**
CLL pmax pmax
comp=Z,18nm,0.8s
CLL Collm 76.54 333 P P 17 25 30.8 -0.6
comp=Z,21nm,0.8s
CLL Collm 76.54 333 *i* P **P 17 25 31.1 -0.3**
comp=Z,18nm,0.8s
CLL *e*PcP **PcP 17 25 43.0 +0.4**
CLL *e*(pP) **pP 17 25 56.0 -0.6**
CLL *e*PP **PP 17 28 22.0 -1.9**
CLL Collm 76.54 333 *e*P **P 17 25 31.0 -0.4**
comp=Z,12nm,0.7s,baz=30,slow=5.6
BRG Berggiesshubel 76.60 332 *e*P **P 17 25 32.5 +0.8**
BRG Amp 17 25 32.9
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 76.60 332 *e*P **P 17 25 32.4 +0.7**
comp=Z,3.0nm,0.9s,baz=30,slow=5.6
STKA Stephens Creek 76.66 186 P P 17 25 33.0 +0.9
comp=Z,31nm,2.4s
STKA Stephens Creek 76.66 186 P P 17 25 32.9 +0.7
comp=Z,3.7nm,0.9s,baz=341,slow=6.3,SNR=4.7

comp=Z,3.7nm,0.9s
STKA Stephens Creek 76.66 186 *i* P **P 17 25 32.2 +0.1**
319A Douglas 76.68 59 IAmb IAmb 17 26 00.7
comp=Z,36nm,1.2s
DRGR 76.72 325 ⇑P **P 17 25 32.8 +0.2**
DRGR 76.72 325 ⇑P **P 17 25 32.8 +0.2**
121A Cookes Peak, D 76.77 57 P **P 17 25 33.2 -0.1**
baz=315
SHMA Al-Shehemyia 76.86 293 P **P 17 25 33.7 +0.1**
VYHS Vyhne 76.86 328 *e*P **P 17 25 33.7 +0.4**
VYHS pmax pmax
comp=Z,53nm,2.2s
VYHS Vyhne 76.86 328 *e*P **P 17 25 33.7 +0.4**
GHWR Ruwais 76.90 291 P **P 17 25 33.7 -0.1**
CLZ Clausthal 76.90 335 *e*P **P 17 25 34.4 +0.9**
comp=Z,7.5nm,0.8s,baz=30,slow=5.6
PSZ Piszkesteto 76.93 327 IAmb IAmb 17 25 35.7
comp=Z,40nm,1.7s
JAVC Velka Javorina 76.99 329 *e*P **P 17 25 35.6 +1.5**
VRAC Vranov 77.00 330 LR LR 18 01 42.0
comp=Z,142nm,18.1s,baz=17,slow=37
VRAC Vranov 77.00 330 *e*P **P 17 25 35.2 +1.1**
VRAC Vranov 77.00 330 ⇑P **P 17 25 33.7 -0.4**
VRAC Vranov 77.00 330 ⇑P **P 17 25 33.7 -0.4**
NEUB Neuenburg 77.02 333 *e*P **P 17 25 35.0 +0.9**
comp=Z,7.0nm,0.7s,baz=30,slow=5.6
ARR Arges 77.05 323 ⇑P **P 17 25 34.6 +0.1**
SAKB Bahrain 77.05 294 P **P 17 25 35.0 +0.3**
BR131 Keskin Array S 77.15 314 IAmb IAmb 17 25 36.8
comp=Z,62nm,1.9s
BRTR Keskin Array B 77.15 314 P **P 17 25 35.0 -0.3**
comp=Z,6.0nm,0.9s,baz=76,slow=4.2,SNR=34
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 77.15 314 *i* P **P 17 25 35.5 +0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
PRU Pruhonice 77.15 331 *e*P **P 17 25 36.0 +1.1**
PRU Pruhonice 77.15 331 *e*P **P 17 25 36.0 +1.1**
MZR Muzera 77.15 290 P **P 17 25 35.7 +0.4**
MZR Muzera 77.15 290 P **P 17 25 35.0 -0.4**
MZR *i* P **P 17 25 35.5 +0.1**
SNR=15
BR106 Keskin Array S 77.15 314 P **P 17 25 35.8 +0.5**
comp=Z,89nmcomp=Z,8.5nm,0.8s
BR104 Keskin Array S 77.16 314 P **P 17 25 35.4 +0.1**
comp=Z,86nmcomp=Z,8.7nm,0.9s
EKA Eskdalemuir Ar 77.16 344 P **P 17 25 34.5 -0.4**
comp=Z,4.3nm,0.7s,baz=25,slow=4.9,SNR=16
comp=Z,4.3nm,0.7s
IBBN Ibbenburen 77.27 336 *e*P **P 17 25 36.0 +0.5**
comp=Z,18nm,0.8s,baz=30,slow=5.6
KRUC Moravsky 77.28 330 *e*P **P 17 25 36.2 +0.6**
GTTG Gottingen 77.28 335 *e*P **P 17 25 36.3 +0.7**
comp=Z,8.0nm,0.8s,baz=30,slow=5.6
SMOL Smolenice 77.36 329 *e*P **P 17 25 37.8 +1.7**
SMOL pmax pmax
comp=Z,7.0nm,1.0s
TREC Trest 77.41 330 *e*P **P 17 25 37.5 +1.1**
TREC Trest 77.41 330 *e*P **P 17 25 37.5 +1.1**
KIRS Kirsehir-Merke 77.45 313 ⇑P **P 17 25 37.7 +0.8**
ANTO Ankara 77.47 314 P **P 17 25 37.0 +0.1**
ANTO Ankara 77.47 314 ⇑P **P 17 25 38.0 +1.1**
ANTO Ankara 77.47 314 ⇑P **P 17 25 38.0 +1.1**
ANTO Ankara 77.47 314 P **P 17 25 37.6 +0.6**
comp=Z,21nm,0.8s
TANN Tannenbergstha 77.48 333 *e*P **P 17 25 37.0 +0.2**
comp=Z,2.4nm,0.9s,baz=30,slow=5.6
FORT Forrest 77.50 197 P **P 17 25 38.1 +1.3**
MODS Modra-Piesok 77.54 329 *e*P **P 17 25 38.3 +1.2**
MODS pmax pmax
comp=Z,28nm,1.1s
MODS Modra-Piesok 77.54 329 *e*P **P 17 25 38.3 +1.2**
MOX Moxa 77.55 333 *e*P **P 17 25 37.6 +0.4**
comp=Z,3.4nm,0.8s,baz=30,slow=5.6
SIRR Siria 77.57 325 ⇑P **P 17 25 37.6 +0.3**
SMRA Abu-Samra 77.72 293 P **P 17 25 38.4 0.0**
SURR Surduc 77.80 324 ⇑P **P 17 25 38.7 +0.1**
GZR Gura Zlata 77.82 324 ⇑P **P 17 25 39.0 +0.2**
GZR Gura Zlata 77.82 324 ⇑P **P 17 25 39.0 +0.2**
UBBA Unterbreizbach 77.91 334 *e*P **P 17 25 39.4 +0.4**
comp=Z,2.4nm,0.8s,baz=30,slow=5.6
MANZ Manzenberg 77.96 333 *e*P **P 17 25 40.2 +0.8**
comp=Z,1.1nm,1.0s,baz=30,slow=5.6
KASTN Kahler Asten 78.05 335 *e*P **P 17 25 40.8 +0.9**
comp=Z,5.8nm,0.8s,baz=30,slow=5.6
BZS Buzias 78.12 325 ⇓P **P 17 25 40.4 +0.1**
BZS Buzias 78.12 325 ⇓P **P 17 25 40.4 +0.1**
ROTZ Rotzenmuhle 78.12 332 *e*P **P 17 25 41.4 +1.1**
comp=Z,1.0nm,0.9s,baz=30,slow=5.6
BUG Bochum--Univer 78.18 336 *e*P **P 17 25 41.3 +0.8**
comp=Z,9.4nm,0.8s,baz=30,slow=5.6
KHC Kasperske Hory 78.21 331 *e*P **P 17 25 42.1 +1.3**
KHC Kasperske Hory 78.21 331 *e*P **P 17 25 42.1 +1.3**
KHC Kasperske Hory 78.21 331 P **P 17 25 41.2 +0.4**
comp=Z,17nm,1.4s
GEC2 GERESS Array S 78.41 331 *e*P **P 17 25 41.9 -0.1**
comp=Z,2.0nm,0.7s,baz=30,slow=5.6
GERES GERESS Array B 78.41 331 P **P 17 25 42.2 +0.2**
comp=Z,2.6nm,0.8s,baz=35,slow=4.9,SNR=9.1
comp=Z,2.6nm,0.8s
CONA Conrad Observa 78.43 329 *e*P **P 17 25 42.7 +0.6**
comp=Z,24nm,1.8s,SNR=7.6
WET Wettzell 78.43 332 *e*P **P 17 25 42.6 +0.5**
comp=Z,7.5nm,1.0s,baz=30,slow=5.6
MPLH Magyarpolny 78.44 328 P **P 17 25 42.7 +0.6**
comp=Z,44nm,1.5s
RONA Rosalia, Austr 78.46 329 *e*P **P 17 25 43.1 +0.8**
comp=Z,16nm,1.0s,SNR=5.3
GRA1 Grafenberg Arr 78.51 333 IAmb IAmb 17 25 44.6
comp=Z,18nm,0.8s
GRF Grafenberg Arr 78.51 333 *e*P **P 17 25 43.8 +1.4**
comp=Z,14nm,0.8s,baz=30,slow=5.6
GRFO Grafenberg 78.51 333 P **P 17 25 43.6 +1.2**
GRFO IAmb IAmb 17 25 44.5
comp=Z,19nm,0.9s
GRFO Grafenberg 78.51 333 P **P 17 25 43.6 +1.2**
GRFO pmax pmax
comp=Z,19nm,0.9s
BORA Eskisehir 78.64 316 IAmb IAmb 17 25 45.3
comp=Z,17nm,1.0s
MDVR Moldovita 78.76 324 ⇑P **P 17 25 43.8 -0.1**
MORH Mrgy, Hungar 78.82 327 ⇑P **P 17 25 43.8 -0.4**
TNS Taunus Mts 78.91 335 *e*P **P 17 25 45.4 +0.7**
comp=Z,5.6nm,0.7s,baz=30,slow=5.6
MOA Molln 79.06 330 *i* P **P 17 25 46.0 +0.4**
comp=Z,4.4nm,1.0s
ARSA Arzberg 79.12 329 *e*P **P 17 25 46.2 +0.3**
comp=Z,9.4nm,1.4s
MORW Morawa 79.18 208 P **P 17 25 46.7 +0.5**
SMWD Samnorwood 79.25 51 IAmb IAmb 17 25 49.5
comp=Z,16nm,0.8s
BTNL Ternell 79.27 336 *d*P **P 17 25 46.8 +0.3**
MEM Membach 79.28 336 *d*P **P 17 25 47.1 +0.5**
comp=Z,8.8nm,1.0s
BIOA Bad Ischl, Aus 79.42 331 *e*P **P 17 25 48.0 +0.5**
comp=Z,18nm,1.3s,SNR=6.2
BSTI Sart Tilman 79.43 337 *d*P **P 17 25 49.1 +1.8**
BHOU Houvegnez 79.51 336 *d*P **P 17 25 48.2 +0.3**
comp=Z,9.0nm,0.8s
BHOU *dx* x 17 25 51.3
BCLA Clavier 79.65 337 *d*P **P 17 25 49.0 +0.3**
comp=Z,15nm,0.7s
RJOB Jochberg 79.67 331 *e*P **P 17 25 49.5 +0.6**
comp=Z,3.8nm,0.8s,baz=30,slow=5.6
BOVS Bovan 79.69 323 ⇓P **P 17 25 47.9 -1.0**
DOK Doka 79.72 286 P **P 17 25 50.0 +0.4**
SNR=18
BGES Gesves 79.74 337 *d*P **P 17 25 49.3 +0.2**
comp=Z,12nm,0.8s
DMTO DMTO 79.78 285 P **P 17 25 49.8 -0.1**
SOKA Soboth 79.79 329 *e*P **P 17 25 50.0 +0.5**
comp=Z,14nm,0.9s,SNR=5.5
GROS Grobnik 79.80 329 *i* P **P 17 25 49.4 -0.2**
BMRD Maredsous 79.90 337 *d*P **P 17 25 50.4 +0.4**
comp=Z,12nm,0.9s
RCHB Rochefort 79.91 337 *d*P **P 17 25 50.2 +0.2**
LESA Schwarzleotal 79.98 331 *i* P **P 17 25 50.9 +0.3**
comp=Z,11nm,0.8s
RDO Rodhopi 80.00 320 IAmb IAmb 17 25 51.8
comp=Z,22nm,0.9s
KBA Koelnbreinsper 80.05 330 *i* P **P 17 25 51.5 +0.4**
comp=Z,18nm,0.9s,SNR=7.7
OBKA Obir 80.11 329 *i* P **P 17 25 51.6 +0.3**
comp=Z,6.5nm,0.7s
GOLS Golise 80.14 328 *i* P **P 17 25 51.2 -0.2**
DOU Dourbes 80.14 337 *d*P **P 17 25 51.5 +0.2**
MYKA Terra Mystica 80.33 330 *i* P **P 17 25 52.2 -0.2**
comp=Z,6.8nm,0.5s
BLDU Ballidu 80.39 207 P **P 17 25 53.6 +0.9**
WATA Walderalm 80.44 332 *i* P **P 17 25 53.4 +0.3**
comp=Z,14nm,0.9s
WTTA Wattenberg 80.48 332 *i* P **P 17 25 53.8 +0.4**
comp=Z,15nm,0.8s,SNR=7.3
RETA Reutte 80.58 332 *i* P **P 17 25 54.1 +0.3**
comp=Z,16nm,1.1s
MOTA Moosalm 80.59 332 *i* P **P 17 25 54.3 +0.4**
comp=Z,27nm,1.1s
BFO Black Forest 80.62 334 P **P 17 25 53.8 -0.1**
BFO Black Forest 80.62 334 P **P 17 25 53.8 -0.1**
BFO pmax pmax
comp=Z,15nm,1.1s
BFO Black Forest 80.62 334 *e*P **P 17 25 53.9 0.0**
comp=Z,7.0nm,0.9s,baz=30,slow=5.6
UBR Ueberruh 80.62 333 *e*P **P 17 25 54.1 +0.1**
comp=Z,3.3nm,0.7s,baz=30,slow=5.6
APMT Aspermont 80.63 52 IAmb IAmb 17 26 21.9
comp=Z,53nm,1.7s
SQTA Sankt Quirin 80.66 332 *i* P **P 17 25 54.7 +0.4**
comp=Z,13nm,0.8s,SNR=7.8
FETA Feichten 81.00 332 *i* P **P 17 25 55.7 -0.4**
comp=Z,10nm,1.1s
ASF Jabal al Asfar 81.00 307 LR LR 18 06 29.6
comp=Z,64nm,18.1s,baz=213,slow=39
DAVA Damuels 81.04 333 *i* P **P 17 25 56.5 +0.1**
comp=Z,13nm,0.9s
SGCY Sterling City 81.11 54 IAmb IAmb 17 25 59.2
comp=Z,14nm,0.8s
ABTO Aybut 81.17 286 P **P 17 25 57.5 +0.1**
SNR=7.8
MMAI Mount Meron Ar 81.21 308 P **P 17 25 58.4 +1.0**
comp=Z,16nm,0.7s,baz=40,slow=6.6,SNR=20
MMAI LR LR 18 07 40.7
comp=Z,56nm,18.2s,baz=31,slow=40
comp=Z,16nm,0.7s
RAR Rarotonga 81.23 132 LR LR 17 56 53.2
comp=Z,56nm,20.3s,baz=300,slow=32
TXAR Lajitas Array 81.52 57 P **P 17 25 59.7 +0.6**
TXAR Lajitas Array 81.52 57 P **P 17 26 00.2 +1.1**
comp=Z,6.3nm,0.6s,baz=299,slow=4.1,SNR=57
comp=Z,6.3nm,0.6s
TXAR Lajitas Array 81.52 57 P **P 17 25 59.7 +0.6**
CTI Castel Tesino 81.53 331 IAmb IAmb 17 26 04.5
comp=Z,51nm,1.9s
CCM Cathedral Cave 81.67 43 P **P 17 25 59.9 +0.3**
CCM IAmb IAmb 17 26 27.3
comp=Z,23nm,0.9s
CCM Cathedral Cave 81.67 43 P **P 17 25 59.9 +0.3**
CCM pmax pmax
comp=Z,23nm,1.0s
PDG Podgorica 81.70 324 ⇑P **P 17 25 59.8 +0.1**
OZNA Ozona 81.84 54 IAmb IAmb 17 26 26.6
comp=Z,38nm,1.6s
TUE Stuetta 81.93 333 P **P 17 26 01.0 -0.1**
comp=Z,55nm,0.9s
SAND Sanderson 81.98 55 IAmb IAmb 17 26 28.7
comp=Z,60nm,2.0s
RAYN Ar Rayn 82.03 295 P **P 17 26 02.1 +0.3**
RAYN IAmb IAmb 17 26 03.1
comp=Z,19nm,0.8s
RAYN Ar Rayn 82.03 295 P **P 17 26 02.1 +0.3**
RAYN pmax pmax
comp=Z,19nm,0.9s
RAYN Ar Rayn 82.03 295 P **P 17 26 02.4 +0.6**
FNA Florina 82.16 322 IAmb IAmb 17 26 02.8
comp=Z,15nm,0.8s
TIR Tirane 82.34 323 ⇑P **P 17 26 03.0 -0.1**
TIR Tirane 82.34 323 ⇑P **P 17 26 03.0 -0.1**
NWAO Narrogin (SRO) 82.37 206 P **P 17 26 04.2 +1.2**
GHAJ Ghor Haditha 82.40 307 IAmb IAmb 17 26 05.2
comp=Z,24nm,0.8s
BRDY Brady 82.78 53 IAmb IAmb 17 26 32.8
comp=Z,23nm,1.4s
FCAR Ozark Folk Cen 82.93 45 IAmb IAmb 17 26 33.0
comp=Z,24nm,1.1s
MIAR Mount Ida 83.24 47 IAmb IAmb 17 26 35.3
comp=Z,14nm,0.8s
TAOE Nuku Hiva Isla 83.66 109 *e*LR LR 17 52 26.6
comp=Z,96nm,25.8s
PPT Papeete 84.14 122 LR LR 17 58 37.3
comp=Z,30nm,20.5s,baz=334,slow=32
PPT2 Papeete2 84.16 122 *e*S **S 17 36 36.3 +6.8**
comp=Z,937nm,37.0s
PPT2 Papeete2 84.16 122 *e*LR LR 17 52 21.8
comp=Z,237nm,32.5s
SSB Saint Sauveur 84.51 335 IAmb IAmb 17 26 16.2
comp=Z,10nm,0.7s
833A Chaparral WMA, 84.78 55 P **P 17 26 16.0 +0.2**
baz=319
TIP Timpagrande 85.46 324 ⇑P **P 17 26 18.3 -0.8**
URZ Urewera 86.88 157 LR LR 17 57 53.5
comp=Z,43nm,21.2s,baz=74,slow=30
CEST Esterri de Car 87.92 336 IAmb IAmb 17 26 33.4
comp=Z,13nm,0.8s
TBI Tubuai 88.67 125 *e*LR LR 17 54 13.6
comp=Z,831nm,36.0s
KEST Kesra 91.40 327 P **P 17 26 46.8 -0.6**
comp=Z,3.0nm,0.7s,baz=308,slow=20,SNR=2.2
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 92.07 339 P **P 17 26 49.4 -1.0**
comp=Z,1.1nm,0.6s,baz=9.3,slow=4.6,SNR=10
ESDC LR LR 18 17 27.4
comp=Z,76nm,18.2s,baz=9.0,slow=42
comp=Z,1.1nm,0.6s
MDT Midelt 98.70 337 LR LR 18 18 24.0
comp=Z,131nm,18.2s,baz=44,slow=39
VNDA Vanda 122.48 176 PKP **PKiKP 17 32 34.9 +0.2**
comp=Z,1.0nm,0.5s,baz=333,slow=5.5,SNR=7.0
DBIC Dimbokro 123.12 327 PKP **PKPdf 17 32 37.3 -0.4**
comp=Z,3.5nm,0.6s,baz=344,slow=1.0,SNR=6.7
LBTB Lobatse 129.86 273 **PKiKP 17 32 50.8 -0.3**
LBTB Lobatse 129.86 273 PKIKP **PKiKP 17 32 50.8 -0.3**
BOSA Boshof 132.28 270 PKP **PKiKP 17 32 55.5 -0.5**
comp=Z,0.9nm,0.5s,baz=0.0,slow=0.0,SNR=4.8
BOSA SKPbc **SKPbc 17 36 11.0 -1.3**
comp=Z,1.7nm,0.8s,baz=34,slow=3.6,SNR=3.9
QSPA South Pole Qui 134.66 180 **PKiKP 17 32 59.3 -0.2**
QSPA South Pole Qui 134.66 180 PKP **PKiKP 17 32 59.2 -0.3**
comp=Z,4.8nm,0.6s,baz=339,slow=0.4,SNR=12
QSPA SKPbc **SKPbc 17 36 18.9 +0.1**
comp=Z,1.3nm,0.7s,baz=324,slow=1.7,SNR=6.1
LPAZ La Paz 138.38 58 PKP **PKPdf 17 33 06.7 -0.5**
comp=Z,1.4nm,0.9s,baz=22,slow=6.2,SNR=4.0
LPAZ SKPbc **SKPbc 17 36 32.2 -0.2**
comp=Z,1.9nm,1.0s,baz=360,slow=9.0,SNR=3.7
PB09 IPOC Station P 141.79 65 **PKPdf 17 33 11.7 -1.0**
H03N2 Juan Fernandez 142.37 89 T T 20 12 19.4
baz=304,slow=77,SNR=47
H03N3 Juan Fernandez 142.38 89 T T 20 12 20.2
baz=304,slow=77,SNR=56
H03N1 Juan Fernandez 142.39 89 T T 20 12 16.9
baz=304,slow=77,SNR=55
ELIB Princess Elisa 142.61 205 *d*PKPdf **PKPdf 17 33 09.5 -3.1**
PB14 IPOC Station P 143.00 70 **PKPdf 17 33 14.4 -0.5**
NBAN Anadia - AL 144.68 7 *e*P PKPbc 17 33 17.2 +0.4
NBLA Lagarto - SE 145.83 10 *e*P **PKPbc 17 33 20.1 -0.3**
ARAG Araguaiana, MT 146.43 36 *e*P **PKPbc 17 33 22.1 0.0**
NVL N'lazarevskaya 146.48 205 *e*PKP2 **PKPbc 17 33 20.8 +0.1**
NVL pmax pmax
comp=Z,22nm,1.0s
AGUA GUANDACOL 147.45 74 *i* P **PKPbc 17 33 24.0 -0.8**
ACCO Cerro Coronel 147.72 76 *i* P **PKPbc 17 33 26.7 +0.9**
BDFB Brasilia 147.84 30 **PKiKP 17 33 27.3 -0.8**
BDFB Brasilia 147.84 30 PKPbc **PKPbc 17 33 26.9 +0.6**
comp=Z,6.6nm,0.7s,baz=22,slow=3.8,SNR=8.4
BDFB Brasilia 147.84 30 PKP2 **PKiKP 17 33 27.3 -0.8**
RTLS Leoncito 148.27 79 *e*P **PKPbc 17 33 27.4 +0.2**
TROLL Troll, Antarti 148.29 200 PKPdf **PKiKP 17 33 26.7 -0.7**
TROLL Troll, Antarti 148.29 200 ⇓PKPdf **PKiKP 17 33 26.7 -0.7**
comp=Z,1μm,0.7s
AUSP Uspallata 148.45 79 *e*P **PKiKP 17 33 28.7 -0.4**
ACLC CERRO LA CRUZ 148.46 73 *i* P **PKPbc 17 33 28.1 +0.5**
ASAL Salagasta 149.04 79 *e*P **PKiKP 17 33 29.8 -0.3**
ACHE Chepes 149.72 75 *i* P **PKiKP 17 33 31.2 -0.4**
SNAA Sanae 149.75 198 PKPdf **PKPbc 17 33 29.6 +0.2**
SNAA Sanae 149.75 198 ⇓PKPdf **PKPbc 17 33 29.6 +0.2**
comp=Z,262nm,0.9s
SNAA Sanae 149.75 198 PKPbc **PKPbc 17 33 29.5 +0.2**
comp=Z,23nm,1.1s,baz=200,slow=1.9,SNR=20
VNA2 Neumayer--Watz 151.28 197 PKPdf **PKiKP 17 33 33.5 +0.1**
baz=139,slow=1.9
VNA2 Neumayer--Watz 151.28 197 ⇓PKPdf **PKiKP 17 33 33.5 +0.1**
comp=Z,48nm,0.6s,baz=139,slow=1.9
VNA3 Neumayer Olymp 151.46 195 PKPdf **PKiKP 17 33 33.7 -0.1**
VNA3 Neumayer Olymp 151.46 195 ⇓PKPdf **PKiKP 17 33 33.7 -0.1**
comp=Z,21nm,0.7s
PLCA Paso Flores 151.63 95 **PKiKP 17 33 35.2 +0.1**
PLCA Paso Flores 151.63 95 PKPbc **PKiKP 17 33 35.4 +0.2**
comp=Z,6.7nm,0.9s,baz=238,slow=2.7,SNR=15
VNA1 Neumayer--Stat 151.67 196 PKPdf **PKiKP 17 33 34.3 +0.1**
VNA1 Neumayer--Stat 151.67 196 ⇓PKPdf **PKiKP 17 33 34.3 +0.1**
comp=Z,26nm,0.9s
CPUP Villa Florida 152.49 56 PKP **PKPdf 17 33 30.2 +0.2**
comp=Z,1.0nm,0.5s,baz=335,slow=5.8,SNR=3.0
CPUP PKPab **PKPab 17 33 47.8 +0.1**
comp=Z,0.8nm,0.5s,baz=341,slow=2.6,SNR=5.4
TBOT Tacuaremb 157.16 63 *e*P **PKPdf 17 33 38.0 +1.8**

IDC ***25*** *17:30:53.1±1.2,28°.75N×67°.26E,h0km,mb3.8/13, mbtmp3.9/15,ML3.9/2,MS3.6/2,Error ellipse: s-maj=25.6km s-min=22.9km az=80.0*
MOS ***25*** *17:30:54.8±1.0,28°.89N×67°.42E,h12km,mb4.2/12,Error ellipse: s-maj=13.1km s-min=5.9km az=75.4*
BJI ***25*** *17:30:59.9,28°.96N×68°.15E,h12km,mB4.7/1,mb4.3/18*
ISC 25 17:30:57.1±0.9,29°.0N±0°.1×67°.44E±0°.09,h10km,n51,
σ1936/46,mb4.0/24,7C,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**5.71**	**13**	P		**Pn**		**17 32 25.2**	**+3.1**
NIL	**Nilore**	**6.81**	**45**	P		**Pn**		**17 32 39.0**	**+1.9**
CHGR	**Chuyangaron**	**9.75**	**8**	P		**Pn**		**17 33 18.5**	**+1.0**
WSAR	**Wadi Sarin**	**9.76**	**236**	Pn		Pn		17 33 11.2	-6.4
	1.5nm,0.3s,baz=93,slow=10,SNR=16								
WSAR				Sn		Sn		17 34 49.7	-18
	1.3nm,0.3s,baz=271,slow=18,SNR=8.9								
	3.6nm,0.4s								
DZET	**Dzherino**	**9.87**	**6**	P		**Pn**		**17 33 20.3**	**+1.3**
BTK	**Batken**	**11.39**	**13**	P		**Pn**		**17 33 42.7**	**+2.8**
KSH	**Kashi**	**12.65**	**32**	P		Pn		17 33 53.5	-3.7
KSH				sP				17 34 01.5	
KSH				S		Sn		17 36 09.0	-9.2
KSH				pmax		pmax			
	comp=Z,12nm,0.6s								
TRKS	**Terek-Say**	**12.88**	**13**	P		Pn		17 33 58.7	-1.6
ARK	**Arkit**	**13.30**	**15**	P		**Pn**		**17 34 06.1**	**0.0**
ARLS	**Aral**	**14.01**	**22**	P		**Pn**		**17 34 15.3**	**-0.5**
AAK	**Ala-Archa**	**14.77**	**21**	Pn		**Pn**		**17 34 26.0**	**-0.2**
	0.3nm,0.3s,baz=194,slow=11,SNR=8.7								
AAK				Sn		**Sn**		**17 37 07.7**	**-2.2**
	0.1nm,0.3s,baz=140,slow=16,SNR=1.7								
	2.7nm,0.7s								
AAK	**Ala-Archa**	**14.77**	**21**	*ce*P		**Pn**		**17 34 25.6**	**-0.6**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KDJ	**Kajisay**	**15.31**	**28**	P		**Pn**		**17 34 37.6**	**+4.2**
RAYN	**Ar Rayn**	**20.40**	**260**	P		**P**		**17 35 33.6**	**-0.7**
LSA	**Lhasa**	**20.68**	**82**	P		**P**		**17 35 36.0**	**-1.8**
LSA				pmax		pmax			
	comp=Z,12nm,1.0s								
LSA	**Lhasa**	**20.68**	**82**	P		**P**		**17 35 38.4**	**+0.6**
MAKZ	**Makanchi**	**21.11**	**29**	P		**P**		**17 35 42.6**	**+0.8**
MK31	**Makanchi Array**	**21.23**	**29**	*ce*P		**P**		**17 35 43.7**	**+0.6**
MKAR	**Makanchi Array**	**21.23**	**29**	P		**P**		**17 35 42.7**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=209,slow=11,SNR=57								
	comp=Z,4.1nm,0.7s								
MKAR	**Makanchi Array**	**21.23**	**29**	*e*P		**P**		**17 35 44.0**	**+0.9**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.7s								
WMQ	**Urumqi**	**21.94**	**42**	*e*P		**P**		**17 35 52.8**	**+2.0**
WMQ				pmax		pmax			
	comp=Z,17nm,1.1s								
SHL	**Shillong**	**21.98**	**93**	P		**P**		**17 35 51.6**	**+0.1**
AKTO	**Aktyubinsk**	**22.58**	**344**	P		**P**		**17 35 55.9**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=186,slow=8.2,SNR=11								
	comp=Z,0.7nm,0.5s								
KURBB	**Kurchatov Arra**	**23.18**	**18**	P		**P**		**17 36 03.4**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=209,slow=10,SNR=11								
	comp=Z,1.3nm,0.7s								
KURK	**Kurchatov**	**23.29**	**18**	*i* P		**P**		**17 36 02.9**	**-1.9**
KURK				pmax		pmax			
	comp=Z,13nm,2.3s								
BVAR	**Borovoye Array**	**24.12**	**4**	P		**P**		**17 36 12.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=167,slow=10,SNR=6.9								
	comp=Z,1.2nm,0.6s								
BRVK	**Borovoye**	**24.14**	**4**	*ce*P		**P**		**17 36 12.3**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KIV	**Kislovodsk**	**24.76**	**314**	*e*P		**P**		**17 36 19.3**	**+0.3**
KIV				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BELG	**Belogornoye**	**27.62**	**333**	*i* P		**P**		**17 36 44.4**	**-0.1**
BELG				pmax		pmax			
	comp=Z,8.0nm,2.8s								
ZALV	**Zalesovo Beam**	**27.98**	**22**	P		**P**		**17 36 47.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=230,slow=12,SNR=3.6								
	comp=Z,0.3nm,0.4s								
GTA	**Gaotai**	**28.59**	**60**	*e*P		**P**		**17 36 54.0**	**+0.4**
GTA				pP		sP		17 37 01.0	+3.0
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
SONM	**Songino Array**	**35.39**	**47**	P		**P**		**17 37 53.8**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=251,slow=9.1,SNR=11								
	comp=Z,1.3nm,0.8s								
SONM	**Songino Array**	**35.39**	**47**	*e*P		**P**		**17 37 54.3**	**+1.2**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ULN	**Ulaanbaatar**	**35.82**	**47**	*i* P		**P**		**17 37 57.2**	**+0.4**
ULN				pmax		pmax			
	comp=Z,1.0nm,1.0s								
KOLS	**Kolonicke sedl**	**39.67**	**313**	*e*P		**P**		**17 38 30.2**	**+1.0**
KOLS	**Kolonicke sedl**	**39.67**	**313**	*e*P		**P**		**17 38 30.2**	**+1.0**
XLT	**XiLinHaoTe**	**41.27**	**55**	*e*P		**P**		**17 38 43.8**	**+1.2**
XLT				pP		sP		17 38 54.0	+6.9
XLT				pmax		pmax			
	comp=Z,7.0nm,0.9s								
NRIK	**Noril'sk**	**42.04**	**11**	P		**P**		**17 38 49.4**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=200,slow=6.6,SNR=6.3								
	comp=Z,1.6nm,0.6s								
NRIK	**Noril'sk**	**42.04**	**11**	*ce*P		**P**		**17 38 48.9**	**+0.5**
NRIK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FINES	**FINESS Array B**	**42.38**	**332**	P		**P**		**17 38 50.0**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=120,slow=7.3,SNR=3.5								
	comp=Z,1.8nm,0.9s								
FINES	**FINESS Array B**	**42.38**	**332**	*e*P		**P**		**17 38 52.7**	**+1.5**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
GERES	**GERESS Array B**	**45.23**	**311**	LR		LR		18 01 49.4	
	comp=Z,80nm,20.4s,baz=14,slow=41								
ARCES	**ARCESS Array B**	**47.12**	**341**	P		**P**		**17 39 28.4**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=111,slow=6.6,SNR=6.8								
	comp=Z,3.8nm,0.8s								
KSRS	**Korea Array**	**50.55**	**64**	P		**P**		**17 39 55.3**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=276,slow=7.5,SNR=10.0								
	comp=Z,2.7nm,0.8s								
YAK	**Yakutsk**	**51.87**	**32**	*ce*P		**P**		**17 40 04.1**	**-1.2**
YAK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**53.85**	**20**	*ce*P		**P**		**17 40 18.8**	**-0.9**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.3s								
SEY	**Seymchan**	**62.36**	**31**	*ce*P		**P**		**17 41 18.8**	**-0.7**
SEY				pmax		pmax			
	comp=Z,7.0nm,1.7s								
ASAR	**Alice Springs**	**82.63**	**122**	P		P		17 43 18.3	-2.6
	comp=Z,0.5nm,0.6s,baz=310,slow=4.9,SNR=16								
	comp=Z,0.5nm,0.6s								
ILAR	**Eielson Array**	**82.79**	**14**	P		P		17 43 19.2	-1.9
	comp=Z,0.2nm,0.6s,baz=314,slow=6.0,SNR=4.5								
	comp=Z,0.2nm,0.6s								
YKA	**Yellowknife Ar**	**88.83**	**1**	P		**P**		**17 43 50.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=348,slow=4.2,SNR=4.7

σ2⚲20/93, **6C-2D, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.92**	**52**	⇓*i*P	**Pn**	**17 36 26.8**	**+2.3**
PFVI				*e*S	**Sn**	**17 36 59.3**	**-0.3**
PFVI				*i* AML	AML	17 37 10.4	
PFVI				*i* AML	AML	17 37 10.8	
PFVI				*i* AML	AML	17 37 11.2	
PFVI	**Vila Bisbo**	**2.92**	**52**	Pn	**Pn**	**17 36 26.8**	**+2.3**
PFVI				Sn	**Sn**	**17 36 59.3**	**-0.3**
MORF	**Marmelete**	**3.13**	**51**	*e*P	**Pn**	**17 36 29.6**	**+2.1**
MORF	**Marmelete**	**3.13**	**51**	*e*P	**Pn**	**17 36 29.8**	**+2.4**
MORF				*e*S	**Sn**	**17 37 04.2**	**-0.8**
MORF				*i* AML	AML	17 37 07.5	
MORF				*i* AML	AML	17 37 10.3	
MORF				*i* AML	AML	17 37 10.7	
PTEO	**Sao Teotonio**	**3.24**	**47**	*e*P	**Pn**	**17 36 31.0**	**+2.1**
PTEO				*e*S	**Sn**	**17 37 06.5**	**-1.1**
PTEO				*i* AML	AML	17 37 11.4	
PTEO				*i* AML	AML	17 37 14.9	
PTEO				*i* AML	AML	17 37 15.0	
PBDV	**Barranco-do-Ve**	**3.58**	**57**	*e*P	**Pn**	**17 36 36.1**	**+2.5**
PBDV				*e*S	**Sn**	**17 37 15.5**	**-0.4**
PBDV				*i* AML	AML	17 37 20.4	
PBDV				*i* AML	AML	17 37 23.0	
PBDV				*i* AML	AML	17 37 28.2	
PCVE	**Castro Verde**	**3.72**	**52**	*e*P	**Pn**	**17 36 37.9**	**+2.4**
PCVE				*e*S	**Sn**	**17 37 18.8**	**-0.6**
PCVE				*i* AML	AML	17 37 23.0	
PCVE				*i* AML	AML	17 37 24.1	
PCVE				*i* AML	AML	17 37 28.6	
PCVE	**Castro Verde**	**3.72**	**52**	Pn	**Pn**	**17 36 38.0**	**+2.5**
PCVE				Sn	**Sn**	**17 37 18.6**	**-0.8**
MESJ	**Messejana**	**3.74**	**48**	*e*P	**Pn**	**17 36 37.7**	**+2.0**
MESJ				*e*S	**Sn**	**17 37 17.1**	**-2.7**
MESJ				IAML		17 37 19.5	
	comp=E,1.8nm,0.1s						
MESJ	**Messejana**	**3.74**	**48**	*e*P	**Pn**	**17 36 37.7**	**+2.0**
MESJ				*e*S	**Sn**	**17 37 18.7**	**-1.1**
MESJ				*i* AML	AML	17 37 22.6	
MESJ				*i* AML	AML	17 37 22.9	
MESJ				*i* AML	AML	17 37 23.3	
PVAQ	**Vaqueiros**	**3.81**	**57**	*e*P	**Pn**	**17 36 39.1**	**+2.4**
PVAQ				*e*S	**Sn**	**17 37 21.0**	**-0.5**
PVAQ				*i* AML	AML	17 37 22.5	
PVAQ	**Vaqueiros**	**3.81**	**57**	Pn	**Pn**	**17 36 39.1**	**+2.4**
PVAQ				Sn	**Sn**	**17 37 20.4**	**-1.1**
EGRO	**El Granado**	**4.04**	**56**	Pn	**Pn**	**17 36 42.3**	**+2.5**
EGRO				Sn	**Sn**	**17 37 25.9**	**-1.2**
EGRO	**El Granado**	**4.04**	**56**	P	**Pn**	**17 36 42.2**	**+2.5**
EGRO				⇑*i*Vmb_V		17 36 47.0	
	comp=E,275nm,SNR=2.2						
EGRO				S	**Sn**	**17 37 26.5**	**-0.6**
PBEJ	**Beja**	**4.07**	**48**	⇓*i*P	**Pn**	**17 36 42.1**	**+1.8**
PBEJ				*e*S	**Sn**	**17 37 26.6**	**-1.5**
PBEJ				*i* AML	AML	17 37 28.2	
PBEJ				*i* AML	AML	17 37 29.5	
PBEJ				*i* AML	AML	17 37 30.2	
PMAFR	**Mafra**	**4.07**	**28**	*e*P	**Pn**	**17 36 41.6**	**+1.3**
PMAFR				*e*S	**Sn**	**17 37 26.0**	**-2.1**
PMAFR				*i* AML	AML	17 37 26.6	
PMAFR				*i* AML	AML	17 37 26.7	
PMAFR	**Mafra**	**4.07**	**28**	Pn	**Pn**	**17 36 41.5**	**+1.2**
PMAFR				Sn	**Sn**	**17 37 26.0**	**-2.1**
EVO	**Evora**	**4.33**	**42**	*e*P	**Pn**	**17 36 46.5**	**+2.6**
EVO				*e*S	**Sn**	**17 37 33.3**	**-1.1**
EVO				*i* AML	AML	17 37 34.3	
EVO				*i* AML	AML	17 37 35.7	
EVO				*i* AML	AML	17 37 36.1	
EVO	**Evora**	**4.33**	**42**	Pn	**Pn**	**17 36 46.1**	**+2.3**
EVO				Sn	**Sn**	**17 37 31.8**	**-2.5**
ZHG	**ZHG**	**4.61**	**113**	P	**Pn**	**17 36 50.0**	**+2.2**
ZHG	**ZHG**	**4.61**	**113**	S	**Sn**	**17 37 39.7**	**-1.6**
PMTG	**Montargil**	**4.62**	**36**	*e*P	**Pn**	**17 36 49.4**	**+1.5**
PMTG				*e*S	**Sn**	**17 37 39.0**	**-2.6**
PMTG				*i* AML	AML	17 37 41.6	
PMTG				*i* AML	AML	17 37 42.4	
PMTG				*i* AML	AML	17 37 43.0	
PBAR	**Barrancos**	**4.68**	**52**	*e*P	**Pn**	**17 36 51.0**	**+2.3**
PBAR				*e*S	**Sn**	**17 37 41.7**	**-1.3**
PBAR				*i* AML	AML	17 37 46.1	
PBAR				*i* AML	AML	17 37 49.5	
PBAR				*i* AML	AML	17 37 51.4	
PBAR	**Barrancos**	**4.68**	**52**	Pn	**Pn**	**17 36 51.0**	**+2.3**
PBAR				Sn	**Sn**	**17 37 40.8**	**-2.3**
EMIN	**Mina Concepcio**	**4.71**	**58**	Pn	**Pn**	**17 36 50.8**	**+1.7**
EMIN				Sn	**Sn**	**17 37 41.4**	**-2.3**
EMIN	**Mina Concepcio**	**4.71**	**58**	P	**Pn**	**17 36 50.9**	**+1.8**
EMIN				⇑*i*Vmb_V		17 36 59.8	
	comp=E,142nm,SNR=1.6						
EMIN				S	**Sn**	**17 37 45.1**	**+1.4**
PSBE	**So Bento**	**4.74**	**28**	*e*P	**Pn**	**17 36 51.4**	**+1.8**
PESTR	**Estremoz**	**4.80**	**42**	*e*P	**Pn**	**17 36 52.3**	**+2.0**
PESTR				*e*S	**Sn**	**17 37 44.2**	**-1.8**
PESTR	**Estremoz**	**4.80**	**42**	Pn	**Pn**	**17 36 51.5**	**+1.1**
PESTR				Sn	**Sn**	**17 37 44.7**	**-1.3**
ESPR	**Espera**	**4.97**	**71**	Pn	**Pn**	**17 36 55.5**	**+2.9**
ESPR	**Espera**	**4.97**	**71**	P	**Pn**	**17 36 55.5**	**+2.9**
ESPR				S	**Sn**	**17 37 49.6**	**-0.5**
EBAD	**Badajoz**	**5.05**	**47**	Pn	**Pn**	**17 36 55.2**	**+1.4**
EBAD				Sn	**Sn**	**17 37 49.9**	**-2.3**
EBAD	**Badajoz**	**5.05**	**47**	P	**Pn**	**17 36 55.2**	**+1.4**
EBAD				⇑*i*Vmb_V		17 36 56.1	
	comp=E,219nm,SNR=2.3						
EBAD				S	**Sn**	**17 37 50.3**	**-1.9**
OUK	**Oukaimeden**	**5.25**	**141**	P	**Pn**	**17 36 59.2**	**+2.4**
OUK	**Oukaimeden**	**5.25**	**141**	S	**Sn**	**17 37 55.1**	**-2.5**
PMRV	**Marv??o**	**5.31**	**39**	*e*P	**Pn**	**17 36 59.0**	**+1.6**
PMRV				*e*S	**Sn**	**17 37 55.3**	**-3.4**
PMRV				*i* AML	AML	17 37 57.4	
PMRV				*i* AML	AML	17 37 59.4	
PMRV				*i* AML	AML	17 37 59.5	
PCAS	**Casmilo, Conde**	**5.33**	**28**	*e*P	**Pn**	**17 36 58.3**	**+0.8**
PCAS				*e*S	**Sn**	**17 37 55.4**	**-3.6**
TTIG	**Tnine Tigouga,**	**5.54**	**149**	P	**Pn**	**17 37 03.5**	**+2.9**
ECAB	**El Cabril**	**5.73**	**60**	Pn	**Pn**	**17 37 05.3**	**+2.2**
ECAB				Sn	**Sn**	**17 38 06.8**	**-2.2**
ECAB	**El Cabril**	**5.73**	**60**	P	**Pn**	**17 37 05.2**	**+2.0**
ECAB				⇑*i*Vmb_V		17 37 12.7	
	comp=E,99nm,SNR=1.7						
ECAB				S	**Sn**	**17 38 06.8**	**-2.2**
IFR	**Ifrane**	**5.74**	**107**	Pn	**Pn**	**17 37 05.4**	**+1.9**
IFR				Sn	**Sn**	**17 38 05.8**	**-3.7**
TIO	**Tiouine**	**5.79**	**139**	Pn	**Pn**	**17 37 06.4**	**+2.3**
TIO				Sn	**Sn**	**17 38 07.9**	**-2.7**
TIO	**Tiouine**	**5.79**	**139**	P	**Pn**	**17 37 06.5**	**+2.5**
TIO	**Tiouine**	**5.79**	**139**	S	**Sn**	**17 38 06.6**	**-4.0**
OUZM	**OUZ**	**6.08**	**136**	P	**Pn**	**17 37 10.1**	**+2.0**
OUZM	**OUZ**	**6.08**	**136**	S	**Sn**	**17 38 14.1**	**-3.6**
MD31	**MD31**	**6.28**	**111**	P	**Pn**	**17 37 13.5**	**+2.7**
MD31	**MD31**	**6.28**	**111**	S	**Sn**	**17 38 19.1**	**-3.6**
EADA	**Adamuz**	**6.37**	**62**	Pn	**Pn**	**17 37 14.0**	**+2.1**
EADA				Sn	**Sn**	**17 38 20.5**	**-4.3**
EADA	**Adamuz**	**6.37**	**62**	P	**Pn**	**17 37 11.8**	**-0.1**
EADA				⇑*i*Vmb_V		17 37 14.9	
	comp=E,133nm,SNR=2.2						
EADA				S	**Sn**	**17 38 22.6**	**-2.1**
MDT	**Midelt**	**6.42**	**111**	P	**Pn**	**17 37 15.5**	**+2.8**
MDT	**Midelt**	**6.42**	**111**	S	**Sn**	**17 38 23.5**	**-2.5**
ELOB	**Lobios**	**7.09**	**23**	P	**Pn**	**17 37 22.9**	**+1.0**
ELOB				⇑*i*Vmb_V		17 37 29.1	
	comp=E,148nm,SNR=1.5						
ELOB				S	**Sn**	**17 38 39.7**	**-2.8**
PSIM	**Granatula de C**	**7.23**	**59**	P	**Pn**	**17 37 25.8**	**+2.1**
PSIM				S	**Sn**	**17 38 44.0**	**-1.9**
GUD	**Guadarrama**	**7.95**	**46**	P	**Pn**	**17 37 35.1**	**+1.4**

NEIC ***25*** *17:43:19.5±1.5, 37.°44N×0.°08×20.°31E±0.°06, h10km±2km, mb4.3/2, Error ellipse: s-maj=14.1km s-min=7.6km az=199.0*
THE ***25*** *17:43:20.5, 37.°44N×20.°34E, h0km±2km, ML3.5/8, Error ellipse: s-maj=3.3km s-min=0.8km az=228.0*
ATH ***25*** *17:43:20.8, 37.°48N×20.°31E, h9km±2km, ML3.5/13,*
Manual Solution by F.Xalaris First location: 2019/02/25 17:44:19, This location: 2020/09/06 13:33:11 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
IDC ***25*** *17:43:22.4±3.3, 37.°25N×20.°18E, h55km±26km, mb3.4/6, mbtmp3.6/9, ML3.8/3, Error ellipse: s-maj=53.2km s-min=16.3km az=39.0*

ISC 25 17:43:19.1±1.5, 37.°43N±0.°04×20.°24E±0.°04, h15km±8km, n78, σ1⚲10/95, mb3.9/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.51**	**63**	P	**Pg**	**17 43 29.3**	**+0.1**
KRI1				S	**Sg**	**17 43 35.4**	**-0.7**
LTHK	**Lithakia**	**0.55**	**60**	P	**Pg**	**17 43 29.7**	**-0.2**
LTHK				S	**Sg**	**17 43 36.4**	**-0.9**
	22μm,0.3s						
LTHK	**Lithakia**	**0.55**	**60**	P	**Pg**	**17 43 30.2**	**+0.3**
LTHK				S	**Sg**	**17 43 36.3**	**-0.9**
ORTH	**Orthonies,Zaky**	**0.55**	**41**	P	**Pg**	**17 43 30.3**	**+0.3**
ORTH				S	**Sg**	**17 43 36.6**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.60**	**50**	P	**Pg**	**17 43 31.1**	**+0.2**
KYPS				S	**Sg**	**17 43 38.0**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.73**	**22**	P	**Pg**	**17 43 33.6**	**+0.2**
PSDA				S	**Sb**	**17 43 43.4**	**0.0**
	5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.73**	**22**	P	**Pb**	**17 43 33.9**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.77**	**33**	P	**Pg**	**17 43 34.2**	**+0.2**
RTZL				S	**Sb**	**17 43 45.0**	**+0.6**
	2μm,0.9s						
VLS	**Valsamata**	**0.79**	**20**	P	**Pg**	**17 43 34.8**	**+0.3**
VLS				S	**Sb**	**17 43 45.7**	**+0.5**
	4μm,0.5s						
VLS	**Valsamata**	**0.79**	**20**	P	**Pg**	**17 43 34.6**	**+0.1**
VLS				S	**Sg**	**17 43 44.4**	**-0.6**
DMLN	**Damoulianata-K**	**0.81**	**7**	P	**Pb**	**17 43 35.5**	**+0.6**
DMLN				S	**Sn**	**17 43 47.5**	**-0.4**
	8μm,0.5s						
DMLN	**Damoulianata-K**	**0.81**	**7**	P	**Pb**	**17 43 35.6**	**+0.7**
CLEM	**Kyllini,Ilia,G**	**0.84**	**57**	P	**Pb**	**17 43 35.7**	**+0.3**
FSK	**Fiskardo**	**1.06**	**14**	P	**Pb**	**17 43 39.2**	**+0.1**
FSK				S	**Sn**	**17 43 55.6**	**+1.8**
	2μm,0.6s						
FSK	**Fiskardo**	**1.06**	**14**	P	**Pb**	**17 43 39.6**	**+0.6**
FSK				S	**Sg**	**17 43 52.9**	**-0.4**
RLS	**Riolos of Patr**	**1.16**	**57**	P	**Pb**	**17 43 40.6**	**-0.1**
RLS	**Riolos of Patr**	**1.16**	**57**	P	**Pb**	**17 43 40.7**	**-0.1**
AMT	**Artemida-Makis**	**1.17**	**85**	P	**Pb**	**17 43 41.4**	**+0.4**
AMT				S	**Sn**	**17 43 56.5**	**-0.3**
EVGI	**Lefkada island**	**1.23**	**15**	P	**Pb**	**17 43 42.6**	**+0.5**
EVGI	**Lefkada island**	**1.23**	**15**	P	**Pg**	**17 43 42.9**	**+0.1**
DRO	**Drossia**	**1.28**	**66**	P	**Pb**	**17 43 43.1**	**+0.3**
DRO				S	**Sg**	**17 44 00.6**	**+0.3**
	2μm,0.5s						
DRO	**Drossia**	**1.28**	**66**	P	**Pg**	**17 43 43.5**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.28**	**12**	P	**Pb**	**17 43 43.7**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.28**	**12**	P	**Pb**	**17 43 43.6**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.33**	**16**	P	**Pb**	**17 43 44.2**	**+0.5**
ITM	**Ithomi**	**1.37**	**100**	Pn	**Pn**	**17 43 44.2**	**+0.5**
ITM	**Ithomi**	**1.37**	**100**	P	**Pn**	**17 43 44.6**	**+0.9**
ITM				S	**Sg**	**17 44 03.9**	**+0.7**
	702nm,0.7s						
ITM	**Ithomi**	**1.37**	**100**	P	**Pb**	**17 43 44.9**	**+0.5**
ITM				S	**Sg**	**17 44 03.5**	**+0.3**
LKD2	**Lefkada island**	**1.39**	**14**	P	**Pb**	**17 43 45.4**	**+0.5**
LKD2	**Lefkada island**	**1.39**	**14**	P	**Pg**	**17 43 45.9**	**-0.1**
TSLK	**Tsoukalades, L**	**1.43**	**13**	P	**Pg**	**17 43 47.0**	**+0.4**
TSLK	**Tsoukalades, L**	**1.43**	**13**	P	**Pg**	**17 43 46.7**	**+0.1**
PVO	**Paravola**	**1.56**	**40**	P	**Pb**	**17 43 47.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.63**	**67**	P	**Pb**	**17 43 49.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.63**	**67**	P	**Pb**	**17 43 48.9**	**0.0**
EFP	**Efpalio**	**1.65**	**52**	P	**Pb**	**17 43 49.2**	**0.0**
GUR	**Goura**	**1.74**	**73**	P	**Pb**	**17 43 50.9**	**+0.1**
GUR	**Goura**	**1.74**	**73**	P	**Pb**	**17 43 50.4**	**-0.5**
ANX	**Ano Chora**	**1.76**	**48**	P	**Pb**	**17 43 51.4**	**+0.2**
IGT	**Igoumenitsa**	**2.10**	**2**	P	**Pb**	**17 43 56.2**	**-0.7**
KEK	**Kerkira**	**2.30**	**351**	Pn	**Pn**	**17 43 56.8**	**+0.2**
KEK	**Kerkira**	**2.30**	**351**	P	**Pb**	**17 43 59.8**	**-0.5**
THL	**Klokotos Trika**	**2.54**	**33**	P	**Pn**	**17 44 02.0**	**+2.2**
LSK	**Leskovik**	**2.73**	**6**	P	**Pn**	**17 44 05.6**	**+3.1**
SCTE	**Santa Cesarea**	**2.98**	**333**	Pn	**Pn**	**17 44 05.1**	**-0.7**
LIT	**Litokhoron**	**3.19**	**33**		**Pn**	**17 44 09.1**	**+0.3**
KBN	**Korca**	**3.21**	**7**	Pn	**Pn**	**17 44 09.4**	**+0.3**
TIP	**Timpagrande**	**3.25**	**304**	Pn	**Pn**	**17 44 11.9**	**+2.3**
FNA	**Florina**	**3.46**	**14**		**Pn**	**17 44 12.6**	**+0.1**
FNA	**Florina**	**3.46**	**14**	P	**Pn**	**17 44 15.2**	**+2.7**
CEL	**Celeste**	**3.54**	**285**	Pn	**Pn**	**17 44 15.4**	**+1.9**
OHR	**Ohrid**	**3.70**	**7**	*i* Pn	**Pg**	**17 44 31.3**	**+1.3**
TIR	**Tirane**	**3.92**	**356**	Pn	**Pn**	**17 44 16.1**	**-2.6**
VAY	**Valandovo**	**4.28**	**24**	*i* Pn	**Pn**	**17 44 26.2**	**+2.5**
CUC	**Castrocucco**	**4.30**	**308**	Pn	**Pn**	**17 44 22.8**	**-1.3**
IDI	**Anoyia**	**4.32**	**118**	P	**Pn**	**17 44 25.0**	**+0.7**
	16nm,0.8s,baz=318,slow=14,SNR=1.4						
IDI				S	**Sn**	**17 45 14.3**	**-0.2**
	18nm,0.8s,baz=193,slow=23,SNR=1.4						
PUK	**Puka**	**4.61**	**357**	Pn	**Pn**	**17 44 27.0**	**-1.4**
RAFF	**Raffo Rosso**	**4.69**	**269**	Pn	**Pn**	**17 44 31.6**	**+2.2**
PEHC	**Pehcevo**	**4.80**	**24**	*i* Pn	**Pn**	**17 44 33.3**	**+2.4**
RDO	**Rodhopi**	**5.53**	**46**	Pn	**Pn**	**17 44 40.9**	**0.0**
SGRT	**San Giovanni R**	**5.54**	**323**	Pn	**Pn**	**17 44 42.2**	**+1.1**
FDMO	**Fiordimonte**	**7.83**	**318**	Pn	**Pn**	**17 45 12.8**	**+0.4**
MLR	**Muntele Rosu**	**9.12**	**26**		**Pn**	**17 45 29.5**	**-0.7**
MLR	**Muntele Rosu**	**9.12**	**26**	P	**Pn**	**17 45 33.1**	**+2.9**
	0.5nm,0.3s,baz=199,slow=5.5,SNR=5.3						
BURAR	**Bucovina Array**	**10.81**	**18**	Pn	**Pn**	**17 45 53.7**	**+0.3**
DAVOX	**Davos/Dischmat**	**12.09**	**324**	P	**Pn**	**17 46 14.9**	**+3.9**
	0.1nm,0.3s,baz=150,slow=17,SNR=2.7						
	1.4nm,0.6s						
AKASG	**Malin Array Be**	**14.74**	**23**	P	**P**	**17 46 51.7**	**-1.2**
	0.5nm,0.3s,baz=211,slow=9.5,SNR=4.6						
	0.5nm,0.5s						
PABE	**Paberze**	**18.25**	**7**	P	**Pn**	**17 47 31.2**	**-0.4**
PABE				IAmb	IAmb	17 47 33.1	
	comp=Z,86nm,1.5s						
HFS	**Hagfors**	**23.10**	**352**	P	**P**	**17 48 23.8**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=153,slow=9.7,SNR=6.5						
	comp=Z,2.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.91**	**326**	P	**P**	**17 48 31.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=124,slow=10,SNR=1.6						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**24.31**	**7**	P	**P**	**17 48 36.6**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=178,slow=8.3,SNR=5.6						
	comp=Z,1.6nm,0.8s						
KKAR	**Karatay Array**	**38.30**	**65**	P	**P**	**17 50 38.3**	**-0.8**
KURBB	**Kurchatov Arra**	**42.85**	**53**	P	**P**	**17 51 16.6**	**+0.1**
	comp=Z,0.6nm,0.2s,baz=276,slow=8.9,SNR=2.5						
	comp=Z,0.6nm,0.2s						
MK31	**Makanchi Array**	**45.88**	**58**	P	**P**	**17 51 40.5**	**-0.3**
MK31				IAmb	IAmb	17 51 59.9	
	comp=Z,2.4nm,1.5s						
MKAR	**Makanchi Array**	**45.88**	**58**	P	**P**	**17 51 39.3**	**-1.5**
MKAR	**Makanchi Array**	**45.88**	**58**	P	**P**	**17 51 40.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=273,slow=6.8,SNR=5.8						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.35**	**48**	P	**P**	**17 51 42.8**	**-1.6**
ZALV	**Zalesovo Beam**	**46.35**	**48**	P	**P**	**17 51 43.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=276,slow=7.6,SNR=4.8						
	comp=Z,0.7nm,0.5s						

IDC ***25*** *18:22:27.0±2.7, 63.°43N×150.°70W, h0km, mb3.4/1, mbtmp3.1/2, ML2.7/1, MS3.9/2, Error ellipse: s-maj=56.3km s-min=18.1km az=155.0*
NEIC ***25*** *18:22:31.0±0.7, 62.°79N±0.°02×149.°67W±0.°08, h78km±5km, Error ellipse: s-maj=5.0km s-min=3.4km az=101.0*
AEIC ***25*** *18:22:30.9±1.0, 62.°80N±0.°03×149.°62W±0.°09, h74km±3km, ML3.1, ML3.3/196(NEIC), Error ellipse: s-maj=6.0km s-min=4.1km az=114.0*

ISC 25 18:22:31.1±0.9, 62.°79N±0.°03×149.°67W±0.°03, h81km, n292, σ0⚲68/264, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.48**	**216**	Pn	**Pn**	**18 22 44.0**	**-0.7**
CUT	**Chulitna**	**0.48**	**216**		**Sn**	**18 22 54.4**	**-0.4**
CUT	**Chulitna**	**0.48**	**216**	P	**Pn**	**18 22 44.1**	**-0.6**
	baz=36						
CUT				S	**Sn**	**18 22 54.4**	**-0.4**
	baz=36						
TRF	**Thorofare Moun**	**0.72**	**337**		**Sn**	**18 22 59.2**	**0.0**
TRF	**Thorofare Moun**	**0.72**	**337**		**Pn**	**18 22 46.9**	**-0.3**
TRF	**Thorofare Moun**	**0.72**	**337**	IAML		18 22 59.8	
	comp=E,1μm,0.6s						
TRF				IAML		18 22 60.0	
	comp=N,2μm,0.7s						
TRF	**Thorofare Moun**	**0.72**	**337**	P	**Pn**	**18 22 46.9**	**-0.3**
	baz=155						
TRF				S	**Sn**	**18 22 59.2**	**0.0**
	baz=155						
RND	**Reindeer**	**0.72**	**31**		**Sn**	**18 22 58.3**	**-0.7**
RND	**Reindeer**	**0.72**	**31**		**Pn**	**18 22 46.4**	**-0.7**
RND	**Reindeer**	**0.72**	**31**	IAML		18 22 58.9	
	comp=E,376nm,0.4s						
RND				IAML		18 22 59.5	
	comp=N,515nm,0.6s						
KTH	**Kantishna Hill**	**0.95**	**324**		**Pn**	**18 22 49.8**	**0.0**
KTH				IAML		18 23 05.9	
	comp=N,616nm,0.5s						
KTH	**Kantishna Hill**	**0.95**	**324**		**Sn**	**18 23 03.6**	**0.0**
MCK	**McKinley**	**1.00**	**19**		**Sn**	**18 23 04.1**	**-0.4**
MCK	**McKinley**	**1.00**	**19**		**Pn**	**18 22 50.1**	**-0.2**
MCK	**McKinley**	**1.00**	**19**	P	**Pn**	**18 22 50.0**	**-0.3**
	baz=199						
MCK				S	**Sn**	**18 23 04.1**	**-0.4**
	baz=199						
M22K	**Willow**	**1.06**	**192**		**Pn**	**18 22 50.3**	**-0.6**
M22K	**Willow**	**1.06**	**192**	P	**Pn**	**18 22 50.4**	**-0.6**
	baz=12						
GHO	**Glory Hole Cre**	**1.08**	**161**		**Pn**	**18 22 50.9**	**-0.4**
GHO				IAML		18 23 09.3	
	comp=E,1μm,0.7s						
PPLA	**Purkeypile**	**1.16**	**276**		**Pn**	**18 22 52.1**	**-0.2**
PPLA	**Purkeypile**	**1.16**	**276**		**Sn**	**18 23 08.4**	**+0.2**
PPLA	**Purkeypile**	**1.16**	**276**	P	**Pn**	**18 22 52.1**	**-0.2**
	baz=94						
PPLA				S	**Sn**	**18 23 08.4**	**+0.2**
	baz=94						
SML	**Sawmill**	**1.17**	**147**		**Pn**	**18 22 51.8**	**-0.6**
SML				IAML		18 23 09.8	
	comp=N,892nm,0.6s						
SML	**Sawmill**	**1.17**	**147**		**Sn**	**18 23 08.5**	**+0.2**
SML	**Sawmill**	**1.17**	**147**	P	**Pn**	**18 22 51.8**	**-0.6**
	baz=329						
SML				S	**Sn**	**18 23 08.5**	**+0.2**
	baz=329						
SKT	**Skwentna**	**1.19**	**228**		**Sn**	**18 23 08.0**	**-0.6**
SKT	**Skwentna**	**1.19**	**228**	Pn	**Pn**	**18 22 51.7**	**-0.8**
SKT	**Skwentna**	**1.19**	**228**	IAML		18 23 10.2	
	comp=E,901nm,0.4s						
SKT				IAML		18 23 10.3	
	comp=N,1μm,0.4s						
SKT	**Skwentna**	**1.19**	**228**	P	**Pn**	**18 22 51.9**	**-0.6**
	baz=46						
SKT				S	**Sn**	**18 23 08.0**	**-0.6**
	baz=46						
PMR	**Palmer**	**1.23**	**168**		**Pn**	**18 22 52.4**	**-0.6**
PMR				IAML		18 23 11.4	
	comp=N,404nm,0.5s						
PMR				IAML		18 23 11.9	
	comp=E,441nm,0.2s						
PMR	**Palmer**	**1.23**	**168**	P	**Pn**	**18 22 52.6**	**-0.4**
	baz=349						
CAST	**Castle Rocks**	**1.27**	**301**		**Pn**	**18 22 53.0**	**-0.5**
CAST	**Castle Rocks**	**1.27**	**301**		**Sn**	**18 23 09.1**	**-1.2**
CAST	**Castle Rocks**	**1.27**	**301**	P	**Pn**	**18 22 53.0**	**-0.5**
	baz=118						
CAST				S	**Sn**	**18 23 09.1**	**-1.2**
	baz=118						
M23K	**Glacier View**	**1.35**	**137**	P	**Pn**	**18 22 54.1**	**-0.5**
	baz=320						
BPAW	**Bear Paw Mtn.**	**1.44**	**336**		**Pn**	**18 22 55.1**	**-0.5**
BPAW				IAML		18 23 14.0	
	comp=E,471nm,0.5s						
BPAW	**Bear Paw Mtn.**	**1.44**	**336**	P	**Pn**	**18 22 55.2**	**-0.5**
	baz=154						
SCM	**Sheep Creek Mo**	**1.46**	**130**		**Pn**	**18 22 55.5**	**-0.4**
SCM	**Sheep Creek Mo**	**1.46**	**130**	P	**Pn**	**18 22 55.6**	**-0.4**
	baz=313						
KNK	**Knik Glacier**	**1.50**	**157**		**Pn**	**18 22 55.9**	**-0.5**
KNK				IAML		18 23 19.8	
	comp=N,561nm,0.6s						
KNK	**Knik Glacier**	**1.50**	**157**	P	**Pn**	**18 22 56.0**	**-0.4**
	baz=339						
CHUM	**Lake Minchumin**	**1.62**	**314**		**Pn**	**18 22 57.9**	**0.0**
CHUM					**Sn**	**18 23 17.5**	**-0.8**
CHUM	**Lake Minchumin**	**1.62**	**314**	P	**Pn**	**18 22 57.9**	**0.0**
	baz=131						
CHUM				S	**Sn**	**18 23 17

```
IL31                2.34  31                Pn          18 23 07.0  -0.5
ILAR  Eielson Array 2.34  31   Pn           Pn          18 23 06.8  -0.8
ILAR  Eielson Array 2.34  31   Pg           Pn          18 23 07.0  -0.6
      comp=N,4.5nm,0.3s,baz=213,slow=14,SNR=250
ILAR                           Lg           Lg          18 23 33.4
      comp=N,14nm,0.3s,baz=209,slow=24,SNR=22
I23K  Minto, Yukon-K 2.37  3   IAML                     18 23 36.4
      comp=E,103nm,0.8s
I23K                           IAML                     18 23 51.5
      comp=N,114nm,0.9s
I23K  Minto, Yukon-K 2.37  3   P            Pn          18 23 07.7  -0.2
      baz=183
M19K  Big River Lodg 2.38 250                Pn          18 23 07.5  -0.5
M19K  Big River Lodg 2.38 250  IAML                      18 23 42.5
      comp=N,104nm,0.3s
M19K  Big River Lodg 2.38 250  P            Pn          18 23 07.5  -0.5
      baz=66
RIDG  Independent Ri 2.38  64                Pn          18 23 08.6  +0.5
RIDG  Independent Ri 2.38  64  P            Pn          18 23 08.9  +0.7
      baz=248
J20K  Nowinta River  2.44 307                Pn          18 23 08.8  -0.1
J20K                           IAML                     18 23 37.2
      comp=E,145nm,0.9s
J20K                           IAML                     18 23 38.0
      comp=N,101nm,0.6s
L19K  White Mountain 2.48 258                Pn          18 23 08.9  -0.5
L19K  White Mountain 2.48 258  P            Pn          18 23 08.9  -0.5
      baz=73
DIV   Divide         2.48 130  Pn           Pn          18 23 07.9  -1.6
I21K  Tanana         2.60 338                Pn          18 23 11.0   0.0
I21K  Tanana         2.60 338  P            Pn          18 23 11.0   0.0
      baz=155
J25K  Salcha River,  2.65  44  IAML                     18 23 45.9
      comp=N,115nm,0.8s
J25K                           IAML                     18 23 46.5
      comp=E,161nm,0.5s
N25K  Chitina, Valde 2.66 114  Pn           Pn          18 23 11.2  -0.7
N25K                           IAML                     18 23 49.1
      comp=E,98nm,0.7s
N25K                           IAML                     18 23 56.0
      comp=N,113nm,0.6s
N25K  Chitina, Valde 2.66 114  P            Pn          18 23 11.5  -0.4
      baz=299
SEW   Seward         2.70 178                Pn          18 23 12.4  +0.1
SEW   Seward         2.70 178  P            Pn          18 23 12.4  +0.1
      baz=358
MENT  Mentasta       2.73  84                Pn          18 23 12.7  -0.1
MENT  Mentasta       2.73  84  IAML                     18 23 53.9
      comp=E,140nm,0.5s
MENT                           IAML                     18 23 56.9
      comp=N,122nm,0.4s
SCRK  Sand Creek     2.82  63  Pn           Pn          18 23 13.6  -0.5
SCRK                           IAML                     18 23 50.2
      comp=N,72nm,0.8s
SCRK                           IAML                     18 23 53.6
      comp=E,80nm,0.5s
SCRK  Sand Creek     2.82  63  P            Pn          18 23 13.8  -0.4
      baz=248
HIN   Hinchinbrook I 2.84 146  IAML                     18 24 07.7
      comp=N,129nm,0.8s
L26K  Log Cabin Wild 2.90  83                Pn          18 23 15.5  +0.3
L26K  Log Cabin Wild 2.90  83  IAML                     18 23 59.5
      comp=E,156nm,0.5s
L26K  Log Cabin Wild 2.90  83  P            Pn          18 23 15.5  +0.3
      baz=268
TTA   Tatalina       2.91 276                Pn          18 23 14.8  -0.4
TTA   Tatalina       2.91 276  P            Pn          18 23 14.9  -0.4
      baz=90
I20K  Naaghedeneel   2.93 315  P            Pn          18 23 15.9  +0.5
      baz=131
J19K  Poorman        2.94 297                Pn          18 23 15.6   0.0
J19K  Poorman        2.94 297  IAML                     18 23 49.8
      comp=N,62nm,0.9s
J19K  Poorman        2.94 297  P            Pn          18 23 15.6   0.0
      baz=111
P23K  Montague Islan 3.01 158                Pn          18 23 15.4  -1.1
P23K  Montague Islan 3.01 158  P            Pn          18 23 15.4  -1.1
      baz=340
BMRM  Bremner River  3.02 125                Pn          18 23 15.2  -1.5
BMRM  Bremner River  3.02 125  P            Pn          18 23 15.5  -1.2
      baz=310
N19K  Bonanza Creek  3.03 231                Pn          18 23 16.3  -0.6
N19K  Bonanza Creek  3.03 231  P            Pn          18 23 16.5  -0.4
      baz=47
GLB   Gilahina Butte 3.07 114  Pn           Pn          18 23 16.4  -1.0
GLB                            IAML                     18 24 02.9
      comp=N,97nm,0.6s
GLB                            IAML                     18 24 03.9
      comp=E,65nm,0.4s
BRLK  Bradley Lake   3.09 191  Pn           Pn          18 23 17.8   0.0
BRLK                           IAML                     18 24 03.5
      comp=E,133nm,0.4s
BRLK                           IAML                     18 24 08.1
      comp=N,122nm,0.8s
BRSE  Bradley Lake S 3.10 190                Pn          18 23 17.7  -0.2
BRSE  Bradley Lake S 3.10 190  P            Pn          18 23 17.7  -0.2
      baz=9.5
M26K  Nabesna, AK    3.11  94  IAML                     18 24 06.3
      comp=E,72nm,0.9s
M26K                           IAML                     18 24 13.6
      comp=N,77nm,0.6s
H24K  Noodor Dome    3.16  14                Pn          18 23 18.3  -0.3
H24K  Noodor Dome    3.16  14  P            Pn          18 23 18.3  -0.3
      baz=195
M18K  Stony River    3.17 248                Pn          18 23 18.3  -0.4
M18K  Stony River    3.17 248  P            Pn          18 23 18.3  -0.4
      baz=63
H21K  Melozitna Rive 3.19 336                Pn          18 23 18.8  -0.1
H21K  Melozitna Rive 3.19 336  P            Pn          18 23 18.8  -0.1
      baz=153
H22K  Ishtalitna Cre 3.20 347                Pn          18 23 19.0  -0.1
H22K  Ishtalitna Cre 3.20 347  P            Pn          18 23 19.0  -0.1
      baz=165
J26L  Joseph Creek   3.22  55  IAML                     18 23 59.2
      comp=E,84nm,0.7s
J26L                           IAML                     18 24 01.9
      comp=N,125nm,0.5s
GOAT  Goat Mountain  3.24 131                Pn          18 23 18.7  -1.0
J18K  Innoko River   3.27 285                Pn          18 23 19.9  -0.2
J18K  Innoko River   3.27 285  P            Pn          18 23 20.0   0.0
      baz=98
ILSW  Iliamna Southw 3.27 212                Pn          18 23 17.4  -2.9
ILSW                           IAML                     18 24 07.9
      comp=N,52nm,0.9s
ILSW                           IAML                     18 24 11.0
      comp=E,52nm,0.6s
ILS   Iliamna Low So 3.28 211                Pn          18 23 20.9  +0.6
PRP   Porcupine Dome 3.28  32  Pn           Pn          18 23 20.1  -0.3
PRP                            IAML                     18 24 04.9
      comp=E,59nm,0.5s
PRP                            IAML                     18 24 05.3
      comp=N,63nm,0.4s
PRP   Porcupine Dome 3.28  32  P            Pn          18 23 20.1  -0.3
      baz=215
L18K  Granite Mounta 3.31 263                Pn          18 23 19.8  -0.7
L18K  Granite Mounta 3.31 263  P            Pn          18 23 20.0  -0.5
      baz=77
VRDI  Verde Repeater 3.33 115  Pn           Pn          18 23 19.7  -1.3
VRDI                           IAML                     18 24 09.2
      comp=N,77nm,0.5s
VRDI                           IAML                     18 24 12.2
      comp=E,56nm,0.7s
CNPM  China Poot     3.36 194                Pn          18 23 21.2  -0.1
CNPM                           IAML                     18 24 13.8
      comp=N,119nm,0.5s
H20K  Anotleneega Mo 3.54 322                Pn          18 23 23.9  +0.1
H20K  Anotleneega Mo 3.54 322  P            Pn          18 23 23.9  +0.1
      baz=137
L27K  Beaver Creek,  3.60  82                Pn          18 23 23.9  -0.7
L27K  Beaver Creek,  3.60  82  P            Pn          18 23 23.8  -0.7
      baz=269
BCAR  Beaver Creek A 3.62  82  Pn           Pn          18 23 23.9  -0.9
M27K  Edge Creek, AK 3.63  93                Pn          18 23 25.2  +0.1
M27K  Edge Creek, AK 3.63  93  P            Pn          18 23 25.2  +0.1
      baz=280
N18K  Kilae Creek    3.64 237  Pn           Pn          18 23 24.4  -0.7
N18K                           IAML                     18 24 25.8
      comp=N,37nm,4.0s
N18K  Kilae Creek    3.64 237  P            Pn          18 23 24.6  -0.5
      baz=52
BERG  Berg Lake      3.73 127                Pn          18 23 25.3  -1.1
NICHA Nichawak Mount 3.75 131                Pn          18 23 25.7  -0.8
I26K  Coal Creek Min 3.82  46                Pn          18 23 27.5   0.0
I26K  Coal Creek Min 3.82  46  IAML                     18 24 16.9
      comp=E,74nm,0.8s
I26K                           IAML                     18 24 21.0
      comp=N,64nm,0.8s
I26K  Coal Creek Min 3.82  46  P            Pn          18 23 27.5   0.0
      baz=231
H25L  Birch Creek    3.87  24                Pn          18 23 28.4  +0.3
H25L  Birch Creek    3.87  24  P            Pn          18 23 28.4  +0.3
      baz=207
M17K  Holitna River  3.91 253                Pn          18 23 27.8  -0.9
M17K  Holitna River  3.91 253  IAML                     18 24 32.2
      comp=E,42nm,1.3s
M17K                           IAML                     18 24 33.1
      comp=N,62nm,3.0s
M17K  Holitna River  3.91 253  P            Pn          18 23 27.8  -0.9
      baz=66
G23K  Bananza Creek  3.94 358  Pn           Pn          18 23 28.9  -0.2
G23K  Bananza Creek  3.94 358  P            Pn          18 23 29.2   0.0
      baz=177
KIAG  Kiagna River   3.94 115                Pn          18 23 27.7  -1.6
K17K  Iditarod       3.97 273                Pn          18 23 29.3  -0.2
K17K                           IAML                     18 24 47.1
      comp=N,38nm,3.8s
K17K                           IAML                     18 24 50.2
      comp=E,36nm,3.1s
K17K  Iditarod       3.97 273  P            Pn          18 23 29.5   0.0
      baz=85
H19K  Roundabout Mou 4.04 316                Pn          18 23 30.7  +0.2
H19K  Roundabout Mou 4.04 316  IAML                     18 24 20.5
      comp=N,33nm,4.6s
H19K  Roundabout Mou 4.04 316  P            Pn          18 23 30.7  +0.2
      baz=129
L17K  Donlin         4.06 264  P            Pn          18 23 30.3  -0.5
      baz=77
SNH   Sunshine Point 4.20 126                Pn          18 23 32.1  -0.5
FYU   Fort Yukon     4.24  25  Pn           Pn          18 23 32.8  -0.4
FYU                            IAML                     18 24 23.3
      comp=N,52nm,5.0s
FYU                            IAML                     18 24 28.3
      comp=E,66nm,3.8s
N17K  Nushagak Hills 4.24 241                Pn          18 23 33.1  -0.2
N17K  Nushagak Hills 4.24 241  IAML                     18 25 12.1
      comp=E,30nm,3.9s
N17K                           IAML                     18 25 35.8
      comp=N,26nm,3.3s
N17K  Nushagak Hills 4.24 241  P            Pn          18 23 33.1  -0.2
      baz=54
G25K  Bearman Lake   4.27  19  P            Pn          18 23 33.9  +0.3
      baz=202
J17K  VABM Dome      4.32 282                Pn          18 23 34.2  -0.1
J17K  VABM Dome      4.32 282  IAML                     18 24 50.1
      comp=N,23nm,4.7s
J17K                           IAML                     18 24 57.9
      comp=E,27nm,3.4s
J17K  VABM Dome      4.32 282  P            Pn          18 23 34.2  -0.1
      baz=94
SYI   Shuyak Island  4.40 199                Pn          18 23 34.6  -0.9
SYI   Shuyak Island  4.40 199  IAML                     18 24 30.6
      comp=N,42nm,2.3s
SYI                            IAML                     18 24 38.1
      comp=E,56nm,0.6s
Q20K  Shuyak Island  4.40 199  P            Pn          18 23 34.6  -0.9
      baz=17
COLD  Coldfoot       4.46 357  Pn           Pn          18 23 35.9  -0.3
COLD  Coldfoot       4.46 357  P            Pn          18 23 36.5  +0.3
      baz=177
H18K  Honhosa River  4.50 306                Pn          18 23 37.4  +0.6
H18K                           IAML                     18 26 15.6
      comp=E,18nm,4.7s
H18K  Honhosa River  4.50 306  P            Pn          18 23 37.4  +0.6
      baz=118
MESA  MESA           4.54 122                Pn          18 23 36.4  -1.0
MESA  MESA           4.54 122  P            Pn          18 23 36.4  -1.0
      baz=309
G19K  Purcell Mounta 4.65 320  Pn           Pn          18 23 38.6  -0.2
G19K  Purcell Mounta 4.65 320  P            Pn          18 23 38.8  +0.1
      baz=133
O17K  Koliganek Bris 4.69 233  P            Pn          18 23 39.5  +0.2
      baz=47
RKAV  Rock Avalanche 4.70 118                Pn          18 23 38.6  -1.1
F21K  Alatna River   4.73 342                Pn          18 23 40.1  +0.2
F21K  Alatna River   4.73 342  P            Pn          18 23 40.1  +0.2
      baz=158
M16K  Timber Creek   4.74 252                Pn          18 23 39.5  -0.5
M16K  Timber Creek   4.74 252  P            Pn          18 23 39.5  -0.5
      baz=64
DAWY  Dawson         4.79  70  Pn           Pn          18 23 40.1  -0.6
DAWY  Dawson         4.79  70  P            Pn          18 23 40.3  -0.5
      baz=259
F24K  Squaw Lake     4.81   8                Pn          18 23 41.1  +0.1
F24K  Squaw Lake     4.81   8  P            Pn          18 23 41.1  +0.1
      baz=190
G26K  Porcupine Rive 4.87  28                Pn          18 23 42.1  +0.3
G26K  Porcupine Rive 4.87  28  P            Pn          18 23 42.1  +0.3
      baz=214
O28M  Mount Upton    4.94 110                Pn          18 23 42.9  -0.1
O28M  Mount Upton    4.94 110  P            Pn          18 23 42.9  -0.1
      baz=299
F20K  Avaraart Lake  4.99 332                Pn          18 23 44.2  +0.8
F20K  Avaraart Lake  4.99 332  IAML                     18 24 56.0
      comp=E,18nm,4.9s
F20K  Avaraart Lake  4.99 332  P            Pn          18 23 44.2  +0.8
      baz=146
G18K  Tagagawik      4.99 313                Pn          18 23 44.1  +0.6
G18K  Tagagawik      4.99 313  IAML                     18 25 30.4
      comp=E,16nm,4.3s
G18K                           IAML                     18 25 31.0
      comp=N,19nm,4.5s
G18K  Tagagawik      4.99 313  P            Pn          18 23 44.1  +0.6
      baz=124
J16K  Anvik River    5.00 281                Pn          18 23 43.6  +0.1
J16K  Anvik River    5.00 281  IAML                     18 25 37.0
      comp=N,25nm,4.1s
J16K                           IAML                     18 26 43.0
      comp=E,20nm,4.3s
J16K  Anvik River    5.00 281  P            Pn          18 23 43.7  +0.1
      baz=91
H17K  Granite Mounta 5.01 300                Pn          18 23 44.4  +0.7
H17K  Granite Mounta 5.01 300  IAML                     18 24 41.1
      comp=N,21nm,3.0s
H17K                           IAML                     18 24 43.2
      comp=E,19nm,2.3s
H17K  Granite Mounta 5.01 300  P            Pn          18 23 44.4  +0.7
      baz=111
I28M  Miner Creek    5.03  54                Pn          18 23 44.2  +0.1
I28M  Miner Creek    5.03  54  IAML                     18 25 08.5
      comp=N,25nm,0.7s
I28M                           IAML                     18 25 10.8
      comp=E,20nm,1.2s
I28M  Miner Creek    5.03  54  P            Pn          18 23 44.2  +0.1
      baz=242
I17K  Unalakleet     5.09 287                Pn          18 23 45.5  +0.8
I17K  Unalakleet     5.09 287  IAML                     18 25 36.7
      comp=E,30nm,3.8s
I17K                           IAML                     18 26 00.2
      comp=N,22nm,3.9s
I17K  Unalakleet     5.09 287  P            Pn          18 23 45.5  +0.8
      baz=97
F25K  Christian Rive 5.11  18                Pn          18 23 45.4  +0.3
F25K  Christian Rive 5.11  18  IAML                     18 26 08.8
      comp=N,14nm,4.8s
F25K                           IAML                     18 27 11.3
      comp=E,14nm,4.6s
F25K  Christian Rive 5.11  18  P            Pn          18 23 45.4  +0.3
      baz=201
BMAR  Burnt Mountain 5.13  23  Pn           Pn          18 23 45.1  -0.2
O16K  Kokwok River B 5.18 236                Pn          18 23 46.3  +0.3
O16K  Kokwok River B 5.18 236  IAML                     18 24 35.3
      comp=N,30nm,3.0s
O16K  Kokwok River B 5.18 236  P            Pn          18 23 46.3  +0.3
      baz=48
M29M  Somme Creek    5.19  89                Pn          18 23 45.9  -0.4
M29M  Somme Creek    5.19  89  IAML                     18 24 43.0
      comp=N,13nm,4.9s
M29M                           IAML                     18 25 21.1
      comp=E,12nm,2.9s
M29M  Somme Creek    5.19  89  P            Pn          18 23 45.9  -0.4
      baz=279
L29M  L29M           5.28  81                Pn          18 23 46.8  -0.6
L29M  L29M           5.28  81  IAML                     18 25 21.8
      comp=E,24nm,0.9s
L29M                           IAML                     18 25 26.6
      comp=N,20nm,1.0s
L29M  L29M           5.28  81  P            Pn          18 23 46.8  -0.6
      baz=272
G27K  Doyon Strip    5.29  37                Pn          18 23 47.4  -0.2
G27K  Doyon Strip    5.29  37  IAML                     18 25 00.5
      comp=E,12nm,4.4s
G27K  Doyon Strip    5.29  37  P            Pn          18 23 47.3  -0.2
      baz=224
E23K  Chandalar      5.29   0  IAML                     18 25 24.5
      comp=N,11nm,4.9s
E24K  Your Creek     5.33   5                Pn          18 23 48.4  +0.3
E24K  Your Creek     5.33   5  IAML                     18 24 48.3
      comp=N,12nm,0.6s
E24K                           IAML                     18 25 04.4
      comp=E,13nm,4.5s
E24K  Your Creek     5.33   5  P            Pn          18 23 48.4  +0.3
      baz=186
F19K  Shaleruckik Mo 5.33 323                Pn          18 23 48.1  +0.1
F19K  Shaleruckik Mo 5.33 323  IAML                     18 25 05.1
      comp=E,16nm,3.2s
F19K                           IAML                     18 26 41.1
      comp=N,16nm,4.9s
F19K  Shaleruckik Mo 5.33 323  P            Pn          18 23 48.1  +0.1
      baz=136
YUK4  Talbot Arm     5.38 101  P            Pn          18 23 48.5  -0.5
      baz=290
E22K  Anaktuvuk Pass 5.44 352  Pn           Pn          18 23 50.0  +0.4
E22K  Anaktuvuk Pass 5.44 352  P            Pn          18 23 50.0  +0.4
      baz=169
F26K  Sheenjek River 5.44  23                Pn          18 23 49.7  +0.1
F26K  Sheenjek River 5.44  23  P            Pn          18 23 49.7  +0.1
      baz=208
K15K  Wolf Creek Mou 5.51 270                Pn          18 23 50.4  -0.1
K15K  Wolf Creek Mou 5.51 270  P            Pn          18 23 50.4  -0.1
      baz=80
K29M  Barlow Dome    5.58  74                Pn          18 23 50.8  -0.7
K29M  Barlow Dome    5.58  74  P            Pn          18 23 50.8  -0.7
      baz=265
E25K  Arctic Village 5.62  16                Pn          18 23 52.3  +0.3
E25K  Arctic Village 5.62  16  P            Pn          18 23 52.3  +0.3
      baz=199
L15K  Ungalak Mounta 5.64 264                Pn          18 23 51.6  -0.6
L15K  Ungalak Mounta 5.64 264  P            Pn          18 23 51.6  -0.6
      baz=73
YUK6  Outpost Mounta 5.66 104  P            Pn          18 23 52.4  -0.4
      baz=294
TOLK  Toolik Lake Re 5.88   0                Pn          18 23 56.7  +1.2
TOLK  Toolik Lake Re 5.88   0  P            Pn          18 23 56.7  +1.2
      baz=180
M30M  Minto, Yukon   5.94  86  P            Pn          18 23 55.8  -0.6
      baz=278
N30M  Aishikik Lake  6.05  97                Pn          18 23 57.2  -0.8
N30M  Aishikik Lake  6.05  97  P            Pn          18 23 57.2  -0.8
      baz=288
HYT   Haines Junctio 6.09 103                Pn          18 23 58.5  -0.1
HYT   Haines Junctio 6.09 103  P            Pn          18 23 58.5  -0.1
      baz=294
O15K  Ungalikthiuk R 6.13 238                Pn          18 24 00.2  +1.3
O15K  Ungalikthiuk R 6.13 238  P            Pn          18 24 00.2  +1.3
      baz=49
J30M  Hart River     6.20  67                Pn          18 24 00.1  +0.1
J30M  Hart River     6.20  67  P            Pn          18 24 00.1  +0.1
      baz=259
L14K  Kuka Creek     6.29 262                Pn          18 24 01.5  +0.5
L14K  Kuka Creek     6.29 262  P            Pn          18 24 01.5  +0.5
      baz=71
F28M  Old Crow       6.35  36                Pn          18 24 01.8  -0.2
F28M  Old Crow       6.35  36  P            Pn          18 24 01.8  -0.2
      baz=225
J14K  Nanvaranak Lak 6.37 276                Pn          18 24 02.5  +0.3
J14K  Nanvaranak Lak 6.37 276  P            Pn          18 24 02.5  +0.3
      baz=83
P30M  Million Dollar 6.65 108                Pn          18 24 05.5  -0.7
P30M  Million Dollar 6.65 108  P            Pn          18 24 05.5  -0.7
      baz=299
D19K  Kuna River     6.70 332                Pn          18 24 07.5  +0.8
D19K  Kuna River     6.70 332  P            Pn          18 24 07.5  +0.8
      baz=144
E17K  Hotham Inlet   6.72 315                Pn          18 24 08.0  +1.1
E17K  Hotham Inlet   6.72 315  P            Pn          18 24 08.0  +1.1
      baz=124
E29M  Blow River     7.43  36                Pn          18 24 16.4  -0.2
E29M  Blow River     7.43  36  P            Pn          18 24 16.4  -0.2
      baz=226
C18K  Utukok River   7.54 326                Pn          18 24 19.2  +0.9
C18K  Utukok River   7.54 326  P            Pn          18 24 19.2  +0.9
      baz=136
B20K  Meade River    7.84 341                Pn          18 24 22.3  +0.1
B20K  Meade River    7.84 341  P            Pn          18 24 22.3  +0.1
      baz=154
YKA   Yellowknife Ar 16.00  75  Pn           P           18 26 13.9  +0.9
      baz=286,slow=13,SNR=3.6
      comp=N,0.2nm,0.7s
TXAR  Lajitas Array  44.63 117  LR           LR          18 49 13.3
      comp=N,84nm,18.3s,baz=54,slow=35
MKAR  Makanchi Array 63.21 323  P            P           18 32 51.0  +0.6
      comp=N,0.2nm,0.4s,baz=34,slow=8.0,SNR=4.6
      comp=N,0.2nm,0.4s
```

*IDC **25** 18:27:07.5±1.8,29°.98N×114°.40W,h0km,mb3.6/3,*
mbtmp3.6/10,ML3.6/6,MS3.9/41,Error ellipse:
s-maj=26.7km s-min=10.9km az=38.0
*ECX **25** 18:27:10.3±0.3,30°.19N×114°.25W,h14km±4km,ML4.5*
*NEIC **25** 18:27:10.6±2.4,30°.33N±0°.02×114°.31W±0°.06,h10km±1km,*
mb4.2/22,Error ellipse: s-maj=9.1km s-min=4.7km
az=267.0

ISC 25 18:27:09.5±0.5,30°.25N±0°.04×114°.23W±0°.03,h10km,
n113,σ1$65/85,mb4.2/8,MS4.0/35,8C-11D,Gulf of
California

```
Code  Station Name   Δ°   AZ°  Phase ID  Time     Res
                               Op   ISC  h m s    ISC
SLGB  San Luis Gonza 0.45 200⇓iP        Pg  18 27 17.6  -0.6
SLGB                          eS        Sg  18 27 23.0  -1.1
SLGB                       ⇓e             18 27 24.2
SLGB                            IAML      18 27 24.2
      comp=E,27μm,0.6s
SLGB                            IAML      18 27 25.2
      comp=N,25μm,0.7s
SLGB                       ⇑e             18 27 25.2
SFX   San Felipe     0.95 326        Pb  18 27 27.6  -0.5
SFX   San Felipe     0.95 326⇑eP        Pb  18 27 27.8  -0.3
SFX                           eS        Sn  18 27 40.9  -1.6
SFX                        ⇓e             18 27 42.8
SFX                             IAML      18 27 42.8
      comp=E,18μm,0.7s
SFX                        ⇓e             18 27 44.2
SFX                             IAML      18 27 44.2
      comp=N,8μm,0.6s
SPIG  San Pedro Mart 1.33 307⇑eP        Pn  18 27 33.7  -0.7
SPIG                            IAML      18 27 56.0
      comp=N,6μm,0.8s
SPIG                           e          18 27 56.0
SPIG                       ⇓e             18 28 03.4
SPIG                            IAML      18 28 03.4
      comp=E,4μm,0.9s
SQX   San Quintin    1.46 283⇑eP        Pn  18 27 34.9  -1.0
SQX                           eS        Sn  18 27 54.7  -0.4
SQX                        ⇑e             18 27 56.7
SQX                        ⇓e             18 27 57.5
PIX   Pinacate       1.46  27            Pn  18 27 35.9  -0.1
PIX   Pinacate       1.46  27⇓eP        Pn  18 27 36.0  +0.1
VTX   Valle De La Tr 1.76 311            Pn  18 27 39.4  -0.7
VTX   Valle De La Tr 1.76 311⇑eP        Pn  18 27 39.9  -0.1
VTX                             IAML      18 28 08.1
      comp=N,3μm,0.7s
VTX                        ⇓e             18 28 08.1
VTX                        ⇓e             18 28 08.2
VTX                             IAML      18 28 08.2
      comp=E,4μm,0.6s
RITX  Riito Sonora   2.01 342  eP        Pb  18 27 44.9  -1.2
SV2X  San Vicente    2.04 303⇑eP        Pn  18 27 44.2  +0.3
SV2X                          eS        Sb  18 28 11.0  -1.1
NE74  Guerrero Negro 2.24 175  eP        Pn  18 27 46.9  +0.2
NE74                            IAML      18 28 29.2
      comp=N,2μm,1.4s
NE74                           e          18 28 29.2
NE74                            IAML      18 28 33.6
      comp=E,3μm,1.0s
NE74                       ⇓e             18 28 33.6
ESJX  Sierra Juarez  2.29 320            Pn  18 27 46.3  -1.1
CPBX  Cerro Prieto   2.35 337            Pn  18 27 48.2   0.0
CPBX  Cerro Prieto   2.35 337⇓e             18 29 01.6
CPBX                            IAML      18 29 01.6
      comp=N,8μm,1.0s
CPBX                            IAML      18 29 02.3
      comp=E,9μm,0.7s
CPBX                       ⇑e             18 29 02.3
113A  Mohawk Valley, 2.54   9            Pn  18 27 51.0  +0.2
YUH   Yuha Desert    2.79 329            Pn  18 27 53.9  -0.4
GLA   Glamis         2.84 350            Pn  18 27 55.7  +0.8
```

CBX	Cerro Bola	2.93	315		Pn	18 27 56.1	-0.1
TKX	Tecate	3.08	319		Pn	18 27 58.4	+0.2
HSIG		3.11	112	Pn	Pb	18 28 03.5	-1.3
SRIG	Santa Rosalia	3.40	149		Pn	18 28 05.6	+3.0
BLYC	Blythe	3.50	356		Pn	18 28 05.0	+1.1
TUC	Tucson	3.59	54		Pn	18 28 05.7	+0.4
Y14A	Wickenburg	3.82	15		Pn	18 28 09.8	+1.4
PFO	Pinyon Flats O	3.85	331	Pn	Pn	18 28 08.2	-0.7
PFO	Pinyon Flats O	3.85	331	Pn	Pn	18 28 09.4	+0.5
	comp=E,1.3nm,0.3s,baz=146,slow=11,SNR=12						
PFO				Pg	Pg	18 28 21.7	-1.6
	comp=E,19nm,0.3s,baz=164,slow=14,SNR=40						
PFO				Lg	Lg	18 29 12.1	
	comp=E,15nm,0.3s,baz=264,slow=21,SNR=5.5						
PFO				LR	LR	18 29 47.1	
	comp=E,1μm,20.4s,baz=170,slow=40						
	comp=E,5.4nm,0.3s						
NZIG	Nacozari, Sono	4.04	87		Pb	18 28 20.0	-0.8
NZIG					Sn	18 28 57.3	-1.8
ELS	Elsinore Mount	4.34	322		Pn	18 28 16.1	+0.5
V12A	Nelson	5.49	355		Pn	18 28 30.1	-1.3
WUAZ	Wupatki	5.77	24	Pn	Pn	18 28 36.8	+1.5
BCW	Bitter Crk WRg	6.40	318		Pn	18 28 46.3	+2.3
KNB	Kanab	6.85	9	Pn	Pn	18 28 51.6	+1.5
LPIG	La Paz	7.05	149	Lg	Lg	18 30 42.0	
	comp=E,49nm,0.3s,baz=173,slow=6.0,SNR=6.5						
LPIG				LR	LR	18 31 39.4	
	comp=E,1μm,19.0s,baz=336,slow=39						
CRNM	Carthage	7.35	58		Pn	18 28 58.8	+1.8
BNM	Barren Site	7.52	57		Pn	18 29 01.4	+2.0
SLBS	Sierra La Lagu	7.57	149	Pn	Pn	18 29 03.7	+3.7
VHRN	Van Horn	7.99	84		Pn	18 29 07.7	+1.9
ANMO	Albuquerque	8.05	52	Pn	Pn	18 29 08.8	+2.1
	comp=E,0.8nm,0.3s,baz=32,slow=12,SNR=8.5						
ANMO				Pg	Pg	18 29 43.2	-0.4
	comp=E,0.1nm,0.3s,baz=4.4,slow=14,SNR=3.5						
ANMO				Lg	Lg	18 31 31.4	
	comp=E,0.2nm,0.3s,baz=153,slow=20,SNR=2.0						
	comp=E,2.7nm,0.4s						
BCIG	La Boquilla	8.18	107		Pn	18 29 06.8	-1.6
BCIG					Sn	18 30 37.5	-3.5
NVAR	Mina Array Bea	8.83	339	Pn	Pn	18 29 20.7	+3.4
	comp=E,0.2nm,0.3s,baz=170,slow=14,SNR=7.1						
NVAR				LR	LR	18 33 08.0	
	comp=E,425nm,18.5s,baz=154,slow=40						
	comp=E,0.2nm,0.3s						
ALPN	Alpine	9.15	87	Pn	Pn	18 29 24.9	+3.2
TXAR	Lajitas Array	9.22	93	Pn	Pn	18 29 25.3	+2.7
TXAR	Lajitas Array	9.22	93	Pn	Pn	18 29 25.0	+2.4
	comp=E,0.4nm,0.3s,baz=262,slow=15,SNR=26						
TXAR				Lg	Lg	18 32 02.1	
	comp=E,0.5nm,0.3s,baz=281,slow=25,SNR=6.6						
TXAR				LR	LR	18 32 43.1	
	comp=E,257nm,21.3s,baz=274,slow=36						
	comp=E,2.1nm,0.7s						
SAND	Sanderson	10.49	89		Pn	18 29 42.0	+2.0
ELK	Elko	10.50	356	Pn	Pn	18 29 45.0	+4.7
	comp=E,0.1nm,0.3s,baz=186,slow=10,SNR=7.5						
ELK				Lg	Lg	18 32 47.2	
	baz=198,slow=8.5,SNR=1.5						
ELK				LR	LR	18 34 14.9	
	comp=E,133nm,19.5s,baz=172,slow=40						
	comp=E,0.6nm,0.7s						
BSUT	Blindstream Ca	10.64	14	Pn	Pn	18 29 40.9	-1.5
PDAR	Pinedale Array	13.04	15	Pn	P	18 30 22.2	-3.3
	comp=E,1.0nm,0.9s,baz=193,slow=12,SNR=4.5						
PDAR				Lg	Lg	18 34 09.3	
	baz=200,slow=31,SNR=2.2						
PDAR				LR	LR	18 35 37.7	
	comp=E,426nm,20.4s,baz=195,slow=38						
YBH	Yreka Blue Hor	13.35	331	LR	LR	18 35 33.3	
	comp=E,324nm,18.0s,baz=156,slow=37						
I07A	Izee	14.43	345		Pn	18 30 33.3	-0.6
BMO	Blue Mountains	14.78	351		Pn	18 30 36.7	-1.8
PLID	Pearl Lake	14.88	355		Pn	18 30 39.2	-0.9
W35A	Tecumseh	15.40	67		Pn	18 30 46.9	0.0
W35A				IAmb	IAmb	18 31 04.5	
	comp=Z,16nm,1.0s						
BPMT	Black Pine Rid	16.17	2		Pn	18 30 57.3	+0.2
E09A	Wood Farm, Sta	16.52	350	Pn	Pn	18 31 00.4	-0.8
MSO	Missoula	16.55	1	Pn	Pn	18 31 01.8	0.0
HAWA	Hanford	16.64	347	Pn	Pn	18 31 00.9	-1.8
E08A	Dider Farm, El	16.65	348	Pn	Pn	18 31 01.8	-1.0
LYMT	Lyon Mountain	16.76	5		Pn	18 31 03.3	-1.2
OVMT	Ovando	16.82	3	Pn	Pn	18 31 04.3	-0.8
NATX	Nacogdoches	16.84	80	Pn	P	18 31 06.8	-0.7
E07A	Sunnyside	16.86	347	Pn	Pn	18 31 04.0	-1.6
E07A				IAmb	IAmb	18 31 17.6	
	comp=Z,22nm,1.1s						
KSU1	Kansas State U	16.95	54	Pn	Pn	18 31 06.7	0.0
KSU1				IAmb	IAmb	18 31 19.1	
	comp=Z,28nm,1.2s						
LON	Longmire	17.50	342	Pn	Pn	18 31 12.8	-0.7
LAO	LASA Array	17.55	19		Pn	18 31 13.6	-0.6
LAO				IAmb	IAmb	18 31 32.7	
	comp=Z,24nm,0.9s						
EGMT	Eagleton	18.08	10		Pn	18 31 19.9	-0.8
EGMT				IAmb	IAmb	18 31 36.7	
	comp=Z,17nm,1.1s						
NEW	Newport	18.13	354	P	P	18 31 25.1	+3.4
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=1.8						
	comp=Z,2.1nm,0.6s						
ECSD	EROS Data Cent	19.41	41		P	18 31 36.1	+0.3
ECSD				IAmb	IAmb	18 31 42.2	
	comp=Z,24nm,1.2s						
DGMT	Dagmar	19.75	20	P	P	18 31 39.4	0.0
DGMT				IAmb	IAmb	18 31 55.9	
	comp=Z,21nm,1.1s						
T42A	Van Buren	20.39	64	P	Pn	18 31 48.6	+0.1
T42A				IAmb	IAmb	18 31 53.5	
	comp=Z,12nm,1.2s						
N41A	Harden Midland	21.64	55	P	P	18 31 60.0	0.0
CMIG	Matias Romero	21.99	122	P	P	18 32 03.3	-0.5
	comp=Z,4.5nm,1.1s,baz=307,slow=10,SNR=2.2						
CMIG				LR	LR	18 40 36.6	
	comp=Z,270nm,21.0s,baz=334,slow=37						
	comp=Z,4.5nm,1.1s						
AGMN	Agassiz Nation	22.85	33	P	P	18 32 14.1	+1.2
AGMN				IAmb	IAmb	18 32 28.5	
	comp=Z,11nm,1.1s						
BBB	Bella Bella	24.19	339	LR	LR	18 41 17.1	
	comp=Z,312nm,20.4s,baz=166,slow=35						
ULM	Lac du Bonnet	24.28	29	P	P	18 32 28.1	+1.3
ULM	Lac du Bonnet	24.28	29	P	P	18 32 28.9	+2.2
	comp=Z,7.0nm,1.0s,baz=227,slow=9.5,SNR=5.8						
ULM				LR	LR	18 42 16.1	
	comp=Z,316nm,19.5s,baz=233,slow=37						
	comp=Z,7.0nm,1.0s						
APG	El Apazote	26.59	120	LR	LR	18 43 59.6	
	comp=Z,23nm,19.9s,baz=342,slow=38						
V55A	Taylorsville	28.14	70	P	P	18 33 01.9	0.0
DLBC	Dease Lake	30.20	343	LR	LR	18 45 28.0	
	comp=Z,403nm,18.5s,baz=176,slow=36						
SADO	Sadowa	31.11	52	LR	LR	18 45 21.5	
	comp=Z,216nm,18.3s,baz=110,slow=35						
YKA	Yellowknife Ar	32.25	360	P	P	18 33 40.8	+3.0
	baz=191,slow=9.2,SNR=1.7						
YKA				LR	LR	18 48 58.2	
	comp=Z,192nm,21.8s,baz=310,slow=40						
JTS	Las Juntas de	33.72	120	LR	LR	18 47 10.5	
	comp=Z,235nm,20.1s,baz=334,slow=36						
KDAK	Kodiak Island	38.12	327	LR	LR	18 47 34.0	
	comp=Z,187nm,18.1s,baz=76,slow=32						
INK	Inuvik	39.74	349	LR	LR	18 53 38.1	
	comp=Z,268nm,19.5s,baz=238,slow=40						
ILAR	Eielson Array	40.08	339	P	P	18 34 48.1	+3.3
	comp=Z,0.8nm,0.8s,baz=154,slow=7.2,SNR=8.9						
ILAR				LR	LR	18 50 52.6	
	comp=Z,148nm,19.9s,baz=185,slow=35						
E29M	Blow River	40.61	347	P	P	18 34 45.9	-3.2
E29M				IAmb	IAmb	18 35 08.6	
	comp=Z,7.4nm,1.3s						
E28M	Babbage River	41.12	346	P	P	18 34 53.1	-0.2
E28M				IAmb	IAmb	18 35 05.3	
	comp=Z,4.5nm,1.0s						
SCHQ	Schefferville	41.60	40	LR	LR	18 52 33.8	
	comp=Z,279nm,18.4s,baz=12,slow=36						
A36M	Sachs Harbour	42.22	355	P	P	18 35 00.3	-1.9
A36M				IAmb	IAmb	18 35 13.8	
	comp=Z,6.2nm,1.0s						
FRB	Frobisher Bay	44.12	27	LR	LR	18 54 20.4	
	comp=Z,270nm,20.0s,baz=270,slow=37						
RES	Resolute Bay	45.55	7	LR	LR	18 57 01.8	
	comp=Z,176nm,21.0s,baz=50,slow=39						
SDV	Santo Domingo	45.88	108	LR	LR	18 57 05.5	
	comp=Z,74nm,19.3s,baz=274,slow=39						
ATAH	Atahualpa	50.63	131	LR	LR	18 54 33.9	
	comp=Z,54nm,21.1s,baz=334,slow=33						
PPT	Papeete	58.47	220	LR	LR	18 55 35.3	
	comp=Z,68nm,20.7s,baz=2.5,slow=29						
MDP	Montagnes des	62.97	100	LR	LR	19 09 22.4	
	comp=Z,70nm,18.1s,baz=298,slow=40						
PETK	Petropavlovsk-	65.33	318	LR	LR	19 04 25.1	
	comp=Z,72nm,18.1s,baz=59,slow=34						
MA2	Magadan	66.86	327	LR	LR	19 05 28.4	
	comp=Z,85nm,19.4s,baz=68,slow=34						
ARCES	ARCESS Array B	76.29	14	LR	LR	19 16 47.1	
	comp=Z,84nm,18.8s,baz=283,slow=39						
ASAJ	Asahikawa	78.13	314	LR	LR	19 10 04.9	
	comp=Z,66nm,18.4s,baz=24,slow=33						
NOA	NORSAR Array B	78.83	24	LR	LR	19 15 18.2	
	comp=Z,138nm,18.2s,baz=285,slow=36						
NRIK	Noril'sk	79.43	352	LR	LR	19 18 18.1	
	comp=Z,80nm,18.7s,baz=351,slow=38						
PLCA	Paso Flores	81.39	148	LR	LR	19 07 35.7	
	comp=Z,79nm,18.6s,baz=348,slow=30						
KLR	Kul'dur	81.51	323	LR	LR	19 16 04.6	
	comp=Z,54nm,18.8s,baz=19,slow=36						
USRK	Ussuriysk Ar.	84.42	319	LR	LR	19 17 02.5	
	comp=Z,19nm,18.2s,baz=49,slow=35						
ESDC	Sonseca Array	84.98	47	P	P	18 39 48.6	+3.4
	comp=Z,0.1nm,0.3s,baz=300,slow=5.8,SNR=1.3						
MJAR	Matsushiro Arr	85.02	310	LR	LR	19 10 28.4	
	comp=Z,81nm,20.8s,baz=59,slow=31						
DAVOX	Davos/Dischmat	88.24	35	LR	LR	19 17 50.6	
	comp=Z,116nm,21.7s,baz=308,slow=34						
MDT	Midelt	88.53	53	LR	LR	19 17 51.9	
	comp=Z,78nm,19.6s,baz=340,slow=34						
GERES	GERESS Array B	88.57	31	LR	LR	19 21 21.3	
	comp=Z,57nm,20.0s,baz=334,slow=37						
VRAC	Vranov	89.50	30	LR	LR	19 20 41.9	
	comp=Z,107nm,19.5s,baz=336,slow=36						
KSRS	Korea Array	91.04	315	LR	LR	19 16 12.2	
	comp=Z,17nm,20.6s,baz=75,slow=32						
JNU	Nakatsue	91.89	310	LR	LR	19 16 35.7	
	comp=Z,49nm,18.7s,baz=9.5,slow=32						
AKASG	Malin Array Be	93.16	22	LR	LR	19 23 36.0	
	comp=Z,145nm,18.3s,baz=281,slow=36						

NEIC 25 18:31:34.9±1.6, 36°.23N±0°.01×120°.81W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=213.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPB	Monarch Peak	0.02	165		Pg	18 31 36.4	+0.5
PPTM	Peach Tree Val	0.14	151		Pg	18 31 38.7	+1.0
PJUM	Juniper Ridge	0.17	91		Pg	18 31 39.7	+1.4
LRC	Lone Oak Road	0.19	275		Pg	18 31 39.3	+0.6
PSAM	San Ardo	0.22	198		Pg	18 31 39.9	+0.8
PSAM					Sg	18 31 43.2	+1.3
PSMM	Smith Mountain	0.23	133		Pg	18 31 40.8	+1.3
LRV	Little Rabbit	0.26	318		Pg	18 31 40.9	+1.0
PHPM	Hope Ranch	0.30	147		Pg	18 31 41.5	+0.8
PCCM	Crazy Canyon	0.32	244		Pg	18 31 41.9	+0.8
PCCM					Sg	18 31 46.8	+1.5
PKD	Bear Valley Ra	0.36	143		Pg	18 31 42.5	+0.7
PKD					Sg	18 31 47.7	+1.2
PDRM	Domengine Ranc	0.37	73		Pb	18 31 43.9	-0.1
PSTM	Stockdale Moun	0.39	141		Pg	18 31 43.0	+0.7
BPIM	Pinnacles	0.39	312		Pg	18 31 42.6	+0.1
BBGB	Big Mountain B	0.39	332		Pb	18 31 43.8	-0.6
PPO	Portuguese Can	0.40	157		Pb	18 31 43.7	-0.7
BSGM	Shirttail Gulc	0.41	297		Pg	18 31 42.7	0.0
HULI	Fort Hunter Li	0.41	239		Pg	18 31 43.3	+0.6
HULI	Fort Hunter Li	0.41	239	IAML		18 31 53.3	
	comp=N,2μm,0.6s						
HULI				IAML		18 31 56.0	
	comp=E,1μm,0.5s						
BMSM	Mercy Hot Spri	0.43	1		Pb	18 31 44.6	-0.3
PHSB	Hesperia Broad	0.45	206		Pg	18 31 44.3	+0.7
PANM	San Antonio Re	0.46	190		Pg	18 31 44.5	+0.8
PHFM	Heflinger Ranc	0.48	137		Pb	18 31 45.0	-0.8
PWKM	Work Ranch	0.48	150		Pb	18 31 45.2	-0.7
CTM	Castle Mountai	0.48	128		Pb	18 31 46.2	+0.2
BSMM	Soledad Missio	0.53	287		Pg	18 31 45.2	+0.2
GHC	Gold Hill	0.54	137		Pg	18 31 46.0	+0.7
PAPM	Alder Peak	0.55	235		Pg	18 31 46.1	+0.6
BJCM	Johnson Can.	0.57	304		Pg	18 31 45.8	-0.1
BJOM	Mount Johnson	0.57	314		Pg	18 31 45.6	-0.2
PKEM	Kettleman Hill	0.59	107		Pb	18 31 48.1	+0.4
PKLM	Kerr Lake	0.59	140		Pb	18 31 47.0	-0.7
RAMR	Ramage Ranch	0.60	185		Pg	18 31 46.9	+0.6
SCZ	Santa Cruz	0.60	307		Pg	18 31 46.3	-0.2
HAST	Hastings Reser	0.62	285		Pg	18 31 46.8	-0.1
TCHL	Shandon	0.63	149		Pb	18 31 48.0	-0.5
PMRM	Maxey Ranch	0.64	134		Pg	18 31 47.9	+0.7
TCAS	Cass Winery, P	0.65	162		Pg	18 31 47.9	+0.5
BSRM	Salinas Radio	0.72	307		Pg	18 31 48.5	-0.2
SAO	San Andreas Ge	0.74	316	Pg	Pg	18 31 48.7	-0.4
BPCNC	Pine Canyon	0.74	298		Pg	18 31 49.2	+0.1
FRP	Fremont Peak	0.76	314		Pg	18 31 49.0	-0.4
BPRM	Ponciano Ridge	0.77	283		Pg	18 31 49.4	-0.2
BPOM	Post Ranch	0.78	270		Pg	18 31 49.5	-0.3
ARDC	Alexander Ranc	0.78	190		Pg	18 31 50.3	+0.5
TSCN	Private Proper	0.78	151		Pg	18 31 50.4	+0.5
HSFM	Saint Francis	0.80	316		Pb	18 31 51.0	-0.4
PTAM	Tassajara Cree	0.84	175		Pg	18 31 50.9	-0.1
PACP	Pacheco Peak	0.87	334		Pb	18 31 52.5	+0.1
PACP	Pacheco Peak	0.87	334	IAML		18 32 09.7	
	comp=E,643nm,0.8s						
PACP				IAML		18 32 09.9	
	comp=N,645nm,0.6s						
TSCS	Shell Creek So	0.87	155		Pg	18 31 51.6	0.0
TRAY	Twisselman Ran	0.88	141		Pb	18 31 52.1	-0.5
PBPM	Bitterwater Pu	0.88	138		Pb	18 31 52.5	-0.1
HFEM	San Felipe	0.89	328		Pb	18 31 52.8	-0.1
HTUM	Tustin Road	0.90	312		Pg	18 31 51.6	-0.5
SLD	San Luis Dam	0.91	339		Pb	18 31 53.0	-0.1
ANZ	Anzar Road	0.91	316		Pg	18 31 52.6	+0.3
HPCM	Pacheco Lake	0.91	336		Pb	18 31 52.9	-0.3
EFD	Emergency Oper	0.91	176		Pg	18 31 52.6	+0.2
HERM	Elkhorn Road	0.92	308		Pg	18 31 52.5	0.0
LSDC	Los Osos Digit	0.93	182		Pn	18 31 54.4	-0.3
CDC	Canada Road	0.96	326		Pg	18 31 53.5	+0.1
HCOM	Corn Cob Canyo	0.98	312		Pg	18 31 53.5	-0.1
HCBM	Chamberlain	0.98	316		Pb	18 31 54.3	-0.1
DPD	Davis Peak	1.00	179		Pg	18 31 54.2	+0.3
GHS	Gilroy Hot Spr	1.00	329		Pb	18 31 54.8	-0.1
DCD	Diablo Creek	1.02	182		Pg	18 31 54.2	-0.2
HLPM	Lions Peak	1.05	321		Pg	18 31 54.9	-0.1
KARE	Kearney REC, C	1.11	70		Pg	18 31 55.9	-0.3
LEGD	La Grand CA	1.11	28		Pg	18 31 55.6	-0.6
SMMC	Simmler	1.13	144		Pg	18 31 56.6	+0.1
MHDM	Hidden Dam	1.15	39		Pg	18 31 56.2	-0.6
VOG	Valley Oaks Go	1.15	85		Pg	18 31 56.3	-0.7
JLAB	Laurel Hill	1.19	321		Pg	18 31 56.7	-0.9
MYLM	Yosemite Lake	1.19	15		Pg	18 31 56.8	-0.9
CMPM	Mikes Peak	1.20	340		Pg	18 31 57.8	0.0
CARC	Carrizo Plain	1.21	139		Pb	18 31 58.2	0.0
CCOB	Coe Ranch Numb	1.24	326		Pg	18 31 58.2	-0.4
ARN	Arnold Ranch	1.26	333		Pg	18 31 57.9	-1.1
MHC	Mount Hamilton	1.30	329		Pg	18 31 59.1	-0.6
CRGC	Crocker Grade	1.32	138		Pb	18 32 00.4	+0.1
MTOS	Mt Oso, Westle	1.34	342		Pn	18 31 59.8	-0.4
MMIM	Miami Mountain	1.46	35		Pn	18 32 01.5	-0.6
PKM	Mcpherson Peak	1.56	149		Pn	18 32 02.8	-0.7
SPG2	Springville 2	1.65	90		Pn	18 32 03.4	-1.1
BCW	Bitter Crk WRg	1.72	138	Pn	Pn	18 32 04.7	-0.8
BCW				IAML		18 32 36.5	
	comp=E,196nm,0.7s						
BCW				IAML		18 32 42.0	
	comp=N,165nm,0.7s						
CMB	Columbia Colle	1.83	10	Pn	Pn	18 32 06.5	-0.5
CCAC	Calif City Air	2.51	115	Pn	Pn	18 32 15.7	-0.7
CCAC				IAML		18 33 13.0	
	comp=E,77nm,1.4s						
CCAC				IAML		18 33 19.4	
	comp=N,88nm,1.5s						
WAKR	Walker	2.52	25	Pn	Pn	18 32 15.9	-0.7
AFDM	Forest Hills D	2.71	357		Pn	18 32 18.3	-0.9
LHV	Little Huntoon	2.73	42		Pb	18 32 24.1	0.0
NVAR	Mina Array Bea	2.96	42		Pn	18 32 22.3	-0.5
RYN	Ryan	3.00	37	Pn	Pn	18 32 22.9	-0.4
GMN	Gold Mountain	3.04	68	Pn	Pn	18 32 23.5	-0.4
GWY	Greenwater Val	3.35	90	Pn	Pn	18 32 27.1	-0.9
PFO	Pinyon Flats O	4.42	125	Pn	Pn	18 32 42.6	-0.2
PFO				IAML		18 33 24.9	
	comp=N,20nm,4.9s						
PFO				IAML		18 33 28.9	
	comp=N,25nm,4.7s						
SHPR	Sheep Range	4.56	85	Pn	Pn	18 32 45.9	+1.2

NEIC 25 18:50:37.0±0.8, 35°.13N±0°.02×97°.60W±0°.02, h7km±3km, Error ellipse: s-maj=2.6km s-min=1.8km az=171.0
NEIC 25 18:50:36.7±1.0, 35°.12N±0°.02×97°.58W±0°.02, h5km±1km, ML1.9/24, ML2.3/11, Error ellipse: s-maj=3.1km s-min=2.6km az=187.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.20	47	Pg	Pg	18 50 41.7	+1.1
FNO				Sg	Sg	18 50 44.5	+1.3
X34A	Smith Ranch, M	0.56	202	Pg	Pg	18 50 48.1	+0.6
X34A				IAML		18 50 57.3	
	comp=E,54nm,0.4s						
X34A				IAML		18 50 57.4	
	comp=N,75nm,0.4s						
W35A	Tecumseh	0.58	87	Pg	Pg	18 50 47.5	-0.2
W35A				Sg	Sg	18 50 55.5	+0.2
W35A				IAML		18 51 00.1	
	comp=E,48nm,0.4s						
OK029	Liberty Lake	0.68	8	Pg	Pg	18 50 49.6	-0.1
OK029				Sg	Sg	18 50 58.6	0.0
OK029				IAML		18 51 05.7	
	comp=E,43nm,0.3s						
OK029				IAML		18 51 07.5	
	comp=E,40nm,0.3s						
WMOK	Wichita Mounta	1.06	249	Pg	Pg	18 50 56.4	-0.7
WMOK	Wichita Mounta	1.06	249	IAML		18 51 16.7	
	comp=E,15nm,1.0s						

SJA 25 18:54:10.1±1.6, 29°.75S×71°.70W, h10km±8km, ML3.4, MW3.4
GUC 25 18:54:13.1±0.8, 29°.76S×71°.64W, h35km±5km, ML3.5
ISC 25 18:54:10.3±1.7, 29°.72S±0°.03×71°.73W±0°.06, h8km±14km, n18, σ0°.77/26, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.47	115	eP	Pb	18 54 21.6	+0.7
CO05				eS	Sb	18 54 27.7	-0.3
CO05				IAML		18 54 29.8	
	comp=E,4μm,0.4s						
GO04	Tololo Observa	0.93	120	eP	Pg	18 54 28.4	+0.2
GO04				eS	Sg	18 54 40.4	+0.2
GO04	Tololo Observa	0.93	120	eP	Pb	18 54 28.7	-0.1
GO04				eS	Sg	18 54 40.4	+0.2
CO06	Fray Jorge	0.96	175	eP	Pb	18 54 29.3	+0.1
CO06				eS	Sg	18 54 41.4	+0.2
CO06				IAML		18 54 42.6	
	comp=E,2μm,0.2s						
LCO	Las Campanas	1.14	52	eP	Pn	18 54 32.7	-0.2
LCO				eS	Sb	18 54 48.0	+0.5
LCO				IAML		18 54 50.7	
	comp=Z,2μm,1.1s						
LCO	Las Campanas	1.14	52	⇑iP	Pn	18 54 33.0	+0.2
LCO				eS	Sb	18 54 47.5	-0.1
LCO				IAML		18 54 50.0	
	comp=Z,9μm,0.4s						
CO03	El Pedregal	1.44	141	eP	Pn	18 54 35.9	-0.9
CO03				eS	Sg	18 54 55.9	-0.6
CO03				IAML		18 54 56.4	
	comp=Z,390nm,0.4s						
CO03	El Pedregal	1.44	141	eP	Pn	18 54 36.0	-0.8
CO03				IAML		18 54 58.3	
	comp=E,780nm,0.1s						
CO01	Juntas del Tor	1.44	101	eP	Pn	18 54 37.0	0.0
CO01				eS	Sg	18 54 55.6	-1.2
CO01				IAML		18 54 55.8	
	comp=Z,364nm,0.5s						
CO01	Juntas del Tor	1.44	101	⇓iP	Pn	18 54 37.0	0.0
CO01				IAML		18 54 56.5	
	comp=N,503nm,0.2s						
AC04	Llanos de Chal	1.61	21	eP	Pb	18 54 39.7	-0.7
AC04				eS	Sg	18 55 03.2	+1.1
AC04				IAML		18 55 06.5	
	comp=Z,276nm,0.6s						
AC04	Llanos de Chal	1.61	21	eP	Pb	18 54 39.5	-0.8
AC04				IAML		18 55 07.9	
	comp=E,369nm,0.4s						
AROD	Rodeo	2.01	103	eP	Pb	18 54 46.9	-0.4
AROD				eS	Sb	18 55 13.4	+0.8
VA06	Catapilco	2.86	173	eP	Pb	18 55 00.1	-1.5
VA06				IAML		18 55 47.8	
	comp=N,390nm,0.5s						
VA03	San Esteban	3.20	162	eP	Pn	18 55 02.1	+1.0
VA03				IAML		18 55 52.9	
	comp=Z,157nm,0.5s						
VA03	San Esteban	3.20	162	eP	Pn	18 55 02.6	+1.5
VA03				IAML		18 55 52.7	
	comp=N,386nm,0.4s						
ROCH	El Roble	3.30	169	IAML		18 55 59.6	
	comp=N,302nm,0.5s						
PEL	Peldehue	3.53

BOOM ⇓eS Sg 19 00 01.9 -0.3
AAA Alma-Ata 0.73 84 eP Pg 18 59 55.0 -0.3
68nm,0.1s
AAA eS Sg 19 00 04.7 -0.3
70nm,0.1s
TNSS Tian-Shan 0.76 97 P Pg 18 59 55.1 -0.8
28nm,0.1s
TNSS S Sg 19 00 05.0 -0.9
132nm,0.2s
TNSS Tian-Shan 0.76 97 eP Pg 18 59 55.1 -0.8
TNSS eS Sg 19 00 05.0 -0.9
TNSS Tian-Shan 0.76 97 eP Pg 18 59 55.1 -0.8
28nm,0.1s
TNSS eS Sg 19 00 05.0 -0.9
132nm,0.2s
KNDC Almaty 0.77 84 ⇓P Pg 18 59 55.7 -0.3
14nm,0.2s
KNDC ⇑S Sg 19 00 06.0 -0.2
50nm,0.5s
KTBS Karatobe 0.80 44 P Pg 18 59 55.6 -1.0
24nm,0.2s
KTBS S Sg 19 00 05.9 -1.2
64nm,0.3s
KTBS Karatobe 0.80 44 eP Pg 18 59 55.6 -1.0
KTBS eS Sg 19 00 05.9 -1.2
KBK Karagaybulak 0.86 236 ⇓P Pg 18 59 57.6 -0.1
14nm,0.1s,SNR=8.4
KBK ⇓S Sb 19 00 09.5 -0.3
106nm,0.2s
KBK Karagaybulak 0.86 236⇑eP Pg 18 59 56.8 -0.9
KBK ⇑eS Sg 19 00 08.7 -0.3
KOTS Kotyrbulak 0.88 83 P Pg 18 59 57.5 -0.6
38nm,0.2s
KOTS S Sg 19 00 09.0 -0.6
117nm,0.2s
KOTS Kotyrbulak 0.88 83 eP Pg 18 59 57.5 -0.6
38nm,0.2s
KOTS eS Sg 19 00 09.0 -0.6
117nm,0.2s
ULHL Ulahol 0.92 165 ⇓P Pg 18 59 58.4 -0.5
15nm,0.2s,SNR=6.7
ULHL ⇑S Sg 19 00 10.3 -0.6
24nm,0.1s
ULHL Ulahol 0.92 165⇓eP Pg 18 59 57.8 -1.1
ULHL ⇓eS Sg 19 00 10.4 -0.6
SGDS Sogindy 0.99 289 P Pg 18 59 59.3 -1.0
29nm,0.1s
SGDS S Sg 19 00 12.1 -1.1
132nm,0.2s
USP Ospenovka 1.05 278 ⇓P Pg 19 00 00.3 -1.0
15nm,0.1s,SNR=28
USP ⇑S Sg 19 00 14.2 -0.7
62nm,0.1s
USP Ospenovka 1.05 278⇓eP Pg 19 00 00.1 -1.2
USP ⇓eS Sg 19 00 14.2 -0.7
AAK Ala-Archa 1.16 245 ⇑P Pb 19 00 02.8 -0.5
5.5nm,0.1s,SNR=11
AAK ⇓S Sn 19 00 18.8 -0.6
29nm,0.4s
AAK Ala-Archa 1.16 245 ⇑P Pb 19 00 02.7 -0.5
1.3nm,0.2s
AAK ⇓S Sg 19 00 18.5 -0.1
16nm,0.4s
AAK Ala-Archa 1.16 245⇓eP Pb 19 00 02.2 -1.1
AAK ⇓eS Sb 19 00 17.8 -0.6
ANVS Anan'yevo 1.33 105⇓eP Pn 19 00 05.0 -0.8
ANVS ⇓eS Sb 19 00 22.7 -0.7
KDJ Kajisay 1.37 137⇓eP Pn 19 00 05.9 -0.5
KDJ ⇓eS Sb 19 00 24.1 -0.4
UCH Uchtor 1.38 229 ⇑P Pb 19 00 07.0 -0.1
2.7nm,0.1s
UCH ⇑S Sn 19 00 25.0 -0.2
6.2nm,0.1s
UCH Uchtor 1.38 229⇑eP Pn 19 00 06.1 -0.6
UCH ⇑eS Sb 19 00 24.5 -0.4
EKS2 Erkin-Say 1.64 254 ⇑P Pb 19 00 11.6 0.0
7.6nm,0.1s,SNR=14
EKS2 ⇑S Sg 19 00 34.2 +0.2
19nm,0.1s
EKS2 Erkin-Say 1.64 254⇑eP Pn 19 00 10.5 +0.4
EKS2 ⇑eS Sb 19 00 32.1 -0.2
KURS Kuram 1.68 77 P Pb 19 00 11.7 -0.5
3.7nm,0.1s
KURS S Sb 19 00 33.3 0.0
27nm,0.2s
ARLS Aral 1.74 223⇑eP Pn 19 00 12.0 +0.6
ARLS ⇑eS Sb 19 00 35.0 0.0
ARXS Arharly 1.75 51 P Pb 19 00 12.6 -0.8
18nm,0.1s
ARXS S Sb 19 00 35.0 -0.4
54nm,0.4s
SATY Saty 1.82 92 P Pb 19 00 13.8 -0.8
14nm,0.2s
SATY S Sb 19 00 37.1 -0.3
167nm,0.1s
SATY Saty 1.82 92 eP Pn 19 00 12.6 0.0
18nm,0.1s
SATY eS Sn 19 00 35.0 -0.7
54nm,0.4s
ZHN Zhinishke 1.84 88 P Pb 19 00 13.9 -1.0
8.0nm,0.1s
ZHN S Sb 19 00 37.4 -0.6
143nm,0.2s
ZHN Zhinishke 1.84 88 eP Pb 19 00 13.9 -1.0
8.0nm,0.1s
ZHN eS Sb 19 00 37.4 -0.6
143nm,0.2s
AML Almayashu 1.92 239 ⇑P Pb 19 00 16.0 -0.5
5.2nm,0.2s,SNR=11
AML ⇓S Sb 19 00 41.0 +0.4
27nm,0.4s
AML Almayashu 1.92 239⇑eP Pn 19 00 14.6 +0.4
AML ⇑eS Sn 19 00 39.3 +0.7
PRZ Przheval'sk 1.94 109⇓eP Pn 19 00 14.4 +0.2
PRZ ⇓eS Sn 19 00 39.2 +0.6
TARG Taragay, Kyrgy 1.98 135⇓eP Pn 19 00 15.2 +0.2
TARG ⇓eS Sn 19 00 40.4 +0.4
MRKS Merke 2.02 260 Pg Pb 19 00 17.3 -0.5
15nm,0.2s
MRKS Lg Lg 19 00 43.5
129nm,0.3s
MRKS Merke 2.02 260 eP Pb 19 00 17.3 -0.5
15nm,0.2s
MRKS eS Sb 19 00 43.5 +0.5
130nm,0.3s
KPKS Kokpek 2.05 80 Pg Pb 19 00 17.1 -1.2
16nm,0.4s
KPKS Lg Lg 19 00 43.3
92nm,0.5s
KPKS Kokpek 2.05 80 eP Pb 19 00 17.1 -1.2
16nm,0.4s
KPKS eS Sb 19 00 43.3 -0.6
92nm,0.5s
BLB Baldybastay 2.09 62 Pg Pb 19 00 17.8 -1.3
45nm,0.2s
BLB Lg Lg 19 00 44.1
93nm,0.4s
BTLS Baital 2.33 325 Pg Pb 19 00 23.3 0.0
6.6nm,0.2s
BTLS Lg Lg 19 00 53.2
33nm,0.3s
BTLS Baital 2.33 325 eP Pb 19 00 23.3 0.0
6.6nm,0.2s
BTLS eS Sb 19 00 53.2 +1.1
33nm,0.3s
SHLS Shalkode 2.59 88 Pg Pg 19 00 33.5 +2.6
9.4nm,0.6s
SHLS Lg Lg 19 01 11.1
18nm,0.3s
SHLS Shalkode 2.59 88 eP Pg 19 00 33.5 +2.6
9.4nm,0.6s
SHLS eS Sg 19 01 11.1 +6.6
18nm,0.3s
MNAS Manas 2.59 257⇓eP Pn 19 00 23.7 +0.5
MNAS ⇓eS Sn 19 00 55.1 +0.3
PDGK Podgornoye 2.62 85 ⇑Pg Pb 19 00 27.5 -0.6
2.2nm,0.3s
PDGK ⇑Lg Lg 19 01 00.1
25nm,0.8s
KNOS Konyrlen 2.66 62 Pg Pb 19 00 27.7 -1.2
KNOS Lg Lg 19 01 01.3
DJR Jarkent 3.05 66 Pg Pb 19 00 35.1 -0.4
1.1nm,0.2s
DJR Lg Lg 19 01 13.6
13nm,0.5s
DJR Jarkent 3.05 66 eP Pb 19 00 35.1 -0.4
1.1nm,0.2s
DJR eS Sb 19 01 13.6 +0.9
13nm,0.5s
ARK Arkit 3.22 247⇓eP Pn 19 00 32.2 +0.5
ARK ⇓eS Sn 19 01 10.4 +0.3
KAPS Kapalarasan 3.28 48 Pg Pb 19 00 39.2 -0.1
1.6nm,0.1s
KAPS Lg Lg 19 01 20.5
19nm,0.2s
KK31 Karatay Array 3.96 271 Pg Pb 19 00 52.8 +1.9
1.4nm,0.5s,baz=80,slow=15,SNR=17
KK31 ⇓Lg Lg 19 01 48.7
4.2nm,0.3s,baz=90,slow=31,SNR=28
BRLS Borolday 4.46 271 eP Pg 19 01 04.4 -2.1
0.4nm,0.1s
BRLS eS Sg 19 02 03.9 -0.3
6.1nm,0.6s
MK31 Makanchi Array 5.81 49 Pn Pn 19 01 08.2 +1.0
0.3nm,0.3s,baz=224,slow=14,SNR=18
MK31 Sn Sn 19 02 17.9 +4.0
0.3nm,0.4s,baz=228,slow=23,SNR=6.3
MK31 ⇑Lg Lg 19 02 47.3
1.6nm,0.8s

*SJA **25** 19:14:52.6±0.6,21°.66S×66°.66W,h234km±7km,ML2.7, MW3.0*
*SCB **25** 19:14:56.6±1.2,21°.49S×66°.81W,h199km±14km,ML2.5/3, Error ellipse: s-maj=10.1km s-min=9.3km az=0.0*
ISC 25 19:14:54.5±3.6,21°.6S±0°.1×66°.70W±0°.08,h219km±28km, n13,σ1§51/20,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.04**	**72**	Pg	**Pn**	**19 15 27.5**	**+0.4**
MOCB				Sg	**S**	**19 15 51.7**	**-0.6**
MOCB				IAML		19 15 52.9	
21nm,0.4s							
YJA	**Yavi**	**1.26**	**119**	*eP*	**Pn**	**19 15 28.5**	**0.0**
YJA				*eS*	**S**	**19 15 54.8**	**-0.1**
PB09	**IPOC Station P**	**2.37**	**264**	*eP*	**Pn**	**19 15 41.7**	**+3.2**
PB09				*eS*	**S**	**19 16 13.4**	**+0.8**
PB09				IAML		19 16 18.4	
comp=Z,18nm,2.4s							
PB01	**IPOC Station P**	**2.65**	**281**	*eP*	**Pn**	**19 15 41.3**	**-0.1**
PB01				*eS*	**S**	**19 16 17.5**	**-0.2**
PB01				IAML		19 16 19.6	
comp=Z,12nm,1.2s							
PB01	**IPOC Station P**	**2.65**	**281**	Pg	**Pn**	**19 15 41.9**	**+0.5**
PB01				Sg	**S**	**19 16 15.7**	**-2.1**
PB01				IAML		19 16 17.5	
comp=Z,22nm,0.3s							
PB08	**IPOC Station P**	**2.70**	**301**	*eP*	**Pn**	**19 15 42.8**	**+0.6**
PB08				*eS*	**S**	**19 16 21.0**	**+1.7**
PB03	**IPOC Station P**	**2.88**	**260**	*eP*	**Pn**	**19 15 43.6**	**-0.3**
PB03				*eS*	**S**	**19 16 19.8**	**-2.6**
PB03				IAML		19 16 20.9	
comp=Z,15nm,0.2s							
PB03	**IPOC Station P**	**2.88**	**260**	Pg	**Pn**	**19 15 44.3**	**+0.4**
PB03				Sg	**S**	**19 16 19.7**	**-2.7**
PB03				IAML		19 16 20.0	
comp=Z,9.2nm,0.3s							
PB06	**IPOC Station P**	**2.89**	**246**	Pg	**Pn**	**19 15 45.7**	**+1.6**
ASTB	**Santa Barbara**	**3.15**	**139**	*eP*	Pn	19 15 34.5	-13
PB11	**IPOC Station P**	**3.30**	**303**	*eP*	**Pn**	**19 15 48.9**	**+0.1**
PB11				*eS*	**S**	**19 16 30.7**	**-0.6**
PB11				IAML		19 16 32.2	
comp=Z,12nm,0.2s							
PB11	**IPOC Station P**	**3.30**	**303**	Pg	**Pn**	**19 15 48.7**	**-0.1**
GO02	**Mina Guanaco**	**4.45**	**216**	*eP*	Pn	19 15 43.9	-19

*KRNET **25** 19:36:06.9±0.1,42°.61N×73°.39E,h26km,mb2.4*
*KNET **25** 19:36:07.8±0.6,42°.59N×73°.48E,h20km±1km,ml1.6, Error ellipse: s-maj=4.9km s-min=2.1km az=123.0*
*SOME **25** 19:36:07.6,42°.60N×73°.43E,h15km*
*NNC **25** 19:36:07.4±0.6,42°.69N×73°.45E,h0km,mb2.9,mpv2.7, Error ellipse: s-maj=6.6km s-min=3.1km az=13.0*
ISC 25 19:36:07.2±0.9,42°.60N±0°.03×73°.38E±0°.02,h16km±6km, n41,σ0§78/75,35C-13D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.18**	**323**	*eP*	**Pg**	**19 36 12.1**	**+0.3**
16nm,0.0s							
MRKS				*eS*	**Sg**	**19 36 14.9**	**0.0**
264nm,0.3s							
EKS2	**Erkin-Say**	**0.30**	**78**	⇑P	**Pg**	**19 36 13.7**	**0.0**
2.6nm,0.1s,SNR=44							
EKS2				⇑S	**Sg**	**19 36 18.2**	**+0.1**
25nm,0.1s							
EKS2	**Erkin-Say**	**0.30**	**78**	⇑*eP*	**Pg**	**19 36 13.6**	**-0.1**
EKS2				⇑*eS*	**Sg**	**19 36 18.3**	**+0.2**
AML	**Almayashu**	**0.52**	**153**	⇓P	**Pb**	**19 36 18.0**	**-0.2**
3.2nm,0.1s,SNR=15							
AML				⇑S	**Sb**	**19 36 25.5**	**-0.2**
17nm,0.1s							
AML	**Almayashu**	**0.52**	**153**	⇑*eP*	**Pg**	**19 36 17.6**	**-0.1**
AML				⇑*eS*	**Sb**	**19 36 25.2**	**-0.5**
MNAS	**Manas**	**0.66**	**261**	⇑*eP*	**Pg**	**19 36 19.8**	**-0.3**
MNAS				⇑*eS*	**Sg**	**19 36 29.2**	**+0.4**
AAK	**Ala-Archa**	**0.82**	**87**	⇑P	**Pg**	**19 36 22.9**	**-0.4**
5.6nm,0.1s,SNR=25							
AAK				⇑S	**Sg**	**19 36 33.7**	**-0.5**
8.2nm,0.3s							
AAK	**Ala-Archa**	**0.82**	**87**	⇑P	**Pg**	**19 36 22.6**	**-0.7**
1.7nm,0.3s							
AAK				⇑S	**Sg**	**19 36 33.1**	**-1.0**
3.2nm,0.3s							
AAK	**Ala-Archa**	**0.82**	**87**	⇑*eP*	**Pg**	**19 36 22.5**	**-0.7**
AAK				⇑*eS*	**Sg**	**19 36 33.6**	**-0.5**
UCH	**Uchtor**	**0.92**	**113**	⇑*eP*	**Pb**	**19 36 24.3**	**-0.7**
UCH				⇑*eS*	**Sb**	**19 36 36.7**	**-0.5**
ARLS	**Aral**	**1.02**	**136**	⇑*eP*	**Pb**	**19 36 26.1**	**-0.5**
ARLS				⇑*eS*	**Sg**	**19 36 39.8**	**-0.4**
USP	**Ospenovka**	**1.06**	**51**	⇑P	**Pb**	**19 36 26.5**	**-0.7**
2.4nm,0.1s,SNR=42							
USP				⇑S	**Sb**	**19 36 40.2**	**-0.8**
26nm,0.1s							
USP	**Ospenovka**	**1.06**	**51**	⇑*eP*	**Pb**	**19 36 26.3**	**-0.9**
USP				⇑*eS*	**Sb**	**19 36 40.3**	**-0.6**
KBK	**Karagaybulak**	**1.16**	**87**	⇑P	**Pn**	**19 36 28.9**	**-0.1**
8.2nm,0.1s,SNR=45							
KBK				⇑S	**Sn**	**19 36 44.5**	**-0.2**
13nm,0.2s							
KBK	**Karagaybulak**	**1.16**	**87**	⇓*eP*	**Pb**	**19 36 28.2**	**-0.8**
KBK				⇓*eS*	**Sb**	**19 36 43.6**	**-0.3**
SGDS	**Sogindy**	**1.25**	**47**	P	**Pn**	**19 36 29.8**	**-0.4**
2.3nm,0.1s							
SGDS				S	**Sb**	**19 36 45.9**	**-0.6**
31nm,0.1s							
ARK	**Arkit**	**1.32**	**233**	⇑*eP*	**Pb**	**19 36 31.8**	**+0.1**
ARK				⇑*eS*	**Sg**	**19 36 49.5**	**-0.4**
TKM2	**Tokmak 2**	**1.67**	**78**	⇓P	**Pb**	**19 36 37.0**	**-0.7**
2.1nm,0.1s,SNR=24							
TKM2				⇑S	**Sb**	**19 36 58.8**	**+0.3**
30nm,0.2s							
TKM2	**Tokmak 2**	**1.67**	**78**	⇓P	**Pb**	**19 36 36.8**	**-0.8**
1.3nm,0.5s							
TKM2				⇓S	**Sb**	**19 36 58.6**	**+0.2**
15nm,0.3s							
TKM2	**Tokmak 2**	**1.67**	**78**	⇓*eP*	**Pb**	**19 36 36.8**	**-0.8**
TKM2				⇓*eS*	**Sb**	**19 36 58.4**	**-0.1**
SALK	**Salom-Alik**	**1.75**	**169**	⇑*eP*	**Pb**	**19 36 38.1**	**-0.9**
SALK				⇑*eS*	**Sb**	**19 37 00.7**	**0.0**
DGS	**Degeres**	**1.87**	**69**	P	**Pb**	**19 36 40.5**	**-0.7**
5.0nm,0.2s							
DGS				S	**Sb**	**19 37 04.4**	**0.0**
16nm,0.2s							
BOOM	**Boomskoye usch**	**1.90**	**92**	⇓*eP*	**Pn**	**19 36 39.9**	**+0.8**
BOOM				⇓*eS*	**Sb**	**19 37 04.0**	**-1.1**
KST	**Kastek**	**1.95**	**76**	P	**Pb**	**19 36 42.0**	**-0.5**
6.1nm,0.4s							
KST				S	**Sb**	**19 37 07.3**	**+0.6**
14nm,0.4s							
KST	**Kastek**	**1.95**	**76**	*eP*	**Pb**	**19 36 42.0**	**-0.5**
6.0nm,0.3s							
KST				*eS*	**Sb**	**19 37 07.3**	**+0.6**
14nm,0.2s							
TRKS	**Terek-Say**	**1.98**	**238**	⇓*eP*	**Pb**	**19 36 41.6**	**-1.4**
TRKS				⇓*eS*	**Sb**	**19 37 06.9**	**-0.5**
ULHL	**Ulahol**	**2.15**	**98**	⇑*eP*	**Pn**	**19 36 43.5**	**+0.9**
ULHL				⇑*eS*	**Sn**	**19 37 10.1**	**+1.0**
KK31	**Karatay Array**	**2.17**	**284**	⇑Pg	**Pg**	**19 36 47.8**	**-1.0**
0.2nm,0.2s,baz=103,slow=17,SNR=4.1							
KK31				⇓Lg	Lg	19 37 15.0	
0.8nm,0.2s,baz=132,slow=18,SNR=12							
KKAR	**Karatay Array**	**2.17**	**284**	⇑*eP*	**Pn**	**19 36 43.8**	**+1.1**
KKAR				⇑*eS*	**Sn**	**19 37 10.8**	**+1.5**
MTBS	**Maitube**	**2.31**	**76**	Pg	**Pb**	**19 36 48.5**	**0.0**
1.3nm,0.2s							
MTBS				Lg	Lg	19 37 18.4	
6.0nm,0.2s							
MTBS	**Maitube**	**2.31**	**76**	*eP*	**Pb**	**19 36 48.5**	**0.0**
1.3nm,0.2s							
MTBS				*eS*	**Sb**	**19 37 18.2**	**+1.4**
6.0nm,0.2s							
IZV	**Izvestkoviy**	**2.42**	**78**	Pg	**Pb**	**19 36 49.6**	**-0.9**
1.4nm,0.1s							
IZV				Lg	Lg	19 37 20.4	
5.2nm,0.1s							
IZV	**Izvestkoviy**	**2.42**	**78**	*eP*	**Pb**	**19 36 50.5**	**0.0**
0.8nm,0.1s							
IZV				*eS*	**Sb**	**19 37 21.1**	**+0.9**
5.2nm,0.1s							
BTLS	**Baital**	**2.49**	**11**	Pg	**Pb**	**19 36 49.5**	**-2.1**
0.3nm,0.1s							
BTLS				Lg	Lg	19 37 19.7	
3.2nm,0.2s							
BTLS	**Baital**	**2.49**	**11**	*eP*	**Pb**	**19 36 51.0**	**-0.5**
1.8nm,0.3s							
BTLS				*eS*	**Sb**	**19 37 22.2**	**+0.2**
3.1nm,0.2s							
BRLS	**Borolday**	**2.64**	**281**	*eP*	**Pg**	**19 36 57.1**	**-0.7**
0.6nm,0.2s							
BRLS				*eS*	**Sg**	**19 37 32.7**	**+0.6**
2.3nm,0.2s							
KTBS	**Karatobe**	**2.66**	**64**	Pg	**Pb**	**19 36 54.7**	**+0.2**
0.6nm,0.2s							
KTBS				Lg	Lg	19 37 28.7	
5.7nm,0.4s							
TNSS	**Tian-Shan**	**2.66**	**79**	Pg	**Pb**	**19 36 54.7**	**0.0**
0.5nm,0.1s							
TNSS				Lg	Lg	19 37 29.0	
1.8nm,0.3s							
TNSS	**Tian-Shan**	**2.66**	**79**	*eP*	**Pb**	**19 36 54.7**	**0.0**
0.5nm,0.1s							
TNSS				*eS*	**Sb**	**19 37 29.0**	**+1.6**
1.8nm,0.3s							
KOTS	**Kotyrbulak**	**2.81**	**76**	Pg	**Pb**	**19 36 57.8**	**+0.6**
1.6nm,0.1s							
KOTS				Lg	Lg	19 37 34.2	
5.3nm,0.4s							
KOTS	**Kotyrbulak**	**2.81**	**76**	*eP*	**Pb**	**19 36 57.8**	**+0.6**
1.6nm,0.1s							
KOTS				*eS*	**Sb**	**19 37 34.2**	**+2.6**
5.3nm,0.4s							

*IDC **25** 19:36:44.1±0.9,14°.50N×93°.52W,h0km,mb4.1/14, mbtmp4.1/16,ML1.9/2,MS4.0/11,Error ellipse: s-maj=23.0km s-min=15.0km az=26.0*
*MEX **25** 19:36:46.0±0.5,14°.41N×93°.93W,h12km±999km,MD4.3*
*NEIC **25** 19:36:49.4±2.7,14°.66N±0°.08×93°.74W±0°.05,h24km±6km, mb4.5/89,Md4.3/30(MEX),Error ellipse: s-maj=11.3km s-min=6.7km az=193.0*
ISC 25 19:36:45.4±3.8,14°.51N±0°.05×93°.78W±0°.04,h10km±23km, n142,σ1§40/139,mb4.5/48,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**25**		**Pn**	**19 37 09.1**	**-0.7**
PCIG					**Sb**	**19 37 26.0**	**-0.9**
PCIG		**1.30**	**25**	*eP*	**Pn**	**19 37 09.1**	**-0.7**
PCIG				*eS*	**Sb**	**19 37 26.0**	**-0.9**
THIG		**1.52**	**75**		**Pn**	**19 37 12.2**	**-0.5**
THIG					**Sn**	**19 37 30.6**	**-1.8**
THIG		**1.52**	**75**	*eP*	**Pn**	**19 37 12.2**	**-0.5**
THIG				*eS*	**Sn**	**19 37 30.6**	**-1.8**
PATR	**El Naranjo**	**1.61**	**68**	*eP*	**Pn**	**19 37 13.0**	**-1.2**
PATR				*i* S	**Sb**	**19 37 35.1**	**-0.9**
PAVE	**Pavencul**	**1.69**	**66**	*eP*	**Pn**	**19 37 14.3**	**-1.0**
PAVE				*i* S	**Sb**	**19 37 37.3**	**-1.0**
CARR	**Arriaga**	**1.73**	**356**	*eP*	**Pn**	**19 37 15.4**	**-0.1**
CARR				*i* S	**Sn**	**19 37 36.9**	**-0.8**
RTAL	**Retalhuleu**	**2.02**	**89**	Pn	**Pn**	**19 37 18.1**	**-1.4**
NILT	**Santiago Nilte**	**2.19**	**339**	*eP*	**Pn**	**19 37 21.4**	**-0.6**
NILT				*eS*	**Sn**	**19 37 47.2**	**-1.9**
HUEH	**Huehuetenango**	**2.34**	**70**	Pn	**Pn**	**19 37 24.4**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.35**	**16**		**Pn**	**19 37 23.2**	**-0.9**
TGBT					**Sb**	**19 37 56.1**	**-0.8**
TGBT	**Tuxtla Gutierr**	**2.35**	**16**	*eP*	**Pn**	**19 37 23.2**	**-0.9**
TGBT				*i* S	**Sb**	**19 37 56.1**	**-0.8**
CCIG	**Comitan**	**2.37**	**42**	Pn	**Pn**	**19 37 26.0**	**+1.5**
CCIG	**Comitan**	**2.37**	**42**	*eP*	**Pn**	**19 37 26.1**	**+1.5**
CCIG				*i* S	**Sn**	**19 37 52.4**	**-1.4**
HUIG	**Huatulco**	**2.57**	**299**		**Pn**	**19 37 25.1**	**-2.1**
HUIG	**Huatulco**	**2.57**	**299**	*eP*	**Pn**	**19 37 25.1**	**-2.1**
CMIG	**Matias Romero**	**2.78**	**338**		**Pn**	**19 37 29.5**	**-0.5**
CMIG					**Sn**	**19 38 01.1**	**-2.5**
CMIG	**Matias Romero**	**2.78**	**338**	Pn	**Pn**	**19 37 29.8**	**-0.1**
57nm,0.6s,baz=151,slow=11,SNR=76							
CMIG				Sn	**Sn**	**19 37 59.8**	**-3.8**
28nm,0.3s,baz=135,slow=9.6,SNR=6.1							
CMIG	**Matias Romero**	**2.78**	**338**	*eP*	**Pn**	**19 37 29.5**	**-0.5**
CMIG				*i* S	**Sn**	**19 38 01.1**	**-2.5**
UXUV	**UXUV**	**2.81**	**353**	*eP*	**Pn**	**19 37 32.4**	**+1.9**
APG	**El Apazote**	**3.25**	**81**	Pn	**Pn**	**19 37 33.4**	**-3.2**
0.3nm,0.3s,baz=212,slow=19,SNR=14							
APG				Lg	Lg	19 38 17.9	
1.7nm,0.3s,baz=239,slow=23,SNR=4.9							
MTO3	**Montecristo**	**4.28**	**91**	Pn	**Pn**	**19 37 53.7**	**+2.8**
ESQI	**Esquipulas**	**4.30**	**89**		**Pn**	**19 37 50.5**	**-0.5**
PETF	**Flores**	**4.46**	**57**	Pn	**Pn**	**19 37 52.6**	**-0.6**
HLIG	**Huajuapan de L**	**5.08**	**311**		**Pn**	**19 38 03.3**	**+1.4**
HLIG					**Sn**	**19 39 00.7**	**0.0**
HLIG	**Huajuapan de L**	**5.08**	**311**	*eP*	**Pn**	**19 38 03.3**	**+1.4**
HLIG				*i* S	**Sn**	**19 39 00.7**	**0.0**
FTIG	**Fresnillo de T**	**5.37**	**310**		**Pn**	**19 38 07.1**	**+1.3**
FTIG					**Sn**	**19 39 04.9**	**-3.0**
FTIG	**Fresnillo de T**	**5.37**	**310**	*eP*	**Pn**	**19 38 07.1**	**+1.3**
FTIG				*eS*	**Sn**	**19 39 04.9**	**-3.0**
TLIG	**Tlapa**	**5.51**	**304**	Pn	**Pn**	**19 38 08.2**	**+0.5**
CRIG	**Cruz Grande**	**5.61**	**294**		**Pn**	**19 38 08.4**	**-0.5**
CRIG	**Cruz Grande**	**5.61**	**294**	*i* P	**Pn**	**19 38 08.4**	**-0.5**
CRIG				*i* S	Sn	19 39 01.4	-12
DAIG	**Los Arroyos**	**6.18**	**295**	*eP*	Pn	19 38 07.7	-9.1
DAIG				*i* S	Sn	19 39 16.8	-11
AOVM	**Tlapan**	**7.11**	**312**		**Pn**	**19 38 29.4**	**-0.5**
AOVM					**Sn**	**19 39 50.4**	**-0.6**
AOVM	**Tlapan**	**7.11**	**312**	*eP*	**Pn**	**19 38 29.4**	**-0.5**
AOVM				*eS*	**Sn**	**19 39 50.4**	**-0.6**
CNGN	**Cerro Negro**	**7.17**	**105**	Pn	**Pn**	**19 38 32.0**	**+1.6**
TEIG	**Tepich**	**7.74**	**42**	Pn	**Pn**	**19 38 38.4**	**+0.2**
TEIG	**Tepich**	**7.74**	**42**	Pn	**Pn**	**19 38 36.8**	**-1.4**
baz=180,slow=20,SNR=2.1							
TEIG				Sn	**Sn**	**19 40 05.0**	**-1.0**
0.1nm,0.3s,baz=193,slow=24,SNR=6.1							
BOAB	**BOACO BROADBAN**	**8.15**	**104**	Pn	**Pn**	**19 38 45.5**	**+1.6**
SOR	**Soroa**	**13.11**	**50**	Pn	**Pn**	**19 39 47.9**	**-3.9**
HBVL	**Hebbronville**	**13.30**	**341**	Pn	**Pn**	**19 39 53.8**	**-0.5**
833A	**Chaparral WMA,**	**14.70**	**340**	Pn	**Pn**	**19 40 10.7**	**-2.8**
HNDO	**Hondo**	**15.79**	**342**		**Pn**	**19 40 29.6**	**+1.7**
HNDO				IAmb	IAmb	19 40 57.0	
comp=Z,22nm,0.9s							
DRIO	**Del Rio**	**16.13**	**338**		**Pn**	**19 40 32.2**	**-0.1**
JCT	**Junction City**	**16.83**	**342**		**Pn**	**19 40 42.6**	**+1.3**
SAND	**Sanderson**	**17.19**	**335**	P	**Pn**	**19 40 47.0**	**+1.2**
TX31	**Lajitas Ar. Si**	**17.35**	**330**	P	**P**	**19 40 50.6**	**+1.4**
TXAR	**Lajitas Array**	**17.35**	**330**		**P**	**19 40 50.0**	**+0.8**
TXAR	**Lajitas Array**	**17.35**	**330**	P	**P**	**19 40 50.9**	**+1.6**
comp=Z,0.9nm,0.8s,baz=150,slow=13,SNR=13							
BRDY	**Brady**	**17.37**	**345**	Pn	**Pn**	**19 40 47.9**	**-0.1**
OZNA	**Ozona**	**17.67**	**339**		**P**	**19 40 53.4**	**+0.6**
OZNA				IAmb	IAmb	19 41 00.9	
comp=Z,28nm,1.0s							
ALPN	**Alpine**	**18.21**	**332**		**P**	**19 41 00.7**	**+1.9**
SGCY	**Sterling City**	**18.58**	**340**		**P**	**19 41 03.5**	**+0.7**
SGCY				IAmb	IAmb	19 41 17.3	
comp=Z,33nm,1.0s							
MNHN	**Monahans**	**18.66**	**335**	P	**P**	**19 41 04.4**	**+0.7**
PLPT	**Palo Pinto**	**18.68**	**348**		**P**	**19 41 04.4**	**+0.6**
Z41A	**Richland Creek**	**18.68**	**3**		**P**	**19 41 03.5**	**-0.3**
Z41A				IAmb	IAmb	19 41 31.3	
comp=Z,24nm,1.0s							
VHRN	**Van Horn**	**19.19**	**329**

comp=Z,50nm,1.1s
SN05 Snyder 5 19.39 342 P **P 19 41 12.3 +0.6**
SN07 Snyder 07 19.59 342 P **Pn 19 41 15.2 +0.1**
APMT Aspermont 19.60 344 P **P 19 41 13.9 +0.1**
POST Post 19.76 341 P **P 19 41 15.6 -0.1**
MIAR Mount Ida 19.95 0 P **P 19 41 18.4 +0.8**
HTMS Hat Mesa 20.01 335 P **P 19 41 19.8 +1.3**
CLN7 Carlsbad 7 20.03 335 P **P 19 41 18.7 0.0**
DKNS Dickens 20.14 342 P **P 19 41 18.4 -1.4**
DKNS IAmb IAmb 19 41 44.4
comp=Z,14nm,0.9s
WMOK Wichita Mounta 20.64 348 P **P 19 41 25.8 +0.6**
W35A Tecumseh 20.74 353 P **P 19 41 25.0 -1.3**
W35A IAmb IAmb 19 41 39.6
comp=Z,21nm,1.0s
FNO Franklin 20.91 352 P Pn 19 41 30.1 -0.6
SMWD Samnorwood 21.32 345 P **P 19 41 32.5 0.0**
FCAR Ozark Folk Cen 21.34 4 P **P 19 41 33.6 +0.9**
FCAR IAmb IAmb 19 41 54.5
comp=Z,26nm,1.4s
ROSC El Rosal 21.44 115 P **P 19 41 34.9 +0.6**
ROSC IAmb IAmb 19 41 49.7
comp=Z,34nm,0.9s
ROSC El Rosal 21.44 115 P **P 19 41 39.5 +5.1**
comp=Z,12nm,0.6s,baz=259,slow=16,SNR=9.9
OK029 Liberty Lake 21.45 352 P **P 19 41 35.3 +1.4**
OK029 IAmb IAmb 19 41 48.1
comp=Z,16nm,0.9s
AMTX Amarillo 21.50 342 P **P 19 41 35.4 +0.8**
AMTX IAmb IAmb 19 41 55.2
comp=Z,29nm,0.9s
LCAR Lake Charles 21.60 6 P **P 19 41 36.9 +1.4**
LCAR IAmb IAmb 19 42 03.8
comp=Z,18nm,1.1s
HHAR Hobbs 21.68 360 P **P 19 41 37.1 +0.7**
HHAR IAmb IAmb 19 41 43.7
comp=Z,12nm,0.8s
121A Cookes Peak, D 22.02 327 P **P 19 41 42.8 +2.6**
121A IAmb IAmb 19 41 49.4
comp=Z,28nm,0.9s
FLOC Florencia 22.04 124 P **P 19 41 40.9 +0.4**
FLOC IAmb IAmb 19 41 50.3
comp=Z,34nm,1.3s
RUSC La Rusia 22.08 111 P **P 19 41 39.9 -1.5**
RUSC IAmb IAmb 19 41 48.5
comp=Z,30nm,1.1s
T42A Van Buren 22.55 6 P **P 19 41 44.4 -1.3**
T42A IAmb IAmb 19 41 57.2
comp=Z,14nm,1.3s
MGMO Mountain Grove 22.59 3 P **P 19 41 46.0 -0.2**
MGMO IAmb IAmb 19 42 02.4
comp=Z,26nm,1.4s
RTBA Rita Blanca 23.26 341 IAmb IAmb 19 42 02.7
comp=Z,22nm,1.2s
ANMO Albuquerque 23.33 333 P **P 19 41 54.8 +0.7**
SDV Santo Domingo 23.34 101 P **P 19 41 57.0 +2.7**
TUC Tucson 23.55 322 P **P 19 41 57.1 +1.0**
TUC IAmb IAmb 19 42 04.8
comp=Z,14nm,1.1s
T25A Trinidad 24.45 339 IAmb IAmb 19 42 13.1
comp=Z,18nm,1.1s
MVCO Mesa Verde 26.13 333 pP 19 42 27.2 +4.7
N38A Joes South For 26.19 1 P **P 19 42 20.6 +0.4**
GLA Glamis 26.58 318 P **P 19 42 26.5 +2.6**
GLA IAmb IAmb 19 42 31.9
comp=Z,6.4nm,0.8s
PV23 Carpenter Ridg 27.39 333 IAmb IAmb 19 42 39.3
comp=Z,12nm,0.9s
V12A Nelson 28.34 322 IAmb IAmb 19 42 48.0
comp=Z,6.3nm,0.9s
ECSD EROS Data Cent 29.22 356 IAmb IAmb 19 42 52.0
comp=Z,7.8nm,0.8s
PD31 Pinedale Array 31.26 337 pP 19 43 11.8 +3.7
PDAR Pinedale Array 31.26 337 P **P 19 43 07.3 +1.6**
comp=Z,1.3nm,0.9s,baz=122,slow=7.2,SNR=3.4
comp=Z,1.3nm,0.9s
ELK Elko 32.14 329 pP 19 43 21.1 +5.1
NVAR Mina Array Bea 32.20 322 P **P 19 43 15.8 +1.9**
NVAR Mina Array Bea 32.20 322 P **P 19 43 16.4 +2.4**
comp=Z,2.2nm,0.8s,baz=151,slow=8.8,SNR=6.7
comp=Z,2.2nm,0.8s
LOHW Long Hollow 32.38 337 pP 19 43 22.2 +4.2
HLID Hailey 33.91 333 P **P 19 43 30.2 +1.4**
HLID IAmb IAmb 19 43 46.3
comp=Z,4.5nm,1.1s
ULM Lac du Bonnet 35.68 358 P **P 19 43 45.5 +1.7**
comp=Z,2.8nm,0.7s,baz=176,slow=15,SNR=5.5
comp=Z,2.8nm,0.7s
PLID Pearl Lake 35.82 333 IAmb IAmb 19 43 52.5
comp=Z,5.5nm,0.8s
F10A Beach Ranch, E 37.05 333 IAmb IAmb 19 44 02.5
comp=Z,6.9nm,0.8s
LPAZ La Paz 39.73 139 P **P 19 44 18.5 -0.6**
comp=Z,0.7nm,0.5s,baz=323,slow=10,SNR=2.0
LPAZ LR LR 19 59 09.3
comp=Z,61nm,18.9s,baz=326,slow=34
comp=Z,0.7nm,0.5s
YKA Yellowknife Ar 50.15 348 P **P 19 45 40.9 +0.2**
comp=Z,1.9nm,0.6s,baz=159,slow=7.5,SNR=42
comp=Z,1.9nm,0.6s
BDFB Brasilia 54.25 122 P **P 19 46 10.7 -1.4**
comp=Z,2.4nm,0.6s,baz=305,slow=11,SNR=3.9
comp=Z,2.4nm,0.6s
MMPY Sheldon Lake, 54.82 340 P **P 19 46 16.9 +1.4**
MMPY IAmb IAmb 19 46 23.3
comp=Z,10nm,1.2s
MESA MESA 57.42 334 P **P 19 46 36.1 +1.8**
L29M L29M 57.54 338 IAmb IAmb 19 46 42.0
comp=Z,6.0nm,1.0s
L27K Beaver Creek, 58.90 337 P **P 19 46 45.3 +0.8**
L27K IAmb IAmb 19 46 51.7
comp=Z,6.8nm,1.2s
INK Inuvik 59.47 344 IAmb IAmb 19 46 54.0
comp=Z,4.2nm,0.8s
RES Resolute Bay 60.17 360 IAmb IAmb 19 46 59.5
comp=Z,6.5nm,1.1s
PAX Paxson 60.28 336 P **P 19 46 54.7 +0.7**
PAX IAmb IAmb 19 47 00.7
comp=Z,5.2nm,1.0s
J26L Joseph Creek 60.32 338 IAmb IAmb 19 47 02.0
comp=Z,3.5nm,0.8s
RIDG Independent Ri 60.41 337 P **P 19 46 55.7 +0.9**
E29M Blow River 60.73 343 pP 19 47 03.0 +3.4
J25K Salcha River, 61.05 337 P **P 19 46 59.6 +0.4**
J25K IAmb IAmb 19 47 07.0
comp=Z,6.1nm,1.2s
E28M Babbage River 61.34 343 pP 19 47 06.6 +2.8
PRP Porcupine Dome 61.56 338 IAmb IAmb 19 47 09.3
comp=Z,6.0nm,0.8s
ILAR Eielson Array 61.70 337 P **P 19 47 03.4 -0.1**
ILAR Eielson Array 61.70 337 P **P 19 47 03.8 +0.3**
comp=Z,1.7nm,0.9s,baz=149,slow=4.7,SNR=17
comp=Z,1.7nm,0.9s
MCK McKinley 62.02 336 IAmb IAmb 19 47 12.3
comp=Z,6.4nm,1.0s
F25K Christian Rive 62.66 340 P **P 19 47 10.0 +0.1**
F25K IAmb IAmb 19 47 26.5
comp=Z,3.0nm,1.2s
KTH Kantishna Hill 62.75 335 P **P 19 47 10.4 -0.2**
KTH IAmb IAmb 19 47 23.3
comp=Z,5.9nm,0.9s
COLD Coldfoot 64.03 339 P **P 19 47 19.2 +0.2**
E23K Chandalar 64.20 340 P **P 19 47 20.7 +0.4**
E22K Anaktuvuk Pass 64.98 339 pP 19 47 31.6 +3.7
D22K Ayikyak River 65.58 340 P **P 19 47 29.4 +0.3**
F20K Avaraart Lake 65.94 338 IAmb IAmb 19 47 38.1
comp=Z,6.5nm,0.9s
EKA Eskdalemuir Ar 78.56 36 P **P 19 48 48.2 +1.1**
comp=Z,1.6nm,0.7s,baz=272,slow=5.7,SNR=4.8
comp=Z,1.6nm,0.7s
SPITS Spitsbergen Ar 79.93 11 P **P 19 48 54.5 +0.3**
comp=Z,4.6nm,0.8s,baz=289,slow=4.4,SNR=1.6
comp=Z,4.6nm,0.8s
ESDC Sonseca Array 80.75 51 P **P 19 48 58.2 -1.2**
comp=Z,0.2nm,0.3s,baz=270,slow=6.0,SNR=2.5
comp=Z,0.2nm,0.3s
NB2 NORSAR Subarra 84.52 28 P **P 19 49 19.2 +0.7**
comp=Z,12nm,1.1s,baz=291,slow=4.8
NB2 NORSAR Subarra 84.52 28 P **P 19 49 19.2 +0.7**
baz=291,slow=4.8
NOA NORSAR Array B 84.52 28 P **P 19 49 19.0 +0.5**
comp=Z,2.2nm,1.0s,baz=292,slow=4.8,SNR=6.5
comp=Z,2.2nm,1.0s
ARCES ARCESS Array B 86.19 18 P **P 19 49 25.9 -0.8**
comp=Z,3.6nm,1.0s,baz=316,slow=3.8,SNR=4.2
comp=Z,3.6nm,1.0s
GERES GERESS Array B 90.30 39 P **P 19 49 45.5 -1.3**
comp=Z,0.3nm,0.5s,baz=309,slow=3.4,SNR=1.6
comp=Z,0.3nm,0.5s
FINES FINESS Array B 90.76 25 P **P 19 49 48.1 -0.4**
comp=Z,2.9nm,1.0s,baz=0.0,slow=1.9,SNR=3.6
comp=Z,2.9nm,1.0s
VRAC Vranov 91.86 38 LR LR 20 30 28.5
comp=Z,69nm,18.0s,baz=336,slow=35
KURBB Kurchatov Arra 114.80 5 PKP **PKiKP 19 55 25.6 -0.7**
comp=Z,0.4nm,0.9s,baz=45,slow=1.4,SNR=4.3
WRA Warramunga Arr 133.84 256 PKP **PKiKP 19 56 04.8 -0.1**
comp=Z,0.7nm,0.7s,baz=86,slow=2.1,SNR=5.6
ASAR Alice Springs 134.20 251 PKP **PKPdf 19 56 04.2 0.0**
comp=Z,0.3nm,0.5s,baz=55,slow=3.3,SNR=2.6
CMAR Chiang Mai Arr 144.92 339 PKPbc **PKPab 19 56 22.6 -0.2**
comp=Z,2.5nm,0.9s,baz=342,slow=3.4,SNR=12

*NEIC **25** 19:38:52.3±1.7, 14°.58N±0°.06×93°.62W±0°.03, h10km±1km, mb4.6/134, Md4.3/51(MEX), Error ellipse: s-maj=11.0km s-min=3.7km az=197.0*
*MEX **25** 19:38:56.2±1.2, 14°.58N×93°.73W, h20km±29km, MD4.3*
*IDC **25** 19:38:57.6±2.3, 14°.76N×93°.71W, h46km±16km, mb4.1/11, mbtmp4.2/15, ML3.8/4, MS4.0/26, Error ellipse: s-maj=26.6km s-min=9.5km az=31.0*
ISC 25 19:38:50.8±1.6, 14°.55N±0°.05×93°.70W±0°.03, h7km±9km, n190, σ1°95/163, mb4.6/65, MS4.0/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.24**	**22**		**Pg**	**19 39 15.2**	**+0.5**
PCIG					**Sb**	**19 39 29.1**	**-1.8**
PCIG		**1.24**	**22**	*e*P	**Pg**	**19 39 15.2**	**+0.5**
PCIG				*e*S	**Sb**	**19 39 29.1**	**-1.8**
PATR	**El Naranjo**	**1.53**	**68**	*e*P	**Pn**	**19 39 19.0**	**+0.2**
PATR				*i* S	**Sg**	**19 39 39.3**	**-0.7**
PAVE	**Pavencul**	**1.61**	**66**	*e*P	**Pb**	**19 39 20.9**	**-0.1**
PAVE				*i* S	**Sn**	**19 39 39.3**	**-1.7**
CHUJ	**Union Juarez**	**1.63**	**70**	*e*P	**Pg**	**19 39 21.8**	**-0.3**
CHUJ				*i* S	**Sb**	**19 39 41.3**	**-1.0**
CARR	**Arriaga**	**1.70**	**353**	*e*P	**Pn**	**19 39 21.2**	**+0.2**
CARR				*e*S	**Sn**	**19 39 38.6**	**-4.5**
RTAL	**Retalhuleu**	**1.94**	**90**	Pn	**Pn**	**19 39 24.6**	**+0.3**
RTAL	**Retalhuleu**	**1.94**	**90**	*e*P	**Pn**	**19 39 25.2**	**+0.9**
RTAL				*e*S	**Sg**	**19 39 51.3**	**-2.0**
NILT	**Santiago Nilte**	**2.19**	**336**	*e*P	**Pn**	**19 39 27.0**	**-0.8**
NILT				*e*S	**Sn**	**19 39 51.2**	**-4.0**
HUEH	**Huehuetenango**	**2.26**	**70**	Pn	**Pn**	**19 39 28.9**	**0.0**
HUEH	**Huehuetenango**	**2.26**	**70**	*e*P	**Pn**	**19 39 29.5**	**+0.6**
HUEH				*e*S	**Sn**	**19 39 57.4**	**+0.3**
CCIG	**Comitan**	**2.29**	**41**	Pn	**Pn**	**19 39 29.6**	**+0.3**
CCIG	**Comitan**	**2.29**	**41**	*e*P	**Pb**	**19 39 31.6**	**-1.1**
CCIG				*i* S	**Sb**	**19 40 00.4**	**-0.9**
TGBT	**Tuxtla Gutierr**	**2.29**	**15**		**Pn**	**19 39 31.0**	**+1.9**
TGBT					**Sb**	**19 40 00.8**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.29**	**15**	*e*P	**Pn**	**19 39 31.0**	**+1.9**
TGBT				*e*S	**Sb**	**19 40 00.8**	**-0.4**
HUIG	**Huatulco**	**2.62**	**298**		**Pn**	**19 39 31.7**	**-2.0**
HUIG					Sn	19 39 57.6	-8.3
HUIG	**Huatulco**	**2.62**	**298**	*e*P	**Pn**	**19 39 31.7**	**-2.0**
HUIG				*i* S	Sn	19 39 57.6	-8.3
CMIG	**Matias Romero**	**2.77**	**336**		**Pn**	**19 39 36.3**	**+0.6**
CMIG					**Sn**	**19 40 06.7**	**-2.9**
CMIG	**Matias Romero**	**2.77**	**336**	P	**Pn**	**19 39 35.9**	**+0.1**
27nm,0.3s,baz=175,slow=12,SNR=6.1							
CMIG				S	**Sn**	**19 40 07.2**	**-2.4**
310nm,0.5s,baz=150,slow=8.7,SNR=3.7 86nm,0.4s							
CMIG	**Matias Romero**	**2.77**	**336**	*e*P	**Pn**	**19 39 36.3**	**+0.6**
CMIG				*i* S	**Sn**	**19 40 06.7**	**-2.9**
UXUV	**UXUV**	**2.79**	**351**	*e*P	**Pn**	**19 39 38.6**	**+2.6**
UXUV				*i* S	**Sn**	**19 40 09.0**	**-1.0**
APG	**El Apazote**	**3.16**	**81**	P	**Pn**	**19 39 43.1**	**+1.8**
3.4nm,0.3s,baz=65,slow=22,SNR=5.8							
APG				S	**Sb**	**19 40 23.1**	**-3.3**
23nm,0.6s,baz=196,slow=13,SNR=4.5 5.6nm,0.4s							
NEUV	**Arroyo Zacate**	**3.74**	**328**	*e*P	**Pn**	**19 39 49.1**	**+0.1**
NEUV				*e*S	**Sn**	**19 40 35.6**	**+2.2**
OXIG	**Oaxaca**	**3.85**	**311**		**Pn**	**19 39 53.9**	**+3.1**
OXIG					**Sn**	**19 40 30.5**	**-5.9**
VHO	**Vista Hermosa**	**3.85**	**311**	*e*P	**Pn**	**19 39 53.9**	**+3.1**
VHO				*i* S	**Sn**	**19 40 30.5**	**-5.9**
MTO3	**Montecristo**	**4.21**	**91**	Pn	**Pn**	**19 39 56.8**	**+1.1**
ESQI	**Esquipulas**	**4.22**	**89**	Pn	**Pn**	**19 39 55.1**	**-0.7**
YOIG	**Yosondua**	**4.36**	**302**		**Sn**	**19 40 43.0**	**-6.1**
YOIG	**Yosondua**	**4.36**	**302**	*i* S	**Sn**	**19 40 43.0**	**-6.1**
PETF	**Flores**	**4.38**	**57**	Pn	**Pn**	**19 40 00.3**	**+2.4**
PETF	**Flores**	**4.38**	**57**	*e*P	**Pn**	**19 40 00.6**	**+2.7**
PETF				*i* S	**Sn**	**19 40 50.0**	**+0.9**
PNIG	**Pinotepa**	**4.65**	**294**		**Pn**	**19 40 03.9**	**+2.4**
PNIG					**Sn**	**19 40 55.0**	**-0.8**
PNIG	**Pinotepa**	**4.65**	**294**	*i* P	**Pn**	**19 40 03.9**	**+2.4**
PNIG				*i* S	**Sn**	**19 40 55.0**	**-0.8**
TXIG	**Tlaxiaco**	**4.75**	**305**		**Sn**	**19 40 59.9**	**+1.2**
TXIG	**Tlaxiaco**	**4.75**	**305**	*i* S	**Sn**	**19 40 59.9**	**+1.2**
TOIG	**Toxpalan**	**4.78**	**318**		**Sn**	**19 41 00.6**	**+1.2**
TOIG	**Toxpalan**	**4.78**	**318**	*i* S	**Sn**	**19 41 00.6**	**+1.2**
SCIG	**Sabancuy**	**5.01**	**28**	*e*P	**Pn**	**19 40 10.1**	**+3.5**
SCIG				*i* S	**Sn**	**19 41 00.9**	**-3.8**
HLIG	**Huajuapan de L**	**5.12**	**310**		**Sn**	**19 41 00.7**	**-7.0**
HLIG	**Huajuapan de L**	**5.12**	**310**	*i* S	**Sn**	**19 41 00.7**	**-7.0**
TPIG	**Tehuac#an**	**5.21**	**318**		**Pn**	**19 40 12.8**	**+3.3**
TPIG					**Sn**	**19 41 10.6**	**+0.6**
TPIG	**Tehuac#an**	**5.21**	**318**	*i* P	**Pn**	**19 40 12.8**	**+3.3**
TPIG				*i* S	**Sn**	**19 41 10.6**	**+0.6**
TLIG	**Tlapa**	**5.56**	**303**	*i* S	**Sn**	**19 41 18.6**	**+0.2**
JAUV	**Jalcomulco**	**5.64**	**329**	*e*S	Sn	19 41 11.3	-9.0
PBCV	**Popocatepetl**	**6.41**	**314**	*e*S	**Sn**	**19 41 41.1**	**+1.2**
PBXN	**Popocatepetl**	**6.50**	**314**	*i* S	**Sn**	**19 41 43.6**	**+1.4**
PBXN				*e*S	Sb	19 41 44.1	-19
PBPN	**Popocatepetl**	**6.50**	**314**	*e*S	**Sn**	**19 41 42.9**	**+0.7**
YAIG	**Yautepec**	**6.70**	**311**		**Sn**	**19 41 48.5**	**+1.9**
YAIG	**Yautepec**	**6.70**	**311**	*i* S	**Sn**	**19 41 48.5**	**+1.9**
PLIG	**Platanillo**	**6.75**	**305**		**Pn**	**19 40 33.3**	**+2.7**
PLIG					**Sn**	**19 41 49.2**	**+1.3**
PLIG	**Platanillo**	**6.75**	**305**	*i* P	**Pn**	**19 40 33.3**	**+2.7**
PLIG				*i* S	**Sn**	**19 41 49.2**	**+1.3**
TEIG	**Tepich**	**7.66**	**42**	Pn	**Pn**	**19 40 43.4**	**+0.5**
TEIG	**Tepich**	**7.66**	**42**	P	**Pn**	**19 40 44.3**	**+1.4**
0.2nm,0.4s,baz=339,slow=24,SNR=1.7							
TEIG				S	**Sn**	**19 42 09.3**	**-0.7**
0.2nm,0.4s,baz=153,slow=24,SNR=1.1							
MOIG	**Morelia**	**8.79**	**307**	Pn	**Pn**	**19 41 00.1**	**+1.4**
JTS	**Las Juntas de**	**9.53**	**115**	P	**Pn**	**19 41 12.4**	**+3.7**
1.8nm,0.3s,baz=300,slow=17,SNR=2.4 4.9nm,0.3s							
ZAIG	**Zacatecas**	**11.72**	**316**	Pn	**Pn**	**19 41 40.4**	**+1.5**
PBC	**Punta Burica**	**12.05**	**119**		**Pn**	**19 41 41.1**	**-2.1**
833A	**Chaparral WMA,**	**14.69**	**340**		**Pn**	**19 42 19.0**	**-0.2**
HKT	**Hockley**	**15.46**	**353**	Pn	**Pn**	**19 42 29.0**	**-0.3**
HNDO	**Hondo**	**15.78**	**342**		**Pn**	**19 42 33.0**	**-0.6**
DRIO	**Del Rio**	**16.13**	**338**	Pn	**Pn**	**19 42 38.1**	**-0.1**
JCT	**Junction City**	**16.82**	**342**		**Pn**	**19 42 45.6**	**-1.5**
NATX	**Nacogdoches**	**17.16**	**357**	Pn	**Pn**	**19 42 51.3**	**+0.1**
NATX				IAmb	IAmb	19 42 55.6	
comp=Z,32nm,0.8s							
SAND	**Sanderson**	**17.19**	**335**		**Pn**	**19 42 51.4**	**-0.3**
TXAR	**Lajitas Array**	**17.36**	**330**		**Pn**	**19 42 54.3**	**+0.4**
TXAR	**Lajitas Array**	**17.36**	**330**	P	**Pn**	**19 42 54.7**	**+0.8**
comp=Z,0.1nm,0.3s,baz=150,slow=13,SNR=7.2 comp=Z,2.8nm,0.9s							
CHIV	**Chivirico**	**17.36**	**69**		**P**	**19 42 55.4**	**+0.2**
CHIV				IAmb	IAmb	19 43 25.5	
comp=Z,24nm,1.1s							
TX31	**Lajitas Ar. Si**	**17.36**	**330**		**Pn**	**19 42 53.5**	**-0.4**
OZNA	**Ozona**	**17.67**	**339**	Pn	**Pn**	**19 42 57.8**	**+0.1**
OZNA				IAmb	IAmb	19 43 05.5	
comp=Z,47nm,1.1s							
VBMS	**Vicksburg**	**17.83**	**9**	Pn	**Pn**	**19 42 57.9**	**-1.6**
VBMS				IAmb	IAmb	19 43 12.9	
comp=Z,27nm,0.7s							
ALPN	**Alpine**	**18.22**	**332**	P	**P**	**19 43 06.5**	**+1.8**
LPIG	**La Paz**	**18.31**	**304**	LR	LR	19 50 37.1	
comp=Z,251nm,18.1s,baz=28,slow=38							
FW07	**Weatherford**	**18.45**	**349**	P	**Pn**	**19 43 08.1**	**+0.9**
SGCY	**Sterling City**	**18.57**	**340**	P	**P**	**19 43 08.3**	**-0.3**
SGCY				IAmb	IAmb	19 43 13.6	
comp=Z,19nm,0.7s							
Z41A	**Richland Creek**	**18.65**	**2**	P	**P**	**19 43 09.7**	**+0.4**
MNHN	**Monahans**	**18.67**	**335**	P	**P**	**19 43 08.5**	**-1.1**
FW03	**Perrin-Whitt E**	**18.83**	**349**	IAmb	IAmb	19 43 07.4	
comp=Z,36nm,0.6s							
PECS	**Pecos**	**19.16**	**333**	P	**P**	**19 43 15.3**	**+0.2**
VHRN	**Van Horn**	**19.20**	**329**	P	**P**	**19 43 16.6**	**+0.9**
ODSA	**Odessa**	**19.27**	**337**	P	**P**	**19 43 16.1**	**-0.2**
ODSA				IAmb	IAmb	19 43 21.0	
comp=Z,49nm,1.2s							
APMT	**Aspermont**	**19.58**	**344**	P	**P**	**19 43 19.5**	**-0.1**
WTFS	**Witchita Falls**	**19.62**	**348**	P	**P**	**19 43 20.1**	**+0.1**
POST	**Post**	**19.75**	**340**	P	**P**	**19 43 22.4**	**+0.8**
HTMS	**Hat Mesa**	**20.01**	**335**	P	**P**	**19 43 25.2**	**+0.8**
CLN7	**Carlsbad 7**	**20.03**	**334**	P	**P**	**19 43 25.6**	**+1.0**
DKNS	**Dickens**	**20.13**	**342**	P	**P**	**19 43 26.8**	**+1.2**
DKNS				IAmb	IAmb	19 43 35.5	
comp=Z,16nm,0.7s							
WMOK	**Wichita Mounta**	**20.62**	**348**	P	**P**	**19 43 31.4**	**+0.5**
WHAR	**Wooly Hollow**	**20.70**	**3**	P	**P**	**19 43 32.7**	**+1.1**
WHAR				IAmb	IAmb	19 44 10.6	
comp=Z,26nm,1.4s							
W35A	**Tecumseh**	**20.72**	**353**	P	**P**	**19 43 32.3**	**+0.4**
W35A				IAmb	IAmb	19 43 56.2	
comp=Z,32nm,1.1s							
FNO	**Franklin**	**20.89**	**351**	P	**P**	**19 43 34.9**	**+1.1**
OKCSW	**OKLAHOMA CITY**	**21.04**	**351**	P	**P**	**19 43 36.6**	**+1.1**
HBAR	**Harrisburg**	**21.10**	**7**	P	**P**	**19 43 38.1**	**+2.1**
FCAR	**Ozark Folk Cen**	**21.30**	**4**	P	**P**	**19 43 40.5**	**+2.4**
SMWD	**Samnorwood**	**21.30**	**345**	IAmb	IAmb	19 43 41.6	
comp=Z,36nm,1.1s							
ROSC	**El Rosal**	**21.38**	**115**	P	**P**	**19 43 40.5**	**+0.8**
ROSC				IAmb	IAmb	19 43 50.7	
comp=Z,23nm,0.8s							
ROSC	**El Rosal**	**21.38**	**115**	P	**P**	**19 43 43.3**	**+3.6**
comp=Z,12nm,0.5s,baz=345,slow=12,SNR=6.2 comp=Z,12nm,0.5s							
AMTX	**Amarillo**	**21.49**	**342**	P	**P**	**19 43 40.7**	**+0.3**
AMTX				IAmb	IAmb	19 43 55.6	
comp=Z,52nm,1.2s							
LCAR	**Lake Charles**	**21.55**	**6**	P	**P**	**19 43 41.6**	**+0.7**
LCAR				IAmb	IAmb	19 44 02.5	
comp=Z,20nm,1.2s							
HHAR	**Hobbs**	**21.65**	**359**	IAmb	IAmb	19 43 45.1	
comp=Z,21nm,1.1s							
RUSC	**La Rusia**	**22.02**	**111**	P	**P**	**19 43 47.4**	**+0.8**
RUSC				IAmb	IAmb	19 43 49.7	
comp=Z,45nm,1.2s							
121A	**Cookes Peak, D**	**22.03**	**327**	IAmb	IAmb	19 43 51.0	
comp=Z,40nm,1.0s							
MGMO	**Mountain Grove**	**22.55**	**3**	P	**P**	**19 43 52.5**	**+0.8**
MGMO				IAmb	IAmb	19 44 04.6	
comp=Z,22nm,1.1s							
KAN13	**South Haven SW**	**22.63**	**352**	P	**P**	**19 43 54.1**	**+1.7**
CRNM	**Carthage**	**22.64**	**331**	P	**P**	**19 43 52.6**	**-0.2**
TKL	**Tuckaleechee C**	**22.83**	**21**	LR	LR	19 53 06.2	
comp=Z,293nm,18.6s,baz=210,slow=38							
RTBA	**Rita Blanca**	**23.25**	**341**	P	**P**	**19 43 60.0**	**+0.9**
RTBA				IAmb	IAmb	19 44 02.5	
comp=Z,21nm,1.1s							
SDV	**Santo Domingo**	**23.27**	**101**	P	**P**	**19 44 00.5**	**+1.0**
SDV	**Santo Domingo**	**23.27**	**101**	LR	LR	19 53 14.6	
comp=Z,155nm,20.2s,baz=269,slow=37							
ANMO	**Albuquerque**	**23.34**	**333**	LR	LR	19 53 45.6	
comp=Z,121nm,18.5s,baz=291,slow=38							
SIUC	**Southern Illin**	**23.42**	**9**	P	**P**	**19 44 00.5**	**0.0**
TUC	**Tucson**	**23.57**	**322**	P	**P**	**19 44 04.1**	**+1.8**
TUC				IAmb	IAmb	19 44 05.9	
comp=Z,15nm,1.0s							
T25A	**Trinidad**	**24.44**	**339**	IAmb	IAmb	19 44 14.1	
comp=Z,27nm,1.1s							
X18A	**Snowflake**	**24.72**	**326**	IAmb	IAmb	19 44 17.6	
comp=Z,8.1nm,0.9s							
BAUV	**El Baul**	**25.72**	**100**	P	**P**	**19 44 21.3**	**-0.8**
BAUV				IAmb	IAmb	19 44 23.3	
comp=Z,18nm,0.9s							
Y14A	**Wickenburg**	**26.04**	**321**	IAmb	IAmb	19 44 30.5	
comp=Z,10nm,1.2s							
MVCO	**Mesa Verde**	**26.14**	**332**	IAmb	IAmb	19 44 29.0	
comp=Z,16nm,1.2s							
N38A	**Joes South For**	**26.15**	**1**	P	**P**	**19 44 24.7**	**-1.1**
SJG	**San Juan**	**26.66**	**79**	LR	LR	19 54 47.1	
comp=Z,132nm,20.6s,baz=242,slow=36							
PV11	**David Mesa, Pa**	**27.20**	**333**	IAmb	IAmb	19 44 45.1	
comp=Z,17nm,1.2s							
ISCO	**Idaho Springs**	**27.24**	**340**	IAmb	IAmb	19 44 38.7	
comp=Z,9.0nm,1.0s							
PV23	**Carpenter Ridg**	**27.39**	**333**	IAmb	IAmb	19 44 40.3	
comp=Z,17nm,1.0s							
V12A	**Nelson**	**28.37**	**322**	IAmb	IAmb	19 44 49.0	
comp=Z,7.4nm,0.9s							
ECSD	**EROS Data Cent**	**29.20**	**356**	IAmb	IAmb	19 44 53.0	
comp=Z,7.1nm,0.8s							
SPR3	**Spring Creek 3**	**30.39**	**327**	IAmb	IAmb	19 45 06.8	
comp=Z,7.2nm,1.1s							
PDAR	**Pinedale Array**	**31.26**	**337**	P	**P**	**19 45 12.8**	**+1.1**
comp=Z,1.8nm,0.9s,baz=137,slow=8.4,SNR=7.8 comp=Z,1.8nm,0.9s							
HVU	**Hansel Valley**	**31.77**	**332**	IAmb	IAmb	19 45 19.2	
comp=Z,7.2nm,1.1s							
NV11	**Mina Array Sit**	**32.14**	**322**	IAmb	IAmb	19 45 23.0	
comp=Z,9.5nm,1.1s							
ELK	**Elko**	**32.15**	**328**	LR	LR	20 00 00.6	
comp=Z,251nm,18.0s,baz=142,slow=40							
NVAR	**Mina Array Bea**	**32.22**	**322**	P	**P**	**19 45 20.9**	**+0.8**
NVAR	**Mina Array Bea**	**32.22**	**322**	P	**P**	**19 45 21.6**	**+1.5**
comp=Z,4.8nm,0.8s,baz=141,slow=8.7,SNR=11 comp=Z,4.8nm,0.8s							
LOHW	**Long Hollow**	**32.38**	**337**	IAmb	IAmb	19 45 24.2	
comp=Z,6.6nm,0.9s							
TPAW	**Teton Pass**	**32.41**	**336**	IAmb	IAmb	19 45 26.4	
comp=Z,16nm,1.2s							
MOOW	**Moose Ponds**	**32.55**	**337**	IAmb	IAmb	19 45 25.6	
comp=Z,12nm,1.4s							
SADO	**Sadowa**	**32.56**	**19**	LR	LR	19 59 42.6	
comp=Z,266nm,18.8s,baz=274,slow=38							
FXWY	**Fox Creek**	**32.56**	**336**	IAmb	IAmb	19 45 25.9	
comp=Z,10nm,1.4s							
YHL	**Hebgen Lake**	**33.65**	**337**	IAmb	IAmb	19 45 36.9	
comp=

comp=Z,8.6nm,1.1s
M30M Minto, Yukon 56.73 338 P **P 19 48 35.9 +0.8**
M30M IAmb IAmb 19 48 36.8
comp=Z,8.9nm,1.3s
L29M L29M 57.54 338 IAmb IAmb 19 48 43.0
comp=Z,9.6nm,1.1s
INK Inuvik 59.46 344 P **P 19 48 53.8 -0.3**
INK IAmb IAmb 19 48 55.5
comp=Z,7.7nm,1.1s
RES Resolute Bay 60.14 360 IAmb IAmb 19 48 58.9
comp=Z,6.2nm,1.1s
A36M Sachs Harbour 60.40 349 IAmb IAmb 19 49 07.6
comp=Z,3.8nm,0.8s
G27K Doyon Strip 60.92 340 IAmb IAmb 19 49 06.5
comp=Z,3.5nm,0.9s
J25K Salcha River, 61.05 337 IAmb IAmb 19 49 12.4
comp=Z,3.3nm,0.9s
PRP Porcupine Dome 61.56 338 P **P 19 49 08.9 +0.2**
ILAR Eielson Array 61.69 337 P **P 19 49 09.3 -0.1**
ILAR Eielson Array 61.69 337 P **P 19 49 09.7 +0.2**
comp=Z,4.1nm,0.9s,baz=143,slow=4.3,SNR=20
comp=Z,4.1nm,0.9s
RND Reindeer 61.84 335 P **P 19 49 11.2 +0.6**
MCK McKinley 62.02 336 P **P 19 49 11.9 +0.2**
MCK IAmb IAmb 19 49 12.7
comp=Z,6.4nm,0.9s
D27M Malcolm River 62.13 343 P **P 19 49 13.0 +0.6**
D27M IAmb IAmb 19 49 14.2
comp=Z,8.2nm,1.2s
BMAR Burnt Mountain 62.22 340 P **P 19 49 14.0 +1.0**
G24K Hadweenzic Riv 62.83 339 IAmb IAmb 19 49 18.8
comp=Z,6.7nm,1.1s
C27K Jago River 63.15 342 IAmb IAmb 19 49 21.6
comp=Z,5.4nm,0.9s
E22K Anaktuvuk Pass 64.97 339 IAmb IAmb 19 49 33.0
comp=Z,8.0nm,1.1s
D22K Ayikyak River 65.58 340 IAmb IAmb 19 49 37.2
comp=Z,6.3nm,0.9s
EKA Eskdalemuir Ar 78.48 36 P **P 19 50 51.7 -0.9**
comp=Z,1.7nm,0.8s,baz=274,slow=5.5,SNR=3.4
comp=Z,1.7nm,0.8s
BILL Bilibino 80.34 338 P **P 19 51 02.9 +0.3**
BILL IAmb IAmb 19 51 04.5
comp=Z,11nm,1.2s
ESDC Sonseca Array 80.67 51 P **P 19 51 03.5 -1.5**
comp=Z,1.0nm,0.9s,baz=272,slow=6.0,SNR=4.2
comp=Z,1.0nm,0.9s
MDT Midelt 81.52 58 LR LR 20 24 54.3
comp=Z,91nm,19.5s,baz=312,slow=34
NB2 NORSAR Subarra 84.45 28 P **P 19 51 25.5 +1.3**
comp=Z,2.6nm,1.0s,baz=290,slow=5.1
NOA NORSAR Array B 84.45 28 P **P 19 51 24.4 +0.2**
comp=Z,4.3nm,0.9s,baz=292,slow=4.8,SNR=8.7
comp=Z,4.3nm,0.9s
ARCES ARCESS Array B 86.13 18 P **P 19 51 32.9 +0.5**
comp=Z,0.8nm,0.4s,baz=317,slow=5.1,SNR=7.0
comp=Z,0.8nm,0.4s
DAVOX Davos/Dischmat 88.56 42 LR LR 20 30 09.7
comp=Z,89nm,19.0s,baz=301,slow=35
MA2 Magadan 89.86 333 LR LR 20 37 40.1
comp=Z,52nm,20.2s,baz=88,slow=39
FINES FINESS Array B 90.70 25 P **P 19 51 54.0 -0.3**
comp=Z,1.4nm,0.9s,baz=327,slow=2.3,SNR=4.0
comp=Z,1.4nm,0.9s
SONM Songino Array 115.36 345 PKP **PKPdf 19 57 35.8 +2.1**
comp=Z,0.6nm,1.1s,baz=70,slow=1.7,SNR=3.8
WRA Warramunga Arr 133.93 256 PKP **PKPdf 19 58 09.4 -0.4**
comp=Z,0.8nm,0.8s,baz=89,slow=2.4,SNR=3.5
ASAR Alice Springs 134.29 251 PKP **PKPdf 19 58 10.4 0.0**
comp=Z,0.5nm,0.9s,baz=101,slow=1.8,SNR=3.3
CMAR Chiang Mai Arr 144.92 339 PKP **PKPab 19 58 28.8 -0.1**
comp=Z,4.3nm,0.9s,baz=342,slow=3.9,SNR=16
KAPI Kappang 145.75 283 PKPbc **PKPdf 19 58 32.0 +0.6**
comp=Z,8.8nm,0.4s,baz=64,slow=8.5,SNR=3.6

---

*IDC **25** 19:50:11.2±2.4, 14°.63N×93°.76W, h0km, mb3.5/2, mbtmp3.5/3, ML2.4/3, MS3.6/1, Error ellipse: s-maj=42.8km s-min=24.1km az=15.0*
ISC 25 19:50:15.5±1.7, 14°.6N±0°.1×93°.76W±0°.09, h30km, n6, σ0°28/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**2.68**	**336**	Pn	**Pn**	**19 50 56.5**	**-0.2**
	3.0nm,0.3s,baz=148,slow=11,SNR=28						
CMIG				Sn	**Sn**	**19 51 27.9**	**-0.3**
	10nm,0.3s,baz=177,slow=9.9,SNR=5.1						
	23nm,0.5s						
APG	**El Apazote**	**3.21**	**83**	Pn	**Pn**	**19 51 03.9**	**-0.2**
	0.7nm,0.3s,baz=197,slow=15,SNR=21						
APG				Sn	**Sn**	**19 51 41.3**	**-0.2**
	0.5nm,0.3s,baz=225,slow=19,SNR=5.2						
TEIG	**Tepich**	**7.64**	**42**	Pn	**Pn**	**19 52 05.1**	**+0.2**
	baz=232,slow=20,SNR=7.4						
TEIG				Sn	**Sn**	**19 53 30.4**	**-0.1**
	baz=180,slow=24						
YKA	**Yellowknife Ar**	**50.04**	**348**	P	**P**	**19 59 07.2**	**0.0**
	0.7nm,0.7s,baz=158,slow=7.5,SNR=11						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**61.60**	**337**	P	**P**	**20 00 30.4**	**+0.4**
	0.4nm,0.7s,baz=110,slow=7.5,SNR=4.4						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**144.83**	**339**	PKP	**PKPab**	**20 09 49.2**	**-0.2**
	0.2nm,0.3s,baz=347,slow=4.4,SNR=4.9						

---

*IDC **25** 19:56:48.3±1.4, 14°.40N×93°.84W, h0km, mb4.0/8, mbtmp3.9/10, ML3.3/3, MS4.1/1, Error ellipse: s-maj=36.4km s-min=16.8km az=35.0*
*MEX **25** 19:56:53.6±0.9, 14°.52N×93°.78W, h10km±30km, MD4.2*
ISC 25 19:56:50.7±2.5, 14°.60N±0°.07×93°.71W±0°.04, h10km±15km, n31, σ1°72/49, mb4.0/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**23**	*eP*	**Pn**	**19 57 14.3**	**+0.8**
PCIG				*eS*	**Sg**	**19 57 29.7**	**+0.4**
PATR	**El Naranjo**	**1.52**	**70**	*eP*	**Pn**	**19 57 18.2**	**+0.1**
PATR				*eS*	**Sn**	**19 57 38.3**	**+0.3**
PAVE	**Pavencul**	**1.59**	**68**	*eP*	**Pn**	**19 57 19.8**	**+0.6**
PAVE				*i* S	**Sn**	**19 57 41.2**	**+1.3**
CARR	**Arriaga**	**1.65**	**353**	*eP*	**Pn**	**19 57 19.9**	**+0.1**
CARR				*i* S	**Sn**	**19 57 40.5**	**-0.6**
RTAL	**Retalhuleu**	**1.95**	**92**	*eP*	**Pn**	**19 57 23.4**	**-0.4**
RTAL				*eS*	**Sn**	**19 57 48.6**	**+0.2**
NILT	**Santiago Nilte**	**2.14**	**336**	*eP*	**Pn**	**19 57 25.6**	**-0.9**
NILT				*i* S	**Sn**	**19 57 50.5**	**-2.7**
HUEH	**Huehuetenango**	**2.25**	**71**	*eP*	**Pb**	**19 57 30.4**	**-1.1**
HUEH				*eS*	**Sn**	**19 57 58.1**	**+2.0**
CCIG	**Comitan**	**2.26**	**42**	*eP*	**Pb**	**19 57 31.6**	**-0.1**
CCIG				*i* S	**Sn**	**19 57 57.3**	**+1.0**
CMIG	**Matias Romero**	**2.73**	**336**	Pn	**Pn**	**19 57 35.0**	**+0.4**
	8.2nm,0.3s,baz=151,slow=12,SNR=41						
CMIG				Sn	**Sn**	**19 58 09.9**	**+2.3**
	20nm,0.3s,baz=195,slow=21,SNR=7.7						
	35nm,0.4s						
CMIG	**Matias Romero**	**2.73**	**336**	*eP*	**Pn**	**19 57 34.9**	**+0.3**
CMIG				*i* S	**Sn**	**19 58 07.4**	**-0.2**
UXUV	**UXUV**	**2.74**	**351**	*eP*	**Pn**	**19 57 37.1**	**+2.4**
UXUV				*i* S	**Sn**	**19 58 08.2**	**+0.4**
APG	**El Apazote**	**3.16**	**82**	Pn	**Pn**	**19 57 42.6**	**+1.8**
	0.6nm,0.3s,baz=212,slow=17,SNR=25						
APG				Sn	**Sb**	**19 58 24.4**	**-1.5**
	1.2nm,0.3s,baz=185,slow=11,SNR=10						
PEIG	**Puerto Escondi**	**3.60**	**293**	*eP*	**Pn**	**19 57 44.5**	**-2.1**
NEUV	**Arroyo Zacate**	**3.69**	**327**	*eP*	**Pn**	**19 57 48.8**	**+1.0**
NEUV				*i* S	**Sn**	**19 58 28.4**	**-3.1**
VHO	**Vista Hermosa**	**3.81**	**311**	*eP*	**Pn**	**19 57 53.2**	**+3.5**
VHO				*i* S	**Sn**	**19 58 37.3**	**+2.6**
TXIG	**Tlaxiaco**	**4.71**	**305**	*eP*	**Pn**	**19 58 03.6**	**+1.4**
TXIG				*i* S	**Sb**	**19 59 06.3**	**-4.4**
TOIG	**Toxpalan**	**4.74**	**318**	*eP*	**Pn**	**19 58 05.0**	**+2.6**
TOIG				*eS*	**Sn**	**19 58 58.8**	**+1.3**
SCIG	**Sabancuy**	**4.97**	**29**	*i* P	**Pn**	**19 58 07.9**	**+2.5**
SCIG				*i* S	**Sn**	**19 59 02.0**	**-1.0**
PPM	**Popocatepetl**	**6.48**	**314**	*eP*	Pn	19 58 31.6	+5.0
PPM				*i* S	**Sn**	**19 59 43.9**	**+3.0**
TEIG	**Tepich**	**7.63**	**42**	Pn	**Pn**	**19 58 43.9**	**+1.9**
	baz=232,slow=20,SNR=11						
TEIG				Sn	**Sn**	**20 00 06.6**	**-1.9**
	baz=215,slow=24,SNR=5.6						
TXAR	**Lajitas Array**	**17.32**	**330**	P	**P**	**20 00 54.9**	**+0.8**
	0.1nm,0.3s,baz=155,slow=12,SNR=5.9						
	1.1nm,1.1s						
SDV	**Santo Domingo**	**23.28**	**102**	P	**P**	**20 02 00.7**	**+1.6**
	3.4nm,0.7s,baz=271,slow=5.3,SNR=4.2						
	3.4nm,0.7s						
PDAR	**Pinedale Array**	**31.21**	**337**	P	**P**	**20 03 10.0**	**-0.5**
	0.4nm,0.8s,baz=156,slow=7.8,SNR=3.0						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**32.18**	**322**	P	**P**	**20 03 19.9**	**+0.9**
	1.8nm,0.9s,baz=169,slow=4.7,SNR=0.8						
	1.8nm,0.9s						
YKA	**Yellowknife Ar**	**50.08**	**348**	P	**P**	**20 05 45.9**	**+0.4**
	1.7nm,0.8s,baz=158,slow=7.4,SNR=28						
	1.7nm,0.8s						
BDFB	**Brasilia**	**54.24**	**122**	P	**P**	**20 06 15.3**	**-1.9**
	2.9nm,0.6s,baz=292,slow=4.5,SNR=4.9						
	2.9nm,0.6s						
ILAR	**Eielson Array**	**61.65**	**337**	P	**P**	**20 07 08.8**	**+0.4**
	1.5nm,0.9s,baz=144,slow=3.8,SNR=16						
	1.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**78.45**	**36**	P	**P**	**20 08 50.6**	**-1.1**
	1.1nm,0.8s,baz=282,slow=3.5,SNR=2.6						
	1.1nm,0.8s						
NB2	**NORSAR Subarra**	**84.41**	**28**	P	**P**	**20 09 24.2**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=292,slow=5.1						
NOA	**NORSAR Array B**	**84.41**	**28**	P	**P**	**20 09 23.7**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=292,slow=4.8,SNR=5.4						
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**144.87**	**339**	PKPbc	**PKPab**	**20 16 27.7**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=340,slow=4.3,SNR=11						

---

*IDC **25** 19:59:12.6±1.2, 14°.55N×93°.47W, h0km, mb4.1/7, mbtmp4.0/9, ML3.9/2, MS3.9/3, Error ellipse: s-maj=28.7km s-min=12.9km az=28.0*
*NEIC **25** 19:59:13.3±1.9, 14°.4N±0°.1×93°.46W±0°.08, h10km±1km, mb4.2/24, Error ellipse: s-maj=21.0km s-min=11.8km az=199.0*
*MEX **25** 19:59:14.6±1.0, 14°.32N×93°.90W, h12km±79km, MD4.2*
ISC 25 19:59:11.1±2.2, 14°.32N±0°.06×93°.72W±0°.04, h6km±13km, n64, σ1°99/78, mb4.2/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.46**	**19**	*eP*	**Pn**	**19 59 37.7**	**-0.3**
PCIG				*eS*	**Sb**	**19 59 55.5**	**-2.1**
THIG		**1.53**	**67**	*eP*	**Pb**	**19 59 40.5**	**+0.8**
THIG				*eS*	**Sg**	**20 00 00.5**	**+0.3**
PATR	**El Naranjo**	**1.64**	**61**	*eP*	**Pn**	**19 59 41.7**	**+1.0**
PATR				*eS*	**Sg**	**20 00 04.1**	**+0.1**
PAVE	**Pavencul**	**1.73**	**59**	*eP*	**Pn**	**19 59 42.9**	**+1.0**
PAVE				*eS*	**Sb**	**20 00 05.3**	**-0.2**
CARR	**Arriaga**	**1.93**	**355**	*eP*	**Pn**	**19 59 43.4**	**-1.1**
CARR				*eS*	**Sn**	**20 00 04.6**	**-4.5**
RTAL	**Retalhuleu**	**1.97**	**84**	Pn	**Pn**	**19 59 42.6**	**-2.5**
HUEH	**Huehuetenango**	**2.37**	**65**		**Pn**	**19 59 48.0**	**-2.7**
NILT	**Santiago Nilte**	**2.40**	**339**	*eP*	**Pn**	**19 59 49.9**	**-1.0**
NILT				*eS*	**Sn**	**20 00 15.2**	**-5.4**
CCIG	**Comitan**	**2.48**	**38**	Pn	**Pn**	**19 59 51.6**	**-0.6**
CCIG	**Comitan**	**2.48**	**38**	*eP*	**Pb**	**19 59 55.3**	**-0.9**
CCIG				*eS*	**Sn**	**20 00 19.8**	**-3.2**
TGBT	**Tuxtla Gutierr**	**2.52**	**14**	*eP*	**Pn**	**19 59 54.3**	**+1.7**
TGBT				*eS*	**Sn**	**20 00 22.2**	**-1.4**
HUIG	**Huatulco**	**2.72**	**302**	*eP*	**Pn**	**19 59 54.2**	**-1.1**
HUIG				*eS*	Sn	20 00 19.5	-9.1
CMIG	**Matias Romero**	**2.98**	**338**	Pn	**Pn**	**19 59 58.3**	**-0.6**
	12nm,0.3s,baz=165,slow=12,SNR=7.1						
CMIG				Sn	**Sn**	**20 00 30.6**	**-4.4**
	34nm,0.3s,baz=184,slow=15,SNR=4.1						
CMIG				Lg	Lg	20 00 42.1	
	47nm,0.3s,baz=108,slow=20,SNR=5.6						
	51nm,0.5s						
CMIG	**Matias Romero**	**2.98**	**338**	*eP*	**Pn**	**19 59 58.4**	**-0.6**
UXUV	**UXUV**	**3.01**	**352**	*eP*	**Pn**	**20 00 00.6**	**+1.2**
UXUV				*eS*	**Sn**	**20 00 35.6**	**-0.2**
APG	**El Apazote**	**3.23**	**77**	Pn	**Pn**	**20 00 00.3**	**-2.2**
	baz=172,slow=11						
APG				Pg	**Pb**	**20 00 06.9**	**-2.0**
	0.8nm,0.3s,baz=202,slow=14,SNR=6.1						
APG				Lg	Lg	20 00 44.8	
	1.3nm,0.3s,baz=216,slow=17,SNR=5.4						
NEUV	**Arroyo Zacate**	**3.93**	**330**	*eP*	**Pn**	**20 00 13.3**	**+1.4**
NEUV				*i* S	**Sn**	**20 00 56.8**	**-1.5**
VHO	**Vista Hermosa**	**3.99**	**314**	*eP*	**Pn**	**20 00 12.1**	**-0.9**
VHO				*i* S	**Sn**	**20 00 56.1**	**-4.2**
PMUV	**Sontecomapan**	**4.42**	**342**	*eP*	**Pn**	**20 00 22.4**	**+3.7**
PMUV				*i* S	**Sn**	**20 01 09.6**	**-1.0**
TXIG	**Tlaxiaco**	**4.87**	**307**	*i* S	**Sn**	**20 01 18.5**	**-3.5**
TOIG	**Toxpalan**	**4.95**	**320**	*eP*	**Pn**	**20 00 25.6**	**-0.5**
TOIG				*i* S	**Sn**	**20 01 20.7**	**-2.9**
HLIG	**Huajuapan de L**	**5.26**	**312**	*i* S	**Sn**	**20 01 29.2**	**-2.3**
TPIG	**Tehuac#an**	**5.37**	**320**	*i* P	**Pn**	**20 00 31.1**	**-0.8**
TPIG				*i* S	**Sn**	**20 01 31.1**	**-3.2**
FTIG	**Fresnillo de T**	**5.54**	**311**	*i* P	**Pn**	**20 00 33.2**	**-1.1**
FTIG				*i* S	Sn	20 01 31.7	-6.8
JAUV	**Jalcomulco**	**5.83**	**330**	*eP*	**Pn**	**20 00 35.7**	**-2.4**
JAUV				*i* S	**Sn**	**20 01 42.1**	**-3.2**
TEIG	**Tepich**	**7.85**	**41**	Pn	**Pn**	**20 01 04.4**	**-1.4**
JTS	**Las Juntas de**	**9.45**	**114**	Pn	**Pn**	**20 01 24.7**	**-3.2**
	0.6nm,0.3s,baz=303,slow=17,SNR=1.7						
JTS				Lg	Lg	20 03 59.5	
	0.5nm,0.3s,baz=306,slow=17,SNR=4.7						
NATX	**Nacogdoches**	**17.39**	**357**		**S**	**20 06 36.3**	**-0.6**
SAND	**Sanderson**	**17.39**	**335**		**Pn**	**20 03 15.1**	**+0.6**
TXAR	**Lajitas Array**	**17.55**	**330**	P	**P**	**20 03 19.4**	**+1.7**
	0.1nm,0.3s,baz=144,slow=11,SNR=4.4						
	0.6nm,0.6s						
OZNA	**Ozona**	**17.88**	**339**	P	**P**	**20 03 21.6**	**+0.4**
ALPN	**Alpine**	**18.41**	**332**	P	**P**	**20 03 29.2**	**+2.0**
SGCY	**Sterling City**	**18.78**	**340**	P	**Pn**	**20 03 32.5**	**+0.8**
SGCY				IAmb	IAmb	20 03 39.4	
	comp=Z,12nm,0.8s						
MNHN	**Monahans**	**18.87**	**335**	P	**Pn**	**20 03 33.5**	**+0.8**
VHRN	**Van Horn**	**19.39**	**330**	P	**Pn**	**20 03 40.2**	**+1.2**
APMT	**Aspermont**	**19.80**	**344**	P	**Pn**	**20 03 43.4**	**-0.4**
APMT				IAmb	IAmb	20 03 58.1	
	comp=Z,12nm,1.2s						
POST	**Post**	**19.97**	**341**	P	**P**	**20 03 43.4**	**-0.8**
POST				IAmb	IAmb	20 03 55.3	
	comp=Z,7.3nm,0.8s						
DKNS	**Dickens**	**20.34**	**342**	P	**P**	**20 03 48.7**	**+0.4**
DKNS				IAmb	IAmb	20 04 16.9	
	comp=Z,11nm,1.1s						
W35A	**Tecumseh**	**20.94**	**353**	P	Pn	20 03 56.1	-1.0
W35A				IAmb	IAmb	20 04 18.5	
	comp=Z,9.0nm,0.8s						
FNO	**Franklin**	**21.11**	**352**	P	**P**	**20 03 57.3**	**+0.8**
ROSC	**El Rosal**	**21.30**	**114**	P	**P**	**20 03 58.8**	**-0.3**
SMWD	**Samnorwood**	**21.52**	**345**	P	**P**	**20 04 00.3**	**-0.6**
RUSC	**La Rusia**	**21.96**	**110**		**P**	**20 04 04.0**	**-2.3**
121A	**Cookes Peak, D**	**22.21**	**327**	P	**P**	**20 04 11.2**	**+2.6**
TKL	**Tuckaleechee C**	**23.06**	**21**	LR	LR	20 15 13.9	
	comp=Z,149nm,19.0s,baz=210,slow=42						
SDV	**Santo Domingo**	**23.24**	**101**	P	**P**	**20 04 20.6**	**+1.1**
	comp=Z,1.5nm,0.4s,baz=323,slow=5.2,SNR=3.7						
	comp=Z,1.5nm,0.4s						
TUC	**Tucson**	**23.74**	**322**	P	**P**	**20 04 26.7**	**+2.5**
X18A	**Snowflake**	**24.90**	**327**	P	**P**	**20 04 37.1**	**+2.0**
X18A				IAmb	IAmb	20 04 48.5	
	comp=Z,6.7nm,1.2s						
Y14A	**Wickenburg**	**26.21**	**322**	P	**P**	**20 04 48.6**	**+1.8**
Y14A				IAmb	IAmb	20 05 13.8	
	comp=Z,4.8nm,1.2s						
PV23	**Carpenter Ridg**	**27.59**	**333**	P	**P**	**20 04 59.4**	**0.0**
PV23				IAmb	IAmb	20 05 08.9	
	comp=Z,5.3nm,0.9s						
PD31	**Pinedale Array**	**31.47**	**337**		**P**	**20 05 32.1**	**-1.6**
PD31				IAmb	IAmb	20 05 48.5	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**32.39**	**322**	P	**P**	**20 05 44.1**	**+2.2**
NVAR	**Mina Array Bea**	**32.39**	**322**	P	**P**	**20 05 44.8**	**+2.9**
	comp=Z,1.8nm,0.8s,baz=156,slow=7.8,SNR=5.6						
	comp=Z,1.8nm,0.8s						
LOHW	**Long Hollow**	**32.59**	**337**	P	**P**	**20 05 45.3**	**+1.8**
LOHW				IAmb	IAmb	20 05 46.4	
	comp=Z,4.3nm,1.1s						
LYMT	**Lyon Mountain**	**36.07**	**338**	P	**P**	**20 06 14.5**	**+0.8**
YBH	**Yreka Blue Hor**	**37.10**	**323**	LR	LR	20 23 47.2	
	comp=Z,157nm,18.1s,baz=155,slow=40						
F10A	**Beach Ranch, E**	**37.25**	**333**	P	**P**	**20 06 24.1**	**+0.4**
F10A				IAmb	IAmb	20 06 25.8	
	comp=Z,3.2nm,0.8s						
YKA	**Yellowknife Ar**	**50.35**	**348**	P	**P**	**20 08 09.2**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=159,slow=7.4,SNR=25						
	comp=Z,2.5nm,0.8s						
BDFB	**Brasilia**	**54.10**	**122**	P	**P**	**20 08 39.0**	**+1.7**
	comp=Z,2.9nm,0.6s,baz=268,slow=4.0,SNR=5.1						
	comp=Z,2.9nm,0.6s						
ILAR	**Eielson Array**	**61.90**	**337**	P	**P**	**20 09 32.2**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=148,slow=4.3,SNR=18						
	comp=Z,1.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**78.68**	**36**	P	**P**	**20 11 13.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=285,slow=6.0,SNR=2.0						
	comp=Z,0.8nm,0.7s						
NB2	**NORSAR Subarra**	**84.66**	**28**	P	**P**	**20 11 47.5**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=291,slow=4.8						
NOA	**NORSAR Array B**	**84.66**	**28**	P	**P**	**20 11 47.1**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=291,slow=4.7,SNR=4.3						
	comp=Z,1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**145.12**	**339**	PKPbc	**PKPdf**	**20 18 51.0**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=346,slow=3.6,SNR=11						

IDC 25 20:00:50.0±999.0, 53°.93N×2°.80E, h0km, Error ellipse: s-maj=473.3km s-min=175.1km az=107.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.51**	**122**	I	I	20 55 41.9	
	baz=308,slow=310,SNR=3.2						
I43RU	**DUBNA INFRASONI**	**9.65**	**68**	I	I	21 57 20.0	
	baz=275,slow=322,SNR=1.5						
I31KZ	**AKTYUBINSK INF**	**33.33**	**73**	I	I	23 21 40.0	
	baz=295,slow=331,SNR=2.0						

---

*IDC **25** 20:01:25.5±7.7, 6°.84S×127°.23E, h285km±89km, mb2.8/3, mbtmp3.7/6, MS3.1/1, Error ellipse: s-maj=76.6km s-min=31.4km az=55.0*
ISC 25 20:01:34.8±1.2, 7°.2S±0°.1×127°.2E±0°.3, h407km, n7, σ1°40/7, mb3.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.90**	**188**	P	**P**	**20 04 00.4**	**-1.9**
	1.5nm,0.8s,baz=22,slow=11,SNR=10						
FITZ				S	**S**	**20 06 05.6**	**+1.6**
	0.7nm,0.5s,baz=326,slow=19,SNR=0.9						
WRA	**Warramunga Arr**	**14.41**	**152**	P	**P**	**20 04 40.0**	**-0.7**
	2.3nm,0.4s,baz=330,slow=12,SNR=40						
WRA				S	S	20 07 22.2	+7.6
	0.1nm,0.3s,baz=331,slow=21,SNR=1.5						
ASAR	**Alice Springs**	**17.56**	**159**	P	**P**	**20 05 15.4**	**+0.9**
	3.2nm,0.6s,baz=343,slow=12,SNR=45						
NWAO	**Narrogin (SRO)**	**27.18**	**199**	LR	LR	20 18 49.9	
	comp=Z,38nm,20.1s,baz=164,slow=38						
SONM	**Songino Array**	**57.83**	**344**	P	**P**	**20 10 45.7**	**0.0**
	0.4nm,0.9s,baz=152,slow=6.5,SNR=2.9						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**66.93**	**328**	P	**P**	**20 11 45.6**	**+0.5**
	0.2nm,0.5s,baz=120,slow=6.7,SNR=5.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**71.28**	**330**	P	**P**	**20 12 11.7**	**+0.3**
	0.3nm,0.6s,baz=121,slow=5.4,SNR=4.7						
	0.3nm,0.6s						

IDC 25 20:02:17.9±6.8, 28°.62N×67°.72E, h0km, mb3.4/5, mbtmp3.4/5, MS3.4/4, Error ellipse: s-maj=131.4km s-min=37.7km az=61.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**15.02**	**20**	LR	LR	20 11 46.1	
	comp=Z,52nm,19.0s,baz=300,slow=38						
MKAR	**Makanchi Array**	**21.43**	**28**	P	P	20 07 08.1	+0.5
	1.5nm,0.7s,baz=210,slow=12,SNR=10						
MKAR				LR	LR	20 17 30.4	
	comp=Z,99nm,18.0s,baz=318,slow=43						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**23.45**	**17**	P	P	20 07 28.4	-0.3
	1.8nm,1.1s,baz=209,slow=11,SNR=7.9						
	1.8nm,1.1s						
BVAR	**Borovoye Array**	**24.46**	**4**	P	P	20 07 38.3	-0.1
	0.3nm,0.5s,baz=186,slow=10,SNR=2.2						
	0.3nm,0.5s						
PALK	**Pallekele**	**24.52**	**148**	LR	LR	20 18 34.7	
	comp=Z,45nm,19.8s,baz=336,slow=40						
CMAR	**Chiang Mai Arr**	**30.28**	**103**	P	P	20 08 30.7	-0.2
	0.1nm,0.3s,baz=306,slow=8.7,SNR=2.2						
	0.1nm,0.3s						
SONM	**Songino Array**	**35.45**	**47**	P	P	20 09 16.1	+0.1
	0.7nm,0.8s,baz=247,slow=7.8,SNR=5.3						
	0.7nm,0.8s						

---

*IDC **25** 20:10:12.2±1.0, 55°.69S×27°.54W, h0km, mb4.2/2, mbtmp4.2/3, ML4.4/1, Error ellipse: s-maj=71.7km s-min=27.6km az=85.0*
*NEIC **25** 20:10:23.1±1.0, 56°.0S±0°.2×28°.1W±0°.2, h69km±8km, mb4.1/5, Error ellipse: s-maj=23.7km s-min=16.8km az=207.0*
ISC 25 20:10:21.2±0.7, 56°.0S±0°.1×28°.3W±0°.1, h50km, n60, σ2°08/55, mb4.1/4, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.99**	**287**	Pn	**Pn**	**20 11 36.7**	**+3.2**
HOPE				Sn	**Sn**	**20 12 25.4**	**-4.3**
VNA3	**Neumayer Olymp**	**17.25**	**160**	P	**Pn**	**20 14 18.5**	**+0.3**
VNA3	**Neumayer Olymp**	**17.25**	**160**	⇑P	**Pn**	**20 14 18.5**	**+0.3**
	comp=Z,0.4nm,0.3s						
VNA2	**Neumayer--Watz**

L27K	Beaver Creek,	146.99	310		PKPdf	20 29 56.4	+1.7
F28M	Old Crow	147.48	318		PKPdf	20 29 56.7	+1.3
E28M	Babbage River	147.58	320	PKPdf	PKPdf	20 29 56.6	+1.1
N25K	Chitina, Valde	147.73	307	PKPbc	PKPdf	20 29 59.0	+2.9
G27K	Doyon Strip	147.97	317	PKPdf	PKPdf	20 29 57.3	+1.1
J26L	Joseph Creek	148.16	312	PKPbc	PKPdf	20 29 59.1	+2.4
I26K	Coal Creek Min	148.20	314		PKPdf	20 29 59.5	+2.9
RIDG	Independent Ri	148.49	310		PKPdf	20 30 00.7	+3.6
PWL	Port Wells	149.20	304	PKPbc	PKPdf	20 30 02.3	+4.0
BMAR	Burnt Mountain	149.22	317	PKPbc	PKPdf	20 30 02.1	+3.8
ILAR	Eielson Array	149.61	312	PKPbc	PKPdf	20 30 02.8	+3.9
	comp=Z,3.0nm,0.7s,baz=132,slow=2.7,SNR=35						
E25K	Arctic Village	149.70	319	PKPbc	PKPbc	20 30 03.6	-0.1
RND	Reindeer	150.14	309		PKPdf	20 30 04.1	+4.3
CNPM	China Poot	150.15	301	PKPbc	PKPbc	20 30 04.5	-0.5
KDAK	Kodiak Island	150.23	297	PKPbc	PKPdf	20 30 04.6	+4.6
I23K	Minto, Yukon-K	150.72	312	PKPbc	PKPdf	20 30 04.8	+4.2
TRF	Thorofare Moun	150.78	309	PKPbc	PKPbc	20 30 05.9	-0.7
SONM	Songino Array	151.36	87	PKPbc	PKPdf	20 30 05.7	+3.3
	comp=Z,2.1nm,0.5s,baz=220,slow=3.8,SNR=32						

*UUSS **25** 20:16:50.0±1.9, 38.85N±0.04×111.40W±0.04, h-0km±2km, ML2.3/5, ML2.5/78(NEIC), Error ellipse: s-maj=6.9km s-min=3.4km az=155.0*

NEIC 25 20:16:49.8±1.2, 38.85N±0.03×111.41W±0.03, h9km±9km, Error ellipse: s-maj=4.7km s-min=2.7km az=137.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OWUT	Old Woman Plat	0.07	187		Pg	20 16 51.9	-0.3
Q16A	Castle Valley	0.20	71		Pg	20 16 54.1	+0.1
Q16A					Sg	20 16 57.3	+0.5
Q16A	Castle Valley	0.20	71	IAML		20 16 57.6	
	comp=N,792nm,0.5s						
Q16A				IAML		20 16 57.6	
	comp=E,958nm,0.4s						
SGU	Sterling	0.38	331		Pg	20 16 57.9	+0.6
TMUT	Trail Mountain	0.47	20		Pg	20 16 59.3	+0.3
TMUT					Sg	20 17 06.0	+0.8
TMUT	Trail Mountain	0.47	20	IAML		20 17 06.8	
	comp=E,570nm,0.4s						
TMUT				IAML		20 17 07.2	
	comp=N,558nm,0.3s						
DBD	Des Bee Dove	0.52	28		Pg	20 17 00.1	+0.2
WCU	Willow Creek	0.54	282		Pg	20 17 00.8	+0.5
MMU	Miners Mountai	0.66	172		Pg	20 17 02.2	-0.3
MSU	Marysvale	0.69	241		Pg	20 17 02.9	-0.2
LEVU	Levan	0.72	335		Pg	20 17 04.1	+0.4
SRU	San Rafael Swe	0.74	69		Pg	20 17 04.0	-0.1
SRU	San Rafael Swe	0.74	69	IAML		20 17 14.3	
	comp=N,345nm,0.5s						
SRU				IAML		20 17 18.2	
	comp=E,268nm,0.4s						
TCRU	Three Creeks R	0.84	254		Pb	20 17 06.5	-0.3
TCRU	Three Creeks R	0.84	254	IAML		20 17 21.4	
	comp=E,86nm,0.6s						
TCRU				IAML		20 17 23.3	
	comp=N,87nm,0.8s						
MTPU	Mount Pierson	1.01	217		Pg	20 17 08.9	-0.3
DCM	Dugout Coal Mi	1.06	37		Pg	20 17 09.8	-0.4
EMUT	Emma Park	1.07	26		Pg	20 17 09.9	-0.3
BCE	Book Cliffs Ea	1.09	45		Pg	20 17 10.4	-0.3
ROA	Roan Cliffs	1.15	45		Pg	20 17 11.5	-0.3
BTU	Barney Top	1.15	198		Pg	20 17 11.6	-0.3
MPU	Maple Canyon	1.17	352		Pn	20 17 13.7	+1.1
MPU				IAML		20 17 32.0	
	comp=N,87nm,0.3s						
MPU				IAML		20 17 32.2	
	comp=E,151nm,0.6s						
ARGU	Argyle Ridge	1.18	35		Pg	20 17 12.2	-0.2
P18A	Preston Nutter	1.19	49		Pg	20 17 12.4	-0.3
P18A				IAML		20 17 30.4	
	comp=N,69nm,0.2s						
P18A				IAML		20 17 33.9	
	comp=E,95nm,0.5s						
PKCU	Pink Cliffs	1.57	207	Pg	Pn	20 17 18.7	+0.5
PKCU				IAML		20 17 45.4	
	comp=E,83nm,0.8s						
PKCU				IAML		20 17 51.8	
	comp=N,50nm,0.5s						
DUG	Dugway, Tooele	1.72	322		Pn	20 17 20.4	+0.3
JLU	Jordanelle	1.75	359		Pg	20 17 22.9	-0.3
JLU				IAML		20 17 47.9	
	comp=E,29nm,1.0s						
BSUT	Blindstream Ca	1.75	16	Pg	Pn	20 17 21.1	+0.4
BSUT				IAML		20 17 49.6	
	comp=E,26nm,0.9s						
PV10	Paradox Valley	1.92	104		Pb	20 17 25.3	+0.2
PV23	Carpenter Ridg	1.92	101		Pb	20 17 25.4	+0.2
PSUT	Pine Spring	1.94	261		Pn	20 17 24.0	+0.9
PV11	David Mesa, Pa	2.07	105		Pb	20 17 27.3	-0.3
KNB	Kanab	2.15	212		Pb	20 17 28.6	-0.3
PV13	Radium Mtn., P	2.15	108		Pb	20 17 28.5	-0.5
PV07	Paradox Valley	2.21	100		Pb	20 17 29.0	-0.9
PV07				IAML		20 18 01.4	
	comp=E,71nm,0.5s						
PV07				IAML		20 18 02.6	
	comp=N,77nm,0.8s						
RDMU	Red Mountain	2.23	39		Pb	20 17 30.4	0.0
RDMU				IAML		20 18 03.7	
	comp=N,19nm,0.5s						
RDMU				IAML		20 18 10.6	
	comp=E,22nm,0.6s						
SPR3	Spring Creek 3	2.28	275		Pb	20 17 31.2	-0.1
SPR3				IAML		20 18 03.9	
	comp=E,16nm,0.6s						
LCMT	Little Creek M	2.34	219		Pb	20 17 32.6	+0.4
LCMT				IAML		20 18 04.7	
	comp=N,14nm,0.2s						
PV15	Paradox Valley	2.35	102		Pb	20 17 31.5	-1.0
BGU	Big Grassy Mou	2.42	330	Pn	Pn	20 17 29.7	+0.1
U15A	North Rim	2.52	196		Pb	20 17 34.7	-0.6
U15A				IAML		20 18 09.8	
	comp=E,43nm,0.7s						
U15A				IAML		20 18 14.1	
	comp=N,36nm,0.5s						
HWUT	Hardware Ranch	2.75	358	Pn	Pn	20 17 35.6	+1.3
HWUT				IAML		20 18 23.0	
	comp=N,12nm,1.1s						
HWUT				IAML		20 18 57.8	
	comp=N,15nm,4.8s						
O20A	White River Ci	2.77	61		Pn	20 17 35.4	+0.9
MVCO	Mesa Verde	2.83	125		Pn	20 17 36.6	+1.3
HVU	Hansel Valley	3.10	341	Pn	Pn	20 17 39.9	+0.8
HVU				IAML		20 18 39.9	
	comp=N,9.0nm,4.5s						
HVU				IAML		20 18 42.5	
	comp=E,12nm,4.8s						
PRN	Pahroc Range	3.21	244	Pn	Pn	20 17 40.9	+0.4
PRN				Pg	Pb	20 17 48.1	+1.0
PRN				IAML		20 18 36.4	
	comp=N,15nm,0.5s						
PRN				IAML		20 18 38.1	
	comp=E,14nm,0.6s						
S22A	4UR Ranch, Cre	3.77	106		Pb	20 17 58.5	+1.8
S22A				IAML		20 18 48.5	
	comp=N,5.3nm,1.2s						
S22A				IAML		20 18 50.1	
	comp=E,12nm,0.7s						
PD31	Pinedale Array	4.16	19		Pn	20 17 54.4	+0.8
PDAR	Pinedale Array	4.16	19	Pn	Pn	20 17 54.4	+0.8
X16A	Lo Mia Camp, P	4.43	180	Pn	Pn	20 17 58.2	+0.9
X16A				IAML		20 19 11.1	
	comp=N,11nm,0.7s						
X16A				IAML		20 19 12.7	
	comp=E,10nm,0.7s						

*IDC **25** 20:29:05.4±1.5, 14.45N×93.74W, h0km, mb4.0/8, mbtmp3.8/10, ML3.4/3, MS3.2/4, Error ellipse: s-maj=37.3km s-min=16.9km az=37.0*

*MEX **25** 20:29:09.6±1.0, 14.43N×93.79W, h15km, MD4.2*

ISC 25 20:29:05.2±1.9, 14.50N±0.05×93.82W±0.03, h6km±11km, n41, σ2.58/67, mb4.0/8, MS3.3/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.33	26	eP	Pg	20 29 30.9	+0.1
PCIG				eS	Sb	20 29 47.0	-0.9
THIG		1.56	75	eP	Pb	20 29 33.8	-0.7
THIG				eS	Sn	20 29 50.3	-3.8
PATR	El Naranjo	1.66	68	eP	Pn	20 29 33.8	-1.3
PATR				eS	Sn	20 29 54.9	-1.8
PAVE	Pavencul	1.73	66	eP	Pn	20 29 35.3	-0.8
PAVE				eS	Sn	20 29 54.6	-4.2
CARR	Arriaga	1.74	357	eP	Pb	20 29 37.1	-0.5
CARR				eS	Sb	20 29 58.8	-1.0
RTAL	Retalhuleu	2.06	89	eP	Pb	20 29 40.9	-2.2
RTAL				eS	Sb	20 30 06.6	-2.4
NILT	Santiago Nilte	2.19	340	eP	Pn	20 29 42.9	+0.7
NILT				eS	Sn	20 30 06.0	-3.7
HUEH	Huehuetenango	2.39	70	eP	Pn	20 29 43.8	-1.3
HUEH				eS	Sn	20 30 11.6	-3.3
CCIG	Comitan	2.41	42	eP	Pb	20 29 47.5	-1.6
CCIG				eS	Sb	20 30 16.8	-2.3
HUIG	Huatulco	2.54	300	eP	Pn	20 29 46.8	-0.3
HUIG				eS	Sn	20 30 13.8	-4.6
CMIG	Matias Romero	2.77	339	Pn	Pn	20 29 51.9	+1.7
	6.8nm,0.3s,baz=156,slow=11,SNR=39						
CMIG				Sn	Sn	20 30 23.0	-1.1
	53nm,0.3s,baz=156,slow=16,SNR=29						
CMIG				LR	LR	20 30 34.6	
	comp=Z,58nm,19.7s,baz=173,slow=31						
	30nm,0.5s						
CMIG	Matias Romero	2.77	339	eP	Pn	20 29 51.6	+1.4
CMIG				eS	Sn	20 30 21.9	-2.1
UXUV	UXUV	2.82	354	eP	Pb	20 29 53.5	-2.5
UXUV				eS	Sn	20 30 25.1	-0.1
APG	El Apazote	3.29	81	Pn	Pn	20 29 58.4	+0.9
	0.5nm,0.3s,baz=205,slow=13,SNR=17						
APG				Sn	Sn	20 30 39.2	+2.1
	0.5nm,0.3s,baz=224,slow=19,SNR=4.1						
PEIG	Puerto Escondi	3.54	295	eP	Pn	20 30 01.6	+0.9
PEIG				i S	Sn	20 30 37.7	-5.3
NEUV	Arroyo Zacate	3.72	329	eP	Pn	20 30 05.3	+2.0
NEUV				eS	Sn	20 30 46.7	-0.7
VHO	Vista Hermosa	3.79	313	eP	Pb	20 30 08.6	-4.1
VHO				eS	Sn	20 30 46.6	-2.9
PMUV	Sontecomapan	4.21	343	eP	Pb	20 30 16.6	-3.2
PMUV				eS	Sn	20 31 01.1	+1.4
YOIG	Yosondua	4.29	304	eP	Pn	20 30 14.3	+3.0
YOIG				eS	Sn	20 30 59.2	-2.6
PNIG	Pinotepa	4.56	295	eP	Pn	20 30 15.8	+1.0
PNIG				eS	Sn	20 31 03.2	-4.9
TXIG	Tlaxiaco	4.68	306	eP	Pn	20 30 19.8	+3.0
TXIG				eS	Sn	20 31 09.5	-2.0
TOIG	Toxpalan	4.74	319	eP	Pb	20 30 22.8	-6.0
TOIG				eS	Sn	20 31 11.6	-1.2
HLIG	Huajuapan de L	5.06	311	eP	Pn	20 30 20.3	-1.6
HLIG				eS	Sn	20 31 17.3	-3.5
SCIG	Sabancuy	5.11	29	eP	Pn	20 30 24.0	+1.6
SCIG				eS	Sn	20 31 19.0	-2.8
FTIG	Fresnillo de T	5.35	310	eP	Pn	20 30 28.4	+2.6
FTIG				eS	Sn	20 31 23.8	-4.1
MGIG	Malinaltepec	5.37	301	eP	Pn	20 30 28.9	+2.8
MGIG				eS	Sn	20 31 24.1	-4.2
JAUV	Jalcomulco	5.62	330	eP	Pn	20 30 30.3	+0.9
JAUV				eS	Sn	20 31 31.3	-3.0
ARIG	Puente Sto Nin	7.30	302	eP	Pn	20 30 57.1	+4.5
ARIG				eS	Sn	20 32 11.3	-4.5
TEIG	Tepich	7.78	42	Pn	Pn	20 30 59.1	+0.1
	baz=44,slow=24,SNR=11						
TEIG				Sn	Sn	20 32 24.7	-2.7
	baz=154,slow=24,SNR=4.9						
TXAR	Lajitas Array	17.34	330	P	P	20 33 11.8	+2.2
	0.1nm,0.3s,baz=146,slow=9.1,SNR=4.9						
TXAR				S	S	20 36 25.4	-5.0
	0.5nm,0.5s,baz=31,slow=14,SNR=4.0						
	0.2nm,0.5s						
TKL	Tuckaleechee C	22.92	21	LR	LR	20 43 24.5	
	comp=Z,84nm,18.1s,baz=47,slow=37						
PFO	Pinyon Flats O	27.98	317	LR	LR	20 46 22.6	
	comp=Z,72nm,18.0s,baz=360,slow=37						
PDAR	Pinedale Array	31.26	337	P	P	20 35 28.0	+1.9
	0.4nm,0.8s,baz=146,slow=7.7,SNR=2.9						
	0.4nm,0.8s						
NVAR	Mina Array Bea	32.19	322	P	P	20 35 37.2	+2.9
	0.8nm,0.6s,baz=127,slow=5.1,SNR=4.0						
NVAR				LR	LR	20 47 59.9	
	comp=Z,83nm,19.4s,baz=290,slow=35						
	0.8nm,0.6s						
YKA	Yellowknife Ar	50.15	348	P	P	20 38 02.2	+1.0
	1.7nm,0.9s,baz=158,slow=7.5,SNR=21						
	1.7nm,0.9s						
BDFB	Brasília	54.28	122	P	P	20 38 33.0	+0.3
	1.9nm,0.5s,baz=329,slow=5.9,SNR=3.1						
	1.9nm,0.5s						
ILAR	Eielson Array	61.69	337	P	P	20 39 26.1	+2.2
	0.8nm,0.8s,baz=141,slow=4.7,SNR=10						
	0.8nm,0.8s						
ESDC	Sonseca Array	80.79	51	P	P	20 41 21.0	+0.8
	0.7nm,0.9s,baz=256,slow=5.9,SNR=4.1						
	0.7nm,0.9s						
NOA	NORSAR Array B	84.55	28	P	P	20 41 40.7	+1.5
	1.8nm,1.0s,baz=292,slow=4.7,SNR=3.9						
	1.8nm,1.0s						
ARCES	ARCESS Array B	86.21	18	P	P	20 41 47.7	+0.3
	3.9nm,0.9s,baz=347,slow=3.7,SNR=1.8						
	3.9nm,0.9s						
CMAR	Chiang Mai Arr	144.92	339	PKP	PKPdf	20 48 44.2	-0.1
	0.9nm,0.8s,baz=352,slow=4.0,SNR=8.7						

IDC 25 20:34:30.5±5.0, 18.17S×178.11W, h578km±26km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=154.0km s-min=29.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.68	276	P	P	20 35 52.5	+0.2
	29nm,0.6s,baz=123,slow=8.2,SNR=26						
WRA	Warramunga Arr	44.87	260	P	P	20 41 54.0	-0.6
	0.6nm,0.4s,baz=97,slow=7.0,SNR=16						
	0.6nm,0.4s						
ASAR	Alice Springs	44.99	254	P	P	20 41 55.6	0.0
	3.6nm,0.5s,baz=88,slow=8.8,SNR=74						
ASAR				PcP	PcP	20 43 24.9	+0.7
	0.6nm,1.1s,baz=109,slow=3.8,SNR=4.4						
	3.6nm,0.5s						
ILAR	Eielson Array	86.08	13	P	P	20 46 09.8	-0.5
	0.2nm,0.4s,baz=211,slow=5.5,SNR=6.5						
	0.2nm,0.4s						

*IDC **25** 20:38:20.5±3.8, 14.48N×93.81W, h0km, mb3.7/3, mbtmp3.5/5, ML2.6/3, MS3.4/1, Error ellipse: s-maj=75.2km s-min=25.9km az=13.0*

*MEX **25** 20:38:27.1±0.7, 14.66N×93.86W, h14km±10km, MD4.1*

ISC 25 20:38:21.4±2.1, 14.60N±0.07×93.85W±0.04, h9km±12km, n25, σ2.90/43, mb3.9/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.26	29	eP	Pg	20 38 46.2	+0.6
PCIG				eS	Sn	20 39 00.5	-1.8
CARR	Arriaga	1.64	358	eP	Pb	20 38 52.0	+0.1
CARR				eS	Sb	20 39 11.5	-1.2
PATR	El Naranjo	1.65	72	eP	Pn	20 38 50.4	-0.4
PATR				i S	Sn	20 39 11.4	-0.8
PAVE	Pavencul	1.72	70	eP	Pn	20 38 51.7	-0.2
PAVE				eS	Sb	20 39 14.4	-0.9
NILT	Santiago Nilte	2.09	339	eP	Pb	20 38 58.7	-0.9
NILT				i S	Sg	20 39 26.5	-2.2
CCIG	Comitan	2.35	44	eP	Pb	20 39 03.5	-0.6
CCIG				eS	Sb	20 39 31.3	-2.1
HUIG	Huatulco	2.47	298	eP	Pn	20 39 00.7	-1.3
HUIG				eS	Sn	20 39 25.4	-6.9
CMIG	Matias Romero	2.67	338	Pn	Pn	20 39 06.9	+2.2
	5.7nm,0.3s,baz=155,slow=12,SNR=32						
CMIG				Sn	Sn	20 39 38.4	+1.1
	13nm,0.3s,baz=137,slow=17,SNR=9.5						
	17nm,0.4s						
CMIG	Matias Romero	2.67	338	eP	Pn	20 39 06.4	+1.6
CMIG				eS	Sn	20 39 36.2	-1.1
UXUV	UXUV	2.72	354	eP	Pb	20 39 09.1	-1.2
UXUV				eS	Sb	20 39 42.8	-1.0
APG	El Apazote	3.30	83	Pn	Pn	20 39 13.5	-0.1
	0.3nm,0.3s,baz=232,slow=20,SNR=9.6						
APG				Sn	Sn	20 39 54.3	+1.2
	0.4nm,0.3s,baz=86,slow=16,SNR=4.0						
NEUV	Arroyo Zacate	3.62	329	eP	Pn	20 39 19.7	+1.9
NEUV				eS	Sn	20 40 02.5	+1.8
YOIG	Yosondua	4.21	303	eP	Pn	20 39 30.2	+4.1
YOIG				eS	Sn	20 40 15.1	-0.5
PNIG	Pinotepa	4.49	294	eP	Pn	20 39 31.0	+1.2
PNIG				eS	Sn	20 40 15.3	-7.0
TXIG	Tlaxiaco	4.60	306	eP	Pn	20 39 36.3	+4.8
TXIG				eS	Sn	20 40 26.5	+1.1
TOIG	Toxpalan	4.65	319	eP	Pn	20 39 35.8	+3.7
TOIG				eS	Sn	20 40 28.1	+1.9
HLIG	Huajuapan de L	4.97	311	eP	Pn	20 39 42.8	+6.2
HLIG				eS	Sn	20 40 29.8	-4.6
FTIG	Fresnillo de T	5.27	309	eP	Pn	20 39 44.3	+3.8
FTIG				eS	Sn	20 40 36.5	-5.1
JAUV	Jalcomulco	5.52	330	eP	Pn	20 39 46.7	+2.8
JAUV				eS	Sn	20 40 41.5	-6.1
TEIG	Tepich	7.72	43	Pn	Pn	20 40 14.9	+0.8
	baz=219,slow=20,SNR=6.5						
TEIG				Sn	Sn	20 41 37.5	-4.2
	baz=117,slow=24						
TXAR	Lajitas Array	17.25	330	P	Pn	20 42 24.1	+1.3
	0.1nm,0.3s,baz=146,slow=10,SNR=1.2						
PDAR	Pinedale Array	31.16	337	LR	LR	20 57 20.6	
	comp=Z,67nm,18.1s,baz=28,slow=36						
YKA	Yellowknife Ar	50.05	348	P	P	20 47 17.6	+1.3
	1.0nm,0.7s,baz=158,slow=7.5,SNR=16						
	1.0nm,0.7s						
INK	Inuvik	59.37	344	P	P	20 48 24.5	+0.8
	0.6nm,0.6s,baz=129,slow=7.9,SNR=4.5						
	0.6nm,0.6s						
ILAR	Eielson Array	61.59	337	P	P	20 48 40.6	+1.6
	0.5nm,0.7s,baz=136,slow=5.5,SNR=7.9						
	0.5nm,0.7s						

*IDC **25** 20:41:33.7±4.3, 14.29N×93.91W, h0km, mb3.4/2, mbtmp3.3/4, ML3.3/3, MS3.4/1, Error ellipse: s-maj=79.7km s-min=28.0km az=11.0*

*MEX **25** 20:41:38.9±0.5, 14.48N×93.85W, h25km, MD4.2*

ISC 25 20:41:35.3±3.6, 14.46N±0.08×93.80W±0.04, h12km±24km, n22, σ1.88/38, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.36	24	eP	Pn	20 42 00.3	+0.2
PCIG				eS	Sb	20 42 15.3	-2.7
THIG		1.55	73	eP	Pn	20 42 03.3	+0.5
THIG				eS	Sn	20 42 22.4	-0.5
PATR	El Naranjo	1.65	66	eP	Pn	20 42 04.4	+0.1
PATR				eS	Sn	20 42 25.6	0.0
PAVE	Pavencul	1.73	65	eP	Pn	20 42 05.6	+0.2
PAVE				eS	Sn	20 42 28.1	+0.4
CARR	Arriaga	1.78	356	eP	Pn	20 42 06.3	+0.4
CARR				i S	Sn	20 42 27.2	-1.4
NILT	Santiago Nilte	2.24	339	i P	Pn	20 42 13.0	+0.8
NILT				eS	Sn	20 42 38.5	-1.3
HUEH	Huehuetenango	2.38	69	eP	Pn	20 42 13.8	-0.6
HUEH				i S	Sn	20 42 42.9	-0.7
CCIG	Comitan	2.42	41	eP	Pb	20 42 18.0	-0.9
CCIG				eS	Sb	20 42 49.0	+0.2
HUIG	Huatulco	2.58	301	eP	Pn	20 42 16.8	-0.2
HUIG				i S	Sn	20 42 45.3	-3.1
CMIG	Matias Romero	2.82	338	Pn	Pn	20 42 21.4	+1.1
	6.0nm,0.3s,baz=162,slow=13,SNR=5.8						
CMIG				Sn	Sn	20 42 54.5	+0.3
	13nm,0.3s,baz=133,slow=18,SNR=4.5						
	12nm,0.4s						
CMIG	Matias Romero	2.82	338	eP	Pn	20 42 21.1	+0.8
CMIG				i S	Sn	20 42 53.0	-1.2
UXUV	UXUV	2.86	353	eP	Pn	20 42 23.6	+2.8
UXUV				eS	Sn	20 42 55.9	+0.6
APG	El Apazote	3.27	80	Pn	Pn	20 42 28.4	+1.8
	0.4nm,0.3s,baz=193,slow=12,SNR=2.7						
APG				Sn	Sb	20 43 10.3	-3.1
	1.0nm,0.3s,baz=184,slow=11,SNR=5.0						
NEUV	Arroyo Zacate	3.76	329	i P	Pn	20 42 35.5	+2.3
NEUV				i S	Sn	20 43 17.6	+0.1
YOIG	Yosondua	4.33	304	eP	Pn	20 42 43.7	+2.5
YOIG				eS	Sn	20 43 28.9	-2.9
TXIG	Tlaxiaco	4.72	307	eP	Pn	20 42 49.7	+3.0
TXIG				eS	Sn	20 43 40.2	-1.4
FTIG	Fresnillo de T	5.39	310	eP	Pn	20 42 53.0	-2.8
FTIG				eS	Sn	20 43 52.4	-5.6
TEIG	Tepich	7.79	42	Pn	Pn	20 43 30.8	+2.2
	baz=218,slow=19,SNR=1.2						
TEIG				Sn	Sn	20 44 55.7	-1.1
	baz=150,slow=24,SNR=1.3						
TXAR	Lajitas Array	17.39	330	P	P	20 45 39.5	+0.2
	0.1nm,0.3s,baz=141,slow=11,SNR=1.5						
	0.1nm,0.4s						
ANMO	Albuquerque	23.37	333	LR	LR	20 57 11.9	
	comp=Z,96nm,20.7s,baz=195,slow=40						
YKA	Yellowknife Ar	50.19	348	P	P	20 50 32.7	+1.9
	0.4nm,0.5s,baz=158,slow=7.5,SNR=7.2						
	0.4nm,0.5s						
ILAR	Eielson Array	61.74	337	P	P	20 51 54.0	+0.5
	0.1nm,0.6s,baz=133,slow=7.0,SNR=5.3						
	0.1nm,0.6s						

*IDC **25** 20:48:27.5±0.8, 11.24N×124.60E, h0km, mb3.8/11, mbtmp3.8/11, MS3.1/6, Error ellipse: s-maj=51.0km s-min=15.9km az=73.0*

ISC 25 20:48:29.0±0.8, 11.24N±0.1×124.5E±0.3, h11km, n19, σ1.07/12, mb3.9/11, MS2.5/3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.27	166	LR	LR	20 51 42.8	
	comp=Z,347nm,18.1s,baz=16,slow=46						
KAPI	Kappang	16.83	197	LR	LR	20 59 36.8	
	comp=Z,40nm,18.2s,baz=57,slow=40						
JCJ	Chichijima	22.91	44	LR	LR	21 03 07.9	
	comp=Z,16nm,18.7s,baz=18,slow=38						
KSRS	Korea Array	26.29	6	LR	LR	21 04 11.1	
	comp=Z,14nm,21.1s,baz=10.0,slow=36						
MJAR	Matsushiro Arr	28.07	24	LR	LR	21 05 51.8	
	comp=Z,38nm,18.8s,baz=346,slow=37						
WRA	Warramunga Arr	32.45	163	P	P	20 54 58.9	-0.6
	0.5nm,0.9s,baz=342,slow=8.9,SNR=5.5						
WRA				PcP	PcP	20 57 46.2	-0.6
	0.4nm,0.6s,baz=342,slow=2.9,SNR=2.4						
	0.5nm,0.9s						
USRK	Ussuriysk Ar.	33.47	10	P	P	20 55 08.1	-0.1
	2.5nm,0.8s,baz=200,slow=10,SNR=5.2						
	2.5nm,0.8s						
ASAR	Alice Springs	35.88	165	P	P	20 55 29.6	+0.4
	0.8nm,0.7s,baz=346,sl

H10N1 ASCENSION HYDR 21.82 123 T T 21 38 22.0
baz=303,slow=75,SNR=47
TORD Torodi Ar. Bea 35.12 73 P P 21 17 43.2 -0.8
19nm,0.3s,baz=246,slow=9.4,SNR=1.7
SJG San Juan 35.47 295 LR LR 21 29 23.3
comp=E,68nm,19.5s,baz=360,slow=31
CPUP Villa Florida 38.62 217 P P 21 18 13.8 +0.2
1.0nm,0.6s,baz=14,slow=8.3,SNR=1.0
CPUP LR LR 21 32 38.3
comp=E,44nm,18.8s,baz=40,slow=34
1.0nm,0.6s
LPAZ La Paz 40.52 239 LR LR 21 34 24.0
comp=E,67nm,18.5s,baz=38,slow=35
SCHQ Schefferville 57.47 337 P P 21 20 39.5 +0.3
1.9nm,0.8s,baz=113,slow=7.7,SNR=4.6
1.9nm,0.8s
AKASG Malin Array Be 69.21 37 P P 21 21 58.2 +1.1
0.6nm,0.8s,baz=247,slow=6.6,SNR=1.7
0.6nm,0.8s
YKA Yellowknife Ar 82.49 332 P P 21 23 11.6 -1.2
0.1nm,0.3s,baz=95,slow=5.6,SNR=3.6
0.1nm,0.3s

---

*IDC **25** 21:12:44.3±1.0, 28°.34N×69°.02E, h0km, mb3.9/15, mbtmp3.9/17, ML3.4/2, MS3.5/8, Error ellipse: s-maj=22.4km s-min=17.9km az=37.0*
*MOS **25** 21:12:46.5±1.3, 28°.44N×69°.15E, h21km, mb4.3/14, Error ellipse: s-maj=10.7km s-min=5.7km az=86.2*
*NEIC **25** 21:12:46.6±1.6, 28°.4N±0°.1×69°.1E±0°.1, h10km±2km, mb4.2/12, Error ellipse: s-maj=21.4km s-min=13.8km az=129.0*
*NDI **25** 21:12:47.5±3.9, 28°.33N×69°.14E, h5km, ML4.0, MW4.2, mb4.2(NEIC)*
*BJI **25** 21:12:50.7, 28°.56N×69°.77E, h10km, mB4.7/4, mb4.1/27, Ms4.0/6, Ms7.3/7*
ISC 25 21:12:46.5±0.5, 28°.30N±0°.05×69°.16E±0°.05, h10km, n107, $_{o}$2^{s}25/107, mb4.1/29, MS3.4/7, 9C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**2.06**	**131**	*e*P	**Pn**	**21 13 22.3**	**+1.1**
JASL				*e*S	**Sg**	**21 13 55.9**	**+3.0**
JASL				IAML		21 14 05.4	
	975nm,0.9s						
JASL				IAML		21 14 07.2	
	comp=E,2μm,1.0s						
BKNR	**BIKANER**	**3.65**	**93**	*e*P	**Pn**	**21 13 45.1**	**+2.1**
BKNR				*e*S	**Sn**	**21 14 26.3**	**+0.2**
SRGN	**SRI GANGA NAGA**	**4.44**	**67**	*e*P	**Pn**	**21 13 55.8**	**+1.8**
SRGN				*e*S	**Sn**	**21 14 44.5**	**-1.2**
BHUJ	**Bhuj**	**5.04**	**175**	*e*P	**Pn**	**21 14 03.7**	**+1.5**
BHUJ				*e*S	**Sn**	**21 15 00.3**	**-0.1**
BHUJ				IAML		21 16 07.3	
	comp=E,178nm,2.4s						
BHUJ				IAML		21 16 11.9	
	comp=N,270nm,1.8s						
KBL	**Kabul**	**6.23**	**359**	Pn	**Pn**	**21 14 19.5**	**+0.8**
KBL	**Kabul**	**6.23**	**359**	P	**Pn**	**21 14 19.5**	**+0.8**
NIL	**Nilore**	**6.39**	**32**	Pn	**Pn**	**21 14 20.7**	**-0.1**
NIL	**Nilore**	**6.39**	**32**	P	**Pn**	**21 14 20.7**	**-0.1**
RTK	**Rohtak**	**6.42**	**82**	*e*P	**Pn**	**21 14 24.1**	**+3.0**
RTK				*e*S	**Sn**	**21 15 31.7**	**-2.7**
KUDL	**Kundal**	**6.47**	**90**	*e*P	**Pn**	**21 14 22.0**	**+0.2**
KUDL				*e*S	**Sn**	**21 15 31.7**	**-4.0**
KUDL				IAML		21 15 34.5	
	comp=N,149nm,0.6s						
KUDL				IAML		21 15 38.3	
	comp=E,127nm,0.7s						
JMU	**Jammu**	**6.63**	**47**	*e*P	**Pn**	**21 14 24.1**	**+0.1**
JMU				*e*S	Sn	21 15 33.7	-5.9
BHK	**Bhakra**	**7.03**	**62**	*e*x	x	21 14 25.9	
BHK				*e*S	**Sn**	**21 15 56.6**	**+7.1**
BHV	**Bhavnagar**	**7.06**	**157**	*e*P	**Pn**	**21 14 32.2**	**+2.4**
BHV				*e*S	**Sn**	**21 15 48.1**	**-2.1**
NPLP	**NPLP New Delhi**	**7.06**	**85**	*e*P	**Pn**	**21 14 32.4**	**+2.5**
NPLP				*e*S	**Sn**	**21 15 46.0**	**-4.3**
LDR	**Lodi Road**	**7.10**	**86**	*e*P	**Pn**	**21 14 32.4**	**+1.9**
LDR				*e*S	**Sn**	**21 15 49.8**	**-1.5**
NDI	**New Delhi**	**7.10**	**85**	*e*P	**Pn**	**21 14 32.2**	**+1.7**
NDI				*e*S	**Sn**	**21 15 46.6**	**-4.7**
JMIU	**JAMIA UNIVERSI**	**7.17**	**86**	*e*P	**Pn**	**21 14 32.4**	**+1.0**
JMIU				*e*S	**Sn**	**21 15 49.8**	**-3.2**
DHRM	**DHARAMSHALA**	**7.33**	**56**	*e*P	**Pn**	**21 14 34.0**	**+0.2**
DHRM				*e*S	**Sn**	**21 15 57.5**	**+0.4**
DHRM				IAML		21 16 13.5	
	comp=E,161nm,0.9s						
DHRM				IAML		21 16 16.8	
	comp=E,154nm,0.5s						
SMLA	**Simla**	**7.51**	**66**	*e*P	**Pn**	**21 14 36.8**	**+0.7**
SMLA				*e*S	**Sn**	**21 15 57.1**	**-4.3**
SMLA				IAML		21 16 28.7	
	comp=E,134nm,1.0s						
SMLA				IAML		21 16 35.8	
	comp=E,124nm,0.8s						
SRNI	**Srinagar**	**7.56**	**39**	*e*S	**Sn**	**21 15 57.8**	**-4.9**
UGON	**Onchagaon**	**7.71**	**88**	*e*P	**Pn**	**21 14 40.5**	**+1.6**
UGON				*e*S	**Sn**	**21 16 02.4**	**-4.0**
UGON				IAML		21 16 59.9	
	comp=N,179nm,1.0s						
UGON				IAML		21 17 08.8	
	comp=E,178nm,1.2s						
DDI	**Dehra Dun**	**8.03**	**73**	*e*P	**Pn**	**21 14 44.1**	**+0.9**
DDI				*e*S	Sn	21 16 07.1	-7.0
GUNA	**GUNA**	**8.17**	**115**	*e*P	**Pn**	**21 14 46.6**	**+1.3**
GUNA				*e*S	**Sn**	**21 16 12.1**	**-5.6**
BHPL	**Bhopal**	**8.99**	**122**	*e*P	**Pn**	**21 15 00.3**	**+3.9**
BHPL				*e*S	**Sn**	**21 16 31.4**	**-6.5**
BHPL				IAML		21 17 33.0	
	comp=N,65nm,0.8s						
BHPL				IAML		21 17 34.5	
	comp=E,63nm,0.4s						
NRDN	**NARMADA NAGAR**	**9.12**	**126**	*e*P	**Pn**	**21 14 58.9**	**+0.7**
NRDN				*e*S	**Sn**	**21 16 34.5**	**-6.4**
JOSI	**Joshimath**	**9.34**	**74**	*e*P	**Pn**	**21 15 02.2**	**+0.7**
JOSI				*e*S	**Sn**	**21 16 43.7**	**-3.0**
JOSI				IAML		21 17 17.4	
	comp=E,72nm,0.7s						
JOSI				IAML		21 17 17.7	
	comp=E,57nm,1.1s						
PTH	**Pithoragarh**	**9.77**	**80**	*e*P	**Pn**	**21 15 06.1**	**-1.2**
PTH				*e*S	**Sn**	**21 16 51.4**	**-5.8**
PTH				IAML		21 18 16.6	
	comp=N,43nm,1.6s						
PTH				IAML		21 18 20.4	
	comp=E,29nm,1.2s						
CHGR	**Chuyangaron**	**10.34**	**360**	Pn	**Pn**	**21 15 13.6**	**-1.3**
CHGR	**Chuyangaron**	**10.34**	**360**	P	**Pn**	**21 15 13.6**	**-1.3**
SIMJ	**Simiganj**	**10.34**	**359**	Pn	Pn	21 15 13.0	-1.9
POO	**Poona**	**10.63**	**155**	*e*P	**Pn**	**21 15 20.6**	**+1.6**
POO				*e*S	Sn	21 17 10.0	-8.1
GAR	**Garm**	**10.72**	**5**	Pn	Pn	21 15 18.2	-2.0
WSAR	**Wadi Sarin**	**10.74**	**244**	Pn	**Pn**	**21 15 19.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=230,slow=7.3,SNR=1.7						
WSAR				Sn	Sn	21 17 04.0	-17
	comp=E,0.1nm,0.3s,baz=330,slow=15,SNR=1.9						
	comp=E,5.9nm,0.9s						
DRK	**Karamyk**	**11.37**	**10**	Pn	**Pn**	**21 15 28.0**	**-1.3**
DRK	**Karamyk**	**11.37**	**10**	P	**Pn**	**21 15 28.0**	**-1.3**
BTK	**Batken**	**11.81**	**6**	Pn	Pn	21 15 33.4	-1.7
BTK	**Batken**	**11.81**	**6**	P	Pn	21 15 33.4	-1.7
KSH	**Kashi**	**12.54**	**25**	P	Pn	21 15 40.5	-4.6
KSH				S	Sn	21 17 51.0	-14
KSH				pmax	pmax		
	comp=E,11nm,0.6s						
KSH				LR	LR		
	comp=E,470nm,12.4s						
KSH				LR	LR		
	comp=E,510nm,7.9s						
KSH				LR	LR		
	comp=E,370nm,11.1s						
KK31	**Karatay Array**	**14.82**	**4**	Pn	Pn	21 16 12.4	-3.7
KK31	**Karatay Array**	**14.82**	**4**	P	Pn	21 16 12.5	-3.6
KKAR	**Karatay Array**	**14.82**	**4**	Pn	Pn	21 16 12.2	-3.9
KKAR	**Karatay Array**	**14.82**	**4**	P	Pn	21 16 12.2	-3.9
AAK	**Ala-Archa**	**14.95**	**15**	Pn	Pn	21 16 15.8	-2.2
AAK	**Ala-Archa**	**14.95**	**15**	Pn	**Pn**	**21 16 16.9**	**-1.1**
	comp=E,0.4nm,0.3s,baz=182,slow=2.9,SNR=9.4						
	comp=E,1.7nm,0.5s						
AAK	**Ala-Archa**	**14.95**	**15**	*i* P	Pn	21 16 15.6	-2.4
BOOM	**Boomskoye usch**	**15.20**	**19**	Pn	**Pn**	**21 16 19.0**	**-2.3**
BOOM	**Boomskoye usch**	**15.20**	**19**	P	**Pn**	**21 16 19.0**	**-2.3**
BOOM				pmax	pmax		
	comp=Z,25nm,1.3s						
WUS	**Wushi**	**15.28**	**30**	Pn	**Pn**	**21 16 19.5**	**-3.0**
WUS				IAmb	IAmb	21 16 29.8	
	comp=Z,13nm,1.2s						
LSA	**Lhasa**	**19.29**	**81**	P	**P**	**21 17 12.0**	**0.0**
LSA	**Lhasa**	**19.29**	**81**	P	**P**	**21 17 09.5**	**-2.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LSA	**Lhasa**	**19.29**	**81**	P	**P**	**21 17 12.0**	**0.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SHL	**Shillong**	**20.44**	**92**	P	**P**	**21 17 24.1**	**-0.2**
SHL				IAmb	IAmb	21 17 29.4	
	comp=Z,12nm,1.1s						
SHL	**Shillong**	**20.44**	**92**	P	**P**	**21 17 24.1**	**-0.2**
SHL				pmax	pmax		
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**21.15**	**26**	P	**P**	**21 17 30.8**	**-0.8**
MK31	**Makanchi Array**	**21.15**	**26**	*ce*P	**P**	**21 17 32.2**	**+0.6**
MKAR	**Makanchi Array**	**21.15**	**26**	P	**P**	**21 17 30.7**	**-0.9**
MKAR	**Makanchi Array**	**21.15**	**26**	P	**P**	**21 17 31.1**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=205,slow=8.1,SNR=18						
MKAR				LR	LR	21 27 19.3	
	comp=Z,130nm,18.4s,baz=190,slow=41						
	comp=Z,1.6nm,0.7s						
WMQ	**Urumqi**	**21.48**	**39**	*e*P	**P**	**21 17 37.5**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
RAYN	**Ar Rayn**	**21.79**	**263**	P	**P**	**21 17 37.6**	**-1.2**
RAYN	**Ar Rayn**	**21.79**	**263**	P	**P**	**21 17 37.6**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ABKAR	**Akbulak array**	**22.10**	**344**	P	**P**	**21 17 40.7**	**-1.1**
ABKAR				IAmb	IAmb	21 17 42.4	
	comp=Z,12nm,1.2s						
KURBB	**Kurchatov Arra**	**23.41**	**15**	P	**P**	**21 17 53.9**	**-1.5**
	comp=Z,16nm,1.4s,baz=204,slow=10,SNR=14						
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**23.51**	**15**	P	**P**	**21 17 54.7**	**-1.8**
KURK				IAmb	IAmb	21 18 03.3	
	comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**23.51**	**15**	*ce*P	**P**	**21 17 56.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PALK	**Pallekele**	**23.59**	**150**	LR	LR	21 28 07.2	
	comp=Z,112nm,18.8s,baz=338,slow=39						
BVAR	**Borovoye Array**	**24.72**	**2**	P	**P**	**21 18 07.6**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=169,slow=10,SNR=13						
	comp=Z,2.6nm,0.8s						
BRVK	**Borovoye**	**24.75**	**2**	P	**P**	**21 18 07.1**	**-1.0**
BRVK	**Borovoye**	**24.75**	**2**	*ce*P	**P**	**21 18 07.3**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,16nm,1.7s						
KBZ	**Khabaz**	**26.09**	**313**	P	**P**	**21 18 18.6**	**-1.7**
KBZ				pmax	pmax		
	comp=Z,20nm,4.3s						
SHA1	**Shidzhatmaz**	**26.25**	**313**	*e*P	**P**	**21 18 21.5**	**-0.6**
KIV	**Kislovodsk**	**26.33**	**313**	*e*P	**P**	**21 18 25.1**	**+2.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA	**Gaotai**	**27.64**	**58**	*e*P	**P**	**21 18 35.8**	**+1.3**
GTA				pP	pP	21 18 40.0	+2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ZAA0	**Zalesovo Array**	**28.08**	**20**	P	**P**	**21 18 36.6**	**-1.5**
ZAA0				IAmb	IAmb	21 18 48.5	
	comp=Z,2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**28.08**	**20**	P	**P**	**21 18 37.0**	**-1.1**
ZALV	**Zalesovo Beam**	**28.08**	**20**	P	**P**	**21 18 37.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=221,slow=9.2,SNR=6.7						
ZALV				LR	LR	21 31 28.0	
	comp=Z,54nm,18.1s,baz=190,slow=40						
	comp=Z,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**28.08**	**20**	*i* P	**P**	**21 18 38.7**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BELG	**Belogornoye**	**28.92**	**332**	*i* P	**P**	**21 18 45.2**	**-0.3**
BELG				pmax	pmax		
	comp=Z,10.0nm,3.3s						
PZH	**PanZhiHua**	**28.94**	**86**	P	**P**	**21 18 48.8**	**+2.6**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
CMAR	**Chiang Mai Arr**	**28.97**	**103**	P	**P**	**21 18 48.6**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=289,slow=5.8,SNR=4.3						
	comp=Z,0.3nm,0.3s						
ARTI	**Arti**	**29.11**	**348**	LR	LR	21 32 26.3	
	comp=Z,124nm,18.6s,baz=322,slow=41						
EIL	**Elat**	**29.89**	**281**	LR	LR	21 32 23.5	
	comp=Z,50nm,19.0s,baz=52,slow=40						
BRTR	**Keskin Array B**	**31.38**	**301**	P	**P**	**21 19 07.1**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=94,slow=8.7,SNR=4.6						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**31.38**	**301**	*ce*P	**P**	**21 19 07.6**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**34.77**	**46**	P	**P**	**21 19 37.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=254,slow=7.6,SNR=6.0						
	comp=Z,0.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.76**	**59**	*e*P	**P**	**21 19 57.0**	**+2.7**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,78nm,5.2s						
AKASG	**Malin Array Be**	**37.45**	**318**	P	P	21 19 57.0	-2.9
	comp=Z,0.1nm,0.4s,baz=103,slow=6.7,SNR=4.5						
	comp=Z,0.1nm,0.4s						
AKASG	**Malin Array Be**	**37.45**	**318**	*ce*P	**P**	**21 20 01.2**	**+1.3**
PSI	**Prapat**	**38.05**	**126**	LR	LR	21 36 51.1	
	comp=Z,59nm,19.3s,baz=276,slow=38						
BURAR	**Bucovina Array**	**39.03**	**312**	P	**P**	**21 20 13.7**	**+0.3**
BURAR	**Bucovina Array**	**39.03**	**312**	P	**P**	**21 20 13.7**	**+0.3**
XLT	**XiLinHaoTe**	**40.43**	**55**	*e*P	**P**	**21 20 27.0**	**+1.9**
XLT				sP	sP	21 20 34.5	+5.0
XLT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KOLS	**Kolonicke sedl**	**41.24**	**313**	*e*P	**P**	**21 20 32.1**	**+0.5**
KOLS	**Kolonicke sedl**	**41.24**	**313**	*e*P	**P**	**21 20 32.1**	**+0.5**
NRIK	**Noril'sk**	**42.45**	**10**	P	**P**	**21 20 39.6**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=156,slow=3.6,SNR=2.5						
	comp=Z,1.2nm,0.4s						
NRIK	**Noril'sk**	**42.45**	**10**	*ce*P	**P**	**21 20 41.4**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
FINES	**FINESS Array B**	**43.70**	**332**	P	P	21 20 48.8	-2.5
	comp=Z,3.4nm,1.0s,baz=111,slow=7.6,SNR=3.7						
	comp=Z,3.4nm,1.0s						
FINES	**FINESS Array B**	**43.70**	**332**	*i* P	**P**	**21 20 51.9**	**+0.5**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CN2	**Changchun**	**47.19**	**55**	*e*P	**P**	**21 21 20.8**	**+1.5**
ARCES	**ARCESS Array B**	**48.26**	**341**	P	**P**	**21 21 26.6**	**-0.6**
	comp=Z,9.4nm,1.1s,baz=125,slow=8.0,SNR=11						
	comp=Z,9.4nm,1.1s						
HFS	**Hagfors**	**48.82**	**327**	P	P	21 21 29.7	-2.0
	comp=Z,2.4nm,1.1s,baz=79,slow=7.6,SNR=1.6						
	comp=Z,2.4nm,1.1s						
KLR	**Kul'dur**	**51.52**	**48**	*ce*P	**P**	**21 21 53.8**	**+1.4**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.7s						
YAK	**Yakutsk**	**51.65**	**32**	*ce*P	**P**	**21 21 53.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
TIXI	**Tiksi**	**53.97**	**20**	LR	LR	21 48 34.9	
	comp=Z,100nm,18.0s,baz=68,slow=40						
TIXI	**Tiksi**	**53.97**	**20**	*ce*P	**P**	**21 22 10.8**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s						
EKA	**Eskdalemuir Ar**	**57.31**	**320**	P	**P**	**21 22 33.2**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=83,slow=6.5,SNR=3.7						
	comp=Z,0.6nm,0.6s						
WRA	**Warramunga Arr**	**79.14**	**120**	P	**P**	**21 24 51.5**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=307,slow=5.4,SNR=4.6						
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**80.98**	**123**	P	**P**	**21 25 00.7**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=298,slow=5.4,SNR=4.7						
	comp=Z,0.6nm,1.0s						

---

*NEIC **25** 21:19:49.0±1.4, 60°.49N±0°.02×149°.93W±0°.05, h45km±6km, Error ellipse: s-maj=3.7km s-min=3.4km az=56.0*
AEIC 25 21:19:49.8±1.4, 60°.48N±0°.01×149°.97W±0°.05, h40km±7km, ML2.3, ML2.5/106(NEIC), Error ellipse: s-maj=3.8km s-min=1.4km az=114.0, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O22K	**Cooper Landing**	**0.12**	**91**	Pn	Pn	21 19 56.1	-1.0
O22K				Sn	Sn	21 20 01.3	-1.3
SLKM	**Skilak Lake**	**0.13**	**281**		Pn	21 19 56.0	-1.2
SLKM				Sn	Sn	21 20 01.1	-1.7
SEW	**Seward**	**0.46**	**146**	Pn	Pn	21 19 59.3	-0.6
SEW	**Seward**	**0.46**	**146**		Sn	21 20 07.3	+0.3
RC01	**Rabbit Creek A**	**0.62**	**10**	Pn	Pn	21 20 00.9	-1.3
RC01				Sn	Sn	21 20 09.3	-1.5
RC01				IAML		21 20 11.1	
	comp=E,285nm,0.4s						
CAPN	**Captain Cook N**	**0.65**	**297**	Pn	Pn	21 20 02.4	-0.2
CAPN				Sn	Sn	21 20 13.2	+1.6
FIS	**Fire Island**	**0.67**	**350**	Pn	Pn	21 20 02.2	-0.6
FIS				IAML		21 20 13.5	
	comp=N,290nm,1.2s						
BRSE	**Bradley Lake S**	**0.84**	**208**		Pn	21 20 04.5	-0.6
BRLK	**Bradley Lake**	**0.86**	**213**	Pn	Pn	21 20 04.8	-0.5
BRLK				Sn	Sn	21 20 16.9	+0.2
BRLK				IAML		21 20 18.7	
	comp=E,184nm,0.1s						
PWL	**Port Wells**	**0.89**	**64**		Pn	21 20 05.0	-0.7
PWL					Sn	21 20 17.5	0.0
PWL	**Port Wells**	**0.89**	**64**	IAML		21 20 18.8	
	comp=E,173nm,0.2s						
CNPM	**China Poot**	**1.15**	**214**	Pn	Pn	21 20 09.0	-0.4
CNPM				IAML		21 20 26.1	
	comp=E,73nm,0.4s						
HOM	**Homer**	**1.18**	**226**	Pn	Pn	21 20 10.1	+0.4
PMR	**Palmer**	**1.19**	**20**	Pn	Pn	21 20 08.8	-1.0
KNK	**Knik Glacier**	**1.19**	**38**	Pn	Pn	21 20 08.8	-1.1
KNK				IAML		21 20 25.7	
	comp=E,128nm,0.4s						
KNK				IAML		21 20 26.6	
	comp=N,112nm,0.5s						
RDT	**Redoubt**	**1.21**	**275**		Pn	21 20 08.9	-1.4
SPU	**Mount Spurr**	**1.24**	**305**	Pn	Pn	21 20 09.3	-1.4
SPU				IAML		21 20 25.8	
	comp=N,79nm,0.2s						
SPU				IAML		21 20 26.1	
	comp=E,90nm,0.3s						
SPCG	**Spurr Capps Gl**	**1.29**	**310**		Pn	21 20 10.4	-1.0
SPCR	**Spurr Chakacha**	**1.31**	**304**		Pn	21 20 10.6	-1.0
SPCN	**Chakachatna No**	**1.31**	**305**		Pn	21 20 10.8	-0.8
DFR	**Drift River**	**1.35**	**276**		Pn	21 20 11.0	-1.1
REF	**Redoubt East F**	**1.35**	**271**		Pn	21 20 11.2	-1.1
CKL	**Chakachamna La**	**1.36**	**303**		Pn	21 20 11.3	-1.1
STLK	**Strandline Lak**	**1.36**	**319**	Pn	Pn	21 20 11.4	-1.0
STLK				IAML		21 20 35.1	
	comp=N,80nm,0.3s						
P23K	**Montague Islan**	**1.37**	**110**		Pn	21 20 11.6	-0.7
O20K	**Slope Mountain**	**1.38**	**254**		Pn	21 20 12.4	-0.2
GHO	**Glory Hole Cre**	**1.39**	**21**	Pn	Pn	21 20 11.8	-0.9
GHO				IAML		21 20 30.6	
	comp=N,51nm,0.5s						
GHO				IAML		21 20 34.2	
	comp=E,50nm,0.4s						
RED	**Redoubt Volcan**	**1.39**	**269**		Pn	21 20 11.6	-1.2
RDJH	**Redoubt Jeurge**	**1.41**	**276**		Pn	21 20 12.2	-0.8
SPBG	**Spurr Blockage**	**1.41**	**305**		Pn	21 20 12.1	-0.9
RDWB	**Redoubt West**	**1.42**	**271**		Pn	21 20 12.0	-1.2
NCT	**North Crescent**	**1.47**	**274**		Pn	21 20 12.7	-1.1
GLI	**Glacier Island**	**1.47**	**73**		Pn	21 20 12.3	-1.4
GLI	**Glacier Island**	**1.47**	**73**	IAML		21 20 37.5	
	comp=E,60nm,0.5s						
GLI				IAML		21 20 38.5	
	comp=N,49nm,0.6s						
SML	**Sawmill**	**1.55**	**30**	Pn	Pn	21 20 14.1	-0.7
SML				IAML		21 20 40.9	
	comp=N,41nm,0.5s						
SPNN	**North Nagishla**	**1.60**	**305**		Pn	21 20 15.2	-0.5
ILS	**Iliamna Low So**	**1.64**	**253**		Pn	21 20 16.0	-0.1
ILW	**Iliamna West**	**1.64**	**256**		Pn	21 20 15.3	-0.9
ILSW	**Iliamna Southw**	**1.66**	**254**	Pn	Pn	21 20 15.8	-0.7
ILSW				IAML		21 20 46.5	
	comp=E,42nm,0.5s						
SKT	**Skwentna**	**1.68**	**334**	Pn	Pn	21 20 16.1	-0.5
SKT				IAML		21 20 38.9	
	comp=E,59nm,0.5s						
SKT				IAML		21 20 42.2	
	comp=N,58nm,0.3s						
M23K	**Glacier View**	**1.71**	**39**		Pn	21 20 16.8	-0.2
HIN	**Hinchinbrook I**	**1.72**	**91**	Pn	Pn	21 20 15.7	-1.5
P19K	**Oil Pt**	**1.84**	**244**	Pn	Pn	21 20 18.9	+0.1
P19K				IAML		21 20 57.3	
	comp=E,58nm,0.6s						
SCM	**Sheep Creek Mo**	**1.86**	**42**	Pn	Pn	21 20 18.8	-0.4
SCM				IAML		21 20 42.2	
	comp=E,38nm,1.1s						
CUT	**Chulitna**	**1.93**	**356**	Pn	Pn	21 20 19.1	-0.9
CUT				IAML		21 20 50.1	
	comp=N,48nm,0.5s						
M20K	**Styx River**	**2.08**	**314**	Pn	Pn	21 20 22.1	0.0
EYAK	**Cordova Ski Ar**	**2.09**	**86**	Pn	Pn	21 20 20.7	-1.5
DIV	**Divide**	**2.16**	**71**	Pn	Pn	21 20 22.6	-0.6
O19K	**Port Alsworth**	**2.18**	**264**	Pn	Pn	21 20 22.4	-1.1
O19K				IAML		21 20 54.7	
	comp=N,42nm,0.5s						
KLU	**Klutina**	**2.22**	**61**	Pn	Pn	21 20 23.5	-0.5
KLU				IAML		21 20 58.0	
	comp=N,39nm,0.5s						
KLU				IAML		21 20 58.9	
	comp=E,27nm,0.3s						
N19K	**Bonanza Creek**	**2.25**	**280**	Pn	Pn	21 20 24.3	-0.2
SYI	**Shuyak Island**	**2.25**	**214**	Pn	Pn	21 20 24.1	-0.3
SYI				IAML		21 21 01.5	
	comp=N,22nm,1.0s						
M24K	**Tolsona, Glenn**	**2.45**	**47**	Pn	Pn	21 20 27.3	+0.1
M24K				IAML

WRH IAML 21 22 11.3
comp=N,4.2nm,0.2s
HDA Harding Lake 4.18 18 Pn Pn 21 20 49.4 -1.5
SCRK Sand Creek 4.48 36 Pn Pn 21 20 54.4 -0.8
SCRK IAML 21 23 01.1
comp=N,3.4nm,0.5s
IL31 4.53 17 Pn Pn 21 20 54.8 -0.9
ILAR Eielson Array 4.53 17 Pn Pn 21 20 55.3 -0.4
L27K Beaver Creek, 4.65 53 Pn Pn 21 20 57.5 +0.1
J25K Salcha River, 4.66 25 Pn Pn 21 20 57.1 -0.5
J25K IAML 21 22 52.9
comp=E,4.6nm,0.9s
J25K IAML 21 22 57.3
comp=N,4.2nm,0.6s
BCAR Beaver Creek A 4.67 53 Pn Pn 21 20 56.5 -1.1
J26L Joseph Creek 5.00 34 Pn Pn 21 21 01.7 -0.6
J26L IAML 21 23 08.9
comp=N,4.2nm,0.3s
J26L IAML 21 23 09.1
comp=E,4.1nm,0.5s

---

*SJA **25** 21:35:08.2±0.6, 28°.43S×67°.61W, h134km±4km, ML3.7, MW3.6*
*IDC **25** 21:35:10.8±1.0, 28°.49S×67°.37W, h125km±7km, mb3.4/2, mbtmp3.8/3, MS3.0/2, Error ellipse: s-maj=37.1km s-min=30.9km az=113.0*
ISC 25 21:35:09.4±0.7, 28°.38S±0°.03×67°.60W±0°.04, h124km±6km, n38, σ1§55/56, mb3.9/3, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.64**	**236**	*eP*	**Pn**	**21 35 29.0**	**0.0**
VCA				*eS*	**Sn**	**21 35 42.4**	**-1.3**
VCA				IAML		21 35 46.3	
comp=Z,4μm,0.3s							
ACLC	**CERRO LA CRUZ**	**1.19**	**152**	*eP*	**Pn**	**21 35 33.8**	**-0.1**
ACLC				*eS*	**Sn**	**21 35 51.6**	**-0.8**
ACLC				IAML		21 35 52.3	
comp=Z,450nm,0.3s							
AGUA	**GUANDACOL**	**1.35**	**215**	*eP*	**Pn**	**21 35 35.4**	**-0.2**
AGUA				*eS*	**Sn**	**21 35 55.5**	**0.0**
AGUA				IAML		21 35 56.9	
comp=Z,2μm,0.2s							
AC02	**Maricunga**	**2.05**	**318**	*eS*	Sn	21 36 22.9	+12
APLL	**PUNTA DE LOS L**	**2.21**	**155**	*eP*	**Pn**	**21 35 45.5**	**-0.4**
APLL				*eS*	**Sn**	**21 36 12.7**	**-1.1**
ACDV	**Cuesta del Vie**	**2.23**	**216**	*eP*	**Pn**	**21 35 46.6**	**+0.6**
ACDV				*eS*	**Sn**	**21 36 21.1**	**+7.0**
ACDV				IAML		21 36 22.8	
comp=Z,103nm,0.1s							
AVFE	**Valle Fertil**	**2.28**	**177**	*eP*	**Pn**	**21 35 46.3**	**-0.3**
AVFE				*eS*	**Sn**	**21 36 15.0**	**-0.2**
AVFE				IAML		21 36 16.8	
comp=Z,279nm,0.2s							
AROD	**Rodeo**	**2.42**	**222**	*eP*	**Pn**	**21 35 49.1**	**+0.4**
AROD				*eS*	**Sn**	**21 36 20.6**	**+1.8**
ACCO	**Cerro Coronel**	**2.55**	**210**	*eP*	**Pn**	**21 35 50.4**	**+0.1**
ACCO				*eS*	**Sn**	**21 36 21.7**	**0.0**
FSA	**Cafayete**	**2.68**	**33**	*eP*	**Pn**	**21 35 53.8**	**+1.9**
CO01	**Juntas del Tor**	**2.70**	**233**	*eP*	**Pn**	**21 35 53.0**	**+0.7**
CO01				*eS*	**Sn**	**21 36 21.7**	**-3.5**
LCO	**Las Campanas**	**2.80**	**256**	*eP*	**Pn**	**21 35 53.0**	**-0.5**
LCO				*eS*	**Sn**	**21 36 26.7**	**-0.7**
DOCA	**Reserva Natura**	**2.87**	**206**	*eP*	**Pn**	**21 35 54.0**	**-0.5**
DOCA				*eS*	**Sn**	**21 36 28.2**	**-1.0**
DOCA				IAML		21 36 29.4	
comp=Z,134nm,0.7s							
ACHE	**Chepes**	**2.89**	**164**	*eP*	**Pn**	**21 35 54.3**	**-0.2**
ACHE				*eS*	**Sn**	**21 36 28.5**	**-0.8**
AC04	**Llanos de Chal**	**3.07**	**272**	*eP*	**Pn**	**21 35 55.6**	**-1.2**
AC04				IAML		21 36 44.6	
comp=Z,112nm,0.5s							
SJA	**San Juan**	**3.25**	**195**	*eP*	Pn	21 35 53.7	-5.5
SJA				IAML		21 36 37.5	
comp=Z,144nm,0.3s							
ZON	**Zonda**	**3.29**	**196**	*eP*	**Pn**	**21 35 59.2**	**-0.5**
ZON				*eS*	**Sn**	**21 36 36.9**	**-1.7**
ZON				IAML		21 36 39.0	
comp=Z,135nm,0.8s							
GO04	**Tololo Observa**	**3.32**	**237**	*eP*	**Pn**	**21 35 59.2**	**-1.0**
GO04				*eS*	**Sn**	**21 36 39.6**	**+0.1**
AC01	**Pan de Azucar**	**3.48**	**309**	*eP*	**Pn**	**21 36 01.5**	**-0.6**
AC01				*eS*	**Sn**	**21 36 40.6**	**-2.2**
AC01				IAML		21 36 41.9	
comp=Z,66nm,0.6s							
CO03	**El Pedregal**	**3.64**	**227**	*eP*	**Pn**	**21 36 03.8**	**-0.6**
CO03				*eS*	**Sn**	**21 36 48.1**	**+1.2**
CO03				IAML		21 36 52.5
comp=Z,89nm,0.4s							
GO02	**Mina Guanaco**	**3.67**	**330**	*eP*	**Pn**	**21 36 05.7**	**+0.7**
GO02				*eS*	**Sn**	**21 36 48.1**	**+0.3**
RTLS	**Leoncito**	**3.71**	**203**	*eP*	**Pn**	**21 36 05.2**	**-0.4**
RTLS				IAML		21 36 50.1
comp=Z,159nm,0.4s							
TCA	**Tanti**	**3.94**	**139**	*eP*	**Pn**	**21 36 08.0**	**-0.3**
TCA				*eS*	Sn	21 36 40.5	-13
ASAL	**Salagasta**	**4.33**	**194**	*eP*	**Pn**	**21 36 12.9**	**-0.6**
ASAL				*eS*	Sn	21 36 53.7	-10
ASAL				IAML		21 37 03.9
comp=Z,60nm,0.3s							
PB14	**IPOC Station P**	**4.50**	**325**	*eP*	**Pn**	**21 36 16.2**	**0.0**
PB14				*eS*	**Sn**	**21 37 03.9**	**-4.0**
PB14				IAML		21 37 11.6
comp=Z,38nm,0.6s							
ARCO	**CERRO ARCO**	**4.59**	**194**	*eP*	**Pn**	**21 36 16.8**	**-0.4**
ARCO				IAML		21 37 10.7
comp=Z,74nm,0.2s							
AZAP	**Zapla**	**4.72**	**29**	*eP*	**Pn**	**21 36 20.2**	**+1.2**
AZAP				IAML		21 37 49.1
comp=Z,53nm,0.5s							
AAGR	**Agrelo**	**4.81**	**192**	*eP*	**Pn**	**21 36 19.2**	**-0.7**
AAGR				*eS*	**Sn**	**21 37 11.7**	**-3.1**
AAGR				IAML		21 37 16.7
comp=Z,47nm,2.7s							
VA03	**San Esteban**	**5.06**	**210**	*eP*	**Pn**	**21 36 22.5**	**-0.8**
CPUP	**Villa Florida**	**9.35**	**80**	P	**Pn**	**21 37 19.9**	**-1.3**
comp=Z,1.4nm,0.3s,baz=248,slow=13,SNR=5.7							
PLCA	**Paso Flores**	**12.56**	**190**	LR	LR	21 42 53.5	
comp=Z,82nm,18.3s,baz=50,slow=37							
APG	**El Apazote**	**48.48**	**330**	LR	LR	22 03 25.7	
comp=Z,14nm,21.6s,baz=270,slow=35							
QSPA	**South Pole Qui**	**61.84**	**180**	P	**P**	**21 45 15.7**	**+0.5**
comp=Z,1.2nm,0.8s,baz=162,slow=3.2,SNR=6.0							
comp=Z,1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.66**	**68**	P	**P**	**21 46 58.4**	**+0.3**
comp=Z,18nm,0.3s,baz=236,slow=4.6,SNR=1.2							
TORD				pP	**pP**	**21 47 30.1**	**+0.4**
comp=Z,17nm,0.3s,baz=246,slow=2.7,SNR=1.0							
PDAR	**Pinedale Array**	**80.64**	**330**	P	**P**	**21 47 10.5**	**+1.9**
comp=Z,0.3nm,0.6s,baz=160,slow=4.2,SNR=2.0							
comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**146.15**	**40**	PKPbc	**PKPab**	**21 54 35.7**	**0.0**
comp=Z,0.8nm,0.3s,baz=292,slow=3.3,SNR=8.0							
ZALV	**Zalesovo Beam**	**147.46**	**31**	PKPbc	**PKiKP**	**21 54 39.3**	**-1.1**
comp=Z,1.6nm,0.3s,baz=319,slow=3.8,SNR=10							
ZALV				pPKPbc	**pPKPbc**	**21 55 12.6**	**+0.6**
comp=Z,1.1nm,0.7s,baz=316,slow=4.1,SNR=2.7							
MKAR	**Makanchi Array**	**150.14**	**44**	PKPbc	**PKiKP**	**21 54 45.7**	**-0.6**
comp=Z,1.4nm,0.7s,baz=299,slow=2.5,SNR=17							
MKAR				pPKPbc	**pPKPbc**	**21 55 19.1**	**-0.1**
comp=Z,0.5nm,0.7s,baz=294,slow=3.6,SNR=3.6							

---

*IDC **25** 21:48:02.1±2.1, 6°.50S×129°.55E, h0km, mb3.6/1, mbtmp3.6/4, ML3.8/3, Error ellipse: s-maj=87.6km s-min=27.3km az=76.0*
*DJA **25** 21:48:16.3±0.5, 7°.5±3°×13°.0E±°, h126km±16km, M4.0/9, mb4.0/6, MLv4.0/9*
ISC 25 21:48:15.8±0.8, 6°.75S±0°.05×129°.63E±0°.06, h150km, n19, σ1§79/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.06**	**127**	S	**Sn**	**21 49 16.0**	**-3.2**
SAUI	**Saumlaki**	**2.06**	**127**	P	**Pn**	**21 48 52.9**	**+1.3**
SAUI				S	**Sn**	**21 49 20.6**	**+1.4**
AAI	**Ambon**	**3.36**	**335**	P	**Pn**	**21 49 04.9**	**-2.8**
NLAI	**Namlea**	**4.30**	**324**	P	**Pn**	**21 49 19.6**	**-0.4**
NLAI				S	**Sn**	**21 50 10.1**	**+0.2**
FAKI	**Fak Fak**	**4.61**	**35**	P	**Pn**	**21 49 23.4**	**-0.7**
FAKI	**Fak Fak**	**4.61**	**35**	P	**Pn**	**21 49 24.2**	**+0.1**
FAKI				S	**Sn**	**21 50 15.8**	**-1.5**
KMPI	**Kaimana, Papua**	**5.08**	**53**	P	**Pn**	**21 49 29.9**	**-0.4**
DRS	**Darwin Rock St**	**5.79**	**168**	P	**Pn**	**21 49 39.5**	**-0.2**
DRS	**Darwin Rock St**	**5.79**	**168**	S	**Sn**	**21 50 42.4**	**-2.9**
SWI	**Sorong**	**6.07**	**16**	P	**Pn**	**21 49 42.4**	**-1.0**
0.1nm13nm,0.7s							
SWI				S	**Sn**	**21 50 50.5**	**-1.5**
0.1nm13nm,0.7s							
SOEI	**Soe**	**6.09**	**240**	P	**Pn**	**21 49 44.3**	**+0.5**
SOEI				S	**Sn**	**21 50 51.9**	**-0.8**
MTN	**Manton Dam**	**6.24**	**166**	P	**Pn**	**21 49 44.9**	**-0.8**
KDU	**Kakadu**	**6.54**	**155**	P	**Pn**	**21 49 48.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.94**	**199**	Pn	**Pn**	**21 50 58.2**	**-3.1**
0.3nm,0.3s,baz=27,slow=11,SNR=12							
FITZ				Sn	Sn	21 53 02.2	-11
0.4nm,0.3s,baz=152,slow=16,SNR=6.2							
0.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.94**	**199**	P	**Pn**	**21 51 02.5**	**+1.2**
WRA	**Warramunga Arr**	**13.89**	**161**	Pn	Pn	21 51 23.2	-3.2
0.6nm,0.3s,baz=338,slow=13,SNR=31							
WRA				Sn	Sn	21 53 47.7	-13
0.6nm,0.3s,baz=334,slow=23,SNR=7.5							
0.7nm,0.4s							
COEN	**Coen**	**15.12**	**119**	P	**Pn**	**21 51 44.2**	**+2.3**
ASAR	**Alice Springs**	**17.32**	**167**	P	**P**	**21 52 07.9**	**+0.2**
0.3nm,0.3s,baz=345,slow=10,SNR=19							
ASAR				S	S	21 55 11.6	-9.0
0.6nm,0.5s,baz=359,slow=25,SNR=4.2							
1.1nm,0.5s							
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**21 59 00.5**	**+2.9**
0.2nm,0.3s,baz=117,slow=7.6,SNR=8.6							
0.2nm,0.3s							

---

*IDC **25** 22:12:00.8±2.2, 40°.60N×109°.17W, h0km, mb2.3/1, mbtmp2.6/4, ML3.7/1, Error ellipse: s-maj=21.6km s-min=10.2km az=123.0*
*NEIC **25** 22:12:01.7±1.6, 40°.62N±0°.02×109°.48W±0°.03, h0km±1km, ML2.7/42, Error ellipse: s-maj=4.0km s-min=2.8km az=262.0*
ISC 25 22:12:02.4±1.0, 40°.60N±0°.05×109°.42W±0°.04, h0km, n25, σ1§40/26, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDMU	**Red Mountain**	**0.12**	**254**	Pg	**Pg**	**22 12 04.0**	**-0.6**
O20A	**White River Ci**	**1.01**	**117**	Pg	**Pg**	**22 12 22.4**	**+0.6**
O20A				IAML		22 12 47.9
comp=N,200nm,0.6s							
O20A				IAML		22 12 54.5
comp=E,258nm,1.1s							
BSUT	**Blindstream Ca**	**1.02**	**267**	Pg	**Pg**	**22 12 21.8**	**-0.2**
BSUT				Sg	**Sg**	**22 12 32.4**	**-2.8**
P18A	**Preston Nutter**	**1.16**	**213**	Pg	**Pg**	**22 12 24.2**	**-0.4**
P18A				IAML		22 12 56.0
comp=E,106nm,0.5s							
P18A				IAML		22 13 00.2
comp=N,128nm,0.4s							
JLU	**Jordanelle**	**1.54**	**271**		**Pn**	**22 12 30.6**	**-0.8**
JLU				IAML		22 12 42.4
comp=E,60nm,0.4s							
JLU				IAML		22 13 05.3
comp=N,81nm,0.7s							
TCUT	**Toone Canyon**	**1.59**	**289**	Pg	**Pn**	**22 12 31.2**	**-0.8**
SRU	**San Rafael Swe**	**1.72**	**210**		**Pn**	**22 12 33.3**	**-0.4**
SRU				IAML		22 13 15.6
comp=N,134nm,0.5s							
MPU	**Maple Canyon**	**1.79**	**252**		**Pn**	**22 12 34.5**	**-0.2**
MPU				IAML		22 12 46.3
comp=E,65nm,0.4s							
MPU				IAML		22 13 11.8
comp=N,63nm,0.7s							
TMUT	**Trail Mountain**	**1.90**	**227**	Pn	**Pn**	**22 12 36.2**	**-0.1**
TMUT				IAML		22 13 21.3
comp=E,118nm,0.7s							
HWUT	**Hardware Ranch**	**1.91**	**302**	Pn	**Pn**	**22 12 35.5**	**-0.8**
HWUT				IAML		22 13 06.4
comp=E,62nm,0.5s							
HWUT				IAML		22 13 11.7
comp=E,76nm,0.7s							
PD31	**Pinedale Array**	**2.16**	**357**	Pn	**Pn**	**22 12 39.0**	**-0.9**
PDAR	**Pinedale Array**	**2.16**	**357**	Pn	**Pn**	**22 12 38.9**	**-0.9**
PDAR	**Pinedale Array**	**2.16**	**357**	Pn	**Pn**	**22 12 39.9**	**0.0**
comp=E,2.8nm,0.3s,baz=163,slow=12,SNR=69							
PDAR				Lg	Lg	22 13 10.9	
comp=E,8.5nm,0.3s,baz=173,slow=32,SNR=8.6							
comp=E,3.6nm,0.3s							
HVU	**Hansel Valley**	**2.79**	**296**	Pn	**Pn**	**22 12 47.1**	**-1.3**
HVU				IAML		22 13 43.7
comp=E,50nm,0.5s							
HVU				IAML		22 13 46.1
comp=N,55nm,0.5s							
MSU	**Marysvale**	**2.98**	**226**	Pn	**Pn**	**22 12 50.0**	**-1.2**
ISCO	**Idaho Springs**	**3.02**	**104**	Pn	**Pn**	**22 12 51.2**	**-0.5**
ISCO				IAML		22 13 49.0
comp=N,15nm,1.0s							
ISCO				IAML		22 14 08.4
comp=N,15nm,4.9s							
LOHW	**Long Hollow**	**3.13**	**344**	Pn	**Pn**	**22 12 52.0**	**-1.2**
LOHW				IAML		22 13 49.9
comp=N,32nm,0.5s							
SDCO	**Great Sand Dun**	**4.17**	**132**	Pn	**Pn**	**22 13 06.7**	**-0.9**
ELK	**Elko**	**4.43**	**274**	Pn	**Pn**	**22 13 14.3**	**+3.3**
comp=N,0.3nm,0.3s,baz=170,slow=17,SNR=1.6							
ELK				Pg	**Pb**	**22 13 22.8**	**+1.7**
comp=N,0.2nm,0.3s,baz=202,slow=18,SNR=2.1							
ELK				Lg	Lg	22 14 25.4	
baz=12,slow=18							
LCMT	**Little Creek M**	**4.67**	**221**	Pn	**Pn**	**22 13 12.8**	**-1.4**
LCMT				IAML		22 14 24.4
comp=E,7.1nm,4.9s							
LCMT				IAML		22 14 37.9
comp=N,8.2nm,4.9s							
RSSD	**Black Hills**	**5.32**	**47**	Pn	**Pn**	**22 13 22.3**	**-0.9**
RSSD	**Black Hills**	**5.32**	**47**		**Pn**	**22 13 22.7**	**-0.5**
ANMO	**Albuquerque**	**6.12**	**157**	Pn	Pn	22 13 40.0	+5.8
comp=N,0.2nm,0.3s,baz=323,slow=10,SNR=1.7							
ANMO				Lg	Lg	22 15 18.7	
baz=262,slow=21							
NVAR	**Mina Array Bea**	**7.20**	**255**	Pn	**Pn**	**22 13 52.3**	**+3.2**
comp=N,0.2nm,0.4s,baz=75,slow=15,SNR=1.1							
YKA	**Yellowknife Ar**	**22.14**	**354**	P	**P**	**22 16 59.9**	**+0.6**
comp=N,0.1nm,0.4s,baz=169,slow=10,SNR=1.8							
comp=N,0.1nm,0.4s							

---

*NEIC **25** 22:12:47.5±1.0, 19°.346N±0°.010×155°.213W±0°.007, h10km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=175.0*
HVO 25 22:12:47.3±0.8, 19°.33N±0°.01×155°.193W±0°.008, h6km±2km, ML2.5/34, ML2.3/42(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=164.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.05**	**333**	Pg	Pg	22 12 49.2	+0.5
PUH				Sg	Sg	22 12 50.4	+0.5
KNHH	**Kane Nui o Ham**	**0.05**	**25**	Pg	Pg	22 12 49.3	+0.4
STCH	**Steam Cracks**	**0.08**	**50**	Pg	Pg	22 12 49.6	+0.4
STCH				Sg	Sg	22 12 51.4	+0.8
STCH				IAML		22 12 51.7
comp=N,2μm,0.5s							
STCH				IAML		22 12 52.3
comp=E,2μm,0.3s							
KKO	**Keanakako'i**	**0.10**	**314**			22 12 50.0	+0.5
KKO					Sg	22 12 51.8	+0.8
BYL	**Byron's Ledge**	**0.10**	**322**	Pg	Pg	22 12 49.9	+0.3
BYL				IAML		22 12 52.6
comp=N,1μm,0.8s							
BYL				IAML		22 12 52.6
comp=E,1μm,0.6s							
HATHI	**Halema'uma'u T**	**0.11**	**325**	Pg	Pg	22 12 50.1	+0.3
HATHI				IAML		22 12 52.6
comp=N,1μm,0.3s							
HATHI				IAML		22 12 52.7
comp=E,1μm,0.6s							
HLP	**Hilina Pali**	**0.11**	**252**	Pg	Pg	22 12 50.3	+0.6
HLP				Sg	Sg	22 12 51.9	+0.5
HLP				IAML		22 12 52.8
comp=N,1μm,0.3s							
HLP				IAML		22 12 53.0
comp=E,2μm,0.2s							
SBLHI	**Steaming Bluff**	**0.12**	**323**		Pg	22 12 50.2	+0.3
SBLHI					Sg	22 12 52.6	+0.9
OBL	**Observatory Le**	**0.12**	**315**		Pg	22 12 50.4	+0.5
OBL					Sg	22 12 52.8	+1.1
UWB	**Uwekahuna Bluf**	**0.12**	**319**		Pg	22 12 50.3	+0.3
UWB					Sg	22 12 52.7	+1.0
WRMHI	**West Rim**	**0.13**	**307**		Pg	22 12 50.3	+0.4
WRMHI					Sg	22 12 52.8	+1.0
UWE	**Uwekahuna**	**0.13**	**314**	Pg	Pg	22 12 50.4	+0.3
UWE				Sg	Sg	22 12 51.4	-0.6
UWE				IAML		22 12 53.0
comp=E,953nm,1.1s							
UWE				IAML		22 12 53.7
comp=N,858nm,0.8s							
RSD	**Rainshed**	**0.15**	**329**	Pg	Pg	22 12 50.7	+0.2
RSD				Sg	Sg	22 12 52.8	+0.2
JOKA	**Jonika Flow**	**0.20**	**60**	Pg	Pg	22 12 51.2	-0.2
JOKA				Sg	Sg	22 12 54.5	+0.4
HTC	**Hot Caves**	**0.21**	**244**		Pg	22 12 52.1	+0.6
MLH	**Mauna Loa**	**0.24**	**312**	Pg	Pg	22 12 52.5	+0.3
MLH				Sg	Sg	22 12 55.5	+0.1
MLH				IAML		22 12 59.1
comp=N,470nm,0.1s							
PAH	**Pahoa**	**0.28**	**55**	Pg	Pg	22 12 53.2	+0.3
PAH				Sg	Sg	22 12 56.5	-0.1
HMH	**Humu'ula Sheep**	**0.39**	**315**	Pg	Pg	22 12 54.7	-0.1
HMH				Sg	Sg	22 13 01.2	+1.2
KHU	**Kahuku**	**0.41**	**258**	Pg	Pg	22 12 55.2	-0.1
KHU				Sg	Sg	22 13 00.4	-0.3
KHU				IAML		22 13 07.2
comp=E,434nm,0.4s							
KHU				IAML		22 13 08.8
comp=N,360nm,0.5s							
MWH	**Mokuaweoweo**	**0.41**	**292**	Pg	Pg	22 12 55.5	+0.1
MWH				Sg	Sg	22 13 01.3	+0.4
MLOA	**Mauna Loa Obse**	**0.41**	**300**		Pg	22 12 55.4	-0.1
MLOA	**Mauna Loa Obse**	**0.41**	**300**		Sg	22 13 02.1	+1.1
MLOA	**Mauna Loa Obse**	**0.41**	**300**	IAML		22 12 56.8
comp=E,8.8nm,1.2s							
MLOA				IAML		22 12 56.8
comp=N,8.9nm,1.1s							
ALEP	**Alea Permanent**	**0.47**	**296**		Pg	22 12 56.1	-0.4
ALEP					Sg	22 13 03.1	+0.4
POHA	**Pohakuloa**	**0.53**	**323**	Pg	Pg	22 12 57.1	-0.5
POHA	**Pohakuloa**	**0.53**	**323**	Sg	Sg	22 13 04.6	0.0
HUH	**Hualalai**	**0.70**	**300**	Pg	Pg	22 13 00.3	-0.6
HUH				Sg	Sg	22 13 09.1	-0.9
CPH	**Captain Cook**	**0.70**	**283**		Pg	22 13 00.0	-0.8
HPAH	**Hawaii Prepara**	**0.84**	**326**	Pg	Pg	22 13 01.6	-1.9
MHA	**Mahukona**	**1.08**	**322**	Pg	Pg	22 13 05.1	-3.0

---

*CATAC **25** 22:29:13.4±0.5, 13°N±4°×8°9W±°, h10km, M4.9/25, MLv4.9/25*
*SNET **25** 22:29:15.6±1.0, 12°.87N×88°.90W, h31km, ML4.6*
*IDC **25** 22:29:17.6±1.2, 13°.12N×88°.54W, h68km±11km, mb3.9/16, mbtmp4.2/19, MS3.5/13, Error ellipse: s-maj=24.1km s-min=7.9km az=45.0*
*NEIC **25** 22:29:17.7±2.3, 12°.99N±0°.07×88°.72W±0°.07, h64km±6km, mb4.5/84, Error ellipse: s-maj=12.6km s-min=7.2km az=222.0*
*UCR **25** 22:29:18.1±1.4, 12°.99N×88°.72W, h64km, MB4.5(NEIC)*
*GCG **25** 22:29:18.1±0.9, 12°.98N×88°.98W, h44km±21km, MD4.3, Hypocentre not reviewed by the ISC*
ISC 25 22:29:15.7±0.4, 12°.91N±0°.05×88°.84W±0°.04, h55km, n230, σ1§30/222, mb4.5/48, MS3.5/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.49**	**32**	*eP*	**Pn**	**22 29 27.7**	**+0.6**
ALJI				*eS*	**Sn**	**22 29 35.9**	**+0.4**
ALJI	**Alcalda de J**	**0.49**	**32**	P	**Pn**	**22 29 27.8**	**+0.7**
TECO	**Alcaldia de Te**	**0.63**	**5**	P	**Pn**	**22 29 29.2**	**+0.4**
COEG	**Centro de Oper**	**0.71**	**357**	*eP*	**Pn**	**22 29 30.0**	**+0.2**
COEG	**Centro de Oper**	**0.71**	**357**	P	**Pn**	**22 29 30.1**	**+0.3**
UESV	**Universidad de**	**0.72**	**4**	P	**Pn**	**22 29 30.7**	**+0.7**
LCY	**Lacayo**	**0.74**	**46**	*eP*	**Pn**	**22 29 31.0**	**+0.7**
LFRS	**El Faro**	**0.74**	**343**	*eP*	**Pn**	**22 29 30.3**	**0.0**
LALI	**Alcalda de L**	**0.74**	**321**	*eP*	**Pn**	**22 29 29.9**	**-0.3**
LALI				*eS*	**Sn**	**22 29 39.4**	**-1.3**
LALI	**Alcalda de L**	**0.74**	**321**	P	**Pn**	**22 29 30.0**	**-0.1**
LALI	**Alcalda de L**	**0.74**	**321**	*i* P		22 29 29.9	
LALI				*i* S		22 29 39.9	
RANC	**El Ranchito**	**0.75**	**46**	P	**Pn**	**22 29 31.4**	**+1.0**
PACA	**Pacayal**	**0.75**	**42**	P	**Pn**	**22 29 31.6**	**+1.2**
PQSS	**Presa 15 de Se**	**0.76**	**21**	P	**Pn**	**22 29 31.6**	**+1.2**
PANCS	**Alcalda de**	**0.77**	**335**	P	**Pn**	**22 29 30.4**	**-0.2**
BLLM	**Bellamira**	**0.79**	**48**	*eP*	**Pn**	**22 29 31.7**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.80**	**8**	P	**Pn**	**22 29 32.1**	**+1.2**
LOMA	**Loma Larga**	**0.80**	**336**	*eP*	**Pn**	**22 29 31.0**	**0.0**
LOMA	**Loma Larga**	**0.80**	**336**	P	**Pn**	**22 29 31.1**	**0.0**
PAVA	**Las Pavas**	**0.80**	**353**	P	**Pn**	**22 29 31.7**	**+0.6**
CNRM	**Centro Naciona**	**0.86**	**49**	*eP*	**Pn**	**22 29 32.8**	**+1.0**
CNRM	**Centro Naciona**	**0.86**	**49**	P	**Pn**	**22 29 32.9**	**+1.2**
IGN	**Direccin Gen**	**0.86**	**338**	*eP*	**Pn**	**22 29 32.0**	**+0.2**
IGN	**Direccin Gen**	**0.86**	**338**	P	**Pn**	**22 29 32.2**	**+0.4**
ITCA	**Escuela Especi**	**0.87**	**331**	*eP*	**Pn**	**22 29 31.8**	**-0.1**
ITCA	**Escuela Especi**	**0.87**	**331**	P	**Pn**	**22 29 32.1**	**+0.1**
LFU	**La Fuente**	**0.88**	**342**	*eP*	**Pn**	**22 29 32.3**	**+0.3**
LFU				*eS*	**Sn**	**22 29 44.5**	**+0.6**
UEES	**Universidad Ev**	**0.89**	**334**	P	**Pn**	**22 29 32.4**	**+0.2**
PMON	**Piamonte**	**0.92**	**330**	P	**Pn**	**22 29 32.9**	**+0.2**
BOQS	**Boqueron**	**0.93**	**333**	*eP*	**Pn**	**22 29 33.0**	**+0.3**
JAYA	**Jayaque - finc**	**0.95**	**321**	*eP*	**Pn**	**22 29 32.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.95**	**321**	P	**Pn**	**22 29 32.9**	**-0.1**
JAYA	**Jayaque - finc**	**0.95**	**321**	*i* P		22 29 32.8	
JAYA				*i* S		22 29 44.5	
LCND	**La Caada**	**1.01**	**67**	*eP*	**Pn**	**22 29 34.5**	**+0.9**
LCND				*eP*		22 29 34.6	
LCND	**La Caada**	**1.01**	**67**	P

RCPN	Sur Rio San Ju	2.74	77	P	Pn	22 30 00.8 +3.5
SABN	Sabanita	2.78	110	P	Pn	22 29 57.8 0.0
NADN	Granada	2.98	113	P	Pn	22 30 02.2 +1.8
NISHN	Nisperales Com	3.00	18	*i* P		22 30 03.3
BOAB	BOACO BROADBAN	3.13	98	Pn	Pn	22 30 02.3 -0.2
BOAB	BOACO BROADBAN	3.13	98	P	Pn	22 30 02.8 +0.3
SOKI	Kika Raxquin	3.13	308	*i* P		22 30 04.9
SOKI				*i* S		22 30 41.7
RTAL	Retalhuleu	3.21	300	Pn	Pn	22 30 04.8 +1.2
ACON	Acoyapa	3.70	104	Pn	Pn	22 30 10.7 +0.3
ACON	Acoyapa	3.70	104	*e*P	Pn	22 30 11.4 +1.1
ALIBA	Liberia Airpor	3.96	125	*e*P	Pn	22 30 16.6 +2.7
PETF	Flores	4.11	346	Pn	Pn	22 30 18.1 +2.2
PETF	Flores	4.11	346	*i* P		22 30 17.6
PLVR	Palo Verde	4.26	126	*e*P	Pn	22 30 20.6 +2.3
INDI	Punta indio, G	4.46	132	P	Pn	22 30 26.6 +5.8
ESPN	Las Esperanzas	4.49	99	Pn	Pn	22 30 21.1 0.0
ESPN	Las Esperanzas	4.49	99	*e*P	Pn	22 30 21.9 +0.7
JTS	Las Juntas de	4.61	124	Pn	Pn	22 30 23.9 +1.0
JTS	Las Juntas de	4.61	124	P	Pn	22 30 24.5 +1.6
	14nm,0.3s,baz=112,slow=23,SNR=20					
JTS				S	Sn	22 31 14.5 -0.8
	47nm,0.3s,baz=278,slow=19,SNR=4.7					
JTS				LR	LR	22 32 38.1
	comp=Z,282nm,19.0s,baz=306,slow=44					
JTS	Las Juntas de	4.61	124	*e*P	Pn	22 30 25.3 +2.3
CCIG	Comitan	4.63	317	Pn	Pn	22 30 26.7 +3.5
ARE1	Arenal 1	4.71	121	*e*P	Pn	22 30 27.4 +3.1
VARE2	V. Arenal	4.71	121	*e*P	Pn	22 30 27.4 +3.1
SOCE	Pocosol	4.84	121	Pn	Pn	22 30 27.6 +1.6
PICV	PH. Pirrs	5.60	125	*e*P	Pn	22 30 39.7 +3.2
LCR2	La Lucha 2	5.69	123	*e*P	Pn	22 30 41.0 +3.1
VICA	Volcano Irazu	5.70	120	*e*P	Pn	22 30 41.0 +2.9
DRK0	Durika	6.58	123	*e*P	Pn	22 30 52.6 +2.6
PIRO	Carate, Puerto	7.02	129	*e*P	Pn	22 30 59.3 +3.4
ALCO	Alturas Coton,	7.09	123	*e*P	Pn	22 30 59.8 +2.8
CMIG	Matias Romero	7.17	306	P	Pn	22 30 59.8 +1.9
	7.2nm,0.7s,baz=113,slow=11,SNR=9.4					
CMIG				S	Sn	22 32 22.9 +4.9
	27nm,0.8s,baz=142,slow=13,SNR=4.0					
TEIG	Tepich	7.30	4	Pn	Pn	22 31 02.0 +2.3
TEIG	Tepich	7.30	4	P	Pn	22 31 02.1 +2.5
	0.2nm,0.4s,baz=17,slow=24,SNR=21					
MTDJ	Mount Denham	12.11	63	Pn	Pn	22 32 08.9 +3.3
ROSC	El Rosal	16.43	118	LR	LR	22 39 30.4
	comp=Z,104nm,20.9s,baz=98,slow=38					
HBVL	Hebbronville	16.83	328	P	P	22 33 11.4 +2.4
HBVL				IAmb	IAmb	22 33 24.4
	comp=Z,36nm,1.3s					
FLOC	Florencia	17.24	130	P	P	22 33 15.2 +1.6
COHC	Cochancay	18.00	147	P	Pn	22 33 24.0 +1.9
833A	Chaparral WMA,	18.22	329	P	Pn	22 33 25.8 +1.1
SDV	Santo Domingo	18.32	101	P	P	22 33 25.4 -0.4
SDV	Santo Domingo	18.32	101	P	P	22 33 25.8 +0.1
	comp=Z,8.8nm,0.7s,baz=279,slow=6.1,SNR=12					
SDV				PcP	PcP	22 37 56.3 +0.4
	comp=Z,2.4nm,0.8s,baz=266,slow=5.4,SNR=3.9					
SDV				LR	LR	22 41 06.2
	comp=Z,76nm,18.2s,baz=252,slow=39					
HNDO	Hondo	19.17	331	P	Pn	22 33 35.5 -0.6
HNDO				IAmb	IAmb	22 33 38.0
	comp=Z,13nm,0.6s					
435B	Jarrell	19.53	337	P	Pn	22 33 39.8 -0.7
435B				IAmb	IAmb	22 33 42.1
	comp=Z,20nm,0.6s					
DRIO	Del Rio	19.74	328	P	P	22 33 41.1 +0.2
JCT	Junction City	20.21	332	P	P	22 33 46.8 +0.7
BRDY	Brady	20.55	335	P	P	22 33 50.2 +0.5
BRDY				IAmb	IAmb	22 33 52.5
	comp=Z,16nm,0.8s					
BAUV	El Baul	20.80	99	P	P	22 33 50.5 -2.0
SAND	Sanderson	20.96	326	P	P	22 33 55.3 +1.1
OZNA	Ozona	21.21	330	P	P	22 33 57.7 +0.8
TXAR	Lajitas Array	21.37	322	P	P	22 34 00.3 +1.6
TXAR	Lajitas Array	21.37	322	P	P	22 34 00.9 +2.3
	comp=Z,3.0nm,0.5s,baz=142,slow=11,SNR=34					
TXAR				PcP	PcP	22 38 02.5 +1.5
	comp=Z,0.5nm,0.5s,baz=136,slow=2.1,SNR=3.6					
TXAR				LR	LR	22 43 49.8
	comp=Z,54nm,20.4s,baz=54,slow=41					
	comp=Z,3.0nm,0.5s					
TX31	Lajitas Ar. Si	21.37	322	P	P	22 33 59.9 +1.2
MIAR	Mount Ida	21.96	350	P	P	22 34 06.4 +1.6
JSC	Jenkinsville	22.36	17	P	P	22 34 10.9 +1.7
JSC				IAmb	IAmb	22 34 28.1
	comp=Z,21nm,1.1s					
Y57A	Sumter	22.38	19	P	P	22 34 11.0 +1.7
MNHN	Monahans	22.38	327	P	P	22 34 10.1 +0.6
MNHN				IAmb	IAmb	22 34 12.7
	comp=Z,12nm,0.6s					
ATAH	Atahualpa	22.46	152	LR	LR	22 42 07.0
	comp=Z,96nm,19.3s,baz=8.6,slow=34					
SJG	San Juan	22.46	74	LR	LR	22 43 47.9
	comp=Z,93nm,18.7s,baz=219,slow=39					
SN05	Snyder 5	22.73	333	P	P	22 34 13.3 +0.2
APMT	Aspermont	22.78	335	P	P	22 34 13.3 -0.4
APMT				IAmb	IAmb	22 34 29.6
	comp=Z,11nm,0.8s					
ODSA	Odessa	22.89	329	P	P	22 34 14.7 -0.1
ODSA				IAmb	IAmb	22 34 17.8
	comp=Z,14nm,0.9s					
BIRD	Birdtown, Kers	22.94	18	P	P	22 34 16.2 +1.1
BIRD				IAmb	IAmb	22 34 18.1
	comp=Z,12nm,0.7s					
FCAR	Ozark Folk Cen	23.07	353	P	P	22 34 16.7 +0.1
X34A	Smith Ranch, M	23.09	341	P	P	22 34 19.3 +2.6
TKL	Tuckaleechee C	23.11	11	P	P	22 34 17.7 +0.8
	comp=Z,3.6nm,0.6s,baz=176,slow=12,SNR=3.1					
TKL				LR	LR	22 42 39.0
	comp=Z,150nm,20.7s,baz=159,slow=35					
POST	Post	23.16	332	P	P	22 34 16.9 -0.6
POST				IAmb	IAmb	22 34 20.1
	comp=Z,16nm,0.6s					
LPIG	La Paz	23.17	302	LR	LR	22 44 26.1
	comp=Z,69nm,18.2s,baz=50,slow=39					
T47A	Sharon Grove	24.03	3	P	P	22 34 25.4 -0.1
T47A				IAmb	IAmb	22 34 45.9
	comp=Z,11nm,0.8s					
QUOK	Quay	24.22	344	IAmb	IAmb	22 34 30.8
	comp=Z,17nm,0.8s					
MGMO	Mountain Grove	24.34	353	IAmb	IAmb	22 34 45.1
	comp=Z,22nm,1.1s					
SMWD	Samnorwood	24.39	337	P	P	22 34 29.5 +0.6
V58A	Windy Hill, Pi	24.42	19	IAmb	IAmb	22 34 46.1
	comp=Z,13nm,0.8s					
AMTX	Amarillo	24.78	334	P	P	22 34 33.9 +1.5
AMTX				IAmb	IAmb	22 34 48.0
	comp=Z,22nm,1.1s					
CCM	Cathedral Cave	25.14	356	P	P	22 34 35.3 -0.3
CCM				IAmb	IAmb	22 34 37.1
	comp=Z,11nm,0.7s					
WCI	Wyandotte Cave	25.32	5	P	P	22 34 37.1 -0.1
WCI				IAmb	IAmb	22 34 56.3
	comp=Z,11nm,0.9s					
RTBA	Rita Blanca	26.55	334	P	P	22 34 49.3 +0.7
T25A	Trinidad	27.87	333	P	P	22 35 01.6 +1.2
ESJX	Sierra Juarez	31.30	312	P	P	22 35 32.2 +1.3
L59A	Walton	31.54	20	P	P	22 35 33.1 +0.3
SPMN	Marine on St.	32.38	355	P	P	22 35 39.2 -0.8
PFO	Pinyon Flats O	32.51	314	LR	LR	22 49 06.7
	comp=Z,95nm,18.3s,baz=95,slow=36					
SADO	Sadowa	32.82	13	P	P	22 35 43.0 -0.8
SADO	Sadowa	32.82	13	P	P	22 35 43.3 -0.5
	comp=Z,8.3nm,0.6s,baz=204,slow=9.8,SNR=13					
SADO				LR	LR	22 49 22.0
	comp=Z,134nm,18.4s,baz=35,slow=37					
	comp=Z,8.3nm,0.6s					
RSSD	Black Hills	33.73	340	P	P	22 35 52.2 +0.1
RSSD				IAmb	IAmb	22 35 54.9
	comp=Z,5.0nm,0.6s					
PD31	Pinedale Array	34.74	333	P	P	22 36 01.6 +0.8
PD31				IAmb	IAmb	22 36 11.6
	comp=Z,7.0nm,1.4s					
PDAR	Pinedale Array	34.74	333	P	P	22 36 01.9 +1.1
	comp=Z,1.0nm,0.6s,baz=131,slow=11,SNR=5.6					
PDAR				PcP	PcP	22 38 33.7 +0.1
	comp=Z,1.4nm,0.6s,baz=149,slow=5.0,SNR=14					
	comp=Z,1.0nm,0.6s					
EYMN	Ely	35.00	357	IAmb	IAmb	22 36 03.5
	comp=Z,3.4nm,0.8s					
LPAZ	La Paz	35.51	144	P	P	22 36 09.0 +0.9
LPAZ	La Paz	35.51	144	P	P	22 36 09.2 +1.1
	comp=Z,0.8nm,0.6s,baz=315,slow=7.1,SNR=2.7					
	comp=Z,0.8nm,0.6s					
G62A	West of Eustis	35.78	22	P	P	22 36 09.3 -0.1
NVAR	Mina Array Bea	36.47	319	P	P	22 36 18.0 +2.3
	comp=Z,0.5nm,0.4s,baz=118,slow=7.4,SNR=2.5					
NVAR				PcP	PcP	22 38 40.4 +1.6
	comp=Z,1.5nm,0.7s,baz=135,slow=3.6,SNR=5.7					
	comp=Z,0.5nm,0.4s					
ULM	Lac du Bonnet	37.68	353	P	P	22 36 24.2 -1.4
ULM				IAmb	IAmb	22 36 44.7
	comp=Z,8.4nm,1.1s					
ULM	Lac du Bonnet	37.68	353	P	P	22 36 25.6 +0.1
	comp=Z,1.1nm,0.3s,baz=163,slow=8.9,SNR=5.7					
ULM				LR	LR	22 54 54.7
	comp=Z,123nm,18.1s,baz=144,slow=41					
	comp=Z,1.1nm,0.3s					
BOZ	Bozeman (W)	37.89	334	IAmb	IAmb	22 36 43.7
	comp=Z,6.3nm,1.4s					
VILB	Vilhena	38.30	131	P	P	22 36 31.9 +0.7
BPMT	Black Pine Rid	39.34	333	P	P	22 36 40.3 +0.5
SIV	San Ignacio	39.73	135	P	P	22 36 43.7 +0.5
	comp=Z,3.9nm,0.7s,baz=303,slow=8.5,SNR=18					
SIV				PcP	PcP	22 38 49.2 +0.2
	comp=Z,2.2nm,0.6s,baz=315,slow=3.4,SNR=7.0					
	comp=Z,3.9nm,0.7s					
ICQ	Pointe Anglais	40.60	22	P	P	22 36 48.8 -1.1
ICQ				IAmb	IAmb	22 37 17.4
	comp=Z,5.1nm,1.0s					
FFC	Flin Flon	42.98	349	P	P	22 37 09.5 +0.2
SCHQ	Schefferville	45.24	18	P	P	22 37 26.4 -1.0
SCHQ				IAmb	IAmb	22 37 35.7
	comp=Z,16nm,1.4s					
SCHQ	Schefferville	45.24	18	P	P	22 37 26.2 -1.3
	comp=Z,4.3nm,0.6s,baz=210,slow=6.3,SNR=19					
SCHQ				PcP	PcP	22 39 05.7 -1.0
	comp=Z,2.5nm,0.5s,baz=223,slow=5.1,SNR=8.7					
	comp=Z,4.3nm,0.6s					
FCC	Fort Churchill	45.94	356	P	P	22 37 32.2 -0.6
FCC				IAmb	IAmb	22 37 34.0
	comp=Z,5.1nm,1.1s					
H03N2	Juan Fernandez	47.05	169	T	T	23 27 58.6
	baz=347,slow=76,SNR=26					
H03N1	Juan Fernandez	47.05	169	T	T	23 27 58.6
	baz=347,slow=76,SNR=35					
H03N3	Juan Fernandez	47.07	169	T	T	23 27 58.6
	baz=347,slow=76,SNR=31					
BDFB	Brasilia	49.36	124	P	P	22 38 00.1 +0.1
BDFB				IAmb	IAmb	22 38 00.6
	comp=Z,9.4nm,1.3s					
BDFB	Brasilia	49.36	124	P	P	22 37 59.8 -0.3
	comp=Z,3.0nm,0.5s,baz=307,slow=11,SNR=5.3					
	comp=Z,3.0nm,0.5s					
YKA	Yellowknife Ar	52.82	345	P	P	22 38 25.1 -0.1
	comp=Z,4.1nm,0.6s,baz=143,slow=7.9,SNR=77					
YKA				PcP	PcP	22 39 33.6 -0.3
	comp=Z,0.6nm,0.6s,baz=160,slow=4.0,SNR=2.6					
	comp=Z,4.1nm,0.6s					
DLBC	Dease Lake	54.92	335	P	P	22 38 41.8 +1.1
DLBC				IAmb	IAmb	22 38 44.2
	comp=Z,3.0nm,0.8s					
R33M	Jennings River	55.89	336	P	P	22 38 48.4 +0.6
R33M				IAmb	IAmb	22 39 07.7
	comp=Z,6.2nm,1.4s					
MMPY	Sheldon Lake,	58.02	338	P	P	22 39 03.0 +0.3
MMPY				IAmb	IAmb	22 39 17.7
	comp=Z,7.6nm,1.4s					
SFJD	Kangerlussuaq	59.66	16	LR	LR	23 05 13.6
	comp=Z,133nm,19.6s,baz=155,slow=36					
M29M	Somme Creek	60.64	336	P	P	22 39 20.4 -0.4
M29M				IAmb	IAmb	22 39 21.6
	comp=Z,6.0nm,1.4s					
I30M	Mount Dempster	61.40	339	IAmb	IAmb	22 39 44.9
	comp=Z,5.3nm,1.5s					
RES	Resolute Bay	61.86	358	IAmb	IAmb	22 39 28.2
	comp=Z,3.3nm,0.8s					
BCAR	Beaver Creek A	62.28	336	P	P	22 39 31.6 -0.2
INK	Inuvik	62.37	343	P	P	22 39 32.1 -0.1
N25K	Chitina, Valde	62.79	334	P	P	22 39 36.0 +0.7
G29M	Pine Creek	62.91	340	IAmb	IAmb	22 39 36.8
	comp=Z,2.6nm,0.7s					
KLU	Klutina	63.32	333	P	P	22 39 39.3 +0.4
KLU				IAmb	IAmb	22 40 03.7
	comp=Z,8.9nm,1.5s					
F28M	Old Crow	63.90	341	P	P	22 39 42.7 +0.3
G27K	Doyon Strip	64.07	339	P	P	22 39 42.2 -1.4
E27K	Coleen River	64.76	341	P	P	22 39 47.8 -0.3
ILAR	Eielson Array	65.06	336	P	P	22 39 49.4 -0.7
	comp=Z,0.4nm,0.5s,baz=170,slow=4.7,SNR=14					
ILAR				PcP	PcP	22 40 21.9 -0.5
	comp=Z,0.3nm,0.6s,baz=160,slow=2.9,SNR=1.9					
	comp=Z,0.4nm,0.5s					
BMAR	Burnt Mountain	65.38	339	P	P	22 39 52.4 +0.2
E25K	Arctic Village	66.03	340	P	P	22 39 55.6 -0.7
BPAW	Bear Paw Mtn.	66.45	335	P	P	22 39 58.8 -0.3
PPT2	Papeete2	67.17	245	*e*LR	LR	23 00 11.9
	comp=Z,131nm,29.0s					
PPT2				*e*LR	LR	23 00 29.7
	comp=Z,82nm,25.0s					
E23K	Chandalar	67.38	339	IAmb	IAmb	22 40 06.7
	comp=Z,3.2nm,0.7s					
K20K	Telida	67.52	334	P	P	22 40 05.0 -0.9
K20K				IAmb	IAmb	22 40 26.8
	comp=Z,10.0nm,1.4s					
TOLK	Toolik Lake Re	67.59	340	IAmb	IAmb	22 40 32.4
	comp=Z,8.5nm,1.5s					
E22K	Anaktuvuk Pass	68.17	339	P	P	22 40 09.9 0.0
D22K	Ayikyak River	68.73	340	P	P	22 40 12.7 -0.7
D22K				IAmb	IAmb	22 40 42.1
	comp=Z,8.3nm,1.4s					
C16K	Lisburne Hills	73.10	338	P	P	22 40 40.0 +0.2
C16K				IAmb	IAmb	22 41 13.2
	comp=Z,6.2nm,1.4s					
EKA	Eskdalemuir Ar	77.05	36	P	P	22 40 59.5 -3.3
	comp=Z,1.4nm,0.9s,baz=267,slow=5.7,SNR=3.6					
	comp=Z,1.4nm,0.9s					
ESDC	Sonseca Array	77.97	52	P	P	22 41 05.5 -2.9
	comp=Z,0.3nm,0.6s,baz=273,slow=6.0,SNR=4.4					
	comp=Z,0.3nm,0.6s					
SPITS	Spitsbergen Ar	80.53	12	P	P	22 41 21.2 -0.4
	comp=Z,9.2nm,0.9s,baz=245,slow=8.9,SNR=1.1					
	comp=Z,9.2nm,0.9s					
HFS	Hagfors	85.05	29	P	P	22 41 43.1 -2.2
	comp=Z,0.6nm,0.5s,baz=284,slow=14,SNR=1.1					
	comp=Z,0.6nm,0.5s					
ARCES	ARCESS Array B	86.19	19	P	P	22 41 49.7 -1.1
	comp=Z,3.7nm,1.1s,baz=302,slow=4.1,SNR=4.4					
	comp=Z,3.7nm,1.1s					
NRIK	Norilsk	97.92	1	LR	LR	23 30 30.8
	comp=Z,62nm,18.4s,baz=310,slow=38					
ZALV	Zalesovo Beam	113.19	4	PKiKP	PKiKP	22 47 45.5 -1.5
	comp=Z,0.6nm,0.5s,baz=337,slow=1.9,SNR=2.6					
KURBB	Kurchatov Arra	115.78	9	PKP	PKiKP	22 47 51.3 -0.7
	comp=Z,0.4nm,0.6s,baz=353,slow=1.9,SNR=7.2					
SONM	Songino Array	118.02	348	PKPdf	PKPdf	22 47 56.0 -0.7
SONM	Songino Array	118.02	348	PKP	PKPdf	22 47 56.3 -0.4
	comp=Z,0.7nm,0.6s,baz=5.8,slow=1.7,SNR=6.6					
MKAR	Makanchi Array	120.04	7	PKPdf	PKPdf	22 47 58.3 -2.1
MKAR	Makanchi Array	120.04	7	PKP	PKPdf	22 47 58.7 -1.7
	comp=Z,0.1nm,0.4s,baz=343,slow=2.4,SNR=4.6					
WB0	Warramunga Arr	138.04	255	PKPdf	PKiKP	22 48 36.8 -0.4
WB2	Warramunga Arr	138.08	255	PKPdf	PKiKP	22 48 36.9 -0.4
WRAB	Tennant Creek	138.08	255	PKPdf	PKiKP	22 48 36.6 -0.7
WRA	Warramunga Arr	138.09	255	PKPdf	PKPdf	22 48 36.2 +0.9
WRA	Warramunga Arr	138.09	255	PKP	PKPdf	22 48 36.4 +1.0
	comp=Z,0.6nm,0.5s,baz=87,slow=2.2,SNR=12					
ASAR	Alice Springs	138.17	249	PKP	PKPdf	22 48 34.3 -1.1
	comp=Z,0.2nm,0.4s,baz=110,slow=2.9,SNR=2.2					
FITZ	Fitzroy Crossi	146.41	257	PKPbc	PKPab	22 48 52.9 +0.5
CMAR	Chiang Mai Arr	147.90	346	PKPbc	PKPdf	22 48 54.0 +1.3
	comp=Z,1.6nm,0.5s,baz=338,slow=3.3,SNR=9.1					
UBPT	Khong Chiam	148.61	333	PKPbc	PKPbc	22 48 57.7 +0.2
NWAO	Narrogin (SRO)	148.94	226	PKPbc	PKiKP	22 48 59.4 +0.1
MBWA	Marble Bar	151.51	249	PKPbc	PKiKP	22 49 05.0 +0.1

IDC 25 22:37:08.3±18.0, 19°.75S×177°.22W, h452km±155km, mb2.8/3, mbtmp3.6/3, Error ellipse: s-maj=235.4km s-min=55.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.41	256	P	P	22 44 45.9	+0.4
	0.9nm,0.6s,baz=88,slow=8.7,SNR=9.7						
	0.9nm,0.6s						
WRA	Warramunga Arr	45.44	261	P	P	22 44 45.0	-0.7
	0.5nm,0.7s,baz=97,slow=7.0,SNR=20						
	0.5nm,0.7s						
ILAR	Eielson Array	87.42	13	P	P	22 49 06.0	0.0
	0.3nm,0.8s,baz=212,slow=4.9,SNR=5.1						
	0.3nm,0.8s						
BVAR	Borovoye Array	118.98	320	PKP	PKPdf	22 55 02.9	-1.5
	0.6nm,0.6s,baz=106,slow=1.7,SNR=3.7						
ARCES	ARCESS Array B	128.32	350	PKP	PKPdf	22 55 21.4	-0.5
	4.7nm,1.1s,baz=72,slow=2.9,SNR=1.7						
EKA	Eskdalemuir Ar	144.19	6	PKP	PKPbc	22 55 50.6	-0.2
	1.5nm,0.9s,baz=346,slow=2.4,SNR=2.2						
BRTR	Keskin Array B	146.87	314	PKPbc	PKPbc	22 55 58.5	-0.9
	0.5nm,0.5s,baz=122,slow=4.4,SNR=5.0						
MMAI	Mount Meron Ar	148.07	301	PKPbc	PKPbc	22 56 03.0	+0.3
	1.3nm,0.7s,baz=37,slow=8.4,SNR=4.3						
GERES	GERESS Array B	149.67	346	PKPbc	PKPbc	22 56 06.0	-0.1
	0.8nm,0.6s,baz=14,slow=6.2,SNR=5.3						

IDC 25 22:50:44.5±4.8, 5°.38S×103°.61E, h0km, mb3.6/5, mbtmp3.6/5, MS3.8/2, Error ellipse: s-maj=265.3km s-min=23.0km az=53.0

DJA 25 22:50:46.5±0.8, 6°.5S±3°.×10°.3E±°, h14km±6km, M3.7/6, MLv3.7/6

ISC 25 22:50:49.7±2.0, 5°.75S±0°.10×103°.37E±0°.10, h42km±20km, n13, σ1°.09/15, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	Liwa	1.00	43	P	Pn	22 51 06.7	-0.7
LWLI				S	Sn	22 51 19.9	-0.5
MNAI	Manna	1.45	343	P	Pn	22 51 12.3	-1.1
MNAI				S	Sn	22 51 32.3	+1.2
MDSI	Maura Dua	1.50	33	P	Pn	22 51 13.6	-0.4
MDSI				S	Sn	22 51 33.9	+1.6
KSI	Kapahiang	2.23	340	P	Pn	22 51 24.0	-0.2
KSI				S	Sn	22 51 51.6	+1.1
CGJI	Cibinong	2.46	110	P	Pn	22 51 26.4	-0.9
CGJI				S	Sn	22 51 57.0	+0.8
WRA	Warramunga Arr	33.24	118	P	P	22 57 23.5	+0.4
	0.3nm,0.8s,baz=291,slow=9.2,SNR=1.6						
	0.3nm,0.8s						
ASAR	Alice Springs	34.35	124	P	P	22 57 33.6	+0.8
	0.3nm,0.6s,baz=308,slow=9.0,SNR=2.6						
	0.3nm,0.6s						
STKA	Stephens Creek	44.16	131	P	P	22 58 55.3	+0.8
	1.6nm,0.5s,baz=286,slow=7.4,SNR=3.8						
	1.6nm,0.5s						
MKAR	Makanchi Array	55.56	343	P	P	23 00 19.4	-1.4
	0.4nm,0.5s,baz=150,slow=7.2,SNR=9.5						
	0.4nm,0.5s						
H04N2	CROZET ISLANDS	59.90	219	T	T	00 05 34.7	
	baz=63,slow=75,SNR=4.7						
H04N1	CROZET ISLANDS	59.92	219	T	T	00 05 32.5	
	baz=63,slow=75,SNR=7.3						
H04N3	CROZET ISLANDS	59.92	219	T	T	00 05 28.2	
	baz=63,slow=75,SNR=6.4						
ZALV	Zalesovo Beam	61.49	348	P	P	23 01 00.9	-1.0
	0.4nm,0.5s,baz=159,slow=8.6,SNR=2.1						
	0.4nm,0.5s						

IDC 25 22:54:26.1±0.5, 29°.70S×71°.30W, h0km, mb4.5/12, mbtmp4.4/15, ML4.3/3, MS3.8/20, Error ellipse: s-maj=20.0km s-min=16.5km az=76.0

SJA 25 22:54:28.5±0.7, 29°.73S×71°.54W, h22km±2km, ML5.0, MW4.7

GUC 25 22:54:31.8±0.8, 29°.68S×71°.29W, h52km±2km, ML4.6

NEIC 25 22:54:32.5±1.8, 29°.67S±0°.03×71°.33W±0°.06, h36km±4km, mb4.8/39, Mwr4.5/63, Error ellipse: s-maj=8.1km s-min=3.9km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.05; $M_{\theta\theta}$0.69; $M_{\phi\phi}$-5.74; $M_{r\theta}$-1.09; $M_{\theta\phi}$-2.32; $M_{\phi r}$-2.71; Fault plane solution: $M_0$6.59000×10^{15} NP1:ϕ_s200.36000°, δ58.46000°, λ92.90000°. NP2:ϕ_s14.83000°, δ31.66000°, λ85.29000°. Principal axes: T 5.7567, Plg76.0000°, Azm119.0000°; N 1.4321, Plg2.0000°, Azm19.0000°; P -7.1887, Plg13.0000°, Azm288.0000°;

NEIC 25 22:54:32.7, 29°.67S×71°.32W, h40km

VAO 25 22:54:40.1±0.5, 29°.53S×70°.85W, h92km, mb4.7

ISC 25 22:54:31.0±0.9, 29°.63S±0°.02×71°.30W±0°.03, h32km±6km, n264, σ1°.71/287, mb4.8/32, MS3.8/17, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.29	169		Pn	22 54 40.5	+1.5
CO05				Sn	Sn	22 54 46.4	+2.1
CO05	La Serena	0.29	169	||*i*P	Pn	22 54 40.5	+1.5
CO05				*e*S	Sn	22 54 46.5	+2.3
GO04	Tololo Observa	0.69	141	Pn	Pn	22 54 45.8	+1.0
GO04				Sn	Sn	22 54 55.6	+1.0
GO04	Tololo Observa	0.69	141	*e*P	Pb	22 54 43.6	-1.3
GO04				*e*S	Sn	22 54 55.8	+1.2
GO04	Tololo Observa	0.69	141	*e*P	Pn	22 54 45.7	+1.0
GO04				*e*S	Sn	22 54 55.5	+1.0
LCO	Las Campanas	0.81	40	Pn	Pn	22 54 48.5	+2.0
LCO				Sn	Sn	22 54 59.8	+2.3
LCO	Las Campanas	0.81	40	*e*P	Pn	22 54 48.4	+2.0
LCO	Las Campanas	0.81	40	||*i*P	Pn	22 54 48.1	+1.6
LCO				*e*S	Sn	22 54 59.5	+2.0

VA03 IAML 22 56 22.2
comp=Z,5μm,0.8s
ROC1 El Roble 3.34 176 *eP* **Pn 22 55 17.1 -4.1**
ROC1 *eS* **Sb 22 56 13.7 +3.7**
AC02 Maricunga 3.38 35 Pn **Pb 22 55 25.9 -4.6**
AC02 Maricunga 3.38 35 *eP* **Pn 22 55 21.3 -0.7**
AC02 *eS* **Sb 22 56 08.3 -3.2**
AC02 *eS* 22 56 10.8
AC02 IAML 22 56 23.8
comp=Z,2μm,1.2s
VA01 Torpederas 3.39 185 Pn **Pn 22 55 21.4 -0.3**
VA01 Torpederas 3.39 185 *eP* Pn 22 55 10.8 -11
VA01 *eS* **Sn 22 55 56.0 -4.8**
VA01 IAML 22 56 14.2
comp=Z,2μm,0.8s
AVFE Valle Fertil 3.48 108 *eP* **Pn 22 55 21.2 -1.9**
AVFE *eS* **Sb 22 56 10.7 -3.3**
AVFE IAML 22 56 16.3
comp=Z,2μm,0.7s
AC01 Pan de Azucar 3.53 10 Pn **Pn 22 55 24.4 +0.9**
AC01 Pan de Azucar 3.53 10 *eP* **Pn 22 55 24.4 +0.9**
AC01 *eS* **Sb 22 56 11.3 -3.8**
PEL Peldehue 3.54 172 Pn **Pn 22 55 24.7 +0.9**
PEL Peldehue 3.54 172 *eP* **Pn 22 55 25.6 +1.9**
PEL *eS* **Sn 22 56 04.8 +0.2**
MT02 Curacav 3.62 178 Pn **Pn 22 55 25.6 +0.8**
MT02 Curacav 3.62 178 *eP* **Pn 22 55 25.4 +0.6**
MT02 *eS* **Sb 22 56 22.0 +4.2**
MT02 IAML 22 56 24.7
comp=Z,3μm,0.8s
ASAL Salagasta 3.63 145 *eP* **Pn 22 55 28.9 +3.9**
ASAL *eS* **Sb 22 56 21.5 +3.4**
MT05 Renca 3.78 173 Pn **Pn 22 55 28.2 +1.1**
MT05 Renca 3.78 173 *eP* **Pn 22 55 29.1 +2.0**
MT05 *eS* **Sn 22 56 11.2 +0.8**
MT05 IAML 22 56 23.7
comp=Z,3μm,0.8s
FCH Farellones 3.78 167 *eP* **Pn 22 55 29.9 +2.6**
FCH *eS* **Sn 22 56 15.6 +4.7**
FCH IAML 22 56 29.2
comp=E,3μm,0.3s
ARCO CERRO ARCO 3.79 148 *eP* **Pn 22 55 31.5 +4.2**
ARCO *eS* **Sb 22 56 17.3 -5.5**
ARCO IAML 22 56 33.6
comp=Z,3μm,0.5s
MT16 CCHEN 3.84 170 Pn **Pn 22 55 29.5 +1.6**
MT04 Ro Olivares 3.89 165 *eP* **Pn 22 55 32.4 +3.6**
MT04 *eS* **Sn 22 56 13.7 +0.3**
MT03 Universidad Ad 3.91 170 Pn **Pn 22 55 31.1 +2.2**
MT03 Universidad Ad 3.91 170 *eP* **Pn 22 55 31.4 +2.5**
MT03 *eS* **Sn 22 56 14.7 +0.9**
MT03 IAML 22 56 36.8
comp=Z,5μm,0.8s
MT08 Bocatoma Ro 3.96 164 Pn **Pn 22 55 33.7 +4.1**
MT08 Bocatoma Ro 3.96 164 *eS* **Sn 22 56 18.3 +3.2**
MT08 IAML 22 56 35.2
comp=Z,3μm,0.8s
VA05 Santo Domingo 4.02 184 Pn **Pn 22 55 29.7 -0.6**
MT09 Talagante 4.14 176 Pn **Pn 22 55 32.9 +0.8**
MT13 San Alfonso 4.19 168 Pn **Pn 22 55 34.9 +2.1**
MT13 San Alfonso 4.19 168 *eP* Pn 22 55 21.3 -11
MT13 *eS* **Sn 22 56 22.1 +1.5**
MT13 IAML 22 56 43.9
comp=Z,2μm,1.3s
APLL PUNTA DE LOS L 4.21 102 *eP* **Pn 22 55 30.9 -2.1**
APLL *eS* **Sb 22 56 28.4 -6.4**
APLL *eS* **Sb 22 56 28.4 -6.4**
APLL *eS* **Sb 22 56 28.4 -6.4**
MT01 Popeta 4.22 179 Pn **Pn 22 55 33.6 +0.6**
MT01 Popeta 4.22 179 *eS* **Sn 22 56 22.0 +0.7**
ACHE Chepes 4.29 112 *eP* **Pn 22 55 37.6 +3.4**
LMEL Las Melosas 4.30 168 Pn **Pn 22 55 37.0 +2.6**
BO04 La Punta 4.38 172 Pn **Pn 22 55 35.8 +0.4**
GO02 Mina Guanaco 4.71 19 Pn **Pn 22 55 41.5 +1.4**
BO01 Tunca 4.75 178 Pn **Pn 22 55 41.4 +1.0**
BO01 Tunca 4.75 178 *eP* Pn 22 55 36.0 -4.4
BO01 *eP* Pn 22 55 36.0 -4.4
BO01 *eP* Pn 22 55 36.0 -4.4
BO01 *eS* **Sn 22 56 32.5 -1.8**
PB14 IPOC Station P 5.05 9 Pn **Pn 22 55 45.6 +0.8**
PB14 IPOC Station P 5.05 9 IAML 22 57 17.0
comp=Z,413nm,1.6s
BO02 Sierra Bellavi 5.16 175 Pn **Pn 22 55 46.9 +0.8**
BO02 Sierra Bellavi 5.16 175 *eP* **Pn 22 55 47.3 +1.2**
BO02 *eP* **Pn 22 55 47.3 +1.2**
BO02 *eS* **Sn 22 56 44.0 -0.6**
BO02 IAML 22 57 05.5
comp=Z,2μm,0.5s
ML02 Panimavida 6.11 181 Pn **Pn 22 55 58.7 -0.4**
BI02 San Fabin de 7.01 180 Pn **Pn 22 56 11.0 -0.5**
BI05 Punta Hualpn 7.27 192 Pn **Pn 22 56 13.0 -1.9**
H03N1 Juan Fernandez 7.52 238 T T 23 03 58.4
baz=65,slow=72,SNR=3068
H03N2 Juan Fernandez 7.54 238 T T 23 03 57.4
baz=65,slow=72,SNR=2123
H03N3 Juan Fernandez 7.54 238 T T 23 03 54.7
baz=65,slow=72,SNR=1795
VA04 Juan Fernndez 7.56 236 Pn **Pn 22 56 16.5 -2.4**
PB09 IPOC Station P 8.02 14 Pn **Pn 22 56 26.5 +1.0**
PB01 IPOC Station P 8.71 11 Pn **Pn 22 56 33.9 -0.9**
PB08 IPOC Station P 9.65 12 Pn **Pn 22 56 46.7 -1.3**
LR04 Corral 10.37 189 Pn **Pn 22 56 56.1 -1.3**
LR05 Currie 10.59 183 Pn **Pn 22 56 58.9 -1.6**
PLCA Paso Flores 11.09 177 Pn **Pn 22 57 07.0 -0.4**
PLCA Paso Flores 11.09 177 Pn **Pn 22 57 06.3 -1.1**
comp=Z,0.4nm,0.3s,baz=341,slow=11,SNR=16
PLCA LR LR 23 01 49.9
comp=Z,347nm,21.5s,baz=355,slow=40
comp=Z,2.8nm,0.7s
TRQA Tornquist 11.42 140 Pn **Pn 22 57 12.2 +0.3**
LL01 San Ignacio de 12.75 184 Pn **Pn 22 57 26.9 -3.1**
CPUP Villa Florida 12.78 78 Pn **Pn 22 57 30.7 +0.2**
CPUP Villa Florida 12.78 78 Pn **Pn 22 57 31.1 +0.6**
comp=Z,0.5nm,0.3s,baz=268,slow=9.7,SNR=8.4
CPUP Sn **Sn 22 59 52.8 +1.2**
comp=Z,0.4nm,0.3s,baz=302,slow=13,SNR=5.6
CPUP LR LR 23 02 51.2
comp=Z,579nm,19.2s,baz=258,slow=40
comp=Z,5.2nm,0.8s
CPUP Villa Florida 12.78 78 *eP* **Pn 22 57 32.8 +2.3**
PAPY Pozo Azul 12.91 68 *eP* **Pn 22 57 33.4 +1.2**
TBOT Tacuaremb 13.38 103 *eP* **Pn 22 57 42.1 +3.4**
LPAZ La Paz 13.60 13 Pn **Pn 22 57 44.8 +2.6**
LPAZ La Paz 13.60 13 Pn **Pn 22 57 45.9 +3.6**
comp=Z,0.2nm,0.3s,baz=179,slow=7.8,SNR=9.1
LPAZ LR LR 23 03 14.9
comp=Z,367nm,20.5s,baz=174,slow=39
LPAZ La Paz 13.60 13 *eP* **P 22 57 46.9 -4.0**
SJPY San Joaquin 14.28 75 *eP* **Pn 22 57 51.9 +1.0**
MURT Porto Murtinho 14.67 60 *eP* **Pn 22 57 57.8 +1.5**
AY01 Puyuhuapi 14.80 184 Pn **Pn 22 57 57.3 -0.6**
PLTB Pedras Altas 15.37 102 Pn **Pn 22 58 04.2 -1.4**
PLTB Pedras Altas 15.37 102 *eP* **Pn 22 58 06.5 +0.9**
CPSB Cacapava Do Su 15.50 97 *eP* **Pn 22 58 07.7 +0.5**
COYC Coyhaique 15.92 182 Pn **Pn 22 58 11.6 -1.0**
BDQN Bodoquena, MS 16.03 59 *eP* **Pn 22 58 15.4 +1.3**
SIV San Ignacio 16.52 37 Pn **Pn 22 58 20.4 0.0**
comp=Z,0.1nm,0.3s,baz=251,slow=4.9,SNR=28
comp=Z,6.6nm,0.6s
AQDB Aquidauana 16.81 61 Pn **P 22 58 24.7 -1.1**
AQDB Aquidauana 16.81 61 *eP* **Pn 22 58 24.1 +0.1**
ITAB Concordia 17.03 87 **P 22 58 29.1 +0.8**
ITAB IAmb IAmb 22 58 31.2
comp=Z,50nm,1.1s
ITAB Concordia 17.03 87 *eP* **P 22 58 28.8 +0.4**
PTGB Pitanga 17.80 79 *eP* **P 22 58 36.7 -0.2**
CNLB Canela 17.81 94 *eP* **P 22 58 37.0 0.0**
PTLB Pontes e Lacer 18.02 41 Pn **Pn 22 58 38.2 -0.8**
PTLB Pontes e Lacer 18.02 41 *eP* **P 22 58 40.6 +1.3**
RPRD Ribas do Rio P 18.35 64 *eP* **Pn 22 58 44.1 +1.1**
LDASE Londrina, Braz 19.09 76 *eP* **P 22 58 51.2 +0.1**
TER01 Tubaro-SC 19.41 92 *eP* **P 22 58 54.2 -0.3**
VILB Vilhena 19.53 34 **P 22 58 56.0 0.0**
VILB IAmb IAmb 22 59 15.2
comp=Z,38nm,0.8s
VILB Vilhena 19.53 34 *eP* **Pn 22 58 56.9 -0.5**
MAJ01 Sao Joao Batis 19.71 89 *eP* **P 22 58 58.1 +0.3**
SALV Santo Antonio 19.82 50 *eP* **P 22 58 59.5 +0.6**
C2SB Chapadao do Su 19.99 61 *eP* **P 22 59 01.2 +0.4**
ITRB Iturama 21.41 67 *eP* **P 22 59 16.4 +0.1**
CZSB Cruzeiro do Su 21.83 356 P **P 22 59 20.9 +0.2**
CZSB Cruzeiro do Su 21.83 356 *eP* **P 22 59 26.1 +5.4**

SPB Sao Paulo 22.15 80 P **P 22 59 23.7 -0.5**
SPB IAmb IAmb 22 59 27.2
comp=Z,36nm,1.0s
SPB Sao Paulo 22.15 80 *eP* **P 22 59 25.9 +1.7**
BB19B Bebedouro 22.25 73 *eP* **P 22 59 24.4 -0.9**
PDRB Porto dos Gac 22.48 40 *eP* **P 22 59 27.0 -0.8**
VAO Valinhos 22.77 79 P **P 22 59 30.1 -0.8**
VAO Valinhos 22.77 79 *eP* **P 22 59 30.3 -0.5**
ATAH Atahualpa 23.36 342 LR LR 23 08 05.7
comp=Z,95nm,19.7s,baz=211,slow=35
PARB Paraibuna 23.80 81 *eP* **P 22 59 40.5 -0.5**
IPMB Ipameri, GO 24.05 66 *eP* **P 22 59 43.9 +0.5**
PMNB Patos De Minas 25.19 70 *eP* **P 22 59 54.4 +0.5**
BDFB Brasilia 25.54 62 P **P 22 59 55.4 -1.7**
BDFB IAmb IAmb 23 00 15.5
comp=Z,25nm,0.8s
BDFB Brasilia 25.54 62 P **P 22 59 56.9 -0.2**
comp=Z,8.6nm,0.7s,baz=233,slow=10.0,SNR=18
BDFB LR LR 23 11 03.2
comp=Z,213nm,20.5s,baz=228,slow=39
comp=Z,8.6nm,0.7s
SNDB Serra Nova Dou 25.59 51 *eP* **P 22 59 57.4 +0.1**
NPGB Novo Progresso 27.02 37 *eP* **P 23 00 09.5 -0.8**
DIAM Diamantina, MG 27.58 72 *eP* **P 23 00 16.0 +0.5**
JANB Januaria 28.78 66 *eP* **P 23 00 25.7 -0.4**
ITTB Itaituba 29.13 33 *eP* **P 23 00 28.9 -0.2**
BSFB Barra de Sao F 29.70 76 *eP* **P 23 00 34.2 +0.1**
SDBA SAO DESIDERIO 29.90 61 *eP* **P 23 00 36.1 0.0**
SMTB Santa Maria do 30.34 52 *eP* **P 23 00 40.9 +1.0**
GUA01 Guaratinga, BA 31.64 73 *eP* **P 23 00 51.3 0.0**
CMC01 Camacan, BA 32.49 71 *eP* **P 23 00 58.8 0.0**
BOAV Boa Vista 33.48 20 P **P 23 01 06.3 -1.0**
BOAV IAmb IAmb 23 01 08.5
comp=Z,8.8nm,0.7s
BOAV Boa Vista 33.48 20 *eP* **P 23 01 07.8 +0.5**
ROSC El Rosal 34.40 355 LR LR 23 16 46.1
comp=Z,117nm,18.3s,baz=232,slow=39
RUSC La Rusia 35.36 357 P **P 23 01 24.6 +0.3**
RUSC IAmb IAmb 23 02 01.6
comp=Z,18nm,1.0s
PMSA Palmer Station 35.45 175 LR LR 23 14 54.3
comp=Z,181nm,21.0s,baz=300,slow=35
NBLA Lagarto - SE 36.30 66 *eP* **P 23 01 31.1 -0.7**
NBAN Anadia - AL 38.28 66 *eP* **P 23 01 48.2 -0.4**
SDV Santo Domingo 38.30 1 LR LR 23 19 26.8
comp=Z,68nm,20.4s,baz=99,slow=39
NBPB Pedra_Branca-C 38.34 58 *eP* **P 23 01 49.4 +0.3**
MDP Montagnes des 38.91 30 LR LR 23 18 51.1
comp=Z,207nm,20.0s,baz=150,slow=38
NBLV Livramento - P 39.17 62 *eP* **P 23 01 55.9 -0.3**
NBCA Caruaru-PE 39.34 64 *eP* **P 23 01 56.9 -0.7**
CELP Cerrillos 47.65 6 P **P 23 03 03.6 -0.6**
SJG San Juan 47.73 7 LR LR 23 24 12.3
comp=Z,46nm,18.5s,baz=113,slow=37
BELA Belgrano 2 51.07 171 P **P 23 03 29.6 -0.1**
BELA IAmb IAmb 23 03 31.1
comp=Z,12nm,1.1s
CMIG Matias Romero 51.73 331 LR LR 23 20 55.1
comp=Z,71nm,20.9s,baz=176,slow=31
TEIG Tepich 52.20 340 P **P 23 03 39.4 +0.6**
VNA3 Neumayer Olymp 53.18 159 P **P 23 03 45.2 -0.4**
VNA3 Neumayer Olymp 53.18 159 ⇑P **P 23 03 45.2 -0.4**
comp=Z,23nm,0.8s
VNA1 Neumayer--Stat 53.46 158 P **P 23 03 47.5 -0.1**
VNA1 Neumayer--Stat 53.46 158 ⇑P **P 23 03 47.5 -0.1**
comp=Z,17nm,0.9s
VNA2 Neumayer--Watz 53.81 159 P **P 23 03 49.7 -0.5**
baz=280,slow=8.6
VNA2 Neumayer--Watz 53.81 159 ⇑P **P 23 03 49.7 -0.5**
comp=Z,26nm,0.6s,baz=280,slow=8.6
SNAA Sanae 55.41 159 P **P 23 04 01.4 -0.4**
SNAA Sanae 55.41 159 P **P 23 04 01.6 -0.2**
SNAA Sanae 55.41 159 ⇑P **P 23 04 01.4 -0.4**
comp=Z,493nm,0.7s
SNAA Sanae 55.41 159 P **P 23 04 01.6 -0.2**
comp=Z,27nm,0.9s,baz=282,slow=7.3,SNR=48
SNAA LR LR 23 29 06.9
comp=Z,62nm,18.3s,baz=318,slow=38
comp=Z,27nm,0.9s
TROLL Troll, Antarti 57.12 159 P **P 23 04 13.7 -0.4**
TROLL Troll, Antarti 57.12 159 ⇑P **P 23 04 13.7 -0.4**
comp=Z,799nm,0.8s
QSPA South Pole Qui 60.59 180 P **P 23 04 38.4 +0.1**
comp=Z,6.4nm,0.7s,baz=153,slow=1.6,SNR=42
comp=Z,6.4nm,0.7s
TKL Tuckaleechee C 66.00 349 LR LR 23 35 27.6
comp=Z,87nm,18.3s,baz=32,slow=37
SAND Sanderson 66.14 331 P **P 23 05 17.3 +2.0**
TXAR Lajitas Array 66.27 329 P **P 23 05 17.0 +0.8**
TXAR Lajitas Array 66.27 329 P **P 23 05 17.3 +1.1**
comp=Z,1.2nm,0.7s,baz=141,slow=7.6,SNR=14
comp=Z,1.2nm,0.7s
TX31 Lajitas Ar. Si 66.28 329 P **P 23 05 17.0 +0.8**
T59A Double "B" Far 66.51 355 P **P 23 05 17.1 -0.3**
WVT Waverly 67.24 346 P **P 23 05 21.8 -0.3**
WVT IAmb IAmb 23 05 22.6
comp=Z,5.0nm,0.8s
LCAR Lake Charles 67.97 343 P **P 23 05 26.8 +0.1**
LCAR IAmb IAmb 23 05 28.3
comp=Z,9.4nm,0.9s
PARMO Parma 68.19 344 P **P 23 05 28.3 +0.3**
APMT Aspermont 68.31 334 P **P 23 05 29.8 +0.9**
APMT IAmb IAmb 23 05 30.7
comp=Z,4.9nm,0.7s
PBMO Poplar Bluff 68.46 344 P **P 23 05 30.0 +0.2**
PBMO IAmb IAmb 23 05 31.4
comp=Z,9.8nm,0.8s
TBI Tubuai 69.02 254 *eLR* LR 23 26 34.4
comp=Z,743nm,35.8s
SYO Syowa Base 69.70 159⇑ *eP* **P 23 05 34.2 -2.9**
PPT2 Papeete2 71.55 260 *eLR* LR 23 27 39.0
comp=Z,126nm,24.2s
PPT2 *eLR* LR 23 27 40.2
comp=Z,125nm,23.5s
DBIC Dimbokro 73.21 72 P **P 23 05 59.2 0.0**
DBIC IAmb IAmb 23 06 00.0
comp=Z,13nm,0.8s
DBIC Dimbokro 73.21 72 P **P 23 05 59.1 -0.1**
comp=Z,12nm,0.8s,baz=218,slow=5.9,SNR=14
DBIC LR LR 23 36 46.4
comp=Z,55nm,19.6s,baz=252,slow=35
comp=Z,12nm,0.8s
U15A North Rim 76.16 327 P **P 23 06 18.0 +1.9**
SUR Sutherland 76.41 120 P **P 23 06 18.0 +0.3**
SUR IAmb IAmb 23 06 19.3
comp=Z,11nm,0.8s
SUR Sutherland 76.41 120 LR LR 23 34 17.6
comp=Z,34nm,21.5s,baz=255,slow=31
ECSD EROS Data Cent 76.61 341 P **P 23 06 17.9 -0.3**
ECSD IAmb IAmb 23 06 19.5
comp=Z,8.7nm,0.9s
MAW Mawson 77.18 164 LR LR 23 42 38.0
comp=Z,62nm,18.5s,baz=219,slow=38
MTPU Mount Pierson 77.42 328 P **P 23 06 24.7 +1.4**
WIN Windhoek 77.87 109 P **P 23 06 26.4 +0.3**
WIN IAmb IAmb 23 06 27.6
comp=Z,10.0nm,0.9s
ICQ Pointe Anglais 78.88 3 P **P 23 06 31.4 +0.9**
ICQ IAmb IAmb 23 07 04.5
comp=Z,17nm,1.3s
SOE Somerset East 79.81 122 P **P 23 06 37.0 +0.5**
TSUM Tsumeb 79.81 106 P **P 23 06 37.4 +0.6**
TSUM IAmb IAmb 23 06 38.3
comp=Z,15nm,0.9s
HWUT Hardware Ranch 80.05 331 P **P 23 06 38.6 +1.1**
HWUT IAmb IAmb 23 06 39.7
comp=Z,7.3nm,0.8s
GRHM Grahamstown, E 80.14 123 P **P 23 06 38.2 0.0**
PDAR Pinedale Array 80.17 332 P **P 23 06 38.3 +0.2**
PDAR Pinedale Array 80.17 332 P **P 23 06 39.0 +0.8**
comp=Z,0.9nm,0.8s,baz=129,slow=6.1,SNR=4.6
comp=Z,0.9nm,0.8s
ELK Elko 81.00 328 P **P 23 06 43.6 +1.0**
comp=Z,2.0nm,0.8s,baz=252,slow=3.4,SNR=7.8
ELK LR LR 23 38 35.4
comp=Z,66nm,18.8s,baz=88,slow=33
comp=Z,2.0nm,0.8s
BOSA Boshof 81.55 118 P **P 23 06 45.4 -0.6**
BOSA IAmb IAmb 23 06 46.5
comp=Z,9.4nm,0.8s
BOSA Boshof 81.55 118 P **P 23 06 45.7 -0.2**
comp=Z,7.3nm,0.5s,baz=239,slow=5.8,SNR=29
BOSA LR LR 23 37 26.3
comp=Z,48nm,21.8s,baz=202,slow=32
comp=Z,7.3nm,0.5s

TORD Torodi Ar. Bea 82.14 70 P **P 23 06 48.6 -0.3**
comp=Z,21nm,0.3s,baz=242,slow=5.2,SNR=1.6
ULM Lac du Bonnet 82.47 344 P **P 23 06 49.7 -0.1**
comp=Z,4.4nm,0.8s,baz=181,slow=6.1,SNR=8.2
comp=Z,4.4nm,0.8s
LBTB Lobatse 83.57 115 P **P 23 06 56.0 -0.4**
LBTB Lobatse 83.57 115 LR LR 23 39 17.5
comp=Z,70nm,18.8s,baz=211,slow=32
SCHQ Schefferville 84.21 3 P **P 23 06 58.3 -0.4**
comp=Z,4.4nm,1.2s,baz=213,slow=17,SNR=1.4
comp=Z,4.4nm,1.2s
PLID Pearl Lake 84.77 330 P **P 23 07 02.8 +0.7**
PLID IAmb IAmb 23 07 03.9
comp=Z,3.0nm,0.7s
LSZ Lusaka 90.56 108 P **P 23 07 31.6 +1.0**
LSZ IAmb IAmb 23 07 32.7
comp=Z,4.7nm,0.9s
ESDC Sonseca Array 93.09 45 P **P 23 07 42.0 +0.4**
comp=Z,0.9nm,0.9s,baz=262,slow=5.9,SNR=4.7
comp=Z,0.9nm,0.9s
YKA Yellowknife Ar 98.14 341 P **P 23 08 04.0 +0.1**
comp=Z,0.3nm,0.7s,baz=146,slow=4.3,SNR=6.7
comp=Z,0.3nm,0.7s
KEST Kesra 99.84 55 LR LR 23 53 54.4
comp=Z,97nm,20.1s,baz=341,slow=36
DZM Mont Dzumac 104.31 234 *eLR* LR 23 42 49.0
comp=Z,215nm,28.6s
ASAR Alice Springs 121.73 207 PKP **PKPdf 23 13 20.8 -1.5**
comp=Z,0.6nm,0.8s,baz=153,slow=1.6,SNR=7.7
WR0 Warramunga Arr 124.76 210 PKPdf **PKPdf 23 13 27.2 -0.9**
WB2 Warramunga Arr 124.86 210 PKPdf **PKPdf 23 13 27.3 -0.9**
WRA Warramunga Arr 124.86 210 PKPdf **PKPdf 23 13 27.0 -1.3**
WRA Warramunga Arr 124.86 210 PKP **PKPdf 23 13 27.4 -0.9**
comp=Z,1.9nm,0.8s,baz=156,slow=1.6,SNR=11
WRAB Tennant Creek 124.87 210 PKPdf **PKPdf 23 13 27.2 -1.1**
WB0 Warramunga Arr 124.99 210 PKPdf **PKPdf 23 13 26.8 -1.8**
H11S2 WAKE ISLAND Hyl 126.36 272 T T 01 32 36.4
baz=115,slow=75,SNR=37
H11S1 WAKE ISLAND Hyl 126.37 272 T T 01 32 36.4
baz=115,slow=75,SNR=48
H11S3 WAKE ISLAND Hyl 126.38 272 T T 01 32 36.4
baz=115,slow=75,SNR=47
H11N3 WAKE ISLAND Hyl 126.66 273 T T 01 33 02.0
baz=116,slow=74
H11N1 WAKE ISLAND Hyl 126.67 273 T T 01 33 04.8
baz=116
H11N2 WAKE ISLAND Hyl 126.68 273 T T 01 33 02.9
baz=116,slow=74
KBZ Khabaz 126.70 56 PKP **PKPdf 23 13 31.1 +0.2**
comp=Z,1.7nm,0.9s,baz=216,slow=4.1,SNR=4.3
ARTI Arti 135.89 38 PKP **PKPdf 23 13 48.1 +0.1**
comp=Z,1.3nm,0.5s,baz=2.0,slow=4.0,SNR=3.9
ABKAR Akbulak array 138.39 48 PKPpre PKPpre 23 13 42.0
ABKAR PKPdf **PKPdf 23 13 51.9 -0.9**
BVAR Borovoye Array 143.58 39 PKP PKPbc 23 13 60.0 +0.5
comp=Z,1.8nm,0.7s,baz=257,slow=2.6,SNR=5.4
YAK Yakutsk 144.79 343 **PKPab 23 14 03.4 +0.6**
SIMJ Simiganj 146.16 64 PKPdf **PKPdf 23 14 07.1 0.0**
CHGR Chuyangaron 146.28 64 PKPdf **PKPdf 23 14 07.5 +0.3**
KK31 Karatay Array 146.74 56 PKPbc **PKPbc 23 14 09.4 -0.2**
KKAR Karatay Array 146.74 56 PKPbc **PKPbc 23 14 09.4 -0.2**
GAR Garm 147.15 63 PKPbc **PKPbc 23 14 10.9 -0.1**
KURBB Kurchatov Arra 149.17 39 PKP **PKPdf 23 14 11.4 -0.1**
comp=Z,5.1nm,0.7s,baz=303,slow=2.9,SNR=2.3
KURBB PKPbc **PKPbc 23 14 16.1 +0.4**
comp=Z,6.0nm,0.7s,baz=300,slow=3.1,SNR=34
KURBB PKPab **pPKPdf 23 14 21.6 -0.7**
comp=Z,5.0nm,0.8s,baz=296,slow=4.0,SNR=16
KURK Kurchatov 149.17 38 PKPbc **PKPbc 23 14 16.0 +0.3**
EKS2 Erkin-Say 149.17 55 P **PKPbc 23 14 17.3 +1.1**
SNR=8.8
AML Almayashu 149.23 57 P **PKiKP 23 14 17.9 0.0**
SNR=7.7
USP Ospenovka 149.54 54 P **PKPbc 23 14 17.8 +0.8**
SNR=8.4
NIL Nilore 149.65 73 **PKPbc 23 14 16.8 -0.7**
AAK Ala-Archa 149.69 55 PKPbc **PKPbc 23 14 17.9 +0.4**
AAK Ala-Archa 149.69 55 P **PKiKP 23 14 18.7 +0.2**
SNR=20
CHMS Chumysh 149.79 54 P **PKPbc 23 14 18.5 +0.9**
SNR=7.0
KBK Karagaybulak 150.01 55 P **PKPbc 23 14 18.8 +0.4**
SNR=7.6
ZALV Zalesovo Beam 150.16 29 PKP **PKPdf 23 14 12.9 0.0**
comp=Z,3.4nm,1.0s,baz=276,slow=4.2,SNR=6.1
ZALV PKPbc **PKPbc 23 14 18.5 +0.4**
comp=Z,32nm,0.7s,baz=298,slow=3.3,SNR=94
TKM2 Tokmak 2 150.41 54 P **PKPbc 23 14 19.9 +0.6**
SNR=15
BOOM Boomskoye usch 150.76 55 PKPbc **PKPbc 23 14 20.4 +0.3**
MAKZ Makanchi 153.09 43 PKPbc **PKPbc 23 14 24.1 -1.0**
MK31 Makanchi Array 153.28 43 PKPbc **PKPbc 23 14 25.3 -0.3**
MKAR Makanchi Array 153.28 43 PKPbc **PKPbc 23 14 25.1 -0.4**
MKAR Makanchi Array 153.28 43 PKP **PKPdf 23 14 17.7 -0.3**
comp=Z,0.9nm,1.0s,baz=307,slow=2.4,SNR=5.4
MKAR PKPbc **PKPbc 23 14 25.6 0.0**
comp=Z,2.2nm,0.7s,baz=324,slow=2.6,SNR=19
MKAR PKPab **PKPab 23 14 38.2 +0.7**
comp=Z,3.1nm,0.8s,baz=297,slow=3.2,SNR=13
MJAR Matsushiro Arr 154.40 293 PKPab **PKPab 23 14 42.6 0.0**
comp=Z,1.4nm,0.6s,baz=84,slow=2.9,SNR=4.5
SONM Songino Array 161.74 5 PKPab **PKPab 23 15 13.9 -0.1**
comp=Z,1.0nm,0.8s,baz=328,slow=5.3,SNR=6.8
NJ2 Nanjing 170.94 288 *eP* **PKPdf 23 14 37.0 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
PZH PanZhiHua 173.11 115 PKP **PKPdf 23 14 36.3 -1.2**

UPP ***25*** *23:12:37.4±0.1, 67°.17N×20°.63E, h0km, ML2.5, Unknown*
HEL ***25*** *23:12:38.0±0.2, 67°.15N×20°.50E, h0km, ML0.9, Explosion*
ISC 25 23:12:37.8±0.9,**67°.18N**±0°.03×**20°.65E**±0°.04,**h0km**,**n14**,
σ0**92**/19,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**211**	P	**Pg**	**23 12 38.7**	**-0.3**
DUNU				S	**Sg**	**23 12 40.1**	**+0.2**
MASU	**Masugnsbyn**	**0.59**	**61**	P	**Pg**	**23 12 48.8**	**-0.4**
RATU	**Laukkuluspa**	**0.77**	**328**	P	**Pg**	**23 12 51.7**	**-0.8**
KUA	**Kurravaara**	**0.79**	**351**	P	**Pg**	**23 12 52.4**	**-0.5**
ERTU	**Ertsjaerv**	**0.87**	**135**	P	**Pg**	**23 12 53.6**	**-0.9**
ERTU	**Ertsjaerv**	**0.87**	**135**	PG	**Pg**	**23 12 54.0**	**-0.5**
PAJU	**Pajala**	**0.97**	**98**	PG	**Pg**	**23 12 56.2**	**-0.3**
PAJU				SG	**Sg**	**23 13 09.4**	**+0.3**
KOVU	**Salmi**	**1.07**	**350**	P	**Pg**	**23 12 57.6**	**-0.6**
HEF	**Hetta**	**1.68**	**41**	MSG		23 13 30.1	
HEF	comp=Z,0.7nm,0.2s			SN	**Sg**	**23 13 32.4**	**+0.6**
TOF	**Tornio**	**1.83**	**125**	PG	**Pb**	**23 13 11.5**	**-0.6**
TOF	baz=304 comp=Z,0.3nm,0.2s			MSG		23 13 33.5	
TOF				SN	**Sg**	**23 13 37.0**	**+0.4**
KIF	**Kilpisjarvi**	**1.84**	**2**	PG	**Pb**	**23 13 12.1**	**-0.2**
KIF	comp=Z,1.1nm,0.2s			MSG		23 13 34.8	
KIF				SG	**Sg**	**23 13 37.4**	**+0.6**
KTK1	**Kautokeino**	**2.08**	**27**	SG	**Sg**	**23 13 44.1**	**-0.5**
TRO	**Tromso**	**2.55**	**346**	SN	**Sn**	**23 13 52.0**	**0.0**
UMAU	**Umeaa**	**3.31**	**180**	PB	**Pn**	**23 13 33.0**	**+2.2**
UMAU				SB	**Sb**	**23 14 16.0**	**-2.1**

NEIC ***25*** *23:20:25.3±1.1, 35°.13N±0°.01×97°.604W±0°.009, h7km±4km,*
Error ellipse: s-maj=2.0km s-min=1.1km az=181.0
NEIC 25 23:20:24.7±1.5,**35°.140N**±0°.009×**97°.62W**±0°.01,**h5**km±1km,
mb_Lg2.3/5,**ML2.1**/34,**ML2.4**/18,**Error ellipse:**
s-maj=2.6km s-min=2.1km az=139.0,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.21**	**57**	Pg	Pg	23 20 30.3	+1.4
FNO				Sg	Sg	23 20 33.6	+1.9
FNO				IAML		23 20 36.6	
FNO	comp=N,349nm,0.4s			IAML		23 20 36.9	
OKCSW	**OKLAHOMA CITY**	**0.30**	**29**	Pg	Pg	23 20 30.1	-0.5
OKCSW				IAML		23 20 38.3	
ADOK	**Arcadia Dam**	**0.55**	**22**	Pg	Pg	23 20 35.6	+0.4
X34A	**Smith Ranch, M**	**0.57**	**198**		Pb	23 20 36.9	-0.2
X34A	comp=N,149nm,0.1s			Sg	Sb	23 20 44.5	-0.9
X34A				IAML		23 20 45.8	

comp=E,70nm,0.8s
X34A IAML 23 20 45.8
comp=N,102nm,0.9s
W35A Tecumseh 0.61 89 Pg Pg 23 20 36.4 0.0
W35A Sg Sg 23 20 44.5 +0.1
W35A IAML 23 20 48.5
comp=E,68nm,0.4s
OK029 Liberty Lake 0.67 12 Pg Pg 23 20 38.1 +0.6
OK029 Sg Sg 23 20 47.2 +1.0
OK029 IAML 23 20 54.1
comp=E,59nm,0.3s
OK029 IAML 23 20 54.5
comp=E,54nm,0.2s
WMOK Wichita Mounta 1.04 248 Pg Pg 23 20 44.3 -0.2
WMOK Wichita Mounta 1.04 248 P Pb 23 20 45.2 +0.1
WMOK P Pn 23 20 45.4 -0.5
OK052 Battle Ridge R 1.08 38 Pg Pg 23 20 44.6 -0.8
DEOK Depew 1.15 52 Pg Pg 23 20 46.0 -0.8
DEOK IAML 23 21 07.2
comp=N,70nm,0.2s
CROK Carrier 1.39 348 Pb 23 20 51.0 -0.2
WTFS Witchita Falls 1.54 207 Pn 23 20 52.8 0.0
WTFS Sg 23 21 14.0 -0.1
WTFS Witchita Falls 1.54 207 P Pb 23 20 53.3 -0.3
OK038 West end E0370 1.62 326 Pb 23 20 54.5 -0.6
BLOK Blackwell 1.65 11 Pn 23 20 54.8 +0.5
Z35A Perchaven, San 1.83 170 P Pb 23 20 57.8 -0.9
NOKA Waynoka 1.83 325 IAmb_Lg 23 21 26.1
comp=Z,21nm,0.8s
SMWD Samnorwood 2.15 270 IAmb_Lg 23 21 38.1
comp=Z,13nm,0.8s
PLPT Palo Pinto 2.39 194 Pn 23 21 04.5 0.0
PLPT Palo Pinto 2.39 194 P Pb 23 21 06.6 -1.7
APMT Aspermont 2.75 230 IAmb_Lg 23 21 55.1
comp=Z,5.9nm,1.1s
WHTX Lake Whitney, 3.14 177 P Pn 23 21 16.5 +1.6
MIAR Mount Ida 3.38 99 Pn Pn 23 21 19.2 +1.2
R32A Long Quarter, 3.39 345 Pn Pn 23 21 18.6 +0.3
BRDY Brady 4.01 197 P Pn 23 21 30.4 +3.5
SAND Sanderson 6.42 218 P Pn 23 22 00.4 +0.4

---

*DSN **25** 23:26:49.4±3.0,27.′04N×53.′80E,h10km,ML2.6/4,Error ellipse: s-maj=46.7km s-min=16.0km az=3.0*

OMAN 25 23:26:52.2±0.4,27.′67N×58.′07E,h23km±16km,ml3.1/8, Error ellipse: s-maj=21.4km s-min=1.8km az=21.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASK	**Jask - Hormozg**	**1.80**	**186**	P	Pn	23 27 23.2	+1.2
	SNR=9.0						
JASK				S	Sn	23 27 44.6	+0.4
SHME	**Shamm**	**2.36**	**227**	P	Pn	23 27 29.5	-0.1
SHME				S	Sn	23 27 59.7	+1.8
SHME	**Shamm**	**2.36**	**227**	P	Pn	23 27 27.8	-1.9
SHME				S	Sn	23 27 57.1	-0.8
MDH	**Madha**	**2.85**	**214**	P	Pn	23 27 34.9	-1.4
MASF	**Masafi**	**2.86**	**217**	P	Pn	23 27 37.4	+0.9
MASF				S	Sn	23 28 10.9	+0.6
MSFE	**Esma-Masafi**	**2.87**	**217**	P	Pn	23 27 32.0	-4.6
UOSS	**Minazif**	**3.19**	**212**	P	Pn	23 27 40.4	-0.6
UOSS	**Minazif**	**3.19**	**212**	P	Pn	23 27 37.5	-3.5
HATD	**Hatta, Dubai**	**3.33**	**212**	P	Pn	23 27 42.8	-0.1
HATD				S	Sn	23 28 20.6	-1.1
HATD	**Hatta, Dubai**	**3.33**	**212**	P	Pn	23 27 39.3	-3.6
ASHO	**Ashiyiah**	**3.48**	**212**	P	Pn	23 27 44.7	-0.4
ASHO	**Ashiyiah**	**3.48**	**212**	P	Pn	23 27 37.4	-7.7
SOHO	**SOHO**	**3.78**	**202**	P	Pn	23 27 48.8	-0.4
HOQ	**Hoqain**	**4.13**	**190**	P	Pn	23 27 53.0	-0.9
	SNR=9.9						
BIDO	**Bidbid**	**4.13**	**179**	P	Pn	23 27 54.4	+0.4
BIDO				S	Sn	23 28 42.0	+0.5
ALNE	**Al Ain**	**4.16**	**211**	P	Pn	23 27 54.2	-0.2
ALNE				S	Sn	23 28 43.8	+1.4
ARQ	**Araqi**	**4.54**	**198**	P	Pn	23 27 59.8	+0.2
	SNR=9.8						
ARQ				S	Sn	23 28 53.2	+1.5
SMDO	**Samad**	**4.59**	**180**	P	Pn	23 28 00.4	0.0
SMDO				S	Sn	23 28 53.5	+0.4
BSY	**Bisya**	**4.97**	**189**	P	Pn	23 28 06.9	+1.4
BSY				S	Sn	23 29 04.2	+1.9
WBK	**Wadi Bani Khal**	**5.10**	**171**	S	Sn	23 29 06.0	+0.4
JMDO	**Jabal Madar**	**5.28**	**180**	P	Pn	23 28 10.5	+0.8
JMDO				S	Sn	23 29 11.1	+1.3

---

*IDC **25** 23:29:56.2±0.9,10.′02S×118.′89E,h0km,mb4.2/9, mbtmp4.2/12,ML3.9/3,MS3.3/8,Error ellipse: s-maj=46.3km s-min=17.0km az=61.0*
*DJA **25** 23:30:00.8±1.2,10.′14S±0.′09×118.′95E±0.′03,h36km±10km, mb4.1/10,Error ellipse: s-maj=13.5km s-min=4.7km az=181.0*
*NEIC **25** 23:30:00.8±0.8,10.′07S±0.′05×119.′05E±0.′03,h38km±2km, n82,σ2=27/88,mb4.4/13,MS3.2/4,Sumba region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.54**	**38**	P	Pn	23 30 10.5	-2.2
WBSI				S	Sn	23 30 18.1	-2.5
WSI	**Waingapu**	**1.29**	**72**	P	Pn	23 30 22.5	-0.3
WSI				S	Sn	23 30 43.6	+4.8
BASI	**Baing, Sumba**	**1.51**	**96**	P	Pn	23 30 28.0	+2.2
BASI				S	Sn	23 30 49.3	+5.0
PLAI	**Plampang**	**1.76**	**314**	P	Pn	23 30 28.8	-0.6
PLAI	**Plampang**	**1.76**	**314**	P	Pn	23 30 28.5	-0.9
PLAI				S	Sn	23 30 52.0	+1.4
TWSI	**Taliwang, Sumb**	**2.52**	**301**	P	Pn	23 30 40.3	+0.5
TWSI				S	Sn	23 31 10.7	+1.5
MMRI	**Maumere**	**3.45**	**66**	Pn	Pn	23 30 53.7	+1.1
MMRI	**Maumere**	**3.45**	**66**	P	Pn	23 30 55.2	+2.6
MMRI	**Maumere**	**3.45**	**66**	S	Sn	23 31 36.2	+4.0
MMRI	**Maumere**	**3.45**	**66**	P	Pn	23 30 55.0	+2.4
MMRI				S	Sn	23 31 35.2	+3.0
DNP	**Denpasar**	**4.04**	**290**	P	Pn	23 30 59.5	-1.1
DNP				S	Sn	23 31 49.5	+2.8
BSSI	**Bau Bau, Buton**	**4.15**	**20**	P	Pn	23 31 03.1	+0.9
SRBI	**Singaraja**	**4.28**	**297**	P	Pn	23 31 05.6	+1.7
SRBI				S	Sn	23 31 54.3	+1.7
BKSI	**Bulukumba**	**4.83**	**13**	P	Pn	23 31 12.7	+1.1
KAPI	**Kappang**	**5.07**	**8**	Pn	Pn	23 31 15.3	+0.4
	6.3nm,0.3s,baz=203,slow=4.3,SNR=17						
KAPI				Sn	Sn	23 32 08.5	-3.7
	baz=249,slow=23						
KAPI				LR	LR	23 33 30.6	
	comp=Z,256nm,20.4s,baz=148,slow=42						
	16nm,0.3s						
KAPI	**Kappang**	**5.07**	**8**	P	Pn	23 31 16.2	+1.4
JAGI	**Jajag, Banyuwa**	**5.09**	**288**	Pn	Pn	23 31 13.2	-1.9
JAGI	**Jajag, Banyuwa**	**5.09**	**288**	P	Pn	23 31 15.2	0.0
JAGI	**Jajag, Banyuwa**	**5.09**	**288**	P	Pn	23 31 15.1	-0.1
	0.3nm63nm,0.6s						
JAGI				S	Sn	23 32 14.6	+1.8
	0.3nm63nm,0.6s						
SOEI	**Soe**	**5.15**	**87**	Pn	Pn	23 31 17.4	+1.4
SOEI	**Soe**	**5.15**	**87**	P	Pn	23 31 19.1	+3.1
SOEI	**Soe**	**5.15**	**87**	P	Pn	23 31 18.9	+2.9
SOEI				S	Sn	23 32 18.1	+3.9
ABJI	**Asem Bagus**	**5.27**	**295**	P	Pn	23 31 17.3	-0.3
	0.3nm62nm,0.6s						
BBSI	**Bau Bau**	**5.73**	**38**	P	Pn	23 31 24.7	+0.7
	882nm49nm,0.8s						
GMJI	**Gumukmas**	**5.82**	**287**	P	Pn	23 31 25.5	+0.4
	0.2nm36nm,0.8s						
SPSI	**Sidrap Palu**	**6.11**	**7**	P	Pn	23 31 28.8	-0.3
	0.1nm39nm,0.9s						
TTSI	**Tana Toraja**	**7.02**	**6**	P	Pn	23 31 42.4	+0.8
	0.2nm40nm,0.9s						
KDI	**Kendari**	**7.03**	**30**	P	Pn	23 31 42.7	+0.9
PCJI	**Pecitan**	**8.00**	**283**	P	Pn	23 31 55.8	+0.7
	53nm,1.4s						
UGM	**Wanagama**	**8.70**	**284**	P	Pn	23 32 05.0	+0.3
UGM	**Wanagama**	**8.70**	**284**	S	Sn	23 33 44.1	+2.6
FITZ	**Fitzroy Crossi**	**10.22**	**142**	Pn	Pn	23 32 25.1	-0.5
FITZ	**Fitzroy Crossi**	**10.22**	**142**	Pn	Pn	23 32 25.2	-0.4
	0.5nm,0.3s,baz=332,slow=4.4,SNR=25						
FITZ				Sn	Sn	23 34 11.7	-7.2
	1.3nm,0.3s,baz=178,slow=23,SNR=7.6						
FITZ				LR	LR	23 36 41.7	
	comp=Z,152nm,20.7s,baz=292,slow=39						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	3.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.22**	**142**	P	Pn	23 32 25.4	-0.2
KNRA	**Kununurra**	**10.98**	**122**	Pn	Pn	23 32 36.2	+0.2
MBWA	**Marble Bar**	**11.05**	**177**	P	Pn	23 32 36.2	-0.7
PSA00	**Pilbara Seismi**	**11.46**	**176**	P	Pn	23 32 42.9	+0.3
MTN	**Manton Dam**	**12.16**	**104**	Pn	Pn	23 32 50.4	-1.7
GIRL	**Giralia**	**13.33**	**200**	P	Pn	23 33 08.9	+0.8
KDU	**Kakadu**	**13.41**	**102**	P	Pn	23 33 08.5	-0.7
MEEK	**Meekatharra**	**16.49**	**181**	P	Pn	23 33 49.9	0.0
MNAI	**Manna**	**16.94**	**288**	P	P	23 33 56.9	-0.4
WRKA	**Warakurna**	**17.29**	**151**	P	Pn	23 34 00.0	+0.1
WB0	**Warramunga Arr**	**17.67**	**125**	P	P	23 34 04.8	-0.5
WB0				IAmb	IAmb	23 34 08.2	
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**17.71**	**125**	P	Pn	23 34 03.0	-2.3
	comp=Z,6.0nm,0.7s,baz=299,slow=14,SNR=19						
WRA				S	Sn	23 37 13.4	-8.3
	comp=Z,0.8nm,0.7s,baz=295,slow=24,SNR=5.0						
WRA				LR	LR	23 41 13.8	
	comp=Z,88nm,20.4s,baz=174,slow=38						
WRAB	**Tennant Creek**	**17.72**	**125**	P	Pn	23 34 05.0	-0.3
WB2	**Warramunga Arr**	**17.72**	**125**	P	Pn	23 34 05.0	-0.4
WB2				IAmb	IAmb	23 34 08.6	
	comp=Z,6.2nm,0.7s						
WR0	**Warramunga Arr**	**17.89**	**125**	P	Pn	23 34 04.9	-2.4
WR0				IAmb	IAmb	23 34 10.6	
	comp=Z,6.7nm,0.7s						
MORW	**Morawa**	**19.11**	**188**	P	Pn	23 34 22.6	+0.5
AS31	**Alice Springs**	**19.59**	**135**	Pn	P	23 34 26.6	+0.2
AS31				IAmb	IAmb	23 34 34.2	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**19.59**	**136**	P	P	23 34 26.4	0.0
ASAR	**Alice Springs**	**19.59**	**136**	P	Pn	23 34 27.9	0.0
	comp=Z,0.5nm,0.3s,baz=318,slow=11,SNR=41						
ASAR				S	S	23 37 57.7	-7.9
	comp=Z,0.8nm,0.7s,baz=306,slow=22,SNR=4.3						
ASAR				LR	LR	23 42 11.5	
	comp=Z,111nm,18.8s,baz=276,slow=37						
	comp=Z,6.2nm,1.0s						
AS01	**Alice Springs**	**19.62**	**135**	P	Pn	23 34 27.9	-0.4
FORT	**Forrest**	**22.25**	**159**	P	P	23 34 51.7	-3.2
FORT	**Forrest**	**22.25**	**159**	P	P	23 34 57.8	+2.9
QIS	**Mount Isa**	**22.37**	**120**	P	P	23 34 57.9	+1.5
NWAO	**Narrogin (SRO)**	**22.81**	**184**	LR	LR	23 44 47.4	
	comp=Z,48nm,18.9s,baz=198,slow=39						
RPSI	**Rantau Prapat**	**23.72**	**301**	P	P	23 35 09.0	-1.1
STKA	**Stephens Creek**	**30.11**	**139**	P	P	23 36 09.6	+2.1
	comp=Z,1.4nm,0.6s,baz=306,slow=13,SNR=3.5						
STKA				LR	LR	23 48 58.0	
	comp=Z,73nm,18.1s,baz=213,slow=38						
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**34.60**	**325**	P	P	23 36 47.4	+0.5
	comp=Z,0.9nm,0.3s,baz=134,slow=7.8,SNR=4.2						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**40.06**	**336**	P	P	23 37 35.5	+2.3
PZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
H08S2	**Diego Garcia H**	**46.04**	**269**	T	T	00 27 42.0	
	baz=96,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**46.05**	**269**	T	T	00 27 42.9	
	baz=96,slow=76,SNR=81						
H08S1	**Diego Garcia H**	**46.06**	**269**	T	T	00 27 43.3	
	baz=96,slow=76,SNR=8.8						
KSRS	**Korea Array**	**48.00**	**10**	P	P	23 38 36.6	0.0
	comp=Z,1.5nm,0.7s,baz=193,slow=7.5,SNR=6.0						
KSRS				LR	LR	23 58 33.2	
	comp=Z,14nm,21.1s,baz=25,slow=36						
	comp=Z,1.5nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.13**	**353**	*e*P	P	23 39 02.0	+1.5
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.3s						
USRK	**Ussuriysk Ar.**	**55.27**	**11**	P	P	23 39 30.4	-0.4
	comp=Z,2.2nm,0.6s,baz=197,slow=9.4,SNR=7.1						
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**58.73**	**350**	P	P	23 39 55.5	+0.1
	comp=Z,1.9nm,0.6s,baz=169,slow=8.2,SNR=13						
	comp=Z,1.9nm,0.6s						
MKAR	**Makanchi Array**	**65.43**	**333**	P	P	23 40 40.4	+0.1
	comp=Z,3.2nm,0.7s,baz=145,slow=7.0,SNR=39						
	comp=Z,3.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**67.07**	**224**	T	T	00 54 22.7	
	baz=85,slow=75						
H04N1	**CROZET ISLANDS**	**67.09**	**224**	T	T	00 54 22.7	
	baz=85,slow=75						
H04N3	**CROZET ISLANDS**	**67.09**	**224**	T	T	00 54 22.7	
	baz=85,slow=75						
KURBB	**Kurchatov Arra**	**69.94**	**334**	P	P	23 41 08.4	-0.2
	comp=Z,1.0nm,0.5s,baz=143,slow=5.5,SNR=8.8						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**69.97**	**334**	P	P	23 41 08.2	-0.5
KURK				IAmb	IAmb	23 41 21.8	
	comp=Z,4.1nm,1.1s						
ZAA0	**Zalesovo Array**	**70.05**	**339**	P	P	23 41 08.3	-0.9
ZAA0				IAmb	IAmb	23 41 12.0	
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**70.05**	**339**	P	P	23 41 09.0	-0.2
ZALV	**Zalesovo Beam**	**70.05**	**339**	P	P	23 41 08.3	-0.8
	comp=Z,2.1nm,0.6s,baz=136,slow=4.7,SNR=10						
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**75.26**	**332**	P	P	23 41 39.6	-0.6
	comp=Z,1.5nm,0.8s,baz=134,slow=6.4,SNR=7.2						
	comp=Z,1.5nm,0.8s						
BRVK	**Borovoye**	**75.33**	**332**	P	P	23 41 38.8	-1.7
ABKAR	**Akbulak array**	**78.46**	**325**	P	P	23 41 58.3	+0.1
MLR	**Muntele Rosu**	**99.27**	**315**	LR	LR	00 36 30.0	
	comp=Z,50nm,18.0s,baz=58,slow=40						
LPAZ	**La Paz**	**152.87**	**165**	PKPbc	**PKiKP**	23 49 57.9	+1.5
	comp=Z,0.5nm,0.7s,baz=207,slow=2.3,SNR=4.2						

---

*JMA **25** 23:40:52.8±0.1,37.′8N±0.′3×140.′8E±0.′5,h114km, MV3.5/37,SOUTHERN MIYAGI PREF*
JMA Felt I J1 at SOUTHERN MIYAGI PREF .
*IDC **25** 23:40:53.9±7.0,37.′81N×140.′67E,h125km±89km,mb3.0/4, mbtmp3.3/5,ML2.3/1,Error ellipse: s-maj=148.3km s-min=72.6km az=165.0*

ISC 25 23:40:52.2±1.1,37.′82N±0.′06×140.′85E±0.′07,h119km±7km, n25,σ0=36/31,mb3.3/4,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.07**	**316**	P	Pn	23 41 08.6	+0.2
JMM				S	Sn	23 41 20.5	-0.2
JMST	**Minamisoumatoc**	**0.10**	**163**	P	Pn	23 41 08.6	+0.1
JMST				S	Sn	23 41 20.6	0.0
JFK	**Kawauchi**	**0.45**	**178**	P	Pn	23 41 10.1	+0.3
JFK				S	Sn	23 41 22.5	-0.4
JOTO	**OTAMA OYAMA**	**0.48**	**238**	P	Pn	23 41 10.1	+0.1
JOTO				S	Sn	23 41 23.3	0.0
JOU	**Okura**	**0.57**	**345**	P	Pn	23 41 10.9	+0.4
JOU				S	Sn	23 41 24.2	0.0
JYS	**Shirataka**	**0.74**	**303**	P	Pn	23 41 12.1	+0.3
JYS				*e*S	Sn	23 41 26.1	-0.4
JIO	**Ouri**	**0.75**	**32**	P	Pn	23 41 12.2	+0.4
JIO				S	Sn	23 41 26.0	-0.6
JFY	**Yanaizu**	**1.00**	**246**	P	Pn	23 41 14.4	+0.3
JFY				S	Sn	23 41 30.4	-0.3
JYK	**Kaneyama**	**1.17**	**341**	P	Pn	23 41 16.0	+0.2
JYK				S	Sn	23 41 33.1	-0.6
JMK	**Ichinoseki**	**1.17**	**14**	P	Pn	23 41 16.1	+0.3
JMK				S	Sn	23 41 33.5	-0.2
JYA	**Atsumi**	**1.18**	**311**	*e*S	Sn	23 41 34.1	0.0
JNS	**Sasagawa**	**1.22**	**271**	P	Pn	23 41 16.5	+0.2
JOM	**Ohasama**	**1.69**	**12**	*i* P	Pn	23 41 22.1	+0.4
JOM				S	Sn	23 41 43.9	-0.5
JAG	**Ashikaga**	**1.78**	**219**	*i* P	Pn	23 41 23.3	+0.3
MJAR	**Matsushiro Arr**	**2.46**	**240**	P	Pn	23 41 31.8	+0.3
	0.8nm,0.3s,baz=52,slow=9.9,SNR=25						
MJAR				S	Sn	23 42 01.2	-0.5
	2.6nm,0.4s,baz=67,slow=15,SNR=7.0						
	4.6nm,0.4s						
SONM	**Songino Array**	**26.98**	**303**	P	P	23 46 23.5	+0.7
	0.2nm,0.5s,baz=95,slow=10.0,SNR=2.5						
	0.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.93**	**121**	T	T	00 17 16.8	
	baz=315,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.94**	**121**	T	T	00 17 11.9	
	baz=315,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.95**	**121**	T	T	00 17 18.5	
	baz=315,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.66**	**123**	T	T	00 18 12.4	
	baz=316,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**29.66**	**123**	T	T	00 18 14.2	
	baz=316,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**29.68**	**123**	T	T	00 18 17.0	
	baz=316,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**43.33**	**301**	P	P	23 48 42.2	-0.1
	0.3nm,0.8s,baz=88,slow=8.8,SNR=2.2						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**45.17**	**307**	P	P	23 48 56.6	-0.3
	0.3nm,0.4s,baz=86,slow=8.4,SNR=4.2						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.72**	**312**	P	P	23 49 31.7	-0.3
	0.4nm,0.6s,baz=63,slow=6.6,SNR=2.5						
	0.4nm,0.6s						

IDC 25 23:50:32.1±2.5,7.′05S×130.′17E,h0km,mb3.3/1, mbtmp3.2/3,ML2.8/2,Error ellipse: s-maj=159.0km s-min=33.8km az=69.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.45**	**163**	Pn	Pn	23 53 42.4	-1.9
	baz=345,slow=13,SNR=1.0						
WRA				Sn	Sn	23 56 01.9	-13
	0.3nm,0.3s,baz=340,slow=21,SNR=7.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**16.91**	**168**	Pn	P	23 54 32.0	-0.4
	0.1nm,0.3s,baz=351,slow=11,SNR=4.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**68.35**	**327**	P	P	00 01 35.4	0.0
	0.2nm,0.6s,baz=127,slow=7.6,SNR=4.3						
	0.2nm,0.6s						

---

*IDC **25** 23:58:55.5±1.0,16.′00N×92.′89E,h0km,mb3.7/9, mbtmp3.7/11,ML4.0/2,Error ellipse: s-maj=35.1km s-min=16.7km az=62.0*
*BKK **25** 23:59:29.0±0.6,16.′N±3.′×9.′5E±.′,h10km,M3.5/12, Mjma3.0/12,ML3.7/6,MLv3.6/6*

ISC 25 23:58:58.2±0.8,16.′14N±0.′09×92.′91E±0.′07,h18km,n27, σ1=40/25,mb3.7/9,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	**Khaolaem Dam**	**5.63**	**103**	P	Pn	00 00 22.2	+1.1
KHLT				Sg	Sn	00 01 25.3	-0.1
CM13	**Chiang Mai Arr**	**6.16**	**68**	P	Pn	00 00 26.9	-1.4
CM13				Sg	Sn	00 01 36.4	-1.9
CM05	**Chiang Mai Arr**	**6.18**	**68**	P	Pn	00 00 28.9	+0.2
CM05				Sg	Sn	00 01 38.2	-0.8
CM02	**Chiang Mai Arr**	**6.20**	**68**	P	Pn	00 00 29.0	+0.1
CMAR	**Chiang Mai Arr**	**6.20**	**67**	Pn	Pn	00 00 29.2	+0.3
	1.0nm,0.3s,baz=252,slow=15,SNR=16						
CMAR				Sn	Sn	00 01 36.0	-3.4
	1.8nm,0.3s,baz=252,slow=27,SNR=7.1						
	4.5nm,0.5s						
CM01	**Chiang Mai Arr**	**6.20**	**68**	P	Pn	00 00 29.2	+0.3
CM04	**Chiang Mai Arr**	**6.21**	**68**	P	Pn	00 00 29.3	+0.2
CM09	**Chiang Mai Arr**	**6.24**	**68**	P	Pn	00 00 30.0	+0.6
SRDT	**SRDT**	**6.25**	**106**	P	Pn	00 00 31.8	+2.2
UTHA	**Uthaitani**	**6.31**	**94**	P	Pn	00 00 31.5	+1.1
LAMP	**Lampang**	**6.84**	**69**	P	Pn	00 00 37.5	-0.2
PALK	**Pallekele**	**14.85**	**235**	Pn	Pn	00 02 24.8	-2.6
	0.6nm,0.3s,baz=77,slow=19,SNR=1.8						
PALK				Sn	Sn	00 04 55.7	-16
	0.4nm,0.3s,baz=104,slow=22,SNR=2.2						
	1.9nm,0.4s						
H08S3	**Diego Garcia H**	**31.09**	**222**	T	T	00 38 35.3	
	baz=42						
H08S2	**Diego Garcia H**	**31.10**	**222**	T	T	00 38 35.6	
	baz=42						
H08S1	**Diego Carcia H**	**31.11**	**222**	T	T	00 38 29.3	
	baz=42						
MKAR	**Makanchi Array**	**31.81**	**346**	P	P	00 05 23.4	+1.6
	0.7nm,0.7s,baz=165,slow=10.0,SNR=9.7						
	0.7nm,0.7s						
SONM	**Songino Array**	**33.50**	**17**	P	P	00 05 37.9	+1.2
	0.6nm,0.8s,baz=198,slow=7.7,SNR=5.4						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**36.29**	**344**	P	P	00 06 02.4	+1.9
	1.5nm,0.8s,baz=160,slow=8.8,SNR=12						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**38.25**	**352**	P	P	00 06 17.9	+0.8
	1.3nm,0.6s,baz=184,slow=9.2,SNR=7.7						
	1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**46.87**	**135**	P	P	00 07 26.1	-1.4
	1.4nm,0.8s,baz=338,slow=5.4,SNR=8.9						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**54.25**	**130**	P	P	00 08 23.1	-0.4
	0.3nm,0.7s,baz=311,slow=7.8,SNR=5.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**56.30**	**134**	P	P	00 08 38.9	+0.7
	0.2nm,0.4s,baz=311,slow=6.6,SNR=8.5						
	0.2nm,0.4s						
HFS	**Hagfors**	**70.78**	**329**	P	P	00 10 13.7	+0.4
	2.0nm,0.8s,baz=106,slow=3.1,SNR=2.1						
	2.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**72.27**	**209**	T	T	01 29 45.8	
	baz=41						
H04N1	**CROZET ISLANDS**	**72.28**	**209**	T	T	01 29 48.8	
	baz=41						
H04N3	**CROZET ISLANDS**	**72.29**	**209**	T	T	01 29 41.7	
	baz=41						
ILAR	**Eielson Array**	**87.56**	**22**	P	P	00 11 45.0	0.0
	0.2nm,0.6s,baz=311,slow=5.9,SNR=1.7						
	0.2nm,0.6s						

---

*MOS **26** 00:23:45.2±1.1,36.′51N×70.′88E,h152km,mb4.5/44,Error ellipse: s-maj=5.5km s-min=3.3km az=91.6*
*IDC **26** 00:23:46.1±2.5,36.′35N×70.′83E,h150km±23km,mb4.1/32, mbtmp4.5/36,MS3.1/1,Error ellipse: s-maj=12.4km s-min=8.9km az=8.0*
*BGR **26** 00:23:46.0,36.′06N×70.′65E,h147km,mb4.3*
*BJI **26** 00:23:

ARSB	**Arslanbob**	**5.15**	**19**	PN	**Pn**	**00 25 00.7**	**-1.0**	
ARK	**Arkit**	**5.42**	**9**	PN	**Pn**	**00 25 04.3**	**-0.8**	
IUG	**luzhnay**	**5.72**	**354**	*e*PN	**Pn**	**00 25 08.5**	**-0.6**	
IUG	**luzhnay**	**5.72**	**354**	*e*P	**Pn**	**00 25 08.6**	**-0.6**	
ARLS	**Aral**	**6.05**	**26**	PN	**Pn**	**00 25 12.7**	**-0.9**	
AML	**Almayashu**	**6.10**	**21**	P	**Pn**	**00 25 14.2**	**-0.3**	
SNR=1152								
DHRM	**DHARAMSHALA**	**6.18**	**131**	*e*P	**Pn**	**00 25 15.6**	**+0.1**	
DHRM				*e*S	**Sn**	**00 26 22.9**	**-2.4**	
DHRM				IAML		00 26 28.3		
comp=N,465nm,0.3s								
DHRM				IAML		00 26 29.2		
comp=E,554nm,0.4s								
UCH	**Uchtor**	**6.44**	**25**	P	**Pn**	**00 25 19.2**	**+0.1**	
SNR=46								
DZA	**Taraz**	**6.45**	**3**	*e*PN	**Pn**	**00 25 17.8**	**-0.9**	
DZA	**Taraz**	**6.45**	**3**	*e*P	**Pn**	**00 25 17.9**	**-0.9**	
EKS2	**Erkin-Say**	**6.61**	**19**	P	**Pn**	**00 25 20.9**	**-0.1**	
SNR=268								
BRLS	**Borolday**	**6.61**	**354**	*e*PN	**Pn**	**00 25 16.9**	**-4.0**	
BRLS	**Borolday**	**6.61**	**354**	*e*P	**Pn**	**00 25 16.9**	**-4.0**	
KK31	**Karatay Array**	**6.65**	**358**		**Pn**	**00 25 20.7**	**-0.7**	
KK31	**Karatay Array**	**6.65**	**358**	P	**Pn**	**00 25 20.9**	**-0.5**	
comp=E,214nm,0.4s,baz=187,slow=14,SNR=2289								
KK31				⇑S	**Sn**	**00 26 30.3**	**-5.8**	
comp=E,233nm,0.8s,baz=191,slow=21,SNR=11								
KK31	**Karatay Array**	**6.65**	**358**	PN	**Pn**	**00 25 20.7**	**-0.7**	
KKAR	**Karatay Array**	**6.65**	**358**		**Pn**	**00 25 20.8**	**-0.6**	
KKAR	**Karatay Array**	**6.65**	**358**	Pn	**Pn**	**00 25 20.6**	**-0.9**	
KKAR	**Karatay Array**	**6.65**	**358**	PN	**Pn**	**00 25 20.8**	**-0.6**	
AAK	**Ala-Archa**	**6.80**	**24**		**Pn**	**00 25 23.3**	**-0.2**	
AAK	**Ala-Archa**	**6.80**	**24**	P	**Pn**	**00 25 23.5**	**-0.2**	
comp=E,84nm,0.4s,baz=196,slow=6.4,SNR=412								
AAK				S	**Sn**	**00 26 38.5**	**-1.5**	
comp=E,193nm,0.9s,baz=124,slow=23,SNR=13								
AAK	**Ala-Archa**	**6.80**	**24**	P	**Pn**	**00 25 23.4**	**-0.2**	
AAK				S	**Sn**	**00 26 37.1**	**-2.9**	
AAK	**Ala-Archa**	**6.80**	**24**	P	**Pn**	**00 25 23.5**	**-0.2**	
SNR=212								
AAK	**Ala-Archa**	**6.80**	**24**	⇓P	**Pn**	**00 25 23.5**	**-0.2**	
comp=E,50nm,0.4s								
AAK				⇑S	**Sn**	**00 26 37.9**	**-2.1**	
comp=E,146nm,0.7s								
AAK	**Ala-Archa**	**6.80**	**24**	*ce*PN	**Pn**	**00 25 23.4**	**-0.2**	
AAK				pmax	pmax			
comp=Z,74nm,0.6s								
BHK	**Bhakra**	**6.85**	**136**	*e*P	**Pn**	**00 25 27.0**	**+2.8**	
BHK				IAML		00 26 44.0		
comp=N,141nm,0.4s								
BHK				*e*S	**Sn**	**00 26 44.1**	**+3.1**	
BHK				IAML		00 26 45.3		
comp=E,139nm,0.2s								
KBK	**Karagaybulak**	**6.97**	**26**	P	**Pn**	**00 25 25.7**	**-0.2**	
SNR=69								
FRU1	**Bishkek**	**7.00**	**24**	Pn	**Pn**	**00 25 26.3**	**+0.1**	
FRU1	**Bishkek**	**7.00**	**24**	PN	**Pn**	**00 25 26.3**	**+0.1**	
SRGN	**SRI GANGA NAGA**	**7.00**	**158**	*e*P	**Pn**	**00 25 27.9**	**+1.7**	
SRGN				*e*S	**Sn**	**00 26 39.6**	**-5.1**	
ULHL	**Ulahol**	**7.15**	**34**	P	**Pn**	**00 25 29.1**	**+0.8**	
SNR=15								
CHMS	**Chumysh**	**7.21**	**24**	P	**Pn**	**00 25 29.1**	**+0.2**	
SNR=40								
BOOM	**Boomskoye usch**	**7.22**	**32**	Pn	**Pn**	**00 25 28.8**	**-0.4**	
BOOM	**Boomskoye usch**	**7.22**	**32**	PN	**Pn**	**00 25 28.8**	**-0.4**	
HRA	**Herat**	**7.29**	**256**	Pn	**Pn**	**00 25 28.8**	**-1.5**	
USP	**Ospenovka**	**7.38**	**21**	P	**Pn**	**00 25 31.1**	**0.0**	
SNR=33								
TKM2	**Tokmak 2**	**7.44**	**28**	P	**Pn**	**00 25 32.3**	**+0.1**	
SNR=35								
TKM2	**Tokmak 2**	**7.44**	**28**	⇓P	**Pn**	**00 25 31.7**	**-0.5**	
comp=E,81nm,0.6s								
TKM2				⇓S	**Sn**	**00 26 54.1**	**-1.3**	
comp=E,110nm,0.9s								
TKM2	**Tokmak 2**	**7.44**	**28**	PN	**Pn**	**00 25 31.7**	**-0.5**	
TKM2				S	**Sn**	**00 26 54.1**	**-1.3**	
SMLA	**Simla**	**7.49**	**133**	*e*P	**Pn**	**00 25 32.0**	**-0.8**	
SMLA				*e*S	**Sn**	**00 26 53.5**	**-3.0**	
SMLA				IAML		00 26 59.4		
comp=E,241nm,0.3s								
SMLA				IAML		00 27 02.1		
comp=N,142nm,0.3s								
TARG	**Taragay, Kyrgy**	**7.57**	**44**	Pn	**Pn**	**00 25 33.7**	**-0.4**	
TARG	**Taragay, Kyrgy**	**7.57**	**44**	PN	**Pn**	**00 25 33.7**	**-0.4**	
SGDS	**Sogindy**	**7.58**	**22**	*e*PN	**Pn**	**00 25 32.7**	**-1.2**	
SGDS	**Sogindy**	**7.58**	**22**	*e*P	**Pn**	**00 25 32.7**	**-1.2**	
KST	**Kastek**	**7.69**	**29**	Lg	Lg	00 26 57.1		
comp=N,84nm,1.0s								
DGS	**Degeres**	**7.78**	**28**	P	**Pn**	**00 25 35.9**	**-0.7**	
comp=N,28nm,0.9s								
WUS	**Wushi**	**8.09**	**52**	Pn	**Pn**	**00 25 41.5**	**+0.6**	
TNSS	**Tian-Shan**	**8.10**	**34**	*e*PN	**Pn**	**00 25 39.7**	**-1.4**	
TNSS	**Tian-Shan**	**8.10**	**34**	*e*P	**Pn**	**00 25 39.7**	**-1.4**	
KRBS	**Karabastau**	**8.14**	**26**	P	**Pn**	**00 25 40.0**	**-1.4**	
comp=N,14nm,0.8s								
KOTS	**Kotyrbulak**	**8.33**	**34**	P	**Pn**	**00 25 44.3**	**+0.4**	
comp=N,52nm,0.8s								
KTBS	**Karatobe**	**8.53**	**30**	P	**Pn**	**00 25 45.8**	**-0.8**	
comp=N,6.4nm,0.8s								
DDI	**Dehra Dun**	**8.60**	**133**	*e*P	**Pn**	**00 25 50.5**	**+2.8**	
DDI				*e*S	**Sn**	**00 27 19.8**	**-3.6**	
SATY	**Saty**	**8.82**	**39**	P	**Pn**	**00 25 50.8**	**+0.4**	
comp=N,11nm,0.6s								
SATY	**Saty**	**8.82**	**39**	*e*PN	**Pn**	**00 25 48.9**	**-1.5**	
SATY	**Saty**	**8.82**	**39**	*e*P	**Pn**	**00 25 49.0**	**-1.5**	
SATY				*e*S	**Sn**	**00 27 26.9**	**-1.4**	
ZHN	**Zhinishke**	**8.91**	**39**	*e*PN	**Pn**	**00 25 50.2**	**-1.5**	
ZHN	**Zhinishke**	**8.91**	**39**	*e*P	**Pn**	**00 25 50.2**	**-1.5**	
BTLS	**Baital**	**8.93**	**15**	*e*PN	**Pn**	**00 25 50.3**	**-1.4**	
BTLS	**Baital**	**8.93**	**15**	*e*P	**Pn**	**00 25 50.3**	**-1.4**	
KURS	**Kuram**	**9.01**	**37**	P	**Pn**	**00 25 52.8**	**-0.2**	
comp=N,14nm,0.8s								
KPKS	**Kokpek**	**9.25**	**38**	P	**Pn**	**00 25 55.3**	**-0.9**	
comp=N,17nm,0.8s								
KPKS	**Kokpek**	**9.25**	**38**	*e*P	**Pn**	**00 25 54.9**	**-1.3**	
KPKS				*e*S	**Sn**	**00 27 37.3**	**-1.4**	
KPKS	**Kokpek**	**9.25**	**38**	*e*P	**Pn**	**00 25 54.9**	**-1.3**	
KPKS				*e*S	**Sn**	**00 27 37.4**	**-1.4**	
SHLS	**Shalkode**	**9.44**	**42**	P	**Pn**	**00 26 01.0**	**+2.3**	
comp=N,9.6nm,0.8s								
SHLS	**Shalkode**	**9.44**	**42**	*e*P	**Pn**	**00 26 00.7**	**+2.0**	
SHLS	**Shalkode**	**9.44**	**42**	*e*P	**Pn**	**00 26 00.8**	**+2.0**	
NDI	**New Delhi**	**9.44**	**143**	*e*P	**Pn**	**00 25 58.6**	**-0.1**	
NDI				*e*S	**Sn**	**00 27 39.0**	**-4.4**	
NDI				IAML		00 27 44.0		
comp=E,57nm,0.6s								
NPLP	**NPLP New Delhi**	**9.46**	**144**	*e*P	**Pn**	**00 25 58.9**	**-0.1**	
NPLP				*e*S	Sn	00 27 36.8	-7.1	
NPLP				IAML		00 27 42.0		
comp=N,100nm,0.2s								
NPLP				IAML		00 27 47.4		
comp=E,157nm,0.2s								
JASL	**Jaisalmer**	**9.50**	**179**	*e*P	**Pn**	**00 26 00.7**	**+1.2**	
JASL				*e*S	**Sn**	**00 27 39.0**	**-5.8**	
JASL				IAML		00 27 41.8		
comp=N,118nm,1.4s								
JASL				IAML		00 27 43.7		
comp=E,92nm,0.8s								
KUDL	**Kundal**	**9.57**	**148**	*e*P	**Pn**	**00 25 59.5**	**-1.0**	
KUDL				*e*P	Sn	00 27 38.7	-7.9	
KUDL				IAML		00 27 43.3		
comp=E,60nm,0.9s								
KUDL				IAML		00 27 56.4		
comp=N,47nm,0.5s								
KNOS	**Konyrlen**	**10.15**	**36**	P	**Pn**	**00 26 07.7**	**-0.4**	
comp=N,7.1nm,0.8s								
TDK	**Taldyqorghan**	**10.30**	**32**	*e*P	**Pn**	**00 26 09.5**	**-0.5**	
TDK	**Taldyqorghan**	**10.30**	**32**	*e*P	**Pn**	**00 26 09.5**	**-0.5**	
PTH	**Pithoragarh**	**10.47**	**128**	*e*P	**Pn**	**00 26 15.0**	**+2.5**	
PTH				IAML		00 26 19.4		
comp=N,268nm,0.3s								
PTH				IAML		00 26 19.6		
comp=E,316nm,0.3s								
PTH				*e*S	Sn	00 27 59.5	-9.0	
LGTI	**Lohaghat**	**10.56**	**129**	*e*P	**Pn**	**00 26 11.6**	**-1.9**	
LGTI				*e*S	Sn	00 28 01.5	-8.8	
LGTI				IAML		00 28 03.6		
comp=N,59nm,0.7s								
LGTI				IAML		00 28 04.0		
comp=E,50nm,1.1s								
KAPS	**Kapalarasan**	**10.94**	**34**	P	**Pn**	**00 26 17.9**	**-0.5**	
comp=E,12nm,0.8s								
OTUK	**Ortayu**	**11.84**	**5**	P	**Pn**	**00 26 28.3**	**-1.8**	
comp=E,8.6nm,0.7s								
OTUK	**Ortayu**	**11.84**	**5**	⇓P	**Pn**	**00 26 27.4**	**-2.8**	
comp=E,26nm,0.8s								
OTUK	**Ortayu**	**11.84**	**5**	P	**Pn**	**00 26 27.4**	**-2.8**	
JHNI	**Jhansi**	**12.79**	**147**	*e*P	**Pn**	**00 26 43.4**	**+0.7**	
JHNI				*e*S	Sn	00 28 54.2	-10	
JHNI				IAML		00 28 55.0		
comp=E,29nm,1.0s								
JHNI				IAML		00 28 57.6		
comp=N,19nm,1.3s								
GUNA	**GUNA**	**13.03**	**153**	*e*P	**Pn**	**00 26 45.8**	**0.0**	
GUNA				*e*S	Sn	00 29 02.4	-7.6	
GUNA				IAML		00 29 05.6		
comp=N,43nm,1.1s								
BHUJ	**Bhuj**	**13.19**	**185**	*e*P	**Pn**	**00 26 47.8**	**0.0**	
BHUJ				IAmb	IAmb	00 26 49.0		
comp=Z,59nm,0.9s								
BHUJ				*e*S	Sn	00 29 02.9	-11	
MAKZ	**Makanchi**	**13.28**	**35**	Pn	**Pn**	**00 26 47.3**	**-1.5**	
MAKZ	**Makanchi**	**13.28**	**35**	⇓P	**Pn**	**00 26 47.1**	**-1.7**	
comp=Z,19nm,0.8s								
MAKZ	**Makanchi**	**13.28**	**35**	P	**Pn**	**00 26 47.3**	**-1.5**	
MK31	**Makanchi Array**	**13.42**	**36**		**Pn**	**00 26 50.2**	**-0.4**	
MK31	**Makanchi Array**	**13.42**	**36**	⇑P	**Pn**	**00 26 49.7**	**-0.8**	
comp=Z,7.0nm,0.6s,baz=228,slow=13,SNR=62								
MK31	**Makanchi Array**	**13.42**	**36**	*ce*P	**Pn**	**00 26 49.8**	**-0.8**	
MKAR	**Makanchi Array**	**13.42**	**36**		**Pn**	**00 26 49.4**	**-1.2**	
MKAR	**Makanchi Array**	**13.42**	**36**	P	**Pn**	**00 26 50.5**	**-0.1**	
comp=Z,7.9nm,0.7s,baz=221,slow=15,SNR=80								
MKAR				S	**Sn**	**00 29 20.9**	**+1.9**	
comp=Z,0.7nm,0.7s,baz=228,slow=21,SNR=1.0								
BRZS	**Berezniki**	**13.59**	**5**	P	**Pn**	**00 26 51.0**	**-1.7**	
comp=Z,17nm,1.0s								
BRZS	**Berezniki**	**13.59**	**5**	*e*P	**Pn**	**00 26 52.3**	**-0.4**	
BRZS	**Berezniki**	**13.59**	**5**	*e*P	**Pn**	**00 26 52.4**	**-0.4**	
BHPL	**Bhopal**	**14.35**	**155**	*e*P	**Pn**	**00 27 03.6**	**+1.0**	
BHPL				IAmb	IAmb	00 27 06.3		
comp=Z,14nm,0.7s								
BHPL				*e*S	Sn	00 29 33.2	-8.6	
NRDN	**NARMADA NAGAR**	**14.75**	**156**	*e*P	**Pn**	**00 27 08.4**	**+0.9**	
NRDN				IAmb	IAmb	00 27 25.5		
comp=Z,14nm,1.0s								
WMQ	**Urumqi**	**14.85**	**55**	*e*P	**Pn**	**00 27 09.0**	**+0.4**	
WMQ				pmax	pmax			
comp=Z,17nm,1.1s								
AB31	**Akbulak array**	**15.05**	**332**	P	**Pn**	**00 27 08.8**	**-2.2**	
comp=Z,20nm,0.5s,baz=143,slow=12,SNR=683								
AB31				⇓S	Sn	00 29 48.3	-10	
comp=Z,21nm,0.6s,baz=152,slow=24,SNR=13								
AB31	**Akbulak array**	**15.05**	**332**	P	**Pn**	**00 27 08.8**	**-2.2**	
AB31				S	Sn	00 29 48.3	-10	
ABKAR	**Akbulak array**	**15.05**	**332**		**Pn**	**00 27 08.4**	**-2.6**	
ABKAR	**Akbulak array**	**15.05**	**332**		**Pn**	**00 27 08.6**	**-2.5**	
ZSN	**Zaisan**	**15.14**	**39**	*e*P	**Pn**	**00 27 11.7**	**-0.5**	
ZSN	**Zaisan**	**15.14**	**39**	*e*P	**Pn**	**00 27 11.8**	**-0.5**	
KURBB	**Kurchatov Arra**	**15.22**	**19**	P	**Pn**	**00 27 10.7**	**-2.4**	
comp=Z,15nm,0.8s,baz=209,slow=11,SNR=59								
KURBB				S	**Sn**	**00 30 05.8**	**-1.0**	
comp=Z,1.2nm,0.6s,baz=216,slow=30,SNR=3.3								
KURK	**Kurchatov**	**15.33**	**19**	Pn	**Pn**	**00 27 11.7**	**-2.7**	
KURK				IAmb	IAmb	00 27 16.7		
comp=Z,16nm,0.8s								
KURK	**Kurchatov**	**15.33**	**19**	P	**Pn**	**00 27 12.0**	**-2.3**	
KURK	**Kurchatov**	**15.33**	**19**	⇓P	**Pn**	**00 27 11.1**	**-3.3**	
comp=Z,17nm,0.9s								
KURK	**Kurchatov**	**15.33**	**19**	*i* P	**Pn**	**00 27 11.5**	**-2.9**	
KURK				pmax	pmax			
comp=Z,19nm,0.9s								
SHME	**Shamm**	**16.25**	**234**	P	**Pn**	**00 27 25.6**	**-0.4**	
BVA0	**Borovoye Array**	**16.58**	**359**	⇓P	**P**	**00 27 26.7**	**-2.8**	
comp=Z,27nm,1.0s,baz=164,slow=12,SNR=120								
BVA0				⇓S	**S**	**00 30 23.0**	**-11**	
comp=Z,0.2nm,0.4s,baz=160,slow=24,SNR=4.1								
BVA0	**Borovoye Array**	**16.58**	**359**	P	**P**	**00 27 26.7**	**-2.8**	
BVA0				S	**S**	**00 30 23.1**	**-11**	
BVAR	**Borovoye Array**	**16.58**	**359**	P	**P**	**00 27 28.2**	**-1.3**	
comp=Z,16nm,0.6s,baz=168,slow=13,SNR=68								
BVAR				LR	LR	00 33 51.4		
comp=Z,66nm,21.0s,baz=324,slow=36								
BRVK	**Borovoye**	**16.61**	**359**	P	**P**	**00 27 28.3**	**-1.7**	
BRVK				IAmb	IAmb	00 27 33.8		
comp=Z,28nm,0.8s								
BRVK	**Borovoye**	**16.61**	**359**	P	**P**	**00 27 28.6**	**-1.3**	
BRVK				S	**S**	**00 30 29.8**	**-4.6**	
BRVK	**Borovoye**	**16.61**	**359**	⇑P	**P**	**00 27 28.2**	**-1.7**	
comp=Z,28nm,0.9s								
BRVK	**Borovoye**	**16.61**	**359**	*ce*P	**P**	**00 27 28.8**	**-1.1**	
BRVK				pmax	pmax			
comp=Z,48nm,1.3s								
MDH	**Madha**	**16.67**	**232**	P	**P**	**00 27 29.6**	**-1.3**	
MASF	**Masafi**	**16.71**	**233**	P	**P**	**00 27 31.3**	**0.0**	
AKTO	**Aktyubinsk**	**16.75**	**331**	P	**P**	**00 27 31.1**	**-0.3**	
comp=Z,81nm,0.8s,baz=135,slow=11,SNR=114								
AKTO				S	**S**	**00 30 28.4**	**-9.3**	
comp=Z,11nm,0.5s,baz=251,slow=14,SNR=4.7								
AKTO	**Aktyubinsk**	**16.75**	**331**	⇑P	**P**	**00 27 30.8**	**-0.6**	
comp=Z,50nm,0.8s								
AKTO				⇑S	**S**	**00 30 31.8**	**-6.0**	
comp=Z,31nm,1.2s								
WSAR	**Wadi Sarin**	**16.86**	**222**	P	**P**	**00 27 31.4**	**-1.5**	
comp=Z,15nm,0.9s,baz=64,slow=8.2,SNR=4.9								
UMQ	**Umm Al-Quwin**	**16.93**	**234**	P	**Pn**	**00 27 36.6**	**+2.5**	
UOSS	**Minazif**	**16.98**	**232**	P	**P**	**00 27 33.3**	**-1.0**	
UOSS				IAmb	IAmb	00 27 40.0		
comp=Z,18nm,0.9s								
UOSS	**Minazif**	**16.98**	**232**	P	**Pn**	**00 27 36.7**	**+1.8**	
ASHO	**Ashiyiah**	**17.26**	**231**	P	**Pn**	**00 27 39.0**	**+0.8**	
NAZ	**Nazwa, Dubai**	**17.30**	**233**	P	**Pn**	**00 27 41.3**	**+2.6**	
SOHO	**SOHO**	**17.37**	**229**	P	**P**	**00 27 39.1**	**+0.5**	
LKRN	**Lenkeran, Azer**	**17.60**	**284**	P	**Pn**	**00 27 42.2**	**+0.1**	
ASUD	**Al Ashush, Dub**	**17.77**	**233**	P	**Pn**	**00 27 45.0**	**+0.8**	
JMDO	**Jabal Madar**	**17.85**	**222**	P	**Pn**	**00 27 46.0**	**+0.9**	
ALNE	**Al Ain**	**17.91**	**231**	P	**P**	**00 27 45.8**	**+1.4**	
SNR=10.0								
ARQ	**Araqi**	**17.98**	**227**	P	**Pn**	**00 27 47.1**	**+0.4**	
AJN	**Ajban**	**18.03**	**233**	P	**P**	**00 27 46.9**	**+1.1**	
BSY	**Bisya**	**18.04**	**225**	P	**Pn**	**00 27 48.5**	**+0.9**	
BOK	**Bokaro**	**18.11**	**130**	IAmb	IAmb	00 27 54.9		
comp=Z,19nm,1.2s								
BOK				*e*S	**S**	**00 31 00.2**	**-6.2**	
LSA	**Lhasa**	**18.31**	**106**		**P**	**00 27 48.6**	**-0.7**	
LSA	**Lhasa**	**18.31**	**106**	P	**P**	**00 27 51.5**	**+2.2**	
LSA	**Lhasa**	**18.31**	**106**	P	**P**	**00 27 48.6**	**-0.7**	
LSA				pmax	pmax			
comp=Z,9.0nm,0.6s								
SEKA	**Sheki**	**18.98**	**292**	P	**Pn**	**00 27 59.0**	**+0.6**	
MNGR	**Mingechevir, A**	**19.02**	**290**	P	**Pn**	**00 28 00.2**	**+1.5**	
UMZA	**Umm Al Zommool**	**19.27**	**229**	P	**P**	**00 28 00.2**	**+1.1**	
MZWR	**Madinat Zayed**	**19.31**	**234**	P	**P**	**00 28 00.1**	**+0.4**	
GOMU	**GeErMu**	**19.34**	**84**	P	**P**	**00 28 02.8**	**+2.5**	
GOMU				pmax	pmax			
comp=Z,5.0nm,0.5s								
GANJ	**Ganja**	**19.59**	**290**	P	**Pn**	**00 28 06.7**	**+1.3**	
GHWR	**Ruwais**	**19.84**	**236**	P	**P**	**00 28 05.8**	**+0.5**	
SHMA	**Al-Shehemyia**	**19.96**	**244**	P	**P**	**00 28 06.7**	**+0.1**	
ZAA0	**Zalesovo Array**	**20.02**	**25**	P	**P**	**00 28 06.8**	**-0.2**	
ZAA0	**Zalesovo Array**	**20.02**	**25**	⇑P	**P**	**00 28 07.1**	**0.0**	
comp=Z,7.5nm,0.6s								
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**00 28 07.1**	**0.0**	
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**00 28 07.2**	**+0.2**	
comp=Z,80nm,0.5s,baz=222,slow=11,SNR=394								
ZALV				S	**S**	**00 31 41.7**	**-2.0**	
comp=Z,4.7nm,0.9s,baz=218,slow=16,SNR=3.5								
comp=Z,80nm,0.5s								
ZALV	**Zalesovo Beam**	**20.02**	**25**	*i* P	**P**	**00 28 07.1**	**0.0**	
ZALV				pmax	pmax			
comp=Z,79nm,0.5s								
NAX	**Nakhchivan**	**20.17**	**285**	P	Pn	00 28 12.8	+0.4	
SAKB	**Bahrain**	**20.20**	**245**	P	**P**	**00 28 09.9**	**+0.7**	
SLWR	**Sila**	**20.57**	**238**	P	**P**	**00 28 13.0**	**-0.1**	
SMRA	**Abu-Samra**	**20.74**	**241**	P	**P**	**00 28 14.4**	**-0.6**	
GNI	**Garni**	**20.76**	**288**	P	**P**	**00 28 14.9**	**-0.4**	
GNI	**Garni**	**20.76**	**288**	P	Pn	00 28 18.5	-1.1	
comp=Z,47nm,0.8s,baz=41,slow=2.4,SNR=30								
GNI	**Garni**	**20.76**	**288**	*i* P	**P**	**00 28 17.5**	**+2.2**	
GNI				pmax	pmax			
comp=Z,56nm,0.8s								
SHL	**Shillong**	**21.03**	**115**	P	**P**	**00 28 19.6**	**+1.4**	
SHL				IAmb	IAmb	00 28 22.5		
comp=Z,28nm,1.1s								
SHL	**Shillong**	**21.03**	**115**	P	**P**	**00 28 19.6**	**+1.4**	
SHL				pmax	pmax			
comp=Z,28nm,1.1s								
SVE	**Sverdlovsk**	**21.50**	**345**	*e*P	**P**	**00 28 23.5**	**+0.7**	
SVE				*e*S	**S**	**00 32 19.4**	**+7.7**	
SVE				pmax	pmax			
comp=Z,22nm,0.9s								
ARTI	**Arti**	**21.64**	**341**	P	**P**	**00 28 23.7**	**-0.6**	
ARTI				IAmb	IAmb	00 28 27.3		
comp=Z,24nm,0.9s								
ARTI	**Arti**	**21.64**	**341**	P	**P**	**00 28 24.9**	**+0.6**	
comp=Z,19nm,0.8s,baz=159,slow=5.1,SNR=22								
comp=Z,19nm,0.8s								
ARTI	**Arti**	**21.64**	**341**	*d i* P	**P**	**00 28 25.2**	**+0.9**	
ARTI						00 28 57.1		
ARTI				S	**S**	**00 32 17.7**	**+3.6**	
ARTI				pmax	pmax			
comp=Z,34nm,1.1s								
NCK	**Nalchik**	**21.95**	**297**	*i* P	**P**	**00 28 27.9**	**+0.2**	
NCK				pmax	pmax			
comp=Z,23nm,0.6s								
KARS	**Kars**	**22.05**	**289**	P	**P**	**00 28 27.9**	**-1.0**	
KARS	**Kars**	**22.05**	**289**	P	**P**	**00 28 27.9**	**-1.0**	
KARS				pmax	pmax			
comp=Z,56nm,0.9s								
GEVA	**Gevas**	**22.10**	**283**	P	**P**	**00 28 27.4**	**-2.0**	
KBZ	**Khabaz**	**22.49**	**297**	P	**P**	**00 28 33.5**	**+0.6**	
comp=Z,10.0nm,1.0s,baz=119,slow=8.3,SNR=15								
comp=Z,10.0nm,1.0s								
KBZ	**Khabaz**	**22.49**	**297**	*ce*P	**P**	**00 28 32.9**	**0.0**	
KBZ				pmax	pmax			
comp=Z,11nm,0.9s								
SIRT	**Sirnak**	**22.66**	**281**	P	**P**	**00 28 33.8**	**-1.0**	
SHA1	**Shidzhatmaz**	**22.66**	**297**	*i* P	**P**	**00 28 34.5**	**-0.4**	
KVAR	**Kislovodsk Arr**	**22.67**	**298**	P	**P**	**00 28 36.0**	**+1.2**	
comp=Z,2.2nm,0.5s,baz=105,slow=22,SNR=3.5								
comp=Z,2.2nm,0.5s								
KIV	**Kislovodsk**	**22.68**	**298**	P	**P**	**00 28 33.1**	**-1.7**	
KIV				IAmb	IAmb	00 28 38.5		
comp=Z,9.0nm,0.5s								
KIV	**Kislovodsk**	**22.68**	**298**	⇓P	**P**	**00 28 32.0**	**-2.8**	
KIV	**Kislovodsk**	**22.68**	**298**	*e*P	**P**	**00 28 35.4**	**+0.6**	
KIV				*e*S	**S**	**00 32 34.7**	**+3.1**	
KIV				pmax	pmax			
comp=Z,8.0nm,1.0s								
KIV	**Kislovodsk**	**22.68**	**298**	P	**P**	**00 28 34.7**	**-0.1**	
comp=Z,11nm,0.6s								
BELG	**Belogornoye**	**22.83**	**322**	*i* P	**P**	**00 28 36.1**	**+0.1**	
BELG				pmax	pmax			
comp=Z,6.0nm,0.6s								
GURO	**Guroymak-BITLI**	**22.89**	**284**	P	**P**	**00 28 35.5**	**-1.5**	
GTA	**Gaotai**	**23.03**	**74**	*e*P	**P**	**00 28 41.0**	**+2.8**	
GTA				pP	pP	00 29 14.0	+6.2	
GTA				pmax	pmax			
comp=Z,6.0nm,1.0s								
DOK	**Doka**	**23.05**	**224**	P	**P**	**00 28 39.3**	**+0.9**	
SNR=11								
DMTO	**DMTO**	**23.34**	**221**	P	**P**	**00 28 41.5**	**+0.5**	
KOPT	**Kop Dagi**	**24.02**	**288**	P	**P**	**00 28 45.9**	**-1.5**	
KOPT				IAmb	IAmb	00 28 53.5		
comp=Z,16nm,1.0s								
LABN	**Labinsk**	**24.18**	**299**	*e*P	**P**	**00 28 50.9**	**+2.5**	
LABN				pmax	pmax			
comp=Z,25nm,0.8s								
ABTO	**Aybut**	**24.54**	**224**	P	**P**	**00 28 52.4**	**+0.5**	
SNR=12								
ERBR	**Yeremizino-Bor**	**24.54**	**302**	*e*P	**P**	**00 28 55.4**	**+

MNK Minsk 34.43 315 *i* P **P 00 30 20.3 +1.4**
comp=E,22nm,1.2s
MNK *i* P **P 00 30 20.3 +1.4**
comp=N,17nm,1.4s
MNK *i* P **P 00 30 20.3 +1.4**
comp=Z,7.0nm,0.7s,baz=104
MNK *i* pP **pP 00 30 50.9 -0.6**
MNK *i* PP **PP 00 31 41.8 +2.0**
MNK *i* S **S 00 35 39.5 +3.8**
MNK *i* SS **SS 00 38 11.0 +1.6**
MNK *i* LR LR 00 44 12.8
MNK Minsk 34.43 315 *i* P **P 00 30 20.3 +1.4**
MNK *i* *PP **pP 00 30 50.9 -0.6**
MNK *i* 00 31 41.8
MNK *i* 00 32 52.0
MNK *i* S **S 00 35 39.5 +3.8**
MNK pmax pmax
comp=Z,7.0nm,0.7s
MNK pmax pmax
comp=E,22nm,1.2s
MNK pmax pmax
comp=N,17nm,1.4s
MLR Muntele Rosu 34.67 299 P **P 00 30 19.6 -1.8**
MLR Muntele Rosu 34.67 299 P **P 00 30 23.0 +1.7**
comp=N,12nm,0.8s,baz=317,slow=3.2,SNR=11
comp=N,12nm,0.8s
MLR Muntele Rosu 34.67 299 ⇓P **P 00 30 24.2 +2.9**
MLR Muntele Rosu 34.67 299 ⇓P **P 00 30 24.3 +2.9**
RNPP5 Staryi Chortor 35.02 309 P **P 00 30 23.4 -0.7**
RNPP9 Sopachiv 35.04 310 P **P 00 30 23.8 -0.5**
DOPR Dopca 35.05 300 ⇓P **P 00 30 25.7 +1.3**
NACGM Naroch 35.14 316 *eP* **P 00 30 26.9 +1.8**
BURAR Bucovina Array 35.18 303 P **P 00 30 24.8 -0.9**
BURAR Bucovina Array 35.18 303 ⇑P **P 00 30 26.7 +1.0**
BURAR Bucovina Array 35.18 303 ⇑P **P 00 30 26.7 +1.0**
BUR08 Bucovina Ar. S 35.20 303 P **P 00 30 25.3 -0.5**
ARR Arges 35.60 299 ⇑P **P 00 30 31.0 +1.8**
LOT Lotru 36.20 299 ⇑P **P 00 30 36.1 +1.7**
MARR Marisel-Cluj 36.61 301 ⇑P **P 00 30 40.1 +2.3**
PABE Paberze 36.85 316 P **P 00 30 39.6 0.0**
DRGR 36.89 302 ⇑P **P 00 30 41.5 +1.3**
DRGR 36.89 302 ⇑P **P 00 30 41.5 +1.3**
KOLS Kolonicke sedl 37.18 305 *eP* **P 00 30 44.2 +1.7**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 37.18 305 *eP* **P 00 30 44.2 +1.7**
SURR Surduc 37.34 300 ⇓P **P 00 30 45.6 +1.7**
FINES FINESS Array B 37.44 326 P **P 00 30 43.9 -0.6**
FINES FINESS Array B 37.44 326 P **P 00 30 45.0 +0.6**
comp=Z,5.0nm,0.4s,baz=122,slow=9.6,SNR=62
comp=Z,5.0nm,0.4s
SIRR Siria 37.64 301 ⇓P **P 00 30 48.2 +1.9**
NIE Niedzica 38.48 306 P **P 00 30 52.7 -0.7**
comp=Z,5.4nm,1.1s
OJC Ojcow 38.81 307 P **P 00 30 54.0 -2.1**
OJC IAmb IAmb 00 30 57.5
comp=Z,7.1nm,1.0s
OJC Ojcow 38.81 307 P **P 00 30 54.0 -2.1**
OJC pmax pmax
comp=Z,7.0nm,1.0s
NJ2 Nanjing 39.63 82 *eP* **P 00 31 03.5 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
STEB Steborice 40.12 307 *eP* **P 00 31 08.4 +1.5**
MORC Moravsky Berou 40.27 307 P **P 00 31 08.1 -0.2**
MORC Moravsky Berou 40.27 307 *eP* **P 00 31 09.5 +1.2**
MORC Moravsky Berou 40.27 307 P **P 00 31 08.1 -0.2**
MORC pmax pmax
comp=Z,6.0nm,0.9s
VADS Vadso 40.31 340 *eP* **P 00 31 09.2 +1.0**
VADS IAmb IAmb 00 31 12.8
comp=Z,61nm,1.2s
MODS Modra-Piesok 40.50 304 *eP* **P 00 31 09.6 -0.6**
MODS pmax pmax
comp=Z,10.0nm,1.9s
MODS Modra-Piesok 40.50 304 *eP* **P 00 31 09.6 -0.6**
KRLC Kraliky 40.75 307 *eP* **P 00 31 13.7 +1.5**
KRLC Kraliky 40.75 307 *eP* **P 00 31 13.7 +1.5**
VRAC Vranov 40.90 306 *eP* **P 00 31 14.5 +1.1**
DPC Dobruska-Polom 41.04 307 *eP* **P 00 31 16.1 +1.5**
DPC Dobruska-Polom 41.04 307 *eP* **P 00 31 16.1 +1.5**
KRUC Moravsky 41.05 305 *eP* **P 00 31 15.7 +1.1**
ARA0 ARCESS Array S 41.13 338 *eP* **P 00 31 15.9 +0.9**
ARCES ARCESS Array B 41.13 338 P **P 00 31 16.0 +1.0**
comp=Z,2.7nm,0.4s,baz=113,slow=7.3,SNR=30
comp=Z,2.7nm,0.4s
CHVC Chvalec 41.20 308 *eP* **P 00 31 17.5 +1.6**
CHVC Chvalec 41.20 308 *eP* **P 00 31 17.5 +1.6**
CONA Conrad Observa 41.48 304 *eP* **P 00 31 20.0 +1.8**
comp=Z,9.2nm,1.0s,SNR=5.1
BLEU Blekinge 41.50 316 *i* P **P 00 31 18.2 0.0**
BSD Bornholm Skovb 41.93 315 *i* P **P 00 31 21.5 -0.2**
BSD IAmb IAmb 00 31 26.2
comp=Z,15nm,1.0s
SOKA Soboth 42.16 302 *i* P **P 00 31 24.7 +0.9**
comp=Z,6.6nm,0.9s,SNR=7.5
HAMF Hammerfest 42.22 339 *eP* **P 00 31 25.0 +1.2**
HAMF IAmb IAmb 00 31 27.3
comp=Z,116nm,1.6s
PSI Prapat 42.35 136 P **P 00 31 25.2 -0.5**
PSI pmax pmax
comp=Z,10.0nm,1.0s
RPSI Rantau Prapat 42.44 136 P **P 00 31 25.2 -1.0**
RPSI IAmb IAmb 00 31 27.5
comp=Z,9.5nm,1.0s
ZVC Zvikov 42.46 306 *eP* **P 00 31 27.6 +1.5**
BRG Berggiesshubel 42.53 308 *i* P **P 00 31 28.0 +1.4**
BRG Amp 00 31 29.3
comp=Z,7.6nm,0.9s
BRG Berggiesshubel 42.53 308 *eP* **P 00 31 28.0 +1.4**
comp=Z,5.8nm,0.9s,baz=85,slow=7.9
MOA Molln 42.55 304 *i* P **P 00 31 28.3 +1.4**
comp=Z,7.5nm,1.0s
RUE Ruedersdorf 42.58 311 *eP* **P 00 31 28.1 +1.2**
comp=Z,14nm,0.9s,baz=85,slow=7.9
DEL Delary 42.59 317 *i* P **P 00 31 27.0 0.0**
LUNU Lund 42.79 315 *i* P **P 00 31 29.0 +0.4**
GEC2 GERESS Array S 42.83 305 *eP* **P 00 31 30.2 +1.0**
comp=Z,2.0nm,0.9s,baz=85,slow=7.9
GERES GERESS Array B 42.83 305 P **P 00 31 27.5 -1.7**
GERES GERESS Array B 42.83 305 P **P 00 31 29.9 +0.8**
comp=Z,1.5nm,0.8s,baz=78,slow=6.2,SNR=6.0
comp=Z,1.5nm,0.8s
GERES GERESS Array B 42.83 305 P **P 00 31 30.0 +0.8**
GSI Gunungsitoli 42.86 139 P **P 00 31 29.6 -0.1**
GSI Gunungsitoli 42.86 139 P **P 00 31 31.1 +1.5**
KHC Kasperske Hory 42.89 306 *eP* **P 00 31 31.1 +1.5**
KHC Kasperske Hory 42.89 306 *eP* **P 00 31 31.1 +1.5**
BIOA Bad Ischl, Aus 42.99 304 *eP* **P 00 31 31.5 +1.1**
comp=Z,3.9nm,1.2s
HFS Hagfors 43.01 322 P **P 00 31 30.8 +0.5**
comp=Z,18nm,0.5s,baz=96,slow=11,SNR=89
comp=Z,18nm,0.5s
BJUU Bjuv 43.05 316 *i* P **P 00 31 31.1 +0.5**
CLL Collm 43.10 309 *eP* **P 00 31 32.0 +0.8**
CLL Collm 43.10 309 *eP* **P 00 31 32.0 +0.8**
CLL Collm 43.10 309 *eP* **P 00 31 32.2 +1.0**
comp=Z,2.9nm,0.7s,baz=85,slow=7.9
FABU Falkenberg 43.25 317 *i* P **P 00 31 32.9 +0.6**
BORU Boraas 43.26 318 *i* P **P 00 31 32.4 +0.1**
KBA Koelnbreinsper 43.27 303 *eP* **P 00 31 33.2 +0.5**
comp=Z,7.4nm,1.2s
COP Copenhagen 43.37 315 *i* P **P 00 31 30.5 -2.7**
COP IAmb IAmb 00 31 32.0
comp=Z,48nm,0.7s
TANN Tannenbergstha 43.50 308 *eP* **P 00 31 35.9 +1.4**
comp=Z,2.0nm,0.9s,baz=85,slow=7.9
RJOB Jochberg 43.55 304 *eP* **P 00 31 35.5 +0.6**
comp=Z,7.7nm,0.8s,baz=85,slow=7.9
LESA Schwarzleotal 43.67 303 *i* P **P 00 31 37.0 +1.1**
comp=Z,3.0nm,0.5s
ONAU Onsala 43.71 318 *i* P **P 00 31 36.5 +0.6**
ROTZ Rotzenmuhle 43.72 307 *eP* **P 00 31 37.9 +1.7**
comp=Z,1.4nm,1.1s,baz=85,slow=7.9
MANZ Manzenberg 43.77 307 *eP* **P 00 31 38.2 +1.6**
comp=Z,1.3nm,1.1s,baz=85,slow=7.9
MOR8 Moi Rana 43.78 331 *eP* **P 00 31 36.4 0.0**
MOR8 IAmb IAmb 00 31 38.4
comp=Z,203nm,1.7s
ABTA Abfaltersbach 43.88 302 *eP* **P 00 31 37.9 +0.3**
comp=Z,5.6nm,1.2s
NEUB Neuenburg 43.88 309 *eP* **P 00 31 38.6 +1.2**
comp=Z,15nm,1.1s,baz=85,slow=7.9
MOX Moxa 44.02 308 *eP* **P 00 31 40.0 +1.4**
comp=Z,4.2nm,1.0s,baz=85,slow=7.9
NC405 NORSAR Array S 44.09 323 P **P 00 31 38.5 -0.5**
NC405 IAmb IAmb 00 31 40.7
comp=Z,10.0nm,0.8s
NC602 NORSAR Array S 44.14 323 *eP* **P 00 31 39.3 0.0**
FLTG Flechtingen 44.14 311 *eP* **P 00 31 40.2 +0.8**
comp=Z,13nm,0.8s,baz=85,slow=7.9
STRU Stroemstad 44.18 320 *i* P **P 00 31 39.5 -0.2**
NC303 NORSAR Array S 44.27 323 P **P 00 31 39.5 -0.9**
NB201 NORSAR Array S 44.29 323 P **P 00 31 38.7 -1.9**
NB201 IAmb IAmb 00 31 43.9
comp=Z,4.5nm,0.5s
LEIR Leirfjorden 44.30 330 *eP* **P 00 31 40.5 0.0**
NB2 NORSAR Subarra 44.33 323 P **P 00 31 40.8 -0.1**
comp=Z,10.0nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.33 323 P **P 00 31 40.8 -0.1**
baz=97,slow=7.9
NOA NORSAR Array B 44.33 323 P **P 00 31 41.0 +0.1**
comp=Z,8.5nm,0.5s,baz=97,slow=7.8,SNR=69
comp=Z,8.5nm,0.5s
GRF Grafenberg Arr 44.37 307 *eP* **P 00 31 42.4 +1.1**
comp=Z,3.4nm,0.8s,baz=85,slow=7.9
MNSI Mandailing Nat 44.37 137 P **P 00 31 42.7 +1.0**
comp=Z,16nm,0.6s
KONS Konsvik 44.38 331 *eP* **P 00 31 41.4 +0.2**
WTTA Wattenberg 44.40 303 *i* P **P 00 31 42.4 +0.6**
comp=Z,8.4nm,1.1s
WATA Walderalm 44.42 303 *i* P **P 00 31 42.5 +0.5**
comp=Z,5.9nm,0.9s
NBO00 NORSAR Array S 44.54 323 P **P 00 31 42.1 -0.5**
NC204 NORSAR Array S 44.57 323 P **P 00 31 42.2 -0.6**
BSEG Bad Segeberg 44.61 313 *eP* **P 00 31 44.7 +1.6**
comp=Z,7.7nm,0.8s,baz=85,slow=7.9
SQTA Sankt Quirin 44.69 303 *i* P **P 00 31 44.4 +0.3**
comp=Z,3.3nm,0.8s
CLZ Clausthal 44.70 310 *eP* **P 00 31 45.6 +1.6**
comp=Z,5.0nm,0.8s,baz=85,slow=7.9
MOTA Moosalm 44.74 303 *i* P **P 00 31 44.2 -0.4**
comp=Z,4.5nm,0.9s
NRDL Niedersach Rie 44.82 311 *eP* **P 00 31 46.3 +1.5**
comp=Z,4.8nm,0.8s,baz=85,slow=7.9
RETA Reutte 44.95 304 *i* P **P 00 31 46.6 +0.5**
comp=Z,2.4nm,0.8s
SSRD Sdr. Stenderup 44.96 315 *i* P **P 00 31 42.4 -3.5**
SSRD IAmb IAmb 00 31 43.4
comp=Z,29nm,1.0s
GTTG Gottingen 44.98 310 *eP* **P 00 31 47.7 +1.5**
comp=Z,11nm,0.8s,baz=85,slow=7.9
KONO Kongsberg 45.03 321 *eP* **P 00 31 46.8 +0.4**
KSRS Korea Array 45.04 71 P **P 00 31 46.7 -0.1**
comp=Z,1.3nm,0.6s,baz=290,slow=7.4,SNR=4.3
comp=Z,1.3nm,0.6s
FETA Feichten 45.04 303 *i* P **P 00 31 45.1 -1.8**
comp=Z,3.7nm,0.9s
MUD Monsted U'grnd 45.20 316 *i* P **P 00 31 50.0 +2.3**
MUD IAmb IAmb 00 31 51.1
comp=Z,6.5nm,0.6s
KLR Kul'dur 45.30 54 P **P 00 31 49.2 +0.6**
comp=Z,0.8nm,0.4s,baz=279,slow=8.6,SNR=4.1
comp=Z,0.8nm,0.4s
KLR Kul'dur 45.30 54 *ceP* **P 00 31 49.3 +0.6**
KLR pmax pmax
comp=Z,5.0nm,1.7s
UBR Ueberruh 45.36 304 *eP* **P 00 31 49.8 +0.5**
UBR *epP* **pP 00 32 22.8 -0.5**
comp=Z,3.9nm,0.7s,baz=85,slow=7.9
DOMB Dombas 45.44 324 *eP* **P 00 31 50.7 +1.0**
HOMB Homborsund 45.55 319 *eP* **P 00 31 51.2 +0.7**
HOMB Homborsund 45.55 319 *i* P **P 00 31 50.5 0.0**
DAVA Damuels 45.57 304 *i* P **P 00 31 50.5 -0.6**
comp=Z,11nm,0.7s,SNR=8.3
SKAR Skarslia 45.72 322 *eP* **P 00 31 52.8 +0.8**
PPI Padang Panjang 45.86 137 P **P 00 31 54.4 +1.0**
comp=Z,726nmcomp=Z,24nm,0.7s
TIXI Tiksi 45.88 22 P **P 00 31 52.4 -0.5**
TIXI IAmb IAmb 00 31 55.2
comp=Z,9.9nm,1.0s
TIXI Tiksi 45.88 22 P **P 00 31 53.7 +0.8**
comp=Z,5.5nm,0.3s,baz=285,slow=4.1,SNR=17
comp=Z,5.5nm,0.3s
TIXI Tiksi 45.88 22 *ceP* **P 00 31 53.7 +0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
IBBN Ibbenburen 46.27 311 *eP* **P 00 31 57.4 +1.1**
comp=Z,9.6nm,0.7s,baz=85,slow=7.9
LODK Lodwar 46.31 233 P **P 00 31 55.8 -1.3**
BLS5 Blasjo 46.62 321 *eP* **P 00 31 59.8 +0.9**
BLS5 IAmb IAmb 00 32 01.8
comp=Z,50nm,1.6s
HYA Hoyanger 46.77 323 *eP* **P 00 32 00.5 +0.5**
BER Bergen 47.18 322 *eP* **P 00 32 03.8 +0.6**
KMY Karmoy 47.24 320 *eP* **P 00 32 04.7 +1.0**
ASK Askoy 47.25 322 *eP* **P 00 32 04.5 +0.8**
SENIN Lac Senin/Sane 47.48 303 P **P 00 32 05.6 -0.5**
BTNL Ternell 47.50 309 *dP* **P 00 32 06.4 +0.5**
comp=Z,5.1nm,0.9s
SPA0 Spitsbergen Ar 47.51 347 *eP* **P 00 32 07.3 +1.8**
SPA0 IAmb IAmb 00 32 11.2
comp=Z,219nm,2.2s
SPITS Spitsbergen Ar 47.51 347 P **P 00 32 07.3 +1.8**
comp=Z,3.1nm,0.4s,baz=117,slow=8.2,SNR=28
comp=Z,3.1nm,0.4s
WLF Walferdange 47.63 307 P **P 00 32 06.0 -0.9**
WLF IAmb IAmb 00 32 09.1
comp=Z,11nm,0.7s
WLF Walferdange 47.63 307 *dP* **P 00 32 08.4 +1.6**
comp=Z,8.2nm,0.9s
WLF Walferdange 47.63 307 P **P 00 32 06.0 -0.9**
WLF pmax pmax
comp=Z,11nm,0.7s
WLF Walferdange 47.63 307 *eP* **P 00 32 08.5 +1.6**
comp=Z,7.7nm,0.8s,baz=85,slow=7.9
BMRD Maredsous 48.41 308 *dP* **P 00 32 13.8 +1.0**
comp=Z,5.2nm,1.0s
KBS Kingsbay 48.63 347 *eP* **P 00 32 16.2 +2.1**
KBS Kingsbay 48.63 347 *i* P **P 00 32 14.6 +0.5**
KEST Kesra 48.91 288 P **P 00 32 17.6 +0.6**
comp=Z,1.6nm,0.5s,baz=40,slow=6.2,SNR=5.1
comp=Z,1.6nm,0.5s
EKA Eskdalemuir Ar 52.22 316 P **P 00 32 41.4 0.0**
comp=Z,7.2nm,0.9s,baz=92,slow=7.4,SNR=13
comp=Z,7.2nm,0.9s
MBAR Mbarara 52.35 234 P **P 00 32 42.8 -0.3**
MBAR Mbarara 52.35 234 *c i* P **P 00 32 43.5 +0.4**
MBAR pmax pmax
comp=Z,11nm,0.8s
NOR Nord 53.82 350 *i* P **P 00 32 52.8 +0.1**
SEY Seymchan 54.54 34 *i* P **P 00 32 58.7 +0.5**
SEY pmax pmax
comp=Z,1.0nm,0.9s
DAG Danmarks Havn 54.73 344 *i* P **P 00 33 00.0 +0.6**
DAG *i* P **P 00 33 00.0 +0.6**
DAG IAmb IAmb 00 33 01.2
comp=Z,7.0nm,0.5s
ESDC Sonseca Array 57.34 298 P **P 00 33 18.4 -0.2**
comp=Z,1.2nm,0.8s,baz=60,slow=7.3,SNR=8.9
comp=Z,1.2nm,0.8s
BILL Bilibino 58.72 26 *i* P **P 00 33 28.3 +0.7**
BILL pmax pmax
comp=Z,25nm,3.6s
NEEM North Greenlan 61.05 348 *i* P **P 00 33 44.6 +0.9**
NEEM IAmb IAmb 00 33 45.8
comp=Z,8.9nm,0.9s
SUMG Summit 61.06 341 P **P 00 33 44.6 +0.6**
SUMG Summit 61.06 341 P **P 00 33 44.6 +0.6**
SUMG pmax pmax
comp=Z,2.0nm,0.6s
SUMG Summit 61.06 341 *i* P **P 00 33 44.2 +0.2**
SUMG IAmb IAmb 00 33 47.7
comp=Z,52nm,1.6s
TNTI Ternate 63.11 111 P **P 00 33 56.0 -2.1**
KULLO Kullorsuaq 64.08 346 *i* P **P 00 34 03.7 +0.2**
KULLO IAmb IAmb 00 34 05.7
comp=Z,5.3nm,0.8s
ANGG Ammassalik, Gr 64.39 334 *i* P **P 00 34 05.7 +0.1**
ANGG IAmb IAmb 00 34 07.2
comp=Z,46nm,1.0s
LSZ Lusaka 65.31 226 P **P 00 34 11.6 -0.7**
LSZ IAmb IAmb 00 34 13.6
comp=Z,3.6nm,0.8s
LSZ Lusaka 65.31 226 P **P 00 34 11.6 -0.7**
LSZ pmax pmax
comp=Z,4.0nm,0.8s
TORD Torodi Ar. Bea 65.56 269 P **P 00 34 12.1 -1.9**
TORD IAmb IAmb 00 34 14.5
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 65.56 269 P **P 00 34 12.5 -1.4**
comp=Z,22nm,0.2s,baz=38,slow=5.9,SNR=1.5
ILULI Ilulissat 66.40 341 P **P 00 34 18.3 -0.1**
ILULI IAmb IAmb 00 34 36.9
comp=Z,8.0nm,1.0s
ILULI Ilulissat 66.40 341 P **P 00 34 18.3 -0.1**
ILULI pmax pmax
comp=Z,8.0nm,1.0s
A19K Wainwright 67.26 17 P **P 00 34 25.4 +1.5**
baz=317
A21K Barrow 67.40 15 P **P 00 34 25.7 +1.0**
baz=320
C16K Lisburne Hills 67.55 20 P **P 00 34 26.1 +0.4**
C16K IAmb IAmb 00 34 27.2
comp=Z,7.8nm,0.8s
C16K Lisburne Hills 67.55 20 P **P 00 34 27.1 +1.4**
baz=314
B18K Kokolik River 67.69 18 P **P 00 34 28.2 +1.6**
baz=316
SFJD Kangerlussuaq 67.75 339 *i* P **P 00 34 31.7 +4.7**
C17K DeLong Mountai 67.98 19 P **P 00 34 29.7 +1.2**
baz=315
B20K Meade River 68.30 16 P **P 00 34 31.2 +0.8**
B20K Meade River 68.30 16 P **P 00 34 31.9 +1.6**
baz=320
C18K Utukok River 68.37 18 P **P 00 34 31.8 +0.9**
baz=317
D17K Noatak River 68.57 19 P **P 00 34 33.2 +1.1**
baz=316,SNR=9.0
B22K Teshekpuk Lake 68.83 15 P **P 00 34 34.6 +0.9**
B22K IAmb IAmb 00 34 36.1
comp=Z,12nm,1.1s
B22K Teshekpuk Lake 68.83 15 P **P 00 34 35.0 +1.3**
baz=323,SNR=8.5
B21K Ikpikpuk River 69.16 15 P **P 00 34 36.3 +0.7**
B21K Ikpikpuk River 69.16 15 P **P 00 34 37.0 +1.3**
baz=322,SNR=12
FAKI Fak Fak 69.20 110 P **P 00 34 36.4 -0.5**
F14K Arctic Creek 69.21 22 P **P 00 34 37.1 +1.0**
baz=314
D19K Kuna River 69.23 17 P **P 00 34 36.9 +0.6**
D19K Kuna River 69.23 17 P **P 00 34 37.3 +1.0**
baz=320
E17K Hotham Inlet 69.35 19 P **P 00 34 37.9 +1.0**
baz=317
D20K Etivluk River 69.42 17 P **P 00 34 38.3 +0.9**
baz=321
E18K Tukpahlearik C 69.42 19 P **P 00 34 38.3 +0.8**
E18K Tukpahlearik C 69.42 19 P **P 00 34 38.2 +0.8**
baz=318
C21K Knifeblade Rid 69.49 16 P **P 00 34 39.1 +1.3**
baz=322
F15K North Star Dit 69.55 21 P **P 00 34 39.1 +0.9**
F15K North Star Dit 69.55 21 P **P 00 34 39.3 +1.1**
baz=315
C23K Itkillik River 69.81 14 P **P 00 34 40.6 +0.9**
C23K Itkillik River 69.81 14 P **P 00 34 41.0 +1.3**
baz=326
E20K Nigu River 69.88 17 P **P 00 34 41.3 +1.1**
baz=321
PMOZ Porto Moniz, M 69.96 296 P **P 00 34 39.6 -1.8**
F17K Baldwin Pennin 69.98 20 P **P 00 34 41.1 +0.4**
F17K Baldwin Pennin 69.98 20 P **P 00 34 42.1 +1.3**
baz=318,SNR=6.1
ANM Nome 70.14 22 P **P 00 34 43.2 +1.4**
baz=315
D22K Ayikyak River 70.16 15 P **P 00 34 43.0 +1.0**
D22K IAmb IAmb 00 34 43.8
comp=Z,4.8nm,0.8s
D22K Ayikyak River 70.16 15 P **P 00 34 43.4 +1.4**
baz=324,SNR=7.7
E21K Killik River 70.24 16 P **P 00 34 43.0 +0.6**
E21K Killik River 70.24 16 P **P 00 34 43.0 +0.6**
baz=323
G15K Niukluk 70.24 22 P **P 00 34 43.6 +1.3**
baz=316
E19K Redstone River 70.25 18 P **P 00 34 42.6 +0.2**
E19K IAmb IAmb 00 34 43.9
comp=Z,4.9nm,0.8s
E19K Redstone River 70.25 18 P **P 00 34 43.3 +0.8**
baz=321
C24K Franklin Bluff 70.27 14 P **P 00 34 43.4 +0.9**
C24K Franklin Bluff 70.27 14 P **P 00 34 43.6 +1.1**
baz=327
F18K Selawik 70.29 19 P **P 00 34 43.7 +1.0**
baz=319,SNR=7.8
G16K Koyuk River 70.44 21 P **P 00 34 44.2 +0.6**
G16K IAmb IAmb 00 34 45.7
comp=Z,5.3nm,0.8s
G16K Koyuk River 70.44 21 P **P 00 34 44.8 +1.2**
baz=317
D23K Nanushuk River 70.51 15 P **P 00 34 44.8 +0.7**
D23K IAmb IAmb 00 34 46.0
comp=Z,8.7nm,0.9s
D23K Nanushuk River 70.51 15 P **P 00 34 45.2 +1.2**
baz=326,SNR=8.1
F19K Shaleruckik Mo 70.59 18 P **P 00 34 44.5 -0.1**
F19K Shaleruckik Mo 70.59 18 P **P 00 34 45.4 +0.8**
baz=320
D24K Happy Valley 70.73 14 P **P 00 34 45.7 +0.4**
D24K IAmb IAmb 00 34 46.8
comp=Z,4.2nm,0.8s
D24K Happy Valley 70.73 14 P **P 00 34 46.4 +1.0**
baz=327
C26K Camden Bay 70.79 12 P **P 00 34 47.0 +1.3**
baz=330
F20K Avaraart Lake 70.94 18 P **P 00 34 46.7 +0.1**
F20K Avaraart Lake 70.94 18 P **P 00 34 47.6 +1.0**
baz=322
E22K Anaktuvuk Pass 70.96 16 P **P 00 34 47.3 +0.5**
E22K IAmb IAmb 00 34 48.5
comp=Z,7.0nm,1.1s
E22K Anaktuvuk Pass 70.96 16 P **P 00 34 47.5 +0.7**
baz=325,SNR=5.5
TOLK Toolik Lake Re 71.01 15 P **P 00 34 47.4 +0.3**
TOLK Toolik Lake Re 71.01 15 P **P 00 34 48.2 +1.1**
baz=327,SNR=14
H16K Elim 71.03 21 P **P 00 34 48.2 +1.0**
baz=317
D25K Kavik River 71.05 13 P **P 00 34 48.7 +1.4**
D25K IAmb IAmb 00 34 49.5
comp=Z,7.6nm,0.8s
D25K Kavik River 71.05 13 P **P 00 34 48.8 +1.4**
baz=329,SNR=8.8
G18K Tagagawik 71.09 19 P **P 00 34 48.5 +0.9**
baz=320
C27K Jago River 71.25 12 P **P 00 34 49.7 +1.2**
C27K IAmb IAmb 00 34 50.9
comp=Z,7.8nm,0.8s
C27K Jago River 71.25 12 P **P 00 34 50.3 +1.9**
baz=331,SNR=8.6
A36M Sachs Harbour 71.27 5 P **P 00 34 48.0 -0.5**
G19K Purcell Mounta 71.30 19 P **P 00 34 49.5 +0.6**
G19K Purcell Mounta 71.30 19 P **P 00 34 49.5 +0.6**
baz=321,SNR=9.1
F21K Alatna River 71.33 17 P **P 00 34 49.8 +0.8**
F21K IAmb IAmb 00 34 51.6
comp=Z,6.7nm,0.6s
F21K Alatna River 71.33 17 P **P 00 34 49.9 +0.8**
baz=324
H17K Granite Mounta 71.47 20 P **P 00 34 50.9 +1.1**
baz=319
E23K Chandalar 71.49 15 P **P 00 34 50.8 +0.8**
E23K Chandalar 71.49 15 P **P 00 34 51.1 +1.1**
baz=327
E24K Your Creek 71.70 15 P **P 00 34 52.2 +0.9**
E24K IAmb IAmb 00 34 53.2
comp=Z,5.2nm,0.7s
E24K Your Creek 71.70 15 P **P 00 34 52.3 +1.0**
baz=328,SNR=6.0
H18K Honhosa River 71.73 20 P **P 00 34 51.2 -0.3**
H18K IAmb IAmb 00 34 52.8
comp=Z,5.8nm,0.8s
H18K Honhosa River 71.73 20 P **P 00 34 52.4 +0.9**
baz=320
G21K Allakaket 71.89 17 P **P 00 34 52.4 0.0**
G21K Allakaket 71.89 17 P **P 00 34 53.1 +0.7**
baz=324
H19K Roundabout Mou 71.95 19 P **P 00 34 53.1 +0.4**
H19K IAmb IAmb 00 34 54.3
comp=Z,6.8nm,0.8s
H19K Roundabout Mou 71.95 19 P **P 00 34 53.8 +1.1**
baz=322
J14K Nanvaranak Lak 72.01 23 P **P 00 34 54.0 +0.9**
J14K IAmb IAmb 00 35 01.5
comp=Z,15nm,1.1s

G22K	Bettles	72.03	16	P	P	00 34 53.9	+0.8
	baz=325						
I17K	Unalakleet	72.04	21	P	P	00 34 53.9	+0.6
D27M	Malcolm River	72.04	11	P	P	00 34 54.0	+0.8
D27M	Malcolm River	72.04	11	P	P	00 34 55.0	+1.7
	baz=334						
COLD	Coldfoot	72.06	16	P	P	00 34 53.7	+0.4
COLD				IAmb	IAmb	00 34 55.6	
	comp=Z,8.4nm,0.8s						
COLD	Coldfoot	72.06	16	P	P	00 34 54.6	+1.3
	baz=326,SNR=8.2						
E25K	Arctic Village	72.23	13	P	P	00 34 54.5	0.0
E25K	Arctic Village	72.23	13	P	P	00 34 55.4	+1.0
	baz=330,SNR=5.6						
K13K	Kusilvak Mount	72.24	24	P	P	00 34 55.1	+0.7
K13K				IAmb	IAmb	00 35 08.7	
	comp=Z,8.1nm,1.0s						
F24K	Squaw Lake	72.30	15	P	P	00 34 54.9	+0.1
F24K	Squaw Lake	72.30	15	P	P	00 34 55.6	+0.8
	baz=328						
D28M	Stokes Point	72.31	11	P	P	00 34 56.2	+1.5
	baz=335						
H20K	Anotleneega Mo	72.38	18	P	P	00 34 56.2	+0.9
	baz=323,SNR=10						
J16K	Anvik River	72.52	22	P	P	00 34 57.0	+0.9
J16K				IAmb	IAmb	00 34 58.6	
	comp=Z,9.2nm,0.8s						
J16K	Anvik River	72.52	22	P	P	00 34 57.6	+1.5
	baz=319						
G23K	Bananza Creek	72.53	16	P	P	00 34 56.5	+0.3
G23K	Bananza Creek	72.53	16	P	P	00 34 57.5	+1.3
	baz=327						
F25K	Christian Rive	72.68	14	P	P	00 34 57.9	+0.8
F25K				IAmb	IAmb	00 34 59.9	
	comp=Z,6.1nm,0.9s						
F25K	Christian Rive	72.68	14	P	P	00 34 58.6	+1.6
	baz=330,SNR=7.1						
H21K	Melozitna Rive	72.76	17	P	P	00 34 58.0	+0.4
H21K				IAmb	IAmb	00 34 59.1	
	comp=Z,7.9nm,1.1s						
H21K	Melozitna Rive	72.76	17	P	P	00 34 58.4	+0.9
	baz=324						
E28M	Babbage River	72.84	11	P	P	00 34 59.5	+1.5
E28M	Babbage River	72.84	11	P	P	00 34 59.6	+1.6
	baz=335						
F26K	Sheenjek River	72.87	13	P	P	00 34 59.1	+0.9
F26K	Sheenjek River	72.87	13	P	P	00 34 59.5	+1.3
	baz=331						
J17K	VABM Dome	72.88	21	P	P	00 34 59.3	+1.1
J17K	VABM Dome	72.88	21	P	P	00 34 59.4	+1.1
	baz=320						
E27K	Coleen River	72.89	12	P	P	00 34 59.5	+1.2
E27K				IAmb	IAmb	00 35 00.4	
	comp=Z,6.8nm,0.9s						
E27K	Coleen River	72.89	12	P	P	00 34 59.7	+1.4
	baz=333						
H22K	Ishtalitna Cre	72.90	17	P	P	00 34 59.7	+1.3
	baz=326						
K15K	Wolf Creek Mou	72.98	23	P	P	00 34 59.6	+0.7
K15K				IAmb	IAmb	00 35 01.2	
	comp=Z,12nm,1.0s						
K15K	Wolf Creek Mou	72.98	23	P	P	00 35 00.2	+1.4
	baz=318						
BMAR	Burnt Mountain	73.03	14	P	P	00 35 00.0	+0.9
I20K	Naaghedeneel	73.04	19	P	P	00 35 00.1	+0.9
I20K	Naaghedeneel	73.04	19	P	P	00 35 00.4	+1.3
	baz=323						
G24K	Hadweenzic Riv	73.08	15	P	P	00 35 00.1	+0.7
G24K				IAmb	IAmb	00 35 01.1	
	comp=Z,5.6nm,0.7s						
G24K	Hadweenzic Riv	73.08	15	P	P	00 35 00.8	+1.4
	baz=329						
E29M	Blow River	73.29	11	P	P	00 35 02.1	+1.5
E29M				IAmb	IAmb	00 35 02.9	
	comp=Z,7.8nm,1.0s						
E29M	Blow River	73.29	11	P	P	00 35 02.2	+1.6
	baz=336						
G25K	Bearman Lake	73.31	14	P	P	00 35 02.4	+1.7
	baz=330						
L14K	Kuka Creek	73.32	24	P	P	00 35 00.9	+0.1
L14K				IAmb	IAmb	00 35 12.7	
	comp=Z,9.7nm,1.1s						
L14K	Kuka Creek	73.32	24	P	P	00 35 02.5	+1.7
	baz=318						
I21K	Tanana	73.35	17	P	P	00 35 02.1	+1.1
	baz=325						
POGA	Pongola	73.37	216	P	P	00 35 01.5	0.0
J19K	Poorman	73.38	19	P	P	00 35 02.1	+0.9
J19K				IAmb	IAmb	00 35 03.1	
	comp=Z,8.2nm,0.8s						
J19K	Poorman	73.38	19	P	P	00 35 02.3	+1.1
	baz=323						
J18K	Innoko River	73.50	20	P	P	00 35 03.0	+1.1
J18K				IAmb	IAmb	00 35 03.6	
	comp=Z,10nm,0.8s						
J18K	Innoko River	73.50	20	P	P	00 35 03.1	+1.1
	baz=322						
G26K	Porcupine Rive	73.60	13	P	P	00 35 03.6	+1.2
	baz=332						
J20K	Nowinta River	73.63	19	P	P	00 35 03.5	+0.9
J20K				IAmb	IAmb	00 35 04.5	
	comp=Z,9.0nm,0.7s						
J20K	Nowinta River	73.63	19	P	P	00 35 04.0	+1.4
	baz=324						
K17K	Iditarod	73.63	21	P	P	00 35 03.4	+0.7
K17K	Iditarod	73.63	21	P	P	00 35 04.0	+1.3
	baz=321						
FYU	Fort Yukon	73.65	14	P	P	00 35 03.2	+0.5
FYU				IAmb	IAmb	00 35 04.7	
	comp=Z,6.1nm,0.7s						
F28M	Old Crow	73.69	12	P	P	00 35 03.5	+0.6
F28M	Old Crow	73.69	12	P	P	00 35 04.4	+1.4
	baz=335						
H24K	Noodor Dome	73.74	16	P	P	00 35 04.4	+1.1
H24K				IAmb	IAmb	00 35 05.3	
	comp=Z,7.0nm,0.8s						
H24K	Noodor Dome	73.74	16	P	P	00 35 04.8	+1.5
	baz=328						
M13K	Dall Lake	73.78	25	P	P	00 35 04.4	+0.9
	baz=317						
H25L	Birch Creek	73.80	15	P	P	00 35 05.0	+1.5
	baz=330						
C36M	Paulatuk	73.94	5	P	P	00 35 04.4	+0.1
C36M	Paulatuk	73.94	5	P	P	00 35 04.9	+0.6
	baz=348,SNR=20						
INK	Inuvik	73.98	9	P	P	00 35 05.3	+0.7
INK				IAmb	IAmb	00 35 06.5	
	comp=Z,8.2nm,0.7s						
INK	Inuvik	73.98	9	P	P	00 35 05.7	+1.1
	baz=340,SNR=12						
INK	Inuvik	73.98	9	P	P	00 35 05.3	+0.7
INK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
I23K	Minto, Yukon-K	73.99	16	P	P	00 35 04.2	-0.4
I23K				IAmb	IAmb	00 35 06.7	
	comp=Z,8.2nm,0.9s						
I23K	Minto, Yukon-K	73.99	16	P	P	00 35 06.0	+1.4
	baz=327,SNR=6.2						
M14K	Bethel	73.99	24	P	P	00 35 06.4	+1.6
	baz=318						
L16K	Owhat River	74.06	22	P	P	00 35 06.6	+1.5
	baz=320						
L17K	Donlin	74.09	22	P	P	00 35 07.0	+1.7
	baz=321						
G27K	Doyon Strip	74.11	13	P	P	00 35 06.6	+1.1
G27K				IAmb	IAmb	00 35 07.8	
	comp=Z,7.4nm,0.8s						
G27K	Doyon Strip	74.11	13	P	P	00 35 07.0	+1.6
	baz=333						
TTA	Tatalina	74.12	20	P	P	00 35 05.6	0.0
TTA	Tatalina	74.12	20	P	P	00 35 06.8	+1.1
	baz=322						
TTA	Tatalina	74.12	20	P	P	00 35 05.6	0.0
TTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
K20K	Telida	74.31	19	P	P	00 35 07.8	+1.2
	baz=324						
F30M	Barrier River	74.32	10	P	P	00 35 07.8	+1.2
	baz=338						
CHUM	Lake Minchumin	74.34	18	P	P	00 35 08.0	+1.3
	baz=325,SNR=5.5						
M15K	Kasigluk River	74.45	24	P	P	00 35 08.4	+0.9
	baz=319						
BPAW	Bear Paw Mtn.	74.49	18	P	P	00 35 07.4	-0.2
BPAW				IAmb	IAmb	00 35 09.3	
	comp=Z,6.2nm,0.9s						
BPAW	Bear Paw Mtn.	74.49	18	P	P	00 35 08.3	+0.7
	baz=326						
L18K	Granite Mounta	74.49	21	P	P	00 35 08.9	+1.2
	baz=322						
PRP	Porcupine Dome	74.51	15	P	P	00 35 09.1	+1.2
	baz=330						
NEA2	Nenana	74.53	17	P	P	00 35 07.8	-0.1
NEA2	Nenana	74.53	17	P	P	00 35 08.4	+0.5
	baz=328,SNR=8.0						
LBTB	Lobatse	74.54	222	P	P	00 35 08.4	-0.1
LBTB				IAmb	IAmb	00 35 09.8	
	comp=Z,7.3nm,0.8s						
LBTB	Lobatse	74.54	222	P	P	00 35 08.4	-0.1
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DBIC	Dimbokro	74.54	267	P	P	00 35 07.8	-0.9
	comp=Z,7.8nm,0.7s,baz=41,slow=6.9,SNR=9.2						
	comp=Z,7.8nm,0.7s						
COLA	College	74.57	16	P	P	00 35 08.0	0.0
COLA	College	74.57	16	P	P	00 35 09.3	+1.2
	baz=329						
COLA	College	74.57	16	*i* P	P	00 35 07.5	-0.5
COLA				pmax	pmax		
	comp=Z,16nm,0.9s						
G29M	Pine Creek	74.63	11	P	P	00 35 09.6	+1.2
	baz=336						
H27K	Steamboat Moun	74.65	13	P	P	00 35 10.2	+1.6
	baz=334						
M16K	Timber Creek	74.75	23	P	P	00 35 10.9	+1.7
	baz=320						
F31M	Tsiigehtchic	74.77	10	P	P	00 35 09.4	+0.3
F31M				IAmb	IAmb	00 35 10.8	
	comp=Z,13nm,0.9s						
F31M	Tsiigehtchic	74.77	10	P	P	00 35 10.2	+1.1
	baz=340,SNR=7.6						
TSUM	Tsumeb	74.77	232	P	P	00 35 09.3	-0.7
TSUM				IAmb	IAmb	00 35 11.2	
	comp=Z,6.9nm,1.0s						
CAST	Castle Rocks	74.78	19	P	P	00 35 09.7	+0.3
CAST	Castle Rocks	74.78	19	P	P	00 35 10.5	+1.1
	baz=326,SNR=9.2						
G30M	tAoh Zraii Nji	74.84	11	P	P	00 35 08.7	-1.0
G30M				IAmb	IAmb	00 35 11.8	
	comp=Z,13nm,1.1s						
G30M	tAoh Zraii Nji	74.84	11	P	P	00 35 11.3	+1.6
	baz=338,SNR=6.3						
IL31		74.87	16	P	P	00 35 09.3	-0.4
ILAR	Eielson Array	74.87	16	P	P	00 35 09.4	-0.4
ILAR	Eielson Array	74.87	16	P	P	00 35 09.8	+0.1
	comp=Z,3.7nm,0.9s,baz=318,slow=4.7,SNR=33						
	comp=Z,3.7nm,0.9s						
M17K	Holitna River	74.92	22	P	P	00 35 11.5	+1.4
	baz=322						
KTH	Kantishna Hill	74.96	18	P	P	00 35 10.1	-0.3
KTH				IAmb	IAmb	00 35 12.2	
	comp=Z,13nm,1.1s						
L19K	White Mountain	75.04	20	P	P	00 35 12.1	+1.3
	baz=324						
L20K	Farewell, AK	75.07	20	P	P	00 35 11.8	+0.8
	baz=324						
HDA	Harding Lake	75.17	16	P	P	00 35 11.8	+0.3
	baz=329						
I26K	Coal Creek Min	75.17	14	P	P	00 35 12.5	+1.0
	baz=332,SNR=5.3						
PPLA	Purkeypile	75.18	19	P	P	00 35 12.3	+0.5
	baz=326						
I27K	Kandik River	75.20	13	P	P	00 35 12.9	+1.1
	baz=334						
TRF	Thorofare Moun	75.20	18	P	P	00 35 12.0	+0.1
	baz=327						
H29M	Whitestone	75.21	12	P	P	00 35 12.9	+1.2
	baz=336						
MCK	McKinley	75.29	17	P	P	00 35 12.8	+0.5
	baz=328						
M18K	Stony River	75.32	21	P	P	00 35 13.7	+1.2
	baz=323						
J25K	Salcha River,	75.33	15	P	P	00 35 13.0	+0.4
	baz=331						
EPYK	Eagle Plains	75.34	11	P	P	00 35 12.9	+0.4
	baz=337						
M19K	Big River Lodg	75.40	20	P	P	00 35 13.6	+0.7
	baz=324						
I28M	Miner Creek	75.65	13	P	P	00 35 14.9	+0.5
I28M				IAmb	IAmb	00 35 15.7	
	comp=Z,6.5nm,0.7s						
I28M	Miner Creek	75.65	13	P	P	00 35 15.2	+0.8
	baz=335						
M20K	Styx River	75.76	20	P	P	00 35 14.7	-0.4
M20K	Styx River	75.76	20	P	P	00 35 15.7	+0.6
	baz=325						
J26L	Joseph Creek	75.81	15	P	P	00 35 16.0	+0.6
J26L				IAmb	IAmb	00 35 16.7	
	comp=Z,7.2nm,0.8s						
J26L	Joseph Creek	75.81	15	P	P	00 35 15.9	+0.6
	baz=332						
N18K	Kilae Creek	75.95	22	P	P	00 35 16.3	+0.3
K24K	Donnelly Dome	75.95	16	P	P	00 35 16.4	+0.4
	baz=330,SNR=8.3						
I29M	Ogilvie Camp,	76.01	12	P	P	00 35 16.5	+0.2
I29M				IAmb	IAmb	00 35 17.5	
	comp=Z,5.5nm,0.7s						
I29M	Ogilvie Camp,	76.01	12	P	P	00 35 16.9	+0.6
	baz=336,SNR=6.5						
CUT	Chulitna	76.09	18	P	P	00 35 16.6	-0.1
CUT				IAmb	IAmb	00 35 17.2	
	comp=Z,7.9nm,0.6s						
CUT	Chulitna	76.09	18	P	P	00 35 17.0	+0.2
	baz=327						
SKT	Skwentna	76.11	19	P	P	00 35 17.0	0.0
SKT				IAmb	IAmb	00 35 18.2	
	comp=Z,9.2nm,1.0s						
SKT	Skwentna	76.11	19	P	P	00 35 17.3	+0.4
	baz=326,SNR=5.5						
SCRK	Sand Creek	76.18	15	P	P	00 35 17.2	-0.2
SCRK				IAmb	IAmb	00 35 19.0	
	comp=Z,5.0nm,0.6s						
SCRK	Sand Creek	76.18	15	P	P	00 35 18.2	+0.7
	baz=332,SNR=6.5						
RIDG	Independent Ri	76.21	15	P	P	00 35 16.5	-1.0
RIDG	Independent Ri	76.21	15	P	P	00 35 17.8	+0.2
	baz=331						
H31M	Peel River	76.22	10	P	P	00 35 18.2	+0.7
H31M				IAmb	IAmb	00 35 18.5	
	comp=Z,6.8nm,0.7s						
H31M	Peel River	76.22	10	P	P	00 35 18.1	+0.6
	baz=339						
N19K	Bonanza Creek	76.25	21	P	P	00 35 18.8	+0.9
I30M	Mount Dempster	76.45	11	P	P	00 35 19.1	+0.1
I30M				IAmb	IAmb	00 35 20.4	
	comp=Z,5.8nm,0.7s						
I30M	Mount Dempster	76.45	11	P	P	00 35 19.9	+0.9
	baz=338,SNR=9.3						
DOT	Dot Lake	76.46	15	P	P	00 35 19.0	+0.1
PAX	Paxson	76.75	16	P	P	00 35 20.5	-0.1
PAX				IAmb	IAmb	00 35 21.7	
	comp=Z,6.7nm,0.6s						
PAX	Paxson	76.75	16	P	P	00 35 21.3	+0.7
	baz=331,SNR=6.9						
PAX	Paxson	76.75	16	P	P	00 35 20.5	-0.1
PAX				pmax	pmax		
	comp=Z,7.0nm,0.6s						
O18K	Koktuh Hills	76.82	22	P	P	00 35 21.9	+1.0
O18K				IAmb	IAmb	00 35 23.1	
	comp=Z,12nm,0.8s						
O18K	Koktuh Hills	76.82	22	P	P	00 35 21.9	+1.0
	baz=324						
GHO	Glory Hole Cre	76.96	18	P	P	00 35 21.9	+0.1
GHO				IAmb	IAmb	00 35 23.0	
	comp=Z,11nm,1.1s						
P17K	Kvichak River	76.97	23	P	P	00 35 23.3	+1.6
	baz=323						
DAWY	Dawson	77.00	13	P	P	00 35 22.5	+0.5
DAWY	Dawson	77.00	13	P	P	00 35 22.9	+1.0
	baz=336,SNR=5.9						
PMR	Palmer	77.06	18	P	P	00 35 22.7	+0.4
	baz=328						
J30M	Hart River	77.06	12	P	P	00 35 22.9	+0.5
J30M	Hart River	77.06	12	P	P	00 35 23.4	+1.0
	baz=338,SNR=6.6						
SML	Sawmill	77.08	18	P	P	00 35 22.9	+0.5
SML	Sawmill	77.08	18	P	P	00 35 23.0	+0.5
	baz=329						
M23K	Glacier View	77.24	18	P	P	00 35 23.9	+0.6
	baz=329,SNR=6.0						
SCM	Sheep Creek Mo	77.30	17	P	P	00 35 24.3	+0.6
	baz=329						
HARP	HAARP	77.32	16	P	P	00 35 25.3	+1.5
	baz=331,SNR=6.9						
RC01	Rabbit Creek A	77.33	19	P	P	00 35 23.8	0.0
	baz=328						
M24K	Tolsona, Glenn	77.34	17	P	P	00 35 23.9	0.0
M24K	Tolsona, Glenn	77.34	17	P	P	00 35 25.0	+1.1
	baz=330						
KNK	Knik Glacier	77.39	18	P	P	00 35 23.7	-0.4
KNK				IAmb	IAmb	00 35 25.6	
	comp=Z,11nm,1.0s						
KNK	Knik Glacier	77.39	18	P	P	00 35 24.8	+0.7
	baz=329						
L27K	Beaver Creek,	77.44	15	P	P	00 35 25.5	+1.1
	baz=334						
BCAR	Beaver Creek A	77.45	15	P	P	00 35 25.3	+0.9
K29M	Barlow Dome	77.54	12	P	P	00 35 26.1	+1.1
K29M	Barlow Dome	77.54	12	P	P	00 35 26.2	+1.1
	baz=337						
P19K	Oil Pt	77.57	21	P	P	00 35 24.7	-0.5
BOSA	Boshof	77.61	220	P	P	00 35 24.8	-1.1
BOSA	Boshof	77.61	220	P	P	00 35 26.2	+0.4
	comp=Z,9.4nm,0.8s,baz=26,slow=4.1,SNR=15						
	comp=Z,9.4nm,0.8s						
M26K	Nabesna, AK	77.79	15	P	P	00 35 27.2	+0.8
	baz=333						
PWL	Port Wells	77.89	18	P	P	00 35 27.4	+0.5
	baz=329						
KLU	Klutina	77.94	17	P	P	00 35 26.8	-0.4
KLU				IAmb	IAmb	00 35 29.5	
	comp=Z,12nm,1.2s						
KLU	Klutina	77.94	17	P	P	00 35 28.1	+0.8
	baz=331						
Q19K	Cape Douglas,	78.04	22	P	P	00 35 28.6	+0.8
	baz=325						
M27K	Edge Creek, AK	78.07	15	P	P	00 35 29.3	+1.3
	baz=334						
L29M	L29M	78.11	13	P	P	00 35 28.3	+0.2
L29M				IAmb	IAmb	00 35 30.8	
	comp=Z,7.3nm,1.0s						
L29M	L29M	78.11	13	P	P	00 35 29.6	+1.5
	baz=337						
N25K	Chitina, Valde	78.14	16	P	P	00 35 29.3	+0.9
	baz=332						
GLI	Glacier Island	78.18	18	P	P	00 35 29.0	+0.5
	baz=330						
M29M	Somme Creek	78.66	13	P	P	00 35 31.7	+0.5
M29M	Somme Creek	78.66	13	P	P	00 35 32.7	+1.4
	baz=336						
SYI	Shuyak Island	78.67	21		P	00 35 29.0	-2.2
BMRM	Bremner River	78.70	17	P	P	00 35 31.9	+0.5
BMRM				IAmb	IAmb	00 35 33.8	
	comp=Z,7.8nm,1.0s						
BMRM	Bremner River	78.70	17	P	P	00 35 32.3	+0.8
	baz=332						
VRDI	Verde Repeater	78.74	16	P	P	00 35 32.2	+0.5
HIN	Hinchinbrook I	78.75	18	P	P	00 35 32.6	+0.9
EYAK	Cordova Ski Ar	78.80	17	P	P	00 35 32.8	+1.0
	baz=331						
M30M	Minto, Yukon	78.84	13	P	P	00 35 32.5	+0.3
M30M	Minto, Yukon	78.84	13	P	P	00 35 33.2	+1.0
	baz=338						
RAGM	Ragged Mountai	79.20	17	P	P	00 35 35.0	+0.9
RAGM				IAmb	IAmb	00 35 44.4	
	comp=Z,13nm,1.1s						
KDAK	Kodiak Island	79.30	22	P	P	00 35 35.1	+0.5
KDAK				IAmb	IAmb	00 35 40.2	
	comp=Z,11nm,1.1s						
KDAK	Kodiak Island	79.30	22	P	P	00 35 35.1	+0.5
KDAK				pmax	pmax		
	comp=Z,11nm,1.1s						
HMT	Hamilton	79.34	17	P	P	00 35 34.7	-0.2
HMT				IAmb	IAmb	00 35 39.4	
	comp=Z,14nm,1.2s						
BERG	Berg Lake	79.42	17	P	P	00 35 36.7	+1.4
YUK8	Steele Glacier	79.47	14	P	P	00 35 36.9	+1.0
	baz=336						
OHAK	Old Harbor	79.55	23	P	P	00 35 36.5	+0.6
OHAK				IAmb	IAmb	00 35 38.5	
	comp=Z,11nm,0.9s						
OHAK	Old Harbor	79.55	23	P	P	00 35 37.4	+1.5
	baz=325						
M31M	Drury Creek, Y	79.60	12	P	P	00 35 36.5	+0.2
M31M	Drury Creek, Y	79.60	12	P	P	00 35 37.4	+1.1
	baz=340,SNR=5.2						
YUK4	Talbot Arm	79.64	14	P	P	00 35 37.4	+0.7
	baz=336						
KAIM	Kayak Island	79.67	17	P	P	00 35 36.6	0.0
	baz=332						
MMPY	Sheldon Lake,	79.68	10	P	P	00 35 37.6	+0.9
MMPY	Sheldon Lake,	79.68	10	P	P	00 35 37.6	+0.9
	baz=342						
FARO	Faro, Yukon	79.74	11	P	P	00 35 38.1	+1.1
FARO	Faro, Yukon	79.74	11	P	P	00 35 38.2	+1.1
	baz=340						
N30M	Aishikik Lake	79.83	13	P	P	00 35 38.5	+1.0
	baz=338						
O28M	Mount Upton	79.85	15	P	P	00 35 38.6	+0.6
	baz=335						
WRGLY	Wrigley	80.00	7	P	P	00 35 38.4	+0.1
WRGLY				IAmb	IAmb	00 35 41.2	
	comp=Z,10.0nm,0.8s						
WRGLY	Wrigley	80.00	7	P	P	00 35 40.1	+1.8
	baz=348,SNR=6.7						
N31M	Braeburn, Yuko	80.04	13	P	P	00 35 39.0	+0.3
N31M				IAmb	IAmb	00 35 40.8	
	comp=Z,9.5nm,1.1s						
N31M	Braeburn, Yuko	80.04	13	P	P	00 35 40.0	+1.4
	baz=339						
YUK6	Outpost Mounta	80.06	14	P	P	00 35 40.1	+1.1
	baz=337						
HYT	Haines Junctio	80.33	14	P	P	00 35 40.7	+0.3
HYT	Haines Junctio	80.33	14	P	P	00 35 41.9	+1.6
	baz=337,SNR=6.9						
O30N	Mendenhall	80.65	13	P	P	00 35 41.9	0.0
O30N	Mendenhall	80.65	13	P	P	00 35 43.0	+1.1
	baz=338						
N32M	Quiet Lake	80.81	11	P	P	00 35 43.5	+0.8
	baz=341						
WHY	Whitehorse	80.97	12	P	P	00 35 44.4	+0.7
	baz=339						
TGTN	Hyland Airport	81.14	9	P	P	00 35 46.0	+1.5
	baz=345						
YKA	Yellowknife Ar	81.30	3	P	P	00 35 45.9	+0.7
	comp=Z,3.2nm,0.6s,baz=347,slow=5.3,SNR=64						
	comp=Z,3.2nm,0.6s						
YKA	Yellowknife Ar	81.30	3	*ce* P	P	00 35 45.9	+0.7
YKA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
P33M	Teslin, Yukon	81.74	12	P	P	00 35 47.0	-0.7
P33M				IAmb	IAmb	00 35 49.5	
	comp=Z,10nm,0.8s						
P33M	Teslin, Yukon	81.74	12	P	P	00 35 48.5	+0.8
	baz=341,SNR=11						
SKAG	Skagway	82.01	13	P	P	00 35 50.4	+1.4
	baz=339						
WB0	Warramunga Arr	82.01	122	P	P	00 35 48.3	-1.3
WB0				IAmb	IAmb	00 35 49.4	
	comp=Z,5.9nm,0.9s						
SCHQ	Schefferville	82.08	337	P	P	00 35 50.1	+0.6
	comp=Z,2.9nm,0.7s,baz=20,slow=7.4,SNR=5.0						
	comp=Z,2.9nm,0.7s						
WRA	Warramunga Arr	82.09	122	P	P	00 35 49.1	-0.9
WRA	Warramunga Arr	82.09	122	P	P	00 35 49.1	-0.9
	comp=Z,3.9nm,0.5s,baz=324,slow=5.0,SNR=74						
	comp=Z,3.9nm,0.5s						
WRAB	Tennant Creek	82.10	122	P	P	00 35 48.4	-1.7
WRAB				IAmb	IAmb	00 35 50.0	
	comp=Z,12nm,1.1s						
WRAB	Tennant Creek	82.10	122	*i* P	P	00 35 48.3	-1.7
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s						
WB2	Warramunga Arr	82.10	122	P	P	00 35 48.9	-1.2
WB2				IAmb	IAmb	00 35 49.9	
	comp=Z,12nm,1.0s						
P32M	Atlin	82.18	12	P	P	00 35 50.5	+0.5
	baz=340						
WR0	Warramunga Arr	82.25	122	P	P	00

Q32M	Nakina River	83.02	12	P	P	00 35 55.6	+1.1
	baz=342						
DLBC	Dease Lake	83.87	11	P	P	00 36 00.1	+1.4
	baz=343						
S32K	Killisnoo	84.02	13	P	P	00 36 00.9	+1.5
	baz=340						
TOAD	Toad River Com	84.11	8	P	P	00 36 01.2	+1.3
	baz=347						
S34M	Telegraph Cree	84.20	12	P	P	00 35 60.0	-0.3
S34M				IAmb	IAmb	00 36 03.1	
	comp=Z,11nm,0.9s						
S34M	Telegraph Cree	84.20	12	P	P	00 36 02.5	+2.2
	baz=342,SNR=5.6						
FCC	Fort Churchill	84.31	352	P	P	00 36 00.8	0.0
FCC				IAmb	IAmb	00 36 02.3	
	comp=Z,7.7nm,1.0s						
FCC	Fort Churchill	84.31	352	P	P	00 36 00.8	0.0
FCC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AS31	Alice Springs	84.35	125	P	P	00 36 01.0	-0.6
ASAR	Alice Springs	84.35	125	P	P	00 36 00.9	-0.6
	comp=Z,4.9nm,0.7s,baz=310,slow=4.7,SNR=38						
	comp=Z,4.9nm,0.7s						
ASAR	Alice Springs	84.35	125	P	P	00 36 01.0	-0.6
COEN	Coen	84.53	112	P	P	00 36 01.5	-1.1
COEN				IAmb	IAmb	00 36 03.2	
	comp=Z,9.0nm,1.1s						
T35M	Bob Quinn	85.23	11	P	P	00 36 07.7	+2.2
	baz=343						
FORT	Forrest	85.75	133	P	P	00 36 08.1	-0.2
CRAG	Craig	86.18	13	P	P	00 36 11.9	+1.8
	baz=341						
BATG	Bathurst New B	88.13	332	P	P	00 36 19.5	-0.2
BATG				IAmb	IAmb	00 36 35.7	
	comp=Z,7.8nm,1.1s						
FFC	Flin Flon	88.98	356	P	P	00 36 22.8	-0.8
FFC				IAmb	IAmb	00 36 25.0	
	comp=Z,4.0nm,0.8s						
FFC	Flin Flon	88.98	356	P	P	00 36 22.8	-0.8
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULM	Lac du Bonnet	92.87	351	P	P	00 36 41.0	-0.7
	comp=Z,1.7nm,0.7s,baz=1.4,slow=2.7,SNR=5.0						
	comp=Z,1.7nm,0.7s						
QSPA	South Pole Qui	126.25	180	PKP	PKPdf	00 42 29.1	-0.8
	comp=Z,1.6nm,0.7s,baz=178,slow=7.4,SNR=12						
CPUP	Villa Florida	135.06	268	PKP	PKPdf	00 42 47.0	-0.7
	comp=Z,1.2nm,0.6s,baz=170,slow=3.5,SNR=3.8						
CPUP	Villa Florida	135.06	268	PKIKP	PKPdf	00 42 47.0	-0.7
PLCA	Paso Flores	149.66	250	PKPbc	PKPbc	00 43 17.8	-0.2
	comp=Z,3.0nm,0.9s,baz=146,slow=5.0,SNR=5.5						

IDC 26 00:53:29.7±4.3, 48°.10N×151°.98E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=148.0km s-min=36.4km az=6.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.65	296	P	P	01 01 51.4	-0.3
	0.3nm,0.8s,baz=67,slow=9.3,SNR=3.6						
	0.3nm,0.8s						
KURBB	Kurchatov Arra	46.08	302	P	P	01 01 55.0	0.0
	0.4nm,0.8s,baz=71,slow=9.0,SNR=3.5						
	0.4nm,0.8s						
NOA	NORSAR Array B	66.70	340	P	P	01 04 22.1	+0.1
	0.2nm,0.5s,baz=16,slow=8.2,SNR=2.2						
	0.2nm,0.5s						
AKASG	Malin Array Be	70.00	325	P	P	01 04 42.6	-0.1
	0.7nm,0.5s,baz=37,slow=5.9,SNR=4.1						
	0.7nm,0.5s						
TXAR	Lajitas Array	77.49	60	P	P	01 05 27.2	0.0
	0.3nm,0.8s,baz=323,slow=6.1,SNR=4.3						
	0.3nm,0.8s						

IDC 26 01:35:59.3±7.1, 31°.88S×179°.49W, h87km±57km, mb3.8/3, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=49.9km s-min=27.5km az=49.0
NEIC 26 01:36:01.2±1.0, 32°.0S±0°.1×179°.5W±0°.2, h98km±8km, mb4.6/13, Error ellipse: s-maj=23.5km s-min=16.2km az=108.0
ISC 26 01:36:01.1±0.8, 31°.93S±0°.09×179°.6W±0°.2, h100km, n26, σ0§92/27, mb4.5/9, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.87	202	P	Pn	01 37 39.6	+0.5
	0.6nm,0.3s,baz=5.3,slow=3.9,SNR=12						
URZ				S	Sn	01 38 54.4	-1.3
	6.2nm,0.3s,baz=299,slow=18,SNR=9.4						
	4.5nm,0.6s						
RTZ	Ruatahuna	7.23	202	Pn	Pn	01 37 44.2	+0.1
BKZ	Black Stump Fm	7.89	203	Pn	Pn	01 37 53.0	-0.1
MRZ	Mangatainoka R	9.54	203	Pn	Pn	01 38 15.3	-0.2
MSWZ	Moikau Station	10.33	202	Pn	Pn	01 38 25.7	-0.5
THZ	Tophouse	11.50	209	Pn	Pn	01 38 42.0	-0.1
EIDS	Eidsvold	26.50	277	P	P	01 41 30.0	+0.7
EIDS				IAmb	IAmb	01 42 02.3	
	comp=Z,22nm,1.4s						
COEN	Coen	38.43	289	P	P	01 43 11.4	-1.8
COEN				IAmb	IAmb	01 43 25.4	
	comp=Z,18nm,1.3s						
ASAR	Alice Springs	41.69	269	P	P	01 43 40.2	0.0
	comp=Z,1.2nm,0.6s,baz=119,slow=8.1,SNR=11						
	comp=Z,1.2nm,0.6s						
WB2	Warramunga Arr	42.81	275	P	P	01 43 49.9	+0.6
WB2				IAmb	IAmb	01 43 55.6	
	comp=Z,9.7nm,1.3s						
WRAB	Tennant Creek	42.82	275	P	P	01 43 50.0	+0.7
WRAB				IAmb	IAmb	01 44 09.9	
	comp=Z,9.7nm,1.5s						
WRA	Warramunga Arr	42.82	275	P	P	01 43 50.0	+0.6
WRA	Warramunga Arr	42.82	275	P	P	01 43 50.0	+0.6
	comp=Z,1.8nm,0.5s,baz=117,slow=8.3,SNR=19						
	comp=Z,1.8nm,0.5s						
WB0	Warramunga Arr	42.85	275	P	P	01 43 50.4	+0.7
FITZ	Fitzroy Crossi	51.02	272	P	P	01 44 53.7	+0.5
CASY	Casey	53.15	208	P	P	01 45 09.4	+1.1
CASY				IAmb	IAmb	01 45 38.1	
	comp=Z,33nm,1.5s						
HUH	Hualalai	56.15	27	P	P	01 45 29.1	-1.6
QSPA	South Pole Qui	58.18	180	P	P	01 45 44.4	0.0
QSPA				IAmb	IAmb	01 45 46.4	
	comp=Z,11nm,1.5s						
QSPA	South Pole Qui	58.18	180	P	P	01 45 45.0	+0.5
	comp=Z,1.3nm,0.4s,baz=27,slow=2.3,SNR=10						
	comp=Z,1.3nm,0.4s						
SYO	Syowa Base	75.31	194⇑	eP	P	01 47 33.4	+0.5
SNAA	Sanae	76.66	179	P	P	01 47 40.3	-0.3
SNAA				IAmb	IAmb	01 47 53.2	
	comp=Z,8.7nm,1.4s						
USRK	Ussuriysk Ar.	87.70	327	P	P	01 48 39.2	+0.9
M16K	Timber Creek	94.14	10	P	P	01 49 08.7	+0.8
GLI	Glacier Island	96.22	15	P	P	01 49 19.0	+1.6
FINES	FINESS Array B	146.08	338	PKPbc	PKPdf	01 55 26.5	-1.2
	comp=Z,1.3nm,0.6s,baz=49,slow=4.2,SNR=12						
HFS	Hagfors	150.44	347	PKPbc	PKPbc	01 55 39.2	-1.1
	comp=Z,1.0nm,0.5s,baz=29,slow=3.3,SNR=5.3						

TEH 26 01:44:49.5, 33°.00N×47°.43E, h10km±93km
ISN 26 01:44:49.7±0.7, 32°.96N×47°.37E, h10km±999km, ML2.8
ISC 26 01:44:50.7±1.2, 33°.05N±0°.06×47°.47E±0°.05, h15km, n11, σ0§66/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	Doab	0.94	39	Pg	Pb	01 45 09.2	+0.3
IDOB				Sg	Sn	01 45 23.5	+0.5
KCHF	Cheshme Sefid,	1.27	344	Pg	Pg	01 45 15.1	-0.1
IBDR	Badra	1.29	273	ePn	Pb	01 45 15.0	+0.2
IBDR				eSn	Sg	01 45 32.5	-0.1
IBDR				AML	AML	01 45 36.1	
	comp=E,125nm,0.4s						
IBDR				AML	AML	01 45 37.2	
	comp=N,126nm,0.6s						
IGHG	Ghaleghazi	1.48	330	Pg	Pb	01 45 18.4	+0.4
BDRS	Dareh Seyedi	1.48	52	Pg	Pb	01 45 18.5	+0.4
HSAM	Samen	1.49	39	Pg	Pb	01 45 19.0	+0.7
GLG1	Gilan-e-Gharb	1.68	309	Pg	Pn	01 45 19.7	0.0
RAFI	Al-Rafai	1.75	221	ePn	Pn	01 45 20.0	-0.6
RAFI				eSn	Sn	01 45 43.0	+0.3
RAFI				AML	AML	01 46 06.0	
	comp=E,150nm,0.2s						
RAFI				AML	AML	01 46 08.6	
	comp=N,260nm,0.5s						
IDHR	Dehrash	1.87	332	Pn	Pb	01 45 23.8	-1.0
HAGD	Aghdareh	2.24	38	Pn	Pb	01 45 29.7	-1.5
BHD	Baghdad	2.60	276	ePn	Pn	01 45 32.6	+0.4
BHD				eSn	Sn	01 46 04.0	+0.4
BHD				AML	AML	01 46 31.4	
	comp=E,125nm,0.3s						

SJA 26 01:45:21.5±0.8, 31°.38S×72°.05W, h10km, ML2.6, MW2.8
ISC 26 01:45:23.7±2.6, 31°.30S±0°.06×72°.1W±0°.1, h14km, n12, σ1§52/19, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.73	32	eP	Pg	01 45 36.8	-1.1
CO06				i S	Sb	01 45 47.0	-1.0
CO06				IAML		01 45 48.4	
	comp=E,182nm,0.2s						
CO03	El Pedregal	1.28	69	⇓iP	Pg	01 45 48.0	-0.3
GO04	Tololo Observa	1.57	45	eP	Pn	01 45 44.2	-7.2
GO04				eS	Sn	01 45 59.1	-13
RTLS	Leoncito	2.43	103	i P	Pn	01 46 03.9	+0.7
RTLS				i S	Sb	01 46 35.6	-1.6
RTLS				IAML		01 46 58.3	
	comp=Z,36nm,3.5s						
AUSP	Uspallata	2.47	113	i P	Pn	01 46 04.1	+0.3
AROD	Rodeo	2.51	64	i P	Pn	01 46 03.6	-0.8
AROD				i S	Sb	01 46 37.0	-2.6
ACCO	Cerro Coronel	2.68	75	i P	Pn	01 46 08.5	+1.8
ACCO				i S	Sb	01 46 42.6	-2.0
ASAL	Salagasta	3.04	116	i P	Pn	01 46 12.2	+0.7
ARCO	CERRO ARCO	3.08	121	i P	Pn	01 46 12.0	-0.1
ARCO				i S	Sn	01 46 49.3	+0.4
ARCO				IAML		01 46 55.3	
	comp=Z,11nm,0.3s						
AAGR	Agrelo	3.28	124	i P	Pn	01 46 15.0	+0.2
AAGR				i S	Sn	01 46 54.8	+1.1
AGUA	GUANDACOL	3.58	61	i P	Pn	01 46 20.3	+1.4
AGUA				i S	Sn	01 47 03.6	+2.4
AGUA				IAML		01 47 17.6	
	comp=Z,20nm,0.5s						
AVFE	Valle Fertil	4.02	82	i P	Pn	01 46 26.1	+1.2
AVFE				i S	Sn	01 47 14.3	+2.4
AVFE				IAML		01 47 15.6	
	comp=Z,8.3nm,0.2s						

IDC 26 01:49:04.2±1.5, 15°.98S×174°.23W, h0km, mb4.1/5, mbtmp4.1/5, MS3.1/1, Error ellipse: s-maj=52.0km s-min=32.1km az=135.0
NEIC 26 01:49:18.7±0.9, 16°.17S±0°.10×174°.4W±0°.1, h100km±3km, mb4.6/23, Error ellipse: s-maj=19.4km s-min=14.2km az=99.0
ISC 26 01:49:18.2±0.7, 16°.2S±0°.1×174°.4W±0°.1, h100km, n33, σ0§74/34, mb4.5/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.41	49		Pn	01 50 08.9	-0.7
NIUE	Niue	5.17	125	Pn	Pn	01 50 33.3	0.0
MSVF	Nonsavu	7.37	257	LR	LR	01 53 09.5	
	comp=Z,123nm,19.7s,baz=177,slow=32						
BKZ	Black Stump Fm	24.25	197	P	P	01 54 25.9	-0.1
BKZ				IAmb	IAmb	01 54 28.8	
	comp=Z,16nm,1.2s						
QRZ	Quartz Range	27.04	202	P	P	01 54 51.2	+0.1
EIDS	Eidsvold	33.44	248	P	P	01 55 48.1	+0.3
EIDS				IAmb	IAmb	01 55 51.7	
	comp=Z,20nm,1.2s						
STKA	Stephens Creek	42.80	240	P	P	01 57 06.5	+0.3
STKA	Stephens Creek	42.80	240	P	P	01 57 05.5	-0.8
	comp=Z,4.8nm,0.8s,baz=98,slow=9.0,SNR=5.3						
	comp=Z,4.8nm,0.8s						
WB0	Warramunga Arr	48.67	258	P	P	01 57 53.0	+0.3
WB0				IAmb	IAmb	01 58 01.3	
	comp=Z,6.1nm,1.2s						
WB0				PcP	PcP	01 59 16.4	-0.3
WB2	Warramunga Arr	48.70	257	P	P	01 57 52.5	-0.4
WB2				IAmb	IAmb	01 58 22.6	
	comp=Z,9.6nm,1.4s						
WRA	Warramunga Arr	48.71	257	P	P	01 57 52.9	-0.1
WRA				PcP	PcP	01 59 16.3	-0.5
WRA	Warramunga Arr	48.71	257	P	P	01 57 52.6	-0.4
	comp=Z,0.8nm,0.5s,baz=91,slow=7.1,SNR=12						
	comp=Z,0.8nm,0.5s						
AS31	Alice Springs	48.93	253	P	P	01 57 54.6	-0.1
ASAR	Alice Springs	48.94	253	P	P	01 57 54.7	0.0
ASAR	Alice Springs	48.94	253	P	P	01 57 54.5	-0.2
	comp=Z,3.7nm,0.6s,baz=88,slow=7.9,SNR=38						
	comp=Z,3.7nm,0.6s						
KNRA	Kununurra	54.48	262	P	P	01 58 35.8	-0.2
KNRA				IAmb	IAmb	01 58 36.7	
	comp=Z,8.9nm,1.0s						
FITZ	Fitzroy Crossi	57.09	259	P	P	01 58 55.0	+0.4
PSA00	Pilbara Seismi	62.04	254	P	P	01 59 28.8	+0.2
PSA00				IAmb	IAmb	01 59 29.6	
	comp=Z,10nm,1.1s						
QSPA	South Pole Qui	73.87	180	P	P	02 00 41.6	-0.4
QSPA	South Pole Qui	73.87	180	P	P	02 00 42.0	-0.1
	comp=Z,0.9nm,0.8s,baz=45,slow=1.4,SNR=2.3						
	comp=Z,0.9nm,0.8s						
M14K	Bethel	77.31	6	P	P	02 01 03.2	+1.9
L14K	Kuka Creek	77.82	6	P	P	02 01 05.0	+0.8
K15K	Wolf Creek Mou	78.87	6	P	P	02 01 10.1	+0.1
K15K				IAmb	IAmb	02 01 50.7	
	comp=Z,20nm,1.4s						
L18K	Granite Mounta	79.38	8	P	P	02 01 13.4	+0.6
L18K				IAmb	IAmb	02 01 37.9	
	comp=Z,12nm,1.4s						
E07A	Sunnyside	79.40	35	P	P	02 01 14.3	+1.0
J16K	Anvik River	79.93	6	P	P	02 01 15.8	+0.1
SKT	Skwentna	79.98	11	P	P	02 01 17.9	+1.9
SKT				IAmb	IAmb	02 01 36.9	
	comp=Z,7.8nm,1.4s						
J17K	VABM Dome	80.21	7	P	P	02 01 17.2	-0.1
J17K				IAmb	IAmb	02 01 50.2	
	comp=Z,17nm,1.5s						
N25K	Chitina, Valde	81.06	14	P	P	02 01 21.4	-0.5
N25K				IAmb	IAmb	02 01 55.6	
	comp=Z,10nm,1.4s						
J20K	Nowinta River	81.61	9	P	P	02 01 24.4	-0.3
J20K				IAmb	IAmb	02 01 57.6	
	comp=Z,7.8nm,1.4s						
H17K	Granite Mounta	81.62	6	P	P	02 01 25.5	+0.8
H17K				IAmb	IAmb	02 01 44.2	
	comp=Z,12nm,1.4s						
ILAR	Eielson Array	83.39	12	P	P	02 01 31.9	-2.0
	comp=Z,0.6nm,0.9s,baz=202,slow=5.2,SNR=4.9						
	comp=Z,0.6nm,0.9s						
BRTR	Keskin Array B	146.12	319	PKPbc	PKPdf	02 08 45.8	-0.4
	comp=Z,1.8nm,0.9s,baz=62,slow=3.4,SNR=7.4						

NSSP 26 02:04:20.8, 38°.37N×44°.30E, h10km, Ms3.6
AZER 26 02:04:20.5, 38°.56N×44°.02E, h2km, ml3.6
ISK 26 02:04:22.9, 38°.56N×44°.34E, h5km, ML3.3/16
TIF 26 02:04:24.1, 38°.53N×44°.25E, h18km±1km
TEH 26 02:04:24.3, 38°.57N×44°.34E, h10km±119km
AFAD 26 02:04:24.4, 38°.51N×44°.23E, h16km±2km, MW3.7
ISC 26 02:04:24.8±1.0, 38°.50N±0°.02×44°.27E±0°.02, h13km±9km, n82, σ1§85/133, 1C-3D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.27	306	P	Pg	02 04 29.5	-1.0
OZAP				S	Sb	02 04 34.7	-1.6
OZAP				i AML	AML	02 04 35.0	
	comp=E,9μm,0.4s						
OZAP				i AML	AML	02 04 38.0	
	comp=N,6μm,0.5s						
TVAN	Van	0.68	272	P	Pb	02 04 37.5	-1.2
TVAN				i AML	AML	02 05 01.0	
	comp=N,2μm,0.9s						
TVAN				i AML	AML	02 05 01.0	
	comp=E,2μm,0.7s						
VANB	Van	0.70	278	Pg	Pg	02 04 37.3	-1.1
VANB				Sg	Sn	02 04 49.8	-1.4
VMUR	Van-Muradiye	0.73	312	P	Pg	02 04 38.0	-1.0
VMUR				S	Sb	02 04 48.8	-0.7
VMUR				i AML	AML	02 04 51.0	
	comp=N,1μm,0.6s						
VMUR				i AML	AML	02 04 54.0	
	comp=E,928nm,0.5s						
ERCV	ERCIS-VAN	0.89	306	Pg	Pg	02 04 41.6	-0.5
ERCV				Sg	Sn	02 04 55.4	-0.8
YOVA	Hakkari_Yksek	0.92	179	P	Pn	02 04 43.0	-0.6
YOVA				S	Sn	02 04 59.1	+2.4
YOVA				i AML	AML	02 05 05.0	
	comp=E,388nm,0.7s						
YOVA				i AML	AML	02 05 10.0	
	comp=N,341nm,0.6s						
GEVA	Gevas	0.97	259	P	Pb	02 04 41.7	-1.9
GEVA				S	Sn	02 04 56.3	-1.8
GEVA				i AML	AML	02 04 58.0	
	comp=E,690nm,0.7s						
GEVA				i AML	AML	02 05 01.0	
	comp=N,674nm,0.4s						
HAKT	HAKKARI	1.04	205	P	Pn	02 04 44.7	-0.7
HAKT				S	Sn	02 05 01.6	+1.6
HAKT				i AML	AML	02 05 07.0	
	comp=E,435nm,0.8s						
HAKT				i AML	AML	02 05 10.0	
	comp=N,493nm,0.6s						
HAKT	HAKKARI	1.04	205	P	Pn	02 04 45.2	-0.2
HAKT				S	Sn	02 05 02.0	+2.0
ISHB	Shabestar	1.08	101	Pg	Pb	02 04 43.8	-1.8
ISHB				Sg	Sb	02 04 58.7	-1.0
IMRD	Marand	1.14	79	Pg	Pn	02 04 45.2	-1.4
NAX	Nakhchivan	1.17	55	P	Pn	02 04 46.3	-0.6
NAX				S	Sg	02 05 03.3	+0.8
ADCV	BITLIS_Adilcev	1.25	285	P	Pg	02 04 48.0	-0.8
ADCV				S	Sg	02 05 08.3	+3.2
ADCV				i AML	AML	02 05 10.0	
	comp=E,518nm,0.7s						
ADCV				i AML	AML	02 05 14.0	
	comp=N,396nm,0.6s						
HYR	Heyderabad	1.29	20	P	Pn	02 04 48.2	-0.5
HYR				S	Sg	02 05 10.4	+3.9
SBZ	Shahbuz	1.34	48	P	Pb	02 04 49.7	-0.2
SBZ				S	Sg	02 05 08.5	+0.5
CUKT	Cukurca	1.36	203	Pn	Pg	02 04 51.2	+0.3
CUKT				Sn	Sg	02 05 11.8	+3.2
IGDI	IGDIR	1.37	354	P	Pn	02 04 48.8	-1.0
IGDI				S	Sg	02 05 10.4	+1.4
IGDI				i AML	AML	02 05 11.0	
	comp=N,477nm,0.6s						
IGDI				i AML	AML	02 05 12.0	
	comp=E,571nm,0.6s						
IGDI	IGDIR	1.37	354	P	Pn	02 04 48.8	-1.0
IGDI				S	Sg	02 05 11.3	+2.4
ORD	Ordubad	1.41	72	P	Pg	02 04 51.7	-0.3
ORD				S	Sg	02 05 11.7	+1.4
AGRB	Hanur-Agry	1.46	317	Pn	Pb	02 04 51.3	-0.7
AGRB				Sn	Sg	02 05 12.3	+0.4
PERV	Siirt/Pervari-	1.47	248	P	Pg	02 04 52.8	-0.2
PERV				S	Sg	02 05 14.5	+2.3
PERV				i AML	AML	02 05 19.0	
	comp=N,1μm,0.6s						
PERV				i AML	AML	02 05 20.0	
	comp=E,1μm,0.7s						
TASB	TASBURUN-IGDIR	1.48	359	Pn	Pb	02 04 51.5	-0.7
MLAZ	Malazgirt-MUS	1.49	296	Pn	Pg	02 04 52.2	-1.2
VAYK	Vayk	1.49	37	i P	Pn	02 04 51.2	-0.2
VAYK				i S	Sn	02 05 10.5	-0.3
ITBZ	Tabriz	1.50	100	Pg	Pn	02 04 51.0	-0.6
NRKZ	NAREK	1.52	11	eP	Pn	02 04 51.1	-0.7
NRKZ				eS	Sg	02 05 14.2	+0.3
IAZR	Azarshahr	1.58	121	Pg	Pb	02 04 54.2	+0.1
VNNZ	Vanand	1.63	348	eP	Pb	02 04 54.8	-0.1
VNNZ				eS	Sg	02 05 20.4	+3.0
METS	Metsamor	1.65	355	eP	Pb	02 04 54.1	-1.1
METS				eS	Sg	02 05 19.1	+1.2
GNI	Garni	1.68	12	Pn	Pn	02 04 53.9	-0.2
GNI	Garni	1.68	12	⇓iP	Pb	02 04 54.3	-1.5
GNI				⇑iS	Sg	02 05 17.9	-1.1
BLIS	Bitlis-Merkez	1.69	268	P	Pb	02 04 55.3	-0.6
BLIS				S	Sg	02 05 19.5	+0.2
BLIS				i AML	AML	02 05 25.0	
	comp=N,191nm,0.6s						
BLIS				i AML	AML	02 05 30.0	
	comp=E,175nm,0.8s						
GURO	Guroymak-BITLI	1.76	272	Pn	Pb	02 04 55.9	-1.1
SIRT	Sirnak	1.76	236	Pn	Pb	02 04 56.7	-0.3
SIRT	Sirnak	1.76	236	Pn	Pg	02 04 57.6	-1.0
SIRN	Sırnak	1.78	236	P	Pg	02 04 58.2	-0.7
SIRN				S	Sg	02 05 22.9	+0.9
SIRN				i AML	AML	02 05 33.0	
	comp=N,410nm,0.8s						
SIRN				i AML	AML	02 05 33.0	
	comp=E,593nm,0.7s						
ARUZ	Aruch	1.78	356	eP	Pb	02 04 56.6	-0.8
ARUZ				eS	Sg	02 05 23.4	+1.3
KAPZ	Kaputan	1.84	10	eP	Pb	02 04 57.0	-1.5
KAPZ				eS	Sg	02 05 24.2	0.0
AMBZ	Amberd	1.88	360	eP	Pb	02 04 58.3	-0.9
AMBZ				eS	Sg	02 05 26.4	+1.1
GRS	Goris	1.89	58	⇓iP	Pn	02 04 53.0	-3.9
GRS				⇓iS	Sn	02 05 18.0	-2.7
EGVZ	Egvard	1.92	67	eP	Pb	02 04 58.7	-1.0
EGVZ				eS	Sg	02 05 25.6	-0.8
SRTM	Siirt_Merkez	1.92	255	P	Pg	02 05 00.2	-1.4
SRTM				S	Sg	02 05 27.5	+1.0
SRTM				i AML	AML	02 05 30.0	
	comp=N,565nm,0.8s						
SRTM				i AML	AML	02 05 32.0	
	comp=E,370nm,0.6s						
AYRK	Ayrk	1.99	36	eP	Pb	02 05 00.3	-0.8
AYRK				eS	Sg	02 05 28.1	-0.9
IHRS	Heris	2.19	94	Pn	Pb	02 05 03.6	-0.8
VRTB	Varto-Mus	2.29	287	Pn	Pb	02 05 03.9	-2.2
KARS	Kars	2.31	337	Pn	Pn	02 05 02.3	-0.4
KOPR	Koprukoy-ERZUR	2.39	309	Pn	Pb	02 05 04.8	-3.1
SVAN	Silvan-Diyarba	2.44	263	Pn	Pb	02 05 06.4	-2.2
GDB	GEDABAY	2.49	27	P	Pb	02 05 07.3	-2.3
GDB				S	Sg	02 05 46.3	+1.4
MIDY	Mardin/Midyat-	2.52	245	P	Pb	02 05 08.5	-1.5
MIDY				i AML	AML	02 05 54.0	
	comp=N,106nm,0.8s						
MIDY				i AML	AML	02 05 56.0	
	comp=E,103nm,0.6s						
SENK	Senkaya-Erzuru	2.53	325	Pn	Pn	02 05 06.3	+0.4
SRTK	Saratovka	2.56	1	eP	Pb	02 05 08.2	-2.5
SRTK				eS	Sg	02 05 44.1	-3.0
QRD	Qoradiz	2.56	67	P	Pb	02 05 08.7	-1.9
QRD				S	Sg	02 05 49.8	+2.6
KARO	Karliova-Bingo	2.64	289	Pn	Pb	02 05 08.6	-3.4
GANJ	Ganja	2.66	36	P	Pb	02 05 09.6	-2.8
GANJ				S	Sg	02 05 49.2	-1.1
QZX	Qazax, Azerbai	2.69	18	P	Pn	02 05 09.2	+1.4
QZX				S	Sg	02 05 49.7	-1.4
AGDM	Agdam	2.72	53	P	Pb	02 05 11.2	-2.2
AGDM				S

TKB	**Tkibuli**	**3.96**	**346**	P		**Pb**	**02 05 35.1**	**+0.5**
XNQ	**Khinaliq**	**4.00**	**47**	P		**Pn**	**02 05 28.7**	**+2.7**
XNQ				S		**Sb**	**02 06 28.2**	**+4.6**
GARIG	**Gari**	**4.14**	**352**	P		**Pb**	**02 05 38.3**	**+0.7**
MTEO	**Meteo**	**4.18**	**3**	P		**Pb**	**02 05 40.6**	**+2.2**

*NEIC **26** 02:04:56.8±1.5, 18°.9S±0°.2×173°.57W±0°.10, h10km±1km, mb4.6/37, Error ellipse: s-maj=29.9km s-min=15.1km az=171.0*
*IDC **26** 02:05:11.5±4.3, 18°.79S×174°.05W, h132km±39km, mb3.6/9, mbtmp4.0/10, MS3.4/4, Error ellipse: s-maj=35.0km s-min=20.1km az=139.0*

ISC 26 02:04:56.8±0.6, **18°.7S**±0°.1×**173°.60W**±0°.08, **h10**km, **n79,** σ1$**65**/69, **mb4.5**/28, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.50**	**96**	Pn	**Pn**	**02 05 50.4**	**-0.8**
NIUE				Sn	**Sn**	**02 06 28.9**	**-3.8**
MSVF	**Nonsavu**	**8.00**	**276**	P	Pn	02 06 59.3	+6.1
	11nm,0.7s,baz=117,slow=17,SNR=8.9						
MSVF				LR	LR	02 09 28.1	
	comp=Z,169nm,21.3s,baz=183,slow=34						
DZM	**Mont Dzumac**	**19.00**	**257**	*e*LR	LR	02 13 32.1	
	153nm,23.6s						
DZM	**Mont Dzumac**	**19.00**	**257**	LR	LR	02 15 27.5	
	comp=Z,287nm,18.2s,baz=203,slow=33						
HAZ	**Te Kaha**	**20.40**	**200**	P	Pn	02 09 37.5	+1.5
PKGZ	**Pakihiroa**	**20.41**	**199**	P	Pn	02 09 38.5	+2.4
WIAZ	**Waiheke Island**	**20.55**	**207**	P	Pn	02 09 38.6	+0.9
RUGZ	**Raukumara Rang**	**20.63**	**200**	P	Pn	02 09 39.3	+0.5
MKAZ	**Moumakai**	**20.80**	**206**	P	Pn	02 09 40.8	+0.2
MWZ	**Matawai**	**21.01**	**200**	P	**P**	**02 09 43.8**	**+3.2**
URZ	**Urewera**	**21.08**	**201**	P	**P**	**02 09 43.1**	**+1.9**
	11nm,0.4s,baz=70,slow=2.2,SNR=27						
	11nm,0.4s						
URZ	**Urewera**	**21.08**	**201**	P	**P**	**02 09 42.8**	**+1.6**
RAGZ	**Rawiri**	**21.20**	**200**	P	**P**	**02 09 45.3**	**+2.7**
TOZ	**Tahuroa Road**	**21.20**	**204**	P	**P**	**02 09 45.4**	**+2.9**
TOZ				IAmb	IAmb	02 09 46.6	
	comp=Z,24nm,0.8s						
TOZ	**Tahuroa Road**	**21.20**	**204**	P	**P**	**02 09 46.0**	**+3.5**
MTHZ	**Maungataniwha**	**21.71**	**201**	P	**P**	**02 09 49.6**	**+1.5**
BKZ	**Black Stump Fm**	**22.11**	**201**	P	**P**	**02 09 51.2**	**-1.2**
BKZ				IAmb	IAmb	02 10 04.9	
	comp=Z,31nm,1.5s						
BKZ	**Black Stump Fm**	**22.11**	**201**	P	**P**	**02 09 52.6**	**+0.2**
HIZ	**Hauiti**	**22.13**	**205**	P	**P**	**02 09 55.2**	**+2.6**
OTVZ	**Oturere**	**22.39**	**202**	P	**P**	**02 09 54.8**	**-0.7**
SNVZ	**South Ngauruho**	**22.42**	**202**	P	**P**	**02 09 56.9**	**+1.1**
KAHZ	**Kahuranaki**	**22.55**	**199**	P	**P**	**02 09 59.4**	**+2.3**
PPT2	**Papeete2**	**22.86**	**91**	*e*S	**S**	**02 14 09.8**	**-0.5**
	comp=Z,125nm,26.5s						
PPT2				*e*LR	LR	02 14 53.7	
	comp=Z,92nm,25.5s						
PPT2				*e*LR	LR	02 15 21.1	
	comp=Z,94nm,24.2s						
PPT	**Papeete**	**22.86**	**91**	LR	LR	02 16 25.3	
	comp=Z,43nm,20.1s,baz=212,slow=29						
TBI	**Tubuai**	**22.99**	**106**	*e*S	**S**	**02 14 15.2**	**+2.8**
	comp=Z,574nm,30.2s						
TBI				*e*LR	LR	02 14 40.8	
	comp=Z,490nm,43.0s						
BFZ	**Birch Farm**	**23.56**	**200**	P	**P**	**02 10 08.4**	**+1.0**
BFZ	**Birch Farm**	**23.56**	**200**	P	**P**	**02 10 09.3**	**+1.9**
MRZ	**Mangatainoka R**	**23.76**	**201**	P	**P**	**02 10 08.3**	**-1.1**
MRZ				IAmb	IAmb	02 10 36.8	
	comp=Z,16nm,1.1s						
MRZ	**Mangatainoka R**	**23.76**	**201**	P	**P**	**02 10 09.2**	**-0.1**
TARA	**Tarawa**	**23.95**	**325**	P	**P**	**02 10 09.5**	**-1.9**
MSWZ	**Moikau Station**	**24.54**	**200**	P	**P**	**02 10 14.8**	**-1.9**
QRZ	**Quartz Range**	**25.04**	**205**	P	**P**	**02 10 21.1**	**0.0**
QRZ	**Quartz Range**	**25.04**	**205**	P	**P**	**02 10 22.6**	**+1.5**
THZ	**Tophouse**	**25.69**	**204**	P	**P**	**02 10 27.0**	**0.0**
FOZ	**Fox Glacier**	**28.41**	**206**	P	**P**	**02 10 51.5**	**+0.1**
TAOE	**Nuku Hiva Isla**	**33.88**	**78**	*e*LR	LR	02 20 34.1	
	comp=Z,42nm,23.1s						
TOO	**Toolangi**	**40.28**	**234**	P	**P**	**02 12 33.5**	**-0.7**
WR0	**Warramunga Arr**	**48.79**	**260**	P	**P**	**02 13 40.6**	**-1.8**
WR0				IAmb	IAmb	02 13 43.6	
	comp=Z,6.9nm,1.3s						
WB0	**Warramunga Arr**	**48.95**	**260**	P	**P**	**02 13 40.9**	**-2.8**
WB0				IAmb	IAmb	02 13 51.6	
	comp=Z,8.5nm,1.4s						
WB2	**Warramunga Arr**	**48.97**	**260**	P	**P**	**02 13 41.6**	**-2.2**
WB2				IAmb	IAmb	02 13 52.6	
	comp=Z,8.2nm,1.3s						
WRAB	**Tennant Creek**	**48.97**	**260**	P	**P**	**02 13 40.8**	**-3.0**
WRAB				IAmb	IAmb	02 13 43.6	
	comp=Z,13nm,1.4s						
ASAR	**Alice Springs**	**48.97**	**255**	P	**P**	**02 13 41.5**	**-2.4**
	comp=Z,1.7nm,0.7s,baz=92,slow=8.2,SNR=11						
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**48.98**	**260**	P	**P**	**02 13 41.2**	**-2.7**
WRA	**Warramunga Arr**	**48.98**	**260**	P	**P**	**02 13 41.5**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=96,slow=7.6,SNR=36						
	comp=Z,0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**57.39**	**260**	P	**P**	**02 14 44.3**	**-1.6**
CNBA	**Chernabura Isl**	**74.22**	**8**	P	**P**	**02 16 34.1**	**+0.6**
YBH	**Yreka Blue Hor**	**76.36**	**37**	P	**P**	**02 16 47.9**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=71,slow=2.1,SNR=4.8						
	comp=Z,1.7nm,0.7s						
NVAR	**Mina Array Bea**	**76.92**	**42**	P	**P**	**02 16 51.4**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=217,slow=12,SNR=4.7						
	comp=Z,1.7nm,0.8s						
M17K	**Holitna River**	**80.89**	**8**	P	**P**	**02 17 12.4**	**+1.7**
TXAR	**Lajitas Array**	**82.62**	**56**	P	**P**	**02 17 22.4**	**+1.6**
	comp=Z,1.2nm,1.0s,baz=246,slow=5.6,SNR=5.4						
	comp=Z,1.2nm,1.0s						
VRDI	**Verde Repeater**	**83.27**	**14**	P	**P**	**02 17 23.6**	**+0.2**
VRDI				IAmb	IAmb	02 17 49.8	
	comp=Z,4.7nm,1.2s						
N25K	**Chitina, Valde**	**83.34**	**13**	P	**P**	**02 17 24.4**	**+0.7**
N25K				IAmb	IAmb	02 17 26.8	
	comp=Z,6.3nm,1.2s						
TRF	**Thorofare Moun**	**83.91**	**10**	P	**P**	**02 17 26.2**	**-0.4**
J20K	**Nowinta River**	**84.00**	**8**	P	**P**	**02 17 27.6**	**+0.7**
RND	**Reindeer**	**84.12**	**11**	P	**P**	**02 17 28.2**	**+0.6**
RND				IAmb	IAmb	02 17 57.8	
	comp=Z,7.8nm,1.4s						
O30N	**Mendenhall**	**84.78**	**17**	P	**P**	**02 17 31.7**	**+0.7**
PDAR	**Pinedale Array**	**84.86**	**42**	P	**P**	**02 17 32.9**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=235,slow=4.5,SNR=3.6						
	comp=Z,0.4nm,0.8s						
CMIG	**Matias Romero**	**85.17**	**70**	LR	LR	02 47 26.4	
	comp=Z,34nm,18.6s,baz=34,slow=30						
BCAR	**Beaver Creek A**	**85.26**	**14**	P	**P**	**02 17 33.2**	**-0.2**
CCB	**Clear Creek Bu**	**85.45**	**11**	P	**P**	**02 17 34.0**	**-0.2**
CCB				IAmb	IAmb	02 17 35.2	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**85.73**	**11**	P	**P**	**02 17 36.1**	**+0.5**
ILAR	**Eielson Array**	**85.73**	**11**	P	**P**	**02 17 36.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=228,slow=6.3,SNR=14						
	comp=Z,0.6nm,0.7s						
J25K	**Salcha River,**	**85.87**	**12**	P	**P**	**02 17 37.4**	**+1.0**
L29M	**L29M**	**86.17**	**15**	P	**P**	**02 17 39.3**	**+1.4**
L29M				IAmb	IAmb	02 17 40.1	
	comp=Z,3.7nm,0.9s						
E18K	**Tukpahlearik C**	**86.43**	**5**	P	**P**	**02 17 37.8**	**-1.2**
E18K				IAmb	IAmb	02 17 42.4	
	comp=Z,3.8nm,1.3s						
DAWY	**Dawson**	**86.67**	**14**	P	**P**	**02 17 41.3**	**+0.9**
DAWY				IAmb	IAmb	02 18 05.8	
	comp=Z,7.6nm,1.5s						
K29M	**Barlow Dome**	**86.94**	**15**	P	**P**	**02 17 43.0**	**+1.3**
I28M	**Miner Creek**	**87.73**	**13**	P	**P**	**02 17 46.4**	**+0.9**
I28M				IAmb	IAmb	02 17 56.8	
	comp=Z,4.2nm,1.5s						
J30M	**Hart River**	**87.84**	**15**	P	**P**	**02 17 47.8**	**+1.8**
J30M				IAmb	IAmb	02 17 50.0	
	comp=Z,3.2nm,1.4s						
F24K	**Squaw Lake**	**88.06**	**10**	P	**P**	**02 17 48.4**	**+1.4**
I30M	**Mount Dempster**	**88.36**	**15**	P	**P**	**02 17 49.4**	**+0.8**
I30M				IAmb	IAmb	02 18 10.6	
	comp=Z,5.1nm,1.4s						
BMAR	**Burnt Mountain**	**88.54**	**11**	P	**P**	**02 17 48.4**	**-0.8**
D22K	**Ayikyak River**	**88.66**	**7**	P	**P**	**02 17 50.5**	**+0.8**
H29M	**Whitestone**	**88.73**	**14**	P	**P**	**02 17 50.3**	**+0.2**
D23K	**Nanushuk River**	**88.99**	**8**	P	**P**	**02 17 51.0**	**-0.2**
B20K	**Meade River**	**89.26**	**6**	P	**P**	**02 17 52.6**	**+0.2**
B20K				IAmb	IAmb	02 18 22.1	
	comp=Z,3.5nm,1.3s						
C24K	**Franklin Bluff**	**89.96**	**8**	P	**P**	**02 17 55.6**	**-0.2**
C24K				IAmb	IAmb	02 18 04.0	
	comp=Z,3.9nm,1.4s						
INK	**Inuvik**	**91.53**	**14**	P	**P**	**02 18 01.8**	**-1.2**
YKA	**Yellowknife Ar**	**93.21**	**23**	P	**P**	**02 18 11.7**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=234,slow=5.8,SNR=5.3						
	comp=Z,0.3nm,0.9s						

NNC 26 02:33:53.0±3.1, **36°.75N**×**70°.64E, h92**km±88km, **mb3.1, mpv3.6, 5C-1D, Error ellipse: s-maj=27.0km s-min=23.4km az=133.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.35**	**359**	⇑P	Pn	02 35 23.8	-0.2
	1.0nm,0.2s,baz=192,slow=13,SNR=37						
KK31				⇑S	Sn	02 36 35.7	+0.7
	1.0nm,0.3s,baz=186,slow=25,SNR=4.6						
AAK	**Ala-Archa**	**6.59**	**26**	⇑P	Pn	02 35 28.0	+0.6
	1.3nm,0.4s						
AAK				⇑S	Sn	02 36 42.3	+1.2
	7.7nm,0.6s						
TKM2	**Tokmak 2**	**7.25**	**30**	⇑P	Pn	02 35 36.0	-0.5
	2.9nm,0.5s						
TKM2				⇓S	Sn	02 36 57.3	-0.1
	5.0nm,1.1s						
AB31	**Akbulak array**	**14.73**	**331**	P	Pn	02 37 16.6	+0.2
	0.2nm,0.4s,baz=165,slow=12,SNR=9.7						

*DRS **26** 02:40:54.4, 42°.97N×46°.62E, h15km*
*NORS **26** 02:40:54.9, 42°.95N×46°.61E, h1km, MPVA3.6*

MOS 26 02:40:52.9, 42°.95N×**46°.62E, h7**km, **MPVA3.5, 3C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.12**	**4**	*i* Pg	Pg	02 40 56.5	+1.1
DLMR				*e*Sg	Sg	02 40 58.5	+1.3
DLMR	**Dylym**	**0.12**	**4**	*i* PG	Pg	02 40 56.5	+1.0
DBC	**Dubki**	**0.17**	**67**	*i* Pg	Pg	02 40 58.1	+1.8
DBC				*e*Sg	Sg	02 41 01.3	+2.6
DBC	**Dubki**	**0.17**	**67**	*e*PG	Pg	02 40 58.7	+2.3
KRNR	**Karanay**	**0.25**	**121**	*e*Pg	Pg	02 40 59.7	+1.9
KRNR				*e*Sg	Sg	02 41 04.2	+3.1
KRNR	**Karanay**	**0.25**	**121**	*e*PG	Pg	02 40 59.7	+1.9
KRNR				*e*S	Sg	02 41 04.2	+3.1
UNCR	**Uncukul**	**0.27**	**152**	*i* Pg	Pb	02 41 00.3	+0.1
UNCR				*e*Sg	Sb	02 41 04.9	-0.1
UNCR	**Uncukul**	**0.27**	**152**	⇑*i* PG	Pb	02 41 00.2	0.0
UNCR				*e*S	Sb	02 41 04.9	-0.1
UNCR				pmax	pmax		
	comp=Z,71nm,0.2s						
DVE	**Vedeno**	**0.36**	**271**	*i* Pg	Pb	02 41 01.4	-0.4
DVE				*e*Sg	Sb	02 41 07.2	-0.5
DVE	**Vedeno**	**0.36**	**271**	⇑*i* PG	Pb	02 41 01.3	-0.4
DVE				pmax	pmax		
	comp=Z,43nm,0.3s						
BUJR	**Buynaksk**	**0.38**	**109**	*e*Pg	Pn	02 41 03.6	-1.3
BUJR				*e*Sg	Sb	02 41 10.1	+1.9
BUJR	**Buynaksk**	**0.38**	**109**	*e*PG	Pn	02 41 03.7	-1.2
BUJR				*e*S	Sb	02 41 10.1	+1.9
BUJR				pmax	pmax		
	comp=Z,120nm,0.8s						
HNZR	**Khunzah**	**0.40**	**170**	*e*PG	Pb	02 41 03.3	+0.8
HNZR				*e*S	Sb	02 41 09.9	+1.0
HNZR				pmax	pmax		
	comp=Z,43nm,0.3s						
BTLR	**Botlikh**	**0.41**	**225**	*e*Pg	Pb	02 41 02.6	0.0
BTLR				*e*Sg	Sb	02 41 09.0	-0.1
BTLR	**Botlikh**	**0.41**	**225**	*e*PG	Pb	02 41 02.8	+0.2
BTLR				pmax	pmax		
	comp=Z,46nm,0.3s						
XNZR	**Khunzakh**	**0.42**	**171**	*e*Pg	Pb	02 41 03.2	+0.5
XNZR				*e*Sg	Sb	02 41 09.9	+0.6
ARKR	**Arakani**	**0.45**	**142**	*e*Pg	Pb	02 41 04.0	+0.9
ARKR				*e*Sg	Sb	02 41 10.9	+0.9
ARKR	**Arakani**	**0.45**	**142**	*e*PG	Pb	02 41 04.0	+0.9
ARKR				*e*S	Sb	02 41 10.9	+0.9
GNBR	**Gunib**	**0.62**	**156**	*e*Pg	Pn	02 41 07.7	-0.5
GNBR				*e*Sg	Sn	02 41 16.9	-1.5
GNBR	**Gunib**	**0.62**	**156**	*e*PG	Pn	02 41 08.0	-0.2
GNBR				pmax	pmax		
	comp=Z,25nm,0.3s						
MAK	**Makhachkala**	**0.65**	**89**	⇑*i* PG	Pn	02 41 08.2	-0.3
MAK				*e*		02 41 18.3	
MAK				pmax	pmax		
	comp=Z,32nm,0.3s						
MAK				smax	smax		
	comp=N,294nm,0.4s						
MAK				smax	smax		
	comp=N,209nm,0.4s						
KMKR	**Kumukh**	**0.90**	**157**	*e*Pg	Pn	02 41 12.8	+0.6
KMKR				*e*Sg	Sn	02 41 25.9	+0.4
KMKR	**Kumukh**	**0.90**	**157**	*e*PG	Pn	02 41 12.8	+0.7
KMKR				*e*S	Sn	02 41 25.9	+0.4
SGKR	**Sergokala**	**0.91**	**122**	*e*Pg	Pn	02 41 13.6	+1.4
SGKR				*e*Sg	Sn	02 41 27.2	+1.7
SGKR	**Sergokala**	**0.91**	**122**	*e*PG	Pn	02 41 13.6	+1.4
SGKR				*e*S	Sn	02 41 27.2	+1.6
URKR	**Urkarakh**	**1.09**	**136**	*e*Pg	Pn	02 41 16.1	+1.4
URKR				*e*Sg	Sn	02 41 31.8	+1.7
URKR	**Urkarakh**	**1.09**	**136**	*e*PG	Pn	02 41 16.1	+1.4
URKR				*e*S	Sn	02 41 31.8	+1.7
KMGR	**Komgaron**	**1.29**	**275**	*e*Pg	Pg	02 41 20.3	+2.6
KMGR				*e*Sg	Sn	02 41 40.7	+5.7
KMGR	**Komgaron**	**1.29**	**275**	*e*PG	Pg	02 41 20.4	+2.7
KMGR				*e*S	Sn	02 41 39.8	+4.8
VLKR	**Vladikavkaz**	**1.43**	**274**	*e*Pg	Pg	02 41 20.5	+0.2
VLKR				*e*Pg	Pb	02 41 22.1	+2.2
VLKR				*e*Sg	Sg	02 41 42.7	+3.9
VLKR				*e*Sg	Sn	02 41 44.5	+6.1
VLKR	**Vladikavkaz**	**1.43**	**274**	*e*PG	Pg	02 41 22.5	+2.2
VLKR				*e*S	Sg	02 41 44.8	+6.0
DRN	**Derbent**	**1.57**	**126**	*e*Pg	Pg	02 41 24.2	+1.3
DRN				*e*Sg	Sg	02 41 46.5	+3.3
DRN	**Derbent**	**1.57**	**126**	*e*PG	Pg	02 41 26.4	+3.5
DRN				*e*S	Sg	02 41 46.3	+3.1
BTKR	**Batakoyurt**	**1.58**	**286**	*e*Pg	Pg	02 41 25.0	+1.9
BTKR				*e*Sg	Sg	02 41 49.1	+5.5
BTKR	**Batakoyurt**	**1.58**	**286**	*e*PG	Pg	02 41 25.8	+2.7
BTKR				*e*S	Sg	02 41 48.8	+5.2
TRKR	**Terskaya**	**1.58**	**300**	*e*Pg	Pg	02 41 24.9	+1.7
TRKR				*e*Sg	Sg	02 41 48.0	+4.4
TRKR	**Terskaya**	**1.58**	**300**	*e*PG	Pg	02 41 25.1	+2.0
TRKR				*e*S	Sg	02 41 48.0	+4.4
GUDG	**Gudauri**	**1.65**	**254**	*e*Pg	Pg	02 41 25.3	+0.7
GUDG				*e*Sg	Sg	02 41 48.5	+2.4
GUDG	**Gudauri**	**1.65**	**254**	*e*PN	Pg	02 41 25.5	+0.9
GUDG				*e*S	Sg	02 41 51.3	+5.3
AKT	**Akhty**	**1.69**	**150**	*e*Pg	Pg	02 41 26.3	+1.1
AKT				*e*Sg	Sg	02 41 50.7	+3.6
AKT	**Akhty**	**1.69**	**150**	*e*PN	Pg	02 41 26.3	+1.1
AKT				*e*S	Sg	02 41 50.7	+3.6
LACR	**Lac**	**1.71**	**267**	*e*Pg	Pb	02 41 25.2	+0.4
LACR				*e*Sg	Sg	02 41 49.4	+1.5
LACR	**Lac**	**1.71**	**267**	*e*PN	Pg	02 41 26.3	+0.6
LACR				*e*S	Sg	02 41 50.1	+2.2
ARNR	**Ardon**	**1.73**	**278**	*e*Pg	Pg	02 41 26.3	+0.3
ARNR				*i* Sg	Sg	02 41 51.3	+2.9
ARNR	**Ardon**	**1.73**	**278**	*e*PN	Pg	02 41 27.7	+1.7
ARNR				*e*S	Sg	02 41 51.9	+3.5
KSMR	**Kasumkent**	**1.75**	**140**	*e*Pg	Pg	02 41 26.7	+0.2
KSMR				*e*Sg	Sg	02 41 52.5	+3.2
KSMR	**Kasumkent**	**1.75**	**140**	*e*PN	Pg	02 41 26.7	+0.2
KSMR				*e*S	Sg	02 41 52.5	+3.3
KORR	**Kora**	**1.88**	**275**	*e*Pg	Pg	02 41 28.9	0.0
KORR				*e*Sg	Sb	02 41 52.1	+0.8
KORR	**Kora**	**1.88**	**275**	*e*PN	Pg	02 41 29.4	+0.5
KORR				*e*S	Sg	02 41 55.2	+2.0
PRTR	**Priterechnaya**	**1.88**	**296**	*e*Pg	Pg	02 41 30.1	+1.2
PRTR				*e*Sg	Sg	02 41 56.4	+3.0
PRTR	**Priterechnaya**	**1.88**	**296**	*e*PN	Pg	02 41 30.3	+1.3
PRTR				*e*S	Sg	02 41 57.2	+3.8
STDR	**Stavd-Durt**	**1.92**	**283**	*e*Pg	Pg	02 41 30.0	+0.4
STDR				*e*Sg	Sg	02 41 58.1	+3.6
STDR	**Stavd-Durt**	**1.92**	**283**	*e*PN	Pg	02 41 30.6	+1.0
STDR				*e*S	Sg	02 41 58.7	+4.2
LSNR	**Lesken**	**2.07**	**280**	*e*Pg	Pg	02 41 32.6	0.0
LSNR				*e*Sg	Sg	02 42 00.5	+1.0
LSNR	**Lesken**	**2.07**	**280**	*e*PN	Pg	02 41 33.5	+0.9
LSNR				*e*S	Sg	02 42 01.5	+2.1
DIGR	**Digorskoe uzhe**	**2.23**	**270**	*e*Pg	Pb	02 41 33.1	-0.6
DIGR				*e*Sg	Sb	02 42 02.6	+0.9
DIGR	**Digorskoe uzhe**	**2.23**	**270**	*e*PN	Pg	02 41 34.8	-0.9
DIGR				*e*S	Sg	02 42 04.9	+0.3
NCK	**Nalchik**	**2.28**	**285**	*e*Pn	Pb	02 41 33.0	-1.3
NCK				*e*Sn	Sb	02 42 03.9	+1.2
NCK	**Nalchik**	**2.28**	**285**	*e*PN	Pb	02 41 33.0	-1.3
NCK				*e*S	Sb	02 42 03.9	+1.2
KBTC	**Kuba-Taba**	**2.50**	**291**	*e*Pn	Pb	02 41 38.8	+0.7
KBTC				*e*Sn	Sb	02 42 08.3	-0.7
KBTC	**Kuba-Taba**	**2.50**	**291**	*e*PN	Pb	02 41 38.8	+0.7
KBTC				*e*S	Sb	02 42 08.3	-0.7
PYA1	**Pyatigorsk**	**2.79**	**295**	*e*Pn	Pb	02 41 41.8	-1.4
PYA1				*e*Sn	Sn	02 42 14.1	+2.0
PYA1	**Pyatigorsk**	**2.79**	**295**	*e*PN	Pb	02 41 41.8	-1.4
PYA1				*e*S	Sn	02 42 14.1	+2.0
KBZ	**Khabaz**	**2.82**	**287**	*e*Pn	Pn	02 41 39.6	+1.1
KBZ				*e*Sn	Sn	02 42 14.3	+1.6
KBZ	**Khabaz**	**2.82**	**287**	*e*PN	Pn	02 41 39.6	+1.2
KBZ				*e*S	Sn	02 42 14.3	+1.6
NEUR	**Neytrino**	**2.89**	**277**	*e*Pn	Pn	02 41 34.4	-5.1
NEUR				*e*Sn	Sn	02 42 09.2	-5.4
NEUR	**Neytrino**	**2.89**	**277**	*e*PN	Pn	02 41 34.4	-5.1
BEYR	**Belyy Ugol+**	**2.96**	**292**	*e*Pn	Pn	02 41 42.0	+1.6
BEYR				*e*Sn	Sn	02 42 16.5	+0.3
BEYR	**Belyy Ugol+**	**2.96**	**292**	*e*PN	Pn	02 41 42.0	+1.6
BEYR				*e*S	Sn	02 42 16.5	+0.2
SHA1	**Shidzhatmaz**	**3.00**	**287**	*e*Pn	Pn	02 41 42.3	+1.2
SHA1				*e*Sn	Sn	02 42 18.6	+1.3
SHA1	**Shidzhatmaz**	**3.00**	**287**	*e*PN	Pn	02 41 42.3	+1.3
SHA1				*e*S	Sn	02 42 18.6	+1.3
KIV0	**Kislovodsk Arr**	**3.03**	**291**	*e*Pn	Pn	02 41 44.0	+2.6
KIV0				*e*Sn	Sn	02 42 18.2	+0.4
KIV	**Kislovodsk**	**3.03**	**291**	*e*Pn	Pb	02 41 45.2	-2.1
KIV				*e*Sn	Sn	02 42 19.0	+0.9
KIV	**Kislovodsk**	**3.03**	**291**	*e*PN	Pb	02 41 45.2	-2.1
KIV				*e*S	Sn	02 42 19.0	+0.9
GNI	**Garni**	**3.14**	**207**	*i* PN	Pb	02 41 47.0	-2.1
ALER	**Alexandrovskoy**	**3.23**	**305**	*e*Pn	Pn	02 41 46.6	+2.5
ALER				*e*Sn	Sn	02 42 26.0	+3.1
ALER	**Alexandrovskoy**	**3.23**	**305**	*e*PN	Pn	02 41 46.7	+2.6
ALER				*e*S	Sn	02 42 26.0	+3.1

*CATAC **26** 02:43:50.4±0.8, 13°.N±5°.×8°.9W±°., h25km±4km, M3.6/10, MLv3.6/10, Error ellipse: s-maj=11.2km s-min=5.6km az=22.0, confirmed*
*GCG **26** 02:43:51.3±0.6, 13°.06N×89°.36W, h47km±9km, MD3.3, Hypocentre not reviewed by the ISC*

ISC 26 02:43:51.6±2.2, **13°.0N**±0°.1×**89°.28W**±0°.06, **h43**km, **n52,** σ0$**69**/51, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.45**	**354**	P	**Pn**	**02 44 01.6**	**-0.3**
LALI	**Alcalda de L**	**0.45**	**354**	S	**Sn**	**02 44 09.2**	**+0.2**
LALI	**Alcalda de L**	**0.45**	**354**	P	Pn	02 44 06.8	+5.0
LALI	**Alcalda de L**	**0.45**	**354**	*e*P		02 44 01.5	
LALI				*e*S		02 44 09.1	
PANCS	**Alcalda de**	**0.57**	**9**	*e*P	**Pn**	**02 44 02.9**	**-0.7**
LOMA	**Loma Larga**	**0.61**	**10**	*e*P	**Pn**	**02 44 03.6**	**-0.5**
LOMA				*e*S	**Sn**	**02 44 13.5**	**+0.5**
LFRS	**El Faro**	**0.61**	**20**	*e*P	**Pn**	**02 44 03.4**	**-0.8**
JAYA	**Jayaque - finc**	**0.63**	**345**	*e*P	**Pn**	**02 44 03.8**	**-0.6**
JAYA				*e*S	**Sn**	**02 44 13.0**	**-0.6**
JAYA	**Jayaque - finc**	**0.63**	**345**	P	**Pn**	**02 44 04.0**	**-0.5**
JAYA	**Jayaque - finc**	**0.63**	**345**	P	**Pn**	**02 44 03.9**	**-0.5**
JAYA	**Jayaque - finc**	**0.63**	**345**	*e*P		02 44 03.8	
JAYA				*e*S		02 44 13.1	
PMON	**Piamonte**	**0.67**	**357**	P	**Pn**	**02 44 04.3**	**-0.6**
PMON	**Piamonte**	**0.67**	**357**	S	**Sn**	**02 44 15.3**	**+1.0**

PB09 *eS* **S** **03 04 55.1 +0.2**
AHML Horco Molle 3.15 154 *eP* **Pn** **03 04 15.5 -0.8**
AHML *eS* **S** **03 04 54.7 -2.2**
PB03 IPOC Station P 3.25 305 *eP* **Pn** **03 04 17.8 +0.1**
PB03 IAML 03 05 01.8
comp=Z,111nm,0.1s
PB03 IPOC Station P 3.25 305 ⇑*iP* **Pn** **03 04 17.8 +0.1**
PB14 IPOC Station P 3.28 257 *eP* **Pn** **03 04 17.7 -0.4**
PB14 *eS* **S** **03 04 58.8 -1.1**
PB14 IAML 03 05 00.1
comp=Z,95nm,0.5s
PB14 IPOC Station P 3.28 257 *eP* **Pn** **03 04 18.2 +0.1**
PB14 *eS* **S** **03 04 57.8 -2.1**
AC02 Maricunga 3.52 215 *eP* **Pn** **03 04 22.0 +0.9**
AC02 *eS* **S** **03 05 07.9 +2.5**
PB01 IPOC Station P 3.76 320 *eP* **Pn** **03 04 23.1 -0.6**
PB01 IAML 03 05 12.3
comp=Z,38nm,0.9s
PB01 IPOC Station P 3.76 320 *eP* **Pn** **03 04 23.7 -0.1**
PB01 *eS* **S** **03 05 08.5 -1.6**
AC01 Pan de Azucar 4.02 236 *eP* **Pn** **03 04 25.1 -1.6**
AC01 *eS* **S** **03 05 11.5 -3.9**
AC01 IAML 03 05 22.3
comp=Z,22nm,1.2s
PB08 IPOC Station P 4.33 331 *eP* **Pn** **03 04 31.6 +0.5**
PB08 IAML 03 05 28.9
comp=Z,24nm,0.5s
TA01 Diego Aracena 4.54 317 *eP* **Pn** **03 04 32.9 -0.4**
TA01 IAML 03 05 28.3
comp=Z,17nm,0.6s
PB11 IPOC Station P 4.90 328 *eP* **Pn** **03 04 36.8 -1.2**
PB11 IAML 03 05 36.5
comp=Z,29nm,0.2s
LPAZ La Paz 7.71 351 P **Pn** **03 05 14.7 +0.2**
comp=Z,0.9nm,0.3s,baz=169,slow=8.9,SNR=11
LPAZ S **S** **03 06 40.2 -2.0**
comp=Z,0.9nm,0.6s,baz=346,slow=4.2,SNR=2.4
CPUP Villa Florida 8.98 107 P **Pn** **03 05 27.8 -2.4**
comp=Z,1.4nm,0.6s,baz=277,slow=11,SNR=5.1
SIV San Ignacio 9.62 36 P **Pn** **03 05 36.7 -1.9**
comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=2.3
PLCA Paso Flores 17.02 190 P **Pn** **03 07 15.7 +5.6**
comp=Z,1.0nm,0.5s,baz=1.8,slow=11,SNR=6.0
BDFB Brasilia 19.57 68 P **P** **03 07 35.2 -1.3**
comp=Z,1.3nm,0.5s,baz=261,slow=8.7,SNR=3.4
MKAR Makanchi Array 146.42 40 PKPbc **PKPab** **03 22 41.8 +0.2**
comp=Z,0.5nm,0.5s,baz=294,slow=3.3,SNR=7.8
KLR Kul'dur 150.83 335 PKPbc **PKiKP** **03 22 52.9 +0.9**
comp=Z,1.0nm,0.4s,baz=330,slow=21,SNR=3.2

---

*NEIC **26** 04:04:11.1±1.4,23°.3S±0°.1×179°.6W±0°.2,h460km±6km, mb4.4/27, Error ellipse: s-maj=26.5km s-min=15.9km az=62.0*
*IDC **26** 04:04:17.5±2.2,23°.47S×179°.91W,h523km±22km,mb3.1/6, mbtmp4.0/8, Error ellipse: s-maj=29.4km s-min=18.9km az=144.0*
ISC 26 04:04:17.7±0.7,23°.5S±0°.1×179°.9W±0°.1,h532km,n41, σ1$01/40,mb4.2/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.00**	**341**	P	**P**	**04 05 55.5**	**-0.2**
	2.8nm,0.2s,baz=227,slow=21,SNR=11						
URZ	**Urewera**	**14.97**	**189**	P	**P**	**04 07 25.6**	**-1.3**
	4.2nm,0.5s,baz=69,slow=8.5,SNR=2.7						
BKZ	**Black Stump Fm**	**15.95**	**190**	P	**P**	**04 07 34.4**	**-2.7**
BKZ				IAmb	IAmb	04 07 54.4	
	comp=Z,19nm,1.4s						
BFZ	**Birch Farm**	**17.48**	**190**	P	**P**	**04 07 48.7**	**-2.8**
MRZ	**Mangatainoka R**	**17.57**	**191**	P	**P**	**04 07 49.8**	**-2.5**
MRZ				IAmb	IAmb	04 08 17.1	
	comp=Z,21nm,1.3s						
TCW	**Tory Channel**	**18.36**	**194**	P	**P**	**04 07 59.0**	**-0.5**
BHW	**Baring Head**	**18.42**	**192**	P	**P**	**04 07 59.1**	**-0.9**
QRZ	**Quartz Range**	**18.45**	**198**	P	**P**	**04 08 00.3**	**0.0**
NNZ	**Nelson**	**18.58**	**196**	P	**P**	**04 08 00.3**	**-1.2**
NNZ				IAmb	IAmb	04 08 43.3	
	comp=Z,28nm,1.2s						
THZ	**Tophouse**	**19.21**	**196**	P	**P**	**04 08 06.2**	**-1.2**
DSZ	**Denniston Nort**	**19.50**	**199**	P	**P**	**04 08 09.9**	**-0.1**
DSZ				IAmb	IAmb	04 08 40.6	
	comp=Z,25nm,1.2s						
KHZ	**Kahutara**	**19.68**	**195**	P	**P**	**04 08 10.1**	**-1.3**
KHZ				IAmb	IAmb	04 08 48.0	
	comp=Z,15nm,1.0s						
WHZ	**Wether Hill Ro**	**24.45**	**201**	P	**P**	**04 08 54.2**	**0.0**
WHZ				IAmb	IAmb	04 09 07.8	
	comp=Z,31nm,1.3s						
ARMA	**Armidale**	**26.25**	**249**	P	**P**	**04 09 10.1**	**-0.5**
ARMA				IAmb	IAmb	04 09 24.6	
	comp=Z,21nm,1.4s						
EIDS	**Eidsvold**	**26.45**	**260**	P	**P**	**04 09 12.5**	**+0.2**
EIDS				IAmb	IAmb	04 09 39.3	
	comp=Z,16nm,1.2s						
TOO	**Toolangi**	**32.75**	**236**	P	**P**	**04 10 07.9**	**+1.2**
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**04 10 25.4**	**+0.1**
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**04 10 25.8**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=102,slow=10,SNR=4.6						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**39.68**	**246**	P	**P**	**04 11 03.8**	**-0.2**
BBOO				IAmb	IAmb	04 11 27.5	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**42.18**	**260**	P	**P**	**04 11 24.7**	**+0.7**
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**04 11 24.3**	**+0.3**
ASAR	**Alice Springs**	**42.18**	**260**	P	**P**	**04 11 24.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=100,slow=8.1,SNR=21						
	comp=Z,1.6nm,0.5s						
WB2	**Warramunga Arr**	**42.50**	**266**	P	**P**	**04 11 26.5**	**0.0**
WB0	**Warramunga Arr**	**42.50**	**266**	P	**P**	**04 11 26.6**	**+0.1**
WB0				IAmb	IAmb	04 11 27.0	
	comp=Z,9.6nm,1.3s						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**04 11 26.8**	**+0.2**
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**04 11 26.4**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=102,slow=8.0,SNR=66						
	comp=Z,2.2nm,0.5s						
FORT	**Forrest**	**46.53**	**249**	P	**P**	**04 11 57.3**	**-0.1**
FORT				IAmb	IAmb	04 12 11.6	
	comp=Z,27nm,1.0s						
KNRA	**Kununurra**	**48.76**	**269**	P	**P**	**04 12 14.8**	**+0.5**
KNRA				IAmb	IAmb	04 12 43.7	
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.93**	**265**	P	**P**	**04 12 30.4**	**+0.2**
VNDA	**Vanda**	**54.82**	**185**	P	**P**	**04 12 57.8**	**+0.8**
VNDA				IAmb	IAmb	04 13 19.2	
	comp=Z,12nm,1.4s						
CASY	**Casey**	**60.54**	**206**	P	**P**	**04 13 35.9**	**-0.1**
CASY				IAmb	IAmb	04 14 05.0	
	comp=Z,24nm,1.2s						
QSPA	**South Pole Qui**	**66.62**	**180**	P	**P**	**04 14 15.7**	**+0.6**
QSPA	**South Pole Qui**	**66.62**	**180**	P	**P**	**04 14 15.9**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=18,slow=3.2,SNR=2.4						
	comp=Z,1.2nm,1.0s						
YSS	**Yuzhno-Sakhali**	**77.77**	**335**	P	**P**	**04 15 18.0**	**-1.6**
YSS				IAmb	IAmb	04 15 37.4	
	comp=Z,8.9nm,0.6s						
TXAR	**Lajitas Array**	**90.14**	**58**	P	**P**	**04 16 22.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=248,slow=5.3,SNR=4.0						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**92.32**	**44**	P	**P**	**04 16 32.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=222,slow=4.9,SNR=2.6						
	comp=Z,0.4nm,0.8s						
HFS	**Hagfors**	**142.13**	**349**	PKhKP	PKPpre	04 22 44.7	
	comp=Z,2.6nm,0.3s,baz=66,slow=3.6,SNR=39						
AKASG	**Malin Array Be**	**144.64**	**328**	PKP	**PKPdf**	**04 22 53.5**	**0.0**
	comp=Z,1.0nm,0.4s,baz=63,slow=2.1,SNR=7.6						
BRTR	**Keskin Array B**	**147.37**	**308**	PKPbc	**PKPbc**	**04 23 01.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=46,slow=3.9,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.58**	**295**	PKPbc	**PKiKP**	**04 23 03.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=100,slow=3.5,SNR=4.8						
EKA	**Eskdalemuir Ar**	**148.07**	**3**	PKPbc	**PKPbc**	**04 23 02.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=346,slow=2.9,SNR=9.9						

---

*AEIC **26** 04:09:41.2±1.9,66°.27N±0°.02×157°.23W±0°.05,h13km±4km, ML4.0,mb4.0/4(NEIC),ML4.2/158(NEIC),Mwr4.0/74(NEIC), Error ellipse: s-maj=3.4km s-min=2.6km az=58.0*
*NEIC **26** 04:09:41.1±1.5,66°.29N±0°.01×157°.17W±0°.04,h5km±4km, Error ellipse: s-maj=2.7km s-min=2.0km az=88.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.10; $M_{r\theta}$0.40; $M_{\phi\phi}$-0.30; $M_{r\phi}$0.16; $M_{\theta\phi}$-1.03; $M_{\theta r}$0.16; Fault plane solution: $M_0$1.12000×10^{15} NP1: ϕ_s170.05000°,δ79.72000°,λ-7.65000°. NP2:ϕ_s261.42000°,*
δ82.48000°,λ-169.63000°. Principal axes: T 1.1445, Plg2.0000°, Azm36.0000°; N -0.0551, Plg77.0000°, Azm297.0000°; P -1.0894, Plg13.0000°, Azm126.0000°;
*NEIC **26** 04:09:41.1,66°.27N×157°.25W,h9km*
*IDC **26** 04:09:43.4±0.9,66°.56N×157°.08W,$h_0$km,mb3.5/6, mbtmp3.7/11,ML3.6/5,MS3.3/3,Error ellipse: s-maj=22.0km s-min=12.5km az=31.0*
ISC 26 04:09:41.2±1.1,66°.29N±0°.02×157°.16W±0°.02,h6km±7km, n273,σ0$95/253,mb3.8/12,MS3.2/3,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.15**	**169**		**Pg**	**04 09 44.4**	**+0.2**
G19K					**Sg**	**04 09 46.9**	**+0.6**
G19K	**Purcell Mounta**	**0.15**	**169**	IAML		04 09 47.2	
	comp=E,158μm,0.5s						
G19K				IAML		04 09 47.2	
	comp=N,89μm,0.4s						
F19K	**Shaleruckik Mo**	**0.60**	**336**		**Pg**	**04 09 52.3**	**-0.4**
F19K					**Sg**	**04 10 01.0**	**+0.6**
G18K	**Tagagawik**	**0.73**	**238**		**Pg**	**04 09 54.8**	**-0.4**
G18K					**Sg**	**04 10 05.1**	**+0.5**
H19K	**Roundabout Mou**	**0.82**	**159**		**Pg**	**04 09 56.6**	**-0.3**
H19K					**Sg**	**04 10 08.0**	**+0.5**
H19K	**Roundabout Mou**	**0.82**	**159**	IAML		04 10 12.2	
	comp=N,8μm,0.4s						
H19K				IAML		04 10 12.5	
	comp=E,12μm,0.6s						
H19K	**Roundabout Mou**	**0.82**	**159**	P	**Pg**	**04 09 56.5**	**-0.5**
	baz=338						
H19K				S	**Sg**	**04 10 07.8**	**+0.3**
	baz=338						
F20K	**Avaraart Lake**	**0.95**	**36**		**Pg**	**04 09 58.9**	**-0.6**
F20K					**Sg**	**04 10 11.9**	**+0.2**
F20K	**Avaraart Lake**	**0.95**	**36**	IAML		04 10 15.8	
	comp=N,7μm,0.6s						
F18K	**Selawik**	**1.05**	**288**		**Pg**	**04 10 00.4**	**-0.9**
F18K					**Sg**	**04 10 14.8**	**0.0**
F18K	**Selawik**	**1.05**	**288**	P	**Pg**	**04 10 00.3**	**-0.9**
	baz=107						
F18K				S	**Sb**	**04 10 15.5**	**-0.2**
	baz=107						
E19K	**Redstone River**	**1.17**	**359**		**Pg**	**04 10 02.8**	**-0.9**
E19K					**Sg**	**04 10 18.1**	**-0.8**
E19K	**Redstone River**	**1.17**	**359**	IAML		04 10 21.1	
	comp=N,4μm,0.6s						
E19K				IAML		04 10 21.2	
	comp=E,5μm,0.8s						
H20K	**Anotleneega Mo**	**1.23**	**130**		**Pg**	**04 10 03.9**	**-0.9**
H18K	**Honhosa River**	**1.25**	**204**		**Pg**	**04 10 03.8**	**-1.4**
H18K					**Sg**	**04 10 20.4**	**-0.9**
H18K	**Honhosa River**	**1.25**	**204**	P	**Pg**	**04 10 03.7**	**-1.4**
	baz=22						
H18K				S	**Sg**	**04 10 20.4**	**-0.9**
	baz=22						
G21K	**Allakaket**	**1.49**	**80**		**Pn**	**04 10 08.1**	**-0.4**
G21K					**Sb**	**04 10 28.6**	**+0.3**
GCSA	**Galena City Sc**	**1.56**	**176**		**Pn**	**04 10 09.2**	**-0.2**
F17K	**Baldwin Pennin**	**1.66**	**277**		**Pn**	**04 10 10.1**	**-0.7**
F17K	**Baldwin Pennin**	**1.66**	**277**	IAML		04 10 36.7	
	comp=N,2μm,1.1s						
F21K	**Alatna River**	**1.73**	**56**		**Pn**	**04 10 11.6**	**-0.3**
F21K	**Alatna River**	**1.73**	**56**	IAML		04 10 38.9	
	comp=E,3μm,0.8s						
E18K	**Tukpahlearik C**	**1.77**	**311**		**Pn**	**04 10 12.4**	**+0.1**
H17K	**Granite Mounta**	**1.78**	**221**		**Pn**	**04 10 11.7**	**-0.7**
H17K					**Sn**	**04 10 35.0**	**-0.3**
H17K	**Granite Mounta**	**1.78**	**221**	IAML		04 10 37.8	
	comp=E,2μm,0.8s						
H17K				IAML		04 10 44.8	
	comp=N,2μm,0.7s						
I20K	**Naaghedeneel**	**1.87**	**142**		**Pn**	**04 10 13.9**	**+0.2**
H21K	**Melozitna Rive**	**1.89**	**108**		**Pn**	**04 10 13.6**	**-0.5**
E20K	**Nigu River**	**2.01**	**10**		**Pn**	**04 10 16.9**	**+1.2**
E17K	**Hotham Inlet**	**2.02**	**295**		**Pn**	**04 10 15.2**	**-0.5**
D19K	**Kuna River**	**2.24**	**351**		**Pn**	**04 10 19.6**	**+0.7**
D19K	**Kuna River**	**2.24**	**351**	IAML		04 10 53.9	
	comp=E,1μm,0.7s						
D19K				IAML		04 11 02.1	
	comp=N,1μm,0.9s						
G16K	**Koyuk River**	**2.32**	**250**		**Pn**	**04 10 18.4**	**-1.5**
G16K	**Koyuk River**	**2.32**	**250**	IAML		04 10 56.2	
	comp=E,1μm,0.5s						
H22K	**Ishtalitna Cre**	**2.39**	**97**		**Pn**	**04 10 20.7**	**-0.1**
J19K	**Poorman**	**2.40**	**164**		**Pn**	**04 10 21.0**	**0.0**
J19K	**Poorman**	**2.40**	**164**	IAML		04 11 01.1	
	comp=E,1μm,0.9s						
J19K				IAML		04 11 04.5	
	comp=N,1μm,1.2s						
I21K	**Tanana**	**2.41**	**115**		**Pn**	**04 10 20.9**	**-0.2**
I21K	**Tanana**	**2.41**	**115**	IAML		04 11 04.1	
	comp=N,1μm,0.8s						
I21K				IAML		04 11 04.4	
	comp=E,1μm,0.7s						
D20K	**Etivluk River**	**2.44**	**5**		**Pn**	**04 10 22.4**	**+0.8**
J20K	**Nowinta River**	**2.47**	**148**		**Pn**	**04 10 21.8**	**-0.2**
J20K	**Nowinta River**	**2.47**	**148**	IAML		04 11 05.4	
	comp=E,1μm,1.0s						
J20K				IAML		04 11 09.4	
	comp=N,813nm,0.9s						
E21K	**Killik River**	**2.49**	**28**		**Pn**	**04 10 22.5**	**+0.3**
E21K					**Sb**	**04 10 55.3**	**-1.8**
E21K	**Killik River**	**2.49**	**28**	P	**Pn**	**04 10 22.7**	**+0.5**
	baz=212						
E21K				S	**Sb**	**04 10 55.3**	**-1.8**
	baz=212						
H16K	**Elim**	**2.69**	**234**		**Pn**	**04 10 23.3**	**-1.7**
H16K					**Sn**	**04 10 57.5**	**-0.4**
H16K	**Elim**	**2.69**	**234**	P	**Pn**	**04 10 23.3**	**-1.7**
	baz=49						
H16K				S	**Sn**	**04 10 57.5**	**-0.4**
	baz=49						
D17K	**Noatak River**	**2.72**	**304**		**Pn**	**04 10 25.0**	**-0.4**
D17K					**Sn**	**04 11 00.0**	**+1.4**
D17K	**Noatak River**	**2.72**	**304**	P	**Pn**	**04 10 25.3**	**-0.1**
	baz=119						
D17K				S	**Sn**	**04 11 00.0**	**+1.4**
	baz=119						
E22K	**Anaktuvuk Pass**	**2.78**	**46**	Pn	**Pn**	**04 10 27.2**	**+0.9**
E22K	**Anaktuvuk Pass**	**2.78**	**46**	P	**Pn**	**04 10 27.4**	**+1.1**
	baz=231						
C18K	**Utukok River**	**2.83**	**329**		**Pn**	**04 10 26.8**	**-0.2**
I17K	**Unalakleet**	**2.84**	**213**	Pn	**Pn**	**04 10 26.8**	**-0.3**
I17K				IAML		04 11 17.2	
	comp=N,1μm,0.9s						
I17K	**Unalakleet**	**2.84**	**213**		**Sn**	**04 11 01.6**	**+0.1**
I17K	**Unalakleet**	**2.84**	**213**	P	**Pn**	**04 10 27.0**	**-0.1**
	baz=30						
I17K				S	**Sn**	**04 11 01.7**	**+0.1**
	baz=30						
J18K	**Innoko River**	**2.84**	**176**		**Pn**	**04 10 27.1**	**-0.1**
J18K	**Innoko River**	**2.84**	**176**	IAML		04 11 21.5	
	comp=E,588nm,0.9s						
RDOG	**Red Dog Mine**	**2.86**	**311**		**Pn**	**04 10 27.9**	**+0.7**
RDOG					**Sb**	**04 11 05.2**	**-2.5**
RDOG	**Red Dog Mine**	**2.86**	**311**	P	**Pn**	**04 10 27.7**	**+0.4**
	baz=126						
RDOG				S	**Sb**	**04 11 05.2**	**-2.5**
	baz=126						
G23K	**Bananza Creek**	**2.89**	**78**		**Pn**	**04 10 27.0**	**-0.8**
G23K	**Bananza Creek**	**2.89**	**78**	IAML		04 11 19.8	
	comp=E,682nm,0.5s						
COLD	**Coldfoot**	**2.91**	**68**		**Pn**	**04 10 27.6**	**-0.4**
COLD	**Coldfoot**	**2.91**	**68**	P	**Pn**	**04 10 27.7**	**-0.4**
	baz=254						
C21K	**Knifeblade Rid**	**3.02**	**16**		**Pn**	**04 10 29.7**	**+0.2**
J17K	**VABM Dome**	**3.02**	**197**		**Pn**	**04 10 29.1**	**-0.4**
J17K	**VABM Dome**	**3.02**	**197**	IAML		04 11 21.5	
	comp=N,623nm,0.8s						
J17K				IAML		04 11 23.3	
	comp=E,996nm,1.0s						
D22K	**Ayikyak River**	**3.11**	**31**		**Pn**	**04 10 31.7**	**+0.9**
D22K	**Ayikyak River**	**3.11**	**31**	IAML		04 11 28.2	
	comp=N,575nm,0.9s						
D22K				IAML		04 11 37.3	
	comp=E,684nm,0.8s						
F15K	**North Star Dit**	**3.12**	**263**		**Pn**	**04 10 29.5**	**-1.4**
F15K	**North Star Dit**	**3.12**	**263**	IAML		04 11 21.7	
	comp=E,551nm,0.8s						
F15K				IAML		04 11 31.4	
	comp=N,720nm,1.2s						
G15K	**Niukluk**	**3.13**	**249**		**Pn**	**04 10 29.2**	**-1.8**
CHUM	**Lake Minchumin**	**3.17**	**137**		**Pn**	**04 10 31.8**	**+0.2**
C17K	**DeLong Mountai**	**3.20**	**316**		**Pn**	**04 10 31.9**	**-0.1**
K20K	**Telida**	**3.23**	**154**		**Pn**	**04 10 32.3**	**-0.1**
K20K	**Telida**	**3.23**	**154**	IAML		04 11 27.9	
	comp=N,457nm,1.1s						
J16K	**Anvik River**	**3.36**	**208**		**Pn**	**04 10 34.1**	**-0.1**
J16K	**Anvik River**	**3.36**	**208**	IAML		04 11 31.3	
	comp=N,704nm,0.8s						
BPAW	**Bear Paw Mtn.**	**3.41**	**127**		**Pn**	**04 10 34.5**	**-0.3**
BPAW	**Bear Paw Mtn.**	**3.41**	**127**	P	**Pn**	**04 10 35.7**	**+0.9**
	baz=313						
TTA	**Tatalina**	**3.41**	**171**		**Pn**	**04 10 35.2**	**+0.3**
TTA	**Tatalina**	**3.41**	**171**	P	**Pn**	**04 10 35.3**	**+0.3**
	baz=352						
I23K	**Minto, Yukon-K**	**3.42**	**106**		**Pn**	**04 10 34.4**	**-0.6**
I23K				IAML		04 11 38.8	
	comp=E,621nm,1.3s						
I23K	**Minto, Yukon-K**	**3.42**	**106**	P	**Pn**	**04 10 34.4**	**-0.6**
	baz=293						
E23K	**Chandalar**	**3.43**	**55**		**Pn**	**04 10 35.4**	**+0.1**
E23K				IAML		04 11 35.3	
	comp=E,578nm,0.8s						
E23K				IAML		04 11 40.1	
	comp=N,505nm,0.8s						
B21K	**Ikpikpuk River**	**3.48**	**15**		**Pn**	**04 10 35.1**	**-0.7**
B21K	**Ikpikpuk River**	**3.48**	**15**	IAML		04 11 42.3	
	comp=E,554nm,1.2s						
B21K				IAML		04 11 42.3	
	comp=N,498nm,1.1s						
B18K	**Kokolik River**	**3.55**	**332**		**Pn**	**04 10 36.6**	**-0.2**
CAST	**Castle Rocks**	**3.61**	**141**		**Pn**	**04 10 38.5**	**+0.9**
CAST	**Castle Rocks**	**3.61**	**141**	P	**Pn**	**04 10 38.5**	**+0.9**
	baz=325						
K17K	**Iditarod**	**3.62**	**188**		**Pn**	**04 10 37.4**	**-0.4**
K17K	**Iditarod**	**3.62**	**188**	IAML		04 11 53.5	
	comp=E,550nm,1.2s						
D23K	**Nanushuk River**	**3.65**	**40**		**Pn**	**04 10 39.0**	**+0.8**
D23K	**Nanushuk River**	**3.65**	**40**	IAML		04 11 42.1	
	comp=N,528nm,1.2s						
D23K				IAML		04 11 42.5	
	comp=E,529nm,1.3s						
B20K	**Meade River**	**3.73**	**360**		**Pn**	**04 10 39.5**	**+0.2**
B20K	**Meade River**	**3.73**	**360**	IAML		04 11 52.5	
	comp=N,324nm,1.2s						
C16K	**Lisburne Hills**	**3.75**	**306**		**Pn**	**04 10 39.5**	**+0.1**
TOLK	**Toolik Lake Re**	**3.75**	**48**	Pn	**Pn**	**04 10 40.1**	**+0.5**
TOLK	**Toolik Lake Re**	**3.75**	**48**	P	**Pn**	**04 10 40.2**	**+0.5**
	baz=235						
NEA2	**Nenana**	**3.78**	**113**		**Pn**	**04 10 40.1**	**+0.1**
NEA2	**Nenana**	**3.78**	**113**	IAML		04 11 46.8	
	comp=N,302nm,1.3s						
NEA2				IAML		04 11 50.9	
	comp=E,327nm,1.0s						
NEA2	**Nenana**	**3.78**	**113**	P	**Pn**	**04 10 40.1**	**+0.1**
	baz=300						
H24K	**Noodor Dome**	**3.81**	**93**		**Pn**	**04 10 39.8**	**-0.6**
H24K	**Noodor Dome**	**3.81**	**93**	IAML		04 11 46.6	
	comp=N,465nm,1.6s						
KTH	**Kantishna Hill**	**3.82**	**133**		**Pn**	**04 10 40.5**	**-0.1**
KTH	**Kantishna Hill**	**3.82**	**133**	IAML		04 11 52.0	
	comp=N,268nm,1.1s						
E24K	**Your Creek**	**3.82**	**58**		**Pn**	**04 10 40.7**	**+0.2**
E24K	**Your Creek**	**3.82**	**58**	IAML		04 11 53.9	
	comp=N,402nm,1.1s						
E24K				IAML		04 11 55.9	
	comp=E,287nm,1.2s						
ANM	**Nome**	**3.84**	**247**		**Pn**	**04 10 38.9**	**-1.9**
ANM	**Nome**	**3.84**	**247**	IAML		04 11 46.6	
	comp=N,311nm,0.6s						
F14K	**Arctic Creek**	**3.85**	**262**		**Pn**	**04 10 39.9**	**-1.0**
F24K	**Squaw Lake**	**3.85**	**67**		**Pn**	**04 10 40.4**	**-0.6**
F24K	**Squaw Lake**	**3.85**	**67**	IAML		04 11 55.7	
	comp=E,368nm,0.9s						
G24K	**Hadweenzic Riv**	**3.90**	**80**		**Pn**	**04 10 40.5**	**-1.1**
PPLA	**Purkeypile**	**4.02**	**146**		**Pn**	**04 10 44.1**	**+0.7**
PPLA	**Purkeypile**	**4.02**	**146**	P	**Pn**	**04 10 44.5**	**+1.0**
	baz=330						
L20K	**Farewell, AK**	**4.08**	**158**		**Pn**	**04 10 44.6**	**+0.5**
TRF	**Thorofare Moun**	**4.09**	**131**		**Pn**	**04 10 44.5**	**+0.2**
TRF	**Thorofare Moun**	**4.09**	**131**	IAML		04 11 55.9	
	comp=E,349nm,1.3s						
TRF				IAML		04 11 56.3	
	comp=N,275nm,1.3s						
TRF	**Thorofare Moun**	**4.09**	**131**	P	**Pn**	**04 10 45.2**	**+0.9**
	baz=317						
L18K	**Granite Mounta**	**4.09**	**177**		**Pn**	**04 10 44.6**	**+0.3**
L18K	**Granite Mounta**	**4.09**	**177**	IAML		04 11 51.6	
	comp=N,288nm,1.4s						
L18K				IAML		04 12 01.1	
	comp=E,259nm,1.3s						
COLA	**College**	**4.12**	**106**		**Pn**	**04 10 43.8**	**-0.7**
POKR	**Poker Plat Res**	**4.19**	**102**		**Pn**	**04 10 44.9**	**-0.7**
POKR	**Poker Plat Res**	**4.19**	**102**	IAML		04 11 54.5	
	comp=E,324nm,0.8s						
A19K	**Wainwright**	**4.19**	**341**		**Pn**	**04 10 45.7**	**+0.1**
L17K	**Donlin**	**4.20**	**187**		**Pn**	**04 10 45.6**	**-0.2**
WRH	**Wood River Hil**	**4.21**	**112**		**Pn**	**04 10 45.3**	**-0.5**
CCB	**Clear Creek Bu**	**4.23**	**109**	Pn	**Pn**	**04 10 45.5**	**-0.7**
CCB				IAML		04 11 58.5	
	comp=E,203nm,0.9s						
L19K	**White Mountain**	**4.25**	**165**		**Pn**	**04 10 46.4**	**0.0**
L19K	**White Mountain**	**4.25**	**165**	IAML		04 11 38.0	
	comp=E,356nm,0.8s						
L19K				IAML		04 11 59.8	
	comp=N,281nm,1.6s						
L19K	**White Mountain**	**4.25**	**165**	P	**Pn**	**04 10 47.4**	**+1.0**
	baz=347						
D24K	**Happy Valley**	**4.28**	**44**		**Pn**	**04 10 47.3**	**+0.5**
B22K	**Teshekpuk Lake**	**4.30**	**17**		**Pn**	**04 10 46.0**	**-1.0**
B22K	**Teshekpuk Lake**	**4.30**	**17**	IAML		04 12 03.2	
	comp=N,284nm,1.1s						
B22K				IAML		04 12 04.5	
	com

baz=340
FYU Fort Yukon 4.80 81 Pn 04 10 53.9 +0.1
PRP Porcupine Dome 4.83 94 Pn 04 10 53.9 -0.6
PRP Porcupine Dome 4.83 94 IAML 04 12 17.7
comp=E,182nm,0.9s
PRP Porcupine Dome 4.83 94 P **Pn 04 10 54.8 +0.3**
baz=284
E25K Arctic Village 4.87 63 Pn 04 10 54.6 -0.3
E25K Arctic Village 4.87 63 IAML 04 12 29.0
comp=N,229nm,1.6s
E25K IAML 04 12 29.3
comp=E,216nm,1.5s
E25K Arctic Village 4.87 63 P **Pn 04 10 54.6 -0.3**
baz=253
M17K Holitna River 4.91 182 Pn 04 10 55.8 +0.3
CUT Chulitna 4.92 139 Pn 04 10 56.8 +1.3
CUT Chulitna 4.92 139 P **Pn 04 10 57.0 +1.5**
baz=325
SKT Skwentna 4.98 148 Pn 04 10 57.6 +1.2
SKT Skwentna 4.98 148 IAML 04 12 33.1
comp=N,112nm,1.8s
SKT IAML 04 12 41.8
comp=E,145nm,2.0s
SKT Skwentna 4.98 148 P **Pn 04 10 57.6 +1.2**
baz=333
L15K Ungalak Mounta 5.01 204 Pn 04 10 56.6 -0.2
A21K Barrow 5.06 2 Pn 04 10 56.7 -0.7
BMAR Burnt Mountain 5.09 71 Pn **Pn 04 10 57.6 -0.4**
D25K Kavik River 5.09 48 Pn 04 10 57.6 -0.4
D25K IAML 04 12 34.0
comp=E,135nm,1.2s
D25K IAML 04 12 34.9
comp=N,154nm,1.1s
J25K Salcha River, 5.20 103 Pn 04 10 58.8 -0.6
J25K IAML 04 12 26.4
comp=E,110nm,0.6s
F26K Sheenjek River 5.29 69 Pn 04 11 01.0 +0.3
F26K IAML 04 12 35.5
comp=E,162nm,1.2s
SPNN North Nagishla 5.32 156 Pn 04 11 02.5 +1.2
M16K Timber Creek 5.35 189 Pn 04 11 00.9 -0.6
M16K Timber Creek 5.35 189 IAML 04 12 39.9
comp=E,99nm,1.9s
M16K IAML 04 12 43.1
comp=N,99nm,0.8s
STLK Strandline Lak 5.35 152 Pn 04 11 02.6 +1.0
G26K Porcupine Rive 5.37 77 Pn 04 11 01.6 0.0
K24K Donnelly Dome 5.42 112 Pn 04 11 02.5 0.0
K13K Kusilvak Mount 5.47 220 Pn 04 11 01.6 -1.5
SPBG Spurr Blockage 5.48 155 Pn 04 11 04.7 +1.4
M22K Willow 5.50 143 Pn 04 11 04.3 +0.7
SPCG Spurr Capps Gl 5.51 153 Pn 04 11 04.9 +1.1
L14K Kuka Creek 5.54 209 Pn 04 11 04.4 +0.4
CKL Chakachamna La 5.54 155 Pn 04 11 05.8 +1.6
SPCN Chakachatna No 5.54 154 Pn 04 11 05.1 +0.9
SPU Mount Spurr 5.61 154 Pn 04 11 05.3 +0.2
N19K Bonanza Creek 5.63 167 Pn 04 11 05.7 -0.3
N18K Kilae Creek 5.66 174 Pn 04 11 06.3 +0.5
N17K Nushagak Hills 5.79 180 Pn 04 11 08.1 +0.6
GHO Glory Hole Cre 5.80 138 Pn 04 11 08.5 +0.8
RIDG Independent Ri 5.81 110 Pn **Pn 04 11 07.5 -0.4**
M15K Kasigluk River 5.84 197 Pn 04 11 07.8 -0.4
I26K Coal Creek Min 5.84 93 Pn 04 11 08.0 -0.2
C26K Camden Bay 5.84 46 Pn 04 11 08.4 +0.2
PMR Palmer 5.89 139 Pn 04 11 09.3 +0.4
SML Sawmill 5.94 135 Pn 04 11 10.0 +0.5
J26L Joseph Creek 5.95 101 Pn 04 11 09.7 -0.2
M14K Bethel 5.96 203 Pn 04 11 09.7 -0.1
FIS Fire Island 6.01 146 Pn **Pn 04 11 13.1 +2.5**
SCRK Sand Creek 6.02 107 Pn **Pn 04 11 10.0 -0.8**
PAX Paxson 6.03 118 Pn **Pn 04 11 11.6 +0.7**
NCT North Crescent 6.05 160 Pn 04 11 11.7 +0.4
C27K Jago River 6.06 50 Pn 04 11 12.0 +0.8
RDT Redoubt 6.12 157 Pn 04 11 12.4 +0.3
RDWB Redoubt West 6.14 160 Pn 04 11 13.1 +0.6
G27K Doyon Strip 6.21 78 Pn 04 11 14.1 +0.8
SCM Sheep Creek Mo 6.21 132 Pn 04 11 13.3 0.0
RED Redoubt Volcan 6.21 159 Pn 04 11 13.3 -0.1
KNK Knik Glacier 6.22 138 Pn 04 11 13.5 0.0
O19K Port Alsworth 6.25 167 Pn **Pn 04 11 14.1 +0.2**
N15K Kwethluk River 6.29 194 Pn **Pn 04 11 13.5 -0.8**
M24K Tolsona, Glenn 6.37 126 Pn 04 11 15.7 +0.2
I27K Kandik River 6.39 89 Pn 04 11 15.0 -0.8
M13K Dall Lake 6.52 208 Pn **Pn 04 11 15.3 -2.2**
O18K Koktuh Hills 6.52 171 Pn 04 11 17.7 +0.1
O17K Koliganek Bris 6.54 180 Pn 04 11 17.8 -0.1
ILSW Iliamna Southw 6.59 162 Pn 04 11 19.5 +0.9
ILS Iliamna Low So 6.62 162 Pn 04 11 19.8 +0.8
MENT Mentasta 6.68 114 Pn 04 11 20.5 +0.7
O16K Kokwok River B 6.74 184 Pn 04 11 20.4 -0.1
L26K Log Cabin Wild 6.77 113 Pn 04 11 21.5 +0.6
D27M Malcolm River 6.81 57 Pn 04 11 22.8 +1.2
KLU Klutina 6.90 129 Pn 04 11 24.3 +1.4
F28M Old Crow 6.91 71 Pn 04 11 23.2 +0.3
P18K Big Mountain, 6.98 172 Pn 04 11 24.3 +0.4
GLI Glacier Island 7.04 136 Pn 04 11 25.9 +1.3
I28M Miner Creek 7.11 89 Pn 04 11 25.6 -0.1
BRLK Bradley Lake 7.14 154 Pn **Pn 04 11 26.6 +0.5**
E28M Babbage River 7.15 63 Pn 04 11 25.8 -0.4
DIV Divide 7.23 130 Pn **Pn 04 11 27.2 -0.2**
N25K Chitina, Valde 7.25 125 Pn **Pn 04 11 27.4 -0.2**
L27K Beaver Creek, 7.32 109 Pn 04 11 27.3 -1.3
BCAR Beaver Creek A 7.34 109 Pn **Pn 04 11 27.2 -1.6**
D28M Stokes Point 7.60 58 Pn 04 11 33.4 +1.2
GLB Gilahina Butte 7.63 123 Pn **Pn 04 11 33.4 +0.6**
M27K Edge Creek, AK 7.71 114 Pn 04 11 34.2 +0.2
E29M Blow River 7.72 65 Pn 04 11 34.2 +0.2
DAWY Dawson 7.79 98 Pn 04 11 34.7 -0.4
VRDI Verde Repeater 7.91 124 Pn **Pn 04 11 37.5 +0.8**
G30M tAoh Zraii Nji 8.34 76 Pn **Pn 04 11 41.8 -0.7**
I30M Mount Dempster 8.61 88 Pn 04 11 46.0 -0.3
K29M Barlow Dome 8.64 97 Pn 04 11 46.0 -0.7
L29M L29M 8.74 103 Pn 04 11 47.8 -0.2
KDAK Kodiak Island 8.80 164 Pn **Pn 04 11 50.7 +1.9**
comp=N,0.6nm,0.3s,baz=216,slow=8.7,SNR=6.5
comp=N,4.9nm,0.7s
J30M Hart River 8.83 92 Pn **Pn 04 11 49.4 0.0**
M29M Somme Creek 8.96 107 Pn 04 11 50.4 -0.7
INK Inuvik 9.33 67 Pn **Pn 04 11 56.1 +0.1**
comp=N,0.3nm,0.3s,baz=266,slow=24,SNR=19
INK Sn **Sn 04 13 36.2 -4.9**
comp=N,0.2nm,0.3s,baz=213,slow=28,SNR=2.1
comp=N,1.5nm,0.5s
O30N Mendenhall 10.87 111 Pn 04 12 16.7 -0.5
A36M Sachs Harbour 12.58 49 Pn **Pn 04 12 38.5 -1.8**
DLBC Dease Lake 14.73 109 Pn **P 04 13 14.7 -1.4**
comp=N,0.1nm,0.3s,baz=306,slow=8.8,SNR=3.3
DLBC Lg Lg 04 17 26.1
baz=217,slow=16,SNR=4.1
comp=N,4.1nm,0.8s
YKA Yellowknife Ar 18.50 82 P Pn 04 13 59.2 +1.5
comp=N,0.1nm,0.3s,baz=295,slow=11,SNR=5.7
comp=N,0.7nm,0.9s
BBB Bella Bella 20.22 120 LR LR 04 22 15.4
comp=N,109nm,19.0s,baz=12,slow=37
RES Resolute Bay 21.29 40 P P 04 14 31.6 +3.6
comp=N,0.4nm,0.6s,baz=65,slow=17,SNR=3.7
SEY Seymchan 21.40 285 P P 04 14 32.9 +3.7
comp=N,2.3nm,0.8s,baz=79,slow=8.2,SNR=8.6
comp=N,2.3nm,0.8s
TIXI Tiksi 25.46 315 LR LR 04 25 22.0
comp=N,54nm,21.6s,baz=7.0,slow=37
TXAR Lajitas Array 49.02 112 P P 04 18 30.3 +1.7
comp=N,0.7nm,0.9s,baz=329,slow=8.7,SNR=2.4
TXAR LR LR 04 38 29.0
comp=N,41nm,19.3s,baz=18,slow=35
comp=N,0.7nm,0.9s
FINES FINESS Array B 52.55 358 P P 04 18 54.0 -0.6
HHC Hu-ho-hao-te 53.91 290 *eP* **P 04 19 04.5 -0.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.5s
BRVK Borovoye 55.66 327 P P 04 19 16.8 -0.7
BRVK IAmb IAmb 04 19 52.6
comp=Z,1.9nm,1.1s
BVAR Borovoye Array 55.66 327 P P 04 19 19.9 +2.3
comp=Z,0.6nm,0.5s,baz=29,slow=8.0,SNR=2.6
comp=Z,0.6nm,0.5s
KURK Kurchatov 55.84 321 P P 04 19 19.2 +0.4
KURBB Kurchatov Arra 55.95 321 P P 04 19 22.0 +2.4
comp=Z,0.2nm,0.4s,baz=26,slow=6.5,SNR=2.2
comp=Z,0.2nm,0.4s
EKA Eskdalemuir Ar 57.12 17 P P 04 19 28.0 +0.2
comp=Z,0.5nm,0.6s,baz=320,slow=7.6,SNR=4.0
comp=Z,0.5nm,0.6s
MK31 Makanchi Array 58.45 316 P P 04 19 36.2 -1.1
MKAR Makanchi Array 58.45 316 P P 04 19 36.2 -1.1
MKAR Makanchi Array 58.45 316 P P 04 19 38.2 +0.9
comp=Z,0.3nm,0.7s,baz=44,slow=7.1,SNR=3.5
comp=Z,0.3nm,0.7s
ABKAR Akbulak array 61.34 333 P P 04 19 57.3 +0.2
ABKAR Akbulak array 61.34 333 P P 04 19 56.6 -0.5
ABKAR IAmb IAmb 04 20 37.8
comp=Z,1.5nm,1.1s
KSH Kashi 66.92 318 P P 04 20 35.0 +0.9
KSH pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 70.36 291 P P 04 20 55.5 -0.2
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s

*IDC **26** 04:18:41.2±0.8, 11°.17S×119°.57E, h0km, mb4.1/9, mbtmp4.1/12, ML3.8/3, MS3.2/2, Error ellipse: s-maj=55.7km s-min=16.2km az=55.0*
*DJA **26** 04:18:43.0±0.4, 11°.S±4°.×11°.9E±°, h10km, M4.5/14, mB5.2/3, mb4.6/10, MLv4.5/14, Mw(mB)4.5/3*
*NEIC **26** 04:18:44.4±1.7, 11°.43S±0°.03×119°.23E±0°.07, h35km±2km, mb4.3/14, Error ellipse: s-maj=12.6km s-min=3.5km az=105.0*
ISC 26 04:18:43.4±0.5, 11°.46S±0°.05×119°.34E±0°.06, h21km, n75, σ1°52/74, mb4.3/16, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.73**	**45**	P	**Pn**	**04 19 12.4**	**+0.2**
WBSI	**Waikabubak, Su**	**1.80**	**2**	P	**Pn**	**04 19 13.0**	**-0.3**
WSI	**Waingapu**	**2.01**	**28**	P	**Pn**	**04 19 16.9**	**+0.8**
WSI				S	**Sn**	**04 19 41.1**	**+0.5**
PLAI	**Plampang**	**3.03**	**329**	P	**Pn**	**04 19 30.7**	**+0.5**
PLAI	**Plampang**	**3.03**	**329**	P	**Pn**	**04 19 30.4**	**+0.2**
TWSI	**Taliwang, Sumb**	**3.63**	**318**	P	**Pn**	**04 19 38.5**	**+0.1**
MMRI	**Maumere**	**4.00**	**46**	Pn	**Pn**	**04 19 43.2**	**-0.3**
MMRI	**Maumere**	**4.00**	**46**	P	**Pn**	**04 19 42.9**	**-0.5**
MMRI	**Maumere**	**4.00**	**46**	P	**Pn**	**04 19 43.0**	**-0.5**
DNP	**Denpasar**	**4.92**	**304**	P	**Pn**	**04 19 57.4**	**+1.3**
SOEI	**Soe**	**5.13**	**71**	Pn	**Pn**	**04 20 00.1**	**+0.9**
SOEI	**Soe**	**5.13**	**71**	P	**Pn**	**04 20 01.8**	**+2.6**
SOEI	**Soe**	**5.13**	**71**	P	**Pn**	**04 20 01.5**	**+2.3**
0.5nm2μm92nm,1.0s							
SRBI	**Singaraja**	**5.27**	**309**	P	**Pn**	**04 20 01.5**	**+0.5**
0.3nm27nm,0.6s							
BSSI	**Bau Bau, Buton**	**5.40**	**12**	P	**Pn**	**04 20 03.2**	**+0.4**
0.3nm888nm71nm,0.6s							
JAGI	**Jajag, Banyuwa**	**5.91**	**300**	Pn	Pn	04 20 06.2	-3.6
JAGI	**Jajag, Banyuwa**	**5.91**	**300**	P	**Pn**	**04 20 10.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.91**	**300**	P	**Pn**	**04 20 08.9**	**-0.9**
KAPI	**Kappang**	**6.41**	**4**	Pn	**Pn**	**04 20 16.5**	**-0.3**
KAPI					**Sn**	**04 21 27.6**	**-1.8**
KAPI	**Kappang**	**6.41**	**4**	Pn	**Pn**	**04 20 18.3**	**+1.6**
4.2nm,0.3s,baz=186,slow=14,SNR=6.9							
KAPI				Sn	**Sn**	**04 21 25.7**	**-3.6**
6.2nm,0.3s,baz=137,slow=22,SNR=5.4							
KAPI				LR	LR	04 22 57.4	
comp=Z,108nm,20.8s,baz=190,slow=42							
KAPI	**Kappang**	**6.41**	**4**	P	**Pn**	**04 20 18.4**	**+1.6**
GMJI	**Gumukmas**	**6.62**	**298**	P	**Pn**	**04 20 19.9**	**+0.4**
0.3nm30nm,1.4s							
BBSI	**Bau Bau**	**6.73**	**29**	P	**Pn**	**04 20 22.3**	**+1.2**
0.1nm43nm,1.2s							
SPSI	**Sidrap Palu**	**7.46**	**3**	P	**Pn**	**04 20 31.8**	**+0.8**
PCJI	**Pacitan**	**8.67**	**291**	P	**Pn**	**04 20 47.3**	**-0.5**
47nm,1.0s							
FITZ	**Fitzroy Crossi**	**8.98**	**138**	Pn	**Pn**	**04 20 52.6**	**+0.6**
0.8nm,0.3s,baz=345,slow=10,SNR=26							
FITZ				Sn	**Sn**	**04 22 28.0**	**-4.6**
5.4nm,0.3s,baz=197,slow=19,SNR=8.1							
9.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**8.98**	**138**	P	**Pn**	**04 20 52.6**	**+0.6**
UGM	**Wanagama**	**9.38**	**291**	Pn	**Pn**	**04 20 55.0**	**-2.5**
UGM	**Wanagama**	**9.38**	**291**	P	**Pn**	**04 20 58.6**	**+1.1**
UGM	**Wanagama**	**9.38**	**291**	P	**Pn**	**04 20 57.5**	**0.0**
89nm,1.6s							
MBWA	**Marble Bar**	**9.66**	**178**		**Pn**	**04 21 01.0**	**-0.3**
MBWA	**Marble Bar**	**9.66**	**178**	P	**Pn**	**04 21 01.8**	**+0.6**
PSA00	**Pilbara Seismi**	**10.07**	**177**	Pn	**Pn**	**04 21 06.7**	**-0.2**
PSA00	**Pilbara Seismi**	**10.07**	**177**	Pn	**Pn**	**04 21 05.6**	**-1.3**
PSA00	**Pilbara Seismi**	**10.07**	**177**	P	**Pn**	**04 21 07.3**	**+0.4**
KNRA	**Kununurra**	**10.07**	**116**	Pn	**Pn**	**04 21 07.6**	**+0.6**
MTN	**Manton Dam**	**11.61**	**98**	Pn	**Pn**	**04 21 27.6**	**-0.5**
GIRL	**Giralia**	**12.15**	**203**	Pn	**Pn**	**04 21 34.5**	**-0.9**
GIRL	**Giralia**	**12.15**	**203**	P	**Pn**	**04 21 36.4**	**+1.1**
141nm,1.6s							
MEEK	**Meekatharra**	**15.12**	**183**	P	**Pn**	**04 22 15.4**	**-0.5**
FAKI	**Fak Fak**	**15.35**	**57**	Pn	**Pn**	**04 22 17.8**	**-1.2**
FAKI				IAmb	IAmb	04 22 35.7	
comp=Z,42nm,1.4s							
FAKI	**Fak Fak**	**15.35**	**57**	P	**Pn**	**04 22 20.6**	**+1.6**
WRKA	**Warakurna**	**15.95**	**149**	P	**Pn**	**04 22 26.8**	**+0.1**
WRA	**Warramunga Arr**	**16.71**	**122**	Pn	**Pn**	**04 22 35.8**	**-0.6**
comp=Z,0.3nm,0.3s,baz=300,slow=14,SNR=7.9							
WRA				Sn	Sn	04 25 28.8	-13
comp=Z,0.3nm,0.3s,baz=294,slow=21,SNR=3.0							
comp=Z,0.7nm,0.4s							
WRAB	**Tennant Creek**	**16.72**	**122**	Pn	**Pn**	**04 22 35.7**	**-0.8**
WRAB				IAmb	IAmb	04 23 01.7	
comp=Z,9.4nm,1.3s							
WB2	**Warramunga Arr**	**16.72**	**122**	Pn	**Pn**	**04 22 35.1**	**-1.5**
WR0	**Warramunga Arr**	**16.89**	**122**	Pn	**Pn**	**04 22 36.9**	**-1.7**
MORW	**Morawa**	**17.79**	**189**		**Pn**	**04 22 49.7**	**-0.2**
MORW				IAmb	IAmb	04 23 27.7	
comp=Z,14nm,1.2s							
AS31	**Alice Springs**	**18.42**	**133**	P	**P**	**04 22 57.3**	**-0.2**
ASAR	**Alice Springs**	**18.42**	**133**		**P**	**04 22 58.7**	**+1.2**
ASAR	**Alice Springs**	**18.42**	**133**	P	**P**	**04 22 59.2**	**+1.7**
comp=Z,0.3nm,0.3s,baz=314,slow=12,SNR=17							
ASAR				S	Sn	04 26 12.6	-10
comp=Z,1.8nm,0.7s,baz=306,slow=23,SNR=7.2							
comp=Z,1.9nm,0.7s							
MYKOM	**Kota Tinggi**	**20.26**	**310**	P	**P**	**04 23 12.9**	**-4.8**
MYKOM				IAmb	IAmb	04 23 25.2	
comp=Z,19nm,1.1s							
NWAO	**Narrogin (SRO)**	**21.46**	**185**	P	**P**	**04 23 28.8**	**-1.7**
COEN	**Coen**	**23.38**	**99**	P	**P**	**04 23 51.5**	**+0.6**
COEN				IAmb	IAmb	04 24 15.5	
comp=Z,24nm,1.4s							
PSI	**Prapat**	**24.76**	**304**	P	**P**	**04 24 05.4**	**+1.4**
comp=Z,3.9nm,0.3s,baz=120,slow=9.3,SNR=4.1							
comp=Z,3.9nm,0.3s							
PMG	**Port Moresby**	**27.43**	**88**	LR	LR	04 37 21.0	
comp=Z,95nm,19.3s,baz=238,slow=41							
STKA	**Stephens Creek**	**28.88**	**138**	P	**P**	**04 24 43.1**	**+2.3**
comp=Z,1.0nm,0.5s,baz=158,slow=6.8,SNR=1.9							
comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**35.90**	**326**	P	**P**	**04 25 42.6**	**+0.2**
comp=Z,1.7nm,0.3s,baz=131,slow=7.7,SNR=1.4							
comp=Z,1.7nm,0.3s							
PZH	**PanZhiHua**	**41.43**	**336**	P	**P**	**04 26 30.8**	**+2.0**
PZH				pmax	pmax		
comp=Z,6.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,5.7s							
H08S2	**Diego Garcia H**	**46.32**	**270**	T	T	05 17 54.5	
baz=97							
H08S3	**Diego Garcia H**	**46.33**	**270**	T	T	05 17 53.8	
baz=97							
H08S1	**Diego Carcia H**	**46.34**	**270**	T	T	05 17 58.6	
baz=97							
HHC	**Hu-ho-hao-te**	**52.54**	**353**	*eP*	**P**	**04 27 58.3**	**+2.9**
HHC				pmax	pmax		
comp=Z,8.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,78nm,4.5s							
SONM	**Songino Array**	**60.14**	**350**	P	**P**	**04 28 49.4**	**-0.1**
comp=Z,0.7nm,0.6s,baz=170,slow=7.5,SNR=4.5							
comp=Z,0.7nm,0.6s							
KSH	**Kashi**	**64.77**	**324**	P	**P**	**04 29 21.3**	**+0.6**
KSH				sP	pwP	04 29 38.0	+5.1
KSH				pmax	pmax		
comp=Z,7.0nm,0.6s							
MK31	**Makanchi Array**	**66.79**	**333**	P	**P**	**04 29 31.5**	**-1.9**
MK31				IAmb	IAmb	04 29 34.5	
comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**66.79**	**333**	P	**P**	**04 29 33.6**	**+0.3**
comp=Z,1.3nm,0.7s,baz=148,slow=7.7,SNR=16							
comp=Z,1.3nm,0.7s							
GAR	**Garm**	**67.84**	**321**	P	**P**	**04 29 37.4**	**-3.0**
KURBB	**Kurchatov Arra**	**71.31**	**334**	P	**P**	**04 30 01.4**	**+0.1**
comp=Z,0.5nm,0.6s,baz=143,slow=5.6,SNR=5.8							
comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**71.44**	**339**	P	**P**	**04 30 01.6**	**-0.5**
comp=Z,1.8nm,0.5s,baz=139,slow=5.4,SNR=11							
comp=Z,1.8nm,0.5s							
BVAR	**Borovoye Array**	**76.61**	**332**	P	**P**	**04 30 33.0**	**+0.7**
comp=Z,1.1nm,0.7s,baz=141,slow=5.0,SNR=4.5							
comp=Z,1.1nm,0.7s							
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**04 30 45.5**	**+2.3**
comp=Z,1.9nm,1.0s,baz=342,slow=6.4,SNR=1.6							
comp=Z,1.9nm,1.0s							
ABKAR	**Akbulak array**	**79.75**	**325**		**P**	**04 30 47.9**	**-2.0**
ABKAR				IAmb	IAmb	04 30 51.1	
comp=Z,2.1nm,0.6s							
TIXI	**Tiksi**	**83.16**	**3**	P	**P**	**04 31 06.9**	**-0.5**
TIXI				IAmb	IAmb	04 31 08.4	
comp=Z,3.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**119.19**	**279**	PKP	**PKPdf**	**04 37 33.4**	**+1.5**
comp=Z,79nm,0.5s,baz=11,slow=2.0,SNR=2.6							

*ATH **26** 04:22:03.9, 38°.83N×26°.44E, h12km±4km, ML2.3/4, Manual Solution by M.Kolligri First location: 2019/02/26 04:23:19, This location: 2019/02/26 06:48:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*ISK **26** 04:22:03.1, 38°.82N×26°.40E, h8km, ML2.6/17*
*AFAD **26** 04:22:03.6, 38°.83N×26°.44E, h7km±2km, ML2.1*
ISC 26 04:22:03.9±0.9, 38°.82N±0°.02×26°.44E±0°.02, h13km±7km, n38, σ0°45/53, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**188**	P	**Pg**	**04 22 07.9**	**+0.2**
KARB				S	**Sg**	**04 22 10.5**	**+0.1**
FOCM	**Foa**	**0.25**	**116**	Pg	**Pg**	**04 22 08.9**	**-0.3**
EAG2	**Marmaro, Chios**	**0.38**	**223**	P	**Pb**	**04 22 12.0**	**-0.4**
EAG2				S	**Sg**	**04 22 17.3**	**+0.6**
IZMD	**zmir-Dikili-**	**0.41**	**67**	P	**Pg**	**04 22 11.9**	**-0.2**
IZMD				P	**Pg**	**04 22 12.0**	**-0.2**
IZMD				S	**Sg**	**04 22 17.6**	**-0.2**
DKL	**Dikili**	**0.44**	**56**	Pg	**Pg**	**04 22 12.3**	**-0.3**
DKL	**Dikili**	**0.44**	**56**	P	**Pg**	**04 22 12.3**	**-0.3**
DKL				S	**Sg**	**04 22 18.0**	**-0.5**
PRK	**Paraskevi**	**0.44**	**343**	P	**Pg**	**04 22 12.3**	**-0.3**
PRK				S	**Sg**	**04 22 18.1**	**-0.5**
URLA	**Izmir**	**0.48**	**165**	P	**Pg**	**04 22 13.1**	**-0.2**
URLA				S	**Sb**	**04 22 20.7**	**-0.4**
URLA				*i* AML	AML	04 22 26.0	
comp=E,304nm,0.8s							
URLA				*i* AML	AML	04 22 28.0	
comp=N,300nm,0.5s							
ZEDA	**zmir-Bergama**	**0.52**	**74**	P	**Pb**	**04 22 14.4**	**-0.4**
ZEDA				S	**Sg**	**04 22 21.2**	**+0.3**
AYVA	**Ayvalik**	**0.52**	**22**	P	**Pg**	**04 22 13.6**	**-0.5**
AYVA				S	**Sg**	**04 22 21.2**	**+0.1**
AYVA				*i* AML	AML	04 22 24.0	
comp=N,173nm,0.3s							
SIGR	**SIGRI**	**0.60**	**311**	Pg	**Pg**	**04 22 14.8**	**-0.7**
SIGR	**SIGRI**	**0.60**	**311**	P	**Pg**	**04 22 15.6**	**+0.1**
SIGR				S	**Sg**	**04 22 23.6**	**+0.1**
BLCB	**Balcova**	**0.64**	**133**	Pg	**Pg**	**04 22 16.4**	**0.0**
GPNR	**Gulpinar-Canak**	**0.67**	**339**	Pg	**Pg**	**04 22 16.5**	**-0.5**
BUHA	**Balikesir, Bur**	**0.84**	**36**	P	**Pg**	**04 22 19.5**	**-0.6**
BUHA				S	**Sb**	**04 22 31.6**	**+0.1**
BUHA				*i* AML	AML	04 22 36.0	
comp=N,95nm,0.3s							
SOMA	**Soma-Manisa**	**0.92**	**68**	Pg	**Pb**	**04 22 21.9**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.93**	**356**	Pg	**Pg**	**04 22 21.6**	**-0.3**
BOZC	**Bozcaada**	**1.06**	**344**	Pg	**Pg**	**04 22 23.8**	**-0.5**
BOZC				Sg	**Sb**	**04 22 38.8**	**+1.0**
SMG	**Samos**	**1.16**	**164**	P	**Pg**	**04 22 25.3**	**-0.8**
SMG				S	**Sn**	**04 22 41.6**	**+0.2**
COMU	**Canakkale**	**1.27**	**1**	Pn	**Pg**	**04 22 27.9**	**-0.5**
YENI	**Yenice-Canakka**	**1.27**	**29**	Pn	**Pb**	**04 22 27.8**	**+0.1**
CANM	**Can-anakkale**	**1.28**	**22**	Pn	**Pn**	**04 22 27.6**	**+0.2**
GCAM	**G?zelcaml?**	**1.28**	**151**	Pn	**Pn**	**04 22 27.5**	**+0.1**
GORD	**Gordes-Manisa**	**1.36**	**86**	Pn	**Pg**	**04 22 29.5**	**-0.5**
ODEM	**Odemis-Izmir**	**1.39**	**113**	Pn	**Pn**	**04 22 29.6**	**+0.6**
GADA	**Gvkgeada**	**1.43**	**343**	Pn	**Pn**	**04 22 29.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**127**	Pn	**Pb**	**04 22 30.4**	**-0.2**
LIA	**Limnos Island**	**1.45**	**318**	P	**Pn**	**04 22 30.0**	**+0.3**
LIA				S	**Sn**	**04 22 48.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.56**	**38**	Pn	**Pb**	**04 22 32.3**	**-0.2**
LPK	**Lapseki**	**1.57**	**9**	Pn	**Pn**	**04 22 31.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.57**	**1**	Pn	**Pn**	**04 22 32.2**	**+0.8**
NAZL	**Nazilli-Aydin**	**1.69**	**120**	Pn	**Pb**	**04 22 34.3**	**-0.5**
KRBG	**Karabiga-Canak**	**1.70**	**23**	Pn	**Pn**	**04 22 33.3**	**+0.1**
SUSR	**Susurluk-Balik**	**1.71**	**48**	Pn	**Pb**	**04 22 34.5**	**-0.6**
KULA	**Kula-Manisa**	**1.77**	**99**	Pn	**Pb**	**04 22 35.6**	**-0.5**
SMTH	**Samothraki Isl**	**1.79**	**337**	P	**Pn**	**04 22 34.2**	**-0.2**
SMTH				S	**Sn**	**04 22 57.4**	**+0.4**
ERIK	**Erikli-Kesan**	**1.84**	**2**	Pn	**Pn**	**04 22 35.5**	**+0.3**
EDC	**Edincik**	**1.88**	**35**	Pn	**Pn**	**04 22 36.8**	**+1.2**

*SJA **26** 04:32:28.9±0.8, 19°.89S×70°.93W, h23km±3km, ML3.5, MW3.7*
*GUC **26** 04:32:32.8±0.6, 19°.86S×70°.86W, h35km±3km, ML3.6*
ISC 26 04:32:30.9±2.0, 19°.86S±0°.03×70°.89W±0°.08, h18km±5km, n20, σ0°58/37, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.82**	**120**	*i* P	**Pb**	**04 32 46.3**	**-0.3**
TA02				*i* S	**Sb**	**04 32 56.2**	**-1.1**
TA02				IAML		04 32 59.7	
comp=Z,1μm,0.2s							
TA02	**Huaiquique**	**0.82**	**120**	*e*P	**Pb**	**04 32 46.3**	**-0.3**
TA02				*e*S	**Sb**	**04 32 57.4**	**+0.2**
TA02				IAML		04 32 59.7	
comp=N,3μm,0.2s							
TA01	**Diego Aracena**	**0.96**	**137**	*i* P	**Pb**	**04 32 48.8**	**-0.2**
TA01				*i* S	**

PB09 IAML 04 33 57.3
comp=Z,315nm,0.7s
PB09 IPOC Station P 2.46 142 *e*P **Pn 04 33 11.4 +1.1**
PB09 IAML 04 33 52.7
comp=E,338nm,0.4s
PB06 IPOC Station P 3.08 157 *i* P **Pn 04 33 18.1 -0.7**

*TRN **26** 04:33:43.7, 10.65N×62.39W, h88km, MD2.8, Paria peninsula.*
*FUNV **26** 04:33:44.6, 10.63N×62.41W, h27km, MW3.6*
ISC 26 04:33:41.7±1.4, 10.61N±0.04×62.38W±0.04, h108km±13km, n26, σ1s44/48, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.85**	**85**	*e*P	**Pn**	**04 34 02.6**	**+1.3**
PSKH				*e*S	**Sn**	**04 34 14.6**	**-1.4**
PSKH	**Kent House, Po**	**0.85**	**85**	*e*P	**Pn**	**04 34 02.6**	**+1.3**
PSKH				*e*S	**Sn**	**04 34 14.6**	**-1.4**
PSQC	**Port of Spain**	**0.85**	**86**	*e*P	**Pn**	**04 34 02.5**	**+1.2**
PSQC				*e*S	**Sn**	**04 34 14.5**	**-1.5**
PSQC	**Port of Spain**	**0.85**	**86**	*e*P	**Pn**	**04 34 02.5**	**+1.2**
PSQC				*e*S	**Sn**	**04 34 14.5**	**-1.5**
PSGH	**Port of Spain**	**0.86**	**87**	*e*P	**Pn**	**04 34 02.7**	**+1.3**
PSGH				*e*S	**Sn**	**04 34 14.8**	**-1.4**
PSGH	**Port of Spain**	**0.86**	**87**	*e*P	**Pn**	**04 34 02.7**	**+1.3**
PSGH				*e*S	**Sn**	**04 34 14.8**	**-1.4**
TRN	**Trinidad (W)**	**0.96**	**88**	*e*P	**Pn**	**04 34 03.8**	**+1.4**
TRN				*e*S	**Sn**	**04 34 16.9**	**-1.1**
TRN	**Trinidad (W)**	**0.96**	**88**	*e*P	**Pn**	**04 34 03.8**	**+1.4**
TRN				*e*S	**Sn**	**04 34 16.9**	**-1.1**
GRFF	**Grenada Fort F**	**1.56**	**24**	*e*P	**Pn**	**04 34 10.0**	**+0.7**
GRFF				*e*S	**Sn**	**04 34 28.7**	**-1.4**
GRFF	**Grenada Fort F**	**1.56**	**24**	*e*P	**Pn**	**04 34 10.0**	**+0.7**
GRFF				*e*S	**Sn**	**04 34 28.7**	**-1.4**
GRGR	**Grenville**	**1.67**	**25**	*e*P	**Pn**	**04 34 11.1**	**+0.5**
GRGR				*e*S	**Sn**	**04 34 31.7**	**-0.9**
GRGR	**Grenville**	**1.67**	**25**	*e*P	**Pn**	**04 34 11.1**	**+0.5**
GRGR				*e*S	**Sn**	**04 34 31.7**	**-0.9**
TOSP	**Speyside**	**1.94**	**69**	*e*P	**Pn**	**04 34 14.5**	**+0.6**
TOSP				*e*S	**Sn**	**04 34 37.8**	**-0.6**
TOSP	**Speyside**	**1.94**	**69**	*e*P	**Pn**	**04 34 14.5**	**+0.6**
TOSP				*e*S	**Sn**	**04 34 37.8**	**-0.6**
GCMP	**Grenada, Carri**	**2.09**	**27**	*e*P	**Pn**	**04 34 17.1**	**+1.4**
GCMP				*e*S	**Sn**	**04 34 41.3**	**-0.5**
GCMP	**Grenada, Carri**	**2.09**	**27**	*e*P	**Pn**	**04 34 17.1**	**+1.4**
GCMP				*e*S	**Sn**	**04 34 41.3**	**-0.5**
PCRV	**Puerto La Cruz**	**2.26**	**259**	*e*P	**Pn**	**04 34 19.0**	**+1.0**
PCRV				*e*S	**Sn**	**04 34 44.2**	**-1.6**
PCRV	**Puerto La Cruz**	**2.26**	**259**	*e*P	**Pn**	**04 34 20.0**	**+2.0**
PCRV				*e*S	**Sn**	**04 34 45.9**	**+0.1**
PCRV	**Puerto La Cruz**	**2.26**	**259**	*e*P	**Pn**	**04 34 20.0**	**+2.0**
PCRV				*e*S	**Sn**	**04 34 45.9**	**+0.1**
TACV	**Tcata**	**4.59**	**265**	*e*P	**Pn**	**04 34 50.3**	**+1.2**
LUEV	**Luepa**	**4.82**	**169**	*e*P	**Pn**	**04 34 54.1**	**+1.7**
LUEV				*e*S	**Sn**	**04 35 45.1**	**-2.1**
CACV	**CAICARA DEL OR**	**5.10**	**234**	*e*P	Pn	04 34 52.7	-3.2
CACV				*e*S	Sn	04 35 42.8	-11
BENV	**Beln**	**5.17**	**263**	*e*P	**Pn**	**04 34 58.6**	**+1.6**
BENV				*e*S	**Sn**	**04 35 52.9**	**-2.7**
BAUV	**El Baul**	**5.82**	**254**	*e*P	**Pn**	**04 35 06.3**	**+0.6**
BAUV				*e*S	**Sn**	**04 36 07.6**	**-3.5**
BAUV	**El Baul**	**5.82**	**254**	*e*P	**Pn**	**04 35 07.1**	**+1.5**
BAUV				*e*S	**Sn**	**04 36 09.4**	**-1.7**
BAUV	**El Baul**	**5.82**	**254**	*e*P	**Pn**	**04 35 07.1**	**+1.5**

*NEIC **26** 04:49:57.9±0.4, 24.07N±0.07×90.3E±0.1, h10km±2km, mb3.7/2, Error ellipse: s-maj=20.2km s-min=7.2km az=301.0*
*NDI **26** 04:49:57.4±3.0, 24.03N×90.40E, h10km, ML3.6, MW3.5, mb3.7(NEIC)*
*DMN **26** 04:50:04.6±0.0, 23.72N×90.04E, h30km, Ml4.1/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 26 04:50:01.3±1.1, 24.13N±0.07×90.38E±0.04, h35km, n22, σ2s24/34, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.98**	**43**	Pn	**Pn**	**04 50 31.3**	**-1.2**
SHL				Sn	**Sn**	**04 50 58.1**	**+2.0**
SHL	**Shillong**	**1.98**	**43**	*e*P	**Pn**	**04 50 31.3**	**-1.2**
SHL				*e*S	**Sn**	**04 50 56.7**	**+0.5**
SHL				IAML		04 50 59.1
	comp=E,821nm,0.3s					
SHL				IAML		04 50 59.2
	comp=N,1μm,0.3s					
AZL	**Aizawl**	**2.15**	**100**	*e*P	**Pn**	**04 50 33.4**	**-1.4**
AZL				*e*S	**Sn**	**04 50 58.9**	**-1.5**
AZL				IAML		04 50 59.2
	comp=N,333nm,0.3s					
AZL				IAML		04 50 59.3
	comp=E,256nm,0.2s					
TEZP	**TEZPUR**	**3.30**	**41**	*e*P	**Pn**	**04 50 52.1**	**+1.5**
TEZP				IAML		04 51 07.7
	comp=E,961nm,0.2s					
TEZP				IAML		04 51 07.7
	comp=N,1μm,0.2s					
TEZP				*e*S	**Sn**	**04 51 30.6**	**+2.0**
IMP	**Imphal**	**3.33**	**77**	*e*P	**Pn**	**04 50 50.0**	**-0.9**
IMP				IAML		04 51 32.8
	comp=E,76nm,0.3s					
IMP				IAML		04 51 34.5
	comp=N,82nm,0.3s					
GTK	**Tadong**	**3.55**	**334**	*e*P	**Pn**	**04 50 52.9**	**-1.2**
GTK				*e*S	**Sn**	**04 51 34.7**	**-0.3**
GTK				IAML		04 51 53.7
	comp=N,118nm,0.3s					
GTK				IAML		04 51 55.6
	comp=E,132nm,0.3s					
TAWA	**Tawang**	**3.70**	**21**	*e*S	**Sn**	**04 51 40.3**	**+1.4**
KOHI	**KOHIMA**	**3.74**	**64**	*e*S	**Sn**	**04 51 38.8**	**-0.8**
KOHI				IAML		04 51 53.6
	comp=E,107nm,0.5s					
KOHI				IAML		04 51 55.4
	comp=N,72nm,0.8s					
ODAN	**Odare**	**3.83**	**316**	Pg	**Pn**	**04 51 01.7**	**+3.7**
	baz=323,slow=0.0					
BOK	**Bokaro**	**4.12**	**266**	*e*S	**Sn**	**04 51 48.1**	**-0.7**
BOK				IAML		04 52 06.5
	comp=N,72nm,0.3s					
BOK				IAML		04 52 08.8
	comp=E,43nm,0.2s					
ITAN	**ITANAGAR**	**4.25**	**44**	*e*P	**Pn**	**04 51 03.4**	**-0.3**
ITAN				*e*S	**Sn**	**04 51 51.1**	**-1.0**
ITAN				IAML		04 51 54.4
	comp=E,383nm,0.3s					
ITAN				IAML		04 51 54.6
	comp=N,282nm,0.2s					
RAMN	**Ramite**	**4.42**	**310**	Pn	**Pn**	**04 51 08.6**	**+2.5**
	baz=317,slow=0.0					
RAMN				Sn	**Sn**	**04 51 55.8**	**-0.6**
	comp=N,66nm,0.4s,baz=317,slow=0.0					
ZIRO	**ZIRO**	**4.61**	**42**	*e*P	**Pn**	**04 51 06.3**	**-2.4**
ZIRO				IAML		04 51 13.1
	comp=N,346nm,0.3s					
ZIRO				IAML		04 51 13.3
	comp=E,484nm,0.2s					
ZIRO				*e*S	**Sn**	**04 52 00.2**	**-0.8**
ZIRO				IAML		04 52 00.2
	comp=E,261nm,0.5s					
ZIRO				IAML		04 52 06.6
	comp=N,355nm,0.8s					
PKI	**Pulchoki**	**5.63**	**308**	Pg	**Pn**	**04 51 24.3**	**+1.4**
	baz=314,slow=0.0					
PKIN	**Phulchoki**	**5.65**	**308**	Pg	**Pn**	**04 51 24.8**	**+1.8**
	baz=313,slow=0.0					
PKIN				Sn	**Sn**	**04 52 21.7**	**-5.1**
	comp=N,24nm,0.4s,baz=313,slow=0.0					
KKN	**Kakani**	**5.86**	**310**	Pn	**Pn**	**04 51 30.3**	**+4.4**
	baz=314,slow=0.0					
KKN				Sn	**Sn**	**04 52 32.7**	**+0.8**
	baz=314,slow=0.0					
KKN				Sn	Sn	04 52 33.3	+1.4
	comp=N,25nm,0.2s,baz=314,slow=0.0					
KOLN	**Koldanda**	**7.09**	**302**	Pn	**Pn**	**04 51 44.9**	**+2.0**
	baz=306,slow=0.0					
KOLN				Sn	**Sn**	**04 52 58.6**	**-3.8**
	comp=N,36nm,0.3s,baz=306,slow=0.0					
PYUN	**Piuthan**	**7.72**	**302**	Pg	**Pn**	**04 51 53.3**	**+1.8**
	baz=306,slow=0.0					
PYUN				Sn	**Sn**	**04 53 12.3**	**-5.6**
	baz=306,slow=0.0					
SLVN	**Son La**	**12.79**	**100**	Pn	**Pn**	**04 53 00.5**	**-0.3**
MK31	**Makanchi Array**	**23.52**	**346**	P	**P**	**04 55 08.1**	**-0.1**
MK31				IAmb	IAmb	04 55 25.4
	comp=Z,1.6nm,1.2s					
MKAR	**Makanchi Array**	**23.52**	**346**	P	**P**	**04 55 08.6**	**+0.4**
ULN	**Ulaanbaatar**	**27.14**	**25**	P	**P**	**04 55 41.5**	**+0.2**
ULN				IAmb	IAmb	04 55 48.0
	comp=Z,1.4nm,0.5s					

*TIR **26** 04:51:35.8, 40.84N×20.50E, h3km±1km, Md2.7/4, Ml2.8/10*
*ATH **26** 04:51:36.3, 40.83N×20.55E, h9km, ML2.8/12, Manual Solution by M.Kolligri First location: 2019/02/26 04:52:42, This location: 2020/07/02 10:02:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*SKO **26** 04:51:36.3, 40.79N×20.53E, h14km, ML2.5*
*BEO **26** 04:51:37.5±0.7, 40.88N×20.62E, h17km±3km, ML2.6/7*
*PDG **26** 04:51:37.3±0.6, 40.84N×20.42E, h0km±11km, ML2.9/11, Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*
ISC 26 04:51:36.4±1.0, 40.84N±0.02×20.53E±0.02, h7km±9km, n60, σ0s91/101, 1C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.29**	**137**	P	**Pg**	**04 51 42.5**	**+0.4**
KBN				S	**Sg**	**04 51 47.0**	**+1.0**
KBN				AML	AML	04 51 48.8
	20nm,0.3s					
KBN				AMd		04 52 15.5
OHR	**Ohrid**	**0.34**	**37**	*i*Pg	**Pb**	**04 51 44.0**	**-0.9**
OHR				*i* Sg	**Sb**	**04 51 50.5**	**0.0**
OHR				*e*Lg	Lg	04 51 50.6
	comp=E,676nm,0.7s					
OHR				*e*Lg	Lg	04 51 51.1
	comp=N,487nm,0.4s					
OHR	**Ohrid**	**0.34**	**37**	*e*Pg	**Pb**	**04 51 43.9**	**-0.9**
OHR				*e*Sg	**Sb**	**04 51 50.1**	**-0.4**
NEST	**Nestorio**	**0.58**	**137**	P	**Pg**	**04 51 47.5**	**0.0**
NEST				S	**Sb**	**04 51 57.4**	**+0.1**
NEST				AML	AML	04 52 00.1
	comp=N,1.6nm,0.4s					
NEST	**Nestorio**	**0.58**	**137**	P	**Pg**	**04 51 47.5**	**0.0**
NEST				S	**Sg**	**04 51 55.0**	**-0.1**
FNA	**Florina**	**0.65**	**95**	P	**Pg**	**04 51 48.9**	**+0.1**
FNA				S	**Sb**	**04 51 59.8**	**+0.5**
FNA				AML	AML	04 52 02.4
	comp=N,1.9nm,0.4s					
FNA	**Florina**	**0.65**	**95**	*i*Pg	**Pg**	**04 51 48.8**	**0.0**
FNA				*i* Sg	**Sb**	**04 51 59.8**	**+0.5**
FNA	**Florina**	**0.65**	**95**	P	**Pg**	**04 51 48.6**	**-0.2**
FNA				S	**Sg**	**04 51 57.9**	**+0.6**
LSK	**Leskovik**	**0.69**	**175**	P	**Pg**	**04 51 49.4**	**-0.2**
LSK				S	**Sb**	**04 52 00.3**	**-0.2**
LSK				AML	AML	04 52 07.4
	comp=N,3.1nm,0.5s					
LSK				AMd		04 52 46.4
TIR	**Tirane**	**0.71**	**316**	P	**Pg**	**04 51 50.1**	**0.0**
TIR				S	**Sb**	**04 52 00.8**	**-0.4**
TIR				AML	AML	04 52 03.4
	comp=N,0.6nm,0.6s					
TIR				AML	AML	04 52 06.3
	comp=N,0.6nm,0.7s					
TIR				AMd		04 52 41.3
TIR	**Tirane**	**0.71**	**316**	*e*Pg	**Pb**	**04 51 50.7**	**-0.4**
TIR				*e*Sg	**Sn**	**04 52 06.1**	**+2.0**
TIR	**Tirane**	**0.71**	**316**	P	**Pg**	**04 51 50.5**	**+0.3**
TIR				S	**Sb**	**04 52 00.4**	**-0.8**
PENT	**Pentalofos**	**0.79**	**144**	P	**Pg**	**04 51 51.5**	**-0.1**
PENT				S	**Sg**	**04 52 01.7**	**-0.2**
PHP	**Peshkopia**	**0.85**	**356**	P	**Pg**	**04 51 52.3**	**-0.4**
PHP				S	**Sb**	**04 52 05.0**	**-0.1**
PHP				AML	AML	04 52 12.6
	comp=N,1.0nm,0.4s					
PHP				AMd		04 52 38.2
VLO	**Vlora**	**0.87**	**245**	P	**Pg**	**04 51 52.2**	**-0.8**
SRN	**Sarande**	**1.04**	**203**	P	**Pg**	**04 51 56.1**	**-0.2**
SRN				S	**Sn**	**04 52 12.3**	**+0.3**
SRN				AML	AML	04 52 17.8
	comp=N,0.7nm,0.6s					
KZN	**Kozani**	**1.08**	**119**	P	**Pg**	**04 51 57.2**	**0.0**
KZN				S	**Sb**	**04 52 12.1**	**+0.2**
KPRO	**Kipourio**	**1.09**	**144**	P	**Pg**	**04 51 56.9**	**-0.4**
JAN	**Janina**	**1.21**	**168**	P	**Pb**	**04 51 59.1**	**-0.5**
KEK	**Kerkira**	**1.26**	**207**	P	**Pg**	**04 52 00.6**	**+0.2**
KEK				S	**Sn**	**04 52 17.0**	**-0.4**
PUK	**Puka**	**1.29**	**339**	P	**Pb**	**04 52 01.0**	**-0.1**
PUK				S	**Sn**	**04 52 20.4**	**+1.8**
PUK				AML	AML	04 52 26.5
	comp=N,1.0nm,0.5s					
IGT	**Igoumenitsa**	**1.31**	**187**	P	**Pg**	**04 52 01.8**	**+0.2**
IGT				S	**Sg**	**04 52 21.3**	**+2.7**
IGT	**Igoumenitsa**	**1.31**	**187**	*i* Pg	**Pb**	**04 52 01.1**	**-0.2**
IGT	**Igoumenitsa**	**1.31**	**187**	P	**Pn**	**04 52 00.8**	**-0.3**
IGT				S	**Sb**	**04 52 18.0**	**-0.4**
GRG	**Griva**	**1.42**	**85**	*i* Pg	**Pg**	**04 52 03.5**	**-0.2**
GRG				*i* Sg	**Sg**	**04 52 23.8**	**+1.7**
GRG	**Griva**	**1.42**	**85**	P	**Pb**	**04 52 03.0**	**-0.3**
GRG				S	**Sg**	**04 52 22.3**	**+0.1**
ULC	**Ulcinj**	**1.48**	**320**	*i* Pg	**Pb**	**04 52 04.3**	**+0.1**
ULC	**Ulcinj**	**1.48**	**320**	*e*Pg	**Pn**	**04 52 03.0**	**-0.5**
ULC				*i* Sg	**Sb**	**04 52 23.3**	**0.0**
BCI	**Bajram Curri**	**1.56**	**347**	P	**Pg**	**04 52 06.9**	**+0.5**
BCI				S	**Sg**	**04 52 28.6**	**+1.9**
BCI				AML	AML	04 52 35.3
	comp=N,1.0nm,0.8s					
TETR	**Tetrakomo, Epi**	**1.60**	**159**	P	**Pg**	**04 52 07.0**	**0.0**
VAY	**Valandovo**	**1.62**	**72**	*i* Pg	**Pb**	**04 52 06.6**	**+0.1**
VAY				*i* Sg	**Sg**	**04 52 28.8**	**+0.5**
VAY				*e*Lg	Lg	04 52 32.2
	comp=N,35nm,0.5s					
VAY				*e*Lg	Lg	04 52 33.9
	comp=E,44nm,0.6s					
VAY	**Valandovo**	**1.62**	**72**	*e*Pg	**Pn**	**04 52 01.7**	**-3.6**
VAY				*e*Sg	**Sg**	**04 52 29.6**	**+1.3**
LIT	**Litokhoron**	**1.67**	**116**	*i* Pn	**Pn**	**04 52 06.3**	**+0.3**
LIT	**Litokhoron**	**1.67**	**116**	P	**Pn**	**04 52 05.4**	**-0.6**
DRME	**Dracevica, Mon**	**1.68**	**324**	*e*Pn	**Pb**	**04 52 06.8**	**-0.9**
DRME				*i* Sn	**Sb**	**04 52 28.9**	**-0.2**
THL	**Klokotos Trika**	**1.71**	**138**	P	**Pn**	**04 52 07.0**	**+0.5**
TYRN	**Tyrnavos**	**1.72**	**130**	P	**Pn**	**04 52 06.6**	**-0.1**
SCTE	**Santa Cesarea**	**1.75**	**245**	P	**Pn**	**04 52 06.0**	**-1.1**
SCTE	**Santa Cesarea**	**1.75**	**245**	P	**Pn**	**04 52 06.2**	**-0.9**
PVY	**Plav**	**1.81**	**347**	*i*Pn	**Pb**	**04 52 09.1**	**-0.7**
PVY				*i* Sn	**Sg**	**04 52 34.8**	**+0.4**
PDG	**Podgorica**	**1.85**	**329**	*e*Pg	**Pb**	**04 52 10.4**	**-0.2**
PDG				*e*Sg	**Sg**	**04 52 35.2**	**-0.8**
PDG	**Podgorica**	**1.85**	**329**	*e*Pn	**Pb**	**04 52 09.5**	**-1.1**
PDG				*i* Sn	**Sb**	**04 52 34.1**	**+0.1**
THE	**Thessaloniki**	**1.86**	**96**	*i* Pn	**Pg**	**04 52 12.3**	**+0.2**
BUM	**Brajici-Budva**	**1.91**	**321**	*e*Pn	**Pn**	**04 52 10.1**	**+0.7**
BUM				*i* Sn	**Sb**	**04 52 34.8**	**-0.8**
PEHC	**Pehcevo**	**2.02**	**61**	*i* Pn	**Pb**	**04 52 12.7**	**-0.7**
PEHC				*i* Sn	**Sg**	**04 52 41.4**	**+0.2**
PEHC				*e*Lg	Lg	04 52 46.7
	comp=N,82nm,0.5s					
LKD2	**Lefkada island**	**2.05**	**177**	P	**Pb**	**04 52 12.6**	**-1.3**
BEY	**Berane**	**2.09**	**347**	*i* Pn	**Pb**	**04 52 14.8**	**+0.2**
IVA	**Berane**	**2.09**	**347**	*i*Pn	**Pb**	**04 52 13.0**	**-1.6**
IVA				*i* Sn	**Sb**	**04 52 41.5**	**+0.8**
CEME	**Cevo**	**2.09**	**325**	*e*Pn	**Pn**	**04 52 12.7**	**+0.8**
CEME				*i* Sn	**Sb**	**04 52 41.2**	**+0.4**
KOME	**Kolasin**	**2.15**	**340**	*e*Pn	**Pn**	**04 52 13.7**	**+1.0**
KOME				*i* Sn	**Sb**	**04 52 42.0**	**-0.5**
BARS	**Barje**	**2.20**	**26**	*i* Pn	**Pb**	**04 52 16.0**	**-0.4**
BOSS	**Bosilegrad**	**2.21**	**41**	*e*Pg	**Pn**	**04 52 14.0**	**+0.5**
BOSS				*e*Sg	**Sb**	**04 52 44.3**	**+0.1**
HCY	**Herceg Novi**	**2.21**	**317**	*e*Pn	**Pn**	**04 52 14.3**	**+0.8**
HCY				*i* Sn	**Sb**	**04 52 44.0**	**-0.4**
NKME	**Niksic**	**2.26**	**329**	*e*Pn	**Pn**	**04 52 15.0**	**+0.8**
NKME				*i* Sn	**Sb**	**04 52 45.3**	**-0.4**
SELS	**Selova**	**2.42**	**10**	*e*Pn	**Pb**	**04 52 18.3**	**-1.9**
SJES	**Sjenica**	**2.46**	**350**	*e*Pg	**Pb**	**04 52 19.4**	**-1.5**
SJES				*e*Sg	**Sg**	**04 52 53.7**	**-1.6**
PLE	**Pljevlja**	**2.63**	**342**	*e*Pn	**Pn**	**04 52 20.4**	**+1.1**
PLE				*i* Sn	**Sb**	**04 52 54.5**	**-1.9**
VTS	**Vitosha**	**2.69**	**48**	*e*Pg	**Pn**	**04 52 21.1**	**+0.8**
VTS				*e*Sg	**Sg**	**04 53 01.0**	**-1.9**
BOVS	**Bovan**	**2.93**	**17**	*e*Pn	**Pn**	**04 52 22.3**	**-1.0**
DIVS	**Divibare**	**3.28**	**353**	*e*Pn	**Pn**	**04 52 29.6**	**+1.3**

*CATAC **26** 05:05:13.7±0.9, 11.6N×86.8W±., h1km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=18.0km s-min=10.4km az=116.4, confirmed*
*IDC **26** 05:05:17.2±1.5, 12.02N×86.86W, h0km, mb3.4/4, mbtmp3.3/5, ML2.4/1, MS3.5/1, Error ellipse: s-maj=85.3km s-min=21.6km az=54.0*
ISC 26 05:05:15.4±1.3, 11.30N±0.07×87.46W±0.08, h10km, n23, σ1s11/25, mb3.4/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.22**	**44**	P	**Pn**	**05 05 37.9**	**-0.8**
COPN	**Copaltepe**	**1.22**	**44**	P	**Pn**	**05 05 38.0**	**-0.6**
PACN	**Al O del Volca**	**1.36**	**29**	P	**Pn**	**05 05 40.3**	**-0.3**
PACN	**Al O del Volca**	**1.36**	**29**	S	**Sb**	**05 05 59.9**	**+1.4**
LEVN	**Ruinas Leon Vi**	**1.37**	**37**	P	**Pn**	**05 05 39.2**	**-1.4**
LEVN	**Ruinas Leon Vi**	**1.37**	**37**	P	**Pn**	**05 05 40.0**	**-0.7**
ROCN	**Rota Cerro Neg**	**1.40**	**30**	P	**Pn**	**05 05 40.2**	**-0.9**
ROCN				S	**Sb**	**05 06 01.0**	**+1.3**
MOMN	**Momotombo**	**1.43**	**39**	P	**Pn**	**05 05 40.5**	**-0.9**
MOMN	**Momotombo**	**1.43**	**39**	P	**Pn**	**05 05 41.1**	**-0.3**
MOMN				S	**Sb**	**05 06 01.9**	**+1.5**
APQ2	**Apoyeque**	**1.43**	**51**	P	**Pg**	**05 05 43.9**	**+1.0**
APQ2	**Apoyeque**	**1.43**	**51**	P	**Pn**	**05 05 41.5**	**0.0**
TISN	**Laguna Tiscapa**	**1.44**	**54**	P	**Pn**	**05 05 40.4**	**-1.2**
TISN	**Laguna Tiscapa**	**1.44**	**54**	P	**Pb**	**05 05 41.7**	**-0.7**
PKGN	**Cerro Pekin**	**1.44**	**19**	P	**Pn**	**05 05 41.6**	**-0.1**
PKGN	**Cerro Pekin**	**1.44**	**19**	P	**Pn**	**05 05 40.6**	**-1.0**
PKGN				S	**Sb**	**05 06 01.6**	**+0.8**
CHOHN	**Orocuina**	**2.19**	**8**	P	**Pb**	**05 05 53.3**	**-1.9**
JTS	**Las Juntas de**	**2.66**	**112**	Pn	**Pn**	**05 05 59.2**	**+0.8**
	0.8nm,0.3s,baz=312,slow=20,SNR=1.7						
JTS				Sn	**Sn**	**05 06 28.9**	**-1.9**
	5.7nm,0.3s,baz=247,slow=19,SNR=3.8 3.0nm,0.4s						
YUSH	**Yuscaran**	**2.71**	**13**	P	**Pn**	**05 05 59.9**	**+0.8**
TXAR	**Lajitas Array**	**23.46**	**322**	P	**P**	**05 10 25.9**	**+0.6**
	0.6nm,0.7s,baz=139,slow=12,SNR=5.6 0.6nm,0.7s						
LPAZ	**La Paz**	**33.43**	**145**	P		05 12 01.1	+5.8
	0.3nm,0.4s,baz=12,slow=9.3,SNR=1.9 0.3nm,0.4s						
PDAR	**Pinedale Array**	**36.77**	**332**	P	**P**	**05 12 24.9**	**+1.3**
	0.3nm,0.6s,baz=127,slow=5.0,SNR=3.1 0.3nm,0.6s						
ULM	**Lac du Bonnet**	**39.45**	**352**	LR	LR	05 32 18.8	
	comp=Z,70nm,19.2s,baz=42,slow=42						
YKA	**Yellowknife Ar**	**54.71**	**345**	P	**P**	**05 14 43.6**	**-1.0**
	0.3nm,0.7s,baz=146,slow=7.3,SNR=5.1 0.3nm,0.7s						

IDC 26 05:53:07.7±9.0, 7.14S×129.88E, h67km±88km, mb3.6/2, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=124.2km s-min=38.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.44**	**162**	P	Pn	05 56 15.0	-0.5
	0.4nm,0.3s,baz=346,slow=13,SNR=19						
WRA				S	Sn	05 58 38.2	-5.0
	1.0nm,0.3s,baz=345,slow=24,SNR=8.7 0.6nm,0.3s						
ASAR	**Alice Springs**	**16.88**	**167**	P	P	05 57 01.4	+0.6
	0.2nm,0.3s,baz=349,slow=9.0,SNR=9.5						
ASAR				S	Sn	06 00 05.8	-1.0
	0.4nm,0.4s,baz=334,slow=14,SNR=6.0 0.6nm,0.6s						
STKA	**Stephens Creek**	**26.93**	**158**	P	P	05 58 42.8	+0.1
	0.8nm,0.3s,baz=331,slow=10,SNR=1.7 0.8nm,0.3s						
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	06 04 01.4	-0.1
	0.4nm,0.5s,baz=128,slow=6.9,SNR=4.7 0.4nm,0.5s						

*TAP **26** 06:11:45.3, 24.64N×122.08E, h68km±1km, ML3.2, B*
*JMA **26** 06:11:45.5±0.2, 24.6N±0.7×122.1E±0.4, h69km±2km, MV2.6/12, TAIWAN REGION*
ISC 26 06:11:45.7±1.3, 24.65N±0.03×122.09E±0.02, h69km±6km, n79, σ0s60/120, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.22**	**260**	*i* P	**Pn**	**06 11 55.9**	**-0.4**
ESAO	**Su ao**	**0.23**	**252**	*e*P	**Pn**	**06 11 56.2**	**-0.1**
EOS2	**EOS2**	**0.27**	**150**	P	**Pn**	**06 11 56.9**	**+0.5**
EOS2				S	**Sn**	**06 12 05.6**	**+1.4**
NDS	**Dongshan**	**0.34**	**268**	*i* P	**Pn**	**06 11 57.2**	**+0.2**
NDS				*e*S	**Sn**	**06 12 05.1**	**-0.3**
EWUT	**Wuta**	**0.34**	**234**	*i* P	**Pn**	**06 11 56.9**	**-0.2**
EWUT				*e*S	**Sn**	**06 12 05.4**	**0.0**
TWB1	**Santiao Chiao**	**0.37**	**346**	*e*P	**Pn**	**06 11 57.1**	**-0.2**
TWB1				*i* S	**Sn**	**06 12 05.1**	**-0.7**
ENA	**Nanau**	**0.38**	**235**	P	**Pn**	**06 11 57.1**	**-0.3**
ENA				*e*S	**Sn**	**06 12 05.7**	**-0.2**
TWE	**Neicheng**	**0.39**	**281**	*i* P	**Pn**	**06 11 57.6**	**+0.2**
TWE				*e*S	**Sn**	**06 12 06.4**	**+0.4**
TIPB	**Shuangxi**	**0.40**	**324**	*i* P	**Pn**	**06 11 57.4**	**-0.2**
TIPB				*i* S	**Sn**	**06 12 05.7**	**-0.6**
EOS3	**EOS3**	**0.42**	**150**	*e*P	**Pn**	**06 11 58.2**	**+0.7**
EOS3				*e*S

OWD			*i* S		**Sn**	**06 12 18.9**	**-1.0**
WUSB	**Renai**	**1.10 234**	*e*P		**Pn**	**06 12 05.5**	**-0.1**
WUSB			*e*S		**Sn**	**06 12 19.9**	**-0.4**
WHP	**Taichung City**	**1.10 251**	*e*P		**Pn**	**06 12 06.4**	**+0.9**
WHP			S		**Sn**	**06 12 21.1**	**+0.8**
WARBT	**Fenglin Townsh**	**1.12 215**	P		**Pn**	**06 12 04.2**	**-1.5**
EGFH	**Guangfu**	**1.15 212**	*e*P		**Pn**	**06 12 05.6**	**-0.4**
EGFH			*e*S		**Sn**	**06 12 19.4**	**-1.8**
NMLH	**Miaoli**	**1.18 265**	*e*S		**Sn**	**06 12 22.2**	**+0.1**
WCS	**Beigang Elemen**	**1.22 241**	*e*P		**Pn**	**06 12 07.9**	**+0.9**
WCS			*e*S		**Sn**	**06 12 23.2**	**+0.3**
TWQ1	**Liyutan**	**1.23 256**	*e*S		**Sn**	**06 12 23.1**	**-0.1**
VWDT	**VWDT**	**1.24 224**	*i* P		**Pn**	**06 12 07.0**	**-0.2**
VWDT			*e*S		**Sn**	**06 12 22.4**	**-0.9**
HGSD	**Ruisui**	**1.30 208**	*e*P		**Pn**	**06 12 07.6**	**-0.4**
SMLT	**Sun Moon Lake**	**1.32 235**	*e*P		**Pn**	**06 12 08.5**	**+0.1**
SMLT			*e*S		**Sn**	**06 12 26.4**	**+1.0**
EHY	**Hungye**	**1.33 212**	*e*P		**Pn**	**06 12 07.3**	**-1.2**
SSLB	**Suanglung**	**1.34 231**	*e*P		**Pn**	**06 12 08.6**	**0.0**
TYC	**Yuchr**	**1.34 237**	*e*P		**Pn**	**06 12 09.6**	**+1.0**
TYC			*e*S		**Sn**	**06 12 26.8**	**+1.1**
WHYT	**Xinyi Township**	**1.47 230**	*e*P		**Pn**	**06 12 11.2**	**+1.0**
WHYT			*e*S		**Sn**	**06 12 30.1**	**+1.3**
EYUL	**Yuli**	**1.47 209**	*e*P		**Pn**	**06 12 10.6**	**+0.4**
TWF1	**Yuli**	**1.48 209**	*e*P		**Pn**	**06 12 10.4**	**+0.1**
IRIF	**Iriomote-Funau**	**1.53 101**	P		**Pn**	**06 12 10.8**	**-0.2**
IRIF			*e*S		**Sn**	**06 12 30.1**	**0.0**
FULB	**Fuli**	**1.61 207**	*e*P		**Pn**	**06 12 11.6**	**-0.6**
ALS	**Alishan**	**1.63 226**	*e*P		**Pn**	**06 12 13.3**	**+0.7**
WRL	**Guolierlin Hig**	**1.73 245**	*e*P		**Pn**	**06 12 13.8**	**+0.2**
JKRS	**Kuro-shima**	**1.80 103**	*e*P		**Pn**	**06 12 15.1**	**+0.5**
JKRS			*e*S		**Sn**	**06 12 36.6**	**+0.1**
WCKO	**Fanlu**	**1.81 229**	*e*P		**Pn**	**06 12 15.6**	**+0.8**
EDH	**Donghe**	**1.81 203**	*e*P		**Pn**	**06 12 15.2**	**+0.4**
TPUB	**Ta-pu**	**1.89 225**	*e*P		**Pn**	**06 12 16.7**	**+0.9**
JIJ	**Ishigaki jima**	**1.90 98**	P		**Pn**	**06 12 15.8**	**-0.1**
JIJ			*e*S		**Sn**	**06 12 38.3**	**-0.5**
STYH	**Taoyuan**	**1.90 219**	*e*P		**Pn**	**06 12 16.6**	**+0.7**
STYH			*e*S		**Sn**	**06 12 39.0**	**+0.1**
TWK	**Hsinying**	**2.01 227**	*e*P		**Pn**	**06 12 18.3**	**+0.8**
JISG	**Ishigakijimahi**	**2.03 91**	*e*P		**Pn**	**06 12 17.8**	**+0.2**
CHN1	**Nanshi**	**2.04 225**	*e*P		**Pn**	**06 12 18.4**	**+0.5**
LDUT	**Ludao**	**2.05 196**	*e*P		**Pn**	**06 12 18.1**	**+0.1**
VWUC	**VWUC**	**2.42 279**	*e*P		**Pn**	**06 12 22.3**	**-0.6**
MATB	**Ma-tsu**	**2.45 308**	*e*P		**Pn**	**06 12 23.0**	**-0.3**
PTMZ	**Houxiangcun**	**2.72 279**	*e*P		**Pn**	**06 12 26.4**	**-0.7**

*ATH **26** 06:28:26.7, 37°.66N×20°.76E, h12km±3km, ML2.5/12, Manual Solution by A.Papageorgiou First location: 2019/02/26 06:29:22, This location: 2019/02/26 15:35:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*THE **26** 06:28:26.2, 37°.62N×20°.76E, h1km±6km, ML2.5/8, Error ellipse: s-maj=7.8km s-min=0.9km az=201.0*

ISC 26 06:28:26.7±1.3, 37°.66N±0°.05×20°.78E±0°.03, h7km±6km, n31, σ0^{s}59/62, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.07**	**43**	P	**Pg**	**06 28 28.0**	**-0.5**
LTHK				S	**Sg**	**06 28 28.9**	**-0.8**
KYPS	**Kipseli, Zakin**	**0.16**	**13**	P	**Pg**	**06 28 30.4**	**+0.4**
KYPS				S	**Sg**	**06 28 33.6**	**+1.4**
ORTH	**Orthonies,Zaky**	**0.20**	**341**	P	**Pg**	**06 28 31.4**	**+0.6**
ORTH				S	**Sg**	**06 28 34.0**	**+0.5**
CLEM	**Kyllini,Ilia,G**	**0.36**	**51**	P	**Pg**	**06 28 34.0**	**+0.3**
CLEM				S	**Sg**	**06 28 38.9**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.41**	**359**	P	**Pg**	**06 28 34.9**	**+0.2**
RTZL				S	**Sg**	**06 28 41.7**	**+1.5**
PSDA	**Pessada-Kefalo**	**0.48**	**341**	P	**Pg**	**06 28 35.9**	**0.0**
PSDA				S	**Sb**	**06 28 43.7**	**-1.0**
	978nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.48**	**341**	P	**Pg**	**06 28 36.0**	**0.0**
PSDA				S	**Sg**	**06 28 43.0**	**+0.8**
VLS	**Valsamata**	**0.54**	**344**	P	**Pg**	**06 28 36.8**	**-0.3**
VLS				S	**Sb**	**06 28 45.5**	**-0.9**
	510nm,0.2s						
VLS	**Valsamata**	**0.54**	**344**	P	**Pg**	**06 28 36.8**	**-0.3**
VLS				S	**Sg**	**06 28 44.8**	**+0.7**
DMLN	**Damoulianata-K**	**0.66**	**331**	P	**Pg**	**06 28 39.8**	**+0.4**
DMLN				S	**Sb**	**06 28 49.9**	**-0.1**
	725nm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**331**	P	**Pg**	**06 28 39.9**	**+0.5**
DMLN				S	**Sg**	**06 28 48.5**	**+0.5**
RLS	**Riolos of Patr**	**0.67**	**54**	P	**Pg**	**06 28 39.5**	**-0.2**
RLS				S	**Sb**	**06 28 50.3**	**0.0**
	315nm,0.4s						
RLS	**Riolos of Patr**	**0.67**	**54**	P	**Pg**	**06 28 39.4**	**-0.2**
RLS				S	**Sg**	**06 28 49.0**	**+0.6**
AXS	**Araxos**	**0.71**	**41**	P	**Pg**	**06 28 40.4**	**-0.1**
AXS				S	**Sg**	**06 28 50.3**	**+0.5**
AMT	**Artemida-Makis**	**0.75**	**100**	P	**Pg**	**06 28 40.8**	**-0.3**
AMT				S	**Sg**	**06 28 51.8**	**+0.9**
DRO	**Drossia**	**0.79**	**68**	P	**Pg**	**06 28 41.8**	**-0.1**
DRO				S	**Sb**	**06 28 53.9**	**+0.1**
	492nm,0.4s						
DRO	**Drossia**	**0.79**	**68**	P	**Pg**	**06 28 41.9**	**-0.1**
DRO				S	**Sg**	**06 28 53.3**	**+1.1**
FSK	**Fiskardo**	**0.82**	**348**	P	**Pg**	**06 28 41.5**	**-0.9**
FSK				S	**Sb**	**06 28 54.2**	**-0.2**
	268nm,0.2s						
FSK	**Fiskardo**	**0.82**	**348**	P	**Pg**	**06 28 41.7**	**-0.7**
FSK				S	**Sg**	**06 28 53.4**	**+0.4**
EVGI	**Lefkada island**	**0.96**	**354**	P	**Pg**	**06 28 44.3**	**-0.9**
EVGI				S	**Sb**	**06 28 59.4**	**+0.7**
	220nm,0.4s						
EVGI	**Lefkada island**	**0.96**	**354**	P	**Pg**	**06 28 44.6**	**-0.6**
EVGI				S	**Sb**	**06 28 58.6**	**-0.1**
ITM	**Ithomi**	**1.03**	**117**	P	**Pn**	**06 28 47.4**	**-0.2**
ITM				S	**Sb**	**06 29 00.9**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.05**	**357**	P	**Pg**	**06 28 46.2**	**-0.7**
NYDR				S	**Sn**	**06 29 02.7**	**-0.1**
	112nm,0.5s						
PVO	**Paravola**	**1.12**	**31**	P	**Pg**	**06 28 47.7**	**-0.6**
PVO				S	**Sg**	**06 29 03.5**	**+0.7**
LKD2	**Lefkada island**	**1.13**	**355**	P	**Pg**	**06 28 47.5**	**-0.9**
LKD2				S	**Sn**	**06 29 04.6**	**-0.2**
LKD2	**Lefkada island**	**1.13**	**355**	P	**Pg**	**06 28 48.3**	**-0.1**
LKD2				S	**Sb**	**06 29 03.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.15**	**70**	P	**Pg**	**06 28 48.1**	**-0.7**
KLV				S	**Sb**	**06 29 04.6**	**+0.5**
EFP	**Efpalio**	**1.17**	**49**	P	**Pg**	**06 28 48.6**	**-0.6**
EFP				S	**Sb**	**06 29 05.2**	**+0.5**
GUR	**Goura**	**1.27**	**77**	P	**Pn**	**06 28 50.3**	**-0.6**
GUR				S	**Sn**	**06 29 08.6**	**+0.3**
ANX	**Ano Chora**	**1.30**	**44**	P	**Pn**	**06 28 50.8**	**-0.5**
ANX				S	**Sb**	**06 29 08.1**	**-0.2**
KALE	**Kalithea**	**1.30**	**55**	P	**Pn**	**06 28 51.1**	**-0.2**
KALE				S	**Sb**	**06 29 08.5**	**+0.1**

*NNC **26** 06:44:26.6±0.6, 42°.66N×76°.92E, h4km±3km, mb3.6, mpv3.6, Error ellipse: s-maj=4.6km s-min=2.3km az=173.0*
*SOME **26** 06:44:27.4, 42°.72N×76°.90E, h15km*
*KRNET **26** 06:44:27.0±0.1, 42°.66N×76°.89E, h21km, mb2.6*

ISC 26 06:44:27.1±0.9, 42°.66N±0°.02×76°.87E±0°.02, h15km±8km, n47, σ0^{s}94/81, 10C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.38**	**9**	P	**Pg**	**06 44 35.0**	**0.0**
	117nm,0.1s						
TNSS				S	**Sg**	**06 44 40.5**	**0.0**
	268nm,0.1s						
TNSS	**Tian-Shan**	**0.38**	**9**	*e*P	**Pg**	**06 44 35.0**	**0.0**
	117nm,0.1s						
TNSS				*e*S	**Sg**	**06 44 40.5**	**0.0**
	268nm,0.1s						
IZV	**Izvestkoviy**	**0.42**	**333**	P	**Pg**	**06 44 35.9**	**+0.2**
	60nm,0.1s						
IZV				S	**Sg**	**06 44 41.9**	**+0.4**
	671nm,0.1s						
IZV	**Izvestkoviy**	**0.42**	**333**	*e*P	**Pg**	**06 44 35.9**	**+0.2**
	60nm,0.1s						
IZV				*e*S	**Sg**	**06 44 41.9**	**+0.4**
	671nm,0.1s						
AAA	**Alma-Ata**	**0.55**	**4**	P	**Pg**	**06 44 38.1**	**+0.1**
	218nm,0.1s						
AAA				S	**Sg**	**06 44 45.7**	**+0.3**
	53nm,0.1s						
AAA	**Alma-Ata**	**0.55**	**4**	*e*P	**Pg**	**06 44 38.1**	**+0.1**
	218nm,0.1s						
AAA				*e*S	**Sg**	**06 44 45.6**	**+0.2**
	53nm,0.1s						
KNDC	**Almaty**	**0.56**	**7**	⇑P	**Pg**	**06 44 38.1**	**-0.1**
	48nm,0.2s						
KNDC				⇑S	**Sb**	**06 44 46.5**	**0.0**
	66nm,0.2s						
MTBS	**Maitube**	**0.57**	**326**	P	**Pg**	**06 44 38.3**	**-0.1**
	26nm,0.1s						
MTBS				S	**Sg**	**06 44 45.9**	**-0.1**
	618nm,0.1s						
MTBS	**Maitube**	**0.57**	**326**	*e*P	**Pg**	**06 44 38.3**	**-0.1**
	26nm,0.1s						
MTBS				*e*S	**Sg**	**06 44 45.9**	**-0.1**
	618nm,0.1s						
KASK	**Kaskelen**	**0.58**	**343**	⇓S	**Sb**	**06 44 47.4**	**+0.3**
	222nm,0.3s						
KDJ	**Kajisay**	**0.58**	**156**	⇓*i*P	**Pg**	**06 44 38.4**	**-0.2**
KDJ				⇓*i*S	**Sb**	**06 44 46.6**	**-0.6**
KOTS	**Kotyrbulak**	**0.60**	**17**	P	**Pg**	**06 44 38.7**	**-0.3**
	126nm,0.1s						
KOTS				S	**Sg**	**06 44 46.7**	**-0.3**
	187nm,0.2s						
KOTS	**Kotyrbulak**	**0.60**	**17**	*e*P	**Pg**	**06 44 38.7**	**-0.3**
	126nm,0.1s						
KOTS				*e*S	**Sg**	**06 44 46.7**	**-0.3**
	187nm,0.2s						
ULHL	**Ulahol**	**0.62**	**228**	⇑*i*P	**Pg**	**06 44 39.2**	**-0.2**
ULHL				⇑*i*S	**Sg**	**06 44 48.3**	**+0.6**
BOOM	**Boomskoye usch**	**0.71**	**256**	⇑*i*P	**Pg**	**06 44 40.7**	**-0.3**
BOOM				⇑*i*S	**Sg**	**06 44 50.8**	**+0.5**
KST	**Kastek**	**0.77**	**300**	P	**Pg**	**06 44 42.0**	**-0.1**
	23nm,0.1s						
KST				S	**Sg**	**06 44 52.3**	**0.0**
	464nm,0.4s						
KST	**Kastek**	**0.77**	**300**	*e*P	**Pg**	**06 44 42.0**	**-0.1**
	23nm,0.1s						
KST				*e*S	**Sg**	**06 44 52.3**	**0.0**
	464nm,0.4s						
DGS	**Degeres**	**0.99**	**306**	P	**Pb**	**06 44 45.9**	**-0.2**
	10nm,0.1s						
DGS				S	**Sb**	**06 44 59.0**	**0.0**
	113nm,0.3s						
KTBS	**Karatobe**	**1.06**	**353**	P	**Pb**	**06 44 46.6**	**-0.6**
	25nm,0.1s						
KTBS				S	**Sb**	**06 45 00.3**	**-0.6**
	21nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.16**	**143**	⇓*i*P	**Pb**	**06 44 48.2**	**-1.0**
TARG				⇓*i*S	**Sb**	**06 45 03.7**	**-0.5**
SATY	**Saty**	**1.20**	**70**	P	**Pn**	**06 44 48.5**	**-1.0**
	6.6nm,0.1s						
SATY				S	**Sb**	**06 45 03.4**	**-1.6**
	89nm,0.2s						
SATY	**Saty**	**1.20**	**70**	*e*P	Pg	06 44 57.4	+7.1
	7.3nm,0.1s						
SATY				*e*S	Sg	06 45 18.9	+13
	48nm,0.2s						
ZHN	**Zhinishke**	**1.26**	**66**	P	**Pn**	**06 44 49.6**	**-0.7**
	5.4nm,0.1s						
ZHN				S	**Sb**	**06 45 05.4**	**-1.3**
	124nm,0.2s						
ZHN	**Zhinishke**	**1.26**	**66**	*e*P	**Pn**	**06 44 49.6**	**-0.7**
	5.4nm,0.1s						
ZHN				*e*S	**Sb**	**06 45 05.4**	**-1.3**
	124nm,0.2s						
KURS	**Kuram**	**1.26**	**49**	P	**Pn**	**06 44 49.9**	**-0.4**
	2.0nm,0.2s						
KURS				S	**Sb**	**06 45 05.9**	**-0.9**
	18nm,0.4s						
KRBS	**Karabastau**	**1.35**	**320**	P	**Pn**	**06 44 51.8**	**+0.3**
	18nm,0.2s						
KRBS				S	**Sn**	**06 45 09.1**	**-0.1**
	47nm,0.1s						
KBK	**Karagaybulak**	**1.42**	**270**	⇑*e*P	**Pb**	**06 44 53.3**	**-0.1**
KBK				⇑*i*S	**Sb**	**06 45 12.3**	**+1.0**
KPKS	**Kokpek**	**1.56**	**58**	P	**Pb**	**06 44 55.0**	**-0.7**
	17nm,0.3s						
KPKS				S	**Sb**	**06 45 14.6**	**-0.7**
	49nm,0.2s						
KPKS	**Kokpek**	**1.56**	**58**	*e*P	Pn	06 44 45.9	-8.5
	10nm,0.1s						
KPKS				*e*S	Sn	06 44 59.0	-15
	113nm,0.3s						
KPKS	**Kokpek**	**1.56**	**58**	*e*P	**Pb**	**06 44 55.0**	**-0.7**
	17nm,0.3s						
KPKS				*e*S	**Sb**	**06 45 14.6**	**-0.7**
	49nm,0.2s						
UZB	**Uzynbulak**	**1.66**	**72**	P	**Pb**	**06 44 56.3**	**-1.1**
	20nm,0.4s						
UZB				S	**Sb**	**06 45 17.0**	**-1.1**
	45nm,0.4s						
UZB	**Uzynbulak**	**1.66**	**72**	*e*P	**Pb**	**06 44 56.3**	**-1.1**
	20nm,0.4s						
UZB				*e*S	**Sb**	**06 45 17.0**	**-1.1**
	45nm,0.4s						
ARXS	**Arharly**	**1.70**	**24**	P	**Pb**	**06 44 57.4**	**-0.8**
	7.3nm,0.1s						
ARXS				S	**Sb**	**06 45 18.9**	**-0.5**
	48nm,0.2s						
AAK	**Ala-Archa**	**1.75**	**270**	⇑Pn	**Pb**	**06 44 59.0**	**0.0**
	5.6nm,0.6s						
AAK				⇓Sn	**Sg**	**06 45 23.9**	**+0.4**
	11nm,0.4s						
BLB	**Baldybastay**	**1.85**	**39**	P	**Pb**	**06 44 59.7**	**-1.1**
	23nm,0.2s						
BLB				S	**Sb**	**06 45 23.1**	**-0.8**
	191nm,0.3s						
SHLS	**Shalkode**	**1.97**	**75**	Pg	**Pg**	**06 45 07.1**	**+2.1**
	20nm,0.3s						
SHLS				Lg	Lg	06 45 35.4	
	51nm,0.7s						
SHLS	**Shalkode**	**1.97**	**75**	*e*P	**Pg**	**06 45 07.1**	**+2.1**
	20nm,0.3s						
SHLS				*e*S	**Sg**	**06 45 35.4**	**+4.9**
	51nm,0.7s						
PDGK	**Podgornoye**	**2.04**	**70**	⇑Pn	**Pn**	**06 45 01.7**	**+0.7**
	2.8nm,0.3s						
PDGK				⇓Sn	**Sb**	**06 45 28.4**	**-0.7**
	11nm,0.5s						
KNOS	**Konyrlen**	**2.39**	**44**	Pg	**Pb**	**06 45 09.7**	**-0.2**
	1.8nm,0.3s						
KNOS				Lg	Lg	06 45 40.1	
	27nm,0.1s						
TDK	**Taldyqorghan**	**2.59**	**25**	Pg	**Pb**	**06 45 13.2**	**-0.1**
	22nm,0.3s						
TDK				Lg	Lg	06 45 46.0	
	44nm,0.2s						
TDK	**Taldyqorghan**	**2.59**	**25**	*e*P	**Pb**	**06 45 13.2**	**-0.1**
	22nm,0.3s						
TDK				*e*S	**Sb**	**06 45 46.0**	**+1.1**
	44nm,0.2s						
MRKS	**Merke**	**2.69**	**273**	Pg	**Pb**	**06 45 16.5**	**+1.6**
	3.2nm,0.3s						
MRKS				Lg	Lg	06 45 51.6	
	11nm,0.3s						
MRKS	**Merke**	**2.69**	**273**	*e*P	**Pb**	**06 45 16.5**	**+1.6**
	3.2nm,0.3s						
MRKS				*e*S	**Sg**	**06 45 51.6**	**-1.9**
	11nm,0.3s						
DJR	**Jarkent**	**2.70**	**51**	Pg	**Pb**	**06 45 15.0**	**-0.3**
	2.3nm,0.3s						
DJR				Lg	Lg	06 45 48.8	
	15nm,0.3s						
DJR	**Jarkent**	**2.70**	**51**	*e*P	**Pb**	**06 45 15.0**	**-0.3**
	2.3nm,0.3s						
DJR				*e*S	**Sb**	**06 45 48.8**	**+0.5**
	15nm,0.3s						
KAPS	**Kapalarasan**	**3.18**	**34**	Pg	**Pb**	**06 45 23.7**	**+0.3**
	1.4nm,0.1s						
KAPS				Lg	Lg	06 46 03.7	
	30nm,0.2s						
KK31	**Karatay Array**	**4.69**	**278**	Lg	Lg	06 46 56.5	
	2.2nm,0.4s,baz=86,slow=26,SNR=5.3						

*IDC **26** 06:47:51.1±2.7, 6°.37S×147°.68E, h79km±23km, mb3.6/5, mbtmp3.9/7, Error ellipse: s-maj=43.7km s-min=15.3km az=115.0*

ISC 26 06:47:49.5±0.9, 6°.27S±0°.10×147°.5E±0°.1, h63km, n16, σ2^{s}13/18, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.13**	**186**	P	**Pn**	**06 48 37.1**	**+0.7**
	74nm,0.3s,baz=14,slow=5.6,SNR=27						
PMG				S	**Sn**	**06 49 13.7**	**+1.1**
	217nm,0.3s,baz=297,slow=14,SNR=3.4						
TATA	**Tatamba Isabel**	**12.42**	**100**	P	**P**	**06 50 50.4**	**-2.9**
ALEG	**Aligegeo Malai**	**13.35**	**101**	P	**P**	**06 51 04.7**	**+1.1**
KDU	**Kakadu**	**16.09**	**246**	P	**Pn**	**06 51 31.7**	**-0.2**
QIS	**Mount Isa**	**16.12**	**207**	P	**Pn**	**06 51 33.0**	**+0.8**
WRA	**Warramunga Arr**	**18.63**	**222**	P	**Pn**	**06 52 03.8**	**+0.7**
	1.2nm,0.4s,baz=51,slow=11,SNR=24						
WRA				S	**S**	**06 55 24.1**	**-7.0**
	1.3nm,0.7s,baz=38,slow=23,SNR=3.6						
QLP	**Quilpie**	**20.43**	**188**	P	Pn	06 52 23.0	-1.3
ASAR	**Alice Springs**	**21.66**	**216**	P	**P**	**06 52 35.6**	**+0.6**
	2.5nm,0.7s,baz=41,slow=9.9,SNR=27						
ASAR				S	**S**	**06 56 33.0**	**+1.4**
	3.9nm,0.9s,baz=29,slow=21,SNR=12						
	2.5nm,0.7s						
INKA	**Innaminka**	**22.28**	**196**	P	**P**	**06 52 42.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**24.32**	**239**	P	**P**	**06 53 02.4**	**+1.0**
LCRK	**Leigh Creek**	**25.57**	**199**	P	**P**	**06 53 12.9**	**+0.2**
STKA	**Stephens Creek**	**26.06**	**191**	P	**P**	**06 53 16.6**	**-0.5**
	2.0nm,0.3s,baz=10,slow=11,SNR=4.8						
	2.0nm,0.3s						
KURBB	**Kurchatov Arra**	**81.72**	**323**	P	**P**	**07 00 02.5**	**+1.3**
	0.1nm,0.3s,baz=99,slow=6.0,SNR=1.7						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**83.70**	**180**	P	**P**	**07 00 10.8**	**-0.5**
	1.1nm,0.7s,baz=150,slow=1.4,SNR=9.1						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**85.55**	**23**	P	**P**	**07 00 20.3**	**-0.2**
	0.4nm,0.8s,baz=238,slow=5.1,SNR=3.1						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.60**	**284**	PKPbc	**PKPdf**	**07 07 21.0**	**-0.7**
	37nm,0.3s,baz=70,slow=5.1,SNR=1.1						

*RSNC **26** 07:05:48.7±0.4, 8°.N±3°.×7°.8W±°, h8km±3km, M2.3, ML2.2*
*UPA **26** 07:05:50.1±0.9, 8°.37N×77°.86W, h9km±12km, MW4.4*

ISC 26 07:05:49.0±1.5, 8°.39N±0°.04×77°.80W±0°.03, h9km±12km, n17, σ1^{s}05/33, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	**Capurgana**	**0.51**	**62**	P	**Pg**	**07 05 58.4**	**-0.5**
CAPC				S	**Sg**	**07 06 04.8**	**-0.8**
PTAC	**Punta Ardita,**	**1.24**	**180**	P	**Pn**	**07 06 10.8**	**-1.8**
PTAC				S	**Sb**	**07 06 28.8**	**+0.1**
PTAC	**Punta Ardita,**	**1.24**	**180**	*e*P	**Pn**	**07 06 11.2**	**-1.3**
PTAC				*e*S	**Sb**	**07 06 28.8**	**+0.1**
APAC	**Apartado, Choc**	**1.31**	**112**	P	**Pn**	**07 06 13.3**	**-0.2**
APAC				S	**Sg**	**07 06 32.5**	**+1.4**
LCBC	**Los crdobas,**	**1.49**	**72**	P	**Pn**	**07 06 16.0**	**-0.1**
LCBC				S	**Sb**	**07 06 37.1**	**+1.0**
LCBC	**Los crdobas,**	**1.49**	**72**	*e*P	**Pn**	**07 06 16.7**	**+0.6**
LCBC				*e*S	**Sg**	**07 06 38.1**	**+1.0**
CHPO	**Chepo, Panama**	**1.51**	**301**	*e*P	**Pn**	**07 06 16.3**	**-0.1**
CHPO				*e*S	**Sn**	**07 06 34.5**	**-1.7**
UPA	**Univ. de Panam**	**1.81**	**289**	*e*P	**Pn**	**07 06 20.4**	**0.0**
UPA				*e*S	**Sn**	**07 06 43.2**	**-0.4**
DBBC	**Dabeiba**	**2.09**	**131**	P	**Pn**	**07 06 25.1**	**+0.7**
DBBC				S	**Sn**	**07 06 51.7**	**+1.1**
BCIP	**Isla Barro Col**	**2.15**	**291**	P	**Pn**	**07 06 25.2**	**0.0**
BCIP				S	**Sn**	**07 06 52.7**	**+0.7**
BCIP	**Isla Barro Col**	**2.15**	**291**	*e*P	**Pn**	**07 06 25.6**	**+0.4**
BCIP				*e*S	**Sn**	**07 06 52.5**	**+0.5**
AZU	**Azuero**	**2.52**	**256**	P	**Pn**	**07 06 31.7**	**+1.5**
AZU				S	**Sn**	**07 06 59.8**	**-1.2**
AZU	**Azuero**	**2.52**	**256**	*e*P	**Pn**	**07 06 30.5**	**+0.3**
AZU				*e*S	**Sn**	**07 07 01.1**	**+0.1**
CHIT3	**Chitre**	**2.62**	**261**	*e*S	**Sn**	**07 07 03.3**	**-0.4**
ZARC	**Zaragoza, Cauc**	**3.05**	**107**	P	**Pn**	**07 06 37.2**	**-0.4**
ZARC				S	**Sn**	**07 07 11.5**	**-2.8**
CBOC	**Ciudad Bolivar**	**3.08**	**145**	P	**Pn**	**07 06 39.7**	**+1.6**
CBOC				S	**Sn**	**07 07 16.0**	**+0.9**
PTBC	**PUERTO BERRIO,**	**3.80**	**119**	P	**Pn**	**07 06 47.7**	**-0.1**
PTBC				S	**Sn**	**07 07 31.8**	**-0.9**

*IGIL **26** 07:10:55.1, 39°.82N×12°.19W, h28km, ML1.7*
*MDD **26** 07:10:55.4±0.9, 39°.80N×12°.13W, h39km, Mb4.3/10, M_mb3.7/10, Error ellipse: s-maj=7.7km s-min=3.8km az=81.0*
*INMG **26** 07:10:57.6±1.1, 39°.81N×12°.18W, h0km, ML2.3, Error ellipse: s-maj=4.8km s-min=2.1km az=89.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Tore*

ISC 26 07:10:52.2±2.1, 39°.83N±0°.04×11°.9W±0°.1, h10km, n51, σ1^{s}96/91, 10C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.23**	**112**	*e*P	**Pb**	**07 11 31.5**	**-1.2**
PMAFR				*e*S	**Sn**	**07 11 58.0**	**+1.1**
PMAFR				*i* AML	AML	07 11 58.7	
PMAFR				*i* AML	AML	07 11 58.7	
PMAFR				*i* AML	AML	07 11 59.6	
PMAFR	**Mafra**	**2.23**	**112**	Pn	**Pn**	**07 11 31.3**	**+2.0**
PSBE	**So Bento**	**2.44**	**96**	*e*P	**Pb**	**07 11 35.1**	**-1.1**
PSBE				*i* AML	AML	07 12 05.0	
PCAS	**Casmilo, Conde**	**2.65**	**84**	*e*P	**Pb**	**07 11 38.2**	**-1.6**
PCAS				*e*S	**Sn**	**07 12 08.4**	**+1.1**
PCAS				*i* AML	AML	07 12 09.5	
PCAS				*i* AML	AML	07 12 09.7	
PCAS				*i* AML	AML	07 12 13

PVRL				*i* AML	AML	07 12 35.0	
PMRV	**Marv??o**	**3.53**	**95**	*e*P	**Pn**	**07 11 49.3**	**+2.2**
PMRV				*e*S	**Sn**	**07 12 28.6**	**-0.3**
PMRV				*i* AML	AML	07 12 30.0	
PMRV				*i* AML	AML	07 12 30.9	
PMRV				*i* AML	AML	07 12 32.8	
ELOB	**Lobios**	**3.58**	**54**	P	**Pn**	**07 11 50.3**	**+2.5**
ELOB				⇑*i*Vmb_V		07 11 57.0	
	comp=N,269nm,SNR=3.2						
ELOB				S	**Sn**	**07 12 30.1**	**-0.1**
MORF	**Marmelete**	**3.60**	**133**	*e*P	**Pn**	**07 11 49.8**	**+1.7**
MORF	**Marmelete**	**3.60**	**133**	*e*P	**Pn**	**07 11 49.9**	**+1.8**
MORF				*e*S	**Sn**	**07 12 29.4**	**-1.3**
MORF				*i* AML	AML	07 12 30.9	
MORF				*i* AML	AML	07 12 31.2	
MORF				*i* AML	AML	07 12 31.5	
PFVI	**Vila Bisbo**	**3.63**	**137**	*e*P	**Pn**	**07 11 50.1**	**+1.7**
PFVI				*e*S	**Sn**	**07 12 30.1**	**-1.2**
PFVI				*i* AML	AML	07 12 30.9	
PFVI				*i* AML	AML	07 12 36.8	
PCVE	**Castro Verde**	**3.75**	**125**	*e*P	**Pn**	**07 11 52.8**	**+2.6**
PCVE				*e*S	**Sn**	**07 12 33.1**	**-1.3**
PCVE				*i* AML	AML	07 12 36.2	
PCVE				*i* AML	AML	07 12 40.2	
PCVE				*i* AML	AML	07 12 41.2	
PCVE	**Castro Verde**	**3.75**	**125**	Pn	**Pn**	**07 11 52.4**	**+2.3**
PCVE				Sn	**Sn**	**07 12 32.4**	**-1.9**
EMAZ	**Mazaricos**	**3.83**	**35**	P	**Pn**	**07 11 53.0**	**+1.7**
EMAZ				⇑*i*Vmb_V		07 11 55.2	
	comp=N,366nm,SNR=3.0						
EMAZ				S	**Sn**	**07 12 33.6**	**-2.8**
EBAD	**Badajoz**	**3.96**	**104**	Pn	**Pn**	**07 11 54.6**	**+1.5**
EBAD				Sn	**Sn**	**07 12 37.7**	**-1.9**
EBAD	**Badajoz**	**3.96**	**104**	P	**Pn**	**07 11 54.8**	**+1.7**
EBAD				S	**Sn**	**07 12 38.4**	**-1.2**
MVO	**Moncorvo**	**3.97**	**69**	*e*P	**Pn**	**07 11 56.8**	**+3.5**
MVO				*e*S	**Sn**	**07 12 39.2**	**-0.7**
MVO				*i* AML	AML	07 12 41.5	
MVO				*i* AML	AML	07 12 44.7	
MVO				*i* AML	AML	07 12 44.8	
PBDV	**Barranco-do-Ve**	**4.06**	**128**	*e*P	**Pn**	**07 11 56.9**	**+2.4**
PBDV				*e*S	**Sn**	**07 12 41.0**	**-1.1**
PBDV				*i* AML	AML	07 12 46.2	
PVAQ	**Vaqueiros**	**4.09**	**125**	*e*P	**Pn**	**07 11 56.9**	**+2.0**
PVAQ				*i* AML	AML	07 12 44.4	
PVAQ	**Vaqueiros**	**4.09**	**125**	Pn	**Pn**	**07 11 56.7**	**+1.9**
EAGO	**Agolada(Pontev**	**4.15**	**43**	P	**Pn**	**07 11 57.6**	**+1.9**
EAGO				⇑*i*Vmb_V		07 12 00.4	
	comp=N,378nm,SNR=4.3						
EAGO				S	**Sn**	**07 12 42.2**	**-2.0**
PBAR	**Barrancos**	**4.15**	**112**	*e*P	**Pn**	**07 11 58.3**	**+2.6**
PBAR				*e*S	**Sn**	**07 12 43.1**	**-1.2**
PBAR				*i* AML	AML	07 12 47.4	
PBAR				*i* AML	AML	07 12 48.0	
PBAR				*i* AML	AML	07 12 50.4	
PBAR	**Barrancos**	**4.15**	**112**	Pn	**Pn**	**07 11 58.1**	**+2.4**
PBAR				Sn	**Sn**	**07 12 42.5**	**-1.8**
EGRO	**El Granado**	**4.17**	**122**	Pn	**Pn**	**07 11 57.7**	**+1.9**
EGRO	**El Granado**	**4.17**	**122**	P	**Pn**	**07 11 57.8**	**+1.9**
EGRO				⇑*i*Vmb_V		07 11 59.3	
	comp=N,249nm,SNR=1.5						
EGRO				S	**Sn**	**07 12 43.8**	**-0.8**
PBRG	**Braganca**	**4.41**	**62**	*e*S	**Sn**	**07 12 49.2**	**-1.4**
PBRG				*i* AML	AML	07 12 52.3	
PBRG				*i* AML	AML	07 12 52.5	
PBRG				*i* AML	AML	07 12 54.9	
EPLA	**Plasencia**	**4.50**	**85**	P	**Pn**	**07 12 02.1**	**+1.5**
EPLA				⇑*i*Vmb_V		07 12 05.9	
	comp=N,171nm,SNR=1.9						
EPLA				S	**Sn**	**07 12 49.4**	**-3.6**
EMIN	**Mina Concepcio**	**4.60**	**115**	Pn	**Pn**	**07 12 04.1**	**+2.3**
EMIN	**Mina Concepcio**	**4.60**	**115**	P	**Pn**	**07 12 04.1**	**+2.3**
EMIN				⇑*i*Vmb_V		07 12 05.2	
	comp=N,182nm,SNR=2.3						
EMIN				S	**Sn**	**07 12 54.5**	**-0.7**
EJUZ	**Juzbado, Salam**	**4.78**	**73**	S	**Sn**	**07 12 59.2**	**-0.6**
EPON	**Pontenova**	**5.01**	**44**	P	**Pn**	**07 12 08.0**	**+0.6**
EPON				⇑*i*Vmb_V		07 12 08.4	
	comp=N,143nm,SNR=1.4						
EPON				S	**Sn**	**07 13 03.0**	**-2.4**
ECAB	**El Cabril**	**5.37**	**107**	Pn	**Pn**	**07 12 14.5**	**+2.1**
ECAB				Sn	**Sn**	**07 13 11.7**	**-2.6**
ECAB	**El Cabril**	**5.37**	**107**	P	**Pn**	**07 12 14.8**	**+2.3**
ECAB				S	**Sn**	**07 13 12.1**	**-2.2**
PAB	**San Pablo**	**5.86**	**90**	P	**Pn**	**07 12 21.8**	**+2.6**
PAB				⇑*i*Vmb_V		07 12 23.9	
	comp=N,104nm,SNR=2.2						
PAB				S	**Sn**	**07 13 24.5**	**-1.9**
EADA	**Adamuz**	**5.96**	**104**	Pn	**Pn**	**07 12 22.2**	**+1.6**
EADA	**Adamuz**	**5.96**	**104**	P	**Pn**	**07 12 22.2**	**+1.6**
EADA				⇑*i*Vmb_V		07 12 24.2	
	comp=N,120nm,SNR=2.4						
EADA				S	**Sn**	**07 13 24.3**	**-4.7**
PSIM	**Granatula de C**	**6.42**	**96**	P	**Pn**	**07 12 29.4**	**+2.5**
PSIM				S	**Sn**	**07 13 37.3**	**-3.0**

*NNC **26** 07:11:45.3±0.3,49°.99N×79°.03E,h0km,mb2.6,mpv2.3,*
Error ellipse: s-maj=7.5km s-min=1.8km az=65.0,
Suspected Mining explosion.
*SOME **26** 07:11:53.0,50°.07N×78°.77E,h0km*
ISC 26 07:11:50.2±1.0,50°.15N±0°.05×78°.74E±0°.04,h0km,n16,
σ0s86/27,13C-10D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.46**	**342**	⇑P	**Pg**	**07 11 58.5**	**-0.5**
KUR07				⇑S	**Sb**	**07 12 08.1**	**-0.4**
KUR06	**Kurchatov Arra**	**0.47**	**343**	⇓P	**Pg**	**07 11 58.7**	**-0.6**
KUR06				⇓S	**Sb**	**07 12 09.2**	**+0.1**
KUR14	**Kurchatov Arra**	**0.48**	**349**	⇑P	**Pg**	**07 11 58.8**	**-0.6**
KUR14				⇓S	**Sb**	**07 12 08.7**	**-0.4**
KUR15	**Kurchatov Arra**	**0.48**	**347**	⇓P	**Pg**	**07 11 59.0**	**-0.5**
KUR15				⇑S	**Sb**	**07 12 09.0**	**-0.3**
KURBB	**Kurchatov Arra**	**0.49**	**344**	⇑P	**Pg**	**07 11 59.0**	**-0.7**
	2.4nm,0.2s						
KURBB				⇑S	**Sb**	**07 12 09.5**	**0.0**
	38nm,0.5s						
KUR16	**Kurchatov Arra**	**0.50**	**342**	⇑P	**Pg**	**07 11 59.3**	**-0.5**
KUR16				⇑S	**Sb**	**07 12 09.8**	**0.0**
KUR05	**Kurchatov Arra**	**0.51**	**346**	⇑P	**Pg**	**07 11 59.3**	**-0.7**
KUR05				⇑S	**Sb**	**07 12 09.7**	**-0.4**
KUR17	**Kurchatov Arra**	**0.51**	**341**	⇑P	**Pg**	**07 11 59.5**	**-0.5**
KUR17				⇓S	**Sb**	**07 12 10.0**	**-0.1**
KUR04	**Kurchatov Arra**	**0.53**	**347**	⇑P	**Pg**	**07 11 59.6**	**-0.7**
KUR04				⇓S	**Sb**	**07 12 10.1**	**-0.5**
KURK	**Kurchatov**	**0.57**	**353**	⇑P	**Pg**	**07 12 00.5**	**-0.7**
	2.5nm,0.5s						
KURK				⇓S	**Sb**	**07 12 11.0**	**-0.8**
	11nm,0.5s						
SEM	**Semipalatinsk**	**1.00**	**74**	*e*P	**Pn**	**07 12 12.2**	**+0.4**
	5.2nm,0.1s						
SEM				*e*S	**Sn**	**07 12 27.9**	**+1.1**
	8.1nm,0.2s						
BRZS	**Berezniki**	**3.91**	**270**	*e*P	**Pg**	**07 13 04.2**	**-0.9**
	3.0nm,0.4s						
BRZS				*e*S	**Sg**	**07 13 55.0**	**-0.7**
	3.5nm,0.4s						
MAKZ	**Makanchi**	**3.98**	**146**	⇓Lg	Lg	07 13 45.2	
	2.7nm,0.6s						
MK31	**Makanchi Array**	**4.11**	**144**	⇓Pg	**Pn**	**07 12 56.5**	**+2.3**
	0.2nm,0.3s,baz=15,slow=1.7,SNR=6.5						
MK31				Lg	Lg	07 13 48.8	
	1.7nm,0.5s,baz=330,slow=26,SNR=7.5						
OTUK	**Ortayu**	**4.61**	**248**	⇓Lg	Lg	07 14 14.3	
	2.0nm,0.5s						
ZSN	**Zaisan**	**4.87**	**121**	*e*P	**Pg**	**07 13 21.4**	**-2.0**
	2.2nm,0.3s						
ZSN				*e*S	**Sg**	**07 14 26.3**	**-0.2**
	6.5nm,0.3s						

ANF 26 07:32:08.8±0.2,66°.16N×135°.35W,h8km±2km,ML3.8/53,
ML3.8/54,Error ellipse: s-maj=1.6km s-min=1.1km
az=86.0,Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H31M	**Peel River**	**0.54**	**130**	P	Pg	07 32 18.9	-0.4
	baz=312						
H31M				S	Sg	07 32 27.2	+0.8
	baz=312						
G30M	**tAoh Zraii Nji**	**0.90**	**337**	P	Pg	07 32 25.4	-0.6
	baz=156,SNR=1000						
G30M				S	Sb	07 32 38.2	-0.5
	baz=156						
I30M	**Mount Dempster**	**1.03**	**205**	P	Pg	07 32 28.4	-0.2
	baz=25						
I30M				S	Sb	07 32 42.4	-0.2
	baz=25						
H29M	**Whitestone**	**1.23**	**274**	P	Pg	07 32 32.3	0.0
	baz=92						
H29M				S	Sn	07 32 48.9	-0.1
	baz=92						
G29M	**Pine Creek**	**1.31**	**306**	P	Pn	07 32 33.4	+0.1
	baz=124						
G29M				S	Sn	07 32 51.6	+0.7
	baz=124						
F31M	**Tsiigehtchic**	**1.44**	**26**	P	Pn	07 32 34.3	-0.7
	baz=206,SNR=1000						
F31M				S	Sn	07 32 53.9	-0.1
	baz=206						
I29M	**Ogilvie Camp,**	**1.46**	**238**	P	Pn	07 32 35.5	+0.1
	baz=56,SNR=321						
I29M				S	Sg	07 32 55.3	-0.4
	baz=56						
F30M	**Barrier River**	**1.47**	**353**	P	Pn	07 32 35.4	-0.1
	baz=172,SNR=1000						
F30M				S	Sg	07 32 55.7	-0.2
	baz=172						
J30M	**Hart River**	**1.64**	**195**	P	Pn	07 32 37.8	-0.3
	baz=15,SNR=1000						
J30M				S	Sb	07 32 60.0	-0.2
	baz=15						
I28M	**Miner Creek**	**2.02**	**251**	P	Pn	07 32 42.5	-0.7
	baz=68,SNR=118						
I28M				Sb	Sg	07 33 12.4	-1.2
	baz=68						
J29N	**Klondike Camp**	**2.09**	**216**	P	Pn	07 32 44.5	+0.3
	baz=34,SNR=85						
J29N				Sb	Sg	07 33 15.1	-0.8
	baz=34						
INK	**Inuvik**	**2.27**	**17**	P	Pn	07 32 45.6	-0.9
	baz=198,SNR=206						
INK				S	Sn	07 33 15.3	+0.8
	baz=198						
F28M	**Old Crow**	**2.31**	**311**	P	Pn	07 32 47.0	0.0
	baz=127,SNR=133						
F28M				Sb	Sb	07 33 20.0	+0.8
	baz=127						
E29M	**Blow River**	**2.45**	**337**	P	Pn	07 32 49.7	+0.7
	baz=155,SNR=280						
E29M				S	Sn	07 33 19.6	+0.6
	baz=155						
K29M	**Barlow Dome**	**2.50**	**203**	P	Pn	07 32 50.0	+0.2
	baz=21						
K29M				Sb	Sb	07 33 25.8	+0.9
	baz=21						
H27K	**Steamboat Moun**	**2.51**	**274**	P	Pn	07 32 49.6	-0.2
	baz=89						
H27K				S	Sn	07 33 20.8	+0.3
	baz=89						
MAYO	**Mayo, Yukon**	**2.58**	**185**	Pb	Pb	07 32 55.0	-0.2
	baz=5.4						
MAYO				Sb	Sb	07 33 28.3	+1.1
	baz=5.4						
G27K	**Doyon Strip**	**2.61**	**287**	P	Pn	07 32 51.4	+0.2
	baz=102,SNR=166						
G27K				S	Sn	07 33 24.0	+0.9
	baz=102						
I27K	**Kandik River**	**2.63**	**261**	P	Pn	07 32 51.4	-0.1
	baz=75,SNR=148						
I27K				S	Sn	07 33 24.3	+0.6
	baz=75						
I27K				S	Sn	07 33 24.3	+0.6
	baz=75						
DAWY	**Dawson**	**2.71**	**221**	P	Pn	07 32 52.3	-0.3
	baz=38,SNR=246						
DAWY				S	Sn	07 33 26.6	+1.1
	baz=38						
E28M	**Babbage River**	**2.94**	**329**	P	Pn	07 32 55.4	-0.3
	baz=144,SNR=105						
E28M				S	Sn	07 33 31.4	+0.3
	baz=144						
L29M	**L29M**	**3.29**	**203**	P	Pn	07 33 00.6	+0.1
	baz=21						
L29M				Sb	Sb	07 33 49.5	+2.1
	baz=21						
I26K	**Coal Creek Min**	**3.33**	**259**	P	Pn	07 33 00.5	-0.7
	baz=72						
I26K				Sb	Sg	07 33 52.4	-3.3
	baz=72						
I26K				Sb	Sg	07 33 52.4	-3.3
	baz=72						
D28M	**Stokes Point**	**3.44**	**340**	P	Pn	07 33 03.0	+0.6
	baz=156,SNR=30						
D28M				S	Sn	07 33 43.1	-0.1
	baz=156						
G26K	**Porcupine Rive**	**3.46**	**287**	P	Pn	07 33 02.2	-0.7
	baz=100,SNR=30						
G26K				Sb	Sb	07 33 54.8	+2.4
	baz=100						
M30M	**Minto, Yukon**	**3.65**	**191**	P	Pn	07 33 05.8	+0.3
	baz=9.6,SNR=79						
D27M	**Malcolm River**	**3.76**	**328**	P	Pn	07 33 07.4	+0.4
	baz=143						
D27M				S	Sn	07 33 51.1	-0.4
	baz=143						
F26K	**Sheenjek River**	**3.79**	**298**	P	Pn	07 33 07.4	0.0
	baz=110						
F26K				S	Sn	07 33 51.3	-0.8
	baz=110						
J26L	**Joseph Creek**	**3.83**	**248**	P	Pn	07 33 07.1	-0.8
	baz=61						
J26L				S	Sn	07 33 51.4	-1.7
	baz=61						
J26L				S	Sn	07 33 51.4	-1.7
	baz=61						
M29M	**Somme Creek**	**3.97**	**201**	P	Pn	07 33 10.2	+0.3
	baz=19						
M29M				S	Sn	07 33 56.7	0.0
	baz=19						
M31M	**Drury Creek, Y**	**4.00**	**174**	P	Pn	07 33 10.4	+0.2
	baz=355,SNR=10						
FARO	**Faro, Yukon**	**4.04**	**167**	P	Pn	07 33 11.1	+0.3
	baz=349,SNR=16						
L27K	**Beaver Creek,**	**4.18**	**225**	P	Pn	07 33 12.6	-0.1
	baz=39						
L27K				S	Sn	07 34 00.7	-0.9
	baz=39						
PRP	**Porcupine Dome**	**4.23**	**266**	P	Pn	07 33 13.0	-0.5
	baz=77						
PRP				S	Sn	07 34 01.4	-1.7
	baz=77						
H25L	**Birch Creek**	**4.24**	**276**	P	Pn	07 33 13.2	-0.4
	baz=87						
SCRK	**Sand Creek**	**4.26**	**243**	P	Pn	07 33 13.5	-0.5
	baz=56,SNR=27						
SCRK				Sb	Sb	07 34 17.6	+2.1
	baz=56						
F25K	**Christian Rive**	**4.31**	**294**	P	Pn	07 33 14.5	0.0
	baz=105,SNR=9.5						
G25K	**Bearman Lake**	**4.36**	**283**	P	Pn	07 33 14.8	-0.2
	baz=93						
E25K	**Arctic Village**	**4.45**	**301**	P	Pn	07 33 16.3	0.0
	baz=112,SNR=15						
J25K	**Salcha River,**	**4.47**	**254**	P	Pn	07 33 15.8	-1.0
	baz=65						
L26K	**Log Cabin Wild**	**4.66**	**231**	P	Pn	07 33 19.3	-0.1
	baz=44						
N31M	**Braeburn, Yuko**	**4.70**	**183**	P	Pn	07 33 20.6	+0.8
	baz=2.4,SNR=28						
C27K	**Jago River**	**4.70**	**322**	P	Pn	07 33 20.8	+1.0
	baz=134,SNR=13						
C27K				S	Sn	07 34 15.8	+1.4
	baz=134						
RIDG	**Independent Ri**	**4.71**	**243**	P	Pn	07 33 19.6	-0.5
	baz=55						
M27K	**Edge Creek, AK**	**4.76**	**220**	P	Pn	07 33 20.5	-0.3
	baz=34						
K24K	**Donnelly Dome**	**5.02**	**247**	P	Pn	07 33 24.3	+0.1
	baz=58						
M26K	**Nabesna, AK**	**5.03**	**225**	P	Pn	07 33 24.5	0.0
	baz=38						
M26K				S	Sn	07 34 21.7	-1.0
	baz=38						
M26K				S	Sn	07 34 21.7	-1.0
	baz=38						
YUK4	**Talbot Arm**	**5.05**	**198**	P	Pn	07 33 24.0	-0.9
	baz=16,SNR=34						
POKR	**Poker Plat Res**	**5.11**	**264**	P	Pn	07 33 25.0	-0.6
	baz=73						
H24K	**Noodor Dome**	**5.13**	**272**	P	Pn	07 33 25.5	-0.3
	baz=81						
N32M	**Quiet Lake**	**5.13**	**168**	P	Pn	07 33 25.7	-0.1
	baz=350						
F24K	**Squaw Lake**	**5.13**	**291**	P	Pn	07 33 25.7	-0.1
	baz=100						
HDA	**Harding Lake**	**5.17**	**256**	P	Pn	07 33 26.1	-0.3
	baz=65						
C26K	**Camden Bay**	**5.20**	**321**	P	Pn	07 33 27.6	+0.9
	baz=132						
D25K	**Kavik River**	**5.25**	**312**	P	Pn	07 33 28.3	+0.8
	baz=122,SNR=17						
YUK8	**Steele Glacier**	**5.27**	**204**	P	Pn	07 33 28.3	+0.4
	baz=20,SNR=9.2						
C36M	**Paulatuk**	**5.34**	**48**	P	Pn	07 33 27.0	-1.7
	baz=238,SNR=44						
COLA	**College**	**5.36**	**262**	P	Pn	07 33 28.1	-0.7
	baz=71						
YUK6	**Outpost Mounta**	**5.41**	**196**	P	Pn	07 33 30.5	+0.7
	baz=13,SNR=17						
PAX	**Paxson**	**5.41**	**238**	P	Pn	07 33 30.0	+0.3
	baz=50						
O30N	**Mendenhall**	**5.42**	**184**	P	Pn	07 33 30.3	+0.5
	baz=3.4,SNR=23						
HYT	**Haines Junctio**	**5.44**	**191**	P	Pn	07 33 30.5	+0.4
	baz=9.5,SNR=12						
E24K	**Your Creek**	**5.47**	**297**	P	Pn	07 33 30.7	+0.2
	baz=104						
WHY	**Whitehorse**	**5.53**	**178**	P	Pn	07 33 31.7	+0.4
	baz=358,SNR=18						
TGTN	**Hyland Airport**	**5.60**	**143**	P	Pn	07 33 32.8	+0.5
	baz=329						
O28M	**Mount Upton**	**5.83**	**204**	P	Pn	07 33 36.5	+1.0
	baz=20						
E23K	**Chandalar**	**5.88**	**295**	P	Pn	07 33 36.6	+0.5
	baz=102						
I23K	**Minto, Yukon-K**	**5.88**	**267**	P	Pn	07 33 35.2	-0.8
	baz=74						
WRGLY	**Wrigley**	**5.88**	**114**	P	Pn	07 33 36.5	+0.4
	baz=305,SNR=63						
NEA2	**Nenana**	**5.95**	**261**	P	Pn	07 33 35.7	-1.3
	baz=69						
COLD	**Coldfoot**	**5.99**	**287**	P	Pn	07 33 37.4	-0.1
	baz=94						
TOLK	**Toolik Lake Re**	**6.02**	**301**	P	Pn	07 33 38.8	+0.8
	baz=108						
O29M	**Mount Kennedy**	**6.06**	**195**	P	Pn	07 33 39.2	+0.6
	baz=13						
P33M	**Teslin, Yukon**	**6.08**	**168**	P	Pn	07 33 39.1	+0.2
	baz=350						
C24K	**Franklin Bluff**	**6.16**	**311**	P	Pn	07 33 40.7	+0.8
	baz=119						
MCK	**McKinley**	**6.26**	**253**	P	Pn	07 33 41.2	-0.1
	baz=61						
D23K	**Nanushuk River**	**6.50**	**303**	P	Pn	07 33 45.8	+1.2
	baz=108						
BMRM	**Bremner River**	**6.64**	**223**	P	Pn	07 33 47.4	+0.8
	baz=35						
E22K	**Anaktuvuk Pass**	**6.71**	**295**	P	Pn	07 33 48.1	+0.7
	baz=100						
SKAG	**Skagway**	**6.72**	**180**	P	Pn	07 33 47.5	-0.1
	baz=0.1,SNR=6.8						
C23K	**Itkillik River**	**6.81**	**310**	P	Pn	07 33 49.3	+0.6
	baz=116						
A36M	**Sachs Harbour**	**6.87**	**27**	P	Pn	07 33 48.2	-1.4
	baz=216,SNR=18						
BPAW	**Bear Paw Mtn.**	**6.91**	**260**	P	Pn	07 33 49.0	-1.2
	baz=66						
TRF	**Thorofare Moun**	**6.93**	**254**	P	Pn	07 33 49.9	-0.6
	baz=60						
F21K	**Alatna River**	**7.27**	**287**	P	Pn	07 33 54.8	-0.3
	baz=90						
G21K	**Allakaket**	**7.31**	**281**	P	Pn	07 33 55.8	+0.1
	baz=84						
B22K	**Teshekpuk Lake**	**7.89**	**310**	P	Pn	07 34 03.9	+0.3
	baz=113						

*IDC **26** 07:32:57.5±3.9,5°.68S×128°.77E,h335km±40km,mb3.3/3,*
mbtmp4.1/6,Error ellipse: s-maj=54.5km s-min=11.2km
az=70.0
ISC 26 07:32:57.1±0.8,5°.75S±0°.07×128°.80E±0°.08,h350km,n19,
σ3s17/22,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.44**	**51**	P	**Pn**	**07 34 08.3**	**-2.4**
SOEI	**Soe**	**6.00**	**228**	P	**Pn**	**07 34 26.3**	**-1.8**
SOEI	**Soe**	**6.00**	**228**	S	**S**	**07 35 35.8**	**-6.1**
DRS	**Darwin Rock St**	**6.96**	**163**	S	**S**	**07 35 57.8**	**-4.0**
DRS	**Darwin Rock St**	**6.96**	**163**	P	**Pn**	**07 34 37.8**	**-1.2**
MTN	**Manton Dam**	**7.42**	**162**	P	**Pn**	**07 34 43.5**	**-0.9**
MTN	**Manton Dam**	**7.42**	**162**	S	**S**	**07 36 06.7**	**-5.0**
KDU	**Kakadu**	**7.79**	**153**	S	**S**	**07 36 15.6**	**-4.2**
KDU	**Kakadu**	**7.79**	**153**	P	**Pn**	**07 34 47.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**12.66**	**194**	P	**Pn**	**07 35 47.4**	**+0.7**
	4.0nm,0.4s,baz=29,slow=10,SNR=18						
FITZ				S	**S**	**07 38 07.0**	**+1.1**
	1.3nm,0.4s,baz=107,slow=22,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.66**	**194**	P	**Pn**	**07 35 46.9**	**+0.2**
	18nm,1.0s						
WRA	**Warramunga Arr**	**15.10**	**160**	P	**Pn**	**07 36 14.9**	**-0.3**
	2.0nm,0.4s,baz=341,slow=11,SNR=6.2						
WRA				S	**S**	**07 39 01.8**	**+6.5**
	1.3nm,0.7s,baz=336,slow=21,SNR=5.4						
COEN	**Coen**	**16.33**	**121**	P	**Pn**	**07 36 29.8**	**+0.3**
QIS	**Mount Isa**	**18.08**	**146**	P	**P**	**07 36 48.2**	**+3.2**
ASAR	**Alice Springs**	**18.48**	**165**	P	**P**	**07 36 51.6**	**+2.4**
	2.0nm,0.3s,baz=348,slow=12,SNR=45						
ASAR				S	**S**	**07 40 05.6**	**+3.8**
	4.3nm,1.0s,baz=346,slow=22,SNR=22						
WRKA	**Warakurna**	**19.19**	**181**	P	**P**	**07 36 58.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**38.02**	**310**	P	**P**	**07 39 43.3**	**+0.1**
	1.1nm,0.2s,baz=124,slow=9.0,SNR=1.3						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**66.53**	**327**	P	**P**	**07 43 11.9**	**+1.5**
	0.7nm,0.4s,baz=122,slow=7.7,SNR=15						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**70.83**	**329**	P	**P**	**07 43 38.1**	**+1.6**
	0.5nm,0.4s,baz=132,slow=5.0,SNR=7.8						
	0.5nm,0.4s						

*SJA **26** 07:33:50.0±1.5,30°.64S×71°.83W,h10km,ML2.6,MW2.9*
*GUC **26** 07:33:53.4±0.8,30°.69S×71°.60W,h26km±4km,ML2.9*
ISC 26 07:33:54.9±1.1,30°.74S±0°.04×71°.52W±0°.07,h16km±10km,
n17,σ1s51/25,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.12**	**305**	*e*P	**Pg**	**07 33 58.3**	**-0.3**
CO06				*e*S	**Sg**	**07 34 01.8**	**+0.8**
CO06				IAML		07 34 02.0	
	comp=N,6μm,0.1s						
CO03	**El Pedregal**	**0.72**	**98⇑**	*e*P	**Pb**	**07 34 09.2**	**-0.1**
CO03				*e*S	**Sn**	**07 34 20.9**	**-0.5**
CO03				IAML		07 34 21.9	
	comp=N,550nm,0.1s						
GO04	**

ARCO	**CERRO ARCO**	**3.04**	**134**	*i* P	**Pn**	**07 34 44.1**	**+1.6**
ARCO				IAML		07 35 37.8	
	comp=Z,15nm,1.9s						
VCA	**Vinchina**	**3.51**	**56**	*i* P	**Pn**	**07 34 49.7**	**+0.8**
VCA				IAML		07 35 50.7	
	comp=Z,13nm,0.8s						
ACLC	**CERRO LA CRUZ**	**4.17**	**73**	*i* P	**Pn**	**07 35 00.1**	**+2.0**
ACLC				IAML		07 36 01.6	
	comp=Z,6.0nm,1.5s						
ACHE	**Chepes**	**4.19**	**97**	*i* P	**Pn**	**07 35 00.7**	**+2.3**
APLL	**PUNTA DE LOS L**	**4.32**	**87**	*i* P	**Pn**	**07 35 02.0**	**+2.0**

*THE **26** 07:46:18.2, 37°.55N×20°.50E, h0km±3km, ML3.2/11, Error ellipse: s-maj=4.5km s-min=1.0km az=232.0*
*IDC **26** 07:46:19.3±15.0, 38°.03N×21°.11E, h0km, mb3.5/5, mbtmp3.6/5, MS4.0/1, Error ellipse: s-maj=306.5km s-min=44.8km az=40.0*
*ATH **26** 07:46:20.3, 37°.66N×20°.58E, h7km±2km, ML3.3/17, Manual Solution by A.Papageorgiou First location: 2019/02/26 07:47:16, This location: 2019/02/26 15:50:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*

ISC 26 07:46:18.6±1.4, 37°.61N±0°.04×20°.52E±0°.04, h13km±7km, n49, σ1§47/84, mb3.7/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.27**	**68**	P	**Pg**	**07 46 24.1**	**-0.2**
LTHK				S	**Sg**	**07 46 28.8**	**+0.7**
ORTH	**Orthonies,Zaky**	**0.28**	**30**	P	**Pg**	**07 46 24.6**	**+0.1**
ORTH				S	**Sg**	**07 46 27.6**	**-0.9**
KYPS	**Kipseli, Zakin**	**0.32**	**49**	P	**Pg**	**07 46 25.3**	**+0.1**
KYPS				S	**Sg**	**07 46 29.1**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.51**	**6**	P	**Pg**	**07 46 28.7**	**+0.1**
PSDA				S	**Sb**	**07 46 37.8**	**+1.0**
	3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.51**	**6**	P	**Pg**	**07 46 28.9**	**+0.2**
PSDA				S	**Sb**	**07 46 35.8**	**-1.0**
RTZL	**Ratzakli, Kefa**	**0.51**	**23**	P	**Pg**	**07 46 28.6**	**0.0**
RTZL				S	**Sb**	**07 46 37.6**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.56**	**60**	P	**Pb**	**07 46 29.9**	**-0.5**
CLEM				S	**Sg**	**07 46 36.8**	**-0.4**
VLS	**Valsamata**	**0.57**	**6**	P	**Pg**	**07 46 29.7**	**-0.2**
VLS				S	**Sb**	**07 46 39.4**	**+0.7**
	2μm,0.5s						
VLS	**Valsamata**	**0.57**	**6**	P	**Pg**	**07 46 29.6**	**-0.2**
VLS				S	**Sb**	**07 46 37.8**	**-0.8**
DMLN	**Damoulianata-K**	**0.64**	**350**	P	**Pg**	**07 46 30.7**	**-0.4**
DMLN				S	**Sb**	**07 46 42.5**	**+1.9**
	5μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**350**	P	**Pb**	**07 46 32.5**	**+0.8**
DMLN				S	**Sb**	**07 46 40.6**	**0.0**
SMHA	**Samh**	**0.65**	**9**	P	**Pb**	**07 46 31.8**	**-0.1**
SMHA				S	**Sb**	**07 46 40.0**	**-0.9**
FSK	**Fiskardo**	**0.85**	**2**	P	**Pg**	**07 46 34.5**	**-0.6**
FSK				S	**Sb**	**07 46 48.7**	**+2.0**
	1μm,0.6s						
FSK	**Fiskardo**	**0.85**	**2**	P	**Pg**	**07 46 35.0**	**-0.1**
FSK				S	**Sb**	**07 46 46.5**	**-0.2**
RLS	**Riolos of Patr**	**0.88**	**59**	P	**Pg**	**07 46 34.9**	**-0.6**
RLS				S	**Sb**	**07 46 48.6**	**+1.3**
	1μm,0.8s						
RLS	**Riolos of Patr**	**0.88**	**59**	P	**Pg**	**07 46 35.0**	**-0.6**
RLS				S	**Sb**	**07 46 46.4**	**-0.9**
AXS	**Araxos**	**0.90**	**49**	P	**Pb**	**07 46 36.7**	**+0.6**
AXS				S	**Sb**	**07 46 47.1**	**-0.9**
AMT	**Artemida-Makis**	**0.95**	**94**	P	**Pg**	**07 46 37.1**	**+0.1**
AMT				S	**Sb**	**07 46 50.3**	**+0.8**
DRO	**Drossia**	**1.01**	**70**	P	**Pg**	**07 46 37.7**	**-0.4**
DRO				S	**Sb**	**07 46 50.8**	**-0.3**
EVGI	**Lefkada island**	**1.02**	**6**	P	**Pg**	**07 46 37.7**	**-0.6**
EVGI				S	**Sn**	**07 46 53.6**	**+0.7**
	1μm,0.4s						
EVGI	**Lefkada island**	**1.02**	**6**	P	**Pb**	**07 46 38.9**	**+0.7**
EVGI				S	**Sb**	**07 46 52.2**	**+0.7**
DRAG	**Dragano-Lefkad**	**1.08**	**2**	P	**Pb**	**07 46 40.3**	**+1.1**
DRAG				S	**Sn**	**07 46 56.4**	**+2.1**
NYDR	**Nydri-Lefkada**	**1.11**	**7**	P	**Pb**	**07 46 40.5**	**+0.7**
NYDR				S	**Sn**	**07 46 58.4**	**+3.2**
	880nm,0.6s						
LKD2	**Lefkada island**	**1.19**	**5**	P	**Pn**	**07 46 42.3**	**+1.3**
LKD2				S	**Sn**	**07 47 00.1**	**+3.1**
LKD2	**Lefkada island**	**1.19**	**5**	P	**Pn**	**07 46 42.1**	**+1.1**
LKD2				S	**Sb**	**07 46 57.3**	**+1.0**
ITM	**Ithomi**	**1.20**	**110**	P	**Pg**	**07 46 40.1**	**-1.6**
ITM				S	**Sb**	**07 46 58.5**	**+1.8**
	522nm,0.8s						
ITM	**Ithomi**	**1.20**	**110**	P	**Pb**	**07 46 42.4**	**+1.1**
ITM				S	**Sb**	**07 46 58.5**	**+1.8**
TSLK	**Tsoukalades, L**	**1.22**	**5**	P	**Pn**	**07 46 43.1**	**+1.6**
TSLK				S	**Sn**	**07 47 02.1**	**+4.2**
	1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.22**	**5**	P	**Pn**	**07 46 42.7**	**+1.3**
TSLK				S	**Sb**	**07 46 57.8**	**+0.5**
PVO	**Paravola**	**1.28**	**38**	P	**Pn**	**07 46 43.4**	**+1.1**
PVO				S	**Sb**	**07 46 59.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.36**	**71**	P	**Pb**	**07 46 44.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.36**	**71**	P	**Pb**	**07 46 44.5**	**+0.4**
KLV				S	**Sn**	**07 47 02.8**	**+1.3**
EFP	**Efpalio**	**1.37**	**53**	P	**Pg**	**07 46 43.4**	**-1.5**
EFP	**Efpalio**	**1.37**	**53**	P	**Pn**	**07 46 45.2**	**+1.7**
EFP				S	**Sn**	**07 47 02.3**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.42**	**62**	P	**Pb**	**07 46 46.4**	**+1.4**
ANX	**Ano Chora**	**1.48**	**48**	P	**Pb**	**07 46 47.0**	**+0.9**
ANX				S	**Sn**	**07 47 08.5**	**+4.1**
	1μm,0.6s						
ANX	**Ano Chora**	**1.48**	**48**	P	**Pb**	**07 46 46.6**	**+0.5**
ANX				S	**Sg**	**07 47 04.7**	**-1.7**
GUR	**Goura**	**1.48**	**77**	P	**Pn**	**07 46 46.0**	**+0.8**
GUR				S	**Sn**	**07 47 08.1**	**+3.6**
	902nm,0.6s						
GUR	**Goura**	**1.48**	**77**	P	**Pn**	**07 46 46.0**	**+0.8**
GUR				S	**Sn**	**07 47 06.7**	**+2.2**
TETR	**Tetrakomo, Epi**	**1.83**	**19**	P	**Pn**	**07 46 51.6**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.89**	**42**	P	**Pn**	**07 46 52.6**	**+1.9**
AXAR	**Agios Charalam**	**2.05**	**55**	P	**Pn**	**07 46 54.4**	**+1.6**
VLI	**Veliai**	**2.13**	**114**	P	**Pn**	**07 46 56.7**	**+2.8**
HFS	**Hagfors**	**22.96**	**351**	P	**P**	**07 51 21.6**	**-0.9**
	1.0nm,0.6s,baz=159,slow=12,SNR=2.2						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**07 51 31.6**	**-2.2**
	2.1nm,0.8s,baz=178,slow=9.7,SNR=5.3						
	2.1nm,0.8s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**07 54 36.0**	**-2.5**
	0.2nm,0.5s,baz=269,slow=9.2,SNR=4.5						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.08**	**48**	P	**P**	**07 54 40.1**	**-1.9**
	0.5nm,0.4s,baz=270,slow=8.6,SNR=3.6						
	0.5nm,0.4s						
LSZ	**Lusaka**	**53.09**	**171**	LR	LR	08 19 17.0	
	comp=Z,153nm,19.2s,baz=184,slow=37						
SONM	**Songino Array**	**60.82**	**50**	P	**P**	**07 56 28.5**	**-2.1**
	0.3nm,0.5s,baz=294,slow=5.5,SNR=2.5						
	0.3nm,0.5s						

*MDD **26** 07:54:48.4±0.1, 42°.50N×0°.96E, h0km, mb_Lg3.0/55, Error ellipse: s-maj=1.5km s-min=1.1km az=18.0*
*STR **26** 07:54:48.3±0.6, 43°.N±4'×±', h6km±4km, MLv2.8/22, Error ellipse: s-maj=0.0km s-min=0.0km az=9.9, preliminary*
*LDG **26** 07:54:48.5±0.1, 42°.53N×0°.95E, h2km, Md2.9/1, Ml3.0/27, Error ellipse: s-maj=1.0km s-min=0.9km az=15.0*
*MRB **26** 07:54:48.5±0.5, 42°.52N×0°.96E, h4km±4km, ML2.6/44, Error ellipse: s-maj=1.2km s-min=0.9km az=63.0*
*SFS **26** 07:54:49.5, 42°.43N×0°.97E, h5km, ML3.6/5, ML3.1/5, MLv2.6/5*

ISC 26 07:54:47.7±0.8, 42°.53N±0°.01×0°.97E±0°.01, h19km±1km, n134, σ1§20/254, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.20**	**143**	P	**Pb**	**07 54 52.3**	**0.0**
CSOR				S	**Sb**	**07 54 55.5**	**+0.3**
CARA	**Val d'Aran**	**0.21**	**327**	P	**Pb**	**07 54 53.0**	**+0.3**
CARA				S	**Sb**	**07 54 56.1**	**+0.3**
	939nm,0.2s						
VIES	**Vielha - Hospi**	**0.21**	**322**	P	**Pb**	**07 54 52.9**	**+0.2**
VIES				S	**Sb**	**07 54 56.2**	**+0.2**
	2μm,0.2s						
CEST	**Esterri de Car**	**0.22**	**72**	P	**Pb**	**07 54 53.1**	**+0.3**
CEST				S	**Sb**	**07 54 56.3**	**+0.2**
	1μm,0.3s						
VIER	**Vielha - Casau**	**0.22**	**321**	P	**Pg**	**07 54 53.1**	**-0.1**
VIER				S	**Sb**	**07 54 56.5**	**+0.1**
	2μm,0.1s						
CTRE	**Tremp**	**0.26**	**215**	P	**Pg**	**07 54 53.3**	**-0.4**
CTRE				S	**Sg**	**07 54 57.1**	**-0.6**
	628nm,0.3s						
SALF	**Salau**	**0.28**	**35**	P	**Pb**	**07 54 54.6**	**+0.5**
SALF				S	**Sg**	**07 54 58.8**	**+0.5**
	809nm,0.1s						
SALF	**Salau**	**0.28**	**35**	Pg	**Pg**	**07 54 54.2**	**+0.2**
SALF				Sg	**Sg**	**07 54 58.2**	**-0.1**
MELF	**Melles**	**0.37**	**335**	Pg	**Pg**	**07 54 55.8**	**+0.2**
MELF				Sg	**Sg**	**07 55 00.8**	**-0.2**
CTRM	**Tremp**	**0.38**	**189**	P	**Pg**	**07 54 55.6**	**0.0**
CTRM				S	**Sg**	**07 55 00.9**	**-0.1**
	626nm,0.1s						
CORG	**Organya**	**0.40**	**140**	P	**Pg**	**07 54 55.8**	**-0.2**
CORG				S	**Sg**	**07 55 01.6**	**+0.1**
	159nm,0.3s						
PAND	**Andorre**	**0.42**	**91**	P	**Pb**	**07 54 57.0**	**+0.2**
PAND				S	**Sg**	**07 55 02.7**	**+0.2**
	562nm,0.2s						
PAND	**Andorre**	**0.42**	**91**	Pg	**Pg**	**07 54 56.5**	**-0.1**
PAND				Sg	**Sg**	**07 55 02.2**	**-0.3**
MLS	**Moulis**	**0.43**	**12**	P	**Pb**	**07 54 57.4**	**+0.5**
MLS				S	**Sb**	**07 55 03.5**	**+0.4**
	219nm,0.2s						
MLS	**Moulis**	**0.43**	**12**	Pg	**Pg**	**07 54 56.9**	**+0.2**
MLS				Sg	**Sg**	**07 55 03.0**	**+0.3**
ARBS	**La Rabassa**	**0.43**	**101**	P	**Pg**	**07 54 56.5**	**-0.2**
ARBS				S	**Sg**	**07 55 02.3**	**-0.6**
	638nm,0.5s						
GENF	**Genat**	**0.53**	**56**	P	**Pg**	**07 54 58.8**	**+0.4**
GENF				S	**Sg**	**07 55 05.9**	**+0.3**
RESF	**Ens**	**0.54**	**301**	P	**Pg**	**07 54 58.5**	**-0.2**
RESF				S	**Sg**	**07 55 05.7**	**-0.4**
	383nm,0.3s						
ECHI	**Chisagues Biel**	**0.59**	**283**	Pg	**Pg**	**07 54 59.2**	**-0.4**
ECHI				Sg	**Sg**	**07 55 06.7**	**-0.9**
ECHI				*i* Vmb_Lg		07 55 07.9	
ECHI	**Chisagues Biel**	**0.59**	**283**	P	**Pg**	**07 54 59.1**	**-0.5**
ECHI				S	**Sg**	**07 55 07.1**	**-0.4**
	340nm,0.1s						
ECHI	**Chisagues Biel**	**0.59**	**283**	Pg	**Pg**	**07 54 59.1**	**-0.5**
ECHI				Sg	**Sg**	**07 55 06.9**	**-0.6**
CAVN	**Les Avellanes**	**0.67**	**194**	P	**Pb**	**07 55 00.8**	**0.0**
CAVN				S	**Sb**	**07 55 09.3**	**-0.4**
	214nm,0.2s						
EPF	**Esparros**	**0.68**	**317**	*e*Pg	**Pb**	**07 55 00.9**	**-0.2**
EPF				*e*Sg	**Sb**	**07 55 09.2**	**-0.9**
	208nm,0.2s						
CLLI	**Llivia**	**0.74**	**94**	P	**Pb**	**07 55 02.1**	**-0.1**
CLLI				S	**Sg**	**07 55 12.9**	**+0.7**
	72nm,0.2s						
EMIR	**Miracle**	**0.74**	**146**	⇓Pg	**Pb**	**07 55 02.4**	**+0.3**
EMIR				Sg	**Sb**	**07 55 11.7**	**-0.2**
EMIR				*i* Vmb_Lg		07 55 14.2	
EMIR	**Miracle**	**0.74**	**146**	P	**Pb**	**07 55 02.4**	**+0.3**
EMIR				S	**Sg**	**07 55 12.8**	**+0.6**
	128nm,0.2s						
VIEF	**Viey**	**0.78**	**297**	P	**Pb**	**07 55 03.2**	**+0.4**
VIEF				S	**Sg**	**07 55 14.0**	**+0.4**
	82nm,0.4s						
VIEF	**Viey**	**0.78**	**297**	Pg	**Pb**	**07 55 02.7**	**-0.2**
VIEF				Sg	**Sb**	**07 55 13.5**	**+0.3**
DUNF	**Dun**	**0.79**	**51**	Pg	**Pg**	**07 55 03.9**	**+0.8**
VALC	**Valcebollere**	**0.81**	**100**	P	**Pb**	**07 55 03.3**	**0.0**
VALC				S	**Sg**	**07 55 15.0**	**+0.8**
	177nm,0.2s						
VALC	**Valcebollere**	**0.81**	**100**	Pg	**Pb**	**07 55 03.3**	**0.0**
VALC				Sg	**Sg**	**07 55 15.4**	**+1.1**
LABF	**Labassere**	**0.84**	**308**	Pg	**Pb**	**07 55 03.8**	**0.0**
LABF				Sg	**Sb**	**07 55 15.2**	**+0.5**
CARF	**Carcanieres**	**0.85**	**77**	P	**Pg**	**07 55 05.0**	**+0.6**
CARF				S	**Sn**	**07 55 16.9**	**-0.1**
	137nm,0.1s						
CARF	**Carcanieres**	**0.85**	**77**	Pg	**Pb**	**07 55 04.4**	**+0.3**
CARF				Sg	**Sg**	**07 55 16.4**	**+0.6**
FNEB	**Nbias**	**0.91**	**66**	P	**Pn**	**07 55 06.3**	**+0.7**
FNEB				S	**Sn**	**07 55 19.0**	**+0.6**
	104nm,0.1s						
FNEB	**Nbias**	**0.91**	**66**	Pg	**Pg**	**07 55 05.8**	**+0.3**
FNEB				Sg	**Sg**	**07 55 18.4**	**+0.8**
CBRU	**Bruguera**	**0.93**	**105**	P	**Pb**	**07 55 05.5**	**+0.2**
CBRU				S	**Sg**	**07 55 18.7**	**+0.7**
	61nm,0.2s						
PYLO	**Lourdes**	**0.94**	**307**	P	**Pg**	**07 55 06.2**	**+0.1**
PYLO				S	**Sg**	**07 55 18.6**	**+0.1**
	70nm,0.3s						
PYLO	**Lourdes**	**0.94**	**307**	Pg	**Pb**	**07 55 05.1**	**-0.4**
PYLO				Sg	**Sb**	**07 55 18.2**	**+0.6**
CORI	**Orista**	**0.97**	**125**	P	**Pn**	**07 55 06.6**	**+0.1**
CORI				S	**Sn**	**07 55 19.9**	**+0.1**
	106nm,0.2s						
CANF	**Canfranc**	**1.12**	**282**	Pg	**Pb**	**07 55 09.0**	**+0.4**
CANF				Sg	**Sg**	**07 55 24.8**	**+0.5**
FILF	**Fillols**	**1.17**	**88**	P	**Pn**	**07 55 08.3**	**-0.9**
FILF				S	**Sb**	**07 55 22.8**	**-1.5**
	58nm,0.2s						
FILF	**Fillols**	**1.17**	**88**	Pg	**Pn**	**07 55 08.3**	**-0.9**
FILF				Sg	**Sb**	**07 55 23.4**	**-0.9**
EPOB	**Poblet**	**1.18**	**176**	Pg	**Pb**	**07 55 10.0**	**+0.4**
EPOB				Sg	**Sn**	**07 55 25.4**	**+0.4**
EPOB				*i* Vmb_Lg		07 55 28.2	
EPOB	**Poblet**	**1.18**	**176**	P	**Pb**	**07 55 10.0**	**+0.4**
EPOB				S	**Sg**	**07 55 25.7**	**-0.4**
	162nm,0.2s						
ETSF	**Etsaut**	**1.19**	**288**	*e*Pg	**Pn**	**07 55 09.8**	**+0.3**
ETSF				*e*Sg	**Sg**	**07 55 26.1**	**-0.2**
	119nm,0.3s						
CRAS	**Crastes**	**1.20**	**351**	Pg	**Pb**	**07 55 10.4**	**+0.5**
CRAS				Sg	**Sg**	**07 55 28.0**	**+1.3**
MTLF	**Montolieu**	**1.22**	**48**	*e*Pg	**Pg**	**07 55 11.4**	**+0.1**
MTLF				*e*Sg	**Sg**	**07 55 28.2**	**+0.9**
	81nm,0.2s						
MTLF	**Montolieu**	**1.22**	**48**	Pg	**Pg**	**07 55 11.6**	**+0.2**
CBEU	**Beuda**	**1.29**	**102**	P	**Pb**	**07 55 12.4**	**+0.9**
CBEU				S	**Sg**	**07 55 29.8**	**+0.2**
	139nm,0.2s						
CFON	**Fontmartina**	**1.33**	**125**	P	**Pg**	**07 55 13.1**	**-0.4**
CFON				S	**Sg**	**07 55 31.0**	**+0.1**
	246nm,0.2s						
ESAC	**San Caprasio**	**1.35**	**233**	Pg	**Pg**	**07 55 13.2**	**-0.5**
ESAC				Sg	**Sg**	**07 55 31.0**	**-0.3**
ESAC				*i* Vmb_Lg		07 55 35.1	
ESAC	**San Caprasio**	**1.35**	**233**	P	**Pg**	**07 55 13.2**	**-0.5**
ESAC				S	**Sg**	**07 55 31.1**	**-0.3**
	330nm,0.3s						
ATE	**Arette**	**1.35**	**295**	P	**Pg**	**07 55 13.5**	**-0.3**
ATE				S	**Sg**	**07 55 31.9**	**+0.4**
	48nm,0.2s						
ATE	**Arette**	**1.35**	**295**	Pn	**Pb**	**07 55 12.9**	**+0.5**
ATE				Sn	**Sg**	**07 55 31.1**	**-0.3**
FBR	**Fabra**	**1.41**	**142**	P	**Pb**	**07 55 13.8**	**+0.4**
FBR				S	**Sg**	**07 55 32.4**	**-0.8**
	125nm,0.2s						
SJAF	**Saint Jean de**	**1.41**	**91**	P	**Pg**	**07 55 14.6**	**-0.4**
SJAF				S	**Sg**	**07 55 33.5**	**+0.1**
	103nm,0.3s						
SJAF	**Saint Jean de**	**1.41**	**91**	Pn	**Pg**	**07 55 14.6**	**-0.4**
SJAF				Pg	**Pb**	**07 55 15.9**	**+2.4**
SJAF				Sn	**Sg**	**07 55 33.5**	**+0.1**
EJON	**La Jonquera**	**1.42**	**93**	Pn	**Pg**	**07 55 14.9**	**-0.2**
EJON				Sn	**Sg**	**07 55 33.3**	**-0.3**
EJON	**La Jonquera**	**1.42**	**93**	Pg	**Pg**	**07 55 14.9**	**-0.2**
EJON				Sg	**Sg**	**07 55 34.0**	**+0.4**
EJON				*i* Vmb_Lg		07 55 37.1	
CGAR	**Garraf**	**1.42**	**150**	P	**Pb**	**07 55 14.4**	**+0.7**
CGAR				S	**Sg**	**07 55 33.2**	**-0.6**
	58nm,0.2s						
MTJR	**Montjuic**	**1.46**	**142**	S	**Sg**	**07 55 34.5**	**-0.4**
	291nm,0.3s						
ORDF	**Ordiarp**	**1.56**	**296**	Pn	**Pg**	**07 55 17.4**	**-0.4**
ORDF				Sn	**Sg**	**07 55 38.6**	**+0.5**
IRAF	**Chalets d'Irat**	**1.56**	**289**	Pn	**Pb**	**07 55 17.0**	**+0.9**
IRAF				Sn	**Sg**	**07 55 39.0**	**+0.7**
CCAS	**Cassa de la Se**	**1.57**	**114**	P	**Pb**	**07 55 16.6**	**+0.3**
CCAS				S	**Sg**	**07 55 38.2**	**-0.4**
	46nm,0.2s						
VAN2	**Vandellos 2**	**1.58**	**184**	P	**Pb**	**07 55 17.2**	**+0.8**
VAN2				S	**Sg**	**07 55 37.4**	**-1.4**
	120nm,0.2s						
CPAL	**Palau Saverder**	**1.64**	**97**	P	**Pb**	**07 55 17.9**	**+0.6**
CPAL				S	**Sg**	**07 55 39.5**	**-1.1**
	46nm,0.3s						
CLAF	**Gruissan**	**1.67**	**68**	P	**Pb**	**07 55 18.8**	**+0.9**
CLAF				S	**Sb**	**07 55 40.5**	**+2.0**
	24nm,0.3s						
CLAF	**Gruissan**	**1.67**	**68**	Pn	**Pb**	**07 55 18.1**	**+0.2**
SJPF	**Ste Jean**	**1.72**	**290**	*e*Pg	**Pb**	**07 55 19.9**	**+1.2**
SJPF				*e*Sg	**Sg**	**07 55 43.0**	**-0.2**
	43nm,0.2s						
EORO	**Oroz-Betelu**	**1.72**	**283**	Pn	**Pb**	**07 55 19.1**	**+0.3**
EORO				Sn	**Sb**	**07 55 41.8**	**+1.7**
EORO				*i* Vmb_Lg		07 55 46.9	
EBR	**Ebro Roquetas**	**1.75**	**192**	S	**Sb**	**07 55 42.3**	**+1.5**
	121nm,0.3s						
OSSF	**Osses**	**1.79**	**294**	P	**Pb**	**07 55 20.0**	**0.0**
OSSF				S	**Sb**	**07 55 43.6**	**+1.4**
	24nm,0.2s						
OSSF	**Osses**	**1.79**	**294**	Pn	**Pb**	**07 55 20.8**	**+0.7**
CBUD	**Illa de Buda**	**1.83**	**184**	P	**Pb**	**07 55 20.1**	**-0.6**
CBUD				S	**Sb**	**07 55 43.7**	**+0.6**
	196nm,0.2s						
MONQ	**Montcuq**	**1.84**	**5**	Pn	**Pn**	**07 55 19.9**	**+1.5**
MONQ				Pg	**Pg**	**07 55 23.0**	**-0.1**
CMAS	**Mas de Barbera**	**1.87**	**196**	P	**Pn**	**07 55 20.0**	**+1.2**
CMAS				S	**Sb**	**07 55 45.2**	**+0.8**
	75nm,0.3s						
EARA	**Aranguren**	**1.90**	**278**	Pn	**Pn**	**07 55 20.4**	**+1.3**
EARA				Sn	**Sb**	**07 55 45.6**	**+0.4**
EARA				Sg	**Sg**	**07 55 49.1**	**+0.2**
EALK	**Alkurruntz**	**1.95**	**291**	Pn	**Pn**	**07 55 20.9**	**+1.0**
EALK				Pg	**Pb**	**07 55 24.0**	**+1.3**
EALK				Sn	**Sb**	**07 55 46.9**	**+0.2**
EALK				Sg	**Sg**	**07 55 50.5**	**-0.1**
EALK				*i* Vmb_Lg		07 55 53.2	
EALK	**Alkurruntz**	**1.95**	**291**	Pg	**Pg**	**07 55 24.5**	**-0.7**
CFAR	**Far de la Bany**	**1.98**	**187**	S	**Sb**	**07 55 47.3**	**-0.3**
	159nm,0.3s						
ALCX	**Castello**	**2.33**	**193**	P	**Pn**	**07 55 26.7**	**+1.6**
ALCX				S	**Sb**	**07 55 56.3**	**-1.3**
LFF	**La Frestale**	**2.41**	**356**	*e*Pn	**Pn**	**07 55 27.5**	**+1.3**
LFF	**La Frestale**	**2.41**	**356**	*e*Pg	**Pg**	**07 55 33.5**	**-0.5**
LFF				*e*Sn	**Sn**	**07 55 55.9**	**+0.7**
LFF				*e*Sg	**Sg**	**07 56 04.5**	**-0.8**
	9.6nm,0.2s						
EMOS	**Mosqueruela**	**2.42**	**207**	Pn	**Pn**	**07 55 27.6**	**+1.1**
EMOS				Pg	**Pb**	**07 55 30.2**	**-0.7**
EMOS				Sn	**Sn**	**07 55 57.9**	**+2.0**
EMOS				Sg	**Sg**	**07 56 04.1**	**-1.6**
EMOS				*i* Vmb_Lg		07 56 08.2	
EMOS	**Mosqueruela**	**2.42**	**207**	P	**Pn**	**07 55 28.6**	**+2.0**
EMOS				S	**Sb**	**07 55 58.4**	**-2.0**
	11nm,0.3s						
E1202	**Enciso (La Rio**	**2.43**	**262**	Pn	**Pn**	**07 55 27.6**	**+1.1**
E1202				Sn	**Sn**	**07 55 57.6**	**+1.9**
CAF	**Calviac**	**2.52**	**18**	*e*Pn	**Pn**	**07 55 28.9**	**+1.2**
CAF	**Calviac**	**2.52**	**18**	*e*Pg	**Pg**	**07 55 35.5**	**-0.6**
CAF				*e*Sn	**Sn**	**07 55 59.0**	**+1.0**
CAF				*e*Sg	**Sg**	**07 56 08.3**	**-0.4**
	12nm,0.2s						
E0901	**Celadas (Terue**	**2.59**	**218**	Pn	**Pn**	**07 55 29.9**	**+1.1**
E0901				Sn	**Sn**	**07 56 00.6**	**+0.9**
E0901				*i* Vmb_Lg		07 56 16.6	
LASF	**Ste Croix**	**2.61**	**53**	*e*Pn	**Pn**	**07 55 30.4**	**+1.4**
LASF	**Ste Croix**	**2.61**	**53**	*e*Pg	**Pb**	**07 55 36.0**	**+2.1**
LASF				*e*Sg	**Sg**	**07 56 11.2**	**-0.4**
	21nm,0.3s						
ECOL	**Islas Columbre**	**2.64**	**185**	Pn	**Pn**	**07 55 30.0**	**+0.7**
ECOL				Pg	**Pb**	**07 55 34.4**	**0.0**
ECOL				Sn	**Sn**	**07 56 01.9**	**+1.0**
ECOL				Sg	**Sg**	**07 56 10.4**	**-2.2**
ECOL	**Islas Columbre**	**2.64**	**185**	P	**Pn**	**07 55 31.7**	**+2.4**
ECOL				S	**Sn**	**07 56 03.3**	**+2.5**
	25nm,0.4s						
RJF	**Les Rejaudoux**	**2.80**	**8**	*e*Pn	**Pn**	**07 55 32.4**	**+0.9**
RJF	**Les Rejaudoux**	**2.80**	**8**	*e*Pg	**Pg**	**07 55 40.2**	**-1.2**
RJF				*e*Sn	**Sn**	**07 56 04.3**	**-0.5**
RJF				*e*Sg	**Sg**	**07 56 16.1**	**-1.6**
	9.3nm,0.2s						
ETOR	**Torete**	**2.84**	**234**	Pn	**Pn**	**07 55 33.7**	**+1.4**
ETOR				Sn	**Sn**	**07 56 07.8**	**+1.8**
ETOR				*i* Vmb_Lg		07 56 22.0	
ETOS	**Mallorca**	**3.09**	**153**	Pn	**Pn**	**07 55 36.5**	**+0.9**
ETOS				Sn	**Sn**	**07 56 10.7**	**-1.3**
ETOS	**Mallorca**	**3.09**	**153**	Pn	**Pn**	**07 55 35.8**	**+0.2**

0.7nm,0.2s
ECAB El Cabril 6.61 230 Pn **Pn 07 56 24.3 +0.4**
ECAB El Cabril 6.61 230 Pn **Pn 07 56 23.5 -0.4**
ECAB *i* Vmb_Lg 07 57 57.8

---

*NOU **26** 08:19:36.8,21.°71S×178.°17W,h653km,mb4.4/14,Fiji Islands Region*
*IDC **26** 08:19:44.2±1.5,22.°07S×179.°68W,h593km±16km, mb3.2/10,mbtmp4.1/11,Error ellipse: s-maj=17.7km s-min=14.3km az=158.0*
*NEIC **26** 08:19:44.1±1.0,22.°04S±0.°06×179.°5W±0.°1,h594km±10km, mb4.2/27,Error ellipse: s-maj=20.6km s-min=6.7km az=74.0*
ISC 26 08:19:43.7±0.5,**22.°10S**±0.°07×**179.°58W**±0.°09,**h592**km, **n100**,σ1§**37**/106,**mb4.1**/25,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.88**	**332**	P	**P**	**08 21 15.1**	**-0.2**
	46nm,0.5s,baz=191,slow=6.2,SNR=96						
MSVF	**Nonsavu**	**4.88**	**332**	P	**P**	**08 21 15.1**	**-0.2**
YSA	**Yasawairara**	**6.00**	**333**	P	**P**	**08 21 24.3**	**-0.3**
FUTU	**Fugatoga**	**7.87**	**10**	P	**P**	**08 21 41.0**	**-0.7**
NIUE	**Niue**	**9.53**	**73**	P	**P**	**08 21 57.3**	**-0.3**
OUZ	**Omahuta**	**14.38**	**203**	P	**P**	**08 22 46.5**	**+0.4**
	50nm,1.9s						
OUZ	**Omahuta**	**14.38**	**203**	P	**P**	**08 22 46.9**	**+0.8**
WCZ	**Waipu Caves**	**14.78**	**200**	P	**P**	**08 22 50.8**	**+0.9**
KUZ	**Kuaotunu**	**15.16**	**195**	P	**P**	**08 22 51.8**	**-1.6**
MKAZ	**Moumakai**	**15.63**	**196**	P	**P**	**08 22 58.3**	**+0.5**
AWAZ	**Awhitu Peninsu**	**15.73**	**197**	P	**P**	**08 22 59.3**	**+0.6**
TOZ	**Tahuroa Road**	**16.15**	**194**	P	**P**	**08 23 03.4**	**+0.9**
URZ	**Urewera**	**16.36**	**189**	P	**P**	**08 23 01.5**	**-3.0**
	20nm,0.4s,baz=9.4,slow=3.2,SNR=28						
URZ				S	**S**	**08 25 43.1**	**-4.9**
	2.5nm,0.6s,baz=81,slow=16,SNR=1.5						
URZ	**Urewera**	**16.36**	**189**	P	**P**	**08 23 02.5**	**-2.0**
URZ	**Urewera**	**16.36**	**189**	S	**S**	**08 25 48.9**	**+0.9**
TLZ	**Tolley Road**	**16.71**	**193**	P	**P**	**08 23 08.2**	**+0.4**
HIZ	**Hauiti**	**17.05**	**195**	P	**P**	**08 23 09.6**	**-1.2**
BKZ	**Black Stump Fm**	**17.34**	**190**	P	**P**	**08 23 10.7**	**-2.8**
BKZ	**Black Stump Fm**	**17.34**	**190**	P	**P**	**08 23 10.4**	**-3.1**
NTVZ	**North Tongarir**	**17.43**	**192**	P	**P**	**08 23 13.7**	**-0.7**
TMVZ	**Te Maari**	**17.44**	**192**	P	**P**	**08 23 13.3**	**-1.2**
ETVZ	**East Tongariro**	**17.46**	**192**	P	**P**	**08 23 12.8**	**-1.9**
OTVZ	**Oturere**	**17.49**	**192**	P	**P**	**08 23 12.6**	**-2.4**
NGZ	**Ngauruhoe**	**17.52**	**193**	P	**P**	**08 23 14.9**	**-0.4**
SNVZ	**South Ngauruho**	**17.52**	**192**	P	**P**	**08 23 13.7**	**-1.6**
MCHZ	**McNeill Hill**	**17.58**	**190**	P	**P**	**08 23 14.0**	**-1.6**
WNVZ	**Wahianoa**	**17.66**	**192**	P	**P**	**08 23 15.1**	**-1.5**
PKVZ	**Pokaka**	**17.68**	**193**	P	**P**	**08 23 16.2**	**-0.4**
KAHZ	**Kahuranaki**	**17.90**	**189**	P	**P**	**08 23 17.6**	**-1.0**
KAHZ				S	**S**	**08 26 14.1**	**+0.9**
PNHZ	**Pukenui**	**18.12**	**190**	P	**P**	**08 23 18.0**	**-2.6**
PXZ	**Pawanui**	**18.13**	**189**	P	**P**	**08 23 19.0**	**-1.6**
PXZ				S	**S**	**08 26 17.6**	**+0.8**
PRWZ	**Pori Road**	**18.78**	**191**	P	**P**	**08 23 25.0**	**-1.5**
BFZ	**Birch Farm**	**18.86**	**190**	P	**P**	**08 23 24.3**	**-3.0**
BFZ	**Birch Farm**	**18.86**	**190**	P	**P**	**08 23 25.2**	**-2.1**
BFZ				S	**S**	**08 26 30.9**	**+2.3**
MRZ	**Mangatainoka R**	**18.96**	**191**	P	**P**	**08 23 25.8**	**-2.4**
OGWZ	**Otaki Gorge**	**19.18**	**192**	P	**P**	**08 23 28.5**	**-1.7**
QRZ	**Quartz Range**	**19.83**	**198**	P	**P**	**08 23 33.6**	**-2.5**
NNZ	**Nelson**	**19.97**	**196**	P	**P**	**08 23 36.4**	**-0.9**
THZ	**Tophouse**	**20.60**	**196**	P	**P**	**08 23 42.1**	**-1.0**
DSZ	**Denniston Nort**	**20.89**	**198**	P	**P**	**08 23 44.6**	**-1.1**
KHZ	**Kahutara**	**21.07**	**194**	P	**P**	**08 23 45.1**	**-2.0**
KHZ	**Kahutara**	**21.07**	**194**	P	**P**	**08 23 45.0**	**-2.0**
GVZ	**Greta Valley S**	**21.70**	**195**	P	**P**	**08 23 50.5**	**-2.4**
LTZ	**Lake Taylor**	**21.72**	**196**	P	**P**	**08 23 50.6**	**-2.5**
INZ	**Inchbonnie**	**21.89**	**198**	P	**P**	**08 23 52.6**	**-1.9**
WVZ	**Waitaha Valley**	**22.42**	**199**	P	**P**	**08 23 57.7**	**-1.6**
RPZ	**Rata Peaks**	**22.92**	**198**	P	**P**	**08 24 03.7**	**0.0**
FOZ	**Fox Glacier**	**23.12**	**200**	P	**P**	**08 24 04.5**	**-0.9**
TMZ	**Timaru**	**23.55**	**197**	P	**P**	**08 24 07.4**	**-1.8**
LBZ	**Lake Benmore**	**23.78**	**198**	P	**P**	**08 24 09.2**	**-2.1**
JCZ	**Jackson Bay**	**23.94**	**201**	P	**P**	**08 24 12.2**	**-0.7**
JCZ	**Jackson Bay**	**23.94**	**201**	P	**P**	**08 24 12.1**	**-0.7**
TATA	**Tatamba Isabel**	**24.07**	**301**	P	**P**	**08 24 13.4**	**-0.9**
EAZ	**Earnscleugh**	**24.81**	**199**	P	**P**	**08 24 19.4**	**-1.0**
MLZ	**Mavora Lakes**	**25.30**	**201**	P	**P**	**08 24 24.8**	**0.0**
WHZ	**Wether Hill Ro**	**25.83**	**200**	P	**P**	**08 24 28.7**	**-0.7**
EIDS	**Eidsvold**	**27.03**	**257**	P	**P**	**08 24 41.0**	**+0.8**
ARMA	**Armidale**	**27.06**	**246**	P	**P**	**08 24 42.1**	**+1.5**
CAN	**Canberra**	**30.41**	**237**	P	**P**	**08 25 09.6**	**+0.2**
CAN				IAmb	IAmb	08 25 11.2	
	comp=Z,11nm,1.0s						
TOO	**Toolangi**	**33.77**	**235**	P	**P**	**08 25 38.7**	**+0.9**
TOO				IAmb	IAmb	08 26 22.4	
	comp=Z,7.1nm,1.4s						
STKA	**Stephens Creek**	**35.78**	**246**	P	**P**	**08 25 54.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=95,slow=13,SNR=4.8						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**40.53**	**245**	P	**P**	**08 26 33.0**	**+0.1**
AS31	**Alice Springs**	**42.74**	**259**	P	**P**	**08 26 51.3**	**+0.8**
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**08 26 50.8**	**+0.3**
ASAR	**Alice Springs**	**42.74**	**259**	P	**P**	**08 26 50.5**	**0.0**
	comp=Z,2.2nm,0.7s,baz=95,slow=8.0,SNR=27						
ASAR				PcP	**PcP**	**08 28 28.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=100,slow=2.6,SNR=2.0						
ASAR				ScP	**ScP**	**08 31 24.4**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=97,slow=4.1,SNR=1.6						
ASAR				S	**S**	**08 32 31.0**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=96,slow=14,SNR=2.0						
	comp=Z,2.2nm,0.7s						
WB0	**Warramunga Arr**	**42.93**	**264**	P	**P**	**08 26 51.5**	**-0.5**
WB0				IAmb	IAmb	08 26 54.4	
	comp=Z,5.2nm,1.1s						
WB2	**Warramunga Arr**	**42.94**	**264**	P	**P**	**08 26 51.6**	**-0.4**
WB2				IAmb	IAmb	08 27 20.2	
	comp=Z,8.7nm,1.5s						
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**08 26 52.0**	**0.0**
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**08 26 51.4**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=95,slow=7.9,SNR=59						
WRA				S	**S**	**08 32 34.4**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=102,slow=10,SNR=6.2						
	comp=Z,0.9nm,0.4s						
MTN	**Manton Dam**	**47.73**	**273**	P	**P**	**08 27 28.3**	**-0.3**
MTN				IAmb	IAmb	08 28 01.0	
	comp=Z,13nm,1.4s						
KNRA	**Kununurra**	**49.11**	**268**	P	**P**	**08 27 38.7**	**0.0**
KNRA				IAmb	IAmb	08 28 04.2	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.38**	**264**	P	**P**	**08 27 55.8**	**+0.6**
PSA00	**Pilbara Seismi**	**55.89**	**258**	P	**P**	**08 28 26.8**	**-0.2**
PSA00				IAmb	IAmb	08 28 57.8	
	comp=Z,18nm,1.5s						
MBWA	**Marble Bar**	**56.08**	**259**	P	**P**	**08 28 28.1**	**-0.1**
MBWA				IAmb	IAmb	08 28 56.0	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**56.20**	**185**	P	**P**	**08 28 29.5**	**+1.4**
VNDA	**Vanda**	**56.20**	**185**	P	**P**	**08 28 28.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=9.3,slow=6.7,SNR=1.9						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**67.98**	**180**	P	**P**	**08 29 45.5**	**+0.9**
QSPA	**South Pole Qui**	**67.98**	**180**	P	**P**	**08 29 44.9**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=9.7,slow=6.8,SNR=19						
	comp=Z,3.2nm,0.8s						
MJAR	**Matsushiro Arr**	**70.64**	**325**	P	**P**	**08 30 00.3**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=157,slow=5.2,SNR=4.0						
	comp=Z,1.3nm,0.5s						
PETK	**Petropavlovsk-**	**77.45**	**346**	P	**P**	**08 30 39.1**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=150,slow=5.4,SNR=2.0						
	comp=Z,2.3nm,0.5s						
BELA	**Belgrano 2**	**78.17**	**173**	P	**P**	**08 30 42.3**	**0.0**
BELA				IAmb	IAmb	08 31 15.4	
	comp=Z,9.7nm,1.4s						
M19K	**Big River Lodg**	**86.11**	**12**	P	**P**	**08 31 22.0**	**-0.4**
M19K				IAmb	IAmb	08 32 02.1	
	comp=Z,10nm,1.4s						
L19K	**White Mountain**	**86.28**	**11**	P	**P**	**08 31 23.7**	**+0.5**
KNK	**Knik Glacier**	**86.91**	**14**	P	**P**	**08 31 26.3**	**+0.2**
KNK				IAmb	IAmb	08 32 01.8	
	comp=Z,8.0nm,1.4s						
PMR	**Palmer**	**86.91**	**14**	P	**P**	**08 31 26.0**	**-0.1**
PMR				IAmb	IAmb	08 31 26.2	
	comp=Z,5.7nm,1.2s						
GHO	**Glory Hole Cre**	**87.12**	**14**	P	**P**	**08 31 27.3**	**+0.1**
GHO				IAmb	IAmb	08 31 27.6	
	comp=Z,4.4nm,0.6s						
SCM	**Sheep Creek Mo**	**87.54**	**15**	P	**P**	**08 31 29.4**	**+0.2**
J19K	**Poorman**	**87.83**	**10**	P	**P**	**08 31 30.8**	**+0.4**
J19K				IAmb	IAmb	08 31 31.4	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**88.08**	**16**	P	**P**	**08 31 32.2**	**+0.5**
GLB				IAmb	IAmb	08 31 52.5	
	comp=Z,4.4nm,1.3s						
TRF	**Thorofare Moun**	**88.32**	**13**	P	**P**	**08 31 32.4**	**-0.5**
TXAR	**Lajitas Array**	**89.15**	**58**	P	**P**	**08 31 38.4**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=248,slow=4.9,SNR=4.4						
	comp=Z,0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.27**	**290**	P	**P**	**08 31 39.8**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=137,slow=3.8,SNR=6.9						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**90.20**	**13**	P	**P**	**08 31 40.8**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=222,slow=3.8,SNR=6.5						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**130.21**	**349**	PKP	**PKPdf**	**08 37 45.5**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=57,slow=4.5,SNR=6.2						
HFS	**Hagfors**	**140.86**	**350**	PKhKP	PKPpre	08 37 60.0	
	comp=Z,1.0nm,0.3s,baz=56,slow=3.7,SNR=8.7						
AKASG	**Malin Array Be**	**143.65**	**329**	PKP	PKPbc	08 38 09.7	-1.2
	comp=Z,1.2nm,0.3s,baz=42,slow=4.6,SNR=15						
BRTR	**Keskin Array B**	**146.77**	**310**	PKPbc	**PKPbc**	**08 38 19.7**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=78,slow=9.0,SNR=4.5						
MMAI	**Mount Meron Ar**	**147.27**	**297**	PKPbc	**PKPbc**	**08 38 22.7**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=64,slow=6.6,SNR=2.1						
ANTO	**Ankara**	**147.31**	**310**	PKPbc	**PKiKP**	**08 38 23.3**	**-0.2**
BURAR	**Bucovina Array**	**147.68**	**328**	PKPbc	**PKiKP**	**08 38 23.9**	**-0.2**

---

*NNC **26** 08:30:56.1±0.8,51.°67N×75.°54E,h0km,mb3.0,mpv2.5, Error ellipse: s-maj=17.7km s-min=5.0km az=24.0, Suspected Mining explosion.*
*IDC **26** 08:30:57.4±1.3,51.°71N×75.°52E,h0km,mbtmp2.5/2, ML2.0/1,Error ellipse: s-maj=37.7km s-min=10.0km az=29.0*
ISC 26 08:30:56.3±1.1,**51.°7N**±0.°1×**75.°42E**±0.°08,**h0**km,**n12**, σ1§**28**/7,**8C-1D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.23**	**117**	Pg	**Pb**	**08 31 36.5**	**-0.9**
	0.2nm,0.3s,baz=305,slow=18,SNR=5.4						
KURBB				Lg	Lg	08 32 07.3	
	0.1nm,0.3s,baz=307,slow=34,SNR=3.5						
KURBB	**Kurchatov Arra**	**2.23**	**117**	⇑Pg	**Pn**	**08 31 35.4**	**+1.1**
	3.1nm,0.8s						
KURBB				⇑Lg	Lg	08 32 06.9	
	16nm,0.8s						
KURK	**Kurchatov**	**2.23**	**114**	⇑Pg	**Pn**	**08 31 35.1**	**+0.6**
	2.8nm,1.0s						
KURK				⇑Lg	Lg	08 32 03.5	
	7.7nm,0.9s						
BVA0	**Borovoye Array**	**3.37**	**296**	⇓Pg	**Pg**	**08 31 59.4**	**-1.3**
	3.6nm,1.3s,baz=112,slow=15,SNR=5.3						
BVA0				⇑Lg	Lg	08 32 45.8	
	5.7nm,0.8s,baz=107,slow=24,SNR=5.2						
BVAR	**Borovoye Array**	**3.37**	**296**	Pg	**Pb**	**08 31 57.3**	**+0.5**
	baz=116,slow=16,SNR=5.6						
BVAR				Lg	Lg	08 32 42.0	
	0.1nm,0.3s,baz=114,slow=29,SNR=7.9						
BRVK	**Borovoye**	**3.44**	**296**	⇑Lg	Lg	08 32 45.9	
	7.3nm,1.0s						
OTUK	**Ortayu**	**3.97**	**211**	⇑Lg	Lg	08 33 03.1	
	5.2nm,0.9s						
I46RU	**ZALESOVO INFRA**	**6.13**	**65**	I	I	09 05 00.0	
	baz=252,slow=334,SNR=7.9						
ZALV	**Zalesovo Beam**	**6.13**	**65**	Pn	**Pn**	**08 32 28.9**	**+0.9**
	0.6nm,0.6s,baz=257,slow=13,SNR=1.8						
MAKZ	**Makanchi**	**6.49**	**136**	⇑Lg	Lg	08 34 19.8	
	4.4nm,1.3s						
MK31	**Makanchi Array**	**6.64**	**135**	Lg	Lg	08 34 24.7	
	1.4nm,0.7s,baz=328,slow=22,SNR=7.2						
MKAR	**Makanchi Array**	**6.64**	**135**	Pn	**Pn**	**08 32 36.3**	**+1.2**
	baz=321,slow=10.0,SNR=2.2						
MKAR				Lg	Lg	08 34 23.9	
	0.1nm,0.3s,baz=318,slow=25,SNR=9.4						
	0.2nm,0.6s						

---

*SOME **26** 08:34:44.9,39.°37N×73.°25E,h5km*
*KRNET **26** 08:34:48.8±0.1,39.°45N×73.°43E,h18km,mb2.9*
*NNC **26** 08:34:55.7±1.9,39.°74N×73.°40E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=15.4km s-min=9.4km az=165.0*
ISC 26 08:34:42.1±1.5,**39.°21N**±0.°06×**73.°58E**±0.°04,**h10**km±10km, **n31**,σ1§**87**/52,**27C-11D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.80**	**356**	⇑*e*P	**Pn**	**08 34 59.7**	**-0.1**
SFK				⇑*e*S	**Sg**	**08 35 07.9**	**-0.1**
DRK	**Karamyk**	**1.40**	**281**	⇑*e*P	**Pg**	**08 35 12.4**	**+3.4**
DRK				⇑*e*S	**Sg**	**08 35 29.6**	**+2.3**
OHH	**Osh**	**1.44**	**335**	⇓*e*P	**Pg**	**08 35 10.9**	**+1.1**
OHH				⇓*e*S	**Sn**	**08 35 27.1**	**-0.4**
SALK	**Salom-Alik**	**1.68**	**6**	⇑*e*P	**Pg**	**08 35 16.0**	**+1.7**
SALK				⇑*e*S	**Sg**	**08 35 35.7**	**-0.4**
ARSB	**Arslanbob**	**2.16**	**348**	⇑*e*P	**Pg**	**08 35 23.5**	**0.0**
ARSB				⇑*e*S	**Sb**	**08 35 48.9**	**+0.7**
BTK	**Batken**	**2.29**	**292**	⇑*e*P	**Pg**	**08 35 26.5**	**+0.5**
BTK				⇑*e*S	**Sg**	**08 35 54.3**	**-1.4**
GAR	**Garm**	**2.54**	**266**	⇑*e*P	**Pg**	**08 35 31.2**	**+0.3**
GAR				⇑*e*S	**Sg**	**08 36 02.2**	**-1.7**
ARLS	**Aral**	**2.70**	**12**	⇓*e*P	**Pb**	**08 35 31.8**	**+1.1**
ARLS				⇓*e*S	**Sb**	**08 36 03.2**	**-0.9**
ARK	**Arkit**	**2.86**	**335**	⇓*e*P	**Pb**	**08 35 33.0**	**-0.3**
ARK				⇓*e*S	**Sb**	**08 36 05.8**	**-2.6**
AML	**Almayashu**	**2.92**	**2**	⇑*e*P	**Pb**	**08 35 34.7**	**+0.2**
AML				⇑*e*S	**Sb**	**08 36 08.1**	**-2.2**
TRKS	**Terek-Say**	**2.97**	**322**	⇑*e*P	**Pb**	**08 35 34.0**	**-1.2**
TRKS				⇑*e*S	**Sn**	**08 36 06.9**	**+1.6**
UCH	**Uchtor**	**3.09**	**13**	⇑*e*P	**Pb**	**08 35 37.6**	**+0.1**
UCH				⇑*e*S	**Sb**	**08 36 13.2**	**-2.3**
MNAS	**Manas**	**3.37**	**346**	⇑*e*P	**Pb**	**08 35 40.4**	**-1.6**
MNAS				⇑*e*S	**Sn**	**08 36 18.2**	**+3.1**
EKS2	**Erkin-Say**	**3.45**	**2**	⇑*e*P	**Pb**	**08 35 41.9**	**-1.5**
EKS2				⇑*e*S	**Sn**	**08 36 20.6**	**+3.6**
CHGR	**Chuyangaron**	**3.49**	**262**	⇑*e*P	**Pb**	**08 35 44.5**	**+0.4**
CHGR				⇑*i*S	**Sb**	**08 36 25.1**	**-1.5**
AAK	**Ala-Archa**	**3.49**	**11**	Pn	**Pb**	**08 35 45.4**	**+1.3**
	8.5nm,1.1s						
AAK				Lg	Lg	08 36 29.9	
	15nm,0.9s						
AAK	**Ala-Archa**	**3.49**	**11**	⇓*e*P	**Pb**	**08 35 42.8**	**-1.3**
AAK				⇓*e*S	**Sn**	**08 36 22.2**	**+4.1**
MRKS	**Merke**	**3.54**	**356**	Pg	**Pg**	**08 35 49.3**	**-0.5**
	4.5nm,0.4s						
MRKS				Lg	Lg	08 36 31.5	
	13nm,0.6s						
MRKS	**Merke**	**3.54**	**356**	*e*P	**Pb**	**08 35 46.6**	**+1.7**
	4.5nm,0.3s						
MRKS				*e*S	**Sb**	**08 36 28.7**	**+0.8**
	15nm,0.4s						
KBK	**Karagaybulak**	**3.59**	**16**	⇑*e*P	**Pb**	**08 35 44.4**	**-1.5**
KBK				⇑*e*S	**Sn**	**08 36 25.1**	**+4.4**
BOOM	**Boomskoye usch**	**3.73**	**28**	⇓*e*P	**Pb**	**08 35 47.1**	**-1.1**
BOOM				⇓*e*S	**Sb**	**08 36 29.4**	**-4.2**
IUG	**luzhnay**	**3.98**	**319**	Pg	**Pg**	**08 35 58.0**	**-0.3**
	7.5nm,0.4s						
IUG				Lg	Lg	08 36 46.8	
	11nm,0.5s						
KST	**Kastek**	**4.23**	**24**	Pg	**Pg**	**08 36 05.1**	**+2.0**
	1.5nm,0.3s						
KST				Lg	Lg	08 36 58.9	
	7.7nm,0.7s						
KST	**Kastek**	**4.23**	**24**	*e*P	**Pg**	**08 36 03.2**	**+0.1**
	1.5nm,0.3s						
KST				*e*S	**Sg**	**08 36 58.3**	**+0.4**
	7.7nm,0.7s						
SGDS	**Sogindy**	**4.31**	**10**	Pg	**Pg**	**08 36 05.2**	**+0.6**
	0.2nm,0.1s						
SGDS				Lg	Lg	08 36 58.6	
	4.5nm,0.6s						
DGS	**Degeres**	**4.35**	**22**	Pg	**Pg**	**08 36 07.5**	**+2.1**
	1.5nm,0.5s						
DGS				Lg	Lg	08 37 03.0	
	9.8nm,0.9s						
KK31	**Karatay Array**	**4.52**	**330**	⇑Pn	**Pb**	**08 36 00.1**	**-1.5**
	1.5nm,0.5s,baz=137,slow=12,SNR=5.5						
KK31				⇓Lg	Lg	08 37 04.9	
	4.7nm,0.7s,baz=147,slow=26,SNR=4.0						
TNSS	**Tian-Shan**	**4.59**	**33**	Pg	**Pg**	**08 36 11.5**	**+1.5**
	1.2nm,0.3s						
TNSS				Lg	Lg	08 37 10.4	
	2.7nm,0.6s						
TNSS	**Tian-Shan**	**4.59**	**33**	*e*P	**Pg**	**08 36 10.2**	**+0.1**
	1.2nm,0.3s						
TNSS				*e*S	**Sg**	**08 37 10.0**	**+0.5**
	2.7nm,0.6s						
KPKS	**Kokpek**	**5.73**	**41**	*e*P	**Pn**	**08 36 04.3**	**-3.1**
	1.5nm,0.5s						
KPKS				*e*S	Sn	08 36 59.7	-14
	9.8nm,0.9s						
ARXS	**Arharly**	**5.92**	**31**	Pg	**Pg**	**08 36 36.8**	**+1.3**
	0.9nm,0.1s						
ARXS				Lg	Lg	08 37 52.9	
	4.8nm,0.6s						

---

*BGSI **26** 08:41:05.0±2.2,25.°63S×29.°99E,h0km±66km,ML3.5*
*PRE **26** 08:41:06.5±1.0,25.°98S×29.°25E,h0km,ML3.2,Suspected explosion*
*BUL **26** 08:41:14.3±1.9,26.°08S×29.°38E,h10km,MD3.2*
ISC 26 08:41:06.6±0.8,**26.°00S**±0.°03×**29.°26E**±0.°03,**h0**km,**n28**, σ1§**55**/46,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.69**	**90**	*e*P	**Pg**	**08 41 20.0**	**+0.2**
CRLN				*e*S	**Sg**	**08 41 28.6**	**-0.1**
CRLN				IAML		08 41 38.0	
	comp=Z,179nm,0.6s						
HRAO	**HartRAO**	**1.42**	**274**	*e*P	**Pn**	**08 41 33.1**	**-0.7**
HRAO				*e*S	**Sg**	**08 41 52.5**	**+0.4**
HRAO				IAML		08 41 53.1	
	comp=Z,323nm,0.4s						
PILG	**Pilgrimsrest,**	**1.69**	**51**	*e*P	**Pb**	**08 41 38.4**	**-0.3**
PILG				*e*S	**Sg**	**08 42 01.3**	**+0.4**
PILG				IAML		08 42 04.7	
	comp=Z,320nm,0.6s						
WDLM	**Western Deep L**	**1.70**	**255**	*e*P	**Pn**	**08 41 38.4**	**+0.7**
WDLM				*e*S	**Sn**	**08 42 01.1**	**+0.9**
WDLM				IAML		08 42 03.1	
	comp=Z,588nm,0.7s						
NWCL	**Newcastle**	**1.82**	**162**	*e*P	**Pn**	**08 41 39.9**	**+0.6**
NWCL				*e*S	**Sb**	**08 42 04.4**	**+0.1**
NWCL				IAML		08 42 15.0	
	comp=Z,153nm,0.6s						
PRYS	**Parys**	**1.93**	**241**	*e*P	**Pn**	**08 41 41.3**	**+0.4**
PRYS				*e*S	**Sb**	**08 42 07.9**	**+0.3**
PRYS				IAML		08 42 09.6	
	comp=Z,805nm,0.6s						
LEPH	**Lephalale, Lim**	**2.51**	**328**	*e*P	**Pn**	**08 41 49.4**	**+0.7**
LEPH				*e*S	**Sn**	**08 42 20.2**	**+0.1**
LEPH				IAML		08 42 34.5	
	comp=Z,136nm,0.6s						
POGA	**Pongola**	**2.57**	**122**	*e*P	**Pn**	**08 41 49.6**	**+0.1**
POGA				*e*S	**Sn**	**08 42 21.9**	**+0.4**
POGA				IAML		08 42 35.8	
	comp=Z,182nm,0.6s						
SNKL	**Senekal, Frees**	**2.62**	**210**	*e*P	**Pn**	**08 41 51.5**	**+1.1**
SNKL				*e*S	**Sn**	**08 42 24.0**	**+0.9**
SNKL				IAML		08 42 36.3	
	comp=Z,388nm,0.7s						
MOPA	**Mopani**	**3.15**	**39**	*e*P	**Pn**	**08 41 58.1**	**+0.6**
MOPA				*e*S	**Sn**	**08 42 35.3**	**-0.5**
MOPA				IAML		08 42 47.5	
	comp=Z,132nm,0.5s						
MOPA	**Mopani**	**3.15**	**39**	*i* P	**Pn**	**08 42 00.1**	**+2.7**
LBTB	**Lobatse**	**3.45**	**286**	*e*P	**Pn**	**08 42 02.1**	**+0.4**
LBTB				*e*S	**Sn**	**08 42 42.9**	**-0.5**
LBTB				IAML		08 42 56.5	
	comp=Z,92nm,0.4s						
LBTB	**Lobatse**	**3.45**	**286**	*i* P	**Pb**	**08 42 10.4**	**+1.7**
LBTB				*i* S	**Sb**	**08 42 48.5**	**-2.7**
PMBG	**Pietermaritzbu**	**3.67**	**163**	*e*P	**Pn**	**08 42 05.4**	**+0.7**
PMBG				*e*S	**Sn**	**08 42 48.6**	**-0.1**
PMBG				IAML		08 43 03.9	
	comp=Z,116nm,0.6s						
MUSN	**Musina, Limpop**	**3.74**	**9**	*e*P	**Pn**	**08 42 06.2**	**+0.6**
MUSN				*e*S	**Sn**	**08 42 49.7**	**-0.7**
MUSN				IAML		08 43 07.6	
	comp=Z,54nm,0.5s						
MUSN	**Musina, Limpop**	**3.74**	**9**	*i* P	**Pb**	**08 42 13.4**	**-0.1**
M

SPU	**Mount Spurr**	**1.06 249**		Pn	08 46 38.2	-0.7
SPU				Sn	08 46 52.7	+0.1
SPU			IAML		08 46 54.1	
	comp=E,164nm,0.3s					
SPU			IAML		08 46 54.9	
	comp=N,193nm,0.3s					
SLKM	**Skilak Lake**	**1.08 185**	Pn	Pn	08 46 38.9	-0.2
SLKM				Sn	08 46 53.8	+0.9
SLKM			IAML		08 46 54.9	
	comp=E,278nm,0.3s					
SLKM			IAML		08 46 56.5	
	comp=N,205nm,0.2s					
PWL	**Port Wells**	**1.08 131**		Pn	08 46 39.1	0.0
SPCN	**Chakachatna No**	**1.10 252**		Pn	08 46 39.1	-0.3
O22K	**Cooper Landing**	**1.11 173**		Pn	08 46 39.2	-0.2
M23K	**Glacier View**	**1.11 78**		Pn	08 46 39.2	-0.3
M23K				Sn	08 46 54.9	+1.1
SPCR	**Spurr Chakacha**	**1.12 251**		Pn	08 46 39.0	-0.7
SPBG	**Spurr Blockage**	**1.18 255**		Pn	08 46 39.9	-0.5
CKL	**Chakachamna La**	**1.18 252**		Pn	08 46 39.9	-0.6
SCM	**Sheep Creek Mo**	**1.30 77**		Pn	08 46 42.1	-0.1
SCM				Sn	08 47 00.0	+1.5
SPNN	**North Nagishla**	**1.31 262**		Pn	08 46 41.9	-0.3
SEW	**Seward**	**1.50 169**		Pn	08 46 43.8	-0.9
M20K	**Styx River**	**1.52 283**		Pn	08 46 44.5	-0.5
M20K			IAML		08 47 05.6	
	comp=N,184nm,0.6s					
M20K			IAML		08 47 06.5	
	comp=E,125nm,0.5s					
RDT	**Redoubt**	**1.54 230**		Pn	08 46 45.0	-0.3
GLI	**Glacier Island**	**1.57 115**	Pn	Pn	08 46 45.4	-0.3
GLI				Sn	08 47 05.6	+0.6
GLI			IAML		08 47 11.6	
	comp=N,187nm,0.3s					
PPLA	**Purkeypile**	**1.67 323**		Pn	08 46 46.5	-0.7
RDJH	**Redoubt Jeurge**	**1.68 235**		Pn	08 46 47.3	0.0
NCT	**North Crescent**	**1.75 236**		Pn	08 46 48.4	+0.2
RDWB	**Redoubt West**	**1.76 233**		Pn	08 46 48.5	+0.1
RDWB				Sn	08 47 10.9	+1.3
RED	**Redoubt Volcan**	**1.78 230**		Pn	08 46 48.6	0.0
BRLK	**Bradley Lake**	**1.87 194**		Pn	08 46 49.3	-0.5
BRLK			IAML		08 47 19.0	
	comp=N,68nm,0.1s					
BRLK			IAML		08 47 19.9	
	comp=E,58nm,0.2s					
BRSE	**Bradley Lake S**	**1.88 191**		Pn	08 46 48.5	-1.3
TRF	**Thorofare Moun**	**1.89 356**	Pn	Pn	08 46 49.7	-0.4
TRF			IAML		08 47 16.0	
	comp=N,80nm,0.4s					
TRF			IAML		08 47 16.4	
	comp=E,69nm,0.6s					
M24K	**Tolsona, Glenn**	**1.90 72**		Pn	08 46 50.8	+0.6
M24K			IAML		08 47 20.8	
	comp=N,171nm,0.3s					
FID	**Port Fidalgo**	**1.90 114**		Pn	08 46 49.3	-0.9
FID			IAML		08 47 23.9	
	comp=E,140nm,0.3s					
RND	**Reindeer**	**1.91 16**		Pn	08 46 50.2	-0.3
RND			IAML		08 47 25.4	
	comp=E,72nm,0.6s					
KLU	**Klutina**	**1.96 91**		Pn	08 46 50.8	-0.3
KLU			IAML		08 47 23.7	
	comp=E,78nm,0.4s					
KLU			IAML		08 47 24.3	
	comp=N,117nm,0.8s					
O20K	**Slope Mountain**	**1.97 222**		Pn	08 46 51.5	+0.3
KTH	**Kantishna Hill**	**2.03 348**		Pn	08 46 51.9	-0.1
KTH			IAML		08 47 17.6	
	comp=E,82nm,0.5s					
KTH			IAML		08 47 18.3	
	comp=N,123nm,0.4s					
L20K	**Farewell, AK**	**2.04 298**		Pn	08 46 51.5	-0.6
P23K	**Montague Islan**	**2.04 140**		Pn	08 46 50.8	-1.3
HIN	**Hinchinbrook I**	**2.08 123**		Pn	08 46 52.2	-0.4
HIN			IAML		08 47 28.3	
	comp=E,138nm,0.5s					
HIN			IAML		08 47 32.1	
	comp=N,123nm,0.8s					
CAST	**Castle Rocks**	**2.08 333**		Pn	08 46 51.9	-0.8
CAST			IAML		08 47 18.2	
	comp=E,49nm,0.6s					
HOM	**Homer**	**2.09 203**		Pn	08 46 53.2	+0.5
DIV	**Divide**	**2.09 101**		Pn	08 46 52.3	-0.5
M19K	**Big River Lodg**	**2.11 281**		Pn	08 46 52.7	-0.3
M19K			IAML		08 47 19.8	
	comp=E,72nm,0.8s					
M19K			IAML		08 47 21.2	
	comp=N,64nm,0.5s					
CNPM	**China Poot**	**2.15 197**		Pn	08 46 53.1	-0.4
CNPM			IAML		08 47 24.5	
	comp=N,54nm,0.4s					
CNPM			IAML		08 47 29.0	
	comp=E,59nm,0.6s					
ILW	**Iliamna West**	**2.16 227**		Pn	08 46 54.1	+0.2
ILS	**Iliamna Low So**	**2.21 224**		Pn	08 46 54.8	+0.3
ILSW	**Iliamna Southw**	**2.22 225**		Pn	08 46 54.7	+0.1
ILSW			IAML		08 47 28.6	
	comp=E,40nm,0.8s					
MCK	**McKinley**	**2.22 12**		Pn	08 46 54.9	+0.3
N19K	**Bonanza Creek**	**2.30 252**		Pn	08 46 54.9	-0.8
EYAK	**Cordova Ski Ar**	**2.31 115**	Pn	Pn	08 46 55.2	-0.6
L19K	**White Mountain**	**2.37 287**		Pn	08 46 56.4	-0.2
L19K			IAML		08 47 25.5	
	comp=N,80nm,0.7s					
L19K			IAML		08 47 26.3	
	comp=E,56nm,0.4s					
HARP	**HAARP**	**2.44 68**		Pn	08 46 58.0	+0.4
P19K	**Oil Pt**	**2.50 221**		Pn	08 46 57.9	-0.5
P19K			IAML		08 47 51.5	
	comp=N,91nm,0.8s					
O19K	**Port Alsworth**	**2.52 239**		Pn	08 46 58.2	-0.5
O19K			IAML		08 47 30.5	
	comp=E,65nm,0.4s					
PAX	**Paxson**	**2.54 55**	Pn	Pn	08 46 59.2	+0.1
CHUM	**Lake Minchumin**	**2.55 336**		Pn	08 46 58.2	-0.8
BPAW	**Bear Paw Mtn.**	**2.57 350**		Pn	08 46 58.5	-0.9
N25K	**Chitina, Valde**	**2.59 87**		Pn	08 46 59.2	-0.5
N25K			IAML		08 47 39.7	
	comp=E,44nm,0.4s					
N25K			IAML		08 47 41.3	
	comp=N,67nm,0.5s					
K20K	**Telida**	**2.60 315**		Pn	08 46 58.9	-0.8
K20K			IAML		08 47 36.1	
	comp=N,32nm,0.5s					
K20K			IAML		08 47 36.8	
	comp=E,30nm,0.7s					
BMRM	**Bremner River**	**2.68 101**		Pn	08 46 59.8	-1.2
WACK	**Wrangell Chich**	**2.73 79**		Pn	08 47 01.8	0.0
GOAT	**Goat Mountain**	**2.76 109**		Pn	08 47 01.1	-0.9
M18K	**Stony River**	**2.79 271**		Pn	08 47 01.6	-0.6
WASW	**Wrangell South**	**2.80 80**		Pn	08 47 02.8	+0.1
WAZA	**Wrangell Mount**	**2.83 77**		Pn	08 47 02.7	-0.4
RAGM	**Ragged Mountai**	**2.86 112**		Pn	08 47 02.4	-0.9
GLB	**Gilahina Butte**	**2.98 90**		Pn	08 47 04.4	-0.6
GLB	**Gilahina Butte**	**2.98 90**	IAML		08 47 52.1	
	comp=E,20nm,0.9s					
GLB			IAML		08 47 53.4	
	comp=N,40nm,0.7s					
N18K	**Kilae Creek**	**2.99 255**		Pn	08 47 04.4	-0.7
N18K			IAML		08 47 57.7	
	comp=N,21nm,1.0s					
WRH	**Wood River Hil**	**3.04 16**		Pn	08 47 05.0	-0.6
NEA2	**Nenana**	**3.06 8**	Pn	Pn	08 47 05.4	-0.7
HMT	**Hamilton**	**3.07 111**	Pn	Pn	08 47 05.1	-1.1
O18K	**Koktuh Hills**	**3.08 238**		Pn	08 47 05.7	-0.7
O18K			IAML		08 47 56.3	
	comp=E,18nm,1.1s					
O18K			IAML		08 48 00.9	
	comp=N,22nm,0.9s					
TTA	**Tatalina**	**3.12 298**	Pn	Pn	08 47 06.0	-0.9
TTA			IAML		08 47 57.6	
	comp=N,18nm,1.0s					
HDA	**Harding Lake**	**3.17 25**		Pn	08 47 06.9	-0.7
HDA			IAML		08 48 01.4	
	comp=E,33nm,0.8s					
HDA			IAML		08 48 01.9	
	comp=N,42nm,0.8s					
VRDI	**Verde Repeater**	**3.17 93**	Pn	Pn	08 47 06.9	-0.9
VRDI			IAML		08 47 58.0	
	comp=N,25nm,0.5s					
KAIM	**Kayak Island**	**3.21 119**	Pn	Pn	08 47 08.1	+0.1
KAIM			IAML		08 47 41.1	
	comp=E,24nm,1.2s					
KAIM			IAML		08 48 08.8	
	comp=N,31nm,1.1s					
SYI	**Shuyak Island**	**3.21 203**		Pn	08 47 07.6	-0.5
SYI			IAML		08 47 59.5	
	comp=E,24nm,1.1s					
Q19K	**Cape Douglas,**	**3.21 216**		Pn	08 47 08.7	+0.5
J20K	**Nowinta River**	**3.22 326**		Pn	08 47 07.5	-0.8
J20K			IAML		08 47 46.0	
	comp=E,43nm,0.7s					
RIDG	**Independent Ri**	**3.22 45**	Pn	Pn	08 47 07.9	-0.5
RIDG			IAML		08 47 56.9	
	comp=N,36nm,0.7s					
RIDG			IAML		08 47 57.2	
	comp=E,48nm,0.6s					
L18K	**Granite Mounta**	**3.23 284**		Pn	08 47 07.6	-0.7
L18K			IAML		08 48 01.1	
	comp=N,17nm,1.1s					
CCB	**Clear Creek Bu**	**3.24 17**	Pn	Pn	08 47 08.0	-0.5
MENT	**Mentasta**	**3.25 62**	Pn	Pn	08 47 08.5	-0.1
NICHA	**Nichawak Mount**	**3.25 112**		Pn	08 47 07.2	-1.4
BERG	**Berg Lake**	**3.30 108**		Pn	08 47 08.1	-1.2
P18K	**Big Mountain,**	**3.39 232**		Pn	08 47 10.0	-0.6
SUCK	**Suckling Hills**	**3.41 114**	Pn	Pn	08 47 11.8	+1.0
SUCK			IAML		08 48 14.6	
	comp=N,26nm,1.1s					
SUCK			IAML		08 48 21.2	
	comp=E,16nm,1.1s					
M26K	**Nabesna, AK**	**3.41 73**		Pn	08 47 10.8	-0.1
M26K			IAML		08 48 09.3	
	comp=N,24nm,0.6s					
M26K			IAML		08 48 13.7	
	comp=E,18nm,0.8s					
L26K	**Log Cabin Wild**	**3.44 62**	Pn	Pn	08 47 11.8	+0.6
L26K			IAML		08 48 16.0	
	comp=N,25nm,0.4s					
DOT	**Dot Lake**	**3.45 50**	Pn	Pn	08 47 11.6	+0.2
COLA	**College**	**3.45 16**	Pn	Pn	08 47 11.2	-0.1
COLA			IAML		08 47 58.9	
	comp=N,44nm,0.5s					
IL31		**3.51 22**		Pn	08 47 12.1	0.0
ILAR	**Eielson Array**	**3.51 22**	Pn	Pn	08 47 12.2	0.0
J19K	**Poorman**	**3.54 316**		Pn	08 47 11.7	-0.9
J19K			IAML		08 48 12.5	
	comp=N,19nm,0.9s					
J19K			IAML		08 48 13.1	
	comp=E,16nm,1.1s					
M17K	**Holitna River**	**3.56 270**		Pn	08 47 12.2	-0.7
M17K			IAML		08 48 11.5	
	comp=N,34nm,0.8s					
M17K			IAML		08 48 23.3	
	comp=E,28nm,1.2s					
I23K	**Minto, Yukon-K**	**3.60 4**		Pn	08 47 13.2	-0.2
J18K	**Innoko River**	**3.64 304**		Pn	08 47 13.4	-0.6
J18K			IAML		08 48 09.7	
	comp=E,13nm,0.6s					
J18K			IAML		08 48 12.4	
	comp=N,12nm,0.8s					
N17K	**Nushagak Hills**	**3.64 256**		Pn	08 47 13.8	-0.3
SCRK	**Sand Creek**	**3.67 46**	Pn	Pn	08 47 14.0	-0.5
SCRK			IAML		08 48 14.0	
	comp=N,11nm,1.0s					
SCRK			IAML		08 48 14.5	
	comp=E,14nm,0.7s					
J25K	**Salcha River,**	**3.71 33**		Pn	08 47 15.1	+0.2
J25K			IAML		08 48 05.7	
	comp=E,24nm,0.4s					
J25K			IAML		08 48 06.3	
	comp=N,21nm,0.4s					
I21K	**Tanana**	**3.73 347**		Pn	08 47 14.9	-0.3
BALM	**Baldy**	**3.74 95**		Pn	08 47 14.6	-0.8
POKR	**Poker Plat Res**	**3.74 17**		Pn	08 47 14.9	-0.5
SNH	**Sunshine Point**	**3.78 109**		Pn	08 47 15.2	-0.7
SNH			IAML		08 48 07.4	
	comp=N,14nm,1.2s					
SNH			IAML		08 48 22.7	
	comp=E,20nm,1.1s					
I20K	**Naaghedeneel**	**3.81 330**	Pn	Pn	08 47 15.2	-1.0
BARK	**Barkley Ridge**	**3.85 104**		Pn	08 47 16.1	-0.8
M27K	**Edge Creek, AK**	**3.92 75**		Pn	08 47 18.6	+0.6
O17K	**Koliganek Bris**	**3.92 246**		Pn	08 47 17.4	-0.4
L17K	**Donlin**	**3.96 282**		Pn	08 47 17.6	-0.8
P17K	**Kvichak River**	**3.98 236**		Pn	08 47 18.9	+0.2
KDAK	**Kodiak Island**	**4.02 200**	Pn	Pn	08 47 18.7	-0.5
KDAK			IAML		08 48 23.9	
	comp=E,13nm,1.0s					
K17K	**Iditarod**	**4.05 290**		Pn	08 47 19.1	-0.5
K17K			IAML		08 48 38.9	
	comp=E,9.7nm,1.1s					
K17K			IAML		08 48 41.2	
	comp=N,9.4nm,0.7s					
L27K	**Beaver Creek,**	**4.10 65**	Pn	Pn	08 47 20.4	+0.1
BCAR	**Beaver Creek A**	**4.12 65**	Pn	Pn	08 47 21.0	+0.4
J26L	**Joseph Creek**	**4.15 42**	Pn	Pn	08 47 21.5	+0.5
J26L			IAML		08 48 15.5	
	comp=E,20nm,0.5s					
J26L			IAML		08 48 17.0	
	comp=N,24nm,0.4s					
MESA	**MESA**	**4.18 106**		Pn	08 47 21.1	-0.5
MESA			IAML		08 48 29.0	
	comp=N,16nm,0.8s					
MESA			IAML		08 48 36.9	
	comp=E,17nm,0.6s					
H21K	**Melozitna Rive**	**4.28 344**		Pn	08 47 22.3	-0.5
ACHA	**Angle Creek He**	**4.31 221**	Pn	Pn	08 47 22.8	-0.4
M16K	**Timber Creek**	**4.35 267**		Pn	08 47 23.2	-0.5
M16K	**Timber Creek**	**4.35 267**	IAML		08 48 55.7	
	comp=N,8.9nm,1.2s					
H22K	**Ishtalitna Cre**	**4.38 353**		Pn	08 47 24.2	+0.2
H24K	**Noodor Dome**	**4.38 12**		Pn	08 47 23.2	-1.0
RKAV	**Rock Avalanche**	**4.42 103**		Pn	08 47 24.4	-0.3
PRP	**Porcupine Dome**	**4.44 25**		Pn	08 47 24.8	-0.2
PRP			IAML		08 48 38.2	
	comp=N,7.4nm,0.8s					
O16K	**Kokwok River B**	**4.45 247**		Pn	08 47 25.0	-0.1
H20K	**Anotleneega Mo**	**4.49 333**		Pn	08 47 25.0	-0.7
J17K	**VABM Dome**	**4.58 297**		Pn	08 47 26.6	-0.3
R18K	**Karluk**	**4.61 211**		Pn	08 47 27.8	+0.6
R18K			IAML		08 48 34.1	
	comp=E,15nm,0.6s					
P16K	**Nushagak River**	**4.72 241**		Pn	08 47 28.8	+0.1
I26K	**Coal Creek Min**	**4.84 36**		Pn	08 47 30.1	-0.4
I26K	**Coal Creek Min**	**4.84 36**	IAML		08 48 32.7	
	comp=N,12nm,0.5s					
I26K			IAML		08 48 53.7	
	comp=E,11nm,1.1s					
H19K	**Roundabout Mou**	**4.90 327**		Pn	08 47 31.1	-0.1
H19K	**Roundabout Mou**	**4.90 327**	IAML		08 48 51.4	
	comp=N,5.5nm,1.1s					
H19K			IAML		08 49 00.4	
	comp=E,5.8nm,1.1s					
G21K	**Allakaket**	**5.19 344**		Pn	08 47 35.1	-0.1
G21K	**Allakaket**	**5.19 344**	IAML		08 48 34.6	
	comp=E,5.0nm,1.1s					
H18K	**Honhosa River**	**5.19 317**		Pn	08 47 34.7	-0.6
J16K	**Anvik River**	**5.21 294**		Pn	08 47 34.7	-0.7
J16K	**Anvik River**	**5.21 294**	IAML		08 49 02.5	
	comp=E,4.0nm,1.2s					
J16K			IAML		08 49 05.8	
	comp=N,6.0nm,1.1s					
O15K	**Ungalikthiuk R**	**5.43 248**		Pn	08 47 38.7	+0.2
L15K	**Ungalak Mounta**	**5.47 276**		Pn	08 47 38.7	-0.4
K15K	**Wolf Creek Mou**	**5.49 283**		Pn	08 47 38.6	-0.6
M29M	**Somme Creek**	**5.51 76**		Pn	08 47 40.1	+0.4
H17K	**Granite Mounta**	**5.60 311**		Pn	08 47 40.6	-0.2
G18K	**Tagagawik**	**5.79 322**		Pn	08 47 42.8	-0.6
F20K	**Avaraart Lake**	**6.03 338**		Pn	08 47 46.9	+0.2
J14K	**Nanvaranak Lak**	**6.45 286**		Pn	08 47 52.3	-0.1

*SJA **26** 08:47:22.7±0.5, 30.°12S×71.°68W, h62km±9km, ML4.7, MW4.6*
*MOS **26** 08:47:25.8±1.1, 30.°18S×71.°27W, h62km, mb5.1/15, Error ellipse: s-maj=13.1km s-min=6.9km az=100.8*
*VAO **26** 08:47:25.5±0.7, 30.°14S×71.°16W, h40km±6km, mb4.5*
*GUC **26** 08:47:26.0±0.8, 30.°23S×71.°26W, h57km±3km, ML4.8*
*IDC **26** 08:47:26.8±0.7, 30.°25S×71.°23W, h62km±6km, mb4.3/12, mbtmp4.5/16, MS3.7/19, Error ellipse: s-maj=20.5km s-min=12.7km az=76.0*
*NEIC **26** 08:47:26.3±2.0, 30.°17S±0.°04×71.°47W±0.°06, h47km±3km, mb4.9/162, Error ellipse: s-maj=7.6km s-min=5.3km az=94.0*
ISC 26 08:47:26.0±0.4,**30.°21S**±0.°03×**71.°48W**±0.°03,**h60**km±3km, **h60**km:**pP-P,n440,**σ1§**34**/423,**mb4.9**/95,**MS3.9**/16,**8C-4D,**

Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.36**	**36**		**Pn**	**08 47 36.5**	**-0.1**
CO05				Sn	**Sn**	**08 47 44.3**	**0.0**
CO05	**La Serena**	**0.36**	**36**	⇓*i*P	**Pn**	**08 47 36.6**	**+0.1**
CO05				*e*S	**Sn**	**08 47 44.2**	**0.0**
CO05				IAML		08 47 44.8	
	comp=N,113μm,0.3s						
CO06	**Fray Jorge**	**0.48**	**196**		**Pn**	**08 47 39.0**	**+1.2**
CO06				Sn	**Sn**	**08 47 48.8**	**+2.4**
CO06	**Fray Jorge**	**0.48**	**196**	*e*P	**Pn**	**08 47 39.0**	**+1.2**
CO06				*e*S	**Sn**	**08 47 48.8**	**+2.4**
GO04	**Tololo Observa**	**0.59**	**87**	Pn	**Pn**	**08 47 38.6**	**-0.7**
GO04				Sn	**Sn**	**08 47 47.6**	**-1.2**
GO04	**Tololo Observa**	**0.59**	**87**	*e*P	**Pn**	**08 47 38.5**	**-0.7**
GO04				*e*S	**Sn**	**08 47 47.3**	**-1.6**
CO03	**El Pedregal**	**0.93**	**133**		**Pn**	**08 47 42.6**	**-0.6**
CO03				Sn	**Sn**	**08 47 54.6**	**-1.3**
CO03	**El Pedregal**	**0.93**	**133**	⇑*i*P	**Pn**	**08 47 42.6**	**-0.6**
CO03				*e*S	**Sn**	**08 47 54.7**	**-1.3**
CO03				IAML		08 47 55.2	
	comp=N,84μm,0.2s						
CO01	**Juntas del Tor**	**1.22**	**80**	Pn	**Pn**	**08 47 46.8**	**-0.4**
CO01				Sn	**Sn**	**08 48 01.7**	**-1.4**
CO01	**Juntas del Tor**	**1.22**	**80**	*i* P	**Pn**	**08 47 46.9**	**-0.4**
CO01				IAML		08 48 08.3	
	comp=Z,5μm,0.6s						
CO01	**Juntas del Tor**	**1.22**	**80**	*i* P	**Pn**	**08 47 46.9**	**-0.4**
CO01				*e*S	**Sn**	**08 48 01.7**	**-1.4**
LCO	**Las Campanas**	**1.37**	**30**	Pn	**Pn**	**08 47 49.0**	**-0.3**
LCO				Sn	**Sn**	**08 48 06.2**	**-0.4**
LCO	**Las Campanas**	**1.37**	**30**	*e*P	**Pn**	**08 47 48.5**	**-0.8**
LCO				*e*S	**Sn**	**08 48 05.7**	**-1.0**
LCO	**Las Campanas**	**1.37**	**30**	P	**Pn**	**08 47 49.0**	**-0.3**
LCO						08 48 06.2	
AC04	**Llanos de Chal**	**2.03**	**10**		**Pn**	**08 47 58.1**	**+0.2**
AC04	**Llanos de Chal**	**2.03**	**10**	*i* P	**Pn**	**08 47 57.4**	**-0.5**
AC04				IAML		08 48 30.0	
	comp=Z,4μm,0.8s						
AC04	**Llanos de Chal**	**2.03**	**10**	*e*P	**Pn**	**08 47 58.2**	**+0.2**
AC04				IAML		08 48 30.8	
	comp=N,9μm,0.4s						
ACCO	**Cerro Coronel**	**2.12**	**101**	*i* P	**Pn**	**08 48 01.4**	**+1.9**
ACCO				*i* S	**Sn**	**08 48 29.7**	**+4.8**
DOCA	**Reserva Natura**	**2.20**	**110**	*i* P	**Pn**	**08 48 01.6**	**+1.1**
DOCA				*i* S	**Sn**	**08 48 30.7**	**+3.9**
DOCA				IAML		08 48 33.5	
	comp=Z,2μm,0.7s						
VA06	**Catapilco**	**2.35**	**176**		**Pn**	**08 48 03.0**	**+0.8**
VA06	**Catapilco**	**2.35**	**176**	⇑*i*P	**Pn**	**08 48 03.0**	**+0.8**
VA06				IAML		08 48 43.4	
	comp=E,6μm,0.4s						
RTLS	**Leoncito**	**2.46**	**131**	*i* P	**Pn**	**08 48 05.9**	**+1.9**
RTLS				IAML		08 48 42.4	
	comp=Z,8μm,0.8s						
VA03	**San Esteban**	**2.67**	**163**		**Pn**	**08 48 07.7**	**+1.0**
VA03	**San Esteban**	**2.67**	**163**	*i* P	**Pn**	**08 48 08.3**	**+1.6**
VA03				*i* S	**Sn**	**08 48 40.5**	**+2.5**
VA03				IAML		08 48 48.2	
	comp=Z,3μm,0.6s						
VA03	**San Esteban**	**2.67**	**163**	⇑*e*P	**Pn**	**08 48 08.3**	**+1.6**
VA03				IAML		08 48 46.0	
	comp=E,5μm,0.2s						
AGUA	**GUANDACOL**	**2.69**	**75**	*i* P	**Pn**	**08 48 09.6**	**+2.5**
AGUA				IAML		08 48 49.0	
	comp=Z,4μm,0.6s						
ZON	**Zonda**	**2.75**	**120**	Pn	**Pn**	**08 48 09.0**	**+1.2**
ZON	**Zonda**	**2.75**	**120**	*i* P	**Pn**	**08 48 09.2**	**+1.4**
ZON				IAML		08 48 52.0	
	comp=Z,1μm,0.6s						
ZON	**Zonda**	**2.75**	**120**	P	**Pn**	**08 48 09.0**	**+1.2**
ROCH	**El Roble**	**2.78**	**172**	*e*P	**Pn**	**08 48 09.3**	**+0.9**
VA01	**Torpederas**	**2.81**	**183**		**Pn**	**08 48 08.6**	**+0.1**
VA01	**Torpederas**	**2.81**	**183**	*i* P	**Pn**	**08 48 08.5**	**+0.1**
VA01				IAML		08 48 56.0	
	comp=Z,658nm,0.6s						
VA01	**Torpederas**	**2.81**	**183**	*e*P	**Pn**	**08 48 08.7**	**+0.2**
SJA	**San Juan**	**2.83**	**118**	*i* P	**Pn**	**08 48 10.1**	**+1.1**
SJA				IAML		08 49 03.7	
	comp=Z,2μm,0.7s						
PEL	**Peldehue**	**3.00**	**167**		**Pn**	**08 48 12.4**	**+1.2**
PEL	**Peldehue**	**3.00**	**167**	*e*P	**Pn**	**08 48 12.4**	**+1.2**
PEL	**Peldehue**	**3.00**	**167**	P	**Pn**	**08 48 12.4**	**+1.2**
MT02	**Curacav**	**3.06**	**175**		**Pn**	**08 48 12.4**	**+0.5**
MT02	**Curacav**	**3.06**	**175**	*i* P	**Pn**	**08 48 12.3**	**+0.5**
MT02				IAML		08 49 03.0	
	comp=Z,2μm,0.8s						
MT02	**Curacav**	**3.06**	**175**	*e*P	**Pn**	**08 48 12.4**	**+0.5**
MT05	**Renca**	**3.24**	**169**		**Pn**	**08 48 15.3**	**+0.8**
MT05	**Renca**	**3.24**	**169**	*i* P	**Pn**	**08 48 15.6**	**+1.1**
MT05				IAML		08 49 09.1	
	comp=Z,2μm,0.4s						
FCH	**Farellones**	**3.27**	**162**	*e*P	**Pn**	**08 48 17.0**	**+1.8**
MT16	**CCHEN**	**3.31**	**166**		**Pn**	**08 48 17.1**	**+1.7**
MT16	**CCHEN**	**3.31**	**166**	*e*P	**Pn**	**08 48 17.1**	**+1.7**
MT03	**Universidad Ad**	**3.38**	**166**		**Pn**	**08 48 18.1**	**+1.7**
MT03	**Universidad Ad**	**3.38**	**166**	*i* P	**Pn**	**08 48 17.4**	**+0.9**
MT03				IAML		08 49 13.9	
	comp=Z,2μm,0.8s						
VA05	**Santo Domingo**	**3.44**	**182**		**Pn**	**08 48 17.1**	**0.0**
VA05	**Santo Domingo**	**3.44**	**182**	*e*P	**Pn**	**08 48 17.1**	**0.0**
MT08	**Bocatoma Ro**	**3.46**	**159**		**Pn**	**08 48 20.0**	**+2.4**
MT09	**Talagante**	**3.58**	**173**		**Pn**	**08 48 20.0**	**+0.8**
MT01	**Popeta**	**3.65**	**177**		**Pn**	**08 48 20.6**	**+0.4**
MT01	**Popeta**	**3.65**	**177**	*i* P	**Pn**	**08 48 20.5**	**+0.4**
MT01				IAML		08 49 16.8	
	comp=Z,1μm,0.3s						
MT01	**Popeta**	**3.65**	**177**	*e*P	**Pn**	**08 48 20.4**	**+0.4**
MT13	**San Alfonso**	**3.67**	**164**		**Pn**	**08 48 22.4**	**+2.0**
LMEL	**Las Melosas**	**3.79**	**164**		**Pn**	**08 48 24.3**	**+2.2**
LMEL	**Las Melosas**	**3.79**	**164**	*i* P	**Pn**	**08 48 23.3**	**+1.2**
LMEL	**Las Melosas**	**3.79**	**164**	*e*P	**Pn**	**08 48 24.3**	**+2.2**
BO04	**La Punta**	**3.84**	**169**		**Pn**	**08 48 23.4**	**+0.8**
BO04	**La Punta**	**3.84**	**169**	*e*P	**Pn**	**08 48 23.5**	**+0.8**
AC02	**Maricunga**	**3.95**	**32**		**Pn**	**08 48 24.7**	**+0.1**
AC02	**Maricunga**	**3.95**

H03S1 S Sn 08 50 26.0 -4.3
H03S2 Juan Fernandez 7.28 238 P Pn 08 49 09.4 -0.1
baz=218,slow=20,SNR=42
H03S2 S Sn 08 50 26.7 -4.0
AF01 San Pedro de A 7.81 23 Pn Pn 08 49 20.0 +2.7
PB09 IPOC Station P 8.62 14 Pn Pn 08 49 33.8 +5.6
PB01 IPOC Station P 9.30 12 Pn Pn 08 49 38.6 +1.0
LR03 Panguipulli 9.43 184 Pn 08 49 37.5 -1.6
TA01 Diego Aracena 9.67 7 Pn Pn 08 49 50.1 +7.6
LR04 Corral 9.78 189 Pn Pn 08 49 43.9 0.0
LR05 Currie 10.01 182 Pn 08 49 47.1 +0.1
PLCA Paso Flores 10.53 176 Pn Pn 08 49 53.4 -0.8
PLCA Paso Flores 10.53 176 P Pn 08 49 54.0 -0.2
comp=Z,1.6nm,0.6s,baz=346,slow=11,SNR=9.3
PLCA LR LR 08 54 27.8
comp=Z,246nm,21.3s,baz=338,slow=40
PLCA Paso Flores 10.53 176 *e*P Pn 08 49 54.3 +0.1
LL04 Puerto Octay 10.71 184 Pn Pn 08 49 55.2 -1.3
TRQA Tornquist 11.10 137 Pn 08 50 00.6 -1.3
TRQA Tornquist 11.10 137 P Pn 08 50 00.6 -1.3
LL05 Los Muermos 11.29 188 Pn Pn 08 50 03.0 -1.5
PB12 IPOC Station P 11.59 5 Pn Pn 08 50 04.5 -4.3
PSAL Palomas, Salto 11.98 98 *e*P Pn 08 50 10.0 -4.0
PSAL *e*S Sn 08 52 20.6 -5.4
LL01 San Ignacio de 12.17 183 Pn Pn 08 50 14.6 -1.9
PB18 Visviri 12.69 9 Pn Pn 08 50 23.8 -0.5
LL02 Futaleuf 12.96 181 Pn Pn 08 50 25.0 -2.3
CPUP Villa Florida 13.06 76 Pn 08 50 25.4 -3.3
CPUP Villa Florida 13.06 76 P Pn 08 50 23.8 -4.9
comp=Z,5.6nm,0.7s,baz=245,slow=11,SNR=8.8
CPUP LR LR 08 55 56.6
comp=Z,326nm,20.8s,baz=264,slow=40
CPUP Villa Florida 13.06 76 P Pn 08 50 25.4 -3.3
CPUP Villa Florida 13.06 76 *e*P Pn 08 50 23.0 -5.7
PAPY Pozo Azul 13.28 66 *e*P Pn 08 50 27.0 -4.6
TBOT Tacuaremb 13.42 100 *e*P Pn 08 50 30.5 -3.2
LPAZ La Paz 14.19 13 Pn Pn 08 50 45.6 +1.0
LPAZ La Paz 14.19 13 P Pn 08 50 45.3 +0.7
comp=Z,7.8nm,0.5s,baz=189,slow=8.2,SNR=40
LPAZ La Paz 14.19 13 P Pn 08 50 45.6 +1.0
LPAZ La Paz 14.19 13 *e*P Pn 08 50 43.2 -1.4
AY01 Puyuhuapi 14.22 183 Pn Pn 08 50 42.0 -2.2
SJPY San Joaquin 14.58 73 *e*P Pn 08 50 43.5 -5.7
COYC Coyhaique 15.35 182 Pn Pn 08 50 59.3 +0.5
PLTB Pedras Altas 15.41 100 Pn Pn 08 50 56.8 -3.0
PLTB Pedras Altas 15.41 100 *e*P Pn 08 50 56.7 -3.0
CPSB Cacapava Do Su 15.59 95 *e*P Pn 08 50 59.8 -2.3
BDQN Bodoquena, MS 16.47 57 *e*P Pn 08 51 09.8 -3.4
SIV San Ignacio 17.07 36 P Pn 08 51 20.3 -0.4
comp=Z,15nm,0.7s,baz=213,slow=11,SNR=69
SIV LR LR 08 59 02.9
comp=Z,238nm,21.3s,baz=266,slow=41
AQDB Aquidauana 17.23 59 Pn 08 51 19.9 -2.7
AQDB Aquidauana 17.23 59 *e*P Pn 08 51 19.5 -3.2
ITAB Concordia 17.23 85 P 08 51 22.0 -1.4
ITAB Concordia 17.23 85 *e*P Pn 08 51 20.5 -2.1
CNLB Canela 17.93 92 *e*P P 08 51 27.2 -4.0
PTLB Pontes e Lacer 18.56 40 P P 08 51 37.6 -0.4
PTLB Pontes e Lacer 18.56 40 *e*P P 08 51 35.9 -2.2
RPRD Ribas do Rio P 18.74 63 *e*P Pn 08 51 40.2 -0.9
NNA Nana 18.80 344 P Pn 08 51 43.7 +1.8
comp=Z,8.3nm,0.6s,baz=184,slow=18,SNR=5.2
NNA Nana 18.80 344 *i* P Pn 08 51 43.1 +1.2
NNA pmax pmax
comp=Z,13nm,0.6s
LDASE Londrina, Braz 19.39 74 *e*P P 08 51 45.7 -1.5
TER01 Tubaro-SC 19.55 91 *e*P P 08 51 47.7 -1.2
MAJ01 Sao Joao Batis 19.89 87 *e*P P 08 51 50.6 -1.9
VILB Vilhena 20.10 34 P P 08 51 54.5 -0.4
VILB Vilhena 20.10 34 *e*P P 08 51 54.1 -0.8
SALV Santo Antonio 20.31 49 *e*P P 08 51 56.1 -1.0
C2SB Chapadao do Su 20.40 60 *e*P P 08 51 57.9 -0.2
FRTB Fartura 20.71 76 *e*P P 08 51 59.1 -2.4
ITRB Iturama 21.78 66 *e*P P 08 52 11.3 -1.7
CZSB Cruzeiro do Su 22.39 357 P P 08 52 20.4 +0.8
CZSB IAmb IAmb 08 52 26.8
comp=Z,55nm,1.1s
CZSB Cruzeiro do Su 22.39 357 *e*P P 08 52 20.7 +1.1
SPB Sao Paulo 22.41 79 P P 08 52 18.9 -0.9
SPB IAmb IAmb 08 52 43.4
comp=Z,47nm,1.3s
MG04 Isla Riesco 22.63 180 P P 08 52 20.9 -0.8
PDRB Porto dos Gac 23.02 40 *e*P P 08 52 25.4 -0.8
VAO Valinhos 23.04 78 P P 08 52 26.1 -0.3
VAO IAmb IAmb 08 52 45.7
comp=Z,60nm,1.2s
VAO Valinhos 23.04 78 *e*P P 08 52 25.7 -0.7
ARAG Araguaiana, MT 23.11 56 *e*P P 08 52 24.0 -3.0
MG03 Isla Dawson 23.64 178 P P 08 52 32.7 +1.1
MG03 IAmb IAmb 08 53 00.5
comp=Z,47nm,1.1s
EFI East Falkland 23.64 159 P P 08 52 31.9 +0.2
EFI East Falkland 23.64 159 P P 08 52 31.9 +0.2
EFI pmax pmax
comp=Z,100nm,1.3s
ATAH Atahualpa 23.85 343 LR LR 09 00 11.0
comp=Z,76nm,21.3s,baz=202,slow=32
IPMB Ipameri, GO 24.43 65 *e*P P 08 52 37.9 -1.3
PMNB Patos De Minas 25.54 69 *e*P P 08 52 48.4 -1.0
BSCB Bom Sucesso 25.72 75 *e*P P 08 52 49.8 -1.2
TBTG Tabatinga, AM 25.93 4 P P 08 52 53.4 +0.7
TBTG IAmb IAmb 08 52 56.4
comp=Z,57nm,1.0s
TBTG Tabatinga, AM 25.93 4 *e*P P 08 52 53.5 +0.7
BDFB Brasilia 25.95 61 P P 08 52 52.2 -0.9
BDFB IAmb IAmb 08 53 14.9
comp=Z,44nm,1.0s
BDFB Brasilia 25.95 61 P P 08 52 51.6 -1.6
comp=Z,15nm,0.6s,baz=233,slow=9.2,SNR=26
BDFB LR LR 09 04 09.4
comp=Z,257nm,18.5s,baz=156,slow=39
comp=Z,15nm,0.6s
BDFB Brasilia 25.95 61 P P 08 52 52.2 -0.9
BDFB pmax pmax
comp=Z,44nm,1.0s
SNDB Serra Nova Dou 26.07 50 *e*P P 08 52 52.9 -1.3
TEFE Tefe 27.34 15 *e*P P 08 53 05.5 0.0
NPGB Novo Progresso 27.57 37 *e*P P 08 53 06.0 -1.6
DIAM Diamantina, MG 27.91 71 *e*P P 08 53 09.9 -0.9
MACA Manacapuru-AM 28.78 23 P P 08 53 17.9 -0.4
MACA IAmb IAmb 08 53 18.5
comp=Z,23nm,0.6s
MACA Manacapuru-AM 28.78 23 *e*P P 08 53 17.8 -0.6
JANB Januaria 29.16 65 *e*P P 08 53 20.4 -1.4
ITTB Itaituba 29.70 33 *e*P P 08 53 24.8 -1.7
SJMB Sao Joao De Ma 29.77 74 *e*P P 08 53 25.9 -1.3
BSFB Barra de Sao F 29.99 75 *e*P P 08 53 27.6 -1.5
RIB01 Linhares ES 30.15 76 *e*P P 08 53 29.3 -1.2
SDBA SAO DESIDERIO 30.32 60 *e*P P 08 53 30.8 -1.3
SMTB Santa Maria do 30.82 51 *e*P P 08 53 35.6 -0.9
OTAV Otavalo 31.00 346 P P 08 53 37.2 -1.2
OTAV Otavalo 31.00 346 P P 08 53 37.3 -1.2
OTAV pmax pmax
comp=Z,5.0nm,1.1s
FLOC Florencia 31.86 352 P P 08 53 48.0 +2.5
GUA01 Guaratinga, BA 31.96 72 *e*P P 08 53 45.1 -1.3
MAL2 Monte Alegre, 32.49 34 P P 08 53 49.9 -1.1
MAL2 IAmb IAmb 08 53 50.4
comp=Z,15nm,0.8s
CMC01 Camacan, BA 32.83 70 *e*P P 08 53 52.8 -1.2
BOAV Boa Vista 34.07 20 P P 08 54 04.8 0.0
BOAV Boa Vista 34.07 20 *e*P P 08 54 04.8 0.0
PMSA Palmer Station 34.90 174 LR LR 09 08 04.8
comp=Z,223nm,18.3s,baz=337,slow=36
ROSC El Rosal 34.95 355 P P 08 54 14.2 +1.3
comp=Z,6.5nm,0.4s,baz=155,slow=19,SNR=4.9
comp=Z,6.5nm,0.4s
RUSC La Rusia 35.93 357 P P 08 54 23.1 +1.8
NBLA Lagarto - SE 36.67 66 *e*P P 08 54 25.3 -1.9
NBPB Pedra_Branca-C 38.78 57 *e*P P 08 54 43.9 -1.1
SDV Santo Domingo 38.88 1 P P 08 54 45.9 0.0
SDV Santo Domingo 38.88 1 *e*P P 08 54 45.9 0.0
BAUV El Baul 39.07 5 P P 08 54 46.9 -0.4
MDP Montagnes des 39.48 30 LR LR 09 13 34.2
comp=Z,73nm,18.6s,baz=180,slow=40
NBLV Livramento - P 39.57 62 *e*P P 08 54 50.2 -1.5
NBCA Caruaru-PE 39.73 64 *e*P P 08 54 52.1 -1.0
RCBR Riachuelo 41.33 61 LR LR 09 13 09.6
comp=Z,80nm,19.8s,baz=247,slow=38
HDC Heredia 41.78 341 P P 08 55 07.8 -2.1
HATO Hato, Curacao 42.21 4 P P 08 55 12.1 -1.2
JTS Las Juntas de 42.30 340 P P 08 55 16.9 +2.9

BIM Bigot 45.58 14 P P 08 55 39.2 -1.1
FDF Fort de France 45.78 14 P P 08 55 41.4 -0.5
FDF Fort de France 45.78 14 P P 08 55 41.4 -0.5
FDF pmax pmax
comp=Z,228nm,1.5s
CRPR Cabo Rojo, PR 48.12 6 P P 08 56 00.5 +0.5
IGPR InterUniversit 48.17 7 P P 08 56 00.8 +0.4
OBIP Obispado Ponce 48.20 6 P P 08 56 00.3 -0.4
SABA Saba 48.21 11 P P 08 56 00.8 +0.1
PDPR Patillas Dam, 48.23 7 P P 08 56 00.2 -0.7
CELP Cerrillos 48.23 6 P P 08 56 00.9 0.0
SC01 Santiago de lo 49.35 1 P P 08 56 10.2 +0.8
PETF Flores 50.09 337 P P 08 56 16.5 +1.4
PETF IAmb IAmb 08 56 17.2
comp=Z,13nm,0.8s
BELA Belgrano 2 50.52 171 P P 08 56 18.8 +1.0
BELA IAmb IAmb 08 56 19.5
comp=Z,8.6nm,0.8s
CMIG Matias Romero 52.15 331 LR LR 09 15 23.8
comp=Z,41nm,18.0s,baz=118,slow=32
TEIG Tepich 52.69 340 P P 08 56 35.4 +1.0
TEIG Tepich 52.69 340 P P 08 56 35.7 +1.3
TEIG pP pP 08 56 51.2 +1.4
TEIG PcP PcP 08 57 42.5 -1.2
VNA2 Neumayer--Watz 53.33 158 P P 08 56 38.7 -0.1
baz=282,slow=7.8
VNA2 Neumayer--Watz 53.33 158 ⇓P P 08 56 38.7 -0.1
comp=Z,8.7nm,0.7s,baz=282,slow=7.8
SNAA Sanae 54.92 159 P P 08 56 50.2 -0.2
SNAA Sanae 54.92 159 P P 08 56 50.7 +0.3
SNAA IAmb IAmb 08 56 51.4
comp=Z,21nm,1.0s
SNAA Sanae 54.92 159 ⇓P P 08 56 50.2 -0.2
comp=Z,265nm,0.8s
SNAA Sanae 54.92 159 P P 08 56 50.3 -0.2
comp=Z,16nm,1.0s,baz=282,slow=6.5,SNR=19
SNAA pP pP 08 57 05.8 -0.5
comp=Z,5.3nm,0.8s,baz=273,slow=5.6,SNR=3.7
comp=Z,16nm,1.0s
SNAA Sanae 54.92 159 P P 08 56 50.7 +0.3
SNAA pmax pmax
comp=Z,21nm,1.0s
TROLL Troll, Antarti 56.64 159 P P 08 57 02.9 +0.2
TROLL Troll, Antarti 56.64 159 ⇓P P 08 57 02.9 +0.2
comp=Z,405nm,0.7s
NVL N'lazarevskaya 59.62 158 *e*P P 08 57 22.4 -0.9
NVL pmax pmax
comp=Z,12nm,0.8s
QSPA South Pole Qui 60.02 180 P P 08 57 27.4 +1.1
QSPA South Pole Qui 60.02 180 P P 08 57 27.1 +0.7
comp=Z,16nm,0.7s,baz=149,slow=1.7,SNR=109
QSPA pP pP 08 57 43.7 +1.3
comp=Z,7.1nm,0.8s,baz=159,slow=8.3,SNR=4.5
QSPA LR LR 09 23 09.1
comp=Z,85nm,18.3s,baz=220,slow=36
comp=Z,16nm,0.7s
QSPA South Pole Qui 60.02 180 P P 08 57 27.1 +0.7
QSPA pP pP 08 57 43.3 +0.8
833A Chaparral WMA, 64.02 333 P P 08 57 55.2 +1.8
HKT Hockley 64.16 337 *i* P P 08 57 56.1 +1.9
HKT pmax pmax
comp=Z,7.0nm,1.1s
GOGA Godfrey 64.28 349 P P 08 57 55.8 +0.8
GOGA IAmb IAmb 08 58 40.8
comp=Z,34nm,1.6s
GOGA Godfrey 64.28 349 P P 08 57 55.8 +0.8
GOGA pmax pmax
comp=Z,34nm,1.7s
LRAL Lakeview Retre 64.59 346 P P 08 57 57.6 +0.6
LRAL IAmb IAmb 08 57 58.4
comp=Z,11nm,1.1s
VBMS Vicksburg 64.66 342 P P 08 57 59.1 +1.6
HNVL Huntsville, TX 64.78 337 P P 08 57 59.3 +1.0
HNDO Hondo 65.05 333 P P 08 58 01.7 +1.6
JCT Junction City 66.10 333 IAmb IAmb 08 58 09.2
comp=Z,11nm,0.8s
V53A Saluda 66.39 350 IAmb IAmb 08 58 10.0
comp=Z,9.5nm,0.9s
CPCT Cooper Cave 66.45 348 IAmb IAmb 08 58 10.6
comp=Z,13nm,0.9s
SWET Sewanee 66.48 347 IAmb IAmb 08 58 10.8
comp=Z,17nm,0.8s
BRDY Brady 66.51 334 IAmb IAmb 08 58 11.9
comp=Z,8.7nm,0.9s
TKL Tuckaleechee C 66.53 349 P P 08 58 10.1 +0.6
TKL IAmb IAmb 08 58 10.7
comp=Z,16nm,0.9s
TKL Tuckaleechee C 66.53 349 P P 08 58 10.1 +0.6
TKL pmax pmax
comp=Z,16nm,1.0s
SAND Sanderson 66.57 331 IAmb IAmb 08 58 12.9
comp=Z,13nm,1.1s
TXAR Lajitas Array 66.69 330 P P 08 58 11.8 +1.0
TXAR Lajitas Array 66.69 330 P P 08 58 12.4 +1.6
comp=Z,2.2nm,0.7s,baz=151,slow=8.2,SNR=28
TXAR pP pP 08 58 28.9 +2.1
comp=Z,1.2nm,0.9s,baz=165,slow=8.7,SNR=4.1
comp=Z,2.2nm,0.7s
PLAL Pickwick Lake 66.70 345 P P 08 58 10.9 +0.4
PLAL IAmb IAmb 08 58 11.8
comp=Z,11nm,0.9s
WLAR White Oak Lake 66.76 340 P P 08 58 12.0 +1.0
WLAR IAmb IAmb 08 58 15.5
comp=Z,22nm,1.2s
FW13 Cleburne 66.91 336 IAmb IAmb 08 58 13.6
comp=Z,13nm,1.0s
OZNA Ozona 67.01 332 P P 08 58 13.9 +1.2
OZNA IAmb IAmb 08 58 14.7
comp=Z,7.9nm,0.8s
U54A Nelsons Funny 67.08 351 IAmb IAmb 08 58 14.8
comp=Z,20nm,1.0s
V48A Smith Brothers 67.17 346 IAmb IAmb 08 58 15.2
comp=Z,25nm,1.2s
CLTN Cedars of Leba 67.41 347 IAmb IAmb 08 58 16.6
comp=Z,7.2nm,0.7s
ALPN Alpine 67.58 330 P P 08 58 17.6 +1.2
ALPN IAmb IAmb 08 59 08.3
comp=Z,18nm,2.0s
PLPT Palo Pinto 67.64 336 IAmb IAmb 08 58 18.5
comp=Z,9.7nm,0.7s
WVT Waverly 67.75 346 P P 08 58 17.3 +0.1
WVT IAmb IAmb 08 58 18.6
comp=Z,17nm,1.0s
WVT Waverly 67.75 346 P P 08 58 17.3 +0.1
WVT pmax pmax
comp=Z,17nm,1.0s
WVT Waverly 67.75 346 P P 08 58 17.7 +0.5
S57A Dark Hollow, R 67.98 354 IAmb IAmb 08 58 20.1
comp=Z,11nm,0.8s
MNHN Monahans 68.04 331 IAmb IAmb 08 58 21.8
comp=Z,8.9nm,0.7s
LCAR Lake Charles 68.47 343 P P 08 58 22.3 +0.6
LCAR IAmb IAmb 08 58 23.4
comp=Z,14nm,1.1s
TBI Tubuai 68.72 255 *e*LR LR 09 19 14.9
comp=Z,346nm,29.8s
APMT Aspermont 68.75 334 IAmb IAmb 08 58 26.0
comp=Z,12nm,0.9s
PBMO Poplar Bluff 68.97 344 IAmb IAmb 08 58 26.5
comp=Z,16nm,1.1s
CGM3 Cape Girardeau 69.28 345 P P 08 58 27.4 +0.7
CGM3 IAmb IAmb 08 58 29.3
comp=Z,29nm,1.7s
HHAR Hobbs 69.42 341 IAmb IAmb 08 58 29.5
comp=Z,9.7nm,0.8s
WCI Wyandotte Cave 69.48 348 P P 08 58 28.1 +0.2
WCI IAmb IAmb 08 58 28.7
comp=Z,11nm,0.8s
WCI Wyandotte Cave 69.48 348 P P 08 58 28.1 +0.2
WCI pmax pmax
comp=Z,11nm,0.8s
WCI Wyandotte Cave 69.48 348 P P 08 58 27.9 -0.1
SIUC Southern Illin 69.58 345 P P 08 58 29.3 +0.7
SIUC IAmb IAmb 08 58 30.2
comp=Z,16nm,0.8s
OK031 S. Brethren Rd 70.00 338 P P 08 58 31.9 +0.8
OK031 IAmb IAmb 08 58 32.8
comp=Z,19nm,1.1s
OK052 Battle Ridge R 70.02 338 P P 08 58 32.2 +0.8
OK052 IAmb IAmb 08 58 33.6
comp=Z,8.5nm,0.9s
FVM French Village 70.11 344 IAmb IAmb 08 58 33.8
comp=Z,33nm,1.3s
P51A Williamsport 70.17 350 IAmb IAmb 08 58 33.2
comp=Z,17nm,0.7s
P52A Corning 70.19 351 IAmb IAmb 08 58 33.4

comp=Z,18nm,0.9s
CCM Cathedral Cave 70.38 344 P P 08 58 34.4 +0.9
CCM IAmb IAmb 08 58 35.3
comp=Z,31nm,1.4s
CCM Cathedral Cave 70.38 344 P P 08 58 34.4 +0.9
CCM pmax pmax
comp=Z,31nm,1.5s
CCM Cathedral Cave 70.38 344 P P 08 58 34.4 +0.9
CCM pP pP 08 58 50.2 +0.5
SMWD Samnorwood 70.39 335 IAmb IAmb 08 58 35.9
comp=Z,12nm,0.8s
AMTX Amarillo 70.73 334 IAmb IAmb 08 58 38.3
comp=Z,10.0nm,1.1s
SSPA Standing Stone 70.74 355 P P 08 58 36.6 +1.0
PPT2 Papeete2 71.30 260 *e*LR LR 09 20 27.1
comp=Z,87nm,23.8s
N47A Urbana 71.95 349 IAmb IAmb 08 58 43.6
comp=Z,19nm,0.9s
M52A Chesterland 71.97 352 IAmb IAmb 08 58 44.5
comp=Z,18nm,0.8s
ANMO Albuquerque 72.71 330 P P 08 58 48.0 +0.2
ANMO Albuquerque 72.71 330 LR LR 09 26 44.5
comp=Z,60nm,18.9s,baz=211,slow=32
ANMO Albuquerque 72.71 330 *i* P P 08 58 48.8 +1.0
ANMO pmax pmax
comp=Z,1.0nm,1.2s
N41A Harden Midland 72.81 345 P P 08 58 48.8 +0.7
N41A IAmb IAmb 08 58 49.3
comp=Z,16nm,1.0s
R32A Long Quarter, 72.86 338 IAmb IAmb 08 58 51.2
comp=Z,14nm,0.8s
DBIC Dimbokro 73.54 72 P P 08 58 52.2 -0.7
comp=Z,5.6nm,0.7s,baz=215,slow=5.4,SNR=6.6
DBIC LR LR 09 29 27.1
comp=Z,74nm,19.2s,baz=256,slow=34
comp=Z,5.6nm,0.7s
N35A Tabor 74.17 341 IAmb IAmb 08 58 57.5
comp=Z,20nm,0.7s
L40A Anamosa 74.18 345 IAmb IAmb 08 58 58.1
comp=Z,24nm,1.0s
SCIA State Center 74.51 343 P P 08 58 59.3 +1.3
JFWS Jewell Farm 74.78 346 IAmb IAmb 08 59 01.3
comp=Z,19nm,1.2s
Q24A Divide 75.63 334 IAmb IAmb 08 59 08.0
comp=Z,7.9nm,0.8s
SUR Sutherland 76.26 119 LR LR 09 29 40.5
comp=Z,28nm,18.7s,baz=176,slow=33
PFO Pinyon Flats O 76.40 323 *i* P P 08 59 11.3 +2.1
PFO pmax pmax
comp=Z,16nm,1.4s
PV10 Paradox Valley 76.71 331 IAmb IAmb 08 59 29.6
comp=Z,14nm,1.1s
E46A Sault Ste Mari 77.10 351 IAmb IAmb 08 59 13.9
comp=Z,13nm,0.8s
ECSD EROS Data Cent 77.10 342 P P 08 59 13.8 +1.1
ECSD IAmb IAmb 08 59 14.7
comp=Z,12nm,0.9s
KNB Kanab 77.28 327 P P 08 59 16.7 +2.6
KNB IAmb IAmb 08 59 17.9
comp=Z,15nm,1.3s
KNB Kanab 77.28 327 P P 08 59 16.7 +2.6
KNB pmax pmax
comp=Z,15nm,1.3s
WIN Windhoek 77.83 109 IAmb IAmb 08 59 18.7
comp=Z,21nm,1.1s
O20A White River Ci 77.86 332 IAmb IAmb 08 59 37.2
comp=Z,10nm,1.1s
SRU San Rafael Swe 77.96 330 IAmb IAmb 08 59 20.7
comp=Z,11nm,1.3s
Q16A Castle Valley 78.09 329 P P 08 59 21.1 +2.5
Q16A IAmb IAmb 08 59 21.8
comp=Z,9.0nm,1.1s
VLDQ Val d'Or 78.15 356 P P 08 59 19.7 +1.3
RAR Rarotonga 78.22 252 LR LR 09 25 23.6
comp=Z,47nm,18.5s,baz=234,slow=29
P18A Preston Nutter 78.27 330 IAmb IAmb 08 59 23.0
comp=Z,21nm,1.4s
TMUT Trail Mountain 78.41 330 P P 08 59 21.7 +1.1
K22A Casper 79.34 334 P P 08 59 27.5 +2.1
K22A IAmb IAmb 08 59 28.3
comp=Z,20nm,1.3s
TSUM Tsumeb 79.80 106 P P 08 59 28.6 +0.1
TSUM IAmb IAmb 08 59 29.6
comp=Z,18nm,0.8s
TSUM Tsumeb 79.80 106 LR LR 09 30 26.9
comp=Z,64nm,19.8s,baz=150,slow=32
EYMN Ely 79.85 346 P P 08 59 28.2 +0.4
EYMN IAmb IAmb 08 59 29.7
comp=Z,16nm,1.6s
DUG Dugway, Tooele 79.86 329 IAmb IAmb 08 59 32.1
comp=Z,17nm,1.6s
HWUT Hardware Ranch 80.47 331 P P 08 59 31.7 +0.2
PD31 Pinedale Array 80.61 333 P P 08 59 33.4 +1.0
PDAR Pinedale Array 80.61 333 P P 08 59 33.3 +1.0
comp=Z,0.4nm,0.6s,baz=133,slow=7.0,SNR=5.6
PDAR LR LR 09 35 06.5
comp=Z,64nm,18.0s,baz=14,slow=35
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 81.06 325 P P 08 59 36.4 +1.6
comp=Z,1.0nm,0.6s,baz=140,slow=7.2,SNR=5.0
comp=Z,1.0nm,0.6s
ELK Elko 81.40 328 P P 08 59 37.5 +1.0
ELK Elko 81.40 328 P P 08 59 37.5 +1.0
ELK pmax pmax
comp=Z,5.0nm,1.2s
BOSA Boshof 81.42 118 P P 08 59 36.8 -0.2
BOSA IAmb IAmb 08 59 37.4
comp=Z,14nm,0.8s
BOSA Boshof 81.42 118 P P 08 59 36.2 -0.8
comp=Z,14nm,0.8s,baz=250,slow=4.9,SNR=22
BOSA LR LR 09 32 35.9
comp=Z,35nm,18.6s,baz=206,slow=33
comp=Z,14nm,0.8s
BOSA Boshof 81.42 118 P P 08 59 36.8 -0.2
BOSA pmax pmax
comp=Z,14nm,0.8s
PNTR Pine Nut 82.22 324 P P 08 59 41.0 +0.1
ULM Lac du Bonnet 82.98 345 P P 08 59 44.6 +0.3
ULM IAmb IAmb 08 59 45.5
comp=Z,7.5nm,0.9s
ULM Lac du Bonnet 82.98 345 P P 08 59 44.4 +0.2
comp=Z,5.4nm,0.9s,baz=145,slow=2.0,SNR=11
comp=Z,5.4nm,0.9s
ULM Lac du Bonnet 82.98 345 *i* P P 08 59 44.5 +0.3
HLID Hailey 83.28 330 P P 08 59 48.1 +1.8
LBTB Lobatse 83.47 115 P P 08 59 47.8 +0.1
LBTB Lobatse 83.47 115 LR LR 09 32 12.4
comp=Z,74nm,18.5s,baz=200,slow=32
LBTB Lobatse 83.47 115 P P 08 59 47.8 +0.1
LBTB pmax pmax
comp=Z,22nm,0.7s
DGMT Dagmar 83.62 339 P P 08 59 48.8 +1.1
DGMT IAmb IAmb 08 59 50.1
comp=Z,24nm,1.1s
J08A Circle Bar Ran 84.94 328 P P 08 59 56.9 +2.3
J08A IAmb IAmb 08 59 57.5
comp=Z,8.7nm,1.0s
PLID Pearl Lake 85.19 330 IAmb IAmb 08 59 58.3
comp=Z,6.2nm,1.1s
I07A Izee 85.97 328 IAmb IAmb 09 00 02.7
comp=Z,12nm,1.3s
J05D Fort Rock, OR 86.19 326 IAmb IAmb 09 00 03.7
comp=Z,8.2nm,1.2s
HAWA Hanford 87.75 329 P P 09 00 09.9 +1.8
HAWA IAmb IAmb 09 00 10.8
comp=Z,5.6nm,1.1s
NEW Newport 88.17 331 LR LR 09 37 55.7
comp=Z,60nm,18.5s,baz=34,slow=34
PCVE Castro Verde 89.83 45 *e*P P 09 00 19.1 +0.9
PVAQ Vaqueiros 89.89 46 *e*P P 09 00 19.0 +0.6
PVAQ *i* Amb 09 00 31.7
comp=Z,57nm,1.7s
LSZ Lusaka 90.53 108 P P 09 00 23.2 +1.0
LSZ Lusaka 90.53 108 P P 09 00 23.2 +1.0
LSZ pmax pmax
comp=Z,10.0nm,0.9s
FCC Fort Churchill 90.62 348 P P 09 00 22.5 +1.3
FCC IAmb IAmb 09 00 22.8
comp=Z,6.2nm,0.9s
FCC Fort Churchill 90.62 348 P P 09 00 22.5 +1.3
FCC pmax pmax
comp=Z,6.0nm,0.9s
PMTG Montargil 90.63 44 *e*P P 09 00 22.5 +0.7
TAM Tamanrasset 90.75 64 P P 09 00 23.3 +0.3
TAM IAmb IAmb 09 00 23.9
comp=Z,5.2nm,1.1s

TAM Tamanrasset 90.75 64 P **P** **09 00 23.3 +0.3**
TAM pmax pmax
comp=Z,5.0nm,1.1s
PBAR Barrancos 90.79 45 *e*P **P** **09 00 24.6 +2.0**
PCBR Castelo Branco 91.56 44 *e*P **P** **09 00 27.0 +0.9**
MVO Moncorvo 92.66 43 *e*P **P** **09 00 31.6 +0.3**
MVO *i* Amb 09 00 33.6
comp=Z,18nm,1.8s
ESDC Sonseca Array 93.60 46 P **P** **09 00 35.6 -0.1**
comp=Z,1.2nm,0.8s,baz=252,slow=4.1,SNR=7.0
comp=Z,1.2nm,0.8s
YKA Yellowknife Ar 98.63 341 P **P** **09 00 57.9 +0.1**
comp=Z,1.1nm,1.0s,baz=149,slow=4.6,SNR=12
comp=Z,1.1nm,1.0s
DZM Mont Dzumac 103.85 234 *e*LR LR 09 35 32.2
comp=Z,356nm,31.9s
AKASG Malin Array Be 119.25 46 PKP **PKPdf** **09 06 06.8 -1.1**
comp=Z,1.9nm,0.6s,baz=266,slow=2.9,SNR=9.4
AKBB Malin Array Si 119.25 46 *c* PKIKP **PKiKP** **09 06 07.9 -0.1**
BRTR Keskin Array B 119.53 59 PKP **PKPdf** **09 06 08.4 -0.7**
comp=Z,1.6nm,0.8s,baz=227,slow=4.2,SNR=7.8
ASAR Alice Springs 121.15 207 PKP **PKPdf** **09 06 11.9 -0.8**
comp=Z,0.3nm,0.5s,baz=128,slow=1.5,SNR=2.9
ASAR PKKPbc **PKKPbc** **09 16 13.7 -0.8**
comp=Z,0.7nm,0.7s,baz=349,slow=4.0,SNR=6.7
WRA Warramunga Arr 124.29 210 PKP **PKPdf** **09 06 18.2 -0.6**
comp=Z,1.4nm,0.7s,baz=170,slow=1.6,SNR=8.1
WRA pPKP **pPKPdf** **09 06 36.9 +0.6**
comp=Z,1.7nm,0.8s,baz=155,slow=1.7,SNR=4.4
WRA PKKPbc **PKKPbc** **09 16 02.2 -0.1**
comp=Z,0.8nm,0.8s,baz=335,slow=4.2,SNR=4.9
OBN Obninsk 124.32 41 *i* PKIKP **PKPdf** **09 06 16.8 -0.7**
OBN *e* 09 06 35.6
OBN 09 13 07.0
OBN SS SS 09 25 12.0 +20
OBN pmax pmax
comp=Z,8.0nm,0.8s
OBN pmax pmax
comp=Z,7.0nm,1.0s
H11S2 WAKE ISLAND Hyl 26.22 272 T T 11 25 25.5
baz=115,slow=75,SNR=86
H11S1 WAKE ISLAND Hyl 26.23 272 T T 11 25 46.1
baz=115,slow=75,SNR=63
H11S3 WAKE ISLAND Hyl 26.24 272 T T 11 25 23.3
baz=115,slow=75,SNR=80
H11N3 WAKE ISLAND Hyl 26.54 273 T T 11 26 03.8
baz=116,slow=76,SNR=11
H11N1 WAKE ISLAND Hyl 26.55 273 T T 11 25 59.2
baz=116,slow=76,SNR=5.4
H11N2 WAKE ISLAND Hyl 26.55 273 T T 11 25 51.4
baz=116,slow=76,SNR=18
KBZ Khabaz 127.15 56 PKP **PKiKP** **09 06 23.8 -0.1**
comp=Z,2.8nm,0.9s,baz=226,slow=1.7,SNR=5.6
PSA00 Pilbara Seismi 127.38 193 PKPdf **PKPdf** **09 06 23.7 -0.9**
BILL Bilibino 129.61 336 *i* PKIKP **PKiKP** **09 06 28.7 +0.6**
BELG Belogornoye 130.82 45 *i* PKIKP **PKiKP** **09 06 31.0 +0.1**
ARTI Arti 136.44 38 PKPdf **PKPdf** **09 06 40.2 -0.4**
ARTI Arti 136.44 38 PKP **PKPdf** **09 06 40.7 +0.2**
comp=Z,1.4nm,0.5s,baz=259,slow=2.0,SNR=4.1
ARTI Arti 136.44 38 *i* PKIKP **PKPdf** **09 06 40.4 -0.1**
ARTI 09 09 20.9
SEY Seymchan 136.94 332 *c i* PKIKP **PKiKP** **09 06 42.0 -1.1**
SEY pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 137.05 351 PKPdf **PKPdf** **09 06 41.9 +0.7**
TIXI Tiksi 137.05 351 *c i* PKIKP **PKPdf** **09 06 41.6 +0.4**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 137.47 47 PKP **PKPdf** **09 06 42.8 +0.2**
comp=Z,2.4nm,0.7s,baz=251,slow=3.2,SNR=6.5
PETK Petropavlovsk- 137.78 317 PKPdf **PKiKP** **09 06 44.3 -0.8**
PETK Petropavlovsk- 137.78 317 PKP **PKPdf** **09 06 43.9 +0.8**
comp=Z,7.8nm,0.9s,baz=69,slow=8.1,SNR=6.1
PETK Petropavlovsk- 137.78 317 PKIKP **PKiKP** **09 06 44.3 -0.8**
ABKAR Akbulak array 138.89 48 PKPdf **PKPdf** **09 06 45.6 +0.4**
MA2 Magadan 139.21 328 *c i* PKIKP **PKPdf** **09 06 45.3 -0.2**
MA2 pmax pmax
comp=Z,3.0nm,1.3s
BRVK Borovoye 144.05 40 PKPdf **PKPdf** **09 06 53.5 -0.9**
BRVK Borovoye 144.05 40 *i* PKIKP **PKPdf** **09 06 55.3 +0.9**
BVAR Borovoye Array 144.12 40 PKP **PKPdf** **09 06 53.8 -0.7**
comp=Z,5.9nm,0.5s,baz=308,slow=2.2,SNR=28
YAK Yakutsk 145.29 343 PKPbc **PKPab** **09 06 57.0 +0.7**
YAK Yakutsk 145.29 343 *e* PKIKP **PKPab** **09 06 56.5 +0.2**
YAK *e* 09 10 17.1
YAK pmax pmax
comp=Z,82nm,0.8s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,438nm,10.8s
YAK pmax pmax
comp=N,152nm,8.6s
YAK pmax pmax
comp=E,327nm,9.2s
KBL Kabul 146.53 72 PKPdf **PKPbc** **09 07 00.4 -0.7**
KBL Kabul 146.53 72 PKP2 **PKPbc** **09 07 00.4 -0.7**
SIMJ Simiganj 146.55 65 PKPdf **PKPbc** **09 07 00.1 -0.8**
CHGR Chuyangaron 146.66 65 PKPdf **PKPbc** **09 07 00.5 -0.7**
CHGR Chuyangaron 146.66 65 PKP2 **PKPbc** **09 07 00.5 -0.7**
KKAR Karatay Array 147.18 56 PKPbc **PKPbc** **09 07 02.7 +0.3**
KKAR Karatay Array 147.18 56 PKP2 **PKPbc** **09 07 02.7 +0.3**
GAR Garm 147.55 64 PKPdf **PKPbc** **09 07 02.2 -1.5**
DRK Karamyk 148.66 63 PKPbc **PKiKP** **09 07 07.5 -0.7**
DRK Karamyk 148.66 63 PKP2 **PKiKP** **09 07 07.5 -0.7**
YSS Yuzhno-Sakhali 148.76 312 *e* PKIKP **PKPdf** **09 07 04.3 +1.8**
YSS *e* 09 07 22.7
YSS pmax pmax
comp=Z,20nm,0.8s
ARSB Arslanbob 149.30 59 PKPbc **PKiKP** **09 07 09.2 -0.1**
ARSB Arslanbob 149.30 59 PKP2 **PKiKP** **09 07 09.3 -0.1**
EKS2 Erkin-Say 149.62 56 P **PKiKP** **09 07 10.1 +0.1**
SNR=20
AML Almayashu 149.68 57 P **PKiKP** **09 07 10.3 -0.1**
SNR=12
KURBB Kurchatov Arra 149.71 39 PKPbc **PKPbc** **09 07 08.6 0.0**
comp=Z,13nm,0.6s,baz=303,slow=3.1,SNR=14
KURK Kurchatov 149.71 39 PKPbc **PKiKP** **09 07 09.2 -0.4**
KURK Kurchatov 149.71 39 PKP2 **PKiKP** **09 07 09.2 -0.4**
USP Ospenovka 150.00 55 P **PKiKP** **09 07 10.4 -0.1**
SNR=19
AAK Ala-Archa 150.15 56 PKPbc **PKiKP** **09 07 11.0 0.0**
comp=Z,33nm,0.7s,baz=0.0,slow=2.0,SNR=96
AAK Ala-Archa 150.15 56 P **PKiKP** **09 07 11.5 +0.5**
SNR=38
FRU1 Bishkek 150.20 56 PKPbc **PKiKP** **09 07 11.3 +0.3**
FRU1 Bishkek 150.20 56 PKIKP **PKiKP** **09 07 11.4 +0.3**
UCH Uchtor 150.25 57 P **PKPbc** **09 07 10.7 -0.2**
SNR=5.0
KBK Karagaybulak 150.47 56 P **PKiKP** **09 07 11.8 +0.1**
SNR=10
ZAA0 Zalesovo Array 150.73 29 PKPbc **PKiKP** **09 07 11.5 -0.2**
ZALV Zalesovo Beam 150.73 29 PKPbc **PKiKP** **09 07 11.7 +0.1**
ZALV Zalesovo Beam 150.73 29 PKP **PKPdf** **09 07 05.7 +0.3**
comp=Z,3.4nm,0.8s,baz=292,slow=2.3,SNR=7.2
ZALV PKPbc **PKiKP** **09 07 11.4 -0.2**
comp=Z,48nm,0.6s,baz=294,slow=1.5,SNR=24
ZALV pPKP **pPKPbc** **09 07 28.6 +0.1**
comp=Z,17nm,0.8s,baz=293,slow=3.2,SNR=5.2
ZALV Zalesovo Beam 150.73 29 PKIKP **PKiKP** **09 07 11.7 +0.1**
RPSI Rantau Prapat 151.16 160 PKPbc **PKPbc** **09 07 12.3 -0.9**
BOOM Boomskoye usch 151.22 56 PKPbc **PKiKP** **09 07 12.8 -0.5**
BOOM Boomskoye usch 151.22 56 PKIKP **PKiKP** **09 07 12.8 -0.5**
PSI Prapat 151.26 160 PKIKP **PKPbc** **09 07 12.3 -1.4**
ULHL Ulahol 151.50 56 P **PKiKP** **09 07 14.7 +0.7**
SNR=18
KSH Kashi 151.85 62 PKPbc **PKPdf** **09 07 08.3 +0.5**
KSH pPKP PKiKP 09 07 14.5 -0.1
KSH sPKP 09 07 22.5
BOD Bodaibo 152.13 354 *e* PKIKP **PKPbc** **09 07 13.5 -0.6**
BOD pmax pmax
comp=Z,14nm,1.1s
KDJ Kajisay 152.20 56 PKPbc **PKiKP** **09 07 15.9 +0.6**
KDJ Kajisay 152.20 56 PKIKP **PKiKP** **09 07 15.9 +0.6**
ZEA Zeya 152.84 335 *e* PKIKP **PKiKP** **09 07 16.5 +0.5**
MAKZ Makanchi 153.61 44 PKPdf **PKPdf** **09 07 09.8 -0.2**
MAKZ PKPbc **PKPbc** **09 07 17.2 -0.5**
MAKZ PKPab **PKPab** **09 07 31.2 +0.6**
MAKZ Makanchi 153.61 44 PKIKP **PKPdf** **09 07 09.8 -0.2**
MAKZ 09 07 31.2
MK31 Makanchi Array 153.80 43 PKPdf **PKPdf** **09 07 10.1 -0.2**
MK31 PKPbc **PKiKP** **09 07 18.3 0.0**
MK31 PKPab **PKPab** **09 07 32.4 +1.0**
MK31 Makanchi Array 153.80 43 PKIKP **PKPdf** **09 07 10.1 -0.2**
MK31 09 07 32.4
MKAR Makanchi Array 153.80 43 PKPdf **PKPdf** **09 07 10.3 +0.1**
MKAR PKPbc **PKiKP** **09 07 18.6 +0.3**
MKAR PKPab **PKPab** **09 07 32.4 +1.0**
MKAR Makanchi Array 153.80 43 PKP **PKPdf** **09 07 10.1 -0.2**
comp=Z,1.3nm,0.8s,baz=323,slow=1.8,SNR=12
MKAR PKPbc **PKiKP** **09 07 18.0 -0.3**
comp=Z,3.6nm,0.7s,baz=312,slow=2.0,SNR=27
MKAR PKPab **PKPab** **09 07 31.9 +0.5**
comp=Z,5.4nm,0.8s,baz=298,slow=3.3,SNR=17
WUS Wushi 153.92 57 PKPdf **PKPdf** **09 07 10.0 -0.8**
WUS PKPbc **PKiKP** **09 07 19.3 +0.5**
WUS PKPab **PKPab** **09 07 32.0 -0.2**
KLR Kul'dur 154.09 324 *e* PKIKP **PKPdf** **09 07 09.8 -0.8**
KLR pmax pmax
comp=Z,4.0nm,1.0s
MJAR Matsushiro Arr 154.48 292 PKPbc **PKPbc** **09 07 19.1 -0.8**
comp=Z,1.7nm,0.6s,baz=122,slow=1.0,SNR=2.4
MJAR PKPab **PKPab** **09 07 36.2 +1.6**
comp=Z,4.2nm,0.7s,baz=107,slow=2.2,SNR=9.1
ULN Ulaanbaatar 162.33 3 PKPdf **PKPdf** **09 07 20.9 +0.1**
ULN PKPab **PKPab** **09 08 09.1 +0.8**
ULN Ulaanbaatar 162.33 3 PKIKP **PKPdf** **09 07 20.9 +0.1**
ULN 09 08 09.1
SHL Shillong 164.58 103 PKPdf **PKPdf** **09 07 21.4 -2.2**
SHL PKPab **PKPab** **09 08 18.8 -0.2**
SHL Shillong 164.58 103 PKIKP **PKPdf** **09 07 21.5 -2.2**
SHL 09 08 18.8
GTA Gaotai 168.37 36 *e* PKP **PKPdf** **09 07 27.3 +1.2**
GTA sPKP 09 07 45.8
GTA PKPab **PKPab** **09 08 35.5 +0.3**
HHC Hu-ho-hao-te 169.10 348 *e* P **PKPdf** **09 07 29.5 +3.0**
TIA Tai'an 170.63 312 PKP **PKPdf** **09 07 28.3 +0.9**
NJ2 Nanjing 170.95 284 *e* P **PKPdf** **09 07 28.0 +0.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.7s
PZH PanZhiHua 172.98 120 PKP **PKPdf** **09 07 29.3 +0.4**
CD2 Chengdu 175.83 79 PKP **PKPdf** **09 07 30.0 +0.4**

ISC 26 08:56:22.5±1.1, 49°23N±0°08×18°86E±0°05, h10km, n6,
σ0°39/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.41**	**101**	*e*PG	**Pg**	**08 56 30.1**	**-0.4**
LANS				*e*SG	**Sg**	**08 56 36.5**	**+0.6**
LANS				*e*LG	Lg	08 56 40.2	
JAVC	**Velka Javorina**	**0.87**	**245**	*e*PG	**Pn**	**08 56 40.4**	**-0.4**
MORC	**Moravsky Berou**	**1.02**	**303**	*e*PG	**Pn**	**08 56 43.0**	**+0.1**
MORC				*e*SG	**Sg**	**08 56 55.5**	**+0.2**
MODS	**Modra-Piesok**	**1.35**	**231**	*e*PG	**Pn**	**08 56 47.6**	**+0.1**
MODS				*e*SG	**Sg**	**08 57 06.4**	**+0.4**
VRAC	**Vranov**	**1.49**	**274**	*e*PG	**Pb**	**08 56 50.3**	**+0.1**
KRUC	**Moravsky**	**1.63**	**265**	*e*PG	**Pb**	**08 56 52.7**	**+0.1**

*NEIC **26** 08:57:49.6±0.9, 18°4S±0°2×178°28W±0°10, h500km±10km, mb4.0/24, Error ellipse: s-maj=32.9km s-min=5.6km az=157.0*
*IDC **26** 08:57:50.3±2.8, 18°08S×178°53W, h506km±22km, mb3.2/6, mbtmp4.0/7, Error ellipse: s-maj=85.5km s-min=19.5km az=146.0*

ISC 26 08:57:49.4±0.8, 18°3S±0°2×178°4W±0°2, h500km, n37,
σ0°98/37, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.47**	**279**	P	**P**	**08 59 03.9**	**+0.1**
MSVF	**Nonsavu**	**3.47**	**279**	P	**P**	**08 59 03.8**	**-0.1**
33nm,0.5s,baz=123,slow=6.1,SNR=51							
PINNC	**Pines Island,**	**13.99**	**250**	P	**P**	**09 00 49.2**	**+0.2**
ARMA	**Armidale**	**29.80**	**240**	P	**P**	**09 03 15.8**	**+0.6**
STKA	**Stephens Creek**	**38.50**	**242**	P	**P**	**09 04 28.3**	**0.0**
STKA	**Stephens Creek**	**38.50**	**242**	P	**P**	**09 04 28.2**	**0.0**
1.3nm,0.4s,baz=87,slow=11,SNR=6.9							
BBOO	**Buckleboo**	**43.28**	**241**	P	**P**	**09 05 06.3**	**-0.1**
1.3nm,0.4s							
WB0	**Warramunga Arr**	**44.59**	**260**	P	**P**	**09 05 16.6**	**-0.2**
WB0				IAmb	IAmb	09 05 44.9	
comp=Z,6.4nm,1.3s							
WB2	**Warramunga Arr**	**44.61**	**260**	P	**P**	**09 05 16.4**	**-0.5**
WB2				IAmb	IAmb	09 05 49.0	
comp=Z,5.0nm,1.2s							
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**09 05 16.4**	**-0.6**
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**09 05 16.1**	**-0.9**
comp=Z,1.1nm,0.5s,baz=98,slow=6.2,SNR=20							
comp=Z,1.1nm,0.5s							
AS31	**Alice Springs**	**44.74**	**255**	P	**P**	**09 05 18.0**	**0.0**
AS31				IAmb	IAmb	09 05 18.4	
comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**44.75**	**255**	P	**P**	**09 05 17.5**	**-0.5**
comp=Z,7.6nm,0.4s,baz=90,slow=8.5,SNR=236							
comp=Z,7.6nm,0.4s							
MTN	**Manton Dam**	**48.85**	**269**	P	**P**	**09 05 48.2**	**-0.8**
MTN				IAmb	IAmb	09 05 50.5	
comp=Z,6.3nm,0.9s							
FORT	**Forrest**	**49.90**	**245**	P	**P**	**09 05 57.9**	**+1.3**
KNRA	**Kununurra**	**50.51**	**265**	P	**P**	**09 06 01.1**	**-0.3**
KNRA				IAmb	IAmb	09 06 02.6	
comp=Z,4.7nm,0.7s							
QSPA	**South Pole Qui**	**71.77**	**180**	P	**P**	**09 08 20.5**	**0.0**
Q32M	**Nakina River**	**85.71**	**22**	P	**P**	**09 09 35.2**	**+0.3**
CCB	**Clear Creek Bu**	**85.94**	**13**	P	**P**	**09 09 35.7**	**+0.1**
CCB				IAmb	IAmb	09 10 00.1	
comp=Z,3.3nm,1.4s							
I23K	**Minto, Yukon-K**	**86.07**	**12**	P	**P**	**09 09 36.5**	**+0.3**
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**09 09 37.8**	**+0.2**
comp=Z,0.4nm,0.7s,baz=221,slow=5.5,SNR=4.8							
comp=Z,0.4nm,0.7s							
ILAR	**Eielson Array**	**86.24**	**13**	P	**P**	**09 09 37.8**	**+0.7**
ILAR	**Eielson Array**	**86.24**	**13**	P	**P**	**09 09 36.5**	**-0.5**
comp=Z,0.3nm,0.4s,baz=226,slow=4.7,SNR=12							
comp=Z,0.3nm,0.4s							
J25K	**Salcha River,**	**86.44**	**14**	P	**P**	**09 09 38.6**	**+0.5**
J26L	**Joseph Creek**	**86.75**	**14**	P	**P**	**09 09 40.4**	**+0.8**
J26L				IAmb	IAmb	09 09 50.3	
comp=Z,2.6nm,1.2s							
E19K	**Redstone River**	**86.91**	**8**	P	**P**	**09 09 41.3**	**+1.2**
M30M	**Minto, Yukon**	**86.97**	**18**	P	**P**	**09 09 41.4**	**+0.8**
M30M				IAmb	IAmb	09 09 49.0	
comp=Z,5.3nm,1.5s							
DAWY	**Dawson**	**87.43**	**16**	P	**P**	**09 09 43.9**	**+1.1**
DAWY				IAmb	IAmb	09 09 45.6	
comp=Z,3.2nm,1.3s							
K29M	**Barlow Dome**	**87.76**	**17**	P	**P**	**09 09 45.7**	**+1.3**
K29M				IAmb	IAmb	09 10 25.1	
comp=Z,3.9nm,1.4s							
COLD	**Coldfoot**	**87.77**	**11**	P	**P**	**09 09 45.3**	**+1.1**
G24K	**Hadweenzic Riv**	**87.81**	**12**	P	**P**	**09 09 45.1**	**+0.7**
G24K				IAmb	IAmb	09 10 14.3	
comp=Z,3.5nm,1.3s							
F24K	**Squaw Lake**	**88.45**	**11**	P	**P**	**09 09 48.7**	**+1.3**
D22K	**Ayikyak River**	**88.87**	**9**	P	**P**	**09 09 50.0**	**+0.6**
D22K				IAmb	IAmb	09 09 52.4	
comp=Z,4.4nm,1.4s							
BMAR	**Burnt Mountain**	**89.01**	**12**	P	**P**	**09 09 51.5**	**+1.5**
YKA	**Yellowknife Ar**	**94.65**	**25**	P	**P**	**09 10 16.0**	**0.0**
comp=Z,0.1nm,0.5s,baz=246,slow=6.7,SNR=2.6							
comp=Z,0.1nm,0.5s							
FIA1	**FINESS Array S**	**133.56**	**344**	PKPdf	**PKPdf**	**09 16 05.2**	**-3.0**
FINES	**FINESS Array B**	**133.57**	**344**	PKPdf	**PKPdf**	**09 16 05.6**	**-2.5**

*NEIC **26** 09:36:16.3±0.9, 60°02N±0°03×152°69W±0°05, h104km±4km, Error ellipse: s-maj=5.1km s-min=1.5km az=134.0*
*AEIC **26** 09:36:17.5±1.0, 60°01N±0°03×152°66W±0°04, h98km±4km, ML2.8, ML3.0/162(NEIC), Error ellipse: s-maj=4.7km s-min=2.4km az=215.0*

ISC 26 09:36:15.7±1.2, 60°00N±0°03×152°66W±0°03,
h108km±6km, n145, σ0°63/140, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.08**	**13**		**Pn**	**09 36 30.9**	**+0.2**
O20K					**Sn**	**09 36 42.0**	**+0.1**
ILS	**Iliamna Low So**	**0.21**	**257**		**Pn**	**09 36 30.8**	**-0.2**
ILS					**Sn**	**09 36 41.9**	**-0.5**
ILSW	**Iliamna Southw**	**0.24**	**265**		**Pn**	**09 36 30.6**	**-0.5**
ILSW					**Sn**	**09 36 42.6**	**0.0**
ILSW				IAML		09 36 43.0	
comp=E,169nm,0.7s							
RED	**Redoubt Volcan**	**0.42**	**352**		**Pn**	**09 36 31.8**	**-0.1**
RED					**Sn**	**09 36 43.3**	**-0.8**
OPT	**Oil Point**	**0.46**	**220**		**Pn**	**09 36 32.3**	**+0.3**
P19K	**Oil Pt**	**0.46**	**220**		**Pn**	**09 36 32.3**	**+0.3**
P19K					**Sn**	**09 36 44.1**	**-0.2**
P19K				IAML		09 36 44.6	
comp=N,516nm,0.6s							
P19K				IAML		09 36 44.9	
comp=E,668nm,0.5s							
RDWB	**Redoubt West**	**0.49**	**350**		**Pn**	**09 36 32.2**	**-0.2**
NCT	**North Crescent**	**0.58**	**347**		**Pn**	**09 36 32.8**	**-0.1**
NCT					**Sn**	**09 36 45.1**	**-0.8**
RDT	**Redoubt**	**0.59**	**12**		**Pn**	**09 36 32.8**	**-0.2**
RDJH	**Redoubt Jeurge**	**0.59**	**353**		**Pn**	**09 36 33.0**	**-0.1**
RDJH					**Sn**	**09 36 45.5**	**-0.7**
HOM	**Homer**	**0.62**	**124**		**Pn**	**09 36 33.8**	**+0.7**
HOM				IAML		09 36 48.8	
comp=N,816nm,0.5s							
AU22	**Augustine Moun**	**0.73**	**209**		**Pn**	**09 36 34.5**	**+0.5**
AUL	**Augustine Lava**	**0.74**	**213**		**Pn**	**09 36 34.7**	**+0.6**
AUL					**Sn**	**09 36 48.4**	**+0.4**
AUCH	**Augustine Cone**	**0.76**	**212**		**Pn**	**09 36 34.4**	**0.0**
O19K	**Port Alsworth**	**0.85**	**284**	Pn	**Pn**	**09 36 35.1**	**0.0**
CNPM	**China Poot**	**0.86**	**123**		**Pn**	**09 36 36.0**	**+0.6**
BRLK	**Bradley Lake**	**0.93**	**104**		**Pn**	**09 36 36.3**	**+0.4**
BRLK					**Sn**	**09 36 51.5**	**+0.3**
BRSE	**Bradley Lake S**	**1.00**	**104**		**Pn**	**09 36 37.5**	**+0.8**
CAPN	**Captain Cook N**	**1.07**	**44**		**Pn**	**09 36 39.5**	**+2.1**
Q19K	**Cape Douglas,**	**1.19**	**205**		**Pn**	**09 36 38.9**	**+0.1**
Q19K				IAML		09 37 02.6	
comp=E,221nm,1.1s							
Q19K				IAML		09 37 07.8	
comp=N,186nm,0.7s							
CKL	**Chakachamna La**	**1.21**	**7**		**Pn**	**09 36 39.4**	**+0.3**
N19K	**Bonanza Creek**	**1.22**	**313**		**Pn**	**09 36 39.1**	**0.0**
N19K					**Sn**	**09 36 56.0**	**-0.8**
N19K				IAML		09 36 56.5	
comp=E,137nm,0.8s							
N19K				IAML		09 36 56.6	
comp=N,71nm,0.7s							
SPU	**Mount Spurr**	**1.22**	**14**		**Pn**	**09 36 39.3**	**+0.2**
SPU				IAML		09 36 58.4	
comp=E,91nm,0.3s							
SPCN	**Chakachatna No**	**1.25**	**11**		**Pn**	**09 36 40.0**	**+0.5**
SPBG	**Spurr Blockage**	**1.27**	**6**		**Pn**	**09 36 40.2**	**+0.5**
O18K	**Koktuh Hills**	**1.29**	**264**	Pn	**Pn**	**09 36 40.0**	**+0.1**
O18K					**Sn**	**09 36 57.5**	**-0.7**
O18K				IAML		09 36 58.1	
comp=E,112nm,0.5s							
O18K				IAML		09 36 58.2	
comp=N,97nm,0.6s							
SLKM	**Skilak Lake**	**1.32**	**66**	Pn	**Pn**	**09 36 40.4**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.33**	**13**		**Pn**	**09 36 41.0**	**+0.5**
SPNN	**North Nagishla**	**1.37**	**359**		**Pn**	**09 36 41.3**	**+0.4**
SYI	**Shuyak Island**	**1.41**	**174**	Pn	**Pn**	**09 36 41.8**	**+0.6**
SYI					**Sn**	**09 37 00.3**	**-0.2**
SYI				IAML		09 37 02.3	
comp=N,345nm,0.4s							
SYI				IAML		09 37 02.4	
comp=E,313nm,0.3s							
P18K	**Big Mountain,**	**1.44**	**246**		**Pn**	**09 36 41.6**	**-0.1**
O22K	**Cooper Landing**	**1.54**	**71**		**Pn**	**09 36 43.4**	**+0.6**
STLK	**Strandline Lak**	**1.55**	**15**		**Pn**	**09 36 43.5**	**+0.5**
SEW	**Seward**	**1.61**	**85**	Pn	**Pn**	**09 36 44.0**	**+0.4**
FIS	**Fire Island**	**1.66**	**45**		**Pn**	**09 36 45.7**	**+1.5**
FIS				IAML		09 37 13.4	
comp=N,223nm,0.5s							
FIS				IAML		09 37 24.4	
comp=E,241nm,0.9s							
N18K	**Kilae Creek**	**1.74**	**294**		**Pn**	**09 36 45.4**	**+0.1**
N18K					**Sn**	**09 37 07.0**	**-0.9**
N18K				IAML		09 37 07.6	
comp=E,47nm,0.8s							
KAHG	**Katmai Hook Gl**	**1.80**	**213**		**Pn**	**09 36 46.8**	**+0.7**
RC01	**Rabbit Creek A**	**1.81**	**52**	Pn	**Pn**	**09 36 46.7**	**+0.6**
M20K	**Styx River**	**1.90**	**353**		**Pn**	**09 36 48.0**	**+0.7**
SKT	**Skwentna**	**2.06**	**15**	Pn	**Pn**	**09 36 49.8**	**+0.5**
SKT				IAML		09 37 18.6	
comp=N,36nm,0.4s							
SKT				IAML		09 37 47.7	
comp=E,34nm,0.4s							
M19K	**Big River Lodg**	**2.08**	**337**		**Pn**	**09 36 50.0**	**+0.4**
M19K	**Big River Lodg**	**2.08**	**337**	IAML		09 37 17.3	
comp=E,32nm,1.1s							
P17K	**Kvichak River**	**2.09**	**249**		**Pn**	**09 36 50.3**	**+0.7**
P17K					**Sn**	**09 37 15.9**	**+0.4**
KVTA	**Katmai Vly 10**	**2.12**	**221**		**Pn**	**09 36 50.9**	**+0.8**
M22K	**Willow**	**2.15**	**34**		**Pn**	**09 36 51.4**	**+1.0**
M22K					**Sn**	**09 37 18.3**	**+1.3**
M18K	**Stony River**	**2.15**	**315**		**Pn**	**09 36 50.4**	**0.0**
KCE	**Katmai Mt Cerb**	**2.19**	**217**		**Pn**	**09 36 52.5**	**+1.5**
KDAK	**Kodiak Island**	**2.23**	**179**	Pn	**Pn**	**09 36 51.1**	**-0.4**
KDAK					**Sn**	**09 37 17.5**	**-1.3**
KDAK				IAML		09 37 19.5	
comp=E,118nm,0.4s							
KDAK				IAML		09 37 19.5	
comp=E,102nm,0.5s							
O17K	**Koliganek Bris**	**2.25**	**266**		**Pn**	**09 36 52.0**	**+0.3**
ACHA	**Angle Creek He**	**2.26**	**219**		**Pn**	**09 36 52.8**	**+0.8**
PWL	**Port Wells**	**2.31**	**66**		**Pn**	**09 36 52.2**	**-0.4**
N17K	**Nushagak Hills**	**2.32**	**285**		**Pn**	**09 36 52.7**	**+0.1**
ANCK	**Angle Creek**	**2.33**	**220**		**Pn**	**09 36 53.6**	**+0.8**
PMR	**Palmer**	**2.35**	**46**		**Pn**	**09 36 52.9**	**-0.1**
PMR				IAML		09 37 22.7	
comp=N,94nm,0.2s							
PMR				IAML		09 37 23.0	
comp=E,68nm,0.2s							
PMR	**Palmer**	**2.35**	**46**	P	**Pn**	**09 36 52.6**	**-0.4**
PMR	**Palmer**	**2.35**	**46**	S	**Sn**	**09 37 20.9**	**-0.7**
L19K	**White Mountain**	**2.43**	**335**		**Pn**	**09 36 54.5**	**+0.4**
L19K					**Sn**	**09 37 23.4**	**-0.2**
L19K				IAML		09 37 24.0	
comp=E,38nm,0.8s							
L19K				IAML		09 37 24.2	
comp=N,24nm,1.1s							
Q16K	**King Salmon**	**2.44**	**239**		**Pn**	**09 36 55.1**	**+0.9**
KNK	**Knik Glacier**	**2.50**	**54**		**Pn**	**09 36 54.8**	**-0.2**
GHO	**Glory Hole Cre**	**2.55**	**44**		**Pn**	**09 36 55.6**	**0.0**
GHO					**Sn**	**09 37 25.0**	**-1.3**
GHO				IAML		09 37 27.9	
comp=N,108nm,0.4s							
GHO				IAML		09 37 28.3	
comp=E,131nm,0.6s							
L20K	**Farewell, AK**	**2.55**	**347**		**Pn**	**09 36 56.5**	**+0.8**
R18K	**Karluk**	**2.62**	**202**		**Pn**	**09 36 56.4**	**-0.1**
R18K				IAML

HIN	Hinchinbrook I	3.10	80	IAML		09 37 40.9	
	comp=E,57nm,0.6s						
HIN				IAML		09 37 42.8	
	comp=N,51nm,1.0s						
FID	Port Fidalgo	3.16	74	Pn	Pn	09 37 03.8	+0.1
FID				IAML		09 37 40.7	
	comp=E,84nm,0.2s						
FID				IAML		09 37 41.6	
	comp=N,83nm,0.3s						
SCM	Sheep Creek Mo	3.19	53		Pn	09 37 04.4	+0.3
SCM				IAML		09 37 44.8	
	comp=E,69nm,0.6s						
SCM				IAML		09 37 45.7	
	comp=N,77nm,0.7s						
Q23K	Middleton Isla	3.25	97		Pn	09 37 05.6	+0.7
M16K	Timber Creek	3.28	291		Pn	09 37 06.0	+0.7
TTA	Tatalina	3.35	333	Pn	Pn	09 37 06.6	+0.3
TTA	Tatalina	3.35	333	P	Pn	09 37 06.6	+0.3
K20K	Telida	3.43	349		Pn	09 37 08.0	+0.7
CAST	Castle Rocks	3.44	4	Pn	Pn	09 37 08.0	+0.6
L17K	Donlin	3.47	310		Pn	09 37 07.9	0.0
EYAK	Cordova Ski Ar	3.48	78		Pn	09 37 07.7	-0.2
EYAK	Cordova Ski Ar	3.48	78	P	Pn	09 37 08.6	+0.6
SII	Sitkinak Islan	3.55	194		Pn	09 37 08.1	-0.8
SII	Sitkinak Islan	3.55	194	IAML		09 37 56.3	
	comp=N,59nm,1.2s						
SII				IAML		09 38 27.9	
	comp=E,59nm,1.2s						
SII	Sitkinak Islan	3.55	194	P	Pn	09 37 07.8	-1.1
DIV	Divide	3.58	69		Pn	09 37 08.9	-0.4
TRF	Thorofare Moun	3.64	17		Pn	09 37 10.4	+0.2
TRF	Thorofare Moun	3.64	17	IAML		09 37 53.4	
	comp=N,16nm,1.0s						
TRF				IAML		09 37 56.6	
	comp=E,13nm,0.7s						
KTH	Kantishna Hill	3.66	12	IAML		09 37 56.7	
	comp=E,10nm,0.8s						
KTH				IAML		09 38 04.2	
	comp=N,9.7nm,1.0s						
L16K	Owhat River	3.75	300		Pn	09 37 11.7	+0.2
K17K	Iditarod	3.84	317	IAML		09 38 13.9	
	comp=E,13nm,1.0s						
RND	Reindeer	3.87	26	IAML		09 38 01.5	
	comp=N,11nm,0.8s						
RND				IAML		09 38 04.4	
	comp=E,11nm,0.6s						
CHUM	Lake Minchumin	3.90	2		Pn	09 37 13.9	+0.5
J18K	Innoko River	3.97	333		Pn	09 37 14.5	0.0
GOAT	Goat Mountain	3.99	78		Pn	09 37 14.6	-0.2
RAGM	Ragged Mountai	4.00	81		Pn	09 37 15.1	0.0
RAGM	Ragged Mountai	4.00	81	IAML		09 38 03.6	
	comp=E,39nm,0.4s						
KAIM	Kayak Island	4.14	88		Pn	09 37 17.3	+0.5
KAIM	Kayak Island	4.14	88	IAML		09 38 06.9	
	comp=E,37nm,1.2s						
KAIM				IAML		09 38 10.3	
	comp=N,38nm,1.1s						
BPAW	Bear Paw Mtn.	4.19	10		Pn	09 37 16.8	-0.7
J20K	Nowinta River	4.25	351		Pn	09 37 18.6	+0.4
J20K	Nowinta River	4.25	351	IAML		09 38 24.3	
	comp=N,5.0nm,0.9s						
N25K	Chitina, Valde	4.26	64	IAML		09 38 06.2	
	comp=N,25nm,0.4s						
N25K				IAML		09 38 09.7	
	comp=E,24nm,0.3s						
HARP	HAARP	4.35	53		Pn	09 37 19.9	+0.2
NICHA	Nichawak Mount	4.36	83		Pn	09 37 19.9	+0.2
SUCK	Suckling Hills	4.46	85		Pn	09 37 21.7	+0.6
SUCK	Suckling Hills	4.46	85	IAML		09 38 14.4	
	comp=N,16nm,1.2s						
SUCK				IAML		09 40 13.0	
	comp=E,9.1nm,1.2s						
BERG	Berg Lake	4.49	81		Pn	09 37 21.9	+0.4
WACK	Wrangell Chich	4.52	60		Pn	09 37 21.8	-0.3
PAX	Paxson	4.55	46		Pn	09 37 22.5	+0.1
J17K	VABM Dome	4.57	321		Pn	09 37 22.3	-0.3
J17K	VABM Dome	4.57	321	IAML		09 38 48.6	
	comp=N,4.3nm,0.9s						
GLB	Gilahina Butte	4.58	68		Pn	09 37 22.4	-0.4
GLB	Gilahina Butte	4.58	68	IAML		09 38 15.8	
	comp=E,17nm,0.6s						
GLB				IAML		09 38 17.1	
	comp=N,18nm,0.6s						
VRDI	Verde Repeater	4.70	71		Pn	09 37 24.1	-0.4
VRDI	Verde Repeater	4.70	71	IAML		09 38 19.1	
	comp=N,12nm,1.1s						
VRDI				IAML		09 38 19.2	
	comp=E,7.1nm,0.6s						
K15K	Wolf Creek Mou	4.87	302		Pn	09 37 27.1	+0.4
NEA2	Nenana	4.90	18	IAML		09 39 04.7	
	comp=E,3.3nm,1.1s						
SNH	Sunshine Point	4.92	84		Pn	09 37 28.6	+1.3
SNH	Sunshine Point	4.92	84	IAML		09 38 22.4	
	comp=E,12nm,1.0s						
SNH				IAML		09 38 42.2	
	comp=N,12nm,1.1s						
HDA	Harding Lake	5.17	29	IAML		09 38 28.6	
	comp=N,18nm,0.6s						
CCB	Clear Creek Bu	5.18	24	IAML		09 38 28.2	
	comp=N,2.7nm,1.0s						
KIAG	Kiagna River	5.18	75		Pn	09 37 31.5	+0.5
MENT	Mentasta	5.20	52	P	Pn	09 37 31.6	+0.5
BALM	Baldy	5.20	74		Pn	09 37 31.5	+0.3
I21K	Tanana	5.21	3	IAML		09 40 45.6	
	comp=N,2.6nm,1.1s						
M26K	Nabesna, AK	5.25	59	IAML		09 38 31.8	
	comp=N,12nm,0.8s						
M26K				IAML		09 38 32.2	
	comp=E,8.0nm,0.5s						
RIDG	Independent Ri	5.26	41		Pn	09 37 32.2	+0.3
RIDG	Independent Ri	5.26	41	IAML		09 38 33.2	
	comp=E,18nm,0.6s						
RIDG				IAML		09 38 39.6	
	comp=N,11nm,0.9s						
MESA	MESA	5.36	83		Pn	09 37 34.1	+0.6
MESA	MESA	5.36	83	IAML		09 38 36.8	
	comp=E,16nm,0.4s						
COLA	College	5.37	22	IAML		09 38 39.5	
	comp=E,15nm,0.5s						
COLA				IAML		09 38 41.1	
	comp=E,13nm,0.5s						
COLA	College	5.37	22	P	Pn	09 37 33.8	+0.5
I23K	Minto, Yukon-K	5.38	15	IAML		09 39 12.6	
	comp=E,2.4nm,1.1s						
DOT	Dot Lake	5.47	44		Pn	09 37 35.0	+0.2
RKAV	Rock Avalanche	5.66	82		Pn	09 37 37.8	+0.3
POKR	Poker Plat Res	5.67	23		Pn	09 37 36.9	-0.5
H22K	Ishtalitna Cre	5.94	5		Pn	09 37 41.4	+0.3
H24K	Noodor Dome	6.25	18		Pn	09 37 45.2	0.0
G23K	Bananza Creek	6.84	9		Pn	09 37 53.6	+0.3
SKAG	Skagway	8.77	86	P	Pn	09 38 20.3	+0.9
SIT	Sitka	9.53	100	P	Pn	09 38 30.1	+0.4

*SSNC **26** 09:39:16.8±2.5, 19°.59N×70°.21W, h0km±166km, MD3.9, MW2.5*
*SDD **26** 09:39:19.4±2.2, 19°.94N×70°.29W, h23km±23km, MD3.4, ML3.0, MW3.4*
*OSPL **26** 09:39:21.3±3.3, 19°.83N×70°.26W, h0km±18km, ML2.5, Hypocentre not reviewed by the ISC*

ISC 26 09:39:19.1±1.2, 19°.88N±0°.04×70°.30W±0°.04, h24km±10km, n16, σ1°.14/29, 16C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	Sosua Marina B	0.29	245	⇑ePg	Pb	09 39 24.7	-1.2
SODR				⇑eSg	Sb	09 39 30.9	+0.4
SODR				IAML		09 39 43.2	
	comp=N,2μm,0.5s						
SFDR	San Fco. de Ma	0.59	175	⇑ePg	Pb	09 39 30.8	0.0
SFDR				⇑eSg	Sb	09 39 40.2	+1.5
SFDR				IAML		09 39 41.5	
	comp=N,2μm,0.2s						
SC01	Santiago de lo	0.60	222	⇑ePg	Pn	09 39 31.3	-1.0
SC01				⇑eSg	Sb	09 39 41.2	+2.1
SC01				IAML		09 39 44.4	
	comp=N,816nm,0.5s						
SC01	Santiago de lo	0.60	222	*i* P		09 39 31.2	
SC01				*e*S		09 39 40.6	
SC01				IAML		09 39 51.2	
	comp=Z,505nm,0.4s						
NADR	Nagua	0.66	141	⇑ePg	Pn	09 39 32.1	-0.9
NADR				⇑eSg	Sn	09 39 43.3	+0.6
NADR				IAML		09 39 50.8	
	comp=N,786nm,0.4s						
LOPP1	Punta Rusia, P	0.85	269	*i* P		09 39 17.2	
LOPP1				*e*S		09 39 30.0	
ABDR	Alto Bandera	1.10	197	⇑ePg	Pn	09 39 38.9	-0.6
ABDR				⇑eSg	Sn	09 39 54.5	+0.4
ABDR				IAML		09 39 56.2	
	comp=N,657nm,0.7s						
SMDR	Samana, DR	1.20	119	⇑ePg	Pb	09 39 41.2	+0.1
SMDR				IAML		09 40 03.5	
	comp=N,273nm,0.3s						
MCDR	Montecristi	1.28	271	⇑ePg	Pb	09 39 43.4	+0.8
MCDR				IAML		09 40 08.3	
	comp=N,333nm,0.3s						
SDDR	Presa de Saban	1.29	227	*i* P		09 39 42.4	
SDDR				*e*S		09 39 59.8	
SDDR				IAML		09 40 04.4	
	comp=Z,95nm,0.5s						
HATOM	Hato Mayor del	1.38	141	⇑ePg	Pb	09 39 43.7	-0.7
HATOM				⇑eSg	Sb	09 40 02.6	+1.0
HATOM				IAML		09 40 05.8	
	comp=N,107nm,0.4s						
SDD	Santo Domingo	1.46	166	*i* P		09 39 44.9	
SDD				*e*S		09 40 04.4	
MIDR	Miches	1.47	127	⇑ePg	Pb	09 39 45.0	-0.8
MIDR				⇑eSg	Sb	09 40 05.2	+1.1
MIDR				IAML		09 40 06.7	
	comp=N,82nm,0.2s						
LONE3	El Aguacate, B	1.67	221	*i* P		09 39 49.0	
LONE3				*e*S		09 40 12.3	
GRTK	Grand Turk	1.81	334	*e*P	Pb	09 39 51.1	-0.5
GRTK				*e*S	Sb	09 40 15.9	+2.2
GRTK	Grand Turk	1.81	334	*i* P		09 39 51.3	
GRTK				*e*S		09 40 16.4	
GRTK				IAML		09 40 23.8	
	comp=Z,27nm,0.4s						
LOVI	El Cajuil, Ovi	2.30	206	*i* P		09 40 00.3	
LOBH	Bahia de las A	2.37	213	*i* P		09 40 00.9	
MASC	Masc	3.71	275	*e*P	Pn	09 40 15.0	0.0
MASC				*e*S	Sn	09 40 58.9	+0.9
QMBU	Quimbuelo	4.26	275	*e*P	Pn	09 40 22.4	-0.1
QMBU				*e*S	Sn	09 41 10.9	-0.7
GTBY	Guantanamo Bay	4.53	271	*e*P	Pn	09 40 26.6	+0.3
GTBY				*e*S	Sn	09 41 18.6	+0.3
RCC	Rio Carpintero	5.08	272	*e*P	Pn	09 40 33.6	-0.2
RCC				*e*S	Sn	09 41 30.5	-1.3
RCC				IAML		09 41 36.5	
	comp=N,2.9nm,0.3s						
RCC				IAML		09 41 37.3	
	comp=E,2.5nm,0.1s						
PINC	Pinares de May	5.20	278	*e*P	Pn	09 40 34.4	-1.1
PINC				*e*S	Sn	09 41 31.8	-2.9
PINC				IAML		09 41 38.9	
	comp=E,3.5nm,0.1s						
PINC				IAML		09 41 39.1	
	comp=N,5.1nm,0.1s						
MARVS	Santiago de Cu	5.27	272	*e*P	Pn	09 40 36.2	-0.3

*IDC **26** 09:44:21.4±1.1, 11°.61N×125°.66E, h0km, mb4.0/10, mbtmp4.0/10, MS3.4/4, Error ellipse: s-maj=60.9km s-min=19.8km az=67.0*

ISC 26 09:44:28.4±1.1, 11°.6N±0°.2×125°.6E±0°.4, h53km, n17, σ0°.50/10, mb4.1/10, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	4.47	180	LR	LR	09 47 57.7	
	comp=Z,398nm,18.2s,baz=18,slow=48						
TGY	Tagaytay City	5.20	299	LR	LR	09 47 50.4	
	comp=Z,212nm,19.5s,baz=296,slow=40						
CMAR	Chiang Mai Arr	26.62	288	P	P	09 50 02.1	-0.1
	1.2nm,0.3s,baz=104,slow=7.6,SNR=4.6						
	1.2nm,0.3s						
WRA	Warramunga Arr	32.47	165	P	P	09 50 53.7	-0.3
	0.7nm,1.1s,baz=344,slow=8.3,SNR=1.8						
	0.7nm,1.1s						
ASAJ	Asahikawa	35.59	21	LR	LR	10 05 11.1	
	comp=Z,54nm,18.6s,baz=194,slow=35						
ASAR	Alice Springs	35.95	167	P	P	09 51 24.5	+0.4
	0.2nm,0.3s,baz=345,slow=8.0,SNR=4.9						
	0.2nm,0.3s						
SONM	Songino Array	39.58	340	P	P	09 51 54.4	-0.3
	0.3nm,0.5s,baz=145,slow=13,SNR=2.9						
	0.3nm,0.5s						
H11N1	WAKE ISLAND Hy	40.49	73	T	T	10 35 20.4	
	baz=265,slow=75,SNR=18						
H11N2	WAKE ISLAND Hy	40.50	73	T	T	10 35 27.6	
	baz=265,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	40.51	73	T	T	10 35 26.7	
	baz=265,slow=75,SNR=20						
MKAR	Makanchi Array	50.60	322	P	P	09 53 22.7	+0.6
	4.5nm,0.8s,baz=122,slow=8.1,SNR=42						
	4.5nm,0.8s						
KURBB	Kurchatov Arra	54.64	325	P	P	09 53 52.0	+0.3
	5.6nm,0.8s,baz=125,slow=7.1,SNR=38						
	5.6nm,0.8s						
MSVF	Nonsavu	59.41	119	LR	LR	10 17 00.7	
	comp=Z,43nm,21.0s,baz=163,slow=33						
BVAR	Borovoye Array	60.23	325	P	P	09 54 31.6	+0.5
	2.3nm,0.8s,baz=123,slow=11,SNR=8.8						
	2.3nm,0.8s						
NRIK	Noril'sk	62.60	346	P	P	09 54 47.0	+0.2
	1.7nm,0.8s,baz=151,slow=4.7,SNR=3.9						
	1.7nm,0.8s						
FINES	FINESS Array B	84.44	332	P	P	09 56 55.2	0.0
	3.0nm,0.9s,baz=96,slow=1.9,SNR=5.4						
	3.0nm,0.9s						
AKASG	Malin Array Be	85.15	321	P	P	09 56 58.1	-0.8
	0.2nm,0.3s,baz=69,slow=4.9,SNR=4.2						
	0.2nm,0.3s						

*IDC **26** 09:48:10.1±3.6, 5°.47S×131°.06E, h64km±36km, mb3.7/9, mbtmp4.1/13, ML4.1/3, MS3.0/1, Error ellipse: s-maj=29.2km s-min=17.7km az=79.0*
*DJA **26** 09:48:12.6±0.3, 5°.5±2°.×13°.1E±°, h78km±10km, M4.7/16, mB5.2/3, mb4.8/6, MLv4.7/16, Mw(mB)4.6/3*
*NEIC **26** 09:48:12.5±2.1, 5°.37S±0°.07×131°.2E±0°.2, h78km±9km, mb4.4/15, Error ellipse: s-maj=25.5km s-min=8.4km az=101.0*

ISC 26 09:48:10.9±0.8, 5°.35S±0°.04×131°.14E±0°.05, h70km±9km, n76, σ1°.98/82, mb4.1/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.48	304	P	Pn	09 48 36.3	+0.7
BNDI	Bandanaira	1.48	304	P	Pn	09 48 36.6	+1.0
BNDI				S	Sn	09 48 55.2	+1.0
SAUI	Saumlaki	2.62	177		Pn	09 48 52.1	+1.1
SAUI				Sn	Sn	09 49 24.3	+2.5
SAUI	Saumlaki	2.62	177	P	Pn	09 48 51.9	+0.9
SAUI	Saumlaki	2.62	177	P	Pn	09 48 52.2	+1.2
SAUI				S	Sn	09 49 25.3	+3.5
FAKI	Fak Fak	2.65	25		Pn	09 48 52.0	+0.6
FAKI				Sn	Sn	09 49 22.4	-0.1
FAKI	Fak Fak	2.65	25	P	Pn	09 48 52.3	+0.8
FAKI	Fak Fak	2.65	25	P	Pn	09 48 52.2	+0.8
FAKI				S	Sn	09 49 22.4	-0.1
MSAI	Masohi	2.97	312	P	Pn	09 48 56.1	+0.4
MSAI				S	Sn	09 49 29.7	-0.5
KMPI	Kaimana, Papua	3.06	57	P	Pn	09 48 58.8	+1.9
KMPI				S	Sn	09 49 33.6	+1.3
AAI	Ambon	3.37	299	P	Pn	09 49 01.4	+0.3
AAI				S	Sn	09 49 39.4	-0.6
SWI	Sorong	4.46	2	P	Pn	09 49 15.7	-0.3
NLAI	Namlea	4.54	297	P	Pn	09 49 18.2	+1.0
NLAI				S	Sn	09 50 08.4	-0.3
LBMI	Labuha	5.92	322	P	Pn	09 49 36.1	0.0
	0.6nm4μm151nm,0.8s						
LBMI				S	Sn	09 50 42.0	-0.6
	0.6nm4μm151nm,0.8s						
SANI	Sanana	6.09	302	P	Pn	09 49 40.0	+1.6
SANI	Sanana	6.09	302	P	Pn	09 49 39.7	+1.3
	0.2nm799nm46nm,1.0s						
BAKI	Biak	6.45	50	P	Pn	09 49 46.3	+3.0
DRS	Darwin Rock St	7.04	182	P	Pn	09 49 50.3	-1.1
KDU	Kakadu	7.41	170	P	Pn	09 49 54.4	-2.0
MTN	Manton Dam	7.45	180	Pn	Pn	09 49 55.5	-1.5
MTN				Sn	Sn	09 51 14.5	-5.6
MTN	Manton Dam	7.45	180	P	Pn	09 49 55.3	-1.7
SOEI	Soe	8.10	237		Pn	09 50 06.9	+0.9
SOEI				Sn	Sn	09 51 41.4	+5.3
SOEI	Soe	8.10	237	P	Pn	09 50 07.4	+1.4
SOEI	Soe	8.10	237	P	Pn	09 50 09.0	+3.0
JAY	Jayapura	9.95	74	P	Pn	09 50 33.1	+1.9
	1.4nm,0.3s,baz=216,slow=10,SNR=5.2						
	5.3nm,0.4s						
KNRA	Kununurra	10.53	193	Pn	Pn	09 50 36.2	-2.8
KAPI	Kappang	11.35	271	Pn	Pn	09 50 55.5	+5.3
KAPI	Kappang	11.35	271	P	Pn	09 50 55.4	+5.2
	23nm,0.6s,baz=115,slow=6.8,SNR=20						
KAPI	Kappang	11.35	271	P	Pn	09 50 53.9	+3.7
FITZ	Fitzroy Crossi	13.77	203	Pn	Pn	09 51 19.3	-3.6
FITZ	Fitzroy Crossi	13.77	203	P	Pn	09 51 19.1	-3.8
	0.6nm,0.3s,baz=28,slow=11,SNR=12						
FITZ				S	Sn	09 53 40.2	-14
	9.7nm,0.6s,baz=141,slow=15,SNR=7.3						
	1.4nm,0.4s						
COEN	Coen	14.62	127	Pn	Pn	09 51 32.3	-1.9
WB0	Warramunga Arr	14.68	168	Pn	Pn	09 51 29.2	-5.7
WRAB	Tennant Creek	14.83	168		Pn	09 51 32.5	-4.4
WRA	Warramunga Arr	14.84	168	Pn	Pn	09 51 30.5	-6.5
WRA	Warramunga Arr	14.84	168	P	Pn	09 51 31.3	-5.7
	3.6nm,0.4s,baz=349,slow=14,SNR=38						
WRA				S	Sn	09 54 06.4	-14
	8.1nm,0.7s,baz=338,slow=22,SNR=6.8						
WRA				LR	LR	09 58 04.1	
	comp=Z,59nm,18.5s,baz=6.5,slow=40						
WB2	Warramunga Arr	14.84	168	Pn	Pn	09 51 31.6	-5.4
WR0	Warramunga Arr	14.90	167		Pn	09 51 33.6	-4.1
PMG	Port Moresby	16.39	105	P	Pn	09 51 56.7	+0.1
	21nm,0.9s,baz=239,slow=7.2,SNR=4.7						
QIS	Mount Isa	17.21	152	P	Pn	09 52 05.3	-1.5
AS31	Alice Springs	18.41	172		P	09 52 16.9	-3.7
ASAR	Alice Springs	18.41	172	P	P	09 52 18.4	-2.1
	1.4nm,0.3s,baz=351,slow=9.4,SNR=33						
ASAR				S	Sn	09 55 34.9	-12
	3.3nm,0.7s,baz=354,slow=26,SNR=6.6						
	4.6nm,0.5s						
AS01	Alice Springs	18.41	172	P	Pn	09 52 22.2	+0.7
MBWA	Marble Bar	19.23	214	P	P	09 52 28.6	-0.9
MBWA				IAmb	IAmb	09 52 28.9	
	comp=Z,8.5nm,0.7s						
PSA00	Pilbara Seismi	19.49	213	P	P	09 52 31.9	-0.6
PSA00				IAmb	IAmb	09 52 32.2	
	comp=Z,21nm,0.6s						
OOD	Oodnadatta	22.74	170	P	P	09 53 11.3	+4.0
INKA	Innaminka	24.07	159	P	P	09 53 24.0	+4.2
QLP	Quilpie	24.54	151	P	P	09 53 27.3	+3.2
STKA	Stephens Creek	28.15	161	P	P	09 53 55.9	-0.8
	comp=Z,1.1nm,0.4s,baz=348,slow=10,SNR=2.1						
	comp=Z,1.1nm,0.4s						
JMN	Monobe	38.95	4	P	P	09 55 31.7	+1.5
CMAR	Chiang Mai Arr	39.59	307	P	P	09 55 35.6	-0.1
	comp=Z,0.4nm,0.3s,baz=146,slow=8.0,SNR=4.7						
	comp=Z,0.4nm,0.3s						
JGF	Kuroka	41.15	8	P	P	09 55 49.8	+1.4
MJAR	Matsushiro Arr	42.19	8	P	P	09 55 56.8	-0.1
	comp=Z,3.9nm,0.8s,baz=185,slow=9.0,SNR=9.2						
	comp=Z,3.9nm,0.8s						
MAJO	Matsushiro	42.19	8	P	P	09 55 56.8	-0.1
MAJO				IAmb	IAmb	09 55 57.5	
	comp=Z,8.4nm,0.7s						
MJB9	Matsu-Tunnel	42.19	8	P	P	09 55 57.6	+0.7
MJB9				IAmb	IAmb	09 55 58.9	
	comp=Z,8.1nm,0.7s						
JMM	Marumori	43.92	11	P	P	09 56 11.1	+0.4
SONM	Songino Array	57.26	340	P	P	09 57 52.3	+1.0
	comp=Z,462nm,0.4s,baz=155,slow=7.2,SNR=4.0						
MK31	Makanchi Array	67.48	326	P	P	09 59 00.4	+0.9
MKAR	Makanchi Array	67.48	326	P	P	09 59 00.3	+0.8
MKAR	Makanchi Array	67.48	326	P	P	09 58 59.9	+0.5
	comp=Z,1.2nm,0.4s,baz=112,slow=7.8,SNR=22						
	comp=Z,1.2nm,0.4s						
MAKZ	Makanchi	67.67	326	P	P	09 59 01.5	+0.9
MAKZ				IAmb	IAmb	09 59 02.1	
	comp=Z,4.5nm,1.2s						
AAK	Ala-Archa	70.03	319	P	P	09 59 14.0	-1.5
ARSB	Arslanbob	70.44	317	P	P	09 59 19.3	+1.2
ARSB				IAmb	IAmb	09 59 44.4	
	comp=Z,2.7nm,0.8s						
ZAA0	Zalesovo Array	70.62	333	P	P	09 59 19.1	+0.4
ZAA0				IAmb	IAmb	09 59 19.4	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	70.62	333	P	P	09 59 18.6	-0.1
	comp=Z,1.1nm,0.6s,baz=114,slow=3.5,SNR=6.3						
	comp=Z,1.1nm,0.6s						
KURBB	Kurchatov Arra	71.71	328	P	P	09 59 25.5	+0.1
	comp=Z,1.3nm,0.8s,baz=127,slow=4.9,SNR=14						
	comp=Z,1.3nm,0.8s						
KK31	Karatay Array	72.86	318	P	P	09 59 33.4	+1.0
KK31				IAmb	IAmb	10 00 01.8	
	comp=Z,3.4nm,1.4s						
KKAR	Karatay Array	72.86	318	P	P	09 59 33.3	+0.8
BVAR	Borovoye Array	77.28	327	P	P	09 59 58.3	+0.6
	comp=Z,0.7nm,0.7s,baz=145,slow=8.5,SNR=1.7						
	comp=Z,0.7nm,0.7s						
ABKAR	Akbulak array	81.93	321	P	P	10 00 23.9	+0.9
QSPA	South Pole Qui	84.62	180	P	P	10 00 36.3	-0.3
QSPA	South Pole Qui	84.62	180	P	P	10 00 36.0	-0.6
	comp=Z,1.3nm,0.9s,baz=315,slow=1.4,SNR=5.4						
	comp=Z,1.3nm,0.9s						
L18K	Granite Mounta	86.50	27	P	P	10 00 47.4	+1.6
L18K				IAmb	IAmb	10 01 21.8	
	comp=Z,9.0nm,1.4s						
TTA	Tatalina	87.02	26	P	P	10 00 48.9	+0.5
ILAR	Eielson Array	91.38	25	P	P	10 01 08.3	-0.5
	comp=Z,0.2nm,0.6s,baz=257,slow=7.7,SNR=1.8						
	comp=Z,0.2nm,0.6s						
SDV	Santo Domingo	158.11	80	PKP	PKPdf	10 08 00.9	-0.3
	comp=Z,5.0nm,0.9s,baz=104,slow=3.1,SNR=3.8						

*NEIC **26** 09:51:34.2±1.5, 33°.897N±0°.007×118°.071W±0°.009, h10km±1km, Error ellipse: s-maj=2.6km s-min=1.3km az=241.0*

PAS 26 09:51:34.3±1.4, 33°.893N±0°.007×118°.088W±0°.009, h12km±2km, ML3.1/301, ML3.0/68(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=221.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLAC	Del Amo	0.04	188		Pg	09 51 36.6	0.0
DLAC					Sg	09 51 38.9	+0.7
RHC	Rose Hills Cem	0.12	30		Pg	09 51 37.5	0.0
FULC	Fullerton	0.14	99		Pg	09 51 38.3	+0.6
FULC					Sg	09 51 41.9	+1.7
WTT2	Watts, South G	0.15	292		Pb	09 51 38.5	-0.5

BFSC	**Mount Baldy Ra**	**0.50**	**46**		Pg	09 51 43.5	-0.6
BFSC					Sg	09 51 51.1	+0.4
CIAC	**Catalina I. Ai**	**0.56**	**209**		Pg	09 51 44.9	-0.4
CIAC					Sb	09 51 54.0	0.0
JNH	**Juniper Hills**	**0.56**	**11**		Pg	09 51 44.5	-0.9
JNH					Sg	09 51 52.3	-0.6
FON	**Fontana**	**0.58**	**69**		Pg	09 51 45.1	-0.5
FON					Sg	09 51 53.3	0.0
SS2	**San Sevaine**	**0.58**	**57**		Pg	09 51 45.2	-0.4
BLCC	**Black Canyon**	**0.60**	**306**		Pg	09 51 45.3	-0.7
BLCC					Sg	09 51 54.2	+0.3
HOLC	**Holcomb Ridge**	**0.60**	**20**		Pg	09 51 45.1	-0.9
RVR	**Riverside**	**0.60**	**80**		Pg	09 51 45.3	-0.8
RVR					Sg	09 51 53.5	-0.5
ELS	**Elsinore Mount**	**0.60**	**114**		Sg	09 51 53.6	-0.5
ELS	**Elsinore Mount**	**0.60**	**114**	Pg	Pg	09 51 45.4	-0.7
ELS	**Elsinore Mount**	**0.60**	**114**	IAML		09 51 54.0	
	comp=N,372nm,0.4s						
ELS				IAML		09 51 54.1	
	comp=E,225nm,0.4s						
OAT	**Oat Mountain**	**0.63**	**316**		Pg	09 51 46.6	0.0
OAT					Sb	09 51 55.9	-0.1
LRRC	**Littlerock Res**	**0.63**	**5**		Pg	09 51 45.9	-0.8
LRRC					Sg	09 51 54.6	-0.4
CJV	**Casa Juvan**	**0.64**	**356**		Pg	09 51 46.0	-0.8
CJV					Sg	09 51 54.8	-0.4
RSBC	**Riverside Bore**	**0.64**	**83**		Pg	09 51 45.9	-0.8
RSBC					Sg	09 51 55.0	-0.2
RSBC	**Riverside Bore**	**0.64**	**83**		Pg	09 51 46.4	-0.4
PDE	**Pardee, Santa**	**0.68**	**323**		Pb	09 51 47.9	-0.3
PDE					Sb	09 51 58.1	+0.5
CSP	**Cedar Springs**	**0.73**	**56**		Pg	09 51 47.6	-0.8
CSP					Sg	09 51 57.7	-0.3
HLNC	**Highland**	**0.76**	**72**		Pg	09 51 48.4	-0.6
HLNC					Sg	09 51 58.8	-0.1
LEOC	**Leona Valley**	**0.76**	**346**		Pg	09 51 48.1	-0.9
LEOC					Sg	09 51 58.2	-0.8
PEC	**Perris**	**0.77**	**90**		Pg	09 51 48.4	-0.9
PEC					Sg	09 51 59.0	-0.4
MURC	**Murrieta**	**0.80**	**111**		Pg	09 51 48.5	-1.3
MURC					Sb	09 52 00.9	-0.1
ALPC	**Antelope**	**0.81**	**348**		Pg	09 51 49.0	-1.0
ALPC					Sg	09 52 00.3	-0.3
SBB	**Saddle Back Bu**	**0.82**	**15**		Pg	09 51 49.1	-1.2
SBB					Sb	09 52 01.9	+0.2
SVD	**Seven Oaks Dam**	**0.85**	**75**		Pg	09 51 50.0	-0.7
SVD					Sb	09 52 02.8	+0.4
ADO	**Adelanto Recei**	**0.85**	**39**		Pg	09 51 50.2	-0.6
SBI	**Santa Barbara**	**0.89**	**243**		Pg	09 51 50.9	-0.6
SBI					Sg	09 52 02.0	-1.0
VTV	**Victorville**	**0.92**	**43**		Pg	09 51 51.0	-1.1
BACC	**Bachelor Mtn.**	**0.92**	**108**		Pg	09 51 50.4	-1.6
BACC					Sg	09 52 04.1	+0.1
HMTC	**Hemet**	**0.92**	**101**		Pg	09 51 50.9	-1.2
HMTC					Sg	09 52 03.4	-0.7
BBSC	**Beaumont Base**	**0.92**	**88**		Pg	09 51 51.5	-0.6
BBSC					Sg	09 52 04.3	+0.1
DGR	**Domenigoni Val**	**0.93**	**105**		Pg	09 51 50.9	-1.4
DGR					Sg	09 52 03.1	-1.3
EDW2	**Edwards Air Fo**	**0.99**	**5**		Pg	09 51 52.1	-1.3
EDW2					Sb	09 52 06.7	+0.3
TPO	**Tropico Hills**	**0.99**	**353**		Pg	09 51 52.3	-1.1
POB	**Polly Butte**	**0.99**	**102**		Pg	09 51 52.1	-1.4
GORC	**Green Oak Ranc**	**1.03**	**136**		Pb	09 51 52.3	-1.8
BBRC	**Big Bear Solar**	**1.04**	**69**		Pg	09 51 53.2	-1.1
BBRC					Sg	09 52 06.7	-1.1
HYS	**Haystack Butte**	**1.06**	**24**		Pb	09 51 53.5	-1.1
THC	**Tehachapi Micr**	**1.12**	**335**		Pb	09 51 55.4	-0.4
PLM	**Palomar**	**1.16**	**117**		Pb	09 51 54.9	-1.5
CRY	**Cary Ranch**	**1.17**	**106**		Pb	09 51 55.3	-1.3
BZNA	**Buzz No.'s Pla**	**1.25**	**108**		Pn	09 51 56.5	-1.2
CCAC	**Calif City Air**	**1.26**	**3**		Pn	09 51 57.5	-0.3
CCAC				IAML		09 52 22.3	
	comp=E,357nm,0.5s						
SNDA	**J Saunders Pla**	**1.28**	**105**		Pn	09 51 57.2	-0.9
CPE	**Camp Elliot**	**1.30**	**140**		Pn	09 51 56.6	-1.6
CPE	**Camp Elliot**	**1.30**	**140**	IAML		09 52 14.8	
	comp=N,278nm,0.3s						
CPE				IAML		09 52 22.2	
	comp=E,295nm,0.5s						
FRD	**Ford Ranch, An**	**1.30**	**107**		Pn	09 51 57.4	-1.0
DPP	**Dos Picos Cty**	**1.31**	**133**		Pn	09 51 56.9	-1.6
SNCC	**San Nicolas Is**	**1.36**	**242**	Pn	Pn	09 51 57.3	-1.9
SNCC				IAML		09 52 25.0	
	comp=N,310nm,0.8s						
PFO	**Pinyon Flats O**	**1.39**	**101**		Pn	09 51 58.8	-0.8
PFO				IAML		09 52 18.3	
	comp=N,255nm,0.5s						
PFO				IAML		09 52 20.5	
	comp=N,161nm,0.4s						
PFO	**Pinyon Flats O**	**1.39**	**101**		Pn	09 51 58.9	-0.7
MATG	**Mataguay Scout**	**1.39**	**120**		Pn	09 51 58.4	-1.2
EML	**El Monte Cty P**	**1.44**	**134**		Pn	09 51 58.6	-1.7
JUEM	**Julian Eagle M**	**1.49**	**123**		Pn	09 51 59.9	-1.1
SDRC	**San Diego Road**	**1.50**	**140**		Pn	09 51 59.4	-1.7
BCW	**Bitter Crk WRg**	**1.51**	**314**		Pn	09 52 01.2	-0.1
TJX	**Tijuana**	**1.63**	**148**		Pn	09 52 02.0	-0.8
GSC	**Goldstone, Bar**	**1.76**	**37**		Pn	09 52 04.7	0.0
TKX	**Tecate**	**1.81**	**136**		Pn	09 52 04.7	-0.6
CBX	**Cerro Bola**	**1.98**	**142**		Pn	09 52 06.6	-1.2
CBX				IAML		09 52 47.0	
	comp=N,152nm,0.5s						
CBX				IAML		09 52 52.3	
	comp=E,178nm,0.7s						
YUH	**Yuha Desert**	**2.20**	**124**	Pn	Pn	09 52 10.1	-0.5
YUH				IAML		09 52 55.4	
	comp=E,45nm,0.7s						
ESJX	**Sierra Juarez**	**2.60**	**136**		Pn	09 52 16.4	0.0
GLA	**Glamis**	**2.85**	**106**	Pn	Pn	09 52 19.4	-0.3
GLA				IAML		09 53 08.7	
	comp=E,64nm,0.7s						
GLA				IAML		09 53 12.7	
	comp=N,50nm,0.7s						
BLYC	**Blythe**	**2.97**	**92**	Pn	Pn	09 52 19.8	-1.5
BLYC				IAML		09 53 08.8	
	comp=N,44nm,0.6s						
BLYC				IAML		09 53 08.9	
	comp=E,34nm,0.5s						
WCT	**Wildcat Mounta**	**3.13**	**22**		Pn	09 52 22.2	-1.4
WCT				IAML		09 53 19.1	
	comp=E,19nm,0.8s						
VTX	**Valle De La Tr**	**3.16**	**141**		Pn	09 52 23.8	-0.2
PMPB	**Monarch Peak**	**3.21**	**317**	Pn	Pn	09 52 23.2	-1.5
PMPB				IAML		09 53 17.7	
	comp=E,59nm,4.1s						
V12A	**Nelson**	**3.23**	**55**		Pn	09 52 25.3	+0.3
V12A				IAML		09 53 22.3	
	comp=E,32nm,0.5s						
V12A				IAML		09 53 29.6	
	comp=N,23nm,0.8s						
TPNV	**Topopah Spring**	**3.40**	**26**	Pn	Pn	09 52 24.8	-2.5
TPNV				IAML		09 53 26.1	
	comp=N,40nm,0.6s						
TPNV				IAML		09 53 31.5	
	comp=N,36nm,0.6s						
GMN	**Gold Mountain**	**3.47**	**11**	Pn	Pn	09 52 26.1	-2.2
DSP	**Deep Springs**	**3.47**	**2**	Pn	Pn	09 52 26.6	-1.6
SHPR	**Sheep Range**	**3.54**	**42**		Pn	09 52 30.6	+1.3
W13A	**Hualapai Mount**	**3.67**	**70**		Pn	09 52 30.8	-0.4
W13A				IAML		09 53 16.9	
	comp=N,17nm,0.5s						
W13A				IAML		09 53 49.2	
	comp=E,12nm,3.2s						
113A	**Mohawk Valley,**	**3.79**	**106**	Pn	Pn	09 52 31.8	-0.7
SFX	**San Felipe**	**3.95**	**135**	Pn	Pn	09 52 32.4	-2.4
SFX				IAML		09 53 44.7	
	comp=E,26nm,0.8s						
SFX				IAML		09 54 42.8	
	comp=N,30nm,0.2s						
S11A	**Rachel**	**4.20**	**26**	Pn	Pn	09 52 36.3	-2.0
Y14A	**Wickenburg**	**4.23**	**88**	Pn	Pn	09 52 34.7	-3.9
Y14A				IAML		09 53 54.6	
	comp=E,10nm,1.9s						
Y14A				IAML		09 54 02.7	
	comp=N,17nm,0.9s						
PRN	**Pahroc Range**	**4.29**	**34**	Pn	Pb	09 52 45.7	-4.1
PRN				IAML		09 54 00.2	
	comp=N,22nm,1.1s						
PRN				IAML		09 54 04.4	
	comp=E,17nm,0.8s						
LHV	**Little Huntoon**	**4.36**	**356**	Pn	Pn	09 52 38.4	-1.9
NVAR	**Mina Array Bea**	**4.53**	**358**	Pn	Pn	09 52 41.2	-1.8
LCMT	**Little Creek M**	**5.03**	**50**		Pn	09 52 49.3	-0.5
KNB	**Kanab**	**5.31**	**53**		Pn	09 52 50.9	-2.7
U15A	**North Rim**	**5.38**	**60**	Pn	Pn	09 52 55.1	+0.5
X16A	**Lo Mia Camp, P**	**5.54**	**83**	Pn	Pn	09 52 55.4	-1.3
PSUT	**Pine Spring**	**5.76**	**35**	Pn	Pn	09 52 58.0	-1.8
MTPU	**Mount Pierson**	**6.33**	**47**	Pn	Pn	09 53 07.4	-0.4

*IDC **26** 10:04:08.5±4.0,2.°89N×82.°17W,h0^{km},mb3.5/5,*
mbtmp3.5/7,ML3.9/3,MS3.4/7,Error ellipse:
s-maj=115.6km s-min=65.7km az=47.0

ISC 26 10:04:15.4±2.9,3.°1N±0.°4×82.°3W±0.°5,h35^{km},n13,σ1^{s}16/8,
mb3.5/5,MS3.4/4,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**7.63**	**340**	Pn	**Pn**	**10 06 04.8**	**+0.7**
	15nm,0.3s,baz=76,slow=6.5,SNR=40						
JTS				LR	LR	10 08 30.9	
	comp=Z,399nm,20.8s,baz=168,slow=33						
ATAH	**Atahualpa**	**10.88**	**159**	LR	LR	10 10 31.8	
	comp=Z,116nm,21.9s,baz=6.6,slow=36						
APG	**El Apazote**	**14.32**	**326**	Pn	**Pn**	**10 07 35.7**	**-0.3**
	0.1nm,0.3s,baz=213,slow=18,SNR=1.9						
	0.2nm,0.4s						
CMIG	**Matias Romero**	**18.61**	**319**	P	**Pn**	**10 08 29.3**	**-1.2**
	0.3nm,0.3s,baz=142,slow=9.6,SNR=5.0						
CMIG				LR	LR	10 13 48.6	
	comp=Z,81nm,21.4s,baz=163,slow=31						
	0.8nm,0.4s						
LPAZ	**La Paz**	**23.80**	**144**	LR	LR	10 20 11.3	
	comp=Z,67nm,19.4s,baz=276,slow=41						
TKL	**Tuckaleechee C**	**32.44**	**358**	LR	LR	10 24 33.4	
	comp=Z,58nm,18.2s,baz=99,slow=38						
SADO	**Sadowa**	**41.60**	**3**	LR	LR	10 29 28.5	
	comp=Z,86nm,18.1s,baz=70,slow=36						
PDAR	**Pinedale Array**	**46.38**	**332**	P	**P**	**10 12 37.4**	**-1.3**
	0.5nm,0.9s,baz=128,slow=9.6,SNR=3.6						
	0.5nm,0.9s						
NVAR	**Mina Array Bea**	**48.12**	**322**	P	**P**	**10 12 54.0**	**+1.8**
	0.3nm,0.4s,baz=135,slow=6.0,SNR=1.9						
	0.3nm,0.4s						
ULM	**Lac du Bonnet**	**48.38**	**348**	P	**P**	**10 12 54.0**	**+0.2**
	1.1nm,0.7s,baz=153,slow=6.8,SNR=2.2						
	1.1nm,0.7s						
YBH	**Yreka Blue Hor**	**52.80**	**322**	LR	LR	10 35 32.8	
	comp=Z,31nm,18.6s,baz=348,slow=36						
YKA	**Yellowknife Ar**	**63.94**	**344**	P	**P**	**10 14 44.6**	**-0.1**
	0.3nm,0.9s,baz=144,slow=6.6,SNR=4.0						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**76.59**	**337**	P	**P**	**10 16 01.7**	**-0.3**
	0.4nm,0.9s,baz=140,slow=4.7,SNR=4.7						
	0.4nm,0.9s						

*TIR **26** 10:05:54.9,38.°71N×20.°42E,h5^{km}±5^{km},Ml4.5/6*
*NAO **26** 10:05:54.4,39.°07N×24.°47E,h10^{km},mb3.8*
*ATH **26** 10:05:58.9,38.°86N×20.°67E,h10^{km},Mw4.2,Moment*
Tensor Solution. s9 Moment tensor: M_{rr}0.24; $M_{\theta\theta}$0.86;
$M_{\phi\phi}$-1.11; $M_{r\theta}$-0.06; $M_{\theta\phi}$1.95; $M_{\phi r}$0.11; Fault plane
solution: NP1:ϕ_s103.00000°,δ88.00000°,λ-2.00000°.
NP2:ϕ_s193.00000°,δ88.00000°,λ-178.00000°.
*MOS **26** 10:05:58.1±1.0,38.°90N×20.°41E,h10^{km},mb4.7/14 Error*
ellipse: s-maj=6.8km s-min=4.2km az=76.7
*IDC **26** 10:05:58.9±0.7,39.°08N×20.°60E,h0^{km},mb4.1/19,*
mbtmp4.1/31,ML4.0/10,MS3.4/11,Error ellipse:
s-maj=14.8km s-min=11.4km az=18.0
*THE **26** 10:05:59.9,38.°86N×20.°61E,h5^{km}±1^{km},ML4.1/17,Error*
ellipse: s-maj=1.4km s-min=0.6km az=221.0
*PDG **26** 10:06:00.4±0.7,38.°97N×20.°49E,h17^{km}±3^{km},ML4.1/12,*
Error ellipse: s-maj=3.4km s-min=2.0km az=90.0
*NEIC **26** 10:06:01.0±2.1,38.°95N±0.°04×20.°49E±0.°07,h10^{km}±1^{km},*
mb4.5/32,Error ellipse: s-maj=9.2km s-min=5.3km
az=245.0

ISC 26 10:05:59.6±0.6,38.°85N±0.°01×20.°59E±0.°02,h9^{km}±3^{km},
n375,σ1^{s}69/457,mb4.4/43,MS3.5/6,34C-20D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.06**	**120**	P	**Pg**	**10 06 01.0**	**-0.5**
TSLK				S	**Sg**	**10 06 02.6**	**-0.3**
	388μm,0.5s						
TSLK	**Tsoukalades, L**	**0.06**	**120**	P	**Pg**	**10 06 01.0**	**-0.5**
TSLK				S	**Sg**	**10 06 02.8**	**-0.1**
LKD2	**Lefkada island**	**0.08**	**142**	⇑Pg	**Pg**	**10 06 01.6**	**-0.3**
LKD2				Sg	**Sg**	**10 06 03.1**	**-0.3**
LKD2				AML	AML	10 06 04.1	
	779nm,0.5s						
LKD2				AML	AML	10 06 06.5	
	574nm,0.5s						
LKD2	**Lefkada island**	**0.08**	**142**	P	**Pg**	**10 06 01.5**	**-0.3**
LKD2				S	**Sg**	**10 06 03.2**	**-0.3**
LKD2	**Lefkada island**	**0.08**	**142**	P	**Pg**	**10 06 01.6**	**-0.3**
LKD2				S	**Sg**	**10 06 03.6**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.16**	**149**	P	**Pg**	**10 06 02.8**	**-0.3**
NYDR				S	**Sg**	**10 06 05.8**	**+0.4**
	63μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.16**	**149**	P	**Pg**	**10 06 02.7**	**-0.3**
NYDR				S	**Sg**	**10 06 05.9**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.17**	**185**	P	**Pg**	**10 06 03.2**	**0.0**
DRAG				S	**Sg**	**10 06 06.5**	**+0.8**
DRAG	**Dragano-Lefkad**	**0.17**	**185**	P	**Pg**	**10 06 03.0**	**-0.2**
DRAG				S	**Sg**	**10 06 06.3**	**+0.7**
EVGI	**Lefkada island**	**0.24**	**168**	P	**Pg**	**10 06 04.3**	**-0.1**
EVGI				S	**Sg**	**10 06 08.4**	**+0.8**
	59μm,0.6s						
EVGI	**Lefkada island**	**0.24**	**168**	P	**Pg**	**10 06 04.2**	**-0.1**
EVGI				S	**Sg**	**10 06 07.8**	**+0.2**
FSK	**Fiskardo**	**0.39**	**184**	P	**Pg**	**10 06 06.9**	**-0.4**
FSK				S	**Sb**	**10 06 13.5**	**-1.3**
	15μm,0.6s						
FSK	**Fiskardo**	**0.39**	**184**	P	**Pg**	**10 06 06.5**	**-0.8**
FSK				S	**Sg**	**10 06 12.2**	**-0.3**
ARTB	**Arta**	**0.43**	**44**	P	**Pg**	**10 06 07.0**	**-1.0**
ARTB				S	**Sg**	**10 06 13.2**	**-0.4**
PRGA	**Parga**	**0.46**	**341**	P	**Pg**	**10 06 08.4**	**-0.1**
PRGA				S	**Sg**	**10 06 15.6**	**+1.1**
SMHA	**Samh**	**0.60**	**176**	P	**Pg**	**10 06 09.8**	**-1.4**
SMHA				S	**Sg**	**10 06 19.5**	**+0.4**
DMLN	**Damoulianata-K**	**0.64**	**196**	P	**Pg**	**10 06 11.3**	**-0.6**
DMLN				S	**Sb**	**10 06 22.4**	**+0.5**
	13μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**196**	P	**Pg**	**10 06 11.3**	**-0.6**
DMLN				S	**Sb**	**10 06 21.1**	**-0.8**
VLS	**Valsamata**	**0.67**	**180**	P	**Pg**	**10 06 11.7**	**-0.9**
VLS				S	**Sb**	**10 06 23.6**	**+0.7**
	13μm,0.4s						
VLS	**Valsamata**	**0.67**	**180**	P	**Pg**	**10 06 12.0**	**-0.6**
VLS				S	**Sb**	**10 06 22.5**	**-0.4**
IGT	**Igoumenitsa**	**0.71**	**343**	⇑Pg	**Pg**	**10 06 12.3**	**-0.9**
IGT				Sg	**Sb**	**10 06 23.7**	**-0.3**
IGT	**Igoumenitsa**	**0.71**	**343**	P	**Pg**	**10 06 12.1**	**-1.1**
IGT				S	**Sg**	**10 06 22.5**	**0.0**
TETR	**Tetrakomo, Epi**	**0.72**	**47**	P	**Pg**	**10 06 12.5**	**-1.0**
TETR				S	**Sg**	**10 06 22.5**	**-0.5**
LFKM	**Lefkimmi**	**0.72**	**325**	P	**Pb**	**10 06 14.0**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.74**	**181**	P	**Pg**	**10 06 12.8**	**-1.0**
PSDA				S	**Sb**	**10 06 25.3**	**+0.6**
	12μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.74**	**181**	P	**Pg**	**10 06 12.8**	**-1.0**
PVO	**Paravola**	**0.77**	**108**	P	**Pg**	**10 06 13.6**	**-0.8**
PVO				S	**Sg**	**10 06 24.5**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.79**	**170**	P	**Pg**	**10 06 13.7**	**-1.1**
RTZL				S	**Sb**	**10 06 26.9**	**+0.7**
JAN	**Janina**	**0.83**	**14**	P	**Pg**	**10 06 14.7**	**-0.8**
JAN				S	**Sb**	**10 06 28.0**	**+0.6**
	22μm,0.5s						
JAN	**Janina**	**0.83**	**14**	P	**Pg**	**10 06 14.8**	**-0.8**
AXS	**Araxos**	**0.90**	**137**	P	**Pg**	**10 06 15.8**	**-1.1**
EVR	**Evrytania**	**0.95**	**86**	P	**Pg**	**10 06 17.6**	**-0.3**
EVR				S	**Sb**	**10 06 32.0**	**+1.0**
	7μm,0.8s						
EVR	**Evrytania**	**0.95**	**86**	P	**Pg**	**10 06 16.8**	**-1.1**
ORTH	**Orthonies,Zaky**	**1.00**	**175**	P	**Pg**	**10 06 17.7**	**-1.2**
KYPS	**Kipseli, Zakin**	**1.05**	**170**	P	**Pg**	**10 06 18.9**	**-0.8**
RLS	**Riolos of Patr**	**1.05**	**139**	P	**Pg**	**10 06 18.3**	**-1.4**
RLS				S	**Sb**	**10 06 34.2**	**+0.5**
	4μm,0.7s						
RLS	**Riolos of Patr**	**1.05**	**139**	P	**Pg**	**10 06 18.5**	**-1.2**
CLEM	**Kyllini,Ilia,G**	**1.05**	**156**	P	**Pg**	**10 06 18.7**	**-1.0**
KEK	**Kerkira**	**1.06**	**325**		**Pg**	**10 06 19.1**	**-0.8**
KEK	**Kerkira**	**1.06**	**325**	P	**Pg**	**10 06 19.7**	**-0.2**
KEK				S	**Sn**	**10 06 36.0**	**+0.6**
	8μm,0.6s						
KEK	**Kerkira**	**1.06**	**325**	P	**Pg**	**10 06 19.6**	**-0.3**
ANX	**Ano Chora**	**1.07**	**104**	P	**Pg**	**10 06 18.7**	**-1.5**
ANX				S	**Sn**	**10 06 35.8**	**-0.1**
	13μm,0.6s						
ANX	**Ano Chora**	**1.07**	**104**	P	**Pg**	**10 06 18.9**	**-1.2**
ANX				S	**Sg**	**10 06 33.4**	**-0.6**
PATC	**Patra C**	**1.08**	**122**	P	**Pb**	**10 06 19.4**	**-1.1**
UPR	**University Cam**	**1.09**	**121**	P	**Pb**	**10 06 19.7**	**-0.9**
EFP	**Efpalio**	**1.11**	**112**	P	**Pb**	**10 06 19.1**	**-1.9**
EFP				S	**Sn**	**10 06 37.4**	**+0.7**
	14μm,0.8s						
EFP	**Efpalio**	**1.11**	**112**	P	**Pb**	**10 06 19.7**	**-1.3**
SRN	**Sarande**	**1.12**	**336**	Pg	**Pb**	**10 06 19.4**	**-1.7**
SRN				Sg	**Sn**	**10 06 36.5**	**-0.5**
SRN				AML	AML	10 06 48.5	
	9.2nm,0.9s						
SRN	**Sarande**	**1.12**	**336**	P	**Pb**	**10 06 19.6**	**-1.6**
SRN				S	**Sn**	**10 06 37.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.21**	**82**	P	**Pn**	**10 06 21.2**	**-1.5**
MAKR	**Makrakomi, Fth**	**1.21**	**82**	P	**Pn**	**10 06 20.9**	**-1.9**
SERG	**Sergoula**	**1.23**	**110**	P	**Pn**	**10 06 21.9**	**-1.0**
SERG				S	**Sb**	**10 06 37.8**	**-1.0**
KPRO	**Kipourio**	**1.25**	**28**	P	**Pn**	**10 06 22.0**	**-1.3**
KPRO				S	**Sn**	**10 06 41.9**	**+1.6**
	9μm,0.8s						
KPRO	**Kipourio**	**1.25**	**28**	P	**Pn**	**10 06 22.3**	**-1.0**
DRO	**Drossia**	**1.26**	**135**	P	**Pn**	**10 06 21.8**	**-1.5**
DRO				S	**Sn**	**10 06 41.8**	**+1.5**
	10μm,0.5s						
DRO	**Drossia**	**1.26**	**135**	P	**Pn**	**10 06 22.0**	**-1.3**
KALE	**Kalithea**	**1.30**	**110**	P	**Pn**	**10 06 22.7**	**-1.2**
KALE				S	**Sg**	**10 06 42.2**	**+0.9**
	6μm,0.7s						
KALE	**Kalithea**	**1.30**	**110**	P	**Pn**	**10 06 23.2**	**-0.7**
LSK	**Leskovik**	**1.30**	**0**	Pg	**Pn**	**10 06 23.0**	**-0.9**
LSK				Sg	**Sg**	**10 06 43.8**	**+2.5**
LSK				AML	AML	10 06 47.5	
	29nm,0.6s						
LSK	**Leskovik**	**1.30**	**0**	P	**Pn**	**10 06 22.8**	**-1.1**
LSK				S	**Sg**	**10 06 43.5**	**+2.2**
	9μm,0.6s						
THL	**Klokotos Trika**	**1.31**	**57**	P	**Pn**	**10 06 22.2**	**-1.9**
PENT	**Pentalofos**	**1.41**	**17**	P	**Pn**	**10 06 25.6**	**+0.1**
PENT	**Pentalofos**	**1.41**	**17**	P	**Pn**	**10 06 25.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.47**	**123**	P	**Pn**	**10 06 24.7**	**-1.5**
KLV	**Kalavryta, Ach**	**1.47**	**123**	P	**Pn**	**10 06 24.6**	**-1.7**
TYRN	**Tyrnavos**	**1.53**	**56**	P	**Pn**	**10 06 26.6**	**-0.5**
TYRN	**Tyrnavos**	**1.53**	**56**	P	**Pn**	**10 06 27.1**	**-0.1**
DLFA	**Delphi**	**1.54**	**103**	P	**Pn**	**10 06 27.5**	**+0.4**
AMT	**Artemida-Makis**	**1.58**	**146**	P	**Pn**	**10 06 28.2**	**+0.3**
NEST	**Nestorio**	**1.60**	**13**	Pn	**Pb**	**10 06 29.5**	**+0.2**
NEST				S	**Sg**	**10 06 54.0**	**+2.9**
NEST				AML	AML	10 07 01.5	
	13nm,0.7s						
NEST	**Nestorio**	**1.60**	**13**	P	**Pb**	**10 06 28.9**	**-0.5**
NEST	**Nestorio**	**1.60**	**13**	P	**Pb**	**10 06 29.2**	**-0.1**
AXAR	**Agios Charalam**	**1.62**	**92**	P	**Pn**	**10 06 28.8**	**+0.5**
AXAR	**Agios Charalam**	**1.62**	**92**	P	**Pn**	**10 06 28.8**	**+0.5**
LRSO	**Larissa Observ**	**1.62**	**59**	P	**Pn**	**10 06 28.2**	**0.0**
GUR	**Goura**	**1.65**	**123**	P	**Pn**	**10 06 28.1**	**-0.7**
GUR	**Goura**	**1.65**	**123**	P	**Pn**	**10 06 28.7**	**-0.2**
KZN	**Kozani**	**1.71**	**32**	P	**Pb**	**10 06 31.4**	**+0.1**
KBN	**Korca**	**1.77**	**5**	Pn	**Pg**	**10 06 34.1**	**+0.4**
KBN				Sn	**Sg**	**10 06 58.8**	**+2.2**
KBN				AML	AML	10 07 06.5	
	12nm,0.7s						
KBN	**Korca**	**1.77**	**5**	Pn	**Pn**	**10 06 31.1**	**+0.6**
KBN	**Korca**	**1.77**	**5**	P	**Pn**	**10 06 31.1**	**+0.6**
VLO	**Vlora**	**1.82**	**333**	P	**Pb**	**10 06 32.4**	**-0.7**
VLO				S	**Sg**	**10 07 02.4**	**+4.2**
LIT	**Litokhoron**	**1.93**	**49**	Pn	**Pn**	**10 06 33.6**	**+1.1**
LIT	**Litokhoron**	**1.93**	**49**	P	**Pn**	**10 06 33.4**	**+0.9**
LIT	**Litokhoron**	**1.93**	**49**	P	**Pn**	**10 06 33.7**	**+1.1**
ITM	**Ithomi**	**1.97**	**147**		**Pb**	**10 06 36.1**	**+0.4**
ITM	**Ithomi**	**1.97**	**147**	P	**Pn**	**10 06 34.2**	**+1.0**
ITM	**Ithomi**	**1.97**	**147**	P	**Pn**	**10 06 34.0**	**+0.8**
SCTE	**Santa Cesarea**	**2.05**

APE Apeiranthos 4.29 113 ⇑P Pn 10 07 08.7 +3.7
APE Apeiranthos 4.29 113⇑eP Pn 10 07 08.2 +3.2
BRY Bratogost 4.33 340 eP Pn 10 07 04.2 -1.6
BRY Bratogost 4.33 340⇑iPn Pn 10 07 03.7 -2.1
BRY i Sn **Sn 10 07 53.3 -3.2**
SJES Sjenica 4.43 354 ePn Pn 10 07 07.3 +0.3
RDO Rodhopi 4.43 57 Pn 10 07 08.4 +1.4
PLE Pljevlja 4.56 349⇓iPn Pn 10 07 08.7 -0.2
PLE i Sn **Sn 10 08 00.4 -1.7**
STON Ston 4.58 332 ePn Pn 10 07 07.1 -1.8
ALN Alexandroupoli 4.67 62 Pn 10 07 11.5 +1.3
ALN Alexandroupoli 4.67 62 P Pn 10 07 11.5 +1.3
SGRT San Giovanni R 4.71 310 Pn Pn 10 07 10.7 -0.1
RUDO Rudo 4.85 349 ePn Pn 10 07 10.7 -2.0
IDI Anoyia 4.95 135 Pn Pn 10 07 16.9 +2.8
IDI Anoyia 4.95 135 Pn Pn 10 07 16.4 +2.4
7.7nm,0.4s,baz=118,slow=1.2,SNR=7.5
IDI Sn **Sn 10 08 10.1 -1.3**
10nm,0.3s,baz=106,slow=17,SNR=6.9
VAE Valguarnera 5.06 256 Pn Pn 10 07 19.5 +3.8
6.2nm,0.4s,baz=67,slow=13,SNR=1.5
VAE Sn **Sn 10 08 18.4 +4.2**
3.8nm,0.3s,baz=324,slow=21,SNR=4.8
BBLS Lazi&#263i 5.09 350 ePn Pn 10 07 14.9 -1.1
PAOL Paolisi 5.12 297 Pn 10 07 16.8 +0.4
RAFF Raffo Rosso 5.18 254 Pn Pn 10 07 16.2 -1.1
HAPS Han Pijesak,BI 5.37 347 ePn Pn 10 07 18.9 -1.1
WDD Wied Dalam 5.70 240 Pn Pn 10 07 24.1 -0.2
TEKS Tekeris 5.75 352 ePn Pn 10 07 23.3 -1.8
MDVR Moldovita 5.98 8 ⇑P Pn 10 07 29.5 +1.1
INTR Introdacqua 6.00 304 Pn Pn 10 07 29.8 +1.2
MANT Manisa 6.24 91 Pn Pn 10 07 35.5 +3.5
FRGS Fruska Gora 6.33 355 ePn Pn 10 07 31.1 -1.9
A050A Klekovaca 6.39 333 ePn Pn 10 07 33.8 -0.2
BLY Banja Luka 6.42 338 ePn Pn 10 07 33.1 -1.1
ARG Arkhangelos 6.54 111 Pn 10 07 39.8 +3.9
ARG Arkhangelos 6.54 111 P Pn 10 07 39.8 +3.9
CAMP Campotosto 6.58 306 Pn 10 07 37.6 +1.0
GZR Gura Zlata 6.73 13 ⇑P Pn 10 07 41.0 +2.3
GZR Gura Zlata 6.73 13 P Pn 10 07 40.9 +2.3
A051A Mrakovica 6.74 337 ePn Pn 10 07 37.4 -1.3
GUMA Gualdo di Mace 6.92 310 Pn 10 07 42.0 +0.9
NRCA Norcia 6.92 307 Pn 10 07 41.8 +0.5
LOT Lotru 7.00 19 ⇑P Pn 10 07 45.7 +3.4
FDMO Fiordimonte 7.05 309 Pn Pn 10 07 43.8 +0.8
CESX Cesi 7.15 304 Pn Pn 10 07 45.9 +1.6
ARR Arges 7.17 23 ⇑P Pn 10 07 47.2 +2.6
MTUR Matau 7.18 26 ⇑P Pn 10 07 47.4 +2.6
MTUR Matau 7.18 26 P Pn 10 07 47.4 +2.6
AKAS Kas 7.62 107 Pn Pn 10 07 52.4 +1.5
ELL Elmali 7.67 103 Pn Pn 10 07 54.5 +3.0
ELL Elmali 7.67 103 P Pn 10 07 54.5 +3.0
ISR Istrita 7.67 33 ⇓P Pn 10 07 53.9 +2.4
ISR Istrita 7.67 33 P Pn 10 07 53.8 +2.4
BORA Eskisehir 7.71 79 Pn Pn 10 07 54.3 +2.3
MLR Muntele Rosu 7.73 29 Pn Pn 10 07 52.5 +0.1
MLR Muntele Rosu 7.73 29 Pn Pn 10 07 52.9 +0.6
2.0nm,0.3s,baz=280,slow=6.4,SNR=17
5.5nm,0.5s
MLR Muntele Rosu 7.73 29 ⇑P Pn 10 07 55.2 +2.9
MLR Muntele Rosu 7.73 29 P Pn 10 07 52.5 +0.1
BOJS Bojanci 7.74 331 ePn Pn 10 07 51.4 -0.9
BOJS eSn **Sn 10 09 14.7 -5.4**
BOJS IAML 10 09 21.4
comp=Z,24nm,0.5s
GBRS Gornja Briga 7.93 329 i Pn Pn 10 07 54.2 -0.9
CRES Cresnjevec Ost 7.94 333 i Pn Pn 10 07 53.5 -1.6
DOPR Dopca 7.94 25 ⇓P Pn 10 07 58.4 +3.2
DRGR 8.09 10 ⇓P Pn 10 07 59.3 +2.1
DRGR 8.09 10 P Pn 10 07 59.3 +2.1
BEHE Becsehely 8.12 341 Pn Pn 10 07 58.8 +1.3
CEY Cerknica 8.26 328 ePn Pn 10 07 58.1 -1.4
SKDS Skadanscina 8.28 326 ePn Pn 10 07 58.0 -1.8
PLOR Plostina 8.30 31 ⇑P Pn 10 08 03.0 +2.8
PLOR Plostina 8.30 31 P Pn 10 08 02.9 +2.8
VRI Vrincioaia 8.35 31 ⇑P Pn 10 08 03.6 +2.9
VRI Vrincioaia 8.35 31 P Pn 10 08 03.6 +2.9
CASP Castiglione de 8.36 301 Pn Pn 10 08 00.7 -0.2
CFR Carcaliu 8.45 39 ⇑P Pn 10 08 05.6 +3.4
CFR Carcaliu 8.45 39 P Pn 10 08 05.5 +3.4
OSSC Osservatorio P 8.45 306 Pn Pn 10 08 00.4 -1.7
CRNS Crni Vrh 8.60 329 ePn Pn 10 08 03.2 -1.1
SABO M.te Sabotino 8.80 326 Pn Pn 10 08 05.6 -1.3
SOKA Soboth 8.82 344 ePn Pn 10 08 05.7 -1.6
comp=Z,8.3nm,0.3s,SNR=9.1
SOKA i Sn **Sn 10 09 39.8 -7.0**
comp=Z,8.4nm,0.7s
OBKA Obir 8.85 332 ePn Pn 10 08 06.1 -1.6
comp=Z,9.1nm,0.4s
OBKA eSn **Sn 10 09 45.7 -1.9**
comp=Z,30nm,0.6s
OBKA Obir 8.85 332 ePn Pn 10 08 06.0 -1.6
ZCCA Zocca 9.06 310 Pn 10 08 10.9 +0.4
PSZ Piszkesteto 9.08 357 Pn Pn 10 08 10.4 -0.4
PSZ Piszkesteto 9.08 357 P Pn 10 08 10.4 -0.4
ARSA Arzberg 9.18 338 i Pn Pn 10 08 10.1 -2.0
comp=Z,5.4nm,0.5s
ARSA Arzberg 9.18 338 Pn 10 08 10.2 -2.0
TEOL Teolo 9.28 317 Pn 10 08 11.5 -2.0
MYKA Terra Mystica 9.30 329 i Pn Pn 10 08 11.4 -2.5
comp=Z,3.1nm,0.3s
MYKA eSn **Sn 10 09 52.1 -6.5**
comp=Z,5.1nm,0.5s
BURAR Bucovina Array 9.38 20 Pn Pn 10 08 15.8 +0.8
BUR08 Bucovina Ar. S 9.41 19 Pn Pn 10 08 16.9 +1.6
KEST Kesra 9.49 254 Pn Pn 10 08 18.0 +1.6
comp=Z,0.3nm,0.3s,baz=328,slow=5.9,SNR=3.7
comp=Z,5.0nm,0.9s
CONA Conrad Observa 9.70 341 i Pn Pn 10 08 18.2 -1.1
comp=Z,1.6nm,0.3s
CTI Castel Tesino 9.76 320 Pn Pn 10 08 18.6 -1.6
CTI Castel Tesino 9.76 320 P Pn 10 08 18.6 -1.6
KBA Koelnbreinsper 9.78 330 i Pn Pn 10 08 19.7 -0.8
comp=Z,2.8nm,0.3s,SNR=7.9
KBA i Sn **Sn 10 10 03.8 -6.8**
comp=Z,7.1nm,0.8s
ABTA Abfaltersbach 9.87 326 ePn Pn 10 08 20.3 -1.3
comp=Z,6.0nm,0.3s
MSSA Maissana 9.93 307 Pn Pn 10 08 22.5 0.0
MOA Molln 10.10 335 i Pn Pn 10 08 23.9 -0.8
comp=Z,6.6nm,0.3s,SNR=10.0
BR131 Keskin Array S 10.15 81 Pn Pn 10 08 27.6 +2.0
BR131 Keskin Array S 10.15 81⇑eP Pn 10 08 28.6 +3.0
BRTR Keskin Array B 10.15 81 Pn Pn 10 08 28.4 +2.8
BRTR Keskin Array B 10.15 81 Pn Pn 10 08 28.3 +2.7
comp=Z,0.5nm,0.3s,baz=257,slow=12,SNR=10
comp=Z,1.1nm,0.5s
BIOA Bad Ischl, Aus 10.18 332 i Pn Pn 10 08 24.8 -1.0
comp=Z,9.4nm,0.3s
LESA Schwarzleotal 10.33 329 i Pn Pn 10 08 27.0 -0.9
comp=Z,11nm,0.4s,SNR=11
LESA i Sn **Sn 10 10 18.0 -5.9**
comp=Z,5.5nm,0.4s
KIRS Kirsehir-Merke 10.38 84 ⇓P Pn 10 08 32.9 +4.3
WTTA Wattenberg 10.65 325 i Pn Pn 10 08 31.6 -0.8
comp=Z,6.7nm,0.4s
WTTA eSn **Sn 10 10 27.8 -4.1**
comp=Z,24nm,0.8s
WATA Walderalm 10.73 325 i Pn Pn 10 08 33.4 -0.1
comp=Z,5.1nm,0.3s
WATA eSn **Sn 10 10 31.0 -2.8**
comp=Z,13nm,0.6s
SQTA Sankt Quirin 10.81 324 i Pn Pn 10 08 34.8 +0.2
comp=Z,6.4nm,0.3s
VRAC Vranov 10.84 346 LR LR 10 13 55.9
comp=Z,223nm,19.7s,baz=170,slow=45
FUORN Ofenpass-Fuorn 10.85 319 Pn Pn 10 08 33.7 -1.6
FETA Feichten 10.90 322 i Pn Pn 10 08 36.6 +0.8
comp=Z,2.7nm,0.4s
FETA i Sn **Sn 10 10 32.2 -5.7**
comp=Z,4.6nm,0.8s
MOTA Moosalm 10.95 324 i Pn Pn 10 08 36.5 -0.1
comp=Z,14nm,0.7s
MOTA eSn **Sn 10 10 34.4 -4.9**
comp=Z,19nm,0.7s
MORC Moravsky Berou 11.14 350 Pn Pn 10 08 38.6 -0.4
MORC Moravsky Berou 11.14 350 P Pn 10 08 38.6 -0.4
GEC2 GERESS Array S 11.15 336 Pn Pn 10 08 37.5 -1.8
GERES GERESS Array B 11.15 336 Pn Pn 10 08 37.9 -1.3
GERES GERESS Array B 11.15 336 Pn Pn 10 08 37.4 -1.8
comp=Z,1.2nm,0.3s,baz=156,slow=14,SNR=17
GERES LR LR 10 13 15.0
comp=Z,134nm,20.8s,baz=202,slow=40
comp=Z,3.7nm,0.5s
GERES GERESS Array B 11.15 336 P Pn 10 08 37.9 -1.3
DAVOX Davos/Dischmat 11.16 319 Pn Pn 10 08 39.1 -0.2
comp=Z,1.0nm,0.3s,baz=117,slow=20,SNR=6.1
DAVOX Sn **Sn 10 10 40.6 -3.7**
comp=Z,0.8nm,0.3s,baz=252,slow=1.7,SNR=5.9
DAVOX LR LR 10 13 17.3
comp=Z,124nm,19.3s,baz=242,slow=40
comp=Z,3.4nm,0.5s
TUE Stuetta 11.24 316 Pn Pn 10 08 40.2 -0.3
KHC Kasperske Hory 11.44 336 ePN Pn 10 08 41.2 -1.9
KHC eSN **Sn 10 10 44.3 -6.8**
KHC Kasperske Hory 11.44 336ceP Pn 10 08 41.9 -1.2
KHC pmax pmax
comp=Z,8.0nm,0.7s
ZVC Zvikov 11.53 339 eSN Sn 10 10 45.9 -7.3
SENIN Lac Senin/Sane 12.33 312 Pn Pn 10 08 55.3 -0.1
BFO Black Forest 12.97 321 Pn Pn 10 09 04.2 +0.2
BFO Black Forest 12.97 321 P Pn 10 09 04.2 +0.2
AKASG Malin Array Be 13.33 24 Pn Pn 10 09 06.3 -2.4
comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=4.6
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 13.33 24 i P Pn 10 09 11.3 +2.5
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 13.33 24⇑iP Pn 10 09 10.1 +1.3
MMAI Mount Meron Ar 13.33 111 Pn Pn 10 09 10.6 +1.5
comp=Z,3.8nm,0.3s,baz=318,slow=8.4,SNR=3.0
comp=Z,1.6nm,0.4s
ECH Echery 13.49 318 Pn Pn 10 09 10.8 -0.3
ECH Echery 13.49 318 P Pn 10 09 10.8 -0.3
CLL Collm 13.55 339 esPP 10 09 26.0
CLL ex x 10 09 33.0
EIL Elat 14.98 123 Pn Pn 10 09 33.5 +2.0
comp=Z,0.6nm,0.3s,baz=311,slow=9.3,SNR=1.9
comp=Z,4.3nm,0.8s
MNK Minsk 16.42 15 i P Pn 10 09 48.9 -1.1
comp=E,17nm,1.1s
MNK i P **Pn 10 09 48.9 -1.1**
comp=N,16nm,0.8s
MNK i P **Pn 10 09 48.9 -1.1**
comp=Z,15nm,0.8s,baz=201
MNK i PP **PnPn 10 09 58.7 -0.3**
MNK i S **Sn 10 12 48.9 -3.4**
MNK i SS **S 10 13 03.3 -1.2**
MNK i LR LR 10 16 35.3
MNK i LRM MLR 10 17 34.5
comp=N,411nm,18.6s
MNK i LRM MLR 10 17 39.0
comp=Z,137nm,19.9s
MNK i LRM MLR 10 18 16.9
comp=E,2μm,21.1s
MNK Minsk 16.42 15 i P Pn 10 09 48.9 -1.1
MNK i S **Sn 10 12 48.8 -3.4**
MNK pmax pmax
comp=E,17nm,1.1s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,16nm,0.8s
MNK MLR MLR
comp=N,411nm,19.0s
MNK MLR MLR
comp=Z,137nm,20.0s
MNK MLR MLR
comp=E,2μm,21.0s
NACGM Naroch 16.59 13 eP P 10 09 54.0 -0.7
baz=198
SHA1 Shidzhatmaz 17.27 67⇓eP P 10 10 05.7 +3.1
KIV Kislovodsk 17.32 66 eP P 10 10 03.7 +0.7
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 17.44 67 P P 10 10 04.0 -0.2
comp=Z,0.1nm,0.3s,baz=263,slow=17,SNR=2.7
KBZ LR LR 10 18 07.9
comp=Z,97nm,18.2s,baz=342,slow=42
comp=Z,3.4nm,0.9s
KBZ Khabaz 17.44 67⇑eP P 10 10 05.0 +0.8
KBZ pmax pmax
comp=Z,13nm,2.0s
GNI Garni 18.67 78 LR LR 10 18 43.6
comp=Z,108nm,19.0s,baz=286,slow=41
GNI Garni 18.67 78⇑eP Pn 10 10 19.6 +1.3
GNI pmax pmax
comp=Z,11nm,1.1s
ESDC Sonseca Array 19.02 280 P Pn 10 10 23.0 +0.5
comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=12
ESDC LR LR 10 17 32.2
comp=Z,99nm,18.1s,baz=27,slow=36
comp=Z,1.8nm,0.8s
VSU Vasula 20.02 9⇑iP P 10 10 31.4 -1.0
VSU pmax pmax
comp=Z,10.0nm,0.9s
MAK Makhachkala 20.71 70 eP P 10 10 38.5 -1.6
MAK eS **S 10 14 28.8 -2.5**
MAK pmax pmax
comp=Z,31nm,0.4s
MAK MLR MLR
comp=Z,127nm,15.0s
HFS Hagfors 21.74 351 P P 10 10 49.0 -2.0
comp=Z,3.7nm,0.6s,baz=163,slow=11,SNR=13
HFS LR LR 10 19 07.8
comp=Z,121nm,21.5s,baz=344,slow=37
comp=Z,3.7nm,0.6s
HFS Hagfors 21.74 351 P P 10 10 49.0 -2.0
NC602 NORSAR Array S 22.63 348 P P 10 10 59.1 -1.4
FINES FINESS Array B 22.87 7 P P 10 11 02.7 -0.3
FINES FINESS Array B 22.87 7 P P 10 11 01.8 -1.2
comp=Z,1.7nm,0.4s,baz=178,slow=8.3,SNR=9.3
FINES PcP **PcP 10 14 55.4 +1.9**
comp=Z,3.6nm,0.9s,baz=235,slow=4.9,SNR=2.8
comp=Z,1.7nm,0.4s
FINES FINESS Array B 22.87 7 i P P 10 11 02.5 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
FIA1 FINESS Array S 22.87 7 P P 10 11 02.5 -0.5
EKA Eskdalemuir Ar 22.91 324 P P 10 11 02.2 -1.3
comp=Z,6.9nm,0.6s,baz=124,slow=10,SNR=43
comp=Z,6.9nm,0.6s
ESK Eskdalemuir 22.93 324 P P 10 11 03.3 -0.4
ESK IAmb IAmb 10 11 06.4
comp=Z,13nm,0.8s
ESK Eskdalemuir 22.93 324 P P 10 11 03.3 -0.4
ESK pmax pmax
comp=Z,13nm,0.8s
EKB Eskdalemuir 22.93 324 P P 10 11 02.9 -0.8
EKB IAmb IAmb 10 11 03.4
comp=Z,13nm,0.7s
NC405 NORSAR Array S 22.96 349 P P 10 11 03.7 -0.3
NC405 IAmb IAmb 10 11 12.7
comp=Z,13nm,0.8s
NB201 NORSAR Array S 22.97 348 P P 10 11 03.1 -0.9
NB2 NORSAR Subarra 22.97 348 P P 10 11 02.9 -1.2
comp=Z,2.1nm,0.7s,baz=153,slow=10
NOA NORSAR Array B 22.97 348 P P 10 11 02.2 -1.9
comp=Z,0.9nm,0.6s,baz=160,slow=9.5,SNR=8.7
NOA LR LR 10 19 54.9
comp=Z,91nm,19.0s,baz=165,slow=37
comp=Z,0.9nm,0.6s
NBO00 NORSAR Array S 23.03 348 P P 10 11 04.2 -0.6
NBO00 IAmb IAmb 10 11 32.0
comp=Z,28nm,1.4s
BELG Belogornoye 23.09 45⇓eP P 10 11 05.3 0.0
BELG pmax pmax
comp=Z,4.0nm,0.9s
KIRV Kirov 27.06 34⇑eP P 10 11 42.8 +0.8
ABKAR Akbulak array 29.82 57 P P 10 12 08.2 +1.4
ARTI Arti 30.41 42 P P 10 12 13.3 +1.4
ARTI IAmb IAmb 10 12 13.7
comp=Z,6.3nm,0.8s
ARTI Arti 30.41 42d iP P 10 12 12.8 +0.9
ARTI 10 13 10.4
ARTI S **S 10 17 13.6 +1.1**
ARTI SS **SnSn 10 18 47.8 +0.3**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 30.86 3 P P 10 12 15.3 -0.4
comp=Z,1.6nm,0.7s,baz=195,slow=8.8,SNR=3.9
comp=Z,1.6nm,0.7s
BRVK Borovoye 36.58 51 P P 10 13 07.0 +1.4
BRVK IAmb IAmb 10 13 08.6
comp=Z,7.9nm,0.9s
BRVK Borovoye 36.58 51deP P 10 13 05.2 -0.4
BRVK pmax pmax
comp=Z,12nm,1.3s
BVAR Borovoye Array 36.64 51 P P 10 13 05.2 -1.0
comp=Z,6.2nm,0.5s,baz=271,slow=7.1,SNR=26
comp=Z,6.2nm,0.5s
SIMJ Simiganj 37.40 75 P P 10 13 15.4 +2.5
KK31 Karatay Array 37.48 67 P P 10 13 15.1 +1.7
KK31 IAmb IAmb 10 13 16.5
comp=Z,9.1nm,0.8s
KK31 Karatay Array 37.48 67 P P 10 13 15.1 +1.7
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 37.48 67 P P 10 13 12.9 -0.4
KKAR Karatay Array 37.48 67 P P 10 13 13.0 -0.4
KKAR IAmb IAmb 10 13 16.5
comp=Z,5.8nm,0.7s
KKAR Karatay Array 37.48 67 P P 10 13 13.0 -0.4
KKAR pmax pmax
comp=Z,6.0nm,0.7s
CHGR Chuyangaron 37.51 75 P P 10 13 13.9 +0.1
CHGR Chuyangaron 37.51 75 P P 10 13 13.9 +0.1
CHGR pmax pmax
comp=Z,19nm,1.0s
GAR Garm 38.29 74 P P 10 13 20.9 +0.5
DBIC Dimbokro 39.43 222 LR LR 10 30 37.4
comp=Z,83nm,18.4s,baz=32,slow=37
SPITS Spitsbergen Ar 39.48 359 P P 10 13 28.4 -1.3
comp=Z,4.9nm,0.9s,baz=170,slow=9.5,SNR=5.6
comp=Z,4.9nm,0.9s
ARSB Arslanbob 39.66 69 P P 10 13 32.2 +0.3
ARSB IAmb IAmb 10 13 40.9
comp=Z,14nm,1.2s
ARSB Arslanbob 39.66 69 P P 10 13 32.2 +0.3
ARSB pmax pmax
comp=Z,14nm,1.2s
AAK Ala-Archa 40.44 67 P P 10 13 39.4 +1.1
AAK Ala-Archa 40.44 67 LR LR 10 33 20.6
comp=Z,70nm,19.1s,baz=324,slow=41
AAK Ala-Archa 40.44 67⇑eP P 10 13 38.1 -0.3
AAK pmax pmax
comp=Z,1.0nm,0.9s
BOOM Boomskoye usch 41.51 67 P P 10 13 47.6 +0.4
BOOM Boomskoye usch 41.51 67 P P 10 13 47.6 +0.4
BOOM pmax pmax
comp=Z,3.0nm,0.6s
KURBB Kurchatov Arra 41.78 54 P P 10 13 48.0 -1.1
comp=Z,5.0nm,0.7s,baz=283,slow=9.1,SNR=29
KURBB PcP **PcP 10 15 47.0 +1.8**
comp=Z,0.6nm,0.6s,baz=275,slow=3.8,SNR=5.0
comp=Z,5.0nm,0.7s
KURK Kurchatov 41.83 54 P P 10 13 49.4 -0.1
KURK Kurchatov 41.83 54⇓eP P 10 13 49.3 -0.2
KURK pmax pmax
comp=Z,10.0nm,1.3s
MK31 Makanchi Array 44.90 59 P P 10 14 13.7 -0.7
MK31 IAmb IAmb 10 14 16.7
comp=Z,3.5nm,0.7s
MK31 Makanchi Array 44.90 59deP P 10 14 13.4 -1.0
MKAR Makanchi Array 44.90 59 P P 10 14 13.8 -0.6
comp=Z,4.4nm,0.5s,baz=278,slow=7.3,SNR=59
MKAR PcP **PP 10 15 57.9 -1.2**
comp=Z,0.8nm,0.6s,baz=278,slow=3.5,SNR=3.5
MKAR LR LR 10 37 36.3
comp=Z,82nm,18.8s,baz=298,slow=42
comp=Z,4.4nm,0.5s
MKAR Makanchi Array 44.90 59ceP P 10 14 13.8 -0.6
MKAR pmax pmax
comp=Z,5.0nm,0.5s
ZAA0 Zalesovo Array 45.20 49 P P 10 14 15.7 -1.0
ZALV Zalesovo Beam 45.20 49 P P 10 14 14.9 -1.7
comp=Z,13nm,0.6s,baz=281,slow=8.4,SNR=41
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 45.20 49 i P P 10 14 15.3 -1.3
ZALV pmax pmax
comp=Z,13nm,0.6s
ILULI Ilulissat 47.85 333 P P 10 14 37.4 +0.2
ILULI Ilulissat 47.85 333 P P 10 14 37.4 +0.2
ILULI pmax pmax
comp=Z,8.0nm,0.4s
SCHQ Schefferville 58.00 317 P P 10 15 51.7 -0.7
comp=Z,4.6nm,1.0s,baz=72,slow=6.4,SNR=5.5
comp=Z,4.6nm,1.0s
TIXI Tiksi 59.00 21⇓eP P 10 15 58.8 -0.2
TIXI pmax pmax
comp=Z,1.0nm,1.1s
SONM Songino Array 59.99 51 P P 10 16 08.6 +2.1
SONM Songino Array 59.99 51 P P 10 16 05.8 -0.6
comp=Z,1.1nm,0.6s,baz=280,slow=8.6,SNR=7.1
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 60.37 51⇑eP P 10 16 10.6 +1.5
ULN pmax pmax
comp=Z,1.0nm,0.7s
FCC Fort Churchill 68.70 329 P P 10 17 02.8 -0.3
FCC IAmb IAmb 10 17 06.2
comp=Z,4.9nm,1.3s
FCC Fort Churchill 68.70 329 P P 10 17 02.8 -0.3
FCC pmax pmax
comp=Z,5.0nm,1.3s
CMAR Chiang Mai Arr 69.74 82 P P 10 17 09.3 -0.9
comp=Z,1.0nm,0.7s,baz=305,slow=8.3,SNR=7.2
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 69.74 82ceP P 10 17 11.6 +1.4
CMAR pmax pmax
comp=Z,1.0nm,0.8s
C23K Itkillik River 71.43 357 P P 10 17 21.1 +1.4
C23K IAmb IAmb 10 17 45.2
comp=Z,4.6nm,1.2s
C24K Franklin Bluff 71.45 356 P P 10 17 20.1 +0.3
E29M Blow River 71.87 352 P P 10 17 22.6 +0.3
E29M IAmb IAmb 10 17 29.4
comp=Z,4.7nm,1.1s
D23K Nanushuk River 72.30 357 P P 10 17 25.9 +0.9
YKA Yellowknife Ar 72.78 340 P P 10 17 26.8 -1.1
comp=Z,0.3nm,0.7s,baz=34,slow=4.9,SNR=6.0
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 72.78 340 i P P 10 17 27.3 -0.6
KLR Kul'dur 73.32 40⇑eP P 10 17 33.3 +2.0
KLR pmax pmax
comp=Z,4.0nm,1.7s
MA2 Magadan 73.65 24 P 10 17 35.0 +1.9
MA2 IAmb IAmb 10 17 37.1
comp=Z,6.4nm,0.9s
MA2 Magadan 73.65 24⇓eP P 10 17 35.6 +2.5
MA2 pmax pmax
comp=Z,17nm,2.5s
H29M Whitestone 74.00 351 P P 10 17 36.3 +1.2
H29M IAmb IAmb 10 17 41.1
comp=Z,4.4nm,1.1s
FFC Flin Flon 74.63 330 i P P 10 17 38.5 -0.4
ULM Lac du Bonnet 75.19 324 P P 10 17 41.2 -1.0
comp=Z,2.2nm,0.7s,baz=1.5,slow=7.5,SNR=5.4
comp=Z,2.2nm,0.7s
ULM Lac du Bonnet 75.19 324⇑eP P 10 17 40.8 -1.4
ILAR Eielson Array 76.24 355 P P 10 17 46.5 -1.5
comp=Z,0.3nm,0.7s,baz=358,slow=3.8,SNR=4.4
comp=Z,0.3nm,0.7s
USRK Ussuriysk Ar. 76.75 43 P P 10 17 52.1 +0.9
comp=Z,0.9nm,0.8s,baz=310,slow=1.1,SNR=2.4
comp=Z,0.9nm,0.8s
KSRS Korea Array 78.86 51 P P 10 18 04.1 +1.0
comp=Z,2.0nm,0.7s,baz=307,slow=4.6,SNR=7.7
comp=Z,2.0nm,0.7s
MJAR Matsushiro Ar 85.47 46 P P 10 18 37.7 -0.1
comp=Z,1.7nm,0.7s,baz=310,slow=5.1,SNR=4.4
comp=Z,1.7nm,0.7s
WRA Warramunga Arr 120.50 92 PKP PKiKP 10 24 52.4 +0.5
comp=Z,0.7nm,1.0s,baz=316,slow=1.9,SNR=2.5
ASAR Alice Springs 122.19 96 PKP PKiKP 10 24 56.3 +1.1
comp=Z,0.8nm,0.8s,baz=290,slow=1.8,SNR=6.6
QSPA South Pole Qui 128.71 180 PKP PKiKP 10 25 07.0 +0.1
comp=Z,1.8nm,1.2s,baz=256,slow=2.2,SNR=2.0

ATH 26 10:07:22.1,38°.86N×20°.67E,h9km±2km,ML2.9/6,Manual Solution by M.Kolligri First location: 2019/02/26 12:26:46, This location: 2019/02/26 12:25:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 4 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.04**	**196**	P	Pg	10 07 24.1	+0.3
TSLK				S	Sg	10 07 25.5	+0.5
LKD2	**Lefkada island**	**0.07**	**187**	P	Pg	10 07 24.5	+0.3
LKD2				S	Sg	10 07 26.4	+0.7
DRAG	**Dragano-Lefkad**	**0.19**	**203**	P	Pg	10 07 26.1	0.0
DRAG				S	Sg	10 07 29.7	+0.9
EVGI	**Lefkada island**	**0.24**	**182**	P	Pg	10 07 27.2	+0.2

EVGI				S	Sg	10 07 31.1	+0.8
ARTB	**Arta**	**0.38**	**39**	P	Pg	10 07 30.0	+0.4
FSK	**Fiskardo**	**0.41**	**192**	P	Pg	10 07 30.0	-0.1
FSK				S	Sg	10 07 35.5	-0.1
TETR	**Tetrakomo, Epi**	**0.67**	**44**	P	Pg	10 07 35.5	+0.4
VLS	**Valsamata**	**0.69**	**185**	P	Pg	10 07 35.3	0.0
PVO	**Paravola**	**0.71**	**110**	P	Pb	10 07 36.5	-0.2
PSDA	**Pessada-Kefalo**	**0.75**	**185**	P	Pg	10 07 36.9	+0.4

*KRNET **26** 10:07:24.3±0.1, 43°.59N×69°.59E, mb2.3*
*SOME **26** 10:07:24.5, 43°.67N×69°.63E*
*NNC **26** 10:07:26.0±1.7, 43°.67N×69°.76E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=9.9km s-min=6.0km az=137.0, Suspected Mining explosion.*

ISC 26 10:07:27.2±1.9, 43°.68N±0°.07×69°.82E±0°.08, h0km, n14, σ1$48/22, 13C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.65**	**179**	P	**Pb**	**10 07 42.6**	**+1.2**
BRLS	1.6nm,0.1s			S	**Sn**	**10 07 55.3**	**+0.7**
	14nm,0.3s						
KK31	**Karatay Array**	**0.77**	**139**	⇓P	**Pg**	**10 07 40.3**	**-1.5**
KK31	0.5nm,0.1s,baz=323,slow=17,SNR=32			⇑S	**Sg**	**10 07 52.4**	**+0.7**
	46nm,0.7s,baz=315,slow=30,SNR=32						
KKAR	**Karatay Array**	**0.77**	**139**	⇑*i*P	**Pg**	**10 07 40.3**	**-1.5**
KKAR				⇑*i*S	**Sg**	**10 07 52.1**	**+0.4**
IUG	**Iuzhnay**	**1.54**	**174**	P	**Pn**	**10 07 54.9**	**-1.1**
IUG	31nm,0.6s			S	**Sn**	**10 08 16.9**	**+0.2**
	57nm,0.5s						
MNAS	**Manas**	**2.30**	**120**	⇑*i*P	**Pn**	**10 08 07.1**	**+0.6**
MNAS				⇑*i*S	**Sb**	**10 08 38.3**	**-0.3**
TRKS	**Terek-Say**	**2.36**	**155**	⇑*i*P	**Pn**	**10 08 07.4**	**+0.1**
TRKS				⇑*i*S	**Sn**	**10 08 38.8**	**+1.8**
ARK	**Arkit**	**2.46**	**139**	⇑*i*P	**Pn**	**10 08 08.5**	**-0.1**
ARK				⇑*i*S	**Sn**	**10 08 40.6**	**+1.3**
MRKS	**Merke**	**2.66**	**109**	Pg	**Pb**	**10 08 15.7**	**0.0**
MRKS	3.4nm,0.5s			Lg	Lg	10 08 53.0	
	8.4nm,0.5s						
BTLS	**Baital**	**3.32**	**64**	Pg	**Pg**	**10 08 30.6**	**-0.2**
BTLS	7.8nm,0.6s			Lg	Lg	10 09 18.1	
	4.0nm,0.5s						
SGDS	**Sogindy**	**3.50**	**92**	Pg	**Pg**	**10 08 32.7**	**-1.5**
SGDS	1.3nm,0.3s			Lg	Lg	10 09 21.4	
	5.4nm,0.5s						
AAK	**Ala-Archa**	**3.58**	**105**	⇑Pg	**Pb**	**10 08 31.4**	**0.0**
AAK	3.8nm,0.7s			⇑Lg	Lg	10 09 21.7	
	5.0nm,0.7s						
ARLS	**Aral**	**3.78**	**117**	⇑*e*P	**Pn**	**10 08 28.2**	**+1.4**
ARLS				⇑*e*S	**Sn**	**10 09 14.6**	**+2.5**
DGS	**Degeres**	**4.36**	**94**	Pg	**Pg**	**10 08 47.7**	**-2.9**
DGS	1.4nm,0.5s			Lg	Lg	10 09 47.3	
	4.9nm,0.7s						
KST	**Kastek**	**4.52**	**96**	Pg	**Pg**	**10 08 50.8**	**-3.0**
KST	2.7nm,0.3s			Lg	Lg	10 09 52.4	
	8.4nm,0.7s						

*ASRS **26** 10:15:26.0±1.2, 53°.73N×90°.92E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 10:15:36.2±4.0, 53°.46N×90°.56E, h0km, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=34.2km s-min=25.1km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.44**	**280**	Pn	Pn	10 16 31.5	+0.4
ZALV	0.6nm,0.3s,baz=97,slow=16,SNR=5.5			Lg	Lg	10 17 25.0	
	0.6nm,0.3s,baz=104,slow=29,SNR=7.1						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**7.94**	**254**	Pn	Pn	10 17 32.9	+0.1
KURBB	baz=64,slow=14,SNR=3.0			Lg	Lg	10 19 48.0	
	0.1nm,0.3s,baz=62,slow=32,SNR=4.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**8.53**	**222**	Pn	Pn	10 17 41.6	+0.7
MKAR	baz=37,slow=10,SNR=2.4			Sn	Sn	10 19 16.6	-1.1
	baz=37,slow=27,SNR=1.2						
MKAR				Lg	Lg	10 20 07.1	
	0.1nm,0.3s,baz=42,slow=33,SNR=3.5						
	0.2nm,0.6s						
I34MN	**SONGINO INFRAS**	**11.54**	**113**	I	I	11 22 30.0	
	baz=313,slow=326,SNR=1.5						

*IDC **26** 10:29:25.3±1.0, 5°.38S×142°.54E, h0km, mb4.0/12, mbtmp4.0/14, ML4.1/2, MS3.3/15, Error ellipse: s-maj=33.6km s-min=13.0km az=98.0*
*NEIC **26** 10:29:32.4±1.5, 5°.41S±0°.08×142°.00E±0°.04, h49km±8km, mb4.5/34, Error ellipse: s-maj=11.4km s-min=3.8km az=197.0*
*DJA **26** 10:29:41.4±1.7, 5°.5S±5°.×14°.2E±1°.1, h18km±19km, M4.6/5, MLv4.6/5*

ISC 26 10:29:30.0±0.5, 5°.32S±0°.05×142°.01E±0°.07, h25km, n73, σ1$63/66, mb4.5/26, MS3.3/10, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.08**	**335**	Pn	**Pb**	**10 30 20.1**	**-4.1**
JAY	19nm,0.3s,baz=177,slow=7.8,SNR=40			Sn	**Sb**	**10 31 00.2**	**-1.1**
	0.9nm,0.3s,baz=134,slow=22,SNR=1.1						
JAY				LR	LR	10 31 45.3	
	comp=Z,586nm,18.5s,baz=157,slow=41						
	75nm,0.4s						
JAY	**Jayapura**	**3.08**	**335**	P	**Pb**	**10 30 21.7**	**-2.5**
JAY				S	**Sn**	**10 30 55.3**	**+2.1**
GENI	**Genyem**	**3.27**	**326**	P	**Pb**	**10 30 25.3**	**-2.2**
GENI				S	**Sn**	**10 30 59.6**	**+1.6**
MMPI	**Merauke**	**3.51**	**207**	P	Pb	10 30 43.3	+12
MMPI				S	Sb	10 31 24.7	+11
SMPI	**Sarmi**	**4.67**	**315**	P	Pb	10 30 45.7	-5.6
MANU	**Manus Island**	**6.26**	**59**		**Pn**	**10 31 02.1**	**+1.2**
COEN	**Coen**	**8.66**	**172**	Pn	**Pn**	**10 31 33.2**	**-0.6**
FAKI	**Fak Fak**	**10.02**	**283**		**Pn**	**10 31 54.0**	**+1.4**
FAKI	**Fak Fak**	**10.02**	**283**	P	**Pn**	**10 31 53.3**	**+0.8**
RABL	**Rabaul**	**10.19**	**84**	Pn	**Pn**	**10 31 56.3**	**+1.5**
MTN	**Manton Dam**	**13.07**	**234**		**Pn**	**10 32 35.0**	**+0.6**
WB0	**Warramunga Arr**	**16.16**	**207**		**P**	**10 33 15.9**	**-2.7**
WR0	**Warramunga Arr**	**16.26**	**206**		**Pn**	**10 33 15.3**	**-1.6**
WRAB	**Tennant Creek**	**16.32**	**206**		**Pn**	**10 33 16.5**	**-1.2**
WB2	**Warramunga Arr**	**16.33**	**206**		**P**	**10 33 17.4**	**-3.1**
WRA	**Warramunga Arr**	**16.33**	**207**		**Pn**	**10 33 17.4**	**-0.5**
WRA	**Warramunga Arr**	**16.33**	**207**	Pn	**Pn**	**10 33 14.4**	**-3.5**
	0.3nm,0.3s,baz=30,slow=13,SNR=8.8						
WRA				Sn	**Sn**	**10 36 22.5**	**+4.0**
	0.1nm,0.3s,baz=160,slow=26,SNR=3.0						
WRA				LR	LR	10 40 24.3	
	comp=Z,192nm,19.8s,baz=37,slow=40						
KNRA	**Kununurra**	**16.58**	**231**	Pn	**Pn**	**10 33 20.1**	**-1.0**
KNRA				IAmb	IAmb	10 33 27.9	
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**18.12**	**255**	P	**Pn**	**10 33 38.8**	**-1.6**
SOEI				IAmb	IAmb	10 34 12.6	
	comp=Z,47nm,0.7s						
HNR	**Honiara**	**18.25**	**104**	LR	LR	10 40 26.6	
	comp=Z,45nm,19.4s,baz=330,slow=37						
GUMO	**Guam**	**19.00**	**9**	LR	LR	10 41 39.1	
	comp=Z,25nm,18.1s,baz=204,slow=39						
AS31	**Alice Springs**	**19.84**	**202**	P	**Pn**	**10 33 59.1**	**-1.8**
ASAR	**Alice Springs**	**19.84**	**202**	P	**Pn**	**10 33 58.7**	**-2.2**
ASAR	**Alice Springs**	**19.84**	**202**	P	**Pn**	**10 34 00.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=32,slow=11,SNR=37						
ASAR				S	**Sn**	**10 37 46.9**	**+3.6**
	comp=Z,0.6nm,0.8s,baz=20,slow=27,SNR=2.5						
ASAR				LR	LR	10 42 26.4	
	comp=Z,360nm,18.7s,baz=26,slow=39						
	comp=Z,8.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.42**	**230**	P	**P**	**10 34 04.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.42**	**230**	P	Pn	10 34 07.5	-0.2
	comp=Z,7.2nm,0.9s,baz=53,slow=9.9,SNR=11						
FITZ				S	Sn	10 37 56.7	-0.6
	comp=Z,2.3nm,0.7s,baz=86,slow=19,SNR=1.8						
FITZ				LR	LR	10 42 02.3	
	comp=Z,106nm,21.8s,baz=50,slow=36						
	comp=Z,7.2nm,0.9s						
DAV	**Davao City (W)**	**20.50**	**307**	LR	LR	10 41 18.0	
	comp=Z,40nm,21.3s,baz=106,slow=34						
KAPI	**Kappang**	**22.17**	**270**	LR	LR	10 44 17.4	
	comp=Z,26nm,18.4s,baz=39,slow=39						
DZM	**Mont Dzumac**	**28.92**	**127**	P	**P**	**10 35 27.3**	**-0.1**
JCJ	**Chichijima**	**32.23**	**0**	LR	LR	10 46 45.7	
	comp=Z,79nm,19.1s,baz=350,slow=32						
JOW	**Kunigami**	**34.62**	**338**	LR	LR	10 47 33.8	
	comp=Z,46nm,20.2s,baz=38,slow=31						
NWAO	**Narrogin (SRO)**	**35.88**	**217**	LR	LR	10 52 03.6	
	comp=Z,85nm,21.9s,baz=246,slow=38						
JNU	**Nakatsue**	**39.67**	**345**	LR	LR	10 50 21.6	
	comp=Z,78nm,18.8s,baz=32,slow=32						
KSRS	**Korea Array**	**44.54**	**344**	P	**P**	**10 37 39.7**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=161,slow=8.7,SNR=2.4						
KSRS				LR	LR	10 54 47.6	
	comp=Z,19nm,21.2s,baz=345,slow=34						
	comp=Z,0.7nm,0.5s						
URZ	**Urewera**	**45.72**	**141**	LR	LR	10 57 17.2	
	comp=Z,41nm,20.2s,baz=338,slow=37						
CMAR	**Chiang Mai Arr**	**48.58**	**300**	P	**P**	**10 38 14.4**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=111,slow=8.5,SNR=5.7						
	comp=Z,0.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**50.12**	**351**	P	**P**	**10 38 24.0**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=147,slow=8.6,SNR=2.6						
	comp=Z,1.5nm,0.9s						
SONM	**Songino Array**	**61.49**	**333**	P	**P**	**10 39 47.0**	**+2.2**
	comp=Z,1.8nm,1.0s,baz=156,slow=7.1,SNR=6.2						
	comp=Z,1.8nm,1.0s						
MK31	**Makanchi Array**	**73.86**	**322**	P	**P**	**10 41 02.4**	**-0.4**
MK31				IAmb	IAmb	10 41 06.3	
	comp=Z,3.6nm,1.4s						
MKAR	**Makanchi Array**	**73.86**	**322**	P	**P**	**10 41 01.8**	**-1.0**
MKAR	**Makanchi Array**	**73.86**	**322**	P	**P**	**10 41 04.2**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=114,slow=5.4,SNR=8.2						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**75.84**	**329**	P	**P**	**10 41 13.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=124,slow=7.2,SNR=1.9						
ZALV				LR	LR	11 16 58.3	
	comp=Z,80nm,18.4s,baz=8.0,slow=38						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**77.75**	**324**	P	**P**	**10 41 26.9**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=98,slow=3.8,SNR=4.2						
	comp=Z,0.7nm,0.9s						
K15K	**Wolf Creek Mou**	**79.89**	**23**	P	**P**	**10 41 36.9**	**+0.5**
J16K	**Anvik River**	**80.78**	**23**	P	**P**	**10 41 39.8**	**-1.4**
J17K	**VABM Dome**	**81.42**	**23**	P	**P**	**10 41 43.1**	**-1.5**
J17K				IAmb	IAmb	10 42 24.0	
	comp=Z,12nm,1.4s						
KDAK	**Kodiak Island**	**81.71**	**29**	P	**P**	**10 41 45.0**	**-1.2**
J19K	**Poorman**	**83.06**	**23**	P	**P**	**10 41 52.3**	**-0.9**
J19K				IAmb	IAmb	10 41 53.1	
	comp=Z,7.1nm,1.4s						
NRIK	**Noril'sk**	**83.15**	**343**	P	**P**	**10 41 54.1**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=142,slow=4.9,SNR=4.0						
	comp=Z,1.2nm,0.8s						
BVAR	**Borovoye Array**	**83.33**	**325**	P	**P**	**10 41 55.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.8,SNR=7.1						
	comp=Z,1.1nm,0.7s						
K20K	**Telida**	**83.39**	**24**	P	**P**	**10 41 52.4**	**-2.5**
K20K				IAmb	IAmb	10 42 24.5	
	comp=Z,6.2nm,1.3s						
G19K	**Purcell Mounta**	**83.53**	**21**	P	**P**	**10 41 55.0**	**-0.5**
G19K				IAmb	IAmb	10 42 17.9	
	comp=Z,6.7nm,1.3s						
J20K	**Nowinta River**	**83.72**	**23**	P	**P**	**10 41 55.5**	**-1.1**
J20K				IAmb	IAmb	10 41 59.1	
	comp=Z,3.5nm,1.0s						
RC01	**Rabbit Creek A**	**84.34**	**27**	P	**P**	**10 41 59.2**	**-0.6**
RC01				IAmb	IAmb	10 42 01.3	
	comp=Z,13nm,1.3s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**10 42 01.2**	**-0.2**
QSPA				IAmb	IAmb	10 42 06.3	
	comp=Z,3.6nm,1.0s						
QSPA	**South Pole Qui**	**84.64**	**180**	P	**P**	**10 42 00.5**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=302,slow=2.4,SNR=11						
	comp=Z,2.0nm,0.8s						
RND	**Reindeer**	**85.57**	**25**	P	**P**	**10 42 05.0**	**-1.0**
RND				IAmb	IAmb	10 42 07.2	
	comp=Z,4.4nm,0.8s						
SCM	**Sheep Creek Mo**	**85.68**	**27**	P	**P**	**10 42 06.0**	**-0.6**
SCM				IAmb	IAmb	10 42 32.7	
	comp=Z,7.8nm,1.2s						
B21K	**Ikpikpuk River**	**85.99**	**18**	P	**P**	**10 42 07.0**	**-0.8**
B21K				IAmb	IAmb	10 42 29.7	
	comp=Z,2.2nm,1.1s						
WRH	**Wood River Hil**	**86.26**	**24**	P	**P**	**10 42 08.5**	**-0.8**
G23K	**Bananza Creek**	**86.33**	**22**	P	**P**	**10 42 09.1**	**-0.6**
CCB	**Clear Creek Bu**	**86.44**	**24**	P	**P**	**10 42 09.0**	**-1.2**
CCB				IAmb	IAmb	10 42 11.2	
	comp=Z,2.5nm,0.7s						
B22K	**Teshekpuk Lake**	**86.68**	**18**	P	**P**	**10 42 11.1**	**-0.1**
HDA	**Harding Lake**	**86.71**	**24**	P	**P**	**10 42 11.0**	**-0.6**
HDA				IAmb	IAmb	10 42 15.6	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**86.85**	**24**	P	**P**	**10 42 10.8**	**-1.5**
ILAR	**Eielson Array**	**86.85**	**24**	P	**P**	**10 42 10.3**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=266,slow=4.5,SNR=24						
	comp=Z,1.0nm,0.6s						
TOLK	**Toolik Lake Re**	**87.23**	**20**	P	**P**	**10 42 13.7**	**-0.3**
TOLK				IAmb	IAmb	10 42 20.5	
	comp=Z,6.5nm,1.5s						
C23K	**Itkillik River**	**87.34**	**19**	P	**P**	**10 42 15.0**	**+0.5**
RIDG	**Independent Ri**	**87.37**	**25**	P	**P**	**10 42 14.2**	**-0.6**
RIDG				IAmb	IAmb	10 42 19.2	
	comp=Z,3.8nm,1.0s						
J25K	**Salcha River,**	**87.42**	**24**	P	**P**	**10 42 15.1**	**0.0**
J25K				IAmb	IAmb	10 42 16.9	
	comp=Z,3.2nm,1.1s						
C24K	**Franklin Bluff**	**87.92**	**19**	P	**P**	**10 42 17.6**	**+0.4**
BMAR	**Burnt Mountain**	**88.58**	**22**	P	**P**	**10 42 21.4**	**+0.9**
ABKAR	**Akbulak array**	**88.83**	**320**	P	**P**	**10 42 21.2**	**-0.7**

*IDC **26** 10:30:36.5±1.8, 27°.52N×85°.97E, h0km, mb3.7/5, mbtmp3.7/7, ML4.0/2, MS3.7/1, Error ellipse: s-maj=57.8km s-min=22.6km az=62.0*
*DMN **26** 10:30:38.5±0.0, 27°.63N×86°.00E, h10km, Ml4.5/4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 26 10:30:38.3±1.3, 27°.49N±0°.08×85°.91E±0°.04, h11km±10km, n17, σ1$31/24, mb3.7/5, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**0.46**	**281**	Pg	**Pb**	**10 30 49.2**	**+0.6**
PKI	baz=263,slow=0.0			Sg	**Sb**	**10 30 56.9**	**+1.3**
	baz=263,slow=0.0						
PKIN	**Phulchoki**	**0.47**	**281**	Pg	**Pb**	**10 30 49.3**	**+0.5**
	baz=264,slow=0.0						
PKIN				Sg	**Sb**	**10 30 56.2**	**+0.4**
	baz=264,slow=0.0						
KKN	**Kakani**	**0.64**	**298**	Pg	**Pb**	**10 30 51.8**	**+0.1**
	baz=285,slow=0.0						
KKN				Sg	**Sg**	**10 30 59.7**	**+0.5**
	1μm,0.2s,baz=285,slow=0.0						
DMN	**Daman**	**0.73**	**280**	Pg	**Pb**	**10 30 54.1**	**+0.9**
	baz=268,slow=0.0						
DMN				Sg	**Sb**	**10 31 04.3**	**+1.0**
	949nm,0.3s,baz=268,slow=0.0						
RAMN	**Ramite**	**0.81**	**131**	Pg	**Pb**	**10 30 54.8**	**+0.2**
	baz=142,slow=0.0						
RAMN				Sg	**Sb**	**10 31 06.6**	**+0.9**
	2μm,0.4s,baz=142,slow=0.0						
ODAN	**Odare**	**1.46**	**115**	Pg	**Pg**	**10 31 06.1**	**-0.2**
	baz=121,slow=0.0						
ODAN				Sg	**Sn**	**10 31 25.5**	**+1.4**
	1μm,0.4s,baz=121,slow=0.0						
KOLN	**Koldanda**	**2.07**	**278**	Sg	**Sg**	**10 31 45.2**	**+0.2**
	897nm,0.3s,baz=274,slow=0.0						
PYUN	**Piuthan**	**2.66**	**284**	Pg	**Pg**	**10 31 28.2**	**-1.1**
	baz=281,slow=0.0						
PYUN				Sg	**Sg**	**10 32 03.4**	**-0.5**
	340nm,0.3s,baz=281,slow=0.0						
LSA	**Lhasa**	**5.11**	**63**	Pn	**Pn**	**10 31 58.8**	**+3.5**
LSA				Sn	**Sn**	**10 32 52.5**	**-2.0**
LSA				smax	smax		
	comp=N,13nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.98**	**124**	Pn	**Pn**	**10 34 07.5**	**-2.7**
	comp=N,0.3nm,0.3s,baz=306,slow=13,SNR=4.8						
	comp=N,0.7nm,0.3s						
MKAR	**Makanchi Array**	**19.48**	**353**	P	**P**	**10 35 04.5**	**-0.8**
	comp=N,0.3nm,0.3s,baz=182,slow=9.8,SNR=12						
	comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**23.78**	**348**	P	**P**	**10 35 50.9**	**0.0**
	comp=N,0.4nm,0.5s,baz=166,slow=9.3,SNR=5.6						
	comp=N,0.4nm,0.5s						
SONM	**Songino Array**	**25.85**	**33**	P	**P**	**10 36 09.4**	**-0.6**
	comp=N,1.0nm,0.6s,baz=219,slow=10,SNR=5.4						
	comp=N,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**26.45**	**359**	P	**P**	**10 36 14.8**	**-0.4**
	comp=N,0.6nm,0.4s,baz=182,slow=7.2,SNR=4.7						
	comp=N,0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**40.34**	**53**	LR	LR	10 55 14.3	
	comp=N,112nm,21.5s,baz=190,slow=37						
HFS	**Hagfors**	**57.77**	**326**	P	**P**	**10 40 28.7**	**-0.6**
	comp=N,3.3nm,1.0s,baz=98,slow=7.4,SNR=2.3						
	comp=N,3.3nm,1.0s						
WRA	**Warramunga Arr**	**66.49**	**130**	P	**P**	**10 41 28.5**	**+0.1**
	comp=N,0.9nm,0.9s,baz=322,slow=6.3,SNR=7.5						
	comp=N,0.9nm,0.9s						

IDC 26 10:35:15.1±759.0, 52°.97N×2°.32E, h0km, Error ellipse: s-maj=344.2km s-min=159.3km az=113.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.30**	**115**	I	I	11 20 00.0	
	0.1nm,0.7s,baz=311,slow=316,SNR=1.5						
I48TN	**KESRA INFRASON**	**17.86**	**161**	I	I	12 21 50.0	
	baz=345,slow=330,SNR=0.8						
I43RU	**DUBNA INFRASON**	**20.30**	**65**	I	I	12 39 50.0	
	baz=276,slow=324,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**33.90**	**71**	I	I	14 05 30.0	
	baz=296,slow=336,SNR=0.6						

IDC 26 10:35:17.0±999.0, 56°.89N×25°.56E, h0km, Error ellipse: s-maj=1913.0km s-min=152.1km az=86.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.41**	**87**	I	I	11 11 00.0	
	0.4nm,0.7s,baz=278,slow=296,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**20.17**	**95**	I	I	12 33 40.0	
	baz=302,slow=325,SNR=1.3						
I46RU	**ZALESOVO INFRA**	**32.85**	**69**	I	I	13 59 52.6	
	baz=298,slow=319,SNR=1.4						

*SJA **26** 10:36:13.3±0.5, 26°.81S×70°.83W, h68km±2km, ML3.9, MW3.7*
*GUC **26** 10:36:17.3±0.5, 26°.85S×70°.83W, h55km±10km, ML3.7*

ISC 26 10:36:15.3±1.3, 26°.78S±0°.03×70°.98W±0°.07, h52km±20km, n24, σ1$61/36, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.72**	**29**	*e*P	**Pn**	**10 36 30.0**	**+0.6**
AC01				*e*S	**Sn**	**10 36 40.1**	**+0.5**
AC01				IAML		10 36 40.6	
	comp=Z,3μm,0.3s						
AC01	**Pan de Azucar**	**0.72**	**29**	⇑*i*P	**Pn**	**10 36 30.3**	**+0.9**
AC01				*e*S	**Sn**	**10 36 40.2**	**+0.5**
AC01				IAML		10 36 40.9	
	comp=N,8μm,0.2s						
AC04	**Llanos de Chal**	**1.42**	**183**	*e*P	**Pn**	**10 36 38.6**	**-0.1**
AC04				*e*S	**Sn**	**10 36 52.1**	**-4.2**
AC04	**Llanos de Chal**	**1.42**	**183**	*e*P	**Pn**	**10 36 38.6**	**-0.1**
AC04				*e*S	**Sn**	**10 36 56.1**	**-0.2**
AC04				IAML		10 36 57.6	
	comp=E,1μm,0.2s						
AC02	**Maricunga**	**1.66**	**92**	*e*P	Pn	10 36 37.0	-5.4
AC02				*e*S	**Sn**	**10 37 00.6**	**-2.3**
AC02				IAML		10 37 01.0	
	comp=Z,2μm,0.2s						
AC02	**Maricunga**	**1.66**	**92**	*i* P	**Pn**	**10 36 42.1**	**-0.3**
AC02				*e*S	**Sn**	**10 37 00.3**	**-2.5**
GO02	**Mina Guanaco**	**2.04**	**38**	*e*P	**Pn**	**10 36 48.1**	**+0.6**
GO02				*e*S	**Sn**	**10 37 09.2**	**-2.9**
GO02	**Mina Guanaco**	**2.04**	**38**	⇑*i*P	**Pn**	**10 36 48.2**	**+0.6**
PB14	**IPOC Station P**	**2.21**	**14**	*e*P	**Pn**	**10 36 50.2**	**+0.3**
PB14				*e*S	**Sn**	**10 37 16.6**	**+0.5**
PB14				IAML		10 37 19.2	
	comp=Z,391nm,0.5s						
PB14	**IPOC Station P**	**2.21**	**14**	*e*P	**Pn**	**10 36 50.7**	**+0.8**
PB14				*e*S	**Sn**	**10 37 16.1**	**-0.1**
LCO	**Las Campanas**	**2.23**	**174**	*e*P	Pn	10 36 49.5	-0.6
LCO				*e*S	**Sn**	**10 37 16.5**	**-0.2**
LCO				IAML		10 37 19.1	
	comp=Z,708nm,0.2s						
LCO	**Las Campanas**	**2.23**	**174**	*e*P	**Pn**	**10 36 50.2**	**0.0**
LCO				*e*S	**Sn**	**10 37 16.3**	**-0.4**
CO01	**Juntas del Tor**	**3.28**	**166**	*e*P	**Pn**	**10 37 05.7**	**+1.2**
CO01				IAML		10 37 56.3	
	comp=Z,113nm,0.2s						
CO01	**Juntas del Tor**	**3.28**	**166**	*e*P	**Pn**	**10 37 06.2**	**+1.8**
GO04	**Tololo Observa**	**3.38**	**177**	*e*P	**Pn**	**10 37 05.7**	**-0.1**
GO04				*e*S	Sn	10 37 55.9	+11
GO04	**Tololo Observa**	**3.38**	**177**	*e*P	**Pn**	**10 37 06.4**	**+0.6**
AGUA	**GUANDACOL**	**3.48**	**141**	*e*P	**Pn**	**10 37 09.4**	**+2.4**
CO06	**Fray Jorge**	**3.92**	**188**	*e*P	Pn	10 37 12.1	-0.9
CO03	**El Pedregal**	**4.05**	**176**	*e*P	**Pn**	**10 37 14.8**	**-0.1**
CO03				*e*S	**Sn**	**10 38 00.1**	**-0.9**
CO03				IAML		10 38 20.2	
	comp=Z,132nm,0.6s						
ACCO	**Cerro Coronel**	**4.15**	**157**	*e*P	**Pn**	**10 37 19.0**	**+2.6**
ACCO				*e*S	**Sn**	**10 38 07.3**	**+3.5**

*ISN **26** 10:51:58.6±0.5, 34°.68N×46°.15E, h6km±4km, ML2.8*
*TEH **26** 10:52:00.4, 34°.66N×46°.16E, h10km±5.5km*
ISC 26 10:52:00.3±1.1, 34°.68N±0°.04×46°.14E±0°.04, h10km±10km, n12, σ0s79/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.20**	**83**	Pg	**Pg**	**10 52 05.3**	**+0.7**
IDHR				Sg	**Sg**	**10 52 07.9**	**+0.3**
IGHG	**Ghaleghazi**	**0.49**	**134**	Pg	**Pb**	**10 52 10.0**	**-1.1**
GLG1	**Gilan-e-Gharb**	**0.59**	**199**	Pg	**Pb**	**10 52 11.8**	**-1.0**
ILIN	**Lien**	**0.72**	**70**	Pg	**Pb**	**10 52 14.6**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.84**	**118**	Pg	**Pg**	**10 52 15.7**	**-0.8**
SNQR	**Sonqor, Kerman**	**1.24**	**81**	Pg	**Pn**	**10 52 23.6**	**-0.2**
IBDR	**Badra**	**1.57**	**187**	ePn	**Pb**	**10 52 29.0**	**-0.4**
IBDR				eSn	**Sg**	**10 52 50.7**	**-0.1**
IKRK	**Kirkuk**	**1.65**	**297**	ePn	**Pb**	**10 52 30.0**	**-0.7**
IKRK				eSn	**Sg**	**10 52 53.0**	**-0.2**
IKFM	**Kafar-mosalman**	**1.82**	**129**	Pg	**Pg**	**10 52 35.3**	**+0.1**
IDOB	**Doab**	**1.91**	**117**	Pn	**Pg**	**10 52 36.9**	**+0.1**
BHD	**Baghdad**	**2.03**	**227**	ePn	**Pn**	**10 52 35.0**	**+0.5**
BHD				eSn	**Sb**	**10 53 02.0**	**-0.5**
RAFI	**Al-Rafai**	**2.95**	**180**	ePn	**Pn**	**10 52 48.0**	**+0.9**
RAFI				eSn	**Sn**	**10 53 24.0**	**+1.5**

IDC 26 10:57:56.6±907.0, 53°.29N×3°.78E, h0km, Error ellipse: s-maj=426.0km s-min=141.5km az=122.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.67**	**121**	I	I	11 40 45.2	
	baz=314,slow=314						
I48TN	**KESRA INFRASON**	**17.91**	**165**	I	I	12 44 02.8	
	baz=346,slow=332,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**32.97**	**73**	I	I	14 22 50.0	
	baz=295,slow=334,SNR=1.3						

*HEL **26** 11:11:20.7±0.1, 68°.19N×33°.03E, h0km, ML1.9, Explosion*
*KOLA **26** 11:11:21.9, 68°.10N×32°.99E, h0km, ML2.2, Error ellipse: s-maj=2.0km s-min=1.2km az=80.0, Olenegorsk City, Mines*
*UPP **26** 11:11:22.2±3.0, 68°.10N×32°.79E, h0km, ML2.0*
ISC 26 11:11:20.7±0.8, 68°.11N±0°.02×32°.91E±0°.03, h0km, n38, σ1s13/64, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.50**	**176**	P	**Pg**	**11 11 30.4**	**+0.2**
APA0				S	**Sg**	**11 11 37.5**	**+0.7**
APA	**Apatity**	**0.57**	**161**	P	**Pg**	**11 11 31.8**	**+0.2**
APA				S	**Sg**	**11 11 39.6**	**+0.6**
LVZ	**Lovozero**	**0.69**	**107**	P	**Pg**	**11 11 33.7**	**-0.1**
LVZ				S	**Sg**	**11 11 42.4**	**-0.4**
LVZ	**Lovozero**	**0.69**	**107**	PB	**Pg**	**11 11 33.5**	**-0.3**
LVZ				SG	**Sg**	**11 11 42.2**	**-0.6**
VRF	**Varrio**	**1.30**	**255**	PG	**Pg**	**11 11 45.4**	**-0.1**
	baz=73						
VRF				MSG		11 12 01.9	
	comp=Z,11nm,0.2s						
VRF				SG	**Sg**	**11 12 02.5**	**+0.2**
TERR	**Teriberka**	**1.36**	**35**	P	**Pg**	**11 11 45.4**	**-1.4**
TERR				S	**Sg**	**11 12 03.4**	**-1.0**
KVDA	**Kovda**	**1.42**	**181**	P	**Pn**	**11 11 47.0**	**-0.7**
KVDA				S	**Sg**	**11 12 05.5**	**-0.7**
PRVG	**Vayda Guba**	**1.67**	**351**	P	**Pg**	**11 11 53.1**	**+0.4**
PRVG				S	**Sg**	**11 12 13.9**	**-0.3**
RAJF	**Raja-Jooseppi**	**1.75**	**284**	PG	**Pn**	**11 11 52.7**	**+0.5**
RAJF				SG	**Sn**	**11 12 15.2**	**0.0**
VADS	**Vadso**	**2.39**	**329**	P	**Pn**	**11 12 01.7**	**+0.7**
VADS				S	**Sn**	**11 12 31.3**	**+0.3**
KU6	**Riekki**	**2.40**	**211**	PB	**Pb**	**11 12 03.6**	**-1.1**
KU6				MSG		11 12 34.3	
	comp=Z,1.9nm,0.2s						
KU6				SB	**Sb**	**11 12 35.5**	**+0.7**
MSF	**Maaselka**	**2.68**	**216**	PG	**Pb**	**11 12 09.0**	**-0.4**
KEV	**Kevo**	**2.70**	**311**	eP	**Pn**	**11 12 06.1**	**+0.8**
KEV	**Kevo**	**2.70**	**311**	PB	**Pn**	**11 12 06.7**	**+1.4**
KEV				MSG		11 12 39.7	
	comp=Z,9.1nm,0.2s						
KEV				SB	**Sn**	**11 12 40.0**	**+1.4**
KU1	**Kurvinen**	**2.88**	**209**	PB	**Pn**	**11 12 10.2**	**+2.5**
KU2	**Taivalkoski**	**3.03**	**220**	PB	**Pb**	**11 12 13.8**	**-1.6**
ARA0	**ARCESS Array S**	**3.05**	**302**	eP	**Pn**	**11 12 11.0**	**+0.9**
ARCES	**ARCESS Array B**	**3.05**	**302**	P	**Pn**	**11 12 11.2**	**+1.1**
ARCES				S	**Sn**	**11 12 47.8**	**+0.6**
RNF	**Rovaniemi**	**3.06**	**244**	PN	**Pn**	**11 12 11.2**	**+0.9**
	baz=58						
RNF				SB	**Sn**	**11 12 50.5**	**+3.0**
RANF	**Ranua**	**3.19**	**232**	PN	**Pn**	**11 12 12.5**	**+0.6**
	baz=49						
RANF				SB	**Sb**	**11 12 57.2**	**-0.2**
HEF	**Hetta**	**3.46**	**279**	PN	**Pn**	**11 12 16.2**	**+0.5**
	baz=92						
HEF				SN	**Sn**	**11 12 56.8**	**-0.5**
KLF	**Kolari**	**3.52**	**260**	PN	**Pn**	**11 12 17.2**	**+0.6**
KLF				SG	**Sg**	**11 13 11.4**	**-2.4**
KTK1	**Kautokeino**	**3.67**	**289**	PN	**Pn**	**11 12 19.5**	**+0.9**
KTK1				SG	**Sb**	**11 13 13.4**	**+2.2**
PAJU	**Pajala**	**3.91**	**258**	PN	**Pn**	**11 12 22.3**	**+0.4**
PAJU				SN	**Sn**	**11 13 08.3**	**-0.1**
TOF	**Tornio**	**3.92**	**243**	SB	**Sn**	**11 13 08.1**	**-0.6**
TOF	**Tornio**	**3.92**	**243**	PN	**Pn**	**11 12 22.3**	**+0.2**
TOF				SN	**Sn**	**11 13 08.1**	**-0.6**
RMF	**Romuvaara**	**4.09**	**199**	PN	**Pn**	**11 12 24.8**	**+0.4**
LANU	**Lannavaara**	**4.09**	**274**	P	**Pn**	**11 12 24.8**	**+0.3**
LANU				S	**Sn**	**11 13 11.8**	**-1.2**
LANU	**Lannavaara**	**4.09**	**274**	PN	**Pn**	**11 12 24.6**	**+0.1**
LANU				SG	**Sg**	**11 13 28.5**	**-3.5**
KALU	**Kalix**	**4.38**	**243**	P	**Pn**	**11 12 28.6**	**+0.4**
KALU	**Kalix**	**4.38**	**243**	PN	**Pn**	**11 12 28.8**	**+0.5**
	baz=55						
KALU	**Kalix**	**4.38**	**243**	PG	**Pn**	**11 12 28.8**	**+0.5**
ERTU	**Ertsjaerv**	**4.43**	**254**	PN	**Pn**	**11 12 29.3**	**+0.3**
ERTU				SN	**Sn**	**11 13 20.4**	**-0.8**
KIF	**Kilpisjarvi**	**4.54**	**287**	PN	**Pn**	**11 12 30.9**	**+0.5**
	baz=100						
KIF				SG	**Sb**	**11 13 39.8**	**+3.7**
OBF4	**Vikkela, Lumij**	**4.55**	**227**	PN	**Pn**	**11 12 31.4**	**+0.8**
OBF4				SN	**Sn**	**11 13 23.7**	**-0.5**
KUA	**Kurravaara**	**4.72**	**274**	P	**Pn**	**11 12 33.1**	**0.0**
KUA				S	**Sn**	**11 13 28.1**	**-0.4**
KOVU	**Salmi**	**4.76**	**277**	P	**Pn**	**11 12 34.0**	**+0.4**
RATU	**Laukkuluspa**	**5.02**	**273**	P	**Pn**	**11 12 37.2**	**0.0**

HEL 26 11:11:41.3±0.2, 63°.20N×24°.05E, h0km, ML1.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.65**	**257**	PG	Pg	11 11 53.0	-0.7
	baz=77						
VAF				SG	Sg	11 12 01.3	-0.7
VAF				MSG		11 12 01.8	
	comp=Z,1.0nm,0.2s						
SUF	**Sumiainen**	**1.07**	**116**	PB	Pg	11 12 01.0	-0.8
SUF				MSG		11 12 14.0	
	comp=Z,0.4nm,0.2s						
SUF				SB	Sg	11 12 16.0	+0.3
KEF	**Keuruu**	**1.10**	**160**	PB	Pg	11 12 01.9	-0.5
KEF				MSG		11 12 14.8	
	comp=Z,0.7nm,0.2s						
KEF				SB	Sg	11 12 16.0	-0.6
KAF	**Kangasniemi**	**1.51**	**135**	PN	Pn	11 12 09.1	-0.4
KAF				MSG		11 12 26.4	
	comp=Z,0.8nm,0.2s						
KAF				SN	Sg	11 12 28.6	-1.0
KPF	**Kankaanpaa**	**1.65**	**215**	PN	Pn	11 12 11.5	+0.1
	baz=30						
KPF				SN	Sb	11 12 33.6	-0.2
FIA0	**FINESS Array S**	**2.00**	**151**	PG	Pn	11 12 16.4	+0.1
FIA0				MSG		11 12 40.6	
	comp=Z,0.5nm,0.2s						
FIA0				SG	Sn	11 12 42.5	+0.6
RAF	**Rauma**	**2.43**	**207**	MSG		11 12 53.1	
	comp=Z,0.6nm,0.2s						
RAF				SB	Sn	11 12 54.3	+1.7
HEMU	**Hemsoen**	**2.80**	**262**	SG	Sb	11 13 06.2	-0.7
TOF	**Tornio**	**2.90**	**2**	PG	Pb	11 12 33.4	-0.4
TOF				MSG		11 13 06.5	
	comp=Z,0.7nm,0.2s						
MSF	**Maaselka**	**3.47**	**36**	PG	Pb	11 12 43.6	0.0
ARBE	**Arbavere**	**3.89**	**165**	SG	Sb	11 13 40.2	+2.1

*NNC **26** 11:21:02.9±0.8, 44°.55N×77°.93E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.3km s-min=4.0km az=149.0, Suspected Mining explosion.*
*SOME **26** 11:21:02.7, 44°.57N×77°.88E, h10km*
ISC 26 11:21:01.9±1.0, 44°.62N±0°.04×77°.82E±0°.03, h0km, n20, σ0s97/37, 2C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.41**	**180**	P	**Pg**	**11 21 09.2**	**-0.6**
	3.1nm,0.1s						
ARXS				S	**Sg**	**11 21 14.2**	**-0.9**
	44nm,0.4s						
KURS	**Kuram**	**1.16**	**167**	P	**Pg**	**11 21 23.3**	**-0.9**
	1.9nm,0.2s						
KURS				S	**Sg**	**11 21 37.9**	**-1.3**
	3.1nm,0.4s						
KAPS	**Kapalarasan**	**1.27**	**58**	P	**Pg**	**11 21 26.2**	**-0.2**
	1.0nm,0.1s						
KAPS				S	**Sg**	**11 21 43.2**	**+0.3**
	2.7nm,0.1s						
DJR	**Jarkent**	**1.44**	**101**	eP	**Pn**	**11 21 28.9**	**-0.4**
	0.5nm,0.1s						
DJR				eS	**Sg**	**11 21 47.6**	**-0.5**
	2.4nm,0.2s						
KOTS	**Kotyrbulak**	**1.48**	**201**	P	**Pg**	**11 21 30.2**	**-0.1**
	1.8nm,0.1s						
KOTS				S	**Sb**	**11 21 49.9**	**0.0**
	11nm,0.5s						
KOTS	**Kotyrbulak**	**1.48**	**201**	eP	**Pg**	**11 21 30.2**	**-0.1**
	1.8nm,0.1s						
KOTS				eS	**Sb**	**11 21 49.9**	**0.0**
	11nm,0.5s						
TNSS	**Tian-Shan**	**1.71**	**202**	P	**Pn**	**11 21 33.6**	**+0.2**
	1.0nm,0.1s						
TNSS				S	**Sn**	**11 21 55.6**	**-0.5**
	1.8nm,0.4s						
TNSS	**Tian-Shan**	**1.71**	**202**	eP	**Pn**	**11 21 33.6**	**+0.2**
	1.0nm,0.1s						
TNSS				eS	**Sn**	**11 21 55.6**	**-0.5**
	1.8nm,0.4s						
UZB	**Uzynbulak**	**1.71**	**149**	P	**Pb**	**11 21 34.2**	**-0.2**
	2.8nm,0.1s						
UZB				S	**Sg**	**11 21 57.0**	**0.0**
	5.1nm,0.4s						
UZB	**Uzynbulak**	**1.71**	**149**	eP	**Pb**	**11 21 34.2**	**-0.2**
	2.8nm,0.1s						
UZB				eS	**Sg**	**11 21 57.0**	**0.0**
	5.1nm,0.4s						
PDGK	**Podgornoye**	**1.77**	**137**	⇑Pn	**Pn**	**11 21 32.9**	**-1.0**
	4.5nm,0.8s						
PDGK				⇑Sn	**Sn**	**11 21 55.9**	**-1.2**
	5.5nm,0.5s						
MTBS	**Maitube**	**1.80**	**215**	P	**Pg**	**11 21 36.4**	**-0.1**
	1.5nm,0.1s						
MTBS				S	**Sg**	**11 22 00.5**	**+0.7**
	9.9nm,0.3s						
MTBS	**Maitube**	**1.80**	**215**	eP	**Pg**	**11 21 36.4**	**-0.1**
	1.5nm,0.1s						
MTBS				eS	**Sg**	**11 22 00.5**	**+0.7**
	9.9nm,0.3s						
KRBS	**Karabastau**	**1.80**	**240**	P	**Pg**	**11 21 36.4**	**-0.1**
	0.7nm,0.2s						
KRBS				S	**Sg**	**11 22 00.5**	**+0.7**
	6.3nm,0.4s						
IZV	**Izvestkoviy**	**1.81**	**209**	eP	**Pg**	**11 21 36.6**	**-0.1**
	1.1nm,0.1s						
IZV				eS	**Sg**	**11 22 00.8**	**+0.7**
	1.5nm,0.1s						
SHLS	**Shalkode**	**1.89**	**140**	Pg	**Pg**	**11 21 39.8**	**+1.7**
	4.6nm,0.2s						
SHLS				Lg	Lg	11 22 06.5	
	8.6nm,0.4s						
SHLS	**Shalkode**	**1.89**	**140**	eP	**Pg**	**11 21 39.8**	**+1.7**
	4.6nm,0.2s						
SHLS				eS	**Sg**	**11 22 06.5**	**+4.0**
	8.6nm,0.4s						
DGS	**Degeres**	**2.03**	**228**	Pg	**Pb**	**11 21 40.0**	**+0.4**
	2.1nm,0.3s						
DGS				Lg	Lg	11 22 06.7	
	7.4nm,0.5s						
KST	**Kastek**	**2.08**	**221**	Pg	**Pb**	**11 21 41.1**	**+0.6**
	0.6nm,0.1s						
KST				Lg	Lg	11 22 08.6	
	2.3nm,0.1s						
KST	**Kastek**	**2.08**	**221**	eP	**Pb**	**11 21 41.1**	**+0.6**
	0.6nm,0.1s						
KST				eS	**Sg**	**11 22 08.6**	**0.0**
	2.3nm,0.1s						

*SJA **26** 11:23:07.7±0.6, 21°.15S×68°.43W, h20km±3km, ML3.8, MW3.8*
*NEIC **26** 11:23:10.8±1.8, 21°.16S±0°.02×68°.64W±0°.10, h129km±7km, mb4.4/13, Error ellipse: s-maj=13.3km s-min=2.5km az=94.0*
*GUC **26** 11:23:11.2±0.7, 21°.19S×68°.64W, h131km±5km, ML4.0*
*VAO **26** 11:23:11.4±0.9, 21°.21S×68°.35W, h134km±8km, mb4.4*
*IDC **26** 11:23:13.3±2.7, 21°.00S×68°.16W, h144km±27km, mb3.5/3, mbtmp4.0/7, Error ellipse: s-maj=33.5km s-min=18.4km az=86.0*
ISC 26 11:23:09.9±0.6, 21°.15S±0°.03×68°.52W±0°.06, h127km±7km, n94, σ1s73/112, mb4.1/6, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.91**	**277**	Pn	**Pn**	**11 23 31.9**	**0.0**
PB01				Sn	**Sn**	**11 23 47.8**	**-0.6**
PB01	**IPOC Station P**	**0.91**	**277**	eS	**Sn**	**11 23 48.4**	**0.0**
PB01				IAML		11 23 49.5	
	comp=Z,2μm,0.3s						
PB01	**IPOC Station P**	**0.91**	**277**	eP	**Pn**	**11 23 32.1**	**+0.3**
PB01				eS	**Sn**	**11 23 47.9**	**-0.5**
PB01				IAML		11 23 49.1	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**0.93**	**226**		**Pn**	**11 23 32.4**	**+0.2**
PB09				Sn	**Sn**	**11 23 48.9**	**0.0**
PB09	**IPOC Station P**	**0.93**	**226**	eP	Pn	11 23 26.9	-5.2
PB09				eS	**Sn**	**11 23 49.3**	**+0.4**
PB09				IAML		11 23 55.1	
	comp=Z,1μm,0.5s						
PB09	**IPOC Station P**	**0.93**	**226**	⇑iP	**Pn**	**11 23 32.5**	**+0.4**
PB09				eS	**Sn**	**11 23 49.0**	**0.0**
PB09				IAML		11 23 51.2	
	comp=E,2μm,0.3s						
PB08	**IPOC Station P**	**1.17**	**329**		**Pn**	**11 23 34.8**	**+0.1**
PB08				Sn	**Sn**	**11 23 54.0**	**+0.6**
PB08	**IPOC Station P**	**1.17**	**329**	eP	Pn	11 23 22.2	-12
PB08				eS	Sn	11 23 30.1	-23
PB08				IAML		11 23 56.4	
	comp=Z,967nm,0.7s						
PB08	**IPOC Station P**	**1.17**	**329**	eP	**Pn**	**11 23 35.8**	**+1.1**
PB08				eS	**Sn**	**11 23 54.3**	**+0.9**
PB08				IAML		11 23 56.4	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**1.46**	**232**	eP	**Pn**	**11 23 37.2**	**-0.2**
PB03				eS	**Sn**	**11 23 57.3**	**-1.1**
PB03				IAML		11 23 58.8	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**1.46**	**232**	⇑iP	**Pn**	**11 23 37.3**	**-0.2**
PB03				eS	**Sn**	**11 23 57.1**	**-1.3**
PB03				IAML		11 23 58.1	
	comp=E,3μm,0.2s						
TA01	**Diego Aracena**	**1.66**	**290**	Pn	**Pn**	**11 23 39.3**	**-0.3**
TA01	**Diego Aracena**	**1.66**	**290**	eS	**Sn**	**11 24 02.0**	**-0.3**
TA01				IAML		11 24 05.4	
	comp=Z,774nm,0.5s						
TA01	**Diego Aracena**	**1.66**	**290**	eP	**Pn**	**11 23 39.5**	**-0.2**
TA01				eS	**Sn**	**11 24 01.2**	**-1.1**
TA01				IAML		11 24 02.7	
	comp=E,3μm,0.3s						
TA02	**Huaiquique**	**1.75**	**300**		**Pn**	**11 23 40.5**	**-0.2**
TA02	**Huaiquique**	**1.75**	**300**	eP	**Pn**	**11 23 40.4**	**-0.2**
TA02				eS	**Sn**	**11 24 06.0**	**+1.9**
TA02				IAML		11 24 09.9	
	comp=Z,830nm,0.1s						
TA02	**Huaiquique**	**1.75**	**300**	eP	**Pn**	**11 23 40.5**	**-0.2**
TA02				eS	**Sn**	**11 24 03.0**	**-1.2**
TA02				IAML		11 24 08.7	
	comp=E,4μm,0.1s						
PB11	**IPOC Station P**	**1.75**	**322**	Pn	**Pn**	**11 23 41.1**	**+0.2**
PB11	**IPOC Station P**	**1.75**	**322**	eS	**Sn**	**11 24 04.9**	**+0.4**
PB11				IAML		11 24 06.2	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**1.75**	**322**	eP	**Pn**	**11 23 41.1**	**+0.2**
PB11				eS	**Sn**	**11 24 04.0**	**-0.5**
PB11				IAML		11 24 06.2	
	comp=E,3μm,0.3s						
AF01	**San Pedro de A**	**1.82**	**170**		**Pn**	**11 23 43.4**	**+1.5**
AF01	**San Pedro de A**	**1.82**	**170**	eP	**Pn**	**11 23 40.4**	**-1.5**
AF01				IAML		11 24 24.4	
	comp=Z,448nm,0.9s						
AF01	**San Pedro de A**	**1.82**	**170**	eP	**Pn**	**11 23 43.6**	**+1.7**
PB06	**IPOC Station P**	**1.83**	**212**	eP	**Pn**	**11 23 41.9**	**0.0**
PB06				eS	**Sn**	**11 24 06.0**	**-0.2**
PB06				IAML		11 24 07.4	
	comp=Z,1μm,0.2s						
PB06	**IPOC Station P**	**1.83**	**212**	⇑iP	**Pn**	**11 23 41.9**	**0.0**
PB06				eS	**Sn**	**11 24 05.6**	**-0.7**
PB06				IAML		11 24 06.2	
	comp=E,2μm,0.2s						
YJA	**Yavi**	**2.97**	**111**	eP	**Pn**	**11 23 56.5**	**0.0**
YJA				eP		11 23 58.9	
YJA	**Yavi**	**2.97**	**111**	eP	**Pn**	**11 23 58.9**	**+2.4**
PB12	**IPOC Station P**	**3.05**	**326**	Pn	**Pn**	**11 23 56.0**	**-1.2**
PB12	**IPOC Station P**	**3.05**	**326**	eP	**Pn**	**11 23 56.2**	**-1.0**
PB12				eS	**Sn**	**11 24 32.8**	**-0.8**
PB12				IAML		11 24 34.5	
	comp=Z,434nm,0.2s						
PB12	**IPOC Station P**	**3.05**	**326**	eP	**Pn**	**11 23 56.2**	**-1.0**
AP01	**Chacalluta**	**3.26**	**328**	Pn	**Pn**	**11 23 58.0**	**-1.8**
AP01	**Chacalluta**	**3.26**	**328**	eP	**Pn**	**11 23 58.9**	**-0.9**
AP01				eS	**Sn**	**11 24 31.5**	**-6.8**
AP01				IAML		11 24 46.3	
	comp=Z,438nm,0.5s						
PB18	**Visviri**	**3.66**	**345**	Pn	**Pn**	**11 24 04.4**	**-1.2**
PB14	**IPOC Station P**	**3.87**	**206**	Pn	**Pn**	**11 24 06.5**	**-1.7**
PB14	**IPOC Station P**	**3.87**	**206**	eP	**Pn**	**11 24 07.1**	**-1.1**
PB14				eS	**Sn**	**11 24 52.2**	**-1.2**
PB14				IAML		11 25 13.7	
	comp=Z,111nm,0.6s						
GO02	**Mina Guanaco**	**4.11**	**194**	Pn	**Pn**	**11 24 10.5**	**-0.9**
GO02	**Mina Guanaco**	**4.11**	**194**	eP	**Pn**	**11 24 10.5**	**-0.9**
GO02				eS	**Sn**	**11 24 58.5**	**-0.5**
GO02	**Mina Guanaco**	**4.11**	**194**	eP	**Pn**	**11 24 10.9**	**-0.5**
GO02				eS	**Sn**	**11 24 56.7**	**-2.3**
AZAP	**Zapla**	**4.42**	**134**	eP	**Pn**	**11 24 16.9**	**+1.5**
LPAZ	**La Paz**	**4.85**	**4**	Pn	**Pn**	**11 24 23.2**	**+1.5**
LPAZ	**La Paz**	**4.85**	**4**	P	**Pn**	**11 24 23.6**	**+2.0**
	comp=Z,31nm,0.4s,baz=192,slow=8.2,SNR=142						
LPAZ	**La Paz**	**4.85**	**4**	eP	**Pn**	**11 24 23.5**	**+1.9**
AC01	**Pan de Azucar**	**5.33**	**201**	Pn	**Pn**	**11 24 25.1**	**-2.3**
AC02	**Maricunga**	**5.69**	**186**	Pn	**Pn**	**11 24 31.8**	**-0.8**
AC04	**Llanos de Chal**	**7.40**	**198**	Pn	Pn	11 24 50.4	-4.9
LCO	**Las Campanas**	**8.07**	**194**	Pn	**Pn**	**11 25 00.4**	**-4.2**
SIV	**San Ignacio**	**8.73**	**55**	P	**Pn**	**11 25 11.5**	**-1.8**
	comp=Z,9.7nm,0.4s,baz=253,slow=12,SNR=58						
SIV				S	**Sn**	**11 26 45.0**	**-5.1**
	comp=Z,1.2nm,0.5s,baz=306,slow=20,SNR=5.9						
CO01	**Juntas del Tor**	**8.90**	**189**		**Pn**	**11 25 13.1**	**-2.7**
GO04	**Tololo Observa**	**9.21**	**192**	Pn	**Pn**	**11 25 15.6**	**-4.4**
CO03	**El Pedregal**	**9.84**	**191**	Pn	**Pn**	**11 25 23.8**	**-4.4**
PTLB	**Pontes e Lacer**	**10.56**	**59**		**Pn**	**11 25 37.1**	**-0.7**
PTLB	**Pontes e Lacer**	**10.56**	**59**	eP	**Pn**	**11 25 37.4**	**-0.5**
BDQN	**Bodoquena, MS**	**11.03**	**88**	eP	**Pn**	**11 25 42.2**	**-2.0**
VILB	**Vilhena**	**11.39**	**46**	Pn	**Pn**	**11 25 48.1**	**-0.9**
VILB	**Vilhena**	**11.39**	**46**	eP	**Pn**	**11 25 48.3**	**-0.7**
CPUP	**Villa Florida**	**11.47**	**119**	Pn	**Pn**	**11 25 50.5**	**+0.6**
CPUP	**Villa Florida**	**11.47**	**119**	P	**Pn**	**11 25 50.1**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=284,slow=5.2,SNR=4.3						
CPUP	**Villa Florida**	**11.47**	**119**	eP	**Pn**	**11 25 48.8**	**-1.1**
MT02	**Curacav**	**12.28**	**190**	Pn	**Pn**	**11 25 56.5**	**-4.1**
MT08	**Bocatoma Ro**	**12.32**	**186**	Pn	**Pn**	**11 25 58.0**	**-3.3**
LMEL	**Las Melosas**	**12.73**	**186**	Pn	**Pn**	**11 26 03.7**	**-2.9**
MT09	**Talagante**	**12.77**	**189**	Pn	**Pn**	**11 26 03.5**	**-3.5**
MT01	**Popeta**	**12.89**	**190**	Pn	**Pn**	**11 26 06.8**	**-1.7**
BO04	**La Punta**	**12.92**	**188**	Pn	**Pn**	**11 26 05.7**	**-3.2**
BO01	**Tunca**	**13.38**	**189**	Pn	**Pn**	**11 26 14.1**	**-0.8**
BO02	**Sierra Bellavi**	**13.73**	**188**	Pn	**Pn**	**11 26 19.8**	**+0.4**
CZSB	**Cruzeiro do Su**	**13.94**	**343**	eP	**P**	**11 26 25.4**	**-0.8**
PDRB	**Porto dos Gac**	**14.75**	**52**	eP	**Pn**	**11 26 32.3**	**-0.1**
BI02	**San Fabin de**	**15.64**	**188**		**Pn**	**11 26 43.4**	**-0.1**
BI02				IAmb	IAmb	11 26 44.2	
	comp=Z,12nm,1.1s						
ITAB	**Concordia**	**16.12**	**115**	P	**P**	**11 26 51.7**	**+1.4**
ITAB				IAmb	IAmb	11 27 08.6	
	comp=Z,20nm,1.4s						
LDASE	**Londrina, Braz**	**16.26**	**101**	eP	**Pn**	**11 26 50.3**	**-0.8**
TBTG	**Tabatinga, AM**	**16.92**	**355**	eP	**Pn**	**11 27 00.9**	**+1.7**
PLTB	**Pedras Altas**	**17.01**	**131**	eP	**P**	**11 26 57.1**	**-2.9**
TRQA	**Tornquist**	**17.77**	**163**	P	**Pn**	**11 27 09.8**	**+0.5**
TRQA				IAmb	IAmb	11 27 39.1	
	comp=Z,26nm,1.5s						
SNDB	**Serra Nova Dou**	**18.85**	**64**	eP	**P**	**11 27 20.4**	**+0.1**
NPGB	**Novo Progresso**	**18.94**	**44**	eP	**P**	**11 27 21.7**	**+0.5**
MACA	**Manacapuru-AM**	**19.44**	**24**	P	**P**	**11 27 26.7**	**+0.1**
MACA	**Manacapuru-AM**	**19.44**	**24**	eP	**P**	**11 27 27.7**	**+1.0**
PLCA	**Paso Flores**	**19.60**	**185**	P	**P**	**11 27 26.6**	**-1.6**
PLCA	**Paso Flores**	**19.60**	**185**	P	**Pn**	**11 27 32.4**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=360,slow=14,SNR=3.5						
VAO	**Valinhos**

DRK0 Durika 0.97 343⇓ *eP* **Pg** **11 31 40.2 -1.8**
CHGR2 Aguacate 1.01 53⇓ *eP* **Pg** **11 31 40.4 -2.2**
CHGR2 AMP 11 31 41.0
comp=Z,16μm,0.1s
CHGR2 *eS* **Sg** **11 31 54.4 -1.4**
EDPE Pejibaye, P 1.03 324 *eP* **Pb** **11 31 41.2 -1.9**
CNI2 El Empalme, Bo 1.19 24⇓ *eP* **Pn** **11 31 44.0 -1.8**
CNI2 AMP 11 31 45.6
comp=Z,3μm,0.2s
CNI2 *eS* **Sb** **11 32 00.3 -1.0**
LLNJ Naranjito 1.61 315 *eP* **Pn** **11 31 51.2 -0.3**
TURIB Turrialba 1.73 335 *eP* **Pn** **11 31 53.3 0.0**
REPA Paraso 1.74 329 *eP* **Pn** **11 31 53.3 -0.3**
VINA Juan Vinas 1.74 333 *eP* **Pn** **11 31 53.8 +0.3**
LCR2 La Lucha 2 1.75 324 *eP* **Pn** **11 31 53.1 -0.5**
GMAL Guarumal, Vera 1.79 108 *eP* **Pn** **11 31 51.4 -2.7**
GMAL *eS* **Sn** **11 32 17.0 +0.1**
HDC Heredia 2.02 326 Pn **Pn** **11 31 58.4 +1.0**
CHIT3 Chitre 2.54 98 *eP* **Pn** **11 32 04.7 +0.3**
CHIT3 *eS* **Sn** **11 32 36.5 +1.2**
PNME Penonome 2.61 86 *eP* **Pn** **11 32 05.3 +0.1**
PNME *eS* **Sn** **11 32 37.3 +0.4**
SOCE Pocosol 2.62 321 Pn **Pn** **11 32 07.0 +1.5**
AZU Azuero 2.71 101 *eP* **Pn** **11 32 07.0 +0.3**
AZU AMP 11 32 08.6
comp=Z,797nm,0.6s
AZU *eS* **Sn** **11 32 40.3 +0.9**
JTS Las Juntas de 2.77 315 Pn **Pn** **11 32 07.9 +0.2**
JTS Las Juntas de 2.77 315 Pn **Pn** **11 32 07.7 +0.1**
comp=Z,159nm,0.4s,baz=212,slow=10,SNR=152
JTS Sn **Sn** **11 32 42.4 +1.3**
comp=Z,40nm,0.3s,baz=6.1,slow=22,SNR=13
BCIP Isla Barro Col 3.19 75 **Pn** **11 32 14.0 +0.6**
ACON Acoyapa 4.23 329 Pn **Pn** **11 32 29.2 +1.6**
BOAB BOACO BROADBAN 4.89 327 Pn **Pn** **11 32 38.5 +1.9**
PRVC Isla de Provid 5.26 17 Pn **Pn** **11 32 42.0 +0.3**
CNGN Cerro Negro 5.55 319 Pn **Pn** **11 32 46.1 +0.4**
MTO3 Montecristo 8.71 314 Pn **Pn** **11 33 30.8 +1.4**
APG El Apazote 9.90 313 Pn **Pn** **11 33 46.8 +1.0**
comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=4.4
MTDJ Mount Denham 11.16 28 Pn **Pn** **11 34 04.0 +1.1**
SDV Santo Domingo 12.20 86 Pn **Pn** **11 34 18.7 +1.5**
comp=Z,0.3nm,0.3s,baz=282,slow=7.5,SNR=5.0
comp=Z,3.9nm,0.7s
CMIG Matias Romero 14.53 308 Pn **Pn** **11 34 47.7 -1.1**
comp=Z,0.1nm,0.3s,baz=133,slow=12,SNR=1.7
comp=Z,0.8nm,0.3s
SJG San Juan 19.02 58 P **Pn** **11 35 49.0 +3.0**
comp=Z,10nm,0.4s,baz=246,slow=9.5,SNR=4.7
GOGA Godfrey 24.97 359 P **P** **11 36 48.3 +1.5**
SWET Sewanee 26.90 355 P **P** **11 37 05.4 +1.0**
SWET IAmb IAmb 11 37 29.2
comp=Z,15nm,1.4s
WHAR Wooly Hollow 28.17 344 P **P** **11 37 15.1 -0.6**
LCAR Lake Charles 28.61 346 P **P** **11 37 18.3 -1.3**
LCAR IAmb IAmb 11 37 22.4
comp=Z,7.1nm,0.9s
CGM3 Cape Girardeau 29.48 349 P **P** **11 37 26.5 -0.8**
T42A Van Buren 29.52 347 P **P** **11 37 26.4 -1.2**
CCM Cathedral Cave 30.53 347 P **P** **11 37 36.0 -0.6**
CCM IAmb IAmb 11 37 38.6
comp=Z,6.3nm,0.8s
OLIL Olney 30.63 352 P **P** **11 37 37.8 +0.4**
OLIL IAmb IAmb 11 37 39.6
comp=Z,8.5nm,1.0s
PDAR Pinedale Array 41.50 330 P **P** **11 39 10.1 -0.6**
comp=Z,0.4nm,0.8s,baz=133,slow=8.3,SNR=3.8
comp=Z,0.4nm,0.8s
H03N2 Juan Fernandez 41.71 175 T T 12 23 23.4
baz=354,slow=76,SNR=4.5
H03N1 Juan Fernandez 41.71 175 T T 12 23 16.6
baz=354,slow=76,SNR=4.2
H03N3 Juan Fernandez 41.73 175 T T 12 23 19.9
baz=354,slow=76,SNR=5.4
ULM Lac du Bonnet 43.16 348 P **P** **11 39 23.6 -0.2**
ULM IAmb IAmb 11 39 24.4
comp=Z,6.7nm,0.9s
ULM Lac du Bonnet 43.16 348 P **P** **11 39 23.6 -0.2**
comp=Z,5.6nm,0.8s,baz=157,slow=8.0,SNR=12
comp=Z,5.6nm,0.8s
YKA Yellowknife Ar 58.77 343 P **P** **11 41 21.2 +0.1**
comp=Z,1.4nm,0.8s,baz=144,slow=6.9,SNR=24
comp=Z,1.4nm,0.8s
ILULI Ilulissat 64.25 12 P **P** **11 41 60.0 +2.0**
F31M Tsiigehtchic 68.03 341 P **P** **11 42 24.3 +2.0**
F31M IAmb IAmb 11 42 30.4
comp=Z,6.1nm,1.4s
DAWY Dawson 68.30 337 P **P** **11 42 26.5 +2.4**
DAWY IAmb IAmb 11 42 55.3
comp=Z,3.1nm,1.3s
INK Inuvik 68.46 342 P **P** **11 42 25.5 +0.6**
INK IAmb IAmb 11 42 38.6
comp=Z,3.5nm,1.3s
A36M Sachs Harbour 68.63 347 P **P** **11 42 27.3 +1.4**
BCAR Beaver Creek A 68.82 335 P **P** **11 42 28.2 +0.8**
F28M Old Crow 70.14 340 P **P** **11 42 36.5 +1.0**
F28M IAmb IAmb 11 42 42.9
comp=Z,4.0nm,1.5s
ILAR Eielson Array 71.56 336 P **P** **11 42 45.1 +1.0**
ILAR Eielson Array 71.56 336 P **P** **11 42 43.7 -0.4**
comp=Z,0.5nm,0.7s,baz=110,slow=4.6,SNR=10
comp=Z,0.5nm,0.7s
F26K Sheenjek River 71.64 339 P **P** **11 42 45.5 +0.9**
BMAR Burnt Mountain 71.69 339 P **P** **11 42 45.9 +1.1**
CNPM China Poot 71.92 330 P **P** **11 42 45.8 -0.6**
E25K Arctic Village 72.30 340 P **P** **11 42 48.7 +0.1**
E25K IAmb IAmb 11 43 12.1
comp=Z,4.4nm,1.4s
H24K Noodor Dome 72.32 337 P **P** **11 42 49.3 +0.6**
H24K IAmb IAmb 11 43 05.3
comp=Z,3.7nm,1.4s
I23K Minto, Yukon-K 72.68 336 P **P** **11 42 51.2 +0.5**
D25K Kavik River 73.04 341 P **P** **11 42 53.4 +0.5**
D25K IAmb IAmb 11 42 57.2
comp=Z,2.6nm,0.9s
PPLA Purkeypile 73.23 333 P **P** **11 42 54.6 +0.3**
M20K Styx River 73.40 332 P **P** **11 42 56.0 +0.8**
M20K IAmb IAmb 11 42 56.0
comp=Z,4.6nm,1.2s
D23K Nanushuk River 74.36 340 P **P** **11 43 01.1 +0.5**
C23K Itkillik River 74.61 341 P **P** **11 43 03.0 +0.9**
H19K Roundabout Mou 75.65 336 P **P** **11 43 08.4 +0.3**
B22K Teshekpuk Lake 75.68 341 P **P** **11 43 08.6 +0.5**
B22K IAmb IAmb 11 43 11.6
comp=Z,4.6nm,1.1s
F20K Avaraart Lake 75.68 337 P **P** **11 43 08.8 +0.5**
E19K Redstone River 76.34 338 P **P** **11 43 12.4 +0.3**
B20K Meade River 76.84 340 P **P** **11 43 15.0 +0.2**
MKAR Makanchi Array 123.57 12 PKP **PKPdf** **11 50 16.4 -4.6**
comp=Z,0.2nm,0.6s,baz=333,slow=0.3,SNR=3.8

*ISK **26** 11:32:07.8, 41.′54N×44.′10E, h8km, ML2.2/5*
*AFAD **26** 11:32:08.5, 41.′46N×43.′94E, h6km±4km, ML2.2*
*AZER **26** 11:32:09.0, 41.′11N×44.′09E, h16km, ml2.6*
ISC 26 11:32:07.7±1.3, 41.′47N±0.′05×44.′06E±0.′02, h1km±11km, n22, σ0°79/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.85**	**204**	P	**Pg**	**11 32 24.0**	**0.0**
EAK				S	**Sg**	**11 32 35.2**	**+0.2**
EAK				*i* AML	AML	11 32 36.0	
	comp=E,120nm,0.5s						
EAK				*i* AML	AML	11 32 39.0	
	comp=N,142nm,0.6s						
EPOS	**Posof**	**1.00**	**273**	P	**Pg**	**11 32 26.9**	**0.0**
EPOS				S	**Sg**	**11 32 40.0**	**+0.1**
QZX	**Qazax, Azerbai**	**1.07**	**112**	P	**Pn**	**11 32 29.4**	**-0.4**
QZX				S	**Sn**	**11 32 44.4**	**-1.0**
AHAN	**Ardahan-Merkez**	**1.12**	**255**	P	**Pg**	**11 32 27.9**	**-1.3**
AHAN				S	**Sg**	**11 32 43.6**	**-0.2**
AHAN				*i* AML	AML	11 32 47.0	
	comp=E,57nm,0.4s						
AHAN				*i* AML	AML	11 32 52.0	
	comp=N,47nm,0.6s						
DIGO	**Kars**	**1.17**	**207**	P	**Pg**	**11 32 29.4**	**-0.8**
DIGO				S	**Sg**	**11 32 44.6**	**-0.7**
DIGO				*i* AML	AML	11 32 46.0	
	comp=N,97nm,0.4s						
DIGO				*i* AML	AML	11 32 51.0	
	comp=E,141nm,0.4s						
BOZK	**Kars-Merkez-Bo**	**1.20**	**223**	P	**Pg**	**11 32 30.0**	**-0.7**
BOZK				S	**Sg**	**11 32 45.8**	**-0.4**
BOZK				*i* AML	AML	11 32 47.0	
	comp=N,34nm,0.4s						
GOLE	**Ardahan-G¶le**	**1.27**	**241**	P	**Pn**	**11 32 31.2**	**-1.6**
GOLE				S	**Sg**	**11 32 48.8**	**+0.3**
GOLE				*i* AML	AML	11 32 49.0	
	comp=N,73nm,0.3s						
GOLE				*i* AML	AML	11 32 49.0	
	comp=E,63nm,0.4s						
GNI	**Garni**	**1.41**	**158**	Pn	**Pg**	**11 32 35.2**	**+0.4**
GNI				Sn	**Sg**	**11 32 55.2**	**+2.1**
GDB	**GEDABAY**	**1.48**	**120**	P	**Pb**	**11 32 36.1**	**0.0**
GDB				S	**Sg**	**11 32 55.3**	**0.0**
SENK	**Senkaya-Erzuru**	**1.58**	**236**	Pn	**Pn**	**11 32 37.6**	**+0.6**
SENK				Sn	**Sg**	**11 32 59.6**	**+1.2**
DAGI	**Agillar**	**1.66**	**257**	P	**Pn**	**11 32 38.5**	**+0.5**
DAGI				S	**Sn**	**11 32 59.9**	**-0.2**
DAGI				*i* AML	AML	11 33 05.0	
	comp=N,20nm,0.6s						
DAGI				*i* AML	AML	11 33 05.0	
	comp=E,22nm,0.5s						
KOTA	**Agri, Merkez-K**	**1.79**	**202**	P	**Pb**	**11 32 41.4**	**+0.1**
DBOC	**Borcka**	**1.80**	**267**	P	**Pn**	**11 32 40.3**	**+0.4**
DBOC				S	**Sn**	**11 33 03.5**	**0.0**
DBOC				*i* AML	AML	11 33 05.0	
	comp=E,24nm,0.3s						
BCA	**Borcka**	**1.83**	**270**	Pn	**Pn**	**11 32 40.9**	**+0.6**
BCA				Sn	**Sn**	**11 33 05.0**	**+0.9**
DDEM	**Demirkent**	**1.83**	**253**	P	**Pn**	**11 32 41.1**	**+0.6**
DDEM				S	**Sn**	**11 33 04.2**	**-0.1**
DDEM				*i* AML	AML	11 33 07.0	
	comp=E,56nm,0.4s						
DDEM				*i* AML	AML	11 33 16.0	
	comp=N,44nm,0.4s						
DBAD	**Bademkaya**	**1.84**	**257**	P	**Pn**	**11 32 41.2**	**+0.7**
DBAD				S	**Sn**	**11 33 03.9**	**-0.5**
DBAD				*i* AML	AML	11 33 06.0	
	comp=E,31nm,0.7s						
DBAD				*i* AML	AML	11 33 11.0	
	comp=N,33nm,0.7s						
GANJ	**Ganja**	**1.90**	**115**	P	**Pg**	**11 32 44.5**	**+0.4**
GANJ				S	**Sg**	**11 33 08.4**	**-0.2**
ZKTA	**Zakatala**	**1.93**	**84**	P	**Pg**	**11 32 45.0**	**+0.3**
AGRB	**Hanur-Agry**	**2.06**	**204**	Pn	**Pn**	**11 32 44.7**	**+1.2**
KOPR	**Koprukoy-ERZUR**	**2.23**	**229**	Pn	**Pn**	**11 32 47.2**	**+1.3**
SEKA	**Sheki**	**2.38**	**95**	P	**Pb**	**11 32 51.1**	**-0.2**
SEKA				S	**Sg**	**11 33 24.4**	**+0.3**
ORD	**Ordubad**	**2.94**	**149**	P	**Pn**	**11 32 54.0**	**-1.6**

IDC 26 11:36:13.4±1.5, 31.′04N×103.′62E, h0km, mb3.3/4, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=43.9km s-min=27.1km az=65.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.91**	**6**	Pn	Pn	11 40 10.7	-0.9
	0.1nm,0.3s,baz=184,slow=11,SNR=3.8						
	0.4nm,0.6s						
KSRS	**Korea Array**	**21.06**	**66**	P	P	11 40 58.6	-0.5
	1.9nm,0.7s,baz=262,slow=10,SNR=7.8						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**22.76**	**320**	P	P	11 41 17.7	+0.4
	0.2nm,0.7s,baz=134,slow=10,SNR=2.7						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**58.65**	**146**	P	P	11 46 12.7	0.0
	0.8nm,1.0s,baz=330,slow=7.2,SNR=6.7						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**61.65**	**148**	P	P	11 46 33.2	0.0
	0.2nm,0.4s,baz=325,slow=6.6,SNR=1.4						
	0.2nm,0.4s						

*SJA **26** 11:40:20.9±0.5, 40.′13S×72.′06W, h133km±4km, ML3.7, MW3.8*
*GUC **26** 11:40:23.4±0.9, 40.′07S×72.′03W, h113km±4km, ML3.6*
ISC 26 11:40:22.4±1.5, 40.′09S±0.′04×72.′05W±0.′05, h123km±9km, n22, σ0°79/37, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR05	**Currie**	**0.14**	**165**	*eP*	**Pn**	**11 40 39.4**	**+0.1**
LR05	**Currie**	**0.14**	**165**	⇑*iP*	**Pn**	**11 40 39.2**	**-0.1**
LR05				*i* S	**Sn**	**11 40 51.9**	**-0.1**
LR05				IAML		11 40 53.1	
	comp=E,1μm,0.6s						
LR03	**Panguipulli**	**0.51**	**334**	*eP*	**Pn**	**11 40 41.2**	**+0.4**
LR03				IAML		11 40 41.2	
	comp=Z,2μm,0.1s						
LR03				*eP*	**Pn**	**11 40 41.4**	**+0.6**
LR03				*eS*	**Pn**	**11 40 41.4**	**+0.6**
LR03	**Panguipulli**	**0.51**	**334**	⇑*iP*	**Pn**	**11 40 41.1**	**+0.4**
GO06	**Curarrehue**	**0.68**	**41**	⇑*iP*	**Pn**	**11 40 42.0**	**0.0**
GO06				*i* S	**Sn**	**11 40 56.5**	**-0.3**
LL04	**Puerto Octay**	**0.86**	**198**	*eP*	**Pn**	**11 40 43.0**	**-0.4**
LL04				*eS*	**Pn**	**11 40 43.7**	**+0.3**
LL04	**Puerto Octay**	**0.86**	**198**	⇓*iP*	**Pn**	**11 40 43.7**	**+0.3**
LR02	**Universidad Au**	**0.96**	**287**	*eP*	**Pn**	**11 40 45.3**	**+1.0**
LR02				*i* S	**Sn**	**11 41 01.0**	**+0.1**
LR02				IAML		11 41 02.9	
	comp=N,6μm,0.3s						
LR04	**Corral**	**1.08**	**281**	*eP*	**Pn**	**11 40 45.3**	**-0.1**
LR04				IAML		11 41 04.8	
	comp=Z,1μm,0.2s						
LR04	**Corral**	**1.08**	**281**	⇑*iP*	**Pn**	**11 40 45.9**	**+0.5**
LR04				*i* S	**Sn**	**11 41 02.2**	**-0.6**
LL03	**Petrohue**	**1.08**	**194**	*eP*	**Pn**	**11 40 46.5**	**+1.1**
LL03				*eS*	**Pn**	**11 40 47.4**	**+2.0**
LL03	**Petrohue**	**1.08**	**194**	⇓*iP*	**Pn**	**11 40 46.0**	**+0.5**
PLCA	**Paso Flores**	**1.31**	**120**	*eP*	**Pn**	**11 40 48.2**	**+0.2**
PLCA				*eS*	**Pn**	**11 40 48.2**	**+0.2**
PLCA				*eS*	**Sn**	**11 41 07.5**	**+0.1**
LC02	**Puerto Saavedr**	**1.66**	**321**	*eP*	**Pn**	**11 40 52.8**	**+1.0**
LC02				*i* S	**Sn**	**11 41 14.4**	**+0.2**
LC02				IAML		11 41 20.7	
	comp=E,1μm,0.3s						
LL05	**Los Muermos**	**1.70**	**219**	*eP*	**Pn**	**11 40 52.2**	**-0.1**
LL05				*i* S	**Sn**	**11 41 14.2**	**-1.0**
LL05				IAML		11 41 15.4	
	comp=E,455nm,0.3s						
BI04	**Isla Mocha**	**2.20**	**319**	*eP*	**Pn**	**11 40 59.2**	**+0.7**
BI04				*i* S	**Sn**	**11 41 24.1**	**-2.0**
BI04				IAML		11 41 27.1	
	comp=N,890nm,0.2s						
LL01	**San Ignacio de**	**2.30**	**187**	*eP*	**Pn**	**11 41 00.8**	**+1.1**
CANA	**Caviahue**	**2.33**	**20**	*eP*	**Pn**	**11 41 00.5**	**+0.2**
CANA				*eS*	**Sn**	**11 41 27.8**	**-1.6**
GO07	**Milladeo Hill,**	**3.25**	**201**	*eP*	**Pn**	**11 41 11.3**	**-0.7**
BI05	**Punta Hualpn**	**3.46**	**345**	*eP*	**Pn**	**11 41 14.9**	**+0.2**
BI05				IAML		11 42 05.0	
	comp=Z,68nm,0.1s						
BI02	**San Fabin de**	**3.48**	**10**	*eP*	**Pn**	**11 41 15.6**	**+0.5**
BO02	**Sierra Bellavi**	**5.38**	**11**	*eP*	**Pn**	**11 41 40.7**	**+0.1**
BO02				*eS*	**Sn**	**11 42 42.7**	**+1.1**
BO02				IAML		11 42 44.8	
	comp=Z,65nm,0.1s						

*SFS **26** 11:44:28.8, 37.′33N×1.′98W, h0km, ML3.8/16, ML3.7/21, MLv3.7/21*
*INMG **26** 11:44:29.3±1.9, 37.′31N×1.′91W, h11km±3km, ML3.4, Error ellipse: s-maj=3.1km s-min=1.7km az=140.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Lorca (ESP)*
*MDD **26** 11:44:29.0±0.2, 37.′36N×1.′98W, h0km, mb_Lg3.6/70, Error ellipse: s-maj=1.8km s-min=1.1km az=145.0*
*CNRM **26** 11:44:29.1, 37.′46N×1.′90W, h60km, ML3.0*
*IGIL **26** 11:44:29.4, 37.′36N×1.′98W, h2km, ML2.6*
ISC 26 11:44:27.6±1.0, 37.′35N±0.′02×1.′92W±0.′02, h14km±8km, n103, σ1°69/203, 5C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLOR	**Lorca, Murcia**	**0.35**	**31**	Pg	**Pb**	**11 44 36.6**	**+0.9**
TLOR				Sg	**Sb**	**11 44 41.9**	**+0.8**
TLOR	**Lorca, Murcia**	**0.35**	**31**	Pg	**Pb**	**11 44 36.6**	**+0.9**
TLOR				Sg	**Sb**	**11 44 41.4**	**+0.3**
TLOR	**Lorca, Murcia**	**0.35**	**31**	⇑Pg	**Pb**	**11 44 36.6**	**+0.9**
TLOR				Sg	**Sb**	**11 44 41.2**	**+0.1**
ENIJ	**Nijar**	**0.44**	**211**	Pg	**Pg**	**11 44 37.0**	**+0.5**
ENIJ				Sg	**Sg**	**11 44 41.2**	**-1.2**
ENIJ	**Nijar**	**0.44**	**211**	⇑Pg	**Pg**	**11 44 36.9**	**+0.5**
ENIJ				Sg	**Sg**	**11 44 40.6**	**-1.8**
EXMAZ	**Mazarron**	**0.55**	**63**	Pg	**Pn**	**11 44 40.0**	**-0.8**
EXMAZ				Sg	**Sb**	**11 44 46.5**	**-0.1**
EZAR	**Zarzadilla de**	**0.55**	**19**	Pg	**Pb**	**11 44 39.8**	**+0.8**
EZAR				Sg	**Sb**	**11 44 47.5**	**+0.6**
EZAR				*i* Vmb_Lg		11 44 50.7	
EXAHM	**Alhama Murcia,**	**0.62**	**38**	Pg	**Pn**	**11 44 41.5**	**-0.4**
EXAHM				Sg	**Sb**	**11 44 49.6**	**+0.8**
EXBUL	**Bullas, Murcia**	**0.72**	**16**	Pg	**Pn**	**11 44 42.9**	**-0.5**
EXBUL				Sg	**Sn**	**11 44 53.9**	**-0.4**
EMUR	**La Murta**	**0.73**	**48**	Pg	**Pn**	**11 44 43.2**	**-0.3**
EMUR				Sg	**Sn**	**11 44 54.3**	**-0.1**
EMUR				*i* Vmb_Lg		11 44 57.2	
CART	**Cartagena**	**0.77**	**72**	Pg	**Pn**	**11 44 43.8**	**-0.2**
CART				Sg	**Sn**	**11 44 54.7**	**-0.5**
CART	**Cartagena**	**0.77**	**72**	P	**Pn**	**11 44 43.7**	**-0.2**
CART	**Cartagena**	**0.77**	**72**	S	**Sn**	**11 44 54.6**	**-0.7**
EXTPC	**Torre Pacheco**	**0.86**	**63**	Pg	**Pn**	**11 44 45.2**	**0.0**
EXTPC				Sg	**Sn**	**11 44 57.3**	**-0.2**
EBER	**Berja**	**0.90**	**240**	Pg	**Pb**	**11 44 44.8**	**-0.2**
EBER	**Berja**	**0.90**	**240**	⇑Pg	**Pb**	**11 44 44.8**	**-0.2**
EBER				Sg	**Sb**	**11 44 55.3**	**-1.6**
EBER				*i* Vmb_Lg		11 44 57.3	
EQES	**Quesada**	**1.02**	**297**	Pg	**Pg**	**11 44 48.4**	**+1.1**
EQES				Sg	**Sn**	**11 45 02.1**	**+0.5**
EQES				*i* Vmb_Lg		11 45 05.1	
EXPDH	**Pilar de la Ho**	**1.04**	**60**	Pg	**Pg**	**11 44 49.2**	**+1.5**
EXPDH				Sg	**Sn**	**11 45 03.1**	**+1.1**
EQUE	**Quentar**	**1.22**	**264**	⇑Pg	**Pb**	**11 44 50.5**	**0.0**
EQUE				Sg	**Sn**	**11 45 06.7**	**0.0**
EQUE				*i* Vmb_Lg		11 45 11.0	
EQTA	**Presa de Quent**	**1.22**	**264**	Pg	**Pb**	**11 44 50.5**	**0.0**
EQTA				Sg	**Sb**	**11 45 05.3**	**-0.8**
E0803	**Jimena (Jaen)**	**1.32**	**292**	Pg	**Pg**	**11 44 53.8**	**+0.7**
E0803				Sg	**Sg**	**11 45 11.7**	**+1.3**
E0802	**Ubeda,Jaen**	**1.34**	**301**	Pg	**Pg**	**11 44 54.1**	**+0.8**
E0802				Sg	**Sg**	**11 45 11.1**	**+0.4**
EXCAB	**Granada**	**1.35**	**263**	Pg	**Pb**	**11 44 52.8**	**+0.2**
EXCAB				Sg	**Sn**	**11 45 09.0**	**-0.6**
ELGU	**Los Guajares,**	**1.45**	**251**	Pg	**Pb**	**11 44 54.3**	**0.0**
ELGU				Sg	**Sb**	**11 45 13.2**	**+0.6**
ELGU	**Los Guajares,**	**1.45**	**251**	⇑Pg	**Pb**	**11 44 54.4**	**0.0**
ELGU				Sg	**Sn**	**11 45 11.9**	**-0.3**
ELGU				*i* Vmb_Lg		11 45 21.2	
EALB	**Alboran**	**1.67**	**213**	Pg	**Pg**	**11 44 59.4**	**-0.2**
EALB	**Alboran**	**1.67**	**213**	Pn	**Pb**	**11 44 57.3**	**-0.7**
EALB				Sn	**Sn**	**11 45 17.3**	**-0.2**
EALB				*i* Vmb_Lg		11 45 21.5	
AFON	**Font Roja**	**1.71**	**39**	Pn	**Pb**	**11 44 58.1**	**-0.6**
AFON				Sn	**Sb**	**11 45 20.5**	**+0.4**
AFON				*i* Vmb_Lg		11 45 23.5	
EGOR	**Sierra Gorda,**	**1.76**	**263**	Pn	**Pb**	**11 44 59.9**	**+0.2**
EGOR				Sn	**Sb**	**11 45 21.9**	**+0.1**
EGOR	**Sierra Gorda,**	**1.76**	**263**	Pn	**Pb**	**11 45 00.3**	**+0.6**
EGOR				Sn	**Sb**	**11 45 22.5**	**+0.7**
EGOR				*i* Vmb_Lg		11 45 31.3	
EBEN2	**Beniarda presa**	**1.90**	**45**	Pn	**Pn**	**11 45 00.5**	**+0.9**
EBEN2				Sn	**Sn**	**11 45 23.4**	**+0.1**
EVIV	**Cofrentes, Val**	**2.01**	**18**	Pn	**Pn**	**11 45 02.5**	**+1.4**
EVIV				Pg	**Pg**	**11 45 06.1**	**-0.1**
EVIV				Sn	**Sb**	**11 45 29.4**	**+0.5**
EVIV				Sg	**Sg**	**11 45 33.2**	**+0.9**
EVIV				*i* Vmb_Lg		11 45 38.5	
PSIM	**Granatula de C**	**2.06**	**316**	⇓Pn	**Pn**	**11 45 03.2**	**+1.4**
PSIM				Sn	**Sn**	**11 45 27.6**	**+0.3**
EMAL	**Malaga-Limoner**	**2.09**	**254**	Pg	**Pb**	**11 45 05.4**	**+0.1**
CHAS	**Isla Isabel II**	**2.20**	**191**	Pn	**Pn**	**11 45 04.4**	**+0.7**
CHAS				Sn	**Sn**	**11 45 30.9**	**+0.3**
EADA	**Adamuz**	**2.26**	**292**	Pn	**Pn**	**11 45 05.5**	**+1.0**
EADA				Sn	**Sn**	**11 45 33.2**	**+1.1**
EADA	**Adamuz**	**2.26**	**292**	Pn	**Pn**	**11 45 05.5**	**+1.0**
EADA				Sn	**Sn**	**11 45 33.6**	**+1.5**
EADA				Sg	**Sg**	**11 45 39.5**	**-0.7**
EADA				*i* Vmb_Lg		11 45 43.0	
GOG	**Mont Gurugu**	**2.30**	**203**	P	**Pn**	**11 45 06.0**	**+0.9**
ECHE	**Chera**	**2.36**	**18**	Pn	**Pn**	**11 45 07.5**	**+1.7**
ECHE				Pg	**Pg**	**11 45 12.6**	**-0.2**
ECHE	**Chera**	**2.36**	**18**	Pn	**Pn**	**11 45 07.5**	**+1.7**
ECHE				Pg	**Pb**	**11 45 10.9**	**+1.1**
ECHE				Sn	**Sb**	**11 45 37.3**	**-1.5**
ECHE				Sg	**Sg**	**11 45 43.2**	**-0.2**
ECHE				*i* Vmb_Lg		11 45 48.4	
TAF	**Taforalt**	**2.56**	**189**	P	**Pn**	**11 45 09.8**	**+1.1**
PALE	**Palemas**	**2.68**	**218**	P	**Pn**	**11 45 11.3**	**+1.0**
ESBB	**Sonseca Array**	**2.82**	**326**	Pn	**Pn**	**11 45 14.3**	**+2.1**
ESBB				Pg	**Pg**	**11 45 20.1**	**-1.6**
ESBB				Sg	**Sg**	**11 45 55.7**	**-2.5**
ESDC	**Sonseca Array**	**2.82**	**326**	Pn	**Pn**	**11 45 14.5**	**+2.3**
ESDC				Pg	**Pb**	**11 45 19.1**	**+1.4**
ESDC				Sn	**Sn**	**11 45 45.4**	**-0.6**
ESDC				Sg	**Sg**	**11 45 56.2**	**-2.0**
ESDC				*i* Vmb_Lg		11 46 00.9	
LIJA	**Lijar**	**2.82**	**262**	Pn	**Pn**	**11 45 14.7**	**+2.4**
EXCBR	**El Cabril**	**2.86**	**286**	Pn	**Pn**	**11 45 13.9**	**+1.1**
EXCBR				Sn	**Sn**	**11 45 47.2**	**+0.2**
ECAB	**El Cabril**	**2.87**	**286**	Pn	**Pn**	**11 45 13.6**	**+0.8**
ECAB				Sn	**Sn**	**11 45 48.0**	**+0.9**
ECAB	**El Cabril**	**2.87**	**286**	⇓Pn	**Pn**	**11 45 13.6**	**+0.8**
ECAB				Sn	**Sn**	**11 45 47.5**	**+0.3**
ECAB				*i* Vmb_Lg		11 45 59.7	
PAB	**San Pablo**	**2.91**	**320**	Pn	**Pn**	**11 45 14.5**	**+1.1**
PAB				Sn	**Sn**	**11 45 46.6**	**-1.5**
PAB				Sg	**Sb**	**11 45 57.8**	**+3.3**
PAB				*i* Vmb_Lg		11 46 05.5	
JBK	**JBK**	**3.06**	**190**	P	**Pn**	**11 45 17.2**	**+1.7**
E0901	**Celadas (Terue**	**3.19**	**11**	Pn	**Pn**	**11 45 19.9**	**+2.7**
E0901				Pg	**Pb**	**11 45 25.5**	**+1.5**
E0901				Sn	**Sn**	**11 45 56.9**	**+1.8**
E0901				Sg	**Sg**	**11 46 08.9**	**-1.0**
E0901				*i* Vmb_Lg		11 46 17.8	
EMOS	**Mosqueruela**	**3.21**	**20**	Pn	**Pn**	**11 45

PESTR			*i* AML	AML	11 47 05.0	
PESTR			*i* AML	AML	11 47 06.8	
PESTR	**Estremoz**	**4.72 290**	Pn	**Pn**	**11 45 38.9**	**+0.6**
PBEJ	**Beja**	**4.76 280**	*e*Pn	**Pn**	**11 45 40.5**	**+1.6**
PBEJ			*e*Sn	**Sn**	**11 46 33.1**	**-0.8**
PBEJ			*e*Sg	**Sg**	**11 46 58.8**	**-1.7**
PBEJ			*i* AML	AML	11 46 59.2	
PBEJ			*i* AML	AML	11 46 59.6	
PBEJ			*i* AML	AML	11 46 59.6	
PMRV	**Marv??o**	**4.77 297**	*e*Pn	**Pn**	**11 45 40.4**	**+1.3**
PMRV			*e*Sn	**Sn**	**11 46 34.6**	**+0.5**
PMRV			*e*Sg	**Sg**	**11 46 59.0**	**-1.7**
PMRV			*i* AML	AML	11 47 04.3	
PMRV			*i* AML	AML	11 47 04.7	
PMRV			*i* AML	AML	11 47 06.8	
PBDV	**Barranco-do-Ve**	**4.79 271**	*e*Pn	**Pn**	**11 45 40.3**	**+1.0**
PBDV			*e*Sn	**Sn**	**11 46 35.4**	**+0.7**
PBDV			*i* AML	AML	11 46 38.2	
PBDV			*i* AML	AML	11 46 38.3	
PBDV			*e*Sg	**Sg**	**11 47 04.0**	**+2.5**
PBDV			*i* AML	AML	11 47 07.8	
PCVE	**Castro Verde**	**4.88 275**	*e*Pn	**Pn**	**11 45 41.3**	**+0.9**
PCVE			*e*Sn	**Sn**	**11 46 37.4**	**+0.8**
PCVE			*i* AML	AML	11 47 07.6	
PCVE			*i* AML	AML	11 47 11.1	
PCVE			*i* AML	AML	11 47 11.9	
PCVE	**Castro Verde**	**4.88 275**	Pn	**Pn**	**11 45 41.1**	**+0.8**
EVO	**Evora**	**4.96 286**	*e*Pn	**Pn**	**11 45 44.4**	**+2.8**
EVO			*e*Sn	**Sn**	**11 46 37.2**	**-1.5**
EVO			*e*Sg	**Sg**	**11 47 05.5**	**-1.2**
EVO			*i* AML	AML	11 47 08.8	
EVO			*i* AML	AML	11 47 11.2	
EVO			*i* AML	AML	11 47 13.2	
PCBR	**Castelo Branco**	**5.01 301**	*e*Pn	**Pn**	**11 45 44.4**	**+2.1**
PCBR			*e*Sn	**Sn**	**11 46 38.7**	**-1.3**
PCBR			*e*Sg	**Sg**	**11 47 08.3**	**-0.2**
MESJ	**Messejana**	**5.03 277**	*e*P	**Pn**	**11 45 43.1**	**+0.7**
MESJ			*e*S	**Sn**	**11 46 36.8**	**-3.6**
MESJ			IAML		11 46 41.0	
	comp=N,8.5nm,0.1s					
MESJ	**Messejana**	**5.03 277**	*e*Pn	**Pn**	**11 45 43.3**	**+0.8**
MESJ			*e*Sn	**Sn**	**11 46 39.6**	**-0.7**
MESJ			*e*Sg	**Sg**	**11 47 06.2**	**-2.7**
MESJ			*i* AML	AML	11 47 10.5	
MESJ			*i* AML	AML	11 47 15.9	
MDT	**Midelt**	**5.03 207**	P	**Pn**	**11 45 44.0**	**+1.3**
MD31	**MD31**	**5.04 208**	P	**Pn**	**11 45 44.0**	**+1.2**
PMTG	**Montargil**	**5.25 291**	*e*Pn	**Pn**	**11 45 47.4**	**+1.8**
PMTG			*e*Sn	**Sn**	**11 46 45.7**	**-0.2**
PMTG			*i* AML	AML	11 46 47.6	
PMTG			*i* AML	AML	11 46 48.4	
PMTG			*i* AML	AML	11 46 50.4	
MTE	**Manteigas**	**5.34 306**	*e*Pn	**Pn**	**11 45 49.8**	**+3.0**
MTE			*e*Sg	**Sg**	**11 47 18.9**	**-0.1**
PTEO	**Sao Teotonio**	**5.42 274**	*e*Pn	**Pn**	**11 45 49.7**	**+1.8**
ZHG	**ZHG**	**5.48 226**	P	**Pn**	**11 45 50.7**	**+1.9**
MVO	**Moncorvo**	**5.50 315**	*e*Pn	**Pn**	**11 45 50.9**	**+1.8**
MVO			*e*Sn	**Sn**	**11 46 51.5**	**-0.6**
MVO			*e*Sg	**Sg**	**11 47 25.2**	**+1.3**
EORO	**Oroz-Betelu**	**5.55 5**	Pn	**Pn**	**11 45 52.2**	**+2.4**
EORO			*i* Vmb_Lg		11 47 36.8	
PVIS	**Viseu**	**5.74 308**	*e*Pn	**Pn**	**11 45 54.1**	**+1.8**
PVIS			*e*Sn	**Sn**	**11 46 56.1**	**-1.9**
PVIS			*e*Sg	**Sg**	**11 47 31.0**	**-0.7**
PBRG	**Braganca**	**5.80 322**	*e*Pn	**Pn**	**11 45 55.4**	**+2.2**
PBRG			*e*Sg	**Sg**	**11 47 32.5**	**-1.2**
PBRG			*i* AML	AML	11 47 39.1	
PBRG			*i* AML	AML	11 47 39.2	
PBRG			*i* AML	AML	11 47 45.7	
PCAS	**Casmilo, Conde**	**5.81 300**	*e*Pn	**Pn**	**11 45 55.7**	**+2.4**
PCAS			*e*Sn	**Sn**	**11 46 58.3**	**-1.4**
PSBE	**So Bento**	**5.81 294**	*e*Pn	**Pn**	**11 45 55.8**	**+2.4**
COI	**Coimbra**	**5.82 301**	*e*Pn	**Pn**	**11 45 56.2**	**+2.9**
EALK	**Alkurruntz**	**5.87 3**	Pn	**Pn**	**11 45 56.1**	**+1.9**
EALK			Sn	**Sn**	**11 46 58.7**	**-2.5**
EALK			*i* Vmb_Lg		11 47 44.8	
ELAN	**Lanestosa**	**5.99 349**	Pn	**Pn**	**11 45 56.7**	**+1.0**
ELAN			Sn	**Sn**	**11 47 04.1**	**+0.1**
ELAN			Sg	**Sg**	**11 47 32.3**	**-7.3**
ELAN			*i* Vmb_Lg		11 47 49.2	
PMAFR	**Mafra**	**6.02 288**	*e*Pn	**Pn**	**11 45 58.7**	**+2.6**
PMAFR			*e*Sn	**Sn**	**11 47 04.5**	**-0.4**
PMAFR			*e*Sg	**Sg**	**11 47 35.7**	**-5.0**
POLO	**Lamas de Olo**	**6.07 313**	*e*Pn	**Pn**	**11 45 59.9**	**+3.0**
POLO			*e*Sg	**Sg**	**11 47 41.6**	**-0.7**
ELOB	**Lobios**	**6.54 315**	Pn	**Pn**	**11 46 04.1**	**+0.7**
ELOB			Sn	**Sn**	**11 47 16.2**	**-1.7**
ELOB			Sg	**Sg**	**11 47 49.6**	**-7.9**
ELOB			*i* Vmb_Lg		11 48 07.5	
PGAV	**Gavieira, Arco**	**6.72 315**	*e*Pn	**Pn**	**11 46 07.7**	**+1.8**
PGAV			*e*Sn	**Sn**	**11 47 22.7**	**+0.4**
PGAV			*e*Sg	**Sg**	**11 47 58.6**	**-4.7**
EPON	**Pontenova**	**7.18 328**	Pn	**Pn**	**11 46 13.0**	**+0.9**
EPON			Sn	**Sn**	**11 47 28.4**	**-5.0**
EPON			*i* Vmb_Lg		11 48 31.1	

*IDC **26** 11:46:04.6±3.6, 10˚.92S×166˚.28E, h0km, mb4.0/4, mbtmp3.9/4, Error ellipse: s-maj=157.6km s-min=29.4km az=137.0*
*NEIC **26** 11:46:12.4±0.8, 10˚.6S±0˚.2×165˚.70E±0˚.07, h35km±9km, mb4.3/21, Error ellipse: s-maj=29.0km s-min=9.7km az=182.0*

ISC 26 11:46:12.0±1.3, 10˚.7S±0˚.2×165˚.7E±0˚.2, h35km, n29, σ0876/29, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.81**	**282**	Pn	**Pn**	**11 47 35.5**	**-0.2**
EIDS	**Eidsvold**	**20.14**	**222**	P	**P**	**11 50 43.4**	**+0.1**
COEN	**Coen**	**22.25**	**259**	P	**P**	**11 51 06.2**	**+0.1**
WB0	**Warramunga Arr**	**31.49**	**250**	P	**P**	**11 52 30.6**	**-0.2**
WB0				IAmb	IAmb	11 53 10.8	
	comp=Z,4.2nm,1.0s						
WB2	**Warramunga Arr**	**31.57**	**249**	P	**P**	**11 52 30.9**	**-0.6**
WRA	**Warramunga Arr**	**31.58**	**249**	P	**P**	**11 52 34.1**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=84,slow=8.9,SNR=5.0						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**32.93**	**243**	P	**P**	**11 52 44.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=70,slow=9.5,SNR=18						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**40.23**	**234**	P	**P**	**11 53 44.0**	**-1.5**
M16K	**Timber Creek**	**76.72**	**17**	P	**P**	**11 57 59.4**	**0.0**
RND	**Reindeer**	**81.60**	**19**	P	**P**	**11 58 26.4**	**+0.3**
RND				IAmb	IAmb	11 58 57.7	
	comp=Z,3.1nm,1.3s						
E19K	**Redstone River**	**82.38**	**14**	P	**P**	**11 58 30.5**	**+0.5**
E19K				IAmb	IAmb	11 58 59.1	
	comp=Z,4.4nm,1.4s						
C18K	**Utukok River**	**82.51**	**12**	P	**P**	**11 58 31.2**	**+0.5**
WRH	**Wood River Hil**	**82.59**	**18**	P	**P**	**11 58 31.0**	**-0.2**
WRH				IAmb	IAmb	11 58 48.3	
	comp=Z,4.4nm,1.4s						
CCB	**Clear Creek Bu**	**82.80**	**18**	P	**P**	**11 58 31.8**	**-0.5**
RIDG	**Independent Ri**	**83.14**	**20**	P	**P**	**11 58 34.4**	**+0.3**
IL31		**83.17**	**19**	P	**P**	**11 58 34.2**	**+0.1**
IL31				IAmb	IAmb	11 58 56.8	
	comp=Z,4.9nm,1.5s						
ILAR	**Eielson Array**	**83.17**	**19**	P	**P**	**11 58 33.9**	**-0.3**
ILAR	**Eielson Array**	**83.17**	**19**	P	**P**	**11 58 33.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=226,slow=5.0,SNR=30						
	comp=Z,1.0nm,0.6s						
J25K	**Salcha River,**	**83.55**	**19**	P	**P**	**11 58 36.4**	**+0.2**
SCRK	**Sand Creek**	**83.58**	**20**	P	**P**	**11 58 36.5**	**+0.1**
D22K	**Ayikyak River**	**84.56**	**14**	P	**P**	**11 58 41.9**	**+0.7**
D22K				IAmb	IAmb	11 59 22.2	
	comp=Z,2.6nm,1.4s						
B21K	**Ikpikpuk River**	**84.69**	**13**	P	**P**	**11 58 42.9**	**+1.1**
B21K				IAmb	IAmb	11 59 15.5	
	comp=Z,3.6nm,1.4s						
I26K	**Coal Creek Min**	**84.72**	**19**	P	**P**	**11 58 42.2**	**+0.1**
I26K				IAmb	IAmb	11 58 48.0	
	comp=Z,3.6nm,1.4s						
F24K	**Squaw Lake**	**84.79**	**16**	P	**P**	**11 58 42.0**	**-0.5**
F24K				IAmb	IAmb	11 59 14.2	
	comp=Z,3.5nm,1.4s						
BMAR	**Burnt Mountain**	**85.67**	**17**	P	**P**	**11 58 47.1**	**+0.3**
MK31	**Makanchi Array**	**93.23**	**317**	P	**P**	**11 59 22.8**	**-0.1**
MK31				IAmb	IAmb	11 59 57.1	
	comp=Z,1.5nm,1.4s						
MKAR	**Makanchi Array**	**93.23**	**317**	P	**P**	**11 59 23.1**	**+0.1**
MKAR	**Makanchi Array**	**93.23**	**317**	P	**P**	**11 59 22.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=116,slow=5.7,SNR=9.1						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**93.44**	**317**	P	**P**	**11 59 23.1**	**-0.8**
MAKZ				IAmb	IAmb	11 59 24.4	
	comp=Z,1.0nm,0.7s						

DJA 26 11:48:46.8±0.3, 1˚.S±2˚.×13˚.3E±˚, h41km±38km, M4.2/13, mB5.1/1, mb4.5/6, MLv4.2/13, Mw(mB)4.4/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.00**	**266**	P	Pn	11 49 18.0	-0.2
SWI				S	Sn	11 49 43.5	+1.5
FAKI	**Fak Fak**	**2.40**	**205**	P	Pn	11 49 22.7	-0.9
FAKI				S	Sn	11 49 51.4	-0.4
BAKI	**Biak**	**2.88**	**99**	P	Pn	11 49 31.3	+1.0
BAKI				S	Sn	11 50 03.6	-0.1
KMPI	**Kaimana, Papua**	**2.95**	**171**	P	Pn	11 49 31.2	+0.1
KMPI				S	Sn	11 50 05.9	+0.6
SRPI	**Serui, Papua**	**3.19**	**111**	P	Pn	11 49 34.9	+0.5
BNDI	**Bandanaira**	**5.04**	**222**	P	Pn	11 49 59.6	-0.4
	67nm,0.7s						
BNDI				S	Sn	11 50 57.5	+0.5
	67nm,0.7s						
MSAI	**Masohi**	**5.05**	**239**	P	Pn	11 50 01.1	+1.1
MSAI				S	Sn	11 50 57.6	+0.4
TNTI	**Ternate**	**6.08**	**284**	P	Pn	11 50 14.5	+0.3
	0.1nm16nm,0.6s						
NLAI	**Namlea**	**6.64**	**248**	P	Pn	11 50 21.8	-0.1
NLAI				S	Sn	11 51 38.3	+1.9
JAY	**Jayapura**	**7.65**	**103**	P	Pn	11 50 34.9	-0.9

*BJI **26** 12:15:04.2, 4˚.35S×129˚.93E, h114km, mB5.1/29, mb5.3/80*
*MOS **26** 12:15:06.7±0.9, 4˚.04S×129˚.43E, h102km, mb5.2/40, Error ellipse: s-maj=10.2km s-min=4.8km az=110.2*
*GCMT **26** 12:15:08.8±0.2, 3˚.99S±0˚.01×129˚.55E±0˚.01, h114km±1km, MW5.1/129, Moment Tensor Solution. s81,c116; s129,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.26±.13; $M_{\theta\theta}$-0.72±.15; $M_{\phi\phi}$-1.54±.15; $M_{r\theta}$-4.98±.09; $M_{\theta\phi}$0.82±.14; $M_{\phi r}$1.27±.09; Best double couple: $M_0$5.50900×10^{16} NP1:ϕ_s155.00000°, δ14.00000°, λ135.00000°. NP2:ϕ_s289.00000°, δ80.00000°, λ80.00000°. Principal axes: T 6.0060, Plg54.0000°, Azm187.0000°; N -0.9950, Plg10.0000°, Azm291.0000°; P -5.0110, Plg35.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 12:15:08.2±1.3, 4˚.07S×129˚.56E, h105km±10km, mb4.9/25, mbtmp5.3/28, MS3.8/32 Error ellipse: s-maj=16.9km s-min=8.6km az=83.0*
*DJA **26** 12:15:09.1±0.1, 4˚.S±2˚.×13˚.0E±˚, h117km±2km, M5.1/91, mb5.3/91, mB5.6/55, MLv5.7/25, Mw(mB)5.1/55, MwMwp4.6/5, Mwp4.9/5*
*NEIC **26** 12:15:09.8±2.3, 4˚.00S±0˚.05×129˚.55E±0˚.06, h108km±3km, mb5.2/209, Mww5.1/24, Error ellipse: s-maj=9.0km s-min=7.3km az=60.0*
*NEIC **26** 12:15:09.8, 4˚.00S×130˚.00E, h110km, Moment Tensor Solution. Duration: !s7 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39; $M_{\theta\theta}$-2.77; $M_{\phi\phi}$0.38; $M_{r\theta}$-3.44; $M_{\theta\phi}$2.11; $M_{\phi r}$1.57; Fault plane solution: $M_0$4.90000×10^{16} NP1: ϕ_s121.10000°, δ19.79000°, λ96.37000°. NP2: ϕ_s294.33000°, δ70.34000°, λ87.71000°. Principal axes: T 4.1849, Plg65.0000°, Azm201.0000°; N 1.4273, Plg2.0000°, Azm295.0000°; P -5.6122, Plg25.0000°, Azm26.0000°;*
*NEIC **26** 12:15:09.8, 4˚.00S×129˚.55E, h110km*

ISC 26 12:15:09.6±0.3, 4˚.07S±0˚.03×129˚.54E±0˚.04, h117km±2km, h118km; pP-P, n948, σ1927/949, mb5.2/214, 16C-10D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.57**	**141**	P	**Pn**	**12 15 27.2**	**-0.5**
BNDI	**Bandanaira**	**0.57**	**141**	S	**Sn**	**12 15 39.9**	**-1.4**
BNDI	**Bandanaira**	**0.57**	**141**	P	**Pn**	**12 15 27.2**	**-0.5**
BNDI				S	**Sn**	**12 15 40.9**	**-0.4**
MSAI	**Masohi**	**0.95**	**320**	P	**Pn**	**12 15 28.7**	**-2.1**
AAI	**Ambon**	**1.40**	**286**	P	**Pn**	**12 15 34.5**	**-1.1**
NLAI	**Namlea**	**2.57**	**289**	P	**Pn**	**12 15 49.1**	**-1.1**
FAKI	**Fak Fak**	**2.94**	**67**	P	**Pn**	**12 15 53.6**	**-1.3**
FAKI				Sn	**Sn**	**12 16 25.6**	**-4.4**
FAKI	**Fak Fak**	**2.94**	**67**	P	**Pn**	**12 15 54.2**	**-0.8**
FAKI	**Fak Fak**	**2.94**	**67**	P	**Pn**	**12 15 54.2**	**-0.8**
SWI	**Sorong**	**3.62**	**28**	P	**Pn**	**12 16 01.5**	**-2.5**
LBMI	**Labuha**	**3.98**	**329**	P	**Pn**	**12 16 07.2**	**-1.6**
SANI	**Sanana**	**4.08**	**299**	P	**Pn**	**12 16 07.5**	**-2.6**
SANI	**Sanana**	**4.08**	**299**	P	**Pn**	**12 16 07.5**	**-2.6**
KMPI	**Kaimana, Papua**	**4.17**	**85**	P	**Pn**	**12 16 10.5**	**-0.9**
SAUI	**Saumlaki**	**4.26**	**156**	Pn	**Pn**	**12 16 13.7**	**+1.1**
SAUI				Sn	**Sn**	**12 17 04.1**	**+2.7**
SAUI	**Saumlaki**	**4.26**	**156**	P	**Pn**	**12 16 13.3**	**+0.8**
SAUI	**Saumlaki**	**4.26**	**156**	S	**Sn**	**12 17 01.2**	**-0.2**
SAUI	**Saumlaki**	**4.26**	**156**	P	**Pn**	**12 16 13.5**	**+1.0**
TNTI	**Ternate**	**5.28**	**336**	Pn	**Pn**	**12 16 25.1**	**-1.1**
TNTI				Sn	**Sn**	**12 17 22.9**	**-3.2**
TNTI	**Ternate**	**5.28**	**336**	P	**Pn**	**12 16 25.2**	**-1.1**
TNTI	**Ternate**	**5.28**	**336**	P	**Pn**	**12 16 25.0**	**-1.3**
	3μm243nm,0.8s						
KDI	**Kendari**	**6.91**	**271**	P	**Pn**	**12 16 48.7**	**+0.4**
	108nm,0.7s						
SRPI	**Serui, Papua**	**7.04**	**72**	P	**Pn**	**12 16 48.0**	**-2.1**
	8.2nm9μm733nm,0.7s						
BBSI	**Bau Bau**	**7.09**	**258**	P	**Pn**	**12 16 54.1**	**+3.4**
	1.0nm3μm315nm,1.2s						
BAKI	**Biak**	**7.16**	**67**	P	**Pn**	**12 16 50.6**	**-1.1**
KMSI	**Cibinong**	**7.22**	**310**	P	**Pn**	**12 16 51.2**	**-1.4**
	7μm782nm,0.7s						
LUWI	**Luwuk**	**7.40**	**294**	Pn	**Pn**	**12 16 55.0**	**0.0**
LUWI	**Luwuk**	**7.40**	**294**	P	**Pn**	**12 16 55.0**	**0.0**
	1.3nm3μm262nm,1.0s						
SOEI	**Soe**	**7.70**	**223**		**Pn**	**12 17 01.9**	**+2.8**
SOEI	**Soe**	**7.70**	**223**	P	**Pn**	**12 17 00.2**	**+1.1**
SOEI	**Soe**	**7.70**	**223**	P	**Pn**	**12 17 01.8**	**+2.7**
	2.0nm6μm565nm,1.0s						
DRS	**Darwin Rock St**	**8.41**	**171**	P	**Pn**	**12 17 07.2**	**-1.4**
APSI	**Ampana**	**8.49**	**292**	P	**Pn**	**12 17 11.3**	**+1.6**
	3μm216nm,0.7s						
MMRI	**Maumere**	**8.55**	**238**	Pn	**Pn**	**12 17 13.5**	**+2.9**
MMRI	**Maumere**	**8.55**	**238**	P	**Pn**	**12 17 11.4**	**+0.8**
MMRI	**Maumere**	**8.55**	**238**	P	**Pn**	**12 17 12.5**	**+1.9**
	2μm3μm327nm,1.0s						
MRSI	**Marisa**	**8.84**	**301**	P	**Pn**	**12 17 13.7**	**-0.7**
	2μm163nm,0.6s						
MTN	**Manton Dam**	**8.85**	**170**		**Pn**	**12 17 14.0**	**-0.7**
MTN	**Manton Dam**	**8.85**	**170**	P	**Pn**	**12 17 13.5**	**-1.2**
	comp=Z,367nm,0.6s						
MTN	**Manton Dam**	**8.85**	**170**	P	**Pn**	**12 17 13.2**	**-1.4**
KDU	**Kakadu**	**9.04**	**161**	P	**Pn**	**12 17 15.0**	**-2.1**
KDU	**Kakadu**	**9.04**	**161**	P	**Pn**	**12 17 14.7**	**-2.4**
BSSI	**Bau Bau, Buton**	**9.25**	**257**	P	**Pn**	**12 17 22.0**	**+2.0**
	comp=Z,2μmcomp=Z,176nm,0.6s						
SMPI	**Sarmi**	**9.39**	**78**	P	**Pn**	**12 17 21.3**	**-0.6**
	comp=Z,5μmcomp=Z,433nm,0.9s						
BKSI	**Bulukumba**	**9.47**	**262**	P	**Pn**	**12 17 24.9**	**+1.9**
	comp=Z,1μmcomp=Z,106nm,0.9s						
SPSI	**Sidrap Palu**	**9.75**	**270**	P	**Pn**	**12 17 28.7**	**+2.0**
TTSI	**Tana Toraja**	**9.76**	**276**	P	**Pn**	**12 17 27.3**	**+0.4**
KAPI	**Kappang**	**9.80**	**264**	Pn	**Pn**	**12 17 28.1**	**+0.6**
KAPI	**Kappang**	**9.80**	**264**	P	**Pn**	**12 17 27.9**	**+0.4**
	comp=Z,33nm,0.7s,baz=91,slow=6.9,SNR=25						
KAPI				S	**Sn**	**12 19 15.9**	**+0.2**
	comp=Z,16nm,0.7s,baz=93,slow=18,SNR=1.2						
KAPI	**Kappang**	**9.80**	**264**	P	**Pn**	**12 17 28.6**	**+1.1**
KAPI	**Kappang**	**9.80**	**264**	*e*P	**Pn**	**12 17 29.7**	**+2.2**
TOLI2	**Tolitoli**	**10.16**	**300**	Pn	**Pn**	**12 17 29.6**	**-2.7**
TOLI2	**Tolitoli**	**10.16**	**300**	P	**Pn**	**12 17 33.2**	**+0.9**
PCI	**Palu**	**10.19**	**288**	P	**Pn**	**12 17 32.4**	**-0.4**
	comp=Z,119nm,0.7s						
GENI	**Genyem**	**10.71**	**82**	P	**Pn**	**12 17 39.2**	**-0.6**
GENI	**Genyem**	**10.71**	**82**	P	**Pn**	**12 17 37.9**	**-1.9**
WSI	**Waingapu**	**10.73**	**238**	P	**Pn**	**12 17 40.5**	**+0.5**
BASI	**Baing, Sumba**	**10.78**	**235**	P	**Pn**	**12 17 41.1**	**+0.4**
JAY	**Jayapura**	**11.25**	**82**	P	Pn	12 17 42.1	-4.9
	comp=Z,113nm,0.8s,baz=263,slow=7.3,SNR=24						
JAY	**Jayapura**	**11.25**	**82**	P	**Pn**	**12 17 46.1**	**-1.0**
	comp=Z,1μmcomp=Z,120nm,0.9s						
WBSI	**Waikabubak, Su**	**11.49**	**241**	P	**Pn**	**12 17 49.5**	**-0.7**
	comp=Z,4μmcomp=Z,358nm,0.6s						
KNRA	**Kununurra**	**11.55**	**184**	Pn	**Pn**	**12 17 49.0**	**-2.0**
KNRA	**Kununurra**	**11.55**	**184**	P	**Pn**	**12 17 48.8**	**-2.2**
	comp=Z,207nm,0.9s						
TABU	**Tabubil**	**11.70**	**96**	P	**Pn**	**12 17 53.1**	**0.0**
DAV	**Davao City (W)**	**11.76**	**340**	P	**Pn**	**12 17 50.8**	**-2.9**
	comp=Z,163nm,0.4s,baz=128,slow=4.2,SNR=1.3						
DAV				LR	LR	12 22 20.0	
	comp=Z,795nm,19.2s,baz=132,slow=37						
PLAI	**Plampang**	**12.61**	**247**	P	**Pn**	**12 18 05.0**	**+0.2**
PLAI	**Plampang**	**12.61**	**247**	P	**Pn**	**12 18 05.8**	**+1.0**
	comp=Z,3μmcomp=Z,240nm,0.5s						
TWSI	**Taliwang, Sumb**	**13.40**	**249**	P	**Pn**	**12 18 15.2**	**0.0**
	comp=Z,2μmcomp=Z,110nm,0.6s						
MYLDM	**Lahad Datu**	**14.36**	**310**	Pn	**Pn**	**12 18 26.9**	**-0.5**
MYLDM	**Lahad Datu**	**14.36**	**310**	P	**Pn**	**12 18 27.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**14.45**	**195**	Pn	**Pn**	**12 18 26.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.45**	**195**	P	**Pn**	**12 18 24.6**	**-4.0**
	comp=Z,54nm,0.6s,baz=29,slow=10,SNR=123						
FITZ				S	**Sn**	**12 21 01.4**	**-6.8**
	comp=Z,26nm,0.5s,baz=32,slow=19,SNR=3.4						
FITZ				LR	LR	12 24 31.1	
	comp=Z,441nm,18.1s,baz=20,slow=39						
SRBI	**Singaraja**	**14.79**	**254**	P	**Pn**	**12 18 34.5**	**+1.5**
	comp=Z,2μmcomp=Z,93nm,0.8s						
KMMI	**Kalianget**	**15.78**	**259**	P	**P**	**12 18 49.4**	**+2.6**
	comp=Z,2μmcomp=Z,150nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.90**	**253**		**Pn**	**12 18 44.9**	**-2.1**
JAGI	**Jajag, Banyuwa**	**15.90**	**253**	P	**P**	**12 18 48.1**	**-0.1**
JAGI	**Jajag, Banyuwa**	**15.90**	**253**	P	**Pn**	**12 18 47.2**	**+0.3**
	comp=Z,3μmcomp=Z,96nm,0.5s						
WB0	**Warramunga Arr**	**16.30**	**164**	Pn	**Pn**	**12 18 47.8**	**-4.0**
WRAB	**Tennant Creek**	**16.45**	**164**	Pn	**Pn**	**12 18 49.3**	**-4.3**
WRAB	**Tennant Creek**	**16.45**	**164**	*i* P	**Pn**	**12 18 53.3**	**-0.3**
WRA	**Warramunga Arr**	**16.45**	**164**	P	**Pn**	**12 18 49.3**	**-4.3**
	comp=Z,109nm,0.5s,baz=346,slow=13,SNR=127						
WRA				S	Sn	12 21 44.3	-12
	comp=Z,53nm,0.7s,baz=346,slow=24,SNR=9.9						
WB2	**Warramunga Arr**	**16.45**	**164**	Pn	**Pn**	**12 18 49.4**	**-4.3**
WR0	**Warramunga Arr**	**16.52**	**163**		**Pn**	**12 18 51.2**	**-3.3**
GMJI	**Gumukmas**	**16.54**	**255**	P	**Pn**	**12 18 55.0**	**+0.3**
	comp=Z,2μmcomp=Z,64nm,0.8s						
COEN	**Coen**	**16.65**	**127**	Pn	**Pn**	**12 18 55.5**	**-0.6**
COEN	**Coen**	**16.65**	**127**	P	**Pn**	**12 18 56.3**	**+0.2**
	comp=Z,278nm,0.9s						
COEN	**Coen**	**16.65**	**127**	P	**Pn**	**12 18 56.2**	**+0.1**
KKM	**Kota Kinabalu**	**16.68**	**307**		**P**	**12 18 57.3**	**+0.4**
KKM	**Kota Kinabalu**	**16.68**	**307**	P	**P**	**12 18 57.3**	**+0.4**
GRJI	**Gresik**	**17.21**	**260**	P	**P**	**12 19 02.9**	**+0.2**
	comp=Z,293nm,0.7s						
TBJI	**Tambak Boyo**	**17.82**	**260**	P	**Pn**	**12 19 10.4**	**+0.1**
	comp=Z,5μmcomp=Z,298nm,1.0s						
MANU	**Manus Island**	**17.91**	**84**	P	**Pn**	**12 19 11.2**	**-0.2**
PWJI	**Pagerwojo**	**18.07**	**257**	P	**P**	**12 19 12.0**	**-0.1**
PMG	**Port Moresby**	**18.27**	**108**	P	**Pn**	**12 19 16.1**	**+0.4**
	comp=Z,38nm,0.7s,baz=310,slow=7.7,SNR=18						
NGJI	**Ngawi**	**18.28**	**259**	P	**Pn**	**12 19 17.1**	**+1.3**
	comp=Z,84nm,0.9s						
SBUM	**Sibu**	**18.48**	**290**	P	**Pn**	**12 19 18.4**	**+0.3**
SBUM	**Sibu**	**18.48**	**290**	P	**Pn**	**12 19 17.7**	**-0.5**
STKI	**Sintang**	**18.51**	**282**	P	**P**	**12 19 16.8**	**-0.2**
PCJI	**Pacitan**	**18.71**	**256**	P	**P**	**12 19 16.1**	**-3.0**
	comp=Z,2μmcomp=Z,95nm,0.6s						
QIS	**Mount Isa**	**19.09**	**150**	P	**P**	**12 19 23.8**	**+0.6**
	comp=Z,911nm,0.7s						
QIS	**Mount Isa**	**19.09**	**150**	P	**P**	**12 19 23.8**	**+0.6**
SMRI	**Semarang**	**19.24**	**260**	P	**P**	**12 19 25.0**	**+0.1**
SMRI	**Semarang**	**19.24**	**260**	P	**P**	**12 19 25.8**	**+0.9**
UGM	**Wanagama**	**

comp=Z,235nm,0.7s
BBOO Buckleboo 29.23 169 P **P 12 21 00.3 -0.1**
PPI Padang Panjang 29.34 276 P **P 12 21 02.0 +0.4**
KLBR Kellerberrin 29.53 201 P **P 12 21 02.0 -1.1**
comp=Z,144nm,0.6s
KLBR Kellerberrin 29.53 201 P **P 12 21 01.9 -1.1**
EIDS Eidsvold 29.60 138 P **P 12 21 03.5 -0.3**
EIDS IAmb IAmb 12 21 05.2
comp=Z,82nm,1.6s
EIDS Eidsvold 29.60 138 P **P 12 21 04.2 +0.4**
comp=Z,40nm,1.4s
EIDS Eidsvold 29.60 138 P **P 12 21 04.5 +0.7**
YHNB Yeheng 29.66 345 P **P 12 21 03.9 -0.4**
YHNB IAmb IAmb 12 21 33.4
comp=Z,122nm,1.6s
IPM Ipoh 29.73 286 P **P 12 21 05.4 +0.3**
IPM Ipoh 29.73 286 P **P 12 21 05.2 +0.1**
WHYH Whyalla 29.77 166 P **P 12 21 05.8 +0.6**
STKA Stephens Creek 29.89 159 P **P 12 21 06.7 +0.6**
STKA Stephens Creek 29.89 159 P **P 12 21 06.8 +0.6**
comp=Z,430nm,1.2s
STKA Stephens Creek 29.89 159 P **P 12 21 05.7 -0.5**
comp=Z,52nm,0.7s,baz=331,slow=8.8,SNR=78
STKA LR LR 12 34 28.1
comp=Z,275nm,19.3s,baz=345,slow=39
comp=Z,52nm,0.7s
STKA Stephens Creek 29.89 159 P **P 12 21 06.9 +0.7**
STKA Stephens Creek 29.89 159 *i* P **P 12 21 05.4 -0.8**
QIZ Qiongzhong 30.05 320 P **P 12 21 09.5 +1.7**
QIZ S **S 12 25 58.5 +0.7**
QIZ SS **SnSn 12 27 46.8 +3.0**
QIZ LR LR
comp=Z,200nm,7.3s
QIZ LR LR
comp=Z,180nm,6.3s
QIZ LR LR
comp=Z,170nm,11.5s
KULM Kulim 30.32 288 P **P 12 21 09.9 -0.4**
KULM Kulim 30.32 288 P **P 12 21 11.1 +0.8**
MNSI Mandailing Nat 30.33 279 P **P 12 21 09.2 -1.1**
comp=Z,52nm,0.6s
KNMB Chin-men Tao 30.37 340 P **P 12 21 10.4 -0.1**
KNMB IAmb IAmb 12 21 11.2
comp=Z,69nm,1.0s
MUN Mundaring 30.45 203 P **P 12 21 09.8 -1.4**
comp=Z,23nm,1.0s
HTT Hallett 30.49 164 P **P 12 21 12.3 +0.8**
comp=Z,94nm,1.5s
HTT Hallett 30.49 164 P **P 12 21 12.4 +0.8**
SISI Saibi 30.54 274 P **P 12 21 09.2 -3.0**
comp=Z,1μmcomp=Z,36nm,0.6s
UBPT Khong Chiam 30.63 309 P **P 12 21 13.0 +0.1**
UBPT Khong Chiam 30.63 309 P **P 12 21 13.7 +0.8**
HNR Honiara 30.65 102 LR LR 12 36 00.1
comp=Z,70nm,18.1s,baz=318,slow=41
AULRC Lightning Ridg 30.68 147 P **P 12 21 14.0 +0.8**
QZH Quanzhou 30.74 340 ⇓*i* P **P 12 21 13.5 -0.3**
JOW Kunigami 30.75 358 P **P 12 21 14.5 +0.7**
JOW Kunigami 30.75 358 P **P 12 21 14.4 +0.6**
comp=Z,116nm,0.9s,baz=179,slow=9.5,SNR=17
JOW LR LR 12 33 31.4
comp=Z,198nm,18.6s,baz=176,slow=36
comp=Z,116nm,0.9s
JOW Kunigami 30.75 358 P **P 12 21 14.7 +0.9**
NWAO Narrogin (SRO) 30.93 200 P **P 12 21 14.3 -1.0**
NWAO IAmb IAmb 12 22 18.7
comp=Z,28nm,0.8s
NWAO Narrogin (SRO) 30.93 200 P **P 12 21 14.1 -1.3**
comp=Z,46nm,0.6s
NWAO Narrogin (SRO) 30.93 200 LR LR 12 35 26.3
comp=Z,133nm,18.7s,baz=46,slow=39
NWAO Narrogin (SRO) 30.93 200 P **P 12 21 16.5 +1.1**
NWAO Narrogin (SRO) 30.93 200 P **P 12 21 16.2 +0.8**
NWAO Narrogin (SRO) 30.93 200 P **P 12 21 14.3 -1.0**
NWAO pmax pmax
comp=Z,28nm,0.8s
CMSA Cobar Meteorol 31.26 153 P **P 12 21 19.3 +1.0**
comp=Z,224nm,1.0s
CMSA Cobar Meteorol 31.26 153 P **P 12 21 19.4 +1.1**
RPSI Rantau Prapat 31.33 282 P **P 12 21 18.5 -0.6**
RPSI IAmb IAmb 12 21 19.2
comp=Z,42nm,0.8s
PSI Prapat 31.35 282 P **P 12 21 18.8 -0.7**
PSI Prapat 31.35 282 P **P 12 21 18.5 -1.0**
PSI pmax pmax
comp=Z,42nm,0.8s
PBSI Pulau Batu 31.49 277 P **P 12 21 21.1 +0.5**
comp=Z,47nm,0.7s
TW1H Toowoomba 1 Ha 31.66 140 P **P 12 21 22.9 +0.9**
GHSS Government Hou 31.82 166 P **P 12 21 24.5 +1.3**
AUMBR Murray Bridge 32.20 165 P **P 12 21 27.2 +0.7**
AUWSH Wavell State H 32.26 138 P **P 12 21 28.1 +0.9**
GSI Gunungsitoli 32.39 279 P **P 12 21 26.9 -1.6**
GSI IAmb IAmb 12 21 27.6
comp=Z,38nm,0.7s
GSI **PcP 12 24 14.4 +0.9**
GSI Gunungsitoli 32.39 279 P **P 12 21 28.7 +0.2**
GSI Gunungsitoli 32.39 279 P **P 12 21 26.7 -1.8**
comp=Z,52nm,0.9s
SRIT Nakonsritamara 32.40 293 P **P 12 21 29.6 +1.1**
SRIT IAmb IAmb 12 21 30.1
comp=Z,46nm,1.0s
SRIT Nakonsritamara 32.40 293 P **P 12 21 29.4 +0.9**
AUDCS Dubbo College 33.24 150 P **P 12 21 36.8 +1.2**
JCJ Chichijima 33.31 21 LR LR 12 33 40.2
comp=Z,137nm,21.4s,baz=108,slow=33
NAYO Nakonayok 33.42 304 P **P 12 21 38.6 +1.2**
ARMA Armidale 33.49 144 P **P 12 21 38.9 +1.0**
ARMA Armidale 33.49 144 P **P 12 21 39.1 +1.1**
comp=Z,49nm,1.5s
ARMA Armidale 33.49 144 P **P 12 21 39.0 +1.0**
AUPHS Peel High Scho 33.57 146 P **P 12 21 39.5 +1.0**
NONG Nongkai 34.08 311 P **P 12 21 43.7 +0.7**
MLSI Meulaboh, Aceh 34.13 284 P **P 12 21 42.0 -1.6**
ARPS Mount Arapiles 34.45 162 P **P 12 21 47.4 +1.5**
comp=Z,324nm,0.9s
ARPS Mount Arapiles 34.45 162 P **P 12 21 47.5 +1.5**
GULI GuiLin 34.62 328 P **P 12 21 49.5 +1.8**
GULI pmax pmax
comp=Z,10.0nm,1.2s
YNG Young 34.81 152 P **P 12 21 50.7 +1.5**
comp=Z,1μm,1.0s
YNG Young 34.81 152 P **P 12 21 50.0 +0.8**
AUMAG Moama Anglican 34.82 158 P **P 12 21 51.0 +1.8**
MGBR Mount Gambier 34.98 165 P **P 12 21 52.4 +1.8**
SRDT SRDT 35.28 302 P **P 12 21 54.9 +1.4**
BSI Banda Aceh 35.50 285 P **P 12 21 53.0 -2.4**
comp=Z,36nm,0.8s
SLVN Son La 35.62 316 P **P 12 21 57.1 +0.7**
SLVN Son La 35.62 316 P **P 12 21 57.2 +0.9**
BRAT Ballarat 35.83 160 P **P 12 21 59.1 +1.3**
CAN Canberra 35.93 152 P **P 12 22 00.3 +1.5**
CAN Canberra 35.93 152 P **P 12 22 00.3 +1.5**
CAN pmax pmax
comp=Z,167nm,0.8s
CAN Canberra 35.93 152 P **P 12 22 00.6 +1.7**
CAN PcP **PcP 12 24 24.7 +1.3**
CNB Canberra Magne 36.09 152 P **P 12 22 01.6 +1.3**
comp=Z,100nm,1.0s
CNB Canberra Magne 36.09 152 P **P 12 22 01.2 +1.0**
WOLH Wollongong Har 36.11 149 P **P 12 22 01.4 +1.2**
TOO Toolangi 36.40 158 P **P 12 22 04.9 +2.1**
TOO IAmb IAmb 12 22 06.0
comp=Z,33nm,1.1s
TOO Toolangi 36.40 158 P **P 12 22 04.8 +2.1**
comp=Z,44nm,1.7s
TOO Toolangi 36.40 158 P **P 12 22 04.9 +2.1**
TOO pmax pmax
comp=Z,33nm,1.1s
GEXS Deakin Univers 36.54 160 P **P 12 22 05.8 +1.9**
JNU Nakatsue 37.02 2 P **P 12 22 07.8 -0.2**
JNU Nakatsue 37.02 2 P **P 12 22 06.5 -1.5**
comp=Z,61nm,0.7s,baz=224,slow=1.8,SNR=80
JNU LR LR 12 36 59.7
comp=Z,211nm,19.2s,baz=174,slow=35
comp=Z,61nm,0.7s
JNU Nakatsue 37.02 2 P **P 12 22 07.2 -0.8**
WHN Wuhan 37.36 338 P **P 12 22 11.8 +0.9**
WHN S **S 12 27 51.5 +1.2**
WHN pmax pmax
comp=Z,180nm,0.9s
CM31 Chiang Mai Arr 37.55 308 P **P 12 22 14.1 +1.3**
CMAR Chiang Mai Arr 37.55 308 P **P 12 22 13.8 +1.1**
CMAR **PcP 12 24 28.2 -0.3**
CMAR Chiang Mai Arr 37.55 308 P **P 12 22 13.8 +1.1**
comp=Z,6.4nm,0.7s,baz=140,slow=7.8,SNR=52
CMAR PcP **PcP 12 24 29.8 +1.2**
comp=Z,4.5nm,0.8s,baz=126,slow=3.7,SNR=7.1
comp=Z,6.4nm,0.7s
CMAR Chiang Mai Arr 37.55 308 *i* P **P 12 22 14.0 +1.2**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
GYA Guiyang 37.57 325 ⇓P **P 12 22 13.5 +0.6**
GYA pP pP 12 22 38.5 +0.2
GYA S **S 12 27 51.8 -2.0**
GYA SS **SS 12 30 35.8 -7.7**
GYA pmax pmax
comp=Z,38nm,0.6s
GYA pmax pmax
comp=Z,130nm,7.6s
GYA LR LR
comp=Z,94nm,10.5s
GYA LR LR
comp=Z,150nm,9.1s
GYA LR LR
comp=Z,110nm,8.5s
CHTO Chiang Mai 37.75 308 P **P 12 22 15.2 +0.9**
CHTO Chiang Mai 37.75 308 P **P 12 22 15.3 +0.9**
CHTO pmax pmax
comp=Z,18nm,0.9s
JMN Monobe 37.82 6 P **P 12 22 15.9 +1.1**
JHJ Hachijo jima 2 38.24 14 LR LR 12 35 52.3
comp=Z,85nm,21.9s,baz=168,slow=32
KMI Kunming 38.99 319 ⇓P **P 12 22 26.3 +1.4**
KMI pP pwP 12 22 53.0 -0.6
KMI S **S 12 28 14.8 -0.6**
KMI pmax pmax
comp=Z,23nm,1.4s
ENH Enshi 39.17 332 P **P 12 22 25.9 -0.2**
ENH IAmb IAmb 12 22 26.4
comp=Z,36nm,0.6s
ENH Enshi 39.17 332 P **P 12 22 26.0 -0.2**
ENH Enshi 39.17 332 P **P 12 22 25.7 -0.5**
DZM Mont Dzumac 39.98 120 *e* LR LR 12 33 40.9
comp=Z,382nm,31.8s
TJN Taejon 40.29 357 P **P 12 22 35.9 +0.6**
TJN Taejon 40.29 357 P **P 12 22 35.7 +0.4**
TJN Taejon 40.29 357 P **P 12 22 35.9 +0.6**
TJN pmax pmax
comp=Z,1μm,1.8s
PZH PanZhiHua 40.59 320 P **P 12 22 40.8 +2.7**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
MJAR Matsushiro Arr 41.21 11 P **P 12 22 41.9 -0.9**
comp=Z,50nm,0.6s,baz=189,slow=9.7,SNR=2.1
MJAR LR LR 12 38 18.1
comp=Z,94nm,20.2s,baz=194,slow=34
comp=Z,50nm,0.6s
KSAR Wonju Array Be 41.33 358 P **P 12 22 44.5 +0.7**
KSAR Wonju Array Be 41.33 358 P **P 12 22 44.5 +0.7**
KSRS Korea Array 41.34 358 P **P 12 22 44.0 +0.2**
comp=Z,18nm,0.7s,baz=176,slow=8.9,SNR=70
KSRS LR LR 12 39 43.2
comp=Z,76nm,19.6s,baz=180,slow=36
comp=Z,18nm,0.7s
KS19 Wonju Array Si 41.39 358 P **P 12 22 44.6 +0.3**
KS19 IAmb IAmb 12 22 45.0
comp=Z,25nm,0.8s
INCN Inchon 41.43 357 P **P 12 22 45.4 +0.7**
INCN Inchon 41.43 357 P **P 12 22 45.5 +0.8**
INCN Inchon 41.43 357 P **P 12 22 45.4 +0.7**
INCN pmax pmax
comp=Z,114nm,1.0s
INCN Inchon 41.43 357 P **P 12 22 45.4 +0.7**
LYN LuoYang 41.65 339 P **P 12 22 46.5 0.0**
LYN S **S 12 28 54.3 0.0**
LYN pmax pmax
comp=Z,54nm,0.9s
TIA Tai'an 41.73 345 P **P 12 22 46.3 -0.8**
TIA pP **pP 12 23 14.8 +1.0**
TIA PP **PnPn 12 24 30.0 -2.0**
TIA pmax pmax
comp=Z,25nm,1.0s
TAU Tasmania Unive 41.78 160 P **P 12 22 49.2 +1.9**
TAU IAmb IAmb 12 22 49.7
comp=Z,39nm,0.8s
TAU Tasmania Unive 41.78 160 P **P 12 22 49.3 +1.9**
TAU pmax pmax
comp=Z,39nm,0.9s
XAN Xi'an 42.61 334 ⇓P **P 12 22 53.5 -0.9**
XAN pP pP 12 23 17.5 -2.6
XAN ScP **ScP 12 28 26.0 +1.2**
XAN pmax pmax
comp=Z,63nm,0.7s
CD2 Chengdu 42.62 326 *e*P **P 12 22 55.5 +1.1**
JSD Sado 42.67 10 P **P 12 22 54.4 -0.2**
DL2 Dalian 43.39 351 P **P 12 23 00.5 +0.1**
DL2 pmax pmax
comp=Z,65nm,0.8s
HNS HongShan 43.51 343 ⇓P **P 12 23 01.0 -0.4**
HNS pmax pmax
comp=Z,70nm,0.9s
TIY Taiyuan 44.51 341 *e*P **P 12 23 09.5 -0.1**
TIY pmax pmax
comp=Z,73nm,0.8s
BJT Baijiatuau 45.57 346 P **P 12 23 17.7 0.0**
BJT IAmb IAmb 12 23 18.5
comp=Z,43nm,0.8s
BJT Baijiatuau 45.57 346 P **P 12 23 17.7 0.0**
BJT Baijiatuau 45.57 346 P **P 12 23 17.7 0.0**
BJT pmax pmax
comp=Z,43nm,0.8s
BJT Baijiatuau 45.57 346 P **P 12 23 17.3 -0.4**
BJI Beijing 45.59 346 P **P 12 23 17.5 -0.4**
BJI pmax pmax
comp=Z,28nm,0.8s
BJI pmax pmax
comp=Z,86nm,3.7s
LZH Lanzhou 46.63 331 *e*P **P 12 23 27.0 +0.6**
LZH pP pP 12 23 49.5 -3.4
LZH sP sP 12 24 04.8 -1.1
LZH S **S 12 30 05.0 -1.9**
LZH pmax pmax
comp=Z,58nm,1.2s
SHL Shillong 46.92 311 P **P 12 23 28.6 -0.3**
SHL Shillong 46.92 311 P **P 12 23 28.6 -0.3**
SHL pmax pmax
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 47.64 342 *e*P **P 12 23 34.3 +0.2**
HHC PP **PP 12 25 30.5 +3.7**
HHC S **S 12 30 18.0 -3.0**
HHC pmax pmax
comp=Z,28nm,0.9s
HHC pmax pmax
comp=Z,77nm,3.6s
CN2 Changchun 47.80 356 P **P 12 23 34.5 -0.6**
CN2 sP sP 12 24 13.0 -2.7
CN2 ScP **ScP 12 28 46.0 +0.1**
CN2 S **S 12 30 22.5 -0.4**
CN2 pmax pmax
comp=Z,40nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
BTO Baotou 47.93 340 *e*P **P 12 23 37.3 +1.0**
BTO pP **pP 12 24 03.3 +0.6**
BTO sP **sP 12 24 16.0 +0.5**
BTO pmax pmax
comp=Z,16nm,1.0s
BTO pmax pmax
comp=Z,250nm,6.2s
USA0B Ussuriysk Arra 48.10 2 P **P 12 23 38.3 +0.9**
USA0B Ussuriysk Arra 48.10 2 P **P 12 23 38.3 +0.9**
USA0B pmax pmax
comp=Z,52nm,0.6s
USRK Ussuriysk Ar. 48.10 2 P **P 12 23 38.0 +0.6**
USRK Ussuriysk Ar. 48.10 2 P **P 12 23 37.8 +0.4**
comp=Z,44nm,0.5s,baz=182,slow=7.2,SNR=58
USRK LR LR 12 43 35.1
comp=Z,58nm,20.0s,baz=189,slow=36
comp=Z,44nm,0.5s
USRK Ussuriysk Ar. 48.10 2 P **P 12 23 38.0 +0.6**
MDJ Mudanjiang 48.47 0 S **S 12 30 33.5 +1.2**
MDJ pmax pmax
comp=Z,59nm,1.0s
MDJ pmax pmax
comp=Z,140nm,6.2s
XLT XiLinHaoTe 49.27 347 *e*P **P 12 23 46.5 0.0**
XLT pP pP 12 24 12.8 -0.1
XLT pmax pmax
comp=Z,63nm,1.0s
TEY Ternei 49.30 7 ⇓*e*P **P 12 23 47.0 +0.5**
TEY *e* 12 25 03.0
TEY pmax pmax
comp=N,20nm,1.4s
TEY pmax pmax
comp=Z,30nm,1.4s
TEY pmax pmax
comp=E,20nm,0.6s
ASAJ Asahikawa 49.39 12 P **P 12 23 47.4 +0.1**
comp=E,34nm,0.7s,baz=236,slow=9.1,SNR=16
ASAJ LR LR 12 43 21.2
comp=E,79nm,21.2s,baz=204,slow=34
comp=E,34nm,0.7s
ASAJ Asahikawa 49.39 12 P **P 12 23 48.2 +1.0**
ASAJ 12 25 05.6
ASAJ pmax pmax
comp=Z,63nm,1.0s
JKA Kamikawa-asahi 49.39 12 P **P 12 23 48.2 +1.0**
JKA PcP **PcP 12 25 05.6 -2.3**
BNX BinXian 49.63 358 ⇓P **P 12 23 48.5 -0.6**
BNX pmax pmax
comp=Z,40nm,0.8s
LSA Lhasa 49.80 315 P **P 12 23 52.3 +1.1**
LSA Lhasa 49.80 315 P **P 12 23 51.8 +0.6**
LSA pmax pmax
comp=Z,12nm,1.0s
LSA Lhasa 49.80 315 P **P 12 23 52.3 +1.1**
LSA pmax pmax
comp=Z,14nm,0.9s
PALK Pallekele 50.02 283 P **P 12 23 51.5 -1.2**
PALK Pallekele 50.02 283 P **P 12 23 51.5 -1.2**
PALK pmax pmax
comp=Z,12nm,0.7s
OUZ Omahuta 51.14 133 P **P 12 24 03.0 +2.4**
GTA Gaotai 51.21 330 P **P 12 24 02.3 +1.0**
GTA pP pwP 12 24 30.8 -1.1
GTA S **S 12 31 09.5 -1.5**
GTA ScS **ScS 12 33 40.5 +0.2**
GTA pmax pmax
comp=Z,24nm,1.0s
GOMU GeErMu 51.56 324 P **P 12 24 04.0 -0.2**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
YSS Yuzhno-Sakhali 52.13 11 P **P 12 24 07.6 -0.2**
YSS Yuzhno-Sakhali 52.13 11 P **P 12 24 08.1 +0.3**
YSS Yuzhno-Sakhali 52.13 11 *e*P **P 12 24 07.9 +0.1**
YSS *e* 12 24 37.3
YSS pmax pmax
comp=Z,50nm,0.4s
YSS Yuzhno-Sakhali 52.13 11 P **P 12 24 07.8 0.0**
MSZ Milford Sound 52.60 146 P **P 12 24 13.6 +2.3**
DCZ Deep Cove 52.68 147 P **P 12 24 12.6 +0.7**
JCZ Jackson Bay 52.72 145 P **P 12 24 13.5 +1.2**
JCZ Jackson Bay 52.72 145 P **P 12 24 14.6 +2.3**
PYZ Puysegur Point 52.89 148 P **P 12 24 15.1 +1.7**
FOZ Fox Glacier 52.99 144 P **P 12 24 13.9 -0.3**
FOZ IAmb IAmb 12 24 16.1
comp=Z,30nm,1.0s
FOZ PcP **PcP 12 25 22.9 +1.5**
FOZ Fox Glacier 52.99 144 P **P 12 24 15.7 +1.5**
FOZ PcP **PcP 12 25 21.5 +0.1**
KLR Kul'dur 53.12 2 P **P 12 24 14.6 -0.4**
comp=Z,35nm,1.0s,baz=200,slow=4.4,SNR=64
KLR LR LR 12 46 31.7
comp=Z,52nm,21.1s,baz=167,slow=36
comp=Z,35nm,1.0s
KLR Kul'dur 53.12 2 *ce*P **P 12 24 15.4 +0.4**
KLR pmax pmax
comp=Z,87nm,1.7s
MLZ Mavora Lakes 53.15 147 P **P 12 24 16.2 +0.8**
MLZ IAmb IAmb 12 24 17.2
comp=Z,26nm,0.9s
MLZ Mavora Lakes 53.15 147 P **P 12 24 16.9 +1.5**
QRZ Quartz Range 53.15 140 P **P 12 24 17.4 +1.9**
QRZ Quartz Range 53.15 140 P **P 12 24 17.0 +1.5**
QRZ Quartz Range 53.15 140 P **P 12 24 17.7 +2.2**
DSZ Denniston Nort 53.18 141 P **P 12 24 19.6 +3.8**
WVZ Waitaha Valley 53.27 143 P **P 12 24 18.1 +1.8**
WKZ Wanaka 53.31 146 P **P 12 24 18.1 +1.5**
WHZ Wether Hill Ro 53.38 147 P **P 12 24 18.2 +1.1**
WHZ Wether Hill Ro 53.38 147 P **P 12 24 18.3 +1.2**
INZ Inchbonnie 53.50 142 P **P 12 24 19.2 +1.2**
INZ IAmb IAmb 12 24 21.6
comp=Z,29nm,0.9s
TKNZ Takaka Hill 53.54 140 P **P 12 24 20.0 +1.6**
HIZ Hauiti 53.55 136 P **P 12 24 20.7 +2.3**
TOZ Tahuroa Road 53.64 135 IAmb IAmb 12 24 22.4
comp=Z,25nm,1.0s
TOZ Tahuroa Road 53.64 135 P **P 12 24 21.6 +2.5**
LBZ Lake Benmore 53.71 145 P **P 12 24 20.9 +1.4**
EAZ Earnscleugh 53.72 146 P **P 12 24 20.6 +1.0**
EAZ PcP **PcP 12 25 25.9 +1.7**
VRZ Vera Road 53.78 137 P **P 12 24 23.9 +3.8**
RPZ Rata Peaks 53.83 143 P **P 12 24 21.8 +1.5**
RPZ Rata Peaks 53.83 143 P **P 12 24 22.2 +1.8**
RPZ PcP **PcP 12 25 24.1 -0.5**
THZ Tophouse 53.89 141 P **P 12 24 22.1 +1.2**
NNZ Nelson 53.91 140 P **P 12 24 21.3 +0.4**
NNZ PcP **PcP 12 25 24.1 -0.9**
TLZ Tolley Road 53.94 136 P **P 12 24 21.6 +0.3**
APZ The Paps 54.01 148 P **P 12 24 23.2 +1.5**
UGL Uglegorsk 54.05 10 *e*P **P 12 24 22.7 +1.0**
UGL *e* 12 24 52.3
UGL pmax pmax
comp=Z,100nm,1.1s
HEH HeiHe 54.14 358 *e*P **P 12 24 22.3 -0.1**
HEH ScP **ScP 12 29 11.8 -1.3**
HEH pmax pmax
comp=Z,62nm,1.1s
TMZ Timaru 54.19 144 P **P 12 24 24.5 +1.5**
TMZ PcP **PcP 12 25 26.0 0.0**
OXZ Oxford 54.20 143 P **P 12 24 24.3 +1.2**
WAZ Wanganui 54.23 137 P **P 12 24 26.1 +2.7**
TUZ Tuapeka 54.34 146 P **P 12 24 25.4 +1.4**
ODZ Otahua Downs 54.36 145 P **P 12 24 25.4 +1.2**
NGZ Ngauruhoe 54.38 136 P **P 12 24 26.7 +2.0**
OMRZ Omania 54.43 135 P **P 12 24 27.2 +2.3**
GVZ Greta Valley S 54.61 142 P **P 12 24 27.9 +1.8**
KHZ Kahutara 54.63 141 P **P 12 24 27.5 +1.3**
KHZ Kahutara 54.63 141 P **P 12 24 27.1 +0.9**
HYB Hyderabad 54.66 295 *e*P **P 12 24 25.9 -0.9**
MQZ McQueen's Vall 54.78 143 P **P 12 24 28.6 +1.4**
HHSZ Highcliff Hill 54.84 146 P **P 12 24 29.9 +2.3**
BKZ Black Stump Fm 54.99 136 P **P 12 24 30.2 +1.3**
BKZ Black Stump Fm 54.99 136 P **P 12 24 29.7 +0.8**
URZ Urewera 55.02 135 P **P 12 24 29.6 +0.6**
TSZ Takapari Road 55.04 137 P **P 12 24 29.9 +0.7**
MRZ Mangatainoka R 55.07 138 P **P 12 24 29.7 +0.3**
RTZ Ruatahuna 55.08 135 P **P 12 24 30.5 +0.8**
MTHZ Maungataniwha 55.09 136 P **P 12 24 30.6 +1.0**
HAZ Te Kaha 55.28 134 P **P 12 24 32.8 +1.9**
RAHZ Arahi 55.29 136 P **P 12 24 32.3 +1.3**
RUGZ Raukumara Rang 55.29 134 P **P 12 24 31.3 +0.1**
RAGZ Rawiri 55.34 135 P **P 12 24 32.8 +1.3**
MWZ Matawai 55.34 135 P **P 12 24 32.4 +0.9**
ULN Ulaanbaatar 55.36 342 P **P 12 24 32.1 +0.6**
ULN Ulaanbaatar 55.36 342 *i* P **P 12 24 32.3 +0.8**
ULN pmax pmax
comp=Z,64nm,1.2s
ULN Ulaanbaatar 55.36 342 P **P 12 24 32.3 +0.8**
ULN pP **pP 12 24 59.7 +0.4**
SNGZ Shannon Statio 55.41 135 P **P 12 24 33.0 +1.1**
BFZ Birch Farm 55.52 138 P **P 12 24 33.1 +0.4**
SONM Songino Array 55.54 341 P **P 12 24 33.2 +0.4**
SONM Songino Array 55.54 341 P **P 12 24 32.9 +0.1**
comp=Z,12nm,0.5s,baz=162,slow=6.9,SNR=97
SONM ScP **ScP 12 29 20.0 +0.5**
comp=Z,0.2nm,0.4s,baz=157,slow=4.1,SNR=3.7
comp=Z,12nm,0.5s
SONM Songino Array 55.54 341 P **P 12 24 33.2 +0.4**
SONM pmax pmax
comp=Z,53nm,1.3s
MXZ Matakaoa Point 55.58 134 P **P 12 24 34.6 +1.5**
TWGZ Tauwhareparae 55.60 134 P **P 12 24 34.9 +1.6**
TKGZ Te Karaka 55.62 135 P **P 12 24 34.5 +1.2**
RAO Raoul Island 55.63 123 LR LR 12 49 43.4
comp=Z,32nm,18.2s,baz=72,slow=37
RIGZ Rimuhau 55.67 135 P **P 12 24 35.0 +1.2**
PUZ Puketiti 55.75 134 P **P 12 24 35.3 +0.9**
WMGZ Waiomatatini S 55.76 134 P **P 12 24 35.7 +1.4**

TYV	**Tymovskoe**	**55.87**	**10**	*e*P	P		12 24 29.8 -5.1
TYV				pmax	pmax		
	comp=Z,300nm,5.8s						
TYV				pmax	pmax		
	comp=Z,37nm,0.8s						
CNGZ	**Carnagh Statio**	**55.89**	**135**	P	**P**		**12 24 37.1 +1.7**
MHGZ	**Mahia Peninsul**	**55.97**	**135**	P	**P**		**12 24 37.1 +1.2**
CIT	**Chita**	**57.52**	**348**	*e*P	**P**		**12 24 47.3 +0.7**
CIT				*e*			12 25 15.6
CIT				pmax	pmax		
	comp=Z,88nm,2.9s						
ZEA	**Zeya**	**57.63**	**358**	*e*P	**P**		**12 24 47.4 +0.1**
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZAK	**Zakamensk**	**58.77**	**341**	*e*P	**P**		**12 24 54.7 -0.7**
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
SKR	**Severo-Kuril's**	**59.13**	**19**	*e*P	P		12 25 15.1 +17
SKR				pmax	pmax		
	comp=Z,100nm,3.5s						
SKR				MLR	MLR		
	comp=Z,200nm,17.0s						
IRK	**Irkutsk**	**60.07**	**342**	*e*P	**P**		**12 25 04.1 -0.1**
IRK				pmax	pmax		
	comp=Z,40nm,1.7s						
MOY	**Mondy**	**60.63**	**340**	*e*P	**P**		**12 25 09.1 +1.0**
MOY				pmax	pmax		
	comp=Z,46nm,1.9s						
WMQ	**Urumqi**	**60.71**	**326**	*e*P	**P**		**12 25 09.3 +0.5**
WMQ				pP	pP		12 25 38.0 +1.7
WMQ				PcP	**PcP**		**12 25 53.8 +2.0**
WMQ				S	**S**		**12 33 25.0 +8.4**
WMQ				pmax	pmax		
	comp=Z,27nm,1.1s						
WMQ				LR	LR		
	comp=Z,140nm,20.3s						
CTZ	**Chatham Island**	**61.63**	**138**	P	**P**		**12 25 16.8 +1.9**
PEA0B	**Petropavlovsk-**	**61.71**	**19**	P	**P**		**12 25 16.5 +1.3**
PEA0B	**Petropavlovsk-**	**61.71**	**19**	P	**P**		**12 25 16.5 +1.3**
PEA0B				pmax	pmax		
	comp=Z,74nm,1.0s						
PETK	**Petropavlovsk-**	**61.71**	**19**	P	**P**		**12 25 16.6 +1.3**
PETK	**Petropavlovsk-**	**61.71**	**19**	P	**P**		**12 25 15.0 -0.2**
	comp=Z,38nm,0.8s,baz=163,slow=4.1,SNR=51						
PETK				LR	LR		12 48 29.4
	comp=Z,42nm,20.7s,baz=196,slow=32						
	comp=Z,38nm,0.8s						
PETK	**Petropavlovsk-**	**61.71**	**19**	P	**P**		**12 25 16.6 +1.3**
PET	**Petropavlovsk**	**61.95**	**19**	P	**P**		**12 25 17.9 +1.0**
PET	**Petropavlovsk**	**61.95**	**19**	P	**P**		**12 25 17.9 +1.0**
PET	**Petropavlovsk**	**61.95**	**19**	*e*P	**P**		**12 25 17.8 +1.0**
PET				pmax	pmax		
	comp=Z,64nm,0.8s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
PET	**Petropavlovsk**	**61.95**	**19**	P	**P**		**12 25 17.0 +0.2**
	comp=Z,60nm,1.2s						
PET	**Petropavlovsk**	**61.95**	**19**	P	**P**		**12 25 17.8 +1.0**
BOD	**Bodaibo**	**62.95**	**351**	*e*P	**P**		**12 25 23.2 -0.2**
BOD				pmax	pmax		
	comp=Z,48nm,1.6s						
CASY	**Casey**	**63.51**	**188**	P	**P**		**12 25 27.6 +0.7**
CASY	**Casey**	**63.51**	**188**	P	**P**		**12 25 26.9 -0.1**
WUS	**Wushi**	**64.26**	**320**	P	**P**		**12 25 33.1 +0.5**
ZSN	**Zaisan**	**64.56**	**328**	*e*P	**P**		**12 25 34.3 +0.1**
ZSN	**Zaisan**	**64.56**	**328**	*e*P	**P**		**12 25 34.3 +0.1**
SHLS	**Shalkode**	**65.14**	**322**	*e*P	**P**		**12 25 36.7 -1.5**
SHLS	**Shalkode**	**65.14**	**322**	*e*P	**P**		**12 25 36.8 -1.5**
PDGK	**Podgornoye**	**65.22**	**322**	P	**P**		**12 25 38.4 -0.3**
UZB	**Uzynbulak**	**65.41**	**322**	*e*P	**P**		**12 25 40.0 0.0**
UZB	**Uzynbulak**	**65.41**	**322**	*e*P	**P**		**12 25 40.1 0.0**
TARG	**Taragay, Kyrgy**	**65.44**	**320**	P	**P**		**12 25 39.1 -1.5**
TARG	**Taragay, Kyrgy**	**65.44**	**320**	P	**P**		**12 25 39.1 -1.5**
TARG				pmax	pmax		
	comp=Z,19nm,1.5s						
MK31	**Makanchi Array**	**65.55**	**326**	P	**P**		**12 25 41.1 +0.5**
MK31	**Makanchi Array**	**65.55**	**326**	*ce*P	**P**		**12 25 40.8 +0.2**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**		**12 25 41.1 +0.5**
MKAR	**Makanchi Array**	**65.55**	**326**	P	**P**		**12 25 40.5 -0.1**
	comp=Z,12nm,0.4s,baz=112,slow=7.8,SNR=492						
MKAR				PKPPKP	**P'P'df**		**12 54 18.1 -1.1**
	comp=Z,0.8nm,0.8s,baz=300,slow=2.5,SNR=7.0						
	comp=Z,12nm,0.4s						
MKAR	**Makanchi Array**	**65.55**	**326**	*i* P	**P**		**12 25 41.0 +0.4**
MKAR				pmax	pmax		
	comp=Z,12nm,0.4s						
KSH	**Kashi**	**65.58**	**317**	P	**P**		**12 25 42.8 +1.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MA2	**Magadan**	**65.64**	**12**	P	**P**		**12 25 41.6 +0.7**
MA2	**Magadan**	**65.64**	**12**	LR	LR		12 56 33.7
	comp=Z,34nm,18.4s,baz=200,slow=38						
MA2	**Magadan**	**65.64**	**12**	P	**P**		**12 25 42.0 +1.1**
MA2	**Magadan**	**65.64**	**12**	*ce*P	**P**		**12 25 42.1 +1.1**
MA2				pmax	pmax		
	comp=Z,61nm,1.3s						
MA2	**Magadan**	**65.64**	**12**	P	**P**		**12 25 41.2 +0.3**
	comp=Z,56nm,0.9s						
MA2	**Magadan**	**65.64**	**12**	P	**P**		**12 25 41.8 +0.9**
MA2				PcP	**pwP**		**12 26 13.6 +0.8**
MAKZ	**Makanchi**	**65.73**	**326**	P	**P**		**12 25 42.1 +0.4**
MAKZ				IAmb	IAmb		12 25 43.0
	comp=Z,32nm,1.1s						
MAKZ	**Makanchi**	**65.73**	**326**	P	**P**		**12 25 42.2 +0.4**
MAKZ				pmax	pmax		
	comp=Z,32nm,1.1s						
SATY	**Saty**	**65.75**	**321**	*e*P	**P**		**12 25 42.4 +0.3**
SATY	**Saty**	**65.75**	**321**	*e*P	**P**		**12 25 42.5 +0.3**
KPKS	**Kokpek**	**65.79**	**322**	*e*P	**P**		**12 25 42.6 +0.2**
KPKS	**Kokpek**	**65.79**	**322**	*e*P	**P**		**12 25 42.6 +0.2**
YAK	**Yakutsk**	**65.92**	**0**	P	**P**		**12 25 43.2 +0.6**
YAK	**Yakutsk**	**65.92**	**0**	LR	LR		12 56 22.8
	comp=Z,47nm,18.6s,baz=173,slow=38						
YAK	**Yakutsk**	**65.92**	**0**	*e*P	**P**		**12 25 43.0 +0.4**
YAK				*e**PP	**pP**		**12 26 09.7 -0.8**
YAK				*e*			12 28 06.5
YAK				*e*PPP	PPP		12 29 44.0
YAK				*e*S	**S**		**12 34 21.6 +1.2**
YAK				pmax	pmax		
	comp=Z,209nm,1.1s						
YAK				pmax	pmax		
	comp=N,43nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,210nm,6.1s						
YAK				pmax	pmax		
	comp=N,220nm,5.5s						
YAK				pmax	pmax		
	comp=E,350nm,7.1s						
YAK				smax	smax		
	comp=E,213nm,5.4s						
YAK				smax	smax		
	comp=N,66nm,5.9s						
YAK	**Yakutsk**	**65.92**	**0**	P	**P**		**12 25 43.1 +0.4**
YAK				pP	**pP**		**12 26 10.2 -0.3**
YAK				PcP	**pwP**		**12 26 13.6 -0.7**
KDJ	**Kajisay**	**66.05**	**320**	P	**P**		**12 25 45.0 +0.8**
KDJ	**Kajisay**	**66.05**	**320**	P	**P**		**12 25 45.0 +0.8**
KDJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TNSS	**Tian-Shan**	**66.65**	**321**	*e*P	**P**		**12 25 48.0 -0.2**
TNSS	**Tian-Shan**	**66.65**	**321**	*e*P	**P**		**12 25 48.1 -0.2**
AAA	**Alma-Ata**	**66.76**	**321**	*e*P	**P**		**12 25 48.4 -0.1**
AAA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
AAA	**Alma-Ata**	**66.76**	**321**	*e*P	**P**		**12 25 48.5 -0.1**
	comp=Z,8.7nm,0.4s						
TDK	**Taldyqorghan**	**66.78**	**323**	*e*P	**P**		**12 25 48.6 +0.1**
TDK	**Taldyqorghan**	**66.78**	**323**	*e*P	**P**		**12 25 48.6 +0.1**
BOOM	**Boomskoye usch**	**67.03**	**320**	P	**P**		**12 25 51.0 +0.6**
BOOM	**Boomskoye usch**	**67.03**	**320**	P	**P**		**12 25 51.0 +0.6**
BOOM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SHEM	**Shemya Is, Ala**	**67.90**	**27**	LR	LR		13 00 21.1
	comp=Z,14nm,18.0s,baz=184,slow=40						
AAK	**Ala-Archa**	**68.03**	**319**	P	**P**		**12 25 57.6 +0.9**
AAK	**Ala-Archa**	**68.03**	**319**	LR	LR		12 59 32.8
	comp=Z,72nm,19.3s,baz=99,slow=39						
AAK	**Ala-Archa**	**68.03**	**319**	*ce*P	**P**		**12 25 57.7 +1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AAK	**Ala-Archa**	**68.03**	**319**	P	**P**		**12 25 57.4 +0.8**
SGDS	**Sogindy**	**68.33**	**320**	*e*P	**P**		**12 25 58.4 0.0**
SGDS	**Sogindy**	**68.33**	**320**	*e*P	**P**		**12 25 58.4 0.0**
ARSB	**Arslanbob**	**68.43**	**317**	P	**P**		**12 25 59.4 +0.2**
ARSB	**Arslanbob**	**68.43**	**317**	P	**P**		**12 25 59.4 +0.2**
ARSB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBL	**Kabul**	**68.55**	**309**	P	**P**		**12 26 00.2 +0.1**
KBL	**Kabul**	**68.55**	**309**	P	**P**		**12 26 00.2 +0.1**
KBL				pmax	pmax		
	comp=Z,12nm,1.2s						
ZAA0	**Zalesovo Array**	**68.78**	**334**	P	**P**		**12 26 00.7 -0.1**
ZAA0				IAmb	IAmb		12 26 01.5
	comp=Z,37nm,1.3s						
ZALV	**Zalesovo Beam**	**68.78**	**334**	P	**P**		**12 26 00.3 -0.4**
ZALV	**Zalesovo Beam**	**68.78**	**334**	P	**P**		**12 26 00.2 -0.6**
	comp=Z,13nm,0.8s,baz=112,slow=5.3,SNR=49						
ZALV				S	**S**		**12 34 51.0 -4.0**
	comp=Z,0.3nm,0.3s,baz=123,slow=7.2,SNR=2.3						
ZALV				PKPPKP	**P'P'df**		**12 54 12.5 -0.7**
	comp=Z,3.4nm,1.0s,baz=289,slow=4.4,SNR=9.3						
ZALV				LR	LR		12 59 54.6
	comp=Z,82nm,18.1s,baz=66,slow=39						
	comp=Z,13nm,0.8s						
ZALV	**Zalesovo Beam**	**68.78**	**334**	*i* P	**P**		**12 26 00.4 -0.4**
ZALV				pmax	pmax		
	comp=Z,13nm,0.8s						
SEY	**Seymchan**	**69.04**	**11**	*e*P	**P**		**12 26 00.6 -1.6**
SEY				*e*			12 26 32.8
SEY				pmax	pmax		
	comp=Z,67nm,1.0s						
GAR	**Garm**	**69.30**	**314**	P	**P**		**12 26 04.7 +0.1**
BTLS	**Baital**	**69.46**	**321**	*e*P	**P**		**12 26 05.2 0.0**
BTLS	**Baital**	**69.46**	**321**	*e*P	**P**		**12 26 05.3 0.0**
KURBB	**Kurchatov Arra**	**69.80**	**328**	P	**P**		**12 26 06.9 -0.3**
	comp=Z,29nm,0.5s,baz=126,slow=5.5,SNR=168						
KURBB				S	**S**		**12 35 04.3 -2.8**
	comp=Z,0.6nm,0.2s,baz=129,slow=9.0,SNR=4.5						
KURBB				PKPPKP	**P'P'df**		**12 54 10.8 -0.9**
	comp=Z,2.4nm,0.3s,baz=306,slow=4.0,SNR=5.1						
	comp=Z,29nm,0.5s						
KURK	**Kurchatov**	**69.80**	**328**	P	**P**		**12 26 07.8 +0.6**
KURK				IAmb	IAmb		12 26 41.3
	comp=Z,53nm,1.1s						
KURK	**Kurchatov**	**69.80**	**328**	*ce*P	**P**		**12 26 07.5 +0.3**
KURK				pmax	pmax		
	comp=Z,55nm,1.3s						
KURK	**Kurchatov**	**69.80**	**328**	P	**P**		**12 26 07.6 +0.3**
KURK				pP	**pP**		**12 26 35.7 +0.5**
CHGR	**Chuyangaron**	**70.00**	**314**	P	**P**		**12 26 08.8 0.0**
CHGR	**Chuyangaron**	**70.00**	**314**	P	**P**		**12 26 08.8 0.0**
SIMJ	**Simiganj**	**70.11**	**314**	P	**P**		**12 26 09.2 -0.3**
DZA	**Taraz**	**70.22**	**318**	*e*P	**P**		**12 26 10.0 0.0**
DZA	**Taraz**	**70.22**	**318**	*e*P	**P**		**12 26 10.0 0.0**
RAR	**Rarotonga**	**70.54**	**111**	LR	LR		12 53 39.2
	comp=Z,39nm,21.0s,baz=167,slow=33						
KK31	**Karatay Array**	**70.86**	**318**	*i* P	**P**		**12 26 13.8 -0.1**
KKAR	**Karatay Array**	**70.86**	**318**	P	**P**		**12 26 14.3 +0.4**
KKAR	**Karatay Array**	**70.86**	**318**	P	**P**		**12 26 14.3 +0.4**
CCD	**Concordia, Ant**	**71.06**	**182**	P	**P**		**12 26 15.6 +0.7**
CCD				PcP	**PcP**		**12 26 35.2 +0.7**
CHM	**Chimkent**	**71.14**	**317**	*e*P	**P**		**12 26 15.5 0.0**
CHM	**Chimkent**	**71.14**	**317**	*e*P	**P**		**12 26 15.6 0.0**
BRLS	**Borolday**	**71.28**	**318**	*e*P	**P**		**12 26 16.3 -0.1**
BRLS	**Borolday**	**71.28**	**318**	*e*P	**P**		**12 26 16.4 -0.1**
OTUK	**Ortayu**	**72.02**	**324**	P	**P**		**12 26 20.8 +0.1**
BRZS	**Berezniki**	**72.66**	**326**	*e*P	**P**		**12 26 24.7 +0.3**
BRZS	**Berezniki**	**72.66**	**326**	*e*P	**P**		**12 26 24.7 +0.3**
WSAR	**Wadi Sarin**	**74.19**	**295**	LR	LR		13 01 28.6
	comp=Z,20nm,20.3s,baz=162,slow=38						
BVAR	**Borovoye Array**	**75.36**	**328**	P	**P**		**12 26 39.7 -0.4**
	comp=Z,5.9nm,0.4s,baz=127,slow=11,SNR=63						
	comp=Z,5.9nm,0.4s						
VNDA	**Vanda**	**75.39**	**173**	P	**P**		**12 26 39.9 0.0**
VNDA				IAmb	IAmb		12 26 40.5
	comp=Z,20nm,0.7s						
VNDA	**Vanda**	**75.39**	**173**	P	**P**		**12 26 39.2 -0.7**
	comp=Z,16nm,0.5s,baz=316,slow=6.5,SNR=76						
VNDA				LR	LR		12 58 55.7
	comp=Z,67nm,19.6s,baz=334,slow=35						
	comp=Z,16nm,0.5s						
VNDA	**Vanda**	**75.39**	**173**	P	**P**		**12 26 39.9 0.0**
VNDA				pmax	pmax		
	comp=Z,20nm,0.7s						
BRVK	**Borovoye**	**75.43**	**328**	P	**P**		**12 26 41.0 +0.5**
BRVK				IAmb	IAmb		12 27 14.5
	comp=Z,28nm,1.1s						
BRVK	**Borovoye**	**75.43**	**328**	*ce*P	**P**		**12 26 41.1 +0.5**
BRVK				pmax	pmax		
	comp=Z,27nm,1.3s						
TIXI	**Tiksi**	**75.58**	**360**	P	**P**		**12 26 40.6 -0.4**
TIXI				IAmb	IAmb		12 26 41.8
	comp=Z,32nm,0.9s						
TIXI	**Tiksi**	**75.58**	**360**	LR	LR		12 59 09.6
	comp=Z,96nm,21.8s,baz=190,slow=35						
TIXI	**Tiksi**	**75.58**	**360**	*ce*P	**P**		**12 26 40.5 -0.4**
TIXI				pmax	pmax		
	comp=Z,37nm,1.0s						
BILL	**Bilibino**	**76.39**	**13**	*ce*P	**P**		**12 26 47.2 +1.6**
BILL				pmax	pmax		
	comp=Z,20nm,2.5s						
MAW	**Mawson**	**77.49**	**201**	P	**P**		**12 26 51.2 -0.7**
	comp=Z,19nm,0.5s,baz=70,slow=5.9,SNR=19						
	comp=Z,19nm,0.5s						
UNV	**Unalaska Valle**	**78.31**	**33**	P	**P**		**12 26 57.9 +1.3**
	baz=246						
NRIK	**Noril'sk**	**78.63**	**346**	P	**P**		**12 26 58.8 +0.7**
NRIK				IAmb	IAmb		12 26 59.8
	comp=Z,42nm,1.4s						
NRIK	**Noril'sk**	**78.63**	**346**	P	**P**		**12 26 58.3 +0.2**
	comp=Z,14nm,0.8s,baz=126,slow=5.7,SNR=19						
NRIK				LR	LR		13 03 05.8
	comp=Z,73nm,21.1s,baz=328,slow=37						
	comp=Z,14nm,0.8s						
NRIK	**Noril'sk**	**78.63**	**346**	*ce*P	**P**		**12 26 58.7 +0.6**
NRIK				pmax	pmax		
	comp=Z,36nm,1.4s						
AB31	**Akbulak array**	**79.95**	**321**	*i* P	**P**		**12 27 05.7 0.0**
ABKAR	**Akbulak array**	**79.95**	**321**	P	**P**		**12 27 06.0 +0.3**
PPT2	**Papeete2**	**80.10**	**107**	*e*S	**S**		**12 36 59.1 -3.7**
	comp=Z,260nm,27.5s						
PPT2	**Papeete2**	**80.10**	**107**	*e*LR	LR		12 52 15.8
	comp=Z,75nm,26.0s						
PPT2				*e*LR	LR		12 52 16.0
	comp=Z,130nm,28.0s						
TBI	**Tubuai**	**80.14**	**113**	*e*S	**S**		**12 37 01.1 -1.8**
	comp=Z,132nm,31.8s						
TBI	**Tubuai**	**80.14**	**113**	*e*LR	LR		12 52 13.0
	comp=Z,240nm,33.8s						
FALS	**False Pass**	**80.36**	**33**	P	**P**		**12 27 08.4 +0.7**
	baz=249						
GAMB	**Gambell**	**80.41**	**23**	P	**P**		**12 27 08.8 +1.0**
	baz=240						
S12K	**Black Hills**	**81.39**	**32**	P	**P**		**12 27 14.0 +0.8**
	baz=250						
ABPO	**Ambohimpanom**	**81.43**	**251**	P	**P**		**12 27 13.8 -0.6**
ABPO				IAmb	IAmb		12 27 15.5
	comp=Z,45nm,1.6s						
ABPO	**Ambohimpanom**	**81.43**	**251**	P	**P**		**12 27 13.8 -0.6**
ABPO				pmax	pmax		
	comp=Z,45nm,1.7s						
AKTO	**Aktyubinsk**	**81.50**	**322**	LR	LR		13 07 19.2
	comp=Z,95nm,18.7s,baz=36,slow=38						
AKTO	**Aktyubinsk**	**81.50**	**322**	P	**P**		**12 27 13.4 -0.5**
VOI	**Vohitsoka**	**81.77**	**249**	P	**P**		**12 27 15.4 -0.7**
VOI				IAmb	IAmb		12 27 16.5
	comp=Z,58nm,1.2s						
CHNA	**Chernabura Isl**	**82.44**	**33**	P	**P**		**12 27 19.5 +0.8**
	baz=252						
M13K	**Dall Lake**	**82.46**	**27**	P	**P**		**12 27 19.3 +0.7**
	baz=248						
K13K	**Kusilvak Mount**	**82.46**	**26**	P	**P**		**12 27 17.1 -1.6**
K13K				IAmb	IAmb		12 27 56.6
	comp=Z,33nm,1.2s						
K13K	**Kusilvak Mount**	**82.46**	**26**	P	**P**		**12 27 20.1 +1.5**
	baz=247						
S14K	**Fog Glacier**	**82.91**	**32**	P	**P**		**12 27 22.5 +1.2**
	baz=252						
O14K	**Tigyukauivet M**	**83.02**	**29**	P	**P**		**12 27 22.5 +0.9**
	baz=250						
N14K	**Kuskokwak Cree**	**83.05**	**28**	P	**P**		**12 27 22.4 +0.7**
	baz=250						
ARTI	**Arti**	**83.08**	**328**	P	**P**		**12 27 22.1 +0.1**
ARTI	**Arti**	**83.08**	**328**	*c i* P	**P**		**12 27 23.4 +1.4**
ARTI				*PP	**pP**		**12 27 52.8 +2.0**
ARTI				S	**SKSac**		**12 37 34.2 +1.2**
ARTI				SS	**SS**		**12 42 59.2 +0.8**
ARTI				pmax	pmax		
	comp=Z,17nm,1.6s						
L14K	**Kuka Creek**	**83.11**	**27**	IAmb	IAmb		12 27 24.3
	comp=Z,26nm,0.8s						
L14K	**Kuka Creek**	**83.11**	**27**	P	**P**		**12 27 23.1 +1.1**
	baz=248						
M14K	**Bethel**	**83.22**	**27**	P	**P**		**12 27 23.4 +0.8**
M14K				IAmb	IAmb		12 27 24.7
	comp=Z,29nm,0.7s						
M14K	**Bethel**	**83.22**	**27**	P	**P**		**12 27 23.9 +1.3**
	baz=249						
ANM	**Nome**	**83.23**	**23**	P	**P**		**12 27 24.0 +1.4**
	baz=246						
F14K	**Arctic Creek**	**83.25**	**22**	P	**P**		**12 27 24.3 +1.6**
	baz=245						
J14K	**Nanvaranak Lak**	**83.25**	**25**	P	**P**		**12 27 24.1 +1.3**
	baz=248						
CHGN	**Chignik**	**83.52**	**32**	P	**P**		**12 27 24.8 +0.6**
	baz=253						
O15K	**Ungalikthiuk R**	**83.69**	**29**	P	**P**		**12 27 26.6 +1.5**
	baz=251						
L15K	**Ungalak Mounta**	**83.76**	**27**	P	**P**		**12 27 26.4 +1.0**
	baz=250						
M15K	**Kasigluk River**	**83.79**	**28**	P	**P**		**12 27 26.4 +0.9**
	baz=250						
N15K	**Kwethluk River**	**83.89**	**28**	P	**P**		**12 27 27.4 +1.3**
	baz=251						
G15K	**Niukluk**	**83.93**	**23**	P	**P**		**12 27 27.2 +1.0**
	baz=247						
K15K	**Wolf Creek Mou**	**83.96**	**26**	IAmb	IAmb		12 27 28.9
	comp=Z,27nm,1.0s						
K15K	**Wolf Creek Mou**	**83.96**	**26**	P	**P**		**12 27 27.7 +1.4**
	baz=249						
F15K	**North Star Dit**	**83.98**	**22**	P	**P**		**12 27 27.8 +1.4**
F15K				IAmb	IAmb		12 27 28.8
	comp=Z,46nm,1.3s						
F15K	**North Star Dit**	**83.98**	**22**	P	**P**		**12 27 27.7 +1.2**
	baz=246						
H16K	**Elim**	**84.51**	**24**	P	**P**		**12 27 30.1 +1.0**
	baz=248,SNR=10						
P16K	**Nushagak River**	**84.55**	**30**	P	**P**		**12 27 30.5 +1.1**
	baz=253						
O16K	**Kokwok River B**	**84.67**	**29**	P	**P**		**12 27 31.1 +1.1**
	baz=253						
L16K	**Owhat River**	**84.68**	**27**	IAmb	IAmb		12 27 31.7
	comp=Z,26nm,0.8s						
L16K	**Owhat River**	**84.68**	**27**	P	**P**		**12 27 31.1 +1.1**
	baz=251,SNR=6.5						
M16K	**Timber Creek**	**84.69**	**28**	IAmb	IAmb		12 27 32.5
	comp=Z,36nm,1.0s						
M16K	**Timber Creek**	**84.69**	**28**	P	**P**		**12 27 31.5 +1.4**
	baz=252						
J16K	**Anvik River**	**84.70**	**25**	P	**P**		**12 27 32.2 +2.1**
J16K				IAmb	IAmb		12 27 32.7
	comp=Z,27nm,0.7s						
J16K	**Anvik River**	**84.70**	**25**	P	**P**		**12 27 31.8 +1.6**
	baz=250						
G16K	**Koyuk River**	**84.74**	**23**	P	**P**		**12 27 31.7 +1.5**
	baz=248						
C16K	**Lisburne Hills**	**84.79**	**20**	P	**P**		**12 27 31.3 +0.9**
	baz=245						
Q16K	**King Salmon**	**85.11**	**30**	P	**P**		**12 27 32.5 +0.3**
	baz=254						
O17K	**Koliganek Bris**	**85.20**	**29**	P	**P**		**12 27 33.6 +1.0**
	baz=254						
L17K	**Donlin**	**85.34**	**27**	P	**P**		**12 27 34.5 +1.2**
	baz=252						
D17K	**Noatak River**	**85.34**	**21**	P	**P**		**12 27 34.4 +1.2**
	baz=248						
P17K	**Kvichak River**	**85.36**	**30**	P	**P**		**12 27 34.6 +1.2**
	baz=254						
N17K	**Nushagak Hills**	**85.38**	**28**	P	**P**		**12 27 35.0 +1.5**
	baz=253						
J17K	**VABM Dome**	**85.39**	**25**	IAmb	IAmb		12 27 36.0
	comp=Z,23nm,0.8s						
J17K	**VABM Dome**	**85.39**	**25**	P	**P**		**12 27 35.1 +1.6**
	baz=252,SNR=7.9						
M17K	**Holitna River**	**85.51**	**27**	P	**P**		**12 27 35.8 +1.6**
	baz=253						
K17K	**Iditarod**	**85.51**	**26**	IAmb	IAmb		12 27 36.7
	comp=Z,35nm,0.8s						
K17K	**Iditarod**	**85.51**	**26**	P	**P**		**12 27 35.8 +1.6**
	baz=252,SNR=11						
RDOG	**Red Dog Mine**	**85.54**	**20**	IAmb	IAmb		12 27 37.0
	comp=Z,35nm,1.6s						
RDOG	**Red Dog Mine**	**85.54**	**20**	P	**P**		**12 27 35.3 +1.1**
	baz=248						
F17K	**Baldwin Pennin**	**85.54**	**22**	P	**P**		**12 27 35.2 +1.0**
	baz=249						
H17K	**Granite Mounta**	**85.55**	**24**	P	**P**		**12 27 35.7 +1.4**
	baz=251						
E17K	**Hotham Inlet**	**85.56**	**21**	P	**P**		**12 27 34.8 +0.5**
	baz=249						
C17K	**DeLong Mountai**	**85.61**	**20**	P	**P**		**12 27 35.3 +0.8**
	baz=247						
ACHA	**Angle Creek He**	**85.66**	**31**	IAmb	IAmb		12 27 36.0
	comp=Z,34nm,1.4s						
SII	**Sitkinak Islan**	**85.86**	**33**	P	**P**		**12 27 37.0 +1.0**
	baz=256						
QSPA	**South Pole Qui**	**85.88**	**180**	P	**P**		**12 27 36.0 -0.1**
QSPA	**South Pole Qui**	**85.88**	**180**	P	**P**		**12 27 34.9 -1.2**
	comp=Z,24nm,0.9s,baz=344,slow=19,SNR=132						
	comp=Z,24nm,0.9s						
R18K	**Karluk**	**85.96**	**32**	P	**P**		**12 27 36.8 +0.4**
	baz=256						
P18K	**Big Mountain,**	**86.02**	**30**	P	**P**		**12 27 36.5 -0.3**
	baz=255						
N18K	**Kilae Creek**	**86.03**	**28**	P	**P**		**12 27 37.5 +0.7**
	baz=254						
L18K	**Granite Mounta**	**86.08**	**27**	P	**P**		**12 27 38.1 +1.2**
L18K				IAmb	IAmb		12 27 39.4
	comp=Z,24n

KDAK IAmb IAmb 12 27 43.1
comp=Z,28nm,0.9s
KDAK Kodiak Island 86.98 32 P P 12 27 42.0 +0.6
baz=258
KDAK Kodiak Island 86.98 32 P P 12 27 42.0 +0.6
KDAK pmax pmax
comp=Z,28nm,0.9s
J19K Poorman 87.04 25 P P 12 27 41.9 +0.3
J19K IAmb IAmb 12 28 50.5
comp=Z,32nm,1.6s
J19K Poorman 87.04 25 P P 12 27 42.3 +0.6
baz=255
G19K Purcell Mounta 87.04 23 P P 12 27 42.2 +0.6
baz=253
M19K Big River Lodg 87.05 27 IAmb IAmb 12 27 44.1
comp=Z,16nm,0.6s
M19K Big River Lodg 87.05 27 P P 12 27 42.7 +0.9
baz=256,SNR=7.5
P19K Oil Pt 87.07 30 P P 12 27 42.3 +0.4
baz=257
H19K Roundabout Mou 87.12 24 IAmb IAmb 12 27 43.9
comp=Z,18nm,1.1s
H19K Roundabout Mou 87.12 24 P P 12 27 42.7 +0.8
baz=254
Q20K Shuyak Island 87.26 31 P P 12 27 43.3 +0.6
baz=258
D19K Kuna River 87.37 21 P P 12 27 43.6 +0.4
D19K IAmb IAmb 12 27 44.4
comp=Z,16nm,0.9s
D19K Kuna River 87.37 21 P P 12 27 43.5 +0.4
baz=252
E19K Redstone River 87.37 22 IAmb IAmb 12 27 44.5
comp=Z,15nm,0.8s
E19K Redstone River 87.37 22 P P 12 27 43.6 +0.5
baz=253
L20K Farewell, AK 87.42 27 P P 12 27 44.1 +0.6
baz=256
K20K Telida 87.55 26 P P 12 27 45.3 +1.2
baz=256
M20K Styx River 87.62 28 P P 12 27 45.8 +1.2
baz=257
J20K Nowinta River 87.71 25 IAmb IAmb 12 28 41.8
comp=Z,41nm,1.9s
J20K Nowinta River 87.71 25 P P 12 27 46.1 +1.3
baz=256
I20K Naaghedeneel 87.73 25 P P 12 27 45.6 +0.8
baz=256
H20K Anotleneega Mo 87.74 24 P P 12 27 45.5 +0.5
baz=255
F20K Avaraart Lake 87.82 22 P P 12 27 46.0 +0.8
baz=254
HOM Homer 87.86 30 P P 12 27 46.3 +0.7
baz=258
SPCR Spurr Chakacha 87.90 28 P P 12 27 46.3 +0.4
baz=258
D20K Etivluk River 87.96 21 P P 12 27 46.9 +1.0
baz=254
SPU Mount Spurr 87.97 28 P P 12 27 46.6 +0.4
SPU IAmb IAmb 12 28 36.4
comp=Z,36nm,2.0s
E20K Nigu River 87.98 21 P P 12 27 46.3 +0.2
baz=254
CNPM China Poot 88.03 30 P P 12 27 46.8 +0.4
B20K Meade River 88.15 19 P P 12 27 47.2 +0.4
baz=253
BRLK Bradley Lake 88.25 30 IAmb IAmb 12 27 53.2
comp=Z,29nm,1.2s
BELG Belogornoye 88.27 323 *i* P **P 12 27 48.5 +0.8**
BELG pmax pmax
comp=Z,4.0nm,0.9s
PPLA Purkeypile 88.27 27 P P 12 27 47.8 +0.1
baz=258
KIRV Kirov 88.31 329 *i* P **P 12 27 48.6 +0.9**
BRSE Bradley Lake S 88.32 30 P P 12 27 48.2 +0.4
baz=259
CHUM Lake Minchumin 88.43 26 P P 12 27 48.8 +0.6
baz=258,SNR=10
CAST Castle Rocks 88.43 26 P P 12 27 48.9 +0.6
baz=258
G21K Allakaket 88.53 23 IAmb IAmb 12 29 32.0
comp=Z,36nm,2.0s
G21K Allakaket 88.53 23 P P 12 27 48.9 +0.2
baz=256
H21K Melozitna Rive 88.61 24 P P 12 27 50.0 +0.9
baz=257
GNI Garni 88.63 310 *i* P **P 12 27 49.8 -0.1**
GNI pmax pmax
comp=Z,55nm,1.7s
A21K Barrow 88.70 18 P P 12 27 49.5 +0.2
baz=253
F21K Alatna River 88.71 22 P P 12 27 50.2 +0.7
baz=256
C21K Knifeblade Rid 88.72 20 P P 12 27 50.0 +0.6
baz=255
I21K Tanana 88.85 24 P P 12 27 51.0 +0.8
baz=258
B21K Ikpikpuk River 88.89 20 IAmb IAmb 12 27 52.2
comp=Z,13nm,0.9s
B21K Ikpikpuk River 88.89 20 P P 12 27 50.5 +0.3
baz=255
O22K Cooper Landing 88.96 29 P P 12 27 50.7 0.0
baz=260
M22K Willow 88.99 28 P P 12 27 51.3 +0.4
baz=260
SEW Seward 89.02 30 P P 12 27 51.4 +0.4
baz=260
CUT Chulitna 89.04 27 P P 12 27 50.9 -0.2
baz=259
BPAW Bear Paw Mtn. 89.05 26 P P 12 27 51.7 +0.5
baz=259
RC01 Rabbit Creek A 89.06 29 IAmb IAmb 12 27 53.0
comp=Z,21nm,1.0s
RC01 Rabbit Creek A 89.06 29 P P 12 27 51.6 +0.4
baz=260,SNR=7.1
TRF Thorofare Moun 89.23 26 P P 12 27 52.6 +0.4
baz=259
H22K Ishtalitna Cre 89.24 24 P P 12 27 52.4 +0.4
baz=258
D22K Ayikyak River 89.38 21 P P 12 27 53.4 +0.8
D22K Ayikyak River 89.38 21 P P 12 27 53.0 +0.4
baz=257
PMR Palmer 89.43 28 P P 12 27 52.8 -0.1
baz=260
PMR Palmer 89.43 28 P P 12 27 54.1 +1.2
B22K Teshekpuk Lake 89.47 19 P P 12 27 53.3 +0.4
B22K Teshekpuk Lake 89.47 19 P P 12 27 53.0 +0.1
baz=256
E22K Anaktuvuk Pass 89.53 22 P P 12 27 53.8 +0.3
E22K Anaktuvuk Pass 89.53 22 P P 12 27 54.0 +0.5
baz=258,SNR=9.8
TAOE Nuku Hiva Isla 89.69 99 *e*LR LR 12 56 41.0
comp=Z,59nm,29.6s
PWL Port Wells 89.69 29 IAmb IAmb 12 27 56.6
comp=Z,13nm,1.0s
PWL Port Wells 89.69 29 P P 12 27 54.6 +0.4
baz=261
KNK Knik Glacier 89.72 28 P P 12 27 55.2 +0.9
KNK IAmb IAmb 12 27 57.4
comp=Z,20nm,0.9s
KNK Knik Glacier 89.72 28 P P 12 27 54.9 +0.5
baz=261
GEVA Gevas 89.74 308 IAmb IAmb 12 27 57.2
comp=Z,16nm,0.8s
SML Sawmill 89.84 28 IAmb IAmb 12 27 55.9
comp=Z,16nm,0.8s
SML Sawmill 89.84 28 P P 12 27 55.0 0.0
baz=261
RND Reindeer 89.86 26 IAmb IAmb 12 27 56.8
comp=Z,13nm,0.8s
MCK McKinley 89.87 26 IAmb IAmb 12 27 55.5
comp=Z,20nm,1.2s
MCK McKinley 89.87 26 P P 12 27 55.3 +0.3
baz=261,SNR=6.5
I23K Minto, Yukon-K 89.93 25 P P 12 27 55.8 +0.6
I23K Minto, Yukon-K 89.93 25 P P 12 27 55.5 +0.3
baz=260,SNR=6.9
G23K Bananza Creek 89.93 23 P P 12 27 55.7 +0.4
baz=260
NEA2 Nenana 89.96 25 P P 12 27 55.4 0.0
baz=260
COLD Coldfoot 89.96 23 P P 12 27 56.0 +0.6
COLD IAmb IAmb 12 27 56.8
comp=Z,16nm,1.2s
COLD Coldfoot 89.96 23 P P 12 27 55.6 +0.3
baz=259,SNR=15
D23K Nanushuk River 90.11 21 IAmb IAmb 12 27 57.9
comp=Z,15nm,1.1s
D23K Nanushuk River 90.11 21 P P 12 27 56.7 +0.7
baz=259
M23K Glacier View 90.12 28 P P 12 27 56.3 +0.1
baz=262,SNR=8.3
GLI Glacier Island 90.30 29 IAmb IAmb 12 28 03.1
comp=Z,16nm,1.2s
GLI Glacier Island 90.30 29 P P 12 27 57.3 +0.3
baz=262
C23K Itkillik River 90.30 20 IAmb IAmb 12 27 57.6
comp=Z,11nm,0.6s
C23K Itkillik River 90.30 20 P P 12 27 57.1 +0.2
baz=259
SCM Sheep Creek Mo 90.32 28 P P 12 27 57.4 +0.2
SCM IAmb IAmb 12 29 00.5
comp=Z,37nm,1.4s
SCM Sheep Creek Mo 90.32 28 P P 12 27 57.5 +0.2
baz=262
SCM Sheep Creek Mo 90.32 28 P P 12 27 57.4 +0.2
SCM pmax pmax
comp=Z,37nm,1.4s
E23K Chandalar 90.33 22 P P 12 27 58.0 +0.9
E23K IAmb IAmb 12 27 58.8
comp=Z,11nm,0.8s
E23K Chandalar 90.33 22 P P 12 27 57.6 +0.4
baz=260
WRH Wood River Hil 90.36 25 IAmb IAmb 12 27 59.0
comp=Z,33nm,1.7s
KBZ Khabaz 90.36 314 P P 12 27 56.9 -0.8
comp=Z,2.7nm,0.8s,baz=126,slow=5.8,SNR=3.9
KBZ LR LR 13 13 59.9
comp=Z,44nm,18.9s,baz=355,slow=39
comp=Z,2.7nm,0.8s
KBZ Khabaz 90.36 314 *i* P **P 12 27 58.3 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
TOLK Toolik Lake Re 90.45 21 P P 12 27 58.0 +0.4
TOLK Toolik Lake Re 90.45 21 P P 12 27 58.2 +0.6
baz=260,SNR=5.2
Q23K Middleton Isla 90.48 31 P P 12 27 58.5 +0.7
baz=263
COLA College 90.52 25 P P 12 27 58.2 +0.3
baz=262
GURO Guroymak-BITLI 90.56 308 IAmb IAmb 12 28 01.2
comp=Z,12nm,0.8s
H24K Noodor Dome 90.65 24 IAmb IAmb 12 27 59.9
comp=Z,9.7nm,0.8s
H24K Noodor Dome 90.65 24 P P 12 27 59.0 +0.3
baz=262
POKR Poker Plat Res 90.73 25 P P 12 27 59.3 +0.3
baz=262
E24K Your Creek 90.75 22 IAmb IAmb 12 28 01.1
comp=Z,25nm,2.0s
E24K Your Creek 90.75 22 P P 12 27 59.4 +0.3
baz=261
D24K Happy Valley 90.80 21 P P 12 27 59.7 +0.5
D24K Happy Valley 90.80 21 P P 12 27 59.7 +0.5
baz=261
HDA Harding Lake 90.84 26 P P 12 27 59.8 +0.3
baz=262,SNR=5.4
F24K Squaw Lake 90.89 22 P P 12 28 00.3 +0.6
baz=262,SNR=6.7
M24K Tolsona, Glenn 90.89 28 IAmb IAmb 12 28 01.4
comp=Z,23nm,1.1s
M24K Tolsona, Glenn 90.89 28 P P 12 27 59.9 0.0
baz=263
EYAK Cordova Ski Ar 90.91 29 P P 12 28 00.4 +0.5
baz=263
ILAR Eielson Array 90.91 25 P P 12 27 58.5 -1.3
ILAR Eielson Array 90.91 25 P P 12 27 58.0 -1.8
comp=Z,2.6nm,0.5s,baz=272,slow=4.3,SNR=40
ILAR PP PP 12 31 32.5 -4.8
comp=Z,1.4nm,1.0s,baz=247,slow=7.5,SNR=5.0
ILAR PKKPbc PKKPdf 12 45 24.3 +1.3
comp=Z,1.2nm,0.7s,baz=42,slow=1.3,SNR=14
comp=Z,2.6nm,0.5s
ILAR Eielson Array 90.91 25 P P 12 27 58.5 -1.3
G24K Hadweenzic Riv 90.93 23 IAmb IAmb 12 28 01.3
comp=Z,8.5nm,0.8s
G24K Hadweenzic Riv 90.93 23 P P 12 28 00.5 +0.6
baz=262
C24K Franklin Bluff 90.93 20 P P 12 28 00.1 +0.3
C24K IAmb IAmb 12 28 41.1
comp=Z,46nm,1.9s
C24K Franklin Bluff 90.93 20 P P 12 28 00.3 +0.5
baz=261
KLU Klutina 90.94 29 P P 12 28 00.3 +0.2
baz=263
DIV Divide 90.97 29 IAmb IAmb 12 28 01.7
comp=Z,11nm,0.9s
ELIB Princess Elisa 91.13 197 *d*P **P 12 28 02.1 +1.2**
comp=Z,42nm,1.1s
K24K Donnelly Dome 91.27 26 P P 12 28 01.9 +0.4
baz=263
PAX Paxson 91.32 27 P P 12 28 02.2 +0.3
PAX Paxson 91.32 27 P P 12 28 02.2 +0.3
baz=264
PAX Paxson 91.32 27 P P 12 28 02.2 +0.3
PAX pmax pmax
comp=Z,4.0nm,0.6s
KIBK Kibwezi 91.33 268 IAmb IAmb 12 28 04.8
comp=Z,14nm,1.5s
HARP HAARP 91.40 28 P P 12 28 02.3 +0.2
baz=264
G25K Bearman Lake 91.48 23 P P 12 28 03.1 +0.7
baz=263
KAIM Kayak Island 91.51 30 P P 12 28 03.2 +0.6
baz=264
BMRM Bremner River 91.52 29 P P 12 28 03.1 +0.3
baz=264
H25L Birch Creek 91.54 24 P P 12 28 03.5 +0.8
baz=264,SNR=8.2
J25K Salcha River, 91.54 25 IAmb IAmb 12 28 44.2
comp=Z,23nm,1.9s
J25K Salcha River, 91.54 25 P P 12 28 02.5 -0.3
baz=264
PRP Porcupine Dome 91.57 25 P P 12 28 02.8 -0.3
baz=264
N25K Chitina, Valde 91.58 28 P P 12 28 03.2 +0.1
baz=264
RIDG Independent Ri 91.68 26 IAmb IAmb 12 28 04.2
comp=Z,17nm,1.2s
RIDG Independent Ri 91.68 26 P P 12 28 03.5 0.0
baz=264
D25K Kavik River 91.69 21 P P 12 28 04.2 +0.8
baz=263
F25K Christian Rive 91.76 22 P P 12 28 04.4 +0.6
F25K Christian Rive 91.76 22 P P 12 28 04.5 +0.8
baz=264
E25K Arctic Village 91.84 22 P P 12 28 04.6 +0.5
E25K IAmb IAmb 12 28 10.8
comp=Z,21nm,1.7s
E25K Arctic Village 91.84 22 P P 12 28 04.6 +0.5
baz=264
GLB Gilahina Butte 91.94 29 IAmb IAmb 12 28 06.6
comp=Z,38nm,2.0s
DOT Dot Lake 92.02 26 IAmb IAmb 12 28 15.4
comp=Z,13nm,1.0s
SCRK Sand Creek 92.08 26 P P 12 28 05.9 +0.5
baz=265
BGLC Bering Glacier 92.09 30 P P 12 28 05.9 +0.6
baz=266
MENT Mentasta 92.11 27 IAmb IAmb 12 28 06.7
comp=Z,5.4nm,0.6s
BMAR Burnt Mountain 92.14 23 P P 12 28 06.7 +1.2
C26K Camden Bay 92.26 20 P P 12 28 06.8 +0.9
baz=264
L26K Log Cabin Wild 92.29 27 P P 12 28 06.6 +0.3
baz=266
J26L Joseph Creek 92.31 26 IAmb IAmb 12 28 07.4
comp=Z,6.2nm,0.7s
J26L Joseph Creek 92.31 26 P P 12 28 06.6 +0.2
baz=265
F26K Sheenjek River 92.34 22 IAmb IAmb 12 28 08.4
comp=Z,14nm,1.4s
F26K Sheenjek River 92.34 22 P P 12 28 07.1 +0.7
baz=265
M26K Nabesna, AK 92.40 28 P P 12 28 07.7 +0.8
baz=266
G26K Porcupine Rive 92.41 23 P P 12 28 07.4 +0.7
baz=265
I26K Coal Creek Min 92.54 25 P P 12 28 07.9 +0.5
baz=266
C27K Jago River 92.65 20 IAmb IAmb 12 28 09.6
comp=Z,17nm,1.6s
C27K Jago River 92.65 20 P P 12 28 08.3 +0.5
baz=266
MESA MESA 92.76 30 P P 12 28 08.8 +0.1
baz=267
M27K Edge Creek, AK 92.92 28 IAmb IAmb 12 28 10.9
comp=Z,12nm,1.2s
M27K Edge Creek, AK 92.92 28 P P 12 28 09.9 +0.6
baz=267
L27K Beaver Creek, 92.98 27 IAmb IAmb 12 28 11.2
comp=Z,11nm,0.7s
L27K Beaver Creek, 92.98 27 P P 12 28 10.1 +0.6
baz=267
BCAR Beaver Creek A 93.00 27 P P 12 28 10.2 +0.6
I27K Kandik River 93.20 25 P P 12 28 11.1 +0.7
baz=267,SNR=13
G27K Doyon Strip 93.24 23 P P 12 28 11.5 +0.9
baz=267
H27K Steamboat Moun 93.27 24 P P 12 28 11.8 +1.0
baz=267
D27M Malcolm River 93.60 21 P P 12 28 12.9 +0.6
D27M Malcolm River 93.60 21 P P 12 28 13.2 +0.9
baz=268
O28M Mount Upton 93.66 29 P P 12 28 13.6 +0.6
baz=268
YUK8 Steele Glacier 93.88 29 P P 12 28 14.7 +0.7
baz=269
I28M Miner Creek 93.89 25 P P 12 28 14.4 +0.7
baz=269
F28M Old Crow 93.96 23 IAmb IAmb 12 28 20.0
comp=Z,7.5nm,0.9s
F28M Old Crow 93.96 23 P P 12 28 14.1 +0.2
baz=269,SNR=7.6
DAWY Dawson 94.10 26 IAmb IAmb 12 28 16.2
comp=Z,14nm,1.0s
DAWY Dawson 94.10 26 P P 12 28 15.1 +0.4
baz=269,SNR=13
E28M Babbage River 94.10 22 IAmb IAmb 12 28 15.9
comp=Z,25nm,1.6s
E28M Babbage River 94.10 22 P P 12 28 14.9 +0.4
baz=269
D28M Stokes Point 94.39 21 P P 12 28 16.0 +0.2
baz=270,SNR=6.6
YUK4 Talbot Arm 94.42 29 P P 12 28 17.3 +1.0
baz=270
O29M Mount Kennedy 94.45 30 P P 12 28 16.9 +0.5
baz=270
M29M Somme Creek 94.51 28 IAmb IAmb 12 28 23.7
comp=Z,9.8nm,0.9s
M29M Somme Creek 94.51 28 P P 12 28 17.5 +0.9
baz=270
H29M Whitestone 94.55 24 P P 12 28 17.7 +1.1
baz=270
YUK6 Outpost Mounta 94.56 29 P P 12 28 17.9 +0.9
baz=270
I29M Ogilvie Camp, 94.58 25 IAmb IAmb 12 28 17.9
comp=Z,14nm,1.0s
I29M Ogilvie Camp, 94.58 25 P P 12 28 17.0 +0.2
baz=270,SNR=14
J29N Klondike Camp 94.62 26 IAmb IAmb 12 28 23.7
comp=Z,20nm,1.6s
J29N Klondike Camp 94.62 26 P P 12 28 18.1 +1.1
baz=270
L29M L29M 94.66 27 P P 12 28 18.2 +1.0
baz=270
G29M Pine Creek 94.68 23 P P 12 28 17.3 +0.1
baz=271
E29M Blow River 94.71 22 IAmb IAmb 12 28 18.2
comp=Z,26nm,1.8s
E29M Blow River 94.71 22 P P 12 28 17.7 +0.5
baz=271
K29M Barlow Dome 94.93 26 IAmb IAmb 12 28 20.8
comp=Z,10nm,1.1s
K29M Barlow Dome 94.93 26 P P 12 28 19.1 +0.6
baz=271
HYT Haines Junctio 94.97 29 P P 12 28 19.3 +0.5
baz=271
POGA Pongola 95.09 242 P P 12 28 19.9 0.0
M30M Minto, Yukon 95.28 28 P P 12 28 21.1 +1.0
M30M Minto, Yukon 95.28 28 P P 12 28 20.9 +0.8
baz=271
G30M tAoh Zraii Nji 95.39 23 P P 12 28 20.1 -0.4
baz=272
I30M Mount Dempster 95.39 25 P P 12 28 20.8 +0.2
baz=272
J30M Hart River 95.43 26 IAmb IAmb 12 28 27.2
comp=Z,7.0nm,0.8s
J30M Hart River 95.43 26 P P 12 28 21.5 +0.7
baz=272,SNR=10
F30M Barrier River 95.53 23 P P 12 28 21.1 +0.1
baz=273,SNR=7.7
PLBC Pleasant Camp 95.57 31 P P 12 28 21.8 +0.4
baz=272
MAYO Mayo, Yukon 95.66 27 P P 12 28 22.5 +0.8
baz=272
MMAI Mount Meron Ar 95.67 303 LR LR 13 20 16.1
comp=Z,37nm,18.4s,baz=106,slow=41
O30N Mendenhall 95.67 29 P P 12 28 21.3 -0.5
O30N IAmb IAmb 12 29 16.9
comp=Z,23nm,2.0s
O30N Mendenhall 95.67 29 P P 12 28 22.3 +0.5
baz=272
S31K Pelican 95.68 32 P P 12 28 21.9 +0.1
baz=271
N31M Braeburn, Yuko 95.80 29 P P 12 28 23.1 +0.7
baz=272
APA Apatity 96.09 337 ⇓ *i*P **P 12 28 22.5 -1.0**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
H31M Peel River 96.21 24 P P 12 28 24.3 +0.2
baz=274
WHY Whitehorse 96.27 30 P P 12 28 25.1 +0.4
baz=273
F31M Tsiigehtchic 96.32 23 P P 12 28 24.1 -0.5
baz=275,SNR=6.3
INK Inuvik 96.33 22 IAmb IAmb 12 28 25.1
comp=Z,13nm,1.2s
INK Inuvik 96.33 22 P P 12 28 24.2 -0.4
baz=275,SNR=9.2
R32K Eaglecrest 96.57 32 P P 12 28 26.3 +0.3
baz=273
TROLL Troll, Antarti 96.86 194 P P 12 28 28.0 +0.8
TROLL Troll, Antarti 96.86 194 ⇑P **P 12 28 28.0 +0.8**
comp=Z,397nm,0.8s
FARO Faro, Yukon 96.90 28 P P 12 28 28.3 +0.9
FARO IAmb IAmb 12 28 28.7
comp=Z,5.3nm,1.0s
FARO Faro, Yukon 96.90 28 P P 12 28 27.6 +0.2
baz=274
P32M Atlin 96.91 31 P P 12 28 28.2 +0.7
baz=274
N32M Quiet Lake 97.11 29 P Pdif 12 28 28.8 +0.3
baz=274
P33M Teslin, Yukon 97.32 30 P Pdif 12 28 29.6 +0.1
baz=275
U33K Whale Pass 97.46 34 P P 12 28 29.7 -0.2
baz=274
BELA Belgrano 2 97.69 183 P P 12 28 30.7 0.0
BELA IAmb IAmb 12 28 30.8
comp=Z,12nm,1.2s
SNAA Sanae 98.38 194 P Pdif 12 28 34.4 +0.4
SNAA Sanae 98.38 194 P Pdif 12 28 34.5 +0.6
SNAA Sanae 98.38 194 ⇑P Pdif 12 28 34.4 +0.4
comp=Z,100nm,0.5s
SNAA Sanae 98.38 194 P P 12 28 33.4 -0.5
comp=Z,4.2nm,0.5s,baz=205,slow=6.1,SNR=25
SNAA LR LR 13 10 37.5
comp=Z,119nm,20.8s,baz=130,slow=34
comp=Z,4.2nm,0.5s
SNAA Sanae 98.38 194 *ce*P Pdif 12 28 36.0 +2.0
SNAA pmax pmax
comp=Z,22nm,2.5s
S34M Telegraph Cree 98.39 32 P P 12 28 34.1 0.0
baz=276
A36M Sachs Harbour 98.54 18 P Pdif 12 28 34.7 +0.2
A36M IAmb IAmb 12 28 40.0
comp=Z,8.0nm,1.1s
A36M Sachs Harbour 98.54 18 P P 12 28 34.5 0.0
baz=283
SPITS Spitsbergen Ar 98.63 349 P P 12 28 34.0 -0.8
comp=Z,5.7nm,0.8s,baz=94,slow=7.4,SNR=5.3
SPITS PKKPbc PKKPbc 12 45 03.5 -3.3
comp=Z,3.3nm,0.8s,baz=205,slow=9.5,SNR=5.3
comp=Z,5.7nm,0.8s
SPITS Spitsbergen Ar 98.63 349 P P 12 28 34.0 -0.8
ARCES ARCESS Array B 98.69 340 P P 12 28 33.8 -1.4
comp=Z,2.5nm,0.8s,baz=78,slow=4.9,SNR=13
ARCES PKKPbc PKKPbc 12 45 03.2 -3.2
comp=Z,2.4nm,0.7s,baz=279,slow=2.3,SNR=11
comp=Z,2.5nm,0.8s
MBAR Mbarara 98.74 269 *ce*P Pdif 12 28 37.5 +0.6
MBAR pmax pmax

Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.74**	**74**	PG	Pg	12 18 22.7	-0.8
LANU				SG	Sg	12 18 32.0	-1.1
KIF	**Kilpisjarvi**	**1.18**	**12**	PN	Pn	12 18 33.0	-0.2
KIF				MSG		12 18 46.5	
	comp=Z,1.7nm,0.2s						
KIF				SG	Sg	12 18 47.1	-0.3
PAJU	**Pajala**	**1.43**	**124**	PG	Pn	12 18 34.5	-2.1
PAJU				SG	Sg	12 18 53.8	-1.3
HEF	**Hetta**	**1.44**	**66**	MSG		12 18 52.7	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sg	12 18 54.9	-0.7
ERTU	**Ertsjaerv**	**1.54**	**147**	PG	Pn	12 18 37.6	-0.5
ERTU				SN	Sn	12 18 57.7	-0.9
KLF	**Kolari**	**1.60**	**111**	MSG		12 18 57.4	
	comp=Z,0.7nm,0.2s						
KLF				SN	Sn	12 18 59.6	-0.7
KTK1	**Kautokeino**	**1.64**	**43**	PN	Pb	12 18 40.0	-0.4
KTK1				SN	Sg	12 19 02.0	0.0
TOF	**Tornio**	**2.43**	**135**	MSG		12 19 21.4	
	comp=Z,0.4nm,0.2s						
TOF				SG	Sb	12 19 24.0	-0.4
RNF	**Rovaniemi**	**2.61**	**116**	SB	Sb	12 19 28.0	-1.6
RAJF	**Raja-Jooseppi**	**3.13**	**75**	SG	Sb	12 19 43.7	-0.7

BJI ***26*** *12:20:37.5, 34°.34N×140°.51E, h86km, mB4.8/7, mb4.7/25*
JMA ***26*** *12:20:39.8±0.2, 34°.7N±0°.6×140°.1E±0°.8, h63km±2km, MD4.2/38, MV3.8/38, SE OFF BOSO PENINSULA*
JMA Felt I J1 at SE OFF BOSO PENINSULA .
NIED ***26*** *12:20:39.8, 34°.68N×140°.12E, h63km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.48; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.62; $M_{r\theta}$-0.63; $M_{\theta\phi}$-2.08; $M_{\phi r}$3.30; Fault plane solution: $M_0$3.98000×10^{15} NP1: ϕ_s259.00000°, δ33.00000°, λ173.00000°. NP2: ϕ_s356.00000°, δ86.00000°, λ58.00000°.*
NEIC ***26*** *12:20:40.6±1.5, 34°.67N±0°.05×140°.18E±0°.08, h66km±7km, mb4.8/50, Mwr4.3/15 Error ellipse: s-maj=9.4km s-min=7.0km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.15; $M_{\theta\theta}$0.89; $M_{\phi\phi}$-2.04; $M_{r\theta}$-0.46; $M_{\theta\phi}$-2.74; $M_{\phi r}$2.07; Fault plane solution: $M_0$3.89000×10^{15} NP1:ϕ_s351.76000°, δ78.76000°, λ38.48000°. NP2:ϕ_s252.95000°, δ52.39000°, λ165.76000°. Principal axes: T 3.5524, Plg35.0000°, Azm219.0000°; N 0.6041, Plg50.0000°, Azm6.0000°; P -4.1566, Plg17.0000°, Azm117.0000°;*
IDC ***26*** *12:20:40.0±1.3, 34°.68N×140°.13E, h65km±10km, mb4.0/19, mbtmp4.2/21, MS3.2/4 Error ellipse: s-maj=20.1km s-min=6.3km az=75.0*
NEIC ***26*** *12:20:40.5, 34°.68N×140°.19E, h64km*
ISC 26 12:20:40.1±0.6, 34°.68N±0°.03×140°.15E±0°.04, h66km±5km, n161, σ0s97/151, mb4.6/49, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.33**	**68**	*i* P	**Pn**	**12 20 50.8**	**+0.1**
BSO4	**Boso 4**	**0.35**	**27**	*i* P	**Pn**	**12 20 51.2**	**+0.1**
BSO4				X		12 20 59.7	
TATJ	**Tateyama 2**	**0.41**	**329**	⇓*i* P	**Pn**	**12 20 51.9**	**+0.2**
TATJ				⇓S	**Sn**	**12 21 00.9**	**+0.7**
TATJ	**Tateyama 2**	**0.41**	**329**	A	A	12 20 51.9	
	comp=N,40nm,1.0s,comp=E,246nm,1.1s						
JKUC	**kamogawauchiur**	**0.48**	**5**	*i* P	**Pn**	**12 20 51.9**	**-0.6**
JKUC				S	**Sn**	**12 21 00.5**	**-0.9**
JKUC	**kamogawauchiur**	**0.48**	**5**	A	A	12 20 51.9	
	comp=N,31nm,1.1s,comp=E,42nm,1.3s						
KTR	**Katsuura**	**0.49**	**17**	*i* P	**Pn**	**12 20 52.1**	**-0.4**
KTR				S	**Sn**	**12 21 01.1**	**-0.4**
JIM2	**Oshima 3**	**0.59**	**274**	*i* P	**Pn**	**12 20 52.8**	**-0.8**
JIM2				S	**Sn**	**12 21 02.1**	**-1.3**
JIM2	**Oshima 3**	**0.59**	**274**	A	A	12 20 52.8	
	comp=N,38nm,1.9s,comp=E,42nm,0.8s						
JYO	**Yokosk**	**0.67**	**324**	A	A	12 20 53.9	
	comp=N,37nm,1.1s,comp=E,87nm,1.3s						
BSO1	**Boso 1**	**0.69**	**92**	*i* P	**Pn**	**12 20 54.1**	**+0.1**
BSO1				X		12 21 04.8	
JTHY	**Toshimahigashi**	**0.72**	**258**	*i* P	**Pn**	**12 20 54.9**	**-0.1**
JTHY				S	**Sn**	**12 21 06.2**	**+0.3**
JTHY	**Toshimahigashi**	**0.72**	**258**	A	A	12 20 54.9	
	comp=N,20nm,2.1s,comp=E,24nm,1.0s						
JCN	**Nagara**	**0.74**	**4**	A	A	12 20 54.9	
	comp=N,15nm,3.1s,comp=E,22nm,2.6s						
JNIO	**Nijimaoohara**	**0.79**	**246**	A	A	12 20 55.1	
	comp=N,35nm,2.2s,comp=E,29nm,1.3s						
JMYK	**Miyake Tsubota**	**0.79**	**219**	P	**Pn**	**12 20 56.1**	**+0.3**
JMYK				S	**Sn**	**12 21 07.6**	**+0.2**
JMYK	**Miyake Tsubota**	**0.79**	**219**	A	A	12 20 56.1	
	comp=N,19nm,0.3s,comp=E,15nm,0.3s						
JSKK	**Shikinejimakit**	**0.84**	**246**	A	A	12 20 55.8	
	comp=N,13nm,1.5s,comp=E,23nm,1.1s						
JMKN	**Mikurajimanish**	**0.91**	**211**	*i* P	**Pn**	**12 20 57.5**	**+0.2**
JMKN				S	**Sn**	**12 21 10.0**	**0.0**
KTJ3	**Kamata3**	**0.92**	**286**	⇓*i* P	**Pn**	**12 20 56.4**	**-1.0**
JKO	**Kozu shima**	**0.97**	**240**	A	A	12 20 57.4	
	comp=N,23nm,3.0s,comp=E,24nm,4.0s						
JHTM	**Izuhatsuma**	**0.98**	**287**	A	A	12 20 57.5	
	comp=N,15nm,1.1s,comp=E,14nm,1.9s						
JIZS	**Izushimoda**	**1.04**	**273**	⇓*i* P	**Pn**	**12 20 58.4**	**-0.6**
JIZS				⇓S	**Sn**	**12 21 11.8**	**-1.2**
JIZS	**Izushimoda**	**1.04**	**273**	A	A	12 20 58.4	
	comp=N,4.0nm,1.3s,comp=E,7.0nm,1.3s						
JOD2	**Odawara 2**	**1.05**	**304**	⇓*i* P	**Pn**	**12 20 58.0**	**-1.0**
JOD2				⇓S	**Sn**	**12 21 11.4**	**-1.7**
JOD2	**Odawara 2**	**1.05**	**304**	A	A	12 20 58.0	
	comp=N,5.0nm,1.3s,comp=E,5.0nm,1.6s						
TOK	**Tokyo**	**1.05**	**343**	A	A	12 20 58.8	
	comp=N,15nm,0.5s,comp=E,31nm,1.1s						
JSGW	**Sagamiharawaka**	**1.20**	**320**	A	A	12 21 00.6	
	comp=N,4.0nm,2.4s,comp=E,7.0nm,1.7s						
JYN	**Shimob**	**1.55**	**302**	⇓*i* P	**Pn**	**12 21 05.4**	**-0.3**
JYN				⇓S	**Sn**	**12 21 24.8**	**-0.1**
JHJ	**Hachijo jima 2**	**1.58**	**191**	P	**Pn**	**12 21 06.2**	**+0.1**
	comp=E,487nm,0.3s,baz=68,slow=2.0,SNR=22						
JHJ				S	**Sn**	**12 21 25.5**	**-0.1**
	comp=E,2μm,0.5s,baz=72,slow=20,SNR=6.7						
JHJ				LR	LR	12 21 46.4	
	comp=E,308nm,21.8s,baz=281,slow=42						
JHJ2	**Mitsune**	**1.59**	**190**	Pn	**Pn**	**12 21 07.0**	**+0.9**
JHJ2				Sn	**Sn**	**12 21 26.1**	**+0.3**
JHJ2	**Mitsune**	**1.59**	**190**	P	**Pn**	**12 21 06.6**	**+0.5**
JHJ2	**Mitsune**	**1.59**	**190**	P	**Pn**	**12 21 06.1**	**0.0**
JHJ2				*e*S	**Sn**	**12 21 25.9**	**+0.2**
JSG	**Sagara**	**1.61**	**270**	Pn	**Pn**	**12 21 07.0**	**+0.5**
JSG				Sn	**Sn**	**12 21 27.4**	**+1.0**
JSG	**Sagara**	**1.61**	**270**	P	**Pn**	**12 21 07.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.44**	**320**	P	**Pn**	**12 21 17.8**	**+0.2**
	comp=E,193nm,0.7s,baz=155,slow=12,SNR=652						
MJAR				S	**Sn**	**12 21 45.8**	**-0.6**
	comp=E,60nm,0.4s,baz=135,slow=21,SNR=7.5						
MAJO	**Matsushiro**	**2.44**	**320**		**Pn**	**12 21 18.3**	**+0.6**
MAJO	**Matsushiro**	**2.44**	**320**	P	**Pn**	**12 21 18.5**	**+0.8**
MAJO	**Matsushiro**	**2.44**	**320**	S	**Sn**	**12 21 47.3**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.44**	**320**		**Pn**	**12 21 19.8**	**+2.1**
JGF	**Kuroka**	**2.46**	**293**		**Pn**	**12 21 19.2**	**+1.2**
JGF	**Kuroka**	**2.46**	**293**	P	**Pn**	**12 21 19.1**	**+1.1**
INU	**Inuyama**	**2.65**	**286**		**Pn**	**12 21 21.2**	**+0.6**
INU	**Inuyama**	**2.65**	**286**	P	**Pn**	**12 21 21.4**	**+0.9**
JMM	**Marumori**	**3.23**	**9**		**Pn**	**12 21 28.5**	**+0.2**
JMM	**Marumori**	**3.23**	**9**	P	**Pn**	**12 21 28.5**	**+0.2**
JSD	**Sado**	**3.68**	**336**	Pn	**Pn**	**12 21 34.7**	**+0.1**
JMN	**Monobe**	**5.28**	**261**	Pn	**Pn**	**12 21 57.9**	**+1.4**
JMN	**Monobe**	**5.28**	**261**	P	**Pn**	**12 21 57.9**	**+1.4**
JTM	**Tenmabayashi**	**6.14**	**7**	Pn	**Pn**	**12 22 07.4**	**-0.8**
JTM	**Tenmabayashi**	**6.14**	**7**	P	**Pn**	**12 22 08.2**	**0.0**
ERM	**Erimo**	**7.70**	**17**	Pn	**Pn**	**12 22 27.9**	**-1.5**
ERM	**Erimo**	**7.70**	**17**	P	**Pn**	**12 22 30.2**	**+0.7**
JEM	**Erimo**	**7.70**	**17**	P	**Pn**	**12 22 30.1**	**+0.6**
JCJ	**Chichijima**	**7.76**	**166**	Pn	**Pn**	**12 22 29.1**	**-1.3**
JCJ	**Chichijima**	**7.76**	**166**	P	Pn	12 22 22.8	-7.6
	comp=E,87nm,0.4s,baz=49,slow=6.7,SNR=20						
JCJ				S	Sn	12 23 46.4	-10
	comp=E,115nm,0.3s,baz=288,slow=20,SNR=8.5						
JCJ	**Chichijima**	**7.76**	**166**	P	**Pn**	**12 22 29.9**	**-0.5**
JNU	**Nakatsue**	**7.86**	**261**	Pn	**Pn**	**12 22 32.0**	**+0.2**
JNU	**Nakatsue**	**7.86**	**261**	LR	LR	12 25 57.4	
	comp=E,183nm,19.6s,baz=53,slow=40						
ASAJ	**Asahikawa**	**9.62**	**11**	P	**Pn**	**12 22 53.6**	**-2.1**
	comp=E,2.3nm,0.4s,baz=200,slow=11,SNR=9.6						
ASAJ				LR	LR	12 27 17.1	
	comp=E,96nm,19.1s,baz=223,slow=41						
JKA	**Kamikawa-asahi**	**9.62**	**11**	Pn	**Pn**	**12 22 53.9**	**-1.7**
KSRS	**Korea Array**	**10.27**	**289**	P	**Pn**	**12 23 08.2**	**+3.5**
	comp=E,17nm,1.0s,baz=105,slow=14,SNR=18						
KSRS				LR	LR	12 27 03.9	
	comp=E,122nm,18.0s,baz=100,slow=37						
KS19	**Wonju Array Si**	**10.33**	**289**	Pn	**Pn**	**12 23 06.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**11.40**	**329**	P	Pn	12 23 26.2	+6.1
	comp=E,10nm,1.0s,baz=143,slow=12,SNR=8.3						
MDJ	**Mudanjiang**	**12.82**	**324**	P	**Pn**	**12 23 41.0**	**+1.6**
MDJ	**Mudanjiang**	**12.82**	**324**		**Pn**	**12 23 40.8**	**+1.4**
MDJ	**Mudanjiang**	**12.82**	**324**	P	**Pn**	**12 23 41.0**	**+1.6**
MDJ	**Mudanjiang**	**12.82**	**324**	P	**Pn**	**12 23 40.6**	**+1.3**
TWG	**Pinlang**	**20.43**	**240**	P	**P**	**12 25 11.8**	**-0.3**
TWG				IAmb	IAmb	12 25 33.4	
	comp=Z,31nm,1.0s						
TPUB	**Ta-pu**	**20.45**	**242**	P	**P**	**12 25 11.7**	**-0.7**
TPUB				IAmb	IAmb	12 25 33.6	
	comp=Z,46nm,1.3s						
PETK	**Petropavlovsk-**	**22.24**	**29**	LR	LR	12 33 56.9	
	comp=Z,92nm,21.5s,baz=201,slow=36						
HHC	**Hu-ho-hao-te**	**23.36**	**294**	*e*P	**P**	**12 25 43.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.1s						
H11N2	**WAKE ISLAND Hy**	**27.95**	**115**	T	T	12 56 13.7	
	baz=308,slow=75,SNR=99						
H11N1	**WAKE ISLAND Hy**	**27.96**	**115**	T	T	12 56 09.1	
	baz=308,slow=75,SNR=84						
H11N3	**WAKE ISLAND Hy**	**27.97**	**115**	T	T	12 56 15.1	
	baz=308,slow=75,SNR=82						
SONM	**Songino Array**	**28.33**	**308**	P	**P**	**12 26 28.9**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=101,slow=7.5,SNR=2.8						
	comp=Z,2.8nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**28.57**	**118**	T	T	12 57 01.5	
	baz=312,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**28.57**	**117**	T	T	12 57 01.3	
	baz=312,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**28.58**	**118**	T	T	12 57 03.3	
	baz=312,slow=76,SNR=62						
GTA	**Gaotai**	**32.34**	**290**	*e*P	**P**	**12 27 04.3**	**+1.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PZH	**PanZhiHua**	**33.89**	**267**	P	**P**	**12 27 18.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
FAKI	**Fak Fak**	**38.13**	**193**	P	**P**	**12 27 51.7**	**-1.3**
FAKI				IAmb	IAmb	12 28 09.1	
	comp=Z,7.3nm,0.9s						
CHTO	**Chiang Mai**	**39.74**	**257**	P	**P**	**12 28 05.6**	**-0.9**
CM31	**Chiang Mai Arr**	**39.93**	**257**	P	**P**	**12 28 06.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**39.93**	**257**	ScP	**P**	**12 28 06.0**	**-2.0**
	comp=Z,3.3nm,0.7s,baz=127,slow=4.3,SNR=15						
CMAR	**Chiang Mai Arr**	**39.93**	**257**	P	**P**	**12 28 06.2**	**-1.9**
RABL	**Rabaul**	**40.28**	**161**	P	**P**	**12 28 09.7**	**-1.3**
RABL				IAmb	IAmb	12 28 12.1	
	comp=Z,12nm,0.6s						
KRVT	**Keravat (AS076**	**40.36**	**162**	LR	LR	12 44 13.6	
	comp=Z,5μm,18.4s,baz=223,slow=35						
WMQ	**Urumqi**	**41.03**	**299**	*e*P	**P**	**12 28 18.5**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,17nm,1.3s						
ZAA0	**Zalesovo Array**	**42.78**	**314**	P	**P**	**12 28 30.7**	**-0.2**
ZALV	**Zalesovo Beam**	**42.78**	**314**	P	**P**	**12 28 30.4**	**-0.5**
ZALV	**Zalesovo Beam**	**42.78**	**314**	P	**P**	**12 28 30.9**	**0.0**
	comp=Z,4.2nm,0.6s,baz=104,slow=7.3,SNR=4.2						
ZALV				PcP	**PcP**	**12 30 21.1**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=95,slow=3.6,SNR=5.0						
	comp=Z,4.2nm,0.6s						
MK31	**Makanchi Array**	**44.54**	**304**	P	**P**	**12 28 45.8**	**+0.6**
MK31				IAmb	IAmb	12 28 47.0	
	comp=Z,9.8nm,1.1s						
MKAR	**Makanchi Array**	**44.54**	**304**	P	**P**	**12 28 45.9**	**+0.7**
MKAR	**Makanchi Array**	**44.54**	**304**	P	**P**	**12 28 45.5**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=88,slow=9.6,SNR=6.3						
	comp=Z,5.3nm,0.6s						
MAKZ	**Makanchi**	**44.75**	**304**	P	**P**	**12 28 46.5**	**-0.4**
MAKZ				IAmb	IAmb	12 28 48.8	
	comp=Z,8.4nm,0.8s						
KURK	**Kurchatov**	**46.61**	**310**	P	**P**	**12 29 02.1**	**+0.7**
KURK				IAmb	IAmb	12 29 02.9	
	comp=Z,9.9nm,0.8s						
KURBB	**Kurchatov Arra**	**46.67**	**310**	P	**P**	**12 29 01.9**	**0.0**
	comp=Z,4.4nm,0.7s,baz=88,slow=7.3,SNR=7.3						
	comp=Z,4.4nm,0.7s						
WUS	**Wushi**	**47.64**	**297**	P	**P**	**12 29 10.4**	**+0.6**
WUS				IAmb	IAmb	12 29 12.1	
	comp=Z,6.3nm,0.8s						
COEN	**Coen**	**48.45**	**176**	P	**P**	**12 29 16.8**	**+0.7**
COEN				IAmb	IAmb	12 29 33.4	
	comp=Z,21nm,1.4s						
TARG	**Taragay, Kyrgy**	**48.55**	**298**	P	**P**	**12 29 16.9**	**-0.3**
TARG				IAmb	IAmb	12 29 19.2	
	comp=Z,8.5nm,0.8s						
KDJ	**Kajisay**	**48.91**	**298**	P	**P**	**12 29 20.7**	**+1.0**
BOOM	**Boomskoye usch**	**49.73**	**299**	P	**P**	**12 29 26.7**	**+0.8**
BOOM				IAmb	IAmb	12 29 28.2	
	comp=Z,10nm,1.4s						
KSH	**Kashi**	**50.45**	**295**	P	**P**	**12 29 35.8**	**+4.4**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AAK	**Ala-Archa**	**50.73**	**300**	P	**P**	**12 29 34.4**	**+1.0**
KNRA	**Kununurra**	**51.23**	**194**	P	**P**	**12 29 36.5**	**-0.6**
KNRA				IAmb	IAmb	12 30 01.9	
	comp=Z,12nm,0.8s						
C24K	**Franklin Bluff**	**51.42**	**25**	P	**P**	**12 29 39.8**	**+1.9**
BVAR	**Borovoye Array**	**51.42**	**314**	P	**P**	**12 29 37.6**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=72,slow=9.3,SNR=3.4						
BVAR				PcP	**PcP**	**12 30 51.7**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=72,slow=3.3,SNR=3.9						
	comp=Z,3.5nm,0.8s						
BRVK	**Borovoye**	**51.48**	**314**	P	**P**	**12 29 39.4**	**+0.7**
GSI	**Gunungsitoli**	**51.71**	**240**	P	**P**	**12 29 39.8**	**-1.1**
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**12 29 42.7**	**0.0**
	comp=Z,1.0nm,0.8s,baz=262,slow=6.7,SNR=3.1						
	comp=Z,1.0nm,0.8s						
ARSB	**Arslanbob**	**52.16**	**298**	P	**P**	**12 29 44.7**	**+0.6**
ARSB				IAmb	IAmb	12 29 47.2	
	comp=Z,11nm,1.0s						
F25K	**Christian Rive**	**52.48**	**28**	P	**P**	**12 29 46.4**	**+0.5**
KK31	**Karatay Array**	**53.44**	**301**	P	**P**	**12 29 53.9**	**+0.5**
KK31				IAmb	IAmb	12 29 55.3	
	comp=Z,13nm,0.8s						
KKAR	**Karatay Array**	**53.44**	**301**	P	**P**	**12 29 53.9**	**+0.5**
WB0	**Warramunga Arr**	**54.42**	**187**	P	**P**	**12 30 00.6**	**0.0**
WRAB	**Tennant Creek**	**54.59**	**187**	P	**P**	**12 30 01.0**	**-0.8**
WR0	**Warramunga Arr**	**54.59**	**186**	P	**P**	**12 30 01.4**	**-0.4**
WB2	**Warramunga Arr**	**54.60**	**187**	P	**P**	**12 30 01.5**	**-0.4**
WRA	**Warramunga Arr**	**54.60**	**187**	P	**P**	**12 30 02.0**	**+0.1**
WRA	**Warramunga Arr**	**54.60**	**187**	P	**P**	**12 30 01.4**	**-0.5**
	comp=Z,24nm,0.7s,baz=1.2,slow=7.8,SNR=44						
WRA				PcP	**PcP**	**12 31 04.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=4.4,slow=3.9,SNR=2.2						
GAR	**Garm**	**54.80**	**296**	P	**P**	**12 30 03.5**	**0.0**
CHGR	**Chuyangaron**	**55.77**	**296**	P	**P**	**12 30 10.7**	**+0.4**
SIMJ	**Simiganj**	**55.88**	**296**	P	**P**	**12 30 11.4**	**+0.2**
SIMJ				IAmb	IAmb	12 30 12.8	
	comp=Z,14nm,0.8s						
I30M	**Mount Dempster**	**56.42**	**30**	P	**P**	**12 30 14.5**	**-0.2**
I30M				IAmb	IAmb	12 30 20.1	
	comp=Z,6.2nm,1.1s						
KBL	**Kabul**	**57.31**	**292**	P	**P**	**12 30 21.3**	**-0.3**
KBL				IAmb	IAmb	12 30 22.1	
	comp=Z,9.7nm,0.9s						
ARTI	**Arti**	**57.56**	**319**	P	**P**	**12 30 23.3**	**+0.6**
ARTI				IAmb	IAmb	12 30 23.7	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**58.32**	**187**	P	**P**	**12 30 28.1**	**-0.2**
ASAR	**Alice Springs**	**58.33**	**187**	P	**P**	**12 30 28.2**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=8.7,slow=7.2,SNR=20						
ASAR				PcP	**PcP**	**12 31 17.6**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=15,slow=6.8,SNR=2.3						
	comp=Z,7.3nm,0.8s						
ABKAR	**Akbulak array**	**58.68**	**311**	P	**P**	**12 30 31.1**	**+0.5**
MBWA	**Marble Bar**	**58.82**	**202**	P	**P**	**12 30 31.1**	**-0.7**
MBWA				IAmb	IAmb	12 30 34.8	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**59.17**	**202**	P	**P**	**12 30 33.7**	**-0.5**
PSA00				IAmb	IAmb	12 30 43.6	
	comp=Z,16nm,1.1s						
C36M	**Paulatuk**	**60.00**	**24**	P	**P**	**12 30 40.5**	**+1.2**

HEL 26 12:18:09.4±0.5, 67°.85N×20°.11E, h0km, ML1.0,

```
C36M                                   IAmb    IAmb    12 30 43.0
      comp=Z,4.3nm,0.9s
FORT  Forrest          66.10 191       P       P       12 31 21.2 +1.0
STKA  Stephens Creek   66.22 179       P       P       12 31 21.1 +0.2
STKA  Stephens Creek   66.22 179       P       P       12 31 20.5 -0.4
      comp=Z,7.0nm,0.8s,baz=344,slow=11,SNR=3.3
      comp=Z,7.0nm,0.8s
YKA   Yellowknife Ar   66.36  29       P       P       12 31 21.1 -0.5
      comp=Z,0.3nm,0.8s,baz=297,slow=6.7,SNR=4.6
      comp=Z,0.3nm,0.8s
MORW  Morawa           67.37 203       P       P       12 31 28.8 +0.4
MORW                                   IAmb    IAmb    12 31 36.6
      comp=Z,25nm,1.4s
FIA1  FINESS Array S   70.41 332       P       P       12 31 46.6 -0.3
FINES FINESS Array B   70.42 332       P       P       12 31 46.9  0.0
FINES FINESS Array B   70.42 332       P       P       12 31 46.2 -0.6
      comp=Z,1.8nm,0.6s,baz=50,slow=6.5,SNR=4.9
      comp=Z,1.8nm,0.6s
KBZ   Khabaz           71.65 311       P       P       12 31 55.0 +0.3
      comp=Z,8.1nm,0.8s,baz=47,slow=4.7,SNR=11
      comp=Z,8.1nm,0.8s
AKASG Malin Array Be   75.53 322       P       P       12 32 18.4 +1.1
AKASG Malin Array Be   75.53 322       P       P       12 32 17.0 -0.2
      comp=Z,3.5nm,0.5s,baz=50,slow=6.1,SNR=27
      comp=Z,3.5nm,0.5s
AKBB  Malin Array Si   75.53 322       P       P       12 32 17.8 +0.6
AKBB                                   IAmb    IAmb    12 32 18.5
      comp=Z,8.3nm,0.8s
HFS   Hagfors          75.80 335       P       P       12 32 16.8 -1.9
      comp=Z,1.7nm,0.7s,baz=46,slow=4.2,SNR=2.5
      comp=Z,1.7nm,0.7s
NC204 NORSAR Array S   75.92 337       P       P       12 32 20.3 +0.9
NC204                                  IAmb    IAmb    12 32 21.2
      comp=Z,13nm,1.1s
NB2   NORSAR Subarra   75.95 337       P       P       12 32 19.8 +0.2
      comp=Z,1.1nm,0.8s,baz=42,slow=5.9
NOA   NORSAR Array B   75.95 337       P       P       12 32 19.3 -0.3
      comp=Z,1.2nm,0.8s,baz=48,slow=5.2,SNR=4.7
      comp=Z,1.2nm,0.8s
NVAR  Mina Array Bea   77.23  52       P       P       12 32 29.4 +1.8
      comp=Z,1.3nm,0.9s,baz=272,slow=5.7,SNR=4.7
      comp=Z,1.3nm,0.9s
BURAR Bucovina Array   79.51 321       P       P       12 32 40.4 +0.7
BRTR  Keskin Array B   79.63 311       P       P       12 32 41.2 +0.6
      comp=Z,2.9nm,0.9s,baz=106,slow=4.9,SNR=7.8
      comp=Z,2.9nm,0.9s
RAYN  Ar Rayn          80.59 292       P       P       12 32 45.2 -0.6
RAYN                                   IAmb    IAmb    12 32 47.0
      comp=Z,8.0nm,0.8s
MTPU  Mount Pierson    81.37  50       P       P       12 32 50.5 +0.3
GERES GERESS Array B   84.16 328       P       P       12 33 03.6 -0.5
      comp=Z,1.4nm,0.6s,baz=29,slow=6.5,SNR=5.3
      comp=Z,1.4nm,0.6s
EKA   Eskdalemuir Ar   85.00 340       P       P       12 33 08.0 -0.1
      comp=Z,0.2nm,0.3s,baz=26,slow=4.7,SNR=2.5
      comp=Z,0.2nm,0.3s
TXAR  Lajitas Array    92.38  52       P       P       12 33 44.2 +0.4
      comp=Z,0.5nm,0.9s,baz=311,slow=5.9,SNR=5.1
      comp=Z,0.5nm,0.9s
QSPA  South Pole Qui  124.42 180       PKP     PKPdf   12 39 30.4 -0.3
      comp=Z,1.0nm,0.6s,baz=286,slow=1.1,SNR=14
H03N2 Juan Fernandez  147.74  99       T       T       15 25 17.5
      baz=289
H03N3 Juan Fernandez  147.75  99       T       T       15 25 18.5
      baz=289
H03N1 Juan Fernandez  147.75  99       T       T       15 25 27.0
      baz=289
```

IDC 26 12:21:39.0±916.0, 52°.85N×3°.95E, h0km, Error ellipse: s-maj=427.2km s-min=155.6km az=122.0, North Sea

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
I26DE FREYUNG INFRAS   7.36 119   I       I               13 00 54.0
      0.1nm,0.8s,baz=311,slow=314,SNR=2.5
I48TN KESRA INFRASON17.46 165     I       I               14 07 08.6
      0.1nm,1.4s,baz=347,slow=330,SNR=3.7
I31KZ AKTYUBINSK INF 33.00  72    I       I               15 47 30.0
      baz=299,slow=327,SNR=2.1
```

*GUC **26** 12:25:34.2±0.8, 34°.80S×70°.87W, h102km±3km, ML2.9*
*SJA **26** 12:25:34.0, 34°.82S×70°.87W, h86km, ML3.0*

ISC 26 12:25:34.0±1.5, 34°.80S±0°.04×70°.85W±0°.05, h100km±9km, n38, σ0°49/60, 4C, Chile-Argentina border region

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
BO02  Sierra Bellavi   0.05  81   i P     Pn              12 25 47.3 -0.7
BO02  Sierra Bellavi   0.05  81   eP      Pn              12 25 48.1  0.0
BO02                               eS      Sn              12 25 58.6 +0.1
BO01  Tunca            0.45 334   i P     Pn              12 25 48.6 -0.9
BO01  Tunca            0.45 334   eP      Pn              12 25 49.3 -0.2
BO01                               eS      Sn              12 26 01.1  0.0
BO01                               IAML                    12 26 02.3
      comp=N,214nm,0.2s
BO04  La Punta         0.83  14⇑  i P     Pn              12 25 52.9  0.0
BO04                               eS      Sn              12 26 07.3 +0.5
BO04                               IAML                    12 26 08.7
      comp=E,490nm,0.2s
GO05  Hualane          0.92 257   eP      Pn              12 25 53.3 -0.3
GO05                               eP                      12 26 07.6
GO05                               IAML                    12 26 09.2
      comp=N,251nm,0.1s
BO03  Pichilemu        0.97 288⇑  i P     Pn              12 25 54.5 +0.5
BO03                               eS      Sn              12 26 09.3 +0.1
BO03                               IAML                    12 26 12.1
      comp=E,159nm,0.4s
MT01  Popeta           0.99 340   i P     Pn              12 25 53.4 -1.0
MT01  Popeta           0.99 340   eP      Pn              12 25 54.1 -0.3
MT01                               eS      Sn              12 26 09.2 -0.5
MT01                               IAML                    12 26 11.0
      comp=E,386nm,0.2s
MT09  Talagante        1.03 353⇑  i P     Pn              12 25 54.9  0.0
MT09                               eS      Sn              12 26 10.8 +0.2
ML02  Panimavida       1.07 206   eP      Pn              12 25 55.3 +0.1
ML02                               eS      Sn              12 26 11.9 +0.8
ML02                               IAML                    12 26 12.8
      comp=E,568nm,0.3s
LMEL  Las Melosas      1.09  29   i P     Pn              12 25 55.5 -0.2
LMEL  Las Melosas      1.09  29⇑  i P     Pn              12 25 56.1 +0.5
LMEL                               eS      Sn              12 26 12.9 +1.0
LMEL                               IAML                    12 26 16.2
      comp=N,416nm,0.2s
MT13  San Alfonso      1.15  24   i P     Pn              12 25 56.3  0.0
MT13  San Alfonso      1.15  24   eP      Pn              12 25 56.8 +0.5
MT13                               IAML                    12 26 15.1
      comp=N,339nm,0.4s
MT15  Las Vizcachas    1.23  13   eP      Pn              12 25 57.4 +0.3
MT15                               eS      Sn              12 26 14.6 +0.1
MT15                               IAML                    12 26 16.3
      comp=E,546nm,0.3s
VA05  Santo Domingo    1.31 331   eP      Pn              12 25 57.9  0.0
VA05                               eS      Sn              12 26 16.2 +0.2
MT03  Universidad Ad   1.33  12   i P     Pn              12 25 57.9 -0.5
MT03  Universidad Ad   1.33  12   eP      Pn              12 25 58.4  0.0
MT03                               eS      Sn              12 26 17.0 +0.2
MT03                               IAML                    12 26 18.6
      comp=N,374nm,0.2s
MT16  CCHEN            1.40  11   eP      Pn              12 25 59.1  0.0
MT16                               eS      Sn              12 26 17.1 -0.9
MT16                               IAML                    12 26 19.5
      comp=N,73nm,0.5s
MT05  Renca            1.41   4   i P     Pn              12 25 59.1 -0.2
MT05  Renca            1.41   4   i P     Pn              12 25 59.5 +0.3
MT05                               eS      Sn              12 26 18.6 +0.3
MT05                               IAML                    12 26 21.3
      comp=E,435nm,0.2s
MT14  Cerro Calı¡n     1.42  10   eP      Pn              12 25 59.5  0.0
MT14                               eS      Sn              12 26 19.4 +0.7
MT14                               IAML                    12 26 20.4
      comp=E,356nm,0.4s
MT04  Ro Olivares      1.51  23   i P     Pn              12 26 00.4 -0.3
MT04  Ro Olivares      1.51  23   eP      Pn              12 26 01.1 +0.4
MT04                               eS      Sn              12 26 21.7 +0.8
MT04                               IAML                    12 26 25.4
      comp=E,143nm,0.3s
MT08  Bocatoma Ro      1.52  27   i P     Pn              12 26 01.3 +0.5
MT08  Bocatoma Ro      1.52  27   eP      Pn              12 26 01.2 +0.5
MT08                               eS      Sn              12 26 22.3 +1.4
FCH   Farellones       1.54  18   eP      Pn              12 26 01.1 -0.1
FCH                               eS      Sn              12 26 21.1 -0.5
FCH                               IAML                    12 26 24.1
      comp=N,112nm,0.2s
MT10  Hacienda Santa   1.54  10   eP      Pn              12 26 01.1 +0.1
MT10                               eS      Sn              12 26 21.7 +0.2
MT10                               IAML                    12 26 25.8
      comp=E,303nm,0.5s
PEL   Peldehue         1.66   5   eP      Pn              12 26 02.4 +0.1
PEL                               eS      Sn              12 26 24.1 +0.3
PEL                               IAML                    12 26 26.1
      comp=N,120nm,0.3s
ROCH  El Roble         1.83 356   eP                      12 26 04.5
ROCH                              eP      Pn              12 26 04.5 -0.2
ROCH                              IAML                    12 26 31.2
      comp=N,175nm,0.2s
ROCH                              IAML                    12 26 31.2
      comp=N,80nm,0.2s
BI02  San Fabin de     1.89 190   i P     Pn              12 26 05.1 -0.2
BI02  San Fabin de     1.89 190   eP      Pn              12 26 05.5 +0.2
BI02                              eS      Sn              12 26 29.1  0.0
VA01  Torpederas       1.89 339   i P     Pn              12 26 05.1 -0.2
VA01  Torpederas       1.89 339   eP      Pn              12 26 05.4 +0.2
VA01                              eS      Sn              12 26 28.8 -0.3
VA01                              IAML                    12 26 30.5
      comp=N,388nm,0.1s
RFA   San Rafael       1.96  90   i P     Pn              12 26 05.0 -1.1
VA03  San Esteban      2.05   7   eP      Pn              12 26 07.2 -0.1
VA03                              eS      Sn              12 26 32.6 -0.2
VA03                              IAML                    12 26 36.8
      comp=E,196nm,0.2s
DOCA  Reserva Natura   4.12  22   i P     Pn              12 26 34.4 -0.8
```

*IDC **26** 12:38:15.6±1.3, 17°.99S×178°.57W, h594km±9km, mb3.3/10, mbtmp4.2/12, Error ellipse: s-maj=37.6km s-min=11.6km az=153.0*

ISC 26 12:38:13.8±1.1, 18°.2S±0°.3×178°.4W±0°.2, h579km, n16, σ1°16/21, mb3.7/10, Fiji Islands region

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
MSVF  Nonsavu          3.40 276   P       P               12 39 34.7 +1.0
      85nm,0.6s,baz=141,slow=4.0,SNR=90
MSVF                              S       S               12 40 41.3 +2.4
      23nm,1.1s,baz=127,slow=20,SNR=9.9
DZM   Mont Dzumac     14.75 252   P       P               12 41 20.8 +0.4
      4.5nm,0.6s,baz=75,slow=20,SNR=0.9
WRA   Warramunga Arr  44.59 260   P       P               12 45 35.5 -0.2
      0.7nm,0.4s,baz=92,slow=7.7,SNR=34
WRA                               PcP     PcP             12 47 05.6 -0.4
      0.2nm,0.6s,baz=93,slow=3.3,SNR=7.0
WRA                               S       S               12 51 29.0 -1.5
      0.3nm,0.8s,baz=103,slow=9.3,SNR=1.8
      0.7nm,0.4s
ASAR  Alice Springs   44.73 254   P       P               12 45 37.3 +0.5
      5.1nm,0.4s,baz=93,slow=8.4,SNR=130
ASAR                              PcP     PcP             12 47 06.2 -0.3
      0.6nm,0.5s,baz=95,slow=3.7,SNR=5.3
ASAR                              S       S               12 51 29.7 -2.6
      0.8nm,0.8s,baz=93,slow=14,SNR=6.3
      5.1nm,0.4s
MJAR  Matsushiro Arr  68.10 323   P       P               12 48 16.5 -0.2
      2.5nm,0.9s,baz=154,slow=6.4,SNR=4.3
      2.5nm,0.9s
PETK  Petropavlovsk-  73.91 345   P       P               12 48 50.0 -0.3
      2.1nm,0.5s,baz=110,slow=6.7,SNR=9.7
      2.1nm,0.5s
NVAR  Mina Array Bea  79.59  44   P       P               12 49 22.1 +0.2
      1.1nm,0.6s,baz=242,slow=4.7,SNR=6.7
      1.1nm,0.6s
ILAR  Eielson Array   86.12  13   P       P               12 49 52.5 -1.1
      1.0nm,0.4s,baz=221,slow=5.0,SNR=28
      1.0nm,0.4s
TXAR  Lajitas Array   86.12  58   P       P               12 49 56.2 +1.6
      1.2nm,0.7s,baz=218,slow=6.3,SNR=18
      1.2nm,0.7s
PDAR  Pinedale Array  87.52  43   P       P               12 50 01.2 +0.1
      1.1nm,0.6s,baz=220,slow=3.0,SNR=12
      1.1nm,0.6s
CMAR  Chiang Mai Arr  88.97 290   P       P               12 50 09.2 +1.2
      0.3nm,0.6s,baz=114,slow=2.8,SNR=1.8
      0.3nm,0.6s
YKA   Yellowknife Ar  94.55  25   P       P               12 50 31.9 -0.7
      0.3nm,0.7s,baz=232,slow=5.4,SNR=4.6
      0.3nm,0.7s
BVAR  Borovoye Array 117.03 321   PKP     PKPdf           12 55 52.4 -0.9
      0.6nm,0.5s,baz=98,slow=2.0,SNR=3.5
ARCES ARCESS Array B 126.55 350   PKP     PKPdf           12 56 10.3 -0.9
      4.7nm,0.9s,baz=348,slow=2.1,SNR=4.3
BRTR  Keskin Array B 144.95 315   PKP     PKPdf           12 56 45.5 -0.6
      0.6nm,0.4s,baz=78,slow=1.9,SNR=4.5
GERES GERESS Array B 147.84 345   PKPbc   PKPbc           12 56 54.4  0.0
      1.8nm,0.6s,baz=19,slow=3.4,SNR=6.1
```

IDC 26 12:46:06.4±5.6, 17°.97N×145°.70E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=147.2km s-min=38.6km az=161.0, Mariana Islands

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
CMAR  Chiang Mai Arr  44.32 278   P       P               12 54 18.3 -0.3
      0.4nm,0.3s,baz=80,slow=8.0,SNR=5.0
      0.4nm,0.3s
MKAR  Makanchi Array  58.97 314   P       P               12 56 09.0 +1.2
      0.6nm,0.8s,baz=89,slow=7.8,SNR=5.4
      0.6nm,0.8s
KURBB Kurchatov Arra  61.86 318   P       P               12 56 27.6 +0.1
      1.3nm,0.6s,baz=96,slow=6.8,SNR=6.2
      1.3nm,0.6s
ILAR  Eielson Array   64.30  26   P       P               12 56 43.5  0.0
      0.4nm,0.6s,baz=260,slow=6.0,SNR=6.2
      0.4nm,0.6s
BVAR  Borovoye Array  67.03 321   P       P               12 57 00.5 -0.9
      1.7nm,0.5s,baz=93,slow=7.9,SNR=13
      1.7nm,0.5s
```

*IDC **26** 12:52:04.8±1.6, 6°.40S×142°.63E, h0km, mb3.5/3, mbtmp3.6/6, ML3.6/2, Error ellipse: s-maj=40.1km s-min=29.7km az=90.0*

ISC 26 12:52:04.7±0.9, 6°.38S±0°.08×142°.5E±0°.1, h10km, n7, σ2°54/9, New Guinea

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
JAY   Jayapura        4.25 335   Pn      Pn              12 53 08.2 -1.4
      3.0nm,0.3s,baz=168,slow=9.7,SNR=24
JAY                               Sn      Sn              12 53 56.6 -2.8
      5.2nm,0.3s,baz=282,slow=19,SNR=5.6
PMG   Port Moresby    5.49 123   Pn      Pn              12 53 25.5 -1.0
      5.8nm,0.5s,baz=347,slow=14,SNR=2.3
PMG                               Sn      Sn              12 54 28.9 -0.8
      3.7nm,0.3s,baz=260,slow=22,SNR=7.8
WRA   Warramunga Arr 15.65 210    Pn      Pn              12 55 46.3 +0.8
      0.3nm,0.3s,baz=29,slow=14,SNR=13
WRA                               Sn      Sn              12 58 35.5 -3.6
      0.1nm,0.3s,baz=31,slow=25,SNR=2.5
      0.6nm,0.4s
ASAR  Alice Springs  19.08 205    P       Pn              12 56 30.1 +1.7
      0.2nm,0.3s,baz=32,slow=9.8,SNR=20
      2.2nm,0.8s
FITZ  Fitzroy Crossi 20.17 233    P       Pn              12 56 41.7 +0.3
      0.7nm,0.4s,baz=56,slow=12,SNR=3.2
      0.7nm,0.4s
MKAR  Makanchi Array 75.00 322    P       P               13 03 48.3 +1.8
      0.2nm,0.7s,baz=101,slow=7.5,SNR=2.7
      0.2nm,0.7s
BVAR  Borovoye Array 84.48 325    P       P               13 04 40.5 +2.8
      0.6nm,0.6s,baz=127,slow=4.3,SNR=3.7
      0.6nm,0.6s
```

IDC 26 13:06:20.6±999.0, 58°.38N×21°.62E, h0km, Error ellipse: s-maj=362.3km s-min=193.1km az=82.0, Baltic States-Belarus-Northwestern Russia

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
I43RU DUBNA INFRASON 8.55  95     I       I               14 00 10.0
      0.4nm,0.8s,baz=287,slow=312,SNR=1.9
I31KZ AKTYUBINSK INF 22.41 95     I       I               15 21 45.0
      baz=305,slow=320
I46RU ZALESOVO INFRA34.31  69     I       I               16 33 30.0
      baz=300,slow=328,SNR=1.9
```

*IDC **26** 13:28:34.8±0.9, 1°.70S×124°.24E, h0km, mb3.7/8, mbtmp3.8/10, ML3.8/2, MS3.1/1, Error ellipse: s-maj=35.5km s-min=16.9km az=72.0*
*DJA **26** 13:28:38.2±0.3, 2°.S±4°.×12°.4E±°, h10km, M4.3/9, MLv4.3/9*
*NEIC **26** 13:28:39.7±1.1, 1°.73S±0°.08×124°.30E±0°.07, h32km±7km, mb4.0/9, Error ellipse: s-maj=12.3km s-min=9.3km az=192.0*

ISC 26 13:28:39.9±0.6, 1°.81S±0°.05×124°.32E±0°.05, h35km, n36, σ1°33/39, mb3.7/10, Southern Molucca Sea

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
SANI  Sanana           1.69  98   P       Pn              13 29 06.4 -0.5
SANI                              S       Sn              13 29 28.2 +0.9
LUWI  Luwuk            1.73 296   Pn      Pn              13 29 06.6 -0.8
LUWI  Luwuk            1.73 296   P       Pn              13 29 06.0 -1.4
LUWI                              S       Sn              13 29 30.4 +2.2
KMSI  Cibinong         2.39 352   P       Pn              13 29 20.0 +3.4
KDI   Kendari          2.72 218   P       Pn              13 29 20.3 -0.9
APSI  Ampana           2.81 289   P       Pn              13 29 22.4  0.0
NLAI  Namlea           3.12 117   P       Pn              13 29 28.7 +2.1
MRSI  Marisa           3.29 314   P       Pn              13 29 28.4 -0.6
TNTI  Ternate          3.98  50   Pn      Pn              13 29 35.9 -2.7
AAI   Ambon            4.30 116   P       Pn              13 29 54.4 +12
TOLI2 Tolitoli         4.58 309   Pn      Pn              13 29 47.2 +0.5
TTSI  Tana Toraja      4.66 255   P       Pn              13 29 49.2 +1.4
KAPI  Kappang          5.56 235           Pn              13 30 00.8 +0.6
KAPI  Kappang          5.56 235   Pn      Pn              13 30 01.0 +0.8
      4.6nm,0.3s,baz=70,slow=2.2,SNR=22
KAPI                              Sn      Sn              13 31 01.0 -1.8
      5.9nm,0.3s,baz=156,slow=23,SNR=7.9
      14nm,0.2s
FAKI  Fak Fak          8.00  98   Pn      Pn              13 30 33.8  0.0
MTN   Manton Dam      12.87 149   Pn      Pn              13 31 42.9 +2.4
FITZ  Fitzroy Crossi  16.24 175   Pn      Pn              13 32 24.2 -1.3
FITZ  Fitzroy Crossi  16.24 175   Pn      Pn              13 32 25.4  0.0
      0.2nm,0.3s,baz=4.7,slow=13,SNR=6.7
      4.3nm,1.0s
WB0   Warramunga Arr  20.39 152   P       P               13 33 13.9  0.0
WRAB  Tennant Creek   20.51 152   P       P               13 33 15.3 +0.1
WRAB                              IAmb    IAmb            13 33 25.1
      comp=Z,6.2nm,0.8s
WRA   Warramunga Arr  20.51 152   P       P               13 33 15.0 -0.3
WRA   Warramunga Arr  20.51 152   P       P               13 33 15.9 +0.7
      comp=Z,8.0nm,0.8s,baz=329,slow=10.0,SNR=16
WRA                               LR      LR              13 42 28.0
      comp=Z,46nm,18.8s,baz=303,slow=40
      comp=Z,8.0nm,0.8s
WB2   Warramunga Arr  20.52 152   P       P               13 33 15.6 +0.3
WB2                               IAmb    IAmb            13 33 25.5
      comp=Z,5.9nm,0.8s
WR0   Warramunga Arr  20.62 152   P       P               13 33 16.9 +0.5
AS31  Alice Springs   23.63 158   P       P               13 33 48.5 +0.5
AS31                              IAmb    IAmb            13 33 55.8
      comp=Z,1.7nm,0.8s
ASAR  Alice Springs   23.63 158   P       P               13 33 48.7 +0.7
ASAR  Alice Springs   23.63 158   P       P               13 33 49.1 +1.1
      comp=Z,2.3nm,0.9s,baz=324,slow=7.4,SNR=30
ASAR                              PcP     PcP             13 37 32.9 +0.5
      comp=Z,0.3nm,0.6s,baz=346,slow=2.2,SNR=4.8
      comp=Z,2.3nm,0.9s
CMAR  Chiang Mai Arr  32.08 310   P       P               13 35 02.4 -1.5
      comp=Z,0.7nm,0.4s,baz=116,slow=8.7,SNR=7.2
      comp=Z,0.7nm,0.4s
KSRS  Korea Array     39.21   5   P       P               13 36 04.7 -0.1
      comp=Z,0.5nm,0.6s,baz=184,slow=9.0,SNR=6.8
      comp=Z,0.5nm,0.6s
KLR   Kul'dur         51.24   6   P       P               13 37 40.0 -0.1
      comp=Z,0.4nm,0.3s,baz=180,slow=1.0,SNR=1.9
      comp=Z,0.4nm,0.3s
MKAR  Makanchi Array  60.84 328   P       P               13 38 46.7 -2.1
MKAR  Makanchi Array  60.84 328   P       P               13 38 47.1 -1.6
      comp=Z,0.3nm,0.5s,baz=124,slow=7.2,SNR=6.3
      comp=Z,0.3nm,0.5s
ZALV  Zalesovo Beam   64.50 335   P       P               13 39 13.3 +0.3
      comp=Z,0.5nm,0.7s,baz=141,slow=7.1,SNR=1.9
      comp=Z,0.5nm,0.7s
KURBB Kurchatov Arra  65.18 330   P       P               13 39 16.0 -1.5
      comp=Z,0.2nm,0.3s,baz=110,slow=8.0,SNR=4.0
      comp=Z,0.2nm,0.3s
KURK  Kurchatov       65.19 330   P       P               13 39 15.9 -1.7
KURK                              IAmb    IAmb            13 39 53.5
      comp=Z,2.8nm,1.4s
TIXI  Tiksi           73.39   2   P       P               13 40 07.6 -0.3
TIXI                              IAmb    IAmb            13 40 13.3
      comp=Z,1.5nm,0.8s
```

*IDC **26** 13:46:36.0±1.3, 0°.42S×98°.59E, h0km, mb3.9/11, mbtmp3.8/13, ML3.6/2, MS2.7/3, Error ellipse: s-maj=49.3km s-min=15.9km az=61.0*
*DJA **26** 13:46:39.7±0.5, 0°.S±4°.×9°.9E±°, h10km, M3.9/6, MLv3.9/6*
*NEIC **26** 13:46:42.1±1.5, 0°.4S±0°.1×98°.58E±0°.06, h37km±10km, mb4.2/6, Error ellipse: s-maj=20.4km s-min=5.7km az=199.0*

ISC 26 13:46:40.3±0.7, 0°.41S±0°.06×98°.50E±0°.06, h32km, n44, σ1°08/37, mb4.1/15, Southern Sumatera

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                  Op      ISC             h m s     ISC
PBSI  Pulau Batu       0.41 327   P       Pb              13 46 46.9 -2.6
PBSI                              S       Sb              13 46 54.5 -1.4
SISI  Saibi            1.09 147   P       Pn              13 46 58.9 -0.4
MNSI  Mandailing Nat   1.61  42   P       Pn              13 47 06.1 -0.4
MNSI                              S       Sn              13 47 26.2 +0.1
PPI   Padang Panjang   1.89  92   P       Pb              13 47 12.3 -1.9
GSI   Gunungsitoli     1.94 331           Pn              13 47 11.9 +0.9
GSI   Gunungsitoli     1.94 331   P       Pb              13 47 13.7 -1.3
BKNI  Bangkinang       2.64  74   Pn      Pn              13 47 20.2 -0.4
BKNI  Bangkinang       2.64  74   P       Pn              13 47 22.8 +2.1
RPSI  Rantau Prapat    3.11   8           Pn              13 47 27.2 +0.1
PSI   Prapat           3.21   8   Pn      Pn              13 47 27.0 -1.7
      3.6nm,0.3s,baz=153,slow=12,SNR=5.7
PSI                               LR      LR              13 48 44.1
      comp=Z,115nm,18.5s,baz=333,slow=41
      4.3nm,0.3s
MYKOM Kota Tinggi      5.77  68   Pn      Pn              13 48 03.5 -0.3
KULM  Kulim            6.05  21   Pn      Pn              13 48 08.7 +1.1
CMAR  Chiang Mai Arr  18.75   1   P       Pn              13 50 57.4  0.0
      0.1nm,0.3s,baz=181,slow=12,SNR=6.7
CMAR                              LR      LR              13 57 28.0
      comp=Z,11nm,19.4s,baz=115,slow=35
      0.7nm,0.5s
TOLI2 Tolitoli        22.33  86   P       P               13 51 35.4 -0.2
H08S2 Diego Garcia H  26.91 254   T       T               14 20 04.6
      baz=76,slow=76,SNR=66
H08S3 Diego Garcia H  26.91 254   T       T               14 20 08.1
      baz=76,slow=76,SNR=90
H08S1 Diego Garcia H  26.93 254   T       T               14 20 09.1
      baz=76,slow=76,SNR=43
NWAO  Narrogin (SRO)  36.84 153   LR      LR              14 08 53.1
      comp=Z,26nm,18.9s,baz=57,slow=36
WB0   Warramunga Arr  40.06 121   P       P               13 54 12.0 -1.0
WB0                               IAmb    IAmb            13 54 15.2
      comp=Z,5.1nm,1.1s
WRA   Warramunga Arr  40.09 121   P       P               13 54 12.7 -0.5
      comp=Z,1.1nm,0.7s,baz=301,slow=9.0,SNR=7.5
      comp=Z,1.1nm,0.7s
WRAB  Tennant Creek   40.09 121   P       P               13 54 13.1 -0.2
WRAB                              IAmb    IAmb            13 54 20.1
      comp=Z,8.4nm,1.4s
WB2   Warramunga Arr  40.10 121   P       P               13 54 12.9 -0.4
WB2                               IAmb    IAmb            13 54 16.4
      comp=Z,5.7nm,1.2s
ASAR  Alice Springs   41.40 127   P       P               13 54 24.0  0.0
      comp=Z,0.7nm,0.7s,baz=303,slow=7.8,SNR=11
ASAR                              PcP     PcP             13 56 22.8 +0.9
      comp=Z,0.4nm,0.7s,baz=298,slow=2.4,SNR=4.3
      comp=Z,0.7nm,0.7s
KSRS  Korea Array     46.46  33   P       P               13 55 04.4 +0.1
      comp=Z,0.9nm,0.6s,baz=231,slow=8.4,SNR=5.4
      comp=Z,0.9nm,0.6s
SONM  Songino Array   48.54   7   P       P               13 55 21.6 +1.1
SONM  Songino Array   48.54   7   P       P               13 55 20.6 +0.1
      comp=Z,1.1nm,0.6s,baz=191,slow=8.7,SNR=9.4
      comp=Z,1.1nm,0.6s
MK31  Makanchi Array  49.11 345   P       P               13 55 26.5 +1.7
MK31                              IAmb    IAmb            13 55 27.2
      comp=Z,3.4nm,1.4s
MKAR  Makanchi Array  49.11 345   P       P               13 55 25.7 +0.9
MKAR  Makanchi Array  49.11 345   P       P               13 55 26.5 +1.7
      comp=Z,1.0nm,0.5s,baz=161,slow=9.3,SNR=24
      comp=Z,1.0nm,0.5s
STKA  Stephens Creek  51.32 132   P       P               13 55 41.5 -0.2
      comp=Z,2.5nm,0.8s,baz=297,slow=11,SNR=3.4
      comp=Z,2.5nm,0.8s
USRK  Ussuriysk Ar.   53.49  30   P       P               13 55 58.5 +0.9
KURBB Kurchatov Arra  53.62 344   P       P               13 55 58.8 +0.4
      comp=Z,0.5nm,0.5s,baz=165,slow=7.3,SNR=6.6
      comp=Z,0.5nm,0.5s
```

ZALV	Zalesovo Beam	55.35	350	P	P	13 56 12.3	+1.3
ZALV	Zalesovo Beam	55.35	350	P	P	13 56 11.9	+1.0
	comp=Z,1.6nm,0.7s,baz=167,slow=7.0,SNR=7.5 comp=Z,1.6nm,0.7s						
BVAR	Borovoye Array	58.19	340	P	P	13 56 31.2	+0.1
	comp=Z,1.1nm,0.8s,baz=188,slow=7.1,SNR=2.3 comp=Z,1.1nm,0.8s						
H04N2	CROZET ISLANDS	61.20	215	T	T	15 03 05.0	
	baz=56,slow=75,SNR=70						
H04N1	CROZET ISLANDS	61.22	215	T	T	15 03 05.3	
	baz=56,slow=75,SNR=57						
H04N3	CROZET ISLANDS	61.22	215	T	T	15 03 05.5	
	baz=56,slow=75,SNR=62						
H04S1	CROZET ISLANDS	61.52	215	T	T	15 03 25.1	
	baz=56						
H04S3	CROZET ISLANDS	61.53	215	T	T	15 03 28.1	
	baz=56						
H04S2	CROZET ISLANDS	61.54	215	T	T	15 03 30.3	
	baz=56						
SEY	Seymchan	74.73	23	P	P	13 58 16.5	-0.3
	comp=Z,0.6nm,0.6s,baz=262,slow=6.3,SNR=4.2 comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	82.02	332	P	P	13 58 57.6	+0.6
FINES	FINESS Array B	82.02	332	P	P	13 58 57.9	+0.9
	comp=Z,2.3nm,1.0s,baz=127,slow=5.9,SNR=5.2 comp=Z,2.3nm,1.0s						

NEIC ***26*** *13:58:15.0±0.7, 33°.231N±0°.010×116°.74W±0°.01, h15km±5km, Error ellipse: s-maj=1.6km s-min=1.5km az=126.0*

PAS 26 13:58:15.7±1.0, 33°.226N±0°.010×116°.75W±0°.01, h10km±7km, ML3.3/282, ML3.2/36(NEIC), Error ellipse: s-maj=1.5km s-min=1.5km az=85.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUEM	Julian Eagle M	0.19	139		Pg	13 58 19.9	0.0
JUEM					Sg	13 58 22.7	0.0
BZNA	Buzz No.'s Pla	0.27	14		Pg	13 58 21.1	-0.2
BZNA					Sg	13 58 25.0	-0.1
DPP	Dos Picos Cty	0.28	216		Pg	13 58 21.5	+0.1
DPP					Sg	13 58 25.6	+0.5
FRD	Ford Ranch, An	0.29	24		Pg	13 58 21.4	-0.3
FRD					Sg	13 58 25.0	-0.7
EML	El Monte Cty P	0.34	194		Sg	13 58 27.2	+0.1
GORC	Green Oak Ranc	0.41	260		Pg	13 58 23.6	-0.2
GORC					Sg	13 58 29.5	+0.3
SLH	Sleepy Hollow	0.41	94		Pg	13 58 23.8	-0.1
SLH					Sg	13 58 29.5	+0.1
MONP2	Monument Peak	0.43	141		Sg	13 58 29.9	0.0
GVDA	Garner Valley	0.45	8		Pg	13 58 24.2	-0.4
GVDA					Sg	13 58 30.2	-0.3
CPE	Camp Elliot	0.45	222		Pg	13 58 24.4	-0.2
CPE	Camp Elliot	0.45	222	IAML		13 58 30.9	
	comp=N,7μm,0.3s						
CPE				IAML		13 58 31.1	
	comp=E,8μm,0.2s						
PFO	Pinyon Flats O	0.45	32		Sg	13 58 29.9	-0.8
PFO	Pinyon Flats O	0.45	32	Pg	Pg	13 58 24.1	-0.6
PFO				IAML		13 58 30.4	
	comp=E,4μm,0.5s						
PFO				IAML		13 58 30.5	
	comp=E,1μm,0.4s						
BACC	Bachelor Mtn.	0.46	328		Sg	13 58 30.6	-0.2
DGR	Domenigoni Val	0.48	333		Sg	13 58 30.8	-0.6
MTRP	Mission Trails	0.48	213		Pg	13 58 24.8	-0.3
MTRP					Sg	13 58 31.4	0.0
POB	Polly Butte	0.48	342		Pg	13 58 24.7	-0.5
POB					Sg	13 58 31.6	0.0
PMD	Palm Desert	0.52	36		Sg	13 58 31.6	-1.2
HMTC	Hemet	0.53	336		Pg	13 58 25.5	-0.5
HMTC					Sg	13 58 32.4	-0.6
MURC	Murrieta	0.53	315		Sg	13 58 33.2	+0.2
BAR	Barrett	0.55	173		Sg	13 58 33.0	-0.6
SDMC	San Diego Miss	0.55	217		Pg	13 58 26.1	-0.3
SDMC					Sg	13 58 33.5	-0.1
DUZA	Dulzura	0.62	182		Pg	13 58 27.0	-0.7
DUZA					Sg	13 58 35.2	-0.6
OLP	Otay Lakes Par	0.64	194		Sg	13 58 35.9	-0.5
SALN	Salton City	0.64	85		Sg	13 58 36.8	+0.3
TKX	Tecate	0.67	170		Pg	13 58 27.7	-0.9
TKX					Sg	13 58 36.4	-1.0
TKX	Tecate	0.67	170	IAML		13 58 36.7	
	comp=E,2μm,0.3s						
TKX				IAML		13 58 37.5	
	comp=N,1μm,0.1s						
ELS	Elsinore Mount	0.71	307		Pg	13 58 28.4	-1.0
ELS					Sg	13 58 37.5	-1.2
ELS	Elsinore Mount	0.71	307	IAML		13 58 38.0	
	comp=N,411nm,0.4s						
ELS				IAML		13 58 40.1	
	comp=E,448nm,0.2s						
BBSC	Beaumont Base	0.72	344		Pg	13 58 28.7	-1.0
BBSC					Sg	13 58 39.6	+0.5
CRR	Carrizo Plain	0.74	117		Pg	13 58 29.8	-0.1
PEC	Perris	0.75	333		Sg	13 58 39.3	-0.7
TJX	Tijuana	0.76	200		Pg	13 58 29.9	-0.5
TJX					Sg	13 58 40.6	+0.3
CTCC	Cactus City	0.76	56		Sg	13 58 40.2	-0.2
ERRC	Elmore Ranch	0.78	98		Pg	13 58 30.9	+0.1
ERRC					Sb	13 58 41.8	-0.2
IKP	In-Ko-Pah, Jac	0.79	137		Pg	13 58 30.4	-0.5
SUP	Superstition M	0.82	109		Sg	13 58 42.4	+0.2
RMX	La Rumorosa	0.84	138		Pb	13 58 32.4	0.0
RMX					Sb	13 58 44.3	+0.5
SWSC	Sam W. Stewart	0.84	109		Pg	13 58 31.1	-0.9
CTW	Cottonwood Mou	0.86	58		Pg	13 58 31.6	-0.7
BOMB	Bombay Beach	0.86	80		Sb	13 58 44.1	-0.3
RSBC	Riverside Bore	0.89	327		Pg	13 58 31.7	-1.1
RSBC					Sg	13 58 43.2	-1.2
RSBC	Riverside Bore	0.89	327		Pg	13 58 31.7	-1.1
RSBC					Sg	13 58 43.9	-0.6
BLAC	Blackrock camp	0.89	19		Pn	13 58 43.6	+9.2
YUH	Yuha Desert	0.90	130		Pg	13 58 32.5	-0.6
YUH					Pn	13 58 44.1	+10
YUH	Yuha Desert	0.90	130	IAML		13 58 45.3	
	comp=E,492nm,0.3s						
YUH				IAML		13 58 46.1	
	comp=N,493nm,0.3s						
CBX	Cerro Bola	0.91	176		Pg	13 58 31.9	-1.4
CBX	Cerro Bola	0.91	176		Pn	13 58 44.4	+10
CBX	Cerro Bola	0.91	176	IAML		13 58 44.9	
	comp=N,1μm,0.2s						
CBX				IAML		13 58 47.0	
	comp=E,1μm,0.5s						
SVD	Seven Oaks Dam	0.93	342		Pg	13 58 32.6	-0.9
SVD					Sg	13 58 45.2	-0.5
RVR	Riverside	0.93	326		Pg	13 58 32.2	-1.4
RVR					Sg	13 58 44.0	-1.7
COK2	Cook Ranch 2	0.93	113		Pg	13 58 32.9	-0.8
COK2					Sb	13 58 46.5	+0.1
CRNC	Corona	0.94	314		Sg	13 58 44.7	-1.3
FRK	Frink	0.94	79		Pg	13 58 32.2	-1.7
FRK					Sg	13 58 44.5	-1.7
WESC	Westside Schoo	0.97	118		Pg	13 58 33.6	-0.8
BELC	Belle Mtn. Jos	0.99	39		Sg	13 58 46.7	-1.2
BC3	Big Chuckawall	1.16	68		Pb	13 58 36.0	-1.9
ESJX	Sierra Juarez	1.39	151		Pn	13 58 40.4	-0.9
ESJX				IAML		13 59 00.3	
	comp=N,399nm,0.1s						
CIAC	Catalina I. Ai	1.41	278		Pn	13 58 40.3	-1.1
CPBX	Cerro Prieto	1.46	123		Pn	13 58 41.3	-0.8
PASC	Pasadena Art C	1.52	309		Pn	13 58 42.3	-0.7
PASC				IAML		13 59 03.7	
	comp=N,201nm,0.6s						
PASC				IAML		13 59 04.1	
	comp=E,220nm,0.4s						
GLA	Glamis	1.62	96		Pn	13 58 42.1	-2.2
BLYC	Blythe	1.93	74		Pn	13 58 46.7	-1.9
VTX	Valle De La Tr	2.00	156		Pn	13 58 49.2	-0.4
GSC	Goldstone, Bar	2.07	359		Pn	13 58 49.9	-0.7
GSC				IAML		13 59 28.1	
	comp=E,128nm,0.5s						
CCAC	Calif City Air	2.19	332	Pn	Pn	13 58 51.5	-0.7
CCAC				IAML		13 59 24.6	
	comp=E,130nm,0.5s						
CCAC				IAML		13 59 25.1	
	comp=N,140nm,0.4s						
113A	Mohawk Valley,	2.55	100	Pn	Pn	13 58 56.5	-0.6
SFX	San Felipe	2.71	143	Pn	Pn	13 58 59.4	+0.1
BCW	Bitter Crk WRg	2.80	308		Pn	13 59 00.7	+0.1
BCW				IAML		13 59 36.2	
	comp=N,118nm,0.6s						
V12A	Nelson	2.95	32	Pn	Pn	13 59 00.9	-1.7
GWY	Greenwater Val	2.95	1	Pn	Pn	13 59 01.3	-1.5
W13A	Hualapai Mount	3.02	51		Pn	13 59 02.6	-1.1
PIX	Pinacate	3.24	120	Pn	Pn	13 59 05.7	-0.9
TPNV	Topopah Spring	3.74	6		Pn	13 59 12.6	-1.0
DSP	Deep Springs	4.25	347		Pn	13 59 20.1	-0.4
X16A	Lo Mia Camp, P	4.57	73	Pn	Pn	13 59 24.7	-0.4
WUAZ	Wupatki	5.00	61	Pn	Pn	13 59 30.3	-0.6

IDC ***26*** *13:59:47.9±2.4, 2°.67N×71°.98W, h0km, mb3.2/1, mbtmp3.5/2, ML2.7/1, Error ellipse: s-maj=104.7km s-min=46.5km az=65.0*

RSNC ***26*** *13:59:57.4±0.0, 3°N±2°×7°6W±°, h0km±3km, M3.0, ML2.6*

ISC 26 13:59:57.1±0.7, 3°.06N±0°.02×75°.94W±0°.02, h10km, n23, σ1§14/43, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	Betania	0.62	127	P	Pg	14 00 08.5	-0.6
BETC				S	Sg	14 00 16.5	-0.8
JAMC	Jamundi, Valle	0.75	282	P	Pg	14 00 11.1	-0.5
JAMC				S	Sg	14 00 21.4	-0.1
POPC	Popayan, Colom	0.90	235	P	Pg	14 00 13.3	-1.1
POPC				S	Sg	14 00 25.1	-1.0
GARC	Garzon, Huila	0.97	153	P	Pg	14 00 15.0	-0.8
GARC				S	Sg	14 00 28.3	-0.2
YOTC	Yotoco, Valle	1.01	336	P	Pg	14 00 14.7	-1.8
YOTC				S	Sg	14 00 27.5	-2.1
ORTC	Ortega, Tolima	1.09	39	P	Pb	14 00 17.1	-1.0
ORTC				S	Sg	14 00 31.9	-0.5
PRAC	Prado	1.24	58	P	Pn	14 00 19.4	-1.1
PRAC				S	Sb	14 00 36.2	-0.4
FLOC	Florencia	1.49	169	P	Pn	14 00 23.9	-0.1
FLOC				S	Sb	14 00 43.8	-0.1
URMC	La Uribe, Meta	1.57	83	P	Pn	14 00 25.3	+0.2
URMC				S	Sn	14 00 45.6	+0.1
BBAC	Balboa, Cauca	1.66	232	P	Pn	14 00 27.0	+0.5
BBAC				S	Sb	14 00 49.1	+0.1
MALC	Bahia Malaga	1.69	304	P	Pb	14 00 27.7	-0.5
MALC				S	Sg	14 00 53.1	+1.7
PLMC	San Jos del P	1.87	349	P	Pn	14 00 28.8	-0.4
PLMC				S	Sn	14 00 54.1	+1.2
GUY2C	Guyana, Caldas	2.23	15	P	Pb	14 00 37.1	-0.6
GUY2C				S	Sb	14 01 05.8	+0.2
MACC	Macarena, Meta	2.28	113	P	Pb	14 00 36.9	-1.4
MACC				S	Sb	14 01 06.2	-0.3
GCUF	Volcan Galeras	2.30	218	P	Pg	14 00 39.8	-1.4
GCUF				S	Sg	14 01 10.8	-0.2
ROSC	El Rosal	2.40	42	Pn	Pb	14 00 40.0	-0.6
	19nm,0.3s,baz=146,slow=10,SNR=12						
ROSC				Sn	Sb	14 01 12.7	+2.4
	22nm,0.3s,baz=133,slow=19,SNR=5.7 42nm,0.4s						
ROSC	El Rosal	2.40	42	P	Pb	14 00 39.5	-1.1
ROSC				S	Sg	14 01 13.8	-0.4
VILC	Villavicencio,	2.47	65	P	Pb	14 00 40.9	-0.8
VILC				S	Sb	14 01 13.9	+1.6
CHIC	Chingaza	2.70	55	P	Pn	14 00 42.7	+1.8
CHIC				S	Sb	14 01 19.3	+0.2
NORC	Norcasia	2.71	23	P	Pb	14 00 44.8	-0.9
NORC				S	Sb	14 01 18.2	-0.9
CBOC	Ciudad Bolivar	2.79	358	P	Pb	14 00 45.4	-1.8
CBOC				S	Sb	14 01 20.4	-1.1
YKA	Yellowknife Ar	65.86	341	P	P	14 10 45.6	+3.0
	0.2nm,0.7s,baz=142,slow=5.8,SNR=4.4 0.2nm,0.7s						
ASAR	Alice Springs	144.62	232	PKPbc	PKPbc	14 19 34.0	+0.4
	0.4nm,1.0s,baz=116,slow=3.9,SNR=7.4						

NAO ***26*** *14:30:51.2, 35°.08N×24°.47E, h33km, mb4.6*

IDC ***26*** *14:31:15.7±0.8, 38°.22N×23°.36E, h0km, mb3.7/12, mbtmp3.7/16, ML3.4/2, MS3.4/1, Error ellipse: s-maj=18.1km s-min=15.6km az=152.0*

ISK ***26*** *14:31:16.3, 38°.27N×23°.35E, h2km, ML3.6/27*

ATH ***26*** *14:31:17.1, 38°.21N×23°.43E, h13km±1km, ML3.5/19, Manual Solution by A.Papageorgiou First location: 2019/02/26 14:31:35, This location: 2021/03/24 12:26:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

THE ***26*** *14:31:17.2, 38°.21N×23°.40E, h4km±1km, ML3.5/18, Error ellipse: s-maj=1.5km s-min=0.4km az=100.0*

ISC 26 14:31:17.3±0.9, 38°.21N±0°.02×23°.40E±0°.02, h11km±6km, n97, σ1§08/148, mb3.7/13, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELFA	Athens-Elefsin	0.20	145	P	Pg	14 31 21.1	-0.5
ELFA				S	Sg	14 31 24.1	-0.4
ACHAR	Athens-Acharne	0.30	116	P	Pg	14 31 23.4	0.0
ACHAR				S	Sg	14 31 27.3	-0.1
ATH	Athens Observa	0.34	133	P	Pg	14 31 24.0	-0.2
ATH				S	Sg	14 31 29.0	+0.2
	10μm,0.4s						
ATH	Athens Observa	0.34	133	P	Pg	14 31 24.0	-0.2
ATH				S	Sg	14 31 28.9	+0.2
NOAC	Athens-Thissio	0.34	133	P	Pg	14 31 23.8	-0.4
NOAC				S	Sg	14 31 28.6	-0.1
ATHP	Athens-Neo Psi	0.36	125	P	Pg	14 31 24.1	-0.5
ATHP				S	Sg	14 31 28.5	-0.8
ATHU	Athens Univers	0.39	128	P	Pg	14 31 24.5	-0.5
ATHU				S	Sg	14 31 29.5	-0.7
PTL	Penteli	0.40	113	P	Pg	14 31 25.3	0.0
PTL				S	Sg	14 31 30.9	+0.3
	7μm,0.5s						
PTL	Penteli	0.40	113	P	Pg	14 31 24.7	-0.5
PTL				S	Sg	14 31 29.5	-1.0
DION	Dionisos Attik	0.44	107	P	Pg	14 31 25.9	-0.1
DION				S	Sg	14 31 32.2	+0.3
	5μm,0.3s						
DION	Dionisos Attik	0.44	107	P	Pg	14 31 25.6	-0.4
DION				S	Sg	14 31 31.2	-0.7
VLY	Voula,Athens	0.47	138	P	Pg	14 31 26.5	-0.1
VLY				S	Sg	14 31 32.8	0.0
	10μm,0.5s						
VLY	Voula,Athens	0.47	138	P	Pg	14 31 26.2	-0.3
VLY				S	Sg	14 31 31.9	-0.9
LKR	Lokris	0.54	325	P	Pg	14 31 27.2	-0.7
LKR				S	Sb	14 31 35.8	-0.8
MET4	Agioi Theodoro	0.58	180	P	Pg	14 31 28.4	-0.3
MET4				S	Sg	14 31 36.7	+0.4
KYMI	Kymi, Euboea I	0.70	52	P	Pg	14 31 30.3	-0.5
KYMI				S	Sb	14 31 41.0	-0.1
	5μm,0.5s						
KYMI	Kymi, Euboea I	0.70	52	P	Pg	14 31 30.4	-0.5
KYMI				S	Sg	14 31 40.4	+0.4
LVRA	Laurium	0.72	133	P	Pg	14 31 31.0	-0.2
LVRA				S	Sg	14 31 40.0	-0.6
DLFA	Delphi	0.76	291	P	Pg	14 31 31.7	-0.3
DLFA				S	Sb	14 31 42.9	0.0
AXAR	Agios Charalam	0.81	314	P	Pg	14 31 32.5	-0.4
AXAR				S	Sb	14 31 45.0	+0.8
	7μm,0.8s						
AXAR	Agios Charalam	0.81	314	P	Pg	14 31 32.3	-0.6
AXAR				S	Sb	14 31 45.8	+1.5
KARY	Karystos	0.84	102	P	Pg	14 31 33.0	-0.5
KARY				S	Sg	14 31 44.6	+0.2
	4μm,0.4s						
KARY	Karystos	0.84	102	P	Pg	14 31 33.6	+0.2
KARY				S	Sg	14 31 43.4	-1.0
KRND	KRANIDI	0.84	194	P	Pg	14 31 32.8	-0.8
KRND				S	Sg	14 31 45.3	+0.6
	8μm,0.6s						
KRND	KRANIDI	0.84	194	P	Pg	14 31 33.0	-0.6
KRND				S	Sg	14 31 45.2	+0.5
YDRA	Hydra	0.86	176	P	Pg	14 31 33.4	-0.5
YDRA				S	Sg	14 31 45.1	+0.1
GUR	Goura	0.88	252	P	Pg	14 31 33.1	-1.1
GUR				S	Sg	14 31 45.4	-0.3
	3μm,0.6s						
GUR	Goura	0.88	252	P	Pg	14 31 34.4	+0.1
GUR				S	Sb	14 31 47.0	+0.7
KLV	Kalavryta, Ach	1.00	261	P	Pg	14 31 36.3	-0.2
KLV				S	Sb	14 31 50.4	+0.6
	985nm,0.7s						
KLV	Kalavryta, Ach	1.00	261	P	Pg	14 31 36.3	-0.2
KLV				S	Sb	14 31 51.0	+1.2
KALE	Kalithea	1.01	281	P	Pg	14 31 35.6	-1.1
KALE				S	Sb	14 31 50.8	+0.7
	2μm,0.6s						
KALE	Kalithea	1.01	281	P	Pg	14 31 36.3	-0.4
KALE				S	Sb	14 31 50.6	+0.5
AOS	Alonnisos	1.03	21	P	Pg	14 31 36.4	-0.8
AOS				S	Sg	14 31 50.2	-0.5
	5μm,0.6s						
NEO	Neokhori	1.11	353	P	Pg	14 31 37.5	-1.1
NEO				S	Sb	14 31 53.4	+0.5
	5μm,0.6s						
NEO	Neokhori	1.11	353	P	Pg	14 31 38.0	-0.6
NEO				S	Sb	14 31 53.1	+0.2
SKY	Skiros Island	1.12	53	P	Pg	14 31 37.7	-1.3
SKY				S	Sb	14 31 53.6	+0.2
	5μm,0.3s						
SKY	Skiros Island	1.12	53	P	Pg	14 31 38.6	-0.4
SKY				S	Sg	14 31 52.9	-0.7
XOR	Xorichti	1.17	352	P	Pg	14 31 38.6	-1.2
XOR				S	Sg	14 31 54.5	-0.5
EFP	Efpalio	1.19	281	P	Pg	14 31 40.0	-0.3
EFP				S	Sb	14 31 56.4	+1.0
ANX	Ano Chora	1.22	289	P	Pg	14 31 39.8	-1.0
ANX				S	Sn	14 31 58.8	+1.8
	2μm,0.5s						
ANX	Ano Chora	1.22	289	P	Pb	14 31 40.9	+0.4
ANX				S	Sb	14 31 56.9	+0.6
MAKR	Makrakomi, Fth	1.28	309	P	Pg	14 31 41.2	-0.7
MAKR				S	Sn	14 31 59.1	+0.8
	2μm,0.7s						
MAKR	Makrakomi, Fth	1.28	309	P	Pg	14 31 41.2	-0.7
MAKR				S	Sb	14 31 58.6	+0.7
DRO	Drossia	1.36	260	P	Pn	14 31 42.8	+0.6
DRO				S	Sg	14 32 00.7	-0.3
EVR	Evrytania	1.43	300	P	Pn	14 31 43.3	-0.1
EVR				S	Sb	14 32 01.9	-0.5
PVO	Paravola	1.53	286	P	Pn	14 31 45.4	+0.9
VLI	Veliai	1.53	194	P	Pn	14 31 44.3	-0.3
VLI				S	Sb	14 32 06.1	+1.0
	1μm,0.9s						
TNSA	Tinos	1.55	115	P	Pn	14 31 43.7	-1.1
TNSA				S	Sn	14 32 03.0	-1.8
ITM	Ithomi	1.55	229	Pn	Pn	14 31 45.9	+1.0
ITM				Sn	Sg	14 32 07.7	+0.4
PAIG	Paliouri	1.73	7	Pn	Pn	14 31 47.2	-0.1
PAIG				Sn	Sn	14 32 10.5	+1.1
THL	Klokotos Trika	1.73	322	P	Pn	14 31 47.7	+0.4
THL				S	Sn	14 32 09.8	+0.4
	192nm,0.7s						
TETR	Tetrakomo, Epi	2.01	305	P	Pn	14 31 51.4	+0.1
APE	Apeiranthos	2.04	123	Pn	Pn	14 31 53.2	+1.6
APE	Apeiranthos	2.04	123	P	Pn	14 31 51.8	+0.2
SIGR	SIGRI	2.17	62	Pn	Pn	14 31 54.9	+1.6
OUR	Ouranopolis	2.17	12	Pn	Pn	14 31 53.3	-0.1
HORT	Hortiatis	2.40	355	Pn	Pn	14 31 56.8	+0.2
BOZC	Bozcaada	2.63	51	Pn	Pn	14 32 01.2	+1.5
GADA	Gvkgeada	2.77	44	Pn	Pn	14 32 03.5	+1.8
GRG	Griva	2.85	345	Pn	Pn	14 32 03.2	+0.4
BLCB	Balcova	2.87	85	Pn	Pn	14 32 04.9	+1.9
DKL	Dikili	2.88	71	Pn	Pn	14 32 04.3	+1.2
GCAM	G?zelcaml?	3.07	98	Pn	Pn	14 32 08.0	+2.2
IDI	Anoyia	3.15	157	Pn	Pn	14 32 09.7	+2.8
IDI	Anoyia	3.15	157	Pn	Pn	14 32 08.2	+1.3
	26nm,0.5s,baz=17,slow=12,SNR=14						
IDI				Sn	Sn	14 32 40.6	-3.9
	6.3nm,0.3s,baz=292,slow=19,SNR=5.4						
KEK	Kerkira	3.18	299	Pn	Pn	14 32 08.3	+1.0
GELI	Tayfur-Gelibol	3.24	47	Pn	Pn	14 32 09.5	+1.5
ENEZ	Enez	3.31	39	Pn	Pn	14 32 10.6	+1.6
BODT	Bodrum	3.31	109	Pn	Pn	14 32 10.1	+1.1
CANM	Can-anakkale	3.37	56	Pn	Pn	14 32 11.5	+1.7
RDO	Rodhopi	3.37	29	Pn	Pn	14 32 11.2	+1.4
ALN	Alexandroupoli	3.38	36	Pn	Pn	14 32 11.5	+1.6
LPK	Lapseki	3.39	49	Pn	Pn	14 32 12.0	+1.9
GVD	Gavdhos	3.41	170	Pn	Pn	14 32 13.5	+3.1
ERIK	Erikli-Kesan	3.45	43	Pn	Pn	14 32 12.6	+1.7
OHR	Ohrid	3.53	326	*i* Pn	Pn	14 32 16.2	+4.1
AYDB	Zeytinkoy-Aydi	3.56	93	Pn	Pn	14 32 14.9	+2.4
RKY	Sarkoy-Tekirda	3.83	49	Pn	Pn	14 32 18.4	+2.1
UKOP	Uzunkopru-Edir	3.84	40	Pn	Pn	14 32 17.9	+1.6
EDRB	Edirne	4.45	34	Pn	Pn	14 32 26.5	+1.8
MLR	Muntele Rosu	7.52	14	Pn	Pn	14 33 08.7	+1.7
	0.4nm,0.3s,baz=178,slow=12,SNR=5.7 9.3nm,0.7s						
BRTR	Keskin Array B	8.12	76	Pn	Pn	14 33 17.5	+2.2
	0.1nm,0.3s,baz=250,slow=10,SNR=4.7 1.1nm,0.8s						
MMAI	Mount Meron Ar	11.06	114	Pn	Pn	14 33 56.2	+0.8
	7.9nm,0.9s,baz=283,slow=13,SNR=2.6						
ESDC	Sonseca Array	21.31	283	P	P	14 36 03.6	-0.5
	0.9nm,0.7s,baz=79,slow=10,SNR=6.6 0.9nm,0.7s						
HFS	Hagfors	22.80	347	P	P	14 36 20.1	+0.3
	2.6nm,0.8s,baz=187,slow=10,SNR=2.7 2.6nm,0.8s						
NB2	NORSAR Subarra	24.10	345	P	P	14 36 32.5	-0.2
	comp=Z,15nm,1.4s,baz=156,slow=9.3						
NOA	NORSAR Array B	24.10	345	P	P	14 36 32.5	-0.2
	comp=Z,2.0nm,0.9s,baz=147,slow=9.7,SNR=4.7						
NOA		LR		LR	LR	14 46 46.1	
	comp=Z,88nm,18.4s,baz=5.0,slow=39 comp=Z,2.0nm,0.9s						
EKA	Eskdalemuir Ar	24.75	322	P	P	14 36 39.0	+0.3
	comp=Z,1.2nm,0.6s,baz=106,slow=8.8,SNR=5.9 comp=Z,1.2nm,0.6s						
TORD	Torodi Ar. Bea	31.55	224	P	P	14 37 39.6	0.0
	comp=Z,19nm,0.4s,baz=32,slow=9.3,SNR=1.0						
BVAR	Borovoye Array	35.37	50	P	P	14 38 11.8	-0.9
	comp=Z,0.3nm,0.6s,baz=249,slow=7.6,SNR=2.3 comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	40.39	54	P	P	14 38 55.8	+0.7
	comp=Z,0.8nm,0.8s,baz=282,slow=8.8,SNR=7.2 comp=Z,0.8nm,0.8s						
DBIC	Dimbokro	40.50	226	P	P	14 38 56.1	-0.2
	comp=Z,3.9nm,0

TEYL	Yanliau Villag	0.85 294	*i* P	Pb	14 37 33.7	-0.7
TEYL			*e*S	Sb	14 37 46.1	0.0
SHUL	Shoufeng	0.85 288	*e*P	Pn	14 37 35.6	-0.2
SHUL			*i* S	Sn	14 37 47.4	-1.2
TEGC	Jichi Village	0.85 283	*e*P	Pn	14 37 35.6	-0.2
TEGC			S	Sn	14 37 47.6	-1.0
HWA	Hwalien	0.89 301	*e*P	Pn	14 37 36.2	-0.1
HWA			S	Sn	14 37 47.7	-2.0
EOS2	EOS2	0.91 348	P	Pn	14 37 37.5	+0.9
EOS2			S	Sn	14 37 49.3	-0.7
ECBN	Changbin	0.93 257	*e*P	Pn	14 37 36.8	-0.1
ECBN			*i* S	Sb	14 37 48.3	-0.2
HGSD	Ruisui	0.94 268	*i* P	Pn	14 37 36.4	-0.6
HGSD			*e*S	Sn	14 37 49.1	-1.7
EGFH	Guangfu	0.94 279	*e*P	Pn	14 37 36.8	-0.3
EGFH			*i* S	Sb	14 37 48.9	+0.1
TWD	Chiawan	0.95 306	*i* P	Pn	14 37 36.8	-0.4
TWD			*i* S	Sb	14 37 48.3	-0.8
ESL	Shilin	0.97 288 ⇓	*i*P	Pn	14 37 36.6	-0.9
ESL			*e*S	Sn	14 37 49.9	-1.8
ETM	Tongmen	0.97 297	*i* P	Pn	14 37 37.0	-0.6
ETM			*i* S	Sb	14 37 49.6	-0.2
ETL	Fush Village	0.98 310	*i* P	Pn	14 37 37.3	-0.4
ETL			*i* S	Sb	14 37 49.2	-0.8
WARBT	Fenglin Townsh	0.99 282	*i* P	Pn	14 37 37.2	-0.6
WARBT			S	Sb	14 37 49.8	-0.4
EHYH	Wanrong	1.01 269	*i* P	Pn	14 37 38.0	0.0
EHYH			*i* S	Sn	14 37 51.2	-1.4
NACB	Ninganchiao	1.01 310	P	Pn	14 37 37.3	-0.7
NACB	Ninganchiao	1.01 310	S	Sb	14 37 50.0	-0.9
NACB	Ninganchiao	1.01 310	*i* P	Pn	14 37 37.6	-0.5
NACB			*i* S	Sb	14 37 49.9	-0.9
CHKH	Chenggong	1.02 251	*i* P	Pn	14 37 37.6	-0.5
CHKH			*i* S	Sg	14 37 49.8	-0.1
EAHA	Aohua	1.03 321	*i* P	Pn	14 37 38.4	+0.1
EAHA			S	Sn	14 37 51.6	-1.4
EHY	Hungye	1.03 269	*i* P	Pn	14 37 38.1	-0.1
EHY			S	Sb	14 37 51.1	-0.2
JYNG	Yonagunijimaku	1.03 26	P	Pn	14 37 38.7	+0.3
JYNG			S	Sn	14 37 51.6	-1.5
EYUL	Yuli	1.05 261	*i* P	Pn	14 37 38.5	-0.1
EYUL			S	Sb	14 37 51.7	-0.1
YULB	Yu-li	1.06 263	P	Pn	14 37 38.5	-0.2
YULB	Yu-li	1.06 263	*i* P	Pn	14 37 38.4	-0.3
YULB			S	Sb	14 37 52.0	-0.2
LXIB	Xiulin Townshi	1.06 298 ⇓	*i*P	Pn	14 37 38.3	-0.6
LXIB			S	Sn	14 37 52.3	-2.0
TWF1	Yuli	1.06 261	*i* P	Pn	14 37 38.6	-0.2
TWF1			*e*S	Sb	14 37 51.8	-0.6
YOJ	Yonaguni jima	1.07 29	P	Pn	14 37 39.2	+0.4
YOJ	Yonaguni jima	1.07 29	P	Pn	14 37 39.2	+0.4
YOJ			S	Sn	14 37 53.1	-1.0
YOJ	Yonaguni jima	1.07 29	P	Pn	14 37 39.4	+0.6
YOJ			*e*S	Sn	14 37 53.2	-1.0
CHKT	Chengkung	1.08 247	*i* P	Pn	14 37 38.4	-0.6
CHKT			*i* S	Sg	14 37 50.8	-1.0
EWUT	Wuta	1.10 327	*i* P	Pn	14 37 39.8	+0.5
EWUT			S	Sn	14 37 54.0	-0.9
FULB	Fuli	1.10 253	*i* P	Pn	14 37 38.8	-0.5
FULB			S	Sg	14 37 52.2	-0.5
ENA	Nanau	1.10 325	*i* P	Pn	14 37 39.8	+0.5
ENA			*e*S	Sn	14 37 53.9	-1.1
ETLH	Xiulin Townshi	1.11 308	*i* P	Pn	14 37 39.2	-0.3
ETLH			S	Sb	14 37 53.0	-0.8
EDH	Donghe	1.18 243	*i* P	Pn	14 37 40.0	-0.4
EDH			*i* S	Sb	14 37 54.0	-1.7
ESAO	Su ao	1.18 333	*i* P	Pg	14 37 40.9	+1.1
ESAO			*e*S	Sn	14 37 56.3	-0.6
EHD	Haiduan	1.20 252	*i* P	Pg	14 37 40.4	+0.3
EHD			*i* S	Sb	14 37 55.0	-1.1
ECS	Chishang	1.20 249	*e*P	Pg	14 37 41.0	+0.7
ECS			S	Sb	14 37 56.0	-0.3
TWC	Suao	1.21 333	*i* P	Pg	14 37 41.3	+0.9
TWC			*i* S	Sn	14 37 57.6	0.0
VWDT	VWDT	1.22 281 ⇓	*i*P	Pg	14 37 41.2	+0.8
VWDT			S	Sn	14 37 57.0	-0.7
LDUT	Ludao	1.23 227	*e*P	Pn	14 37 40.7	-0.4
LDUT			*i* S	Sb	14 37 54.4	-2.8
OWD	Renai	1.24 291	*i* P	Pg	14 37 41.5	+0.6
OWD			*i* S	Sb	14 37 56.0	-1.5
WHF	Hehuan Shan	1.24 300	*i* P	Pg	14 37 41.6	+0.5
WHF			S	Sn	14 37 57.4	-1.6
NDS	Dongshan	1.29 329	*i* P	Pg	14 37 43.0	+1.0
NDS			S	Sg	14 37 58.7	+0.1
WUSB	Renai	1.30 291	*i* P	Pg	14 37 42.6	+0.5
WUSB			S	Sg	14 37 58.7	-0.3
LATG	Datong	1.31 320	*i* P	Pg	14 37 42.7	+0.4
LATG			S	Sg	14 37 59.8	+0.4
FUSS	Fushou	1.31 304	*i* P	Pg	14 37 42.8	+0.4
FUSS			*e*S	Sb	14 37 58.8	-0.9
NNSB	Datong	1.32 313	*i* P	Pg	14 37 42.9	+0.3
NNSB			*i* S	Sn	14 37 59.2	-1.4
NNSH	Datong	1.32 313	*i* P	Pg	14 37 42.8	+0.2
NNSH			*i* S	Sn	14 37 59.0	-1.5
NNS	Nan Shan	1.34 313	*i* P	Pg	14 37 43.0	+0.2
NNS			*i* S	Sn	14 37 59.5	-1.4
ELDTW	Lidau	1.35 256	*i* P	Pn	14 37 42.5	-0.3
ELDTW			S	Sb	14 37 59.1	-1.6
LONT	Longtian	1.35 243	*i* P	Pb	14 37 43.0	-0.1
LONT			*e*S	Sb	14 37 59.5	-1.2
HATJ	Hateruma jima	1.36 67	P	Pg	14 37 43.6	+0.4
HATJ			*e*S	Sb	14 38 00.0	-0.7
TWT	Tachien	1.37 302	*i* P	Pg	14 37 43.9	+0.5
TWT			S	Sg	14 38 00.7	-0.5
ENTT	Nioudou	1.37 324	*i* P	Pg	14 37 43.9	+0.5
ENTT			*e*S	Sn	14 38 00.4	-1.1
TDCB	Techi	1.38 302	*i* P	Pg	14 37 44.0	+0.3
TDCB			S	Sn	14 38 00.8	-1.2
TWE	Neicheng	1.39 329	*i* P	Pg	14 37 44.2	+0.4
TWE			*e*S	Sg	14 38 01.5	-0.3
SSLB	Suanglung	1.39 281	P	Pb	14 37 43.5	-0.2
SSLB	Suanglung	1.39 281	*i* P	Pg	14 37 43.7	-0.1
SSLB			*e*S	Sb	14 38 00.7	-1.1
ILA	Ilan	1.39 333	*e*P	Pg	14 37 44.4	+0.5
ILA			S	Sg	14 38 01.9	0.0
EGS		1.40 341	*i* P	Pg	14 37 44.5	+0.6
EGS			*e*S	Sg	14 38 01.2	-0.9
TTN	Taitung	1.42 238	*e*P	Pn	14 37 43.0	-0.6
TTN			*i* S	Sn	14 38 01.5	-1.2
IRIF	Iriomote-Funau	1.43 55	P	Pg	14 37 44.6	0.0
TWGBT	Beinan	1.44 241	P	Pb	14 37 44.1	-0.4
TWGBT	Beinan	1.44 241	*i* P	Pb	14 37 44.0	-0.4
TWGBT			S	Sn	14 38 01.1	-2.1
TWG	Pinlang	1.44 241	*i* P	Pn	14 37 44.0	0.0
TWG			S	Sn	14 38 01.0	-2.3
FUSB	Fushanzhiwuyua	1.46 328	*i* P	Pg	14 37 45.6	+0.4
FUSB			*e*S	Sg	14 38 04.8	+0.7
SMLT	Sun Moon Lake	1.46 285	*i* P	Pb	14 37 44.1	-0.8
SMLT			*e*S	Sn	14 38 02.4	-1.4
WHYT	Xinyi Township	1.47 277	*i* P	Pg	14 37 45.6	+0.2
WHYT			*e*S	Sb	14 38 03.1	-0.9
DPDB	Guoxing	1.48 290 ⇓	*i*P	Pg	14 37 45.6	0.0
DPDB			*e*S	Sn	14 38 03.0	-1.3
WCS	Beigang Elemen	1.50 291	*i* P	Pg	14 37 45.8	-0.2
WCS			*e*S	Sb	14 38 04.5	-0.4
TYC	Yuchr	1.50 285	P	Pg	14 37 45.7	-0.3
TYC			*e*S	Sb	14 38 04.6	-0.3
YHNB	Yeheng	1.50 320	P	Pg	14 37 45.8	-0.2
YHNB	Yeheng	1.50 320	S	Sn	14 38 03.4	-1.5
YHNB	Yeheng	1.50 320	*i* P	Pg	14 37 45.8	-0.2
YHNB			*e*S	Sb	14 38 04.1	-0.9
ALS	Alishan	1.50 270	*i* P	Pg	14 37 46.3	+0.3
ALS			*e*S	Sb	14 38 04.5	-0.8
NWLT	Wulai	1.52 326	*i* P	Pg	14 37 46.2	-0.1
NWLT			*e*S	Sg	14 38 05.0	-0.9
NSK	Sanguang	1.52 319	*i* P	Pg	14 37 46.1	-0.2
NSK			*e*S	Sb	14 38 04.1	-1.3
TWB1	Santiao Chiao	1.54 344	*i* P	Pg	14 37 46.1	-0.6
TWB1			*e*S	Sb	14 38 05.0	-0.9
TIPB	Shuangxi	1.55 339	*i* P	Pg	14 37 46.8	-0.1
TIPB			S	Sn	14 38 04.7	-1.3
WHP	Taichung City	1.56 299	*i* P	Pg	14 37 47.3	+0.1
WHP			S	Sb	14 38 06.3	-0.5
STYH	Taoyuan	1.57 257	*i* P	Pb	14 37 46.8	+0.1
STYH			*i* S	Sn	14 38 05.6	-0.9
WJS	Zhushan	1.60 281	*i* P	Pg	14 37 47.9	0.0
WJS			*e*S	Sg	14 38 08.9	+0.2
JKRS	Kuro-shima	1.60 63	P	Pb	14 37 47.2	-0.1
JKRS			S	Sb	14 38 06.8	-1.0
CHN5	Tsauling	1.62 273	*i* P	Pg	14 37 48.4	+0.1
CHN5			S	Sb	14 38 07.9	-0.5
NFF	Wufeng Townshi	1.64 313	*i* P	Pg	14 37 48.4	-0.3
NFF			*i* S	Sb	14 38 08.3	-0.7
SXI1	Grass Mountain	1.65 342	*i* P	Pb	14 37 47.7	-0.4
SXI1			*e*S	Sg	14 38 08.9	-1.3
WNT	Mingjian	1.65 283 ⇓	*i*P	Pg	14 37 49.1	+0.3
WNT			S	Sg	14 38 10.0	-0.3
ECL	Taimali	1.65 236	*i* P	Pn	14 37 46.7	-0.1
ECL			*i* S	Sn	14 38 05.5	-3.0
NWF	Wu-fen Shan	1.66 339	*i* P	Pg	14 37 48.1	-0.8
NWF			*e*S	Sb	14 38 08.9	-0.6
WFSB	Wu-fen Shan	1.66 339	*i* P	Pg	14 37 48.2	-0.7
WFSB			*e*S	Sb	14 38 07.8	-1.6
WNT1	Nantou City	1.66 284	*i* P	Pg	14 37 49.8	+0.8
WNT1			S	Sg	14 38 11.1	+0.6
WWF	Wufeng	1.68 288	*i* P	Pg	14 37 50.0	+0.6
WWF			S	Sg	14 38 11.5	+0.3
TPUB	Ta-pu	1.68 263	P	Pg	14 37 49.2	-0.2
TPUB	Ta-pu	1.68 263	*e*P	Pg	14 37 49.2	-0.2
TPUB			*e*S	Sb	14 38 09.9	-0.2
TATO	Taipei	1.69 329	P	Pg	14 37 48.8	-0.7
TATO	Taipei	1.69 329	*i* P	Pg	14 37 48.9	-0.7
TATO			S	Sb	14 38 09.5	-0.8
WCKO	Fanlu	1.69 267	*i* P	Pg	14 37 49.6	+0.1
WCKO			*i* S	Sb	14 38 10.4	+0.1
LAY	Lan-yu	1.69 209	*i* P	Pn	14 37 46.8	-0.7
LAY			*i* S	Sn	14 38 06.1	-3.4
KSHI	Guanxi Townshi	1.70 317	*i* P	Pg	14 37 50.1	+0.3
KSHI			S	Sg	14 38 11.6	-0.3
WTP	Ta-pu	1.70 261	*e*P	Pg	14 37 49.4	-0.4
WTP			*i* S	Sb	14 38 10.3	-0.4
CHN4	Tsaushan	1.71 265 ⇓	*i*P	Pg	14 37 49.1	-0.3
CHN4			S	Sg	14 38 11.8	-0.3
LYUB	Lan-yu	1.71 208	*i* P	Pn	14 37 47.1	-0.6
LYUB			S	Sn	14 38 06.6	-3.3
LIOB	Emei	1.72 311	*i* P	Pg	14 37 50.3	+0.1
LIOB			*i* S	Sb	14 38 10.8	-0.4
NSTT	Nanjuang	1.72 310	*i* P	Pg	14 37 50.1	0.0
NSTT			*i* S	Sb	14 38 10.8	-0.4
NJD	Zhudong	1.73 315	*i* P	Pg	14 37 50.8	+0.4
NJD			*i* S	Sg	14 38 12.7	-0.1
TNOU	National Taiwa	1.73 339	*e*P	Pn	14 37 43.1	-4.8
TNOU			*e*S	Sn	14 38 05.7	-4.7
TCU	Taichung	1.73 291	*i* P	Pg	14 37 51.1	+0.6
TCU			*e*S	Sg	14 38 12.4	-0.5
WGK	Gukeng	1.73 276	*i* P	Pg	14 37 50.4	-0.1
WGK			S	Sg	14 38 12.3	-0.6
TAP	Taipei	1.73 331	*e*P	Pg	14 37 51.1	+0.7
TAP			S	Sg	14 38 11.7	-1.3
TWQ1	Liyutan	1.73 299	*i* P	Pg	14 37 50.4	0.0
TWQ1			*i* S	Sg	14 38 11.7	-1.2
WDLH	Douliu	1.75 276	P	Pg	14 37 50.8	0.0
WDLH			*i* S	Sb	14 38 12.1	-0.1
WDL	Douliou City	1.76 277	*e*P	Pg	14 37 51.8	+1.0
WDL			*e*S	Sg	14 38 13.5	-0.1
SGST	Jiashian	1.77 256	*i* P	Pb	14 37 49.7	-0.3
SGST			S	Sb	14 38 12.1	-0.4
JIJ	Ishigaki jima	1.77 61	P	Pb	14 37 48.8	-1.3
NSY	Sanyi	1.78 300	P	Pg	14 37 51.3	0.0
NSY			S	Sb	14 38 12.3	-0.5
CHN1	Nanshi	1.79 260	*i* P	Pg	14 37 51.0	-0.5
CHN1			*i* S	Sb	14 38 13.6	+0.3
YM01	YM01	1.80 334	*i* P	Pb	14 37 50.7	0.0
YM01			*e*S	Sb	14 38 11.8	-1.8
CHN2	Minshiung	1.81 271	*i* P	Pg	14 37 52.3	+0.5
CHN2			S	Sg	14 38 14.6	-0.6
SNST	Tainan City	1.81 261	*e*P	Pg	14 37 51.6	-0.3
SNST			S	Sb	14 38 14.3	+0.4
WCHH	Zhanghua	1.81 288	*i* P	Pg	14 37 51.8	-0.2
WCHH			S	Sg	14 38 14.4	-1.0
TWK	Hsinying	1.81 262	*i* P	Pg	14 37 51.4	-0.6
TWK			*i* S	Sg	14 38 14.5	-1.0
NMLH	Miaoli	1.82 304	*i* P	Pg	14 37 51.6	-0.4
NMLH			S	Sb	14 38 13.3	-0.7
WCH1	Changhua City	1.82 288	*i* P	Pg	14 37 51.7	-0.4
WCH1			S	Sg	14 38 14.5	-1.2
ZUZH	Zhuzihu	1.82 334	*i* P	Pb	14 37 50.9	-0.2
ZUZH			S	Sn	14 38 11.7	-1.1
TWS1	Kuangyinshan	1.83 329	*i* P	Pb	14 37 50.2	-0.9
TWS1			*i* S	Sb	14 38 12.7	-1.6
YM08	YM08	1.83 335	*i* P	Pb	14 37 50.4	-0.8
YM08			*e*S	Sb	14 38 12.6	-1.8
SBCB	Hsinchu	1.83 314	*i* P	Pb	14 37 51.3	0.0
SBCB			S	Sb	14 38 14.5	0.0
TAW	Tawu	1.84 231	*e*P	Pg	14 37 53.1	+0.7
TAW			*e*S	Sn	14 38 10.6	-2.5
NCUH	Zhongli	1.84 322	*i* P	Pb	14 37 51.2	-0.1
NCUH			S	Sb	14 38 14.1	-0.6
WDJ	Dajia District	1.84 297	*e*P	Pg	14 37 52.1	-0.4
WDJ			S	Sb	14 38 14.6	-0.1
NJN	Zhunan	1.84 309	*e*P	Pg	14 37 52.3	-0.2
NJN			*i* S	Sg	14 38 15.0	-1.4
TSMG	Majia	1.84 244	P	Pb	14 37 51.0	-0.4
TSMG			*e*S	Sn	14 38 11.9	-1.3
CHY	Chiayi	1.85 270	*i* P	Pg	14 37 52.0	-0.7
CHY			S	Sb	14 38 14.7	-0.4
HSN	Hsinchu	1.85 314	*e*P	Pg	14 37 51.9	-0.8
HSN			*i* S	Sb	14 38 13.7	-1.3
TAWH	Dawu Township	1.85 231	*i* P	Pn	14 37 48.8	-0.9
TAWH			S	Sn	14 38 11.8	-1.7
EAST	Anshuo	1.86 233	*i* P	Pn	14 37 50.4	+0.7
EAST			*e*S	Sn	14 38 10.7	-2.7
ANP	Anpu	1.86 333	*i* P	Pb	14 37 51.6	-0.1
ANP			*e*S	Sb	14 38 13.4	-1.9
NTST	Danshui	1.87 331	*i* P	Pb	14 37 51.8	0.0
NTST			*e*S	Sb	14 38 14.3	-1.2
WTK	Tuku	1.89 275	*e*P	Pg	14 37 52.7	-0.7
WTK			*i* S	Sb	14 38 16.6	+0.5
MASBT	Mashibuluo	1.90 242	*i* P	Pb	14 37 51.2	-1.1
MASBT			*e*S	Sn	14 38 13.3	-1.2
SCST	Cishan	1.90 251	*i* P	Pg	14 37 53.0	-0.6
SCST			*i* S	Sb	14 38 17.3	+0.8
TWY	Chenhua	1.91 336	P	Pb	14 37 51.7	-0.8
TWY			*e*S	Sb	14 38 14.5	-2.1
WRL	Guolierlin Hig	1.93 282	P	Pb	14 37 53.3	+0.4
WRL			*i* S	Sb	14 38 16.9	-0.3
RLNB	Erlin	1.94 281	*i* P	Pg	14 37 53.6	-0.8
RLNB			*i* S	Sg	14 38 18.3	-1.4
NHW	Xinwu Township	1.95 320	*e*P	Pb	14 37 52.8	-0.4
NHW			*i* S	Sb	14 38 17.1	-1.2
CHN3	Shinhua	1.96 257	*i* P	Pg	14 37 55.1	+0.3
CHN3			S	Sg	14 38 20.9	+0.7
SGLT	Jiouru	1.96 247	P	Pg	14 37 55.6	+0.8
SGLT			S	Sb	14 38 18.0	-0.2
TSPT	Pingtung City	1.98 245	P	Pg	14 37 56.3	+1.2
TSPT			S	Sg	14 38 21.5	+0.6
TWM1	Shoushan	1.98 250	*i* P	Pg	14 37 55.1	-0.2
TWM1			S	Sb	14 38 19.9	+1.0
SHHT	Tainan City	1.99 256	P	Pg	14 37 56.4	+1.0
SHHT			S	Sg	14 38 20.9	-0.3
ICHU	Yijhu	1.99 266	P	Pb	14 37 54.5	+0.6
ICHU			S	Sb	14 38 18.3	-0.8
SLIU	Shizi	2.00 230	*i* P	Pn	14 37 52.2	+0.6
SLIU			S	Sn	14 38 14.9	-2.1
JISG	Ishigakijimahi	2.01 58	P	Pn	14 37 52.2	+0.4
WTCT	Ta-ch'eng	2.01 280	*i* P	Pb	14 37 53.9	-0.3
WTCT			*i* S	Sb	14 38 19.9	+0.4
SSHA	Shanhua	2.02 259	*e*P	Pb	14 37 53.3	-1.0
SSHA			S	Sg	14 38 20.9	-1.2
WSL	Shuilin Townsh	2.03 270	*i* P	Pb	14 37 54.4	-0.2
WSL			*i* S	Sb	14 38 19.4	-0.8
SCZT	Fangliau	2.03 236	*i* P	Pb	14 37 53.8	-0.9
SCZT			S	Sn	14 38 17.1	-0.8
WSF	Szhu	2.04 274	*i* P	Pb	14 37 54.2	-0.5
WSF			*i* S	Sb	14 38 18.8	-1.6
SNJT	Kaohsiung City	2.08 249	*e*P	Pg	14 37 56.9	-0.2
SNJT			S	Sb	14 38 22.8	+1.0
SCLT	Jiali	2.10 261	*e*P	Pb	14 37 55.3	-0.4
SCLT			*i* S	Sb	14 38 21.6	-0.4
PCYT	Pengchaiyu	2.12 351	*i* P	Pn	14 37 54.0	+0.6
TSEB	Hengchuen, Pin	2.15 222	P	Pb	14 37 56.2	-0.4
TSEB			S	Sb	14 38 22.1	-1.6
TWKBT	Hengchun	2.18 224	*e*P	Pb	14 37 56.2	-0.9
TWKBT			*e*S	Sn	14 38 21.2	-0.3
HEN	Hengchun	2.18 226	*i* P	Pb	14 37 56.7	-0.5
HEN			S	Sn	14 38 21.3	-0.2
TWK1	Hengchun	2.18 224	*i* P	Pb	14 37 55.7	-1.4
TWK1			*i* S	Sn	14 38 21.2	-0.3
WSSB	Gushan	2.19 247	P	Pb	14 37 56.5	-0.8
WSSB			S	Sb	14 38 25.3	+0.5
TSCK	Chigu Township	2.20 261	*e*P	Pb	14 37 57.2	-0.2
TSCK			*e*S	Sb	14 38 23.7	-1.3
WLCH	Liuqiu	2.23 239	*e*P	Pb	14 37 58.1	+0.1
WLCH			*e*S	Sb	14 38 26.8	+0.9
TWP	Hsiaoliuchiu	2.25 239	P	Pg	14 37 59.9	-0.4
TWP			S	Sb	14 38 26.9	+0.5
WDGT	Dungji	2.57 265	*e*P	Pb	14 38 01.3	-2.5
WDGT			*e*S	Sn	14 38 31.1	-0.1
PHUB	P'eng-hu	2.63 270	*e*P	Pb	14 38 02.4	-2.5
PHUB			*i* S	Sn	14 38 32.1	-0.6
PNG	Penghu	2.65 272	*e*P	Pb	14 38 02.4	-2.7
PNG			*e*S	Sn	14 38 33.5	+0.4
VCHM	Qimei	2.79 264	*e*P	Pn	14 38 04.7	+2.1
VCHM			S	Sn	14 38 36.1	-0.4
JMJ	Miyako jima 2	2.90 63	P	Pn	14 38 05.1	+1.0
JMJ	Miyako jima 2	2.90 63	*i* P	Pn	14 38 05.1	+1.0
JMJ			*i* S	Sn	14 38 38.7	-0.7
VWUC	VWUC	3.10 299	P	Pn	14 38 07.8	+1.0
VWUC			*i* S	Sn	14 38 42.0	-2.2
PTMZ	Houxiangcun	3.39 297	*i* P	Pn	14 38 11.9	+1.2
PTMZ			*i* S	Sn	14 38 49.0	-2.3
MATB	Ma-tsu	3.46 320	*i* P	Pn	14 38 12.5	+0.7
MATB			*i* S	Sn	14 38 49.9	-3.3
KNM	Kinmen	3.77 284	*i* P	Pn	14 38 19.0	+3.0
KNMB	Chin-men Tao	3.82 285	*i* P	Pn	14 38 17.8	+1.1
XPSS	Dashiqiu	3.96 329	P	Pn	14 38 19.0	+0.4
MHZQ	Yeshan	4.02 310	P	Pn	14 38 20.0	+0.5
AXDP	Jialang	4.31 289	P	Pn	14 38 24.8	+1.4
JOW	Kunigami	6.23 57	Pn	Pn	14 38 48.5	-1.4
	1.6nm,0.3s,baz=231,slow=12,SNR=7.8					
JOW			Sn	Sn	14 39 58.1	-3.3
	1.3nm,0.3s,baz=235,slow=16,SNR=1.5 4.0nm,0.3s					
JOW	Kunigami	6.23 57	P	Pn	14 38 48.4	-1.4
KSRS	Korea Array	14.66 17	Pn	Pn	14 40 47.1	+1.8
	0.1nm,0.3s,baz=199,slow=12,SNR=1.3					
CMAR	Chiang Mai Arr	22.50 261	P	P	14 42 19.9	+2.0
	0.2nm,0.4s,baz=68,slow=12,SNR=1.4 0.2nm,0.4s					
SONM	Songino Array	27.43 336	P	P	14 43 04.1	+0.1
	1.4nm,0.7s,baz=151,slow=9.6,SNR=8.9 1.4nm,0.7s					
MKAR	Makanchi Array	39.61 316	P	P	14 44 50.4	+0.6
	0.4nm,0.5s,baz=102,slow=10,SNR=7.1 0.4nm,0.5s					
ZALV	Zalesovo Beam	41.42 327	P	P	14 45 03.8	-0.7
	0.5nm,0.4s,baz=107,slow=5.1,SNR=3.7 0.5nm,0.4s					
KURBB	Kurchatov Arra	43.35 320	P	P	14 45 21.2	+0.9
	0.2nm,0.5s,baz=111,slow=9.1,SNR=4.1 0.2nm,0.5s					
WRA	Warramunga Arr	44.73 164	P	P	14 45 31.8	+0.2
	1.1nm,0.8s,baz=344,slow=8.8,SNR=6.4 1.1nm,0.8s					
ASAR	Alice Springs	48.21 166	P	P	14 46 00.7	+1.7
	0.5nm,0.5s,baz=344,slow=7.7,SNR=31 0.5nm,0.5s					
BVAR	Borovoye Array	48.91 321	P	P	14 46 04.7	+0.7
	0.5nm,0.6s,baz=108,slow=9.3,SNR=2.7 0.5nm,0.6s					

SJA ***26*** *14:41:05.2±1.0,20°.96S×69°.05W,h105km±5km,ML3.8, MW3.8*
GUC ***26*** *14:41:06.9±0.7,20°.98S×69°.00W,h98km±4km,ML3.8*
NEIC ***26*** *14:41:06.7±1.5,20°.93S±0°.04×68°.97W±0°.07,h91km±7km, mb4.1/12,Error ellipse: s-maj=9.9km s-min=6.2km az=86.0*
VAO ***26*** *14:41:09.4±0.9,20°.87S×68°.48W,h98km±8km,mb4.0*
IDC ***26*** *14:41:10.2±2.6,20°.87S×68°.40W,h130km±28km,mb3.6/1, mbtmp4.0/4,Error ellipse: s-maj=54.5km s-min=24.2km az=111.0*

ISC 26 14:41:05.9±0.6,20°.95S±0°.03×68°.93W±0°.06,h96km±5km, n71,σ1§19/90,mb4.2/7,2C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.53 260			Pn	14 41 21.6	0.0
PB01	IPOC Station P	0.53 260		*e*P	Pn	14 41 21.6	0.0
PB01				*e*S	Sn	14 41 33.4	-0.1
PB01				IAML		14 41 34.4	
	comp=Z,5μm,0.2s						
PB01	IPOC Station P	0.53 260		*e*P	Pn	14 41 21.6	0.0
PB01				*e*S	Sn	14 41 33.2	-0.1
PB01				IAML		14 41 34.2	
	comp=E,15μm,0.2s						
PB08	IPOC Station P	0.83 346		Pn	Pn	14 41 25.4	+0.6
PB08	IPOC Station P	0.83 346		*e*P	Pn	14 41 25.6	+0.9
PB08				*e*S	Sn	14 41 40.5	+1.7
PB08				IAML		14 41 41.2	
	comp=Z,2μm,0.3s						
PB08	IPOC Station P	0.83 346	⇓	*i*P	Pn	14 41 25.6	+0.9
PB08				*e*S	Sn	14 41 40.4	+1.6
PB08				IAML		14 41 41.1	
	comp=N,5μm,0.3s						
PB09	IPOC

PB14 IAML 14 43 17.9
comp=Z,97nm,0.4s
GO02 Mina Guanaco 4.24 188 Pn **Pn 14 42 07.5 -1.1**
LPAZ La Paz 4.70 9 Pn **Pn 14 42 16.5 +1.3**
LPAZ La Paz 4.70 9 P **Pn 14 42 17.9 +2.8**
comp=Z,5.0nm,0.3s,baz=191,slow=5.3,SNR=22
LPAZ S Sn 14 42 59.1 -10
comp=Z,2.8nm,0.4s,baz=200,slow=23,SNR=1.5
LPAZ La Paz 4.70 9 *eP* **Pn 14 42 16.8 +1.6**
AC02 Maricunga 5.86 182 Pn **Pn 14 42 29.9 -0.9**
SIV San Ignacio 8.94 58 P **Pn 14 43 09.9 -2.4**
comp=Z,11nm,0.5s,baz=244,slow=14,SNR=56
MURT Porto Murtinho 10.58 96 *eP* **Pn 14 43 32.1 -2.5**
PTLB Pontes e Lacer 10.80 61 *eP* **Pn 14 43 35.9 -1.7**
BDQN Bodoquena, MS 11.42 90 *eP* **Pn 14 43 43.0 -2.9**
VILB Vilhena 11.53 48 **Pn 14 43 47.6 +0.1**
VILB Vilhena 11.53 48 *eP* **Pn 14 43 45.6 -2.0**
AQDB Aquidauana 12.39 90 *eP* **Pn 14 43 57.6 -1.4**
SALV Santo Antonio 13.53 70 *eP* **Pn 14 44 11.9 -2.0**
BO02 Sierra Bellavi 13.89 186 P **P 14 44 24.8 +1.2**
PDRB Porto dos Gac 14.94 53 *eP* **Pn 14 44 31.5 -0.7**
ITAB Concordia 16.56 115 **P 14 44 53.2 -0.1**
ARAG Araguaiana, MT 17.07 75 *eP* **Pn 14 44 57.3 -1.4**
FRTB Fartura 18.10 101 *eP* **P 14 45 08.9 -1.4**
SNDB Serra Nova Dou 19.11 65 *eP* **P 14 45 20.2 -1.1**
IPMB Ipameri, GO 19.76 85 *eP* **P 14 45 28.1 -0.4**
PLCA Paso Flores 19.77 184 Pn **Pn 14 45 32.4 +1.6**
PLCA IAmb IAmb 14 45 37.4
comp=Z,17nm,1.4s
PLCA Paso Flores 19.77 184 P **Pn 14 45 32.4 +1.6**
comp=Z,2.3nm,0.6s,baz=358,slow=9.9,SNR=8.3
PLCA Paso Flores 19.77 184 *eP* **Pn 14 45 32.7 +1.9**
VAO Valinhos 20.48 100 *eP* **P 14 45 35.0 -1.2**
BDFB Brasilia 20.55 79 P **P 14 45 38.8 +1.7**
ITTB Itaituba 20.89 40 *eP* **P 14 45 38.5 -2.1**
LL01 San Ignacio de 21.57 187 P **P 14 45 48.8 +1.3**
LL01 IAmb IAmb 14 46 08.8
comp=Z,9.3nm,1.1s
BOAV Boa Vista 24.62 21 P **P 14 46 17.6 +0.1**
BOAV IAmb IAmb 14 46 58.6
comp=Z,14nm,1.4s
RUSC La Rusia 26.98 351 P **P 14 46 39.5 +0.1**
RUSC IAmb IAmb 14 46 41.8
comp=Z,8.1nm,1.1s
CCM Cathedral Cave 62.33 340 P **P 14 51 19.2 +1.2**
QSPA South Pole Qui 69.24 180 P **P 14 52 03.0 +0.6**
comp=Z,0.7nm,0.5s,baz=180,slow=1.0,SNR=18
comp=Z,0.7nm,0.5s
TORD Torodi Ar. Bea 77.19 70 P **P 14 52 47.6 -2.2**
comp=Z,26nm,0.3s,baz=251,slow=5.2,SNR=1.6
TORD pP **pP 14 53 15.7 -0.4**
comp=Z,37nm,0.3s,baz=243,slow=6.5,SNR=2.1
PLID Pearl Lake 78.45 328 P **P 14 52 57.2 +0.7**
I07A Izee 79.55 326 P **P 14 53 03.4 +1.1**
PINE Pine Mountain 80.12 325 P **P 14 53 06.8 +1.3**
PINE IAmb IAmb 14 53 44.2
comp=Z,4.8nm,1.4s
I05D Terrebonne, OR 80.70 325 P **P 14 53 09.8 +1.3**
I05D IAmb IAmb 14 53 20.4
comp=Z,4.3nm,1.5s
BUCK Buck Mountain 81.50 324 P **P 14 53 13.5 +0.8**
MODS Modra-Piesok 102.93 43 *e*PDIFF **Pdif 14 54 53.8 +0.6**
MKAR Makanchi Array 145.20 35 PKP **PKPbc 15 00 32.0 -0.1**
comp=Z,1.6nm,0.7s,baz=326,slow=2.6,SNR=17
MKAR pPKP **pPKPdf 15 01 00.2 -0.1**
comp=Z,1.6nm,0.9s,baz=324,slow=1.6,SNR=8.1

---

*NEIC **26** 14:42:03.1±1.0,23°.3S±0°.2×176°.9W±0°.1,h147km±9km, mb4.4/20, Error ellipse: s-maj=22.2km s-min=19.0km az=178.0*
*IDC **26** 14:42:10.3±4.0,23°.20S×177°.29W,h205km±37km, mb3.4/6, mbtmp4.0/7, Error ellipse: s-maj=28.0km s-min=26.7km az=30.0*
ISC 26 14:42:06.1±0.9,**23°.4S**±0°.1×**177°.2W**±0°.2,**h167**km,**n31,**
σ**0**^{s}**98**/31,**mb4.2**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.22**	**321**	Pn	**Pn**	**14 43 49.6**	**+0.3**
MSVF	**Nonsavu**	**7.22**	**321**	P	**Pn**	**14 43 50.4**	**+1.1**
	10nm,0.7s,baz=141,slow=16,SNR=7.9						
NIUE	**Niue**	**8.00**	**59**	Pn	Pn	14 43 53.2	-6.3
URZ	**Urewera**	**15.59**	**197**	P	**Pn**	**14 45 35.7**	**-1.2**
	3.1nm,0.3s,baz=3.2,slow=4.2,SNR=7.4						
URZ				S	S	14 48 16.3	-15
	4.3nm,0.4s,baz=12,slow=22,SNR=8.5						
THZ	**Tophouse**	**20.10**	**202**	P	**P**	**14 46 25.8**	**-1.1**
THZ				IAmb	IAmb	14 46 49.2	
	comp=Z,14nm,1.1s						
DSZ	**Denniston Nort**	**20.48**	**204**	P	**P**	**14 46 30.5**	**-0.4**
FOZ	**Fox Glacier**	**22.77**	**205**	P	**P**	**14 46 52.8**	**-1.2**
FOZ				IAmb	IAmb	14 47 25.8	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**37.32**	**248**	P	**P**	**14 49 02.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=67,slow=13,SNR=1.1						
	comp=Z,0.5nm,0.3s						
BBOO	**Buckleboo**	**42.03**	**246**	P	**P**	**14 49 41.2**	**-0.1**
BBOO				IAmb	IAmb	14 50 25.2	
	comp=Z,18nm,1.3s						
AS31	**Alice Springs**	**44.69**	**259**	P	**P**	**14 50 02.3**	**-0.4**
ASAR	**Alice Springs**	**44.69**	**259**	P	**P**	**14 50 02.3**	**-0.4**
ASAR	**Alice Springs**	**44.69**	**259**	P	**P**	**14 50 02.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=92,slow=7.1,SNR=44						
ASAR				PcP	**PcP**	**14 51 42.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=103,slow=5.2,SNR=1.8						
	comp=Z,0.5nm,0.3s						
WR0	**Warramunga Arr**	**44.86**	**265**	P	**P**	**14 50 03.7**	**-0.4**
WR0				IAmb	IAmb	14 50 07.2	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**45.04**	**265**	P	**P**	**14 50 04.9**	**-0.6**
WB0	**Warramunga Arr**	**45.04**	**265**	P	**P**	**14 50 04.9**	**-0.6**
WRA	**Warramunga Arr**	**45.05**	**265**	P	**P**	**14 50 04.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=101,slow=8.3,SNR=36						
	comp=Z,1.0nm,0.6s						
KNRA	**Kununurra**	**51.31**	**268**	P	**P**	**14 50 53.6**	**0.0**
KNRA				IAmb	IAmb	14 51 33.8	
	comp=Z,10nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.47**	**264**	P	**P**	**14 51 09.4**	**-0.1**
MORW	**Morawa**	**59.49**	**249**	P	**P**	**14 51 52.3**	**+0.4**
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**14 52 40.6**	**+1.9**
QSPA				IAmb	IAmb	14 52 41.6	
	comp=Z,5.1nm,0.9s						
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**14 52 40.4**	**+1.7**
	comp=Z,2.7nm,0.7s,baz=16,slow=1.9,SNR=17						
	comp=Z,2.7nm,0.7s						
BELA	**Belgrano 2**	**76.58**	**172**	P	**P**	**14 53 38.1**	**+0.6**
BELA				IAmb	IAmb	14 53 49.2	
	comp=Z,12nm,1.5s						
SNAA	**Sanae**	**85.09**	**178**	P	**P**	**14 54 23.4**	**+0.6**
SNAA				IAmb	IAmb	14 54 33.0	
	comp=Z,10nm,1.4s						
SNAA	**Sanae**	**85.09**	**178**	P	**P**	**14 54 22.8**	**0.0**
	comp=Z,2.1nm,1.0s,baz=215,slow=16,SNR=2.4						
	comp=Z,2.1nm,1.0s						
ILSW	**Iliamna Southw**	**85.39**	**12**	P	**P**	**14 54 22.9**	**-1.4**
STLK	**Strandline Lak**	**87.04**	**12**	P	**P**	**14 54 31.3**	**-0.9**
STLK				IAmb	IAmb	14 54 49.1	
	comp=Z,4.3nm,1.3s						
N25K	**Chitina, Valde**	**88.68**	**15**		**P**	**14 54 39.9**	**-0.1**
CAST	**Castle Rocks**	**88.77**	**11**	P	**P**	**14 54 38.8**	**-1.6**
TRF	**Thorofare Moun**	**89.12**	**12**	P	**P**	**14 54 40.9**	**-1.3**
RND	**Reindeer**	**89.36**	**12**	P	**P**	**14 54 41.2**	**-1.9**
RND				IAmb	IAmb	14 54 43.8	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**90.97**	**12**	P	**P**	**14 54 49.5**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=225,slow=5.4,SNR=7.6						
	comp=Z,0.3nm,0.7s						

---

*IDC **26** 14:54:21.4±6.1,2°.44S×140°.67E,h0km,mb2.9/2, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=230.0km s-min=33.6km az=88.0*
*DJA **26** 14:54:31.7±0.4,2°.5±4°.×14°.0E±°,h34km±7km, M3.6/7, mb3.7/1, MLv3.5/7*
ISC 26 14:54:30.0±1.0,**2°.25S**±0°.09×**139°.82E**±0°.05,**h25**km,**n9,**
σ2^{s}**60**/13,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.49**	**134**	P	**Pn**	**14 54 43.5**	**+2.1**
GENI				S	**Sn**	**14 54 50.3**	**+1.2**
JAY	**Jayapura**	**0.92**	**106**	P	**Pn**	**14 54 48.5**	**+1.0**
JAY				S	**Sn**	**14 55 00.8**	**+0.8**
SMPI	**Sarmi**	**1.14**	**283**	P	**Pb**	**14 54 52.7**	**+1.7**
SMPI				S	**Sb**	**14 55 07.4**	**+2.0**
WAMI	**Wamena**	**1.96**	**214**	P	**Pn**	**14 55 03.4**	**+1.7**
WAMI				S	**Sn**	**14 55 27.2**	**+1.6**
BAKI	**Biak**	**3.85**	**286**	P	**Pn**	**14 55 28.2**	**+0.4**
FAKI	**Fak Fak**	**7.59**	**265**	P	**Pn**	**14 56 19.0**	**-0.2**
WRA	**Warramunga Arr**	**18.38**	**197**	P	**P**	**14 58 37.6**	**-5.6**
	baz=20,slow=12,SNR=1.8						
	0.5nm,1.1s						
ASAR	**Alice Springs**	**22.04**	**195**	P	**P**	**14 59 19.1**	**-4.0**
	0.1nm,0.5s,baz=25,slow=11,SNR=5.3						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**70.11**	**322**	P	**P**	**15 05 39.8**	**-0.6**
	0.1nm,0.5s,baz=131,slow=4.4,SNR=2.5						
	0.1nm,0.5s						

---

*IDC **26** 15:03:07.7±3.3,3°.23N×76°.45W,h0km,mb3.0/1, mbtmp3.3/2, ML2.6/1, Error ellipse: s-maj=93.2km s-min=35.0km az=154.0*
*RSNC **26** 15:03:10.1±0.0,3°N±2°×7°6W±°,h0km±4km, M3.3, ML3.0*
ISC 26 15:03:07.5±1.1,**3°.08N**±0°.02×**75°.96W**±0°.02,**h7**km±9km,**n32,**
σ**1**^{s}**20**/60,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.65**	**128**	P	**Pg**	**15 03 20.5**	**+0.4**
BETC				S	**Sg**	**15 03 28.6**	**-0.1**
JAMC	**Jamundi, Valle**	**0.73**	**280**	P	**Pb**	**15 03 22.9**	**+0.3**
JAMC				S	**Sb**	**15 03 33.0**	**+0.1**
POPC	**Popayan, Colom**	**0.90**	**233**	P	**Pg**	**15 03 24.5**	**-0.3**
POPC				S	**Sg**	**15 03 35.4**	**-1.1**
YOTC	**Yotoco, Valle**	**0.97**	**337**	P	**Pb**	**15 03 27.2**	**+0.4**
YOTC				S	**Sn**	**15 03 40.8**	**-1.1**
GARC	**Garzon, Huila**	**1.00**	**152**	P	**Pg**	**15 03 26.5**	**-0.4**
GARC				S	**Sg**	**15 03 39.0**	**-1.0**
ORTC	**Ortega, Tolima**	**1.08**	**41**	P	**Pn**	**15 03 30.0**	**+0.8**
ORTC				S	**Sn**	**15 03 45.3**	**+0.8**
PRAC	**Prado**	**1.24**	**60**	P	**Pn**	**15 03 32.4**	**+1.1**
PRAC				S	**Sn**	**15 03 49.5**	**+1.2**
FLOC	**Florencia**	**1.52**	**168**	P	**Pn**	**15 03 35.1**	**-0.1**
FLOC				S	**Sn**	**15 03 55.2**	**-0.1**
URMC	**La Uribe, Meta**	**1.58**	**84**	P	**Pg**	**15 03 38.0**	**0.0**
URMC				S	**Sg**	**15 03 59.7**	**+1.1**
MALC	**Bahia Malaga**	**1.66**	**304**	P	**Pg**	**15 03 40.1**	**+0.8**
MALC				S	**Sg**	**15 04 03.3**	**+2.5**
BBAC	**Balboa, Cauca**	**1.67**	**231**	P	**Pn**	**15 03 38.0**	**+0.7**
BBAC				S	**Sn**	**15 03 59.6**	**+0.5**
CRUC	**La Cruz**	**1.80**	**213**	P	**Pg**	**15 03 41.8**	**-0.4**
CRUC				S	**Sb**	**15 04 04.0**	**-0.1**
PLMC	**San Jos del P**	**1.84**	**350**	P	**Pb**	**15 03 41.6**	**+0.1**
PLMC				S	**Sg**	**15 04 07.1**	**+0.4**
NIZA	**Niza - Manizal**	**2.02**	**14**	P	**Pg**	**15 03 46.4**	**+0.1**
NIZA				S	**Sg**	**15 04 13.5**	**+0.9**
GR1C	**Gorgona, Isla**	**2.21**	**268**	P	**Pb**	**15 03 46.6**	**-1.2**
GR1C				S	**Sb**	**15 04 14.1**	**-1.2**
GUY2C	**Guyana, Caldas**	**2.21**	**16**	P	**Pg**	**15 03 49.1**	**-0.8**
GUY2C				S	**Sg**	**15 04 18.7**	**+0.1**
MACC	**Macarena, Meta**	**2.31**	**114**	P	**Pb**	**15 03 49.3**	**-0.2**
MACC				S	**Sb**	**15 04 18.5**	**+0.3**
GCUF	**Volcan Galeras**	**2.31**	**217**	P	**Pg**	**15 03 51.1**	**-0.7**
GCUF				S	**Sg**	**15 04 20.7**	**-1.1**
PIZC	**Pizarro, Choco**	**2.33**	**323**	P	**Pg**	**15 03 52.1**	**-0.2**
PIZC				S	**Sg**	**15 04 25.2**	**+2.6**
ROSC	**El Rosal**	**2.39**	**43**	Pn	**Pg**	**15 03 52.7**	**-0.7**
	24nm,0.3s,baz=229,slow=9.3,SNR=14						
ROSC				Sn	**Sg**	**15 04 25.4**	**+0.9**
	56nm,0.3s,baz=198,slow=19,SNR=8.5						
	92nm,0.4s						
ROSC	**El Rosal**	**2.39**	**43**	P	**Pg**	**15 03 53.1**	**-0.3**
ROSC				S	**Sg**	**15 04 25.6**	**+1.1**
VILC	**Villavicencio,**	**2.48**	**66**	P	**Pb**	**15 03 53.5**	**+1.0**
VILC				S	**Sg**	**15 04 28.3**	**+1.0**
NORC	**Norcasia**	**2.69**	**24**	P	**Pb**	**15 03 56.8**	**+0.7**
NORC				S	**Sg**	**15 04 33.1**	**-1.0**
CHIC	**Chingaza**	**2.70**	**55**	P	**Pb**	**15 03 54.7**	**-1.7**
CHIC				S	**Sg**	**15 04 32.6**	**-1.8**
CBOC	**Ciudad Bolivar**	**2.76**	**359**	P	**Pb**	**15 03 57.9**	**+0.5**
CBOC				S	**Sg**	**15 04 35.9**	**-0.5**
BONI	**La Bonita**	**3.05**	**211**	P	**Pb**	**15 04 02.7**	**+0.4**
PTLC	**Puerto Leguiza**	**3.12**	**158**	P	**Pb**	**15 04 03.5**	**+0.2**
PTLC				S	**Sg**	**15 04 50.8**	**+3.0**
GUVC	**San Jose del G**	**3.37**	**99**	P	**Pb**	**15 04 08.6**	**+1.0**
GUVC				S	**Sb**	**15 04 49.0**	**+0.1**
PTBC	**PUERTO BERRIO,**	**3.75**	**23**	P	**Pb**	**15 04 10.6**	**-3.4**
PTBC				S	**Sb**	**15 04 59.6**	**-0.1**
RUSC	**La Rusia**	**4.00**	**46**	P	**Pb**	**15 04 14.8**	**-3.9**
YKA	**Yellowknife Ar**	**65.83**	**341**	P	**P**	**15 13 52.8**	**-0.5**
	0.1nm,0.4s,baz=137,slow=6.1,SNR=1.7						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**144.62**	**232**	PKP	**PKPdf**	**15 22 45.9**	**0.0**
	0.3nm,0.7s,baz=112,slow=3.6,SNR=9.1						

---

*NEIC **26** 15:17:43.4±0.9, 18°.3S±0°.1×178°.0W±0°.2, h583km±11km, mb4.2/26, Error ellipse: s-maj=24.8km s-min=18.4km az=97.0*
*IDC **26** 15:17:43.5±1.9, 18°.31S×178°.14W, h578km±20km, mb3.1/5, mbtmp4.0/6, Error ellipse: s-maj=27.0km s-min=22.1km az=85.0*
ISC 26 15:17:41.9±0.9,**18°.4S**±0°.1×**178°.1W**±0°.2,**h557**km,**n37,**
σ**1**^{s}**15**/38,**mb4.1**/18,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73**	**279**	P	**P**	**15 19 06.2**	**+3.8**
	35nm,0.6s,baz=128,slow=11,SNR=34						
FUTU	**Fugatoga**	**4.05**	**360**	P	**P**	**15 19 06.6**	**+1.8**
FUNA	**Funafuti**	**10.14**	**345**	P	**P**	**15 20 02.2**	**+0.7**
URZ	**Urewera**	**20.25**	**191**	P	**P**	**15 21 39.1**	**-0.6**
	8.2nm,0.9s,baz=22,slow=11,SNR=7.4						
	8.2nm,0.9s						
BKZ	**Black Stump Fm**	**21.24**	**192**	P	**P**	**15 21 48.5**	**-0.3**
BKZ				IAmb	IAmb	15 22 29.6	
	comp=Z,14nm,1.2s						
HNR	**Honiara**	**23.08**	**290**	P	**P**	**15 22 05.8**	**+0.4**
THZ	**Tophouse**	**24.55**	**196**	P	**P**	**15 22 19.0**	**+0.8**
KHZ	**Kahutara**	**25.00**	**195**	P	**P**	**15 22 22.5**	**+0.5**
COEN	**Coen**	**37.41**	**271**	P	**P**	**15 24 08.3**	**-0.1**
COEN				IAmb	IAmb	15 24 25.9	
	comp=Z,32nm,1.5s						
MCQ	**Macquarie Isla**	**40.13**	**201**	P	**P**	**15 24 28.5**	**-1.2**
WR0	**Warramunga Arr**	**44.66**	**260**	P	**P**	**15 25 05.7**	**-0.1**
WR0				IAmb	IAmb	15 25 43.9	
	comp=Z,8.3nm,1.4s						
WB0	**Warramunga Arr**	**44.81**	**260**	P	**P**	**15 25 06.4**	**-0.6**
WB2	**Warramunga Arr**	**44.84**	**260**	P	**P**	**15 25 06.6**	**-0.6**
WB2				IAmb	IAmb	15 25 08.7	
	comp=Z,8.6nm,1.3s						
WRAB	**Tennant Creek**	**44.84**	**260**	P	**P**	**15 25 06.6**	**-0.6**
WRAB				IAmb	IAmb	15 25 46.8	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**44.85**	**260**	P	**P**	**15 25 06.7**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.4,SNR=23						
	comp=Z,0.9nm,0.5s						
AS31	**Alice Springs**	**44.96**	**255**	P	**P**	**15 25 08.1**	**0.0**
ASAR	**Alice Springs**	**44.96**	**255**	P	**P**	**15 25 07.9**	**-0.2**
ASAR	**Alice Springs**	**44.96**	**255**	P	**P**	**15 25 08.2**	**+0.1**
	comp=Z,4.5nm,0.6s,baz=87,slow=9.2,SNR=139						
ASAR				PcP	**PcP**	**15 26 37.0**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=91,slow=3.4,SNR=5.4						
	comp=Z,4.5nm,0.6s						
MTN	**Manton Dam**	**49.09**	**269**	P	**P**	**15 25 38.3**	**-0.9**
MTN				IAmb	IAmb	15 26 02.1	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**50.74**	**265**	P	**P**	**15 25 50.7**	**-0.6**
KNRA				IAmb	IAmb	15 26 29.2	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.25**	**261**	P	**P**	**15 26 09.1**	**-0.2**
GIRL	**Giralia**	**63.05**	**253**	P	**P**	**15 27 13.7**	**-1.7**
QSPA	**South Pole Qui**	**71.68**	**180**	P	**P**	**15 28 09.5**	**+1.9**
QSPA	**South Pole Qui**	**71.68**	**180**	P	**P**	**15 28 09.2**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=42,slow=18,SNR=7.0						
	comp=Z,0.9nm,0.8s						
K15K	**Wolf Creek Mou**	**81.47**	**8**	P	**P**	**15 29 00.3**	**-0.5**
K15K				IAmb	IAmb	15 29 14.5	
	comp=Z,20nm,1.4s						
L18K	**Granite Mounta**	**82.10**	**10**	P	**P**	**15 29 03.6**	**-0.5**
L18K				IAmb	IAmb	15 29 45.6	
	comp=Z,7.2nm,1.4s						
J16K	**Anvik River**	**82.54**	**8**	P	**P**	**15 29 05.5**	**-0.7**
J17K	**VABM Dome**	**82.85**	**9**	P	**P**	**15 29 07.3**	**-0.5**
J17K				IAmb	IAmb	15 29 18.2	
	comp=Z,7.5nm,1.4s						
GHO	**Glory Hole Cre**	**83.19**	**13**	P	**P**	**15 29 08.7**	**-1.0**
SCM	**Sheep Creek Mo**	**83.61**	**14**	P	**P**	**15 29 10.7**	**-1.1**
SCM				IAmb	IAmb	15 29 19.6	
	comp=Z,13nm,1.4s						
N25K	**Chitina, Valde**	**84.07**	**15**	P	**P**	**15 29 13.2**	**-0.9**
N25K				IAmb	IAmb	15 29 45.1	
	comp=Z,5.8nm,1.3s						
CCB	**Clear Creek Bu**	**85.97**	**13**	P	**P**	**15 29 21.3**	**-1.7**
IL31		**86.28**	**13**	P	**P**	**15 29 22.9**	**-1.5**
IL31				IAmb	IAmb	15 29 35.1	
	comp=Z,4.9nm,1.3s						
ILAR	**Eielson Array**	**86.28**	**13**	P	**P**	**15 29 22.9**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=208,slow=5.0,SNR=13						
	comp=Z,0.2nm,0.4s						
F24K	**Squaw Lake**	**88.49**	**11**	P	**P**	**15 29 34.1**	**-0.8**
F24K				IAmb	IAmb	15 29 44.8	
	comp=Z,4.5nm,1.5s						
BMAR	**Burnt Mountain**	**89.05**	**12**	P	**P**	**15 29 37.2**	**-0.3**
GERES	**GERESS Array B**	**148.14**	**345**	PKPbc	**PKPbc**	**15 36 24.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=24,slow=7.5,SNR=2.0						

IDC 26 15:20:14.4±2.0,**2°.24N**×**126°.45E,h0**km,**mb3.2**/4,
mbtmp3.2/4,**Error ellipse: s-maj=200.5km**
s-min=22.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**161**	P	P	15 25 23.0	-1.8
	0.2nm,0.4s,baz=339,slow=10,SNR=5.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**26.75**	**165**	P	P	15 25 57.8	+1.8
	0.2nm,0.7s,baz=346,slow=11,SNR=1.7						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**58.62**	**326**	P	P	15 30 13.6	+0.2
	0.2nm,0.5s,baz=126,slow=7.6,SNR=4.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.84**	**328**	P	P	15 30 41.9	-0.2
	0.2nm,0.4s,baz=128,slow=6.2,SNR=6.0						
	0.2nm,0.4s						

---

*MDD **26** 15:45:46.1±0.5,36°.60N×2°.75W,h5km±10km,mb_Lg2.7/8, Error ellipse: s-maj=3.7km s-min=2.9km az=156.0*
*SFS **26** 15:45:46.0,36°.63N×2°.73W,h17km,ML2.7/8,ML2.5/11, MLv2.4/11*
*CNRM **26** 15:45:47.7,36°.46N×2°.90W,h58km*
ISC 26 15:45:44.4±1.1,**36°.54N**±0°.03×**2°.75W**±0°.02,**h15**km±9km,
n37,σ1^{s}**17**/52,**1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.38**	**343**	Pg	**Pg**	**15 45 52.0**	**-0.1**
EBER	**Berja**	**0.38**	**343**	||Pg	**Pg**	**15 45 52.0**	**-0.1**
EBER				Sg	**Sg**	**15 45 56.2**	**-1.3**
ENIJ	**Nijar**	**0.61**	**45**	Pg	**Pg**	**15 45 56.8**	**+0.3**
ENIJ				Sg	**Sg**	**15 46 03.3**	**-1.3**
ENIJ	**Nijar**	**0.61**	**45**	Pg	**Pg**	**15 45 56.8**	**+0.3**
ENIJ				Sg	**Sg**	**15 46 04.7**	**0.0**
ENIJ				*i* Vmb_Lg		15 46 05.4	
EALB	**Alboran**	**0.64**	**201**	Pg	**Pn**	**15 45 58.9**	**0.0**
EALB				Sg	**Sn**	**15 46 08.9**	**+0.2**
EALB	**Alboran**	**0.64**	**201**	Pg	**Pn**	**15 45 59.3**	**+0.4**
EALB				Sg	**Sn**	**15 46 09.0**	**+0.2**
EALB				*i* Vmb_Lg		15 46 10.4	
ELGU	**Los Guajares,**	**0.78**	**295**	Pg	**Pg**	**15 45 59.4**	**-0.2**
ELGU	**Los Guajares,**	**0.78**	**295**	Pg	**Pg**	**15 45 59.4**	**-0.2**
ELGU				Sg	**Sg**	**15 46 09.4**	**-0.5**
ELGU				*i* Vmb_Lg		15 46 11.3	
EQUE	**Quentar**	**0.87**	**320**	Pg	**Pg**	**15 46 01.3**	**+0.1**
EQUE				Sg	**Sg**	**15 46 10.8**	**-1.9**
EQUE				*i* Vmb_Lg		15 46 12.2	
EQTA	**Presa de Quent**	**0.87**	**320**	Pg	**Pg**	**15 46 01.3**	**0.0**
EQTA				Sg	**Sg**	**15 46 10.5**	**-2.2**
EGOR	**Sierra Gorda,**	**1.23**	**298**	Pg	**Pb**	**15 46 07.8**	**+0.4**
EGOR	**Sierra Gorda,**	**1.23**	**298**	Pg	**Pg**	**15 46 08.2**	**+0.1**
EGOR				Sg	**Sb**	**15 46 22.9**	**-0.3**
EGOR				*i* Vmb_Lg		15 46 28.9	
EQES	**Quesada**	**1.29**	**349**	Pg	**Pg**	**15 46 09.8**	**+0.5**
EQES				Sg	**Sg**	**15 46 26.5**	**+0.5**
EQES				*i* Vmb_Lg		15 46 32.9	
GOG	**Mont Gurugu**	**1.33**	**189**	P	**Pn**	**15 46 09.1**	**+0.6**
GOG	**Mont Gurugu**	**1.33**	**189**	S	**Sb**	**15 46 25.4**	**-0.5**
EMAL	**Malaga-Limoner**	**1.37**	**280**	Pn	**Pn**	**15 46 09.8**	**+0.8**
TLOR	**Lorca, Murcia**	**1.40**	**37**	Pn	**Pn**	**15 46 10.1**	**+0.7**
E0803	**Jimena (Jaen)**	**1.42**	**336**	Pg	**Pg**	**15 46 12.6**	**+1.0**
E0803				Sg	**Sg**	**15 46 31.1**	**+0.9**
PALE	**Palemas**	**1.63**	**217**	P	**Pn**	**15 46 12.6**	**-0.1**
PALE	**Palemas**	**1.63**	**217**	S	**Sn**	**15 46 31.4**	**-2.0**
TAF	**Taforalt**	**1.74**	**171**	P	**Pn**	**15 46 15.6**	**+1.4**
TAF	**Taforalt**	**1.74**	**171**	S	**Sn**	**15 46 36.6**	**+0.5**
CART	**Cartagena**	**1.75**	**53**	Pn	**Pn**	**15 46 13.7**	**-0.4**
CART				Sn	**Sn**	**15 46 32.8**	**-3.3**

GO02			*e*S		**Sn**	**16 09 20.6 -0.3**
PB06	**IPOC Station P**	**2.69 302**	*e*P		**Pn**	**16 08 49.3 +0.7**
PB06			*e*S		**Sn**	**16 09 23.6 -1.2**
PB06			IAML			16 09 26.5
	comp=Z,126nm,0.1s					
PB06	**IPOC Station P**	**2.69 302**	⇑*i*P		**Pn**	**16 08 49.5 +1.0**
PB06			*e*S		**Sn**	**16 09 23.5 -1.3**
PB06			IAML			16 09 26.3
	comp=N,203nm,0.2s					
PB14	**IPOC Station P**	**3.05 260**	*e*P		**Pn**	**16 08 53.6 +0.7**
PB14			*e*S		**Sn**	**16 09 31.1 -1.5**
PB14			IAML			16 09 32.4
	comp=Z,49nm,0.1s					
PB14	**IPOC Station P**	**3.05 260**	*e*P		**Pn**	**16 08 53.7 +0.7**
PB09	**IPOC Station P**	**3.06 319**	*e*P		**Pn**	**16 08 54.2 +1.2**
PB09			*e*S		**Sn**	**16 09 32.7 +0.1**
PB09			IAML			16 09 37.6
	comp=Z,33nm,0.3s					
PB09	**IPOC Station P**	**3.06 319**	*e*P		**Pn**	**16 08 54.3 +1.3**
PB09			IAML			16 09 37.0
	comp=N,44nm,0.2s					
AHML	**Horco Molle**	**3.07 149**	*e*P		**Pn**	**16 08 53.4 +0.5**
PB03	**IPOC Station P**	**3.21 310**	*e*P		**Pn**	**16 08 55.2 +0.4**
PB03			*e*S		**Sn**	**16 09 33.6 -2.2**
PB03			IAML			16 09 37.8
	comp=Z,90nm,0.3s					
PB03	**IPOC Station P**	**3.21 310**	*e*P		**Pn**	**16 08 55.3 +0.6**
PB03			IAML			16 09 37.3
	comp=E,108nm,0.2s					
AC02	**Maricunga**	**3.25 214**	*e*P		**Pn**	**16 08 55.5 +0.1**
AC02			*e*S		**Sn**	**16 09 40.9 +3.8**
AC01	**Pan de Azucar**	**3.75 237**	*e*P		**Pn**	**16 09 00.4 -0.5**
AC01			*e*S		**Sn**	**16 09 44.9 -2.2**
AC01			IAML			16 09 48.1
	comp=Z,16nm,0.5s					
AC01	**Pan de Azucar**	**3.75 237**	*e*P		**Pn**	**16 09 00.8 -0.2**
PB01	**IPOC Station P**	**3.79 324**	*e*P		**Pn**	**16 09 01.8 +0.1**
PB01			*e*S		**Sn**	**16 09 48.8 +0.4**
PB01			IAML			16 09 58.9
	comp=Z,24nm,0.4s					
PB01	**IPOC Station P**	**3.79 324**	*e*P		**Pn**	**16 09 01.9 +0.2**
PB08	**IPOC Station P**	**4.42 334**	*e*P		**Pn**	**16 09 10.9 +1.1**
PB08			*e*S		**Sn**	**16 10 02.0 -0.8**
PB08			IAML			16 10 04.0
	comp=Z,14nm,0.5s					
PB08	**IPOC Station P**	**4.42 334**	*e*P		**Pn**	**16 09 10.7 +0.9**
TA01	**Diego Aracena**	**4.56 321**	*e*P		**Pn**	**16 09 11.7 +0.4**
TA01			*e*S		**Sn**	**16 10 05.1 -0.4**
TA01			IAML			16 10 05.8
	comp=Z,13nm,0.5s					
PB11	**IPOC Station P**	**4.97 331**	*e*P		**Pn**	**16 09 16.6 +0.1**
PB11			*e*S		**Sn**	**16 10 12.8 -2.2**
PB11			IAML			16 10 17.3
	comp=Z,12nm,0.2s					
ACLC	**CERRO LA CRUZ**	**5.26 179**	*e*P		**Pn**	**16 09 21.7 +1.6**
ACLC			IAML			16 10 59.3
	comp=Z,3.9nm,4.3s					

NOU 26 16:25:57.5, 15°.75S×167°.10E, h11km, mb4.2/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.22**	**152**	P	Pn	16 26 35.3	+1.0
KOUNC	**Koumac, New Ca**	**5.47**	**209**	P	Pn	16 27 19.1	+0.1
YATNC	**Mamie plateau,**	**6.28**	**182**	P	Pn	16 27 29.6	-0.5
DZM	**Mont Dzumac**	**6.32**	**186**	P	Pn	16 27 30.6	-0.1
ONTNC	**Ouen Toro**	**6.55**	**185**	P	Pn	16 27 34.2	+0.4
PINNC	**Pines Island,**	**6.83**	**177**	P	Pn	16 27 37.8	+0.1

*IDC **26** 16:31:16.7±0.9, 36°.75N×140°.52E, h0km, mb3.6/9, mbtmp3.5/12, ML3.0/3, Error ellipse: s-maj=19.9km s-min=13.2km az=168.0*
*JMA **26** 16:31:17.9±0.0, 36°.8N±0°.1×140°.6E±0°.2, h7km, MV3.4/20, NORTHERN IBARAKI PREF*
JMA Felt I J1 at NORTHERN IBARAKI PREF .
ISC 26 16:31:17.9±1.1, 36°.82N±0°.03×140°.61E±0°.05, h5km±7km, n26, σ1§26/28, mb3.5/9, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**188**	P	**Pg**	**16 31 22.3**	**+0.2**
JHO				*e*S	**Sg**	**16 31 25.7**	**+0.8**
JFFD	**Fukushimafurud**	**0.27**	**352**	P	**Pg**	**16 31 23.0**	**-0.2**
JFFD				*e*S	**Sg**	**16 31 26.5**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.32**	**29**	P	**Pg**	**16 31 24.1**	**0.0**
ONAJ				*e*S	**Sg**	**16 31 28.6**	**+0.2**
JSB	**Shiboa**	**0.57**	**285**	P	**Pg**	**16 31 29.3**	**+0.4**
JSB				S	**Sg**	**16 31 37.3**	**+1.1**
JFK	**Kawauchi**	**0.58**	**22**	P	**Pg**	**16 31 28.8**	**-0.4**
JFK				*e*S	**Sg**	**16 31 36.8**	**0.0**
JYT	**Yasato**	**0.68**	**209**	⇓P	**Pg**	**16 31 30.7**	**-0.2**
JYT				⇓S	**Sg**	**16 31 39.7**	**-0.1**
JOTO	**OTAMA OYAMA**	**0.77**	**344**	P	**Pg**	**16 31 32.3**	**-0.3**
JOTO				*e*S	**Sg**	**16 31 42.3**	**-0.3**
MJAR	**Matsushiro Arr**	**1.95**	**262**	Pg	**Pn**	**16 31 51.6**	**0.0**
	2.8nm,0.3s,baz=86,slow=15,SNR=99						
MJAR				Lg	Lg	16 32 15.7	
	6.5nm,0.3s,baz=4.3,slow=20,SNR=22						
ASAJ	**Asahikawa**	**7.44**	**11**	Pn	**Pn**	**16 33 05.8**	**-1.3**
	0.4nm,0.3s,baz=258,slow=14,SNR=5.4						
ASAJ				Sn	**Sn**	**16 34 35.6**	**+3.8**
	0.2nm,0.3s,baz=172,slow=29,SNR=1.9						
	3.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn	**Pn**	**16 33 41.4**	**+1.1**
	baz=127,slow=10,SNR=4.9						
	0.7nm,0.8s						
KSRS	**Korea Array**	**10.15**	**277**	Pn	**Pn**	**16 33 45.0**	**+0.9**
	0.1nm,0.3s,baz=89,slow=14,SNR=4.5						
	0.4nm,0.5s						
SONM	**Songino Array**	**27.37**	**305**	P	**P**	**16 37 02.5**	**-1.6**
	0.4nm,0.6s,baz=118,slow=11,SNR=3.7						
	0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.60**	**119**	T	T	17 07 02.7	
	baz=312,slow=75,SNR=80						
H11N1	**WAKE ISLAND Hy**	**28.61**	**119**	T	T	17 06 60.0	
	baz=312,slow=75,SNR=86						
H11N3	**WAKE ISLAND Hy**	**28.62**	**119**	T	T	17 07 03.6	
	baz=312,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	17 07 51.5	
	baz=314,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**29.30**	**121**	T	T	17 07 51.6	
	baz=314,slow=76,SNR=69						
H11S2	**WAKE ISLAND Hy**	**29.31**	**121**	T	T	17 07 53.8	
	baz=314,slow=76,SNR=76						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**16 39 22.8**	**-0.7**
	0.3nm,0.7s,baz=88,slow=8.4,SNR=3.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**45.62**	**308**	P	**P**	**16 39 37.2**	**-1.7**
	0.7nm,0.2s,baz=85,slow=8.0,SNR=5.3						
	0.7nm,0.2s						
ILAR	**Eielson Array**	**50.02**	**32**	P	**P**	**16 40 13.0**	**+0.2**
	0.3nm,0.8s,baz=269,slow=7.5,SNR=2.8						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**50.24**	**312**	P	**P**	**16 40 13.3**	**-1.3**
	0.5nm,0.7s,baz=98,slow=6.0,SNR=2.0						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**56.77**	**187**	P	**P**	**16 41 01.5**	**-1.3**
	0.4nm,0.4s,baz=2.3,slow=7.5,SNR=8.8						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**60.49**	**187**	P	**P**	**16 41 27.2**	**-1.6**
	0.2nm,0.8s,baz=2.6,slow=6.0,SNR=2.1						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**75.63**	**53**	P	**P**	**16 43 06.4**	**+2.2**
	0.3nm,0.6s,baz=315,slow=6.3,SNR=2.4						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**90.76**	**52**	P	**P**	**16 44 23.4**	**+1.1**
	0.3nm,0.5s,baz=311,slow=4.5,SNR=3.0						
	0.3nm,0.5s						

*JMA **26** 16:48:57.6±0.3, 25°.N±2°.×122°.4E±0°.6, h0km, MV2.3/6, NW OFF ISHIGAKIJIMA IS*
*TAP **26** 16:48:58.1, 24°.92N×122°.46E, h18km, ML2.6, C*
ISC 26 16:48:58.0±1.1, 24°.90N±0°.03×122°.44E±0°.02, h11km±9km, n46, σ0§46/91, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**285**	*i*P	**Pb**	**16 49 07.5**	**-0.1**
TWB1				*i*S	**Sb**	**16 49 13.7**	**-0.3**
EGS		**0.47**	**263**	*i*P	**Pb**	**16 49 08.1**	**-0.2**
EGS				*e*S	**Sb**	**16 49 15.4**	**+0.2**
EOS2	**EOS2**	**0.52**	**202**	*e*P	**Pb**	**16 49 09.3**	**+0.3**
EOS2				*e*S	**Sb**	**16 49 18.1**	**+1.6**
SXI1	**Grass Mountain**	**0.55**	**291**	⇑*i*P	**Pb**	**16 49 09.9**	**+0.1**
SXI1				S	**Sb**	**16 49 17.9**	**+0.1**
TIPB	**Shuangxi**	**0.57**	**277**	*i*P	**Pb**	**16 49 10.2**	**+0.2**
TIPB				*i*S	**Sb**	**16 49 18.0**	**-0.1**
TWC	**Suao**	**0.61**	**242**	*e*P	**Pb**	**16 49 10.5**	**-0.3**
TWC				S	**Sg**	**16 49 18.5**	**+0.4**
EOS3	**EOS3**	**0.62**	**191**	*i*P	**Pb**	**16 49 11.1**	**+0.2**
EOS3				S	**Sn**	**16 49 21.3**	**-1.3**
NWF	**Wu-fen Shan**	**0.62**	**286**	*e*P	**Pb**	**16 49 11.2**	**+0.1**
NWF				*i*S	**Sb**	**16 49 19.9**	**0.0**
WFSB	**Wu-fen Shan**	**0.62**	**286**	*e*P	**Pb**	**16 49 11.3**	**+0.3**
WFSB				S	**Sb**	**16 49 20.1**	**+0.3**
ESAO	**Su ao**	**0.63**	**240**	*e*P	**Pb**	**16 49 11.0**	**-0.1**
ESAO				*e*S	**Sb**	**16 49 20.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.64**	**134**	P	**Pg**	**16 49 10.2**	**-0.2**
JYNG				S	**Sg**	**16 49 19.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.68**	**130**	*e*P	**Pg**	**16 49 10.8**	**-0.3**
YOJ				*i*S	**Sg**	**16 49 19.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.68**	**130**	P	**Pg**	**16 49 10.8**	**-0.3**
YOJ				*e*S	**Sg**	**16 49 19.9**	**-0.1**
NDS	**Dongshan**	**0.71**	**248**	*i*P	**Pb**	**16 49 12.5**	**0.0**
NDS				*e*S	**Sb**	**16 49 22.2**	**-0.1**
TWE	**Neicheng**	**0.73**	**256**	*e*P	**Pg**	**16 49 12.3**	**+0.2**
TWE				*i*S	**Sb**	**16 49 22.8**	**+0.1**
EWUT	**Wuta**	**0.76**	**233**	*e*P	**Pb**	**16 49 13.2**	**-0.1**
EWUT				*i*S	**Sb**	**16 49 23.3**	**-0.2**
EOS4	**EOS4**	**0.78**	**188**	*i*P	**Pb**	**16 49 13.6**	**+0.1**
EOS4				*i*S	**Sb**	**16 49 25.3**	**+1.3**
TWA	**Mucha**	**0.79**	**276**	*i*P	**Pn**	**16 49 14.8**	**-0.3**
TWA				S	**Sb**	**16 49 25.5**	**+1.1**
FUSB	**Fushanzhiwuyua**	**0.79**	**260**	*i*P	**Pg**	**16 49 13.3**	**-0.1**
FUSB				*e*S	**Sb**	**16 49 25.2**	**+0.6**
ENA	**Nanau**	**0.79**	**234**	*e*P	**Pg**	**16 49 13.6**	**+0.2**
ENA				S	**Sg**	**16 49 24.0**	**+0.3**
PCYT	**Pengchaiyu**	**0.80**	**335**	*i*P	**Pb**	**16 49 13.9**	**-0.1**
PCYT				*e*S	**Sb**	**16 49 25.1**	**+0.3**
YM08	**YM08**	**0.83**	**290**	*e*P	**Pg**	**16 49 14.1**	**+0.1**
YM08				*e*S	**Sb**	**16 49 26.4**	**+0.8**
YM01	**YM01**	**0.83**	**287**	P	**Pb**	**16 49 14.5**	**0.0**
YM01				S	**Sb**	**16 49 25.8**	**0.0**
ENTT	**Nioudou**	**0.84**	**252**	*i*P	**Pb**	**16 49 14.9**	**+0.3**
ENTT				S	**Sb**	**16 49 26.5**	**+0.6**
TWY	**Chenhua**	**0.85**	**296**	P	**Pg**	**16 49 14.1**	**-0.4**
TWY				*i*S	**Sb**	**16 49 27.3**	**+1.0**
EAHA	**Aohua**	**0.86**	**229**	P	**Pg**	**16 49 14.3**	**-0.2**
EAHA				*e*S	**Sg**	**16 49 26.1**	**+0.4**
NWLT	**Wulai**	**0.86**	**262**	*i*P	**Pb**	**16 49 14.9**	**-0.2**
NWLT				S	**Sb**	**16 49 26.9**	**+0.2**
ANP	**Anpu**	**0.89**	**289**	*i*P	**Pg**	**16 49 15.2**	**+0.1**
ANP				S	**Sb**	**16 49 28.4**	**+1.0**
LATG	**Datong**	**0.91**	**247**	*e*P	**Pb**	**16 49 16.0**	**+0.1**
LATG				*i*S	**Sb**	**16 49 28.2**	**+0.1**
YHNB	**Yeheng**	**1.00**	**257**	*i*P	**Pg**	**16 49 16.6**	**-0.6**
YHNB				*e*S	**Sg**	**16 49 30.3**	**+0.1**
NSK	**Sanguang**	**1.01**	**257**	*i*P	**Pg**	**16 49 17.5**	**0.0**
NSK				S	**Sb**	**16 49 31.0**	**0.0**
NACB	**Ninganchiao**	**1.06**	**227**	P	**Pg**	**16 49 17.9**	**-0.5**
NACB				S	**Sg**	**16 49 31.8**	**-0.4**
NNSB	**Datong**	**1.07**	**244**	*e*P	**Pb**	**16 49 18.7**	**0.0**
NNSB				*i*S	**Sg**	**16 49 32.6**	**-0.1**
NNS	**Nan Shan**	**1.08**	**245**	*i*P	**Pb**	**16 49 19.0**	**+0.3**
NNS				S	**Sg**	**16 49 32.6**	**-0.2**
ETLH	**Xiulin Townshi**	**1.11**	**232**	*i*P	**Pg**	**16 49 19.3**	**-0.2**
ETLH				S	**Sn**	**16 49 34.9**	**-0.2**
KSHI	**Guanxi Townshi**	**1.16**	**264**	*e*P	**Pn**	**16 49 20.9**	**+0.6**
KSHI				*e*S	**Sg**	**16 49 35.5**	**+0.2**
NFF	**Wufeng Townshi**	**1.23**	**258**	*i*P	**Pn**	**16 49 20.6**	**-0.7**
NFF				*e*S	**Sn**	**16 49 38.4**	**+0.4**
FUSS	**Fushou**	**1.27**	**240**	*i*P	**Pg**	**16 49 22.4**	**-0.1**
FUSS				*e*S	**Sg**	**16 49 39.2**	**+0.2**
LXIB	**Xiulin Townshi**	**1.28**	**227**	*i*P	**Pn**	**16 49 22.0**	**-0.1**
LXIB				*e*S	**Sn**	**16 49 40.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.30**	**115**	P	**Pg**	**16 49 23.2**	**+0.2**
WHF	**Hehuan Shan**	**1.31**	**235**	*i*P	**Pn**	**16 49 21.6**	**-1.1**
WHF				*e*S	**Sb**	**16 49 39.1**	**-0.9**
TWT	**Tachien**	**1.32**	**241**	*i*P	**Pg**	**16 49 23.6**	**+0.2**
TWT				S	**Sg**	**16 49 41.1**	**+0.4**
LIOB	**Emei**	**1.32**	**259**	*i*P	**Pn**	**16 49 22.2**	**-0.3**
LIOB				*e*S	**Sb**	**16 49 40.1**	**+0.2**
NSTT	**Nanjuang**	**1.34**	**259**	P	**Pb**	**16 49 23.1**	**-0.1**
NSTT				*e*S	**Sb**	**16 49 40.3**	**-0.1**
ESL	**Shilin**	**1.42**	**221**	*e*P	**Pn**	**16 49 23.6**	**-0.2**
ESL				*e*S	**Sb**	**16 49 43.2**	**+0.5**
OWD	**Renai**	**1.49**	**231**	*i*P	**Pb**	**16 49 25.6**	**-0.2**
OWD				*e*S	**Sb**	**16 49 45.4**	**+0.6**

*SJA **26** 17:07:22.3±0.7, 30°.61S×71°.74W, h22km±3km, ML3.6, MW3.8*
*GUC **26** 17:07:25.4±0.8, 30°.66S×71°.60W, h35km±2km, ML3.8*
ISC 26 17:07:25.0±1.1, 30°.58S±0°.03×71°.70W±0°.05, h29km±7km, n54, σ1§63/81, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.11**	**149**	⇑*i*P	**Pb**	**17 07 30.4**	**0.0**
CO06				*e*S	**Sb**	**17 07 34.0**	**-0.1**
CO06				IAML		17 07 34.6	
	comp=N,19µm,0.3s						
CO05	**La Serena**	**0.77**	**32**	*e*P	**Pn**	**17 07 40.0**	**+0.1**
CO05				*e*S	**Sn**	**17 07 51.5**	**+1.0**
CO05				IAML		17 07 54.8	
	comp=N,2µm,0.6s						
GO04	**Tololo Observa**	**0.88**	**63**	*e*P	Pn	17 07 24.2	-17
GO04	**Tololo Observa**	**0.88**	**63**	⇓*i*P	**Pn**	**17 07 41.1**	**-0.6**
GO04				*e*S	**Sb**	**17 07 53.5**	**+0.1**
CO03	**El Pedregal**	**0.91**	**107**	*e*S	**Sb**	**17 07 54.0**	**-0.3**
CO03				IAML		17 07 54.9	
	comp=Z,1µm,0.3s						
CO03	**El Pedregal**	**0.91**	**107**	⇓*i*P	**Pn**	**17 07 40.2**	**-1.8**
CO03				*e*S	**Sb**	**17 07 51.5**	**-2.7**
CO03				IAML		17 07 54.3	
	comp=E,3µm,0.3s						
CO01	**Juntas del Tor**	**1.52**	**67**	*e*P	**Pn**	**17 07 50.2**	**-0.2**
CO01				*e*S	**Sb**	**17 08 11.7**	**+0.1**
CO01				IAML		17 08 14.0	
	comp=Z,439nm,0.3s						
CO01	**Juntas del Tor**	**1.52**	**67**	*e*P	**Pn**	**17 07 50.8**	**+0.3**
CO01				*e*S	**Sn**	**17 08 10.0**	**+0.7**
CO01				IAML		17 08 14.9	
	comp=N,885nm,0.4s						
LCO	**Las Campanas**	**1.79**	**29**	*e*P	**Pn**	**17 07 55.2**	**+1.0**
LCO				*e*S	**Sb**	**17 08 19.2**	**-0.2**
LCO				IAML		17 08 23.8	
	comp=Z,792nm,0.3s						
LCO	**Las Campanas**	**1.79**	**29**	*e*P	**Pn**	**17 07 55.1**	**+1.0**
LCO				*e*S	**Sn**	**17 08 17.5**	**+1.4**
AROD	**Rodeo**	**1.97**	**79**	*e*P	**Pb**	**17 07 59.1**	**-1.3**
AROD				*e*S	**Sb**	**17 08 24.7**	**0.0**
VA06	**Catapilco**	**2.01**	**170**	*e*P	**Pn**	**17 07 57.5**	**+0.5**
VA06				IAML		17 08 28.0	
	comp=N,1µm,0.4s						
ACDV	**Cuesta del Vie**	**2.27**	**80**	*e*P	Pn	17 07 47.2	-13
ACDV				*e*S	**Sb**	**17 08 35.7**	**+2.6**
ACDV				IAML		17 08 44.3	
	comp=Z,218nm,0.6s						
ACCO	**Cerro Coronel**	**2.27**	**91**	*e*P	**Pb**	**17 08 03.7**	**-2.0**
ACCO				*e*S	**Sn**	**17 08 29.0**	**+0.8**
DOCA	**Reserva Natura**	**2.29**	**100**	*e*P	**Pn**	**17 08 02.9**	**+1.8**
DOCA				*e*S	**Sn**	**17 08 27.6**	**-1.0**
DOCA				IAML		17 08 35.1	
	comp=Z,160nm,1.1s						
VA03	**San Esteban**	**2.39**	**156**	*e*P	**Pn**	**17 08 03.3**	**+0.9**
VA03				*e*S	**Sn**	**17 08 27.5**	**-3.3**
VA03				IAML		17 08 42.0	
	comp=Z,454nm,0.5s						
VA03	**San Esteban**	**2.39**	**156**	*e*P	**Pn**	**17 08 02.9**	**+0.6**
VA03				IAML		17 08 37.8	
	comp=E,623nm,0.3s						
RTLS	**Leoncito**	**2.40**	**121**	*e*P	**Pn**	**17 08 04.8**	**+2.2**
RTLS				*e*S	**Sn**	**17 08 30.4**	**-0.7**
RTLS				IAML		17 08 41.1	
	comp=Z,607nm,0.7s						
AC04	**Llanos de Chal**	**2.43**	**13**	*e*P	**Pn**	**17 08 02.9**	**+0.1**
AC04				*e*S	**Sn**	**17 08 31.5**	**+0.1**
AC04				IAML		17 08 46.9	
	comp=Z,151nm,1.2s						
AC04	**Llanos de Chal**	**2.43**	**13**	IAML		17 08 50.7	
	comp=N,264nm,0.1s						
VA01	**Torpederas**	**2.44**	**179**	*e*P	**Pn**	**17 08 03.0**	**+0.1**
VA01				*e*S	**Sn**	**17 08 32.9**	**+1.1**
VA01				IAML		17 08 39.4	
	comp=Z,148nm,0.6s						
VA01	**Torpederas**	**2.44**	**179**	*e*P	**Pn**	**17 08 02.8**	**-0.1**
VA01				IAML		17 08 39.7	
	comp=E,269nm,0.6s						
ROCH	**El Roble**	**2.46**	**166**	*e*P	**Pn**	**17 08 03.8**	**+0.4**
ROCH				*e*P	**Pn**	**17 08 03.8**	**+0.4**
ROCH				IAML		17 08 39.2	
	comp=N,861nm,0.5s						
ROCH				IAML		17 08 39.4	
	comp=N,420nm,0.5s						
ROC1	**El Roble**	**2.46**	**166**	*e*P	**Pn**	**17 08 02.8**	**-0.7**
ROC1				*e*S	**Sn**	**17 08 28.7**	**-4.0**
PEL	**Peldehue**	**2.70**	**162**	*e*P	**Pn**	**17 08 07.8**	**+1.2**
PEL				*e*S	**Sn**	**17 08 38.5**	**+0.2**
PEL	**Peldehue**	**2.70**	**162**	IAML		17 08 46.5	
	comp=E,448nm,0.7s						
MT02	**Curacav**	**2.72**	**170**	*e*P	**Pn**	**17 08 06.0**	**-0.7**
MT02				*e*S	**Sb**	**17 08 44.4**	**-1.5**
MT02				IAML		17 08 46.5	
	comp=Z,228nm,0.5s						
MT02	**Curacav**	**2.72**	**170**	*e*P	**Pn**	**17 08 07.1**	**+0.3**
MT02				IAML		17 08 44.9	
	comp=E,234nm,0.6s						
ZON	**Zonda**	**2.77**	**111**	*e*P	**Pn**	**17 08 09.7**	**+2.2**
ZON				*e*S	**Sb**	**17 08 44.1**	**-3.3**
ZON				IAML		17 08 53.0	
	comp=Z,135nm,0.4s						
SJA	**San Juan**	**2.86**	**110**	*e*P	**Pn**	**17 08 09.3**	**+0.6**
MT10	**Hacienda Santa**	**2.87**	**160**	*e*P	**Pn**	**17 08 08.7**	**-0.2**
MT10				IAML		17 08 59.4	
	comp=E,795nm,0.6s						
MT05	**Renca**	**2.92**	**164**	*e*P	**Pn**	**17 08 11.3**	**+1.7**
MT05				*e*S	**Sn**	**17 08 45.6**	**+1.8**
MT05				IAML		17 09 01.3	
	comp=Z,232nm,0.6s						
MT05	**Renca**	**2.92**	**164**	IAML		17 08 51.7	
	comp=E,800nm,0.5s						
MT14	**Cerro Calıjn**	**2.98**	**161**	IAML		17 08 58.7	
	comp=E,686nm,0.6s						
AGUA	**GUANDACOL**	**2.99**	**70**	*e*P	**Pb**	**17 08 15.0**	**-2.7**
AGUA				*e*S	**Sb**	**17 08 56.5**	**+2.6**
AGUA				IAML		17 09 01.9	
	comp=Z,235nm,0.5s						
FCH	**Farellones**	**2.99**	**157**	*i*P	**Pn**	**17 08 11.5**	**+0.7**
FCH				*e*S	**Sn**	**17 08 46.8**	**+0.8**
FCH				IAML		17 08 56.8	
	comp=E,210nm,0.4s						
MT16	**CCHEN**	**3.02**	**161**	*e*P	**Pn**	**17 08 11.6**	**+0.7**
MT16				IAML		17 08 58.8	
	comp=N,345nm,0.7s						
MT03	**Universidad Ad**	**3.08**	**161**	*e*P	**Pn**	**17 08 13.5**	**+1.7**
MT03				*e*S	**Sn**	**17 08 50.5**	**+2.7**
MT03				IAML		17 09 04.3	
	comp=Z,318nm,0.7s						
MT03	**Universidad Ad**	**3.08**	**161**	*e*P	**Pn**	**17 08 12.7**	**+0.8**
MT03				*e*S	**Sn**	**17 08 46.8**	**-0.9**
MT03				IAML		17 09 04.3	
	comp=E,672nm,0.4s						
MT04	**Ro Olivares**	**3.12**	**155**	*e*P	**Pn**	**17 08 14.1**	**+1.7**
MT04				*e*S	**Sn**	**17 08 50.0**	**+1.2**
MT04				IAML		17 09 02.4	
	comp=Z,208nm,0.4s						
MT04	**Ro Olivares**	**3.12**	**155**	*e*P	**Pn**	**17 08 12.7**	**+0.2**
MT04				*e*S	**Sn**	**17 08 49.5**	**+0.6**
MT04				IAML		17 09 01.6	
	comp=E,461nm,0.5s						
ASAL	**Salagasta**	**3.17**	**130**	*e*P	**Pn**	**17 08 15.6**	**+2.6**
ASAL				*e*S	**Sn**	**17 08 52.1**	**+2.3**
MT08	**Bocatoma Ro**	**3.20**	**154**	*e*P	**Pn**	**17 08 15.7**	**+2.1**
MT08				*e*S	**Sn**	**17 08 50.0**	**-0.8**
MT08				IAML		17 09 10.6	
	comp=Z,115nm,0.5s						
MT08	**Bocatoma Ro**	**3.20**	**154**	*e*S	**Sn**	**17 08 51.3**	**+0.4**
MT08				IAML		17 09 05.7	
	comp=E,234nm,0.5s						
MT09	**Talagante**	**3.25**	**169**	IAML		17 09 07.5	
	comp=E,414nm,0.3s						
ARCO	**CERRO ARCO**	**3.27**	**134**	*e*P	Pn	17 08 05.7	-8.7
ARCO				*e*S	**Sb**	**17 09 08.3**	**+6.5**
ARCO				IAML		17 09 12.7	
	comp=Z,131nm,0.4s						
MT01	**Popeta**	**3.30**	**173**	*e*P	**Pn**	**17 08 14.8**	**+0.1**
MT01				*e*S	**Sn**	**17 08 56.1**	**+3.1**
MT01				IAML		17 09 05.0	
	comp=Z,96nm,0.3s						
MT01	**Popeta**	**3.30**	**173**	*e*P	**Pn**	**17 08 15.3**	**+0.6**
MT01				IAML		17 09 04.7	
	comp=E,196nm,0.7s						
MT13	**San Alfonso**	**3.38**	**160**	*e*P	**Pn**	**17 08 16.8**	**+0.8**
MT13				*e*S	**Sn**	**17 08 56.5**	**+1

TWGZ S **S** **17 23 00.1 -2.4**
MWZ Matawai 6.74 195 P **Pn** **17 21 49.8 +2.8**
MWZ S **S** **17 23 05.3 -2.3**
URZ Urewera 6.77 198 P **Pn** **17 21 49.3 +2.1**
2.3nm,0.3s,baz=0.8,slow=4.5,SNR=17
URZ S **S** **17 23 05.8 -2.4**
11nm,0.4s,baz=149,slow=22,SNR=15
URZ Urewera 6.77 198 P **Pn** **17 21 49.2 +1.9**
URZ S **S** **17 23 04.8 -3.4**
TKGZ Te Karaka 6.78 193 P **Pn** **17 21 49.8 +2.6**
TKGZ S **S** **17 23 05.6 -2.6**
RTZ Ruatahuna 7.14 198 P **Pn** **17 21 53.5 +1.8**
RTZ S **S** **17 23 15.0 -1.2**
KNZ Kokohu 7.38 193 S **S** **17 23 19.6 -1.5**
BKZ Black Stump Fm 7.79 199 P **Pn** **17 22 00.5 +1.3**
BKZ S **S** **17 23 26.8 -3.3**
BFZ Birch Farm 9.28 197 P **P** **17 22 17.9 -1.0**
BFZ S **S** **17 23 58.6 -3.9**
ASAR Alice Springs 41.15 270 P **P** **17 27 19.8 +0.6**
0.3nm,0.5s,baz=109,slow=7.4,SNR=12
0.3nm,0.5s
WRA Warramunga Arr 42.27 275 P **P** **17 27 28.6 +0.4**
0.4nm,0.3s,baz=112,slow=7.8,SNR=9.4
0.4nm,0.3s
FINES FINESS Array B 145.78 338 PKPbc **PKPdf** **17 39 04.3 +0.3**
0.7nm,0.4s,baz=54,slow=3.0,SNR=7.2

AUST 26 17:54:51.1±0.3, 22°S±3°×12°6E±°, h10km, mb3.9/7, ML2.8/4, Error ellipse: s-maj=8.9km s-min=6.7km az=62.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**3.41**	**151**	P	Pn	17 55 46.2	+1.8
WRKA	**Warakurna**	**3.41**	**151**	S	Sn	17 56 25.6	+0.6
FITZ	**Fitzroy Crossi**	**4.01**	**349**	P	Pn	17 55 53.0	+0.4
KNRA	**Kununurra**	**6.71**	**19**	P	Pn	17 56 29.5	-0.2
	comp=Z,0.0nmcomp=Z,10nm,1.6s						
KNRA				S	Sn	17 57 40.6	-5.6
AS08	**Alice Springs**	**7.10**	**105**	P	Pn	17 56 34.8	-0.4
	comp=Z,0.0nmcomp=Z,2.3nm,1.5s						
MEEK	**Meekatharra**	**8.48**	**236**	P	Pn	17 56 54.7	+0.6
	comp=Z,0.0nmcomp=Z,15nm,2.4s						
FORT	**Forrest**	**8.80**	**171**	P	Pn	17 56 58.3	-0.2
	comp=Z,21nm,1.1s,comp=Z,0.1nm						
KMBL	**Kambalda**	**10.13**	**203**	P	Pn	17 57 15.9	-0.8
	comp=Z,0.1nmcomp=Z,17nm,2.0s						
OOD	**Oodnadatta**	**10.14**	**126**	P	Pn	17 57 16.0	-0.7
	comp=Z,6.8nm,1.4s,comp=Z,0.0nm						
MTN	**Manton Dam**	**10.19**	**27**	P	Pn	17 57 15.2	-2.3
GIRL	**Giralia**	**11.33**	**265**	P	Pn	17 57 32.5	-0.6
	comp=Z,128nm,1.7s						
MORW	**Morawa**	**11.71**	**231**	P	Pn	17 57 36.7	-1.6
BLDU	**Ballidu**	**12.20**	**224**	P	Pn	17 57 42.6	-2.4

IDC 26 17:59:01.2±5.9, 19°.46S×178°.00E, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=317.8km s-min=41.3km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.11**	**256**	P	P	18 06 47.1	-0.1
	0.3nm,0.6s,baz=82,slow=8.2,SNR=5.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**88.18**	**14**	P	P	18 11 53.7	+0.1
	1.1nm,0.6s,baz=245,slow=5.1,SNR=24						
	1.1nm,0.6s						
ARCES	**ARCESS Array B**	**127.18**	**348**	PKP	PKPdf	18 18 06.5	-0.5
	6.4nm,1.1s,baz=60,slow=2.2,SNR=6.1						

---

*MOS **26** 18:00:24.3±1.9, 12°.75S×45°.37E, h13km, mb4.6/20, Error ellipse: s-maj=11.3km s-min=7.5km az=84.8*
*IDC **26** 18:00:25.2±0.6, 12°.80S×45°.35E, h0km, mb4.3/18, mbtmp4.3/19, ML5.4/2, MS3.7/15, Error ellipse: s-maj=19.4km s-min=16.0km az=90.0*
*NEIC **26** 18:00:25.0±2.6, 12°.65S±0°.08×45°.6E±0°.1, h10km±1km, mb4.8/46, Error ellipse: s-maj=18.4km s-min=13.6km az=102.0*
ISC 26 18:00:24.4±0.3, 12°.79S±0°.05×45°.44E±0°.06, h10km, n196, σ2S03/189, mb4.7/67, MS3.8/15, 4C-5D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.99**	**164**	Pn	**Pn**	**18 01 55.0**	**+1.7**
	20nm,0.3s,baz=334,slow=13,SNR=1180						
OPO				Sn	**Sn**	**18 02 57.1**	**-5.0**
	32nm,0.3s,baz=263,slow=22,SNR=15						
OPO				LR	LR	18 04 16.0	
	comp=Z,649nm,20.4s,baz=180,slow=38						
ABPO	**Ambohimpanom**	**6.42**	**165**	Pn	**Pn**	**18 02 00.3**	**+1.0**
ABPO				Sn	**Sn**	**18 03 06.4**	**-6.4**
ABPO	**Ambohimpanom**	**6.42**	**165**	P	**Pn**	**18 02 00.3**	**+1.0**
VOI	**Vohitsoka**	**9.16**	**172**	Pn	**Pn**	**18 02 37.2**	**+0.4**
FOMA	**Nahampoana Res**	**12.21**	**173**	Pn	**Pn**	**18 03 18.9**	**+0.5**
KIBK	**Kibwezi**	**12.71**	**324**		**Pn**	**18 03 22.2**	**-3.2**
MSEY	**Mahe Island**	**12.78**	**52**	Pn	Pn	18 03 21.7	-4.7
MSEY					Sn	18 05 33.3	-16
RER	**Riviere de l'E**	**12.89**	**132**	Pn	**Pn**	**18 03 26.2**	**-1.7**
LSZ	**Lusaka**	**16.92**	**260**	Pn	**Pn**	**18 04 20.6**	**-1.0**
LSZ				IAmb	IAmb	18 04 27.6	
	comp=Z,94nm,0.9s						
LSZ	**Lusaka**	**16.92**	**260**	Pn	**Pn**	**18 04 22.1**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=82,slow=7.8,SNR=38						
LSZ				Sn	**Sn**	**18 07 21.0**	**-8.9**
	comp=Z,0.3nm,0.3s,baz=9.3,slow=17,SNR=2.1						
LSZ				LR	LR	18 10 46.7	
	comp=Z,281nm,19.4s,baz=90,slow=37						
	comp=Z,76nm,0.8s						
LSZ	**Lusaka**	**16.92**	**260**	*i* P	**Pn**	**18 04 21.0**	**-0.7**
MOPA	**Mopani**	**17.07**	**229**	*i* P	**Pn**	**18 04 23.9**	**+0.5**
MUSN	**Musina, Limpop**	**17.59**	**235**	*i* P	**Pn**	**18 04 30.0**	**+0.1**
BLWY	**Bulawayo**	**17.71**	**243**	*i* P	**Pn**	**18 04 31.2**	**-0.3**
MBAR	**Mbarara**	**18.95**	**309**	P	**P**	**18 04 44.9**	**-1.2**
MBAR	**Mbarara**	**18.95**	**309**	*i* P	**Pn**	**18 04 48.6**	**+1.9**
LODK	**Lodwar**	**18.97**	**327**		**P**	**18 04 44.3**	**-1.9**
BROLN	**Tlhalogang**	**19.18**	**242**	*i* P	**Pn**	**18 04 49.8**	**+0.4**
POGA	**Pongola**	**19.37**	**220**	P	**P**	**18 04 50.8**	**+0.4**
POGA				IAmb	IAmb	18 04 57.0	
	comp=Z,142nm,1.8s						
LPHEP	**Lephephe**	**21.35**	**238**	*i* P	**P**	**18 05 13.6**	**+1.5**
LBTB	**Lobatse**	**22.33**	**234**	P	**P**	**18 05 23.5**	**+0.9**
LBTB				IAmb	IAmb	18 05 27.3	
	comp=Z,39nm,0.9s						
LBTB	**Lobatse**	**22.33**	**234**	LR	LR	18 14 10.3	
	comp=Z,90nm,20.3s,baz=54,slow=37						
LBTB	**Lobatse**	**22.33**	**234**	P	**P**	**18 05 23.5**	**+0.9**
LBTB				pmax	pmax		
	comp=Z,39nm,1.0s						
LBTB	**Lobatse**	**22.33**	**234**	*i* P	**P**	**18 05 24.3**	**+1.7**
KDWAN	**Kaudwane**	**22.36**	**239**	*i* P	**P**	**18 05 23.9**	**+1.0**
MAKGR	**Makgori**	**23.35**	**233**	*i* P	**P**	**18 05 33.6**	**+0.3**
SKOMA	**Sekoma**	**23.44**	**237**	*i* P	**P**	**18 05 34.8**	**+0.6**
QNGWA	**Qangwa**	**24.23**	**251**	*i* P	**P**	**18 05 42.9**	**+1.0**
KGCAE	**Kacgae**	**24.25**	**242**	*i* P	**P**	**18 05 43.4**	**+1.5**
ATD	**Arta Tunnel**	**24.30**	**354**	P	**P**	**18 05 39.9**	**-2.4**
ATD				IAmb	IAmb	18 05 46.3	
	comp=Z,24nm,1.3s						
ATD	**Arta Tunnel**	**24.30**	**354**	LR	LR	18 14 43.6	
	comp=Z,4.2nm,18.7s,baz=152,slow=35						
BOSA	**Boshof**	**24.52**	**227**	P	**P**	**18 05 44.9**	**+0.5**
BOSA				IAmb	IAmb	18 05 47.9	
	comp=Z,10nm,0.6s						
BOSA	**Boshof**	**24.52**	**227**	P	**P**	**18 05 45.6**	**+1.2**
	comp=Z,8.7nm,0.5s,baz=56,slow=9.2,SNR=32						
BOSA				LR	LR	18 16 05.7	
	comp=Z,110nm,18.5s,baz=34,slow=38						
	comp=Z,8.7nm,0.5s						
BOSA	**Boshof**	**24.52**	**227**	P	**P**	**18 05 44.9**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,11nm,0.6s						
BOSA	**Boshof**	**24.52**	**227**	*i* P	**P**	**18 05 46.0**	**+1.5**
GRTLG	**Ghanzi**	**24.65**	**247**	*i* P	**P**	**18 05 47.2**	**+1.5**
KOOLE	**Kule**	**26.04**	**244**	*i* P	**P**	**18 05 59.8**	**+1.6**
GRHM	**Grahamstown, E**	**26.81**	**217**	P	**P**	**18 06 05.6**	**+0.6**
TSUM	**Tsumeb**	**27.50**	**253**	P	**P**	**18 06 12.0**	**+0.5**
TSUM	**Tsumeb**	**27.50**	**253**	LR	LR	18 16 40.5	
	comp=Z,70nm,18.1s,baz=316,slow=36						
WIN	**Windhoek**	**28.65**	**246**	P	**P**	**18 06 21.4**	**-0.4**
WIN				IAmb	IAmb	18 07 03.8	
	comp=Z,25nm,1.3s						
WIN	**Windhoek**	**28.65**	**246**	P	**P**	**18 06 21.4**	**-0.4**
WIN				pmax	pmax		
	comp=Z,25nm,1.3s						
SUR	**Sutherland**	**29.82**	**225**	P	**P**	**18 06 31.4**	**-0.7**
RAYN	**Ar Rayn**	**36.09**	**0**	P	**P**	**18 07 23.1**	**-3.6**
RAYN	**Ar Rayn**	**36.09**	**0**	P	**P**	**18 07 23.1**	**-3.6**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
EIL	**Elat**	**43.41**	**347**	LR	LR	18 24 28.1	
	comp=Z,32nm,19.8s,baz=218,slow=33						
CSS	**Mathiatis**	**48.86**	**347**	P	**P**	**18 09 08.3**	**-2.1**
SHEL	**Horse Pasture**	**49.59**	**260**	P	**P**	**18 09 16.0**	**-0.3**
SHEL	**Horse Pasture**	**49.59**	**260**	P	**P**	**18 09 16.0**	**-0.3**
SHEL				pmax	pmax		
	comp=Z,195nm,1.4s						
TORD	**Torodi Ar. Bea**	**50.45**	**299**	P	**P**	**18 09 25.6**	**+2.8**
	comp=Z,11nm,0.3s,baz=110,slow=6.4,SNR=2.2						
	comp=Z,11nm,0.3s						
GNI	**Garni**	**52.67**	**359**	P	**P**	**18 09 36.2**	**-3.0**
GNI				IAmb	IAmb	18 11 05.8	
	comp=Z,39nm,1.8s						
GNI	**Garni**	**52.67**	**359**	LR	LR	18 33 13.0	
	comp=Z,74nm,18.8s,baz=220,slow=37						
GNI	**Garni**	**52.67**	**359**	*i* P	**P**	**18 09 38.4**	**-0.8**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KOPT	**Kop Dagi**	**52.74**	**355**	P	**P**	**18 09 36.8**	**-3.0**
KOPT				IAmb	IAmb	18 09 47.1	
	comp=Z,41nm,1.9s						
BRTR	**Keskin Array B**	**53.39**	**349**	P	**P**	**18 09 45.7**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=160,slow=4.6,SNR=2.4						
	comp=Z,0.6nm,0.7s						
DBIC	**Dimbokro**	**53.59**	**288**	LR	LR	18 32 13.8	
	comp=Z,97nm,18.2s,baz=91,slow=36						
PSI	**Prapat**	**55.31**	**77**	LR	LR	18 31 08.4	
	comp=Z,100nm,18.6s,baz=256,slow=33						
SIMJ	**Simiganj**	**55.72**	**22**	P	**P**	**18 09 59.3**	**-2.1**
SIMJ				IAmb	IAmb	18 10 17.4	
	comp=Z,9.4nm,0.9s						
CHGR	**Chuyangaron**	**55.78**	**22**	P	**P**	**18 10 00.1**	**-1.7**
CHGR	**Chuyangaron**	**55.78**	**22**	P	**P**	**18 10 00.1**	**-1.7**
CHGR				pmax	pmax		
	comp=Z,25nm,0.9s						
KBZ	**Khabaz**	**56.29**	**358**	P	**P**	**18 10 08.6**	**+3.4**
	comp=Z,1.5nm,0.9s,baz=157,slow=7.2,SNR=4.4						
	comp=Z,1.5nm,0.9s						
SYO	**Syowa Base**	**56.30**	**183**	⇓*e*P	**P**	**18 10 05.8**	**+0.9**
GAR	**Garm**	**56.51**	**23**	P	**P**	**18 10 06.0**	**-1.1**
GAR				IAmb	IAmb	18 10 17.6	
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**56.53**	**358**	*e*P	**P**	**18 10 09.4**	**+2.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH	**Kashi**	**59.30**	**27**	P	**P**	**18 10 28.0**	**+1.4**
KSH				sP	sP	18 10 36.3	+6.1
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**60.17**	**21**	P	**P**	**18 10 31.3**	**-1.1**
KK31				IAmb	IAmb	18 10 42.7	
	comp=Z,6.3nm,0.9s						
KK31	**Karatay Array**	**60.17**	**21**	P	**P**	**18 10 31.3**	**-1.1**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KKAR	**Karatay Array**	**60.17**	**21**	P	**P**	**18 10 31.4**	**-1.0**
KKAR				IAmb	IAmb	18 10 42.6	
	comp=Z,4.0nm,0.9s						
KKAR	**Karatay Array**	**60.17**	**21**	P	**P**	**18 10 31.4**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELIB	**Princess Elisa**	**60.60**	**188**	*d*P	**P**	**18 10 36.8**	**+1.6**
	comp=Z,6.3nm,1.0s						
ELIB				*d*PP	**PP**	**18 12 47.2**	**-1.4**
MLR	**Muntele Rosu**	**60.63**	**344**	P	**P**	**18 10 35.1**	**-0.6**
MLR				IAmb	IAmb	18 12 28.6	
	comp=Z,19nm,1.5s						
MLR	**Muntele Rosu**	**60.63**	**344**	P	**P**	**18 10 35.1**	**-0.6**
MLR				pmax	pmax		
	comp=Z,19nm,1.5s						
PAOL	**Paolisi**	**60.69**	**334**		**P**	**18 10 35.8**	**-0.2**
CM31	**Chiang Mai Arr**	**61.22**	**61**	P	**P**	**18 10 37.5**	**-2.5**
CM31				IAmb	IAmb	18 11 55.4	
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**61.22**	**61**	P	**P**	**18 10 43.9**	**+3.8**
	comp=Z,1.4nm,0.9s,baz=248,slow=8.3,SNR=11						
CMAR				LR	LR	18 34 41.1	
	comp=Z,16nm,18.4s,baz=95,slow=34						
	comp=Z,1.4nm,0.9s						
AAK	**Ala-Archa**	**61.26**	**24**	P	**P**	**18 10 38.4**	**-1.7**
AAK	**Ala-Archa**	**61.26**	**24**	*i* P	**P**	**18 10 42.2**	**+2.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CHTO	**Chiang Mai**	**61.37**	**60**	P	**P**	**18 10 39.7**	**-1.4**
CHTO				IAmb	IAmb	18 10 45.9	
	comp=Z,4.5nm,1.1s						
CHTO	**Chiang Mai**	**61.37**	**60**	P	**P**	**18 10 39.7**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INTR	**Introdacqua**	**61.78**	**334**	P	**P**	**18 10 43.0**	**-0.4**
BURAR	**Bucovina Array**	**62.79**	**345**	P	**P**	**18 10 49.5**	**-0.6**
FDMO	**Fiordimonte**	**62.96**	**334**	P	**P**	**18 10 51.7**	**+0.4**
ABKAR	**Akbulak array**	**63.09**	**11**	P	**P**	**18 10 52.0**	**0.0**
ABKAR	**Akbulak array**	**63.09**	**11**	P	**P**	**18 10 52.1**	**+0.2**
TROLL	**Troll, Antarti**	**64.46**	**194**	P	**P**	**18 11 05.4**	**+4.4**
TROLL	**Troll, Antarti**	**64.46**	**194**	⇑P	**P**	**18 11 05.4**	**+4.4**
	comp=Z,499nm,0.8s						
PSZ	**Piszkesteto**	**64.58**	**341**	P	**P**	**18 11 01.3**	**-0.6**
PSZ				IAmb	IAmb	18 13 03.2	
	comp=Z,16nm,1.7s						
PSZ	**Piszkesteto**	**64.58**	**341**	P	**P**	**18 11 01.3**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,16nm,1.7s						
BELG	**Belogornoye**	**64.94**	**1**	*i* P	**P**	**18 11 05.9**	**+1.9**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SOKA	**Soboth**	**65.18**	**337**	*e*P	**P**	**18 11 06.5**	**+0.6**
	comp=Z,2.7nm,1.5s						
OBKA	**Obir**	**65.22**	**337**	*e*P	**P**	**18 11 05.9**	**-0.2**
	comp=Z,5.4nm,1.2s						
ARSA	**Arzberg**	**65.48**	**338**	*e*pP	pP	18 11 10.5	+0.2
	comp=Z,2.5nm,0.8s						
RONA	**Rosalia, Austr**	**65.59**	**339**	*e*P	**P**	**18 11 10.7**	**+2.3**
	comp=Z,6.3nm,1.0s						
LANS	**Liptovska Anna**	**65.80**	**342**	*e*P	**P**	**18 11 12.3**	**+2.4**
LANS				pmax	pmax		
	comp=Z,2.0nm,1.2s						
LANS	**Liptovska Anna**	**65.80**	**342**	*e*P	**P**	**18 11 12.2**	**+2.4**
MODS	**Modra-Piesok**	**65.83**	**340**	*e*P	**P**	**18 11 12.5**	**+2.5**
MODS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MODS	**Modra-Piesok**	**65.83**	**340**	*e*P	**P**	**18 11 12.5**	**+2.5**
MODS				*e*PP	PP	18 13 44.1	+9.0
MDT	**Midelt**	**65.87**	**315**	LR	LR	18 40 17.6	
	comp=Z,62nm,18.5s,baz=39,slow=36						
CONA	**Conrad Observa**	**65.94**	**339**	*e*pP	pP	18 11 13.8	+0.5
	comp=Z,3.4nm,1.1s						
JAVC	**Velka Javorina**	**66.12**	**340**	*e*P	**P**	**18 11 16.0**	**+4.1**
KBA	**Koelnbreinsper**	**66.16**	**337**	*e*P	**P**	**18 11 14.2**	**+1.9**
	comp=Z,2.4nm,0.7s						
OJC	**Ojcow**	**66.65**	**342**	P	**P**	**18 11 14.6**	**-0.6**
OJC	**Ojcow**	**66.65**	**342**	P	**P**	**18 11 14.6**	**-0.6**
OJC				pmax	pmax		
	comp=Z,23nm,1.8s						
KRUC	**Moravsky**	**66.72**	**340**	*e*P	**P**	**18 11 17.7**	**+2.1**
VRAC	**Vranov**	**66.86**	**340**	*e*P	**P**	**18 11 18.3**	**+1.7**
MORC	**Moravsky Berou**	**66.96**	**341**	P	**P**	**18 11 16.0**	**-1.2**
MORC				IAmb	IAmb	18 11 22.6	
	comp=Z,5.9nm,1.1s						
MORC	**Moravsky Berou**	**66.96**	**341**	*e*P	**P**	**18 11 19.3**	**+2.1**
MORC	**Moravsky Berou**	**66.96**	**341**	P	**P**	**18 11 16.0**	**-1.2**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WTTA	**Wattenberg**	**66.98**	**336**	*e*P	**P**	**18 11 19.0**	**+1.4**
	comp=Z,3.0nm,0.8s						
FETA	**Feichten**	**67.16**	**335**	*e*pP	pP	18 11 21.2	-0.1
	comp=Z,4.2nm,1.0s						
PZH	**PanZhiHua**	**67.21**	**54**	P	**P**	**18 11 20.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
MOTA	**Moosalm**	**67.26**	**335**	*e*pP	pP	18 11 21.7	-0.2
	comp=Z,2.6nm,0.9s						
KMI	**Kunming**	**67.36**	**56**	⇓P	**P**	**18 11 23.0**	**+2.5**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**67.49**	**338**	P	**P**	**18 11 22.1**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=146,slow=7.7,SNR=7.1						
	comp=Z,1.9nm,0.9s						
JAGI	**Jajag, Banyuwa**	**67.51**	**94**	P	**P**	**18 11 19.6**	**-1.8**
RETA	**Reutte**	**67.52**	**335**	*e*pP	pP	18 11 23.9	+0.5
	comp=Z,7.9nm,1.2s						
DAVA	**Damuels**	**67.72**	**335**	*e*pP	pP	18 11 25.5	+0.7
	comp=Z,10nm,1.5s						
MAKZ	**Makanchi**	**67.76**	**26**	P	**P**	**18 11 20.9**	**-1.4**
MAKZ				IAmb	IAmb	18 11 33.2	
	comp=Z,5.3nm,1.0s						
MAKZ	**Makanchi**	**67.76**	**26**	P	**P**	**18 11 20.9**	**-1.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	**Makanchi Array**	**67.88**	**26**	P	**P**	**18 11 22.3**	**-0.8**
MK31	**Makanchi Array**	**67.88**	**26**	*i* P	**P**	**18 11 25.8**	**+2.7**
MKAR	**Makanchi Array**	**67.88**	**26**	P	**P**	**18 11 22.8**	**-0.3**
MKAR	**Makanchi Array**	**67.88**	**26**	P	**P**	**18 11 25.5**	**+2.4**
	comp=Z,1.3nm,0.7s,baz=218,slow=6.3,SNR=16						
	comp=Z,1.3nm,0.7s						
WMQ	**Urumqi**	**68.23**	**32**	*e*P	**P**	**18 11 26.3**	**+0.9**
WMQ				pP	sP	18 11 31.5	+2.4
WMQ				pmax	pmax		
	comp=Z,11nm,1.1s						
SSB	**Saint Sauveur**	**68.61**	**330**	P	**P**	**18 11 27.4**	**-0.2**
SSB				IAmb	IAmb	18 11 42.3	
	comp=Z,23nm,1.9s						
SSB	**Saint Sauveur**	**68.61**	**330**	P	**P**	**18 11 27.5**	**-0.2**
SSB				pmax	pmax		
	comp=Z,23nm,1.9s						
BVAR	**Borovoye Array**	**68.96**	**16**	P	**P**	**18 11 31.8**	**+2.1**
	comp=Z,1.8nm,0.9s,baz=193,slow=5.8,SNR=7.6						
	comp=Z,1.8nm,0.9s						
BRVK	**Borovoye**	**68.97**	**16**	*ce*P	**P**	**18 11 32.5**	**+2.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRG	**Berggiesshubel**	**69.10**	**339**	*e*P	**P**	**18 11 33.3**	**+2.7**
BRG				Amp		18 11 34.3	
	comp=Z,2.2nm,0.8s						
BFO	**Black Forest**	**69.19**	**334**	P	**P**	**18 11 29.8**	**-1.4**
BFO				IAmb	IAmb	18 11 54.3	
	comp=Z,9.6nm,1.4s						
BFO	**Black Forest**	**69.19**	**334**	P	**P**	**18 11 29.8**	**-1.4**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KURBB	**Kurchatov Arra**	**69.45**	**22**	P	**P**	**18 11 35.2**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=219,slow=6.8,SNR=5.5						
	comp=Z,0.5nm,0.5s						
ESDC	**Sonseca Array**	**69.51**	**321**	P	**P**	**18 11 33.8**	**+0.3**
ESDC	**Sonseca Array**	**69.51**	**321**	P	**P**	**18 11 35.7**	**+2.2**
	comp=Z,2.0nm,0.8s,baz=129,slow=6.2,SNR=14						
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**69.56**	**22**	P	**P**	**18 11 32.8**	**-0.6**
KURK	**Kurchatov**	**69.56**	**22**	P	**P**	**18 11 35.2**	**+1.8**
ARTI	**Arti**	**69.76**	**8**		**P**	**18 11 34.9**	**+0.4**
ARTI	**Arti**	**69.76**	**8**	*d* *i* P	**P**	**18 11 35.7**	**+1.1**
ARTI						18 14 07.1	
ARTI				S	**S**	**18 20 43.9**	**+0.4**
ARTI				SS	**SS**	**18 25 06.3**	**-6.1**
ARTI				pmax	pmax		
	comp=Z,16nm,1.1s						
SVE	**Sverdlovsk**	**70.50**	**9**	*e*P	**P**	**18 11 41.7**	**+2.6**
CD2	**Chengdu**	**70.86**	**51**	*e*P	**P**	**18 11 41.0**	**-0.9**
QIZ	**Qiongzhong**	**70.89**	**65**	P	**P**	**18 11 41.0**	**-1.2**
QIZ				S	**S**	**18 20 54.3**	**-3.8**
QIZ				LR	LR		
	comp=N,150nm,8.4s						
QIZ				LR	LR		
	comp=E,140nm,8.4s						
QIZ				LR	LR		
	comp=Z,210nm,11.9s						
PSA00	**Pilbara Seismi**	**71.06**	**109**	P	**P**	**18 11 41.4**	**-2.0**
KIRV	**Kirov**	**71.20**	**2**	*ce*P	**P**	**18 11 44.3**	**+1.1**
GTA	**Gaotai**	**72.47**	**41**	*e*P	**P**	**18 11 54.8**	**+3.2**
GTA				sP	PcP	18 12 04.0	-5.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KAPI	**Kappang**	**73.62**	**92**	LR	LR	18 39 18.1	
	comp=Z,26nm,20.3s,baz=250,slow=32						
SACV	**Santiago Islan**	**73.70**	**290**	P	**P**	**18 11 57.4**	**-1.8**
ZAA0	**Zalesovo Array**	**74.44**	**23**	P	**P**	**18 11 59.9**	**-2.7**
ZALV	**Zalesovo Beam**	**74.44**	**23**	P	**P**	**18 12 00.4**	**-2.2**
ZALV	**Zalesovo Beam**	**74.44**	**23**	P	**P**	**18 12 04.9**	**+2.2**
	comp=Z,1.3nm,0.7s,baz=228,slow=7.4,SNR=6.7						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**74.44**	**23**	*i* P	**P**	**18 12 05.6**	**+3.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**75.56**	**351**	P	**P**	**18 12 11.6**	**+2.6**
	comp=Z,2.4nm,0.8s,baz=150,slow=4.2,SNR=5.2						
	comp=Z,2.4nm,0.8s						
FINES	**FINESS Array B**	**75.56**	**351**	*i* P	**P**	**18 12 12.8**	**+3.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN	**Xi'an**	**76.17**	**50**	P	**P**	**18 12 12.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HFS	**Hagfors**	**77.01**	**344**	P	**P**	**18 12 19.8**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=133,slow=10,SNR=2.4						
	comp=Z,1.9nm,0.8s						
QSPA	**

ELK			PKPab	**PKPbc**	**18 20 09.1**	**-0.1**
ELK	**Elko**	**147.40 332**	PKHKP	PKPpre	18 20 03.7	
ELK					18 20 09.1	
J05D	**Fort Rock, OR**	**147.51 342**		**PKPbc**	**18 20 09.4**	**+0.1**
121A	**Cookes Peak, D**	**148.59 313**	PKPdf	**PKPdf**	**18 20 06.9**	**-1.9**
121A				**pPKPdf**	**18 20 12.4**	**+0.8**
L04D	**Klamath Falls**	**148.80 342**		**PKPbc**	**18 20 12.9**	**+0.2**
NVAR	**Mina Array Bea**	**150.66 333**	PKP	**PKPdf**	**18 20 14.2**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=331,slow=3.8,SNR=4.6					
TUC	**Tucson**	**150.81 316**		**PKPdf**	**18 20 10.3**	**-2.0**
TUC	**Tucson**	**150.81 316**	PKIKP	**PKPdf**	**18 20 10.3**	**-2.0**
V12A	**Nelson**	**151.06 325**		**PKPdf**	**18 20 10.3**	**-2.3**
GWY	**Greenwater Val**	**151.68 328**	PKPdf	**PKPdf**	**18 20 11.0**	**-2.6**

IDC 26 18:03:39.8±3.8, 11°.34S×164°.76E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=195.6km s-min=31.0km az=139.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.47**	**250**	P	P	18 09 55.5	+0.8
	1.2nm,0.6s,baz=79,slow=8.9,SNR=8.1						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**31.79**	**243**	P	P	18 10 05.3	-1.0
	0.3nm,0.6s,baz=74,slow=9.2,SNR=6.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.10**	**19**	P	P	18 16 12.3	+0.1
	0.4nm,0.6s,baz=242,slow=5.6,SNR=11						
	0.4nm,0.6s						

IDC 26 18:14:28.9±1.7, 44°.19N×105°.70W, h0km, mbtmp3.1/2, ML2.0/1, Error ellipse: s-maj=54.7km s-min=9.8km az=146.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**3.15**	**245**	Pn	Pn	18 15 22.1	+2.1
	1.5nm,0.3s,baz=67,slow=18,SNR=20						
PDAR				Lg	Lg	18 16 08.4	
	3.5nm,0.3s,baz=62,slow=31,SNR=15						
I10CA	**LAC DU BONNET**	**8.91**	**44**	I	I	19 05 40.0	
	baz=227,slow=312,SNR=1.0						
ULM	**Lac du Bonnet**	**9.02**	**44**	Pn	Pn	18 16 38.9	-1.4
	0.2nm,0.3s,baz=233,slow=13,SNR=1.9						
ULM				Lg	Lg	18 19 08.9	
	0.3nm,0.3s,baz=315,slow=21,SNR=2.3						
	0.6nm,0.3s						

*IDC **26** 18:53:41.2±2.1, 56°.04S×27°.53W, h0km, mb4.5/3, mbtmp4.4/4, ML4.3/1, Error ellipse: s-maj=121.2km s-min=36.5km az=73.0*
*NEIC **26** 18:53:46.9±1.7, 56°.1S±0°.1×26°.9W±0°.2, h35km±7km, mb4.6/12, Error ellipse: s-maj=19.7km s-min=13.7km az=200.0*

ISC 26 18:53:49.1±0.6, 56°.13S±0°.09×27°.06W±0°.09, h63km, n41, σ0°79/36, mb4.6/6, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.71**	**285**	Pn	**Pn**	**18 55 09.5**	**-1.7**
HOPE				Sn	**Sn**	**18 56 14.6**	**-0.7**
VNA1	**Neumayer--Stat**	**16.69**	**158**	P	**Pn**	**18 57 37.4**	**-1.0**
VNA1	**Neumayer--Stat**	**16.69**	**158**	⇑P	**Pn**	**18 57 37.4**	**-1.0**
	comp=Z,20nm,0.5s						
VNA3	**Neumayer Olymp**	**16.89**	**161**	P	**Pn**	**18 57 40.1**	**-0.8**
VNA3	**Neumayer Olymp**	**16.89**	**161**	⇑P	**Pn**	**18 57 40.1**	**-0.8**
	comp=Z,9.4nm,0.4s						
VNA2	**Neumayer--Watz**	**17.09**	**158**	P	**P**	**18 57 44.0**	**-0.2**
	baz=308,slow=13						
VNA2	**Neumayer--Watz**	**17.09**	**158**	⇑P	**P**	**18 57 44.0**	**-0.2**
	comp=Z,5.6nm,0.3s,baz=308,slow=13						
SNAA	**Sanae**	**18.63**	**156**	P	**P**	**18 58 01.6**	**+0.3**
SNAA	**Sanae**	**18.63**	**156**	P	**P**	**18 58 01.4**	**+0.1**
SNAA	**Sanae**	**18.63**	**156**	⇑P	**P**	**18 58 01.6**	**+0.3**
	comp=Z,226nm,0.4s						
SNAA	**Sanae**	**18.63**	**156**	P	**P**	**18 58 01.9**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=301,slow=11,SNR=18						
	comp=Z,4.0nm,0.4s						
TROLL	**Troll, Antarti**	**20.14**	**154**	P	**P**	**18 58 18.5**	**+0.8**
TROLL	**Troll, Antarti**	**20.14**	**154**	⇑P	**P**	**18 58 18.5**	**+0.8**
	comp=Z,170nm,0.4s						
BELA	**Belgrano 2**	**22.00**	**184**		**P**	**18 58 37.0**	**-0.6**
BELA				IAmb	IAmb	18 58 40.9	
	comp=Z,11nm,0.6s						
TRQA	**Tornquist**	**29.43**	**293**	P	**P**	**18 59 47.5**	**+1.1**
TRQA				IAmb	IAmb	19 00 19.8	
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**34.12**	**180**	P	**P**	**19 00 28.1**	**+0.6**
QSPA				IAmb	IAmb	19 00 29.5	
	comp=Z,4.3nm,0.6s						
QSPA	**South Pole Qui**	**34.12**	**180**	P	**P**	**19 00 27.8**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=222,slow=1.9,SNR=35						
	comp=Z,3.0nm,0.4s						
SUR	**Sutherland**	**40.59**	**75**	P	**P**	**19 01 20.7**	**-1.9**
AC02	**Maricunga**	**41.98**	**296**	P	**P**	**19 01 35.2**	**+0.8**
AC02				IAmb	IAmb	19 01 36.0	
	comp=Z,4.8nm,1.0s						
VNDA	**Vanda**	**46.49**	**183**	P	**P**	**19 02 10.4**	**+1.1**
VNDA				IAmb	IAmb	19 02 32.8	
	comp=Z,23nm,1.4s						
VNDA	**Vanda**	**46.49**	**183**	P	**P**	**19 02 10.3**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=186,slow=8.3,SNR=10						
	comp=Z,3.7nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.06**	**17**	T	T	19 54 36.0	
	baz=31,slow=74,SNR=6.2						
H10S3	**ASCENSION HYDR**	**48.06**	**17**	T	T	19 54 19.6	
	baz=189,slow=74,SNR=4.7						
LBTB	**Lobatse**	**48.96**	**73**	P	**P**	**19 02 28.9**	**-0.2**
LBTB				IAmb	IAmb	19 02 43.2	
	comp=Z,12nm,1.4s						
H10N1	**ASCENSION HYDR**	**49.18**	**17**	T	T	19 55 44.6	
	baz=190						
H10N3	**ASCENSION HYDR**	**49.18**	**17**	T	T	19 55 37.5	
	baz=190						
H10N2	**ASCENSION HYDR**	**49.19**	**17**	T	T	19 55 40.7	
	baz=190						
LPAZ	**La Paz**	**50.49**	**305**	P	**P**	**19 02 42.3**	**+0.9**
DBIC	**Dimbokro**	**65.21**	**24**	P	**P**	**19 04 23.7**	**0.0**
TORD	**Torodi Ar. Bea**	**73.09**	**29**	P	**P**	**19 05 13.0**	**+0.6**
MAGL	**Barre de l'ile**	**77.35**	**326**	P	**P**	**19 05 37.1**	**+0.2**
ASAR	**Alice Springs**	**98.89**	**162**	P	Pdif	19 07 24.2	+1.9
	comp=Z,0.5nm,0.7s,baz=196,slow=4.6,SNR=8.8						
	comp=Z,0.5nm,0.7s						
I30M	**Mount Dempster**	**146.05**	**315**	PKPdf	**PKPbc**	**19 13 20.1**	**-0.3**
L29M	**L29M**	**146.05**	**311**	PKPdf	**PKPab**	**19 13 20.8**	**-0.4**
H29M	**Whitestone**	**147.13**	**316**	PKPdf	**PKPbc**	**19 13 22.7**	**-0.7**
E29M	**Blow River**	**147.50**	**320**	PKPdf	**PKPbc**	**19 13 23.4**	**-1.0**
BCAR	**Beaver Creek A**	**147.60**	**309**	PKPdf	**PKPbc**	**19 13 24.6**	**-0.3**
D27M	**Malcolm River**	**148.77**	**321**		**PKPbc**	**19 13 27.3**	**-0.4**
I26K	**Coal Creek Min**	**148.81**	**313**		**PKPbc**	**19 13 27.4**	**-0.5**
BMAR	**Burnt Mountain**	**149.80**	**317**		**PKPbc**	**19 13 30.4**	**+0.1**
ILAR	**Eielson Array**	**150.23**	**312**	PKPbc	**PKPbc**	**19 13 31.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=118,slow=3.7,SNR=6.5						

*TEH **26** 18:57:17.5, 29°.74N×52°.18E, h10km±49km*
*OMAN **26** 18:57:22.9±1.0, 29°.65N×52°.74E, h10km, mb4.1/3, mlI3.2/2, Error ellipse: s-maj=24.1km s-min=8.8km az=58.0*

ISC 26 18:57:19.7±1.6, 29°.84N±0°.08×52°.5E±0°.1, h17km±8km, n24, σ1°29/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.19**	**183**	Pg	**Pg**	**18 57 23.8**	**-0.9**
SHI				Sg	**Sg**	**18 57 29.0**	**+1.1**
KAZ2	**Kazeron-Fars-I**	**0.78**	**254**	Pg	Pg	18 57 26.6	-8.4
KLNJ	**Kolanjah**	**1.42**	**326**	Pg	**Pn**	**18 57 43.4**	**-1.7**
QIR1	**Qir**	**1.43**	**161**	Pg	**Pg**	**18 57 46.3**	**-1.0**
DSBU	**Dashti - Bushe**	**1.84**	**217**	Pg	**Pn**	**18 57 48.0**	**-2.4**
IRAM	**Ramesheh**	**1.97**	**356**	Pn	**Pn**	**18 57 54.0**	**+1.5**
IBRJ	**Brojen**	**2.33**	**333**	Pn	**Pn**	**18 57 58.4**	**+0.8**
ZNGN	**Zangian**	**2.69**	**328**	Pn	**Pn**	**18 58 03.0**	**+0.5**
MASF	**Masafi**	**5.49**	**143**	P	**Pn**	**18 58 42.7**	**+1.9**
MASF				S	**Sn**	**18 59 44.5**	**+0.9**
NAZ	**Nazwa, Dubai**	**5.58**	**149**	P	**Pn**	**18 58 43.8**	**+2.0**
MDH	**Madha**	**5.62**	**143**	P	**Pn**	**18 58 43.7**	**+1.1**
MDH				S	**Sn**	**18 59 47.6**	**+0.8**
UOSS	**Minazif**	**5.87**	**145**	P	**Pn**	**18 58 46.7**	**+0.9**
UOSS				S	**Sn**	**18 59 51.3**	**-1.4**
HATD	**Hatta, Dubai**	**5.93**	**146**	P	**Pn**	**18 58 48.6**	**+1.8**
HATD				S	**Sn**	**18 59 54.6**	**+0.3**
ASHO	**Ashiyiah**	**6.02**	**148**	P	**Pn**	**18 58 49.4**	**+1.5**
	SNR=8.7						
ASHO				S	**Sn**	**18 59 57.9**	**+1.4**
JASK	**Jask - Hormozg**	**6.16**	**129**	P	**Pn**	**18 58 49.0**	**-1.0**
ALNE	**Al Ain**	**6.43**	**153**	P	**Pn**	**18 58 55.0**	**+1.3**
ALNE				S	**Sn**	**19 00 06.3**	**-0.5**
SOHO	**SOHO**	**6.71**	**147**	P	**Pn**	**18 58 57.4**	**0.0**
SOHO				S	**Sn**	**19 00 12.6**	**-0.9**
MZR	**Muzera**	**6.86**	**173**	P	**Pn**	**18 59 01.2**	**+1.7**
MZR				S	**Sn**	**19 00 15.7**	**-1.5**
ARQ	**Araqi**	**7.39**	**150**	P	**Pn**	**18 59 07.0**	**+0.1**
	SNR=5.6						
HOQ	**Hoqain**	**7.55**	**144**	P	**Pn**	**18 59 09.9**	**+0.8**
WSAR	**Wadi Sarin**	**8.54**	**139**	P	**Pn**	**18 59 23.5**	**+0.8**
	SNR=5.6						
WSAR				S	**Sn**	**19 00 57.2**	**-1.4**
WBK	**Wadi Bani Khal**	**9.23**	**140**	P	**Pn**	**18 59 31.9**	**-0.2**
JLN	**Jalan Bani Buh**	**9.84**	**139**	P	**Pn**	**18 59 40.2**	**-0.2**
MHTO	**MHTO**	**10.09**	**150**	P	**Pn**	**18 59 43.1**	**-0.7**

*IDC **26** 19:01:44.1±3.1, 32°.27N×139°.59E, h0km, mb3.3/3, mbtmp3.3/4, ML2.3/1, Error ellipse: s-maj=106.8km s-min=30.5km az=74.0*
*JMA **26** 19:01:47.0±0.2, 32°.9N±0°.6×14°1E±°, h47km, MV3.2/24, E OFF HACHIJOJIMA ISLAND*

ISC 26 19:01:46.8±1.9, 32°.80N±0°.08×141°.0E±0°.1, h56km±17km, n15, σ1°05/21, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.03**	**288**	*eP*	**Pn**	**19 02 05.3**	**+0.2**
JHCJ	**Hachijojimakas**	**1.04**	**285**	*eP*	**Pn**	**19 02 05.2**	**0.0**
JHCJ				*eS*	**Sn**	**19 02 17.3**	**-1.5**
JAOM	**Aogashimamukai**	**1.09**	**252**	*eP*	**Pn**	**19 02 06.6**	**+0.7**
JAOM				*eS*	**Sn**	**19 02 20.4**	**+0.4**
JMKN	**Mikurajimanish**	**1.60**	**313**	*eP*	**Pn**	**19 02 12.9**	**+0.2**
JMYK	**Miyake Tsubota**	**1.74**	**317**	*eP*	**Pn**	**19 02 15.4**	**+0.7**
BSO1	**Boso 1**	**1.85**	**360**	*eP*	**Pn**	**19 02 15.6**	**-0.1**
BSO1				*eS*	**Sn**	**19 02 37.7**	**+0.1**
BSO3	**Boso 3**	**2.04**	**349**	*eP*	**Pn**	**19 02 18.7**	**+0.2**
BSO3				*eS*	**Sn**	**19 02 43.0**	**+0.4**
JIM2	**Oshima 3**	**2.31**	**326**	*eP*	**Pn**	**19 02 22.9**	**+0.5**
JIM2				*eS*	**Sn**	**19 02 48.7**	**-1.0**
JIZS	**Izushimoda**	**2.60**	**318**	*eP*	**Pn**	**19 02 27.3**	**+0.9**
JOD2	**Odawara 2**	**2.92**	**328**	*eP*	**Pn**	**19 02 31.3**	**+0.5**
JOD2				*eS*	**Sn**	**19 03 03.6**	**-1.1**
SHZ3	**Shizuoka 3**	**3.23**	**315**	*eP*	**Pn**	**19 02 37.3**	**+2.2**
MJAR	**Matsushiro Arr**	**4.38**	**329**	Pn	**Pn**	**19 02 53.1**	**+2.3**
	0.1nm,0.3s,baz=163,slow=14,SNR=6.7						
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**46.18**	**306**	P	**P**	**19 10 06.0**	**+0.1**
	0.3nm,0.6s,baz=92,slow=7.2,SNR=5.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**48.42**	**311**	P	**P**	**19 10 22.3**	**-0.9**
	0.2nm,0.5s,baz=87,slow=7.5,SNR=4.4						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**52.83**	**188**	P	**P**	**19 10 56.5**	**-0.2**
	0.2nm,0.4s,baz=6.0,slow=7.3,SNR=1.5						
	0.2nm,0.4s						

KRSC 26 19:18:13.5±2.2, 48°.06N×156°.15E, h16km±33km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**359**	*eP*	Pn	19 18 55.7	+0.5
SKR				*eS*	Sn	19 19 27.4	+0.7
PAU	**Pauzhetka**	**3.44**	**7**	*eP*	Pn	19 19 09.7	+3.4
PAU				*eS*	Sb	19 19 51.8	-3.6
KDTR	**Khodutka, Kamc**	**3.95**	**18**	*eP*	Pn	19 19 16.9	+3.5
KDTR				*eS*	Sb	19 20 05.0	-5.2
RUS	**Russkaya**	**4.63**	**18**	*eP*	Pn	19 19 26.1	+3.3
UGLR	**Uglovaya**	**5.43**	**17**	*eP*	Pn	19 19 38.6	+4.8
AVH	**Avacha**	**5.46**	**17**	*eP*	Pn	19 19 39.4	+5.1
KOK	**Koryaka**	**5.47**	**16**	*eP*	Pn	19 19 40.0	+5.7
KRX	**Arik**	**5.54**	**16**	*eP*	Pn	19 19 40.2	+4.9
GNL	**Ganaly**	**5.75**	**11**	*eP*	Pn	19 19 43.0	+4.7

*NEIC **26** 19:31:32.4±1.4, 32°.05N±0°.02×116°.33W±0°.02, h6km±3km, Error ellipse: s-maj=2.8km s-min=1.8km az=47.0*
*PAS **26** 19:31:33.7±1.1, 32°.08N±0°.02×116°.35W±0°.02, h16km±7km, ML3.0/21, ML2.9/30(NEIC), Error ellipse: s-maj=3.4km s-min=2.1km az=219.0*
*ECX **26** 19:31:34.0±0.4, 32°.07N×116°.33W, h17km±3km, MD2.8, ML3.0, Fault plane solution: NP1:φ=28.00000°, δ87.00000°, λ-23.00000°.*

ISC 26 19:31:32.9±0.9, 32°.07N±0°.02×116°.35W±0°.02, h18km±6km, n98, σ0°94/144, 15C-16D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNAEN	**Presa Emilio L**	**0.28**	**231**	↑*iP*	**Pg**	**19 31 39.8**	**+0.7**
CNAEN				*eS*	**Sg**	**19 31 44.0**	**+0.8**
ESJX	**Sierra Juarez**	**0.35**	**100**		**Pg**	**19 31 40.4**	**0.0**
ESJX				Sg	**Sg**	**19 31 44.7**	**-0.7**
CBX	**Cerro Bola**	**0.36**	**313**		**Pg**	**19 31 41.2**	**+0.7**
CBX				Sg	**Sg**	**19 31 46.4**	**+0.6**
CBX				IAML		19 31 47.7	
	comp=N,1μm,0.4s						
CBX				IAML		19 31 47.7	
	comp=E,2μm,0.3s						
CBX	**Cerro Bola**	**0.36**	**313**	⇓*iP*	**Pg**	**19 31 41.3**	**+0.7**
CBX				*eS*	**Sg**	**19 31 46.7**	**+1.0**
CBX				IAML		19 31 47.8	
	comp=E,2μm,0.2s						
CBX				IAML		19 31 47.8	
	comp=N,2μm,0.3s						
SJX	**San Joaquin**	**0.45**	**132**	⇑*iP*	**Pg**	**19 31 40.4**	**-1.6**
SJX				*eS*	**Sg**	**19 31 45.0**	**-3.2**
SJX				IAML		19 31 45.4	
	comp=N,3μm,0.1s						
SJX				⇑*e*		19 31 45.4	
PBX	**Punta Banda**	**0.46**	**225**	⇑*iP*	**Pg**	**19 31 43.0**	**+0.8**
PBX				*eS*	**Sg**	**19 31 49.0**	**+0.6**
TKX	**Tecate**	**0.55**	**336**		**Pg**	**19 31 43.6**	**-0.2**
TKX				Sg	**Sg**	**19 31 50.9**	**-0.3**
TKX				IAML		19 31 51.5	
	comp=N,1μm,0.1s						
TKX	**Tecate**	**0.55**	**336**	⇓*eP*	**Pg**	**19 31 43.7**	**-0.2**
TKX				*eS*	**Sg**	**19 31 51.0**	**-0.3**
ALAMX	**Rancho Alamar**	**0.55**	**96**	⇑*iP*	**Pg**	**19 31 43.9**	**0.0**
ALAMX				*eS*	**Sg**	**19 31 50.6**	**-0.6**
FRM1	**Rumorosa**	**0.55**	**28**	⇓*eP*	**Pg**	**19 31 44.0**	**0.0**
RMX	**La Rumorosa**	**0.58**	**23**		**Pg**	**19 31 44.0**	**-0.5**
RMX					**Sg**	**19 31 51.4**	**-1.0**
RMX	**La Rumorosa**	**0.58**	**23**	⇑*eP*	**Pg**	**19 31 44.0**	**-0.5**
RMX				*eS*	**Sg**	**19 31 51.3**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**0.61**	**19**		**Pg**	**19 31 45.0**	**-0.2**
IKP					**Sg**	**19 31 52.8**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.61**	**19**	*eP*	**Pg**	**19 31 45.0**	**-0.2**
CNATK	**Presa El Carri**	**0.63**	**311**	⇓*iP*	**Pg**	**19 31 42.2**	**-3.1**
CNATK				*eS*	**Sg**	**19 31 49.0**	**-4.7**
DUZA	**Dulzura**	**0.65**	**326**		**Pg**	**19 31 45.5**	**-0.2**
DUZA					**Sg**	**19 31 54.1**	**-0.3**
BAR	**Barrett**	**0.67**	**336**		**Pg**	**19 31 45.7**	**-0.4**
BAR					**Sg**	**19 31 54.5**	**-0.6**
BAR	**Barrett**	**0.67**	**336**	⇓*eP*	**Pg**	**19 31 45.7**	**-0.4**
BAR				*eS*	**Sg**	**19 31 54.5**	**-0.6**
YUH	**Yuha Desert**	**0.68**	**32**		**Pg**	**19 31 46.0**	**-0.4**
YUH				Sg	**Sg**	**19 31 54.5**	**-0.9**
YUH				IAML		19 31 55.2	
	comp=N,547nm,0.1s						
YUH				IAML		19 31 55.5	
	comp=E,692nm,0.1s						
YUH2	**Yuha Desert**	**0.68**	**32**	⇑*eP*	**Pg**	**19 31 46.1**	**-0.2**
YUH2				*eS*	**Sg**	**19 31 54.7**	**-0.8**
OLP	**Otay Lakes Par**	**0.73**	**318**		**Pb**	**19 31 47.1**	**0.0**
OLP					**Sb**	**19 31 56.8**	**0.0**
OLP	**Otay Lakes Par**	**0.73**	**318**	⇓*eP*	**Pb**	**19 31 47.1**	**0.0**
OLP				*eS*	**Sb**	**19 31 56.5**	**-0.3**
SV2X	**San Vicente**	**0.73**	**173**	⇓*eP*	**Pb**	**19 31 46.9**	**-0.3**
SV2X				*eS*	**Sb**	**19 31 56.5**	**-0.4**
SV2X				⇓*e*		19 31 56.9	
SV2X				IAML		19 31 56.9	
	comp=E,666nm,0.1s						
SV2X				⇑*e*		19 31 57.3	
SV2X				IAML		19 31 57.3	
	comp=N,503nm,0.1s						
TJX	**Tijuana**	**0.74**	**307**	Pg	**Pb**	**19 31 46.5**	**-0.8**
TJX				Sg	**Sb**	**19 31 58.3**	**+1.1**
TJX				IAML		19 31 58.6	
	comp=N,491nm,0.3s						
TJX				IAML		19 32 03.5	
	comp=E,395nm,0.6s						
SGL	**Mount Signal**	**0.78**	**42**		**Pb**	**19 31 48.1**	**0.0**
SGL					Pn	19 31 57.7	+8.6
MONP2	**Monument Peak**	**0.82**	**356**		**Pb**	**19 31 48.6**	**-0.3**
MONP2					**Sb**	**19 31 59.3**	**-0.5**
MONP2	**Monument Peak**	**0.82**	**356**	⇓*iP*	**Pb**	**19 31 48.6**	**-0.3**
MONP2				*eS*	**Sb**	**19 31 59.2**	**-0.5**
VTX	**Valle De La Tr**	**0.83**	**144**		**Pb**	**19 31 48.4**	**-0.4**
VTX					**Sb**	**19 31 59.1**	**-0.6**
VTX				IAML		19 32 00.2	
	comp=N,456nm,0.1s						
VTX				IAML		19 32 00.4	
	comp=E,464nm,0.3s						
VTX	**Valle De La Tr**	**0.83**	**144**	⇓*eP*	**Pb**	**19 31 48.5**	**-0.4**
VTX				*eS*	**Sb**	**19 31 59.3**	**-0.4**
VTX				IAML		19 32 00.2	
	comp=N,472nm,0.1s						
VTX				⇑*e*		19 32 00.2	
VTX				IAML		19 32 00.4	
	comp=E,378nm,0.1s						
VTX				*e*		19 32 00.4	
SDRC	**San Diego Road**	**0.83**	**323**		**Pb**	**19 31 48.6**	**-0.3**
SDRC					**Sb**	**19 31 59.6**	**-0.2**
SDRC	**San Diego Road**	**0.83**	**323**	⇓*eP*	**Pb**	**19 31 48.6**	**-0.3**
SDRC				*eS*	**Sb**	**19 31 59.4**	**-0.4**
CORX	**Isla Coronado**	**0.84**	**295**	*eP*	**Pb**	**19 31 49.1**	**+0.2**
CORX				*eS*	**Sb**	**19 32 00.6**	**+0.8**
WESC	**Westside Schoo**	**0.86**	**37**		**Pb**	**19 31 49.9**	**+0.5**
WESC					**Sg**	**19 32 02.2**	**+1.0**
CRR	**Carrizo Plain**	**0.88**	**21**		**Pb**	**19 31 49.9**	**+0.2**
CRR					Pn	19 32 01.2	+11
RHX	**Rio Hardy**	**0.91**	**86**	⇑*eP*	**Pb**	**19 31 50.2**	**+0.1**
RHX				*eS*	**Sb**	**19 32 01.5**	**-0.3**
EML	**El Monte Cty P**	**0.92**	**333**		**Pb**	**19 31 49.9**	**-0.5**
EML					**Sb**	**19 32 01.9**	**-0.5**
EML	**El Monte Cty P**	**0.92**	**333**	⇓*eP*	**Pb**	**19 31 49.9**	**-0.5**
EML				*eS*	**Sb**	**19 32 01.6**	**-0.7**
COK2	**Cook Ranch 2**	**0.94**	**34**		**Pb**	**19 31 51.5**	**+0.7**
COK2					**Sg**	**19 32 04.6**	**+1.0**
CPBX	**Cerro Prieto**	**0.95**	**68**		**Pb**	**19 31 51.4**	**+0.5**
CPBX	**Cerro Prieto**	**0.95**	**68**	⇑*eP*	**Pb**	**19 31 51.6**	**+0.6**
UABX	**UABC, Campus M**	**0.95**	**54**		**Sn**	**19 32 05.3**	**+0.7**
MTRP	**Mission Trails**	**0.96**	**322**		**Pb**	**19 31 50.8**	**-0.3**
MTRP					**Sb**	**19 32 03.3**	**-0.1**
SDMC	**San Diego Miss**	**0.98**	**317**		**Sb**	**19 32 04.3**	**+0.3**
SWSC	**Sam W. Stewart**	**0.99**	**28**		**Pb**	**19 31 51.8**	**+0.3**
SWSC					**Sb**	**19 32 04.7**	**+0.4**
AGSX	**Ej. Aguas Cali**	**1.03**	**79**	⇑*iP*	**Pb**	**19 31 52.3**	**+0.1**
JUEM	**Julian Eagle M**	**1.03**	**348**		**Pb**	**19 31 51.8**	**-0.6**
JUEM					**Sb**	**19 32 05.6**	**-0.1**
CPE	**Camp Elliot**	**1.04**	**322**		**Pb**	**19 31 52.1**	**-0.3**
CPE					**Sb**	**19 32 05.0**	**-0.7**
CPE	**Camp Elliot**	**1.04**	**322**	IAML		19 32 06.7	
	comp=E,463nm,0.2s						
DPP	**Dos Picos Cty**	**1.05**	**332**		**Pb**	**19 31 52.0**	**-0.7**
DPP					**Sb**	**19 32 06.0**	**-0.2**
SLH	**Sleepy Hollow**	**1.12**	**4**		**Pn**	**19 31 54.2**	**+0.4**
SLH					**Sb**	**19 32 09.0**	**+0.8**
SLH	**Sleepy Hollow**	**1.12**	**4**	⇓*eP*	**Pn**	**19 31 54.2**	**+0.4**
ERRC	**Elmore Ranch**	**1.14**	**23**		**Sn**	**19 32 10.4**	**+1.2**
MATG	**Mataguay Scout**	**1.16**	**348**		**Pn**	**19 31 54.0**	**-0.4**
MATG					**Sb**	**19 32 09.3**	**+0.1**
MATG	**Mataguay Scout**	**1.16**	**348**	⇓*eP*	**Pn**	**19 31 53.9**	**-0.4**
BORC	**Borrego Spring**	**1.20**	**357**		**Pn**	**19 31 54.9**	**+0.1**
BORC					**Sb**	**19 32 10.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.27**	**143**	⇓*eP*	**Pn**	**19 31 56.2**	**+0.1**
COA	**Coachella**	**1.30**	**52**		**Pn**	**19 31 56.2**	**-0.1**
GORC	**Green Oak Ranc**	**1.31**	**326**		**Pn**	**19 31 56.3**	**-0.1**
GORC					**Sn**	**19 32 13.3**	**-0.2**
EMSC	**East Mesa**	**1.33**	**60**		**Pn**	**19 31 56.7**	**0.0**
PLM	**Palomar**	**1.35**	**342**		**Pn**	**19 31 57.1**	**0.0**
FRD	**Ford Ranch, An**	**1.44**	**352**		**Pn**	**19 31 59.2**	**+1.0**
FRD	**Ford Ranch, An**	**1.44**	**352**		**Pn**	**19 31 59.5**	**+1.2**
FRD					**Sb**	**19 32 18.4**	**+1.1**
BZNA	**Buzz No.'s Pla**	**1.44**	**349**		**Pn**	**19 31 59.0**	**+0.6**
FRK	**Frink**	**1.46**	**24**		**Pn**	**19 31 58.4**	**0.0**
FRK					**Sb**	**19 32 19.2**

2.3nm,1.0s
FITZ Fitzroy Crossi 20.25 230 P P 19 37 11.7 +1.0
3.0nm,0.9s,baz=41,slow=11,SNR=3.9
FITZ S S 19 41 00.2 +2.2
1.7nm,0.8s,baz=330,slow=10,SNR=1.8
FITZ Lg Lg 19 43 16.5
baz=126,slow=8.4,SNR=2.6
3.0nm,0.9s
MKAR Makanchi Array 73.61 322 P P 19 44 09.5 +0.8
0.6nm,0.8s,baz=108,slow=7.8,SNR=7.1
0.6nm,0.8s
ILAR Eielson Array 86.89 24 P P 19 45 19.1 -0.7
0.6nm,0.7s,baz=260,slow=5.3,SNR=6.1
0.6nm,0.7s

*OSPL **26** 19:38:49.4±0.5, 19°.40N×72°.72W, h31km±10km, ML2.3, Hypocentre not reviewed by the ISC*
*SDD **26** 19:38:50.2±1.2, 19°.30N×72°.59W, h31km±63km, MD3.2, ML2.6, MW3.1*
*SSNC **26** 19:38:50.0±3.8, 19°.26N×72°.52W, h5km±17km, MD3.4, ML2.4*

ISC 26 19:38:47.3±1.9, 19°.29N±0°.05×72°.53W±0°.04, h5km±15km, n15, σ1§24/27, 4C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.79**	**164**	*e*P	**Pb**	**19 39 03.9**	**+0.4**
PAPH				*e*S	**Sb**	**19 39 15.8**	**+1.2**
PAPH				IAML		19 39 17.8	
	comp=N,108nm,0.2s						
PAPH				IAML		19 39 21.3	
	comp=E,103nm,0.2s						
PAPH	**Port-au-Prince**	**0.79**	**164**	*i* P		19 39 04.6	
PAPH				*e*S		19 39 15.8	
JIDR	**Jimani**	**1.02**	**141⇑**	*e*Pg	**Pn**	**19 39 07.8**	**-0.4**
JIDR			⇑	*e*Sg	**Sn**	**19 39 22.4**	**-0.6**
JIDR				IAML		19 39 26.4	
	comp=N,87nm,1.4s						
JIDR				IAML		19 39 29.9	
	comp=E,109nm,0.5s						
MCDR	**Montecristi**	**1.02**	**54⇑**	*e*Pg	**Pn**	**19 39 08.5**	**+0.1**
MCDR			⇑	*e*Sg	**Sb**	**19 39 21.8**	**+0.5**
MCDR				IAML		19 39 23.1	
	comp=E,290nm,0.4s						
MCDR				IAML		19 39 23.3	
	comp=N,310nm,0.2s						
SDDR	**Presa de Saban**	**1.21**	**104**	*e*P	**Pg**	**19 39 10.7**	**+0.1**
SDDR				*e*S	**Sb**	**19 39 27.0**	**+0.2**
SDDR				IAML		19 39 30.5	
	comp=N,49nm,0.2s						
SDDR				IAML		19 39 35.2	
	comp=N,72nm,0.0s						
SDDR	**Presa de Saban**	**1.21**	**104⇓**	*e*Pg	**Pb**	**19 39 10.8**	**0.0**
SDDR				*e*Sg	**Sn**	**19 39 27.8**	**-0.1**
SDDR				IAML		19 39 30.6	
	comp=E,42nm,0.9s						
SDDR				IAML		19 39 35.1	
	comp=N,72nm,0.2s						
SDDR	**Presa de Saban**	**1.21**	**104**	*i* P		19 39 10.8	
SDDR				*e*S		19 39 27.0	
SDDR				IAML		19 39 30.6	
	comp=Z,48nm,0.3s						
LONE3	**El Aguacate, B**	**1.22**	**124**	*i* P		19 39 11.3	
LONE3				*e*S		19 39 27.5	
LODU1	**El Espartillar**	**1.36**	**133**	*i* P		19 39 13.5	
MASC	**Masc**	**1.83**	**299**	*e*P	**Pn**	**19 39 19.3**	**-0.2**
MASC				*e*S	**Sn**	**19 39 43.3**	**+0.3**
MASC				IAML		19 39 48.0	
	comp=N,13nm,0.2s						
MASC				IAML		19 39 49.2	
	comp=E,42nm,0.4s						
MASC	**Masc**	**1.83**	**299**	*e*Pg	**Pn**	**19 39 20.2**	**+0.7**
MASC				IAML		19 40 01.8	
	comp=N,45nm,1.5s						
QMBU	**Quimbuelo**	**2.33**	**293**	*e*P	**Pn**	**19 39 26.6**	**+0.2**
QMBU				*e*S	**Sn**	**19 39 54.8**	**-0.7**
QMBU				IAML		19 39 58.8	
	comp=E,24nm,0.2s						
QMBU				IAML		19 39 59.2	
	comp=N,27nm,0.7s						
GTBY	**Guantanamo Bay**	**2.52**	**285**	*e*P	**Pn**	**19 39 26.8**	**-2.1**
GTBY				*e*S	**Sn**	**19 39 57.8**	**-2.2**
GTBY				IAML		19 40 03.6	
	comp=N,42nm,1.1s						
GTBY				IAML		19 40 06.0	
	comp=N,23nm,0.9s						
GTBY	**Guantanamo Bay**	**2.52**	**285**	*i* P		19 39 23.3	
NMDO	**Nuevo Mundo**	**2.63**	**299**	*e*P	**Pn**	**19 39 31.8**	**+1.3**
NMDO				*e*S	**Sb**	**19 40 05.2**	**-2.4**
NMDO				IAML		19 40 07.7	
	comp=N,14nm,0.4s						
NMDO				IAML		19 40 12.1	
	comp=E,13nm,0.2s						
NMDO	**Nuevo Mundo**	**2.63**	**299**	*e*Pg	**Pn**	**19 39 32.0**	**+1.5**
NMDO				IAML		19 40 16.3	
	comp=N,13nm,2.3s						
MOAC	**Moa**	**2.66**	**301**	*e*P	**Pn**	**19 39 31.8**	**+0.9**
MOAC				*e*S	**Sn**	**19 40 05.2**	**+1.6**
MOAC				IAML		19 40 08.1	
	comp=N,25nm,0.8s						
MOAC				IAML		19 40 12.8	
	comp=E,21nm,0.6s						
HATOM	**Hato Mayor del**	**3.02**	**99**	*e*Pg	**Pb**	**19 39 40.4**	**-1.2**
HATOM				IAML		19 40 23.4	
	comp=E,26nm,0.7s						
HATOM				IAML		19 41 00.6	
	comp=N,24nm,3.8s						
RCC	**Rio Carpintero**	**3.07**	**284**	*e*P	**Pn**	**19 39 36.8**	**+0.4**
RCC				*e*S	**Sn**	**19 40 13.2**	**-0.4**
RCC				IAML		19 40 17.3	
	comp=E,9.0nm,0.6s						
RCC				IAML		19 40 20.6	
	comp=N,7.8nm,0.4s						
PINC	**Pinares de May**	**3.29**	**292**	*e*P	**Pn**	**19 39 41.8**	**+2.2**
PINC				*e*S	**Sn**	**19 40 20.8**	**+1.7**
PINC				IAML		19 40 23.4	
	comp=E,4.8nm,0.2s						
PINC				IAML		19 40 25.5	
	comp=N,5.5nm,0.1s						

*BEO **26** 19:51:52.4±0.7, 40°.82N×19°.93E, h0km, ML2.8/3*
*THE **26** 19:51:54.1, 41°.13N×20°.25E, h0km±4km, ML2.4/6, Error ellipse: s-maj=4.0km s-min=0.8km az=320.0*
*SKO **26** 19:51:55.1, 40°.94N×20°.10E, h0km, ML2.4*
*PDG **26** 19:51:55.2±1.0, 41°.08N×20°.16E, h2km±2km, ML2.8/11, Error ellipse: s-maj=1.7km s-min=2.8km az=0.0*

ISC 26 19:51:55.0±1.1, 41°.07N±0°.03×20°.14E±0°.03, h3km±11km, n37, σ1§63/62, 5C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**323**	P	**Pg**	**19 52 00.4**	**-1.4**
TIR				S	**Sg**	**19 52 06.5**	**+0.1**
	730nm,0.4s						
TIR	**Tirane**	**0.35**	**323**	*e*Pg	**Pg**	**19 52 00.4**	**-1.4**
TIR				*e*Sg	**Sb**	**19 52 10.1**	**+0.2**
OHR	**Ohrid**	**0.50**	**85**	*i* Pg	**Pg**	**19 52 04.2**	**-0.4**
OHR				*i* Sg	**Sb**	**19 52 12.9**	**-1.2**
OHR				*e*Lg	Lg	19 52 16.3	
	comp=E,305nm,0.5s						
OHR				*e*Lg	Lg	19 52 17.4	
	comp=N,186nm,0.6s						
OHR	**Ohrid**	**0.50**	**85**	*e*Pg	**Pg**	**19 52 04.2**	**-0.4**
OHR				*e*Sg	**Sb**	**19 52 15.6**	**+1.5**
PHP	**Peshkopia**	**0.66**	**20**	P	**Pg**	**19 52 05.8**	**-1.8**
PHP				S	**Sg**	**19 52 13.9**	**-2.3**
	comp=N,202nm,0.5s						
KBN	**Korca**	**0.66**	**132**	P	**Pg**	**19 52 06.3**	**-1.3**
KBN				S	**Sg**	**19 52 15.9**	**-0.3**
	comp=N,752nm,0.8s						
NEST	**Nestorio**	**0.95**	**133**	P	**Pg**	**19 52 11.6**	**-1.6**
NEST				S	**Sg**	**19 52 24.9**	**-0.5**
	comp=N,140nm,0.6s						
LSK	**Leskovik**	**0.98**	**159**	P	**Pg**	**19 52 12.1**	**-1.7**
LSK				S	**Sn**	**19 52 28.2**	**-1.9**
	comp=N,565nm,0.6s						
ULC	**Ulcinj**	**1.12**	**323**	*i* Pg	**Pg**	**19 52 16.8**	**+0.3**
ULC	**Ulcinj**	**1.12**	**323**	*e*Pg	**Pb**	**19 52 16.4**	**-0.7**
ULC				*i* Sg	**Sn**	**19 52 33.3**	**-0.3**
SRN	**Sarande**	**1.19**	**185**	P	**Pg**	**19 52 18.4**	**+0.6**
SRN				S	**Sn**	**19 52 36.5**	**+1.4**
	comp=N,102nm,1.0s						

DRME	**Dracevica, Mon**	**1.33**	**328⇑**	*i*Pg	**Pn**	**19 52 18.4**	**-2.1**
DRME				*e*Sg	**Sg**	**19 52 41.3**	**+3.5**
KEK	**Kerkira**	**1.38**	**191**	P	**Pg**	**19 52 21.9**	**+0.5**
PDG	**Podgorica**	**1.52**	**334**	*i* Pn	**Pn**	**19 52 22.6**	**-0.4**
PDG				*i* Sn	**Sg**	**19 52 46.6**	**+2.8**
PDG	**Podgorica**	**1.52**	**334**	*e*Pg	**Pn**	**19 52 22.6**	**-0.4**
PDG				*e*Sg	**Sg**	**19 52 45.5**	**+1.8**
PDG	**Podgorica**	**1.52**	**334⇑**	*i*Pg	**Pn**	**19 52 22.4**	**-0.6**
PDG				*i* Sg	**Sg**	**19 52 47.2**	**+3.5**
BUM	**Brajici-Budva**	**1.55**	**323⇑**	*i*Pg	**Pn**	**19 52 22.9**	**-0.6**
BUM				*e*Sg	**Sg**	**19 52 47.8**	**+3.0**
GRG	**Griva**	**1.71**	**93**	*i* Pn	**Pb**	**19 52 27.2**	**+0.1**
GRG				*i* Sn	**Sg**	**19 52 54.9**	**+4.8**
CEME	**Cevo**	**1.74**	**329⇑**	*i*Pn	**Pn**	**19 52 26.1**	**-0.1**
CEME				*e*Sn	**Sg**	**19 52 53.2**	**+2.3**
IVA	**Berane**	**1.81**	**354⇓**	*i*Pn	**Pb**	**19 52 28.1**	**-0.8**
IVA				*i* Sn	**Sg**	**19 52 56.2**	**+2.9**
KOME	**Kolasin**	**1.84**	**345⇓**	*i*Pn	**Pn**	**19 52 27.2**	**-0.4**
KOME				*i* Sn	**Sg**	**19 52 57.1**	**+2.8**
VAY	**Valandovo**	**1.85**	**81**	*i* Pn	**Pb**	**19 52 29.1**	**-0.3**
VAY				*i* Sn	**Sg**	**19 52 57.3**	**+2.9**
VAY				*e*Lg	Lg	19 52 57.7	
	comp=N,21nm,0.5s						
VAY				*e*Lg	Lg	19 53 00.5	
	comp=E,19nm,0.6s						
HCY	**Herceg Novi**	**1.85**	**319⇑**	*i*Pn	**Pn**	**19 52 27.2**	**-0.4**
HCY				*e*Sn	**Sg**	**19 52 55.3**	**+0.8**
NKME	**Niksic**	**1.92**	**333⇓**	*i*Pn	**Pb**	**19 52 29.7**	**-0.9**
NKME				*i* Sn	**Sg**	**19 52 58.4**	**+1.8**
LIT	**Litokhoron**	**2.03**	**118**	*i* Pn	**Pb**	**19 52 32.4**	**-0.2**
BARS	**Barje**	**2.15**	**35**	*i* Pn	**Pb**	**19 52 34.0**	**-0.6**
BARS				*i* Sn	**Sg**	**19 53 04.1**	**+0.1**
BARS	**Barje**	**2.15**	**35**	*e*Pn	**Pb**	**19 52 33.9**	**-0.6**
THE	**Thessaloniki**	**2.18**	**101**	*i* Pn	**Pb**	**19 52 34.5**	**-0.6**
BRY	**Bratogost**	**2.19**	**327⇓**	*i*Pn	**Pn**	**19 52 33.1**	**+0.7**
BRY				*i* Sn	**Sg**	**19 53 04.3**	**-1.1**
SJES	**Sjenica**	**2.20**	**357**	*e*Pn	**Pb**	**19 52 35.1**	**-0.4**
SELS	**Selova**	**2.27**	**18**	*e*Pn	**Pb**	**19 52 36.8**	**+0.1**
PLE	**Pljevlja**	**2.33**	**346**	*e*Pn	**Pb**	**19 52 36.9**	**-0.8**
PLE				*i* Sn	**Sg**	**19 53 09.1**	**-0.8**
KKB	**Krupnik**	**2.37**	**70**	*i* Pn	**Pb**	**19 52 37.1**	**-1.3**
STON	**Ston**	**2.56**	**316**	*e*Pn	**Pn**	**19 52 36.2**	**-1.2**
VTS	**Vitosha**	**2.78**	**55**	*e*Pn	**Pn**	**19 52 40.1**	**-0.5**
ZAPS	**Zavoj**	**2.88**	**39**	*e*Pn	**Pn**	**19 52 43.9**	**+2.1**
DIVS	**Divibare**	**3.03**	**358**	*e*Pn	**Pn**	**19 52 45.6**	**+1.6**

HEL 26 20:06:06.9±0.2, 67°.76N×20°.14E, h0km, ML1.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.27**	**11**	*e*P	Pg	20 06 29.7	-1.6
KIF	**Kilpisjarvi**	**1.27**	**11**	PG	Pg	20 06 30.5	-0.7
KIF				MSG		20 06 46.6	
	comp=Z,3.0nm,0.2s						
KIF				SG	Sg	20 06 46.7	-1.0
PAJU	**Pajala**	**1.37**	**121**	PN	Pg	20 06 32.4	-0.7
	baz=302						
PAJU				SN	Sb	20 06 51.6	+0.2
ERTU	**Ertsjaerv**	**1.46**	**146**	PN	Pn	20 06 34.2	-0.2
ERTU				SN	Sn	20 06 56.1	+1.9
HEF	**Hetta**	**1.47**	**62**	*e*P	Pn	20 06 32.0	-2.6
HEF	**Hetta**	**1.47**	**62**	PG	Pn	20 06 33.4	-1.3
HEF				MSG		20 06 51.2	
	comp=Z,1.9nm,0.2s						
HEF				SB	Sg	20 06 52.7	-1.5
KLF	**Kolari**	**1.57**	**108**	PN	Pn	20 06 36.0	+0.1
KLF				MSG		20 06 53.8	
	comp=Z,2.2nm,0.2s						
KLF				SN	Sg	20 06 57.3	+0.2
KTK1	**Kautokeino**	**1.70**	**41**	PG	Pn	20 06 37.7	-0.1
KTK1				SN	Sb	20 07 01.1	+0.1
TRO	**Tromso**	**1.93**	**347**	PG	Pn	20 06 41.5	+0.6
TRO				SG	Sn	20 07 06.2	+0.3
KALU	**Kalix**	**2.30**	**145**	PG	Pb	20 06 48.2	-1.0
	baz=326						
TOF	**Tornio**	**2.36**	**134**	PG	Pb	20 06 49.2	-1.0
TOF				MSG		20 07 16.9	
	comp=Z,1.6nm,0.2s						
TOF				SG	Sg	20 07 21.3	-1.4
RNF	**Rovaniemi**	**2.57**	**114**	PB	Pn	20 06 51.3	+1.7
RNF				SG	Sb	20 07 25.8	+0.1
RAJF	**Raja-Jooseppi**	**3.15**	**73**	PG	Pb	20 07 01.8	-1.7
RAJF				SG	Sb	20 07 41.5	-0.9
RAJF	**Raja-Jooseppi**	**3.15**	**73**	PN	Pb	20 07 01.8	-1.7
RANF	**Ranua**	**3.16**	**121**	SG	Sb	20 07 45.0	+2.2
KEV	**Kevo**	**3.20**	**48**	SB	Sn	20 07 38.3	+1.1
VRF	**Varrio**	**3.60**	**86**	PG	Pb	20 07 11.0	-0.4
MSF	**Maaselka**	**3.98**	**114**	PN	Pn	20 07 07.7	-1.3
MSF	**Maaselka**	**3.98**	**114**	PB	Pn	20 07 07.7	-1.3

HEL 26 20:06:25.1±0.3, 67°.57N×33°.52E, h0km, ML1.0, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.54**	**52**	PG	Pg	20 06 34.4	-1.1
	baz=225						
VRF	**Varrio**	**1.51**	**279**	PG	Pn	20 06 51.3	-2.0
VRF				MSG		20 07 10.2	
	comp=Z,1.2nm,0.2s						
KU6	**Riekki**	**2.11**	**225**	PG	Pn	20 07 02.3	+0.6
	baz=49						
KU6				MSG		20 07 27.8	
	comp=Z,0.5nm,0.2s						
MSF	**Maaselka**	**2.44**	**229**	SG	Sb	20 07 41.5	+1.3
KTK1	**Kautokeino**	**4.09**	**295**	SG	Sb	20 08 29.9	+2.2
ERTU	**Ertsjaerv**	**4.55**	**262**	SN	Sn	20 08 27.6	-1.0

*GUC **26** 20:09:54.8±0.7, 28°.08S×71°.27W, h30km±2km, ML3.7*

ISC 26 20:09:52.1±1.8, 28°.00S±0°.06×71°.48W±0°.09, h28km, n13, σ2§45/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.41**	**120**	*e*P	**Pb**	**20 10 00.2**	**-0.8**
AC04				*e*S	**Sb**	**20 10 04.1**	**-3.0**
AC04				IAML		20 10 04.6	
	comp=E,25μm,0.1s						
LCO	**Las Campanas**	**1.22**	**146**	*e*P	**Pb**	**20 10 13.6**	**-1.1**
LCO				*e*S	**Sn**	**20 10 27.6**	**-1.6**
LCO				IAML		20 10 29.1	
	comp=E,6μm,0.2s						
CO05	**La Serena**	**1.92**	**174**	*e*P	**Pb**	**20 10 25.6**	**-0.9**
CO05				IAML		20 10 54.1	
	comp=E,488nm,0.6s						
GO04	**Tololo Observa**	**2.24**	**165**	*e*P	**Pb**	**20 10 29.7**	**-2.4**
GO04				IAML		20 11 05.8	
	comp=N,2μm,0.4s						
CO01	**Juntas del Tor**	**2.31**	**149**	*e*P	**Pb**	**20 10 31.2**	**-2.0**
CO01				*e*S	**Sn**	**20 10 58.2**	**+2.0**
CO01				IAML		20 11 07.8	
	comp=N,225nm,0.2s						
AC02	**Maricunga**	**2.39**	**61**	*e*P	**Pb**	**20 10 32.3**	**-2.5**
AC02				IAML		20 11 06.8	
	comp=N,613nm,0.3s						
VCA	**Vinchina**	**2.98**	**105**	*e*P	**Pb**	**20 10 41.7**	**-2.9**
VCA	**Vinchina**	**2.98**	**105**	*e*P	**Pb**	**20 10 42.7**	**-1.9**
AGUA	**GUANDACOL**	**3.01**	**120**	*e*P	**Pb**	**20 10 42.7**	**-2.4**
AGUA				*e*S	**Sb**	**20 11 22.3**	**+0.8**
GO02	**Mina Guanaco**	**3.29**	**31**	*e*P	**Pn**	**20 10 43.6**	**+1.4**
ACCO	**Cerro Coronel**	**3.33**	**141**	*e*P	**Pb**	**20 10 46.9**	**-3.7**
ACCO				*e*S	**Sb**	**20 11 30.9**	**0.0**
APLL	**PUNTA DE LOS L**	**4.94**	**120**	*e*P	**Pn**	**20 11 06.1**	**+1.5**
APLL				*e*S	**Sn**	**20 12 06.0**	**+5.1**
CYA	**Choya**	**5.03**	**96**	*e*P	**Pn**	**20 11 07.6**	**+1.8**
CYA				*e*S	**Sn**	**20 12 04.2**	**+1.2**

BER 26 20:15:10.9±2.1, 73°.40N×6°.91E, h10km, mb(Pn)3.9, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.24**	**27**	*e*P	Pn	20 16 12.4	-2.9
BRBB	**Barentsburg B**	**5.04**	**17**	*e*P	Pn	20 16 25.0	-1.4
SPA0	**Spitsbergen Ar**	**5.33**	**21**	*e*P	Pn	20 16 28.2	-2.1
TRO	**Tromso**	**5.37**	**129**	*e*P	Pn	20 16 29.1	-1.9
TRO				*e*S	Sn	20 17 25.1	-7.7
TRO				IAML		20 17 31.0	
	comp=Z,2.4nm,1.3s						
HOPEN	**Hopen**	**5.63**	**48**	*e*P	Pn	20 16 31.4	-3.0
HOPEN				IAML		20 17 36.6	
	comp=Z,2.2nm,0.7s						
KBS	**Kingsbay**	**5.68**	**10**	*e*P	Pn	20 16 34.5	-0.6
LOF	**Lofoten**	**5.73**	**154**	*e*P	Pn	20 16 34.9	-1.0
LOF				*e*S	Sn	20 17 33.3	-8.3
LOF				IAML		20 17 34.2	
	comp=Z,6.7nm,0.8s						
JETT	**Jettan, Norway**	**5.77**	**125**	*e*P	Pn	20 16 34.3	-2.1
JETT				IAML		20 17 40.4	
	comp=Z,4.0nm,0.6s						
HAMF	**Hammerfest**	**5.88**	**110**	*e*P	Pn	20 16 34.8	-3.1
KIF	**Kilpisjarvi**	**6.28**	**128**	*e*P	Pn	20 16 41.4	-2.1
KTK1	**Kautokeino**	**6.85**	**122**	*e*P	Pn	20 16 49.0	-2.3
KONS	**Konsvik**	**7.25**	**160**	*e*P	Pn	20 16 55.3	-1.4
KONS				IAML		20 18 16.8	
	comp=Z,3.6nm,0.8s						
DAG	**Danmarks Havn**	**7.35**	**309**	*e*S	Sn	20 18 11.3	-10

*IDC **26** 20:23:07.8±2.9, 43°.12N×105°.10W, h0km, mb2.5/1, mbtmp3.1/3, ML3.1/2, MS3.0/3, Error ellipse: s-maj=54.4km s-min=9.9km az=156.0*
*NEIC **26** 20:23:08.1±0.3, 43°.69N±0°.05×105°.36W±0°.08, h0km±1km, ML3.3/58, Error ellipse: s-maj=9.4km s-min=8.3km az=258.0*

ISC 26 20:23:07.5±0.9, 43°.58N±0°.05×105°.40W±0°.06, h0km, n41, σ1§71/37, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.12**	**61**		**Pg**	**20 23 28.5**	**-0.6**
K22A	**Casper**	**1.24**	**222**		**Pn**	**20 23 35.1**	**+2.8**
N23A	**Red Feather La**	**2.72**	**189**		**Pb**	**20 23 56.1**	**-1.0**
N23A				IAML		20 24 50.9	
	comp=N,89nm,0.8s						
N23A				IAML		20 24 51.8	
	comp=E,103nm,0.8s						
PD31	**Pinedale Array**	**3.15**	**256**		**Pb**	**20 24 01.6**	**-2.9**
PDAR	**Pinedale Array**	**3.15**	**256**	Pn	**Pb**	**20 24 03.8**	**-0.7**
	comp=E,1.2nm,0.3s,baz=74,slow=15,SNR=22						
PDAR				Lg	Lg	20 24 50.6	
	comp=E,7.5nm,0.3s,baz=76,slow=32,SNR=11						
	comp=E,1.2nm,0.3s						
LAO	**LASA Array**	**3.16**	**350**		**Pn**	**20 23 58.8**	**+0.2**
RLMT	**Red Lodge**	**3.17**	**300**		**Pn**	**20 24 00.6**	**+1.7**
YNE	**Yellowstone No**	**3.60**	**295**		**Pn**	**20 24 07.0**	**+2.2**
YNE				IAML		20 25 13.7	
	comp=N,44nm,0.5s						
YNE				IAML		20 25 18.5	
	comp=E,43nm,0.4s						
YMP	**Mirror Lake Pl**	**3.61**	**290**	Pn	**Pn**	**20 24 05.4**	**+0.4**
YMP				IAML		20 25 16.9	
	comp=E,70nm,0.7s						
YMP				IAML		20 25 24.9	
	comp=N,70nm,1.6s						
OGNE	**Ogallala**	**3.63**	**135**		**Pn**	**20 24 05.0**	**-0.1**
LOHW	**Long Hollow**	**3.78**	**272**		**Pn**	**20 24 06.6**	**-0.6**
ISCO	**Idaho Springs**	**3.78**	**182**		**Pn**	**20 24 09.1**	**+1.7**
ISCO				IAML		20 26 01.6	
	comp=N,29nm,3.8s						
ISCO				IAML		20 26 22.7	
	comp=N,31nm,3.9s						
H17A	**Grant Village**	**3.82**	**284**		**Pn**	**20 24 08.5**	**+0.6**
H17A				IAML		20 25 29.0	
	comp=N,32nm,1.9s						
MOOW	**Moose Ponds**	**3.88**	**274**		**Pn**	**20 24 09.4**	**+0.8**
YFT	**Old Faithful**	**4.01**	**284**		**Pn**	**20 24 09.6**	**-0.8**
YFT				IAML		20 25 35.9	
	comp=N,30nm,1.2s						
YFT				IAML		20 25 41.3	
	comp=E,31nm,0.2s						
TPAW	**Teton Pass**	**4.04**	**271**		**Pn**	**20 24 10.0**	**-0.8**
TPAW				IAML		20 25 45.1	
	comp=E,38nm,1.4s						
O20A	**White River Ci**	**4.05**	**213**		**Pn**	**20 24 11.8**	**+0.9**
O20A				IAML		20 26 05.2	
	comp=E,46nm,2.1s						
FXWY	**Fox Creek**	**4.08**	**273**		**Pn**	**20 24 12.9**	**+1.5**
AHID	**Auburn Hatcher**	**4.25**	**261**		**Pn**	**20 24 13.1**	**-0.5**
AHID				IAML		20 25 50.2	
	comp=E,28nm,1.2s						
AHID				IAML		20 25 51.9	
	comp=E,30nm,1.0s						
RDMU	**Red Mountain**	**4.32**	**227**		**Pn**	**20 24 15.7**	**+1.0**
RDMU				IAML		20 25 40.1	
	comp=N,26nm,1.3s						
RDMU				IAML		20 26 03.9	
	comp=E,28nm,1.2s						
K30B	**Basset**	**4.33**	**100**		**Pn**	**20 24 15.2**	**+0.5**
YHL	**Hebgen Lake**	**4.34**	**289**		**Pn**	**20 24 14.6**	**-0.5**
YHL				IAML		20 25 49.6	
	comp=E,29nm,1.2s						
YHL				IAML		20 25 52.2	
	comp=N,29nm,1.3s						
BOZ	**Bozeman (W)**	**4.88**	**297**		**Pn**	**20 24 19.7**	**-2.6**
BOZ				IAML		20 26 00.3	
	comp=N,16nm,2.2s						
BOZ				IAML		20 27 25.1	
	comp=N,18nm,4.6s						
DGMT	**Dagmar**	**4.96**	**9**		**Pn**	**20 24 19.9**	**-3.4**
HWUT	**Hardware Ranch**	**4.96**	**249**		**Pn**	**20 24 23.0**	**-0.4**
HWUT				IAML		20 26 41.3	
	comp=N,23nm,4.8s						
BSUT	**Blindstream Ca**	**5.02**	**234**		**Pn**	**20 24 26.6**	**+2.2**
BSUT				IAML		20 26 09.0	
	comp=E,18nm,4.2s						
BSUT				IAML		20 26 42.8	
	comp=N,14nm,3.0s						
P18A	**Preston Nutter**	**5.37**	**224**		**Pn**	**20 24 27.9**	**-1.2**
EGMT	**Eagleton**	**5.38**	**327**		**Pn**	**20 24 27.9**	**-1.2**
PV15	**Paradox Valley**	**5.73**	**205**		**Pn**	**20 24 35.9**	**+1.8**
PV11	**David Mesa, Pa**	**5.90**	**208**		**Pn**	**20 24 36.1**	**-0.2**
SRU	**San Rafael Swe**	**5.90**	**223**		**Pn**	**20 24 36.7**	**+0.3**
LYMT	**Lyon Mountain**	**5.92**	**307**		**Pn**	**20 24 35.9**	**-0.8**
PV13	**Radium Mtn., P**	**6.01**	**207**		**Pn**	**20 24 37.5**	**-0.3**
TMUT	**Trail Mountain**	**6.11**	**227**		**Pn**	**20 24 38.0**	**-1.4**
ECSD	**EROS Data Cent**	**6.38**	**86**		**Pn**	**20 24 40.1**	**-2.6**
ELK	**Elko**	**7.84**	**252**	LR	LR	20 28 29.7	
	comp=N,108nm,21.6s,baz=44,slow=41						
I10CA	**LAC DU BONNET**	**9.21**	**41**	I	I	21 14 50.0	
	comp=N,0.3nm,1.5s,baz=224,slow=324,SNR=3.7						
ULM	**Lac du Bonnet**	**9.32**	**41**	Pn	**Pn**	**20 25 23.9**	**+0.9**
	comp=N,0.6nm,

BENV				*e*S	Sg	20 37 20.8	-0.9
TEPV	**Terepaima**	**1.09**	**250**	*e*P	Pg	20 37 19.2	-1.8
TEPV				*e*S	Sg	20 37 33.9	-1.3
TACV	**Tcata**	**1.13**	**100**	*e*P	Pb	20 37 21.1	-0.5
TACV				*e*S	Sg	20 37 35.1	-1.3
FUNV	**FUNVISIS**	**1.33**	**85**	*e*P	Pn	20 37 24.3	-0.4
FUNV				*e*S	Sb	20 37 42.0	-0.3
BAUV	**El Baul**	**1.40**	**175**	*e*P	Pn	20 37 25.6	0.0
BAUV				*e*S	Sb	20 37 43.2	-1.0
CACV	**CAICARA DEL OR**	**3.19**	**150**	*e*P	Pb	20 37 54.4	-2.4

*NAO **26** 20:48:45.7±1.6, 73°.46N×7°.15E, ML3.1*
*IDC **26** 20:48:47.1±0.8, 73°.35N×7°.38E, h0km, mb3.7/11, mbtmp3.7/17, ML3.3/6, MS3.5/31, Error ellipse: s-maj=16.7km s-min=11.6km az=62.0*
*BER **26** 20:48:51.6±3.6, 73°.47N×7°.41E, h29km±25km, mb(Pn)4.2, ML3.1(NAO), Confirmed Earthquake*
ISC 26 20:48:47.1±0.5, **73°.32N**±0°.05×**6°.92E**±0°.05, **h10**km, **n87**, σ**2**s**79**/**84**, **mb3.8**/**12**, **MS3.4**/**26**, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.56**	**65**	*e*P	**Pn**	**20 49 40.3**	**-2.1**
BJO1				*e*S	**Sn**	**20 50 19.4**	**-5.0**
BJO1				IAML		20 50 20.8	
	comp=Z,15nm,0.7s						
HSPB	**Hornsund (broa**	**4.31**	**27**	*e*P	**Pn**	**20 49 50.1**	**-2.4**
BRBA	**Barentsburg A**	**5.09**	**17**	*e*P	**Pn**	**20 50 01.6**	**-1.6**
BRBA				IAML		20 50 04.6	
	comp=Z,5.9nm,0.3s						
BRBB	**Barentsburg B**	**5.12**	**17**	Pn	**Pn**	**20 50 01.7**	**-2.0**
BRBB	**Barentsburg B**	**5.12**	**17**	*e*P	**Pn**	**20 50 02.1**	**-1.6**
TRO	**Tromso**	**5.32**	**128**	Pn	**Pn**	**20 50 06.2**	**-0.2**
TRO				Sn	**Sn**	**20 51 02.3**	**-5.3**
TRO	**Tromso**	**5.32**	**128**	*e*P	**Pn**	**20 50 06.6**	**+0.2**
TRO				*e*S	**Sn**	**20 51 01.3**	**-6.3**
TRO				IAML		20 51 04.9	
	comp=Z,8.4nm,0.6s						
SPA0	**Spitsbergen Ar**	**5.40**	**21**	Pn	**Pn**	**20 50 06.1**	**-1.5**
	baz=203,slow=22						
SPA0	**Spitsbergen Ar**	**5.40**	**21**	Pn	**Pn**	**20 50 06.1**	**-1.5**
	baz=203,slow=22						
SPITS	**Spitsbergen Ar**	**5.40**	**21**	Pn	**Pn**	**20 50 05.9**	**-1.7**
	baz=190,slow=14						
	comp=Z,1.9nm,0.3s						
LOF	**Lofoten**	**5.65**	**154**	Pn	**Pn**	**20 50 12.4**	**+1.4**
LOF				Sn	**Sn**	**20 51 07.7**	**-8.1**
LOF	**Lofoten**	**5.65**	**154**	*e*P	**Pn**	**20 50 12.5**	**+1.4**
LOF				*e*S	**Sn**	**20 51 10.1**	**-5.8**
LOF				IAML		20 51 12.7	
	comp=Z,28nm,0.7s						
LOF				*e*T	T	20 55 21.3	
HOPEN	**Hopen**	**5.68**	**47**	Pn	**Pn**	**20 50 09.3**	**-2.1**
HOPEN	**Hopen**	**5.68**	**47**	*e*P	**Pn**	**20 50 09.1**	**-2.3**
HOPEN				IAML		20 51 19.5	
	comp=Z,3.7nm,0.7s						
JETT	**Jettan, Norway**	**5.72**	**125**	Pn	**Pn**	**20 50 12.6**	**+0.6**
JETT	**Jettan, Norway**	**5.72**	**125**	Pn	**Pn**	**20 50 12.6**	**+0.6**
KBS	**Kingsbay**	**5.76**	**10**	Pn	**Pn**	**20 50 11.4**	**-1.1**
KBS	**Kingsbay**	**5.76**	**10**	*e*P	**Pn**	**20 50 12.4**	**0.0**
KBS				IAML		20 50 19.3	
	comp=Z,3.9nm,0.9s						
HAMF	**Hammerfest**	**5.84**	**109**	Pn	**Pn**	**20 50 12.0**	**-1.6**
HAMF	**Hammerfest**	**5.84**	**109**	*e*P	**Pn**	**20 50 12.2**	**-1.4**
HAMF				IAML		20 51 19.9	
	comp=Z,8.0nm,0.8s						
STEI	**Steigen**	**6.08**	**149**	*e*P	**Pn**	**20 50 18.8**	**+2.0**
KIF	**Kilpisjarvi**	**6.23**	**127**	Pn	**Pn**	**20 50 19.5**	**+0.6**
KIF	**Kilpisjarvi**	**6.23**	**127**	*e*P	**Pn**	**20 50 19.1**	**+0.2**
KIF				*e*S	**Sn**	**20 51 26.5**	**-3.5**
KIF				*e*T	T	20 55 12.4	
FAUS	**Fauske**	**6.59**	**151**	*e*P	**Pn**	**20 50 24.7**	**+0.8**
FAUS				*e*S	**Sn**	**20 51 33.5**	**-5.5**
FAUS				IAML		20 51 35.6	
	comp=Z,3.6nm,0.6s						
FAUS				*e*T	T	20 55 32.0	
KTK1	**Kautokeino**	**6.81**	**121**	*e*P	**Pn**	**20 50 27.1**	**+0.2**
KTK1				IAML		20 51 43.1	
	comp=Z,3.3nm,0.9s						
KTK1				*e*T	T	20 55 24.8	
ARA0	**ARCESS Array S**	**7.02**	**114**	Pn	**Pn**	**20 50 29.2**	**-0.6**
	baz=312,slow=11						
ARA0				Sn	Sn	20 51 39.4	-10
	baz=320,slow=22						
ARA0	**ARCESS Array S**	**7.02**	**114**	*e*P	**Pn**	**20 50 29.1**	**-0.7**
ARA0				Pn	**Pn**	**20 50 29.2**	**-0.6**
	baz=312,slow=11						
ARA0				Sn	Sn	20 51 39.4	-10
	baz=320,slow=22						
ARA0				IAML		20 51 57.3	
	comp=Z,2.3nm,0.6s						
ARCES	**ARCESS Array B**	**7.02**	**114**	Pn	**Pn**	**20 50 29.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=317,slow=10,SNR=47						
ARCES				Sn	**Sn**	**20 51 46.4**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=312,slow=20,SNR=6.4						
ARCES				LR	LR	20 53 14.4	
	comp=Z,234nm,19.3s,baz=352,slow=39						
	comp=Z,1.2nm,0.3s						
KONS	**Konsvik**	**7.17**	**160**	*e*P	**Pn**	**20 50 33.1**	**+1.2**
KONS				*e*S	**Sn**	**20 51 46.6**	**-6.7**
KONS				IAML		20 51 51.7	
	comp=Z,6.2nm,1.0s						
KEV	**Kevo**	**7.28**	**109**	Pn	**Pn**	**20 50 32.3**	**-1.0**
KEV	**Kevo**	**7.28**	**109**	*e*P	**Pn**	**20 50 31.4**	**-1.9**
STOK	**Stokkvaagen**	**7.33**	**160**	*e*P	**Pn**	**20 50 35.8**	**+1.9**
STOK				*e*S	**Sn**	**20 51 52.9**	**-4.1**
STOK				IAML		20 51 55.3	
	comp=Z,7.3nm,0.6s						
HEF	**Hetta**	**7.36**	**124**	Pn	**Pn**	**20 50 35.6**	**+1.2**
HEF	**Hetta**	**7.36**	**124**	*e*P	**Pn**	**20 50 35.5**	**+1.0**
HEF				*e*T	T	20 55 41.8	
DAG	**Danmarks Havn**	**7.41**	**310**	*e*P	**Pn**	**20 50 36.1**	**+1.1**
DAG				*e*S	Sn	20 51 49.1	-10
LEIR	**Leirfjorden**	**7.55**	**160**	*e*P	**Pn**	**20 50 38.4**	**+1.4**
LEIR				*e*S	**Sn**	**20 51 58.9**	**-3.7**
LEIR				IAML		20 52 02.0	
	comp=Z,8.8nm,0.5s						
DBG	**Daneborg**	**7.61**	**290**	Pn	**Pn**	**20 50 36.4**	**-1.4**
DBG				Sn	**Sn**	**20 51 56.8**	**-7.1**
DBG	**Daneborg**	**7.61**	**290**	*e*P	**Pn**	**20 50 37.6**	**-0.2**
DBG				*e*S	**Sn**	**20 51 58.1**	**-5.8**
DBG	**Daneborg**	**7.61**	**290**	*i* P	**Pn**	**20 50 36.1**	**-1.7**
DBG				*i* S	**Sn**	**20 51 56.8**	**-7.1**
MOR8	**Moi Rana**	**7.63**	**156**	*e*P	**Pn**	**20 50 38.8**	**+0.5**
MOR8				*e*S	**Sn**	**20 51 58.3**	**-6.3**
MOR8				IAML		20 52 06.8	
	comp=Z,6.3nm,0.6s						
VADS	**Vadso**	**7.72**	**104**	*e*P	**Pn**	**20 50 38.7**	**-0.6**
SCO	**Scoresbysund**	**9.36**	**267**	*i* P	**Pn**	**20 51 04.0**	**+2.2**
NB2	**NORSAR Subarra**	**12.44**	**170**	Pn	**Pn**	**20 51 46.4**	**+2.3**
	baz=352,slow=14						
NB2	**NORSAR Subarra**	**12.44**	**170**	Pn	**Pn**	**20 51 46.4**	**+2.3**
	baz=352,slow=14						
NOA	**NORSAR Array B**	**12.44**	**170**	Pn	**Pn**	**20 51 45.5**	**+1.4**
	baz=348,slow=12,SNR=9.3						
NOA				LR	LR	20 56 06.0	
	comp=Z,175nm,18.1s,baz=0.0,slow=35						
	comp=Z,0.4nm,0.4s						
NRA0	**NORESS Array S**	**12.77**	**170**	Pn	**Pn**	**20 51 50.3**	**+1.9**
	baz=3.6,slow=16						
NRA0	**NORESS Array S**	**12.77**	**170**	Pn	**Pn**	**20 51 50.3**	**+1.9**
	baz=3.6,slow=16						
HFS	**Hagfors**	**13.50**	**165**	Pn	**Pn**	**20 51 59.4**	**+1.0**
	baz=350,slow=16						
HFS	**Hagfors**	**13.50**	**165**	Pn	**Pn**	**20 51 59.4**	**+1.0**
	baz=350,slow=16						
HFS	**Hagfors**	**13.50**	**165**	Pn	**Pn**	**20 51 59.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=355,slow=11,SNR=11						
HFS				LR	LR	20 56 48.1	
	comp=Z,147nm,18.4s,baz=326,slow=36						
	comp=Z,0.6nm,0.3s						
FIA0	**FINESS Array S**	**13.90**	**139**	Pn	**Pn**	**20 52 03.2**	**-0.7**
	baz=328,slow=12						
FIA0	**FINESS Array S**	**13.90**	**139**	Pn	**Pn**	**20 52 03.2**	**-0.7**
	baz=328,slow=12						
FINES	**FINESS Array B**	**13.90**	**139**	Pn	**Pn**	**20 52 03.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=346,slow=15,SNR=5.8						
FINES				LR	LR	20 57 03.2	
	comp=Z,168nm,18.2s,baz=322,slow=36						
	comp=Z,2.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**18.53**	**198**	P	**Pn**	**20 53 05.1**	**+1.6**
	baz=7.5,slow=12						
	comp=Z,0.7nm,0.7s						

SFJD	**Kangerlussuaq**	**19.73**	**281**	LR	LR	21 00 02.8	
	comp=Z,141nm,19.3s,baz=66,slow=34						
OBN	**Obninsk**	**21.91**	**130**	LR	LR	21 02 10.2	
	comp=Z,110nm,18.1s,baz=3.0,slow=37						
KIRV	**Kirov**	**22.02**	**109**	P	**P**	**20 53 40.5**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=341,slow=18,SNR=3.0						
KIRV				LR	LR	21 02 06.7	
	comp=Z,102nm,21.4s,baz=328,slow=36						
	comp=Z,6.2nm,0.7s						
NRIK	**Noril'sk**	**24.25**	**58**	LR	LR	21 07 58.8	
	comp=Z,60nm,18.2s,baz=329,slow=48						
VRAC	**Vranov**	**24.47**	**165**	LR	LR	21 05 05.4	
	comp=Z,66nm,18.0s,baz=348,slow=40						
AKASG	**Malin Array Be**	**24.66**	**145**	P	**P**	**20 54 07.8**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=346,slow=9.3,SNR=7.0						
AKASG				LR	LR	21 03 08.2	
	comp=Z,112nm,19.5s,baz=358,slow=35						
	comp=Z,2.2nm,0.7s						
GERES	**GERESS Array B**	**24.74**	**169**	P	**P**	**20 54 10.4**	**+2.0**
	comp=Z,2.1nm,1.0s,baz=1.9,slow=8.9,SNR=4.6						
GERES				LR	LR	21 04 16.6	
	comp=Z,74nm,18.9s,baz=291,slow=38						
	comp=Z,2.1nm,1.0s						
RES	**Resolute Bay**	**24.87**	**322**	LR	LR	21 03 39.7	
	comp=Z,60nm,19.1s,baz=18,slow=36						
ARTI	**Arti**	**26.40**	**102**	LR	LR	21 04 15.6	
	comp=Z,85nm,19.1s,baz=330,slow=35						
BELG	**Belogornoye**	**27.04**	**118**	LR	LR	21 04 50.8	
	comp=Z,94nm,20.5s,baz=343,slow=36						
TIXI	**Tiksi**	**30.72**	**32**	LR	LR	21 09 42.2	
	comp=Z,54nm,18.1s,baz=8.0,slow=41						
AKTO	**Aktyubinsk**	**31.57**	**108**	LR	LR	21 08 20.5	
	comp=Z,108nm,18.2s,baz=48,slow=37						
BVAR	**Borovoye Array**	**32.76**	**93**	P	**P**	**20 55 21.2**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=324,slow=9.3,SNR=8.5						
	comp=Z,2.3nm,0.7s						
KBZ	**Khabaz**	**34.02**	**130**	LR	LR	21 08 06.5	
	comp=Z,86nm,18.8s,baz=347,slow=34						
BRTR	**Keskin Array B**	**36.06**	**144**	P	**P**	**20 55 50.3**	**+1.8**
	comp=Z,1.9nm,1.0s,baz=347,slow=5.9,SNR=4.1						
	comp=Z,1.9nm,1.0s						
ZALV	**Zalesovo Beam**	**36.10**	**79**	LR	LR	21 13 13.2	
	comp=Z,73nm,18.6s,baz=4.5,slow=41						
KURBB	**Kurchatov Arra**	**37.24**	**87**	P	**P**	**20 55 58.3**	**0.0**
	comp=Z,0.7nm,0.2s,baz=330,slow=6.9,SNR=4.3						
KURBB				LR	LR	21 13 55.2	
	comp=Z,79nm,19.2s,baz=158,slow=41						
	comp=Z,0.7nm,0.2s						
GNI	**Garni**	**37.84**	**130**	LR	LR	21 11 46.3	
	comp=Z,78nm,19.2s,baz=346,slow=36						
YKA	**Yellowknife Ar**	**38.94**	**321**	P	**P**	**20 56 14.2**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=14,slow=8.2,SNR=3.9						
YKA				PcP	**PcP**	**20 58 24.3**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=35,slow=3.9,SNR=3.9						
YKA				LR	LR	21 11 51.5	
	comp=Z,84nm,18.1s,baz=308,slow=36						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**41.06**	**343**	P	**P**	**20 56 32.0**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=2.6,slow=7.8,SNR=8.2						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**41.78**	**86**	P	**P**	**20 56 36.0**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=330,slow=7.0,SNR=4.5						
MKAR				LR	LR	21 18 03.6	
	comp=Z,45nm,18.2s,baz=328,slow=42						
	comp=Z,0.3nm,0.8s						
AAK	**Ala-Archa**	**43.33**	**96**	LR	LR	21 14 15.9	
	comp=Z,28nm,21.6s,baz=6.0,slow=35						
EIL	**Elat**	**46.10**	**145**	LR	LR	21 16 56.8	
	comp=Z,23nm,20.5s,baz=242,slow=37						
ULM	**Lac du Bonnet**	**46.13**	**300**	LR	LR	21 15 46.9	
	comp=Z,109nm,18.7s,baz=40,slow=35						
SONM	**Songino Array**	**47.51**	**64**	P	**P**	**20 57 22.7**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=318,slow=5.6,SNR=4.6						
	comp=Z,0.6nm,0.9s						
NEW	**Newport**	**52.82**	**316**	LR	LR	21 20 37.4	
	comp=Z,72nm,20.1s,baz=46,slow=36						
PDAR	**Pinedale Array**	**56.43**	**308**	LR	LR	21 22 31.2	
	comp=Z,44nm,18.8s,baz=31,slow=36						
WSAR	**Wadi Sarin**	**57.30**	**121**	LR	LR	21 25 01.1	
	comp=Z,64nm,18.6s,baz=232,slow=38						
YBH	**Yreka Blue Hor**	**60.20**	**318**	LR	LR	21 25 16.8	
	comp=Z,59nm,18.3s,baz=24,slow=36						
TORD	**Torodi Ar. Bea**	**60.23**	**186**	P	**P**	**20 58 57.4**	**+2.3**
	comp=Z,40nm,0.4s,baz=354,slow=8.3,SNR=1.6						
PFO	**Pinyon Flats O**	**66.74**	**311**	LR	LR	21 29 48.4	
	comp=Z,49nm,18.1s,baz=344,slow=37						
CMAR	**Chiang Mai Arr**	**73.05**	**83**	P	**P**	**21 00 17.8**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=312,slow=6.1,SNR=4.4						
CMAR				LR	LR	21 37 29.9	
	comp=Z,16nm,19.7s,baz=5.0,slow=40						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**122.78**	**61**	PKP	**PKPdf**	**21 07 42.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=332,slow=0.9,SNR=4.2						

IDC 26 20:50:26.6±8.7, **19°.56S**×**175°.39W**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=378.5km s-min=39.3km az=143.0**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.12**	**256**	P	P	20 59 00.9	+0.1
	0.5nm,0.5s,baz=97,slow=8.1,SNR=8.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**47.16**	**261**	P	P	20 59 00.9	-0.3
	0.2nm,0.3s,baz=96,slow=8.2,SNR=9.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**86.88**	**12**	P	P	21 03 12.7	0.0
	0.2nm,0.6s,baz=219,slow=7.0,SNR=5.1						
	0.2nm,0.6s						

*IDC **26** 20:52:56.2±0.9, 20°.92N×122°.52E, h0km, mb3.6/9, mbtmp3.7/10, ML3.4/1, MS3.0/3, Error ellipse: s-maj=28.1km s-min=19.5km az=68.0*
ISC 26 20:53:01.4±0.9, **21°.0N**±0°.1×**122°.5E**±0°.1, **h35**km, **n16**, σ1s**11**/**16**, **mb3.6**/**9**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.21**	**325**	P	**Pn**	**20 53 35.1**	**-0.6**
YULB	**Yu-li**	**2.61**	**336**	P	**Pn**	**20 53 39.3**	**-1.9**
TPUB	**Ta-pu**	**2.85**	**324**	P	**Pn**	**20 53 44.6**	**+0.2**
SSLB	**Suanglung**	**3.10**	**334**	P	**Pn**	**20 53 47.8**	**-0.2**
NACB	**Ninganchiao**	**3.26**	**346**	P	**Pn**	**20 53 47.9**	**-2.2**
YHNB	**Yeheng**	**3.79**	**345**	P	**Pn**	**20 53 56.9**	**-0.5**
JOW	**Kunigami**	**7.88**	**41**	Pn	**Pn**	**20 54 53.8**	**+0.2**
	1.2nm,0.3s,baz=211,slow=12,SNR=5.0						
JOW				LR	LR	20 57 13.5	
	comp=Z,36nm,19.6s,baz=297,slow=33						
	3.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**22.27**	**268**	P	**P**	**20 57 56.4**	**+0.7**
	0.4nm,0.3s,baz=63,slow=8.9,SNR=9.6						
CMAR				LR	LR	21 07 06.4	
	comp=Z,39nm,18.2s,baz=75,slow=38						
	0.4nm,0.3s						
SONM	**Songino Array**	**29.75**	**338**	P	**P**	**20 59 04.9**	**+0.3**
	0.3nm,0.5s,baz=142,slow=7.5,SNR=2.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.46**	**318**	P	**P**	**21 00 46.1**	**+1.3**
	1.2nm,0.6s,baz=114,slow=9.4,SNR=20						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**42.32**	**163**	P	**P**	**21 00 50.7**	**-1.4**
	1.0nm,0.8s,baz=342,slow=8.7,SNR=5.1						
	1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.55**	**328**	P	**P**	**21 01 01.6**	**0.0**
	1.4nm,0.7s,baz=115,slow=9.5,SNR=5.4						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.31**	**322**	P	**P**	**21 01 16.0**	**+0.2**
	0.7nm,0.3s,baz=120,slow=7.3,SNR=4.3						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**45.77**	**165**	P	**P**	**21 01 19.2**	**-0.6**
	0.2nm,0.4s,baz=352,slow=7.7,SNR=5.1						
ASAR				LR	LR	21 21 52.5	
	comp=Z,31nm,18.3s,baz=120,slow=38						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**71.50**	**27**	P	**P**	**21 04 19.8**	**+1.4**
	0.2nm,0.7s,baz=310,slow=6.6,SNR=2.0						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**85.44**	**23**	P	**P**	**21 05 34.5**	**-0.7**
	0.4nm,0.7s,baz=301,slow=3.9,SNR=3.9						
	0.4nm,0.7s						

*SJA **26** 21:06:56.0, 22°.00S×69°.23W, h129km, ML3.3*
*GUC **26** 21:06:57.8±0.8, 22°.01S×68°.99W, h112km±3km, ML3.5*
ISC 26 21:06:56.2±1.6, **22°.00S**±0°.04×**69°.10W**±0°.07, **h126**km±10km, **n18**, σ0s**88**/**29**, **3C-2D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.24**	**327**	*i* P	**Pn**	**21 07 13.5**	**-0.4**
PB09	**IPOC Station P**	**0.24**	**327**	⇑*i* P	**Pn**	**21 07 14.2**	**+0.3**
PB09				*e*S	**Sn**	**21 07 26.3**	**-0.9**
PB09				IAML		21 07 27.5	
	comp=E,2μm,0.5s						
PB03	**IPOC Station P**	**0.60**	**265**	*i* P	**Pn**	**21 07 15.9**	**+0.2**
PB03	**IPOC Station P**	**0.60**	**265**	⇑*i* P	**Pn**	**21 07 16.6**	**+0.9**
PB03				*e*S	**Sn**	**21 07 30.8**	**+0.5**
PB03				IAML		21 07 32.4	
	comp=E,932nm,0.2s						
PB06	**IPOC Station P**	**0.83**	**212**	*i* P	**Pn**	**21 07 17.5**	**+0.1**
PB06	**IPOC Station P**	**0.83**	**212**	⇑*i* P	**Pn**	**21 07 18.1**	**+0.8**
PB06				*e*S	**Sn**	**21 07 33.3**	**-0.1**
PB06				IAML		21 07 34.2	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**1.01**	**339**	*i* P	**Pn**	**21 07 19.2**	**+0.2**
PB01	**IPOC Station P**	**1.01**	**339**	‖*i* P	**Pn**	**21 07 19.7**	**+0.7**
PB01				*e*P	**Pn**	**21 07 19.8**	**+0.7**
PB01				*e*S	**Sn**	**21 07 36.2**	**0.0**
PB01				IAML		21 07 37.5	
	comp=E,3μm,0.2s						
AF01	**San Pedro de A**	**1.28**	**138**	*e*P	**Pn**	**21 07 21.6**	**-0.3**
AF01				*e*S	**Sn**	**21 07 40.1**	**-1.3**
AF01				IAML		21 07 41.2	
	comp=N,1μm,0.7s						
TA01	**Diego Aracena**	**1.74**	**325**	*e*P	**Pn**	**21 07 28.0**	**+1.1**
TA01				*e*S	**Sn**	**21 07 50.4**	**+0.2**
TA01				IAML		21 07 52.8	
	comp=N,730nm,0.2s						
PB08	**IPOC Station P**	**1.85**	**359**	‖*e*P	**Pn**	**21 07 29.5**	**+1.0**
PB08				*e*S	**Sn**	**21 07 53.8**	**+0.6**
PB08				IAML		21 07 55.6	
	comp=N,288nm,0.3s						
TA02	**Huaiquique**	**1.97**	**331**	*e*P	**Pn**	**21 07 30.3**	**+0.7**
TA02				*e*S	**Sn**	**21 07 54.4**	**-0.6**
PB11	**IPOC Station P**	**2.28**	**347**	*i* P	**Pn**	**21 07 33.6**	**-0.1**
PB11	**IPOC Station P**	**2.28**	**347**	*e*P	**Pn**	**21 07 34.1**	**+0.4**
PB11				*e*S	**Sn**	**21 08 01.8**	**-0.6**
PB11				IAML		21 08 05.6	
	comp=E,357nm,0.1s						
PB14	**IPOC Station P**	**2.88**	**204**	*i* P	**Pn**	**21 07 41.9**	**+0.5**
GO02	**Mina Guanaco**	**3.18**	**188**	*e*P	**Pn**	**21 07 45.6**	**+0.2**
YJA	**Yavi**	**3.33**	**94**	*i* P	**Pn**	**21 07 48.9**	**+1.4**
PB12	**IPOC Station P**	**3.56**	**341**	*e*P	**Pn**	**21 07 49.8**	**-0.4**
PB12				*e*S	**Sn**	**21 08 29.1**	**-2.7**

IDC 26 21:10:18.2±2.3, **5°.09S**×**145°.84E**, **h112**km±24km, **mb3.3**/2, **mbtmp3.8**/5, **Error ellipse: s-maj=30.2km s-min=13.1km az=54.0**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**163**	P	Pn	21 11 25.9	+1.8
	11nm,0.3s,baz=139,slow=12,SNR=6.7						
PMG				S	Sn	21 12 14.8	-0.5
	34nm,0.3s,baz=170,slow=18,SNR=11						
JAY	**Jayapura**	**5.72**	**296**	P	Pn	21 11 42.0	+1.1
	9.6nm,0.3s,baz=173,slow=3.9,SNR=15						
JAY				S	Sn	21 12 44.9	-0.5
	6.1nm,0.6s,baz=277,slow=14,SNR=1.2						
WRA	**Warramunga Arr**	**18.53**	**216**	P	P	21 14 26.3	+0.2
	0.6nm,0.5s,baz=41,slow=10,SNR=11						
ASAR	**Alice Springs**	**21.76**	**211**	P	P	21 15 01.5	+0.5
	0.4nm,0.5s,baz=32,slow=9.5,SNR=11						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	21 22 41.1	-0.3
	1.3nm,0.7s,baz=249,slow=5.1,SNR=21						
	1.3nm,0.7s						

*IDC **26** 21:28:07.2±2.0, 6°.34S×129°.53E, h0km, mb3.8/1, mbtmp3.5/4, ML3.5/3, MS2.7/1, Error ellipse: s-maj=81.6km s-min=26.8km az=76.0*
ISC 26 21:28:18.2±1.5, **6°.78S**±0°.08×**129°.7E**±0°.2, **h200**km, **n15**, σ4s**01**/**11**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.02**	**126**	P	**Pn**	**21 28 55.0**	**-2.0**
FAKI	**Fak Fak**	**4.62**	**34**	P	**Pn**	**21 29 25.9**	**-2.0**
DRS	**Darwin Rock St**	**5.75**	**168**	P	Pn	21 29 47.0	+4.7
DRS	**Darwin Rock St**	**5.75**	**168**	S	**Sn**	**21 30 50.8**	**+2.0**
SOEI	**Soe**	**6.10**	**241**	P	Pn	21 29 56.9	+10
MTN	**Manton Dam**	**6.20**	**167**	P	Pn	21 29 52.7	+4.6
MTN	**Manton Dam**	**6.20**	**167**	S	**Sn**	**21 31 00.2**	**+0.9**
KDU	**Kakadu**	**6.50**	**155**	S	**

SHLS	**Shalkode**	**2.30**	**305**	*eP*	**Pn**	**21 58 26.2**	**-0.4**
	2.9nm,0.2s						
SHLS				*eS*	**Sn**	**21 58 56.5**	**+1.7**
	9.5nm,0.3s						
PDGK	**Podgornoye**	**2.38**	**309**	⇑Pn	**Pb**	**21 58 30.1**	**-1.7**
	3.1nm,0.7s						
PDGK				⇑Lg	Lg	21 59 04.5	
	11nm,0.7s						
UZB	**Uzynbulak**	**2.57**	**301**	*eP*	**Pb**	**21 58 35.4**	**+0.4**
	2.0nm,0.2s						
UZB				*eS*	**Sg**	**21 59 12.2**	**+0.6**
	15nm,0.6s						
KPKS	**Kokpek**	**2.94**	**304**	*eP*	**Pb**	**21 58 41.6**	**+0.3**
	0.5nm,0.1s						
KPKS				*eS*	**Sg**	**21 59 23.2**	**-0.4**
	13nm,0.4s						
KOTS	**Kotyrbulak**	**3.88**	**292**	*eP*	**Pb**	**21 58 58.6**	**+1.2**
	1.0nm,0.2s						
KOTS				*eS*	**Sg**	**21 59 52.2**	**-1.5**
	4.7nm,0.4s						
MK31	**Makanchi Array**	**4.94**	**2**	Pn	**Pn**	**21 59 02.6**	**-0.3**
	0.4nm,0.7s,baz=207,slow=5.6,SNR=4.6						
MK31				⇑Pg	**Pb**	**21 59 16.2**	**+0.9**
	0.2nm,0.4s,baz=181,slow=15,SNR=2.7						
MK31				⇑Sn	**Sn**	**22 00 01.0**	**+1.2**
	0.2nm,0.4s						
MK31				⇑Lg	Lg	22 00 19.1	
	0.6nm,0.5s						
MAKZ	**Makanchi**	**4.95**	**360**	⇑Pn	**Pn**	**21 59 01.2**	**-1.8**
	0.5nm,0.7s						
MAKZ				⇓Sn	**Sn**	**22 00 00.3**	**+0.3**
	0.7nm,0.8s						

*JMA **26** 21:58:41.7±0.3,22°N±2°×122°4E±0°8,h24km,MV3.0/10, FAR S OFF ISHIGAKIJIMA*
*TAP **26** 21:58:42.0,22°21N×122°31E,h63km±1km,ML2.7,D*
ISC 26 21:58:41.6±1.5,22°20N±0°07×122°36E±0°05,h27km±14km, n29,σ0°62/39,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.75**	**255**	*i* P	**Pb**	**21 58 56.4**	**+0.5**
LYUB				*eS*	**Sb**	**21 59 05.9**	**+0.1**
LAY	**Lan-yu**	**0.77**	**258**	*i* P	**Pb**	**21 58 56.2**	**-0.1**
LDUT	**Ludao**	**0.95**	**300**	*i* P	**Pb**	**21 58 59.0**	**-0.4**
LDUT				*i* S	**Sb**	**21 59 11.2**	**-0.4**
EDH	**Donghe**	**1.24**	**308**	*eP*	**Pn**	**21 59 03.7**	**+0.5**
EDH				*eS*	**Sn**	**21 59 18.5**	**-0.5**
CHKT	**Chengkung**	**1.28**	**314**	*eS*	**Sn**	**21 59 19.8**	**-0.3**
TWGBT	**Beinan**	**1.33**	**298**	*eP*	**Pb**	**21 59 05.9**	**-0.1**
TWGBT				S	**Sb**	**21 59 22.8**	**+0.2**
LONT	**Longtian**	**1.34**	**302**	*eP*	**Pb**	**21 59 06.2**	**+0.1**
TWG	**Pinlang**	**1.34**	**298**	*eP*	**Pb**	**21 59 05.8**	**-0.3**
TWG				S	**Sb**	**21 59 22.7**	**-0.2**
ECL	**Taimali**	**1.36**	**287**	*eP*	**Pn**	**21 59 05.7**	**+0.9**
TAWH	**Dawu Township**	**1.37**	**276**	*eS*	**Sn**	**21 59 21.2**	**-1.1**
ECBN	**Changbin**	**1.39**	**323**	*eS*	**Sn**	**21 59 22.9**	**+0.2**
FULB	**Fuli**	**1.40**	**315**	*eP*	**Pn**	**21 59 05.8**	**+0.4**
FULB				*eS*	**Sn**	**21 59 23.0**	**0.0**
EAST	**Anshuo**	**1.41**	**278**	*eP*	**Pn**	**21 59 06.4**	**+0.8**
EAST				*eS*	**Sn**	**21 59 22.1**	**-1.3**
SLIU	**Shizi**	**1.45**	**271**	*eP*	**Pn**	**21 59 05.8**	**-0.2**
EYUL	**Yuli**	**1.49**	**320**	*eP*	**Pn**	**21 59 07.2**	**+0.5**
TWF1	**Yuli**	**1.51**	**320**	*eP*	**Pn**	**21 59 07.4**	**+0.5**
YULB	**Yu-li**	**1.54**	**321**	*eP*	**Pn**	**21 59 08.0**	**+0.7**
YULB				*eS*	**Sn**	**21 59 27.6**	**+1.1**
HGSD	**Ruisui**	**1.55**	**326**	*eP*	**Pn**	**21 59 08.1**	**+0.7**
ELDTW	**Lidau**	**1.58**	**309**	*eP*	**Pn**	**21 59 08.4**	**+0.4**
EHY	**Hungye**	**1.61**	**324**	*eP*	**Pn**	**21 59 08.8**	**+0.4**
MASBT	**Mashibuluo**	**1.65**	**285**	*eP*	**Pn**	**21 59 09.8**	**+1.0**
SHUL	**Shoufeng**	**1.74**	**335**	*eP*	**Pn**	**21 59 10.9**	**+0.9**
STYH	**Taoyuan**	**1.75**	**304**	*eP*	**Pb**	**21 59 12.3**	**-0.8**
WARBT	**Fenglin Townsh**	**1.76**	**329**	*eP*	**Pn**	**21 59 10.9**	**+0.6**
TPUB	**Ta-pu**	**1.94**	**305**	*eP*	**Pb**	**21 59 15.7**	**-0.5**
IRIF	**Iriomote-Funau**	**2.47**	**30**	*eP*	**Pn**	**21 59 20.8**	**+0.7**
IRIF				*eS*	**Sn**	**21 59 49.2**	**-0.2**
JKRS	**Kuro-shima**	**2.53**	**36**	*eP*	**Pn**	**21 59 21.6**	**+0.6**
JKRS				*eS*	**Sn**	**21 59 50.3**	**-0.6**
JIJ	**Ishigaki jima**	**2.71**	**37**	*eP*	**Pn**	**21 59 23.5**	**+0.2**
JISG	**Ishigakijimahi**	**2.98**	**37**	*eP*	**Pn**	**21 59 27.0**	**0.0**

*IDC **26** 22:00:21.7±1.6,4°19N×127°75E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=167.0km s-min=18.7km az=67.0*
*NEIC **26** 22:00:23.1±1.4,4°48N±0°06×128°3E±0°1,h10km±1km, mb4.1/11,Error ellipse: s-maj=24.2km s-min=6.8km az=71.0*
ISC 26 22:00:22.5±0.8,4°4N±0°1×128°3E±0°2,h10km,n21, σ0°86/22,mb4.1/12,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**8.18**	**247**	Pn	**Pn**	**22 02 22.3**	**+1.0**
KNRA	**Kununurra**	**19.96**	**179**	P	**P**	**22 04 54.2**	**-0.8**
KNRA				IAmb	IAmb	22 05 21.4	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**24.77**	**166**	P	**P**	**22 05 44.7**	**+0.1**
WRA	**Warramunga Arr**	**24.92**	**166**	P	**P**	**22 05 46.2**	**+0.2**
WRA	**Warramunga Arr**	**24.92**	**166**	P	**P**	**22 05 46.0**	**0.0**
	comp=Z,0.8nm,0.6s,baz=344,slow=9.3,SNR=11						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**28.44**	**169**	P	**P**	**22 06 17.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=349,slow=9.2,SNR=4.2						
ASAR				PcP	**PcP**	**22 09 30.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=356,slow=2.8,SNR=7.8						
	comp=Z,0.2nm,0.4s						
BBOO	**Buckleboo**	**37.74**	**169**	P	**P**	**22 07 39.1**	**+0.4**
STKA	**Stephens Creek**	**38.25**	**162**	P	**P**	**22 07 42.6**	**-0.4**
SHL	**Shillong**	**40.74**	**305**	P	**P**	**22 08 03.7**	**-0.4**
SHL				IAmb	IAmb	22 08 05.2	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**57.90**	**324**	P	**P**	**22 10 15.2**	**+0.3**
MKAR	**Makanchi Array**	**57.90**	**324**	P	**P**	**22 10 14.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=119,slow=8.0,SNR=22						
	comp=Z,1.3nm,0.6s						
MAKZ	**Makanchi**	**58.09**	**324**	P	**P**	**22 10 16.1**	**-0.1**
MAKZ				IAmb	IAmb	22 10 17.8	
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**60.70**	**332**	P	**P**	**22 10 32.8**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=142,slow=7.4,SNR=4.8						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.02**	**327**	P	**P**	**22 10 43.4**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=125,slow=5.9,SNR=27						
	comp=Z,1.9nm,0.7s						
KKAR	**Karatay Array**	**63.80**	**316**	P	**P**	**22 10 54.9**	**-0.2**
BVAR	**Borovoye Array**	**67.61**	**326**	P	**P**	**22 11 19.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=131,slow=7.5,SNR=8.9						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**67.68**	**326**	P	**P**	**22 11 19.3**	**-0.6**
BRVK				IAmb	IAmb	22 11 21.1	
	comp=Z,2.7nm,0.9s						
ABKAR	**Akbulak array**	**72.61**	**320**	P	**P**	**22 11 48.2**	**-2.0**
ABKAR	**Akbulak array**	**72.61**	**320**	P	**P**	**22 11 48.9**	**-1.3**
ABKAR				IAmb	IAmb	22 12 09.6	
	comp=Z,2.2nm,1.5s						
B21K	**Ikpikpuk River**	**81.40**	**20**	P	**P**	**22 12 40.4**	**+1.1**
B21K				IAmb	IAmb	22 12 43.2	
	comp=Z,1.4nm,0.8s						
B22K	**Teshekpuk Lake**	**81.93**	**20**	P	**P**	**22 12 43.5**	**+1.4**
B22K				IAmb	IAmb	22 12 44.4	
	comp=Z,1.2nm,0.7s						

*KRNET **26** 22:11:02.1±0.1,39°43N×71°50E,h12km,mb2.9*
*ISU **26** 22:11:02,39°56N×71°91E,h14km*
*SOME **26** 22:11:04.2,39°72N×72°12E,h10km*
*NNC **26** 22:11:09.6±2.7,39°94N×71°96E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=21.9km s-min=15.9km az=0.0*
ISC 26 22:11:03.2±0.8,39°47N±0°03×71°52E±0°02,h10km,n34, σ2°34/59,27C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.22**	**87**	⇑*i*P	**Pg**	**22 11 07.1**	**-0.8**
DRK				⇑*i*S	**Sg**	**22 11 10.3**	**-0.8**
SHAK	**Shakhimardan**	**0.51**	**20**	P	**Pg**	**22 11 11.1**	**-2.1**
SHAK				S	**Sg**	**22 11 17.6**	**-2.4**
BTK	**Batken**	**0.80**	**318**	⇑*eP*	**Pg**	**22 11 17.6**	**-0.9**
BTK				⇑*eS*	**Sb**	**22 11 29.7**	**-0.3**
FRG	**Fergana**	**0.93**	**13**	P	**Pg**	**22 11 18.2**	**-2.8**
FRG				S	**Sg**	**22 11 30.0**	**-3.1**
GAR	**Garm**	**1.04**	**244**	⇑*i*P	**Pg**	**22 11 21.7**	**-1.5**
GAR				⇑*i*S	**Sg**	**22 11 35.7**	**-1.1**
MINT	**Mingtut**	**1.08**	**337**	P	**Pn**	**22 11 24.0**	**-0.4**
MINT				S	**Sn**	**22 11 40.2**	**+0.8**
OHH	**Osh**	**1.43**	**42**	⇓*i*P	**Pg**	**22 11 30.0**	**-0.7**
OHH				⇓*i*S	**Sg**	**22 11 50.2**	**+0.9**
CHDK	**Chadak**	**1.61**	**339**	P	**Pg**	**22 11 32.9**	**-1.1**
CHDK				S	**Sg**	**22 11 55.4**	**+0.5**
SFK	**Sufi-Kurgan**	**1.62**	**70**	⇑*i*P	**Pb**	**22 11 33.2**	**-0.2**
SFK				⇑*i*S	**Sg**	**22 11 55.8**	**+0.3**
CHGR	**Chuyangaron**	**2.01**	**247**	⇑*i*P	**Pb**	**22 11 38.9**	**-0.9**
CHGR				⇑*i*S	**Sg**	**22 12 05.7**	**-2.0**
TRKS	**Terek-Say**	**2.08**	**352**	⇑*i*P	**Pb**	**22 11 39.9**	**-1.1**
TRKS				⇑*i*S	**Sb**	**22 12 07.6**	**+0.6**
SALK	**Salom-Alik**	**2.26**	**51**	⇓*i*P	**Pb**	**22 11 43.4**	**-0.8**
SALK				⇓*i*S	**Sb**	**22 12 13.5**	**+1.2**
ARK	**Arkit**	**2.35**	**8**	⇑*i*P	**Pb**	**22 11 44.8**	**-0.9**
ARK				⇑*i*S	**Sb**	**22 12 15.9**	**+1.1**
TGS	**TashGRES**	**2.47**	**323**	P	**Pg**	**22 11 48.6**	**-2.0**
TGS				S	**Sg**	**22 12 24.2**	**+1.6**
MNAS	**Manas**	**3.10**	**14**	⇑*i*P	**Pb**	**22 11 55.3**	**-3.3**
MNAS				⇑*i*S	**Sb**	**22 12 34.0**	**-2.5**
AML	**Almayashu**	**3.13**	**31**	⇑*i*P	**Pb**	**22 11 55.8**	**-3.3**
AML				⇑*i*S	**Sb**	**22 12 34.9**	**-2.6**
CHM	**Chimkent**	**3.19**	**334**	*eP*	**Pg**	**22 12 02.6**	**-1.7**
	36nm,0.3s						
CHM				*eS*	**Sg**	**22 12 45.0**	**-0.7**
	60nm,0.3s						
ARLS	**Aral**	**3.20**	**41**	⇑*i*P	**Pb**	**22 11 56.5**	**-3.7**
ARLS				⇑*i*S	**Sb**	**22 12 36.1**	**-3.3**
MRKS	**Merke**	**3.52**	**21**	Pg	**Pb**	**22 12 01.6**	**-3.9**
	1.5nm,0.3s						
MRKS				Lg	Lg	22 12 43.3	
	7.2nm,0.4s						
MRKS	**Merke**	**3.52**	**21**	*eP*	**Pb**	**22 12 01.6**	**-3.9**
	1.5nm,0.3s						
MRKS				*eS*	**Sn**	**22 12 42.8**	**+3.1**
	7.2nm,0.4s						
AGL	**Agalyk**	**3.59**	**272**	P	**Pb**	**22 12 05.9**	**-0.8**
AGL				S	**Sg**	**22 12 58.9**	**+0.6**
EKS2	**Erkin-Say**	**3.62**	**27**	⇑*i*P	**Pn**	**22 12 02.3**	**+2.9**
EKS2				⇑*i*S	**Sb**	**22 12 46.2**	**-5.1**
KK31	**Karatay Array**	**3.71**	**349**	Pn	**Pn**	**22 12 03.4**	**+2.8**
	12nm,0.6s,baz=171,slow=13,SNR=43						
KK31				Lg	Lg	22 12 57.4	
	10nm,0.5s,baz=168,slow=29,SNR=7.0						
BRLS	**Borolday**	**3.77**	**341**	Pg	**Pb**	**22 12 09.7**	**-0.2**
	2.9nm,0.3s						
BRLS				Lg	Lg	22 12 57.0	
	13nm,0.3s						
BRLS	**Borolday**	**3.77**	**341**	*eP*	**Pb**	**22 12 09.7**	**-0.2**
	2.9nm,0.3s						
BRLS				*eS*	**Sb**	**22 12 57.0**	**+1.4**
	13nm,0.3s						
AAK	**Ala-Archa**	**3.88**	**34**	Pn	**Pn**	**22 12 03.6**	**+0.5**
	6.4nm,0.9s						
AAK				⇓Lg	Lg	22 12 57.4	
	9.2nm,0.5s						
AAK	**Ala-Archa**	**3.88**	**34**	⇑*eP*	**Pn**	**22 12 06.1**	**+3.0**
AAK				⇑*i*S	**Sn**	**22 12 52.6**	**+3.8**
PKMR	**Pachkamar**	**4.10**	**259**	P	**Pb**	**22 12 13.9**	**-1.5**
PKMR				S	**Sg**	**22 13 13.8**	**-1.0**
KBK	**Karagaybulak**	**4.11**	**38**	⇑*i*P	**Pn**	**22 12 09.1**	**+3.0**
KBK				⇑*i*S	**Sn**	**22 12 58.0**	**+3.7**
CHMS	**Chumysh**	**4.29**	**34**	Pg	Pn	22 12 02.6	-5.8
	36nm,0.3s						
CHMS				Lg	Lg	22 12 45.0	
	60nm,0.3s						
SGDS	**Sogindy**	**4.62**	**29**	Pg	**Pb**	**22 12 20.0**	**-4.2**
	2.8nm,0.1s						
SGDS				Lg	Lg	22 13 14.6	
	1.2nm,0.1s						
TKM2	**Tokmak 2**	**4.62**	**40**	⇓Pn	**Pn**	**22 12 14.1**	**+0.8**
	6.3nm,1.4s						
TKM2				⇑Lg	Lg	22 13 20.3	
	5.1nm,0.6s						
BTLS	**Baital**	**5.87**	**18**	Pg	**Pb**	**22 12 47.5**	**+1.8**
	0.8nm,0.2s						
BTLS				Lg	Lg	22 14 01.5	
	1.8nm,0.4s						
BTLS	**Baital**	**5.87**	**18**	*eP*	**Pb**	**22 12 47.5**	**+1.8**
	0.8nm,0.2s						
BTLS				*eS*	**Sb**	**22 14 01.5**	**+5.5**
	1.8nm,0.4s						

IDC 26 22:15:43.0±1.5,6°94S×155°35E,h0km,mb3.9/4, mbtmp4.0/5,ML4.5/1,Error ellipse: s-maj=35.5km s-min=29.4km az=114.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**119**	Pn	Pn	22 17 01.7	-0.1
	15nm,0.3s,baz=226,slow=1.6,SNR=3.8						
HNR				Sn	Sn	22 17 59.3	-3.0
	20nm,0.3s,baz=146,slow=10,SNR=4.4						
	99nm,0.5s						
WRA	**Warramunga Arr**	**24.14**	**236**	P	P	22 21 01.6	+0.6
	3.5nm,0.7s,baz=60,slow=9.3,SNR=26						
	3.5nm,0.7s						
ASAR	**Alice Springs**	**26.47**	**229**	P	P	22 21 21.4	-0.8
	0.5nm,0.4s,baz=56,slow=10,SNR=10						
	0.5nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**27.64**	**24**	T	T	22 49 48.0	
	baz=202,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**27.64**	**24**	T	T	22 49 50.0	
	baz=202,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**27.66**	**24**	T	T	22 49 48.9	
	baz=202,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.82**	**23**	T	T	22 51 22.4	
	baz=202,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**28.83**	**23**	T	T	22 51 32.4	
	baz=202,slow=76,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**28.84**	**23**	T	T	22 51 28.5	
	baz=202,slow=76,SNR=4.8						
SONM	**Songino Array**	**69.48**	**327**	P	P	22 26 54.2	+0.7
	0.5nm,0.4s,baz=142,slow=5.5,SNR=5.3						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**83.60**	**319**	P	P	22 28 13.0	-0.4
	0.8nm,0.8s,baz=101,slow=6.0,SNR=10						
	0.8nm,0.8s						

*AEIC **26** 22:30:59.1±0.8,53°44N±0°09×163°77W±0°09,h23km±9km, Error ellipse: s-maj=13.5km s-min=5.9km az=154.0*
NEIC 26 22:31:00.9±0.8,53°53N±0°04×163°87W±0°08, h32km±14km,ML2.5(AEIC),Error ellipse: s-maj=8.0km s-min=3.9km az=49.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.03**	**336**		Pn	22 31 19.3	+0.1
WESE					Sb	22 31 34.7	+1.1
WECS	**Westdahl Cape**	**1.13**	**332**		Pn	22 31 20.5	-0.1
ISLZ	**Isanotski Laza**	**1.20**	**4**		Pn	22 31 20.9	-0.5
AKSA	**Akutan Strait**	**1.24**	**300**		Pn	22 31 21.7	-0.3
AKSA					Sb	22 31 39.5	+0.1
ISNN	**Isanotski Nort**	**1.30**	**2**		Pn	22 31 23.3	+0.4
AKBBA	**Akutan Broad B**	**1.35**	**296**		Pn	22 31 23.4	-0.1
FALS	**False Pass**	**1.35**	**11**	Pn	Pn	22 31 22.3	-1.1
FALS	**False Pass**	**1.35**	**11**		Sb	22 31 42.0	-0.6
ZRO	**Akutan Zero**	**1.37**	**295**		Pn	22 31 23.9	+0.1
LVA	**Lava Point**	**1.43**	**297**	Pn	Pn	22 31 24.5	-0.1
UNV	**Unalaska Valle**	**1.60**	**282**	Pn	Pn	22 31 26.5	-0.4
MSW	**Makushin Switc**	**1.77**	**284**		Pn	22 31 29.1	-0.2
MGOD	**Makushin Gods**	**1.81**	**280**		Pn	22 31 29.8	0.0
MAPS	**Pakushin South**	**1.85**	**280**		Pn	22 31 30.4	+0.1
MAPS					Sb	22 31 55.0	-1.8
HAG	**Hague Volcano**	**2.12**	**32**		Pn	22 31 34.6	+0.5
S12K	**Black Hills**	**2.41**	**25**	Pn	Pn	22 31 38.9	+0.8

*IDC **26** 22:32:43.8±0.8,4°16N×126°81E,h0km,mb3.8/12, mbtmp3.8/12,MS3.3/2,Error ellipse: s-maj=51.1km s-min=14.9km az=69.0*
ISC 26 22:32:49.3±0.8,4°1N±0°1×126°8E±0°3,h36km,n12, σ0°66/12,mb3.9/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	**P**	**22 37 42.4**	**+0.8**
	1.1nm,0.5s,baz=5.3,slow=11,SNR=1.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**25.03**	**163**	P	**P**	**22 38 09.8**	**-0.4**
	2.1nm,0.8s,baz=341,slow=9.4,SNR=8.4						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**22 38 41.0**	**-0.3**
	0.3nm,0.8s,baz=343,slow=6.8,SNR=4.3						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	**P**	**22 39 01.4**	**+0.1**
	0.6nm,0.3s,baz=114,slow=8.7,SNR=4.4						
CMAR				LR	LR	22 54 18.4	
	comp=Z,19nm,18.3s,baz=55,slow=42						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**38.47**	**160**	P	**P**	**22 40 07.7**	**-0.3**
	2.0nm,0.7s,baz=0.1,slow=9.6,SNR=3.7						
	2.0nm,0.7s						
SONM	**Songino Array**	**46.95**	**341**	P	**P**	**22 41 17.6**	**+0.8**
	0.5nm,0.7s,baz=151,slow=7.0,SNR=4.7						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**22 42 32.9**	**-0.5**
	1.1nm,0.5s,baz=115,slow=7.8,SNR=18						
MKAR				LR	LR	23 07 36.6	
	comp=Z,60nm,18.3s,baz=330,slow=37						
	1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**	**22 42 53.0**	**-1.1**
	0.6nm,0.5s,baz=119,slow=5.6,SNR=4.2						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	**P**	**22 43 01.3**	**-0.8**
	1.6nm,0.5s,baz=124,slow=6.4,SNR=11						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**22 43 38.3**	**-0.4**
	1.1nm,0.7s,baz=125,slow=9.0,SNR=5.5						
	1.1nm,0.7s						
NRIK	**Noril'sk**	**70.07**	**346**	P	**P**	**22 43 57.2**	**-0.1**
	0.8nm,0.5s,baz=155,slow=4.6,SNR=3.7						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**22 45 19.9**	**+0.5**
	0.2nm,0.7s,baz=252,slow=4.9,SNR=1.7						
	0.2nm,0.7s						

*NEIC **26** 22:33:13.6±1.4,43°72N±0°05×105°32W±0°09,h0km±1km, ML3.1/62,Error ellipse: s-maj=10.9km s-min=8.0km az=71.0*
*IDC **26** 22:33:13.2±2.8,43°65N×105°45W,h0km,mb3.9/1, mbtmp3.9/3,ML3.6/2,Error ellipse: s-maj=82.6km s-min=8.7km az=152.0*
ISC 26 22:33:14.3±1.0,43°71N±0°05×105°35W±0°05,h0km,n38, σ1°22/38,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**66**	Pg	**Pg**	**22 33 34.2**	**+0.2**
K22A	**Casper**	**1.37**	**219**		**Pg**	**22 33 39.8**	**-0.7**
K22A				IAML		22 34 01.8	
	comp=E,366nm,0.3s						
N23A	**Red Feather La**	**2.85**	**189**		**Pn**	**22 34 01.8**	**+0.5**
N23A				IAML		22 34 44.4	
	comp=N,74nm,0.4s						
N23A				IAML		22 34 45.8	
	comp=E,67nm,0.3s						
LAO	**LASA Array**	**3.04**	**349**		**Pn**	**22 34 04.3**	**+0.6**
RLMT	**Red Lodge**	**3.14**	**298**		**Pn**	**22 34 06.6**	**+1.3**
RLMT				IAML		22 34 59.5	
	comp=E,44nm,0.3s						
RLMT				IAML		22 34 60.0	
	comp=E,39nm,0.3s						
PD31	**Pinedale Array**	**3.22**	**254**		**Pn**	**22 34 07.3**	**+0.9**
PDAR	**Pinedale Array**	**3.22**	**254**		**Pn**	**22 34 07.2**	**+0.9**
PDAR	**Pinedale Array**	**3.22**	**254**	Pn	**Pn**	**22 34 07.1**	**+0.8**
	comp=E,5.1nm,0.3s,baz=60,slow=14,SNR=86						
PDAR				Lg	Lg	22 34 50.9	
	comp=E,15nm,0.3s,baz=331,slow=12,SNR=13						
	comp=E,7.0nm,0.3s						
BRIGG	**Briggsdale**	**3.22**	**166**		**Pn**	**22 34 07.4**	**+1.2**
YNE	**Yellowstone No**	**3.59**	**293**		**Pn**	**22 34 12.4**	**+1.1**
YMP	**Mirror Lake Pl**	**3.61**	**288**		**Pn**	**22 34 12.2**	**+0.5**
OGNE	**Ogallala**	**3.70**	**137**	Pn	**Pn**	**22 34 13.6**	**+0.9**
LOHW	**Long Hollow**	**3.82**	**270**		**Pn**	**22 34 16.4**	**+1.9**
H17A	**Grant Village**	**3.83**	**282**		**Pn**	**22 34 17.6**	**+2.8**
H17A				IAML		22 35 17.5	
	comp=E,37nm,0.4s						
MOOW	**Moose Ponds**	**3.91**	**272**		**Pn**	**22 34 17.5**	**+1.7**
ISCO	**Idaho Springs**	**3.92**	**183**		**Pn**	**22 34 17.1**	**+1.1**
SNOW	**Snow King Moun**	**3.94**	**268**		**Pn**	**22 34 18.0**	**+1.8**
SNOW				IAML		22 34 59.7	
	comp=E,37nm,4.3s						
SNOW				IAML		22 35 23.0	
	comp=E,23nm,2.0s						
TPAW	**Teton Pass**	**4.08**	**269**		**Pn**	**22 34 19.9**	**+1.8**
TPAW				IAML		22 35 57.2	
	comp=E,21nm,1.1s						
FXWY	**Fox Creek**	**4.12**	**271**		**Pn**	**22 34 20.4**	**+1.7**
O20A	**White River Ci**	**4.18**	**212**		**Pn**	**22 34 20.7**	**+1.3**
AHID	**Auburn Hatcher**	**4.31**	**259**		**Pn**	**22 34 22.7**	**+1.5**
AHID				IAML		22 35 36.9	
	comp=E,23nm,0.3s						
K30B	**Basset**	**4.32**	**102**		**Pn**	**22 34 21.3**	**0.0**
YHL	**Hebgen Lake**	**4.34**	**287**		**Pn**	**22 34 23.0**	**+1.2**
YHL				IAML		22 35 35.7	
	comp=N,19nm,4.5s						
YHL				IAML		22 35 42.6	
	comp=E,23nm,1.5s						
RDMU	**Red Mountain**	**4.44**	**226**		**Pn**

MKAR	Makanchi Array	58.94	326	P		P	22 43 35.8	-0.8
	0.7nm,0.5s,baz=118,slow=7.5,SNR=4.5							
	0.7nm,0.5s							
KURBB	Kurchatov Arra	63.16	328	P		P	22 44 04.2	-0.9
	1.2nm,0.6s,baz=125,slow=6.6,SNR=3.1							
	1.2nm,0.6s							

*MEX **26** 22:36:35.3±0.8, 13°.98N×93°.07W, h15km, MD4.1*
*GCG **26** 22:36:37.5±1.6, 14°.08N×92°.84W, h50km±15km, MD4.2, Hypocentre not reviewed by the ISC*
*NEIC **26** 22:36:38.1±2.0, 14°.32N±0°.04×92°.93W±0°.04, h23km±7km, mb4.4/15, Md4.1/52(MEX), Error ellipse: s-maj=6.5km s-min=4.8km az=57.0*
*IDC **26** 22:36:43.6±3.5, 14°.28N×92°.35W, h84km±22km, mb3.6/9, mbtmp3.9/10, MS3.4/13, Error ellipse: s-maj=39.7km s-min=17.8km az=15.0*
ISC 26 22:36:36.2±2.2, 14°.11N±0°.06×92°.95W±0°.03, h28km±14km, n83, σ2s04/104, mb4.2/17, MS3.5/11, 3C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		1.03	40		Pn	22 36 54.2	-0.5
THIG					Sn	22 37 07.2	-1.0
THIG		1.03	40	eP	Pn	22 36 54.2	-0.5
THIG				eS	Sn	22 37 07.2	-1.0
THIG		1.03	40	eP		22 36 53.6	
THIG				eS		22 37 07.2	
SMCA	Catarina	1.12	48	eP		22 36 55.7	
SMCA				eS		22 37 10.0	
PATR	El Naranjo	1.22	34	eP	Pn	22 36 56.3	-1.2
PATR				eS	Sn	22 37 12.6	-0.6
CHUJ	Union Juarez	1.27	39	eP	Pn	22 36 57.9	-0.4
CHUJ				eS	Sn	22 37 12.3	-2.2
RTAL	Retalhuleu	1.28	71		Pn	22 36 58.0	-0.1
RTAL	Retalhuleu	1.28	71	eP	Pn	22 36 57.8	-0.4
RTAL				eS	Sn	22 37 14.4	-0.1
PAVE	Pavencul	1.31	34	eP	Pn	22 36 57.8	-1.0
PAVE				eS	Sn	22 37 14.6	-0.9
QUEO	Labor Ovalle	1.58	61	eP		22 37 03.3	
QUEO				eS		22 37 20.9	
PCIG		1.61	351		Pn	22 37 01.8	-0.9
PCIG					Sn	22 37 16.9	-5.6
PCIG					Sb	22 37 21.1	-4.1
PCIG		1.61	351	eP	Pn	22 37 01.6	-1.1
PCIG				eP	Pn	22 37 01.8	-0.9
PCIG				eS	Sn	22 37 16.9	-5.6
PCIG				eS	Sb	22 37 21.1	-4.1
SOKI	Kika Raxquin	1.65	64	⇓eP		22 37 03.8	
HUEH	Huehuetenango	1.84	49		Pn	22 37 06.8	+0.6
HUEH	Huehuetenango	1.84	49	eP		22 37 07.2	
QUIS	Sacapulas	2.14	57	eP		22 37 12.4	
CCIG	Comitan	2.30	20	eP		22 37 14.9	
CCIG				eS		22 37 45.6	
CCIG	Comitan	2.30	20		Pn	22 37 13.6	+1.2
CCIG	Comitan	2.30	20	eP	Pn	22 37 15.2	+2.8
CCIG				eS	Sb	22 37 45.8	+0.7
CARR	Arriaga	2.32	336	eP	Pn	22 37 13.2	+0.7
CARR				eS	Sn	22 37 40.4	+0.2
APG	El Apazote	2.56	69	P	Pn	22 37 16.4	+0.3
	7.9nm,0.5s,baz=198,slow=13,SNR=78						
APG				S	Sn	22 37 39.6	-6.8
	7.9nm,0.3s,baz=174,slow=11,SNR=8.2						
APG	El Apazote	2.56	69	⇑eP		22 37 17.0	
APG				⇑P		22 37 17.0	
TGBT	Tuxtla Gutierr	2.66	357		Pn	22 37 19.0	+1.9
TGBT					Sn	22 37 49.5	+1.1
TGBT	Tuxtla Gutierr	2.66	357	eP	Pn	22 37 19.0	+1.9
TGBT				eS	Sn	22 37 49.5	+1.1
TGIG		2.66	356		Pn	22 37 18.6	+1.4
TGIG					Sn	22 37 49.3	+0.7
TGIG		2.66	356	eP	Pn	22 37 18.6	+1.4
TGIG				eS	Sn	22 37 49.3	+0.7
TGIG		2.66	356	⇑eP		22 37 18.7	
TGIG				eS		22 37 49.6	
NILT	Santiago Nilte	2.93	327	eP	Pn	22 37 21.2	+0.4
NILT				eS	Sn	22 37 55.0	-0.1
NUBE	Las Nubes	3.08	93	eP		22 37 23.0	
NUBE				eS		22 37 55.7	
UXUV	UXUV	3.39	340	eP	Pn	22 37 29.1	+1.8
UXUV				eS	Sn	22 38 09.3	+2.7
HUIG	Huatulco	3.47	299		Pn	22 37 27.7	-0.7
HUIG	Huatulco	3.47	299	eP	Pn	22 37 27.7	-0.7
HUIG				eS	Sn	22 38 04.2	-4.4
MTO3	Montecristo	3.49	85	Pn	Pn	22 37 30.5	+1.8
CMIG	Matias Romero	3.50	328		Pn	22 37 29.4	+0.6
CMIG					Sn	22 38 07.7	-1.7
CMIG	Matias Romero	3.50	328	P	Pn	22 37 29.5	+0.6
	34nm,0.3s,baz=142,slow=13,SNR=65						
CMIG				S	Sn	22 38 11.5	+2.1
	205nm,0.6s,baz=21,slow=9.6,SNR=7.8						
CMIG				LR	LR	22 38 53.6	
	comp=Z,145nm,18.7s,baz=182,slow=35						
CMIG	Matias Romero	3.50	328	eP	Pn	22 37 29.4	+0.6
CMIG				eS	Sn	22 38 07.7	-1.7
ESQI	Esquipulas	3.52	82		Pn	22 37 31.3	+2.1
PETF	Flores	4.07	46		Pn	22 37 37.6	+1.0
PEIG	Puerto Escondi	4.47	295		Pn	22 37 41.8	-0.3
PEIG	Puerto Escondi	4.47	295	eP	Pn	22 37 41.8	-0.3
PEIG				eS	Sn	22 38 28.7	-4.6
NEUV	Arroyo Zacate	4.52	323	eP	Pn	22 37 42.6	-0.1
NEUV				eS	Sn	22 38 34.0	-0.3
OXIG	Oaxaca	4.69	309		Pn	22 37 45.4	+0.1
OXIG					Sn	22 38 37.9	-1.1
VHO	Vista Hermosa	4.69	309	eP	Pn	22 37 45.4	+0.1
VHO				eS	Sn	22 38 37.9	-1.0
SCIG	Sabancuy	5.12	19	eP	Pn	22 37 51.3	+0.3
SCIG				eS	Sn	22 38 50.7	+1.5
YOIG	Yosondua	5.21	302		Pn	22 37 55.6	+3.1
YOIG					Sn	22 38 51.3	-0.6
YOIG	Yosondua	5.21	302	eP	Pn	22 37 55.6	+3.1
YOIG				eS	Sn	22 38 51.3	-0.6
CNGN	Cerro Negro	6.29	104	Pn	Pn	22 38 10.3	+3.1
TLIG	Tlapa	6.41	303	Pn	Pn	22 38 10.0	+1.2
BOAB	BOACO BROADBAN	7.28	102	Pn	Pn	22 38 22.0	+1.3
TEIG	Tepich	7.54	36	Pn	Pn	22 38 24.0	-0.3
TEIG	Tepich	7.54	36	P	Pn	22 38 25.2	+0.9
	0.4nm,0.4s,baz=49,slow=24,SNR=31						
TEIG				S	Sn	22 39 46.6	-2.3
	0.1nm,0.4s,baz=175,slow=24,SNR=0.8						
JTS	Las Juntas de	8.69	115	P	Pn	22 38 47.4	+7.3
	3.2nm,0.3s,baz=289,slow=21,SNR=1.8						
JTS				S	Sn	22 40 28.3	+11
	2.4nm,0.3s,baz=317,slow=20,SNR=1.3						
SAND	Sanderson	17.90	333		Pn	22 40 43.5	+0.2
TXAR	Lajitas Array	18.11	328		P	22 40 46.4	+0.4
TXAR	Lajitas Array	18.11	328	P	P	22 40 51.2	+5.2
	4.2nm,1.0s,baz=153,slow=14,SNR=14						
TXAR				ScP	ScP	22 48 47.9	-4.8
	0.3nm,0.4s,baz=138,slow=4.4,SNR=4.8						
TX31	Lajitas Ar. Si	18.11	328	P	P	22 40 46.6	+0.5
ALPN	Alpine	18.95	330		Pn	22 40 57.1	+1.0
LPIG	La Paz	19.16	304	LR	LR	22 48 11.6	
	comp=Z,35nm,20.8s,baz=334,slow=35						
MNHN	Monahans	19.37	334	P	Pn	22 41 01.2	+0.1
MNHN				IAmb	IAmb	22 41 09.3	
	comp=Z,14nm,0.8s						
RUSC	La Rusia	21.18	111	P	P	22 41 22.4	+2.4
RUSC				IAmb	IAmb	22 41 32.1	
	comp=Z,14nm,1.1s						
OK051	E0350 and S346	22.57	352	P	P	22 41 33.0	-1.3
OK051				IAmb	IAmb	22 41 36.3	
	comp=Z,16nm,0.8s						
121A	Cookes Peak, D	22.80	326	P	P	22 41 36.4	-0.5
121A				IAmb	IAmb	22 41 49.4	
	comp=Z,11nm,1.0s						
TKL	Tuckaleechee C	22.99	19	LR	LR	22 51 48.3	
	comp=Z,74nm,19.3s,baz=165,slow=40						
SBM	South Baldy	23.62	329	P	P	22 41 44.9	-0.5
RTBA	Rita Blanca	23.90	340	P	P	22 41 48.0	+0.3
ANMO	Albuquerque	24.06	332	P	P	22 41 51.9	+2.6
	comp=Z,1.3nm,0.7s,baz=147,slow=10,SNR=3.9						
	comp=Z,1.3nm,0.7s						
SJG	San Juan	26.04	78	LR	LR	22 51 47.8	
	comp=Z,69nm,20.5s,baz=126,slow=36						
PDAR	Pinedale Array	31.95	337	P	P	22 43 01.8	+1.9
	comp=Z,0.6nm,0.8s,baz=137,slow=9.8,SNR=5.1						
PDAR				LR	LR	22 58 05.2	
	comp=Z,43nm,19.6s,baz=356,slow=40						
	comp=Z,0.6nm,0.8s						
SADO	Sadowa	32.74	18	LR	LR	22 57 51.4	
	comp=Z,122nm,18.0s,baz=235,slow=39						
NVAR	Mina Array Bea	33.02	322	P	P	22 43 12.9	+3.6
	comp=Z,2.1nm,0.7s,baz=140,slow=8.6,SNR=8.4						
	comp=Z,2.1nm,0.7s						
TPAW	Teton Pass	33.11	336	P	P	22 43 10.1	+0.1
TPAW				IAmb	IAmb	22 43 18.9	
	comp=Z,6.1nm,1.0s						
ULM	Lac du Bonnet	36.12	357	P	P	22 43 34.4	-1.3
	comp=Z,1.5nm,0.5s,baz=167,slow=9.3,SNR=3.9						
	comp=Z,1.5nm,0.5s						
BPMT	Black Pine Rid	36.54	336	P	P	22 43 40.9	+1.2
F10A	Beach Ranch, E	37.78	332	P	P	22 43 50.9	+0.9
F10A				IAmb	IAmb	22 44 01.1	
	comp=Z,7.8nm,0.8s						
LPAZ	La Paz	38.90	140	LR	LR	22 58 42.7	
	comp=Z,68nm,18.6s,baz=335,slow=34						
NEW	Newport	39.50	335	LR	LR	23 03 04.7	
	comp=Z,72nm,18.4s,baz=291,slow=40						
MDP	Montagnes des	40.67	99	LR	LR	23 04 07.3	
	comp=Z,66nm,18.4s,baz=132,slow=41						
YKA	Yellowknife Ar	50.71	347	P	P	22 45 34.2	+1.1
	comp=Z,3.6nm,0.8s,baz=155,slow=7.6,SNR=27						
	comp=Z,3.6nm,0.8s						
DLBC	Dease Lake	52.18	336	P	P	22 45 47.5	+3.2
	comp=Z,1.7nm,0.7s,baz=159,slow=8.6,SNR=4.3						
	comp=Z,1.7nm,0.7s						
FRB	Frobisher Bay	52.42	13	LR	LR	23 09 27.1	
	comp=Z,75nm,18.1s,baz=304,slow=38						
J30M	Hart River	58.47	340	P	P	22 46 30.6	+1.1
SFJD	Kangerlussuaq	59.69	18	LR	LR	23 12 30.5	
	comp=Z,51nm,19.1s,baz=148,slow=36						
INK	Inuvik	60.08	344	P	P	22 46 40.8	+0.4
INK				IAmb	IAmb	22 46 48.6	
	comp=Z,5.8nm,1.1s						
ILAR	Eielson Array	62.38	337	P	P	22 46 57.1	+1.0
	comp=Z,0.7nm,0.8s,baz=142,slow=4.3,SNR=9.3						
	comp=Z,0.7nm,0.8s						
F24K	Squaw Lake	64.03	340	P	P	22 47 09.6	+2.6
F24K				IAmb	IAmb	22 47 24.5	
	comp=Z,2.9nm,1.3s						
M19K	Big River Lodg	64.35	333	P	P	22 47 10.4	+1.2
M19K				IAmb	IAmb	22 47 16.5	
	comp=Z,5.2nm,1.2s						
C23K	Itkillik River	65.97	341	P	P	22 47 20.1	+0.6
B20K	Meade River	68.12	341	P	P	22 47 34.2	+1.0
EKA	Eskdalemuir Ar	78.41	36	P	P	22 48 32.3	-1.9
	comp=Z,1.0nm,0.6s,baz=276,slow=5.9,SNR=8.4						
	comp=Z,1.0nm,0.6s						
ESDC	Sonseca Array	80.37	52	P	P	22 48 42.8	-2.5
	comp=Z,0.5nm,0.9s,baz=283,slow=8.1,SNR=4.1						
	comp=Z,0.5nm,0.9s						
MDT	Midelt	81.12	58	LR	LR	23 18 01.2	
	comp=Z,34nm,19.9s,baz=354,slow=31						
NOA	NORSAR Array B	84.48	28	LR	LR	23 28 10.0	
	comp=Z,38nm,18.0s,baz=290,slow=37						
CMAR	Chiang Mai Arr	145.58	340	PKPbc	PKPab	22 56 13.8	+0.7
	comp=Z,2.2nm,0.7s,baz=345,slow=3.7,SNR=13						

*THE **26** 23:04:26.9, 37°.88N×20°.81E, h17km±1km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=0.6km az=75.0*
*ATH **26** 23:04:26.7, 37°.87N×20°.73E, h19km±4km, ML2.8/4, Manual Solution by A.Fokaefs First location: 2019/02/27 12:23:22, This location: 2019/02/27 12:20:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 6 km*
ISC 26 23:04:26.9±1.1, 37°.89N±0°.04×20°.79E±0°.08, h18km±4km, n13, σ0s48/26, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYPS	Kipseli, Zakin	0.07	156	P	Pg	23 04 30.4	0.0
KYPS				S	Sg	23 04 33.4	+0.7
ORTH	Orthonies,Zaky	0.08	244	P	Pg	23 04 30.2	-0.2
ORTH				S	Sg	23 04 32.7	-0.1
LTHK	Lithakia	0.18	167	P	Pg	23 04 31.3	-0.2
LTHK				S	Sg	23 04 34.7	0.0
	2μm,0.2s						
RTZL	Ratzakli, Kefa	0.19	356	P	Pb	23 04 31.7	+0.1
RTZL				S	Sg	23 04 35.4	+0.4
PSDA	Pessada-Kefalo	0.28	325	P	Pg	23 04 33.0	0.0
PSDA				S	Sb	23 04 37.5	-0.2
	4μm,0.2s						
PSDA	Pessada-Kefalo	0.28	325	P	Pg	23 04 33.1	0.0
PSDA				S	Sb	23 04 38.0	+0.3
VLS	Valsamata	0.33	332	P	Pg	23 04 33.6	-0.4
VLS				S	Sb	23 04 39.2	-0.1
	1μm,0.1s						
VLS	Valsamata	0.33	332	P	Pg	23 04 33.8	-0.2
VLS				S	Sb	23 04 39.2	-0.1
SMHA	Samh	0.38	343	P	Pg	23 04 33.9	-0.9
SMHA				S	Sg	23 04 40.2	0.0
DMLN	Damoulianata-K	0.48	317	P	Pg	23 04 36.6	0.0
DMLN				S	Sb	23 04 44.7	+1.1
	1μm,0.2s						
DMLN	Damoulianata-K	0.48	317	P	Pg	23 04 36.5	-0.2
DMLN				S	Sb	23 04 43.4	-0.2
FSK	Fiskardo	0.60	343	P	Pb	23 04 38.7	-0.2
FSK				S	Sb	23 04 47.6	+0.7
EVGI	Lefkada island	0.74	352	P	Pb	23 04 40.6	-0.7
EVGI				S	Sg	23 04 52.2	+0.8

IDC 26 23:06:12.8±53.0, 19°.36S×179°.03W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=956.6km s-min=157.9km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.42	243	P	P	23 13 28.1	+0.3
	1.4nm,0.6s,baz=77,slow=14,SNR=2.9						
	1.4nm,0.6s						
WRA	Warramunga Arr	43.80	261	P	P	23 14 20.3	-0.5
	2.9nm,0.5s,baz=98,slow=8.4,SNR=61						
	2.9nm,0.5s						
ASAR	Alice Springs	43.84	256	P	P	23 14 21.1	0.0
	5.4nm,0.7s,baz=90,slow=8.6,SNR=54						
	5.4nm,0.7s						

*NIED **26** 23:13:15.2, 34°.69N×140°.58E, h63km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-0.54; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-1.17; $M_{r\theta}$-0.47; $M_{\theta\phi}$-1.49; $M_{\phi r}$1.08; Fault plane solution: $M_0$2.41000×10^14^ NP1: ϕ_s249.00000°, δ58.00000°, λ-171.00000°. NP2: ϕ_s155.00000°, δ82.00000°, λ-32.00000°.*
*JMA **26** 23:13:15.2±0.2, 34°.7N±0°.6×140°.6E±0°.7, h63km±1km, MV3.5/37, SE OFF BOSO PENINSULA*
ISC 26 23:13:16.2±1.6, 34°.69N±0°.04×140°.61E±0°.06, h56km±11km, n22, σ1s28/28, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	Boso 3	0.14	322	⇓iP	Pn	23 13 24.6	0.0
BSO3				⇓X		23 13 31.3	
BSO1	Boso 1	0.30	97	⇓iP	Pn	23 13 25.9	+0.6
BSO1				⇓X		23 13 33.7	
BSO4	Boso 4	0.37	323	⇓iP	Pn	23 13 26.5	+0.1
BSO4				⇓X		23 13 35.1	
KTR	Katsuura	0.52	332	⇓iP	Pn	23 13 27.7	-0.3
KTR				⇓S	Sn	23 13 36.4	-0.2
JKUC	kamogawauchiur	0.58	324	⇓iP	Pn	23 13 28.3	-0.5
JKUC				⇓S	Sn	23 13 37.7	-0.2
JKUC	kamogawauchiur	0.58	324	A	A	23 13 28.3	
	comp=N,3.0nm,1.0s,comp=E,8.0nm,0.6s						
TATJ	Tateyama 2	0.68	300	⇓iP	Pn	23 13 30.0	-0.1
TATJ				⇓eS	Sn	23 13 40.9	+0.8
JIM2	Oshima 3	0.97	272	⇓iP	Pn	23 13 32.7	-1.1
JMYK	Miyake Tsubota	1.08	235	P	Pn	23 13 35.3	+0.1
JMYK				eS	Sn	23 13 49.0	-0.3
JMYK	Miyake Tsubota	1.08	235	A	A	23 13 35.3	
	comp=N,13nm,0.5s,comp=E,15nm,0.6s						
JTHY	Toshimahigashi	1.11	262	P	Pn	23 13 34.9	-0.6
JTHY				S	Sn	23 13 49.0	-0.8
JMKN	Mikurajimanish	1.16	227	P	Pn	23 13 35.9	-0.4
JMKN				S	Sn	23 13 50.5	-0.7
JOD2	Odawara 2	1.38	295	⇓iP	Pn	23 13 38.0	-1.1
JOD2				⇓S	Sn	23 13 54.7	-1.6
JIZS	Izushimoda	1.43	272	iP	Pn	23 13 39.0	-0.9
JIZS				S	Sn	23 13 56.7	-0.9
JHJ2	Mitsune	1.71	203	P	Pn	23 13 43.8	+0.1
MAJO	Matsushiro	2.69	314	P	Pn	23 13 57.5	+0.4
JGF	Kuroka	2.82	290	P	Pn	23 13 59.6	+0.8
JGF	Kuroka	2.82	290	S	Sn	23 14 36.7	+5.1
INU	Inuyama	3.02	284	P	Pn	23 14 02.7	+1.1
JMM	Marumori	3.17	3	P	Pn	23 14 02.7	-0.9
JMM	Marumori	3.17	3	S	Sn	23 14 39.4	-0.8
JSD	Sado	3.84	331	P	Pn	23 14 12.8	0.0

*NIED **26** 23:17:42.0, 36°.67N×140°.96E, h50km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-0.60; $M_{\theta\theta}$0.68; $M_{\phi\phi}$-0.09; $M_{r\theta}$1.08; $M_{\theta\phi}$1.22; $M_{\phi r}$2.10; Fault plane solution: $M_0$2.70000×10^14^ NP1: ϕ_s95.00000°, δ24.00000°, λ-21.00000°. NP2: ϕ_s205.00000°, δ81.00000°, λ-113.00000°.*
*JMA **26** 23:17:42.0±0.1, 36°.7N±0°.3×141°.0E±0°.6, h50km±1km, MD3.5/40, MV3.9/40, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*NEIC **26** 23:17:43.1±2.5, 36°.73N±0°.06×141°.00E±0°.04, h51km±9km, mb4.2/10, Error ellipse: s-maj=8.2km s-min=4.0km az=189.0*
*IDC **26** 23:17:44.1±1.8, 36°.64N×140°.89E, h66km±15km, mb3.5/12, mbtmp3.8/16, MS2.9/2, Error ellipse: s-maj=16.0km s-min=11.8km az=84.0*
ISC 26 23:17:42.0±1.0, 36°.66N±0°.04×141°.00E±0°.07, h45km±8km, n63, σ1s06/60, mb4.0/18, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.35	262	⇓iP	Pn	23 17 51.3	0.0
JHO				⇓eS	Sn	23 17 57.6	-0.2
JHYU	Hitachinakayam	0.47	226	⇓iP	Pn	23 17 52.6	+0.1
JHYU				⇓S	Sn	23 17 59.9	-0.1
JHYU	Hitachinakayam	0.47	226	A	A	23 17 52.6	
	comp=N,7.0nm,0.3s,comp=E,7.0nm,0.7s						
ONAJ	Iwakimizuishiy	0.47	339	⇓P	Pn	23 17 52.4	-0.3
ONAJ				⇓eS	Sn	23 17 59.5	-0.7
ONAJ	Iwakimizuishiy	0.47	339	A	A	23 17 52.4	
	comp=N,6.0nm,0.3s,comp=E,8.0nm,0.3s						
JFFD	Fukushimafurud	0.56	320	⇓P	Pn	23 17 53.6	-0.1
JFFD				⇓S	Sn	23 18 01.4	-0.7
JFK	Kawauchi	0.71	352	⇓P	Pn	23 17 55.3	-0.5
JFK				⇓S	Sn	23 18 04.6	-1.1
JYT	Yasato	0.79	237	⇓P	Pn	23 17 56.3	-0.4
JYT				⇓S	Sn	23 18 06.9	-0.5
JOTO	OTAMA OYAMA	1.04	329	P	Pn	23 18 00.8	+0.5
JOTO				S	Sn	23 18 13.8	0.0
JOTO	OTAMA OYAMA	1.04	329	A	A	23 18 00.8	
	comp=N,12nm,0.3s,comp=E,13nm,0.3s						
JMM	Marumori	1.21	352		Pn	23 18 02.1	-0.5
JMM	Marumori	1.21	352	⇓P	Pn	23 18 02.5	-0.1
JMM				⇓S	Sn	23 18 17.4	-0.4
JAG	Ashikaga	1.27	260	⇓iP	Pn	23 18 03.2	-0.2
JAG	Ashikaga	1.27	260	A	A	23 18 03.2	
	comp=N,2.0nm,0.3s,comp=E,2.0nm,0.5s						
JFY	Yanaizu	1.28	306	P	Pn	23 18 03.5	0.0
JKT	Katashina	1.41	275	iP	Pn	23 18 05.7	+0.3
JKT				S	Sn	23 18 22.7	-0.2
MJAR	Matsushiro Arr	2.25	268	P	Pn	23 18 17.6	+0.8
	comp=E,12nm,0.4s,baz=88,slow=15,SNR=27						
MJAR				S	Sn	23 18 43.4	-0.1
	comp=E,18nm,0.3s,baz=121,slow=36,SNR=4.8						
MAJO	Matsushiro	2.25	268	Pn	Pn	23 18 17.1	+0.3
MJB9	Matsu-Tunnel	2.26	268	Pn	Pn	23 18 17.8	+0.9
JSD	Sado	2.58	303	Pn	Pn	23 18 21.8	+0.4
JGF	Kuroka	3.14	251	Pn	Pn	23 18 31.3	+2.3
INU	Inuyama	3.49	249	Pn	Pn	23 18 34.0	+0.2
JHJ	Hachijo jima 2	3.67	196	P	Pn	23 18 38.2	+1.8
	comp=E,156nm,0.8s,baz=13,slow=16,SNR=1.6						
JHJ				S	Sn	23 19 19.8	+1.4
	comp=E,235nm,0.9s,baz=263,slow=23,SNR=1.9						
JTM	Tenmabayashi	4.12	1	Pn	Pn	23 18 43.8	+1.4
ASAJ	Asahikawa	7.54	9	P	Pn	23 19 31.2	+1.8
	comp=E,7.5nm,0.8s,baz=190,slow=12,SNR=2.8						
ASAJ				S	Sn	23 20 57.4	+3.8
	comp=E,3.8nm,0.7s,baz=60,slow=21,SNR=1.4						
JKA	Kamikawa-asahi	7.54	9	Pn	Pn	23 19 28.3	-1.0
USRK	Ussuriysk Ar.	10.19	320	P	Pn	23 20 06.8	+1.2
	comp=E,2.1nm,0.7s,baz=120,slow=14,SNR=3.6						
KSRS	Korea Array	10.49	278	LR	LR	23 24 02.5	
	comp=E,26nm,18.9s,baz=15,slow=36						
SONM	Songino Array	27.72	305	P	P	23 23 26.4	+0.2
	comp=E,1.3nm,0.7s,baz=107,slow=9.3,SNR=9.8						
	comp=E,1.3nm,0.7s						
H11N2	WAKE ISLAND Hy	28.25	120	T	T	23 53 20.4	
	baz=312,slow=76,SNR=24						
H11N1	WAKE ISLAND Hy	28.25	120	T	T	23 53 19.9	
	baz=312,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	28.26	120	T	T	23 53 24.3	
	baz=312,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	28.94	122	T	T	23 54 10.0	
	baz=314,slow=76,SNR=49						
H11S3	WAKE ISLAND Hy	28.94	122	T	T	23 54 21.3	
	baz=314,slow=76,SNR=44						
H11S2	WAKE ISLAND Hy	28.95	122	T	T	23 54 16.0	
	baz=314,slow=76,SNR=31						
ZALV	Zalesovo Beam	41.92	313	P	P	23 25 27.3	-0.7
ZALV	Zalesovo Beam	41.92	313	P	P	23 25 26.9	-1.0
	comp=E,1.9nm,0.6s,baz=94,slow=8.0,SNR=8.2						
	comp=E,1.9nm,0.6s						
MKAR	Makanchi Array	44.04	302	P	P	23 25 45.2	0.0
MKAR	Makanchi Array	44.04	302	P	P	23 25 44.5	-0.8
	comp=E,0.2nm,0.5s,baz=86,slow=9.7,SNR=5.9						
	comp=E,0.2nm,0.5s						
KURBB	Kurchatov Arra	45.97	308	P	P	23 25 59.8	-0.7
	comp=E,1.2nm,0.6s,baz=84,slow=8.1,SNR=7.6						

*MDD **26** 23:18:11.9±0.2, 42°.73N×5°.28E, h0km, mb_Lg2.9/17, Error ellipse: s-maj=2.9km s-min=1.5km az=151.0*
*STR **26** 23:18:12.5±0.9, 43°.N±4°×±°., h8km±3km, MLv3.5/10, Error ellipse: s-maj=0.0km s-min=0.0km az=155.1, preliminary*
*LDG **26** 23:18:13.3±0.1, 42°.81N×5°.19E, h10km, Ml3.2/50, Error ellipse: s-maj=2.1km s-min=1.5km az=161.0*
ISC 26 23:18:12.1±0.7, 42°.84N±0°.02×5°.20E±0°.02, h17km±3km, n116, σ2§46/203, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ARBF	**Arbois**	**0.66**	**8**	Pg	**Pg**	**23 18 26.8**	**+1.7**
ARBF				Sg	**Sg**	**23 18 36.4**	**+2.5**
LEPF	**PUYLOUBIER**	**0.78**	**28**	Pg	**Pg**	**23 18 28.5**	**+1.3**
LEPF				Sg	**Sg**	**23 18 38.8**	**+1.2**
ARTF	**Artigues**	**0.87**	**30**	Pg	**Pg**	**23 18 30.0**	**+1.0**
ARTF				Sg	**Sg**	**23 18 41.6**	**+1.1**
FLAF	**Flassans-sur-I**	**0.94**	**54**	Pg	**Pg**	**23 18 30.8**	**+0.4**
FLAF				Sg	**Sb**	**23 18 43.6**	**+1.3**
LMR	**La Mourre**	**1.08**	**62**	*e*Pg	**Pg**	**23 18 32.5**	**-0.5**
LMR				*e*Sn	**Sg**	**23 18 46.9**	**-0.2**
	745nm,0.2s						
BSTF	**la Bastide-des**	**1.09**	**17**	Pg	**Pg**	**23 18 32.8**	**-0.3**
BSTF				Sg	**Sg**	**23 18 46.8**	**-0.7**
SAUF	**chteau de Sau**	**1.10**	**356**	Pg	**Pg**	**23 18 35.1**	**+1.7**
SAUF				Sg	**Sb**	**23 18 50.7**	**+4.0**
SMRF	**Simiane la Rot**	**1.17**	**13**	*e*Pn	**Pb**	**23 18 34.7**	**+0.9**
SMRF	**Simiane la Rot**	**1.17**	**13**	*e*Pg	**Pg**	**23 18 36.3**	**+1.6**
SMRF				*e*Sg	**Sb**	**23 18 52.5**	**+3.8**
	489nm,0.3s						
MLYF	**Mely**	**1.22**	**20**	Pg	**Pb**	**23 18 36.8**	**+2.0**
MLYF				Sg	**Sb**	**23 18 53.1**	**+2.9**
TRIGF	**Trigance**	**1.27**	**44**	Pn	**Pg**	**23 18 37.3**	**+0.7**
TRIGF				Sn	**Sn**	**23 18 54.1**	**+2.4**
BLAF	**les Blancs**	**1.27**	**29**	Pn	**Pb**	**23 18 37.5**	**+1.9**
BLAF				Sn	**Sb**	**23 18 54.2**	**+2.6**
OGDI	**Digne**	**1.50**	**32**	Pn	**Pn**	**23 18 39.8**	**+1.5**
OGDI				Sn	**Sn**	**23 18 59.9**	**+2.4**
OGDI	**Digne**	**1.50**	**32**	P	**Pb**	**23 18 41.2**	**+1.7**
OGDI				S	**Sn**	**23 18 59.4**	**+1.9**
SALSA	**La sagne**	**1.50**	**46**	Pn	**Pn**	**23 18 39.9**	**+1.5**
SALSA				Sn	**Sb**	**23 19 00.3**	**+1.9**
CALF	**Calern**	**1.55**	**53**	Pn	**Pb**	**23 18 41.2**	**+0.7**
CALF				Sn	**Sn**	**23 19 00.5**	**+1.7**
CLAF	**Gruissan**	**1.58**	**282**	Pn	**Pn**	**23 18 41.9**	**+2.7**
CLAF				Sn	**Sn**	**23 19 02.4**	**+3.2**
LASF	**Ste Croix**	**1.58**	**322**	*e*Pn	**Pn**	**23 18 39.8**	**+0.5**
LASF	**Ste Croix**	**1.58**	**322**	*e*Pg	**Pn**	**23 18 42.7**	**+3.4**
LASF				*e*Sn	**Sn**	**23 18 58.8**	**-0.5**
LASF				*e*Sg	**Sb**	**23 19 02.9**	**+2.5**
	42nm,0.1s						
SJAF	**Saint Jean de**	**1.75**	**259**	Pn	**Pn**	**23 18 43.6**	**+2.1**
SJAF				Sn	**Sn**	**23 19 06.7**	**+3.3**
EJON	**La Jonquera**	**1.75**	**258**	Pn	**Pn**	**23 18 41.5**	**-0.2**
EJON				Sg	**Sg**	**23 19 09.4**	**+1.0**
EJON	**La Jonquera**	**1.75**	**258**	Pn	**Pn**	**23 18 41.2**	**-0.4**
EJON				Sn	**Sn**	**23 19 05.4**	**+1.8**
MVIF	**Mont Vial**	**1.77**	**53**	Pn	**Pn**	**23 18 44.1**	**+2.0**
MVIF				Sn	**Sn**	**23 19 05.0**	**+0.7**
MVIF	**Mont Vial**	**1.77**	**53**	P	**Pb**	**23 18 45.4**	**+1.2**
MVIF				S	**Sg**	**23 19 08.9**	**-0.3**
MON	**Monaco**	**1.85**	**60**	Pn	**Pn**	**23 18 44.6**	**+1.6**
MON				Sn	**Sn**	**23 19 07.9**	**+1.9**
MON	**Monaco**	**1.85**	**60**	Pn	**Pn**	**23 18 44.3**	**+1.3**
MON				Sn	**Sn**	**23 19 06.5**	**+0.5**
MON	**Monaco**	**1.85**	**60**	P	**Pb**	**23 18 47.1**	**+1.6**
MON				S	**Sg**	**23 19 11.0**	**-0.8**
ESCA	**l'Escarene**	**1.87**	**57**	Pn	**Pn**	**23 18 44.9**	**+1.6**
ESCA				Sn	**Sn**	**23 19 08.3**	**+1.7**
OGAG	**Argentiere**	**1.89**	**31**	P	Pg	23 18 54.2	+5.9
ISO	**Isola**	**1.90**	**44**	Pn	**Pn**	**23 18 45.2**	**+1.4**
ISO				Sn	**Sn**	**23 19 09.3**	**+2.0**
ISO	**Isola**	**1.90**	**44**	P	**Pn**	**23 18 45.4**	**+1.7**
MENA	**Menton**	**1.92**	**60**	P	**Pn**	**23 18 45.2**	**+1.2**
SBF	**Sospel**	**1.93**	**57**	*e*Pn	**Pn**	**23 18 45.8**	**+1.7**
SBF				*e*Sg	**Sg**	**23 19 14.3**	**+0.2**
	400nm,0.3s						
SURF	**Saint Ours**	**2.02**	**35**	P	**Pn**	**23 18 46.8**	**+1.3**
VIVF	**Saint-Julien-l**	**2.05**	**349**	*e*Pn	**Pn**	**23 18 46.1**	**+0.3**
VIVF	**Saint-Julien-l**	**2.05**	**349**	*e*Pg	**Pb**	**23 18 52.3**	**+3.4**
VIVF				*e*Sn	**Sn**	**23 19 10.0**	**-1.0**
VIVF				*e*Sg	**Sb**	**23 19 19.3**	**+5.2**
	92nm,0.5s						
ENR	**Entracque**	**2.13**	**49**	P	**Pn**	**23 18 47.7**	**+0.8**
ORIF	**Oris-en-Rattie**	**2.14**	**13**	*e*Pn	**Pn**	**23 18 48.4**	**+1.4**
ORIF	**Oris-en-Rattie**	**2.14**	**13**	*e*Pg	**Pg**	**23 18 54.5**	**+1.4**
ORIF				*e*Sn	**Sn**	**23 19 12.0**	**-1.2**
ORIF				*e*Sg	**Sb**	**23 19 21.0**	**+4.4**
	32nm,0.3s						
PZZ	**Stroppo**	**2.17**	**39**	P	**Pn**	**23 18 49.4**	**+1.8**
MBDF	**Montbardon**	**2.21**	**31**	*e*Pn	**Pn**	**23 18 50.4**	**+2.4**
MBDF	**Montbardon**	**2.21**	**31**	*e*Pg	**Pg**	**23 18 54.7**	**+0.3**
MBDF				*e*Sn	**Sn**	**23 19 14.0**	**-0.9**
MBDF				*e*Sg	**Sg**	**23 19 23.9**	**+0.9**
	52nm,0.3s						
IMI	**Imperia**	**2.24**	**60**	P	**Pn**	**23 18 48.0**	**-0.3**
MTLF	**Montolieu**	**2.24**	**284**	*e*Pn	**Pn**	**23 18 48.5**	**+0.1**
MTLF	**Montolieu**	**2.24**	**284**	*e*Pg	**Pb**	**23 18 53.4**	**+1.3**
MTLF				*e*Sn	**Sn**	**23 19 14.0**	**-1.6**
MTLF				*e*Sg	**Sb**	**23 19 22.9**	**+3.4**
	97nm,0.4s						
GBOS	**Grotte di Boss**	**2.38**	**53**	P	**Pn**	**23 18 51.3**	**+1.0**
RRL	**Rocca Remolon**	**2.38**	**28**	P	**Pn**	**23 18 52.6**	**+2.2**
RORO	**Rocca Rossa**	**2.44**	**58**	P	**Pn**	**23 18 51.2**	**+0.1**
BNI	**Bardonecchia**	**2.46**	**25**	Pn	**Pn**	**23 18 53.9**	**+2.4**
BNI				Sn	**Sn**	**23 19 24.6**	**+3.5**
BHB	**Bricherasio**	**2.50**	**36**	P	**Pn**	**23 18 54.1**	**+2.1**
PGF	**Pioggiola**	**2.82**	**95**	*e*Pn	**Pn**	**23 18 54.7**	**-1.7**
PGF				*e*Sn	**Sn**	**23 19 23.7**	**-6.2**
	56nm,0.3s						
LPG	**La Plagne**	**2.88**	**22**	*e*Pn	**Pn**	**23 18 57.6**	**+0.1**
LPG	**La Plagne**	**2.88**	**22**	*e*P	**Pn**	**23 19 00.2**	**+2.7**
LPG	**La Plagne**	**2.88**	**22**	*e*Pg	**Pb**	**23 19 06.5**	**+3.3**
LPG				*e*Sg	**Sg**	**23 19 45.9**	**+1.1**
	35nm,0.4s						
LPL	**La Plagne**	**2.90**	**22**	*e*Pn	**Pn**	**23 18 58.0**	**+0.4**
LPL	**La Plagne**	**2.90**	**22**	*e*P	**Pn**	**23 19 00.9**	**+3.3**
LPL	**La Plagne**	**2.90**	**22**	*e*Pg	**Pb**	**23 19 07.0**	**+3.6**
LPL				*e*Sn	**Sn**	**23 19 31.5**	**-0.6**
LPL				*e*Sg	**Sb**	**23 19 44.0**	**+5.4**
	42nm,0.4s						
PCP	**Piancastagn**	**2.96**	**54**	Pn	**Pn**	**23 18 58.8**	**+0.5**
PCP				Pg	**Pb**	**23 19 05.7**	**+1.2**
PCP				Sn	**Sn**	**23 19 36.0**	**+2.5**
PCP				Sg	**Sb**	**23 19 44.3**	**+4.0**
PCP	**Piancastagn**	**2.96**	**54**	P	**Pn**	**23 18 59.1**	**+0.7**
CAF	**Calviac**	**3.08**	**314**	*e*Pn	**Pn**	**23 19 00.6**	**+0.7**
CAF				*e*Sn	**Sn**	**23 19 34.6**	**-1.8**
CAF				*e*Sg	**Sb**	**23 19 50.9**	**+7.2**
	36nm,0.4s						
EPOB	**Poblet**	**3.41**	**246**	Pn	**Pn**	**23 19 05.3**	**+0.9**
EPOB				Sn	**Sn**	**23 19 44.0**	**-0.5**
EPOB				*i* Vmb_Lg		23 20 05.7	
ETOS	**Mallorca**	**3.56**	**211**	Pn	**Pn**	**23 19 06.7**	**+0.2**
ETOS				Sn	**Sn**	**23 19 42.5**	**-5.5**
ETOS	**Mallorca**	**3.56**	**211**	Pn	**Pn**	**23 19 06.8**	**+0.4**
ETOS				Sn	**Sn**	**23 19 46.1**	**-1.9**
ETOS				*i* Vmb_Lg		23 19 47.1	
EPF	**Esparros**	**3.57**	**275**	*e*Pn	**Pn**	**23 19 05.6**	**-1.1**
EPF	**Esparros**	**3.57**	**275**	*e*Pg	**Pb**	**23 19 19.0**	**+4.2**
EPF				*e*Sn	**Sn**	**23 19 46.4**	**-2.2**
	11nm,0.2s						
EPF				*e*Sg	**Sb**	**23 20 03.0**	**+5.1**
	13nm,0.3s						
RJF	**Les Rejaudoux**	**3.62**	**314**	*e*Pn	**Pn**	**23 19 07.6**	**+0.2**
RJF	**Les Rejaudoux**	**3.62**	**314**	*e*Pg	**Pb**	**23 19 19.8**	**+4.2**
RJF				*e*Sn	**Sn**	**23 19 48.1**	**-1.6**
RJF				*e*Sg	**Sb**	**23 20 06.4**	**+7.2**
	35nm,0.3s						
ECHI	**Chisagues Biel**	**3.69**	**269**	Pn	**Pn**	**23 19 10.3**	**+1.8**
ECHI				Sn	**Sn**	**23 19 51.9**	**+0.3**
ECHI				*i* Vmb_Lg		23 19 54.8	
CABF	**La Chapelle**	**3.83**	**9**	*e*Pg	Pb	23 19 23.8	+4.7
CABF				*e*Sn	**Sn**	**23 19 54.1**	**-0.7**
CABF				*e*Sg	**Sg**	**23 20 15.6**	**+0.7**
	3.8nm,0.2s						
LFF	**La Frestale**	**3.85**	**305**	*e*Pn	**Pn**	**23 19 10.8**	**+0.4**
LFF				*e*Sg	**Sb**	**23 20 14.3**	**+8.6**
	25nm,0.3s						
SMF	**Signal de Mont**	**3.93**	**346**	*e*Pn	**Pn**	**23 19 12.1**	**+0.6**
SMF	**Signal de Mont**	**3.93**	**346**	*e*Pg	Pb	23 19 26.0	+5.2
SMF				*e*Sn	**Sn**	**23 19 57.6**	**+0.4**
	5.0nm,0.2s						
SMF				*e*Sg	**Sg**	**23 20 18.6**	**+0.5**
	8.0nm,0.3s						
VLC	**Villacollemand**	**4.00**	**69**	Pn	**Pn**	**23 19 12.6**	**+0.1**
VLC	**Villacollemand**	**4.00**	**69**	Pn	**Pn**	**23 19 12.5**	**-0.1**
TCF	**Toulx Ste Croi**	**4.06**	**329**	*e*Pn	**Pn**	**23 19 13.7**	**+0.4**
TCF	**Toulx Ste Croi**	**4.06**	**329**	*e*Pg	Pb	23 19 28.2	+5.2
TCF				*e*Sn	**Sn**	**23 19 59.3**	**-1.1**
TCF				*e*Sg	**Sg**	**23 20 22.2**	**-0.1**
	6.9nm,0.3s						
BGF	**Bois d'Agland**	**4.08**	**337**	*e*Pn	**Pn**	**23 19 14.0**	**+0.4**
BGF	**Bois d'Agland**	**4.08**	**337**	*e*Pg	Pb	23 19 29.2	+5.8
BGF				*e*Sg	**Sg**	**23 20 22.8**	**-0.2**
	24nm,0.3s						
AVF	**Avril sur Loir**	**4.17**	**342**	*e*Pn	**Pn**	**23 19 17.7**	**+2.9**
AVF	**Avril sur Loir**	**4.17**	**342**	*e*Pg	**Pg**	**23 19 30.8**	**-1.0**
AVF				*e*Sg	**Sg**	**23 20 25.1**	**-0.6**
	1.8nm,0.2s						
ETSF	**Étsaut**	**4.23**	**273**	*e*Pn	**Pn**	**23 19 14.9**	**-0.9**
ETSF				*e*Sn	**Sn**	**23 20 01.9**	**-3.0**
	10nm,0.4s						
ESAC	**San Caprasio**	**4.35**	**257**	Pn	**Pn**	**23 19 18.9**	**+1.5**
ESAC				Sn	**Sn**	**23 20 06.4**	**-1.4**
SSF	**Saint Saulge**	**4.39**	**345**	*e*Pn	**Pn**	**23 19 18.2**	**+0.3**
SSF	**Saint Saulge**	**4.39**	**345**	*e*Pg	Pb	23 19 34.7	+6.0
SSF				*e*Sg	**Sg**	**23 20 32.7**	**-0.3**
	8.1nm,0.3s						
LOR	**Lormes**	**4.53**	**348**	*e*Pn	**Pn**	**23 19 20.6**	**+0.8**
LOR	**Lormes**	**4.53**	**348**	*e*Pg	**Pg**	**23 19 37.8**	**-1.0**
LOR				*e*Sn	**Sn**	**23 20 09.2**	**-2.9**
LOR				*e*Sg	**Sg**	**23 20 37.2**	**-0.2**
	3.2nm,0.2s						
VSL	**Villasalto**	**4.59**	**135**	Pn	**Pn**	**23 19 19.7**	**-1.0**
VSL				Sn	**Sn**	**23 20 11.8**	**-1.9**
SJPF	**Ste Jean**	**4.72**	**276**	*e*Pn	**Pn**	**23 19 22.5**	**0.0**
SJPF				*e*Sn	**Sn**	**23 20 13.6**	**-3.2**
	2.0nm,0.3s						
HYF	**Humbligny**	**4.79**	**339**	*e*P	**Pn**	**23 19 27.4**	**+4.1**
HYF	**Humbligny**	**4.79**	**339**	*e*Pg	Pb	23 19 41.8	+6.4
HYF				*e*Sg	**Sg**	**23 20 44.4**	**-1.3**
HINF	**Hinteralfeld**	**5.11**	**13**	*e*Pn	**Pn**	**23 19 27.6**	**-0.3**
HINF	**Hinteralfeld**	**5.11**	**13**	*e*Pg	**Pg**	**23 19 48.7**	**-1.2**
HINF				*e*Sn	**Sn**	**23 20 23.8**	**-2.7**
	2.7nm,0.3s						
HINF				*e*Sg	**Sg**	**23 20 53.9**	**-2.2**
	1.7nm,0.2s						
HAU	**Haudompre**	**5.23**	**8**	*e*Pn	**Pn**	**23 19 29.7**	**+0.2**
HAU				*e*Sn	**Sn**	**23 20 26.8**	**-2.5**
HAU				*e*Sg	**Sg**	**23 20 57.2**	**-2.7**
	9.6nm,0.5s						
MFF	**Saint Martin d**	**5.35**	**316**	*e*Pn	**Pn**	**23 19 31.0**	**-0.1**
MFF				*e*Sn	**Sn**	**23 20 29.4**	**-2.9**
MFF				*e*Sg	**Sg**	**23 21 01.9**	**-1.9**
	22nm,0.7s						
SFTF	**Sexfontaines**	**5.37**	**359**	*e*Pn	**Pn**	**23 19 31.7**	**+0.4**
SFTF				*e*Sn	**Sn**	**23 20 30.6**	**-2.1**
SFTF				*e*Sg	**Sg**	**23 21 03.3**	**-1.0**
	54nm,0.5s						
DAVA	**Damuels**	**5.55**	**35**	*e*Pn	**Pn**	**23 19 36.8**	**+2.8**
	1.1nm,0.7s						
DAVA				Sn	**Sb**	**23 20 49.7**	**-5.1**
	5.3nm,0.6s						
MEZF	**Maizieres J'vi**	**5.67**	**359**	*e*Pn	**Pn**	**23 19 35.4**	**0.0**
MEZF	**Maizieres J'vi**	**5.67**	**359**	*e*Pg	**Pg**	**23 19 58.8**	**-1.7**
MEZF				*e*Sn	**Sn**	**23 20 37.0**	**-3.0**
MEZF				*e*Sg	**Sg**	**23 21 11.7**	**-2.1**
	5.3nm,0.4s						
ECHE	**Chera**	**5.67**	**237**	Pn	**Pn**	**23 19 36.2**	**+0.8**
ECHE	**Chera**	**5.67**	**237**	Pn	**Pn**	**23 19 36.3**	**+0.8**
ECHE				*i* Vmb_Lg		23 19 58.1	
PAGF	**Fort de Pagny**	**5.73**	**3**	*e*Pn	**Pn**	**23 19 34.6**	**-1.7**
PAGF				*e*Sn	**Sn**	**23 20 38.2**	**-3.4**
	1.7nm,0.2s						
FETA	**Feichten**	**5.74**	**41**	Pn	**Pn**	**23 19 39.3**	**+2.8**
	1.0nm,0.4s						
FETA				Sn	**Sb**	**23 20 54.1**	**-6.0**
	1.4nm,0.4s						
CDF	**Champ du Feu**	**5.76**	**14**	*e*Pn	**Pn**	**23 19 36.8**	**0.0**
CDF				*e*Sn	**Sn**	**23 20 40.3**	**-2.2**
	1.1nm,0.3s						
SAVF	**Savonnieres en**	**5.78**	**360**	*e*P	**Pn**	**23 19 41.1**	**+4.2**
SAVF				*e*Sg	**Sg**	**23 21 14.1**	**-3.3**
	5.5nm,0.4s						
RETA	**Reutte**	**6.09**	**38**	*e*Pn	**Pn**	**23 19 43.7**	**+2.4**
	0.4nm,0.6s						
RETA				Sn	Sn	23 21 00.6	+10
	2.0nm,0.9s						
SQTA	**Sankt Quirin**	**6.11**	**42**	*e*Pn	**Pn**	**23 19 45.3**	**+3.7**
	0.8nm,0.2s						
SQTA				*e*Sn	Sb	23 21 03.8	-7.0
	2.6nm,0.4s						
MOTA	**Moosalm**	**6.14**	**41**	Pn	**Pn**	**23 19 44.9**	**+2.8**
	0.9nm,0.6s						
MOTA				Sn	**Sb**	**23 21 05.9**	**-6.0**
	3.1nm,0.6s						
WTTA	**Wattenberg**	**6.35**	**44**	*e*Pn	**Pn**	**23 19 49.3**	**+4.3**
	1.8nm,0.6s						
WTTA				Sn	Sb	23 21 10.6	-7.3
	3.4nm,0.9s						
WATA	**Walderalm**	**6.37**	**43**	Pn	**Pn**	**23 19 49.6**	**+4.3**
	1.1nm,0.6s						
WATA				Sn	Sn	23 21 09.2	+12
	3.0nm,0.8s						
LDF	**La Druitiere**	**6.85**	**329**	*e*Pn	**Pn**	**23 19 51.8**	**+0.1**
LDF				*e*Sg	**Sg**	**23 21 48.7**	**-3.2**
	0.2nm,0.1s						
GRR	**Gorron**	**6.99**	**325**	*e*Pn	**Pn**	**23 19 53.3**	**-0.2**
GRR				*e*Sn	**Sn**	**23 21 08.9**	**-3.6**
GRR				*e*Sg	**Sg**	**23 21 53.2**	**-2.9**
	0.2nm,0.2s						
FLN	**La Foliniere**	**7.13**	**328**	*e*Pn	**Pn**	**23 19 57.0**	**+1.5**
BAIF	**Baives**	**7.25**	**355**	*e*Pn	**Pn**	**23 19 57.4**	**+0.2**
SGMF	**Saint Gilles**	**7.68**	**318**	*e*P	**Pn**	**23 20 07.4**	**+4.4**
SGMF				*e*Sn	**Sn**	**23 21 25.3**	**-4.2**
SGMF				*e*Sg		23 22 14.3	
QUIF	**Quistinic**	**7.77**	**314**	*e*Pn	**Pn**	**23 20 04.2**	**-0.1**
QUIF				*e*Sn	**Sn**	**23 21 27.7**	**-4.2**
QUIF				*e*Sg		23 22 17.4	
	0.1nm,0.1s						
ROSF	**Rostrenen**	**8.09**	**316**	*e*Pn	**Pn**	**23 20 08.5**	**-0.2**
ROSF				*e*Sn	**Sn**	**23 21 36.5**	**-3.2**
	0.1nm,0.1s						
ROSF				*e*Sg		23 22 26.8	
	1.2nm,0.3s						
SRIG	**Santa Rosalia**	**9.63**	**333**	Pn	**Pn**	**23 28 41.0**	**-0.8**
HSIG		**10.74**	**343**	Pn	**Pn**	**23 28 56.9**	**-0.1**
TXAR	**Lajitas Array**	**11.10**	**17**	Pn	**Pn**	**23 29 02.0**	**-0.1**
	0.1nm,0.3s,baz=200,slow=13,SNR=5.6						
TXAR				LR	LR	23 32 59.4	
	comp=Z,114nm,19.5s,baz=200,slow=36						
	0.6nm,0.8s						
TX31	**Lajitas Ar. Si**	**11.10**	**17**	Pn	**Pn**	**23 29 00.2**	**-1.9**
CMIG	**Matias Romero**	**12.05**	**96**	Pn	**Pn**	**23 29 15.8**	**+0.8**
	0.2nm,0.3s,baz=283,slow=18,SNR=4.0						
CMIG				LR	LR	23 33 25.6	
	comp=Z,175nm,18.7s,baz=298,slow=35						
	3.9nm,0.9s						
VHRN	**Van Horn**	**12.21**	**10**	Pn	**Pn**	**23 29 17.0**	**-0.2**
DRIO	**Del Rio**	**12.32**	**29**	Pn	**Pn**	**23 29 20.1**	**+1.3**
319A	**Douglas**	**12.70**	**353**	Pn	**Pn**	**23 29 24.4**	**+0.4**
HNDO	**Hondo**	**13.07**	**33**	Pn	**Pn**	**23 29 30.5**	**+1.6**
OZNA	**Ozona**	**13.41**	**24**	Pn	**Pn**	**23 29 35.4**	**+1.7**
JCT	**Junction City**	**13.59**	**29**	Pn	**Pn**	**23 29 39.1**	**+3.0**
DUN6	**Lazy B Ranch**	**13.85**	**354**	Pn	**Pn**	**23 29 39.9**	**+0.2**
TUC	**Tucson**	**13.86**	**348**	Pn	**Pn**	**23 29 39.4**	**-0.3**
PIX	**Pinacate**	**13.89**	**338**	Pn	**Pn**	**23 29 39.8**	**-0.3**
BRDY	**Brady**	**14.64**	**30**	Pn	**Pn**	**23 29 51.4**	**+1.1**
VTX	**Valle De La Tr**	**14.70**	**331**	Pn	**Pn**	**23 29 48.4**	**-2.8**
113A	**Mohawk Valley,**	**15.10**	**339**	Pn	**Pn**	**23 29 56.3**	**-0.1**
ESJX	**Sierra Juarez**	**15.29**	**331**	Pn	**Pn**	**23 29 57.3**	**-1.8**
ESJX				IAmb	IAmb	23 30 05.7	
	comp=Z,15nm,1.4s						
HKT	**Hockley**	**15.36**	**41**		**P**	**23 30 05.2**	**+1.1**
HKT				IAmb	IAmb	23 30 12.8	
	comp=Z,14nm,1.2s						
BNM	**Barren Site**	**15.38**	**2**	Pn	**Pn**	**23 30 00.4**	**+0.1**
YUH	**Yuha Desert**	**15.82**	**333**	Pn	**Pn**	**23 30 04.9**	**-0.9**
X18A	**Snowflake**	**15.90**	**352**	Pn	**Pn**	**23 30 08.0**	**+1.0**
X18A				IAmb	IAmb	23 30 19.2	
	comp=Z,14nm,1.3s						
Y14A	**Wickenburg**	**15.95**	**343**	Pn	**Pn**	**23 30 06.1**	**-1.4**
Y14A				IAmb	IAmb	23 30 08.8	
	comp=Z,14nm,1.5s						
X16A	**Lo Mia Camp, P**	**16.03**	**348**	Pn	**Pn**	**23 30 09.2**	**+0.5**
X16A				IAmb	IAmb	23 30 17.9	
	comp=Z,10nm,1.3s						
ANMO	**Albuquerque**	**16.18**	**3**	Pn	**P**	**23 30 12.0**	**-1.4**
ANMO	**Albuquerque**	**16.18**	**3**	Pn	**Pn**	**23 30 10.7**	**+0.2**
	baz=169,slow=19,SNR=5.7						
ANMO				LR	LR	23 36 19.6	
	comp=Z,89nm,18.0s,baz=354,slow=37						
	comp=Z,2.4nm,0.9s						
PLPT	**Palo Pinto**	**16.24**	**28**		**P**	**23 30 14.2**	**+0.3**
PLPT				IAmb	IAmb	23 30 34.0	
	comp=Z,10nm,1.1s						
BLYC	**Blythe**	**16.25**	**338**	Pn	**Pn**	**23 30 10.8**	**-0.5**
PFO	**Pinyon Flats O**	**16.88**	**333**	Pn	**Pn**	**23 30 18.7**	**-0.7**
PFO				IAmb	IAmb	23 30 21.9	
	comp=Z,23nm,1.5s						
PFO	**Pinyon Flats O**	**16.88**	**333**	Pn	**Pn**	**23 30 19.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=9.8						
PFO				LR	LR	23 35 55.4	
	comp=Z,164nm,20.5s,baz=171,slow=34						
	comp=Z,2.5nm,0.8s						
WUAZ	**Wupatki**	**17.08**	**349**	Pn	**Pn**	**23 30 21.1**	**-0.9**
ELS	**Elsinore Mount**	**17.34**	**331**		**Pn**	**23 30 25.0**	**-0.1**
U15A	**North Rim**	**18.14**	**347**		**Pn**	**23 30 36.1**	**+0.9**
V12A	**Nelson**	**18.16**	**340**		**Pn**	**23 30 35.6**	**+0.4**
GSC	**Goldstone, Bar**	**18.48**	**335**	P	**P**	**23 30 38.4**	**-0.4**
KNB	**Kanab**	**18.82**	**347**	P	**Pn**	**23 30 43.6**	**+0.2**
KNB				IAmb	IAmb	23 30 45.8	
	comp=Z,21nm,1.5s						
CCAC	**Calif City Air**	**18.86**	**332**	P	**P**	**23 30 42.7**	**-0.3**
SHPR	**Sheep Range**	**18.97**	**341**	P	**Pn**	**23 30 45.4**	**+0.2**
WCT	**Wildcat Mounta**	**19.73**	**338**	P	**P**	**23 30 52.1**	**-0.3**
WCT				IAmb	IAmb	23 30 59.1	
	comp=Z,9.6nm,1.2s						
P18A	**Preston Nutter**	**20.97**	**354**	P	**P**	**23 31 05.6**	**-0.5**
P18A				IAmb	IAmb	23 31 14.6	
	comp=Z,8.8nm,1.1s						
SPR3	**Spring Creek 3**	**21.07**	**345**	P	**P**	**23 31 07.6**	**+0.4**
SPR3				IAmb	IAmb	23 31 11.0	
	comp=Z,6.3nm,1.3s						
CBKS	**Cedar Bluff**	**21.10**	**17**	P	**P**	**23 31 08.9**	**+1.7**
NVAR	**Mina Array Bea**	**21.80**	**336**	P	**P**	**23 31 14.3**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=156,slow=11,SNR=5.4						
	comp=Z,1.3nm,0.8s						
DUG	**Dugway, Tooele**	**21.89**	**349**	P	**P**	**23 31 15.7**	**-0.1**
DUG				IAmb	IAmb	23 31 19.5	
	comp=Z,7.6nm,1.2s						
K22A	**Casper**	**23.86**	**2**	P	**P**	**23 31 38.3**	**+2.3**
PDAR	**Pinedale Array**	**24.03**	**356**	P	**P**	**23 31 36.2**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=155,slow=11,SNR=3.8						
PDAR				LR	LR	23 40 29.4	
	comp=Z,57nm,20.4s,baz=164,slow=35						
	comp=Z,0.4nm,0.7s						
LOHW	**Long Hollow**	**24.95**	**355**	P	**P**	**23 31 45.4**	**-0.6**
FXWY	**Fox Creek**	**25.02**	**354**		**P**	**23 31 45.7**	**-0.9**
FXWY				IAmb	IAmb	23 31 49.4	
	comp=Z,2.3nm,0.9s						
HLID	**Hailey**	**25.45**	**348**	P	**P**	**23 31 51.7**	**+1.2**
HLID				IAmb	IAmb	23 32 01.8	
	comp=Z,6.7nm,1.5s						
WVOR	**Wild Horse Val**	**25.48**	**340**	P

mb4.1/19,mb_Lg4.1/122,ML4.3/45,Mwr3.8/34,Error ellipse: s-maj=3.7km s-min=2.9km az=266.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; M_{rr}=1.24; $M_{\theta\theta}$=2.61; $M_{\phi\phi}$=-1.37; $M_{r\theta}$=0.94; $M_{\theta\phi}$=4.54; $M_{\phi r}$=1.98; Fault plane solution: M_0=5.52000×10¹⁴ NP1:φ=98.49000°, δ=69.04000°, λ=-18.22000°. NP2:φ=195.21000°, δ=73.02000°, λ=-158.04000°. Principal axes: T 5.5862, Plg3.0000°, Azm326.0000°; N -0.1286, Plg63.0000°, Azm231.0000°; P -5.4575, Plg27.0000°, Azm58.0000°;

*NEIC **26** 23:50:25.1,36.89N×97.92W,h8km*

ISC 26 23:50:24.7±0.7,36.91N±0.02×97.87W±0.03,h13km±5km, n218,σ1§44/215,mb3.4/3,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**173**		**Pg**	**23 50 26.9**	**-0.3**
GC02				Sg	**Sg**	23 50 28.2	-0.8
KAN14	**Manchester OK**	**0.09**	**303**	Pg	**Pg**	**23 50 27.6**	**+0.1**
KAN14				Sg	**Sg**	23 50 29.2	-0.4
KAN17	**Caldwell West**	**0.16**	**32**	Pg	**Pb**	**23 50 29.8**	**+0.2**
KAN17				Sg	**Sb**	**23 50 32.8**	**0.0**
KAN17				IAML		23 50 34.0	
	comp=N,99μm,0.3s						
KAN05	**Bluff City Nor**	**0.20**	**359**	Pg	**Pb**	**23 50 30.4**	**+0.1**
KAN05				Sg	**Sb**	**23 50 33.7**	**-0.3**
KAN05				IAML		23 50 34.1	
	comp=E,55μm,0.7s						
KAN01	**Argonia South**	**0.26**	**20**	Pg	**Pb**	**23 50 31.5**	**+0.2**
KAN01				IAML		23 50 36.2	
	comp=E,28μm,0.5s						
KAN09	**Caldwell North**	**0.30**	**41**		**Pb**	**23 50 32.2**	**+0.2**
KAN09				Sg	**Sb**	**23 50 36.7**	**-0.2**
KAN09				IAML		23 50 39.4	
	comp=E,42μm,0.3s						
KAN09				IAML		23 50 39.5	
	comp=N,46μm,0.3s						
KAN08	**Anthony NE Sta**	**0.33**	**346**	Pg	**Pb**	**23 50 32.5**	**0.0**
KAN08				Sg	**Sb**	**23 50 37.4**	**-0.3**
KAN13	**South Haven SW**	**0.33**	**71**	Pg	**Pb**	**23 50 32.8**	**+0.3**
KAN13				Sg	**Sb**	**23 50 37.9**	**+0.2**
KAN13				IAML		23 50 42.6	
	comp=E,24μm,0.3s						
KAN12	**Harper NE Stat**	**0.40**	**345**	Pg	**Pb**	**23 50 33.7**	**0.0**
KAN12				Sg	**Sb**	**23 50 39.6**	**-0.2**
KAN12				IAML		23 50 42.0	
	comp=E,33μm,0.4s						
KAN12				IAML		23 50 47.4	
	comp=N,29μm,0.4s						
CROK	**Carrier**	**0.41**	**193**	Pg	**Pg**	**23 50 32.6**	**-0.3**
CROK				Sg	**Sg**	**23 50 37.8**	**-0.7**
BLOK	**Blackwell**	**0.55**	**106**	Pg	**Pb**	**23 50 36.3**	**+0.2**
BLOK				Sg	**Sb**	**23 50 44.3**	**+0.4**
BLOK				IAML		23 50 48.1	
	comp=E,25μm,0.2s						
OK038	**West end E0370**	**0.82**	**239**		**Pg**	**23 50 39.8**	**-0.9**
OK038				IAML		23 51 00.9	
	comp=E,10μm,0.4s						
OK038				IAML		23 51 02.1	
	comp=E,12μm,0.3s						
NOKA	**Waynoka**	**0.90**	**253**	Pg	**Pb**	**23 50 41.2**	**-1.0**
NOKA				IAML		23 51 02.7	
	comp=N,6μm,0.6s						
NOKA				IAML		23 51 08.7	
	comp=E,6μm,0.7s						
OK051	**E0350 and S346**	**0.92**	**116**	Pg	**Pg**	**23 50 43.1**	**+0.6**
OK051				IAML		23 51 02.6	
	comp=E,12μm,0.2s						
OK029	**Liberty Lake**	**1.16**	**163**	Pg	**Pn**	**23 50 46.6**	**-0.1**
QUOK	**Quay**	**1.19**	**128**	Pg	**Pg**	**23 50 47.8**	**+0.2**
OK052	**Battle Ridge R**	**1.25**	**136**		**Pg**	**23 50 48.7**	**-0.1**
OK031	**S. Brethren Rd**	**1.26**	**139**		**Pg**	**23 50 48.8**	**-0.2**
ADOK	**Arcadia Dam**	**1.32**	**162**		**Pb**	**23 50 49.5**	**+0.2**
OK009	**Oakdale Elemen**	**1.37**	**165**		**Pb**	**23 50 50.4**	**+0.1**
CSTR	**Hydro, Custer**	**1.42**	**208**		**Pb**	**23 50 50.8**	**-0.3**
ELIS	**Ellis County**	**1.51**	**236**		**Pn**	**23 50 51.7**	**+0.2**
DEOK	**Depew**	**1.54**	**133**		**Pb**	**23 50 52.6**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.54**	**167**		**Pb**	**23 50 52.9**	**-0.2**
R32A	**Long Quarter,**	**1.65**	**336**		**Pb**	**23 50 55.2**	**+0.1**
FNO	**Franklin**	**1.69**	**167**		**Pb**	**23 50 55.4**	**-0.3**
W35A	**Tecumseh**	**1.93**	**155**	Pn	**Pb**	**23 50 58.5**	**-1.2**
DRZT	**Darrouzett**	**2.01**	**257**	P	**Pb**	**23 51 01.3**	**+0.2**
WMOK	**Wichita Mounta**	**2.29**	**199**	Pn	**Pn**	**23 51 03.0**	**+0.7**
WMOK	**Wichita Mounta**	**2.29**	**199**	P	**Pn**	**23 51 03.5**	**+1.3**
X34A	**Smith Ranch, M**	**2.30**	**179**	Pn	**Pn**	**23 51 03.5**	**+1.1**
KSU1	**Kansas State U**	**2.40**	**24**	Pn	**Pn**	**23 51 05.9**	**+2.1**
CBKS	**Cedar Bluff**	**2.41**	**323**	Pn	**Pn**	**23 51 05.2**	**+1.3**
CBKS	**Cedar Bluff**	**2.41**	**323**	P	**Pb**	**23 51 06.7**	**-1.2**
SMWD	**Samnorwood**	**2.63**	**228**	Pn	**Pn**	**23 51 08.0**	**+1.0**
SMWD	**Samnorwood**	**2.63**	**228**	P	**Pn**	**23 51 09.0**	**+2.0**
WTFS	**Witchita Falls**	**3.17**	**189**	P	**Pn**	**23 51 16.4**	**+2.1**
HHAR	**Hobbs**	**3.22**	**100**	Pn	**Pn**	**23 51 16.8**	**+1.7**
HHAR				IAmb_Lg		23 52 14.8	
	comp=Z,537nm,0.8s						
Z35A	**Perchaven, San**	**3.60**	**172**	P	**Pn**	**23 51 22.0**	**+1.7**
FW03	**Perrin-Whitt E**	**3.86**	**182**	Pn	**Pn**	**23 51 24.9**	**+1.0**
FW03	**Perrin-Whitt E**	**3.86**	**182**	P	**Pn**	**23 51 26.0**	**+2.2**
FW06	**Azle**	**3.94**	**176**	Pn	**Pn**	**23 51 25.7**	**+0.9**
FW06	**Azle**	**3.94**	**176**	P	**Pn**	**23 51 26.7**	**+1.9**
RTBA	**Rita Blanca**	**3.94**	**265**	Pn	**Pn**	**23 51 26.4**	**+1.3**
RTBA				IAmb_Lg		23 52 35.6	
	comp=Z,400nm,0.9s						
RTBA	**Rita Blanca**	**3.94**	**265**	P	**Pn**	**23 51 27.2**	**+2.2**
FW02	**City of Haslet**	**3.97**	**174**	P	**Pb**	**23 51 36.9**	**+2.3**
FW05	**UT at Dallas**	**4.02**	**166**	P	**Pb**	**23 51 37.1**	**+1.8**
APMT	**Aspermont**	**4.02**	**208**	Pn	**Pn**	**23 51 27.3**	**+1.3**
APMT	**Aspermont**	**4.02**	**208**	P	**Pn**	**23 51 27.8**	**+1.7**
DKNS	**Dickens**	**4.09**	**219**	Pn	**Pn**	**23 51 28.8**	**+1.8**
DKNS				IAmb_Lg		23 52 38.9	
	comp=Z,370nm,0.9s						
DKNS	**Dickens**	**4.09**	**219**	P	**Pn**	**23 51 29.6**	**+2.7**
PLPT	**Palo Pinto**	**4.10**	**185**	Pn	**Pn**	**23 51 27.6**	**+0.5**
PLPT				IAmb_Lg		23 52 40.4	
	comp=Z,260nm,0.8s						
PLPT	**Palo Pinto**	**4.10**	**185**	P	**Pn**	**23 51 28.9**	**+1.7**
FW07	**Weatherford**	**4.20**	**179**	Pn	**Pn**	**23 51 29.1**	**+0.7**
FW07	**Weatherford**	**4.20**	**179**	P	**Pn**	**23 51 30.2**	**+1.8**
MIAR	**Mount Ida**	**4.21**	**123**	Pn	**Pn**	**23 51 29.9**	**+1.3**
MIAR				IAmb_Lg		23 52 39.4	
	comp=Z,431nm,0.8s						
MIAR	**Mount Ida**	**4.21**	**123**	P	**Pn**	**23 51 30.9**	**+2.2**
FW15	**Texas Christia**	**4.21**	**174**	P	**Pb**	**23 51 40.4**	**+1.7**
FW11	**UT at Arlingto**	**4.22**	**171**	P	**Pn**	**23 51 30.2**	**+1.5**
FW01	**Dallas Executi**	**4.29**	**169**	P	**Pb**	**23 51 40.7**	**+0.7**
KSCO	**Kaye Shedlock'**	**4.31**	**301**	Pn	**Pn**	**23 51 30.9**	**+0.8**
KSCO				IAmb_Lg		23 52 48.1	
	comp=Z,467nm,0.9s						
N35A	**Tabor**	**4.31**	**23**	Pn	**Pn**	**23 51 32.2**	**+2.2**
Z38A	**Mt. Pleasant**	**4.34**	**146**	P	**Pn**	**23 51 32.5**	**+2.1**
TREL	**Terrell**	**4.42**	**160**	Pn	**Pn**	**23 51 31.6**	**+0.1**
TREL				IAmb_Lg		23 52 47.0	
	comp=Z,227nm,0.7s						
TREL	**Terrell**	**4.42**	**160**	P	**Pn**	**23 51 32.8**	**+1.4**
TREL				P	Pb	23 51 33.0	-9.2
FW12	**Venus**	**4.44**	**172**	P	**Pg**	**23 51 47.0**	**-2.7**
MGMO	**Mountain Grove**	**4.49**	**85**	Pn	**Pn**	**23 51 34.0**	**+1.6**
MGMO				IAmb_Lg		23 52 48.5	
	comp=Z,603nm,0.8s						
BGNE	**Belgrade**	**4.50**	**357**	Pn	**Pn**	**23 51 33.7**	**+1.1**
FW14	**Alvarado**	**4.53**	**173**	IAmb_Lg		23 52 58.3	
	comp=Z,229nm,0.8s						
SN07	**Snyder 07**	**4.54**	**214**	Pn	**Pn**	**23 51 34.8**	**+1.5**
SN07				IAmb_Lg		23 52 54.7	
	comp=Z,296nm,0.8s						
FW13	**Cleburne**	**4.56**	**175**	Pn	**Pn**	**23 51 33.9**	**+0.5**
FW13	**Cleburne**	**4.56**	**175**	P	**Pn**	**23 51 35.0**	**+1.6**
SN05	**Snyder 5**	**4.72**	**213**	Pn	**Pn**	**23 51 36.8**	**+1.1**
SN05				IAmb_Lg		23 53 02.4	
	comp=Z,284nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.74**	**101**	Pn	**Pn**	**23 51 37.6**	**+1.6**
FCAR				IAmb_Lg		23 53 03.8	
	comp=Z,478nm,0.8s						
X40A	**Basin Creek Fa**	**4.76**	**119**	Pn	**Pn**	**23 51 38.4**	**+2.3**
X40A				IAmb_Lg		23 52 57.6	
	comp=Z,568nm,0.8s						
WHAR	**Wooly Hollow**	**4.80**	**108**	Pn	**Pn**	**23 51 38.5**	**+1.8**
WHAR				IAmb_Lg		23 53 05.2	
	comp=Z,409nm,0.9s						
POST	**Post**	**4.86**	**219**	Pn	**Pn**	**23 51 38.7**	**+1.2**
POST				IAmb_Lg		23 53 02.0	
	comp=Z,209nm,0.8s						
POST	**Post**	**4.86**	**219**	P	**Pn**	**23 51 39.3**	**+1.8**
WHTX	**Lake Whitney,**	**4.92**	**176**	P	**Pn**	**23 51 39.3**	**+1.0**
MSTX	**Muleshoe**	**4.96**	**235**	P	**Pn**	**23 51 40.6**	**+1.5**
MSTX				P	Pb	23 51 40.8	-11
UALR	**University of**	**4.97**	**114**	Pn	**Pn**	**23 51 41.0**	**+1.9**
UALR				IAmb_Lg		23 53 09.8	
	comp=Z,427nm,0.8s						
WLAR	**White Oak Lake**	**5.04**	**128**	Pn	**Pn**	**23 51 40.5**	**+0.4**
WLAR				IAmb_Lg		23 53 18.6	
	comp=Z,344nm,0.8s						
OGNE	**Ogallala**	**5.17**	**322**	Pn	**Pn**	**23 51 43.6**	**+1.7**
OGNE				IAmb_Lg		23 53 13.1	
	comp=Z,205nm,0.7s						
237A	**Washetta, Mont**	**5.18**	**160**	Pn	**Pn**	**23 51 42.2**	**+0.2**
237A				IAmb_Lg		23 53 22.3	
	comp=Z,295nm,1.2s						
L34A	**Svendsen Farm,**	**5.18**	**12**	Pn	**Pn**	**23 51 42.7**	**+0.7**
T25A	**Trinidad**	**5.24**	**274**	Pn	**Pn**	**23 51 44.1**	**+1.1**
T25A				IAmb_Lg		23 53 19.8	
	comp=Z,217nm,0.8s						
T25A	**Trinidad**	**5.24**	**274**	P	**Pn**	**23 51 45.0**	**+2.1**
N38A	**Joes South For**	**5.30**	**42**	Pn	**Pn**	**23 51 44.4**	**+0.8**
N38A				IAmb_Lg		23 53 20.7	
	comp=Z,244nm,0.9s						
CCM	**Cathedral Cave**	**5.39**	**76**	Pn	**Pn**	**23 51 46.3**	**+1.4**
CCM	**Cathedral Cave**	**5.39**	**76**		**Pn**	**23 51 46.9**	**+2.0**
CCM				IAmb_Lg		23 53 22.2	
	comp=Z,395nm,0.7s						
T42A	**Van Buren**	**5.43**	**87**	Pn	**Pn**	**23 51 47.7**	**+2.4**
T42A				IAmb_Lg		23 53 27.7	
	comp=Z,346nm,1.0s						
LCAR	**Lake Charles**	**5.47**	**97**	Pn	**Pn**	**23 51 47.5**	**+1.5**
LCAR				IAmb_Lg		23 53 23.8	
	comp=Z,348nm,0.7s						
CRHG	**Carthage**	**5.50**	**146**	P	**Pn**	**23 51 48.0**	**+1.7**
Z41A	**Richland Creek**	**5.52**	**130**	Pn	**Pn**	**23 51 45.9**	**-0.8**
Z41A				IAmb_Lg		23 53 25.6	
	comp=Z,174nm,0.7s						
SGCY	**Sterling City**	**5.66**	**209**	P	**Pn**	**23 51 50.6**	**+2.0**
BRDY	**Brady**	**5.69**	**190**	Pn	**Pn**	**23 51 49.4**	**+0.5**
BRDY				IAmb_Lg		23 53 30.2	
	comp=Z,180nm,0.8s						
CCAR	**Cane Creek**	**5.80**	**119**	Pn	**Pn**	**23 51 50.6**	**+0.1**
CCAR				IAmb_Lg		23 53 44.0	
	comp=Z,414nm,0.9s						
K30B	**Basset**	**5.91**	**347**	Pn	**Pn**	**23 51 53.6**	**+1.6**
FVM	**French Village**	**6.02**	**77**	Pn	**Pn**	**23 51 54.5**	**+1.0**
Q24A	**Divide**	**6.11**	**292**	IAmb_Lg		23 53 43.8	
	comp=Z,181nm,0.8s						
Q24A	**Divide**	**6.11**	**292**	P	**Pn**	**23 51 57.5**	**+2.6**
435B	**Jarrell**	**6.12**	**178**	IAmb_Lg		23 53 51.9	
	comp=Z,365nm,1.0s						
SNAG	**San Augustine**	**6.18**	**149**	Pn	**Pn**	**23 51 56.0**	**+0.3**
BRIGG	**Briggsdale**	**6.23**	**308**	IAmb_Lg		23 53 46.2	
	comp=Z,344nm,0.9s						
SLM	**Saint Louis**	**6.29**	**72**	Pn	**Pn**	**23 51 58.4**	**+1.2**
HNVL	**Huntsville, TX**	**6.45**	**161**	Pn	**Pn**	**23 51 59.6**	**+0.2**
HTMS	**Hat Mesa**	**6.49**	**229**	Pn	**Pn**	**23 51 59.6**	**-0.4**
PEBM	**Pemiscott Bayo**	**6.50**	**95**	Pn	**Pn**	**23 52 02.0**	**+2.0**
OZNA	**Ozona**	**6.56**	**205**	IAmb_Lg		23 53 58.5	
	comp=Z,172nm,0.8s						
CGM3	**Cape Girardeau**	**6.57**	**84**	Pn	**Pn**	**23 52 03.3**	**+2.2**
CGM3				IAmb_Lg		23 53 52.9	
	comp=Z,348nm,0.9s						
JCT	**Junction City**	**6.61**	**195**	P	**Pn**	**23 52 03.5**	**+1.8**
N41A	**Harden Midland**	**6.66**	**53**	IAmb_Lg		23 54 00.1	
	comp=Z,273nm,0.8s						
ISCO	**Idaho Springs**	**6.74**	**298**	Pn	**Pn**	**23 52 05.2**	**+1.6**
ISCO				IAmb_Lg		23 53 57.7	
	comp=Z,148nm,0.8s						
CLNB	**Carlsbad**	**6.78**	**229**	Pn	**Pn**	**23 52 05.4**	**+1.3**
MNHN	**Monahans**	**6.88**	**218**	P	**Pn**	**23 52 06.4**	**+1.0**
ECSD	**EROS Data Cent**	**6.88**	**8**	Pn	**Pn**	**23 52 05.4**	**+0.1**
ECSD				IAmb_Lg		23 54 07.1	
	comp=Z,149nm,0.8s						
SIUC	**Southern Illin**	**6.94**	**81**	Pn	**Pn**	**23 52 08.1**	**+2.0**
HICK	**Hickman**	**6.95**	**90**	Pn	**Pn**	**23 52 07.9**	**+1.6**
MLDN	**Muldoon**	**7.14**	**174**	Pn	**Pn**	**23 52 08.2**	**-0.7**
MLDN				IAmb_Lg		23 54 20.4	
	comp=Z,191nm,1.1s						
ANMO	**Albuquerque**	**7.24**	**257**	Pn	**Pn**	**23 52 09.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=321,slow=18,SNR=1.9						
ANMO				Lg	Lg	23 54 10.2	
	comp=Z,3.7nm,0.3s,baz=126,slow=22,SNR=11						
ANMO				LR	LR	23 55 08.6	
	comp=Z,60nm,20.5s,baz=235,slow=40						
ANMO	**Albuquerque**	**7.24**	**257**	P	Pb	23 52 23.2	-7.1
TPB04	**Verhalen**	**7.25**	**220**	P	**Pn**	**23 52 14.1**	**+3.5**
L40A	**Anamosa**	**7.27**	**43**	Pn	**Pn**	**23 52 10.9**	**+0.3**
L40A				IAmb_Lg		23 54 36.3	
	comp=Z,194nm,0.8s						
TPB16	**Coyonosa**	**7.30**	**219**	P	**Pn**	**23 52 13.1**	**+2.0**
TPB08	**Permian Basin**	**7.32**	**216**	P	**Pn**	**23 52 14.6**	**+3.2**
PECS	**Pecos**	**7.43**	**224**	Pn	**Pn**	**23 52 12.2**	**-0.7**
PECS	**Pecos**	**7.43**	**224**	P	**Pn**	**23 52 15.4**	**+2.5**
N23A	**Red Feather La**	**7.45**	**305**	IAmb_Lg		23 54 27.2	
	comp=Z,236nm,0.8s						
HNDO	**Hondo**	**7.45**	**190**	Pn	**Pn**	**23 52 12.8**	**-0.4**
HNDO				IAmb_Lg		23 54 30.1	
	comp=Z,218nm,1.0s						
HNDO	**Hondo**	**7.45**	**190**	P	**Pn**	**23 52 13.2**	**0.0**
TPB05	**Hovey Rd**	**7.50**	**219**	P	**Pn**	**23 52 15.6**	**+1.7**
SUSD	**Miller**	**7.57**	**354**	Pn	**Pn**	**23 52 15.4**	**+0.7**
SUSD				IAmb_Lg		23 54 28.7	
	comp=Z,156nm,0.8s						
TPB12	**Southwest of T**	**7.60**	**223**	P	**Pn**	**23 52 16.2**	**+0.9**
HDIL	**Hopedale**	**7.63**	**59**	Pn	**Pn**	**23 52 16.7**	**+1.2**
SAND	**Sanderson**	**7.79**	**208**	IAmb_Lg		23 54 37.1	
	comp=Z,177nm,0.9s						
DRIO	**Del Rio**	**7.81**	**198**	Pn	**Pn**	**23 52 17.7**	**-0.4**
DRIO				IAmb_Lg		23 54 38.6	
	comp=Z,122nm,0.9s						
Y22D	**IRIS PASSCAL I**	**7.91**	**252**	IAmb_Lg		23 54 52.0	
	comp=Z,254nm,0.9s						
LENM	**Lemitar**	**7.91**	**252**	Pn	**Pn**	**23 52 19.5**	**-0.1**
EF03	**Hobson**	**7.94**	**181**	P	**Pn**	**23 52 21.3**	**+1.5**
EF59	**Coughran**	**7.95**	**183**	P	**Pn**	**23 52 16.3**	**-3.7**
ALPN	**Alpine**	**8.10**	**218**	IAmb_Lg		23 54 54.1	
	comp=Z,174nm,1.3s						
MNTX	**Cornudas Mount**	**8.10**	**232**	P	**Pn**	**23 52 23.3**	**+1.2**
WVT	**Waverly**	**8.12**	**92**	Pn	**Pn**	**23 52 22.3**	**0.0**
L42A	**Oliver, Polo**	**8.13**	**49**	Pn	**Pn**	**23 52 22.6**	**+0.2**
L42A				IAmb_Lg		23 54 54.5	
	comp=Z,175nm,0.7s						
SBM	**South Baldy**	**8.14**	**252**	Pn	**Pn**	**23 52 22.1**	**-0.9**
PLAL	**Pickwick Lake**	**8.17**	**101**	Pn	**Pn**	**23 52 23.9**	**+0.9**
PLAL				IAmb_Lg		23 54 48.5	
	comp=Z,215nm,0.8s						
USIN	**University of**	**8.19**	**80**	Pn	**Pn**	**23 52 23.7**	**+0.5**
JFWS	**Jewell Farm**	**8.38**	**42**	Pn	**Pn**	**23 52 25.8**	**-0.1**
JFWS	**Jewell Farm**	**8.38**	**42**	IAmb_Lg		23 54 55.1	
	comp=Z,200nm,0.9s						
VHRN	**Van Horn**	**8.50**	**226**	Pn	**Pn**	**23 52 27.9**	**+0.2**
VHRN				IAmb_Lg		23 55 12.9	
	comp=Z,123nm,1.2s						
VHRN	**Van Horn**	**8.50**	**226**	P	**Pn**	**23 52 29.3**	**+1.6**
833A	**Chaparral WMA,**	**8.66**	**189**	IAmb_Lg		23 55 09.1	
	comp=Z,96nm,0.9s						
K22A	**Casper**	**8.79**	**313**	Pn	**Pn**	**23 52 31.9**	**+0.3**
K22A				IAmb_Lg		23 55 25.5	
	comp=Z,131nm,1.0s						
M44A	**Midewin, Midew**	**8.85**	**57**	Pn	**Pn**	**23 52 32.0**	**-0.2**
I40A	**Norwalk**	**8.90**	**36**	Pn	**Pn**	**23 52 34.0**	**+1.1**
I40A				IAmb_Lg		23 55 28.8	
	comp=Z,109nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.98**	**214**	Pn	**Pn**	**23 52 34.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**8.98**	**214**	P	**Pn**	**23 52 35.4**	**+1.2**
TXAR	**Lajitas Array**	**8.98**	**214**	Pn	**Pn**	**23 52 34.8**	**+0.5**
TXAR	**Lajitas Array**	**8.98**	**214**	Pn	**Pn**	**23 52 34.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=24,slow=11,SNR=42						
TXAR				Lg	Lg	23 55 05.2	
	comp=Z,4.0nm,0.3s,baz=43,slow=20,SNR=5.7						
TXAR				LR	LR	23 56 23.1	
	comp=Z,34nm,21.5s,baz=31,slow=40						
	comp=Z,2.8nm,0.6s						
F33A	**5 Mile Ranch,**	**9.00**	**7**	IAmb_Lg		23 55 07.8	
	comp=Z,99nm,1.0s						
SFIN	**Lafayette**	**9.11**	**64**	Pn	**Pn**	**23 52 36.1**	**+0.3**
SPMN	**Marine on St.**	**9.14**	**23**	Pn	**Pn**	**23 52 37.1**	**+0.8**
SPMN				IAmb_Lg		23 55 12.5	
	comp=Z,126nm,0.9s						
BLO	**Bloomington**	**9.23**	**72**	Pn	**Pn**	**23 52 38.2**	**+0.6**
WCI	**Wyandotte Cave**	**9.29**	**78**	Pn	**Pn**	**23 52 39.4**	**+1.1**
WCI	**Wyandotte Cave**	**9.29**	**78**	Pn	**Pn**	**23 52 39.1**	**+0.9**
K43A	**Burlington**	**9.34**	**49**	Pn	**Pn**	**23 52 39.7**	**+0.6**
I42A	**Draeger Farm,**	**9.76**	**42**	Pn	**Pn**	**23 52 44.7**	**0.0**
I42A				IAmb_Lg		23 55 54.6	
	comp=Z,180nm,1.2s						
E28A	**Huff**	**9.89**	**349**	IAmb_Lg		23 56 00.6	
	comp=Z,118nm,0.9s						
G40A	**Rib Lake**	**10.16**	**32**	Pn	**Pn**	**23 52 51.1**	**+0.9**
N47A	**Urbana**	**10.28**	**64**	Pn	**Pn**	**23 52 51.8**	**-0.1**
O48B	**Farmland**	**10.50**	**68**	Pn	**Pn**	**23 52 53.8**	**-1.1**
P49A	**Miami Univ. Ec**	**10.68**	**72**	Pn	**Pn**	**23 52 57.1**	**-0.2**
PD31	**Pinedale Array**	**10.72**	**307**	Pn	**Pn**	**23 52 59.2**	**+1.1**
PDAR	**Pinedale Array**	**10.72**	**307**	Pn	**Pn**	**23 52 58.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=121,slow=14,SNR=13						
PDAR				Lg	Lg	23 55 58.1	
	comp=Z,0.9nm,0.3s,baz=110,slow=33,SNR=1.3						
PDAR				LR	LR	23 57 55.1	
	comp=Z,47nm,18.2s,baz=66,slow=42						
CPCT	**Cooper Cave**	**10.89**	**94**	Pn	**Pn**	**23 53 00.8**	**+0.5**
N49A	**Columbus Grove**	**11.39**	**65**	Pn	**Pn**	**23 53 06.5**	**-0.6**
TKL	**Tuckaleechee C**	**11.45**	**92**	Pn	**Pn**	**23 53 08.8**	**+0.9**
TKL	**Tuckaleechee C**	**11.45**	**92**	Pn	**Pn**	**23 53 09.0**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=221,slow=5.1,SNR=12						
TKL				Sn	**Sn**	**23 55 15.0**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=156,slow=21,SNR=3.7						
TKL				Lg	Lg	23 56 21.9	
	comp=Z,4.5nm,0.3s,baz=184,slow=22,SNR=5.1						
	comp=Z,7.0nm,0.5s						
TZTN	**Tazewell**	**11.50**	**88**	Pn	**Pn**	**23 53 10.2**	**+1.6**
J47A	**Sunmer**	**11.82**	**54**	Pn	**Pn**	**23 53 14.0**	**+1.0**
KNB	**Kanab**	**11.96**	**275**	Pn	**Pn**	**23 53 13.4**	**-1.7**
EYMN	**Ely**	**11.99**	**21**	Pn	**Pn**	**23 53 13.4**	**-1.8**
FXWY	**Fox Creek**	**12.08**	**308**	Pn	**Pn**	**23 53 18.3**	**+1.5**
ACSO	**Alum Creek Sta**	**12.12**	**70**	Pn	**Pn**	**23 53 16.9**	**-0.1**
V53A	**Saluda**	**12.21**	**91**	Pn	**Pn**	**23 53 19.2**	**+0.8**
M50A	**Fremont**	**12.35**	**64**	Pn	**Pn**	**23 53 20.4**	**+0.2**
ULM	**Lac du Bonnet**	**13.41**	**6**	Pn	**Pn**	**23 53 31.1**	**-3.5**
ULM	**Lac du Bonnet**	**13.41**	**6**	Pn	**Pn**	**23 53 31.5**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=181,slow=12,SNR=8.6						
ULM				Sn	Sn	23 55 54.2	-9.4
	comp=Z,1.1nm,0.3s,baz=290,slow=18,SNR=5.5						
ULM				Lg	Lg	23 57 18.0	
	comp=Z,2.1nm,0.3s,baz=287,slow=16,SNR=5.3						
	comp=Z,2.6nm,0.5s						
V55A	**Taylorsville**	**13.46**	**90**	Pn	**Pn**	**23 53 34.1**	**-1.4**
Q54A	**Coxs Mills**	**13.61**	**76**	Pn	**Pn**	**23 53 35.6**	**-1.7**
M52A	**Chesterland**	**13.61**	**65**	Pn	**Pn**	**23 53 34.7**	**-2.6**
N53A	**Lisbon**	**13.83**	**68**	Pn	**Pn**	**23 53 37.9**	**-2.5**
E46A	**Sault Ste Mari**	**13.84**	**43**	Pn	**Pn**	**23 53 38.6**	**-1.9**
BLA	**Blacksburg**	**13.94**	**84**	Pn	**Pn**	**23 53 40.5**	**-1.5**
O54A	**Avella**	**14.07**	**71**	Pn	**Pn**	**23 53 43.9**	**+0.2**
R55A	**Marlinton**	**14.14**	**79**	Pn	**Pn**	**23 53 44.1**	**-0.7**
LYMT	**Lyon Mountain**	**14.68**	**318**	Pn	**Pn**	**23 53 52.1**	**-0.1**
GWY	**Greenwater Val**	**15.13**	**273**	Pn	**Pn**	**23 53 59.9**	**+1.6**
GWY				IAmb	IAmb	23 54 01.2	
	comp=Z,5.0nm,0.6s						
GSC	**Goldstone, Bar**	**15.39**	**270**	Pn	**Pn**	**23 54 02.1**	**+0.4**
SSPA

KAN08 IAML 23 57 41.4
comp=N,757nm,0.1s
KAN09 Caldwell North 0.35 43 Pg Pg 23 57 34.3 +0.7
KAN09 Sg Sg 23 57 38.7 +0.5
KAN09 IAML 23 57 41.1
comp=N,969nm,0.3s
KAN09 IAML 23 57 41.2
comp=E,1μm,0.3s
KAN13 South Haven SW 0.37 70 Pg Pg 23 57 34.7 +0.6
CROK Carrier 0.38 188 Pg Pg 23 57 34.3 0.0
KAN12 Harper NE Stat 0.42 351 Pg Pg 23 57 35.5 +0.6
KAN12 Sg Sg 23 57 41.4 +0.9
KAN12 IAML 23 57 48.4
comp=N,1μm,0.3s
BLOK Blackwell 0.58 102 Pg Pg 23 57 38.5 +0.6
BLOK Sg Sg 23 57 46.0 +0.6
BLOK IAML 23 57 48.8
comp=N,773nm,0.2s
BLOK IAML 23 57 50.0
comp=E,494nm,0.2s
OK038 West end E0370 0.78 239 Pg Pg 23 57 41.3 -0.4
OK038 IAML 23 57 55.7
comp=E,441nm,0.2s
NOKA Waynoka 0.85 253 Pg Pg 23 57 42.9 -0.3
NOKA Sg Sg 23 57 53.9 -0.4
NOKA IAML 23 57 54.9
comp=E,318nm,0.4s
NOKA IAML 23 58 09.5
comp=N,311nm,0.3s
OK029 Liberty Lake 1.15 161 Pg Pg 23 57 48.2 -0.7
OK029 IAML 23 58 08.6
comp=N,146nm,0.3s
ADOK Arcadia Dam 1.31 160 Pn 23 57 51.2 -0.3
CSTR Hydro, Custer 1.39 207 Pn 23 57 52.4 -0.2
ELIS Ellis County 1.46 236 Pn 23 57 53.5 -0.1
OKCSW OKLAHOMA CITY 1.53 165 Pn 23 57 54.6 +0.1
DEOK Depew 1.55 132 Pn 23 57 54.8 0.0
R32A Long Quarter, 1.66 338 Pb 23 57 57.4 -0.3
R32A IAmb_Lg 23 58 22.5
comp=Z,19nm,0.8s
FNO Franklin 1.68 165 Pn 23 57 56.9 +0.3
FNO IAmb_Lg 23 58 24.1
comp=Z,16nm,0.8s
WMOK Wichita Mounta 2.25 198 Pn Pn 23 58 04.3 -0.3
WMOK IAmb_Lg 23 58 42.6
comp=Z,12nm,0.7s
X34A Smith Ranch, M 2.28 178 Pn Pn 23 58 05.1 +0.2
HHAR Hobbs 3.26 99 Pn Pn 23 58 18.3 0.0

---

*NEIC **27** 00:06:38.5±2.3, 45°.86N×0°.04×107°.00W±0°.07, h0km±1km, ML2.7/16, Error ellipse: s-maj=10.1km s-min=4.3km az=132.0*
*IDC **27** 00:06:40.9±1.8, 45°.87N×106°.86W, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=62.2km s-min=10.0km az=133.0*
ISC 27 00:06:38.5±0.9, **45°.80N**±0°.05×**106°.75W**±0°.07, **h0km, n15, σ1§43/15, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	**0.97**	**22**	Pg	**Pg**	**00 06 57.5**	**+0.6**
RLMT	**Red Lodge**	**1.89**	**250**	Pg	**Pn**	**00 07 11.0**	**-1.2**
RSSD	**Black Hills**	**2.56**	**130**	Pn	**Pb**	**00 07 24.3**	**-1.0**
RSSD				IAML		00 08 08.3	
	29nm,0.6s						
RSSD				IAML		00 08 14.8	
	28nm,0.6s						
EGMT	**Eagleton**	**3.03**	**318**	Pn	**Pn**	**00 07 26.3**	**-1.5**
K22A	**Casper**	**3.15**	**177**	Pn	**Pb**	**00 07 33.9**	**-1.5**
K22A				IAML		00 09 30.7	
	comp=E,22nm,4.4s						
YHL	**Hebgen Lake**	**3.26**	**255**	Pn	**Pn**	**00 07 31.7**	**+0.5**
YHL				IAML		00 08 30.9	
	comp=N,22nm,1.4s						
BOZ	**Bozeman (W)**	**3.42**	**268**	Pn	**Pn**	**00 07 34.3**	**+1.1**
BOZ				IAML		00 08 33.8	
	comp=N,16nm,2.0s						
BOZ				IAML		00 09 03.3	
	comp=N,14nm,4.8s						
LOHW	**Long Hollow**	**3.51**	**233**	Pn	**Pn**	**00 07 34.9**	**+0.4**
LOHW				IAML		00 09 28.8	
	comp=N,14nm,5.0s						
LOHW				IAML		00 09 46.0	
	comp=N,20nm,4.2s						
PD31	**Pinedale Array**	**3.64**	**215**	Pn	**Pn**	**00 07 37.8**	**+1.5**
PDAR	**Pinedale Array**	**3.64**	**215**	Pn	**Pn**	**00 07 37.4**	**+1.1**
PDAR	**Pinedale Array**	**3.64**	**215**	Pn	**Pb**	**00 07 42.2**	**-1.5**
	comp=N,0.3nm,0.3s,baz=36,slow=12,SNR=14						
PDAR				Pg	**Pg**	**00 07 48.5**	**+0.3**
	comp=N,1.1nm,0.3s,baz=40,slow=19,SNR=23						
PDAR				Lg	Lg	00 08 35.7	
	comp=N,1.0nm,0.3s,baz=39,slow=31,SNR=6.6						
	comp=N,0.3nm,0.3s						
LYMT	**Lyon Mountain**	**4.01**	**289**	Pn	**Pn**	**00 07 41.5**	**+0.1**
BPMT	**Black Pine Rid**	**4.70**	**280**	Pn	**Pn**	**00 07 53.9**	**+3.1**
I10CA	**LAC DU BONNET**	**8.43**	**55**	I	I	00 56 50.0	
	baz=240,slow=307,SNR=2.5						
ULM	**Lac du Bonnet**	**8.54**	**55**	Pn	**Pn**	**00 08 43.8**	**+0.5**
	comp=N,0.3nm,0.3s,baz=246,slow=13,SNR=1.8						
ULM				Lg	Lg	00 11 07.2	
	comp=N,0.1nm,0.3s,baz=318,slow=20,SNR=4.5						
	comp=N,0.6nm,0.3s						

---

*NAO **27** 00:09:11.3, 35°.08N×24°.47E, h33km, mb3.5*
*IDC **27** 00:09:30.9±1.0, 37°.33N×20°.84E, h0km, mb3.8/10, mbtmp3.6/21, ML3.5/8, Error ellipse: s-maj=17.5km s-min=13.8km az=24.0*
*NEIC **27** 00:09:32.9±2.5, 37°.16N±0°.09×20°.71E±0°.06, h10km±2km, mb4.2/6, Error ellipse: s-maj=15.0km s-min=8.5km az=175.0*
*THE **27** 00:09:33.4, 37°.19N×20°.64E, h0km±1km, ML3.8/17, Error ellipse: s-maj=1.8km s-min=0.7km az=226.0*
*PDG **27** 00:09:34.1±0.4, 37°.19N×20°.61E, h18km±1km, ML3.8/9, Error ellipse: s-maj=0.8km s-min=1.9km az=0.0*
*ATH **27** 00:09:35.5, 37°.31N×20°.79E, h8km±4km, ML3.8/35, Manual Solution by M.Papanikolaou First location: 2019/02/27 00:09:58, This location: 2019/02/27 00:48:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 7 km*
ISC 27 00:09:31.5±0.6, **37°.17N**±0°.03×**20°.64E**±0°.03, **h6km, n182, σ1§78/223, mb3.9**/14, **2C-6D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.56**	**16**	P	**Pg**	**00 09 43.6**	**+1.3**
LTHK				S	**Sg**	**00 09 51.4**	**+1.9**
KYPS	**Kipseli, Zakin**	**0.66**	**13**	P	**Pg**	**00 09 46.0**	**+1.7**
KYPS				S	**Sg**	**00 09 52.4**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.68**	**4**	P	**Pg**	**00 09 46.0**	**+1.4**
ORTH				S	**Sg**	**00 09 54.2**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.81**	**28**	P	**Pg**	**00 09 47.5**	**+0.3**
ZARO	**Zacharo**	**0.86**	**68**	P	**Pb**	**00 09 50.3**	**+1.4**
RTZL	**Ratzakli, Kefa**	**0.91**	**6**	P	**Pg**	**00 09 49.9**	**+0.9**
RTZL				S	**Sb**	**00 10 02.8**	**+0.8**
LCHA	**Lechaina**	**0.91**	**33**	P	**Pg**	**00 09 50.1**	**+1.1**
AMT	**Artemida-Makis**	**0.92**	**67**	P	**Pb**	**00 09 50.8**	**+0.9**
MTHA	**Methoni**	**0.92**	**112**	P	**Pn**	**00 09 52.0**	**+1.0**
MTHA				S	**Sn**	**00 10 04.5**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.94**	**357**	P	**Pg**	**00 09 50.6**	**+1.0**
PSDA				S	**Sb**	**00 10 04.2**	**+1.2**
	11μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.94**	**357**	P	**Pg**	**00 09 50.5**	**+0.9**
PSDA				S	**Sg**	**00 10 03.2**	**+1.4**
VLS	**Valsamata**	**1.00**	**358**	P	**Pg**	**00 09 51.6**	**+0.8**
VLS				S	**Sb**	**00 10 05.8**	**+1.0**
	6μm,0.5s						
VLS	**Valsamata**	**1.00**	**358**	P	**Pg**	**00 09 51.4**	**+0.6**
ITM	**Ithomi**	**1.02**	**89**	Pg	**Pg**	**00 09 52.0**	**+0.8**
ITM	**Ithomi**	**1.02**	**89**	P	**Pb**	**00 09 52.3**	**+0.5**
ITM				S	**Sn**	**00 10 07.7**	**+0.5**
	4μm,0.4s						
ITM	**Ithomi**	**1.02**	**89**	P	**Pb**	**00 09 52.2**	**+0.5**
DMLN	**Damoulianata-K**	**1.08**	**349**	P	**Pg**	**00 09 52.9**	**+0.5**
DMLN				S	**Sn**	**00 10 10.1**	**+1.4**
	12μm,0.6s						
DMLN	**Damoulianata-K**	**1.08**	**349**	P	**Pg**	**00 09 53.4**	**+1.0**
RLS	**Riolos of Patr**	**1.10**	**36**	P	**Pg**	**00 09 53.0**	**+0.4**
RLS				S	**Sn**	**00 10 08.9**	**-0.1**
	3μm,0.5s						
RLS	**Riolos of Patr**	**1.10**	**36**	P	**Pg**	**00 09 53.1**	**+0.4**
DRO	**Drossia**	**1.15**	**47**	P	**Pg**	**00 09 54.2**	**+0.6**
DRO				S	**Sn**	**00 10 11.2**	**+0.9**
	8μm,0.4s						
DRO	**Drossia**	**1.15**	**47**	P	**Pg**	**00 09 54.1**	**+0.4**
AXS	**Araxos**	**1.18**	**29**	P	**Pg**	**00 09 54.2**	**+0.1**
FSK	**Fiskardo**	**1.28**	**357**	P	**Pn**	**00 09 56.3**	**+0.3**
FSK				S	**Sn**	**00 10 15.5**	**+1.9**
	6μm,0.2s						
FSK	**Fiskardo**	**1.28**	**357**	P	**Pn**	**00 09 56.4**	**+0.4**
FSK				S	**Sb**	**00 10 14.1**	**+1.2**
PATG	**Patra B**	**1.37**	**39**	P	**Pg**	**00 09 58.6**	**+0.8**
PATC	**Patra C**	**1.41**	**39**	P	**Pn**	**00 09 58.7**	**+1.0**
UPR	**University Cam**	**1.43**	**39**	P	**Pg**	**00 09 59.8**	**+0.8**
UPR				S	**Sg**	**00 10 20.8**	**+3.2**
EVGI	**Lefkada island**	**1.45**	**0**	P	**Pn**	**00 09 59.0**	**+0.7**
EVGI				S	**Sg**	**00 10 20.5**	**+2.5**
	3μm,0.2s						
EVGI	**Lefkada island**	**1.45**	**0**	P	**Pn**	**00 09 59.1**	**+0.9**
KLV	**Kalavryta, Ach**	**1.48**	**54**	P	**Pn**	**00 09 59.8**	**+1.0**
KLV				S	**Sg**	**00 10 21.1**	**+2.0**
	1μm,0.8s						
KLV	**Kalavryta, Ach**	**1.48**	**54**	P	**Pn**	**00 09 59.7**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.51**	**358**	P	**Pn**	**00 09 59.6**	**+0.5**
DRAG				S	**Sg**	**00 10 23.0**	**+3.0**
	908nm,0.4s						
DRAG	**Dragano-Lefkad**	**1.51**	**358**	P	**Pn**	**00 09 59.9**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.54**	**2**	P	**Pn**	**00 10 00.5**	**+1.0**
NYDR				S	**Sg**	**00 10 23.3**	**+2.3**
	2μm,0.5s						
GUR	**Goura**	**1.55**	**60**	P	**Pb**	**00 10 01.1**	**+0.4**
GUR				S	**Sg**	**00 10 23.6**	**+2.2**
	3μm,0.5s						
GUR	**Goura**	**1.55**	**60**	P	**Pn**	**00 10 00.8**	**+1.0**
ALIK	**Aliki, Aigiali**	**1.59**	**47**	P	**Pb**	**00 10 02.4**	**+1.1**
ALIK				S	**Sg**	**00 10 24.1**	**+1.4**
PVO	**Paravola**	**1.60**	**26**	P	**Pn**	**00 10 01.7**	**+1.3**
EFP	**Efpalio**	**1.60**	**38**	P	**Pn**	**00 10 01.5**	**+1.1**
EFP				S	**Sg**	**00 10 25.5**	**+2.5**
	1μm,0.5s						
EFP	**Efpalio**	**1.60**	**38**	P	**Pn**	**00 10 01.4**	**+1.1**
LKD2	**Lefkada island**	**1.61**	**0**	P	**Pn**	**00 10 02.0**	**+1.4**
LKD2				S	**Sg**	**00 10 25.7**	**+2.3**
	3μm,0.6s						
LKD2	**Lefkada island**	**1.61**	**0**	P	**Pn**	**00 10 02.4**	**+1.8**
TSLK	**Tsoukalades, L**	**1.65**	**0**	P	**Pn**	**00 10 02.5**	**+1.5**
TSLK	**Tsoukalades, L**	**1.65**	**0**	P	**Pb**	**00 10 03.1**	**+0.8**
KALE	**Kalithea**	**1.70**	**44**	P	**Pb**	**00 10 03.8**	**+0.6**
KALE				S	**Sg**	**00 10 26.9**	**+0.8**
	2μm,0.5s						
ANX	**Ano Chora**	**1.74**	**35**	P	**Pb**	**00 10 04.2**	**+0.2**
ANX				S	**Sg**	**00 10 28.3**	**+0.8**
	2μm,0.5s						
ANX	**Ano Chora**	**1.74**	**35**	P	**Pn**	**00 10 03.9**	**+1.5**
VLI	**Veliai**	**1.89**	**103**	P	**Pb**	**00 10 07.9**	**+1.4**
VLI				S	**Sg**	**00 10 33.4**	**+1.0**
	785nm,0.7s						
VLI	**Veliai**	**1.89**	**103**	P	**Pn**	**00 10 07.8**	**+1.4**
EVR	**Evrytania**	**1.97**	**28**	P	**Pb**	**00 10 08.7**	**+0.8**
KRND	**KRANIDI**	**2.01**	**83**	P	**Pn**	**00 10 07.9**	**+1.9**
KRND	**KRANIDI**	**2.01**	**83**	P	**Pn**	**00 10 08.0**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.18**	**32**	P	**Pb**	**00 10 11.5**	**+0.1**
MET5	**Makryloggos,Me**	**2.21**	**78**	P	**Pn**	**00 10 10.5**	**+1.7**
TETR	**Tetrakomo, Epi**	**2.22**	**13**	P	**Pn**	**00 10 11.6**	**+2.6**
MET4	**Agioi Theodoro**	**2.24**	**78**	P	**Pn**	**00 10 10.8**	**+1.7**
AXAR	**Agios Charalam**	**2.25**	**44**	P	**Pb**	**00 10 12.3**	**-0.3**
AXAR	**Agios Charalam**	**2.25**	**44**	P	**Pn**	**00 10 11.7**	**+2.3**
YDRA	**Hydra**	**2.26**	**85**	P	**Pn**	**00 10 10.6**	**+1.2**
VIL2	**Platees**	**2.33**	**63**	P	**Pn**	**00 10 11.8**	**+1.4**
VILL	**Villia**	**2.34**	**64**	P	**Pn**	**00 10 12.2**	**+1.6**
IGT	**Igoumenitsa**	**2.37**	**354**	P	**Pn**	**00 10 12.7**	**+1.8**
IGT	**Igoumenitsa**	**2.37**	**354**	P	**Pn**	**00 10 12.8**	**+1.8**
LKR	**Lokris**	**2.38**	**51**	P	**Pn**	**00 10 13.3**	**+2.3**
JAN	**Janina**	**2.48**	**4**	P	**Pn**	**00 10 15.3**	**+2.7**
JAN	**Janina**	**2.48**	**4**	P	**Pn**	**00 10 14.9**	**+2.3**
ANKY	**Antikythira Is**	**2.51**	**121**	P	**Pn**	**00 10 14.9**	**+2.1**
VLY	**Voula,Athens**	**2.60**	**74**	P	**Pn**	**00 10 15.4**	**+1.3**
VLY	**Voula,Athens**	**2.60**	**74**	P	**Pn**	**00 10 15.2**	**+1.2**
ATHU	**Athens Univers**	**2.62**	**71**	P	**Pn**	**00 10 15.7**	**+1.3**
THL	**Klokotos Trika**	**2.62**	**24**	P	**Pn**	**00 10 17.1**	**+2.7**
THL	**Klokotos Trika**	**2.62**	**24**	P	**Pn**	**00 10 16.8**	**+2.4**
KEK	**Kerkira**	**2.62**	**346**	Pn	**Pb**	**00 10 18.3**	**-0.7**
KEK	**Kerkira**	**2.62**	**346**	P	**Pn**	**00 10 17.3**	**+2.9**
KEK	**Kerkira**	**2.62**	**346**	P	**Pn**	**00 10 17.7**	**+3.3**
PTL	**Penteli**	**2.70**	**70**	P	**Pn**	**00 10 16.6**	**+1.0**
SRN	**Sarande**	**2.75**	**350**	P	**Pn**	**00 10 18.6**	**+2.5**
DION	**Dionisos Attik**	**2.76**	**70**	P	**Pn**	**00 10 17.9**	**+1.5**
DION	**Dionisos Attik**	**2.76**	**70**	P	**Pn**	**00 10 17.8**	**+1.4**
TYRN	**Tyrnavos**	**2.82**	**26**	P	**Pn**	**00 10 19.2**	**+2.0**
TYRN	**Tyrnavos**	**2.82**	**26**	P	**Pn**	**00 10 19.3**	**+2.0**
KPRO	**Kipourio**	**2.83**	**11**	P	**Pn**	**00 10 20.5**	**+3.1**
GINA	**Giannouli**	**2.84**	**28**	P	**Pn**	**00 10 19.8**	**+2.4**
LRSO	**Larissa Observ**	**2.85**	**28**	P	**Pn**	**00 10 19.7**	**+2.2**
LRSO	**Larissa Observ**	**2.85**	**28**	P	**Pn**	**00 10 19.6**	**+2.2**
XOR	**Xorichti**	**2.97**	**42**	P	**Pn**	**00 10 20.9**	**+1.7**
LSK	**Laskovik**	**2.97**	**359**	P	**Pn**	**00 10 21.8**	**+2.5**
PENT	**Pentalofos**	**3.04**	**7**	P	**Pn**	**00 10 23.9**	**+3.6**
MHLO	**Agia Marina, M**	**3.05**	**98**	P	**Pn**	**00 10 21.7**	**+1.4**
KYMI	**Kymi, Euboea I**	**3.10**	**61**	P	**Pn**	**00 10 22.4**	**+1.4**
KARY	**Karystos**	**3.13**	**73**	P	**Pn**	**00 10 22.3**	**+0.9**
AOS	**Alonnisos**	**3.24**	**51**	P	**Pn**	**00 10 24.4**	**+1.5**
KZN	**Kozani**	**3.25**	**15**	P	**Pn**	**00 10 26.1**	**+3.0**
NEST	**Nestorio**	**3.25**	**5**	P	**Pn**	**00 10 26.4**	**+3.2**
LIT	**Litokhoron**	**3.26**	**26**	Pn	**Pn**	**00 10 25.1**	**+1.8**
LIT	**Litokhoron**	**3.26**	**26**	P	**Pn**	**00 10 25.0**	**+1.8**
SCTE	**Santa Cesarea**	**3.36**	**330**	Pn	**Pn**	**00 10 26.7**	**+2.1**
KBN	**Korca**	**3.45**	**2**	Pn	**Pn**	**00 10 29.3**	**+3.4**
KBN	**Korca**	**3.45**	**2**	P	**Pn**	**00 10 29.2**	**+3.4**
PAIG	**Paliouri**	**3.64**	**40**	P	**Pn**	**00 10 29.4**	**+1.0**
TIP	**Timpagrande**	**3.66**	**304**	Pn	**Pn**	**00 10 30.4**	**+1.6**
PLG	**Polygyros**	**3.87**	**34**	P	**Pn**	**00 10 33.0**	**+1.3**
THE	**Thessaloniki**	**3.90**	**27**	P	**Pn**	**00 10 33.4**	**+1.4**
THR6	**Thira Island,**	**3.90**	**101**	P	**Pn**	**00 10 33.9**	**+1.9**
APE	**Apeiranthos**	**3.91**	**90**	P	**Pn**	**00 10 32.8**	**+0.6**
IDI	**Anoyia**	**3.92**	**117**	Pn	**Pn**	**00 10 34.8**	**+2.5**
IDI	**Anoyia**	**3.92**	**117**	P	**Pn**	**00 10 33.8**	**+1.5**
IDI	**Anoyia**	**3.92**	**117**	Pn	**Pn**	**00 10 31.6**	**-0.7**
	16nm,1.1s,baz=216,slow=6.6,SNR=9.6						
IDI				Pg	**Pb**	**00 10 41.4**	**+0.3**
	1.7nm,0.3s,baz=318,slow=12,SNR=2.4						
IDI				Sn	**Sn**	**00 11 18.4**	**-0.2**
	4.0nm,0.3s,baz=336,slow=20,SNR=2.2						
CEL	**Celeste**	**3.92**	**287**	Pn	**Pn**	**00 10 34.7**	**+2.4**
HORT	**Hortiatis**	**3.92**	**29**	P	**Pn**	**00 10 33.7**	**+1.4**
OHR	**Ohrid**	**3.93**	**2**	*i* Pn	**Pn**	**00 10 35.5**	**+3.0**
OHR				*i* Sn	**Sn**	**00 11 21.9**	**+2.9**
OUR	**Ouranopolis**	**4.09**	**39**	P	**Pn**	**00 10 36.0**	**+1.3**
SOH	**Sokhos**	**4.21**	**29**	P	**Pn**	**00 10 38.1**	**+1.8**
TIR	**Tirane**	**4.21**	**352**	Pn	**Pn**	**00 10 38.0**	**+1.7**
TIR	**Tirane**	**4.21**	**352**	P	**Pn**	**00 10 38.3**	**+2.0**
VAY	**Valandovo**	**4.40**	**19**	*i* Pn	**Pn**	**00 10 41.2**	**+2.3**
VAY				*i* Sn	**Sn**	**00 11 27.4**	**-3.0**
LIA	**Limnos Island**	**4.48**	**51**	P	**Pn**	**00 10 41.5**	**+1.6**
PHP	**Peshkopia**	**4.51**	**358**	P	**Pn**	**00 10 42.1**	**+1.7**
SRS	**Serrai**	**4.56**	**29**	P	**Pn**	**00 10 42.3**	**+1.3**
THAS	**Thassos island**	**4.67**	**42**	P	**Pn**	**00 10 43.2**	**+0.6**
CUC	**Castrocucco**	**4.71**	**308**	Pn	**Pn**	**00 10 46.7**	**+3.4**
NVR	**Nevrokopi**	**4.86**	**30**	P	**Pn**	**00 10 47.6**	**+2.4**
KAVA	**Kavala**	**4.86**	**37**	P	**Pn**	**00 10 45.2**	**0.0**
PUK	**Puka**	**4.90**	**353**	Pn	**Pn**	**00 10 47.3**	**+1.6**
ULC	**Ulcinj**	**4.90**	**348**	ǁ*i* Pn	**Pn**	**00 10 45.2**	**-0.6**
ULC				*i* Sn	**Sn**	**00 11 40.6**	**-2.3**
VAE	**Valguarnera**	**4.97**	**275**	Pn	**Pn**	**00 10 49.6**	**+2.7**
	7.6nm,0.3s,baz=90,slow=19,SNR=13						
VAE				Sn	**Sn**	**00 11 44.6**	**-0.1**
	11nm,0.3s,baz=317,slow=17,SNR=8.0						
RAFF	**Raffo Rosso**	**5.01**	**272**	Pn	**Pn**	**00 10 49.5**	**+2.1**
WDD	**Wied Dalam**	**5.11**	**257**	Pn	**Pn**	**00 10 50.6**	**+2.0**
DRME	**Dracevica, Mon**	**5.13**	**348**	ǁ*i* Pn	**Pn**	**00 10 49.9**	**+1.0**
DRME				*i* Sn	**Sn**	**00 11 45.9**	**-2.6**
BUM	**Brajici-Budva**	**5.29**	**346**	ǁ*i* Pn	**Pn**	**00 10 51.9**	**+0.7**
BUM				*i* Sn	**Sn**	**00 11 49.8**	**-2.8**
PDG	**Podgorica**	**5.36**	**349**	Pn	**Pn**	**00 10 53.7**	**+1.7**
PDG	**Podgorica**	**5.36**	**349**	*e*Pn	**Pn**	**00 10 53.3**	**+1.3**
PDG				*i* Sn	**Sn**	**00 11 51.7**	**-2.3**
PVY	**Plav**	**5.44**	**355**	ǁ*i* Pn	**Pn**	**00 10 54.3**	**+1.0**
PVY				*i* Sn	**Sn**	**00 11 54.5**	**-1.7**
RDO	**Rodhopi**	**5.50**	**42**	Pn	**Pn**	**00 10 54.3**	**+0.4**
RDO	**Rodhopi**	**5.50**	**42**	P	**Pn**	**00 10 54.3**	**+0.4**
HCY	**Herceg Novi**	**5.52**	**343**	ǁ*i* Pn	**Pn**	**00 10 54.9**	**+0.6**
HCY				*i* Sn	**Sn**	**00 11 55.5**	**-2.5**
CEME	**Cevo**	**5.53**	**347**	ǁ*i* Pn	**Pn**	**00 10 55.3**	**+0.9**
CEME				*i* Sn	**Sn**	**00 11 56.1**	**-2.2**
ALN	**Alexandroupoli**	**5.61**	**47**	Pn	**Pn**	**00 10 55.5**	**0.0**
IVA	**Berane**	**5.72**	**354**	ǁ*i* Pn	**Pn**	**00 10 57.6**	**+0.5**
IVA				*i* Sn	**Sn**	**00 12 00.4**	**-2.7**
SGRT	**San Giovanni R**	**5.94**	**322**	Pn	**Pn**	**00 11 00.7**	**+0.6**
PAOL	**Paolisi**	**6.09**	**311**	Pn	**Pn**	**00 11 05.0**	**+2.8**
PLE	**Pljevlja**	**6.22**	**352**	ǁ*i* Pn	**Pn**	**00 11 05.5**	**+1.5**
PLE				*i* Sn	**Sn**	**00 12 11.6**	**-3.9**
INTR	**Introdacqua**	**7.10**	**315**	Pn	**Pn**	**00 11 20.4**	**+4.4**
NRCA	**Norcia**	**8.08**	**317**	Pn	**Pn**	**00 11 31.9**	**+2.4**
FDMO	**Fiordimonte**	**8.23**	**318**	Pn	**Pn**	**00 11 34.5**	**+3.0**
MLR	**Muntele Rosu**	**9.21**	**24**	Pn	**Pn**	**00 11 42.9**	**-2.2**
	0.1nm,0.3s,baz=222,slow=16,SNR=1.5						
	0.7nm,0.5s						
KEST	**Kesra**	**9.21**	**264**	Pn	**Pn**	**00 11 48.1**	**+3.0**
	0.1nm,0.3s,baz=61,slow=19,SNR=2.7						
KEST				Sn	**Sn**	**00 13 29.7**	**+0.6**
	0.1nm,0.3s,baz=180,slow=2.0,SNR=1.5						
	3.3nm,0.9s						
SABO	**M.te Sabotino**	**10.25**	**331**	Pn	**Pn**	**00 11 58.9**	**-0.3**
SOKA	**Soboth**	**10.37**	**338**	*e*Pn	**Pn**	**00 12 02.6**	**+1.7**
	0.7nm,0.2s						
BRTR	**Keskin Array B**	**10.51**	**72**	Pn	**Pn**	**00 12 04.0**	**+1.2**
	baz=263,slow=13,SNR=2.0						
	0.5nm,0.8s						
KBA	**Koelnbreinsper**	**11.28**	**334**	*e*Pn	**Pn**	**00 12 15.5**	**+2.2**
	0.3nm,0.2s						
ABTA	**Abfaltersbach**	**11.31**	**330**	*e*Pn	**Pn**	**00 12 14.3**	**+0.5**
	0.9nm,0.5s						
MOA	**Molln**	**11.65**	**338**	*e*Pn	**Pn**	**00 12 19.1**	**+0.7**
	0.5nm,0.2s						
LESA	**Schwarzleotal**	**11.81**	**333**	*e*Pn	**Pn**	**00 12 21.4**	**+0.8**
	1.4nm,0.4s						
VRAC	**Vranov**	**12.48**	**348**	Pn	**Pn**	**00 12 29.6**	**-0.1**
	0.2nm,0.3s,baz=153,slow=4.5,SNR=3.0						
	0.8nm,0.5s						
DAVOX	**Davos/Dischmat**	**12.49**	**324**	Pn	**Pn**	**00 12 30.6**	**+0.7**
	0.5nm,0.6s,baz=150,slow=20						
DAVOX				Sn	**Sn**	**00 14 43.2**	**-6.2**
	0.1nm,0.3s,baz=300,slow=20,SNR=1.8						
MMAI	**Mount Meron Ar**	**12.78**	**105**	Pn	**Pn**	**00 12 33.1**	**-0.8**
	0.7nm,0.3s,baz=309,slow=12,SNR=4.1						
MMAI				Sn	**Sn**	00 14 43.9	-13
	0.2nm,0.3s,baz=294,slow=43,SNR=2.0						
	4.4nm,0.8s						
EIL	**Elat**	**14.09**	**118**	Pn	**Pn**	**00 12 50.3**	**-1.4**
	0.2nm,0.3s,baz=306,slow=2.8,SNR=2.1						
EIL				Sn	**Sn**	00 15 18.2	-10
	0.3nm,0.3s,baz=306,slow=18,SNR=1.1						
	2.6nm,0.6s						
ASF	**Jabal al Asfar**	**14.27**	**106**	Sn	**Sn**	**00 15 29.0**	**-3.9**
	0.2nm,0.3s,baz=319,slow=20,SNR=1.5						
AKASG	**Malin Array Be**	**14.85**	**22**	Pn	Pn	00 12 58.3	-3.7
	0.5nm,0.3s,baz=212,slow=11,SNR=1.9						
	0.3nm,0.3s						
PABE	**Paberze**	**18.48**	**6**	P	**P**	**00 13 47.3**	**-0.6**
PABE				IAmb	IAmb	00 13 48.3	
	comp=Z,41nm,1.3s						
ESDC	**Sonseca Array**	**19.43**	**285**	P	**P**	**00 13 58.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=93,slow=8.4,SNR=1.4						
	comp=Z,0.1nm,0.3s						
HFS	**Hagfors**	**23.41**	**351**	P	**P**	**00 14 38.8**	**-2.2**
	comp=Z,2.0nm,0.7s,baz=156,slow=9.8,SNR=7.6						
	comp=Z,2.0nm,0.7s						
BELG	**Belogornoye**	**24.27**	**43**	P	**P**	**00 14 48.8**	**-0.5**
	comp=Z,3.2nm,0.5s,baz=283,slow=18,SNR=2.2						
	comp=Z,3.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.31**	**326**	P	**P**	**00 14 49.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.3,SNR=5.3						
	comp=Z,0.5nm,0.6s						
NAO01	**NORSAR Array S**	**24.48**	**348**	P	**P**	**00 14 51.0**	**-0.2**
NAO01				IAmb	IAmb	00 15 31.4	
	comp=Z,20nm,1.3s						
FINES	**FINESS Array B**

APSI	Ampana	8.27 223	P	Pn	00 13 23.4 +2.5
NLAI	Namlea	8.36 181	P	Pn	00 13 23.1 +0.9
	2µm162nm,0.7s				
MSAI	Masohi	8.62 169	P	Pn	00 13 28.7 +3.0
	87nm,0.7s				
MYLDM	Lahad Datu	8.76 270	Pn	Pn	00 13 29.8 +2.2
AAI	Ambon	8.85 174	P	Pn	00 13 32.6 +3.8
	61nm,0.7s				
FAKI	Fak Fak	9.44 148	Pn	Pn	00 13 38.9 +2.0
FAKI	Fak Fak	9.44 148	P	Pn	00 13 39.5 +2.6
FAKI	Fak Fak	9.44 148	S	Sn	00 15 17.3 -4.0
FAKI	Fak Fak	9.44 148	P	Pn	00 13 39.6 +2.6
	1µm57nm,0.9s				
PCI	Palu	9.59 231	P	Pn	00 13 40.4 +1.5
	9µm164nm,0.8s				
KDI	Kendari	10.20 207	P	Pn	00 13 46.5 -0.8
	2µm114nm,0.6s				
BAKI	Biak	10.84 125	P	Pn	00 14 00.3 +4.4
	176nm,1.2s				
TGY	Tagaytay City	10.86 325	LR	LR	00 18 30.4
	comp=Z,267nm,21.2s,baz=212,slow=39				
KKM	Kota Kinabalu	11.06 275	Pn	Pn	00 13 59.2 +0.2
TTSI	Tana Toraja	11.06 223	P	Pn	00 14 00.4 +1.4
	86nm,0.8s				
SMKI	Samarinda	11.52 241	P	Pn	00 14 05.9 +0.8
BBSI	Bau Bau	11.59 204	P	Pn	00 14 07.5 +1.4
	54nm,0.8s				
SPSI	Sidrap Palu	11.79 220	P	Pn	00 14 08.9 +0.2
	4µm106nm,0.8s				
BKB	Balikpapan	12.20 239	Pn	Pn	00 14 15.4 +1.3
BKB	Balikpapan	12.20 239	P	Pn	00 14 14.4 +0.3
	284nm,1.5s				
KAPI	Kappang	12.62 217	Pn	Pn	00 14 19.2 -0.5
KAPI	Kappang	12.62 217	P	Pn	00 14 19.7 0.0
	49nm,0.7s,baz=22,slow=7.8,SNR=25				
KAPI			LR	LR	00 19 28.7
	comp=Z,163nm,19.8s,baz=42,slow=39				
BSSI	Bau Bau, Buton	13.13 211	P	Pn	00 14 27.8 +1.3
	900nm82nm,0.6s				
SMPI	Sarmi	13.44 122	P	Pn	00 14 33.9 +3.4
	66nm,1.1s				
MMRI	Maumere	14.62 200	P	Pn	00 14 47.4 +1.7
	74nm,0.8s				
GENI	Genyem	15.00 121	P	P	00 14 53.7 +0.1
	72nm,0.9s				
SOEI	Soe	15.13 192	Pn	Pn	00 14 53.0 +0.5
SOEI	Soe	15.13 192	P	Pn	00 14 54.1 +1.7
	950nm106nm,0.8s				
SBUM	Sibu	15.28 260	Pn	Pn	00 14 54.4 +0.2
JAY	Jayapura	15.42 119	P	Pn	00 14 55.8 -0.2
	13nm,0.9s,baz=322,slow=19,SNR=2.1				
BATI	Baumata	15.70 193	P	P	00 15 01.9 +0.5
	63nm,0.8s				
STKI	Sintang	16.59 253	P	P	00 15 12.2 +0.9
	62nm,0.9s				
WBSI	Waikabubak, Su	16.69 208	P	Pn	00 15 12.1 +0.3
	66nm,0.8s				
PLAI	Plampang	16.84 214	P	P	00 15 14.6 +0.6
PLAI	Plampang	16.84 214	P	Pn	00 15 14.2 +0.7
	66nm,0.8s				
TWSI	Taliwang, Sumb	17.29 217	P	Pn	00 15 20.7 +1.7
	61nm,0.8s				
KSM	Kuching	17.35 258	P	Pn	00 15 20.3 +0.6
SRBI	Singaraja	17.85 223	P	Pn	00 15 26.2 +0.4
MTN	Manton Dam	18.30 168	P	P	00 15 30.3 +0.2
JAGI	Jajag, Banyuwa	18.86 224	P	P	00 15 36.0 -0.2
JAGI	Jajag, Banyuwa	18.86 224	P	Pn	00 15 39.4 +1.6
JAGI	Jajag, Banyuwa	18.86 224	P	P	00 15 37.0 +0.8
YULB	Yu-li	19.01 343	P	P	00 15 37.3 -0.5
TPUB	Ta-pu	19.13 341	P	P	00 15 38.9 -0.3
GUMO	Guam	19.24 63	LR	LR	00 21 35.3
	comp=Z,46nm,21.1s,baz=174,slow=32				
YHNB	Yeheng	20.20 344	P	P	00 15 52.4 +1.6
KNRA	Kununurra	20.77 176	P	P	00 15 58.4 +1.5
JOW	Kunigami	21.56 2	P	P	00 16 05.3 0.0
JOW	Kunigami	21.56 2	P	P	00 16 04.8 -0.4
	5.7nm,0.5s,baz=152,slow=6.3,SNR=2.3				
JOW			S	S	00 19 59.9 +1.3
	7.4nm,1.0s,baz=262,slow=15,SNR=1.8				
JOW			LR	LR	00 26 50.6
	comp=Z,35nm,19.1s,baz=108,slow=43				
	5.7nm,0.5s				
LEM	Lembang	22.97 239	P	P	00 16 21.4 +1.2
	48nm,0.7s				
FITZ	Fitzroy Crossi	23.18 184	P	P	00 16 22.4 +0.4
MYKOM	Kota Tinggi	23.64 263	P	P	00 16 26.1 -0.1
UBPT	Khong Chiam	23.68 297	P	P	00 16 25.8 -0.8
COEN	Coen	24.69 141	P	P	00 16 34.4 -1.3
COEN	Coen	24.69 141	P	P	00 16 35.1 -0.6
MDSI	Maura Dua	25.00 248	P	P	00 16 39.6 +1.0
WB0	Warramunga Arr	25.75 164	P	P	00 16 44.6 -0.7
WRAB	Tennant Creek	25.90 165	P	P	00 16 45.8 -0.8
WRAB			IAmb	IAmb	00 16 50.6
	comp=Z,27nm,0.6s				
WRA	Warramunga Arr	25.90 165	P	P	00 16 45.0 -1.6
WRA	Warramunga Arr	25.90 165	P	P	00 16 45.8 -0.9
	comp=Z,25nm,0.8s,baz=341,slow=10,SNR=111				
WRA			ScP	ScP	00 23 43.9 -0.2
	comp=Z,0.8nm,0.7s,baz=334,slow=2.9,SNR=4.2				
	comp=Z,25nm,0.8s				
WB2	Warramunga Arr	25.91 165	P	P	00 16 46.2 -0.5
WB2			IAmb	IAmb	00 16 50.7
	comp=Z,29nm,0.8s				
WR0	Warramunga Arr	25.97 164	P	P	00 16 46.4 -0.9
WR0			IAmb	IAmb	00 16 52.3
	comp=Z,23nm,0.9s				
JCJ	Chichijima	26.02 31	P	P	00 16 41.8 -5.8
	comp=Z,50nm,0.4s,baz=288,slow=11,SNR=12				
IPM	Ipoh	26.18 270	P	P	00 16 49.1 -0.3
IPM			IAmb	IAmb	00 16 49.5
	comp=Z,18nm,0.7s				
KULM	Kulim	26.53 271	P	P	00 16 52.6 +0.2
MBWA	Marble Bar	27.20 196	P	P	00 16 58.5 +0.2
MBWA			IAmb	IAmb	00 17 34.4
	comp=Z,15nm,0.8s				
PSA00	Pilbara Seismi	27.57 195	P	P	00 17 01.8 +0.3
PSA00			IAmb	IAmb	00 17 03.3
	comp=Z,17nm,0.8s				
PSA00	Pilbara Seismi	27.57 195	P	P	00 17 02.3 +0.7
NJ2	Nanjing	27.88 345	eP	P	00 17 06.0 +1.7
NJ2			pmax	pmax	
	comp=Z,7.0nm,0.5s				
JNU	Nakatsue	28.01 6	P	P	00 17 05.9 +0.5
	comp=Z,4.3nm,0.8s,baz=209,slow=10,SNR=1.9				
	comp=Z,4.3nm,0.8s				
WHN	Wuhan	28.03 336	P	P	00 17 07.8 +2.2
QIS	Mount Isa	28.29 155	P	P	00 17 08.1 +0.1
PSI	Prapat	28.40 266	LR	LR	00 29 41.0
	comp=Z,61nm,19.2s,baz=78,slow=39				
RPSI	Rantau Prapat	28.41 266	P	P	00 17 08.9 -0.3
GYA	Guiyang	28.92 319	⇓P	P	00 17 15.0 +1.3
GYA			pmax	pmax	
	comp=Z,11nm,1.0s				
AS31	Alice Springs	29.38 168	P	P	00 17 17.3 -0.4
ASAR	Alice Springs	29.38 168	P	P	00 17 17.0 -0.7
ASAR	Alice Springs	29.38 168	P	P	00 17 16.9 -0.7
	comp=Z,2.8nm,0.6s,baz=355,slow=7.6,SNR=38				
ASAR			PcP	PcP	00 20 21.2 -0.5
	comp=Z,0.8nm,0.3s,baz=339,slow=2.4,SNR=2.9				
ASAR			ScP	ScP	00 23 52.9 -1.8
	comp=Z,0.2nm,0.3s,baz=340,slow=3.2,SNR=2.1				
ASAR			LR	LR	00 31 27.1
	comp=Z,23nm,18.6s,baz=268,slow=41				
	comp=Z,2.8nm,0.6s				
AS01	Alice Springs	29.39 167	P	P	00 17 17.9 +0.1
GSI	Gunungsitoli	29.91 264	P	P	00 17 21.0 -1.5
GSI	Gunungsitoli	29.91 264	P	P	00 17 20.8 -1.8
ENH	Enshi	30.08 328	P	P	00 17 23.1 -0.8
ENH	Enshi	30.08 328	P	P	00 17 24.7 +0.9
CMAR	Chiang Mai Arr	30.66 298	P	P	00 17 27.9 -1.2
CMAR	Chiang Mai Arr	30.66 298	P	P	00 17 28.9 -0.3
	comp=Z,4.5nm,0.7s,baz=113,slow=7.1,SNR=30				
CMAR			LR	LR	00 30 51.0
	comp=Z,54nm,18.1s,baz=90,slow=38				
	comp=Z,4.5nm,0.7s				
CHTO	Chiang Mai	30.80 299	P	P	00 17 28.1 -2.2
CHTO			IAmb	IAmb	00 17 30.8
	comp=Z,12nm,0.7s				
MLSI	Meulaboh, Aceh	30.80 270	P	P	00 17 28.2 -2.1
KSRS	Korea Array	32.13 1	LR	LR	00 34 34.9
	comp=Z,14nm,18.6s,baz=135,slow=43				
LYN	LuoYang	32.30 337	⇑/P	P	00 17 44.5 +1.3
LYN			pmax	pmax	
	comp=Z,29nm,0.9s				
PZH	PanZhiHua	32.33 314	P	P	00 17 43.3 -0.5
PZH			pmax	pmax	
	comp=Z,10.0nm,0.5s				
MEEK	Meekatharra	32.72 194	P	P	00 17 47.7 +0.6
XAN	Xi'an	33.40 332	⇑P	P	00 17 53.5 +0.5
XAN			pmax	pmax	
	comp=Z,47nm,0.7s				
XAN	Xi'an	33.40 332	P	P	00 17 53.2 +0.2
OOD	Oodnadatta	33.76 167	P	P	00 17 56.0 0.0
CD2	Chengdu	33.84 322	P	P	00 17 57.3 +0.5
CD2			pmax	pmax	
	comp=Z,20nm,0.9s				
HNS	HongShan	34.08 342	⇑P	P	00 17 59.5 +0.9
HNS			pmax	pmax	
	comp=Z,18nm,1.0s				
INKA	Innaminka	35.21 159	P	P	00 18 08.9 +0.4
MORW	Morawa	35.73 197	P	P	00 18 13.7 +0.7
FORT	Forrest	35.76 179	P	P	00 18 13.8 +0.6
BJI	Beijing	36.13 345	P	P	00 18 17.8 +1.6
BJI			pP	pwP	00 18 43.5 -0.7
BJI			pmax	pmax	
	comp=Z,7.0nm,0.8s				
BJI			pmax	pmax	
	comp=Z,51nm,4.6s				
KMBL	Kambalda	36.70 188	P	P	00 18 21.5 +0.2
LCRK	Leigh Creek	36.93 164	P	P	00 18 23.5 +0.3
BLDU	Ballidu	37.00 195	P	P	00 18 24.4 +0.6
LZH	Lanzhou	37.57 328	P	P	00 18 30.5 +1.8
LZH			sP	sP	00 19 08.5 +7.4
LZH			pmax	pmax	
	comp=Z,53nm,1.3s				
KLBR	Kellerberrin	37.68 193	P	P	00 18 30.3 +0.8
HHC	Hu-ho-hao-te	38.22 341	eP	P	00 18 37.8 +3.7
HHC			pmax	pmax	
	comp=Z,11nm,0.7s				
HHC			pmax	pmax	
	comp=Z,210nm,8.7s				
BRDH	Bariadhala	38.57 300	LR	LR	00 38 50.5
	comp=Z,69nm,18.1s,baz=176,slow=43				
NWAO	Narrogin (SRO)	39.08 193	P	P	00 18 41.8 +0.6
USRK	Ussuriysk Ar.	39.09 5	P	P	00 18 39.6 -1.5
	comp=Z,1.2nm,0.6s,baz=180,slow=6.9,SNR=2.0				
	comp=Z,1.2nm,0.6s				
STKA	Stephens Creek	39.28 161	P	P	00 18 42.7 -0.3
	comp=Z,16nm,0.7s,baz=336,slow=8.1,SNR=30				
	comp=Z,16nm,0.7s				
XLT	XiLinHaoTe	39.81 347	eP	P	00 18 51.3 +4.0
XLT			pP	pP	00 19 14.0 +5.3
XLT			pmax	pmax	
	comp=Z,7.0nm,0.8s				
XLT			LR	LR	
	comp=Z,15nm,14.7s				
XLT			LR	LR	
	comp=Z,130nm,12.2s				
XLT			LR	LR	
	comp=Z,120nm,11.3s				
ASAJ	Asahikawa	41.05 17	P	P	00 18 58.0 +0.6
	comp=Z,3.7nm,0.4s,baz=243,slow=2.3,SNR=2.4				
ASAJ			LR	LR	00 37 19.3
	comp=Z,33nm,19.3s,baz=142,slow=38				
	comp=Z,3.7nm,0.4s				
H11N1	WAKE ISLAND Hy	41.14 66	T	T	01 04 03.0
	baz=249,slow=74				
H11N2	WAKE ISLAND Hy	41.15 66	T	T	01 04 09.2
	baz=249				
H11N3	WAKE ISLAND Hy	41.16 66	T	T	01 03 51.3
	baz=249,slow=74				
LSA	Lhasa	41.93 310	P	P	00 19 06.0 +0.6
LSA			pmax	pmax	
	comp=Z,8.0nm,0.7s				
GTA	Gaotai	42.17 328	eP	P	00 19 08.8 +2.0
GTA			pmax	pmax	
	comp=Z,11nm,1.0s				
ARMA	Armidale	42.37 148	P	P	00 19 08.1 -0.4
GOMU	GeErMu	42.92 320	P	P	00 19 13.5 +0.3
GOMU			pmax	pmax	
	comp=Z,7.0nm,1.2s				
KLR	Kul'dur	44.06 4	P	P	00 19 21.9 +0.2
	comp=Z,1.4nm,0.5s,baz=224,slow=6.4,SNR=8.6				
	comp=Z,1.4nm,0.5s				
HEH	HeiHe	44.92 0	eP	P	00 19 29.3 +0.8
ULN	Ulaanbaatar	45.94 341	P	P	00 19 37.0 +0.2
SONM	Songino Array	46.12 341	P	P	00 19 38.2 0.0
	comp=Z,0.8nm,0.3s,baz=158,slow=8.4,SNR=10				
	comp=Z,0.8nm,0.3s				
WMQ	Urumqi	51.88 324	eP	P	00 20 23.5 +1.3
WMQ			pmax	pmax	
	comp=Z,16nm,0.7s				
PETK	Petropavlovsk-	53.89 22	P	P	00 20 37.2 +0.5
PETK	Petropavlovsk-	53.89 22	P	P	00 20 36.9 +0.2
	comp=Z,16nm,0.8s,baz=207,slow=6.7,SNR=19				
PETK			LR	LR	00 47 41.8
	comp=Z,19nm,18.4s,baz=294,slow=40				
	comp=Z,16nm,0.8s				
MKAR	Makanchi Array	56.71 324	P	P	00 20 56.5 -0.6
MKAR	Makanchi Array	56.71 324	P	P	00 20 57.8 +0.7
	comp=Z,5.3nm,0.6s,baz=116,slow=7.4,SNR=107				
MKAR			pP	pP	00 21 18.8 -1.2
	comp=Z,2.6nm,0.5s,baz=122,slow=9.8,SNR=4.2				
MKAR			LR	LR	00 46 02.9
	comp=Z,78nm,18.5s,baz=332,slow=37				
	comp=Z,5.3nm,0.6s				
YAK	Yakutsk	56.76 1	P	P	00 20 57.1 +0.1
MAKZ	Makanchi	56.90 324	P	P	00 20 58.2 -0.1
MAKZ			IAmb	IAmb	00 21 00.0
	comp=Z,7.9nm,0.9s				
MAKZ	Makanchi	56.90 324	P	P	00 20 58.8 +0.4
MAKZ			pP	pP	00 21 21.7 +0.4
KSH	Kashi	57.44 314	P	P	00 21 04.5 +2.0
KSH			pP	pP	00 21 27.8 +2.3
KSH			pmax	pmax	
	comp=Z,5.0nm,1.0s				
NIL	Nilore	57.50 307	P	P	00 21 02.5 -0.4
NIL	Nilore	57.50 307	P	P	00 21 03.0 +0.1
NIL			pP	pP	00 21 25.4 -0.8
TKM2	Tokmak 2	59.05 318	P	P	00 21 14.8 +1.0
	SNR=7.8				
KBK	Karagaybulak	59.38 317	P	P	00 21 17.4 +1.4
	SNR=5.2				
ZAA0	Zalesovo Array	59.57 332	P	P	00 21 15.8 -1.1
ZALV	Zalesovo Beam	59.57 332	P	P	00 21 15.8 -1.1
ZALV	Zalesovo Beam	59.57 332	P	P	00 21 16.2 -0.6
	comp=Z,2.0nm,0.4s,baz=114,slow=5.7,SNR=15				
ZALV			pP	pP	00 21 38.9 -1.0
	comp=Z,1.8nm,0.6s,baz=98,slow=4.5,SNR=2.1				
ZALV			LR	LR	00 50 58.1
	comp=Z,44nm,21.3s,baz=38,slow=40				
	comp=Z,2.0nm,0.4s				
AAK	Ala-Archa	59.68 317	P	P	00 21 17.2 -0.8
AAK	Ala-Archa	59.68 317	LR	LR	00 48 07.6
	comp=Z,66nm,18.4s,baz=57,slow=37				
AAK	Ala-Archa	59.68 317	P	P	00 21 19.0 +1.0
USP	Ospenovka	59.93 318	P	P	00 21 20.2 +0.6
	SNR=15				
AML	Almayashu	60.03 316	P	P	00 21 22.1 +1.4
	SNR=9.5				
EKS2	Erkin-Say	60.18 317	P	P	00 21 22.5 +1.1
	SNR=10				
ARSB	Arslanbob	60.23 315	IAmb	IAmb	00 21 23.1
	comp=Z,4.3nm,0.7s				
DRK	Karamyk	60.44 313	IAmb	IAmb	00 21 55.0
	comp=Z,7.1nm,0.6s				
KURK	Kurchatov	60.84 327	P	P	00 21 25.1 -0.4
KURK	Kurchatov	60.84 327	P	P	00 21 26.0 +0.5
KURBB	Kurchatov Arra	60.84 327	P	P	00 21 25.9 +0.3
	comp=Z,13nm,0.8s,baz=125,slow=6.0,SNR=93				
KURBB			pP	pP	00 21 46.7 -2.1
	comp=Z,5.0nm,0.7s,baz=126,slow=5.8,SNR=4.1				
	comp=Z,13nm,0.8s				
KBL	Kabul	61.11 307	P	P	00 21 27.5 -0.4
KBL			IAmb	IAmb	00 21 28.6
	comp=Z,8.1nm,0.8s				
CHGR	Chuyangaron	62.13 311	IAmb	IAmb	00 22 09.3
	comp=Z,8.2nm,0.7s				
KKAR	Karatay Array	62.57 316	P	P	00 21 37.0 -0.4
BFZ	Birch Farm	63.95 140	P	P	00 21 47.4 +1.0
TIXI	Tiksi	66.40 1	P	P	00 22 00.9 -0.8
TIXI			IAmb	IAmb	00 22 02.4
	comp=Z,6.5nm,0.6s				
TIXI	Tiksi	66.40 1	P	P	00 22 01.7 0.0
BVAR	Borovoye Array	66.43 326	P	P	00 22 02.6 +0.3
	comp=Z,8.6nm,0.7s,baz=128,slow=8.6,SNR=32				
BVAR			pP	pP	00 22 23.4 -2.5
	comp=Z,3.8nm,0.8s,baz=136,slow=7.2,SNR=3.1				
	comp=Z,8.6nm,0.7s				
BRVK	Borovoye	66.50 326	P	P	00 22 02.4 -0.3
BRVK			IAmb	IAmb	00 22 05.8
	comp=Z,11nm,0.8s				
BRVK	Borovoye	66.50 326	P	P	00 22 02.8 +0.1
BRVK			PcP	PcP	00 22 32.9 +1.3
NRIK	Noril'sk	69.17 346	IAmb	IAmb	00 23 21.1
	comp=Z,27nm,2.0s				
NRIK	Noril'sk	69.17 346	P	P	00 22 19.2 0.0
	comp=Z,2.5nm,0.7s,baz=148,slow=5.9,SNR=7.9				
	comp=Z,2.5nm,0.7s				
ABKAR	Akbulak array	71.40 320	P	P	00 22 32.5 -0.7
UNV	Unalaska Valle	71.92 35	P	P	00 22 36.6 +0.5
	baz=253				
AKTO	Aktyubinsk	72.89 321	P	P	00 22 41.8 -0.3
	comp=Z,6.0nm,0.7s,baz=96,slow=5.6,SNR=23				
	comp=Z,6.0nm,0.7s				
ARTI	Arti	74.11 327	P	P	00 22 47.6 -1.5
S12K	Black Hills	74.89 34	P	P	00 22 53.6 0.0
	baz=257				
K13K	Kusilvak Mount	75.22 27	P	P	00 22 56.0 +0.6
	baz=253				
M13K	Dall Lake	75.40 29	P	P	00 22 56.9 +0.5
	baz=254				
F14K	Arctic Creek	75.64 23	P	P	00 22 58.5 +0.8
	baz=250				
ANM	Nome	75.72 24	P	P	00 22 59.1 +0.9
	baz=252				
J14K	Nanvaranak Lak	75.95 26	P	P	00 23 00.4 +0.9
	baz=254				
L14K	Kuka Creek	75.96 28	P	P	00 23 00.4 +0.9
	baz=255				
N14K	Kuskokwak Cree	76.08 29	P	P	00 23 00.6 +0.4
	baz=256				
O14K	Tigyukauivet M	76.13 30	P	P	00 23 01.2 +0.7
	baz=256				
M14K	Bethel	76.15 29	P	P	00 23 01.6 +1.0
	baz=256				
F15K	North Star Dit	76.38 23	P	P	00 23 02.3 +0.4
	baz=252				
S14K	Fog Glacier	76.39 33	P	P	00 23 02.5 +0.2
	baz=259				
G15K	Niukluk	76.40 24	P	P	00 23 02.3 +0.3
	baz=253				
L15K	Ungalak Mounta	76.60 28	P	P	00 23 03.7 +0.5
	baz=256				
K15K	Wolf Creek Mou	76.74 27	P	P	00 23 04.8 +0.8
	baz=256				
M15K	Kasigluk River	76.75 29	P	P	00 23 04.6 +0.6
	baz=257				
N15K	Kwethluk River	76.92 29	P	P	00 23 05.9 +0.8
	baz=257				
C16K	Lisburne Hills	76.94 21	P	P	00 23 05.2 +0.2
	baz=251				
H16K	Elim	77.04 25	P	P	00 23 06.1 +0.5
	baz=254				
G16K	Koyuk River	77.20 24	P	P	00 23 07.1 +0.7
	baz=254				
J16K	Anvik River	77.39 26	P	P	00 23 08.4 +0.8
	baz=256				
I17K	Unalakleet	77.50 26	P	P	00 23 08.4 +0.3
	baz=256				
L16K	Owhat River	77.55 28	IAmb	IAmb	00 23 09.7
	comp=Z,17nm,0.9s				
L16K	Owhat River	77.55 28	P	P	00 23 09.3 +0.8
	baz=258				
D17K	Noatak River	77.57 21	P	P	00 23 09.4 +0.9
	baz=253				
M16K	Timber Creek	77.64 29	P	P	00 23 09.5 +0.4
	baz=258				
RDOG	Red Dog Mine	77.74 21	P	P	00 23 10.4 +0.9
	baz=253				
C17K	DeLong Mountai	77.77 21	P	P	00 23 10.1 +0.4
	baz=253				
O16K	Kokwok River B	77.79 30	P	P	00 23 10.1 +0.3
	baz=259				
E17K	Hotham Inlet	77.87 22	P	P	00 23 11.2 +1.0
	baz=254				
F17K	Baldwin Pennin	77.92 23	P	P	00 23 11.0 +0.6
	baz=255				
H17K	Granite Mounta	78.08 25	P	P	00 23 12.2 +0.8
	baz=256				
J17K	VABM Dome	78.09 26	P	P	00 23 12.3 +0.8
	baz=258				
L17K	Donlin	78.18 28	P	P	00 23 13.0 +1.0
	baz=259				
K17K	Iditarod	78.29 27	IAmb	IAmb	00 23 14.4
	comp=Z,20nm,0.9s				
K17K	Iditarod	78.29 27	P	P	00 23 13.8 +1.2
	baz=258				
O17K	Koliganek Bris	78.32 30	P	P	00 23 13.4 +0.6
	baz=260				
N17K	Nushagak Hills	78.40 29	P	P	00 23 14.1 +0.8
	baz=260				
E18K	Tukpahlearik C	78.41 22	IAmb	IAmb	00 23 14.6
	comp=Z,12nm,0.9s				
E18K	Tukpahlearik C	78.41 22	P	P	00 23 14.3 +1.1
	baz=255				
M17K	Holitna River	78.44 28	P	P	00 23 14.8 +1.3
	baz=260				
CHIR	Chirikof Islan	78.49 34	P	P	00 23 14.1 +0.3
	baz=262				
B18K	Kokolik River	78.50 20	P	P	00 23 14.6 +0.9
	baz=254				
C18K	Utukok River	78.52 21	P	P	00 23 13.8 0.0
	baz=255				
F18K	Selawik	78.58 23	P	P	00 23 14.0 0.0
	baz=256				
H18K	Honhosa River	78.77 25	P	P	00 23 15.8 +0.5
	baz=258				
G18K	Tagagawik	78.81 24	P	P	00 23 15.4 0.0
	baz=258				
L18K	Granite Mounta	78.94 28	P	P	00 23 16.7 +0.5
	baz=260				
A19K	Wainwright	78.98 19	P	P	00 23 16.9 +0.7
	baz=254				
N18K	Kilae Creek	79.06 29	P	P	00 23 17.7 +0.8
	baz=261				
J18K	Innoko River	79.14 26	P	P	00 23 17.9 +0.6
	baz=260				
M18K	Stony River	79.22 28	P	P	00 23 18.4 +0.7
	baz=261				
O18K	Koktuh Hills	79.27 30	P	P	00 23 17.7 -0.4
O18K			IAmb	IAmb	00 23 19.8
	comp=Z,23nm,0.9s				
O18K	Koktuh Hills	79.27 30	P	P	00 23 18.8 +0.7
	baz=262				
KIRV	Kirov	79.29 329	P	P	00 23 16.9 -1.2
	comp=Z,6.2nm,0.6s,baz=129,slow=6.4,SNR=2.7				
	comp=Z,6.2nm,0.6s				
F19K	Shaleruckik Mo	79.36 23	P	P	00 23 18.1 -0.2
	baz=258				
TTA	Tatalina	79.37 27	P	P	00 23 19.2 +0.6
	baz=260				
G19K	Purcell Mounta	79.49 24	IAmb	IAmb	00 23 20.9
	comp=Z,15nm,1.0s				
G19K	Purcell Mounta	79.49 24	P	P	00 23 19.6 +0.5
	baz=259				
D19K	Kuna River	79.58 21	P	P	00 23 19.6 0.0
	baz=258				
BELG	Belogornoye	79.62 322	P	P	00 23 19.0 -1.0
	comp=Z,11nm,0.8s,baz=110,slow=3.9,SNR=7.8				
	comp=Z,11nm,0.8s				
H19K	Roundabout Mou	79.63 24	IAmb	IAmb	00 23 22.0
	comp=Z,16nm,0.9s				
H19K	Roundabout Mou	79.63 24	P	P	00 23 20.8 +0.9
	baz=260				
E19K	Redstone River	79.69 22	IAmb	IAmb	00 23 24.0
	comp=Z,20nm,0.9s				
E19K	Redstone River	79.69 22	P	P	00 23 21.2 +1.0
	baz=258				
J19K	Poorman	79.71 26	IAmb	IAmb	00 23 22.4
	comp=Z,36nm,1.9s				
J19K	Poorman	79.71 26	P	P	00 23 21.0 +0.6
	baz=261				
N19K	Bonanza Creek	79.76 29	P	P	00 23 21.2 +0.4
	baz=262				
L19K	White Mountain	79.78 28	P	P	00 23 21.2 +0.4
	baz=262				
OHAK	Old Harbor	79.94 33	P	P	00 23 21.3 -0.4
OHAK	Old Harbor	79.94 33	P	P	00 23 21.7 +0.1
	baz=264				
M19K	Big River Lodg	79.95 28	P	P	00 23 22.4 +0.6
	baz=262				
D20K	Etivluk River	80.16 21	P	P	00 23 23.6 +0.9
	baz=259				
F20K	Avaraart Lake	80.19 23	P	P	00 23 23.5 +0.7
	baz=260				
E20K	Nigu River	80.23 22	P	P	00 23 24.1 +0.9
	baz=259				
B20K	Meade River	80.23 20	IAmb	IAmb	00 23 24.4

	comp=Z,11nm,0.9s						
B20K	Meade River	80.23	20	P	P	00 23 24.1	+1.1
	baz=258						
P19K	Oil Pt	80.24	30	P	P	00 23 24.8	+1.5
	baz=264						
H20K	Anotleneega Mo	80.27	24	P	P	00 23 24.4	+1.0
	baz=261						
L20K	Farewell, AK	80.27	28	P	P	00 23 24.7	+1.3
	baz=262						
K20K	Telida	80.30	27	IAmb	IAmb	00 23 24.8	
	comp=Z,15nm,1.2s						
K20K	Telida	80.30	27	P	P	00 23 24.8	+1.2
	baz=262						
I20K	Naaghedeneel	80.33	25	P	P	00 23 24.8	+1.2
	baz=262						
KDAK	Kodiak Island	80.38	32	P	P	00 23 24.0	0.0
KDAK				IAmb	IAmb	00 23 24.8	
	comp=Z,21nm,0.9s						
KDAK	Kodiak Island	80.38	32	P	P	00 23 24.0	0.0
	comp=Z,7.1nm,0.4s,baz=226,slow=0.7,SNR=35						
	comp=Z,7.1nm,0.4s						
KDAK	Kodiak Island	80.38	32	P	P	00 23 24.2	+0.1
	baz=264						
J20K	Nowinta River	80.38	26	P	P	00 23 24.7	+0.7
	baz=262						
RAYN	Ar Rayn	80.44	293	P	P	00 23 25.3	+0.1
RAYN				IAmb	IAmb	00 23 26.3	
	comp=Z,13nm,0.8s						
M20K	Styx River	80.54	28	IAmb	IAmb	00 23 26.5	
	comp=Z,18nm,0.9s						
M20K	Styx River	80.54	28	P	P	00 23 26.1	+1.1
	baz=263						
Q20K	Shuyak Island	80.56	32	P	P	00 23 24.9	-0.1
	baz=264						
O20K	Slope Mountain	80.59	30	P	P	00 23 25.5	+0.3
	baz=264						
C21K	Knifeblade Rid	80.89	21	P	P	00 23 27.7	+1.1
	baz=260						
SPCR	Spurr Chakacha	80.91	29	P	P	00 23 27.6	+0.6
	baz=264						
G21K	Allakaket	80.97	23	IAmb	IAmb	00 23 28.5	
	comp=Z,13nm,0.9s						
G21K	Allakaket	80.97	23	P	P	00 23 27.8	+0.7
	baz=262						
B21K	Ikpikpuk River	81.03	20	IAmb	IAmb	00 23 28.8	
	comp=Z,17nm,0.8s						
B21K	Ikpikpuk River	81.03	20	P	P	00 23 28.2	+0.9
	baz=261						
E21K	Killik River	81.07	22	IAmb	IAmb	00 23 28.9	
	comp=Z,16nm,0.9s						
E21K	Killik River	81.07	22	P	P	00 23 28.4	+0.8
	baz=261						
F21K	Alatna River	81.08	23	P	P	00 23 27.9	+0.2
	baz=262						
PPLA	Purkeypile	81.09	27	P	P	00 23 28.0	0.0
	baz=264						
CHUM	Lake Minchumin	81.14	26	P	P	00 23 28.7	+0.7
	baz=264						
H21K	Melozitna Rive	81.14	24	IAmb	IAmb	00 23 29.6	
	comp=Z,14nm,1.0s						
H21K	Melozitna Rive	81.14	24	P	P	00 23 28.5	+0.4
	baz=263						
CAST	Castle Rocks	81.20	27	P	P	00 23 27.2	-1.2
CAST				IAmb	IAmb	00 23 29.4	
	comp=Z,13nm,0.9s						
CAST	Castle Rocks	81.20	27	P	P	00 23 28.6	+0.3
	baz=264						
SKT	Skwentna	81.31	28	IAmb	IAmb	00 23 29.4	
	comp=Z,9.5nm,0.8s						
SKT	Skwentna	81.31	28	P	P	00 23 28.6	-0.4
	baz=265,SNR=6.6						
BRLK	Bradley Lake	81.43	30	IAmb	IAmb	00 23 32.2	
	comp=Z,17nm,0.9s						
I21K	Tanana	81.43	25	IAmb	IAmb	00 23 31.6	
	comp=Z,18nm,0.9s						
I21K	Tanana	81.43	25	P	P	00 23 30.3	+0.8
	baz=264						
BRSE	Bradley Lake S	81.50	30	P	P	00 23 30.0	0.0
	baz=266						
B22K	Teshekpuk Lake	81.55	20	IAmb	IAmb	00 23 31.3	
	comp=Z,16nm,0.9s						
B22K	Teshekpuk Lake	81.55	20	P	P	00 23 30.7	+0.7
	baz=262						
D22K	Ayikyak River	81.60	21	P	P	00 23 31.3	+0.9
	baz=263						
KTH	Kantishna Hill	81.73	27	IAmb	IAmb	00 23 33.1	
	comp=Z,16nm,1.2s						
BPAW	Bear Paw Mtn.	81.75	26	IAmb	IAmb	00 23 32.8	
	comp=Z,22nm,1.0s						
BPAW	Bear Paw Mtn.	81.75	26	P	P	00 23 31.7	+0.5
	baz=265,SNR=11						
H22K	Ishtalitna Cre	81.76	24	P	P	00 23 32.5	+1.2
	baz=264,SNR=9.5						
G22K	Bettles	81.81	23	P	P	00 23 32.2	+0.7
	baz=264						
SLKM	Skilak Lake	81.82	30	IAmb	IAmb	00 23 32.6	
	comp=Z,17nm,0.8s						
E22K	Anaktuvuk Pass	81.83	22	P	P	00 23 31.6	0.0
E22K				IAmb	IAmb	00 23 33.6	
	comp=Z,15nm,0.8s						
E22K	Anaktuvuk Pass	81.83	22	P	P	00 23 32.6	+1.0
	baz=264,SNR=12						
M22K	Willow	81.95	28	P	P	00 23 32.0	-0.3
	baz=266						
TRF	Thorofare Moun	82.00	27	IAmb	IAmb	00 23 33.3	
	comp=Z,16nm,1.0s						
TRF	Thorofare Moun	82.00	27	P	P	00 23 32.4	-0.4
	baz=266,SNR=5.7						
O22K	Cooper Landing	82.06	30	IAmb	IAmb	00 23 40.9	
	comp=Z,20nm,0.8s						
O22K	Cooper Landing	82.06	30	P	P	00 23 32.7	-0.2
	baz=266						
RC01	Rabbit Creek A	82.09	29	IAmb	IAmb	00 23 33.5	
	comp=Z,8.5nm,0.6s						
RC01	Rabbit Creek A	82.09	29	P	P	00 23 32.6	-0.4
	baz=266,SNR=6.8						
SEW	Seward	82.17	30	IAmb	IAmb	00 23 34.7	
	comp=Z,10.0nm,0.8s						
SEW	Seward	82.17	30	P	P	00 23 33.3	-0.2
	baz=267						
D23K	Nanushuk River	82.33	21	IAmb	IAmb	00 23 36.2	
	comp=Z,12nm,0.9s						
D23K	Nanushuk River	82.33	21	P	P	00 23 35.3	+1.2
	baz=264						
COLD	Coldfoot	82.35	23	P	P	00 23 34.5	+0.2
COLD				IAmb	IAmb	00 23 36.0	
	comp=Z,9.5nm,0.8s						
COLD	Coldfoot	82.35	23	P	P	00 23 35.2	+0.9
	baz=265,SNR=7.3						
G23K	Bananza Creek	82.38	23	IAmb	IAmb	00 23 36.3	
	comp=Z,9.0nm,0.8s						
G23K	Bananza Creek	82.38	23	P	P	00 23 35.3	+0.8
	baz=265						
KBZ	Khabaz	82.40	313	P	P	00 23 35.4	+0.4
	comp=Z,1.6nm,0.7s,baz=295,slow=0.8,SNR=4.1						
	comp=Z,1.6nm,0.7s						
PMR	Palmer	82.42	29	P	P	00 23 34.1	-0.6
	baz=267						
C23K	Itkillik River	82.44	20	IAmb	IAmb	00 23 36.2	
	comp=Z,17nm,0.8s						
C23K	Itkillik River	82.44	20	P	P	00 23 35.1	+0.4
	baz=264						
I23K	Minto, Yukon-K	82.53	25	P	P	00 23 35.8	+0.6
I23K				IAmb	IAmb	00 23 36.7	
	comp=Z,23nm,1.1s						
I23K	Minto, Yukon-K	82.53	25	P	P	00 23 36.0	+0.8
	baz=266,SNR=12						
NEA2	Nenana	82.62	26	IAmb	IAmb	00 23 37.4	
	comp=Z,16nm,0.9s						
NEA2	Nenana	82.62	26	P	P	00 23 35.9	+0.1
	baz=266,SNR=12						
MCK	McKinley	82.63	26	P	P	00 23 35.6	-0.2
	baz=267,SNR=10						
E23K	Chandalar	82.64	22	IAmb	IAmb	00 23 38.5	
	comp=Z,20nm,0.9s						
E23K	Chandalar	82.64	22	P	P	00 23 36.9	+1.0
	baz=266						
RND	Reindeer	82.64	27	P	P	00 23 34.9	-1.1
RND				IAmb	IAmb	00 23 36.1	
	comp=Z,18nm,1.1s						
TOLK	Toolik Lake Re	82.70	22	IAmb	IAmb	00 23 37.9	
	comp=Z,11nm,0.9s						
TOLK	Toolik Lake Re	82.70	22	P	P	00 23 36.9	+0.7
	baz=266,SNR=11						
KNK	Knik Glacier	82.73	29	P	P	00 23 36.6	+0.2
	baz=267,SNR=7.1						
PWL	Port Wells	82.76	29	P	P	00 23 36.6	0.0
	baz=268,SNR=9.0						
SML	Sawmill	82.81	28	P	P	00 23 36.4	-0.4
SML	Sawmill	82.81	28	P	P	00 23 36.9	0.0
	baz=268,SNR=11						
D24K	Happy Valley	83.01	21	IAmb	IAmb	00 23 39.5	
	comp=Z,17nm,0.9s						
D24K	Happy Valley	83.01	21	P	P	00 23 38.7	+1.0
	baz=266						
WRH	Wood River Hil	83.04	26	IAmb	IAmb	00 23 38.7	
	comp=Z,17nm,1.2s						
E24K	Your Creek	83.07	22	IAmb	IAmb	00 23 40.3	
	comp=Z,13nm,1.2s						
E24K	Your Creek	83.07	22	P	P	00 23 39.1	+1.0
	baz=267,SNR=8.3						
C24K	Franklin Bluff	83.09	20	IAmb	IAmb	00 23 39.5	
	comp=Z,16nm,1.0s						
C24K	Franklin Bluff	83.09	20	P	P	00 23 38.8	+0.7
	baz=266						
M23K	Glacier View	83.09	28	P	P	00 23 38.3	0.0
	baz=268,SNR=7.9						
GURO	Guroymak-BITLI	83.10	308	IAmb	IAmb	00 23 41.1	
	comp=Z,8.5nm,0.8s						
CCB	Clear Creek Bu	83.17	26	IAmb	IAmb	00 23 38.6	
	comp=Z,11nm,1.0s						
H24K	Noodor Dome	83.19	24	IAmb	IAmb	00 23 41.2	
	comp=Z,11nm,0.8s						
H24K	Noodor Dome	83.19	24	P	P	00 23 39.6	+0.9
	baz=267						
P23K	Montague Islan	83.20	30	P	P	00 23 39.3	+0.5
	baz=268						
F24K	Squaw Lake	83.26	23	IAmb	IAmb	00 23 41.0	
	comp=Z,14nm,1.0s						
F24K	Squaw Lake	83.26	23	P	P	00 23 40.2	+1.1
	baz=267						
SCM	Sheep Creek Mo	83.28	28	P	P	00 23 39.7	+0.3
	baz=268,SNR=9.5						
POKR	Poker Plat Res	83.34	25	IAmb	IAmb	00 23 41.1	
	comp=Z,10.0nm,0.9s						
POKR	Poker Plat Res	83.34	25	P	P	00 23 40.7	+1.2
	baz=268,SNR=6.6						
GLI	Glacier Island	83.37	29	IAmb	IAmb	00 23 40.4	
	comp=Z,16nm,0.9s						
GLI	Glacier Island	83.37	29	P	P	00 23 39.9	+0.2
	baz=269						
G24K	Hadweenzic Riv	83.39	24	P	P	00 23 40.6	+0.9
	baz=268						
HDA	Harding Lake	83.53	26	IAmb	IAmb	00 23 40.1	
	comp=Z,11nm,0.8s						
HDA	Harding Lake	83.53	26	P	P	00 23 39.5	-0.9
	baz=268,SNR=7.4						
ILAR	Eielson Array	83.56	25	P	P	00 23 38.7	-1.9
ILAR	Eielson Array	83.56	25	P	P	00 23 39.0	-1.6
	comp=Z,4.0nm,0.7s,baz=240,slow=5.0,SNR=38						
	comp=Z,4.0nm,0.7s						
M24K	Tolsona, Glenn	83.83	28	P	P	00 23 42.9	+0.8
	baz=269,SNR=9.5						
D25K	Kavik River	83.89	21	P	P	00 23 43.1	+0.8
	baz=268						
G25K	Bearman Lake	83.94	23	P	P	00 23 43.6	+1.2
	baz=269						
KLU	Klutina	83.95	29	P	P	00 23 42.8	+0.1
KLU				IAmb	IAmb	00 23 43.7	
	comp=Z,15nm,0.9s						
KLU	Klutina	83.95	29	P	P	00 23 42.9	+0.1
	baz=270,SNR=8.3						
EYAK	Cordova Ski Ar	84.03	30	P	P	00 23 42.0	-1.1
	baz=270						
K24K	Donnelly Dome	84.03	26	P	P	00 23 42.5	-0.5
	baz=270						
H25L	Birch Creek	84.04	24	P	P	00 23 43.8	+0.9
	baz=269						
MARD	Mardin	84.13	307	IAmb	IAmb	00 23 48.0	
	comp=Z,7.5nm,0.7s						
F25K	Christian Rive	84.13	23	IAmb	IAmb	00 23 45.5	
	comp=Z,8.7nm,0.9s						
F25K	Christian Rive	84.13	23	P	P	00 23 44.5	+1.0
	baz=269						
PRP	Porcupine Dome	84.15	25	P	P	00 23 42.9	-0.9
	baz=270						
E25K	Arctic Village	84.16	22	P	P	00 23 44.9	+1.3
	baz=269,SNR=16						
PAX	Paxson	84.17	27	IAmb	IAmb	00 23 44.7	
	comp=Z,8.8nm,1.0s						
PAX	Paxson	84.17	27	P	P	00 23 43.7	-0.2
	baz=270,SNR=6.5						
J25K	Salcha River,	84.22	26	P	P	00 23 43.2	-0.8
	baz=270						
HARP	HAARP	84.31	28	P	P	00 23 45.3	+0.8
	baz=270						
C26K	Camden Bay	84.42	20	P	P	00 23 46.4	+1.6
	baz=270						
RIDG	Independent Ri	84.45	27	IAmb	IAmb	00 23 45.7	
	comp=Z,15nm,1.0s						
RIDG	Independent Ri	84.45	27	P	P	00 23 45.0	-0.2
	baz=270,SNR=6.6						
BMAR	Burnt Mountain	84.53	23	P	P	00 23 46.1	+0.6
N25K	Chitina, Valde	84.58	29	P	P	00 23 45.6	-0.3
N25K	Chitina, Valde	84.58	29	P	P	00 23 46.3	+0.4
	baz=271,SNR=7.8						
BMRM	Bremner River	84.59	29	P	P	00 23 46.5	+0.5
	baz=271,SNR=9.3						
KAIM	Kayak Island	84.70	30	P	P	00 23 47.1	+0.7
	baz=271						
F26K	Sheenjek River	84.70	23	P	P	00 23 47.1	+0.8
	baz=271						
SCRK	Sand Creek	84.82	26	P	P	00 23 47.7	+0.6
	baz=271						
C27K	Jago River	84.83	21	IAmb	IAmb	00 23 48.8	
	comp=Z,11nm,0.9s						
C27K	Jago River	84.83	21	P	P	00 23 48.1	+1.2
	baz=271						
G26K	Porcupine Rive	84.85	23	P	P	00 23 48.2	+1.2
	baz=271						
J26L	Joseph Creek	85.00	26	P	P	00 23 48.4	+0.4
	baz=272,SNR=6.0						
L26K	Log Cabin Wild	85.13	27	P	P	00 23 49.5	+0.9
	baz=272						
VRDI	Verde Repeater	85.14	29	IAmb	IAmb	00 23 49.8	
	comp=Z,9.7nm,0.8s						
I26K	Coal Creek Min	85.15	25	IAmb	IAmb	00 23 49.1	
	comp=Z,12nm,1.1s						
I26K	Coal Creek Min	85.15	25	P	P	00 23 49.0	+0.4
	baz=272						
BGLC	Bering Glacier	85.26	30	P	P	00 23 49.4	+0.2
	baz=272						
M26K	Nabesna, AK	85.32	28	P	P	00 23 50.3	+0.7
	baz=272						
G27K	Doyon Strip	85.70	23	P	P	00 23 52.5	+1.2
	baz=273						
I27K	Kandik River	85.78	25	P	P	00 23 52.6	+0.8
	baz=273						
H27K	Steamboat Moun	85.78	24	P	P	00 23 52.5	+0.7
	baz=273						
D27M	Malcolm River	85.82	21	P	P	00 23 52.8	+0.8
	baz=274						
L27K	Beaver Creek,	85.83	27	P	P	00 23 51.4	-0.7
L27K	Beaver Creek,	85.83	27	P	P	00 23 52.8	+0.7
	baz=273						
M27K	Edge Creek, AK	85.84	28	P	P	00 23 53.0	+0.7
	baz=273						
F28M	Old Crow	86.34	23	IAmb	IAmb	00 23 55.9	
	comp=Z,6.6nm,0.8s						
F28M	Old Crow	86.34	23	P	P	00 23 55.0	+0.5
	baz=275						
E28M	Babbage River	86.38	22	P	P	00 23 55.2	+0.5
	baz=275						
I28M	Miner Creek	86.49	25	IAmb	IAmb	00 23 57.3	
	comp=Z,9.0nm,0.7s						
I28M	Miner Creek	86.49	25	P	P	00 23 56.0	+0.7
	baz=275						
D28M	Stokes Point	86.60	21	P	P	00 23 56.6	+0.9
	baz=276						
O28M	Mount Upton	86.75	29	P	P	00 23 57.5	+0.5
	baz=275						
DAWY	Dawson	86.84	26	IAmb	IAmb	00 25 22.0	
	comp=Z,22nm,2.0s						
DAWY	Dawson	86.84	26	P	P	00 23 56.8	-0.2
	baz=275						
YUK8	Steele Glacier	86.92	29	P	P	00 23 57.9	+0.2
	baz=275						
E29M	Blow River	87.00	22	P	P	00 23 57.8	+0.2
	baz=276						
H29M	Whitestone	87.06	24	P	P	00 23 58.4	+0.5
	baz=276						
G29M	Pine Creek	87.12	23	IAmb	IAmb	00 24 00.1	
	comp=Z,9.5nm,0.8s						
G29M	Pine Creek	87.12	23	P	P	00 23 59.0	+0.7
	baz=276						
I29M	Ogilvie Camp,	87.17	25	P	P	00 23 58.3	-0.3
	baz=276						
M29M	Somme Creek	87.42	28	P	P	00 23 59.9	0.0
	baz=276						
L29M	L29M	87.50	27	P	P	00 23 59.9	-0.4
L29M	L29M	87.50	27	P	P	00 24 00.7	+0.4
	baz=276						
YUK6	Outpost Mounta	87.63	29	P	P	00 24 00.8	-0.3
	baz=276						
K29M	Barlow Dome	87.68	26	P	P	00 24 01.2	0.0
	baz=277						
EPYK	Eagle Plains	87.70	24	P	P	00 24 00.9	-0.2
	baz=278						
G30M	tAoh Zraii Nji	87.81	23	P	P	00 24 01.5	-0.2
	baz=278						
F30M	Barrier River	87.89	22	P	P	00 24 01.9	0.0
	baz=278						
I30M	Mount Dempster	88.00	25	P	P	00 24 02.4	-0.2
	baz=278						
HYT	Haines Junctio	88.06	29	P	P	00 24 02.9	-0.2
	baz=277						
J30M	Hart River	88.10	25	P	P	00 24 02.9	-0.2
	baz=278						
M30M	Minto, Yukon	88.17	27	IAmb	IAmb	00 25 03.7	
	comp=Z,13nm,1.7s						
M30M	Minto, Yukon	88.17	27	P	P	00 24 03.6	+0.2
	baz=278						
N30M	Aishikik Lake	88.18	29	P	P	00 24 03.6	+0.1
	baz=277						
INK	Inuvik	88.62	22	P	P	00 24 04.7	-0.6
INK	Inuvik	88.62	22	P	P	00 24 04.8	-0.6
	baz=280						
F31M	Tsiigehtchic	88.69	22	IAmb	IAmb	00 24 05.8	
	comp=Z,12nm,1.4s						
F31M	Tsiigehtchic	88.69	22	P	P	00 24 05.5	-0.2
	baz=280						
H31M	Peel River	88.74	24	P	P	00 24 07.0	+0.9
	baz=280						
O30N	Mendenhall	88.75	29	P	P	00 24 06.5	+0.2
	baz=278						
N31M	Braeburn, Yuko	88.80	28	P	P	00 24 06.7	+0.3
	baz=279						
SPITS	Spitsbergen Ar	89.18	349	P	P	00 24 07.0	-0.9
	comp=Z,8.6nm,0.9s,baz=80,slow=8.9,SNR=6.2						
	comp=Z,8.6nm,0.9s						
ARCES	ARCESS Array B	89.30	340	P	P	00 24 07.0	-1.5
	comp=Z,1.0nm,0.4s,baz=78,slow=5.5,SNR=17						
	comp=Z,1.0nm,0.4s						
SKAG	Skagway	89.33	30	P	P	00 24 08.3	-0.5
	baz=279						
M31M	Drury Creek, Y	89.33	28	P	P	00 24 08.7	-0.2
	baz=280						
WHY	Whitehorse	89.36	29	P	P	00 24 08.6	-0.5
WHY	Whitehorse	89.36	29	P	P	00 24 09.2	0.0
	baz=279						
BRTR	Keskin Array B	89.54	310	P	P	00 24 09.2	-1.2
	comp=Z,1.5nm,0.9s,baz=122,slow=3.6,SNR=6.7						
	comp=Z,1.5nm,0.9s						
FARO	Faro, Yukon	89.81	28	IAmb	IAmb	00 24 12.2	
	comp=Z,7.0nm,0.8s						
FARO	Faro, Yukon	89.81	28	P	P	00 24 10.9	-0.2
	baz=281						
N32M	Quiet Lake	90.14	29	IAmb	IAmb	00 24 13.4	
	comp=Z,7.1nm,0.8s						
N32M	Quiet Lake	90.14	29	P	P	00 24 13.0	+0.3
	baz=281						
MMPY	Sheldon Lake,	90.68	27	P	P	00 24 15.4	+0.2
	baz=282						
FINES	FINESS Array B	90.83	332	P	P	00 24 14.1	-1.7
	comp=Z,2.0nm,0.8s,baz=53,slow=4.5,SNR=6.4						
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	91.13	321	P	P	00 24 15.3	-2.1
	comp=Z,0.8nm,0.6s,baz=73,slow=4.4,SNR=4.4						
	comp=Z,0.8nm,0.6s						
C36M	Paulatuk	91.67	20	P	P	00 24 19.1	-0.4
	baz=289						
S34M	Telegraph Cree	91.77	32	P	P	00 24 20.5	+0.3
	baz=283						
DLBC	Dease Lake	92.22	31	P	P	00 24 22.6	+0.2
	baz=284						
WTLY	Watson Lake, Y	92.43	29	P	P	00 24 23.4	+0.1
	baz=285						
T35M	Bob Quinn	92.44	32	P	P	00 24 23.6	+0.2
	baz=283						
SYO	Syowa Base	93.97	201	∥eP	P	00 24 31.0	+1.0
TOAD	Toad River Com	94.53	30	P	P	00 24 32.4	-0.6
	baz=288						
KOTAN	Kotaneelee Air	94.70	28	P	P	00 24 33.5	-0.2
	baz=289						
QSPA	South Pole Qui	95.07	180	P	P	00 24 35.3	0.0
	comp=Z,2.1nm,0.9s,baz=358,slow=5.6,SNR=7.2						
	comp=Z,2.1nm,0.9s						
HFS	Hagfors	97.01	332	P	P	00 24 42.1	-2.1
	comp=Z,1.8nm,0.8s,baz=103,slow=4.6,SNR=5.1						
	comp=Z,1.8nm,0.8s						
YKA	Yellowknife Ar	97.96	24	P	P	00 24 47.6	-0.7
	comp=Z,0.8nm,0.8s,baz=299,slow=4.7,SNR=10.0						
	comp=Z,0.8nm,0.8s						
Y22D	IRIS PASSCAL I	115.69	48	P	PKiKP	00 29 54.9	-0.3
	baz=296						
TXAR	Lajitas Array	120.27	52	PKP	PKPdf	00 30 03.9	-0.3
	comp=Z,0.5nm,0.8s,baz=354,slow=1.6,SNR=5.3						
L44A	Lake County Fo	123.02	31	P	PKPdf	00 30 08.6	-0.3
	baz=317						
L61B	Northampton	129.24	19	P	PKPdf	00 30 21.1	+0.3
	baz=334						

HEL 27 00:16:03.8±0.4, 67°.75N×20°.24E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.27	9	eP	Pg	00 16 27.1	-1.1
KIF	Kilpisjarvi	1.27	9	PG	Pg	00 16 27.0	-1.2
KIF				SG	Sg	00 16 43.0	-1.7
KIF				MSG		00 16 43.5	
	comp=Z,1.9nm,0.2s						
PAJU	Pajala	1.33	122	PN	Pg	00 16 28.6	-0.7
PAJU				SN	Sg	00 16 46.8	+0.3
ERTU	Ertsjaerv	1.43	147	PN	Pn	00 16 30.9	0.0
ERTU				SN	Sn	00 16 50.5	+0.2
HEF	Hetta	1.44	61	eP	Pn	00 16 30.5	-0.7
HEF	Hetta	1.44	61	PG	Pn	00 16 29.9	-1.3
HEF				MSG		00 16 47.1	
	comp=Z,1.3nm,0.2s						
HEF				SG	Sg	00 16 49.2	-0.9
KLF	Kolari	1.53	108	PN	Pn	00 16 32.0	-0.2
KLF				MSG		00 16 49.7	
	comp=Z,1.3nm,0.2s						
KLF				SN	Sn	00 16 53.0	+0.3
KTK1	Kautokeino	1.68	40	PG	Pn	00 16 33.7	-0.7
KTK1				SN	Sg	00 16 57.8	0.0
TRO	Tromso	1.95	346	SG	Sb	00 17 04.5	-0.4
KALU	Kalix	2.27	146	SG	Sb	00 17 14.8	+0.7
TOF	Tornio	2.33	134	PG	Pb	00 16 45.4	-1.2
TOF				MSG		00 17 12.7	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sb	00 17 15.7	-0.1
RNF	Rovaniemi	2.53	114	PG	Pb	00 16 48.2	-1.8
RNF				SB	Sn	00 17 18.4	+0.9
RAJF	Raja-Jooseppi	3.11	73	PB	Pn	00 16 55.6	+1.6
RAJF				SG	Sb	00 17 39.8	+1.5
RANF	Ranua	3.12	121	SB	Sn	00 17 32.7	+0.7
KEV	Kevo	3.18	48	SN	Sn	00 17 33.6	0.0

UPP 27 00:16:33.7±0.0, 67°.82N×20°.18E, h0km, ML2.2, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	23	P	Pg	00 16 36.8	+0.2
KUA				S	Sg	00 16 39.0	+0.4
RATU	Laukkuluspa	0.22	273	P	Pg	00 16 38.1	+0.2
KOVU	Salmi	0.41	359	P	Pg	00 16 41.6	+0.1
DUNU	Dundret	0.71	168	P	Pg	00 16 47.0	-0.3
MASU	Masugnsbyn

GLKZ	**Green Lake**	**3.99**	**33**	S		S	00 27 50.9	+0.2
MXZ	**Matakaoa Point**	**5.02**	**192**	P		Pn	00 27 08.3	+1.2
MXZ				S		S	00 28 11.9	+1.2
WMGZ	**Waiomatatini S**	**5.25**	**190**	P		Pn	00 27 09.1	-0.6
WMGZ				S		S	00 28 19.1	+3.6
HAZ	**Te Kaha**	**5.31**	**196**	P		Pn	00 27 09.7	-0.7
HAZ				S		S	00 28 16.9	+0.2
PKGZ	**Pakihiroa**	**5.35**	**193**	P		Pn	00 27 11.1	+0.2
PKGZ				S		S	00 28 17.3	-0.4
PUZ	**Puketiti**	**5.52**	**191**	P		Pn	00 27 13.3	+0.4
PUZ				S		S	00 28 22.9	+1.7
RUGZ	**Raukumara Rang**	**5.53**	**196**	P		Pn	00 27 12.4	-0.7
RUGZ				S		S	00 28 20.0	-1.6
WIAZ	**Waiheke Island**	**5.53**	**220**	S		S	00 28 23.1	+1.7
OUZ	**Omahuta**	**5.61**	**241**	P		Pn	00 27 13.4	-0.5
MBAZ	**Motutapu North**	**5.65**	**222**	P		Pn	00 27 15.8	+1.6
TWGZ	**Tauwhareparae**	**5.67**	**193**	P		Pn	00 27 15.5	+0.9
TWGZ				S		S	00 28 25.1	+0.6
MWZ	**Matawai**	**5.92**	**196**	P		Pn	00 27 18.0	+0.5
MWZ				S		S	00 28 29.9	+0.3
URZ	**Urewera**	**5.96**	**199**	P		Pn	00 27 17.3	-0.6
URZ				S		S	00 28 27.7	-2.6

*KRNET **27** 00:39:41.9±0.1, 39°.43N×73°.32E, h14km, mb3.8*
*IDC **27** 00:39:42.4±2.0, 39°.42N×73°.27E, h0km, mb3.8/6, mbtmp3.6/12, ML2.9/6, MS4.4/1, Error ellipse: s-maj=30.6km s-min=15.9km az=150.0*
*ISU **27** 00:39:45, 39°.51N×73°.22E, h30km*
*NNC **27** 00:39:49.8±2.6, 39°.78N×73°.46E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=21.5km s-min=10.3km az=173.0*
*SOME **27** 00:39:50.3, 40°.00N×73°.62E, h5km*

ISC 27 00:39:44.1±0.7, 39°.51N±0°.03×73°.24E±0°.02, h12km±5km, n91, σ2§16/130, mb3.8/6, 48C-21D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.54**	**22**	⇑*iP*	**Pg**	**00 39 53.4**	**-1.3**
SFK				⇑*eS*	**Sg**	**00 40 01.8**	**-0.2**
OHH	**Osh**	**1.07**	**341**	⇑*eP*	**Pn**	**00 40 03.9**	**-1.2**
OHH				⇑*eS*	**Sn**	**00 40 19.9**	**0.0**
DRK	**Karamyk**	**1.11**	**269**	⇑*eP*	**Pb**	**00 40 04.0**	**-1.5**
DRK				⇑*eS*	**Sn**	**00 40 20.3**	**-1.0**
SHAK	**Shakhimardan**	**1.23**	**291**	P	**Pg**	**00 40 08.9**	**+1.0**
SHAK				S	**Sg**	**00 40 26.8**	**+2.8**
FRG	**Fergana**	**1.41**	**308**	P	**Pg**	**00 40 12.0**	**+0.8**
FRG				S	**Sg**	**00 40 32.5**	**+3.0**
SALK	**Salom-Alik**	**1.44**	**18**	⇑*eP*	**Pb**	**00 40 09.8**	**-1.2**
SALK				⇑*eS*	**Sg**	**00 40 30.3**	**-0.2**
ARSB	**Arslanbob**	**1.82**	**354**	⇑*eP*	**Pb**	**00 40 17.1**	**-0.4**
ARSB				⇑*eS*	**Sg**	**00 40 42.8**	**+0.2**
BTK	**Batken**	**1.94**	**287**	⇓*eP*	**Pb**	**00 40 18.7**	**-0.8**
BTK				⇓*eS*	**Sg**	**00 40 45.7**	**-0.8**
MINT	**Mingtut**	**1.98**	**299**	P	**Pg**	**00 40 20.7**	**-1.4**
MINT				S	**Sg**	**00 40 48.1**	**+0.3**
GAR	**Garm**	**2.32**	**258**	⇑*eP*	**Pb**	**00 40 23.6**	**-2.5**
GAR				⇑*eS*	**Sb**	**00 40 54.0**	**-0.8**
CHDK	**Chadak**	**2.39**	**308**	P	**Pb**	**00 40 26.7**	**-0.5**
CHDK				S	**Sb**	**00 40 59.1**	**+2.3**
ARK	**Arkit**	**2.48**	**337**	⇑*eP*	**Pb**	**00 40 26.7**	**-2.0**
ARK				⇑*eS*	**Sb**	**00 40 58.9**	**-0.4**
ARLS	**Aral**	**2.49**	**19**	⇑*eP*	**Pb**	**00 40 25.9**	**-3.0**
ARLS				⇑*eS*	**Sb**	**00 40 58.0**	**-1.5**
TRKS	**Terek-Say**	**2.57**	**322**	⇑*eP*	**Pn**	**00 40 26.8**	**+1.0**
TRKS				⇑*eS*	**Sb**	**00 40 59.8**	**-2.1**
AML	**Almayashu** SNR=44	**2.64**	**7**	P	**Pb**	**00 40 30.4**	**-1.1**
AML	**Almayashu**	**2.64**	**7**	⇑*eP*	**Pb**	**00 40 28.5**	**-3.1**
AML				⇑*eS*	**Sb**	**00 41 02.7**	**-1.4**
UCH	**Uchtor** SNR=6.1	**2.88**	**19**	P	**Pb**	**00 40 34.1**	**-1.6**
UCH	**Uchtor**	**2.88**	**19**	⇑*eP*	**Pb**	**00 40 31.7**	**-4.0**
UCH				⇑*eS*	**Sb**	**00 41 08.0**	**-3.1**
MNAS	**Manas**	**3.02**	**350**	⇓*eP*	**Pb**	**00 40 34.0**	**-4.0**
MNAS				⇓*eS*	**Sb**	**00 41 12.0**	**-2.9**
EKS2	**Erkin-Say** SNR=19	**3.17**	**7**	P	**Pb**	**00 40 38.3**	**-2.3**
EKS2	**Erkin-Say**	**3.17**	**7**	⇑*eP*	**Pn**	**00 40 35.8**	**+1.8**
EKS2				⇑*eS*	**Sb**	**00 41 15.1**	**-4.1**
CHMG	**Chimgan**	**3.19**	**311**	P	**Pb**	**00 40 37.9**	**-2.9**
CHMG				S	**Sb**	**00 41 19.7**	**0.0**
MRKS	**Merke** 26nm,0.3s	**3.23**	**360**	*eP*	**Pg**	**00 40 43.1**	**-2.9**
MRKS				*eS*	**Sb**	**00 41 20.9**	**+0.1**
AAK	**Ala-Archa** 6.5nm,0.3s,baz=196,slow=9.7,SNR=97	**3.26**	**17**	Pn	**Pb**	**00 40 39.1**	**-3.0**
AAK	7.0nm,0.3s,baz=176,slow=20,SNR=9.2 36nm,0.5s			Sn	**Sb**	**00 41 21.0**	**-0.8**
AAK	**Ala-Archa** SNR=10	**3.26**	**17**	P	**Pb**	**00 40 39.5**	**-2.6**
AAK	**Ala-Archa** 36nm,0.6s	**3.26**	**17**	⇑Pg	**Pb**	**00 40 41.9**	**-0.2**
AAK	45nm,0.6s			⇓Lg	Lg	00 41 20.1	
AAK	**Ala-Archa**	**3.26**	**17**	⇑*eP*	**Pn**	**00 40 36.9**	**+1.6**
AAK				⇑*eS*	**Sb**	**00 41 17.1**	**-4.8**
CHRV	**Charvak**	**3.28**	**311**	P	**Pb**	**00 40 39.3**	**-3.1**
CHRV				S	**Sb**	**00 41 22.3**	**0.0**
CHGR	**Chuyangaron**	**3.29**	**256**	⇓*eP*	**Pn**	**00 40 36.9**	**+1.3**
CHGR				⇓*eS*	**Sb**	**00 41 17.1**	**-5.4**
KBK	**Karagaybulak** SNR=22	**3.40**	**22**	P	**Pb**	**00 40 41.1**	**-3.3**
KBK	**Karagaybulak**	**3.40**	**22**	⇑*eP*	**Pn**	**00 40 38.6**	**+1.4**
KBK				⇑*eS*	**Sn**	**00 41 20.0**	**+2.5**
TGS	**TashGRES**	**3.42**	**305**	P	**Pb**	**00 40 42.4**	**-2.2**
TGS				S	**Sb**	**00 41 28.2**	**+2.1**
FRU1	**Bishkek**	**3.46**	**17**	⇑*eP*	**Pn**	**00 40 39.8**	**+1.9**
FRU1				⇑*eS*	**Sn**	**00 41 21.9**	**+3.1**
ULHL	**Ulahol** SNR=12	**3.56**	**39**	P	**Pb**	**00 40 47.7**	**+0.6**
ULHL	**Ulahol**	**3.56**	**39**	⇓*eP*	**Pn**	**00 40 40.5**	**+1.1**
ULHL				⇓*eS*	**Sn**	**00 41 23.2**	**+1.7**
BOOM	**Boomskoye usch**	**3.61**	**34**	⇓*eP*	**Pn**	**00 40 41.4**	**+1.3**
BOOM				⇓*eS*	**Sn**	**00 41 24.8**	**+2.0**
CHMS	**Chumysh** SNR=18	**3.66**	**18**	P	**Pb**	**00 40 44.7**	**-4.2**
CHMS	**Chumysh**	**3.66**	**18**	⇑*eP*	**Pn**	**00 40 42.2**	**+1.5**
CHMS				⇑*eS*	**Sn**	**00 41 26.4**	**+2.5**
DZA	**Taraz** 30nm,0.1s	**3.67**	**338**	Pg	**Pg**	**00 40 55.7**	**+1.3**
DZA	104nm,0.2s			Lg	Lg	00 41 42.4	
DZA	**Taraz** 46nm,0.1s	**3.67**	**338**	*eP*	**Pg**	**00 40 52.8**	**-1.6**
DZA	85nm,0.2s			*eS*	**Sb**	**00 41 37.3**	**+3.9**
TKM2	**Tokmak 2** SNR=9.6	**3.84**	**27**	P	Pb	00 40 46.7	-5.3
TKM2	**Tokmak 2** 3.6nm,0.5s	**3.84**	**27**	⇑Pn	Pb	00 40 46.3	-5.7
TKM2	16nm,0.5s			⇓Pg	**Pg**	**00 40 57.5**	**-0.2**
TKM2	32nm,0.5s			⇓Lg	Lg	00 41 47.0	
TKM2	**Tokmak 2**	**3.84**	**27**	⇑*eP*	**Pn**	**00 40 44.6**	**+1.3**
TKM2				⇑*eS*	**Sn**	**00 41 30.6**	**+2.1**
USP	**Ospenovka** SNR=15	**3.87**	**14**	P	Pb	00 40 47.2	-5.2
USP	**Ospenovka**	**3.87**	**14**	⇑*eP*	**Pn**	**00 40 45.2**	**+1.7**
USP				⇑*eS*	**Sn**	**00 41 31.5**	**+2.5**
KDJ	**Kajisay**	**3.97**	**48**	⇓*iP*	**Pn**	**00 40 46.0**	**+0.9**
KDJ				⇓*eS*	**Sn**	**00 41 32.9**	**+1.2**
KST	**Kastek** 12nm,0.5s	**4.08**	**29**	Pg	Pg	00 40 57.7	-4.6
KST	34nm,0.8s			Lg	Lg	00 41 46.1	
KST	**Kastek** 3.8nm,0.2s	**4.08**	**29**	*eP*	**Pb**	**00 40 55.3**	**-0.7**
KST	57nm,0.6s			*eS*	**Sb**	**00 41 41.8**	**-3.6**
KK31	**Karatay Array** 2.3nm,0.3s,baz=336,slow=40,SNR=58	**4.13**	**331**	⇑Pn	**Pn**	**00 40 49.4**	**+2.3**
KK31	5.7nm,0.3s,baz=139,slow=10,SNR=17			⇑Pg	**Pg**	**00 41 02.1**	**-1.1**
KK31	9.5nm,0.3s,baz=148,slow=24,SNR=5.2			⇑Sn	**Sb**	**00 41 42.8**	**-3.9**
KK31	43nm,0.6s,baz=143,slow=26,SNR=4.2			⇑Lg	Lg	00 41 59.4	
KKAR	**Karatay Array**	**4.13**	**331**	⇑*eP*	**Pn**	**00 40 49.4**	**+2.3**
KKAR				⇑*eS*	**Sn**	**00 41 38.7**	**+3.3**
DGS	**Degeres** 22nm,0.4s	**4.18**	**26**	Pg	**Pg**	**00 41 02.4**	**-1.8**
DGS	66nm,0.9s			Lg	Lg	00 41 54.9	
MTBS	**Maitube** 13nm,0.4s	**4.34**	**33**	Pg	**Pg**	**00 41 05.3**	**-1.9**
MTBS	17nm,0.8s			Lg	Lg	00 42 01.3	
MTBS	**Maitube** 11nm,0.3s	**4.34**	**33**	*eP*	**Pb**	**00 41 00.2**	**-0.2**
MTBS	27nm,0.5s			*eS*	**Sb**	**00 41 50.2**	**-2.6**
IZV	**Izvestkoviy** 13nm,0.4s	**4.34**	**35**	Pg	**Pg**	**00 41 03.6**	**-3.7**
IZV	72nm,1.0s			Lg	Lg	00 41 56.1	
IZV	**Izvestkoviy** 9.0nm,0.3s	**4.34**	**35**	*eP*	**Pb**	**00 40 59.9**	**-0.6**
IZV	45nm,0.6s			*eS*	**Sb**	**00 41 49.8**	**-3.2**
BRLS	**Borolday** 12nm,0.5s	**4.35**	**325**	Pg	**Pb**	**00 41 03.2**	**+2.7**
BRLS	20nm,0.4s			Lg	Lg	00 41 56.1	
BRLS	**Borolday** 10nm,0.2s	**4.35**	**325**	*eP*	**Pg**	**00 41 06.4**	**-0.9**
BRLS	19nm,0.2s			*eS*	**Sg**	**00 42 01.0**	**-2.6**
TNSS	**Tian-Shan** 17nm,0.6s	**4.50**	**37**	Pg	Pg	00 41 05.5	-4.7
TNSS	16nm,0.7s			Lg	Lg	00 42 00.5	
TNSS	**Tian-Shan** 7.9nm,0.3s	**4.50**	**37**	*eP*	**Pb**	**00 41 03.3**	**+0.1**
TNSS	19nm,0.7s			*eS*	**Sb**	**00 41 55.6**	**-2.0**
KRBS	**Karabastau** 17nm,0.6s	**4.56**	**23**	Pg	Pg	00 41 07.2	-4.3
KRBS	10.0nm,0.4s			Lg	Lg	00 42 01.1	
KNDC	**Almaty** 28nm,0.4s	**4.64**	**36**	⇑Pg	Pg	00 41 08.1	-4.9
KNDC	30nm,0.5s			⇓Lg	Lg	00 42 12.5	
ANVS	**Anan'yevo**	**4.67**	**44**	⇓*eP*	**Pn**	**00 40 55.9**	**+1.1**
ANVS				⇓*eS*	**Sn**	**00 41 49.9**	**+0.9**
AGL	**Agalyk**	**4.91**	**272**	P	Pn	00 41 02.5	+4.6
AGL				S	**Sb**	**00 42 07.1**	**-2.2**
KTBS	**Karatobe** 9.6nm,0.3s	**4.93**	**31**	Pg	**Pg**	**00 41 17.1**	**-1.4**
KTBS	20nm,0.5s			Lg	Lg	00 42 18.8	
SATY	**Saty** 10nm,0.5s	**5.26**	**46**	Pg	**Pg**	**00 41 22.8**	**-2.1**
SATY	**Saty** 0.9nm,0.1s	**5.26**	**46**	*eP*	**Pg**	**00 41 27.6**	**+2.6**
SATY	2.0nm,0.1s			*eS*	**Sg**	**00 42 37.1**	**+4.0**
ZHN	**Zhinishke** 9.2nm,0.5s	**5.35**	**45**	Pg	**Pb**	**00 41 19.6**	**+1.9**
ZHN	12nm,0.6s			Lg	Lg	00 42 23.1	
ZHN	**Zhinishke** 6.4nm,0.2s	**5.35**	**45**	*eP*	**Pb**	**00 41 19.0**	**+1.4**
ZHN	5.8nm,0.2s			*eS*	**Sb**	**00 42 22.5**	**+0.6**
UZB	**Uzynbulak** 12nm,0.4s	**5.67**	**48**	Pg	Pg	00 41 26.2	-6.5
UZB	13nm,0.7s			Lg	Lg	00 42 35.2	
UZB	**Uzynbulak** 3.1nm,0.2s	**5.67**	**48**	*eP*	**Pb**	**00 41 24.9**	**+1.8**
UZB	10nm,0.5s			*eS*	**Sb**	**00 42 32.6**	**+1.5**
KPKS	**Kokpek** 12nm,0.5s	**5.69**	**44**	Pg	**Pb**	**00 41 25.6**	**+2.3**
KPKS	16nm,0.6s			Lg	Lg	00 42 33.8	
KPKS	**Kokpek** 9.9nm,0.3s	**5.69**	**44**	*eP*	**Pb**	**00 41 24.8**	**+1.5**
KPKS	17nm,0.5s			*eS*	**Sb**	**00 42 32.5**	**+1.0**
SHLS	**Shalkode** 14nm,0.6s	**5.93**	**50**	Pg	**Pg**	**00 41 36.0**	**-1.7**
SHLS	9.0nm,0.6s			Lg	Lg	00 42 51.3	
SHLS	**Shalkode** 12nm,0.3s	**5.93**	**50**	*eP*	**Pg**	**00 41 35.4**	**-2.4**
SHLS	5.1nm,0.3s			*eS*	**Sg**	**00 42 50.5**	**-4.0**
PDGK	**Podgornoye** 8.1nm,0.7s	**6.05**	**49**	⇑Pg	**Pg**	**00 41 36.9**	**-3.0**
PDGK	11nm,0.7s			⇑Lg	Lg	00 42 54.6	
MK31	**Makanchi Array** 0.5nm,0.6s,baz=216,slow=13,SNR=4.5	**9.83**	**39**	⇓Pg	Pn	00 42 47.7	+42
MK31	1.1nm,0.7s,baz=226,slow=28,SNR=4.2			⇑Lg	Lg	00 44 53.4	
MKAR	**Makanchi Array** baz=218,slow=11,SNR=4.8	**9.83**	**39**	Pn	**Pn**	**00 42 07.7**	**+2.4**
MKAR	0.1nm,0.3s,baz=216,slow=30,SNR=5.5 0.4nm,0.8s			Lg	Lg	00 44 54.8	
KURBB	**Kurchatov Arra** baz=208,slow=12,SNR=2.4	**11.72**	**17**	Pn	**Pn**	**00 42 31.4**	**+0.4**
KURBB	0.1nm,0.3s,baz=197,slow=28,SNR=5.4 0.1nm,0.2s			Lg	Lg	00 45 53.3	
AB31	**Akbulak array** 0.5nm,0.5s,baz=131,slow=11,SNR=18	**13.59**	**320**	⇓P	**Pn**	**00 42 53.9**	**-2.7**
BVAR	**Borovoye Array** baz=161,slow=9.2,SNR=4.1 0.5nm,0.5s	**13.65**	**353**	Pn	**Pn**	**00 42 56.9**	**-0.7**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=120,slow=20,SNR=6.3 0.4nm,0.2s	**15.30**	**121**	Pn	**Pn**	**00 43 19.4**	**-0.5**
AKTO	**Aktyubinsk** 0.7nm,0.5s	**15.30**	**321**	⇓P	**P**	**00 43 25.1**	**+0.3**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=217,slow=9.3,SNR=5.1 0.4nm,0.3s	**16.44**	**25**	Pn	**P**	**00 43 36.0**	**-1.3**
SONM	**Songino Array** 0.3nm,0.4s,baz=257,slow=10,SNR=2.5 0.3nm,0.4s	**25.23**	**60**	P	**P**	**00 45 09.9**	**-0.1**
PALK	**Pallekele** comp=Z,742nm,21.8s,baz=22,slow=36	**32.80**	**166**	LR	LR	00 59 25.9	
FINES	**FINESS Array B** 0.9nm,0.4s,baz=114,slow=9.0,SNR=20 0.9nm,0.4s	**36.05**	**323**	P	**P**	**00 46 45.4**	**+0.3**
ARCES	**ARCESS Array B** 3.1nm,0.8s,baz=112,slow=9.1,SNR=6.1 3.1nm,0.8s	**39.08**	**336**	P	**P**	**00 47 11.6**	**+0.8**
HFS	**Hagfors** 1.4nm,0.4s,baz=108,slow=9.5,SNR=19 1.4nm,0.4s	**41.85**	**320**	P	**P**	**00 47 34.5**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.6s,baz=92,slow=8.6	**43.09**	**321**	P	**P**	**00 47 44.3**	**+0.4**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,baz=104,slow=7.8,SNR=3.3 comp=Z,0.3nm,0.5s	**43.09**	**321**	P	**P**	**00 47 44.4**	**+0.5**
EKA	**Eskdalemuir Ar** comp=Z,0.3nm,0.5s,baz=83,slow=8.9,SNR=5.5 comp=Z,0.3nm,0.5s	**51.39**	**315**	P	**P**	**00 48 48.9**	**+0.4**

NNC 27 00:49:57.8±4.5, 36°.57N×69°.56E, h0km, mb3.7, mpv3.5, 4C-1D, Error ellipse: s-maj=46.9km s-min=28.9km az=147.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 1.0nm,0.5s,baz=191,slow=14,SNR=15	**6.57**	**6**	⇑P	Pn	00 51 36.8	+1.2
KK31	0.9nm,0.3s,baz=192,slow=24,SNR=6.6			⇑S	Sn	00 52 52.4	+1.2
AAK	**Ala-Archa** 1.5nm,0.3s	**7.16**	**31**	⇑P	Pn	00 51 43.3	-0.6
AAK	5.0nm,0.9s			⇑S	Sn	00 53 06.9	+1.0
AB31	**Akbulak array** 0.2nm,0.3s,baz=149,slow=15,SNR=19	**14.48**	**334**	⇓P	Pn	00 53 23.0	-0.9

*BJI **27** 00:55:49.9, 38°.18N×142°.19E, h44km, mB5.0/21, mb4.9/76, Ms4.1/30, Ms7 4.0/32*
*MOS **27** 00:55:50.3±0.9, 38°.35N×142°.16E, h36km, mb4.9/43, Error ellipse: s-maj=6.7km s-min=4.0km az=110.4*
*IDC **27** 00:55:52.8±0.4, 38°.38N×142°.24E, h42km±2km, mb4.2/29, mbtmp4.4/38, ML4.0/8, MS3.6/32, Error ellipse: s-maj=10.6km s-min=7.8km az=129.0*
*JMA **27** 00:55:52.3±0.2, 38°.4N±0°.4×142°.1E±0°.9, h40km±1km, MD4.6/40, MV4.7/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*NIED **27** 00:55:52.3, 38°.35N×142°.14E, h40km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.83; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-4.63; $M_{r\theta}$0.60; $M_{\theta\phi}$-1.29; $M_{\phi r}$4.48; Fault plane solution: $M_0$6.67000×10^{15} NP1: ϕ_s201.00000°, δ24.00000°, λ100.00000°. NP2: ϕ_s10.00000°, δ66.00000°, λ86.00000°.*
*NEIC **27** 00:55:52.3±1.9, 38°.29N±0°.05×142°.05E±0°.08, h35km±1km, mb4.9/96 Error ellipse: s-maj=11.9km s-min=8.1km az=118.0*
*BGR **27** 00:55:57.7, 39°.04N×142°.61E, h45km, mb4.5*

ISC 27 00:55:52.2±0.3, 38°.31N±0°.04×142°.23E±0°.04, h43km±2km, h43km: pP-P, n497, σ1§41/488, mb4.8/162, MS3.8/37, 35C-42D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.60**	**270**	⇓*iP*	**Pn**	**00 56 03.3**	**-1.1**
JIKH				⇓S	**Sn**	**00 56 11.0**	**-2.1**
JIKH	**Ishinomakikobu** comp=N,27nm,1.0s,comp=E,42nm,0.6s	**0.60**	**270**	A	A	00 56 03.3	
JIO	**Ouri**	**0.71**	**282**	⇓*iP*	**Pn**	**00 56 04.9**	**-0.9**
JIO				⇓S	**Sn**	**00 56 13.4**	**-2.1**
JIO	**Ouri** comp=N,12nm,0.3s,comp=E,26nm,1.4s	**0.71**	**282**	A	A	00 56 04.9	
JKMT	**Kesennumamotoy**	**0.78**	**310**	⇓*iP*	**Pn**	**00 56 05.8**	**-0.8**
JKMT				⇓S	**Sn**	**00 56 15.4**	**-1.8**
JKMT	**Kesennumamotoy** comp=N,28nm,0.9s,comp=E,27nm,0.9s	**0.78**	**310**	A	A	00 56 05.8	
OFUJ	**Ofunato**	**0.89**	**330**	⇓*iP*	**Pn**	**00 56 07.4**	**-0.8**
OFUJ				⇓S	**Sn**	**00 56 18.2**	**-1.7**
OFUJ	**Ofunato** comp=N,23nm,0.9s,comp=E,26nm,2.2s	**0.89**	**330**	A	A	00 56 07.4	
JMK	**Ichinoseki**	**1.02**	**309**	⇓*iP*	**Pn**	**00 56 09.3**	**-0.6**
JMK	**Ichinoseki** comp=N,12nm,0.9s,comp=E,17nm,1.8s	**1.02**	**309**	A	A	00 56 09.3	
JOFO	**Osakifurukawao** comp=N,62nm,1.4s,comp=E,70nm,1.3s	**1.08**	**286**	A	A	00 56 10.1	
JMST	**Minamisoumatoc** comp=N,18nm,1.1s,comp=E,15nm,0.8s	**1.21**	**242**	A	A	00 56 12.7	
JMM	**Marumori**	**1.22**	**249**		**Pn**	**00 56 11.2**	**-1.5**
JMM	**Marumori**	**1.22**	**249**	⇓*iP*	**Pn**	**00 56 11.8**	**-1.0**
JMM	**Marumori** comp=N,9.0nm,2.3s,comp=E,10.0nm,2.4s	**1.22**	**249**	A	A	00 56 11.8	
JOU	**Okura**	**1.23**	**273**	⇓*iP*	**Pn**	**00 56 12.6**	**-0.3**
JOU	**Okura** comp=N,39nm,0.6s,comp=E,38nm,0.7s	**1.23**	**273**	A	A	00 56 12.6	
MIYJ	**Miyakonagasawa** comp=N,11nm,0.5s,comp=E,13nm,0.6s	**1.30**	**346**	A	A	00 56 13.8	
JOM	**Ohasama**	**1.37**	**328**	⇓*iP*	**Pn**	**00 56 14.8**	**-0.1**
JOM				⇓*eS*	**Sn**	**00 56 31.6**	**-0.3**
JOM	**Ohasama** comp=N,15nm,0.3s,comp=E,31nm,0.3s	**1.37**	**328**	A	A	00 56 14.8	
JFK	**Kawauchi**	**1.43**	**229**	⇓*iP*	**Pn**	**00 56 14.6**	**-1.0**
JFK				⇓*eS*	**Sn**	**00 56 31.0**	**-2.2**
JFK	**Kawauchi** comp=N,7.0nm,1.2s,comp=E,5.0nm,0.4s	**1.43**	**229**	A	A	00 56 14.6	
JYK	**Kaneyama**	**1.59**	**293**	⇓*iP*	**Pn**	**00 56 17.6**	**-0.2**
JYK	**Kaneyama** comp=N,7.0nm,2.6s,comp=E,9.0nm,2.7s	**1.59**	**293**	A	A	00 56 17.6	
JTH	**Tanohata** comp=N,8.0nm,0.4s,comp=E,7.0nm,0.7s	**1.65**	**350**	A	A	00 56 19.0	
JRG	**Rokugo**	**1.65**	**312**	⇓*iP*	**Pn**	**00 56 18.5**	**-0.1**
JRG	**Rokugo** comp=N,15nm,0.9s,comp=E,13nm,0.6s	**1.65**	**312**	A	A	00 56 18.5	
ONAJ	**Iwakimizuishiy** comp=N,8.0nm,1.3s,comp=E,11nm,0.3s	**1.66**	**224**	A	A	00 56 19.5	
JOTO	**OTAMA OYAMA**	**1.68**	**244**	*iP*	**Pn**	**00 56 18.9**	**-0.2**
JOTO	**OTAMA OYAMA** comp=N,26nm,0.7s,comp=E,15nm,1.9s	**1.68**	**244**	A	A	00 56 18.9	
JYAR	**Yonezawaarcadi** comp=N,24nm,1.2s,comp=E,26nm,0.9s	**1.69**	**257**	A	A	00 56 19.4	
JYS	**Shirataka**	**1.71**	**268**	⇓*iP*	**Pn**	**00 56 19.2**	**-0.3**
JYS	**Shirataka** comp=N,12nm,1.2s,comp=E,12nm,3.6s	**1.71**	**268**	A	A	00 56 19.2	
JSZI	**Iwateshizukuis** comp=N,18nm,1.3s,comp=E,21nm,1.6s	**1.74**	**326**	A	A	00 56 19.9	
JKZ	**Kuzumaki** comp=N,11nm,0.6s,comp=E,10.0nm,1.5s	**1.81**	**338**	A	A	00 56 21.1	
JYYZ	**Yamagatayuza** comp=N,29nm,1.5s,comp=E,26nm,1.8s	**1.93**	**292**	A	A	00 56 22.6	
JKEN	**Kujiedanarisaw** comp=N,32nm,0.7s,comp=E,25nm,0.6s	**1.94**	**348**	A	A	00 56 23.0	
JYA	**Atsumi** comp=N,12nm,1.1s,comp=E,15nm,1.5s	**2.00**	**279**	A	A	00 56 23.6	
JYW	**Yuwa** comp=N,22nm,0.9s,comp=E,31nm,0.9s	**2.00**	**309**	A	A	00 56 23.6	
JANG	**Nango** comp=N,7.0nm,1.3s,comp=E,5.0nm,0.8s	**2.13**	**345**	A	A	00 56 25.9	
JFY	**Yanaizu** comp=N,3.0nm,1.8s	**2.19**	**247**	A	A	00 56 26.8	
JAH	**Hinai** comp=N,5.0nm,0.8s,comp=E,7.0nm,1.0s	**2.25**	**327**	A	A	00 56 27.3	
JSB	**Shiboa** comp=N,11nm,1.1s,comp=E,12nm,1.7s	**2.27**	**235**	A	A	00 56 28.1	
JNS	**Sasagawa** comp=N,3.0nm,2.4s,comp=E,3.0nm,1.3s	**2.35**	**259**	A	A	00 56 28.9	
JNTW	**Noshirotokiwa** comp=N,19nm,1.5s,comp=E,16nm,3.8s	**2.53**	**321**	A	A	00 56 31.2	
JTM	**Tenmabayashi**	**2.63**	**340**	Pn	**Pn**	**00 56 32.5**	**+0.4**
JTM	**Tenmabayashi** comp=N,4.0nm,1.1s,comp=E,5.0nm,1.6s	**2.63**	**340**	A	A	00 56 32.9	
JYT	**Yasato** comp=N,6.0nm,0.4s,comp=E,7.0nm,0.4s	**2.64**	**219**	A	A	00 56 33.7	
JHHS	**Hirosakihyakuz** comp=N,17nm,3.0s,comp=E,11nm,3.2s	**2.75**	**329**	A	A	00 56 34.4	
JOG3	**Oga3** comp=N,7.0nm,2.8s,comp=E,7.0nm,1.7s	**2.93**	**304**	A	A	00 56 30.4	
JAHD	**Aomorihigashid** comp=N,11nm,1.6s,comp=E,15nm,1.1s	**3.03**	**347**	A	A	00 56 38.6	
JSI2	**Shiura 2** comp=N,8.0nm,1.1s,comp=E,7.0nm,1.6s	**3.08**	**333**	A	A	00 56 39.2	
JSD	**Sado**	**3.14**	**266**	Pn	**Pn**	**00 56 38.2**	**-1.0**
MJAR	**Matsushiro Arr** comp=E,4.0nm,0.3s,baz=59,slow=11,SNR=119	**3.66**	**242**	P	**Pn**	**00 56 47.6**	**+1.4**
MJAR	comp=E,68nm,0.8s,baz=74,slow=20,SNR=5.7			S	**Sn**	**00 57 34.3**	**+6.2**
MJAR	comp=E,2μm,18.7s,baz=84,slow=44 comp=E,59nm,0.6s			LR	LR	00 58 35.1	
MAJO	**Matsushiro**	**3.66**	**242**	Pn	**

YUK smax smax
comp=N,1μm,0.4s
YUK smax smax
comp=E,863nm,0.4s
KUR Kuril'sk 8.10 30 P **Pn 00 57 47.7 +0.6**
KUR S **Sn 00 59 11.4 -5.8**
KUR pmax pmax
comp=Z,114nm,0.8s
KUR smax smax
comp=N,199nm,0.2s
KUR smax smax
comp=E,145nm,0.3s
JMN Monobe 8.16 238 Pn **Pn 00 57 47.8 -0.3**
YSS Yuzhno-Sakhali 8.65 2 *e*P **Pn 00 57 56.4 +1.8**
YSS *e*S **Sn 00 59 31.0 +0.3**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
VLA Vladivostok 9.21 305⇑*e*P **Pn 00 58 03.2 +0.9**
MSHR Mys Shultsa 9.46 300*c i*P **Pn 00 58 06.0 +0.3**
MSHR pmax pmax
comp=Z,22nm,0.8s
USA0B Ussuriysk Arra 9.70 311 Pn **Pn 00 58 10.6 +1.5**
USA0B Ussuriysk Arra 9.70 311*de*P **Pn 00 58 09.9 +0.9**
USRK Ussuriysk Ar. 9.70 311 P **Pn 00 58 08.9 -0.1**
comp=Z,3.7nm,0.3s,baz=122,slow=13,SNR=58
USRK LR LR 01 01 40.8
comp=Z,459nm,18.8s,baz=141,slow=36
comp=Z,13nm,0.7s
PSTR Posyet 9.72 300⇑*e*P **Pn 00 58 09.2 -0.2**
JNU Nakatsue 10.58 244 Pn **Pn 00 58 24.1 +2.9**
JNU Nakatsue 10.58 244 P **Pn 00 58 22.9 +1.7**
comp=Z,1.3nm,0.3s,baz=289,slow=6.2,SNR=12
JNU LR LR 01 02 45.0
comp=Z,712nm,20.3s,baz=50,slow=39
comp=Z,23nm,0.7s
JCJ Chichijima 11.18 180 Pn **Pn 00 58 26.5 -3.0**
JCJ Chichijima 11.18 180 P Pn 00 58 21.1 -8.4
comp=Z,28nm,0.5s,baz=279,slow=19,SNR=1.6
JCJ S Sn 01 00 15.1 -18
comp=Z,40nm,0.4s,baz=84,slow=18,SNR=2.3
KSRS Korea Array 11.34 270 P **Pn 00 58 32.8 +1.3**
comp=Z,1.0nm,0.3s,baz=79,slow=13,SNR=17
KSRS LR LR 01 02 30.7
comp=Z,346nm,20.4s,baz=80,slow=35
comp=Z,6.3nm,0.8s
MDJ Mudanjiang 11.38 308 Pn **Pn 00 58 30.3 -1.7**
MDJ Mudanjiang 11.38 308 P **Pn 00 58 34.3 +2.3**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
TYV Tymovskoe 12.55 1 *e*P **P 00 58 57.7 -1.0**
TYV pmax pmax
comp=Z,300nm,4.7s
TYV pmax pmax
comp=Z,6.0nm,0.8s
KLR Kul'dur 13.27 329 P **Pn 00 58 57.0 -0.8**
comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=4.8
KLR LR LR 01 03 56.8
comp=Z,324nm,19.7s,baz=147,slow=37
comp=Z,1.8nm,0.9s
KLR Kul'dur 13.27 329⇓*e*P **Pn 00 58 56.8 -1.0**
KLR pmax pmax
comp=Z,11nm,2.5s
BNX BinXian 13.28 309 ⇓P **Pn 00 59 00.5 +2.6**
BNX pmax pmax
comp=Z,12nm,0.9s
BNX pmax pmax
comp=Z,140nm,6.1s
BNX LR LR
comp=Z,180nm,16.2s
BNX LR LR
comp=Z,310nm,18.2s
BNX LR LR
comp=Z,390nm,16.6s
CN2 Changchun 13.79 299 P **P 00 59 08.5 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,17.0s
OKH Okha 15.25 2*de*P **Pn 00 59 24.1 -0.2**
OKH *e*S **Sn 01 02 03.6 -8.3**
OKH MLR MLR
comp=E,1μm,21.0s
OKH MLR MLR
comp=Z,300nm,16.0s
OKH MLR MLR
comp=N,1μm,19.0s
HEH HeiHe 15.94 323 *e*P **Pn 00 59 31.5 -1.7**
HEH LR LR
comp=N,240nm,18.4s
HEH LR LR
comp=N,260nm,16.9s
HEH LR LR
comp=N,360nm,18.4s
DL2 Dalian 16.12 279 P **Pn 00 59 35.8 +0.2**
DL2 *e*S **Sn 01 02 34.0 +0.8**
DL2 pmax pmax
comp=N,79nm,1.0s
DL2 pmax pmax
comp=N,190nm,4.3s
DL2 LR LR
comp=N,220nm,13.7s
DL2 LR LR
comp=N,280nm,13.4s
DL2 LR LR
comp=N,450nm,16.8s
JOW Kunigami 16.39 230 P **Pn 00 59 38.8 -0.3**
comp=N,0.4nm,0.3s,baz=31,slow=18,SNR=1.9
JOW LR LR 01 05 52.9
comp=N,78nm,19.5s,baz=168,slow=36
comp=N,4.9nm,0.6s
PETK Petropavlovsk- 18.26 31 P **Pn 01 00 02.9 +0.8**
comp=N,1.4nm,0.6s,baz=225,slow=14,SNR=1.2
PETK LR LR 01 06 38.9
comp=N,101nm,19.9s,baz=214,slow=36
ZEA Zeya 18.55 331 *e*P **Pn 01 00 05.1 -0.5**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 18.59 32 P **P 01 00 05.6 +0.1**
comp=Z,12nm,1.4s
SSE Sheshan 18.72 254 P **Pn 01 00 08.0 +0.2**
SSE pmax pmax
comp=Z,46nm,0.8s
SSE pmax pmax
comp=Z,110nm,3.6s
SSE LR LR
comp=Z,120nm,9.2s
SSE LR LR
comp=Z,150nm,10.2s
HIA Hailar 19.51 311 P **P 01 00 13.5 -2.1**
HIA Hailar 19.51 311 P **P 01 00 13.5 -2.1**
HIA pmax pmax
comp=Z,14nm,1.0s
NJ2 Nanjing 20.08 259 *e*P **P 01 00 21.0 -0.9**
NJ2 pmax pmax
comp=Z,16nm,0.8s
TIA Tai'an 20.08 272 P **P 01 00 20.8 -1.1**
TIA pmax pmax
comp=Z,32nm,1.0s
TIA LR LR
comp=Z,150nm,12.4s
TIA LR LR
comp=Z,160nm,14.9s
TIA LR LR
comp=Z,310nm,14.1s
BJI Beijing 20.25 283 P **P 01 00 22.0 -1.8**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI pmax pmax
comp=Z,79nm,6.0s
BJT Baijiatuau 20.26 283 P **P 01 00 21.1 -2.8**
BJT Baijiatuau 20.26 283 P **P 01 00 21.1 -2.8**
BJT pmax pmax
comp=Z,15nm,0.7s
XLT XiLinHaoTe 20.44 294 *e*P **P 01 00 23.3 -2.6**
XLT pP pP 01 00 34.0 -2.3
XLT PP **PnPn 01 00 44.5 +0.4**
XLT pmax pmax
comp=Z,13nm,0.7s
HNS HongShan 21.73 276 ⇓P **P 01 00 36.5 -3.1**
HNS *e*S **S 01 04 35.0 -2.6**
HNS pmax pmax
comp=Z,24nm,0.8s
HNS LR LR
comp=Z,240nm,17.1s
HNS LR LR
comp=Z,260nm,14.7s
MA2 Magadan 21.97 12 P **P 01 00 42.3 +0.2**
MA2 Magadan 21.97 12 P **P 01 00 42.9 +0.9**
comp=Z,12nm,0.7s,baz=188,slow=10,SNR=9.8
MA2 pP **pP 01 00 53.4 +0.9**
comp=Z,15nm,0.7s,baz=188,slow=9.9,SNR=5.3
MA2 LR LR 01 08 47.7
comp=Z,82nm,18.1s,baz=239,slow=35
comp=Z,12nm,0.7s
MA2 Magadan 21.97 12*de*P **P 01 00 43.0 +0.9**
MA2 pmax pmax
comp=Z,19nm,1.0s
MA2 Magadan 21.97 12 P **P 01 00 42.0 -0.1**
comp=Z,29nm,0.9s
HHC Hu-ho-hao-te 23.71 286 *e*P **P 01 01 00.8 +0.6**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,79nm,5.2s
HHC LR LR
comp=Z,85nm,12.9s
HHC LR LR
comp=Z,280nm,14.3s
HHC LR LR
comp=Z,400nm,15.7s
TWG Pinlang 23.80 236 P **P 01 01 00.1 -0.9**
TWG IAmb IAmb 01 01 06.5
comp=Z,93nm,1.3s
LYN LuoYang 24.19 270 P **P 01 01 03.8 -0.7**
LYN sP sP 01 01 19.3 -1.8
LYN pmax pmax
comp=Z,70nm,0.9s
LYN LR LR
comp=Z,240nm,15.3s
LYN LR LR
comp=Z,220nm,14.2s
LYN LR LR
comp=Z,340nm,19.0s
WHN Wuhan 24.20 260 P **P 01 01 03.5 -1.2**
WHN pmax pmax
comp=Z,40nm,0.6s
WHN LR LR
comp=Z,1μm,19.6s
CIT Chita 24.24 314 *e*P **P 01 01 05.0 +0.1**
CIT *e* 01 01 10.8
CIT pmax pmax
comp=Z,113nm,1.1s
BTO Baotou 24.90 285 *e*P **P 01 01 10.8 -0.3**
BTO pP **pP 01 01 22.3 -0.2**
BTO sP **sP 01 01 27.8 +0.2**
BTO PP **PnPn 01 01 48.8 +3.6**
BTO S **S 01 05 31.3 -0.1**
BTO sS **sS 01 05 47.5 -2.8**
BTO SS **SnSn 01 06 28.5 +6.6**
BTO pmax pmax
comp=Z,17nm,1.0s
BTO pmax pmax
comp=Z,270nm,4.7s
BTO LR LR
comp=Z,660nm,17.5s
BTO LR LR
comp=Z,850nm,17.0s
YAK Yakutsk 24.98 346 P **P 01 01 10.1 -1.2**
YAK IAmb IAmb 01 01 14.1
comp=Z,37nm,0.8s
YAK Yakutsk 24.98 346 LR LR 01 12 18.0
comp=Z,52nm,21.1s,baz=190,slow=40
YAK Yakutsk 24.98 346 *e*P **P 01 01 11.4 0.0**
YAK *e*PP **pP 01 01 23.8 +1.1**
YAK *e* 01 01 49.4
YAK *e* 01 04 42.2
YAK *e*S **S 01 05 32.2 +0.2**
YAK *e* 01 12 06.0
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,239nm,4.3s
YAK pmax pmax
comp=E,86nm,4.8s
YAK smax smax
comp=N,25nm,2.1s
SEY Seymchan 25.42 11⇓*e*P **P 01 01 17.6 +2.2**
SEY pmax pmax
comp=Z,7.0nm,1.3s
SHEM Shemya Is, Ala 26.31 46 LR LR 01 10 41.4
comp=Z,49nm,21.5s,baz=329,slow=34
CNSH ChangSha 26.41 256 P **P 01 01 24.0 -0.7**
CNSH pmax pmax
comp=Z,26nm,1.0s
BOD Bodaibo 26.82 326 *e*P **P 01 01 27.8 -0.3**
BOD pmax pmax
comp=Z,13nm,0.9s
XAN Xi'an 27.14 271 P **P 01 01 30.5 -0.8**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN LR LR
comp=Z,240nm,16.1s
XAN LR LR
comp=Z,300nm,16.0s
XAN LR LR
comp=Z,270nm,15.3s
ULN Ulaanbaatar 27.20 302*de*P **P 01 01 32.5 +0.6**
ULN pmax pmax
comp=Z,7.0nm,1.0s
SONM Songino Array 27.64 302 P **P 01 01 35.8 +0.1**
SONM IAmb IAmb 01 02 13.4
comp=Z,13nm,0.4s
SONM Songino Array 27.64 302 P **P 01 01 36.2 +0.4**
comp=Z,3.8nm,0.6s,baz=108,slow=9.4,SNR=18
SONM PcP **PcP 01 04 52.5 +0.4**
comp=Z,1.2nm,0.7s,baz=114,slow=2.1,SNR=4.0
SONM LR LR 01 12 58.5
comp=Z,123nm,18.1s,baz=140,slow=37
comp=Z,3.8nm,0.6s
ENH Enshi 28.11 263 P **P 01 01 38.5 -1.5**
H11N2 WAKE ISLAND Hy 28.28 124 T T 01 31 51.2
baz=317,slow=75
H11N1 WAKE ISLAND Hy 28.29 124 T T 01 32 22.4
baz=317,slow=75
H11N3 WAKE ISLAND Hy 28.30 124 T T 01 32 22.6
baz=317,slow=75
H11S1 WAKE ISLAND Hy 29.04 126 T T 01 33 09.3
baz=318,slow=76
H11S3 WAKE ISLAND Hy 29.05 126 T T 01 33 09.4
baz=318,slow=76
H11S2 WAKE ISLAND Hy 29.06 126 T T 01 33 10.5
baz=318,slow=76
GULI GuiLin 29.87 254 P **P 01 01 57.0 +1.4**
GULI pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 30.01 306 *e*P **P 01 01 56.4 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
LZH Lanzhou 30.51 278 *e*P **P 01 02 01.8 +0.4**
LZH pP pP 01 02 09.3 -3.6
LZH sP sP 01 02 14.0 -4.0
LZH pmax pmax
comp=Z,42nm,1.3s
LZH LR LR
comp=Z,250nm,14.1s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,280nm,14.1s
MOY Mondy 31.63 308 *e*P **P 01 02 10.9 -0.1**
GYA Guiyang 32.09 259 ⇓P **P 01 02 14.5 -0.8**
GYA S **S 01 07 20.3 -4.4**
GYA pmax pmax
comp=Z,17nm,0.9s
GYA pmax pmax
comp=Z,140nm,3.5s
GYA LR LR
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,190nm,5.6s
GYA LR LR
comp=Z,120nm,5.4s
CD2 Chengdu 32.34 269 P **P 01 02 16.8 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
BILL Bilibino 32.62 17⇑*e*P **P 01 02 20.5 +1.1**
BILL pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 32.83 285 *e*P **P 01 02 23.0 +1.3**
GTA pP pP 01 02 29.5 -3.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,97nm,14.3s
GTA LR LR
comp=Z,230nm,16.3s
GTA LR LR
comp=Z,310nm,15.9s
QIZ Qiongzhong 34.05 245 P **P 01 02 32.8 +0.5**
QIZ pmax pmax
comp=Z,170nm,12.3s
QIZ LR LR
comp=Z,170nm,14.4s
QIZ LR LR
comp=Z,140nm,13.1s
QIZ LR LR
comp=Z,190nm,16.5s
TIXI Tiksi 34.11 352 P **P 01 02 31.6 -0.7**
TIXI Tiksi 34.11 352 P **P 01 02 31.6 -0.7**
comp=Z,1.6nm,0.3s,baz=166,slow=5.8,SNR=8.9
TIXI LR LR 01 18 09.3
comp=Z,97nm,20.8s,baz=185,slow=39
comp=Z,1.6nm,0.3s
TIXI Tiksi 34.11 352⇑*e*P **P 01 02 31.9 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 34.11 352 P **P 01 02 31.9 -0.3**
KMI Kunming 35.81 260 ⇑P **P 01 02 48.3 +0.6**
KMI pmax pmax
comp=Z,30nm,0.8s
KMI LR LR
comp=Z,180nm,15.6s
KMI LR LR
comp=Z,170nm,16.7s
KMI LR LR
comp=Z,260nm,16.8s
PZH PanZhiHua 35.89 263 P **P 01 02 48.0 -0.3**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,120nm,4.9s
SLVN Son La 37.00 254 P **P 01 02 57.4 -0.3**
GOMU GeErMu 37.48 282 P **P 01 03 02.3 +0.3**
GOMU pmax pmax
comp=Z,39nm,0.9s
UBPT Khong Chiam 39.65 245 P **P 01 03 21.5 +1.5**
WMQ Urumqi 40.86 296 *e*P **P 01 03 31.3 +1.5**
WMQ sP sP 01 03 46.0 -0.6
WMQ pmax pmax
comp=Z,56nm,0.7s
WMQ pmax pmax
comp=Z,290nm,4.5s
WMQ LR LR
comp=Z,120nm,22.3s
WMQ Urumqi 40.86 296 P **P 01 03 31.2 +1.5**
WMQ pP **sP 01 03 45.7 -1.0**
ZAA0 Zalesovo Array 41.55 311 P **P 01 03 34.4 -0.8**
ZAA0 IAmb IAmb 01 03 51.9
comp=Z,32nm,1.6s
ZALV Zalesovo Beam 41.55 311 P **P 01 03 34.6 -0.6**
ZALV Zalesovo Beam 41.55 311 P **P 01 03 35.4 +0.2**
comp=Z,8.6nm,0.4s,baz=84,slow=7.8,SNR=47
ZALV PcP **PcP 01 05 32.2 +0.4**
comp=Z,4.4nm,0.6s,baz=83,slow=3.3,SNR=5.2
ZALV LR LR 01 21 32.5
comp=Z,103nm,19.5s,baz=70,slow=37
comp=Z,8.6nm,0.4s
ZSN Zaisan 42.16 302 *e*P **P 01 03 40.4 +0.1**
ZSN pmax pmax
comp=Z,15nm,0.8s
ZSN Zaisan 42.16 302 *e*P **P 01 03 40.5 +0.1**
comp=Z,15nm,0.8s
CHTO Chiang Mai 42.24 255 P **P 01 03 39.9 -1.4**
CHTO Chiang Mai 42.24 255 P **P 01 03 39.9 -1.4**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 42.39 335 P **P 01 03 41.5 -0.4**
NRIK Noril'sk 42.39 335 P **P 01 03 40.9 -0.9**
comp=Z,3.7nm,0.5s,baz=110,slow=6.6,SNR=9.0
NRIK LR LR 01 21 50.3
comp=Z,152nm,20.1s,baz=78,slow=37
comp=Z,3.7nm,0.5s
NRIK Noril'sk 42.39 335*ce*P **P 01 03 41.5 -0.4**
NRIK pmax pmax
comp=Z,10.0nm,1.3s
CMAR Chiang Mai Arr 42.45 255 P **P 01 03 42.7 -0.3**
CMAR Chiang Mai Arr 42.45 255 P **P 01 03 42.2 -0.8**
comp=Z,2.7nm,0.6s,baz=45,slow=6.0,SNR=19
CMAR PcP **PcP 01 05 35.2 -0.2**
comp=Z,3.0nm,0.4s,baz=62,slow=3.0,SNR=5.0
comp=Z,2.7nm,0.6s
CMAR Chiang Mai Arr 42.45 255 *i* P **P 01 03 43.0 0.0**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
LSA Lhasa 42.75 274 P **P 01 03 47.3 +1.4**
LSA pmax pmax
comp=Z,13nm,0.7s
C18K Utukok River 42.85 27 IAmb IAmb 01 04 00.7
comp=Z,28nm,1.7s
MK31 Makanchi Array 44.00 301 IAmb IAmb 01 04 12.0
comp=Z,16nm,0.8s
MK31 Makanchi Array 44.00 301*ce*P **P 01 03 55.2 -0.1**
MKAR Makanchi Array 44.00 301 P **P 01 03 54.7 -0.5**
MKAR Makanchi Array 44.00 301 P **P 01 03 55.4 +0.1**
comp=Z,11nm,0.8s,baz=84,slow=8.3,SNR=71
MKAR pP **pP 01 04 06.4 -0.7**
comp=Z,7.6nm,0.7s,baz=80,slow=9.9,SNR=7.8
MKAR LR LR 01 22 57.0
comp=Z,76nm,19.6s,baz=328,slow=37
comp=Z,11nm,0.8s
SHL Shillong 44.08 269 P **P 01 03 55.0 -1.3**
SHL IAmb IAmb 01 04 00.8
comp=Z,12nm,0.7s
SHL Shillong 44.08 269 P **P 01 03 55.0 -1.3**
SHL pmax pmax
comp=Z,12nm,0.7s
MAKZ Makanchi 44.21 301 P **P 01 03 56.1 -0.8**
MAKZ IAmb IAmb 01 04 13.8
comp=Z,21nm,0.9s
MAKZ Makanchi 44.21 301 P **P 01 03 57.3 +0.4**
MAKZ Makanchi 44.21 301 P **P 01 03 57.3 +0.4**
MAKZ pP **sP 01 04 12.2 -1.5**
B20K Meade River 44.56 25 P **P 01 04 00.8 +1.5**
B21K Ikpikpuk River 45.36 26 IAmb IAmb 01 04 26.7
comp=Z,55nm,2.0s
KURK Kurchatov 45.67 307 P **P 01 04 07.6 -0.8**
KURK Kurchatov 45.67 307*d i*P **P 01 04 07.8 -0.6**
KURK pmax pmax
comp=Z,36nm,0.8s
KURK Kurchatov 45.67 307 P **P 01 04 08.4 +0.1**
KURK pP **sP 01 04 23.7 -1.5**
KDAK Kodiak Island 45.72 43 LR LR 01 21 58.7
comp=Z,92nm,21.7s,baz=65,slow=34
KURBB Kurchatov Arra 45.74 307 P **P 01 04 09.1 +0.1**
comp=Z,18nm,0.5s,baz=82,slow=8.2,SNR=72
KURBB pP **pP 01 04 20.1 -0.7**
comp=Z,10nm,0.4s,baz=82,slow=8.6,SNR=5.0
KURBB PcP **PcP 01 05 46.4 +0.3**
comp=Z,0.6nm,0.5s,baz=93,slow=3.8,SNR=0.4
KURBB LR LR 01 23 45.6
comp=Z,137nm,20.2s,baz=168,slow=37
comp=Z,18nm,0.5s
CAST Castle Rocks 45.81 35 P **P 01 04 11.3 +1.9**
E22K Anaktuvuk Pass 46.17 28 P **P 01 04 15.6 +3.4**
E22K IAmb IAmb 01 04 47.5
comp=Z,37nm,2.0s
C23K Itkillik River 46.77 26 IAmb IAmb 01 04 47.4
comp=Z,9.2nm,0.9s
SHLS Shalkode 46.83 297 *e*P **P 01 04 15.3 -2.5**

SHLS Shalkode 46.83 297 *eP* **P 01 04 15.3 -2.5**
TDK Taldyqorghan 47.06 300 *eP* **P 01 04 19.6 +0.2**
TDK pmax pmax
comp=Z,4.0nm,0.6s
TDK Taldyqorghan 47.06 300 *eP* **P 01 04 19.7 +0.2**
comp=Z,4.5nm,0.6s
UZB Uzynbulak 47.14 297 *eP* **P 01 04 20.1 -0.2**
UZB Uzynbulak 47.14 297 *eP* **P 01 04 20.1 -0.2**
KPKS Kokpek 47.29 297 *eP* **P 01 04 21.3 0.0**
KPKS pmax pmax
comp=Z,10.0nm,1.6s
KPKS Kokpek 47.29 297 *eP* **P 01 04 21.3 0.0**
comp=Z,10nm,1.6s
GHO Glory Hole Cre 47.30 37 P **P 01 04 24.9 +3.7**
GHO IAmb IAmb 01 04 55.8
comp=Z,13nm,1.2s
ZHN Zhinishke 47.55 297 *eP* **P 01 04 23.2 -0.1**
ZHN Zhinishke 47.55 297 *eP* **P 01 04 23.3 -0.1**
WRH Wood River Hil 47.56 33 P **P 01 04 26.6 +3.6**
WUS Wushi 47.59 294 IAmb IAmb 01 04 42.4
comp=Z,14nm,0.7s
WUS Wushi 47.59 294 P **P 01 04 24.7 +0.9**
WUS pP **sP 01 04 40.4 -0.3**
SATY Saty 47.60 297 *eP* **P 01 04 23.7 -0.1**
SATY Saty 47.60 297 *eP* **P 01 04 23.8 -0.1**
KAPI Kappang 47.89 211 P **P 01 04 26.4 +0.3**
KAPI IAmb IAmb 01 04 29.2
comp=Z,36nm,1.4s
KAPI Kappang 47.89 211 LR LR 01 25 22.9
comp=Z,20nm,19.4s,baz=23,slow=37
KAPI Kappang 47.89 211 *ceP* **P 01 04 27.1 +1.0**
KAPI pmax pmax
comp=Z,20nm,1.1s
IL31 48.07 33 P **P 01 04 27.5 +0.6**
IL31 IAmb IAmb 01 05 03.2
comp=Z,21nm,1.8s
ILAR Eielson Array 48.07 33 P **P 01 04 28.2 +1.2**
comp=Z,1.0nm,0.7s,baz=276,slow=7.5,SNR=9.9
ILAR pP **pP 01 04 38.6 -0.2**
comp=Z,1.5nm,0.5s,baz=267,slow=6.6,SNR=9.4
comp=Z,1.0nm,0.7s
AAA Alma-Ata 48.60 298 *eP* **P 01 04 31.4 0.0**
AAA Alma-Ata 48.60 298 *eP* **P 01 04 31.5 0.0**
BMAR Burnt Mountain 48.90 29 P **P 01 04 36.1 +2.7**
C27K Jago River 49.16 26 P **P 01 04 37.2 +1.9**
C27K IAmb IAmb 01 04 51.7
comp=Z,16nm,1.6s
BOOM Boomskoye usch 49.50 297 IAmb IAmb 01 04 42.9
comp=Z,8.1nm,0.6s
BRZS Berezniki 49.54 307 *eP* **P 01 04 38.3 -0.2**
BRZS pmax pmax
comp=Z,10.0nm,1.5s
BRZS Berezniki 49.54 307 *eP* **P 01 04 38.4 -0.2**
comp=Z,10nm,1.5s
SGDS Sogindy 50.10 299 *eP* **P 01 04 42.9 0.0**
SGDS Sogindy 50.10 299 *eP* **P 01 04 42.9 0.0**
BVAR Borovoye Array 50.20 312 P **P 01 04 43.6 +0.2**
comp=Z,4.3nm,0.7s,baz=67,slow=8.2,SNR=21
BVAR PcP **PcP 01 06 02.8 +0.7**
comp=Z,6.5nm,0.6s,baz=78,slow=3.4,SNR=8.6
comp=Z,4.3nm,0.7s
BRVK Borovoye 50.26 312 P **P 01 04 43.6 -0.3**
BRVK Borovoye 50.26 312 *c iP* **P 01 04 43.9 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 50.26 312 P **P 01 04 44.0 +0.1**
AAK Ala-Archa 50.46 298 P **P 01 04 45.1 -0.6**
AAK Ala-Archa 50.46 298 LR LR 01 26 39.5
comp=Z,86nm,19.9s,baz=62,slow=37
AAK Ala-Archa 50.46 298 *ceP* **P 01 04 45.8 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.2s
BCAR Beaver Creek A 50.48 35 P **P 01 04 46.9 +1.5**
KSH Kashi 50.49 293 P **P 01 04 50.5 +4.5**
KSH sP sP 01 05 06.0 +3.1
KSH pmax pmax
comp=Z,5.0nm,0.9s
I28M Miner Creek 50.94 32 P **P 01 04 51.3 +2.3**
I28M IAmb IAmb 01 05 06.6
comp=Z,20nm,1.8s
MTN Manton Dam 51.94 194 P **P 01 04 57.2 +0.5**
MTN IAmb IAmb 01 04 58.3
comp=Z,19nm,1.1s
ARSB Arslanbob 51.97 297 IAmb IAmb 01 05 15.9
comp=Z,18nm,0.9s
DZA Taraz 52.57 299 *eP* **P 01 05 01.4 +0.1**
DZA pmax pmax
comp=Z,7.0nm,0.7s
DZA Taraz 52.57 299 *eP* **P 01 05 01.5 +0.1**
comp=Z,6.5nm,0.7s
PSI Prapat 53.00 239 LR LR 01 28 50.7
comp=Z,76nm,19.3s,baz=31,slow=37
KK31 Karatay Array 53.05 300 IAmb IAmb 01 05 06.1
comp=Z,8.4nm,0.9s
KKAR Karatay Array 53.05 300 P **P 01 05 03.8 -1.1**
KKAR Karatay Array 53.05 300 P **P 01 05 03.8 -1.1**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
H31M Peel River 53.16 31 IAmb IAmb 01 05 34.4
comp=Z,8.6nm,0.9s
BRLS Borolday 53.54 300 *eP* **P 01 05 10.0 +1.5**
BRLS Borolday 53.54 300 *eP* **P 01 05 10.1 +1.5**
SVE Sverdlovsk 54.63 318 *eP* **P 01 05 17.1 +1.0**
SVE pmax pmax
comp=Z,27nm,0.9s
GAR Garm 54.74 295 P **P 01 05 16.8 -0.7**
GAR IAmb IAmb 01 05 19.1
comp=Z,22nm,1.2s
A36M Sachs Harbour 54.83 22 P **P 01 05 19.2 +1.8**
NIL Nilore 54.84 288 P **P 01 05 18.4 +0.3**
NIL Nilore 54.84 288 P **P 01 05 18.4 +0.3**
NIL pmax pmax
comp=Z,32nm,0.9s
NIL Nilore 54.84 288 P **P 01 05 19.0 +0.9**
GSI Gunungsitoli 55.01 239 P **P 01 05 19.8 +0.3**
GSI Gunungsitoli 55.01 239 P **P 01 05 21.0 +1.5**
MDSI Maura Dua 55.27 228 P **P 01 05 21.8 +0.5**
SIMJ Simiganj 55.82 295 P **P 01 05 24.6 -0.6**
SIMJ IAmb IAmb 01 05 27.4
comp=Z,21nm,0.9s
SIMJ Simiganj 55.82 295 P **P 01 05 25.3 +0.1**
ARTI Arti 55.95 318 P **P 01 05 25.3 -0.4**
ARTI Arti 55.95 318 LR LR 01 31 42.4
comp=Z,156nm,18.2s,baz=61,slow=38
ARTI Arti 55.95 318 *c iP* **P 01 05 25.8 +0.2**
ARTI *PP **pP 01 05 36.7 -1.1**
ARTI 01 07 26.9
ARTI S **S 01 13 10.9 +0.6**
ARTI SS **SS 01 16 56.8 +0.8**
ARTI pmax pmax
comp=Z,31nm,0.8s
ARTI Arti 55.95 318 P **P 01 05 25.9 +0.3**
KBL Kabul 57.57 291 P **P 01 05 37.0 -0.8**
KBL IAmb IAmb 01 05 38.5
comp=Z,18nm,1.0s
KBL Kabul 57.57 291 P **P 01 05 37.0 -0.8**
KBL pmax pmax
comp=Z,18nm,1.0s
ABKAR Akbulak array 57.62 310 P **P 01 05 37.5 -0.1**
ABKAR IAmb IAmb 01 05 38.5
comp=Z,13nm,0.7s
FITZ Fitzroy Crossi 58.23 199 P **P 01 05 42.9 +0.7**
WB0 Warramunga Arr 58.23 189 IAmb IAmb 01 05 43.2
comp=Z,16nm,0.9s
WRAB Tennant Creek 58.41 189 P **P 01 05 43.5 +0.2**
WRAB IAmb IAmb 01 05 44.5
comp=Z,13nm,0.9s
WRAB Tennant Creek 58.41 189 *deP* **P 01 05 43.7 +0.4**
WRAB pmax pmax
comp=Z,12nm,0.9s
WR0 Warramunga Arr 58.41 188 IAmb IAmb 01 05 44.5
comp=Z,10nm,0.9s
WB2 Warramunga Arr 58.41 189 P **P 01 05 43.2 -0.2**
WB2 IAmb IAmb 01 05 44.5
comp=Z,13nm,0.9s
WRA Warramunga Arr 58.41 189 P **P 01 05 43.3 -0.1**
WRA Warramunga Arr 58.41 189 P **P 01 05 43.6 +0.1**
comp=Z,8.1nm,0.7s,baz=7,8,slow=7.7,SNR=78
comp=Z,8.1nm,0.7s
WRA Warramunga Arr 58.41 189 *i* P **P 01 05 43.5 +0.1**
WRA pmax pmax
comp=Z,6.0nm,0.6s
KIRV Kirov 59.62 323 *ceP* **P 01 05 51.9 +0.5**
BBB Bella Bella 60.70 45 LR LR 01 34 45.0
comp=Z,22nm,19.1s,baz=296,slow=38
RES Resolute Bay 61.20 15 P **P 01 06 01.9 0.0**
RES Resolute Bay 61.20 15 P **P 01 06 01.9 0.0**
RES pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 62.14 189 P **P 01 06 09.2 +0.3**
ASAR Alice Springs 62.14 189 P **P 01 06 09.4 +0.6**
comp=Z,5.6nm,0.7s,baz=11,slow=6.5,SNR=66
ASAR pP **pP 01 06 21.4 +0.3**
comp=Z,2.6nm,0.9s,baz=11,slow=4.7,SNR=5.3
comp=Z,5.6nm,0.7s
YKA Yellowknife Ar 62.38 31 P **P 01 06 10.5 +0.5**
comp=Z,0.6nm,0.7s,baz=300,slow=7.0,SNR=7.5
YKA pP **pP 01 06 23.6 +1.4**
comp=Z,0.4nm,0.6s,baz=296,slow=6.9,SNR=4.6
comp=Z,0.6nm,0.7s
MBWA Marble Bar 62.81 204 P **P 01 06 13.3 -0.1**
MBWA Marble Bar 62.81 204 P **P 01 06 13.7 +0.4**
KLMR Klimovskoe 63.03 328 *eP* **P 01 06 13.5 -0.8**
KLMR pmax pmax
comp=Z,26nm,1.6s
ARCES ARCESS Array B 63.03 339 P **P 01 06 14.8 +0.6**
ARCES ARCESS Array B 63.03 339 P **P 01 06 14.9 +0.6**
comp=Z,3.1nm,0.6s,baz=55,slow=7.8,SNR=18
ARCES pP **pP 01 06 27.0 +0.4**
comp=Z,13nm,1.2s,baz=64,slow=8.2,SNR=2.2
comp=Z,3.1nm,0.6s
PSA00 Pilbara Seismi 63.17 203 P **P 01 06 15.9 +0.2**
PSA00 IAmb IAmb 01 07 55.0
comp=Z,28nm,1.4s
BELG Belogornoye 63.31 317 LR LR 01 36 32.4
comp=Z,67nm,18.5s,baz=317,slow=39
BELG Belogornoye 63.31 317 *c iP* **P 01 06 16.4 0.0**
BELG pmax pmax
comp=Z,5.0nm,0.9s
DZM Mont Dzumac 64.22 155 *e*LR LR 01 25 34.1
comp=Z,115nm,23.8s
DZM Mont Dzumac 64.22 155 LR LR 01 30 43.9
comp=Z,53nm,21.5s,baz=146,slow=32
JOF Joensuu 65.14 332 *eP* **P 01 06 28.2 0.0**
VRH Novokhopyorsk 67.07 318 *eP* **P 01 06 38.3 -2.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 67.46 323 *deP* **P 01 06 43.7 +0.5**
OBN *e*PP **pP 01 06 56.9 +1.4**
OBN *e* 01 07 09.4
OBN *e* 01 09 13.0
OBN *e*PPP PPP 01 10 49.8
OBN pmax pmax
comp=Z,19nm,1.7s
KEF Keuruu 67.95 333 *eP* **P 01 06 46.4 +0.3**
FIA1 FINESS Array S 67.99 332 P **P 01 06 46.1 -0.2**
FINES FINESS Array B 67.99 332 P **P 01 06 46.3 -0.1**
FINES FINESS Array B 67.99 332 P **P 01 06 46.7 +0.4**
comp=Z,17nm,0.7s,baz=34,slow=9.3,SNR=69
FINES pP **pP 01 06 58.6 -0.2**
comp=Z,3.7nm,0.5s,baz=48,slow=8.1,SNR=4.1
comp=Z,17nm,0.7s
VORR Voronezh 68.12 319 *eP* **P 01 06 46.3 -1.1**
VORR pmax pmax
comp=Z,10.0nm,0.8s
VAF Ylistaro 68.12 335 *eP* **P 01 06 48.1 +1.0**
VSR Storozhevoye 68.40 319 *eP* **P 01 06 47.1 -2.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 68.48 319 *eP* **P 01 06 48.2 -1.4**
VORD pmax pmax
comp=Z,6.0nm,0.9s
ARBE Arbavere 69.34 331 *eP* **P 01 06 55.3 +0.5**
SUMG Summit 69.41 0 P **P 01 06 56.4 +0.8**
SUMG Summit 69.41 0 P **P 01 06 56.4 +0.8**
SUMG pmax pmax
comp=Z,55nm,2.0s
MEF Metsahovi 69.42 332 *eP* **P 01 06 56.0 +0.7**
VSU Vasula 69.68 330 *ceP* **P 01 06 56.2 -0.7**
VSU pmax pmax
comp=Z,43nm,2.5s
VSU Vasula 69.68 330 *eP* **P 01 06 57.0 +0.1**
GOF Gofitskoye 69.73 312 *ceP* **P 01 06 58.0 +0.5**
RAF Rauma 69.82 333 *eP* **P 01 06 58.5 +0.8**
STKA Stephens Creek 69.83 181 P **P 01 06 58.6 +0.6**
comp=Z,2.5nm,0.9s,baz=21,slow=6.9,SNR=3.7
comp=Z,2.5nm,0.9s
FORT Forrest 70.00 193 P **P 01 06 59.5 +0.4**
KIV Kislovodsk 70.56 311 P **P 01 07 03.4 +0.6**
KIV Kislovodsk 70.56 311 *eP* **P 01 07 03.3 +0.6**
KIV pmax pmax
comp=Z,32nm,1.0s
KIV Kislovodsk 70.56 311 P **P 01 07 03.7 +0.9**
KBZ Khabaz 70.56 311 P **P 01 07 03.3 +0.7**
comp=Z,11nm,0.9s,baz=38,slow=3.7,SNR=20
comp=Z,11nm,0.9s
KBZ Khabaz 70.56 311 *c iP* **P 01 07 03.1 +0.5**
KBZ pmax pmax
comp=Z,12nm,0.9s
MTSE Matsula 70.66 331 *eP* **P 01 07 04.0 +1.2**
BBOO Buckleboo 70.99 185 P **P 01 07 05.9 +0.8**
MORW Morawa 71.36 204 P **P 01 07 07.0 -0.4**
MORW IAmb IAmb 01 08 20.6
comp=Z,44nm,1.6s
GNI Garni 71.46 307 LR LR 01 40 14.0
comp=Z,45nm,19.5s,baz=4.5,slow=37
MNK Minsk 71.80 326 *i* P **P 01 07 08.7 -1.2**
MNK *i* 01 09 47.0
MNK *i* PPP PPP 01 11 31.9
MNK *i* S **S 01 16 27.6 +0.7**
MNK *i* SSS SSS 01 24 17.4
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK MLR MLR
comp=Z,110nm,10.0s
MNK MLR MLR
comp=E,530nm,23.0s
MNK MLR MLR
comp=N,251nm,19.0s
IIGN Ignalina 71.96 327 *eP* **P 01 07 11.9 +1.1**
FFC Flin Flon 72.28 33 P **P 01 07 13.7 +0.9**
FFC Flin Flon 72.28 33 P **P 01 07 13.7 +0.9**
FFC pmax pmax
comp=Z,5.0nm,1.0s
FCC Fort Churchill 72.57 27 P **P 01 07 14.9 +0.5**
FCC IAmb IAmb 01 07 33.7
comp=Z,18nm,1.8s
FCC Fort Churchill 72.57 27 P **P 01 07 14.9 +0.5**
FCC pmax pmax
comp=Z,18nm,1.8s
PABE Paberze 72.80 328 *eP* **P 01 07 17.2 +1.4**
NC303 NORSAR Array S 73.07 338 P **P 01 07 17.1 -0.2**
ANN Anapa 73.11 314 *eP* P 01 07 12.1 -5.8
ANN *e*PP pP 01 07 25.2 -5.2
ANN *e*S **S 01 16 33.5 -8.7**
ANN pmax pmax
comp=Z,46nm,1.0s
HFS Hagfors 73.19 336 P **P 01 07 18.3 +0.2**
comp=Z,12nm,0.8s,baz=46,slow=6.4,SNR=15
HFS pP **pP 01 07 30.8 +0.2**
comp=Z,3.6nm,0.4s,baz=66,slow=7.3,SNR=5.1
comp=Z,12nm,0.8s
NC204 NORSAR Array S 73.21 338 IAmb IAmb 01 07 20.3
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 73.26 337 P **P 01 07 19.2 +0.6**
comp=Z,4.3nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 73.26 337 P **P 01 07 18.8 +0.2**
comp=Z,6.5nm,0.8s,baz=38,slow=5.9,SNR=28
NOA pP **pP 01 07 31.0 -0.1**
comp=Z,5.2nm,0.9s,baz=38,slow=6.0,SNR=7.2
NOA LR LR 01 44 23.5
comp=Z,70nm,18.3s,baz=345,slow=40
comp=Z,6.5nm,0.8s
AKASG Malin Array Be 73.69 322 P **P 01 07 21.3 +0.2**
comp=Z,13nm,0.7s,baz=46,slow=5.9,SNR=65
comp=Z,13nm,0.7s
AKASG Malin Array Be 73.69 322 *i* P **P 01 07 21.2 0.0**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKBB Malin Array Si 73.69 322 P **P 01 07 21.0 -0.1**
AKBB IAmb IAmb 01 07 22.2
comp=Z,16nm,0.8s
AKBB Malin Array Si 73.69 322 ⇑ *i* P **P 01 07 21.3 +0.1**
AKBB Malin Array Si 73.69 322 P **P 01 07 21.1 -0.1**
KIEV Kiev 73.70 322 P **P 01 07 20.9 -0.3**
KIEV IAmb IAmb 01 07 22.2
comp=Z,14nm,0.8s
KIEV Kiev 73.70 322 P **P 01 07 20.9 -0.3**
KIEV pmax pmax
comp=Z,14nm,0.8s
NVAR Mina Array Bea 73.71 54 P **P 01 07 23.0 +1.1**
comp=Z,0.4nm,0.5s,baz=318,slow=11,SNR=1.7
NVAR pP **pP 01 07 35.5 +1.3**
comp=Z,4.7nm,0.9s,baz=286,slow=6.3,SNR=9.3
comp=Z,0.4nm,0.5s
SUW Suwalki 74.16 328 *eP* **P 01 07 24.9 +1.0**
RNPP9 Sopachiv 74.77 324 P **P 01 07 27.4 -0.1**
RNPP8 Varash 74.84 324 P **P 01 07 27.8 -0.1**
STRU Stroemstad 74.85 336 *i* P **P 01 07 28.0 +0.2**
BLEU Blekinge 75.39 332 *i* P **P 01 07 30.2 -0.7**
MARD Mardin 75.64 306 P **P 01 07 33.7 +0.8**
MARD IAmb IAmb 01 07 34.8
comp=Z,11nm,0.8s
SORM Soroca 75.82 321 ⇓ P **P 01 07 33.7 +0.1**
SORM Soroca 75.82 321 P **P 01 07 33.6 +0.1**
ONAU Onsala 75.91 335 *i* P **P 01 07 33.0 -0.8**
FABU Falkenberg 75.95 334 *i* P **P 01 07 33.7 -0.4**
DEL Delary 75.96 333 *i* P **P 01 07 33.7 -0.5**
PDAR Pinedale Array 76.31 46 P **P 01 07 38.0 +1.2**
PDAR Pinedale Array 76.31 46 P **P 01 07 38.0 +1.2**
comp=Z,0.6nm,0.5s,baz=294,slow=4.5,SNR=10
PDAR pP **pP 01 07 50.0 +0.8**
comp=Z,3.9nm,0.7s,baz=28,slow=0.4,SNR=18
comp=Z,0.6nm,0.5s
KMPD K-Podol'skiy 76.45 322 P **P 01 07 37.0 -0.1**
BJUU Bjuv 76.56 333 *i* P **P 01 07 37.5 -0.1**
BSD Bornholm Skovb 76.63 332 *i* P **P 01 07 38.4 +0.4**
BSD IAmb IAmb 01 07 39.0
comp=Z,26nm,1.0s
SNART Snartemo 76.65 337 *i* P **P 01 07 38.4 +0.4**
LUNU Lund 76.76 333 *i* P **P 01 07 38.8 +0.1**
GOET G??ttrup 77.08 336 *i* P **P 01 07 39.1 -1.4**
GOET IAmb IAmb 01 07 39.7
comp=Z,31nm,0.9s
KWP Kalwaria Pacla 77.47 325 *eP* **P 01 07 44.2 +1.3**
BUR08 Bucovina Ar. S 77.70 322 P **P 01 07 45.0 +0.7**
BURAR Bucovina Array 77.71 322 P **P 01 07 45.1 +0.7**
BURAR Bucovina Array 77.71 322 ⇑ P **P 01 07 45.2 +0.8**
BURAR Bucovina Array 77.71 322 P **P 01 07 45.2 +0.8**
RDMU Red Mountain 77.71 48 P **P 01 07 46.2 +1.5**
RDMU IAmb IAmb 01 08 00.3
comp=Z,11nm,1.2s
TESR Tescani 77.77 320 ⇓ P **P 01 07 45.5 +0.9**
PFO Pinyon Flats O 77.80 57 LR LR 01 35 55.5
comp=Z,41nm,20.5s,baz=342,slow=31
CFR Carcaliu 77.92 319 ⇑ P **P 01 07 46.3 +0.9**
CFR Carcaliu 77.92 319 P **P 01 07 46.3 +0.9**
TPGR Topolog 77.99 318 ⇑ P **P 01 07 47.2 +1.3**
ULM Lac du Bonnet 78.08 34 P **P 01 07 46.9 +0.6**
comp=Z,1.0nm,0.4s,baz=299,slow=3.4,SNR=2.7
ULM pP **pP 01 07 59.1 +0.3**
comp=Z,2.7nm,0.7s,baz=311,slow=8.8,SNR=4.4
comp=Z,1.0nm,0.4s
KOLS Kolonicke sedl 78.17 324 *eP* **P 01 07 48.4 +1.6**
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 78.17 324 *eP* **P 01 07 48.4 +1.6**
VRI Vrincioaia 78.17 320 ⇑ P **P 01 07 48.7 +1.8**
VRI Vrincioaia 78.17 320 P **P 01 07 48.7 +1.8**
SSRD Sdr. Stenderup 78.20 335 *i* P **P 01 07 45.0 -1.8**
SSRD IAmb IAmb 01 07 46.7
comp=Z,28nm,0.7s
OJC Ojcow 78.34 326 *eP* **P 01 07 48.4 +0.7**
COVR Voineasa-Covas 78.45 320 ⇑ P **P 01 07 50.1 +1.7**
BR131 Keskin Array S 78.49 312 P **P 01 07 49.1 +0.2**
BR131 IAmb IAmb 01 10 19.7
comp=Z,18nm,1.6s
BR131 Keskin Array S 78.49 312 P **P 01 07 49.1 +0.2**
BR131 pmax pmax
comp=Z,18nm,1.7s
BRTR Keskin Array B 78.49 312 P **P 01 07 49.3 +0.4**
comp=Z,1.1nm,0.5s,baz=111,slow=3.3,SNR=14
BRTR pP **pP 01 08 01.8 +0.3**
comp=Z,1.4nm,0.5s,baz=81,slow=3.6,SNR=5.0
comp=Z,1.1nm,0.5s
BRTR Keskin Array B 78.49 312 P **P 01 07 49.4 +0.5**
NIE Niedzica 78.71 326 *eP* **P 01 07 51.5 +1.7**
KIRS Kirsehir-Merke 78.71 311 ⇓ P **P 01 07 51.4 +1.3**
DOPR Dopca 78.78 321 ⇑ P **P 01 07 52.3 +2.1**
ISR Istrita 78.78 319 ⇑ P **P 01 07 52.4 +2.0**
ISR Istrita 78.78 319 P **P 01 07 52.3 +2.0**
ICOR Ion Corvin 78.82 318 ⇓ P **P 01 07 51.9 +1.4**
MLR Muntele Rosu 78.83 320 LR LR 01 48 03.2
comp=Z,126nm,18.2s,baz=18,slow=40
MLR Muntele Rosu 78.83 320 ⇑ P **P 01 07 52.4 +1.7**
MLR Muntele Rosu 78.83 320 P **P 01 07 52.3 +1.7**
BSEG Bad Segeberg 79.21 333 *eP* **P 01 07 53.7 +1.3**
comp=Z,6.8nm,0.9s,baz=36,slow=5.3
LANS Liptovska Anna 79.27 326 *eP* **P 01 07 55.3 +2.4**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 79.27 326 *eP* **P 01 07 55.3 +2.4**
VOIR 79.32 320 ⇑ P **P 01 07 54.8 +1.6**
VOIR 79.32 320 P **P 01 07 54.8 +1.6**
KSP Ksiaz 79.36 329 *eP* **P 01 07 54.3 +1.0**
MARR Marisel-Cluj 79.39 322 ⇑ P **P 01 07 54.7 +1.0**
STEB Steborice 79.43 327 *eP* **P 01 07 54.6 +0.9**
PV10 Paradox Valley 79.45 49 P **P 01 07 56.8 +2.4**
PV10 IAmb IAmb 01 08 11.8
comp=Z,18nm,0.8s
DRGR 79.50 323 ⇑ P **P 01 07 55.2 +1.0**
DRGR 79.50 323 P **P 01 07 55.2 +1.0**
ARR Arges 79.58 321 ⇓ P **P 01 07 56.6 +1.9**
MORC Moravsky Berou 79.64 327 P **P 01 07 55.9 +1.0**
MORC Moravsky Berou 79.64 327 *eP* **P 01 07 55.9 +1.0**
MORC Moravsky Berou 79.64 327 ⇓ P **P 01 07 56.2 +1.3**
MORC Moravsky Berou 79.64 327 P **P 01 07 56.2 +1.3**
DPC Dobruska-Polom 79.72 328 *eP* **P 01 07 56.6 +1.3**
DPC Dobruska-Polom 79.72 328 *eP* **P 01 07 56.6 +1.3**
KRLC Kraliky 79.74 328 *eP* **P 01 07 56.3 +0.9**
KRLC Kraliky 79.74 328 *eP* **P 01 07 56.3 +0.9**
PSZ Piszkesteto 79.99 325 ⇓ P **P 01 07 58.2 +1.3**
PSZ Piszkesteto 79.99 325 P **P 01 07 58.2 +1.3**
PSZ Piszkesteto 79.99 325 *eP* **P 01 07 57.7 +0.8**
FLTG Flechtingen 80.17 332 *eP* **P 01 07 58.1 +0.5**
comp=Z,6.1nm,0.9s,baz=36,slow=5.3
BRG Berggiesshubel 80.28 330 *eP* **P 01 07 59.3 +1.1**
BRG Amp 01 07 60.0
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 80.28 330 *eP* **P 01 07 59.3 +1.1**
comp=Z,3.6nm,0.9s,baz=36,slow=5.3
PVCC Panska Ves 80.30 329 *eP* **P 01 07 59.8 +1.4**
PVCC Panska Ves 80.30 329 *eP* **P 01 07 59.8 +1.4**
CLL Collm 80.31 330 IAmb IAmb 01 08 00.3
comp=Z,11nm,1.1s
CLL Collm 80.31 330 *i* P **P 01 07 58.8 +0.4**
CLL *e*PP **pP 01 08 11.0 -0.1**
CLL *i* *SP **sP 01 08 15.6 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 80.31 330 *i* P **P 01 07 58.8 +0.4**
comp=Z,10.0nm,1.0s
CLL *e*pP **pP 01 08 11.0 -0.1**
CLL *i* sP **sP 01 08 15.6 -0.3**
CLL Collm 80.31 330 *eP* **P 01 07 59.1 +0.7**
comp=Z,8.1nm,1.0s,baz=36,slow=5.3
VRAC Vranov 80.40 327 *eP* **P 01 08 00.1 +1.1**
VRAC Vranov 80.40 327 ⇓ P **P 01 08 00.7 +1.7**
VRAC Vranov 80.40 327 P **P 01 08 00.6 +1.7**
GZR Gura Zlata 80.47 322 ⇑ P **P 01 08 00.3 +0.7**
GZR Gura Zlata 80.47 322 P **P 01 08 00.2 +0.7**
SURR Surduc 80.53 322 ⇑ P **P 01 08 00.8 +1.1**
ASSE Asse, Remlinge 80.54 332 *eP* **P 01 08 00.3 +0.8**
comp=Z,2.3nm,0.9s,baz=36,slow=5.3
SMOL Smolenice 80.64 326 *eP* **P 01 08 01.9 +1.6**
KRUC Moravsky 80.67 327 *eP* **P 01 08 01.4 +1.0**
PRU Pruhonice 80.73 329 *eP* **P 01 08 01.5 +0.8**
PRU Pruhonice 80.73 329 *eP* **P 01 08 01.5 +0.8**
RAYN Ar Rayn 80.77 293 P **P 01 08 01.3 -0.1**
RAYN IAmb IAmb 01 08 02.5
comp=Z,13nm,1.2s
RAYN Ar Rayn 80.77 293 P **P 01 08 01.3 -0.1**
RAYN pmax pmax
comp=Z,13nm,1.3s
NEUB Neuenburg 80.86 331 *eP* **P 01 08 02.3 +1.0**
comp=Z,6.9nm,0.8s,baz=36,slow=5.3
BZS Buzias 80.88 322 ⇑ P **P 01 08 02.1 +0.6**
BZS Buzias 80.88 322 P **P 01 08 02.1 +0.6**
CLZ Clausthal 80.88 332 *eP* **P 01 08 02.7 +1.2**
comp=Z,5.4nm,0.8s,baz=36,slow=5.3
HERR Herculane 81.02 321 ⇑ P **P 01 08 02.6 +0.3**

GTTG	Gottingen	81.27	332	eP		P	01 08 04.7 +1.2
	comp=Z,4.7nm,0.8s,baz=36,slow=5.3						
ZVC	Zvikov	81.30	329	eP		P	01 08 04.4 +0.7
MOX	Moxa	81.37	331	eP		P	01 08 05.0 +0.8
	comp=Z,1.9nm,0.8s,baz=36,slow=5.3						
MDVR	Moldovita	81.44	322	⇓P		P	01 08 05.2 +0.6
IBBN	Ibbenburen	81.44	334	eP		P	01 08 05.2 +0.8
	comp=Z,4.6nm,0.7s,baz=36,slow=5.3						
IBBN				epP		pP	01 08 18.0 +0.9
MMAI	Mount Meron Ar	81.75	306	P		P	01 08 07.4 +0.9
	comp=Z,1.8nm,0.5s,baz=12,slow=4.3,SNR=6.1						
MMAI				pP		pP	01 08 19.5 +0.3
	comp=Z,3.5nm,0.7s,baz=50,slow=5.5,SNR=2.2						
MMAI				LR		LR	01 46 11.0
	comp=Z,49nm,20.9s,baz=340,slow=37						
	comp=Z,1.8nm,0.5s						
RONA	Rosalia, Austr	81.76	326	i P		P	01 08 07.8 +1.6
	comp=Z,1.6nm,0.4s						
CONA	Conrad Observa	81.77	327	i P		P	01 08 07.7 +1.4
	comp=Z,2.0nm,0.5s						
KHC	Kasperske Hory	81.79	329	eP		P	01 08 07.2 +0.8
KHC	Kasperske Hory	81.79	329	eP		P	01 08 07.2 +0.8
MORH	Mrgy, Hungar	81.83	324	⇑P		P	01 08 06.9 +0.3
ROTZ	Rotzenmuhle	81.84	330	eP		P	01 08 07.9 +1.3
	comp=Z,0.5nm,0.8s,baz=36,slow=5.3						
GEC2	GERESS Array S	81.97	329	eP		P	01 08 08.2 +0.8
	comp=Z,2.4nm,0.9s,baz=36,slow=5.3						
GERES	GERESS Array B	81.97	329	P		P	01 08 07.8 +0.4
	comp=Z,2.8nm,0.8s,baz=35,slow=4.9,SNR=8.7						
GERES				pP		pP	01 08 19.6 -0.5
	comp=Z,1.2nm,0.6s,baz=36,slow=5.4,SNR=4.0						
	comp=Z,2.8nm,0.8s						
WET	Wettzell	82.07	329	eP		P	01 08 09.0 +1.2
	comp=Z,2.4nm,0.9s,baz=36,slow=5.3						
EKA	Eskdalemuir Ar	82.14	341	P		P	01 08 08.7 +0.6
	comp=Z,1.3nm,0.6s,baz=25,slow=5.0,SNR=12						
EKA				pP		pP	01 08 20.6 -0.1
	comp=Z,1.2nm,0.6s,baz=42,slow=2.9,SNR=3.5						
	comp=Z,1.3nm,0.6s						
ESK	Eskdalemuir	82.17	341	P		P	01 08 09.9 +1.7
ESK	Eskdalemuir	82.17	341	P		P	01 08 09.9 +1.7
ESK				pmax		pmax	
	comp=Z,52nm,1.9s						
GRF	Grafenberg Arr	82.29	330	eP		P	01 08 10.4 +1.4
	comp=Z,6.8nm,0.9s,baz=36,slow=5.3						
ARSA	Arzberg	82.44	327	eP		P	01 08 10.9 +1.0
	comp=Z,2.2nm,1.0s						
MOA	Molln	82.51	328	i P		P	01 08 11.0 +0.8
	comp=Z,0.9nm,0.3s						
ECSD	EROS Data Cent	82.52	39	P		P	01 08 11.9 +1.6
ECSD				IAmb		IAmb	01 08 25.4
	comp=Z,11nm,1.4s						
ELL	Elmali	82.66	311	P		P	01 08 11.2 -0.1
ELL	Elmali	82.66	311	P		P	01 08 11.2 -0.1
ELL				pmax		pmax	
	comp=Z,260nm,2.0s						
BIOA	Bad Ischl, Aus	82.90	328	i P		P	01 08 12.6 +0.4
	comp=Z,7.6nm,1.3s						
SOKA	Soboth	83.09	326	i P		P	01 08 14.0 +0.7
	comp=Z,12nm,1.2s,SNR=9.2						
RJOB	Jochberg	83.21	328	eP		P	01 08 15.2 +1.3
	comp=Z,5.5nm,0.8s,baz=36,slow=5.3						
RJOB				epP		pP	01 08 28.4 +1.8
KBA	Koelnbreinsper	83.50	328	i P		P	01 08 16.4 +0.9
	comp=Z,2.7nm,0.6s,SNR=6.0						
LESA	Schwarzleotal	83.51	328	i P		P	01 08 16.3 +0.8
	comp=Z,3.0nm,0.5s,SNR=5.5						
MYKA	Terra Mystica	83.73	327	i P		P	01 08 16.6 +0.1
	comp=Z,4.8nm,0.8s						
I37A	Lemond, Waseca	83.85	37	P		P	01 08 17.3 +0.2
I37A				IAmb		IAmb	01 08 33.1
	comp=Z,14nm,0.7s						
SCHQ	Schefferville	83.93	16	P		P	01 08 17.4 0.0
	comp=Z,2.6nm,0.9s,baz=23,slow=7.2,SNR=2.0						
SCHQ				pP		pP	01 08 30.8 +0.8
	comp=Z,3.9nm,0.8s,baz=346,slow=9.8,SNR=3.4						
	comp=Z,2.6nm,0.9s						
ABTA	Abfaltersbach	84.11	328	i P		P	01 08 18.7 +0.2
	comp=Z,0.5nm,0.4s						
BMRD	Maredsous	84.15	334	dP		P	01 08 18.9 +0.4
	comp=Z,4.6nm,1.0s						
MOTA	Moosalm	84.22	329	i PcP		P	01 08 20.1 +1.0
	comp=Z,2.2nm,0.5s						
EIL	Elat	84.22	303	LR		LR	01 51 45.5
	comp=Z,31nm,18.2s,baz=106,slow=40						
RETA	Reutte	84.24	329	eP		P	01 08 19.9 +0.8
	comp=Z,2.3nm,0.5s						
SQTA	Sankt Quirin	84.28	329	i P		P	01 08 19.9 +0.6
	comp=Z,2.2nm,0.5s						
PUK	Puka	84.35	321	P		P	01 08 20.1 +0.3
PDG	Podgorica	84.38	321	P		P	01 08 19.3 -0.5
PDG	Podgorica	84.38	321	⇓P		P	01 08 20.7 +1.0
BFO	Black Forest	84.51	331	eP		P	01 08 21.1 +0.7
	comp=Z,3.8nm,0.8s,baz=36,slow=5.3						
BFO				epP		pP	01 08 34.1 +0.9
FETA	Feichten	84.63	329	i P		P	01 08 21.8 +0.6
	comp=Z,2.0nm,0.6s						
PPT2	Papeete2	84.64	117	eLR		LR	01 34 49.2
	comp=Z,96nm,26.0s						
PPT2				eLR		LR	01 35 01.1
	comp=Z,160nm,26.2s						
DAVA	Damuels	84.76	330	eP		P	01 08 22.5 +0.6
	comp=Z,7.2nm,0.8s						
CTI	Castel Tesino	85.03	328	P		P	01 08 22.5 -0.7
CTI				IAmb		IAmb	01 08 23.3
	comp=Z,4.7nm,0.7s						
CTI	Castel Tesino	85.03	328	P		P	01 08 22.5 -0.7
CTI				pmax		pmax	
	comp=Z,5.0nm,0.7s						
FUORN	Ofenpass-Fuorn	85.14	329	P		P	01 08 24.3 +0.4
FUORN				IAmb		IAmb	01 08 25.5
	comp=Z,7.0nm,0.7s						
TUE	Stuetta	85.63	329	P		P	01 08 26.6 +0.3
TUE				IAmb		IAmb	01 08 54.8
	comp=Z,10nm,1.4s						
TAOE	Nuku Hiva Isla	85.86	105	eLR		LR	01 35 30.2
	comp=Z,89nm,31.2s						
SENIN	Lac Senin/Sane	86.53	331	P		P	01 08 30.2 -0.5
TBI	Tubuai	88.63	121	eLR		LR	01 36 42.4
	comp=Z,217nm,23.0s						
TXAR	Lajitas Array	88.83	53	P		P	01 08 43.4 +1.4
	comp=Z,0.6nm,0.7s,baz=323,slow=5.3,SNR=2.2						
TXAR				pP		pP	01 08 56.4 +1.8
	comp=Z,1.4nm,0.7s,baz=284,slow=3.1,SNR=6.6						
TXAR				LR		LR	01 42 28.3
	comp=Z,24nm,21.4s,baz=44,slow=32						
	comp=Z,0.6nm,0.7s						
CCM	Cathedral Cave	89.46	39	P		P	01 08 44.2 -0.3
CCM	Cathedral Cave	89.46	39	P		P	01 08 44.3 -0.3
CCM				pmax		pmax	
	comp=Z,33nm,1.7s						
QSPA	South Pole Qui	128.05	180	PKP		PKPdf	01 14 52.7 +0.3
	comp=Z,1.1nm,0.7s,baz=68,slow=0.5,SNR=6.5						
LPAZ	La Paz	145.48	59			PKPdf	01 15 26.4 -0.3
LPAZ	La Paz	145.48	59	PKPbc		PKPbc	01 15 27.1 +0.3
	comp=Z,2.5nm,0.6s,baz=318,slow=3.2,SNR=10						
LPAZ				pPKPbc		pPKPdf	01 15 40.2 +0.4
	comp=Z,4.9nm,0.8s,baz=14,slow=10,SNR=6.9						
PTLB	Pontes e Lacer	150.45	45			PKiKP	01 15 40.1 0.0
AC02	Maricunga	151.34	76	PKPbc		PKPbc	01 15 42.2 +0.3

NEIC ***27*** *00:58:41.9±1.6, 36°.49N±0°.01×98°.74W±0°.02, h9km±4km, mb_Lg2.3/4, ML2.4/28, ML2.5/17, Error ellipse: s-maj=2.4km s-min=1.8km az=82.0*

NEIC 27 00:58:42.1±1.4, 36°.49N±0°.01×98°.73W±0°.02, h8km±4km, Error ellipse: s-maj=2.4km s-min=1.7km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.01	227	Pg	Pg	00 58 43.8	+0.2
OK038					Sg	00 58 45.1	+0.5
NOKA	Waynoka	0.22	313	Pg	Pg	00 58 46.1	-0.4
NOKA				Sg	Sg	00 58 50.2	+0.7
NOKA				IAML		00 58 50.6	
	comp=E,1μm,0.4s						
CROK	Carrier	0.60	88	Sg	Sg	00 59 02.0	+0.2
ELIS	Ellis County	0.69	233	Pg	Pg	00 58 55.3	-0.2
ELIS				Sg	Sg	00 59 05.2	+0.6
KAN14	Manchester OK	0.78	52	Pg	Pg	00 58 56.8	-0.3
KAN14				Sg	Sg	00 59 07.1	-0.1
KAN14				IAML		00 59 07.7	
	comp=E,162nm,0.2s						
KAN14				IAML		00 59 11.2	
	comp=N,138nm,0.1s						
GC02	Grant County #	0.79	62	Sg	Sg	00 59 07.9	+0.2
KAN10	Anthony SW Sta	0.82	39		Pg	00 58 57.6	-0.2
KAN10					Sg	00 59 08.8	+0.3
CSTR	Hydro, Custer	0.84	178	Pg	Pg	00 58 57.9	-0.4
KAN05	Bluff City Nor	0.93	48	Sg	Sg	00 59 12.1	-0.1
KAN17	Caldwell West	0.96	54	Pg	Pg	00 58 59.9	-0.6
KAN17				Sg	Sg	00 59 12.6	-0.3
KAN17				IAML		00 59 13.2	
	comp=E,190nm,0.3s						
KAN17				IAML		00 59 14.7	
	comp=N,157nm,0.3s						
KAN12	Harper NE Stat	1.00	36	Pg	Pg	00 59 00.6	-0.8
KAN01	Argonia South	1.03	49	Sg	Sg	00 59 14.9	-0.3
KAN09	Caldwell North	1.11	54	Pg	Pg	00 59 02.1	-1.3
KAN09				IAML		00 59 18.8	
	comp=E,148nm,0.2s						
OK029	Liberty Lake	1.24	123		Pn	00 59 04.8	-1.0
OK029				IAML		00 59 22.2	
	comp=E,74nm,0.2s						
BLOK	Blackwell	1.25	77		Pn	00 59 05.2	-0.8
OK051	E0350 and S346	1.53	89	Pn	Pn	00 59 09.8	0.0
OK031	S. Brethren Rd	1.62	109	Pn	Pn	00 59 11.2	+0.2
FNO	Franklin	1.64	138	Pn	Pn	00 59 11.0	-0.2
OK052	Battle Ridge R	1.64	107	Pn	Pn	00 59 11.0	-0.2
QUOK	Quay	1.67	100	Pn	Pn	00 59 11.1	-0.5
WMOK	Wichita Mounta	1.74	181	Pn	Pn	00 59 12.1	-0.6
WMOK	Wichita Mounta	1.74	181		Pn	00 59 12.4	-0.3
R32A	Long Quarter,	1.93	1	Pn	Pn	00 59 14.5	-0.8
W35A	Tecumseh	2.01	131	Pn	Pn	00 59 15.5	-0.9
KSCO	Kaye Shedlock'	3.98	310	IAmb_Lg		01 00 58.5	
	comp=Z,10nm,0.9s						
UALR	University of	5.48	106	IAmb_Lg		01 01 38.8	
	comp=Z,3.0nm,0.7s						

TXNET 27 01:06:05.3, 31°.6N±0°.6×104°.3W±0°.7, h4km±1km, ML2.0/9, Error ellipse: s-maj=1.1km s-min=0.9km az=80.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	China Draw	0.35	31	P	Pg	01 06 12.1	-0.1
TPB11				S	Sg	01 06 17.0	+0.1
PECS	Pecos	0.42	129	P	Pg	01 06 13.8	+0.3
PECS				S	Sg	01 06 19.3	+0.4
TPB12	Southwest of T	0.49	149	P	Pg	01 06 14.6	-0.1
TPB12				S	Sg	01 06 21.4	+0.3
TPB07	Mentone	0.50	96	S	Sg	01 06 22.0	+0.6
TPB10	Southeast of T	0.55	129	P	Pg	01 06 16.1	+0.3
TPB10				S	Sg	01 06 23.9	+0.9
GDL2	Guadalupe Moun	0.57	350	P	Pg	01 06 16.6	+0.3
CLNB	Carlsbad	0.70	27	P	Pg	01 06 18.7	-0.1
CLNB				S	Sg	01 06 28.6	+0.6
TPB01	Permian Basin	0.80	150	P	Pg	01 06 20.1	-0.5
TPB01				S	Sg	01 06 30.3	-0.6
CLN7	Carlsbad 7	0.86	26	P	Pg	01 06 22.0	+0.1
TPB06	Permian Basin	0.88	89	S	Sg	01 06 33.2	-0.4
TPB04	Verhalen	0.95	118	S	Sg	01 06 36.1	+0.2
MNTX	Cornudas Mount	0.97	274	P	Pg	01 06 24.2	+0.4
MNTX				S	Sb	01 06 37.2	-0.6
HTMS	Hat Mesa	0.99	32	P	Pg	01 06 24.5	+0.3
HTMS				S	Sb	01 06 38.7	+0.3
TPB16	Coyonosa	0.99	120	S	Sg	01 06 37.3	0.0
VHRN	Van Horn	1.05	217	P	Pg	01 06 25.5	0.0
VHRN				S	Sb	01 06 40.2	-0.2
TPB05	Hovey Rd	1.06	132	P	Pg	01 06 25.5	-0.2
TPB05				S	Sg	01 06 39.4	-0.2
MNHN	Monahans	1.30	103	P	Pg	01 06 29.1	-1.2
MNHN				S	Sg	01 06 46.8	-0.5
ALPN	Alpine	1.36	157	P	Pn	01 06 29.9	-1.3
ALPN				S	Sg	01 06 47.5	-1.6
CPRX	Cap Rock	1.43	13	P	Pn	01 06 31.7	-0.5
ODSA	Odessa	1.53	71	P	Pn	01 06 33.2	-0.3
ODSA				S	Sn	01 06 52.9	-0.9
TMB04	Seminole	1.79	56	P	Pn	01 06 37.5	+0.4
TMB04				S	Sn	01 07 00.8	+0.5
TMB02	Rankin	1.94	102	P	Pn	01 06 40.1	+1.0
TMB02				S	Sb	01 07 05.1	-0.7
TX31	Lajitas Ar. Si	2.35	167	P	Pn	01 06 46.1	+1.3
TX31				S	Sg	01 07 19.4	-1.3
SAND	Sanderson	2.48	132	Pn	Pn	01 06 48.3	+1.8
SAND				Pg	Pb	01 06 49.6	-0.9

SOME ***27*** *01:14:56.9, 39°.17N×72°.72E, h5km*

IDC ***27*** *01:14:57.2±5.7, 38°.30N×73°.91E, h126km±45km, mb3.5/5, mbtmp3.8/10, MS2.4/1, Error ellipse: s-maj=46.7km s-min=45.3km az=109.0*

NNC ***27*** *01:15:02.9±6.0, 39°.04N×73°.80E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=43.8km s-min=29.5km az=169.0*

ISC 27 01:14:55.3±1.5, 39°.13N±0°.09×72°.75E±0°.05, h10km, n29, σ2°.12/35, mb4.1/5, 1C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	3.63	6	Pg	Pg	01 16 04.1	-0.8
	9.3nm,0.3s						
MRKS				Lg	Lg	01 16 52.6	
	96nm,0.4s						
MRKS	Merke	3.63	6	eP	Pg	01 16 04.0	-0.8
	9.3nm,0.2s						
MRKS				eS	Sg	01 16 52.7	+0.8
	96nm,0.4s						
AAK	Ala-Archa	3.75	20	P	Pb	01 16 01.8	+0.1
	1.3nm,0.3s,baz=203,slow=14,SNR=6.0						
AAK				S	Sg	01 16 52.6	-3.0
	5.0nm,0.3s,baz=334,slow=18,SNR=13						
AAK				LR	LR	01 17 52.4	
	comp=Z,48nm,19.8s,baz=346,slow=40						
AAK	Ala-Archa	3.75	20	⇓P	Pb	01 16 03.4	+1.8
	1.5nm,0.4s						
AAK				⇑S	Sb	01 16 48.4	+1.2
	12nm,0.8s						
KK31	Karatay Array	4.32	338	P	Pg	01 16 16.4	-1.5
	0.8nm,0.1s,baz=122,slow=11,SNR=28						
KK31				⇓S	Sg	01 17 13.8	0.0
	12nm,0.5s,baz=153,slow=24,SNR=18						
BRLS	Borolday	4.47	332	Pg	Pb	01 16 16.7	+2.7
	5.3nm,0.2s						
BRLS				Lg	Lg	01 17 13.2	
	11nm,0.2s						
BRLS	Borolday	4.47	332	eP	Pb	01 16 16.6	+2.7
	5.8nm,0.1s						
BRLS				eS	Sg	01 17 14.4	-4.5
	8.4nm,0.2s						
KST	Kastek	4.61	31	eP	Pg	01 16 21.4	-2.0
	3.2nm,0.4s						
KST				eS	Sg	01 17 22.4	-0.7
	7.3nm,0.4s						
DGS	Degeres	4.70	28	Pg	Pg	01 16 24.9	-0.4
	3.8nm,0.6s						
DGS				Lg	Lg	01 17 27.2	
	6.4nm,0.5s						
IZV	Izvestkoviy	4.88	36	eP	Pg	01 16 26.9	-1.7
	0.7nm,0.1s						
IZV				eS	Sg	01 17 32.0	+0.2
	3.0nm,0.1s						
TNSS	Tian-Shan	5.03	38	Pg	Pb	01 16 26.8	+3.1
	1.4nm,0.4s						
TNSS				Lg	Lg	01 17 31.1	
	2.6nm,0.7s						
TNSS	Tian-Shan	5.03	38	eP	Pg	01 16 29.4	-2.2
	0.5nm,0.1s						
TNSS				eS	Sg	01 17 36.2	-0.6
	2.3nm,0.3s						
KRBS	Karabastau	5.07	25	Pg	Pg	01 16 31.7	-0.6
	0.9nm,0.3s						
KRBS				Lg	Lg	01 17 39.1	
	2.2nm,0.4s						
KOTS	Kotyrbulak	5.26	37	Pg	Pb	01 16 30.6	+3.2
	2.3nm,0.3s						
KOTS				Lg	Lg	01 17 37.0	
	9.7nm,0.7s						
KOTS	Kotyrbulak	5.26	37	eP	Pg	01 16 33.7	-2.3
	2.2nm,0.1s						
KOTS				eS	Sg	01 17 43.8	-0.4
	12nm,0.6s						
KTBS	Karatobe	5.45	32	Pg	Pb	01 16 34.6	+4.0
	1.1nm,0.3s						
KTBS				Lg	Lg	01 17 44.2	
	3.8nm,0.5s						
SATY	Saty	5.80	46	Pg	Pb	01 16 37.6	+1.0
	1.5nm,0.5s						
SATY				Lg	Lg	01 17 49.7	
	7.0nm,0.8s						
KPKS	Kokpek	6.23	44	eP	Pn	01 16 23.3	-4.0
	1.1nm,0.3s						
KPKS				eS	Sn	01 17 25.9	-13
	6.9nm,0.5s						
MKAR	Makanchi Array	10.37	39	P	Pn	01 17 23.9	-0.1
	0.2nm,0.7s,baz=201,slow=12,SNR=2.3						
KURBB	Kurchatov Arra	12.20	18	P	Pn	01 17 54.4	+5.5
	0.5nm,0.3s,baz=207,slow=10,SNR=4.6						
BVAR	Borovoye Array	13.99	354	P	Pb	01 18 22.3	+0.8
	1.9nm,0.5s,baz=164,slow=8.7,SNR=17						
AKTO	Aktyubinsk	15.37	322	P	Pb	01 18 40.8	+4.1
	0.8nm,0.3s,baz=127,slow=7.7,SNR=6.1						
ZALV	Zalesovo Beam	16.95	25	P	Pn	01 18 50.4	-2.0
	0.7nm,0.4s,baz=220,slow=11,SNR=5.7						
ARTI	Arti	19.71	336	P	Pn	01 19 28.1	+2.1
	1.2nm,0.7s,baz=127,slow=10,SNR=3.9						
	1.2nm,0.7s						
FINES	FINESS Array B	36.13	324	P	P	01 21 57.5	+0.4
	2.1nm,0.9s,baz=116,slow=9.5,SNR=4.6						
	2.1nm,0.9s						
ARCES	ARCESS Array B	39.28	336	P	P	01 22 22.0	-1.8
	4.1nm,0.9s,baz=118,slow=9.5,SNR=5.5						
	4.1nm,0.9s						
HFS	Hagfors	41.90	320	P	P	01 22 45.3	-0.2
	2.9nm,0.8s,baz=90,slow=10,SNR=6.8						
	2.9nm,0.8s						
NOA	NORSAR Array B	43.16	321	P	P	01 22 53.4	-2.4
	0.2nm,0.5s,baz=94,slow=7.9,SNR=1.7						
	0.2nm,0.5s						
TORD	Torodi Ar. Bea	67.16	269	P	P	01 25 43.5	-6.1
	24nm,0.3s,baz=43,slow=5.6,SNR=1.6						

RSNC 27 01:27:31.7±1.3, 2°.S±11°.×7°.7W±°., h58km±95km, M3.1, mb4.6, ML2.9, MLv3.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	Ana Tenorio	1.83	319	P	Pn	01 28 01.6	+0.3
PIAT	Ana Tenorio	1.83	319	P		01 28 01.6	
COHC	Cochancay	2.18	268	P	Pn	01 28 05.8	+0.2
COHC	Cochancay	2.18	268	P		01 28 05.8	
BONI	La Bonita	2.87	351	P	Pn	01 28 14.9	-0.4
BONI	La Bonita	2.87	351	P		01 28 14.9	
OTAV	Otavalo	2.96	332	P	Pn	01 28 15.7	-1.0
OTAV	Otavalo	2.96	332	P		01 28 15.7	
PAC1	Pacto, Paraso	3.16	327	P	Pn	01 28 18.1	-1.0
PAC1	Pacto, Paraso	3.16	327	P		01 28 18.1	
PTLC	Puerto Leguiza	3.42	42	P	Pn	01 28 21.9	-0.7
PTLC	Puerto Leguiza	3.42	42	P		01 28 21.9	
BBAC	Balboa, Cauca	4.39	358	P	Pn	01 28 36.3	+0.1
BBAC	Balboa, Cauca	4.39	358	P		01 28 36.3	
GARC	Garzon, Huila	4.82	19	P	Pn	01 28 41.7	-0.3
GARC	Garzon, Huila	4.82	19	P		01 28 41.7	
POPC	Popayan, Colom	4.92	5	P	Pn	01 28 43.9	+0.5
POPC	Popayan, Colom	4.92	5	P		01 28 43.9	
MACC	Macarena, Meta	5.55	36	P	Pn	01 28 52.2	+0.4
MACC	Macarena, Meta	5.55	36	P		01 28 52.2	

IDC 27 01:31:31.0±5.1, 60°.52N×27°.82W, h0km, mb3.5/5, mbtmp3.5/5, MS3.3/5, Error ellipse: s-maj=156.5km s-min=29.0km az=175.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	5.20	32	LR	LR	01 34 14.3	
	comp=Z,723nm,19.6s,baz=158,slow=31						
SFJD	Kangerlussuaq	11.94	313	LR	LR	01 38 38.0	
	comp=Z,57nm,21.2s,baz=36,slow=36						
FRB	Frobisher Bay	19.07	297	LR	LR	01 41 44.6	
	comp=Z,140nm,18.2s,baz=70,slow=32						
GERES	GERESS Array B	26.22	98	LR	LR	01 47 48.9	
	comp=Z,48nm,19.9s,baz=11,slow=37						
YKA	Yellowknife Ar	38.50	312	P	P	01 38 54.7	+0.5
	0.4nm,0.8s,baz=52,slow=9.3,SNR=5.2						
	0.4nm,0.8s						
PDAR	Pinedale Array	50.18	288	P	P	01 40 27.8	-0.5
	0.6nm,0.9s,baz=52,slow=6.9,SNR=4.0						
	0.6nm,0.9s						
ASF	Jabal al Asfar	50.23	94	LR	LR	02 03 02.1	
	comp=Z,25nm,19.1s,baz=15,slow=38						
KURBB	Kurchatov Arra	54.46	49	P	P	01 40 59.4	-0.2
	0.5nm,0.9s,baz=324,slow=7.4,SNR=3.0						
	0.5nm,0.9s						
MKAR	Makanchi Array	59.03	49	P	P	01 41 33.2	+1.1
	0.4nm,0.7s,baz=333,slow=5.0,SNR=4.6						
	0.4nm,0.7s						
SONM	Songino Array	65.81	32	P	P	01 42 16.3	-1.4
	0.2nm,0.3s,baz=352,slow=6.0,SNR=2.3						
	0.2nm,0.3s						

IDC ***27*** *01:46:54.7±1.3, 61°.39N×27°.61W, h0km, mb3.6/4, mbtmp3.7/5, ML3.7/1, MS3.6/9, Error ellipse: s-maj=32.8km s-min=23.8km az=172.0*

ISC 27 01:46:56.1±1.1, 61°.4N±0°.2×27°.6W±0°.1, h10km, n14, σ0°.73/7, mb3.6/5, MS3.5/7, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	4.43	37	Pn	Pn	01 48 02.6	-0.6
	3.7nm,0.3s,baz=238,slow=9.5,SNR=8.4						
BORG				Sn	Sn	01 48 55.4	+0.6
	2.0nm,0.3s,baz=160,slow=24,SNR=6.7						
	12nm,0.3s						
NOA	NORSAR Array B	18.53	74	LR	LR	01 57 17.4	
	comp=Z,210nm,18.0s,baz=300,slow=34						
FRB	Frobisher Bay	18.78	295	LR	LR	01 57 26.0	
	comp=Z,142nm,19.0s,baz=104,slow=34						
GERES	GERESS Array B	26.25	100	LR	LR	02 03 55.0	
	comp=Z,115nm,18.3s,baz=335,slow=39						
VRAC	Vranov	27.31	96	LR	LR	02 02 03.8	
	comp=Z,117nm,19.9s,baz=347,slow=33						
SADO	Sadowa	34.05	265	LR	LR	02 06 06.7	
	comp=Z,95nm,18.7s,baz=250,slow=34						
YKA	Yellowknife Ar	38.00	311	P	P	01 54 14.3	+0.6
	0.9nm,1.0s,baz=55,slow=9.1,SNR=7.5						
	0.9nm,1.0s						
ULM	Lac du Bonnet	38

cutoff=40s. Triangular moment-rate function
ISC 27 02:00:02.6±0.3,**22°.04S**±0°.04×**179°.42W**±0°.04,
h604km±2km,**h605**km:**pP-P,n1165,**σ1§**16**/1132,**mb4.9**/272,
91C-47D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.83**	**9**	P	**P**	**02 01 26.4**	**-0.9**
LKBA	**Tubou, Lakemba**	**3.83**	**9**	S	**S**	**02 02 36.6**	**+0.4**
MSVF	**Nonsavu**	**4.90**	**330**	P	**P**	**02 01 33.9**	**-1.3**
MSVF	**Nonsavu**	**4.90**	**330**	P	**P**	**02 01 34.2**	**-1.0**
	2μm,0.5s,baz=192,slow=4.2,SNR=1284						
MSVF				S	**S**	**02 02 51.2**	**+0.7**
	475nm,1.0s,baz=94,slow=21,SNR=6.7						
MSVF	**Nonsavu**	**4.90**	**330**	P	**P**	**02 01 34.2**	**-1.0**
MSVF	**Nonsavu**	**4.90**	**330**	S	**S**	**02 02 50.7**	**+0.1**
MSVF	**Nonsavu**	**4.90**	**330**	*c iP*	**P**	**02 01 34.1**	**-1.1**
TAVE	**Taveuni**	**5.32**	**355**	P	**P**	**02 01 38.0**	**-0.4**
DGTI	**Dogotuki**	**5.76**	**352**	P	**P**	**02 01 40.8**	**-1.3**
YSA	**Yasawairara**	**6.02**	**331**	P	**P**	**02 01 43.2**	**-1.0**
YSA	**Yasawairara**	**6.02**	**331**	S	**S**	**02 03 07.1**	**-0.1**
RAO	**Raoul Island**	**7.31**	**170**	P	**P**	**02 01 54.5**	**-1.0**
RAO	**Raoul Island**	**7.31**	**170**	P	**P**	**02 01 54.9**	**-0.6**
	1μm,0.3s,baz=91,slow=3.9,SNR=16						
RAO				S	**S**	**02 03 26.3**	**-1.7**
	624nm,0.3s,baz=80,slow=23,SNR=6.2						
RAO	**Raoul Island**	**7.31**	**170**	P	**P**	**02 01 55.0**	**-0.5**
RAO	**Raoul Island**	**7.31**	**170**	S	**S**	**02 03 26.9**	**-1.1**
GLKZ	**Green Lake**	**7.32**	**170**	P	**P**	**02 01 53.7**	**-1.9**
FUTU	**Fugatoga**	**7.79**	**9**	P	**P**	**02 01 58.4**	**-1.8**
FUTU	**Fugatoga**	**7.79**	**9**	P	**P**	**02 01 59.3**	**-0.9**
NIUE	**Niue**	**9.37**	**73**	P	**P**	**02 02 13.7**	**-1.6**
NIUE	**Niue**	**9.37**	**73**	P	**P**	**02 02 13.8**	**-1.5**
	comp=Z,2μm,1.0s						
NIUE	**Niue**	**9.37**	**73**	P	**P**	**02 02 14.4**	**-0.9**
NIUE	**Niue**	**9.37**	**73**	S	**S**	**02 04 02.6**	**-1.5**
NIUE	**Niue**	**9.37**	**73**	S	**S**	**02 04 09.5**	**+5.4**
AFI	**Afiamalu**	**10.87**	**43**	P	**P**	**02 02 26.0**	**-4.3**
AFI	**Afiamalu**	**10.87**	**43**	P	**P**	**02 02 26.9**	**-3.4**
AFI	**Afiamalu**	**10.87**	**43**	P	**P**	**02 02 26.0**	**-4.3**
MARNC	**Mare, Loyalty**	**11.68**	**270**	P	**P**	**02 02 37.5**	**-0.7**
MARNC	**Mare, Loyalty**	**11.68**	**270**	P	**S**	**02 04 44.6**	**-1.3**
PINNC	**Pines Island,**	**12.17**	**265**	P	**P**	**02 02 42.3**	**-0.7**
PINNC	**Pines Island,**	**12.17**	**265**	P	**P**	**02 02 43.2**	**+0.1**
PINNC	**Pines Island,**	**12.17**	**265**	S	**S**	**02 04 57.6**	**+2.7**
YATNC	**Mamie plateau,**	**12.70**	**267**	P	**P**	**02 02 48.3**	**-0.1**
OUENC	**Ouen Island, N**	**12.73**	**266**	P	**P**	**02 02 48.4**	**-0.3**
ONTNC	**Ouen Toro**	**13.09**	**266**	P	**P**	**02 02 50.9**	**-1.4**
ONTNC	**Ouen Toro**	**13.09**	**266**	P	**P**	**02 02 52.4**	**+0.1**
DZM	**Mont Dzumac**	**13.11**	**267**	*eP*	**P**	**02 02 51.3**	**-1.4**
	comp=Z,553nm,1.2s						
DZM				*e*S	**S**	**02 05 11.8**	**-0.5**
	comp=Z,255nm,1.6s						
DZM	**Mont Dzumac**	**13.11**	**267**	P	**P**	**02 02 51.5**	**-1.1**
DZM	**Mont Dzumac**	**13.11**	**267**	P	**P**	**02 02 51.2**	**-1.4**
	comp=Z,179nm,0.5s,baz=118,slow=8.2,SNR=38						
DZM				S	**S**	**02 05 12.4**	**+0.1**
	comp=Z,46nm,1.1s,baz=346,slow=12,SNR=3.4						
DZM	**Mont Dzumac**	**13.11**	**267**	P	**P**	**02 02 52.3**	**-0.3**
FUNA	**Funafuti**	**13.50**	**354**	P	**P**	**02 02 53.9**	**-2.7**
FUNA	**Funafuti**	**13.50**	**354**	P	**P**	**02 02 55.4**	**-1.2**
OUZ	**Omahuta**	**14.49**	**203**	P	**P**	**02 03 07.5**	**+1.7**
OUZ	**Omahuta**	**14.49**	**203**	P	**P**	**02 03 07.5**	**+1.7**
GRZ	**Great Barrier**	**14.85**	**196**	P	**P**	**02 03 10.1**	**+1.1**
WCZ	**Waipu Caves**	**14.88**	**200**	P	**P**	**02 03 11.8**	**+2.4**
KUZ	**Kuaotunu**	**15.25**	**195**	P	**P**	**02 03 14.4**	**+1.7**
KUZ	**Kuaotunu**	**15.25**	**195**	P	**P**	**02 03 14.2**	**+1.5**
KOUNC	**Koumac, New Ca**	**15.26**	**273**	P	**P**	**02 03 13.6**	**+0.5**
MXZ	**Matakaoa Point**	**15.60**	**187**	P	**P**	**02 03 14.4**	**-1.5**
MXZ	**Matakaoa Point**	**15.60**	**187**	P	**P**	**02 03 14.5**	**-1.4**
MXZ	**Matakaoa Point**	**15.60**	**187**	P	**P**	**02 03 14.5**	**-1.4**
MXZ				S	**S**	**02 05 49.9**	**-3.6**
WIZ	**White Island**	**15.71**	**190**	P	**P**	**02 03 16.4**	**-0.5**
WMGZ	**Waiomatatini S**	**15.84**	**186**	P	**P**	**02 03 17.3**	**-0.8**
WMGZ				S	**S**	**02 05 53.5**	**-3.9**
HAZ	**Te Kaha**	**15.85**	**188**	P	**P**	**02 03 17.4**	**-0.8**
HAZ				P	**S**	**02 05 52.3**	**-5.3**
PKGZ	**Pakihiroa**	**15.92**	**187**	P	**P**	**02 03 18.0**	**-1.0**
WHRZ	**Whale Island**	**16.07**	**190**	P	**P**	**02 03 20.6**	**+0.4**
RUGZ	**Raukumara Rang**	**16.07**	**188**	P	**P**	**02 03 18.5**	**-1.9**
RUGZ				P	**S**	**02 05 54.2**	**-7.3**
TGRZ	**Tauranga**	**16.08**	**192**	P	**P**	**02 03 22.4**	**+2.1**
OPRZ	**Ohinepanea**	**16.13**	**192**	P	**P**	**02 03 21.2**	**+0.4**
TWGZ	**Tauwhareparae**	**16.24**	**187**	P	**P**	**02 03 20.7**	**-1.1**
TWGZ				P	**S**	**02 05 59.4**	**-4.8**
TOZ	**Tahuroa Road**	**16.24**	**195**	P	**P**	**02 03 22.9**	**+1.1**
TOZ	**Tahuroa Road**	**16.24**	**195**	P	**P**	**02 03 23.6**	**+1.8**
MARZ	**Manawahe**	**16.25**	**191**	P	**P**	**02 03 22.9**	**+1.0**
KMRZ	**Kaimai**	**16.26**	**193**	P	**P**	**02 03 24.1**	**+2.1**
LIRZ	**Lichensteins R**	**16.32**	**192**	P	**P**	**02 03 24.7**	**+2.2**
KARZ	**Kaharoa**	**16.36**	**192**	P	**P**	**02 03 24.6**	**+1.6**
OMRZ	**Omania**	**16.42**	**192**	P	**P**	**02 03 24.4**	**+0.9**
MKRZ	**Makatiti**	**16.43**	**192**	P	**P**	**02 03 25.8**	**+2.1**
URZ	**Urewera**	**16.44**	**190**	P	**P**	**02 03 22.5**	**-1.1**
	comp=Z,276nm,0.3s,baz=55,slow=1.7,SNR=224						
URZ				S	**S**	**02 06 01.4**	**-5.9**
	comp=Z,30nm,0.5s,baz=266,slow=23,SNR=8.6						
URZ	**Urewera**	**16.44**	**190**	P	**P**	**02 03 21.9**	**-1.7**
URZ	**Urewera**	**16.44**	**190**	P	**P**	**02 03 21.4**	**-2.2**
URZ				S	**S**	**02 06 00.6**	**-6.7**
NGRZ	**Ngongotaha**	**16.45**	**192**	P	**P**	**02 03 25.2**	**+1.4**
MWZ	**Matawai**	**16.45**	**189**	P	**P**	**02 03 22.3**	**-1.5**
MWZ				S	**S**	**02 06 02.9**	**-4.7**
TKGZ	**Te Karaka**	**16.52**	**188**	P	**P**	**02 03 24.1**	**-0.2**
CNGZ	**Carnagh Statio**	**16.52**	**187**	P	**P**	**02 03 23.9**	**-0.4**
CNGZ				S	**S**	**02 06 04.8**	**-3.7**
TARZ	**Mount Tarawera**	**16.52**	**191**	P	**P**	**02 03 24.0**	**-0.5**
UTU	**Utuhina**	**16.52**	**192**	P	**P**	**02 03 26.6**	**+2.1**
HLRZ	**Highlands Stat**	**16.57**	**192**	P	**P**	**02 03 25.3**	**+0.4**
RRRZ	**Republican Roa**	**16.62**	**191**	P	**P**	**02 03 25.4**	**+0.1**
HSRZ	**Hossack Road**	**16.64**	**192**	P	**P**	**02 03 26.1**	**+0.6**
GRRZ	**Galatos Road**	**16.71**	**192**	P	**P**	**02 03 27.0**	**+0.9**
MUGZ	**Murupara**	**16.71**	**190**	P	**P**	**02 03 25.6**	**-0.5**
HRRZ	**Handcock Road**	**16.71**	**192**	P	**P**	**02 03 27.0**	**+0.9**
RIGZ	**Rimuhau**	**16.79**	**188**	P	**P**	**02 03 25.9**	**-1.0**
RTZ	**Ruatahuna**	**16.81**	**190**	P	**P**	**02 03 25.4**	**-1.7**
RTZ	**Ruatahuna**	**16.81**	**190**	P	**P**	**02 03 25.7**	**-1.4**
SNGZ	**Shannon Statio**	**16.92**	**189**	P	**P**	**02 03 26.6**	**-1.5**
SNGZ				S	**S**	**02 06 10.7**	**-4.4**
PRGZ	**Paritu Road**	**16.99**	**187**	P	**P**	**02 03 28.6**	**-0.1**
HIZ	**Hauiti**	**17.14**	**195**	P	**P**	**02 03 30.9**	**+0.8**
HIZ	**Hauiti**	**17.14**	**195**	P	**P**	**02 03 30.9**	**+0.8**
HIZ	**Hauiti**	**17.14**	**195**	P	**P**	**02 03 32.0**	**+1.9**
BKZ	**Black Stump Fm**	**17.43**	**191**	P	**P**	**02 03 31.4**	**-1.3**
BKZ	**Black Stump Fm**	**17.43**	**191**	P	**P**	**02 03 31.1**	**-1.6**
NGZ	**Ngauruhoe**	**17.61**	**193**	P	**P**	**02 03 34.2**	**-0.3**
VRZ	**Vera Road**	**17.75**	**195**	P	**P**	**02 03 37.2**	**+1.7**
LUES	**Luesalemba Tem**	**18.04**	**307**	P	**P**	**02 03 37.6**	**-0.9**
NEZ	**North Egmont**	**18.05**	**196**	P	**P**	**02 03 41.2**	**+2.8**
KHEZ	**Kahui Hut**	**18.09**	**197**	P	**P**	**02 03 38.7**	**-0.1**
PXZ	**Pawanui**	**18.21**	**189**	P	**P**	**02 03 39.3**	**-0.4**
RAR	**Rarotonga**	**18.29**	**91**	P	**P**	**02 03 40.8**	**+0.1**
	comp=Z,30nm,0.8s,baz=238,slow=8.6,SNR=4.6						
RAR	**Rarotonga**	**18.29**	**91**	P	**P**	**02 03 40.5**	**-0.2**
TSZ	**Takapari Road**	**18.39**	**191**	P	**P**	**02 03 41.4**	**0.0**
BFZ	**Birch Farm**	**18.95**	**190**	P	**P**	**02 03 45.3**	**-1.2**
MRZ	**Mangatainoka R**	**19.05**	**192**	P	**P**	**02 03 45.6**	**-1.8**
MRZ	**Mangatainoka R**	**19.05**	**192**	P	**P**	**02 03 46.4**	**-0.9**
TCW	**Tory Channel**	**19.84**	**194**	P	**P**	**02 03 53.4**	**-1.1**
SNZO	**South Karori**	**19.84**	**193**	P	**P**	**02 03 53.9**	**-0.6**
QRZ	**Quartz Range**	**19.93**	**198**	P	**P**	**02 03 56.1**	**+0.7**
QRZ	**Quartz Range**	**19.93**	**198**	S	**S**	**02 07 02.4**	**-1.0**
QRZ	**Quartz Range**	**19.93**	**198**	P	**P**	**02 03 56.4**	**+1.1**
NNZ	**Nelson**	**20.07**	**196**	P	**P**	**02 03 55.5**	**-1.0**
NNZ	**Nelson**	**20.07**	**196**	P	**P**	**02 03 56.5**	**0.0**
TUWZ	**Tuamarina**	**20.13**	**195**	P	**P**	**02 03 56.2**	**-0.9**
THZ	**Tophouse**	**20.70**	**196**	P	**P**	**02 04 02.2**	**-0.2**
DSZ	**Denniston Nort**	**20.99**	**199**	P	**P**	**02 04 05.7**	**+0.8**
KHZ	**Kahutara**	**21.16**	**195**	P	**P**	**02 04 04.9**	**-1.4**
KHZ	**Kahutara**	**21.16**	**195**	P	**P**	**02 04 05.6**	**-0.7**
LHI	**Lord Howe Isla**	**21.37**	**239**	P	**P**	**02 04 09.9**	**+1.5**
LHI	**Lord Howe Isla**	**21.37**	**239**	P	**P**	**02 04 10.4**	**+2.0**
	comp=Z,161nm,1.1s						
GVZ	**Greta Valley S**	**21.80**	**195**	P	**P**	**02 04 11.4**	**-0.8**
LTZ	**Lake Taylor**	**21.82**	**197**	P	**P**	**02 04 11.2**	**-1.1**
INZ	**Inchbonnie**	**22.00**	**198**	P	**P**	**02 04 13.4**	**-0.4**
OXZ	**Oxford**	**22.39**	**197**	P	**P**	**02 04 15.4**	**-1.9**
OXZ	**Oxford**	**22.39**	**197**	P	**P**	**02 04 17.9**	**+0.6**
ALEG	**Aligegeo Malai**	**23.24**	**302**	P	**P**	**02 04 24.5**	**-0.8**
JCZ	**Jackson Bay**	**24.05**	**201**	P	**P**	**02 04 32.4**	**+0.3**
JCZ	**Jackson Bay**	**24.05**	**201**	S	**S**	**02 08 07.2**	**-1.2**
TATA	**Tatamba Isabel**	**24.16**	**301**	P	**P**	**02 04 31.9**	**-1.5**
ODZ	**Otahua Downs**	**24.36**	**197**	P	**P**	**02 04 34.2**	**-0.5**
TARA	**Tarawa**	**24.42**	**341**	P	**P**	**02 04 33.9**	**-1.8**
GC1S	**Gold Coast 1 S**	**25.23**	**250**	P	**P**	**02 04 42.9**	**+0.2**
TW1H	**Toowoomba 1 Ha**	**26.51**	**252**	P	**P**	**02 04 54.8**	**+0.8**
EIDS	**Eidsvold**	**27.19**	**257**	P	**P**	**02 05 00.4**	**+0.5**
EIDS	**Eidsvold**	**27.19**	**257**	P	**P**	**02 05 00.4**	**+0.5**
	comp=Z,224nm,1.4s						
EIDS	**Eidsvold**	**27.19**	**257**	P	**P**	**02 05 00.4**	**+0.5**
EIDS	**Eidsvold**	**27.19**	**257**	S	**S**	**02 08 58.0**	**+0.2**
ARMA	**Armidale**	**27.22**	**246**	P	**P**	**02 05 01.7**	**+1.4**
ARMA	**Armidale**	**27.22**	**246**	P	**P**	**02 05 01.8**	**+1.5**
	comp=Z,222nm,0.7s						
ARMA	**Armidale**	**27.22**	**246**	P	**P**	**02 05 01.7**	**+1.5**
ARMA	**Armidale**	**27.22**	**246**	S	**S**	**02 09 00.6**	**+2.2**
NTLH	**Newcastle Hard**	**27.73**	**241**	P	**P**	**02 05 06.3**	**+1.8**
RK1H	**Rockhampton Ha**	**27.76**	**261**	P	**P**	**02 05 05.5**	**+0.6**
AUPHS	**Peel High Scho**	**27.98**	**245**	P	**P**	**02 05 08.0**	**+1.3**
MGCD	**Mangrove Creek**	**28.29**	**240**	P	**P**	**02 05 11.0**	**+1.6**
	comp=Z,269nm,0.7s						
MGCD	**Mangrove Creek**	**28.29**	**240**	P	**P**	**02 05 11.0**	**+1.6**
PAE	**Paea**	**28.38**	**87**	*eP*	**P**	**02 05 11.8**	**+1.5**
	comp=Z,31nm,1.6s						
PPT2	**Papeete2**	**28.40**	**86**	*e*S	**S**	**02 09 15.6**	**-1.3**
	comp=Z,387nm,28.0s						
PPT2				*e*S	S	02 09 16.5	-0.4
	comp=Z,162nm,32.2s						
PPT2				*es*S	sS	02 12 03.8	-11
	comp=Z,476nm,30.8s						
PPT2				*es*S	SS	02 12 05.2	-18
	comp=Z,197nm,42.2s						
PPT	**Papeete**	**28.40**	**86**	P	**P**	**02 05 11.3**	**+0.8**
	comp=Z,22nm,0.5s,baz=252,slow=14,SNR=5.6						
	comp=Z,22nm,0.5s						
PPTF	**Pamatai, Papee**	**28.41**	**86**	P	**P**	**02 05 10.2**	**-0.5**
PPTF	**Pamatai, Papee**	**28.41**	**86**	P	**P**	**02 05 12.2**	**+1.5**
TVO	**Taravao**	**28.65**	**87**	*eP*	**P**	**02 05 13.7**	**+0.9**
	comp=Z,15nm,0.7s						
TVO				*e*pP	**pP**	**02 06 46.0**	**-0.2**
	comp=Z,19nm,1.1s						
SYDH	**Sydney Hard Ro**	**28.74**	**240**	P	**P**	**02 05 14.5**	**+1.3**
WOLH	**Wollongong Har**	**28.82**	**238**	P	**P**	**02 05 15.1**	**+1.2**
RMQ	**Roma**	**29.30**	**255**	P	**P**	**02 05 19.9**	**+1.7**
	comp=Z,80nm,1.3s						
RMQ	**Roma**	**29.30**	**255**	P	**P**	**02 05 20.0**	**+1.7**
AUUHS	**Ulladulla High**	**29.43**	**237**	P	**P**	**02 05 20.6**	**+1.4**
CNB	**Canberra Magne**	**30.28**	**237**	P	**P**	**02 05 28.0**	**+1.5**
	comp=Z,208nm,1.3s						
CNB	**Canberra Magne**	**30.28**	**237**	P	**P**	**02 05 27.8**	**+1.2**
CAN	**Canberra**	**30.56**	**237**	P	**P**	**02 05 30.0**	**+1.0**
PMOR	**Pomariorio Ree**	**30.66**	**82**	*eP*	**P**	**02 05 30.8**	**+0.9**
	comp=Z,203nm,1.2s						
YNG	**Young**	**30.76**	**240**	P	**P**	**02 05 31.4**	**+0.8**
	comp=Z,243nm,1.4s						
YNG	**Young**	**30.76**	**240**	P	**P**	**02 05 31.8**	**+1.2**
VAH	**Vaihoa**	**30.83**	**83**	*eP*	**P**	**02 05 32.0**	**+0.6**
	comp=Z,120nm,1.1s						
XMAS	**Kiritimati**	**32.15**	**45**	P	**P**	**02 05 41.4**	**-1.2**
XMAS	**Kiritimati**	**32.15**	**45**	P	**P**	**02 05 42.4**	**-0.3**
XMAS	**Kiritimati**	**32.15**	**45**	P	**P**	**02 05 42.3**	**-0.3**
CMSA	**Cobar Meteorol**	**32.43**	**246**	P	**P**	**02 05 45.5**	**+0.7**
	comp=Z,242nm,0.7s						
CMSA	**Cobar Meteorol**	**32.43**	**246**	P	**P**	**02 05 45.3**	**+0.4**
RABL	**Rabaul**	**32.76**	**299**	P	**P**	**02 05 47.7**	**-0.1**
QLP	**Quilpie**	**33.36**	**255**	P	**P**	**02 05 52.8**	**+0.1**
	comp=Z,486nm,0.9s						
QLP	**Quilpie**	**33.36**	**255**	P	**P**	**02 05 52.8**	**+0.1**
TOO	**Toolangi**	**33.93**	**235**	IAmb	IAmb	02 05 59.5	
	comp=Z,26nm,0.7s						
TOO	**Toolangi**	**33.93**	**235**	P	**P**	**02 05 58.1**	**+0.8**
	comp=Z,47nm,0.9s						
CORO	**Coronation Par**	**34.10**	**228**	P	**P**	**02 05 58.9**	**+0.3**
MTSU	**Mount Surprise**	**34.23**	**270**	P	**P**	**02 06 00.3**	**+0.2**
	comp=Z,142nm,0.9s						
MTSU	**Mount Surprise**	**34.23**	**270**	P	**P**	**02 06 00.3**	**+0.2**
PMG	**Port Moresby**	**34.44**	**286**	P	**P**	**02 06 01.3**	**-0.6**
	comp=Z,258nm,0.9s,baz=83,slow=5.0,SNR=66						
	comp=Z,258nm,0.9s						
PMG	**Port Moresby**	**34.44**	**286**	P	**P**	**02 06 01.3**	**-0.6**
PMG				pP	**pwP**	**02 07 41.6**	**-1.8**
TAU	**Tasmania Unive**	**34.61**	**225**	P	**P**	**02 06 03.8**	**+1.0**
TAU				IAmb	IAmb	02 06 05.2	
	comp=Z,23nm,0.7s						
TAU	**Tasmania Unive**	**34.61**	**225**	P	**P**	**02 06 03.5**	**+0.7**
TAU	**Tasmania Unive**	**34.61**	**225**	P	**P**	**02 06 03.8**	**+1.0**
TAU				pmax	pmax		
	comp=Z,23nm,0.7s						
BRAT	**Ballarat**	**35.11**	**236**	P	**P**	**02 06 08.4**	**+1.3**
STKA	**Stephens Creek**	**35.94**	**246**	P	**P**	**02 06 14.5**	**+0.5**
STKA	**Stephens Creek**	**35.94**	**246**	P	**P**	**02 06 14.6**	**+0.5**
	comp=Z,720nm,0.9s						
STKA	**Stephens Creek**	**35.94**	**246**	P	**P**	**02 06 14.7**	**+0.7**
	comp=Z,70nm,0.5s,baz=93,slow=11,SNR=185						
STKA				S	**S**	**02 11 10.5**	**-0.4**
	comp=Z,8.0nm,1.0s,baz=243,slow=17,SNR=5.2						
	comp=Z,70nm,0.5s						
STKA	**Stephens Creek**	**35.94**	**246**	P	**P**	**02 06 14.6**	**+0.6**
STKA	**Stephens Creek**	**35.94**	**246**	*d iP*	**P**	**02 06 14.6**	**+0.6**
MCQ	**Macquarie Isla**	**36.28**	**201**	P	**P**	**02 06 16.6**	**+0.2**
MCQ	**Macquarie Isla**	**36.28**	**201**	P	**P**	**02 06 16.6**	**+0.2**
MCQ				pmax	pmax		
	comp=Z,260nm,1.5s						
COEN	**Coen**	**36.40**	**276**	P	**P**	**02 06 18.0**	**0.0**
COEN	**Coen**	**36.40**	**276**	P	**P**	**02 06 18.3**	**+0.4**
	comp=Z,232nm,1.5s						
COEN	**Coen**	**36.40**	**276**	P	**P**	**02 06 18.4**	**+0.4**
INKA	**Innaminka**	**36.47**	**253**	P	**P**	**02 06 19.5**	**+1.1**
ARPS	**Mount Arapiles**	**36.54**	**238**	P	**P**	**02 06 19.4**	**+0.5**
	comp=Z,71nm,0.9s						
ARPS	**Mount Arapiles**	**36.54**	**238**	P	**P**	**02 06 19.6**	**+0.7**
MANU	**Manus Island**	**37.91**	**297**	P	**P**	**02 06 29.5**	**-0.9**
QIS	**Mount Isa**	**38.13**	**264**	P	**P**	**02 06 31.1**	**-0.9**
	comp=Z,67nm,1.6s						
QIS	**Mount Isa**	**38.13**	**264**	P	**P**	**02 06 31.4**	**-0.6**
AUMBR	**Murray Bridge**	**38.27**	**241**	P	**P**	**02 06 33.7**	**+0.8**
HTT	**Hallett**	**38.35**	**244**	P	**P**	**02 06 34.0**	**+0.3**
	comp=Z,149nm,1.1s						
HTT	**Hallett**	**38.35**	**244**	P	**P**	**02 06 33.8**	**+0.1**
LCRK	**Leigh Creek**	**38.73**	**248**	P	**P**	**02 06 36.8**	**+0.1**
PTPS	**Port Pirie**	**39.10**	**244**	P	**P**	**02 06 39.8**	**+0.2**
WHYH	**Whyalla**	**39.44**	**244**	P	**P**	**02 06 42.8**	**+0.5**
TAOE	**Nuku Hiva Isla**	**39.93**	**77**	*eP*	**P**	**02 06 47.2**	**+0.6**
	comp=Z,149nm,1.2s						
TAOE	**Nuku Hiva Isla**	**39.93**	**77**	P	**P**	**02 06 46.9**	**+0.2**
BBOO	**Buckleboo**	**40.69**	**245**	P	**P**	**02 06 52.1**	**-0.2**
BBOO	**Buckleboo**	**40.69**	**245**	P	**P**	**02 06 52.1**	**-0.2**
	comp=Z,161nm,0.8s						
BBOO	**Buckleboo**	**40.69**	**245**	P	**P**	**02 06 52.3**	**0.0**
OOD	**Oodnadatta**	**40.94**	**253**	P	**P**	**02 06 55.0**	**+0.6**
TABU	**Tabubil**	**41.55**	**288**	P	**P**	**02 06 58.3**	**-1.1**
AS06	**Alice Springs**	**42.84**	**259**	P	**P**	**02 07 08.8**	**-0.5**
	comp=Z,396nm,0.8s						
AS19	**Alice Springs**	**42.84**	**258**	P	**P**	**02 07 09.1**	**-0.3**
	comp=Z,199nm,1.0s						
AS01	**Alice Springs**	**42.85**	**259**	P	**P**	**02 07 09.3**	**-0.2**
AS31	**Alice Springs**	**42.90**	**259**	P	**P**	**02 07 09.1**	**-0.7**
AS31	**Alice Springs**	**42.90**	**259**	P	**P**	**02 07 09.7**	**-0.1**
	comp=Z,0.0nmcomp=Z,74nm,1.0s						
ASAR	**Alice Springs**	**42.90**	**259**	P	**P**	**02 07 09.4**	**-0.4**
	comp=Z,155nm,0.8s,baz=91,slow=8.2,SNR=924						
ASAR				PcP	**PcP**	**02 08 47.4**	**+0.8**
	comp=Z,11nm,0.6s,baz=103,slow=3.4,SNR=6.1						
ASAR				ScP	**ScP**	**02 11 39.4**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=112,slow=3.9,SNR=2.2						
ASAR				S	**S**	**02 12 50.4**	**-1.9**
	comp=Z,7.9nm,0.7s,baz=92,slow=16,SNR=10						
ASAR				ScS	**ScS**	**02 16 05.2**	**+1.8**
	comp=Z,2.5nm,0.7s,baz=100,slow=7.2,SNR=8.8						
	comp=Z,155nm,0.8s						
WR0	**Warramunga Arr**	**42.91**	**264**	P	**P**	**02 07 08.7**	**-1.2**
WB0	**Warramunga Arr**	**43.08**	**264**	P	**P**	**02 07 09.7**	**-1.6**
WB2	**Warramunga Arr**	**43.09**	**264**	P	**P**	**02 07 10.0**	**-1.3**
WRAB	**Tennant Creek**	**43.09**	**264**	P	**P**	**02 07 09.9**	**-1.4**
WRAB	**Tennant Creek**	**43.09**	**264**	*d iP*	**P**	**02 07 10.2**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,211nm,1.0s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**02 07 10.4**	**-1.0**
	comp=Z,146nm,0.8s,baz=95,slow=7.9,SNR=515						
WRA				PcP	**PcP**	**02 08 47.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=102,slow=3.3,SNR=4.8						
WRA				ScP	**ScP**	**02 11 43.1**	**+1.4**
	comp=Z,8.1nm,0.7s,baz=99,slow=3.9,SNR=9.3						
WRA				S	**S**	**02 12 52.6**	**-2.6**
	comp=Z,4.9nm,0.6s,baz=95,slow=14,SNR=17						
	comp=Z,146nm,0.8s						
JAY	**Jayapura**	**43.31**	**291**	P	**P**	**02 07 12.6**	**-0.5**
	comp=Z,144nm,0.5s,baz=151,slow=4.0,SNR=69						
	comp=Z,144nm,0.5s						
JAY	**Jayapura**	**43.31**	**291**	P	**P**	**02 07 12.7**	**-0.5**
	comp=Z,3μmcomp=Z,282nm,1.2s						
GENI	**Genyem**	**43.74**	**290**	P	**P**	**02 07 16.4**	**0.0**
GENI	**Genyem**	**43.74**	**290**	P	**P**	**02 07 16.6**	**+0.2**
	comp=Z,315nm,1.6s						
SMPI	**Sarmi**	**45.30**	**290**	P	**P**	**02 07 28.0**	**-0.3**
	comp=Z,3μmcomp=Z,186nm,1.8s						
KDU	**Kakadu**	**46.69**	**273**	P	**P**	**02 07 37.8**	**-1.0**
	comp=Z,322nm,0.6s						
KDU	**Kakadu**	**46.69**	**273**	P	**P**	**02 07 37.8**	**-1.0**
KHU	**Kahuku**	**47.17**	**31**	P	**P**	**02 07 43.3**	**+0.7**
KHU	**Kahuku**	**47.17**	**31**	P	**P**	**02 07 43.3**	**+0.7**
KHU				pmax	pmax		
	comp=Z,167nm,1.4s						
PUH	**Pauahi**	**47.48**	**32**	P	**P**	**02 07 45.3**	**+0.6**
FORT	**Forrest**	**47.48**	**248**	P	**P**	**02 07 43.8**	**-0.7**
FORT	**Forrest**	**47.48**	**248**	P	**P**	**02 07 43.9**	**-0.7**
	comp=Z,330nm,1.0s						
FORT	**Forrest**	**47.48**	**248**	P	**P**	**02 07 44.2**	**-0.3**
MLH	**Mauna Loa**	**47.49**	**31**	P	**P**	**02 07 45.1**	**+0.2**
KNHH	**Kane Nui o Ham**	**47.50**	**32**	P	**P**	**02 07 45.6**	**+0.7**
HMH	**Humu'ula Sheep**	**47.54**	**31**	P	**P**	**02 07 44.9**	**-0.5**
JOKA	**Jonika Flow**	**47.63**	**32**	P	**P**	**02 07 46.1**	**+0.4**
KEKH	**Kekaha**	**47.79**	**25**	P	**P**	**02 07 46.1**	**-0.7**
WRKA	**Warakurna**	**47.79**	**256**	P	**P**	**02 07 46.4**	**-0.5**
	comp=Z,363nm,0.8s						
WRKA	**Warakurna**	**47.79**	**256**	P	**P**	**02 07 46.3**	**-0.7**
MTN	**Manton Dam**	**47.88**	**272**	P	**P**	**02 07 46.9**	**-0.8**
	comp=Z,216nm,0.6

SRBI	Singaraja	64.21	272	P	P	02 09 38.3	-1.7
	comp=Z,2µmcomp=Z,159nm,0.9s						
JAGI	Jajag, Banyuwa	65.06	271	P	P	02 09 43.0	-2.3
JAGI	Jajag, Banyuwa	65.06	271	P	P	02 09 43.8	-1.5
JAGI	Jajag, Banyuwa	65.06	271	P	P	02 09 43.8	-1.5
	comp=Z,2µmcomp=Z,135nm,0.9s						
ABJI	Asem Bagus	65.22	271	P	P	02 09 47.3	+1.0
	comp=Z,110nm,1.5s						
KMMI	Kalianget	65.73	272	P	P	02 09 51.1	+1.6
	comp=Z,2µmcomp=Z,142nm,1.6s						
GMJI	Gumukmas	65.79	271	P	P	02 09 49.3	-0.5
	comp=Z,91nm,1.0s						
GRJI	Gresik	67.16	272	P	P	02 09 59.7	+1.4
PCJI	Pacitan	67.92	270	P	P	02 10 02.6	-0.3
NGJI	Ngawi	67.94	271	P	P	02 10 05.7	+2.7
	comp=Z,85nm,1.1s						
QSPA	South Pole Qui	68.04	180	P	P	02 10 03.6	+0.8
QSPA	South Pole Qui	68.04	180	P	P	02 10 04.3	+1.5
	comp=Z,85nm,0.7s,baz=341,slow=0.5,SNR=253						
	comp=Z,85nm,0.7s						
QSPA	South Pole Qui	68.04	180	P	P	02 10 04.3	+1.5
QSPA				PcP	PcP	02 10 24.6	+0.9
QSPA				pP	pwP	02 12 05.8	0.0
UGM	Wanagama	68.62	270	P	P	02 10 06.5	-0.7
UGM	Wanagama	68.62	270	P	P	02 10 07.1	-0.1
KKM	Kota Kinabalu	68.89	286	P	P	02 10 08.9	+0.1
SMRI	Semarang	69.00	271	P	P	02 10 10.0	+0.6
JOW	Kunigami	70.16	311	P	P	02 10 15.5	-0.5
JOW	Kunigami	70.16	311	P	P	02 10 16.7	+0.7
MJAR	Matsushiro Arr	70.68	325	P	P	02 10 18.6	-0.3
	comp=Z,6.7nm,0.5s,baz=156,slow=5.7,SNR=18						
MJAR				pP	pP	02 12 20.4	-0.2
	comp=Z,1.4nm,0.3s,baz=151,slow=6.0,SNR=2.5						
	comp=Z,6.7nm,0.5s						
MAJO	Matsushiro	70.68	325⇓	eP	P	02 10 18.6	-0.3
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
STKI	Sintang	70.70	278	P	P	02 10 21.3	+1.8
BBJI	Bungbulang	71.44	269	P	P	02 10 23.1	-0.8
JSD	Sado	71.77	326	P	P	02 10 25.9	+0.7
CNJI	Cibinong	71.98	269	P	P	02 10 26.2	-0.7
	comp=Z,54nm,1.2s						
KSM	Kuching	72.33	279	P	P	02 10 29.6	+0.7
JTM	Tenmabayashi	72.50	330	P	P	02 10 29.2	-0.1
JTM				IAmb	IAmb	02 10 30.1	
	comp=Z,88nm,1.3s						
TWGBT	Beinan	73.10	304	P	P	02 10 31.7	-1.4
TWG	Pinlang	73.11	304	IAmb	IAmb	02 10 32.5	
	comp=Z,47nm,0.7s						
TPI	Tanjungpandan	73.15	274	P	P	02 10 34.3	+0.7
NACB	Ninganchiao	73.46	305	P	P	02 10 34.0	-1.1
NACB				IAmb	IAmb	02 10 35.8	
	comp=Z,37nm,0.7s						
NACB	Ninganchiao	73.46	305	P	P	02 10 34.8	-0.3
CGJI	Cibinong	73.56	269	P	P	02 10 34.8	-1.2
	comp=Z,2µmcomp=Z,100nm,1.6s						
TPUB	Ta-pu	73.71	304	P	P	02 10 35.4	-1.2
SSLB	Suanglung	73.73	305	IAmb	IAmb	02 10 36.8	
	comp=Z,41nm,0.6s						
SSLB	Suanglung	73.73	305	P	P	02 10 35.5	-1.2
JKA	Kamikawa-asahi	74.46	333	P	P	02 10 41.2	+0.9
JKA				IAmb	IAmb	02 12 04.9	
	comp=Z,117nm,1.8s						
ASAJ	Asahikawa	74.46	333	P	P	02 10 40.4	+0.1
	comp=Z,6.2nm,0.4s,baz=345,slow=3.9,SNR=6.7						
	comp=Z,6.2nm,0.4s						
ASAJ	Asahikawa	74.46	333	P	P	02 10 41.2	+0.9
ASAJ				pmax	pmax		
	comp=Z,117nm,1.8s						
MDSI	Maura Dua	75.73	271	P	P	02 10 47.1	-1.0
	comp=Z,40nm,0.7s						
UNV	Unalaska Valle	76.39	8	P	P	02 10 50.3	-0.4
	baz=192						
YSS	Yuzhno-Sakhali	76.69	334	eP	P	02 10 53.7	+1.2
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
PET	Petropavlovsk	77.14	347⇑	eP	P	02 10 52.6	-2.2
PET				pmax	pmax		
	comp=Z,41nm,1.6s						
KSRS	Korea Array	77.17	320	P	P	02 10 56.4	+1.0
	comp=Z,1.7nm,0.6s,baz=131,slow=5.5,SNR=5.5						
	comp=Z,1.7nm,0.6s						
PEA0B	Petropavlovsk-	77.42	346	ceP	P	02 10 56.5	+0.1
PETK	Petropavlovsk-	77.42	346	P	P	02 10 55.6	-0.8
PETK	Petropavlovsk-	77.42	346	P	P	02 10 55.9	-0.5
	comp=Z,11nm,0.5s,baz=151,slow=3.4,SNR=27						
PETK				pP	pP	02 13 01.8	+0.9
	comp=Z,1.5nm,0.4s,baz=188,slow=16,SNR=1.6						
	comp=Z,11nm,0.5s						
KSI	Kapahiang	77.51	271	P	P	02 11 00.3	+2.4
	comp=Z,103nm,0.8s						
FALS	False Pass	77.80	9	P	P	02 10 58.3	-0.1
	baz=195						
BELA	Belgrano 2	78.21	173	P	P	02 11 00.6	+0.2
BELA				IAmb	IAmb	02 11 02.8	
	comp=Z,63nm,1.0s						
DLV	Lat	78.32	288	IAmb	IAmb	02 11 04.7	
	comp=Z,27nm,0.6s						
CHNA	Chernabura Isl	78.42	12	P	P	02 11 01.8	+0.1
	baz=199						
P08K	Saint George I	78.77	6	P	P	02 11 03.7	+0.3
	baz=189						
MSHR	Mys Shultsa	78.80	325	deP	P	02 11 04.4	+0.4
MSHR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
S12K	Black Hills	78.83	10	P	P	02 11 04.5	+0.6
	baz=196						
PSTR	Posyet	79.03	325	deP	P	02 11 06.0	+0.8
USA0B	Ussuriysk Arra	79.50	327	deP	P	02 11 08.1	+0.5
USRK	Ussuriysk Ar.	79.50	327	P	P	02 11 07.9	+0.2
USRK	Ussuriysk Ar.	79.50	327	P	P	02 11 07.7	0.0
	comp=Z,1.6nm,0.5s,baz=116,slow=8.7,SNR=7.2						
USRK				pP	pP	02 13 13.0	+0.2
	comp=Z,2.0nm,0.8s,baz=66,slow=9.2,SNR=4.0						
	comp=Z,1.6nm,0.5s						
USRK	Ussuriysk Ar.	79.50	327	P	P	02 11 07.9	+0.2
MAW	Mawson	79.67	200	P	P	02 11 09.6	+1.4
MAW	Mawson	79.67	200	P	P	02 11 09.8	+1.5
	comp=Z,27nm,0.6s,baz=144,slow=4.6,SNR=9.5						
	comp=Z,27nm,0.6s						
NJ2	Nanjing	79.85	311	⇑P	P	02 11 11.3	+1.5
NJ2				pmax	pmax		
	comp=Z,16nm,1.2s						
TYV	Tymovskoe	79.91	337	eP	P	02 11 09.9	+0.3
TYV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,200nm,5.1s						
CHGN	Chignik	80.03	12	P	P	02 11 10.7	+0.6
	baz=200						
CHIR	Chirikof Islan	80.15	13	P	P	02 11 10.7	-0.1
	baz=202						
QIZ	Qiongzhong	80.29	295	P	P	02 11 12.5	+0.2
QIZ				pP	pP	02 13 15.5	-2.3
QIZ				S	S	02 20 31.0	+1.4
QIZ				pmax	pmax		
	comp=Z,18nm,2.5s						
QIZ				pmax	pmax		
	comp=Z,260nm,3.5s						
PMSA	Palmer Station	80.41	157	P	P	02 11 13.6	+1.5
VTX	Valle De La Tr	80.85	51	P	P	02 11 16.2	+1.1
MDJ	Mudanjiang	81.03	326	P	P	02 11 14.5	-1.0
MDJ				S	S	02 20 33.5	-2.5
MDJ				SS	SS	02 26 06.3	-3.3
MDJ				pmax	pmax		
	comp=Z,11nm,2.1s						
ESJX	Sierra Juarez	81.06	50	P	P	02 11 17.4	+1.1
O02D	Mt. Diablo Mer	81.30	40	IAmb	IAmb	02 11 20.9	
	comp=Z,76nm,1.4s						
R16K	Pilot Point	81.38	12	P	P	02 11 16.9	-0.1
	baz=200						
SLBS	Sierra La Lagu	81.42	60	P	P	02 11 19.7	+1.5
PFO	Pinyon Flats O	81.58	49	P	P	02 11 19.6	+0.8
PFO	Pinyon Flats O	81.58	49⇓	eP	P	02 11 18.6	-0.2
PFO				pmax	pmax		
	comp=Z,24nm,2.3s						
OHAK	Old Harbor	81.95	14	P	P	02 11 19.9	0.0
	baz=204						
R18K	Karluk	82.01	13	P	P	02 11 20.2	+0.1
	baz=203						
IPM	Ipoh	82.02	278	IAmb	IAmb	02 11 23.1	
	comp=Z,43nm,0.7s						
IPM	Ipoh	82.02	278	P	P	02 11 22.0	+0.6
L02F	Čave Junction	82.06	38	IAmb	IAmb	02 11 24.1	
	comp=Z,35nm,1.5s						
GSC	Goldstone, Bar	82.27	47	P	P	02 11 22.6	+0.3
GSC	Goldstone, Bar	82.27	47	P	P	02 11 22.6	+0.3
GSC				pmax	pmax		
	comp=Z,35nm,1.7s						
WHN	Wuhan	82.30	307	⇑P	P	02 11 23.8	+1.5
YBH	Yreka Blue Hor	82.31	39	P	P	02 11 23.6	+1.3
	comp=Z,8.4nm,0.6s,baz=201,slow=3.4,SNR=28						
	comp=Z,8.4nm,0.6s						
O14K	Tigyukauivet M	82.36	9	P	P	02 11 21.9	0.0
	baz=197						
WAKR	Walker	82.36	43	IAmb	IAmb	02 11 25.2	
	comp=Z,17nm,0.6s						
UBPT	Khong Chiam	82.39	290	P	P	02 11 24.3	+1.2
GLA	Glamis	82.42	50	P	P	02 11 24.4	+1.4
GLA	Glamis	82.42	50	P	P	02 11 24.4	+1.4
GLA				pmax	pmax		
	comp=Z,15nm,0.9s						
O15K	Ungalikthiuk R	82.51	10	P	P	02 11 22.8	0.0
	baz=198						
Q16K	King Salmon	82.60	12	P	P	02 11 23.1	0.0
	baz=201						
PNTR	Pine Nut	82.60	43	P	P	02 11 24.6	+0.6
PNTR				IAmb	IAmb	02 11 26.7	
	comp=Z,33nm,0.7s						
KDAK	Kodiak Island	82.62	14	P	P	02 11 23.9	+0.6
	comp=Z,8.8nm,0.9s,baz=71,slow=3.1,SNR=7.3						
	comp=Z,8.8nm,0.9s						
KDAK	Kodiak Island	82.62	14	P	P	02 11 23.5	+0.2
	baz=205						
KULM	Kulim	82.68	279	IAmb	IAmb	02 11 26.6	
	comp=Z,23nm,0.8s						
P16K	Nushagak River	82.69	11	P	P	02 11 24.0	+0.4
	baz=200						
CN2	Changchun	82.72	323	P	P	02 11 23.3	-0.8
CN2				pP	pP	02 13 30.8	+0.2
CN2				S	S	02 20 54.5	+1.6
CN2				SS	SS	02 26 37.3	+2.9
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
M11K	Mekoryuk	82.83	7	P	P	02 11 24.6	+0.3
	baz=192						
L04D	Klamath Falls	82.85	39	IAmb	IAmb	02 11 27.8	
	comp=Z,94nm,1.6s						
BNX	BinXian	82.92	326	⇑P	P	02 11 25.0	-0.1
BNX				S	S	02 20 55.5	+0.7
BNX				pmax	pmax		
	comp=Z,12nm,1.6s						
N14K	Kuskokwak Cree	82.94	9	P	P	02 11 25.4	+0.5
	baz=197						
NVAR	Mina Array Bea	83.05	44	P	P	02 11 26.8	+0.6
	comp=Z,4.1nm,0.6s,baz=222,slow=8.5,SNR=28						
NVAR				pP	pP	02 13 34.7	+1.5
	comp=Z,3.1nm,0.9s,baz=221,slow=7.5,SNR=7.0						
	comp=Z,4.1nm,0.6s						
PAHR	Pah Rah Range	83.10	42	IAmb	IAmb	02 11 28.4	
	comp=Z,42nm,1.8s						
P17K	Kvichak River	83.12	12	P	P	02 11 25.7	-0.1
	baz=201						
KLR	Kul'dur	83.18	330	P	P	02 11 26.3	-0.1
	comp=Z,1.5nm,0.5s,baz=131,slow=2.8,SNR=11						
KLR				pP	pP	02 13 34.0	+1.1
	comp=Z,2.2nm,0.7s,baz=306,slow=2.3,SNR=2.3						
	comp=Z,1.5nm,0.5s						
KLR	Kul'dur	83.18	330⇓	eP	P	02 11 26.1	-0.2
KLR				pmax	pmax		
	comp=Z,19nm,2.3s						
M13K	Dall Lake	83.19	8	P	P	02 11 26.2	+0.2
	baz=195						
O16K	Kokwok River B	83.20	11	P	P	02 11 25.9	-0.2
	baz=200						
HSIG		83.21	55	IAmb	IAmb	02 11 29.6	
	comp=Z,14nm,0.6s						
RPSI	Rantau Prapat	83.28	276	IAmb	IAmb	02 11 28.5	
	comp=Z,26nm,0.9s						
PSI	Prapat	83.32	276	P	P	02 11 27.8	-0.2
TIA	Tai'an	83.34	313	P	P	02 11 28.0	+0.5
TIA				pmax	pmax		
	comp=Z,22nm,0.9s						
Q20K	Shuyak Island	83.41	14	P	P	02 11 28.0	+0.8
	baz=205						
N15K	Kwethluk River	83.42	10	IAmb	IAmb	02 11 29.5	
	comp=Z,36nm,0.8s						
N15K	Kwethluk River	83.42	10	P	P	02 11 27.9	+0.7
	baz=198						
P18K	Big Mountain,	83.54	12	P	P	02 11 27.7	-0.2
	baz=202						
O17K	Koliganek Bris	83.54	11	P	P	02 11 28.5	+0.7
	baz=201						
M15K	Kasigluk River	83.83	9	P	P	02 11 29.6	+0.4
	baz=198						
O18K	Koktuh Hills	83.97	12	P	P	02 11 29.3	-0.7
O18K				IAmb	IAmb	02 11 30.7	
	comp=Z,70nm,1.4s						
O18K	Koktuh Hills	83.97	12	P	P	02 11 29.7	-0.3
	baz=202,SNR=5.7						
GSI	Gunungsitoli	84.00	274	P	P	02 11 32.2	+1.0
GSI	Gunungsitoli	84.00	274	P	P	02 11 32.8	+1.6
	comp=Z,80nm,1.1s						
H04D	Lebanon	84.04	37	IAmb	IAmb	02 11 33.6	
	comp=Z,97nm,1.8s						
J05D	Fort Rock, OR	84.13	39	IAmb	IAmb	02 11 34.4	
	comp=Z,28nm,1.0s						
L14K	Kuka Creek	84.17	8	P	P	02 11 31.4	+0.5
	baz=196						
P19K	Oil Pt	84.18	13	P	P	02 11 31.1	0.0
	baz=204						
N17K	Nushagak Hills	84.23	11	P	P	02 11 31.6	+0.3
	baz=201						
M16K	Timber Creek	84.41	10	P	P	02 11 32.5	+0.4
	baz=199						
O19K	Port Alsworth	84.46	12	P	P	02 11 31.6	-0.7
O19K				IAmb	IAmb	02 11 33.3	
	comp=Z,47nm,1.0s						
O19K	Port Alsworth	84.46	12	P	P	02 11 32.1	-0.2
	baz=203,SNR=7.0						
K13K	Kusilvak Mount	84.51	7	IAmb	IAmb	02 13 51.5	
	comp=Z,56nm,1.8s						
K13K	Kusilvak Mount	84.51	7	P	P	02 11 32.4	-0.2
	baz=194						
HOM	Homer	84.53	14	P	P	02 11 32.5	-0.1
	baz=206						
PINE	Pine Mountain	84.61	38	IAmb	IAmb	02 11 36.3	
	comp=Z,15nm,0.7s						
N18K	Kilae Creek	84.61	11	P	P	02 11 33.0	-0.1
	baz=202						
PRN	Pahroc Range	84.61	46	IAmb	IAmb	02 11 36.7	
	comp=Z,45nm,1.9s						
L15K	Ungalak Mounta	84.66	8	P	P	02 11 33.3	0.0
	baz=197						
O20K	Slope Mountain	84.70	13	P	P	02 11 33.6	0.0
	baz=205						
I05D	Terrebonne, OR	84.71	38	IAmb	IAmb	02 11 37.2	
	comp=Z,73nm,1.8s						
BRLK	Bradley Lake	84.79	14	IAmb	IAmb	02 11 35.4	
	comp=Z,30nm,1.2s						
BRSE	Bradley Lake S	84.80	14	P	P	02 11 34.0	-0.1
	baz=207,SNR=5.7						
MA2	Magadan	84.92	345	P	P	02 11 33.5	-1.1
MA2	Magadan	84.92	345	P	P	02 11 34.3	-0.3
	comp=Z,3.1nm,0.3s,baz=118,slow=6.2,SNR=7.8						
MA2				pP	pP	02 13 43.0	+0.9
	comp=Z,1.9nm,0.3s,baz=137,slow=4.7,SNR=2.2						
	comp=Z,3.1nm,0.3s						
MA2	Magadan	84.92	345	P	P	02 11 34.3	-0.3
SRIT	Nakonsritamara	84.92	281	P	P	02 11 36.1	+0.4
SYO	Syowa Base	84.94	193⇓	eP	P	02 11 34.8	+0.1
SYO	Syowa Base	84.94	193⇓	iPcP	PcP	02 11 36.0	-0.8
TUC	Tucson	84.96	52	P	P	02 11 37.0	+1.4
TUC	Tucson	84.96	52	P	P	02 11 37.0	+1.4
TUC				pmax	pmax		
	comp=Z,22nm,1.5s						
ELIB	Princess Elisa	84.97	187	dP	P	02 11 34.8	-0.2
ELIB				dpP	pwP	02 13 47.1	+1.3
	comp=Z,56nm,0.6s						
L16K	Owhat River	84.98	9	P	P	02 11 35.1	+0.2
	baz=198						
N19K	Bonanza Creek	85.00	12	P	P	02 11 35.0	-0.1
	baz=203						
M17K	Holitna River	85.01	10	P	P	02 11 35.5	+0.5
	baz=200						
K15K	Wolf Creek Mou	85.25	8	IAmb	IAmb	02 13 50.2	
	comp=Z,29nm,1.1s						
K15K	Wolf Creek Mou	85.25	8	P	P	02 11 37.0	+0.9
	baz=197						
M18K	Stony River	85.38	11	P	P	02 11 37.3	+0.5
	baz=202						
SEW	Seward	85.42	15	P	P	02 11 37.1	+0.2
	baz=208						
J14K	Nanvaranak Lak	85.43	7	P	P	02 11 37.2	+0.3
	baz=195						
X16A	Lo Mia Camp, P	85.54	50	IAmb	IAmb	02 13 54.3	
	comp=Z,18nm,1.1s						
L17K	Donlin	85.56	10	P	P	02 11 37.2	-0.4
	baz=200						
NONG	Nongkai	85.58	291	P	P	02 11 40.0	+1.3
Q23K	Middleton Isla	85.60	16	P	P	02 11 38.0	+0.2
	baz=210						
SLKM	Skilak Lake	85.61	14	IAmb	IAmb	02 11 39.2	
	comp=Z,22nm,0.8s						
HNS	HongShan	85.62	313	⇑P	P	02 11 40.3	+1.9
HNS				SKS	SKSac	02 21 06.3	-0.6
HNS				S	ScS	02 21 26.0	-1.3
HNS				pmax	pmax		
	comp=Z,13nm,1.1s						
319A	Douglas	85.62	54	IAmb	IAmb	02 11 41.9	
	comp=Z,11nm,0.6s						
NAYO	Nakonayok	85.64	287	P	P	02 11 40.4	+1.3
G06A	Carlson Farm,	85.66	37	IAmb	IAmb	02 11 41.2	
	comp=Z,63nm,1.9s						
LYN	LuoYang	85.70	310	⇑P	P	02 11 40.5	+1.5
LYN				SKS	SKSac	02 21 11.0	+3.4
LYN				S	ScS	02 21 27.5	-0.7
LYN				pmax	pmax		
	comp=Z,24nm,0.9s						
LYN				pmax	pmax		
	comp=Z,350nm,6.7s						
J08A	Circle Bar Ran	85.79	40	P	P	02 11 39.8	+0.5
J08A				IAmb	IAmb	02 11 42.2	
	comp=Z,28nm,1.4s						
SPCR	Spurr Chakacha	85.80	13	P	P	02 11 38.6	-0.3
	baz=205						
P23K	Montague Islan	85.82	15	P	P	02 11 38.7	-0.2
	baz=210						
L18K	Granite Mounta	85.91	10	P	P	02 11 39.4	+0.2
	baz=201						
COYC	Coyhaique	85.91	138	P	P	02 11 40.3	+0.4
HEH	HeiHe	85.93	329	eP	P	02 11 39.5	-0.1
HEH				S	S	02 21 26.5	+2.9
HEH				pmax	pmax		
	comp=Z,15nm,0.6s						
U15A	North Rim	85.97	48	IAmb	IAmb	02 11 43.5	
	comp=Z,13nm,0.7s						
M19K	Big River Lodg	86.02	12	IAmb	IAmb	02 12 08.0	
	comp=Z,12nm,0.7s						
M19K	Big River Lodg	86.02	12	P	P	02 11 40.1	+0.3
	baz=203						
BJI	Beijing	86.06	316	P	P	02 11 41.5	+1.0
BJI				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BJI				pmax	pmax		
	comp=Z,170nm,4.9s						
K17K	Iditarod	86.11	10	P	P	02 11 40.6	+0.4
	baz=200						
STLK	Strandline Lak	86.15	13	IAmb	IAmb	02 12 34.9	
	comp=Z,29nm,0.8s						
L19K	White Mountain	86.19	11	IAmb	IAmb	02 11 42.4	
	comp=Z,23nm,1.0s						
L19K	White Mountain	86.19	11	P	P	02 11 40.9	+0.2
	baz=203						
TROLL	Troll, Antarti	86.19	181	P	P	02 11 41.0	+0.2
TROLL	Troll, Antarti	86.19	181	⇑P	P	02 11 41.0	+0.2
	comp=Z,2µm,0.5s						
MLSI	Meulaboh, Aceh	86.20	276	P	P	02 11 43.2	+1.4
	comp=Z,83nm,0.8s						
RC01	Rabbit Creek A	86.24	14	P	P	02 11 41.5	+0.7
	baz=207,SNR=10.0						
M20K	Styx River	86.24	12	P	P	02 11 41.2	+0.3
	baz=204						
GYA	Guiyang	86.27	300	⇑P	P	02 11 43.5	+1.5
GYA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ELK	Elko	86.30	43	P	P	02 11 42.0	0.0
ELK	Elko	86.30	43	P	P	02 11 42.0	0.0
ELK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SLVN	Son La	86.31	295	P	P	02 11 43.2	+1.0
J16K	Anvik River	86.32	8	P	P	02 11 41.7	+0.5
	baz=198						
PWL	Port Wells	86.35	15	P	P	02 11 41.1	-0.4
	baz=209,SNR=7.8						
SNAA	Sanae	86.51	179	P	P	02 11 41.9	-0.4
SNAA	Sanae	86.51	179	P	P	02 11 41.6	-0.7
SNAA				IAmb	IAmb	02 11 43.4	
	comp=Z,10nm,0.6s						
SNAA	Sanae	86.51	179	⇑P	P	02 11 41.9	-0.4
	comp=Z,214nm,0.4s						
SNAA	Sanae	86.51	179	P	P	02 11 42.2	0.0
	comp=Z,9.7nm,0.5s,baz=203,slow=8.3,SNR=77						
SNAA				pP	pP	02 13 52.4	+1.5
	comp=Z,9.6nm,1.0s,baz=190,slow=6.7,SNR=4.7						
	comp=Z,9.7nm,0.5s						
KAIM	Kayak Island	86.53	17	P	P	02 11 42.3	+0.1
	baz=212						
G08A	Pilot Rock	86.64	38	IAmb	IAmb	02 11 45.9	
	comp=Z,62nm,1.6s						
J17K	VABM Dome	86.64	9	P	P	02 11 43.1	+0.4
	baz=199						
L20K	Farewell, AK	86.64	12	P	P	02 11 42.9	+0.1
	baz=204						
SKT	Skwentna	86.65	13	P	P	02 11 42.9	+0.1
	baz=206						
CRAG	Craig	86.65	24	P	P	02 11 43.2	+0.3
	baz=222						
MXC	Moxie City	86.66	36	IAmb	IAmb	02 11 45.8	
	comp=Z,12nm,0.7s						
GLI	Glacier Island	86.67	15	P	P	02 11 42.9	0.0
	baz=210						
TTA	Tatalina	86.69	10	P	P	02 11 43.2	+0.2
	baz=202						
TTA	Tatalina	86.69	10	P	P	02 11 43.7	+0.7
VNA3	Neumayer Olymp	86.70	177	P	P	02 11 43.0	-0.1
VNA3	Neumayer Olymp	86.70	177	⇑P	P	02 11 43.0	-0.1
	comp=Z,50nm,0.6s						
EYAK	Cordova Ski Ar	86.72	16	P	P	02 11 43.2	+0.1
EYAK				IAmb	IAmb	02 11 44.6	
	comp=Z,46nm,1.6s						
EYAK	Cordova Ski Ar	86.72	16	P	P	02 11 43.5	+0.5
	baz=211						
EYAK	Cordova Ski Ar	86.72	16	P	P	02 11 44.0	+0.9
M22K	Willow	86.74	13	P	P	02 11 43.6	+0.4
	baz=207						
KNK	Knik Glacier	86.81	14	IAmb	IAmb	02 12 32.1	
	comp=Z,28nm,0.7s						
KNK	Knik Glacier	86.81	14	P	P	02 11 44.0	+0.4
	baz=209,SNR=11						
PMR	Palmer	86.82	14	IAmb	IAmb	02 12 22.1	
	comp=Z,21nm,0.5s						
PMR	Palmer	86.82	14	P	P	02 11 43.7	+0.1
	baz=208,SNR=6.0						
PMR	Palmer	86.82	14	P	P	02 11 43.6	+0.1
LTY	Liberty	86.86	36	IAmb	IAmb	02 11 46.0	
	comp=Z,11nm,0.6s						
E07A	Sunnyside	86.89	37	IAmb	IAmb	02 11 47.1	
	comp=Z,18nm,0.7s						
HMT	Hamilton	86.92	17	IAmb	IAmb	02 11 45.4	
	comp=Z,16n

CUT	Chulitna	87.30	13	P	P	02 11 45.5	-0.2	
	baz=207,SNR=7.0							
M23K	Glacier View	87.31	14	P	P	02 11 45.9	0.0	
	baz=209,SNR=7.1							
PPLA	Purkeypile	87.35	12	P	P	02 11 46.2	-0.1	
	baz=205							
BMRM	Bremner River	87.37	16	IAmb	IAmb	02 11 47.8		
	comp=Z,20nm,1.0s							
BMRM	Bremner River	87.37	16	P	P	02 11 46.4	+0.1	
	baz=212							
H16K	Elim	87.42	7	P	P	02 11 46.8	+0.5	
	baz=196							
K20K	Telida	87.42	11	IAmb	IAmb	02 11 47.2		
	comp=Z,19nm,1.2s							
K20K	Telida	87.42	11	P	P	02 11 46.4	0.0	
	baz=203							
S31K	Pelican	87.42	21	P	P	02 11 46.9	+0.5	
	baz=220							
MESA	MESA	87.42	18	P	P	02 11 46.6	-0.1	
	baz=214							
SCM	Sheep Creek Mo	87.44	15	P	P	02 11 46.6	0.0	
	baz=210,SNR=13							
KLU	Klutina	87.48	15	IAmb	IAmb	02 11 48.3		
	comp=Z,31nm,1.6s							
KLU	Klutina	87.48	15	P	P	02 11 46.8	0.0	
	baz=211							
G15K	Niukluk	87.56	6	P	P	02 11 47.1	+0.2	
	baz=194							
SEY	Seymchan	87.57	348	P	P	02 11 47.0	0.0	
	comp=Z,3.8nm,0.4s,baz=164,slow=7.8,SNR=20							
SEY				pP	pP	02 13 55.1	-0.7	
	comp=Z,3.0nm,0.8s,baz=128,slow=4.6,SNR=4.7							
	comp=Z,3.8nm,0.4s							
SRDT	SRDT	87.61	286	P	P	02 11 49.2	+0.9	
S32K	Kilisnoo	87.62	22	P	P	02 11 47.7	+0.4	
	baz=221							
BSI	Banda Aceh	87.68	277	P	P	02 11 49.4	+0.6	
D08A	Wollman Farm,	87.70	37	IAmb	IAmb	02 11 50.2		
	comp=Z,12nm,0.6s							
J19K	Poorman	87.74	10	P	P	02 11 48.0	+0.1	
	baz=202							
F14K	Arctic Creek	87.81	5	P	P	02 11 48.1	0.0	
	baz=192							
CAST	Castle Rocks	87.84	12	P	P	02 11 46.9	-1.5	
CAST				IAmb	IAmb	02 11 48.4		
	comp=Z,25nm,1.2s							
CAST	Castle Rocks	87.84	12	P	P	02 11 47.2	-1.1	
	baz=205,SNR=20							
VRDI	Verde Repeater	87.89	17	IAmb	IAmb	02 11 50.5		
	comp=Z,34nm,1.5s							
N25K	Chitina, Valde	87.91	16	IAmb	IAmb	02 11 50.5		
	comp=Z,55nm,1.6s							
N25K	Chitina, Valde	87.91	16	P	P	02 11 48.4	-0.4	
	baz=212							
M24K	Tolsona, Glenn	87.95	15	P	P	02 11 48.8	-0.1	
	baz=211							
GLB	Gilahina Butte	87.98	16	IAmb	IAmb	02 11 50.0		
	comp=Z,30nm,1.4s							
H17K	Granite Mounta	87.99	8	P	P	02 11 48.9	-0.1	
	baz=198							
Q16A	Castle Valley	88.00	46	IAmb	IAmb	02 11 54.2		
	comp=Z,57nm,1.9s							
XAN	Xi'an	88.02	308	P	P	02 11 50.3	+0.4	
XAN				pmax	pmax			
	comp=Z,27nm,0.8s							
F10A	Beach Ranch, E	88.02	38	IAmb	IAmb	02 11 51.7		
	comp=Z,15nm,0.8s							
G16K	Koyuk River	88.13	7	P	P	02 11 50.5	+0.9	
	baz=196							
J20K	Nowinta River	88.16	11	IAmb	IAmb	02 11 51.4		
	comp=Z,28nm,1.4s							
J20K	Nowinta River	88.16	11	P	P	02 11 49.7	-0.1	
	baz=203,SNR=5.4							
TMUT	Trail Mountain	88.17	46	IAmb	IAmb	02 11 53.8		
	comp=Z,48nm,1.6s							
KTH	Kantishna Hill	88.19	12	IAmb	IAmb	02 11 50.3		
	comp=Z,13nm,0.9s							
F15K	North Star Dit	88.19	6	P	P	02 11 49.7	-0.2	
	baz=194							
CHUM	Lake Minchumin	88.22	12	P	P	02 11 49.5	-0.6	
	baz=205,SNR=6.9							
XLT	XiLinHaoTe	88.22	319	*e*P	P	02 11 50.8	+0.1	
XLT				S	S	02 21 48.5	+3.0	
XLT				pmax	pmax			
	comp=Z,4.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,200nm,6.6s							
TRF	Thorofare Moun	88.23	13	P	P	02 11 49.1	-1.2	
TRF				IAmb	IAmb	02 11 51.0		
	comp=Z,22nm,0.9s							
TRF	Thorofare Moun	88.23	13	P	P	02 11 50.1	-0.2	
	baz=207,SNR=11							
PLID	Pearl Lake	88.23	39	IAmb	IAmb	02 11 53.3		
	comp=Z,39nm,1.6s							
B08A	Colville Reser	88.24	35	IAmb	IAmb	02 11 52.4		
	comp=Z,10nm,0.8s							
GCSA	Galena City Sc	88.25	9	P	P	02 11 50.8	+0.7	
	baz=201							
R32K	Eaglecrest	88.25	22	P	P	02 11 50.3	0.0	
	baz=221							
TLIG	Tlapa	88.35	70	IAmb	IAmb	02 11 55.1		
	comp=Z,7.5nm,0.7s							
HLID	Hailey	88.35	41	P	P	02 11 52.1	+0.7	
HLID				IAmb	IAmb	02 11 54.1		
	comp=Z,7.8nm,0.7s							
H18K	Honhosa River	88.41	9	P	P	02 11 51.0	0.0	
	baz=200							
O28M	Mount Upton	88.41	18	P	P	02 11 51.2	-0.2	
	baz=216							
HARP	HAARP	88.45	15	P	P	02 11 51.5	+0.3	
	baz=212							
RND	Reindeer	88.49	13	IAmb	IAmb	02 11 52.5		
	comp=Z,30nm,1.0s							
O29M	Mount Kennedy	88.51	19	P	P	02 11 52.2	+0.5	
	baz=217							
SRU	San Rafael Swe	88.54	47	IAmb	IAmb	02 11 54.8		
	comp=Z,11nm,0.7s							
VHRN	Van Horn	88.61	56	IAmb	IAmb	02 11 55.8		
	comp=Z,11nm,0.6s							
BPAW	Bear Paw Mtn.	88.67	12	P	P	02 11 51.8	-0.4	
	baz=206							
JLU	Jordanelle	88.67	45	P	P	02 11 53.1	+0.1	
JLU				IAmb	IAmb	02 11 55.5		
	comp=Z,39nm,1.9s							
I20K	Naaghedeneel	88.68	10	P	P	02 11 52.2	+0.1	
	baz=203							
MCK	McKinley	88.76	13	IAmb	IAmb	02 11 55.4		
	comp=Z,28nm,1.6s							
MCK	McKinley	88.76	13	P	P	02 11 52.8	+0.2	
	baz=208,SNR=6.6							
T35M	Bob Quinn	88.86	24	P	P	02 11 53.1	-0.1	
	baz=225							
PAX	Paxson	88.86	15	P	P	02 11 52.6	-0.6	
	baz=211							
P30M	Million Dollar	88.87	20	P	P	02 11 52.8	-0.4	
	baz=219							
KMI	Kunming	88.87	298	⇓P	P	02 11 55.8	+1.5	
KMI				pmax	pmax			
	comp=Z,23nm,1.4s							
SKAG	Skagway	88.88	21	P	P	02 11 53.2	0.0	
	baz=220							
SKAG	Skagway	88.88	21	P	P	02 11 54.6	+1.4	
YUK8	Steele Glacier	88.95	18	P	P	02 11 53.4	-0.4	
	baz=216							
TCUT	Toone Canyon	88.96	44	P	P	02 11 55.1	+0.7	
TCUT				IAmb	IAmb	02 11 58.0		
	comp=Z,18nm,0.7s							
M26K	Nabesna, AK	88.99	16	IAmb	IAmb	02 11 55.7		
	comp=Z,22nm,1.4s							
M26K	Nabesna, AK	88.99	16	P	P	02 11 53.6	-0.1	
	baz=213							
TX31	Lajitas Ar. Si	88.99	58	IAmb	IAmb	02 14 11.2		
	comp=Z,21nm,1.4s							
TXAR	Lajitas Array	88.99	58	P	P	02 11 55.7	+1.1	
	comp=Z,3.3nm,0.6s,baz=215,slow=6.6,SNR=65							
TXAR				pP	pwP	02 14 05.8	-0.7	
	comp=Z,3.2nm,0.9s,baz=216,slow=6.2,SNR=3.9							
TXAR				PKKPbc	PKKPbc	02 29 31.4	+1.9	
	comp=Z,0.7nm,0.5s,baz=92,slow=3.1,SNR=16							
	comp=Z,3.3nm,0.6s							
H19K	Roundabout Mou	89.04	9	IAmb	IAmb	02 11 55.0		
	comp=Z,19nm,1.3s							
H19K	Roundabout Mou	89.04	9	P	P	02 11 53.9	+0.1	
	baz=201							
G18K	Tagagawik	89.07	8	P	P	02 11 54.1	+0.1	
	baz=199							
YUK6	Outpost Mounta	89.08	19	P	P	02 11 53.9	-0.5	
	baz=218							
BSUT	Blindstream Ca	89.09	45	IAmb	IAmb	02 11 57.8		
	comp=Z,15nm,0.7s							
HWUT	Hardware Ranch	89.11	44	IAmb	IAmb	02 11 57.0		
	comp=Z,9.6nm,0.6s							
PLCA	Paso Flores	89.17	134	P	P	02 11 54.3	-1.1	
PLCA				IAmb	IAmb	02 11 58.9		
	comp=Z,11nm,0.9s							
PLCA	Paso Flores	89.17	134	P	P	02 11 57.3	+2.0	
	comp=Z,7.3nm,0.6s,baz=242,slow=5.1,SNR=53							
	comp=Z,7.3nm,0.6s							
PV10	Paradox Valley	89.19	48	IAmb	IAmb	02 14 10.1		
	comp=Z,29nm,1.6s							
S34M	Telegraph Cree	89.19	23	IAmb	IAmb	02 14 12.9		
	comp=Z,12nm,1.1s							
S34M	Telegraph Cree	89.19	23	P	P	02 11 55.1	+0.4	
	baz=224							
M27K	Edge Creek, AK	89.25	17	IAmb	IAmb	02 11 57.3		
	comp=Z,37nm,1.4s							
M27K	Edge Creek, AK	89.25	17	P	P	02 11 55.3	+0.2	
	baz=214							
HYT	Haines Junctio	89.25	19	P	P	02 11 55.2	+0.1	
	baz=218							
H20K	Anotleneega Mo	89.25	10	P	P	02 11 54.9	0.0	
	baz=203							
F17K	Baldwin Pennin	89.27	7	P	P	02 11 55.0	+0.2	
	baz=197							
CMAR	Chiang Mai Arr	89.39	290	P	P	02 11 57.4	+0.8	
	comp=Z,13nm,0.8s,baz=130,slow=3.1,SNR=66							
CMAR				PKKPbc	PKKPbc	02 29 29.9	+1.8	
	comp=Z,2.4nm,0.5s,baz=286,slow=4.6,SNR=5.3							
	comp=Z,13nm,0.8s							
ANMO	Albuquerque	89.39	52	P	P	02 11 56.3	-0.2	
ANMO	Albuquerque	89.39	52	⇑*e*P	P	02 11 56.7	+0.2	
ANMO				pmax	pmax			
	comp=Z,2.0nm,0.9s							
L26K	Log Cabin Wild	89.43	16	IAmb	IAmb	02 11 57.4		
	comp=Z,16nm,1.4s							
L26K	Log Cabin Wild	89.43	16	P	P	02 11 55.9	+0.1	
	baz=213							
I21K	Tanana	89.46	11	IAmb	IAmb	02 11 56.4		
	comp=Z,25nm,1.3s							
I21K	Tanana	89.46	11	P	P	02 11 55.7	-0.1	
	baz=205							
HHC	Hu-ho-hao-te	89.48	315	*e*P	P	02 11 56.0	-0.6	
HHC				pmax	pmax			
	comp=Z,19nm,0.5s							
HHC				pmax	pmax			
	comp=Z,69nm,4.1s							
NEA2	Nenana	89.49	13	P	P	02 11 56.4	+0.4	
	baz=208							
K24K	Donnelly Dome	89.51	14	P	P	02 11 56.4	+0.2	
	baz=211							
G19K	Purcell Mounta	89.53	9	IAmb	IAmb	02 11 57.2		
	comp=Z,16nm,1.4s							
G19K	Purcell Mounta	89.53	9	P	P	02 11 56.6	+0.5	
	baz=201							
CHTO	Chiang Mai	89.53	290	P	P	02 11 57.0	-0.2	
CHTO	Chiang Mai	89.53	290	P	P	02 11 57.0	-0.2	
CHTO				pmax	pmax			
	comp=Z,26nm,0.8s							
Q32M	Nakina River	89.55	22	P	P	02 11 56.7	+0.1	
	baz=223							
WRH	Wood River Hil	89.59	13	IAmb	IAmb	02 11 56.7		
	comp=Z,26nm,1.4s							
F18K	Selawik	89.61	8	P	P	02 11 56.7	+0.3	
	baz=198							
O30N	Mendenhall	89.64	20	P	P	02 11 56.6	-0.2	
	baz=220							
RIDG	Independent Ri	89.67	15	IAmb	IAmb	02 11 58.2		
	comp=Z,12nm,1.1s							
RIDG	Independent Ri	89.67	15	P	P	02 11 57.0	+0.1	
	baz=212							
H21K	Melozitna Rive	89.75	11	IAmb	IAmb	02 14 11.2		
	comp=Z,52nm,2.0s							
H21K	Melozitna Rive	89.75	11	P	P	02 11 57.4	+0.2	
	baz=205							
HDA	Harding Lake	89.78	13	IAmb	IAmb	02 11 58.6		
	comp=Z,34nm,1.6s							
HDA	Harding Lake	89.78	13	P	P	02 11 57.2	0.0	
	baz=210							
DOT	Dot Lake	89.78	15	IAmb	IAmb	02 11 58.8		
	comp=Z,11nm,1.1s							
CCB	Clear Creek Bu	89.80	13	P	P	02 11 56.1	-1.3	
CCB				IAmb	IAmb	02 11 57.9		
	comp=Z,10nm,0.5s							
E17K	Hotham Inlet	89.82	7	P	P	02 11 57.1	-0.3	
	baz=196							
L27K	Beaver Creek,	89.84	16	P	P	02 11 57.8	+0.1	
	baz=214							
N30M	Aishikik Lake	89.87	19	IAmb	IAmb	02 12 05.5		
	comp=Z,32nm,1.9s							
N30M	Aishikik Lake	89.87	19	P	P	02 11 58.0	+0.1	
	baz=219							
RDMU	Red Mountain	89.90	46	IAmb	IAmb	02 12 00.8		
	comp=Z,8.9nm,0.6s							
I23K	Minto, Yukon-K	89.93	12	IAmb	IAmb	02 12 02.0		
	comp=Z,20nm,1.6s							
I23K	Minto, Yukon-K	89.93	12	P	P	02 11 57.9	0.0	
	baz=208							
WHY	Whitehorse	89.94	20	P	P	02 11 58.9	+0.6	
	baz=221							
DLBC	Dease Lake	89.98	24	P	P	02 11 59.4	+1.0	
	comp=Z,1.9nm,0.6s,baz=220,slow=4.8,SNR=7.5							
	comp=Z,1.9nm,0.6s							
DLBC	Dease Lake	89.98	24	P	P	02 11 58.8	+0.4	
	baz=225							
COLA	College	89.99	13	P	P	02 11 58.0	-0.2	
COLA	College	89.99	13	*d*P	P	02 11 58.0	-0.2	
COLA				pmax	pmax			
	comp=Z,15nm,1.3s							
AHID	Auburn Hatcher	90.00	43	IAmb	IAmb	02 12 02.2		
	comp=Z,10.0nm,0.7s							
SCRK	Sand Creek	90.08	15	P	P	02 11 59.3	+0.5	
	baz=213							
F19K	Shaleruckik Mo	90.08	8	P	P	02 11 58.9	+0.3	
	baz=200							
IL31		90.10	13	IAmb	IAmb	02 14 17.5		
	comp=Z,24nm,1.5s							
ILAR	Eielson Array	90.10	13	P	P	02 11 57.2	-1.5	
ILAR	Eielson Array	90.10	13	P	P	02 11 58.0	-0.8	
	comp=Z,1.7nm,0.4s,baz=217,slow=4.6,SNR=71							
ILAR				pP	pP	02 14 09.4	+0.8	
	comp=Z,2.1nm,0.9s,baz=230,slow=6.2,SNR=4.7							
ILAR				PKiKP	PKiKP	02 16 49.3	-0.7	
	comp=Z,0.2nm,0.4s,baz=262,slow=2.8,SNR=5.2							
ILAR				PKKPbc	PKKPdf	02 29 25.4	+1.3	
	comp=Z,0.3nm,0.5s,baz=323,slow=2.2,SNR=8.7							
	comp=Z,1.7nm,0.4s							
H22K	Ishtalitna Cre	90.22	11	P	P	02 11 59.7	+0.4	
	baz=206							
M29M	Somme Creek	90.25	18	IAmb	IAmb	02 12 01.6		
	comp=Z,37nm,1.9s							
M29M	Somme Creek	90.25	18	P	P	02 12 00.1	+0.4	
	baz=218							
PZH	PanZhiHua	90.27	298	P	P	02 12 01.8	+1.2	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,130nm,5.2s							
P33M	Teslin, Yukon	90.28	21	P	P	02 11 59.7	-0.2	
	baz=222							
E18K	Tukpahlearik C	90.28	7	IAmb	IAmb	02 12 00.7		
	comp=Z,15nm,1.3s							
E18K	Tukpahlearik C	90.28	7	P	P	02 11 59.5	-0.1	
	baz=197							
D17K	Noatak River	90.29	6	P	P	02 11 59.6	0.0	
	baz=195							
POKR	Poker Plat Res	90.29	13	P	P	02 11 59.6	-0.1	
	baz=210							
N31M	Braeburn, Yuko	90.29	19	P	P	02 11 59.5	-0.3	
	baz=220							
J25K	Salcha River,	90.30	14	IAmb	IAmb	02 12 01.3		
	comp=Z,21nm,1.5s							
J25K	Salcha River,	90.30	14	P	P	02 11 60.0	+0.2	
	baz=211							
R33M	Jennings River	90.32	23	IAmb	IAmb	02 14 19.2		
	comp=Z,19nm,1.6s							
R33M	Jennings River	90.32	23	P	P	02 12 00.7	+0.6	
	baz=224							
BTO	Baotou	90.39	314	*e*P	P	02 12 02.3	+1.5	
BTO				S	S	02 22 07.3	+2.2	
BTO				pmax	pmax			
	comp=Z,22nm,1.7s							
BTO				pmax	pmax			
	comp=Z,250nm,6.4s							
DLMT	Dillon	90.41	40	IAmb	IAmb	02 14 18.8		
	comp=Z,16nm,1.4s							
G21K	Allakaket	90.42	10	P	P	02 12 00.8	+0.5	
	baz=204							
S22A	4UR Ranch, Cre	90.42	49	P	P	02 12 00.8	-0.5	
	baz=242							
BILL	Bilibino	90.43	355	⇑*e*P	P	02 12 00.2	0.0	
BILL				pmax	pmax			
	comp=Z,12nm,1.7s							
SAND	Sanderson	90.47	58	IAmb	IAmb	02 14 16.4		
	comp=Z,27nm,1.8s							
FXWY	Fox Creek	90.49	42	P	P	02 12 02.0	+0.6	
FXWY				IAmb	IAmb	02 12 03.9		
	comp=Z,24nm,1.9s							
MNHN	Monahans	90.57	56	IAmb	IAmb	02 12 16.9		
	comp=Z,7.6nm,0.4s							
SNOW	Snow King Moun	90.57	43	IAmb	IAmb	02 12 04.8		
	comp=Z,7.1nm,0.7s							
F20K	Avaraart Lake	90.57	9	P	P	02 12 01.2	+0.4	
	baz=202							
O20A	White River Ci	90.58	47	IAmb	IAmb	02 12 04.0		
	comp=Z,6.6nm,0.7s							
BI02	San Fabin de	90.61	130	IAmb	IAmb	02 12 04.9		
	comp=Z,11nm,0.8s							
J26L	Joseph Creek	90.62	15	IAmb	IAmb	02 14 21.5		
	comp=Z,46nm,2.0s							
J26L	Joseph Creek	90.62	15	P	P	02 12 01.4	+0.1	
	baz=213							
C16K	Lisburne Hills	90.64	5	P	P	02 12 01.2	+0.1	
	baz=193							
RDOG	Red Dog Mine	90.65	6	P	P	02 12 01.6	+0.3	
	baz=195							
E19K	Redstone River	90.74	8	IAmb	IAmb	02 12 03.3		
	comp=Z,23nm,1.2s							
E19K	Redstone River	90.74	8	P	P	02 12 01.7	0.0	
	baz=200							
H24K	Noodor Dome	90.83	12	P	P	02 12 02.3	+0.1	
	baz=209							
M30M	Minto, Yukon	90.83	18	IAmb	IAmb	02 12 04.2		
	comp=Z,29nm,1.8s							
M30M	Minto, Yukon	90.83	18	P	P	02 12 02.3	0.0	
	baz=219							
L29M	L29M	90.87	17	P	P	02 12 02.3	-0.2	
	baz=218							
PDAR	Pinedale Array	90.98	44	P	P	02 12 03.4	-0.3	
PDAR	Pinedale Array	90.98	44	P	P	02 12 04.2	+0.5	
	comp=Z,1.9nm,0.5s,baz=200,slow=3.3,SNR=24							
PDAR				pP	pP	02 14 14.6	+1.3	
	comp=Z,0.9nm,0.9s,baz=209,slow=2.0,SNR=3.4							
PDAR				PKKPbc	PKKPbc	02 29 24.2	-1.1	
	comp=Z,0.3nm,0.5s,baz=77,slow=5.7,SNR=6.3							
	comp=Z,1.9nm,0.5s							
C17K	DeLong Mountai	91.03	6	P	P	02 12 03.4	+0.4	
	baz=195							
PRP	Porcupine Dome	91.04	13	P	P	02 12 03.8	+0.5	
	baz=211							
F21K	Alatna River	91.07	10	IAmb	IAmb	02 12 04.4		
	comp=Z,14nm,1.6s							
F21K	Alatna River	91.07	10	P	P	02 12 03.9	+0.6	
	baz=204							
BOZ	Bozeman (W)	91.11	41	IAmb	IAmb	02 14 22.1		
	comp=Z,11nm,1.2s							
G22K	Bettles	91.12	11	P	P	02 12 04.4	+1.0	
	baz=206							
G23K	Bananza Creek	91.20	11	P	P	02 12 04.4	+0.6	
	baz=207							
M31M	Drury Creek, Y	91.27	19	P	P	02 12 04.9	+0.6	
	baz=221							
DAWY	Dawson	91.30	16	P	P	02 12 04.3	-0.1	
DAWY				IAmb	IAmb	02 14 24.9		
	comp=Z,12nm,1.2s							
DAWY	Dawson	91.30	16	P	P	02 12 05.0	+0.6	
	baz=217							
I26K	Coal Creek Min	91.39	14	IAmb	IAmb	02 14 24.6		
	comp=Z,23nm,1.6s							
I26K	Coal Creek Min	91.39	14	P	P	02 12 05.3	+0.6	
	baz=213							
C18K	Utukok River	91.40	7	IAmb	IAmb	02 12 06.2		
	comp=Z,15nm,1.4s							
C18K	Utukok River	91.40	7	P	P	02 12 05.3	+0.6	
	baz=197							
D19K	Kuna River	91.61	8	IAmb	IAmb	02 12 07.1		
	comp=Z,8.5nm,1.1s							
D19K	Kuna River	91.61	8	P	P	02 12 06.2	+0.5	
	baz=200							
WTLY	Watson Lake, Y	91.61	23	P	P	02 12 06.8	+0.9	
	baz=226							
K29M	Barlow Dome	91.62	17	IAmb	IAmb	02 12 07.3		
	comp=Z,13nm,1.4s							
K29M	Barlow Dome	91.62	17	P	P	02 12 06.4	+0.4	
	baz=218							
COLD	Coldfoot	91.63	11	P	P	02 12 06.0	+0.3	
	baz=207							
E20K	Nigu River	91.63	8	P	P	02 12 06.0	+0.1	
	baz=202							
OZNA	Ozona	91.66	57	IAmb	IAmb	02 12 08.3		
	comp=Z,6.1nm,0.6s							
G24K	Hadweenzic Riv	91.67	12	P	P	02 12 06.3	+0.4	
	baz=209							
BO02	Sierra Bellavi	91.84	129	IAmb	IAmb	02 12 10.4		
	comp=Z,9.0nm,0.8s							
T25A	Trinidad	91.86	51	IAmb	IAmb	02 15 44.5		
	comp=Z,24nm,2.0s							
T25A	Trinidad	91.86	51	P	P	02 12 07.5	-0.4	
	baz=244							
J29N	Klondike Camp	91.92	17	IAmb	IAmb	02 12 08.8		
	comp=Z,6.0nm,0.6s							
MT01	Popeta	91.94	128	P	P	02 12 08.5	+0.3	
G25K	Bearman Lake	92.00	13	P	P	02 12 08.0	+0.5	
	baz=211							
I27K	Kandik River	92.00	15	P	P	02 12 08.0	+0.4	
	baz=215							
D20K	Etivluk River	92.00	8	P	P	02 12 07.7	+0.1	
	baz=201							
B18K	Kokolik River	92.03	6	P	P	02 12 08.3	+0.8	
	baz=196							
TOAD	Toad River Com	92.09	25	P	P	02 12 08.2	+0.1	
	baz=229							
Q24A	Divide	92.15	49	P	P	02 12 09.2	-0.1	
	baz=243							
E22K	Anaktuvuk Pass	92.17	10	IAmb	IAmb	02 12 10.7		
	comp=Z,19nm,1.5s							
E22K	Anaktuvuk Pass	92.17	10	P	P	02 12 08.8	+0.4	
	baz=206							
I28M	Miner Creek	92.28	15	IAmb	IAmb	02 14 34.7		
	comp=Z,23nm,1.9s							
I28M	Miner Creek	92.28	15	P	P	02 12 09.6	+0.7	
	baz=216							
F24K	Squaw Lake	92.31	12	P	P	02 12 09.8	+0.9	
	baz=209							
E23K	Chandalar	92.47	11	P	P	02 12 10.3	+0.6	
	baz=208							
J30M	Hart River	92.52	17	P	P	02 12 10.1	0.0	
	baz=219							
H27K	Steamboat Moun	92.54	14	P	P	02 12 10.2	+0.2	
	baz=215							
HNDO	Hondo	92.55	59	P	P	02 12 11.3	+0.4	
HNDO				IAmb	IAmb	02 12 13.5		
	comp=Z,6.4nm,0.7s							
MMPY	Sheldon Lake,	92.56	20	IAmb	IAmb	02 14 31.4		
	comp=Z,24nm,1.4s							
MMPY	Sheldon Lake,	92.56	20	P	P	02 12 10.7	+0.5	
	baz=224							
G26K	Porcupine Rive	92.64	13	P	P	02 12 11.1	+0.7	
	baz=213							
C21K	Knifeblade Rid	92.67	9	P	P	02 12 10.9	+0.

baz=203
B20K Meade River 93.15 7 IAmb IAmb 02 12 14.4
comp=Z,26nm,1.7s
B20K Meade River 93.15 7 P **P 02 12 13.2 +0.5**
baz=201
F26K Sheenjek River 93.19 13 P **P 02 12 13.2 +0.3**
baz=212
E25K Arctic Village 93.27 12 P **P 02 12 14.2 +0.9**
baz=211
H29M Whitestone 93.28 15 P **P 02 12 13.7 +0.3**
baz=218
APMT Aspermont 93.42 56 IAmb IAmb 02 12 16.9
comp=Z,5.5nm,0.7s
EPYK Eagle Plains 93.82 16 P **P 02 12 16.1 +0.2**
baz=219
C23K Itkillik River 93.90 10 P **P 02 12 16.5 +0.5**
baz=207
G29M Pine Creek 93.92 15 P **P 02 12 16.6 +0.3**
baz=218
B22K Teshekpuk Lake 93.94 9 P **P 02 12 16.6 +0.4**
baz=204
H31M Peel River 94.01 17 P **P 02 12 17.0 +0.3**
baz=221
F28M Old Crow 94.05 14 P **P 02 12 17.0 +0.1**
baz=216
C24K Franklin Bluff 94.10 10 P **P 02 12 17.6 +0.6**
baz=208
G30M tAoh Zraii Nji 94.42 16 IAmb IAmb 02 14 39.0
comp=Z,9.8nm,1.2s
G30M tAoh Zraii Nji 94.42 16 P **P 02 12 19.0 +0.4**
baz=220
C27K Jago River 94.91 12 P **P 02 12 21.2 +0.5**
baz=213
E28M Babbage River 94.92 14 P **P 02 12 20.9 +0.1**
baz=217
ZON Zonda 94.95 127 IAmb IAmb 02 12 24.8
comp=Z,5.2nm,0.8s
F30M Barrier River 95.01 15 P **P 02 12 21.3 +0.1**
baz=220
D27M Malcolm River 95.14 13 P **P 02 12 22.2 +0.4**
baz=215
F31M Tsiigehtchic 95.40 16 IAmb IAmb 02 14 43.0
comp=Z,16nm,1.3s
F31M Tsiigehtchic 95.40 16 P **P 02 12 22.8 -0.1**
baz=222
D28M Stokes Point 95.68 13 P **P 02 12 24.7 +0.6**
baz=218
SONM Songino Array 96.04 319 P **P 02 12 25.8 -0.7**
comp=Z,0.4nm,0.3s,baz=133,slow=5.1,SNR=4.1
SONM pP **pP 02 14 35.5 -0.8**
comp=Z,0.2nm,0.2s,baz=126,slow=4.4,SNR=1.9
SONM PKKPbc **PKKPbc 02 29 12.0 -0.2**
comp=Z,1.1nm,0.5s,baz=279,slow=3.2,SNR=7.9
comp=Z,0.4nm,0.3s
INK Inuvik 96.10 16 P **P 02 12 25.1 -0.9**
comp=Z,1.0nm,0.5s,baz=207,slow=1.9,SNR=17
INK pP **pP 02 14 35.7 -1.0**
comp=Z,3.6nm,1.1s,baz=199,slow=3.3,SNR=5.8
comp=Z,1.0nm,0.5s
INK Inuvik 96.10 16 P **P 02 12 26.4 +0.4**
baz=222
GTA Gaotai 96.92 310 *e*P **P 02 12 32.3 +1.7**
GTA pmax pmax
comp=Z,5.0nm,0.5s
YKA Yellowknife Ar 98.46 25 P Pdif 02 12 36.0 -0.6
comp=Z,0.2nm,0.4s,baz=250,slow=9.1,SNR=4.5
YKA pP pP 02 14 48.1 +0.3
comp=Z,0.9nm,0.9s,baz=248,slow=4.6,SNR=5.1
YKA PKiKP **PKiKP 02 17 03.9 -0.7**
comp=Z,0.1nm,0.4s,baz=246,slow=1.9,SNR=3.9
YKA PKKPbc **PKKPbc 02 29 03.9 -2.1**
comp=Z,0.5nm,0.5s,baz=163,slow=4.7,SNR=9.3
comp=Z,0.2nm,0.4s
C36M Paulatuk 99.30 17 P **Pdif 02 12 40.4 +0.1**
baz=231
TIXI Tiksi 99.89 345⇑ *e*P **Pdif 02 12 43.3 +0.4**
TIXI pmax pmax
comp=Z,14nm,3.3s
A36M Sachs Harbour 100.69 15 P **Pdif 02 12 46.6 +0.2**
baz=230
CPUP Villa Florida 106.13 128 PKiKP **PKiKP 02 17 20.4 +0.6**
comp=Z,1.1nm,0.6s,baz=187,slow=1.5,SNR=3.4
RES Resolute Bay 109.64 16 PKiKP **PKiKP 02 17 23.5 -1.3**
comp=Z,0.8nm,0.4s,baz=291,slow=1.4,SNR=6.5
ZALV Zalesovo Beam 110.85 321 PKiKP **PKiKP 02 17 26.9 -0.8**
comp=Z,2.9nm,0.6s,baz=136,slow=0.2,SNR=14
MK31 Makanchi Array 111.28 313⇑ *i*PKIKP **PKiKP 02 17 27.9 -0.9**
MKAR Makanchi Array 111.28 313 PKiKP **PKiKP 02 17 28.1 -0.7**
comp=Z,1.8nm,0.4s,baz=173,slow=0.9,SNR=42
MKAR SKP **SKPdf 02 20 08.7 +0.9**
comp=Z,0.7nm,0.7s,baz=178,slow=3.6,SNR=5.2
MKAR PKKPbc **PKKPbc 02 28 27.2 +0.1**
comp=Z,1.3nm,0.5s,baz=275,slow=3.8,SNR=19
KURK Kurchatov 114.22 317 *d i*PKIKP PKPdf 02 17 32.9 -1.3
KURK pmax pmax
comp=Z,3.0nm,1.7s
KURBB Kurchatov Arra 114.26 317 PKP PKPdf 02 17 33.4 -1.0
comp=Z,3.2nm,0.5s,baz=110,slow=1.8,SNR=50
KURBB SKP **SKPdf 02 20 13.8 +0.5**
comp=Z,0.5nm,0.8s,baz=94,slow=1.6,SNR=5.3
KURBB PKKPbc **PKKPbc 02 28 16.6 -0.7**
comp=Z,1.1nm,0.6s,baz=276,slow=4.4,SNR=10
KURBB PKKPab **PKKPab 02 28 26.0 +2.1**
comp=Z,1.5nm,0.7s,baz=274,slow=5.2,SNR=9.3
AAK Ala-Archa 116.20 308 **PKPdf 02 17 37.9 -0.7**
AAK Ala-Archa 116.20 308 PKP **PKPdf 02 17 38.3 -0.3**
comp=Z,1.0nm,0.4s,baz=138,slow=10,SNR=6.2
AAK PKKPbc **PKKPbc 02 28 10.6 -0.2**
comp=Z,3.7nm,0.7s,baz=206,slow=3.3,SNR=14
AAK Ala-Archa 116.20 308⇑ *i*PKIKP **PKiKP 02 17 39.5 +0.9**
AAK pmax pmax
comp=Z,7.0nm,2.5s
L61B Northampton 116.66 52 P **PKPdf 02 17 38.6 -0.6**
baz=264
KK31 Karatay Array 119.16 308 PKPdf **PKPdf 02 17 42.7 -1.3**
KK31 Karatay Array 119.16 308 PKIKP **PKPdf 02 17 42.7 -1.3**
KKAR Karatay Array 119.16 308 PKPdf **PKPdf 02 17 42.9 -1.2**
KKAR Karatay Array 119.16 308 PKIKP **PKPdf 02 17 42.9 -1.2**
NEEM North Greenlan 119.34 11 *i* P **PKPdf 02 17 43.2 -0.6**
BVAR Borovoye Array 119.39 319 PKP **PKPdf 02 17 43.0 -1.2**
comp=Z,14nm,0.4s,baz=112,slow=1.5,SNR=79
BVAR PKKPbc **PKKPbc 02 27 59.9 +0.3**
comp=Z,1.1nm,0.5s,baz=323,slow=3.9,SNR=8.3
BDFB Brasilia 119.42 124 PKP **PKPdf 02 17 44.8 -0.8**
comp=Z,2.3nm,0.5s,baz=26,slow=3.1,SNR=6.0
BRVK Borovoye 119.45 319 PKPdf **PKPdf 02 17 43.7 -0.5**
BRVK Borovoye 119.45 319⇓ *i*PKIKP **PKPdf 02 17 44.3 0.0**
BRVK pmax pmax
comp=Z,14nm,2.5s
KBL Kabul 119.45 298 PKPdf **PKPdf 02 17 44.8 -0.3**
KBL Kabul 119.45 298 PKIKP **PKPdf 02 17 44.8 -0.3**
KULLO Kullorsuaq 119.45 15 *i* P **PKPdf 02 17 42.7 -0.9**
SIMJ Simiganj 119.94 303 PKPdf **PKPdf 02 17 44.9 -0.9**
NOR Nord 119.95 3 *i* P **PKPdf 02 17 43.9 -0.6**
UPNV Upernavik 120.51 17 *i* P **PKPdf 02 17 44.8 -1.0**
SCHQ Schefferville 120.69 38 PKP **PKPdf 02 17 46.5 -0.1**
comp=Z,2.5nm,0.6s,baz=234,slow=5.0,SNR=7.0
NUUG Nuugaatsiaq 121.89 18 *i* P **PKPdf 02 17 47.6 -0.8**
KBS Kingsbay 122.81 357 *e*PKPdf **PKiKP 02 17 50.8 +0.5**
KBS Kingsbay 122.81 357 *i* P **PKPdf 02 17 49.3 -0.7**
SPA0 Spitsbergen Ar 123.31 356 *e*PKPdf **PKPdf 02 17 51.1 0.0**
SPITS Spitsbergen Ar 123.31 356 PKP **PKPdf 02 17 50.9 -0.2**
comp=Z,8.5nm,0.5s,baz=90,slow=5.1,SNR=53
ILULI Ilulissat 123.63 20 *i* P **PKPdf 02 17 51.8 0.0**
BOSA Boshof 124.30 206 PKP **PKiKP 02 17 55.1 +0.2**
comp=Z,6.5nm,0.7s,baz=165,slow=1.9,SNR=15
DAG Danmarks Havn 124.39 5 *i* P **PKPdf 02 17 52.3 -0.8**
SFJD Kangerlussuaq 124.86 22 *i* P **PKPdf 02 17 53.3 -0.9**
SUMG Summit 124.95 13 *i* P **PKiKP 02 17 55.6 +0.4**
ARTI Arti 125.80 325 PKPdf **PKPdf 02 17 55.5 -0.8**
ARTI Arti 125.80 325 *i* PKIKP **PKPdf 02 17 56.4 +0.1**
ARTI 02 19 57.8
ARTI 02 24 11.9
DBG Daneborg 126.52 7 *i* P **PKPdf 02 17 56.9 -0.3**
ICESG Greenland Ices 127.05 17 *i* P **PKPdf 02 17 57.6 -1.2**
VADS Vadso 128.96 348 *e*PKPdf **PKiKP 02 18 03.0 +0.2**
ISOG Isortoq, Green 129.56 20 *i* P **PKPdf 02 18 03.2 0.0**
KIRV Kirov 129.62 329⇓ *i*PKIKP **PKiKP 02 18 04.3 0.0**
SCO Scoresbysund 129.75 10 *i* P **PKiKP 02 18 03.9 -0.4**
ANGG Ammassalik, Gr 129.94 20 *i* P **PKPdf 02 18 03.8 -0.1**
ARA0 ARCESS Array S 130.18 349 *e*PKPdf **PKPdf 02 18 04.3 0.0**
ARCES ARCESS Array B 130.18 349 PKhKP PKPpre 02 17 54.0
comp=Z,3.8nm,0.9s,baz=277,slow=1.0,SNR=7.9
ARCES PKP **PKPdf 02 18 04.3 -0.1**
comp=Z,7.4nm,0.5s,baz=24,slow=1.8,SNR=50
ARCES SKPbc **SKPab 02 20 32.1 -0.2**

comp=Z,4.6nm,0.5s,baz=45,slow=3.6,SNR=6.5
JETT Jettan, Norway 130.99 351 *e*PKPdf **PKiKP 02 18 06.4 -0.5**
KTK1 Kautokeino 131.03 349 *e*PKPdf **PKPdf 02 18 05.8 -0.2**
TRO Tromso 131.13 352 *e*PKPdf **PKPdf 02 18 05.7 -0.4**
KLMR Klimovskoe 132.73 335 *e*PKIKP **PKPdf 02 18 09.3 0.0**
KLMR *e* 02 20 41.5
KLMR pmax pmax
comp=Z,35nm,1.8s
KONS Konsvik 134.82 353 *e*PKPdf **PKiKP 02 18 14.1 -0.6**
LEIR Leirfjorden 135.20 353 *e*PKPdf **PKPdf 02 18 14.2 +0.5**
LKRN Lenkeran, Azer 135.74 303 PKIKP **PKiKP 02 18 17.6 +0.2**
SEKA Sheki 136.52 307 PKIKP **PKiKP 02 18 18.9 -0.2**
MNGR Mingechevir, A 136.69 307 PKIKP **PKiKP 02 18 19.4 +0.1**
FINES FINESS Array B 136.85 342 PKhKP PKPpre 02 18 04.6
comp=Z,1.6nm,0.5s,baz=50,slow=4.9,SNR=14
FINES PKP **PKiKP 02 18 18.5 -0.4**
comp=Z,1.3nm,0.3s,baz=74,slow=1.9,SNR=7.6
FINES SKPbc **SKPbc 02 20 53.6 -0.3**
comp=Z,2.9nm,0.7s,baz=45,slow=6.2,SNR=4.4
GANJ Ganja 137.29 307 PKIKP **PKiKP 02 18 20.5 -0.1**
OBN Obninsk 137.45 330 *e*PKIKP **PKPdf 02 18 18.5 +0.2**
OBN *e* 02 21 12.0
OBN *e*PPP PPP 02 24 18.4
OBN pmax pmax
comp=Z,9.0nm,1.1s
NAX Nakhchivan 138.19 305 PKIKP **PKiKP 02 18 22.5 -0.1**
KIV Kislovodsk 139.04 312 *e*PKIKP **PKPdf 02 18 19.9 -1.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
DOMB Dombas 139.60 354 *e*PKPdf PKPpre 02 18 14.0
AKN Aaknes 139.64 355 *e*PKPdf **PKPdf 02 18 16.7 -5.5**
NB2 NORSAR Subarra 140.33 352 PKP PKPpre 02 18 16.5
comp=Z,2.4nm,0.5s,baz=14,slow=4.0
NOA NORSAR Array B 140.33 352 PKhKP PKPpre 02 18 16.4
comp=Z,0.6nm,0.4s,baz=14,slow=1.6,SNR=25
NOA PKP **PKPdf 02 18 23.9 +0.5**
comp=Z,0.5nm,0.5s,baz=14,slow=3.8,SNR=4.8
NOA SKPbc **SKPbc 02 21 02.9 -0.7**
comp=Z,2.1nm,0.9s,baz=16,slow=4.3,SNR=3.7
NOA SKPab **SKPab 02 21 18.6 +1.5**
comp=Z,2.2nm,0.8s,baz=17,slow=3.2,SNR=3.8
NC602 NORSAR Array S 140.58 352 *e*PKPdf **PKPdf 02 18 17.4 -6.4**
HFS Hagfors 140.82 350 PKhKP PKPpre 02 18 17.8
comp=Z,11nm,0.4s,baz=79,slow=3.2,SNR=108
HFS PKP **PKPdf 02 18 24.5 +0.2**
comp=Z,4.4nm,0.5s,baz=66,slow=3.6,SNR=4.7
HFS SKPbc **SKPbc 02 21 02.6 -2.2**
comp=Z,3.4nm,0.7s,baz=149,slow=0.9,SNR=4.2
SKAR Skarslia 141.01 354 *e*PKPdf **PKPdf 02 18 19.3 -5.4**
ASK Askoy 141.45 356 *e*PKPdf **PKPdf 02 18 21.8 -3.6**
OSL Oslo 141.46 352 *e*PKPdf **PKPdf 02 18 20.6 -4.8**
LODK Lodwar 141.52 246 PKPpre PKPpre 02 18 20.9
BER Bergen 141.54 356 *e*PKPdf **PKPdf 02 18 20.4 -5.1**
MNK Minsk 141.62 334 *i* PKIKP **PKiKP 02 18 28.5 -0.4**
MNK *i* 02 20 43.7
MNK *i* 02 21 37.5
MNK *i* *i* 02 24 40.9
MNK *i* PPP PPP 02 24 50.2
MNK *i* SS SS 02 39 25.4 +4.1
MNK *i* SSS SSS 02 44 54.5
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=E,498nm,24.0s
MNK MLR MLR
comp=N,519nm,28.0s
MNK MLR MLR
comp=Z,141nm,15.0s
KONO Kongsberg 141.88 353 *e*PKPdf **PKPdf 02 18 22.8 -3.4**
ODD1 Odda 141.92 355 *e*PKPdf **PKPdf 02 18 22.4 -3.9**
STRU Stroemstad 142.26 351 *i* P **PKPdf 02 18 22.6 -4.2**
BLS5 Blasjo 142.41 355 *e*PKPdf **PKPdf 02 18 24.2 -2.9**
KMY Karmoy 142.71 356 *e*PKPdf **PKPdf 02 18 25.1 -2.6**
MBAR Mbarara 142.97 237 **PKPdf 02 18 28.4 -1.4**
MBAR Mbarara 142.97 237 *d i*PKIKP **PKPdf 02 18 28.2 -1.6**
MBAR pmax pmax
comp=Z,138nm,1.3s
TJOU Tjoern 143.16 350 *i* P PKPab 02 18 25.7 -0.9
BORU Boraas 143.35 349 *i* P PKPab 02 18 25.9 -1.4
HOMB Homborsund 143.35 353 *e*PKPbc PKPab 02 18 27.2 -0.1
HOMB Homborsund 143.35 353 *i* P PKPab 02 18 26.7 -0.6
SNART Snartemo 143.42 354 *e*PKPbc PKPab 02 18 27.4 -0.2
SNART Snartemo 143.42 354 *i* P PKPab 02 18 27.1 -0.5
LEWI Lewis, Hebride 143.53 7 *e*P PKPab 02 18 26.7 -1.3
AKASG Malin Array Be 143.68 329 PKPbc 02 18 27.0 -1.7
AKASG Malin Array Be 143.68 329 PKP PKPbc 02 18 27.5 -1.3
comp=Z,21nm,0.3s,baz=42,slow=4.0,SNR=148
AKASG pPKP pPKPdf 02 20 48.6 +0.5
comp=Z,2.6nm,0.8s,baz=46,slow=3.0,SNR=2.1
LINV Loch Inver, As 143.69 5 *e*P PKPbc 02 18 27.5 -1.0
KIEV Kiev 143.69 329 PKPbc 02 18 27.1 -1.6
KIEV Kiev 143.69 329 PKHKP PKPpre 02 18 27.2
ONAU Onsala 143.72 350 *i* P PKPbc 02 18 27.1 -1.5
SUW Suwalki 143.77 337 *e*PKP PKPbc 02 18 27.3 -1.7
FABU Falkenberg 143.96 349 *i* P PKPbc 02 18 28.3 -1.1
BLEU Blekinge 143.97 346 *i* P PKPbc 02 18 28.4 -1.1
DEL Delary 144.24 347 *i* P PKPbc 02 18 29.0 -1.3
SIM Simferopol' 144.28 318 *e*PKIKP **PKPab 02 18 31.7 +0.4**
SIM pmax pmax
comp=Z,24nm,0.8s
SIM pmax pmax
comp=Z,86nm,1.9s
KPL Plockton 144.44 6 *e*P **PKPdf 02 18 30.8 +0.1**
RNPP9 Sopachiv 144.70 332 PKP **PKPdf 02 18 31.1 -0.2**
BJUU Bjuv 144.78 348 *i* P **PKPdf 02 18 31.2 -0.1**
MUD Monsted U'grnd 145.04 352 *i* P **PKPbc 02 18 32.7 0.0**
LUNU Lund 145.10 347 *i* P **PKPdf 02 18 32.0 +0.1**
COP Copenhagen 145.25 348 *i* P **PKPbc 02 18 33.2 -0.1**
BSD Bornholm Skovb 145.26 346 *i* P **PKPbc 02 18 33.1 -0.3**
INVG Invergeldie, C 145.48 5 *e*P **PKPbc 02 18 33.4 -0.6**
LAWE Loch Awe, Argy 145.53 6 *e*P **PKPbc 02 18 33.6 -0.5**
SORM Soroca 145.78 326 ⇑P **PKPbc 02 18 34.6 -0.4**
SORM Soroca 145.78 326 ⇑PKIKP **PKPbc 02 18 34.7 -0.4**
PURM Purcari 145.95 323 ⇑P **PKPbc 02 18 35.6 0.0**
MILM Milestii Mici 146.30 324 ⇓P **PKPbc 02 18 35.9 -0.7**
MILM Milestii Mici 146.30 324 ⇓PKIKP **PKPbc 02 18 35.9 -0.7**
GKP Gorka Klasztor 146.32 342 *e*PKP **PKPdf 02 18 34.4 +0.4**
BEL Belsk 146.39 337 *e*PKP **PKPbc 02 18 35.6 -1.1**
IDGL Inch Island, C 146.46 8 PKPdif **PKPbc 02 18 37.4 +0.7**
EKA Eskdalemuir Ar 146.63 4 PKPbc **PKPbc 02 18 36.9 -0.3**
comp=Z,4.5nm,0.4s,baz=12,slow=4.5,SNR=67
EKA pPKP pPKPbc 02 20 54.0 +0.2
comp=Z,2.0nm,0.7s,baz=345,slow=2.9,SNR=4.4
ESK Eskdalemuir 146.65 4 **PKPbc 02 18 36.8 -0.5**
ESK Eskdalemuir 146.65 4 PKIKP **PKPbc 02 18 36.8 -0.5**
NEWG New Galloway 146.77 5 *e*P **PKPdf 02 18 35.8 +1.0**
BRTR Keskin Array B 146.84 310 PKPdf **PKPdf 02 18 35.1 -0.5**
BRTR Keskin Array B 146.84 310 PKPbc **PKPdf 02 18 36.7 +1.1**
comp=Z,8.8nm,0.6s,baz=147,slow=4.1,SNR=54
BRTR pPKPbc pPKPab 02 20 55.5 +0.9
comp=Z,2.4nm,0.8s,baz=120,slow=1.7,SNR=3.2
BRTR Keskin Array B 146.84 310 PKIKP **PKPdf 02 18 35.1 -0.5**
KIRS Kirsehir-Merke 146.86 309 ⇑P **PKPbc 02 18 38.3 -0.3**
GAL1 Galloway 146.98 6 *e*P **PKPbc 02 18 37.7 -0.5**
EDMD Edmundbyers 147.20 3 *e*P **PKPbc 02 18 37.8 -1.0**
BSEG Bad Segeberg 147.30 349 *e*PKPbc **PKPbc 02 18 38.9 -0.2**
baz=20,slow=2.4
BSEG *e*pPKPbc **pPKPab 02 20 56.5 +0.8**
TLCR 147.33 322 ⇑P **PKPbc 02 18 39.2 -0.2**
TLCR 147.33 322 ⇑PKP2 **PKPbc 02 18 39.2 -0.2**
VLDR Vladesti 147.36 323 ⇑P **PKPbc 02 18 39.6 +0.2**
MMAI Mount Meron Ar 147.38 297 PKPbc **PKiKP 02 18 41.0 -0.6**
comp=Z,18nm,0.4s,baz=78,slow=7.8,SNR=84
MMAI pPKPbc **pPKPab 02 20 56.6 +0.1**
comp=Z,17nm,0.9s,baz=74,slow=4.4,SNR=3.1
KESW Keswick, Cumbr 147.38 4 *e*P **PKPbc 02 18 39.1 -0.1**
KWP Kalwaria Pacla 147.38 333 *e*PKP **PKPbc 02 18 39.2 -0.2**
ANTO Ankara 147.39 310 **PKPbc 02 18 38.7 -1.2**
ANTO Ankara 147.39 310 ⇑P **PKPbc 02 18 39.4 -0.4**
ANTO Ankara 147.39 310 ⇑PKIKP **PKPbc 02 18 39.4 -0.4**
GHRR 147.59 324 ⇑P **PKiKP 02 18 41.0 -0.5**
ILTH Belurgan, Co L 147.63 8 PKPdif **PKPbc 02 18 39.0 -0.8**
GDLE Glaisdale, N Y 147.65 2 *e*P **PKPbc 02 18 39.8 -0.1**
BURAR Bucovina Array 147.70 328 ⇑P **PKPbc 02 18 41.1 +0.7**
BURAR Bucovina Array 147.70 328 ⇑PKP2 **PKPbc 02 18 41.1 +0.7**
TESR Tescani 147.71 325 ⇑P **PKPbc 02 18 39.9 -0.5**
CFR Carcaliu 147.72 322 ⇑P **PKPbc 02 18 39.8 -0.6**
CFR Carcaliu 147.72 322 ⇑PKIKP **PKPbc 02 18 39.8 -0.6**
TPGR Topolog 147.75 322 ⇓P **PKiKP 02 18 41.5 -0.4**
IGLA Glengowla, Co 147.76 11 PKPdif **PKPbc 02 18 40.1 -0.1**
PANC Panciu 147.85 324 ⇑P **PKiKP 02 18 41.7 -0.4**
ONER Baraj Valea Uz 147.96 325 ⇑P **PKiKP 02 18 41.9 -0.4**
ODBI Odobesti 147.97 324 ⇓P **PKiKP 02 18 42.8 +0.6**

GORT1 Trebel 148.02 348 *e*PKPbc **PKPbc 02 18 41.3 +0.5**
baz=20,slow=2.4
OJC Ojcow 148.07 336 *e*PKP **PKPbc 02 18 40.9 -0.2**
VRI Vrincioaia 148.08 324 ⇑P **PKPbc 02 18 40.7 -0.7**
VRI Vrincioaia 148.08 324 ⇑PKHKP PKPpre 02 18 40.7
KOLS Kolonicke sedl 148.10 333 *e*PKP2 **PKiKP 02 18 43.1 +0.6**
KOLS Kolonicke sedl 148.10 333 *e*PKP **PKiKP 02 18 43.1 +0.6**
KOLS *e* 02 21 00.5
PLOR Plostina 148.13 324 ⇑P **PKPbc 02 18 41.0 -0.4**
PLOR Plostina 148.13 324 ⇑PKHKP PKPpre 02 18 41.0
MFTR Murfatlar 148.14 320 ⇑P **PKPbc 02 18 41.9 +0.5**
TLBR Topalu 148.15 321 ⇑P **PKPbc 02 18 41.8 +0.3**
MANR Mangalia 148.25 320 ⇑P **PKiKP 02 18 42.6 -0.3**
CVDA Cernavoda 148.28 321 ⇑P **PKPbc 02 18 41.9 +0.1**
COVR Voineasa-Covas 148.38 325 ⇑P **PKPbc 02 18 42.4 +0.3**
DSB Dublin 148.39 8 PKPdif **PKPbc 02 18 40.7 -1.1**
OZUR 148.44 326 ⇑P **PKiKP 02 18 42.8 -0.5**
WPS Cemaes, Angles 148.45 6 *e*P **PKPbc 02 18 40.8 -1.1**
ARCR ARCALIA 148.49 328 ⇑P **PKPbc 02 18 42.7 +0.4**
NIE Niedzica 148.53 335 *e*PKP **PKPbc 02 18 42.2 -0.2**
ICOR Ion Corvin 148.54 321 ⇑P **PKPbc 02 18 42.2 -0.2**
WLF1 Llynfaes 148.57 6 *e*P **PKPbc 02 18 40.8 -1.4**
RETH Rethem/Aller, 148.62 350 *e*PKPbc **PKPbc 02 18 42.2 -0.1**
baz=20,slow=2.4
LBWR Ladybower, Pea 148.64 3 *e*P **PKPbc 02 18 41.6 -0.9**
ISR Istrita 148.66 323 ⇓P **PKiKP 02 18 43.4 -0.4**
ISR Istrita 148.66 323 ⇓PKP2 **PKiKP 02 18 43.4 -0.4**
FLTG Flechtingen 148.66 347 *e*PKPbc **PKPbc 02 18 42.1 -0.3**
baz=20,slow=2.4
NRDL Niedersach Rie 148.72 349 *e*PKPbc **PKPbc 02 18 42.5 0.0**
baz=20,slow=2.4
DOPR Dopca 148.73 326 ⇑P **PKiKP 02 18 44.0 +0.1**
KSP Ksiaz 148.73 341 *e*PKP **PKPbc 02 18 42.9 +0.2**
MLR Muntele Rosu 148.75 324 **PKPbc 02 18 42.5 -0.6**
MLR Muntele Rosu 148.75 324 ⇑P **PKPbc 02 18 43.0 -0.1**
MLR Muntele Rosu 148.75 324 ⇑PKHKP PKPpre 02 18 43.0
STNC Stoke 148.92 3 *e*P **PKPbc 02 18 43.3 +0.2**
ASSE Asse, Remlinge 148.96 348 *e*PKPbc **PKPbc 02 18 43.1 0.0**
baz=20,slow=2.4
ASSE *e*pPKPbc **pPKPab 02 21 01.7 -0.3**
OKC Ostrava-Krasne 148.98 338⇑ *e*PKP **PKPbc 02 18 43.8 +0.4**
OKC Ostrava-Krasne 148.98 338 *e*PKHKP PKPpre 02 18 43.8
OSTC Ostas 149.00 340⇑ *e*PKP **PKiKP 02 18 43.9 -0.4**
OSTC *e*pPKP **pPKPab 02 21 04.1 +1.8**
OSTC Ostas 149.00 340 *e*PKHKP PKPpre 02 18 43.9
CHVC Chvalec 149.03 341⇑ *e*PKP **PKPbc 02 18 43.6 +0.1**
CHVC Chvalec 149.03 341 *e*PKHKP PKPpre 02 18 43.6
STEB Steborice 149.03 338⇑ *e*PKP **PKPbc 02 18 43.7 +0.2**
STEB *e*pPKP **pPKPab 02 21 03.7 +1.3**
FOEL Foel Wylfa 149.06 4 *e*P **PKPbc 02 18 42.9 -0.6**
LANS Liptovska Anna 149.06 336 *e*PKP2 **PKiKP 02 18 44.5 0.0**
LANS Liptovska Anna 149.06 336 *e*PKP **PKiKP 02 18 44.5 0.0**
LANS *e* 02 18 52.0
LANS *e* 02 21 01.2
SULR 149.09 323 ⇑P **PKPbc 02 18 42.7 -1.1**
UPC Upice 149.11 341⇑ *e*PKP **PKPbc 02 18 43.8 +0.1**
UPC Upice 149.11 341 *e*PKHKP PKPpre 02 18 43.8
MESR Meseseni 149.12 330 ⇑P **PKiKP 02 18 45.2 +0.6**
CJR Cluj-Napoca 149.12 328 ⇑P **PKiKP 02 18 44.6 -0.1**
CJR Cluj-Napoca 149.12 328 ⇑PKP2 **PKiKP 02 18 44.6 -0.1**
MDB Medias 149.13 327 ⇑P **PKiKP 02 18 44.9 +0.2**
MDB Medias 149.13 327 ⇑PKP2 **PKiKP 02 18 44.9 +0.2**
DPC Dobruska-Polom 149.15 340⇑ *e*PKP **PKPbc 02 18 44.1 +0.3**
DPC *e*pPKP **pPKPab 02 21 03.0 +0.1**
DPC Dobruska-Polom 149.15 340 *e*PKHKP PKPpre 02 18 44.1
IWEX Carrickbyrne, 149.19 9 PKPdif **PKPbc 02 18 43.5 -0.3**
CLL Collm 149.22 345 *e*PKHKP PKPpre 02 18 40.0
CLL *i* 02 18 51.5
CLL pmax pmax
comp=Z,41nm,1.0s
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 149.22 345 *e*PKPdf **PKPdf 02 18 40.0 +1.2**
CLL *i* PKPbc **PKPbc 02 18 44.1 +0.2**
comp=Z,41nm,1.0s
CLL *e*(PKiKP) 02 18 48.0
CLL *i* PKPab **PKPab 02 18 51.5 +0.5**
comp=Z,10.0nm,1.0s
CLL *e*pPKPab **pPKPbc 02 21 01.0 +0.1**
CLL *i* x x 02 21 05.4
comp=Z,21nm,1.1s
CLL *i* x x 02 21 12.7
comp=Z,20nm,1.3s
CLL *e*PKSdf **PKSdf 02 22 13.0 -0.5**
CLL Collm 149.22 345 *e*PKPbc **PKPbc 02 18 43.8 -0.1**
baz=20,slow=2.4
CLL *e*pPKPbc **pPKPbc 02 21 01.4 +0.5**
KRLC Kraliky 149.24 339⇑ *e*PKP **PKPbc 02 18 44.2 +0.1**
KRLC *e*pPKP **pPKPab 02 21 04.8 +1.5**
KRLC Kraliky 149.24 339 *e*PKHKP PKPpre 02 18 44.2
MORC Moravsky Berou 149.25 338 *e*PKP **PKPbc 02 18 44.0 -0.1**
MORC *e* 02 21 04.6
MORC Moravsky Berou 149.25 338 ⇓P **PKPbc 02 18 43.6 -0.5**
MORC Moravsky Berou 149.25 338 ⇓PKHKP PKPpre 02 18 43.6
VOIR 149.26 325 ⇓P **PKiKP 02 18 44.9 -0.2**
VOIR 149.26 325 ⇓PKHKP PKPpre 02 18 44.9
IBBN Ibbenburen 149.28 351 *e*PKPbc **PKPbc 02 18 44.1 +0.1**
baz=20,slow=2.4
CLZ Clausthal 149.29 348 *e*PKPbc **PKPbc 02 18 44.2 +0.1**
baz=20,slow=2.4
CWF Charnwood Fore 149.32 2 *e*P **PKPbc 02 18 43.5 -0.5**
BRG Berggiesshubel 149.38 343 *e*PKP **PKPbc 02 18 44.4 +0.1**
BRG Amp 02 18 46.6
comp=Z,28nm,0.8s
BRG Berggiesshubel 149.38 343 P **PKPab 02 18 51.2 -0.5**
BRG Amp 02 18 53.7
comp=Z,7.9nm,0.8s
BRG pPKP **pPKPbc 02 21 02.0 +0.6**
BRG Amp 02 21 10.7
comp=Z,9.6nm,1.0s
BRG Berggiesshubel 149.38 343 *e*PKPbc **PKPbc 02 18 44.4 +0.1**
baz=20,slow=2.4
MARR Marisel-Cluj 149.38 329 ⇓P **PKPbc 02 18 44.7 +0.1**
MTUR Matau 149.39 325 ⇓P **PKPbc 02 18 44.6 0.0**
MTUR Matau 149.39 325 ⇓PKHKP PKPpre 02 18 44.6
HLM1 Long Mynd 149.45 4 *e*P **PKPbc 02 18 43.6 -0.8**
DRGR 149.49 329 ⇑P **PKPbc 02 18 45.1 +0.3**
DRGR 149.49 329 ⇑PKHKP PKPpre 02 18 45.1
MAUC Maruska 149.49 338⇑ *e*PKP **PKiKP 02 18 45.2 -0.2**
PVCC Panska Ves 149.52 342⇑ *e*PKP **PKPbc 02 18 44.9 +0.3**
PVCC Panska Ves 149.52 342 *e*PKHKP PKPpre 02 18 44.9
ARR Arges 149.52 325 ⇑P **PKiKP 02 18 45.7 +0.1**
NEUB Neuenburg 149.60 346 *e*PKPbc **PKPbc 02 18 44.8 0.0**
baz=20,slow=2.4
GTTG Gottingen 149.66 348 *e*PKPbc **PKPbc 02 18 44.8 -0.1**
baz=20,slow=2.4
HSKC Hora Svate Kat 149.75 344⇑ *e*PKP **PKPbc 02 18 45.3 +0.1**
RSBS Rosebush, Pemb 149.85 7 *e*P **PKPbc 02 18 44.4 -1.0**
PSZ Piszkesteto 149.88 334 PKPbc **PKPbc 02 18 45.0 -0.7**
PSZ Piszkesteto 149.88 334 ⇑P **PKPbc 02 18 45.2 -0.5**
PSZ Piszkesteto 149.88 334 ⇑PKHKP PKPpre 02 18 45.2
HUMR Humele 149.89 324 ⇑P **PKPbc 02 18 44.6 -1.1**
LOT Lotru 149.92 326 ⇑P **PKPbc 02 18 45.2 -0.7**
MCH1 Michaelchurch 149.97 4 *e*P **PKPbc 02 18 44.6 -1.0**
VRAC Vranov 149.97 339 *e*PKP **PKPbc 02 18 45.1 -0.7**
VRAC *e* 02 21 07.6
VRAC Vranov 149.97 339 ⇑P **PKPbc 02 18 45.6 -0.2**
VRAC Vranov 149.97 339 ⇑PKHKP PKPpre 02 18 45.6
PRA Prague 149.97 342⇑ *e*PKP **PKPbc 02 18 45.8 +0.1**
PRA Prague 149.97 342 *e*PKHKP PKPpre 02 18 45.8
JAVC Velka Javorina 149.97 337 *e*PKP **PKiKP 02 18 47.1 +0

NKC	**Novy Kostel**	**150.35 345**	⇑	*e*PKP	**PKiKP**	**02 18 47.4**	**+0.3**
NKC	**Novy Kostel**	**150.35 345**		*e*PKIKP	**PKiKP**	**02 18 47.4**	**+0.3**
SMOL	**Smolenice**	**150.35 337**		*e*PKIKP	**PKiKP**	**02 18 49.0**	**+1.9**
BAND	**Balkesir-Ban**	**150.39 314**	⇑	P	**PKPbc**	**02 18 46.7**	**-0.3**
GZR	**Gura Zlata**	**150.46 327**	⇓	P	**PKPbc**	**02 18 46.5**	**-0.6**
GZR	**Gura Zlata**	**150.46 327**	⇓	PKIKP	**PKPbc**	**02 18 46.5**	**-0.6**
MODS	**Modra-Piesok**	**150.52 337**		*e*PKIKP	**PKiKP**	**02 18 48.2**	**+0.7**
MODS				*e*		02 21 05.6	
MODS	**Modra-Piesok**	**150.52 337**		*e*PKP	**PKiKP**	**02 18 48.2**	**+0.7**
MODS				*e*		02 21 05.6	
SURR	**Surduc**	**150.53 328**	⇑	P	**PKPbc**	**02 18 46.5**	**-0.6**
VLAD	**Vladila**	**150.55 324**	⇓	P	**PKiKP**	**02 18 47.4**	**-0.2**
ZVC	**Zvikov**	**150.60 342**		*e*pPKP	pPKPdf	02 21 05.2	+5.0
MANZ	**Manzenberg**	**150.66 345**		*e*PKPbc	**PKPbc**	**02 18 47.3**	**-0.1**
	baz=20,slow=2.4						
WOL	**Wolverton**	**150.75 2**		*e*P	**PKPbc**	**02 18 46.8**	**-0.7**
SRE	**Strehaia**	**150.75 326**	⇑	P	**PKPbc**	**02 18 47.9**	**+0.2**
SRE	**Strehaia**	**150.75 326**	⇑	PKIKP	**PKPbc**	**02 18 47.9**	**+0.2**
HTL	**Hartland**	**150.83 7**		*e*P	**PKiKP**	**02 18 47.8**	**-0.2**
ROTZ	**Rotzenmuhle**	**150.84 344**		*e*PKPbc	**PKiKP**	**02 18 48.0**	**-0.2**
	baz=20,slow=2.4						
ROTZ				*e*pPKPbc	**pPKPbc**	**02 21 05.6**	**+0.5**
BZS	**Buzias**	**150.87 329**	⇑	P	**PKPbc**	**02 18 47.2**	**-0.7**
BZS	**Buzias**	**150.87 329**	⇑	PKIKP	**PKPbc**	**02 18 47.2**	**-0.7**
ELSH	**Elham, Standar**	**150.94 359**		*e*P	**PKPbc**	**02 18 47.2**	**-0.6**
MANT	**Manisa**	**150.95 311**		PKPbc	**PKPbc**	**02 18 48.0**	**-0.7**
HERR	**Herculane**	**151.00 327**	⇑	P	**PKPbc**	**02 18 47.6**	**-0.7**
KHC	**Kasperske Hory**	**151.06 342**	⇑	*e*PKP	**PKPbc**	**02 18 48.2**	**-0.1**
KHC				*e*pPKP	**pPKPbc**	**02 21 06.5**	**+0.7**
KHC	**Kasperske Hory**	**151.06 342**		*e*PKIKP	**PKPbc**	**02 18 48.2**	**-0.1**
KHC				*e*		02 21 06.5	
UCC	**Uccle**	**151.14 355**		PKPbc	**PKPbc**	**02 18 47.6**	**-0.7**
UCC	**Uccle**	**151.14 355**		*d*PKP	**PKPbc**	**02 18 48.5**	**+0.1**
UCC	**Uccle**	**151.14 355**		PKIKP	**PKPbc**	**02 18 47.6**	**-0.7**
MEM	**Membach**	**151.17 353**		*d*PKP	**PKPbc**	**02 18 48.4**	**0.0**
BTNL	**Ternell**	**151.18 353**		*d*PKP	**PKPbc**	**02 18 48.6**	**+0.1**
TNS	**Taunus Mts**	**151.20 349**		*e*PKPbc	**PKPbc**	**02 18 48.4**	**-0.2**
	baz=20,slow=2.4						
SBD	**Saint Breward**	**151.23 7**		*e*P	**PKPbc**	**02 18 47.6**	**-0.9**
WET	**Wettzell**	**151.24 343**		*e*PKPbc	**PKPbc**	**02 18 48.2**	**-0.5**
	baz=20,slow=2.4						
BSTI	**Sart Tilman**	**151.24 353**		*d*PKP	**PKiKP**	**02 18 48.9**	**0.0**
GEC2	**GERESS Array S**	**151.28 342**		*e*PKPbc	**PKPbc**	**02 18 48.5**	**-0.4**
	baz=20,slow=2.4						
GEC2				*e*pPKPbc	**pPKPbc**	**02 21 06.4**	**-0.2**
GERES	**GERESS Array B**	**151.28 342**		PKPbc	**PKPbc**	**02 18 47.7**	**-1.2**
GERES	**GERESS Array B**	**151.28 342**		PKP	**PKPdf**	**02 18 43.0**	**+0.8**
	comp=Z,5.6nm,0.4s,baz=20,slow=4.3,SNR=3.6						
GERES				PKPbc	**PKPbc**	**02 18 49.0**	**+0.1**
	comp=Z,5.9nm,0.4s,baz=23,slow=2.5,SNR=55						
GERES				PKPab	**PKPab**	**02 18 59.2**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=50,slow=4.2,SNR=4.8						
GERES				pPKPbc	**pPKPbc**	**02 21 06.7**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=90,slow=2.7,SNR=6.9						
GERES	**GERESS Array B**	**151.28 342**		PKIKP	**PKPbc**	**02 18 47.7**	**-1.2**
CONA	**Conrad Observa**	**151.40 338**		*i* PKP	**PKiKP**	**02 18 49.7**	**+0.2**
	comp=Z,26nm,1.2s,SNR=9.7						
CONA				*e*pPKiKP	**pPKiKP**	**02 21 07.5**	**-0.2**
	comp=Z,9.2nm,0.9s,SNR=7.8						
BHOU	**Houvegnez**	**151.42 353**		*d*PKP	**PKiKP**	**02 18 49.7**	**+0.4**
MDVR	**Moldovita**	**151.43 328**	⇑	P	**PKPbc**	**02 18 48.4**	**-0.9**
BCLA	**Clavier**	**151.43 354**		*d*PKP	**PKPab**	**02 18 59.8**	**-0.5**
DYA	**Yadsworthy**	**151.44 6**		*e*P	**PKPbc**	**02 18 47.9**	**-1.1**
RONA	**Rosalia, Austr**	**151.45 337**		*e*PKP	**PKPbc**	**02 18 49.2**	**0.0**
	comp=Z,23nm,0.4s,SNR=13						
RONA				*e*pPKP	**pPKPab**	**02 21 11.8**	**-0.3**
	comp=Z,11nm,1.3s						
BGES	**Gesves**	**151.49 354**		*d*PKP	**PKiKP**	**02 18 49.3**	**-0.1**
BMRD	**Maredsous**	**151.60 354**		*d*PKP	**PKiKP**	**02 18 50.0**	**+0.4**
RCHB	**Rochefort**	**151.70 354**		*d*PKP	**PKiKP**	**02 18 50.1**	**+0.2**
MORH	**Mrgy, Hungar**	**151.76 333**	⇑	P	**PKPbc**	**02 18 49.7**	**-0.2**
DOU	**Dourbes**	**151.82 355**		*d*PKP	**PKiKP**	**02 18 50.6**	**+0.5**
MOA	**Molln**	**152.00 340**		*i* PKP	**PKiKP**	**02 18 50.6**	**+0.1**
	comp=Z,3.7nm,0.4s						
MOA				*e*SKP	**SKPdf**	**02 21 21.9**	**+1.8**
	comp=Z,5.5nm,1.1s						
WLF	**Walferdange**	**152.08 352**		*d*PKP	**PKiKP**	**02 18 51.3**	**+0.7**
WLF	**Walferdange**	**152.08 352**		*e*PKPbc	**PKiKP**	**02 18 51.4**	**+0.7**
	baz=20,slow=2.4						
ARSA	**Arzberg**	**152.10 338**		*e*PKP	**PKPbc**	**02 18 50.2**	**-0.5**
	comp=Z,1.3nm,0.4s						
ARSA				*e*SKP	**SKPdf**	**02 21 17.8**	**-2.5**
	comp=Z,6.3nm,1.5s						
BOVS	**Bovan**	**152.24 326**	⇑	P	**PKPbc**	**02 18 49.4**	**-1.6**
BIOA	**Bad Ischl, Aus**	**152.33 341**		*i* PKP	**PKPbc**	**02 18 51.2**	**0.0**
	comp=Z,2.8nm,0.3s						
BIOA				*e*SKP	**SKPdf**	**02 21 17.0**	**-3.6**
	comp=Z,10nm,1.0s						
SOKA	**Soboth**	**152.77 338**		*i* PKP	**PKPbc**	**02 18 51.8**	**-0.4**
	comp=Z,2.5nm,0.5s,SNR=5.5						
SOKA				pPKiKP	**pPKiKP**	**02 21 11.2**	**+0.7**
	comp=Z,4.0nm,1.1s						
PERS	**Pernice**	**152.77 338**		*i* PKPbc	**PKPbc**	**02 18 51.6**	**-0.6**
JSA	**Saint Aubin**	**152.82 4**		*e*P	**PKPbc**	**02 18 52.0**	**-0.1**
LESA	**Schwarzleotal**	**152.86 342**		*e*PKP	**PKPdf**	**02 18 45.1**	**+0.6**
	comp=Z,5.9nm,1.3s						
LESA				*e*PKP	**PKiKP**	**02 18 52.6**	**+0.1**
	comp=Z,7.5nm,0.4s,SNR=8.2						
LESA				*e*SKP	**SKPdf**	**02 21 15.8**	**-5.5**
	comp=Z,7.2nm,1.0s						
KBA	**Koelnbreinsper**	**152.97 341**		*i* PKP	**PKPbc**	**02 18 52.2**	**-0.6**
	comp=Z,6.2nm,0.4s,SNR=14						
KBA				*e*SKP	**SKPdf**	**02 21 17.9**	**-3.8**
	comp=Z,3.0nm,0.7s						
BFO	**Black Forest**	**153.04 349**		*e*PKPbc	**PKiKP**	**02 18 53.0**	**+0.2**
	baz=20,slow=2.4						
OBKA	**Obir**	**153.08 338**		*i* PKiKP	**PKiKP**	**02 18 53.6**	**+0.7**
	comp=Z,4.2nm,0.5s						
WATA	**Walderalm**	**153.25 343**		*e*PKP	**PKPbc**	**02 18 52.9**	**-0.4**
	comp=Z,8.4nm,0.4s,SNR=7.4						
WATA				*i* PKP	**PKPab**	**02 19 08.2**	**-0.1**
	comp=Z,7.0nm,0.5s						
WATA				*e*pPKiKP	**pPKPbc**	**02 21 10.6**	**-0.5**
	comp=Z,12nm,1.0s						
MYKA	**Terra Mystica**	**153.27 340**		*e*PKP	**PKPbc**	**02 18 52.7**	**-0.6**
	comp=Z,5.5nm,0.4s,SNR=4.1						
MYKA				*e*pPKiKP	**pPKPbc**	**02 21 10.7**	**-0.7**
	comp=Z,9.6nm,1.0s						
UBR	**Ueberruh**	**153.29 346**		*e*PKPbc	**PKPbc**	**02 18 53.1**	**-0.2**
	baz=20,slow=2.4						
WTTA	**Wattenberg**	**153.29 343**		*i* PKP	**PKPbc**	**02 18 53.4**	**0.0**
	comp=Z,12nm,0.4s,SNR=7.3						
WTTA				*i* PKP	**PKPab**	**02 19 08.8**	**+0.3**
	comp=Z,6.7nm,0.4s						
WTTA				*e*pPKiKP	**pPKiKP**	**02 21 12.4**	**+0.5**
	comp=Z,8.5nm,0.8s						
RETA	**Reutte**	**153.31 345**		*e*PKiKP	**PKiKP**	**02 18 54.7**	**+1.3**
	comp=Z,2.3nm,0.5s						
RETA				*e*PKP	**PKPab**	**02 19 08.8**	**+0.3**
	comp=Z,3.1nm,0.4s						
RETA				pPKP	**pPKPbc**	**02 21 14.4**	**+3.0**
	comp=Z,0.1nm,0.4s						
MOTA	**Moosalm**	**153.36 344**		*e*PKP	**PKPbc**	**02 18 53.3**	**-0.3**
	comp=Z,4.3nm,0.8s						
MOTA				*e*pPKiKP	**pPKPbc**	**02 21 10.8**	**-0.8**
	comp=Z,12nm,1.0s						
SQTA	**Sankt Quirin**	**153.45 344**		*i* PKP	**PKPdf**	**02 18 46.5**	**+1.0**
	comp=Z,3.5nm,0.8s						
SQTA				*e*PKP	**PKPbc**	**02 18 53.5**	**-0.2**
	comp=Z,4.3nm,0.5s						
SQTA				*e*pPKiKP	**pPKiKP**	**02 21 12.2**	**0.0**
	comp=Z,9.6nm,1.0s						
ABTA	**Abfaltersbach**	**153.52 341**		*i* PKP	**PKPdf**	**02 18 45.4**	**-0.1**
	comp=Z,6.7nm,0.7s						
ABTA				*e*PKP	**PKPbc**	**02 18 53.7**	**-0.2**
	comp=Z,6.7nm,0.5s,SNR=4.0						
ABTA				*e*PKP	**PKPab**	**02 19 09.0**	**-0.4**
	comp=Z,4.3nm,0.4s						
ABTA				*e*pPKP	**pPKPab**	**02 21 16.2**	**-4.6**
	comp=Z,9.5nm,0.8s						
CRNS	**Crni Vrh**	**153.55 338**		*i* PKPbc	**PKPbc**	**02 18 52.6**	**-1.2**
DAVA	**Damuels**	**153.71 346**		*e*PKP	**PKiKP**	**02 18 54.7**	**+0.4**
	comp=Z,4.0nm,0.5s						
FETA	**Feichten**	**153.76 344**		*e*PKP	**PKPdf**	**02 18 45.8**	**-0.2**
	comp=Z,6.5nm,0.9s						
FETA				*e*PKP	**PKiKP**	**02 18 54.8**	**+0.4**
	comp=Z,2.3nm,0.5s						
FETA				*e*pPKiKP	**pPKiKP**	**02 21 13.4**	**+0.6**
	comp=Z,7.1nm,0.9s						
CEY	**Cerknica**	**153.79 338**		*i* PKPbc	**PKPbc**	**02 18 54.2**	**-0.2**
MVO	**Moncorvo**	**159.88 17**		*e*PKP	**PKPdf**	**02 18 55.3**	**+1.6**
MTE	**Manteigas**	**160.44 19**		*e*PKP	**PKPdf**	**02 18 56.1**	**+1.8**
PCBR	**Castelo Branco**	**160.97 19**		*e*PKP	**PKPdf**	**02 18 56.8**	**+1.9**
PMRV	**Marv??o**	**161.38 20**		*e*PKP	**PKPdf**	**02 18 57.1**	**+1.8**
EVO	**Evora**	**161.98 22**		*e*PKP	**PKPdf**	**02 18 57.9**	**+2.0**
ESDC	**Sonseca Array**	**162.00 11**		PKPab	**PKPab**	**02 19 46.1**	**-0.3**
ESDC	**Sonseca Array**	**162.00 11**		PKP	**PKPdf**	**02 18 56.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=322,slow=1.5,SNR=2.5						
ESDC				PKPab	**PKPab**	**02 19 46.2**	**-0.1**
	comp=Z,4.7nm,1.2s,baz=338,slow=4.3,SNR=8.4						
ESDC				pPKPab	**pPKPab**	**02 21 59.1**	**+1.4**
	comp=Z,0.8nm,1.0s,baz=339,slow=5.3,SNR=3.2						
DBIC	**Dimbokro**	**163.85 160**			**PKPdf**	**02 18 57.2**	**-1.2**
DBIC				PKPab	**PKPab**	**02 19 54.3**	**-0.7**
DBIC	**Dimbokro**	**163.85 160**		PKP	**PKPdf**	**02 18 58.4**	**0.0**
	comp=Z,7.8nm,0.5s,baz=206,slow=1.5,SNR=21						
DBIC				PKPab	**PKPab**	**02 19 56.3**	**+1.3**
	comp=Z,12nm,0.6s,baz=194,slow=4.9,SNR=18						
KEST	**Kesra**	**164.35 333**		PKP	**PKPdf**	**02 18 58.0**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=56,slow=3.6,SNR=2.1						
KEST				PKPab	**PKPab**	**02 19 56.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=344,slow=12,SNR=4.6						
KEST				pPKPab	**pPKPab**	**02 22 08.1**	**+0.6**
	comp=Z,6.0nm,1.0s,baz=358,slow=5.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**171.10 187**		PKPdf	**PKPdf**	**02 19 01.4**	**-2.0**
TORD				PKPab	**PKPab**	**02 20 25.6**	**-1.4**

IDC 27 02:07:15.6±7.1, 20°.11S×179°.61W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=305.5km s-min=40.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.13**	**257**	P	P	02 15 17.7	-0.5
	1.3nm,0.5s,baz=96,slow=8.2,SNR=4.1 1.3nm,0.5s						
WRA	**Warramunga Arr**	**43.15**	**262**	P	P	02 15 18.4	+0.1
	0.3nm,0.3s,baz=96,slow=7.3,SNR=12 0.3nm,0.3s						
ILAR	**Eielson Array**	**88.28**	**13**	P	P	02 20 08.5	0.0
	0.2nm,0.6s,baz=201,slow=4.4,SNR=4.1 0.2nm,0.6s						

ROM 27 02:15:48.9±0.1, 43°.471N±0°.004×12°.764E±0°.005, h10km, ML0.9/4, 1C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=25.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRON	**Frontone**	**0.05**	**329**	P	Pg	02 15 51.6	+0.6
FRON				S	Sg	02 15 53.7	+1.1
FRON				AML	AML		
	comp=E,84μm,0.1s						
FRON				AML	AML		
	comp=N,92μm,0.9s						
FRON				AML	AML		
	comp=N,92μm,0.9s						
ARVD	**Arcevia**	**0.13**	**78**	P	Pg	02 15 52.5	+0.5
ARVD				S	Sg	02 15 55.2	+1.1
MPAG	**Monte Paganucc**	**0.16**	**359**	P	Pg	02 15 52.8	+0.4
MPAG				S	Sg	02 15 56.0	+1.0
FOSV	**Fossato di Vic**	**0.18**	**181**	P	Pg	02 15 53.2	+0.5
FOSV				S	Sg	02 15 56.5	+1.2
PIEI	**Pieia**	**0.18**	**291**	⇓ P	Pg	02 15 53.1	+0.3
PIEI				S	Sg	02 15 56.4	+0.9
PIEI				AML	AML		
	comp=E,78μm,0.2s						
PIEI				AML	AML		
	comp=N,71μm,0.3s						
NARO	**Abbazia di Nar**	**0.19**	**316**	P	Pg	02 15 53.5	+0.5
SNTG	**Esanatoglia**	**0.25**	**149**	P	Pg	02 15 54.6	+0.6
SNTG				S	Sb	02 15 58.8	-1.2
APEC	**Apecchio**	**0.27**	**289**	⇑ P	Pg	02 15 54.8	+0.5
APEC				S	Sb	02 15 59.6	-0.7
MURB	**Monte Urbino**	**0.27**	**220**	⇓ P	Pg	02 15 55.0	+0.7
MURB				S	Sb	02 16 00.2	-0.4
EL6	**Elcito**	**0.28**	**120**	P	Pg	02 15 55.2	+0.6
EL6				S	Sb	02 15 60.0	-1.0
PE3	**Peglio**	**0.30**	**319**	P	Pg	02 15 55.2	+0.4

ATH 27 02:16:12.9, 38°.20N×23°.43E, h17km±1km, ML2.4/21, Manual Solution by G.Panopoulou First location: 2019/02/27 02:16:29, This location: 2021/03/24 09:08:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELFA	**Athens-Elefsin**	**0.17**	**150**	P	Pg	02 16 16.6	-0.8
ACHAR	**Athens-Acharne**	**0.27**	**116**	P	Pg	02 16 18.0	-0.9
ACHAR				S	Sg	02 16 23.3	+0.3
ATH	**Athens Observa**	**0.32**	**135**	P	Pg	02 16 19.4	-0.2
ATH				S	Sb	02 16 24.7	-0.3
NOAC	**Athens-Thissio**	**0.32**	**134**	P	Pg	02 16 19.2	-0.4
NOAC				S	Sb	02 16 24.8	-0.2
ATHP	**Athens-Neo Psi**	**0.33**	**126**	P	Pg	02 16 19.6	-0.3
ATHP				S	Sb	02 16 25.2	-0.3
ATHU	**Athens Univers**	**0.36**	**129**	P	Pg	02 16 19.8	-0.6
ATHU				S	Sg	02 16 25.6	+0.1
PTL	**Penteli**	**0.37**	**113**	P	Pg	02 16 19.9	-0.7
PTL				S	Sg	02 16 26.1	+0.3
DION	**Dionisos Attik**	**0.41**	**106**	P	Pg	02 16 20.7	-0.6
DION				S	Sg	02 16 27.3	+0.2
VLY	**Voula,Athens**	**0.45**	**140**	P	Pg	02 16 21.3	-0.7
VLY				S	Sg	02 16 28.2	+0.2
LKR	**Lokris**	**0.57**	**323**	P	Pg	02 16 23.9	-0.3
LKR				S	Sg	02 16 31.6	-0.1
MET4	**Agioi Theodoro**	**0.57**	**182**	P	Pg	02 16 23.7	-0.6
MET4				S	Sb	02 16 32.4	+0.1
MET5	**Makryloggos,Me**	**0.57**	**186**	P	Pg	02 16 23.5	-0.8
MET5				S	Sb	02 16 32.7	+0.3
MET6	**Megalochori,Me**	**0.60**	**186**	P	Pg	02 16 23.8	-1.1
MET6				S	Sb	02 16 33.2	0.0
KYMI	**Kymi, Euboea I**	**0.68**	**50**	P	Pg	02 16 25.2	-1.1
KYMI				S	Sb	02 16 36.0	+0.4
LVRA	**Laurium**	**0.69**	**134**	P	Pg	02 16 26.4	-0.1
LVRA				S	Sb	02 16 35.8	+0.1
AIDA	**Aidipsos**	**0.72**	**336**	P	Pb	02 16 26.4	-0.6
AIDA				S	Sg	02 16 37.3	+0.7
KARY	**Karystos**	**0.81**	**101**	P	Pb	02 16 28.6	0.0
KARY				S	Sb	02 16 38.8	-0.4
AXAR	**Agios Charalam**	**0.83**	**314**	P	Pb	02 16 27.2	-1.7
AXAR				S	Sg	02 16 40.1	0.0
KRND	**KRANIDI**	**0.84**	**195**	P	Pb	02 16 28.0	-1.0
KRND				S	Sg	02 16 40.6	+0.2
YDRA	**Hydra**	**0.84**	**178**	P	Pb	02 16 28.9	-0.2
GUR	**Goura**	**0.90**	**254**	P	Pb	02 16 29.3	-0.8
GUR				S	Sb	02 16 41.9	+0.1
KLV	**Kalavryta, Ach**	**1.02**	**262**	P	Pb	02 16 31.0	-1.2
KALE	**Kalithea**	**1.03**	**281**	P	Pb	02 16 32.1	-0.3
KALE				S	Sg	02 16 46.2	-0.4
NEO	**Neokhori**	**1.12**	**352**	P	Pb	02 16 33.6	-0.3
NEO				S	Sn	02 16 48.6	-0.4
XOR	**Xorichti**	**1.18**	**351**	P	Pb	02 16 35.0	0.0
XOR				S	Sb	02 16 50.0	0.0
EFP	**Efpalio**	**1.22**	**281**	P	Pn	02 16 34.8	-0.4
ANX	**Ano Chora**	**1.25**	**289**	P	Pn	02 16 35.5	-0.2
ANX				S	Sn	02 16 52.4	+0.2
MAKR	**Makrakomi, Fth**	**1.30**	**309**	P	Pb	02 16 37.2	+0.2
DRO	**Drossia**	**1.38**	**260**	P	Pn	02 16 37.7	+0.3
EVR	**Evrytania**	**1.46**	**300**	P	Pn	02 16 38.9	+0.3
EVR				S	Sb	02 16 57.9	-0.2
AMT	**Artemida-Makis**	**1.52**	**245**	P	Pn	02 16 39.0	-0.2
VLI	**Veliai**	**1.53**	**195**	P	Pn	02 16 39.3	-0.1
VLI				S	Sn	02 16 57.9	-1.0
PVO	**Paravola**	**1.55**	**286**	P	Pn	02 16 40.4	+0.6
RLS	**Riolos of Patr**	**1.56**	**266**	P	Pn	02 16 40.1	+0.4
ITM	**Ithomi**	**1.57**	**230**	P	Pn	02 16 39.9	0.0
ITM				S	Sn	02 17 00.2	+0.4
AXS	**Araxos**	**1.62**	**271**	P	Pn	02 16 40.6	-0.1
THL	**Klokotos Trika**	**1.76**	**321**	P	Pn	02 16 42.7	+0.1
THL				S	Sn	02 17 04.8	+0.3
TYRN	**Tyrnavos**	**1.78**	**329**	P	Pn	02 16 43.1	+0.2
TYRN				S	Sn	02 17 04.3	-0.8
APE	**Apeiranthos**	**2.01**	**123**	P	Pn	02 16 46.2	+0.1
APE				S	Sn	02 17 10.3	-0.6
LIT	**Litokhoron**	**2.04**	**339**	P	Pn	02 16 46.4	-0.1
PLG	**Polygyros**	**2.18**	**0**	P	Pn	02 16 48.3	-0.1
OUR	**Ouranopolis**	**2.18**	**11**	P	Pn	02 16 48.3	-0.1
HORT	**Hortiatis**	**2.41**	**354**	P	Pn	02 16 51.9	+0.2
NEST	**Nestorio**	**2.88**	**321**	P	Pn	02 16 58.4	+0.2

NEIC ***27*** *02:25:02.7±1.3, 18°.3N±0°.1×67°.44W±0°.07, h94km±7km, ML2.2/20, Md2.8/11(RSPR), Error ellipse: s-maj=20.6km s-min=6.8km az=197.0*

SDD ***27*** *02:25:04.7±2.0, 18°.59N×67°.38W, h80km±19km, MD3.3, ML2.4, MW2.5*

RSPR ***27*** *02:25:05.5, 18°.29N×67°.39W, h82km±1km, MD2.8/11*

ISC 27 02:25:03.7±1.6, 18°.35N±0°.10×67°.41W±0°.04, h88km±8km, n43, σ0°.77/58, 14C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.07**	**300**		**Pn**	**02 25 16.6**	**+0.5**
IDE					**Sn**	**02 25 26.0**	**+0.6**
IDE	**Isla Desecheo**	**0.07**	**300**	⇑ *e*P	**Pn**	**02 25 16.6**	**+0.5**
IDE	**Isla Desecheo**	**0.07**	**300**	*e*S	**Sn**	**02 25 26.0**	**+0.6**
PRSN	**Puerto Rico Se**	**0.29**	**118**	Pn	**Pn**	**02 25 17.4**	**+0.6**
PRSN				IAML		02 25 27.8	
	comp=N,63nm,0.2s						
PRSN				IAML		02 25 27.9	
	comp=E,63nm,0.3s						
AGPR	**Aguadilla, PR**	**0.31**	**68**		**Pn**	**02 25 17.0**	**+0.1**
AGPR				IAML		02 25 26.0	
	comp=N,133nm,3.0s						
AGPR					**Sn**	**02 25 26.8**	**0.0**
AGPR				IAML		02 25 33.9	
	comp=E,129nm,3.0s						
AGPR	**Aguadilla, PR**	**0.31**	**68**	⇑ *e*Pg	**Pn**	**02 25 15.9**	**-1.0**
AGPR				⇑ *e*Sg	**Sn**	**02 25 24.8**	**-2.0**
AGPR				IAML		02 25 25.3	
	comp=N,131nm,3.0s						
AGPR	**Aguadilla, PR**	**0.31**	**68**	⇓ *e*P	**Pn**	**02 25 17.5**	**+0.5**
AGPR	**Aguadilla, PR**	**0.31**	**68**	*e*S	**Sn**	**02 25 27.1**	**+0.3**
LSP	**Las Mesas**	**0.36**	**119**		**Pn**	**02 25 18.0**	**+0.7**
LSP					**Sn**	**02 25 27.4**	**0.0**
LSP	**Las Mesas**	**0.36**	**119**	⇓ *e*P	**Pn**	**02 25 18.0**	**+0.7**
LSP	**Las Mesas**	**0.36**	**119**	*e*S	**Sn**	**02 25 27.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**0.45**	**140**	Pn	**Pn**	**02 25 17.4**	**-0.4**
CRPR				Sn	**Sn**	**02 25 26.4**	**-1.9**
CRPR				IAML		02 25 33.4	
	comp=N,56nm,2.4s						
CRPR	**Cabo Rojo, PR**	**0.45**	**140**	⇑ *e*P	**Pn**	**02 25 18.2**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.45**	**140**	*e*S	**Sn**	**02 25 27.8**	**-0.5**
MLPR	**Magueyes Islan**	**0.52**	**137**	⇑ *e*P	**Pn**	**02 25 18.9**	**+0.5**
MLPR	**Magueyes Islan**	**0.52**	**137**	*e*S	**Sn**	**02 25 28.6**	**-0.7**
AOPR	**Arecibo Observ**	**0.62**	**90**	Pn	**Pn**	**02 25 19.1**	**-0.2**
AOPR				Sn	**Sn**	**02 25 30.9**	**-0.2**
AOPR	**Arecibo Observ**	**0.62**	**90**	⇑ *e*Pg	**Pn**	**02 25 18.4**	**-1.0**
AOPR				⇓ *e*Sg	**Sn**	**02 25 31.1**	**+0.1**
AOPR				IAML		02 25 31.6	
	comp=N,133nm,0.1s						
AOPR	**Arecibo Observ**	**0.62**	**90**	⇑ *e*P	**Pn**	**02 25 19.7**	**+0.4**
AOPR	**Arecibo Observ**	**0.62**	**90**	*e*S	**Sn**	**02 25 31.1**	**+0.1**
UUPR	**Utuado, UPR, P**	**0.67**	**98**	Pn	**Pn**	**02 25 20.3**	**+0.6**
UUPR				Sn	**Sn**	**02 25 31.4**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.67**	**98**	⇓ *e*P	**Pn**	**02 25 20.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**0.67**	**98**	*e*S	**Sn**	**02 25 31.9**	**+0.3**
OBIP	**Obispado Ponce**	**0.82**	**112**	Pn	**Pn**	**02 25 20.6**	**-0.8**
OBIP				Sn	**Sn**	**02 25 33.6**	**-0.9**
OBIP	**Obispado Ponce**	**0.82**	**112**	⇓ *e*P	**Pn**	**02 25 21.8**	**+0.5**
**

BO02 Sierra Bellavi 36.28 84 P **P** **02 51 33.2 +0.2**
BO01 Tunca 36.33 83 P **P** **02 51 33.6 +0.2**
BO01 IAmb IAmb 02 51 35.8
comp=Z,34nm,1.2s
MT09 Talagante 36.78 82 P **P** **02 51 37.4 +0.1**
TBI Tubuai 36.80 303 *e*S **S** **02 57 21.8 +0.3**
comp=Z,752nm,27.5s
TBI *e*SS **SS** **03 00 03.9 +1.6**
comp=Z,4µm,25.2s
TBI *e*LR LR 03 01 27.7
comp=Z,3µm,27.2s
TBI *e*LR LR 03 01 29.3
comp=Z,13µm,25.5s
MT05 Renca 37.18 82 P **P** **02 51 40.6 -0.1**
MT13 San Alfonso 37.25 83 P **P** **02 51 41.0 -0.3**
VA06 Catapilco 37.36 80 P **P** **02 51 40.7 -1.4**
VA06 IAmb IAmb 02 51 44.2
comp=Z,39nm,1.1s
VA03 San Esteban 37.71 81 P **P** **02 51 43.8 -1.4**
VA03 IAmb IAmb 02 51 47.5
comp=Z,26nm,1.0s
CO03 El Pedregal 38.88 79 P **P** **02 51 55.2 +0.2**
CO05 La Serena 39.15 77 P **P** **02 51 57.0 -0.1**
CO05 IAmb IAmb 02 53 14.1
comp=Z,61nm,1.4s
GO04 Tololo Observa 39.26 78 P **P** **02 51 58.2 -0.2**
GO04 IAmb IAmb 02 52 00.5
comp=Z,70nm,1.2s
ZON Zonda 39.70 81 P **P** **02 52 01.0 -0.9**
ZON Zonda 39.70 81 P **P** **02 52 01.0 -0.9**
ZON pmax pmax
comp=Z,28nm,1.1s
CO01 Juntas del Tor 39.84 78 P **P** **02 52 02.4 -0.8**
TRQA Tornquist 40.08 95 P **P** **02 52 04.8 -0.1**
TRQA IAmb IAmb 02 52 12.5
comp=Z,88nm,1.8s
TRQA Tornquist 40.08 95 P **P** **02 52 04.8 -0.1**
TRQA pmax pmax
comp=Z,88nm,1.8s
LCO Las Campanas 40.11 77 P **P** **02 52 04.7 -0.9**
LCO IAmb IAmb 02 52 07.9
comp=Z,44nm,1.2s
LCO Las Campanas 40.11 77 P **P** **02 52 04.7 -0.9**
LCO pmax pmax
comp=Z,44nm,1.2s
BELA Belgrano 2 40.43 161 P **P** **02 52 07.0 -0.3**
BELA IAmb IAmb 02 52 11.9
comp=Z,54nm,1.4s
VNDA Vanda 40.47 199 LR LR 03 05 40.4
comp=Z,1µm,18.6s,baz=97,slow=31
QSPA South Pole Qui 40.67 180 P **P** **02 52 10.3 +0.7**
QSPA IAmb IAmb 02 52 14.6
comp=Z,57nm,1.0s
QSPA South Pole Qui 40.67 180 P **P** **02 52 11.8 +2.2**
comp=Z,43nm,0.9s,baz=119,slow=4.0,SNR=55
QSPA LR LR 03 06 53.7
comp=Z,1µm,19.8s,baz=98,slow=33
comp=Z,43nm,0.9s
PPT2 Papeete2 41.59 308 *e*P P 02 52 08.0 -10
comp=Z,116nm,37.2s
PPT2 *e*S **S** **02 58 32.4 -1.4**
comp=Z,302nm,25.0s
PPT2 *e*SS **SS** **03 01 38.6 -0.1**
comp=Z,2µm,28.5s
PPT2 *e*LR LR 03 03 34.2
comp=Z,3µm,27.0s
PPT2 *e*LR LR 03 03 41.1
comp=Z,4µm,24.5s
PPT Papeete 41.61 308 LR LR 03 04 55.3
comp=Z,2µm,18.5s,baz=138,slow=30
AC02 Maricunga 42.62 76 P **P** **02 52 25.1 -1.3**
AC02 IAmb IAmb 02 52 29.5
comp=Z,39nm,1.1s
PB14 IPOC Station P 43.41 72 P **P** **02 52 30.7 -1.9**
GO02 Mina Guanaco 43.52 74 P **P** **02 52 33.2 -0.3**
GO02 IAmb IAmb 02 52 40.7
comp=Z,75nm,1.7s
RAR Rarotonga 44.39 294 LR LR 03 06 13.2
comp=Z,489nm,18.8s,baz=124,slow=29
TAOE Nuku Hiva Isla 45.15 326 *e*P P 02 52 36.5 -10
comp=Z,28nm,21.2s
TAOE *e*S **S** **02 59 22.9 -3.0**
comp=Z,360nm,25.8s
TAOE *e*SS **ScS** **03 02 45.1 +1.5**
comp=Z,105nm,24.9s
TAOE *e*LR LR 03 05 17.9
comp=Z,4µm,26.5s
AF01 San Pedro de A 46.01 73 P **P** **02 52 52.6 -0.8**
PB09 IPOC Station P 46.21 71 P **P** **02 52 53.9 -0.9**
PB01 IPOC Station P 46.62 70 P **P** **02 52 56.3 -1.7**
PB01 IAmb IAmb 02 53 00.2
comp=Z,14nm,0.9s
PB11 IPOC Station P 47.49 68 P **P** **02 53 03.5 -1.3**
URZ Urewera 47.76 257 LR LR 03 08 34.1
comp=Z,809nm,19.7s,baz=210,slow=30
PB18 Visviri 49.27 67 P **P** **02 53 20.9 +2.0**
PLTB Pedras Altas 49.36 93 *e*P **P** **02 53 20.0 +1.0**
NNA Nana 49.59 55 P **P** **02 53 20.2 -0.7**
NNA IAmb IAmb 02 53 23.3
comp=Z,32nm,1.1s
NNA Nana 49.59 55 LR LR 03 08 45.8
comp=Z,2µm,21.8s,baz=224,slow=29
NNA Nana 49.59 55 *i* P **P** **02 53 21.5 +0.6**
NNA pmax pmax
comp=Z,23nm,0.9s
VNA2 Neumayer--Watz 49.70 156 P **P** **02 53 21.4 +0.3**
baz=258,slow=9.6
VNA2 Neumayer--Watz 49.70 156 ⇑P **P** **02 53 21.4 +0.3**
comp=Z,7.3nm,0.8s,baz=258,slow=9.6
RAO Raoul Island 50.20 270 LR LR 03 12 31.8
comp=Z,90nm,18.1s,baz=135,slow=34
SNAA Sanae 50.41 158 P **P** **02 53 25.7 -0.9**
comp=Z,4.7nm,1.1s,baz=160,slow=4.2,SNR=3.6
SNAA LR LR 03 12 10.6
comp=Z,2µm,22.0s,baz=201,slow=33
comp=Z,4.7nm,1.1s
SNAA Sanae 50.41 158 *i* P **P** **02 53 25.6 -0.9**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
CPUP Villa Florida 50.55 85 P **P** **02 53 27.2 -0.8**
CPUP IAmb IAmb 02 53 34.0
comp=Z,56nm,1.8s
CPUP Villa Florida 50.55 85 P **P** **02 53 26.6 -1.4**
comp=Z,5.2nm,0.9s,baz=255,slow=7.7,SNR=9.1
CPUP LR LR 03 11 06.9
comp=Z,1µm,21.3s,baz=234,slow=32
comp=Z,5.2nm,0.9s
CPUP Villa Florida 50.55 85 P **P** **02 53 27.3 -0.8**
CPUP pmax pmax
comp=Z,56nm,1.8s
CPUP Villa Florida 50.55 85 *e*P **P** **02 53 27.2 -0.8**
LPAZ La Paz 51.09 67 P **P** **02 53 32.4 -0.5**
LPAZ IAmb IAmb 02 53 36.1
comp=Z,37nm,1.2s
LPAZ La Paz 51.09 67 P **P** **02 53 32.0 -0.9**
comp=Z,24nm,1.1s,baz=209,slow=2.7,SNR=26
LPAZ LR LR 03 10 00.8
comp=Z,674nm,19.3s,baz=236,slow=30
comp=Z,24nm,1.1s
LPAZ La Paz 51.09 67 *e*P **P** **02 53 32.7 -0.2**
LPAZ pmax pmax
comp=Z,24nm,1.1s
LPAZ La Paz 51.09 67 *e*P **P** **02 53 31.5 -1.4**
TROLL Troll, Antarti 51.45 160 P **P** **02 53 34.5 +0.1**
TROLL Troll, Antarti 51.45 160 ⇑P **P** **02 53 34.5 +0.1**
comp=Z,947nm,1.0s
SJPY San Joaquin 52.27 85 *e*P **P** **02 53 42.3 +1.4**
ATAH Atahualpa 52.90 50 LR LR 03 10 48.8
comp=Z,1µm,19.0s,baz=219,slow=30
MURT Porto Murtinho 53.65 81 *e*P **P** **02 53 51.9 +0.8**
NVL N'lazarevskaya 54.40 161 *e*P **P** **02 53 55.6 -0.3**
NVL *e*S **S** **03 01 32.2 -1.5**
NVL pmax pmax
comp=Z,12nm,1.1s
NVL MLR MLR
comp=Z,1µm,17.0s
BDQN Bodoquena, MS 55.08 81 *e*P **P** **02 54 02.3 +0.7**
CZSB Cruzeiro do Su 55.36 56 *e*P **P** **02 54 04.6 +0.9**
ELIB Princess Elisa 55.54 166 *d*P **P** **02 54 04.2 -0.2**
comp=Z,8.3nm,1.5s
SIV San Ignacio 55.64 73 LR LR 03 13 52.9
comp=Z,539nm,20.4s,baz=282,slow=32
AQDB Aquidauana 55.74 82 P **P** **02 54 05.8 -0.5**
RPRD Ribas do Rio P 57.02 83 *e*P **P** **02 54 17.1 +1.6**
PTLB Pontes e Lacer 57.26 75 P **P** **02 54 17.1 -0.1**
PTLB IAmb IAmb 02 54 23.3
comp=Z,22nm,1.6s
PTLB Pontes e Lacer 57.26 75 *e*P **P** **02 54 17.7 +0.5**
VILB Vilhena 58.50 72 P **P** **02 54 25.8 -0.2**
VILB Vilhena 58.50 72 *e*P **P** **02 54 26.0 +0.1**
SALV Santo Antonio 59.10 78 *e*P **P** **02 54 29.4 -0.7**
OTAV Otavalo 59.28 46 P **P** **02 54 31.3 -0.5**
OTAV IAmb IAmb 02 54 35.2
comp=Z,23nm,1.1s
OTAV Otavalo 59.28 46 P **P** **02 54 31.3 -0.5**
OTAV pmax pmax
comp=Z,23nm,1.1s
OTAV Otavalo 59.28 46 *e*P **P** **02 54 32.6 +0.8**
TBTG Tabatinga, AM 59.83 57 P **P** **02 54 34.2 -0.8**
BB19B Bebedouro 59.96 88 *e*P **P** **02 54 37.3 +1.2**
SYO Syowa Base 60.45 170‖*ep*P **P** **02 54 39.0 +0.4**
PDRB Porto dos Gac 61.68 74 *e*P **P** **02 54 46.4 -1.3**
ARAG Araguaiana, MT 61.73 81 *e*P **P** **02 54 48.4 +0.3**
FLOC Florencia 61.78 48 P **P** **02 54 49.9 +1.5**
IPMB Ipameri, GO 62.39 86 *e*P **P** **02 54 54.2 +1.7**
MAW Mawson 63.19 180 LR LR 03 20 43.2
comp=Z,922nm,20.1s,baz=174,slow=34
TEFE Tefe 63.33 61 *e*P **P** **02 54 57.3 -1.5**
BDFB Brasilia 64.23 84 P **P** **02 55 04.1 -0.8**
comp=Z,4.5nm,0.9s,baz=231,slow=8.2,SNR=6.4
BDFB LR LR 03 19 53.8
comp=Z,661nm,21.6s,baz=204,slow=33
comp=Z,4.5nm,0.9s
SNDB Serra Nova Dou 64.85 79 *e*P **P** **02 55 08.3 -0.4**
ROSC El Rosal 65.26 47 P **P** **02 55 11.9 +0.1**
ROSC El Rosal 65.26 47 P **P** **02 55 12.6 +0.7**
comp=Z,17nm,0.9s,baz=199,slow=4.3,SNR=12
ROSC LR LR 03 19 33.3
comp=Z,667nm,19.2s,baz=232,slow=32
comp=Z,17nm,0.9s
DZM Mont Dzumac 65.32 264 *e*S **S** **03 03 54.5 -1.4**
comp=Z,221nm,25.8s
DZM *e*SS **SS** **03 08 08.9 +0.4**
comp=Z,151nm,26.0s
DZM *e*LR LR 03 14 41.8
comp=Z,959nm,23.8s
DZM Mont Dzumac 65.32 264 LR LR 03 17 13.7
comp=Z,489nm,19.8s,baz=166,slow=30
JTS Las Juntas de 65.64 34 P **P** **02 55 13.4 -0.4**
JTS Las Juntas de 65.64 34 LR LR 03 16 47.3
comp=Z,511nm,20.9s,baz=126,slow=30
JTS Las Juntas de 65.64 34 P **P** **02 55 13.4 -0.4**
JTS pmax pmax
comp=Z,28nm,1.1s
MACA Manacapuru-AM 65.90 65 P **P** **02 55 15.1 -0.5**
NPGB Novo Progresso 66.06 72 *e*P **P** **02 55 14.4 -2.2**
SJMB Sao Joao De Ma 66.44 91 *e*P **P** **02 55 18.2 -0.9**
RUSC La Rusia 66.77 48 P **P** **02 55 21.6 0.0**
JANB Januaria 67.06 86 *e*P **P** **02 55 23.3 +0.2**
TOO Toolangi 67.21 239 P **P** **02 55 25.0 +1.2**
TOO Toolangi 67.21 239 P **P** **02 55 25.0 +1.2**
TOO pmax pmax
comp=Z,10.0nm,1.2s
ITTB Itaituba 67.92 70 *e*P **P** **02 55 28.5 +0.1**
APG El Apazote 68.21 27 LR LR 03 17 58.4
comp=Z,33nm,21.8s,baz=230,slow=30
TLIG Tlapa 68.64 18 P **P** **02 55 33.2 +0.4**
TLIG IAmb IAmb 02 55 37.5
comp=Z,18nm,1.4s
CMIG Matias Romero 69.01 22 LR LR 03 18 33.4
comp=Z,257nm,20.9s,baz=187,slow=30
SMTB Santa Maria do 69.57 79 *e*P **P** **02 55 39.3 +0.5**
BOAV Boa Vista 70.49 61 P **P** **02 55 43.4 -0.9**
BOAV Boa Vista 70.49 61 *e*P **P** **02 55 43.6 -0.8**
SDV Santo Domingo 70.55 49 P **P** **02 55 44.4 -0.5**
SDV IAmb IAmb 02 55 45.8
comp=Z,13nm,1.2s
SDV Santo Domingo 70.55 49 LR LR 03 23 31.5
comp=Z,732nm,18.4s,baz=114,slow=33
SDV Santo Domingo 70.55 49 *e*P **P** **02 55 44.9 0.0**
JRQG Juriquilla Cam 71.34 16 P **P** **02 55 49.5 0.0**
LPIG La Paz 73.50 6 LR LR 03 20 40.8
comp=Z,378nm,21.9s,baz=192,slow=30
STKA Stephens Creek 73.55 240 P **P** **02 56 02.5 -0.1**
STKA Stephens Creek 73.55 240 P **P** **02 56 02.2 -0.4**
comp=Z,4.0nm,0.7s,baz=195,slow=6.1,SNR=3.2
STKA LR LR 03 23 30.1
comp=Z,359nm,18.9s,baz=148,slow=32
comp=Z,4.0nm,0.7s
STKA Stephens Creek 73.55 240 P **P** **02 56 02.5 -0.1**
STKA pmax pmax
comp=Z,121nm,1.6s
PCRV Puerto La Cruz 74.69 53 LR LR 03 25 29.8
comp=Z,2µm,19.0s,slow=33
BBOO Buckleboo 75.91 236 P **P** **02 56 15.7 -0.5**
BBOO IAmb IAmb 02 56 18.2
comp=Z,28nm,1.2s
HPIG 76.72 10 P **P** **02 56 20.8 -0.1**
HPIG IAmb IAmb 02 56 25.1
comp=Z,16nm,1.2s
MDP Montagnes des 77.28 66 LR LR 03 25 51.1
comp=Z,383nm,21.1s,baz=220,slow=32
NBCA Caruaru-PE 77.54 88 *e*P **P** **02 56 25.9 +0.2**
HSIG 78.35 5 P **P** **02 56 28.8 -0.8**
HSIG IAmb IAmb 02 56 34.0
comp=Z,23nm,1.6s
TXAR Lajitas Array 79.32 11 P **P** **02 56 35.6 +0.5**
TXAR Lajitas Array 79.32 11 P **P** **02 56 35.4 +0.3**
comp=Z,2.6nm,1.0s,baz=182,slow=7.0,SNR=18
TXAR LR LR 03 25 51.5
comp=Z,98nm,18.1s,baz=184,slow=31
comp=Z,2.6nm,1.0s
RCBR Riachuelo 79.41 87 LR LR 03 28 47.0
comp=Z,394nm,21.7s,baz=216,slow=34
DRIO Del Rio 79.84 14 P **P** **02 56 37.4 -0.5**
SAND Sanderson 80.14 13 P **P** **02 56 40.5 +1.0**
HNDO Hondo 80.17 15 P **P** **02 56 41.4 +1.8**
SJG San Juan 80.67 48 LR LR 03 28 14.4
comp=Z,246nm,21.3s,baz=210,slow=33
PIX Pinacate 80.77 3 P **P** **02 56 43.4 +0.6**
ESJX Sierra Juarez 81.17 0 IAmb IAmb 02 56 52.1
comp=Z,28nm,1.7s
MNHN Monahans 81.42 12 P **P** **02 56 46.1 -0.2**
MNHN IAmb IAmb 02 56 48.1
comp=Z,21nm,1.8s
TUC Tucson 81.63 5 P **P** **02 56 47.8 +0.4**
TUC IAmb IAmb 02 56 52.7
comp=Z,16nm,1.3s
TUC Tucson 81.63 5 P **P** **02 56 47.8 +0.4**
TUC pmax pmax
comp=Z,16nm,1.3s
YUH Yuha Desert 81.81 0 IAmb IAmb 02 56 53.8
comp=Z,18nm,1.5s
113A Mohawk Valley, 81.97 2 P **P** **02 56 49.5 +0.5**
PFO Pinyon Flats O 82.78 360 P **P** **02 56 53.5 +0.1**
PFO IAmb IAmb 02 56 59.0
comp=Z,18nm,1.5s
PFO Pinyon Flats O 82.78 360 LR LR 03 24 47.4
comp=Z,452nm,21.7s,baz=212,slow=29
PFO Pinyon Flats O 82.78 360 *i* P **P** **02 56 55.1 +1.7**
PFO pmax pmax
comp=Z,21nm,1.5s
BLYC Blythe 82.93 2 IAmb IAmb 02 56 59.7
comp=Z,23nm,1.6s
SBM South Baldy 83.54 8 P **P** **02 56 58.4 +0.7**
LENM Lemitar 83.75 8 P **P** **02 56 59.0 +0.5**
X18A Snowflake 83.89 5 IAmb IAmb 02 57 04.5
comp=Z,24nm,1.4s
AS31 Alice Springs 84.19 240 P **P** **02 57 00.2 -1.0**
ASAR Alice Springs 84.19 240 P **P** **02 57 00.2 -1.0**
ASAR Alice Springs 84.19 240 P **P** **02 57 00.8 -0.3**
comp=Z,5.1nm,0.9s,baz=145,slow=4.6,SNR=30
ASAR LR LR 03 28 31.7
comp=Z,452nm,21.9s,baz=143,slow=31
comp=Z,5.1nm,0.9s
ANMO Albuquerque 84.57 8 P **P** **02 57 02.1 -0.6**
ANMO Albuquerque 84.57 8 LR LR 03 28 07.3
comp=Z,238nm,18.1s,baz=352,slow=31
ANMO Albuquerque 84.57 8 *i* P **P** **02 57 03.6 +0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
H01W1 Cape Leeuwin H 84.75 220 T T 04 31 49.1
baz=149,slow=76,SNR=12
H01W2 Cape Leeuwin H 84.75 220 T T 04 31 44.7
baz=149,slow=76,SNR=8.9
H01W3 Cape Leeuwin H 84.77 220 T T 04 31 48.4
baz=149,slow=76,SNR=8.4
WUAZ Wupatki 84.79 4 P **P** **02 57 03.8 +0.1**
WUAZ IAmb IAmb 02 57 09.0
comp=Z,15nm,1.4s
NWAO Narrogin (SRO) 85.11 223 LR LR 03 26 28.4
comp=Z,236nm,19.3s,baz=106,slow=30
WCT Wildcat Mounta 85.95 360 P **P** **02 57 09.2 -0.2**
WCT IAmb IAmb 02 57 15.3
comp=Z,12nm,1.3s
KNB Kanab 86.23 3 P **P** **02 57 11.5 +0.6**
KNB Kanab 86.23 3 P **P** **02 57 11.5 +0.6**
KNB pmax pmax
comp=Z,10.0nm,1.4s
DSP Deep Springs 86.54 359 P **P** **02 57 11.9 -0.2**
DSP IAmb IAmb 02 57 17.8
comp=Z,23nm,1.6s
MVCO Mesa Verde 86.65 6 IAmb IAmb 02 57 17.7
comp=Z,21nm,1.4s
DEOK Depew 86.81 16 P **P** **02 57 13.4 -0.2**
WRA Warramunga Arr 86.86 243 P **P** **02 57 14.1 -0.4**
comp=Z,1.9nm,0.9s,baz=142,slow=4.5,SNR=7.4
WRA LR LR 03 31 03.5
comp=Z,230nm,20.0s,baz=130,slow=32
comp=Z,1.9nm,0.9s
WRA Warramunga Arr 86.86 243 *e*P **P** **02 57 15.4 +0.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 86.86 243 *i* P **P** **02 57 15.5 +1.0**
WRAB pmax pmax
comp=Z,4.0nm,1.1s
T25A Trinidad 86.94 10 IAmb IAmb 02 57 18.8
comp=Z,12nm,1.1s
R11B Troy Canyon, C 87.50 1 P **P** **02 57 17.1 0.0**
R11B IAmb IAmb 02 57 24.5
comp=Z,14nm,1.8s
NVAR Mina Array Bea 87.60 358 P **P** **02 57 18.2 +0.6**
comp=Z,0.3nm,0.5s,baz=48,slow=3.5,SNR=2.0
comp=Z,0.3nm,0.5s
V48A Smith Brothers 88.86 24 P **P** **02 57 23.0 -0.4**
WVT Waverly 88.97 23 P **P** **02 57 24.7 +0.9**
WVT Waverly 88.97 23 P **P** **02 57 24.7 +0.9**
WVT pmax pmax
comp=Z,23nm,1.4s
TKL Tuckaleechee C 89.61 26 LR LR 03 31 39.4
comp=Z,166nm,19.6s,baz=190,slow=32
CCM Cathedral Cave 90.00 20 P **P** **02 57 30.1 +1.5**
CCM IAmb IAmb 02 59 19.6
comp=Z,24nm,1.8s
CCM Cathedral Cave 90.00 20 P **P** **02 57 30.1 +1.5**
CCM pmax pmax
comp=Z,24nm,1.8s
SUR Sutherland 90.01 145 LR LR 03 30 57.7
comp=Z,426nm,18.8s,baz=204,slow=31
YBH Yreka Blue Hor 91.05 355 LR LR 03 28 44.2
comp=Z,687nm,21.9s,baz=170,slow=29
WVOR Wild Horse Val 91.60 358 IAmb IAmb 02 57 44.6
comp=Z,19nm,1.6s
AHID Auburn Hatcher 92.03 4 IAmb IAmb 02 57 42.5
comp=Z,22nm,1.8s
PD31 Pinedale Array 92.11 5 IAmb IAmb 02 57 41.8
comp=Z,8.2nm,1.4s
PDAR Pinedale Array 92.11 5 P **P** **02 57 37.8 -0.8**
PDAR Pinedale Array 92.11 5 P **P** **02 57 39.0 +0.3**
comp=Z,1.6nm,0.9s,baz=184,slow=5.7,SNR=10
PDAR LR LR 03 32 02.9
comp=Z,208nm,18.6s,baz=176,slow=31
comp=Z,1.6nm,0.9s
K22A Casper 92.20 7 P **P** **02 57 39.7 +0.7**
HLID Hailey 92.73 1 IAmb IAmb 02 57 46.5
comp=Z,11nm,1.4s
TPAW Teton Pass 92.76 4 IAmb IAmb 02 57 44.3
comp=Z,8.2nm,1.2s
FXWY Fox Creek 92.90 4 P **P** **02 57 43.2 +0.9**
FITZ Fitzroy Crossi 93.24 237 LR LR 03 34 30.1
comp=Z,520nm,19.9s,baz=159,slow=32
RSSD Black Hills 93.89 9 P **P** **02 57 47.8 +1.0**
RSSD IAmb IAmb 02 57 50.4
comp=Z,8.4nm,1.1s
RSSD Black Hills 93.89 9 P **P** **02 57 47.8 +1.0**
RSSD pmax pmax
comp=Z,8.0nm,1.2s
YHL Hebgen Lake 94.11 4 P **P** **02 57 49.2 +1.3**
YHL IAmb IAmb 02 58 31.0
comp=Z,19nm,1.7s
PLID Pearl Lake 94.24 0 P **P** **02 57 48.4 +0.1**
ECSD EROS Data Cent 94.48 14 P **P** **02 57 50.2 +0.9**
ECSD IAmb IAmb 02 59 34.0
comp=Z,23nm,2.0s
BOSA Boshof 95.03 147 LR LR 03 32 25.4
comp=Z,400nm,21.8s,baz=203,slow=30
H11S2 WAKE ISLAND Hy 95.69 292 T T 04 44 35.7
baz=140,slow=76,SNR=429
H11S3 WAKE ISLAND Hy 95.71 292 T T 04 44 34.1
baz=140,slow=76,SNR=269
H11S1 WAKE ISLAND Hy 95.71 292 T T 04 44 34.2
baz=140,slow=76,SNR=217
H11N3 WAKE ISLAND Hy 96.51 293 T T 04 45 34.6
baz=143,slow=75,SNR=37
H11N1 WAKE ISLAND Hy 96.52 293 T T 04 45 26.3
baz=143,slow=75,SNR=29
H11N2 WAKE ISLAND Hy 96.53 293 T T 04 45 36.4
baz=143,slow=75,SNR=33
NEW Newport 97.42 359 LR LR 03 34 31.6
comp=Z,472nm,18.3s,baz=174,slow=31
LBTB Lobatse 98.43 146 LR LR 03 34 12.4
comp=Z,679nm,21.4s,baz=202,slow=30
SADO Sadowa 99.38 26 LR LR 03 39 14.5
comp=Z,183nm,19.1s,baz=234,slow=33
PPLA Purkeypile 115.62 343 **PKiKP** **03 03 12.5 +1.9**
NJ2 Nanjing 135.74 268 *e*PKP **PKPdf** **03 03 50.3 +0.5**
KLR Kul'dur 137.06 297 *i* PKIKP **PKPdf** **03 03 52.3 +0.6**
CMAR Chiang Mai Arr 138.02 235 PKP **PKPdf** **03 03 55.1 +0.7**
comp=Z,0.8nm,0.3s,baz=184,slow=2.1,SNR=4.5
HEH HeiHe 140.03 296 PKP **PKPdf** **03 03 56.3 -0.9**
HEH LR LR
comp=Z,130nm,17.6s
HEH LR LR
comp=Z,400nm,17.5s
HEH LR LR
comp=Z,490nm,15.7s
YAK Yakutsk 142.53 315 *i* PKIKP **PKPdf** **03 04 02.5 +1.3**
YAK *i* 03 04 06.1
PZH PanZhiHua 142.76 246 PKP **PKPdf** **03 04 02.8 -0.2**
TIXI Tiksi 143.70 331 PKPpre 03 03 59.9
TIXI Tiksi 143.70 331 *i* PKIKP PKPab 03 04 00.5 +0.6
XLT XiLinHaoTe 144.21 281 *e*PKP **PKPdf** **03 04 05.5 +0.5**
CD2 Chengdu 144.68 253 PKP PKPbc 03 04 05.5 +0.5
FUORN Ofenpass-Fuorn 144.85 74 PKPdf **PKPab** **03 04 04.5 -0.7**
DAVA Damuels 144.88 73 *e*PKP **PKPab** **03 04 05.2 -0.1**
comp=Z,17nm,1.4s
INTR Introdacqua 145.06 83 **PKPbc** **03 04 05.3 -0.7**
FETA Feichten 145.30 73 PKP **PKPdf** **03 04 07.1 +0.3**
comp=Z,33nm,1.1s
CTI Castel Tesino 145.48 75 PKPdf **PKPbc** **03 04 07.3 +0.1**
CTI Castel Tesino 145.48 75 PKIKP **PKPbc** **03 04 07.3 +0.1**
RETA Reutte 145.51 73 *e*PKP **PKPab** **03 04 07.8 +0.3**
comp=Z,15nm,1.5s
HHC Hu-ho-hao-te 145.63 274 *e*PKPbc **PKPdf** **03 04 04.5 -3.0**
MOTA Moosalm 145.67 73 *e*PKP **PKPab** **03 04 08.1 -0.1**
comp=Z,33nm,1.9s
SQTA Sankt Quirin 145.68 73 *e*PKP **PKPab** **03 04 08.6 +0.4**
comp=Z,26nm,1.1s
HYB Hyderabad 145.77 206 *e*PKPdf **PKPdf** **03 04 07.7 -0.7**
WATA Walderalm 145.96 73 *e*PKP **PKPab** **03 04 10.6 +1.4**
comp=Z,16nm,1.3s
WTTA Wattenberg 145.97 74 *e*PKP **PKPbc** **03 04 08.9 +0.1**
comp=Z,25nm,1.3s
ABTA Abfaltersbach 146.31 75 PKP **PKPbc** **03 04 09.9 +0.2**
comp=Z,20nm,1.0s
BTO Baotou 146.51 273 *e*PKPbc **PKPdf** **03 04 05.0 -4.0**
BTO PP **PP** **03 07 36.0 +1.7**
BTO AMB AMB
comp=Z,190nm,5.1s
LESA Schwarzleotal 146.68 74 *e*PKP **PKPbc** **03 04 10.5 -0.3**
comp=Z,19nm,0.8s
KBA Koelnbreinsper 146.97 75 *e*PKP **PKPbc** **03 04 11.4 -0.3**
comp=Z,12nm,1.0s
BIOA Bad Ischl, Aus 147.38 74 PKP **PKPbc** **03 04 12.7 0.0**
comp=Z,18nm,0.9s
OBKA Obir 147.50 76 *e*PKP **PKPbc** **03 04 13.4 +0.3**
comp=Z,33nm,1.9s
MOA Molln 147.84 74 *e*PKP **PKPbc** **03 04 14.2 +0.4**
comp=Z,10nm,1.0s
GERES GERESS Array B 147.84 72 **PKPbc** **03 04 13.6 -0.4**
GERES GERESS Array B 147.84 72 PKPbc **PKPbc** **03 04 14.0 0.0**
comp=Z,5.7nm,0.8s,baz=207,slow=2.7,SNR=12
KHC Kasperske Hory 147.87 71 *e*PKP **PKiKP** **03 04 15.3 -0.5**
KHC Kasperske Hory 147.87 71 *i* PKP2 **PKPbc** **03 04 13.8 -0.1**
SOKA Soboth 147.87 76 *e*PKP **PKPbc** **03 04 13.9 -0.2**
comp=Z,19nm,1.9s
CLL Collm 148.21 67 PKPbc **PKPbc** **03 04 14.4 -0.3**

CLL Collm 148.21 67 *e*PKP2 **PKPdf 03 04 13.0 +1.6**
CLL pmax pmax
comp=Z,20nm,1.5s
CLL Collm 148.21 67 *e*PKPdf **PKPdf 03 04 13.0 +1.6**
CLL *e*PKPbc **PKPbc 03 04 15.0 +0.3**
CLL *i* PKPab **pPKPbc 03 04 17.4 +0.3**
comp=Z,20nm,1.5s
CLL *i* x x 03 04 21.1
ZVC Zvikov 148.35 71 *e*PKP **PKPab 03 04 21.1 +2.7**
ARSA Arzberg 148.40 75 *ep*PKP **PKPbc 03 04 14.9 -0.5**
comp=Z,10nm,1.2s
BRG Berggiesshubel 148.65 68 *e*PKP **PKPbc 03 04 16.1 +0.2**
BRG Amp 03 04 20.0
comp=Z,2.9nm,1.1s
BRG Berggiesshubel 148.65 68 P **PKPab 03 04 21.1 +1.6**
BRG Amp 03 04 26.2
comp=Z,14nm,1.2s
CONA Conrad Observa 148.87 74 *e*PKP **PKPbc 03 04 17.2 +0.5**
comp=Z,16nm,1.6s
NB2 NORSAR Subarra 148.88 48 PKPdf **PKPbc 03 04 15.1 -1.1**
comp=Z,53nm,2.0s,baz=268,slow=1.7
NB2 NORSAR Subarra 148.88 48 PKPdf **PKPbc 03 04 15.1 -1.1**
baz=268,slow=1.7
NOA NORSAR Array B 148.88 48 PKPbc **PKPbc 03 04 15.3 -0.9**
comp=Z,6.5nm,1.2s,baz=270,slow=2.3,SNR=3.6
PVCC Panska Ves 148.93 69 *e*PKP **PKPab 03 04 21.4 +0.7**
PVCC Panska Ves 148.93 69 *e*PKP2 **PKPab 03 04 21.4 +0.7**
RONA Rosalia, Austr 149.06 75 PKiKP **PKPab 03 04 19.9 -1.5**
comp=Z,9.7nm,1.1s
TREC Trest 149.10 72 *e*PKP **PKPab 03 04 21.9 +0.4**
TREC Trest 149.10 72 *e*PKP2 **PKPab 03 04 21.9 +0.4**
KRUC Moravsky 149.59 73 *e*PKP **PKiKP 03 04 19.0 -0.3**
BOD Bodaibo 149.68 305 *e*PKIKP PKPdf 03 04 01.2 -12
BOD pmax pmax
comp=Z,16nm,1.9s
VRAC Vranov 149.79 72 *e*PKP **PKiKP 03 04 19.6 -0.2**
CHVC Chvalec 149.85 70 *e*PKP **PKiKP 03 04 19.6 -0.2**
CHVC Chvalec 149.85 70 *e*PKP2 **PKiKP 03 04 19.6 -0.2**
MODS Modra-Piesok 149.91 74 *e*PKP2 **PKiKP 03 04 19.7 -0.3**
MODS Modra-Piesok 149.91 74 *e*PKP **PKiKP 03 04 19.7 -0.3**
MODS *e* 03 04 25.7
DPC Dobruska-Polom 149.94 70 *e*PKP **PKPbc 03 04 19.2 0.0**
DPC Dobruska-Polom 149.94 70 *e*PKP2 **PKPbc 03 04 19.2 0.0**
KSP Ksiaz 150.07 69 *e*P **PKiKP 03 04 22.1 +1.9**
HFS Hagfors 150.07 50 PKPbc **PKiKP 03 04 19.9 -0.1**
comp=Z,5.0nm,1.0s,baz=341,slow=8.4,SNR=3.9
JAVC Velka Javorina 150.32 73 *e*PKP **PKiKP 03 04 21.1 +0.2**
RAYN Ar Rayn 150.39 145 PKPbc **PKPbc 03 04 19.5 -1.6**
RAYN Ar Rayn 150.39 145 PKiKP **PKPbc 03 04 19.5 -1.6**
MORC Moravsky Berou 150.53 72 *e*PKP **PKiKP 03 04 22.1 +0.8**
GKP Gorka Klasztor 151.22 65 *e*P **PKiKP 03 04 25.7 +3.2**
LANS Liptovska Anna 151.53 74 *e*PKIKP **PKiKP 03 04 24.5 +1.1**
LANS *e* 03 04 29.5
LANS Liptovska Anna 151.53 74 *e*PKP **PKiKP 03 04 24.4 +1.1**
LANS *e* 03 04 29.5
SONM Songino Array 151.99 283 PKPbc **PKPbc 03 04 24.3 +0.1**
comp=Z,0.7nm,0.8s,baz=142,slow=4.1,SNR=5.5
NIE Niedzica 152.13 73 *e*P **PKiKP 03 04 27.8 +3.1**
ARCES ARCESS Array B 152.93 28 PKPbc **PKPbc 03 04 25.3 -0.1**
comp=Z,9.4nm,1.0s,baz=295,slow=3.5,SNR=4.3
BR131 Keskin Array S 156.65 103 PKPab **PKPab 03 04 53.9 +0.1**
BR131 Keskin Array S 156.65 103 PKP2 **PKPab 03 04 53.9 +0.1**
BRTR Keskin Array B 156.65 103 PKPab **PKPab 03 04 53.9 +0.1**
BRTR Keskin Array B 156.65 103 PKP **PKPdf 03 04 24.2 -0.2**
comp=Z,1.3nm,1.0s,baz=230,slow=3.1,SNR=3.9
BRTR PKPab **PKPab 03 04 53.7 0.0**
comp=Z,5.5nm,1.0s,baz=199,slow=3.2,SNR=13
WMQ Urumqi 162.56 260 *e*PKP **PKPdf 03 04 31.8 +0.9**
WMQ LR LR
comp=Z,310nm,21.1s
OBN Obninsk 162.60 61 *e*PKIKP **PKPdf 03 04 30.8 +0.4**
OBN *e* 03 04 35.7
OBN *e* 03 09 03.7
OBN *e*PPP PPP 03 12 50.8
OBN pmax pmax
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 166.16 297 PKP **PKPdf 03 04 34.3 +0.6**
comp=Z,0.6nm,0.3s,baz=308,slow=7.2,SNR=1.8
ZALV PKPab **pPKPab 03 05 36.4 -0.7**
comp=Z,1.6nm,0.8s,baz=74,slow=7.9,SNR=3.9
MKAR Makanchi Array 167.24 265 PKP **PKPdf 03 04 35.1 +0.3**
comp=Z,0.2nm,0.6s,baz=101,slow=2.9,SNR=2.4
MKAR PKPab **PKPab 03 05 37.6 -2.1**
comp=Z,0.8nm,0.8s,baz=112,slow=5.5,SNR=4.2
KURK Kurchatov 170.29 283 PKP2 **PKPab 03 05 52.1 -1.0**
KURBB Kurchatov Arra 170.35 282 PKPab **PKPab 03 05 52.1 -1.2**
comp=Z,0.1nm,0.4s,baz=83,slow=3.0,SNR=1.9
ABKAR Akbulak array 177.58 95 PKPab PKPab 03 06 24.1 -1.4

*IDC **27** 02:54:23.8±1.3, 41°.14N×83°.21E, h0km, mb3.7/3, mbtmp3.6/10, ML3.1/7, MS4.5/3, Error ellipse: s-maj=20.6km s-min=14.0km az=63.0*
*SOME **27** 02:54:27.7, 41°.20N×83°.47E, h5km, MS3.2*
*NNC **27** 02:54:30.6±1.9, 41°.32N×83°.30E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=13.9km s-min=9.6km az=159.0*
ISC 27 02:54:25.6±0.9, 41°.07N±0°.05×83°.44E±0°.04, h10km, n54, σ2§04/63, mb3.8/3, MS4.5/4, 9C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.30**	**317**	Pg	**Pg**	**02 55 27.3**	**-1.5**
KTMS	12nm,0.5s			Lg	Lg	02 56 10.2	
KTMS	**Ketmen**	**3.30**	**317**	*e*P	**Pg**	**02 55 27.2**	**-1.5**
KTMS	4.0nm,0.3s			*e*S	**Sg**	**02 56 10.2**	**-1.3**
SHLS	**Shalkode**	**3.62**	**307**	*e*P	**Pb**	**02 55 28.7**	**-1.0**
SHLS	33nm,0.3s			*e*S	**Sb**	**02 56 12.7**	**-1.0**
PDGK	**Podgornoye**	**3.70**	**309**	⇑Pn	**Pn**	**02 55 24.6**	**+1.7**
PDGK	29nm,0.9s			⇑Pg	**Pb**	**02 55 34.5**	**+3.4**
PDGK	88nm,0.8s			⇑Sn	**Sn**	**02 56 08.8**	**+2.1**
PDGK	197nm,0.8s			⇓Lg	Lg	02 56 29.1	
UZB	**Uzynbulak**	**3.88**	**304**	Pg	**Pg**	**02 55 38.6**	**-1.4**
UZB	40nm,0.8s			Lg	Lg	02 56 28.8	
UZB	**Uzynbulak**	**3.88**	**304**	*e*P	**Pb**	**02 55 38.1**	**+3.8**
UZB	18nm,0.2s			*e*S	**Sg**	**02 56 28.9**	**-1.4**
DJR	**Jarkent**	**4.22**	**322**	*e*P	**Pg**	**02 55 44.2**	**-2.3**
DJR	17nm,0.3s			*e*S	**Sg**	**02 56 39.1**	**-2.1**
KPKS	**Kokpek**	**4.26**	**306**	Pg	**Pb**	**02 55 43.8**	**+3.2**
KPKS	35nm,0.4s			Lg	Lg	02 56 38.0	
KPKS	**Kokpek**	**4.26**	**306**	*e*P	**Pg**	**02 55 45.2**	**-2.0**
KPKS	7.7nm,0.2s			*e*S	**Sg**	**02 56 40.8**	**-1.6**
ZHN	**Zhinishke**	**4.27**	**301**	Pg	**Pg**	**02 55 45.8**	**-1.5**
ZHN	11nm,0.3s			Lg	Lg	02 56 41.5	
ZHN	**Zhinishke**	**4.27**	**301**	*e*P	**Pg**	**02 55 45.9**	**-1.5**
ZHN	9.8nm,0.1s			*e*S	**Sg**	**02 56 42.1**	**-0.6**
KNOS	**Konyrlen**	**4.54**	**318**	Pg	**Pg**	**02 55 50.8**	**-1.8**
KNOS	27nm,0.8s			Lg	Lg	02 56 50.3	
BLB	**Baldybastay**	**4.75**	**311**	Pg	**Pb**	**02 55 52.1**	**+3.2**
BLB	46nm,0.4s			Lg	Lg	02 56 53.4	
KAPS	**Kapalarasan**	**5.16**	**326**	Pg	**Pb**	**02 55 58.7**	**+2.7**
KAPS	22nm,0.5s			Lg	Lg	02 57 04.1	
KOTS	**Kotyrbulak**	**5.17**	**297**	Pg	Pb	02 56 01.6	+5.3
KOTS	17nm,0.6s			Lg	Lg	02 57 08.6	
KOTS	**Kotyrbulak**	**5.17**	**297**	*e*P	**Pg**	**02 56 02.4**	**-2.2**
KOTS	12nm,0.2s			*e*S	**Sg**	**02 57 10.4**	**-1.3**
ARXS	**Arharly**	**5.19**	**309**	Pg	**Pb**	**02 56 00.8**	**+4.3**
ARXS	270nm,0.3s 0.9nm,0.1s			Lg	Lg	02 57 07.3	
TNSS	**Tian-Shan**	**5.21**	**294**	Pg	Pb	02 56 02.6	+5.5
TNSS	45nm,0.7s 9.6nm,0.6s			Lg	Lg	02 57 09.9	
TNSS	**Tian-Shan**	**5.21**	**294**	*e*P	**Pg**	**02 56 03.8**	**-1.7**
TNSS	24nm,0.7s 5.4nm,0.2s			*e*S	**Sg**	**02 57 12.8**	**-0.2**
TDK	**Taldyqorghan**	**5.39**	**319**	Pg	**Pg**	**02 56 06.6**	**-2.1**
TDK	49nm,0.6s 51nm,0.4s			Lg	Lg	02 57 17.9	
TDK	**Taldyqorghan**	**5.39**	**319**	*e*P	**Pg**	**02 56 06.7**	**-2.1**
TDK	129nm,0.4s 20nm,0.1s			*e*S	**Sg**	**02 57 17.7**	**-0.8**
IZV	**Izvestkoviy**	**5.45**	**293**	Pg	Pb	02 56 05.5	+4.7
IZV	41nm,0.2s 8.8nm,0.6s			Lg	Lg	02 57 15.4	
IZV	**Izvestkoviy**	**5.45**	**293**	*e*P	**Pg**	**02 56 08.2**	**-1.6**
IZV	84nm,0.6s 3.0nm,0.1s			*e*S	**Sg**	**02 57 20.7**	**+0.3**
MTBS	**Maitube**	**5.60**	**294**	Pg	Pb	02 56 08.9	+5.4
MTBS	142nm,0.5s 10nm,0.6s			Lg	Lg	02 57 20.9	
MTBS	**Maitube**	**5.60**	**294**	*e*P	**Pg**	**02 56 11.2**	**-1.7**
MTBS	28nm,0.6s 8.0nm,0.2s			*e*S	**Sg**	**02 57 25.6**	**+0.2**
KTBS	**Karatobe**	**5.66**	**300**	Pg	**Pg**	**02 56 10.5**	**-3.3**
KTBS	51nm,0.5s 9.2nm,0.4s			Lg	Lg	02 57 23.8	
MK31	**Makanchi Array**	**5.78**	**352**	⇑Pn	**Pn**	**02 55 52.9**	**+1.4**
MK31	43nm,0.7s 0.5nm,0.2s,baz=187,slow=11,SNR=50			⇑Pg	**Pg**	**02 56 14.5**	**-1.8**
MK31	8.0nm,0.6s,baz=175,slow=15,SNR=8.2			⇓Sn	**Sn**	**02 56 57.0**	**-0.9**
MK31	5.7nm,0.5s,baz=170,slow=27,SNR=4.5			⇓Lg	Lg	02 57 26.2	
MKAR	**Makanchi Array**	**5.78**	**352**	Pn	**Pn**	**02 55 52.3**	**+0.9**
MKAR	28nm,0.6s,baz=165,slow=27,SNR=4.5 1.1nm,0.3s,baz=177,slow=14,SNR=27			Sn	**Sn**	**02 56 57.9**	**+0.1**
MKAR	2.1nm,0.3s,baz=168,slow=16,SNR=5.8			Lg	Lg	02 57 23.7	
KST	**Kastek**	**5.90**	**292**	Pg	Pb	02 56 13.9	+5.3
KST	2.1nm,0.3s,baz=162,slow=19,SNR=4.0 1.3nm,0.3s 18nm,0.9s			Lg	Lg	02 57 30.6	
KST	**Kastek**	**5.90**	**292**	*e*P	**Pg**	**02 56 16.9**	**-1.7**
KST	79nm,0.6s 12nm,0.3s			*e*S	**Sg**	**02 57 35.5**	**+0.5**
KSH	**Kashi**	**5.91**	**257**	Pn	Pn	02 56 00.0	+6.7
KSH	149nm,0.7s			Sn	**Sg**	**02 57 38.3**	**+2.9**
KSH	comp=N,190nm,0.8s			smax	smax		
KSH	comp=E,170nm,0.9s			smax	smax		
DGS	**Degeres**	**6.09**	**293**	Pg	Pb	02 56 16.9	+5.0
DGS	comp=E,8.3nm,0.5s			Lg	Lg	02 57 34.9	
KRBS	**Karabastau**	**6.32**	**297**	Pg	Pb	02 56 21.3	+5.6
KRBS	comp=E,3.8nm,0.6s			Lg	Lg	02 57 42.1	
ZSN	**Zaisan**	**6.46**	**9**	Pg	**Pg**	**02 56 27.8**	**-1.4**
ZSN	comp=E,5.6nm,0.4s			Lg	Lg	02 57 53.1	
ZSN	**Zaisan**	**6.46**	**9**	*e*P	**Pg**	**02 56 26.1**	**-3.1**
ZSN	comp=E,85nm,1.1s			*e*S	**Sg**	**02 57 51.2**	**-1.7**
AAK	**Ala-Archa**	**6.86**	**286**	Pn	**Pn**	**02 56 05.9**	**-0.5**
AAK	comp=E,4.9nm,0.2s			Sn	**Sn**	**02 57 20.6**	**-3.9**
AAK	comp=E,0.3nm,0.3s,baz=64,slow=18,SNR=3.7			Lg	Lg	02 57 54.6	
AAK	**Ala-Archa**	**6.86**	**286**	⇓Pg	**Pg**	**02 56 35.7**	**-1.1**
AAK	comp=E,0.7nm,0.3s,baz=250,slow=23,SNR=3.9			⇑Lg	Lg	02 58 01.4	
SGDS	**Sogindy**	**6.95**	**293**	Pg	Pb	02 56 33.7	+7.2
SGDS	comp=E,0.7nm,0.3s,baz=265,slow=17,SNR=3.5 comp=E,0.5nm,0.4s			Lg	Lg	02 58 41.5	
MRKS	**Merke**	**7.80**	**286**	Pg	**Pg**	**02 56 53.5**	**-1.4**
MRKS	comp=E,1.8nm,0.4s			*e*P	**Pg**	**02 56 52.1**	**-2.7**
MRKS	**Merke**	**7.80**	**286**	*e*S	**Sg**	**02 58 36.2**	**+0.5**
MRKS	comp=E,5.3nm,0.7s			Pg	Pn	02 57 33.8	+47
KK31	**Karatay Array**	**9.82**	**286**	⇓Pg	**Pg**	**02 59 39.2**	
KK31	comp=E,4.0nm,0.9s,baz=92,slow=15,SNR=7.4			⇓Lg	Lg	02 59 55.0	
KURBB	**Kurchatov Arra**	**10.15**	**342**	Pn	**Pn**	**02 56 49.9**	**-1.3**
KURBB	comp=E,4.6nm,0.8s,baz=90,slow=27,SNR=4.4 comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=7.2			Sn	**Sn**	**02 58 41.5**	**-3.4**
KURBB	baz=170,slow=16,SNR=4.3			Lg	Lg	02 59 40.8	
KURK	**Kurchatov**	**10.21**	**342**	⇑Lg	Lg	02 59 55.0	
OTUK	comp=E,0.1nm,0.3s,baz=156,slow=31,SNR=4.6 comp=E,0.7nm,0.6s comp=E,34nm,1.4s			⇑Pn	**Pn**	**02 56 59.0**	**+0.6**
OTUK	**Ortayu**	**10.67**	**316**	⇑Lg	Lg	02 59 59.6	
OTUK	comp=E,4.6nm,1.1s comp=E,33nm,1.4s			Pn	**Pn**	**02 57 29.4**	**+0.3**
ZALV	**Zalesovo Beam**	**12.92**	**4**	Sn	**Sn**	**02 59 54.6**	**+1.8**
ZALV	comp=E,0.5nm,0.3s,baz=182,slow=12,SNR=17 comp=E,0.2nm,0.3s,baz=156,slow=36,SNR=1.6			Lg	Lg	03 01 10.2	
BVAR	**Borovoye Array**	**14.87**	**328**	Pn	**Pn**	**02 57 52.8**	**-3.0**
BVAR	comp=E,0.1nm,0.3s,baz=177,slow=29,SNR=1.6 comp=E,4.4nm,0.6s baz=143,slow=16,SNR=15			Lg	Lg	03 02 10.8	
SONM	**Songino Array**	**17.70**	**60**	P	**Pn**	**02 58 31.4**	**-0.7**
SONM	baz=134,slow=28,SNR=2.3 comp=E,0.2nm,0.3s comp=E,0.2nm,0.3s,baz=255,slow=14,SNR=8.1			Lg	Lg	03 03 43.7	
AKTO	**Aktyubinsk**	**19.97**	**307**	P	**P**	**02 58 55.7**	**-2.1**
ARTI	comp=E,0.2nm,0.3s,baz=256,slow=24,SNR=1.8 comp=E,1.4nm,0.8s comp=E,0.2nm,0.3s,baz=100,slow=6.4,SNR=3.7			LR	LR	03 12 23.9	
ARTI	**Arti**	**22.35**	**322**	P	**P**	**02 59 21.1**	**-2.3**
CMAR	comp=E,0.5nm,0.4s comp=E,0.9nm,0.5s,baz=169,slow=6.1,SNR=3.6 comp=E,0.9nm,0.5s			LR	LR	03 42 16.2	
CMAR	**Chiang Mai Arr**	**26.17**	**145**	P	**P**	**03 00 01.1**	**+0.9**
CMAR	comp=E,2.1nm,0.6s,baz=323,slow=9.2,SNR=11 comp=E,34nm,18.0s,baz=325,slow=41 comp=E,2.1nm,0.6s			LR	LR	03 41 11.3	
NOA	**NORSAR Array B**	**46.84**	**321**	P	**P**	**03 02 55.3**	**0.0**
KDAK	comp=E,0.6nm,0.7s,baz=80,slow=7.7,SNR=2.3 comp=E,0.6nm,0.7s			LR	LR	03 42 16.2	
KDAK	**Kodiak Island**	**70.96**	**28**	LR	LR	03 41 11.3	
LSZ	comp=E,297nm,18.7s,baz=4.9,slow=40 **Lusaka**	**75.84**	**235**	LR	LR	03 47 32.0	
SCHQ	**Schefferville**	**81.14**	**343**	LR	LR	03 47 32.0	
	comp=E,412nm,19.0s,baz=206,slow=37 comp=E,176nm,18.2s,baz=211,slow=39						

*NEIC **27** 03:11:59.5±1.6, 19°.01N±0°.02×145°.9E±0°.2, h103km±8km, mb4.4/23, Error ellipse: s-maj=23.1km s-min=2.7km az=90.0*
*IDC **27** 03:12:01.7±2.5, 19°.02N×145°.86E, h138km±24km, mb3.7/18, mbtmp4.1/20, MS4.4/3, Error ellipse: s-maj=25.8km s-min=11.5km az=84.0*
ISC 27 03:11:59.2±0.5, 19°.10N±0°.05×145°.9E±0°.1, h109km, n60, σ1§22/52, mb4.3/29, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.56**	**190**	P	**Pn**	**03 13 22.9**	**+3.2**
GUMO	115nm,0.3s,baz=185,slow=13,SNR=2.6			S	**Sn**	**03 14 22.5**	**+0.2**
JCJ	**Chichijima**	**8.65**	**338**	Pn	**Pn**	**03 14 02.6**	**+1.1**
JCJ	**Chichijima**	**8.65**	**338**	P	**Pn**	**03 13 58.3**	**-3.2**
JCJ	84nm,0.3s,baz=198,slow=20,SNR=1.7 73nm,0.8s,baz=248,slow=16,SNR=2.2			S	Sn	03 15 25.4	-12
PATS	**Pohnpei**	**17.18**	**134**	P	**P**	**03 15 51.9**	**-0.6**
MJAR	**Matsushiro Arr**	**18.64**	**340**	P	**P**	**03 16 09.0**	**+0.6**
MAJO	**Matsushiro**	**18.64**	**340**	P	**P**	**03 16 09.9**	**+1.5**
MAJO	1.1nm,0.5s,baz=151,slow=8.1,SNR=5.2 comp=Z,13nm,1.3s			IAmb	IAmb	03 16 20.2	
MJB9	**Matsu-Tunnel**	**18.64**	**340**	P	**P**	**03 16 10.2**	**+1.7**
MJB9	comp=Z,14nm,1.3s			IAmb	IAmb	03 16 21.6	
H11S3	**WAKE ISLAND Hy**	**19.72**	**88**	T	T	03 37 19.4	
H11S1	**WAKE ISLAND Hy**	**19.73**	**88**	T	T	03 37 21.2	
H11S2	**WAKE ISLAND Hy**	**19.74**	**88**	T	T	03 37 20.3	
H11N1	**WAKE ISLAND Hy**	**19.84**	**85**	T	T	03 37 36.4	
H11N2	**WAKE ISLAND Hy**	**19.84**	**85**	T	T	03 37 36.8	
H11N3	**WAKE ISLAND Hy**	**19.86**	**85**	T	T	03 37 40.2	
KSRS	**Korea Array**	**24.09**	**323**	P	**P**	**03 17 04.5**	**-0.1**
FAKI	**Fak Fak**	**25.66**	**213**	P	**P**	**03 17 19.9**	**+0.9**
FAKI	comp=Z,28nm,1.4s			IAmb	IAmb	03 17 20.6	
USRK	**Ussuriysk Ar.**	**27.59**	**338**	P	**P**	**03 17 37.2**	**+1.1**
KLR	**Kul'dur**	**32.14**	**343**	P	**P**	**03 18 17.1**	**+0.9**
COEN	**Coen**	**32.95**	**185**	P	**P**	**03 18 21.8**	**-1.9**
COEN	comp=Z,8.0nm,1.2s			IAmb	IAmb	03 18 32.7	
MTN	**Manton Dam**	**34.91**	**206**	P	**P**	**03 18 39.4**	**-1.1**
MTN	comp=Z,10nm,1.3s			IAmb	IAmb	03 18 48.2	
PETK	**Petropavlovsk-**	**35.17**	**12**	P	**P**	**03 18 43.5**	**+1.1**
KNRA	**Kununurra**	**38.44**	**207**	P	**P**	**03 19 10.6**	**+0.1**
KNRA	comp=Z,5.1nm,0.9s			IAmb	IAmb	03 19 11.1	
WB0	**Warramunga Arr**	**40.23**	**197**	P	**P**	**03 19 25.1**	**-0.3**
WB0	comp=Z,3.7nm,0.4s			IAmb	IAmb	03 19 27.8	
WB2	**Warramunga Arr**	**40.41**	**197**	P	**P**	**03 19 26.7**	**-0.1**
WB2	comp=Z,6.4nm,1.1s			IAmb	IAmb	03 19 28.0	
WRA	**Warramunga Arr**	**40.41**	**197**	P	**P**	**03 19 26.4**	**-0.5**
WRA	**Warramunga Arr**	**40.41**	**197**	P	**P**	**03 19 26.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.97**	**209**	P	**P**	**03 19 39.7**	**+0.1**
AS31	**Alice Springs**	**44.08**	**196**	P	**P**	**03 19 56.4**	**-0.2**
AS31	comp=Z,1.4nm,0.3s			IAmb	IAmb	03 19 59.3	
ASAR	**Alice Springs**	**44.08**	**196**	P	**P**	**03 19 56.8**	**+0.2**
ASAR	**Alice Springs**	**44.08**	**196**	P	**P**	**03 19 56.3**	**-0.3**
DZM	**Mont Dzumac**	**45.60**	**153**	P	**P**	**03 20 09.0**	**+0.3**
ARMA	**Armidale**	**49.54**	**173**	P	**P**	**03 20 37.8**	**-1.3**
ARMA	comp=Z,6.1nm,1.2s			IAmb	IAmb	03 20 54.8	
STKA	**Stephens Creek**	**50.85**	**185**	P	**P**	**03 20 47.4**	**-1.5**
STKA	**Stephens Creek**	**50.85**	**185**	P	**P**	**03 20 46.3**	**-2.5**
BBOO	**Buckleboo**	**52.46**	**190**	P	**P**	**03 21 01.4**	**+0.5**
FORT	**Forrest**	**52.47**	**199**	P	**P**	**03 21 01.0**	**+0.1**
K17K	**Iditarod**	**57.76**	**27**	P	**P**	**03 21 41.5**	**+2.9**
K17K	comp=Z,10nm,1.3s			IAmb	IAmb	03 21 50.5	
ZALV	**Zalesovo Beam**	**57.80**	**322**	P	**P**	**03 21 37.8**	**-1.1**
MK31	**Makanchi Array**	**58.30**	**314**	P	**P**	**03 21 43.0**	**+0.3**
MKAR	**Makanchi Array**	**58.30**	**314**	P	**P**	**03 21 43.3**	**+0.6**
MKAR	**Makanchi Array**	**58.30**	**314**	P	**P**	**03 21 42.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**58.53**	**208**	LR	LR	03 48 19.9	
N19K	**Bonanza Creek**	**58.82**	**30**	P	**P**	**03 21 47.7**	**+1.5**
N19K	comp=Z,8.5nm,1.5s			IAmb	IAmb	03 21 54.1	
C18K	**Utukok River**	**59.24**	**20**	P	**P**	**03 21 49.3**	**+0.5**
SPU	**Mount Spurr**	**60.06**	**30**	P	**P**	**03 21 56.2**	**+1.7**
SKT	**Skwentna**	**60.51**	**29**	P	**P**	**03 21 57.9**	**+0.3**
SKT	comp=Z,11nm,1.5s			IAmb	IAmb	03 22 06.8	
KURBB	**Kurchatov Arra**	**61.13**	**318**	P	**P**	**03 22 01.9**	**0.0**
NRIK	**Noril'sk**	**61.29**	**340**	P	**P**	**03 22 01.5**	**-1.2**
BVAR	**Borovoye Array**	**66.27**	**320**	P	**P**	**03 22 35.8**	**+0.1**
ABKAR	**Akbulak array**	**73.16**	**317**	P	**P**	**03 23 18.2**	**+0.2**
ABKAR	**Akbulak array**	**73.16**	**317**	P	**P**	**03 23 18.2**	**+0.2**
YKA	**Yellowknife Ar**	**77.56**	**28**	P	**P**	**03 23 42.0**	**-0.9**
ARCES	**ARCESS Array B**	**82.16**	**342**	P	**P**	**03 24 07.8**	**+0.2**
NVAR	**Mina Array Bea**	**82.77**	**52**	P	**P**	**03 24 11.8**	**+0.1**
FINES	**FINESS Array B**	**86.59**	**335**	P	**P**	**03 24 29.0**	**-1.0**
FINES	**FINESS Array B**	**86.59**	**335**	P	**P**	**03 24 28.9**	**-1.2**
PDAR	**Pinedale Array**	**87.43**	**46**	P	**P**	**03 24 34.2**	**-0.7**
AKASG	**Malin Array Be**	**91.07**	**325**	LR	LR	04 06 56.0	
NOA	**NORSAR Array B**	**92.25**	**340**	P	**P**	**03 24 55.2**	**-1.5**
MLR	**Muntele Rosu**	**95.78**	**322**	LR	LR	04 09 03.1	
SCHQ	**Schefferville**	**101.25**	**19**	Pdif	**Pdif**	**03 25 38.4**	**+0.9**

*SOME **27** 03:20:19.9, 40°.98N×78°.52E, h5km*
*KRNET **27** 03:20:20.4±0.1, 41°.61N×79°.06E, h14km, mb2.2*
NNC 27 03:20:21.4±2.0, 41°.02N×78°.64E, h0km, mb3.4, mpv3.0, 12C-2D, Error ellipse: s-maj=13.5km s-min=9.6km az=166.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.94**	**319**	⇑*i*P	Pg	03 20 38.5	-0.9
TARG				⇑*i*S	Sg	03 20 52.0	+0.3
PRZ	**Przheval'sk**	**1.47**	**353**	⇑*e*P	Pn	03 20 40.1	-9.2
PRZ				⇑*e*S	Sg	03 20 54.1	-15
KDJ	**Kajisay**	**1.56**	**316**	⇓*e*P	Pn	03 20 48.2	-2.3
KDJ				⇓*e*S	Sg	03 21 09.2	-2.1
ANVS	**Anan'yevo**	**1.90**	**338**	⇑*e*P	Pn	03 20 50.1	-5.2
ANVS				⇑*e*S	Sn	03 21 11.0	-9.0
SATY	**Saty**	**2.04**	**355**	Pg	Pb	03 20 60.0	+0.5
SATY	7.0nm,0.4s			Lg	Lg	03 21 28.8	
	8.3nm,0.2s						

UZB	**Uzynbulak**	**2.14**	**8**	Pg	Pb	03 21 00.8	-0.4
	4.8nm,0.4s						
UZB				Lg	Lg	03 21 30.0	
	4.0nm,0.2s						
UZB	**Uzynbulak**	**2.14**	**8**	*e*P	Pb	03 21 00.7	-0.5
	2.5nm,0.1s						
UZB				*e*S	Sg	03 21 30.3	+0.2
	3.6nm,0.2s						
ULHL	**Ulahol**	**2.17**	**305⇑**	*e*P	Pb	03 21 00.6	-1.1
ULHL			⇑	*i*S	Sb	03 21 29.9	+0.7
TNSS	**Tian-Shan**	**2.37**	**329**	Pg	Pb	03 21 04.5	-0.8
	4.1nm,0.3s						
TNSS				Lg	Lg	03 21 36.6	
	2.9nm,0.2s						
TNSS	**Tian-Shan**	**2.37**	**329**	*e*P	Pb	03 21 04.4	-0.9
	1.5nm,0.1s						
TNSS				*e*S	Sg	03 21 36.6	-1.0
	2.9nm,0.2s						
PDGK	**Podgornoye**	**2.39**	**15**	⇑Pg	Pg	03 21 06.8	-0.4
	1.6nm,0.5s						
PDGK				⇑Lg	Lg	03 21 37.0	
	4.0nm,0.5s						
KPKS	**Kokpek**	**2.44**	**1**	Pg	Pb	03 21 06.4	+0.2
	3.2nm,0.2s						
KPKS				Lg	Lg	03 21 39.4	
	15nm,0.4s						
KPKS	**Kokpek**	**2.44**	**1**	*e*P	Pb	03 21 06.2	-0.1
	3.2nm,0.2s						
KPKS				*e*S	Sg	03 21 39.8	0.0
	9.2nm,0.3s						
KPKS	**Kokpek**	**2.44**	**1**	*e*P	Pg	03 21 16.9	+8.7
	0.8nm,0.3s						
KPKS				*e*S	Sg	03 21 58.0	+18
	6.7nm,0.3s						
KOTS	**Kotyrbulak**	**2.48**	**333**	Pg	Pb	03 21 07.0	0.0
	5.6nm,0.2s						
KOTS				Lg	Lg	03 21 40.4	
	16nm,0.2s						
KOTS	**Kotyrbulak**	**2.48**	**333**	*e*P	Pb	03 21 06.9	-0.1
	3.6nm,0.2s						
KOTS				*e*S	Sg	03 21 41.0	-0.2
	19nm,0.3s						
BOOM	**Boomskoye usch**	**2.49**	**307⇑**	*e*P	Pn	03 21 04.0	+0.6
BOOM			⇑	*i*S	Sn	03 21 36.4	+1.8
IZV	**Izvestkoviy**	**2.51**	**324**	*e*P	Pn	03 21 04.8	+1.2
	0.4nm,0.1s						
IZV				*e*S	Sb	03 21 37.4	-1.6
	3.5nm,0.0s						
KTMS	**Ketmen**	**2.74**	**27**	Pg	Pb	03 21 09.0	-2.3
	0.9nm,0.2s						
KTMS				Lg	Lg	03 21 44.0	
	6.1nm,0.4s						
KST	**Kastek**	**2.84**	**316**	Pg	Pb	03 21 13.0	0.0
	1.2nm,0.1s						
KST				Lg	Lg	03 21 50.7	
	3.2nm,0.3s						
KST	**Kastek**	**2.84**	**316**	*e*P	Pb	03 21 12.3	-0.6
	0.7nm,0.1s						
KST				*e*S	Sb	03 21 50.3	+2.1
	2.5nm,0.2s						
KTBS	**Karatobe**	**3.05**	**332**	Pg	Pb	03 21 16.8	+0.2
	2.2nm,0.3s						
KTBS				Lg	Lg	03 21 57.4	
	4.8nm,0.3s						
BLB	**Baldybastay**	**3.08**	**358**	Pg	Pb	03 21 17.8	+0.8
	16nm,0.5s						
BLB				Lg	Lg	03 21 58.8	
	7.1nm,0.4s						
DGS	**Degeres**	**3.08**	**317**	Pg	Pb	03 21 16.8	-0.2
	2.0nm,0.5s						
DGS				Lg	Lg	03 21 57.2	
	6.6nm,0.5s						
ARXS	**Arharly**	**3.24**	**350**	Pg	Pb	03 21 20.5	+0.6
	0.2nm,0.1s						
ARXS				Lg	Lg	03 22 03.4	
	7.4nm,0.5s						
DJR	**Jarkent**	**3.42**	**14**	Pg	Pb	03 21 23.5	+0.7
	0.4nm,0.1s						
DJR				Lg	Lg	03 22 08.8	
	2.0nm,0.3s						
DJR	**Jarkent**	**3.42**	**14**	*e*P	Pb	03 21 24.1	+1.3
	0.3nm,0.1s						
DJR				*e*S	Sg	03 22 10.5	-0.5
	3.0nm,0.2s						

*DMN **27** 03:24:02.6±0.0,25°.77N×80°.94E,h10km,Ml4.0/1,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **27** 03:24:05.3±12.0,30°.01N×81°.86E,h0km,mb3.6/3, mbtmp3.4/4,ML2.8/1,Error ellipse: s-maj=236.1km s-min=82.6km az=136.0*
ISC 27 03:24:12.2±1.3,30°.7N±0°.1×81°.4E±0°.2,h10km,n9, σ1°23/13,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**2.93**	**151**	Pg	**Pn**	**03 24 57.7**	**-1.3**
	baz=38,slow=0.0						
PYUN				Sg	**Sn**	**03 25 35.2**	**+0.8**
	192nm,0.5s,baz=38,slow=0.0						
DMN	**Daman**	**4.47**	**132**	Pg	**Pn**	**03 25 20.2**	**-0.1**
	baz=63,slow=0.0						
DMN				Sg	**Sn**	**03 26 13.4**	**+0.9**
	baz=63,slow=0.0						
PKIN	**Phulchoki**	**4.68**	**130**	Pg	**Pn**	**03 25 23.1**	**-0.1**
	baz=65,slow=0.0						
PKI	**Pulchoki**	**4.70**	**130**	Pg	**Pn**	**03 25 23.3**	**-0.1**
	baz=65,slow=0.0						
PKI				Sg	**Sn**	**03 26 20.4**	**+2.3**
	baz=65,slow=0.0						
RAMN	**Ramite**	**5.90**	**128**	Pg	**Pn**	**03 25 38.9**	**-1.0**
	baz=76,slow=0.0						
RAMN				Sg	**Sn**	**03 26 45.9**	**-1.8**
	baz=76,slow=0.0						
MKAR	**Makanchi Array**	**16.11**	**2**	Pn	**P**	**03 28 00.9**	**-1.1**
	baz=198,slow=12,SNR=2.5						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**20.04**	**355**	P	**Pn**	**03 28 46.6**	**-0.3**
	0.5nm,0.4s,baz=178,slow=10,SNR=10						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**23.39**	**5**	P	**P**	**03 29 21.4**	**+0.5**
	1.0nm,0.7s,baz=200,slow=11,SNR=4.6						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**47.08**	**327**	P	**P**	**03 32 44.8**	**+0.9**
	2.0nm,0.9s,baz=104,slow=6.1,SNR=4.3						
	2.0nm,0.9s						

*IDC **27** 03:39:40.9±1.6,8°.60S×124°.06E,h0km,mb3.9/3, mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=223.8km s-min=28.9km az=57.0*
*NEIC **27** 03:39:51.8±1.2,8°.68S±0°.08×123°.89E±0°.09,h100km±6km, mb4.8/14,Error ellipse: s-maj=14.6km s-min=9.0km az=46.0*
*DJA **27** 03:39:51.8±0.9,9°.S±7°.×12°.4E±°.,h114km±12km,M3.8/7, MLv3.8/7*
ISC 27 03:39:51.4±0.6,8°.74S±0°.10×123°.88E±0°.09,h100km,n30, σ1°44/28,mb4.5/11,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.08**	**159**		**Pn**	**03 40 13.6**	**+0.7**
SOEI				Sn	**Sn**	**03 40 30.3**	**+1.4**
SOEI	**Soe**	**1.08**	**159**	P	**Pn**	**03 40 13.6**	**+0.7**
MMRI	**Maumere**	**1.63**	**274**		**Pn**	**03 40 19.6**	**+0.4**
MMRI	**Maumere**	**1.63**	**274**	P	**Pn**	**03 40 19.6**	**+0.4**
MMRI				S	**Sn**	**03 40 39.9**	**-0.5**
BASI	**Baing, Sumba**	**3.57**	**245**	P	Pn	03 40 40.8	-4.1
WSI	**Waingapu**	**3.66**	**255**	P	Pn	03 40 40.6	-5.4
WBSI	**Waikabubak, Su**	**4.52**	**258**	P	Pn	03 40 53.3	-4.4
MTN	**Manton Dam**	**8.21**	**120**	Pn	**Pn**	**03 41 48.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**9.46**	**170**	Pn	Pn	03 41 59.3	-5.5
WB0	**Warramunga Arr**	**14.96**	**138**		**P**	**03 43 20.1**	**-0.6**
WRA	**Warramunga Arr**	**15.04**	**139**	Pn	**Pn**	**03 43 14.1**	**-4.8**
	0.2nm,0.3s,baz=318,slow=14,SNR=15						
WRA				Sn	Sn	03 45 51.5	-14
	0.4nm,0.3s,baz=319,slow=25,SNR=8.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.67**	**148**	P	**P**	**03 43 49.5**	**-1.3**
	0.1nm,0.3s,baz=318,slow=11,SNR=6.9						
ASAR				S	Sn	03 46 52.8	-16
	0.7nm,0.6s,baz=309,slow=21,SNR=6.1						
	0.5nm,0.4s						
BBOO	**Buckleboo**	**26.47**	**157**	P	**P**	**03 45 18.6**	**-0.7**
BBOO				IAmb	IAmb	03 45 34.8	
	comp=Z,24nm,1.6s						
KULM	**Kulim**	**27.03**	**300**	P	**P**	**03 45 24.1**	**-0.5**
KULM				IAmb	IAmb	03 45 40.0	
	comp=Z,28nm,1.5s						
ERM	**Erimo**	**53.51**	**18**	P	**P**	**03 49 00.1**	**-1.5**
ERM				IAmb	IAmb	03 49 14.1	
	comp=Z,25nm,0.9s						
MK31	**Makanchi Array**	**66.53**	**330**	P	**P**	**03 50 32.4**	**+1.8**
MKAR	**Makanchi Array**	**66.53**	**330**	P	**P**	**03 50 32.5**	**+1.8**
MKAR	**Makanchi Array**	**66.53**	**330**	P	**P**	**03 50 32.8**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=133,slow=7.3,SNR=22						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**66.69**	**330**	P	**P**	**03 50 31.4**	**-0.3**
MAKZ				IAmb	IAmb	03 50 49.2	
	comp=Z,10nm,1.9s						
GAR	**Garm**	**68.72**	**318**	P	**P**	**03 50 45.6**	**+0.8**
ZALV	**Zalesovo Beam**	**70.61**	**337**	P	**P**	**03 50 57.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=132,slow=6.4,SNR=1.6						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**70.97**	**331**	P	**P**	**03 50 59.8**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=142,slow=5.9,SNR=6.1						
	comp=Z,0.4nm,0.5s						
MAW	**Mawson**	**71.15**	**201**	P	**P**	**03 50 59.5**	**+0.6**
MAW				IAmb	IAmb	03 51 07.3	
	comp=Z,65nm,1.9s						
SBA	**Scott Base**	**72.48**	**171**	P	**P**	**03 51 07.5**	**+0.8**
QSPA	**South Pole Qui**	**81.25**	**180**	P	**P**	**03 51 56.7**	**+0.4**
QSPA				IAmb	IAmb	03 52 07.8	
	comp=Z,16nm,1.8s						
BILL	**Bilibino**	**82.26**	**15**	P	**P**	**03 52 01.9**	**+0.6**
GNI	**Garni**	**87.37**	**311**	P	**P**	**03 52 28.3**	**+0.5**
GNI				IAmb	IAmb	03 52 43.5	
	comp=Z,17nm,1.6s						
KARS	**Kars**	**88.72**	**311**	P	**P**	**03 52 34.5**	**+0.4**
KARS				IAmb	IAmb	03 52 44.1	
	comp=Z,15nm,0.6s						
J14K	**Nanvaranak Lak**	**89.87**	**26**	P	**P**	**03 52 38.4**	**-0.4**
CSS	**Mathiatis**	**95.39**	**304**	P	**P**	**03 53 04.2**	**-0.7**

*IDC **27** 03:42:19.3±2.1,51°.03N×0°.69W,h0km,mb3.7/1, mbtmp3.4/7,ML3.2/6,MS3.6/1,Error ellipse: s-maj=26.3km s-min=15.2km az=48.0*
*NEIC **27** 03:42:21.8±1.0,51°.21N±0°.04×0°.3W±0°.1,h10km±2km, ML3.3/10,Error ellipse: s-maj=15.6km s-min=3.1km az=246.0*
*UCC **27** 03:42:21.7,51°.12N×0°.32W,h3km±4km,ML3.7*
*BGS **27** 03:42:21.3±0.3,51°.16N×0°.25W,h2km±1km,ML3.1*
*LDG **27** 03:42:22.8±0.1,51°.13N×0°.32W,h2km,Md1.9/1,Ml3.6/62, Error ellipse: s-maj=2.2km s-min=1.7km az=150.0*
*STR **27** 03:42:23.4±0.5,51°.N±6°.×°.±°.,h5km,MLv3.4/6,Error ellipse: s-maj=0.0km s-min=0.0km az=25.6,preliminary*
*BNS **27** 03:42:23.3±0.3,51°.24N×0°.26W,h2km,ML3.3*
*BGR **27** 03:42:25.1±0.5,51°.28N×0°.12W,h10km,ML3.6/12,Error ellipse: s-maj=17.8km s-min=10.0km az=29.0*
ISC 27 03:42:21.0±1.1,51°.10N±0°.02×0°.30W±0°.02,h14km±9km, n178,σ2°03/305,39D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.47**	**120**	*e*P	**Pb**	**03 42 31.1**	**+0.2**
HMNX				*e*S	**Sb**	**03 42 41.3**	**+3.6**
HMNX				IAML		03 42 48.4	
	comp=N,1μm,0.5s						
HMNX				IAML		03 42 50.6	
	comp=E,2μm,0.4s						
HMNX	**Herstmonceux**	**0.47**	**120**	*e*P	**Pb**	**03 42 31.1**	**+0.2**
HMNX				*e*S	**Sb**	**03 42 41.3**	**+3.6**
HMNX				IAML		03 42 48.4	
	comp=N,1μm,0.5s						
HMNX				IAML		03 42 50.6	
	comp=E,2μm,0.4s						
HMNX	**Herstmonceux**	**0.47**	**120**	Pg	**Pb**	**03 42 31.1**	**+0.2**
ELSH	**Elham, Standar**	**0.91**	**87⇓**	*i*P	**Pn**	**03 42 39.0**	**-0.4**
ELSH				*e*S	**Sn**	**03 42 52.9**	**+0.7**
ELSH				IAML		03 43 01.4	
	comp=N,330nm,0.4s						
ELSH				IAML		03 43 02.9	
	comp=E,559nm,0.6s						
ELSH	**Elham, Standar**	**0.91**	**87⇓**	*i*P	**Pn**	**03 42 39.0**	**-0.4**
ELSH				*e*S	**Sn**	**03 42 52.9**	**+0.7**
ELSH				IAML		03 43 01.4	
	comp=N,330nm,0.4s						
ELSH				IAML		03 43 02.9	
	comp=E,559nm,0.6s						
ELSH	**Elham, Standar**	**0.91**	**87**	Sg	**Sn**	**03 42 53.3**	**+1.1**
ELSH	**Elham, Standar**	**0.91**	**87**	Pg	**Pn**	**03 42 38.9**	**-0.4**
SWN1	**Swindon**	**1.03**	**294**	*e*P	**Pn**	**03 42 41.8**	**+0.8**
SWN1				*e*S	**Sn**	**03 42 57.6**	**+2.5**
SWN1				IAML		03 43 00.3	
	comp=N,538nm,0.6s						
SWN1				IAML		03 43 08.9	
	comp=E,340nm,0.5s						
SWN1	**Swindon**	**1.03**	**294**	*e*P	**Pn**	**03 42 41.8**	**+0.8**
SWN1				*e*S	**Sn**	**03 42 57.6**	**+2.5**
SWN1				IAML		03 43 00.3	
	comp=N,538nm,0.6s						
SWN1				IAML		03 43 08.9	
	comp=E,340nm,0.5s						
SWN1	**Swindon**	**1.03**	**294**	Sg	**Sn**	**03 42 57.2**	**+2.1**
SWN1	**Swindon**	**1.03**	**294**	Pg	**Pn**	**03 42 42.0**	**+1.1**
ELMS	**Elmsett, Ipswi**	**1.28**	**39**	*e*P	**Pg**	**03 42 44.9**	**-0.6**
ELMS				*e*S	**Sn**	**03 43 02.1**	**+0.8**
ELMS				IAML		03 43 04.5	
	comp=N,704nm,0.4s						
ELMS				IAML		03 43 05.3	
	comp=E,507nm,0.4s						
ELMS	**Elmsett, Ipswi**	**1.28**	**39**	*e*P	**Pg**	**03 42 44.9**	**-0.6**
ELMS				*e*S	**Sn**	**03 43 02.1**	**+0.8**
ELMS				IAML		03 43 04.5	
	comp=N,704nm,0.4s						
ELMS				IAML		03 43 05.3	
	comp=E,507nm,0.4s						
WACR	**West Acre**	**1.72**	**19**	*e*P	**Pg**	**03 42 52.1**	**-1.9**
WACR				IAML		03 43 16.7	
	comp=N,339nm,0.3s						
WACR				IAML		03 43 18.8	
	comp=E,417nm,0.3s						
WACR	**West Acre**	**1.72**	**19**	*e*P	**Pg**	**03 42 52.1**	**-1.9**
WACR				IAML		03 43 16.7	
	comp=N,339nm,0.3s						
WACR				IAML		03 43 18.8	
	comp=E,417nm,0.3s						
MCH1	**Michaelchurch**	**1.91**	**299**	*e*P	**Pb**	**03 42 54.8**	**-0.7**
MCH1				IAML		03 43 25.6	
	comp=N,160nm,0.4s						
MCH1				IAML		03 43 25.9	
	comp=E,127nm,0.6s						
MCH1	**Michaelchurch**	**1.91**	**299**	*e*P	**Pb**	**03 42 54.8**	**-0.7**
MCH1				IAML		03 43 25.6	
	comp=N,160nm,0.4s						
MCH1				IAML		03 43 25.9	
	comp=E,127nm,0.6s						
BOST	**Ostende**	**2.04**	**85**	*d*Pn	**Pb**	**03 42 57.3**	**-0.5**
BOST				*d*Sn	**Sb**	**03 43 23.5**	**+0.4**
	comp=E,123nm,0.7s						
BOST	**Ostende**	**2.04**	**85**	*d*P	**Pb**	**03 42 57.4**	**-0.5**
JSA	**Saint Aubin**	**2.26**	**213**	Pn	**Pn**	**03 42 59.8**	**+1.9**
JSA				Pg	**Pg**	**03 43 05.0**	**+0.7**
JSA				Sn	**Sn**	**03 43 28.0**	**+2.4**
FLN	**La Foliniere**	**2.35**	**183**	*e*Pn	**Pn**	**03 43 00.6**	**+1.5**
	baz=357						
FLN	**La Foliniere**	**2.35**	**183**	*e*Pg	**Pg**	**03 43 07.1**	**+1.2**
	baz=1.1						
FLN				*e*Sn	**Sn**	**03 43 27.9**	**+0.2**
FLN				*e*Sg	**Sg**	**03 43 37.7**	**+1.4**
	comp=E,265nm,0.5s						
LOUF	**Saint-Loup**	**2.51**	**195**	Pn	**Pn**	**03 43 03.3**	**+2.0**
LOUF				Pg	**Pg**	**03 43 09.7**	**+0.6**
LOUF				Sn	**Sn**	**03 43 34.3**	**+2.6**
LDF	**La Druitiere**	**2.52**	**177**	*e*Pn	**Pn**	**03 43 02.9**	**+1.5**
LDF	**La Druitiere**	**2.52**	**177**	*e*Pg	**Pg**	**03 43 10.0**	**+0.9**
LDF				*e*Sn	**Sn**	**03 43 32.1**	**+0.3**
LDF				*e*Sg	**Sg**	**03 43 43.5**	**+1.8**
	comp=E,152nm,0.3s						
GRR	**Gorron**	**2.74**	**188**	*e*Pn	**Pn**	**03 43 05.8**	**+1.3**
GRR	**Gorron**	**2.74**	**188**	*e*Pg	**Pg**	**03 43 14.3**	**+0.8**
GRR				*e*Sn	**Sn**	**03 43 37.3**	**-0.1**
	comp=E,19nm,0.1s						
GRR				*e*Sg	**Sg**	**03 43 50.1**	**+1.1**
	comp=E,92nm,0.3s						
BBOU	**Bougnies**	**2.79**	**103**	*d*Pn	**Pn**	**03 43 07.7**	**+2.5**
BBOU				*d*Pg	**Pg**	**03 43 13.7**	**-0.8**
BSKQ	**Steenkerk**	**2.81**	**98**	*d*P	**Pn**	**03 43 08.1**	**+2.6**
UCC	**Uccle**	**2.96**	**94**	Pn	**Pn**	**03 43 08.1**	**+0.5**
UCC	**Uccle**	**2.96**	**94**	*d*Pn	**Pn**	**03 43 09.7**	**+2.1**
UCC				*d*Pg	**Pb**	**03 43 14.8**	**+1.3**
UCC				*d*S	**Sn**	**03 43 44.9**	**+2.0**
UCC	**Uccle**	**2.96**	**94**	*d*P	**Pn**	**03 43 09.6**	**+2.1**
UCC	**Uccle**	**2.96**	**94**	*e*Pn	**Pn**	**03 43 09.6**	**+2.1**
UCC				*e*Pg	**Pg**	**03 43 17.2**	**-0.5**
UCC				*e*Sg	**Sg**	**03 43 52.7**	**-3.4**
BAIF	**Baives**	**3.06**	**108**	*e*Pn	**Pn**	**03 43 10.2**	**+1.3**
BAIF	**Baives**	**3.06**	**108**	*e*Pg	**Pg**	**03 43 19.7**	**+0.2**
BAIF				*e*Sn	**Sn**	**03 43 44.5**	**-0.8**
BAIF				*e*Sg	**Sg**	**03 43 59.5**	**+0.3**
	comp=E,18nm,0.3s						
SGMF	**Saint Gilles**	**3.21**	**208**	*e*Pn	**Pn**	**03 43 12.2**	**+1.3**
SGMF	**Saint Gilles**	**3.21**	**208**	*e*Pg	**Pg**	**03 43 22.5**	**+0.2**
SGMF				*e*Sn	**Sn**	**03 43 48.1**	**-0.8**
	comp=E,12nm,0.2s						
SGMF				*e*Sg	**Sg**	**03 44 04.9**	**+1.1**
	comp=E,127nm,0.9s						
DOU	**Dourbes**	**3.28**	**106**	*d*Pn	**Pn**	**03 43 14.9**	**+3.0**
DOU				*d*Pg	**Pg**	**03 43 21.3**	**-2.5**
DOU	**Dourbes**	**3.28**	**106**	*d*P	**Pn**	**03 43 14.7**	**+2.8**
BMRD	**Maredsous**	**3.32**	**102**	*d*P	**Pn**	**03 43 14.5**	**+2.0**
ROSF	**Rostrenen**	**3.37**	**216**	*e*Pn	**Pn**	**03 43 14.5**	**+1.3**
ROSF	**Rostrenen**	**3.37**	**216**	*e*Pg	**Pg**	**03 43 25.4**	**-0.2**
ROSF				*e*Sn	**Sn**	**03 43 53.0**	**0.0**
ROSF				*e*Sg	**Sg**	**03 44 10.9**	**+1.6**
	comp=E,79nm,0.6s						
BDSL	**Dessel**	**3.38**	**86**	*d*P	**Pn**	**03 43 15.9**	**+2.6**
GIVF	**Givet**	**3.42**	**105**	*e*Pn	**Pn**	**03 43 16.0**	**+2.2**
GIVF	**Givet**	**3.42**	**105**	*e*Pg	**Pg**	**03 43 26.0**	**-0.4**
GIVF				*e*Sg	**Sg**	**03 44 11.0**	**+0.4**
	comp=E,90nm,0.5s						
BGES	**Gesves**	**3.50**	**100**	*d*Pn	**Pn**	**03 43 16.6**	**+1.7**
BGES				*d*Pg	**Pg**	**03 43 28.5**	**+0.6**
BGES				*d*S	**Sb**	**03 44 06.5**	**+1.5**
CLF	**Chambon-Foret**	**3.50**	**151**	Pn	**Pn**	**03 43 17.8**	**+2.8**
BCLA	**Clavier**	**3.62**	**99**	*d*Pn	**Pn**	**03 43 19.2**	**+2.5**
BCLA				*d*Pg	**Pg**	**03 43 29.8**	**-0.5**
BCLA				*d*Sn	**Sn**	**03 43 55.4**	**-3.8**
BCLA				*d*Sg	**Sb**	**03 44 11.3**	**+2.7**
	comp=E,41nm,0.7s						
RCHB	**Rochefort**	**3.65**	**103**	*d*P	**Pn**	**03 43 19.2**	**+2.3**
RCHB				*d*Pg	**Pg**	**03 43 30.1**	**-0.7**
RCHB				*d*S	**Sb**	**03 44 10.1**	**+0.9**
RCHB	**Rochefort**	**3.65**	**103**	*d*P	**Pn**	**03 43 19.0**	**+2.1**
RCHB	**Rochefort**	**3.65**	**103**	*e*Pn	**Pn**	**03 43 19.1**	**+2.1**
RCHB				*e*Pg	**Pg**	**03 43 30.1**	**-0.7**
RCHB				*e*Sg	**Sg**	**03 44 17.3**	**-0.7**
QUIF	**Quistinic**	**3.69**	**211**	*e*Pn	**Pn**	**03 43 18.5**	**+0.9**
QUIF	**Quistinic**	**3.69**	**211**	*e*Pg	**Pg**	**03 43 31.8**	**+0.1**
QUIF				*e*Sn	**Sn**	**03 44 02.2**	**+1.3**
QUIF				*e*Sg	**Sg**	**03 44 17.9**	**-1.6**
	comp=E,75nm,0.7s						
BSTI	**Sart Tilman**	**3.76**	**96**	*d*P	**Pn**	**03 43 20.6**	**+2.1**
MEM	**Membach**	**4.03**	**95**	*d*P	**Pn**	**03 43 23.6**	**+1.4**
MEM				*d*S	**Sn**	**03 44 11.1**	**+1.9**
MEM	**Membach**	**4.03**	**95**	*d*P	**Pn**	**03 43 24.2**	**+2.0**
MEM				*d*P	**Pn**	**03 43 24.2**	**+2.0**
MEM	**Membach**	**4.03**	**95**	*e*Pn	**Pn**	**03 43 24.2**	**+2.0**
MEM				*e*Sn	**Sn**	**03 44 11.0**	**+1.8**
MEM				*e*Sg	**Sg**	**03 44 33.6**	**+3.3**
BHOU	**Houvegnez**	**4.08**	**98**	*d*P	**Pn**	**03 43 24.8**	**+1.9**
BHOU				*d*S	**Sn**	**03 44 11.8**	**+1.4**
BTNL	**Ternell**	**4.11**	**95**	*d*P	**Pn**	**03 43 25.3**	**+2.0**
BTNL				*d*S	**Sn**	**03 44 13.1**	**+1.9**
DREG	**Dreilaegerbach**	**4.16**	**94**	*e*Pn	**Pn**	**03 43 26.0**	**+2.0**
DREG				*e*Sn	**Sn**	**03 44 13.9**	**+1.4**
	comp=E,32nm,0.6s						
KLL	**Kalltalsperre**	**4.21**	**94**	*e*Pn	**Pn**	**03 43 27.0**	**+2.2**
KLL				*e*Sn	**Sn**	**03 44 14.8**	**+1.0**
	comp=E,26nm,0.2s						
HYF	**Humbligny**	**4.29**	**152**	*e*Pn	**Pn**	**03 43 28.1**	**+2.2**
HYF	**Humbligny**	**4.29**	**152**	*e*Pg	**Pg**	**03 43 42.6**	**-0.6**
HYF				*e*Sg	**Sg**	**03 44 38.9**	**+0.1**
SAVF	**Savonnieres en**	**4.30**	**123**	*e*Pn	**Pn**	**03 43 26.1**	**+0.1**
SAVF				*e*Sn	**Sn**	**03 44 13.2**	**-2.8**
	comp=E,25nm,0.5s						
DSB	**Dublin**	**4.31**	**302**	Pn	**Pn**	**03 43 26.6**	**+0.6**
DSB				IAML		03 44 59.3	
	comp=N,24nm,4.6s						
DSB				IAML		03 45 53.5	
	comp=E,32nm,4.5s						
MEZF	**Maizieres J'vi**	**4.34**	**125**	*e*Pn	**Pn**	**03 43 27.6**	**+1.2**
	baz=311						
MEZF	**Maizieres J'vi**	**4.34**	**125**	*e*Pg	**Pg**	**03 43 43.7**	**-0.3**
MEZF				*e*Sn	**Sn**	**03 44 15.5**	**-1.2**
MEZF				*e*Sg	**Sg**	**03 44 39.3**	**-0.8**
	comp=E,43nm,0.5s						
WLF	**Walferdange**	**4.38**	**107**	Pn	**Pn**	**03 43 29.2**	**+2.2**
WLF				IAML		03 44 58.2	
	comp=N,54nm,1.3s						
WLF				IAML		03 45 15.3	
	comp=E,30nm,0.9s						
WLF	**Walferdange**	**4.38**	**107**	*d*P	**Pg**	**03 43 41.5**	**-3.2**
WLF				*d*S	**Sn**	**03 44 18.4**	**+0.7**
WLF	**Walferdange**	**4.38**	**107**	*e*Pn	**Pn**	**03 43 31.2**	**+4.2**
WLF				*e*Pg	**Pg**	**03 43 44.4**	**-0.3**
WLF				*e*Sg	**Sg**	**03 44 39.3**	**-2.0**
MFF	**Saint Martin d**	**4.51**	**179**	*e*Pn	**Pn**	**03 43 29.9**	**+1.1**
MFF	**Saint Martin d**	**4.51**	**179**	*e*Pg	**Pg**	**03 43 46.9**	**-0.3**
MFF				*e*Sn	**Sn**	**03 44 20.7**	**-0.2**
	comp=E,55nm,0.9s						
MFF				*e*Sg	**Sg**	**03 44 45.4**	**-0.1**
	comp=E,58nm,0.6s						
MFF	**Saint Martin d**	**4.51**	**179**	Pn	**Pn**	**03 43 30.0**	**+1.2**
MFF	**Saint Martin d**	**4.51**	**179**	Sn	**Sn**	**03 44 18.6**

ETNF	**Estrennes**	**5.00 122**	Pn		**Pn**	**03 43 37.0**	**+1.3**
ETNF	**Estrennes**	**5.00 122**	Sn		**Sn**	**03 44 31.8**	**-1.5**
TCF	**Toulx Ste Croi**	**5.10 160**	*e*Pn		**Pn**	**03 43 38.2**	**+1.3**
TCF	**Toulx Ste Croi**	**5.10 160**	*e*Pg		**Pg**	**03 43 57.6**	**-0.9**
TCF			*e*Sn		**Sn**	**03 44 33.6**	**-2.0**
TCF			*e*Sg		**Sg**	**03 45 03.6**	**-0.9**
	comp=E,23nm,0.4s						
KOE	**Koeppel**	**5.14 94**	*e*Pn		**Pn**	**03 43 39.7**	**+2.2**
IBBN	**Ibbenburen**	**5.16 73**	*e*Pn		**Pn**	**03 43 39.6**	**+1.9**
IBBN			*e*Sn		**Sn**	**03 44 36.9**	**0.0**
SMF	**Signal de Mont**	**5.23 147**	*e*Pn		**Pn**	**03 43 39.6**	**+0.8**
SMF	**Signal de Mont**	**5.23 147**	*e*Pg		**Pg**	**03 44 00.0**	**-1.1**
SMF			*e*Sn		**Sn**	**03 44 35.9**	**-3.0**
SMF			*e*Sg		**Sg**	**03 45 09.2**	**+0.4**
	comp=E,84nm,0.8s						
HAU	**Haudompre**	**5.32 123**	*e*Pn		**Pn**	**03 43 40.2**	**+0.2**
HAU	**Haudompre**	**5.32 123**	*e*Pg		**Pg**	**03 44 01.9**	**-0.9**
HAU			*e*Sn		**Sn**	**03 44 39.2**	**-1.9**
HAU			*e*Sg		**Sg**	**03 45 10.4**	**-1.3**
	comp=E,22nm,0.4s						
KASTN	**Kahler Asten**	**5.49 86**	*e*Pn		**Pn**	**03 43 46.4**	**+4.1**
CDF	**Champ du Feu**	**5.60 116**	*e*Pn		**Pn**	**03 43 43.6**	**-0.3**
CDF	**Champ du Feu**	**5.60 116**	*e*Pg		**Pg**	**03 44 07.3**	**-0.9**
CDF			*e*Sn		**Sn**	**03 44 46.2**	**-1.9**
CDF			*e*Sg		**Sg**	**03 45 18.3**	**-2.4**
	comp=E,10nm,0.5s						
TNS	**Taunus Mts**	**5.63 96**	*e*Pn		**Pn**	**03 43 46.5**	**+2.1**
TNS			*e*Sn		**Sn**	**03 44 49.6**	**+0.7**
ECH	**Echery**	**5.64 118**	Pn		**Pn**	**03 43 46.2**	**+1.8**
HINF	**Hinteralfeld**	**5.71 122**	*e*Pn		**Pn**	**03 43 45.7**	**+0.4**
HINF			*e*Sn		**Sn**	**03 44 48.0**	**-2.6**
HINF			*e*Sg		**Sg**	**03 45 22.1**	**-2.0**
	comp=E,17nm,0.5s						
PLDF	**La Plantade**	**5.76 152**	Pn		**Pn**	**03 43 46.2**	**+0.2**
PLDF			Sn		**Sn**	**03 44 47.1**	**-4.8**
RJF	**Les Rejaudoux**	**5.93 167**	*e*Pn		**Pn**	**03 43 49.5**	**+1.2**
RJF			*e*Sn		**Sn**	**03 44 55.3**	**-0.7**
	comp=E,52nm,0.6s						
RJF			*e*Sg		**Sg**	**03 45 31.7**	**+0.6**
	comp=E,11nm,0.3s						
CABF	**La Chapelle**	**6.16 134**	*e*Pn		**Pn**	**03 43 52.1**	**+0.5**
CABF	**La Chapelle**	**6.16 134**	*e*Pg		**Pg**	**03 44 17.3**	**-1.6**
CABF			*e*Sg		**Sg**	**03 45 36.7**	**-1.9**
	comp=E,37nm,0.6s						
COLF	**Collangettes**	**6.19 153**	Pn		**Pn**	**03 43 53.0**	**+1.0**
COLF			S		**Sn**	**03 44 58.3**	**-4.2**
LFF	**La Frestale**	**6.21 173**	*e*Pn		**Pn**	**03 43 52.6**	**+0.5**
LFF			*e*Sn		**Sn**	**03 45 01.7**	**-1.1**
	comp=E,15nm,0.5s						
LFF			*e*Sg		**Sg**	**03 45 40.7**	**+0.6**
	comp=E,50nm,0.6s						
BFO	**Black Forest**	**6.25 113**	Pn		**Pn**	**03 43 54.6**	**+1.9**
BFO	**Black Forest**	**6.25 113**	*e*Pn		**Pn**	**03 43 54.9**	**+2.2**
BFO			*e*Sn		**Sn**	**03 45 03.8**	**-0.1**
BFO			*e*Sg		**Sg**	**03 45 40.0**	**-1.3**
MILB	**Miltenberg**	**6.26 98**	*e*Pn		**Pn**	**03 43 55.3**	**+2.4**
GIMEL	**St. Georges /**	**6.30 134**	Pn		**Pn**	**03 43 55.4**	**+1.9**
CAF	**Calviac**	**6.38 165**	*e*Pn		**Pn**	**03 43 54.8**	**+0.2**
CAF			*e*Sn		**Sn**	**03 45 03.3**	**-3.9**
CAF			*e*Sg		**Sg**	**03 45 44.6**	**-1.1**
	comp=E,47nm,0.6s						
BALST	**Balsthal**	**6.45 123**	Pn		**Pn**	**03 43 57.4**	**+1.8**
BALST	**Balsthal**	**6.45 123**	Sn		**Sn**	**03 45 08.3**	**-0.8**
STU	**Stuttgart**	**6.56 107**	Pn		**Pn**	**03 43 57.2**	**+0.2**
LEUC	**Leucamp**	**6.63 162**	Pn		**Pn**	**03 43 58.3**	**+0.3**
LEUC			Sn		**Sn**	**03 45 09.2**	**-4.1**
OGMY	**Moye**	**6.65 139**	Pn		**Pn**	**03 43 59.7**	**+1.5**
OGMY			Sn		**Sn**	**03 45 09.2**	**-4.6**
HROE	**Hohe Rhon--Fla**	**6.65 91**	*e*Pn		**Pn**	**03 44 01.4**	**+3.2**
HROE			*e*Sn		**Sn**	**03 45 11.6**	**-2.3**
SSB	**Saint Sauveur**	**6.67 149**	Pn		**Pn**	**03 44 00.9**	**+2.5**
SSB	**Saint Sauveur**	**6.67 149**	Pn		**Pn**	**03 43 59.5**	**+1.0**
SSB			Sn		**Sn**	**03 45 09.2**	**-5.0**
CLZ	**Clausthal**	**6.71 80**	*e*Pn		**Pn**	**03 44 00.2**	**+1.1**
CLZ			*e*Sn		**Sn**	**03 45 13.8**	**-1.5**
OGSM	**Saint Maurice**	**6.79 142**	Pn		**Pn**	**03 44 01.7**	**+1.5**
OGSM			Sn		**Sn**	**03 45 13.5**	**-3.8**
MONQ	**Montcuq**	**6.81 171**	Pn		**Pn**	**03 44 00.8**	**+0.3**
MONQ			Sn		**Sn**	**03 45 14.8**	**-3.0**
SENIN	**Lac Senin/Sane**	**6.91 130**	Pn		**Pn**	**03 44 03.8**	**+1.8**
POSS	**Possen**	**7.02 84**	*e*Pn		**Pn**	**03 44 05.4**	**+2.1**
BSEG	**Bad Segeberg**	**7.07 62**	*e*Pn		**Pn**	**03 44 05.3**	**+1.3**
VIVF	**Saint-Julien-l**	**7.08 150**	*e*Pn		**Pn**	**03 44 04.4**	**+0.2**
VIVF			*e*Sn		**Sn**	**03 45 22.9**	**-1.6**
	comp=E,2.1nm,0.3s						
VIVF			*e*Sg		**Sg**	**03 46 06.6**	**-1.6**
	comp=E,10.0nm,0.5s						
DIX	**Grande Dixence**	**7.17 132**	Pn		**Pn**	**03 44 08.2**	**+2.6**
DIX	**Grande Dixence**	**7.17 132**	Sn		**Sn**	**03 45 24.3**	**-2.5**
REMY	**Saint-Rhmy-en**	**7.23 134**	Pn		**Pn**	**03 44 08.5**	**+2.1**
LPG	**La Plagne**	**7.32 137**	*e*Pn		**Pn**	**03 44 08.0**	**+0.4**
LPG			*e*Sn		**Sn**	**03 45 26.1**	**-4.5**
	comp=E,7.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.45 144**	*e*Pn		**Pn**	**03 44 11.2**	**+2.0**
ORIF			*e*Sn		**Sn**	**03 45 29.6**	**-3.9**
	comp=E,2.0nm,0.2s						
ORIF			*e*Sg		**Sg**	**03 46 18.5**	**-1.3**
	comp=E,7.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**7.45 144**	Pn		**Pn**	**03 44 10.3**	**+1.1**
GRA1	**Grafenberg Arr**	**7.50 96**	Pn		**Pn**	**03 44 10.4**	**+0.5**
OGMO	**Fort Saint-Gob**	**7.52 139**	Pn		**Pn**	**03 44 12.3**	**+2.0**
SATI	**Passo dei Sala**	**7.54 131**	Sn		**Sn**	**03 45 33.2**	**-2.9**
SATI	**Passo dei Sala**	**7.54 131**	Pn		**Pn**	**03 44 11.5**	**+0.8**
MOX	**Moxa**	**7.56 89**	*e*Pn		**Pn**	**03 44 12.5**	**+1.8**
LASF	**Ste Croix**	**7.57 157**	*e*Pn		**Pn**	**03 44 11.4**	**+0.5**
LASF			*e*Sn		**Sn**	**03 45 35.1**	**-1.4**
	comp=E,5.8nm,0.7s						
LASF			*e*Sg		**Sg**	**03 46 22.5**	**-1.2**
	comp=E,12nm,0.7s						
UBR	**Ueberruh**	**7.61 113**	*e*Pn		**Pn**	**03 44 14.0**	**+2.6**
UBR			*e*Sn		**Sn**	**03 45 36.4**	**-1.0**
UBR			*e*Sg		**Sg**	**03 46 32.7**	**+7.8**
BNI	**Bardonecchia**	**7.65 140**	Pn		**Pn**	**03 44 13.4**	**+1.4**
TUE	**Stuetta**	**7.88 122**	Pn		**Pn**	**03 44 17.5**	**+2.3**
MBDF	**Montbardon**	**7.95 141**	*e*Pn		**Pn**	**03 44 18.6**	**+2.4**
MBDF			*e*Sn		**Sn**	**03 45 41.9**	**-4.1**
	comp=E,1.3nm,0.4s						
MTLF	**Montolieu**	**7.95 167**	*e*Pn		**Pn**	**03 44 16.9**	**+0.8**
MTLF			*e*Sn		**Sn**	**03 45 43.0**	**-2.8**
	comp=E,6.9nm,0.5s						
MTLF			*e*Sg		**Sg**	**03 46 34.7**	**-1.3**
	comp=E,6.7nm,0.5s						
DAVOX	**Davos/Dischmat**	**7.98 119**	Pn		**Pn**	**03 44 19.8**	**+3.3**
	comp=E,0.3nm,0.3s,baz=309,slow=16,SNR=5.9						
DAVOX			Sn		**Sn**	**03 45 51.1**	**+4.5**
	baz=336,slow=20						
DAVOX			Lg		Lg	03 46 39.3	
	comp=E,0.1nm,0.3s,baz=335,slow=18,SNR=1.5						
	comp=E,1.0nm,0.4s						
SJPF	**Ste Jean**	**8.02 185**	*e*Pn		**Pn**	**03 44 17.2**	**+0.2**
SJPF			*e*Sn		**Sn**	**03 45 44.5**	**-2.9**
	comp=E,8.8nm,0.8s						
EPF	**Esparros**	**8.09 177**	*e*Pn		**Pn**	**03 44 17.2**	**-0.8**
EPF			*e*Sn		**Sn**	**03 45 45.2**	**-4.0**
	comp=E,7.8nm,0.4s						
EPF			*e*Sg		**Sg**	**03 46 37.1**	**-3.2**
	comp=E,15nm,0.6s						
TANN	**Tannenbergstha**	**8.13 90**	*e*Pn		**Pn**	**03 44 21.1**	**+2.6**
SMRF	**Simiane la Rot**	**8.16 149**	*e*Pn		**Pn**	**03 44 19.9**	**+0.9**
SMRF			*e*Sn		**Sn**	**03 45 49.0**	**-2.0**
	comp=E,1.9nm,0.5s						
SMRF			*e*Sg		**Sg**	**03 46 41.9**	**-0.8**
	comp=E,1.6nm,0.4s						
ETSF	**Etsaut**	**8.21 181**	*e*Pn		**Pn**	**03 44 20.8**	**+1.1**
ETSF			*e*Sn		**Sn**	**03 45 46.7**	**-5.5**
	comp=E,2.1nm,0.3s						
ETSF			*e*Sg		**Sg**	**03 46 41.0**	**-3.2**
	comp=E,19nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**8.28 119**	Pn		**Pn**	**03 44 22.3**	**+1.5**
CLL	**Collm**	**8.36 83**	*e*Pg		Pg	03 45 05.0	+4.1
CLL			*e*Sn		**Sn**	**03 45 49.0**	**-6.8**
CLL			*ex*		x	03 46 08.0	
CLL			*e*Sg		**Sg**	**03 46 49.0**	**0.0**
SQTA	**Sankt Quirin**	**8.48 113**	*i* Pn		**Pn**	**03 44 28.2**	**+4.7**
	comp=E,0.6nm,0.2s						
CEST	**Esterri de Car**	**8.57 172**	Pn		**Pn**	**03 44 27.3**	**+2.5**
SBF	**Sospel**	**8.94 141**	*e*Pn		**Pn**	**03 44 30.9**	**+1.3**
SBF			*e*Sn		**Sn**	**03 46 08.4**	**-1.6**
	comp=E,7.4nm,0.5s						
LMR	**La Mourre**	**9.04 147**	*e*Pn		**Pn**	**03 44 32.4**	**+1.4**
LMR			*e*Sn		**Sn**	**03 46 08.4**	**-4.2**
	comp=E,0.6nm,0.3s						
KHC	**Kasperske Hory**	**9.14 97**	*e*PN		**Pn**	**03 44 36.2**	**+3.9**
KHC			*e*SN		Sn	03 46 37.7	+23
GEC2	**GERESS Array S**	**9.30 99**	Pn		**Pn**	**03 44 36.6**	**+1.9**
GERES	**GERESS Array B**	**9.30 99**	Pn		**Pn**	**03 44 37.5**	**+2.8**
	comp=E,0.3nm,0.3s,baz=263,slow=22,SNR=4.1						
GERES			Sn		**Sn**	**03 46 20.8**	**+1.7**
	baz=292,slow=21,SNR=2.3						
GERES			Lg		Lg	03 47 21.0	
	comp=E,0.1nm,0.3s,baz=73,slow=41,SNR=1.6						
	comp=E,0.5nm,0.4s						
KONO	**Kongsberg**	**10.24 29**	Pn		**Pn**	**03 44 46.3**	**-1.0**
NBO00	**NORSAR Array S**	**11.70 27**	Pn		**Pn**	**03 45 06.4**	**-0.9**
ESDC	**Sonseca Array**	**11.71 194**	Pn		**Pn**	**03 45 06.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=7.3,slow=13,SNR=5.2						
	comp=E,0.2nm,0.3s						
NOA	**NORSAR Array B**	**11.83 28**	Pn		**Pn**	**03 45 06.0**	**-3.2**
	baz=185,slow=16,SNR=1.5						
	comp=E,0.4nm,0.8s						
FINES	**FINESS Array B**	**17.80 44**	P		**P**	**03 46 30.3**	**+1.6**
	comp=E,0.1nm,0.3s,baz=240,slow=11,SNR=1.7						
	comp=E,4.0nm,1.1s						
ARCES	**ARCESS Array B**	**22.14 24**	P		**P**	**03 47 16.7**	**+0.8**
	comp=E,3.0nm,0.8s,baz=218,slow=11,SNR=2.0						
	comp=E,3.0nm,0.8s						
MMAI	**Mount Meron Ar**	**31.67 111**	LR		LR	04 03 20.8	
	comp=E,108nm,21.9s,baz=196,slow=40						

*TAP **27** 03:49:37.7,24.°70N×122.°40E,h114km,ML3.3,C*
*JMA **27** 03:49:38.7±0.1,25.°N±.°×122.°5E±0.°3,h102km±1km,*
MV2.3/12,NW OFF ISHIGAKIJIMA IS

ISC 27 03:49:38.0±1.4,24.°66N±0.°04×122.°48E±0.°03,h105km±7km,
n82,σ0°97/147,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**223**	*i* P	**Pn**	**03 49 53.6**	**+0.5**
EOS2				*i* S	**Sn**	**03 50 06.1**	**+1.7**
EOS3	**EOS3**	**0.40**	**202**	P	**Pn**	**03 49 54.3**	**+0.7**
EOS3				S	**Sn**	**03 50 06.5**	**+1.5**
JYNG	**Yonagunijimaku**	**0.47**	**116**	*e*P	**Pn**	**03 49 54.3**	**+0.2**
JYNG				*e*S	**Sn**	**03 50 06.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.52**	**112**	*e*P	**Pn**	**03 49 54.8**	**+0.4**
YOJ				*e*S	**Sn**	**03 50 06.4**	**-0.4**
YOJ	**Yonaguni jima**	**0.52**	**112**	*e*P	**Pn**	**03 49 54.7**	**+0.2**
YOJ				*e*S	**Sn**	**03 50 06.2**	**-0.6**
EGS		**0.53**	**290**	*e*P	**Pn**	**03 49 53.7**	**-0.8**
EGS				*e*S	**Sn**	**03 50 05.6**	**-1.3**
EOS4	**EOS4**	**0.56**	**195**	P	**Pn**	**03 49 54.4**	**+0.1**
EOS4				S	**Sn**	**03 50 06.8**	**+0.3**
TWB1	**Santiao Chiao**	**0.56**	**308**	P	**Pn**	**03 49 54.5**	**-0.3**
TWC	**Suao**	**0.58**	**265**	P	**Pn**	**03 49 54.7**	**-0.1**
TWC				S	**Sn**	**03 50 06.5**	**-0.9**
ESAO	**Su ao**	**0.58**	**262**	P	**Pn**	**03 49 54.6**	**-0.3**
TIPB	**Shuangxi**	**0.67**	**298**	*e*S	**Sn**	**03 50 08.3**	**-0.7**
EWUT	**Wuta**	**0.67**	**252**	P	**Pn**	**03 49 55.9**	**+0.3**
EWUT				S	**Sn**	**03 50 09.4**	**+0.5**
NDS	**Dongshan**	**0.69**	**268**	P	**Pn**	**03 49 56.5**	**+0.6**
NDS				*e*S	**Sn**	**03 50 10.6**	**+1.3**
SXI1	**Grass Mountain**	**0.70**	**308**	P	**Pn**	**03 49 56.0**	**0.0**
ENA	**Nanau**	**0.71**	**251**	P	**Pn**	**03 49 56.2**	**+0.2**
ENA				S	**Sn**	**03 50 09.6**	**+0.1**
TWE	**Neicheng**	**0.74**	**275**	P	**Pn**	**03 49 56.5**	**+0.2**
TWE				S	**Sn**	**03 50 09.5**	**-0.5**
EAHA	**Aohua**	**0.75**	**244**	P	**Pn**	**03 49 56.6**	**+0.2**
EAHA				*e*S	**Sn**	**03 50 10.2**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.82**	**277**	*i* P	**Pn**	**03 49 57.2**	**+0.2**
FUSB				S	**Sn**	**03 50 10.4**	**-1.0**
ENTT	**Nioudou**	**0.83**	**269**	P	**Pn**	**03 49 57.7**	**+0.5**
ENTT				*e*S	**Sn**	**03 50 11.7**	**+0.2**
LATG	**Datong**	**0.88**	**262**	P	**Pn**	**03 49 58.0**	**+0.4**
LATG				S	**Sn**	**03 50 12.8**	**+0.3**
NWLT	**Wulai**	**0.90**	**278**	P	**Pn**	**03 49 57.8**	**0.0**
NWLT				*e*S	**Sn**	**03 50 12.0**	**-0.6**
ETL	**Fush Village**	**0.93**	**238**	*e*P	**Pn**	**03 49 57.9**	**-0.2**
ETL				*e*S	**Sn**	**03 50 12.9**	**-0.3**
NACB	**Ninganchiao**	**0.94**	**239**	P	**Pn**	**03 49 57.9**	**-0.3**
NACB				*e*S	**Sn**	**03 50 12.9**	**-0.5**
YM01	**YM01**	**0.96**	**301**	P	**Pn**	**03 49 58.6**	**+0.2**
YM01				S	**Sn**	**03 50 13.3**	**-0.5**
ZUZH	**Zhuzihu**	**0.98**	**301**	P	**Pn**	**03 49 58.6**	**-0.1**
ZUZH				S	**Sn**	**03 50 13.3**	**-1.0**
TWD	**Chiawan**	**0.99**	**235**	P	**Pn**	**03 49 58.9**	**+0.1**
TWD				S	**Sn**	**03 50 14.1**	**-0.2**
YHNB	**Yeheng**	**1.00**	**271**	P	**Pn**	**03 49 59.5**	**+0.5**
YHNB				S	**Sn**	**03 50 14.8**	**+0.1**
ETLH	**Xiulin Townshi**	**1.01**	**244**	P	**Pn**	**03 49 59.0**	**-0.1**
ETLH				*e*S	**Sn**	**03 50 14.2**	**-0.7**
NSK	**Sanguang**	**1.02**	**271**	*i* P	**Pn**	**03 49 59.5**	**+0.4**
NSK				S	**Sn**	**03 50 14.7**	**-0.3**
NNSB	**Datong**	**1.02**	**257**	P	**Pn**	**03 49 59.5**	**+0.3**
NNSB				S	**Sn**	**03 50 15.3**	**+0.1**
NNS	**Nan Shan**	**1.03**	**258**	P	**Pn**	**03 49 59.5**	**+0.2**
NNS				S	**Sn**	**03 50 15.0**	**-0.3**
TWS1	**Kuangyinshan**	**1.06**	**295**	*e*P	**Pn**	**03 49 58.7**	**-0.8**
NTST	**Danshui**	**1.06**	**298**	*e*P	**Pn**	**03 49 59.0**	**-0.5**
NTST				*e*S	**Sn**	**03 50 15.2**	**-0.5**
ETM	**Tongmen**	**1.14**	**233**	P	**Pn**	**03 50 00.2**	**-0.1**
ETM				S	**Sn**	**03 50 15.9**	**-1.2**
LXIB	**Xiulin Townshi**	**1.16**	**237**	P	**Pn**	**03 50 00.4**	**-0.4**
LXIB				*e*S	**Sn**	**03 50 16.6**	**-1.3**
IRIF	**Iriomote-Funau**	**1.19**	**106**	P	**Pn**	**03 50 01.1**	**+0.2**
IRIF				*e*S	**Sn**	**03 50 18.0**	**0.0**
KSHI	**Guanxi Townshi**	**1.19**	**276**	*e*P	**Pn**	**03 50 01.8**	**+0.8**
KSHI				*e*S	**Sn**	**03 50 18.9**	**+0.7**
FUSS	**Fushou**	**1.20**	**250**	P	**Pn**	**03 50 01.8**	**+0.5**
FUSS				S	**Sn**	**03 50 18.4**	**-0.4**
SHUL	**Shoufeng**	**1.21**	**224**	*e*P	**Pn**	**03 50 01.1**	**0.0**
SHUL				*e*S	**Sn**	**03 50 18.5**	**0.0**
WHF	**Hehuan Shan**	**1.22**	**245**	P	**Pn**	**03 50 01.8**	**+0.1**
WHF				*e*S	**Sn**	**03 50 19.1**	**-0.4**
NFF	**Wufeng Townshi**	**1.24**	**269**	P	**Pn**	**03 50 01.9**	**+0.4**
NFF				S	**Sn**	**03 50 19.1**	**-0.2**
TWT	**Tachien**	**1.25**	**251**	P	**Pn**	**03 50 02.9**	**+1.0**
TDCB	**Techi**	**1.27**	**252**	P	**Pn**	**03 50 02.9**	**+0.9**
TDCB				S	**Sn**	**03 50 20.0**	**-0.1**
ESL	**Shilin**	**1.27**	**229**	P	**Pn**	**03 50 01.4**	**-0.5**
ESL				S	**Sn**	**03 50 18.6**	**-1.3**
LIOB	**Emei**	**1.33**	**270**	P	**Pn**	**03 50 02.9**	**+0.4**
LIOB				S	**Sn**	**03 50 21.1**	**0.0**
NSTT	**Nanjuang**	**1.34**	**269**	S	**Sn**	**03 50 21.2**	**-0.2**
WARBT	**Fenglin Townsh**	**1.37**	**227**	P	**Pn**	**03 50 02.4**	**-0.6**
WARBT				S	**Sn**	**03 50 20.0**	**-2.0**
OWD	**Renai**	**1.38**	**240**	S	**Sn**	**03 50 21.6**	**-0.8**
WUSB	**Renai**	**1.41**	**242**	P	**Pn**	**03 50 04.2**	**+0.6**
WUSB				S	**Sn**	**03 50 22.7**	**-0.3**
WHP	**Taichung City**	**1.45**	**255**	S	**Sn**	**03 50 24.1**	**+0.4**
JKRS	**Kuro-shima**	**1.46**	**106**	*e*P	**Pn**	**03 50 04.7**	**+0.7**
JKRS				*e*S	**Sn**	**03 50 23.8**	**+0.1**
HGSD	**Ruisui**	**1.51**	**220**	P	**Pn**	**03 50 04.3**	**-0.4**
HGSD				*e*S	**Sn**	**03 50 24.8**	**-0.1**
VWDT	**VWDT**	**1.52**	**234**	*e*P	**Pn**	**03 50 05.2**	**+0.5**
VWDT				*e*S	**Sn**	**03 50 24.7**	**-0.4**
NMLH	**Miaoli**	**1.54**	**266**	*e*S	**Sn**	**03 50 25.2**	**-0.4**
JIJ	**Ishigaki jima**	**1.54**	**101**	P	**Pn**	**03 50 05.4**	**+0.3**
JIJ				*e*S	**Sn**	**03 50 24.7**	**-0.9**
WCS	**Beigang Elemen**	**1.55**	**248**	P	**Pn**	**03 50 06.2**	**+1.0**
WCS				*e*S	**Sn**	**03 50 27.4**	**+1.6**
EHY	**Hungye**	**1.56**	**223**	*e*P	**Pn**	**03 50 05.0**	**-0.4**
EHY				*e*S	**Sn**	**03 50 23.9**	**-2.1**
TWQ1	**Liyutan**	**1.58**	**259**	*e*S	**Sn**	**03 50 27.1**	**+0.5**
SMLT	**Sun Moon Lake**	**1.64**	**242**	*e*P	**Pn**	**03 50 07.1**	**+0.7**
SMLT				S	**Sn**	**03 50 28.8**	**+1.0**
SSLB	**Suanglung**	**1.64**	**238**	*e*P	**Pn**	**03 50 07.4**	**+1.1**
SSLB				*e*S	**Sn**	**03 50 29.0**	**+1.2**
TYC	**Yuchr**	**1.66**	**243**	*e*P	**Pn**	**03 50 08.3**	**+1.8**
TYC				*e*S	**Sn**	**03 50 29.4**	**+1.2**
YULB	**Yu-li**	**1.66**	**221**	P	**Pn**	**03 50 06.0**	**-0.6**
YULB				S	**Sn**	**03 50 26.2**	**-2.0**
JISG	**Ishigakijimahi**	**1.67**	**92**	*e*S	**Sn**	**03 50 28.1**	**-0.3**
TWF1	**Yuli**	**1.69**	**220**	P	**Pn**	**03 50 06.5**	**-0.5**
TWF1				*e*S	**Sn**	**03 50 27.5**	**-1.5**
WHYT	**Xinyi Township**	**1.77**	**237**	P	**Pn**	**03 50 09.5**	**+1.6**
WHYT				S	**Sn**	**03 50 32.4**	**+1.7**
FULB	**Fuli**	**1.81**	**217**	*e*P	**Pn**	**03 50 09.5**	**+1.0**
FULB				*e*S	**Sn**	**03 50 31.1**	**-0.6**
ALS	**Alishan**	**1.91**	**234**	*e*P	**Pn**	**03 50 11.9**	**+1.9**
ALS				*e*S	**Sn**	**03 50 36.0**	**+1.7**
CHN5	**Tsauling**	**1.96**	**238**	*e*P	**Pn**	**03 50 11.4**	**+1.1**
CHN5				*e*S	**Sn**	**03 50 36.8**	**+1.8**
ELDTW	**Lidau**	**1.98**	**223**	*e*S	**Sn**	**03 50 34.2**	**-1.4**
EDH	**Donghe**	**2.00**	**213**	*e*S	**Sn**	**03 50 33.7**	**-2.0**
JTJ	**Tarama**	**2.02**	**90**	*e*P	**Pn**	**03 50 11.9**	**+0.8**
JTJ				*e*S	**Sn**	**03 50 36.4**	**0.0**
WCKO	**Fanlu**	**2.10**	**235**	*e*P	**Pn**	**03 50 13.8**	**+1.7**
LONT	**Longtian**	**2.14**	**216**	*e*S	**Sn**	**03 50 38.4**	**-0.6**
STYH	**Taoyuan**	**2.15**	**227**	*e*P	**Pn**	**03 50 14.0**	**+1.2**
STYH				*e*S	**Sn**	**03 50 41.1**	**+1.7**
CHN4	**Tsaushan**	**2.16**	**233**	P	**Pn**	**03 50 14.2**	**+1.3**
CHN4				*e*S	**Sn**	**03 50 41.1**	**+1.5**
TPUB	**Ta-pu**	**2.17**	**232**	*e*P	**Pn**	**03 50 14.4**	**+1.4**
TPUB				*e*S	**Sn**	**03 50 41.7**	**+2.0**
LDUT	**Ludao**	**2.18**	**205**	*e*P	**Pn**	**03 50 12.6**	**-0.7**
LDUT				*e*S	**Sn**	**03 50 37.3**	**-2.8**
TWK	**Hsinying**	**2.29**	**233**	*e*P	**Pn**	**03 50 15.4**	**+0.8**
TWK				*e*S	**Sn**	**03 50 43.9**	**+1.2**
CHN1	**Nanshi**	**2.31**	**231**	*e*P	**Pn**	**03 50 16.1**	**+1.2**
CHN1				*e*S	**Sn**	**03 50 44.8**	**+1.7**
PHUB	**P'eng-hu**	**2.89**	**247**	P	**Pn**	**03 50 21.1**	**-1.3**
PHUB				*e*S	**Sn**	**03 50 54.2**	**-2.4**
WDGT	**Dungji**	**2.93**	**242**	*e*S	**Sn**	**03 50 55.8**	**-1.9**
VCHM	**Qimei**	**3.14**	**243**	*e*P	**Pn**	**03 50 26.0**	**+0.2**
VCHM				*e*S	**Sn**	**03 51 00.0**	**-2.6**

DJA 27 04:07:20.5±0.8,6.°S±4.°×13.°1E±.°,h255km±18km,M4.1/8,
mB4.5/2,mb3.8/5,MLv4.3/8,Mw(mB)3.7/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.67**	**154**	P	Pn	04 08 01.1	+0.5
BNDI	**Bandanaira**	**2.05**	**342**	P	Pn	04 07 59.4	-4.5
FAKI	**Fak Fak**	**3.92**	**26**	P	Pn	04 08 22.4	-1.3
FAKI				S	S	04 09 05.1	-8.8
KMPI	**Kaimana, Papua**	**4.21**	**48**	P	Pn	04 08 27.3	+0.3
KMPI				S	S	04 09 14.9	-5.0
SWI	**Sorong**	**5.62**	**7**	P	Pn	04 08 44.4	+0.2
	0.5nm13nm,0.5s						
SOEI	**Soe**	**7.02**	**242**	P	Pn	04 09 01.5	-0.2

*IDC **27** 04:21:45.4±0.6,49.°46S×116.°08W,h0km,mb4.2/9,*
mbtmp4.2/9,MS3.7/9,Error ellipse: s-maj=27.3km
s-min=18.7km az=159.0
*NEIC **27** 04:21:47.3±0.9,49.°5S±0.°2×116.°1W±0.°2,h10km±1km,*
mb4.6/18,Error ellipse: s-maj=32.1km s-min=10.2km
az=329.0

ISC 27 04:21:46.7±0.5,49.°6S±0.°1×116.°1W±0.°1,h10km,n59,
σ0°83/41,mb4.5/15,MS3.8/9,1C,Southern East Pacific
Rise

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

SONM Songino Array 152.19 283 PKPbc **PKPbc 04 41 41.8 0.0**
comp=Z,0.7nm,0.7s,baz=142,slow=2.6,SNR=6.3
SONM PKPab **PKPab 04 41 51.9 +0.2**
comp=Z,0.9nm,0.8s,baz=140,slow=4.0,SNR=4.8
BRTR Keskin Array B 156.46 103 PKP **PKPdf 04 41 42.0 +0.6**
comp=Z,1.0nm,0.9s,baz=255,slow=4.9,SNR=3.5
BRTR PKPab **PKPab 04 42 10.8 +0.8**
comp=Z,1.4nm,0.9s,baz=232,slow=6.1,SNR=4.6
ZALV Zalesovo Beam 166.35 297 PKPab **PKPab 04 42 52.5 -0.2**
comp=Z,0.7nm,0.7s,baz=107,slow=2.0,SNR=3.6
MKAR Makanchi Array 167.44 264 PKPab **PKPab 04 42 58.5 +0.6**
comp=Z,0.3nm,0.7s,baz=95,slow=5.8,SNR=3.3
BVAR Borovoye Array 174.66 313 PKPab **PKPab 04 43 28.9 -0.7**
comp=Z,0.5nm,0.6s,baz=39,slow=2.9,SNR=2.5

---

*SDD **27** 04:22:18.8±0.7, 19°.59N×65°.54W, h23km±140km, MD3.4, ML2.4, MW2.6*
*NEIC **27** 04:22:20.6±0.7, 19°.35N±0°.08×65°.10W±0°.09, h35km±2km, ML2.3/18, Md3.2/9(RSPR), Error ellipse: s-maj=19.8km s-min=3.1km az=134.0*
*RSPR **27** 04:22:21.4, 19°.36N×65°.09W, h38km±24km, MD3.2/9*
ISC 27 04:22:16.7±2.4, 19°.4N±0°.1×65°.19W±0°.05, h7km±11km, n41, σ0°72/48, 7C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.36 219**			**Pg**	**04 22 43.0**	**+0.1**
GCPR					**Sg**	**04 23 00.4**	**-0.1**
GCPR				IAML		04 23 23.0	
	comp=E,33nm,2.5s						
GCPR	**Guaynabo City**	**1.36 219**	⇑	*e*P	**Pb**	**04 22 42.9**	**+0.3**
GCPR	**Guaynabo City**	**1.36 219**	*e*S		**Sg**	**04 23 00.5**	**-0.1**
HUMP	**Col San Antoni**	**1.38 207**			**Pg**	**04 22 43.5**	**+0.3**
HUMP					**Sg**	**04 23 01.3**	**+0.1**
HUMP				IAML		04 23 06.5	
	comp=E,29nm,0.2s						
HUMP	**Col San Antoni**	**1.38 207**	⇑	*e*P	**Pg**	**04 22 43.5**	**+0.3**
HUMP	**Col San Antoni**	**1.38 207**	*e*S		**Sg**	**04 23 01.2**	**0.0**
ECPR	**Experimental S**	**1.53 227**	‖	*e*P	**Pg**	**04 22 46.2**	**0.0**
ECPR	**Experimental S**	**1.53 227**	*e*S		**Sb**	**04 23 05.3**	**+0.2**
SJG	**San Juan**	**1.56 216**	Pn		**Pb**	**04 22 46.0**	**+0.2**
SJG				IAML		04 23 16.6	
	comp=E,50nm,0.2s						
SJG				IAML		04 23 17.1	
	comp=E,38nm,0.3s						
SJG	**San Juan**	**1.56 216**	*e*Pg		**Pg**	**04 22 46.5**	**-0.1**
SJG			*e*Sg		**Sg**	**04 23 06.3**	**-0.5**
PDPR	**Patillas Dam,**	**1.57 210**	Pn		**Pb**	**04 22 46.3**	**+0.2**
PDPR	**Patillas Dam,**	**1.57 210**	‖	*e*P	**Pb**	**04 22 46.0**	**-0.1**
PDPR	**Patillas Dam,**	**1.57 210**	*e*S		**Sb**	**04 23 05.5**	**-0.6**
IGPR	**InterUniversit**	**1.66 212**			**Pb**	**04 22 47.7**	**+0.1**
IGPR	**InterUniversit**	**1.66 212**			**Sb**	**04 23 07.5**	**-1.1**
IGPR				IAML		04 23 11.6	
	comp=E,43nm,0.3s						
IGPR				IAML		04 23 12.3	
	comp=N,48nm,0.3s						
IGPR	**InterUniversit**	**1.66 212**	⇑	*e*P	**Pb**	**04 22 47.7**	**+0.1**
IGPR	**InterUniversit**	**1.66 212**	*e*S		**Sn**	**04 23 07.0**	**-0.7**
AOPR	**Arecibo Observ**	**1.80 236**			**Pb**	**04 22 49.9**	**-0.2**
AOPR					**Sn**	**04 23 11.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.80 236**	*e*Pg		**Pn**	**04 22 48.1**	**-0.1**
AOPR			*e*Sg		**Sn**	**04 23 09.6**	**-1.8**
AOPR				IAML		04 23 26.0	
	comp=N,49nm,1.1s						
AOPR	**Arecibo Observ**	**1.80 236**	‖	*e*P	**Pb**	**04 22 49.9**	**-0.2**
AOPR	**Arecibo Observ**	**1.80 236**	*e*S		**Sn**	**04 23 11.8**	**+0.4**
CELP	**Cerrillos**	**1.85 226**			**Pb**	**04 22 50.4**	**-0.5**
CELP	**Cerrillos**	**1.85 226**			**Sb**	**04 23 13.2**	**-1.0**
CELP				IAML		04 23 25.4	
	comp=E,25nm,2.9s						
CELP				IAML		04 23 28.1	
	comp=N,22nm,3.0s						
CELP	**Cerrillos**	**1.85 226**	*e*Pg		**Pn**	**04 22 49.5**	**+0.6**
CELP			*e*Sg		**Sb**	**04 23 13.3**	**-0.9**
CELP				IAML		04 23 27.6	
	comp=N,21nm,3.9s						
CELP	**Cerrillos**	**1.85 226**	‖	*e*P	**Pb**	**04 22 50.4**	**-0.5**
CELP	**Cerrillos**	**1.85 226**	*e*S		**Sb**	**04 23 13.4**	**-0.8**
OBIP	**Obispado Ponce**	**1.89 226**			**Pn**	**04 22 50.4**	**+1.0**
OBIP				IAML		04 23 05.6	
	comp=E,22nm,2.4s						
OBIP	**Obispado Ponce**	**1.89 226**			**Sn**	**04 23 13.9**	**+0.4**
OBIP	**Obispado Ponce**	**1.89 226**		IAML		04 23 51.5	
	comp=N,33nm,2.8s						
OBIP	**Obispado Ponce**	**1.89 226**	⇑	*e*P	**Pn**	**04 22 50.2**	**+0.8**
OBIP	**Obispado Ponce**	**1.89 226**	*e*S		**Sn**	**04 23 13.9**	**+0.4**
PRSN	**Puerto Rico Se**	**2.19 238**	*e*Pg		**Pn**	**04 22 54.1**	**+0.7**
PRSN			⇑*e*Sg		**Sn**	**04 23 20.0**	**-0.7**
PRSN				IAML		04 23 39.3	
	comp=N,32nm,0.8s						
MLPR	**Magueyes Islan**	**2.25 232**	*e*Pg		**Pn**	**04 22 55.6**	**+1.3**
MLPR			*e*Sg		**Sn**	**04 23 22.8**	**+0.5**
MLPR				IAML		04 23 32.2	
	comp=N,15nm,2.0s						
CRPR	**Cabo Rojo, PR**	**2.28 233**			**Pb**	**04 22 57.1**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.28 233**			**Sn**	**04 23 24.3**	**+1.3**
CRPR	**Cabo Rojo, PR**	**2.28 233**		IAML		04 23 20.7	
	comp=N,41nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.28 233**	*e*Pg		**Pn**	**04 22 55.8**	**+1.1**
CRPR			*e*Sg		**Sn**	**04 23 23.1**	**+0.1**
CRPR				IAML		04 23 31.7	
	comp=N,46nm,2.7s						
CRPR	**Cabo Rojo, PR**	**2.28 233**	⇑	*e*P	**Pb**	**04 22 57.1**	**-1.0**
CRPR	**Cabo Rojo, PR**	**2.28 233**	*e*S		**Sn**	**04 23 24.3**	**+1.3**
ANBD	**Bethesda, Anti**	**4.00 125**	*e*P		**Pn**	**04 23 19.1**	**+0.8**
ANBD	**Bethesda, Anti**	**4.00 125**	*e*S		**Sn**	**04 24 04.4**	**-1.1**

IDC 27 04:34:12.3±2.0, 1°.07N×127°.70E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=173.1km s-min=23.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.87 163**		P	P	04 39 06.2	-0.8
	0.8nm,0.5s,baz=342,slow=10,SNR=4.6						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.32 167**		P	P	04 39 41.5	+0.6
	0.4nm,0.7s,baz=345,slow=10,SNR=4.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.28 326**		P	P	04 44 22.6	-0.2
	0.3nm,0.8s,baz=132,slow=6.7,SNR=2.5						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**64.49 328**		P	P	04 44 50.8	0.0
	0.2nm,0.4s,baz=128,slow=6.0,SNR=5.1						
	0.2nm,0.4s						

---

*SJA **27** 04:35:42.7±0.5, 22°.07S×68°.69W, h120km±3km, ML3.6, MW3.6*
*GUC **27** 04:35:43.7±0.8, 22°.10S×68°.71W, h120km±3km, ML3.4*
ISC 27 04:35:43.9±1.4, 22°.09S±0°.03×68°.73W±0°.05, h118km±9km, n27, σ0°85/44, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56 302**		*e*P	**Pn**	**04 36 02.0**	**-0.2**
PB09				*e*S	**Sn**	**04 36 16.1**	**+0.1**
PB09				IAML		04 36 16.6	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**0.56 302**	⇑	*i*P	**Pn**	**04 36 02.1**	**-0.2**
PB09				*i*S	**Sn**	**04 36 15.6**	**-0.4**
PB09				IAML		04 36 17.3	
	comp=N,1μm,0.3s						
PB03	**IPOC Station P**	**0.95 273**		*e*P	**Pn**	**04 36 04.9**	**-0.6**
PB03				*e*S	**Sn**	**04 36 22.7**	**+1.0**
PB03				IAML		04 36 23.4	
	comp=Z,813nm,0.1s						
PB03	**IPOC Station P**	**0.95 273**	⇑	*i*P	**Pn**	**04 36 05.4**	**0.0**
PB03				*i*S	**Sn**	**04 36 22.1**	**+0.4**
PB03				IAML		04 36 23.4	
	comp=E,889nm,0.1s						
PB06	**IPOC Station P**	**0.99 232**		*e*P	**Pn**	**04 36 05.9**	**+0.1**
PB06				IAML		04 36 23.2	
	comp=Z,747nm,0.3s						
PB06				*e*S	**Sn**	**04 36 23.3**	**+0.9**
PB06	**IPOC Station P**	**0.99 232**	⇑	*i*P	**Pn**	**04 36 05.9**	**+0.1**
PB06				*i*S	**Sn**	**04 36 22.7**	**+0.3**
PB06				IAML		04 36 23.3	
	comp=E,1μm,0.3s						
AF01	**San Pedro de A**	**0.99 149**		*e*P	**Pn**	**04 36 05.8**	**-0.3**
AF01				*e*S	**Sn**	**04 36 23.9**	**+1.1**
AF01				IAML		04 36 44.5	
	comp=Z,686nm,0.8s						
AF01	**San Pedro de A**	**0.99 149**	‖	*i*P	**Pn**	**04 36 05.4**	**-0.7**
AF01				*i*S	**Sn**	**04 36 22.0**	**-0.8**
AF01				IAML		04 36 24.5	
	comp=E,872nm,0.2s						
PB01	**IPOC Station P**	**1.26 326**		*e*P	**Pn**	**04 36 08.4**	**-0.2**
PB01				*e*S	**Sn**	**04 36 27.6**	**+0.3**
PB01				IAML		04 36 34.4	
	comp=Z,509nm,0.1s						
PB01	**IPOC Station P**	**1.26 326**	⇑	*i*P	**Pn**	**04 36 08.4**	**-0.2**
PB01				*i*S	**Sn**	**04 36 26.8**	**-0.6**
PB01				IAML		04 36 29.2	
	comp=E,507nm,0.2s						
PB08	**IPOC Station P**	**1.98 348**		*e*P	Pn	04 36 06.2	-11
PB08				*e*S	**Sn**	**04 36 41.2**	**-1.8**
PB08	**IPOC Station P**	**1.98 348**		*e*P	**Pn**	**04 36 18.1**	**+0.6**
PB08				*i*S	**Sn**	**04 36 44.6**	**+1.6**
PB08				IAML		04 36 47.5	
	comp=N,124nm,0.3s						
TA01	**Diego Aracena**	**2.04 318**		*e*P	**Pn**	**04 36 17.5**	**-0.2**
TA01				*e*S	**Sn**	**04 36 43.8**	**+0.2**
TA01				IAML		04 36 51.1	
	comp=Z,217nm,0.2s						
TA01	**Diego Aracena**	**2.04 318**	⇑	*i*P	**Pn**	**04 36 17.2**	**-0.6**
TA01				*i*S	**Sn**	**04 36 43.7**	**+0.2**
TA01				IAML		04 36 51.5	
	comp=E,436nm,0.4s						
TA02	**Huaiquique**	**2.24 324**		*e*P	**Pn**	**04 36 21.4**	**+1.1**
TA02				IAML	Sn	04 36 57.9	+10
	comp=Z,497nm,0.1s						
TA02				*e*S	Sn	04 36 57.9	+10
TA02	**Huaiquique**	**2.24 324**		*e*P	**Pn**	**04 36 19.7**	**-0.6**
TA02				*i*S	**Sn**	**04 36 48.3**	**+0.2**
PB11	**IPOC Station P**	**2.48 339**		*e*P	**Pn**	**04 36 23.2**	**-0.4**
PB11				*e*S	**Sn**	**04 36 56.1**	**+2.2**
PB11				IAML		04 36 59.4	
	comp=Z,132nm,0.3s						
PB11	**IPOC Station P**	**2.48 339**		*e*P	**Pn**	**04 36 23.1**	**-0.4**
PB11				*i*S	**Sn**	**04 36 53.1**	**-0.8**
PB14	**IPOC Station P**	**2.95 211**		*e*P	**Pn**	**04 36 31.1**	**+1.2**
PB14				*e*S	Sn	04 36 53.8	-11
PB14				IAML		04 37 15.5	
	comp=Z,211nm,0.2s						
PB14	**IPOC Station P**	**2.95 211**		*e*P	**Pn**	**04 36 30.6**	**+0.7**
PB14				*e*S	**Sn**	**04 37 03.5**	**-1.6**
PB14				IAML		04 37 15.8	
	comp=E,182nm,0.2s						
YJA	**Yavi**	**2.98 92**		*e*P	**Pn**	**04 36 30.5**	**+0.1**
GO02	**Mina Guanaco**	**3.15 194**		*e*P	**Pn**	**04 36 33.3**	**+0.8**
GO02				*e*S	Sn	04 36 57.0	-13
GO02	**Mina Guanaco**	**3.15 194**		*e*P	**Pn**	**04 36 32.8**	**+0.3**
PB12	**IPOC Station P**	**3.77 336**		*e*P	**Pn**	**04 36 39.8**	**-0.7**
PB12				*e*S	Sn	04 37 33.3	+8.9
PB12				IAML		04 37 39.0	
	comp=Z,65nm,0.5s						
AZAP	**Zapla**	**3.98 123**		*e*P	**Pn**	**04 36 43.6**	**+0.2**
AC01	**Pan de Azucar**	**4.38 203**		*e*P	**Pn**	**04 36 46.8**	**-1.8**
AC01				*e*S	Sn	04 37 51.1	+12
AC01				IAML		04 37 55.0	
	comp=Z,74nm,0.2s						
AC02	**Maricunga**	**4.73 184**		*e*P	**Pn**	**04 36 54.1**	**+0.3**
AC02				*e*S	Sn	04 37 58.2	+10
AC02				IAML		04 38 11.8	
	comp=Z,23nm,0.3s						

---

*NEIC **27** 04:55:09.6±0.8, 5°.85S±0°.05×106°.01E±0°.08, h104km±8km, mb4.4/12, Error ellipse: s-maj=12.0km s-min=6.7km az=92.0*
*DJA **27** 04:55:15.2±0.4, 6°.S±4°×10°.6E±°, h156km±4km, M3.9/13, mb4.1/2, MLv3.8/13*
*IDC **27** 04:55°.16.2±4.1, 5°.63S×106°.11E, h161km±17km, mb3.2/4, mbtmp3.7/4, MS4.1/1, Error ellipse: s-maj=168.5km s-min=20.4km az=51.0*
ISC 27 04:55:15.0±0.7, 6°.07S±0°.10×105°.86E±0°.09, h159km±6km, n36, σ1°44/34, mb4.0/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.27 101**		P	**Pn**	**04 55 37.3**	**+0.8**
CGJI	**Cibinong**	**0.57 197**		P	**Pn**	**04 55 37.8**	**+0.1**
CGJI				S	**Sn**	**04 55 53.6**	**-1.6**
SKJI	**Sukabumi**	**1.16 143**		P	**Pn**	**04 55 41.6**	**-0.4**
SKJI				S	**Sn**	**04 56 02.7**	**0.0**
CNJI	**Cibinong**	**1.76 134**		P	**Pn**	**04 55 47.2**	**-0.8**
CNJI				S	**Sn**	**04 56 11.7**	**-1.7**
LEM	**Lembang**	**1.90 113**		P	**Pn**	**04 55 51.8**	**+2.1**
	44nm,0.5s,baz=331,slow=19,SNR=4.8						
LEM				S	**Sn**	**04 56 18.2**	**+1.8**
	65nm,0.8s,baz=9.8,slow=18,SNR=5.5						
LEM	**Lembang**	**1.90 113**		P	**Pn**	**04 55 51.8**	**+2.1**
MDSI	**Maura Dua**	**2.30 313**		P	**Pn**	**04 55 55.6**	**+1.5**
MDSI				S	**Sn**	**04 56 26.1**	**+1.7**
CMJI	**Cimerak**	**3.08 124**		P	**Pn**	**04 56 02.7**	**-1.0**
MNAI	**Manna**	**3.36 300**		Pn	Pn	04 56 00.6	-6.6
MNAI	**Manna**	**3.36 300**		P	**Pn**	**04 56 07.8**	**+0.6**
XMIS	**Christmas Isla**	**4.39 183**		Pn	Pn	04 56 17.2	-3.4
UGM	**Wanagama**	**4.97 112**		Pn	Pn	04 56 21.1	-7.2
UGM	**Wanagama**	**4.97 112**		P	**Pn**	**04 56 28.8**	**+0.5**
	0.4nm57nm,1.6s						
PCJI	**Pacitan**	**5.68 112**		P	**Pn**	**04 56 37.8**	**+0.3**
CM31	**Chiang Mai Arr**	**25.31 344**		P	**P**	**05 00 23.2**	**-3.8**
CM31				IAmb	IAmb	05 00 32.9	
	comp=Z,24nm,0.9s						
WB0	**Warramunga Arr**	**30.89 119**		P	**P**	**05 01 16.3**	**-0.4**
WRA	**Warramunga Arr**	**30.91 119**		P	**P**	**05 01 18.3**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=311,slow=8.9,SNR=8.9						
	comp=Z,0.6nm,0.9s						
WB2	**Warramunga Arr**	**30.92 119**		P	**P**	**05 01 15.7**	**-1.2**
WB2				IAmb	IAmb	05 01 28.3	
	comp=Z,4.9nm,1.2s						
ASAR	**Alice Springs**	**32.15 126**		P	**P**	**05 01 29.2**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=297,slow=8.0,SNR=4.5						
	comp=Z,0.3nm,0.3s						
STKA	**Stephens Creek**	**42.10 132**		P	**P**	**05 02 51.1**	**-0.3**
STKA				IAmb	IAmb	05 03 28.6	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**42.10 132**		P	**P**	**05 02 52.8**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=300,slow=11,SNR=4.2						
	comp=Z,1.1nm,0.5s						
KRVT	**Keravat (AS076**	**46.00 90**		LR	LR	05 25 39.0	
	comp=Z,231nm,21.0s,baz=89,slow=40						
SONM	**Songino Array**	**53.67 0**		P	**P**	**05 04 19.3**	**-0.9**
MK31	**Makanchi Array**	**56.64 341**		P	**P**	**05 04 40.5**	**-0.8**
MK31				IAmb	IAmb	05 04 50.4	
	comp=Z,2.7nm,1.5s						
MKAR	**Makanchi Array**	**56.64 341**		P	**P**	**05 04 40.0**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=147,slow=8.7,SNR=8.4						
	comp=Z,0.4nm,0.5s						
CASY	**Casey**	**60.20 178**		P	**P**	**05 05 08.1**	**+2.4**
H04N2	**CROZET ISLANDS**	**61.24 220**		T	T	06 11 29.6	
	baz=64						
H04N1	**CROZET ISLANDS**	**61.25 220**		T	T	06 11 26.6	
	baz=64						
H04N3	**CROZET ISLANDS**	**61.26 220**		T	T	06 11 35.0	
	baz=64						
ABKAR	**Akbulak array**	**68.04 330**		P	**P**	**05 05 56.8**	**-0.3**
ABKAR	**Akbulak array**	**68.04 330**		P	**P**	**05 05 56.3**	**-0.8**
ABKAR				IAmb	IAmb	05 06 13.8	
	comp=Z,0.8nm,0.9s						
THZ	**Tophouse**	**68.91 132**		P	**P**	**05 06 02.8**	**0.0**
BKZ	**Black Stump Fm**	**71.19 129**		P	**P**	**05 06 16.8**	**+0.1**
BKZ				IAmb	IAmb	05 06 50.5	
	comp=Z,26nm,1.4s						
QSPA	**South Pole Qui**	**83.92 180**		P	**P**	**05 07 28.6**	**+1.8**
QSPA				IAmb	IAmb	05 08 11.9	
	comp=Z,3.9nm,1.4s						
FINES	**FINESS Array B**	**90.42 332**		P	**P**	**05 07 57.8**	**-0.3**
C18K	**Utukok River**	**96.69 22**		P	**P**	**05 08 26.1**	**-0.7**

---

*KRSC **27** 05:11:53.8±1.2, 53°.35N×162°.15E, h47km±23km, Ml4.6*
*IDC **27** 05:11:58.8±3.4, 53°.61N×161°.60E, h33km±25km, mb4.0/28, mbtmp4.3/33, ML4.4/4, MS3.7/11, Error ellipse: s-maj=15.6km s-min=11.1km az=144.0*
*MOS **27** 05:11:58.1±1.1, 53°.48N×161°.78E, h47km, mb4.7/30, MS3.6/4, Error ellipse: s-maj=6.2km s-min=3.8km az=91.1*
*NEIC **27** 05:11:59.2±1.5, 53°.58N±0°.09×161°.6E±0°.1, h35km±2km, mb4.5/126, Error ellipse: s-maj=17.3km s-min=10.4km az=149.0*
ISC 27 05:11:58.9±0.5, 53°.43N±0°.04×161°.85E±0°.04, h46km±4km, h46km:pP-P, n355, σ1°40/345, mb4.5/134, MS3.9/13, 25C-14D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15 254**		PN	Pn	05 12 17.2	-1.3
SPN	**Mys Shipunski**	**1.15 254**		*e*P	Pn	05 12 17.2	-1.3
NLC	**Nalytchevo**	**1.53 261**		PN	**Pn**	**05 12 22.7**	**-1.0**
NLC	**Nalytchevo**	**1.53 261**		*e*P	**Pn**	**05 12 22.7**	**-1.0**
KII	**Karymskiy**	**1.55 294**		PN	**Pn**	**05 12 22.7**	**-1.4**
KII	**Karymskiy**	**1.55 294**		*e*P	**Pn**	**05 12 22.7**	**-1.4**
UGLR	**Uglovaya**	**1.83 264**		PN	**Pn**	**05 12 27.5**	**-0.4**
UGLR	**Uglovaya**	**1.83 264**		*e*P	**Pn**	**05 12 27.6**	**-0.4**
AVH	**Avacha**	**1.87 266**		PN	**Pn**	**05 12 28.2**	**-0.3**
AVH	**Avacha**	**1.87 266**		*e*P	**Pn**	**05 12 28.3**	**-0.3**
DALK	**Dalny**	**1.91 259**		PN	**Pn**	**05 12 27.9**	**-0.9**
DALK	**Dalny**	**1.91 259**		*e*P	**Pn**	**05 12 27.9**	**-0.9**
KRX	**Arik**	**1.92 269**		PN	**Pn**	**05 12 28.6**	**-0.6**
KRX	**Arik**	**1.92 269**		*e*P	**Pn**	**05 12 28.7**	**-0.6**
KOK	**Koryaka**	**1.93 267**		PN	**Pn**	**05 12 29.0**	**-0.3**
KOK	**Koryaka**	**1.93 267**		*e*P	**Pn**	**05 12 29.1**	**-0.3**
PET	**Petropavlovsk**	**1.97 259**		Pn	**Pn**	**05 12 29.1**	**-0.5**
PET	**Petropavlovsk**	**1.97 259**	*ce*	PN	**Pn**	**05 12 29.2**	**-0.5**
PET				pmax	pmax		
	comp=Z,197nm,1.3s						
PET	**Petropavlovsk**	**1.97 259**		*e*P	**Pn**	**05 12 29.5**	**-0.2**
TUMD	**Tumrok D**	**1.97 335**		*e*P	**Pn**	**05 12 28.6**	**-1.1**
RUS	**Russkaya**	**2.25 245**		PN	**Pn**	**05 12 33.2**	**-0.4**
RUS				S	**Sn**	**05 13 00.9**	**+0.7**
RUS	**Russkaya**	**2.25 245**		*e*P	**Pn**	**05 12 33.3**	**-0.4**
RUS				*e*S	**Sn**	**05 13 01.0**	**+0.7**
KRMR	**Karymshinskiy**	**2.32 256**		PN	**Pn**	**05 12 34.2**	**-0.3**
KRMR	**Karymshinskiy**	**2.32 256**		*e*P	**Pn**	**05 12 34.3**	**-0.3**
GNL	**Ganaly**	**2.35 278**		PN	**Pn**	**05 12 35.5**	**+0.5**
GNL	**Ganaly**	**2.35 278**		*e*P	**Pn**	**05 12 35.6**	**+0.5**
GRL	**Gorelyy**	**2.45 250**		PN	**Pn**	**05 12 36.7**	**+0.3**
GRL	**Gorelyy**	**2.45 250**		*e*P	**Pn**	**05 12 36.8**	**+0.3**
KMNR	**Kamenistaya**	**2.51 339**		PN	**Pn**	**05 12 37.8**	**+0.6**
KMNR	**Kamenistaya**	**2.51 339**		*e*P	**Pn**	**05 12 37.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.52 264**			**Pn**	**05 12 37.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.52 264**	*ce*	PN	**Pn**	**05 12 37.8**	**+0.5**
PETK	**Petropavlovsk-**	**2.52 264**			**Pn**	**05 12 36.5**	**-0.8**
PETK	**Petropavlovsk-**	**2.52 264**		Pn	**Pn**	**05 12 36.9**	**-0.4**
	comp=Z,140nm,0.7s,baz=85,slow=18,SNR=168						
PETK				Sn	**Sn**	**05 13 03.8**	**-2.9**
	comp=Z,20nm,0.3s,baz=76,slow=20,SNR=6.0						
PETK				LR	LR	05 13 21.1	
	comp=Z,350nm,20.4s,baz=114,slow=34						
BZGR	**Bezymyannyi-Gr**	**2.60 346**		PN	**Pn**	**05 12 38.4**	**-0.1**
BZGR				S	**Sn**	**05 13 09.6**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.60 346**		*e*P	**Pn**	**05 12 38.4**	**-0.1**
BZGR				*e*S	**Sn**	**05 13 09.7**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.66 343**		PN	**Pn**	**05 12 40.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.66 343**		*e*P	**Pn**	**05 12 40.0**	**+0.7**
KIRR	**Kirishev**	**2.67 341**		PN	**Pn**	**05 12 40.0**	**+0.5**
KIRR	**Kirishev**	**2.67 341**		*e*P	**Pn**	**05 12 40.1**	**+0.5**
KPT	**Kopyto**	**2.71 340**		PN	**Pn**	**05 12 40.3**	**+0.3**
KPT	**Kopyto**	**2.71 340**		*e*P	**Pn**	**05 12 40.3**	**+0.3**
LGNR	**Loginova**	**2.74 346**		PN	**Pn**	**05 12 42.8**	**+2.2**
LGNR	**Loginova**	**2.74 346**		*e*P	**Pn**	**05 12 42.9**	**+2.2**
CIRR	**Tsirk**	**2.76 347**		PN	**Pn**	**05 12 41.2**	**+0.4**
CIRR	**Tsirk**	**2.76 347**		*e*P	**Pn**	**05 12 41.2**	**+0.4**
KDTR	**Khodutka, Kamc**	**2.82 236**		PN	Pn	05 12 40.6	-0.7
KDTR	**Khodutka, Kamc**	**2.82 236**		*e*P	Pn	05 12 40.7	-0.7
KBTR	**Krutoberegovo**	**2.84 11**		PN	**Pn**	**05 12 40.7**	**-0.9**
KBTR	**Krutoberegovo**	**2.84 11**		*e*P	**Pn**	**05 12 40.7**	**-0.9**
APC	**Apacha**	**2.87 262**		PN	**Pn**	**05 12 43.3**	**+1.2**
APC	**Apacha**	**2.87 262**		*e*P	**Pn**	**05 12 43.3**	**+1.2**
KOZ	**Kozyrevsk**	**2.87 337**		PN	**Pn**	**05 12 42.2**	**+0.1**
KOZ	**Kozyrevsk**	**2.87 337**		*e*P	**Pn**	**05 12 42.2**	**+0.1**
KBG	**Krutoberegovo**	**2.87 10**		PN	**Pn**	**05 12 41.7**	**-0.4**
KBG	**Krutoberegovo**	**2.87 10**		*e*P	**Pn**	**05 12 41.8**	**-0.4**
KRSR	**Krestovskiy**	**2.89 346**		PN	**Pn**	**05 12 42.1**	**-0.3**
KRSR	**Krestovskiy**	**2.89 346**		*e*P	**Pn**	**05 12 42.1**	**-0.3**
KLY	**Klyuchi**	**2.97 347**		PN	**Pn**	**05 12 42.9**	**-0.5**
KLY	**Klyuchi**	**2.97 347**		*e*P	**Pn**	**05 12 42.9**	**-0.5**
BKI	**Bering**	**3.00 52**		PN	**Pn**	**05 12 41.6**	**-2.2**
BKI	**Bering**	**3.00 52**		*e*P	**Pn**	**05 12 41.6**	**-2.2**
BKI				*e*S	**Sn**	**05 13 13.5**	**-4.9**
ESO	**Esso**	**3.10 325**	

YAK MLR MLR
comp=Z,740nm,18.0s
YAK MLR MLR
comp=E,493nm,18.0s
KLR Kul'dur 19.20 270 P **P 05 16 19.1 +0.5**
comp=E,0.2nm,0.3s,baz=64,slow=10,SNR=22
KLR LR LR 05 24 44.4
comp=E,275nm,18.1s,baz=60,slow=40
comp=E,5.6nm,0.8s
KLR Kul'dur 19.20 270 *e*P **P 05 16 18.6 0.0**
KLR pmax pmax
comp=Z,11nm,1.0s
ANM Nome 19.96 43 P **P 05 16 28.2 +1.5**
ANM Nome 19.96 43 P **P 05 16 28.3 +1.5**
ANM pmax pmax
comp=Z,17nm,1.0s
M13K Dall Lake 20.04 56 P **Pn 05 16 30.9 +1.2**
J14K Nanvaranak Lak 20.28 49 P **P 05 16 31.4 +1.2**
J14K IAmb IAmb 05 16 51.0
comp=Z,27nm,1.0s
ZEA Zeya 20.43 285 *e*P **P 05 16 31.3 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=E,100nm,15.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
F15K North Star Dit 20.63 40 P **P 05 16 35.1 +1.0**
F15K IAmb IAmb 05 16 37.5
comp=Z,21nm,0.9s
M14K Bethel 20.75 55 Pn Pn 05 16 39.5 +1.3
M14K IAmb IAmb 05 16 46.4
comp=Z,36nm,1.2s
HEH HeiHe 21.39 275 *e*P **P 05 16 41.0 -1.3**
HEH pmax pmax
comp=Z,9.0nm,1.1s
HEH LR LR
comp=N,240nm,14.1s
HEH LR LR
comp=E,400nm,15.9s
HEH LR LR
comp=Z,470nm,14.7s
C16K Lisburne Hills 21.43 34 P **P 05 16 42.9 +0.3**
C16K IAmb IAmb 05 17 00.7
comp=Z,17nm,0.9s
USRK Ussuriysk Ar. 21.58 257 P **P 05 16 44.5 +0.1**
USRK Ussuriysk Ar. 21.58 257 P **P 05 16 45.4 +0.9**
comp=Z,3.9nm,0.7s,baz=54,slow=11,SNR=6.2
USRK LR LR 05 25 52.9
comp=Z,252nm,18.3s,baz=66,slow=39
comp=Z,3.9nm,0.7s
USRK Ussuriysk Ar. 21.58 257 P **P 05 16 44.5 +0.1**
N15K Kwethluk River 21.65 57 P **P 05 16 48.3 +3.3**
J16K Anvik River 21.70 48 P **P 05 16 46.3 +0.8**
J16K IAmb IAmb 05 17 05.8
comp=Z,21nm,1.3s
L16K Owhat River 22.02 53 P **P 05 16 48.6 -0.4**
M16K Timber Creek 22.23 54 P **P 05 16 52.2 +0.9**
M16K IAmb IAmb 05 17 07.5
comp=Z,17nm,1.1s
VLA Vladivostok 22.29 255 *i*P **P 05 16 52.8 +0.7**
JSD Sado 22.39 236 P **P 05 16 53.8 +0.6**
JSD IAmb IAmb 05 16 56.4
comp=Z,14nm,1.0s
J17K VABM Dome 22.39 48 IAmb IAmb 05 17 14.5
comp=Z,13nm,0.9s
K17K Iditarod 22.66 50 P **P 05 16 57.1 +1.2**
K17K IAmb IAmb 05 17 13.6
comp=Z,21nm,1.1s
C18K Utukok River 22.97 34 P **P 05 16 58.9 -0.2**
M17K Holitna River 22.98 53 IAmb IAmb 05 17 21.3
comp=Z,18nm,0.9s
G18K Tagagawik 23.05 42 P **P 05 17 00.8 +1.0**
TIXI Tiksi 23.23 334 P **P 05 17 00.1 -1.4**
TIXI Tiksi 23.23 334 LR LR 05 27 31.5
comp=Z,295nm,18.6s,baz=186,slow=41
TIXI Tiksi 23.23 334*ce*P **P 05 16 59.8 -1.7**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 23.44 265 ⇓P **P 05 17 02.3 -1.5**
BNX pP **pP 05 17 13.8 -0.4**
BNX pmax pmax
comp=Z,11nm,1.1s
J18K Innoko River 23.46 48 P **P 05 17 05.2 +1.4**
J18K IAmb IAmb 05 17 06.2
comp=Z,21nm,1.4s
MJB9 Matsu-Tunnel 23.59 234 P **P 05 17 06.2 +0.9**
MAJO Matsushiro 23.59 234 P **P 05 17 06.7 +1.3**
MAJO Matsushiro 23.59 234 ⇑P **P 05 17 07.7 +2.4**
MJAR Matsushiro Arr 23.59 234 P **P 05 17 06.9 +1.5**
comp=Z,8.9nm,0.8s,baz=25,slow=10,SNR=20
MJAR LR LR 05 27 28.6
comp=Z,130nm,20.5s,baz=31,slow=39
comp=Z,8.9nm,0.8s
F19K Shaleruckik Mo 23.62 40 P **P 05 17 05.6 +0.3**
TTA Tatalina 23.73 50 P **P 05 17 07.8 +1.3**
TTA IAmb IAmb 05 17 27.3
comp=Z,12nm,0.8s
TTA Tatalina 23.73 50 P **P 05 17 07.8 +1.3**
TTA pmax pmax
comp=Z,12nm,0.8s
N18K Kilae Creek 23.73 55 P **P 05 17 08.0 +1.5**
H19K Roundabout Mou 23.86 43 IAmb IAmb 05 17 22.5
comp=Z,18nm,0.9s
D19K Kuna River 23.98 36 IAmb IAmb 05 17 25.0
comp=Z,9.9nm,0.8s
E19K Redstone River 23.99 38 IAmb IAmb 05 17 25.7
comp=Z,14nm,0.8s
J19K Poorman 24.00 47 P **P 05 17 09.2 +0.4**
L19K White Mountain 24.23 52 P **P 05 17 12.4 +1.4**
L19K IAmb IAmb 05 17 32.1
comp=Z,17nm,1.2s
F20K Avaraart Lake 24.46 40 P **P 05 17 14.6 +1.6**
K20K Telida 24.64 49 P **P 05 17 16.0 +1.3**
K20K IAmb IAmb 05 17 35.3
comp=Z,15nm,0.8s
J20K Nowinta River 24.66 47 P **P 05 17 15.7 +0.9**
Q19K Cape Douglas, 24.99 59 P **P 05 17 16.4 -1.6**
ILSW Iliamna Southw 25.14 57 P **P 05 17 19.4 +0.1**
ILSW IAmb IAmb 05 17 20.3
comp=Z,15nm,0.9s
G21K Allakaket 25.22 41 P **P 05 17 20.6 +0.7**
PPLA Purkeypile 25.48 50 P **P 05 17 23.7 +1.2**
PPLA IAmb IAmb 05 17 44.5
comp=Z,10nm,1.0s
B21K Ikpikpuk River 25.52 34 P **P 05 17 23.2 +0.6**
B21K IAmb IAmb 05 17 38.9
comp=Z,10nm,0.8s
CAST Castle Rocks 25.53 49 P **P 05 17 24.1 +1.3**
CN2 Changchun 25.67 263 P **P 05 17 23.0 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
KTH Kantishna Hill 26.05 48 P **P 05 17 28.9 +1.3**
KTH IAmb IAmb 05 17 36.4
comp=Z,12nm,1.1s
B22K Teshekpuk Lake 26.13 33 IAmb IAmb 05 17 53.9
comp=Z,22nm,1.4s
E22K Anaktuvuk Pass 26.15 38 P **P 05 17 28.5 +0.1**
TRF Thorofare Moun 26.34 49 P **P 05 17 30.5 +0.3**
TRF IAmb IAmb 05 17 46.8
comp=Z,11nm,1.1s
NEA2 Nenana 26.88 46 P **P 05 17 34.9 -0.1**
C23K Itkillik River 26.92 34 P **P 05 17 35.4 +0.1**
MCK McKinley 26.94 48 P **P 05 17 36.8 +1.3**
MCK McKinley 26.94 48 P **P 05 17 36.8 +1.3**
MCK pmax pmax
comp=Z,7.0nm,0.9s
E23K Chandalar 26.95 38 IAmb IAmb 05 17 53.8
comp=Z,16nm,1.3s
RND Reindeer 26.98 49 **P 05 17 36.3 +0.3**
RND IAmb IAmb 05 17 49.4
comp=Z,11nm,0.9s
RND Reindeer 26.98 49 P **P 05 17 36.3 +0.3**
RND pmax pmax
comp=Z,11nm,0.9s
TOLK Toolik Lake Re 27.05 37 P **P 05 17 38.5 +1.9**
KNK Knik Glacier 27.30 53 IAmb IAmb 05 17 53.0
comp=Z,18nm,1.1s
WRH Wood River Hil 27.31 46 P **P 05 17 40.5 +1.8**
WRH IAmb IAmb 05 17 53.5
comp=Z,20nm,1.2s
SML Sawmill 27.32 52 **P 05 17 40.4 +1.4**
E24K Your Creek 27.37 39 IAmb IAmb 05 17 55.4
comp=Z,9.5nm,1.1s
COLA College 27.41 46 ⇓P **P 05 17 40.9 +1.3**
CCB Clear Creek Bu 27.43 46 P **P 05 17 40.3 +0.4**
CCB IAmb IAmb 05 17 54.5
comp=Z,27nm,1.4s
G24K Hadweenzic Riv 27.63 42 IAmb IAmb 05 17 56.7
comp=Z,19nm,1.3s
SCM Sheep Creek Mo 27.79 52 IAmb IAmb 05 17 58.2
comp=Z,12nm,0.9s
HDA Harding Lake 27.80 47 IAmb IAmb 05 17 56.9
comp=Z,4.8nm,0.5s
IL31 27.82 46 P **P 05 17 44.2 +0.9**
ILAR Eielson Array 27.82 46 P **P 05 17 44.2 +0.8**
ILAR Eielson Array 27.82 46 P **P 05 17 43.6 +0.3**
comp=Z,2.9nm,0.8s,baz=263,slow=8.2,SNR=33
comp=Z,2.9nm,0.8s
D25K Kavik River 28.30 36 IAmb IAmb 05 18 03.4
comp=Z,6.6nm,0.8s
KSRS Korea Array 28.32 249 P **P 05 17 48.6 +0.5**
comp=Z,3.5nm,0.8s,baz=40,slow=9.8,SNR=7.4
KSRS LR LR 05 30 32.7
comp=Z,146nm,18.5s,baz=55,slow=39
comp=Z,3.5nm,0.8s
PRP Porcupine Dome 28.39 44 P **P 05 17 49.7 +1.1**
PRP IAmb IAmb 05 18 02.8
comp=Z,9.5nm,0.8s
RIDG Independent Ri 28.76 48 IAmb IAmb 05 18 06.1
comp=Z,15nm,1.3s
SCRK Sand Creek 29.12 47 IAmb IAmb 05 18 08.2
comp=Z,8.9nm,1.1s
VRDI Verde Repeater 29.71 53 P **P 05 18 02.1 +1.7**
M26K Nabesna, AK 29.74 50 IAmb IAmb 05 18 03.4
comp=Z,10nm,1.3s
BCAR Beaver Creek A 30.20 49 P **P 05 18 06.8 +2.2**
D27M Malcolm River 30.21 37 P **P 05 18 05.1 +0.6**
M27K Edge Creek, AK 30.26 50 P **P 05 18 06.5 +1.2**
M27K IAmb IAmb 05 18 20.9
comp=Z,8.7nm,0.9s
DAWY Dawson 31.12 47 P **P 05 18 13.9 +1.3**
XLT XiLinHaoTe 31.20 271 *e*P **P 05 18 15.3 +1.7**
XLT S **S 05 23 14.5 -2.0**
XLT sS sS 05 23 36.3 +1.3
XLT SS **SnSn 05 24 56.0 -5.6**
XLT pmax pmax
comp=Z,6.0nm,0.7s
G29M Pine Creek 31.37 41 P **P 05 18 16.4 +1.6**
G29M IAmb IAmb 05 18 32.1
comp=Z,6.7nm,0.8s
M29M Somme Creek 31.81 50 IAmb IAmb 05 18 34.3
comp=Z,5.6nm,0.8s
I30M Mount Dempster 32.23 44 IAmb IAmb 05 18 36.5
comp=Z,4.2nm,0.7s
HYT Haines Junctio 32.63 52 P **P 05 18 27.7 +1.8**
HYT IAmb IAmb 05 18 41.0
comp=Z,6.9nm,1.1s
F31M Tsiigehtchic 32.97 40 P **P 05 18 29.5 +0.8**
F31M IAmb IAmb 05 18 44.7
comp=Z,5.6nm,0.9s
M31M Drury Creek, Y 33.72 49 P **P 05 18 37.6 +2.3**
M31M IAmb IAmb 05 18 50.8
comp=Z,6.4nm,0.8s
H11N2 WAKE ISLAND Hy 33.87 171 T T 05 55 53.3
baz=354,slow=76,SNR=13
H11N3 WAKE ISLAND Hy 33.88 171 T T 05 55 50.5
baz=354,slow=76,SNR=7.3
H11N1 WAKE ISLAND Hy 33.88 171 T T 05 55 47.6
baz=354,slow=76,SNR=13
WHY Whitehorse 33.91 52 P **P 05 18 39.4 +2.2**
WHY IAmb IAmb 05 18 52.6
comp=Z,7.1nm,1.0s
FARO Faro, Yukon 34.18 49 P **P 05 18 41.2 +1.8**
ULN Ulaanbaatar 34.45 283 *i*P **P 05 18 42.0 0.0**
ULN pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 34.85 284 P **P 05 18 44.5 -1.0**
comp=Z,2.2nm,0.8s,baz=62,slow=8.1,SNR=14
SONM PcP **PcP 05 21 19.2 +1.8**
comp=Z,0.8nm,0.8s,baz=54,slow=2.6,SNR=3.8
SONM LR LR 05 34 26.7
comp=Z,196nm,19.0s,baz=38,slow=39
comp=Z,2.2nm,0.8s
HHC Hu-ho-hao-te 35.70 270 *e*P **P 05 18 53.3 +0.5**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.0s
HHC LR LR
comp=N,200nm,12.0s
HHC LR LR
comp=E,200nm,14.5s
HHC LR LR
comp=Z,280nm,15.7s
HNS HongShan 36.03 263 ⇑P **P 05 18 56.0 +0.5**
HNS pmax pmax
comp=Z,11nm,1.0s
HNS LR LR
comp=N,310nm,15.8s
HNS LR LR
comp=E,240nm,16.1s
HNS LR LR
comp=Z,390nm,15.9s
C36M Paulatuk 36.16 35 P **P 05 18 57.0 +0.8**
C36M IAmb IAmb 05 19 11.8
comp=Z,9.9nm,1.2s
R33M Jennings River 36.18 53 IAmb IAmb 05 19 12.8
comp=Z,9.1nm,1.1s
NRIK Noril'sk 36.24 325 *i*P **P 05 18 54.3 -2.6**
NRIK pmax pmax
comp=Z,2.0nm,0.6s
NJ2 Nanjing 37.37 253 *e*P **P 05 19 08.5 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
EUNU Eureka 41.37 14 P **P 05 19 39.6 -0.1**
YKA Yellowknife Ar 42.19 43 P **P 05 19 47.6 +1.0**
comp=Z,0.7nm,0.8s,baz=300,slow=8.6,SNR=9.3
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 42.19 43 *i*P **P 05 19 47.9 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 43.48 303 P **P 05 19 55.3 -1.9**
comp=Z,0.4nm,0.4s,baz=32,slow=8.5,SNR=1.3
comp=Z,0.4nm,0.4s
GTA Gaotai 43.62 277 *e*P **P 05 19 59.0 +0.4**
GTA pP pP 05 20 05.8 -4.2
GTA pmax pmax
comp=Z,4.0nm,0.6s
SPITS Spitsbergen Ar 46.97 351 P **P 05 20 24.3 -0.2**
comp=Z,14nm,0.6s,baz=70,slow=8.2,SNR=23
comp=Z,14nm,0.6s
SPB2 Spitsbergen Ar 46.97 351 P **P 05 20 24.8 +0.3**
CD2 Chengdu 47.05 265 P **P 05 20 26.0 +0.2**
CD2 pmax pmax
comp=Z,20nm,0.4s
B08A Colville Reser 47.59 62 P **P 05 20 31.3 +1.5**
B08A IAmb IAmb 05 20 44.4
comp=Z,6.0nm,0.8s
NEEM North Greenlan 47.78 9 *i*P **P 05 20 30.8 -0.4**
NEEM IAmb IAmb 05 20 32.4
comp=Z,17nm,1.0s
WMQ Urumqi 47.85 290 *e*P **P 05 20 32.0 +0.1**
WMQ pP pP 05 20 43.0 -0.4
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=N,400nm,17.7s
WMQ LR LR
comp=Z,200nm,20.3s
KURK Kurchatov 48.45 302 P **P 05 20 34.7 -1.6**
KURK IAmb IAmb 05 20 48.0
comp=Z,4.0nm,0.6s
KURK Kurchatov 48.45 302*ce*P **P 05 20 34.2 -2.1**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 48.55 302 P **P 05 20 34.7 -2.3**
comp=Z,1.7nm,0.5s,baz=57,slow=7.6,SNR=11
comp=Z,1.7nm,0.5s
MK31 Makanchi Array 48.95 296 P **P 05 20 39.0 -1.3**
MK31 Makanchi Array 48.95 296*ce*P **P 05 20 37.5 -2.8**
MKAR Makanchi Array 48.95 296 P **P 05 20 40.1 -0.2**
MKAR Makanchi Array 48.95 296 P **P 05 20 38.3 -2.0**
comp=Z,1.1nm,0.7s,baz=51,slow=6.7,SNR=12
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 48.95 296 *i*P **P 05 20 38.5 -1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MAKZ Makanchi 49.11 297 P **P 05 20 39.9 -1.6**
MAKZ Makanchi 49.11 297 P **P 05 20 39.9 -1.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.2s
KULLO Kullorsuaq 49.63 13 *i*P **P 05 20 43.3 -1.7**
KULLO IAmb IAmb 05 20 46.9
comp=Z,14nm,1.0s
DAG Danmarks Havn 50.06 0 *i*P **P 05 20 47.9 -0.4**
DAG IAmb IAmb 05 20 49.9
comp=Z,7.6nm,1.0s
BVAR Borovoye Array 51.00 309 P **P 05 20 53.5 -2.1**
comp=Z,2.4nm,0.6s,baz=61,slow=8.4,SNR=12
comp=Z,2.4nm,0.6s
BRVK Borovoye 51.03 309 P **P 05 20 53.6 -2.2**
BRVK IAmb IAmb 05 21 04.2
comp=Z,6.5nm,1.4s
BRVK Borovoye 51.03 309*ce*P **P 05 20 54.2 -1.7**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
PLID Pearl Lake 51.43 64 P **P 05 21 01.3 +2.0**
PLID IAmb IAmb 05 21 14.4
comp=Z,4.3nm,0.8s
PZH PanZhiHua 51.48 263 P **P 05 21 01.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.5s
ARCES ARCESS Array B 53.29 342 P **P 05 21 12.1 -0.3**
comp=Z,3.8nm,0.8s,baz=53,slow=7.3,SNR=2.6
comp=Z,3.8nm,0.8s
BOZ Bozeman (W) 53.41 61 IAmb IAmb 05 21 28.8
comp=Z,3.8nm,0.8s
SUMG Summit 53.49 7 P **P 05 21 13.9 -0.4**
SUMG Summit 53.49 7 P **P 05 21 13.9 -0.4**
SUMG pmax pmax
comp=Z,19nm,1.1s
SUMG Summit 53.49 7 *i*P **P 05 21 15.0 +0.7**
SUMG IAmb IAmb 05 21 18.7
comp=Z,28nm,1.2s
ARTI Arti 53.96 318*c i*P **P 05 21 17.0 -0.5**
ARTI *PP **pP 05 21 29.6 +0.4**
ARTI S **S 05 28 50.5 +1.1**
ARTI SS **SS 05 32 27.6 -2.7**
ARTI pmax pmax
comp=Z,25nm,2.6s
SLVN Son La 54.14 257 P **P 05 21 20.7 +1.3**
SLVN IAmb IAmb 05 21 22.4
comp=Z,6.8nm,1.0s
NVAR Mina Array Bea 54.63 71 P **P 05 21 24.4 +1.5**
comp=Z,1.0nm,0.7s,baz=304,slow=6.1,SNR=6.1
comp=Z,1.0nm,0.7s
ELK Elko 54.76 67 P **P 05 21 25.4 +1.6**
ELK IAmb IAmb 05 21 39.5
comp=Z,3.7nm,0.8s
ELK Elko 54.76 67 P **P 05 21 25.4 +1.6**
ELK pmax pmax
comp=Z,4.0nm,0.9s
KIRV Kirov 55.74 324*ce*P **P 05 21 31.2 +0.9**
AAK Ala-Archa 55.87 297*ce*P **P 05 21 31.7 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.3s
PD31 Pinedale Array 56.43 62 IAmb IAmb 05 21 51.1
comp=Z,6.3nm,0.9s
PDAR Pinedale Array 56.43 62 P **P 05 21 37.6 +1.8**
comp=Z,1.0nm,0.7s,baz=314,slow=3.2,SNR=11
comp=Z,1.0nm,0.7s
ICESG Greenland Ices 56.77 9 *i*P **P 05 21 37.2 -0.7**
ICESG IAmb IAmb 05 21 39.3
comp=Z,8.9nm,0.8s
KLMR Klimovskoe 57.18 331 *e*P **P 05 21 39.9 -0.6**
KLMR pmax pmax
comp=Z,25nm,1.6s
SFJD Kangerlussuaq 57.43 15 LR LR 05 48 26.6
comp=Z,89nm,18.5s,baz=58,slow=38
GSC Goldstone, Bar 57.68 73 IAmb IAmb 05 22 00.3
comp=Z,5.9nm,1.1s
ABKAR Akbulak array 58.37 311 P **P 05 21 48.2 -0.9**
ABKAR IAmb IAmb 05 21 50.1
comp=Z,3.8nm,1.0s
CHTO Chiang Mai 59.01 260 P **P 05 21 54.8 +0.9**
CHTO Chiang Mai 59.01 260 P **P 05 21 54.8 +0.9**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 59.28 259 P **P 05 21 56.3 +0.5**
CMAR Chiang Mai Arr 59.28 259 P **P 05 21 57.2 +1.4**
comp=Z,3.8nm,0.6s,baz=22,slow=7.2,SNR=28
comp=Z,3.8nm,0.6s
CMAR Chiang Mai Arr 59.28 259 *i*P **P 05 21 58.2 +2.4**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
PV13 Radium Mtn., P 60.10 65 P **P 05 22 04.3 +2.8**
FINES FINESS Array B 60.22 337 P **P 05 22 01.9 +0.3**
comp=Z,6.6nm,0.7s,baz=36,slow=8.3,SNR=22
comp=Z,6.6nm,0.7s
FINES FINESS Array B 60.22 337 *i*P **P 05 22 02.2 +0.6**
FINES pmax pmax
comp=Z,7.0nm,0.7s
GAR Garm 60.68 297 P **P 05 22 04.8 -0.5**
BELG Belogornoye 61.14 320 *i*P **P 05 22 07.7 -0.3**
BELG pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 62.79 328 *e*P **P 05 22 18.3 -0.7**
OBN *e**PP **pP 05 22 31.6 +0.5**
OBN *e**SP **pwP 05 22 39.2 +3.7**
OBN *e* 05 22 57.8
OBN *e* 05 24 36.2
OBN *e*PPP PPP 05 26 06.0
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,170nm,9.0s
NIL Nilore 62.99 291 P **P 05 22 21.3 +0.5**
NIL Nilore 62.99 291 P **P 05 22 21.3 +0.5**
NIL pmax pmax
comp=Z,14nm,1.0s
NB2 NORSAR Subarra 63.50 345 P **P 05 22 24.3 +0.5**
comp=Z,2.6nm,0.7s,baz=20,slow=6.9
NOA NORSAR Array B 63.50 345 P **P 05 22 24.1 +0.3**
comp=Z,3.9nm,0.7s,baz=20,slow=6.6,SNR=19
comp=Z,3.9nm,0.7s
HFS Hagfors 63.94 343 P **P 05 22 26.3 -0.3**
comp=Z,2.3nm,0.6s,baz=61,slow=7.4,SNR=8.7
comp=Z,2.3nm,0.6s
MNK Minsk 65.89 333 *i*P **P 05 22 37.2 -2.1**
MNK *i**PP **pP 05 22 51.0 -0.4**
MNK *i* 05 25 01.8
MNK *i*PPP PPP 05 26 38.0
MNK *i*S **S 05 31 20.7 -1.9**
MNK *i**SS **sS 05 31 44.5 +1.6**
MNK *i*SS **SS 05 35 37.2 +0.3**
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=N,19nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,375nm,19.0s
MNK MLR MLR
comp=Z,186nm,9.0s
MNK MLR MLR
comp=N,152nm,11.0s
PABE Paberze 66.02 335 P **P 05 22 41.8 +1.7**
SMWD Samnorwood 66.97 62 P **P 05 22 48.6 +2.0**
WMOK Wichita Mounta 68.02 61 P **P 05 22 54.1 +0.9**
WMOK IAmb IAmb 05 23 07.8
comp=Z,4.1nm,0.8s
WMOK Wichita Mounta 68.02 61 P **P 05 22 54.1 +0.9**
WMOK pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 68.86 330 P **P 05 22 57.7 -0.5**
comp=Z,4.1nm,0.8s,baz=30,slow=6.2,SNR=14
comp=Z,4.1nm,0.8s
AKASG Malin Array Be 68.86 330 *i*P **P 05 22 58.5 +0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 68.87 330 P **P 05 22 57.6 -0.6**
KIEV Kiev 68.87 330 P **P 05 22 57.6 -0.6**
KIEV pmax pmax
comp=Z,14nm,1.2s
TXAR Lajitas Array 69.53 68 P **P 05 23 04.3 +1.5**
TXAR Lajitas Array 69.53 68 P **P 05 23 04.6 +1.8**
comp=Z,1.6nm,0.8s,baz=300,slow=4.6,SNR=19

comp=Z,1.6nm,0.8s
TXAR Lajitas Array 69.53 68 P **P 05 23 04.3 +1.5**
KIV Kislovodsk 69.90 318 *e*P **P 05 23 02.6 -2.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 70.01 318 P **P 05 23 06.2 +0.9**
comp=Z,6.0nm,0.9s,baz=28,slow=3.1,SNR=10.0
comp=Z,6.0nm,0.9s
KBZ Khabaz 70.01 318 *c*eP **P 05 23 06.0 +0.7**
KBZ pmax pmax
comp=Z,9.0nm,0.9s
EKA Eskdalemuir Ar 70.89 351 P **P 05 23 11.4 +0.8**
comp=Z,1.2nm,0.7s,baz=7.0,slow=4.9,SNR=6.9
comp=Z,1.2nm,0.7s
ESK Eskdalemuir 70.92 351 *i* P **P 05 23 12.6 +1.9**
SORM Soroca 71.40 329 ⇑P **P 05 23 14.0 +0.3**
SORM Soroca 71.40 329 ⇑P **P 05 23 14.0 +0.3**
CLL Collm 72.40 340 *i* P **P 05 23 20.4 +0.7**
CLL *i* *PP **pP 05 23 29.6 -2.2**
CLL pmax pmax
comp=Z,13nm,1.0s
CLL Collm 72.40 340 *i* P **P 05 23 20.4 +0.7**
comp=Z,13nm,1.0s
CLL *i* pP **pP 05 23 29.6 -2.2**
CLL *es*P **PcP 05 23 35.0 -2.4**
KOLS Kolonicke sedl 72.42 333 *e*P **P 05 23 21.4 +1.5**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
KOLS Kolonicke sedl 72.42 333 *e*P **P 05 23 21.4 +1.5**
CHVC Chvalec 72.43 338 *e*P **P 05 23 21.3 +1.4**
CHVC Chvalec 72.43 338 *e*P **P 05 23 21.3 +1.4**
DPC Dobruska-Polom 72.59 338 *e*P **P 05 23 22.3 +1.4**
DPC Dobruska-Polom 72.59 338 *e*P **P 05 23 22.3 +1.4**
STEB Steborice 72.64 337 *e*P **P 05 23 22.8 +1.6**
KRLC Kraliky 72.74 337 *e*P **P 05 23 23.0 +1.2**
KRLC Kraliky 72.74 337 *e*P **P 05 23 23.0 +1.2**
BUR08 Bucovina Ar. S 72.78 331 P **P 05 23 22.8 +0.6**
BUR08 IAmb IAmb 05 23 35.7
comp=Z,8.8nm,1.4s
BURAR Bucovina Array 72.80 331 P **P 05 23 23.0 +0.7**
BURAR Bucovina Array 72.80 331 ⇓P **P 05 23 23.2 +0.9**
BURAR Bucovina Array 72.80 331 ⇓P **P 05 23 23.2 +0.9**
MORC Moravsky Berou 72.84 337 IAmb IAmb 05 23 25.6
comp=Z,3.8nm,0.8s
MORC Moravsky Berou 72.84 337 *e*P **P 05 23 23.9 +1.5**
MORC Moravsky Berou 72.84 337 ⇑P **P 05 23 24.3 +1.8**
MORC Moravsky Berou 72.84 337 ⇑P **P 05 23 24.3 +1.8**
LANS Liptovska Anna 72.95 335 *e*P **P 05 23 25.2 +2.1**
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 72.95 335 *e*P **P 05 23 25.2 +2.1**
HSKC Hora Svate Kat 72.98 340 *e*P **P 05 23 25.2 +2.0**
VRAC Vranov 73.50 337 *e*P **P 05 23 28.2 +1.9**
VRAC Vranov 73.50 337 ⇑P **P 05 23 27.4 +1.1**
VRAC Vranov 73.50 337 ⇑P **P 05 23 27.4 +1.1**
KRUC Moravsky 73.78 337 *e*P **P 05 23 29.7 +1.8**
ZVC Zvikov 73.92 339 *e*P **P 05 23 29.9 +1.2**
SMOL Smolenice 74.05 336 *e*P **P 05 23 31.5 +2.0**
SMOL pmax pmax
comp=Z,3.0nm,0.9s
MODS Modra-Piesok 74.21 336 *e*P **P 05 23 33.0 +2.5**
MODS Modra-Piesok 74.21 336 *e*P **P 05 23 33.0 +2.5**
DRGR 74.26 332 ⇑P **P 05 23 31.8 +0.9**
DRGR 74.26 332 ⇑P **P 05 23 31.8 +0.9**
KHC Kasperske Hory 74.34 339 *e*P **P 05 23 33.0 +1.8**
KHC Kasperske Hory 74.34 339 *e*P **P 05 23 33.0 +1.8**
MEM Membach 74.35 344 *d*P **P 05 23 32.5 +1.3**
MEM *d*PcP **PcP 05 23 45.5 -0.3**
NEHR Nehoiu 74.45 329 ⇑P **P 05 23 33.4 +1.5**
SRO Srobarova 74.48 335 *e*P **P 05 23 34.3 +2.3**
SRO Srobarova 74.48 335 *e*P **P 05 23 34.3 +2.3**
MLR Muntele Rosu 74.50 329 ⇓P **P 05 23 34.4 +2.0**
MLR Muntele Rosu 74.50 329 ⇓P **P 05 23 34.4 +2.0**
GERES GERESS Array B 74.59 339 P **P 05 23 33.5 +0.8**
comp=Z,3.6nm,0.9s,baz=44,slow=4.1,SNR=10
comp=Z,3.6nm,0.9s
VOIR 74.82 330 ⇓P **P 05 23 35.8 +1.7**
VOIR 74.82 330 ⇓P **P 05 23 35.8 +1.7**
RCHB Rochefort 74.92 345 *d*P **P 05 23 33.7 -0.8**
ARR Arges 75.01 330 ⇓P **P 05 23 37.2 +2.0**
RONA Rosalia, Austr 75.08 337 *e*P **P 05 23 37.7 +2.1**
comp=Z,2.6nm,0.6s
MOA Molln 75.40 338 *e*P **P 05 23 38.5 +1.1**
comp=Z,2.8nm,0.8s
GZR Gura Zlata 75.52 332 ⇑P **P 05 23 38.9 +0.7**
GZR Gura Zlata 75.52 332 ⇑P **P 05 23 38.9 +0.7**
MORH Mrgy, Hungar 75.89 335 ⇓P **P 05 23 41.0 +0.9**
HERR Herculane 76.09 332 ⇓P **P 05 23 42.2 +0.9**
BFO Black Forest 76.15 342 *i* P **P 05 23 42.4 +0.8**
SOKA Soboth 76.33 337 *e*P **P 05 23 43.9 +1.1**
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 76.34 338 *e*P **P 05 23 45.1 +2.2**
comp=Z,20nm,1.1s
WATA Walderalm 76.47 340 *e*P **P 05 23 45.4 +1.8**
comp=Z,6.8nm,1.2s
ECH Echery 76.47 343 IAmb IAmb 05 23 47.3
comp=Z,4.8nm,1.1s
RETA Reutte 76.49 340 *e*P **P 05 23 45.3 +1.7**
comp=Z,3.1nm,0.9s
WTTA Wattenberg 76.53 340 *e*P **P 05 23 45.3 +1.4**
comp=Z,10nm,1.4s
MOTA Moosalm 76.56 340 *e*P **P 05 23 45.9 +1.8**
comp=Z,4.5nm,0.8s
OBKA Obir 76.61 337 *e*P **P 05 23 45.8 +1.5**
comp=Z,7.4nm,1.1s
SQTA Sankt Quirin 76.66 340 *e*P **P 05 23 46.3 +1.7**
comp=Z,4.7nm,0.7s
ABTA Abfaltersbach 76.83 339 *e*P **P 05 23 47.0 +1.4**
comp=Z,11nm,1.2s
WRA Warramunga Arr 76.85 207 P **P 05 23 46.3 +0.6**
comp=Z,1.2nm,0.7s,baz=20,slow=6.1,SNR=4.8
comp=Z,1.2nm,0.7s
WRA Warramunga Arr 76.85 207 *i* P **P 05 23 46.9 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
FETA Feichten 76.94 340 *e*P **P 05 23 47.7 +1.4**
comp=Z,6.9nm,1.0s
BRTR Keskin Array B 77.02 322 P **P 05 23 47.1 +0.3**
BRTR Keskin Array B 77.02 322 P **P 05 23 47.6 +0.8**
comp=Z,2.2nm,0.8s,baz=23,slow=4.0,SNR=8.2
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 77.02 322 *i* P **P 05 23 48.4 +1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
TUE Stuetta 77.75 341 P **P 05 23 49.3 -1.6**
TUE IAmb IAmb 05 24 09.4
comp=Z,6.9nm,0.9s
UOSS Minazif 79.07 297 P **P 05 23 55.8 -2.5**
ASAR Alice Springs 80.51 206 P **P 05 24 07.5 +1.7**
comp=Z,1.3nm,0.7s,baz=15,slow=5.4,SNR=12
comp=Z,1.3nm,0.7s
MMAI Mount Meron Ar 82.19 317 P **P 05 24 16.0 +1.1**
comp=Z,1.8nm,0.5s,baz=31,slow=9.0,SNR=1.9
comp=Z,1.8nm,0.5s
ESDC Sonseca Array 86.46 349 P **P 05 24 37.6 +1.2**
comp=Z,1.0nm,0.9s,baz=3.4,slow=5.6,SNR=5.2
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 143.18 180 PKhKP PKPpre 05 31 23.3
comp=Z,2.4nm,1.1s,baz=355,slow=1.5,SNR=6.7
QSPA PKP **PKiKP 05 31 29.9 +0.3**
comp=Z,1.5nm,0.8s,baz=242,slow=2.6,SNR=6.8

*TRN **27** 05:13:13.6, 12°.86N×60°.64W, h55km, MD4.4, South-east of St. Vincent and the Grenadines. Felt in St. Vincent, MMI IV, V. St. Lucia, MMI IV.*
*IDC **27** 05:13:14.8±0.7, 12°.90N×60°.79W, h77km±6km, mb3.8/22, mbtmp4.1/24, MS3.1/5, Error ellipse: s-maj=12.5km s-min=10.0km az=113.0*
*NEIC **27** 05:13:14.5±1.9, 12°.84N±0°.04×60°.68W±0°.05, h70km±7km, mb4.4/24, Error ellipse: s-maj=7.8km s-min=5.2km az=107.0*
*RSNC **27** 05:13:14.3±3.8, 13°N±10°×6°1W±1°0, h66km, M4.6, mB5.2, mb4.5, Mw(mb)4.6, Hypocentre not reviewed by the ISC*
ISC 27 05:13:14.0±0.5, 12.86N±0°.03×60.71W±0°.04, h72km±5km, n155, σ1°35/194, mb4.3/32, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVT	**Saint Vincent**	**0.61**	**301**	*e*P	**Pn**	**05 13 28.1**	**-0.1**
SVT				*e*S	**Sn**	**05 13 38.6**	**+0.1**
SVT	**Saint Vincent**	**0.61**	**301**	*e*P	**Pn**	**05 13 28.1**	**-0.1**
SVT				*e*S	**Sn**	**05 13 38.6**	**+0.1**
SVB	**Belmont**	**0.67**	**308**	*e*P	**Pn**	**05 13 29.1**	**+0.2**
SVB				*e*S	**Sn**	**05 13 40.4**	**+0.6**
SVB	**Belmont**	**0.67**	**308**	*e*P	**Pn**	**05 13 29.1**	**+0.2**
SVB				*e*S	**Sn**	**05 13 40.4**	**+0.6**
GCMP	**Grenada, Carri**	**0.80**	**242**	*e*P	**Pn**	**05 13 30.5**	**+0.3**
GCMP				*e*S	**Sn**	**05 13 43.3**	**+1.1**
GCMP	**Grenada, Carri**	**0.80**	**242**	*e*P	**Pn**	**05 13 30.5**	**+0.3**
GCMP				*e*S	**Sn**	**05 13 43.3**	**+1.1**
SLDE	**Delcer**	**1.00**	**340**	*e*	**Pn**	**05 13 35.1**	**+2.5**
SLDE	**Delcer**	**1.00**	**340**	*e*P	**Pn**	**05 13 35.1**	**+2.5**
GRIC	**Isle de Caille**	**1.03**	**237**	*e*P	**Pn**	**05 13 35.8**	**+2.7**
GRIC	**Isle de Caille**	**1.03**	**237**	*e*P	**Pn**	**05 13 35.8**	**+2.7**
GRHS	**Sauteurs**	**1.11**	**235**	*e*P	**Pn**	**05 13 34.3**	**+0.2**
GRHS				*e*S	**Sn**	**05 13 50.8**	**+1.8**
GRHS	**Sauteurs**	**1.11**	**235**	*e*P	**Pn**	**05 13 34.3**	**+0.2**
GRHS				*e*S	**Sn**	**05 13 50.8**	**+1.8**
BBGH	**Gun Hill**	**1.15**	**76**	Pn	**Pn**	**05 13 34.8**	**+0.2**
BBGH				Sn	**Sn**	**05 13 50.2**	**+0.2**
BBGH	**Gun Hill**	**1.15**	**76**	*e*	**Pn**	**05 13 34.9**	**+0.3**
SLW	**Petit Monier**	**1.18**	**349**	*e*	**Pn**	**05 13 36.8**	**+1.8**
SLW	**Petit Monier**	**1.18**	**349**	*e*P	**Pn**	**05 13 36.8**	**+1.8**
GRGR	**Grenville**	**1.18**	**232**		**Pn**	**05 13 35.3**	**+0.4**
GRGR				Sn	**Sn**	**05 13 51.5**	**+1.0**
GRGR	**Grenville**	**1.18**	**232**	*e*P	**Pn**	**05 13 35.5**	**+0.6**
GRGR				*e*S	**Sn**	**05 13 52.6**	**+2.1**
GRGR	**Grenville**	**1.18**	**232**	*e*P	**Pn**	**05 13 35.5**	**+0.6**
GRGR				*e*S	**Sn**	**05 13 52.6**	**+2.1**
SLBI	**Saint Lucia, B**	**1.19**	**347**	*e*P	**Pn**	**05 13 34.8**	**-0.2**
SLBI				*e*S	**Sn**	**05 13 50.8**	**+0.1**
SLBI	**Saint Lucia, B**	**1.19**	**347**	*e*P	**Pn**	**05 13 34.8**	**-0.2**
SLBI				*e*S	**Sn**	**05 13 50.8**	**+0.1**
GRFF	**Grenada Fort F**	**1.29**	**231**	*e*S	**Sn**	**05 13 54.9**	**+1.8**
GRFF	**Grenada Fort F**	**1.29**	**231**	*e*S	**Sn**	**05 13 54.9**	**+1.8**
H05S1	**Guadeloupe/Mar**	**1.56**	**355**	P	**Pn**	**05 13 39.6**	**-0.3**
H05S1				S	**Sn**	**05 13 58.4**	**-1.0**
TOSP	**Speyside**	**1.56**	**174**	*e*P	**Pn**	**05 13 40.4**	**+0.5**
TOSP				*e*S	**Sn**	**05 13 59.5**	**+0.1**
TOSP	**Speyside**	**1.56**	**174**	*e*P	**Pn**	**05 13 40.4**	**+0.5**
TOSP				*e*S	**Sn**	**05 13 59.5**	**+0.1**
MPOM	**Morne Pois Mar**	**1.58**	**355**	Pn	**Pn**	**05 13 39.9**	**-0.3**
TPR	**Prospect**	**1.67**	**182**	*e*P	**Pn**	**05 13 41.5**	**+0.1**
TPR	**Prospect**	**1.67**	**182**	*e*P	**Pn**	**05 13 41.5**	**+0.1**
BIM	**Bigot**	**1.69**	**348**		**Pn**	**05 13 42.0**	**+0.4**
BIM	**Bigot**	**1.69**	**348**	*e*P	**Pn**	**05 13 42.2**	**+0.6**
BIM				*e*S	**Sn**	**05 14 02.4**	**0.0**
BIM	**Bigot**	**1.69**	**348**	*e*P	**Pn**	**05 13 42.2**	**+0.6**
BIM				*e*S	**Sn**	**05 14 02.4**	**0.0**
ILAM	**Ilet Lapin Mar**	**1.91**	**355**	Pn	**Pn**	**05 13 44.9**	**+0.3**
ILAM	**Ilet Lapin Mar**	**1.91**	**355**	*e*P	**Pn**	**05 13 45.0**	**+0.5**
ILAM				*e*S	**Sn**	**05 14 07.7**	**0.0**
ILAM	**Ilet Lapin Mar**	**1.91**	**355**	*e*P	**Pn**	**05 13 45.0**	**+0.5**
ILAM				*e*S	**Sn**	**05 14 07.7**	**0.0**
FDF	**Fort de France**	**1.91**	**347**		**Pn**	**05 13 45.0**	**+0.4**
SVN	**Savane Anatole**	**2.02**	**347**		**Pn**	**05 13 46.5**	**+0.4**
TRN	**Trinidad (W)**	**2.30**	**197**	*e*P	**Pn**	**05 13 50.5**	**+0.7**
TRN				*e*S	**Sn**	**05 14 18.6**	**+1.4**
TRN	**Trinidad (W)**	**2.30**	**197**	*e*P	**Pn**	**05 13 50.5**	**+0.7**
TRN				*e*S	**Sn**	**05 14 18.6**	**+1.4**
TBH	**Brigand Hill**	**2.39**	**189**	*e*P	**Pn**	**05 13 52.3**	**+1.3**
TBH	**Brigand Hill**	**2.39**	**189**	*e*P	**Pn**	**05 13 52.3**	**+1.3**
MDN	**Morne-Daniel**	**2.53**	**345**	*e*P	**Pn**	**05 13 54.1**	**+1.1**
MDN				*e*S	**Sn**	**05 14 24.1**	**+1.3**
MDN	**Morne-Daniel**	**2.53**	**345**	*e*P	**Pn**	**05 13 54.1**	**+1.1**
MDN				*e*S	**Sn**	**05 14 24.1**	**+1.3**
DSLB	**Salisbury**	**2.66**	**345**	*e*P	**Pn**	**05 13 55.5**	**+0.9**
DSLB				*e*S	**Sn**	**05 14 27.5**	**+1.7**
DSLB	**Salisbury**	**2.66**	**345**	*e*P	**Pn**	**05 13 55.5**	**+0.9**
DSLB				*e*S	**Sn**	**05 14 27.5**	**+1.7**
TDBA	**Terre de Bas,**	**3.10**	**343**		**Pn**	**05 14 01.9**	**+1.2**
TBG	**Guadaloupe-3**	**3.11**	**343**	*e*P	**Pn**	**05 14 02.0**	**+1.2**
TBG				*e*S	**Sn**	**05 14 38.3**	**+1.5**
TBG	**Guadaloupe-3**	**3.11**	**343**	*e*P	**Pn**	**05 14 02.0**	**+1.2**
TBG				*e*S	**Sn**	**05 14 38.3**	**+1.5**
MAGL	**Barre de l'ile**	**3.12**	**350**		**Pn**	**05 14 01.3**	**+0.3**
CBE	**Ff, Capester**	**3.31**	**345**		**Pn**	**05 14 05.1**	**+1.6**
GDSD	**La Dsirade Is**	**3.45**	**354**		**Pn**	**05 14 05.5**	**0.0**
H05N1	**Guadeloupe/Mar**	**3.45**	**354**	P	**Pn**	**05 14 05.4**	**-0.1**
H05N1				S	**Sn**	**05 14 43.1**	**-2.2**
SNR=489							
GDHS	**Morne Mazeau,**	**3.54**	**343**		**Pn**	**05 14 08.5**	**+1.7**
ABD	**La Joyeuse, An**	**3.67**	**348**		**Pn**	**05 14 09.7**	**+1.3**
MBFL	**Flemmings, Mon**	**4.13**	**340**	*e*P	**Pn**	**05 14 16.2**	**+1.5**
MBFL				*e*S	**Sn**	**05 14 36.6**	**+0.7**
MBFL	**Flemmings, Mon**	**4.13**	**340**	*e*P	**Pn**	**05 14 16.2**	**+1.5**
ANBD	**Bethesda, Anti**	**4.29**	**346**	*e*P	**Pn**	**05 14 17.6**	**+0.8**
ANBD				*e*S	**Sn**	**05 15 05.9**	**+0.3**
ANBD	**Bethesda, Anti**	**4.29**	**346**	*e*P	**Pn**	**05 14 17.6**	**+0.8**
PCRV	**Puerto La Cruz**	**4.69**	**236**	P	**Pn**	**05 14 23.3**	**+0.9**
70nm,0.4s,baz=52,slow=3.3,SNR=45							
PCRV				S	**Sn**	**05 15 14.5**	**-1.0**
15nm,0.4s,baz=16,slow=19,SNR=1.0							
PCRV				LR	LR	05 17 01.0	
comp=Z,81nm,20.1s,slow=49							
SKOC	**St. Kitts, UWI**	**4.82**	**336**	*e*P	**Pn**	**05 14 25.3**	**+1.2**
SKOC				*e*S	**Sn**	**05 15 19.0**	**+0.3**
SKOC	**St. Kitts, UWI**	**4.82**	**336**	*e*P	**Pn**	**05 14 25.3**	**+1.2**
SKI	**Saint Kitts**	**4.86**	**336**	*e*P	**Pn**	**05 14 27.1**	**+2.4**
SKI				*e*S	**Sn**	**05 15 19.9**	**+0.2**
SKI	**Saint Kitts**	**4.86**	**336**	*e*P	**Pn**	**05 14 27.1**	**+2.4**
ANWB	**Willy Bob**	**4.89**	**348**	Pn	**Pn**	**05 14 26.2**	**+1.1**
ANWB	**Willy Bob**	**4.89**	**348**	*e*P	**Pn**	**05 14 26.4**	**+1.2**
ANWB				*e*S	**Sn**	**05 15 21.0**	**+0.6**
ANWB	**Willy Bob**	**4.89**	**348**	*e*P	**Pn**	**05 14 26.4**	**+1.2**
SEUS	**St. Éustatius**	**5.10**	**335**		**Pn**	**05 14 29.4**	**+1.4**
SABA	**Saba**	**5.33**	**333**		**Pn**	**05 14 32.5**	**+1.4**
SMRT	**St. Maarten**	**5.64**	**336**	Pn	**Pn**	**05 14 36.7**	**+1.3**
HUMP	**Col San Antoni**	**7.22**	**317**		**Pn**	**05 14 58.0**	**+1.0**
PDPR	**Patillas Dam,**	**7.25**	**316**		**Pn**	**05 14 57.9**	**+0.6**
IGPR	**InterUniversit**	**7.27**	**315**		**Pn**	**05 14 58.2**	**+0.6**
SJG	**San Juan**	**7.40**	**316**		**Pn**	**05 14 60.0**	**+0.6**
SJG	**San Juan**	**7.40**	**316**	P	**Pn**	**05 15 00.0**	**+0.6**
138nm,0.5s,baz=121,slow=20,SNR=122							
SJG				S	**Sn**	**05 16 14.7**	**-7.2**
35nm,0.3s,baz=47,slow=22,SNR=3.7							
SJG				LR	LR	05 17 27.4	
comp=Z,97nm,21.3s,baz=158,slow=34							
SJG	**San Juan**	**7.40**	**316**	*e*P	**Pn**	**05 15 00.3**	**+0.9**
SJG				*e*S	**Sn**	**05 16 19.7**	**-2.2**
SJG	**San Juan**	**7.40**	**316**	*e*P	**Pn**	**05 15 00.3**	**+0.9**
GCPR	**Guaynabo City**	**7.50**	**317**		**Pn**	**05 15 01.0**	**+0.3**
OBIP	**Obispado Ponce**	**7.67**	**313**		**Pn**	**05 15 02.1**	**-1.1**
CELP	**Cerrillos**	**7.68**	**313**		**Pn**	**05 15 03.8**	**+0.5**
EMPR	**Esperanza - Ma**	**7.92**	**316**		**Pn**	**05 15 08.2**	**+1.8**
AOPR	**Arecibo Observ**	**7.98**	**314**		**Pn**	**05 15 08.3**	**+0.9**
AOPR	**Arecibo Observ**	**7.98**	**314**	*e*P	**Pn**	**05 15 08.4**	**+1.0**
AOPR				*e*S	**Sn**	**05 16 33.1**	**-3.1**
AOPR	**Arecibo Observ**	**7.98**	**314**	*e*P	**Pn**	**05 15 08.4**	**+1.0**
CRPR	**Cabo Rojo, PR**	**8.02**	**310**		**Pn**	**05 15 08.9**	**+1.1**
AGPR	**Aguadilla, PR**	**8.31**	**313**		**Pn**	**05 15 13.4**	**+1.5**
PCDR	**Punta Cana, DR**	**9.29**	**308**	Pn	**Pn**	**05 15 27.0**	**+1.8**
DR12	**Loma Pena Alta**	**10.22**	**306**	Pn	**Pn**	**05 15 39.8**	**+1.9**
BOAV	**Boa Vista**	**10.40**	**179**	Pn	**Pn**	**05 15 37.0**	**-3.5**
SDV	**Santo Domingo**	**10.52**	**249**	Pn	**Pn**	**05 15 43.2**	**+0.9**
SDV	**Santo Domingo**	**10.52**	**249**	P	**Pn**	**05 15 42.1**	**-0.1**
3.4nm,0.3s,baz=24,slow=11,SNR=5.3							
SDV				S	**Sn**	**05 17 34.6**	**-4.0**
3.5nm,0.4s,baz=44,slow=19,SNR=1.4							
SDV				LR	LR	05 19 43.9	
comp=Z,132nm,21.1s,baz=98,slow=37							
MDP	**Montagnes des**	**11.08**	**133**	P	Pn	05 15 42.0	-7.7
29nm,0.3s,baz=322,slow=16,SNR=74							
SC01	**Santiago de lo**	**11.63**	**305**		**Pn**	**05 15 58.4**	**+1.2**
SDDR	**Presa de Saban**	**11.86**	**302**	Pn	**Pn**	**05 16 01.8**	**+1.5**
PAPH	**Port-au-Prince**	**12.50**	**298**	Pn	**Pn**	**05 16 11.2**	**+2.1**
GRTK	**Grand Turk**	**13.16**	**312**	Pn	**Pn**	**05 16 17.9**	**0.0**
SMRC	**Santa Marta, M**	**13.33**	**264**	Pn	**Pn**	**05 16 18.7**	**-1.6**
RUSC	**La Rusia**	**14.03**	**242**		**Pn**	**05 16 30.8**	**+0.8**
ROSC	**El Rosal**	**15.63**	**241**		**P**	**05 16 52.8**	**-0.5**
ROSC	**El Rosal**	**15.63**	**241**	P	**P**	**05 16 53.1**	**-0.1**
4.8nm,0.4s,baz=138,slow=17,SNR=4.0							
ROSC				LR	LR	05 23 32.6	
comp=Z,105nm,20.2s,baz=90,slow=40							
MACA	**Manacapuru-AM**	**15.92**	**180**		**Pn**	**05 16 50.8**	**-2.9**
MAL2	**Monte Alegre,**	**16.14**	**156**		**Pn**	**05 16 50.5**	**-6.1**
MAL2				IAmb	IAmb	05 17 04.9	
comp=Z,49nm,1.3s							
FLOC	**Florencia**	**18.57**	**234**		**Pn**	**05 17 26.2**	**-0.2**
OTAV	**Otavalo**	**21.61**	**236**	P	**P**	**05 17 57.0**	**-1.7**
CZSB	**Cruzeiro do Su**	**23.68**	**211**	P	**P**	**05 18 17.1**	**-2.2**
CZSB				IAmb	IAmb	05 18 38.6	
comp=Z,15nm,0.9s							
ATAH	**Atahualpa**	**26.52**	**222**	P	**P**	**05 18 47.0**	**+1.4**
comp=Z,2.4nm,0.6s,baz=118,slow=15,SNR=1.6							
comp=Z,2.4nm,0.6s							
MTO3	**Montecristo**	**27.88**	**276**	P	**P**	**05 18 57.6**	**0.0**
MTO3				IAmb	IAmb	05 18 58.9	
comp=Z,15nm,1.5s							
W57A	**Gilead**	**28.23**	**325**	P	**P**	**05 19 00.8**	**+0.7**
W57A				IAmb	IAmb	05 19 01.3	
comp=Z,5.0nm,0.9s							
SIV	**San Ignacio**	**28.67**	**181**	P	**P**	**05 19 05.3**	**+1.0**
comp=Z,0.6nm,0.5s,baz=341,slow=9.6,SNR=6.3							
comp=Z,0.6nm,0.5s							
LPAZ	**La Paz**	**29.88**	**194**	P	**P**	**05 19 14.9**	**-0.7**
LPAZ	**La Paz**	**29.88**	**194**	P	**P**	**05 19 16.1**	**+0.4**
comp=Z,0.3nm,0.3s,baz=8.0,slow=6.6,SNR=1.9							
LPAZ				LR	LR	05 32 16.1	
comp=Z,74nm,18.0s,baz=1.5,slow=38							
comp=Z,0.3nm,0.3s							
BDFB	**Brasilia**	**30.98**	**156**	P	**P**	**05 19 25.9**	**+1.1**
comp=Z,0.8nm,0.6s,baz=180,slow=1.5,SNR=3.2							
comp=Z,0.8nm,0.6s							
CPUP	**Villa Florida**	**39.09**	**175**	P	**P**	**05 20 34.5**	**+0.2**
comp=Z,2.0nm,0.9s,baz=16,slow=8.2,SNR=3.7							
CPUP				pP	**pwP**	**05 20 53.4**	**-0.9**
comp=Z,3.0nm,0.9s,baz=349,slow=11,SNR=4.2							
comp=Z,2.0nm,0.9s							
N38A	**Joes South For**	**39.81**	**320**	P	**P**	**05 20 40.3**	**+0.1**
SCHQ	**Schefferville**	**42.15**	**355**	P	**P**	**05 20 59.9**	**+0.7**
comp=Z,4.4nm,0.9s,baz=176,slow=7.2,SNR=5.7							
comp=Z,4.4nm,0.9s							
TXAR	**Lajitas Array**	**43.03**	**299**	P	**P**	**05 21 06.5**	**-0.3**
comp=Z,0.4nm,0.6s,baz=116,slow=9.6,SNR=6.4							
TXAR				PcP	**PcP**	**05 22 57.0**	**+0.9**
comp=Z,0.3nm,0.4s,baz=97,slow=4.1,SNR=7.9							
TXAR				ScP	**ScP**	**05 26 41.1**	**+0.1**
comp=Z,0.2nm,0.5s,baz=94,slow=5.0,SNR=4.7							
comp=Z,0.4nm,0.6s							
ECSD	**EROS Data Cent**	**43.54**	**322**	P	**P**	**05 21 10.3**	**-0.3**
ECSD				IAmb	IAmb	05 21 13.4	
comp=Z,3.2nm,0.7s							
AGMN	**Agassiz Nation**	**45.81**	**328**	P	**P**	**05 21 27.8**	**-0.9**
AGMN				IAmb	IAmb	05 21 33.6	
comp=Z,3.8nm,0.7s							
ULM	**Lac du Bonnet**	**47.05**	**330**	P	**P**	**05 21 37.5**	**-0.8**
ULM	**Lac du Bonnet**	**47.05**	**330**	P	**P**	**05 21 37.3**	**-1.0**
comp=Z,4.3nm,0.4s,baz=128,slow=8.4,SNR=16							
comp=Z,4.3nm,0.4s							
H10N3	**ASCENSION HYDR**	**50.30**	**112**	T	T	06 16 55.6	
baz=293,slow=75,SNR=51							
H10N2	**ASCENSION HYDR**	**50.31**	**112**	T	T	06 16 56.1	
baz=293,slow=75,SNR=71							
H10N1	**ASCENSION HYDR**	**50.32**	**112**	T	T	06 16 57.2	
baz=293,slow=75,SNR=55							
H10S3	**ASCENSION HYDR**	**50.61**	**113**	T	T	06 17 36.1	
baz=292,slow=74,SNR=30							
H10S2	**ASCENSION HYDR**	**50.63**	**113**	T	T	06 17 37.4	
baz=288,slow=74,SNR=26							
PD31	**Pinedale Array**	**51.52**	**315**	P	**P**	**05 22 12.7**	**-0.2**
PD31				IAmb	IAmb	05 22 13.0	
comp=Z,3.5nm,0.6s							
PDAR	**Pinedale Array**	**51.52**	**315**	P	**P**	**05 22 12.5**	**-0.4**
comp=Z,2.4nm,0.4s,baz=117,slow=9.7,SNR=33							
comp=Z,2.4nm,0.4s							
YHL	**Hebgen Lake**	**53.35**	**317**	P	**P**	**05 22 27.6**	**+1.1**
YHL				IAmb	IAmb	05 22 28.3	
comp=Z,3.5nm,0.7s							
PLCA	**Paso Flores**	**54.10**	**189**	P	**P**	**05 22 31.9**	**+0.4**
comp=Z,1.0nm,0.6s,baz=355,slow=6.8,SNR=6.5							
comp=Z,1.0nm,0.6s							
DBIC	**Dimbokro**	**55.30**	**91**	P	**P**	**05 22 40.5**	**-0.2**
DBIC	**Dimbokro**	**55.30**	**91**	P	**P**	**05 22 40.6**	**0.0**
comp=Z,4.3nm,0.8s,baz=286,slow=6.9,SNR=6.0							
comp=Z,4.3nm,0.8s							
PAB	**San Pablo**	**56.08**	**51**	P	**P**	**05 22 46.9**	**+0.9**
PAB				IAmb	IAmb	05 22 49.0	
comp=Z,7.5nm,1.1s							
ESDC	**Sonseca Array**	**56.40**	**51**	P	**P**	**05 22 49.4**	**+1.2**
ESDC	**Sonseca Array**	**56.40**	**51**	P	**P**	**05 22 49.5**	**+1.2**
comp=Z,4.4nm,0.8s,baz=263,slow=7.6,SNR=26							
comp=Z,4.4nm,0.8s							
ESBB	**Sonseca Array**	**56.40**	**51**	P	**P**	**05 22 49.1**	**+0.9**
ESBB				IAmb	IAmb	05 22 50.0

Hypocentre not reviewed by the ISC
SNET ***27*** *05:40:05.5±1.0, 14.87N×89.57W, h5km±4km, ML3.1*
ISC 27 05:40:03.0±1.3,**15.00N**±0.03×**89.57W**±0.04,**h13**km±9km,
n74,σ0.66/83,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESQI	**Esquipulas**	**0.49**	**153**	P	**Pg**	**05 40 12.6**	**-0.1**
ESQI	**Esquipulas**	**0.49**	**153**	S	**Sg**	**05 40 19.6**	**+0.3**
MTO3	**Montecristo**	**0.63**	**161**	P	**Pg**	**05 40 15.2**	**-0.2**
MTO3	**Montecristo**	**0.63**	**161**	P	**Pg**	**05 40 15.3**	**-0.1**
MTO3	**Montecristo**	**0.63**	**161**	S	**Sg**	**05 40 23.8**	**0.0**
MTO3	**Montecristo**	**0.63**	**161**	*i* P		05 40 15.2	
SLOZ	**Alcaldia de Sa**	**0.99**	**192**	*eP*	**Pg**	**05 40 21.9**	**-0.1**
SLOZ				*eS*	**Sg**	**05 40 34.9**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.99**	**192**	P	**Pg**	**05 40 22.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.99**	**192**	P	**Pg**	**05 40 22.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.99**	**192**	S	**Sn**	**05 40 37.0**	**+0.6**
UNIC	**Universidad Ca**	**1.01**	**179**	*eP*	**Pb**	**05 40 22.1**	**-0.2**
UNIC				*eS*	**Sb**	**05 40 34.9**	**-0.7**
UNIC	**Universidad Ca**	**1.01**	**179**	P	**Pb**	**05 40 22.3**	**-0.1**
UNIC	**Universidad Ca**	**1.01**	**179**	P	**Pb**	**05 40 22.2**	**-0.1**
UNIC	**Universidad Ca**	**1.01**	**179**	S	**Sg**	**05 40 36.2**	**+0.5**
LOAL	**Lomas de Alarc**	**1.02**	**191**	*eP*	**Pn**	**05 40 22.7**	**-0.2**
LOAL				*eS*	**Sg**	**05 40 35.8**	**-0.1**
LOAL	**Lomas de Alarc**	**1.02**	**191**	P	**Pn**	**05 40 22.5**	**-0.4**
LOAL	**Lomas de Alarc**	**1.02**	**191**	P	**Pg**	**05 40 22.4**	**-0.2**
LOAL	**Lomas de Alarc**	**1.02**	**191**	S	**Sn**	**05 40 37.2**	**+0.1**
LLGN	**La Laguna**	**1.03**	**144**	*eP*	**Pb**	**05 40 22.5**	**-0.2**
LLGN	**La Laguna**	**1.03**	**144**	P	**Pb**	**05 40 22.9**	**+0.1**
LLGN	**La Laguna**	**1.03**	**144**	P	**Pb**	**05 40 22.8**	**+0.1**
LLGN	**La Laguna**	**1.03**	**144**	S	**Sb**	**05 40 36.3**	**+0.1**
NUBE	**Las Nubes**	**1.11**	**190**	*eP*	**Pg**	**05 40 24.2**	**-0.1**
NUBE				*eS*	**Sg**	**05 40 38.6**	**-0.3**
NUBE	**Las Nubes**	**1.11**	**190**	P	**Pg**	**05 40 24.3**	**-0.1**
NUBE	**Las Nubes**	**1.11**	**190**	P	**Pg**	**05 40 24.1**	**-0.3**
NUBE	**Las Nubes**	**1.11**	**190**	S	**Sn**	**05 40 40.4**	**+0.9**
NUBE	**Las Nubes**	**1.11**	**190**	*eP*		05 40 24.2	
SNJE	**San Jose**	**1.12**	**182**	*eP*	**Pg**	**05 40 24.4**	**-0.3**
SNJE				*eP*	**Pg**	**05 40 24.5**	**-0.3**
SBLS	**San Blas**	**1.16**	**182**	*eP*	**Pg**	**05 40 25.0**	**-0.3**
CEVE	**Cerro Verde**	**1.17**	**182**	*eP*	**Pb**	**05 40 25.1**	**0.0**
CEVE				IAML		05 40 47.4	
	comp=Z,292nm,0.3s						
CEVE	**Cerro Verde**	**1.17**	**182**	P	**Pn**	**05 40 24.3**	**-0.9**
CEVE	**Cerro Verde**	**1.17**	**182**	P	**Pg**	**05 40 25.2**	**-0.3**
CEVE	**Cerro Verde**	**1.17**	**182**	S	**Sg**	**05 40 41.4**	**+0.7**
CEDA	**San Andres**	**1.20**	**172**	*eP*	**Pb**	**05 40 25.7**	**+0.1**
CEDA				IAML		05 40 48.0	
	comp=Z,380nm,0.6s						
CEDA	**San Andres**	**1.20**	**172**	P	**Pb**	**05 40 25.4**	**-0.2**
CEDA	**San Andres**	**1.20**	**172**	S	**Sg**	**05 40 43.2**	**+1.4**
PIC2	**El Picacho**	**1.28**	**166**	*eP*	**Pg**	**05 40 27.8**	**0.0**
PMON	**Piamonte**	**1.30**	**169**	*eP*	**Pb**	**05 40 27.4**	**+0.1**
PMON				*eS*	**Sn**	**05 40 44.3**	**0.0**
PMON	**Piamonte**	**1.30**	**169**	P	**Pg**	**05 40 27.9**	**-0.3**
PMON	**Piamonte**	**1.30**	**169**	P	**Pg**	**05 40 27.8**	**-0.3**
PMON	**Piamonte**	**1.30**	**169**	S	**Sg**	**05 40 46.3**	**+1.2**
UEES	**Universidad Ev**	**1.32**	**166**	*eP*	**Pb**	**05 40 27.5**	**-0.1**
UEES				IAML		05 40 51.3	
	comp=Z,474nm,0.3s						
UEES	**Universidad Ev**	**1.32**	**166**	P	**Pb**	**05 40 27.2**	**-0.4**
UEES	**Universidad Ev**	**1.32**	**166**	S	**Sg**	**05 40 45.5**	**0.0**
JAYA	**Jayaque - finc**	**1.34**	**175**	*eP*	**Pb**	**05 40 27.9**	**-0.1**
JAYA				*eS*	**Sn**	**05 40 44.5**	**-0.7**
JAYA				IAML		05 40 47.9	
	comp=Z,286nm,0.2s						
JAYA	**Jayaque - finc**	**1.34**	**175**	P	**Pb**	**05 40 28.3**	**+0.2**
JAYA	**Jayaque - finc**	**1.34**	**175**	P	**Pb**	**05 40 27.8**	**-0.3**
JAYA	**Jayaque - finc**	**1.34**	**175**	S	**Sg**	**05 40 47.1**	**+0.7**
JAYA	**Jayaque - finc**	**1.34**	**175**	*i* P		05 40 28.1	
JAYA				*eS*		05 40 46.9	
PAVA	**Las Pavas**	**1.42**	**154**	*eP*	**Pb**	**05 40 29.7**	**+0.4**
PAVA				IAML		05 40 52.0	
	comp=Z,718nm,0.4s						
PAVA	**Las Pavas**	**1.42**	**154**	P	**Pb**	**05 40 29.8**	**+0.4**
PAVA	**Las Pavas**	**1.42**	**154**	P	**Pn**	**05 40 28.5**	**0.0**
PAVA	**Las Pavas**	**1.42**	**154**	S	**Sg**	**05 40 49.1**	**+0.3**
QUIS	**Sacapulas**	**1.49**	**281**	*i* P		05 40 31.0	
QUIS				*i* S		05 40 51.2	
LALI	**Alcalda de L**	**1.52**	**171**	*eP*	**Pb**	**05 40 31.3**	**+0.3**
COEG	**Centro de Oper**	**1.53**	**154**	*eP*	**Pb**	**05 40 31.2**	**+0.1**
COEG				IAML		05 40 55.7	
	comp=Z,347nm,0.2s						
COEG	**Centro de Oper**	**1.53**	**154**	P	**Pb**	**05 40 31.5**	**+0.3**
COEG	**Centro de Oper**	**1.53**	**154**	P	**Pn**	**05 40 30.3**	**+0.3**
COEG	**Centro de Oper**	**1.53**	**154**	S	**Sg**	**05 40 52.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.53**	**147**	*eP*	**Pb**	**05 40 30.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.53**	**147**	P	**Pn**	**05 40 30.4**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.53**	**147**	S	**Sg**	**05 40 52.2**	**0.0**
SCLA	**Alcaldia de Sa**	**1.53**	**147**	P	**Pn**	**05 40 26.0**	**-4.0**
UESV	**Universidad de**	**1.56**	**151**	P	**Pn**	**05 40 30.7**	**+0.4**
UESV	**Universidad de**	**1.56**	**151**	S	**Sg**	**05 40 52.5**	**-0.5**
INTHN	**La Esperanza I**	**1.58**	**115**	P	**Pb**	**05 40 32.3**	**+0.1**
INTHN	**La Esperanza I**	**1.58**	**115**	S	**Sg**	**05 40 54.3**	**+0.4**
TECO	**Alcaldia de Te**	**1.65**	**152**	*eP*	**Pb**	**05 40 32.9**	**-0.2**
TECO				IAML		05 40 58.7	
	comp=Z,74nm,0.2s						
PQSS	**Presa 15 de Se**	**1.68**	**144**	*eP*	**Pb**	**05 40 33.4**	**-0.3**
PQSS				IAML		05 40 58.0	
	comp=Z,75nm,0.1s						
PQSS	**Presa 15 de Se**	**1.68**	**144**	P	**Pb**	**05 40 33.4**	**-0.3**
PQSS	**Presa 15 de Se**	**1.68**	**144**	S	**Sb**	**05 40 56.3**	**+1.5**
PQSS	**Presa 15 de Se**	**1.68**	**144**	P	**Pb**	**05 40 33.6**	**-0.2**
SOKI	**Kika Raxquin**	**1.78**	**264**	*i* P		05 40 36.7	
NISHN	**Nisperales Com**	**1.80**	**64**	P	**Pn**	**05 40 33.6**	**-0.1**
NISHN	**Nisperales Com**	**1.80**	**64**	S	**Sb**	**05 40 58.6**	**+0.2**
NISHN	**Nisperales Com**	**1.80**	**64**	*i* P		05 40 34.2	
NISHN				*i* S		05 40 58.6	
TECA	**Tecapa**	**1.82**	**145**	*eP*	**Pb**	**05 40 36.0**	**-0.2**
TECA				*eS*	**Sb**	**05 41 00.3**	**+1.2**
HUEH	**Huehuetenango**	**1.89**	**280**	*i* P		05 40 38.1	
PETF	**Flores**	**1.93**	**352**	*eP*	**Pg**	**05 40 40.0**	**+0.1**
PACA	**Pacayal**	**1.95**	**141**	*eP*	**Pb**	**05 40 38.0**	**-0.3**
PACA				*eS*	**Sb**	**05 41 03.3**	**+0.7**
PACA				IAML		05 41 12.4	
	comp=Z,734nm,0.5s						
LCND	**La Caada**	**2.34**	**136**	*eP*	**Pb**	**05 40 43.4**	**-1.7**
LCND				IAML		05 41 20.5	
	comp=Z,78nm,0.2s						
CCIG	**Comitan**	**2.78**	**298**	*i* P		05 40 49.6	

TEH ***27*** *05:42:49.6, 32.90N×47.46E, h12km±26km*
IDC ***27*** *05:42:49.8±0.7, 32.97N×47.60E, h0km, mb4.0/21, mbtmp4.1/28, ML3.7/7, MS4.0/56, Error ellipse: s-maj=16.2km s-min=11.4km az=180.0*
ISN ***27*** *05:42:50.1±0.8, 32.87N×47.43E, h10km±12km, ML4.5*
OMAN ***27*** *05:42:52.6±2.0, 32.69N×47.39E, h11km±12km, mb4.3/29, ms3.6/11, Error ellipse: s-maj=15.1km s-min=6.6km az=67.0*
GII ***27*** *05:42:52.6±0.0, 33.74N×47.60E, h10km, confirmed*
NEIC ***27*** *05:42:53.1±1.9, 33.03N±0.05×47.57E±0.08, h10km±1km, mb4.6/59, Error ellipse: s-maj=12.4km s-min=6.9km az=304.0*
GCMT ***27*** *05:42:53.5±0.2, 32.89N±0.02×47.26E±0.03, h16km, MW4.9/101, Moment Tensor Solution. s32,c37; s101,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.75±.15; $M_{\theta\theta}$-1.94±.10; $M_{\phi\phi}$-0.81±.09; $M_{r\theta}$0.67±.23; $M_{\theta\phi}$1.21±.06; $M_{\phi r}$-1.06±.30; Best double couple: M_o3.00400×10^{16} NP1:ϕ_s293.00000°, δ34.00000°, λ74.00000°. NP2:ϕ_s132.00000°, δ57.00000°, λ101.00000°. Principal axes: T 3.0650, Plg75.0000°, Azm73.0000°; N -0.1250, Plg9.0000°, Azm306.0000°; P -2.9420, Plg11.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***27*** *05:42:53.4±1.7, 33.47N×47.74E, h9km, mb4.8/18 Error ellipse: s-maj=7.4km s-min=4.0km az=112.3*
BJI ***27*** *05:42:56.0, 33.60N×47.70E, h10km, mB4.9/4, mb4.5/22, Ms4.6/12, Ms7 4.3/12*
NAO ***27*** *05:43:07.0, 33.91N×46.15E, h33km, mb4.2*
ISC 27 05:42:51.9±0.5,**32.97N**±0.03×**47.52E**±0.03,**h12**km±3km,
h13km:**pP-P,n425**,σ2.36/416,**mb4.6**/90,**MS4.1**/54,
27C-14D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.62**	**26**	Pg	**Pg**	**05 43 03.6**	**-0.3**
IDOB	**Doab**	**0.98**	**34**	Pg	**Pn**	**05 43 11.9**	**+0.2**
IBDR	**Badra**	**1.35**	**276**	*e*Pn	**Pn**	**05 43 15.7**	**-0.7**
IBDR				*e*Sn	**Sn**	**05 43 34.4**	**+0.2**
IBDR				AML	AML	05 43 55.6	
	comp=E,7μm,1.0s						
IBDR				AML	AML	05 43 55.8	
	comp=N,12μm,0.6s						
KCHF	**Cheshme Sefid,**	**1.36**	**343**	Pg	**Pb**	**05 43 17.6**	**+0.1**
HSAM	**Samen**	**1.53**	**36**	Pg	**Pg**	**05 43 21.6**	**+0.2**
IGHG	**Ghaleghazi**	**1.57**	**330**	Pg	**Pb**	**05 43 20.9**	**-0.1**
RAFI	**Al-Rafai**	**1.72**	**224**	*e*Pn	**Pn**	**05 43 20.0**	**-1.6**
RAFI				*e*Sn	**Sn**	**05 43 42.5**	**-1.0**
GLG1	**Gilan-e-Gharb**	**1.77**	**311**	Pg	**Pn**	**05 43 22.7**	**+0.4**
AHWZ	**Ahwaz**	**1.89**	**150**	Pn	**Pb**	**05 43 25.5**	**-0.8**
IDHR	**Dehrash**	**1.97**	**332**	Pn	**Pn**	**05 43 26.3**	**+1.0**
ILIN	**Lien**	**2.00**	**347**	Pn	**Pb**	**05 43 28.3**	**0.0**
KGS1	**Ghasr-e-Shirin**	**2.23**	**314**	Pn	**Pn**	**05 43 30.3**	**+1.7**
HAGD	**Aghdareh**	**2.29**	**36**	Pn	**Pn**	**05 43 31.7**	**+2.0**
BHD	**Baghdad**	**2.66**	**277**	*e*Pn	**Pn**	**05 43 34.5**	**+0.1**
BHD				*e*Sn	**Sn**	**05 44 06.2**	**-0.3**
BHD				AML	AML	05 44 36.4	
	comp=E,6μm,1.0s						
HGHA	**Hamedan- Ghaye**	**2.75**	**23**	Pn	**Pn**	**05 43 38.4**	**+2.5**
ZNGN	**Zangian**	**2.94**	**106**	Pn	**Pn**	**05 43 39.3**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.22**	**31**	Pn	**Pn**	**05 43 45.0**	**+2.5**
QAMS	**Qamsar**	**3.33**	**76**	Pn	**Pn**	**05 43 45.2**	**+1.2**
IBRJ	**Brojen**	**3.33**	**108**	Pn	**Pn**	**05 43 44.5**	**+0.5**
IKLH	**Kolahrood**	**3.42**	**83**	Pn	**Pn**	**05 43 46.8**	**+1.5**
IQOM	**Qom**	**3.49**	**57**	Pn	**Pn**	**05 43 48.2**	**+2.0**
IKRK	**Kirkuk**	**3.58**	**313**	*e*Pn	**Pn**	**05 43 48.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**05 44 30.3**	**+0.8**
IKRK				AML	AML	05 44 51.2	
	comp=E,2μm,1.0s						
IKRK				AML	AML	05 45 05.2	
	comp=N,1μm,0.8s						
SDS1	**Sardasht. Az.**	**3.59**	**333**	Pn	**Pn**	**05 43 49.3**	**+1.8**
KLNJ	**Kolanjah**	**3.97**	**118**	Pn	**Pn**	**05 43 54.0**	**+1.1**
KRSH	**Karshahi**	**3.98**	**74**	Pn	**Pn**	**05 43 55.1**	**+2.3**
IVRN	**Varamin**	**4.04**	**59**	Pn	**Pn**	**05 43 56.2**	**+2.7**
IZEF	**Zefreh**	**4.04**	**90**	Pn	**Pn**	**05 43 55.6**	**+1.8**
IGZV	**Ghazvin**	**4.07**	**32**	Pn	**Pn**	**05 43 56.2**	**+2.1**
MAHB	**Mahabad**	**4.07**	**339**	Pn	**Pn**	**05 43 55.1**	**+1.0**
ISFB	**Sefidab**	**4.17**	**69**	Pn	**Pn**	**05 43 57.1**	**+1.8**
JIR1	**Jirandeh**	**4.17**	**26**	Pn	**Pn**	**05 43 57.4**	**+1.9**
IDMV	**Damavand**	**4.55**	**54**	Pn	**Pn**	**05 44 02.5**	**+1.7**
KLST	**Kelardasht - M**	**4.58**	**38**	Pn	**Pn**	**05 44 03.6**	**+2.3**
ISRB	**Sarab**	**4.85**	**1**	Pn	**Pn**	**05 44 06.9**	**+2.1**
IFIR	**Firoozkooh**	**5.08**	**57**	Pn	**Pn**	**05 44 09.8**	**+1.7**
ANAR	**Anarak**	**5.21**	**86**	Pn	**Pn**	**05 44 10.8**	**+1.1**
IHRS	**Heris**	**5.35**	**356**	Pn	**Pn**	**05 44 14.3**	**+2.5**
DSBU	**Dashti - Bushe**	**5.61**	**144**	Pn	**Pn**	**05 44 15.1**	**-0.1**
ICHK	**Chekchek**	**5.85**	**95**	Pn	**Pn**	**05 44 19.1**	**+0.4**
IMEH	**Mehriz**	**6.21**	**103**	Pn	**Pn**	**05 44 25.4**	**+1.7**
GEVA	**Gevas**	**6.45**	**327**	Pn	**Pn**	**05 44 27.8**	**+1.0**
MAKU	**Maku**	**6.77**	**341**	Pn	**Pn**	**05 44 32.7**	**+1.4**
IBAF	**Bafgh**	**6.95**	**99**	Pn	**Pn**	**05 44 34.6**	**+1.0**
MARD	**Mardin**	**7.02**	**310**	Pn	**Pn**	**05 44 34.0**	**-0.6**
GURO	**Guroymak-BITLI**	**7.14**	**323**	Pn	**Pn**	**05 44 37.3**	**+1.1**
SAKB	**Bahrain**	**7.44**	**159**	P	**Pn**	**05 44 37.9**	**-2.4**
SAKB				S	**Sn**	**05 46 03.3**	**-1.4**
GNI	**Garni**	**7.51**	**343**	Pn	**Pn**	**05 44 41.6**	**+0.3**
GNI	**Garni**	**7.51**	**343**	Pg	**Pb**	**05 45 03.1**	**+1.0**
	comp=N,1.2nm,0.3s,baz=198,slow=20,SNR=4.0						
GNI				Lg	Lg	05 46 49.9	
	comp=N,0.5nm,0.3s,baz=195,slow=20,SNR=1.1						
GNI				LR	LR	05 47 49.7	
	comp=N,731nm,18.9s,baz=164,slow=40						
GNI	**Garni**	**7.51**	**343**	P	**Pn**	**05 44 43.7**	**+2.4**
GNI				S	**Sn**	**05 46 15.2**	**+8.9**
GNI	**Garni**	**7.51**	**343**	*i* P	**Pn**	**05 44 36.9**	**-4.4**
SHMA	**Al-Shehemyia**	**7.70**	**156**	P	**Pn**	**05 44 41.7**	**-2.1**
SHMA				S	**Sn**	**05 46 08.9**	**-1.9**
TPRV	**Parvadeh(Tabas**	**7.70**	**87**	Pn	**Pn**	**05 44 45.4**	**+1.5**
KARS	**Kars**	**8.43**	**336**	Pn	**Pn**	**05 44 54.8**	**+0.8**
KARS	**Kars**	**8.43**	**336**	P	**Pn**	**05 44 54.8**	**+0.8**
SMRA	**Abu-Samra**	**8.69**	**160**	P	**Pn**	**05 44 54.0**	**-3.4**
SMRA				S	**Sn**	**05 46 33.5**	**-1.8**
TRNA	**Turayna**	**8.82**	**158**	P	**Pn**	**05 44 56.7**	**-2.5**
TRNA				S	**Sn**	**05 46 36.8**	**-1.6**
ASF	**Jabal al Asfar**	**9.00**	**268**	Pn	**Pn**	**05 44 60.0**	**-1.8**
	comp=N,2.3nm,0.3s,baz=98,slow=5.3,SNR=8.9						
ASF				Sn	**Sn**	**05 46 38.2**	**-4.9**
	comp=N,1.9nm,0.3s,baz=302,slow=19,SNR=3.3						
ASF				Lg	Lg	05 47 37.3	
	comp=N,2.0nm,0.3s,baz=317,slow=18,SNR=4.6						
ASF				LR	LR	05 49 31.2	
	comp=N,770nm,18.4s,baz=97,slow=44						
	comp=N,2.9nm,0.3s						
ASF	**Jabal al Asfar**	**9.00**	**268**	P	**Pn**	**05 45 00.0**	**-1.8**
KOPT	**Kop Dagi**	**9.02**	**323**	Pn	**Pn**	**05 45 01.2**	**-1.0**
JRN	**Qarnain Island**	**9.26**	**148**	P	**Pn**	**05 45 04.3**	**-0.9**
RAYN	**Ar Rayn**	**9.58**	**191**	Pn	**Pn**	**05 45 11.6**	**+2.0**
RAYN	**Ar Rayn**	**9.58**	**191**	P	**Pn**	**05 45 11.6**	**+2.0**
SLWR	**Sila**	**9.59**	**157**	P	**Pn**	**05 45 07.2**	**-2.5**
SLWR				P	**Pn**	**05 45 07.2**	**-2.5**
SLWR				S	**Sn**	**05 46 56.0**	**-1.4**
SLWR				S	**Sn**	**05 46 56.0**	**-1.4**
NATI	**Neve Ativ**	**9.89**	**275**	P	**Pn**	**05 45 15.8**	**+2.0**
MAK	**Makhachkala**	**9.98**	**360**	*e*P	Pn	05 45 07.5	-7.4
MAK				*e*S	Sn	05 46 52.4	-14
MAK				pmax	pmax		
	comp=Z,95nm,1.2s						
MAK				MLR	MLR		
	comp=Z,1μm,18.0s						
GHWR	**Ruwais**	**10.13**	**151**	P	**Pn**	**05 45 16.3**	**-0.8**
GHWR				S	**Sn**	**05 47 11.2**	**+0.5**
HMDT	**Nahal Hemdat**	**10.14**	**269**	P	**Pn**	**05 45 19.5**	**+2.2**
MMAI	**Mount Meron Ar**	**10.18**	**274**	Pn	**Pn**	**05 45 22.6**	**+4.8**
MMAI	baz=82,slow=12						
MMAI				Lg	Lg	05 48 16.4	
	baz=117,slow=28						
MMAI				LR	LR	05 49 59.3	
	comp=Z,523nm,21.7s,baz=82,slow=42						
SHME	**Shamm**	**10.19**	**130**	P	**Pn**	**05 45 20.1**	**+2.2**
MMLI	**Mount Malkishu**	**10.21**	**270**	P	**Pn**	**05 45 20.1**	**+1.8**
UMQ	**Umm Al-Quwin**	**10.27**	**134**	P	**Pn**	**05 45 18.3**	**-0.7**
BANOM	**Banah**	**10.38**	**130**	P	**Pn**	**05 45 20.1**	**-0.5**
BANOM	**Banah**	**10.38**	**130**	Pn	**Pn**	**05 45 18.9**	**-1.7**
AJN	**Ajban**	**10.63**	**140**	P	**Pn**	**05 45 23.9**	**-0.1**
AJN				S	**Sn**	**05 47 20.7**	**-2.1**
NAZ	**Nazwa, Dubai**	**10.67**	**136**	P	**Pn**	**05 45 25.6**	**+1.0**
NAZ	**Nazwa, Dubai**	**10.67**	**136**	Pn	**Pn**	**05 45 23.9**	**-0.6**
MASF	**Masafi**	**10.69**	**133**	P	**Pn**	**05 45 27.5**	**+2.7**
MASF				P	**Pn**	**05 45 27.5**	**+2.7**
MSFE	**Esma-Masafi**	**10.69**	**133**	Pn	**Pn**	**05 45 22.4**	**-2.5**
MZWR	**Madinat Zayed**	**10.74**	**147**	P	**Pn**	**05 45 25.8**	**+0.3**
ASUD	**Al Ashush, Dub**	**10.76**	**139**	P	**Pn**	**05 45 25.8**	**0.0**
ASUD				S	**Sn**	**05 47 26.5**	**+0.3**
ASUD	**Al Ashush, Dub**	**10.76**	**139**	Pn	**Pn**	**05 45 23.3**	**-2.5**
ZFRI	**Zfri**	**10.78**	**260**	P	**Pn**	**05 45 29.9**	**+3.9**
MDH	**Madha**	**10.82**	**133**	P	**Pn**	**05 45 29.3**	**+2.6**
MDH				P	**Pn**	**05 45 29.3**	**+2.6**
MDH				S	**Sn**	**05 47 25.8**	**-1.9**
MDH				S	**Sn**	**05 47 25.8**	**-1.9**
NEUR	**Neytrino**	**10.95**	**341**	*i* P	**Pn**	**05 45 25.3**	**-3.2**
PRNI	**Paran**	**10.98**	**260**	P	**Pn**	**05 45 32.2**	**+3.4**
UOSS	**Minazif**	**11.03**	**134**	Pn	**Pn**	**05 45 33.2**	**+3.8**
UOSS	**Minazif**	**11.03**	**134**	P	**Pn**	**05 45 31.4**	**+2.0**
UOSS				P	**Pn**	**05 45 31.4**	**+2.0**
UOSS				S	**Sn**	**05 47 28.5**	**-4.2**
UOSS				S	**Sn**	**05 47 28.5**	**-4.2**
UOSS	**Minazif**	**11.03**	**134**	Pn	**Pn**	**05 45 27.4**	**-2.0**
HRFI	**Mount Harif**	**11.05**	**258**	P	**Pn**	**05 45 33.8**	**+4.0**
HATD	**Hatta, Dubai**	**11.07**	**135**	P	**Pn**	**05 45 32.0**	**+1.9**
HATD				P	**Pn**	**05 45 32.0**	**+1.9**
HATD				S	**Sn**	**05 47 31.9**	**-1.9**
HATD				S	**Sn**	**05 47 31.9**	**-1.9**
HATD	**Hatta, Dubai**	**11.07**	**135**	Pn	**Pn**	**05 45 28.2**	**-1.9**
ASHO	**Ashiyiah**	**11.14**	**136**	P	**Pn**	**05 45 32.1**	**+1.1**
ASHO				S	**Sn**	**05 47 33.7**	**-1.8**
ASHO	**Ashiyiah**	**11.14**	**136**	Pn	**Pn**	**05 45 30.2**	**-0.8**
MBRI	**Mt Berech**	**11.23**	**257**	P	**Pn**	**05 45 36.7**	**+4.4**
MZR	**Muzera**	**11.23**	**151**	P	**Pn**	**05 45 31.7**	**-0.7**
	SNR=24						
MZR				S	**Sn**	**05 47 37.2**	**-0.6**
MZR	**Muzera**	**11.23**	**151**	Pn	**Pn**	**05 45 31.6**	**-0.7**
EIL	**Elat**	**11.24**	**256**	Pn	**Pn**	**05 45 31.7**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=89,slow=8.7,SNR=7.0						
EIL				Lg	Lg	05 48 48.1	
	comp=Z,1.3nm,0.3s,baz=108,slow=20,SNR=3.6						
EIL				LR	LR	05 51 00.9	
	comp=Z,1μm,19.0s,baz=76,slow=44						
	comp=Z,4.7nm,0.6s						
EIL	**Elat**	**11.24**	**256**	P	Pn	05 45 37.9	+5.5
KBZ	**Khabaz**	**11.34**	**343**	Pn	Pn	05 45 38.8	+5.3
	comp=Z,0.1nm,0.3s,baz=182,slow=6.2,SNR=1.9						
KBZ				LR	LR	05 50 57.7	
	comp=Z,505nm,19.3s,baz=149,slow=43						
	comp=Z,2.5nm,1.1s						
KBZ	**Khabaz**	**11.34**	**343**	*i* P	**Pn**	**05 45 34.4**	**+0.8**
SHA1	**Shidzhatmaz**	**11.41**	**342**	*i* P	**Pn**	**05 45 33.3**	**-1.5**
ALNE	**Al Ain**	**11.45**	**139**	P	**Pn**	**05 45 35.6**	**+0.4**
ALNE				S	**Sn**	**05 47 45.1**	**+2.0**
JASK	**Jask - Hormozg**	**11.46**	**125**	P	**Pn**	**05 45 38.6**	**+3.3**
KVAR	**Kislovodsk Arr**	**11.60**	**342**	LR	LR	05 49 48.3	
	comp=Z,1μm,19.7s,baz=87,slow=36						
KIV	**Kislovodsk**	**11.60**	**342**	*e*P	**Pn**	**05 45 36.0**	**-1.3**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,237nm,13.0s						
SOHO	**SOHO**	**11.83**	**136**	P	**Pn**	**05 45 38.9**	**-1.5**
SOHO				P	**Pn**	**05 45 38.9**	**-1.5**
SOHO				S	**Sn**	**05 47 50.9**	**-1.6**
SOHO				S	**Sn**	**05 47 50.9**	**-1.6**
SOHO	**SOHO**	**11.83**	**136**	Pn	**Pn**	**05 45 38.6**	**-1.8**
SOC	**Sochi**	**12.24**	**332**	*e*P	Pn	05 45 41.2	-4.7
SOC				*e*SS	**Sn**	**05 48 04.1**	**+1.9**
SOC				MLR	MLR		
	comp=Z,828nm,17.0s						
UMZA	**Um Al Zommool**	**12.24**	**145**	P	**Pn**	**05 45 46.2**	**+0.1**
UMZA				S	**Sn**	**05 48 04.3**	**+1.9**
ARQ	**Araqi**	**12.45**	**138**	P	**Pn**	**05 45 49.6**	**+0.7**
ARQ				S	**Sn**	**05 48 08.7**	**+1.2**
HOQ	**Hoqain**	**12.71**	**135**	P	**Pn**	**05 45 54.8**	**+2.3**
HOQ				P	**Pn**	**05 45 54.8**	**+2.3**
LABN	**Labinsk**	**12.80**	**338**	*e*P	**Pn**	**05 45 49.5**	**-4.1**
LABN				*e*S	**Sn**	**05 48 07.3**	**-8.6**
LABN				pmax	pmax		
	comp=Z,29nm,0.5s						
DIKM	**Dikmen**	**13.04**	**315**	P	**Pn**	**05 46 00.3**	**+3.4**
	comp=Z,41nm,1.3s						
BR104	**Keskin Array S**	**13.05**	**305**	P	**Pn**	**05 46 01.0**	**+3.9**
	comp=Z,132nmcomp=Z,16nm,1.2s						
BR131	**Keskin Array S**	**13.06**	**305**	Pn	**Pn**	**05 45 57.8**	**+0.5**
BR131	**Keskin Array S**	**13.06**	**305**	*i* P	**Pn**	**05 45 58.5**	**+1.2**
BRTR	**Keskin Array B**	**13.06**	**305**	Pn	**Pn**	**05 45 58.8**	**+1.5**
BRTR	**Keskin Array B**	**13.06**	**305**	P

KKAR Karatay Array 20.68 54 Pn 05 47 33.5 -0.5
KKAR Karatay Array 20.68 54 P Pn 05 47 33.5 -0.5
MLR Muntele Rosu 20.80 313 Pn 05 47 34.8 -0.7
MLR IAmb IAmb 05 47 51.0
comp=Z,30nm,0.9s
MLR Muntele Rosu 20.80 313 P Pn 05 47 37.5 +2.0
comp=Z,26nm,1.0s,baz=196,slow=20,SNR=7.1
MLR Muntele Rosu 20.80 313 ⇑P Pn 05 47 38.0 +2.6
MLR Muntele Rosu 20.80 313 ⇑P Pn 05 47 38.0 +2.5
COVR Voineasa-Covas 20.82 314 ⇓P Pn 05 47 35.6 +0.1
TESR Tescani 20.91 316 ⇑P Pn 05 47 37.7 +1.1
SORM Soroca 20.93 322 ⇓P **P** **05 47 34.2 0.0**
SORM Soroca 20.93 322 ⇓P **P** **05 47 34.2 0.0**
SORM Soroca 20.93 322 P **P** **05 47 34.5 +0.2**
comp=Z,43nm,0.7s
OZUR 21.20 315 ⇑P **P** **05 47 38.7 +1.5**
VOIR 21.32 312 ⇓P **P** **05 47 39.4 +0.7**
VOIR 21.32 312 ⇓P **P** **05 47 39.4 +0.7**
DOPR Dopca 21.37 314 ⇓P **P** **05 47 37.9 -1.2**
NIL Nilore 21.50 81 P **P** **05 47 41.5 +0.9**
NIL IAmb IAmb 05 48 12.8
comp=Z,17nm,0.9s
NIL Nilore 21.50 81 P **P** **05 47 41.5 +0.9**
NIL pmax pmax
comp=Z,17nm,0.9s
ARR Arges 21.55 312 ⇑P **P** **05 47 41.6 +0.5**
NDNU Novodnistrovsk 21.73 322 P **P** **05 47 45.8 +2.9**
ATD Arta Tunnel 21.77 192 LR LR 05 57 05.6
comp=Z,32nm,18.5s,baz=0.0,slow=39
ARSB Arslanbob 21.88 60 IAmb IAmb 05 48 24.9
comp=Z,29nm,1.4s
AK07 Malin Array Si 22.15 328 P **P** **05 47 50.1 +2.7**
AK09 Malin Array Si 22.16 328 P **P** **05 47 49.7 +2.2**
AK10 Malin Array Si 22.17 328 P **P** **05 47 50.0 +2.5**
KMPD K-Podol'skiy 22.19 321 P **P** **05 47 47.8 0.0**
KMPD P **pP** **05 47 48.0 -3.6**
AK08 Malin Array Si 22.19 328 P **P** **05 47 48.7 +0.9**
AK05 Malin Array Si 22.20 328 P **P** **05 47 49.1 +1.2**
AK02 Malin Array Si 22.23 328 P **P** **05 47 48.7 +0.5**
AK12 Malin Array Si 22.24 328 P **P** **05 47 50.3 +2.0**
AKASG Malin Array Be 22.25 328 P **P** **05 47 49.2 +0.8**
AKASG Malin Array Be 22.25 328 P **P** **05 47 49.5 +1.0**
comp=Z,3.1nm,0.6s,baz=137,slow=10.0,SNR=10
AKASG S **S** **05 51 49.7 -3.3**
comp=Z,0.5nm,0.6s,baz=136,slow=19,SNR=4.3
AKASG LR LR 05 57 59.6
comp=Z,227nm,18.4s,baz=74,slow=41
comp=Z,3.1nm,0.6s
AKASG Malin Array Be 22.25 328 P **P** **05 47 49.2 +0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 22.25 328 IAmb IAmb 05 48 01.5
comp=Z,26nm,1.0s
AKBB Malin Array Si 22.25 328 *ce*P **P** **05 47 49.6 +1.2**
AK14 Malin Array Si 22.25 328 P **P** **05 47 49.0 +0.6**
KIEV Kiev 22.25 328 P **P** **05 47 48.5 +0.1**
KIEV IAmb IAmb 05 48 01.5
comp=Z,24nm,1.0s
KIEV Kiev 22.25 328 P **P** **05 47 48.5 +0.1**
KIEV pmax pmax
comp=Z,24nm,1.0s
AK11 Malin Array Si 22.26 328 P **P** **05 47 50.9 +2.4**
AK13 Malin Array Si 22.26 328 P **P** **05 47 51.1 +2.6**
AK03 Malin Array Si 22.27 328 P **P** **05 47 51.9 +3.3**
AK16 Malin Array Si 22.28 328 P **P** **05 47 51.3 +2.5**
AK15 Malin Array Si 22.29 328 P **P** **05 47 51.7 +2.8**
AK04 Malin Array Si 22.29 328 P **P** **05 47 51.6 +2.7**
BURAR Bucovina Array 22.33 317 ⇑P **P** **05 47 51.5 +2.1**
BURAR Bucovina Array 22.33 317 ⇑P **P** **05 47 51.5 +2.1**
AK18 Malin Array Si 22.34 328 P **P** **05 47 52.3 +3.0**
AK23 Malin Array Si 22.34 328 P **P** **05 47 52.6 +3.2**
BUR08 Bucovina Ar. S 22.35 318 P **P** **05 47 51.0 +1.3**
AK19 Malin Array Si 22.36 328 P **P** **05 47 52.0 +2.4**
AK22 Malin Array Si 22.36 328 P **P** **05 47 52.0 +2.4**
AK20 Malin Array Si 22.38 328 P **P** **05 47 52.2 +2.4**
ARCR ARCALIA 22.55 315 ⇓P **P** **05 47 51.5 -0.2**
MI29 MI29, Kamyanyy 22.68 326 P **P** **05 47 54.5 +1.5**
comp=Z,155nm,0.9s
GZR Gura Zlata 22.74 310 ⇑P **P** **05 47 57.2 +3.4**
GZR Gura Zlata 22.74 310 ⇑P **P** **05 47 57.2 +3.4**
MI30 MI30,Zelenitsa 22.75 327 P **P** **05 47 55.3 +1.6**
comp=Z,56nm,0.9s
HERR Herculane 22.77 309 ⇑P **P** **05 47 58.0 +4.0**
KSV Kosov 22.80 319 P **P** **05 47 56.7 +2.4**
BOVS Bovan 22.80 305 ⇑P **P** **05 47 55.2 +0.8**
MARR Marisel-Cluj 23.09 314 ⇑P **P** **05 47 58.7 +1.2**
RAKU Rahkiv 23.15 317 P **P** **05 48 00.9 +3.0**
MDVR Moldovita 23.20 308 ⇑P **P** **05 47 59.2 +0.7**
SURR Surduc 23.31 311 ⇑P **P** **05 47 59.2 -0.4**
AAK Ala-Archa 23.31 58 LR LR 05 58 34.5
comp=Z,592nm,19.9s,baz=273,slow=41
AAK Ala-Archa 23.31 58 *i* P **P** **05 48 03.1 +3.3**
AAK pmax pmax
comp=Z,5.0nm,1.7s
BMR Baia Mare 23.35 316 ⇑P **P** **05 48 03.1 +3.1**
BMR Baia Mare 23.35 316 ⇑P **P** **05 48 03.1 +3.1**
DRGR 23.39 313 ⇓P **P** **05 48 01.1 +0.6**
DRGR 23.39 313 ⇓P **P** **05 48 01.1 +0.6**
OBN Obninsk 23.44 344 *e*P **P** **05 48 00.2 -0.5**
OBN *e*PPP PPP 05 48 32.1
OBN pmax pmax
comp=Z,23nm,1.0s
OBN MLR MLR
comp=Z,368nm,15.0s
BZS Buzias 23.58 310 ⇓P **P** **05 48 01.7 -0.5**
BZS Buzias 23.58 310 ⇓P **P** **05 48 01.7 -0.5**
MOS Moscow 23.79 346 *e*P **P** **05 48 06.7 +2.5**
MOS pmax pmax
comp=Z,36nm,0.7s
KSH Kashi 23.80 66 P **P** **05 48 06.8 +2.2**
KSH sP sP 05 48 14.3 +4.0
KSH pmax pmax
comp=Z,5.0nm,0.5s
SIRR Siria 23.82 311 ⇑P **P** **05 48 02.3 -2.3**
BRIU Brid 23.96 317 P **P** **05 48 09.3 +3.4**
BOOM Boomskoye usch 24.31 59 IAmb IAmb 05 48 16.5
comp=Z,14nm,1.2s
ARTI Arti 24.60 15 *d* *i* P **P** **05 48 12.5 +0.8**
ARTI 05 48 38.5
ARTI S **S** **05 52 30.6 -1.7**
ARTI SS **SnSn** **05 53 09.4 -8.1**
ARTI pmax pmax
comp=Z,8.0nm,1.8s
KOLS Kolonicke sedl 24.70 318 *e*P **P** **05 48 16.4 +3.7**
KOLS Kolonicke sedl 24.70 318 *e*P **P** **05 48 16.4 +3.7**
KWP Kalwaria Pacla 24.82 319 *e*P **P** **05 48 18.7 +4.9**
KWP Kalwaria Pacla 24.82 319 P **P** **05 48 14.2 +0.4**
comp=Z,50nm,0.8s
KECS Kecovo 25.51 315 *e*P **P** **05 48 25.8 +5.8**
KECS Kecovo 25.51 315 *e*P **P** **05 48 25.8 +5.8**
PSZ Piszkesteto 25.61 314 ⇓P **P** **05 48 19.3 -1.7**
PSZ Piszkesteto 25.61 314 ⇓P **P** **05 48 19.3 -1.7**
MNK Minsk 25.61 333 *i* P **P** **05 48 20.3 -0.5**
comp=E,22nm,0.9s
MNK *i* P **P** **05 48 20.3 -0.5**
comp=N,393nm,20.1s
MNK *i* P **P** **05 48 20.3 -0.5**
comp=Z,42nm,1.2s,baz=138
MNK *i* PP **PnPn** **05 48 54.8 -2.0**
MNK *i* PPP PPP 05 49 03.0
MNK *i* S **S** **05 52 43.9 -4.6**
MNK *i* SS **SnSn** **05 53 35.1 -7.3**
MNK *i* SSS SSS 05 53 49.9
MNK *i* LQ LQ 05 56 36.1
MNK *i* LR LR 05 58 22.7
MNK *i* LRM MLR 05 59 43.1
comp=Z,181nm,12.3s
MNK *i* LRM MLR 06 00 03.9
MNK *i* LRM MLR 06 00 42.2
comp=E,286nm,15.4s
MNK Minsk 25.61 333 *i* P **P** **05 48 20.3 -0.5**
MNK *i* PPP PPP 05 49 03.0
MNK *i* S **S** **05 52 43.9 -4.6**
MNK *i* SSS SSS 05 53 49.9
MNK pmax pmax
comp=Z,42nm,1.2s
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=N,393nm,20.1s
MNK MLR MLR
comp=Z,181nm,12.0s
MNK MLR MLR
comp=E,286nm,15.0s
KIRV Kirov 25.65 2 *i* P **P** **05 48 21.5 +0.4**
MORH Mrgy, Hungar 25.73 309 ⇑P **P** **05 48 22.5 +0.5**
BRVK Borovoye 25.88 32 P **P** **05 48 24.1 +0.8**
BRVK IAmb IAmb 05 48 33.3
comp=Z,8.4nm,0.7s
BRVK Borovoye 25.88 32 *i* P **P** **05 48 24.6 +1.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 25.91 32 P **P** **05 48 23.4 -0.2**
comp=Z,4.0nm,0.8s,baz=224,slow=7.3,SNR=11
comp=Z,4.0nm,0.8s
NIE Niedzica 26.06 317 *e*P P 05 48 32.4 +7.3
NACGM Naroch 26.34 333 *e*P **P** **05 48 31.8 +4.4**
LANS Liptovska Anna 26.41 316 *e*P **P** **05 48 33.7 +5.4**
LANS Liptovska Anna 26.41 316 *e*P **P** **05 48 33.7 +5.4**
OJC Ojcow 26.74 318 *e*P **P** **05 48 24.9 -6.2**
MPLH Magyarpolny 26.78 311 P **P** **05 48 31.9 +0.4**
comp=Z,78nm,1.1s
SUW Suwalki 27.22 328 *e*P **P** **05 48 37.2 +1.8**
SUW Suwalki 27.22 328 P **P** **05 48 36.8 +1.4**
SUW Suwalki 27.22 328 P **P** **05 48 36.8 +1.4**
SUW pmax pmax
comp=Z,55nm,1.0s
JAVC Velka Javorina 27.35 314 *e*P **P** **05 48 39.8 +3.1**
MODS Modra-Piesok 27.40 313 *e*P **P** **05 48 42.0 +4.9**
MODS Modra-Piesok 27.40 313 *e*P **P** **05 48 42.0 +4.9**
MAUC Maruska 27.47 315 *e*P **P** **05 48 42.8 +5.0**
RONA Rosalia, Austr 27.76 311 *ep*P pP 05 48 44.8 +0.4
comp=Z,5.4nm,0.5s
MORC Moravsky Berou 27.82 316 IAmb IAmb 05 48 53.1
comp=Z,6.3nm,0.8s
MORC Moravsky Berou 27.82 316 *e*P **P** **05 48 42.9 +2.0**
ARSA Arzberg 28.10 310 *ep*P pP 05 48 46.1 -1.4
comp=Z,7.3nm,1.1s
CONA Conrad Observa 28.11 311 *ep*P pP 05 48 46.4 -1.2
comp=Z,6.4nm,1.2s
VRAC Vranov 28.18 315 *e*P **P** **05 48 46.2 +2.1**
KRUC Moravsky 28.20 314 *e*P **P** **05 48 46.2 +1.9**
SOKA Soboth 28.24 309 *ep*P **P** **05 48 47.0 +2.3**
comp=Z,8.9nm,1.6s
KLMR Klimovskoe 28.38 352 *e*P **P** **05 48 45.2 -0.5**
KLMR pmax pmax
comp=Z,58nm,1.8s
KRLC Kraliky 28.39 316 *e*P **P** **05 48 49.5 +3.5**
KRLC Kraliky 28.39 316 *e*P **P** **05 48 49.5 +3.5**
OBKA Obir 28.51 308 *ep*P **P** **05 48 47.6 +0.4**
comp=Z,14nm,1.3s
DPC Dobruska-Polom 28.77 316 *e*P **P** **05 48 53.5 +4.1**
DPC Dobruska-Polom 28.77 316 *e*P **P** **05 48 53.5 +4.1**
KURBB Kurchatov Arra 28.78 43 P **P** **05 48 49.4 +0.1**
comp=Z,1.1nm,0.6s,baz=247,slow=9.0,SNR=7.2
KURBB LR LR 06 01 39.9
comp=Z,373nm,21.4s,baz=218,slow=39
comp=Z,1.1nm,0.6s
KURK Kurchatov 28.87 43 P **P** **05 48 50.7 +0.6**
KURK IAmb IAmb 05 49 05.2
comp=Z,7.7nm,1.1s
KURK Kurchatov 28.87 43 *i* P **P** **05 48 50.8 +0.6**
KURK pmax pmax
comp=Z,5.0nm,1.1s
KSP Ksiaz 29.00 317 *e*P **P** **05 48 51.9 +0.5**
KSP Ksiaz 29.00 317 P **P** **05 48 54.9 +3.5**
comp=Z,14nm,1.1s
UPC Upice 29.02 317 *e*P **P** **05 48 56.1 +4.6**
UPC Upice 29.02 317 *e*P **P** **05 48 56.1 +4.6**
CHVC Chvalec 29.03 317 *e*P **P** **05 48 55.3 +3.6**
CHVC Chvalec 29.03 317 *e*P **P** **05 48 55.3 +3.6**
MOA Molln 29.10 311 *ep*P **P** **05 48 54.7 +2.4**
comp=Z,4.2nm,0.7s
BIOA Bad Ischl, Aus 29.45 310 *ep*P **P** **05 48 57.4 +2.0**
comp=Z,4.8nm,0.5s
KBA Koelnbreinsper 29.46 309 *ep*P **P** **05 48 55.8 +0.1**
comp=Z,16nm,1.1s
ZVC Zvikov 29.68 314 *e*P **P** **05 48 58.7 +1.3**
MK31 Makanchi Array 29.77 52 *i* P **P** **05 48 58.6 +0.3**
MKAR Makanchi Array 29.77 52 P **P** **05 48 58.5 +0.2**
MKAR Makanchi Array 29.77 52 P **P** **05 48 58.7 +0.4**
comp=Z,1.3nm,0.7s,baz=247,slow=6.7,SNR=11
MKAR ScP **ScP** **05 55 45.4 +1.8**
comp=Z,0.7nm,0.9s,baz=219,slow=1.9,SNR=4.4
MKAR LR LR 06 02 44.8
comp=Z,324nm,20.6s,baz=248,slow=40
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 29.77 52 P **P** **05 48 58.5 +0.2**
GERES GERESS Array B 29.78 312 P **P** **05 48 59.2 +0.9**
comp=Z,0.6nm,0.5s,baz=96,slow=8.2,SNR=7.6
GERES LR LR 06 03 46.8
comp=Z,167nm,19.0s,baz=98,slow=42
comp=Z,0.6nm,0.5s
ABTA Abfaltersbach 29.92 308 *ep*P **P** **05 49 02.0 +2.3**
comp=Z,5.1nm,1.3s
KHC Kasperske Hory 29.95 313 *e*P P 05 49 05.4 +5.6
KHC Kasperske Hory 29.95 313 *i* P **P** **05 49 02.3 +2.5**
KHC pmax pmax
comp=Z,31nm,1.9s
BRG Berggiesshubel 30.37 316 *e*P **P** **05 49 07.1 +3.6**
BRG Amp 05 49 09.2
comp=Z,5.9nm,1.0s
WTTA Wattenberg 30.64 308 *ep*P **P** **05 49 06.1 0.0**
comp=Z,13nm,1.0s
WATA Walderalm 30.69 309 *e*P **P** **05 49 05.4 -1.1**
comp=Z,21nm,1.4s
SQTA Sankt Quirin 30.91 308 *ep*P **P** **05 49 08.9 +0.5**
comp=Z,8.9nm,0.6s
MOTA Moosalm 31.01 308 *e*P **P** **05 49 07.6 -1.8**
comp=Z,12nm,0.9s
CLL Collm 31.09 316 *e*P **P** **05 49 13.0 +3.2**
CLL *i* *PP **sP** **05 49 17.0 +1.5**
CLL pmax pmax
comp=Z,16nm,1.3s
CLL Collm 31.09 316 *e*P **P** **05 49 13.0 +3.2**
comp=Z,16nm,1.3s
CLL *i* sP **sP** **05 49 17.0 +1.5**
FETA Feichten 31.18 308 *ep*P **P** **05 49 11.1 +0.3**
comp=Z,16nm,1.1s
KEST Kesra 31.51 286 P **P** **05 49 16.4 +2.6**
comp=Z,3.5nm,0.8s,baz=0.9,slow=16,SNR=3.7
LODK Lodwar 31.52 204 P **P** **05 49 14.4 +0.4**
GRFO Grafenberg 31.59 313 P **P** **05 49 16.7 +2.5**
GRFO Grafenberg 31.59 313 P **P** **05 49 16.7 +2.5**
GRFO pmax pmax
comp=Z,19nm,1.1s
FINES FINESS Array B 31.68 340 P **P** **05 49 14.8 -0.1**
FINES FINESS Array B 31.68 340 P **P** **05 49 15.3 +0.4**
comp=Z,3.9nm,0.8s,baz=146,slow=11,SNR=7.1
FINES LR LR 06 02 08.3
comp=Z,376nm,20.6s,baz=170,slow=36
comp=Z,3.9nm,0.8s
BSD Bornholm Skovb 31.77 324 *i* P **P** **05 49 18.2 +2.5**
BSD IAmb IAmb 05 49 23.1
comp=Z,32nm,1.0s
DAVA Damuels 31.80 308 *e*P **P** **05 49 14.0 -2.3**
comp=Z,14nm,0.9s
BLEU Blekinge 31.98 326 *i* P **P** **05 49 19.0 +1.5**
DEL Delary 32.98 326 *i* P **P** **05 49 26.0 -0.3**
WMQ Urumqi 33.00 59 *e*P **P** **05 49 30.5 +3.7**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=Z,630nm,21.1s
WMQ LR LR
comp=Z,280nm,23.9s
BJUU Bjuv 33.19 325 *i* P **P** **05 49 32.2 +4.1**
ZAA0 Zalesovo Array 33.68 40 IAmb IAmb 05 49 47.0
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 33.68 40 P **P** **05 49 32.6 +0.1**
ZALV Zalesovo Beam 33.68 40 P **P** **05 49 32.1 -0.3**
comp=Z,3.4nm,0.8s,baz=270,slow=8.9,SNR=8.8
ZALV LR LR 06 06 28.2
comp=Z,122nm,18.8s,baz=209,slow=42
comp=Z,3.4nm,0.8s
FABU Falkenberg 33.80 326 *i* P **P** **05 49 33.3 -0.1**
ECH Echery 33.80 309 IAmb IAmb 05 49 40.0
comp=Z,10.0nm,1.1s
BORU Boraas 34.10 327 *i* P **P** **05 49 39.0 +3.0**
ONAU Onsala 34.37 326 *i* P **P** **05 49 38.4 0.0**
TJOU Tjoern 34.83 327 *i* P **P** **05 49 43.9 +1.5**
HFS Hagfors 35.08 331 P **P** **05 49 43.1 -1.4**
comp=Z,1.6nm,0.3s,baz=122,slow=7.9,SNR=17
comp=Z,1.6nm,0.3s
MUD Monsted U'grnd 35.27 323 *i* P P 05 49 51.0 +4.9
MUD IAmb IAmb 05 49 52.1
comp=Z,11nm,0.8s
STRU Stroemstad 35.54 328 *i* P **P** **05 49 50.8 +2.4**
NB2 NORSAR Subarra 36.60 331 P **P** **05 49 57.8 +0.2**
comp=Z,2.6nm,0.6s,baz=124,slow=9.3
NOA NORSAR Array B 36.60 331 P **P** **05 49 58.0 +0.4**
comp=Z,1.1nm,0.7s,baz=125,slow=8.6,SNR=6.3
NOA LR LR 06 06 39.0
comp=Z,187nm,18.2s,baz=115,slow=39
comp=Z,1.1nm,0.7s
TAM Tamanrasset 38.27 266 P **P** **05 50 10.5 -1.8**
TAM Tamanrasset 38.27 266 P **P** **05 50 10.5 -1.8**
TAM pmax pmax
comp=Z,12nm,0.5s
ARCES ARCESS Array B 38.64 348 P **P** **05 50 14.0 -0.7**
comp=Z,2.8nm,0.8s,baz=116,slow=2.8,SNR=6.6
ARCES LR LR 06 07 28.7
comp=Z,302nm,20.1s,baz=194,slow=38
comp=Z,2.8nm,0.8s
PALK Pallekele 39.99 122 LR LR 06 08 03.5
comp=Z,98nm,21.3s,baz=33,slow=38
BRDH Bariadhala 40.09 93 LR LR 06 09 34.2
comp=Z,161nm,20.9s,baz=277,slow=40
EKA Eskdalemuir Ar 41.51 318 P **P** **05 50 39.2 +0.6**
comp=Z,0.8nm,0.4s,baz=108,slow=8.5,SNR=12
comp=Z,0.8nm,0.4s
ESDC Sonseca Array 41.55 294 P **P** **05 50 40.1 +0.8**
ESDC Sonseca Array 41.55 294 P **P** **05 50 39.6 +0.3**
comp=Z,0.4nm,0.6s,baz=83,slow=8.1,SNR=5.7
ESDC LR LR 06 10 46.6
comp=Z,130nm,18.4s,baz=12,slow=40
comp=Z,0.4nm,0.6s
NRIK Noril'sk 42.71 20 LR LR 06 12 47.6
comp=Z,214nm,18.2s,baz=245,slow=42
NRIK Noril'sk 42.71 20 *i* P **P** **05 50 47.2 -1.1**
NRIK pmax pmax
comp=Z,10.0nm,1.5s
PBRG Braganca 43.38 298 *e*P P 05 50 59.8 +5.6
MDT Midelt 43.39 285 LR LR 06 13 17.1
comp=Z,88nm,18.6s,baz=58,slow=42
MVO Moncorvo 43.68 297 *e*P P 05 51 03.7 +7.1
PBAR Barrancos 44.15 293 *e*P P 05 51 05.6 +5.2
MTE Manteigas 44.17 296 *e*P **P** **05 51 03.9 +3.4**
PVRL Vila Real 44.18 297 *e*P **P** **05 51 04.4 +3.9**
PCBR Castelo Branco 44.21 295 *e*P **P** **05 51 05.1 +4.3**
POLO Lamas de Olo 44.22 297 *e*P **P** **05 51 05.0 +4.0**
PGAV Gavieira, Arco 44.50 298 *e*P P 05 51 09.5 +6.3
SONM Songino Array 46.13 53 P **P** **05 51 16.3 +0.2**
comp=Z,0.9nm,0.8s,baz=292,slow=7.8,SNR=6.4
SONM PcP **PcP** **05 52 51.6 -0.5**
comp=Z,0.2nm,0.3s,baz=290,slow=4.2,SNR=2.0
SONM LR LR 06 12 31.8
comp=Z,268nm,21.1s,baz=286,slow=39
comp=Z,0.9nm,0.8s
TORD Torodi Ar. Bea 46.13 256 P **P** **05 51 19.8 +3.5**
TORD IAmb IAmb 05 51 37.0
comp=Z,6.7nm,1.3s
TORD Torodi Ar. Bea 46.13 256 P **P** **05 51 16.8 +0.4**
comp=Z,18nm,0.4s,baz=61,slow=8.0,SNR=0.9
ULN Ulaanbaatar 46.57 53 P **P** **05 51 22.0 +2.4**
ULN IAmb IAmb 05 51 31.3
comp=Z,7.3nm,1.1s
ULN Ulaanbaatar 46.57 53 *i* P **P** **05 51 21.7 +2.1**
ULN pmax pmax
comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 47.29 352 P **P** **05 51 23.9 -0.7**
comp=Z,13nm,1.1s,baz=143,slow=11,SNR=11
comp=Z,13nm,1.1s
CHTO Chiang Mai 47.92 94 P **P** **05 51 30.1 -0.2**
CHTO IAmb IAmb 05 51 37.1
comp=Z,4.8nm,0.9s
CHTO Chiang Mai 47.92 94 P **P** **05 51 30.1 -0.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 48.09 94 P **P** **05 51 30.0 -1.6**
comp=Z,1.0nm,0.3s,baz=295,slow=9.2,SNR=7.6
CMAR PcP **PcP** **05 52 59.3 0.0**
comp=Z,0.8nm,0.3s,baz=312,slow=2.5,SNR=4.3
CMAR LR LR 06 15 33.1
comp=Z,73nm,18.1s,baz=300,slow=41
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 48.09 94 *ce*P **P** **05 51 35.2 +3.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
JMIC Jan Mayen 48.27 339 LR LR 06 12 58.5
comp=Z,212nm,19.0s,baz=16,slow=38
BTO Baotou 49.71 62 *e*P **P** **05 51 42.0 -1.9**
BTO pP **pP** **05 51 46.5 -1.6**
BTO sP **sP** **05 51 49.3 -0.5**
BTO PP **PP** **05 53 35.8 -2.5**
BTO S **S** **05 58 44.8 -7.8**
BTO sS **pS** **05 58 53.5 -4.1**
BTO Baotou 49.71 62 SS SS 06 02 11.5 -13
BTO pmax pmax
comp=Z,21nm,0.7s
BTO pmax pmax
comp=Z,330nm,3.9s
BTO LR LR
comp=N,900nm,20.9s
BTO LR LR
comp=E,690nm,17.2s
BTO LR LR
comp=Z,630nm,20.3s
XAN Xi'an 50.51 71 P **P** **05 51 51.0 +1.0**
XAN pmax pmax
comp=Z,11nm,0.8s
XAN LR LR
comp=Z,510nm,21.5s
XAN LR LR
comp=Z,410nm,20.3s
XAN LR LR
comp=Z,600nm,19.7s
HHC Hu-ho-hao-te 50.80 62 *e*P **P** **05 51 54.3 +2.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.3s
LSZ Lusaka 51.41 204 LR LR 06 14 28.7
comp=Z,254nm,19.1s,baz=9.5,slow=37
LYN LuoYang 53.16 69 *e*P **P** **05 52 10.0 +0.3**
LYN pmax pmax
comp=Z,15nm,0.8s
LYN LR LR
comp=Z,480nm,16.7s
LYN LR LR
comp=Z,320nm,14.9s
LYN LR LR
comp=Z,660nm,20.0s
XLT XiLinHaoTe 53.39 57 *e*P P 05 52 16.5 +5.1
XLT pmax pmax
comp=Z,5.0nm,1.3s
XLT LR LR
comp=Z,300nm,17.8s
XLT LR LR
comp=Z,210nm,20.2s
DBIC Dimbokro 55.10 254 P **P** **05 52 25.8 +1.8**
comp=Z,2.2nm,0.8s,baz=59,slow=9.2,SNR=1.6
DBIC LR LR 06 19 03.4
comp=Z,277nm,18.8s,baz=34,slow=39
comp=Z,2.2nm,0.8s
TIXI Tiksi 56.37 22 LR LR 06 21 35.8
comp=Z,244nm,18.5s,baz=337,slow=41
TIXI Tiksi 56.37 22 *i* P **P** **05 52 35.2 +2.8**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
PSI Prapat 56.62 111 LR LR 06 18 25.5
comp=Z,98nm,19.8s,baz=327,slow=38
YAK Yakutsk 57.88 33 LR LR 06 22 35.9
comp=Z,179nm,18.5s,baz=278,slow=41
NJ2 Nanjing 59.03 70 *e*P **P** **05 52 52.8 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TSUM Tsumeb 59.25 213 LR LR 06 19 34.7
comp=Z,297nm,18.3s,baz=24,slow=37
HEH HeiHe 59.34 47 *e*P **P** **05 52 55.0 +1.4**
BBTS Babate 60.52 269 LR LR 06 20 33.8
comp=Z,76nm,21.2s,baz=280,slow=37
LBTB Lobatse 61.33 203 LR LR 06 21 23.1
comp=Z,133nm,18.3s,baz=38,slow=38
KLR Kul'dur 62.33 47 LR LR 06 23 29.8
comp=Z,171nm,18.5s,baz=308,slow=39
SFJD Kangerlussuaq 63.18 334 LR LR 06 23 21.1
comp=Z,155nm,18.1s,baz=62,slow=38
KSRS Korea Array 63.92 61 P **P** **05 53 23.3 -1.4**
comp=Z,1.7nm,0.7s,baz=282,slow=6.5,SNR=4.3
KSRS LR LR 06 25 16.5
comp=Z,118nm,19.5s,baz=290,slow=40
comp=Z,1.7nm,0.7s
USRK Ussuriysk Ar. 64.24 53 P **P** **05 53 24.6 -2.1**
comp=Z,1.6nm,0.8s,baz=262,slow=5.4,SNR=2.5
USRK LR LR 06 23 37.6

comp=Z,228nm,21.5s,baz=289,slow=38
comp=Z,1.6nm,0.8s
BOSA Boshof 64.79 202 LR LR 06 23 49.0
comp=Z,138nm,18.1s,baz=19,slow=38
SEY Seymchan 67.48 29 *e*P **P 05 53 46.2 -1.0**
SEY pmax pmax
comp=Z,7.0nm,1.0s
JNU Nakatsue 67.90 64 LR LR 06 26 18.8
comp=Z,157nm,20.7s,baz=308,slow=38
MA2 Magadan 68.39 32 LR LR 06 29 03.2
comp=Z,126nm,20.2s,baz=298,slow=41
JOW Kunigami 68.66 71 LR LR 06 28 24.1
comp=Z,155nm,19.3s,baz=322,slow=40
ASAJ Asahikawa 71.21 49 LR LR 06 29 06.1
comp=Z,151nm,19.3s,baz=345,slow=39
FRB Frobisher Bay 71.29 335 LR LR 06 25 54.4
comp=Z,131nm,18.2s,baz=101,slow=36
MJAR Matsushiro Arr 71.76 58 LR LR 06 28 32.1
comp=Z,148nm,21.1s,baz=311,slow=38
JHJ Hachijo jima 2 74.53 60 LR LR 06 31 34.8
comp=Z,123nm,18.2s,baz=18,slow=39
PETK Petropavlovsk- 75.09 36 LR LR 06 31 38.9
comp=Z,102nm,19.8s,baz=303,slow=39
A36M Sachs Harbour 75.21 358 P **P 05 54 35.6 +1.8**
A36M IAmb IAmb 05 54 44.1
comp=Z,5.6nm,0.8s
D25K Kavik River 77.50 5 IAmb IAmb 05 54 59.8
comp=Z,5.2nm,0.9s
TOLK Toolik Lake Re 77.90 6 IAmb IAmb 05 55 02.2
comp=Z,4.9nm,0.8s
E19K Redstone River 78.15 9 IAmb IAmb 05 55 02.9
comp=Z,3.7nm,0.7s
E22K Anaktuvuk Pass 78.17 7 P **P 05 54 50.3 -0.4**
E22K IAmb IAmb 05 55 03.2
comp=Z,2.7nm,0.7s
E23K Chandalar 78.46 6 P **P 05 54 52.2 -0.2**
E23K IAmb IAmb 05 55 15.0
comp=Z,3.8nm,1.1s
E25K Arctic Village 78.74 5 IAmb IAmb 05 55 29.1
comp=Z,8.9nm,1.4s
E29M Blow River 78.87 2 IAmb IAmb 05 55 05.0
comp=Z,5.0nm,0.8s
G19K Purcell Mounta 79.40 10 IAmb IAmb 05 55 07.7
comp=Z,7.7nm,1.1s
G30M tAoh Zraii Nji 80.32 1 P **P 05 55 03.0 +0.6**
G30M IAmb IAmb 05 55 19.4
comp=Z,4.6nm,0.8s
G31M Satah River 80.41 1 IAmb IAmb 05 55 13.6
comp=Z,8.6nm,1.1s
ILAR Eielson Array 81.93 6 P **P 05 55 10.7 -0.3**
comp=Z,0.4nm,0.8s,baz=334,slow=5.0,SNR=5.8
ILAR LR LR 06 36 28.1
comp=Z,83nm,19.3s,baz=52,slow=39
comp=Z,0.4nm,0.8s
SHEM Shemya Is, Ala 82.80 29 LR LR 06 35 23.7
comp=Z,105nm,21.7s,baz=289,slow=38
SCRK Sand Creek 82.95 5 P **P 05 55 17.3 +0.8**
SCRK IAmb IAmb 05 55 27.6
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 83.79 352 P **P 05 55 19.1 -1.5**
comp=Z,0.4nm,0.7s,baz=9.8,slow=4.9,SNR=5.9
YKA PKKPbc **PKKPbc 06 13 39.3 +2.0**
comp=Z,0.2nm,0.8s,baz=236,slow=2.1,SNR=3.8
comp=Z,0.4nm,0.7s
RCBR Riachuelo 87.64 262 LR LR 06 35 55.2
comp=Z,38nm,18.5s,baz=72,slow=36
KDAK Kodiak Island 88.03 11 LR LR 06 41 46.8
comp=Z,72nm,18.9s,baz=237,slow=40
GUMO Guam 88.74 75 LR LR 06 37 41.5
comp=Z,38nm,21.6s,baz=112,slow=37
BBB Bella Bella 95.12 357 LR LR 06 45 35.5
comp=Z,40nm,20.7s,baz=350,slow=40
TKL Tuckaleechee C 97.90 322 LR LR 06 41 56.2
comp=Z,75nm,19.3s,baz=11,slow=36
NEW Newport 97.97 350 LR LR 06 45 02.1
comp=Z,96nm,18.1s,baz=348,slow=38
ASAR Alice Springs 99.64 112 P **Pdif 05 56 36.8 +1.1**
comp=Z,0.2nm,0.3s,baz=292,slow=4.9,SNR=1.8
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 122.80 180 PKP **PKPdf 06 01 47.1 +0.3**
comp=Z,2.0nm,0.9s,baz=189,slow=1.6,SNR=7.3

*ISK **27** 05:46:38.4,38°.83N×26°.39E,h13km,ML2.2/12*
AFAD 27 05:46:39.5,38°.83N±26°.40E,h7km±4km,ML1.7,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**178**	P	Pg	05 46 43.7	+0.8
KARB				S	Sg	05 46 46.8	+1.7
KARB				*i* AML	AML	05 46 48.0	
	comp=N,163nm,0.2s						
KARB				*i* AML	AML	05 46 48.0	
	comp=E,165nm,0.6s						
FOCM	**Foa**	**0.28**	**114**	Pg	Pg	05 46 44.9	-0.1
FOCM				Sg	Sg	05 46 49.5	+0.8
DKL	**Dikili**	**0.46**	**58**	Pg	Pg	05 46 48.1	-0.3
DKL				Sg	Sg	05 46 55.2	+0.7
URLA	**Izmir**	**0.49**	**162**	P	Pg	05 46 48.8	-0.2
URLA				S	Sb	05 46 57.3	-0.6
URLA				*i* AML	AML	05 47 03.0	
	comp=N,80nm,0.9s						
AYVA	**Ayvalik**	**0.53**	**25**	P	Pg	05 46 48.7	-1.0
AYVA				S	Sg	05 46 57.3	+0.7
SIGR	**SIGRI**	**0.57**	**312**	Pg	Pg	05 46 49.9	-0.7
SIGR				Sg	Sg	05 46 58.7	+0.6
ZEYE	**Izmir, Urla-Ze**	**0.59**	**172**	P	Pg	05 46 50.9	0.0
ZEYE				S	Sb	05 47 01.9	+1.2
ZEYE				*i* AML	AML	05 47 04.0	
	comp=N,60nm,0.3s						
ZEYE				*i* AML	AML	05 47 04.0	
	comp=E,54nm,0.3s						
BLCB	**Balcova**	**0.67**	**131**	Pg	Pg	05 46 51.8	-0.5
KOCA	**Canakkale, Ayv**	**0.70**	**343**	P	Pg	05 46 53.2	+0.1
KOCA				S	Sb	05 47 04.5	+0.5
KOCA				*i* AML	AML	05 47 07.0	
	comp=N,43nm,0.2s						
KOCA				*i* AML	AML	05 47 09.0	
	comp=E,53nm,0.5s						
BUHA	**Balikesir, Bur**	**0.85**	**38**	P	Pg	05 46 55.8	-0.1
BUHA				S	Sb	05 47 09.3	+1.1
BUHA				*i* AML	AML	05 47 10.0	
	comp=E,23nm,0.3s						
DGB	**zmir**	**0.86**	**154**	P	Pg	05 46 55.5	-0.5
DGB				S	Sb	05 47 08.4	-0.1
BAYC	**CANAKKALE_Bayr**	**0.92**	**7**	P	Pb	05 46 57.5	-0.3
BAYC				S	Sg	05 47 09.2	+0.1
BAYC				*i* AML	AML	05 47 13.0	
	comp=N,26nm,0.3s						
BOZC	**Bozcaada**	**1.05**	**345**	Pg	Pg	05 46 58.9	-0.8
BOZC				Sg	Sb	05 47 13.8	-0.1
BOZC	**Bozcaada**	**1.05**	**345**	P	Pg	05 46 59.6	0.0
BOZC				S	Sb	05 47 14.4	+0.5
BOZC				*i* AML	AML	05 47 16.0	
	comp=N,50nm,0.2s						
BOZC				*i* AML	AML	05 47 16.0	
	comp=E,63nm,0.4s						
COMU	**Canakkale**	**1.27**	**2**	Pn	Pn	05 47 02.7	-1.0
COMU				Sn	Sb	05 47 20.2	-0.2
GORD	**Gordes-Manisa**	**1.39**	**86**	Pn	Pn	05 47 04.5	-0.8
GADA	**Gvkgeada**	**1.42**	**344**	Pn	Pn	05 47 04.3	-1.4
AYDB	**Zeytinkoy-Aydi**	**1.46**	**126**	Pn	Pn	05 47 05.3	-1.1
SUSR	**Susurluk-Balik**	**1.73**	**48**	Pn	Pn	05 47 09.3	-0.6
ERIK	**Erikli-Kesan**	**1.84**	**3**	Pn	Pn	05 47 10.0	-1.5

NEIC 27 05:47:37.5±0.3,36°.15N±0°.01×97°.49W±0°.01,h5km±4km, mb_Lg2.4/38,ML2.6/62,Error ellipse: s-maj=1.7km s-min=1.4km az=181.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.50**	**169**		Pg	05 47 47.0	-0.1
CROK	**Carrier**	**0.54**	**312**		Pg	05 47 48.1	+0.3
OK031	**S. Brethren Rd**	**0.56**	**110**		Pg	05 47 48.5	+0.3
OK031					Sg	05 47 56.3	+0.9
OK052	**Battle Ridge R**	**0.57**	**105**		Pg	05 47 48.8	+0.3
OK052					Sg	05 47 55.5	-0.5
OK052				IAML		05 47 57.2	
	282nm,0.1s						
OK052				IAML		05 47 57.6	
	343nm,0.1s						
QUOK	**Quay**	**0.63**	**87**		Pg	05 47 49.8	+0.2
QUOK					Sg	05 47 58.5	+0.7
OK051	**E0350 and S346**	**0.64**	**55**		Pg	05 47 49.9	+0.2
OK051					Sg	05 47 58.4	+0.5
BLOK	**Blackwell**	**0.65**	**20**		Pg	05 47 50.1	+0.2
BLOK				IAML		05 48 00.5	
	comp=N,292nm,0.3s						
BLOK				IAML		05 48 01.3	
	comp=E,322nm,0.4s						
OKCSW	**OKLAHOMA CITY**	**0.74**	**177**		Pg	05 47 51.9	+0.2
OKCSW				IAML		05 48 03.1	
	comp=N,382nm,0.1s						
OKCSW				IAML		05 48 05.7	
	comp=E,201nm,0.1s						
GC02	**Grant County #**	**0.77**	**337**	Pg	Pg	05 47 52.2	0.0
DEOK	**Depew**	**0.86**	**110**		Pg	05 47 54.1	+0.2
DEOK				IAML		05 48 06.9	
	comp=N,175nm,0.1s						
DEOK				IAML		05 48 06.9	
	comp=E,184nm,0.1s						
KAN13	**South Haven SW**	**0.86**	**0**		Pg	05 47 54.0	-0.1
FNO	**Franklin**	**0.89**	**176**		Pg	05 47 54.4	-0.1
FNO				IAML		05 48 13.2	
	comp=E,128nm,0.2s						
KAN14	**Manchester OK**	**0.90**	**335**		Pg	05 47 54.5	-0.2
KAN14				IAML		05 48 11.1	
	comp=N,283nm,0.1s						
KAN17	**Caldwell West**	**0.92**	**346**		Pg	05 47 55.0	-0.2
KAN09	**Caldwell North**	**0.99**	**354**		Pg	05 47 56.3	-0.2
KAN05	**Bluff City Nor**	**1.01**	**342**	IAML		05 48 15.5	
	comp=E,229nm,0.2s						
KAN01	**Argonia South**	**1.03**	**348**	IAmb_Lg		05 48 11.9	
	comp=Z,15nm,0.7s						
KAN01				IAML		05 48 12.8	
	comp=N,165nm,0.3s						
KAN01				IAML		05 48 12.9	
	comp=E,140nm,0.1s						
OK038	**West end E0370**	**1.07**	**288**		Pg	05 47 57.5	-0.5
CSTR	**Hydro, Custer**	**1.10**	**243**	Pg	Pg	05 47 58.2	-0.3
T35A	**Sooner Cattle**	**1.10**	**45**	Pg	Pg	05 47 58.4	-0.1
T35A				IAML		05 48 17.6	
	comp=N,153nm,0.5s						
T35A				IAML		05 48 17.6	
	comp=E,136nm,0.5s						
W35A	**Tecumseh**	**1.11**	**153**		Pg	05 47 58.0	-0.7
W35A				IAML		05 48 19.1	
	comp=E,130nm,0.4s						
NOKA	**Waynoka**	**1.27**	**293**		Pg	05 48 00.9	-0.8
TUL3	**Leonard**	**1.39**	**99**		Pn	05 48 02.8	-0.7
ELIS	**Ellis County**	**1.57**	**268**		Pn	05 48 06.2	+0.3
X34A	**Smith Ranch, M**	**1.57**	**191**	Pg	Pb	05 48 06.7	-0.2
X34A				IAmb_Lg		05 48 28.7	
	comp=Z,17nm,1.0s						
R32A	**Long Quarter,**	**2.47**	**337**	IAmb_Lg		05 49 01.4	
	comp=Z,15nm,0.9s						
WTFS	**Witchita Falls**	**2.51**	**199**	IAmb_Lg		05 48 55.7	
	comp=Z,6.7nm,0.8s						
U38A	**Gravette**	**2.52**	**82**	IAmb_Lg		05 48 59.4	
	comp=Z,8.8nm,0.7s						
Z38A	**Mt. Pleasant**	**3.54**	**144**	IAmb_Lg		05 49 35.4	
	comp=Z,14nm,0.9s						
MIAR	**Mount Ida**	**3.57**	**115**	IAmb_Lg		05 49 35.7	
	comp=Z,7.7nm,0.8s						
AMTX	**Amarillo**	**3.65**	**251**	IAmb_Lg		05 49 39.2	
	comp=Z,6.9nm,0.7s						
SN07	**Snyder 07**	**4.14**	**224**	IAmb_Lg		05 49 53.6	
	comp=Z,8.5nm,0.8s						
MGMO	**Mountain Grove**	**4.31**	**75**	IAmb_Lg		05 49 53.3	
	comp=Z,10nm,0.8s						
WHAR	**Wooly Hollow**	**4.31**	**100**	IAmb_Lg		05 50 06.6	
	comp=Z,11nm,1.1s						
WLAR	**White Oak Lake**	**4.35**	**123**	IAmb_Lg		05 50 04.8	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.35**	**92**	IAmb_Lg		05 50 01.0	
	comp=Z,6.8nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.99**	**307**	IAmb_Lg		05 50 26.0	
	comp=Z,9.5nm,0.7s						
BRDY	**Brady**	**5.01**	**195**	IAmb_Lg		05 50 16.8	
	comp=Z,4.2nm,0.8s						
T42A	**Van Buren**	**5.22**	**78**	IAmb_Lg		05 50 26.6	
	comp=Z,6.4nm,1.0s						
P40A	**Paris**	**5.47**	**50**	IAmb_Lg		05 50 29.0	
	comp=Z,8.0nm,0.8s						
PBMO	**Poplar Bluff**	**5.72**	**82**	IAmb_Lg		05 50 44.3	
	comp=Z,9.5nm,0.9s						
OZNA	**Ozona**	**6.03**	**211**	IAmb_Lg		05 50 55.8	
	comp=Z,5.8nm,0.9s						

*SJA **27** 06:07:44.1±0.7,23°.99S×66°.90W,h216km±18km,ML2.2, MW2.9*
ISC 27 06:07:45.3±2.9,23°.99S±0°.06×66°.76W±0°.07, h218km±25km,n11,σ1°.26/22,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.36**	**123**	*i* P	**Pn**	**06 08 20.0**	**+0.4**
SLA				*i* S	**S**	**06 08 46.0**	**-0.2**
SLA				IAML		06 08 47.7	
	comp=Z,11nm,0.7s						
AZAP	**Zapla**	**1.56**	**99**	*i* P	**Pn**	**06 08 21.6**	**+0.2**
AZAP				*i* S	**S**	**06 08 49.7**	**+0.3**
AZAP				IAML		06 08 49.7	
	comp=Z,9.8nm,0.5s						
YJA	**Yavi**	**2.14**	**33**	*i* P	**Pn**	**06 08 27.2**	**+0.1**
YJA				*i* S	**S**	**06 08 59.6**	**+0.3**
FSA	**Cafayete**	**2.23**	**162**	*i* P	**Pn**	**06 08 27.7**	**+0.1**
FSA				*i* S	**S**	**06 08 59.1**	**-1.5**
GO02	**Mina Guanaco**	**2.83**	**245**	*e*P	**Pn**	**06 08 35.4**	**+1.1**
GO02				*i* S	**S**	**06 09 12.4**	**+0.1**
GO02				IAML		06 09 13.6	
	comp=N,78nm,0.4s						
PB06	**IPOC Station P**	**2.88**	**296**	*e*P	**Pn**	**06 08 36.0**	**+1.2**
PB06				*i* S	**S**	**06 09 12.2**	**-1.0**
PB06				IAML		06 09 13.7	
	comp=N,67nm,0.4s						
PB09	**IPOC Station P**	**3.16**	**313**	*i* P	**Pn**	**06 08 39.7**	**+1.7**
PB09				*i* S	**S**	**06 09 18.8**	**-0.2**
PB03	**IPOC Station P**	**3.37**	**304**	*i* P	**Pn**	**06 08 41.2**	**+0.9**
PB03				*i* S	**S**	**06 09 21.7**	**-1.6**
PB01	**IPOC Station P**	**3.87**	**319**	*e*P	**Pn**	**06 08 47.0**	**+0.7**
PB01				*i* S	**S**	**06 09 32.2**	**-1.8**
PB08	**IPOC Station P**	**4.43**	**329**	*e*P	**Pn**	**06 08 55.0**	**+1.6**
PB08				*e*S	**S**	**06 09 46.5**	**-0.4**
TA01	**Diego Aracena**	**4.65**	**316**	*e*P	**Pn**	**06 08 56.1**	**+0.3**
TA01				*e*S	**S**	**06 09 48.3**	**-3.0**

*DJA **27** 06:09:41.8±0.2,7°.5±3°.3×13°.0E±°.,h187km±4km,M4.8/24, mb4.9/24,mB5.2/18,MLv5.4/16,Mw(mB)4.5/18*
*MOS **27** 06:09:41.3±0.7,6°.65S×129°.82E,h174km,mb4.9/30,Error ellipse: s-maj=10.8km s-min=5.9km az=112.1*
*IDC **27** 06:09:42.0±2.0,6°.68S×129°.83E,h167km±17km,mb4.4/20, mbtmp4.8/23,MS3.3/3,Error ellipse: s-maj=15.3km s-min=10.0km az=74.0*
*NEIC **27** 06:09:43.4±1.7,6°.66S±0°.07×129°.84E±0°.09,h176km±7km, mb4.9/74,Error ellipse: s-maj=13.2km s-min=10.4km az=91.0*
ISC 27 06:09:42.6±0.4,6°.80S±0°.03×129°.83E±0°.04,h178km±3km, h178km:pP-P,n318,σ1°.66/323,mb4.8/103,14C-9D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**129**		**Pn**	**06 10 18.6**	**+0.3**
SAUI	**Saumlaki**	**1.88**	**129**	P	**Pn**	**06 10 18.2**	**0.0**
SAUI	**Saumlaki**	**1.88**	**129**	S	**Sn**	**06 10 42.8**	**-3.0**
SAUI	**Saumlaki**	**1.88**	**129**	P	**Pn**	**06 10 18.5**	**+0.3**
BNDI	**Bandanaira**	**2.26**	**2**	P	**Pn**	**06 10 22.1**	**-0.4**
BNDI	**Bandanaira**	**2.26**	**2**	P	**Pn**	**06 10 22.0**	**-0.4**
BNDI				S	**Sn**	**06 10 53.3**	**-0.1**
AAI	**Ambon**	**3.49**	**332**	P	**Pn**	**06 10 36.3**	**-0.9**
MSAI	**Masohi**	**3.54**	**345**	P	**Pn**	**06 10 37.2**	**-0.7**
NLAI	**Namlea**	**4.46**	**322**	P	**Pn**	**06 10 49.6**	**+0.1**
FAKI	**Fak Fak**	**4.55**	**32**	Pn	**Pn**	**06 10 47.8**	**-2.9**
FAKI	**Fak Fak**	**4.55**	**32**	P	**Pn**	**06 10 47.2**	**-3.5**
KMPI	**Kaimana, Papua**	**4.96**	**51**	P	**Pn**	**06 10 54.8**	**-1.2**
KMPI				S	**Sn**	**06 11 48.7**	**-5.0**
DRS	**Darwin Rock St**	**5.70**	**169**	P	**Pn**	**06 11 05.1**	**-0.5**
DRS	**Darwin Rock St**	**5.70**	**169**	S	**Sn**	**06 12 08.3**	**-2.7**
SWI	**Sorong**	**6.07**	**14**	P	**Pn**	**06 11 06.5**	**-4.0**
SANI	**Sanana**	**6.07**	**321**	P	**Pn**	**06 11 10.4**	**-0.2**
SANI	**Sanana**	**6.07**	**321**	P	**Pn**	**06 11 09.1**	**-1.5**
	0.5nm178nm,0.9s						
MTN	**Manton Dam**	**6.14**	**168**	Pn	**Pn**	**06 11 11.0**	**-0.5**
MTN	**Manton Dam**	**6.14**	**168**	P	**Pn**	**06 11 10.7**	**-0.8**
	comp=Z,539nm,0.6s						
MTN	**Manton Dam**	**6.14**	**168**	S	**Sn**	**06 12 17.1**	**-4.5**
MTN	**Manton Dam**	**6.14**	**168**	P	**Pn**	**06 11 10.9**	**-0.6**
SOEI	**Soe**	**6.24**	**242**	Pn	**Pn**	**06 11 12.3**	**-0.5**
SOEI	**Soe**	**6.24**	**242**	P	**Pn**	**06 11 11.6**	**-1.2**
SOEI	**Soe**	**6.24**	**242**	S	**Sn**	**06 12 22.6**	**-1.3**
SOEI	**Soe**	**6.24**	**242**	P	**Pn**	**06 11 12.4**	**-0.5**
	comp=Z,2.8nmcomp=Z,2μmcomp=Z,238nm,1.0s						
KDU	**Kakadu**	**6.41**	**156**	P	**Pn**	**06 11 14.2**	**-0.7**
	comp=Z,699nm,0.6s						
KDU	**Kakadu**	**6.41**	**156**	S	**Sn**	**06 12 23.2**	**-4.6**
KDU	**Kakadu**	**6.41**	**156**	P	**Pn**	**06 11 14.3**	**-0.7**
LBMI	**Labuha**	**6.54**	**339**	P	**Pn**	**06 11 16.2**	**-0.6**
BATI	**Baumata**	**6.97**	**241**	P	**Pn**	**06 11 21.6**	**-0.8**
	comp=Z,2.6nmcomp=Z,2μmcomp=Z,223nm,0.6s						
BAKI	**Biak**	**8.38**	**49**	P	**Pn**	**06 11 42.0**	**+1.0**
KNRA	**Kununurra**	**8.89**	**187**	Pn	**Pn**	**06 11 45.9**	**-1.8**
KNRA	**Kununurra**	**8.89**	**187**	P	**Pn**	**06 11 45.8**	**-1.8**
	comp=Z,244nm,1.1s						
KNRA				S	**Sn**	**06 13 19.1**	**-7.8**
BKSI	**Bulukumba**	**9.76**	**278**	P	**Pn**	**06 11 58.6**	**-0.5**
WSI	**Waingapu**	**9.85**	**253**	P	**Pn**	**06 11 56.5**	**-3.8**
SMPI	**Sarmi**	**10.06**	**62**	P	**Pn**	**06 12 02.6**	**-0.4**
	comp=Z,3μmcomp=Z,38nm,0.7s						
KAPI	**Kappang**	**10.18**	**279**	P	**Pn**	**06 12 05.5**	**+1.0**
	comp=Z,3.2nm,0.4s,baz=74,slow=4.7,SNR=3.8						
KAPI	**Kappang**	**10.18**	**279**	*e*P	**Pn**	**06 12 04.5**	**0.0**
KAPI				pmax	pmax		
	comp=Z,15nm,1.3s						
SPSI	**Sidrap Palu**	**10.40**	**285**	P	**Pn**	**06 12 08.6**	**+1.2**
	comp=Z,2μmcomp=Z,229nm,0.6s						
MRSI	**Marisa**	**10.68**	**312**	P	**Pn**	**06 12 12.1**	**+1.0**
WBSI	**Waikabubak, Su**	**10.71**	**254**	P	**Pn**	**06 12 09.2**	**-2.3**
	comp=Z,2μmcomp=Z,146nm,0.9s						
GENI	**Genyem**	**11.12**	**68**	P	**Pn**	**06 12 15.1**	**-1.7**
	comp=Z,95nm,0.6s						
JAY	**Jayapura**	**11.65**	**69**	P	**Pn**	**06 12 22.6**	**-1.1**
	comp=Z,14nm,0.9s,baz=250,slow=15,SNR=7.3						
JAY				S	**Sn**	**06 14 31.9**	**-1.3**
	comp=Z,32nm,0.8s,baz=65,slow=19,SNR=3.5						
JAY	**Jayapura**	**11.65**	**69**	P	**Pn**	**06 12 22.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.95**	**200**	Pn	**Pn**	**06 12 24.2**	**-3.3**
FITZ	**Fitzroy Crossi**	**11.95**	**200**	P	**Pn**	**06 12 24.7**	**-2.8**
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.95**	**200**	S	Sn	06 14 30.3	-10
FITZ	**Fitzroy Crossi**	**11.95**	**200**	P	**Pn**	**06 12 24.4**	**-3.2**
	comp=Z,23nm,0.4s,baz=25,slow=10,SNR=98						
FITZ				S	Sn	06 14 29.9	-10
	comp=Z,65nm,0.5s,baz=76,slow=17,SNR=6.8						
TOLI2	**Tolitoli**	**11.96**	**311**	Pn	**Pn**	**06 12 27.8**	**+0.1**
PLAI	**Plampang**	**12.11**	**260**	P	**Pn**	**06 12 26.3**	**-3.2**
	comp=Z,1μmcomp=Z,122nm,0.6s						
TWSI	**Taliwang, Sumb**	**12.97**	**261**	P	**Pn**	**06 12 37.2**	**-3.3**
	comp=Z,2μmcomp=Z,33nm,0.5s						
WRAB	**Tennant Creek**	**13.78**	**162**		**Pn**	**06 12 47.8**	**-2.9**
WRAB	**Tennant Creek**	**13.78**	**162**	P	**Pn**	**06 12 47.8**	**-2.9**
WRA	**Warramunga Arr**	**13.78**	**162**	P	**Pn**	**06 12 48.0**	**-2.8**
	comp=Z,41nm,0.7s,baz=335,slow=13,SNR=96						
WRA				S	Sn	06 15 12.0	-12
	comp=Z,25nm,0.8s,baz=345,slow=22,SNR=6.1						
COEN	**Coen**	**14.93**	**120**	Pn	**Pn**	**06 13 03.4**	**-1.6**
COEN	**Coen**	**14.93**	**120**	P	**P**	**06 13 06.6**	**+0.4**
	comp=Z,101nm,0.9s						
COEN	**Coen**	**14.93**	**120**	S	Sn	06 15 41.2	-11
COEN	**Coen**	**14.93**	**120**	P	**Pn**	**06 13 05.9**	**+0.9**
ABJI	**Asem Bagus**	**15.50**	**265**	P	**Pn**	**06 13 11.3**	**-0.7**
	comp=Z,130nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.62**	**263**	Pn	**Pn**	**06 13 11.3**	**-2.2**
JAGI	**Jajag, Banyuwa**	**15.62**	**263**	P	**Pn**	**06 13 12.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**15.62**	**263**	P	**Pn**	**06 13 11.2**	**-2.3**
	comp=Z,1μmcomp=Z,66nm,0.8s						
KMMI	**Kalianget**	**15.75**	**268**	P	**Pn**	**06 13 15.0**	**0.0**
	comp=Z,96nm,0.8s						
GMJI	**Gumukmas**	**16.31**	**264**	P	**P**	**06 13 19.3**	**-2.2**
MYLDM	**Lahad Datu**	**16.41**	**316**	P	**Pn**	**06 13 23.0**	**0.0**
QIS	**Mount Isa**	**16.64**	**146**	P	**P**	**06 13 25.9**	**+0.7**
	comp=Z,60nm,0.6s						
QIS	**Mount Isa**	**16.64**	**146**	S	**S**	**06 16 20.4**	**-9.2**
QIS	**Mount Isa**	**16.64**	**146**	P	**Pn**	**06 13 26.3**	**+0.5**
AS06	**Alice Springs**	**17.22**	**167**	P	**Pn**	**06 13 33.0**	**+0.3**
	comp=Z,114nm,0.9s						
AS31	**Alice Springs**	**17.23**	**167**	P	**P**	**06 13 32.5**	**+0.9**
AS31	**Alice Springs**	**17.23**	**167**	P	**Pn**	**06 13 33.1**	**+0.4**
	comp=Z,57nm,0.6s						
ASAR	**Alice Springs**	**17.23**	**167**	P	**Pn**	**06 13 32.9**	**+0.1**
	comp=Z,76nm,0.6s,baz=345,slow=9.3,SNR=615						
ASAR				S	**S**	**06 16 33.2**	**-8.7**
	comp=Z,6.6nm,0.6s,baz=350,slow=22,SNR=6.5						
ASAR				LR	LR	06 21 05.7	
	comp=Z,194nm,18.1s,baz=344,slow=39						
ASAR				ScP	**ScP**	**06 21 24.8**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=0.2,slow=1.9,SNR=4.4						
AS01	**Alice Springs**	**17.23**	**167**	P	**Pn**	**06 13 33.0**	**+0.1**
AS19	**Alice Springs**	**17.27**	**167**	P	**Pn**	**06 13 34.0**	**+0.6**
	comp=Z,173nm,0.8s						
MBWA	**Marble Bar**	**17.30**	**213**	P	**P**	**06 13 32.8**	**+0.5**
	comp=Z,43nm,0.8s						
MBWA				S	S	06 16 33.0	-10
MBWA	**Marble Bar**	**17.30**	**213**	P	**Pn**	**06 13 33.4**	**-0.2**
PMG	**Port Moresby**	**17.36**	**100**	P	**Pn**	**06 13 36.6**	**+2.3**
	comp=Z,25nm,0.8s,baz=262,slow=6.9,SNR=5.8						
PMG				S	**S**	**06 16 40.3**	**-4.3**
	comp=Z,6.8nm,0.5s,baz=358,slow=23,SNR=7.3						
PSAC1	**Pilbara Seismi**	**17.56**	**212**	P	**Pn**	**06 13 36.3**	**-0.4**
	comp=Z,69nm,1.0s						
PSAC1				S	S	06 16 38.4	-10
PSA00	**Pilbara Seismi**	**17.57**	**212**	P	**P**	**06 13 35.7**	**+0.4**
PSA00	**Pilbara Seismi**	**17.57**	**212**	P	**Pn**	**06 13 36.7**	**-0.2**
	comp=Z,67nm,1.0s						
PSA00	**Pilbara Seismi**	**17.57**	**212**	P	**P**	**06 13 35.9**	**+0.6**
MTSU	**Mount Surprise**	**18.07**	**130**	P	**Pn**	**06 13 43.1**	**+0.3**
	comp=Z,26nm,0.7s						
**MTSU

HTT Hallett 27.81 164 P P 06 15 17.2 +1.9
NWAO Narrogin (SRO) 28.51 203 P P 06 15 22.2 +0.8
NWAO IAmb IAmb 06 16 28.5
comp=Z,25nm,1.2s
NWAO Narrogin (SRO) 28.51 203 P P 06 15 22.4 +0.9
NWAO Narrogin (SRO) 28.51 203 P P 06 15 22.2 +0.8
NWAO pmax pmax
comp=Z,25nm,1.3s
CMSA Cobar Meteorol 28.74 151 P P 06 15 25.4 +2.0
comp=Z,37nm,0.8s
CMSA Cobar Meteorol 28.74 151 P P 06 15 25.1 +1.6
IPM Ipoh 30.85 291 P P 06 15 42.4 0.0
IPM IAmb IAmb 06 15 44.7
comp=Z,24nm,0.9s
ARMA Armidale 31.16 142 P P 06 15 47.3 +2.3
ARMA Armidale 31.16 142 P P 06 15 47.4 +2.3
KULM Kulim 31.50 292 P P 06 15 47.1 -0.9
KULM IAmb IAmb 06 15 50.3
comp=Z,23nm,0.9s
ARPS Mount Arapiles 31.79 162 P P 06 15 52.5 +2.3
comp=Z,75nm,0.6s
ARPS Mount Arapiles 31.79 162 P P 06 15 52.5 +2.3
RPSI Rantau Prapat 32.26 286 IAmb IAmb 06 15 56.6
comp=Z,26nm,0.7s
YNG Young 32.30 150 P P 06 15 57.3 +2.4
comp=Z,164nm,0.8s
YNG Young 32.30 150 P P 06 15 57.2 +2.4
MGBR Mount Gambier 32.30 164 P P 06 15 56.5 +1.7
QIZ Qiongzhong 32.35 323 P P 06 15 57.0 +1.6
QIZ sP **sP 06 16 51.3 +0.3**
QIZ S **S 06 20 57.0 +0.7**
QIZ sS **sS 06 21 59.8 -0.1**
QIZ pmax pmax
comp=Z,250nm,3.0s
QIZ LR LR
comp=Z,110nm,8.9s
QIZ LR LR
comp=Z,110nm,13.1s
QIZ LR LR
comp=Z,140nm,13.1s
GSI Gunungsitoli 33.18 283 P P 06 16 02.9 +0.2
CAN Canberra 33.41 151 P P 06 16 07.2 +2.7
CAN IAmb IAmb 06 16 08.1
comp=Z,19nm,0.7s
CAN Canberra 33.41 151 P P 06 16 07.2 +2.7
CAN pmax pmax
comp=Z,19nm,0.7s
CAN Canberra 33.41 151 P P 06 16 07.2 +2.7
TOO Toolangi 33.78 157 P P 06 16 09.6 +1.9
TOO IAmb IAmb 06 17 15.8
comp=Z,36nm,2.0s
TOO Toolangi 33.78 157 P P 06 16 09.6 +1.9
TOO pmax pmax
comp=Z,36nm,2.0s
GULI GuiLin 37.09 330 P P 06 16 37.0 +1.1
GULI pmax pmax
comp=Z,10.0nm,0.6s
DZM Mont Dzumac 38.44 117 P P 06 16 49.0 +1.6
CM31 Chiang Mai Arr 39.47 310 P P 06 16 55.1 -0.8
CMAR Chiang Mai Arr 39.47 310 P P 06 16 55.1 -0.8
CMAR Chiang Mai Arr 39.47 310 P P 06 16 55.8 -0.2
comp=Z,3.7nm,0.3s,baz=140,slow=7.3,SNR=9.4
CMAR PcP **PcP 06 19 01.7 +1.4**
comp=Z,3.1nm,0.7s,baz=162,slow=2.9,SNR=8.1
CMAR LR LR 06 34 51.6
comp=Z,20nm,18.6s,baz=195,slow=38
comp=Z,3.7nm,0.3s
CHTO Chiang Mai 39.68 310 P P 06 16 56.9 -0.8
CHTO IAmb IAmb 06 17 04.2
comp=Z,18nm,0.9s
CHTO Chiang Mai 39.68 310 P P 06 16 56.9 -0.8
CHTO pmax pmax
comp=Z,18nm,0.9s
WHN Wuhan 39.98 339 ⇓P P 06 17 00.5 +0.6
NJ2 Nanjing 40.02 345 *e*P **P 06 17 00.3 +0.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
PZH PanZhiHua 42.87 322 P P 06 17 26.5 +2.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.2s
MJAR Matsushiro Arr 43.82 10 P P 06 17 29.4 -1.6
comp=Z,6.3nm,0.8s,baz=188,slow=9.0,SNR=10
comp=Z,6.3nm,0.8s
MAJO Matsushiro 43.82 10 P P 06 17 30.1 -0.9
MAJO Matsushiro 43.82 10⇑*i*P **P 06 17 29.6 -1.4**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 43.82 10 P P 06 17 29.8 -1.2
MJB9 Matsu-Tunnel 43.82 10 P P 06 17 31.3 +0.3
KSRS Korea Array 44.06 358 P P 06 17 33.0 +0.2
comp=Z,1.6nm,0.6s,baz=177,slow=9.7,SNR=6.4
comp=Z,1.6nm,0.6s
CD2 Chengdu 45.04 328 P P 06 17 42.0 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.3s
XAN Xi'an 45.18 335 P P 06 17 40.5 -1.4
XAN pmax pmax
comp=Z,33nm,0.8s
XAN Xi'an 45.18 335 P P 06 17 40.3 -1.6
HNS HongShan 46.18 343 ⇑P P 06 17 49.0 -0.5
HNS pmax pmax
comp=Z,19nm,1.0s
BJT Baijiatuau 48.26 346 P P 06 18 05.4 -0.2
BJT Baijiatuau 48.26 346 P P 06 18 05.4 -0.2
BJT pmax pmax
comp=Z,14nm,0.7s
BJT Baijiatuau 48.26 346 P P 06 18 05.1 -0.4
BJT pP **pP 06 18 44.4 +0.7**
BJI Beijing 48.28 346 P P 06 18 05.3 -0.4
BJI pmax pmax
comp=Z,10.0nm,0.6s
BJI pmax pmax
comp=Z,88nm,10.9s
LZH Lanzhou 49.15 332 *e*P **P 06 18 12.5 -0.1**
LZH pP pP 06 18 51.3 +0.4
LZH pmax pmax
comp=Z,23nm,1.2s
MSHR Mys Shultsa 49.16 1⇑*i*P **P 06 18 12.4 +0.1**
MSHR pmax pmax
comp=Z,10.0nm,0.7s
PSTR Posyet 49.22 1⇓*e*P **P 06 18 11.9 -0.9**
HHC Hu-ho-hao-te 50.30 342 *e*P **P 06 18 22.3 +1.1**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,67nm,3.7s
CN2 Changchun 50.52 356 P P 06 18 22.5 -0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BTO Baotou 50.57 340 *e*P **P 06 18 27.0 +3.8**
BTO pmax pmax
comp=Z,19nm,1.3s
BTO pmax pmax
comp=Z,250nm,5.3s
USA0B Ussuriysk Arra 50.80 2*ce*P **P 06 18 24.3 -0.4**
USRK Ussuriysk Ar. 50.80 2 P P 06 18 24.6 0.0
comp=Z,9.7nm,0.8s,baz=179,slow=7.3,SNR=13
comp=Z,9.7nm,0.8s
PALK Pallekele 50.95 285 P P 06 18 25.2 -1.3
MDJ Mudanjiang 51.18 360 P P 06 18 27.8 +0.3
MDJ pmax pmax
comp=Z,12nm,0.8s
XLT XiLinHaoTe 51.97 347 *e*P **P 06 18 33.3 -0.2**
XLT pmax pmax
comp=Z,8.0nm,0.7s
TCW Tory Channel 52.27 138 P P 06 18 36.8 +1.1
GTA Gaotai 53.71 331 P P 06 18 47.3 +0.9
GTA PcP **PcP 06 19 52.0 +1.7**
GTA pmax pmax
comp=Z,17nm,1.0s
KLR Kul'dur 55.82 2*de*P **P 06 19 01.7 +0.5**
KLR pmax pmax
comp=Z,14nm,2.5s
HEH HeiHe 56.85 358 *e*P **P 06 19 08.3 -0.2**
HEH pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 58.02 342 P P 06 19 17.4 +0.4
ULN Ulaanbaatar 58.02 342*c i*P **P 06 19 17.7 +0.8**
ULN pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 58.02 342 P P 06 19 17.6 +0.6
SONM Songino Array 58.20 342 P P 06 19 18.4 +0.3
SONM IAmb IAmb 06 19 19.6
comp=Z,17nm,1.3s
SONM Songino Array 58.20 342 P P 06 19 18.4 +0.3
comp=Z,6.3nm,0.6s,baz=156,slow=6.4,SNR=35
comp=Z,6.3nm,0.6s
SONM Songino Array 58.20 342 P P 06 19 18.4 +0.3
SONM pmax pmax
comp=Z,17nm,1.3s
ZEA Zeya 60.34 358 *e*P **P 06 19 33.6 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 61.42 341 *e*P **P 06 19 40.1 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 63.13 327 *e*P **P 06 19 52.3 +0.8**
WMQ pP pP 06 20 31.3 -0.4
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ Urumqi 63.13 327 P P 06 19 52.0 +0.6
MOY Mondy 63.27 340 *e*P **P 06 19 53.3 +1.0**
MOY pmax pmax
comp=Z,21nm,1.8s
PEA0B Petropavlovsk- 64.19 18 P P 06 19 58.0 -0.1
PEA0B Petropavlovsk- 64.19 18 P P 06 19 58.0 -0.1
PEA0B pmax pmax
comp=Z,56nm,1.3s
PETK Petropavlovsk- 64.19 18 P P 06 19 58.5 +0.4
comp=Z,9.0nm,0.9s,baz=197,slow=4.5,SNR=4.6
comp=Z,9.0nm,0.9s
WUS Wushi 66.52 321 P P 06 20 13.9 +0.3
ZSN Zaisan 67.01 329 *e*P **P 06 20 16.5 +0.2**
ZSN pmax pmax
comp=Z,21nm,0.9s
ZSN Zaisan 67.01 329 *e*P **P 06 20 16.5 +0.2**
comp=Z,20nm,0.9s
SHLS Shalkode 67.45 322 *e*P **P 06 20 17.8 -1.5**
SHLS pmax pmax
comp=Z,11nm,0.9s
SHLS Shalkode 67.45 322 *e*P **P 06 20 17.9 -1.5**
comp=Z,11nm,0.9s
UZB Uzynbulak 67.71 322 *e*P **P 06 20 21.3 +0.3**
UZB Uzynbulak 67.71 322 *e*P **P 06 20 21.3 +0.3**
KSH Kashi 67.75 318 P P 06 20 22.0 +0.7
KSH pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 67.96 327 P P 06 20 22.9 +0.6
MK31 Makanchi Array 67.96 327*c i*P **P 06 20 22.8 +0.4**
MKAR Makanchi Array 67.96 327 P P 06 20 22.8 +0.4
MKAR Makanchi Array 67.96 327 P P 06 20 22.9 +0.6
comp=Z,67nm,0.6s,baz=115,slow=8.3,SNR=287
comp=Z,67nm,0.6s
SATY Saty 68.04 322 *e*P **P 06 20 23.4 +0.3**
SATY Saty 68.04 322 *e*P **P 06 20 23.4 +0.3**
KPKS Kokpek 68.10 322 *e*P **P 06 20 23.7 +0.3**
KPKS pmax pmax
comp=Z,15nm,1.2s
KPKS Kokpek 68.10 322 *e*P **P 06 20 23.7 +0.3**
comp=Z,15nm,1.2s
MAKZ Makanchi 68.14 327 P P 06 20 23.6 +0.2
MAKZ Makanchi 68.14 327 P P 06 20 23.7 +0.2
MAKZ Makanchi 68.14 327 P P 06 20 23.8 +0.3
MA2 Magadan 68.23 11 P P 06 20 24.1 +0.4
MA2 Magadan 68.23 11⇑*e*P **P 06 20 24.6 +0.9**
MA2 pmax pmax
comp=Z,5.0nm,0.7s
CCD Concordia, Ant 68.36 182 P P 06 20 26.6 +1.8
CCD PcP **PcP 06 20 50.8 +1.7**
YAK Yakutsk 68.62 360 P P 06 20 26.1 0.0
YAK Yakutsk 68.62 360 *e*P **P 06 20 26.4 +0.4**
YAK *e* 06 20 48.4
YAK *e**PP **pP 06 21 06.8 -0.3**
YAK *e* 06 22 58.8
YAK *e*S **S 06 29 15.1 +1.1**
YAK *e* 06 30 08.2
YAK *e*SS **SS 06 33 37.0 -5.3**
YAK pmax pmax
comp=Z,35nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=Z,209nm,4.6s
YAK pmax pmax
comp=N,51nm,5.5s
YAK pmax pmax
comp=E,69nm,4.6s
YAK smax smax
comp=N,24nm,1.5s
YAK Yakutsk 68.62 360 P P 06 20 26.3 +0.2
TNSS Tian-Shan 68.93 321 *e*P **P 06 20 29.0 +0.1**
TNSS Tian-Shan 68.93 321 *e*P **P 06 20 29.0 +0.1**
AAA Alma-Ata 69.04 321 *e*P **P 06 20 29.4 +0.2**
AAA pmax pmax
comp=Z,20nm,0.5s
AAA Alma-Ata 69.04 321 *e*P **P 06 20 29.4 +0.2**
comp=Z,20nm,0.5s
TDK Taldyqorghan 69.11 324 *e*P **P 06 20 29.9 +0.4**
TDK pmax pmax
comp=Z,17nm,0.5s
TDK Taldyqorghan 69.11 324 *e*P **P 06 20 29.9 +0.4**
comp=Z,17nm,0.5s
BOOM Boomskoye usch 69.28 320 IAmb IAmb 06 20 32.6
comp=Z,18nm,0.8s
AAK Ala-Archa 70.28 320 P P 06 20 38.0 +1.1
AAK IAmb IAmb 06 20 38.9
comp=Z,15nm,0.7s
AAK Ala-Archa 70.28 320*c i*P **P 06 20 37.6 +0.7**
AAK pmax pmax
comp=Z,38nm,1.7s
AAK Ala-Archa 70.28 320 P P 06 20 37.9 +1.1
KBL Kabul 70.50 310 P P 06 20 38.9 +0.4
KBL Kabul 70.50 310 P P 06 20 38.9 +0.4
KBL pmax pmax
comp=Z,7.0nm,0.7s
DRK Karamyk 70.58 316 IAmb IAmb 06 20 40.6
comp=Z,15nm,0.7s
SGDS Sogindy 70.60 321 *e*P **P 06 20 38.9 +0.3**
SGDS Sogindy 70.60 321 *e*P **P 06 20 39.0 +0.3**
ZAA0 Zalesovo Array 71.33 334 IAmb IAmb 06 20 43.1
comp=Z,22nm,0.8s
ZALV Zalesovo Beam 71.33 334 P P 06 20 41.9 -0.8
ZALV Zalesovo Beam 71.33 334 P P 06 20 42.2 -0.5
comp=Z,19nm,0.6s,baz=125,slow=5.3,SNR=86
comp=Z,19nm,0.6s
BTK Batken 71.51 316 IAmb IAmb 06 20 45.8
comp=Z,62nm,1.9s
SEY Seymchan 71.64 11⇑*e*P **P 06 20 45.4 +1.0**
SEY pmax pmax
comp=Z,21nm,1.3s
BTLS Baital 71.76 322 *e*P **P 06 20 45.8 +0.3**
BTLS Baital 71.76 322 *e*P **P 06 20 45.9 +0.3**
SIMJ Simiganj 72.18 314 P P 06 20 48.1 -0.2
SIMJ IAmb IAmb 06 20 49.5
comp=Z,28nm,0.8s
KURBB Kurchatov Arra 72.25 329 P P 06 20 48.5 +0.2
comp=Z,37nm,0.6s,baz=127,slow=5.0,SNR=228
KURBB pP **pP 06 21 29.7 +0.1**
comp=Z,1.4nm,0.5s,baz=127,slow=5.3,SNR=0.9
KURBB S **S 06 29 48.7 -7.8**
comp=Z,1.0nm,1.1s,baz=137,slow=12,SNR=5.4
comp=Z,37nm,0.6s
KURK Kurchatov 72.25 329 P P 06 20 48.5 +0.2
DZA Taraz 72.44 319 *e*P **P 06 20 50.0 +0.3**
DZA pmax pmax
comp=Z,14nm,0.9s
DZA Taraz 72.44 319 *e*P **P 06 20 50.0 +0.3**
comp=Z,14nm,0.9s
VNDA Vanda 72.67 173 P P 06 20 51.9 +1.5
comp=Z,2.2nm,0.7s,baz=323,slow=1.4,SNR=1.9
comp=Z,2.2nm,0.7s
KK31 Karatay Array 73.07 319 IAmb IAmb 06 20 54.8
comp=Z,19nm,1.1s
KK31 Karatay Array 73.07 319 *i* P **P 06 20 53.1 -0.3**
KKAR Karatay Array 73.07 319 P P 06 20 52.9 -0.5
KKAR Karatay Array 73.07 319 IAmb IAmb 06 20 54.7
comp=Z,12nm,1.1s
KKAR Karatay Array 73.07 319 P P 06 20 52.9 -0.5
BRLS Borolday 73.48 319 *e*P **P 06 20 56.1 +0.3**
BRLS pmax pmax
comp=Z,10.0nm,0.6s
BRLS Borolday 73.48 319 *e*P **P 06 20 56.1 +0.3**
comp=Z,10.0nm,0.6s
OTUK Ortayu 74.38 324 P P 06 21 01.5 +0.7
BRZS Berezniki 75.05 326 *e*P **P 06 21 05.0 +0.4**
BRZS pmax pmax
comp=Z,7.0nm,0.5s
BRZS Berezniki 75.05 326 *e*P **P 06 21 05.0 +0.4**
comp=Z,7.2nm,0.5s
MAW Mawson 75.08 201 P P 06 21 06.4 +1.9
comp=Z,22nm,0.7s,baz=58,slow=2.9,SNR=2.3
comp=Z,22nm,0.7s
BVAR Borovoye Array 77.80 328 P P 06 21 19.0 -1.1
comp=Z,20nm,0.8s,baz=131,slow=8.0,SNR=77
comp=Z,20nm,0.8s
BVAR Borovoye Array 77.80 328 P P 06 21 19.0 -1.1
BRVK Borovoye 77.87 328 P P 06 21 19.2 -1.2
BRVK IAmb IAmb 06 21 21.5
comp=Z,24nm,0.8s
BRVK Borovoye 77.87 328*ce*P **P 06 21 20.3 -0.1**
BRVK pmax pmax
comp=Z,34nm,1.0s
TIXI Tiksi 78.29 360 P P 06 21 21.0 -1.3
TIXI IAmb IAmb 06 21 23.0
comp=Z,10nm,0.7s
TIXI Tiksi 78.29 360⇓*e*P **P 06 21 21.8 -0.5**
TIXI pmax pmax
comp=Z,15nm,1.0s
BILL Bilibino 78.96 13⇑*e*P **P 06 21 25.8 -0.3**
BILL pmax pmax
comp=Z,3.0nm,1.5s
VOI Vohitsoka 81.06 249 P P 06 21 39.0 +0.5
VOI IAmb IAmb 06 21 40.2
comp=Z,18nm,0.9s
NRIK Noril'sk 81.32 346 P P 06 21 39.0 +0.3
comp=Z,3.8nm,0.5s,baz=133,slow=6.2,SNR=8.6
comp=Z,3.8nm,0.5s
NRIK Noril'sk 81.32 346⇓*e*P **P 06 21 39.4 +0.7**
NRIK pmax pmax
comp=Z,11nm,1.0s
AB31 Akbulak array 82.24 322 *i* P **P 06 21 43.6 -0.3**
ABKAR Akbulak array 82.24 322 P P 06 21 44.1 +0.2
ABKAR Akbulak array 82.24 322 IAmb IAmb 06 21 44.7
comp=Z,10nm,0.8s
QSPA South Pole Qui 83.18 180 P P 06 21 49.4 +0.8
QSPA IAmb IAmb 06 23 43.7
comp=Z,35nm,1.8s
QSPA South Pole Qui 83.18 180 P P 06 21 49.2 +0.6
comp=Z,4.6nm,0.7s,baz=284,slow=1.3,SNR=39
comp=Z,4.6nm,0.7s
SYO Syowa Base 83.79 201⇓*e*P **P 06 21 53.2 +1.7**
AKTO Aktyubinsk 83.81 322 P P 06 21 51.3 -0.7
SVE Sverdlovsk 84.50 329 *e*P **P 06 21 55.6 +0.3**
SVE pmax pmax
comp=Z,29nm,0.9s
ARTI Arti 85.52 328 P P 06 22 00.3 0.0
ARTI IAmb IAmb 06 22 01.1
comp=Z,21nm,0.7s
ARTI Arti 85.52 328*d i*P **P 06 22 00.4 0.0**
ARTI 06 25 17.4
ARTI S **SKSac 06 32 08.4 -0.2**
ARTI SS **SS 06 37 54.1 -2.7**
ARTI pmax pmax
comp=Z,21nm,0.7s
RAYN Ar Rayn 87.50 294 P P 06 22 11.1 +0.2
RAYN Ar Rayn 87.50 294 P P 06 22 11.1 +0.2
RAYN pmax pmax
comp=Z,30nm,0.7s
ELIB Princess Elisa 88.63 197 *d*P **P 06 22 17.0 +1.7**
comp=Z,5.5nm,0.7s
B20K Meade River 90.61 19 IAmb IAmb 06 23 38.0
comp=Z,20nm,1.9s
B21K Ikpikpuk River 91.34 20 IAmb IAmb 06 22 28.7
comp=Z,5.4nm,0.7s
GEVA Gevas 91.63 308 P P 06 22 29.6 -0.4
GEVA IAmb IAmb 06 22 32.3
comp=Z,15nm,1.0s
RND Reindeer 92.15 26 P P 06 22 30.8 -0.9
RND IAmb IAmb 06 22 31.8
comp=Z,6.5nm,0.9s
RND Reindeer 92.15 26 P P 06 22 30.8 -0.9
RND pmax pmax
comp=Z,7.0nm,0.9s
I23K Minto, Yukon-K 92.27 25 IAmb IAmb 06 22 33.1
comp=Z,5.3nm,0.8s
KBZ Khabaz 92.43 314 P P 06 22 34.4 +1.1
comp=Z,2.3nm,0.8s,baz=9.4,slow=3.9,SNR=4.1
comp=Z,2.3nm,0.8s
GURO Guroymak-BITLI 92.46 308 IAmb IAmb 06 22 35.7
comp=Z,10nm,1.0s
D23K Nanushuk River 92.54 21 IAmb IAmb 06 25 33.7
comp=Z,28nm,1.9s
CCB Clear Creek Bu 92.83 25 IAmb IAmb 06 22 34.5
comp=Z,5.2nm,0.8s
ILAR Eielson Array 93.24 25 P P 06 22 35.2 -1.3
comp=Z,1.4nm,0.7s,baz=253,slow=4.7,SNR=16
comp=Z,1.4nm,0.7s
TROLL Troll, Antarti 94.32 194 P P 06 22 42.6 +0.9
TROLL Troll, Antarti 94.32 194 ⇑P P 06 22 42.6 +0.9
comp=Z,79nm,0.2s
BMAR Burnt Mountain 94.53 23 P P 06 22 43.5 +1.0
J26L Joseph Creek 94.62 26 IAmb IAmb 06 22 43.9
comp=Z,6.0nm,0.8s
L27K Beaver Creek, 95.26 27 IAmb IAmb 06 26 08.8
comp=Z,19nm,2.0s
SNAA Sanae 95.82 194 P P 06 22 49.8 +1.4
comp=Z,1.3nm,0.7s,baz=198,slow=9.6,SNR=1.9
comp=Z,1.3nm,0.7s
I28M Miner Creek 96.23 25 IAmb IAmb 06 22 51.8
comp=Z,5.6nm,0.8s
DAWY Dawson 96.41 26 P P 06 22 50.8 -0.3
DAWY IAmb IAmb 06 22 52.5
comp=Z,4.1nm,0.9s
E28M Babbage River 96.51 22 IAmb IAmb 06 23 19.6
comp=Z,12nm,1.9s
OBN Obninsk 97.39 325 *e*P **P 06 22 54.8 -0.8**
OBN *e**PP **pP 06 23 39.9 +0.4**
OBN *e**SP **sP 06 24 00.3 +2.5**
OBN *e* 06 26 54.6
OBN pmax pmax
comp=Z,6.0nm,0.8s
APA Apatity 98.69 337⇓*i*P Pdif 06 23 02.1 +0.9
APA *i* 06 27 00.0
APA MLR MLR
comp=Z,2μm,21.0s
BR131 Keskin Array S 99.05 309⇑*e*P **Pdif 06 23 02.5 -1.2**
BRTR Keskin Array B 99.05 309 P **Pdif 06 23 03.5 -0.2**
comp=Z,1.1nm,0.9s,baz=128,slow=4.2,SNR=3.5
comp=Z,1.1nm,0.9s
ARCES ARCESS Array B 101.33 340 P **Pdif 06 23 10.7 -2.2**
comp=Z,3.7nm,0.9s,baz=74,slow=5.9,SNR=3.8
ARCES PKiKP **PKiKP 06 27 35.6 -0.7**
comp=Z,4.9nm,1.1s,baz=56,slow=2.0,SNR=1.7
FINES FINESS Array B 102.50 331 PKiKP **PKiKP 06 27 37.9 -0.8**
comp=Z,1.0nm,0.6s,baz=90,slow=4.2,SNR=4.0
YKA Yellowknife Ar 107.65 26 PKiKP **PKiKP 06 27 48.4 +0.3**
comp=Z,0.4nm,0.6s,baz=267,slow=2.1,SNR=7.0
YKA PKKPbc **PKKPbc 06 39 02.5 -2.8**
comp=Z,0.4nm,0.9s,baz=117,slow=2.6,SNR=4.7
GERES GERESS Array B 112.16 320 PKiKP PKiKP 06 27 57.5 +0.3
comp=Z,0.7nm,0.4s,baz=151,slow=3.0,SNR=3.6
PDAR Pinedale Array 116.87 45 PKP PKiKP 06 28 07.5 +0.9
comp=Z,0.9nm,0.7s,baz=271,slow=1.4,SNR=10
EKA Eskdalemuir Ar 118.91 331 PKP PKPdf 06 28 09.6 -0.2
comp=Z,0.1nm,0.4s,baz=18,slow=3.1,SNR=5.4
ULM Lac du Bonnet 122.37 33 PKP PKPdf 06 28 16.4 -0.2
comp=Z,0.8nm,0.5s,baz=282,slow=3.5,SNR=7.1
TXAR Lajitas Array 124.97 59 PKP PKiKP 06 28 23.8 +1.1
comp=Z,1.1nm,1.0s,baz=221,slow=1.1,SNR=8.3
TORD Torodi Ar. Bea 128.60 281 PKP PKPdf 06 28 29.5 0.0
comp=Z,15nm,0.3s,baz=106,slow=1.9,SNR=1.3
PLCA Paso Flores 129.12 160 PKP PKPdf 06 28 30.4 +0.4
comp=Z,1.3nm,0.6s,baz=199,slow=3.0,SNR=5.9
DBIC Dimbokro 135.01 273 PKP PKPdf 06 28 41.7 +0.1
comp=Z,3.4nm,0.6s,baz=75,slow=3.8,SNR=5.4
CPUP Villa Florida 146.35 168 PKPbc PKPbc 06 29 03.4 +0.2
comp=Z,13nm,0.8s,baz=182,slow=2.1,SNR=27
LPAZ La Paz 150.99 142 PKP PKPdf 06 29 12.1 +1.9
comp=Z,5.4nm,0.7s,baz=128,slow=4.0,SNR=3.8
LPAZ PKPbc **PKiKP 06 29 17.9 +1.3**
comp=Z,4.4nm,0.4s,baz=194,slow=3.1,SNR=39
BDFB Brasilia 157.60 185 PKP PKPdf 06 29 20.4 +1.5
comp=Z,2.0nm,0.8s,baz=230,slow=7.1,SNR=3.5

IDC 27 06:10:42.0±1.5,7°79'N×126°45'E,h0km,mb4.2/4,
mbtmp4.2/4,MS3.5/1,Error ellipse: s-maj=32.1km
s-min=13.1km az=125.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ID SC	Time h m s	Res SC
DAV	**Davao City (W)**	**1.12**	**230**	Pg	Pg	06 11 02.4	-1.1
	586nm,0.3s,baz=47,slow=5.9,SNR=22						

DAV Lg Lg 06 11 19.7
586nm,0.3s,baz=259,slow=20,SNR=7.1
H11S3 WAKE ISLAND Hy 40.51 71 T T 07 01 59.7
baz=262,slow=74
H11S1 WAKE ISLAND Hy 40.52 71 T T 07 01 42.5
baz=262,slow=74
H11S2 WAKE ISLAND Hy 40.53 71 T T 07 01 56.8
baz=262,slow=74
H11N1 WAKE ISLAND Hy 40.92 69 T T 07 02 25.9
baz=265,slow=74,SNR=12
H11N2 WAKE ISLAND Hy 40.93 69 T T 07 02 26.6
baz=265,slow=74,SNR=8.0
H11N3 WAKE ISLAND Hy 40.94 69 T T 07 02 28.1
baz=265,slow=74,SNR=10
STKA Stephens Creek 42.02 161 P P 06 18 35.4 +0.2
3.0nm,0.4s,baz=338,slow=11,SNR=1.6
3.0nm,0.4s
MKAR Makanchi Array 54.11 324 P P 06 20 09.6 +0.9
2.5nm,0.7s,baz=123,slow=7.9,SNR=20
2.5nm,0.7s
ZALV Zalesovo Beam 56.88 332 P P 06 20 26.8 -1.7
0.6nm,0.5s,baz=125,slow=7.6,SNR=2.2
0.6nm,0.5s
MSVF Nonsavu 56.92 117 LR LR 06 44 23.3
comp=Z,42nm,18.6s,baz=199,slow=36
KURBB Kurchatov Arra 58.21 326 P P 06 20 38.0 +0.1
1.9nm,0.7s,baz=122,slow=7.3,SNR=14
1.9nm,0.7s

---

*IDC **27** 06:22:28.6±3.2, 4°.62S×153°.18E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=107.8km s-min=28.7km az=113.0*
ISC 27 06:22:28.1±4.2, 4°.8S±0°.5×153°.7E±0°.9, h10km, n7, σ0°.65/7, mb3.6/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**230**	P		**06 27 44.0**	**-0.2**
	0.8nm,0.6s,baz=55,slow=10,SNR=7.7						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**26.73**	**224**	P		**06 28 08.6**	**+0.4**
	0.1nm,0.3s,baz=42,slow=10,SNR=4.2						
	0.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**30.41**	**242**	P		**06 28 40.7**	**-0.2**
	0.7nm,0.4s,baz=60,slow=6.8,SNR=1.9						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**80.90**	**319**	P		**06 34 42.1**	**-0.6**
	0.3nm,0.5s,baz=102,slow=7.2,SNR=4.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**84.33**	**322**	P		**06 35 01.2**	**+0.8**
	0.2nm,0.4s,baz=110,slow=3.2,SNR=2.3						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**89.76**	**323**	P		**06 35 26.9**	**+0.1**
	0.9nm,0.7s,baz=99,slow=7.4,SNR=3.6						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc		**PKPbc**	**06 42 22.1**	**-0.6**
	16nm,0.3s,baz=74,slow=1.8,SNR=1.4						

---

*IDC **27** 06:28:12.6±0.5, 57°.32S×23°.40W, h0km, mb4.7/12, mbtmp4.7/13, ML4.5/1, MS3.9/28, Error ellipse: s-maj=20.0km s-min=16.3km az=56.0*
*MOS **27** 06:28:13.4±0.9, 57°.33S×23°.76W, h10km, mb5.0/11, Error ellipse: s-maj=22.8km s-min=13.8km az=112.2*
*NEIC **27** 06:28:14.2±1.8, 57°.42S±0°.07×23°.6W±0°.1, h10km±1km, mb5.0/38, Error ellipse: s-maj=14.2km s-min=4.5km az=142.0*
*GCMT **27** 06:28:18.2±0.2, 57°.62S±0°.03×23°.32W±0°.02, h20km, MW5.1/111, Moment Tensor Solution. s37, c41; s111, c157; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=4.67±.23; $M_{\theta\theta}$0.58±.14; $M_{\phi\phi}$4.09±.15; $M_{r\theta}$-1.46±.28; $M_{\theta\phi}$-1.11±.07; $M_{r\phi}$0.83±.23; Best double couple: M_0=4.82600×10^16^ NP1:φs355.00000°, δ39.00000°, λ-71.00000°. NP2:φs151.00000°, δ54.00000°, λ-105.00000°. Principal axes: T 4.5720, Plg8.0000°, Azm252.0000°; N 0.5030, Plg12.0000°, Azm160.0000°; P -5.0790, Plg76.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 06:28:13.9±0.3, 57°.46S±0°.06×23°.54W±0°.07, h10km, n204, σ1°.30/187, mb4.9/28, MS4.1/29, 11C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.95**	**288**	Pn	**Pn**	**06 30 08.8**	**-0.5**
HOPE	**Hope Point**	**7.95**	**288**	P	**Pn**	**06 30 08.8**	**-0.5**
VNA1	**Neumayer--Stat**	**14.76**	**160**	P	**Pn**	**06 31 41.3**	**-1.0**
VNA1	**Neumayer--Stat**	**14.76**	**160**	⇑P	**Pn**	**06 31 41.3**	**-1.0**
	comp=Z,36nm,0.9s						
VNA3	**Neumayer Olymp**	**15.02**	**163**	P	**Pn**	**06 31 46.5**	**+0.6**
VNA3	**Neumayer Olymp**	**15.02**	**163**	⇑P	**Pn**	**06 31 46.5**	**+0.6**
	comp=Z,68nm,0.7s						
VNA2	**Neumayer--Watz**	**15.15**	**160**	P	**Pn**	**06 31 48.1**	**+0.5**
	baz=323,slow=14						
VNA2	**Neumayer--Watz**	**15.15**	**160**	⇑P	**Pn**	**06 31 48.1**	**+0.5**
	comp=Z,30nm,0.6s,baz=323,slow=14						
SNAA	**Sanae**	**16.65**	**157**	P	**Pn**	**06 32 08.5**	**+1.5**
SNAA	**Sanae**	**16.65**	**157**		**Pn**	**06 32 07.8**	**+0.9**
SNAA				IAmb	IAmb	06 32 13.8	
	comp=Z,94nm,1.0s						
SNAA	**Sanae**	**16.65**	**157**	⇑P	**Pn**	**06 32 08.5**	**+1.5**
	comp=Z,940nm,0.7s						
SNAA	**Sanae**	**16.65**	**157**	Pn	**Pn**	**06 32 07.9**	**+0.9**
	comp=Z,1.6nm,0.3s,baz=42,slow=16,SNR=43						
SNAA				Sn	Sn	06 35 00.7	-11
	comp=Z,0.1nm,0.3s,baz=292,slow=19,SNR=2.2						
SNAA				LR	LR	06 36 26.2	
	comp=Z,250nm,21.0s,baz=9.0,slow=30						
	comp=Z,28nm,0.8s						
SNAA	**Sanae**	**16.65**	**157**	*c iP*	**P**	**06 32 10.1**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,125nm,1.1s						
TROLL	**Troll, Antarti**	**18.09**	**154**	P	**P**	**06 32 26.9**	**+1.5**
TROLL	**Troll, Antarti**	**18.09**	**154**	⇑P	**P**	**06 32 26.9**	**+1.5**
	comp=Z,788nm,0.7s						
NVL	**N'lazarevskaya**	**19.97**	**146**	*eP*	**P**	**06 32 46.9**	**+1.0**
NVL				*eS*	**S**	**06 36 27.1**	**-3.0**
NVL				pmax	pmax		
	comp=Z,15nm,0.8s						
PMSA	**Palmer Station**	**20.57**	**232**	P	**P**	**06 32 54.5**	**+2.2**
	comp=Z,33nm,0.8s,baz=140,slow=11,SNR=1.5						
PMSA				LR	LR	06 39 29.8	
	comp=Z,928nm,21.3s,baz=104,slow=33						
	comp=Z,33nm,0.8s						
EFI	**East Falkland**	**20.67**	**271**	P	**P**	**06 32 52.8**	**-0.8**
EFI				IAmb	IAmb	06 33 00.1	
	comp=Z,111nm,1.3s						
EFI	**East Falkland**	**20.67**	**271**	P	**P**	**06 32 52.8**	**-0.8**
EFI				pmax	pmax		
	comp=Z,111nm,1.3s						
BELA	**Belgrano 2**	**20.86**	**187**	P	**P**	**06 32 55.9**	**+0.4**
MG02	**Cerro Sombrero**	**26.14**	**261**	P	**P**	**06 33 47.5**	**-0.4**
SYO	**Syowa Base**	**29.21**	**139**	‖*eP*	**P**	**06 34 13.0**	**-2.1**
TRQA	**Tornquist**	**31.71**	**291**	P	**P**	**06 34 39.0**	**+1.4**
TRQA	**Tornquist**	**31.71**	**291**	P	**P**	**06 34 39.0**	**+1.4**
TRQA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
COYC	**Coyhaique**	**31.77**	**271**	P	**P**	**06 34 38.3**	**+0.4**
COYC				IAmb	IAmb	06 34 53.5	
	comp=Z,16nm,1.3s						
QSPA	**South Pole Qui**	**32.79**	**180**	P	**P**	**06 34 48.3**	**+1.3**
QSPA				IAmb	IAmb	06 34 49.5	
	comp=Z,20nm,1.1s						
QSPA	**South Pole Qui**	**32.79**	**180**	P	**P**	**06 34 48.1**	**+1.2**
	comp=Z,7.2nm,0.8s,baz=214,slow=2.4,SNR=32						
	comp=Z,7.2nm,0.8s						
PLTB	**Pedras Altas**	**32.94**	**308**	P	**P**	**06 34 49.6**	**+1.2**
PLTB				IAmb	IAmb	06 35 04.0	
	comp=Z,18nm,1.1s						
TBOT	**Tacuaremb**	**34.02**	**305**	*eP*	**P**	**06 34 58.5**	**+0.8**
PLCA	**Paso Flores**	**34.21**	**279**	P	**P**	**06 34 59.5**	**+0.1**
	comp=Z,3.4nm,1.1s,baz=149,slow=2.8,SNR=6.0						
PLCA				LR	LR	06 47 28.1	
	comp=Z,425nm,21.9s,baz=132,slow=34						
	comp=Z,3.4nm,1.1s						
PLCA	**Paso Flores**	**34.21**	**279**	*eP*	**P**	**06 34 56.0**	**-3.5**
ITAB	**Concordia**	**36.34**	**314**	P	**P**	**06 35 18.0**	**+0.3**
ITAB				IAmb	IAmb	06 35 31.6	
	comp=Z,30nm,1.4s						
ITAB	**Concordia**	**36.34**	**314**	*eP*	**P**	**06 35 18.9**	**+1.2**
MAW	**Mawson**	**37.81**	**141**	LR	LR	06 48 49.5	
	comp=Z,98nm,20.5s,baz=256,slow=33						
PTGB	**Pitanga**	**38.58**	**316**	*eP*	**P**	**06 35 37.6**	**+0.8**
BO02	**Sierra Bellavi**	**38.75**	**285**	P	**P**	**06 35 38.7**	**+0.5**
SUR	**Sutherland**	**39.15**	**70**	LR	LR	06 47 45.0	
	comp=Z,520nm,19.1s,baz=202,slow=30						
CPUP	**Villa Florida**	**39.26**	**308**	P	**P**	**06 35 41.4**	**-1.0**
CPUP	**Villa Florida**	**39.26**	**308**	P	**P**	**06 35 41.5**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=153,slow=4.2,SNR=8.9						
CPUP				LR	LR	06 53 06.3	
	comp=Z,84nm,18.2s,baz=132,slow=38						
	comp=Z,3.6nm,0.7s						
CPUP	**Villa Florida**	**39.26**	**308**	*eP*	**P**	**06 35 42.1**	**-0.3**
LDASE	**Londrina, Braz**	**39.44**	**318**	*eP*	**P**	**06 35 45.4**	**+1.4**
MT09	**Talagante**	**39.65**	**286**	P	**P**	**06 35 44.0**	**-1.8**
SJPY	**San Joaquin**	**39.92**	**310**	*eP*	**P**	**06 35 48.0**	**0.0**
MT02	**Curacav**	**40.13**	**286**	P	**P**	**06 35 48.4**	**-1.2**
MT02				IAmb	IAmb	06 36 15.6	
	comp=Z,33nm,1.5s						
PMNB	**Patos De Minas**	**42.41**	**327**	*eP*	**P**	**06 36 09.7**	**+1.1**
ITRB	**Iturama**	**42.57**	**321**	*eP*	**P**	**06 36 10.9**	**+1.1**
RPRD	**Ribas do Rio P**	**43.05**	**316**	*eP*	**P**	**06 36 14.1**	**+0.4**
MURT	**Porto Murtinho**	**43.51**	**311**	*eP*	**P**	**06 36 17.1**	**-0.3**
AQDB	**Aquidauana**	**43.81**	**314**	P	**P**	**06 36 19.1**	**-0.7**
AQDB				IAmb	IAmb	06 36 20.7	
	comp=Z,19nm,1.3s						
AQDB	**Aquidauana**	**43.81**	**314**	*eP*	**P**	**06 36 19.6**	**-0.2**
BDQN	**Bodoquena, MS**	**44.25**	**313**	*eP*	**P**	**06 36 23.0**	**-0.3**
AC02	**Maricunga**	**44.30**	**294**	P	**P**	**06 36 24.4**	**+0.1**
BOSA	**Boshof**	**44.45**	**71**	P	**P**	**06 36 25.8**	**+0.8**
BOSA	**Boshof**	**44.45**	**71**	P	**P**	**06 36 25.3**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=212,slow=7.4,SNR=3.9						
BOSA				LR	LR	06 51 02.8	
	comp=Z,284nm,20.3s,baz=206,slow=31						
	comp=Z,3.5nm,1.0s						
BOSA	**Boshof**	**44.45**	**71**	P	**P**	**06 36 25.8**	**+0.8**
BOSA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
JANB	**Januaria**	**45.13**	**331**	*eP*	**P**	**06 36 30.4**	**0.0**
VNDA	**Vanda**	**45.24**	**182**	P	**P**	**06 36 33.4**	**+2.8**
VNDA	**Vanda**	**45.24**	**182**	P	**P**	**06 36 33.0**	**+2.4**
	comp=Z,7.0nm,0.9s,baz=182,slow=5.9,SNR=6.5						
VNDA				LR	LR	06 55 48.2	
	comp=Z,111nm,19.2s,baz=211,slow=36						
	comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**45.24**	**182**	P	**P**	**06 36 33.4**	**+2.8**
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BDFB	**Brasilia**	**45.62**	**326**	LR	LR	06 53 16.5	
	comp=Z,130nm,18.9s,baz=151,slow=33						
ARAG	**Araguaiana, MT**	**46.78**	**321**	*eP*	**P**	**06 36 44.4**	**+1.0**
AF01	**San Pedro de A**	**47.10**	**298**	P	**P**	**06 36 44.7**	**-1.5**
LBTB	**Lobatse**	**47.57**	**68**	LR	LR	06 52 42.0	
	comp=Z,331nm,20.9s,baz=206,slow=31						
NBLA	**Lagarto - SE**	**47.64**	**341**	*eP*	**P**	**06 36 50.3**	**+0.3**
SDBA	**SAO DESIDERIO**	**47.83**	**331**	*eP*	**P**	**06 36 51.9**	**+0.3**
SALV	**Santo Antonio**	**47.98**	**316**	*eP*	**P**	**06 36 53.1**	**+0.4**
PB09	**IPOC Station P**	**48.59**	**298**	P	**P**	**06 36 58.6**	**+0.9**
PB09				IAmb	IAmb	06 37 03.2	
	comp=Z,35nm,1.5s						
TSUM	**Tsumeb**	**48.71**	**56**	LR	LR	06 53 04.1	
	comp=Z,52nm,19.8s,baz=188,slow=31						
PTLB	**Pontes e Lacer**	**49.72**	**313**	P	**P**	**06 37 05.9**	**-0.2**
PTLB				IAmb	IAmb	06 37 07.5	
	comp=Z,27nm,1.1s						
PTLB	**Pontes e Lacer**	**49.72**	**313**	*eP*	**P**	**06 37 06.2**	**+0.2**
SNDB	**Serra Nova Dou**	**50.10**	**324**	*eP*	**P**	**06 37 10.4**	**+1.5**
NBLV	**Livramento - P**	**51.05**	**343**	*eP*	**P**	**06 37 17.0**	**+0.8**
SMTB	**Santa Maria do**	**51.94**	**329**	*eP*	**P**	**06 37 24.0**	**+1.2**
PDRB	**Porto dos Gac**	**52.30**	**317**	*eP*	**P**	**06 37 25.6**	**0.0**
VILB	**Vilhena**	**52.40**	**313**	P	**P**	**06 37 26.6**	**+0.3**
VILB				IAmb	IAmb	06 37 27.5	
	comp=Z,27nm,1.1s						
VILB	**Vilhena**	**52.40**	**313**	*eP*	**P**	**06 37 26.6**	**+0.3**
LPAZ	**La Paz**	**52.83**	**302**	P	**P**	**06 37 30.2**	**+0.1**
LPAZ	**La Paz**	**52.83**	**302**	P	**P**	**06 37 31.1**	**+1.0**
	comp=Z,23nm,1.1s,baz=148,slow=5.2,SNR=38						
LPAZ				LR	LR	07 00 03.4	
	comp=Z,71nm,20.3s,baz=134,slow=36						
	comp=Z,23nm,1.1s						
LPAZ	**La Paz**	**52.83**	**302**	*eP*	**P**	**06 37 31.1**	**+1.0**
NBPB	**Pedra Branca-C**	**53.29**	**340**	*eP*	**P**	**06 37 33.5**	**+0.8**
NPGB	**Novo Progresso**	**56.06**	**321**	*eP*	**P**	**06 37 53.3**	**+0.4**
LSZ	**Lusaka**	**57.08**	**64**	P	**P**	**06 37 59.2**	**-1.1**
LSZ				IAmb	IAmb	06 38 01.3	
	comp=Z,7.1nm,0.8s						
LSZ	**Lusaka**	**57.08**	**64**	LR	LR	06 58 52.0	
	comp=Z,238nm,19.7s,baz=204,slow=32						
LSZ	**Lusaka**	**57.08**	**64**	P	**P**	**06 37 59.2**	**-1.1**
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TMAB	**Tom-Au,PA,Br**	**58.28**	**331**	*eP*	**P**	**06 38 10.9**	**+2.3**
MAL2	**Monte Alegre,**	**60.38**	**324**	P	**P**	**06 38 21.3**	**-1.9**
MAL2				IAmb	IAmb	06 38 25.3	
	comp=Z,25nm,0.9s						
CZSB	**Cruzeiro do Su**	**62.44**	**302**	P	**P**	**06 38 36.1**	**-1.0**
CZSB	**Cruzeiro do Su**	**62.44**	**302**	*eP*	**P**	**06 38 34.8**	**-2.3**
TEFE	**Tefe**	**62.76**	**312**	*eP*	**P**	**06 38 39.2**	**0.0**
OPO	**Ambohidratompo**	**64.18**	**84**	LR	LR	07 00 17.4	
	comp=Z,142nm,21.7s,baz=320,slow=30						
TBTG	**Tabatinga, AM**	**64.34**	**307**	P	**P**	**06 38 48.7**	**-1.0**
TBTG				IAmb	IAmb	06 38 50.6	
	comp=Z,22nm,1.0s						
TBTG	**Tabatinga, AM**	**64.34**	**307**	*eP*	**P**	**06 38 48.7**	**-1.0**
DBIC	**Dimbokro**	**65.70**	**20**	P	**P**	**06 38 58.1**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=162,slow=7.6,SNR=4.4						
DBIC				LR	LR	07 01 29.5	
	comp=Z,70nm,20.4s,baz=106,slow=30						
	comp=Z,3.8nm,0.7s						
BOAV	**Boa Vista**	**66.64**	**319**	P	**P**	**06 39 03.1**	**-1.4**
BOAV				IAmb	IAmb	06 39 05.0	
	comp=Z,20nm,1.1s						
BOAV	**Boa Vista**	**66.64**	**319**	*eP*	**P**	**06 39 03.9**	**-0.6**
MBAR	**Mbarara**	**71.07**	**59**	P	**P**	**06 39 34.3**	**+1.9**
MBAR	**Mbarara**	**71.07**	**59**	⇑P	**P**	**06 39 35.3**	**+3.0**
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.5s						
OTAV	**Otavalo**	**72.11**	**301**	P	**P**	**06 39 40.1**	**+1.2**
OTAV				IAmb	IAmb	06 39 42.6	
	comp=Z,40nm,1.3s						
OTAV	**Otavalo**	**72.11**	**301**	P	**P**	**06 39 40.1**	**+1.2**
OTAV				pmax	pmax		
	comp=Z,40nm,1.3s						
TORD	**Torodi Ar. Bea**	**73.37**	**26**	P	**P**	**06 39 45.2**	**-0.6**
TORD				IAmb	IAmb	06 39 46.8	
	comp=Z,10nm,0.9s						
TORD	**Torodi Ar. Bea**	**73.37**	**26**	P	**P**	**06 39 45.1**	**-0.6**
	comp=Z,20nm,0.2s,baz=204,slow=4.4,SNR=1.3						
	comp=Z,20nm,0.2s						
ROSC	**El Rosal**	**74.33**	**307**	P	**P**	**06 39 51.9**	**0.0**
ROSC				IAmb	IAmb	06 39 54.1	
	comp=Z,20nm,1.1s						
ROSC	**El Rosal**	**74.33**	**307**	P	**P**	**06 39 52.9**	**+0.9**
	comp=Z,7.1nm,0.5s,baz=184,slow=4.9,SNR=6.3						
ROSC				LR	LR	07 15 27.2	
	comp=Z,83nm,18.6s,baz=117,slow=38						
	comp=Z,7.1nm,0.5s						
PCRV	**Puerto La Cruz**	**75.33**	**318**	LR	LR	07 11 50.3	
	comp=Z,79nm,22.0s,slow=35						
GRGR	**Grenville**	**76.10**	**322**	P	**P**	**06 39 59.4**	**-2.2**
SDV	**Santo Domingo**	**76.44**	**312**	P	**P**	**06 40 03.5**	**-0.2**
SDV				IAmb	IAmb	06 40 05.0	
	comp=Z,11nm,1.0s						
SDV	**Santo Domingo**	**76.44**	**312**	LR	LR	07 15 47.2	
	comp=Z,72nm,19.5s,baz=112,slow=37						
SDV	**Santo Domingo**	**76.44**	**312**	*eP*	**P**	**06 40 04.5**	**+0.8**
URZ	**Urewera**	**83.07**	**196**	LR	LR	07 16 25.2	
	comp=Z,69nm,18.7s,baz=294,slow=35						
SJG	**San Juan**	**83.20**	**320**	LR	LR	07 18 19.2	
	comp=Z,28nm,20.0s,baz=92,slow=36						
TAM	**Tamanrasset**	**83.57**	**27**	P	**P**	**06 40 42.5**	**+0.5**
TAM				IAmb	IAmb	06 40 45.0	
	comp=Z,9.9nm,1.3s						
TAM	**Tamanrasset**	**83.57**	**27**	P	**P**	**06 40 42.5**	**+0.5**
TAM				pmax	pmax		
	comp=Z,10.0nm,1.3s						
JTS	**Las Juntas de**	**83.96**	**300**	P	**P**	**06 40 45.0**	**+1.0**
JTS	**Las Juntas de**	**83.96**	**300**	P	**P**	**06 40 45.1**	**+1.0**
JTS				pmax	pmax		
	comp=Z,31nm,1.3s						
ATD	**Arta Tunnel**	**87.41**	**64**	LR	LR	07 18 01.6	
	comp=Z,6.6nm,20.0s,baz=60,slow=34						
TBI	**Tubuai**	**87.70**	**228**	*eS*	**S**	**06 51 38.5**	**-6.2**
	comp=Z,216nm,29.2s						
TBI	**Tubuai**	**87.70**	**228**	*eLR*	LR	07 08 54.6	
	comp=Z,532nm,24.2s						
FORT	**Forrest**	**88.90**	**156**	P	**P**	**06 41 08.3**	**+0.1**
STKA	**Stephens Creek**	**90.13**	**167**	P	**P**	**06 41 14.2**	**+0.1**
STKA	**Stephens Creek**	**90.13**	**167**	P	**P**	**06 41 15.2**	**+1.2**
	comp=Z,6.7nm,0.9s,baz=198,slow=5.4,SNR=9.9						
STKA				LR	LR	07 20 05.2	
	comp=Z,113nm,18.2s,baz=209,slow=34						
	comp=Z,6.7nm,0.9s						
MDT	**Midelt**	**91.33**	**16**	LR	LR	07 16 06.5	
	comp=Z,123nm,18.8s,baz=32,slow=32						
PPT2	**Papeete2**	**92.90**	**231**	*eS*	S	06 52 13.3	-20
	comp=Z,32nm,23.0s						
PPT2	**Papeete2**	**92.90**	**231**	*eLR*	LR	07 11 15.6	
	comp=Z,320nm,30.0s						
PPT2				*eLR*	LR	07 11 16.8	
	comp=Z,533nm,27.8s						
PPT	**Papeete**	**92.92**	**231**	LR	LR	07 14 10.2	
	comp=Z,150nm,21.3s,baz=162,slow=30						
RAR	**Rarotonga**	**93.53**	**220**	LR	LR	07 16 54.0	
	comp=Z,35nm,18.5s,baz=214,slow=31						
PSA00	**Pilbara Seismi**	**95.53**	**146**	P	**P**	**06 41 36.0**	**-3.0**
TAOE	**Nuku Hiva Isla**	**96.35**	**243**	*eLR*	LR	07 12 51.9	
	comp=Z,187nm,31.7s						
KEST	**Kesra**	**96.88**	**26**	LR	LR	07 19 58.6	
	comp=Z,67nm,20.7s,baz=302,slow=32						
ASAR	**Alice Springs**	**97.00**	**159**	P	**P**	**06 41 46.0**	**+0.2**
	comp=Z,2.4nm,1.0s,baz=195,slow=4.2,SNR=14						
ASAR				PP	**PP**	**06 45 41.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=201,slow=7.7,SNR=5.1						
ASAR				LR	LR	07 24 30.4	
	comp=Z,47nm,18.4s,baz=131,slow=35						
	comp=Z,2.4nm,1.0s						
EIL	**Elat**	**99.70**	**49**	LR	LR	07 24 17.6	
	comp=Z,57nm,18.3s,baz=248,slow=34						
DZM	**Mont Dzumac**	**100.34**	**189**	*eLR*	LR	07 14 45.4	
	comp=Z,94nm,23.4s						
ANMO	**Albuquerque**	**115.15**	**296**	⇑*i* PKIKP	**PKiKP**	**06 46 57.8**	**+2.9**
AKBB	**Malin Array Si**	**116.19**	**34**	‖*i* PKIKP	**PKiKP**	**06 46 58.7**	**+2.6**
OBN	**Obninsk**	**122.27**	**36**	*e*PKIKP	**PKiKP**	**06 47 09.5**	**+1.8**
OBN				*e*		06 48 44.7	
OBN				*e*PPP	PPP	06 51 18.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,307nm,12.0s						
DUG	**Dugway, Tooele**	**122.39**	**295**	PKPdf	**PKPdf**	**06 47 08.5**	**-0.1**
DUG	**Dugway, Tooele**	**122.39**	**295**	PKIKP	**PKPdf**	**06 47 08.5**	**-0.1**
ULM	**Lac du Bonnet**	**122.67**	**313**	PKP	**PKPdf**	**06 47 07.6**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=192,slow=2.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**122.70**	**108**		**PKPdf**	**06 47 09.6**	**0.0**
CMAR	**Chiang Mai Arr**	**122.70**	**108**	PKP	**PKPdf**	**06 47 10.0**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=234,slow=3.6,SNR=13						
PDAR	**Pinedale Array**	**122.79**	**299**	PKP	**PKPdf**	**06 47 08.4**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=144,slow=6.7,SNR=6.4						
PDAR				PP	**PP**	**06 48 49.5**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=149,slow=8.3,SNR=3.9						
NVAR	**Mina Array Bea**	**123.78**	**290**	PKP	**PKiKP**	**06 47 13.0**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=168,slow=3.8,SNR=5.1						
ELK	**Elko**	**124.00**	**294**		**PKPdf**	**06 47 12.1**	**+0.3**
ELK	**Elko**	**124.00**	**294**	PKP	**PKiKP**	**06 47 12.7**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=154,slow=1.1,SNR=7.3						
ELK	**Elko**	**124.00**	**294**	PKIKP	**PKPdf**	**06 47 12.1**	**+0.3**
FINES	**FINESS Array B**	**124.72**	**26**	PKP	**PKPdf**	**06 47 11.8**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=184,slow=4.4,SNR=5.5						
ABKAR	**Akbulak array**	**126.54**	**54**	PKPdf	**PKPdf**	**06 47 15.9**	**-0.1**
ABKAR	**Akbulak array**	**126.54**	**54**		**PKPdf**	**06 47 15.6**	**-0.4**
KK31	**Karatay Array**	**126.93**	**66**		**PKPdf**	**06 47 17.0**	**0.0**
KK31	**Karatay Array**	**126.93**	**66**	PKIKP	**PKPdf**	**06 47 17.0**	**0.0**
KKAR	**Karatay Array**	**126.93**	**66**		**PKPdf**	**06 47 17.0**	**0.0**
KKAR	**Karatay Array**	**126.93**	**66**	PKIKP	**PKPdf**	**06 47 17.0**	**0.0**
KSH	**Kashi**	**127.03**	**73**	PKP	**PKPdf**	**06 47 17.0**	**-0.5**
LYMT	**Lyon Mountain**	**127.23**	**301**		**PKiKP**	**06 47 19.7**	**+1.4**
PLID	**Pearl Lake**	**127.61**	**297**	PKPdf	**PKPdf**	**06 47 18.9**	**+0.3**
KLMR	**Klimovskoe**	**127.86**	**34**	*e*PKIKP	**PKPdf**	**06 47 16.3**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,43nm,1.9s						
AAK	**Ala-Archa**	**128.57**	**69**	‖*e*PKIKP	**PKPdf**	**06 47 20.0**	**-0.4**
PZH	**PanZhiHua**	**130.78**	**105**	PKP	**PKiKP**	**06 47 26.3**	**+0.4**
ARTI	**Arti**	**131.07**	**47**	*i* PKIKP	**PKPdf**	**06 47 23.8**	**-0.6**
ARTI						06 49 43.7	
ARTI				SS	SS	07 07 21.1	+7.5
ARCES	**ARCESS Array B**	**131.53**	**21**	PKP	**PKPdf**	**06 47 24.3**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=219,slow=2.3,SNR=19						
ARCES	**ARCESS Array B**	**131.53**	**21**	*e*PKIKP	**PKPdf**	**

comp=Z,7.0nm,1.6s

FUNV 27 06:28:18.3,9.63N×72.48W,h5km,MW3.0
RSNC 27 06:28:18.7±0.0,10.N±2.×7.3W±.,h12km±4km,M2.1,ML2.0
ISC 27 06:28:17.6±1.2,**9.69N**±0.03×**72.54W**±0.04,**h24**km±13km,
n14,σ1°**26**/24,**1D,Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.36**	**1**	⇓*iP*	**Pb**	**06 28 26.0**	**+0.5**
MCQV				*eS*	**Sn**	**06 28 33.3**	**-0.3**
CRJC	**Cerrejon, Guaj**	**1.36**	**346**	P	**Pn**	**06 28 41.2**	**-0.1**
CRJC				S	**Sn**	**06 28 59.0**	**+0.4**
CRJC	**Cerrejon, Guaj**	**1.36**	**346**	P		06 28 41.2	
CRJC				S		06 28 59.0	
OCAC	**Ocana**	**1.64**	**208**	P	**Pn**	**06 28 44.0**	**-1.1**
OCAC				S	**Sn**	**06 29 04.9**	**-0.6**
OCAC	**Ocana**	**1.64**	**208**	P		06 28 44.0	
OCAC				S		06 29 04.9	
ARGC	**Ariguani, Magd**	**1.69**	**276**	P	**Pn**	**06 28 44.9**	**-0.8**
ARGC				S	**Sn**	**06 29 06.4**	**-0.2**
ARGC	**Ariguani, Magd**	**1.69**	**276**	P		06 28 44.9	
ARGC				S		06 29 06.4	
CAPV	**Capacho**	**1.83**	**173**	*eP*	**Pn**	**06 28 48.9**	**+1.0**
CAPV				*eS*	**Sb**	**06 29 12.9**	**-0.3**
URIC	**Uribia, Colomb**	**2.07**	**15**	P	**Pn**	**06 28 49.9**	**-1.0**
URIC				S	**Sn**	**06 29 17.3**	**+1.4**
URIC	**Uribia, Colomb**	**2.07**	**15**	P		06 28 49.9	
URIC				S		06 29 17.3	
SOCV	**Socops**	**2.17**	**130**	*eP*	**Pn**	**06 28 52.9**	**+0.5**
SOCV				*eS*	**Sn**	**06 29 20.1**	**+1.5**
PAMC	**Pamplona, Colo**	**2.34**	**184**	P	**Pn**	**06 28 57.8**	**+2.7**
PAMC				S	**Sb**	**06 29 27.8**	**-0.4**
PAMC	**Pamplona, Colo**	**2.34**	**184**	P		06 28 57.8	
PAMC				S		06 29 27.8	
SJCC	**San Jacinto, C**	**2.61**	**275**	P	**Pn**	**06 28 59.2**	**+0.8**
SJCC				S	**Sn**	**06 29 30.6**	**+1.2**
SJCC	**San Jacinto, C**	**2.61**	**275**	P		06 28 59.2	
SJCC				S		06 29 30.6	
ZARC	**Zaragoza, Cauc**	**3.17**	**227**	P	**Pn**	**06 29 08.3**	**+2.3**
ZARC	**Zaragoza, Cauc**	**3.17**	**227**	P		06 29 08.3	
RUSC	**La Rusia**	**3.81**	**188**	P	**Pb**	**06 29 22.6**	**-2.0**
RUSC				S	**Sb**	**06 30 10.4**	**-0.1**
RUSC	**La Rusia**	**3.81**	**188**	P		06 29 22.6	
RUSC				S		06 30 10.4	
BAUV	**El Baul**	**4.50**	**99**	*eP*	**Pn**	**06 29 24.3**	**-0.1**
BAUV				*eS*	**Sn**	**06 30 14.3**	**-1.7**
BENV	**Beln**	**4.88**	**86**	*eP*	**Pn**	**06 29 30.7**	**+1.1**
CACV	**CAICARA DEL OR**	**6.30**	**109**	*eP*	Pn	06 29 55.0	+5.9

IDC 27 06:34:44.9±4.2,**3.54S**×**131.11E,h0**km,**mb3.5**/2,
mbtmp3.3/3,**ML2.8**/1,**Error ellipse: s-maj=293.2km**
s-min=31.3km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.60**	**169**	Pn	Pn	06 38 37.4	-1.8
	baz=350,slow=11,SNR=1.1 0.1nm,0.5s						
ASAR	**Alice Springs**	**20.19**	**173**	P	P	06 39 22.0	+0.7
	1.4nm,0.5s,baz=351,slow=10,SNR=26 1.4nm,0.5s						
MKAR	**Makanchi Array**	**65.99**	**326**	P	P	06 45 33.2	0.0
	0.3nm,0.7s,baz=126,slow=7.3,SNR=2.5 0.3nm,0.7s						

RSNC 27 06:37:54.4±0.7,3.S±4.×7.7W±.,h309km±10km,M3.5,
mB4.4,mb4.0,ML3.1,Mw(mB)3.6
IGQ 27 06:38:02.4±0.5,3.S±2.×7.7W±.,h119km±11km,MLv3.5/41
ISC 27 06:38:00.4±1.7,**2.52S**±0.06×**76.95W**±0.07,**h130**km±23km,
n99,σ1°**40**/104,**11C-29D,Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**1.48**	**313**	⇓P	**Pn**	**06 38 29.2**	**+0.7**
PUYO				S	**Sn**	**06 38 49.5**	**-0.2**
BOSC	**San Juan Bosco**	**1.67**	**248**	⇑P	**Pn**	**06 38 30.8**	**+0.2**
BOSC				S	**Sn**	**06 38 53.2**	**-0.5**
ARDO	**Archidona, Ten**	**1.73**	**331**	⇓P	**Pn**	**06 38 31.5**	**+0.1**
ARDO				S	**Sn**	**06 38 53.3**	**-1.6**
BPAT	**Tungurahua Vol**	**1.79**	**304**	⇑P	**Pn**	**06 38 32.8**	**+0.4**
BPAT				S	**Sn**	**06 38 55.5**	**-1.2**
BULB	**Ulba Tungurahu**	**1.81**	**306**	P	**Pn**	**06 38 32.9**	**+0.4**
BULB				S	**Sn**	**06 38 55.5**	**-1.5**
BMAS	**Trigal station**	**1.83**	**303**	⇑P	**Pn**	**06 38 32.1**	**-0.6**
BMAS				S	**Sn**	**06 38 55.0**	**-2.4**
POND	**Pondoa**	**1.85**	**306**	⇑P	**Pn**	**06 38 33.4**	**+0.4**
POND				S	**Sn**	**06 38 56.6**	**-1.2**
JUI6	**Juive**	**1.87**	**306**	P	**Pn**	**06 38 33.7**	**+0.1**
JUI6				S	**Sn**	**06 38 57.9**	**-0.1**
BBIL	**Ulba Tungurahu**	**1.87**	**305**	P	**Pn**	**06 38 33.6**	**+0.4**
BBIL				S	**Sn**	**06 38 57.2**	**-0.9**
AZOG	**Ecuador-Azogue**	**1.91**	**263**	P	**Pn**	**06 38 34.9**	**+1.3**
IGUA	**Igualata**	**1.97**	**301**	P	**Pn**	**06 38 35.6**	**+0.9**
PIS1	**Pisayambo**	**2.04**	**315**	P	**Pn**	**06 38 35.8**	**+0.4**
ACUE	**Ecuador-Cuenca**	**2.04**	**259**	P	**Pn**	**06 38 36.4**	**+1.2**
TAMH	**Tambohuasha Ch**	**2.07**	**298**	⇑P	**Pn**	**06 38 36.8**	**+1.1**
PORT	**Chimborazo Vol**	**2.10**	**300**	⇑P	**Pn**	**06 38 37.5**	**+1.3**
PORT				S	**Sn**	**06 39 04.6**	**+1.1**
JSCH	**Cashca Tororas**	**2.18**	**291**	P	**Pn**	**06 38 37.9**	**+1.0**
VCES	**Cotopaxi**	**2.23**	**320**	⇓P	**Pn**	**06 38 38.7**	**+0.9**
TAMB	**Tambo**	**2.30**	**322**	⇓P	**Pn**	**06 38 39.8**	**+1.1**
BRRN	**Barrancas-Volc**	**2.30**	**318**	⇓P	**Pn**	**06 38 39.6**	**+1.1**
COHC	**Cochancay**	**2.30**	**271**	P	**Pn**	**06 38 38.6**	**+0.5**
COHC	**Cochancay**	**2.30**	**271**	P	**Pn**	**06 38 38.9**	**+0.8**
COHC	**Cochancay**	**2.30**	**271**	P		06 38 38.6	
BMOR	**Cotopaxi Volca**	**2.33**	**320**	⇓P	**Pn**	**06 38 40.3**	**+1.3**
BTAM	**Cotopaxi Volca**	**2.33**	**322**	P	**Pn**	**06 38 40.3**	**+1.2**
ANTM	**Antisana-La Mi**	**2.34**	**327**	P	**Pn**	**06 38 39.8**	**+0.6**
ANTS	**Antisana-Sarah**	**2.35**	**329**	⇓P	**Pn**	**06 38 40.0**	**+0.7**
SLOR	**San Lorenzo -**	**2.35**	**319**	⇓P	**Pn**	**06 38 40.6**	**+1.4**
BVC2	**Cotopaxi Volca**	**2.35**	**322**	⇓P	**Pn**	**06 38 40.8**	**+1.4**
VC1	**Cotopaxi 1**	**2.36**	**322**	⇓P	**Pn**	**06 38 40.9**	**+1.5**
BREF	**Cotopaxi Volca**	**2.36**	**321**	⇓P	**Pn**	**06 38 41.2**	**+1.7**
MONB	**Balzapamba Mon**	**2.36**	**288**	⇑P	**Pn**	**06 38 39.9**	**+0.9**
ANTI	**Antisana**	**2.38**	**329**	⇓P	**Pn**	**06 38 40.3**	**+0.6**
SRAM	**San Ramn-Vol**	**2.39**	**317**	⇓P	**Pn**	**06 38 41.2**	**+1.6**
ANTG	**Antisana-Guama**	**2.39**	**327**	⇓P	**Pn**	**06 38 40.6**	**+0.9**
CAMI	**Rancho Maria**	**2.40**	**320**	⇓P	**Pn**	**06 38 42.0**	**+2.2**
SUCR	**Mariscal Sucre**	**2.42**	**320**	P	**Pn**	**06 38 41.9**	**+1.9**
PITA	**Cotopaxi Volc**	**2.44**	**323**	⇓P	**Pn**	**06 38 42.1**	**+1.7**
ILLI	**Illinizas Sur**	**2.52**	**315**	⇓P	**Pn**	**06 38 42.7**	**+1.3**
AZAM	**Ecuador-Zamora**	**2.53**	**232**	P	**Pn**	**06 38 42.2**	**+0.9**
MILO	**Milagro-Astudi**	**2.62**	**275**	P	**Pn**	**06 38 42.2**	**+0.2**
CASC	**Dorado de Casc**	**2.66**	**352**	⇓P	**Pn**	**06 38 43.3**	**+0.5**
ALJ1	**Ecuador-Loja-U**	**2.68**	**237**	P	**Pn**	**06 38 44.3**	**+1.2**
CAYR	**Refugio Cayamb**	**2.73**	**337**	⇑P	**Pn**	**06 38 45.5**	**+1.4**
ANGU	**Angureal**	**2.76**	**337**	⇓P	**Pn**	**06 38 45.8**	**+1.3**
JUA2	**San Juan 2**	**2.82**	**324**	⇑P	**Pn**	**06 38 46.5**	**+1.2**
GGPT	**Toaza - Volcan**	**2.82**	**324**	⇓P	**Pn**	**06 38 46.6**	**+1.4**
GGPC	**Guagua Pichinc**	**2.85**	**325**	⇓P	**Pn**	**06 38 47.0**	**+1.4**
TERV	**Terraza Guagua**	**2.85**	**325**	⇓P	**Pn**	**06 38 47.1**	**+1.4**
PINO	**Pino**	**2.87**	**325**	P	**Pn**	**06 38 47.4**	**+1.4**
YANA	**Yana**	**2.88**	**326**	P	**Pn**	**06 38 47.1**	**+1.2**
GONZ	**Gonzanam**	**2.98**	**235**	P	**Pn**	**06 38 48.4**	**+1.2**
BONI	**La Bonita**	**3.00**	**349**	P		06 38 47.6	
BONI	**La Bonita**	**3.01**	**349**	P	**Pn**	**06 38 47.6**	**+0.2**
BONI	**La Bonita**	**3.01**	**349**	⇓P	**Pn**	**06 38 47.8**	**+0.4**
IMBA	**Imbabura, San**	**3.04**	**336**	P	**Pn**	**06 38 50.6**	**+2.6**
YAHU	**Yahuarcocha**	**3.08**	**339**	P	**Pn**	**06 38 50.9**	**+2.4**
CUSW	**Cuicocha Oeste**	**3.12**	**333**	P	**Pn**	**06 38 50.8**	**+1.8**
OTAV	**Otavalo**	**3.12**	**331**	P	**Pn**	**06 38 49.7**	**+0.6**
OTAV	**Otavalo**	**3.12**	**331**	P	**Pn**	**06 38 50.1**	**+1.0**
OTAV	**Otavalo**	**3.12**	**331**	P		06 38 49.7	
CUIC	**Cuicocha-Domo**	**3.14**	**333**	⇓P	**Pn**	**06 38 50.8**	**+1.6**
CUSE	**Cuicocha Este**	**3.15**	**333**	P	**Pn**	**06 38 51.1**	**+1.6**
CUSE	**Cuicocha Este**	**3.15**	**333**	P	**Pn**	**06 38 50.8**	**+1.3**
CUSE	**Cuicocha Este**	**3.15**	**333**	P		06 38 51.1	
ZUMB	**Zumba**	**3.20**	**223**	P	**Pn**	**06 38 50.8**	**+1.0**
URCU	**Urcuqui**	**3.21**	**336**	⇓P	**Pn**	**06 38 52.0**	**+1.8**
ISPG	**Isla Puna-Puer**	**3.25**	**262**	P	**Pn**	**06 38 50.2**	**-0.1**
PTLC	**Puerto Leguiza**	**3.43**	**39**	P	Pn	06 38 50.0	-2.7
PTLC	**Puerto Leguiza**	**3.43**	**39**	⇑P	**Pn**	**06 38 51.0**	**-1.7**
PTLC	**Puerto Leguiza**	**3.43**	**39**	P		06 38 50.0	
CHL1	**Volc¡n Chiles**	**3.43**	**343**	⇓P	**Pn**	**06 38 55.6**	**+2.3**
CHL2	**Volc¡n Chiles**	**3.44**	**344**	⇓P	**Pn**	**06 38 55.7**	**+2.5**
ECEN	**Cerro Negro**	**3.47**	**343**	P	**Pn**	**06 38 55.8**	**+2.0**
CHMA	**Chilma**	**3.54**	**342**	⇓P	**Pn**	**06 38 56.5**	**+2.1**
CMBC	**Cumbal**	**3.54**	**346**	P	**Pn**	**06 38 57.0**	**+2.4**
CMBC	**Cumbal**	**3.54**	**346**	P	**Pn**	**06 38 57.0**	**+2.4**
CMBC	**Cumbal**	**3.54**	**346**	P		06 38 57.0	
PECV	**Mancha de Ca P**	**3.55**	**299**	P	**Pn**	**06 38 57.2**	**+2.9**
FLF1	**Flavio Alfaro-**	**3.60**	**307**	P	**Pn**	**06 38 54.8**	**-0.1**
FLF1	**Flavio Alfaro-**	**3.60**	**307**	P	**Pn**	**06 38 55.4**	**+0.5**
FLF1	**Flavio Alfaro-**	**3.60**	**307**	P		06 38 54.8	
GCUF	**Volcan Galeras**	**3.74**	**354**	P	**Pn**	**06 38 58.9**	**+1.7**
GCUF	**Volcan Galeras**	**3.74**	**354**	P		06 38 58.9	
PPLP	**Puerto Lpez**	**3.94**	**284**	P	**Pn**	**06 38 56.2**	**-3.3**
PPLP	**Puerto Lpez**	**3.94**	**284**	P		06 38 56.2	
SALI	**Salinas**	**4.05**	**275**	P	**Pn**	**06 39 00.3**	**-0.6**
CRUC	**La Cruz**	**4.06**	**360**	P		06 39 01.6	
CRUC	**La Cruz**	**4.06**	**360**	P	**Pn**	**06 39 01.6**	**+0.3**
FLOC	**Florencia**	**4.27**	**18**	P	**Pn**	**06 39 04.4**	**+0.5**
FLOC	**Florencia**	**4.27**	**18**	⇑P	**Pn**	**06 39 04.5**	**+0.7**
FLOC	**Florencia**	**4.27**	**18**	P		06 39 04.4	
ISPT	**Isla de la Pla**	**4.31**	**287**	P	**Pn**	**06 39 03.8**	**-0.4**
BBAC	**Balboa, Cauca**	**4.52**	**356**	P	**Pn**	**06 39 08.8**	**+1.5**
BBAC	**Balboa, Cauca**	**4.52**	**356**	⇓P	**Pn**	**06 39 09.0**	**+1.7**
BBAC	**Balboa, Cauca**	**4.52**	**356**	P		06 39 08.8	
GARC	**Garzon, Huila**	**4.89**	**17**	P	**Pn**	**06 39 12.1**	**-0.3**
GARC	**Garzon, Huila**	**4.89**	**17**	P		06 39 12.1	
POPC	**Popayan, Colom** 7.4nm,0.8s	**5.03**	**3**	P	**Pn**	**06 39 16.0**	**+1.8**
POPC	**Popayan, Colom** 7.4nm,0.8s	**5.03**	**3**	P		06 39 16.0	
MACC	**Macarena, Meta** 20nm,1.3s	**5.57**	**34**	P	**Pn**	**06 39 21.8**	**+0.5**
MACC	**Macarena, Meta** 20nm,1.3s	**5.57**	**34**	P		06 39 21.8	
URMC	**La Uribe, Meta** 36nm,1.0s	**6.28**	**24**	P	**Pn**	**06 39 31.9**	**+1.1**
URMC	**La Uribe, Meta** 36nm,1.0s	**6.28**	**24**	P		06 39 31.9	
PRAC	**Prado** 31nm,1.5s	**6.52**	**18**	P	**Pn**	**06 39 35.7**	**+1.6**
PRAC	**Prado** 31nm,1.5s	**6.52**	**18**	P		06 39 35.7	
ORTC	**Ortega, Tolima** 677nm62nm,1.1s	**6.61**	**15**	P	**Pn**	**06 39 36.6**	**+1.4**
ORTC	**Ortega, Tolima** 677nm62nm,1.1s	**6.61**	**15**	P		06 39 36.6	
CZSB	**Cruzeiro do Su** 29nm,0.5s	**6.69**	**141**	P	**Pn**	**06 39 38.6**	**+2.4**
CZSB	**Cruzeiro do Su** 29nm,0.5s	**6.69**	**141**	P		06 39 38.6	
TBTG	**Tabatinga, AM** 1µm39nm,0.5s	**7.22**	**103**	P	**Pn**	**06 39 42.8**	**-0.6**
TBTG	**Tabatinga, AM** 1µm39nm,0.5s	**7.22**	**103**	P		06 39 42.8	
VILC	**Villavicencio,** 272nm21nm,0.7s	**7.34**	**26**	P	**Pn**	**06 39 46.0**	**+0.8**
VILC	**Villavicencio,** 272nm21nm,0.7s	**7.34**	**26**	P		06 39 46.0	
PLMC	**San Jos del P** 35nm,1.2s	**7.40**	**5**	P		06 39 54.7	
ROSC	**El Rosal** 24nm,1.0s	**7.76**	**20**	P	**Pn**	**06 39 51.4**	**+0.3**
ROSC	**El Rosal** 24nm,1.0s	**7.76**	**20**	P		06 39 51.4	
CHIC	**Chingaza** 23nm,1.4s	**7.79**	**24**	P	Pn	06 39 48.0	-3.5
CHIC	**Chingaza** 23nm,1.4s	**7.79**	**24**	P		06 39 48.0	
GUY2C	**Guyana, Caldas** 16nm,1.4s	**7.85**	**12**	P	**Pn**	**06 39 54.9**	**+2.6**
GUY2C	**Guyana, Caldas** 16nm,1.4s	**7.85**	**12**	P		06 39 54.9	
NORC	**Norcasia** 16nm,0.8s	**8.29**	**15**	P	Pn	06 39 55.4	-2.5
NORC	**Norcasia** 16nm,0.8s	**8.29**	**15**	P		06 39 55.4	
CBOC	**Ciudad Bolivar** 9.4nm,1.1s	**8.38**	**6**	P	**Pn**	**06 39 57.6**	**-1.6**
CBOC	**Ciudad Bolivar** 9.4nm,1.1s	**8.38**	**6**	P		06 39 57.6	
SPBC	**San Pablo de B** 6.3nm,1.2s	**8.61**	**19**	P	Pn	06 39 52.5	-10
SPBC	**San Pablo de B** 6.3nm,1.2s	**8.61**	**20**	P		06 39 52.5	
RUSC	**La Rusia** 31nm,1.3s	**9.20**	**25**	P		06 39 52.6	
PTBC	**PUERTO BERRIO,** 158nm19nm,0.9s	**9.33**	**15**	P	Pn	06 39 58.4	-13
PTBC	**PUERTO BERRIO,** 158nm19nm,0.9s	**9.33**	**15**	P		06 39 58.4	
ZARC	**Zaragoza, Cauc**	**10.16**	**12**	P		06 40 04.6	

SFS 27 07:04:57.5,35.83N×4.77W,h64km,ML2.7/13,ML2.2/18,
MLv1.9/18
MDD 27 07:04:57.4±0.5,35.84N×4.79W,h68km±6km,Mb2.5/8,
Error ellipse: s-maj=3.5km s-min=3.1km az=10.0
CNRM 27 07:04:59.3,35.65N×4.75W,h63km,ML1.6
ISC 27 07:04:55.3±1.3,**35.84N**±0.03×**4.76W**±0.03,**h89**km±8km,
n44,σ1°**57**/63,**8C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEU	**Ceuta**	**0.50**	**277**	Pn	**Pn**	**07 05 09.5**	**-0.4**
ECEU	**Ceuta**	**0.51**	**277**	P	**Pn**	**07 05 11.5**	**+1.6**
ECEU				⇑*iVmb_V*		07 05 12.2	
	580nm,SNR=1.7						
ECEU				S	**Sn**	**07 05 18.7**	**-2.2**
SMIR	**Smir Dam**	**0.53**	**253**	P	**Pn**	**07 05 12.0**	**+1.9**
SMIR	**Smir Dam**	**0.53**	**253**	S	**Sn**	**07 05 21.8**	**+0.6**
EJIF	**Jimena Fronter**	**0.84**	**317**	P	**Pn**	**07 05 15.3**	**+2.1**
EJIF				S	**Sn**	**07 05 24.7**	**-1.8**
PALE	**Palemas**	**0.91**	**133**	P	**Pn**	**07 05 14.9**	**+1.0**
PALE	**Palemas**	**0.91**	**133**	S	**Sn**	**07 05 26.9**	**-0.9**
EMAL	**Malaga-Limoner**	**0.96**	**16**	Sn	**Sn**	**07 05 27.7**	**-1.1**
ESPR	**Espera**	**1.36**	**320**	Sn	**Sn**	**07 05 37.1**	**-0.1**
EGOR	**Sierra Gorda,**	**1.37**	**22**	Pn	**Pn**	**07 05 20.7**	**+1.2**
EGOR	**Sierra Gorda,**	**1.37**	**22**	P	**Pn**	**07 05 20.3**	**+0.7**
EGOR				⇑*iVmb_V*		07 05 21.5	
	31nm,SNR=0.7						
EGOR				S	**Sn**	**07 05 37.3**	**-0.5**
ELGU	**Los Guajares,**	**1.38**	**41**	Pn	**Pn**	**07 05 20.0**	**+0.5**
ELGU				Sn	**Sn**	**07 05 36.7**	**-1.0**
ELGU	**Los Guajares,**	**1.38**	**41**	P	**Pn**	**07 05 20.0**	**+0.5**
ELGU				⇑*iVmb_V*		07 05 20.9	
	150nm,SNR=3.2						
ELGU				S	**Sn**	**07 05 36.4**	**-1.3**
AKLM	**AKL**	**1.51**	**151**	P	**Pn**	**07 05 20.3**	**-0.9**
AKLM	**AKL**	**1.51**	**151**	S	**Sn**	**07 05 36.4**	**-4.4**
GOG	**Mont Gurugu**	**1.56**	**113**	P	**Pn**	**07 05 23.8**	**+2.0**
GOG	**Mont Gurugu**	**1.56**	**113**	S	**Sn**	**07 05 42.9**	**+0.9**
EBER	**Berja**	**1.84**	**54**	Pn	**Pn**	**07 05 27.0**	**+1.5**
EBER	**Berja**	**1.84**	**54**	P	**Pn**	**07 05 26.8**	**+1.3**
EBER				⇑*iVmb_V*		07 05 27.1	
	75nm,SNR=1.3						
EBER				S	**Sn**	**07 05 46.6**	**-2.0**
CHAS	**Isla Isabel II**	**2.01**	**108**	Sn	**Sn**	**07 05 51.2**	**-0.8**
EXCBR	**El Cabril**	**2.29**	**347**	S	**Sn**	**07 05 57.3**	**-1.6**
ECAB	**El Cabril**	**2.30**	**347**	Pn	**Pn**	**07 05 32.4**	**+1.0**
ECAB				Sn	**Sn**	**07 05 57.4**	**-1.6**
ECAB	**El Cabril**	**2.30**	**347**	P	**Pn**	**07 05 31.9**	**+0.6**
ECAB				⇑*iVmb_V*		07 05 33.0	
	49nm,SNR=0.6						
ECAB				S	**Sn**	**07 05 57.4**	**-1.6**
EADA	**Adamuz**	**2.33**	**3**	Pn	**Pn**	**07 05 33.6**	**+1.8**
EADA				Sn	**Sn**	**07 05 59.2**	**-0.6**
EADA	**Adamuz**	**2.33**	**3**	P	**Pn**	**07 05 33.9**	**+2.0**
EADA				⇑*iVmb_V*		07 05 34.7	
	78nm,SNR=1.3						
EADA				S	**Sn**	**07 05 59.7**	**-0.1**
IFR	**Ifrane**	**2.33**	**188**	Pn	**Pn**	**07 05 33.1**	**+1.1**
IFR				Sn	**Sn**	**07 05 58.4**	**-1.7**
ENIJ	**Nijar**	**2.35**	**60**	Pn	**Pn**	**07 05 33.2**	**+1.2**
EMIN	**Mina Concepcio**	**2.46**	**322**	Pn	**Pn**	**07 05 34.7**	**+1.1**
EMIN	**Mina Concepcio**	**2.46**	**322**	P	**Pn**	**07 05 34.7**	**+1.1**
EMIN				⇑*iVmb_V*		07 05 35.4	
	160nm,SNR=1.6						
EMIN				S	**Sn**	**07 06 00.9**	**-2.1**
EGRO	**El Granado**	**2.77**	**309**	Pn	**Pn**	**07 05 38.7**	**+1.1**
EGRO				Sn	**Sn**	**07 06 08.0**	**-2.2**
EGRO	**El Granado**	**2.77**	**309**	P	**Pn**	**07 05 38.7**	**+1.1**
EGRO				⇑*iVmb_V*		07 05 39.1	
	124nm,SNR=0.6						
EGRO				S	**Sn**	**07 06 08.6**	**-1.6**
PVAQ	**Vaqueiros**	**2.85**	**304**	Pn	**Pn**	**07 05 39.9**	**+1.2**
MD31	**MD31**	**2.96**	**180**	P	**Pn**	**07 05 42.1**	**+1.7**
MD31	**MD31**	**2.96**	**180**	S	**Sn**	**07 06 14.6**	**-0.5**
PBAR	**Barrancos**	**2.96**	**323**	Pn	**Pn**	**07 05 41.5**	**+1.3**
MDT	**Midelt**	**3.02**	**178**	P	**Pn**	**07 05 42.4**	**+1.3**
MDT	**Midelt**	**3.02**	**178**	S	**Sn**	**07 06 15.7**	**-0.6**
PSIM	**Granatula de C**	**3.08**	**15**	P	**Pn**	**07 05 43.4**	**+1.4**
PSIM				S	**Sn**	**07 06 16.5**	**-1.4**
EBAD	**Badajoz**	**3.42**	**329**	Pn	**Pn**	**07 05 47.5**	**+1.1**
EBAD				Sn	**Sn**	**07 06 24.6**	**-1.4**
EBAD	**Badajoz**	**3.42**	**329**	P	**Pn**	**07 05 47.5**	**+1.1**
EBAD				S	**Sn**	**07 06 24.2**	**-1.8**
PAB	**San Pablo**	**3.72**	**5**	P	**Pn**	**07 05 51.9**	**+1.4**
PAB				S	**Sn**	**07 06 30.5**	**-2.7**
PESTR	**Estremoz**	**3.77**	**324**	Pn	**Pn**	**07 05 52.9**	**+1.7**
PESTR				Sn	**Sn**	**07 06 32.8**	**-1.7**
EPLA	**Plasencia**	**4.35**	**346**	S	**Sn**	**07 06 46.1**	**-2.4**
PMAFR	**Mafra**	**4.76**	**312**	Pn	**Pn**	**07 06 06.9**	**+2.3**

NOU 27 07:09:29.0,45.00S×167.80E,h101km,MLv3.6/11,South
Island, New Zealand
WEL 27 07:09:30.5±0.8,45.S±4.×16.8E±.,h45km±8km,M3.4/6,
ML3.6/8,MLv3.4/6,Error ellipse: s-maj=7.0km
s-min=3.8km az=126.0,confirmed
ISC 27 07:09:30.0±1.5,**44.99S**±0.04×**167.68E**±0.05,**h67**km±9km,
n27,σ1°**13**/41,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.36**	**29**	P	**Pn**	**07 09 41.5**	**+0.3**
MSZ				S	**Sn**	**07 09 50.7**	**+1.3**
TAFS	**Te Anau Fire S**	**0.43**	**177**	P	**Pn**	**07 09 40.2**	**-1.6**
TAFS				S	**Sn**	**07 09 49.7**	**-0.9**
MLZ	**Mavora Lakes**	**0.49**	**141**	P	**Pn**	**07 09 42.6**	**+0.1**
MLZ				S	**Sn**	**07 09 52.3**	**+0.7**
GLNY	**Glenorchy**	**0.53**	**77**	P	**Pn**	**07 09 41.9**	**-0.8**
GLNY				S	**Sn**	**07 09 51.6**	**-0.6**
DCZ	**Deep Cove**	**0.61**	**218**	P	**Pn**	**07 09 42.7**	**-0.9**
DCZ				S	**Sn**	**07 09 52.3**	**-1.3**
QTPS	**Queenstown Pol**	**0.70**	**94**	P	**Pn**	**07 09 43.9**	**-0.7**
QTPS				S	**Sn**	**07 09 56.6**	**+1.2**
MOSS	**Mossburn Schoo**	**0.79**	**150**	P	**Pn**	**07 09 46.0**	**+0.3**
MOSS				S	**Sn**	**07 09 58.7**	**+1.5**
WHZ	**Wether Hill Ro**	**0.93**	**169**	P	**Pn**	**07 09 47.0**	**-0.4**
WHZ				S	**Sn**	**07 10 00.3**	**0.0**
WKZ	**Wanaka**	**0.96**	**81**	P	**Pn**	**07 09 48.9**	**+1.1**
WKZ				S	**Sn**	**07 10 03.0**	**+1.9**
WNPS	**Wanaka Nationa**	**1.08**	**75**	P	**Pn**	**07 09 49.4**	**+0.1**
WNPS				S	**Sn**	**07 10 04.7**	**+1.0**
RRKS	**Rarakau**	**1.17**	**187**	P	**Pn**	**07 09 50.4**	**-0.1**
RRKS				S	**Sn**	**07 10 05.8**	**0.0**
EAZ	**Earnscleugh**	**1.18**	**103**	P	**Pn**	**07 09 51.5**	**+0.9**
EAZ				S	**Sn**	**07 10 07.0**	**+1.1**
JCZ	**Jackson Bay**	**1.21**	**41**	P	**Pn**	**07 09 52.1**	**+1.1**
JCZ	**Jackson Bay**	**1.21**	**41**	S	**Sn**	**07 10 08.6**	**+1.9**
JCZ	**Jackson Bay**	**1.21**	**41**	P	**Pn**	**07 09 51.4**	**+0.3**
JCZ				S	**Sn**	**07 10 07.3**	**+0.6**
PYZ	**Puysegur Point**	**1.38**	**210**	P	**Pn**	**07 09 54.2**	**+1.0**
PYZ	**Puysegur Point**	**1.38**	**210**	S	**Sn**	**07 10 13.3**	**+2.7**
PYZ	**Puysegur Point**	**1.38**	**210**	P	**Pn**	**07 09 54.0**	**+0.8**
TUZ	**Tuapeka**	**1.68**	**126**	P	**Pn**	**07 09 57.5**	**+0.4**
TUZ				S	**Sn**	**07 10 17.4**	**-0.3**
SYZ	**Scrubby Hill**	**1.86**	**147**	P	**Pn**	**07 09 59.5**	**0.0**
SYZ	**Scrubby Hill**	**1.86**	**147**	S	**Sn**	**07 10 22.1**	**+0.1**
APZ	**The Paps**	**1.86**	**174**	P	**Pn**	**07 09 59.1**

O22K	Cooper Landing	0.91	171		Pn	07 16 54.3	-0.8
SML	Sawmill	0.92	61		Sn	07 17 07.5	+0.1
SML	Sawmill	0.92	61	IAML		07 17 08.3	
	comp=E,112nm,0.7s						
SML				IAML		07 17 09.6	
	comp=N,163nm,0.3s						
SKT	Skwentna	0.94	311		Pn	07 16 54.1	-1.4
SKT				IAML		07 17 07.5	
	comp=E,103nm,0.4s						
SKT				IAML		07 17 07.7	
	comp=N,159nm,0.4s						
SKT	Skwentna	0.94	311		Sn	07 17 06.9	-0.9
SPCG	Spurr Capps Gl	0.97	266		Pn	07 16 55.2	-0.8
SPCG					Sn	07 17 08.4	-0.2
PWL	Port Wells	0.97	122		Pn	07 16 55.2	-0.8
SPU	Mount Spurr	1.00	260		Pn	07 16 55.3	-1.1
SPU				IAML		07 17 09.5	
	comp=N,82nm,0.3s						
SPU	Mount Spurr	1.00	260		Sn	07 17 08.7	-0.6
SPBG	Spurr Blockage	1.14	265		Pn	07 16 57.5	-0.8
SPNN	North Nagishla	1.29	271		Pn	07 17 00.0	-0.4
SEW	Seward	1.31	167		Pn	07 16 59.7	-0.9
RDT	Redoubt	1.41	236		Pn	07 17 01.2	-0.9
GLI	Glacier Island	1.51	108		Pn	07 17 02.5	-0.9
GLI				IAML		07 17 23.8	
	comp=E,85nm,0.3s						
GLI				IAML		07 17 23.9	
	comp=N,86nm,0.3s						
M20K	Styx River	1.57	290		Pn	07 17 04.3	0.0
NCT	North Crescent	1.64	241		Pn	07 17 04.6	-0.6
BRLK	Bradley Lake	1.67	195		Pn	07 17 05.1	-0.5
BRLK	Bradley Lake	1.67	195	IAML		07 17 30.2	
	comp=E,47nm,0.4s						
BRLK				IAML		07 17 31.1	
	comp=N,37nm,0.4s						
BRSE	Bradley Lake S	1.68	192		Pn	07 17 04.7	-1.0
PPLA	Purkeypile	1.83	327		Pn	07 17 08.2	+0.3
FID	Port Fidalgo	1.83	108		Pn	07 17 06.4	-1.4
FID	Port Fidalgo	1.83	108	IAML		07 17 35.5	
	comp=N,33nm,0.3s						
FID				IAML		07 17 38.2	
	comp=E,39nm,0.5s						
P23K	Montague Islan	1.89	136		Pn	07 17 07.1	-1.5
HOM	Homer	1.90	206		Pn	07 17 09.2	+0.5
M24K	Tolsona, Glenn	1.97	67		Pn	07 17 10.1	+0.4
M24K	Tolsona, Glenn	1.97	67	IAML		07 17 44.2	
	comp=N,51nm,0.7s						
KLU	Klutina	1.98	85		Pn	07 17 09.1	-0.7
KLU	Klutina	1.98	85	IAML		07 17 37.4	
	comp=N,32nm,0.4s						
KLU				IAML		07 17 40.9	
	comp=E,27nm,0.4s						
HIN	Hinchinbrook I	1.98	118		Pn	07 17 08.7	-1.2
HIN	Hinchinbrook I	1.98	118	IAML		07 17 44.1	
	comp=N,38nm,1.1s						
HIN				IAML		07 17 45.8	
	comp=E,35nm,1.0s						
ILW	Iliamna West	2.02	231		Pn	07 17 10.3	-0.3
ILS	Iliamna Low So	2.07	228		Pn	07 17 11.2	+0.1
DIV	Divide	2.07	95		Pn	07 17 10.4	-0.7
ILSW	Iliamna Southw	2.08	229		Pn	07 17 11.3	0.0
TRF	Thorofare Moun	2.09	357		Pn	07 17 11.3	-0.1
TRF	Thorofare Moun	2.09	357	IAML		07 17 49.0	
	comp=N,31nm,1.4s						
TRF				IAML		07 17 49.2	
	comp=E,21nm,1.5s						
RND	Reindeer	2.11	14		Pn	07 17 11.3	-0.4
RND	Reindeer	2.11	14	IAML		07 17 44.8	
	comp=N,19nm,0.9s						
RND				IAML		07 17 50.5	
	comp=E,20nm,0.5s						
L20K	Farewell, AK	2.13	303		Pn	07 17 11.7	-0.3
M19K	Big River Lodg	2.15	286		Pn	07 17 11.9	-0.3
KTH	Kantishna Hill	2.23	350		Pn	07 17 13.5	+0.3
KTH	Kantishna Hill	2.23	350	IAML		07 17 43.7	
	comp=N,17nm,0.5s						
KTH				IAML		07 17 55.2	
	comp=E,18nm,0.8s						
N19K	Bonanza Creek	2.24	257		Pn	07 17 13.3	-0.2
CAST	Castle Rocks	2.26	336		Pn	07 17 13.7	-0.1
P19K	Oil Pt	2.35	224		Pn	07 17 15.4	+0.5
P19K	Oil Pt	2.35	224	IAML		07 18 07.6	
	comp=E,38nm,1.4s						
MCK	McKinley	2.42	12		Pn	07 17 16.6	+0.7
L19K	White Mountain	2.43	292		Pn	07 17 16.1	+0.1
HARP	HAARP	2.52	64		Pn	07 17 17.6	+0.4
N25K	Chitina, Valde	2.61	83		Pn	07 17 18.7	+0.1
N25K	Chitina, Valde	2.61	83	IAML		07 17 59.1	
	comp=N,25nm,0.4s						
BMRM	Bremner River	2.66	96		Pn	07 17 18.0	-1.2
PAX	Paxson	2.67	51	Pn	Pn	07 17 20.8	+1.4
GOAT	Goat Mountain	2.70	105		Pn	07 17 18.6	-1.2
BPAW	Bear Paw Mtn.	2.77	351	Pn	Pn	07 17 20.8	+0.1
BPAW				IAML		07 18 07.7	
	comp=E,11nm,0.9s						
M18K	Stony River	2.79	275		Pn	07 17 20.5	-0.4
N18K	Kilae Creek	2.94	259		Pn	07 17 22.4	-0.5
O18K	Koktuh Hills	2.98	241		Pn	07 17 22.8	-0.7
O18K	Koktuh Hills	2.98	241	IAML		07 18 26.1	
	comp=N,10nm,1.4s						
GLB	Gilahina Butte	2.99	86		Pn	07 17 23.0	-0.8
GLB	Gilahina Butte	2.99	86	IAML		07 18 09.4	
	comp=N,15nm,0.7s						
SYI	Shuyak Island	3.02	204		Pn	07 17 23.7	-0.3
SYI	Shuyak Island	3.02	204	IAML		07 18 02.3	
	comp=E,11nm,1.4s						
SYI				IAML		07 18 09.0	
	comp=N,9.4nm,1.2s						
Q19K	Cape Douglas,	3.05	218		Pn	07 17 25.0	+0.4
VRDI	Verde Repeater	3.17	90	Pn	Pn	07 17 27.9	+1.5
MENT	Mentasta	3.35	59		Pn	07 17 30.6	+2.0
HDA	Harding Lake	3.35	23	IAML		07 18 15.0	
	comp=N,12nm,1.0s						
HDA				IAML		07 18 24.9	
	comp=E,11nm,1.2s						
RIDG	Independent Ri	3.37	43		Pn	07 17 30.1	+1.1
RIDG				IAML		07 18 23.9	
	comp=N,12nm,1.1s						
J20K	Nowinta River	3.39	328	IAML		07 18 35.2	
	comp=E,7.3nm,1.3s						
J20K				IAML		07 18 36.0	
	comp=N,7.1nm,0.7s						
IL31		3.69	21		Pn	07 17 33.8	+0.5
ILAR	Eielson Array	3.69	21	Pn	Pn	07 17 34.8	+1.5
I23K	Minto, Yukon-K	3.80	4		Pn	07 17 35.1	+0.3
I23K				IAML		07 18 39.6	
	comp=E,4.8nm,1.4s						
J25K	Salcha River,	3.88	31	IAML		07 18 28.3	
	comp=E,7.5nm,0.3s						
J25K				IAML		07 18 29.3	
	comp=N,7.5nm,1.4s						
J26L	Joseph Creek	4.31	40	IAML		07 18 39.6	
	comp=E,5.4nm,0.7s						
J26L				IAML		07 18 41.2	
	comp=N,5.2nm,0.6s						
OHAK	Old Harbor	4.49	203	Pn	Pn	07 17 44.2	-0.1
OHAK				IAML		07 20 10.8	
	comp=E,5.8nm,1.4s						
DAWY	Dawson	5.58	56	Pn	Pn	07 18 02.0	+2.7

*SJA **27** 07:21:52.9±0.7,31°.14S×70°.84W,h104km±3km,ML2.6, MW2.9*
*GUC **27** 07:21:54.5±0.6,31°.06S×70°.75W,h96km±3km,ML2.7*
ISC 27 07:21:53.0±1.4,31°.14S±0°.03×70°.88W±0°.04,h113km±9km, n41,σ1°18/73,1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	El Pedregal	0.34	28	eP	Pn	07 22 09.0	-0.4
CO03				eS	Sn	07 22 20.9	-0.9
CO03				IAML		07 22 21.4	
	comp=Z,260nm,0.1s						
CO03	El Pedregal	0.34	28	i P	Pn	07 22 09.1	-0.4
CO03				eS	Sn	07 22 20.5	-1.2
CO03				IAML		07 22 21.7	
	comp=E,691nm,0.1s						
CO06	Fray Jorge	0.80	305	⇑i P	Pn	07 22 13.5	+1.0
CO06				eS	Sn	07 22 28.2	+0.9
GO04	Tololo Observa	0.96	4	eP	Pn	07 22 14.4	0.0
GO04				eS	Sn	07 22 30.3	-0.1
GO04	Tololo Observa	0.96	4	eP	Pn	07 22 14.5	0.0
GO04				eS	Sn	07 22 30.1	-0.3
GO04				IAML		07 22 31.3	
	comp=E,501nm,0.2s						
CO05	La Serena	1.25	345	eP	Pn	07 22 17.8	+0.6
CO05				eS	Sn	07 22 36.0	+0.5
CO05				IAML		07 22 37.2	
	comp=E,185nm,0.1s						
CO01	Juntas del Tor	1.34	30	eP	Pn	07 22 18.7	+0.3
CO01				eS	Sn	07 22 37.4	-0.2
CO01				IAML		07 22 37.6	
	comp=Z,52nm,0.1s						
CO01	Juntas del Tor	1.34	30	eP	Pn	07 22 18.7	+0.3
CO01				eS	Sn	07 22 37.1	-0.5
CO01				IAML		07 22 37.7	
	comp=E,167nm,0.1s						
VA06	Catapilco	1.47	194	⇓eP	Pn	07 22 19.7	+0.1
VA06				IAML		07 22 44.9	
	comp=N,82nm,0.2s						
RTLS	Leoncito	1.50	117	IAML		07 22 41.1	
	comp=Z,81nm,0.3s						
RTLS				eS	Sn	07 22 41.4	+0.3
AROD	Rodeo	1.55	52	eP	Pn	07 22 22.0	+1.1
AROD				eS	Sn	07 22 42.7	+0.6
DOCA	Reserva Natura	1.55	84	eP	Pn	07 22 20.9	-0.1
DOCA				eS	Sn	07 22 42.0	-0.2
DOCA				IAML		07 22 43.2	
	comp=Z,25nm,0.2s						
VA03	San Esteban	1.65	170	eP	Pn	07 22 22.1	+0.3
VA03				eS	Sn	07 22 43.6	-0.2
VA03				IAML		07 22 45.0	
	comp=Z,84nm,0.1s						
ACCO	Cerro Coronel	1.65	71	eP	Pn	07 22 23.0	+0.9
ACCO				eS	Sn	07 22 44.2	0.0
ACDV	Cuesta del Vie	1.79	58	eP	Pn	07 22 24.5	+0.8
ACDV				eS	Sn	07 22 47.0	-0.1
ACDV				IAML		07 22 48.5	
	comp=Z,20nm,0.4s						
ROC1	El Roble	1.84	184	eP	Pn	07 22 23.8	-0.6
ROC1				eS	Sn	07 22 47.0	-1.3
ZON	Zonda	1.92	103	eP	Pn	07 22 25.4	+0.2
ZON				eS	Sn	07 22 49.1	-0.7
PEL	Peldehue	2.01	175	eP	Pn	07 22 26.6	+0.3
PEL				eS	Sn	07 22 52.0	+0.2
LCO	Las Campanas	2.12	4	eP	Pn	07 22 28.5	+0.5
LCO				eS	Sn	07 22 53.7	-1.0
LCO				IAML		07 22 57.5	
	comp=Z,104nm,0.2s						
MT02	Curacav	2.13	186	eP	Pn	07 22 27.4	-0.3
MT02				eS	Sn	07 22 53.1	-1.3
MT02				IAML		07 22 58.2	
	comp=Z,14nm,0.3s						
MT05	Renca	2.25	177	eP	Pn	07 22 29.9	+0.5
MT05				eS	Sn	07 22 57.7	+0.4
MT05				IAML		07 22 60.0	
	comp=Z,33nm,0.7s						
ASAL	Salagasta	2.26	130	eP	Pn	07 22 30.4	+0.9
ASAL				IAML		07 23 20.6	
	comp=Z,46nm,4.1s						
MT04	Ro Olivares	2.35	165	eP	Pn	07 22 20.9	-10
MT04				eS	Sn	07 23 00.6	+0.8
MT04				IAML		07 23 03.4	
	comp=Z,24nm,0.3s						
ARCO	CERRO ARCO	2.37	136	eP	Pn	07 22 32.6	+1.6
ARCO				eS	Sn	07 23 02.8	+2.6
ARCO				IAML		07 23 03.7	
	comp=Z,22nm,0.5s						
MT03	Universidad Ad	2.37	173	eP	Pn	07 22 31.4	+0.4
MT03				eS	Sn	07 23 00.7	+0.6
MT03				IAML		07 23 08.2	
	comp=Z,42nm,0.1s						
MT08	Bocatoma Ro	2.41	163	eP	Pn	07 22 34.6	+3.0
MT08				eS	Sn	07 23 03.0	+1.8
MT08				IAML		07 23 05.9	
	comp=Z,9.6nm,0.5s						
AAGR	Agrelo	2.61	139	eP	Pn	07 22 35.6	+1.6
AAGR				eP		07 22 35.8	
AAGR				eS	Sn	07 23 07.2	+1.7
AAGR				IAML		07 23 08.1	
	comp=Z,22nm,1.6s						
AGUA	GUANDACOL	2.64	52	eP	Pn	07 22 35.8	+1.3
AGUA				eS	Sn	07 23 07.8	+1.6
AGUA				IAML		07 23 16.5	
	comp=Z,17nm,0.6s						
MT13	San Alfonso	2.65	169	eP	Pn	07 22 35.3	+0.7
MT13				eS	Sn	07 23 06.6	+0.1
MT13				IAML		07 23 08.8	
	comp=Z,24nm,0.2s						
MT01	Popeta	2.74	187	eP	Pn	07 22 35.0	-0.7
MT01				eS	Sn	07 23 07.4	-1.0
MT01				IAML		07 23 08.1	
	comp=Z,40nm,0.4s						
LMEL	Las Melosas	2.76	168	eP	Pn	07 22 37.3	+1.2
LMEL				eS	Sn	07 23 10.0	+0.8
BO04	La Punta	2.85	176	eP	Pn	07 22 36.7	-0.5
AC04	Llanos de Chal	2.93	357	eP	Pn	07 22 39.5	+1.3
AC04				eS	Sn	07 23 02.8	-10
AC04				IAML		07 23 17.9	
	comp=Z,13nm,1.7s						
AVFE	Valle Fertil	2.98	82	eP	Pn	07 22 38.9	0.0
AVFE				eS	Sn	07 23 09.6	-4.6
AVFE				IAML		07 23 13.5	
	comp=Z,12nm,0.6s						
BO01	Tunca	3.25	183	eP	Pn	07 22 41.8	-0.6
BO01				eS	Sn	07 23 18.1	-2.4
BO01				IAML		07 23 20.6	
	comp=Z,11nm,2.5s						
VCA	Vinchina	3.33	45	eP	Pn	07 22 44.6	+0.9
VCA				IAML		07 23 30.8	
	comp=Z,8.6nm,0.2s						
ACHE	Chepes	3.61	91	eP	Pn	07 22 47.1	-0.2
ACHE				eS	Sn	07 23 26.4	-3.0
BO02	Sierra Bellavi	3.65	179	eP	Pn	07 22 47.4	-0.4
BO02				eS	Sn	07 23 29.1	-1.0
BO02	Sierra Bellavi	3.65	179	eP	Pn	07 22 47.4	-0.4
ACLC	CERRO LA CRUZ	3.80	64	eP	Pn	07 22 49.7	-0.1
ACLC				eS	Sn	07 23 31.7	-2.1
RFA	San Rafael	4.15	151	eP	Pn	07 22 54.5	0.0

*NIED **27** 07:25:31.8,36°.06N×137°.58E,h8km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.40; $M_{\theta\theta}$4.37; $M_{\phi\phi}$-3.97; $M_{r\theta}$1.85; $M_{\theta\phi}$-7.94; $M_{\phi r}$0.89; Fault plane solution: $M_0$9.21000×10^{14} NP1: ϕ_s166.00000°,δ77.00000°,λ-3.00000°. NP2:ϕ_s257.00000°, δ87.00000°,λ-167.00000°.*
*JMA **27** 07:25:31.8±0.0,36°.06N±0°.09×137°.58E±0°.09,h8km, MD3.7/20,MV4.0/20,WESTERN NAGANO PREF*
JMA Felt III J1 at WESTERN NAGANO PREF .
ISC 27 07:25:31.7±1.4,36°.05N±0°.05×137°.58E±0°.04,h10km,n16, σ0°17/10,4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.28	310	⇓P	Pg	07 25 37.3	-0.1
JGN	Niukaw	0.28	310	A	A	07 25 37.3	
	comp=N,10.0nm,4.9s,comp=E,7.0nm,2.6s						
JGF	Kuroka	0.48	202	A	A	07 25 41.4	
	comp=N,4.0nm,1.2s,comp=E,3.0nm,3.8s						
JNT	Takato	0.48	110	⇓P	Pg	07 25 41.2	0.0
JNT				⇓eS	Sg	07 25 47.7	+0.1
JNT	Takato	0.48	110	A	A	07 25 41.2	
	comp=N,4.0nm,1.2s,comp=E,8.0nm,0.3s						
JNG	Nsakai	0.55	49	P	Pg	07 25 42.7	+0.2
JNG				eS	Sg	07 25 49.9	+0.1
JNG	Nsakai	0.55	49	A	A	07 25 42.7	
	comp=N,9.0nm,0.6s,comp=E,6.0nm,4.2s						
JTT	Ttatey	0.59	340	⇓P	Pg	07 25 43.4	+0.2
JTT	Ttatey	0.59	340	A	A	07 25 43.4	
	comp=N,8.0nm,2.6s,comp=E,15nm,4.5s						
MAT	Matsushiro	0.71	45	P	Pg	07 25 45.3	-0.1
MAT				eS	Sg	07 25 54.4	-0.3
JNY	Yasuok	0.72	161	A	A	07 25 45.8	
	comp=N,12nm,0.3s,comp=E,12nm,2.0s						
JAO	Obara	0.82	199	A	A	07 25 47.7	
	comp=N,4.0nm,2.2s,comp=E,5.0nm,1.6s						
JYTA	Yamagatataniai	0.82	237	P	Pg	07 25 47.6	0.0
JYTA				eS	Sg	07 25 58.2	-0.1
JYTA	Yamagatataniai	0.82	237	A	A	07 25 47.6	
	comp=N,7.0nm,5.7s,comp=E,4.0nm,5.1s						
JICN	Ichinomiyachia	0.95	219	A	A	07 25 50.1	
	comp=N,6.0nm,3.9s,comp=E,6.0nm,2.5s						
JGK	Kuni	1.00	59	A	A	07 25 50.6	
	comp=N,3.0nm,3.3s,comp=E,5.0nm,4.7s						

*IDC **27** 07:29:10.8±6.6,5°.85S×150°.79E,h57km±54km,mb3.7/4, mbtmp4.0/5,ML2.0/1,MS3.4/4,Error ellipse: s-maj=73.3km s-min=36.0km az=120.0*
ISC 27 07:29:09.1±1.3,5°.8S±0°.3×150°.9E±0°.4,h43km,n9,σ1°23/7, mb3.9/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.16	226	P	Pn	07 30 25.5	+1.7
	4.3nm,0.3s,baz=42,slow=15,SNR=7.1						
PMG				S	Sn	07 31 20.9	-1.3
	47nm,0.7s,baz=198,slow=21,SNR=7.6						
PMG				LR	LR	07 32 32.4	
	comp=Z,377nm,18.5s,baz=95,slow=40						
	22nm,0.6s						
HNR	Honiara	9.62	112	LR	LR	07 34 40.3	
	comp=Z,114nm,19.5s,baz=18,slow=34						
WRA	Warramunga Arr	21.38	227	P	P	07 33 52.1	-1.0
	7.4nm,0.8s,baz=52,slow=10,SNR=33						
	7.4nm,0.8s						
DZM	Mont Dzumac	22.04	139	LR	LR	07 41 11.8	
	comp=Z,73nm,18.2s,baz=161,slow=33						
ASAR	Alice Springs	24.15	221	P	P	07 34 20.9	-0.5
	2.4nm,0.6s,baz=57,slow=8.8,SNR=39						
	2.4nm,0.6s						
NWAO	Narrogin (SRO)	41.35	225	LR	LR	07 54 12.8	
	comp=Z,77nm,18.3s,baz=238,slow=36						
ILAR	Eielson Array	83.81	22	P	P	07 41 33.3	-0.4
	0.6nm,0.7s,baz=248,slow=5.7,SNR=1.7						
	0.6nm,0.7s						
QSPA	South Pole Qui	84.14	180	P	P	07 41 35.4	-0.1
	0.4nm,0.5s,baz=339,slow=6.6,SNR=3.3						
	0.4nm,0.5s						
TORD	Torodi Ar. Bea	148.83	286	PKPbc	PKPbc	07 48 53.5	+0.4
	20nm,0.3s,baz=90,slow=2.4,SNR=0.8						

*IDC **27** 07:35:09.9±1.4,6°.69S×154°.86E,h0km,mb3.7/6, mbtmp3.8/7,ML2.3/1,MS3.4/1,Error ellipse: s-maj=49.9km s-min=25.1km az=122.0*
ISC 27 07:35:11.9±1.1,6.7°S±0°.2×154°.8E±0°.2,h10km,n9,σ1°16/9, mb3.7/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.04	250	Pn	Pn	07 37 10.4	+1.6
	2.3nm,0.3s,baz=27,slow=8.9,SNR=3.0						
PMG				Sn	Sn	07 38 38.5	-1.4
	1.6nm,0.3s,baz=90,slow=20,SNR=1.5						
	9.9nm,0.4s						
WRA	Warramunga Arr	23.85	234	P	P	07 40 24.6	-1.0
	2.4nm,0.7s,baz=57,slow=9.2,SNR=9.6						
	2.4nm,0.7s						
ASAR	Alice Springs	26.25	228	P	P	07 40 46.7	-0.9
	0.7nm,0.5s,baz=49,slow=9.0,SNR=15						
	0.7nm,0.5s						
PSI	Prapat	56.56	278	LR	LR	08 13 55.7	
	comp=Z,30nm,18.5s,baz=144,slow=41						
SONM	Songino Array	68.94	327	P	P	07 46 17.6	+0.2
	0.5nm,0.7s,baz=114,slow=6.6,SNR=2.4						
	0.5nm,0.7s						
MKAR	Makanchi Array	83.02	319	P	P	07 47 38.3	+0.6
	0.3nm,0.7s,baz=106,slow=5.1,SNR=2.5						
	0.3nm,0.7s						
ILAR	Eielson Array	83.13	22	P	P	07 47 36.8	-1.1
	0.3nm,0.8s,baz=252,slow=4.9,SNR=4.7						
	0.3nm,0.8s						
QSPA	South Pole Qui	83.32	180	P	P	07 47 39.5	+0.6
	1.3nm,1.0s,baz=18,slow=3.2,SNR=1.8						
	1.3nm,1.0s						
TORD	Torodi Ar. Bea	152.74	286	PKPbc	PKiKP	07 55 10.2	-0.2
	48nm,0.4s,baz=44,slow=2.3,SNR=2.7						

*IDC **27** 07:47:00.5±1.7,0°.71N×124°.11E,h0km,mb3.8/3, mbtmp3.9/3,Error ellipse: s-maj=190.5km s-min=24.4km az=63.0*
*DJA **27** 07:47:12.6±0.4,1°.N±4°×12°.5E±°,h68km±7km,M4.0/10, MLv4.0/10*
ISC 27 07:47:11.0±1.6,1°.1N±0°.2×125°.4E±0°.1,h100km,n8, σ1°31/8,mb3.8/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.51	248	P	Pn	07 47 35.4	-1.9
SANI	Sanana	3.23	169	P	Pn	07 47 58.4	-1.4
MRSI	Marisa	3.50	259	P	Pn	07 48 04.3	+0.9
APSI	Ampana	4.25	241	P	Pn	07 48 14.2	+0.6
NLAI	Namlea	4.68	158	P	Pn	07 48 20.0	+0.6
WRA	Warramunga Arr	22.72	158	P	P	07 52 05.2	+0.5
	1.8nm,0.4s,baz=333,slow=11,SNR=19						
	1.8nm,0.4s						
ASAR	Alice Springs	26.02	162	P	P	07 52 35.9	+1.0
	1.2nm,0.6s,baz=339,slow=9.0,SNR=16						
	1.2nm,0.6s						
MKAR	Makanchi Array	58.93	327	P	P	07 56 59.4	-0.4
	0.5nm,0.5s,baz=117,slow=8.3,SNR=6.8						
	0.5nm,0.5s						

*IDC **27** 07:47:25.6±0.9,5°.94S×151°.10E,h0km,mb4.1/8, mbtmp4.1/9,ML1.9/1,MS3.2/1,Error ellipse: s-maj=42.4km s-min=17.9km az=116.0*
ISC 27 07:47:32.0±0.8,5°.9S±0°.2×150°.9E±0°.2,h43km,n11, σ0°86/13,mb4.1/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.07	227	Pn	Pn	07 48 46.5	+1.0
	2.9nm,0.3s,baz=19,slow=9.0,SNR=5.4						
PMG				Sn	Sn	07 49 42.0	-0.9
	6.1nm,0.3s,baz=108,slow=20,SNR=8.2						
PMG				LR	LR	07 50 42.7	
	comp=Z,241nm,18.5s,baz=60,slow=38						
	10nm,0.3s						
WRA	Warramunga Arr	21.29	228	P	P	07 52 15.1	-0.1
	6.0nm,0.5s,baz=52,slow=10,SNR=39						
WRA				PcP	PcP	07 56 19.5	+0.6
	0.7nm,0.7s,baz=54,slow=1.8,SNR=2.8						
	6.0nm,0.5s						
ASAR	Alice Springs	24.05	221	P	P	07 52 43.6	+0.1
	2.0nm,0.6s,baz=49,slow=9.2,SNR=16						
	2.0nm,0.6s						
STKA	Stephens Creek	27.24	198	P	P	07 53 11.7	-0.5
	1.1nm,0.7s,baz=2.0,slow=11,SNR=2.7						
	1.1nm,0.7s						
JNU	Nakatsue	43.25	335	P	P	07 55 29.7	+0.3
	7.1nm,0.8s,baz=117,slow=4.5,SNR=4.4						
	7.1nm,0.8s						
PETK	Petropavlovsk-	59.10	5	P	P	07 57 28.2	+0.3
	1.6nm,0.6s,baz=185,slow=6.7,SNR=4.2						
	1.6nm,0.6s						
ILAR	Eielson Array	83.92	22	P	P	07 59 55.4	-1.8
	0.6nm,0.6s,baz=251,slow=5.4,SNR=14						
	0.6nm,0.6s						
QSPA	South Pole Qui	84.03	180	P	P	07 59 58.0	0.0
	0.9nm,0.7s,baz=323,slow=0.9,SNR=8.2						
	0.9nm,0.7s						
NVAR	Mina Array Bea	94.26	52	P	P	08 00 48.5	+1.1
	0.5nm,0.4s,baz=293,slow=4.0,SNR=2.0						
	0.5nm,0.4s						
PDAR	Pinedale Array	101.00	48	P	Pdif	08 01 17.4

s-min=130.5km az=75.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de** comp=Z,114nm,20.7s,baz=254,slow=32	**13.54**	**52**	LR	LR	08 04 55.0	
CMIG	**Matias Romero** comp=Z,270nm,20.4s,baz=172,slow=32	**15.04**	**3**	LR	LR	08 05 40.0	
ATAH	**Atahualpa** comp=Z,116nm,20.8s,baz=310,slow=34	**19.54**	**118**	LR	LR	08 08 31.8	
SDV	**Santo Domingo** comp=Z,84nm,19.2s,baz=268,slow=36	**25.91**	**74**	LR	LR	08 12 58.2	
LPIG	**La Paz** comp=Z,277nm,19.5s,baz=132,slow=30	**26.12**	**329**	LR	LR	08 10 35.5	
TXAR	**Lajitas Array** 1.0nm,0.9s,baz=155,slow=9.6,SNR=9.2	**28.23**	**345**	P	P	08 03 30.0	+0.6
TXAR	comp=Z,121nm,18.2s,baz=46,slow=34 1.0nm,0.9s			LR	LR	08 13 27.9	
TKL	**Tuckaleechee C** comp=Z,122nm,18.2s,baz=186,slow=37	**35.31**	**17**	LR	LR	08 19 32.5	
H03N2	**Juan Fernandez** baz=332,slow=77,SNR=4.2	**38.64**	**157**	T	T	08 47 19.1	
H03N1	**Juan Fernandez** baz=332,slow=77,SNR=9.1	**38.65**	**157**	T	T	08 47 24.1	
H03N3	**Juan Fernandez** baz=332,slow=77,SNR=6.4	**38.65**	**157**	T	T	08 47 21.0	
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=131,slow=9.3,SNR=1.5 0.2nm,0.3s	**41.74**	**333**	P	P	08 05 24.0	-1.8
PDAR	**Pinedale Array** 0.8nm,0.9s,baz=141,slow=8.2,SNR=4.9	**42.45**	**345**	P	P	08 05 31.6	+0.1
PDAR	comp=Z,75nm,20.9s,baz=19,slow=34 0.8nm,0.9s			LR	LR	08 21 31.2	
SADO	**Sadowa** comp=Z,100nm,19.3s,baz=350,slow=35	**45.07**	**17**	LR	LR	08 24 04.0	
PLCA	**Paso Flores** comp=Z,84nm,20.4s,baz=315,slow=30	**48.32**	**154**	LR	LR	08 22 03.7	
SCHQ	**Schefferville** comp=Z,132nm,19.1s,baz=76,slow=35	**57.72**	**19**	LR	LR	08 31 03.4	
YKA	**Yellowknife Ar** 0.9nm,1.0s,baz=158,slow=6.9,SNR=5.8 0.9nm,1.0s	**62.00**	**350**	P	P	08 07 57.1	+0.8
FRB	**Frobisher Bay** comp=Z,148nm,18.4s,baz=54,slow=37	**64.78**	**13**	LR	LR	08 37 12.3	
ILAR	**Eielson Array** 1.1nm,0.9s,baz=146,slow=4.9,SNR=12 1.1nm,0.9s	**72.56**	**340**	P	P	08 09 03.0	-0.3

KRSC 27 08:00:33.9±1.5, 49°.62N×158°.69E, h48km±39km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.97**	**304**	*e*P	Pn	08 01 05.4	+0.7
SKR				*e*S	Sn	08 01 29.0	+0.8
PAU	**Pauzhetka**	**2.21**	**328**	*e*P	Pn	08 01 11.2	+3.2
PAU				*e*S	Sn	08 01 38.3	+4.2
KDTR	**Khodutka, Kamc**	**2.23**	**350**	*e*P	Pn	08 01 10.9	+2.5
KDTR				*e*S	Sn	08 01 38.0	+3.3
RUS	**Russkaya**	**2.82**	**358**	*e*P	Pn	08 01 19.5	+3.0
RUS				*e*S	Sn	08 01 52.7	+3.5
GRL	**Gorelyy**	**2.97**	**353**	*e*P	Pn	08 01 22.1	+3.5
KRMR	**Karymshinskiy**	**3.24**	**354**	*e*P	Pn	08 01 26.1	+3.9
KRMR				*e*S	Sn	08 02 04.6	+5.2
PET	**Petropavlovsk**	**3.41**	**360**	*e*P	Pn	08 01 28.3	+3.7
PET				*e*S	Sn	08 02 07.6	+3.9
DALK	**Dalny**	**3.42**	**1**	*e*P	Pn	08 01 28.1	+3.4
DALK				*e*S	Sn	08 02 07.4	+3.5
SPN	**Mys Shipunski**	**3.59**	**13**	*e*S	Sn	08 02 12.4	+4.4
UGLR	**Uglovaya**	**3.60**	**1**	*e*P	Pn	08 01 31.5	+4.3
AVH	**Avacha**	**3.66**	**0**	*e*P	Pn	08 01 31.8	+3.9
KOK	**Koryaka**	**3.68**	**360**	*e*P	Pn	08 01 32.5	+4.2
KRX	**Arik**	**3.75**	**360**	*e*P	Pn	08 01 33.1	+3.8
GNL	**Ganaly**	**4.11**	**354**	*e*P	Pn	08 01 39.1	+4.9
KBTR	**Krutoberegovo**	**7.06**	**19**	*e*P	Pn	08 02 18.6	+4.1

TXNET 27 08:10:53.4, 31°N±1°×103°.3W±0°.8, h3km, ML1.8/9, Error ellipse: s-maj=1.7km s-min=1.2km az=5.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.01**	**332**	P	Pg	08 10 54.5	+0.3
TPB04				S	Sg	08 10 54.9	+0.3
TPB16	**Coyonosa**	**0.05**	**170**	P	Pg	08 10 55.2	+0.6
TPB16				S	Sg	08 10 56.1	+0.7
TPB03	**Saragosa**	**0.23**	**247**	P	Pg	08 10 59.0	+1.0
TPB03				S	Sg	08 11 03.0	+2.0
TPB05	**Hovey Rd**	**0.26**	**192**	P	Pb	08 11 00.1	-0.8
TPB05				S	Sb	08 11 04.4	-1.4
PCOS	**Crockett Middl**	**0.32**	**318**	S	Sb	08 11 06.4	-1.0
TPB08	**Permian Basin**	**0.42**	**133**	S	Sb	08 11 10.2	-0.1
TPB10	**Southeast of T**	**0.43**	**284**	S	Sb	08 11 11.0	+0.1
MNHN	**Monahans**	**0.46**	**69**	P	Pg	08 11 03.0	+0.7
MNHN				S	Sb	08 11 10.3	-1.3
TPB06	**Permian Basin**	**0.47**	**5**	S	Sb	08 11 13.9	+2.0
TPB01	**Permian Basin**	**0.50**	**243**	P	Pg	08 11 03.6	+0.5
TPB01				S	Sg	08 11 10.9	+1.3
TPB07	**Mentone**	**0.53**	**319**	S	Sb	08 11 13.9	+0.3
PECS	**Pecos**	**0.55**	**291**	P	Pb	08 11 06.8	+0.9
PECS				S	Sb	08 11 14.5	+0.3
TPB12	**Southwest of T**	**0.60**	**274**	P	Pb	08 11 06.1	-0.5
TPB12				S	Sb	08 11 14.5	-1.1
ALPN	**Alpine**	**0.86**	**202**	P	Pg	08 11 10.3	+0.3
ALPN				S	Sg	08 11 22.1	+0.9
TPB11	**China Draw**	**1.00**	**319**	P	Pn	08 11 15.4	+0.9
TPB11				S	Sn	08 11 28.7	-0.6
TMB02	**Rankin**	**1.05**	**88**	P	Pb	08 11 14.2	-0.1
TMB02				S	Sb	08 11 28.5	-0.1
ODSA	**Odessa**	**1.12**	**33**	P	Pg	08 11 15.0	+0.1
ODSA				S	Sb	08 11 30.8	+0.2
NM01	**Eunice**	**1.18**	**354**	S	Sb	08 11 32.7	+0.3
CLNB	**Carlsbad**	**1.21**	**334**	P	Pn	08 11 18.5	+1.2
CLNB				S	Sn	08 11 35.6	+1.3
GDL2	**Guadalupe Moun**	**1.39**	**318**	P	Pb	08 11 20.6	+0.4
VHRN	**Van Horn**	**1.53**	**256**	P	Pn	08 11 22.1	+0.2
VHRN				S	Sg	08 11 42.8	+0.2
SAND	**Sanderson**	**1.56**	**141**	P	Pg	08 11 24.2	+0.8
SAND				S	Sg	08 11 45.3	+1.6
TMB04	**Seminole**	**1.59**	**24**	S	Sg	08 11 45.4	+0.9
OZNA	**Ozona**	**1.85**	**97**	P	Pb	08 11 27.9	-0.1
OZNA				S	Sg	08 11 53.1	+0.2
TX31	**Lajitas Ar. Si**	**1.87**	**191**	P	Pb	08 11 28.0	-0.4
TX31				S	Sg	08 11 52.8	-0.7
MNTX	**Cornudas Mount**	**1.89**	**287**	P	Pb	08 11 27.9	-0.6
MNTX				S	Sg	08 11 53.8	-0.3
SGCY	**Sterling City**	**1.97**	**67**	P	Pb	08 11 29.7	-0.3
SGCY				S	Sg	08 11 56.3	-0.3
POST	**Post**	**2.41**	**38**	S	Sb	08 12 07.3	-0.3

ATH ***27*** *08:50:48.4, 37°.49N×20°.76E, h10km±2km, ML2.6/11, Manual Solution by E.Daskalaki First location: 2019/02/27 08:51:46, This location: 2019/02/27 15:22:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*

ISC 27 08:50:47.3±2.0, 37°.44N±0°.07×20°.71E±0°.06, h11km±10km, n37, σ0°.40/44, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.29**	**21**	P	**Pg**	**08 50 53.8**	**+0.7**
KYPS	**Kipseli, Zakin**	**0.39**	**14**	P	**Pg**	**08 50 55.4**	**+0.4**
KYPS				S	**Sg**	**08 51 00.1**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.41**	**359**	P	**Pg**	**08 50 55.8**	**+0.3**
ORTH				S	**Sg**	**08 51 00.7**	**-0.2**
CLEM	**Kyllini,Ilia,G**	**0.56**	**37**	P	**Pg**	**08 50 58.3**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.64**	**5**	P	**Pg**	**08 50 59.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.68**	**352**	P	**Pg**	**08 51 00.1**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.68**	**352**	P	**Pg**	**08 51 00.1**	**-0.3**
PSDA				S	**Sb**	**08 51 10.2**	**-0.4**
VLS	**Valsamata**	**0.74**	**353**	P	**Pg**	**08 51 01.2**	**-0.5**
VLS	**Valsamata**	**0.74**	**353**	P	**Pg**	**08 51 01.4**	**-0.2**
VLS				S	**Sg**	**08 51 11.1**	**-0.3**
ZARO	**Zacharo**	**0.75**	**86**	P	**Pb**	**08 51 03.0**	**+0.7**
AMT	**Artemida-Makis**	**0.80**	**83**	P	**Pg**	**08 51 03.1**	**+0.3**
SMHA	**Samh**	**0.81**	**357**	P	**Pg**	**08 51 02.9**	**0.0**
DMLN	**Damoulianata-K**	**0.84**	**342**	P	**Pg**	**08 51 03.6**	**+0.1**
DMLN	**Damoulianata-K**	**0.84**	**342**	P	**Pg**	**08 51 03.3**	**-0.2**
DMLN				S	**Sb**	**08 51 15.4**	**+0.2**
RLS	**Riolos of Patr**	**0.86**	**44**	P	**Pg**	**08 51 03.7**	**-0.2**
RLS	**Riolos of Patr**	**0.86**	**44**	P	**Pg**	**08 51 03.8**	**-0.2**
RLS				S	**Sg**	**08 51 14.0**	**-1.1**
AXS	**Araxos**	**0.92**	**35**	P	**Pg**	**08 51 05.0**	**-0.1**
DRO	**Drossia**	**0.95**	**57**	P	**Pg**	**08 51 05.3**	**-0.2**
DRO	**Drossia**	**0.95**	**57**	P	**Pg**	**08 51 05.3**	**-0.2**
ITM	**Ithomi**	**1.01**	**105**	P	**Pg**	**08 51 06.1**	**-0.5**
FSK	**Fiskardo**	**1.02**	**354**	P	**Pg**	**08 51 07.3**	**+0.3**
FSK				S	**Sn**	**08 51 22.1**	**+0.1**
EVGI	**Lefkada island**	**1.18**	**358**	P	**Pb**	**08 51 09.2**	**-0.5**
EVGI	**Lefkada island**	**1.18**	**358**	P	**Pg**	**08 51 10.3**	**+0.3**
KLV	**Kalavryta, Ach**	**1.29**	**62**	P	**Pn**	**08 51 11.0**	**-0.4**
KLV	**Kalavryta, Ach**	**1.29**	**62**	P	**Pn**	**08 51 11.3**	**0.0**
PVO	**Paravola**	**1.34**	**29**	P	**Pn**	**08 51 12.3**	**+0.3**
LKD2	**Lefkada island**	**1.35**	**358**	P	**Pg**	**08 51 13.4**	**+0.2**
EFP	**Efpalio**	**1.37**	**43**	P	**Pg**	**08 51 13.6**	**0.0**
GUR	**Goura**	**1.39**	**69**	P	**Pn**	**08 51 12.8**	**+0.1**
GUR	**Goura**	**1.39**	**69**	P	**Pn**	**08 51 12.9**	**+0.1**
ANX	**Ano Chora**	**1.50**	**39**	P	**Pb**	**08 51 15.4**	**+0.2**
ANX	**Ano Chora**	**1.50**	**39**	P	**Pb**	**08 51 15.3**	**+0.2**
EVR	**Evrytania**	**1.71**	**30**	P	**Pn**	**08 51 18.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.93**	**35**	P	**Pb**	**08 51 22.2**	**-0.3**
AXAR	**Agios Charalam**	**2.03**	**49**	P	**Pn**	**08 51 22.4**	**+0.9**
THL	**Klokotos Trika**	**2.36**	**25**	P	**Pn**	**08 51 26.0**	**+0.1**
THL	**Klokotos Trika**	**2.36**	**25**	P	**Pn**	**08 51 25.9**	**0.0**

VKMS ***27*** *09:00:06.0, 52°.36N×35°.39E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC ***27*** *09:00:07.7±3.4, 52°.36N×35°.57E, h0km, mbtmp3.9/2, ML2.7/3, Error ellipse: s-maj=36.1km s-min=13.8km az=118.0*

IDG ***27*** *09:00:11.0, 52°.30N×35°.44E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

ISC 27 09:00:08.9±5.1, 52°.6N±0°.3×35°.1E±0°.4, h0km, n7, σ1°.86/5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk** 6.3nm,0.3s,baz=142,slow=23,SNR=4.1	**2.66**	**18**	Lg	Lg	09 01 36.2	
AKASG	**Malin Array Be** 0.6nm,0.3s,baz=60,slow=16,SNR=1.9	**4.14**	**245**	Pn	**Pn**	**09 01 12.1**	**-1.3**
AKASG	1.1nm,0.3s,baz=60,slow=16,SNR=2.7			Pg	**Pb**	**09 01 23.3**	**+0.6**
AKASG	1.6nm,0.3s,baz=64,slow=22,SNR=5.2			Sn	**Sn**	**09 02 03.5**	**+1.0**
AKASG	2.0nm,0.3s,baz=65,slow=28,SNR=5.0			Lg	Lg	09 02 20.0	
I43RU	**DUBNA INFRASON** baz=186,slow=320,SNR=3.4	**4.30**	**15**	I	I	09 28 50.0	
BELG	**Belogornoye** 0.4nm,0.3s,baz=122,slow=17,SNR=3.5	**7.63**	**87**	Lg	Lg	09 04 01.4	
FINES	**FINESS Array B** 0.1nm,0.3s,baz=150,slow=14,SNR=2.5	**10.14**	**335**	Pn	**Pn**	**09 02 34.8**	**-0.7**
FINES	0.2nm,0.3s,baz=144,slow=24,SNR=2.4 5.7nm,1.1s			Sn	Sn	09 04 26.1	-3.7
I31KZ	**AKTYUBINSK INF** baz=287,slow=303,SNR=4.8	**14.42**	**90**	I	I	10 26 20.0	
ARCES	**ARCESS Array B** 0.1nm,0.3s,baz=163,slow=10,SNR=5.2 1.4nm,0.6s	**17.58**	**349**	P	**Pn**	**09 04 16.8**	**+1.8**

IDC ***27*** *09:09:27.8±1.2, 3°.90N×126°.58E, h0km, mb3.9/7, mbtmp3.9/7, MS2.5/1, Error ellipse: s-maj=126.3km s-min=18.7km az=67.0*

DJA ***27*** *09:09:33.4±0.5, 4°N±5°×12°7E±°, h10km, M3.8/3, MLv3.8/3*

ISC 27 09:09:34.0±1.2, 3°.9N±0°.4×126°.7E±0°.9, h45km, n8, σ0°.54/7, mb3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)** comp=Z,71nm,18.3s,baz=1.0,slow=40	**3.33**	**341**	LR	LR	09 11 41.1	
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=342,slow=8.7,SNR=6.1 0.4nm,0.4s	**24.87**	**163**	P	**P**	**09 14 52.1**	**-0.5**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=8.3,SNR=5.1 0.1nm,0.3s	**28.30**	**166**	P	**P**	**09 15 24.2**	**+0.7**
STKA	**Stephens Creek** 1.2nm,0.7s,baz=338,slow=11,SNR=2.2 1.2nm,0.7s	**38.31**	**159**	P	**P**	**09 16 50.1**	**-0.3**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=120,slow=7.1,SNR=6.3 0.3nm,0.3s	**57.38**	**325**	P	**P**	**09 19 17.4**	**-0.4**
KURBB	**Kurchatov Arra** 1.6nm,0.2s,baz=128,slow=6.3,SNR=1.7 1.6nm,0.2s	**61.56**	**327**	P	**P**	**09 19 46.4**	**-0.1**
NRIK	**Noril'sk** 1.4nm,0.6s,baz=143,slow=5.3,SNR=3.5 1.4nm,0.6s	**70.25**	**346**	P	**P**	**09 20 42.4**	**+0.3**
AKTO	**Aktyubinsk** 1.2nm,0.7s,baz=109,slow=4.1,SNR=4.0 1.2nm,0.7s	**73.49**	**322**	P	**P**	**09 21 02.1**	**+0.1**

ASRS ***27*** *09:12:27.0±1.1, 53°.77N×91°.07E, h0km, M3.2, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC 27 09:12:31.7±4.0, 53°.70N×90°.79E, h0km, mb3.6, mpv3.3, 7C-2D, Error ellipse: s-maj=28.4km s-min=23.5km az=61.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array** 1.3nm,0.7s	**3.55**	**277**	⇓Pg	Pb	09 13 35.7	+0.4
ZAA0	6.1nm,0.8s			⇑Lg	Lg	09 14 24.8	
KURK	**Kurchatov** 2.7nm,0.9s	**8.05**	**253**	⇑Pn	Pn	09 14 30.6	+0.8
KURK	11nm,1.0s			⇑Sn	Sn	09 16 02.9	+1.4
KURK	21nm,1.0s			⇑Lg	Lg	09 16 49.6	
KURBB	**Kurchatov Arra** 1.9nm,0.5s	**8.14**	**253**	⇑Pn	Pn	09 14 32.9	+1.8
KURBB	22nm,0.8s			⇑Sn	Sn	09 16 03.9	+0.1
KURBB	16nm,0.8s			⇓Lg	Lg	09 16 52.3	
MK31	**Makanchi Array** 0.4nm,0.5s,baz=28,slow=12,SNR=3.5	**8.79**	**222**	Pn	Pn	09 14 35.2	-4.8
MK31	1.0nm,0.6s			⇑Sn	Sn	09 16 21.7	+1.9
MK31	19nm,1.1s,baz=40,slow=25,SNR=5.0			Lg	Lg	09 17 09.2	

BEO ***27*** *09:13:33.3±0.8, 40°.91N×23°.84E, h25km±2km, ML3.1/8*

SOF ***27*** *09:13:35.3, 41°.22N±0°.01×23°.73E±0°.01, h15km±1km, MD3.2/8*

THE ***27*** *09:13:36.7, 41°.19N×23°.74E, h13km, ML2.9/14, Error ellipse: s-maj=1.2km s-min=0.6km az=315.0*

ATH ***27*** *09:13:36.4, 41°.22N×23°.76E, h17km±2km, ML3.0/10, Manual Solution by E.Daskalaki First location: 2019/02/27 09:14:06, This location: 2019/02/27 16:17:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

SKO ***27*** *09:13:37.5, 41°.26N×23°.71E, h0km, ML2.9*

ISC 27 09:13:36.4±0.8, 41°.23N±0°.01×23°.76E±0°.01, h14km±5km, n68, σ0°.77/120, 3C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi** 10μm,0.2s	**0.15**	**33**	P	**Pb**	**09 13 40.9**	**-0.1**
NVR				S	**Sg**	**09 13 43.5**	**+0.6**
NVR	**Nevrokopi**	**0.15**	**33**	P	**Pb**	**09 13 40.9**	**-0.1**
NVR				S	**Sg**	**09 13 43.4**	**+0.5**
SRS	**Serrai** 14μm,0.3s	**0.16**	**229**	P	**Pg**	**09 13 40.5**	**0.0**
SRS				S	**Sg**	**09 13 43.3**	**+0.1**
SRS	**Serrai**	**0.16**	**229**	*e*Pg	**Pb**	**09 13 44.5**	**+3.3**
SRS				*e*Sg	**Sb**	**09 13 46.1**	**+1.7**
MMB	**Musomishta**	**0.32**	**359**	*i* P	**Pg**	**09 13 42.5**	**-0.6**
MMB				*i* S	**Sg**	**09 13 47.0**	**-0.6**
MMB	**Musomishta**	**0.32**	**359**	⇑*i*Pg	**Pg**	**09 13 42.5**	**-0.6**
MMB				*i* Sg	**Sg**	**09 13 47.1**	**-0.5**
NGRA	**Nigrita**	**0.37**	**212**	P	**Pg**	**09 13 44.0**	**+0.1**
NGRA				S	**Sb**	**09 13 49.7**	**-0.7**
KOKK	**Kokkinochori,**	**0.45**	**156**	P	**Pg**	**09 13 45.5**	**+0.2**
KOKK				S	**Sg**	**09 13 51.5**	**+0.2**
KOKK	**Kokkinochori,**	**0.45**	**156**	P	**Pg**	**09 13 45.4**	**+0.2**
KOKK				S	**Sg**	**09 13 51.5**	**+0.2**
SOH	**Sokhos**	**0.51**	**217**	P	**Pg**	**09 13 46.2**	**-0.2**
SOH				S	**Sg**	**09 13 53.1**	**0.0**
KVLA	**Kavala** 2μm,0.4s	**0.56**	**121**	P	**Pg**	**09 13 47.1**	**-0.2**
KVLA				S	**Sg**	**09 13 55.2**	**+0.5**
KAVA	**Kavala** 2μm,0.3s	**0.62**	**111**	P	**Pg**	**09 13 48.3**	**-0.2**
KAVA				S	**Sg**	**09 13 56.8**	**+0.2**
KAVA	**Kavala**	**0.62**	**111**	P	**Pg**	**09 13 48.2**	**-0.2**
KAVA				S	**Sg**	**09 13 56.6**	**0.0**
KNT	**Kendrikon**	**0.65**	**265**	*i* Pg	**Pg**	**09 13 48.2**	**-0.9**
KNT				*i* Sg	**Sg**	**09 13 57.4**	**-0.3**
KKB	**Krupnik**	**0.78**	**323**	*i* P	**Pg**	**09 13 50.4**	**-1.1**
KKB				*i* S	**Sg**	**09 14 00.7**	**-1.0**
KKB	**Krupnik**	**0.78**	**323**	⇑*i*Pg	**Pg**	**09 13 50.6**	**-0.9**
KKB				*i* Sg	**Sg**	**09 14 01.4**	**-0.3**
HORT	**Hortiatis**	**0.80**	**219**	P	**Pg**	**09 13 51.5**	**-0.4**
HORT				S	**Sg**	**09 14 01.8**	**-0.7**
HORT	**Hortiatis** 822nm,0.5s	**0.80**	**219**	P	**Pg**	**09 13 51.3**	**-0.6**
HORT				S	**Sb**	**09 14 02.5**	**-0.3**
THE	**Thessaloniki** 1μm,0.5s	**0.84**	**226**	P	**Pb**	**09 13 52.0**	**-0.8**
THE				S	**Sg**	**09 14 03.0**	**-0.8**
THE	**Thessaloniki**	**0.84**	**226**	⇑*i*Pg	**Pb**	**09 13 52.1**	**-0.6**
THE				*i* Sg	**Sg**	**09 14 03.4**	**-0.4**
THE	**Thessaloniki**	**0.84**	**226**	P	**Pb**	**09 13 52.0**	**-0.8**
THE				S	**Sg**	**09 14 03.3**	**-0.4**
RZN	**Rozhen**	**0.88**	**57**	*i* P	**Pb**	**09 13 53.1**	**-0.3**
RZN				*i* S	**Sg**	**09 14 04.6**	**-0.3**
PLG	**Polygyros** 458nm,0.4s	**0.88**	**196**	P	**Pg**	**09 13 53.4**	**-0.1**
PLG				S	**Sb**	**09 14 04.2**	**-0.9**
PLG	**Polygyros**	**0.88**	**196**	P	**Pb**	**09 13 53.2**	**-0.2**
PLG				S	**Sb**	**09 14 04.8**	**-0.3**
VAY	**Valandovo**	**0.90**	**277**	*i* Pg	**Pb**	**09 13 53.0**	**-0.8**
VAY				*i* Sg	**Sb**	**09 14 05.0**	**-0.6**
VAY	comp=N,283nm,0.3s			*e*Lg	Lg	09 14 06.1	
VAY	comp=E,241nm,0.6s			*e*Lg	Lg	09 14 07.5	
VAY	**Valandovo**	**0.90**	**277**	*e*Pg	**Pb**	**09 13 53.0**	**-0.8**
VAY				*e*Sg	**Sb**	**09 14 04.9**	**-0.6**
OUR	**Ouranopolis**	**0.91**	**169**	P	**Pb**	**09 13 53.8**	**-0.1**
OUR	comp=E,2μm,0.6s			S	**Sn**	**09 14 07.3**	**-0.2**
OUR	**Ouranopolis**	**0.91**	**169**	P	**Pb**	**09 13 53.8**	**-0.1**
OUR				S	**Sg**	**09 14 06.5**	**+0.7**
XANC	**Avdira**	**0.94**	**105**	P	**Pb**	**09 13 54.3**	**-0.1**
XANC				S	**Sg**	**09 14 07.0**	**+0.2**
THAS	**Thassos island**	**0.96**	**130**	P	**Pg**	**09 13 54.9**	**0.0**
THAS	comp=E,935nm,0.3s			S	**Sg**	**09 14 07.5**	**+0.1**
THAS	**Thassos island**	**0.96**	**130**	P	**Pb**	**09 13 54.5**	**-0.2**
THAS				S	**Sg**	**09 14 07.5**	**+0.1**
GRG	**Griva**	**1.06**	**256**	P	**Pb**	**09 13 55.6**	**-0.9**
GRG	**Griva**	**1.06**	**256**	*i* Pg	**Pb**	**09 13 56.0**	**-0.5**
GRG				*i* Sg	**Sg**	**09 14 10.5**	**-0.2**
GRG	**Griva**	**1.06**	**256**	P	**Pb**	**09 13 56.0**	**-0.5**
PLD	**Plovdiv**	**1.18**	**39**	*i* P	**Pn**	**09 13 58.0**	**-0.4**
PLD				*i* S	**Sb**	**09 14 13.1**	**-0.6**
PLD	**Plovdiv**	**1.18**	**39**	*i* Pg	**Pn**	**09 13 58.3**	**-0.2**
PLD				*i* Sg	**Sb**	**09 14 13.8**	**0.0**
PLD	**Plovdiv**	**1.18**	**39**	*e*Pg	**Pn**	**09 13 58.1**	**-0.4**
PLD				*e*Sg	**Sg**	**09 14 16.5**	**+1.9**
KDZ	**Kurdzhali**	**1.26**	**71**	*i* P	**Pn**	**09 13 59.4**	**-0.1**
KDZ				*i* S	**Sn**	**09 14 16.3**	**+0.1**
PAIG	**Paliouri**	**1.30**	**183**	P	**Pn**	**09 13 59.7**	**-0.3**
PAIG	comp=E,175nm,0.5s			S	**Sb**	**09 14 15.9**	**-1.1**
PGB	**Panagyurishte**	**1.32**	**13**	*i* P	**Pn**	**09 14 00.6**	**+0.1**
PGB				*i* S	**Sg**	**09 14 18.7**	**-0.5**
RDO	**Rodhopi**	**1.35**	**93**	P	**Pn**	**09 14 00.6**	**-0.1**
RDO	comp=E,350nm,0.8s			S	**Sn**	**09 14 18.5**	**+0.1**
RDO	**Rodhopi**	**1.35**	**93**	P	**Pn**	**09 14 00.5**	**-0.2**
RDO				S	**Sn**	**09 14 18.4**	**+0.1**
VTS	**Vitosha**	**1.45**	**345**	*i* P	**Pn**	**09 14 02.1**	**-0.1**
VTS				*i* S	**Sb**	**09 14 21.6**	**+0.2**
VTS	**Vitosha**	**1.45**	**345**	*e*Pg	**Pn**	**09 14 02.2**	**0.0**
SMTH	**Samothraki Isl**	**1.54**	**119**	P	**Pn**	**09 14 02.9**	**-0.5**
SMTH	comp=E,118nm,1.9s			S	**Sb**	**09 14 24.8**	**+0.7**
SMTH	**Samothraki Isl**	**1.54**	**119**	P	**Pn**	**09 14 03.0**	**-0.5**
LIA	**Limnos Island**	**1.71**	**140**	P	**Pn**	**09 14 05.5**	**-0.3**
LIA	comp=E,652nm,0.5s			S	**Sn**	**09 14 27.1**	**-0.3**
LIA	**Limnos Island**	**1.71**	**140**	P	**Pn**	**09 14 05.5**	**-0.3**
ALN	**Alexandroupoli**	**1.76**	**100**	P	**Pn**	**09 14 06.5**	**+0.1**
ALN	comp=E,95nm,0.6s			S	**Sb**	**09 14 29.8**	**-0.6**
TRAN	**Tran**	**1.81**	**333**	*i* P	**Pn**	**09 14 08.1**	**+1.0**
TRAN				*i* S	**Sb**	**09 14 31.8**	**+0.1**
XOR	**Xorichti**	**1.91**	**193**	P	**Pn**	**09 14 08.3**	**-0.1**
TYRN	**Tyrnavos**	**1.91**	**218**	P	**Pn**	**09 14 09.3**	**+0.9**
TYRN				S	**Sn**	**09 14 31.6**	**-0.6**
NEO	**Neokhori**	**1.96**	**192**	P	**Pn**	**09 14 08.5**	**-0.6**
NEO	**Neokhori**	**1.96**	**192**	P	**Pn**	**09 14 08.6**	**-0.6**
THL	**Klokotos Trika**	**2.13**	**219**	P	**Pn**	**09 14 11.5**	**+0.1**
THL	**Klokotos Trika**	**2.13**	**219**	P	**Pn**	**09 14 12.2**	**+0.8**
MPEP	**Malo Peshtene**	**2.13**	**360**	*i* P	**Pb**	**09 14 14.6**	**-0.1**
MPEP				*i* S	**Sg**	**09 14 45.4**	**+0.5**
BARS	**Barje**	**2.15**	**318**	*

SMCA eS 09 17 27.0
PAVE Pavencul 1.81 63 eP Pn 09 17 04.5 -2.2
PAVE eS **Sn 09 17 26.1 -2.9**
CARR Arriaga 1.85 358 eP **Pn 09 17 05.6 -1.5**
CARR i S **Sn 09 17 27.0 -2.8**
RTAL Retalhuleu 2.09 86 Pn 09 17 08.8 -1.6
RTAL Retalhuleu 2.09 86 eP **Pn 09 17 09.1 -1.3**
RTAL eS **Sn 09 17 33.9 -1.9**
NILT Santiago Nilte 2.29 341 eP **Pn 09 17 11.6 -1.6**
NILT i S **Sn 09 17 38.6 -2.0**
HUEH Huehuetenango 2.45 67 Pn 09 17 15.4 -0.2
HUEH Huehuetenango 2.45 67 eP **Pn 09 17 15.3 -0.3**
HUEH i S **Sb 09 17 49.6 -0.5**
HUEH Huehuetenango 2.45 67 eP 09 17 15.4
HUEH eS 09 17 51.3
TGIG 2.48 16 Pn 09 17 15.4 -0.4
TGIG **Sn 09 17 46.2 +0.8**
TGIG 2.48 16 eP **Pn 09 17 15.4 -0.4**
TGIG eS **Sn 09 17 42.6 -2.8**
TGIG 2.48 16 eP 09 17 15.6
TGIG eS 09 17 46.6
CCIG Comitan 2.51 41 Pn **Pn 09 17 16.6 +0.4**
CCIG Comitan 2.51 41 eP **Pn 09 17 16.4 +0.1**
CCIG eS **Sn 09 17 47.1 +0.9**
CCIG Comitan 2.51 41 eP 09 17 16.6
CCIG eS 09 17 47.2
HUIG Huatulco 2.58 303 Pn 09 17 15.1 -2.0
HUIG **Sn 09 17 42.3 -5.5**
HUIG Huatulco 2.58 303 eP **Pn 09 17 15.1 -2.0**
HUIG eS **Sn 09 17 42.3 -5.5**
HUIG Huatulco 2.58 303 eP 09 17 15.4
CMIG Matias Romero 2.87 340 Pn 09 17 19.9 -1.3
CMIG **Sn 09 17 51.4 -3.5**
CMIG Matias Romero 2.87 340 Pn **Pn 09 17 20.0 -1.1**
15nm,0.3s,baz=159,slow=10,SNR=202
CMIG Sn **Sn 09 17 52.8 -2.2**
69nm,0.3s,baz=111,slow=23,SNR=19
CMIG LR LR 09 18 14.4
comp=Z,149nm,18.9s,baz=290,slow=35
124nm,0.7s
CMIG Matias Romero 2.87 340 eP **Pn 09 17 19.9 -1.3**
CMIG i S **Sn 09 17 52.7 -2.2**
UXUV UXUV 2.93 354 eP **Pn 09 17 21.8 -0.1**
UXUV eS **Sn 09 17 54.3 -2.1**
APG El Apazote 3.33 79 Pn **Pn 09 17 27.1 -0.6**
1.1nm,0.3s,baz=195,slow=12,SNR=48
APG El Apazote 3.33 79 eP 09 17 27.3
APG eS 09 18 15.3
PEIG Puerto Escondi 3.56 297 Pn 09 17 29.2 -1.5
PEIG Sn 09 18 03.4 -8.8
PEIG Puerto Escondi 3.56 297 eP **Pn 09 17 29.2 -1.5**
PEIG eS Sn 09 18 03.4 -8.8
TUIG Tuzandepetl 3.67 351 e **Pb 09 17 39.3 -1.7**
TUIG e 09 18 23.2
NEUV Arroyo Zacate 3.80 331 eP **Pn 09 17 33.8 -0.2**
NEUV eS **Sn 09 18 13.9 -4.1**
OXIG Oaxaca 3.85 314 Pn 09 17 35.7 +0.9
OXIG **Sn 09 18 17.8 -1.7**
VHO Vista Hermosa 3.85 314 eP **Pn 09 17 35.7 +0.9**
VHO eS **Sn 09 18 17.8 -1.7**
PMUV Sontecomapan 4.31 344 eP **Pn 09 17 39.8 -1.3**
PMUV i S **Sn 09 18 29.6 -1.0**
YOIG Yosondua 4.33 305 Pn 09 17 42.1 +0.7
YOIG **Sn 09 18 31.2 -0.1**
YOIG Yosondua 4.33 305 eP **Pn 09 17 42.1 +0.7**
YOIG eS **Sn 09 18 31.2 -0.1**
MTO3 Montecristo 4.35 89 Pn 09 17 40.9 -0.7
ESQI Esquipulas 4.37 87 Pn 09 17 40.3 -1.5
PNIG Pinotepa 4.58 296 Pn 09 17 44.3 -0.4
PNIG Sn 09 18 30.2 -7.1
PNIG Pinotepa 4.58 296 eP **Pn 09 17 44.3 -0.4**
PNIG eS Sn 09 18 30.2 -7.1
PETF Flores 4.59 56 Pn **Pn 09 17 44.9 +0.1**
TXIG Tlaxiaco 4.73 308 Pn 09 17 48.5 +1.6
TXIG **Sn 09 18 40.2 -1.1**
TXIG Tlaxiaco 4.73 308 eP **Pn 09 17 48.5 +1.6**
TXIG eS **Sn 09 18 40.2 -1.1**
TOIG Toxpalan 4.81 321 Pn 09 17 50.2 +2.3
TOIG **Sn 09 18 45.2 +2.1**
TOIG Toxpalan 4.81 321 eP **Pn 09 17 50.2 +2.3**
TOIG eS **Sn 09 18 45.2 +2.1**
HLIG Huajuapan de L 5.12 313 Pn 09 17 53.7 +1.5
HLIG **Sn 09 18 45.3 -5.4**
HLIG Huajuapan de L 5.12 313 eP **Pn 09 17 53.7 +1.5**
HLIG eS **Sn 09 18 45.3 -5.4**
SCIG Sabancuy 5.22 29 eP **Pn 09 17 52.8 -0.6**
SCIG eS Sn 09 18 47.2 -5.8
SCIG Sabancuy 5.22 29 eP 09 17 53.2
SCIG eS 09 18 52.7
TPIG Tehuac#an 5.24 320 Pn 09 17 56.4 +2.5
TPIG **Sn 09 18 53.9 +0.2**
TPIG Tehuac#an 5.24 320 eP **Pn 09 17 56.4 +2.5**
TPIG eS **Sn 09 18 53.9 +0.2**
FTIG Fresnillo de T 5.41 311 Pn 09 17 57.9 +1.8
FTIG Sn 09 18 48.3 -9.4
FTIG Fresnillo de T 5.41 311 eP **Pn 09 17 57.9 +1.8**
FTIG eS Sn 09 18 48.3 -9.4
TLIG Tlapa 5.53 305 Pn **Pn 09 17 58.8 +1.0**
TLIG Tlapa 5.53 305 eP **Pn 09 17 59.7 +1.9**
TLIG eS **Sn 09 18 57.6 -3.1**
CRIG Cruz Grande 5.60 295 Pn 09 17 59.1 +0.4
CRIG Sn 09 18 55.0 -7.4
CRIG Cruz Grande 5.60 295 eP **Pn 09 17 59.1 +0.4**
CRIG eS Sn 09 18 55.0 -7.4
POHV Veracruz 5.70 325 eP Pn 09 17 58.6 -1.9
POHV eS **Sn 09 19 03.9 -1.6**
JAUV Jalcomulco 5.70 331 eP **Pn 09 17 58.4 -1.8**
JAUV eS **Sn 09 18 59.0 -6.0**
LVIG Laguna Verde 5.85 336 eP Pn 09 17 57.4 -4.7
LVIG eS Sn 09 19 00.3 -8.2
DAIG Los Arroyos 6.17 296 Pn 09 18 05.6 -0.9
DAIG Sn 09 19 07.9 -8.5
DAIG Los Arroyos 6.17 296 eP **Pn 09 18 05.6 -0.9**
DAIG eS Sn 09 19 07.9 -8.5
TGUH Tegucigalpa,Un 6.38 92 Pn **Pn 09 18 08.6 -1.0**
PPM Popocatepetl 6.53 316 eP **Pn 09 18 15.5 +3.7**
PPM eS **Sn 09 19 24.4 -1.5**
PPIG Popocatepetl 6.53 316 Pn 09 18 15.5 +3.7
PPIG **Sn 09 19 24.4 -1.5**
YAIG Yautepec 6.70 312 Pn 09 18 16.8 +3.0
YAIG **Sn 09 19 23.1 -6.5**
YAIG Yautepec 6.70 312 eP **Pn 09 18 16.8 +3.0**
YAIG eS **Sn 09 19 23.1 -6.5**
CAIG El Cayaco 6.72 294 Pn 09 18 14.6 +0.5
CAIG El Cayaco 6.72 294 eP **Pn 09 18 14.6 +0.5**
CAIG e 09 19 16.5
PLIG Platanillo 6.73 307 Pn 09 18 16.7 +2.4
PLIG **Sn 09 19 24.6 -5.8**
PLIG Platanillo 6.73 307 eP **Pn 09 18 16.7 +2.4**
PLIG eS **Sn 09 19 24.6 -5.8**
CXUV Coxquihui 6.78 329 eP **Pn 09 18 15.9 +1.1**
CXUV eS **Sn 09 19 28.1 -3.2**
CRIN San Cristobal 6.82 103 Pn **Pn 09 18 16.5 +1.0**
HERN Volcan Telica 7.05 104 Pn **Pn 09 18 19.8 +1.2**
UNM Universidad Na 7.08 315 Pn **Pn 09 18 19.5 +0.2**
CNGN Cerro Negro 7.21 104 Pn **Pn 09 18 21.8 +1.1**
ARIG Puente Sto Nin 7.34 303 Pn 09 18 25.3 +2.7
ARIG **Sn 09 19 41.9 -3.4**
ARIG Puente Sto Nin 7.34 303 eP **Pn 09 18 25.3 +2.7**
ARIG eS **Sn 09 19 41.9 -3.4**
TEIG Tepich 7.88 42 Pn Pn 09 18 27.6 -2.3
TEIG Tepich 7.88 42 Pn **Pn 09 18 28.6 -1.3**
0.1nm,0.3s,baz=48,slow=24,SNR=25
TEIG Sn Sn 09 19 49.5 -8.9
baz=65,slow=24
ZIIG Zihuatanejo 7.99 295 Pn 09 18 33.5 +1.9
ZIIG **Sn 09 20 00.4 -0.9**
ZIIG Zihuatanejo 7.99 295 eP **Pn 09 18 33.5 +1.9**
ZIIG eS **Sn 09 20 00.4 -0.9**
BOAB BOACO BROADBAN 8.19 103 Pn **Pn 09 18 33.5 -0.7**
CTUV Llano Grande 8.25 329 e **Pn 09 18 37.3 +2.2**
CTUV e 09 19 54.1
MOIG Morelia 8.77 308 Pn 09 18 43.8 +1.3
JTS Las Juntas de 9.60 114 Pn **Pn 09 18 55.8 +2.2**
JTS Las Juntas de 9.60 114 Pn **Pn 09 18 52.3 -1.3**
0.4nm,0.3s,baz=149,slow=21,SNR=1.1
JTS Sn **Sn 09 20 36.5 -4.3**
0.3nm,0.3s,baz=261,slow=15,SNR=1.1
SOCE Pocosol 9.86 113 Pn **Pn 09 18 57.9 +0.7**
HDC Heredia 10.46 114 Pn **Pn 09 19 06.8 +1.2**

EZ5V 10.62 300 Pn 09 19 12.1 +4.3
EZ5V 10.62 300 eP Pn 09 19 12.1 +4.3
MNGA Volcan de Coli 10.63 300 eP Pn 09 19 12.2 +4.3
INCO Volcan de Coli 10.64 300 eP **Pn 09 19 12.8 +4.5**
SOMAC Volcano de Col 10.66 300 eP **Pn 09 19 12.4 +3.9**
CDAR Ciudad de Arme 10.74 296 eP **Pn 09 19 12.5 +3.3**
CEGR Campo Tres 10.79 299 eP **Pn 09 19 14.1 +4.0**
ZAIG Zacatecas 11.74 317 Pn **Pn 09 19 23.6 +0.4**
SOR Soroa 13.24 49 Pn **Pn 09 19 42.4 -1.0**
833A Chaparral WMA, 14.80 341 Pn **Pn 09 20 04.7 +0.1**
833A Chaparral WMA, 14.80 341 P **Pn 09 20 06.1 +1.4**
baz=158
HNDO Hondo 15.88 342 Pn **Pn 09 20 19.4 +0.5**
DRIO Del Rio 16.22 338 Pn **Pn 09 20 22.3 -0.9**
HNVL Huntsville, TX 16.36 355 Pn **Pn 09 20 25.4 +0.4**
HPIG 16.66 320 P **P 09 20 30.8 -0.5**
435B Jarrell 16.68 349 P **Pn 09 20 29.9 +0.9**
435B Jarrell 16.68 349 P **Pn 09 20 30.7 +1.7**
baz=167
JCT Junction City 16.93 342 Pn 09 20 32.6 +0.4
JCT IAmb IAmb 09 20 45.2
comp=Z,30nm,1.2s
SAND Sanderson 17.27 335 Pn 09 20 37.3 +0.7
NATX Nacogdoches 17.31 358 P **Pn 09 20 36.8 -0.2**
TXAR Lajitas Array 17.43 330 P **P 09 20 39.8 +0.2**
TXAR Lajitas Array 17.43 330 P **P 09 20 40.1 +0.5**
comp=Z,0.1nm,0.3s,baz=151,slow=13,SNR=25
comp=Z,2.5nm,0.9s
TX31 Lajitas Ar. Si 17.43 330 P **Pn 09 20 39.7 +1.1**
BRDY Brady 17.47 345 P **Pn 09 20 39.9 +0.9**
OZNA Ozona 17.77 339 Pn 09 20 43.6 +0.9
OZNA IAmb IAmb 09 20 55.4
comp=Z,39nm,1.2s
FW13 Cleburne 18.18 350 P **Pn 09 20 48.3 +0.6**
LPIG La Paz 18.28 304 P **Pn 09 20 53.1 +4.1**
comp=Z,0.7nm,0.3s,baz=153,slow=2.7,SNR=2.7
comp=Z,14nm,0.9s
ALPN Alpine 18.29 332 P 09 20 49.8 +0.6
TREL Terrell 18.38 354 P **P 09 20 50.5 +0.5**
FW07 Weatherford 18.59 350 P **P 09 20 52.1 -0.2**
FW07 IAmb IAmb 09 21 14.4
comp=Z,36nm,1.4s
SGCY Sterling City 18.68 340 P 09 20 53.8 +0.5
SGCY IAmb IAmb 09 21 02.4
comp=Z,23nm,0.8s
MNHN Monahans 18.75 336 P **Pn 09 20 55.2 +0.5**
PLPT Palo Pinto 18.79 348 P **P 09 20 55.3 +0.7**
Z41A Richland Creek 18.81 3 P **P 09 20 55.1 +0.3**
Z41A IAmb IAmb 09 21 16.3
comp=Z,25nm,1.0s
WLAR White Oak Lake 19.23 2 IAmb IAmb 09 21 06.6
comp=Z,28nm,0.9s
ODSA Odessa 19.36 337 IAmb IAmb 09 21 10.4
comp=Z,41nm,1.1s
SN05 Snyder 5 19.49 342 IAmb IAmb 09 21 11.2
comp=Z,17nm,0.8s
LRAL Lakeview Retre 19.59 17 P **Pn 09 21 05.1 +0.5**
SN07 Snyder 07 19.69 342 P **P 09 21 05.3 +0.8**
APMT Aspermont 19.70 344 IAmb IAmb 09 21 13.2
comp=Z,18nm,0.8s
POST Post 19.86 341 P **P 09 21 06.1 -0.2**
POST IAmb IAmb 09 21 16.8
comp=Z,16nm,0.8s
CLNB Carlsbad 20.02 334 P **P 09 21 09.2 +1.1**
MIAR Mount Ida 20.07 1 P **P 09 21 08.8 +0.2**
HTMS Hat Mesa 20.10 335 P **P 09 21 09.9 +0.9**
DKNS Dickens 20.24 343 P **P 09 21 11.0 +0.5**
DKNS IAmb IAmb 09 21 27.1
comp=Z,14nm,0.8s
X34A Smith Ranch, M 20.45 351 IAmb IAmb 09 21 27.5
comp=Z,33nm,1.2s
OTAV Otavalo 20.73 131 P **P 09 21 17.6 +1.3**
W35A Tecumseh 20.86 353 P 09 21 17.4 +0.4
W35A IAmb IAmb 09 21 21.6
comp=Z,16nm,0.7s
WHAR Wooly Hollow 20.86 4 P 09 21 17.2 0.0
WHAR IAmb IAmb 09 21 35.7
comp=Z,20nm,1.3s
OKCSW OKLAHOMA CITY 21.18 352 P **P 09 21 20.1 -0.4**
SMWD Samnorwood 21.42 346 IAmb IAmb 09 21 33.6
comp=Z,20nm,0.7s
ROSC El Rosal 21.44 114 P **P 09 21 25.9 +1.9**
ROSC El Rosal 21.44 114 P **P 09 21 27.0 +3.0**
comp=Z,12nm,0.7s,baz=180,slow=19,SNR=6.9
FCAR Ozark Folk Cen 21.47 4 IAmb IAmb 09 21 26.1
comp=Z,10nm,0.8s
AMTX Amarillo 21.60 342 P **P 09 21 24.9 -0.2**
AMTX IAmb IAmb 09 21 32.3
comp=Z,29nm,0.9s
OK031 S. Brethren Rd 21.64 353 IAmb IAmb 09 21 36.5
comp=Z,11nm,0.9s
OK052 Battle Ridge R 21.68 354 IAmb IAmb 09 21 36.8
comp=Z,12nm,0.8s
HHAR Hobbs 21.81 360 IAmb IAmb 09 21 28.7
comp=Z,14nm,0.6s
QUOK Quay 21.85 354 IAmb IAmb 09 21 30.0
comp=Z,15nm,0.8s
FLOC Florencia 22.03 124 P **P 09 21 31.7 +1.9**
FLOC IAmb IAmb 09 21 47.7
comp=Z,26nm,1.1s
319A Douglas 22.05 323 IAmb IAmb 09 21 46.0
comp=Z,14nm,1.0s
121A Cookes Peak, D 22.09 327 P **P 09 21 33.0 +2.4**
baz=141,SNR=19
RUSC La Rusia 22.10 110 P **P 09 21 31.6 +0.5**
RUSC IAmb IAmb 09 21 44.8
comp=Z,29nm,1.1s
OK051 E0350 and S346 22.19 354 P **P 09 21 31.3 -0.1**
OK051 IAmb IAmb 09 21 33.5
comp=Z,14nm,0.9s
WVT Waverly 22.32 13 P **P 09 21 30.2 -2.5**
PBMO Poplar Bluff 22.51 7 P **P 09 21 33.8 -1.0**
PBMO IAmb IAmb 09 21 46.3
comp=Z,28nm,1.4s
MGMO Mountain Grove 22.72 3 IAmb IAmb 09 21 48.8
comp=Z,26nm,1.2s
DUN6 Lazy B Ranch 22.81 325 IAmb IAmb 09 21 48.3
comp=Z,24nm,1.0s
Y22D IRIS PASSCAL I 22.90 331 P **P 09 21 40.7 +1.6**
baz=145
TKL Tuckaleechee C 23.04 21 LR LR 09 31 51.4
comp=Z,90nm,19.1s,baz=344,slow=40
RTBA Rita Blanca 23.36 342 IAmb IAmb 09 21 48.6
comp=Z,20nm,1.1s
SDV Santo Domingo 23.38 101 P **P 09 21 44.6 +0.4**
SDV IAmb IAmb 09 21 46.3
comp=Z,8.2nm,0.8s
SDV Santo Domingo 23.38 101 LR LR 09 30 30.9
comp=Z,86nm,18.6s,baz=250,slow=36
ANMO Albuquerque 23.42 333 P **P 09 21 45.2 +0.8**
TUC Tucson 23.61 322 P **P 09 21 48.2 +2.1**
TUC IAmb IAmb 09 21 49.8
comp=Z,12nm,0.9s
CCM Cathedral Cave 23.69 5 P **P 09 21 45.4 -1.4**
CCM IAmb IAmb 09 21 58.6
comp=Z,15nm,1.2s
T25A Trinidad 24.54 339 IAmb IAmb 09 21 58.6
comp=Z,13nm,0.9s
T25A Trinidad 24.54 339 P **P 09 21 56.9 +1.9**
baz=154
WCI Wyandotte Cave 24.68 14 P **P 09 21 54.8 -1.1**
WCI IAmb IAmb 09 21 56.1
comp=Z,12nm,0.8s
KSU1 Kansas State U 24.74 355 IAmb IAmb 09 22 05.5
comp=Z,10nm,0.9s
X18A Snowflake 24.77 327 IAmb IAmb 09 22 01.5
comp=Z,8.9nm,0.9s
OLIL Olney 24.78 11 IAmb IAmb 09 21 56.9
comp=Z,15nm,0.9s
PIX Pinacate 24.79 317 P **P 09 21 59.6 +2.5**
PIX IAmb IAmb 09 22 01.0
comp=Z,6.7nm,0.9s
113A Mohawk Valley, 25.77 319 P **P 09 22 06.6 +0.8**
S22A 4UR Ranch, Cre 25.97 336 P **P 09 22 09.7 +1.7**
baz=150
MVCO Mesa Verde 26.21 333 IAmb IAmb 09 22 22.5
comp=Z,7.1nm,0.9s
WUAZ Wupatki 26.28 326 IAmb IAmb 09 22 17.2
comp=Z,7.9nm,0.9s
Q24A Divide 26.43 340 P **P 09 22 13.8 +1.5**
baz=154
PV13 Radium Mtn., P 27.14 333 IAmb IAmb 09 22 21.4
comp=Z,8.0nm,1.0s
PV11 David Mesa, Pa 27.28 334 IAmb IAmb 09 22 22.6
comp=Z,7.3nm,1.0s

PV07 Paradox Valley 27.30 334 IAmb IAmb 09 22 23.5
comp=Z,7.5nm,0.9s
ISCO Idaho Springs 27.34 340 IAmb IAmb 09 22 26.1
comp=Z,6.9nm,1.0s
PV10 Paradox Valley 27.42 333 IAmb IAmb 09 22 44.3
comp=Z,12nm,1.2s
PV23 Carpenter Ridg 27.47 334 IAmb IAmb 09 22 25.1
comp=Z,13nm,0.9s
PFO Pinyon Flats O 28.05 317 LR LR 09 34 01.8
comp=Z,139nm,19.6s,baz=62,slow=37
L44A Lake County Fo 28.17 9 P **P 09 22 28.0 +0.7**
baz=192
V12A Nelson 28.40 322 IAmb IAmb 09 22 33.0
comp=Z,7.7nm,0.9s
ECSD EROS Data Cent 29.34 356 IAmb IAmb 09 22 37.4
comp=Z,6.7nm,0.7s
PSUT Pine Spring 29.85 327 IAmb IAmb 09 22 46.1
comp=Z,4.6nm,1.0s
SPR3 Spring Creek 3 30.45 327 IAmb IAmb 09 22 50.7
comp=Z,4.4nm,0.9s
PDAR Pinedale Array 31.35 337 P **P 09 22 56.5 +0.7**
comp=Z,2.0nm,0.9s,baz=138,slow=8.5,SNR=13
comp=Z,2.0nm,0.9s
HVU Hansel Valley 31.85 333 IAmb IAmb 09 23 03.0
comp=Z,8.4nm,1.2s
NV11 Mina Array Sit 32.17 323 IAmb IAmb 09 23 05.5
comp=Z,8.6nm,1.0s
ELK Elko 32.21 329 IAmb IAmb 09 23 14.6
comp=Z,4.5nm,1.0s
NVAR Mina Array Bea 32.26 322 P **P 09 23 06.5 +2.6**
comp=Z,4.6nm,0.7s,baz=136,slow=9.0,SNR=20
NVAR LR LR 09 37 55.5
comp=Z,220nm,19.4s,baz=70,slow=40
comp=Z,4.6nm,0.7s
TPAW Teton Pass 32.50 337 IAmb IAmb 09 23 18.2
comp=Z,6.8nm,1.1s
L61B Northampton 33.40 29 P **P 09 23 14.4 +0.8**
baz=219
YNE Yellowstone No 33.46 339 IAmb IAmb 09 23 19.1
comp=Z,7.3nm,0.9s
YMR Madison River 33.51 338 IAmb IAmb 09 23 26.9
comp=Z,6.1nm,1.1s
YHL Hebgen Lake 33.75 338 IAmb IAmb 09 23 20.8
comp=Z,5.5nm,1.1s
BOZ Bozeman (W) 34.55 338 IAmb IAmb 09 23 29.4
comp=Z,5.3nm,1.1s
DLMT Dillon 34.71 337 IAmb IAmb 09 23 28.1
comp=Z,8.4nm,0.9s
WVOR Wild Horse Val 35.19 327 IAmb IAmb 09 23 32.0
comp=Z,5.2nm,0.7s
J08A Circle Bar Ran 35.77 329 IAmb IAmb 09 23 36.8
comp=Z,6.7nm,0.8s
ULM Lac du Bonnet 35.81 358 P **P 09 23 31.6 -2.6**
comp=Z,2.7nm,0.8s,baz=177,slow=10.0,SNR=7.0
comp=Z,2.7nm,0.8s
PLID Pearl Lake 35.90 333 IAmb IAmb 09 23 37.4
comp=Z,6.2nm,0.8s
EGMT Eagleton 36.04 342 IAmb IAmb 09 23 38.3
comp=Z,7.0nm,0.9s
MSO Missoula 36.45 337 IAmb IAmb 09 23 41.8
comp=Z,4.9nm,0.9s
LPAZ La Paz 39.68 139 P **P 09 24 08.1 +0.1**
comp=Z,1.7nm,0.8s,baz=318,slow=6.8,SNR=6.5
comp=Z,1.7nm,0.8s
FCC Fort Churchill 44.30 360 P **P 09 24 43.5 -1.1**
FCC IAmb IAmb 09 24 44.1
comp=Z,3.7nm,0.8s
PTLB Pontes e Lacer 45.35 129 P **P 09 24 52.8 -0.6**
PTLB IAmb IAmb 09 24 53.8
comp=Z,4.7nm,0.9s
AC02 Maricunga 47.49 150 P **P 09 25 12.8 +2.1**
TOAD Toad River Com 50.14 339 P **P 09 25 31.4 +1.3**
baz=139
V35K Ketchikan 50.18 333 P **P 09 25 31.9 +1.4**
baz=129
YKA Yellowknife Ar 50.26 348 P **P 09 25 30.9 0.0**
comp=Z,6.0nm,0.7s,baz=158,slow=7.5,SNR=114
YKA PcP **PcP 09 26 49.8 +0.1**
comp=Z,0.6nm,0.8s,baz=163,slow=3.8,SNR=5.2
comp=Z,6.0nm,0.7s
T35M Bob Quinn 50.68 335 P **P 09 25 35.3 +1.0**
baz=132
KOTAN Kotaneelee Air 50.73 341 P **P 09 25 36.0 +1.4**
baz=141
CRAG Craig 50.94 332 P **P 09 25 37.8 +1.7**
baz=128
U33K Whale Pass 51.34 333 P **P 09 25 40.5 +1.3**
baz=128
DLBC Dease Lake 51.58 337 P **P 09 25 43.8 +2.7**
DLBC IAmb IAmb 09 25 46.9
comp=Z,6.0nm,1.1s
DLBC Dease Lake 51.58 337 P **P 09 25 43.2 +2.2**
baz=133
S34M Telegraph Cree 51.66 336 P **P 09 25 43.8 +2.3**
baz=131
WTLY Watson Lake, Y 52.30 339 IAmb IAmb 09 25 48.7
comp=Z,5.7nm,0.9s
WTLY Watson Lake, Y 52.30 339 P **P 09 25 48.2 +1.8**
baz=135
R33M Jennings River 52.59 337 P **P 09 25 50.5 +1.8**
baz=132
MT08 Bocatoma Ro 52.72 155 P **P 09 25 51.8 +1.8**
Q32M Nakina River 52.80 336 P **P 09 25 52.6 +2.3**
baz=131
S32K Killisnoo 52.80 334 P **P 09 25 51.3 +1.3**
baz=127
SIT Sitka 52.88 333 P **P 09 25 51.9 +1.3**
baz=126
WRGLY Wrigley 53.01 344 P **P 09 25 52.2 +0.7**
baz=143
R32K Eaglecrest 53.27 335 P **P 09 25 54.9 +1.3**
baz=128
P32M Atlin 53.78 336 P **P 09 25 58.5 +1.2**
baz=129
S31K Pelican 53.81 334 P **P 09 25 59.2 +1.7**
baz=126
P33M Teslin, Yukon 53.84 337 P **P 09 25 59.2 +1.4**
baz=131
CPUP Villa Florida 53.84 139 P **P 09 25 56.9 -1.2**
comp=Z,1.3nm,0.7s,baz=6.0,slow=15,SNR=3.3
comp=Z,1.3nm,0.7s
BDFB Brasilia 54.24 122 P **P 09 26 01.6 +0.2**
BDFB Brasilia 54.24 122 P **P 09 26 01.4 0.0**
comp=Z,10nm,0.8s,baz=302,slow=8.4,SNR=16
comp=Z,10nm,0.8s
SKAG Skagway 54.34 335 P **P 09 26 02.4 +1.1**
baz=128
N32M Quiet Lake 54.55 338 P **P 09 26 04.1 +1.2**
baz=131
FARO Faro, Yukon 55.36 339 P **P 09 26 09.9 +1.2**
FARO IAmb IAmb 09 26 10.8
comp=Z,2.6nm,0.7s
FARO Faro, Yukon 55.36 339 P **P 09 26 09.6 +0.9**
baz=131
P30M Million Dollar 55.40 335 P **P 09 26 09.0 0.0**
baz=126
O30N Mendenhall 55.44 336 P **P 09 26 10.5 +1.1**
baz=128
M31M Drury Creek, Y 55.72 338 P **P 09 26 12.4 +1.1**
baz=130
N31M Braeburn, Yuko 55.77 337 IAmb IAmb 09 26 21.9
comp=Z,8.6nm,1.1s
N31M Braeburn, Yuko 55.77 337 P **P 09 26 12.9 +1.2**
baz=128
HYT Haines Junctio 56.03 336 P **P 09 26 14.9 +1.2**
baz=126
O29M Mount Kennedy 56.16 335 P **P 09 26 15.2 +0.7**
baz=125
N30M Aishikik Lake 56.25 337 P **P 09 26 16.1 +1.0**
baz=127
YUK6 Outpost Mounta 56.44 336 P **P 09 26 17.5 +0.8**
baz=125
YUK4 Talbot Arm 56.79 336 P **P 09 26 19.5 +0.4**
baz=125
M30M Minto, Yukon 56.82 338 P **P 09 26 20.5 +1.3**
baz=128
O28M Mount Upton 57.08 335 P **P 09 26 22.7 +1.4**
baz=123
MAYO Mayo, Yukon 57.14 339 P **P 09 26 22.8 +1.5**
baz=129
YUK8 Steele Glacier 57.20 336 P **P 09 26 23.4 +1.3**
baz=124
M29M Somme Creek 57.36 337 P **P 09 26 24.8 +1.7**
baz=126,SNR=10
MESA MESA 57.50 334 P **P 09 26 25.2 +1.0**
baz=121
L29M L29M 57.63 338 P **P 09 26 26.2 +1.3**
baz=126

K29M	Barlow Dome baz=128	57.86 339	P	P	09 26 27.1	+0.5
J30M	Hart River baz=129	57.91 340	P	P	09 26 27.8	+0.8
H31M	Peel River baz=132	58.09 342	P	P	09 26 28.4	+0.4
C36M	Paulatuk baz=145	58.14 348	P	P	09 26 28.6	+0.4
I30M	Mount Dempster baz=130	58.34 340	P	P	09 26 30.4	+0.5
KAIM	Kayak Island baz=118	58.45 333	P	P	09 26 31.4	+0.8
J29N	Klondike Camp baz=127	58.48 339	P	P	09 26 31.9	+1.1
M27K	Edge Creek, AK baz=122	58.62 336	P	P	09 26 33.4	+1.4
DAWY	Dawson baz=126	58.66 338	P	P	09 26 32.2	+0.1
G31M	Satah River baz=132	58.82 343	P	P	09 26 33.9	+0.9
L27K	Beaver Creek, baz=123	58.99 337	P	P	09 26 35.2	+0.8
MLOA	Mauna Loa Obse	59.00 284	P	P	09 26 34.9	-0.8
F31M	Tsiigehtchic baz=133	59.03 343	P	P	09 26 34.5	+0.1
BMRM	Bremner River baz=119	59.03 334	P	P	09 26 35.5	+0.8
I29M	Ogilvie Camp, comp=Z,3.5nm,1.0s	59.06 340	IAmb	IAmb	09 26 37.9	
I29M	Ogilvie Camp, baz=128	59.06 340	P	P	09 26 35.5	+0.7
Q23K	Middleton Isla baz=116	59.09 332	P	P	09 26 35.9	+1.0
M26K	Nabesna, AK baz=121	59.09 336	P	P	09 26 36.7	+1.6
EYAK	Cordova Ski Ar baz=117	59.33 333	P	P	09 26 38.1	+1.4
N25K	Chitina, Valde	59.34 335	P	P	09 26 39.0	+2.2
N25K	Chitina, Valde baz=119	59.34 335	P	P	09 26 38.1	+1.3
G30M	tAoh Zraii Nji baz=130	59.43 342	P	P	09 26 37.5	+0.1
L26K	Log Cabin Wild baz=121	59.55 336	P	P	09 26 39.1	+0.9
INK	Inuvik baz=134,SNR=5.1	59.57 344	P	P	09 26 38.6	+0.4
H29M	Whitestone baz=128	59.61 341	P	P	09 26 39.3	+0.7
I28M	Miner Creek baz=126	59.66 340	P	P	09 26 40.9	+1.9
F30M	Barrier River baz=131	59.72 343	P	P	09 26 40.4	+1.1
P23K	Montague Islan baz=115	59.82 332	P	P	09 26 41.2	+1.2
KLU	Klutina baz=118	59.84 334	P	P	09 26 41.8	+1.5
G29M	Pine Creek baz=128	59.94 341	P	P	09 26 41.3	+0.5
HARP	HAARP baz=119	59.96 335	P	P	09 26 42.2	+1.2
M24K	Tolsona, Glenn baz=118	60.24 335	P	P	09 26 43.8	+0.8
SCRK	Sand Creek comp=Z,4.9nm,1.0s	60.29 337	IAmb	IAmb	09 26 47.4	
SCRK	Sand Creek baz=121,SNR=5.1	60.29 337	P	P	09 26 44.3	+0.8
RES	Resolute Bay comp=Z,4.0nm,0.8s	60.30 360	IAmb	IAmb	09 26 43.3	
I27K	Kandik River baz=124	60.32 339	P	P	09 26 44.4	+0.9
PAX	Paxson baz=119,SNR=5.5	60.36 336	P	P	09 26 44.5	+0.7
J26L	Joseph Creek baz=122,SNR=7.4	60.41 338	P	P	09 26 45.1	+0.9
RIDG	Independent Ri	60.50 337	P	P	09 26 45.4	+0.6
RIDG	Independent Ri baz=120,SNR=5.8	60.50 337	P	P	09 26 46.0	+1.3
A36M	Sachs Harbour comp=Z,4.8nm,1.0s	60.53 349	IAmb	IAmb	09 26 45.9	
A36M	Sachs Harbour baz=144,SNR=6.1	60.53 349	P	P	09 26 44.9	+0.1
SCM	Sheep Creek Mo baz=116	60.60 334	P	P	09 26 46.2	+0.7
PWL	Port Wells baz=115	60.61 333	P	P	09 26 46.7	+1.2
H27K	Steamboat Moun baz=124	60.65 340	P	P	09 26 47.0	+1.2
I26K	Coal Creek Min baz=122	60.69 339	P	P	09 26 46.4	+0.4
M23K	Glacier View baz=116	60.75 334	P	P	09 26 47.1	+0.6
SEW	Seward baz=113	60.80 332	P	P	09 26 48.1	+1.4
E29M	Blow River baz=129	60.84 343	P	P	09 26 47.7	+0.8
K24K	Donnelly Dome baz=119,SNR=5.8	60.89 336	P	P	09 26 48.5	+1.1
KNK	Knik Glacier baz=115	60.90 333	P	P	09 26 48.7	+1.2
F28M	Old Crow baz=127,SNR=14	60.94 342	P	P	09 26 48.8	+1.2
SML	Sawmill baz=115	61.01 334	P	P	09 26 49.4	+1.2
G27K	Doyon Strip baz=125	61.02 340	P	P	09 26 49.2	+0.9
J25K	Salcha River, comp=Z,6.1nm,1.2s	61.14 337	IAmb	IAmb	09 26 50.8	
J25K	Salcha River, baz=120	61.14 337	P	P	09 26 50.2	+1.1
PMR	Palmer baz=114	61.27 333	P	P	09 26 51.0	+1.2
RC01	Rabbit Creek A baz=114	61.32 333	P	P	09 26 51.2	+0.9
E28M	Babbage River baz=128	61.44 343	P	P	09 26 51.4	+0.3
OHAK	Old Harbor baz=108	61.63 328	P	P	09 26 53.4	+1.0
HDA	Harding Lake baz=118,SNR=5.1	61.64 337	P	P	09 26 53.2	+0.8
Q20K	Shuyak Island baz=110	61.64 330	P	P	09 26 52.8	+0.4
PRP	Porcupine Dome	61.65 338	P	P	09 26 53.9	+1.2
PRP	Porcupine Dome baz=120,SNR=7.9	61.65 338	P	P	09 26 53.7	+1.0
D28M	Stokes Point baz=129	61.67 343	P	P	09 26 53.2	+0.8
ILAR	Eielson Array	61.78 337	P	P	09 26 54.1	+0.7
ILAR	Eielson Array comp=Z,3.5nm,0.8s,baz=146,slow=4.3,SNR=44	61.78 337	P	P	09 26 53.8	+0.4
G26K	Porcupine Rive comp=Z,3.5nm,0.8s baz=122	61.80 340	P	P	09 26 53.8	+0.4
CAPN	Captain Cook N baz=112	61.83 332	P	P	09 26 55.1	+1.4
SII	Sitkinak Islan baz=107	61.89 327	P	P	09 26 55.1	+0.8
CCB	Clear Creek Bu comp=Z,2.6nm,0.8s	62.08 337	IAmb	IAmb	09 26 56.7	
CUT	Chulitna baz=114	62.09 334	P	P	09 26 56.3	+0.9
MCK	McKinley	62.10 336	P	P	09 26 56.6	+1.0
MCK	McKinley baz=116	62.10 336	P	P	09 26 56.5	+1.0
H25L	Birch Creek baz=120	62.13 339	P	P	09 26 56.8	+1.1
POKR	Poker Plat Res baz=118	62.16 337	P	P	09 26 56.4	+0.5
COLA	College	62.20 337	P	P	09 26 57.1	+1.0
COLA	College baz=117	62.20 337	P	P	09 26 56.5	+0.4
D27M	Malcolm River baz=126	62.24 343	P	P	09 26 57.6	+1.2
O20K	Slope Mountain baz=110	62.26 331	P	P	09 26 57.8	+1.0
BMAR	Burnt Mountain	62.32 340	P	P	09 26 58.0	+1.0
F26K	Sheenjek River baz=122	62.32 341	P	P	09 26 57.9	+0.9
R18K	Karluk baz=107	62.34 328	P	P	09 26 57.9	+0.7
Q19K	Cape Douglas, baz=109	62.36 330	P	P	09 26 58.0	+0.6
P19K	Oil Pt baz=110	62.40 330	P	P	09 26 58.2	+0.5
SKT	Skwentna baz=112	62.47 333	P	P	09 26 59.1	+1.1
SPCR	Spurr Chakacha baz=111	62.47 332	P	P	09 26 58.7	+0.6
G25K	Bearman Lake baz=120	62.48 339	P	P	09 26 59.3	+1.3
TRF	Thorofare Moun baz=114	62.53 335	P	P	09 26 59.5	+0.9
NEA2	Nenana baz=116	62.54 336	P	P	09 26 58.7	+0.3
H24K	Noodor Dome baz=118	62.66 338	P	P	09 27 00.3	+1.0
F25K	Christian Rive comp=Z,4.7nm,0.9s	62.76 340	IAmb	IAmb	09 27 02.1	
F25K	Christian Rive baz=121,SNR=6.5	62.76 340	P	P	09 27 01.5	+1.6
I23K	Minto, Yukon-K baz=116,SNR=9.0	62.89 337	P	P	09 27 01.9	+1.2
G24K	Hadweenzic Riv baz=119	62.93 339	P	P	09 27 01.8	+0.8
E25K	Arctic Village baz=121	63.01 341	P	P	09 27 02.3	+0.8
BPAW	Bear Paw Mtn. baz=114	63.08 336	P	P	09 27 02.9	+0.8
O19K	Port Alsworth baz=109	63.10 331	P	P	09 27 02.8	+0.6
PPLA	Purkeypile baz=112	63.10 334	P	P	09 27 03.1	+0.7
M20K	Styx River baz=111	63.13 333	P	P	09 27 03.4	+0.9
C27K	Jago River baz=124	63.26 343	P	P	09 27 04.0	+0.9
CAST	Castle Rocks baz=112,SNR=5.2	63.26 335	P	P	09 27 03.7	+0.4
P18K	Big Mountain, baz=108	63.28 330	P	P	09 27 04.0	+0.5
N19K	Bonanza Creek baz=109	63.38 331	P	P	09 27 05.2	+1.0
O18K	Koktuh Hills baz=108	63.41 330	P	P	09 27 05.2	+0.9
F24K	Squaw Lake baz=118	63.47 340	P	P	09 27 05.7	+1.1
KULLO	Kullorsuaq	63.52 10	*i* P	P	09 27 03.2	-1.6
KULLO	comp=Z,11nm,0.8s		IAmb	IAmb	09 27 05.8	
CHUM	Lake Minchumin baz=112	63.53 335	P	P	09 27 06.0	+1.0
L20K	Farewell, AK baz=110,SNR=5.6	63.67 333	P	P	09 27 06.3	+0.2
M19K	Big River Lodg baz=110	63.70 333	P	P	09 27 06.8	+0.6
C26K	Camden Bay baz=123	63.77 343	P	P	09 27 07.4	+0.9
Q16K	King Salmon baz=106	63.78 329	P	P	09 27 07.6	+0.9
P17K	Kvichak River baz=106	63.82 329	P	P	09 27 08.0	+1.0
G23K	Bananza Creek comp=Z,4.4nm,0.9s	63.83 338	IAmb	IAmb	09 27 08.8	
G23K	Bananza Creek baz=116	63.83 338	P	P	09 27 07.9	+0.9
D25K	Kavik River baz=121	63.88 342	P	P	09 27 08.2	+0.8
I21K	Tanana baz=113	63.91 336	P	P	09 27 08.1	+0.6
E24K	Your Creek baz=118	63.93 340	P	P	09 27 08.5	+0.8
H22K	Ishtalitna Cre baz=114	63.97 337	P	P	09 27 08.6	+0.7
N18K	Kilae Creek baz=108	63.99 331	P	P	09 27 09.1	+1.0
L19K	White Mountain baz=109	64.00 333	P	P	09 27 08.9	+0.7
K20K	Telida baz=110	64.06 334	P	P	09 27 09.1	+0.5
CHGN	Chignik baz=103	64.09 326	P	P	09 27 10.0	+1.2
COLD	Coldfoot comp=Z,5.1nm,1.0s	64.12 339	IAmb	IAmb	09 27 11.2	
COLD	Coldfoot baz=116	64.12 339	P	P	09 27 10.1	+1.2
M18K	Stony River baz=108	64.21 332	P	P	09 27 09.9	+0.3
ICESG	Greenland Ices	64.28 19	*i* P	P	09 27 09.1	-1.2
ICESG	comp=Z,14nm,1.1s		IAmb	IAmb	09 27 12.9	
E23K	Chandalar baz=117	64.30 340	P	P	09 27 11.0	+0.8
O17K	Koliganek Bris baz=106	64.30 330	P	P	09 27 10.7	+0.6
J20K	Nowinta River baz=111	64.39 335	P	P	09 27 11.2	+0.5
H21K	Melozitna Rive baz=113	64.42 337	P	P	09 27 10.8	-0.1
CHNA	Chernabura Isl baz=101	64.42 324	P	P	09 27 12.1	+1.1
P16K	Nushagak River baz=105	64.54 329	P	P	09 27 12.1	+0.4
TOLK	Toolik Lake Re baz=117	64.56 340	P	P	09 27 12.9	+1.2
D24K	Happy Valley baz=118	64.56 341	P	P	09 27 11.9	+0.2
N17K	Nushagak Hills baz=106	64.56 331	P	P	09 27 12.4	+0.5
S14K	Fog Glacier baz=102	64.71 326	P	P	09 27 14.1	+1.1
O16K	Kokwok River B baz=105	64.74 330	P	P	09 27 13.8	+0.8
I20K	Naaghedeneel baz=111	64.75 336	P	P	09 27 13.6	+0.7
TTA	Tatalina baz=108	64.75 333	P	P	09 27 13.6	+0.4
C24K	Franklin Bluff baz=119	64.79 342	P	P	09 27 14.6	+1.4
L18K	Granite Mounta baz=108	64.83 333	P	P	09 27 14.3	+0.7
M17K	Holitna River baz=106	64.92 332	P	P	09 27 14.8	+0.6
J19K	Poorman baz=109,SNR=5.3	64.94 335	P	P	09 27 14.6	+0.4
G21K	Allakaket baz=112	65.02 338	P	P	09 27 15.3	+0.6
D23K	Nanushuk River baz=116	65.06 341	P	P	09 27 16.1	+1.1
E22K	Anaktuvuk Pass baz=115	65.07 340	P	P	09 27 16.2	+1.1
H20K	Anotleneega Mo baz=111	65.16 336	P	P	09 27 16.5	+0.8
J18K	Innoko River baz=108	65.22 334	P	P	09 27 16.7	+0.6
F21K	Alatna River baz=113	65.28 338	P	P	09 27 17.7	+1.2
C23K	Itkillik River baz=117,SNR=5.5	65.44 341	P	P	09 27 18.4	+1.0
L17K	Donlin baz=106	65.52 332	P	P	09 27 19.1	+1.0
D22K	Ayikyak River baz=114,SNR=6.6	65.68 340	P	P	09 27 20.3	+1.3
K17K	Iditarod baz=106	65.69 333	P	P	09 27 19.3	+0.2
GCSA	Galena City Sc baz=108	65.70 335	P	P	09 27 20.6	+1.4
H19K	Roundabout Mou baz=109	65.78 336	P	P	09 27 20.4	+0.7
EUNU	Eureka	65.78 1	P	P	09 27 20.1	+0.5
N15K	Kwethluk River baz=103	65.86 330	P	P	09 27 20.8	+0.5
L16K	Owhat River baz=105	65.95 332	P	P	09 27 21.9	+1.1
S12K	Black Hills baz=100	65.98 325	P	P	09 27 22.5	+1.3
F20K	Avaraart Lake baz=110	66.03 338	P	P	09 27 22.5	+1.3
J17K	VABM Dome baz=106	66.22 333	P	P	09 27 23.0	+0.5
O14K	Tigyukauivet M baz=102	66.23 329	P	P	09 27 24.0	+1.4
G19K	Purcell Mounta baz=109	66.23 337	P	P	09 27 22.9	+0.3
M15K	Kasigluk River baz=103	66.27 330	P	P	09 27 23.5	+0.6
SUMG	Summit	66.35 16	*i* P	P	09 27 22.6	-1.1
SUMG	comp=Z,7.6nm,1.0s		IAmb	IAmb	09 27 24.5	
H18K	Honhosa River baz=107	66.43 335	P	P	09 27 24.8	+0.9
C21K	Knifeblade Rid baz=112	66.48 340	P	P	09 27 25.0	+0.9
B22K	Teshekpuk Lake baz=114	66.52 341	P	P	09 27 25.2	+0.9
N14K	Kuskokwak Cree baz=102	66.58 329	P	P	09 27 25.8	+0.9
B21K	Ikpikpuk River baz=113	66.61 341	P	P	09 27 25.8	+0.9
E20K	Nigu River baz=110	66.63 339	P	P	09 27 26.4	+1.3
NEEM	North Greenlan	66.64 9	*i* P	P	09 27 23.9	-1.5
NEEM	comp=Z,11nm,1.0s		IAmb	IAmb	09 27 28.2	
F19K	Shaleruckik Mo baz=108	66.72 337	P	P	09 27 26.2	+0.6
E19K	Redstone River baz=109	66.72 338	P	P	09 27 26.3	+0.5
G18K	Tagagawik baz=107	66.76 336	P	P	09 27 26.3	+0.3
J16K	Anvik River baz=104	66.85 333	P	P	09 27 27.5	+0.9
L15K	Ungalak Mounta baz=103	66.87 331	P	P	09 27 28.1	+1.4
D20K	Etivluk River baz=110	66.94 339	P	P	09 27 28.2	+1.1
H17K	Granite Mounta baz=106	66.99 335	P	P	09 27 27.9	+0.5
K15K	Wolf Creek Mou baz=103	67.03 332	P	P	09 27 28.3	+0.6
I17K	Unalakleet baz=104	67.05 334	P	P	09 27 27.8	+0.1
F18K	Selawik baz=106	67.36 337	P	P	09 27 30.8	+1.1
L14K	Kuka Creek baz=102	67.36 331	P	P	09 27 30.6	+0.8
D19K	Kuna River baz=109	67.38 339	P	P	09 27 31.3	+1.4
M13K	Dall Lake baz=100	67.50 330	P	P	09 27 32.1	+1.5
B20K	Meade River baz=110	67.57 341	P	P	09 27 32.2	+1.1
A21K	Barrow baz=111	67.88 342	P	P	09 27 33.4	+0.5
H16K	Elim baz=103	67.88 334	P	P	09 27 33.8	+0.7
F17K	Baldwin Pennin baz=105	67.93 336	P	P	09 27 34.0	+0.7
E18K	Tukpahlearik C baz=106	67.95 337	P	P	09 27 34.6	+1.1
J14K	Nanvaranak Lak baz=101	68.04 332	P	P	09 27 35.4	+1.3
UNV	Unalaska Valle baz=95	68.28 322	P	P	09 27 36.0	+0.2
E17K	Hotham Inlet baz=105	68.32 337	P	P	09 27 36.6	+0.8
K13K	Kusilvak Mount baz=100	68.39 331	P	P	09 27 36.4	0.0
C18K	Utukok River baz=106	68.50 339	P	P	09 27 37.0	0.0
G15K	Niukluk baz=102	68.71 335	P	P	09 27 37.9	-0.3
M11K	Mekoryuk baz=98	68.89 330	P	P	09 27 39.6	+0.2
A19K	Wainwright baz=106	68.90 340	P	P	09 27 40.0	+0.7
B18K	Kokolik River baz=106	68.91 339	P	P	09 27 40.3	+0.9
D17K	Noatak River baz=104	68.94 338	P	P	09 27 39.4	-0.2
RDOG	Red Dog Mine baz=104	68.96 338	P	P	09 27 40.6	+0.7
F15K	North Star Dit baz=101	69.11 335	P	P	09 27 41.3	+0.5
C17K	DeLong Mountai baz=104	69.16 338	P	P	09 27 41.4	+0.4
ANM	Nome baz=100	69.19 334	P	P	09 27 41.9	+0.7
F14K	Arctic Creek baz=100	69.75 335	P	P	09 27 44.6	-0.1
C16K	Lisburne Hills baz=102	69.90 338	P	P	09 27 46.7	+1.1
P08K	Saint George I baz=94	70.24 325	P	P	09 27 48.8	+1.0
SPIA	Saint Paul Isl baz=93	70.66 326	P	P	09 27 52.6	+2.2
DAG	Danmarks Havn	72.71 13	*i* P	P	09 28 01.0	-1.4
DAG	comp=Z,7.5nm,0.8s		IAmb	IAmb	09 28 02.4	
NOR	Nord	73.99 9	*i* P	P	09 28 08.2	-1.7
NOR	comp=Z,2.6nm,0.8s		IAmb	IAmb	09 28 10.4	
EKA	Eskdalemuir Ar comp=Z,2.1nm,0.7s,baz=277,slow=5.9,SNR=6.8	78.70 36	P	P	09 28 35.5	-1.6
SPITS	Spitsbergen Ar comp=Z,2.1nm,0.7s comp=Z,5.1nm,0.9s,baz=289,slow=5.6,SNR=1.4	80.07 11	P	P	09 28 43.9	-0.3
ESDC	Sonseca Array comp=Z,5.1nm,0.9s,baz=274,slow=4.9,SNR=4.2 comp=Z,1.1nm,0.9s	80.88 51	P	P	09 28 48.0	-1.3
NB2	NORSAR Subarra comp=Z,1.6nm,0.7s,baz=290,slow=5.1	84.66 28	P	P	09 29 09.1	+0.6
NOA	NORSAR Array B comp=Z,3.6nm,0.8s,baz=291,slow=4.8,SNR=9.2 comp=Z,3.6nm,0.8s	84.66 28	P	P	09 29 09.0	+0.5
ARCES	ARCESS Array B comp=Z,2.8nm,0.8s,baz=286,slow=3.7,SNR=4.9 comp=Z,2.8nm,0.8s	86.33 18	P	P	09 29 14.7	-1.9
FINES	FINESS Array B comp=Z,4.4nm,1.1s,baz=323,slow=4.8,SNR=3.7 comp=Z,4.4nm,1.1s	90.91 25	P	P	09 29 38.0	-0.4
WRA	Warramunga Arr comp=Z,0.8nm,0.9s,baz=86,slow=1.5,SNR=6.4	133.75 256	PKP	PKiKP	09 35 54.0	+0.1
ASAR	Alice Springs comp=Z,0.1nm,0.3s,baz=101,slow=2.3,SNR=4.5	134.10 251	PKP	PKiKP	09 35 54.5	-0.1
CMAR	Chiang Mai Arr comp=Z,1.9nm,0.3s,baz=344,slow=3.7,SNR=22	145.01 338	PKP	PKPbc	09 36 12.8	+0.5

SJA ***27*** *09:24:20.5±0.7,20°.67S×69°.28W,h102km±3km,ML3.2, MW3.4*

GUC ***27*** *09:24:22.9±0.7,20°.70S×69°.23W,h89km±5km,ML3.2*

ISC 27 09:24:22.4±1.6,20°.68S±0°.04×69°.28W±0°.07,h94km±10km, n18,σ0°53/33,1C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.41**	**208**	P	**Pn**	**09 24 36.3**	**-0.7**
PB01	**IPOC Station P**	**0.41**	**208**	*i* P	**Pn**	**09 24 36.5**	**-0.5**
PB01				*i* S	**Sn**	**09 24 49.1**	**+1.3**
PB01				IAML		09 24 49.2	
PB01	**IPOC Station P**	**0.41**	**208** ⇓	*i* P	**Pn**	**09 24 36.5**	**-0.5**
PB01				*e* S	**Sn**	**09 24 47.5**	**-0.4**
PB01				IAML		09 24 48.5	
PB08	**IPOC Station P**	**0.55**	**13**	*i* P	**Pn**	**09 24 38.1**	**-0.2**
PB08				*i* S	**Sn**	**09 24 50.5**	**+0.4**
PB08				IAML		09 24 51.4	
PB08	**IPOC Station P**	**0.55**	**13** ⇑	*i* P	**Pn**	**09 24 38.1**	**-0.2**
PB08				*e* S	**Sn**	**09 24 50.1**	**0.0**
PB08				IAML		09 24 51.1	
TA01	**Diego Aracena**	**0.85**	**277**	*i* P	**Pn**	**09 24 40.5**	**-0.2**
TA01				*i* S	**Sn**	**09 24 54.9**	**+0.6**
TA01				IAML		09 24 58.3	
TA01	**Diego Aracena**	**0.85**	**277**	*e* P	**Pn**	**09 24 40.5**	**-0.2**
TA01				*e* S	**Sn**	**09 24 54.2**	**-0.1**
TA01				IAML		09 24 54.8	
TA02	**Huaiquique**	**0.89**	**297**	*i* P	**Pn**	**09 24 40.5**	**-0.7**
TA02				*i* S	**Sn**	**09 24 56.0**	**+0.8**
TA02				IAML		09 24 58.9	
PB11	**IPOC Station P**	**0.98**	**339**	*i* P	**Pn**	**09 24 42.2**	**0.0**
PB11				*i* S	**Sn**	**09 24 57.5**	**+0.4**
PB11				IAML		09 24 59.6	
PB11	**IPOC Station P**	**0.98**	**339**	*i* P	**Pn**	**09 24 42.4**	**+0.1**
PB11				*e* S	**Sn**	**09 24 57.8**	**+0.6**
PB09	**IPOC Station P**	**1.11**	**178**	P	**Pn**	**09 24 43.1**	**-0.7**
PB09	**IPOC Station P**	**1.11**	**178**	*i* P	**Pn**	**09 24 43.3**	**-0.5**
PB09				*i* S	**Sn**	**09 25 00.9**	**+1.0**
PB09				IAML		09 25 01.6	
PB03	**IPOC Station P**	**1.43**	**198**	*i* P	**Pn**	**09 24 47.6**	**-0.1**
PB03				*i* S	**Sn**	**09 25 07.2**	**+0.5**
PB03				IAML		09 25 10.0	
PB03	**IPOC Station P**	**1.43**	**198**	*e* P	**Pn**	**09 24 47.4**	**-0.2**
PB03				*e* S	**Sn**	**09 25 06.2**	**-0.5**
PB03				IAML		09 25 11.1	

comp=E,286nm,0.2s
PB06 IPOC Station P 2.04 188 *i* P **Pn 09 24 55.0 -0.4**
PB06 *i* S **Sn 09 25 20.7 +0.3**
PB06 IAML 09 25 24.2
comp=Z,126nm,0.3s
PB06 IPOC Station P 2.04 188 *e*P **Pn 09 24 55.7 +0.4**
PB12 IPOC Station P 2.28 334 *i* P **Pn 09 24 58.1 -0.4**
PB12 *i* S **Sn 09 25 25.6 -0.4**
PB12 IAML 09 25 29.9
comp=Z,81nm,0.4s
AF01 San Pedro de A 2.48 156 *i* P **Pn 09 25 01.3 -0.1**
AF01 *i* S **Sn 09 25 31.4 +0.2**
AF01 IAML 09 25 54.8
comp=Z,119nm,0.8s

KRSC 27 09:43:23.8±1.6, 49°.08N×157°.05E, h30km±28km, MI4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.71**	**340**	*e*P	Pn	09 43 51.9	+0.4
SKR				*e*S	Sn	09 44 13.9	+1.6
PAU	**Pauzhetka**	**2.39**	**356**	*e*P	Pb	09 44 03.9	-2.3
PAU				*e*S	Sn	09 44 31.9	+2.9
KDTR	**Khodutka, Kamc**	**2.81**	**13**	*e*P	Pn	09 44 09.5	+3.0
KDTR				*e*S	Sb	09 44 43.4	-3.7
RUS	**Russkaya**	**3.48**	**15**	*e*P	Pn	09 44 19.9	+4.2
RUS				*e*S	Sn	09 45 00.5	+4.6
GRL	**Gorelyy**	**3.53**	**10**	*e*P	Pn	09 44 20.6	+3.9
KRMR	**Karymshinskiy**	**3.81**	**10**	*e*P	Pn	09 44 24.7	+4.3
KRMR				*e*S	Sn	09 45 08.5	+4.4
PET	**Petropavlovsk**	**4.07**	**14**	*e*P	Pb	09 44 30.7	-4.0
DALK	**Dalny**	**4.10**	**15**	*e*P	Pn	09 44 28.4	+4.2
DALK				*e*S	Sn	09 45 16.4	+5.3
UGLR	**Uglovaya**	**4.28**	**14**	*e*P	Pn	09 44 31.7	+4.8
AVH	**Avacha**	**4.32**	**14**	*e*P	Pn	09 44 32.4	+5.0
KOK	**Koryaka**	**4.33**	**13**	*e*P	Pn	09 44 32.6	+5.1
KRX	**Arik**	**4.40**	**13**	*e*P	Pn	09 44 33.3	+4.8
SPN	**Mys Shipunski**	**4.43**	**24**	*e*P	Pn	09 44 34.1	+5.2
GNL	**Ganaly**	**4.65**	**7**	*e*P	Pn	09 44 37.9	+5.9
KBTR	**Krutoberegovo**	**7.95**	**24**	*e*P	Pn	09 45 20.4	+3.3

ISC 27 09:49:46.5±1.4, 49°.74N±0°.08×17°.69E±0°.06, h13km±12km, n6, σ0°.11/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.11**	**291**	*e*PG	**Pg**	**09 49 49.6**	**+0.1**
VRAC	**Vranov**	**0.84**	**239**	*e*PG	**Pg**	**09 50 02.7**	**+0.1**
JAVC	**Velka Javorina**	**0.88**	**181**	*e*PG	**Pg**	**09 50 03.6**	**+0.1**
KRUC	**Moravsky**	**1.09**	**232**	*e*PG	**Pb**	**09 50 07.1**	**0.0**
LANS	**Liptovska Anna**	**1.30**	**116**	*e*PG	**Pn**	**09 50 10.4**	**0.0**
LANS				*e*SG	**Sg**	**09 50 28.2**	**-0.1**
MODS	**Modra-Piesok**	**1.39**	**192**	*e*PG	**Pb**	**09 50 12.4**	**0.0**
MODS				*e*SG	**Sg**	**09 50 31.2**	**-0.1**

*IDC **27** 09:51:53.8±1.2, 14°.40N×93°.75W, h0km, mb4.0/6, mbtmp3.9/9, ML3.3/4, MS3.7/1, Error ellipse: s-maj=39.2km s-min=15.9km az=46.0*
*NEIC **27** 09:51:53.5±2.8, 14°.16N±0°.08×93°.75W±0°.05, h10km±2km, mb4.1/38, Md4.5/75(MEX), Error ellipse: s-maj=13.5km s-min=8.5km az=187.0*
*GCG **27** 09:51:53.9±1.4, 14°.21N×93°.91W, h22km±42km, MD4.5, Hypocentre not reviewed by the ISC*
*MEX **27** 09:51:58.0±0.9, 14°.46N×93°.85W, h16km±35km, MD4.5*
ISC 27 09:51:54.2±2.7, 14°.38N±0°.05×93°.82W±0°.03, h12km±19km, n122, σ2°.96/166, mb4.1/17, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.44**	**24**		**Pn**	**09 52 19.4**	**-0.8**
PCIG					**Sn**	**09 52 35.6**	**-3.4**
PCIG		**1.44**	**24**	*e*P	**Pn**	**09 52 19.4**	**-0.8**
PCIG				*e*S	**Sn**	**09 52 35.6**	**-3.4**
THIG		**1.60**	**71**		**Pb**	**09 52 22.1**	**-1.5**
THIG					**Sn**	**09 52 39.2**	**-3.6**
THIG		**1.60**	**71**	*e*P	**Pb**	**09 52 22.1**	**-1.5**
THIG				*e*S	**Sn**	**09 52 39.2**	**-3.6**
THIG		**1.60**	**71**	*e*P		09 52 22.3	
THIG				*e*S		09 52 45.3	
PATR	**El Naranjo**	**1.70**	**64**	*e*P	**Pn**	**09 52 23.4**	**-0.6**
PATR				*e*S	**Sn**	**09 52 43.1**	**-2.7**
SMCA	**Catarina**	**1.76**	**74**	*e*P		09 52 24.4	
SMCA				*e*S		09 52 46.8	
PAVE	**Pavencul**	**1.79**	**63**	*e*P	**Pb**	**09 52 24.9**	**-2.2**
PAVE				*e*S	**Sn**	**09 52 45.7**	**-2.2**
CARR	**Arriaga**	**1.86**	**357**	*e*P	**Pn**	**09 52 26.0**	**+0.1**
CARR				*e*S	**Sn**	**09 52 45.6**	**-3.8**
RTAL	**Retalhuleu**	**2.07**	**86**		**Pn**	**09 52 27.0**	**-1.8**
RTAL	**Retalhuleu**	**2.07**	**86**	*e*P	**Pb**	**09 52 29.1**	**-2.6**
RTAL				*e*S	**Sn**	**09 52 53.0**	**-1.5**
NILT	**Santiago Nilte**	**2.30**	**341**	*i* P	**Pn**	**09 52 30.5**	**-1.5**
NILT				*i* S	**Sn**	**09 52 56.1**	**-4.3**
SOKI	**Kika Raxquin**	**2.38**	**79**	*e*P		09 52 34.8	
SOKI				*e*S		09 53 06.5	
HUEH	**Huehuetenango**	**2.43**	**67**		**Pn**	**09 52 33.7**	**-0.3**
HUEH	**Huehuetenango**	**2.43**	**67**	*e*P	**Pb**	**09 52 34.7**	**-3.3**
HUEH				*e*S	**Sb**	**09 53 04.2**	**-3.9**
HUEH	**Huehuetenango**	**2.43**	**67**	*e*P		09 52 35.2	
HUEH				*e*S		09 53 07.2	
TGIG		**2.48**	**16**		**Pn**	**09 52 35.6**	**+1.1**
TGIG					**Sb**	**09 53 06.4**	**-2.9**
TGIG		**2.48**	**16**	*e*P	**Pn**	**09 52 35.6**	**+1.1**
TGIG				*e*S	**Sb**	**09 53 06.4**	**-2.9**
TGIG		**2.48**	**16**	*e*P		09 52 35.5	
TGIG				*e*S		09 53 06.6	
CCIG	**Comitan**	**2.50**	**40**	Pn	**Pb**	**09 52 37.0**	**-2.1**
CCIG	**Comitan**	**2.50**	**40**	*e*P	**Pb**	**09 52 36.8**	**-2.3**
CCIG				*e*S	**Sn**	**09 53 04.3**	**-1.0**
CCIG	**Comitan**	**2.50**	**40**	*e*P		09 52 37.0	
CCIG				*e*S		09 53 07.1	
HUIG	**Huatulco**	**2.60**	**302**		**Pn**	**09 52 35.1**	**-1.1**
HUIG					**Sn**	**09 53 01.1**	**-6.7**
HUIG	**Huatulco**	**2.60**	**302**	*e*P	**Pn**	**09 52 35.1**	**-1.1**
HUIG				*e*S	**Sn**	**09 53 01.1**	**-6.7**
HUIG	**Huatulco**	**2.60**	**302**	*e*P		09 52 35.1	
QUIS	**Sacapulas**	**2.79**	**71**	*e*P		09 52 41.3	
QUIS				*e*S		09 53 18.9	
CMIG	**Matias Romero**	**2.88**	**339**		**Pn**	**09 52 39.4**	**-0.6**
CMIG					**Sn**	**09 53 10.9**	**-3.7**
CMIG	**Matias Romero**	**2.88**	**339**	Pn	**Pn**	**09 52 39.9**	**-0.1**
	8.2nm,0.3s,baz=152,slow=11,SNR=98						
CMIG				Sn	**Sn**	**09 53 13.7**	**-1.0**
	23nm,0.3s,baz=200,slow=14,SNR=7.9						
	58nm,0.6s						
CMIG	**Matias Romero**	**2.88**	**339**	*e*P	**Pn**	**09 52 39.4**	**-0.6**
CMIG				*e*S	**Sn**	**09 53 10.9**	**-3.7**
UXUV	**UXUV**	**2.94**	**354**	*e*P	**Pn**	**09 52 42.4**	**+1.6**
UXUV				*e*S	**Sn**	**09 53 13.5**	**-2.5**
APG	**El Apazote**	**3.31**	**79**	Pn	**Pn**	**09 52 47.4**	**+1.3**
	0.5nm,0.3s,baz=180,slow=12,SNR=26						
APG				Sn	**Sb**	**09 53 30.0**	**-3.3**
	0.9nm,0.3s,baz=181,slow=11,SNR=4.6						
APG	**El Apazote**	**3.31**	**79**	*e*P		09 52 47.3	
PEIG	**Puerto Escondi**	**3.59**	**297**		**Pn**	**09 52 48.7**	**-1.1**
PEIG					**Sn**	**09 53 25.6**	**-6.5**
PEIG	**Puerto Escondi**	**3.59**	**297**	*e*P	**Pn**	**09 52 48.7**	**-1.1**
PEIG				*e*S	**Sn**	**09 53 25.6**	**-6.5**
NEUV	**Arroyo Zacate**	**3.82**	**330**	*e*P	**Pn**	**09 52 52.5**	**-0.4**
NEUV				*e*S	**Sn**	**09 53 35.4**	**-2.4**
OXIG	**Oaxaca**	**3.88**	**314**		**Pn**	**09 52 54.0**	**+0.1**
OXIG					**Sn**	**09 53 37.3**	**-2.2**
VHO	**Vista Hermosa**	**3.88**	**314**	*e*P	**Pn**	**09 52 54.0**	**+0.1**
VHO				*e*S	**Sn**	**09 53 37.3**	**-2.2**
MTO3	**Montecristo**	**4.32**	**89**	Pn	**Pn**	**09 52 58.0**	**-2.0**
PMUV	**Sontecomapan**	**4.33**	**343**	*e*P	**Pn**	**09 53 00.6**	**+0.6**
PMUV				*e*S	**Sn**	**09 53 45.7**	**-4.6**
YOIG	**Yosondua**	**4.35**	**305**		**Pn**	**09 53 02.1**	**+1.6**
YOIG					**Sn**	**09 53 45.1**	**-6.1**
YOIG	**Yosondua**	**4.35**	**305**	*e*P	**Pn**	**09 53 02.1**	**+1.6**
YOIG				*e*S	**Sn**	**09 53 45.1**	**-6.1**
PETF	**Flores**	**4.57**	**56**		**Pn**	**09 53 04.7**	**+1.5**
PNIG	**Pinotepa**	**4.61**	**296**		**Pn**	**09 53 04.1**	**+0.3**
PNIG					Sn	09 53 48.1	-9.2
PNIG	**Pinotepa**	**4.61**	**296**	*e*P	**Pn**	**09 53 04.1**	**+0.3**
PNIG				*e*S	Sn	09 53 48.1	-9.2
TXIG	**Tlaxiaco**	**4.75**	**307**		**Pn**	**09 53 08.0**	**+2.0**
TXIG					**Sn**	**09 53 54.1**	**-7.1**
TXIG	**Tlaxiaco**	**4.75**	**307**	*e*P	**Pn**	**09 53 08.0**	**+2.0**
TXIG				*e*S	**Sn**	**09 53 54.1**	**-7.1**
TOIG	**Toxpalan**	**4.83**	**320**		**Pn**	**09 53 10.3**	**+3.4**
TOIG					**Sn**	**09 53 59.1**	**-3.8**
TOIG	**Toxpalan**	**4.83**	**320**	*e*P	**Pn**	**09 53 10.3**	**+3.4**
TOIG				*e*S	**Sn**	**09 53 59.1**	**-3.8**
HLIG	**Huajuapan de L**	**5.14**	**312**		**Pn**	**09 53 13.6**	**+2.4**
HLIG					**Sn**	**09 54 10.4**	**-0.2**
HLIG	**Huajuapan de L**	**5.14**	**312**	*e*P	**Pn**	**09 53 13.6**	**+2.4**
HLIG				*e*S	**Sn**	**09 54 10.4**	**-0.2**
SCIG	**Sabancuy**	**5.22**	**29**	*e*P	**Pn**	**09 53 12.8**	**+0.8**
SCIG				*e*S	**Sn**	**09 54 09.3**	**-2.9**
TPIG	**Tehuac#an**	**5.26**	**320**		**Pn**	**09 53 11.7**	**-1.2**
TPIG					**Sn**	**09 54 13.0**	**-0.6**
TPIG	**Tehuac#an**	**5.26**	**320**	*e*P	**Pn**	**09 53 11.7**	**-1.2**
TPIG				*e*S	**Sn**	**09 54 13.0**	**-0.6**
FTIG	**Fresnillo de T**	**5.43**	**311**		**Pn**	**09 53 17.7**	**+2.6**
FTIG					**Sn**	**09 54 14.6**	**-3.0**
FTIG	**Fresnillo de T**	**5.43**	**311**	*e*P	**Pn**	**09 53 17.7**	**+2.6**
FTIG				*e*S	**Sn**	**09 54 14.6**	**-3.0**
TLIG	**Tlapa**	**5.55**	**305**	Pn	**Pn**	**09 53 19.9**	**+3.0**
TLIG	**Tlapa**	**5.55**	**305**	*e*P	**Pn**	**09 53 19.4**	**+2.5**
TLIG				*e*S	**Sn**	**09 54 21.2**	**+0.4**
CRIG	**Cruz Grande**	**5.63**	**295**		**Pn**	**09 53 18.2**	**+0.4**
CRIG					Sn	09 54 14.3	-8.1
CRIG	**Cruz Grande**	**5.63**	**295**	*e*P	**Pn**	**09 53 18.2**	**+0.4**
CRIG				*e*S	Sn	09 54 14.3	-8.1
JAUV	**Jalcomulco**	**5.72**	**331**	*e*P	**Pn**	**09 53 18.3**	**-0.8**
JAUV				*e*S	**Sn**	**09 54 18.6**	**-6.2**
DAIG	**Los Arroyos**	**6.20**	**296**		**Pn**	**09 53 27.1**	**+1.5**
DAIG					**Sn**	**09 54 32.7**	**-3.7**
DAIG	**Los Arroyos**	**6.20**	**296**	*e*P	**Pn**	**09 53 27.1**	**+1.5**
DAIG				*e*S	**Sn**	**09 54 32.7**	**-3.7**
TGUH	**Tegucigalpa,Un**	**6.36**	**92**	Pn	**Pn**	**09 53 25.6**	**-2.3**
PPM	**Popocatepetl**	**6.55**	**316**	*e*P	**Pn**	**09 53 33.3**	**+2.4**
PPM				*e*S	**Sn**	**09 54 52.4**	**+6.6**
PPIG	**Popocatepetl**	**6.55**	**316**		**Pn**	**09 53 33.3**	**+2.4**
PPIG					**Sn**	**09 54 52.4**	**+6.6**
CAIG	**El Cayaco**	**6.75**	**294**		**Pn**	**09 53 34.9**	**+1.7**
CAIG					**Sn**	**09 54 43.3**	**-6.7**
CAIG	**El Cayaco**	**6.75**	**294**	*e*P	**Pn**	**09 53 34.9**	**+1.7**
CAIG				*e*S	**Sn**	**09 54 43.3**	**-6.7**
PLIG	**Platanillo**	**6.75**	**307**		**Pn**	**09 53 36.9**	**+3.6**
PLIG					**Sn**	**09 54 51.2**	**+0.9**
PLIG	**Platanillo**	**6.75**	**307**	*e*P	**Pn**	**09 53 36.9**	**+3.6**
PLIG				*e*S	**Sn**	**09 54 51.2**	**+0.9**
CXUV	**Coxquihui**	**6.79**	**329**	*e*P	**Pn**	**09 53 35.8**	**+2.0**
CXUV				*e*S	**Sn**	**09 54 45.3**	**-5.8**
CRIN	**San Cristobal**	**6.79**	**103**	Pn	**Pn**	**09 53 29.3**	**-4.6**
HERN	**Volcan Telica**	**7.02**	**104**	Pn	**Pn**	**09 53 32.8**	**-4.2**
ARIG	**Puente Sto Nin**	**7.37**	**303**		**Pn**	**09 53 45.1**	**+3.4**
ARIG					Sn	09 54 56.6	-8.7
ARIG	**Puente Sto Nin**	**7.37**	**303**	*e*P	**Pn**	**09 53 45.1**	**+3.4**
ARIG				*e*S	Sn	09 54 56.6	-8.7
TEIG	**Tepich**	**7.87**	**42**		**Pn**	**09 53 47.8**	**-0.7**
TEIG	**Tepich**	**7.87**	**42**	Pn	**Pn**	**09 53 48.8**	**+0.3**
	baz=229,slow=24,SNR=24						
TEIG				Sn	**Sn**	**09 55 11.5**	**-6.0**
	baz=327,slow=24						
ZIIG	**Zihuatanejo**	**8.02**	**295**		**Pn**	**09 53 52.7**	**+2.1**
ZIIG	**Zihuatanejo**	**8.02**	**295**	*e*P	**Pn**	**09 53 52.7**	**+2.1**
MOIG	**Morelia**	**8.80**	**308**	Pn	**Pn**	**09 54 05.6**	**+4.1**
JTS	**Las Juntas de**	**9.57**	**114**	Pn	**Pn**	**09 54 12.8**	**+0.9**
	0.3nm,0.3s,baz=133,slow=22,SNR=1.5						
	4.5nm,1.0s						
EZ5V		**10.64**	**300**		**Pn**	**09 54 30.7**	**+3.9**
EZ5V		**10.64**	**300**	*e*P	**Pn**	**09 54 30.7**	**+3.9**
MNGA	**Volcan de Coli**	**10.65**	**300**	*e*P	Pn	09 54 32.5	+5.5
INCO	**Volcan de Coli**	**10.66**	**300**	*e*P	**Pn**	**09 54 31.2**	**+3.9**
SOMAC	**Volcano de Col**	**10.69**	**300**	*e*P	**Pn**	**09 54 32.0**	**+4.4**
CDAR	**Ciudad de Arme**	**10.76**	**296**	*e*P	**Pn**	**09 54 30.3**	**+2.0**
CEGR	**Campo Tres**	**10.82**	**299**	*e*P	**Pn**	**09 54 33.4**	**+4.2**
SOR	**Soroa**	**13.23**	**49**	Pn	**Pn**	**09 55 01.7**	**-0.3**
HBVL	**Hebbronville**	**13.41**	**341**	Pn	**P**	**09 55 09.2**	**-4.7**
KVTX	**Kingsville**	**13.64**	**344**	Pn	**Pn**	**09 55 10.2**	**+2.7**
833A	**Chaparral WMA,**	**14.81**	**340**	Pn	**P**	**09 55 27.1**	**-2.4**
HNDO	**Hondo**	**15.90**	**342**		**P**	**09 55 42.4**	**+0.8**
HNDO				IAmb	IAmb	09 56 03.5	
	comp=Z,14nm,1.3s						
DRIO	**Del Rio**	**16.24**	**338**	Pn	**P**	**09 55 44.7**	**-0.7**
JCT	**Junction City**	**16.94**	**342**		**P**	**09 55 53.5**	**+0.2**
SAND	**Sanderson**	**17.29**	**335**	P	**P**	**09 55 59.0**	**+1.9**
NATX	**Nacogdoches**	**17.32**	**358**	P	**P**	**09 55 58.7**	**+1.4**
TXAR	**Lajitas Array**	**17.45**	**330**	P	**P**	**09 56 00.2**	**+1.4**
TXAR	**Lajitas Array**	**17.45**	**330**	Pn	**P**	**09 56 01.4**	**+2.5**
	baz=150,slow=14,SNR=8.8						
	comp=Z,1.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**17.45**	**330**	P	**P**	**09 55 59.8**	**+1.0**
BRDY	**Brady**	**17.49**	**345**	P	**P**	**09 56 01.6**	**+2.4**
OZNA	**Ozona**	**17.78**	**339**	P	**P**	**09 56 03.5**	**+1.0**
OZNA				IAmb	IAmb	09 56 17.6	
	comp=Z,16nm,1.3s						
ALPN	**Alpine**	**18.31**	**332**	P	**P**	**09 56 10.7**	**+2.3**
SGCY	**Sterling City**	**18.69**	**340**	P	**Pn**	**09 56 14.9**	**+2.1**
SGCY				IAmb	IAmb	09 56 22.0	
	comp=Z,14nm,0.9s						
PECS	**Pecos**	**19.26**	**333**	P	**Pn**	**09 56 21.1**	**+1.3**
ODSA	**Odessa**	**19.38**	**337**	P	**Pn**	**09 56 21.2**	**+0.1**
ODSA				IAmb	IAmb	09 56 31.8	
	comp=Z,27nm,1.4s						
SN05	**Snyder 5**	**19.51**	**342**	P	**Pn**	**09 56 23.6**	**+1.0**
SN05				IAmb	IAmb	09 56 31.3	
	comp=Z,8.7nm,0.9s						
APMT	**Aspermont**	**19.71**	**344**	P	**Pn**	**09 56 26.2**	**+1.1**
APMT				IAmb	IAmb	09 56 53.5	
	comp=Z,15nm,1.5s						
CLNB	**Carlsbad**	**20.03**	**334**	P	Pn	09 56 29.1	+0.1
HTMS	**Hat Mesa**	**20.11**	**335**	P	Pn	09 56 30.7	+0.7
SMWD	**Samnorwood**	**21.43**	**345**	P	**P**	**09 56 43.5**	**+1.2**
SMWD				IAmb	IAmb	09 56 57.6	
	comp=Z,6.2nm,0.7s						
HSIG		**21.53**	**315**	P	**P**	**09 56 45.5**	**+2.1**
HSIG				IAmb	IAmb	09 57 11.6	
	comp=Z,10nm,1.5s						
AMTX	**Amarillo**	**21.61**	**342**		**P**	**09 56 46.1**	**+1.8**
AMTX				IAmb	IAmb	09 56 49.3	
	comp=Z,8.2nm,0.7s						
HHAR	**Hobbs**	**21.81**	**360**		**P**	**09 56 48.4**	**+2.0**
HHAR				IAmb	IAmb	09 56 56.6	
	comp=Z,12nm,1.4s						
121A	**Cookes Peak, D**	**22.11**	**327**	P	**P**	**09 56 51.8**	**+2.0**
RTBA	**Rita Blanca**	**23.37**	**342**	P	**P**	**09 57 04.0**	**+1.2**
RTBA				IAmb	IAmb	09 57 08.7	
	comp=Z,8.7nm,1.2s						
TUC	**Tucson**	**23.63**	**322**	P	**P**	**09 57 06.2**	**+0.7**
TUC				IAmb	IAmb	09 57 09.7	
	comp=Z,5.6nm,1.1s						
X58A	**Rowland**	**23.97**	**31**	P	**P**	**09 57 08.3**	**-0.3**
X58A				IAmb	IAmb	09 57 09.2	
	comp=Z,8.3nm,0.9s						
PIX	**Pinacate**	**24.82**	**317**	P	**P**	**09 57 15.7**	**-0.6**
PIX				IAmb	IAmb	09 57 20.9	
	comp=Z,4.3nm,1.1s						
SDCO	**Great Sand Dun**	**25.48**	**338**	P	**P**	**09 57 24.0**	**+1.4**
X16A	**Lo Mia Camp, P**	**25.52**	**324**	IAmb	IAmb	09 57 36.6	
	comp=Z,2.3nm,1.1s						
N38A	**Joes South For**	**26.32**	**1**	P	**P**	**09 57 29.7**	**-0.2**
PDAR	**Pinedale Array**	**31.37**	**337**	P	**P**	**09 58 16.9**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=147,slow=9.1,SNR=4.3						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**32.28**	**322**	P	**P**	**09 58 26.7**	**+3.5**
	comp=Z,1.9nm,0.8s,baz=134,slow=9.2,SNR=8.7						
	comp=Z,1.9nm,0.8s						
YNE	**Yellowstone No**	**33.48**	**339**	IAmb	IAmb	09 58 39.0	
	comp=Z,2.4nm,0.9s						
PLID	**Pearl Lake**	**35.92**	**333**	IAmb	IAmb	09 59 05.1	
	comp=Z,5.7nm,1.4s						
YBH	**Yreka Blue Hor**	**36.99**	**323**	LR	LR	10 15 24.7	
	comp=Z,110nm,20.5s,baz=7.5,slow=38						
SIV	**San Ignacio**	**44.25**	**132**	P	**P**	**10 00 04.9**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=299,slow=9.2,SNR=11						
	comp=Z,2.2nm,0.8s						
YKA	**Yellowknife Ar**	**50.27**	**348**	P	**P**	**10 00 50.8**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=158,slow=7.5,SNR=36						
	comp=Z,1.9nm,0.8s						
BDFB	**Brasilia**	**54.22**	**122**	P	**P**	**10 01 21.0**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=290,slow=7.7,SNR=6.0						
	comp=Z,3.9nm,0.6s						
ILAR	**Eielson Array**	**61.80**	**337**	P	**P**	**10 02 13.6**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=134,slow=4.4,SNR=17						
	comp=Z,1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**145.03**	**339**	PKPbc	**PKPdf**	**10 11 32.8**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=29,slow=1.8,SNR=8.9						

*IDC **27** 10:16:42.0±3.2, 30°.69S×68°.94W, h99km±30km, mb2.9/2, mbtmp3.4/5, Error ellipse: s-maj=44.8km s-min=29.2km az=103.0*
*SJA **27** 10:16:43.3±0.8, 30°.59S×68°.90W, h117km±2km, ML3.6, MW3.6*
ISC 27 10:16:43.9±0.8, 30°.58S±0°.03×68°.90W±0°.03, h117km±5km, n51, σ1°.45/86, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	**Cerro Coronel**	**0.14**	**268**	*e*P	**Pn**	**10 17 00.4**	**-0.1**
ACCO				*e*S	**Sn**	**10 17 13.2**	**+0.3**
DOCA	**Reserva Natura**	**0.40**	**203**	*e*P	**Pn**	**10 17 01.5**	**0.0**
DOCA				*e*S	**Sn**	**10 17 15.0**	**+0.3**
DOCA				IAML		10 17 16.0	
	comp=Z,717nm,1.1s						
ACDV	**Cuesta del Vie**	**0.45**	**335**	*e*P	**Pn**	**10 17 01.4**	**-0.1**
ACDV				*e*S	**Sn**	**10 17 15.1**	**+0.3**
ACDV				IAML		10 17 15.5	
	comp=Z,1μm,0.1s						
AROD	**Rodeo**	**0.65**	**310**	*e*P	**Pn**	**10 17 03.1**	**+0.1**
RTLL	**Cerro Villicun**	**0.83**	**154**	*e*P	**Pn**	**10 17 04.1**	**-0.1**
RTLL				*e*S	**Sn**	**10 17 12.3**	**-7.1**
ZON	**Zonda**	**0.98**	**169**	*e*P	**Pn**	**10 17 05.9**	**+0.3**
ZON				*e*S	**Sn**	**10 17 21.9**	**-0.1**
ZON				IAML		10 17 23.7	
	comp=Z,593nm,0.5s						
SJA	**San Juan**	**0.99**	**163**	*e*P	**Pn**	**10 17 06.3**	**+0.7**
SJA				*e*S	**Sn**	**10 17 23.1**	**+1.0**
SJA				IAML		10 17 24.7	
	comp=Z,479nm,0.2s						
AGUA	**GUANDACOL**	**1.15**	**18**	*e*P	**Pn**	**10 17 07.8**	**+0.4**
AGUA				*e*S	**Sn**	**10 17 26.4**	**+1.3**
AGUA				IAML		10 17 28.2	
	comp=Z,1μm,0.2s						
CO01	**Juntas del Tor**	**1.20**	**300**	*e*P	**Pn**	**10 17 08.2**	**+0.2**
CO01				*e*S	**Sn**	**10 17 27.5**	**+1.2**
CO01				IAML		10 17 30.3	
	comp=Z,548nm,0.4s						
AVFE	**Valle Fertil**	**1.25**	**94**	*e*P	**Pn**	**10 17 08.5**	**+0.1**
AVFE				*e*S	**Sn**	**10 17 27.1**	**+0.2**
AVFE				IAML		10 17 27.7	
	comp=Z,724nm,0.2s						
RTLS	**Leoncito**	**1.26**	**196**	*e*P	**Pn**	**10 17 09.3**	**+0.5**
RTLS				*e*S	**Sn**	**10 17 28.5**	**+0.9**
RTCV	**Cerro Valdivia**	**1.31**	**166**	*e*P	Pn	10 16 58.7	-10
CO03	**El Pedregal**	**1.56**	**260**	*e*P	**Pn**	**10 17 12.1**	**+0.1**
CO03				*e*S	**Sn**	**10 17 33.9**	**+0.5**
CO03				IAML		10 17 34.9	
	comp=Z,594nm,0.2s						
GO04	**Tololo Observa**	**1.69**	**284**	*e*P	**Pn**	**10 17 13.9**	**+0.3**
GO04				*e*S	**Sn**	**10 17 37.0**	**+0.7**
VCA	**Vinchina**	**1.94**	**18**	*e*P	**Pn**	**10 17 17.4**	**+0.7**
VCA				*e*S	**Sn**	**10 17 43.4**	**+1.8**
VCA				IAML		10 17 50.0	
	comp=Z,508nm,0.3s						
ASAL	**Salagasta**	**2.00**	**178**	*e*P	**Pn**	**10 17 18.5**	**+1.1**
ASAL				*e*S	**Sn**	**10 17 44.1**	**+1.2**
ASAL				IAML		10 17 46.0	
	comp=Z,268nm,0.8s						
ACHE	**Chepes**	**2.01**	**107**	*e*P	**Pn**	**10 17 18.2**	**+0.7**
ACHE				*e*S	**Sn**	**10 17 43.9**	**+0.8**
ACLC	**CERRO LA CRUZ**	**2.05**	**56**	*e*P	**Pn**	**10 17 18.4**	**+0.3**
ACLC				*e*S	**Sn**	**10 17 44.7**	**+0.6**
ACLC				IAML		10 17 46.5	
	comp=Z,826nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.06**	**85**	*e*P	**Pn**	**10 17 18.4**	**+0.4**
APLL				*e*S	**Sn**	**10 17 44.1**	**0.0**
LCO	**Las Campanas**	**2.21**	**315**	*e*P	**Pn**	**10 17 19.3**	**-0.9**
LCO				*e*S	**Sn**	**10 17 47.6**	**-0.4**
LCO				IAML		10 17 50.4	
	comp=Z,733nm,0.2s						
ARCO	**

comp=Z,0.1nm,0.5s
PDAR Pinedale Array 82.00 331 P **P** **10 28 50.5 -0.5**
comp=Z,0.2nm,0.6s,baz=142,slow=6.3,SNR=2.0
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 125.02 207 PKP **PKPdf** **10 35 30.9 0.0**
comp=Z,0.3nm,1.0s,baz=160,slow=2.7,SNR=1.4
ZALV Zalesovo Beam 149.93 31 PKPbc **PKiKP** **10 36 20.9 +0.1**
comp=Z,1.0nm,0.3s,baz=321,slow=2.2,SNR=6.0
MKAR Makanchi Array 152.50 46 PKPbc **PKPbc** **10 36 26.2 0.0**
comp=Z,0.2nm,0.4s,baz=291,slow=1.7,SNR=5.4

---

*SJA **27** 10:34:41.3±0.7, 30°.13S×71°.35W, h18km±2km, ML2.6, MW3.0*
*GUC **27** 10:34:43.5±0.7, 30°.21S×71°.17W, h63km±3km, ML3.3*
ISC 27 10:34:45.2±1.2, 30°.13S±0°.03×71°.35W±0°.05, h52km±9km, n32, σ1°88/45, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**25**	*eP*	**Pn**	**10 34 54.5**	**+0.6**
CO05				*i S*	**Sn**	**10 35 02.6**	**+2.4**
CO05				IAML		10 35 03.0	
comp=N,2μm,0.1s							
GO04	**Tololo Observa**	**0.48**	**96**	*eP*	Pn	10 34 50.2	-6.4
GO04				*eS*	**Sn**	**10 35 04.8**	**0.0**
GO04	**Tololo Observa**	**0.48**	**96**	*eP*	**Pn**	**10 34 55.6**	**-1.0**
GO04				*i S*	**Sn**	**10 35 04.7**	**-0.1**
GO04				IAML		10 35 05.9	
comp=E,8μm,0.5s							
CO06	**Fray Jorge**	**0.60**	**204**	⇓*iP*	**Pn**	**10 34 57.6**	**-0.2**
CO06				*i S*	**Sn**	**10 35 08.2**	**+1.2**
CO06				IAML		10 35 08.7	
comp=E,731nm,0.2s							
CO03	**El Pedregal**	**0.91**	**142**	*eP*	**Pn**	**10 34 59.8**	**-2.1**
CO03				*eS*	**Sn**	**10 35 12.2**	**-2.0**
CO03				IAML		10 35 12.4	
comp=Z,409nm,0.1s							
CO03	**El Pedregal**	**0.91**	**142**	⇓*iP*	**Pn**	**10 34 60.0**	**-1.9**
CO03				*i S*	**Sn**	**10 35 12.0**	**-2.1**
CO03				IAML		10 35 12.6	
comp=E,2μm,0.1s							
CO01	**Juntas del Tor**	**1.10**	**83**	*eP*	**Pn**	**10 35 03.2**	**-1.3**
CO01				*eS*	**Sn**	**10 35 17.7**	**-1.1**
CO01				IAML		10 35 18.3	
comp=Z,163nm,0.2s							
CO01	**Juntas del Tor**	**1.10**	**83**	⇑*iP*	**Pn**	**10 35 03.3**	**-1.3**
CO01				*i S*	**Sn**	**10 35 17.4**	**-1.3**
LCO	**Las Campanas**	**1.24**	**27**	*eP*	**Pn**	**10 35 05.5**	**-1.0**
LCO				*eS*	**Sn**	**10 35 22.9**	**+0.5**
LCO				IAML		10 35 23.5	
comp=Z,238nm,0.2s							
LCO	**Las Campanas**	**1.24**	**27**	*eP*	**Pn**	**10 35 05.8**	**-0.7**
LCO				*eS*	**Sn**	**10 35 22.7**	**+0.3**
LCO				IAML		10 35 23.8	
comp=Z,2μm,0.4s							
AROD	**Rodeo**	**1.62**	**92**	*eP*	**Pn**	**10 35 11.5**	**-0.2**
AC04	**Llanos de Chal**	**1.93**	**7**	*eP*	**Pn**	**10 35 15.3**	**-0.3**
AC04				*eS*	**Sn**	**10 35 33.1**	**-5.5**
AC04				IAML		10 35 51.2	
comp=Z,20nm,0.5s							
AC04	**Llanos de Chal**	**1.93**	**7**	*eP*	**Pn**	**10 35 15.2**	**-0.3**
ACDV	**Cuesta del Vie**	**1.93**	**92**	*eP*	**Pn**	**10 35 15.9**	**+0.1**
ACDV				*eS*	**Sn**	**10 35 35.7**	**-3.3**
ACCO	**Cerro Coronel**	**2.03**	**104**	*eP*	**Pn**	**10 35 17.7**	**+0.4**
ACCO				*eS*	Sn	10 35 45.5	+4.0
DOCA	**Reserva Natura**	**2.12**	**113**	*eP*	**Pn**	**10 35 18.4**	**-0.1**
DOCA				*eS*	**Sn**	**10 35 44.5**	**+0.6**
RTLS	**Leoncito**	**2.43**	**134**	*eP*	**Pn**	**10 35 23.2**	**+0.5**
RTLS				IAML		10 36 19.5	
comp=Z,33nm,1.0s							
AGUA	**GUANDACOL**	**2.56**	**76**	*eP*	**Pn**	**10 35 25.6**	**+1.3**
AGUA				*eS*	**Sn**	**10 35 57.8**	**+3.4**
AGUA				IAML		10 35 58.3	
comp=Z,50nm,0.2s							
ZON	**Zonda**	**2.70**	**122**	*eS*	**Sn**	**10 35 59.7**	**+2.0**
VA03	**San Esteban**	**2.72**	**166**	*eP*	**Pn**	**10 35 25.8**	**-0.7**
VA03				*eS*	**Sn**	**10 35 59.4**	**+1.2**
VA03				IAML		10 36 11.2	
comp=Z,22nm,0.2s							
ROC1	**El Roble**	**2.86**	**174**	*eP*	**Pn**	**10 35 28.5**	**0.0**
ROC1				*eS*	**Sn**	**10 36 06.2**	**+4.4**
VA01	**Torpederas**	**2.90**	**185**	*eP*	Pn	10 35 43.5	+15
VA01				IAML		10 36 35.1	
comp=Z,25nm,0.7s							
PEL	**Peldehue**	**3.06**	**170**	*eP*	Pn	10 35 34.0	+2.8
VCA	**Vinchina**	**3.07**	**64**	*eP*	**Pn**	**10 35 33.0**	**+1.7**
VCA				*eS*	**Sn**	**10 36 09.6**	**+2.7**
VCA	**Vinchina**	**3.07**	**64**	*eP*	**Pn**	**10 35 33.0**	**+1.7**
VCA				*eS*	**Sn**	**10 36 09.4**	**+2.5**
VCA				IAML		10 36 10.5	
comp=N,142nm,0.3s							
MT02	**Curacav**	**3.13**	**177**	*eP*	**Pn**	**10 35 30.1**	**-1.9**
MT02				IAML		10 36 22.2	
comp=Z,17nm,0.6s							
ASAL	**Salagasta**	**3.27**	**139**	*eP*	Pn	10 35 35.3	+1.4
ARCO	**CERRO ARCO**	**3.40**	**143**	*eP*	Pn	10 35 38.7	+2.7
ARCO				*eS*	Sn	10 36 01.0	-14
ARCO				IAML		10 36 21.1	
comp=Z,9.1nm,1.8s							
AVFE	**Valle Fertil**	**3.40**	**100**	*eP*	**Pn**	**10 35 35.0**	**-0.9**
AVFE				*eS*	**Sn**	**10 36 15.7**	**+0.6**
AVFE				IAML		10 36 16.5	
comp=Z,11nm,0.6s							
MT04	**Ro Olivares**	**3.43**	**163**	*eP*	Pn	10 35 40.9	+4.5
MT04				*eS*	**Sn**	**10 36 18.4**	**+2.6**
MT04				IAML		10 36 33.8	
comp=Z,10nm,0.5s							
MT03	**Universidad Ad**	**3.43**	**168**	*eP*	Pn	10 35 22.5	-14
MT03				*eS*	**Sn**	**10 36 15.3**	**-0.5**
MT03				*eS*		10 36 22.5	
MT03				IAML		10 36 29.2	
comp=Z,28nm,0.2s							
MT08	**Bocatoma Ro**	**3.50**	**161**	*eP*	Pn	10 35 52.1	+15
MT08				IAML		10 37 19.0	
comp=Z,9.2nm,2.9s							

IDC 27 11:18:17.1±3.9, 2°.58N×95°.43W, h0km, mb3.8/4, mbtmp3.8/4, MS3.5/5, Error ellipse: s-maj=274.6km s-min=51.4km az=88.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**12.92**	**53**	LR	LR	11 24 52.5	
comp=Z,41nm,18.9s,baz=235,slow=31							
LPIG	**La Paz**	**25.78**	**327**	LR	LR	11 31 14.7	
comp=Z,114nm,18.6s,baz=55,slow=30							
TXAR	**Lajitas Array**	**27.73**	**344**	P	P	11 24 07.8	+0.2
1.2nm,1.0s,baz=157,slow=9.9,SNR=11							
1.2nm,1.0s							
H03N2	**Juan Fernandez**	**39.07**	**158**	T	T	12 07 56.4	
baz=332,slow=77,SNR=7.2							
H03N1	**Juan Fernandez**	**39.08**	**158**	T	T	12 07 58.8	
baz=332,slow=77,SNR=14							
H03N3	**Juan Fernandez**	**39.08**	**158**	T	T	12 07 57.6	
baz=332,slow=77,SNR=9.0							
PDAR	**Pinedale Array**	**41.95**	**344**	P	P	11 26 10.9	+0.9
1.0nm,0.9s,baz=160,slow=8.3,SNR=6.7							
1.0nm,0.9s							
SADO	**Sadowa**	**44.40**	**17**	LR	LR	11 47 21.1	
comp=Z,72nm,18.3s,baz=38,slow=39							
YKA	**Yellowknife Ar**	**61.46**	**350**	P	P	11 28 36.0	+0.8
0.9nm,1.0s,baz=159,slow=6.8,SNR=9.0							
0.9nm,1.0s							
ILAR	**Eielson Array**	**72.11**	**339**	P	P	11 29 41.6	-1.6
1.6nm,0.9s,baz=150,slow=4.6,SNR=19							
ILAR				LR	LR	12 01 44.5	
comp=Z,106nm,18.2s,baz=110,slow=36							
1.6nm,0.9s							
WRA	**Warramunga Arr**	**128.48**	**247**	PKP	PKiKP	11 37 27.5	-0.2
0.4nm,0.8s,baz=89,slow=1.9,SNR=2.4							

---

*NEIC **27** 11:25:00.3±2.3, 14°.47N±0°.03×93°.84W±0°.03, h10km±2km, mb4.1/10, Md4.3/52(MEX), Error ellipse: s-maj=5.8km s-min=4.0km az=249.0*
*GCG **27** 11:25:01.0±1.4, 14°.25N×93°.88W, h36km±999km, MD4.6, Hypocentre not reviewed by the ISC*
*MEX **27** 11:25:02.6±1.0, 14°.34N×93°.81W, h12km±29km, MD4.3*
*IDC **27** 11:25:02.2±1.5, 14°.72N×93°.78W, h0km, mb3.9/4, mbtmp3.7/6, ML2.8/4, MS3.4/1, Error ellipse: s-maj=33.4km s-min=20.5km az=44.0*

ISC 27 11:25:00.6±0.8, 14°.50N±0°.06×93°.83W±0°.03, h10km, n56, σ2°38/86, mb4.0/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.34**	**26**		**Pn**	**11 25 24.9**	**-0.5**
PCIG					**Sb**	**11 25 42.4**	**-0.6**
PCIG		**1.34**	**26**	*eP*	**Pn**	**11 25 24.9**	**-0.5**
PCIG				*eS*	**Sb**	**11 25 42.4**	**-0.6**
THIG		**1.57**	**75**		**Pn**	**11 25 27.6**	**-1.0**
THIG					**Sn**	**11 25 47.7**	**-1.3**
THIG		**1.57**	**75**	*eP*	**Pn**	**11 25 27.6**	**-1.0**
THIG				*eS*	**Sn**	**11 25 47.7**	**-1.3**
PATR	**El Naranjo**	**1.66**	**68**	*eP*	**Pn**	**11 25 28.8**	**-1.3**
PATR				*eS*	**Sn**	**11 25 49.6**	**-2.0**
PAVE	**Pavencul**	**1.75**	**66**	*eP*	**Pn**	**11 25 30.2**	**-0.9**
PAVE				*eS*	**Sn**	**11 25 51.0**	**-2.6**
RTAL	**Retalhuleu**	**2.07**	**89**		**Pn**	**11 25 35.8**	**+0.4**
TGIG		**2.37**	**17**		**Pn**	**11 25 41.3**	**+1.7**
TGIG					**Sb**	**11 26 11.4**	**-1.3**
TGIG		**2.37**	**17**	*eP*	**Pn**	**11 25 41.3**	**+1.7**
TGIG				*eS*	**Sb**	**11 26 11.4**	**-1.3**
TGIG		**2.37**	**17**	*eP*		11 25 41.2	
TGIG				*eS*		11 26 12.3	
HUEH	**Huehuetenango**	**2.40**	**70**		**Pn**	**11 25 41.0**	**+0.9**
HUEH	**Huehuetenango**	**2.40**	**70**	*eP*		11 25 41.1	
CCIG	**Comitan**	**2.41**	**42**		**Pb**	**11 25 42.5**	**-1.8**
CCIG	**Comitan**	**2.41**	**42**	*eP*	**Pb**	**11 25 42.4**	**-1.8**
CCIG				*eS*	**Sb**	**11 26 12.5**	**-1.6**
CCIG	**Comitan**	**2.41**	**42**	*eP*		11 25 42.5	
CCIG				*eS*		11 26 11.7	
HUIG	**Huatulco**	**2.54**	**300**		**Pn**	**11 25 41.7**	**-0.2**
HUIG					**Sn**	**11 26 09.2**	**-3.5**
HUIG	**Huatulco**	**2.54**	**300**	*eP*	**Pn**	**11 25 41.7**	**-0.2**
HUIG				*i S*	**Sn**	**11 26 09.2**	**-3.5**
HUIG	**Huatulco**	**2.54**	**300**	*eP*		11 25 41.1	
QUIS	**Sacapulas**	**2.77**	**73**	*eP*		11 25 46.7	
CMIG	**Matias Romero**	**2.77**	**339**		**Pn**	**11 25 45.7**	**+0.7**
CMIG					**Sn**	**11 26 18.2**	**-0.5**
CMIG	**Matias Romero**	**2.77**	**339**	Pn	**Pn**	**11 25 45.8**	**+0.7**
4.8nm,0.3s,baz=150,slow=11,SNR=48							
CMIG				Sn	**Sn**	**11 26 18.9**	**+0.3**
16nm,0.3s,baz=216,slow=23,SNR=9.3							
20nm,0.4s							
CMIG	**Matias Romero**	**2.77**	**339**	*eP*	**Pn**	**11 25 45.7**	**+0.7**
CMIG				*eS*	**Sn**	**11 26 18.2**	**-0.5**
UXUV	**UXUV**	**2.82**	**354**	*eP*	**Pn**	**11 25 48.0**	**+2.2**
UXUV				*i S*	**Sb**	**11 26 23.5**	**-2.2**
APG	**El Apazote**	**3.30**	**81**	Pn	**Pn**	**11 25 54.5**	**+2.0**
0.4nm,0.3s,baz=169,slow=10.0,SNR=11							
PEIG	**Puerto Escondi**	**3.53**	**295**		**Pn**	**11 25 53.9**	**-1.7**
PEIG					**Sn**	**11 26 30.8**	**-6.6**
PEIG	**Puerto Escondi**	**3.53**	**295**	*eP*	**Pn**	**11 25 53.9**	**-1.7**
PEIG				*i S*	**Sn**	**11 26 30.8**	**-6.6**
NEUV	**Arroyo Zacate**	**3.71**	**330**	*eP*	**Pn**	**11 25 58.8**	**+0.7**
NEUV				*i S*	**Sn**	**11 26 39.8**	**-2.1**
NUBE	**Las Nubes**	**3.98**	**98**	*eP*		11 26 01.7	
YOIG	**Yosondua**	**4.28**	**304**		**Pn**	**11 26 08.5**	**+2.4**
YOIG					**Sn**	**11 26 53.3**	**-2.9**
YOIG	**Yosondua**	**4.28**	**304**	*eP*	**Pn**	**11 26 08.5**	**+2.4**
YOIG				*i S*	**Sn**	**11 26 53.3**	**-2.9**
MTO3	**Montecristo**	**4.33**	**91**		**Pn**	**11 26 07.6**	**+0.8**
ESQI	**Esquipulas**	**4.35**	**89**	Pn	**Pn**	**11 26 06.8**	**-0.1**
PETF	**Flores**	**4.51**	**57**		**Pn**	**11 26 10.7**	**+1.6**
PNIG	**Pinotepa**	**4.55**	**295**		**Pn**	**11 26 10.2**	**+0.6**
PNIG					**Sn**	**11 26 56.1**	**-6.5**
PNIG	**Pinotepa**	**4.55**	**295**	*eP*	**Pn**	**11 26 10.2**	**+0.6**
PNIG				*i S*	**Sn**	**11 26 56.1**	**-6.5**
TXIG	**Tlaxiaco**	**4.67**	**306**		**Pn**	**11 26 14.5**	**+3.0**
TXIG					**Sn**	**11 27 05.3**	**-0.7**
TXIG	**Tlaxiaco**	**4.67**	**306**	*eP*	**Pn**	**11 26 14.5**	**+3.0**
TXIG				*i S*	**Sn**	**11 27 05.3**	**-0.7**
TOIG	**Toxpalan**	**4.74**	**319**		**Pn**	**11 26 14.9**	**+2.7**
TOIG					**Sn**	**11 27 09.9**	**+2.6**
TOIG	**Toxpalan**	**4.74**	**319**	*eP*	**Pn**	**11 26 14.9**	**+2.7**
TOIG				*i S*	**Sn**	**11 27 09.9**	**+2.6**
HLIG	**Huajuapan de L**	**5.05**	**312**		**Pn**	**11 26 12.0**	**-4.7**
HLIG					**Sn**	**11 27 16.2**	**+0.9**
HLIG	**Huajuapan de L**	**5.05**	**312**	*eP*	**Pn**	**11 26 12.0**	**-4.7**
HLIG				*i S*	**Sn**	**11 27 16.2**	**+0.9**
FTIG	**Fresnillo de T**	**5.34**	**310**		**Pn**	**11 26 24.1**	**+3.5**
FTIG					**Sn**	**11 27 20.1**	**-2.2**
FTIG	**Fresnillo de T**	**5.34**	**310**	*eP*	**Pn**	**11 26 24.1**	**+3.5**
FTIG				*eS*	**Sn**	**11 27 20.1**	**-2.2**
TLIG	**Tlapa**	**5.48**	**304**		**Pn**	**11 26 22.9**	**+0.5**
TEIG	**Tepich**	**7.78**	**42**		**Pn**	**11 26 54.2**	**+0.2**
TEIG	**Tepich**	**7.78**	**42**	Pn	**Pn**	**11 26 55.3**	**+1.3**
baz=45,slow=24,SNR=16							
TEIG				Sn	**Sn**	**11 28 20.6**	**-1.6**
baz=314,slow=24,SNR=1.1							
JTS	**Las Juntas de**	**9.63**	**115**	Pn	**Pn**	**11 27 19.2**	**-0.2**
TXAR	**Lajitas Array**	**17.34**	**330**	Pn	**P**	**11 29 06.0**	**+1.7**
baz=146,slow=13,SNR=4.4							
0.3nm,0.8s							
BRDY	**Brady**	**17.37**	**345**	Pn	**Pn**	**11 29 01.7**	**-1.5**
HTMS	**Hat Mesa**	**20.00**	**335**	P	**P**	**11 29 32.5**	**-1.1**
DEOK	**Depew**	**21.39**	**354**		**P**	**11 29 47.1**	**-1.4**
AMTX	**Amarillo**	**21.50**	**342**	P	**P**	**11 29 49.1**	**-0.6**
OK052	**Battle Ridge R**	**21.57**	**353**	P	**P**	**11 29 50.2**	**-0.2**
OK052				IAmb	IAmb	11 29 52.3	
comp=Z,5.4nm,0.9s							
HHAR	**Hobbs**	**21.69**	**360**	P	**P**	**11 29 50.5**	**-1.2**
HHAR				IAmb	IAmb	11 29 54.3	
comp=Z,2.7nm,0.4s							
TKL	**Tuckaleechee C**	**22.93**	**21**	LR	LR	11 40 56.7	
comp=Z,97nm,18.2s,baz=342,slow=42							
SDV	**Santo Domingo**	**23.38**	**101**	P	**P**	**11 30 07.6**	**-2.3**
SDV				IAmb	IAmb	11 30 35.0	
comp=Z,5.7nm,1.1s							
BIRD	**Birdtown, Kers**	**23.41**	**29**	P	**P**	**11 30 09.2**	**-0.6**
BIRD				IAmb	IAmb	11 30 32.5	
comp=Z,12nm,1.2s							
CCM	**Cathedral Cave**	**23.58**	**5**	P	**P**	**11 30 10.4**	**-1.0**
CCM				IAmb	IAmb	11 30 31.8	
comp=Z,7.8nm,1.2s							
NVAR	**Mina Array Bea**	**32.18**	**322**	P	**P**	**11 31 31.6**	**+2.6**
comp=Z,0.6nm,0.6s,baz=130,slow=9.2,SNR=2.8							
comp=Z,0.6nm,0.6s							
YKA	**Yellowknife Ar**	**50.15**	**348**	P	**P**	**11 33 56.8**	**+0.9**
comp=Z,0.8nm,0.6s,baz=159,slow=7.4,SNR=22							
comp=Z,0.8nm,0.6s							
CPUP	**Villa Florida**	**53.92**	**139**	P	**P**	**11 34 28.7**	**+4.2**
comp=Z,2.0nm,0.5s,baz=302,slow=1.7,SNR=4.0							
comp=Z,2.0nm,0.5s							
ILAR	**Eielson Array**	**61.69**	**337**	P	**P**	**11 35 20.3**	**+1.7**
comp=Z,0.5nm,0.6s,baz=163,slow=4.2,SNR=11							
comp=Z,0.5nm,0.6s							

---

*GUC **27** 11:26:10.7±0.8, 30°.18S×71°.28W, h66km±3km, ML3.6*
*SJA **27** 11:26:13.6±0.8, 30°.26S×71°.22W, h54km±5km, ML3.2, MW3.4*
ISC 27 11:26:12.9±1.6, 30°.20S±0°.04×71°.41W±0°.06, h53km±11km, n27, σ0°96/41, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.31**	**29**	⇓*iP*	**Pn**	**11 26 22.6**	**+0.2**
CO05				*i S*	**Sn**	**11 26 30.1**	**+0.9**
CO05				IAML		11 26 30.6	
comp=E,4μm,0.1s							
CO06	**Fray Jorge**	**0.51**	**202**	⇓*iP*	**Pn**	**11 26 24.8**	**+0.3**
CO06				*i S*	**Sn**	**11 26 34.3**	**+1.5**
CO06				IAML		11 26 36.0	
comp=E,2μm,0.2s							
GO04	**Tololo Observa**	**0.53**	**88**	*i P*	**Pn**	**11 26 24.3**	**-0.6**
GO04				*i S*	**Sn**	**11 26 33.4**	**-0.2**
GO04	**Tololo Observa**	**0.53**	**88**	*eP*	**Pn**	**11 26 23.9**	**-1.0**
GO04				*i S*	**Sn**	**11 26 33.0**	**-0.6**
GO04				IAML		11 26 34.2	
comp=E,15μm,0.3s							
CO03	**El Pedregal**	**0.89**	**136**	⇓*iP*	**Pn**	**11 26 28.2**	**-1.2**
CO03				*eS*	**Sn**	**11 26 39.9**	**-1.5**
CO03				IAML		11 26 40.5	
comp=N,7μm,0.2s							
CO01	**Juntas del Tor**	**1.16**	**80**	⇑*iP*	**Pn**	**11 26 32.5**	**-0.5**
CO01				*i S*	**Sn**	**11 26 47.4**	**-0.7**
CO01				IAML		11 26 48.1	
comp=N,1μm,0.2s							
LCO	**Las Campanas**	**1.33**	**28**	*eP*	**Pn**	**11 26 34.5**	**-0.9**
LCO				*i S*	**Sn**	**11 26 51.8**	**-0.4**
LCO				IAML		11 26 54.7	
comp=N,3μm,0.2s							
AROD	**Rodeo**	**1.68**	**90**	*i P*	**Pn**	**11 26 40.7**	**+0.6**
ACDV	**Cuesta del Vie**	**1.98**	**90**	*i P*	**Pn**	**11 26 45.1**	**+0.9**
ACDV				IAML		11 27 12.8	
comp=Z,62nm,0.2s							
ACCO	**Cerro Coronel**	**2.06**	**102**	*i P*	**Pn**	**11 26 46.2**	**+0.8**
ACCO				*i S*	**Sn**	**11 27 09.8**	**-0.3**
VA06	**Catapilco**	**2.36**	**178**	*eP*	**Pn**	**11 26 48.6**	**-0.6**
VA06				*i S*	**Sn**	**11 27 16.6**	**-0.4**
VA06				IAML		11 27 26.9	
comp=E,315nm,0.3s							
RTLS	**Leoncito**	**2.42**	**132**	*i P*	**Pn**	**11 26 51.2**	**+0.9**
RTLS				*i S*	**Sn**	**11 27 19.0**	**+0.2**
RTLS				IAML		11 27 27.7	
comp=Z,234nm,1.0s							
AUSP	**Uspallata**	**2.66**	**140**	*i P*	**Pn**	**11 26 54.7**	**+1.1**
AUSP				*i S*	**Sn**	**11 27 24.8**	**0.0**
ROCH	**El Roble**	**2.79**	**173**	*eP*	**Pn**	**11 26 54.7**	**-0.5**
ROCH				*i S*	**Sn**	**11 27 26.6**	**-1.2**
ROCH				IAML		11 27 37.8	
comp=N,184nm,0.3s							
VA01	**Torpederas**	**2.83**	**184**	*eP*	**Pn**	**11 26 54.4**	**-1.2**
VA01				IAML		11 27 38.0	
comp=E,110nm,0.3s							
PEL	**Peldehue**	**3.00**	**168**	*eP*	**Pn**	**11 26 57.5**	**-0.5**
MT02	**Curacav**	**3.06**	**176**	*eP*	**Pn**	**11 26 58.0**	**-0.8**
VCA	**Vinchina**	**3.15**	**63**	*i P*	**Pn**	**11 27 01.8**	**+1.6**
VCA				IAML		11 27 41.5	
comp=Z,201nm,0.3s							
MT10	**Hacienda Santa**	**3.16**	**167**	*eP*	**Pn**	**11 27 00.4**	**+0.2**
MT10				*i S*	**Sn**	**11 27 37.4**	**+0.6**
MT10				IAML		11 27 48.7	
comp=E,284nm,0.4s							
MT16	**CCHEN**	**3.31**	**167**	*eP*	**Pn**	**11 27 03.6**	**+1.4**
MT03	**Universidad Ad**	**3.38**	**167**	*eP*	**Pn**	**11 27 04.6**	**+1.4**
MT04	**Ro Olivares**	**3.38**	**162**	*eP*	**Pn**	**11 27 05.0**	**+1.6**
AVFE	**Valle Fertil**	**3.45**	**99**	*i P*	**Pn**	**11 27 04.4**	**+0.2**
AVFE				*i S*	**Sn**	**11 27 42.9**	**-0.9**
AVFE				IAML		11 27 48.9	
comp=Z,49nm,0.5s							
MT08	**Bocatoma Ro**	**3.45**	**160**	*eP*	**Pn**	**11 27 06.1**	**+1.7**
MT09	**Talagante**	**3.59**	**174**	*eP*	**Pn**	**11 27 05.7**	**-0.5**
MT01	**Popeta**	**3.66**	**178**	*eP*	**Pn**	**11 27 06.0**	**-0.9**
MT13	**San Alfonso**	**3.67**	**165**	*eP*	**Pn**	**11 27 08.0**	**+0.9**

IDC 27 11:40:14.0±999.0, 48°.60N×48°.00E, h0km, Error ellipse: s-maj=2499.0km s-min=170.5km az=70.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.78**	**71**	I	I	12 16 50.0	
0.2nm,0.6s,baz=261,slow=302,SNR=2.3							
I46RU	**ZALESOVO INFRA**	**23.46**	**63**	I	I	14 04 35.0	
baz=266,slow=329							
I34MN	**SONGINO INFRAS**	**38.11**	**69**	I	I	15 36 04.4	
baz=293,slow=334,SNR=0.6							

IDC 27 11:41:37.0±265.0, 54°.37N×42°.34E, h0km, Error ellipse: s-maj=119.5km s-min=81.9km az=146.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.74**	**311**	I	I	12 05 00.0	
baz=128,slow=334,SNR=1.4							
I31KZ	**AKTYUBINSK INF**	**10.38**	**106**	I	I	12 37 40.0	
baz=303,slow=306,SNR=2.8							
I46RU	**ZALESOVO INFRA**	**24.61**	**73**	I	I	14 15 10.0	
baz=288,slow=322,SNR=1.8							
I34MN	**SONGINO INFRAS**	**39.52**	**72**	I	I	15 43 40.0	
baz=304,slow=334,SNR=0.6							

---

*SNET **27** 12:02:02.9±1.1, 13°.33N×90°.18W, h32km±3km, ML3.5*
*CATAC **27** 12:02:02.0±6.4, 13°N±37°×9°0W±4°2, h28km±14km, M3.3/8, MLv3.3/8, Error ellipse: s-maj=118.3km s-min=21.1km az=49.4, confirmed*
*GCG **27** 12:02:02.3±0.8, 13°.30N×90°.26W, h37km±12km, MD3.6, Hypocentre not reviewed by the ISC*
ISC 27 12:02:00.2±2.9, 13°.24N±0°.09×90°.3W±0°.1, h18km±4km, n46, σ0°27/56, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.80**	**35**	*eP*	**Pn**	**12 02 16.7**	**-0.1**
NUBE				*eS*	**Sb**	**12 02 26.4**	**+0.1**
NUBE	**Las Nubes**	**0.80**	**35**	S	**Sn**	**12 02 27.5**	**-0.8**
NUBE	**Las Nubes**	**0.80**	**35**	P	**Pn**	**12 02 17.0**	**+0.3**
NUBE	**Las Nubes**	**0.80**	**35**	P	**Pn**	**12 02 17.2**	**+0.4**
CEVE	**Cerro Verde**	**0.85**	**46**	*eP*	**Pn**	**12 02 17.6**	**+0.1**
CEVE				*eS*	**Sn**	**12 02 29.4**	**-0.2**
CEVE				IAML		12 02 30.9	
comp=Z,4μm,0.3s							
CEVE	**Cerro Verde**	**0.85**	**46**	S	**Sn**	**12 02 29.9**	**+0.4**
CEVE	**Cerro Verde**	**0.85**	**46**	P	**Pn**	**12 02 17.7**	**+0.3**
CEVE	**Cerro Verde**	**0.85**	**46**	P	**Pn**	**12 02 17.7**	**+0.3**
SBLS	**San Blas**	**0.85**	**46**	*eP*	**Pn**	**12 02 17.6**	**+0.1**
SBLS				*eS*	**Sg**	**12 02 29.0**	**+0.6**
RTR	**El Retiro**	**0.88

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.26**	**25**	*i* P	**Pn**	**12 03 09.4**	**0.0**
YUK				AMB	AMB	12 03 09.9	
	410nm,0.3s						
YUK				*i* S	**Sn**	**12 03 21.0**	**+0.4**
YUK				A	A	12 03 22.3	
	700nm,0.6s						
YUK				A	A	12 03 22.3	
	6μm,0.6s						
NMR	**Nemuro--Hokkai**	**0.43**	**178**	*i* P	**Pn**	**12 03 10.3**	**0.0**
NMR				*i* S	**Sn**	**12 03 22.0**	**-0.1**
NEM2	**Nemuro 2**	**0.44**	**177**	*i* P	**Pn**	**12 03 10.3**	**-0.1**
NEM2				S	**Sn**	**12 03 22.1**	**-0.1**
JRA	**Rausu**	**0.45**	**288**	*i* P	**Pn**	**12 03 10.0**	**-0.3**
JRA				*e*S	**Sn**	**12 03 22.4**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.51**	**267**	*i* P	**Pn**	**12 03 10.8**	**0.0**
JNSB				*e*S	**Sn**	**12 03 23.9**	**+0.8**
JNK	**Nakash**	**0.75**	**254**	*i* P	**Pn**	**12 03 12.6**	**-0.1**
JNK				S	**Sn**	**12 03 26.5**	**0.0**
SHO	**Shikotan**	**0.82**	**85**	*e*P	**Pn**	**12 03 13.3**	**-0.1**
SHO				AMB	AMB	12 03 13.4	
	420nm,0.4s						
SHO				*e*S	**Sn**	**12 03 27.5**	**-0.1**
SHO				A	A	12 03 28.1	
	1μm,0.4s						
SHO				A	A	12 03 28.1	
	980nm,0.4s						
JKHN	**Kushirohamanak**	**0.82**	**209**	*i* P	**Pn**	**12 03 13.3**	**-0.1**
JKHN				S	**Sn**	**12 03 27.7**	**+0.1**
AKK	**Akkeshi**	**1.00**	**219**	*e*P	**Pn**	**12 03 14.7**	**-0.6**
JAK	**Akkeshi**	**1.09**	**223**	*i* P	**Pn**	**12 03 16.0**	**-0.2**
JAK				S	**Sn**	**12 03 32.4**	**-0.2**
JTKR	**Abashiri--Toko**	**1.31**	**278**	P	**Pn**	**12 03 18.2**	**-0.5**
JTKR				S	**Sn**	**12 03 36.2**	**-0.8**
JAR	**Ashorobuto**	**1.50**	**251**	P	**Pn**	**12 03 21.3**	**+0.3**
JAR				S	**Sn**	**12 03 41.9**	**+0.9**
JOB	**Onbets**	**1.63**	**237**	*i* P	**Pn**	**12 03 22.8**	**+0.2**
JOB				S	**Sn**	**12 03 44.2**	**+0.2**
KUR	**Kuril'sk**	**2.11**	**46**	*e*P	**Pn**	**12 03 28.7**	**+0.1**
KUR				AMB	AMB	12 03 29.8	
	80nm,0.7s						
KUR				*e*S	**Sn**	**12 03 54.5**	**-0.1**
KUR				A	A	12 03 59.5	
	110nm,0.3s						
KUR				A	A	12 03 59.5	
	60nm,0.3s						

*IDC **27** 12:44:27.7±1.2, 1.92N×97.74W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=60.6km s-min=24.7km az=62.0*
*NEIC **27** 12:44:30.0±1.2, 1.89N±0.06×97.9W±0.2, h10km±1km, mb4.5/44, Error ellipse: s-maj=26.2km s-min=10.4km az=261.0*
ISC 27 12:44:29.3±1.0, 1.9N±0.1×97.9W±0.1, h10km, n55, σ0.78/47, mb4.5/26, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERN	**Volcan Telica**	**15.27**	**45**	Pn	**Pn**	**12 48 03.6**	**-1.6**
HERN				IAmb	IAmb	12 48 10.8	
	comp=Z,50nm,0.5s						
CNGN	**Cerro Negro**	**15.29**	**46**	Pn	**Pn**	**12 48 06.2**	**+0.6**
USIM	**UNAN**	**15.35**	**48**	Pn	**Pn**	**12 48 06.5**	**+0.3**
ZAIG	**Zacatecas**	**21.26**	**348**	P	**P**	**12 49 17.4**	**+1.3**
FLOC	**Florencia**	**22.21**	**90**	P	**P**	**12 49 27.9**	**+1.6**
FLOC				IAmb	IAmb	12 49 32.6	
	comp=Z,15nm,1.0s						
NNA	**Nana**	**25.03**	**124**	P	**P**	**12 49 54.1**	**+0.1**
NNA				IAmb	IAmb	12 49 56.9	
	comp=Z,17nm,1.3s						
RUSC	**La Rusia**	**25.05**	**80**	P	**P**	**12 49 53.8**	**-0.8**
CZSB	**Cruzeiro do Su**	**26.86**	**111**	P	**P**	**12 50 11.2**	**+0.7**
CZSB				IAmb	IAmb	12 50 13.3	
	comp=Z,10nm,1.1s						
HNDO	**Hondo**	**27.53**	**357**	P	**P**	**12 50 15.6**	**-0.7**
TXAR	**Lajitas Array**	**27.85**	**349**	P	**P**	**12 50 19.7**	**+0.4**
TXAR	**Lajitas Array**	**27.85**	**349**	P	**P**	**12 50 19.8**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=163,slow=11,SNR=15						
	comp=Z,1.8nm,0.9s						
TX31	**Lajitas Ar. Si**	**27.85**	**349**	P	**P**	**12 50 19.7**	**+0.4**
SDV	**Santo Domingo**	**27.98**	**75**	P	**P**	**12 50 20.5**	**-0.3**
SDV				IAmb	IAmb	12 50 29.7	
	comp=Z,4.1nm,0.8s						
SAND	**Sanderson**	**28.21**	**352**	P	**P**	**12 50 22.2**	**-0.3**
SAND				IAmb	IAmb	12 50 24.3	
	comp=Z,12nm,1.3s						
JCT	**Junction City**	**28.50**	**357**	P	**P**	**12 50 24.6**	**-0.4**
JCT				IAmb	IAmb	12 50 25.8	
	comp=Z,4.8nm,0.9s						
HNVL	**Huntsville, TX**	**28.81**	**4**	P	**P**	**12 50 29.0**	**+1.3**
BNM	**Barren Site**	**33.13**	**347**	P	**P**	**12 51 06.4**	**+0.4**
SFX	**San Felipe**	**33.15**	**333**	P	**P**	**12 51 06.6**	**+0.6**
SFX				IAmb	IAmb	12 51 08.3	
	comp=Z,10nm,1.4s						
LENM	**Lemitar**	**33.22**	**346**	P	**P**	**12 51 04.7**	**-2.1**
ETMB	**Extrema**	**33.60**	**111**	P	**P**	**12 51 10.2**	**-0.1**
ETMB				IAmb	IAmb	12 51 11.9	
	comp=Z,9.4nm,1.3s						
ANMO	**Albuquerque**	**33.85**	**347**	P	**P**	**12 51 12.5**	**+0.1**
T25A	**Trinidad**	**35.60**	**351**	P	**P**	**12 51 27.0**	**-0.4**
T25A				IAmb	IAmb	12 51 34.2	
	comp=Z,10nm,1.3s						
WUAZ	**Wupatki**	**35.74**	**341**	P	**P**	**12 51 28.0**	**-0.6**
WUAZ				IAmb	IAmb	12 51 30.7	
	comp=Z,5.7nm,1.1s						
SDCO	**Great Sand Dun**	**36.37**	**350**	P	**P**	**12 51 33.6**	**-0.5**
MVCO	**Mesa Verde**	**36.49**	**346**	P	**P**	**12 51 34.9**	**-0.3**
MVCO				IAmb	IAmb	12 51 37.0	
	comp=Z,14nm,1.5s						
S22A	**4UR Ranch, Cre**	**36.63**	**348**	P	**P**	**12 51 35.1**	**-1.2**
PV13	**Radium Mtn., P**	**37.47**	**346**	P	**P**	**12 51 42.9**	**-0.5**
LCMT	**Little Creek M**	**37.72**	**340**	P	**P**	**12 51 45.0**	**-0.5**
H03N2	**Juan Fernandez**	**39.42**	**155**	T	T	13 34 10.1	
	baz=332,slow=77,SNR=5.6						
H03N1	**Juan Fernandez**	**39.43**	**155**	T	T	13 34 11.1	
	baz=332,slow=77,SNR=10						
H03N3	**Juan Fernandez**	**39.43**	**155**	T	T	13 34 12.3	
	baz=332,slow=77,SNR=8.5						
SIV	**San Ignacio**	**40.47**	**117**	P	**P**	**12 52 08.0**	**-0.6**
	comp=Z,1.8nm,1.1s,baz=260,slow=6.4,SNR=4.2						
	comp=Z,1.8nm,1.1s						
NVAR	**Mina Array Bea**	**40.90**	**335**	P	**P**	**12 52 13.8**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=146,slow=8.4,SNR=5.7						
	comp=Z,1.5nm,0.9s						
HWUT	**Hardware Ranch**	**41.42**	**344**	P	**P**	**12 52 16.3**	**0.0**
HWUT				IAmb	IAmb	12 52 17.8	
	comp=Z,7.3nm,1.2s						
HVU	**Hansel Valley**	**41.92**	**343**	P	**P**	**12 52 19.8**	**-0.5**
PD31	**Pinedale Array**	**42.03**	**347**	P	**P**	**12 52 20.8**	**-0.5**
PDAR	**Pinedale Array**	**42.03**	**347**	P	**P**	**12 52 21.4**	**0.0**
PDAR	**Pinedale Array**	**42.03**	**347**	P	**P**	**12 52 21.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=157,slow=9.3,SNR=11						
	comp=Z,1.1nm,0.8s						
YKA	**Yellowknife Ar**	**61.75**	**351**	P	**P**	**12 54 46.7**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=158,slow=6.6,SNR=13						
	comp=Z,1.5nm,1.0s						
N31M	**Braeburn, Yuko**	**65.98**	**341**	P	**P**	**12 55 15.0**	**-0.7**
L29M	**L29M**	**67.92**	**342**	P	**P**	**12 55 28.6**	**+0.6**
INK	**Inuvik**	**70.59**	**347**	P	**P**	**12 55 44.5**	**0.0**
INK				IAmb	IAmb	12 55 45.7	
	comp=Z,6.1nm,1.1s						
J26L	**Joseph Creek**	**70.63**	**341**	P	**P**	**12 55 45.2**	**+0.3**
J26L				IAmb	IAmb	12 55 46.8	
	comp=Z,7.0nm,1.2s						
G29M	**Pine Creek**	**70.65**	**344**	P	**P**	**12 55 45.3**	**+0.4**
RND	**Reindeer**	**71.80**	**338**		**P**	**12 55 52.9**	**+0.9**
IL31		**71.91**	**340**	P	**P**	**12 55 52.3**	**-0.2**
IL31				IAmb	IAmb	12 55 52.6	
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**71.91**	**340**	P	**P**	**12 55 52.2**	**-0.3**
ILAR	**Eielson Array**	**71.91**	**340**	P	**P**	**12 55 52.0**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=148,slow=4.9,SNR=27						
	comp=Z,2.1nm,0.8s						
PRP	**Porcupine Dome**	**71.93**	**341**	IAmb	IAmb	12 55 53.6	
	comp=Z,6.2nm,1.1s						
H24K	**Noodor Dome**	**72.89**	**341**	IAmb	IAmb	12 55 59.9	
	comp=Z,8.4nm,1.3s						
D25K	**Kavik River**	**74.59**	**344**	IAmb	IAmb	12 56 10.0	
	comp=Z,5.7nm,1.1s						
F21K	**Alatna River**	**75.53**	**341**	IAmb	IAmb	12 56 28.2	
	comp=Z,5.0nm,1.5s						
F20K	**Avaraart Lake**	**76.20**	**340**	IAmb	IAmb	12 56 19.2	
	comp=Z,7.8nm,1.3s						
ASAR	**Alice Springs**	**125.45**	**242**	PKP	**PKiKP**	**13 03 32.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=112,slow=2.5,SNR=4.2						
WRA	**Warramunga Arr**	**125.96**	**247**	PKP	**PKPdf**	**13 03 32.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=102,slow=1.7,SNR=5.2						

*MDD **27** 12:47:55.7±1.1, 33.55N×6.36W, h0km, Mb3.9/6, M_mb3.2/6, Error ellipse: s-maj=9.5km s-min=4.7km az=32.0*
*INMG **27** 12:47:58.7±1.2, 33.49N×6.33W, h32km±16km, ML2.1, Error ellipse: s-maj=12.8km s-min=4.7km az=38.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*
*IGIL **27** 12:47:59.1, 33.50N×6.32W, h32km, ML2.2*
ISC 27 12:48:00.1±3.4, 33.9N±0.2×6.25W±0.07, h10km, n20, σ1.22/34, 6C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**3.00**	**6**	S	**Sb**	**12 49 28.2**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.63**	**338**	*e*P	**Pn**	**12 48 56.7**	**+0.3**
PBDV				*e*S	**Sn**	**12 49 40.2**	**+0.9**
PBDV				*i* AML	AML	12 49 43.3	
ELGU	**Los Guajares,**	**3.67**	**35**	P	**Pn**	**12 48 56.0**	**-1.1**
ELGU				⇑*i*Vmb_V		12 48 59.7	
	77nm,SNR=1.4						
ELGU				S	**Sn**	**12 49 43.4**	**+3.0**
PVAQ	**Vaqueiros**	**3.72**	**342**	*e*P	**Pn**	**12 48 58.3**	**+0.7**
PVAQ				*i* AML	AML	12 49 47.9	
EGRO	**El Granado**	**3.79**	**345**	P	**Pn**	**12 48 59.0**	**+0.5**
EGRO				⇑*i*Vmb_V		12 49 01.3	
	206nm,SNR=1.5						
EGRO				S	**Sn**	**12 49 44.4**	**+1.3**
PFVI	**Vila Bisbo**	**3.87**	**328**	*e*P	**Pn**	**12 48 59.2**	**-0.5**
EMIN	**Mina Concepcio**	**3.90**	**355**	P	**Pn**	**12 48 59.5**	**-0.6**
EMIN				⇑*i*Vmb_V		12 49 07.8	
	114nm,SNR=1.5						
EMIN				S	**Sn**	**12 49 46.5**	**+0.5**
MORF	**Marmelete**	**3.94**	**331**	*e*P	**Pn**	**12 49 00.3**	**-0.4**
MORF				*e*S	**Sn**	**12 49 45.0**	**-2.1**
MORF				IAML		12 49 45.7	
	comp=N,4.9nm,0.3s						
MORF	**Marmelete**	**3.94**	**331**	*e*P	**Pn**	**12 49 00.6**	**-0.1**
MORF				*e*S	**Sn**	**12 49 47.4**	**+0.3**
MORF				*i* AML	AML	12 49 48.8	
MORF				*i* AML	AML	12 49 48.8	
MORF				*i* AML	AML	12 49 53.0	
PCVE	**Castro Verde**	**4.02**	**339**	*e*P	**Pn**	**12 49 02.7**	**+0.9**
PCVE				*e*S	**Sn**	**12 49 50.0**	**+1.1**
PCVE				*i* AML	AML	12 49 51.3	
PCVE				*i* AML	AML	12 49 53.1	
PTEO	**Sao Teotonio**	**4.18**	**332**	*e*P	**Pn**	**12 49 04.2**	**+0.2**
ECAB	**El Cabril**	**4.24**	**9**	P	**Pn**	**12 49 03.7**	**-1.2**
ECAB				⇑*i*Vmb_V		12 49 11.8	
	comp=N,69nm,SNR=0.9						
ECAB				S	**Sn**	**12 49 56.8**	**+2.3**
MESJ	**Messejana**	**4.27**	**338**	*e*P	**Pn**	**12 49 04.9**	**-0.3**
MESJ	**Messejana**	**4.27**	**338**	*e*P	**Pn**	**12 49 05.8**	**+0.7**
MESJ				*e*S	**Sn**	**12 49 55.4**	**+0.4**
MESJ				*i* AML	AML	12 49 58.4	
PBAR	**Barrancos**	**4.34**	**352**	*e*P	**Pn**	**12 49 07.8**	**+1.7**
PBAR				*e*S	**Sn**	**12 49 58.2**	**+1.4**
PBAR				*i* AML	AML	12 50 01.3	
PBAR				*i* AML	AML	12 50 02.2	
PBAR				*i* AML	AML	12 50 02.5	
EADA	**Adamuz**	**4.49**	**17**	P	**Pn**	**12 49 08.0**	**-0.3**
EADA				⇑*i*Vmb_V		12 49 12.8	
	comp=N,71nm,SNR=1.3						
EADA				S	**Sn**	**12 50 02.4**	**+1.8**
EBAD	**Badajoz**	**4.91**	**353**	⇑*i*Vmb_V		12 49 13.5	
	comp=N,132nm,SNR=1.3						
EBAD				P	**Pn**	**12 49 14.0**	**+0.1**
EBAD				S	**Sn**	**12 50 10.7**	**-0.1**
PSIM	**Granatula de C**	**5.33**	**21**	P	**Pn**	**12 49 19.2**	**-0.6**
PSIM				S	**Sn**	**12 50 21.9**	**+0.7**
PMTG	**Montargil**	**5.42**	**343**	*e*P	**Pn**	**12 49 22.4**	**+1.4**
PMTG				*e*S	**Sn**	**12 50 24.2**	**+0.8**
PAB	**San Pablo**	**5.86**	**15**	S	**Sn**	**12 50 33.1**	**-1.3**

*IDC **27** 12:48:39.7±0.9, 2.11N×97.86W, h0km, mb4.1/11, mbtmp4.1/11, MS3.8/29, Error ellipse: s-maj=35.0km s-min=16.1km az=54.0*
*NEIC **27** 12:48:42.0±1.0, 2.0N±0.1×97.9W±0.1, h10km±2km, mb4.5/108, Error ellipse: s-maj=26.0km s-min=19.0km az=241.0*
ISC 27 12:48:40.9±0.7, 2.03N±0.09×97.9W±0.1, h10km, n129, σ0.81/67, mb4.5/62, MS3.8/26, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APG	**El Apazote**	**14.83**	**29**	LR	LR	12 56 26.8	
	comp=Z,55nm,20.7s,baz=276,slow=32						
HERN	**Volcan Telica**	**15.19**	**46**		**S**	**12 55 23.4**	**+2.2**
JTS	**Las Juntas de**	**15.25**	**57**	LR	LR	12 56 17.5	
	comp=Z,523nm,19.3s,baz=227,slow=30						
CMIG	**Matias Romero**	**15.26**	**11**	LR	LR	12 56 40.8	
	comp=Z,686nm,19.6s,baz=164,slow=32						
TLIG	**Tlapa**	**15.45**	**358**	P	**Pn**	**12 52 20.0**	**+0.7**
TGUH	**Tegucigalpa,Un**	**15.91**	**41**	Pn	**Pn**	**12 52 25.0**	**-0.2**
TGUH				IAmb	IAmb	12 52 35.6	
	comp=Z,66nm,1.5s						
MOIG	**Morelia**	**17.84**	**350**	P	**P**	**12 52 50.8**	**+0.4**
OTAV	**Otavalo**	**19.52**	**95**	P	**P**	**12 53 09.3**	**+0.1**
SLOR	**San Lorenzo -**	**19.59**	**98**	P	**P**	**12 53 10.0**	**0.0**
ZAIG	**Zacatecas**	**21.11**	**348**		**P**	**12 53 27.8**	**+1.5**
ATAH	**Atahualpa**	**21.48**	**115**	P	**P**	**12 53 31.5**	**+1.1**
	comp=Z,8.5nm,1.1s,baz=302,slow=11,SNR=5.9						
ATAH				LR	LR	12 59 35.1	
	comp=Z,146nm,19.1s,baz=301,slow=30						
	comp=Z,8.5nm,1.1s						
FLOC	**Florencia**	**22.23**	**91**	P	**P**	**12 53 37.5**	**-0.6**
ROSC	**El Rosal**	**23.70**	**83**	P	**P**	**12 53 54.1**	**+0.5**
ROSC				IAmb	IAmb	12 54 12.1	
	comp=Z,25nm,1.2s						
ROSC	**El Rosal**	**23.70**	**83**	P	**P**	**12 53 54.1**	**+0.5**
	comp=Z,9.0nm,0.4s,baz=263,slow=8.3,SNR=5.7						
ROSC				LR	LR	13 01 16.7	
	comp=Z,198nm,18.5s,baz=276,slow=32						
	comp=Z,9.0nm,0.4s						
HBVL	**Hebbronville**	**24.91**	**358**	P	**P**	**12 54 04.6**	**+0.4**
LPIG	**La Paz**	**25.02**	**332**	LR	LR	13 01 36.5	
	comp=Z,500nm,19.8s,baz=140,slow=31						
RUSC	**La Rusia**	**25.04**	**80**	P	**P**	**12 54 05.8**	**-0.4**
833A	**Chaparral WMA,**	**26.19**	**357**	P	**P**	**12 54 16.4**	**+0.6**
CZSB	**Cruzeiro do Su**	**26.93**	**111**	P	**P**	**12 54 22.7**	**0.0**
CZSB				IAmb	IAmb	12 54 24.2	
	comp=Z,15nm,1.0s						
DRIO	**Del Rio**	**27.37**	**355**	P	**P**	**12 54 26.6**	**0.0**
HNDO	**Hondo**	**27.38**	**357**	P	**P**	**12 54 27.6**	**+0.9**
HNDO				IAmb	IAmb	12 54 33.6	
	comp=Z,18nm,1.5s						
TXAR	**Lajitas Array**	**27.71**	**349**	P	**P**	**12 54 30.1**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=164,slow=11,SNR=16						
TXAR				LR	LR	13 03 42.1	
	comp=Z,42nm,20.3s,baz=132,slow=33						
	comp=Z,2.1nm,0.9s						
TX31	**Lajitas Ar. Si**	**27.71**	**349**	P	**P**	**12 54 29.8**	**+0.1**
SDV	**Santo Domingo**	**27.96**	**75**	P	**P**	**12 54 31.7**	**-0.6**
SDV				IAmb	IAmb	12 54 43.4	
	comp=Z,12nm,1.3s						
SDV	**Santo Domingo**	**27.96**	**75**	LR	LR	13 04 26.8	
	comp=Z,73nm,18.7s,baz=262,slow=34						
SAND	**Sanderson**	**28.07**	**352**	P	**P**	**12 54 33.5**	**+0.8**
SAND				IAmb	IAmb	12 54 34.9	
	comp=Z,12nm,1.2s						
JCT	**Junction City**	**28.36**	**357**	P	**P**	**12 54 36.3**	**+0.9**
ALPN	**Alpine**	**28.71**	**350**	P	**P**	**12 54 39.4**	**+0.7**
ALPN				IAmb	IAmb	12 54 40.7	
	comp=Z,7.9nm,1.2s						
BRDY	**Brady**	**29.12**	**358**	P	**P**	**12 54 42.6**	**+0.4**
VHRN	**Van Horn**	**29.38**	**347**	P	**P**	**12 54 45.5**	**+0.9**
VHRN				IAmb	IAmb	12 54 46.5	
	comp=Z,9.5nm,1.3s						
PECS	**Pecos**	**29.73**	**350**	P	**P**	**12 54 48.5**	**+0.9**
ODSA	**Odessa**	**30.25**	**352**	P	**P**	**12 54 52.4**	**+0.2**
ODSA				IAmb	IAmb	12 54 53.8	
	comp=Z,13nm,1.1s						
CLNB	**Carlsbad**	**30.60**	**350**	P	**P**	**12 54 56.6**	**+1.3**
HTMS	**Hat Mesa**	**30.76**	**350**	P	**P**	**12 54 57.9**	**+1.1**
SN05	**Snyder 5**	**30.82**	**355**	P	**P**	**12 54 57.2**	**0.0**
SN05				IAmb	IAmb	12 54 57.7	
	comp=Z,6.9nm,1.1s						
POST	**Post**	**31.06**	**354**	P	**P**	**12 54 59.4**	**0.0**
APMT	**Aspermont**	**31.21**	**356**	P	**P**	**12 55 00.8**	**+0.3**
DKNS	**Dickens**	**31.60**	**355**	P	**P**	**12 55 04.1**	**-0.1**
DKNS				IAmb	IAmb	12 55 05.3	
	comp=Z,11nm,1.1s						
121A	**Cookes Peak, D**	**31.74**	**344**	P	**P**	**12 55 06.5**	**+1.1**
121A				IAmb	IAmb	12 55 07.9	
	comp=Z,5.2nm,0.9s						
BNM	**Barren Site**	**32.98**	**347**	P	**P**	**12 55 17.4**	**+0.9**
ETMB	**Extrema**	**33.67**	**111**	P	**P**	**12 55 21.5**	**-0.9**
ETMB				IAmb	IAmb	12 55 22.4	
	comp=Z,9.8nm,1.0s						
ANMO	**Albuquerque**	**33.71**	**347**	P	**P**	**12 55 23.0**	**+0.3**
ANMO	**Albuquerque**	**33.71**	**347**	LR	LR	13 07 49.5	
	comp=Z,169nm,21.3s,baz=331,slow=34						
PCRV	**Puerto La Cruz**	**34.02**	**75**	LR	LR	13 09 20.8	
	comp=Z,122nm,19.7s,slow=36						
X18A	**Snowflake**	**34.24**	**342**	IAmb	IAmb	12 55 35.6	
	comp=Z,8.9nm,1.5s						
RTBA	**Rita Blanca**	**34.53**	**353**	P	**P**	**12 55 29.5**	**-0.3**
LPAZ	**La Paz**	**34.58**	**123**	P	**P**	**12 55 29.9**	**-1.1**
LPAZ	**La Paz**	**34.58**	**123**	LR	LR	13 07 43.1	
	comp=Z,139nm,20.1s,baz=299,slow=33						
SJG	**San Juan**	**35.00**	**61**	LR	LR	13 07 01.2	
	comp=Z,58nm,18.2s,baz=197,slow=32						
WVT	**Waverly**	**35.19**	**14**	P	**P**	**12 55 34.4**	**-0.9**
WVT				IAmb	IAmb	12 55 35.4	
	comp=Z,12nm,1.1s						
MGMO	**Mountain Grove**	**35.34**	**8**	P	**P**	**12 55 36.4**	**-0.2**
MGMO				IAmb	IAmb	12 55 37.9	
	comp=Z,13nm,1.2s						
T25A	**Trinidad**	**35.45**	**351**	IAmb	IAmb	12 55 40.2	
	comp=Z,11nm,1.3s						
WUAZ	**Wupatki**	**35.60**	**341**	IAmb	IAmb	12 55 41.8	
	comp=Z,9.4nm,1.2s						
PFO	**Pinyon Flats O**	**35.91**	**333**	LR	LR	13 07 56.1	
	comp=Z,88nm,20.5s,baz=116,slow=32						
TKL	**Tuckaleechee C**	**35.94**	**20**	LR	LR	13 09 54.1	
	comp=Z,298nm,18.5s,baz=194,slow=36						
SDCO	**Great Sand Dun**	**36.23**	**350**	P	**P**	**12 55 44.7**	**+0.2**
MVCO	**Mesa Verde**	**36.35**	**346**	IAmb	IAmb	12 55 47.5	
	comp=Z,14nm,1.4s						
S22A	**4UR Ranch, Cre**	**36.48**	**348**	IAmb	IAmb	12 55 49.1	
	comp=Z,11nm,1.4s						
PV13	**Radium Mtn., P**	**37.33**	**346**	IAmb	IAmb	12 55 55.6	
	comp=Z,7.3nm,1.1s						
PV23	**Carpenter Ridg**	**37.66**	**346**	IAmb	IAmb	12 55 59.0	
	comp=Z,14nm,1.2s						
SPR3	**Spring Creek 3**	**39.74**	**340**	IAmb	IAmb	12 56 16.2	
	comp=Z,10nm,1.4s						
DUG	**Dugway, Tooele**	**40.33**	**342**	P	**P**	**12 56 19.6**	**+0.7**
L42A	**Oliver, Polo**	**40.48**	**9**	P	**P**	**12 56 19.4**	**-0.5**
L42A				IAmb	IAmb	12 56 20.0	
	comp=Z,18nm,1.2s						
K30B	**Basset**	**40.50**	**358**	P	**P**	**12 56 20.7**	**+0.6**
SIV	**San Ignacio**	**40.55**	**118**	P	**P**	**12 56 20.7**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=274,slow=5.6,SNR=5.9						
SIV				LR	LR	13 12 41.2	
	comp=Z,89nm,19.0s,baz=12,slow=36						
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**40.77**	**335**	P	**P**	**12 56 23.4**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=147,slow=8.3,SNR=7.9						
	comp=Z,0.5nm,0.4s						
HWUT	**Hardware Ranch**	**41.28**	**344**	P	**P**	**12 56 28.0**	**+1.2**
HWUT				IAmb	IAmb	12 56 29.6	
	comp=Z,16nm,1.4s						
ECSD	**EROS Data Cent**	**41.54**	**1**	P	**P**	**12 56 28.2**	**-0.5**
ECSD				IAmb	IAmb	12 56 28.9	
	comp=Z,6.8nm,1.1s						
HVU	**Hansel Valley**	**41.78**	**343**	IAmb	IAmb	12 56 33.0	
	comp=Z,13nm,1.3s						
PDAR	**Pinedale Array**	**41.88**	**347**	P	**P**	**12 56 32.1**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=161,slow=8.3,SNR=10.0						
PDAR				LR	LR	13 12 59.2	
	comp=Z,144nm,21.5s,baz=131,slow=35						
	comp=Z,1.7nm,0.9s						
PTLB	**Pontes e Lacer**	**42.08**	**116**	P	**P**	**12 56 33.0**	**-0.4**
PTLB				IAmb	IAmb	12 56 33.9	
	comp=Z,10nm,1.2s						
AHID	**Auburn Hatcher**	**42.25**	**346**	P	**P**	**12 56 34.9**	**+0.2**
AHID				IAmb	IAmb	12 56 59.7	
	comp=Z,8.4nm,1.3s						
RSSD	**Black Hills**	**42.27**	**353**	P	**P**	**12 56 34.5**	**-0.4**
PAHR	**Pah Rah Range**	**42.29**	**335**	P	**P**	**12 56 33.8**	**-1.2**
PAHR				IAmb	IAmb	12 56 55.1	
	comp=Z,15nm,1.4s						
TAOE	**Nuku Hiva Isla**	**43.48**	**255**	*e*LR	LR	13 08 48.9	
	comp=Z,130nm,27.4s						
YHL	**Hebgen Lake**	**44.23**	**346**	IAmb	IAmb	12 56 58.8	
	comp=Z,17nm,1.5s						
DLMT	**Dillon**	**45.06**	**345**	IAmb	IAmb	12 56 58.9	
	comp=Z,7.2nm,1.2s						
MDP	**Montagnes des**	**45.26**	**85**	LR	LR	13 13 31.2	
	comp=Z,87nm,20.2s,baz=272,slow=33						
YBH	**Yreka Blue Hor**	**45.

comp=Z,3.6nm,1.1s
D25K Kavik River 74.45 344 IAmb IAmb 13 00 20.6
comp=Z,8.2nm,1.1s
E23K Chandalar 74.62 342 IAmb IAmb 13 00 22.9
comp=Z,7.8nm,1.4s
F21K Alatna River 75.39 341 IAmb IAmb 13 00 26.8
comp=Z,6.2nm,1.1s
D23K Nanushuk River 75.47 343 IAmb IAmb 13 00 28.5
comp=Z,7.1nm,1.4s
F20K Avaraart Lake 76.06 340 IAmb IAmb 13 00 30.5
comp=Z,5.9nm,1.1s
G19K Purcell Mounta 76.10 339 IAmb IAmb 13 00 30.1
comp=Z,7.3nm,1.2s
B20K Meade River 77.96 342 IAmb IAmb 13 00 40.8
comp=Z,6.9nm,1.1s
ESDC Sonseca Array 91.75 50 LR LR 13 40 02.1
comp=Z,78nm,19.6s,baz=338,slow=34
QSPA South Pole Qui 92.05 180 P **P** **13 01 52.2 +2.1**
comp=Z,3.1nm,1.0s,baz=139,slow=1.1,SNR=4.7
comp=Z,3.1nm,1.0s
H11N3 WAKE ISLAND Hy 94.21 290 T T 14 46 44.3
baz=86,slow=75,SNR=6.0
H11N2 WAKE ISLAND Hy 94.23 290 T T 14 46 46.3
baz=86,slow=75,SNR=6.9
H11N1 WAKE ISLAND Hy 94.23 290 T T 14 46 49.3
baz=86,slow=75,SNR=7.4
H11S2 WAKE ISLAND Hy 94.48 289 T T 14 47 05.0
baz=88,slow=75,SNR=9.8
H11S1 WAKE ISLAND Hy 94.49 289 T T 14 47 05.2
baz=88,slow=75,SNR=7.1
H11S3 WAKE ISLAND Hy 94.50 289 T T 14 47 03.7
baz=88,slow=75,SNR=8.7
DZM Mont Dzumac 96.00 248 *e*LR LR 13 33 07.8
comp=Z,85nm,25.5s
ASAR Alice Springs 125.50 242 PKP **PKiKP** **13 07 43.6 -0.2**
comp=Z,0.2nm,0.6s,baz=104,slow=1.9,SNR=4.2
WRA Warramunga Arr 126.00 247 PKP **PKPdf** **13 07 44.1 -0.3**
comp=Z,1.2nm,1.0s,baz=93,slow=1.4,SNR=5.4
MKAR Makanchi Array 131.38 360 PKP **PKPdf** **13 07 52.9 -1.1**
comp=Z,0.7nm,1.0s,baz=35,slow=3.0,SNR=4.4

OSUNB 27 12:52:48.6±0.2, 5°.85S×50°.58W, h0km, mR3.6/16, Error ellipse: s-maj=1.5km s-min=1.3km az=0.0, Brazil

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUC4	**UHE Tucurui**	**1.90 33**	P	Pn	12 53 22.6	+0.3
TUC4			S	Sn	12 53 46.5	-0.4
BMO2	**UHE Belo Monte**	**2.86 330**	P	Pn	12 53 36.3	+0.8
BMO2			S	Sn	12 54 09.7	-1.0
PAL01	**Palmeiras do T**	**3.10 105**	P	Pn	12 53 40.5	+1.7
PAL01			S	Sn	12 54 17.3	+0.6
PAL2	**UHE Estreito -**	**3.35 106**	P	Pn	12 53 44.5	+2.2
PAL2			S	Sn	12 54 26.3	+3.4
SMTB	**Santa Maria do**	**4.21 135**	P	Pn	12 53 55.3	+1.2
SMTB			S	Sn	12 54 43.1	-1.0
LAJE	**UHE Lajeado**	**4.67 152**	P	Pn	12 54 02.7	+2.2
LAJE			S	Sn	12 54 56.5	+0.9
NPGB	**Novo Progresso**	**4.90 256**	P	Pn	12 54 04.5	+1.0
NPGB			S	Sn	12 55 00.4	-0.6
MAL2	**Monte Alegre,**	**5.24 317**	P	Pn	12 54 09.2	+0.9
MAL2			S	Sn	12 55 08.9	-0.5
ITTB	**Itaituba**	**5.34 286**	P	Pn	12 54 11.0	+1.3
ITTB			S	Sn	12 55 10.4	-1.6
SNDB	**Serra Nova Dou**	**6.12 187**	P	Pn	12 54 22.0	+1.5
ROSB	**Rosrio**	**7.07 66**	P	Pn	12 54 32.3	-1.1
CLDB	**Colider**	**7.18 226**	P	Pn	12 54 36.0	+1.0
CLDB			S	Sn	12 55 55.3	-2.0
PDRB	**Porto dos Gac**	**8.35 226**	P	Pn	12 54 52.1	+1.0
PDRB			S	Sn	12 56 22.9	-3.3
SDBA	**SAO DESIDERIO**	**8.59 140**	P	Pn	12 54 54.5	+0.1
SDBA			S	Sn	12 56 28.9	-3.3
NBPS	**Pedro II - PI**	**9.21 81**	P	Pn	12 55 04.5	+1.6
NBPS			S	Sn	12 56 40.3	-7.1
ARAG	**Araguaiana, MT**	**9.87 187**	P	Pn	12 55 11.9	0.0
MACA	**Manacapuru-AM**	**10.42 284**	P	Pn	12 55 21.0	+1.5
NBPB	**Pedra_Branca-C**	**10.94 89**	P	Pn	12 55 25.4	-1.2
JANB	**Januaria**	**11.03 147**	P	Pn	12 55 27.5	-0.3
SALV	**Santo Antonio**	**11.18 206**	P	Pn	12 55 31.5	+1.7
BAT3	**Ipameri**	**11.86 166**	P	Pn	12 55 40.0	+0.8

GUC 27 12:55:00.9±0.7, 16°.15S×72°.96W, h124km±7km, ML3.8, 1C, Near coast of Peru

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**3.51 135**	*e*P	Pn	12 55 53.1	-1.0
PB12			*e*S	Sn	12 56 33.9	-1.3
PB12			IAML		12 56 36.9	
	comp=N,114nm,0.3s					
PB18	**Visviri**	**3.62 114**	*e*P	Pn	12 55 55.6	-0.4
PB11	**IPOC Station P**	**4.77 139**	*e*P	Pn	12 56 10.3	-0.7
TA01	**Diego Aracena**	**5.12 149**	*e*P	Pn	12 56 15.9	+0.4
TA01			*e*S	Sn	12 57 11.6	-2.0
PB08	**IPOC Station P**	**5.37 138**	↑P	Pn	12 56 19.0	-0.2

NEIC ***27*** *13:01:06.2±0.5, 36°.879N±0°.006×97°.92W±0°.02, h7km±1km, mb_Lg3.2/95, ML3.6/41, Mwr3.2/10(SLM), Error ellipse: s-maj=2.0km s-min=1.0km az=85.0*
NEIC ***27*** *13:01:06, 36°.87N×98°.00W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr0.00; Mθθ2.41; Mφφ-2.41; Mrθ-1.22; Mθφ6.63; Mφr0.22; Fault plane solution: M₀7.16000×10¹³ NP1:φs=100.00000°, δ90.00000°, λ-10.00000°. NP2:φs=190.00000°, δ80.00000°, λ-180.00000°. Principal axes: T 7.1622, Plg7.0000°, Azm145.0000°; N 0.0004, Plg80.0000°, Azm280.0000°; P -7.1626, Plg7.0000°, Azm55.0000°;*
IDC ***27*** *13:01:07.7±1.7, 36°.98N×98°.17W, h0km, mbtmp3.1/4, ML4.0/2 Error ellipse: s-maj=23.7km s-min=11.4km az=103.0*
ISC 27 13:01:07.2±0.9, 36°.86N±0°.04×97°.87W±0°.03, h10km, n91, σ1§06/41, Oklahoma

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.01 151**	Sg	**Sg**	**13 01 09.3**	**-1.0**
KAN14	**Manchester OK**	**0.12 321**	IAML		13 01 10.6	
	comp=N,23μm,0.2s					
KAN17	**Caldwell West**	**0.20 24**	Sg	**Sg**	**13 01 14.1**	**-0.3**
KAN17			IAML		13 01 15.1	
	comp=N,14μm,0.3s					
KAN05	**Bluff City Nor**	**0.24 359**	IAML		13 01 15.2	
	comp=E,16μm,0.2s					
KAN05			IAML		13 01 15.7	
	comp=N,8μm,0.2s					
KAN09	**Caldwell North**	**0.34 36**	IAML		13 01 19.1	
	comp=N,5μm,0.4s					
KAN09			IAML		13 01 20.6	
	comp=E,6μm,0.2s					
KAN13	**South Haven SW**	**0.35 64**	Sg	**Sg**	**13 01 19.2**	**+0.5**
CROK	**Carrier**	**0.37 195**		**Pg**	**13 01 13.8**	**-0.7**
CROK			Sg	**Sg**	**13 01 19.0**	**-0.5**
CROK			IAML		13 01 24.1	
	comp=N,7μm,0.3s					
KAN08	**Anthony NE Sta**	**0.37 347**		**Pg**	**13 01 13.7**	**-0.9**
KAN12	**Harper NE Stat**	**0.45 347**	IAML		13 01 28.7	
	comp=N,6μm,0.3s					
BLOK	**Blackwell**	**0.53 101**	Pg	**Pg**	**13 01 17.5**	**-0.1**
BLOK			IAML		13 01 28.1	
	comp=N,5μm,0.2s					
BLOK			IAML		13 01 29.4	
	comp=E,4μm,0.2s					
NOKA	**Waynoka**	**0.89 255**		**Pg**	**13 01 22.2**	**-2.1**
NOKA			IAML		13 01 40.9	
	comp=N,2μm,0.5s					
NOKA			IAML		13 01 43.9	
	comp=E,2μm,0.3s					
OK051	**E0350 and S346**	**0.90 113**		**Pg**	**13 01 24.2**	**-0.4**
OK051			IAML		13 01 43.0	
	comp=E,2μm,0.2s					
QUOK	**Quay**	**1.16 126**		**Pb**	**13 01 28.9**	**-0.5**
OK052	**Battle Ridge R**	**1.22 135**		**Pn**	**13 01 29.7**	**-0.7**
OK031	**S. Brethren Rd**	**1.23 137**		**Pn**	**13 01 29.8**	**-0.7**
OK031			IAML		13 01 47.9	
	comp=E,2μm,0.4s					
OK031			IAML		13 01 51.2	
	comp=E,923nm,0.4s					
CSTR	**Hydro, Custer**	**1.38 209**		**Pn**	**13 01 32.2**	**-0.4**
ELIS	**Ellis County**	**1.48 238**		**Pn**	**13 01 33.3**	**-0.7**
OKCSW	**OKLAHOMA CITY**	**1.50 166**		**Pn**	**13 01 33.9**	**-0.2**
DEOK	**Depew**	**1.50 132**		**Pn**	**13 01 34.3**	**+0.1**
FNO	**Franklin**	**1.65 167**		**Pn**	**13 01 36.3**	**+0.1**
W35A	**Tecumseh**	**1.89 154**		**Pn**	**13 01 39.8**	**+0.3**
WMOK	**Wichita Mounta**	**2.25 200**	P	**Pn**	**13 01 44.7**	**+0.2**
KSU1	**Kansas State U**	**2.44 24**		**Pn**	**13 01 47.4**	**+0.2**
CBKS	**Cedar Bluff**	**2.45 323**		**Pn**	**13 01 47.3**	**0.0**
CBKS	**Cedar Bluff**	**2.45 323**	P	**Pn**	**13 01 48.8**	**+1.5**
SMWD	**Samnorwood**	**2.60 228**	IAmb_Lg		13 02 32.2	
	comp=Z,52nm,0.8s					
SMWD	**Samnorwood**	**2.60 228**	P	**Pn**	**13 01 49.8**	**+0.4**
WTFS	**Witchita Falls**	**3.13 189**	P	**Pn**	**13 01 59.9**	**+3.2**
AMTX	**Amarillo**	**3.67 239**	IAmb_Lg		13 03 10.5	
	comp=Z,55nm,0.9s					
RTBA	**Rita Blanca**	**3.94 265**	IAmb_Lg		13 03 18.4	
	comp=Z,36nm,0.8s					
RTBA	**Rita Blanca**	**3.94 265**	P	**Pn**	**13 02 08.5**	**+0.6**
APMT	**Aspermont**	**3.98 208**	P	**Pn**	**13 02 10.2**	**+1.8**
DKNS	**Dickens**	**4.05 219**	P	**Pn**	**13 02 10.4**	**+1.0**
PLPT	**Palo Pinto**	**4.06 185**	P	**Pn**	**13 02 09.8**	**+0.4**
MIAR	**Mount Ida**	**4.19 122**	IAmb_Lg		13 03 26.7	
	comp=Z,46nm,0.8s					
MIAR	**Mount Ida**	**4.19 122**	P	**Pn**	**13 02 12.6**	**+1.5**
Z38A	**Mt. Pleasant**	**4.30 146**	P	**Pn**	**13 02 13.9**	**+1.2**
TREL	**Terrell**	**4.37 160**	IAmb_Lg		13 03 34.6	
	comp=Z,34nm,0.8s					
ABTX	**Abilene, Hawle**	**4.47 200**	P	**Pn**	**13 02 17.1**	**+1.9**
SN07	**Snyder 07**	**4.51 214**	IAmb_Lg		13 03 31.4	
	comp=Z,31nm,0.8s					
SN05	**Snyder 5**	**4.69 213**	IAmb_Lg		13 03 45.5	
	comp=Z,40nm,0.7s					
X40A	**Basin Creek Fa**	**4.73 119**	IAmb_Lg		13 03 38.2	
	comp=Z,39nm,0.7s					
FCAR	**Ozark Folk Cen**	**4.74 100**	IAmb_Lg		13 03 46.7	
	comp=Z,62nm,0.7s					
WHAR	**Wooly Hollow**	**4.78 107**	IAmb_Lg		13 03 41.8	
	comp=Z,53nm,1.0s					
POST	**Post**	**4.82 219**	IAmb_Lg		13 03 48.9	
	comp=Z,36nm,0.9s					
WHTX	**Lake Whitney,**	**4.87 176**	P	**Pn**	**13 02 20.4**	**-0.2**
MSTX	**Muleshoe**	**4.94 236**	P	**Pn**	**13 02 22.8**	**+1.2**
UALR	**University of**	**4.95 113**	IAmb_Lg		13 03 51.8	
	comp=Z,62nm,1.1s					
WLAR	**White Oak Lake**	**5.02 128**	IAmb_Lg		13 03 54.0	
	comp=Z,29nm,0.9s					
237A	**Washetta, Mont**	**5.14 160**	IAmb_Lg		13 04 04.1	
	comp=Z,36nm,1.2s					
OGNE	**Ogallala**	**5.21 323**	IAmb_Lg		13 04 05.0	
	comp=Z,42nm,0.8s					
T25A	**Trinidad**	**5.25 275**	IAmb_Lg		13 04 02.7	
	comp=Z,32nm,0.7s					
N38A	**Joes South For**	**5.34 41**	IAmb_Lg		13 03 59.4	
	comp=Z,35nm,0.8s					
CCM	**Cathedral Cave**	**5.40 75**	IAmb_Lg		13 04 03.7	
	comp=Z,45nm,0.9s					
T42A	**Van Buren**	**5.43 86**	IAmb_Lg		13 04 10.1	
	comp=Z,32nm,0.7s					
LCAR	**Lake Charles**	**5.47 96**	IAmb_Lg		13 04 00.1	
	comp=Z,50nm,0.9s					
Z41A	**Richland Creek**	**5.49 129**	IAmb_Lg		13 04 14.4	
	comp=Z,23nm,0.8s					
CCAR	**Cane Creek**	**5.78 119**	IAmb_Lg		13 04 26.1	
	comp=Z,41nm,0.8s					
PBMO	**Poplar Bluff**	**5.97 89**	IAmb_Lg		13 04 27.9	
	comp=Z,54nm,0.7s					
435B	**Jarrell**	**6.07 178**	IAmb_Lg		13 04 33.4	
	comp=Z,43nm,0.9s					
Q24A	**Divide**	**6.13 292**	IAmb_Lg		13 04 24.8	
	comp=Z,24nm,0.8s					
Q24A	**Divide**	**6.13 292**	P	**Pn**	**13 02 38.6**	**+0.5**
SCIA	**State Center**	**6.19 34**	IAmb_Lg		13 04 39.3	
	comp=Z,47nm,0.7s					
BRIGG	**Briggsdale**	**6.26 308**	IAmb_Lg		13 04 29.5	
	comp=Z,31nm,0.8s					
SLM	**Saint Louis**	**6.30 71**	IAmb_Lg		13 04 26.9	
	comp=Z,49nm,0.8s					
OZNA	**Ozona**	**6.51 206**	IAmb_Lg		13 04 49.8	
	comp=Z,29nm,1.1s					
JCT	**Junction City**	**6.57 195**	IAmb_Lg		13 04 51.6	
	comp=Z,37nm,0.7s					
CGM3	**Cape Girardeau**	**6.58 84**	IAmb_Lg		13 04 43.6	
	comp=Z,45nm,0.8s					
N41A	**Harden Midland**	**6.69 53**	IAmb_Lg		13 04 37.7	
	comp=Z,30nm,0.9s					
ECSD	**EROS Data Cent**	**6.93 8**	IAmb_Lg		13 04 47.1	
	comp=Z,21nm,0.8s					
ANMO	**Albuquerque**	**7.23 257**	Pn	**Pn**	**13 02 52.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=53,slow=12,SNR=1.2					
ANMO			Pg	**Pb**	**13 03 14.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=230,slow=15,SNR=4.2					
ANMO			Lg	Lg	13 04 48.0	
	comp=Z,1.3nm,0.3s,baz=170,slow=11,SNR=6.4					
EF63	**Gonzales**	**7.28 177**	P	Pn	13 03 04.3	+11
L40A	**Anamosa**	**7.30 43**	IAmb_Lg		13 05 09.7	
	comp=Z,23nm,0.8s					
HNDO	**Hondo**	**7.41 190**	IAmb_Lg		13 05 15.6	
	comp=Z,27nm,0.8s					
HNDO	**Hondo**	**7.41 190**	P	**Pn**	**13 02 54.2**	**-1.2**
N23A	**Red Feather La**	**7.47 305**	IAmb_Lg		13 05 08.1	
	comp=Z,29nm,0.9s					
SUSD	**Miller**	**7.62 354**	IAmb_Lg		13 05 06.9	
	comp=Z,27nm,0.8s					
SAND	**Sanderson**	**7.75 209**	IAmb_Lg		13 05 20.5	
	comp=Z,21nm,0.9s					
SAND	**Sanderson**	**7.75 209**	P	**Pn**	**13 03 00.4**	**+0.2**
DRIO	**Del Rio**	**7.77 198**	IAmb_Lg		13 05 19.6	
	comp=Z,18nm,0.8s					
I37A	**Lemond, Waseca**	**7.91 24**	IAmb_Lg		13 05 19.9	
	comp=Z,35nm,1.0s					
EF58	**Charlotte**	**8.04 185**	P	Pn	13 02 53.5	-10
L42A	**Oliver, Polo**	**8.16 49**	IAmb_Lg		13 05 31.8	
	comp=Z,22nm,0.8s					
PLAL	**Pickwick Lake**	**8.16 100**	IAmb_Lg		13 05 28.5	
	comp=Z,17nm,0.7s					
JFWS	**Jewell Farm**	**8.41 42**	IAmb_Lg		13 05 35.9	
	comp=Z,33nm,0.9s					
K22A	**Casper**	**8.82 314**	IAmb_Lg		13 05 59.8	
	comp=Z,16nm,1.1s					
TX31	**Lajitas Ar. Si**	**8.94 215**	P	**Pn**	**13 03 17.2**	**+0.7**
TXAR	**Lajitas Array**	**8.94 215**	Pn	**Pn**	**13 03 16.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=36,slow=18,SNR=10					
TXAR			Pg	Pg	13 03 43.1	-15
	comp=Z,0.4nm,0.3s,baz=39,slow=17,SNR=8.3					
TXAR			Lg	Lg	13 05 42.9	
	comp=Z,0.8nm,0.3s,baz=29,slow=32,SNR=12					
	comp=Z,0.3nm,0.3s					
PDAR	**Pinedale Array**	**10.75 307**	Pn	**Pn**	**13 03 40.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=118,slow=14,SNR=6.6					
PDAR			Pg		13 04 22.4	
	comp=Z,0.3nm,0.3s,baz=121,slow=19,SNR=6.1					
PDAR			Lg	Lg	13 06 35.9	
	comp=Z,0.1nm,0.3s,baz=120,slow=32,SNR=1.7					
	comp=Z,0.2nm,0.4s					
TKL	**Tuckaleechee C**	**11.44 92**	Lg	Lg	13 07 04.6	
	comp=Z,0.9nm,0.3s,baz=8.3,slow=22,SNR=13					
ULM	**Lac du Bonnet**	**13.46 6**	Pn	Pn	13 04 12.3	-5.8
	comp=Z,0.7nm,0.4s,baz=336,slow=10.0,SNR=2.1					
ULM			Sn	Sn	13 06 36.7	-11
	comp=Z,0.2nm,0.3s,baz=126,slow=2.9,SNR=1.8					
ULM			Lg	Lg	13 08 00.6	
	comp=Z,0.3nm,0.3s,baz=289,slow=20,SNR=3.7					

LVSN ***27*** *13:01:43.4±3.6, 58°.60N×24°.08E, h0km±33km, ML1.8*
HEL 27 13:01:23.4±0.5, 60°.74N×28°.82E, h0km, ML1.5, Explosion, Finland-Karelia border region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.65 253**	PG	Pg	13 01 35.4	-0.5
	baz=76					
VJF			MSG		13 01 44.2	
	comp=Z,8.0nm,0.2s					
VJF			SG	Sg	13 01 44.4	+0.1
RUF	**Ruokolahti**	**0.69 5**	PG	Pg	13 01 36.1	-0.6
	baz=187					
RUF			SG	Sg	13 01 45.1	-0.5
RUF			MSG		13 01 45.2	
	comp=Z,4.9nm,0.2s					
PVF	**Pernaja**	**1.47 264**	PG	Pn	13 01 49.3	-1.8
PVF			MSG		13 02 07.5	
	comp=Z,3.0nm,0.2s					
PVF			SN	Sn	13 02 12.6	+1.7
FIA0	**FINESS Array S**	**1.51 299**	PG	Pn	13 01 49.9	-1.7
FIA0			MSG		13 02 08.8	
	comp=Z,4.6nm,0.2s					
KAF	**Kangasniemi**	**1.83 320**	PG	Pn	13 01 56.3	+0.2
	baz=138					
KAF			MSG		13 02 18.1	
	comp=Z,3.2nm,0.2s					
KAF			SG	Sb	13 02 21.4	+0.2
ARBE	**Arbavere**	**1.93 229**	*e*P	Pg	13 02 05.0	+4.7
ARBE			*e*S	Sb	13 02 24.1	+0.2
ARBE			AML	AML	13 02 26.4	
	comp=E,66nm,0.5s					
ARBE			AML	AML	13 02 26.9	
	comp=Z,51nm,0.6s					
ARBE			AML	AML	13 02 32.7	
	comp=N,57nm,0.7s					
NUR	**Nurmijarvi**	**2.07 265**	PG	Pn	13 01 60.0	+0.7
NUR			MSG		13 02 24.8	
	comp=Z,1.6nm,0.2s					
MEF	**Metsahovi**	**2.25 259**	*e*P	Pn	13 01 59.0	-2.8
MEF	**Metsahovi**	**2.25 259**	*e*S	Sb	13 02 32.1	-1.1
MEF			AML	AML	13 02 35.0	
	comp=N,9.2nm,0.6s					
MEF			AML	AML	13 02 39.2	
	comp=E,6.9nm,0.6s					
MEF			AML	AML	13 02 48.6	
	comp=Z,6.6nm,0.7s					
MEF	**Metsahovi**	**2.25 259**	PB	Pn	13 02 02.3	+0.5
MEF			MSG		13 02 30.0	
	comp=Z,1.4nm,0.2s					
MEF			SG	Sb	13 02 33.5	+0.3
SUF	**Sumiainen**	**2.36 329**	PG	Pb	13 02 05.5	-1.2
SUF			MSG		13 02 33.1	
	comp=Z,0.8nm,0.2s					
SUF			SG	Sb	13 02 36.4	0.0
KEF	**Keuruu**	**2.38 309**	*e*P	Pn	13 02 05.1	+1.5
KEF	**Keuruu**	**2.38 309**	PG	Pn	13 02 04.6	+1.0
	baz=127					
KEF			MSG		13 02 33.6	
	comp=Z,1.6nm,0.2s					
KEF			SG	Sb	13 02 37.2	+0.4
JOF	**Joensuu**	**2.49 27**	*e*P	Pn	13 02 02.2	-2.9
JOF	**Joensuu**	**2.49 27**	PG	Pb	13 02 07.2	-1.8
JOF			SB	Sn	13 02 37.7	+1.5
VSU	**Vasula**	**2.52 206**	*e*P	Pb	13 02 09.2	-0.1
VSU			*e*S	Sn	13 02 26.1	-11
VSU			AML	AML	13 02 42.6	
	comp=N,22nm,0.6s					
VSU			AML	AML	13 02 43.2	
	comp=E,36nm,0.5s					
VSU			AML	AML	13 02 45.1	
	comp=Z,8.1nm,0.1s					
VSU	**Vasula**	**2.52 206**	SG	Sb	13 02 41.4	+0.5
NIF	**Nilsia**	**2.71 350**	SG	Sb	13 02 45.5	-0.8
MTSE	**Matsula**	**3.25 233**	PG	Pb	13 02 22.3	+0.5
RAF	**Rauma**	**3.46 278**	*e*P	Pn	13 02 18.1	-0.3
VAF	**Ylistaro**	**3.71 311**	*e*P	Pn	13 02 24.0	+2.1
SLIT	**Slitere, Latvi**	**4.58 230**	*e*P	Pn	13 02 25.0	-8.8

IDC ***27*** *13:34:49.0±0.9, 42°.70N×141°.75E, h0km, mb3.7/12, mbtmp3.7/13, ML4.7/1, Error ellipse: s-maj=25.2km s-min=12.1km az=113.0*
SKHL ***27*** *13:34:52.5±0.3, 42°.60N×141°.90E, h55km±4km, mb4.5/2*
MOS ***27*** *13:34:53.8±1.3, 42°.74N×141°.88E, h54km, mb3.8/1, Error ellipse: s-maj=16.9km s-min=11.2km az=71.6*
NIED ***27*** *13:34:53.7, 42°.77N×141°.98E, h31km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.17; Mθθ-0.62; Mφφ-2.55; Mrθ0.05; Mθφ0.99; Mφr1.61; Fault plane solution: M₀3.46000×10¹⁴ NP1: φs=148.00000°, δ33.00000°, λ73.00000°. NP2: φs=348.00000°, δ59.00000°, λ100.00000°.*
JMA ***27*** *13:34:53.7±0.1, 42°.8N±0°.3×142°.0E±0°.3, h31km, MV3.5/40, ISHIKARI DEPRESSION*
JMA Felt II J1 at ISHIKARI DEPRESSION .
ISC 27 13:34:53.2±0.8, 42°.76N±0°.03×142°.00E±0°.03, h31km±6km, n47, σ1§05/56, mb3.7/12, 12D, Hokkaido region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.15 202**	P	**Pb**	**13 34 59.4**	**+0.4**
JIAM			S	**Sn**	**13 35 04.3**	**+1.2**
JBT2	**Biratori 2**	**0.27 86**	P	**Pb**	**13 35 00.6**	**+0.2**
JBT2			*e*S	**Sb**	**13 35 05.9**	**+0.7**
JEW	**Eniwo**	**0.41 281**	↓P	**Pb**	**13 35 02.7**	**+0.4**
JEW			↓*e*S	**Sb**	**13 35 08.9**	**+0.5**
JSHD	**Hidakashinhida**	**0.49 135**	↓P	**Pn**	**13 35 04.5**	**+0.4**
JSHD			↓*e*S	**Sn**	**13 35 14.1**	**+2.3**
JFR	**Furan**	**0.59 47**	↓P	**Pb**	**13 35 05.4**	**+0.2**
JISS	**Ishikarishitsu**	**0.67 321**	↓P	**Pb**	**13 35 06.6**	**+0.2**
JISS			↓*e*S	**Sn**	**13 35 16.5**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.74 130**	↓P	**Pn**	**13 35 07.7**	**+0.1**
JNBK			↓*e*S	**Sn**	**13 35 19.6**	**+1.9**
JAB	**Ashibetsu**	**0.76 13**	P	**Pb**	**13 35 09.0**	**+1.0**
JNB	**Noboribetsu**	**0.77 248**	↓P	**Pn**	**13 35 07.3**	**-0.6**
JNB			↓S	**Sb**	**13 35 17.5**	**-0.6**
JHR	**Hokuryu**	**1.00 349**	*e*P	**Pn**	**13 35 11.9**	**+0.7**
JHR			*e*S	**Sb**	**13 35 26.2**	**+1.4**
JCH	**Churui**	**1.02 98**	↓P	**Pn**	**13 35 11.6**	**+0.2**
JKB	**Kayabe**	**1.13 220**	*e*P	**Pn**	**13 35 12.9**	**0.0**
JKB			*e*S	**Sn**	**13 35 27.4**	**+0.1**
JEM	**Erimo**	**1.14 130**	*e*P	**Pb**	**13 35 14.5**	**+0.2**
ASAJ	**Asahikawa**	**1.42 18**	Pg	**Pb**	**13 35 18.8**	**-0.4**
	21nm,0.3s,baz=216,slow=17,SNR=250					
ASAJ			Lg	Lg	13 35 38.1	
	33nm,0.3s,baz=329,slow=30,SNR=30					
JKA	**Kamikawa-asahi**	**1.42 18**	*e*P	**Pb**	**13 35 18.8**	**-0.3**
AKK	**Akkeshi**	**2.11 82**	*e*P	**Pn**	**13 35 26.5**	**+0.1**
RUSJ	**Misakicho**	**2.72 59**	*e*PN	**Pb**	**13 35 39.5**	**-1.7**
RUSJ			*e*S	**Sb**	**13 36 15.0**	**+0.9**
NMR	**Nemuro--Hokkai**	**2.80 76**	*e*PN	**Pn**	**13 35 35.9**	**0.0**
NMR			*e*S	**Sn**	**13 36 08.1**	**-0.5**
NMR	**Nemuro--Hokkai**	**2.80 76**	*e*P	**Pn**	**13 35 35.9**	**0.0**
NMR			*e*S	**Sn**	**13 36 08.1**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**3.09 64**	*e*PN	**Pn**	**13 35 43.8**	**+3.9**
YUK			*e*S	**Sb**	**13 36 21.8**	**-2.9**
YUK			pmax	pmax		
	comp=Z,39nm,0.2s					
YUK			smax	smax		
	comp=E,139nm,0.2s					
YUK			smax	smax		
	comp=N,173nm,0.4s					
YUK	**Yuzh-Kuril'sk**	**3.09 64**	*e*P	**Pn**	**13 35 41.0**	**+1.1**
YUK			AMB	AMB	13 35 44.1	
	comp=N,40nm,0.2s					
YUK			*e*S	**Sn**	**13 36 17.3**	**+1.5**
YUK			A	A	13 36 24.7	
	comp=N,170nm,0.3s					
YUK			A	A	13 36 24.7	
	comp=N,140nm,0.3s					
SHO	**Shikotan**	**3.70 71**	*e

KURK	Kurchatov	42.95	303	P	P	13 42 49.1 +0.1
KURK	Kurchatov	42.95	303	eP	P	13 42 49.1 +0.1
KURBB	Kurchatov Arra	43.02	303	P	P	13 42 49.1 -0.6
	comp=Z,1.0nm,0.6s,baz=76,slow=8.7,SNR=4.4					
	comp=Z,1.0nm,0.6s					
ILAR	Eielson Array	44.49	35	P	P	13 43 01.8 +0.5
	comp=Z,0.4nm,0.9s,baz=274,slow=7.9,SNR=4.7					
	comp=Z,0.4nm,0.9s					
BVAR	Borovoye Array	47.20	309	P	P	13 43 22.7 -0.1
	comp=Z,0.7nm,0.7s,baz=64,slow=6.6,SNR=2.4					
	comp=Z,0.7nm,0.7s					
WRA	Warramunga Arr	62.79	188	P	P	13 45 15.5 -0.2
	comp=Z,0.5nm,0.4s,baz=5.5,slow=7.0,SNR=14					
	comp=Z,0.5nm,0.4s					
FINES	FINESS Array B	63.98	331	P	P	13 45 23.5 +0.3
	comp=Z,3.7nm,1.0s,baz=47,slow=8.9,SNR=9.4					
	comp=Z,3.7nm,1.0s					
ASAR	Alice Springs	66.52	188	P	P	13 45 40.5 +0.5
	comp=Z,0.4nm,1.0s,baz=4.2,slow=6.8,SNR=5.3					
	comp=Z,0.4nm,1.0s					
HFS	Hagfors	69.07	335	P	P	13 45 55.6 -0.1
	comp=Z,1.4nm,0.5s,baz=42,slow=6.0,SNR=6.9					
	comp=Z,1.4nm,0.5s					
NOA	NORSAR Array B	69.09	337	P	P	13 45 56.2 +0.3
	comp=Z,0.9nm,0.7s,baz=39,slow=6.3,SNR=3.6					
	comp=Z,0.9nm,0.7s					
EKA	Eskdalemuir Ar	77.89	340	P	P	13 46 48.0 +0.4
	comp=Z,0.2nm,0.3s,baz=26,slow=5.5,SNR=1.2					
	comp=Z,0.2nm,0.3s					

*IDC **27** 13:45:24.9±1.8, 5°.12N×128°.83E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=164.8km s-min=17.8km az=67.0*
*DJA **27** 13:45:37.5±0.8, 5°N±7°×12°8E±°, h99km±11km, M4.1/7, mb4.1/5, MLv4.0/7*
ISC 27 13:45:38.8±1.0, 4°.5N±0°.1×127°.65E±0°.10, h100km, n11, σ0§83/13, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.28	248	P	Pn	13 46 14.6	-0.5
SGSI				S	Sn	13 46 42.5	-0.4
SWI	Sorong	6.47	146	P	Pn	13 47 10.0	-1.5
SANI	Sanana	6.76	194	P	Pn	13 47 14.7	-0.8
	0.1nm16nm,0.8s						
MRSI	Marisa	6.99	235	P	Pn	13 47 19.8	+1.2
	0.1nm19nm,0.7s						
FAKI	Fak Fak	8.72	148	P	Pn	13 47 43.3	+1.1
WRA	Warramunga Arr	25.20	165	P	P	13 50 55.3	-0.1
	0.3nm,0.3s,baz=349,slow=8.6,SNR=12						
	0.3nm,0.3s						
ASAR	Alice Springs	28.69	168	P	P	13 51 26.7	0.0
	0.2nm,0.7s,baz=345,slow=8.1,SNR=6.0						
ASAR				PcP	PcP	13 54 34.8	-0.3
	0.2nm,0.4s,baz=338,slow=2.5,SNR=5.0						
	0.2nm,0.7s						
STKA	Stephens Creek	38.57	161	P	P	13 52 51.5	-0.6
	1.0nm,0.4s,baz=330,slow=8.0,SNR=3.4						
	1.0nm,0.4s						
MKAR	Makanchi Array	57.42	325	P	P	13 55 17.4	+0.3
	0.6nm,0.5s,baz=112,slow=8.2,SNR=13						
	0.6nm,0.5s						
KURBB	Kurchatov Arra	61.56	327	P	P	13 55 45.0	-0.4
	0.9nm,0.5s,baz=126,slow=6.3,SNR=20						
	0.9nm,0.5s						
BVAR	Borovoye Array	67.15	327	P	P	13 56 21.3	-0.6
	0.5nm,0.5s,baz=100,slow=6.3,SNR=3.8						
	0.5nm,0.5s						

*IDC **27** 13:52:05.0±1.7, 3°.92N×126°.79E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=111.8km s-min=20.0km az=70.0*
*DJA **27** 13:52:12.1±0.6, 4°N±9°×12°7E±°, h35km±7km, M4.0/7, mB4.8/1, mb4.1/4, MLv3.9/7, Mw(mB)4.0/1*
ISC 27 13:52:11.1±1.4, 3°.8N±0°.1×126°.8E±0°.1, h45km, n8, σ1§15/9, mb3.3/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.23	263	P	Pn	13 52 31.9	0.0
SGSI				S	Sn	13 52 45.7	-1.6
MRSI	Marisa	5.85	235	P	Pn	13 53 37.3	+1.9
	0.2nm719nm16nm,0.5s						
SANI	Sanana	5.90	187	P	Pn	13 53 35.6	-0.5
	0.1nm20nm,1.5s						
FITZ	Fitzroy Crossi	21.83	183	P	P	13 57 00.6	+0.8
	1.7nm,1.0s,baz=352,slow=11,SNR=6.9						
	1.7nm,1.0s						
WRA	Warramunga Arr	24.79	163	P	P	13 57 29.8	+0.8
	0.5nm,0.8s,baz=342,slow=10,SNR=10						
	0.5nm,0.8s						
ASAR	Alice Springs	28.22	166	P	P	13 57 59.5	-0.4
	0.3nm,0.9s,baz=341,slow=8.9,SNR=4.8						
	0.3nm,0.9s						
MKAR	Makanchi Array	57.47	325	P	P	14 01 55.5	-0.2
	0.1nm,0.4s,baz=123,slow=6.3,SNR=6.3						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	61.65	327	P	P	14 02 24.5	+0.2
	0.3nm,0.6s,baz=129,slow=6.5,SNR=7.1						
	0.3nm,0.6s						

*GCG **27** 13:53:20.4±1.4, 15°.33N×91°.82W, h208km±11km, MD4.2, Hypocentre not reviewed by the ISC*
*SNET **27** 13:53:23.0±0.8, 13°.01N×92°.56W, h30km, ML4.2*
*NEIC **27** 13:53:23.0±1.6, 15°.35N±0°.07×91°.75W±0°.07, h195km±3km, mb4.5/25, Error ellipse: s-maj=12.0km s-min=8.7km az=222.0*
*IDC **27** 13:53:23.6±0.9, 15°.36N×91°.46W, h207km±6km, mb3.6/7, mbtmp4.1/9, Error ellipse: s-maj=21.8km s-min=10.4km az=71.0*
ISC 27 13:53:22.6±0.6, 15°.37N±0°.06×91°.72W±0°.06, h202km±5km, n65, σ1§23/70, mb4.2/11, 3C-3D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUEH	Huehuetenango	0.22	103		Pn	13 53 48.7	-0.9
HUEH	Huehuetenango	0.22	103	eP		13 53 49.1	
HUEH				eS		13 54 08.6	
SMCA	Catarina	0.61	214	iP		13 53 49.0	
SMCA				eS		13 54 10.1	
QUIS	Sacapulas	0.61	97	i P		13 53 50.4	
QUIS				eS		13 54 10.6	
SOKI	Kika Raxquin	0.63	150	eP		13 53 50.8	
SOKI				eS		13 54 12.8	
THIG		0.69	229		Pn	13 53 49.5	-1.4
THIG		0.69	229	eP		13 53 50.0	
THIG				eS		13 54 12.2	
RTAL	Retalhuleu	0.84	178		Pn	13 53 50.8	-0.9
RTAL	Retalhuleu	0.84	178	eP	Pn	13 53 51.2	-0.5
RTAL				eS	S	13 54 13.0	-1.2
CCIG	Comitan	0.99	336	eP		13 53 52.9	
CCIG				eS		13 54 15.0	
CCIG	Comitan	0.99	336		Pn	13 53 52.9	+0.1
APG	El Apazote	1.27	106	P	Pn	13 53 54.5	-0.4
	10nm,0.4s,baz=191,slow=12,SNR=91						
APG				S	S	13 54 18.6	-0.9
	5.0nm,0.3s,baz=235,slow=22,SNR=7.5						
APG	El Apazote	1.27	106	iP		13 53 54.5	
APG				eS		13 54 18.7	
PCIG		1.48	283		Pn	13 53 55.2	-1.1
TGIG		1.94	316		Pn	13 54 00.4	-0.3
TGIG		1.94	316	eP		13 54 00.4	
TGIG				i S		13 54 28.2	
PETF	Flores	2.36	49		Pn	13 54 05.0	-0.1
PETF	Flores	2.36	49	iP		13 54 05.4	
PETF				eS		13 54 37.3	
NUBE	Las Nubes	2.38	128	eP	Pn	13 54 06.3	+0.7
NUBE				eS	S	13 54 39.8	+1.5
NUBE	Las Nubes	2.38	128	eP		13 54 05.9	
NUBE				eS		13 54 38.1	
ESQI	Esquipulas	2.44	109	Pn	Pn	13 54 06.6	+0.5
MTO3	Montecristo	2.48	113		Pn	13 54 06.6	-0.1
MTO3	Montecristo	2.48	113	eP		13 54 06.7	
CEVE	Cerro Verde	2.54	127	eP	Pn	13 54 09.3	+1.9
CEVE				eS	S	13 54 45.5	+3.8
CEVE				IAML		13 54 50.2	
	comp=Z,715nm,0.3s						
JAYA	Jayaque - finc	2.79	127	eS	S	13 54 47.4	+0.9
JAYA				IAML		13 54 53.0	
	comp=Z,787nm,0.2s						
PMON	Piamonte	2.86	125	eP	Pn	13 54 12.5	+1.7
CMIG	Matias Romero	3.49	300	P	Pn	13 54 16.7	-1.5
	comp=Z,170nm,0.3s,baz=117,slow=6.7,SNR=417						
CMIG				S	S	13 54 56.7	-4.4
	comp=Z,578nm,0.4s,baz=7.7,slow=17,SNR=20						
HUIG	Huatulco	4.24	276	iP		13 54 24.8	
HUIG				eS		13 55 10.0	
TGUH	Tegucigalpa,Un	4.50	106		Pn	13 54 30.3	-0.6
CRIN	San Cristobal	5.25	120	Pn	Pn	13 54 41.4	+1.0
TEIG	Tepich	5.84	34		Pn	13 54 47.0	-0.8
TEIG	Tepich	5.84	34	P	Pn	13 54 47.3	-0.5
	comp=Z,0.4nm,0.4s,baz=59,slow=24,SNR=35						
TEIG				S	S	13 55 54.7	-0.3
	comp=Z,0.1nm,0.4s,baz=215,slow=24,SNR=0.5						
BOAB	BOACO BROADBAN	6.56	116	Pn	Pn	13 54 57.9	+0.7
TLIG	Tlapa	6.92	289		Pn	13 55 01.8	-0.2
ACON	Acoyapa	7.21	117		Pn	13 55 05.1	-0.5
ESPN	Las Esperanzas	7.87	113		Pn	13 55 14.6	+0.4
JTS	Las Juntas de	8.31	127		Pn	13 55 19.8	-0.2
JTS	Las Juntas de	8.31	127	P	Pn	13 55 18.0	-2.0
	comp=Z,7.8nm,0.4s,baz=302,slow=16,SNR=9.4						
JTS				S	S	13 56 52.0	-1.7
	comp=Z,8.4nm,0.3s,baz=296,slow=23,SNR=4.7						
SOCE	Pocosol	8.52	125	Pn	Pn	13 55 23.4	+0.7
SOR	Soroa	11.06	47	Pn	Pn	13 55 56.2	+0.8
MTDJ	Mount Denham	13.88	76	P	P	13 56 33.7	+0.5
NMDO	Nuevo Mundo	16.74	70	P	Pn	13 57 06.0	+0.2
NMDO				IAmb	IAmb	13 57 08.8	
	comp=Z,28nm,1.1s						
JCT	Junction City	16.77	335	P	P	13 57 05.2	+0.3
JCT				IAmb	IAmb	13 57 10.0	
	comp=Z,13nm,1.2s						
VBMS	Vicksburg	16.81	4	P	P	13 57 06.0	+0.7
VBMS				IAmb	IAmb	13 57 30.7	
	comp=Z,49nm,1.4s						
237A	Washetta, Mont	16.97	348	P	P	13 57 08.2	+1.1
237A				IAmb	IAmb	13 57 34.5	
	comp=Z,29nm,1.0s						
BRDY	Brady	17.18	338	P	P	13 57 09.2	-0.2
TXAR	Lajitas Array	17.73	324	P	P	13 57 16.5	+1.0
TXAR	Lajitas Array	17.73	324	P	P	13 57 18.6	+3.1
	comp=Z,1.1nm,0.7s,baz=138,slow=11,SNR=12						
WLAR	White Oak Lake	18.28	356	P	P	13 57 21.3	0.0
PLPT	Palo Pinto	18.37	342	P	P	13 57 23.3	+1.0
PLPT				IAmb	IAmb	13 57 50.0	
	comp=Z,14nm,0.7s						
MNHN	Monahans	18.83	330	P	P	13 57 29.1	+1.8
PAPH	Port-au-Prince	18.84	78	P	Pn	13 57 29.1	-1.4
MIAR	Mount Ida	19.17	355	P	P	13 57 32.5	+1.6
APMT	Aspermont	19.43	338	P	P	13 57 35.5	+1.7
GOGA	Godfrey	19.46	21	P	P	13 57 35.4	+1.4
GOGA				IAmb	IAmb	13 57 51.0	
	comp=Z,20nm,1.4s						
VHRN	Van Horn	19.57	324	P	P	13 57 37.3	+1.8
SDDR	Presa de Saban	19.85	77		Pn	13 57 39.7	-3.0
SDDR				IAmb	IAmb	13 57 48.7	
	comp=Z,30nm,0.9s						
SC01	Santiago de lo	20.43	76	P	Pn	13 57 46.6	-3.2
RUSC	La Rusia	20.58	115	P	P	13 57 46.4	-0.3
RUSC				IAmb	IAmb	13 57 46.5	
	comp=Z,7.6nm,0.9s						
PARMO	Parma	21.28	4	P	P	13 57 53.5	+0.1
TKL	Tuckaleechee C	21.42	18	P	P	13 57 56.1	+1.2
	comp=Z,5.1nm,0.7s,baz=194,slow=10,SNR=4.7						
	comp=Z,5.1nm,0.7s						
SDV	Santo Domingo	21.59	105	P	P	13 57 56.4	-0.6
SDV				IAmb	IAmb	13 58 06.4	
	comp=Z,8.0nm,0.8s						
SDV	Santo Domingo	21.59	105	P	P	13 57 54.2	-2.8
	comp=Z,4.0nm,0.6s,baz=290,slow=6.2,SNR=5.0						
	comp=Z,4.0nm,0.6s						
V53A	Saluda	21.73	20	P	P	13 57 59.2	+1.2
V53A				IAmb	IAmb	13 58 00.6	
	comp=Z,23nm,1.4s						
SIUC	Southern Illin	22.37	5	P	P	13 58 04.2	+0.2
V55A	Taylorsville	22.46	23	P	P	13 58 05.8	+0.9
V55A				IAmb	IAmb	13 58 07.0	
	comp=Z,13nm,0.8s						
OLIL	Olney	23.49	7	P	P	13 58 14.5	+0.3
OLIL				IAmb	IAmb	13 58 17.1	
	comp=Z,17nm,0.8s						
TCRU	Three Creeks R	29.48	326	P	P	13 59 08.5	+0.4
TCRU				IAmb	IAmb	13 59 09.9	
	comp=Z,6.7nm,1.2s						
LPAZ	La Paz	39.14	142	P	P	14 00 31.5	-0.1
LPAZ	La Paz	39.14	142	P	P	14 00 31.9	+0.3
	comp=Z,3.4nm,0.7s,baz=359,slow=6.0,SNR=11						
	comp=Z,3.4nm,0.7s						
YKA	Yellowknife Ar	49.77	346	P	P	14 01 54.7	+0.4
	comp=Z,0.5nm,0.7s,baz=153,slow=7.6,SNR=12						
YKA				pP	pP	14 02 40.2	+0.8
	comp=Z,1.0nm,0.7s,baz=152,slow=7.6,SNR=9.1						
YKA				sP	sP	14 03 01.4	-0.7
	comp=Z,0.5nm,0.7s,baz=152,slow=7.7,SNR=3.4						
	comp=Z,0.5nm,0.7s						
CPUP	Villa Florida	53.26	141	P	P	14 02 19.4	-1.3
	comp=Z,2.5nm,0.7s,baz=329,slow=8.4,SNR=6.0						
	comp=Z,2.5nm,0.7s						
PLCA	Paso Flores	59.18	161	P	P	14 03 02.5	+0.1
	comp=Z,2.1nm,0.9s,baz=22,slow=22,SNR=3.8						
	comp=Z,2.1nm,0.9s						
EKA	Eskdalemuir Ar	76.71	36	P	P	14 04 50.5	-0.9
	comp=Z,1.9nm,0.6s,baz=269,slow=6.2,SNR=9.5						
	comp=Z,1.9nm,0.6s						
WRA	Warramunga Arr	135.97	257	PKP	PKPdf	14 12 20.4	0.0
	comp=Z,0.4nm,0.8s,baz=88,slow=2.8,SNR=4.8						
ASAR	Alice Springs	136.36	252	PKP	PKPdf	14 12 21.8	+0.8
	comp=Z,0.2nm,0.7s,baz=107,slow=2.4,SNR=4.3						
CMAR	Chiang Mai Arr	144.78	342	PKP	PKPbc	14 12 35.8	+0.1
	comp=Z,0.9nm,0.8s,baz=338,slow=2.9,SNR=5.6						

*IDC **27** 14:18:31.9±2.0, 1°.71N×125°.66E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=179.2km s-min=25.3km az=65.0*
*DJA **27** 14:18:35.3±1.0, 2°N±4°×12°7E±°, h13km±9km, M3.6/7, mb3.9/1, MLv3.5/7*
ISC 27 14:18:32.5±1.6, 2°.3N±0°.2×126°.8E±0°.2, h10km, n6, σ1§42/6, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.59	161	P	Pn	14 19 02.4	+1.7
SANI	Sanana	4.38	191	P	Pn	14 19 38.9	-0.3
MRSI	Marisa	5.22	250	P	Pn	14 19 51.8	+1.1
WRA	Warramunga Arr	23.28	162	P	P	14 23 39.8	-0.8
	0.5nm,0.4s,baz=337,slow=10,SNR=9.5						
	0.5nm,0.4s						
ASAR	Alice Springs	26.69	165	P	P	14 24 11.1	-1.0
	0.1nm,0.3s,baz=348,slow=8.9,SNR=9.8						
	0.1nm,0.3s						
MKAR	Makanchi Array	58.80	326	P	P	14 28 30.9	-0.3
	0.2nm,0.4s,baz=129,slow=6.8,SNR=5.7						
	0.2nm,0.4s						

IDC 27 14:29:54.6±8.1, 1°.59N×96°.83W, h0km, mb3.6/4, mbtmp3.6/4, MS3.8/1, Error ellipse: s-maj=370.5km s-min=141.7km az=90.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.35	347	P	P	14 35 51.0	+0.4
	0.7nm,0.9s,baz=165,slow=8.8,SNR=4.2						
	0.7nm,0.9s						
ELK	Elko	42.39	339	LR	LR	14 55 10.1	
	comp=Z,117nm,19.3s,baz=105,slow=36						
PDAR	Pinedale Array	42.55	346	P	P	14 37 51.9	-0.6
	0.7nm,0.9s,baz=156,slow=7.8,SNR=5.0						
	0.7nm,0.9s						
YKA	Yellowknife Ar	62.20	351	P	P	14 40 17.9	+0.3
	0.5nm,0.9s,baz=155,slow=7.0,SNR=5.0						
	0.5nm,0.9s						
ILAR	Eielson Array	72.55	340	P	P	14 41 23.1	-0.1
	0.7nm,0.8s,baz=149,slow=5.6,SNR=9.0						
	0.7nm,0.8s						

*IDC **27** 14:31:15.5±1.6, 1°.99N×97°.10W, h0km, mb4.1/9, mbtmp4.1/9, MS4.1/9, Error ellipse: s-maj=92.0km s-min=29.8km az=85.0*
*GCMT **27** 14:31:20.0±0.3, 2°.20N±0°.02×97°.58W±0°.02, h12km, MW4.9/109, Moment Tensor Solution. s44,c54; s109,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.50±.06; $M_{\theta\theta}$1.92±.06; $M_{\phi\phi}$0.58±.07; $M_{r\theta}$-0.25±.24; $M_{\theta\phi}$-0.71±.05; $M_{\phi r}$0.73±.32; Best double couple: $M_0$2.47600×10^{16} NP1:ϕ_s283.00000°, δ40.00000°, λ-107.00000°. NP2:ϕ_s125.00000°, δ52.00000°, λ-77.00000°. Principal axes: T 2.2870, Plg6.0000°, Azm205.0000°; N 0.3780, Plg11.0000°, Azm296.0000°; P -2.6640, Plg78.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-tensor function*
*NEIC **27** 14:31:22.0±1.2, 2°.3N±0°.1×97°.8W±0°.1, h10km±1km, mb4.6/33 Error ellipse: s-maj=22.6km s-min=15.6km az=231.0*
ISC 27 14:31:20.5±0.6, 2°.30N±0°.08×97°.87W±0°.08, h10km, n73, σ1§26/54, mb4.5/22, MS4.1/6, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	8.14	111	Pn	Pn	14 33 18.1	-0.7
RTAL	Retalhuleu	13.59	26	Pn	Pn	14 34 34.8	+1.2
APG	El Apazote	14.59	30	LR	LR	14 39 04.6	
	comp=Z,131nm,20.5s,baz=271,slow=32						
MTO3	Montecristo	14.67	34		Pn	14 34 47.7	-0.8
ESQI	Esquipulas	14.81	34	Pn	Pn	14 34 51.8	+1.5
CMIG	Matias Romero	14.99	11	LR	LR	14 39 18.1	
	comp=Z,2μm,19.7s,baz=177,slow=32						
CNGN	Cerro Negro	15.01	47	Pn	Pn	14 34 54.4	+1.5
JTS	Las Juntas de	15.09	58	LR	LR	14 38 55.2	
	comp=Z,1μm,19.5s,baz=247,slow=32						
TLIG	Tlapa	15.19	357	Pn	Pn	14 34 56.2	+0.9
SOCE	Pocosol	15.42	58	Pn	Pn	14 34 58.7	+0.3
SOCE				IAmb	IAmb	14 35 10.6	
	comp=Z,34nm,1.3s						
TGUH	Tegucigalpa,Un	15.69	41		P	14 35 04.7	-1.4
TGUH				IAmb	IAmb	14 35 44.6	
	comp=Z,28nm,1.0s						
COHC	Cochancay	19.20	104	P	Pn	14 35 45.2	-0.6
OTAV	Otavalo	19.52	96	P	P	14 35 48.8	-0.1
SLOR	San Lorenzo -	19.60	99	P	P	14 35 49.1	-0.6
ZAIG	Zacatecas	20.85	348		P	14 36 05.1	+2.1
ZAIG				IAmb	IAmb	14 36 14.1	
	comp=Z,31nm,1.5s						
FLOC	Florencia	22.22	91	P	P	14 36 16.9	-0.6
FLOC				IAmb	IAmb	14 36 26.4	
	comp=Z,50nm,1.5s						
ROSC	El Rosal	23.64	83	P	P	14 36 33.2	+0.5
ROSC				IAmb	IAmb	14 36 50.5	
	comp=Z,34nm,1.4s						
SLBS	Sierra La Lagu	24.26	332	P	P	14 36 39.0	+0.9
HBVL	Hebbronville	24.64	358	P	P	14 36 43.1	+1.7
LPIG	La Paz	24.79	332	LR	LR	14 44 13.4	
	comp=Z,964nm,19.9s,baz=148,slow=31						
RUSC	La Rusia	24.98	81	P	P	14 36 45.3	+0.1
833A	Chaparral WMA,	25.92	357	P	P	14 36 54.0	+1.0
833A				IAmb	IAmb	14 36 55.4	
	comp=Z,23nm,1.3s						
DRIO	Del Rio	27.10	355	P	P	14 37 04.4	+0.7
TX31	Lajitas Ar. Si	27.45	349	P	P	14 37 07.9	+1.0
TXAR	Lajitas Array	27.45	349	P	P	14 37 07.7	+0.8
TXAR	Lajitas Array	27.45	349	P	P	14 37 08.3	+1.4
	comp=Z,3.6nm,0.9s,baz=164,slow=9.7,SNR=21						
	comp=Z,3.6nm,0.9s						
SAND	Sanderson	27.80	352	P	P	14 37 10.5	+0.5
SAND				IAmb	IAmb	14 37 12.3	
	comp=Z,9.2nm,0.9s						
SDV	Santo Domingo	27.87	75	LR	LR	14 46 26.6	
	comp=Z,313nm,21.8s,baz=259,slow=34						
ALPN	Alpine	28.45	349	P	P	14 37 16.4	+0.5
VHRN	Van Horn	29.12	347	P	P	14 37 22.4	+0.6
VHRN				IAmb	IAmb	14 37 30.2	
	comp=Z,12nm,1.4s						
ODSA	Odessa	29.99	352	P	P	14 37 29.9	+0.4
POST	Post	30.80	354	P	P	14 37 36.8	+0.2
DKNS	Dickens	31.34	355	P	P	14 37 42.5	+1.2
DKNS				IAmb	IAmb	14 37 44.3	
	comp=Z,9.8nm,1.1s						
121A	Cookes Peak, D	31.49	344	P	P	14 37 43.8	+1.0
121A				IAmb	IAmb	14 37 46.7	
	comp=Z,8.0nm,1.0s						
SDD	Santo Domingo	31.76	58	P	P	14 37 44.5	-0.6
LRAL	Lakeview Retre	32.23	17	P	P	14 37 49.3	+0.2
LRAL				IAmb	IAmb	14 38 14.3	
	comp=Z,13nm,1.4s						
BNM	Barren Site	32.73	346	P	P	14 37 55.0	+1.2
ANMO	Albuquerque	33.45	347	P	P	14 38 00.9	+0.8
	comp=Z,1.3nm,0.7s,baz=164,slow=7.4,SNR=3.8						
	comp=Z,1.3nm,0.7s						
PCRV	Puerto La Cruz	33.92	75	LR	LR	14 51 58.7	
	comp=Z,307nm,20.8s,slow=37						
LPAZ	La Paz	34.70	123	LR	LR	14 50 32.6	
	comp=Z,121nm,19.9s,baz=293,slow=34						
T25A	Trinidad	35.19	351	P	P	14 38 16.1	+1.0
T25A				IAmb	IAmb	14 38 24.3	
	comp=Z,12nm,1.4s						
PFO	Pinyon Flats O	35.68	333	P	P	14 38 20.9	+1.6
	comp=Z,0.7nm,0.3s,baz=159,slow=7.0,SNR=3.9						
	comp=Z,0.7nm,0.3s						
MVCO	Mesa Verde	36.09	346	P	P	14 38 23.8	+0.9
MVCO				IAmb	IAmb	14 38 31.2	
	comp=Z,12nm,1.4s						
T59A	Double "B" Far	39.26	26	P	P	14 38 49.2	-0.2
T59A				IAmb	IAmb	14 39 00.6	
	comp=Z,27nm,1.5s						
H03N2	Juan Fernandez	39.79	155	T	T	15 21 04.1	
	baz=332,slow=77,SNR=13						
H03N1	Juan Fernandez	39.80	155	T	T	15 20 58.8	
	baz=332,slow=77,SNR=14						
H03N3	Juan Fernandez	39.80	155	T	T	15 21 01.6	
	baz=332,slow=77,SNR=23						
NVAR	Mina Array Bea	40.53	335	P	P	14 39 01.6	+1.3
	comp=Z,2.3nm,0.9s,baz=171,slow=9.7,SNR=7.3						
	comp=Z,2.3nm,0.9s						
PDAR	Pinedale Array	41.62	347	P	P	14 39 09.8	+0.6
	comp=Z,3.1nm,0.9s,baz=151,slow=8.3,SNR=20						
	comp=Z,3.1nm,0.9s						
PTLB	Pontes e Lacer	42.18	116	P	P	14 39 16.2	+2.4
TAOE	Nuku Hiva Isla	43.57	255	eLR	LR	14 51 32.8	
	comp=Z,380nm,25.2s						
MT08	Bocatoma Ro	44.21	146	P	P	14 39 31.8	+1.4
MT08				IAmb	IAmb	14 40 03.9	
	comp=Z,9.1nm,1.1s						
ULM	Lac du Bonnet	47.81	2	P	P	14 39 56.5	-1.6
	comp=Z,2.7nm,0.8s,baz=182,slow=8.5,SNR=5.9						
	comp=Z,2.7nm,0.8s						
PLCA

WRA	**Warramunga Arr**	**126.12**	**247**	PKP	**PKPdf**	**14 50 22.1**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=97,slow=1.9,SNR=7.9						
KURBB	**Kurchatov Arra**	**127.19**	**3**	PKP	**PKPdf**	**14 50 22.3**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=355,slow=2.8,SNR=4.4						
BKB	**Balikpapan**	**145.23**	**271**	PKPbc	**PKPbc**	**14 50 57.7**	**-1.6**
RER	**Riviere de l'E**	**148.19**	**128**	PKPdf	**PKPdf**	**14 51 04.0**	**-0.6**

*IDC **27** 14:33:29.1±6.9, 1°.61N×96°.86W, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=201.0km s-min=136.2km az=82.0*

ISC 27 14:33:30.5±7.0, 1°.6N±0°.9×9°7W±°, h10km, n12, σ0s25/6, mb3.6/6, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.35**	**347**	P	**P**	**14 39 25.0**	**0.0**
	0.7nm,0.9s,baz=172,slow=10,SNR=4.0						
	0.7nm,0.9s						
H03N2	**Juan Fernandez**	**38.72**	**156**	T	T	15 23 10.2	
	baz=333						
H03N1	**Juan Fernandez**	**38.73**	**156**	T	T	15 23 16.6	
	baz=333						
H03N3	**Juan Fernandez**	**38.73**	**156**	T	T	15 23 13.2	
	baz=333						
NVAR	**Mina Array Bea**	**41.61**	**334**	P	**P**	**14 41 19.2**	**+0.1**
	1.0nm,0.9s,baz=152,slow=9.5,SNR=2.6						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**42.55**	**346**	P	**P**	**14 41 26.6**	**-0.2**
	0.6nm,0.8s,baz=151,slow=4.5,SNR=3.8						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**62.20**	**351**	P	**P**	**14 43 52.3**	**+0.3**
	0.5nm,1.0s,baz=156,slow=7.5,SNR=4.9						
	0.5nm,1.0s						
DLBC	**Dease Lake**	**62.39**	**341**	P	**P**	**14 43 53.5**	**+0.1**
	1.4nm,0.6s,baz=142,slow=9.5,SNR=3.0						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**72.54**	**340**	P	**P**	**14 44 57.4**	**-0.2**
	1.3nm,0.8s,baz=150,slow=4.9,SNR=10.0						
	1.3nm,0.8s						
H11N3	**WAKE ISLAND Hy**	**95.35**	**290**	T	T	16 31 42.7	
	baz=86						
H11N2	**WAKE ISLAND Hy**	**95.37**	**290**	T	T	16 31 44.7	
	baz=86						
H11N1	**WAKE ISLAND Hy**	**95.37**	**290**	T	T	16 31 48.0	
	baz=86						

*IDC **27** 14:41:03.3±0.8, 2°.06N×98°.07W, h0km, mb4.1/12, mbtmp4.1/12, MS4.0/19, Error ellipse: s-maj=32.7km s-min=15.5km az=58.0*

*GCMT **27** 14:41:07.1±0.4, 2°.19N±0°.03×97°.67W±0°.03, h12km, MW4.8/102, Moment Tensor Solution. s13,c13; s102,c126; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.91±.06; Mθθ=1.22±.06; Mφφ=0.69±.07; Mrθ=0.77±.29; Mθφ=-0.75±.05; Mφr=0.88±.33; Best double couple: M=2.16800×10^16^ NP1=φs300.00000°, δ29.00000°, λ=-101.00000°. NP2=φs132.00000°, δ61.00000°, λ=-84.00000°. Principal axes: T 2.0760, Plg16.0000°, Azm218.0000°; N 0.1840, Plg5.0000°, Azm309.0000°; P -2.2600, Plg73.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 14:41:08.1±0.8, 2°.3N±0°.1×97°.8W±0°.1, h10km±1km, mb4.4/51 Error ellipse: s-maj=25.8km s-min=16.9km az=230.0*

ISC 27 14:41:05.9±0.6, 2°22N±0°09×97°87W±0°10, h10km, n97, σ1s10/71, mb4.4/33, MS3.9/16, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**8.11**	**111**	Pn	**Pn**	**14 43 05.2**	**+1.4**
APG	**El Apazote**	**14.66**	**29**	LR	LR	14 48 51.7	
	comp=Z,102nm,21.3s,baz=253,slow=32						
CNGN	**Cerro Negro**	**15.06**	**47**		**P**	**14 44 42.8**	**-1.6**
CMIG	**Matias Romero**	**15.07**	**11**	LR	LR	14 49 04.7	
	comp=Z,1μm,19.8s,baz=176,slow=32						
JTS	**Las Juntas de**	**15.13**	**57**	Pn	**Pn**	**14 44 39.3**	**-0.6**
JTS				IAmb	IAmb	14 44 55.4	
	comp=Z,21nm,1.4s						
JTS	**Las Juntas de**	**15.13**	**57**	LR	LR	14 48 42.7	
	comp=Z,1μm,19.6s,baz=230,slow=30						
TLIG	**Tlapa**	**15.27**	**357**	P	**P**	**14 44 47.2**	**+0.5**
TLIG				IAmb	IAmb	14 45 11.5	
	comp=Z,15nm,1.1s						
TGUH	**Tegucigalpa,Un**	**15.75**	**41**	Pn	**Pn**	**14 44 48.6**	**+0.5**
TGUH				IAmb	IAmb	14 45 11.5	
	comp=Z,29nm,1.1s						
COHC	**Cochancay**	**19.19**	**104**	P	**Pn**	**14 45 30.2**	**-0.6**
OTAV	**Otavalo**	**19.52**	**96**	P	**P**	**14 45 33.5**	**-0.6**
SLOR	**San Lorenzo -**	**19.59**	**98**	P	**Pn**	**14 45 36.2**	**-0.1**
ZAIG	**Zacatecas**	**20.93**	**348**	P	**P**	**14 45 51.7**	**+2.5**
ZAIG				IAmb	IAmb	14 45 54.3	
	comp=Z,42nm,1.5s						
ATAH	**Atahualpa**	**21.55**	**116**	P	**P**	**14 45 57.1**	**+1.1**
	comp=Z,2.4nm,0.5s,baz=279,slow=17,SNR=3.6						
ATAH				LR	LR	14 52 14.8	
	comp=Z,95nm,21.7s,baz=355,slow=31						
	comp=Z,2.4nm,0.5s						
FLOC	**Florencia**	**22.22**	**91**	P	**P**	**14 46 03.1**	**+0.2**
ROSC	**El Rosal**	**23.65**	**83**	P	**P**	**14 46 18.5**	**+0.4**
ROSC	**El Rosal**	**23.65**	**83**	LR	LR	14 54 01.5	
	comp=Z,237nm,18.3s,baz=274,slow=33						
SLBS	**Sierra La Lagu**	**24.34**	**332**	P	**P**	**14 46 26.7**	**+2.5**
SLBS				IAmb	IAmb	14 46 28.5	
	comp=Z,18nm,1.2s						
HBVL	**Hebbronville**	**24.72**	**358**	P	**P**	**14 46 28.8**	**+1.3**
LPIG	**La Paz**	**24.86**	**332**	LR	LR	14 53 59.3	
	comp=Z,611nm,20.1s,baz=152,slow=31						
RUSC	**La Rusia**	**24.99**	**81**	P	**P**	**14 46 30.4**	**-0.3**
NNA	**Nana**	**25.22**	**124**	P	**P**	**14 46 33.3**	**+1.2**
HPIG		**25.69**	**344**	P	**P**	**14 46 37.1**	**+0.6**
HPIG				IAmb	IAmb	14 47 02.6	
	comp=Z,9.1nm,1.1s						
833A	**Chaparral WMA,**	**26.00**	**357**	P	**P**	**14 46 39.6**	**+0.5**
TXAR	**Lajitas Array**	**27.53**	**349**	P	**P**	**14 46 53.5**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=167,slow=12,SNR=16						
TXAR				LR	LR	14 56 51.8	
	comp=Z,343nm,18.1s,baz=123,slow=34						
	comp=Z,2.1nm,0.8s						
TX31	**Lajitas Ar. Si**	**27.53**	**349**	P	**P**	**14 46 53.3**	**+0.3**
TX31				IAmb	IAmb	14 46 54.9	
	comp=Z,7.6nm,1.2s						
SAND	**Sanderson**	**27.88**	**352**	P	**P**	**14 46 57.3**	**+1.2**
SAND				IAmb	IAmb	14 46 58.0	
	comp=Z,9.3nm,1.0s						
SDV	**Santo Domingo**	**27.89**	**75**	P	**P**	**14 46 57.8**	**+1.3**
	comp=Z,5.1nm,0.9s,baz=258,slow=5.5,SNR=4.4						
SDV				LR	LR	14 56 14.5	
	comp=Z,328nm,21.7s,baz=260,slow=32						
	comp=Z,5.1nm,0.9s						
ALPN	**Alpine**	**28.54**	**350**	P	**P**	**14 47 02.7**	**+0.7**
ALPN				IAmb	IAmb	14 47 03.8	
	comp=Z,5.8nm,0.9s						
VHRN	**Van Horn**	**29.20**	**347**	P	**P**	**14 47 08.9**	**+1.0**
VHRN				IAmb	IAmb	14 47 09.6	
	comp=Z,5.2nm,0.9s						
POST	**Post**	**30.88**	**354**	P	**P**	**14 47 22.4**	**-0.3**
121A	**Cookes Peak, D**	**31.57**	**344**	P	**P**	**14 47 30.0**	**+1.1**
121A				IAmb	IAmb	14 47 31.6	
	comp=Z,10nm,1.1s						
DUN6	**Lazy B Ranch**	**31.97**	**342**	P	**P**	**14 47 33.3**	**+0.9**
PIX	**Pinacate**	**32.69**	**335**	P	**P**	**14 47 39.5**	**+1.1**
BNM	**Barren Site**	**32.81**	**347**	P	**P**	**14 47 40.8**	**+1.0**
ANMO	**Albuquerque**	**33.53**	**347**	P	**P**	**14 47 46.7**	**+0.6**
ANMO				IAmb	IAmb	14 47 48.4	
	comp=Z,11nm,1.5s						
ANMO	**Albuquerque**	**33.53**	**347**	P	**P**	**14 47 47.0**	**+0.9**
	comp=Z,3.0nm,1.1s,baz=0.0,slow=0.0,SNR=5.4						
ANMO				LR	LR	15 00 12.5	
	comp=Z,209nm,21.2s,baz=328,slow=34						
	comp=Z,3.0nm,1.1s						
113A	**Mohawk Valley,**	**33.86**	**336**	P	**P**	**14 47 49.8**	**+1.1**
113A				IAmb	IAmb	14 48 01.8	
	comp=Z,10nm,1.5s						
PCRV	**Puerto La Cruz**	**33.95**	**75**	LR	LR	15 01 22.3	
	comp=Z,344nm,20.5s,slow=36						
X18A	**Snowflake**	**34.06**	**342**	P	**P**	**14 47 52.1**	**+1.4**
ESJX	**Sierra Juarez**	**34.17**	**332**	P	**P**	**14 47 52.7**	**+1.0**
X16A	**Lo Mia Camp, P**	**34.45**	**340**	P	**P**	**14 47 54.6**	**+0.6**
X16A				IAmb	IAmb	14 47 57.1	
	comp=Z,9.9nm,1.4s						
LPAZ	**La Paz**	**34.66**	**123**	P	**P**	**14 47 56.7**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=289,slow=8.2,SNR=4.8						
LPAZ				LR	LR	15 00 21.4	
	comp=Z,109nm,19.1s,baz=306,slow=33						
	comp=Z,2.7nm,0.9s						
SJG	**San Juan**	**34.89**	**61**	LR	LR	15 00 54.7	
	comp=Z,190nm,19.5s,baz=216,slow=34						
MGMO	**Mountain Grove**	**35.15**	**8**	P	**P**	**14 47 59.8**	**-0.1**
MGMO				IAmb	IAmb	14 48 02.1	
	comp=Z,6.0nm,0.9s						
PFO	**Pinyon Flats O**	**35.75**	**333**	LR	LR	15 00 04.3	
	comp=Z,132nm,19.6s,baz=75,slow=32						
TKL	**Tuckaleechee C**	**35.76**	**20**	LR	LR	15 02 38.5	
	comp=Z,454nm,19.0s,baz=170,slow=36						
SDCO	**Great Sand Dun**	**36.05**	**350**	P	**P**	**14 48 08.6**	**+0.7**
U15A	**North Rim**	**36.56**	**340**	P	**P**	**14 48 13.6**	**+1.3**
U15A				IAmb	IAmb	14 48 20.6	
	comp=Z,6.8nm,1.3s						
PV13	**Radium Mtn., P**	**37.15**	**346**	P	**P**	**14 48 18.0**	**+0.7**
PV13				IAmb	IAmb	14 48 18.7	
	comp=Z,5.7nm,1.0s						
LCMT	**Little Creek M**	**37.41**	**340**	P	**P**	**14 48 20.4**	**+1.0**
LCMT				IAmb	IAmb	14 48 22.3	
	comp=Z,8.4nm,1.4s						
WCT	**Wildcat Mounta**	**38.51**	**336**	P	**P**	**14 48 30.4**	**+1.8**
WCT				IAmb	IAmb	14 48 32.0	
	comp=Z,9.0nm,1.2s						
TMUT	**Trail Mountain**	**38.86**	**343**	P	**P**	**14 48 32.6**	**+0.9**
P18A	**Preston Nutter**	**38.90**	**345**	P	**P**	**14 48 33.1**	**+1.0**
H03N2	**Juan Fernandez**	**39.71**	**155**	T	T	15 30 59.0	
	baz=331,slow=77,SNR=30						
H03N1	**Juan Fernandez**	**39.72**	**155**	T	T	15 30 58.4	
	baz=331,slow=77,SNR=51						
H03N3	**Juan Fernandez**	**39.73**	**155**	T	T	15 30 46.1	
	baz=331,slow=77,SNR=34						
DUG	**Dugway, Tooele**	**40.16**	**342**	P	**P**	**14 48 43.5**	**+1.1**
DUG				IAmb	IAmb	14 48 45.3	
	comp=Z,11nm,1.2s						
NVAR	**Mina Array Bea**	**40.60**	**335**	P	**P**	**14 48 46.5**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=160,slow=9.1,SNR=11						
	comp=Z,2.7nm,1.0s						
BGU	**Big Grassy Mou**	**40.90**	**342**	P	**P**	**14 48 49.4**	**+0.9**
BGU				IAmb	IAmb	14 48 50.5	
	comp=Z,8.5nm,1.1s						
HWUT	**Hardware Ranch**	**41.11**	**344**	P	**P**	**14 48 51.2**	**+0.9**
HWUT				IAmb	IAmb	14 48 58.5	
	comp=Z,13nm,1.2s						
ELK	**Elko**	**41.45**	**340**	P	**P**	**14 48 54.1**	**+0.9**
PDAR	**Pinedale Array**	**41.70**	**347**	P	**P**	**14 48 55.4**	**+0.2**
PDAR	**Pinedale Array**	**41.70**	**347**	P	**P**	**14 48 55.5**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=152,slow=8.5,SNR=22						
	comp=Z,1.8nm,0.7s						
MOOW	**Moose Ponds**	**42.91**	**346**	P	**P**	**14 49 05.3**	**+0.3**
TAOE	**Nuku Hiva Isla**	**43.55**	**255**	eLR	LR	15 01 18.4	
	comp=Z,347nm,25.7s						
YMR	**Madison River**	**43.83**	**347**	P	**P**	**14 49 13.9**	**+1.4**
YMR				IAmb	IAmb	14 49 22.7	
	comp=Z,7.6nm,1.5s						
YNE	**Yellowstone No**	**43.94**	**348**	P	**P**	**14 49 13.5**	**+0.2**
YNE				IAmb	IAmb	14 49 25.2	
	comp=Z,8.1nm,1.3s						
MDP	**Montagnes des**	**45.22**	**85**	LR	LR	15 05 42.2	
	comp=Z,174nm,20.8s,baz=287,slow=33						
G06A	**Carlson Farm,**	**47.29**	**338**	P	**P**	**14 49 41.0**	**+1.3**
G06A				IAmb	IAmb	14 49 55.4	
	comp=Z,5.9nm,1.3s						
ULM	**Lac du Bonnet**	**47.89**	**2**	P	**P**	**14 49 42.6**	**-1.5**
	comp=Z,2.5nm,0.7s,baz=173,slow=7.0,SNR=5.6						
	comp=Z,2.5nm,0.7s						
CPUP	**Villa Florida**	**48.35**	**129**	P	**P**	**14 49 46.4**	**-1.7**
	comp=Z,3.3nm,0.9s,baz=318,slow=7.1,SNR=4.5						
	comp=Z,3.3nm,0.9s						
NEW	**Newport**	**48.78**	**343**	LR	LR	15 10 34.4	
	comp=Z,294nm,18.1s,baz=217,slow=36						
PLCA	**Paso Flores**	**49.48**	**153**	LR	LR	15 06 01.8	
	comp=Z,162nm,19.7s,baz=327,slow=30						
PPT	**Papeete**	**54.60**	**247**	LR	LR	15 08 24.5	
	comp=Z,80nm,18.3s,baz=56,slow=30						
PPT2	**Papeete2**	**54.61**	**247**	eLR	LR	15 06 22.8	
	comp=Z,214nm,27.8s						
PPT2				eLR	LR	15 06 26.7	
	comp=Z,304nm,27.8s						
TBI	**Tubuai**	**56.26**	**240**	eLR	LR	15 07 14.0	
	comp=Z,864nm,29.8s						
YKA	**Yellowknife Ar**	**61.42**	**351**	P	**P**	**14 51 21.2**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=161,slow=7.1,SNR=18						
	comp=Z,1.4nm,0.9s						
RAR	**Rarotonga**	**64.83**	**245**	LR	LR	15 12 38.6	
	comp=Z,93nm,20.9s,baz=76,slow=29						
J26L	**Joseph Creek**	**70.32**	**341**	P	**P**	**14 52 19.9**	**+0.3**
ILAR	**Eielson Array**	**71.60**	**340**	P	**P**	**14 52 26.6**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=148,slow=5.0,SNR=80						
	comp=Z,3.4nm,0.7s						
D25K	**Kavik River**	**74.27**	**344**	P	**P**	**14 52 42.6**	**-0.4**
D25K				IAmb	IAmb	14 52 54.0	
	comp=Z,8.1nm,1.1s						
QSPA	**South Pole Qui**	**92.23**	**180**	P	**P**	**14 54 16.0**	**+0.1**
QSPA	**South Pole Qui**	**92.23**	**180**	P	**P**	**14 54 14.5**	**-1.4**
	comp=Z,1.1nm,1.0s,baz=140,slow=7.9,SNR=5.6						
	comp=Z,1.1nm,1.0s						
SNAA	**Sanae**	**93.68**	**162**	P	**P**	**14 54 25.5**	**+3.0**
H11N3	**WAKE ISLAND Hy**	**94.17**	**290**	T	T	16 38 59.8	
	baz=86,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**94.18**	**290**	T	T	16 39 04.0	
	baz=86,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**94.19**	**290**	T	T	16 39 01.1	
	baz=86,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**94.44**	**289**	T	T	16 39 30.7	
	baz=85,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**94.45**	**289**	T	T	16 39 30.8	
	baz=85,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hy**	**94.46**	**289**	T	T	16 39 25.7	
	baz=85,slow=74,SNR=11						
ASAR	**Alice Springs**	**125.61**	**242**	PKP	**PKPdf**	**15 00 07.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=107,slow=1.9,SNR=12						
WRA	**Warramunga Arr**	**126.09**	**247**	PKP	**PKPdf**	**15 00 07.9**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=98,slow=1.9,SNR=10						
KURBB	**Kurchatov Arra**	**127.28**	**3**	PKP	**PKPdf**	**15 00 09.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=325,slow=4.5,SNR=2.5						
MKAR	**Makanchi Array**	**131.20**	**360**	PKP	**PKPdf**	**15 00 17.5**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=357,slow=2.9,SNR=3.0						
RER	**Riviere de l'E**	**148.14**	**128**	PKPdf	**PKPdf**	**15 00 49.2**	**-0.7**
SLVN	**Son La**	**148.35**	**319**	PKPdf	**PKPdf**	**15 00 49.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**153.62**	**322**	PKPbc	**PKPbc**	**15 01 04.8**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=320,slow=1.1,SNR=6.0						

*JMA **27** 15:23:23.9±0.4, 44°N±2°×14°8E±°, h65km, MV3.5/22, SE OFF ETOROFU*

*SKHL **27** 15:23:23.5±0.3, 44°.40N×148°.30E, h45km±5km, mb4.6/3*

ISC 27 15:23:22.5±3.2, 44°44N±0°.10×148°4E±0°.2, h55km, n15, σ0s70/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**336**	*i* P	**Pn**	**15 23 38.6**	**+0.1**
KUR				AMB	AMB	15 23 39.1	
	520nm,0.3s						
KUR				*e*S	**Sn**	**15 23 50.1**	**-0.3**
KUR				A	A	15 23 50.7	
	1μm,0.3s						
KUR				A	A	15 23 50.7	
	460nm,0.3s						
SHO	**Shikotan**	**1.24**	**243**	*e*P	**Pn**	**15 23 44.0**	**+0.5**
SHO				AMB	AMB	15 23 45.0	
	60nm,0.2s						
SHO				*e*S	**Sn**	**15 23 59.4**	**+0.2**
SHO				A	A	15 24 00.0	
	220nm,0.2s						
SHO				A	A	15 24 00.0	
	210nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**258**	*i* P	**Pn**	**15 23 51.7**	**+0.1**
YUK				AMB	AMB	15 23 53.8	
	150nm,0.2s						
YUK				*i* S	**Sn**	**15 24 13.0**	**-0.8**
YUK				A	A	15 24 14.2	
	350nm,0.4s						
YUK				A	A	15 24 14.2	
	490nm,0.4s						
NEM2	**Nemuro 2**	**2.17**	**241**	P	**Pn**	**15 23 56.4**	**+0.2**
NEM2				*e*S	**Sn**	**15 24 20.8**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.18**	**242**	*i* P	**Pn**	**15 23 56.6**	**+0.3**
NMR				*i* S	**Sn**	**15 24 21.1**	**-1.0**
JRA	**Rausu**	**2.38**	**259**	P	**Pn**	**15 23 59.5**	**+0.4**
JNSB	**Nemuroshibetsu**	**2.51**	**256**	P	**Pn**	**15 24 01.8**	**+1.0**
JKHN	**Kushirohamanak**	**2.69**	**241**	*i* P	**Pn**	**15 24 03.6**	**+0.5**
JNK	**Nakash**	**2.76**	**253**	P	**Pn**	**15 24 04.9**	**+0.7**
JNK				S	**Sn**	**15 24 35.8**	**-0.6**
AKK	**Akkeshi**	**2.92**	**242**	*e*P	**Pn**	**15 24 06.6**	**+0.2**
JAK	**Akkeshi**	**3.02**	**243**	P	**Pn**	**15 24 08.1**	**+0.3**
JAK				*e*S	**Sn**	**15 24 41.7**	**-1.0**
JTKR	**Abashiri--Toko**	**3.23**	**263**	P	**Pn**	**15 24 10.8**	**+0.1**
JAR	**Ashorobuto**	**3.51**	**253**	P	**Pn**	**15 24 15.8**	**+1.3**
JAR				S	**Sn**	**15 24 55.7**	**+0.9**
JCH	**Churui**	**4.07**	**245**	P	**Pn**	**15 24 22.6**	**+0.5**
JNBK	**Urakawa-nobuka**	**4.62**	**244**	*e*P	**Pn**	**15 24 29.5**	**-0.3**

*IDC **27** 15:27:46.0±4.4, 16°.25N×100°.16W, h0km, mb3.8/5, mbtmp3.7/6, ML2.4/1, MS3.4/5, Error ellipse: s-maj=101.2km s-min=36.9km az=29.0*

*NEIC **27** 15:27:53.5±2.4, 16°97N±0°04×100°45W±0°02, h17km±6km, mb4.4/25, Md4.4/131(MEX), Error ellipse: s-maj=6.0km s-min=1.5km az=195.0*

*MEX **27** 15:27:55.0±0.8, 16°93N×100°42W, h8km±4km, MD4.4*

ISC 27 15:27:52.6±1.0, 16°91N±0°03×100°45W±0°02, h15km±5km, n124, σ1s54/189, mb4.4/17, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**53**		**Pg**	**15 27 58.2**	**+0.7**
CAIG					**Sg**	**15 28 01.5**	**+0.7**
CAIG	**El Cayaco**	**0.22**	**53**	*i* P	**Pg**	**15 27 58.2**	**+0.7**
CAIG				*i* S	**Sg**	**15 28 01.5**	**+0.7**
ATYC	**Atoyac**	**0.30**	**3**	*e*P	**Pg**	**15 27 58.8**	**0.0**
ATYC				*i* S	**Sg**	**15 28 03.2**	**+0.1**
ACP2	**Acapulco**	**0.54**	**94**		**Pg**	**15 28 03.6**	**+0.3**
ACP2					**Sg**	**15 28 11.3**	**+0.8**
ACP2	**Acapulco**	**0.54**	**94**	*e*P	**Pg**	**15 28 03.6**	**+0.3**
ACP2				*i* S	**Sg**	**15 28 11.3**	**+0.8**
DAIG	**Los Arroyos**	**0.77**	**82**		**Pg**	**15 28 07.3**	**-0.3**
DAIG					**Sg**	**15 28 17.2**	**-0.5**
DAIG	**Los Arroyos**	**0.77**	**82**	*e*P	**Pg**	**15 28 07.3**	**-0.3**
DAIG				*e*S	**Sg**	**15 28 17.2**	**-0.5**
PET2	**Petatlan**	**0.99**	**309**	*e*P	**Pb**	**15 28 10.6**	**-0.9**
PET2				*i* S	**Sb**	**15 28 23.4**	**-1.0**
ZIIG	**Zihuatanejo**	**1.19**	**305**		**Pn**	**15 28 14.0**	**-0.7**
ZIIG					**Sb**	**15 28 28.8**	**-1.3**
ZIIG	**Zihuatanejo**	**1.19**	**305**	*e*P	**Pn**	**15 28 14.0**	**-0.7**
ZIIG				*e*S	**Sb**	**15 28 28.8**	**-1.3**
CRIG	**Cruz Grande**	**1.27**	**98**		**Pn**	**15 28 14.9**	**-0.9**
CRIG					**Sb**	**15 28 32.0**	**-0.5**
CRIG	**Cruz Grande**	**1.27**	**98**	*e*P	**Pn**	**15 28 14.9**	**-0.9**
CRIG				*e*S	**Sb**	**15 28 32.0**	**-0.5**
ARIG	**Puente Sto Nin**	**1.36**	**4**		**Pn**	**15 28 16.4**	**-0.7**
ARIG					**Sb**	**15 28 32.5**	**-2.6**
ARIG	**Puente Sto Nin**	**1.36**	**4**	*e*P	**Pn**	**15 28 16.4**	**-0.7**
ARIG				*i* S	**Sb**	**15 28 32.5**	**-2.6**
UON	**La Union**	**1.67**	**309**	*e*P	**Pn**	**15 28 22.0**	**+0.6**
UON				*i* S	**Sn**	**15 28 42.3**	**-0.3**
PLIG	**Platanillo**	**1.73**	**31**		**Pn**	**15 28 22.2**	**0.0**
PLIG					**Sn**	**15 28 44.9**	**+0.9**
PLIG	**Platanillo**	**1.73**	**31**	*e*P	**Pn**	**15 28 22.2**	**0.0**
PLIG				*i* S	**Sn**	**15 28 44.9**	**+0.9**
TLIG	**Tlapa**	**1.91**	**70**	Pn	**Pn**	**15 28 24.9**	**+0.1**
TLIG	**Tlapa**	**1.91**	**70**	*e*P	**Pn**	**15 28 25.0**	**+0.3**
TLIG				*i* S	**Sn**	**15 28 50.5**	**+1.8**
TEJU	**Tejupilco**	**2.00**	**8**	*e*P	**Pn**	**15 28 26.0**	**+0.1**
TEJU				*i* S	**Sn**	**15 28 50.4**	**-0.4**
HMTT	**Tlapaneco**	**2.01**	**64**		**Pn**	**15 28 27.2**	**+1.2**
HMTT					**Sn**	**15 28 51.7**	**+0.7**
HMTT	**Tlapaneco**	**2.01**	**64**	*e*P	**Pn**	**15 28 27.2**	**+1.2**
HMTT				*i* S	**Sn**	**15 28 51.7**	**+0.7**
MAVM	**Malinalco, Edo**	**2.23**	**24**		Sn	15 28 44.4	-12
MAVM	**Malinalco, Edo**	**2.23**	**24**	*e*P	Pn	15 28 13.6	-16
MAVM				*i* S	Sn	15 28 44.4	-12
PNIG	**Pinotepa**	**2.29**	**103**		**Pn**	**15 28 29.6**	**-0.2**
PNIG					**Sn**	**15 29 00.1**	**+2.4**
PNIG	**Pinotepa**	**2.29**	**103**	*e*P	**Pn**	**15 28 29.6**	**-0.2**
PNIG				*i* S	**Sn**	**15 29 00.1**	**+2.4**
YAIG	**Yautepec**	**2.34**	**34**		**Pn**	**15 28 30.2**	**-0.5**
YAIG					**Sn**	**15 29 00.1**	**+0.8**
YAIG	**Yautepec**	**2.34**	**34**	*e*P	**Pn**	**15 28 30.2**	**-0.5**
YAIG				*e*S	**Sn**	**15 29 00.1**	**+0.8**
FTIG	**Fresnillo de T**	**2.42**	**66**		**Pn**	**15 28 32.1**	**+0.3**
FTIG					**Sn**	**15 29 01.3**	**+0.1**
FTIG	**Fresnillo de T**	**2.42**	**66**	*e*P	**Pn**	**15 28 32.1**	**+0.3**
FTIG				*i* S	**Sn**	**15 29 01.3**	**+0.1**
AOVM	**Tlapan**	**2.57**	**24**		**Pn**	**15 28 34.8**	**+0.6**
AOVM					**Sb**	**15 29 10.5**	**0.0**
AOVM	**Tlapan**	**2.57**	**24**	*e*P	**Pn**	**15 28 34.8**	**+0.6**
AOVM				*i* S	**Sb**	**15 29 10.5**	**0.0**
TXIG	**Tlaxiaco**	**2.59**	**82**		**Pn**	**15 28 34.

OXIG	Oaxaca	3.56	87		Pn	15 28 48.0	+0.5
OXIG					Sb	15 29 38.7	+0.1
VHO	Vista Hermosa	3.56	87	*e*P	Pn	15 28 48.0	+0.5
VHO				*e*S	Sb	15 29 38.7	+0.1
DHIG	Demacu	3.62	21		Pn	15 28 49.5	+1.1
DHIG					Sn	15 29 32.3	+1.2
DEIG	Demacu	3.63	21	*e*P	Pn	15 28 49.5	+1.1
DEIG				*e*S	Sn	15 29 32.3	+1.2
POHV	Veracruz	3.70	54		Pn	15 28 50.6	+0.9
POHV	Veracruz	3.70	54	*e*P	Pn	15 28 50.6	+0.9
JRQG	Juriquilla Cam	3.77	0	Pn	Pn	15 28 49.6	-0.8
JRQG	Juriquilla Cam	3.77	0	*e*P	Pn	15 28 53.0	+2.6
JRQG				*i* S	Sn	15 29 35.0	+0.4
IGIG	Irapuato, Guan	3.91	348		Pb	15 28 59.0	-2.4
IGIG					Sn	15 29 39.8	+1.8
IGIG	Irapuato, Guan	3.91	348	*e*P	Pb	15 28 59.0	-2.4
IGIG				*i* S	Sn	15 29 39.8	+1.8
CXUV	Coxquihui	4.23	39	*e*P	Pn	15 28 56.0	-0.5
CXUV				*e*S	Sn	15 29 45.6	-0.1
JAUV	Jalcomulco	4.24	54	*e*P	Pn	15 28 55.0	-1.6
JAUV				*i* S	Sn	15 29 43.6	-2.4
CTUV	Llano Grande	4.95	23	*e*P	Pn	15 29 08.0	+1.6
CTUV				*e*S	Sn	15 30 10.3	+6.9
CMIG	Matias Romero	5.33	87	LR	LR	15 31 34.9	
	comp=Z,191nm,18.5s,baz=223,slow=45						
PMUV	Sontecomapan	5.33	71	*e*P	Pn	15 29 12.3	+0.6
PMUV				*e*S	Sn	15 30 15.5	+2.6
ZAIG	Zacatecas	6.16	341	Pn	Pn	15 29 23.3	0.0
APG	El Apazote	9.79	100	Pn	Pn	15 30 03.3	-10
	baz=226,slow=19,SNR=1.7						
LPIG	La Paz	11.68	309	LR	LR	15 34 57.7	
	comp=Z,108nm,18.3s,baz=14,slow=35						
TEIG	Tepich	12.00	72	Pn	Pn	15 30 41.8	-1.4
TXAR	Lajitas Array	12.71	347	Pn	Pn	15 30 59.4	+6.4
	0.3nm,0.7s,baz=174,slow=14,SNR=4.0						
BRDY	Brady	14.37	5	P	Pn	15 31 19.8	+4.2
PLPT	Palo Pinto	15.95	7	Pn	Pn	15 31 35.0	-1.5
CRNM	Carthage	17.88	343		Pn	15 32 01.8	+0.8
SBM	South Baldy	18.03	342	Pn	Pn	15 32 00.7	-2.4
ANMO	Albuquerque	18.74	344	LR	LR	15 40 05.9	
	comp=Z,172nm,18.0s,baz=210,slow=38						
OK031	S. Brethren Rd	19.23	9	P	P	15 32 13.3	-3.0
TKL	Tuckaleechee C	23.85	35	LR	LR	15 45 56.3	
	comp=Z,91nm,18.3s,baz=354,slow=45						
V53A	Saluda	24.40	37	P	P	15 33 09.6	-1.0
V53A				IAmb	IAmb	15 33 34.1	
	comp=Z,14nm,1.1s						
NVAR	Mina Array Bea	26.54	327	P	P	15 33 32.8	+2.7
	comp=Z,1.2nm,0.8s,baz=143,slow=10,SNR=6.8						
	comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	26.91	345	P	P	15 33 35.3	+1.9
	comp=Z,0.3nm,0.6s,baz=157,slow=7.9,SNR=3.5						
PDAR				LR	LR	15 45 19.0	
	comp=Z,74nm,21.9s,baz=300,slow=38						
	comp=Z,0.3nm,0.6s						
EYMN	Ely	31.81	11	P	P	15 34 16.8	+0.2
F10A	Beach Ranch, E	32.18	338	P	P	15 34 20.3	+0.4
F10A				IAmb	IAmb	15 34 24.8	
	comp=Z,3.8nm,0.8s						
ULM	Lac du Bonnet	33.46	5	P	P	15 34 33.3	+2.4
	comp=Z,1.6nm,0.7s,baz=210,slow=8.1,SNR=3.2						
	comp=Z,1.6nm,0.7s						
GGN	Saint George	39.76	38	P	P	15 35 24.8	0.0
YKA	Yellowknife Ar	46.60	351	P	P	15 36 20.1	+0.3
	comp=Z,1.1nm,0.8s,baz=164,slow=7.6,SNR=17						
	comp=Z,1.1nm,0.8s						
H03N2	Juan Fernandez	54.12	158	T	T	16 35 55.7	
	baz=339,slow=80,SNR=15						
H03N1	Juan Fernandez	54.13	158	T	T	16 35 43.7	
	baz=339,slow=80,SNR=18						
H03N3	Juan Fernandez	54.14	158	T	T	16 35 51.5	
	baz=339,slow=80,SNR=16						
G31M	Satah River	54.60	344	P	P	15 37 19.1	-1.0
G31M				IAmb	IAmb	15 37 23.4	
	comp=Z,4.0nm,1.1s						
H29M	Whitestone	55.21	342	P	P	15 37 25.4	+0.8
INK	Inuvik	55.48	346	P	P	15 37 25.7	-0.7
G29M	Pine Creek	55.60	343	P	P	15 37 28.2	+0.8
G29M				IAmb	IAmb	15 37 32.7	
	comp=Z,4.1nm,1.1s						
O22K	Cooper Landing	55.91	333	P	P	15 37 27.4	-2.2
F28M	Old Crow	56.61	343	P	P	15 37 35.1	+0.5
A36M	Sachs Harbour	56.96	351	P	P	15 37 37.4	+0.4
A36M				IAmb	IAmb	15 37 38.3	
	comp=Z,3.3nm,0.9s						
ILAR	Eielson Array	57.04	338	P	P	15 37 38.6	+0.9
	comp=Z,1.0nm,1.0s,baz=149,slow=4.4,SNR=7.8						
	comp=Z,1.0nm,1.0s						
M20K	Styx River	58.02	334	P	P	15 37 43.7	-1.0
M20K				IAmb	IAmb	15 38 22.0	
	comp=Z,4.7nm,1.2s						
N19K	Bonanza Creek	58.16	332	P	P	15 37 45.6	-0.1
CAST	Castle Rocks	58.30	336	P	P	15 37 46.7	+0.2
CAST				IAmb	IAmb	15 38 20.4	
	comp=Z,7.3nm,1.4s						
C27K	Jago River	59.00	344	P	P	15 37 52.1	+0.7
C27K				IAmb	IAmb	15 37 52.9	
	comp=Z,5.1nm,1.4s						
D25K	Kavik River	59.55	343	P	P	15 37 55.3	+0.1
J19K	Poorman	59.96	335	P	P	15 37 58.2	+0.1
J19K				IAmb	IAmb	15 38 03.1	
	comp=Z,4.9nm,1.2s						
TOLK	Toolik Lake Re	60.09	341	P	P	15 37 58.8	-0.2
TOLK				IAmb	IAmb	15 38 18.2	
	comp=Z,5.6nm,1.4s						
C24K	Franklin Bluff	60.45	343	P	P	15 38 01.6	+0.4
C24K				IAmb	IAmb	15 38 15.5	
	comp=Z,6.7nm,1.4s						
C23K	Itkillik River	61.06	342	P	P	15 38 04.3	-1.1
C23K				IAmb	IAmb	15 38 10.4	
	comp=Z,4.3nm,1.3s						
D22K	Ayikyak River	61.19	341	P	P	15 38 07.6	+1.2

*IDC **27** 15:29:01.7±1.3, 6°.18S×130°.03E, h0km, mb3.8/6, mbtmp3.8/9, ML3.9/3, Error ellipse: s-maj=59.4km s-min=23.9km az=75.0*
*DJA **27** 15:29:19.8±0.2, 7°S±3°×12°9E±°, h161km±8km, M4.3/11, mB4.9/4, mb4.3/8, MLv4.4/11, Mw(mB)4.2/4*
ISC 27 15:29:18.3±0.6, **6°.82S**±0°.05×**129°.41E**±0°.05, **h150**km, **n32,** σ**2**§**40**/34, **mb3.6/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.20	122	P	Pn	15 29 59.2	+3.4
SAUI	Saumlaki	2.20	122	S	Sn	15 30 26.1	+1.4
BNDI	Bandanaira	2.34	12	P	Pn	15 30 01.9	+4.4
BNDI	Bandanaira	2.34	12	P	Pn	15 30 00.4	+2.9
FAKI	Fak Fak	4.80	36	P	Pn	15 30 28.6	-0.6
FAKI				S	Sn	15 31 21.0	-3.4
KMPI	Kaimana, Papua	5.31	54	P	Pn	15 30 36.8	+1.0
KMPI				S	Sn	15 31 32.8	-3.6
DRS	Darwin Rock St	5.76	165	P	Pn	15 30 43.0	+1.1
DRS	Darwin Rock St	5.76	165	S	Sn	15 31 45.9	-1.4
SANI	Sanana	5.84	324	P	Pn	15 30 50.3	+7.4
SANI	Sanana	5.84	324	P	Pn	15 30 46.8	+3.9
SOEI	Soe	5.86	240	P	Pn	15 30 45.8	+2.4
SOEI	Soe	5.86	240	S	Sn	15 31 47.4	-2.4
SOEI	Soe	5.86	240	P	Pn	15 30 45.6	+2.2
	0.3nm815nm66nm,0.9s						
SOEI				S	Sn	15 31 50.5	+0.7
	0.3nm815nm66nm,0.9s						
MTN	Manton Dam	6.22	164	P	Pn	15 30 48.7	+0.7
TNTI	Ternate	7.81	345	P	Pn	15 31 16.7	+7.4
BAKI	Biak	8.71	50	P	Pn	15 31 23.2	+1.9
	50nm,1.1s						
WBSI	Waikabubak, Su	10.30	254	P	Pn	15 31 43.5	+1.1
	18nm,0.8s						
PLAI	Plampang	11.69	259	P	Pn	15 32 01.3	+0.6
PLAI	Plampang	11.69	259	P	Pn	15 31 59.7	-1.0
	11nm,0.8s						
FITZ	Fitzroy Crossi	11.79	198	Pn	Pn	15 32 00.5	-1.4
	0.4nm,0.3s,baz=12,slow=9.2,SNR=8.6						
FITZ				Sn	Sn	15 34 02.9	-10
	2.6nm,0.3s,baz=62,slow=19,SNR=18						
	1.5nm,0.4s						
WRA	Warramunga Arr	13.89	160	Pn	Pn	15 32 26.9	-2.1
	0.6nm,0.3s,baz=336,slow=12,SNR=31						
WRA				Sn	Sn	15 34 51.7	-11
	1.5nm,0.3s,baz=328,slow=24,SNR=7.5						
	3.3nm,0.5s						
JAGI	Jajag, Banyuwa	15.21	263	P	P	15 32 47.6	+0.6
COEN	Coen	15.28	119	P	P	15 32 51.2	+3.5
QIS	Mount Isa	16.86	145	P	Pn	15 33 09.8	+4.2
ASAR	Alice Springs	17.30	166	P	Pn	15 33 11.8	+0.9
	0.4nm,0.3s,baz=346,slow=9.8,SNR=51						
ASAR				S	S	15 36 17.7	-5.0
	0.8nm,0.5s,baz=345,slow=25,SNR=6.0						
	1.2nm,0.7s						
CMAR	Chiang Mai Arr	39.17	310	P	P	15 36 32.3	+0.5
	0.4nm,0.4s,baz=141,slow=7.4,SNR=5.3						
	0.4nm,0.4s						
SONM	Songino Array	58.09	342	P	P	15 38 57.0	+1.0
	0.6nm,0.5s,baz=148,slow=6.5,SNR=4.0						
MKAR	Makanchi Array	67.76	327	P	P	15 40 00.3	+0.5
	0.7nm,0.4s,baz=116,slow=8.6,SNR=17						
	0.7nm,0.4s						
ZALV	Zalesovo Beam	71.17	334	P	P	15 40 20.3	-0.3
	0.6nm,0.4s,baz=157,slow=4.1,SNR=2.5						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	72.05	329	P	P	15 40 25.9	0.0
	0.6nm,0.5s,baz=128,slow=5.0,SNR=8.8						
	0.6nm,0.5s						
BVAR	Borovoye Array	77.60	328	P	P	15 40 59.1	+1.3
	0.2nm,0.3s,baz=117,slow=8.4,SNR=1.8						
	0.2nm,0.3s						
ILAR	Eielson Array	93.44	25	P	P	15 42 14.2	-2.2
	0.3nm,0.8s,baz=230,slow=4.2,SNR=2.7						
	0.3nm,0.8s						

DJA 27 15:32:29.6±0.5, **4°N**±5°×**12°7E**±°, **h41**km±6km, **M4.2**/12, **mB4.8**/2, **mb4.3/8, MLv4.1**/12, **Mw(mB)4.1**/2, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.17	255	P	Pn	15 32 49.5	0.0
SGSI				S	Sn	15 33 04.0	-0.3
TNTI	Ternate	3.27	168	P	Pn	15 33 19.5	+1.1
KMSI	Cibinong	4.32	218	P	Pn	15 33 34.5	+1.7
MRSI	Marisa	5.87	234	P	Pn	15 33 55.9	+1.8
	0.1nm532nm23nm,0.4s						
SANI	Sanana	6.04	186	P	Pn	15 33 54.0	-2.4
	0.1nm12nm,0.9s						
APSI	Ampana	6.98	226	P	Pn	15 34 10.0	+0.6
	31nm,0.7s						
TWSI	Taliwang, Sumb	15.97	218	P	Pn	15 36 10.7	-0.8
	10nm,0.9s						
GMJI	Gumukmas	17.95	227	P	P	15 36 36.4	0.0
PCJI	Pacitan	19.62	232	P	P	15 36 55.2	+0.4

*IDC **27** 15:48:36.6±2.7, 8°.75S×113°.25E, h0km, mb3.1/4, mbtmp3.2/4, Error ellipse: s-maj=127.0km s-min=24.4km az=52.0*
*DJA **27** 15:48:41.6±0.2, 8°S±2°×11°4E±°, h11km±2km, M3.5/14, mb4.1/2, MLv3.3/14*
ISC 27 15:48:41.5±0.8, **8°.02S**±0°.04×**114°.23E**±0°.04, **h10**km, **n17,** σ0§**80**/19, **mb3.2/4, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	Asem Bagus	0.22	2	P	Pg	15 48 46.1	+0.1
ABJI				S	Sg	15 48 50.9	+1.8
JAGI	Jajag, Banyuwa	0.46	189	P	Pg	15 48 51.1	+0.7
GMJI	Gumukmas	0.81	252	P	Pg	15 48 56.3	-0.9
GMJI				S	Sg	15 49 08.1	+0.3
SRBI	Singaraja	0.98	94	P	Pg	15 48 59.6	-0.7
KMMI	Kalianget	0.99	345	P	Pb	15 49 00.5	-0.3
DNP	Denpasar	1.17	124	P	Pb	15 49 04.0	+0.1
GRJI	Gresik	2.05	302	P	Pn	15 49 15.9	-0.1
TWSI	Taliwang, Sumb	2.73	105	P	Pn	15 49 25.3	0.0
PCJI	Pacitan	3.02	266	P	Pn	15 49 29.8	+0.4
PLAI	Plampang	3.60	103	P	Pn	15 49 37.3	-0.1
UGM	Wanagama	3.67	271	P	Pn	15 49 38.9	+0.6
WBSI	Waikabubak, Su	5.35	108	P	Pn	15 50 01.4	-0.1
	0.1nm21nm,1.0s						
BSSI	Bau Bau, Buton	6.49	74	P	Pn	15 50 16.6	-0.5
WRA	Warramunga Arr	22.80	123	P	P	15 53 44.8	+0.2
	0.2nm,0.5s,baz=296,slow=12,SNR=5.6						
	0.2nm,0.5s						
ASAR	Alice Springs	24.45	132	P	P	15 54 00.3	-0.4
	0.3nm,0.5s,baz=304,slow=8.5,SNR=16						
	0.3nm,0.5s						
SONM	Songino Array	56.04	354	P	P	15 58 21.9	+1.3
	0.2nm,0.4s,baz=191,slow=5.9,SNR=1.6						
	0.2nm,0.4s						
MKAR	Makanchi Array	61.52	336	P	P	15 58 57.1	-1.5
	0.1nm,0.5s,baz=147,slow=6.9,SNR=2.6						
	0.1nm,0.5s						

*ISK **27** 15:53:48.7, 41°.24N×23°.72E, h10km, ML2.8/18*
*ATH **27** 15:53:49.9, 41°.22N×23°.76E, h15km±2km, ML2.8/7, Manual Solution by E.Daskalaki First location: 2019/02/27 15:55:03, This location: 2019/02/27 17:10:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*
*THE **27** 15:53:49.9, 41°.22N×23°.73E, h13km, ML2.6/15, Error ellipse: s-maj=0.9km s-min=0.5km az=334.0*
*SKO **27** 15:53:50.8, 41°.26N×23°.70E, h0km, ML2.3*
*BEO **27** 15:53:51.8±0.4, 41°.29N×23°.68E, h0km, ML2.6/7*
ISC 27 15:53:49.0±0.9, **41°.26N**±0°.02×**23°.74E**±0°.01, **h17**km±6km, **n68,** σ0§**80**/115, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	Nevrokopi	0.12	45	P	Pb	15 53 54.2	+1.2
NVR				S	Sb	15 53 56.7	+1.1
	6μm,0.2s						
NVR	Nevrokopi	0.12	45	P	Pb	15 53 54.2	+1.2
NVR				S	Sb	15 53 56.4	+0.7
SRS	Serrai	0.18	219	P	Pb	15 53 53.8	-0.1
SRS				S	Pb	15 53 56.6	+2.7
	5μm,0.2s						
SRS	Serrai	0.18	219	*e*Pg	Pg	15 53 53.5	0.0
SRS				*i* Sg	Pb	15 53 56.6	+2.7
SRS	Serrai	0.18	219	*e*Pg	Pb	15 53 56.8	+0.2
SRS				*e*Sg	Sg	15 53 56.8	+0.2
MMB	Musomishta	0.28	1	*i* Pg	Pb	15 53 55.8	0.0
MMB				*i* Sg	Sb	15 54 00.5	+0.2
NGRA	Nigrita	0.40	208	P	Pg	15 53 57.1	0.0
NGRA				S	Sg	15 54 02.5	-0.2
KOKK	Kokkinochori,	0.48	156	P	Pb	15 53 58.8	-0.2
KOKK				S	Sg	15 54 05.1	-0.1
	628nm,0.2s						
SOH	Sokhos	0.53	214	P	Pg	15 53 59.5	0.0
SOH				S	Sg	15 54 06.5	-0.1
	762nm,0.4s						
KVLA	Kavala	0.58	124	P	Pb	15 54 00.8	+0.1
KVLA				S	Sg	15 54 08.2	-0.1
KAVA	Kavala	0.64	114	P	Pb	15 54 01.6	0.0
KAVA				S	Sb	15 54 10.2	-0.1
	1μm,0.1s						
KAVA	Kavala	0.64	114	P	Pb	15 54 01.6	0.0
KAVA				S	Sb	15 54 10.0	-0.3
KNT	Kendrikon	0.65	261	P	Pb	15 54 01.7	-0.1
KNT				S	Sb	15 54 10.6	0.0
	292nm,0.1s						
KKB	Krupnik	0.74	322	*i* Pg	Pb	15 54 03.8	+0.4
KKB				*i* Sg	Sn	15 54 15.2	-0.4
HORT	Hortiatis	0.82	217	Pg	Pg	15 54 04.4	-0.6
HORT	Hortiatis	0.82	217	P	Pg	15 54 04.7	-0.3
HORT				S	Sg	15 54 15.5	-0.4
	440nm,0.5s						
HORT	Hortiatis	0.82	217	P	Pg	15 54 04.7	-0.3
HORT				S	Sg	15 54 15.4	-0.4
THE	Thessaloniki	0.86	223	P	Pb	15 54 05.3	-0.1
THE				S	Sg	15 54 17.1	0.0
	400nm,0.5s						
THE	Thessaloniki	0.86	223	*i* Pg	Pb	15 54 05.5	0.0
THE				*i* Sg	Sb	15 54 16.7	0.0
THE	Thessaloniki	0.86	223	P	Pb	15 54 05.4	-0.1
THE				S	Sb	15 54 16.5	-0.2
VAY	Valandovo	0.89	274	*i* Pg	Pn	15 54 06.6	0.0
VAY				*i* Sg	Sg	15 54 18.3	+0.5
VAY				*e*Lg	Lg	15 54 19.4	
	comp=N,67nm,0.4s						
VAY				*e*Lg	Lg	15 54 21.6	
	comp=E,98nm,0.9s						
VAY	Valandovo	0.89	274	*e*Pg	Pn	15 54 06.9	+0.2
VAY				*e*Sg	Sg	15 54 18.0	+0.1
PLG	Polygyros	0.92	194	P	Pg	15 54 06.5	-0.2
PLG				S	Sn	15 54 19.7	-0.2
	comp=E,335nm,0.3s						
PLG	Polygyros	0.92	194	P	Pb	15 54 06.4	0.0
PLG				S	Sg	15 54 18.6	-0.2
OUR	Ouranopolis	0.94	169	Pg	Pg	15 54 07.1	-0.2
OUR				Sg	Sg	15 54 19.9	+0.3
OUR	Ouranopolis	0.94	169	P	Pg	15 54 07.2	-0.1
OUR				S	Sn	15 54 20.4	-0.1
	comp=E,2μm,0.2s						
OUR	Ouranopolis	0.94	169	P	Pg	15 54 07.2	-0.1
OUR				S	Sg	15 54 19.7	0.0
XANC	Avdira	0.96	107	P	Pn	15 54 07.6	0.0
XANC				S	Sn	15 54 20.3	-0.5
THAS	Thassos island	0.99	131	P	Pn	15 54 08.2	+0.2
THAS				S	Sg	15 54 21.0	0.0
	comp=E,875nm,0.2s						
THAS	Thassos island	0.99	131	P	Pg	15 54 07.9	-0.2
THAS				S	Sb	15 54 20.4	+0.1
GRG	Griva	1.06	254	Pg	Pn	15 54 09.0	-0.1
GRG				Sg	Sn	15 54 23.6	+0.1
GRG	Griva	1.06	254	P	Pg	15 54 09.4	-0.1
GRG				S	Sn	15 54 23.7	+0.2
GRG	Griva	1.06	254	*i* Pg	Pg	15 54 09.9	+0.4
GRG				*i* Sg	Sn	15 54 23.9	+0.5
PLD	Plovdiv	1.16	40	Pn	Pg	15 54 11.2	-0.2
PLD				Sn	Sg	15 54 26.9	+0.3
PLD	Plovdiv	1.16	40	*i* Pg	Pg	15 54 11.6	+0.2
PLD				*i* Sg	Sg	15 54 27.1	+0.5
PLD	Plovdiv	1.16	40	*e*Pg	Pg	15 54 11.6	+0.2
PLD				*e*Sg	Sg	15 54 27.6	+1.0
KDZ	Kurdzhali	1.25	72	Pn	Pg	15 54 13.5	+0.3
PAIG	Paliouri	1.33	182	Pn	Pn	15 54 13.1	+0.3
PAIG	Paliouri	1.33	182	Pn	Pn	15 54 12.8	0.0
PAIG				S	Sb	15 54 30.5	+0.2
	comp=E,125nm,0.3s						
RDO	Rodhopi	1.36	94	Pn	Pb	15 54 13.9	0.0
RDO	Rodhopi	1.36	94	P	Pb	15 54 13.8	-0.1
RDO				S	Sg	15 54 32.4	-0.4
	comp=E,380nm,0.2s						
RDO	Rodhopi	1.36	94	P	Pb	15 54 13.6	-0.4
RDO				S	Sg	15 54 32.0	-0.9
VTS	Vitosha	1.41	345	*e*Pg	Pg	15 54 15.6	-0.5
VTS				*e*Sg	Sg	15 54 33.9	-0.6
LIT	Litokhoron	1.50	220	P	Pn	15 54 14.9	-0.3
LIT				S	Sb	15 54 35.2	+0.1
	comp=E,35nm,0.5s						
LIT	Litokhoron	1.50	220	P	Pb	15 54 16.9	+0.5
LIT				S	Sb	15 54 35.3	+0.1
SMTH	Samothraki Isl	1.57	120	P	Pb	15 54 16.8	-0.7
SMTH				S	Sg	15 54 38.2	-1.3
	comp=E,60nm,0.3s						
SMTH	Samothraki Isl	1.57	120	P	Pb	15 54 17.1	-0.4
LIA	Limnos Island	1.75	141	P	Pn	15 54 18.7	+0.2
ALN	Alexandroupoli	1.78	101	Pn	Pn	15 54 19.7	+0.8
ALN	Alexandroupoli	1.78	101	P	Pn	15 54 19.5	+0.6
ENEZ	Enez	1.90	105	Pn	Pb	15 54 21.9	-1.2
TYRN	Tyrnavos	1.93	217	P	Pb	15 54 22.4	-1.3
TYRN				S	Sb	15 54 46.4	-1.1
XOR	Xorichti	1.94	193	P	Pn	15 54 21.7	+0.3
XOR				S	Sn	15 54 44.9	-0.3
GADA	Gvkgeada	1.96	122	Pn	Pb	15 54 23.7	-0.4
NEO	Neokhori	1.99	192	P	Pn	15 54 22.2	+0.3
BARS	Barje	2.12	318	*i* Pn	Pg	15 54 28.8	-0.8
BARS	Barje	2.12	318	*e*Pn	Pg	15 54 29.0	-0.6
BARS				*e*Sn	Sb	15 54 54.0	+1.1
ZAPS	Zavoj	2.17	338	*e*Pn	Pb	15 54 27.1	-0.8
ZAPS				*e*Sn	Sb	15 54 56.0	+1.4
ERIK	Erikli-Kesan	2.18	105	Pn	Pb	15 54 27.1	-0.8
UKOP	Uzunkopru-Edir	2.18	93	Pn	Pb	15 54 26.9	-1.1
GELI	Tayfur-Gelibol	2.24	112	Pn	Pn	15 54 26.6	+1.3
EDRB	Edirne	2.33	74	Pn	Pb	15 54 28.7	-1.7
COMU	Canakkale	2.38	118	Pn	Pn	15 54 28.9	+1.7
LPK	Lapseki	2.46	110	Pn	Pn	15 54 30.2	+2.0
SIGR	SIGRI	2.61	141	Pn	Pn	15 54 32.1	+1.8
RKY	Sarkoy-Tekirda	2.66	101	Pn	Pn	15 54 33.1	+1.9
SELS	Selova	2.76	316	*e*Pn	Pb	15 54 36.2	-1.7
SELS				*e*Sn	Sb	15 55 10.5	-1.0
ANX	Ano Chora	3.01	208	P	Pn	15 54 36.6	+0.6

*IDC **27** 15:54:42.4±0.8, 36°.53N×144°.05E, h0km, mb3.7/16, mbtmp3.8/22, ML3.7/5, MS2.8/2, Error ellipse: s-maj=21.2km s-min=15.5km az=136.0*
*NEIC **27** 15:54:44.8±1.8, 36°.62N±0°.07×143°.86E±0°.07, h10km±1km, mb4.2/19, Error ellipse: s-maj=12.6km s-min=9.5km az=186.0*
*JMA **27** 15:54:46.5±0.4, 36°.7N±0°.9×14°4E±°, h55km, MV3.9/28, FAR E OFF CENTRAL HONSHU*
*NIED **27** 15:54:46.5, 36°.68N×143°.81E, h55km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr-2.81; Mθθ1.69; Mφφ1.11; Mrθ-1.72; Mrφ1.85; Mθφ0.32; Fault plane solution: M0 3.53000×10^14^ NP1: φs208.00000°, δ40.00000°, λ-127.00000°. NP2: φs72.00000°, δ59.00000°, λ-64.00000°.*
ISC 27 15:54:47.6±0.6, **36°.64N**±0°.06×**143°.87E**±0°.07, **h35**km, **n81,** σ1§**47**/77, **mb4.0**/27, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	2.50	288	P	Pn	15 55 25.2	-0.6
ONAJ	Iwakimizuishiy	2.50	282	P	Pn	15 55 24.9	-0.9
JIKH	Ishinomakibobu	2.54	312	*i* P	Pn	15 55 25.4	-0.8
JMM	Marumori	2.74	298		Pn	15 55 28.2	-0.8
JOTO	OTAMA OYAMA	2.97	289	P	Pn	15 55 32.5	+0.3
BSO1	Boso 1	3.07	231	P	Pn	15 55 32.7	-0.4
BSO1				*e*S	Sn	15 56 08.7	+0.3
JMK	Ichinoseki	3.12	319	P	Pn	15 55 33.1	-1.2
JOM	Ohasama	3.49	325	*i* P	Pn	15 55 38.5	-0.8
JAG	Ashikaga	3.56	268	*i* P	Pn	15 55 40.3	0.0
JAG				S	Sn	15 56 19.6	-1

baz=317,slow=76,SNR=6.6
H11S3 WAKE ISLAND Hy 27.01 126 T T 16 28 24.7
baz=317,slow=76,SNR=5.2
H11S2 WAKE ISLAND Hy 27.03 126 T T 16 28 23.0
baz=317,slow=76,SNR=7.8
SONM Songino Array 29.64 304 P P 16 00 56.4 +6.7
0.9nm,1.1s,baz=99,slow=9.2,SNR=3.6
SONM LR LR 16 12 03.1
comp=Z,67nm,19.1s,baz=356,slow=35
CMAR Chiang Mai Arr 43.32 258 P **P 16 02 48.0 +1.7**
0.2nm,0.4s,baz=50,slow=8.5,SNR=4.3
0.2nm,0.4s
ZALV Zalesovo Beam 43.63 313 PcP **PcP 16 04 35.1 -0.1**
0.5nm,0.4s,baz=75,slow=3.3,SNR=2.6
B20K Meade River 45.53 24 P **P 16 03 04.1 +0.8**
B20K IAmb IAmb 16 03 05.2
comp=Z,3.1nm,0.8s
K20K Telida 45.55 34 P **P 16 03 04.8 +1.1**
K20K IAmb IAmb 16 03 45.9
comp=Z,5.1nm,1.4s
MKAR Makanchi Array 45.99 303 P **P 16 03 08.3 +1.0**
MKAR Makanchi Array 45.99 303 P **P 16 03 08.7 +1.4**
comp=Z,0.4nm,0.5s,baz=85,slow=9.2,SNR=5.0
comp=Z,0.4nm,0.5s
B21K Ikpikpuk River 46.30 25 P **P 16 03 10.7 +1.4**
B21K IAmb IAmb 16 03 39.2
comp=Z,4.5nm,1.4s
H21K Melozitna Rive 46.34 31 P **P 16 03 10.4 +0.7**
H21K IAmb IAmb 16 03 44.8
comp=Z,3.5nm,1.4s
D22K Ayikyak River 46.84 26 P **P 16 03 14.6 +1.0**
D22K IAmb IAmb 16 03 49.3
comp=Z,2.4nm,1.2s
E22K Anaktuvuk Pass 47.04 27 P **P 16 03 16.3 +1.1**
C23K Itkillik River 47.71 25 P **P 16 03 21.3 +1.0**
KURBB Kurchatov Arra 47.79 309 P **P 16 03 22.2 +0.9**
comp=Z,1.4nm,0.2s,baz=80,slow=7.9,SNR=6.9
comp=Z,1.4nm,0.2s
H24K Noodor Dome 48.38 31 P **P 16 03 26.5 +0.8**
POKR Poker Plat Res 48.55 32 P **P 16 03 28.5 +1.6**
POKR IAmb IAmb 16 03 28.7
comp=Z,2.0nm,0.8s
ILAR Eielson Array 48.78 32 P **P 16 03 28.1 -0.6**
ILAR Eielson Array 48.78 32 P **P 16 03 28.4 -0.3**
comp=Z,0.7nm,0.7s,baz=258,slow=6.2,SNR=6.6
comp=Z,0.7nm,0.7s
D25K Kavik River 49.14 26 P **P 16 03 31.0 -0.4**
F25K Christian Rive 49.33 28 P **P 16 03 33.7 +0.8**
RIDG Independent Ri 49.69 34 P **P 16 03 34.9 -0.8**
BMAR Burnt Mountain 49.73 29 P **P 16 03 37.3 +1.3**
SCRK Sand Creek 50.06 33 P **P 16 03 38.0 -0.6**
BCAR Beaver Creek A 51.11 34 P **P 16 03 47.2 +0.7**
BVAR Borovoye Array 52.29 313 P **P 16 03 56.6 +1.3**
comp=Z,0.7nm,0.5s,baz=65,slow=8.1,SNR=2.8
comp=Z,0.7nm,0.5s
G29M Pine Creek 52.31 29 P **P 16 03 56.7 +1.4**
G29M IAmb IAmb 16 04 06.6
comp=Z,3.6nm,1.4s
G30M tAoh Zraii Nji 53.01 29 P **P 16 04 01.3 +0.8**
G30M IAmb IAmb 16 04 12.9
comp=Z,4.6nm,1.4s
G31M Satah River 53.78 29 P **P 16 04 06.0 0.0**
G31M IAmb IAmb 16 04 42.0
comp=Z,3.8nm,1.4s
INK Inuvik 53.84 27 P **P 16 04 07.1 +0.7**
INK IAmb IAmb 16 04 31.8
comp=Z,4.1nm,1.5s
INK Inuvik 53.84 27 P **P 16 04 06.8 +0.3**
comp=Z,0.6nm,0.6s,baz=314,slow=4.6,SNR=3.8
comp=Z,0.6nm,0.6s
KKAR Karatay Array 55.02 301 P **P 16 04 13.6 -1.9**
WRA Warramunga Arr 56.99 191 P **P 16 04 28.5 -1.2**
comp=Z,0.4nm,0.6s,baz=8.5,slow=7.4,SNR=2.9
comp=Z,0.4nm,0.6s
ABKAR Akbulak array 59.69 311 P **P 16 04 49.1 +0.8**
ABKAR IAmb IAmb 16 05 25.5
comp=Z,3.1nm,1.4s
ASAR Alice Springs 60.71 190 P **P 16 04 54.6 -0.9**
comp=Z,0.3nm,0.8s,baz=6.0,slow=6.7,SNR=4.6
comp=Z,0.3nm,0.8s
RES Resolute Bay 62.49 15 P **P 16 05 09.4 +2.5**
comp=Z,1.6nm,0.3s,baz=214,slow=2.0,SNR=15
comp=Z,1.6nm,0.3s
YKA Yellowknife Ar 63.15 31 P **P 16 05 11.4 -0.1**
comp=Z,0.3nm,0.8s,baz=301,slow=7.4,SNR=2.7
comp=Z,0.3nm,0.8s
NVAR Mina Array Bea 73.64 54 P **P 16 06 17.5 -0.3**
comp=Z,0.3nm,0.5s,baz=306,slow=6.7,SNR=1.6
comp=Z,0.3nm,0.5s
NC204 NORSAR Array S 75.24 339 P **P 16 06 26.9 +0.4**
HFS Hagfors 75.25 337 P **P 16 06 27.4 +1.0**
comp=Z,1.7nm,0.9s,baz=53,slow=6.1,SNR=4.1
comp=Z,1.7nm,0.9s
NOA NORSAR Array B 75.30 338 P **P 16 06 27.3 +0.5**
comp=Z,0.8nm,0.7s,baz=39,slow=5.9,SNR=3.8
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 75.80 323 P **P 16 06 30.6 +0.8**
comp=Z,0.6nm,0.5s,baz=47,slow=6.8,SNR=2.1
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 76.53 47 P **P 16 06 34.9 +0.6**
comp=Z,0.2nm,0.4s,baz=278,slow=4.2,SNR=2.4
comp=Z,0.2nm,0.4s
TXAR Lajitas Array 88.78 54 P **P 16 07 38.2 +0.1**
comp=Z,0.4nm,0.6s,baz=322,slow=5.8,SNR=3.3
comp=Z,0.4nm,0.6s
ETMB Extrema 141.87 53 PKPdf **PKPdf 16 14 15.9 -0.3**

---

*SNET **27** 15:55:24.4±1.2, 11°.80N×88°.09W, h14km±15km, ML3.1*
*IDC **27** 15:55:31.4±4.7, 11°.88N×87°.34W, h104km±73km, mb3.4/4, mbtmp3.7/5, ML3.1/1, MS3.6/2, Error ellipse: s-maj=76.9km s-min=50.0km az=24.0*
ISC 27 15:55:24.8±1.2, 11°.7N±0°.1×88°.0W±0°.1, h35km, n14, σ1§50/14, mb3.8/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.57**	**5**	*eP*	**Pn**	**15 55 50.2**	**-0.1**
LCND	**La Caada**	**1.60**	**3**	*eP*	**Pn**	**15 55 50.6**	**0.0**
LCND				*eS*	**Sn**	**15 56 11.8**	**+1.7**
BLLM	**Bellamira**	**1.75**	**351**	*eP*	**Pn**	**15 55 52.7**	**0.0**
PACA	**Pacayal**	**1.79**	**349**	*eP*	**Pn**	**15 55 53.6**	**+0.3**
CAHU	**Cacacuatique**	**2.07**	**353**	*eP*	**Pn**	**15 55 57.1**	**-0.2**
COEG	**Centro de Oper**	**2.11**	**335**	*eS*	**Sn**	**15 56 22.3**	**-0.4**
COEG				IAML		15 56 36.6	
comp=Z,168nm,0.5s							
JAYA	**Jayaque - finc**	**2.42**	**323**	*eP*	**Pn**	**15 56 01.8**	**-0.2**
JTS	**Las Juntas de**	**3.27**	**115**	P	**Pn**	**15 56 15.5**	**+1.8**
comp=Z,2.8nm,0.3s,baz=292,slow=15,SNR=5.5							
JTS				S	**Sn**	**15 56 48.9**	**-2.5**
comp=Z,19nm,0.4s,baz=305,slow=22,SNR=4.3							
comp=Z,3.3nm,0.3s							
TXAR	**Lajitas Array**	**22.84**	**322**	P	**P**	**16 00 28.1**	**+2.9**
comp=Z,1.8nm,0.7s,baz=138,slow=9.6,SNR=11							
comp=Z,1.8nm,0.7s							
ULM	**Lac du Bonnet**	**38.98**	**352**	P	**P**	**16 02 45.8**	**-1.8**
comp=Z,1.9nm,0.6s,baz=166,slow=6.5,SNR=5.1							
comp=Z,1.9nm,0.6s							
YBH	**Yreka Blue Hor**	**42.60**	**321**	LR	LR	16 22 26.6	
comp=Z,31nm,21.7s,baz=348,slow=38							
NEW	**Newport**	**43.82**	**332**	LR	LR	16 26 21.6	
comp=Z,156nm,18.0s,baz=289,slow=42							
YKA	**Yellowknife Ar**	**54.20**	**345**	P	**P**	**16 04 46.0**	**-0.6**
comp=Z,0.2nm,0.6s,baz=144,slow=6.9,SNR=4.2							
comp=Z,0.2nm,0.6s							
ILAR	**Eielson Array**	**66.50**	**336**	P	**P**	**16 06 10.8**	**+0.2**
comp=Z,1.8nm,1.4s,baz=75,slow=6.9,SNR=2.5							
comp=Z,1.8nm,1.4s							

---

*CATAC **27** 15:57:26.4±0.5, 12°N±3°×8°8W±°, h30km±4km, M4.1/18, MLv4.1/18, Error ellipse: s-maj=7.7km s-min=3.0km az=21.8, confirmed*
*UCR **27** 15:57:27.5±1.1, 12°.80N×87°.59W, h77km±14km, MW4.2*
*SNET **27** 15:57:27.2±1.7, 12°.59N×87°.80W, h64km, ML4.0*
*IDC **27** 15:57:29.8±3.6, 11°.35N×88°.76W, h149km±23km, mb3.0/3, mbtmp3.4/4, MS3.3/3, Error ellipse: s-maj=93.1km s-min=17.5km az=31.0*
ISC 27 15:57:26.8±1.0, 12°.52N±0°.05×87°.83W±0°.04, h58km±10km, n101, σ0§69/107, mb3.4/3, 2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.53**	**30**	⇓*iP*	**Pn**	**15 57 38.5**	**-0.6**
CSGN	**Cosiguina Volc**	**0.53**	**30**	P	**Pn**	**15 57 38.4**	**-0.7**
POTN	**Potosi Cosigui**	**0.58**	**33**	P	**Pn**	**15 57 39.1**	**-0.4**
POTN				S	**Sn**	**15 57 49.0**	**+0.3**
CNCH	**Conchagua**	**0.76**	**360**	*eP*	**Pn**	**15 57 41.6**	**-0.2**
CNCH				*eS*	**Sn**	**15 57 55.3**	**+2.6**
CNCH	**Conchagua**	**0.76**	**360**	P	**Pn**	**15 57 41.6**	**-0.2**
CNCH	**Conchagua**	**0.76**	**360**	P	**Pn**	**15 57 41.7**	**-0.2**
CNCH	**Conchagua**	**0.76**	**360**	P	**Pn**	**15 57 41.6**	**-0.2**
CRIN	**San Cristobal**	**0.79**	**76**	⇓*eP*	**Pn**	**15 57 42.4**	**+0.3**
LCND	**La Caada**	**0.79**	**356**	*eP*	**Pn**	**15 57 41.9**	**-0.2**
LCND				*eS*	**Sn**	**15 57 53.8**	**+0.5**
LCND	**La Caada**	**0.79**	**356**	P	**Pn**	**15 57 42.1**	**0.0**
LCND	**La Caada**	**0.79**	**356**	P	**Pn**	**15 57 42.1**	**0.0**
LCND	**La Caada**	**0.79**	**356**	P	**Pn**	**15 57 42.0**	**-0.2**
QUEN	**Al S del Volca**	**0.96**	**85**	P	**Pn**	**15 57 44.2**	**-0.1**
QUEN	**Al S del Volca**	**0.96**	**85**	P	**Pn**	**15 57 44.4**	**+0.1**
QUEN	**Al S del Volca**	**0.96**	**85**	P	**Pn**	**15 57 44.2**	**-0.1**
BLLM	**Bellamira**	**1.00**	**337**	*eP*	**Pn**	**15 57 44.7**	**-0.2**
POLN	**Al Sur del Vol**	**1.00**	**82**	P	**Pn**	**15 57 44.6**	**-0.3**
POLN				S	**Sn**	**15 57 58.6**	**+0.4**
POLN	**Al Sur del Vol**	**1.00**	**82**	P	**Pn**	**15 57 44.6**	**-0.3**
POLN	**Al Sur del Vol**	**1.00**	**82**	P	**Pn**	**15 57 44.7**	**-0.3**
CNRM	**Centro Naciona**	**1.01**	**341**	P	**Pn**	**15 57 44.8**	**-0.1**
RANC	**El Ranchito**	**1.01**	**334**	P	**Pn**	**15 57 45.2**	**0.0**
RANC	**El Ranchito**	**1.01**	**334**	S	**Sn**	**15 57 59.5**	**+0.9**
RANC	**El Ranchito**	**1.01**	**334**	P	**Pn**	**15 57 45.2**	**0.0**
RANC	**El Ranchito**	**1.01**	**334**	P	**Pn**	**15 57 45.1**	**0.0**
PACN	**Al O del Volca**	**1.02**	**91**	P	**Pn**	**15 57 45.0**	**0.0**
PLRN	**Geotermica Pol**	**1.04**	**86**	P	**Pn**	**15 57 44.9**	**-0.4**
PLRN				S	**Sn**	**15 57 58.8**	**-0.3**
PLRN	**Geotermica Pol**	**1.04**	**86**	P	**Pn**	**15 57 45.0**	**-0.3**
PLRN	**Geotermica Pol**	**1.04**	**86**	P	**Pn**	**15 57 44.9**	**-0.4**
PACA	**Pacayal**	**1.06**	**333**	*eP*	**Pn**	**15 57 45.9**	**+0.1**
PACA				*eS*	**Sn**	**15 58 00.4**	**+0.7**
PACA	**Pacayal**	**1.06**	**333**	P	**Pn**	**15 57 45.9**	**+0.1**
ROCN	**Rota Cerro Neg**	**1.06**	**90**	P	**Pn**	**15 57 45.5**	**-0.2**
ROCN				S	**Sn**	**15 57 59.6**	**0.0**
ROCN	**Rota Cerro Neg**	**1.06**	**90**	P	**Pn**	**15 57 45.4**	**-0.2**
ROCN	**Rota Cerro Neg**	**1.06**	**90**	P	**Pn**	**15 57 45.7**	**0.0**
ALJI	**Alcalda de J**	**1.08**	**318**	P	**Pn**	**15 57 45.4**	**-0.4**
CNGA	**Al SSO del Vol**	**1.10**	**91**	P	**Pn**	**15 57 46.1**	**-0.1**
CNGA				S	**Sn**	**15 58 00.9**	**+0.3**
CNGA	**Al SSO del Vol**	**1.10**	**91**	P	**Pn**	**15 57 46.1**	**-0.1**
CNGA	**Al SSO del Vol**	**1.10**	**91**	P	**Pn**	**15 57 46.4**	**+0.1**
ILCN	**San Idelfonso**	**1.11**	**87**	P	**Pn**	**15 57 45.4**	**-0.8**
ILCN				S	**Sn**	**15 58 00.6**	**0.0**
ILCN	**San Idelfonso**	**1.11**	**87**	P	**Pn**	**15 57 45.4**	**-0.8**
ILCN	**San Idelfonso**	**1.11**	**87**	P	**Pn**	**15 57 45.4**	**-0.8**
CHOHN	**Orocuina**	**1.16**	**34**	P	**Pn**	**15 57 46.8**	**-0.2**
CHOHN	**Orocuina**	**1.16**	**34**	P	**Pn**	**15 57 47.0**	**-0.1**
CHOHN	**Orocuina**	**1.16**	**34**	P	**Pn**	**15 57 46.9**	**-0.2**
LEVN	**Ruinas Leon Vi**	**1.19**	**95**	P	**Pn**	**15 57 47.2**	**-0.1**
COPN	**Copaltepe**	**1.26**	**105**	*eP*	**Pn**	**15 57 47.7**	**-0.5**
COPN	**Copaltepe**	**1.26**	**105**	P	**Sn**	**15 58 03.4**	**-0.8**
COPN	**Copaltepe**	**1.26**	**105**	P	**Pn**	**15 57 48.0**	**-0.3**
COPN	**Copaltepe**	**1.26**	**105**	P	**Pn**	**15 57 47.9**	**-0.3**
MOMN	**Momotombo**	**1.27**	**95**	P	**Pn**	**15 57 48.0**	**-0.4**
MOMN	**Momotombo**	**1.27**	**95**	P	**Pn**	**15 57 48.1**	**-0.4**
MOMN				S	**Sn**	**15 58 04.1**	**-0.4**
MOMN	**Momotombo**	**1.27**	**95**	P	**Pn**	**15 57 48.3**	**-0.1**
CAHU	**Cacacuatique**	**1.30**	**344**	*eP*	**Pn**	**15 57 49.2**	**+0.2**
PQSS	**Presa 15 de Se**	**1.31**	**327**	P	**Pn**	**15 57 49.2**	**+0.2**
AMTN	**Mateare**	**1.40**	**101**	P	**Pn**	**15 57 49.9**	**-0.2**
MSHP	**Masachapa**	**1.44**	**118**	P	Pn	15 58 00.3	+10
MSHP	**Masachapa**	**1.44**	**118**	P	**Pn**	**15 57 50.7**	**0.0**
MSHP	**Masachapa**	**1.44**	**118**	P	**Pn**	**15 57 50.7**	**0.0**
UESV	**Universidad de**	**1.45**	**320**	P	**Pn**	**15 57 50.8**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.47**	**324**	P	**Pn**	**15 57 51.6**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.47**	**324**	P	**Pn**	**15 57 51.3**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.47**	**324**	P	**Pn**	**15 57 51.6**	**+0.5**
APYN	**Apoyeque**	**1.48**	**101**	P	**Pn**	**15 57 51.6**	**+0.5**
COEG	**Centro de Oper**	**1.50**	**317**	*eP*	**Pn**	**15 57 51.3**	**-0.3**
COEG				*eS*	**Sn**	**15 58 09.8**	**-0.4**
COEG	**Centro de Oper**	**1.50**	**317**	P	**Pn**	**15 57 51.2**	**-0.3**
COEG	**Centro de Oper**	**1.50**	**317**	S	**Sn**	**15 58 09.9**	**-0.2**
COEG	**Centro de Oper**	**1.50**	**317**	P	**Pn**	**15 57 51.5**	**-0.1**
APQ2	**Apoyeque**	**1.51**	**102**	P	**Pn**	**15 57 51.5**	**-0.1**
APQ2	**Apoyeque**	**1.51**	**102**	P	**Pn**	**15 57 51.6**	**+0.1**
TISN	**Laguna Tiscapa**	**1.57**	**104**	P	**Pn**	**15 57 52.4**	**-0.1**
TISN	**Laguna Tiscapa**	**1.57**	**104**	P	**Pn**	**15 57 52.4**	**-0.1**
TISN	**Laguna Tiscapa**	**1.57**	**104**	P	**Pn**	**15 57 52.5**	**0.0**
MGAN	**Managua**	**1.59**	**103**	*eP*	**Pn**	**15 57 52.5**	**-0.3**
MGAN				*eS*	**Sn**	**15 58 11.5**	**-0.7**
PAVA	**Las Pavas**	**1.60**	**318**	P	**Pn**	**15 57 51.0**	**-2.0**
YUSH	**Yuscaran**	**1.72**	**34**	P	**Pn**	**15 57 55.1**	**+0.5**
YUSH	**Yuscaran**	**1.72**	**34**	P	**Pn**	**15 57 54.9**	**+0.3**
PMON	**Piamonte**	**1.87**	**310**	P	**Pn**	**15 57 56.8**	**+0.2**
PMON	**Piamonte**	**1.87**	**310**	P	**Pn**	**15 57 57.5**	**+0.8**
RCFN	**Al S de San Ju**	**1.87**	**57**	P	**Pn**	**15 57 57.3**	**+0.6**
RCFN				S	**Sn**	**15 58 20.4**	**+1.0**
RCFN	**Al S de San Ju**	**1.87**	**57**	P	**Pn**	**15 57 57.3**	**+0.6**
RCVN	**Varillal2**	**1.92**	**56**	P	**Pn**	**15 57 58.0**	**+0.7**
RCVN	**Varillal2**	**1.92**	**56**	P	**Pn**	**15 57 57.8**	**+0.5**
RCVN	**Varillal2**	**1.92**	**56**	S	**Sn**	**15 58 21.8**	**+1.4**
JAYA	**Jayaque - finc**	**1.94**	**306**	*eP*	**Pn**	**15 57 58.0**	**+0.4**
JAYA	**Jayaque - finc**	**1.94**	**306**	P	Pn	15 58 05.1	+7.4
JAYA	**Jayaque - finc**	**1.94**	**306**	P	**Pn**	**15 57 57.9**	**+0.3**
JAYA	**Jayaque - finc**	**1.94**	**306**	S	**Sn**	**15 58 20.8**	**-0.1**
RCPN	**Sur Rio San Ju**	**1.97**	**59**	P	**Pn**	**15 57 58.7**	**+0.7**
RCPN	**Sur Rio San Ju**	**1.97**	**59**	P	**Pn**	**15 57 58.6**	**+0.6**
ACON	**Acoyapa**	**2.66**	**102**	*eP*	**Pn**	**15 58 06.6**	**-0.7**
PLVR	**Palo Verde**	**3.25**	**131**	*eP*	**Pn**	**15 58 17.0**	**+1.4**
APG	**El Apazote**	**3.56**	**314**	P	Pn	15 58 29.4	+10
0.4nm,0.3s,baz=112,slow=11,SNR=2.0							
JTS	**Las Juntas de**	**3.59**	**128**	P	Pn	15 58 28.2	+8.1
180nm,0.4s,baz=306,slow=12,SNR=33							
JTS				S	Sn	15 59 15.0	+14
115nm,0.6s,baz=273,slow=20,SNR=4.7							
JTS	**Las Juntas de**	**3.59**	**128**	*eP*	**Pn**	**15 58 21.3**	**+1.3**
PIRO	**Carate, Puerto**	**6.02**	**132**	*eP*	**Pn**	**15 58 55.7**	**+2.4**
CMIG	**Matias Romero**	**8.20**	**305**	P	**Pn**	**15 59 26.1**	**+3.0**
0.9nm,0.3s,baz=158,slow=11,SNR=1.6							
SDV	**Santo Domingo**	**17.28**	**100**	LR	LR	16 09 32.6	
comp=Z,58nm,18.4s,baz=275,slow=40							
TXAR	**Lajitas Array**	**22.29**	**321**	P	**P**	**16 02 19.9**	**+0.4**
1.7nm,0.8s,baz=144,slow=11,SNR=7.6							
1.7nm,0.8s							
PCRV	**Puerto La Cruz**	**22.86**	**93**	LR	LR	16 14 37.6	
comp=Z,85nm,18.2s,slow=43							
LPAZ	**La Paz**	**34.62**	**145**	LR	LR	16 17 18.5	
comp=Z,49nm,19.3s,baz=44,slow=35							
PDAR	**Pinedale Array**	**35.54**	**332**	P	**P**	**16 04 18.7**	**+0.1**
0.2nm,0.4s,baz=142,slow=8.0,SNR=2.7							
0.2nm,0.4s							
YKA	**Yellowknife Ar**	**53.45**	**345**	P	**P**	**16 06 38.9**	**-1.9**
0.1nm,0.5s,baz=151,slow=7.0,SNR=2.1							
0.1nm,0.5s							

---

*ISN **27** 16:18:21.2±0.3, 32°.94N×47°.43E, h9km±999km, ML2.7*
*TEH **27** 16:18:22.4, 32°.92N×47°.46E, h7km±82km*
ISC 27 16:18:24.1±1.1, 32°.94N±0°.06×47°.43E±0°.04, h15km, n15, σ1§07/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.68**	**31**	Pg	**Pg**	**16 18 35.9**	**-1.7**
IDOB	**Doab**	**1.06**	**36**	Pg	**Pb**	**16 18 43.0**	**-1.3**
IBDR	**Badra**	**1.27**	**278**	*e*Pn	**Pn**	**16 18 47.0**	**-0.3**
IBDR				*e*Sn	**Sn**	**16 19 05.7**	**+1.6**
IBDR				AML	AML	16 19 10.3	
comp=E,156nm,0.7s							
IBDR				AML	AML	16 19 24.9	
comp=N,122nm,0.5s							
KCHF	**Cheshme Sefid,**	**1.37**	**347**	Pg	**Pn**	**16 18 49.2**	**+0.2**
IGHG	**Ghaleghazi**	**1.56**	**333**	Pg	**Pb**	**16 18 53.2**	**+0.2**
HSAM	**Samen**	**1.61**	**37**	Pg	**Pb**	**16 18 53.3**	**-0.4**
RAFI	**Al-Rafai**	**1.64**	**223**	*e*Pn	**Pn**	**16 18 52.2**	**-0.3**
RAFI				*e*Sn	**Sn**	**16 19 15.0**	**+1.7**
GLG1	**Gilan-e-Gharb**	**1.73**	**313**	Pg	**Pn**	**16 18 54.6**	**+0.8**
SNQR	**Sonqor, Kerman**	**1.92**	**5**	Pn	**Pb**	**16 18 59.1**	**-0.1**
IDHR	**Dehrash**	**1.96**	**334**	Pn	**Pn**	**16 18 58.1**	**+1.1**
HAGD	**Aghdareh**	**2.36**	**37**	Pn	**Pn**	**16 19 03.6**	**+1.1**
BHD	**Baghdad**	**2.58**	**278**	*e*Pn	**Pn**	**16 19 05.0**	**-0.3**
BHD				*e*Sn	**Sn**	**16 19 37.0**	**+0.6**
IPIR	**Pirpir**	**2.93**	**94**	Pn	**Pn**	**16 19 11.0**	**+0.6**
QAMS	**Qamsar**	**3.42**	**75**	Pn	**Pn**	**16 19 18.8**	**+1.7**
IKLH	**Kolahrood**	**3.50**	**83**	Pn	**Pn**	**16 19 19.1**	**+0.7**

---

*JMA **27** 16:39:42.2±0.2, 24°N±1°×122°.3E±0°.5, h26km±4km, MV3.0/13, TAIWAN REGION*
*TAP **27** 16:39:42.5, 24°.06N×122°.31E, h24km, ML3.3, C*

ISC 27 16:39:40.9±1.0, 23°.98N±0°.01×122°.34E±0°.02, h16km±8km, n155, σ0§68/296, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.14**	**352**	*i*P	**Pb**	**16 39 46.5**	**+1.5**
EOS4				*i*S	**Sb**	**16 39 49.5**	**+1.8**
EOS3	**EOS3**	**0.31**	**356**	⇓P	**Pb**	**16 39 48.6**	**+0.7**
EOS3				*e*S	**Sb**	**16 39 53.5**	**+0.8**
EOS2	**EOS2**	**0.45**	**347**	⇓*i*P	**Pb**	**16 39 51.0**	**+0.7**
EOS2				S	**Sb**	**16 39 57.5**	**+0.8**
EAHA	**Aohua**	**0.65**	**303**	*i*P	**Pb**	**16 39 53.8**	**0.0**
EAHA				*e*S	**Sn**	**16 40 04.0**	**-1.3**
HWA	**Hwalien**	**0.67**	**270**	*i*P	**Pn**	**16 39 55.8**	**0.0**
HWA				S	**Sb**	**16 40 04.0**	**+0.8**
ETL	**Fush Village**	**0.68**	**285**	*i*P	**Pn**	**16 39 55.1**	**-0.7**
ETL				*e*S	**Sb**	**16 40 04.2**	**+0.6**
TEYL	**Yanliau Villag**	**0.69**	**261**	P	**Pg**	**16 39 53.8**	**-0.6**
TEYL				*i*S	**Sb**	**16 40 04.2**	**+0.5**
TWD	**Chiawan**	**0.69**	**279**	*i*P	**Pn**	**16 39 55.2**	**-0.7**
TWD				S	**Sb**	**16 40 04.4**	**+0.7**
EWUT	**Wuta**	**0.69**	**312**	*i*P	**Pg**	**16 39 54.2**	**-0.3**
EWUT				S	**Sb**	**16 40 03.8**	**0.0**
ENA	**Nanau**	**0.70**	**309**	⇓*i*P	**Pg**	**16 39 54.4**	**-0.4**
ENA				*i*S	**Sb**	**16 40 05.2**	**+0.9**
NACB	**Ninganchiao**	**0.71**	**286**	P	**Pb**	**16 39 55.1**	**+0.3**
NACB	**Ninganchiao**	**0.71**	**286**	*i*P	**Pb**	**16 39 55.2**	**+0.3**
NACB				*e*S	**Sb**	**16 40 04.8**	**+0.5**
JYNG	**Yonagunijimaku**	**0.73**	**50**	P	**Pn**	**16 39 56.3**	**-0.2**
JYNG				S	**Sn**	**16 40 07.7**	**+0.4**
SHUL	**Shoufeng**	**0.74**	**255**	*i*P	**Pn**	**16 39 56.2**	**-0.4**
SHUL				S	**Sn**	**16 40 07.7**	**+0.2**
ESAO	**Su ao**	**0.75**	**323**	*i*P	**Pb**	**16 39 54.8**	**-0.7**
ESAO				S	**Sb**	**16 40 04.7**	**-0.8**
TWC	**Suao**	**0.77**	**325**	⇓*i*P	**Pb**	**16 39 55.1**	**-0.8**
TWC				S	**Sb**	**16 40 05.1**	**-1.0**
ETM	**Tongmen**	**0.77**	**269**	*i*P	**Pg**	**16 39 56.3**	**+0.2**
ETM				S	**Sg**	**16 40 06.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.78**	**52**	P	**Pn**	**16 39 57.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.78**	**52**	*i*P	**Pn**	**16 39 57.3**	**+0.1**
YOJ				*e*S	**Sn**	**16 40 08.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.78**	**52**	P	**Pn**	**16 39 57.5**	**+0.2**
YOJ				S	**Sn**	**16 40 09.0**	**+0.4**
ETLH	**Xiulin Townshi**	**0.81**	**286**	*i*P	**Pg**	**16 39 57.1**	**+0.3**
ETLH				S	**Sg**	**16 40 07.9**	**+0.3**
ESL	**Shilin**	**0.84**	**259**	*i*P	**Pb**	**16 39 57.3**	**+0.1**
ESL				S	**Sg**	**16 40 09.2**	**+0.6**
LXIB	**Xiulin Townshi**	**0.85**	**273**	P	**Pg**	**16 39 57.7**	**+0.3**
LXIB				S	**Sg**	**16 40 08.7**	**+0.1**
NDS	**Dongshan**	**0.86**	**319**	*i*P	**Pb**	**16 39 57.2**	**-0.3**
NDS				S	**Sn**	**16 40 10.1**	**-0.6**
EGFH	**Guangfu**	**0.89**	**250**	*i*P	**Pg**	**16 39 58.3**	**+0.1**
EGFH				S	**Sg**	**16 40 10.4**	**+0.4**
WARBT	**Fenglin Townsh**	**0.91**	**254**	*i*P	**Pb**	**16 39 58.4**	**0.0**
WARBT				*e*S	**Sg**	**16 40 11.0**	**+0.4**
LATG	**Datong**	**0.93**	**307**	*i*P	**Pb**	**16 39 58.6**	**0.0**
LATG				S	**Sn**	**16 40 12.1**	**-0.3**
EGS		**0.94**	**337**	*i*P	**Pg**	**16 39 59.1**	**0.0**
EGS				S	**Sg**	**16 40 11.2**	**-0.2**
ILA	**Ilan**	**0.95**	**326**	*i*P	**Pb**	**16 39 59.1**	**+0.1**
ILA				*e*S	**Sn**	**16 40 12.2**	**-0.6**
TWE	**Neicheng**	**0.96**	**320**	*i*P	**Pb**	**16 39 58.8**	**-0.3**
TWE				*e*S	**Sg**	**16 40 11.8**	**-0.4**
ENTT	**Nioudou**	**0.96**	**313**	*i*P	**Pg**	**16 39 59.4**	**-0.3**
ENTT				S	**Sg**	**16 40 12.2**	**-0.2**
HGSD	**Ruisui**	**0.97**	**240**	*i*P	**Pb**	**16 39 59.6**	**+0.3**
HGSD				S	**Sg**	**16 40 12.7**	**+0.3**
NNSB	**Datong**	**0.98**	**297**	*i*P	**Pb**	**16 39 59.8**	**+0.2**
NNSB				*e*S	**Sg**	**16 40 12.8**	**-0.1**
NNSH	**Datong**	**0.98**	**297**	*i*P	**Pb**	**16 39 59.6**	**0.0**
NNSH				*e

ZUZH				eS	Sb	16 40 24.4	+0.5
YM08	YM08	1.38	331	P	Pg	16 40 07.2	-0.4
YM08				eS	Sn	16 40 23.4	-0.1
WHYT	Xinyi Township	1.39	259	i P	Pb	16 40 06.9	+0.4
WHYT				S	Sb	16 40 24.7	+0.7
TWS1	Kuangyinshan	1.40	323	i P	Pn	16 40 05.4	-0.3
TWS1				S	Sb	16 40 24.3	+0.1
ANP	Anpu	1.41	328	i P	Pb	16 40 07.3	+0.4
NTST	Danshui	1.43	326	eP	Pb	16 40 07.1	-0.1
NTST				eS	Sg	16 40 26.4	-0.8
NCUH	Zhongli	1.44	313	P	Pg	16 40 08.6	-0.1
NCUH				S	Sb	16 40 26.1	+0.6
ELDTW	Lidau	1.45	237	i P	Pn	16 40 06.6	+0.1
ELDTW				S	Sn	16 40 24.1	-1.1
SBCB	Hsinchu	1.48	304	eS	Sg	16 40 28.0	-0.6
TWQ1	Liyutan	1.48	285	i P	Pb	16 40 08.4	+0.4
TWQ1				S	Sg	16 40 28.6	0.0
ALS	Alishan	1.48	252	i P	Pb	16 40 08.3	0.0
ALS				S	Sb	16 40 26.7	-0.2
WJS	Zhushan	1.48	264	i P	Pg	16 40 09.1	-0.3
WJS				S	Sg	16 40 29.7	+0.9
NSY	Sanyi	1.50	287	eP	Pg	16 40 09.2	-0.7
NSY				S	Sb	16 40 27.6	+0.3
NMLH	Miaoli	1.52	292	P	Pb	16 40 09.3	+0.6
NMLH				S	Sb	16 40 28.7	+1.0
WNT	Mingjian	1.52	267	i P	Pb	16 40 09.4	+0.7
WNT				i S	Sg	16 40 29.0	-0.9
LDUT	Ludao	1.53	212	i P	Pn	16 40 07.4	-0.1
LDUT				S	Sn	16 40 26.5	-0.5
TCU	Taichung	1.53	277	eP	Pb	16 40 09.4	+0.5
TCU				S	Sg	16 40 29.7	-0.6
LONT	Longtian	1.54	226	i P	Pn	16 40 08.1	+0.4
LONT				S	Sn	16 40 27.6	+0.2
JKRS	Kuro-shima	1.55	80	eP	Pb	16 40 09.5	+0.4
CHN5	Tsauling	1.57	256	i P	Pb	16 40 10.3	+0.7
CHN5				i S	Sb	16 40 29.9	+0.7
WCHH	Zhanghua	1.63	274	P	Pb	16 40 11.5	+0.9
WCHH				S	Sb	16 40 31.6	+0.7
TWGBT	Beinan	1.64	225	P	Pb	16 40 10.4	-0.3
TWGBT	Beinan	1.64	225	i P	Pn	16 40 09.4	+0.4
TWGBT				S	Sn	16 40 30.0	+0.3
TWG	Pinlang	1.64	226	i P	Pn	16 40 09.8	+0.7
TWG				S	Sn	16 40 29.3	-0.5
WCH1	Changhua City	1.64	274	eP	Pb	16 40 10.6	-0.2
WCH1				eS	Sb	16 40 31.6	+0.4
STYH	Taoyuan	1.65	241	i P	Pb	16 40 10.3	-0.5
STYH				eS	Sb	16 40 31.5	+0.2
WGK	Gukeng	1.65	260	i P	Pg	16 40 12.1	-0.6
WGK				i S	Sb	16 40 32.2	+0.7
PCYT	Pengchaiyu	1.66	352	i P	Pn	16 40 08.7	-0.6
PCYT				eS	Sb	16 40 30.9	-1.0
STYT	Tauyuan	1.66	241	i P	Pn	16 40 09.7	+0.2
STYT				eS	Sn	16 40 30.9	+0.5
WDL	Douliou City	1.67	261	eP	Pb	16 40 10.9	-0.3
WDL				S	Sb	16 40 32.3	+0.3
WDLH	Douliu	1.67	260	i P	Pb	16 40 12.2	+0.9
WDLH				S	Sb	16 40 33.5	+1.3
WCKO	Fanlu	1.68	252	i P	Pb	16 40 12.2	+0.7
WCKO				i S	Sb	16 40 33.5	+1.1
JIJ	Ishigaki jima	1.69	77	eP	Pb	16 40 11.6	-0.1
JIJ				eS	Sn	16 40 31.8	+0.7
TPUB	Ta-pu	1.71	247	P	Pb	16 40 12.0	+0.1
TPUB	Ta-pu	1.71	247	eP	Pb	16 40 12.2	+0.3
TPUB				S	Sb	16 40 34.5	+1.4
CHN4	Tsaushan	1.72	249	i P	Pb	16 40 12.9	+0.8
CHN4				i S	Sg	16 40 35.2	-1.1
WTP	Ta-pu	1.74	246	i P	Pb	16 40 13.2	+0.7
WTP				i S	Sb	16 40 35.3	+1.1
CHN2	Minshiung	1.77	256	eS	Sg	16 40 37.2	-0.6
WRL	Guolierlin Hig	1.80	268	i P	Pb	16 40 13.2	-0.2
WRL				S	Sb	16 40 36.5	+0.7
WTK	Tuku	1.81	261	i P	Pb	16 40 13.8	+0.2
WTK				i S	Sb	16 40 36.7	+0.7
RLNB	Erlin	1.81	268	eP	Pb	16 40 14.4	+0.7
RLNB				i S	Sb	16 40 37.8	+1.6
CHY	Chiayi	1.82	255	eP	Pg	16 40 16.9	+1.0
CHY				S	Sb	16 40 37.3	+0.9
CHN1	Nanshi	1.84	245	i P	Pb	16 40 14.7	+0.5
CHN1				S	Sb	16 40 37.1	+0.1
TWK	Hsinying	1.84	248	i P	Pb	16 40 13.9	-0.3
TWK				i S	Sb	16 40 36.8	-0.2
SGST	Jiashian	1.84	241	i P	Pb	16 40 13.8	-0.4
SGST				i S	Sb	16 40 37.8	+0.8
SNST	Tainan City	1.85	246	i P	Pb	16 40 13.9	-0.4
SNST				S	Sb	16 40 36.8	-0.5
ECL	Taimali	1.88	223	i P	Pb	16 40 14.0	-0.7
ECL				i S	Sn	16 40 35.6	0.0
WTCT	Ta-ch'eng	1.89	267	P	Pb	16 40 14.3	-0.7
WTCT				S	Sb	16 40 39.0	+0.7
JISG	Ishigakijimahi	1.90	71	eP	Pn	16 40 13.6	+1.0
JISG				S	Sb	16 40 37.4	-1.2
WSF	Szhu	1.97	260	i P	Pb	16 40 15.9	-0.4
WSF				i S	Sb	16 40 41.8	+1.2
ICHU	Yijhu	1.99	252	P	Pn	16 40 14.7	+0.8
ICHU				eS	Sb	16 40 41.5	+0.3
WSL	Shuilin Townsh	1.99	257	P	Pb	16 40 16.5	-0.2
WSL				i S	Sb	16 40 42.0	+0.8
TSMG	Majia	2.01	231	i P	Pb	16 40 16.7	-0.3
TSMG				S	Sb	16 40 40.6	-1.2
SCST	Cishan	2.01	238	P	Pb	16 40 17.9	+0.7
SCST				i S	Sb	16 40 43.5	+1.5
SHHT	Tainan City	2.06	243	eP	Pb	16 40 19.4	+1.4
SHHT				S	Sg	16 40 46.1	-1.2
LAY	Lan-yu	2.06	201	P	Pb	16 40 15.8	+0.9
LAY				S	Sn	16 40 39.2	-1.1
MASBT	Mashibuluo	2.08	229	i P	Pb	16 40 17.0	-1.2
MASBT				eS	Sb	16 40 42.5	-1.2
LYUB	Lan-yu	2.09	200	P	Pn	16 40 15.4	+0.1
LYUB				eS	Sn	16 40 39.4	-1.4
EAST	Anshuo	2.10	221	i P	Pn	16 40 15.9	+0.5
EAST				eS	Sn	16 40 40.5	-0.7
TWM1	Shoushan	2.10	237	eP	Pg	16 40 20.3	-1.0
TWM1				eS	Sg	16 40 47.1	-1.5
TAWH	Dawu Township	2.11	220	P	Pn	16 40 16.4	+0.9
TAWH				eS	Sn	16 40 42.1	+0.7
TSCK	Chigu Township	2.23	249	i P	Pn	16 40 18.8	+1.7
TSCK				i S	Sb	16 40 46.4	-1.7
SCZT	Fangliau	2.25	225	i P	Pb	16 40 19.6	-1.6
SCZT				S	Sn	16 40 46.3	+1.4
SLIU	Shizi	2.26	219	i P	Pn	16 40 18.6	+1.1
SLIU				eS	Sn	16 40 47.1	+2.1
HEN	Hengchun	2.46	217	P	Pb	16 40 23.1	-1.6
HEN				i S	Sn	16 40 51.7	+1.7
WDGT	Dungji	2.56	254	i P	Pn	16 40 23.2	+1.5
WDGT				i S	Sn	16 40 53.2	+0.7
PHUB	P'eng-hu	2.58	260	P	Pn	16 40 22.3	+0.4
PHUB				S	Sn	16 40 53.4	+0.5
PNG	Penghu	2.58	261	i P	Pn	16 40 22.8	+0.7
PNG				i S	Sn	16 40 54.2	+1.2
VCHM	Qimei	2.78	255	P	Pn	16 40 25.3	+0.6
VCHM				i S	Sn	16 40 58.6	+0.7
VWUC	VWUC	2.82	292	i P	Pn	16 40 25.6	+0.3
VWUC				i S	Sn	16 40 57.5	-1.4
MATB	Ma-tsu	3.06	315	eP	Pn	16 40 28.9	+0.3
MATB				eS	Sn	16 41 03.9	-1.1
PTMZ	Houxiangcun	3.12	290	P	Pn	16 40 29.6	+0.2
PTMZ				eS	Sn	16 41 04.8	-1.4
KNMB	Chin-men Tao	3.64	278	eP	Pn	16 40 36.2	-0.4
KNMB				eS	Sn	16 41 17.2	-1.9
AXDP	Jialang	4.09	284	eP	Pn	16 40 44.5	+1.8
AXDP				S	Sn	16 41 30.1	-0.1

AFAD ***27*** *16:41:10.4,41°.36N×23°.17E,h6km×3km,MW4.1*
SOF ***27*** *16:41:19.1,41°.21N±0°.01×23°.74E,h13km±1km,MD3.9/7*
IDC ***27*** *16:41:19.1±1.7,41°.06N×23°.88E,h0km,mb3.4/4,*
mbtmp3.4/6,ML3.5/2,MS3.7/1,Error ellipse: s-maj=33.1km
s-min=14.7km az=21.0
ISK ***27*** *16:41:19.6,41°.20N×23°.73E,h17km,ML4.0/32*
MCSM ***27*** *16:41:20.0±1.7,41°.N±3°×2°.4E±°,h11km±13km,mb4.2,*
MLv4.3
ATH ***27*** *16:41:20.6,41°.18N×23°.77E,h13km±2km,ML3.8/30,*
Manual Solution by G.Panopoulou First location:
2019/02/27 16:41:40, This location: 2019/02/27 17:27:43
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 3
km; Longitude uncertainty: 2 km

BEO ***27*** *16:41:20.4±0.4,41°.23N×23°.75E,h9km±2km,ML3.8/14*
SKO ***27*** *16:41:21.5,41°.28N×23°.68E,h0km,ML3.6*
ISC 27 16:41:20.4±0.8,41°.21N±0°.02×23.75E±0°.01,h13km±5km,
n229,σ1§20/302,mb3.5/4,28C-9D,Greece-Bulgaria
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.15	231	i Pg	Pb	16 41 24.4	-0.7
SRS				i Sg	Sg	16 41 27.4	+0.8
SRS	Serrai	0.15	231	ePg	Pb	16 41 24.4	-0.7
SRS				eSg	Sg	16 41 27.3	+0.7
SRS	Serrai	0.15	231	P	Pb	16 41 24.5	-0.7
SRS				S	Sg	16 41 27.2	+0.6
NVR	Nevrokopi	0.16	32	P	Pb	16 41 24.9	-0.5
NVR				S	Sg	16 41 27.2	+0.2
MMB	Musomishta	0.34	1	Pg	Pg	16 41 26.4	-0.9
MMB				Sg	Sg	16 41 30.7	-1.1
MMB	Musomishta	0.34	1	⇑iPg	Pg	16 41 26.3	-0.9
MMB				i Sg	Sg	16 41 30.9	-0.9
NGRA	Nigrita	0.36	212	P	Pb	16 41 28.1	-0.5
NGRA				S	Sg	16 41 32.8	+0.4
KVLA	Kavala	0.56	119	P	Pb	16 41 31.6	-0.4
KVLA				S	Sb	16 41 39.2	-0.7
KAVA	Kavala	0.62	110	P	Pg	16 41 32.3	-0.1
KKB	Krupnik	0.78	324	Pg	Pg	16 41 34.5	-1.0
KKB				Sg	Sg	16 41 44.9	-0.9
KKB	Krupnik	0.78	324	i Pg	Pg	16 41 34.5	-1.0
KKB				i Sg	Sg	16 41 44.6	-1.2
HORT	Hortiatis	0.79	219	Pg	Pb	16 41 35.4	-0.5
HORT				Sg	Sb	16 41 46.1	-0.4
HORT	Hortiatis	0.79	219	P	Pb	16 41 35.5	-0.5
HORT				S	Sb	16 41 46.4	-0.1
THE	Thessaloniki	0.83	226	⇑iPg	Pg	16 41 36.1	-0.3
THE				i Sg	Sb	16 41 47.5	-0.1
THE	Thessaloniki	0.83	226	P	Pg	16 41 36.1	-0.3
THE				S	Sb	16 41 47.3	-0.3
RZN	Rozhen	0.89	57	Pg	Pg	16 41 36.9	-0.7
RZN				Sg	Sg	16 41 48.7	-0.6
VAY	Valandovo	0.89	277	i Pg	Pg	16 41 36.7	-0.9
VAY				i Sg	Sg	16 41 49.0	-0.4
VAY				eLg	Lg	16 41 51.5	
	comp=N,2μm,0.4s						
VAY				eLg	Lg	16 41 51.9	
	comp=E,3μm,0.8s						
VAY	Valandovo	0.89	277	ePg	Pg	16 41 36.9	-0.7
VAY				eSg	Sg	16 41 48.9	-0.4
OUR	Ouranopolis	0.90	168	Pg	Pb	16 41 37.8	+0.1
OUR				Sg	Sb	16 41 50.2	+0.6
OUR	Ouranopolis	0.90	168	P	Pb	16 41 37.9	+0.1
OUR				S	Sg	16 41 49.0	-0.3
XANC	Avdira	0.94	104	P	Pb	16 41 38.5	-0.1
XANC				S	Sb	16 41 51.0	+0.1
THAS	Thassos island	0.95	129	P	Pb	16 41 38.7	-0.1
THAS				S	Sb	16 41 51.1	-0.2
GRG	Griva	1.05	256	Pg	Pg	16 41 39.7	-0.9
GRG				Sg	Sb	16 41 53.9	-0.1
GRG	Griva	1.05	256	⇓iPg	Pg	16 41 39.9	-0.7
GRG				i Sg	Sb	16 41 54.5	+0.4
GRG	Griva	1.05	256	P	Pg	16 41 39.8	-0.7
GRG				S	Sb	16 41 54.0	-0.1
PLD	Plovdiv	1.20	38	Pn	Pn	16 41 42.0	-0.9
PLD				Sn	Sb	16 41 57.9	-0.4
PLD	Plovdiv	1.20	38	P	Pn	16 41 41.9	-0.9
PLD				S	Sb	16 41 58.3	-0.1
PLD	Plovdiv	1.20	38	⇑iPg	Pn	16 41 42.0	-0.9
PLD				i Sg	Sb	16 41 57.9	-0.4
PLD	Plovdiv	1.20	38	ePg	Pn	16 41 42.1	-0.9
PLD				eSg	Sb	16 41 58.1	-0.3
KMT1	Komotini	1.26	94	P	Pn	16 41 42.7	-0.9
KMT1				S	Sb	16 41 60.0	-0.1
KDZ	Kurdzhali	1.27	70	Pn	Pn	16 41 43.3	-0.5
KDZ	Kurdzhali	1.27	70	P	Pn	16 41 43.5	-0.3
KDZ				S	Sb	16 42 00.6	+0.2
PAIG	Paliouri	1.28	182	Pn	Pn	16 41 43.8	-0.2
VERN	Vergina	1.30	237	P	Pb	16 41 44.3	-0.4
VERN				S	Sg	16 42 02.0	-0.3
PGB	Panagyurishte	1.34	14	P	Pn	16 41 44.6	-0.2
PGB				S	Sn	16 42 02.7	+0.2
RDO	Rodhopi	1.35	92	Pn	Pn	16 41 44.6	-0.4
RDO	Rodhopi	1.35	92	P	Pn	16 41 44.5	-0.4
RDO				S	Sb	16 42 01.9	-1.0
VTS	Vitosha	1.46	345	P	Pn	16 41 46.2	-0.3
VTS				S	Sb	16 42 05.7	-0.2
VTS	Vitosha	1.46	345	ePg	Pn	16 41 46.1	-0.5
VTS				eSg	Sn	16 42 04.2	-1.4
LIT	Litokhoron	1.46	221	i Pn	Pn	16 41 46.2	-0.4
LIT	Litokhoron	1.46	221	P	Pn	16 41 46.1	-0.4
LIT				S	Sn	16 42 05.0	-0.6
SMTH	Samothraki Isl	1.54	118	P	Pn	16 41 46.8	-0.8
SMTH				S	Sb	16 42 08.0	-0.3
DIM	Dimitrovgrad	1.61	58	P	Pn	16 41 48.4	-0.1
DIM				S	Sb	16 42 10.9	+0.8
ALEX	Alexandroupoli	1.67	102	P	Pn	16 41 49.3	0.0
LIA	Limnos Island	1.71	140	P	Pn	16 41 49.5	-0.4
LIA				S	Sn	16 42 09.9	-1.7
KZN	Kozani	1.75	240	P	Pb	16 41 51.5	-1.0
ALN	Alexandroupoli	1.77	99	Pn	Pn	16 41 50.3	-0.4
ENEZ	Enez	1.88	104	Pn	Pn	16 41 52.2	-0.1
TYRN	Tyrnavos	1.89	218	P	Pn	16 41 52.4	+0.1
TYRN				S	Sb	16 42 17.2	-1.1
XOR	Xorichti	1.89	193	P	Pn	16 41 52.0	-0.4
XOR				S	Sn	16 42 15.0	-1.1
CAVK	Edirne/Enez-Ca	1.91	105	P	Pn	16 41 51.8	-0.8
CAVK				S	Sb	16 42 19.8	+1.1
CAVK	Edirne/Enez-Ca	1.91	105	⇑P	Pn	16 41 52.1	-0.5
ENZZ	Sultanice-Enez	1.91	108	Pn	Pn	16 41 51.5	-1.2
GADA	Gvkgeada	1.93	121	Pn	Pn	16 41 52.7	-0.2
NEO	Neokhori	1.94	192	P	Pn	16 41 52.7	-0.4
NEO				S	Sn	16 42 16.0	-1.4
GOAD	anakkale-G¶	1.95	122	P	Pn	16 41 52.9	-0.3
GOAD				S	Sg	16 42 21.8	-1.3
THL	Klokotos Trika	2.11	219	P	Pn	16 41 55.3	-0.1
BARS	Barje	2.15	319	i Pn	Pn	16 41 55.6	-0.4
BARS				i Sn	Sb	16 42 27.1	+1.2
BARS	Barje	2.15	319	ePn	Pn	16 41 55.7	-0.4
BARS				eSn	Sn	16 42 22.9	+0.3
ERIK	Erikli-Kesan	2.17	104	Pn	Pn	16 41 55.9	-0.2
UKOP	Uzunkopru-Edir	2.18	91	Pn	Pn	16 41 56.5	+0.2
NEST	Nestorio	2.20	250	P	Pn	16 41 57.0	+0.3
KPRO	Kipourio	2.21	236	P	Pn	16 41 57.2	+0.5
KPRO				S	Sn	16 42 23.2	-0.7
ZAPS	Zavoj	2.22	339	ePn	Pn	16 41 57.4	+0.5
ZAPS				eSn	Sb	16 42 26.2	-1.6
GELI	Tayfur-Gelibol	2.23	111	Pn	Pn	16 41 56.5	-0.5
OHR	Ohrid	2.23	268	i Pn	Pb	16 42 00.6	+0.1
OHR				i Sn	Sg	16 42 31.8	-0.2
OHR				eLg	Lg	16 42 32.3	
	comp=N,227nm,0.6s						
OHR				eLg	Lg	16 42 34.4	
	comp=E,175nm,0.5s						
OHR	Ohrid	2.23	268	ePg	Pb	16 42 00.9	+0.4
OHR				eSg	Sg	16 42 32.0	0.0
PENT	Pentalofos	2.23	244	P	Pb	16 41 58.6	-2.0
BOZC	Bozcaada	2.23	127	Pn	Pn	16 41 56.9	-0.1
BOZC	Bozcaada	2.23	127	P	Pn	16 41 56.3	-0.7
BOZC				S	Sg	16 42 30.9	-1.1
CNKL	anakkale-Mer	2.31	119	P	Pn	16 41 58.0	-0.1
CNKL				S	Sb	16 42 32.2	+1.8
EDRB	Edirne	2.34	73	Pn	Pn	16 41 58.5	0.0
COMU	Canakkale	2.35	117	Pn	Pn	16 41 58.7	-0.1
EZN	Ezine	2.41	124	Pn	Pn	16 41 59.8	+0.4
AIDA	Aidipsos	2.42	193	P	Pn	16 41 59.4	-0.1
AIDA				S	Sn	16 42 27.8	-1.2
LPK	Lapseki	2.44	109	Pn	Pn	16 41 59.9	0.0
JMB	Yambol	2.44	58	Pn	Pn	16 42 00.2	+0.3
EZNE	Ezine-Canakkal	2.47	125	Pn	Pn	16 42 00.3	0.0
KOCA	Canakkale, Ayv	2.50	132	P	Pn	16 42 00.6	-0.2
KOCA				S	Sg	16 42 38.6	-2.2
MAKR	Makrakomi, Fth	2.52	210	P	Pn	16 42 01.6	+0.6
SIGR	SIGRI	2.57	140	Pn	Pn	16 42 01.8	+0.1
SIGR	SIGRI	2.57	140	P	Pn	16 42 02.0	+0.3
AXAR	Agios Charalam	2.58	199	P	Pn	16 42 01.9	0.0
KIRK	Kirklareli	2.58	76	P	Pn	16 42 01.2	-0.7
KIRK				S	Sb	16 42 39.0	+0.9
KYMI	Kymi, Euboea I	2.59	174	P	Pn	16 42 01.2	-0.8
BAYC	CANAKKALE_Bayr	2.59	124	P	Pn	16 42 01.6	-0.4
BAYC				S	Sb	16 42 38.4	-0.1
LKR	Lokris	2.62	193	P	Pn	16 42 02.2	-0.2
RKY	Sarkoy-Tekirda	2.65	100	Pn	Pn	16 42 02.7	-0.2
TETR	Tetrakomo, Epi	2.66	226	P	Pn	16 42 04.0	+1.1
JAN	Janina	2.70	236	P	Pn	16 42 04.7	+1.1
EVR	Evrytania	2.73	214	P	Pn	16 42 04.3	+0.3
EVR				S	Sn	16 42 38.5	+1.5
PRK	Paraskevi	2.76	135	P	Pn	16 42 04.4	+0.1
CANM	Can-anakkale	2.79	114	Pn	Pn	16 42 04.6	-0.1
SELS	Selova	2.80	317	ePn	Pn	16 42 04.5	-0.4
SELS				eSn	Sn	16 42 41.0	+2.5
KRBG	Karabiga-Canak	2.82	106	Pn	Pn	16 42 05.1	0.0
ZAGS	Zajecar	2.83	337	ePn	Pn	16 42 04.8	-0.5
BOVS	Bovan	2.85	329	⇑P	Pn	16 42 04.9	-0.7
BOVS	Bovan	2.85	329	ePn	Pn	16 42 05.0	-0.7
BOVS				eSn	Sn	16 42 38.2	-1.6
PHSR	Pinarhisar	2.87	80	Pn	Pn	16 42 05.5	-0.4
TKR	Tekirdag	2.87	93	Pn	Pn	16 42 05.7	-0.2
TIR	Tirane	2.93	274	P	Pn	16 42 05.2	-1.4
YENI	Yenice-Canakka	2.95	114	Pn	Pn	16 42 07.2	+0.2
ANX	Ano Chora	2.97	209	P	Pn	16 42 07.7	+0.4
CRLT	Corlu	3.01	90	Pn	Pn	16 42 08.1	+0.3
VIL2	Platees	3.02	187	P	Pn	16 42 08.4	+0.5
BUHA	Balikesir, Bur	3.07	123	P	Pn	16 42 09.2	+0.6
BUHA				S	Sb	16 42 55.0	+2.9
KALE	Kalithea	3.08	204	P	Pn	16 42 09.7	+0.9
IGT	Igoumenitsa	3.10	238	i Pn	Pb	16 42 12.3	-3.1
IGT				i Sn	Sb	16 42 50.0	-3.2
IGT	Igoumenitsa	3.10	238	P	Pn	16 42 10.5	+1.5
VIZE	Kirklareli, Vi	3.10	82	P	Pn	16 42 08.7	-0.3
VIZE				S	Sg	16 42 57.2	-2.8
PVO	Paravola	3.10	214	P	Pn	16 42 09.5	+0.5
EFP	Efpalio	3.12	208	P	Pn	16 42 09.7	+0.4
DION	Dionisos Attik	3.13	177	P	Pn	16 42 09.1	-0.4
BORS2	Bor- Borsko je	3.15	337	ePn	Pn	16 42 07.8	-1.9
GOCS	Kraljevo Serbi	3.17	319	ePn	Pn	16 42 10.0	0.0
GOCS				eSn	Sn	16 42 48.4	+0.7
GONE	Gonen-Balikesi	3.22	110	Pn	Pn	16 42 11.2	+0.6
KARY	Karystos	3.22	170	P	Pn	16 42 10.5	-0.2
DKL	Dikili	3.23	130	Pn	Pn	16 42 10.9	+0.1
DKL	Dikili	3.23	130	P	Pn	16 42 11.3	+0.5
ATHU	Athens Univers	3.24	179	P	Pn	16 42 10.8	-0.1
EDC	Edincik	3.24	104	Pn	Pn	16 42 10.9	-0.1
BALY	Balya	3.30	115	P	Pn	16 42 12.3	+0.5
BALY				S	Sg	16 43 02.6	-3.7
BEY	Berane	3.31	301	i Pn	Pn	16 42 12.8	+0.8
VLY	Voula,Athens	3.36	179	P	Pn	16 42 12.4	-0.1
KEK	Kerkira	3.36	245	Pn	Pn	16 42 13.0	+0.4
KEK	Kerkira	3.36	245	P	Pn	16 42 13.6	+1.0
TSLK	Tsoukalades, L	3.36	226	P	Pn	16 42 14.1	+1.4
SLVT	Silivri	3.37	88	Pn	Pn	16 42 12.9	+0.2
LKD2	Lefkada island	3.39	225	P	Pn	16 42 13.9	+0.9
KLV	Kalavryta, Ach	3.40	202	P	Pn	16 42 13.7	+0.5
ZEDA	zmir-Bergama	3.40	130	P	Pn	16 42 13.9	+0.7
CTYL	Yalikoy Yolu	3.43	84	Pn	Pn	16 42 14.1	+0.6
GUR	Goura	3.45	199	P	Pn	16 42 14.3	+0.4
ULC	Ulcinj	3.46	284	i Pn	Pb	16 42 19.5	-2.0
SJES	Sjenica	3.47	307	ePn	Pn	16 42 16.1	+1.9
SJES				eSn	Sn	16 42 56.3	+1.1
GRUS	Gruza	3.49	321	ePn	Pn	16 42 13.7	-0.6
GRUS				eSn	Sn	16 42 55.2	-0.3
BKES	Balkesir-Mer	3.52	113	P	Pn	16 42 15.1	+0.3
BKES				S	Sb	16 43 08.3	+3.2
SUSR	Susurluk-Balik	3.53	109	Pn	Pn	16 42 15.5	+0.6
KUBS	Kucevo	3.54	335	ePn	Pn	16 42 12.9	-2.2
SVIS	Svilajnac	3.58	329	ePn	Pn	16 42 16.9	+1.4
DRO	Drossia	3.62	206	P	Pn	16 42 16.6	+0.4
KCTX	Karacabey (Bur	3.63	104	Pn	Pn	16 42 16.1	-0.2
HERR	Herculane	3.79	346	⇑P	Pn	16 42 17.3	-1.3
BLCB	Balcova	3.80	137	Pn	Pn	16 42 19.2	+0.6
KRND	KRANIDI	3.85	187	P	Pn	16 42 19.6	+0.3
MDVR	Moldovita	3.87	338	⇓P	Pn	16 42 19.5	-0.1
MDVR	Moldovita	3.87	338	ePn	Pn	16 42 19.3	-0.3
TRUS	Trudelj	3.89	322	ePn	Pn	16 42 19.2	-0.6
SULR		3.92	27	⇓P	Pn	16 42 21.7	+1.4
DURS	Dursunbey	3.95	112	P	Pn	16 42 21.5	+0.7
DURS				S	Sg	16 43 22.4	-4.9
DIVS	Divibare	4.00	317	ePn	Pn	16 42 20.7	-0.7
AMT	Artemida-Makis	4.00	204	P	Pn	16 42 22.0	+0.6
BBLS	Lazi&#263i	4.16	311	ePn	Pn	16 42 24.3	+0.6
BBLS				eSn	Sn	16 43 11.8	-0.4
ARR	Arges	4.20	9	⇓P	Pn	16 42 24.3	0.0

comp=E,6.0nm,0.6s
VYHS Vyhne 8.07 336 *e*PN **Pn 16 43 21.5 +4.2**
RONA Rosalia, Austr 8.39 323 *e*Pn **Pn 16 43 22.2 +0.5**
comp=E,0.4nm,0.2s
ARSA Arzberg 8.44 318 *e*Pn **Pn 16 43 22.5 +0.2**
comp=E,0.1nm,0.1s
ARSA *e*Sn **Sn 16 44 58.8 +1.3**
comp=E,4.2nm,0.6s
ALU Alushta 8.55 63 *e*P **Pn 16 43 24.0 +0.2**
ALU Pm 16 43 29.9
comp=Z,8.0nm,0.5s
CONA Conrad Observa 8.76 323 Pn **Pn 16 43 27.7 +1.0**
comp=Z,0.7nm,0.3s
CONA *e*Sn **Sn 16 45 05.3 0.0**
comp=Z,0.6nm,0.3s
SUDU Sudak 9.02 62 *e*P **Pn 16 43 33.5 +3.2**
SUDU Pm 16 43 41.4
comp=Z,4.0nm,0.4s
SUDU *ex* x 16 45 08.3
SUDU Sm 16 45 18.4
comp=N,13nm,0.5s
SUDU Sm 16 45 18.4
comp=E,4.0nm,0.6s
LUBAR Lubar, Ukraine 9.15 17 P **Pn 16 43 32.1 +0.1**
ABTA Abfaltersbach 9.80 308 *e*Pn **Pn 16 43 42.6 +1.5**
comp=E,2.0nm,0.4s
AK18 Malin Array Si 10.20 19 P **Pn 16 43 48.8 +2.4**
AKASG Malin Array Be 10.22 20 Pn **Pn 16 43 48.1 +1.4**
comp=E,0.5nm,0.3s,baz=208,slow=12,SNR=1.8
comp=E,0.3nm,0.4s
WTTA Wattenberg 10.58 309 *i* Pn **Pn 16 43 55.3 +3.5**
comp=E,2.9nm,0.6s
ESDC Sonseca Array 21.11 275 P **P 16 46 07.2 +2.5**
comp=E,0.3nm,0.4s,baz=90,slow=10,SNR=4.1
comp=E,0.3nm,0.4s
EKA Eskdalemuir Ar 22.62 318 P **P 16 46 22.6 +1.9**
comp=E,1.7nm,0.8s,baz=116,slow=11,SNR=6.3
comp=E,1.7nm,0.8s
MKAR Makanchi Array 41.63 62 P **P 16 49 08.6 +0.4**
comp=E,0.6nm,0.6s,baz=282,slow=7.3,SNR=9.8
comp=E,0.6nm,0.6s
ZALV Zalesovo Beam 41.83 51 P **P 16 49 10.1 +0.4**
comp=E,0.3nm,0.3s,baz=335,slow=6.4,SNR=2.5
comp=E,0.3nm,0.3s
DBIC Dimbokro 42.80 224 LR LR 17 09 12.3
comp=E,90nm,18.0s,baz=2.0,slow=39

NEIC 27 16:41:40.5±0.3, 37°.69N±0°.02×105°.48W±0°.02, h10km±4km, ML1.3/16, Error ellipse: s-maj=2.9km s-min=2.3km az=168.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.06**	**341**		Pg	16 41 43.1	+0.2
SDCO				Sg	Sg	16 41 44.9	+0.3
SDCO				IAML		16 41 45.0	
	153nm,0.1s						
SDCO				IAML		16 41 45.1	
	196nm,0.1s						
T25A	**Trinidad**	**1.01**	**123**	Pg	Pg	16 41 59.7	-0.3
T25A				Sg	Sg	16 42 12.5	-0.6
T25A				IAML		16 42 12.6	
	comp=E,10nm,4.2s						
S22A	**4UR Ranch, Cre**	**1.07**	**273**	Pg	Pg	16 42 00.6	-0.6
S22A				Sg	Sg	16 42 14.4	-0.7
S22A				IAML		16 42 15.7	
	comp=N,4.7nm,0.1s						
Q24A	**Divide**	**1.30**	**11**	Pn	Pg	16 42 05.5	+0.1
ISCO	**Idaho Springs**	**2.11**	**357**	Pn	Pb	16 42 17.8	-1.1
ISCO				IAML		16 42 31.0	
	comp=N,1.3nm,1.4s						

*ISN **27** 16:45:25.9±0.4, 32°.85N×47°.39E, h14km±2km, ML3.4*
*TEH **27** 16:45:25.9, 32°.87N×47°.39E, h8km±19km*
*IDC **27** 16:45:26.1±1.5, 32°.86N×47°.56E, h0km, mb3.8/12, mbtmp3.9/17, ML3.7/4, MS4.2/1, Error ellipse: s-maj=31.7km s-min=16.6km az=15.0*
*NEIC **27** 16:45:27.9±2.5, 32°.93N±0°.06×47°.49E±0°.09, h10km±1km, mb4.1/26, Error ellipse: s-maj=15.8km s-min=2.9km az=233.0*

ISC 27 16:45:28.0±0.5, 32°.83N±0°.04×47°.38E±0°.04, h15km, n87, σ1§17/89, mb4.0/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.17**	**35**	Pg	**Pn**	**16 45 48.7**	**-1.3**
IBDR	**Badra**	**1.25**	**283**	*e*Pg	**Pn**	**16 45 49.0**	**-1.9**
IBDR				*e*Sg	**Sb**	**16 46 06.0**	**-1.1**
IBDR				AML	AML	16 46 18.7	
	comp=E,770nm,0.7s						
IBDR				AML	AML	16 46 24.7	
	comp=N,823nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.47**	**349**	Pg	**Pn**	**16 45 54.0**	**-0.2**
RAFI	**Al-Rafai**	**1.54**	**224**	*e*Pn	**Pb**	**16 45 55.0**	**-1.1**
RAFI				*e*Sn	**Sg**	**16 46 16.5**	**-1.0**
RAFI				AML	AML	16 46 25.5	
	comp=E,544nm,0.5s						
RAFI				AML	AML	16 46 30.4	
	comp=N,818nm,0.6s						
IGHG	**Ghaleghazi**	**1.64**	**336**	Pg	**Pn**	**16 45 57.2**	**+0.7**
HSAM	**Samen**	**1.72**	**36**	Pg	**Pn**	**16 45 57.9**	**+0.3**
GLG1	**Gilan-e-Gharb**	**1.77**	**317**	Pg	**Pb**	**16 45 59.9**	**-0.4**
AHWZ	**Ahwaz**	**1.84**	**144**	Pn	**Pb**	**16 46 01.9**	**+0.6**
SNQR	**Sonqor, Kerman**	**2.04**	**6**	Pn	**Pn**	**16 46 03.0**	**+1.0**
IDHR	**Dehrash**	**2.04**	**336**	Pn	**Pn**	**16 46 02.7**	**+0.7**
ILIN	**Lien**	**2.11**	**351**	Pn	**Pb**	**16 46 06.3**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**2.24**	**319**	Pn	**Pn**	**16 46 06.1**	**+1.5**
HAGD	**Aghdareh**	**2.47**	**36**	Pn	**Pn**	**16 46 08.9**	**+1.0**
BHD	**Baghdad**	**2.56**	**281**	*e*Pn	**Pn**	**16 46 09.0**	**+0.2**
BHD				*e*Sn	**Sn**	**16 46 40.0**	**+0.3**
HGHA	**Hamedan- Ghaye**	**2.92**	**24**	Pn	**Pn**	**16 46 15.4**	**+1.3**
IPIR	**Pirpir**	**2.96**	**92**	Pn	**Pn**	**16 46 16.5**	**+1.7**
ZNGN	**Zangian**	**3.02**	**103**	Pn	**Pn**	**16 46 17.1**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.40**	**32**	Pn	**Pn**	**16 46 22.0**	**+1.2**
IBRJ	**Brojen**	**3.41**	**105**	Pn	**Pn**	**16 46 22.0**	**+1.1**
QAMS	**Qamsar**	**3.49**	**74**	Pn	**Pn**	**16 46 23.5**	**+1.6**
IKLH	**Kolahrood**	**3.56**	**81**	Pn	**Pn**	**16 46 24.2**	**+1.2**
IKRK	**Kirkuk**	**3.59**	**316**	*e*Pn	**Pn**	**16 46 23.0**	**-0.2**
IKRK				*e*Sn	**Sn**	**16 47 05.0**	**-0.4**
IKRK				AML	AML	16 47 15.2	
	comp=N,124nm,0.7s						
IQOM	**Qom**	**3.67**	**56**	Pn	**Pn**	**16 46 25.4**	**+0.9**
KLNJ	**Kolanjah**	**4.02**	**116**	Pn	**Pn**	**16 46 31.3**	**+2.0**
KRSH	**Karshahi**	**4.14**	**73**	Pn	**Pn**	**16 46 32.1**	**+1.2**
MAHB	**Mahabad**	**4.16**	**341**	Pn	**Pn**	**16 46 31.5**	**+0.4**
IZEF	**Zefreh**	**4.17**	**88**	Pn	**Pn**	**16 46 32.8**	**+1.5**
IVRN	**Varamin**	**4.21**	**58**	Pn	**Pn**	**16 46 32.8**	**+1.1**
IGZV	**Ghazvin**	**4.25**	**33**	Pn	**Pn**	**16 46 33.0**	**+0.6**
ISFB	**Sefidab**	**4.33**	**68**	Pn	**Pn**	**16 46 34.5**	**+1.1**
KLST	**Kelardasht - M**	**4.77**	**38**	Pn	**Pn**	**16 46 40.8**	**+1.2**
MZPU	**Pul - Mazandar**	**4.99**	**43**	Pn	**Pn**	**16 46 44.0**	**+1.4**
IFIR	**Firoozkooh**	**5.26**	**56**	Pn	**Pn**	**16 46 47.2**	**+0.8**
IPRN	**Peran**	**5.33**	**49**	Pn	**Pn**	**16 46 48.4**	**+1.3**
IHRS	**Heris**	**5.49**	**357**	Pn	**Pn**	**16 46 50.9**	**+1.5**
ISHB	**Shabestar**	**5.63**	**346**	Pn	**Pn**	**16 46 52.6**	**+1.3**
GRMI	**Germi**	**5.98**	**4**	Pn	**Pn**	**16 46 57.3**	**+1.2**
GEVA	**Gevas**	**6.50**	**328**	Pn	**Pn**	**16 47 03.2**	**-0.1**
MARD	**Mardin**	**7.02**	**311**	Pn	**Pn**	**16 47 09.4**	**-0.9**
ASF	**Jabal al Asfar**	**8.88**	**269**	Pn	**Pn**	**16 47 38.2**	**+2.4**
	comp=N,0.9nm,0.3s,baz=124,slow=7.4,SNR=5.6						
	comp=N,2.0nm,0.3s						
RAYN	**Ar Rayn**	**9.42**	**191**	Pn	**Pn**	**16 47 45.3**	**+2.1**
UOSS	**Minazif**	**11.02**	**133**	Pn	**Pn**	**16 48 05.1**	**0.0**
WSAR	**Wadi Sarin**	**13.77**	**131**	Pn	**Pn**	**16 48 41.8**	**-1.0**
	comp=N,0.3nm,0.3s,baz=325,slow=8.5,SNR=4.0						
	comp=N,2.4nm,0.8s						
IDI	**Anoyia**	**18.79**	**284**	Pn	**Pn**	**16 49 50.1**	**+2.8**
	comp=N,15nm,0.9s,baz=186,slow=15,SNR=1.9						
ABKAR	**Akbulak array**	**18.91**	**26**	P	**P**	**16 49 47.1**	**-0.8**
AKTO	**Aktyubinsk**	**19.27**	**21**	P	**P**	**16 49 50.7**	**-1.2**
	comp=N,0.1nm,0.3s,baz=202,slow=8.2,SNR=3.5						
	comp=N,1.0nm,0.7s						
GAR	**Garm**	**19.55**	**65**	P	**P**	**16 49 56.1**	**+0.8**
GAR				IAmb	IAmb	16 50 00.9	
	comp=Z,4.4nm,0.8s						
BELG	**Belogornoye**	**19.55**	**0**	P	**P**	**16 49 56.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=184,slow=5.2,SNR=4.0						
	comp=Z,8.2nm,0.8s						
BTK	**Batken**	**20.16**	**62**	P	**P**	**16 50 02.3**	**+0.5**
MLR	**Muntele Rosu**	**20.81**	**314**	P	Pn	16 50 11.6	+0.3
	comp=Z,4.3nm,0.6s,baz=185,slow=4.8,SNR=5.8						
	comp=Z,4.3nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**20.86**	**54**	P	**P**	**16 50 07.3**	**-2.1**
KKAR	**Karatay Array**	**20.86**	**54**	P	**P**	**16 50 07.2**	**-2.2**
NIL	**Nilore**	**21.64**	**81**	P	**P**	**16 50 17.2**	**-0.7**
ARSB	**Arslanbob**	**22.06**	**60**	P	**P**	**16 50 23.1**	**+0.7**
ARSB				IAmb	IAmb	16 50 31.6	
	comp=Z,4.8nm,1.0s						
AKASG	**Malin Array Be**	**22.31**	**329**	P	**P**	**16 50 25.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=135,slow=10,SNR=6.8						
	comp=Z,0.4nm,0.3s						
BURAR	**Bucovina Array**	**22.35**	**318**	P	**P**	**16 50 26.3**	**+0.9**
BUR08	**Bucovina Ar. S**	**22.38**	**318**	P	**P**	**16 50 27.1**	**+1.4**
PUK	**Puka**	**23.60**	**301**	P	**P**	**16 50 38.6**	**+0.3**
BOOM	**Boomskoye usch**	**24.48**	**59**	P	**P**	**16 50 47.6**	**+0.9**
BOOM				IAmb	IAmb	16 50 48.8	
	comp=Z,3.7nm,0.8s						
KDJ	**Kajisay**	**25.30**	**60**	P	**P**	**16 50 54.9**	**+0.7**
KDJ				IAmb	IAmb	16 50 57.7	
	comp=Z,3.7nm,1.0s						
TIP	**Timpagrande**	**25.49**	**293**	P	**P**	**16 50 58.0**	**+2.3**
BRVK	**Borovoye**	**26.06**	**32**	P	**P**	**16 51 01.2**	**+0.6**
BRVK				IAmb	IAmb	16 51 07.5	
	comp=Z,2.7nm,0.8s						
BVAR	**Bovoye Array**	**26.09**	**32**	P	**P**	**16 51 00.6**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=231,slow=7.1,SNR=14						
	comp=Z,2.9nm,0.8s						
CEL	**Celeste**	**26.11**	**291**	P	**P**	**16 51 01.4**	**+0.1**
KURBB	**Kurchatov Arra**	**28.97**	**43**	P	**P**	**16 51 26.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=247,slow=9.6,SNR=7.0						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**31.78**	**341**	P	**P**	**16 51 50.9**	**-0.5**
FINES	**FINESS Array B**	**31.78**	**341**	P	**P**	**16 51 51.0**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=142,slow=9.6,SNR=4.6						
	comp=Z,4.1nm,1.0s						
BNI	**Bardonecchia**	**33.59**	**303**	P	**P**	**16 52 06.9**	**-0.8**
ZAA0	**Zalesovo Array**	**33.87**	**40**	P	**P**	**16 52 08.7**	**-1.1**
ZAA0				IAmb	IAmb	16 52 23.1	
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**33.87**	**40**	P	**P**	**16 52 09.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=246,slow=9.7,SNR=6.5						
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**35.14**	**331**	P	**P**	**16 52 20.0**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=111,slow=8.1,SNR=8.2						
	comp=Z,4.2nm,0.8s						
NOA	**NORSAR Array B**	**36.66**	**331**	P	**P**	**16 52 34.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=189,slow=14,SNR=1.9						
	comp=Z,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**41.53**	**318**	P	**P**	**16 53 17.0**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=101,slow=8.5,SNR=4.0						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**46.31**	**53**	P	**P**	**16 53 53.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=274,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.7s						
ULN	**Ulaanbaatar**	**46.75**	**53**	P	**P**	**16 53 55.8**	**-0.9**
ULN				IAmb	IAmb	16 54 03.5	
	comp=Z,2.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**48.20**	**94**	P	**P**	**16 54 07.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=293,slow=8.7,SNR=6.1						
	comp=Z,0.6nm,0.5s						
JMIC	**Jan Mayen**	**48.35**	**339**	LR	LR	17 16 00.5	
	comp=Z,211nm,18.1s,baz=258,slow=38						
KSRS	**Korea Array**	**64.10**	**61**	P	**P**	**16 55 59.9**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=288,slow=7.4,SNR=2.6						
	comp=Z,0.5nm,0.5s						
B20K	**Meade River**	**75.92**	**8**	P	**P**	**16 57 13.0**	**-0.5**
B20K				IAmb	IAmb	16 57 28.3	
	comp=Z,6.1nm,1.5s						
B21K	**Ikpikpuk River**	**76.59**	**8**	P	**P**	**16 57 16.6**	**-0.8**
D22K	**Ayikyak River**	**77.51**	**7**	P	**P**	**16 57 22.1**	**-0.5**
D22K				IAmb	IAmb	16 57 35.1	
	comp=Z,4.1nm,1.3s						
D25K	**Kavik River**	**77.65**	**5**	P	**P**	**16 57 21.8**	**-1.6**
D25K				IAmb	IAmb	16 57 28.8	
	comp=Z,3.3nm,1.2s						
E19K	**Redstone River**	**78.31**	**9**	P	**P**	**16 57 26.0**	**-1.0**
F21K	**Alatna River**	**79.01**	**8**	P	**P**	**16 57 30.4**	**-0.5**
F21K				IAmb	IAmb	16 57 32.8	
	comp=Z,2.8nm,1.4s						
G31M	**Satah River**	**80.56**	**1**	P	**P**	**16 57 39.0**	**-0.3**
G31M				IAmb	IAmb	16 57 57.9	
	comp=Z,5.8nm,1.4s						
I30M	**Mount Dempster**	**82.23**	**2**	P	**P**	**16 57 46.9**	**-1.5**
I30M				IAmb	IAmb	16 58 20.8	
	comp=Z,2.1nm,1.2s						
BCAR	**Beaver Creek A**	**84.16**	**4**	P	**P**	**16 57 58.9**	**+0.6**

DJA 27 16:56:58.8±0.3, 7°S±5°×10°6E±°, h106km±4km, M3.9/13, mb4.3/3, MLv3.7/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.40**	**289**	P	Pn	16 57 16.6	+2.0
CGJI				S	Sn	16 57 29.4	+3.0
SKJI	**Sukabumi**	**0.55**	**119**	P	Pn	16 57 17.4	+1.8
SKJI				S	Sn	16 57 30.0	+1.8
SBJI	**Serang**	**0.62**	**6**	P	Pn	16 57 15.6	-0.5
CNJI	**Cibinong**	**1.19**	**118**	P	Pn	16 57 22.1	+0.3
CNJI				S	Sn	16 57 39.5	+0.3
LEM	**Lembang**	**1.54**	**93**	P	Pn	16 57 26.8	+0.8
CMJI	**Cimerak**	**2.58**	**114**	P	Pn	16 57 39.3	+0.2
MDSI	**Maura Dua**	**2.92**	**320**	P	Pn	16 57 44.3	+0.6
MNAI	**Manna**	**3.90**	**307**	P	Pn	16 57 58.0	+1.2
UGM	**Wanagama**	**4.57**	**105**	P	Pn	16 58 06.1	+0.3
PCJI	**Pacitan**	**5.27**	**106**	P	Pn	16 58 15.2	0.0
	0.2nm45nm,1.2s						
PPSI	**Pulau Pagai**	**7.22**	**303**	P	Pn	16 58 40.0	-1.7

NEIC 27 17:10:20.9±1.1, 37°.65N±0°.01×105°.50W±0°.04, h5km±1km, ML2.3/20, Error ellipse: s-maj=6.0km s-min=3.1km az=259.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.10**	**358**	Pg	Pg	17 10 23.5	+0.4
SDCO				Sg	Sg	17 10 25.6	+0.9
SDCO				IAML		17 10 25.7	
	4μm,0.1s						
T25A	**Trinidad**	**1.00**	**120**		Pg	17 10 40.2	+0.1
T25A	**Trinidad**	**1.00**	**120**	P	Pg	17 10 40.3	+0.1
T25A	**Trinidad**	**1.00**	**120**	S	Sg	17 10 53.5	+0.3
S22A	**4UR Ranch, Cre**	**1.06**	**276**		Pg	17 10 41.3	0.0
S22A				IAML		17 10 56.4	
	comp=N,83nm,0.1s						
S22A				IAML		17 10 59.8	
	comp=E,81nm,0.1s						
Q24A	**Divide**	**1.34**	**12**		Pn	17 10 46.1	-0.5
Q24A	**Divide**	**1.34**	**12**	P	Pn	17 10 46.2	-0.4
Q24A	**Divide**	**1.34**	**12**	S	Sg	17 11 04.2	+0.1
ISCO	**Idaho Springs**	**2.15**	**358**		Pn	17 10 58.7	+1.0
MVCO	**Mesa Verde**	**2.43**	**261**		Pn	17 11 01.4	-0.1
MVCO				IAML		17 11 45.2	
	comp=E,19nm,0.8s						
PV15	**Paradox Valley**	**2.46**	**287**		Pn	17 11 01.5	-0.4
RTBA	**Rita Blanca**	**2.52**	**118**		Pb	17 11 06.7	+0.1
RTBA	**Rita Blanca**	**2.52**	**118**	P	Pb	17 11 06.9	+0.3
PV07	**Paradox Valley**	**2.61**	**289**	Pg	Pb	17 11 09.2	+0.9
KSCO	**Kaye Shedlock'**	**2.63**	**58**	Pn	Pn	17 11 04.4	+0.2
PV13	**Radium Mtn., P**	**2.68**	**282**	Pn	Pn	17 11 04.7	-0.2
PV11	**David Mesa, Pa**	**2.75**	**285**	Pn	Pn	17 11 05.7	-0.1
ANMO	**Albuquerque**	**2.81**	**196**	Pn	Pn	17 11 06.8	+0.2
ANMO				IAML		17 11 41.7	
	comp=E,5.6nm,4.5s						
ANMO				IAML		17 11 55.5	
	comp=E,8.2nm,4.8s						
PV23	**Carpenter Ridg**	**2.89**	**287**		Pn	17 11 06.1	-1.7
PV10	**Paradox Valley**	**2.89**	**286**	Pg	Pb	17 11 13.9	+0.8
BNM	**Barren Site**	**3.61**	**195**	Pn	Pn	17 11 19.3	+1.6

*DNK **27** 17:26:32.0±0.3, 67°.84N×20°.22E, h0km, ML2.8(UPP), Suspected explosion*

UPP 27 17:26:31.7±0.1, 67°.85N×20°.21E, h0km, ML2.8, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	17 26 34.2	+0.2
KUA				S	Sg	17 26 35.9	+0.4
KUA	**Kurravaara**	**0.12**	**24**	P	Pg	17 26 34.2	+0.2
KUA				S	Sg	17 26 35.9	+0.4
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	17 26 36.4	+0.2
RATU				S	Sg	17 26 39.6	+0.3
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	17 26 36.4	+0.2
RATU				S	Sg	17 26 39.6	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.38**	**357**	P	Pg	17 26 39.0	0.0
KOVU	**Salmi**	**0.38**	**357**	P	Pg	17 26 39.0	0.0
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	17 26 45.1	-0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	17 26 45.1	-0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	17 26 45.5	-0.3
DUNU	**Dundret**	**0.74**	**169**	P	Pg	17 26 45.5	-0.3
PAJU	**Pajala**	**1.39**	**125**	P	Pn	17 26 57.1	-1.2
PAJU	**Pajala**	**1.39**	**125**	P	Pn	17 26 57.1	-1.2
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	17 26 59.2	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	17 26 59.2	-0.7

*IDC **27** 17:27:11.8±2.2, 7°.43S×127°.14E, h0km, mb3.4/1, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=283.6km s-min=31.9km az=63.0*
*NEIC **27** 17:27:26.3±2.2, 7°.4S±0°.1×128°.15E±0°.09, h156km±17km, mb4.2/6, Error ellipse: s-maj=16.6km s-min=11.6km az=150.0*

ISC 27 17:27:25.6±0.8, 7°.43S±0°.09×128°.2E±0°.1, h150km, n19, σ1§53/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.15**	**100**		**Pn**	**17 28 16.4**	**+1.6**
SOEI	**Soe**	**4.50**	**239**	Pn	**Pn**	**17 28 33.4**	**+0.8**
FAKI	**Fak Fak**	**6.05**	**42**	Pn	**Pn**	**17 28 52.9**	**-0.2**
MTN	**Manton Dam**	**6.12**	**152**		**Pn**	**17 28 54.7**	**+0.8**
KNRA	**Kununurra**	**8.21**	**176**		**Pn**	**17 29 21.0**	**-0.9**
KNRA				Sn	Sn	17 30 44.5	-8.9
FITZ	**Fitzroy Crossi**	**10.88**	**193**	Pn	Pn	17 29 53.8	-3.5
WB0	**Warramunga Arr**	**13.66**	**154**	Pn	**Pn**	**17 30 30.8**	**-2.6**
WRA	**Warramunga Arr**	**13.80**	**155**	Pn	**Pn**	**17 30 34.3**	**-0.8**
	0.4nm,0.3s,baz=328,slow=14,SNR=17						
WRA				Sn	Sn	17 32 56.8	-11
	1.8nm,0.3s,baz=329,slow=21,SNR=12						
	0.6nm,0.4s						
WB2	**Warramunga Arr**	**13.80**	**155**	Pn	Pn	17 30 31.7	-3.5
WR0	**Warramunga Arr**	**13.90**	**154**	Pn	**Pn**	**17 30 34.1**	**-2.3**
MBWA	**Marble Bar**	**15.90**	**210**	Pn	**Pn**	**17 30 59.7**	**-1.5**
MBWA				IAmb	IAmb	17 30 59.8	
	comp=Z,18nm,1.3s						
COEN	**Coen**	**16.10**	**115**	P	Pn	17 30 57.9	-5.8
COEN				IAmb	IAmb	17 31 35.1	
	comp=Z,17nm,1.2s						
PSA00	**Pilbara Seismi**	**16.20**	**209**	P	**Pn**	**17 31 03.6**	**-1.2**
PSA00				IAmb	IAmb	17 31 31.1	
	comp=Z,26nm,1.4s						
AS31	**Alice Springs**	**17.05**	**162**	P	**P**	**17 31 16.2**	**+1.6**
AS31				S		17 34 09.8	-15
ASAR	**Alice Springs**	**17.05**	**162**	P	**P**	**17 31 16.2**	**+1.6**
ASAR				S	S	17 34 10.0	-15
ASAR	**Alice Springs**	**17.05**	**162**	P	**Pn**	**17 31 16.8**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=340,slow=11,SNR=74						
ASAR				S	S	17 34 14.3	-11
	comp=Z,1.5nm,0.5s,baz=342,slow=23,SNR=9.1						
	comp=Z,2.3nm,0.6s						
SBUM	**Sibu**	**18.70**	**301**	P	**P**	**17 31 32.4**	**-0.3**
SBUM				IAmb	IAmb	17 31 54.3	
	comp=Z,4.3nm,1.2s						
JMN	**Monobe**	**41.29**	**7**	P	**P**	**17 34 55.2**	**-1.2**
MKAR	**Makanchi Array**	**67.61**	**328**	P	**P**	**17 38 07.1**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.6,SNR=4.5						
	comp=Z,0.2nm,0.5s						

*IDC **27** 17:40:05.9±1.1, 1°.15S×123°.26E, h0km, mb3.7/5, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=36.7km s-min=18.4km az=81.0*
*NEIC **27** 17:40:06.9±2.4, 1°.11S±0°.09×123°.7E±0°.1, h10km±1km, mb4.2/14, Error ellipse: s-maj=19.5km s-min=15.5km az=88.0*
*DJA **27** 17:40:09.0±1.0, 1°S±2°×12°4E±°, h23km±9km, M4.4/24, mB4.8/5, mb4.6/12, MLv4.4/24, Mw(mB)4.0/5*

ISC 27 17:40:05.9±0.5, 1°.26S±0°.04×123°.71E±0°.05, h10km, n56, σ1§91/59, mb4.0/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.96**	**283**	Pn	**Pn**	**17 40 26.4**	**+0.9**
LUWI	**Luwuk**	**0.96**	**283**	P	**Pn**	**17 40 26.8**	**+1.3**
LUWI	**Luwuk**	**0.96**	**283**	P	**Pn**	**17 40 26.4**	**+0.9**
LUWI				S	**Sn**	**17 40 40.9**	**+1.7**
KMSI	**Cibinong**	**1.84**	**9**	P	**Pg**	**17 40 41.7**	**+0.4**
KMSI				S	**Sg**	**17 41 07.9**	**+2.8**
APSI	**Ampana**	**2.09**	**279**	P	**Pn**	**17 40 43.0**	**+2.0**
SANI	**Sanana**	**2.41**	**109**	P	**Pg**	**17 40 53.6**	**+1.4**
SANI	**Sanana**	**2.41**	**109**	P	**Pn**	**17 40 43.1**	**-2.4**
MRSI	**Marisa**	**2.47**	**314**	P	**Pb**	**17 40 49.3**	**-1.1**
MRSI				S	**Sb**	**17 41 20.5**	**-0.4**
KDI	**Kendari**	**2.90**	**202**	P	Pn	17 40 49.8	-2.3
TOLI2	**Tolitoli**	**3.75**	**309**		**Pn**	**17 41 03.7**	**-0.3**
TOLI2	**Tolitoli**	**3.75**	**309**	P	**Pb**	**17 41 09.5**	**-2.9**
PCI	**Palu**	**3.89**	**275**	P	**Pn**	**17 41 08.3**	**+2.5**
**NLA

SONM	Songino Array	51.17	345	P	P	17 49 07.4 -2.0
SONM	Songino Array	51.17	345	P	P	17 49 09.2 -0.3
	comp=Z,0.7nm,0.7s,baz=167,slow=9.0,SNR=6.3					
	comp=Z,0.7nm,0.7s					
MKAR	Makanchi Array	60.05	328	P	P	17 50 11.4 -1.8
	comp=Z,0.2nm,0.5s,baz=122,slow=9.1,SNR=3.5					
	comp=Z,0.2nm,0.5s					
PEA0B	Petropavlovsk-	61.16	23	P	P	17 50 19.2 -1.4
PETK	Petropavlovsk-	61.16	23	P	P	17 50 19.7 -0.9
MA2	Magadan	64.25	15	P	P	17 50 41.8 +0.7
MA2				IAmb	IAmb	17 50 42.6
	comp=Z,3.1nm,0.8s					

*NEIC **27** 17:48:26.0±2.1,34°.05N±0°.02×97°.33W±0°.03,h16km±8km, mb_Lg2.7/33,ML2.8/14,ML2.8/12,Error ellipse: s-maj=4.2km s-min=1.4km az=122.0*

*NEIC **27** 17:48:26.3±2.6,34°.08N±0°.02×97°.40W±0°.01,h14km±8km, Error ellipse: s-maj=2.4km s-min=1.7km az=179.0*

ISC 27 17:48:26.1±1.1,34°.09N±0°.02×97°.42W±0°.03,h10km±12km, n57,σ1§26/64,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	Smith Ranch, M	0.61	326		Pb	17 48 39.0	+0.1
X34A					Sb	17 48 48.8	+1.2
Z35A	Perchaven, San	0.77	170	P	Pg	17 48 40.4	-0.6
Z35A				P	Pn	17 48 50.3	+7.2
WTFS	Witchita Falls	0.93	250		Pb	17 48 43.8	-0.5
WTFS	Witchita Falls	0.93	250	P	Pb	17 48 43.9	-0.4
WTFS				S	Sb	17 48 56.6	-0.1
FW06	Azle	1.12	186		Pn	17 48 47.5	-0.4
FW06	Azle	1.12	186	P	Pg	17 48 47.6	0.0
FW06				S	Sg	17 49 02.3	0.0
FW02	City of Haslet	1.14	177		Pb	17 48 47.4	-0.6
W35A	Tecumseh	1.15	23		Pb	17 48 47.7	-0.4
W35A					Sn	17 49 03.9	-0.2
W35A				IAML		17 49 04.8	
	comp=E,200nm,0.3s						
W35A				IAML		17 49 10.0	
	comp=N,179nm,0.3s						
FNO	Franklin	1.16	1		Pn	17 48 48.1	-0.4
FNO					Sg	17 49 04.5	+0.9
FNO				IAML		17 49 05.2	
	comp=E,186nm,0.1s						
FNO				IAML		17 49 07.5	
	comp=N,166nm,0.3s						
FW03	Perrin-Whitt E	1.18	207		Pg	17 48 48.7	-0.1
FW03					Sg	17 49 04.5	+0.4
FW03				IAML		17 49 13.6	
	comp=N,191nm,0.2s						
FW03	Perrin-Whitt E	1.18	207	S	Sg	17 49 04.4	+0.3
WMOK	Wichita Mounta	1.30	300		Pn	17 48 49.2	-1.2
WMOK					Sb	17 49 06.8	-0.6
WMOK	Wichita Mounta	1.30	300	IAmb_Lg		17 49 11.1	
	comp=Z,21nm,0.8s						
WMOK	Wichita Mounta	1.30	300	P	Pn	17 48 49.3	-1.0
WMOK				P	Pn	17 48 49.4	-1.0
WMOK				S	Sb	17 49 06.4	-0.9
FW07	Weatherford	1.42	193		Pn	17 48 50.8	-1.2
FW07					Sg	17 49 13.4	+1.6
FW07	Weatherford	1.42	193	P	Pg	17 48 53.9	+0.5
FW07				S	Sg	17 49 14.5	+2.7
PLPT	Palo Pinto	1.48	211		Pb	17 48 53.6	-0.2
PLPT	Palo Pinto	1.48	211	P	Pb	17 48 53.6	-0.2
OK029	Liberty Lake	1.70	359		Pb	17 48 57.1	-0.3
OK029					Sg	17 49 20.4	-0.4
FW13	Cleburne	1.74	180		Pb	17 48 57.9	-0.2
FW13					Sg	17 49 22.1	+0.2
TREL	Terrell	1.76	140	Pn	Pn	17 48 52.9	-3.8
TREL	Terrell	1.76	140	P	Pb	17 48 58.3	-0.1
CSTR	Hydro, Custer	1.87	326		Pb	17 49 00.7	+0.3
DEOK	Depew	1.90	23		Pb	17 48 59.9	-1.1
DEOK					Sb	17 49 25.7	+0.9
OK031	S. Brethren Rd	1.92	14		Pb	17 49 00.4	-0.8
OK031					Sb	17 49 26.3	+1.1
OK052	Battle Ridge R	1.96	15		Pn	17 48 58.3	-1.2
OK052				IAmb_Lg		17 49 34.2	
	comp=Z,27nm,0.7s						
WHTX	Lake Whitney,	2.10	181	P	Pb	17 49 02.9	-1.3
QUOK	Quay	2.15	16		Pb	17 49 03.7	-1.6
APMT	Aspermont	2.38	252		Pn	17 49 06.1	+0.8
APMT	Aspermont	2.38	252	P	Pb	17 49 07.9	-1.2
CROK	Carrier	2.45	349		Pn	17 49 05.6	-0.6
OK051	E0350 and S346	2.45	11	IAmb_Lg		17 49 42.7	
	comp=Z,25nm,1.0s						
SMWD	Samnorwood	2.54	294		Pb	17 49 11.1	-0.7
SMWD				IAmb_Lg		17 49 55.3	
	comp=Z,38nm,0.7s						
ELIS	Ellis County	2.56	321		Pn	17 49 08.8	+1.0
ELIS				IAmb_Lg		17 49 55.9	
	comp=Z,25nm,0.8s						
OK038	West end E0370	2.61	336		Pn	17 49 09.9	+1.5
DKNS	Dickens	2.94	263		Pn	17 49 12.2	-0.8
DKNS				IAmb_Lg		17 50 03.9	
	comp=Z,38nm,0.8s						
DKNS	Dickens	2.94	263	P	Pb	17 49 16.9	-1.9
BRDY	Brady	3.10	206	Pn	Pn	17 49 15.9	+0.7
BRDY	Brady	3.10	206	P	Pn	17 49 16.2	+1.0
MIAR	Mount Ida	3.21	81		Pb	17 49 23.9	+0.6
MIAR	Mount Ida	3.21	81	P	Pn	17 49 19.1	+2.4
NATX	Nacogdoches	3.29	134	P	Pn	17 49 18.4	+0.8
POST	Post	3.56	254		Pn	17 49 24.7	+3.2
POST	Post	3.56	254	P	Pn	17 49 24.2	+2.7
HHAR	Hobbs	3.59	52	Pn	Pn	17 49 21.8	-0.1
SNAG	San Augustine	3.75	132		Pn	17 49 18.1	-5.9
SGCY	Sterling City	3.80	236	Pg	Pb	17 49 34.7	+1.4
SGCY				IAmb_Lg		17 50 36.0	
	comp=Z,19nm,0.8s						
JCT	Junction City	4.13	210	Pg	Pg	17 49 42.6	-2.6
JCT				IAmb_Lg		17 50 43.0	
	comp=Z,22nm,0.9s						
HNDO	Hondo	4.82	200	Pn	Pn	17 49 37.1	-1.7
HNDO	Hondo	4.82	200	P	Pn	17 49 39.8	+1.1
KSU1	Kansas State U	5.04	7	IAmb_Lg		17 51 19.2	
	comp=Z,12nm,0.9s						
DRIO	Del Rio	5.39	211	IAmb_Lg		17 51 27.7	
	comp=Z,12nm,0.8s						
SAND	Sanderson	5.74	225	Pn	Pn	17 49 52.0	+0.5
SAND				IAmb_Lg		17 51 35.7	
	comp=Z,10nm,0.8s						
SAND	Sanderson	5.74	225	P	Pn	17 49 52.6	+1.1
CCM	Cathedral Cave	6.38	50	IAmb_Lg		17 52 02.1	
	comp=Z,13nm,1.2s						
T25A	Trinidad	6.45	300	IAmb_Lg		17 52 01.4	
	comp=Z,10.0nm,0.8s						
ANMO	Albuquerque	7.51	279	IAmb_Lg		17 52 37.9	
	comp=Z,6.5nm,0.9s						

IDC 27 18:06:03.5±1.9,5°.00S×153°.48E,h0km,mb3.5/5, mbtmp3.5/5,MS3.1/1,Error ellipse: s-maj=58.4km s-min=30.1km az=99.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.78	125	LR	LR	18 10 48.0	
	comp=Z,120nm,18.4s,baz=356,slow=37						
WRA	Warramunga Arr	23.83	230	P	P	18 11 18.4	-0.2
	1.0nm,0.6s,baz=54,slow=9.9,SNR=8.2						
	1.0nm,0.6s						
ASAR	Alice Springs	26.47	224	P	P	18 11 43.0	+0.3
	0.3nm,0.6s,baz=56,slow=9.0,SNR=13						
	0.3nm,0.6s						
SONM	Songino Array	66.86	328	P	P	18 16 57.8	+0.3
	0.4nm,0.7s,baz=111,slow=6.8,SNR=2.5						
	0.4nm,0.7s						
MKAR	Makanchi Array	80.92	319	P	P	18 18 19.7	-0.2
	0.1nm,0.5s,baz=112,slow=5.9,SNR=1.8						
	0.1nm,0.5s						
QSPA	South Pole Qui	84.96	180	P	P	18 18 40.4	-0.2
	1.1nm,0.7s,baz=27,slow=4.5,SNR=7.1						
	1.1nm,0.7s						

*JMA **27** 18:07:30.0±0.5,38°.N±2°×13°.5E±°,h397km±4km,MV2.7/24, SEA OF JAPAN*

*IDC **27** 18:07:30.6±0.8,37°.95N×135°.17E,h383km±11km,mb2.6/6, mbtmp3.4/11,Error ellipse: s-maj=22.0km s-min=14.2km az=56.0*

ISC 27 18:07:31.1±0.8,37°.88N±0°.08×135°.21E±0°.07,h403km,n25, σ1§61/28,mb2.9/6,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	1.35	91	eP	P	18 08 23.3	-0.5
JKG	Kaga	1.83	150	eP	P	18 08 25.7	-0.7
JOI	OKI	2.23	225	eP	P	18 08 26.9	-2.0
JSD	Sado	2.42	85	P	P	18 08 29.8	-0.1
JYTA	Yamagatataniai	2.59	151	eS	S	18 09 17.6	-2.5
JWT	Wachi	2.60	177	eP	P	18 08 30.7	-0.8
JWT				eS	S	18 09 17.8	-2.5
MAT	Matsushiro	2.74	118	eP	P	18 08 32.1	-0.3
MJAR	Matsushiro Arr	2.74	118	P	P	18 08 32.8	+0.4
	3.3nm,0.6s,baz=296,slow=3.6,SNR=4.3						
MJAR				S	S	18 09 19.2	-3.0
	1.0nm,0.5s,baz=309,slow=20,SNR=1.7						
JNS	Sasagawa	3.25	90	eP	P	18 08 35.3	-1.1
JHS	Saijyo	3.34	211	P	P	18 08 36.0	-1.4
JRY	Ryogami san	3.49	121	eP	P	18 08 39.2	+0.6
JIE	Ise	3.69	160	eP	P	18 08 40.7	+0.3
JOD2	Odawara 2	4.07	129	eP	P	18 08 45.1	+1.2
JMK	Ichinoseki	4.84	75	eP	P	18 08 52.0	+0.7
JMK				eS	S	18 09 52.7	-4.2
JOT	Ohata	5.70	50	eS	S	18 10 13.3	0.0
KSRS	Korea Array	5.80	268	P	P	18 09 00.3	-1.0
	4.2nm,0.8s,baz=87,slow=12,SNR=16						
JNU	Nakatsue	5.92	218	P	P	18 09 02.0	-0.8
	4.7nm,0.7s,baz=17,slow=11,SNR=4.9						
USRK	Ussuriysk Ar.	6.76	340	P	P	18 09 11.6	-1.0
	3.0nm,0.4s,baz=148,slow=9.8,SNR=14						
ASAJ	Asahikawa	8.36	40	P	P	18 09 29.9	-0.3
	3.7nm,0.3s,baz=234,slow=11,SNR=21						
SONM	Songino Array	23.23	305	P	P	18 12 04.6	0.0
	0.5nm,0.5s,baz=108,slow=9.6,SNR=5.0						
	0.5nm,0.5s						
CMAR	Chiang Mai Arr	37.06	249	P	P	18 14 07.3	+2.4
	0.3nm,0.5s,baz=48,slow=7.5,SNR=2.0						
	0.3nm,0.5s						
MKAR	Makanchi Array	39.46	300	P	P	18 14 24.1	-0.2
	0.1nm,0.4s,baz=87,slow=11,SNR=5.7						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	41.56	307	P	P	18 14 40.8	-0.3
	0.3nm,0.3s,baz=81,slow=7.7,SNR=6.6						
	0.3nm,0.3s						
WRA	Warramunga Arr	57.52	181	P	P	18 16 41.8	+1.6
	0.4nm,0.7s,baz=356,slow=7.6,SNR=2.2						
	0.4nm,0.7s						
ASAR	Alice Springs	61.23	181	P	P	18 17 07.2	+2.0
	0.3nm,0.9s,baz=0.1,slow=5.9,SNR=5.5						
	0.3nm,0.9s						

IDC 27 18:09:20.2±1.6,19°.44N×94°.23E,h0km,mb3.2/4, mbtmp3.1/5,ML3.2/1,Error ellipse: s-maj=39.1km s-min=19.3km az=39.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	4.57	102	Pn	Pn	18 10 32.7	+2.1
	0.3nm,0.3s,baz=286,slow=12,SNR=5.4						
CMAR				Sn	Sn	18 11 23.9	-0.6
	0.3nm,0.3s,baz=296,slow=14,SNR=4.3						
CMAR				Lg	Lg	18 11 45.6	
	0.4nm,0.3s,baz=284,slow=29,SNR=4.5						
	0.6nm,0.3s						
MKAR	Makanchi Array	28.98	343	P	P	18 15 23.4	+1.9
	0.2nm,0.6s,baz=156,slow=7.9,SNR=2.9						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	33.51	342	P	P	18 15 59.9	-1.4
	0.3nm,0.9s,baz=161,slow=6.9,SNR=2.8						
	0.3nm,0.9s						
WRA	Warramunga Arr	55.47	133	P	P	18 18 56.4	-0.7
	0.3nm,0.6s,baz=316,slow=7.8,SNR=1.8						
	0.3nm,0.6s						
ASAR	Alice Springs	57.73	136	P	P	18 19 12.7	-0.5
	0.1nm,0.9s,baz=314,slow=6.9,SNR=1.4						
	0.1nm,0.9s						

*NOU **27** 18:38:48.0,15°.32S×178°.83E,h0km,MLv3.6/6,Fiji Islands*

*IDC **27** 18:38:48.5±1.1,15°.23S×178°.77E,h0km,mb3.8/6, mbtmp3.8/7,ML5.3/1,MS3.4/6,Error ellipse: s-maj=36.0km s-min=22.8km az=122.0*

ISC 27 18:38:49.6±0.9,15°.3S±0°.1×178°.87E±0°.07,h10km,n19, σ1§52/14,mb3.7/6,MS3.4/4,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	Dogotuki	1.33	141	P	Pn	18 39 11.3	-3.0
TAVE	Taveuni	1.86	141	P	Pn	18 39 20.1	-1.5
TAVE	Taveuni	1.86	141	S	Sn	18 39 44.7	-0.4
YSA	Yasawairara	1.90	221	P	Pn	18 39 19.2	-2.9
MSVF	Nonsavu	2.58	198	Pn	Pn	18 39 31.6	0.0
	25nm,0.3s,baz=125,slow=12,SNR=27						
MSVF				Sn	Sn	18 40 04.5	+1.3
	7.8nm,0.3s,baz=272,slow=22,SNR=4.1						
	44nm,0.3s						
MSVF	Nonsavu	2.58	198	P	Pn	18 39 31.6	0.0
LKBA	Tubou, Lakemba	3.70	143	P	Pn	18 39 47.2	+0.4
DZM	Mont Dzumac	13.58	238	LR	LR	18 46 40.7	
	comp=Z,55nm,18.2s,baz=48,slow=35						
HNR	Honiara	19.37	285	LR	LR	18 49 36.4	
	comp=Z,190nm,18.8s,baz=174,slow=34						
RAR	Rarotonga	21.12	109	LR	LR	18 49 43.2	
	comp=Z,67nm,21.7s,baz=284,slow=31						
PPT	Papeete	30.34	99	LR	LR	18 56 33.4	
	comp=Z,29nm,18.0s,baz=344,slow=35						
WRA	Warramunga Arr	42.61	257	P	P	18 46 45.5	-1.0
	0.4nm,0.7s,baz=88,slow=8.8,SNR=1.4						
	0.4nm,0.7s						
ASAR	Alice Springs	43.07	252	P	P	18 46 49.8	-0.4
	1.1nm,0.9s,baz=84,slow=9.0,SNR=8.8						
	1.1nm,0.9s						
FITZ	Fitzroy Crossi	50.93	259	P	P	18 47 52.4	+0.8
	1.1nm,0.8s,baz=106,slow=7.4,SNR=1.6						
	1.1nm,0.8s						
JOW	Kunigami	64.53	310	LR	LR	19 16 01.0	
	comp=Z,49nm,18.0s,baz=224,slow=35						
QSPA	South Pole Qui	74.78	180	P	P	18 50 30.7	+0.9
	2.2nm,1.0s,baz=332,slow=1.5,SNR=4.0						
	2.2nm,1.0s						
ILAR	Eielson Array	83.94	14	P	P	18 51 19.6	+0.1
	1.3nm,1.0s,baz=231,slow=6.6,SNR=9.3						
	1.3nm,1.0s						
TXAR	Lajitas Array	86.82	59	P	P	18 51 36.1	+1.2
	0.3nm,0.8s,baz=229,slow=4.4,SNR=3.4						
	0.3nm,0.8s						
SONM	Songino Array	89.86	320	LR	LR	19 30 23.5	
	comp=Z,62nm,18.5s,baz=2.5,slow=34						

*CATAC **27** 18:52:58.4±1.0,14°N±4°×9°1W±°,h16km±9km,M4.5/16, MLv4.5/16,Error ellipse: s-maj=9.6km s-min=4.7km az=17.8,confirmed*

*GCG **27** 18:53:00.6±1.3,13°.71N×90°.77W,h54km±15km,MD3.9, ML3.8,MW3.7,Hypocentre not reviewed by the ISC*

*SNET **27** 18:53:01.3±1.5,13°.72N×90°.76W,h42km,ML4.4*

ISC 27 18:52:58.4±1.5,13°.54N±0°.09×90°.86W±0°.05,h20km±8km, n90,σ0§75/100,4C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	Sabana Grande	0.84	2	eP		18 53 14.0	
ESSG				eS		18 53 24.3	
ESSG				IAML		18 53 29.5	
	comp=Z,4μm,0.4s						
NUBE	Las Nubes	1.11	71	eP	Pn	18 53 18.3	-0.6
NUBE				eS	Sb	18 53 32.1	-1.0
NUBE	Las Nubes	1.11	71	P	Pn	18 53 18.3	-0.6
NUBE	Las Nubes	1.11	71	S	Sb	18 53 32.1	-1.0
NUBE	Las Nubes	1.11	71	P	Pn	18 53 18.3	-0.6
NUBE	Las Nubes	1.11	71	P	Pn	18 53 18.4	-0.6
NUBE	Las Nubes	1.11	71	eP		18 53 18.3	
NUBE				eS		18 53 31.7	
LOAL	Lomas de Alarc	1.15	66	eP	Pn	18 53 19.2	-0.2
LOAL	Lomas de Alarc	1.15	66	P	Pn	18 53 19.2	-0.2
LOAL	Lomas de Alarc	1.15	66	S	Sb	18 53 33.8	-0.2
LOAL	Lomas de Alarc	1.15	66	P	Pn	18 53 19.2	-0.2
LOAL	Lomas de Alarc	1.15	66	P	Pn	18 53 19.3	0.0
SLOZ	Alcaldia de Sa	1.15	65	eP	Pn	18 53 19.2	-0.2
SLOZ	Alcaldia de Sa	1.15	65	P	Pn	18 53 19.1	-0.3
SLOZ	Alcaldia de Sa	1.15	65	S	Sb	18 53 33.8	-0.4
SLOZ	Alcaldia de Sa	1.15	65	P	Pn	18 53 19.2	-0.2
SLOZ	Alcaldia de Sa	1.15	65	P	Pn	18 53 19.3	-0.2
CEVE	Cerro Verde	1.24	76	eP	Pn	18 53 20.5	-0.2
CEVE				eS	Sn	18 53 37.2	+0.3
CEVE	Cerro Verde	1.24	76	P	Pn	18 53 20.5	-0.2
CEVE	Cerro Verde	1.24	76	S	Sn	18 53 36.2	-0.8
CEVE	Cerro Verde	1.24	76	P	Pn	18 53 20.5	-0.2
CEVE	Cerro Verde	1.24	76	P	Pn	18 53 20.6	-0.2
SBLS	San Blas	1.24	76	eP	Pn	18 53 20.5	-0.3
SNJE	San Jose	1.26	75	eP	Pn	18 53 20.9	-0.1
RTAL	Retalhuleu	1.27	321	eP	Pn	18 53 21.1	0.0
RTAL				eS	Sn	18 53 36.9	-0.7
RTAL	Retalhuleu	1.27	321	P	Pn	18 53 21.1	0.0
RTAL	Retalhuleu	1.27	321	S	Sn	18 53 36.8	-0.8
RTAL	Retalhuleu	1.27	321	P	Pn	18 53 21.2	+0.1
UNIC	Universidad Ca	1.35	71	P	Pn	18 53 21.9	-0.2
JAYA	Jayaque - finc	1.38	85	eP	Pn	18 53 22.2	-0.4
JAYA				eS	Sn	18 53 39.3	-1.0
JAYA	Jayaque - finc	1.38	85	P	Pn	18 53 22.2	-0.4
JAYA	Jayaque - finc	1.38	85	S	Sn	18 53 39.1	-1.2
JAYA	Jayaque - finc	1.38	85	P	Pn	18 53 22.2	-0.4
JAYA	Jayaque - finc	1.38	85	P	Pn	18 53 22.3	-0.4
JAYA	Jayaque - finc	1.38	85	eP		18 53 22.1	
JAYA				eS		18 53 39.0	
SOKI	Kika Raxquin	1.38	338	eP		18 53 23.0	
SOKI				eS		18 53 39.1	
SOKI				IAML		18 53 43.7	
	comp=Z,2μm,0.6s						
CEDA	San Andres	1.45	79	eP	Pn	18 53 23.4	-0.1
CEDA	San Andres	1.45	79	P	Pn	18 53 23.3	-0.2
QUEO	Labor Ovalle	1.47	335	eP		18 53 24.9	
QUEO				eS		18 53 43.0	
QUEO				IAML		18 53 47.9	
	comp=Z,4μm,0.2s						
LALI	Alcalda de L	1.50	92	eP	Pn	18 53 24.1	0.0
LALI				eS	Sn	18 53 42.9	-0.2
LALI	Alcalda de L	1.50	92	eP		18 53 24.1	
LALI				eS		18 53 42.7	
LALI				IAML		18 53 43.7	
	comp=Z,312nm,0.8s						
PMON	Piamonte	1.51	83	eP	Pn	18 53 24.5	+0.1
PMON				eS	Sn	18 53 43.1	-0.5
PMON	Piamonte	1.51	83	P	Pn	18 53 24.5	+0.1
PMON	Piamonte	1.51	83	P	Pn	18 53 24.3	-0.1
PMON	Piamonte	1.51	83	P	Pn	18 53 24.5	+0.1
BOQS	Boqueron	1.55	82	eP	Pn	18 53 25.2	+0.1
UEES	Universidad Ev	1.59	83	P	Pn	18 53 25.7	+0.3
LOMA	Loma Larga	1.65	86	eP	Pn	18 53 26.6	+0.3
LOMA				eS	Sn	18 53 46.6	-0.3
LOMA	Loma Larga	1.65	86	P	Pn	18 53 26.6	+0.3
LOMA	Loma Larga	1.65	86	S	Sn	18 53 46.7	-0.2
LOMA	Loma Larga	1.65	86	P	Pn	18 53 26.6	+0.3
LOMA	Loma Larga	1.65	86	P	Pn	18 53 26.5	+0.3
IGN	Direccin Gen	1.65	84	P	Pn	18 53 27.1	+0.8
MTO3	Montecristo	1.69	59	eP	Pn	18 53 26.7	-0.3
MTO3				eS	Sn	18 53 48.1	-0.1
MTO3	Montecristo	1.69	59	P	Pn	18 53 26.5	-0.5
MTO3	Montecristo	1.69	59	P	Pn	18 53 26.7	-0.3
MTO3	Montecristo	1.69	59	P	Pn	18 53 26.6	-0.3
MTO3	Montecristo	1.69	59	eP		18 53 26.6	
MTO3				eS		18 53 47.0	
MTO3				IAML		18 53 49.1	
	comp=Z,708nm,0.4s						
QUIS	Sacapulas	1.76	353	eP		18 53 28.7	
QUIS				eS		18 53 51.4	
QUIS				IAML		18 53 52.6	
	comp=Z,1μm,0.5s						
SMCA	Catarina	1.76	318	eP		18 53 28.1	
SMCA				eS		18 53 47.8	
SMCA				IAML		18 53 53.8	
	comp=Z,1μm,0.4s						
ESQI	Esquipulas	1.79	55	eP	Pn	18 53 28.2	-0.1
ESQI				eS	Sn	18 53 50.3	-0.2
PAVA	Las Pavas	1.88	84	eP	Pn	18 53 29.9	+0.4
PAVA	Las Pavas	1.88	84	P	Pn	18 53 29.8	+0.4
COEG	Centro de Oper	1.93	87	P	Pn	18 53 30.8	+0.7
COEG	Centro de Oper	1.93	87	P	Pn	18 53 30.8	+0.7
COEG	Centro de Oper	1.93	87	P	Pn	18 53 30.7	+0.7
THIG		1.93	315	eP		18 53 30.9	
THIG				eS		18 53 52.4	
THIG				IAML		18 54 03.3	
	comp=Z,3μm,0.3s						
LLGN	La Laguna	1.96	71	P	Pn	18 53 30.4	-0.3
TECO	Alcaldia de Te	2.02	90	P	Pn	18 53 32.6	+1.2
SCLA	Alcaldia de Sa	2.08	85	P	Pn	18 53 32.5	+0.4
SCLA	Alcaldia de Sa	2.08	85	P	Pn	18 53 32.6	+0.5
TECA	Tecapa	2.29	91	eP	Pn	18 53 35.8	+0.6
PACA	Pacayal	2.47	91	eP	Pn	18 53 39.2	+1.6
PACA	Pacayal	2.47	91	P	Pn	18 53 39.2	+1.6
PACA	Pacayal	2.47	91	P	Pn	18 53 39.2	+1.6
PACA	Pacayal	2.47	91	P	Pn	18 53 39.1	+1.6
RANC	El Ranchito	2.50	92	eP	Pn	18 53 39.3	+1.2
RANC	El Ranchito	2.50	92	P	Pn	18 53 39.2	+1.1
VSM	San Miguel	2.52	92	eP	Pn	18 53 39.3	+0.9
BLLM	Bellamira	2.55	92	eP	Pn	18 53 39.7	+1.0
LCND	La Caada	2.90	94	P	Pn	18 53 44.2	+0.8
LCND	La Caada	2.90	94	P	Pn	18 53 44.2	+0.8
LCND	La Caada	2.90	94	P	Pn	18 53 44.0	+0.6
CNCH	Conchagua	2.96	95	P	Pn	18 53 44.8	+0.5
CNCH	Conchagua	2.96	95	P	Pn	18 53 45.1	+0.8
CNCH	Conchagua	2.96	95	P	Pn	18 53 44.9	+0.6
CCIG	Comitan	3.00	336	eP		18 53 46.8	
CCIG				IAML		18 54 40.4	
	comp=Z,249nm,0.7s						
CSGN	Cosiguina Volc	3.26	99	P	Pn	18 53 48.3	-0.2
POTN	Potosi Cosigui	3.31	99	P	Pn	18 53 48.7	-0.3
POTN				S	Sn	18 54 30.1	+2.3
PETF	Flores	3.50	16	P	Pb	18 54 00.8	+1.2
PETF	Flores	3.50	16	P	Pn	18 53 51.9	+0.3
CHOHN	Orocuina	3.60	90	P	Pn	18 53 53.7	+0.5
CHOHN	Orocuina	3.60	90	P	Pn	18 53 53.4	+0.2
YUSH	Yuscaran	3.93	83	P	Pn	18 53 58.3	+0.6
YUSH	Yuscaran	3.93	83	P	Pn	18 53 58.1	+0.5
ILCN	San Idelfonso	4.16	103

TSI	Tuntungan	5.59 328	P	Pn	18 56 24.0	+3.9	
	1.4nm112nm,0.8s						
IPM	Ipoh	5.72 355		Pn	18 56 21.6	-0.4	
TPI	Tanjungpandan	6.29 104	P	Pn	18 56 28.6	-1.1	
	0.6nm22nm,0.7s						
SNSI	Sinabang, Aceh	6.36 305	P	Pn	18 56 33.7	+3.0	
KULM	Kulim	6.57 352		Pn	18 56 33.2	-0.4	
CGJI	Cibinong	6.74 142	P	Pn	18 56 36.1	+0.2	
	591nm54nm,1.1s						
MLSI	Meulaboh, Aceh	7.52 317	P	Pn	18 56 47.8	+1.2	
	0.3nm64nm,1.1s						
LEM	Lembang	8.20 133	Pn	Pn	18 56 56.9	+0.7	
	4.2nm,0.3s,baz=300,slow=20,SNR=16						
LEM			Lg	Lg	18 59 15.3		
	2.0nm,0.3s,baz=315,slow=18,SNR=2.1						
LEM			LR	LR	19 00 42.4		
	comp=Z,487nm,20.1s,baz=316,slow=42						
	44nm,1.0s						
BSI	Banda Aceh	9.16 317	P	Pn	18 57 10.5	+1.3	
KSM	Kuching	9.18 73	Pn	Pn	18 57 07.9	-1.5	
SRIT	Nakonsritamara	9.98 349	Pn	Pn	18 57 20.6	+0.2	
UBPT	Khong Chiam	16.89 13		Pn	18 58 53.9	+0.4	
MYLDM	Lahad Datu	18.11 69		Pn	18 59 08.2	-0.5	
MYLDM			IAmb	IAmb	18 59 44.8		
	comp=Z,25nm,1.2s						
KAPI	Kappang	18.56 102	LR	LR	19 07 42.3		
	comp=Z,94nm,20.7s,baz=282,slow=41						
TOLI2	Tolitoli	19.38 83	P	P	18 59 23.0	-0.1	
CMAR	Chiang Mai Arr	19.76 353	P	P	18 59 27.9	+0.7	
CMAR	Chiang Mai Arr	19.76 353	P	Pn	18 59 30.7	+2.0	
	comp=Z,0.2nm,0.3s,baz=171,slow=10,SNR=18						
CMAR			Lg	Lg	19 05 28.7		
	comp=Z,0.1nm,0.3s,baz=208,slow=25,SNR=1.7						
	comp=Z,2.4nm,1.0s						
QIZ	Qiongzhong	21.75 22	P	P	18 59 51.5	+2.8	
QIZ			S	Sn	19 03 57.0	-1.7	
QIZ			LR	LR			
	comp=N,160nm,9.4s						
QIZ			LR	LR			
	comp=E,310nm,8.8s						
QIZ			LR	LR			
	comp=Z,120nm,9.8s						
PALK	Pallekele	22.45 292	LR	LR	19 08 32.8		
	comp=Z,106nm,18.8s,baz=107,slow=37						
SLVN	Son La	22.57 6	P	P	18 59 57.5	-0.2	
SOEI	Soe	24.12 111	P	P	19 00 11.9	-1.4	
SOEI			IAmb	IAmb	19 00 33.6		
	comp=Z,12nm,1.0s						
SHL	Shillong	28.26 341	P	P	19 00 47.2	-3.4	
HMDM	Hanimaadhoo	29.41 286	P	P	19 01 00.2	-0.6	
ENH	Enshi	32.26 13	P	P	19 01 24.6	-1.1	
ENH			IAmb	IAmb	19 01 28.1		
	comp=Z,4.9nm,1.1s						
NWAO	Narrogin (SRO)	34.78 157	LR	LR	19 15 59.1		
	comp=Z,68nm,19.0s,baz=281,slow=36						
XAN	Xi'an	35.79 11	P	P	19 01 58.0	+1.6	
XAN			pmax	pmax			
	comp=Z,8.0nm,0.8s						
WRA	Warramunga Arr	37.06 122	P	P	19 02 08.3	+0.9	
	comp=Z,0.8nm,0.8s,baz=282,slow=8.0,SNR=2.1						
	comp=Z,0.8nm,0.8s						
ASAR	Alice Springs	38.46 128	P	P	19 02 17.6	-1.8	
	comp=Z,0.5nm,0.7s,baz=300,slow=8.2,SNR=9.8						
ASAR			PcP	PcP	19 04 33.4	+0.8	
	comp=Z,0.4nm,1.0s,baz=304,slow=3.5,SNR=1.8						
ASAR			LR	LR	19 17 40.3		
	comp=Z,34nm,21.8s,baz=3.0,slow=36						
	comp=Z,0.5nm,0.7s						
NIL	Nilore	43.76 325	P	P	19 03 03.3	+0.5	
JNU	Nakatsue	43.99 36	LR	LR	19 22 09.0		
	comp=Z,53nm,18.6s,baz=232,slow=37						
KSAR	Wonju Array Be	45.58 30	P	P	19 03 15.0	-2.2	
KSRS	Korea Array	45.61 30	P	P	19 03 19.4	+1.9	
	comp=Z,2.9nm,1.0s,baz=222,slow=8.1,SNR=9.4						
KSRS			LR	LR	19 23 58.1		
	comp=Z,28nm,18.2s,baz=205,slow=38						
	comp=Z,2.9nm,1.0s						
KS19	Wonju Array Si	45.62 30	P	P	19 03 16.1	-1.4	
KDJ	Kajisay	48.48 336	P	P	19 03 38.3	-1.7	
KDJ			IAmb	IAmb	19 04 12.1		
	comp=Z,3.9nm,0.8s						
STKA	Stephens Creek	48.51 133	P	P	19 03 38.4	-1.8	
	comp=Z,1.4nm,0.7s,baz=290,slow=11,SNR=3.0						
	comp=Z,1.4nm,0.7s						
DRK	Karamyk	48.85 329	P	P	19 03 43.0	-0.1	
DRK			IAmb	IAmb	19 03 46.9		
	comp=Z,5.7nm,0.4s						
SONM	Songino Array	49.08 4	P	P	19 03 45.9	+1.5	
	comp=Z,0.3nm,0.4s,baz=181,slow=10.0,SNR=3.9						
	comp=Z,0.3nm,0.4s						
ARSB	Arslanbob	49.68 332	P	P	19 03 50.5	+1.3	
ARSB			IAmb	IAmb	19 04 20.6		
	comp=Z,4.5nm,1.0s						
SIMJ	Simiganj	49.74 327	P	P	19 03 49.8	+0.1	
SIMJ			IAmb	IAmb	19 04 09.1		
	comp=Z,4.2nm,1.0s						
BTK	Batken	49.79 329	P	P	19 03 50.8	+0.8	
MKAR	Makanchi Array	50.76 343	P	P	19 03 56.4	-0.7	
	comp=Z,0.3nm,0.5s,baz=156,slow=8.2,SNR=4.1						
	comp=Z,0.3nm,0.5s						
BNX	BinXian	52.09 23	‖P	P	19 04 09.5	+2.4	
BNX			pmax	pmax			
	comp=Z,6.0nm,2.3s						
USRK	Ussuriysk Ar.	52.79 27	P	P	19 04 13.5	+1.2	
	comp=Z,2.0nm,0.7s,baz=242,slow=6.2,SNR=4.2						
USRK			LR	LR	19 28 27.1		
	comp=Z,75nm,18.5s,baz=212,slow=38						
	comp=Z,2.0nm,0.7s						
KLR	Kul'dur	56.64 23	LR	LR	19 29 57.6		
	comp=Z,115nm,18.2s,baz=262,slow=37						
BVAR	Borovoye Array	60.04 339	P	P	19 05 09.4	+5.5	
	comp=Z,0.4nm,0.6s,baz=156,slow=7.6,SNR=2.3						
BVAR			LR	LR	19 33 32.9		
	comp=Z,75nm,18.0s,baz=337,slow=38						
BRVK	Borovoye	60.10 339	P	P	19 05 02.6	-1.7	
BRVK			IAmb	IAmb	19 05 38.7		
	comp=Z,2.7nm,1.1s						
ABKAR	Abkulak array	61.75 330	P	P	19 05 14.4	-1.1	
ABKAR			IAmb	IAmb	19 05 38.5		
	comp=Z,2.9nm,1.0s						
YAK	Yakutsk	66.65 14	P	P	19 05 47.5	0.0	
YAK			IAmb	IAmb	19 06 01.2		
	comp=Z,3.6nm,0.6s						
MARD	Mardin	67.91 311	P	P	19 05 55.0	-1.1	
MARD			IAmb	IAmb	19 06 14.3		
	comp=Z,7.5nm,1.0s						
KIV	Kislovodsk	69.00 319	P	P	19 06 02.8	0.0	
KIV			IAmb	IAmb	19 06 47.0		
	comp=Z,6.1nm,1.0s						
MBAR	Mbarara	70.80 270	P	P	19 06 12.7	-1.8	
PETK	Petropavlovsk-	71.44 32	LR	LR	19 38 55.8		
	comp=Z,43nm,18.2s,baz=81,slow=37						
BRTR	Keskin Array B	73.97 312	P	P	19 06 32.7	-0.3	
	comp=Z,0.9nm,0.7s,baz=122,slow=7.3,SNR=5.4						
	comp=Z,0.9nm,0.7s						
SEY	Seymchan	74.37 22	LR	LR	19 43 16.9		
	comp=Z,117nm,19.0s,baz=330,slow=39						
HIZ	Hauiti	76.19 129	P	P	19 06 43.4	-2.2	
MSVF	Nonsavu	76.77 108	P	P	19 06 49.4	0.0	
URZ	Urewera	77.90 129	LR	LR	19 43 14.1		
	comp=Z,51nm,18.1s,baz=335,slow=37						
SYO	Syowa Base	79.06 199	‖ *e*P	P	19 07 03.0	+2.0	
SYO	Syowa Base	79.06 199	‖ *e*PcP	PcP	19 07 11.0	+1.6	
BURAR	Bucovina Array	81.73 318	P	P	19 07 16.4	+0.5	
GERES	GERESS Array B	89.51 319	LR	LR	19 53 13.2		
	comp=Z,50nm,18.7s,baz=8.0,slow=39						
TORD	Torodi Ar. Bea	99.88 283	LR	LR	19 51 13.1		
	comp=Z,44nm,19.0s,baz=141,slow=34						

NEIC 27 19:04:14.7±1.6, 37°.65N±0°.02×105°.63W±0°.01, h5km±1km, ML2.0/16, Error ellipse: s-maj=3.2km s-min=2.8km az=340.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.14	47		Pg	19 04 18.6	+0.9
SDCO				Sg	Sg	19 04 20.6	+0.9
SDCO				IAML		19 04 21.3	
	715nm,0.1s						
S22A	4UR Ranch, Cre	0.95	276		Pn	19 04 36.3	+1.3
T25A	Trinidad	1.10	117		Pg	19 04 35.3	-0.4
T25A				IAML		19 04 48.7	
	comp=N,32nm,0.2s						
T25A				IAML		19 04 49.0	
	comp=E,25nm,0.2s						
Q24A	Divide	1.37	16		Pb	19 04 41.1	+0.1
Q24A				IAML		19 04 59.5	
	comp=N,28nm,0.1s						
MVCO	Mesa Verde	2.32	260	Pn	Pn	19 04 52.7	-1.1
PV07	Paradox Valley	2.51	289	Pn	Pn	19 04 55.3	-1.1
PV13	Radium Mtn., P	2.57	282	Pn	Pn	19 04 56.5	-0.8
SRU	San Rafael Swe	4.11	292	Pn	Pn	19 05 17.6	-0.8

NIC 27 19:09:52.6, 36°.37N×30°.91E, h33km±30km, Ml2.6/8
ISK 27 19:09:52.5, 36°.16N×30°.86E, h29km, ML2.6/25
ISC 27 19:09:51.4±1.3, 36°.22N±0°.04×30°.88E±0°.03, h11km±11km, n34, σ0°81/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMT	Kemer-ANTALYA	0.46	326	Pg	Pn	19 10 03.5	-0.5
ANTB	Antalya	0.70	345	Pg	Pn	19 10 07.8	+0.5
ANTB				Sg	Sn	19 10 18.8	+0.7
MNVG	Manavgat-Antal	0.72	37	Pg	Pn	19 10 07.8	+0.3
MNVG				Sg	Sn	19 10 18.7	+0.2
DEMR	Demre-Antalya	0.79	272	Pg	Pb	19 10 07.8	+0.7
KORT	Korkueli	0.89	332	Pg	Pn	19 10 10.4	+0.4
KORT				Sg	Sn	19 10 22.2	-0.7
ELL	Elmali	0.94	304	Pg	Pb	19 10 10.7	+0.8
ELL				Sg	Sb	19 10 22.6	+0.2
ELL	Elmali	0.94	304	P	Pg	19 10 09.0	-0.6
ELL				AML	AML	19 10 26.8	
	0.4nm,0.1s						
ELL				AML	AML	19 10 27.8	
	0.7nm,0.2s						
AKAS	Kas	1.03	271	Pg	Pg	19 10 11.1	-0.2
AKAS				Sg	Sg	19 10 24.6	-0.1
KSL	Kastellorizon	1.05	267	P	Pg	19 10 11.5	-0.1
KSL				S	Sg	19 10 26.1	+0.8
KSL				AML	AML	19 10 26.8	
	0.4nm,0.6s						
KSL				AML	AML	19 10 27.0	
	0.3nm,0.5s						
GAZI	Gazipasa	1.16	89	Pn	Pb	19 10 13.5	-0.1
GAZI				Sn	Sb	19 10 28.8	+0.2
BCK	Bucak	1.26	350	Pn	Pn	19 10 15.5	+0.4
SEYD	Seydisehir-KON	1.42	33	Pn	Pb	19 10 17.9	0.0
CAME	Cameli-Denizli	1.46	300	Pn	Pn	19 10 17.9	+0.1
FETY	Fethiye	1.50	287	Pn	Pn	19 10 18.4	0.0
ISP	Isparta	1.63	350	Pn	Pb	19 10 20.8	-0.7
AKMS	Akamas	1.69	135	P	Pn	19 10 21.7	+0.8
AKMS				S	Sn	19 10 43.8	+1.4
AKMS				AML	AML	19 10 50.0	
	0.2nm,0.4s						
AKMS				AML	AML	19 10 52.5	
	0.2nm,0.9s						
ALFC	Alefka	1.76	127	S	Sn	19 10 43.6	-0.5
ALFC				AML	AML	19 10 44.6	
	0.2nm,0.2s						
ALFC				AML	AML	19 10 51.9	
	0.1nm,0.2s						
APMY	Acipayam-Deniz	1.78	315	Pn	Pn	19 10 22.9	+0.7
BASM	Basmaki-Afyon	1.82	339	Pn	Pn	19 10 23.3	+0.5
DALY	Dalyan (Mula)	1.89	289	Pn	Pn	19 10 23.8	+0.2
KONT	Konya--Tatoy	2.09	34	Pn	Pb	19 10 27.8	-1.6
TURN	Turunc	2.19	285	Pn	Pn	19 10 28.0	+0.2
ARG	Arkhangelos	2.22	271	Pn	Pn	19 10 27.9	-0.3
ARG	Arkhangelos	2.22	271	P	Pn	19 10 27.9	-0.3
ARG				S	Sn	19 10 52.9	-2.8
ARG				AML	AML	19 10 56.0	
	0.1nm,0.3s						
ARG				AML	AML	19 10 57.6	
	0.2nm,0.3s						
YER	Yerkesik	2.28	294	Pn	Pn	19 10 29.7	+0.7
LADK	Ladik-KONYA	2.31	31	Pn	Pn	19 10 30.3	+0.8
SHUT	Suhut-Afyon	2.35	354	Pn	Pn	19 10 30.9	+0.9
CSS	Mathiatis	2.36	121	P	Pn	19 10 30.2	+0.1
CSS				AML	AML	19 11 15.4	
	0.1nm,0.6s						
CSS				AML	AML	19 11 15.5	
	0.1nm,0.3s						
MVOU	Mavrovouni	2.54	117	P	Pn	19 10 32.1	-0.5
MVOU				S	Sn	19 11 03.3	-0.3
MVOU				AML	AML	19 11 04.7	
	0.1nm,0.5s						
MVOU				AML	AML	19 11 10.4	
	0.1nm,0.5s						
DAT	Datca	2.71	282	Pn	Pn	19 10 35.1	+0.1
MLSB	Milas	2.71	294	Pn	Pn	19 10 36.1	+1.1
KULA	Kula-Manisa	2.89	323	Pn	Pn	19 10 38.9	+1.4
ODEM	Odemis-Izmir	3.04	313	Pn	Pn	19 10 40.7	+1.2
KARP	Karpathos	3.09	259	P	Pn	19 10 40.0	-0.2
KARP				AML	AML	19 11 18.5	
	0.3nm,0.2s						
KARP				AML	AML	19 11 18.6	
	0.3nm,0.1s						

IDC 27 19:15:52.4±1.8, 6°.34N×77°.39W, h0km, mbtmp4.2/2, ML2.9/2, Error ellipse: s-maj=68.5km s-min=29.4km az=5.0
RSNC 27 19:16:00.5±0.0, 6°.N±1°.×7°.7W±°., h34km±6km, M3.1, ML2.9
ISC 27 19:15:54.3±1.2, 6°.04N±0°.02×76°.94W±0°.03, h19km±3km, n34, σ2°814/58, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	0.50	292	P	Pn	19 16 08.0	+1.6
SOLC				S	Sn	19 16 16.0	+1.5
CBOC	Ciudad Bolivar	0.94	100	P	Pn	19 16 13.9	+1.3
CBOC				S	Sn	19 16 25.8	+0.2
DBBC	Dabeiba	1.22	37	P	Pg	19 16 17.4	-0.5
PLMC	San Jos del P	1.30	150	P	Pg	19 16 19.6	+0.1
PLMC				S	Sg	19 16 34.7	-1.9
PTAC	Punta Ardita,	1.40	322	P	Pg	19 16 20.2	-1.2
PTAC				S	Sb	19 16 37.3	0.0
GUY2C	Guyana, Caldas	1.76	117	P	Pg	19 16 28.1	-0.3
GUY2C				S	Sg	19 16 49.8	-1.6
APAC	Apartado, Choc	1.89	11	P	Pb	19 16 28.3	+0.2
APAC				S	Sb	19 16 51.5	+0.2
MALC	Bahia Malaga	2.05	191	P	Pg	19 16 33.9	+0.2
NORC	Norcasia	2.11	103	P	Pg	19 16 32.9	-2.1
NORC				S	Sb	19 16 58.4	+0.5
YOTC	Yotoco, Valle	2.12	164	P	Pb	19 16 31.6	-0.7
YOTC				S	Sn	19 16 54.7	-0.1
PTBC	PUERTO BERRIO,	2.52	78	P	Pb	19 16 38.4	-0.6
PTBC				S	Sb	19 17 08.9	-0.7
ZARC	Zaragoza, Cauc	2.52	55	P	Pb	19 16 37.8	-1.2
ZARC				S	Sb	19 17 08.1	-1.6
ORTC	Ortega, Tolima	2.71	141	P	Pb	19 16 42.8	+0.7
ORTC				S	Sb	19 17 16.1	+1.1
LCBC	Los crdobas,	2.86	11	P	Pb	19 16 42.6	-2.1
LCBC				S	Sb	19 17 17.3	-2.1
ROSC	El Rosal	2.87	114	Pn	Pg	19 16 47.6	-1.8
	16nm,0.3s,baz=339,slow=8.6,SNR=5.8						
ROSC				Sn	Sg	19 17 27.7	+1.0
	27nm,0.3s,baz=287,slow=19,SNR=6.6						
	34nm,0.3s						
SPBC	San Pablo de B	2.88	97	P	Pb	19 16 44.1	-1.0
SPBC				S	Sb	19 17 19.0	-1.0
PRAC	Prado	3.08	138	P	Pb	19 16 48.6	0.0
PRAC				S	Sb	19 17 26.8	+0.9
BRJC	Barrancabermej	3.31	73	P	Pb	19 16 49.2	-3.2
POPC	Popayan, Colom	3.48	176	P	Pb	19 16 53.7	-1.8
POPC				S	Sn	19 17 32.0	+3.5
CHIC	Chingaza	3.49	113	P	Pb	19 16 55.0	-0.7
AZU	Azuero	3.74	298	P	Pn	19 16 53.1	+2.1
AZU				S	Sn	19 17 32.2	-2.3
VILC	Villavicencio,	3.76	120	P	Pb	19 17 00.3	+0.2
URMC	La Uribe, Meta	3.77	137	P	Pb	19 16 57.8	-2.5
URMC				S	Sb	19 17 42.7	-2.9
BARC	Barichara	3.78	81	P	Pb	19 16 57.1	-3.4
BARC				S	Sn	19 17 40.2	+4.4
RUSC	La Rusia	3.84	92	P	Pb	19 16 58.9	-2.8
RUSC				S	Sb	19 17 44.6	-3.5
BBAC	Balboa, Cauca	4.00	184	P	Pb	19 17 03.8	-0.5
BBAC				S	Sn	19 17 41.9	+0.6
GARC	Garzon, Huila	4.09	159	P	Pb	19 17 02.1	-3.7
GARC				S	Sb	19 17 49.9	-5.1
SJCC	San Jacinto, C	4.21	24	P	Pn	19 17 01.1	+3.5
SJCC				S	Sn	19 17 44.3	-2.0
BCIP	Isla Barro Col	4.23	317	P	Pn	19 16 58.5	+0.7
BCIP				S	Sn	19 17 46.5	-0.2
PAMC	Pamplona, Colo	4.41	73	P	Pn	19 17 05.6	+5.0
PAMC				S	Sn	19 17 56.1	+4.4
FLOC	Florencia	4.61	164	P	Pb	19 17 09.1	-5.5
SDV	Santo Domingo	6.87	65	Pn	Pn	19 17 38.7	+4.5
	3.5nm,0.3s,baz=251,slow=12,SNR=14						
SDV				Sn	Sn	19 18 54.1	+2.2
	2.6nm,0.3s,baz=319,slow=19,SNR=5.9						
	8.9nm,0.3s						
ASAR	Alice Springs	145.55	236	PKPbc	PKPab	19 35 32.7	+0.1
	0.2nm,0.5s,baz=121,slow=3.9,SNR=6.3						
WRA	Warramunga Arr	146.62	243	PKPbc	PKPdf	19 35 34.6	+0.5
	0.4nm,0.8s,baz=104,slow=2.3,SNR=1.2						

NEIC 27 19:20:51.4±1.5, 7°.5N±0°.1×126°.5E±0°.1, h102km±10km, mb4.0/8, Error ellipse: s-maj=18.8km s-min=12.7km az=211.0
IDC 27 19:20:54.2±3.8, 7°.59N×126°.46E, h129km±31km, mb3.3/8, mbtmp3.7/8, MS3.8/1, Error ellipse: s-maj=85.8km s-min=13.5km az=66.0
ISC 27 19:20:50.3±0.8, 7°.65N±0°.08×126°.7E±0°.1, h100km, n23, σ1°36/25, mb3.8/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.23	242		Pn	19 21 12.1	-1.3
DAV	Davao City (W)	1.23	242	P	Pn	19 21 18.0	+4.7
	630nm,0.4s,baz=67,slow=0.7,SNR=15						
DAV				S	Sn	19 21 34.6	+3.8
	243nm,0.5s,baz=54,slow=19,SNR=12						
TNTI	Ternate	6.86	174	Pn	Pn	19 22 27.1	-1.3
TGY	Tagaytay City	8.54	319	S	Sn	19 24 26.4	+0.4
	164nm,0.4s,baz=157,slow=22,SNR=4.8						
TOLI2	Tolitoli	8.76	222	Pn	Pn	19 22 50.9	-3.3
MTN	Manton Dam	20.83	168	P	P	19 25 23.2	-0.8
MTN				IAmb	IAmb	19 25 28.9	
	comp=Z,10nm,1.1s						
KNRA	Kununurra	23.27	175	P	P	19 25 48.8	-0.5
KNRA				IAmb	IAmb	19 26 00.5	
	comp=Z,4.9nm,0.8s						
FITZ	Fitzroy Crossi	25.60	182	P	P	19 26 10.3	-0.1
WB0	Warramunga Arr	28.28	165	P	P	19 26 33.9	-0.6
WB0				IAmb	IAmb	19 26 51.6	
	comp=Z,4.8nm,1.2s						
WRA	Warramunga Arr	28.43	165	P	P	19 26 35.5	-0.3
	comp=Z,0.5nm,0.7s,baz=344,slow=11,SNR=5.7						
WRA				PcP	PcP	19 29 47.3	+1.5
	comp=Z,0.2nm,0.5s,baz=337,slow=2.7,SNR=1.6						
	comp=Z,0.5nm,0.7s						
WB2	Warramunga Arr	28.44	165	P	P	19 26 35.0	-0.8
WB2				IAmb	IAmb	19 27 15.2	
	comp=Z,7.0nm,1.5s						
AS31	Alice Springs	31.91	167	P	P	19 27 08.0	+1.5
ASAR	Alice Springs	31.91	167	P	P	19 27 07.5	+1.0
	comp=Z,0.4nm,0.6s,baz=352,slow=7.3,SNR=6.5						
ASAR				PcP	PcP	19 29 56.5	+1.6
	comp=Z,0.6nm,0.5s,baz=351,slow=2.4,SNR=14						
	comp=Z,0.4nm,0.6s						
STKA	Stephens Creek	41.81	161	P	P	19 28 30.4	+0.2
STKA	Stephens Creek	41.81	161	P	P	19 28 30.8	+0.5
	comp=Z,1.9nm,0.5s,baz=346,slow=7.7,SNR=6.9						
	comp=Z,1.9nm,0.5s						
SONM	Songino Array	43.60	340	P	P	19 28 44.9	+0.2
	comp=Z,0.4nm,0.6s,baz=144,slow=6.8,SNR=4.3						
	comp=Z,0.4nm,0.6s						
MK31	Makanchi Array	54.36	324	P	P	19 30 06.3	-0.5
MKAR	Makanchi Array	54.36	324	P	P	19 30 06.9	+0.1
MKAR	Makanchi Array	54.36	324	P	P	19 30 07.4	+0.7
	comp=Z,0.8nm,0.5s,baz=120,slow=7.2,SNR=18						
MKAR				LR	LR	19 55 17.9	
	comp=Z,81nm,18.7s,baz=330,slow=38						
	comp=Z,0.8nm,0.5s						
ZALV	Zalesovo Beam	57.11	332	P	P	19 30 25.7	-0.6
	comp=Z,0.6nm,0.7s,baz=119,slow=5.2,SNR=3.8						
	comp=Z,0.6nm,0.7s						
KURBB	Kurchatov Arra	58.45	326	P	P	19 30 35.7	0.0
	comp=Z,0.4nm,0.5s,baz=124,slow=6.2,SNR=6.7						
	comp=Z,0.4nm,0.5s						
KKAR	Karatay Array	60.38	316	P	P	19 30 48.9	-0.3
BVAR	Borovoye Array	64.05	326	P	P	19 31 13.2	-0.3
	comp=Z,0.3nm,0.4s,baz=102,slow=6.2,SNR=2.6						
	comp=Z,0.3nm,0.4s						

DJA 27 19:44:13.0±0.2, 1°S±2°×10°1E±°, h10km, M4.2/13, mb4.1/1, MLv4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.44	312	P	Pn	19 44 37.3	-1.8
PPI				S	Sn	19 44 56.9	-1.2
BKNI	Bangkinang	1.79	346	P	Pn	19 44 43.5	-0.6
BKNI				S	Sb	19 45 07.9	-0.7
PPSI	Pulau Pagai	1.96	228	P	Pn	19 44 47.1	+0.7
SISI	Saibi	2.37	272	P	Pn	19 44 51.3	-0.7
KSI	Kapahiang	2.48	153	P	Pn	19 44 54.6	+1.1
KSI				S	Sb	19 45 28.2	-0.2
MNSI	Mandailing Nat	2.90	320	P	Pn	19 45 00.4	+1.1
MNAI	Manna	3.27	153	P	Pn	19 45 05.1	+0.7
PBSI	Pulau Batu	3.46	293	P	Pn	19 45 09.0	+2.0
PMBI	Palembang	3.63	114	S	Sb	19 46 00.9	-0.5
TPRI	Tanjung Pinang	3.85	53	P	Pn	19 45 12.9	+0.5
MDSI	Maura Dua	4.07	138	P	Pn	19 45 15.4	0.0
GSI	Gunungsitoli	4.74	305	P	Pn	19 45 25.8	+1.2
TPI	Tanjungpandan	6.33	102	P	Pn	19 45 44.0	-2.4

IDC 27 19:49:35.8±999.0, 53°.76N×2°.22E, h0km, Error ellipse: s-maj=504.3km s-min=168.0km az=108.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	8.71	120	I	I	20 41 50.0	
	baz=308,slow=317,SNR=1.5						
I43RU	DUBNA INFRASON	20.04	67	I	I	21 52 30.0	
	baz=275,slow=308,SNR=1.7						
I31KZ	AKTYUBINSK INF	33.72	72	I	I	23 14 20.5	
	baz=300,slow=325,SNR=1.7						

NEIC 27 20:17:05.3±1.3, 64°.25N±0°.02×140°.75W±0°.07, h10km±2km, ML3.4/120, Error ellipse: s-maj=5.8km s-min=3.0km az=63.0
ANF 27 20:17:05.9±0.3, 64°.25N×140°.75W, h14km±2km, ML3.6/71, ML3.6/72, Error ellipse: s-maj=1.0km s-min=1.0km az=172.0
*PGC 27 20:17:05.5, 64°.26N×140°.75W, h5km, ML3.4/41,

L27K			S	Sg	20 17 46.3	+0.4
	baz=22					
I27K	**Kandik River**	**1.41 345**	P	**Pn**	**20 17 30.9**	**-0.4**
I27K			S	**Sg**	**20 17 50.2**	**+0.5**
I27K	**Kandik River**	**1.41 345**	P	**Pn**	**20 17 30.9**	**-0.4**
	baz=164					
I27K			S	**Sb**	**20 17 50.1**	**+0.1**
	baz=164					
I27K			S	**Sb**	**20 17 50.1**	**+0.1**
	baz=164					
SCRK	**Sand Creek**	**1.45 260**		**Pn**	**20 17 31.4**	**-0.5**
SCRK			IAML		20 17 51.9	
	comp=E,589nm,0.4s					
SCRK	**Sand Creek**	**1.45 260**	P	**Pn**	**20 17 31.4**	**-0.5**
	baz=78,SNR=873					
SCRK			S	**Sb**	**20 17 50.7**	**-0.6**
	baz=78					
K29M	**Barlow Dome**	**1.47 105**		**Pn**	**20 17 31.8**	**-0.4**
K29M			IAML		20 17 55.6	
	comp=E,343nm,0.2s					
K29M	**Barlow Dome**	**1.47 105**	P	**Pn**	**20 17 31.8**	**-0.4**
K29M			S	**Sn**	**20 17 51.5**	**-0.7**
K29M	**Barlow Dome**	**1.47 105**	P	**Pn**	**20 17 31.9**	**-0.4**
	baz=287,SNR=1000					
K29M			S	**Sb**	**20 17 52.0**	**+0.1**
	baz=287					
I26K	**Coal Creek Min**	**1.48 317**	P	**Pn**	**20 17 32.0**	**-0.2**
I26K			S	**Sn**	**20 17 50.5**	**-1.6**
I26K	**Coal Creek Min**	**1.48 317**	P	**Pn**	**20 17 31.9**	**-0.4**
	baz=135					
I26K			S	**Sb**	**20 17 51.7**	**-0.3**
	baz=135					
I26K			S	**Sb**	**20 17 51.7**	**-0.3**
	baz=135					
I29M	**Ogilvie Camp,**	**1.52 42**		**Pn**	**20 17 32.9**	**0.0**
I29M	**Ogilvie Camp,**	**1.52 42**	Pn	**Pn**	**20 17 33.1**	**+0.3**
I29M			Sn	**Sb**	**20 17 53.6**	**+0.3**
I29M	**Ogilvie Camp,**	**1.52 42**	Pb	**Pb**	**20 17 33.3**	**-0.2**
	baz=224,SNR=75					
I29M			Sb	**Sg**	**20 17 54.6**	**+1.2**
	baz=224					
DOT	**Dot Lake**	**1.59 249**		**Pn**	**20 17 33.2**	**-0.5**
DOT	**Dot Lake**	**1.59 249**	Pn	**Pn**	**20 17 33.4**	**-0.3**
DOT			Sn	**Sb**	**20 17 54.4**	**-0.7**
L29M	**L29M**	**1.63 133**	Pn	**Pn**	**20 17 34.2**	**-0.1**
L29M	**L29M**	**1.63 133**	Pn	**Pn**	**20 17 34.3**	**-0.1**
L29M			Sn	**Sn**	**20 17 54.5**	**-1.5**
L29M	**L29M**	**1.63 133**	P	**Pn**	**20 17 34.3**	**-0.1**
	baz=316					
L29M			Sb	**Sg**	**20 17 57.2**	**+0.2**
	baz=316					
L26K	**Log Cabin Wild**	**1.69 225**		**Pn**	**20 17 34.7**	**-0.5**
L26K	**Log Cabin Wild**	**1.69 225**	Pn	**Pn**	**20 17 34.6**	**-0.5**
L26K			Sn	**Sb**	**20 17 57.2**	**-1.0**
L26K	**Log Cabin Wild**	**1.69 225**	P	**Pn**	**20 17 35.0**	**-0.2**
	baz=42,SNR=77					
L26K			S	**Sb**	**20 17 57.4**	**-0.9**
	baz=42					
L26K			S	**Sb**	**20 17 57.4**	**-0.9**
	baz=42					
MENT	**Mentasta**	**1.88 227**		**Pn**	**20 17 37.2**	**-0.5**
RIDG	**Independent Ri**	**1.88 256**		**Pn**	**20 17 38.0**	**+0.2**
RIDG			IAML		20 18 06.3	
	comp=N,436nm,0.4s					
RIDG	**Independent Ri**	**1.88 256**	P	**Pn**	**20 17 37.3**	**-0.5**
	baz=72					
RIDG			Sb	**Sb**	**20 18 04.1**	**+0.5**
	baz=72					
J30M	**Hart River**	**1.94 78**		**Pn**	**20 17 39.0**	**+0.4**
J30M			IAML		20 18 10.2	
	comp=E,231nm,0.4s					
J30M			IAML		20 18 10.7	
	comp=N,318nm,0.4s					
J30M	**Hart River**	**1.94 78**	Pn	**Pn**	**20 17 39.1**	**+0.4**
J30M			Sn	**Sn**	**20 18 03.3**	**-0.3**
J30M	**Hart River**	**1.94 78**	P	**Pn**	**20 17 39.1**	**+0.5**
	baz=262					
J30M			Sb	**Sb**	**20 18 06.0**	**+0.6**
	baz=262					
M27K	**Edge Creek, AK**	**1.97 196**		**Pn**	**20 17 38.7**	**-0.3**
M27K			IAML		20 18 12.1	
	comp=E,258nm,0.4s					
M27K	**Edge Creek, AK**	**1.97 196**	Pn	**Pn**	**20 17 38.9**	**-0.2**
M27K			Sg	**Sb**	**20 18 06.6**	**+0.3**
M27K	**Edge Creek, AK**	**1.97 196**	P	**Pn**	**20 17 38.8**	**-0.3**
	baz=14					
M27K			Sb	**Sg**	**20 18 07.2**	**-0.5**
	baz=14					
M27K			Sb	**Sg**	**20 18 07.2**	**-0.5**
	baz=14					
H27K	**Steamboat Moun**	**2.02 351**	Pn	**Pn**	**20 17 39.2**	**-0.4**
H27K			Sg	**Sb**	**20 18 07.9**	**+0.4**
H27K	**Steamboat Moun**	**2.02 351**	P	**Pn**	**20 17 39.2**	**-0.4**
	baz=170					
H27K			Sb	**Sb**	**20 18 08.2**	**+0.8**
	baz=170					
J25K	**Salcha River,**	**2.04 282**		**Pn**	**20 17 39.5**	**-0.5**
J25K			IAML		20 18 10.0	
	comp=N,240nm,0.2s					
J25K			IAML		20 18 10.1	
	comp=E,185nm,0.3s					
J25K	**Salcha River,**	**2.04 282**	Pn	**Pn**	**20 17 39.5**	**-0.5**
J25K			Sg	**Sb**	**20 18 08.5**	**+0.3**
J25K	**Salcha River,**	**2.04 282**	P	**Pn**	**20 17 39.5**	**-0.5**
	baz=98					
J25K			Sb	**Sb**	**20 18 08.9**	**+0.6**
	baz=98					
J25K			Sb	**Sb**	**20 18 08.9**	**+0.6**
	baz=98					
M29M	**Somme Creek**	**2.08 150**		**Pn**	**20 17 40.9**	**+0.2**
M29M			IAML		20 18 12.2	
	comp=N,252nm,0.6s					
M29M			IAML		20 18 12.7	
	comp=E,350nm,0.5s					
M29M	**Somme Creek**	**2.08 150**	Pn	**Pn**	**20 17 40.9**	**+0.2**
M29M			Sg	**Sb**	**20 18 09.3**	**-0.2**
M29M	**Somme Creek**	**2.08 150**	P	**Pn**	**20 17 40.8**	**+0.2**
	baz=331					
M29M			Sb	**Sb**	**20 18 10.6**	**+1.1**
	baz=331					
I30M	**Mount Dempster**	**2.11 61**		**Pn**	**20 17 41.2**	**+0.2**
I30M			IAML		20 18 12.5	
	comp=E,340nm,0.4s					
I30M	**Mount Dempster**	**2.11 61**	Pn	**Pn**	**20 17 38.0**	**-3.0**
I30M			Pg	**Pn**	**20 17 41.4**	**+0.4**
I30M			Sg	**Sb**	**20 18 09.4**	**-0.9**
I30M	**Mount Dempster**	**2.11 61**	P	**Pn**	**20 17 41.3**	**+0.4**
	baz=244					
I30M			Sb	**Sb**	**20 18 11.3**	**+1.1**
	baz=244					
M26K	**Nabesna, AK**	**2.12 210**		**Pn**	**20 17 41.2**	**+0.1**
M26K			IAML		20 18 14.1	
	comp=E,185nm,0.3s					
M26K			IAML		20 18 14.5	
	comp=N,335nm,0.3s					
M26K	**Nabesna, AK**	**2.12 210**	Pn	**Pn**	**20 17 41.3**	**+0.3**
M26K			Sg	**Sb**	**20 18 10.9**	**+0.5**
M26K	**Nabesna, AK**	**2.12 210**	P	**Pn**	**20 17 41.0**	**0.0**
	baz=28,SNR=222					
M26K			Sb	**Sb**	**20 18 11.0**	**+0.6**
	baz=28					
M26K			Sb	**Sb**	**20 18 11.0**	**+0.6**
	baz=28					
H29M	**Whitestone**	**2.21 26**	Pn	**Pn**	**20 17 41.7**	**-0.6**
H29M			Sg	**Sb**	**20 18 13.7**	**+0.6**
H29M	**Whitestone**	**2.21 26**	P	**Pn**	**20 17 41.8**	**-0.5**
	baz=208					
H29M			Sb	**Sb**	**20 18 14.1**	**+1.1**
	baz=208					
MAYO	**Mayo, Yukon**	**2.24 105**		**Pb**	**20 17 45.8**	**+0.1**
MAYO	**Mayo, Yukon**	**2.24 105**	Pg	**Pb**	**20 17 46.4**	**+0.6**
MAYO			Sg	**Sb**	**20 18 15.2**	**+1.4**
MAYO	**Mayo, Yukon**	**2.24 105**	Pb	**Pb**	**20 17 46.3**	**+0.6**
	baz=289					
MAYO			Sb	**Sb**	**20 18 15.4**	**+1.6**
	baz=289					
K24K	**Donnelly Dome**	**2.26 261**	P	**Pn**	**20 17 42.8**	**-0.2**
	baz=76					
K24K			Sb	**Sb**	**20 18 15.7**	**+1.1**
	baz=76					
K24K			Sb	**Sb**	**20 18 15.7**	**+1.1**
	baz=76					
PRP	**Porcupine Dome**	**2.41 304**		**Pb**	**20 17 47.6**	**-1.0**
PRP			IAML		20 18 20.7	
	comp=E,226nm,0.4s					
PRP			IAML		20 18 22.9	
	comp=N,189nm,0.3s					
PRP	**Porcupine Dome**	**2.41 304**	P	**Pn**	**20 17 44.4**	**-0.7**
	baz=120					
PRP			Sb	**Sb**	**20 18 19.3**	**+0.5**
	baz=120					
M30M	**Minto, Yukon**	**2.44 132**		**Pn**	**20 17 44.8**	**-0.7**
M30M			IAML		20 18 28.7	
	comp=N,220nm,0.8s					
M30M	**Minto, Yukon**	**2.44 132**	Pn	**Pn**	**20 17 45.1**	**-0.4**
M30M			Pg	**Pb**	**20 17 49.9**	**+0.7**
M30M			Sn	**Sn**	**20 18 14.7**	**-1.3**
M30M			Sg	**Sb**	**20 18 21.5**	**+1.8**
M30M	**Minto, Yukon**	**2.44 132**	P	**Pn**	**20 17 45.0**	**-0.5**
	baz=315,SNR=187					
M30M			Sb	**Sb**	**20 18 21.2**	**+1.4**
	baz=315					
PAX	**Paxson**	**2.48 241**		**Pn**	**20 17 46.0**	**+0.1**
PAX	**Paxson**	**2.48 241**	Pn	**Pn**	**20 17 46.1**	**+0.1**
PAX			Sn	**Sn**	**20 18 15.5**	**-1.3**
PAX			Sg	**Sb**	**20 18 21.1**	**+0.4**
PAX	**Paxson**	**2.48 241**	P	**Pn**	**20 17 46.1**	**+0.1**
	baz=57,SNR=12					
PAX			Sb	**Sb**	**20 18 21.4**	**+0.7**
	baz=57					
G27K	**Doyon Strip**	**2.60 352**	Pn	**Pn**	**20 17 49.2**	**+1.6**
G27K	**Doyon Strip**	**2.60 352**	P	**Pn**	**20 17 47.6**	**+0.1**
	baz=171					
G27K			Sb	**Sb**	**20 18 24.9**	**+0.7**
	baz=171					
HDA	**Harding Lake**	**2.71 276**		**Pn**	**20 17 49.8**	**+0.7**
HDA			IAML		20 18 39.4	
	comp=E,158nm,0.6s					
HDA	**Harding Lake**	**2.71 276**	P	**Pn**	**20 17 49.1**	**0.0**
	baz=91					
HDA			Sb	**Sb**	**20 18 28.5**	**+1.2**
	baz=91					
IL31		**2.71 284**		**Pn**	**20 17 48.6**	**-0.5**
ILAR	**Eielson Array**	**2.71 284**		**Pn**	**20 17 49.9**	**+0.8**
HARP	**HAARP**	**2.73 229**	P	**Pn**	**20 17 50.2**	**+0.8**
	baz=45					
HARP			Sb	**Sb**	**20 18 29.8**	**+2.0**
	baz=45					
HARP			Sb	**Sb**	**20 18 29.8**	**+2.0**
	baz=45					
G29M	**Pine Creek**	**2.90 22**		**Pn**	**20 17 50.9**	**-0.8**
G29M			IAML		20 18 43.4	
	comp=E,166nm,0.7s					
G29M	**Pine Creek**	**2.90 22**	Pn	**Pn**	**20 17 51.1**	**-0.6**
G29M			Sn	**Sn**	**20 18 26.1**	**-1.0**
G29M			Sg	**Sb**	**20 18 33.8**	**+1.0**
G29M	**Pine Creek**	**2.90 22**	P	**Pn**	**20 17 51.1**	**-0.6**
	baz=204,SNR=47					
G29M			Sb	**Sb**	**20 18 34.1**	**+1.2**
	baz=204					
H25L	**Birch Creek**	**2.94 316**	P	**Pn**	**20 17 51.8**	**-0.4**
	baz=131					
H25L			Sb	**Sb**	**20 18 36.0**	**+2.0**
	baz=131					
FYU	**Fort Yukon**	**2.99 323**		**Pn**	**20 17 54.2**	**+1.3**
FYU			IAML		20 18 42.0	
	comp=N,86nm,0.8s					
FYU			IAML		20 18 43.8	
	comp=E,83nm,0.8s					
G26K	**Porcupine Rive**	**2.99 336**	Pg	**Pb**	**20 18 00.5**	**+2.1**
G26K			Sg	**Sb**	**20 18 38.0**	**+2.6**
G26K	**Porcupine Rive**	**2.99 336**	Pg	**Pg**	**20 18 02.0**	**+0.3**
	baz=154					
G26K			Sb	**Sb**	**20 18 37.1**	**+1.7**
	baz=154					
BRWY	**Burwash Landin**	**3.00 164**	Pn	**Pn**	**20 17 54.0**	**+0.9**
BRWY			Sg	**Sb**	**20 18 38.1**	**+2.4**
POKR	**Poker Plat Res**	**3.01 290**	IAML		20 18 46.2	
	comp=N,103nm,0.3s					
POKR			IAML		20 18 46.5	
	comp=E,118nm,0.7s					
POKR	**Poker Plat Res**	**3.01 290**	P	**Pn**	**20 17 53.7**	**+0.5**
	baz=104,SNR=8.6					
POKR			Sb	**Sb**	**20 18 37.5**	**+1.6**
	baz=104					
POKR			Sb	**Sb**	**20 18 37.5**	**+1.6**
	baz=104					
YUK8	**Steele Glacier**	**3.01 171**	Pn	**Pn**	**20 17 54.1**	**+0.6**
YUK8			Sg	**Sg**	**20 18 38.9**	**-2.3**
YUK8	**Steele Glacier**	**3.01 171**	P	**Pn**	**20 17 53.7**	**+0.2**
	baz=352,SNR=72					
YUK8			Sb	**Sb**	**20 18 38.1**	**+1.8**
	baz=352					
YUK4	**Talbot Arm**	**3.07 161**	Pn	**Pn**	**20 17 53.7**	**-0.6**
YUK4			Sg	**Sb**	**20 18 39.1**	**+1.1**
YUK4	**Talbot Arm**	**3.07 161**	P	**Pn**	**20 17 53.6**	**-0.7**
	baz=341,SNR=246					
YUK4			Sb	**Sb**	**20 18 37.8**	**-0.2**
	baz=341					
CCB	**Clear Creek Bu**	**3.09 281**		**Pn**	**20 17 53.3**	**-1.0**
CCB			IAML		20 18 45.2	
	comp=N,78nm,0.5s					
H31M	**Peel River**	**3.13 57**	Pn	**Pn**	**20 17 54.4**	**-0.5**
H31M			IAML		20 18 53.2	
	comp=N,119nm,0.7s					
H31M	**Peel River**	**3.13 57**	Pn	**Pn**	**20 17 54.5**	**-0.3**
H31M			Sg	**Sb**	**20 18 40.4**	**+0.9**
H31M	**Peel River**	**3.13 57**	P	**Pn**	**20 17 54.6**	**-0.3**
	baz=243,SNR=18					
H31M			Sb	**Sb**	**20 18 40.8**	**+1.4**
	baz=243					
COLA	**College**	**3.13 285**	P	**Pn**	**20 17 55.2**	**+0.3**
	baz=98					
COLA			Sb	**Sb**	**20 18 41.5**	**+2.0**
	baz=98					
GLB	**Gilahina Butte**	**3.15 208**		**Pn**	**20 17 55.8**	**+0.6**
N25K	**Chitina, Valde**	**3.19 215**	Pn	**Pn**	**20 17 56.7**	**+1.0**
N25K			Sg	**Sg**	**20 18 44.6**	**-2.3**
N25K	**Chitina, Valde**	**3.19 215**	P	**Pn**	**20 17 55.7**	**0.0**
	baz=32					
N25K			Sb	**Sb**	**20 18 43.1**	**+1.9**
	baz=32					
WRH	**Wood River Hil**	**3.21 277**		**Pn**	**20 17 55.1**	**-0.7**
WRH			IAML		20 18 46.1	
	comp=E,93nm,0.5s					
N30M	**Aishikik Lake**	**3.26 148**	IAML		20 18 49.3	
	comp=E,111nm,0.5s					
N30M	**Aishikik Lake**	**3.26 148**	Pn	**Pn**	**20 17 57.2**	**+0.4**
N30M			Sn	**Sn**	**20 18 35.0**	**-1.2**
N30M			Sg	**Sb**	**20 18 46.5**	**+3.1**
N30M	**Aishikik Lake**	**3.26 148**	P	**Pn**	**20 17 57.0**	**+0.2**
	baz=331					
N30M			Sb	**Sb**	**20 18 46.4**	**+3.1**
	baz=331					
M24K	**Tolsona, Glenn**	**3.27 231**	IAML		20 18 52.6	
	comp=E,123nm,1.1s					
M24K	**Tolsona, Glenn**	**3.27 231**	P	**Pn**	**20 17 57.4**	**+0.5**
	baz=46					
M24K			Sb	**Sb**	**20 18 46.3**	**+2.7**
	baz=46					
VRDI	**Verde Repeater**	**3.28 204**		**Pn**	**20 17 56.5**	**-0.7**
BALM	**Baldy**	**3.31 194**	Pn	**Pn**	**20 17 58.2**	**+0.7**
BALM			Sg	**Sg**	**20 18 48.1**	**-2.7**
G30M	**tAoh Zraii Nji**	**3.32 32**	IAML		20 18 49.8	
	comp=N,57nm,0.4s					
G30M			IAML		20 18 51.8	
	comp=E,109nm,0.7s					
G30M	**tAoh Zraii Nji**	**3.32 32**	Pn	**Pn**	**20 17 56.8**	**-0.8**
G30M			Sn	**Sn**	**20 18 36.3**	**-1.2**
G30M			Sg	**Sb**	**20 18 45.3**	**+0.4**
G30M	**tAoh Zraii Nji**	**3.32 32**	P	**Pn**	**20 17 56.7**	**-0.8**
	baz=216					
G30M			S	**Sn**	**20 18 36.5**	**-1.0**
	baz=216					
G25K	**Bearman Lake**	**3.37 321**	Sg	**Sb**	**20 18 49.2**	**+2.9**
G25K	**Bearman Lake**	**3.37 321**	P	**Pn**	**20 17 58.7**	**+0.5**
	baz=136					
G25K			Sb	**Sb**	**20 18 48.4**	**+2.1**
	baz=136					
F28M	**Old Crow**	**3.40 6**	Pg	**Pb**	**20 18 07.8**	**+2.4**
F28M	**Old Crow**	**3.40 6**	Pg	**Pg**	**20 18 08.9**	**-0.6**
	baz=186					
F28M			Sb	**Sb**	**20 18 49.1**	**+2.0**
	baz=186					
YUK5	**Granite Creek**	**3.40 156**	Pn	**Pn**	**20 17 59.1**	**+0.4**
YUK5			Sg	**Sb**	**20 18 50.0**	**+2.6**
H24K	**Noodor Dome**	**3.42 301**	IAML		20 18 54.8	
	comp=N,105nm,0.7s					
H24K			IAML		20 18 55.0	
	comp=E,72nm,0.6s					
H24K	**Noodor Dome**	**3.42 301**	P	**Pn**	**20 17 58.8**	**-0.1**
	baz=115					
H24K			Sb	**Sb**	**20 18 49.5**	**+1.7**
	baz=115					
H24K			Sb	**Sb**	**20 18 49.5**	**+1.7**
	baz=115					
KIAG	**Kiagna River**	**3.42 193**	Pn	**Pn**	**20 18 00.3**	**+1.2**
KIAG			Sg	**Sg**	**20 18 52.2**	**-2.2**
YUK6	**Outpost Mounta**	**3.50 161**	Pn	**Pn**	**20 18 00.9**	**+0.7**
YUK6			Sg	**Sg**	**20 18 54.7**	**-2.1**
YUK6	**Outpost Mounta**	**3.50 161**	P	**Pn**	**20 18 00.7**	**+0.5**
	baz=343,SNR=150					
YUK6			Sb	**Sg**	**20 18 54.0**	**-2.8**
	baz=343					
O28M	**Mount Upton**	**3.50 176**	Sg	**Sb**	**20 18 53.7**	**+3.3**
O28M	**Mount Upton**	**3.50 176**	P	**Pn**	**20 18 01.3**	**+1.0**
	baz=356					
O28M			Sb	**Sb**	**20 18 53.2**	**+2.7**
	baz=356					
M31M	**Drury Creek, Y**	**3.53 123**	Pn	**Pn**	**20 17 59.8**	**-0.6**
M31M			Pg	**Pb**	**20 18 09.9**	**+2.1**
M31M			Sg	**Sg**	**20 18 54.9**	**-3.0**
M31M	**Drury Creek, Y**	**3.53 123**	P	**Pn**	**20 18 01.1**	**+0.7**
	baz=308					
M31M			Sb	**Sg**	**20 18 54.9**	**-3.0**
	baz=308					
N31M	**Braeburn, Yuko**	**3.59 138**	IAML		20 19 05.0	
	comp=E,94nm,0.5s					
N31M			IAML		20 19 12.3	
	comp=N,78nm,1.2s					
N31M	**Braeburn, Yuko**	**3.59 138**	Pg	**Pb**	**20 18 11.1**	**+2.5**
N31M			Sg	**Sg**	**20 18 57.0**	**-2.6**
N31M	**Braeburn, Yuko**	**3.59 138**	Pb	**Pb**	**20 18 09.7**	**+1.1**
	baz=323					
N31M			Sb	**Sb**	**20 18 55.8**	**+3.2**
	baz=323					
NEA2	**Nenana**	**3.63 279**	IAML		20 19 07.9	
	comp=N,63nm,0.9s					
NEA2			IAML		20 19 13.0	
	comp=E,55nm,0.5s					
NEA2	**Nenana**	**3.63 279**	Pg	**Pg**	**20 18 13.4**	**-0.6**
	baz=92					
NEA2			Sb	**Sb**	**20 18 56.0**	**+2.2**
	baz=92					
KLU	**Klutina**	**3.65 223**	IAML		20 19 00.9	
	comp=N,44nm,0.7s					
KLU	**Klutina**	**3.65 223**	Sb	**Sb**	**20 18 57.1**	**+2.7**
	baz=38					
MCK	**McKinley**	**3.65 265**		**Pn**	**20 18 02.5**	**+0.4**
MCK	**McKinley**	**3.65 265**	P	**Pn**	**20 18 02.3**	**+0.3**
	baz=78,SNR=6.1					
MCK			Sb	**Sb**	**20 18 56.6**	**+2.2**
	baz=78					
RND	**Reindeer**	**3.69 260**		**Pn**	**20 18 03.3**	**+0.6**
RND			IAML		20 19 07.5	
	comp=N,46nm,0.6s					
RND			IAML		20 19 13.2	
	comp=E,44nm,1.0s					
F26K	**Sheenjek River**	**3.73 340**	Pn	**Pn**	**20 18 03.5**	**+0.4**
F26K	**Sheenjek River**	**3.73 340**	Sb	**Sb**	**20 18 57.6**	**+1.0**
	baz=157					
G24K	**Hadweenzic Riv**	**3.73 314**	Pb	**Pb**	**20 18 11.8**	**+0.7**
	baz=128					
G24K			Sb	**Sb**	**20 18 58.4**	**+1.6**
	baz=128					
BMRM	**Bremner River**	**3.75 210**	P	**Pn**	**20 18 04.6**	**+1.2**
	baz=27					
HYT	**Haines Junctio**	**3.75 155**		**Pn**	**20 18 03.5**	**0.0**
HYT			IAML		20 19 07.7	
	comp=N,78nm,0.6s					
HYT	**Haines Junctio**	**3.75 155**	Pn	**Pn**	**20 18 04.3**	**+0.7**
HYT			Sg	**Sb**	**20 19 01.0**	**+3.5**
HYT	**Haines Junctio**	**3.75 155**	P	**Pn**	**20 18 04.0**	**+0.4**
	baz=338,SNR=18					
HYT			Sb	**Sb**	**20 19 00.4**	**+3.0**
	baz=338					
G31M	**Satah River**	**3.79 42**		**Pn**	**20 18 03.1**	**-0.8**
G31M			IAML		20 19 01.1	
	comp=N,66nm,0.4s					
G31M			IAML		20 19 04.3	
	comp=E,62nm,0.6s					
G31M	**Satah River**	**3.79 42**	Pn	**Pn**	**20 18 03.0**	**-1.0**
G31M			Sn	**Sn**	**20 18 46.6**	**-2.5**
G31M			Sg	**Sb**	**20 18 58.7**	**+0.2**
G31M	**Satah River**	**3.79 42**	P	**Pn**	**20 18 03.1**	**-0.8**
	baz=228,SNR=72					
G31M			Sb	**Sb**	**20 18 59.9**	**+1.4**
	baz=228					
I23K	**Minto, Yukon-K**	**3.81 288**	IAML		20 19 06.8	
	comp=E,57nm,0.7s					
I23K			IAML		20 19 12.6	
	comp=N,80nm,0.9s					
I23K	**Minto, Yukon-K**	**3.81 288**	P	**Pn**	**20 18 04.2**	**0.0**
	baz=100					
I23K			Sb	**Sb**	**20 19 01.5**	**+2.6**
	baz=100					
I23K			Sb	**Sb**	**20 19 01.5**	**+2.6**
	baz=100					
SCM	**Sheep Creek Mo**	**3.86 234**		**Pn**	**20 18 06.7**	**+1.8**
SCM	**Sheep Creek Mo**	**3.86 234**	P	**Pn**	**20 18 06.9**	**+1.9**
	baz=48					
SCM			Sb	**Sb**	**20 19 03.2**	**+2.7**
	baz=48					
DIV	**Divide**	**3.90 219**	Pn	**Pn**	**20 18 07.9**	**+2.4**
FARO	**Faro, Yukon**	**3.91 118**	Sg	**Sg**	**20 19 06.7**	**-3.3**
FARO	**Faro, Yukon**	**3.91 118**	Sb	**Sb**	**20 19 05.9**	**+4.0**
	baz=304					
F25K	**Christian Rive**	**3.91 331**	Sb	**Sb**	**20 19 05.0**	**+3.0**
	baz=147					
YUK7	**Dusty Glacier**	**3.93 161**	Pn	**Pn**	**20 18 07.2**	**+1.2**
F30M	**Barrier River**	**3.94 29**	Pn	**Pn**	**20 18 03.0**	**-3.0**
F30M			Sg	**Sb**	**20 19 04.3**	**+1.8**
F30M	**Barrier River**	**3.94 29**	P	**Pn**	**20 18 06.2**	**+0.2**
	baz=213					
F30M			S	**Sn**	**20 18 52.4**	**-0.2**
	baz=213					
RKAV	**Rock Avalanche**	**3.98 184**	Pn	**Pn**	**20 18 08.9**	**+2.3**
RKAV			Sg	**Sg**	**20 19 09.6**	**-2.6**
M23K	**Glacier View**	**4.03 235**	Sb	**Sb**	**20 19 07.8**	**+2.5**
	baz=49					
O29M	**Mount Kennedy**	**4.09 165**		**Pn**	**20 18 09.2**	**+1.0**
O29M			IAML		20 19 23.7	
	comp=E,40nm,1.1s					
O29M	**Mount Kennedy**	**4.09 165**	Pn	**Pn**	**20 18 09.6**	**+1.4**
O29M	**Mount Kennedy**	**4.09 165**	P	**Pn**	**20 18 09.6**	**+1.4**
	baz=347					
O29M			S	**Sn**	**20 18 57.3**	**+0.7**
	baz=347					
O30N	**Mendenhall**	**4.10 146**	Pn	**Pn**	**20 18 08.6**	**+0.3**
O30N			Sg	**Sb**	**20 19 12.1**	**+4.5**
O30N	**Mendenhall**	**4.10 146**	P	**Pn**	**20 18 08.6**	**+0.3**
	baz=330,SNR=13					
O30N			Sb	**Sb**	**20 19 12.0**	**+4.5**
	baz=330					
MESA	**MESA**	**4.13 188**	Pn	**Pn**	**20 18 11.0**	**+2.2**
MESA	**MESA**	**4.13 188**	P	**Pn**	**20 18 10.1**	**+1.4**
	baz=7.3					
SML	**Sawmill**	**4.24 238**	P	**Pn**	**20 18 12.0**	**+1.9**
	baz=51					
SML			Sb	**Sb**	**20 19 13.6**	**+2.2**
	baz=51					
F31M	**Tsiigehtchic**	**4.30 39**		**Pn**	**20 18 10.0**	**-0.9**
F31M			IAML		20 19 23.8	
	comp=E,37nm,0.5s					
F31M			IAML		20 19 27.0	
	comp=N,32nm,1.2s					
F31M	**Tsiigehtchic**	**4.30 39**	Pn	**Pn**	**20 18 10.0**	**-0.9**
F31M	**Tsiigehtchic**	**4.30 39**	P	**Pn**	**20 18 10.2**	**-0.7**
	baz=225					
F31M			S	**Sn**	**20 18 59.8**	**-1.8**
	baz=225					
TRF	**Thorofare Moun**	**4.30 264**	IAML		20 19 20.9	
	comp=E,51nm,0.7s					
TRF			IAML		20 19 21.6	
	comp=N,44nm,0.6s					
TRF	**Thorofare Moun**	**4.30 264**	P	**Pn**	**20 18 11.6**	**+0.5**
	baz=75,SNR=5.3					
TRF			Sb	**Sb**	**20 19 16.0**	**+2.6**
	baz=75					
E29M	**

E28M	**Babbage River**	**4.40**	**6**	Pn	**Pn**	**20 18 12.4**	**+0.2**	
E28M	**Babbage River**	**4.40**	**6**	P	**Pn**	**20 18 12.3**	**0.0**	
	baz=187							
F24K	**Squaw Lake**	**4.40**	**321**		**Pn**	**20 18 12.5**	**+0.2**	
F24K	**Squaw Lake**	**4.40**	**321**	Sb	**Sb**	**20 19 19.9**	**+3.9**	
	baz=135							
BPAW	**Bear Paw Mtn.**	**4.49**	**273**	IAML		20 19 26.9		
	comp=N,48nm,0.6s							
BPAW				IAML		20 19 31.0		
	comp=E,26nm,0.6s							
BPAW	**Bear Paw Mtn.**	**4.49**	**273**	P	**Pn**	**20 18 13.0**	**-0.5**	
	baz=84,SNR=6.3							
BPAW				Sb	**Sb**	**20 19 21.3**	**+2.8**	
	baz=84							
P30M	**Million Dollar**	**4.51**	**155**	Pn	**Pn**	**20 18 14.8**	**+0.9**	
P30M				Sg	**Sg**	**20 19 25.0**	**-4.2**	
WHY	**Whitehorse**	**4.51**	**140**	IAML		20 19 28.7		
	comp=E,31nm,0.7s							
WHY				IAML		20 19 32.1		
	comp=N,37nm,0.5s							
WHY	**Whitehorse**	**4.51**	**140**	Pn	**Pn**	**20 18 13.7**	**-0.3**	
WHY	**Whitehorse**	**4.51**	**140**	P	**Pn**	**20 18 14.2**	**+0.2**	
	baz=325							
WHY				Sb	**Sb**	**20 19 23.3**	**+3.9**	
	baz=325							
KNK	**Knik Glacier**	**4.54**	**235**	P	**Pn**	**20 18 15.7**	**+1.4**	
	baz=48							
KNK				Sb	**Sb**	**20 19 22.8**	**+2.7**	
	baz=48							
KTH	**Kantishna Hill**	**4.55**	**266**	IAML		20 19 30.9		
	comp=N,39nm,0.9s							
KTH				IAML		20 19 33.1		
	comp=E,29nm,0.6s							
MMPY	**Sheldon Lake,**	**4.56**	**107**		**Pn**	**20 18 13.4**	**-1.1**	
MMPY				IAML		20 19 31.2		
	comp=E,41nm,0.5s							
MMPY	**Sheldon Lake,**	**4.56**	**107**	Pn	**Pn**	**20 18 13.4**	**-1.1**	
MMPY	**Sheldon Lake,**	**4.56**	**107**	P	**Pn**	**20 18 14.9**	**+0.3**	
	baz=295,SNR=14							
MMPY				Sb	**Sb**	**20 19 23.8**	**+3.2**	
	baz=295							
G23K	**Bananza Creek**	**4.59**	**307**	P	**Pn**	**20 18 15.3**	**+0.4**	
	baz=118							
G23K				Sb	**Sb**	**20 19 24.2**	**+2.8**	
	baz=118							
N32M	**Quiet Lake**	**4.70**	**128**	Sg	**Sg**	**20 19 33.0**	**-2.4**	
N32M	**Quiet Lake**	**4.70**	**128**	Pg	**Pg**	**20 18 33.0**	**-1.5**	
	baz=315							
H22K	**Ishtalitna Cre**	**4.79**	**295**	P	**Pn**	**20 18 17.5**	**-0.3**	
	baz=105							
COLD	**Coldfoot**	**4.91**	**312**	Sg	**Sb**	**20 19 36.3**	**+5.6**	
E24K	**Your Creek**	**4.96**	**324**	P	**Pn**	**20 18 20.1**	**+0.1**	
	baz=137							
INK	**Inuvik**	**5.00**	**32**	Pn	**Pn**	**20 18 19.4**	**-1.1**	
INK	**Inuvik**	**5.00**	**32**	Pn	**Pn**	**20 18 20.6**	**0.0**	
D27M	**Malcolm River**	**5.01**	**359**	P	**Pn**	**20 18 21.0**	**+0.2**	
	baz=179							
CHUM	**Lake Minchumin**	**5.10**	**271**	P	**Pn**	**20 18 21.3**	**-0.5**	
	baz=81							
D28M	**Stokes Point**	**5.16**	**8**	Pn	**Pn**	**20 18 23.9**	**+1.2**	
D28M	**Stokes Point**	**5.16**	**8**	P	**Pn**	**20 18 23.5**	**+0.8**	
	baz=190							
E23K	**Chandalar**	**5.25**	**321**	P	**Pn**	**20 18 24.3**	**+0.3**	
	baz=133							
H21K	**Melozitna Rive**	**5.32**	**291**	IAML		20 19 58.9		
	comp=E,18nm,1.2s							
H21K				IAML		20 20 48.1		
	comp=N,21nm,4.4s							
SKT	**Skwentna**	**5.40**	**250**	IAML		20 19 35.2		
	comp=N,18nm,4.6s							
SKT				IAML		20 19 57.4		
	comp=E,21nm,2.3s							
P33M	**Teslin, Yukon**	**5.49**	**134**	Sg	**Sg**	**20 19 55.2**	**-5.4**	
C27K	**Jago River**	**5.52**	**349**	Pn	**Pn**	**20 18 28.2**	**+0.5**	
C27K	**Jago River**	**5.52**	**349**	Pn	**Pn**	**20 18 29.8**	**+2.1**	
C27K	**Jago River**	**5.52**	**349**	P	**Pn**	**20 18 29.0**	**+1.3**	
	baz=166							
D25K	**Kavik River**	**5.56**	**339**	Pn	**Pn**	**20 18 29.8**	**+1.6**	
D25K	**Kavik River**	**5.56**	**339**	P	**Pn**	**20 18 29.4**	**+1.2**	
	baz=154							
TOLK	**Toolik Lake Re**	**5.65**	**325**	P	**Pn**	**20 18 30.9**	**+1.4**	
	baz=137							
F22K	**John River**	**5.71**	**310**	P	**Pn**	**20 18 31.0**	**+0.7**	
	baz=120							
P32M	**Atlin**	**5.73**	**141**	Pg	**Pb**	**20 18 48.9**	**+3.7**	
P32M				Sg	**Sg**	**20 20 02.5**	**-6.0**	
BESE	**Bessie Mountai**	**6.35**	**151**	Sg	**Sg**	**20 20 23.2**	**-5.1**	
Q32M	**Nakina River**	**6.67**	**139**	Sg	**Sg**	**20 20 33.0**	**-5.4**	
R33M	**Jennings River**	**6.71**	**132**	Sg	**Sg**	**20 20 33.3**	**-6.6**	

*BUT **27** 20:34:12.7±0.5, 46°.90N±0°.03×112°.52W±0°.04, h14km±3km, Error ellipse: s-maj=4.3km s-min=2.7km az=219.0*

NEIC 27 20:34:09.6±0.2, 46°.92N±0°.03×112°.54W±0°.03, h10km±2km, ML2.4/28, ML2.5/13(BUT), Error ellipse: s-maj=5.2km s-min=3.3km az=326.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.18**	**72**	Pg	Pg	20 34 13.8	+0.2
LYMT				Sg	Sg	20 34 17.0	+0.7
OVMT	**Ovando**	**0.35**	**295**		Pg	20 34 16.8	+0.2
BPMT	**Black Pine Rid**	**0.79**	**233**		Pg	20 34 24.7	-0.1
MSO	**Missoula**	**0.97**	**265**		Pg	20 34 27.8	-0.4
MSO				IAML		20 34 46.8	
	98nm,0.6s						
BOZ	**Bozeman (W)**	**1.46**	**154**		Pg	20 34 39.6	+2.0
DLMT	**Dillon**	**1.55**	**182**		Pn	20 34 36.7	-0.8
EGMT	**Eagleton**	**2.19**	**59**		Pn	20 34 46.9	+0.7
EGMT				IAML		20 35 20.8	
	42nm,0.3s						
YHL	**Hebgen Lake**	**2.27**	**155**		Pn	20 34 47.1	-0.4
YHL				IAML		20 35 27.8	
	comp=N,20nm,1.0s						
YHL				IAML		20 35 29.6	
	comp=E,19nm,0.8s						
YHB	**Horse Butte**	**2.36**	**156**	Pn	Pn	20 34 46.7	-1.9
YHB				IAML		20 35 27.6	
	comp=N,19nm,0.2s						
YHB				IAML		20 35 28.9	
	comp=E,19nm,1.0s						
YMR	**Madison River**	**2.50**	**153**		Pn	20 34 49.2	-1.3
YMR				IAML		20 35 49.4	
	comp=E,20nm,4.2s						
YMR				IAML		20 36 02.2	
	comp=N,21nm,4.0s						
YNE	**Yellowstone No**	**2.60**	**136**		Pn	20 34 51.9	-0.1
YNE				IAML		20 35 36.4	
	comp=N,14nm,0.4s						
YMP	**Mirror Lake Pl**	**2.74**	**142**	Pn	Pn	20 34 53.1	-0.8
YMP				IAML		20 35 26.8	
	comp=E,27nm,4.5s						
YMP				IAML		20 36 24.7	
	comp=N,21nm,4.3s						
PLID	**Pearl Lake**	**3.03**	**234**	Pn	Pn	20 34 56.4	-1.4
PLID					Pg	20 35 06.9	-0.7
PLID				IAML		20 35 48.6	
	comp=N,9.8nm,1.9s						
F10A	**Beach Ranch, E**	**3.38**	**255**	Pn	Pn	20 35 01.3	-1.2
TPAW	**Teton Pass**	**3.60**	**161**	Pn	Pn	20 35 06.2	+0.4
TPAW				IAML		20 37 21.5	
	comp=N,8.1nm,2.8s						
E09A	**Wood Farm, Sta**	**3.88**	**266**	Pn	Pn	20 35 06.7	-2.5
BMO	**Blue Mountains**	**3.92**	**240**	Pn	Pn	20 35 08.4	-1.5
BMO				IAML		20 36 02.3	
	comp=N,4.8nm,4.9s						

HEL 27 20:38:09.7±0.2, 67°.65N×33°.43E, h0km, ML1.0, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.53**	**61**	PG	Pg	20 38 19.0	-0.8
VRF	**Varrio**	**1.46**	**276**	PN	Pn	20 38 36.4	-0.9
VRF				MSG		20 38 53.5	
	comp=Z,1.6nm,0.2s						
VRF				SN	Sg	20 38 56.5	0.0
OLKF	**Oulanka, Finla**	**2.07**	**232**	PG	Pn	20 38 46.4	+0.7
OLKF				MSG		20 39 11.1	
	comp=Z,0.7nm,0.2s						
OLKF				SG	Sg	20 39 15.2	-0.9
RAJF	**Raja-Jooseppi**	**2.09**	**296**	SG	Sb	20 39 13.9	-1.1
KU6	**Riekki**	**2.15**	**222**	PG	Pn	20 38 46.5	-0.2
	baz=41						
KU6				MSG		20 39 13.4	
	comp=Z,0.4nm,0.2s						
KU6				SG	Sb	20 39 16.2	-0.4
RNF	**Rovaniemi**	**3.08**	**254**	SG	Sb	20 39 43.8	+0.6
KEV	**Kevo**	**3.16**	**315**	PN	Pn	20 39 00.3	-0.2
KEV				SN	Sn	20 39 38.2	-0.7

HEL 27 20:38:40.6±0.5, 67°.82N×20°.30E, h0km, ML0.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.68**	**70**	SG	Sg	20 39 02.1	-0.2
KIF	**Kilpisjarvi**	**1.20**	**9**	MSG		20 39 18.2	
	comp=Z,1.1nm,0.2s						
KIF				SG	Sg	20 39 18.9	-0.4
PAJU	**Pajala**	**1.35**	**125**	PG	Sg	20 39 22.6	-1.3
PAJU	**Pajala**	**1.35**	**125**	SB	Sg	20 39 22.6	-1.3
HEF	**Hetta**	**1.39**	**63**	PB	Pb	20 39 11.9	+4.5
HEF	**Hetta**	**1.39**	**63**	PG	Pg	20 39 05.4	-1.8
HEF				MSG		20 39 22.6	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sn	20 39 27.6	+1.3
ERTU	**Ertsjaerv**	**1.47**	**149**	PB	Sg	20 39 27.0	-0.7
ERTU	**Ertsjaerv**	**1.47**	**149**	PG	Pn	20 39 07.2	-1.1
ERTU				SG	Sg	20 39 27.0	-0.7
KLF	**Kolari**	**1.52**	**111**	PN	Pn	20 39 07.7	-1.4
KLF	**Kolari**	**1.52**	**111**	PG	Pn	20 39 07.7	-1.4
	baz=308						
KLF				MSG		20 39 26.2	
	comp=Z,0.4nm,0.2s						
KLF				SN	Sn	20 39 29.8	+0.2
KTK1	**Kautokeino**	**1.62**	**41**	PN	Pn	20 39 09.9	-0.4
KTK1	**Kautokeino**	**1.62**	**41**	PG	Pn	20 39 09.9	-0.4
KTK1				SN	Sg	20 39 33.2	+0.7
TOF	**Tornio**	**2.36**	**136**	MSG		20 39 50.3	
	comp=Z,0.9nm,0.2s						
TOF				SG	Sb	20 39 52.8	-0.7
ARA0	**ARCESS Array S**	**2.57**	**45**	SG	Sb	20 39 58.8	-0.7
ARA0	**ARCESS Array S**	**2.57**	**45**	SG	Sb	20 39 58.8	-0.7

*IDC **27** 20:39:46.3±0.7, 26°.69N×129°.56E, h0km, mb3.9/18, mbtmp3.9/20, ML3.8/2, MS3.5/10, Error ellipse: s-maj=17.9km s-min=15.4km az=71.0*

*NEIC **27** 20:39:46.7±2.2, 26°.57N±0°.08×129°.62E±0°.06, h10km±1km, mb4.5/29, Error ellipse: s-maj=13.2km s-min=7.7km az=199.0*

*NIED **27** 20:39:48.5, 26°.68N×129°.64E, h49km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.94; $M_{\theta\theta}$0.90; $M_{\phi\phi}$ 1.04; $M_{r\theta}$1.08; $M_{\theta\phi}$0.95; $M_{\phi r}$0.82; Fault plane solution: $M_0$2.36000×10^{15} NP1:ϕ_s37.00000°, δ28.00000°, λ-100.00000°. NP2:ϕ_s228.00000°, δ63.00000°, λ-85.00000°.*

*JMA **27** 20:39:48.5±0.1, 26°.7N±0°.5×129°.6E±0°.5, h49km, MD3.8/24, MV3.8/24, NEAR OKINAWAJIMA ISLAND*

ISC 27 20:39:45.8±1.8, 26°.69N±0°.03×129°.64E±0°.04, h4km±11km, n89, σ1°65/106, mb4.4/34, MS3.8/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.12**	**288**	*i* P	**Pn**	**20 40 08.0**	**-0.2**
JYRO				S	**Sb**	**20 40 22.1**	**-0.4**
JOKE	**Okinoerabujima**	**1.17**	**305**	*i* P	**Pn**	**20 40 09.1**	**+0.1**
JOW	**Kunigami**	**1.23**	**277**		**Pg**	**20 40 09.8**	**+0.4**
JOW	**Kunigami**	**1.23**	**277**	Pn	**Pg**	**20 40 09.9**	**+0.4**
	402nm,0.3s,baz=114,slow=25,SNR=1432						
JOW				Sn	**Sb**	**20 40 25.4**	**-0.5**
	296nm,0.3s,baz=115,slow=27,SNR=6.5						
JOW	**Kunigami**	**1.23**	**277**	*i* P	**Pg**	**20 40 09.9**	**+0.4**
JOW				S	**Sb**	**20 40 25.1**	**-0.8**
JOW	**Kunigami**	**1.23**	**277**	A	A	20 40 09.9	
	comp=N,3.0nm,4.4s,comp=E,3.0nm,0.8s						
JTK	**Tokunoshima**	**1.25**	**331**	*i* P	**Pb**	**20 40 10.3**	**+0.3**
JTK				S	**Sb**	**20 40 24.9**	**-1.7**
JTK	**Tokunoshima**	**1.25**	**331**	A	A	20 40 10.3	
	comp=N,2.0nm,3.2s,comp=E,3.0nm,3.4s						
JNTH	**Nagotoyohara**	**1.46**	**264**	P	**Pn**	**20 40 12.8**	**-0.2**
JNTH				S	**Sn**	**20 40 30.2**	**-2.3**
JIH	**Iheya**	**1.54**	**283**	P	**Pb**	**20 40 14.3**	**-0.5**
JIH				S	**Sn**	**20 40 33.3**	**-1.1**
JAMN	**Amaminishikomi**	**1.60**	**345**	P	**Pn**	**20 40 14.9**	**-0.1**
JAMN				S	**Sn**	**20 40 34.8**	**-1.3**
JZK	**Kikaishima**	**1.65**	**10**	P	**Pn**	**20 40 16.4**	**+0.8**
JZK				S	**Sn**	**20 40 36.9**	**-0.3**
JKDJ	**Kitadaitoujima**	**1.66**	**116**	*i* P	**Pn**	**20 40 15.9**	**+0.2**
JKDJ				S	**Sn**	**20 40 35.7**	**-1.7**
JKDJ	**Kitadaitoujima**	**1.66**	**116**	A	A	20 40 15.9	
	comp=N,7.0nm,0.4s,comp=E,7.0nm,0.6s						
JMZ	**Minamidaito 2**	**1.66**	**121**	Pn	**Pn**	**20 40 15.3**	**-0.4**
JMZ	**Minamidaito 2**	**1.66**	**121**	*i* P	**Pn**	**20 40 15.6**	**-0.1**
JMZ				S	**Sn**	**20 40 34.9**	**-2.7**
JAM	**Amami Oshima**	**1.72**	**359**	P	**Pn**	**20 40 16.4**	**-0.1**
JAM				S	**Sn**	**20 40 36.1**	**-2.8**
JJT3	**Tamagusuku3**	**1.75**	**252**	P	**Pn**	**20 40 17.4**	**+0.3**
JJT3				S	**Sn**	**20 40 38.8**	**-1.0**
JAGN	**Aguni-jima**	**2.15**	**268**	*i* P	**Pn**	**20 40 22.9**	**+0.4**
JAGN				S	**Sn**	**20 40 47.3**	**-2.3**
JTAJ	**Takarajima**	**2.49**	**351**	P	**Pn**	**20 40 27.0**	**-0.1**
JTAJ				S	**Sn**	**20 40 54.4**	**-3.5**
JKE	**Kume jima 2**	**2.58**	**263**	*i* P	**Pn**	**20 40 28.1**	**-0.4**
JNN	**Nakanoshima**	**3.15**	**4**	*e*P	**Pn**	**20 40 36.5**	**+0.3**
JNN				S	**Sn**	**20 41 11.4**	**-2.9**
JYAK	**Yakushimahirau**	**3.62**	**12**	P	**Pn**	**20 40 42.8**	**+0.2**
JYAK				S	**Sn**	**20 41 22.4**	**-3.4**
JKC	**Kuchinoerabu**	**3.79**	**7**	P	**Pn**	**20 40 45.4**	**+0.3**
JKC				S	**Sn**	**20 41 26.7**	**-3.4**
JMTN	**Minamitane**	**3.86**	**16**	S	**Sn**	**20 41 28.4**	**-3.3**
JNU	**Nakatsue**	**6.50**	**9**		**Pn**	**20 41 22.0**	**-0.3**
JNU	**Nakatsue**	**6.50**	**9**	Pn	**Pn**	**20 41 24.1**	**+1.8**
	comp=E,3.1nm,0.3s,baz=201,slow=9.5,SNR=36						
JNU				Sn	**Sn**	**20 42 32.0**	**-5.0**
	comp=E,2.8nm,0.3s,baz=171,slow=16,SNR=6.4						
	comp=E,20nm,0.5s						
NACB	**Ninganchiao**	**7.69**	**253**	Pn	**Pn**	**20 41 35.9**	**-2.8**
YHNB	**Yeheng**	**7.72**	**257**	Pn	**Pn**	**20 41 36.2**	**-2.9**
JMN	**Momobe**	**7.92**	**27**	Pn	**Pn**	**20 41 42.0**	**+0.3**
YULB	**Yu-li**	**8.25**	**248**	Pn	**Pn**	**20 41 42.7**	**-3.7**
SSLB	**Suanglung**	**8.38**	**252**	Pn	**Pn**	**20 41 46.4**	**-1.8**
TPUB	**Ta-pu**	**8.84**	**250**	Pn	**Pn**	**20 41 52.9**	**-1.6**
KSRS	**Korea Array**	**10.83**	**353**	Pn	**Pn**	**20 42 23.3**	**+1.6**
	comp=E,0.2nm,0.3s,baz=175,slow=15,SNR=3.0						
KSRS				LR	LR	20 47 08.2	
	comp=E,66nm,18.3s,baz=160,slow=41						
	comp=E,0.9nm,0.6s						
BJT	**Baijiatuau**	**17.39**	**323**	Pn	**Pn**	**20 43 49.6**	**+0.2**
GUMO	**Guam**	**19.32**	**129**	LR	LR	20 50 08.5	
	comp=E,34nm,18.0s,baz=228,slow=32						
SONM	**Songino Array**	**27.88**	**325**	P	**P**	**20 45 36.3**	**-0.5**
SONM	**Songino Array**	**27.88**	**325**	P	**P**	**20 45 39.1**	**+2.3**
	comp=E,1.0nm,0.4s,baz=137,slow=10,SNR=17						
SONM				LR	LR	20 57 24.7	
	comp=E,44nm,18.5s,baz=6.5,slow=38						
	comp=E,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.45**	**260**	P	**P**	**20 45 52.9**	**+1.9**
	comp=E,0.2nm,0.4s,baz=70,slow=9.4,SNR=1.6						
CMAR				LR	LR	20 57 44.6	
	comp=E,22nm,20.1s,baz=5.0,slow=37						
	comp=E,0.2nm,0.4s						
KAPI	**Kappang**	**32.94**	**198**	LR	LR	21 00 57.5	
	comp=E,28nm,19.0s,baz=60,slow=39						
SHL	**Shillong**	**33.84**	**277**	P	**P**	**20 46 27.7**	**-2.0**
SHL				IAmb	IAmb	20 46 42.2	
	comp=Z,6.8nm,1.2s						
PET	**Petropavlovsk**	**34.04**	**32**	P	**P**	**20 46 29.7**	**-1.2**
YAK	**Yakutsk**	**35.34**	**0**	P	**P**	**20 46 41.5**	**-0.4**
SEY	**Seymchan**	**39.22**	**16**	P	**P**	**20 47 16.3**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=209,slow=6.3,SNR=8.0						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**42.18**	**311**	P	**P**	**20 47 38.9**	**-0.8**
MKAR	**Makanchi Array**	**42.18**	**311**	P	**P**	**20 47 37.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=103,slow=6.5,SNR=11						
MKAR				PcP	**PcP**	**20 49 34.6**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=119,slow=1.8,SNR=1.5						
ZALV	**Zalesovo Beam**	**42.66**	**322**	P	**P**	**20 47 42.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=110,slow=8.1,SNR=3.7						
ZALV				PcP	**PcP**	**20 49 35.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=92,slow=4.3,SNR=2.0						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.40**	**316**	P	**P**	**20 48 04.9**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=101,slow=9.1,SNR=20						
KURBB				PcP	**PcP**	**20 49 45.1**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=96,slow=3.9,SNR=4.4						
KURBB				LR	LR	21 08 23.1	
	comp=Z,90nm,20.4s,baz=178,slow=38						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**46.41**	**174**	P	**P**	**20 48 11.3**	**-2.3**
WB0				IAmb	IAmb	20 48 14.8	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**46.58**	**174**	P	**P**	**20 48 15.7**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=354,slow=8.4,SNR=16						
	comp=Z,2.5nm,0.6s						
WB2	**Warramunga Arr**	**46.58**	**174**	P	**P**	**20 48 11.7**	**-3.3**
WB2				IAmb	IAmb	20 48 18.7	
	comp=Z,4.3nm,0.9s						
WR0	**Warramunga Arr**	**46.61**	**174**	P	**P**	**20 48 13.1**	**-2.1**
WR0				IAmb	IAmb	20 48 34.9	
	comp=Z,6.1nm,0.8s						
NIL	**Nilore**	**48.74**	**292**	P	**P**	**20 48 29.6**	**-2.3**
NIL				IAmb	IAmb	20 48 34.1	
	comp=Z,4.9nm,0.8s						
PSA00	**Pilbara Seismi**	**48.91**	**192**	P	**P**	**20 48 31.5**	**-1.6**
NRIK	**Noril'sk**	**49.21**	**342**	P	**P**	**20 48 34.0**	**-0.9**
NRIK				IAmb	IAmb	20 48 46.7	
	comp=Z,4.2nm,1.2s						
KKAR	**Karatay Array**	**50.18**	**305**	P	**P**	**20 48 41.7**	**-1.0**
AS31	**Alice Springs**	**50.23**	**175**	P	**P**	**20 48 40.9**	**-2.2**
ASAR	**Alice Springs**	**50.23**	**175**	P	**P**	**20 48 40.4**	**-2.8**
ASAR	**Alice Springs**	**50.23**	**175**	P	**P**	**20 48 44.2**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=5.1,slow=14,SNR=24						
ASAR				PcP	**PcP**	**20 50 03.0**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=349,slow=5.3,SNR=1.6						
	comp=Z,1.1nm,0.5s						
GAR	**Garm**	**50.53**	**300**	P	**P**	**20 48 44.2**	**-1.3**
GAR				IAmb	IAmb	20 49 01.3	
	comp=Z,13nm,1.3s						
BVAR	**Borovoye Array**	**50.78**	**318**	P	**P**	**20 48 46.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=82,slow=9.2,SNR=5.9						
BVAR				PcP	**PcP**	**20 50 04.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=34,slow=0.5,SNR=1.8						
BVAR				LR	LR	21 12 53.6	
	comp=Z,115nm,19.9s,baz=45,slow=39						
	comp=Z,0.9nm,0.7s						
BRVK	**Borovoye**	**50.85**	**318**	P	**P**	**20 48 46.9**	**-0.6**
CHGR	**Chuyangaron**	**51.46**	**299**	P	**P**	**20 48 52.9**	**+0.4**
SIMJ	**Simiganj**	**51.58**	**299**	P	**P**	**20 48 53.4**	**-0.1**
SIMJ				IAmb	IAmb	20 49 01.9	
	comp=Z,7.4nm,1.3s						
KBL	**Kabul**	**52.07**	**294**	P	**P**	**20 48 57.9**	**+0.7**
KBL				IAmb	IAmb	20 49 14.1	
	comp=Z,5.8nm,0.8s						
ABKAR	**Akbulak array**	**57.26**	**313**		**P**	**20 49 34.8**	**+0.4**
HRA	**Herat**	**57.62**	**295**	P	**P**	**20 49 37.6**	**+0.1**
B21K	**Ikpikpuk River**	**60.29**	**23**	P	**P**	**20 49 56.8**	**+1.7**
B21K				IAmb	IAmb	20 49 57.8	
	comp=Z,2.7nm,0.8s						
B22K	**Teshekpuk Lake**	**60.74**	**22**	P	**P**	**20 49 59.5**	**+1.3**
B22K				IAmb	IAmb	20 50 11.6	
	comp=Z,5.8nm,1.1s						
D22K	**Ayikyak River**	**60.95**	**24**	P	**P**	**20 50 00.7**	**+1.0**
D22K				IAmb	IAmb	20 50 02.4	
	comp=Z,3.4nm,0.9s						
E22K	**Anaktuvuk Pass**	**61.27**	**25**	P	**P**	**20 50 03.2**	**+1.3**
E22K				IAmb	IAmb	20 50 11.5	
	comp=Z,6.0nm,1.4s						
C24K	**Franklin Bluff**	**62.36**	**23**	P	**P**	**20 50 10.3**	**+1.2**
E24K	**Your Creek**	**62.51**	**25**		**P**	**20 50 11.6**	**+1.2**
E24K				IAmb	IAmb	20 50 23.1	
	comp=Z,5.5nm,1.5s						
F24K	**Squaw Lake**	**62.78**	**25**	P	**P**	**20 50 13.7**	**+1.6**
G24K	**Hadweenzic Riv**	**63.00**	**26**	P	**P**	**20 50 14.4**	**+0.9**
G24K				IAmb	IAmb	20 50 42.2	
	comp=Z,6.0nm,1.3s						
ILAR	**Eielson Array**	**63.43**	**28**	P	**P**	**20 50 16.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=268,slow=6.2,SNR=4.1						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**64.05**	**25**	P	**P**	**20 50 21.5**	**+1.0**
BELG	**Belogornoye**	**64.59**	**318**	LR	LR	21 20 41.5	
	comp=Z,149nm,21.2s,baz=320,slow=38						
KBZ	**Khabaz**	**69.85**	**310**	P	**P**	**20 50 59.4**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=88,slow=3.9,SNR=7.7						
	comp=Z,3.4nm,0.9s						
KIV	**Kislovodsk**	**69.92**	**310**	P	**P**	**20 50 58.3**	**0.0**
FINES	**FINESS Array B**	**73.08**	**331**	P	**P**	**20 51 17.0**	**0.0**
	comp=Z,2.4nm,0.7s,baz=55,slow=5.3,SNR=9.5						
	comp=Z,2.4nm,0.7s						
AKASG	**Malin Array Be**	**76.00**	**320**	P	**P**	**20 51 35.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=63,slow=6.1,SNR=2.7						
AKASG				LR	LR	21 28 53.6	
	comp=Z,182nm,19.1s,baz=348,slow=39						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**77.57**	**25**	P	**P**	**20 51 44.0**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=301,slow=5.6,SNR=4.4						
	comp=Z,0.3nm,0.8s						
BRTR	**Keskin Array B**	**77.75**	**308**	P	**P**	**20 51 45.6

NEIC 27 21:07:40.9±1.4, 61°.39N±0°.03×150°.07W±0°.07, h46km±5km, Error ellipse: s-maj=4.6km s-min=4.0km az=102.0
AEIC 27 21:07:41.5±0.9, 61°.36N±0°.03×150°.06W±0°.02, h43km±4km, ML2.3, ML2.5/90(NEIC), Error ellipse: s-maj=4.6km s-min=1.2km az=169.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**199**		Pn	21 07 49.5	+0.2
FIS					Sn	21 07 56.9	+2.2
RC01	**Rabbit Creek A**	**0.31**	**150**		Pn	21 07 49.3	-0.8
RC01					Sn	21 07 56.0	-0.1
RC01				IAML		21 07 56.3	
	comp=N,517nm,0.1s						
RC01				IAML		21 07 56.4	
	comp=E,467nm,0.4s						
M22K	**Willow**	**0.40**	**356**		Pn	21 07 49.5	-1.5
M22K					Sn	21 07 57.2	-0.5
M22K				IAML		21 07 57.5	
	comp=E,472nm,0.3s						
PMR	**Palmer**	**0.51**	**62**		Pn	21 07 50.9	-1.5
PMR					Sn	21 07 59.4	-0.7
PMR				IAML		21 07 59.7	
	comp=E,281nm,0.4s						
PMR				IAML		21 07 59.9	
	comp=N,365nm,0.3s						
GHO	**Glory Hole Cre**	**0.69**	**52**		Pn	21 07 53.7	-1.2
GHO					Sn	21 08 04.0	-0.5
GHO				IAML		21 08 05.2	
	comp=N,228nm,0.2s						
KNK	**Knik Glacier**	**0.78**	**85**		Pn	21 07 55.2	-0.8
KNK				IAML		21 08 09.8	
	comp=N,218nm,0.2s						
KNK				IAML		21 08 10.1	
	comp=E,221nm,0.2s						
KNK	**Knik Glacier**	**0.78**	**85**		Sn	21 08 07.0	+0.5
CAPN	**Captain Cook N**	**0.80**	**222**		Pn	21 07 56.8	+0.6
SLKM	**Skilak Lake**	**0.86**	**185**		Pn	21 07 56.3	-0.9
SLKM				IAML		21 08 10.1	
	comp=E,187nm,0.4s						
SLKM				IAML		21 08 10.9	
	comp=N,146nm,0.1s						
STLK	**Strandline Lak**	**0.86**	**280**		Pn	21 07 56.5	-0.8
STLK	**Strandline Lak**	**0.86**	**280**		Sn	21 08 08.4	-0.3
O22K	**Cooper Landing**	**0.90**	**169**		Pn	21 07 56.8	-0.9
SKT	**Skwentna**	**0.94**	**312**		Pn	21 07 57.0	-1.2
SKT				IAML		21 08 10.1	
	comp=E,156nm,0.6s						
SKT	**Skwentna**	**0.94**	**312**		Sn	21 08 09.9	-0.6
SML	**Sawmill**	**0.94**	**61**		Pn	21 07 57.2	-1.1
SML				IAML		21 08 12.7	
	comp=N,128nm,0.3s						
SML				IAML		21 08 13.4	
	comp=E,90nm,0.4s						
SML	**Sawmill**	**0.94**	**61**		Sn	21 08 10.3	-0.4
PWL	**Port Wells**	**0.98**	**120**		Pn	21 07 58.2	-0.6
SPU	**Mount Spurr**	**0.98**	**260**	Pn	Pn	21 07 57.7	-1.1
SPU				IAML		21 08 12.8	
	comp=N,71nm,0.4s						
CUT	**Chulitna**	**1.05**	**355**		Pn	21 07 58.8	-1.0
CUT				IAML		21 08 14.3	
	comp=N,136nm,0.4s						
SPBG	**Spurr Blockage**	**1.12**	**266**		Pn	21 07 60.0	-0.8
M23K	**Glacier View**	**1.20**	**68**		Pn	21 08 01.2	-0.6
M23K					Sn	21 08 17.8	+0.9
SPWE	**Spurr West**	**1.21**	**267**		Pn	21 08 01.3	-0.7
SEW	**Seward**	**1.29**	**166**	Pn	Pn	21 08 02.5	-0.6
RDT	**Redoubt**	**1.39**	**236**		Pn	21 08 03.6	-0.9
SCM	**Sheep Creek Mo**	**1.39**	**69**		Pn	21 08 04.2	-0.3
SCM				IAML		21 08 24.7	
	comp=N,94nm,0.8s						
GLI	**Glacier Island**	**1.52**	**107**		Pn	21 08 05.2	-0.9
GLI				IAML		21 08 27.8	
	comp=N,79nm,0.2s						
M20K	**Styx River**	**1.56**	**291**		Pn	21 08 06.7	-0.1
M20K				IAML		21 08 28.4	
	comp=N,34nm,0.7s						
M20K				IAML		21 08 29.1	
	comp=E,38nm,0.8s						
RDWB	**Redoubt West**	**1.61**	**238**		Pn	21 08 07.0	-0.6
BRLK	**Bradley Lake**	**1.65**	**195**	Pn	Pn	21 08 07.4	-0.6
BRLK				IAML		21 08 31.3	
	comp=E,45nm,0.3s						
BRLK				IAML		21 08 33.6	
	comp=N,65nm,0.1s						
BRSE	**Bradley Lake S**	**1.66**	**192**		Pn	21 08 07.1	-1.0
O20K	**Slope Mountain**	**1.80**	**226**		Pn	21 08 10.1	+0.1
PPLA	**Purkeypile**	**1.84**	**328**		Pn	21 08 10.1	-0.5
P23K	**Montague Islan**	**1.89**	**135**		Pn	21 08 09.6	-1.6
HIN	**Hinchinbrook I**	**1.99**	**117**		Pn	21 08 11.3	-1.3
HIN				IAML		21 08 48.3	
	comp=E,52nm,0.9s						
KLU	**Klutina**	**2.00**	**84**		Pn	21 08 11.7	-1.0
KLU				IAML		21 08 43.0	
	comp=E,23nm,0.7s						
KLU				IAML		21 08 46.9	
	comp=N,34nm,0.4s						
M24K	**Tolsona, Glenn**	**2.00**	**66**		Pn	21 08 13.0	+0.2
M24K				IAML		21 08 45.7	
	comp=E,49nm,0.8s						
M24K				IAML		21 08 46.8	
	comp=N,37nm,0.3s						
ILSW	**Iliamna Southw**	**2.05**	**229**	Pn	Pn	21 08 13.5	0.0
ILSW				IAML		21 08 45.3	
	comp=E,22nm,0.6s						
DIV	**Divide**	**2.09**	**94**	Pn	Pn	21 08 13.1	-0.9
TRF	**Thorofare Moun**	**2.10**	**357**		Pn	21 08 14.5	+0.2
TRF				IAML		21 08 52.8	
	comp=N,20nm,0.6s						
L20K	**Farewell, AK**	**2.13**	**304**		Pn	21 08 14.1	-0.4
RND	**Reindeer**	**2.13**	**15**	Pn	Pn	21 08 15.3	+0.7
RND				IAML		21 08 54.7	
	comp=E,18nm,0.8s						
M19K	**Big River Lodg**	**2.14**	**287**		Pn	21 08 14.2	-0.5
N19K	**Bonanza Creek**	**2.22**	**258**	Pn	Pn	21 08 15.6	-0.2
KTH	**Kantishna Hill**	**2.24**	**350**	Pn	Pn	21 08 16.5	+0.4
KTH				IAML		21 08 47.8	
	comp=E,17nm,0.8s						
CAST	**Castle Rocks**	**2.27**	**336**		Pn	21 08 16.3	-0.2
P19K	**Oil Pt**	**2.32**	**224**	Pn	Pn	21 08 18.1	+0.9
P19K				IAML		21 08 52.2	
	comp=N,38nm,0.9s						
O19K	**Port Alsworth**	**2.39**	**243**	Pn	Pn	21 08 17.6	-0.5
L19K	**White Mountain**	**2.42**	**292**		Pn	21 08 18.5	-0.1
MCK	**McKinley**	**2.44**	**12**	Pn	Pn	21 08 19.9	+1.1
N25K	**Chitina, Valde**	**2.63**	**82**	Pn	Pn	21 08 22.0	+0.5
N25K				IAML		21 09 03.4	
	comp=E,10nm,0.9s						
N25K				IAML		21 09 04.9	
	comp=N,15nm,0.7s						
BMRM	**Bremner River**	**2.67**	**96**		Pn	21 08 21.6	-0.4
CHUM	**Lake Minchumin**	**2.74**	**339**		Pn	21 08 23.1	+0.2
K20K	**Telida**	**2.74**	**319**	Pn	Pn	21 08 22.4	-0.5
BPAW	**Bear Paw Mtn.**	**2.78**	**352**	Pn	Pn	21 08 22.9	-0.6
N18K	**Kilae Creek**	**2.92**	**259**	Pn	Pn	21 08 24.8	-0.5
N18K				IAML		21 08 59.5	
	comp=N,8.1nm,0.7s						
O18K	**Koktuh Hills**	**2.95**	**242**	Pn	Pn	21 08 25.0	-0.8
O18K				IAML		21 09 27.4	
	comp=E,8.2nm,0.9s						
O18K				IAML		21 09 27.8	
	comp=N,10nm,0.9s						
SYI	**Shuyak Island**	**3.00**	**204**		Pn	21 08 26.0	-0.4
SYI	**Shuyak Island**	**3.00**	**204**	IAML		21 09 10.4	
	comp=E,15nm,0.9s						
SYI				IAML		21 09 11.6	
	comp=N,15nm,1.1s						
TTA	**Tatalina**	**3.21**	**302**		Pn	21 08 28.6	-0.8
TTA	**Tatalina**	**3.21**	**302**	IAML		21 09 30.2	
	comp=E,6.0nm,1.1s						
L18K	**Granite Mounta**	**3.26**	**288**		Pn	21 08 29.5	-0.6
L18K	**Granite Mounta**	**3.26**	**288**	IAML		21 09 27.3	
	comp=E,7.5nm,1.1s						
J20K	**Nowinta River**	**3.39**	**328**		Pn	21 08 31.5	-0.4
J20K				IAML		21 09 12.8	
	comp=E,8.2nm,1.1s						
M17K	**Holitna River**	**3.55**	**274**		Pn	21 08 33.5	-0.5
M17K	**Holitna River**	**3.55**	**274**	IAML		21 09 18.9	
	comp=E,7.8nm,1.1s						
M17K				IAML		21 09 33.7	
	comp=N,11nm,1.0s						
N17K	**Nushagak Hills**	**3.57**	**260**	Pn	Pn	21 08 33.8	-0.5
N17K				IAML		21 09 15.9	
	comp=E,7.5nm,0.4s						
N17K				IAML		21 09 38.0	
	comp=N,4.5nm,0.8s						
J18K	**Innoko River**	**3.75**	**307**		Pn	21 08 36.1	-0.6
J18K				IAML		21 09 52.7	
	comp=N,3.8nm,1.1s						

IDC 27 21:16:52.9±1.0, 3°.31S×139°.54E, h0km, mb3.7/5, mbtmp3.8/6, ML4.2/1, MS3.2/1, Error ellipse: s-maj=33.0km s-min=14.7km az=106.0
DJA 27 21:17:01.0±0.3, 3°.5±3°×14°.0E±°, h66km±6km, M4.2/7, mb4.2/6, MLv4.3/7
ISC 27 21:16:59.1±0.8, 3°.32S±0°.06×140°.01E±0°.06, h50km, n16, σ2§12/22, mb3.7/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.74**	**12**	P	**Pn**	**21 17 15.0**	**+1.6**
GENI				S	**Sn**	**21 17 25.6**	**+1.8**
JAY	**Jayapura**	**1.06**	**41**	Pg	**Pn**	**21 17 19.0**	**+1.2**
	88nm,0.3s,baz=232,slow=17,SNR=275						
JAY				Lg	Lg	21 17 33.1	
	153nm,0.3s,baz=85,slow=22,SNR=15						
JAY	**Jayapura**	**1.06**	**41**	P	**Pn**	**21 17 18.9**	**+1.2**
JAY				S	**Sn**	**21 17 32.4**	**+0.9**
WAMI	**Wamena**	**1.41**	**247**	P	**Pn**	**21 17 26.0**	**+3.7**
WAMI				S	**Sn**	**21 17 43.7**	**+3.9**
SMPI	**Sarmi**	**1.85**	**316**	P	**Pn**	**21 17 30.3**	**+1.9**
SMPI				S	**Sn**	**21 17 52.0**	**+1.3**
SRPI	**Serui, Papua**	**4.03**	**291**	P	**Pn**	**21 17 58.9**	**+0.6**
BAKI	**Biak**	**4.43**	**298**	P	**Pn**	**21 18 05.3**	**+1.4**
BAKI				S	**Sn**	**21 18 53.7**	**-0.6**
FAKI	**Fak Fak**	**7.76**	**273**	P	**Pn**	**21 18 49.6**	**+0.1**
	27nm,1.1s						
SWI	**Sorong**	**9.08**	**285**	P	**Pn**	**21 19 08.3**	**+0.8**
	18nm,0.9s						
WRA	**Warramunga Arr**	**17.42**	**198**	P	**Pn**	**21 20 57.9**	**-0.8**
	0.8nm,0.3s,baz=17,slow=13,SNR=36						
WRA				S	Sn	21 24 06.0	-5.9
	0.6nm,0.6s,baz=5.9,slow=23,SNR=5.0						
	1.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**20.34**	**223**	P	**P**	**21 21 29.6**	**-1.8**
	0.5nm,0.3s,baz=336,slow=12,SNR=3.8						
FITZ				S	**S**	**21 25 11.1**	**-5.7**
	5.6nm,0.8s,baz=209,slow=13,SNR=8.6						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**21.07**	**196**	P	**P**	**21 21 39.5**	**+0.3**
	1.7nm,0.8s,baz=24,slow=9.0,SNR=26						
ASAR				S	**S**	**21 25 31.9**	**+0.7**
	1.1nm,0.7s,baz=10,slow=29,SNR=5.7						
	1.7nm,0.8s						
JNU	**Nakatsue**	**37.26**	**347**	LR	LR	21 38 28.5	
	comp=Z,36nm,18.5s,baz=358,slow=35						
MKAR	**Makanchi Array**	**71.06**	**322**	P	**P**	**21 28 11.4**	**-0.7**
	0.4nm,0.6s,baz=99,slow=7.6,SNR=5.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**80.55**	**325**	P	**P**	**21 29 05.1**	**-0.9**
	0.5nm,0.4s,baz=118,slow=7.0,SNR=5.9						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**86.63**	**180**	P	**P**	**21 29 37.9**	**+0.8**
	0.8nm,0.7s,baz=332,slow=1.9,SNR=5.0						
	0.8nm,0.7s						

IDC 27 21:20:06.8±9.3, 36°.53N×70°.28E, h221km±62km, mb2.7/2, mbtmp3.4/6, MS3.3/3, Error ellipse: s-maj=106.3km s-min=80.2km az=119.0
NNC 27 21:20:11.5±11.0, 36°.96N×70°.16E, h180km±219km, mb2.8, mpv3.6, Error ellipse: s-maj=124.9km s-min=88.7km az=22.0
ISC 27 21:20:07.0±2.3, 36°.7N±0°.2×70°.2E±0°.2, h200km, n20, σ1§71/20, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.09**	**25**	P	**Pn**	**21 21 36.3**	**+0.5**
	SNR=43						
KK31	**Karatay Array**	**6.44**	**2**	⇑Pn	**Pn**	**21 21 41.2**	**+1.4**
	1.0nm,0.2s,baz=177,slow=13,SNR=9.4						
KK31				⇑Sn	**Sn**	**21 22 49.8**	**-3.7**
	4.9nm,0.5s,baz=199,slow=26,SNR=4.0						
EKS2	**Erkin-Say**	**6.59**	**24**	P	**Pn**	**21 21 43.6**	**+1.6**
	SNR=9.2						
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**21 21 45.8**	**+0.8**
	4.6nm,0.3s,baz=204,slow=7.7,SNR=35						
AAK				S	**Sn**	**21 23 04.8**	**+2.0**
	5.8nm,0.4s,baz=314,slow=23,SNR=8.8						
AAK	**Ala-Archa**	**6.82**	**28**	P	**Pn**	**21 21 45.7**	**+0.6**
	SNR=13						
AAK	**Ala-Archa**	**6.82**	**28**	⇑Pn	**Pn**	**21 21 45.6**	**+0.6**
	2.8nm,0.5s						
AAK				⇓Sn	**Sn**	**21 23 01.8**	**-1.0**
	6.9nm,0.5s						
KBK	**Karagaybulak**	**7.02**	**30**	P	**Pn**	**21 21 44.1**	**-3.4**
	SNR=8.3						
CHMS	**Chumysh**	**7.23**	**28**	P	**Pn**	**21 21 51.1**	**+0.9**
	SNR=7.6						
ULHL	**Ulahol**	**7.27**	**38**	P	**Pn**	**21 21 51.3**	**+0.4**
	SNR=6.2						
USP	**Ospenovka**	**7.38**	**25**	P	**Pn**	**21 21 52.6**	**+0.5**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.50**	**32**	P	**Pn**	**21 21 54.1**	**+0.3**
	SNR=6.8						
MKAR	**Makanchi Array**	**13.55**	**38**	P	**Pn**	**21 23 12.3**	**+1.2**
	0.8nm,0.5s,baz=214,slow=9.8,SNR=16						
AB31	**Akbulak array**	**14.64**	**332**	⇓P	**Pn**	**21 23 26.5**	**+1.9**
	1.1nm,0.4s,baz=156,slow=12,SNR=24						
KURBB	**Kurchatov Arra**	**15.19**	**21**	P	**P**	**21 23 32.5**	**+0.9**
	0.1nm,0.3s,baz=212,slow=8.7,SNR=2.9						
AKTO	**Aktyubinsk**	**16.33**	**331**	LR	LR	21 31 35.5	
	comp=Z,78nm,19.9s,baz=240,slow=42						
BVAR	**Borovoye Array**	**16.36**	**0**	P	**P**	**21 23 45.3**	**+0.6**
	0.3nm,0.4s,baz=165,slow=11,SNR=4.3						
WSAR	**Wadi Sarin**	**16.70**	**220**	LR	LR	21 32 18.4	
	comp=Z,74nm,19.6s,baz=36,slow=44						
ZALV	**Zalesovo Beam**	**20.04**	**26**	P	**P**	**21 24 24.1**	**-0.4**
	0.5nm,0.5s,baz=218,slow=11,SNR=3.0						
	0.5nm,0.5s						
BELG	**Belogornoye**	**22.36**	**322**	LR	LR	21 36 51.8	
	comp=Z,143nm,19.5s,baz=347,slow=45						
YKA	**Yellowknife Ar**	**81.11**	**2**	P	**P**	**21 31 57.3**	**-2.2**
	0.2nm,0.7s,baz=354,slow=4.9,SNR=5.2						
	0.2nm,0.7s						

JMA 27 21:23:45.2±0.1, 33°.7N±0°.4×14°.0E±°, h20km±2km, MV3.4/34, NEAR MIYAKEJIMA ISLAND
IDC 27 21:23:50.6±1.5, 33°.71N×138°.26E, h0km, mb3.3/3, mbtmp3.3/4, ML2.1/1, MS2.4/1, Error ellipse: s-maj=51.4km s-min=24.0km az=94.0
ISC 27 21:23:45.5±1.1, 33°.67N±0°.04×139°.53E±0°.08, h19km±3km, n19, σ1§20/19, mb3.5/3, 2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.22**	**13**	P	**Pb**	**21 23 50.6**	**0.0**
JMKN				S	**Sg**	**21 23 54.7**	**0.0**
JMYK	**Miyake Tsubota**	**0.39**	**2**	P	**Pg**	**21 23 53.6**	**0.0**
JMYK				S	**Sb**	**21 24 00.1**	**+0.6**
JKO	**Kozu shima**	**0.61**	**328**	P	**Pb**	**21 23 56.8**	**-0.6**
JKO				eS	**Sg**	**21 24 06.3**	**+0.5**
JHU2	**Mitsune**	**0.61**	**157**	eP	**Pb**	**21 23 56.9**	**-0.5**
JHCJ	**Hachijojimakas**	**0.64**	**159**	P	**Pb**	**21 23 57.5**	**-0.5**
JHCJ				eS	**Sb**	**21 24 06.1**	**-0.4**
JSKK	**Shikinejimakit**	**0.71**	**338**	⇓P	**Pb**	**21 23 58.6**	**-0.6**
JTHY	**Toshimahigashi**	**0.87**	**347**	eP	**Pb**	**21 24 01.5**	**-0.5**
JTHY				eS	**Sg**	**21 24 14.4**	**+0.3**
JIM2	**Oshima 3**	**1.04**	**356**	P	**Pb**	**21 24 03.7**	**-1.3**
JIZS	**Izushimoda**	**1.17**	**333**	⇓P	**Pn**	**21 24 06.1**	**-0.8**
KTJ3	**Kamata3**	**1.31**	**343**	eP	**Pn**	**21 24 08.0**	**-0.8**
BSO3	**Boso 3**	**1.39**	**36**	eP	**Pn**	**21 24 09.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.06**	**340**	Pn	**Pn**	**21 24 35.7**	**+2.9**
	0.3nm,0.3s,baz=164,slow=14,SNR=13						
MJAR				Sn	**Sb**	**21 25 13.7**	**-2.6**
	0.4nm,0.3s,baz=196,slow=18,SNR=6.8						
	5.4nm,0.7s						
KSRS	**Korea Array**	**10.18**	**295**	LR	LR	21 29 53.0	
	comp=Z,24nm,18.2s,baz=340,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.01**	**113**	T	T	21 58 31.4	
	baz=306,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**28.02**	**113**	T	T	21 58 29.0	
	baz=306,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**28.03**	**113**	T	T	21 58 31.9	
	baz=306,slow=75,SNR=8.1						
MKAR	**Makanchi Array**	**44.68**	**305**	P	**P**	**21 31 58.1**	**+1.0**
	0.1nm,0.5s,baz=80,slow=11,SNR=1.7						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**53.16**	**31**	P	P	21 33 14.1	+12
	0.6nm,0.9s,baz=249,slow=7.6,SNR=5.0						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**53.55**	**186**	P	P	21 33 12.6	+7.5
	0.3nm,0.5s,baz=5.3,slow=7.5,SNR=5.4						
	0.3nm,0.5s						

IDC 27 22:00:38.2±2.4, 2°.28N×126°.99E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=203.2km s-min=26.5km az=66.0
DJA 27 22:00:43.8±1.4, 2°.N±3°×12°.6E±°, h17km±12km, M3.7/7, mB5.3/1, mb4.0/3, MLv3.5/7, Mw(mB)4.7/1
ISC 27 22:00:45.2±1.7, 2°.0N±0°.1×126°.5E±0°.3, h47km, n5, σ0§96/5, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.92**	**331**	S	**Sn**	**22 01 38.5**	**+0.1**
KDI	**Kendari**	**7.04**	**213**	P	**Pn**	**22 02 25.7**	**0.0**
	2μm6.7nm,1.3s						
WRA	**Warramunga Arr**	**23.13**	**161**	P	**P**	**22 05 46.7**	**-0.8**
	0.4nm,0.5s,baz=341,slow=11,SNR=10						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**26.51**	**165**	P	**P**	**22 06 19.6**	**+1.1**
	0.2nm,0.5s,baz=345,slow=13,SNR=4.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.82**	**326**	P	**P**	**22 10 38.8**	**-0.2**
	0.1nm,0.4s,baz=116,slow=8.1,SNR=4.9						
	0.1nm,0.4s						

TAP 27 22:27:23.2, 24°.49N×122°.77E, h93km, ML3.3, C
JMA 27 22:27:23.3±0.1, 24°.N±2°×122°.8E±0°.5, h92km±1km, MV2.6/15, NW OFF ISHIGAKIJIMA IS
ISC 27 22:27:23.4±1.3, 24°.42N±0°.04×122°.78E±0°.02, h92km±7km, n104, σ1§06/187, 14C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**76**	eP	**Pn**	**22 27 36.5**	**+0.1**
JYNG				eS	**Sn**	**22 27 46.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.22**	**77**	P	Pn	22 27 26.0	-11
YOJ	**Yonaguni jima**	**0.22**	**77**	eP	**Pn**	**22 27 36.6**	**+0.1**
YOJ				eS	**Sn**	**22 27 46.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.22**	**77**	P	**Pn**	**22 27 36.8**	**+0.1**
YOJ				S	**Sn**	**22 27 46.7**	**+0.2**
EOS3	**EOS3**	**0.44**	**253**	eP	**Pn**	**22 27 38.6**	**+0.9**
EOS3				eS	**Sn**	**22 27 50.3**	**+2.0**
EOS2	**EOS2**	**0.50**	**271**	eP	**Pn**	**22 27 38.6**	**+0.5**
EOS2				eS	**Sn**	**22 27 50.1**	**+1.0**
EOS4	**EOS4**	**0.51**	**235**	eP	**Pn**	**22 27 38.6**	**+0.6**
EOS4				eS	**Sn**	**22 27 49.7**	**+0.9**
ESAO	**Su ao**	**0.87**	**281**	eP	**Pn**	**22 27 41.9**	**+0.2**
ESAO				eS	**Sn**	**22 27 54.6**	**-0.9**
TWC	**Suao**	**0.87**	**283**	eP	**Pn**	**22 27 41.4**	**-0.4**
TWC				eS	**Sn**	**22 27 54.4**	**-1.1**
IRIF	**Iriomote-Funau**	**0.87**	**95**	P	**Pn**	**22 27 42.2**	**+0.4**
IRIF				S	**Sn**	**22 27 55.8**	**+0.3**
EWUT	**Wuta**	**0.91**	**272**	eP	**Pn**	**22 27 42.0**	**-0.2**
EWUT				eS	**Sn**	**22 27 55.6**	**-0.8**
ENA	**Nanau**	**0.95**	**271**	eP	**Pn**	**22 27 42.8**	**+0.2**
ENA				eS	**Sn**	**22 27 57.0**	**0.0**
EAHA	**Aohua**	**0.95**	**265**	eP	**Pn**	**22 27 42.9**	**+0.3**
EAHA				eS	**Sn**	**22 27 57.1**	**0.0**
NDS	**Dongshan**	**0.99**	**283**	eP	**Pn**	**22 27 43.4**	**+0.2**
NDS				eS	**Sn**	**22 27 57.1**	**-0.8**
TIPB	**Shuangxi**	**1.03**	**303**	eP	**Pn**	**22 27 43.2**	**-0.4**
TIPB				eS	**Sn**	**22 27 57.4**	**-1.3**
TWE	**Neicheng**	**1.06**	**287**	P	**Pn**	**22 27 43.7**	**-0.1**
TWE				eS	**Sn**	**22 27 57.8**	**-1.5**
SXI1	**Grass Mountain**	**1.06**	**310**	eP	**Pn**	**22 27 43.8**	**-0.3**
SXI1				eS	**Sn**	**22 27 58.6**	**-0.9**
ETL	**Fush Village**	**1.08**	**257**	eP	**Pn**	**22 27 44.0**	**-0.3**
ETL				eS	**Sn**	**22 27 59.7**	**-0.1**
NACB	**Ninganchiao**	**1.11**	**258**	P	**Pn**	**22 27 44.0**	**-0.4**
NACB	**Ninganchiao**	**1.11**	**258**	⇑P	**Pn**	**22 27 44.0**	**-0.4**
NACB				eS	**Sn**	**22 27 59.2**	**-1.1**
NWF	**Wu-fen Shan**	**1.12**	**306**	eP	**Pn**	**22 27 44.5**	**-0.2**
NWF				eS	**Sn**	**22 27 59.9**	**-0.7**
WFSB	**Wu-fen Shan**	**1.12**	**306**	eP	**Pn**	**22 27 44.6**	**+0.1**
WFSB				eS	**Sn**	**22 27 59.5**	**-1.0**
ENTT	**Nioudou**	**1.13**	**282**	eP	**Pn**	**22 27 45.0**	**+0.3**
ENTT				eS	**Sn**	**22 28 00.6**	**-0.2**
TWD	**Chiawan**	**1.13**	**253**	⇑P	**Pn**	**22 27 44.4**	**-0.3**
TWD				eS	**Sn**	**22 27 59.8**	**-0.9**
JKRS	**Kuro-shima**	**1.14**	**99**	P	**Pn**	**22 27 45.6**	**+0.9**
JKRS				S	**Sn**	**22 28 01.6**	**+0.8**
FUSB	**Fushanzhiwuyua**	**1.14**	**288**	⇑P	**Pn**	**22 27 44.9**	**0.0**
FUSB				eS	**Sn**	**22 27 59.8**	**-1.2**
LATG	**Datong**	**1.15**	**276**	⇑iP	**Pn**	**22 27 45.1**	**+0.1**
LATG				eS	**Sn**	**22 28 01.1**	**-0.2**
HWA	**Hwalien**	**1.16**	**248**	eP	**Pn**	**22 27 45.2**	**+0.2**
HWA				eS	**Sn**	**22 28 01.9**	**+0.6**
ETLH	**Xiulin Townshi**	**1.20**	**260**	eP	**Pn**	**22 27 45.5**	**-0.1**
ETLH				eS	**Sn**	**22 28 01.7**	**-0.7**
TEYL	**Yanliau Villag**	**1.21**	**243**	eP	**Pn**	**22 27 43.5**	**-2.1**
TEYL				eS	**Sn**	**22 28 00.4**	**-2.0**
NWLT	**Wulai**	**1.22**	**288**	eP	**Pn**	**22 27 45.8**	**+0.1**
NWLT				eS	**Sn**	**22 28 01.3**	**-1.3**
JIJ	**Ishigaki jima**	**1.24**	**92**	P	**Pn**	**22 27 46.3**	**+0.2**
JIJ				S	**Sn**	**22 28 02.4**	**-0.7**
ETM	**Tongmen**	**1.26**	**249**	eP	**Pn**	**22 27 46.0**	**-0.3**
ETM				eS	**Sn**	**22

VWDT	**VWDT**	**1.64 247**	⇑P		**Pn**	**22 27 51.5 +0.6**
VWDT			eS		**Sn**	**22 28 11.3 -0.5**
WHP	**Taichung City**	**1.68 266**	eP		**Pn**	**22 27 52.9 +1.3**
WHP			eS		**Sn**	**22 28 13.6 +0.7**
YULB	**Yu-li**	**1.70 233**	P		**Pn**	**22 27 51.6 -0.1**
YULB	**Yu-li**	**1.70 233**	⇑eP		**Pn**	**22 27 51.7 -0.1**
YULB			eS		**Sn**	**22 28 12.1 -1.2**
EYUL	**Yuli**	**1.71 232**	eP		**Pn**	**22 27 52.2 +0.3**
EYUL			eS		**Sn**	**22 28 13.7 +0.2**
TWF1	**Yuli**	**1.72 232**	⇑P		**Pn**	**22 27 52.2 +0.1**
TWF1			eS		**Sn**	**22 28 13.3 -0.5**
WCS	**Beigang Elemen**	**1.74 259**	eP		**Pn**	**22 27 53.3 +1.0**
WCS			eS		**Sn**	**22 28 15.6 +1.4**
CHKH	**Chenggong**	**1.76 226**	eS		**Sn**	**22 28 13.1 -1.5**
JTJ	**Tarama**	**1.77 82**	eP		**Pn**	**22 27 53.1 +0.5**
JTJ			eS		**Sn**	**22 28 14.7 -0.1**
SSLB	**Suanglung**	**1.78 250**	P		**Pn**	**22 27 53.3 +0.4**
SSLB	**Suanglung**	**1.78 250**	⇑P		**Pn**	**22 27 53.2 +0.3**
SSLB			eS		**Sn**	**22 28 15.2 -0.1**
SMLT	**Sun Moon Lake**	**1.80 253**	eP		**Pn**	**22 27 52.9 -0.2**
SMLT			eS		**Sn**	**22 28 15.6 -0.1**
NMLH	**Miaoli**	**1.82 274**	eP		**Pn**	**22 27 54.0 +0.7**
FULB	**Fuli**	**1.82 229**	eP		**Pn**	**22 27 53.4 0.0**
FULB			eS		**Sn**	**22 28 15.5 -0.7**
TYC	**Yuchr**	**1.83 254**	eP		**Pn**	**22 27 54.4 +1.0**
TYC			eS		**Sn**	**22 28 17.4 +1.1**
CHKT	**Chengkung**	**1.84 225**	eP		**Pn**	**22 27 51.5 -2.2**
CHKT			eS		**Sn**	**22 28 15.1 -1.5**
WHYT	**Xinyi Township**	**1.90 248**	eP		**Pn**	**22 27 55.6 +1.2**
WHYT			eS		**Sn**	**22 28 19.4 +1.4**
WJS	**Zhushan**	**1.96 253**	eP		**Pn**	**22 27 57.2 +2.0**
WJS			eS		**Sn**	**22 28 21.9 +2.4**
EDH	**Donghe**	**1.97 224**	eP		**Pn**	**22 27 55.5 +0.2**
EDH			eS		**Sn**	**22 28 19.0 -0.6**
ALS	**Alishan**	**2.02 244**	eP		**Pn**	**22 27 57.3 +1.1**
ALS			eS		**Sn**	**22 28 21.8 +0.7**
ELDTW	**Lidau**	**2.02 233**	eP		**Pn**	**22 27 56.2 +0.1**
ELDTW			eS		**Sn**	**22 28 19.8 -1.3**
CHN5	**Tsauling**	**2.09 247**	eP		**Pn**	**22 27 58.5 +1.6**
CHN5			eS		**Sn**	**22 28 24.2 +1.7**
LDUT	**Ludao**	**2.11 215**	eS		**Sn**	**22 28 20.9 -1.9**
WDLH	**Douliu**	**2.17 251**	eP		**Pn**	**22 27 59.2 +1.3**
WDLH			eS		**Sn**	**22 28 26.8 +2.5**
STYH	**Taoyuan**	**2.21 236**	eP		**Pn**	**22 27 59.7 +1.2**
STYH			eS		**Sn**	**22 28 26.0 +0.7**
WCKO	**Fanlu**	**2.21 244**	eP		**Pn**	**22 28 00.1 +1.6**
WCKO			eS		**Sn**	**22 28 27.2 +1.8**
JIRB	**Irabujima**	**2.22 79**	eP		**Pn**	**22 27 59.1 +0.6**
JIRB			eS		**Sn**	**22 28 25.2 -0.1**
TWGBT	**Beinan**	**2.23 225**	eS		**Sn**	**22 28 24.8 -0.8**
TWG	**Pinlang**	**2.23 225**	eS		**Sn**	**22 28 24.7 -1.0**
TPUB	**Ta-pu**	**2.26 241**	P		**Pn**	**22 28 01.1 +2.0**
TPUB	**Ta-pu**	**2.26 241**	S		**Sn**	**22 28 29.3 +2.9**
TPUB	**Ta-pu**	**2.26 241**	eP		**Pn**	**22 28 00.9 +1.8**
TPUB			eS		**Sn**	**22 28 28.6 +2.2**
CHN4	**Tsaushan**	**2.26 243**	eP		**Pn**	**22 28 01.0 +1.9**
CHN4			eS		**Sn**	**22 28 29.5 +3.0**
TWK	**Hsinying**	**2.39 242**	eP		**Pn**	**22 28 02.3 +1.4**
TWK			eS		**Sn**	**22 28 31.6 +2.0**
CHN1	**Nanshi**	**2.40 240**	eP		**Pn**	**22 28 02.9 +2.0**
CHN1			eS		**Sn**	**22 28 31.4 +1.7**
SNST	**Tainan City**	**2.41 241**	eS		**Sn**	**22 28 31.5 +1.6**
ECL	**Taimali**	**2.47 223**	eS		**Sn**	**22 28 30.4 -0.9**
LAY	**Lan-yu**	**2.62 206**	eP		**Pn**	**22 28 03.5 -0.5**
LAY			eS		**Sn**	**22 28 31.7 -3.4**
LYUB	**Lan-yu**	**2.64 205**	eP		**Pn**	**22 28 03.3 -0.9**
LYUB			eS		**Sn**	**22 28 32.2 -3.2**
SLIU	**Shizi**	**2.85 220**	eP		**Pn**	**22 28 06.7 -0.2**
SLIU			eS		**Sn**	**22 28 39.6 -0.8**

*IDC **27** 22:29:11.5±1.1, 3.80N×127.34E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=70.3km s-min=14.5km az=69.0*
*DJA **27** 22:29:17.6±0.5, 4.N±8.×12.7E±., h39km±13km, M4.1/9, mb4.2/4, MLv4.1/9*
*NEIC **27** 22:29:18.6±1.5, 3.53N±0.09×126.85E±0.05, h48km±9km, mb4.3/15, Error ellipse: s-maj=14.0km s-min=4.4km az=203.0*

ISC 27 22:29:18.5±0.6, 3.58N±0.07×126.89E±0.08, h48km, n35, σ1§23/37, mb4.1/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.36 275**		P	**Pn**	**22 29 40.8**	**-0.3**
SGSI				S	**Sn**	**22 29 57.3**	**-0.7**
TNTI	**Ternate**	**2.83 170**		Pn	**Pn**	**22 30 01.5**	**+0.3**
TNTI				Sn	**Sn**	**22 30 31.9**	**-2.1**
TNTI	**Ternate**	**2.83 170**		P	**Pn**	**22 30 01.3**	**+0.1**
KMSI	**Cibinong**	**4.16 224**		P	**Pn**	**22 30 21.2**	**+1.6**
SANI	**Sanana**	**5.66 189**		P	**Pn**	**22 30 41.6**	**+1.5**
	0.1nm10nm,0.7s						
TOLI2	**Tolitoli**	**6.57 248**			**Pn**	**22 30 52.2**	**-0.5**
FAKI	**Fak Fak**	**8.39 140**		P	**Pn**	**22 31 18.6**	**+1.0**
KNRA	**Kununurra**	**19.22 175**		Pn	**P**	**22 33 39.0**	**+0.3**
KNRA				IAmb	IAmb	22 33 40.0	
	comp=Z,12nm,1.2s						
TPUB	**Ta-pu**	**20.52 343**		P	**P**	**22 33 51.1**	**-1.8**
TPUB				IAmb	IAmb	22 34 05.6	
	comp=Z,13nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.57 183**		P	**P**	**22 34 02.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.57 183**		P	**P**	**22 34 05.8**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=4.8,slow=5.1,SNR=11						
	comp=Z,2.1nm,0.6s						
WB0	**Warrumunga Arr**	**24.34 163**		P	**P**	**22 34 30.5**	**-1.6**
WB0				IAmb	IAmb	22 34 48.3	
	comp=Z,5.1nm,0.8s						
WRA	**Warrumunga Arr**	**24.49 163**		P	**P**	**22 34 32.3**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=335,slow=11,SNR=18						
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**27.93 166**		P	**P**	**22 35 06.2**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=342,slow=12,SNR=8.7						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.09 301**		P	**P**	**22 35 34.3**	**+1.8**
	comp=Z,1.2nm,0.3s,baz=116,slow=9.7,SNR=4.3						
	comp=Z,1.2nm,0.3s						
BBOO	**Buckleboo**	**37.22 167**		P	**P**	**22 36 24.6**	**-0.8**
STKA	**Stephens Creek**	**37.93 159**		P	**P**	**22 36 30.9**	**-0.5**
STKA	**Stephens Creek**	**37.93 159**		P	**P**	**22 36 30.6**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=297,slow=9.4,SNR=4.2						
	comp=Z,1.5nm,0.5s						
SHL	**Shillong**	**40.09 306**			**P**	**22 36 48.7**	**-1.2**
SONM	**Songino Array**	**47.49 341**		P	**P**	**22 37 49.1**	**+0.1**
SONM	**Songino Array**	**47.49 341**		P	**P**	**22 37 48.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=153,slow=7.8,SNR=4.5						
	comp=Z,0.5nm,0.6s						
MK31	**Makanchi Array**	**57.77 325**		P	**P**	**22 39 04.2**	**-0.6**
MK31				IAmb	IAmb	22 39 06.6	
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**57.77 325**		P	**P**	**22 39 04.4**	**-0.4**
MKAR	**Makanchi Array**	**57.77 325**		P	**P**	**22 39 04.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=121,slow=6.5,SNR=27						
	comp=Z,1.0nm,0.4s						
MAKZ	**Makanchi**	**57.96 325**		P	**P**	**22 39 05.0**	**-1.2**
MAKZ				IAmb	IAmb	22 39 07.8	
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**60.80 333**		P	**P**	**22 39 26.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=134,slow=5.1,SNR=2.2						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**61.95 327**		P	**P**	**22 39 33.1**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=130,slow=6.6,SNR=23						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**61.95 327**		P	**P**	**22 39 31.9**	**-1.5**
KURK				IAmb	IAmb	22 39 35.4	
	comp=Z,2.9nm,0.7s						
BVAR	**Borovoye Array**	**67.53 327**		P	**P**	**22 40 09.9**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=126,slow=10.0,SNR=6.2						
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**72.37 321**		P	**P**	**22 40 38.6**	**-0.9**
ABKAR	**Akbulak array**	**72.37 321**		P	**P**	**22 40 38.8**	**-0.8**
ABKAR				IAmb	IAmb	22 40 41.0	
	comp=Z,0.7nm,0.6s						
B22K	**Teshekpuk Lake**	**83.18 20**		P	**P**	**22 41 40.5**	**+1.3**
B22K				IAmb	IAmb	22 41 57.0	
	comp=Z,5.3nm,1.5s						
SML	**Sawmill**	**84.40 28**		P	**P**	**22 41 46.6**	**+0.9**
SML				IAmb	IAmb	22 41 47.7	
	comp=Z,4.6nm,0.9s						
G24K	**Hadweenzic Riv**	**85.01 23**		P	**P**	**22 41 50.7**	**+2.1**
G24K				IAmb	IAmb	22 42 09.4	
	comp=Z,3.1nm,1.5s						
BMAR	**Burnt Mountain**	**86.16 23**		P	**P**	**22 41 56.5**	**+2.1**

*IDC **27** 22:31:24.1±3.3, 23.80S×179.97W, h494km±33km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=33.1km s-min=23.2km az=22.0*

ISC 27 22:31:24.9±1.1, 24.1S±0.1×180.0E±0.2, h500km, n8, σ1§81/9, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.37 189**		P	**P**	**22 34 30.2**	**+1.9**
	3.5nm,0.3s,baz=2.6,slow=2.3,SNR=9.0						
URZ				S	**S**	**22 36 56.4**	**-3.2**
	9.2nm,1.0s,baz=66,slow=13,SNR=1.5						
ASAR	**Alice Springs**	**42.01 261**		P	**P**	**22 38 31.9**	**-0.1**
	1.6nm,0.8s,baz=94,slow=7.9,SNR=10						
ASAR				ScP	**ScP**	**22 43 18.8**	**+0.4**
	0.8nm,0.8s,baz=96,slow=3.6,SNR=5.1						
	1.6nm,0.8s						
WRA	**Warrumunga Arr**	**42.40 266**		P	**P**	**22 38 35.2**	**+0.1**
	2.5nm,0.6s,baz=104,slow=8.0,SNR=14						
	2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.81 266**		P	**P**	**22 39 38.9**	**0.0**
	1.3nm,0.6s,baz=125,slow=8.7,SNR=2.5						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**66.03 180**		P	**P**	**22 41 22.6**	**+1.3**
	1.7nm,1.0s,baz=324,slow=0.5,SNR=9.0						
	1.7nm,1.0s						
TXAR	**Lajitas Array**	**90.52 58**		P	**P**	**22 43 33.0**	**-0.4**
	0.6nm,0.8s,baz=257,slow=4.0,SNR=2.3						
	0.6nm,0.8s						
HFS	**Hagfors**	**142.70 349**		PKhKP	PKPpre	22 49 55.6	
	2.3nm,0.9s,baz=90,slow=5.8,SNR=5.4						
EKA	**Eskdalemuir Ar**	**148.67 3**		PKPbc	**PKPbc**	**22 50 12.9**	**-2.0**
	0.4nm,0.7s,baz=359,slow=5.6,SNR=3.9						

*DJA **27** 22:37:26.7±0.3, 2.N±4.×12.7E±., h10km, M3.6/7, mb4.0/1, MLv3.4/7*

IDC 27 22:37:20.8±2.1, 2.14N×126.48E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=213.8km s-min=23.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.62 147**		P	Pg	22 37 53.6	+1.6
WRA	**Warrumunga Arr**	**23.26 161**		P	P	22 42 29.4	-0.8
	0.2nm,0.3s,baz=339,slow=10,SNR=7.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**26.65 165**		P	P	22 43 02.4	+0.8
	0.1nm,0.3s,baz=345,slow=11,SNR=1.7						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.72 326**		P	P	22 47 20.7	+0.3
	0.4nm,0.9s,baz=122,slow=7.6,SNR=5.3						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**62.94 328**		P	P	22 47 48.8	-0.3
	0.3nm,0.5s,baz=127,slow=6.3,SNR=4.2						
	0.3nm,0.5s						

*IDC **27** 23:23:12.1±1.4, 28.07S×179.32W, h390km±15km, mb3.3/4, mbtmp4.1/5, Error ellipse: s-maj=29.3km s-min=25.1km az=173.0*

ISC 27 23:23:12.5±0.9, 28.2S±0.1×179.3W±0.2, h400km, n13, σ0§94/13, mb3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.59 131**		P	**Pn**	**23 24 05.4**	**-0.7**
	284nm,0.3s,baz=23,slow=22,SNR=7.7						
URZ	**Urewera**	**10.46 196**		P	**P**	**23 25 35.5**	**+0.5**
	4.7nm,0.3s,baz=348,slow=6.0,SNR=16						
URZ				S	**S**	**23 27 30.9**	**-1.7**
	27nm,0.5s,baz=140,slow=18,SNR=14						
ASAR	**Alice Springs**	**42.13 265**		P	**P**	**23 30 28.3**	**+0.4**
	0.6nm,0.5s,baz=95,slow=7.2,SNR=10						
	0.6nm,0.5s						
WRA	**Warrumunga Arr**	**42.91 271**		P	**P**	**23 30 34.0**	**-0.1**
	1.0nm,0.3s,baz=105,slow=7.8,SNR=33						
	1.0nm,0.3s						
QSPA	**South Pole Qui**	**61.89 180**		P	**P**	**23 32 52.9**	**+2.0**
	1.5nm,1.0s,baz=297,slow=4.5,SNR=2.6						
	1.5nm,1.0s						
MJAR	**Matsushiro Arr**	**75.81 326**		P	**P**	**23 34 16.1**	**+0.2**
	1.2nm,0.3s,baz=159,slow=6.0,SNR=1.9						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**115.50 311**		PKP	**PKiKP**	**23 41 07.1**	**-0.4**
	0.3nm,0.6s,baz=108,slow=3.2,SNR=1.7						
BVAR	**Borovoye Array**	**124.05 317**		PKP	**PKiKP**	**23 41 23.8**	**-0.2**
	0.7nm,0.6s,baz=96,slow=3.0,SNR=1.6						
FINES	**FINESS Array B**	**142.71 340**		PKhKP	PKPpre	23 41 55.1	
	1.3nm,0.5s,baz=46,slow=3.8,SNR=5.1						
HFS	**Hagfors**	**146.88 348**		PKPbc	**PKPbc**	**23 42 07.2**	**-0.8**
	1.4nm,0.6s,baz=46,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**148.88 324**		PKPbc	**PKPbc**	**23 42 13.1**	**-0.3**
	1.3nm,0.5s,baz=47,slow=3.4,SNR=6.0						
MMAI	**Mount Meron Ar**	**149.84 288**		PKPbc	**PKiKP**	**23 42 17.4**	**+0.2**
	2.7nm,0.7s,baz=86,slow=7.4,SNR=2.0						
BRTR	**Keskin Array B**	**150.53 302**		PKPbc	**PKiKP**	**23 42 18.0**	**-0.5**
	0.8nm,0.8s,baz=103,slow=4.6,SNR=1.9						

*IDC **27** 23:27:01.6±0.4, 1.24S×101.55E, h0km, mb4.6/34, mbtmp4.6/38, ML4.3/4, MS4.8/74, Error ellipse: s-maj=12.7km s-min=7.9km az=50.0*
*RSNC **27** 23:27:04.4±0.0, 1.S±2.×10.2E±., h10km±9km, M2.0, ML1.9, Hypocentre not reviewed by the ISC*
*MOS **27** 23:27:04.9±1.1, 1.22S×101.58E, h28km, mb5.2/55, MS5.0/12, Error ellipse: s-maj=8.0km s-min=4.0km az=116.9*
*NEIC **27** 23:27:04.7, 1.29S×101.60E, h26km*
*NEIC **27** 23:27:04.7, 1.70S×101.20E, h26km, Moment Tensor Solution. Duration: 2§3 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.09; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.09; $M_{\theta\phi}$-1.73; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.75000×10^{17} NP1: ϕ_s176.10000°, δ86.65000°, λ-3.00000°. NP2:ϕ_s266.28000°, δ87.00000°, λ-176.65000°. Principal axes: T 1.7910, Plg0.0000°, Azm41.0000°; N -0.0763, Plg86.0000°, Azm308.0000°; P -1.7148, Plg4.0000°, Azm131.0000°;*
*NEIC **27** 23:27:04.2±1.8, 1.32S±0.05×101.58E±0.06, h10km±1km, mb5.2/115, Ms_20 5.2/95, Mww5.4/20 Error ellipse: s-maj=10.5km s-min=7.3km az=67.0*
*DJA **27** 23:27:05.2±0.6, 1.S±1.×10.2E±., h12km±4km, M5.3/96, mB5.8/63, mb5.2/96, MLv6.0/25, Mw(mB)5.3/63, MwMwp5.1/28, Mwp5.4/28*
*GCMT **27** 23:27:05.2±0.1, 1.40S±0.01×101.52E±0.01, h12km, MW5.4/138, Moment Tensor Solution. s114,c190; s138,c266; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.09±.01; $M_{\theta\theta}$0.01±.01; $M_{\phi\phi}$-0.09±.02; $M_{r\theta}$0.14±.04; $M_{\theta\phi}$-1.34±.01; $M_{\phi r}$-0.19±.04; Best double couple: $M_0$1.36300×10^{17} NP1:ϕ_s88.00000°, δ81.00000°, λ174.00000°. NP2:ϕ_s179.00000°, δ84.00000°, λ9.00000°. Principal axes: T 1.3400, Plg11.0000°, Azm44.0000°; N 0.0470, Plg79.0000°, Azm215.0000°; P -1.3870, Plg2.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 23:27:06.6±0.4, 1.38S±0.03×101.52E±0.03, h26km±2km, h27km:pP-P, n767, σ1§69/781, mb5.0/205, MS5.1/151, 49C-36D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.45 309**		P	**Pn**	**23 27 30.0**	**-1.0**
BKNI	**Bangkinang**	**1.76 344**			**Pn**	**23 27 34.2**	**-1.1**
BKNI					**Sb**	**23 27 59.9**	**0.0**
BKNI	**Bangkinang**	**1.76 344**		P	**Pb**	**23 27 37.2**	**-1.0**
BKNI	**Bangkinang**	**1.76 344**		S	**Sb**	**23 28 00.9**	**+1.0**
BKNI	**Bangkinang**	**1.76 344**		P	**Pn**	**23 27 34.2**	**-1.1**
PPSI	**Pulau Pagai**	**2.04 228**		P	**Pn**	**23 27 40.0**	**+0.8**
SISI	**Saibi**	**2.43 271**		P	**Pn**	**23 27 44.0**	**-0.5**
KSI	**Kapahiang**	**2.50 155**		P	**Pn**	**23 27 45.5**	**-0.1**
MNSI	**Mandailing Nat**	**2.90 318**		P	**Pn**	**23 27 50.9**	**-0.2**
MNAI	**Manna**	**3.29 154**		Pn	**Pn**	**23 27 57.0**	**+0.5**
MNAI	**Manna**	**3.29 154**		P	**Pn**	**23 27 58.5**	**+2.0**
MNAI	**Manna**	**3.29 154**		P	**Pn**	**23 27 56.0**	**-0.5**
PBSI	**Pulau Batu**	**3.49 292**		P	**Pn**	**23 27 58.7**	**-0.5**
PMBI	**Palembang**	**3.60 115**		Pn	**Pn**	**23 27 57.8**	**-2.9**
PMBI	**Palembang**	**3.60 115**		P	**Pn**	**23 27 59.6**	**-1.1**
PMBI	**Palembang**	**3.60 115**		P	**Pn**	**23 27 58.8**	**-1.9**
TPRI	**Tanjung Pinang**	**3.78 53**		P	**Pn**	**23 28 01.4**	**-1.7**
MYKOM	**Kota Tinggi**	**3.92 37**		Pn	**Pn**	**23 28 02.8**	**-2.2**
MDSI	**Maura Dua**	**4.07 139**		P	**Pn**	**23 28 05.2**	**-2.0**
PPBI	**Pangkal Pinang**	**4.68 100**		P	**Pn**	**23 28 14.1**	**-1.5**
GSI	**Gunungsitoli**	**4.76 304**		Pn	**Pn**	**23 28 17.2**	**+0.6**
GSI	**Gunungsitoli**	**4.76 304**		P	**Pn**	**23 28 17.9**	**+1.3**
RPSI	**Rantau Prapat**	**4.80 327**		Pn	**Pn**	**23 28 16.9**	**-0.3**
RPSI	**Rantau Prapat**	**4.80 327**			**Pn**	**23 28 15.0**	**-2.3**
PSI	**Prapat**	**4.89 328**		Pn	**Pn**	**23 28 15.0**	**-3.6**
	4.2nm,0.3s,baz=151,slow=13,SNR=18						
PSI				Lg	Lg	23 29 35.9	
	188nm,0.3s,baz=252,slow=19,SNR=6.7						
PSI				LR	LR	23 29 57.7	
	comp=Z,9μm,18.6s,baz=166,slow=37						
	23nm,0.6s						
PSI	**Prapat**	**4.89 328**		P	**Pn**	**23 28 18.5**	**-0.1**
PSI	**Prapat**	**4.89 328**		P	**Pn**	**23 28 15.0**	**-3.6**
TSI	**Tuntungan**	**5.67 329**		P	**Pn**	**23 28 30.3**	**+1.1**
IPM	**Ipoh**	**5.84 355**		Pn	**Pn**	**23 28 31.7**	**+0.2**
IPM	**Ipoh**	**5.84 355**		P	**Pn**	**23 28 32.2**	**+0.7**
	323nm,0.8s						
TPI	**Tanjungpandan**	**6.28 103**		P	**Pn**	**23 28 35.2**	**-2.4**
	6.1nm7μm3μm96nm,0.6s						
SNSI	**Sinabang, Aceh**	**6.41 306**		P	**Pn**	**23 28 40.6**	**+1.3**
SBJI	**Serang**	**6.59 136**		P	**Pn**	**23 28 44.6**	**+2.8**
CGJI	**Cibinong**	**6.66 141**		P	**Pn**	**23 28 42.6**	**-0.2**
	8μm582nm,1.4s						
KULM	**Kulim**	**6.68 353**			**Pn**	**23 28 42.1**	**-1.0**
KULM	**Kulim**	**6.68 353**		P	**Pn**	**23 28 43.1**	**0.0**
	301nm,0.9s						
TNG	**Tangerang**	**6.99 133**		P	**Pn**	**23 28 47.7**	**+0.4**
TNG				P	**Pn**	**23 28 48.0**	**+0.7**
SKJI	**Sukabumi**	**7.52 138**		P	**Pn**	**23 28 54.7**	**+0.1**
MLSI	**Meulaboh, Aceh**	**7.58 318**		P	**Pn**	**23 28 56.4**	**+0.9**
LHMI	**Lhok Sumawe**	**7.99 325**			**Pn**	**23 29 01.2**	**+0.1**
LHMI	**Lhok Sumawe**	**7.99 325**		P	**Pn**	**23 29 02.0**	**+0.9**
	304nm,0.8s						
LHMI	**Lhok Sumawe**	**7.99 325**		P	**Pn**	**23 29 01.5**	**+0.4**
	2.6nm11μm6μm304nm,0.8s						
CNJI	**Cibinong**	**8.12 137**		P	**Pn**	**23 29 02.8**	**-0.1**
	4μm330nm,1.3s						
LEM	**Lembang**	**8.14 132**		Pn	**Pn**	**23 29 03.2**	**-0.1**
	8.8nm,0.3s,baz=354,slow=9.0,SNR=47						
LEM				Sn	**Sn**	**23 30 37.1**	**+2.5**
	6.8nm,0.3s,baz=341,slow=22,SNR=1.8						
LEM				Lg	Lg	23 31 19.4	
	5.6nm,0.3s,baz=325,slow=23,SNR=1.7						
LEM				LR	LR	23 32 48.9	
	comp=Z,29μm,18.1s,baz=284,slow=42						
	37nm,0.8s						
LEM	**Lembang**	**8.14 132**		P	**Pn**	**23 29 02.9**	**-0.4**
JCJI	**Jatiwangi**	**8.44 127**		P	**Pn**	**23 29 11.6**	**+4.4**
	12μm713nm,1.5s						
BBJI	**Bungbulang**	**8.60 135**		P	**Pn**	**23 29 09.1**	**-0.3**
	287nm,1.3s						
BSI	**Banda Aceh**	**9.23 318**		P	**Pn**	**23 29 17.7**	**-0.4**
	8μm4μm389nm,1.3s						
KSM	**Kuching**	**9.24 72**		Pn	**Pn**	**23 29 16.8**	**-1.4**
CMJI	**Cimerak**	**9.39 133**		P	**Pn**	**23 29 19.9**	**-0.4**
	7μm4μm336nm,1.3s						
STKI	**Sintang**	**10.06 82**		P	**Pn**	**23 29 31.1**	**+1.6**
SRIT	**Nakonsritamara**	**10.09 349**			**Pn**	**23 29 29.9**	**0.0**
SRIT	**Nakonsritamara**	**10.09 349**		P	**Pn**	**23 29 31.3**	**+1.4**
	214nm,0.9s						
SMRI	**Semarang**	**10.53 123**			**Pn**	**23 29 36.7**	**+0.8**
SMRI	**Semarang**	**10.53 123**		P	**Pn**	**23 29 37.1**	**+1.2**
	294nm,1.0s						
SMRI	**Semarang**	**10.53 123**		P	**Pn**	**23 29 39.2**	**+3.3**
	3μm290nm,1.2s						
YOGI	**Yogyakarta**	**10.84 126**		P	**Pn**	**23 29 40.1**	**0.0**
	7μm444nm,1.5s						
UGM	**Wanagama**	**11.07 126**		Pn	**Pn**	**23 29 44.1**	**+0.7**
UGM	**Wanagama**	**11.07 126**		P	**Pn**	**23 29 46.2**	**+2.8**
	382nm,1.6s						
UGM	**Wanagama**	**11.07 126**		P	**Pn**	**23 29 43.5**	**+0.1**
	5μm386nm,1.7s						
SBUM	**Sibu**	**11.36 70**			**Pn**	**23 29 46.4**	**-0.8**
SBUM	**Sibu**	**11.36 70**		P	**Pn**	**23 29 49.1**	**+1.9**
	27nm,0.9s						
NGJI	**Ngawi**	**11.56 121**		P	**Pn**	**23 29 53.3**	**+3.3**
	4μm319nm,1.1s						
TBJI	**Tambak Boyo**	**11.63 118**		P	**Pn**	**23 29 48.8**	**-2.2**
	6μm4μm258nm,1.3s						
COCO	**West Island**	**11.70 203**			**Pn**	**23 29 49.3**	**-2.6**
COCO	**West Island**	**11.70 203**		P	**Pn**	**23 29 50.6**	**-1.3**
COCO				P	**Pn**	**23 29 50.6**	**-1.3**
COCO	**West Island**	**11.70 203**		P	**Pn**	**23

comp=Z,1.0nm,0.3s,baz=167,slow=5.9,SNR=0.8
CMAR Lg Lg 23 37 21.8
comp=Z,1.3nm,0.3s,baz=335,slow=27,SNR=4.8
CMAR LR LR 23 39 58.2
comp=Z,2μm,19.6s,baz=160,slow=39
comp=Z,4.2nm,0.8s
APSI Ampana 20.13 89 P **P 23 31 38.2 -0.7**
comp=Z,3μmcomp=Z,102nm,1.1s
CHTO Chiang Mai 20.22 353 P **P 23 31 38.6 -1.2**
CHTO Chiang Mai 20.22 353 P **P 23 31 38.6 -1.2**
CHTO pmax pmax
comp=Z,57nm,1.7s
CHTO MLR MLR
comp=Z,1μm,18.0s
WSI Waingapu 20.41 114 P **P 23 31 42.5 +0.6**
comp=Z,224nm,1.3s
MRSI Marisa 20.51 85 P **P 23 31 42.9 0.0**
comp=Z,4μmcomp=Z,435nm,1.1s
BASI Baing, Sumba 20.88 116 P **P 23 31 46.3 -0.7**
comp=Z,3μmcomp=Z,173nm,0.8s
KDI Kendari 21.23 97 P **P 23 31 52.0 +1.2**
comp=Z,2μmcomp=Z,76nm,1.0s
LUWI Luwuk 21.25 89 P **P 23 31 49.7 -1.3**
LUWI Luwuk 21.25 89 P **P 23 31 53.4 +2.4**
comp=Z,230nm,1.4s
LUWI Luwuk 21.25 89 P **P 23 31 52.5 +1.5**
comp=Z,4μmcomp=Z,216nm,1.1s
BBSI Bau Bau 21.41 102 P **P 23 31 52.6 0.0**
comp=Z,3μmcomp=Z,227nm,1.2s
MMRI Maumere 21.85 110 P **P 23 31 55.6 -1.8**
MMRI IAmb IAmb 23 32 10.6
comp=Z,134nm,1.4s
MMRI IAMs_20 IAMs_20 23 41 23.4
comp=Z,4μm,18.0s
MMRI Maumere 21.85 110 P **P 23 31 59.3 +1.9**
comp=Z,55nm,1.2s
MMRI Maumere 21.85 110 P **P 23 31 59.4 +2.0**
comp=Z,56nm,0.7s
QIZ Qiongzhong 21.87 22 P **P 23 31 56.3 -1.2**
QIZ IAmb IAmb 23 32 13.5
comp=Z,94nm,1.3s
QIZ Qiongzhong 21.87 22 P **P 23 31 57.8 +0.3**
QIZ sP **pP 23 32 03.5 -1.3**
QIZ S **S 23 36 00.0 +2.0**
QIZ pmax pmax
comp=Z,30nm,1.8s
QIZ LR LR
comp=Z,6μm,10.4s
QIZ LR LR
comp=Z,12μm,13.7s
QIZ LR LR
comp=Z,6μm,11.7s
PALK Pallekele 22.48 293 P **P 23 32 03.9 -0.3**
PALK IAmb IAmb 23 32 25.0
comp=Z,97nm,1.2s
PALK Pallekele 22.48 293 LR LR 23 40 39.7
comp=Z,3μm,18.2s,baz=111,slow=36
PALK Pallekele 22.48 293 P **P 23 32 06.9 +2.8**
PALK P **P 23 32 06.9 +2.8**
PALK P **P 23 32 06.9 +2.8**
PALK S **S 23 36 15.9 +6.3**
PALK S **S 23 36 15.9 +6.3**
PALK S **S 23 36 15.9 +6.3**
PALK Pallekele 22.48 293 *d i*P **P 23 32 05.0 +0.8**
PALK pmax pmax
comp=Z,70nm,1.0s
KMSI Cibinong 22.55 85 P **P 23 32 05.5 +0.6**
comp=Z,5μmcomp=Z,179nm,0.7s
SLVN Son La 22.69 6 P **P 23 32 06.1 -0.3**
SLVN IAmb IAmb 23 32 24.8
comp=Z,70nm,1.2s
SLVN Son La 22.69 6 P **P 23 32 07.5 +1.1**
comp=Z,56nm,1.8s
BATI Baumata 23.70 113 P **P 23 32 13.9 -2.6**
SOEI Soe 24.11 111 P **P 23 32 17.4 -3.1**
SOEI IAmb IAmb 23 32 46.4
comp=Z,68nm,0.9s
SOEI IAMs_20 IAMs_20 23 43 24.1
comp=Z,6μm,18.0s
SOEI Soe 24.11 111 P **P 23 32 22.6 +2.1**
comp=Z,90nm,1.3s
SOEI Soe 24.11 111 P **P 23 32 19.7 -0.8**
comp=Z,1μmcomp=Z,90nm,1.2s
SANI Sanana 24.47 92 P **P 23 32 24.1 +0.4**
comp=Z,38nm,1.1s
SANI Sanana 24.47 92 P **P 23 32 22.0 -1.7**
comp=Z,38nm,1.1s
TGY Tagaytay City 24.63 51 LR LR 23 42 51.0
comp=Z,3μm,20.4s,baz=262,slow=39
DAV Davao City (W) 25.44 70 P **P 23 32 32.5 0.0**
DAV Davao City (W) 25.44 70 LR LR 23 42 52.6
comp=Z,2μm,18.4s,baz=254,slow=38
NLAI Namlea 25.63 95 P **P 23 32 36.1 +1.9**
comp=Z,964nmcomp=Z,56nm,1.0s
BRDH Bariadhala 25.77 339 LR LR 23 44 07.7
comp=Z,5μm,19.3s,baz=130,slow=40
TNTI Ternate 25.94 85 P **P 23 32 35.9 -1.2**
KMI Kunming 26.37 2 ⇑P **P 23 32 42.5 +1.4**
KMI S **S 23 37 15.8 +2.8**
KMI pmax pmax
comp=Z,16nm,1.3s
KMI LR LR
comp=Z,6μm,12.3s
KMI LR LR
comp=Z,8μm,12.2s
KMI LR LR
comp=Z,8μm,11.5s
TNCH TengChong 26.41 354 ⇑P **P 23 32 44.0 +2.6**
TNCH pP pP 23 32 46.5 -2.7
TNCH sP sP 23 32 48.0 -4.5
TNCH PP **PnPn 23 33 27.5 +5.8**
TNCH S **S 23 37 15.5 +1.9**
TNCH sS sS 23 37 25.8 -0.8
TNCH pmax pmax
comp=Z,34nm,1.2s
TNCH pmax pmax
comp=Z,120nm,3.5s
TNCH LR LR
comp=Z,11μm,9.9s
TNCH LR LR
comp=Z,4μm,11.0s
TNCH LR LR
comp=Z,13μm,11.1s
MBWA Marble Bar 26.50 139 P **P 23 32 40.9 -1.1**
MBWA Marble Bar 26.50 139 P **P 23 32 44.0 +1.9**
MBWA S **S 23 37 17.9 +3.1**
HKPS Hong Kong Po S 26.55 27 IAMs_20 IAMs_20 23 43 49.6
comp=Z,6μm,18.0s
AAI Ambon 26.75 95 P **P 23 32 47.0 +2.6**
comp=Z,2μmcomp=Z,42nm,0.8s
PSAC1 Pilbara Seismi 26.82 140 P **P 23 32 39.8 -5.1**
PSA00 Pilbara Seismi 26.87 140 P **P 23 32 43.0 -2.4**
PSA00 IAmb IAmb 23 33 04.0
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 26.87 140 P **P 23 32 44.5 -0.9**
comp=Z,47nm,0.9s
MSAI Masohi 27.46 95 P **P 23 32 49.7 -1.1**
comp=Z,4μmcomp=Z,70nm,0.8s
PZH PanZhiHua 27.72 0 P **P 23 32 53.8 +0.7**
PZH S **S 23 37 39.0 +4.9**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,120nm,4.5s
PZH LR LR
comp=Z,5μm,11.2s
PZH LR LR
comp=Z,8μm,13.7s
PZH LR LR
comp=Z,4μm,10.8s
GULI GuiLin 27.86 17 P **P 23 32 56.8 +2.6**
GULI S **S 23 37 39.5 +3.4**
GULI pmax pmax
comp=Z,10.0nm,1.5s
GULI pmax pmax
comp=Z,130nm,6.0s
GULI LR LR
comp=Z,5μm,14.5s
GULI LR LR
comp=Z,8μm,15.0s
GULI LR LR
comp=Z,10μm,13.0s
GYA Guiyang 28.12 10 ⇓P **P 23 32 57.8 +1.2**
GYA S **S 23 37 39.5 -0.9**
GYA pmax pmax
comp=Z,14nm,0.8s
GYA pmax pmax
comp=Z,100nm,3.1s
GYA LR LR
comp=Z,6μm,18.1s
GYA LR LR
comp=Z,13μm,13.7s
GYA LR LR
comp=Z,4μm,21.5s
FITZ Fitzroy Crossi 28.93 127 LR LR 23 46 32.7
comp=Z,3μm,19.1s,baz=312,slow=40
HYB Hyderabad 29.34 311 *e*P **P 23 33 06.2 -1.3**
H08S2 Diego Garcia H 29.58 257 T T 00 02 29.0
baz=81,slow=76,SNR=27
H08S3 Diego Garcia H 29.59 257 T T 00 02 30.8
baz=81,slow=76,SNR=108
H08S1 Diego Carcia H 29.60 257 T T 00 02 26.7
baz=81,slow=76,SNR=14
SWI Sorong 29.74 89 P **P 23 33 10.5 -0.6**
comp=Z,60nm,1.2s
MEEK Meekatharra 30.01 148 P **P 23 33 12.3 -1.1**
MEEK Meekatharra 30.01 148 P **P 23 33 13.5 +0.1**
comp=Z,22nm,1.6s
KNMB Chin-men Tao 30.46 31 IAMs_20 IAMs_20 23 44 56.4
comp=Z,3μm,20.0s
TWGBT Beinan 30.69 37 P **P 23 33 21.7 +2.3**
comp=Z,27nm,1.0s
FAKI Fak Fak 30.75 93 P **P 23 33 18.8 -1.3**
FAKI IAmb IAmb 23 33 57.4
comp=Z,55nm,1.0s
FAKI Fak Fak 30.75 93 P **P 23 33 20.7 +0.7**
comp=Z,54nm,1.0s
FAKI Fak Fak 30.75 93 P **P 23 33 19.4 -0.6**
comp=Z,54nm,1.1s
MORW Morawa 30.82 155 P **P 23 33 20.2 -0.3**
MORW Morawa 30.82 155 P **P 23 33 21.2 +0.7**
comp=Z,22nm,1.1s
MORW Morawa 30.82 155 P **P 23 33 22.0 +1.5**
comp=Z,22nm,1.1s
SSLB Suanglung 31.35 36 P **P 23 33 24.0 -1.2**
SSLB IAmb IAmb 23 33 28.0
comp=Z,112nm,1.9s
SSLB Suanglung 31.35 36 P **P 23 33 27.6 +2.4**
comp=Z,30nm,1.2s
CNSH ChangSha 31.37 20 P **P 23 33 26.0 +0.7**
CNSH S **S 23 38 34.5 +3.4**
CNSH pmax pmax
comp=Z,19nm,1.6s
CNSH LR LR
comp=Z,5μm,18.5s
CNSH LR LR
comp=Z,8μm,18.1s
CNSH LR LR
comp=Z,6μm,18.3s
MTN Manton Dam 31.47 113 P **P 23 33 24.5 -1.8**
RAMN Ramite 31.62 334 Pn P 23 33 33.2 +5.4
baz=220,slow=0.0
CD2 Chengdu 32.18 4 P **P 23 33 32.3 -0.1**
CD2 PP **PP 23 34 44.8 -0.7**
CD2 S **S 23 38 48.3 +4.4**
CD2 sS pS 23 38 52.5 -0.5
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,150nm,6.0s
CD2 LR LR
comp=Z,6μm,18.2s
CD2 LR LR
comp=Z,5μm,12.2s
KMPI Kaimana, Papua 32.23 95 P **P 23 33 34.1 +1.0**
ENH Enshi 32.38 13 P **P 23 33 32.6 -1.6**
ENH IAmb IAmb 23 33 36.8
comp=Z,69nm,1.5s
ENH IAMs_20 IAMs_20 23 47 35.5
comp=Z,5μm,18.0s
BLDU Ballidu 32.45 155 P **P 23 33 35.0 +0.2**
comp=Z,31nm,1.4s
BLDU Ballidu 32.45 155 P **P 23 33 35.7 +0.9**
comp=Z,31nm,1.4s
LSA Lhasa 32.45 343 P **P 23 33 33.5 -1.8**
LSA Lhasa 32.45 343 P **P 23 33 33.3 -2.0**
LSA LR LR
comp=Z,2μm,16.5s
LSA LR LR
comp=Z,2μm,21.2s
LSA Lhasa 32.45 343 P **P 23 33 33.5 -1.8**
LSA pmax pmax
comp=Z,19nm,1.1s
LSA MLR MLR
comp=Z,2μm,21.0s
TATO Taipei 32.57 35 IAMs_20 IAMs_20 23 47 49.3
comp=Z,2μm,18.0s
PKIN Phulchoki 32.70 333 Pn **P 23 33 36.3 -1.0**
baz=226,slow=0.0
MUN Mundaring 33.45 157 P **P 23 33 44.7 +1.2**
comp=Z,52nm,1.4s
KLBR Kellerberrin 33.74 155 P **P 23 33 47.0 +0.9**
comp=Z,42nm,1.1s
WHN Wuhan 34.02 20 ⇓P **P 23 33 49.5 +1.1**
WHN S **S 23 39 16.5 +4.2**
WHN pmax pmax
comp=Z,160nm,1.7s
WHN LR LR
comp=Z,13μm,12.1s
WHN LR LR
comp=Z,15μm,12.1s
WHN LR LR
comp=Z,19μm,16.3s
PYUN Piuthan 34.29 330 Pn **P 23 33 51.5 +0.4**
baz=235,slow=0.0
NWAO Narrogin (SRO) 34.69 156 P **P 23 33 53.6 -0.7**
NWAO IAmb IAmb 23 33 56.2
comp=Z,60nm,1.4s
NWAO Narrogin (SRO) 34.69 156 IAMs_20 IAMs_20 23 46 54.0
comp=Z,2μm,19.0s
NWAO Narrogin (SRO) 34.69 156 LR LR 23 46 34.9
comp=Z,2μm,21.4s,baz=282,slow=34
NWAO Narrogin (SRO) 34.69 156 P **P 23 33 55.9 +1.7**
comp=Z,23nm,1.6s
NWAO Narrogin (SRO) 34.69 156 P **P 23 33 53.6 -0.7**
NWAO pmax pmax
comp=Z,60nm,1.4s
NWAO MLR MLR
comp=Z,2μm,19.0s
KMBL Kambalda 35.50 149 P **P 23 34 02.1 +0.8**
comp=Z,40nm,1.0s
XAN Xi'an 35.91 11 P **P 23 34 04.0 -0.8**
XAN pP pP 23 34 13.3 +0.5
XAN PP **PP 23 35 27.0 +0.2**
XAN S **S 23 39 39.8 -1.7**
XAN sS pS 23 39 50.5 -0.2
XAN SS **SnSn 23 42 00.5 -5.8**
XAN pmax pmax
comp=Z,50nm,0.8s
XAN pmax pmax
comp=Z,240nm,3.6s
XAN LR LR
comp=Z,7μm,12.4s
XAN LR LR
comp=Z,8μm,12.7s
XAN LR LR
comp=Z,11μm,13.1s
AUALB St Joseph's Co 36.77 157 P **P 23 34 13.3 +1.2**
comp=Z,62nm,1.2s
WRA Warramunga Arr 37.02 122 P **P 23 34 11.8 -2.6**
comp=Z,3.9nm,1.0s,baz=298,slow=12,SNR=10
WRA PcP **PcP 23 36 33.6 -1.6**
comp=Z,1.7nm,1.0s,baz=300,slow=3.3,SNR=1.3
comp=Z,3.9nm,1.0s
WRAB Tennant Creek 37.02 122 P **P 23 34 11.6 -2.9**
WRAB Tennant Creek 37.02 122 ⇑*i*P **P 23 34 12.5 -2.0**
WRAB pmax pmax
comp=Z,11nm,1.0s
NJ2 Nanjing 37.09 25 *e*P **P 23 34 16.3 +1.5**
NJ2 pP **pP 23 34 20.5 -2.2**
NJ2 S **S 23 40 04.0 +4.6**
NJ2 pmax pmax
comp=Z,280nm,5.7s
NJ2 LR LR
comp=Z,8μm,17.1s
NJ2 LR LR
comp=Z,9μm,16.6s
NJ2 LR LR
comp=Z,6μm,18.0s
SMPI Sarmi 37.18 91 P **P 23 34 15.1 -0.8**
comp=Z,50nm,1.2s
LYN LuoYang 37.19 15 ⇑P **P 23 34 16.3 +0.7**
LYN pP sP 23 34 25.5 -1.3
LYN S **S 23 40 02.0 +1.1**
LYN pmax pmax
comp=Z,13nm,0.6s
LYN pmax pmax
comp=Z,330nm,5.5s
LYN LR LR
comp=Z,13μm,14.1s
LYN LR LR
comp=Z,3μm,12.4s
LYN LR LR
comp=Z,14μm,15.0s
SSE Sheshan 37.32 28 P **P 23 34 18.5 +1.7**
SSE S **S 23 40 03.0 0.0**
SSE pmax pmax
comp=Z,17nm,1.4s
SSE pmax pmax
comp=Z,150nm,3.3s
SSE LR LR
comp=Z,2μm,12.5s
SSE LR LR
comp=Z,3μm,14.2s
LZH Lanzhou 37.34 3 *e*P **P 23 34 21.0 +3.9**
LZH pP pP 23 34 25.3 +0.3
LZH S **S 23 40 03.3 -0.1**
LZH sS sS 23 40 15.0 -1.5
LZH pmax pmax
comp=Z,10.0nm,1.2s
LZH LR LR
comp=Z,4μm,14.8s
LZH LR LR
comp=Z,13μm,14.8s
LZH LR LR
comp=Z,4μm,14.4s
JOW Kunigami 38.10 41 LR LR 23 49 36.4
comp=Z,1μm,21.1s,baz=248,slow=36
ASAR Alice Springs 38.41 128 P **P 23 34 24.3 -1.9**
comp=Z,3.4nm,0.8s,baz=301,slow=7.9,SNR=19
ASAR PcP **PcP 23 36 37.2 -2.3**
comp=Z,1.3nm,0.5s,baz=314,slow=3.2,SNR=1.7
ASAR S **S 23 40 24.1 +4.1**
comp=Z,0.8nm,1.0s,baz=304,slow=13,SNR=4.2
ASAR LR LR 23 52 18.3
comp=Z,2μm,20.0s,baz=309,slow=39
comp=Z,3.4nm,0.8s
AS31 Alice Springs 38.41 128 P **P 23 34 24.0 -2.2**
AS01 Alice Springs 38.45 128 P **P 23 34 27.8 +1.3**
comp=Z,15nm,0.8s
FORT Forrest 38.57 142 P **P 23 34 26.0 -1.3**
FORT IAmb IAmb 23 34 38.8
comp=Z,37nm,0.8s
FORT Forrest 38.57 142 P **P 23 34 28.0 +0.7**
comp=Z,57nm,0.9s
JAY Jayapura 39.18 92 P **P 23 34 33.0 +0.2**
comp=Z,9.7nm,0.7s,baz=261,slow=22,SNR=5.9
JAY LR LR 23 52 38.8
comp=Z,610nm,20.4s,baz=1.0,slow=39
comp=Z,9.7nm,0.7s
JAY Jayapura 39.18 92 P **P 23 34 33.2 +0.4**
comp=Z,24nm,0.9s
TIA Tai'an 40.13 20 P **P 23 34 40.0 -0.3**
TIA S **S 23 40 45.0 -0.2**
TIA pmax pmax
comp=Z,12nm,0.9s
TIA LR LR
comp=Z,6μm,11.8s
TIA LR LR
comp=Z,4μm,13.2s
TIA LR LR
comp=Z,11μm,12.8s
HNS HongShan 40.47 16 ⇓P **P 23 34 44.0 +0.9**
HNS S **S 23 40 51.5 +1.2**
HNS SS **SS 23 43 47.3 -3.1**
HNS pmax pmax
comp=Z,21nm,1.3s
HNS LR LR
comp=Z,6μm,14.7s
HNS LR LR
comp=Z,3μm,14.5s
HNS LR LR
comp=Z,7μm,16.3s
GTA Gaotai 40.62 358 *e*P **P 23 34 44.3 -0.2**
GTA pP pP 23 34 52.5 0.0
GTA sP sP 23 34 57.5 +1.8
GTA S **S 23 40 50.0 -2.8**
GTA SS **SS 23 43 54.5 +0.9**
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,9μm,16.3s
GTA LR LR
comp=Z,3μm,17.5s
OOD Oodnadatta 41.94 132 P **P 23 34 55.4 0.0**
comp=Z,50nm,0.6s
BTO Baotou 42.50 10 *e*P **P 23 35 02.3 +2.5**
BTO pP **pP 23 35 08.3 +0.4**
BTO sP **sP 23 35 11.0 -0.1**
BTO PP **PP 23 36 44.3 +5.6**
BTO S **S 23 41 29.0 +8.5**
BTO sS **sS 23 41 36.8 +3.0**
BTO pmax pmax
comp=Z,9.0nm,0.7s
BTO pmax pmax
comp=Z,440nm,7.4s
BTO LR LR
comp=Z,10μm,13.7s
BTO LR LR
comp=Z,22μm,15.5s
BTO LR LR
comp=Z,9μm,21.9s
HHC Hu-ho-hao-te 43.01 11 *e*P **P 23 35 07.5 +3.5**
HHC sP sP 23 35 17.5 +2.2
HHC S **S 23 41 32.0 +3.9**
HHC SS **SS 23 44 38.8 -2.0**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,65nm,4.1s
HHC LR LR
comp=Z,5μm,11.6s
HHC LR LR
comp=Z,4μm,13.3s
HHC LR LR
comp=Z,4μm,12.2s
BJT Baijiatuau 43.33 16 P **P 23 35 05.3 -1.1**
BJT IAmb IAmb 23 35 10.4
comp=Z,70nm,1.6s
BJT Baijiatuau 43.33 16 IAMs_20 IAMs_20 23 55 17.1
comp=Z,5μm,19.0s
BJT Baijiatuau 43.33 16 P **P 23 35 05.3 -1.1**
BJT pmax pmax
comp=Z,70nm,1.6s
BJT MLR MLR
comp=Z,5μm,19.0s
BJI Beijing 43.35 16 P **P 23 35 07.8 +1.3**
BJI S **S 23 41 36.8 +4.1**
BJI pmax pmax
comp=Z,13nm,1.6s
BJI pmax pmax
comp=Z,70nm,4.4s
BJI LR LR
comp=Z,3μm,14.2s
BJI LR LR
comp=Z,1μm,12.1s
BJI LR LR
comp=Z,4μm,14.0s
NIL Nilore 43.84 325 P **P 23 35 08.9 -1.8**
NIL Nilore 43.84 325 P **P 23 35 08.9 -1.8**
NIL pmax pmax
comp=Z,150nm,1.0s
JNU Nakatsue 44.10 36 P **P 23 35 11.3 -1.5**
JNU Nakatsue 44.10 36 P **P 23 35 11.3 -1.5**
comp=Z,68nm,1.2s,baz=232,slow=2.4,SNR=9.2
JNU LR LR 23 53 34.5
comp=Z,2μm,21.0s,baz=236,slow=36
comp=Z,68nm,1.2s
JNU Nakatsue 44.10 36 P **P 23 35 14.3 +1.5**
comp=Z,56nm,1.0s
DL2 Dalian 44.15 23 P **P 23 35 14.0 +1.0**
DL2 S **S 23 41 47.0 +2.5**
DL2 pmax pmax
comp=Z,41nm,1.4s
DL2 pmax pmax
comp=Z,240nm,4.2s
DL2 LR LR

comp=Z,3μm,16.6s
DL2 LR LR
comp=Z,4μm,19.5s
DL2 LR LR
comp=Z,3μm,14.7s
TJN Taejon 44.60 30 P **P 23 35 17.9 +1.2**
comp=Z,112nm,1.7s
TJN Taejon 44.60 30⇑ *e*P **P 23 35 18.5 +1.8**
BBOO Buckleboo 45.06 138 P **P 23 35 19.1 -1.3**
BBOO Buckleboo 45.06 138 P **P 23 35 20.6 +0.1**
comp=Z,16nm,1.1s
INCN Inchon 45.12 28 P **P 23 35 19.5 -1.4**
INCN IAmb IAmb 23 35 22.7
comp=Z,23nm,0.8s
INCN Inchon 45.12 28 IAMs_20 IAMs_20 23 54 31.4
comp=Z,1μm,19.0s
INCN Inchon 45.12 28 P **P 23 35 19.5 -1.4**
INCN pmax pmax
comp=Z,23nm,0.8s
INCN MLR MLR
comp=Z,1μm,19.0s
HJU Haeju 45.15 27 P **P 23 35 22.2 +1.1**
HJU S **S 23 42 02.9 +3.9**
HJU AmB
comp=Z,353nm,1.5s
HJU AMS AMS
comp=Z,4μm,13.4s
LCRK Leigh Creek 45.23 133 P **P 23 35 22.2 +0.3**
comp=Z,31nm,0.9s
GUMO Guam 45.47 69 LR LR 23 55 48.7
comp=Z,308nm,20.5s,baz=270,slow=38
KSAR Wonju Array Be 45.70 30 P **P 23 35 25.0 -0.4**
KSAR Wonju Array Be 45.70 30 P **P 23 35 25.0 -0.4**
KSRS Korea Array 45.73 30 P **P 23 35 24.1 -1.4**
comp=Z,18nm,0.8s,baz=221,slow=8.1,SNR=49
KSRS LR LR 23 56 23.4
comp=Z,1μm,19.5s,baz=230,slow=39
comp=Z,18nm,0.8s
KS19 Wonju Array Si 45.73 30 P **P 23 35 25.6 -0.1**
INKA Innaminka 45.78 129 P **P 23 35 25.4 -0.8**
comp=Z,48nm,0.9s
PYAG Pyongyang 45.99 26 P **P 23 35 28.4 +0.7**
PYAG S **S 23 42 14.8 +3.7**
PYAG AmB
comp=Z,201nm,1.6s
PYAG AMS AMS
comp=Z,3μm,10.6s
PMG Port Moresby 46.09 102 LR LR 23 59 11.8
comp=Z,794nm,18.0s,baz=270,slow=42
SUJ Sinuiju 46.32 24 P **P 23 35 30.9 +0.6**
SUJ S **S 23 42 18.3 +2.4**
SUJ AmB
comp=Z,163nm,2.1s
SUJ AMS AMS
comp=Z,5μm,14.0s
JMN Monobe 46.33 38 P **P 23 35 32.1 +1.6**
comp=Z,73nm,1.4s
WMQ Urumqi 46.67 346 *e*P **P 23 35 33.0 -0.1**
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,280nm,5.3s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,3μm,18.7s
WMQ LR LR
comp=Z,770nm,19.7s
XLT XiLinHaoTe 46.93 14 *e*P **P 23 35 36.0 +0.9**
XLT S **S 23 42 25.0 +0.4**
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT LR LR
comp=Z,330nm,13.4s
XLT LR LR
comp=Z,3μm,12.8s
XLT LR LR
comp=Z,4μm,15.5s
KBL Kabul 46.94 323 P **P 23 35 34.1 -1.4**
KBL IAmb IAmb 23 35 54.5
comp=Z,28nm,0.8s
KBL Kabul 46.94 323 P **P 23 35 34.9 -0.6**
SNR=12
KBL P **P 23 35 34.9 -0.6**
SNR=12
KBL Kabul 46.94 323 P **P 23 35 34.1 -1.4**
KBL pmax pmax
comp=Z,28nm,0.8s
KSH Kashi 46.95 333 P **P 23 35 32.5 -2.9**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH LR LR
comp=Z,1μm,12.7s
KSH LR LR
comp=Z,1μm,16.2s
KSH LR LR
comp=Z,2μm,18.4s
WUS Wushi 46.98 337 P **P 23 35 33.6 -2.0**
WUS IAmb IAmb 23 36 23.3
comp=Z,34nm,1.0s
NGCH Negor - Chabah 47.25 307 P **P 23 35 39.5 +1.7**
JLN Jalan Bani Buh 47.26 302 P **P 23 35 39.2 +1.3**
JLN P **P 23 35 39.2 +1.3**
HTT Hallett 47.38 136 P **P 23 35 38.7 -0.1**
comp=Z,17nm,1.4s
SNY Shenyang 47.42 22 ⇓P **P 23 35 40.5 +1.7**
SNY S **S 23 42 37.5 +5.9**
SNY pmax pmax
comp=Z,19nm,1.0s
SNY pmax pmax
comp=Z,56nm,3.5s
SNY LR LR
comp=Z,2μm,12.6s
SNY LR LR
comp=Z,3μm,16.5s
SNY LR LR
comp=Z,4μm,14.1s
WBK Wadi Bani Khal 47.82 303 P **P 23 35 43.8 +1.5**
WBK P **P 23 35 43.8 +1.5**
TARG Taragay, Kyrgy 47.99 336 P **P 23 35 43.0 -0.8**
TARG IAmb IAmb 23 36 25.6
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 47.99 336 P **P 23 35 43.0 -0.8**
TARG pmax pmax
comp=Z,17nm,0.9s
DQM DQM 48.03 299 P **P 23 35 45.7 +1.8**
MHTO MHTO 48.04 300 P **P 23 35 44.6 +0.6**
MHTO P **P 23 35 44.6 +0.6**
QLP Quilpie 48.06 125 P **P 23 35 46.8 +2.7**
comp=Z,27nm,0.8s
WSAR Wadi Sarin 48.36 303 LR LR 23 55 45.3
comp=Z,925nm,18.8s,baz=140,slow=36
STKA Stephens Creek 48.45 133 P **P 23 35 44.9 -2.1**
STKA Stephens Creek 48.45 133 P **P 23 35 46.9 0.0**
comp=Z,4.9nm,0.7s,baz=306,slow=8.9,SNR=6.4
STKA LR LR 23 59 08.1
comp=Z,1μm,19.3s,baz=293,slow=40
comp=Z,4.9nm,0.7s
STKA Stephens Creek 48.45 133 P **P 23 35 47.8 +0.8**
comp=Z,4.1nm,0.9s
STKA Stephens Creek 48.45 133⇓ *e*P **P 23 35 47.0 0.0**
JMDO Jabal Madar 48.46 302 P **P 23 35 49.0 +1.7**
JMDO P **P 23 35 49.0 +1.7**
SHLS Shalkode 48.57 339 *e*P **P 23 35 45.7 -2.1**
SHLS Shalkode 48.57 339 *e*P **P 23 35 45.8 -2.1**
KDJ Kajisay 48.58 336 P **P 23 35 46.3 -1.7**
KDJ IAmb IAmb 23 36 26.3
comp=Z,35nm,1.1s
KDJ Kajisay 48.58 336 P **P 23 35 46.3 -1.7**
KDJ pmax pmax
comp=Z,35nm,1.1s
AUMBR Murray Bridge 48.59 138 P **P 23 35 51.1 +3.1**
comp=Z,37nm,0.6s
UZB Uzynbulak 48.72 338 *e*P **P 23 35 48.1 -1.0**
UZB Uzynbulak 48.72 338 *e*P **P 23 35 48.1 -1.0**
SMDO Samad 48.78 303 P **P 23 35 51.3 +1.4**
SMDO P **P 23 35 51.3 +1.4**
BULU Kimbe 48.87 96 P **P 23 35 52.1 +1.6**
SATY Saty 48.88 338 *e*P **P 23 35 49.3 -0.9**
SATY Saty 48.88 338 *e*P **P 23 35 49.4 -0.9**
BIDO Bidbid 48.90 303 P **P 23 35 52.2 +1.6**
SNR=5.8
BIDO P **P 23 35 52.2 +1.6**
SNR=5.8
ZHN Zhinishke 48.96 338 *e*P **P 23 35 49.8 -1.1**
ZHN Zhinishke 48.96 338 *e*P **P 23 35 49.9 -1.0**

KPKS Kokpek 49.12 338 *e*P **P 23 35 51.0 -1.1**
KPKS Kokpek 49.12 338 *e*P **P 23 35 51.0 -1.1**
SONM Songino Array 49.20 4 P **P 23 35 51.5 -1.2**
SONM Songino Array 49.20 4 P **P 23 35 51.3 -1.3**
comp=Z,4.1nm,0.6s,baz=190,slow=9.0,SNR=26
SONM ScP **ScP 23 41 09.4 +0.2**
comp=Z,1.3nm,1.1s,baz=197,slow=4.5,SNR=2.9
comp=Z,4.1nm,0.6s
ULN Ulaanbaatar 49.28 5 P **P 23 35 52.4 -0.9**
ULN Ulaanbaatar 49.28 5 IAMs_20 IAMs_20 00 00 32.9
comp=Z,2μm,19.0s
ULN Ulaanbaatar 49.28 5 P **P 23 35 53.4 +0.1**
ULN P **P 23 35 53.4 +0.1**
ULN Ulaanbaatar 49.28 5⇓ *i*P **P 23 35 53.2 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.7s
INU Inuyama 49.34 39 IAMs_20 IAMs_20 23 58 33.5
comp=Z,1μm,18.0s
GAR Garm 49.36 328 P **P 23 35 52.8 -1.2**
BSY Bisya 49.37 302 P **P 23 35 55.1 +0.8**
BSY P **P 23 35 55.1 +0.8**
BOOM Boomskoye usch 49.39 335 P **P 23 35 53.4 -0.9**
BOOM IAmb IAmb 23 36 25.9
comp=Z,16nm,0.9s
BOOM Boomskoye usch 49.39 335 P **P 23 35 53.4 -0.9**
BOOM pmax pmax
comp=Z,15nm,0.9s
TNSS Tian-Shan 49.43 336 *e*P **P 23 35 53.4 -1.4**
TNSS Tian-Shan 49.43 336 *e*P **P 23 35 53.4 -1.4**
AAA Alma-Ata 49.59 336 *e*P **P 23 35 54.6 -1.0**
AAA Alma-Ata 49.59 336 *e*P **P 23 35 54.6 -1.0**
HOQ Hoqain 49.61 303 P **P 23 35 57.6 +1.5**
HOQ P **P 23 35 57.6 +1.5**
DMTO DMTO 49.62 295 P **P 23 35 57.5 +1.3**
DMTO P **P 23 35 57.5 +1.3**
JGF Kuroka 49.72 39 P **P 23 35 56.0 -0.7**
JGF IAmb IAmb 23 36 07.0
comp=Z,76nm,1.7s
CHGR Chuyangaron 49.74 327 P **P 23 35 54.6 -2.2**
CHGR Chuyangaron 49.74 327 P **P 23 35 54.6 -2.2**
JHJ Hachijo jima 2 49.78 43 LR LR 23 56 32.5
comp=Z,543nm,21.4s,baz=176,slow=36
SIMJ Simiganj 49.82 327 P **P 23 35 55.9 -1.6**
CN2 Changchun 49.82 23 P **P 23 35 57.0 -0.3**
CN2 S **S 23 43 06.0 +0.6**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,3μm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,4μm,14.0s
BTK Batken 49.88 329 P **P 23 35 57.2 -0.7**
BTK IAmb IAmb 23 36 31.0
comp=Z,40nm,1.1s
BTK Batken 49.88 329 P **P 23 35 57.2 -0.7**
BTK pmax pmax
comp=Z,40nm,1.1s
TKM2 Tokmak 2 49.89 335 P **P 23 35 57.2 -0.9**
SNR=6.3
KBK Karagaybulak 49.95 334 P **P 23 35 58.3 -0.2**
SNR=8.0
AML Almayashu 50.08 333 P **P 23 35 59.5 -0.3**
SNR=7.2
JASK Jask - Hormozg 50.11 306 P **P 23 36 02.1 +2.3**
AAK Ala-Archa 50.13 334 P **P 23 35 58.6 -1.3**
AAK Ala-Archa 50.13 334 LR LR 23 59 04.8
comp=Z,1μm,21.1s,baz=153,slow=38
AAK Ala-Archa 50.13 334⇓ *e*P **P 23 36 00.6 +0.7**
AAK pmax pmax
comp=Z,16nm,0.9s
ARQ Araqi 50.18 302 P **P 23 36 02.1 +1.7**
ARQ P **P 23 36 02.1 +1.7**
RBK Rabkut 50.23 294 P **P 23 36 02.6 +1.7**
SNR=8.4
RBK P **P 23 36 02.6 +1.7**
SNR=8.4
EKS2 Erkin-Say 50.47 334 P **P 23 36 02.4 0.0**
SNR=12
SOHO SOHO 50.48 303 P **P 23 36 04.4 +1.8**
SOHO P **P 23 36 04.4 +1.8**
TDK Taldyqorghan 50.54 339 *e*P **P 23 36 01.7 -1.0**
TDK Taldyqorghan 50.54 339 *e*P **P 23 36 01.8 -1.0**
DOK Doka 50.63 295 P **P 23 36 04.4 +0.6**
SNR=6.8
DOK P **P 23 36 04.4 +0.6**
SNR=6.8
USP Ospenovka 50.64 335 P **P 23 36 02.9 -0.6**
SNR=7.9
ZSN Zaisan 50.77 345 *e*P **P 23 36 03.5 -0.9**
ZSN Zaisan 50.77 345 *e*P **P 23 36 03.6 -0.9**
MAJO Matsushiro 50.84 38 P **P 23 36 04.2 -1.0**
MAJO IAmb IAmb 23 36 07.2
comp=Z,35nm,1.3s
MAJO Matsushiro 50.84 38 IAMs_20 IAMs_20 23 59 11.1
comp=Z,2μm,20.0s
MAJO Matsushiro 50.84 38 P **P 23 36 06.1 +0.9**
comp=Z,20nm,1.6s
MAJO Matsushiro 50.84 38 *ce*P **P 23 36 06.3 +1.1**
MAJO pmax pmax
comp=Z,30nm,1.3s
MJAR Matsushiro Arr 50.85 38 P **P 23 36 03.6 -1.6**
comp=Z,18nm,1.0s,baz=218,slow=7.9,SNR=19
MJAR LR LR 23 59 23.8
comp=Z,1μm,18.9s,baz=238,slow=38
comp=Z,18nm,1.0s
MJB9 Matsu-Tunnel 50.85 38 P **P 23 36 03.8 -1.4**
MJB9 IAmb IAmb 23 36 08.6
comp=Z,34nm,1.3s
MK31 Makanchi Array 50.86 343⇓ *i*P **P 23 36 03.4 -1.8**
MKAR Makanchi Array 50.86 343 P **P 23 36 03.4 -1.8**
MKAR Makanchi Array 50.86 343 P **P 23 36 03.5 -1.7**
comp=Z,2.7nm,0.6s,baz=149,slow=7.5,SNR=40
MKAR LR LR 00 03 01.6
comp=Z,1μm,18.1s,baz=147,slow=43
comp=Z,2.7nm,0.6s
MAKZ Makanchi 50.97 343 P **P 23 36 04.4 -1.5**
MAKZ Makanchi 50.97 343 P **P 23 36 04.4 -1.5**
MAKZ pmax pmax
comp=Z,17nm,1.1s
MAKZ MLR MLR
comp=Z,1μm,19.0s
ABTO Aybut 51.02 294 P **P 23 36 08.0 +1.1**
ABTO P **P 23 36 08.0 +1.1**
ASHO Ashiyiah 51.10 304 P **P 23 36 08.4 +1.0**
UMZA Um Al Zommool 51.10 301 P **P 23 36 08.3 +0.9**
UMZA P **P 23 36 08.3 +0.9**
ALNE Al Ain 51.11 303 P **P 23 36 07.7 +0.3**
SNR=6.9
ALNE P **P 23 36 07.7 +0.3**
SNR=6.9
MDH Madha 51.15 304 P **P 23 36 08.4 +0.7**
HRA Herat 51.20 318 P **P 23 36 06.0 -2.1**
MSHR Mys Shultsa 51.27 28⇑ *e*P **P 23 36 10.2 +2.0**
MSHR pmax pmax
comp=Z,18nm,0.8s
MASF Masafi 51.29 304 P **P 23 36 10.9 +2.1**
MASF P **P 23 36 10.9 +2.1**
CMSA Cobar Meteorol 51.34 130 P **P 23 36 10.3 +1.3**
comp=Z,20nm,0.7s
FAQ Al Faqa, Dubai 51.51 303 P **P 23 36 12.2 +1.8**
FAQ P **P 23 36 12.2 +1.8**
NAZ Nazwa, Dubai 51.55 304 P **P 23 36 12.7 +2.0**
NAZ P **P 23 36 12.7 +2.0**
ZAK Zakamensk 51.58 1 *e*P **P 23 36 11.9 +1.3**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SHME Shamm 51.59 305 P **P 23 36 13.3 +2.3**
ASUD Al Ashush, Dub 51.68 303 P **P 23 36 13.9 +2.2**
ASUD P **P 23 36 13.9 +2.2**
ASUD P **P 23 36 13.9 +2.2**
DZA Taraz 51.77 332 *e*P **P 23 36 11.0 -1.0**
DZA pmax pmax
comp=Z,14nm,0.9s
DZA Taraz 51.77 332 *e*P **P 23 36 11.1 -1.0**
comp=Z,14nm,0.9s
JSD Sado 51.84 37 P **P 23 36 11.2 -1.4**
JSD Sado 51.84 37 P **P 23 36 13.5 +0.9**
comp=Z,14nm,0.8s
CHM Chimkent 52.17 330 *e*P **P 23 36 14.3 -0.7**
CHM pmax pmax
comp=Z,16nm,0.9s

CHM Chimkent 52.17 330 *e*P **P 23 36 14.3 -0.7**
comp=Z,16nm,0.9s
MDJ Mudanjiang 52.18 25 P **P 23 36 14.3 -0.7**
MDJ IAmb IAmb 23 37 28.4
comp=Z,47nm,1.7s
MDJ IAMs_20 IAMs_20 23 58 26.3
comp=Z,3μm,20.0s
BNX BinXian 52.21 23⇑ P **P 23 36 16.5 +1.3**
BNX S **S 23 43 46.5 +8.2**
BNX pmax pmax
comp=Z,21nm,1.5s
BNX pmax pmax
comp=Z,210nm,5.8s
BNX LR LR
comp=Z,3μm,12.9s
BNX LR LR
comp=Z,3μm,14.9s
BNX LR LR
comp=Z,4μm,16.1s
BTLS Baital 52.27 336 *e*P **P 23 36 15.0 -0.6**
BTLS Baital 52.27 336 *e*P **P 23 36 15.0 -0.6**
KK31 Karatay Array 52.31 332 P **P 23 36 14.7 -1.4**
KK31 IAmb IAmb 23 36 57.0
comp=Z,24nm,1.1s
KK31 Karatay Array 52.31 332 P **P 23 36 14.7 -1.4**
KK31 pmax pmax
comp=Z,24nm,1.2s
KKAR Karatay Array 52.31 332 P **P 23 36 14.5 -1.6**
KKAR Karatay Array 52.31 332 P **P 23 36 14.5 -1.6**
MZWR Madinat Zayed 52.58 302 P **P 23 36 19.4 +1.0**
BRLS Borolday 52.58 331 *e*P **P 23 36 16.5 -1.6**
BRLS Borolday 52.58 331 *e*P **P 23 36 16.5 -1.6**
MZR Muzera 52.65 300 P **P 23 36 20.3 +1.4**
MZR P **P 23 36 20.3 +1.4**
MZR P **P 23 36 20.3 +1.4**
HIA Hailar 52.85 15 IAMs_20 IAMs_20 00 01 34.2
comp=Z,3μm,18.0s
MOY Mondy 52.85 360 *e*P P 23 36 32.3 +12
MOY pmax pmax
comp=Z,24nm,3.9s
USA0B Ussuriysk Arra 52.91 27 P **P 23 36 20.4 0.0**
USA0B IAmb IAmb 23 36 23.9
comp=Z,34nm,0.9s
USA0B Ussuriysk Arra 52.91 27 *c i*P **P 23 36 20.8 +0.4**
USRK Ussuriysk Ar. 52.91 27 P **P 23 36 20.5 +0.1**
USRK Ussuriysk Ar. 52.91 27 P **P 23 36 18.7 -1.7**
comp=Z,18nm,0.7s,baz=225,slow=5.8,SNR=26
USRK LR LR 23 59 01.2
comp=Z,3μm,21.3s,baz=224,slow=36
comp=Z,18nm,0.7s
EIDS Eidsvold 53.36 121 P **P 23 36 21.9 -2.2**
SLWR Sila 54.56 301 P **P 23 36 35.7 +2.8**
PAF Port-aux-Franc 54.78 205 P **P 23 36 33.7 -0.3**
PAF Port-aux-Franc 54.78 205 P **P 23 36 33.7 -0.3**
PAF pmax pmax
comp=Z,360nm,1.5s
JTM Tenmabayashi 55.27 36 P **P 23 36 36.5 -1.2**
JTM Tenmabayashi 55.27 36 P **P 23 36 38.7 +1.0**
comp=Z,45nm,1.2s
KURBB Kurchatov Arra 55.40 342 P **P 23 36 36.5 -2.0**
comp=Z,1.0nm,0.7s,baz=163,slow=7.0,SNR=13
KURBB LR LR 00 03 51.9
comp=Z,1μm,18.5s,baz=159,slow=40
comp=Z,1.0nm,0.7s
KURK Kurchatov 55.46 343 P **P 23 36 37.1 -1.7**
KURK IAmb IAmb 23 37 31.4
comp=Z,26nm,0.9s
KURK Kurchatov 55.46 343⇓ *e*P **P 23 36 37.2 -1.7**
KURK pmax pmax
comp=Z,19nm,1.0s
CAN Canberra 55.51 133 IAMs_20 IAMs_20 00 04 23.6
comp=Z,2μm,19.0s
SMRA Abu-Samra 55.54 301 P **P 23 36 40.8 +0.9**
ABPO Ambohimpanom 55.96 248 P **P 23 36 44.2 +0.9**
ABPO Ambohimpanom 55.96 248 P **P 23 36 44.2 +0.9**
ABPO pmax pmax
comp=Z,16nm,1.3s
HEH HeiHe 56.01 20 *e*P **P 23 36 45.0 +2.1**
HEH sP **sP 23 36 58.0 +3.7**
HEH S **S 23 44 32.5 +2.9**
HEH SS **SS 23 48 17.3 +1.2**
HEH pmax pmax
comp=Z,9.0nm,1.9s
HEH LR LR
comp=Z,2μm,19.6s
HEH LR LR
comp=Z,3μm,20.0s
HEH LR LR
comp=Z,2μm,18.4s
KLR Kul'dur 56.76 23 P **P 23 36 44.9 -3.3**
comp=Z,1.9nm,0.6s,baz=246,slow=6.2,SNR=11
KLR LR LR 00 03 29.1
comp=Z,3μm,18.3s,baz=226,slow=39
comp=Z,1.9nm,0.6s
KLR Kul'dur 56.76 23 *e*P **P 23 36 47.7 -0.5**
KLR pmax pmax
comp=Z,10.0nm,1.0s
BRZS Berezniki 56.83 338 *e*P **P 23 36 48.2 -0.5**
BRZS Berezniki 56.83 338 *e*P **P 23 36 48.3 -0.5**
ZAA0 Zalesovo Array 56.86 348 P **P 23 36 46.5 -2.3**
ZAA0 IAmb IAmb 23 37 43.7
comp=Z,39nm,1.2s
ZALV Zalesovo Beam 56.86 348 P **P 23 36 46.0 -2.7**
ZALV Zalesovo Beam 56.86 348 P **P 23 36 46.4 -2.4**
comp=Z,4.4nm,0.8s,baz=178,slow=5.7,SNR=19
ZALV LR LR 00 03 12.6
comp=Z,971nm,21.0s,baz=162,slow=38
comp=Z,4.4nm,0.8s
VOI Vohitsoka 56.97 245 P **P 23 36 52.1 +1.7**
VOI IAmb IAmb 23 36 58.0
comp=Z,48nm,1.7s
VOI IAMs_20 IAMs_20 23 58 00.1
comp=Z,1μm,19.0s
VOI Vohitsoka 56.97 245 P **P 23 36 53.1 +2.7**
ERM Erimo 57.26 36 P **P 23 36 51.3 -0.6**
ERM IAmb IAmb 23 37 23.9
comp=Z,31nm,1.1s
ERM Erimo 57.26 36 P **P 23 36 51.3 -0.6**
ERM pmax pmax
comp=Z,31nm,1.2s
FOMA Nahampoana Res 57.56 241 IAMs_20 IAMs_20 23 57 35.6
comp=Z,994nm,19.0s
ASAJ Asahikawa 58.25 34 P **P 23 36 57.3 -1.6**
comp=Z,13nm,0.7s,baz=249,slow=6.7,SNR=11
ASAJ LR LR 00 02 55.6
comp=Z,479nm,19.2s,baz=234,slow=37
comp=Z,13nm,0.7s
JKA Kamikawa-asahi 58.25 34 P **P 23 36 58.8 -0.1**
HNR Honiara 58.65 100 LR LR 00 03 45.2
comp=Z,196nm,21.4s,baz=286,slow=38
ZEA Zeya 58.95 18 *e*P P 23 37 08.5 +5.0
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=N,1μm,12.0s
ZEA MLR MLR
comp=Z,1μm,12.0s
ATD Arta Tunnel 59.69 284 LR LR 23 59 45.7
comp=Z,25nm,19.7s,baz=96,slow=33
RAYN Ar Rayn 59.77 298 P **P 23 37 09.5 -0.3**
RAYN Ar Rayn 59.77 298 P **P 23 37 10.5 +0.7**
RAYN Ar Rayn 59.77 298 P **P 23 37 09.5 -0.3**
RAYN pmax pmax
comp=Z,9.0nm,0.8s
BOD Bodaibo 59.86 8 *e*P **P 23 37 09.5 -0.2**
BOD pmax pmax
comp=Z,16nm,1.8s
BVAR Borovoye Array 60.14 339 P **P 23 37 09.2 -2.6**
comp=Z,1.9nm,0.6s,baz=140,slow=8.7,SNR=16
BVAR LR LR 00 06 31.5
comp=Z,981nm,18.6s,baz=138,slow=40
comp=Z,1.9nm,0.6s
YSS Yuzhno-Sakhali 60.16 31 P **P 23 37 10.7 -1.3**
YSS IAmb IAmb 23 37 15.3
comp=Z,22nm,0.8s
YSS IAMs_20 IAMs_20 00 03 54.8
comp=Z,1μm,19.0s
YSS Yuzhno-Sakhali 60.16 31 P **P 23 37 13.5 +1.5**
comp=Z,32nm,1.0s
YSS Yuzhno-Sakhali 60.16 31 *e*P **P 23 37 12.5 +0.5**
YSS *e*S **S 23 45 24.4 +0.5**
YSS pmax pmax

comp=Z,20nm,0.7s
YSS MLR MLR
comp=N,1μm,13.0s
YSS MLR MLR
comp=Z,800nm,13.0s
YSS MLR MLR
comp=E,900nm,14.0s
BRVK Borovoye 60.20 339 P P 23 37 09.8 -2.4
BRVK IAmb IAmb 23 37 31.8
comp=Z,12nm,0.8s
BRVK Borovoye 60.20 339 P P 23 37 10.2 -2.0
BRVK P **P 23 37 10.2 -2.0**
BRVK P **P 23 37 10.2 -2.0**
BRVK Borovoye 60.20 339⇓*eP* P 23 37 10.0 -2.2
BRVK pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 61.84 330 P **P 23 37 20.5 -2.8**
ABKAR Akbulak array 61.84 330 P **P 23 37 20.7 -2.7**
ABKAR IAmb IAmb 23 37 42.3
comp=Z,36nm,0.8s
H04N2 CROZET ISLANDS 62.20 217 T T 00 43 28.4
baz=58,slow=74,SNR=229
H04N1 CROZET ISLANDS 62.21 217 T T 00 43 23.6
baz=58,slow=74,SNR=203
H04N3 CROZET ISLANDS 62.21 217 T T 00 43 27.5
baz=58,slow=74,SNR=288
H04S1 CROZET ISLANDS 62.48 216 T T 00 43 35.7
baz=56,slow=75,SNR=10
H04S3 CROZET ISLANDS 62.49 216 T T 00 43 45.6
baz=56,slow=75,SNR=18
H04S2 CROZET ISLANDS 62.49 216 T T 00 43 46.8
baz=56,slow=75,SNR=9.9
KIBK Kibwezi 63.44 268 P **P 23 37 34.2 -0.6**
MAK Makhachkala 65.48 319 *eP* **P 23 37 42.9 -4.6**
MAK *e* 23 40 13.7
MAK *e*S **S 23 46 25.8 -4.9**
MAK *e*SS **SS 23 50 42.5 -2.2**
MAK pmax pmax
comp=Z,35nm,0.7s
GNI Garni 66.14 315 P **P 23 37 51.0 -1.0**
GNI IAmb IAmb 23 38 12.7
comp=Z,26nm,0.8s
GNI Garni 66.14 315 LR LR 00 10 36.3
comp=Z,204nm,18.5s,baz=102,slow=40
GNI Garni 66.14 315 P **P 23 37 52.6 +0.6**
GNI P **P 23 37 52.6 +0.6**
GNI Garni 66.14 315*de*P P 23 37 52.0 -0.1
GNI pmax pmax
comp=Z,25nm,1.3s
GNI Garni 66.14 315 P **P 23 37 51.6 -0.5**
comp=Z,34nm,0.9s
LODK Lodwar 66.30 274 P 23 37 52.8 -0.7
LODK Lodwar 66.30 274 P **P 23 37 55.5 +2.1**
SNR=6.2
DZM Mont Dzumac 66.30 113 *eP* **P 23 37 52.0 -1.4**
comp=Z,128nm,34.4s
DZM Mont Dzumac 66.30 113 *e*SS SS 23 50 58.1 -0.4
comp=Z,366nm,26.1s
DZM *e*LR LR 23 57 47.7
comp=Z,2μm,29.6s
DZM Mont Dzumac 66.30 113 LR LR 00 09 48.4
comp=Z,412nm,18.1s,baz=282,slow=39
GEVA Gevas 66.63 313 P **P 23 37 54.4 -0.9**
GEVA IAmb IAmb 23 38 14.3
comp=Z,14nm,0.8s
SVE Sverdlovsk 66.70 337 *eP* **P 23 37 53.0 -2.0**
SVE pmax pmax
comp=Z,35nm,1.0s
YAK Yakutsk 66.77 14 P **P 23 37 54.8 -0.6**
YAK Yakutsk 66.77 14 P **P 23 37 54.7 -0.7**
comp=Z,12nm,0.4s,baz=221,slow=9.3,SNR=4.4
YAK LR LR 00 10 40.5
comp=Z,2μm,18.9s,baz=204,slow=39
comp=Z,12nm,0.4s
YAK Yakutsk 66.77 14 *eP* **P 23 37 56.5 +1.1**
YAK *e**PP **sP 23 38 07.6 +0.7**
YAK *e* 23 38 25.3
YAK *e* 23 40 27.2
YAK *e*PPP PPP 23 41 59.5
YAK *e*S **S 23 46 45.4 -0.3**
YAK *e**SS sS 23 47 09.7 +10
YAK *e*SS **SS 23 51 04.4 +0.4**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,5.0nm,0.3s
YAK smax smax
comp=N,2.0nm,0.5s
YAK smax smax
comp=E,4.0nm,0.6s
YAK MLR MLR
comp=Z,3μm,15.0s
YAK MLR MLR
comp=E,952nm,13.0s
YAK MLR MLR
comp=N,2μm,14.0s
ARTI Arti 67.30 336 P **P 23 37 56.6 -2.2**
ARTI IAmb IAmb 23 38 20.5
comp=Z,15nm,0.8s
ARTI Arti 67.30 336 LR LR 00 10 36.7
comp=Z,416nm,18.2s,baz=136,slow=39
ARTI Arti 67.30 336*c i*P P 23 37 56.7 -2.2
ARTI S **S 23 46 52.4 0.0**
ARTI SS **SS 23 51 07.1 -5.4**
ARTI pmax pmax
comp=Z,37nm,2.9s
ARTI MLR MLR
comp=Z,2μm,23.0s
GURO Guroymak-BITLI 67.47 313 P **P 23 37 59.0 -1.6**
GURO IAmb IAmb 23 38 02.3
comp=Z,24nm,1.1s
KARS Kars 67.49 315 P **P 23 38 00.4 -0.2**
KARS Kars 67.49 315 P **P 23 38 00.4 -0.2**
KARS pmax pmax
comp=Z,130nm,0.9s
MARD Mardin 67.96 311 P **P 23 38 02.6 -1.0**
NCK Nalchik 68.28 318⇑*eP* P 23 38 05.6 +0.2
NCK pmax pmax
comp=Z,7.0nm,0.6s
NEUR Neytrino 68.79 318⇓*eP* P 23 38 09.8 +1.0
NEUR pmax pmax
comp=Z,11nm,1.2s
KBZ Khabaz 68.84 318 P **P 23 38 07.4 -1.4**
comp=Z,6.0nm,0.8s,baz=128,slow=6.4,SNR=18
KBZ LR LR 00 11 14.3
comp=Z,199nm,20.1s,baz=88,slow=39
comp=Z,6.0nm,0.8s
KBZ Khabaz 68.84 318*de*P P 23 38 08.3 -0.5
KBZ pmax pmax
comp=Z,23nm,1.8s
SHA1 Shidzhatmaz 69.01 318*de*P P 23 38 09.8 -0.4
KIV Kislovodsk 69.07 319 P **P 23 38 09.0 -1.4**
KIV IAmb IAmb 23 38 29.3
comp=Z,21nm,0.8s
KIV Kislovodsk 69.07 319 P **P 23 38 10.2 -0.2**
KIV P **P 23 38 10.2 -0.2**
KIV Kislovodsk 69.07 319 ⇑P **P 23 38 11.8 +1.4**
KIV Kislovodsk 69.07 319 *eP* **P 23 38 09.8 -0.6**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 69.07 319 P **P 23 38 10.2 -0.2**
comp=Z,500nmcomp=Z,22nm,0.9s
KOPT Kop Dagi 69.10 314 P **P 23 38 11.2 +0.3**
KOPT IAmb IAmb 23 38 36.6
comp=Z,16nm,0.9s
GOF Gofitskoye 69.29 320*ce*P P 23 38 26.4 +15
SKR Severo-Kuril's 69.52 34⇑*eP* P 23 38 12.1 -0.7
BELG Belogornoye 69.99 328 LR LR 00 12 59.3
comp=Z,873nm,20.5s,baz=128,slow=40
BELG Belogornoye 69.99 328⇑*eP* P 23 38 16.8 +1.1
BELG pmax pmax
comp=Z,6.0nm,1.0s
GHAJ Ghor Haditha 70.34 304 IAMs_20 IAMs_20 00 10 04.5
comp=Z,2μm,19.0s
EIL Elat 70.47 302 LR LR 00 09 17.5
comp=Z,1μm,19.3s,baz=108,slow=36
VSLR Vesyoloye 70.66 317⇑*eP* P 23 38 21.2 +1.1
VSLR pmax pmax
comp=Z,35nm,1.3s
MBAR Mbarara 70.77 270 P **P 23 38 20.9 -0.7**
MBAR Mbarara 70.77 270 P **P 23 38 23.1 +1.6**
MBAR P **P 23 38 23.1 +1.6**

MBAR Mbarara 70.77 270⇑*eP* P 23 38 21.4 -0.1
MBAR pmax pmax
comp=Z,10.0nm,1.0s
MMAI Mount Meron Ar 70.90 306 P **P 23 38 20.6 -1.2**
comp=Z,3.3nm,0.6s,baz=91,slow=8.4,SNR=4.9
MMAI LR LR 00 11 32.2
comp=Z,412nm,19.1s,baz=95,slow=38
comp=Z,3.3nm,0.6s
SOC Sochi 70.92 317 *eP* **P 23 38 17.4 -4.2**
SOC *e* 23 40 53.9
SOC *e*PPP PPP 23 42 37.8
SOC *e*S **S 23 47 32.3 -3.4**
SOC *e*SS **SS 23 52 08.6 -0.3**
SOC pmax pmax
comp=Z,46nm,0.9s
NRIK Noril'sk 71.22 355 P **P 23 38 21.4 -1.5**
comp=Z,0.9nm,0.4s,baz=190,slow=4.9,SNR=4.7
NRIK LR LR 00 10 49.0
comp=Z,924nm,18.2s,baz=164,slow=37
comp=Z,0.9nm,0.4s
NRIK Noril'sk 71.22 355⇓*eP* P 23 38 21.6 -1.3
NRIK pmax pmax
comp=Z,7.0nm,1.5s
MAW Mawson 71.26 195 LR LR 00 03 18.2
comp=Z,2μm,21.5s,baz=36,slow=30
PEA0B Petropavlovsk- 71.56 32*de*P P 23 38 25.6 +0.3
PETK Petropavlovsk- 71.56 32 P **P 23 38 26.2 +0.9**
PETK Petropavlovsk- 71.56 32 P **P 23 38 23.5 -1.8**
comp=Z,5.7nm,1.0s,baz=269,slow=1.0,SNR=4.2
PETK LR LR 00 10 52.0
comp=Z,770nm,20.0s,baz=253,slow=37
comp=Z,5.7nm,1.0s
MA2 Magadan 71.85 24 P **P 23 38 27.4 +0.4**
MA2 IAmb IAmb 23 38 40.5
comp=Z,27nm,1.4s
MA2 IAMs_20 IAMs_20 00 11 23.6
comp=Z,2μm,18.0s
MA2 Magadan 71.85 24 P **P 23 38 24.8 -2.1**
comp=Z,2.9nm,0.3s,baz=177,slow=8.6,SNR=5.0
MA2 LR LR 00 12 22.9
comp=Z,1μm,18.1s,baz=234,slow=38
comp=Z,2.9nm,0.3s
MA2 Magadan 71.85 24 P **P 23 38 30.0 +3.1**
comp=Z,10nm,1.3s
MA2 Magadan 71.85 24⇑*eP* P 23 38 28.8 +1.9
MA2 pmax pmax
comp=Z,22nm,2.5s
MA2 Magadan 71.85 24 P **P 23 38 26.5 -0.4**
comp=Z,10nm,1.3s
PET Petropavlovsk 72.02 32 IAMs_20 IAMs_20 00 10 27.3
comp=Z,940nm,19.0s
PET Petropavlovsk 72.02 32 *eP* **P 23 38 31.6 +3.6**
PET *e*S **S 23 47 53.9 +5.9**
PET pmax pmax
comp=Z,31nm,1.1s
PET MLR MLR
comp=Z,900nm,14.0s
PET MLR MLR
comp=Z,1μm,14.0s
PET Petropavlovsk 72.02 32 P **P 23 38 27.6 -0.4**
comp=Z,21nm,0.8s
TOKA Tokat 72.11 313 P **P 23 38 28.4 -0.6**
TOKA IAmb IAmb 23 38 46.2
comp=Z,12nm,0.8s
KIRV Kirov 72.46 334 LR LR 00 14 02.3
comp=Z,687nm,19.3s,baz=117,slow=39
KIRV Kirov 72.46 334⇑*eP* P 23 38 29.7 -0.9
VRH Novokhopyorsk 72.67 325 *eP* **P 23 38 30.1 -1.9**
VRH pmax pmax
comp=Z,24nm,0.8s
ANN Anapa 72.89 318 *eP* **P 23 38 30.9 -2.5**
ANN *e* 23 41 15.0
ANN *e*S **S 23 47 59.1 +0.9**
ANN pmax pmax
comp=Z,39nm,1.8s
CSS Mathiatis 73.05 307 P **P 23 38 34.0 -0.7**
CSS IAMs_20 IAMs_20 00 12 12.0
comp=Z,780nm,20.0s
CSS Mathiatis 73.05 307 P **P 23 38 35.0 +0.3**
LSZ Lusaka 73.56 255 P **P 23 38 32.8 +0.1**
LSZ Lusaka 73.56 255 IAMs_20 IAMs_20 00 06 58.6
comp=Z,780nm,20.0s
LSZ Lusaka 73.56 255 LR LR 00 06 39.1
comp=Z,653nm,21.1s,baz=90,slow=32
LSZ Lusaka 73.56 255 P **P 23 38 40.2 +2.1**
LSZ P **P 23 38 40.2 +2.1**
LSZ Lusaka 73.56 255 P **P 23 38 38.2 +0.1**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
KIRS Kirsehir-Merke 73.66 311 ⇓P **P 23 38 37.5 -0.7**
BR104 Keskin Array S 74.02 312 P **P 23 38 39.4 -1.0**
comp=Z,106nmcomp=Z,15nm,0.8s
BR131 Keskin Array S 74.03 312 P **P 23 38 38.8 -1.7**
BR131 IAmb IAmb 23 38 40.6
comp=Z,12nm,0.8s
BR131 Keskin Array S 74.03 312⇓*eP* P 23 38 38.4 -2.0
BRTR Keskin Array B 74.03 312 P **P 23 38 38.5 -2.0**
BRTR Keskin Array B 74.03 312 P **P 23 38 38.6 -1.8**
comp=Z,8.1nm,0.7s,baz=134,slow=6.5,SNR=40
BRTR LR LR 00 15 02.0
comp=Z,362nm,18.1s,baz=106,slow=39
comp=Z,8.1nm,0.7s
BRTR Keskin Array B 74.03 312*ce*P P 23 38 38.2 -2.3
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BR105 Keskin Array S 74.04 312 P **P 23 38 39.5 -1.0**
comp=Z,109nmcomp=Z,13nm,0.9s
BR106 Keskin Array S 74.05 312 P **P 23 38 39.6 -1.0**
comp=Z,98nmcomp=Z,12nm,0.9s
VSR Storozhevoye 74.14 325 *eP* **P 23 38 37.5 -3.2**
VSR pmax pmax
comp=Z,8.0nm,0.8s
VORR Voronezh 74.30 325 *eP* **P 23 38 40.0 -1.5**
VORR pmax pmax
comp=Z,8.0nm,0.6s
RPZ Rata Peaks 74.34 135 P **P 23 38 42.8 +0.8**
comp=Z,13nm,0.7s,baz=260,slow=16,SNR=1.9
RPZ LR LR 00 11 36.8
comp=Z,2μm,20.3s,baz=314,slow=36
comp=Z,13nm,0.7s
SEY Seymchan 74.49 22 LR LR 00 14 12.8
comp=Z,1μm,18.5s,baz=214,slow=38
SEY Seymchan 74.49 22⇓*eP* P 23 38 42.3 -0.1
SEY pmax pmax
comp=Z,5.0nm,0.7s
ANTO Ankara 74.69 312 P **P 23 38 44.1 -0.1**
comp=Z,10nm,1.0s
QRZ Quartz Range 74.79 132 IAMs_20 IAMs_20 00 12 22.9
comp=Z,2μm,20.0s
LPSR Galich'ya Gora 74.82 326 *eP* **P 23 38 42.8 -1.8**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 75.01 9 LR LR 00 16 28.7
comp=Z,3μm,18.3s,baz=231,slow=40
SIM Simferopol' 75.17 317 *eP* **P 23 38 45.9 -0.9**
SIM *e*S **S 23 48 23.3 -0.6**
SIM pmax pmax
comp=Z,33nm,1.3s
SIM smax smax
comp=N,91nm,16.1s
SIM MLR MLR
comp=Z,1μm,34.4s
TOZ Tahuroa Road 76.51 128 IAMs_20 IAMs_20 00 16 16.6
comp=Z,2μm,18.0s
LBTB Lobatse 76.66 245 P **P 23 38 56.8 +0.9**
LBTB IAmb IAmb 23 39 16.7
comp=Z,22nm,1.3s
LBTB Lobatse 76.66 245 LR LR 00 07 59.6
comp=Z,1μm,19.9s,baz=84,slow=32
LBTB Lobatse 76.66 245 P **P 23 38 56.8 +0.9**
LBTB pmax pmax
comp=Z,22nm,1.3s
MOS Moscow 76.75 329 *eP* **P 23 38 53.1 -2.4**
MOS *e* 23 39 05.1
MSVF Nonsavu 76.75 108 LR LR 00 13 25.5
comp=Z,448nm,19.9s,baz=272,slow=36
OBN Obninsk 77.08 328 LR LR 00 17 33.9
comp=Z,331nm,19.5s,baz=143,slow=39
OBN Obninsk 77.08 328 ⇓P **P 23 38 58.6 +1.3**
OBN Obninsk 77.08 328 *eP* **P 23 38 56.5 -0.8**
OBN *e* 23 39 08.6
OBN *e* 23 41 47.3
OBN *e*PPP PPP 23 43 34.3
OBN pmax pmax
comp=Z,87nm,4.2s
OBN MLR MLR

comp=Z,690nm,24.0s
OBN Obninsk 77.08 328 P **P 23 38 57.4 +0.1**
comp=Z,28nm,1.0s
BOSA Boshof 77.28 241 P **P 23 38 60.0 +0.7**
BOSA Boshof 77.28 241 P **P 23 38 59.9 +0.7**
comp=Z,5.7nm,0.8s,baz=110,slow=3.5,SNR=8.6
BOSA LR LR 00 09 16.6
comp=Z,841nm,18.2s,baz=91,slow=33
comp=Z,5.7nm,0.8s
BKZ Black Stump Fm 77.50 130 P **P 23 38 58.4 -1.8**
BKZ IAmb IAmb 23 39 19.8
comp=Z,22nm,0.7s
URZ Urewera 77.85 129 LR LR 00 17 03.2
comp=Z,1μm,18.1s,baz=20,slow=38
KLMR Klimovskoe 77.94 334 *eP* **P 23 39 00.4 -1.7**
KLMR pmax pmax
comp=Z,48nm,1.7s
PURM Purcari 78.46 318 P **P 23 39 05.2 0.0**
comp=Z,36nm,0.9s
MXZ Matakaoa Point 78.69 128 IAMs_20 IAMs_20 00 15 25.4
comp=Z,2μm,20.0s
TLCR 78.85 317 ⇓P **P 23 39 06.8 -0.6**
TLCR 78.85 317 P **P 23 39 06.8 -0.6**
SYO Syowa Base 78.94 199⇓*eP* P 23 39 09.2 +1.7
SYO Syowa Base 78.94 199⇑*ep*P pP 23 39 13.2 -2.8
TIRR Tirgusor 78.97 316 P **P 23 39 07.5 -0.6**
TIRR IAmb IAmb 23 39 16.2
comp=Z,26nm,0.9s
TIRR Tirgusor 78.97 316 ⇓P **P 23 39 08.6 +0.6**
TIRR Tirgusor 78.97 316 P **P 23 39 07.5 -0.6**
TIRR pmax pmax
comp=Z,26nm,0.9s
MILM Milestii Mici 79.26 318 *eP* **P 23 39 08.6 -1.1**
MILM Milestii Mici 79.26 318 ⇑P **P 23 39 09.5 -0.2**
MILM Milestii Mici 79.26 318 *eP* **P 23 39 08.6 -1.1**
KIS Kishinev 79.28 318 *eP* **P 23 39 08.0 -1.8**
KIS Kishinev 79.28 318 *eP* **P 23 39 08.0 -1.8**
CFR Carcaliu 79.32 316 ⇑P **P 23 39 10.1 0.0**
CFR Carcaliu 79.32 316 P **P 23 39 10.0 0.0**
ICOR Ion Corvin 79.32 315 ⇓P **P 23 39 10.1 +0.1**
HARR Harsova 79.35 316 ⇑P **P 23 39 10.5 +0.3**
HARR Harsova 79.35 316 P **P 23 39 10.5 +0.3**
SORM Soroca 79.85 319 P **P 23 39 12.3 -0.5**
comp=Z,31nm,0.8s
AK09 Malin Array Si 79.87 322 P **P 23 39 13.0 +0.1**
AK10 Malin Array Si 79.88 322 P **P 23 39 13.1 +0.1**
AK08 Malin Array Si 79.89 322 P **P 23 39 12.9 -0.1**
IDI Anoyia 79.90 306 LR LR 00 20 05.0
comp=Z,197nm,18.6s,baz=78,slow=40
AK07 Malin Array Si 79.90 322 P **P 23 39 13.0 -0.1**
AKASG Malin Array Be 79.92 322 P **P 23 39 10.6 -2.6**
comp=Z,0.9nm,0.6s,baz=88,slow=4.6,SNR=12
AKASG LR LR 00 17 19.6
comp=Z,424nm,21.6s,baz=82,slow=38
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 79.92 322*ce*P P 23 39 12.3 -0.9
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 79.92 322⇑*eP* P 23 39 12.4 -0.8
AKBB Malin Array Si 79.92 322 P **P 23 39 13.3 +0.1**
KIEV Kiev 79.93 322 ⇑P **P 23 39 13.5 +0.3**
KIEV Kiev 79.93 322 P **P 23 39 13.5 +0.3**
KIEV Kiev 79.93 322 P **P 23 39 13.3 +0.1**
comp=Z,65nm,1.0s
GHRR 80.01 317 ⇑P **P 23 39 14.2 +0.4**
ODBI Odobesti 80.19 317 ⇓P **P 23 39 14.9 +0.1**
BISRR Bisoca 80.38 317 ⇑P **P 23 39 15.4 -0.4**
VRI Vrincioaia 80.43 317 ⇑P **P 23 39 16.6 +0.4**
VRI Vrincioaia 80.43 317 P **P 23 39 16.5 +0.4**
PLOR Plostina 80.48 317 ⇑P **P 23 39 16.2 -0.2**
PLOR Plostina 80.48 317 P **P 23 39 16.2 -0.2**
MI30 MI30,Zelenitsa 80.57 322 P **P 23 39 17.2 +0.5**
NDNU Novodnistrovsk 80.60 320 P **P 23 39 16.7 -0.2**
SHEM Shemya Is, Ala 80.62 36 LR LR 00 18 06.8
comp=Z,230nm,18.8s,baz=274,slow=38
TESR Tescani 80.62 317 ⇑P **P 23 39 17.2 +0.1**
NEHR Nehoiu 80.64 316 ⇑P **P 23 39 18.0 +0.7**
LUBAR Lubar, Ukraine 80.65 321 P **P 23 39 16.9 -0.2**
MI29 MI29, Kamyanyy 80.71 322 P **P 23 39 16.5 -0.9**
comp=Z,215nm,1.5s
COVR Voineasa-Covas 80.79 317 ⇑P **P 23 39 18.2 +0.2**
MLR Muntele Rosu 80.89 316 P **P 23 39 17.1 -1.6**
MLR IAmb IAmb 23 39 40.3
comp=Z,27nm,0.8s
MLR Muntele Rosu 80.89 316 LR LR 00 21 32.5
comp=Z,268nm,20.6s,baz=74,slow=40
MLR Muntele Rosu 80.89 316 ⇑P **P 23 39 19.5 +0.8**
MLR Muntele Rosu 80.89 316 P **P 23 39 17.1 -1.6**
MLR pmax pmax
comp=Z,27nm,0.8s
PRAR RASCA 81.08 318 ⇑P **P 23 39 19.6 0.0**
RAO Raoul Island 81.09 119 P **P 23 39 20.0 0.0**
comp=Z,187nm,0.3s,baz=325,slow=23,SNR=1.7
RAO LR LR 00 16 36.7
comp=Z,447nm,18.4s,baz=124,slow=37
RAO Raoul Island 81.09 119 P **P 23 39 20.0 0.0**
SUR Sutherland 81.41 238 P **P 23 39 22.7 +0.8**
SUR Sutherland 81.41 238 LR LR 00 10 16.0
comp=Z,1μm,19.3s,baz=93,slow=32
MNK Minsk 81.67 326 *i* P **P 23 39 21.3 -1.1**
MNK *i* 23 42 25.3
MNK *i* PPP PPP 23 44 16.3
MNK *i* S **S 23 49 34.2 +0.9**
MNK *i* SS **SS 23 54 49.2 -1.8**
MNK pmax pmax
comp=E,8.0nm,1.2s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,14nm,1.2s
MNK MLR MLR
comp=N,606nm,17.0s
MNK MLR MLR
comp=Z,320nm,16.0s
MNK MLR MLR
comp=E,491nm,21.0s
ARR Arges 81.78 316 ⇑P **P 23 39 23.3 0.0**
BURAR Bucovina Array 81.80 318 ⇓P **P 23 39 23.8 +0.4**
BURAR Bucovina Array 81.80 318 P **P 23 39 23.8 +0.4**
BUR08 Bucovina Ar. S 81.82 318 P **P 23 39 23.1 -0.5**
BUR08 IAmb IAmb 23 39 39.7
comp=Z,13nm,0.9s
BILL Bilibino 82.05 20 IAMs_20 IAMs_20 00 19 05.3
comp=Z,1μm,20.0s
TNR Turnu Rosu 82.08 316 ⇓P **P 23 39 25.6 +0.8**
TNR Turnu Rosu 82.08 316 P **P 23 39 25.6 +0.8**
RNPP5 Staryi Chortor 82.10 322 P **P 23 39 24.7 -0.1**
RNPP8 Varash 82.14 322 P **P 23 39 24.3 -0.7**
ARCR ARCALIA 82.28 318 ⇑P **P 23 39 26.9 +1.1**
VNDA Vanda 82.48 169 P **P 23 39 27.4 +1.1**
VNDA Vanda 82.48 169 P **P 23 39 26.6 +0.3**
comp=Z,6.6nm,0.9s,baz=50,slow=7.4,SNR=2.8
VNDA LR LR 00 11 30.5
comp=Z,330nm,22.0s,baz=318,slow=32
comp=Z,6.6nm,0.9s
STNU Starunia 82.48 319 P **P 23 39 26.8 -0.1**
CJR Cluj-Napoca 82.72 317 ⇓P **P 23 39 28.1 -0.2**
CJR Cluj-Napoca 82.72 317 P **P 23 39 28.0 -0.2**
BMR Baia Mare 82.96 318 ⇓P **P 23 39 30.4 +1.1**
BMR Baia Mare 82.96 318 P **P 23 39 30.4 +1.1**
MARR Marisel-Cluj 83.04 317 ⇑P **P 23 39 29.9 -0.1**
DEV Deva 83.06 316 ⇓P **P 23 39 30.0 +0.1**
DEV Deva 83.06 316 P **P 23 39 30.0 +0.1**
GZR Gura Zlata 83.07 316 ⇑P **P 23 39 30.5 +0.3**
GZR Gura Zlata 83.07 316 P **P 23 39 30.4 +0.3**
MESR Meseseni 83.23 318 ⇓P **P 23 39 30.6 -0.2**
VSU Vasula 83.25 329⇑*eP* P 23 39 28.7 -1.9
VSU pmax pmax
comp=Z,88nm,3.4s
KORU Korolevo 83.28 319 P **P 23 39 30.9 -0.1**
DRGR 83.34 317 ⇑P **P 23 39 32.3 +0.8**
DRGR 83.34 317 P **P 23 39 32.2 +0.8**
BRIU Brid 83.38 319 P **P 23 39 31.5 0.0**
BOVS Bovan 83.57 314 ⇓P **P 23 39 32.6 0.0**
SURR Surduc 83.58 316 ⇑P **P 23 39 32.6 0.0**
MDVR Moldovita 83.73 315 ⇑P **P 23 39 33.9 +0.5**
TSUM Tsumeb 83.82 251 IAMs_20 IAMs_20 00 12 50.4
comp=Z,986nm,19.0s
TSUM Tsumeb 83.82 251 LR LR 00 12 42.7
comp=Z,896nm,20.6s,baz=78,slow=33
BZS Buzias 83.91 316 ⇑P **P 23 39 34.7 +0.3**
BZS Buzias 83.91 316 P **P 23 39 34.6 +0.3**
KOLS Kolonicke sedl 83.97 319 *eP* **P 23 39 35.8 +1.3**
KOLS pmax pmax

comp=Z,15nm,0.8s
KOLS Kolonicke sedl 83.97 319 *e*P **P 23 39 35.8 +1.3**
SIRR Siria 83.98 317 ⇑P **P 23 39 34.8 +0.1**
SUW Suwalki 84.26 324 *e*P P 23 39 42.8 +6.9
SUW Suwalki 84.26 324 P **P 23 39 35.5 -0.3**
SUW Suwalki 84.26 324 P **P 23 39 35.5 -0.3**
SUW pmax pmax
comp=Z,77nm,1.0s
FINES FINESS Array B 84.27 332 P **P 23 39 34.6 -1.2**
FINES FINESS Array B 84.27 332 P **P 23 39 34.9 -0.9**
comp=Z,2.2nm,0.6s,baz=104,slow=8.0,SNR=8.1
FINES LR LR 00 21 54.5
comp=Z,534nm,19.6s,baz=98,slow=39
comp=Z,2.2nm,0.6s
FINES FINESS Array B 84.27 332 P **P 23 39 34.6 -1.2**
WIN Windhoek 84.32 248 IAms_20 IAms_20 00 17 15.8
comp=Z,1μm,18.0s
ELIB Princess Elisa 85.03 198 *d*P **P 23 39 41.4 +1.7**
comp=Z,6.5nm,1.1s
PDG Podgorica 85.20 313 P **P 23 39 40.5 -0.4**
PDG IAmb IAmb 23 39 58.1
comp=Z,22nm,1.0s
NIE Niedzica 85.32 320 *e*P **P 23 39 41.4 0.0**
PSZ Piszkesteto 85.39 318 P **P 23 39 40.8 -1.1**
PSZ IAmb IAmb 23 40 18.4
comp=Z,13nm,1.1s
PSZ Piszkesteto 85.39 318 ⇓P **P 23 39 42.0 +0.2**
PSZ Piszkesteto 85.39 318 P **P 23 39 40.8 -1.1**
PSZ pmax pmax
comp=Z,13nm,1.1s
OJC Ojcow 85.75 320 *e*P **P 23 39 44.1 +0.7**
LANS Liptovska Anna 85.83 319 *e*P **P 23 39 43.1 -0.8**
LANS Liptovska Anna 85.83 319 *e*P **P 23 39 43.1 -0.8**
MORH Mrgy, Hungar 86.05 316 ⇑P **P 23 39 45.4 +0.4**
VYHS Vyhne 86.17 319 *e*P **P 23 39 45.8 +0.2**
VYHS Vyhne 86.17 319 *e*P **P 23 39 45.8 +0.2**
ARCES ARCESS Array B 86.41 340 P **P 23 39 45.2 -1.1**
ARCES ARCESS Array B 86.41 340 P **P 23 39 45.2 -1.1**
comp=Z,14nm,1.2s,baz=89,slow=5.1,SNR=10
ARCES LR LR 00 22 00.4
comp=Z,1μm,20.9s,baz=100,slow=38
comp=Z,14nm,1.2s
SRO Srobarova 86.44 318 *e*P **P 23 39 47.4 +0.5**
SRO pmax pmax
comp=Z,33nm,1.8s
SRO Srobarova 86.44 318 *e*P **P 23 39 47.4 +0.5**
JAVC Velka Javorina 86.97 319 *e*P **P 23 39 50.3 +0.7**
STEB Steborice 87.01 320 *e*P **P 23 39 50.0 +0.3**
MORC Moravsky Berou 87.14 320 P **P 23 39 50.0 -0.3**
MORC IAmb IAmb 23 39 59.4
comp=Z,12nm,1.1s
MORC Moravsky Berou 87.14 320 *e*P **P 23 39 50.5 +0.1**
MORC Moravsky Berou 87.14 320 ⇑P **P 23 39 50.7 +0.3**
MORC Moravsky Berou 87.14 320 P **P 23 39 50.1 -0.3**
MORC pmax pmax
comp=Z,13nm,1.1s
MODS Modra-Piesok 87.19 318 *e*P **P 23 39 51.2 +0.6**
MODS pmax pmax
comp=Z,44nm,1.7s
MODS Modra-Piesok 87.19 318 *e*P **P 23 39 51.2 +0.6**
KRLC Kraliky 87.66 320 *e*P **P 23 39 51.8 -1.1**
KRLC Kraliky 87.66 320 *e*P **P 23 39 51.8 -1.1**
VRAC Vranov 87.72 319 LR LR 00 26 57.5
comp=Z,252nm,18.3s,baz=70,slow=41
VRAC Vranov 87.72 319 *e*P **P 23 39 53.3 +0.2**
KRUC Moravsky 87.83 319 *e*P **P 23 39 53.5 -0.1**
DPC Dobruska-Polom 87.98 320 *e*P **P 23 39 55.1 +0.7**
DPC Dobruska-Polom 87.98 320 *e*P **P 23 39 55.1 +0.7**
KSP Ksiaz 88.03 321 *e*P **P 23 39 55.7 +1.1**
CONA Conrad Observa 88.09 318 *i* P **P 23 39 55.1 0.0**
comp=Z,3.3nm,1.1s
ARSA Arzberg 88.28 317 *e*P **P 23 39 56.7 +0.8**
comp=Z,9.8nm,1.6s
SOKA Soboth 88.57 317 *i* P **P 23 39 58.0 +0.7**
comp=Z,13nm,1.6s
QSPA South Pole Qui 88.58 180 P **P 23 39 57.6 +0.6**
QSPA IAmb IAmb 23 40 13.5
comp=Z,18nm,1.2s
QSPA South Pole Qui 88.58 180 IAms_20 IAms_20 00 16 40.5
comp=Z,875nm,21.0s
QSPA South Pole Qui 88.58 180 P **P 23 39 58.2 +1.2**
comp=Z,3.5nm,0.7s,baz=174,slow=0.5,SNR=17
QSPA LR LR 00 17 01.6
comp=Z,664nm,18.4s,baz=319,slow=34
comp=Z,3.5nm,0.7s
OBKA Obir 88.90 316 *e*PcP **PcP 23 39 59.9 -0.5**
comp=Z,5.3nm,0.9s
MOA Molln 89.16 318 *e*P **P 23 40 00.1 +0.1**
comp=Z,5.9nm,1.5s
BRG Berggiesshubel 89.52 321 *e*P **P 23 40 02.6 +1.0**
BRG Amp 23 40 04.3
comp=Z,6.7nm,1.0s
BRG Berggiesshubel 89.52 321 P P 23 40 10.0 +8.4
BRG Amp 23 40 10.3
comp=Z,10nm,0.9s
BIOA Bad Ischl, Aus 89.58 318 *i* PcP **PcP 23 40 03.6 +0.3**
comp=Z,5.6nm,1.0s
GEC2 GERESS Array S 89.58 319 P **P 23 40 01.5 -0.6**
GEC2 IAmb IAmb 23 40 44.1
comp=Z,42nm,1.7s
GERES GERESS Array B 89.58 319 P **P 23 40 01.3 -0.8**
GERES GERESS Array B 89.58 319 P **P 23 40 00.7 -1.4**
comp=Z,1.8nm,0.8s,baz=117,slow=5.0,SNR=11
GERES LR LR 00 25 37.5
comp=Z,285nm,20.4s,baz=85,slow=39
comp=Z,1.8nm,0.8s
KHC Kasperske Hory 89.68 319 *e*P **P 23 40 02.7 +0.3**
KHC AMS AMS 00 24 40.0
comp=Z,700nm,22.7s
KHC Kasperske Hory 89.68 319⇑ *e*P **P 23 40 02.9 +0.5**
KHC pmax pmax
comp=Z,18nm,1.8s
KBA Koelnbreinsper 89.75 317 P **P 23 40 03.1 +0.1**
comp=Z,9.5nm,1.4s
NRCA Norcia 89.75 313 P **P 23 40 03.2 +0.2**
NRCA IAmb IAmb 23 40 16.7
comp=Z,16nm,1.1s
HFS Hagfors 90.09 330 P **P 23 40 04.1 0.0**
comp=Z,1.1nm,0.7s,baz=126,slow=4.2,SNR=4.8
HFS LR LR 00 24 59.3
comp=Z,639nm,19.3s,baz=73,slow=39
comp=Z,1.1nm,0.7s
CLL Collm 90.13 321 *e*P **P 23 40 04.0 -0.4**
CLL *i* 23 40 12.0
CLL *e*S **S 23 50 59.0 +2.7**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL MLR MLR
comp=Z,500nm,20.4s
LESA Schwarzleotal 90.22 317 *e*P **P 23 40 04.9 -0.2**
comp=Z,7.9nm,1.2s
ABTA Abfaltersbach 90.31 317 *e*PcP **PcP 23 40 06.5 -0.1**
comp=Z,5.3nm,1.1s
SPITS Spitsbergen Ar 90.34 348 P **P 23 40 03.2 -1.7**
comp=Z,7.1nm,0.9s,baz=76,slow=7.8,SNR=5.8
SPITS LR LR 00 26 08.8
comp=Z,1μm,19.7s,baz=54,slow=39
comp=Z,7.1nm,0.9s
CTI Castel Tesino 90.89 316 P **P 23 40 07.7 -0.5**
CTI IAmb IAmb 23 40 29.6
comp=Z,15nm,0.9s
CTI Castel Tesino 90.89 316 P **P 23 40 07.7 -0.5**
CTI pmax pmax
comp=Z,15nm,0.9s
WTTA Wattenberg 90.92 317 *e*P **P 23 40 08.4 0.0**
comp=Z,5.6nm,0.7s
WATA Walderalm 90.96 317 *e*P **P 23 40 08.4 -0.2**
comp=Z,5.9nm,0.9s
SQTA Sankt Quirin 91.21 317 *e*P **P 23 40 09.7 0.0**
comp=Z,5.3nm,1.1s
KBS Kingsbay 91.26 349 IAms_20 IAms_20 00 23 50.1
comp=Z,1μm,20.0s
MOTA Moosalm 91.28 317 *e*P **P 23 40 09.3 -0.8**
comp=Z,9.2nm,1.4s
NOA NORSAR Array B 91.34 331 P **P 23 40 09.0 -0.9**
comp=Z,0.7nm,0.8s,baz=185,slow=4.9,SNR=3.0
NOA LR LR 00 25 44.4
comp=Z,337nm,19.0s,baz=70,slow=39
comp=Z,0.7nm,0.8s
RETA Reutte 91.52 317 *e*P **P 23 40 10.6 -0.4**
comp=Z,4.2nm,1.0s
FETA Feichten 91.54 317 *e*PcP **PcP 23 40 11.8 -0.4**
comp=Z,11nm,2.3s
FUORN Ofenpass-Fuorn 91.86 316 P **P 23 40 12.1 -0.8**
FUORN IAmb IAmb 23 40 39.8
comp=Z,8.1nm,0.9s
DAVA Damuels 92.12 317 *e*PcP **PcP 23 40 14.5 -0.3**
comp=Z,12nm,1.5s
DAVOX Davos/Dischmat 92.12 317 LR LR 00 26 27.2
comp=Z,274nm,21.7s,baz=50,slow=39
F15K North Star Dit 92.83 24 IAMs_20 IAMs_20 00 22 20.3
comp=Z,773nm,20.0s
SNAA Sanae 93.20 198 P **P 23 40 19.0 +0.7**
comp=Z,1.6nm,0.9s,baz=144,slow=3.4,SNR=3.9
SNAA LR LR 00 14 24.6
comp=Z,435nm,21.2s,baz=93,slow=30
comp=Z,1.6nm,0.9s
C18K Utukok River 93.94 21 P **P 23 40 21.0 -0.7**
E19K Redstone River 95.58 22 IAMs_20 IAMs_20 00 28 04.9
comp=Z,1μm,19.0s
B22K Teshekpuk Lake 96.34 19 P **P 23 40 32.4 -0.2**
B22K IAMs_20 IAMs_20 00 28 39.8
comp=Z,1μm,18.0s
G21K Allakaket 97.21 23 P **P 23 40 36.2 -0.4**
G21K IAmb IAmb 23 42 19.8
comp=Z,8.1nm,0.9s
RAR Rarotonga 97.62 111 LR LR 00 24 15.1
comp=Z,219nm,20.6s,baz=268,slow=35
K20K Telida 97.67 26 IAMs_20 IAMs_20 00 25 35.3
comp=Z,748nm,18.0s
JMIC Jan Mayen 97.74 342 LR LR 00 30 34.6
comp=Z,438nm,18.9s,baz=66,slow=39
E23K Chandalar 98.26 21 P **P 23 40 40.9 -0.6**
E23K IAmb IAmb 23 40 59.2
comp=Z,8.9nm,1.2s
E23K IAMs_20 IAMs_20 00 28 25.6
comp=Z,1μm,19.0s
F24K Squaw Lake 99.05 21 IAMs_20 IAMs_20 00 32 36.5
comp=Z,1μm,20.0s
EKA Eskdalemuir Ar 99.46 326 PP **PP 23 44 51.5 +1.2**
comp=Z,0.6nm,0.7s,baz=60,slow=10.0,SNR=3.9
KDAK Kodiak Island 99.61 32 LR LR 00 27 34.5
comp=Z,378nm,19.8s,baz=166,slow=36
C27K Jago River 99.73 19 IAMs_20 IAMs_20 00 28 04.5
comp=Z,1μm,20.0s
RND Reindeer 99.93 25 IAMs_20 IAMs_20 00 34 16.0
comp=Z,733nm,18.0s
ILAR Eielson Array 100.33 24 PP **PP 23 44 56.0 -0.7**
comp=Z,0.2nm,0.7s,baz=317,slow=6.0,SNR=2.3
ILAR PKKPbc **PKKPbc 23 57 09.4 -0.4**
comp=Z,0.5nm,0.6s,baz=142,slow=2.1,SNR=7.2
PRP Porcupine Dome 100.62 23 IAMs_20 IAMs_20 00 31 41.0
comp=Z,774nm,21.0s
CART Cartagena 100.76 308 IAMs_20 IAMs_20 00 23 07.4
comp=Z,508nm,22.0s
SCM Sheep Creek Mo 101.08 27 IAMs_20 IAMs_20 00 28 30.5
comp=Z,832nm,19.0s
TULEG Thule 104.72 358 IAMs_20 IAMs_20 00 37 51.3
comp=Z,673nm,21.0s
TBI Tubuai 106.86 115 *e*S **Sdif 23 53 19.4 -1.5**
comp=Z,339nm,30.8s
TBI *e*SS **SS 00 00 51.0 -0.6**
comp=Z,850nm,28.0s
TBI Tubuai 106.86 115 *e*LQ LQ 00 11 57.5
comp=Z,1μm,32.2s
TBI *e*LR LR 00 16 25.7
comp=Z,1μm,25.2s
TBI *e*LR LR 00 16 31.0
comp=Z,3μm,23.8s
PPT2 Papeete2 107.57 109 *e*P **Pdif 23 41 30.9 +7.0**
comp=Z,78nm,30.5s
PPT2 Papeete2 107.57 109 *e*S **Sdif 23 53 19.7 -7.4**
comp=Z,87nm,27.5s
PPT2 Papeete2 107.57 109 *e*LQ LQ 00 12 21.3
comp=Z,2μm,37.5s
PPT2 *e*LR LR 00 16 48.9
comp=Z,778nm,27.2s
PPT2 *e*LR LR 00 16 49.1
comp=Z,500nm,27.8s
DLMT Dillon 126.90 30 IAMs_20 IAMs_20 00 51 31.6
comp=Z,877nm,21.0s
NVAR Mina Array Bea 128.16 40 PKP **PKPdf 23 46 11.2 -0.1**
comp=Z,0.7nm,0.5s,baz=256,slow=4.5,SNR=4.1
ULM Lac du Bonnet 129.11 14 PKP **PKPdf 23 46 10.2 -2.2**
comp=Z,1.2nm,0.5s,baz=0.0,slow=1.0,SNR=3.5
PDAR Pinedale Array 130.29 30 PKP **PKPdf 23 46 13.5 -1.7**
comp=Z,0.2nm,0.5s,baz=69,slow=3.5,SNR=3.9
TXAR Lajitas Array 143.28 38 PKP PKPbc 23 46 36.9 +0.5
comp=Z,1.5nm,0.7s,baz=321,slow=0.5,SNR=17
MT01 Popeta 144.29 190 **PKPab 23 46 38.9 +0.1**
MT09 Talagante 144.33 191 PKPdf PKPbc 23 46 39.5 0.0
MT08 Bocatoma Ro 144.46 192 PKPbc 23 46 40.2 +0.2
BRDY Brady 144.48 31 PKPdf **PKPab 23 46 39.0 -0.7**
JCT Junction City 144.69 33 PKPdf **PKPab 23 46 39.4 -1.0**
JCT Junction City 144.69 33 PKIKP **PKPab 23 46 39.4 -1.0**
MT02 Curacav 144.86 191 **PKPab 23 46 40.2 -0.7**
V48A Smith Brothers 144.94 12 **PKPab 23 46 39.2 -1.9**
BDFB Brasilia 145.46 240 PKPbc **PKPbc 23 46 43.1 -0.4**
comp=Z,7.9nm,0.6s,baz=121,slow=4.0,SNR=8.6
TKL Tuckaleechee C 145.54 8 **PKPdf 23 46 41.1 -1.9**
TKL Tuckaleechee C 145.54 8 PKPbc **PKPdf 23 46 41.7 -1.3**
comp=Z,5.7nm,0.7s,baz=136,slow=3.7,SNR=5.9
TKL Tuckaleechee C 145.54 8 PKIKP **PKPdf 23 46 41.1 -1.9**
SWET Sewanee 145.63 11 **PKPdf 23 46 41.4 -1.9**
CPCT Cooper Cave 145.64 9 PKPdf **PKPdf 23 46 40.7 -2.5**
V53A Saluda 145.65 6 **PKPdf 23 46 41.4 -1.8**
CPUP Villa Florida 145.71 215 PKPdf **PKPdf 23 46 42.4 -1.1**
CPUP Villa Florida 145.71 215 PKPbc **PKPdf 23 46 43.2 -0.3**
comp=Z,6.0nm,0.7s,baz=126,slow=3.9,SNR=8.2
CPUP Villa Florida 145.71 215 PKP2 **PKPdf 23 46 42.4 -1.1**
ZON Zonda 145.96 195 PKPdf **PKPdf 23 46 43.4 -0.5**
ZON Zonda 145.96 195 PKP2 **PKPdf 23 46 43.4 -0.5**
CO03 El Pedregal 147.11 192 **PKPdf 23 46 46.2 +0.2**
HKT Hockley 147.15 28 **PKPdf 23 46 46.0 +0.2**
HKT Hockley 147.15 28 PKP2 **PKPdf 23 46 46.0 +0.2**
GO04 Tololo Observa 147.78 193 **PKPdf 23 46 48.0 +0.7**
AQDB Aquidauana 148.86 225 **PKPbc 23 46 53.3 +0.5**
LCO Las Campanas 148.88 193 **PKPbc 23 46 52.2 -0.8**
LCO Las Campanas 148.88 193 PKP2 **PKPbc 23 46 52.3 -0.8**
AC02 Maricunga 150.53 197 **PKPbc 23 46 55.0 -2.4**
SMRT St. Maarten 157.56 319 IAMs_20 IAMs_20 00 47 56.8
comp=Z,460nm,20.0s
TEIG Tepich 158.96 26 IAMs_20 IAMs_20 01 04 42.1
comp=Z,549nm,21.0s
LPAZ La Paz 159.69 210 PKP **PKPdf 23 47 03.5 -1.5**
comp=Z,0.7nm,0.6s,baz=52,slow=3.9,SNR=5.1

REY ***27*** *23:29:35.8, 67°.99N×18°.38W, h10km*
IDC ***27*** *23:29:36.2±1.1, 67°.92N×18°.92W, h0km, mb3.5/4, mbtmp3.7/7, ML3.1/3, MS3.4/8, Error ellipse: s-maj=26.9km s-min=21.5km az=51.0*
ISC 27 23:29:36.8±0.8, 67°.90N±0°.05×18°.55W±0°.07, h10km, n39, σ1§27/37, mb3.5/4, MS3.4/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.38**	**171**	P	**Pn**	**23 30 00.1**	**-1.8**
IGRI				S	**Sn**	**23 30 19.2**	**-1.0**
ILEI	**Leirhofn**	**1.70**	**151**	P	**Pn**	**23 30 04.4**	**-2.0**
ISIG	**Siglufjorour**	**1.78**	**185**	P	**Pn**	**23 30 06.4**	**-1.1**
IHED	**Heoinshofoi**	**1.89**	**165**	P	**Pn**	**23 30 07.4**	**-1.6**
IHRN	**Hraun**	**1.90**	**200**	P	**Pn**	**23 30 07.8**	**-1.3**
IHRN				S	**Sn**	**23 30 29.6**	**-3.5**
IHLA	**Hella**	**1.96**	**178**	P	**Pn**	**23 30 09.4**	**-0.6**
IGIL	**Gilhagi**	**2.02**	**154**	P	**Pn**	**23 30 09.1**	**-1.7**
IGRA	**Granastaoir**	**2.02**	**169**	P	**Pn**	**23 30 09.8**	**-1.1**
IDIM	**Dimmadalss**	**2.05**	**161**	P	**Pn**	**23 30 09.7**	**-1.5**
ISKI	**Skildingahlsh**	**2.12**	**163**	P	**Pn**	**23 30 10.9**	**-1.4**
IGHA	**Grjothals**	**2.19**	**159**	P	**Pn**	**23 30 11.9**	**-1.3**
IGHA				S	**Sn**	**23 30 39.5**	**-0.9**
IKVO	**Krokottuvotn**	**2.29**	**162**	P	**Pn**	**23 30 13.5**	**-1.1**
IREN	**Reynihlio**	**2.35**	**163**	P	**Pn**	**23 30 14.4**	**-1.0**
IMEL	**Melhnausar**	**2.46**	**161**	P	**Pn**	**23 30 16.2**	**-0.7**
IGRS	**Grimsstaoir**	**2.46**	**156**	P	**Pn**	**23 30 16.1**	**-0.9**
ISVA	**Svartarkot**	**2.62**	**168**	P	**Pn**	**23 30 18.9**	**-0.2**
SCO	**Scoresbysund**	**2.87**	**337**	*i* P	**Pn**	**23 30 21.0**	**-1.5**
IASK	**Askja**	**2.96**	**164**	P	**Pn**	**23 30 23.8**	**-0.1**
IMKO	**Mokollar**	**3.06**	**162**	P	**Pn**	**23 30 25.1**	**-0.1**
THOR	**Thorvaldshraun**	**3.07**	**165**	P	**Pn**	**23 30 25.5**	**+0.2**
ISTE	**Stelbrattur**	**3.09**	**189**	P	**Pn**	**23 30 27.0**	**+1.4**
IADA	**Aoalbol**	**3.13**	**156**	P	**Pn**	**23 30 25.5**	**-0.6**
IDYN	**Dyngjuhals**	**3.16**	**171**	P	**Pn**	**23 30 27.1**	**+0.5**
IVON	**Vonarskard**	**3.25**	**174**	P	**Pn**	**23 30 28.9**	**+1.0**
IVSH	**V-Sauoahnukur**	**3.30**	**159**	P	**Pn**	**23 30 28.3**	**-0.2**
BORG	**Borgarnes**	**3.36**	**201**	Pn	**Pn**	**23 30 29.5**	**+0.3**
	3.4nm,0.3s,baz=18,slow=9.2,SNR=11						
BORG				Sn	**Sn**	**23 31 09.3**	**+0.3**
	12nm,0.3s,baz=226,slow=22,SNR=27						
BORG				LR	LR	23 31 46.5	
	comp=Z,125nm,21.0s,baz=308,slow=39						
IASB	**sbjarnarstai**	**3.36**	**201**	P	**Pn**	**23 30 29.2**	**+0.1**
SFJD	**Kangerlussuaq**	**12.27**	**281**	LR	LR	23 36 26.3	
	comp=Z,259nm,19.2s,baz=90,slow=34						
SPITS	**Spitsbergen Ar**	**14.14**	**29**	Pn	**Pn**	**23 32 57.1**	**+0.4**
	baz=212,slow=14						
	7.6nm,1.0s						
NOA	**NORSAR Array B**	**14.42**	**104**	LR	LR	23 37 45.4	
	comp=Z,69nm,19.9s,baz=295,slow=34						
ARCES	**ARCESS Array B**	**15.81**	**64**	LR	LR	23 39 02.1	
	comp=Z,146nm,18.0s,baz=340,slow=36						
FINES	**FINESS Array B**	**19.75**	**87**	P	**Pn**	**23 34 08.5**	**+0.8**
	0.1nm,0.3s,baz=319,slow=17,SNR=4.1						
FINES				LR	LR	23 40 11.7	
	comp=Z,88nm,20.8s,baz=295,slow=32						
	2.4nm,0.9s						
RES	**Resolute Bay**	**23.64**	**320**	LR	LR	23 44 11.1	
	comp=Z,132nm,21.4s,baz=342,slow=37						
GERES	**GERESS Array B**	**25.00**	**123**	P	**P**	**23 35 03.0**	**+2.6**
	1.1nm,0.9s,baz=323,slow=8.0,SNR=3.7						
	1.1nm,0.9s						
DAVOX	**Davos/Dischmat**	**25.69**	**131**	LR	LR	23 45 28.3	
	comp=Z,124nm,21.1s,baz=332,slow=37						
YKA	**Yellowknife Ar**	**36.75**	**309**	P	**P**	**23 36 44.0**	**+0.3**
	0.4nm,0.9s,baz=43,slow=7.8,SNR=5.7						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**42.63**	**330**	P	**P**	**23 37 32.6**	**0.0**
	1.0nm,1.0s,baz=13,slow=6.9,SNR=8.9						
	1.0nm,1.0s						
TKL	**Tuckaleechee C**	**48.22**	**263**	LR	LR	23 57 56.4	
	comp=Z,119nm,18.6s,baz=350,slow=35						
PDAR	**Pinedale Array**	**51.59**	**290**	P	**P**	**23 38 42.6**	**-0.4**
	0.6nm,0.9s,baz=35,slow=5.4,SNR=4.0						
	0.6nm,0.9s						

IDC 27 23:36:02.4±4.3, 6°.01S×148°.71E, h0km, mb3.4/1, mbtmp3.6/3, ML3.7/1, MS4.3/1, Error ellipse: s-maj=137.3km s-min=45.5km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**204**	Pn	Pn	23 37 01.8	+0.9
	26nm,0.3s,baz=21,slow=8.6,SNR=7.5						
PMG				Sn	Sn	23 37 41.1	-4.3
	27nm,0.3s,baz=339,slow=23,SNR=12						
WRA	**Warramunga Arr**	**19.67**	**224**	P	P	23 40 31.5	-1.7
	0.2nm,0.3s,baz=51,slow=11,SNR=5.3						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**22.61**	**218**	P	P	23 41 05.7	+0.8
	0.8nm,0.5s,baz=48,slow=9.6,SNR=7.1						
	0.8nm,0.5s						
JCJ	**Chichijima**	**33.51**	**349**	LR	LR	23 54 29.6	
	comp=Z,530nm,21.1s,baz=310,slow=33						
TORD	**Torodi Ar. Bea**	**146.74**	**285**	PKPbc	PKPdf	23 55 46.6	+0.8
	32nm,0.3s,baz=74,slow=2.9,SNR=1.4						

REY ***27*** *23:52:22.3, 68°.11N×18°.26W, h10km*
IDC ***27*** *23:52:23.4±0.9, 67°.86N×19°.27W, h0km, mb3.6/9, mbtmp3.6/12, ML3.3/3, Error ellipse: s-maj=22.4km s-min=17.2km az=27.0*
NEIC ***27*** *23:52:24.9±1.1, 67°.93N±0°.06×18°.8W±0°.3, h10km±1km, mb4.3/12, Error ellipse: s-maj=18.9km s-min=9.7km az=271.0*
ISC 27 23:52:24.7±0.6, 67°.92N±0°.05×18°.74W±0°.06, h10km, n62, σ1§31/65, mb3.9/13, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.42**	**168**	P	**Pn**	**23 52 48.2**	**-2.3**
IGRI				S	**Sb**	**23 53 09.3**	**0.0**
ILEI	**Leirhofn**	**1.76**	**149**	P	**Pn**	**23 52 52.6**	**-2.6**
ISIG	**Siglufjorour**	**1.80**	**182**	P	**Pn**	**23 52 54.6**	**-1.2**
IHRN	**Hraun**	**1.90**	**197**	P	**Pn**	**23 52 56.2**	**-0.9**
IHED	**Heoinshofoi**	**1.94**	**162**	P	**Pn**	**23 52 55.4**	**-2.2**
IHLA	**Hella**	**2.00**	**176**	P	**Pn**	**23 52 57.5**	**-0.9**
IGRA	**Granastaoir**	**2.07**	**167**	P	**Pn**	**23 52 57.8**	**-1.6**
IGIL	**Gilhagi**	**2.08**	**152**	P	**Pn**	**23 52 57.3**	**-2.3**
IDIM	**Dimmadalss**	**2.10**	**159**	P	**Pn**	**23 52 57.6**	**-2.3**
ISKI	**Skildingahlsh**	**2.17**	**161**	P	**Pn**	**23 52 58.9**	**-2.0**
IGHA	**Grjothals**	**2.25**	**158**	P	**Pn**	**23 52 59.9**	**-2.0**
IGHA				S	**Sn**	**23 53 29.4**	**-0.2**
IKVO	**Krokottuvotn**	**2.34**	**161**	P	**Pn**	**23 53 01.5**	**-1.7**
IREN	**Reynihlio**	**2.40**	**161**	P	**Pn**	**23 53 02.7**	**-1.3**
IMEL	**Melhnausar**	**2.51**	**160**	P	**Pn**	**23 53 04.3**	**-1.2**
IGRS	**Grimsstaoir**	**2.52**	**154**	P	**Pn**	**23 53 04.0**	**-1.6**
IGRS				S	**Sn**	**23 53 35.2**	**-1.3**
ISVA	**Svartarkot**	**2.67**	**166**	P	**Pn**	**23 53 07.0**	**-0.6**
SCO	**Scoresbysund**	**2.81**	**337**	*i* P	**Pn**	**23 53 08.0**	**-1.7**
SCO	**Scoresbysund**	**2.81**	**337**	Pn	**Pn**	**23 53 06.9**	**-2.8**
SCO	**Scoresbysund**	**2.81**	**337**	IAML		23 53 59.5	
	comp=Z,42nm,0.9s						
IASK	**Askja**	**3.00**	**163**	P	**Pn**	**23 53 12.0**	**-0.4**
ISTE	**Stelbrattur**	**3.10**	**187**	P	**Pn**	**23 53 15.3**	**+1.5**
IMKO	**Mokollar**	**3.11**	**161**	P	**Pn**	**23 53 14.0**	**+0.2**
IADA	**Aoalbol**	**3.18**	**155**	P	**Pn**	**23 53 13.8**	**-1.0**
IURH	**Urdarhals**	**3.18**	**168**	P	**Pn**	**23 53 14.9**	**0.0**
IDYN	**Dyngjuhals**	**3.20**	**169**	P	**Pn**	**23 53 15.3**	**+0.2**
IVON	**Vonarskard**	**3.29**	**173**	P	**Pn**	**23 53 16.8**	**+0.5**
IKRE	**Kreppuhraun**	**3.29**	**162**	P	**Pn**	**23 53 15.9**	**-0.4**
IKIS	**Kista**	**3.30**	**171**	P	**Pn**	**23 53 17.5**	**+1.0**
BORG	**Borgarnes**	**3.36**	**199**		**Pn**	**23 53 16.4**	**-0.7**
BORG	**Borgarnes**	**3.36**	**199**	Pn	**Pn**	**23 53 17.5**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=347,slow=5.5,SNR=14						
BORG				Sn	**Sn**	**23 53 55.1**	**-1.8**
	comp=Z,5.4nm,0.3s,baz=222,slow=21,SNR=7.7						
	comp=Z,11nm,0.3s						
IVSH	**V-Sauoahnukur**	**3.36**	**157**	P	**Pn**	**23 53 16.5**	**-0.8**
ISKR	**Skrokkalda**	**3.38**	**177**	P	**Pn**	**23 53 19.2**	**+1.6**
SUMG	**Summit**	**8.11**	**314**	*i* S	**Pn**	**23 54 22.9**	**+0.2**
SUMG	**Summit**	**8.11**	**314**	Pn	**Pn**	**23 54 22.9**	**+0.2**
EKA	**Eskdalemuir Ar**	**14.57**	**142**	Pn	**Pn**	**23 55 52.8**	**+2.1**
	baz=345,slow=18						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**16.02**	**103**	Pn	**Pn**	**23 56 08.4**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=299,slow=10.0,SNR=3.9						
	comp=Z,4.4nm,1.1s						
FIA1	**FINESS Array S**	**19.82**	**87**	P	**P**	**23 56 55.3**	**+0.3**
FINES	**FINESS Array B**	**19.82**	**87**	P	**P**	**23 56 54.9**	**-0.1**
FINES	**FINESS Array B**	**19.82**	**87**	P	**Pn**	**23 56 57.1**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=328,slow=6.8,SNR=4.3						
	comp=Z,1.8nm,0.8s						
CLL	**Collm**	**22.71**	**121**	P	**P**	**23 57 25.5**	**-0.8**
RES	**Resolute Bay**	**23.57**	**320**	P	**P**	**23 57 34.4**	**-0.4**
RES				IAmb	IAmb	23 57 39.3	
	comp=Z,10nm,1.5s						
GEC2	**GERESS Array S**	**25.07**	**123**	P	**P**	**23 57 49.7**	**+0.6**
GEC2				IAmb	IAmb	23 57 53.9	
	comp=Z,4.4nm,1.2s						
GERES	**GERESS Array B**	**25.07**	**123**	P	**P**	**23 57 48.7**	**-0.4**
GERES	**GERESS Array B**	**25.07**	**123**	P	**P**	**23 57 50.4**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=342,slow=6.2,SNR=4.2						
	comp=Z,1.2nm,0.8s						
AKASG	**Malin Array Be**	**28.90**	**102**	P	**P**	**23 58 24.4**	**+1.0**
	comp=Z,0.1nm,0.2s,baz=334,slow=9.7,SNR=1.4						
	comp=Z,0.1nm,0.2s						
PFVI	**Vila Bisbo**	**31.34**	**165**	P	**P**	**23 58 45.2**	**+0.2**
YKA	**Yellowknife Ar**	**36.67**	**309**	P	**P**	**23 59 29.9**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=42,slow=8.4,SNR=8.5						
	comp=Z,0.5nm,0.8s						
INK	**Inuvik**	**36.82**	**326**	P	**P**	**23 59 32.0**	**-0.2**
INK				IAmb	IAmb	23 59 36.0	
	comp=Z,7.0nm,1.2s						
F31M	**Tsiigehtchic**	**37.58**

```
MKAR Makanchi Array   51.47 60  P    P    00 01 30.0 +0.3
MKAR Makanchi Array   51.47 60  P    P    00 01 31.6 +1.9
     comp=Z,0.7nm,1.0s,baz=342,slow=6.6,SNR=5.0
     comp=Z,0.7nm,1.0s
TXAR Lajitas Array    61.28 277 P    P    00 02 37.3 -2.7
     comp=Z,0.1nm,0.4s,baz=39,slow=5.0,SNR=4.1
     comp=Z,0.1nm,0.4s
MJAR Matsushiro Arr   74.41 19  P    P    00 04 04.0 +1.5
     comp=Z,1.2nm,0.4s,baz=327,slow=18,SNR=2.2
     comp=Z,1.2nm,0.4s
```

NEIC ***27*** *23:54:19.4±2.1, 67°.73N±0°.06×19°.0W±0°.2, h10km±1km, mb4.2/2, Error ellipse: s-maj=13.1km s-min=10.8km az=283.0*

IDC ***27*** *23:54:20.9±1.0, 67°.76N×18°.73W, h0km, mb3.5/7, mbtmp3.6/14, ML3.3/7, MS3.8/9, Error ellipse: s-maj=22.5km s-min=17.0km az=19.0*

ISC 27 23:54:21.1±0.7, 67°.79N±0°.07×18°.74W±0°.08, h10km, n29, σ1§54/24, mb3.4/6, MS3.9/6, Iceland region

```
Code Station Name     Δ°   AZ°  Phase ID              Time     Res
                                Op    ISC             h m s    ISC
SCO  Scoresbysund     2.94 338  Pn    Pn              23 55 06.2 -1.7
BORG Borgarnes        3.23 200  Pn    Pn              23 55 09.4 -2.3
BORG Borgarnes        3.23 200  Pn    Pn              23 55 12.3 +0.5
     3.2nm,0.3s,baz=285,slow=4.3,SNR=3.3
BORG                            Sn    Sn              23 55 51.7 +1.5
     4.7nm,0.3s,baz=226,slow=21,SNR=5.7
BORG                            LR    LR              23 56 29.0
     comp=Z,648nm,18.9s,baz=325,slow=40
     26nm,0.5s
SUMG Summit           8.21 315  Pn    Pn              23 56 18.5 -1.9
SPITS Spitsbergen Ar  14.27 29  Pn    Pn              23 57 45.7 +2.8
     baz=230,slow=12
     14nm,0.9s
SPB2 Spitsbergen Ar   14.27 29  Pn    Pn              23 57 42.4 -0.4
EKB  Eskdalemuir      14.45 142 Pn    Pn              23 57 42.4 -3.1
EKA  Eskdalemuir Ar   14.46 142 Pn    Pn              23 57 46.6 +1.0
     baz=87,slow=20
     0.1nm,0.4s
ESK  Eskdalemuir      14.46 142 Pn    Pn              23 57 44.9 -0.7
NOA  NORSAR Array B   14.46 103 Pn    Pn              23 57 46.8 +1.2
     baz=297,slow=10.0,SNR=3.5
NOA                             LR    LR              00 02 30.3
     comp=Z,235nm,20.4s,baz=315,slow=34
     1.1nm,0.9s
NB201 NORSAR Array S  14.49 103 Pn    Pn              23 57 44.4 -1.5
ARCES ARCESS Array B  15.93 63  Pn    Pn              23 58 05.8 +0.8
     baz=298,slow=13,SNR=2.4
     5.1nm,0.9s
HFS  Hagfors          15.98 103 Pn    Pn              23 58 06.2 +0.5
     0.3nm,0.3s,baz=300,slow=12,SNR=9.2
HFS                             LR    LR              00 03 18.5
     comp=Z,315nm,21.1s,baz=310,slow=34
     1.4nm,0.8s
FIA1 FINESS Array S   19.82 87  P    P    23 58 49.7 -1.8
FIA1                            IAmb  IAmb             23 58 55.7
     comp=Z,18nm,0.9s
FINES FINESS Array B  19.82 87  P    Pn   23 58 53.0 -0.1
     comp=Z,0.3nm,0.3s,baz=308,slow=13,SNR=11
     comp=Z,3.1nm,0.7s
FRB  Frobisher Bay    20.36 282 P    Pn              23 59 00.6 +1.2
     comp=Z,2.6nm,0.7s,baz=49,slow=8.7,SNR=5.4
FRB                             LR    LR              00 06 24.7
     comp=Z,267nm,21.7s,baz=52,slow=36
     comp=Z,2.6nm,0.7s
EUNU Eureka           20.62 333 P    P    23 58 59.8 -0.3
EUNU                            IAmb  IAmb             23 59 07.9
     comp=Z,10nm,1.1s
RES  Resolute Bay     23.68 320 LR   LR              00 09 19.2
     comp=Z,117nm,20.2s,baz=36,slow=38
GERES GERESS Array B  25.00 123 P    P    23 59 45.6 +0.8
     comp=Z,0.9nm,0.8s,baz=322,slow=6.2,SNR=2.5
     comp=Z,0.9nm,0.8s
SCHQ Schefferville    25.67 264 LR   LR              00 08 58.4
     comp=Z,364nm,21.5s,baz=48,slow=34
AKASG Malin Array Be  28.87 102 P    P    00 00 20.0 +0.6
     comp=Z,0.3nm,0.4s,baz=332,slow=9.2,SNR=4.0
     comp=Z,0.3nm,0.4s
YKA  Yellowknife Ar   36.77 309 P    P    00 01 29.3 +1.1
     comp=Z,0.3nm,0.7s,baz=41,slow=8.3,SNR=5.0
     comp=Z,0.3nm,0.7s
SADO Sadowa           38.47 265 LR   LR              00 17 08.7
     comp=Z,204nm,18.2s,baz=62,slow=36
ULM  Lac du Bonnet    40.23 284 LR   LR              00 18 57.6
     comp=Z,187nm,19.1s,baz=5.5,slow=37
ABKAR Akbulak array   41.62 75  P    P    00 02 07.0 -1.8
ILAR Eielson Array    42.70 330 P    P    00 02 18.3 +0.8
     comp=Z,0.5nm,0.9s,baz=44,slow=6.1,SNR=4.2
     comp=Z,0.5nm,0.9s
KURBB Kurchatov Arra  46.97 60  P    P    00 02 52.9 +1.3
     comp=Z,0.4nm,0.7s,baz=328,slow=7.5,SNR=3.4
     comp=Z,0.4nm,0.7s
TKL  Tuckaleechee C   48.13 263 LR   LR              00 22 40.6
     comp=Z,387nm,18.0s,baz=1.0,slow=35
MKAR Makanchi Array   51.53 59  P    P    00 03 27.3 +0.6
     comp=Z,0.4nm,0.9s,baz=331,slow=5.3,SNR=2.6
     comp=Z,0.4nm,0.9s
```

NDI ***28*** *00:00:51.2, 7°.22N×94°.49E, h100km, mb4.7, ML4.6, mb5.0(NEIC)*

DJA ***28*** *00:00:52.4±0.4, 7°N±5°×9°4E±°, h124km±8km, M4.7/13, mB5.5/6, mb4.4/13, MLv4.7/11, Mw(mB)4.9/6*

IDC ***28*** *00:00:52.2±1.6, 7°.28N×94°.42E, h113km±13km, mb4.1/25, mbtmp4.4/28, Error ellipse: s-maj=15.6km s-min=11.3km az=51.0*

NEIC ***28*** *00:00:52.3±1.4, 7°.32N±0°.08×94°.37E±0°.09, h108km±7km, mb5.0/64, Error ellipse: s-maj=12.9km s-min=11.3km az=52.0*

MOS ***28*** *00:00:52.2±0.8, 7°.23N×94°.34E, h133km, mb4.6/34, Error ellipse: s-maj=9.8km s-min=4.6km az=110.5*

BJI ***28*** *00:00:52.1, 7°.01N×94°.16E, h151km, mB5.1/10, mb4.6/53*

ISC 28 00:00:51.9±0.5, 7°.21N±0°.04×94°.27E±0°.04, h111km±4km, h112km: pP-P, n327, σ1§47/354, mb4.8/111, 11C-20D, Nicobar Islands region

```
Code Station Name     Δ°   AZ°  Phase ID              Time     Res
                                Op    ISC             h m s    ISC
CMBY CAMPBELL BAY     0.40 240  eP    Pn              00 01 07.6 -0.6
CMBY                            eS    Sn              00 01 18.4 -2.1
CMBY                            IAML                  00 01 20.2
     comp=E,17µm,0.4s
CMBY                            IAML                  00 01 23.1
     comp=E,18µm,0.3s
BSI  Banda Aceh       1.98 149  P    Pn              00 01 24.0 -0.7
BSI                             S    Sn              00 01 48.9 -0.9
LHMI Lhok Sumawe      3.31 126       Pn              00 01 42.4 +0.4
LHMI Lhok Sumawe      3.31 126  P    Pn              00 01 42.4 +0.4
LHMI Lhok Sumawe      3.31 126  P    Pn              00 01 42.5 +0.5
MLSI Meulaboh, Aceh   3.61 144  P    Pn              00 01 45.6 -0.5
SNSI Sinabang, Aceh   5.19 157  P    Pn              00 02 03.8 -3.5
     comp=E,1.5nmcomp=E,72nm,0.6s
SRIT Nakonsritamara   5.46 75        Pn              00 02 10.2 -0.6
SRIT Nakonsritamara   5.46 75  S    Sn              00 03 08.6 -3.9
SRIT Nakonsritamara   5.46 75  P    Pn              00 02 09.8 -1.1
DGPR DIGLIPUR         6.07 348  eP   Pn              00 02 17.2 -2.1
DGPR                            eS   Sn              00 03 22.1 -5.3
DGPR                            IAML                  00 03 28.9
     comp=E,1µm,0.4s
DGPR                            IAML                  00 03 29.8
     comp=E,1µm,0.3s
PSI  Prapat           6.38 133  P    Pn              00 02 23.9 +0.5
     comp=E,20nm,0.5s,baz=330,slow=14,SNR=18
PSI                             S    Sn              00 03 31.9 -3.1
     comp=E,5.3nm,0.3s,baz=331,slow=19,SNR=1.4
PSI  Prapat           6.38 133  P    Pn              00 02 25.7 +2.2
PSI  Prapat           6.38 133  P    Pn              00 02 24.0 +0.5
RPSI Rantau Prapat    6.45 134       Pn              00 02 23.9 -0.4
RPSI Rantau Prapat    6.45 134       Pn              00 02 23.9 -0.4
KULM Kulim            6.62 106       Pn              00 02 26.1 -0.6
KULM Kulim            6.62 106  P    Pn              00 02 26.7  0.0
GSI  Gunungsitoli     6.73 151  P    Pn              00 02 24.0 -4.2
     comp=E,0.4nmcomp=E,3µmcomp=E,27nm,1.2s
IPM  Ipoh             7.24 112       Pn              00 02 33.9 -1.2
IPM  Ipoh             7.24 112  P    Pn              00 02 34.8 -0.4
PBSI Pulau Batu       8.25 151  P    Pn              00 02 45.6 -3.2
     comp=E,28nm,1.2s
MNSI Mandailing Nat   8.28 140  P    Pn              00 02 46.1 -3.1
     comp=E,3µmcomp=E,30nm,0.4s
SISI Saibi            9.75 150  P    Pn              00 03 05.2 -3.9
CMAR Chiang Mai Arr   12.07 22  Pn   Pn              00 03 37.9 -2.4
CMAR Chiang Mai Arr   12.07 22  P    Pn              00 03 40.1 -0.1
     comp=E,1.7nm,0.5s,baz=215,slow=14,SNR=16
CMAR Chiang Mai Arr   12.07 22  i P  Pn              00 03 41.7 +1.4
CMAR                            pmax pmax
     comp=Z,3.0nm,0.5s
CHTO Chiang Mai       12.40 21       Pn              00 03 42.7 -1.9
CHTO Chiang Mai       12.40 21  P    Pn              00 03 42.7 -1.9
PALK Pallekele        13.46 271      Pn              00 03 59.7 +1.1
PALK Pallekele        13.46 271 P    P               00 04 01.8 -2.1
     comp=Z,5.1nm,0.4s,baz=82,slow=16,SNR=10
PALK                            S    Sn              00 06 14.9 -12
     comp=Z,18nm,0.4s,baz=179,slow=22,SNR=20
PALK Pallekele        13.46 271⇓eP   Pn              00 04 00.0 +1.4
MNAI Manna            14.39 143 P    Pn              00 04 10.2 -0.3
VIS  Vishakhapatnam   14.93 315 eP   Pn              00 04 18.6 +1.3
VIS                             eS   Sn              00 06 48.3 -14
VIS                             IAmb IAmb            00 08 48.6
     comp=Z,122nm,2.8s
RAGD RAYAGADA         15.93 320 eP   P               00 04 30.8 -0.4
RAGD                            IAmb IAmb            00 04 34.5
     comp=Z,72nm,1.3s
RAGD                            eS   Sn              00 07 14.0 -12
SALM Salem            16.45 287 eP   P               00 04 43.1 +6.0
SALM                            IAmb IAmb            00 04 56.0
     comp=Z,40nm,0.8s
SALM                            eS   Sn              00 07 29.1 -10
AZL  Aizawl           16.50 355 eP   Pn              00 04 36.9  0.0
AZL                             IAmb IAmb            00 04 38.5
     comp=Z,27nm,0.9s
AZL                             eS   Sn              00 07 26.9 -13
SLVN Son La           16.85 33       Pn              00 04 40.3 -0.9
SLVN Son La           16.85 33  P    Pn              00 04 41.0 -0.1
KOD  Kodaikanal       16.88 281 eP   P               00 04 48.6 +6.6
KOD                             IAmb IAmb            00 04 50.8
     comp=Z,47nm,0.9s
IMP  Imphal           17.52 359 eP   Pn              00 04 51.2 +1.9
IMP                             eS   Sn              00 07 47.5 -17
IMP                             IAmb IAmb            00 08 48.6
     comp=Z,213nm,1.6s
JHSG JHARSUGUGA       17.66 326 eP   Pn              00 04 52.8 +1.8
KNTI KHUNTI           17.97 332 IAmb IAmb            00 04 56.7
     comp=Z,53nm,0.4s
BOK  Bokaro           18.35 335 eP   Pn              00 05 05.8 +6.6
BOK                             IAmb IAmb            00 05 07.9
     comp=Z,32nm,0.7s
BOK                             eS   S               00 08 08.0 -14
SHL  Shillong         18.40 353      P               00 04 55.6 -2.9
SHL  Shillong         18.40 353 ex   P               00 04 57.2 -1.3
SHL                             IAmb IAmb            00 05 03.5
     comp=Z,18nm,0.7s
SHL                             eS   S               00 08 08.0 -15
SHL  Shillong         18.40 353 P    P               00 04 55.6 -2.9
KMI  Kunming          19.57 23 ⇓P    Pn              00 05 14.5 +0.8
KMI                             pmax pmax            
     comp=Z,11nm,0.6s
PZH  PanZhiHua        20.46 19  P    P               00 05 21.8 +0.9
PZH                             pmax pmax            
     comp=Z,10.0nm,0.7s
GTK  Tadong           20.71 346 eP   Pn              00 05 37.4 +10
GTK                             IAmb IAmb            00 05 42.2
     comp=Z,26nm,0.9s
LSA  Lhasa            22.56 353 P    P               00 05 42.1 -1.4
LSA  Lhasa            22.56 353 P    P               00 05 42.1 -1.4
CD2  Chengdu          25.20 19  P    P               00 06 06.3 -0.9
CD2                             pmax pmax            
     comp=Z,20nm,0.5s
SZP  Santa            27.52 66  P    P               00 06 32.5 +4.3
XAN  Xi'an            29.93 25 ⇓P    P               00 06 48.5 -1.0
XAN                             pmax pmax            
     comp=Z,22nm,0.4s
LZH  Lanzhou          30.05 16 eP    P               00 06 50.3 -0.3
LZH                             pmax pmax            
     comp=Z,22nm,1.0s
LYN  LuoYang          31.96 29  P    P               00 07 06.8 -0.5
LYN                             pmax pmax            
     comp=Z,25nm,0.6s
GTA  Gaotai           32.44 8 eP     P               00 07 12.0 +0.4
GTA                             pmax pmax            
     comp=Z,6.0nm,0.5s
NIL  Nilore           32.72 326 P    P               00 07 13.4 -0.6
NIL  Nilore           32.72 326 P    P               00 07 13.4 -0.6
NIL                             pmax pmax            
     comp=Z,50nm,0.7s
NIL  Nilore           32.72 326 P    P               00 07 13.9 -0.1
NJ2  Nanjing          33.69 40 eP    P               00 07 23.8 +1.4
NJ2                             pmax pmax            
     comp=Z,10.0nm,0.5s
HNS  HongShan         35.33 29 ⇓P    P               00 07 37.8 +1.4
HNS                             pmax pmax            
     comp=Z,21nm,0.8s
KBL  Kabul            35.78 323 P    P               00 07 39.7 -0.9
KBL  Kabul            35.78 323 P    P               00 07 39.7 -0.9
KBL                             pmax pmax            
     comp=Z,3.0nm,0.9s
BTO  Baotou           36.11 21 eP    P               00 07 43.8 +0.6
BTO                             pP   pwP             00 08 11.8 +1.1
BTO                             PP   PnPn            00 09 10.0 +1.8
BTO                             pmax pmax            
     comp=Z,23nm,0.7s
BTO                             pmax pmax            
     comp=Z,560nm,6.1s
KSH  Kashi            36.13 336 P    P               00 07 41.5 -1.9
KSH                             pmax pmax            
     comp=Z,9.0nm,0.6s
WUS  Wushi            36.40 341 P    P               00 07 45.4 -0.4
WUS                             IAmb IAmb            00 07 46.6
     comp=Z,12nm,0.7s
HHC  Hu-ho-hao-te     36.88 22⇑iP    P               00 07 50.8 +1.0
HHC                             pmax pmax            
     comp=Z,15nm,0.6s
HHC                             pmax pmax            
     comp=Z,250nm,4.8s
WMQ  Urumqi           36.92 352 eP   P               00 07 50.0  0.0
WMQ                             pmax pmax            
     comp=Z,12nm,0.7s
KDJ  Kajisay          37.93 339 P    P               00 07 58.4 -0.3
KDJ  Kajisay          37.93 339 P    P               00 07 58.4 -0.3
KDJ                             pmax pmax            
     comp=Z,6.0nm,0.8s
DRK  Karamyk          37.95 331 P    P               00 07 59.3 +0.2
DRK  Karamyk          37.95 331 P    P               00 07 59.3 +0.2
DRK                             pmax pmax            
     comp=Z,64nm,0.5s
SHLS Shalkode         38.10 342 eP   P               00 07 59.1 -0.9
SHLS Shalkode         38.10 342 eP   P               00 07 59.1 -0.9
BJT  Baijiatuau       38.10 28  P    P               00 07 59.5 -0.4
BJT  Baijiatuau       38.10 28  P    P               00 07 59.6 -0.4
BJT                             pmax pmax            
     comp=Z,6.0nm,0.8s
BJI  Beijing          38.13 28  P    P               00 08 00.5 +0.4
BJI                             pmax pmax            
     comp=Z,4.0nm,0.8s
UZB  Uzynbulak        38.23 342 eP   P               00 08 00.7 -0.4
UZB  Uzynbulak        38.23 342 eP   P               00 08 00.8 -0.4
PDGK Podgornoye       38.25 342 P    P               00 08 01.3  0.0
GAR  Garm             38.31 329 P    P               00 08 01.6 -0.3
SATY Saty             38.34 341 eP   P               00 08 01.8 -0.3
SATY Saty             38.34 341 eP   P               00 08 01.8 -0.3
KPKS Kokpek           38.62 342 eP   P               00 08 04.3 -0.1
KPKS Kokpek           38.62 342 eP   P               00 08 04.3 -0.1
CHGR Chuyangaron      38.65 328 P    P               00 08 04.1 -0.6
CHGR                            IAmb IAmb            00 08 04.9
     comp=Z,51nm,1.0s
CHGR Chuyangaron      38.65 328 P    P               00 08 04.1 -0.6
CHGR                            pmax pmax            
     comp=Z,51nm,1.0s
BOOM Boomskoye usch   38.69 338 P    P               00 08 04.8 -0.3
BOOM Boomskoye usch   38.69 338 P    P               00 08 04.8 -0.3
BOOM                            pmax pmax            
     comp=Z,4.0nm,0.7s
SIMJ Simiganj         38.73 328 P    P               00 08 05.0 -0.4
SIMJ                            IAmb IAmb            00 08 05.7
     comp=Z,19nm,0.8s
SIMJ Simiganj         38.73 328 P    P               00 08 05.0 -0.4
TNSS Tian-Shan        38.81 340 eP   P               00 08 05.7 -0.6
TNSS Tian-Shan        38.81 340 eP   P               00 08 05.7 -0.6
BTK  Batken           38.87 331 P    P               00 08 07.7 +1.2
BTK                             IAmb IAmb            00 08 09.4
     comp=Z,19nm,0.6s
BTK  Batken           38.87 331 P    P               00 08 07.7 +1.2
BTK                             pmax pmax            
     comp=Z,19nm,0.6s
AAA  Alma-Ata         38.97 340 eP   P               00 08 07.2 -0.1
AAA                             pmax pmax            
     comp=Z,10.0nm,0.5s
AAA  Alma-Ata         38.97 340 eP   P               00 08 07.2 -0.1
     comp=Z,9.8nm,0.5s
KBK  Karagaybulak     39.20 337 P    P               00 08 10.4 +1.0
     SNR=16
AML  Almayashu        39.26 336 P    P               00 08 10.8 +0.8
     SNR=17
AAK  Ala-Archa        39.37 337 P    P               00 08 10.9 +0.3
AAK  Ala-Archa        39.37 337 P    P               00 08 11.8 +1.1
     SNR=7.2
AAK  Ala-Archa        39.37 337⇓eP   P               00 08 11.0 +0.3
AAK                             pmax pmax            
     comp=Z,7.0nm,0.9s
AAK  Ala-Archa        39.37 337 P    P               00 08 11.7 +1.1
FRU1 Bishkek          39.46 337 P    P               00 08 11.3  0.0
FRU1                            IAmb IAmb            00 08 12.9
     comp=Z,8.4nm,0.5s
FRU1 Bishkek          39.46 337 P    P               00 08 11.3  0.0
FRU1                            pmax pmax            
     comp=Z,8.0nm,0.5s
EKS2 Erkin-Say        39.67 336 P    P               00 08 14.0 +0.8
     SNR=9.2
USP  Ospenovka        39.90 337 P    P               00 08 15.1 +0.1
     SNR=9.2
TDK  Taldyqorghan     40.09 342 eP   P               00 08 16.2 -0.3
TDK  Taldyqorghan     40.09 342 eP   P               00 08 16.3 -0.3
MK31 Makanchi Array   40.76 347 P    P               00 08 21.6 -0.3
MK31                            IAmb IAmb            00 08 22.5
     comp=Z,12nm,0.8s
MK31 Makanchi Array   40.76 347d iP  P               00 08 21.7 -0.3
MKAR Makanchi Array   40.76 347 P    P               00 08 21.7 -0.3
     comp=Z,19nm,0.7s,baz=172,slow=8.0,SNR=224
MKAR                            PcP  PcP             00 10 21.6 +0.4
     comp=Z,0.7nm,0.7s,baz=173,slow=4.3,SNR=2.4
     comp=Z,19nm,0.7s
MKAR Makanchi Array   40.76 347 i P  P               00 08 21.7 -0.3
MKAR                            pmax pmax            
     comp=Z,17nm,0.6s
MAKZ Makanchi         40.84 347 P    P               00 08 22.2 -0.4
MAKZ                            IAmb IAmb            00 08 23.1
     comp=Z,19nm,0.6s
MAKZ Makanchi         40.84 347 P    P               00 08 22.2 -0.4
MAKZ                            pmax pmax            
     comp=Z,19nm,0.6s
MAKZ Makanchi         40.84 347 P    P               00 08 22.2 -0.4
DZA  Taraz            40.88 334 eP   P               00 08 22.7 -0.3
DZA  Taraz            40.88 334 eP   P               00 08 22.7 -0.3
ZSN  Zaisan           40.89 350 eP   P               00 08 23.2 +0.2
ZSN  Zaisan           40.89 350 eP   P               00 08 23.2 +0.2
CHM  Chimkent         41.21 332 eP   P               00 08 25.6 -0.1
CHM  Chimkent         41.21 332 eP   P               00 08 25.6 -0.1
KK31 Karatay Array    41.41 334 P    P               00 08 27.1 -0.2
KK31 Karatay Array    41.41 334 P    P               00 08 27.6 +0.3
KKAR Karatay Array    41.41 334 P    P               00 08 27.4  0.0
KKAR Karatay Array    41.41 334 P    P               00 08 27.4  0.0
BTLS Baital           41.58 338 eP   P               00 08 28.3 -0.4
BTLS Baital           41.58 338 eP   P               00 08 28.4 -0.4
BRLS Borolday         41.66 333 eP   P               00 08 27.9 -1.4
BRLS Borolday         41.66 333 eP   P               00 08 27.9 -1.4
MORW Morawa           41.72 151 P    P               00 08 30.7 +0.7
MORW                            IAmb IAmb            00 08 56.9
     comp=Z,16nm,1.2s
SONM Songino Array    41.78 12  P    P               00 08 30.1 -0.3
SONM Songino Array    41.78 12  P    P               00 08 29.9 -0.5
     comp=Z,1.0nm,0.5s,baz=194,slow=9.9,SNR=12
SONM                            PcP  PcP             00 10 25.1 +0.5
     comp=Z,1.3nm,0.7s,baz=194,slow=3.3,SNR=5.7
SONM                            ScP  ScP             00 14 03.4 -1.5
     comp=Z,0.4nm,0.5s,baz=196,slow=5.3,SNR=3.5
     comp=Z,1.0nm,0.5s
SONM Songino Array    41.78 12  P    P               00 08 30.1 -0.3
SONM                            pmax pmax            
     comp=Z,3.0nm,1.0s
ULN  Ulaanbaatar      41.95 13  P    P               00 08 31.8 -0.1
ULN  Ulaanbaatar      41.95 13⇓eP    P               00 08 31.1 -0.7
ULN                             pmax pmax            
     comp=Z,6.0nm,1.9s
KSRS Korea Array      42.88 40  P    P               00 08 37.9 -1.4
     comp=Z,0.7nm,0.4s,baz=226,slow=8.4,SNR=4.0
     comp=Z,0.7nm,0.4s
SEM  Semipalatinsk    44.62 347 eP   P               00 08 52.8 -0.5
SEM  Semipalatinsk    44.62 347 eP   P               00 08 52.9 -0.5
OTUK Ortayu           44.93 339 P    P               00 08 55.7 +0.1
KURBB Kurchatov Arra  45.22 346 P    P               00 08 58.0 +0.2
     comp=Z,17nm,0.6s,baz=175,slow=7.1,SNR=293
KURBB                           PcP  PcP             00 10 36.8 +0.7
     comp=Z,0.2nm,0.3s,baz=159,slow=3.9,SNR=1.1
KURBB                           ScP  ScP             00 14 17.7 -0.9
     comp=Z,0.5nm,0.7s,baz=151,slow=3.7,SNR=6.0
     comp=Z,17nm,0.6s
KURK Kurchatov        45.28 346 P    P               00 08 58.4 +0.1
KURK                            IAmb IAmb            00 08 59.5
     comp=Z,16nm,0.8s
KURK Kurchatov        45.28 346d iP  P               00 08 58.4 +0.1
KURK                            pmax pmax            
     comp=Z,23nm,1.0s
KURK Kurchatov        45.28 346 P    P               00 08 58.4 +0.1
NWAO Narrogin (SRO)   45.50 153 P    P               00 09 00.1 -0.1
NWAO                            IAmb IAmb            00 09 06.3
     comp=Z,31nm,1.2s
NWAO Narrogin (SRO)   45.50 153 P    P               00 09 00.1 -0.1
NWAO                            pmax pmax            
     comp=Z,31nm,1.3s
CN2  Changchun        45.52 32 ⇑P    P               00 09 01.0 +0.7
CN2                             epP  pwP             00 09 29.0 +0.5
CN2                             eS   S               00 15 32.5 -1.4
CN2                             pmax pmax            
     comp=Z,10.0nm,0.7s
CN2                             pmax pmax            
     comp=Z,200nm,5.0s
BRZS Berezniki        46.31 341 eP   P               00 09 06.5 +0.2
BRZS Berezniki        46.31 341 eP   P               00 09 06.6 +0.2
HIA  Hailar           47.08 23  P    P               00 09 12.4  0.0
HIA  Hailar           47.08 23⇓eP    P               00 09 12.7 +0.3
HIA                             pmax pmax            
     comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array   47.23 352 P    P               00 09 12.9 -0.5
ZAA0                            IAmb IAmb            00 09 14.4
     comp=Z,18nm,0.9s
ZALV Zalesovo Beam    47.23 352 P    P               00 09 13.0 -0.5
ZALV Zalesovo Beam    47.23 352 P    P               00 09 13.6 +0.1
     comp=Z,5.4nm,0.3s,baz=181,slow=7.7,SNR=53
     comp=Z,5.4nm,0.3s
ZALV Zalesovo Beam    47.23 352 i P  P               00 09 13.6 +0.1
ZALV                            pmax pmax            
     comp=Z,14nm,0.8s
WB0  Warramunga Arr   47.73 125 P    P               00 09 16.7 -1.2
WRA  Warramunga Arr   47.77 125 P    P               00 09 17.4 -0.8
     comp=Z,0.8nm,0.3s,baz=318,slow=7.4,SNR=25
     comp=Z,0.8nm,0.3s
BNX  BinXian          47.86 31 ⇑P    P               00 09 18.3 -0.2
BNX                             pmax pmax            
     comp=Z,9.0nm,0.5s
MDJ  Mudanjiang       48.28 34  P    P               00 09 22.8 +1.0
MDJ                             pmax pmax            
     comp=Z,8.0nm,1.2s
JGF  Kuroka           48.48 48  P    P               00 09 23.4 -0.2
JGF                             IAmb IAmb            00 09 47.7
     comp=Z,70nm,1.8s
USRK Ussuriysk Ar.    49.37 35  P    P               00 09 27.3 -2.8
     comp=Z,1.4nm,0.6s,baz=206,slow=7.4,SNR=9.2
     comp=Z,1.4nm,0.6s
AS31 Alice Springs    49.39 130 P    P               00 09 29.9 -0.8
ASAR Alice Springs    49.39 130 P    P               00 09 29.5 -1.1
ASAR Alice Springs    49.39 130 P    P               00 09 29.3 -1.3
     comp=Z,1.5nm,0.3s,baz=303,slow=7.8,SNR=33
ASAR                            pP   pP              00 09 53.6 -2.3
     comp=Z,1.3nm,0.7s,baz=306,slow=7.7,SNR=4.7
ASAR                            PcP  PcP             00 10 51.8 +0.3
     comp=Z,1.1nm,0.6s,baz=308,slow=3.8,SNR=7.1
ASAR                            ScP  ScP             00 14 35.0 -1.8
     comp=Z,0.2nm,0.6s,baz=312,slow=4.9,SNR=2.4
     comp=Z,1.5nm,0.3s
ASAR Alice Springs    49.39 130 P    P               00 09 29.5 -1.1
RAYN Ar Rayn          49.48 295 P    P               00 09 33.5 +2.2
RAYN                            IAmb IAmb            00 09 34.3
     comp=Z,9.7nm,0.7s
RAYN Ar Rayn          49.48 295 P    P               00 09 33.5 +2.2
RAYN                            pmax pmax            
     comp=Z,10.0nm,0.7s
RAYN Ar Rayn          49.48 295 P    P               00 09 33.4 +2.2
MJAR Matsushiro Arr   49.51 47  P    P               00 09 31.4 +0.1
     comp=Z,0.7nm,0.3s,baz=248,slow=2.2,SNR=1.6
     comp=Z,0.7nm,0.3s
BVAR Borovoye Array   49.66 341 P    P               00 09 32.0 -0.1
     comp=Z,9.4nm,0.4s,baz=138,slow=9.6,SNR=98
```

BVAR PcP **PcP** **00 10 51.1 -0.8**
comp=Z,0.9nm,0.6s,baz=176,slow=4.3,SNR=1.7
comp=Z,9.4nm,0.4s
BRVK Borovoye 49.72 341 P **P** **00 09 32.6 +0.1**
BRVK IAmb IAmb 00 09 33.3
comp=Z,17nm,0.6s
BRVK Borovoye 49.72 341⇓ *i* P **P** **00 09 32.5 -0.1**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 49.72 341 P **P** **00 09 32.5 -0.1**
FORT Forrest 49.74 141 P **P** **00 09 33.4 +0.3**
FORT IAmb IAmb 00 09 34.8
comp=Z,25nm,0.8s
ABKAR Akbulak array 50.87 332 P **P** **00 09 42.1 +0.8**
ABKAR Akbulak array 50.87 332 P **P** **00 09 42.1 +0.8**
HEH HeiHe 51.03 27 *e*P **P** **00 09 43.0 +0.5**
JMM Marumori 51.93 47 P **P** **00 09 49.5 +0.1**
KLR Kul'dur 52.39 30⇑ *e*P **P** **00 09 53.6 +1.0**
KLR pmax pmax
comp=Z,6.0nm,2.2s
GNI Garni 54.99 315⇓ *e*P **P** **00 10 12.0 0.0**
GNI pmax pmax
comp=Z,7.0nm,1.1s
ASAJ Asahikawa 55.83 41 P **P** **00 10 17.4 -0.3**
comp=Z,5.6nm,0.7s,baz=165,slow=9.0,SNR=1.8
comp=Z,5.6nm,0.7s
SVE Sverdlovsk 56.06 338 *e*P **P** **00 10 19.9 +0.8**
SVE pmax pmax
comp=Z,20nm,0.7s
BBOO Buckleboo 56.24 138 P **P** **00 10 20.0 -0.7**
BBOO IAmb IAmb 00 12 08.7
comp=Z,21nm,1.4s
ARTI Arti 56.59 337 P **P** **00 10 22.9 0.0**
ARTI IAmb IAmb 00 10 24.4
comp=Z,21nm,1.1s
ARTI Arti 56.59 337*d i*P **P** **00 10 22.9 0.0**
ARTI 00 12 27.0
ARTI S **S** **00 18 07.5 +1.5**
ARTI SS **SS** **00 21 53.5 -1.6**
ARTI pmax pmax
comp=Z,18nm,1.0s
ARTI Arti 56.59 337 P **P** **00 10 22.9 +0.1**
ARTI pP **pP** **00 10 49.3 +0.1**
ARTI PcP **PcP** **00 11 19.5 +1.4**
YSS Yuzhno-Sakhali 57.22 38 *e*P **P** **00 10 28.2 +0.7**
YSS pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 57.66 318 P **P** **00 10 30.5 -0.1**
comp=Z,1.2nm,0.8s,baz=199,slow=6.7,SNR=3.6
comp=Z,1.2nm,0.8s
KBZ Khabaz 57.66 318⇓ *e*P **P** **00 10 30.3 -0.3**
KBZ pmax pmax
comp=Z,15nm,4.0s
SHA1 Shidzhatmaz 57.83 318*de*P **P** **00 10 31.9 -0.2**
KIV Kislovodsk 57.90 318 *e*P **P** **00 10 31.3 -1.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 58.94 329*ce*P **P** **00 10 39.0 -0.3**
BELG pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 59.56 133 P **P** **00 10 43.5 -0.5**
STKA Stephens Creek 59.56 133 P **P** **00 10 43.5 -0.5**
STKA pmax pmax
comp=Z,86nm,1.8s
YAK Yakutsk 60.58 18⇑ *e*P **P** **00 10 49.5 -0.9**
YAK pmax pmax
comp=Z,8.0nm,0.4s
KIRV Kirov 61.66 335⇓ *e*P **P** **00 10 57.7 -0.1**
NRIK Noril'sk 62.20 357 P **P** **00 11 00.8 -0.5**
NRIK IAmb IAmb 00 11 01.5
comp=Z,4.7nm,0.6s
NRIK Noril'sk 62.20 357 P **P** **00 11 00.8 -0.5**
comp=Z,4.2nm,0.5s,baz=165,slow=6.9,SNR=16
comp=Z,4.2nm,0.5s
NRIK Noril'sk 62.20 357*d i*P **P** **00 11 01.0 -0.3**
NRIK pmax pmax
comp=Z,4.0nm,0.6s
BR104 Keskin Array S 62.95 311 P **P** **00 11 05.0 -2.0**
comp=Z,3.5nm,0.9s
BR131 Keskin Array S 62.96 311 P **P** **00 11 06.1 -0.9**
BR131 IAmb IAmb 00 11 20.2
comp=Z,28nm,1.9s
BR131 Keskin Array S 62.96 311*c i*P **P** **00 11 05.9 -1.1**
BRTR Keskin Array B 62.96 311 P **P** **00 11 05.9 -1.1**
comp=Z,2.7nm,0.7s,baz=123,slow=7.5,SNR=16
comp=Z,2.7nm,0.7s
BRTR Keskin Array B 62.96 311 *i* P **P** **00 11 06.3 -0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR105 Keskin Array S 62.97 311 P **P** **00 11 06.4 -0.7**
comp=Z,5.4nm,0.8s
ELL Elmali 65.22 307 P **P** **00 11 21.5 -0.4**
ELL Elmali 65.22 307 P **P** **00 11 21.5 -0.4**
ELL pmax pmax
comp=Z,371nm,1.9s
H04N2 CROZET ISLANDS 65.23 211 T T 01 21 48.7
baz=48,slow=75,SNR=39
H04N1 CROZET ISLANDS 65.24 211 T T 01 21 58.7
baz=48,slow=75,SNR=36
H04N3 CROZET ISLANDS 65.25 211 T T 01 21 59.3
baz=48,slow=75,SNR=38
H04S1 CROZET ISLANDS 65.63 211 T T 01 22 24.7
baz=46
H04S3 CROZET ISLANDS 65.64 211 T T 01 22 27.1
baz=46
H04S2 CROZET ISLANDS 65.65 211 T T 01 22 34.9
baz=46
OBN Obninsk 66.01 328⇑ *i*P **P** **00 11 26.2 -0.1**
OBN pmax pmax
comp=Z,8.0nm,1.0s
CAN Canberra 66.62 133 P **P** **00 11 31.1 +0.4**
CAN IAmb IAmb 00 12 20.4
comp=Z,24nm,1.4s
CAN Canberra 66.62 133 P **P** **00 11 31.1 +0.4**
CAN pmax pmax
comp=Z,25nm,1.4s
CAN Canberra 66.62 133 P **P** **00 11 31.4 +0.7**
KLMR Klimovskoe 67.11 334 *e*P **P** **00 11 31.3 -1.9**
MA2 Magadan 67.29 27⇓ *e*P **P** **00 11 34.6 +0.2**
MA2 pmax pmax
comp=Z,22nm,3.2s
MA2 Magadan 67.29 27 P **P** **00 11 33.5 -0.9**
comp=Z,6.3nm,0.5s
AK10 Malin Array Si 68.71 322 P **P** **00 11 42.7 -0.8**
AK07 Malin Array Si 68.72 322 P **P** **00 11 42.6 -1.0**
AK06 Malin Array Si 68.74 322 P **P** **00 11 42.4 -1.3**
AKASG Malin Array Be 68.75 322 P **P** **00 11 42.3 -1.4**
comp=Z,0.4nm,0.3s,baz=93,slow=5.0,SNR=6.8
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 68.75 322 *i* P **P** **00 11 42.7 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 68.75 322 P **P** **00 11 44.0 +0.3**
KIEV Kiev 68.76 322 P **P** **00 11 44.2 +0.4**
ALN Alexandroupoli 68.88 311 P **P** **00 11 44.1 -0.7**
ALN IAmb IAmb 00 12 52.5
comp=Z,20nm,1.3s
ALN Alexandroupoli 68.88 311 P **P** **00 11 44.1 -0.7**
ALN pmax pmax
comp=Z,20nm,1.3s
IDI Anoyia 69.05 305 P **P** **00 11 45.8 -0.3**
NDNU Novodnistrovsk 69.41 319 P **P** **00 11 47.1 -0.8**
LUBAR Lubar, Ukraine 69.47 321 P **P** **00 11 47.5 -0.7**
SEY Seymchan 69.47 25⇓ *e*P **P** **00 11 48.3 +0.4**
SEY pmax pmax
comp=Z,13nm,3.0s
MNK Minsk 70.55 325 *i* P **P** **00 11 52.1 -2.6**
MNK *i* *PP **pP** **00 12 26.2 +4.1**
MNK *i* 00 14 30.0
MNK *i* PPP PPP 00 16 13.7
MNK *i* S **S** **00 20 55.0 -4.2**
MNK *i* SS **SS** **00 25 30.3 -2.3**
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,11nm,0.9s
BURAR Bucovina Array 70.62 318 P **P** **00 11 55.3 -0.2**
BUR08 Bucovina Ar. S 70.64 318 P **P** **00 11 55.6 0.0**
RNPP5 Staryi Chortor 70.93 322 P **P** **00 11 56.9 -0.2**
LIT Litokhoron 71.46 310 P **P** **00 11 59.4 -1.2**
LIT IAmb IAmb 00 12 33.6
comp=Z,65nm,1.3s
LIT Litokhoron 71.46 310 P **P** **00 11 59.4 -1.2**
LIT pmax pmax
comp=Z,65nm,1.3s
ITM Ithomi 71.62 307 P **P** **00 12 00.7 -0.8**
VSU Vasula 72.22 329⇑ *e*P **P** **00 12 03.8 -0.9**
VSU pmax pmax
comp=Z,68nm,2.9s
LVZ Lovozero 72.22 340 P **P** **00 12 03.8 -0.8**
LVZ Lovozero 72.22 340 P **P** **00 12 03.8 -0.8**
LVZ pmax pmax
comp=Z,198nm,1.9s
APA Apatity 72.51 339⇓ *i*P **P** **00 12 08.7 +2.5**
APA *i* 00 12 27.1
APA *i* *PP **pwP** **00 12 36.9 +0.9**
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,2μm,24.0s
FIA1 FINESS Array S 73.35 332 P **P** **00 12 11.2 -0.1**
FINES FINESS Array B 73.36 332 P **P** **00 12 11.0 -0.3**
FINES FINESS Array B 73.36 332 P **P** **00 12 11.3 -0.1**
comp=Z,5.2nm,0.5s,baz=93,slow=5.0,SNR=52
comp=Z,5.2nm,0.5s
FINES FINESS Array B 73.36 332 *i* P **P** **00 12 11.5 +0.2**
FINES pmax pmax
comp=Z,5.0nm,0.5s
LBTB Lobatse 74.04 242 P **P** **00 12 17.6 +1.4**
LBTB IAmb IAmb 00 12 33.6
comp=Z,42nm,1.9s
LBTB Lobatse 74.04 242 P **P** **00 12 17.6 +1.4**
LBTB pmax pmax
comp=Z,42nm,1.9s
OJC Ojcow 74.56 320 P **P** **00 12 18.8 +0.1**
OJC Ojcow 74.56 320 P **P** **00 12 18.8 +0.1**
OJC pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 74.56 320 P **P** **00 12 19.0 +0.4**
LANS Liptovska Anna 74.64 319 *e*P **P** **00 12 19.4 +0.2**
LANS Liptovska Anna 74.64 319 *e*P **P** **00 12 19.4 +0.2**
VADS Vadso 74.87 341 *e*P **P** **00 12 20.7 +0.8**
VADS IAmb IAmb 00 12 23.5
comp=Z,33nm,1.1s
MORH Mrgy, Hungar 74.89 316 P **P** **00 12 20.7 +0.2**
comp=Z,3.0nm,2.5s
BOSA Boshof 75.35 238 P **P** **00 12 25.2 +1.5**
BOSA IAmb IAmb 00 14 23.1
comp=Z,57nm,2.0s
BOSA Boshof 75.35 238 P **P** **00 12 25.7 +2.0**
comp=Z,1.8nm,0.5s,baz=82,slow=3.9,SNR=10.0
comp=Z,1.8nm,0.5s
BOSA Boshof 75.35 238 P **P** **00 12 25.2 +1.5**
BOSA pmax pmax
comp=Z,57nm,2.0s
MPLH Magyarpolny 75.73 317 P **P** **00 12 25.9 +0.5**
ARA0 ARCESS Array S 75.93 340 *e*P **P** **00 12 26.8 +0.7**
ARA0 IAmb IAmb 00 12 29.8
comp=Z,57nm,1.5s
ARCES ARCESS Array B 75.93 340 P **P** **00 12 26.6 +0.5**
comp=Z,1.3nm,0.4s,baz=103,slow=6.4,SNR=16
comp=Z,1.3nm,0.4s
KTK1 Kautokeino 76.56 339 *e*P **P** **00 12 30.6 +1.0**
KTK1 IAmb IAmb 00 12 36.0
comp=Z,130nm,1.9s
BILL Bilibino 76.65 22⇓ *e*P **P** **00 12 29.1 -1.1**
BILL pmax pmax
comp=Z,15nm,2.2s
HAMF Hammerfest 76.85 341 *e*P **P** **00 12 31.9 +0.7**
HAMF IAmb IAmb 00 12 33.5
comp=Z,39nm,1.2s
BLEU Blekinge 77.63 326 *i* P **P** **00 12 35.6 -0.2**
JETT Jettan, Norway 77.66 340 *e*P **P** **00 12 36.2 +0.3**
JETT IAmb IAmb 00 12 38.9
comp=Z,20nm,0.7s
HOPEN Hopen 78.25 347 *e*P **P** **00 12 39.7 +0.8**
HOPEN IAmb IAmb 00 12 41.4
comp=Z,29nm,1.1s
GEC2 GERESS Array S 78.41 318 P **P** **00 12 40.7 +0.3**
GERES GERESS Array B 78.41 318 P **P** **00 12 40.8 +0.3**
GERES GERESS Array B 78.41 318 P **P** **00 12 41.1 +0.7**
comp=Z,2.4nm,0.6s,baz=90,slow=6.7,SNR=12
comp=Z,2.4nm,0.6s
GERES GERESS Array B 78.41 318 P **P** **00 12 40.8 +0.3**
KHC Kasperske Hory 78.50 319⇑ *e*P **P** **00 12 41.6 +0.7**
KHC pmax pmax
comp=Z,34nm,3.2s
DEL Delary 78.72 326 *i* P **P** **00 12 41.7 -0.2**
LUNU Lund 78.91 325 *i* P **P** **00 12 42.9 0.0**
CLL Collm 78.95 321 *e*P **P** **00 12 43.0 -0.3**
CLL Collm 78.95 321 *e*P **P** **00 12 43.0 -0.3**
LESA Schwarzleotal 79.05 317 *i* P **P** **00 12 44.1 +0.1**
comp=Z,1.9nm,0.5s
LESA *i* P PcP 00 12 44.2 -8.0
comp=Z,4.4nm,0.4s
HFS Hagfors 79.09 330 P **P** **00 12 43.9 +0.1**
comp=Z,4.7nm,0.3s,baz=106,slow=4.7,SNR=63
comp=Z,4.7nm,0.3s
HFS Hagfors 79.09 330 P **P** **00 12 44.0 +0.1**
FAUS Fauske 79.14 337 *e*P **P** **00 12 44.6 +0.7**
BJUU Bjuv 79.17 326 *i* P **P** **00 12 44.0 -0.3**
STEI Steigen 79.23 338 *e*P **P** **00 12 45.1 +0.7**
FABU Falkenberg 79.39 327 *i* P **P** **00 12 45.9 +0.4**
BORU Boraas 79.40 327 *i* P **P** **00 12 45.6 +0.1**
CTI Castel Tesino 79.73 315 P **P** **00 12 47.7 -0.1**
CTI Castel Tesino 79.73 315 P **P** **00 12 47.7 -0.1**
CTI pmax pmax
comp=Z,5.0nm,0.9s
WTTA Wattenberg 79.75 317 *i* P **P** **00 12 48.1 +0.1**
comp=Z,3.4nm,0.4s
WTTA *e*PKKP **PKKPdf** **00 31 25.7 +1.6**
comp=Z,9.3nm,1.5s
WATA Walderalm 79.79 317 *i* P **P** **00 12 48.0 -0.1**
comp=Z,1.8nm,0.5s
WATA *e*S **S** **00 22 41.6 -0.6**
comp=Z,308nm,4.5s
WATA PKKP **PKKPdf** **00 31 23.1 -0.8**
comp=Z,10nm,1.6s
TJOU Tjoern 80.03 328 *i* P **P** **00 12 48.4 -0.5**
SQTA Sankt Quirin 80.04 317 *i* P **P** **00 12 49.7 +0.2**
comp=Z,3.6nm,0.3s
SQTA *e*S **S** **00 22 49.3 +4.6**
comp=Z,4.7nm,1.5s
SQTA *i* PKKP **PKKPdf** **00 31 21.3 -2.2**
comp=Z,5.8nm,1.5s
SUR Sutherland 80.07 235 P **P** **00 12 51.4 +1.4**
SUR IAmb IAmb 00 15 36.2
comp=Z,75nm,1.6s
MOTA Moosalm 80.11 317 *i* P **P** **00 12 49.9 0.0**
comp=Z,0.4nm,0.2s
MOTA *e*SKS **SKSac** **00 22 56.7 -0.7**
comp=Z,6.2nm,1.0s
MOTA PKKP **PKKPdf** **00 31 22.6 -0.9**
comp=Z,4.8nm,1.4s
NC602 NORSAR Array S 80.20 330 *e*P **P** **00 12 49.8 0.0**
STRU Stroemstad 80.30 329 *i* P **P** **00 12 50.2 -0.1**
RETA Reutte 80.35 317 *i* P **P** **00 12 51.5 +0.5**
comp=Z,3.6nm,0.5s
RETA *e*SKS **S** **00 22 53.1 +5.3**
comp=Z,3.5nm,1.3s
RETA *e*PKKP **PKKPdf** **00 31 23.4 +0.4**
comp=Z,3.7nm,1.3s
NB2 NORSAR Subarra 80.37 331 P **P** **00 12 50.8 0.0**
comp=Z,1.3nm,0.5s,baz=98,slow=5.1
NB2 NORSAR Subarra 80.37 331 P **P** **00 12 50.8 0.0**
baz=98,slow=5.1
NOA NORSAR Array B 80.37 331 P **P** **00 12 50.5 -0.2**
comp=Z,1.7nm,0.7s,baz=95,slow=5.1,SNR=7.5
comp=Z,1.7nm,0.7s
FETA Feichten 80.37 316 *e*P **P** **00 12 51.7 +0.5**
comp=Z,1.7nm,0.5s
SPA0 Spitsbergen Ar 80.51 348 *e*P **P** **00 12 51.6 +0.4**
SPA0 IAmb IAmb 00 12 54.9
comp=Z,71nm,1.4s
SPITS Spitsbergen Ar 80.51 348 P **P** **00 12 51.5 +0.4**
comp=Z,8.5nm,0.4s,baz=104,slow=9.2,SNR=62
comp=Z,8.5nm,0.4s
KONO Kongsberg 81.13 329 *e*P **P** **00 12 55.2 +0.5**
GOET G??ttrup 81.30 327 *i* P **P** **00 12 52.1 -3.6**
MUD Monsted U'grnd 81.33 326 *i* P **P** **00 12 52.1 -3.8**
AKN Aaknes 82.40 332 *e*P **P** **00 13 02.4 +1.0**
AKN IAmb IAmb 00 13 03.8
comp=Z,192nm,1.8s
ODD1 Odda 82.63 329 *e*P **P** **00 13 03.5 +0.8**
BLS5 Blasjo 82.73 329 *e*P **P** **00 13 04.2 +1.0**
BLS5 IAmb IAmb 00 13 05.3
comp=Z,17nm,1.1s
SENIN Lac Senin/Sane 82.75 316 P **P** **00 13 04.3 +0.4**
SENIN IAmb IAmb 00 14 08.4
comp=Z,44nm,1.6s
SYO Syowa Base 84.81 197⇑ *e*P **P** **00 13 16.8 +3.3**
EKA Eskdalemuir Ar 88.34 325 P **P** **00 13 31.9 +0.9**
comp=Z,2.3nm,0.5s,baz=92,slow=5.3,SNR=34
comp=Z,2.3nm,0.5s
E19K Redstone River 90.36 21 P **P** **00 13 40.8 +0.5**
E19K IAmb IAmb 00 13 42.0
comp=Z,4.8nm,0.8s
TORD Torodi Ar. Bea 90.88 283 P **P** **00 13 44.3 +0.6**
TORD Torodi Ar. Bea 90.88 283 P **P** **00 13 44.9 +1.2**
comp=Z,56nm,0.4s,baz=75,slow=4.6,SNR=2.1
F20K Avaraart Lake 91.05 22 P **P** **00 13 44.0 +0.6**
F20K IAmb IAmb 00 13 45.2
comp=Z,5.7nm,0.8s
ESDC Sonseca Array 91.74 310 P **P** **00 13 47.9 +0.5**
ESDC Sonseca Array 91.74 310 P **P** **00 13 48.4 +1.0**
comp=Z,2.5nm,0.8s,baz=64,slow=4.1,SNR=19
comp=Z,2.5nm,0.8s
G21K Allakaket 92.07 22 P **P** **00 13 48.5 +0.3**
D25K Kavik River 93.22 18 P **P** **00 13 54.0 +0.5**
D25K IAmb IAmb 00 13 55.5
comp=Z,6.1nm,1.1s
ILAR Eielson Array 95.31 22 P **P** **00 14 02.2 -0.9**
comp=Z,0.3nm,0.7s,baz=326,slow=6.0,SNR=4.1
comp=Z,0.3nm,0.7s
A36M Sachs Harbour 96.87 12 P **P** **00 14 10.0 0.0**
A36M IAmb IAmb 00 14 11.3
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 125.73 22 PKP **PKPdf** **00 19 40.7 -0.3**
comp=Z,0.3nm,0.7s,baz=336,slow=2.6,SNR=2.4
TXAR Lajitas Array 139.77 25 PKP **PKPdf** **00 20 07.2 -0.4**
comp=Z,0.1nm,0.3s,baz=326,slow=1.5,SNR=3.7
TXAR SKPbc **SKPbc** **00 23 32.6 -0.8**
comp=Z,0.2nm,0.5s,baz=335,slow=0.5,SNR=4.3
CHN Chinchina 164.25 320 PKIKP **PKPdf** **00 20 41.0 -2.6**
CHN pmax pmax
comp=Z,47nm,1.1s

NEIC 28 00:01:55.0±0.5, 36°.270N±0°.009×97°.505W±0°.009,
h8km±4km, ML2.5/56, Error ellipse: s-maj=1.4km
s-min=1.0km az=156.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**301**		Pg	00 02 03.8	0.0
CROK				Sg	Sg	00 02 10.2	+0.4
CROK				IAML		00 02 10.4	
comp=E,451nm,0.5s							
OK029	**Liberty Lake**	**0.47**	**175**		Pg	00 02 04.4	+0.2
OK029				Sg	Sg	00 02 11.1	+0.7
BLOK	**Blackwell**	**0.54**	**25**		Pg	00 02 05.5	0.0
BLOK				IAML		00 02 13.4	
comp=N,392nm,0.2s							
BLOK				IAML		00 02 13.4	
comp=E,389nm,0.3s							
BLOK				Sg	Sg	00 02 13.0	+0.3
OK051	**E0350 and S346**	**0.59**	**66**		Pg	00 02 06.3	-0.1
OK051				Sg	Sg	00 02 14.3	+0.2
OK051				IAML		00 02 16.5	
comp=E,255nm,0.2s							
OK031	**S. Brethren Rd**	**0.62**	**120**		Pg	00 02 07.2	+0.1
OK031				Sg	Sg	00 02 15.7	+0.5
OK031				IAML		00 02 15.9	
comp=E,239nm,0.4s							
ADOK	**Arcadia Dam**	**0.63**	**170**		Pg	00 02 07.2	+0.1
GC02	**Grant County #**	**0.65**	**334**		Pg	00 02 07.1	-0.4
QUOK	**Quay**	**0.65**	**98**		Pg	00 02 07.6	0.0
QUOK				Sg	Sg	00 02 16.3	+0.2
KAN13	**South Haven SW**	**0.74**	**2**		Pg	00 02 09.0	-0.4
KAN13				IAML		00 02 28.4	
comp=E,273nm,0.2s							
KAN13				IAML		00 02 31.1	
comp=N,235nm,0.2s							
KAN14	**Manchester OK**	**0.78**	**332**		Pg	00 02 09.7	-0.3
KAN14				Sg	Sg	00 02 20.5	+0.4
KAN14				IAML		00 02 21.3	
comp=N,166nm,0.1s							
KAN17	**Caldwell West**	**0.80**	**345**		Pg	00 02 10.2	-0.2
KAN17				IAML		00 02 21.2	
comp=E,218nm,0.3s							
KAN17				IAML		00 02 29.5	
comp=N,189nm,0.2s							
OKCSW	**OKLAHOMA CITY**	**0.86**	**176**		Pg	00 02 11.4	-0.2
OKCSW				IAML		00 02 28.1	
comp=E,229nm,0.2s							
OKCSW				IAML		00 02 29.7	
comp=N,154nm,0.1s							
KAN09	**Caldwell North**	**0.87**	**354**		Pg	00 02 11.4	-0.3
KAN01	**Argonia South**	**0.91**	**347**		Pg	00 02 12.1	-0.3
KAN01				IAML		00 02 25.9	
comp=E,177nm,0.1s							
DEOK	**Depew**	**0.92**	**117**		Pg	00 02 12.3	-0.4
DEOK				IAML		00 02 26.9	
comp=N,214nm,0.2s							
DEOK				IAML		00 02 27.6	
comp=E,203nm,0.1s							
FNO	**Franklin**	**1.01**	**175**		Pg	00 02 14.0	-0.5
FNO				IAML		00 02 30.2	
comp=E,114nm,0.2s							
FNO				IAML		00 02 35.4	
comp=N,102nm,0.2s							
CSTR	**Hydro, Custer**	**1.15**	**237**		Pg	00 02 16.2	-0.8
NOKA	**Waynoka**	**1.21**	**288**		Pb	00 02 17.1	-1.1
NOKA				IAML		00 02 43.6	
comp=E,157nm,0.3s							
W35A	**Tecumseh**	**1.23**	**155**		Pb	00 02 17.5	-1.0
W35A				IAML		00 02 38.1	
comp=N,92nm,0.2s							
ELIS	**Ellis County**	**1.56**	**263**		Pn	00 02 23.3	+0.1
X34A	**Smith Ranch, M**	**1.69**	**189**		Pb	00 02 26.1	-0.3
WMOK	**Wichita Mounta**	**1.85**	**215**		Pn	00 02 27.6	+0.5
SMWD	**Samnorwood**	**2.51**	**243**	Pn	Pn	00 02 38.0	+1.7
MIAR	**Mount Ida**	**3.64**	**117**	Pn	Pn	00 02 52.7	+1.0
X40A	**Basin Creek Fa**	**4.21**	**114**	Pn	Pn	00 03 01.0	+1.4
RTBA	**Rita Blanca**	**4.23**	**274**	Pn	Pn	00 03 00.4	+0.5
T42A	**Van Buren**	**5.21**	**80**	Pn	Pn	00 03 12.5	-0.9

SOF ***28*** *00:05:14.7, 41°.21N±0°.03×23°.71E±0°.01, h17km±2km, MD2.6/8*
ATH ***28*** *00:05:15.9, 41°.22N×23°.76E, h14km±3km, ML2.3/7, Manual Solution by I.Dede First location: 2019/02/28 00:06:14, This location: 2019/02/28 07:10:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
SKO ***28*** *00:05:16.6, 41°.28N×23°.75E, h0km, ML2.2*
THE ***28*** *00:05:16.5, 41°.19N×23°.77E, h10km±1km, ML2.2/12, Error ellipse: s-maj=1.3km s-min=0.6km az=313.0*
BEO ***28*** *00:05:17.5±0.4, 41°.28N×23°.70E, h0km, ML2.2/7*
ISC 28 00:05:15.9±0.8, 41°.22N±0°.01×23°.77E±0°.02, h17km±4km,
n53, σ1¶16/103, 4C-6D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.14**	**28**	P	**Pb**	**00 05 20.4**	**+0.2**
NVR				S	**Sg**	**00 05 22.8**	**0.0**
1μm,0.1s							
NVR	**Nevrokopi**	**0.14**	**28**	P	**Pb**	**00 05 20.0**	**-0.2**
NVR				S	**Sg**	**00 05 22.8**	**0.0**
SRS	**Serrai**	**0.17**	**232**	P	**Pg**	**00 05 20.0**	**-0.3**
SRS				S	**Sg**	**00 05 22.8**	**-0.5**
2μm,0.1s							
SRS	**Serrai**	**0.17**	**232**⇑	*i* Pg	**Pg**	**00 05 20.1**	**-0.3**
SRS				*i* Sg	**Sg**	**00 05 23.1**	**-0.3**
SRS	**Serrai**	**0.17**	**232**	*e*Pg	**Pg**	**00 05 20.0**	**-0.3**
SRS				*e*Sg	**Sg**	**00 05 23.0**	**-0.3**
SRS	**Serrai**	**0.17**	**232**	P	**Pg**	**00 05 19.8**	**-0.5**
SRS				S	**Sg**	**00 05 22.9**	**-0.3**
MMB	**Musomishta**	**0.33**	**357**	*i* Pg	**Pg**	**00 05 22.2**	**-0.6**
MMB				Sg	**Sg**	**00 05 26.2**	**-1.4**
MMB	**Musomishta**	**0.33**	**357**	*i* Pg	**Pg**	**00 05 22.0**	**-0.8**
MMB				*i* Sg	**Sg**	**00 05 26.3**	**-1.2**
NGRA	**Nigrita**	**0.38**	**213**	P	**Pg**	**00 05 23.4**	**-0.2**
NGRA				S	**Sb**	**00 05 28.9**	**-0.6**
KOKK	**Kokkinochori,**	**0.44**	**157**	P	**Pb**	**00 05 25.0**	**-0.2**
KOKK				S	**Sb**	**00 05 30.9**	**-0.5**
240nm,0.2s							
SOH	**Sokhos**	**0.51**	**218**	P	**Pg**	**00 05 25.8**	**-0.3**
SOH				S	**Sg**	**00 05 32.8**	**-0.2**
340nm,0.3s							
KAVA	**Kavala**	**0.60**	**112**	P	**Pb**	**00 05 27.6**	**-0.4**

KAVA					S		Sb	00 05 36.1 -0.1
	448nm,0.3s							
KAVA	**Kavala**	**0.60**	**112**		P		**Pb**	**00 05 28.1 +0.1**
KAVA					S		**Sb**	**00 05 36.1 -0.1**
KNT	**Kendrikon**	**0.66**	**265**	*i*	Pg		**Pg**	**00 05 28.0 -0.9**
KNT				*i*	Sg		**Sg**	**00 05 37.0 -0.7**
KKB	**Krupnik**	**0.79**	**322**	*i*	Pg		**Pg**	**00 05 30.3 -0.9**
KKB					Sg		**Sg**	**00 05 40.1 -1.5**
KKB	**Krupnik**	**0.79**	**322**	*i*	Pg		**Pg**	**00 05 30.1 -1.1**
KKB				*i*	Sg		**Sg**	**00 05 40.7 -0.9**
HORT	**Hortiatis**	**0.81**	**219**		P		**Pg**	**00 05 31.0 -0.6**
HORT					S		**Sg**	**00 05 41.5 -0.8**
	140nm,0.4s							
HORT	**Hortiatis**	**0.81**	**219**		P		**Pg**	**00 05 31.1 -0.6**
HORT					S		**Sg**	**00 05 41.7 -0.5**
THE	**Thessaloniki**	**0.85**	**226**		P		**Pg**	**00 05 31.4 -1.0**
THE					S		**Sb**	**00 05 43.5 +0.3**
	150nm,0.4s							
THE	**Thessaloniki**	**0.85**	**226**	*i*	Pg		**Pg**	**00 05 31.7 -0.7**
THE				*i*	Sg		**Sb**	**00 05 43.6 +0.4**
THE	**Thessaloniki**	**0.85**	**226**		P		**Pg**	**00 05 31.2 -1.2**
THE					S		**Sg**	**00 05 43.1 -0.5**
RZN	**Rozhen**	**0.87**	**57**	*i*	Pg		**Pn**	**00 05 33.6 +0.1**
RZN					Sg		**Sb**	**00 05 44.7 +0.7**
PLG	**Polygyros**	**0.88**	**196**		P		**Pb**	**00 05 32.8 0.0**
PLG					S		**Sb**	**00 05 44.7 +0.5**
	165nm,0.3s							
PLG	**Polygyros**	**0.88**	**196**		P		**Pb**	**00 05 32.7 0.0**
PLG					S		**Sb**	**00 05 45.1 +0.9**
OUR	**Ouranopolis**	**0.90**	**170**		P		**Pn**	**00 05 33.4 -0.4**
OUR					S		**Sn**	**00 05 45.8 -0.5**
	468nm,0.3s							
OUR	**Ouranopolis**	**0.90**	**170**		P		**Pn**	**00 05 33.3 -0.4**
OUR					S		**Sn**	**00 05 46.1 -0.2**
VAY	**Valandovo**	**0.91**	**277**	*i*	Pg		**Pg**	**00 05 33.1 -0.5**
VAY				*i*	Sg		**Sg**	**00 05 44.6 -1.0**
VAY				*e*	Lg		Lg	00 05 45.7
	comp=N,57nm,0.3s							
VAY				*e*	Lg		Lg	00 05 45.7
	comp=E,37nm,0.3s							
VAY	**Valandovo**	**0.91**	**277**	*e*	Pg		**Pn**	**00 05 33.9 0.0**
VAY				*e*	Sg		**Sg**	**00 05 44.5 -1.1**
THAS	**Thassos island**	**0.95**	**130**		P		**Pn**	**00 05 34.1 -0.2**
THAS					S		**Sb**	**00 05 46.7 +0.7**
	comp=E,188nm,0.2s							
THAS	**Thassos island**	**0.95**	**130**		P		**Pn**	**00 05 34.2 -0.1**
THAS					S		**Sb**	**00 05 46.8 +0.7**
GRG	**Griva**	**1.07**	**256**		P		**Pn**	**00 05 37.0 +0.9**
GRG	**Griva**	**1.07**	**256**	*i*	Pg		**Pn**	**00 05 36.5 +0.4**
GRG				*i*	Sg		**Sg**	**00 05 50.3 -0.3**
PLD	**Plovdiv**	**1.18**	**38**	*i*	P		**Pn**	**00 05 37.6 0.0**
PLD					S		**Sn**	**00 05 53.9 +0.7**
PLD	**Plovdiv**	**1.18**	**38**	*i*	Pg		**Pn**	**00 05 37.8 +0.2**
PLD				*i*	Sg		**Sn**	**00 05 54.5 +1.3**
PLD	**Plovdiv**	**1.18**	**38**	*e*	Pg		**Pb**	**00 05 38.0 +0.2**
PLD				*e*	Sg		**Sb**	**00 05 53.2 +0.5**
KDZ	**Kurdzhali**	**1.25**	**70**	*i*	Pg		**Pg**	**00 05 39.9 -0.1**
KDZ					Sg		**Sg**	**00 05 57.9 +1.6**
PLNA	**Plana**	**1.28**	**348**	*i*	P		**Pn**	**00 05 38.1 -1.0**
PLNA					S		**Sb**	**00 05 55.6 -0.2**
PAIG	**Paliouri**	**1.30**	**183**		P		**Pb**	**00 05 39.5 -0.3**
PAIG					S		**Sn**	**00 05 56.6 +0.5**
	comp=E,82nm,0.3s							
RDO	**Rodhopi**	**1.34**	**93**		P		**Pn**	**00 05 40.1 +0.4**
RDO					S		**Sg**	**00 05 59.2 +0.1**
	comp=E,98nm,0.2s							
RDO	**Rodhopi**	**1.34**	**93**		P		**Pn**	**00 05 39.8 +0.1**
RDO					S		**Sg**	**00 05 58.3 -0.7**
VTS	**Vitosha**	**1.45**	**344**	*i*	P		**Pn**	**00 05 41.8 +0.3**
VTS					S		**Sn**	**00 06 01.2 +1.0**
VTS	**Vitosha**	**1.45**	**344**	*e*	Pg		**Pn**	**00 05 41.5 0.0**
VTS				*e*	Sg		**Sn**	**00 05 59.5 -0.7**
TRAN	**Tran**	**1.81**	**333**	*e*	P		**Pn**	**00 05 47.7 +1.3**
TRAN					S		**Sb**	**00 06 11.8 +0.7**
MPEP	**Malo Peshtene**	**2.13**	**359**	*i*	P		**Pb**	**00 05 54.0 0.0**
MPEP					S		**Sg**	**00 06 25.0 +0.5**
BARS	**Barje**	**2.16**	**318**	*i*	Pn		**Pb**	**00 05 55.2 +0.7**
BARS	**Barje**	**2.16**	**318**	*e*	Pn		**Pb**	**00 05 55.2 +0.7**
BARS				*e*	Sn		**Sn**	**00 06 19.0 +1.6**
ZAPS	**Zavoj**	**2.22**	**338**	*e*	Pn		**Pn**	**00 05 53.5 +1.6**
ZAPS				*e*	Sn		**Sb**	**00 06 22.2 -0.5**
SELS	**Selova**	**2.80**	**316**	*e*	Pn		**Pn**	**00 06 02.5 +2.6**
SELS				*e*	Sn		**Sn**	**00 06 37.0 +3.6**
BOVS	**Bovan**	**2.85**	**328**	⇑	S		**Sb**	**00 06 43.7 +2.7**
HERR	**Herculane**	**3.79**	**345**	⇓	P		**Pn**	**00 06 16.1 +2.6**
HERR				⇓	S		**Sg**	**00 07 14.6 -2.9**
MDVR	**Moldovita**	**3.86**	**338**	⇑	P		**Pn**	**00 06 15.3 +0.7**
MDVR				⇓	S		**Sg**	**00 07 19.2 -0.7**
BZS	**Buzias**	**4.66**	**341**	⇓	P		**Pn**	**00 06 25.5 0.0**
BZS				⇑	S		**Sg**	**00 07 40.0 -5.6**
SURR	**Surduc**	**4.69**	**346**	⇓	P		**Pn**	**00 06 24.4 -1.3**
SURR				⇓	S		**Sg**	**00 07 42.3 -3.9**

BJI ***28*** *00:13:07.8, 40°.71N×140°.35E, h149km, mB4.8/4, mb4.3/17*
MOS ***28*** *00:13:08.9±0.8, 40°.91N×140°.36E, h151km, mb4.2/18,*
Error ellipse: s-maj=7.5km s-min=5.6km az=84.1
JMA ***28*** *00:13:09.9±0.1, 40°.9N±0°.3×140°.3E±0°.6, h142km,*
MD3.7/40, MV3.5/40, TSUGARU PENINSULA REGION
IDC ***28*** *00:13:10.5±1.5, 40°.89N×140°.27E, h151km±13km,*
mb3.7/26, mbtmp4.1/31, MS3.6/3, Error ellipse:
s-maj=12.8km s-min=10.9km az=149.0
NEIC ***28*** *00:13:10.3±1.7, 40°.93N±0°.07×140°.4E±0°.1, h142km±4km,*
mb4.4/37, Error ellipse: s-maj=13.4km s-min=8.1km
az=118.0

ISC 28 00:13:09.8±0.5, 40°.92N±0°.03×140°.40E±0°.05, h144km±4km,
n327, σ1§45/347, mb4.2/57, 11C-22D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.14**	**3**	*i*	P		**Pn**	**00 13 29.1**	**-0.2**
JSI2					S		**Sn**	**00 13 43.5**	**-0.5**
JSI2	**Shiura 2**	**0.14**	**3**		A		A	00 13 29.1	
	comp=N,6.0nm,1.0s,comp=E,6.0nm,0.8s								
JHHS	**Hirosakihyakuz**	**0.27**	**187**	*i*	P		**Pn**	**00 13 29.8**	**+0.2**
JHHS					S		**Sn**	**00 13 44.0**	**-0.5**
JHHS	**Hirosakihyakuz**	**0.27**	**187**		A		A	00 13 29.8	
	comp=N,6.0nm,1.7s,comp=E,6.0nm,1.7s								
JIW	**Iwasaki**	**0.44**	**223**	*i*	P		**Pn**	**00 13 30.1**	**-0.2**
JIW				*e*	S		**Sn**	**00 13 45.4**	**-0.3**
JTM	**Tenmabayashi**	**0.52**	**104**				**Pn**	**00 13 30.9**	**+0.3**
JTM					Sn		**Sn**	**00 13 46.2**	**-0.1**
JTM	**Tenmabayashi**	**0.52**	**104**	⇓	*i*	P	**Pn**	**00 13 30.9**	**+0.3**
JTM				⇓		S	**Sn**	**00 13 46.6**	**+0.2**
JSR	**Shiriuchi**	**0.61**	**1**	⇓	*i*	P	**Pn**	**00 13 31.1**	**0.0**
JSR				⇓		S	**Sn**	**00 13 46.4**	**-0.9**
JOT	**Ohata**	**0.67**	**46**	⇓	*i*	P	**Pn**	**00 13 31.8**	**+0.4**
JOMM	**Oshimamatsumae**	**0.67**	**334**	*i*	P		**Pn**	**00 13 31.5**	**0.0**
JOMM					S		**Sn**	**00 13 47.2**	**-0.8**
JAH	**Hinai**	**0.75**	**166**	*i*	P		**Pn**	**00 13 32.1**	**0.0**
JAH					S		**Sn**	**00 13 48.9**	**0.0**
JANG	**Nango**	**1.01**	**122**	⇓	*i*	P	**Pn**	**00 13 34.0**	**-0.1**
JANG				⇓	*e*	S	**Sn**	**00 13 51.9**	**-0.6**
JKB	**Kayabe**	**1.08**	**26**	⇓	*i*	P	**Pn**	**00 13 35.1**	**+0.4**
JYM2	**Yakumo 2**	**1.20**	**359**		P		**Pn**	**00 13 35.9**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.23**	**125**		A		A	00 13 36.6	
	comp=N,4.0nm,2.8s,comp=E,4.0nm,1.6s								
JOSM	**Okushiri--Mats**	**1.35**	**329**	⇓	*i*	P	**Pn**	**00 13 37.0**	**-0.3**
JOSM				⇓	*e*	S	**Sn**	**00 13 57.5**	**-0.9**
JOM	**Ohasama**	**1.60**	**154**	*i*	P		**Pn**	**00 13 40.1**	**+0.1**
JOM				*e*	S		**Sn**	**00 14 03.0**	**0.0**
JYK	**Kaneyama**	**2.00**	**181**	*i*	P		**Pn**	**00 13 44.4**	**-0.1**
JMK	**Ichinoseki**	**2.06**	**162**		P		**Pn**	**00 13 45.1**	**-0.3**
JMK					S		**Sn**	**00 14 11.8**	**-0.8**
JEW	**Eniwo**	**2.07**	**22**		S		**Sn**	**00 14 15.3**	**+2.5**
JNBK	**Urakawa-nobuka**	**2.23**	**52**		A		A	00 13 48.3	
	comp=N,3.0nm,0.4s,comp=E,2.0nm,1.2s								
ERM	**Erimo**	**2.34**	**61**				**Pn**	**00 13 49.3**	**+0.7**
ERM					Sn		**Sn**	**00 14 17.3**	**-1.2**
ERM	**Erimo**	**2.34**	**61**	*d*	*i*	P	**Pn**	**00 13 49.1**	**+0.5**
ERM					pmax		pmax		
	comp=Z,135nm,0.6s								
JMM	**Marumori**	**3.06**	**174**				**Pn**	**00 13 57.6**	**-0.2**
JMM					Sn		**Sn**	**00 14 33.9**	**-0.9**
JSD	**Sado**	**3.32**	**211**		Pn		**Pn**	**00 14 01.1**	**0.0**
ASAJ	**Asahikawa**	**3.58**	**26**		P		**Pn**	**00 14 04.8**	**+0.4**
	comp=Z,15nm,0.3s,baz=216,slow=18,SNR=37								
ASAJ					S		**Sn**	**00 14 44.1**	**-2.7**
	comp=Z,28nm,0.4s,baz=198,slow=20,SNR=9.9								
ASAJ	**Asahikawa**	**3.58**	**26**		P		**Pn**	**00 14 05.0**	**+0.6**
JKA	**Kamikawa-asahi**	**3.58**	**26**		Pn		**Pn**	**00 14 05.0**	**+0.5**
NMR	**Nemuro--Hokkai**	**4.66**	**57**	⇓	*i*	P	**Pn**	**00 14 16.7**	**-1.8**
NMR					*i*	S	**Sn**	**00 15 05.7**	**-6.2**
MJB9	**Matsu-Tunnel**	**4.69**	**202**		Pn		**Pn**	**00 14 19.8**	**+0.7**
MAJO	**Matsushiro**	**4.69**	**202**		Pn		**Pn**	**00 14 19.2**	**+0.2**
MAJO	**Matsushiro**	**4.69**	**202**	*ce*	P		**Pn**	**00 14 19.4**	**+0.3**
MJAR	**Matsushiro Arr**	**4.69**	**202**		P		**Pn**	**00 14 19.9**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=1.5,slow=15,SNR=16								
RUSJ	**Misakicho**	**4.79**	**47**	⇑	*i*	P	**Pn**	**00 14 20.4**	**+0.1**
RUSJ					*i*	S	**Sn**	**00 15 16.5**	**+1.3**
TEY	**Ternei**	**4.97**	**327**	⇑	*e*	P	**Pn**	**00 14 22.8**	**+0.2**
TEY					pmax		pmax		
	comp=E,20nm,0.8s								
TEY					pmax		pmax		
	comp=N,20nm,0.6s								
TEY					pmax		pmax		
	comp=Z,20nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**5.10**	**51**	*d*	*i*	P	**Pn**	**00 14 24.2**	**-0.1**
YUK					*i*	S	**Sn**	**00 15 19.4**	**-3.1**
YUK					pmax		pmax		
	comp=Z,269nm,0.2s								
YUK					pmax		pmax		
	comp=E,56nm,0.1s								
YUK					pmax		pmax		
	comp=N,55nm,0.2s								
YUK					smax		smax		
	comp=E,2μm,0.5s								
YUK					smax		smax		
	comp=N,1μm,0.4s								
JGF	**Kuroka**	**5.82**	**205**		Pn		**Pn**	**00 14 35.7**	**+1.5**
INU	**Inuyama**	**6.17**	**207**		Pn		**Pn**	**00 14 39.5**	**+0.8**
YSS	**Yuzhno-Sakhali**	**6.27**	**15**		Pn		**Pn**	**00 14 40.0**	**+0.1**
YSS	**Yuzhno-Sakhali**	**6.27**	**15**	*eP*			**Pn**	**00 14 40.2**	**+0.3**
YSS					pmax		pmax		
	comp=Z,40nm,0.9s								
VLA	**Vladivostok**	**6.71**	**292**	⇓	*eP*		**Pn**	**00 14 46.9**	**+1.0**
KUR	**Kuril'sk**	**6.96**	**49**	*eP*			**Pn**	**00 14 49.9**	**+0.7**
KUR				*eS*			**Sn**	**00 16 05.0**	**-2.0**
KUR					pmax		pmax		
	comp=Z,37nm,0.4s								
KUR					smax		smax		
	comp=E,133nm,0.3s								
USA0B	**Ussuriysk Arra**	**7.02**	**301**		Pn		**Pn**	**00 14 50.5**	**+0.5**
USA0B	**Ussuriysk Arra**	**7.02**	**301**	*d*	*i*	P	**Pn**	**00 14 50.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**7.02**	**301**				**Pn**	**00 14 50.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**7.02**	**301**		P		**Pn**	**00 14 51.0**	**+1.0**
	comp=E,16nm,0.6s,baz=108,slow=14,SNR=24								
USRK	**Ussuriysk Ar.**	**7.02**	**301**		P		**Pn**	**00 14 51.0**	**+1.0**
MSHR	**Mys Shultsa**	**7.11**	**287**	⇓	*eP*		**Pn**	**00 14 51.5**	**+0.3**
MSHR					pmax		pmax		
	comp=Z,29nm,0.9s								
PSTR	**Posyet**	**7.38**	**287**	⇓	*eP*		**Pn**	**00 14 55.9**	**+1.1**
JHJ	**Hachijo jima 2**	**7.80**	**184**		LR		LR	00 18 28.5	
	comp=Z,238nm,20.0s,baz=150,slow=41								
MDJ	**Mudanjiang**	**8.77**	**299**				**Pn**	**00 15 13.7**	**+0.4**
MDJ	**Mudanjiang**	**8.77**	**299**		P		**Pn**	**00 15 14.0**	**+0.7**
MDJ					pmax		pmax		
	comp=Z,38nm,1.0s								
TYV	**Tymovskoe**	**10.07**	**8**	*eP*			**Pn**	**00 15 31.2**	**+0.6**
TYV					pmax		pmax		
	comp=Z,22nm,0.9s								
TYV					pmax		pmax		
	comp=Z,200nm,4.4s								
KSRS	**Korea Array**	**10.29**	**254**		P		**Pn**	**00 15 33.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=65,slow=14,SNR=6.7								
KLR	**Kul'dur**	**10.31**	**327**		P		**Pn**	**00 15 37.4**	**+3.5**
	comp=Z,0.6nm,0.6s,baz=66,slow=6.9,SNR=4.0								
TJN	**Taejon**	**11.15**	**250**	⇑	*eP*		**Pn**	**00 15 43.4**	**-1.7**
TIA	**Tai'an**	**18.78**	**263**		P		**P**	**00 17 16.5**	**-1.4**
TIA					pmax		pmax		
	comp=Z,5.0nm,0.5s								
MA2	**Magadan**	**19.77**	**16**		P		**P**	**00 17 27.6**	**-0.8**
	comp=Z,3.2nm,0.3s,baz=219,slow=8.7,SNR=4.9								
MA2	**Magadan**	**19.77**	**16**	⇑	*eP**		**P**	**00 17 29.0**	**+0.6**
MA2					pmax		pmax		
	comp=Z,6.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**21.77**	**279**	*eP*			**P**	**00 17 49.5**	**-0.5**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.7s								
YAK	**Yakutsk**	**22.11**	**347**		P		**P**	**00 17 52.8**	**-0.4**
YAK	**Yakutsk**	**22.11**	**347**	*eP*			**P**	**00 17 50.8**	**-2.4**
YAK				*e**	PP		**pP**	**00 18 17.3**	**-2.0**
YAK				*eS*			**S**	**00 21 44.1**	**-2.4**
YAK				*e*				00 21 45.6	
YAK					pmax		pmax		
	comp=Z,6.0nm,0.7s								
YAK					smax		smax		
	comp=N,40nm,1.6s								
YAK					smax		smax		
	comp=E,22nm,1.4s								
SEY	**Seymchan**	**23.17**	**14**	⇓	*iP*		**P**	**00 18 03.1**	**-0.2**
SEY					pmax		pmax		
	comp=Z,4.0nm,0.6s								
SONM	**Songino Array**	**25.12**	**297**		P		**P**	**00 18 20.9**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=86,slow=8.9,SNR=9.4								
	comp=Z,0.6nm,0.3s								
PZH	**PanZhiHua**	**34.93**	**258**		P		**P**	**00 19 49.0**	**+1.1**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,100nm,5.2s								
ZALV	**Zalesovo Beam**	**38.79**	**309**		P		**P**	**00 20 19.0**	**-1.1**
ZALV	**Zalesovo Beam**	**38.79**	**309**		P		**P**	**00 20 19.4**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=92,slow=8.3,SNR=6.1								
ZALV					PcP		**PcP**	**00 22 27.6**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=90,slow=2.9,SNR=5.4								
ZALV					LR		LR	00 35 23.7	
	comp=Z,102nm,18.8s,baz=58,slow=34								
	comp=Z,1.5nm,0.6s								
NRIK	**Noril'sk**	**39.43**	**334**		P		**P**	**00 20 24.5**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=149,slow=6.8,SNR=1.8								
	comp=Z,0.7nm,0.3s								
C16K	**Lisburne Hills**	**39.61**	**28**		P		**P**	**00 20 26.3**	**-0.4**
	baz=255								
K15K	**Wolf Creek Mou**	**40.17**	**38**		P		**P**	**00 20 31.7**	**+0.3**
	baz=266								
O14K	**Tigyukauivet M**	**40.17**	**43**		P		**P**	**00 20 32.0**	**+0.6**
	baz=270								
D17K	**Noatak River**	**40.30**	**29**		P		**P**	**00 20 32.7**	**+0.3**
	baz=258								
M15K	**Kasigluk River**	**40.49**	**40**		P		**P**	**00 20 35.0**	**+1.0**
	baz=268								
E17K	**Hotham Inlet**	**40.66**	**31**		P		**P**	**00 20 35.9**	**+0.6**
	baz=260								
B18K	**Kokolik River**	**41.13**	**27**		P		**P**	**00 20 40.5**	**+1.4**
	baz=257								
C18K	**Utukok River**	**41.19**	**28**		P		**P**	**00 20 40.1**	**+0.3**
	baz=259								
CNBA	**Chernabura Isl**	**41.30**	**49**		P		**P**	**00 20 41.0**	**+0.3**
M16K	**Timber Creek**	**41.34**	**40**		P		**P**	**00 20 42.8**	**+1.8**
M16K					IAmb		IAmb	00 20 43.9	
	comp=Z,11nm,1.0s								
M16K	**Timber Creek**	**41.34**	**40**		P		**P**	**00 20 41.9**	**+0.9**
	baz=270								
J17K	**VABM Dome**	**41.37**	**36**		P		**P**	**00 20 42.8**	**+1.7**
	baz=267								
F18K	**Selawik**	**41.43**	**31**		P		**P**	**00 20 42.5**	**+0.9**
	baz=262								
MK31	**Makanchi Array**	**41.48**	**298**		P		**P**	**00 20 41.9**	**-0.6**
MK31	**Makanchi Array**	**41.48**	**298**	*c*	*iP*		**P**	**00 20 42.0**	**-0.4**
MKAR	**Makanchi Array**	**41.48**	**298**		P		**P**	**00 20 41.8**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=84,slow=9.5,SNR=38								
MKAR					ScP		**ScP**	**00 26 12.3**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=72,slow=6.3,SNR=2.9								
	comp=Z,3.0nm,0.7s								
MKAR	**Makanchi Array**	**41.48**	**298**	*ce*	P		**P**	**00 20 42.0**	**-0.4**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.6s								
A19K	**Wainwright**	**41.56**	**26**		P		**P**	**00 20 43.9**	**+1.2**
	baz=257								
L17K	**Donlin**	**41.67**	**38**		P		**P**	**00 20 45.3**	**+1.6**
	baz=269								
K17K	**Iditarod**	**41.69**	**37**		P		**P**	**00 20 45.6**	**+1.8**
	baz=268								
MAKZ	**Makanchi**	**41.69**	**298**		P		**P**	**00 20 42.9**	**-1.2**
MAKZ	**Makanchi**	**41.69**	**298**		P		**P**	**00 20 42.9**	**-1.2**
MAKZ					pmax		pmax		
	comp=Z,5.0nm,1.0s								
G18K	**Tagagawik**	**41.75**	**33**		P		**P**	**00 20 45.0**	**+0.7**
G18K					IAmb		IAmb	00 20 46.0	
	comp=Z,4.2nm,0.7s								
G18K	**Tagagawik**	**41.75**	**33**		P		**P**	**00 20 45.3**	**+1.0**
	baz=264								
H18K	**Honhosa River**	**41.80**	**34**		P		**P**	**00 20 46.2**	**+1.5**
	baz=265								
CHGN	**Chignik**	**41.81**	**47**		P		**P**	**00 20 46.2**	**+1.3**
	baz=275								
P16K	**Nushagak River**	**41.86**	**43**		P		**P**	**00 20 45.9**	**+0.7**
	baz=273								
CMAR	**Chiang Mai Arr**	**41.89**	**250**		P		**P**	**00 20 45.1**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=53,slow=7.9,SNR=2.2								
	comp=Z,1.2nm,0.3s								
M17K	**Holitna River**	**42.08**	**39**		P		**P**	**00 20 48.0**	**+1.0**
	baz=270								
R16K	**Pilot Point**	**42.17**	**45**		P		**P**	**00 20 48.9**	**+1.2**
	baz=274								
F19K	**Shaleruckik Mo**	**42.20**	**31**		P		**P**	**00 20 49.1**	**+1.2**
	baz=264								
N17K	**Nushagak Hills**	**42.21**	**41**		P		**P**	**00 20 49.4**	**+1.3**
	baz=272								
D19K	**Kuna River**	**42.28**	**29**		P		**P**	**00 20 49.0**	**+0.4**
	baz=262								
O17K	**Koliganek Bris**	**42.28**	**42**		P		**P**	**00 20 50.0**	**+1.3**
	baz=272								
G19K	**Purcell Mounta**	**42.41**	**32**		P		**P**	**00 20 50.5**	**+0.9**
	baz=266								
L18K	**Granite Mounta**	**42.43**	**38**		P		**P**	**00 20 49.7**	**-0.1**
	baz=270								
J18K	**Innoko River**	**42.43**	**36**		P		**P**	**00 20 51.1**	**+1.3**
J18K					IAmb		IAmb	00 20 52.1	
	comp=Z,5.5nm,0.8s								
J18K	**Innoko River**	**42.43**	**36**		P		**P**	**00 20 51.0**	**+1.1**
	baz=269								
E19K	**Redstone River**	**42.48**	**30**		P		**P**	**00 20 51.1**	**+0.9**
	baz=264								
Q16K	**King Salmon**	**42.57**	**43**		P		**P**	**00 20 52.1**	**+1.2**
	baz=274								
H19K	**Roundabout Mou**	**42.63**	**33**		P		**P**	**00 20 52.5**	**+1.2**
	baz=267								
P17K	**Kvichak River**	**42.65**	**43**		P		**P**	**00 20 52.3**	**+0.7**
	baz=274								
TTA	**Tatalina**	**42.74**	**37**		P		**P**	**00 20 53.5**	**+1.1**
TTA	**Tatalina**	**42.74**	**37**		P		**P**	**00 20 53.3**	**+0.9**
	baz=270								
TTA	**Tatalina**	**42.74**	**37**		P		**P**	**00 20 53.5**	**+1.1**
TTA					pmax		pmax		
	comp=Z,6.0nm,1.2s								
B20K	**Meade River**	**42.84**	**27**		P		**P**	**00 20 53.4**	**+0.4**
	baz=261								
N18K	**Kilae Creek**	**42.85**	**40**		P		**P**	**00 20 55.1**	**+1.9**
	baz=272								
M18K	**Stony River**	**42.85**	**39**		P		**P**	**00 20 54.8**	**+1.6**
	baz=272								
D20K	**Etivluk River**	**42.85**	**29**		P		**P**	**00 20 53.4**	**+0.2**
	baz=263								
J19K	**Poorman**	**42.93**	**36**		P		**P**	**00 20 55.1**	**+1.3**
J19K					IAmb		IAmb	00 20 56.4	
	comp=Z,14nm,1.1s								
J19K	**Poorman**	**42.93**	**36**		P		**P**	**00 20 55.1**	**+1.3**
	baz=269								
E20K	**Nigu River**	**42.96**	**29**		P		**P**	**00 20 55.0**	**+0.9**
	baz=264								
KURK	**Kurchatov**	**42.99**	**305**		P		**P**	**00 20 53.8**	**-0.7**
KURK					IAmb		IAmb	00 20 55.5	
	comp=Z,7.8nm,0.9s								
KURK	**Kurchatov**	**42.99**	**305**	⇓	*eP*		**P**	**00 20 53.8**	**-0.7**
KURK					pmax		pmax		
	comp=Z,9.0nm,0.9s								
F20K	**Avaraart Lake**	**43.02**	**31**		P		**P**	**00 20 55.7**	**+1.2**
	baz=266								
KURBB	**Kurchatov Arra**	**43.07**	**305**		P		**P**	**00 20 54.6**	**-0.5**
	comp=Z,3.1nm,0.4s,baz=81,slow=9.4,SNR=46								
	comp=Z,3.1nm,0.4s								
O18K	**Koktuh Hills**	**43.23**	**42**		P		**P**	**00 20 57.6**	**+1.2**
	baz=274								
P18K	**Big Mountain,**	**43.26**	**42**		P		**P**	**00 20 58.2**	**+1.7**
	baz=274								
H20K	**Anotleneega Mo**	**43.28**	**33**		P		**P**

	baz=270						
C24K	**Franklin Bluff**	45.73	27	P		**P**	00 21 17.4 +1.4
	baz=270						
NEA2	**Nenana**	45.77	35	P		**P**	00 21 18.2 +1.9
NEA2	**Nenana**	45.77	35	P		**P**	00 21 18.4 +2.1
	baz=274,SNR=9.7						
RC01	**Rabbit Creek A**	45.81	40	P		**P**	00 21 18.0 +1.2
	baz=277						
E24K	**Your Creek**	45.83	30	P		**P**	00 21 18.2 +1.4
E24K				IAmb		IAmb	00 21 18.9
	comp=Z,3.8nm,0.7s						
E24K	**Your Creek**	45.83	30	P		**P**	00 21 18.6 +1.7
	baz=272,SNR=7.0						
MCK	**McKinley**	45.90	36	P		**P**	00 21 19.0 +1.6
	baz=275						
PMR	**Palmer**	46.04	39	P		**P**	00 21 19.2 +0.7
	baz=277						
F24K	**Squaw Lake**	46.07	30	P		**P**	00 21 20.4 +1.6
	baz=273						
SEW	**Seward**	46.08	41	P		**P**	00 21 19.9 +1.1
	baz=278						
H24K	**Noodor Dome**	46.17	33	P		**P**	00 21 22.1 +2.5
	baz=274						
WRH	**Wood River Hil**	46.20	35	P		**P**	00 21 21.1 +1.3
WRH				IAmb		IAmb	00 21 23.1
	comp=Z,4.4nm,0.7s						
COLA	**College**	46.26	34	P		**P**	00 21 22.2 +2.0
	baz=275						
COLA	**College**	46.26	34⇓	*e*P		**P**	00 21 21.7 +1.5
COLA				pmax		pmax	
	comp=Z,10.0nm,0.6s						
G24K	**Hadweenzic Riv**	46.28	32	P		**P**	00 21 22.5 +2.1
	baz=274						
KDJ	**Kajisay**	46.37	293	P		**P**	00 21 21.1 -0.5
KDJ				IAmb		IAmb	00 21 21.4
	comp=Z,7.9nm,1.4s						
KDJ	**Kajisay**	46.37	293	P		**P**	00 21 21.1 -0.5
KDJ				pmax		pmax	
	comp=Z,8.0nm,1.4s						
KNK	**Knik Glacier**	46.38	39	P		**P**	00 21 22.4 +1.2
	baz=278						
SML	**Sawmill**	46.39	38	P		**P**	00 21 22.6 +1.3
SML				IAmb		IAmb	00 21 39.7
	comp=Z,13nm,1.2s						
SML	**Sawmill**	46.39	38	P		**P**	00 21 22.2 +0.8
	baz=278						
POKR	**Poker Plat Res**	46.42	34	P		**P**	00 21 23.4 +1.9
	baz=275,SNR=5.5						
D25K	**Kavik River**	46.56	28	P		**P**	00 21 24.2 +1.6
	baz=272						
M23K	**Glacier View**	46.67	38	P		**P**	00 21 25.3 +1.8
	baz=278						
ILAR	**Eielson Array**	46.68	34	P		**P**	00 21 24.7 +1.1
ILAR	**Eielson Array**	46.68	34	P		**P**	00 21 24.8 +1.3
	comp=Z,4.8nm,0.8s,baz=276,slow=6.5,SNR=50						
	comp=Z,4.8nm,0.8s						
HDA	**Harding Lake**	46.70	35	P		**P**	00 21 25.2 +1.6
	baz=276,SNR=5.8						
G25K	**Bearman Lake**	46.82	31	P		**P**	00 21 26.7 +2.2
	baz=275						
SCM	**Sheep Creek Mo**	46.86	38	P		**P**	00 21 26.4 +1.4
	baz=278						
E25K	**Arctic Village**	46.92	30	P		**P**	00 21 27.3 +1.9
	baz=274						
F25K	**Christian Rive**	46.93	30	P		**P**	00 21 27.2 +1.7
	baz=274						
H25L	**Birch Creek**	46.98	32	P		**P**	00 21 28.4 +2.7
	baz=276,SNR=12						
C26K	**Camden Bay**	47.04	27	P		**P**	00 21 28.8 +2.6
	baz=273						
BOOM	**Boomskoye usch**	47.10	294	P		**P**	00 21 27.1 -0.2
BOOM				IAmb		IAmb	00 21 28.8
	comp=Z,7.4nm,1.3s						
BOOM	**Boomskoye usch**	47.10	294	P		**P**	00 21 27.1 -0.2
BOOM				pmax		pmax	
	comp=Z,7.0nm,1.3s						
PRP	**Porcupine Dome**	47.17	33	P		**P**	00 21 29.6 +2.2
	baz=277,SNR=15						
FYU	**Fort Yukon**	47.18	32	P		**P**	00 21 29.5 +2.2
K24K	**Donnelly Dome**	47.28	35	P		**P**	00 21 29.3 +1.1
	baz=278						
BMAR	**Burnt Mountain**	47.35	30	P		**P**	00 21 30.9 +2.2
J25K	**Salcha River,**	47.35	34	P		**P**	00 21 29.9 +1.1
	baz=278						
M24K	**Tolsona, Glenn**	47.35	38	P		**P**	00 21 30.6 +1.8
	baz=279						
BVAR	**Borovoye Array**	47.43	310	P		**P**	00 21 29.5 0.0
	comp=Z,2.8nm,0.4s,baz=73,slow=9.3,SNR=25						
	comp=Z,2.8nm,0.4s						
C27K	**Jago River**	47.48	27	P		**P**	00 21 31.7 +2.1
	baz=274						
BRVK	**Borovoye**	47.49	310	P		**P**	00 21 30.0 +0.1
BRVK	**Borovoye**	47.49	310	P		**P**	00 21 30.0 +0.1
BRVK				pmax		pmax	
	comp=Z,3.0nm,0.8s						
F26K	**Sheenjek River**	47.49	30	P		**P**	00 21 32.0 +2.2
	baz=276,SNR=23						
PAX	**Paxson**	47.54	37	P		**P**	00 21 32.0 +1.7
	baz=279						
KLU	**Klutina**	47.57	39	P		**P**	00 21 31.9 +1.4
	baz=280						
RIDG	**Independent Ri**	47.70	35	P		**P**	00 21 33.3 +1.9
	baz=279						
G26K	**Porcupine Rive**	47.71	31	P		**P**	00 21 34.2 +2.8
	baz=277						
HARP	**HAARP**	47.77	37	P		**P**	00 21 34.4 +2.4
	baz=280						
AAK	**Ala-Archa**	48.04	295	P		**P**	00 21 33.7 -0.8
AAK	**Ala-Archa**	48.04	295⇑	*i*P		**P**	00 21 34.3 -0.2
SCRK	**Sand Creek**	48.04	35	P		**P**	00 21 35.3 +1.2
	baz=279,SNR=17						
J26L	**Joseph Creek**	48.14	34	P		**P**	00 21 36.1 +1.2
	baz=279						
N25K	**Chitina, Valde**	48.18	38	P		**P**	00 21 36.5 +1.3
	baz=281						
I26K	**Coal Creek Min**	48.19	33	P		**P**	00 21 36.2 +1.1
	baz=279						
KSH	**Kashi**	48.20	291	P		**P**	00 21 39.5 +3.8
KSH				pmax		pmax	
	comp=Z,3.0nm,0.9s						
BMRM	**Bremner River**	48.30	39	P		**P**	00 21 37.9 +1.8
	baz=281						
E27K	**Coleen River**	48.39	29	P		**P**	00 21 38.6 +2.0
	baz=278						
D27M	**Malcolm River**	48.48	28	P		**P**	00 21 39.6 +2.2
	baz=277						
G27K	**Doyon Strip**	48.56	31	P		**P**	00 21 41.0 +3.0
	baz=279						
H27K	**Steamboat Moun**	48.70	32	P		**P**	00 21 42.1 +3.0
	baz=279						
M26K	**Nabesna, AK**	48.76	37	P		**P**	00 21 42.4 +2.8
	baz=282						
I27K	**Kandik River**	48.77	33	P		**P**	00 21 42.3 +2.6
	baz=280						
VRDI	**Verde Repeater**	48.79	39	P		**P**	00 21 40.9 +0.9
VRDI				IAmb		IAmb	00 21 51.4
	comp=Z,3.3nm,0.6s						
E28M	**Babbage River**	49.09	29	P		**P**	00 21 44.0 +2.1
	baz=279						
F28M	**Old Crow**	49.12	30	P		**P**	00 21 44.4 +2.2
	baz=280						
L27K	**Beaver Creek,**	49.16	36	P		**P**	00 21 45.0 +2.4
	baz=282,SNR=5.5						
D28M	**Stokes Point**	49.26	28	P		**P**	00 21 45.1 +2.0
	baz=279						
M27K	**Edge Creek, AK**	49.28	37	P		**P**	00 21 45.4 +1.7
	baz=282						
I28M	**Miner Creek**	49.49	33	P		**P**	00 21 47.4 +2.2
	baz=281						
E29M	**Blow River**	49.72	29	P		**P**	00 21 48.9 +2.2
	baz=281						
G29M	**Pine Creek**	49.96	31	P		**P**	00 21 50.6 +2.0
	baz=282						
H29M	**Whitestone**	49.96	32	P		**P**	00 21 50.7 +2.0
	baz=282						
O28M	**Mount Upton**	50.44	39	P		**P**	00 21 54.5 +1.8
	baz=285						
KKAR	**Karatay Array**	50.57	297	P		**P**	00 21 53.6 0.0
KKAR	**Karatay Array**	50.57	297	P		**P**	00 21 53.6 0.0
G30M	**tAoh Zraii Njí**	50.63	30	P		**P**	00 21 55.6 +1.9
	baz=283						
F30M	**Barrier River**	50.66	30	P		**P**	00 21 56.5 +2.7
	baz=283						
L29M	**L29M**	50.78	35	P		**P**	00 21 57.6 +2.7
	baz=285						
M29M	**Somme Creek**	50.81	36	P		**P**	00 21 57.7 +2.5
	baz=285						
K29M	**Barlow Dome**	50.86	34	P		**P**	00 21 57.9 +2.3
	baz=285,SNR=7.5						
I30M	**Mount Dempster**	50.99	33	P		**P**	00 21 58.5 +2.0
	baz=284						
YUK4	**Talbot Arm**	51.02	38	P		**P**	00 21 58.2 +1.4
	baz=286						
J30M	**Hart River**	51.18	33	P		**P**	00 21 59.6 +1.7
	baz=285						
INK	**Inuvik**	51.32	28	P		**P**	00 21 60.0 +1.3
INK				IAmb		IAmb	00 22 00.8
	comp=Z,9.9nm,0.8s						
INK	**Inuvik**	51.32	28	P		**P**	00 22 00.2 +1.6
	baz=284,SNR=11						
INK	**Inuvik**	51.32	28	P		**P**	00 22 00.0 +1.3
INK				pmax		pmax	
	comp=Z,10.0nm,0.8s						
O29M	**Mount Kennedy**	51.34	39	P		**P**	00 22 02.0 +2.8
	baz=287						
G31M	**Satah River**	51.39	30	P		**P**	00 22 00.7 +1.5
	baz=285,SNR=8.9						
F31M	**Tsiigehtchic**	51.46	29	P		**P**	00 22 01.0 +1.3
	baz=285						
M30M	**Minto, Yukon**	51.52	36	P		**P**	00 22 02.8 +2.4
	baz=286						
H31M	**Peel River**	51.66	32	P		**P**	00 22 03.6 +2.3
	baz=286,SNR=8.3						
HYT	**Haines Junctio**	51.70	38	P		**P**	00 22 03.7 +1.9
HYT				IAmb		IAmb	00 22 05.4
	comp=Z,9.0nm,1.0s						
HYT	**Haines Junctio**	51.70	38	P		**P**	00 22 04.0 +2.2
	baz=287						
P30M	**Million Dollar**	52.16	39	P		**P**	00 22 07.6 +2.4
	baz=288						
N31M	**Braeburn, Yuko**	52.30	37	P		**P**	00 22 08.3 +2.2
	baz=288						
M31M	**Drury Creek, Y**	52.70	36	P		**P**	00 22 11.2 +2.1
	baz=288						
A36M	**Sachs Harbour**	52.97	23	P		**P**	00 22 12.0 +1.2
A36M	**Sachs Harbour**	52.97	23	P		**P**	00 22 12.7 +1.8
	baz=289,SNR=11						
WHY	**Whitehorse**	52.97	38	P		**P**	00 22 13.3 +2.1
	baz=289						
ARTI	**Arti**	53.07	316	P		**P**	00 22 11.6 -0.2
ARTI				IAmb		IAmb	00 22 12.3
	comp=Z,5.3nm,1.2s						
ARTI	**Arti**	53.07	316	*d i*P		**P**	00 22 11.8 0.0
ARTI							00 24 10.1
ARTI				S		**S**	00 29 32.1 +1.6
ARTI				SS		**SKiKP**	00 33 14.2 +0.1
ARTI				pmax		pmax	
	comp=Z,6.0nm,1.2s						
FARO	**Faro, Yukon**	53.15	36	P		**P**	00 22 14.0 +1.6
	baz=289						
CHGR	**Chuyangaron**	53.37	293	P		**P**	00 22 13.8 -0.6
CHGR	**Chuyangaron**	53.37	293	P		**P**	00 22 13.8 -0.6
CHGR				pmax		pmax	
	comp=Z,21nm,0.0s						
SIMJ	**Simiganj**	53.47	293	P		**P**	00 22 14.9 -0.3
MMPY	**Sheldon Lake,**	53.93	35	P		**P**	00 22 20.1 +2.0
	baz=290						
P33M	**Teslin, Yukon**	54.09	38	P		**P**	00 22 20.8 +1.5
	baz=291						
C36M	**Paulatuk**	54.26	26	P		**P**	00 22 21.3 +1.1
	baz=292						
ABKAR	**Akbulak array**	54.88	308	P		**P**	00 22 24.5 -0.6
ABKAR	**Akbulak array**	54.88	308	P		**P**	00 22 24.6 -0.4
ABKAR				IAmb		IAmb	00 22 26.6
	comp=Z,4.6nm,1.4s						
R33M	**Jennings River**	55.26	38	P		**P**	00 22 29.9 +2.1
	baz=293						
SPITS	**Spitsbergen Ar**	56.56	348	P		**P**	00 22 37.8 +1.2
	comp=Z,10.0nm,1.0s,baz=52,slow=9.3,SNR=1.6						
	comp=Z,10.0nm,1.0s						
T35M	**Bob Quinn**	56.59	41	P		**P**	00 22 39.8 +2.7
	baz=295						
TOAD	**Toad River Com**	58.17	38	P		**P**	00 22 50.2 +2.0
	baz=297						
BELG	**Belogornoye**	60.45	315⇑	*e*P		**P**	00 23 02.3 -1.6
BELG				pmax		pmax	
	comp=Z,3.0nm,1.9s						
WB0	**Warramunga Arr**	60.63	186	P		**P**	00 23 04.9 -0.5
WB0				IAmb		IAmb	00 23 26.1
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	60.80	187⇓	*e*P		**P**	00 23 05.7 -0.9
WRAB				pmax		pmax	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	60.81	187	P		**P**	00 23 05.9 -0.7
WRA	**Warramunga Arr**	60.81	187	P		**P**	00 23 05.7 -0.9
	comp=Z,0.6nm,0.5s,baz=4.6,slow=7.0,SNR=12						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	60.81	187	P		**P**	00 23 05.9 -0.7
YKA	**Yellowknife Ar**	60.87	31	P		**P**	00 23 07.2 +0.7
	comp=Z,0.9nm,0.6s,baz=300,slow=6.8,SNR=18						
	comp=Z,0.9nm,0.6s						
YKA	**Yellowknife Ar**	60.87	31	*ce*P		**P**	00 23 07.5 +1.0
YKA				pmax		pmax	
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	64.54	187	P		**P**	00 23 31.5 +0.2
ASAR	**Alice Springs**	64.54	187	P		**P**	00 23 30.7 -0.6
	comp=Z,0.2nm,0.4s,baz=3.4,slow=7.0,SNR=4.1						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	64.54	187	P		**P**	00 23 31.5 +0.2
FIA1	**FINESS Array S**	65.02	331	P		**P**	00 23 33.4 -0.6
FINES	**FINESS Array B**	65.02	331	P		**P**	00 23 33.6 -0.4
FINES	**FINESS Array B**	65.02	331	P		**P**	00 23 33.5 -0.5
	comp=Z,3.3nm,0.6s,baz=36,slow=11,SNR=10						
	comp=Z,3.3nm,0.6s						
FINES	**FINESS Array B**	65.02	331	*i* P		**P**	00 23 33.7 -0.3
FINES				pmax		pmax	
	comp=Z,3.0nm,0.6s						
SUMG	**Summit**	66.80	360	P		**P**	00 23 46.1 +0.4
SUMG	**Summit**	66.80	360	P		**P**	00 23 46.1 +0.4
NEW	**Newport**	67.91	45	P		**P**	00 23 52.5 -0.1
	comp=Z,1.3nm,0.4s,baz=230,slow=2.3,SNR=4.7						
	comp=Z,1.3nm,0.4s						
BMO	**Blue Mountains**	69.89	48	P		**P**	00 24 06.3 +1.3
BMO	**Blue Mountains**	69.89	48	P		**P**	00 24 06.3 +1.3
BMO				pmax		pmax	
	comp=Z,3.0nm,1.1s						
HFS	**Hagfors**	70.23	335	P		**P**	00 24 06.3 -0.5
	comp=Z,1.4nm,0.3s,baz=37,slow=6.5,SNR=25						
	comp=Z,1.4nm,0.3s						
NB2	**NORSAR Subarra**	70.31	336	P		**P**	00 24 06.9 -0.3
	comp=Z,0.6nm,0.5s,baz=37,slow=6.5						
NOA	**NORSAR Array B**	70.31	336	P		**P**	00 24 06.6 -0.6
	comp=Z,0.9nm,0.6s,baz=52,slow=7.1,SNR=5.4						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	70.76	321	P		**P**	00 24 09.3 -0.8
	comp=Z,0.6nm,0.4s,baz=45,slow=6.9,SNR=5.3						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	70.76	321	*ce*P		**P**	00 24 09.6 -0.5
AKASG				pmax		pmax	
	comp=Z,1.0nm,0.4s						
FRB	**Frobisher Bay**	73.17	13	P		**P**	00 24 24.0 -0.1
	comp=Z,3.7nm,0.6s,baz=330,slow=6.0,SNR=9.6						
	comp=Z,3.7nm,0.6s						
NVAR	**Mina Array Bea**	73.30	54	P		**P**	00 24 27.5 +1.8
	comp=Z,1.3nm,0.7s,baz=296,slow=5.6,SNR=4.8						
	comp=Z,1.3nm,0.7s						
ELK	**Elko**	73.66	50	P		**P**	00 24 29.2 +1.4
	comp=Z,0.5nm,0.4s,baz=4.9,slow=13,SNR=3.0						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	75.51	46	P		**P**	00 24 38.9 +0.5
PDAR	**Pinedale Array**	75.51	46	P		**P**	00 24 39.4 +1.0
	comp=Z,1.7nm,0.7s,baz=325,slow=0.2,SNR=7.6						
	comp=Z,1.7nm,0.7s						
BRTR	**Keskin Array B**	75.71	310	P		**P**	00 24 39.2 -0.3
	comp=Z,0.5nm,0.8s,baz=45,slow=6.5,SNR=1.8						
	comp=Z,0.5nm,0.8s						
ULM	**Lac du Bonnet**	76.69	33	P		**P**	00 24 44.6 0.0
	comp=Z,1.5nm,0.4s,baz=308,slow=5.3,SNR=4.4						
	comp=Z,1.5nm,0.4s						
EKA	**Eskdalemuir Ar**	79.22	340	P		**P**	00 24 58.0 -0.5
	comp=Z,0.3nm,0.3s,baz=25,slow=5.4,SNR=8.6						
	comp=Z,0.3nm,0.3s						
SCHQ	**Schefferville**	81.82	16	P		**P**	00 25 12.5 +0.1
	comp=Z,1.0nm,0.4s,baz=336,slow=10.0,SNR=1.7						
	comp=Z,1.0nm,0.4s						
121A	**Cookes Peak, D**	83.61	52	P		**P**	00 25 24.0 +1.7
	baz=315						
TXAR	**Lajitas Array**	88.36	52	P		**P**	00 25 46.5 +1.0
	comp=Z,0.8nm,0.6s,baz=286,slow=2.9,SNR=9.8						
	comp=Z,0.8nm,0.6s						
LPAZ	**La Paz**	145.21	54	PKPbc		**PKPbc**	00 32 30.4 -0.8
	comp=Z,0.6nm,0.5s,baz=315,slow=7.1,SNR=2.8						

MOS ***28*** *00:17:22.7±0.9, 67.76N×18.69W, h10km, mb4.6/17, Error ellipse: s-maj=17.6km s-min=8.9km az=91.1*
NEIC ***28*** *00:17:23±1.8, 68.04N±0.07×18.54W±0.07, h10km±1km, mb4.3/19, Error ellipse: s-maj=12.6km s-min=4.1km az=191.0*
IDC ***28*** *00:17:23.2±0.6, 67.87N×18.59W, h0km, mb3.8/18, mbtmp3.9/25, ML3.0/7, MS3.4/4, Error ellipse: s-maj=17.5km s-min=11.9km az=11.0*
DNK ***28*** *00:17:35.7±3.3, 68.86N×19.72W, h0km±707km*

ISC 28 00:17:24.3±0.4, 67.89N±0.06×18.72W±0.05, h10km, n92, σ1.9 85/105, mb4.2/36, 9C-8D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	2.85	338	Pn	**Pn**	00 18 05.5	-4.2
SCO	**Scoresbysund**	2.85	338	P	**Pn**	00 18 05.5	-4.2
SCO	**Scoresbysund**	2.85	338	*e*P	**Pn**	00 18 06.0	-3.7
BORG	**Borgarnes**	3.33	200	Pn	**Pn**	00 18 16.2	0.0
BORG	**Borgarnes**	3.33	200	Pn	**Pn**	00 18 16.1	-0.1
	5.5nm,0.3s,baz=355,slow=6.2,SNR=18						
BORG				LR	LR	00 18 42.0	
	comp=Z,106nm,21.8s,baz=54,slow=24						
BORG				Sn	**Sn**	00 18 54.2	-1.5
	5.0nm,0.3s,baz=34,slow=19,SNR=4.5						
	39nm,0.6s						
BORG	**Borgarnes**	3.33	200	P	**Pn**	00 18 16.3	0.0
DBG	**Daneborg**	6.47	356	*e*P	**Pn**	00 18 56.0	-3.3
ICESG	**Greenland Ices**	7.77	289	*i* P	**Pn**	00 19 19.8	+2.2
SUMG	**Summit**	8.14	314	Pn	**Pn**	00 19 21.0	-1.6
SUMG	**Summit**	8.14	314	P	**Pn**	00 19 21.0	-1.6
SUMG	**Summit**	8.14	314	*e*P	**Pn**	00 19 21.9	-0.8
DAG	**Danmarks Havn**	8.93	0	*i* P	**Pn**	00 19 31.9	-1.1
NEEM	**North Greenlan**	13.31	329	*i* P	**Pn**	00 20 28.6	-4.6
SPITS	**Spitsbergen Ar**	14.18	29	Pn	**Pn**	00 20 46.2	+1.5
	baz=223,slow=13						
	22nm,1.1s						
NOA	**NORSAR Array B**	14.48	104	Pn	**Pn**	00 20 47.8	-1.2
	baz=326,slow=12,SNR=3.3						
	0.8nm,0.9s						
EKA	**Eskdalemuir Ar**	14.54	142	Pn	**Pn**	00 20 48.6	-1.2
	baz=333,slow=10						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	15.88	64	Pn	**Pn**	00 21 03.9	-3.5
ARCES				IAmb	IAmb	00 21 14.6	
	comp=Z,28nm,1.3s						
ARCES	**ARCESS Array B**	15.88	64	Pn	**Pn**	00 21 04.5	-2.9
	comp=Z,0.1nm,0.3s,baz=309,slow=7.7,SNR=3.7						
	comp=Z,4.8nm,0.9s						
HFS	**Hagfors**	16.00	103	Pn	**Pn**	00 21 08.1	-1.0
	comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=4.2						
	comp=Z,1.9nm,0.8s						
APA	**Apatity**	19.28	67⇓	*i*P	**P**	00 21 47.5	-1.2
APA				*i*		00 25 19.7	
APA				pmax	pmax		
	comp=Z,11nm,0.8s						
FINES	**FINESS Array B**	19.81	87	P	**P**	00 21 53.0	-1.5
FINES	**FINESS Array B**	19.81	87	P	**P**	00 21 55.1	+0.6
	comp=Z,0.2nm,0.3s,baz=308,slow=9.4,SNR=6.6						
	comp=Z,4.5nm,0.8s						
FINES	**FINESS Array B**	19.81	87	*e*P	**Pn**	00 21 55.8	-0.3
FIA1	**FINESS Array S**	19.82	87	P	**P**	00 21 52.1	-2.4
FIA1				IAmb	IAmb	00 22 05.4	
	comp=Z,24nm,1.0s						
FRB	**Frobisher Bay**	20.34	282	P	Pn	00 22 01.8	-0.5
	comp=Z,4.7nm,0.8s,baz=60,slow=8.0,SNR=5.7						
	comp=Z,4.7nm,0.8s						
VSU	**Vasula**	22.03	93⇑	*e*P	**P**	00 22 18.7	+0.3
VSU				pmax	pmax		
	comp=Z,33nm,1.1s						
CLL	**Collm**	22.68	121	P	**P**	00 22 22.6	-2.9
CLL				IAmb	IAmb	00 22 28.7	
	comp=Z,16nm,1.5s						
CLL	**Collm**	22.68	121	P	**P**	00 22 22.6	-2.9
CLL				pmax	pmax		
	comp=Z,15nm,1.5s						
GEC2	**GERESS Array S**	25.05	123	P	**P**	00 22 47.1	-1.2
GEC2				IAmb	IAmb	00 22 52.9	
	comp=Z,4.5nm,0.9s						
GERES	**GERESS Array B**	25.05	123	P	**P**	00 22 47.8	-0.6
GERES	**GERESS Array B**	25.05	123	P	**P**	00 22 49.4	+1.1
	comp=Z,2.6nm,0.8s,baz=339,slow=7.1,SNR=9.2						
	comp=Z,2.6nm,0.8s						
GERES	**GERESS Array B**	25.05	123	*e*P	**P**	00 22 51.6	+3.2
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNK	**Minsk**	25.37	99	*i* P	**P**	00 22 51.4	+0.2
	comp=E,11nm,0.8s						
MNK				*i* P	**P**	00 22 51.4	+0.2
	comp=N,15nm,1.1s						
MNK				*i* P	**P**	00 22 51.4	+0.2
	comp=Z,18nm,0.9s,baz=320						
MNK				*i* PP	**PnPn**	00 23 26.2	+0.5
MNK				*i* PPP	PPP	00 23 34.3	
MNK				*i* S	**S**	00 27 18.9	+1.7
MNK				*i* SS	**SnSn**	00 28 12.1	+3.5
MNK				*i* SSS	SSS	00 28 25.8	
MNK				*i* LQ	LQ	00 30 16.3	
MNK				*i* LR	LR	00 31 26.1	
MNK				*i* LRM	MLR	00 32 34.9	
	comp=Z,137nm,8.9s						
MNK				*i* LRM	MLR	00 32 45.4	
	comp=E,173nm,12.8s						
MNK				*i* LRM	MLR	00 32 52.1	
	comp=N,146nm,16.4s						
MNK	**Minsk**	25.37	99	*i* P	**P**	00 22 51.3	+0.2
MNK				*i*		00 23 26.2	
MNK				*i* PPP	PPP	00 23 34.2	
MNK				*i*		00 26 23.3	
MNK				*i* S	**S**	00 27 18.9	+1.7
MNK				*i* SS	**SnSn**	00 28 12.0	+3.5
MNK				*i* SSS	SSS	00 28 25.8	
MNK				pmax	pmax		
	comp=N,15nm,1.1s						
MNK				pmax	pmax		
	comp=Z,18nm,0.9s						
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				MLR	MLR		
	comp=Z,137nm,9.0s						
MNK				MLR	MLR		
	comp=E,173nm,13.0s						
MNK				MLR	MLR		
	comp=N,146nm,16.0s						
MORC	**Moravsky Berou**	25.50	117	P	**P**	00 22 51.8	-0.6
MORC	**Moravsky Berou**	25.50	117	P	**P**	00

YKA PcP **PcP** **00 26 54.1 +1.2**
comp=Z,0.6nm,1.1s,baz=29,slow=2.9,SNR=3.9
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 36.70 309 *eP* **P** **00 24 32.0 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
B22K Teshekpuk Lake 38.66 337 P **P** **00 24 45.1 -2.1**
B22K IAmb IAmb 00 24 53.1
comp=Z,10nm,1.4s
FFC Flin Flon 38.77 293 P **P** **00 24 48.0 -0.3**
FFC IAmb IAmb 00 24 52.9
comp=Z,7.1nm,1.2s
FFC Flin Flon 38.77 293 P **P** **00 24 48.0 -0.3**
FFC pmax pmax
comp=Z,7.0nm,1.3s
H31M Peel River 39.12 324 P **P** **00 24 49.0 -2.1**
KBZ Khabaz 39.83 95 P **P** **00 24 57.1 -0.1**
comp=Z,1.7nm,0.9s,baz=326,slow=14,SNR=3.9
comp=Z,1.7nm,0.9s
KBZ Khabaz 39.83 95⇑ *eP* **P** **00 24 57.7 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.6s
F25K Christian Rive 39.85 331 P **P** **00 24 55.7 -1.6**
F25K IAmb IAmb 00 25 01.6
comp=Z,7.3nm,1.2s
BRTR Keskin Array B 39.87 108 P **P** **00 24 57.4 -0.4**
comp=Z,1.2nm,1.0s,baz=323,slow=4.3,SNR=2.0
comp=Z,1.2nm,1.0s
E24K Your Creek 39.93 333 P **P** **00 24 55.0 -2.9**
G24K Hadweenzic Riv 40.98 332 P **P** **00 25 04.9 -1.7**
I26K Coal Creek Min 41.41 328 P **P** **00 25 08.0 -2.1**
I26K IAmb IAmb 00 25 14.5
comp=Z,11nm,1.3s
F20K Avaraart Lake 42.03 336 P **P** **00 25 12.3 -2.8**
F20K IAmb IAmb 00 25 19.3
comp=Z,9.2nm,1.1s
BVAR Borovoye Array 42.17 64 P **P** **00 25 16.9 +0.5**
comp=Z,0.5nm,0.4s,baz=342,slow=11,SNR=1.3
BVAR PcP **PcP** **00 27 10.9 +0.5**
comp=Z,0.6nm,0.6s,baz=305,slow=5.1,SNR=2.2
comp=Z,0.5nm,0.4s
ILAR Eielson Array 42.61 330 P **P** **00 25 21.1 +1.2**
comp=Z,3.4nm,1.2s,baz=14,slow=6.4,SNR=13
ILAR PcP **PcP** **00 27 12.6 +0.9**
comp=Z,0.6nm,1.1s,baz=0.4,slow=3.5,SNR=4.4
comp=Z,3.4nm,1.2s
ILAR Eielson Array 42.61 330 *eP* **P** **00 25 21.8 +1.9**
ILAR pmax pmax
comp=Z,3.0nm,1.2s
COLA College 42.70 331⇓ *eP* **P** **00 25 23.4 +2.9**
COLA pmax pmax
comp=Z,15nm,1.8s
BCAR Beaver Creek A 43.12 326 P **P** **00 25 22.5 -1.6**
GNI Garni 43.61 96 LR LR 00 44 27.2
comp=Z,102nm,18.3s,baz=358,slow=37
GNI Garni 43.61 96⇑ *eP* **P** **00 25 30.9 +2.5**
GNI pmax pmax
comp=Z,12nm,1.4s
BILL Bilibino 44.30 357 P **P** **00 25 31.1 -2.3**
BILL Bilibino 44.30 357 *ceP* **P** **00 25 34.7 +1.3**
BILL pmax pmax
comp=Z,12nm,1.5s
ZALV Zalesovo Beam 46.04 53 P **P** **00 25 47.7 +0.3**
comp=Z,0.2nm,0.3s,baz=324,slow=9.5,SNR=1.7
ZALV PcP **PcP** **00 27 23.9 +0.3**
comp=Z,1.1nm,0.8s,baz=15,slow=6.4,SNR=4.9
comp=Z,0.2nm,0.3s
KURK Kurchatov 46.87 60⇑ *eP* **P** **00 25 56.0 +2.1**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 46.92 60 P **P** **00 25 54.2 -0.2**
comp=Z,1.0nm,0.8s,baz=324,slow=7.2,SNR=6.2
comp=Z,1.0nm,0.8s
SEY Seymchan 49.31 5⇓ *iP* **P** **00 26 14.4 +1.7**
SEY pmax pmax
comp=Z,6.0nm,1.4s
MK31 Makanchi Array 51.48 60 P **P** **00 26 26.2 -3.1**
MK31 Makanchi Array 51.48 60 *ceP* **P** **00 26 31.0 +1.7**
MKAR Makanchi Array 51.48 60 P **P** **00 26 27.9 -1.4**
MKAR Makanchi Array 51.48 60 P **P** **00 26 29.6 +0.2**
comp=Z,1.5nm,1.1s,baz=336,slow=4.5,SNR=7.8
MKAR PcP **PcP** **00 27 43.0 -0.5**
comp=Z,0.2nm,0.5s,baz=347,slow=5.9,SNR=2.1
comp=Z,1.5nm,1.1s
MKAR Makanchi Array 51.48 60 *eP* **P** **00 26 29.8 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,1.1s
PDAR Pinedale Array 51.53 290 P **P** **00 26 31.4 +1.3**
comp=Z,1.2nm,0.8s,baz=46,slow=6.4,SNR=6.6
comp=Z,1.2nm,0.8s
MA2 Magadan 52.61 7 P **P** **00 26 38.3 +0.8**
comp=Z,2.2nm,0.3s,baz=339,slow=5.8,SNR=4.5
comp=Z,2.2nm,0.3s
MA2 Magadan 52.61 7⇓ *eP* **P** **00 26 39.2 +1.7**
MA2 pmax pmax
comp=Z,11nm,1.3s
ZEA Zeya 56.07 24⇑ *eP* **P** **00 27 04.3 +1.5**
TORD Torodi Ar. Bea 56.30 156 P **P** **00 27 05.1 +0.3**
comp=Z,24nm,0.3s,baz=330,slow=5.0,SNR=1.3
SONM Songino Array 57.50 41 P **P** **00 27 13.2 0.0**
comp=Z,0.3nm,0.7s,baz=267,slow=3.0,SNR=3.6
comp=Z,0.3nm,0.7s
KLR Kul'dur 61.12 22⇓ *eP* **P** **00 27 39.5 +1.5**
KLR pmax pmax
comp=Z,4.0nm,1.6s
TXAR Lajitas Array 61.30 277 P **P** **00 27 38.8 -0.8**
comp=Z,0.4nm,0.9s,baz=30,slow=6.6,SNR=2.4
comp=Z,0.4nm,0.9s
MJAR Matsushiro Arr 74.44 19 P **P** **00 29 01.8 -0.4**
comp=Z,1.9nm,0.7s,baz=352,slow=8.8,SNR=4.3
comp=Z,1.9nm,0.7s
CMAR Chiang Mai Arr 82.85 58 P **P** **00 29 49.0 +0.4**
comp=Z,0.8nm,0.3s,baz=346,slow=5.1,SNR=1.7

*IDC **28** 00:25:48.6±0.9, 67°.88N×18°.96W, h0km, mb3.4/9, mbtmp3.5/12, ML2.9/3, MS4.3/1, Error ellipse: s-maj=20.8km s-min=17.9km az=37.0*
ISC 28 00:25:49.9±0.7, 68°.00N±0°.06×18°.95W±0°.10, h10km, n15, σ1§70/16, mb3.6/10, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.71**	**338**	*e*	**Pn**	**00 26 29.3**	**-4.2**
BORG	**Borgarnes**	**3.41**	**197**	Pn	**Pn**	**00 26 41.8**	**-1.1**
5.4nm,0.3s,baz=13,slow=5.9,SNR=12							
BORG				Sn	**Sn**	**00 27 22.6**	**-0.8**
2.0nm,0.3s,baz=52,slow=19,SNR=5.8							
21nm,0.4s							
DBG	**Daneborg**	**6.35**	**357**	*e*	**Pn**	**00 27 25.1**	**+1.7**
EKA	**Eskdalemuir Ar**	**14.68**	**142**	Pn	**Pn**	**00 29 15.1**	**-2.2**
baz=338,slow=11							
1.8nm,1.1s							
FINES	**FINESS Array B**	**19.89**	**87**	P	**Pn**	**00 30 22.3**	**-0.3**
0.1nm,0.3s,baz=331,slow=14,SNR=3.4							
2.6nm,1.0s							
GERES	**GERESS Array B**	**25.18**	**123**	P	**P**	**00 31 15.7**	**+0.5**
1.9nm,0.9s,baz=328,slow=9.8,SNR=5.7							
1.9nm,0.9s							
AKASG	**Malin Array Be**	**28.99**	**102**	P	**P**	**00 31 48.6**	**-0.7**
0.8nm,0.8s,baz=323,slow=10,SNR=1.9							
0.8nm,0.8s							
YKA	**Yellowknife Ar**	**36.57**	**309**	P	**P**	**00 32 55.9**	**+0.7**
0.2nm,0.7s,baz=41,slow=8.5,SNR=5.3							
0.2nm,0.7s							
ILAR	**Eielson Array**	**42.47**	**330**	P	**P**	**00 33 47.0**	**+2.6**
0.5nm,1.1s,baz=23,slow=7.6,SNR=4.1							
0.5nm,1.1s							
ZALV	**Zalesovo Beam**	**46.04**	**53**	P	**P**	**00 34 13.8**	**+0.8**
0.4nm,0.6s,baz=308,slow=7.1,SNR=1.8							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**46.93**	**60**	P	**P**	**00 34 20.4**	**+0.3**
0.5nm,0.8s,baz=330,slow=7.1,SNR=3.4							
0.5nm,0.8s							
PDAR	**Pinedale Array**	**51.41**	**290**	P	**P**	**00 34 54.0**	**-0.8**
0.6nm,0.8s,baz=76,slow=6.9,SNR=4.0							
0.6nm,0.8s							
MKAR	**Makanchi Array**	**51.49**	**59**	P	**P**	**00 34 55.6**	**+0.5**
0.2nm,0.8s,baz=351,slow=6.3,SNR=2.6							
0.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**56.44**	**156**	P	**P**	**00 35 30.8**	**-0.7**
46nm,0.3s,baz=341,slow=8.7,SNR=2.7							
SONM	**Songino Array**	**57.48**	**41**	P	**P**	**00 35 39.1**	**+0.5**
0.2nm,0.4s,baz=356,slow=6.1,SNR=1.8							
0.2nm,0.4s							

*IDC **28** 00:26:59.1±0.8, 49°.31S×127°.49E, h0km, mb4.4/7, mbtmp4.4/7, MS3.8/10, Error ellipse: s-maj=48.1km s-min=16.4km az=97.0*
*NEIC **28** 00:27:00.6±1.7, 49°.3S±0°.1×127°.5E±0°.2, h10km±1km, mb4.6/15, Error ellipse: s-maj=24.7km s-min=17.5km az=97.0*
ISC 28 00:27:00.3±0.6, 49°.30S±0°.09×127°.5E±0°.1, h10km, n45, σ0§69/32, mb4.4/11, MS3.7/8, 3C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGBR	**Mount Gambier**	**14.96**	**44**	Pn	**Pn**	**00 30 31.6**	**-0.2**
TAU	**Tasmania Unive**	**15.17**	**73**	Pn	**Pn**	**00 30 34.3**	**-0.2**
TAU				IAmb	IAmb	00 30 40.5	
comp=Z,48nm,1.4s							
H01W1	**Cape Leeuwin H**	**17.41**	**321**	T	T	00 48 48.0	
baz=147,slow=74,SNR=20							
H01W2	**Cape Leeuwin H**	**17.42**	**321**	T	T	00 48 48.2	
baz=147,slow=74,SNR=31							
H01W3	**Cape Leeuwin H**	**17.43**	**321**	T	T	00 48 49.0	
baz=147,slow=74,SNR=25							
TOO	**Toolangi**	**17.53**	**55**	Pn	**Pn**	**00 31 04.1**	**-0.7**
BBOO	**Buckleboo**	**17.69**	**25**	P	**P**	**00 31 07.6**	**0.0**
NWAO	**Narrogin (SRO)**	**18.05**	**331**	LR	LR	00 36 32.5	
comp=Z,173nm,19.2s,baz=331,slow=32							
FORT	**Forrest**	**18.51**	**2**	P	**P**	**00 31 16.3**	**-0.3**
FORT				IAmb	IAmb	00 31 30.1	
comp=Z,33nm,1.2s							
STKA	**Stephens Creek**	**20.39**	**37**	P	**P**	**00 31 37.9**	**+0.6**
STKA				IAmb	IAmb	00 31 43.2	
comp=Z,58nm,1.2s							
STKA	**Stephens Creek**	**20.39**	**37**	P	Pn	00 31 38.5	-0.8
comp=Z,27nm,1.4s,baz=204,slow=11,SNR=7.6							
STKA				LR	LR	00 38 22.5	
comp=Z,212nm,20.4s,baz=205,slow=34							
comp=Z,27nm,1.4s							
MORW	**Morawa**	**22.01**	**332**	P	**P**	**00 31 53.7**	**-1.0**
MORW				IAmb	IAmb	00 31 56.5	
comp=Z,21nm,0.9s							
ASAR	**Alice Springs**	**26.09**	**14**	P	**P**	**00 32 34.3**	**+0.2**
comp=Z,8.0nm,0.6s,baz=188,slow=9.1,SNR=66							
comp=Z,8.0nm,0.6s							
AS31	**Alice Springs**	**26.09**	**14**	P	**P**	**00 32 33.7**	**-0.4**
AS31				IAmb	IAmb	00 32 35.2	
comp=Z,3.4nm,0.6s							
WRA	**Warramunga Arr**	**29.81**	**13**	P	**P**	**00 33 07.6**	**+0.1**
WRA	**Warramunga Arr**	**29.81**	**13**	P	**P**	**00 33 07.0**	**-0.4**
comp=Z,2.0nm,0.8s,baz=191,slow=10,SNR=8.8							
comp=Z,2.0nm,0.8s							
WB0	**Warramunga Arr**	**29.99**	**13**	P	**P**	**00 33 07.3**	**-1.7**
WB0				IAmb	IAmb	00 33 13.4	
comp=Z,4.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**31.16**	**357**	LR	LR	00 45 10.5	
comp=Z,117nm,21.0s,baz=178,slow=35							
VNDA	**Vanda**	**31.20**	**166**	P	**P**	**00 33 17.8**	**-1.4**
VNDA	**Vanda**	**31.20**	**166**	P	**P**	**00 33 19.4**	**+0.2**
comp=Z,4.6nm,1.0s,baz=315,slow=10.0,SNR=5.3							
comp=Z,4.6nm,1.0s							
MAW	**Mawson**	**36.30**	**216**	LR	LR	00 45 54.4	
comp=Z,158nm,18.5s,baz=104,slow=31							
MTN	**Manton Dam**	**36.48**	**6**	P	**P**	**00 34 05.9**	**+0.3**
MTN				IAmb	IAmb	00 34 31.6	
comp=Z,6.3nm,0.9s							
QSPA	**South Pole Qui**	**40.82**	**180**	P	**P**	**00 34 42.1**	**+0.4**
QSPA				IAmb	IAmb	00 34 46.0	
comp=Z,17nm,1.3s							
QSPA	**South Pole Qui**	**40.82**	**180**	P	**P**	**00 34 42.1**	**+0.4**
comp=Z,5.5nm,0.8s,baz=360,slow=3.8,SNR=32							
comp=Z,5.5nm,0.8s							
DZM	**Mont Dzumac**	**41.03**	**63**	LR	LR	00 48 12.0	
comp=Z,70nm,21.2s,baz=193,slow=31							
SAUI	**Saumlaki**	**41.31**	**6**	P	**P**	**00 34 47.3**	**+1.3**
PMG	**Port Moresby**	**43.05**	**29**	LR	LR	00 52 57.3	
comp=Z,118nm,18.4s,baz=245,slow=36							
SYO	**Syowa Base**	**44.44**	**211⇓**	*eP*	**P**	**00 35 11.0**	**+0.2**
HNR	**Honiara**	**48.10**	**45**	LR	LR	00 54 58.1	
comp=Z,105nm,18.1s,baz=329,slow=35							
TROLL	**Troll, Antarti**	**52.98**	**199**	P	**P**	**00 36 16.9**	**+0.3**
TROLL	**Troll, Antarti**	**52.98**	**199**	⇑P	**P**	**00 36 16.9**	**+0.3**
comp=Z,384nm,0.8s							
SNAA	**Sanae**	**54.32**	**197**	P	**P**	**00 36 26.7**	**+0.3**
SNAA	**Sanae**	**54.32**	**197**		**P**	**00 36 26.4**	**0.0**
SNAA				IAmb	IAmb	00 36 35.7	
comp=Z,10nm,0.8s							
SNAA	**Sanae**	**54.32**	**197**	⇑P	**P**	**00 36 26.7**	**+0.3**
comp=Z,172nm,0.6s							
SNAA	**Sanae**	**54.32**	**197**	P	**P**	**00 36 26.5**	**+0.2**
comp=Z,9.0nm,0.9s,baz=151,slow=8.8,SNR=15							
comp=Z,9.0nm,0.9s							
VNA2	**Neumayer--Watz**	**55.79**	**196**	P	**P**	**00 36 37.8**	**+0.9**
baz=150,slow=8.1							
VNA2	**Neumayer--Watz**	**55.79**	**196**	⇑P	**P**	**00 36 37.8**	**+0.9**
comp=Z,8.1nm,0.8s,baz=150,slow=8.1							
RAR	**Rarotonga**	**63.08**	**92**	LR	LR	01 01 21.0	
comp=Z,39nm,20.1s,baz=346,slow=33							
CMAR	**Chiang Mai Arr**	**72.05**	**332**	P	**P**	**00 38 25.4**	**+1.0**
comp=Z,1.0nm,0.5s,baz=181,slow=4.6,SNR=7.9							
comp=Z,1.0nm,0.5s							
SUR	**Sutherland**	**75.86**	**237**	LR	LR	01 05 52.7	
comp=Z,84nm,19.9s,baz=351,slow=31							
BOSA	**Boshof**	**76.19**	**242**	P	**P**	**00 38 47.9**	**-1.1**
YKA	**Yeloknife Ar**	**144.29**	**45**	PKP	PKPbc	00 46 33.9	+0.3
comp=Z,1.4nm,1.1s,baz=257,slow=3.9,SNR=8.5							
ESDC	**Sonseca Array**	**144.57**	**273**	PKP	**PKPab**	**00 46 35.3**	**+0.1**
comp=Z,0.9nm,0.9s,baz=108,slow=2.2,SNR=4.9							
RES	**Resolute Bay**	**149.02**	**20**	PKPbc	**PKiKP**	**00 46 47.9**	**-0.4**
EKA	**Eskdalemuir Ar**	**149.75**	**301**	PKPbc	**PKiKP**	**00 46 50.0**	**-0.3**
comp=Z,1.7nm,0.7s,baz=86,slow=3.4,SNR=4.4							

*IDC **28** 00:27:42.0±1.6, 7°.44S×129°.68E, h0km, mb3.7/3, mbtmp3.7/6, ML3.7/3, Error ellipse: s-maj=74.9km s-min=24.8km az=78.0*
ISC 28 00:27:43.2±1.4, 7°.7S±0°.1×129°.8E±0°.2, h10km, n6, σ3§38/7, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.14**	**201**	Pn	**Pn**	**00 30 24.6**	**+1.9**
0.4nm,0.3s,baz=26,slow=8.8,SNR=42							
FITZ				Sn	Sn	00 32 19.0	-8.3
1.1nm,0.3s,baz=357,slow=18,SNR=9.9							
0.9nm,0.3s							
WRA	**Warramunga Arr**	**13.00**	**161**	Pn	**Pn**	**00 30 51.1**	**+2.9**
0.4nm,0.3s,baz=340,slow=14,SNR=18							
1.0nm,0.5s							
ASAR	**Alice Springs**	**16.42**	**166**	Pn	**P**	**00 31 37.3**	**+0.6**
0.3nm,0.3s,baz=339,slow=11,SNR=17							
ASAR				Sn	**Sn**	**00 34 30.8**	**-5.6**
0.1nm,0.3s,baz=341,slow=25,SNR=1.4							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**68.64**	**327**	P	**P**	**00 38 45.6**	**-1.1**
0.4nm,0.3s,baz=144,slow=6.4,SNR=10							
0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**72.06**	**334**	P	**P**	**00 39 06.5**	**-0.9**
0.2nm,0.4s,baz=141,slow=4.8,SNR=2.1							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**72.94**	**329**	P	**P**	**00 39 12.0**	**-0.7**
0.3nm,0.5s,baz=132,slow=5.1,SNR=9.2							
0.3nm,0.5s							

*SJA **28** 00:34:13.7±0.6, 22°.15S×68°.67W, h132km±3km, ML3.5, MW3.5*
*GUC **28** 00:34:16.4±0.8, 22°.18S×68°.66W, h115km±5km, ML3.7*
ISC 28 00:34:14.8±1.4, 22°.19S±0°.03×68°.69W±0°.05, h129km±9km, n23, σ1§24/43, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**307**	*eP*	**Pn**	**00 34 34.6**	**-0.2**
PB09				*eS*	**Sn**	**00 34 49.7**	**-0.3**
PB09				IAML		00 34 50.6	
comp=Z,2μm,0.4s							
PB09	**IPOC Station P**	**0.65**	**307⇑**	*iP*	**Pn**	**00 34 35.2**	**+0.4**
PB09				*iS*	**Sn**	**00 34 49.4**	**-0.6**
PB09				IAML		00 34 50.4	
comp=N,4μm,0.6s							
AF01	**San Pedro de A**	**0.89**	**148**	*eP*	**Pn**	**00 34 36.9**	**-0.1**
AF01				*eS*	**Sn**	**00 34 54.2**	**+0.4**
AF01				IAML		00 35 09.6	
comp=Z,1μm,0.6s							
AF01	**San Pedro de A**	**0.89**	**148⇑**	*iP*	**Pn**	**00 34 36.9**	**-0.1**
AF01				*iS*	**Sn**	**00 34 52.9**	**-0.9**
AF01				IAML		00 34 53.4	
comp=N,3μm,0.3s							
PB06	**IPOC Station P**	**0.97**	**238**	*eP*	**Pn**	**00 34 37.8**	**+0.4**
PB06				*eS*	**Sn**	**00 34 55.2**	**+0.6**
PB06				IAML		00 34 57.5	
comp=Z,948nm,0.3s							
PB06	**IPOC Station P**	**0.97**	**238⇑**	*iP*	**Pn**	**00 34 37.8**	**+0.4**
PB06				*iS*	**Sn**	**00 34 54.6**	**0.0**
PB06				IAML		00 34 56.0	
comp=E,2μm,0.1s							
PB03	**IPOC Station P**	**1.00**	**278**	*eP*	**Pn**	**00 34 37.6**	**-0.1**
PB03				*eS*	**Sn**	**00 34 55.4**	**+0.3**
PB03				IAML		00 34 56.2	
comp=Z,2μm,0.4s							
PB03	**IPOC Station P**	**1.00**	**278⇑**	*iP*	**Pn**	**00 34 38.2**	**+0.5**
PB03				*iS*	**Sn**	**00 34 54.8**	**-0.3**
PB03				IAML		00 34 55.7	
comp=N,2μm,0.5s							
PB01	**IPOC Station P**	**1.36**	**327**	*eP*	**Pn**	**00 34 41.2**	**-0.2**
PB01				*eS*	**Sn**	**00 35 01.9**	**+0.4**
PB01				IAML		00 35 03.0	
comp=Z,434nm,0.2s							
PB01	**IPOC Station P**	**1.36**	**327⇓**	*iP*	**Pn**	**00 34 41.8**	**+0.4**
PB01				*iS*	**Sn**	**00 35 00.7**	**-0.9**
PB01				IAML		00 35 02.6	
comp=E,737nm,0.2s							
PB08	**IPOC Station P**	**2.08**	**348**	*eP*	**Pn**	**00 34 51.0**	**+0.9**
PB08				*eS*	**Sn**	**00 35 14.0**	**-3.0**
PB08				IAML		00 35 21.5	
comp=Z,126nm,0.2s							
PB08	**IPOC Station P**	**2.08**	**348**	*eP*	**Pn**	**00 34 51.3**	**+1.2**
PB08				*iS*	**Sn**	**00 35 18.1**	**+1.0**
TA01	**Diego Aracena**	**2.13**	**319**	*eP*	**Pn**	**00 34 50.4**	**0.0**
TA01				*eS*	**Sn**	**00 35 19.0**	**+1.5**
TA01				IAML		00 35 20.1	
comp=Z,141nm,0.4s							
TA01	**Diego Aracena**	**2.13**	**319**	*eP*	**Pn**	**00 34 50.3**	**0.0**
TA01				*iS*	**Sn**	**00 35 17.1**	**-0.4**
TA01				IAML		00 35 19.5	
comp=N,444nm,0.3s							
TA02	**Huaiquique**	**2.33**	**325**	*eP*	**Pn**	**00 34 55.4**	**+2.6**
TA02				*eS*	**Sn**	**00 35 23.6**	**+1.5**
TA02				IAML		00 35 33.0	
comp=Z,174nm,0.2s							
PB11	**IPOC Station P**	**2.58**	**339**	*eP*	**Pn**	**00 34 55.8**	**-0.3**
PB11				*eS*	**Sn**	**00 35 26.6**	**-1.3**
PB11				IAML		00 35 34.6	
comp=Z,170nm,0.3s							
PB11	**IPOC Station P**	**2.58**	**339**	*eP*	**Pn**	**00 34 56.1**	**0.0**
PB11				*iS*	**Sn**	**00 35 27.4**	**-0.4**
PB14	**IPOC Station P**	**2.89**	**213**	*eP*	**Pn**	**00 35 00.8**	**+0.5**
PB14				*eS*	**Sn**	**00 35 34.7**	**-0.6**
PB14				IAML		00 35 35.8	
comp=Z,127nm,0.2s							
YJA	**Yavi**	**2.94**	**90**	*eP*	**Pn**	**00 35 03.1**	**+2.1**
YJA				*eS*	**Sn**	**00 35 33.9**	**-2.7**
GO02	**Mina Guanaco**	**3.08**	**195**	*eP*	Pn	00 34 47.0	-16
PB12	**IPOC Station P**	**3.87**	**336**	*eP*	**Pn**	**00 35 11.7**	**-1.3**
PB12				IAML		00 36 13.1	
comp=Z,40nm,0.4s							
AC01	**Pan de Azucar**	**4.31**	**204**	*eP*	**Pn**	**00 35 17.2**	**-1.5**
AC01				*eS*	**Sn**	**00 36 05.9**	**-2.4**
AC01				IAML		00 36 07.6	
comp=Z,55nm,0.2s							
AC02	**Maricunga**	**4.64**	**185**	*eP*	**Pn**	**00 35 24.2**	**+0.7**
AC02				*eS*	**Sn**	**00 36 19.8**	**+2.8**
AC02				IAML		00 36 49.1	
comp=Z,31nm,0.9s							

IDC 28 00:36:43.0±2.6, 6°.51S×149°.16E, h57km±21km, mb3.3/2, mbtmp3.8/4, ML4.0/1, MS3.5/2, Error ellipse: s-maj=92.3km s-min=15.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**214**	P	Pn	00 37 36.3	+1.4
39nm,0.3s,baz=29,slow=10,SNR=13							
PMG				S	Sn	00 38 15.5	+0.4
113nm,0.4s,baz=12,slow=20,SNR=13							
WRA	**Warramunga Arr**	**19.64**	**226**	P	P	00 41 06.3	-0.8
0.5nm,0.3s,baz=51,slow=11,SNR=17							
WRA				S	Sn	00 44 48.6	-0.4
0.7nm,0.7s,baz=46,slow=18,SNR=4.6							
1.9nm,0.5s							
ASAR	**Alice Springs**	**22.50**	**219**	P	P	00 41 37.6	-0.4
1.4nm,0.6s,baz=49,slow=9.5,SNR=17							
ASAR				S	S	00 45 40.8	-0.5
1.2nm,0.9s,baz=45,slow=21,SNR=6.9							
1.4nm,0.6s							
ILAR	**Eielson Array**	**85.11**	**23**	P	P	00 49 12.4	0.0
0.4nm,0.9s,baz=250,slow=5.6,SNR=2.9							
0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**147.30**	**284**	PKPbc	PKPbc	00 56 21.0	-0.2
31nm,0.3s,baz=72,slow=2.8,SNR=1.6							

*DJA **28** 00:54:26.2±0.7, 7°.5±2°×10°5E±°, h20km±5km, M4.8/29, mB5.4/13, mb4.8/29, MLv4.6/20, Mw(mB)4.8/13*
*NEIC **28** 00:54:28.6±1.9, 7°.38S±0°.06×105°.21E±0°.07, h41km±7km, mb4.7/44, Error ellipse: s-maj=10.7km s-min=8.4km az=64.0*
*IDC **28** 00:54:32.8±2.7, 6°.95S×105°.46E, h68km±23km, mb4.1/23, mbtmp4.4/26, MS3.6/8, Error ellipse: s-maj=24.2km s-min=12.2km az=53.0*
ISC 28 00:54:28.2±0.4, 7°.29S±0°.04×105°.26E±0°.05, h35km, n167, σ1§65/154, mb4.5/49, MS3.6/8, 5C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.80**	**33**	P	**Pn**	**00 54 40.1**	**-2.9**
CGJI				S	**Sn**	**00 54 48.9**	**-4.8**
SKJI	**Sukabumi**	**1.32**	**78**	P	**Pn**	**00 54 47.9**	**-2.2**
SBJI	**Serang**	**1.45**	**37**	P	**Pn**	**00 54 50.6**	**-1.3**
SBJI				S	**Sn**	**00 55 08.9**	**-0.9**
TNG	**Tangerang**	**1.77**	**51**	P	**Pn**	**00 54 55.9**	**-0.5**
TNG				S	**Sn**	**00 55 16.9**	**-0.8**
CNJI	**Cibinong**	**1.86**	**91**	P	**Pn**	**00 54 55.6**	**-1.9**
BBJI	**Bungbulang**	**2.38**	**94**	P	**Pn**	**00 55 03.9**	**-0.9**
BBJI	**Bungbulang**	**2.38**	**94**	S	**Sn**	**00 55 32.1**	**-0.6**
LEM	**Lembang**	**2.39**	**79**	P	**Pn**	**00 55 06.4**	**+1.4**
1μm,0.7s,baz=348,slow=9.3,SNR=148							
LEM				S	**Sn**	**00 55 37.8**	**+4.7**
1μm,0.8s,baz=244,slow=22,SNR=4.6							
LEM	**Lembang**	**2.39**	**79**	P	**Pn**	**00 55 05.9**	**+0.9**
MDSI	**Maura Dua**	**2.99**	**339**	P	**Pn**	**00 55 13.3**	**+0.2**
JCJI	**Jatiwangi**	**3.10**	**75**	P	**Pn**	**00 55 12.6**	**-1.9**
XMI	**Christmas Isla**	**3.17**	**172**	P	**Pn**	**00 55 14.7**	**-0.9**
XMI	**Christmas Isla**	**3.17**	**172**	S	**Sn**	**00 55 52.3**	**+0.2**
XMIS	**Christmas Isla**	**3.19**	**173**	Pn	**Pn**	**00 55 14.7**	**-1.2**
XMIS				Sn	**Sn**	**00

SRBI	Singaraja	9.90	95	P		Pn	00 56 47.1	-0.9
	1μm71nm,0.8s							
PBSI	Pulau Batu	10.01	316	P		Pn	00 56 49.5	0.0
	37nm,0.6s							
GSI	Gunungsitoli	11.48	318	Pn		Pn	00 57 07.4	-2.3
GSI	Gunungsitoli	11.48	318	P		Pn	00 57 06.8	-2.9
TWSI	Taliwang, Sumb	11.60	98	P		Pn	00 57 10.7	-0.7
	1μm43nm,1.1s							
RPSI	Rantau Prapat	11.77	327			Pn	00 57 15.8	+2.1
PSI	Prapat	11.85	328	P		Pn	00 57 15.8	+0.8
	1.8nm,0.5s,baz=214,slow=13,SNR=1.5							
PLAI	Plampang	12.49	98	P		Pn	00 57 20.7	-2.8
	46nm,0.7s							
KAPI	Kappang	14.59	82			Pn	00 57 52.3	+0.1
KAPI	Kappang	14.59	82	P		Pn	00 57 54.1	+1.9
	10.0nm,0.9s,baz=267,slow=11,SNR=4.9							
SPSI	Sidrap Palu	14.81	78	P		Pn	00 57 57.3	+2.1
TTSI	Tana Toraja	15.10	75	P		Pn	00 58 00.2	+1.1
	24nm,0.9s							
MMRI	Maumere	16.87	96	Pn		Pn	00 58 20.6	-1.2
MMRI				IAmb		IAmb	00 58 27.0	
	comp=Z,60nm,0.7s							
MMRI	Maumere	16.87	96	P		Pn	00 58 22.2	+0.4
	comp=Z,70nm,0.8s							
BBSI	Bau Bau	17.30	85	P		Pn	00 58 27.2	+0.1
	comp=Z,44nm,0.8s							
GIRL	Giralia	17.54	151	P		Pn	00 58 29.3	-0.7
KDI	Kendari	17.59	80	P		Pn	00 58 29.9	-0.8
	comp=Z,2μmcomp=Z,44nm,0.9s							
TOLI2	Tolitoli	17.59	62			P	00 58 31.5	0.0
MRSI	Marisa	18.34	66	P		P	00 58 39.3	-0.5
	comp=Z,44nm,0.6s							
BATI	Baumata	18.42	100	P		P	00 58 38.6	-2.1
SOEI	Soe	18.96	99	P		P	00 58 45.4	-1.3
SOEI				IAmb		IAmb	00 58 51.2	
	comp=Z,76nm,0.9s							
SOEI	Soe	18.96	99	P		P	00 58 45.2	-1.5
MBWA	Marble Bar	19.64	136	P		P	00 58 52.3	-1.7
NLAI	Namlea	22.11	81	P		P	00 59 19.9	-0.9
	comp=Z,36nm,0.7s							
FITZ	Fitzroy Crossi	22.57	120	P		P	00 59 26.2	+0.6
KNRA	Kununurra	24.47	112	P		P	00 59 44.1	0.0
KNRA				IAmb		IAmb	00 59 47.4	
	comp=Z,36nm,1.0s							
MTN	Manton Dam	26.05	104	P		P	00 59 58.1	-0.4
MTN				IAmb		IAmb	01 00 13.8	
	comp=Z,10nm,0.8s							
CMAR	Chiang Mai Arr	26.34	346	P		P	01 00 00.3	-0.7
	comp=Z,1.4nm,0.5s,baz=181,slow=8.8,SNR=11							
	comp=Z,1.4nm,0.5s							
QIZ	Qiongzhong	26.54	10	P		P	01 00 06.8	+3.9
QIZ				S		S	01 04 41.5	+6.4
QIZ				LR		LR		
	comp=N,190nm,13.7s							
QIZ				LR		LR		
	comp=E,140nm,11.0s							
QIZ				LR		LR		
	comp=Z,170nm,15.7s							
FAKI	Fak Fak	27.23	82	P		P	01 00 09.2	+0.1
FAKI				IAmb		IAmb	01 00 26.5	
	comp=Z,36nm,1.1s							
NWAO	Narrogin (SRO)	27.82	158	LR		LR	01 09 56.9	
	comp=Z,109nm,20.6s,baz=207,slow=33							
PALK	Pallekele	28.45	300	LR		LR	01 10 09.0	
	comp=Z,91nm,20.6s,baz=100,slow=33							
H01W3	Cape Leeuwin H	28.65	165	T		T	01 30 38.8	
	baz=344,slow=76,SNR=91							
H01W1	Cape Leeuwin H	28.66	165	T		T	01 30 39.5	
	baz=344,slow=76,SNR=96							
H01W2	Cape Leeuwin H	28.66	165	T		T	01 30 42.8	
	baz=344,slow=76,SNR=131							
WB0	Warramunga Arr	30.86	117	P		P	01 00 41.2	-0.1
WB0				IAmb		IAmb	01 00 44.0	
	comp=Z,7.8nm,1.1s							
WRA	Warramunga Arr	30.87	117	P		P	01 00 41.5	0.0
WRA	Warramunga Arr	30.87	117	P		P	01 00 42.5	+1.0
	comp=Z,4.1nm,0.9s,baz=292,slow=8.7,SNR=20							
	comp=Z,4.1nm,0.9s							
WR0	Warramunga Arr	31.05	117	P		P	01 00 42.1	-1.0
AS31	Alice Springs	31.94	124	P		P	01 00 49.9	-1.0
ASAR	Alice Springs	31.94	124	P		P	01 00 51.2	+0.2
ASAR	Alice Springs	31.94	124	P		P	01 00 52.5	+1.5
	comp=Z,2.5nm,0.9s,baz=298,slow=8.3,SNR=22							
ASAR				LR		LR	01 14 13.3	
	comp=Z,137nm,20.7s,baz=302,slow=37							
	comp=Z,2.5nm,0.9s							
H08S2	Diego Garcia H	32.48	267	T		T	01 35 08.9	
	baz=91,slow=76,SNR=370							
H08S3	Diego Garcia H	32.49	267	T		T	01 35 11.2	
	baz=91,slow=76,SNR=911							
H08S1	Diego Carcia H	32.50	267	T		T	01 35 10.3	
	baz=91,slow=76,SNR=177							
BRDH	Bariadhala	32.63	336	LR		LR	01 16 48.9	
	comp=Z,224nm,18.0s,baz=222,slow=41							
PZH	PanZhiHua	33.77	354	P		P	01 01 10.5	+3.6
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,120nm,5.4s							
COEN	Coen	37.81	103	P		P	01 01 40.8	-0.8
COEN				IAmb		IAmb	01 01 42.9	
	comp=Z,20nm,1.1s							
NJ2	Nanjing	41.22	18	eP		P	01 02 13.3	+3.6
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
XAN	Xi'an	41.25	5	P		P	01 02 10.5	+0.4
XAN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
STKA	Stephens Creek	41.74	131	P		P	01 02 13.7	-0.4
STKA	Stephens Creek	41.74	131	P		P	01 02 16.2	+2.0
	comp=Z,10nm,0.9s,baz=298,slow=8.5,SNR=16							
	comp=Z,10nm,0.9s							
LZH	Lanzhou	43.17	358	eP		P	01 02 28.5	+2.7
LZH				sP		sP	01 02 49.3	+10
LZH				pmax		pmax		
	comp=Z,18nm,1.2s							
GTA	Gaotai	46.74	354	eP		P	01 02 55.5	+1.4
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
JNU	Nakatsue	47.00	30	LR		LR	01 22 57.6	
	comp=Z,31nm,18.7s,baz=294,slow=37							
HHC	Hu-ho-hao-te	48.26	6	eP		P	01 03 10.3	+4.5
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
KSRS	Korea Array	49.30	24	P		P	01 03 13.4	-0.3
	comp=Z,1.8nm,0.7s,baz=226,slow=8.6,SNR=5.6							
	comp=Z,1.8nm,0.7s							
NIL	Nilore	50.79	325	P		P	01 03 24.4	-0.8
MJAR	Matsushiro Arr	53.44	33	P		P	01 03 41.8	-3.0
	comp=Z,0.8nm,0.3s,baz=230,slow=11,SNR=1.7							
	comp=Z,0.8nm,0.3s							
KBL	Kabul	53.88	323	P		P	01 03 47.7	-0.7
KBL				IAmb		IAmb	01 03 49.1	
	comp=Z,6.7nm,0.8s							
KSH	Kashi	53.89	332	P		P	01 03 47.5	-0.7
KSH				pmax		pmax		
	comp=Z,5.0nm,0.7s							
SONM	Songino Array	54.90	1	P		P	01 03 54.3	-1.1
SONM	Songino Array	54.90	1	P		P	01 03 54.3	-1.1
	comp=Z,0.7nm,0.5s,baz=182,slow=10,SNR=7.8							
SONM				PcP		PcP	01 04 57.5	+0.3
	comp=Z,2.9nm,0.7s,baz=175,slow=3.7,SNR=15							
	comp=Z,0.7nm,0.5s							
KDJ	Kajisay	55.47	335	P		P	01 03 58.9	-0.8
KDJ				IAmb		IAmb	01 04 01.4	
	comp=Z,3.5nm,0.7s							
DRK	Karamyk	55.90	329	P		P	01 04 02.6	-0.4
DRK				IAmb		IAmb	01 04 05.8	
	comp=Z,12nm,0.9s							
GAR	Garm	56.32	328	P		P	01 04 04.9	-0.9
BNX	BinXian	56.40	18	⇑P		P	01 04 05.3	-0.7
BNX				pmax		pmax		
	comp=Z,7.0nm,0.8s							
USRK	Ussuriysk Ar.	56.66	23	P		P	01 04 06.4	-1.5
	comp=Z,2.5nm,0.6s,baz=210,slow=9.2,SNR=4.3							
	comp=Z,2.5nm,0.6s							
SIMJ	Simiganj	56.78	326	P		P	01 04 07.8	-1.3
SIMJ				IAmb		IAmb	01 04 09.1	
	comp=Z,8.7nm,0.6s							
BTK	Batken	56.83	329	P		P	01 04 09.3	-0.1
BTK				IAmb		IAmb	01 04 10.4	
	comp=Z,9.6nm,0.9s							
AAK	Ala-Archa	57.05	333	P		P	01 04 09.9	-1.1
AAK	Ala-Archa	57.05	333	LR		LR	01 35 58.2	
	comp=Z,49nm,18.1s,baz=111,slow=44							
MK31	Makanchi Array	57.59	341	P		P	01 04 13.3	-1.3
MKAR	Makanchi Array	57.59	341	P		P	01 04 13.1	-1.5
	comp=Z,2.2nm,0.5s,baz=152,slow=8.6,SNR=58							
	comp=Z,2.2nm,0.5s							
KKAR	Karatay Array	59.26	331	P		P	01 04 24.9	-1.3
KKAR	Karatay Array	59.26	331	P		P	01 04 25.1	-1.1
KKAR				IAmb		IAmb	01 04 47.4	
	comp=Z,1.8nm,1.1s							
H04N2	CROZET ISLANDS	59.92	220	T		T	02 09 52.2	
	baz=65,slow=75,SNR=288							
H04N1	CROZET ISLANDS	59.93	220	T		T	02 09 53.7	
	baz=65,slow=75,SNR=301							
H04N3	CROZET ISLANDS	59.94	220	T		T	02 09 51.1	
	baz=65,slow=75,SNR=324							
H04S1	CROZET ISLANDS	60.12	219	T		T	02 10 04.8	
	baz=64,slow=76,SNR=19							
H04S3	CROZET ISLANDS	60.13	219	T		T	02 10 21.0	
	baz=64,slow=76,SNR=21							
H04S2	CROZET ISLANDS	60.13	219	T		T	02 10 22.4	
	baz=64,slow=76,SNR=20							
HEH	HeiHe	60.46	16	eP		P	01 04 31.8	-2.5
KURBB	Kurchatov Arra	62.15	341	P		P	01 04 44.2	-1.5
	comp=Z,0.8nm,0.4s,baz=157,slow=5.8,SNR=12							
	comp=Z,0.8nm,0.4s							
KURK	Kurchatov	62.20	341	P		P	01 04 45.6	-0.5
KURK				IAmb		IAmb	01 04 47.2	
	comp=Z,3.1nm,0.9s							
ZAA0	Zalesovo Array	63.40	347	P		P	01 04 52.3	-1.7
ZAA0				IAmb		IAmb	01 04 54.3	
	comp=Z,7.7nm,1.1s							
ZALV	Zalesovo Beam	63.40	347	P		P	01 04 52.6	-1.4
	comp=Z,2.9nm,0.3s,baz=146,slow=4.1,SNR=24							
	comp=Z,2.9nm,0.3s							
RAYN	Ar Rayn	65.88	300	P		P	01 05 11.0	+0.1
RAYN				IAmb		IAmb	01 05 13.8	
	comp=Z,4.8nm,1.0s							
BVAR	Borovoye Array	66.97	338	P		P	01 05 16.8	-0.5
	comp=Z,6.8nm,0.8s,baz=139,slow=9.2,SNR=29							
	comp=Z,6.8nm,0.8s							
BRVK	Borovoye	67.04	338	P		P	01 05 16.6	-1.0
BRVK				IAmb		IAmb	01 05 18.2	
	comp=Z,4.6nm,0.9s							
ABKAR	Abkulak array	68.79	330	P		P	01 05 28.9	+0.2
ABKAR	Abkulak array	68.79	330	P		P	01 05 28.9	+0.2
AKTO	Aktyubinsk	70.50	330	LR		LR	01 41 21.9	
	comp=Z,66nm,18.9s,baz=106,slow=40							
YAK	Yakutsk	71.66	12	P		P	01 05 44.6	-1.3
ARTI	Arti	74.20	335	P		P	01 06 00.6	-0.6
GURO	Guroymak-BITLI	74.21	313	P		P	01 06 02.3	+0.5
GURO				IAmb		IAmb	01 06 04.1	
	comp=Z,3.9nm,0.7s							
SYO	Syowa Base	74.64	200	‖eP		P	01 06 05.8	+2.3
PETK	Petropavlovsk-	74.69	30	P		P	01 06 02.6	-1.5
	comp=Z,2.2nm,0.8s,baz=258,slow=4.7,SNR=4.1							
	comp=Z,2.2nm,0.8s							
KBZ	Khabaz	75.72	318	P		P	01 06 10.7	+0.5
	comp=Z,2.8nm,0.8s,baz=106,slow=7.7,SNR=6.8							
	comp=Z,2.8nm,0.8s							
MA2	Magadan	75.80	22	P		P	01 06 09.4	-1.0
MA2				IAmb		IAmb	01 06 10.4	
	comp=Z,10nm,1.2s							
MA2	Magadan	75.80	22	P		P	01 06 09.2	-1.2
	comp=Z,2.5nm,0.3s,baz=164,slow=12,SNR=5.9							
	comp=Z,2.5nm,0.3s							
KIV	Kislovodsk	75.95	319	P		P	01 06 11.2	-0.5
MMAI	Mount Meron Ar	77.37	306	P		P	01 06 22.0	+2.0
	comp=Z,2.7nm,0.6s,baz=81,slow=5.3,SNR=2.0							
	comp=Z,2.7nm,0.6s							
NRIK	Noril'sk	77.44	354	P		P	01 06 18.4	-1.0
NRIK				IAmb		IAmb	01 06 20.2	
	comp=Z,14nm,1.1s							
NRIK	Noril'sk	77.44	354	P		P	01 06 18.7	-0.7
	comp=Z,6.7nm,0.6s,baz=161,slow=4.6,SNR=21							
	comp=Z,6.7nm,0.6s							
BOSA	Boshof	77.79	242	P		P	01 06 21.6	-0.9
BOSA				IAmb		IAmb	01 06 50.3	
	comp=Z,8.2nm,1.4s							
TIXI	Tiksi	80.31	7	P		P	01 06 33.5	-1.6
	comp=Z,8.4nm,0.9s,baz=157,slow=1.7,SNR=17							
	comp=Z,8.4nm,0.9s							
KIRS	Kirsehir-Merke	80.35	312	⇓P		P	01 06 38.2	+2.0
BR131	Keskin Array S	80.74	312	P		P	01 06 38.1	-0.2
BR131				IAmb		IAmb	01 06 40.2	
	comp=Z,6.9nm,0.8s							
BRTR	Keskin Array B	80.74	312	P		P	01 06 39.1	+0.7
BRTR	Keskin Array B	80.74	312	P		P	01 06 39.2	+0.9
	comp=Z,4.4nm,0.7s,baz=135,slow=6.7,SNR=26							
	comp=Z,4.4nm,0.7s							
QSPA	South Pole Qui	82.70	180	P		P	01 06 51.1	+3.0
	comp=Z,1.7nm,0.9s,baz=307,slow=3.3,SNR=3.9							
	comp=Z,1.7nm,0.9s							
ELL	Elmali	82.74	308	P		P	01 06 49.0	0.0
PURM	Purcari	85.32	318	⇑P		P	01 07 04.4	+2.8
SORM	Soroca	86.74	319	⇓P		P	01 07 10.1	+1.4
AKASG	Malin Array Be	86.85	322	P		P	01 07 08.8	-0.4
	comp=Z,0.9nm,0.6s,baz=83,slow=5.2,SNR=6.3							
	comp=Z,0.9nm,0.6s							
VRI	Vrincioaia	87.27	317	⇑P		P	01 07 14.1	+2.8
TESR	Tescani	87.47	317	⇑P		P	01 07 14.6	+2.3
PRAR	RASCA	87.95	318	⇓P		P	01 07 16.8	+2.2
BURAR	Bucovina Array	88.67	318	⇑P		P	01 07 20.7	+2.7
BUR08	Bucovina Ar. S	88.69	318	P		P	01 07 19.6	+1.4
BUR08				IAmb		IAmb	01 07 23.6	
	comp=Z,2.3nm,0.8s							
KOLS	Kolonicke sedl	90.86	319	eP		P	01 07 31.0	+2.9
FINES	FINESS Array B	91.21	332	P		P	01 07 28.7	-0.7
	comp=Z,1.7nm,0.7s,baz=114,slow=4.8,SNR=10							
	comp=Z,1.7nm,0.7s							
ARCES	ARCESS Array B	93.21	340	P		P	01 07 38.8	+0.2
ARCES	ARCESS Array B	93.21	340	P		P	01 07 38.2	-0.4
	comp=Z,1.6nm,0.7s,baz=103,slow=5.4,SNR=6.4							
	comp=Z,1.6nm,0.7s							
TBI	Tubuai	100.99	115	eLR		LR	01 41 03.4	
	comp=Z,344nm,25.5s							
PPT2	Papeete2	102.10	110	eLR		LR	01 41 42.4	
	comp=Z,107nm,29.2s							
PPT2				eLR		LR	01 41 49.1	
	comp=Z,108nm,27.5s							
TXAR	Lajitas Array	145.05	47	PKP		PKPdf	01 14 03.5	+0.8
	comp=Z,1.8nm,0.7s,baz=277,slow=1.3,SNR=28							
BDFB	Brasilia	145.07	229	PKPbc		PKPdf	01 14 02.8	-0.3
	comp=Z,3.1nm,1.0s,baz=172,slow=7.1,SNR=2.3							
TKL	Tuckaleechee C	150.58	15	PKPbc		PKPbc	01 14 15.2	-1.7
	comp=Z,1.5nm,0.4s,baz=282,slow=9.3,SNR=2.0							

DJA 28 01:13:08.1±0.4, **7°S**±3°×**10°5E**±°, **h10**km, **M4.0**/12, **mb4.4**/2, **MLv3.8**/12, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.70	29	P	Pg	01 13 21.9	+0.2
CGJI				S	Sg	01 13 30.7	-0.2
SKJI	Sukabumi	1.22	80	P	Pn	01 13 30.1	-1.1
SKJI				S	Sn	01 13 47.7	-0.1
SBJI	Serang	1.35	35	P	Pn	01 13 32.8	-0.2
SBJI				S	Sn	01 13 51.1	+0.1
CNJI	Cibinong	1.77	93	P	Pn	01 13 38.0	-0.8
LEM	Lembang	2.29	80	P	Pn	01 13 47.7	+1.6
MDSI	Maura Dua	2.96	337	P	Pn	01 13 55.5	+0.2
CMJI	Cimerak	3.12	100	P	Pn	01 13 57.4	0.0
MNAI	Manna	3.71	320	P	Pn	01 14 05.7	+0.1
UGM	Wanagama	5.17	98	P	Pn	01 14 26.4	+0.7
	61nm,1.3s						
PCJI	Pacitan	5.85	100	P	Pn	01 14 35.5	+0.5

*ISK **28** 01:22:42.7, 34.°21N×26.°05E, h89km, ML3.2/8*
*HLW **28** 01:22:43.0, 34.°14N×26.°28E, h10km±22km, Md3.9, Ml4.0*
*IDC **28** 01:22:44.9±1.6, 34.°17N×26.°14E, h45km±14km, mb3.6/9, mbtmp3.8/17, ML3.8/6, MS4.1/4, Error ellipse: s-maj=20.7km s-min=10.0km az=28.0*
*GII **28** 01:22:46.4±0.0, 34.°03N±0.°02×26.°668E±0.°006, h8km, Mws3.6, confirmed*
*NIC **28** 01:22:48.5, 34.°16N×26.°63E, h65km±31km, Ml3.3/11*
*ATH **28** 01:22:48.6, 34.°48N×25.°93E, h32km±6km, ML3.2/5, Manual Solution by I.Dede First location: 2019/02/28 01:23:53, This location: 2019/02/28 10:07:50 ML*
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 19 km; Longitude uncertainty: 9 km

ISC 28 01:22:44.4±1.0, **34.°11N**±0.°05×**26.°28E**±0.°05, **h45**km±13km, **n106**, σ1§56/125, **mb3.8**/10, **Crete**

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

ZKR	Zakros	1.01	357	Pg		Pn	01 23 02.1	0.0
ZKR				Sg		Sn	01 23 16.3	+1.2
ZKR	Zakros	1.01	357	P		Pn	01 23 02.1	0.0
ZKR	Zakros	1.01	357	P		Pn	01 23 02.1	0.0
ZKR				AML		AML	01 23 16.3	
	1.0nm,0.4s							
ZKR				S		Sn	01 23 16.6	+1.4
ZKR				AML		AML	01 23 21.9	
	2.6nm,0.5s							
ZKR	Zakros	1.01	357	P		Pn	01 23 02.3	+0.2
TMBK	Timbaki Herakl	1.57	308	P		Pn	01 23 08.8	-1.0
KARP	Karpathos	1.61	27	Pn		Pn	01 23 11.2	+0.8
KARP				Sn		Sn	01 23 31.7	+1.7
KARP	Karpathos	1.61	27	P		Pn	01 23 12.1	+1.8
KARP				S		Sn	01 23 32.5	+2.5
KARP				AML		AML	01 23 33.7	
	1.0nm,0.4s							
KARP				AML		AML	01 23 33.9	
	0.8nm,0.2s							
KARP	Karpathos	1.61	27	P		Pn	01 23 12.2	+1.8
KARP				S		Sn	01 23 32.5	+2.5
IDI	Anoyia	1.64	316	Pn		Pn	01 23 08.7	-2.1
IDI				Sn		Sn	01 23 27.7	-3.1
IDI	Anoyia	1.64	316	P		Pn	01 23 09.9	-1.0
IDI	Anoyia	1.64	316	P		Pn	01 23 09.8	-1.0
	16nm,0.3s,baz=170,slow=15,SNR=45							
IDI				S		Sn	01 23 28.6	-2.2
	46nm,0.3s,baz=9.8,slow=14,SNR=10.0							
IDI				LR		LR	01 24 09.1	
	comp=Z,185nm,18.2s,baz=358,slow=55							
IDI	Anoyia	1.64	316	P		Pn	01 23 09.7	-1.2
PRNS	Prines Rethymn	1.93	311	P		Pn	01 23 14.6	-0.1
GVD	Gavdhos	1.95	293	Pn		Pn	01 23 12.5	-2.5
GVD	Gavdhos	1.95	293	P		Pn	01 23 13.9	-1.1
GVD	Gavdhos	1.95	293	P		Pn	01 23 14.0	-1.1
ARG	Arkhangelos	2.59	35	Pn		Pn	01 23 24.6	+0.8
ARG				Sn		Sn	01 23 55.0	+0.9
ARG	Arkhangelos	2.59	35	P		Pn	01 23 26.3	+2.5
ARG	Arkhangelos	2.59	35	P		Pn	01 23 26.1	+2.2
ARG				S		Sn	01 23 54.6	+0.5
ARG				AML		AML	01 23 56.5	
	0.2nm,0.3s							
ARG				AML		AML	01 24 05.9	
	0.2nm,0.2s							
ARG	Arkhangelos	2.59	35	P		Pn	01 23 26.3	+2.5
ARG				S		Sn	01 23 55.6	+1.5
SLUM	Salum	2.76	199	P		Pn	01 23 27.4	+1.3
DAT	Datca	2.82	22	Pn		Pn	01 23 26.9	-0.2
APE	Apeiranthos	3.02	349	Pn		Pn	01 23 27.4	-2.3
APE	Apeiranthos	3.02	349	P		Pn	01 23 27.3	-2.3
APE				S		Sn	01 23 59.6	-5.0
BODT	Bodrum	3.07	16	Pn		Pn	01 23 29.9	-0.4
KSL	Kastellorizon	3.39	52	P		Pn	01 23 36.6	+1.8
KSL				AML		AML	01 23 57.8	
	0.5nm,0.5s							
KSL				AML		AML	01 23 59.6	
	0.4nm,0.5s							
KSL	Kastellorizon	3.39	52	P		Pn	01 23 51.0	+16
KSL				S		Sn	01 23 57.5	-16
SMG	Samos	3.62	7	P		Pn	01 23 36.9	-1.1
VLI	Veliai	3.77	315	P		Pn	01 23 36.8	-3.2
ELL	Elmali	3.97	47	P		Pn	01 23 44.5	+1.7
ELL				AML		AML	01 24 16.6	
	0.6nm,0.9s							
ELL				AML		AML	01 24 29.6	
	0.2nm,0.5s							
SWA2		4.90	188	P		Pn	01 23 56.7	+1.2
AKMS	Akamas	5.08	78	P		Pn	01 23 59.1	+1.1
AKMS				S		Sn	01 24 53.5	-1.9
AKMS				AML		AML	01 24 57.8	
	0.2nm,0.3s							
AKMS				AML		AML	01 25 05.3	
	0.1nm,0.4s							
NATA	Nata	5.24	81	P		Pn	01 24 01.6	+1.4
NATA				S		Sn	01 24 58.0	-1.4
NATA				AML		AML	01 25 00.6	
	0.3nm,0.4s							
NATA				AML		AML	01 25 03.6	
	0.3nm,0.5s							
ALFC	Alefka	5.32	77	P		Pn	01 24 02.2	+0.9
ALFC				AML		AML	01 25 04.4	
	0.2nm,0.2s							
ALFC				AML		AML	01 25 07.9	
	0.1nm,0.3s							
HMYD	Mayadein	5.77	137	P		Pn	01 24 10.0	+2.6
HNAT	Natroun	5.79	139	P		Pn	01 24 10.2	+2.5
ASGA	Asgata	5.80	81	P		Pn	01 24 09.0	+1.1
ASGA				S		Sn	01 25 11.4	-1.7
ASGA				AML		AML	01 25 17.7	
	0.1nm,0.3s							
ASGA				AML		AML	01 25 18.3	
	0.1nm,0.3s							
CSS	Mathiatis	5.88	80	P		Pn	01 24 09.6	+0.5
CSS				S		Sn	01 25 15.2	0.0
CSS				AML		AML	01 25 17.3	
	0.1nm,0.5s							
CSS				AML		AML	01 25 18.9	
	0.1nm,0.5s							
CSS	Mathiatis	5.88	80	P		Pn	01 24 10.0	+0.9
CSS	Mathiatis	5.88	80	S		Sn	01 25 14.3	-0.8
RYAN	Fayoum	6.06	145	P		Pn	01 24 13.4	+1.9
MVOU	Mavrovouni	6.14	79	P		Pn	01 24 14.0	+1.6
MVOU				S		Sn	01 25 22.1	+0.8
MVOU				AML		AML	01 25 29.1	
	0.1nm,0.4s							
KOT	Kottamia	6.29	130	P		Pn	01 24 16.3	+1.7
HHAG	Hagoal	6.45	128	P		Pn	01 24 18.7	+1.9
HFRF	Wahat Farafira	7.15	165	P		Pn

1.1nm,0.3s
GTR Jabal at Tayr 9.34 155 P Pn 01 24 58.6 +2.2
VAE Valguarnera 10.21 293 P Pn 01 25 06.5 -1.8
6.7nm,0.7s,baz=158,slow=7.4,SNR=8.4
VAE S Sn 01 26 46.7 -15
5.7nm,0.8s,baz=280,slow=20,SNR=1.5
KBZ Khabaz 16.09 48 P Pn 01 26 29.1 +1.9
0.1nm,0.3s,baz=223,slow=9.1,SNR=4.0
0.7nm,0.9s
AKASG Malin Array Be 16.72 7 P Pn 01 26 35.4 +0.2
1.0nm,0.3s,baz=196,slow=11,SNR=4.9
0.3nm,0.3s
WTTA Wattenberg 17.17 324 *eP* **Pn 01 26 42.4 +1.4**
1.9nm,0.6s
WATA Walderalm 17.25 324 *eP* **Pn 01 26 43.0 +1.1**
0.6nm,0.4s
SQTA Sankt Quirin 17.34 324 *eP* **Pn 01 26 44.2 +1.0**
3.7nm,0.7s
FETA Feichten 17.45 322 *eP*diff **Pn 01 26 45.6 +1.1**
2.4nm,0.7s
MOTA Moosalm 17.48 324 *eP* **Pn 01 26 44.3 -0.6**
3.6nm,1.4s
DAVOX Davos/Dischmat 17.73 320 P Pn 01 26 48.2 +0.2
0.1nm,0.3s,baz=141,slow=17,SNR=3.3
0.9nm,0.4s
ESDC Sonseca Array 24.75 292 P P 01 28 01.0 -0.7
0.3nm,0.5s,baz=73,slow=9.4,SNR=5.8
0.3nm,0.5s
HFS Hagfors 27.31 346 P P 01 28 23.6 -1.0
1.4nm,0.7s,baz=143,slow=10,SNR=1.6
1.4nm,0.7s
FINES FINESS Array B 27.35 360 P P 01 28 23.0 -1.9
4.0nm,0.9s,baz=174,slow=9.9,SNR=9.6
4.0nm,0.9s
EKA Eskdalemuir Ar 29.43 325 P P 01 28 41.9 -1.6
0.4nm,0.6s,baz=109,slow=9.3,SNR=4.0
0.4nm,0.6s
TORD Torodi Ar. Bea 30.55 233 P P 01 28 54.4 +0.6
70nm,0.3s,baz=38,slow=8.8,SNR=1.7
ARCES ARCESS Array B 35.48 360 P P 01 29 34.2 -2.0
4.1nm,1.0s,baz=188,slow=8.1,SNR=9.8
4.1nm,1.0s
KURBB Kurchatov Arra 41.08 50 P P 01 30 25.4 +1.9
0.5nm,0.3s,baz=277,slow=9.0,SNR=6.2
0.5nm,0.3s
MKAR Makanchi Array 43.59 56 P P 01 30 46.2 +2.1
0.6nm,0.5s,baz=271,slow=7.1,SNR=8.1
0.6nm,0.5s
ZALV Zalesovo Beam 45.08 45 P P 01 30 57.0 +1.3
0.7nm,0.3s,baz=271,slow=6.9,SNR=5.1
0.7nm,0.3s
SONM Songino Array 59.44 50 P P 01 32 44.3 +1.7
0.3nm,0.4s,baz=283,slow=7.5,SNR=2.5
0.3nm,0.4s

---

*NEIC **28** 01:29:44.9±1.6, 26°.8S±0°.1×177°.1W±0°.1, h69km±3km, mb4.7/29, Error ellipse: s-maj=18.7km s-min=12.8km az=124.0*
*IDC **28** 01:29:47.4±0.6, 27°.02S×177°.11W, h102km±4km, mb3.9/14, mbtmp4.2/14, MS3.5/7, Error ellipse: s-maj=18.0km s-min=8.3km az=105.0*
ISC 28 01:29:46.2±0.4, 26°.97S±0°.06×176°.95W±0°.08, h90km, n102, σ1§42/84, mb4.5/28, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**2.42**	**201**	P	**Pn**	**01 30 24.2**	**+0.1**
RIZ				S	**Sn**	**01 30 53.2**	**+0.2**
RAO	**Raoul Island**	**2.43**	**200**		**Pn**	**01 30 24.1**	**+0.1**
RAO	**Raoul Island**	**2.43**	**200**	P	**Pn**	**01 30 24.0**	**0.0**
	3μm,0.3s,baz=319,slow=1.8,SNR=48						
RAO				S	**Sn**	**01 30 53.6**	**+0.5**
	9μm,0.3s,baz=284,slow=23,SNR=37						
GLKZ	**Green Lake**	**2.44**	**200**	P	**Pn**	**01 30 23.8**	**-0.4**
GLKZ				S	**Sn**	**01 30 52.8**	**-0.5**
NIUE	**Niue**	**10.18**	**41**	Pn	**Pn**	**01 32 06.5**	**-2.9**
NIUE	**Niue**	**10.18**	**41**	P	**Pn**	**01 32 06.0**	**-3.4**
MSVF	**Nonsavu**	**10.29**	**332**	P	**Pn**	**01 32 14.4**	**+3.3**
	2.9nm,0.3s,baz=144,slow=16,SNR=5.9						
MXZ	**Matakaoa Point**	**11.29**	**200**	S	Sn	01 34 16.1	-13
WMGZ	**Waiomatatini S**	**11.50**	**199**	P	Pn	01 32 17.9	-9.4
HAZ	**Te Kaha**	**11.63**	**201**	P	Pn	01 32 18.5	-11
HAZ				S	Sn	01 34 25.8	-11
PUZ	**Puketiti**	**11.78**	**199**	S	Sn	01 34 26.7	-14
RUGZ	**Raukumara Rang**	**11.86**	**201**	P	Pn	01 32 22.7	-10
RUGZ				S	Sn	01 34 29.6	-13
MWZ	**Matawai**	**12.24**	**201**	P	Pn	01 32 25.5	-12
MWZ				S	Sn	01 34 38.3	-14
URZ	**Urewera**	**12.31**	**202**	P	Pn	01 32 25.5	-13
	5.6nm,0.5s,baz=12,slow=11,SNR=2.0						
URZ				S	Sn	01 34 38.7	-15
	49nm,0.4s,baz=168,slow=20,SNR=14						
URZ				LR	LR	01 36 58.3	
	comp=Z,134nm,19.0s,baz=56,slow=35						
RTZ	**Ruatahuna**	**12.68**	**202**	P	Pn	01 32 32.7	-11
RTZ				S	Sn	01 34 48.1	-14
NMHZ	**Naumai**	**13.17**	**202**	S	Sn	01 35 00.6	-14
BKZ	**Black Stump Fm**	**13.34**	**203**	P	Pn	01 32 40.2	-12
KAHZ	**Kahuranaki**	**13.78**	**200**	P	Pn	01 32 50.1	-7.6
KAHZ				S	Sn	01 35 13.1	-16
PNHZ	**Pukenui**	**14.11**	**202**	P	Pn	01 32 48.0	-14
PNHZ				P	Sn	01 35 19.5	-18
DVHZ	**Dannevirke**	**14.47**	**202**	P	Pn	01 33 00.1	-6.4
DVHZ				P	Sn	01 35 26.4	-19
BFZ	**Birch Farm**	**14.79**	**201**	P	Pn	01 33 00.4	-10
BFZ				P	Sn	01 35 32.3	-21
MRZ	**Mangatainoka R**	**14.99**	**202**	P	Pn	01 33 00.9	-12
DZM	**Mont Dzumac**	**15.88**	**284**	P	**P**	**01 33 30.5**	**+3.9**
	baz=105,slow=16						
RAR	**Rarotonga**	**16.70**	**74**		**Pn**	**01 33 34.9**	**+0.3**
RAR				IAmb	IAmb	01 33 51.9	
	comp=Z,79nm,1.2s						
RAR	**Rarotonga**	**16.70**	**74**	P	**Pn**	**01 33 34.5**	**-0.1**
	comp=Z,24nm,0.7s,baz=86,slow=20,SNR=4.0						
RAR				S	Sn	01 36 21.9	-18
	comp=Z,6.7nm,0.4s,baz=259,slow=12,SNR=1.7						
RPZ	**Rata Peaks**	**19.32**	**207**	S	S	01 37 16.5	-22
	comp=Z,5.4nm,0.3s,baz=309,slow=24,SNR=10.0						
PPT	**Papeete**	**26.96**	**75**	LR	LR	01 44 12.0	
	comp=Z,31nm,18.5s,baz=303,slow=32						
EIDS	**Eidsvold**	**28.70**	**266**	P	**P**	**01 35 34.5**	**-0.4**
STKA	**Stephens Creek**	**36.28**	**252**	P	**P**	**01 36 38.5**	**-2.6**
	comp=Z,0.7nm,0.4s,baz=100,slow=14,SNR=2.9						
	comp=Z,0.7nm,0.4s						
COEN	**Coen**	**39.37**	**281**	P	**P**	**01 37 06.1**	**-1.1**
COEN				IAmb	IAmb	01 37 10.2	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**44.33**	**263**	P	**P**	**01 37 46.7**	**-0.9**
ASAR	**Alice Springs**	**44.33**	**263**	P	**P**	**01 37 46.1**	**-1.6**
ASAR	**Alice Springs**	**44.33**	**263**	P	**P**	**01 37 46.4**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=94,slow=6.7,SNR=24						
ASAR				PcP	**PcP**	**01 39 29.5**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=99,slow=4.1,SNR=2.2						
	comp=Z,1.7nm,0.6s						
WB2	**Warramunga Arr**	**45.00**	**268**	P	**P**	**01 37 51.4**	**-1.6**
WRA	**Warramunga Arr**	**45.01**	**268**	P	**P**	**01 37 51.6**	**-1.5**
WRA	**Warramunga Arr**	**45.01**	**268**	P	**P**	**01 37 51.9**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=109,slow=6.3,SNR=21						
WRA				PcP	**PcP**	**01 39 32.3**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=110,slow=3.3,SNR=4.8						
	comp=Z,2.7nm,0.6s						
WB0	**Warramunga Arr**	**45.02**	**268**	P	**P**	**01 37 51.6**	**-1.5**
FORT	**Forrest**	**47.90**	**252**	P	**P**	**01 38 13.9**	**-1.7**
MTN	**Manton Dam**	**50.47**	**276**	P	**P**	**01 38 34.4**	**-0.8**
MTN				IAmb	IAmb	01 39 14.2	
	comp=Z,9.2nm,1.2s						
KNRA	**Kununurra**	**51.47**	**271**	P	**P**	**01 38 42.1**	**-0.7**
KNRA				IAmb	IAmb	01 38 45.0	
	comp=Z,6.6nm,0.9s						
VNDA	**Vanda**	**51.59**	**186**	P	**P**	**01 38 44.3**	**+1.5**
VNDA				IAmb	IAmb	01 38 51.6	
	comp=Z,10nm,1.1s						
VNDA	**Vanda**	**51.59**	**186**	P	**P**	**01 38 43.2**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=34,slow=7.3,SNR=1.4						
	comp=Z,2.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.38**	**267**	P	**P**	**01 38 55.7**	**-1.1**
PSA00	**Pilbara Seismi**	**57.35**	**261**	P	**P**	**01 39 26.5**	**+1.1**
MORW	**Morawa**	**58.45**	**251**	P	**P**	**01 39 30.7**	**-2.3**
MORW				IAmb	IAmb	01 39 49.0	
	comp=Z,13nm,1.2s						
CASY	**Casey**	**58.60**	**207**	P	**P**	**01 39 36.1**	**+2.8**
GIRL	**Giralia**	**61.92**	**257**	P	**P**	**01 39 56.3**	**-0.5**
QSPA	**South Pole Qui**	**63.13**	**180**	P	**P**	**01 40 04.6**	**+0.3**
QSPA				IAmb	IAmb	01 40 05.5	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**63.13**	**180**	P	**P**	**01 40 04.4**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=343,slow=0.4,SNR=52						
	comp=Z,3.7nm,0.5s						
PMSA	**Palmer Station**	**75.00**	**156**	P	**P**	**01 41 20.9**	**+3.4**
JOW	**Kunigami**	**75.08**	**311**	LR	LR	02 10 58.0	
	comp=Z,28nm,19.7s,baz=197,slow=33						
MJAR	**Matsushiro Arr**	**75.98**	**324**	P	**P**	**01 41 23.8**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=178,slow=3.6,SNR=2.0						
	comp=Z,1.1nm,0.3s						
SYO	**Syowa Base**	**80.65**	**193**	‖*eP*	**P**	**01 41 48.0**	**-0.7**
MYKOM	**Kota Tinggi**	**81.19**	**277**	P	**P**	**01 41 52.1**	**-0.5**
TROLL	**Troll, Antarti**	**81.29**	**180**	P	**P**	**01 41 51.8**	**-0.5**
TROLL	**Troll, Antarti**	**81.29**	**180**	‖P	**P**	**01 41 51.8**	**-0.5**
	comp=Z,268nm,0.4s						
SNAA	**Sanae**	**81.54**	**178**	P	**P**	**01 41 52.6**	**-1.0**
SNAA	**Sanae**	**81.54**	**178**	‖P	**P**	**01 41 52.6**	**-1.0**
	comp=Z,148nm,0.9s						
SNAA	**Sanae**	**81.54**	**178**	P	**P**	**01 41 52.5**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=202,slow=9.7,SNR=18						
	comp=Z,3.8nm,0.7s						
H03S2	**Juan Fernandez**	**81.59**	**124**	T	T	03 12 25.0	
	baz=241,slow=75,SNR=9.9						
H03S1	**Juan Fernandez**	**81.60**	**124**	T	T	03 12 25.6	
	baz=241,slow=75,SNR=5.6						
H03S3	**Juan Fernandez**	**81.60**	**124**	T	T	03 12 25.4	
	baz=241,slow=75,SNR=6.1						
VNA3	**Neumayer Olymp**	**81.65**	**176**	P	**P**	**01 41 52.8**	**-1.2**
VNA3	**Neumayer Olymp**	**81.65**	**176**	‖P	**P**	**01 41 52.8**	**-1.2**
	comp=Z,12nm,0.7s						
H03N3	**Juan Fernandez**	**81.76**	**123**	T	T	03 12 42.6	
	baz=240,slow=74,SNR=7.8						
H03N2	**Juan Fernandez**	**81.76**	**123**	T	T	03 12 38.6	
	baz=240,slow=74,SNR=4.2						
H03N1	**Juan Fernandez**	**81.78**	**123**	T	T	03 12 36.6	
	baz=240,slow=74,SNR=20						
VNA2	**Neumayer--Watz**	**82.10**	**177**	P	**P**	**01 41 55.7**	**-0.7**
	baz=184,slow=3.0						
VNA2	**Neumayer--Watz**	**82.10**	**177**	‖P	**P**	**01 41 55.7**	**-0.7**
	comp=Z,12nm,0.6s,baz=184,slow=3.0						
KSRS	**Korea Array**	**82.36**	**319**	P	**P**	**01 41 59.2**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=130,slow=5.5,SNR=1.5						
	comp=Z,0.5nm,0.3s						
O02D	**Mt. Diablo Mer**	**83.66**	**39**	P	**P**	**01 42 07.3**	**+2.4**
O02D				IAmb	IAmb	01 42 36.6	
	comp=Z,14nm,1.4s						
PLCA	**Paso Flores**	**84.16**	**133**	P	**P**	**01 42 07.9**	**+0.2**
PLCA	**Paso Flores**	**84.16**	**133**	P	**P**	**01 42 07.7**	**0.0**
	comp=Z,2.6nm,0.9s,baz=217,slow=5.5,SNR=5.2						
	comp=Z,2.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**84.83**	**326**	P	**P**	**01 42 11.6**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=220,slow=34,SNR=2.9						
	comp=Z,1.6nm,0.6s						
NVAR	**Mina Array Bea**	**85.10**	**42**	P	**P**	**01 42 13.7**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=232,slow=7.9,SNR=7.4						
	comp=Z,1.9nm,0.7s						
PRN	**Pahroc Range**	**86.45**	**45**	P	**P**	**01 42 20.9**	**+1.8**
PRN				IAmb	IAmb	01 42 22.3	
	comp=Z,5.1nm,1.2s						
G08A	**Pilot Rock**	**89.18**	**37**	P	**P**	**01 42 32.9**	**+1.1**
G08A				IAmb	IAmb	01 42 34.2	
	comp=Z,4.2nm,0.9s						
TXAR	**Lajitas Array**	**89.76**	**57**	P	**P**	**01 42 35.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=205,slow=5.5,SNR=5.7						
TXAR				pP	**pwP**	**01 43 03.2**	**+2.2**
	comp=Z,0.4nm,0.9s,baz=215,slow=8.4,SNR=3.9						
	comp=Z,0.6nm,0.8s						
TMUT	**Trail Mountain**	**90.00**	**45**	P	**P**	**01 42 36.6**	**+0.5**
TMUT				IAmb	IAmb	01 43 15.4	
	comp=Z,2.5nm,1.0s						
D08A	**Wollman Farm,**	**90.35**	**35**	P	**P**	**01 42 38.1**	**+1.0**
D08A				IAmb	IAmb	01 42 39.1	
	comp=Z,3.2nm,0.6s						
E09A	**Wood Farm, Sta**	**90.40**	**36**	P	**P**	**01 42 38.5**	**+1.1**
E09A				IAmb	IAmb	01 42 39.9	
	comp=Z,5.8nm,1.0s						
F10A	**Beach Ranch, E**	**90.55**	**37**	P	**P**	**01 42 38.9**	**+0.7**
PLID	**Pearl Lake**	**90.66**	**38**	P	**P**	**01 42 40.1**	**+1.2**
PLID				IAmb	IAmb	01 42 40.4	
	comp=Z,3.4nm,1.0s						
PDAR	**Pinedale Array**	**93.01**	**43**	P	**P**	**01 42 50.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=214,slow=2.9,SNR=11						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.39**	**12**	P	**P**	**01 42 54.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=213,slow=3.1,SNR=4.2						
	comp=Z,0.4nm,0.7s						
G31M	**Satah River**	**98.97**	**16**	P	Pdif	01 43 16.4	+0.4
G31M				IAmb	IAmb	01 43 33.1	
	comp=Z,2.4nm,1.2s						
ZALV	**Zalesovo Beam**	**116.06**	**319**	PKP	**PKPdf**	**01 48 16.7**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=216,slow=1.9,SNR=5.0						
MKAR	**Makanchi Array**	**116.25**	**311**	PKP	**PKPdf**	**01 48 17.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=210,slow=1.1,SNR=16						
MKAR				pPKP	pPKPdf	01 48 45.6	+2.2
	comp=Z,0.7nm,0.8s,baz=98,slow=1.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**119.36**	**315**	PKP	**PKPdf**	**01 48 23.6**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=103,slow=1.7,SNR=14						
KURBB				pPKP	**pPKPdf**	**01 48 51.0**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=107,slow=1.9,SNR=5.0						
BOSA	**Boshof**	**120.77**	**203**	PKP	**PKPdf**	**01 48 27.3**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=232,slow=2.2,SNR=8.4						
FRB	**Frobisher Bay**	**121.96**	**30**	PKP	**PKPdf**	**01 48 28.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=289,slow=3.5,SNR=3.7						
BVAR	**Borovoye Array**	**124.56**	**317**	PKP	**PKPdf**	**01 48 34.1**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=116,slow=2.1,SNR=14						
ARCES	**ARCESS Array B**	**135.43**	**349**	PKP	**PKPdf**	**01 48 53.9**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=49,slow=3.9,SNR=5.6						
FINES	**FINESS Array B**	**142.21**	**342**	PKhKP	PKPpre	01 49 02.4	
	comp=Z,1.8nm,0.6s,baz=61,slow=4.4,SNR=9.0						
KBZ	**Khabaz**	**143.85**	**308**	PKP	PKPbc	01 49 08.4	-0.4
	comp=Z,1.2nm,0.7s,baz=76,slow=4.2,SNR=2.8						
NB2	**NORSAR Subarra**	**145.49**	**353**	PKP	**PKPdf**	**01 49 13.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**145.49**	**353**	PKPbc	**PKPdf**	**01 49 13.0**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=63,slow=1.0,SNR=5.6						
NOA				pPKPbc	**pPKPdf**	**01 49 40.7**	**+3.0**
	comp=Z,4.0nm,1.0s,baz=8.2,slow=2.4,SNR=6.6						
HFS	**Hagfors**	**146.05**	**350**	PKPbc	**PKPdf**	**01 49 14.4**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=69,slow=5.1,SNR=18						
AKASG	**Malin Array Be**	**149.03**	**327**	PKPbc	**PKPbc**	**01 49 22.8**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=43,slow=3.7,SNR=17						
AKASG				pPKPbc	**pPKPbc**	**01 49 49.3**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=42,slow=3.4,SNR=4.4						
EKA	**Eskdalemuir Ar**	**151.30**	**7**	PKPbc	**PKPbc**	**01 49 27.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=344,slow=2.3,SNR=8.9						
MMAI	**Mount Meron Ar**	**151.41**	**290**	PKPbc	**PKiKP**	**01 49 30.3**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=78,slow=7.8,SNR=16						
BRTR	**Keskin Array B**	**151.60**	**304**	PKPbc	**PKPbc**	**01 49 29.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=138,slow=4.7,SNR=16						

---

*IDC **28** 01:37:57.0±2.7, 10°.79S×166°.15E, h118km±23km, mb4.1/19, mbtmp4.5/21, MS3.3/6, Error ellipse: s-maj=16.2km s-min=13.8km az=81.0*
*NOU **28** 01:37:59.8, 11°.24S×165°.63E, h10km, mb5.2/16, Santa Cruz Islands*
*NEIC **28** 01:37:59.1±0.9, 10°.77S±0°.09×166°.1E±0°.1, h129km±5km, mb4.5/41, Error ellipse: s-maj=15.8km s-min=12.4km az=96.0*
ISC 28 01:37:55.3±0.4, 10°.81S±0°.05×166°.14E±0°.06, h100km, n100, σ1§31/98, mb4.5/45, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.27**	**304**	P	**Pn**	**01 38 11.7**	**+1.9**
LUES	**Luesalemba Tem**	**0.27**	**304**	S	**Sn**	**01 38 24.0**	**+3.4**
NGOA	**Tingoa Renbel**	**6.01**	**262**	P	**Pn**	**01 39 21.1**	**-0.7**
NGOA	**Tingoa Renbel**	**6.01**	**262**	P	**Sn**	**01 40 26.3**	**-3.0**
HNR	**Honiara**	**6.25**	**282**	Pn	**Pn**	**01 39 27.5**	**+2.4**
HNR					**Sn**	**01 40 35.5**	**+0.4**
HNR	**Honiara**	**6.25**	**282**	P	**Pn**	**01 39 26.7**	**+1.6**
	142nm,0.5s,baz=107,slow=17,SNR=5.3						
HNR				S	**Sn**	**01 40 38.1**	**+3.0**
	319nm,0.9s,baz=100,slow=21,SNR=9.2						
TATA	**Tatamba Isabel**	**6.70**	**291**	P	**Pn**	**01 39 32.4**	**+1.2**
TATA	**Tatamba Isabel**	**6.70**	**291**	S	**Sn**	**01 40 48.4**	**+2.4**
KOUNC	**Koumac, New Ca**	**9.85**	**190**	P	**Pn**	**01 40 14.9**	**+0.9**
KOUNC	**Koumac, New Ca**	**9.85**	**190**	P	**Sn**	**01 42 02.9**	**+0.2**
DZM	**Mont Dzumac**	**11.20**	**179**	Pn	**Pn**	**01 40 35.1**	**+2.7**
DZM	**Mont Dzumac**	**11.20**	**179**	P	**Pn**	**01 40 35.5**	**+3.0**
	46nm,0.4s,baz=327,slow=4.9,SNR=260						
DZM				S	**Sn**	**01 42 35.5**	**-0.2**
	11nm,0.4s,baz=161,slow=17,SNR=5.6						
DZM				LR	LR	01 43 43.6	
	comp=Z,98nm,20.0s,baz=192,slow=31						
DZM	**Mont Dzumac**	**11.20**	**179**	P	**Pn**	**01 40 34.5**	**+2.0**
DZM	**Mont Dzumac**	**11.20**	**179**	S	**Sn**	**01 42 36.9**	**+1.1**
YATNC	**Mamie plateau,**	**11.21**	**176**	P	**Pn**	**01 40 33.9**	**+1.4**
ONTNC	**Ouen Toro**	**11.44**	**179**	Pn	**Pn**	**01 40 37.8**	**+2.2**
ONTNC	**Ouen Toro**	**11.44**	**179**	P	**Pn**	**01 40 37.6**	**+2.1**
OUENC	**Ouen Island, N**	**11.56**	**177**	P	**Pn**	**01 40 40.5**	**+3.3**
PINNC	**Pines Island,**	**11.80**	**174**	Pn	**Pn**	**01 40 43.7**	**+3.3**
PINNC	**Pines Island,**	**11.80**	**174**	P	**Pn**	**01 40 43.9**	**+3.5**
MSVF	**Nonsavu**	**13.43**	**122**	LR	LR	01 44 32.1	
	comp=Z,138nm,20.0s,baz=308,slow=29						
PATS	**Pohnpei**	**19.19**	**336**	P	**P**	**01 42 11.6**	**+0.2**
URZ	**Urewera**	**29.05**	**162**	P	**P**	**01 43 45.8**	**-0.3**
	4.5nm,0.3s,baz=0.8,slow=2.7,SNR=6.2						
	4.5nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**29.12**	**1**	T	T	02 14 27.2	
	baz=181,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.12**	**1**	T	T	02 14 27.4	
	baz=181,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.14**	**1**	T	T	02 14 29.1	
	baz=181,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**30.34**	**1**	T	T	02 16 01.2	
	baz=182,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.35**	**1**	T	T	02 15 58.0	
	baz=182,slow=76,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**30.36**	**1**	T	T	02 15 59.0	
	baz=182,slow=76,SNR=6.9						
STKA	**Stephens Creek**	**30.88**	**224**	P	**P**	**01 44 02.5**	**+0.1**
STKA	**Stephens Creek**	**30.88**	**224**	P	**P**	**01 44 02.7**	**+0.3**
	4.6nm,0.7s,baz=30,slow=10.0,SNR=13						
	4.6nm,0.7s						
WB0	**Warramunga Arr**	**31.84**	**250**	P	**P**	**01 44 10.7**	**-0.4**
WB0				IAmb	IAmb	01 44 11.4	
	comp=Z,8.2nm,0.8s						
WRAB	**Tennant Creek**	**31.92**	**250**	P	**P**	**01 44 09.8**	**-1.8**
WRAB				IAmb	IAmb	01 44 11.9	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**31.92**	**250**	P	**P**	**01 44 11.2**	**-0.5**
WB2				IAmb	IAmb	01 44 12.0	
	comp=Z,8.8nm,0.9s						
WRA	**Warramunga Arr**	**31.93**	**250**	P	**P**	**01 44 11.2**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=79,slow=9.0,SNR=26						
WRA				PcP	**PcP**	**01 47 00.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=79,slow=2.7,SNR=8.3						
WRA				LR	LR	01 57 12.1	
	comp=Z,49nm,19.0s,baz=123,slow=36						
	comp=Z,5.2nm,0.7s						
AS31	**Alice Springs**	**33.24**	**243**	P	**P**	**01 44 22.7**	**-0.6**
ASAR	**Alice Springs**	**33.24**	**243**	P	**P**	**01 44 22.3**	**-1.0**
	comp=Z,7.6nm,0.8s,baz=65,slow=10,SNR=57						
ASAR				PcP	**PcP**	**01 47 03.2**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=71,slow=3.6,SNR=11						
	comp=Z,7.6nm,0.8s						
RAR	**Rarotonga**	**34.28**	**112**	LR	LR	01 54 57.3	
	comp=Z,65nm,21.8s,baz=272,slow=30						
BBOO	**Buckleboo**	**35.27**	**227**	P	**P**	**01 44 40.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.82**	**255**	P	**P**	**01 45 19.1**	**0.0**
FITZ	**Fitzroy Crossi**	**39.82**	**255**	P	**P**	**01 45 18.8**	**-0.4**
	comp=Z,9.7nm,0.6s,baz=85,slow=7.3,SNR=19						
FITZ				PcP	**PcP**	**01 47 23.5**	**0.0**
	comp=Z,2.2nm,0.7s,baz=90,slow=5.1,SNR=2.9						
	comp=Z,9.7nm,0.6s						
MJAR	**Matsushiro Arr**	**53.94**	**332**	P	**P**	**01 47 07.7**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=174,slow=6.6,SNR=4.8						
	comp=Z,1.2nm,0.4s						
NJ2	**Nanjing**	**62.13**	**315**	*eP*	**P**	**01 48 07.8**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**62.91**	**333**	P	**P**	**01 48 11.8**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=172,slow=5.8,SNR=4.5						
	comp=Z,2.0nm,0.8s						
BNX	**BinXian**	**66.19**	**331**	‖P	**P**	**01 48 32.0**	**-0.3**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH	**HeiHe**	**69.57**	**335**	*eP*	**P**	**01 48 53.5**	**+0.1**
XLT	**XiLinHaoTe**	**70.90**	**324**	*eP*	**P**	**01 49 02.0**	**+0.2**
XLT				pP	pP	01 49 31.5	+4.7
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z

comp=Z,5.0nm,0.9s
HVU Hansel Valley 90.56 48 P P 01 50 46.1 -0.5
HVU IAmb IAmb 01 50 48.3
comp=Z,5.7nm,1.0s
SYO Syowa Base 92.12 197⇑ eP P 01 50 51.6 -1.5
PDAR Pinedale Array 93.11 47 P P 01 50 56.7 -1.8
comp=Z,0.6nm,0.8s,baz=180,slow=0.7,SNR=5.5
comp=Z,0.6nm,0.8s
ZALV Zalesovo Beam 93.59 324 P P 01 50 58.7 -1.4
comp=Z,2.3nm,0.8s,baz=108,slow=4.8,SNR=8.7
comp=Z,2.3nm,0.8s
MK31 Makanchi Array 93.62 317 P P 01 50 59.7 -0.8
MK31 IAmb IAmb 01 51 00.8
comp=Z,3.8nm,0.8s
MKAR Makanchi Array 93.62 317 P P 01 51 00.1 -0.4
MKAR Makanchi Array 93.62 317 P P 01 50 60.0 -0.5
comp=Z,4.6nm,0.7s,baz=94,slow=6.2,SNR=52
comp=Z,4.6nm,0.7s
A36M Sachs Harbour 93.76 17 P P 01 51 00.6 0.0
MAKZ Makanchi 93.83 317 P P 01 51 01.1 -0.4
YKA Yellowknife Ar 94.59 27 P P 01 51 02.3 -2.2
comp=Z,0.4nm,0.7s,baz=255,slow=5.1,SNR=6.1
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 95.38 61 P P 01 51 08.9 -0.1
comp=Z,0.3nm,0.7s,baz=224,slow=4.7,SNR=3.9
comp=Z,0.3nm,0.7s
KURBB Kurchatov Arra 96.75 320 P P 01 51 13.2 -1.4
comp=Z,0.3nm,0.8s,baz=92,slow=5.0,SNR=3.3
comp=Z,0.3nm,0.8s
ARCES ARCESS Array B 116.21 346 PKP PKPdf 01 56 25.2 -1.2
comp=Z,3.7nm,0.9s,baz=61,slow=2.4,SNR=10
LPAZ La Paz 119.94 116 PKP PKPdf 01 56 35.4 -0.5
comp=Z,0.7nm,0.6s,baz=292,slow=5.4,SNR=2.6
FINES FINESS Array B 121.70 339 PKP PKPdf 01 56 35.8 -1.4
comp=Z,2.3nm,0.8s,baz=20,slow=6.1,SNR=3.4
CPUP Villa Florida 123.89 132 PKP PKPdf 01 56 41.4 -1.1
comp=Z,1.9nm,0.8s,baz=297,slow=2.3,SNR=4.0
BOSA Boshof 125.55 223 PKP PKPdf 01 56 45.7 -0.1
comp=Z,2.7nm,1.0s,baz=104,slow=4.2,SNR=1.4
ESDC Sonseca Array 149.94 345 PKPbc PKPbc 01 57 33.9 -0.6
comp=Z,0.9nm,0.7s,baz=30,slow=2.1,SNR=8.5

IDC 28 01:41:50.7±2.4, 18°.37S×177°.05W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=131.9km s-min=29.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.82**	**260**	P	P	01 50 14.6	-0.2
	0.5nm,0.3s,baz=97,slow=7.6,SNR=7.5						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.91**	**255**	P	P	01 50 15.4	0.0
	1.5nm,0.7s,baz=86,slow=8.8,SNR=14						
	1.5nm,0.7s						
TXAR	**Lajitas Array**	**85.16**	**57**	P	P	01 54 29.1	-0.2
	0.3nm,0.7s,baz=235,slow=4.1,SNR=3.5						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**86.05**	**12**	P	P	01 54 32.9	+0.1
	0.1nm,0.4s,baz=206,slow=5.2,SNR=7.4						
	0.1nm,0.4s						

---

*REY **28** 01:42:04.1, 68°.06N×18°.24W, h10km*
*IDC **28** 01:42:05.9±0.9, 67°.90N×18°.54W, h0km, mb3.8/8, mbtmp3.8/13, ML3.6/5, MS3.8/48, Error ellipse: s-maj=20.4km s-min=18.2km az=16.0*
*NEIC **28** 01:42:06.6±2.0, 67°.91N±0°.06×19°.0W±0°.2, h10km±1km, mb4.1/12, Error ellipse: s-maj=12.7km s-min=9.5km az=64.0*
*DNK **28** 01:42:44.3±4.5, 70°.70N×22°.70W, h0km±95km, ML1.6*
ISC 28 01:42:06.8±0.5, 67°.89N±0°.05×18°.71W±0°.05, h10km, n101, σ1§48/69, mb3.9/12, MS3.8/36, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.38**	**168**	P	**Pn**	**01 42 29.4**	**-2.6**
ILEI	**Leirhofn**	**1.72**	**149**	P	**Pn**	**01 42 33.7**	**-3.1**
ISIG	**Siglufjorour**	**1.77**	**183**	P	**Pn**	**01 42 35.6**	**-1.7**
IHRN	**Hraun**	**1.87**	**198**	P	**Pn**	**01 42 37.4**	**-1.4**
IHRN				S	**Sn**	**01 42 59.9**	**-2.5**
IHED	**Heoinshofoi**	**1.90**	**162**	P	**Pn**	**01 42 36.4**	**-2.7**
IHLA	**Hella**	**1.96**	**176**	P	**Pn**	**01 42 38.7**	**-1.3**
IGRA	**Granastaoir**	**2.03**	**167**	P	**Pn**	**01 42 39.0**	**-1.9**
IGIL	**Gilhagi**	**2.04**	**152**	P	**Pn**	**01 42 38.2**	**-2.9**
IDIM	**Dimmadalss**	**2.06**	**159**	P	**Pn**	**01 42 38.7**	**-2.7**
ISKI	**Skildingahlsh**	**2.13**	**161**	P	**Pn**	**01 42 39.9**	**-2.5**
IGHA	**Grjothals**	**2.21**	**158**	P	**Pn**	**01 42 40.9**	**-2.5**
IGHA				S	**Sn**	**01 43 09.0**	**-1.8**
IKVO	**Krokottuvotn**	**2.30**	**161**	P	**Pn**	**01 42 42.7**	**-2.1**
IREN	**Reynihlio**	**2.36**	**162**	P	**Pn**	**01 42 44.0**	**-1.6**
IMEL	**Melhnausar**	**2.47**	**160**	P	**Pn**	**01 42 45.3**	**-1.7**
IGRS	**Grimsstaoir**	**2.48**	**154**	P	**Pn**	**01 42 45.0**	**-2.2**
ISVA	**Svartarkot**	**2.63**	**167**	P	**Pn**	**01 42 48.2**	**-1.0**
SCO	**Scoresbysund**	**2.85**	**338**		Pn	01 42 46.9	-5.3
SCO	**Scoresbysund**	**2.85**	**338**	*eP*	Pn	01 42 47.1	-5.2
SCO				*i* S	**Pb**	**01 42 56.7**	**-1.0**
SCO				IAML		01 44 06.7	
	comp=Z,30nm,1.0s						
IASK	**Askja**	**2.97**	**163**	P	**Pn**	**01 42 52.9**	**-1.1**
ISTE	**Stelbrattur**	**3.07**	**187**	P	**Pn**	**01 42 56.4**	**+1.1**
IMKO	**Mokollar**	**3.08**	**161**	P	**Pn**	**01 42 54.4**	**-1.0**
THOR	**Thorvaldshraun**	**3.08**	**164**	P	**Pn**	**01 42 54.7**	**-0.8**
IADA	**Aoalbol**	**3.15**	**155**	P	**Pn**	**01 42 54.6**	**-1.7**
IURH	**Urdarhals**	**3.15**	**168**	P	**Pn**	**01 42 55.8**	**-0.6**
IDYN	**Dyngjuhals**	**3.16**	**169**	P	**Pn**	**01 42 56.5**	**-0.1**
IVON	**Vonarskard**	**3.25**	**173**	P	**Pn**	**01 42 58.1**	**+0.2**
IKRE	**Kreppuhraun**	**3.26**	**162**	P	**Pn**	**01 42 57.3**	**-0.6**
IKIS	**Kista**	**3.26**	**171**	P	**Pn**	**01 42 58.3**	**+0.3**
IVSH	**V-Sauoahnukur**	**3.32**	**157**	P	**Pn**	**01 42 57.5**	**-1.3**
BORG	**Borgarnes**	**3.33**	**200**	Pn	**Pn**	**01 42 58.1**	**-0.6**
BORG	**Borgarnes**	**3.33**	**200**	Pn	**Pn**	**01 42 58.5**	**-0.3**
	comp=Z,6.1nm,0.3s,baz=352,slow=5.7,SNR=15						
BORG				LR	**Sn**	**01 43 39.5**	**+1.2**
	comp=Z,3.4nm,0.3s,baz=32,slow=21,SNR=8.0						
BORG				LR	LR	01 44 14.4	
	comp=Z,533nm,18.8s,baz=335,slow=38						
	comp=Z,23nm,0.3s						
IKSK	**Karasker**	**3.85**	**165**	P	**Pn**	**01 43 06.6**	**+0.5**
DBG	**Daneborg**	**6.47**	**356**	*i* P	**Pn**	**01 43 42.2**	**+0.3**
SUMG	**Summit**	**8.14**	**314**	Pn	**Pn**	**01 44 05.5**	**+0.3**
SUMG	**Summit**	**8.14**	**314**	*i* P	**Pn**	**01 44 05.0**	**-0.2**
SUMG				*i* S	Sn	01 45 02.5	-35
DAG	**Danmarks Havn**	**8.93**	**0**	*i* P	**Pn**	**01 44 15.0**	**-0.6**
SFJD	**Kangerlussuaq**	**12.21**	**281**	LR	LR	01 49 11.1	
	comp=Z,520nm,19.9s,baz=62,slow=35						
NEEM	**North Greenlan**	**13.32**	**329**	*i* P	Pn	01 45 10.4	-5.3
SPB3	**Spitsbergen Ar**	**14.17**	**29**	Pn	**Pn**	**01 45 28.1**	**+0.9**
SPITS	**Spitsbergen Ar**	**14.17**	**29**	Pn	**Pn**	**01 45 27.7**	**+0.5**
	baz=225,slow=13						
SPITS				Sn	**Sn**	**01 48 03.3**	**-0.9**
	baz=222,slow=19						
	comp=Z,4.1nm,0.7s						
SPB2	**Spitsbergen Ar**	**14.18**	**29**	Pn	**Pn**	**01 45 28.9**	**+1.7**
NOA	**NORSAR Array B**	**14.48**	**104**	Pn	**Pn**	**01 45 31.9**	**+0.4**
	baz=311,slow=13,SNR=1.7						
NOA				LR	LR	01 50 14.5	
	comp=Z,177nm,19.7s,baz=315,slow=34						
EKA	**Eskdalemuir Ar**	**14.54**	**142**	Pn	**Pn**	**01 45 34.1**	**+1.8**
	baz=330,slow=10.0						
	comp=Z,0.3nm,0.5s						
DSB	**Dublin**	**15.84**	**152**		**P**	**01 45 52.6**	**-0.7**
DSB				IAmb	IAmb	01 46 04.2	
	comp=Z,13nm,1.1s						
ARCES	**ARCESS Array B**	**15.88**	**64**	Pn	**Pn**	**01 45 51.0**	**+1.0**
ARCES				IAmb	IAmb	01 46 10.6	
	comp=Z,28nm,1.4s						
ARCES	**ARCESS Array B**	**15.88**	**64**	Pn	**Pn**	**01 45 48.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=289,slow=7.6,SNR=6.0						
ARCES				LR	LR	01 50 41.7	
	comp=Z,201nm,18.2s,baz=253,slow=33						
	comp=Z,4.6nm,0.8s						
HFS	**Hagfors**	**16.00**	**103**	Pn	**Pn**	**01 45 51.6**	**0.0**
	comp=Z,0.2nm,0.3s,baz=321,slow=14,SNR=4.2						
HFS				LR	LR	01 51 12.6	
	comp=Z,237nm,18.9s,baz=320,slow=34						
FINES	**FINESS Array B**	**19.81**	**87**	P	**P**	**01 46 37.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=310,slow=11,SNR=18						
FINES				LR	LR	01 53 39.6	
	comp=Z,407nm,18.2s,baz=302,slow=35						
	comp=Z,5.3nm,0.9s						
FIA1	**FINESS Array S**	**19.81**	**87**	P	**P**	**01 46 37.5**	**+0.5**
EUNU	**Eureka**	**20.54**	**333**	P	**P**	**01 46 43.8**	**-1.1**
EUNU				IAmb	IAmb	01 46 47.2	
	comp=Z,8.8nm,1.2s						

CLL Collm 22.68 121 *i* P **P 01 47 10.1 +2.1**
comp=Z,9.0nm,1.2s
RES Resolute Bay 23.61 320 LR LR 01 56 29.0
comp=Z,241nm,21.7s,baz=93,slow=36
GERES GERESS Array B 25.04 123 P **P 01 47 32.0 +1.1**
comp=Z,2.8nm,0.9s,baz=327,slow=7.1,SNR=6.3
GERES LR LR 01 57 32.8
comp=Z,135nm,18.5s,baz=320,slow=37
comp=Z,2.8nm,0.9s
MORC Moravsky Berou 25.49 117 P **P 01 47 35.8 +0.9**
MORC IAmb IAmb 01 47 39.8
comp=Z,2.9nm,0.9s
VRAC Vranov 25.58 119 LR LR 01 58 57.8
comp=Z,151nm,18.1s,baz=326,slow=40
SCHQ Schefferville 25.69 264 P **P 01 47 35.2 -1.3**
SCHQ Schefferville 25.69 264 LR LR 01 57 13.0
comp=Z,286nm,18.1s,baz=72,slow=35
DAVOX Davos/Dischmat 25.73 131 LR LR 01 58 20.0
comp=Z,245nm,18.2s,baz=326,slow=38
OBN Obninsk 28.18 89 LR LR 01 58 41.7
comp=Z,342nm,18.8s,baz=352,slow=35
MTE Manteigas 28.21 162 P **P 01 48 00.5 +1.1**
MTE IAmb IAmb 01 48 03.1
comp=Z,5.3nm,0.8s
AKASG Malin Array Be 28.88 102 LR LR 01 59 05.9
comp=Z,168nm,19.5s,baz=338,slow=35
ESDC Sonseca Array 29.41 156 LR LR 01 59 41.7
comp=Z,109nm,18.2s,baz=333,slow=36
KIRV Kirov 30.42 74 LR LR 01 59 24.2
comp=Z,188nm,19.4s,baz=324,slow=34
MLR Muntele Rosu 32.08 111 LR LR 02 01 17.1
comp=Z,166nm,21.0s,baz=316,slow=36
FCC Fort Churchill 32.88 292 P **P 01 48 39.0 -1.4**
NRIK Noril'sk 34.14 37 LR LR 02 04 01.8
comp=Z,113nm,19.7s,baz=338,slow=39
BELG Belogornoye 34.46 83 LR LR 02 01 27.9
comp=Z,132nm,21.4s,baz=312,slow=34
ARTI Arti 35.29 70 LR LR 02 02 25.6
comp=Z,246nm,18.1s,baz=334,slow=35
VAE Valguarnera 35.61 132 LR LR 02 03 56.9
comp=Z,215nm,18.1s,baz=313,slow=37
MDT Midelt 36.06 160 LR LR 02 02 54.5
comp=Z,94nm,19.7s,baz=4.5,slow=35
YKA Yellowknife Ar 36.71 309 P **P 01 49 14.4 +1.1**
comp=Z,0.3nm,0.7s,baz=42,slow=8.7,SNR=8.1
YKA LR LR 02 05 39.4
comp=Z,64nm,20.7s,baz=40,slow=38
comp=Z,0.3nm,0.7s
INK Inuvik 36.85 326 LR LR 02 05 10.7
comp=Z,121nm,18.7s,baz=273,slow=38
DELO Deloro Mine 38.13 263 P **P 01 49 23.0 -2.6**
G31M Satah River 38.16 325 P **P 01 49 25.9 +0.3**
G30M tAoh Zraii Nji 38.53 326 P **P 01 49 30.5 +1.7**
G30M IAmb IAmb 01 49 48.2
comp=Z,3.1nm,1.3s
KBZ Khabaz 39.82 95 LR LR 02 06 33.9
comp=Z,177nm,18.1s,baz=338,slow=37
AKTO Aktyubinsk 39.90 76 LR LR 02 05 17.0
comp=Z,146nm,18.7s,baz=61,slow=35
ULM Lac du Bonnet 40.21 284 LR LR 02 07 30.7
comp=Z,74nm,21.4s,baz=31,slow=38
ABKAR Akbulak array 41.58 75 P **P 01 49 55.4 +1.2**
ABKAR Akbulak array 41.58 75 P **P 01 49 55.2 +1.0**
ABKAR IAmb IAmb 01 49 58.6
comp=Z,1.7nm,0.9s
BVAR Borovoye Array 42.16 64 LR LR 02 05 31.5
comp=Z,93nm,19.1s,baz=326,slow=33
ILAR Eielson Array 42.61 330 P **P 01 50 04.4 +2.0**
comp=Z,1.1nm,1.1s,baz=16,slow=5.6,SNR=7.0
comp=Z,1.1nm,1.1s
GNI Garni 43.60 96 LR LR 02 09 00.9
comp=Z,143nm,18.3s,baz=328,slow=37
DLBC Dease Lake 44.37 316 LR LR 02 08 00.7
comp=Z,119nm,21.2s,baz=137,slow=35
MMAI Mount Meron Ar 46.50 110 LR LR 02 11 25.6
comp=Z,55nm,19.6s,baz=300,slow=38
KURBB Kurchatov Arra 46.91 60 P **P 01 50 36.1 -0.7**
comp=Z,0.7nm,0.8s,baz=327,slow=6.9,SNR=5.8
comp=Z,0.7nm,0.8s
NEW Newport 49.34 299 LR LR 02 12 43.3
comp=Z,90nm,18.6s,baz=282,slow=37
MKAR Makanchi Array 51.48 60 P **P 01 51 12.1 +0.2**
comp=Z,0.9nm,1.0s,baz=345,slow=4.9,SNR=3.6
comp=Z,0.9nm,1.0s
PDAR Pinedale Array 51.53 290 P **P 01 51 13.4 +0.9**
comp=Z,0.4nm,0.8s,baz=13,slow=6.3,SNR=3.7
PDAR LR LR 02 13 05.3
comp=Z,127nm,19.8s,baz=324,slow=36
comp=Z,0.4nm,0.8s
AAK Ala-Archa 52.48 68 LR LR 02 12 50.5
comp=Z,118nm,18.0s,baz=344,slow=35
SJG San Juan 58.03 236 LR LR 02 12 21.3
comp=Z,44nm,21.9s,baz=22,slow=31
NVAR Mina Array Bea 58.44 295 LR LR 02 17 07.8
comp=Z,164nm,18.1s,baz=322,slow=36
TXAR Lajitas Array 61.30 277 LR LR 02 19 01.6
comp=Z,71nm,18.6s,baz=343,slow=36
PFO Pinyon Flats O 62.13 291 LR LR 02 20 26.8
comp=Z,117nm,20.5s,baz=24,slow=37
LPIG La Paz 68.52 281 LR LR 02 24 22.8
comp=Z,108nm,19.0s,baz=334,slow=37
CMIG Matias Romero 69.09 264 LR LR 02 22 21.0
comp=Z,52nm,21.6s,baz=294,slow=35
MJAR Matsushiro Arr 74.44 19 P **P 01 53 44.6 -0.1**
comp=Z,3.3nm,0.9s,baz=351,slow=6.1,SNR=4.4
comp=Z,3.3nm,0.9s
CMAR Chiang Mai Arr 82.85 58 P **P 01 54 30.7 -0.5**
comp=Z,1.2nm,0.3s,baz=329,slow=5.0,SNR=5.1
comp=Z,1.2nm,0.3s
LSZ Lusaka 89.58 135 LR LR 02 39 34.7
comp=Z,44nm,19.0s,baz=148,slow=38
PSI Prapat 97.50 63 LR LR 02 46 27.7
comp=Z,60nm,18.6s,baz=318,slow=40
LBTB Lobatse 98.25 140 LR LR 02 41 29.6
comp=Z,29nm,18.8s,baz=107,slow=36

IDC 28 01:45:05.9±2.0, 6°.46S×129°.86E, h0km, mb3.2/2, mbtmp3.2/5, ML3.2/3, MS3.4/1, Error ellipse: s-maj=94.0km s-min=27.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.28**	**199**	Pn	Pn	01 48 02.0	-0.1
	0.1nm,0.3s,baz=20,slow=11,SNR=1.7						
FITZ				Sn	Sn	01 50 13.8	-6.0
	0.1nm,0.3s,baz=235,slow=8.5,SNR=1.9						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**14.09**	**162**	Pn	Pn	01 48 27.8	+0.8
	0.1nm,0.3s,baz=342,slow=14,SNR=5.3						
WRA				Sn	Sn	01 50 59.2	-4.9
	0.2nm,0.3s,baz=346,slow=22,SNR=6.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**17.54**	**168**	P	Pn	01 49 11.5	-0.6
	0.1nm,0.3s,baz=346,slow=11,SNR=4.9						
ASAR				S	Sn	01 52 20.1	-8.1
	0.4nm,0.5s,baz=354,slow=25,SNR=4.0						
	0.2nm,0.6s						
HNR	**Honiara**	**29.94**	**98**	LR	LR	02 03 23.4	
	comp=Z,69nm,19.5s,baz=345,slow=37						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	01 56 05.0	-0.1
	0.1nm,0.6s,baz=122,slow=8.1,SNR=1.9						
	0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**71.98**	**328**	P	P	01 56 31.6	+0.2
	0.2nm,0.7s,baz=129,slow=4.6,SNR=4.5						
	0.2nm,0.7s						

NEIC 28 02:07:50.3±0.8, 37°.65N±0°.01×105°.50W±0°.02, h5km±1km, ML1.9/16, Error ellipse: s-maj=3.6km s-min=2.9km az=54.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**359**	Pg	Pg	02 07 52.9	+0.4
SDCO				Sg	Sg	02 07 54.8	+0.7
SDCO				IAML		02 07 55.5	
	853nm,0.1s						
T25A	**Trinidad**	**1.01**	**120**	Pg	Pg	02 08 09.4	-0.2
T25A				IAML		02 08 22.8	
	comp=N,36nm,0.5s						
S22A	**4UR Ranch, Cre**	**1.06**	**276**	Pg	Pg	02 08 10.4	-0.2
S22A				IAML		02 08 25.5	
	comp=N,20nm,0.1s						
S22A				IAML		02 08 28.6	
	comp=E,21nm,0.1s						
Q24A	**Divide**	**1.34**	**12**	Pn		02 08 15.1	-0.9
Q24A				IAML		02 08 33.8	
	comp=N,24nm,0.2s						
MVCO	**Mesa Verde**	**2.43**	**260**	Pn		02 08 31.1	+0.2
RTBA	**Rita Blanca**	**2.52**	**118**	Pn	Pb	02 08 35.9	-0.3
PV13	**Radium Mtn., P**	**2.68**	**282**	Pn	Pn	02 08 34.1	-0.2
PV11	**David Mesa, Pa**	**2.74**	**285**	Pn	Pn	02 08 34.9	-0.3

---

*NEIC **28** 02:13:48.1±2.0, 36°.27N±0°.02×97°.50W±0°.06, h5km±1km, mb_Lg3.4/98, ML3.4/60, Mwr3.2/9(SLM), Error ellipse: s-maj=8.6km s-min=3.0km az=69.0*
*NEIC **28** 02:13:48, 36°.28N×97°.46W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.25; $M_{\theta\theta}$7.94; $M_{\phi\phi}$-8.19; $M_{r\theta}$-1.49; $M_{\theta\phi}$0.12; $M_{\phi r}$0.49; Fault plane solution: $M_0$8.22000×10^{13} NP1:ϕ_s315.00000°, δ85.00000°, λ10.00000°. NP2:ϕ_s224.00000°, δ80.00000°, λ175.00000°. Principal axes: T 8.2193, Plg11.0000°, Azm180.0000°; N 0.0018, Plg79.0000°, Azm341.0000°; P -8.2211, Plg3.0000°, Azm89.0000°.*
*IDC **28** 02:13:51.8±1.7, 36°.52N×98°.00W, h0km, mb3.2/2, mbtmp3.1/6, ML3.0/4 Error ellipse: s-maj=23.7km s-min=13.5km az=105.0*
ISC 28 02:13:48.6±0.6, 36°.27N±0°.02×97°.50W±0°.03, h10km, n126, σ1§54/103, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.46**	**302**		**Pg**	**02 13 57.7**	**+0.1**
CROK					**Sg**	**02 14 03.6**	**0.0**
CROK				IAML		02 14 11.5	
	comp=E,3μm,0.4s						
OK029	**Liberty Lake**	**0.47**	**176**		**Pg**	**02 13 58.4**	**+0.7**
BLOK	**Blackwell**	**0.55**	**25**		**Pg**	**02 13 59.5**	**+0.3**
BLOK				IAML		02 14 11.4	
	comp=N,2μm,0.2s						
BLOK				IAML		02 14 11.8	
	comp=E,3μm,0.2s						
OK051	**E0350 and S346**	**0.59**	**66**		**Pg**	**02 14 00.4**	**+0.5**
OK051				IAML		02 14 15.8	
	comp=E,2μm,0.2s						
OK031	**S. Brethren Rd**	**0.62**	**120**		**Pg**	**02 14 01.2**	**+0.6**
OK031					**Sg**	**02 14 09.3**	**+0.6**
OK031				IAML		02 14 12.3	
	comp=E,2μm,0.6s						
OK031				IAML		02 14 12.3	
	comp=E,2μm,0.6s						
ADOK	**Arcadia Dam**	**0.62**	**170**		**Pg**	**02 14 01.2**	**+0.6**
QUOK	**Quay**	**0.65**	**98**		**Pg**	**02 14 01.5**	**+0.4**
QUOK				IAML		02 14 16.8	
	comp=E,2μm,0.2s						
GC02	**Grant County #**	**0.65**	**334**		**Pg**	**02 14 01.0**	**-0.3**
KAN13	**South Haven SW**	**0.75**	**1**		**Pg**	**02 14 03.1**	**0.0**
KAN13				IAML		02 14 19.0	
	comp=E,2μm,0.3s						
KAN13				IAML		02 14 25.3	
	comp=N,1μm,0.3s						
KAN14	**Manchester OK**	**0.79**	**332**		**Pg**	**02 14 03.5**	**-0.3**
KAN17	**Caldwell West**	**0.81**	**345**		**Pg**	**02 14 04.0**	**-0.1**
KAN17				IAML		02 14 23.7	
	comp=N,1μm,0.3s						
KAN17				IAML		02 14 28.7	
	comp=E,950nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.86**	**177**		**Pg**	**02 14 05.4**	**+0.3**
OKCSW				IAML		02 14 19.9	
	comp=N,1μm,0.2s						
OKCSW				IAML		02 14 24.6	
	comp=E,1μm,0.4s						
KAN09	**Caldwell North**	**0.88**	**354**		**Pg**	**02 14 05.2**	**-0.2**
KAN09				IAML		02 14 25.2	
	comp=E,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.89**	**340**		**Pg**	**02 14 05.6**	**-0.2**
KAN05				IAML		02 14 27.6	
	comp=N,1μm,0.2s						
KAN01	**Argonia South**	**0.91**	**347**		**Pg**	**02 14 06.0**	**-0.2**
DEOK	**Depew**	**0.91**	**117**		**Pg**	**02 14 06.0**	**-0.2**
DEOK				IAML		02 14 21.1	
	comp=N,1μm,0.2s						
DEOK				IAML		02 14 21.8	
	comp=E,1μm,0.2s						
FNO	**Franklin**	**1.01**	**175**		**Pg**	**02 14 08.1**	**+0.1**
FNO				IAML		02 14 25.0	
	comp=E,878nm,0.1s						
FNO				IAML		02 14 29.6	
	comp=N,843nm,0.6s						
KAN08	**Anthony NE Sta**	**1.03**	**339**		**Pg**	**02 14 08.2**	**-0.2**
KAN08				IAML		02 14 24.6	
	comp=E,829nm,0.4s						
KAN12	**Harper NE Stat**	**1.11**	**339**		**Pg**	**02 14 09.5**	**-0.3**
CSTR	**Hydro, Custer**	**1.15**	**238**		**Pb**	**02 14 10.4**	**-0.2**
NOKA	**Waynoka**	**1.21**	**288**		**Pb**	**02 14 11.3**	**-0.4**
NOKA				IAML		02 14 38.1	
	comp=E,962nm,0.3s						
W35A	**Tecumseh**	**1.22**	**155**		**Pn**	**02 14 11.5**	**-0.2**
W35A				IAML		02 14 32.3	
	comp=N,768nm,0.2s						
ELIS	**Ellis County**	**1.57**	**263**		**Pn**	**02 14 17.4**	**+0.8**
X34A	**Smith Ranch, M**	**1.68**	**189**	Pg	**Pn**	**02 14 19.4**	**+1.3**
WMOK	**Wichita Mounta**	**1.85**	**215**		**Pn**	**02 14 21.6**	**+1.2**
WMOK	**Wichita Mounta**	**1.85**	**215**	IAmb_Lg		02 14 48.4	
	comp=Z,105nm,0.7s						
WMOK	**Wichita Mounta**	**1.85**	**215**	P	**Pn**	**02 14 21.9**	**+1.6**
WMOK	**Wichita Mounta**	**1.85**	**215**	S	**Sb**	**02 14 46.6**	**+1.0**
R32A	**Long Quarter,**	**2.36**	**336**	Pn	**Pn**	**02 14 28.3**	**+0.8**
SMWD	**Samnorwood**	**2.52**	**243**	Pn	**Pn**	**02 14 31.1**	**+1.5**
SMWD				IAmb_Lg		02 15 09.8	
	comp=Z,127nm,0.9s						
SMWD	**Samnorwood**	**2.52**	**243**	P	**Pn**	**02 14 30.8**	**+1.3**
SMWD				S	**Sb**	**02 15 06.0**	**+1.1**
WTFS	**Witchita Falls**	**2.62**	**198**		**Pn**	**02 14 32.2**	**+1.3**
WTFS	**Witchita Falls**	**2.62**	**198**	P	**Pn**	**02 14 33.1**	**+2.2**
WTFS	**Witchita Falls**	**2.62**	**198**	S	**Sb**	**02 15 08.1**	**+0.4**
HHAR	**Hobbs**	**2.88**	**89**	Pn	**Pn**	**02 14 34.9**	**+0.4**
KSU1	**Kansas State U**	**2.92**	**14**		**Pn**	**02 14 35.9**	**+0.9**
Z35A	**Perchaven, San**	**2.93**	**176**	P	**Pn**	**02 14 37.4**	**+2.1**
CBKS	**Cedar Bluff**	**3.10**	**326**	Pn	**Pn**	**02 14 39.1**	**+1.4**
CBKS				IAmb_Lg		02 15 32.2	
	comp=Z,67nm,0.8s						
PLPT	**Palo Pinto**	**3.51**	**191**		**Pn**	**02 14 44.6**	**+1.4**
PLPT	**Palo Pinto**	**3.51**	**191**	P	**Pn**	**02 14 45.6**	**+2.4**
FW07	**Weatherford**	**3.56**	**184**		**Pn**	**02 14 45.2**	**+1.2**
FW07	**Weatherford**	**3.56**	**184**	P	**Pn**	**02 14 47.2**	**+3.3**
MIAR	**Mount Ida**	**3.63**	**117**		**Pn**	**02 14 46.6**	**+1.7**
MIAR				IAmb_Lg		02 15 52.0	
	comp=Z,152nm,1.2s						
MIAR	**Mount Ida**	**3.63**	**117**	P	**Pn**	**02 14 47.1**	**+2.2**
APMT	**Aspermont**	**3.64**	**217**	Pn	**Pn**	**02 14 46.0**	**+1.0**
APMT	**Aspermont**	**3.64**	**217**	P	**Pn**	**02 14 49.0**	**+4.0**
Z38A	**Mt. Pleasant**	**3.64**	**145**	P	**Pn**	**02 14 47.1**	**+2.1**
AMTX	**Amarillo**	**3.68**	**249**	IAmb_Lg		02 15 49.4	
	comp=Z,137nm,1.0s						
AMTX	**Amarillo**	**3.68**	**249**	P	**Pn**

237A	Washetta, Mont	4.48	161		Pn	02 14 57.3 +0.8
POST	Post	4.59	227	IAmb_Lg		02 16 22.3
	comp=Z,64nm,0.9s					
POST	Post	4.59	227	P	Pb	02 15 09.1 -0.1
Z41A	Richland Creek	4.89	126		Pn	02 15 03.2 +1.0
KSCO	Kaye Shedlock'	4.91	305	Pn	Pn	02 15 03.5 +1.0
KSCO				IAmb_Lg		02 16 36.7
	comp=Z,81nm,1.0s					
BRDY	Brady	5.12	195		Pn	02 15 06.3 +0.9
BRDY	Brady	5.12	195	P	Pn	02 15 06.6 +1.2
LCAR	Lake Charles	5.14	90	Pn	Pn	02 15 06.3 +0.8
LCAR				IAmb_Lg		02 16 29.7
	comp=Z,52nm,1.0s					
BGNE	Belgrade	5.16	355		Pn	02 15 06.5 +0.6
BGNE				IAmb_Lg		02 16 44.8
	comp=Z,70nm,0.8s					
T42A	Van Buren	5.21	80		Pn	02 15 07.2 +0.6
T42A				IAmb_Lg		02 16 42.3
	comp=Z,50nm,1.0s					
CCAR	Cane Creek	5.25	115		Pn	02 15 08.2 +1.2
CCAR				IAmb_Lg		02 16 42.4
	comp=Z,85nm,0.8s					
SGCY	Sterling City	5.28	216	Pn	Pn	02 15 08.5 +0.9
CCM	Cathedral Cave	5.30	68		Pn	02 15 08.5 +0.7
CCM	Cathedral Cave	5.30	68	IAmb_Lg		02 16 36.6
	comp=Z,84nm,0.8s					
435B	Jarrell	5.47	181		Pn	02 15 11.3 +1.1
435B				IAmb_Lg		02 16 54.0
	comp=Z,70nm,0.9s					
N38A	Joes South For	5.62	35	Pn	Pn	02 15 13.5 +1.3
T25A	Trinidad	5.62	281	Pn	Pn	02 15 13.0 +0.6
T25A				IAmb_Lg		02 16 54.5
	comp=Z,43nm,0.8s					
T25A	Trinidad	5.62	281	P	Pn	02 15 13.5 +1.1
OGNE	Ogallala	5.87	324	IAmb_Lg		02 17 01.7
	comp=Z,58nm,0.8s					
FVM	French Village	5.91	71	IAmb_Lg		02 16 58.6
	comp=Z,56nm,0.7s					
PARMO	Parma	6.25	84	IAmb_Lg		02 17 11.0
	comp=Z,76nm,0.8s					
CGM3	Cape Girardeau	6.38	78	IAmb_Lg		02 17 11.7
	comp=Z,59nm,0.9s					
SDCO	Great Sand Dun	6.57	285		Pn	02 15 26.5 +1.0
K30B	Basset	6.61	346	Pn	Pn	02 15 27.1 +1.3
K30B				IAmb_Lg		02 17 25.9
	comp=Z,49nm,0.9s					
HALT	Halls	6.62	91	IAmb_Lg		02 17 21.7
	comp=Z,47nm,0.7s					
Q24A	Divide	6.64	296	IAmb_Lg		02 17 31.1
	comp=Z,41nm,0.7s					
N41A	Harden Midland	6.84	48	Pn	Pn	02 15 30.2 +1.2
BRIGG	Briggsdale	6.87	311	IAmb_Lg		02 17 30.4
	comp=Z,68nm,0.9s					
HNDO	Hondo	6.88	193	P	Pn	02 15 30.3 +0.7
ISCO	Idaho Springs	7.31	301	IAmb_Lg		02 17 48.3
	comp=Z,33nm,0.9s					
SAND	Sanderson	7.39	213	Pn	Pn	02 15 37.1 +0.5
SAND	Sanderson	7.39	213	P	Pn	02 15 37.0 +0.4
SAND	Sanderson	7.39	213	P	Pn	02 15 37.1 +0.5
SAND				S	Sn	02 16 57.6 -3.0
ANMO	Albuquerque	7.42	262	Pn	Pn	02 15 35.3 -1.8
	comp=Z,0.1nm,0.3s,baz=58,slow=9.4,SNR=1.8					
ANMO				Pg	Pb	02 16 03.7 +6.3
	comp=Z,0.6nm,0.3s,baz=253,slow=17,SNR=12					
ANMO				Lg	Lg	02 17 36.6
	comp=Z,1.1nm,0.3s,baz=154,slow=19,SNR=3.9					
	comp=Z,0.2nm,0.3s					
ECSD	EROS Data Cent	7.49	5	Pn	Pn	02 15 38.3 +0.4
L40A	Anamosa	7.57	38	IAmb_Lg		02 17 50.5
	comp=Z,53nm,0.8s					
S22A	4UR Ranch, Cre	7.61	284	Pn	Pn	02 15 40.1 +0.3
HDIL	Hopedale	7.73	54		Pn	02 15 41.8 +0.6
Y22D	IRIS PASSCAL I	8.02	257	IAmb_Lg		02 18 11.0
	comp=Z,57nm,0.9s					
N23A	Red Feather La	8.07	308	IAmb_Lg		02 18 05.7
	comp=Z,50nm,0.8s					
833A	Chaparral WMA,	8.08	192	Pn	Pn	02 15 47.9 +1.9
833A				IAmb_Lg		02 18 15.9
	comp=Z,18nm,0.7s					
SUSD	Miller	8.24	353	IAmb_Lg		02 18 18.4
	comp=Z,32nm,0.8s					
TXAR	Lajitas Array	8.64	219	Pn	Pn	02 15 55.2 +1.4
TXAR	Lajitas Array	8.64	219	Pn	Pn	02 15 56.0 +2.2
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=4.3					
TXAR				Pg	Pg	02 16 21.6 -12
	comp=Z,0.4nm,0.3s,baz=60,slow=14,SNR=7.8					
TXAR				Lg	Lg	02 18 18.8
	comp=Z,1.1nm,0.3s,baz=41,slow=29,SNR=9.1					
	comp=Z,0.2nm,0.4s					
JFWS	Jewell Farm	8.68	38		Pn	02 15 55.1 +0.9
JFWS	Jewell Farm	8.68	38	IAmb_Lg		02 18 24.3
	comp=Z,45nm,0.7s					
EPT	El Paso	8.71	242	IAmb_Lg		02 18 35.6
	comp=Z,17nm,1.0s					
WCI	Wyandotte Cave	9.15	74		Pn	02 16 03.0 +2.4
I40A	Norwalk	9.26	33	IAmb_Lg		02 18 48.5
	comp=Z,39nm,1.1s					
RSSD	Black Hills	9.30	330	IAmb_Lg		02 18 55.7
	comp=Z,16nm,0.7s					
K22A	Casper	9.45	315	IAmb_Lg		02 18 57.9
	comp=Z,35nm,0.8s					
SPMN	Marine on St.	9.63	20	IAmb_Lg		02 19 07.1
	comp=Z,26nm,1.1s					
TKL	Tuckaleechee C	11.14	89	Lg	Lg	02 19 33.9
	comp=Z,0.7nm,0.3s,baz=15,slow=18,SNR=4.0					
PDAR	Pinedale Array	11.35	309	Pn	Pn	02 16 30.9 0.0
	baz=121,slow=12,SNR=2.2					
PDAR				Pg		02 17 09.7
	comp=Z,0.1nm,0.3s,baz=127,slow=14,SNR=6.0					
PDAR				Lg	Lg	02 19 31.0
	comp=Z,0.2nm,0.3s,baz=117,slow=19,SNR=3.5					
	comp=Z,0.1nm,0.4s					
ULM	Lac du Bonnet	14.03	4	Pn	Pn	02 17 03.2 -4.0
	comp=Z,0.3nm,0.3s,baz=186,slow=10,SNR=2.0					
ULM				Lg	Lg	02 20 58.6
	comp=Z,0.2nm,0.3s,baz=102,slow=22,SNR=3.1					
	comp=Z,0.8nm,0.3s					
SADO	Sadowa	16.32	53	Lg	Lg	02 22 16.7
	comp=Z,0.3nm,0.3s,baz=164,slow=20,SNR=5.0					
YKA	Yellowknife Ar	28.33	343	P	P	02 19 41.9 -0.4
	comp=Z,0.1nm,0.6s,baz=153,slow=10.0,SNR=2.4					
	comp=Z,0.1nm,0.6s					
ILAR	Eielson Array	40.75	330	P	P	02 21 32.1 +2.8
	comp=Z,0.5nm,0.8s,baz=113,slow=8.5,SNR=6.7					
	comp=Z,0.5nm,0.8s					

IDC 28 02:21:48.6±2.3, 5°52S×152°28E, h0km, mb3.5/3, mbtmp3.6/4, ML1.7/1, MS2.6/1, Error ellipse: s-maj=154.1km s-min=28.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.38	232	Pn	Pn	02 23 23.7	-0.2
	1.1nm,0.3s,baz=45,slow=13,SNR=1.6						
PMG				Sn	Sn	02 24 32.5	-5.0
	2.6nm,0.3s,baz=134,slow=22,SNR=6.9						
PMG				LR	LR	02 25 47.5	
	comp=Z,49nm,19.2s,baz=6.0,slow=37						
	3.8nm,0.3s						
WRA	Warramunga Arr	22.59	229	P	P	02 26 51.3	+0.4
	0.6nm,0.7s,baz=54,slow=9.9,SNR=2.7						
	0.6nm,0.7s						
ASAR	Alice Springs	25.27	223	P	P	02 27 16.6	-0.3
	1.3nm,0.8s,baz=55,slow=9.4,SNR=13						
	1.3nm,0.8s						
ILAR	Eielson Array	83.01	22	P	P	02 34 15.7	+0.2
	0.6nm,0.8s,baz=239,slow=6.2,SNR=4.3						
	0.6nm,0.8s						

*IDC **28** 02:36:13.2±1.5, 67°93N×18°49W, h0km, mb3.5/6, mbtmp3.5/7, ML2.6/1, MS3.3/5, Error ellipse: s-maj=51.0km s-min=20.7km az=19.0*

ISC 28 02:36:15.6±1.2, 68°4N±0°2×18°3W±0°2, h10km, n13, σ1§76/9, mb3.5/6, MS3.4/4, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	Scoresbysund	2.48	331	*i* P	Pn	02 36 55.0	-1.0
SCO				*i* S	Pg	02 37 01.7	-1.4
NOA	NORSAR Array B	14.46	106	LR	LR	02 45 24.7	
	comp=Z,30nm,18.2s,baz=350,slow=38						
FINES	FINESS Array B	19.65	89	P	P	02 40 42.9	-1.1
	0.1nm,0.3s,baz=308,slow=12,SNR=2.0						
	3.2nm,0.9s						
GERES	GERESS Array B	25.19	125	P	P	02 41 38.8	-2.1
	0.3nm,0.3s,baz=331,slow=10,SNR=3.6						
	0.3nm,0.3s						
SCHQ	Schefferville	25.89	263	LR	LR	02 51 37.8	
	comp=Z,69nm,20.8s,baz=14,slow=36						
DAVOX	Davos/Dischmat	25.94	132	LR	LR	02 52 40.4	
	comp=Z,101nm,20.3s,baz=326,slow=38						
YKA	Yellowknife Ar	36.52	309	P	P	02 43 21.4	+1.0
	0.3nm,0.7s,baz=38,slow=8.7,SNR=5.2						
	0.3nm,0.7s						
KVAR	Kislovodsk Arr	39.45	96	LR	LR	02 59 55.7	
	comp=Z,118nm,21.9s,baz=98,slow=36						
ILAR	Eielson Array	42.27	330	P	P	02 44 10.7	+2.3
	0.6nm,1.0s,baz=20,slow=5.4,SNR=4.6						
	0.6nm,1.0s						
KURBB	Kurchatov Arra	46.55	61	P	P	02 44 44.3	+1.5
	0.9nm,0.9s,baz=328,slow=7.3,SNR=4.9						
	0.9nm,0.9s						
MKAR	Makanchi Array	51.11	60	P	P	02 45 19.1	+1.2
	0.7nm,1.0s,baz=353,slow=6.1,SNR=4.3						
	0.7nm,1.0s						
PDAR	Pinedale Array	51.51	290	P	P	02 45 20.7	-0.5
	0.6nm,0.9s,baz=12,slow=6.3,SNR=3.9						
	0.6nm,0.9s						
KSRS	Korea Array	71.52	28	LR	LR	03 22 52.4	
	comp=Z,24nm,18.1s,baz=320,slow=39						

*IDC **28** 02:39:05.6±13.0, 45°18N×141°06E, h0km, mb3.8/5, mbtmp3.7/6, ML2.9/1, Error ellipse: s-maj=255.2km s-min=49.6km az=142.0*
*JMA **28** 02:39:20.1±0.3, 43°N±1°×14°1E±°, h187km±2km, MV2.5/22, ISHIKARI BAY REGION*

ISC 28 02:39:19.7±1.0, 43°4N±0°1×140°76E±0°08, h200km, n17, σ1§00/17, mb3.6/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.21	266	*e*P	Pn	02 39 44.8	-1.1
JEW	Eniwo	0.73	136	*e*P	Pn	02 39 48.0	+0.2
JHR	Hokuryu	0.79	62	*e*P	Pn	02 39 48.0	-0.1
JSH	Shimam	0.90	216	*e*P	Pn	02 39 48.1	-0.7
JNB	Noboribetsu	0.92	167	*e*P	Pn	02 39 48.6	-0.3
JAB	Ashibetsu	1.07	82	*e*P	Pn	02 39 50.1	+0.2
JKK2	Kamakawa 2	1.53	70	P	Pn	02 39 53.8	+0.2
JNBK	Urakawa-nobuka	1.82	126	*e*P	Pn	02 39 56.6	+0.2
JOT	Ohata	2.00	174	*e*P	Pn	02 39 59.2	+1.0
JCH	Churui	2.05	111	P	Pn	02 39 57.7	-0.9
JCH				*e*S	Sn	02 40 26.5	-2.4
JAR	Ashorobuto	2.19	91	P	Pn	02 40 00.7	+0.5
JAR				S	Sn	02 40 32.5	+0.8
USRK	Ussuriysk Ar.	6.41	280	Pn	Pn	02 40 43.9	-8.1
	0.2nm,0.3s,baz=91,slow=13,SNR=5.6						
	0.7nm,0.6s						
NRIK	Noril'sk	37.37	332	P	P	02 46 06.6	-6.0
	3.1nm,0.6s,baz=117,slow=6.8,SNR=4.3						
	3.1nm,0.6s						
ZALV	Zalesovo Beam	37.50	306	P	P	02 46 14.1	+0.2
	0.3nm,0.3s,baz=76,slow=6.1,SNR=3.8						
	0.3nm,0.3s						
MKAR	Makanchi Array	40.61	296	P	P	02 46 41.4	+1.7
	0.2nm,0.5s,baz=83,slow=10,SNR=5.2						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	41.94	303	P	P	02 46 51.0	+0.5
	1.2nm,0.6s,baz=74,slow=8.8,SNR=7.7						
	1.2nm,0.6s						
FINES	FINESS Array B	63.02	331	P	P	02 49 24.4	-0.4
	1.3nm,0.8s,baz=65,slow=4.7,SNR=5.2						
	1.3nm,0.8s						

*NIED **28** 02:51:50.6, 40°07N×142°21E, h44km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.77; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-1.44; $M_{r\theta}$0.94; $M_{\theta\phi}$-0.55; $M_{\phi r}$2.01; Fault plane solution: $M_0$2.81000×10^{14} NP1: ϕ_s201.00000°, δ19.00000°, λ86.00000°. NP2:ϕ_s25.00000°, δ71.00000°, λ91.00000°.*
*IDC **28** 02:51:50.9±2.8, 40°01N×142°52E, h72km±21km, mb3.3/5, mbtmp3.6/8, MS3.5/2 Error ellipse: s-maj=40.8km s-min=17.7km az=100.0*
*JMA **28** 02:51:50.6±0.1, 40°1N±0°3×142°2E±0°7, h44km, MV3.7/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .

ISC 28 02:51:50.2±1.1, 40°04N±0°04×142°19E±0°08, h48km±8km, n27, σ1§23/29, mb3.7/5, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.27	248	⇓*i*P	Pn	02 51 59.3	+0.4
JTH				⇓S	Sn	02 52 05.3	+0.2
JKEN	Kujiedanarisaw	0.40	295	⇓*i*P	Pn	02 52 00.2	0.0
JKEN				⇓S	Sn	02 52 06.8	-0.5
MIYJ	Miyakonagasawa	0.54	212	*i* P	Pn	02 52 02.3	+0.4
MIYJ				S	Sn	02 52 10.4	+0.2
JANG	Nango	0.61	303	⇓*i*P	Pn	02 52 02.9	+0.1
JANG				⇓S	Sn	02 52 11.5	-0.4
JKZ	Kuzumaki	0.66	266	⇓*i*P	Pn	02 52 04.2	+0.7
JKZ				⇓S	Sn	02 52 13.8	+0.8
JOM	Ohasama	0.89	231	⇓*i*P	Pn	02 52 07.1	+0.7
JOM				⇓*e*S	Sn	02 52 19.2	+0.9
OFUJ	Ofunato	1.04	203	*i* P	Pn	02 52 09.1	+0.6
OFUJ				*e*S	Sn	02 52 22.5	+0.7
JTM	Tenmabayashi	1.14	312	⇓*i*P	Pn	02 52 10.2	+0.5
JAH	Hinai	1.20	278	⇓*i*P	Pn	02 52 11.5	+0.9
JAH				⇓S	Sn	02 52 26.4	+0.7
JMK	Ichinoseki	1.32	215	P	Pn	02 52 13.2	+1.0
JMK				S	Sn	02 52 29.7	+1.0
JRG	Rokugo	1.36	242	P	Pn	02 52 13.8	+1.1
ASAJ	Asahikawa	4.09	4	P	Pn	02 52 51.2	+1.1
	4.5nm,0.4s,baz=126,slow=8.7,SNR=5.8						
ASAJ				S	Sn	02 53 38.5	+1.9
	3.6nm,0.3s,baz=194,slow=31,SNR=1.5						
MJAR	Matsushiro Arr	4.69	223	P	Pn	02 53 01.8	+3.4
	3.1nm,0.4s,baz=31,slow=13,SNR=10						
USRK	Ussuriysk Ar.	8.64	302	P	Pn	02 53 55.1	+2.5
	3.6nm,0.6s,baz=110,slow=15,SNR=5.8						
SONM	Songino Array	26.74	299	P	P	02 57 26.0	+0.7
	0.2nm,0.5s,baz=107,slow=8.9,SNR=2.4						
	0.2nm,0.5s						
H11N2	WAKE ISLAND Hy	29.30	126	T	T	03 28 37.7	
	baz=319,slow=75,SNR=96						
H11N1	WAKE ISLAND Hy	29.31	126	T	T	03 28 46.4	
	baz=319,slow=75,SNR=62						
H11N3	WAKE ISLAND Hy	29.32	126	T	T	03 28 39.1	
	baz=319,slow=75,SNR=78						
H11S1	WAKE ISLAND Hy	30.11	128	T	T	03 29 45.4	
	baz=321,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	30.12	128	T	T	03 29 44.3	
	baz=321,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	30.13	128	T	T	03 29 45.8	
	baz=321,slow=76,SNR=16						
MKAR	Makanchi Array	43.10	300	P	P	02 59 45.5	-0.1
	0.3nm,0.4s,baz=86,slow=9.8,SNR=6.5						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	44.69	306	P	P	02 59 58.0	-0.1
	0.7nm,0.4s,baz=80,slow=8.5,SNR=6.4						
	0.7nm,0.4s						
PMG	Port Moresby	49.41	174	LR	LR	03 23 24.3	
	comp=Z,35nm,18.2s,baz=131,slow=38						
INK	Inuvik	51.45	28	LR	LR	03 25 46.6	
	comp=Z,70nm,19.3s,baz=240,slow=40						
WRA	Warramunga Arr	60.12	189	P	P	03 01 50.4	-2.3
	0.4nm,0.6s,baz=8.8,slow=6.9,SNR=2.0						
	0.4nm,0.6s						
AKASG	Malin Array Be	72.30	322	P	P	03 03 09.6	-0.9
	0.4nm,0.4s,baz=46,slow=6.1,SNR=5.7						
	0.4nm,0.4s						

*GCG **28** 02:59:00.0±0.8, 14°20N×90°68W, h89km±10km, MD3.5, Hypocentre not reviewed by the ISC*
*SNET **28** 02:59:03.2±2.9, 14°08N×90°69W, h59km, ML3.2*

CATAC 28 02:58:58.8±0.8, 14°N±4°×9°1W±°, h19km±5km, M3.3/11, MLv3.3/11, Error ellipse: s-maj=10.0km s-min=3.5km az=20.8, confirmed, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	Sabana Grande	0.71	7	*e*P		02 59 13.0	
ESSG				*e*S		02 59 23.5	
FAME	Alcaldia de Sa	0.90	79	S	Sb	02 59 27.6	+0.2
NUBE	Las Nubes	1.13	78	*e*P	Pn	02 59 19.3	-0.5
NUBE				*e*S	Sb	02 59 34.1	-0.2
NUBE	Las Nubes	1.13	78	P	Pn	02 59 19.1	-0.6
NUBE	Las Nubes	1.13	78	S	Sb	02 59 34.0	-0.3
NUBE	Las Nubes	1.13	78	P	Pn	02 59 19.2	-0.6
NUBE	Las Nubes	1.13	78	*e*P		02 59 19.4	
NUBE				*e*S		02 59 33.9	
RTAL	Retalhuleu	1.13	318	S	Sb	02 59 33.0	-1.2
RTAL	Retalhuleu	1.13	318	P	Pg	02 59 20.3	-0.4
LOAL	Lomas de Alarc	1.15	74	P	Pb	02 59 20.2	+0.1
LOAL	Lomas de Alarc	1.15	74	S	Sn	02 59 35.4	+0.1
LOAL	Lomas de Alarc	1.15	74	P	Pg	02 59 21.4	+0.2
SLOZ	Alcaldia de Sa	1.16	72	*e*P	Pb	02 59 20.2	0.0
SLOZ				*e*S	Sn	02 59 35.8	+0.4
SLOZ	Alcaldia de Sa	1.16	72	P	Pn	02 59 20.1	+0.1
SLOZ	Alcaldia de Sa	1.16	72	S	Sn	02 59 35.6	+0.1
SOKI	Kika Raxquin	1.23	338	*e*P		02 59 21.3	
SOKI				*e*S		02 59 37.0	
CEVE	Cerro Verde	1.27	83	*e*P	Pn	02 59 21.7	0.0
CEVE				*e*S	Sn	02 59 38.6	+0.1
CEVE	Cerro Verde	1.27	83	P	Pn	02 59 21.6	-0.2
CEVE	Cerro Verde	1.27	83	S	Sb	02 59 38.3	0.0
CEVE	Cerro Verde	1.27	83	P	Pg	02 59 23.0	-0.4
UNIC	Universidad Ca	1.37	77	S	Sb	02 59 40.9	-0.1
UNIC	Universidad Ca	1.37	77	P	Pn	02 59 23.1	+0.2
JAYA	Jayaque - finc	1.43	91	*e*P	Pn	02 59 23.4	-0.6
JAYA				*e*S	Sn	02 59 41.5	-0.8
JAYA	Jayaque - finc	1.43	91	P	Pn	02 59 23.4	-0.5
JAYA	Jayaque - finc	1.43	91	S	Sn	02 59 41.5	-0.9
JAYA	Jayaque - finc	1.43	91	P	Pn	02 59 23.4	-0.5
JAYA	Jayaque - finc	1.43	91	*e*P		02 59 23.7	
JAYA				*e*S		02 59 40.7	
PMON	Piamonte	1.56	88	*e*P	Pn	02 59 26.0	+0.4
PMON				*e*S	Sn	02 59 46.0	+0.5
PMON	Piamonte	1.56	88	P	Pn	02 59 25.9	+0.2
PMON	Piamonte	1.56	88	S	Sn	02 59 45.4	-0.1
PMON	Piamonte	1.56	88	P	Pn	02 59 26.1	+0.5
UEES	Universidad Ev	1.64	88	S	Sn	02 59 46.8	-0.4
MTO3	Montecristo	1.68	64	S	Sb	02 59 50.5	+0.5
MTO3	Montecristo	1.68	64	P	Pb	02 59 28.5	-0.7
MTO3	Montecristo	1.68	64	P	Pn	02 59 27.5	+0.1
ALJI	Alcalda de J	2.31	98	P	Pb	02 59 38.9	-1.1

TRN 28 03:08:33.6, 16°40N×61°24W, h25km, MD3.8, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.67	216	*e*P	Pn	03 08 49.4	+1.9
TBG				*e*S	Sn	03 08 59.0	+1.8
TBG	Guadaloupe-3	0.67	216	*e*P	Pn	03 08 49.4	+1.9
TBG				*e*S	Sn	03 08 59.0	+1.8
ANBD	Bethesda, Anti	0.82	322	*e*P	Pn	03 08 50.4	+0.8
ANBD				*e*S	Sn	03 09 02.5	+1.5
ANBD	Bethesda, Anti	0.82	322	*e*P	Pn	03 08 50.4	+0.8
ANBD				*e*S	Sn	03 09 02.5	+1.5
DSLB	Salisbury	0.97	191	*e*P	Pb	03 08 53.7	+1.9
DSLB				*e*S	Sn	03 09 07.7	+3.0
DSLB	Salisbury	0.97	191	*e*P	Pb	03 08 53.7	+1.9
DSLB				*e*S	Sn	03 09 07.7	+3.0
MBFL	Flemmings, Mon	1.00	291	*e*P	Pb	03 08 53.8	+1.5
MBFL				*e*S	Sn	03 09 07.3	+1.9
MBFL	Flemmings, Mon	1.00	291	*e*P	Pb	03 08 53.8	+1.5
MBFL				*e*S	Sn	03 09 07.3	+1.9
MDN	Morne-Daniel	1.08	188	*e*P	Pb	03 08 55.6	+1.9
MDN				*e*S	Sb	03 09 10.4	+2.9
MDN	Morne-Daniel	1.08	188	*e*P	Pb	03 08 55.6	+1.9
MDN				*e*S	Sb	03 09 10.4	+2.9
ANWB	Willy Bob	1.37	338	*e*P	Pb	03 08 58.8	+0.2
ANWB				*e*S	Sb	03 09 17.5	+1.8
ANWB	Willy Bob	1.37	338	*e*P	Pb	03 08 58.8	+0.2
ANWB				*e*S	Sb	03 09 17.5	+1.8
ILAM	Ilet Lapin Mar	1.65	168	*e*S	Sb	03 09 22.8	-1.0
ILAM	Ilet Lapin Mar	1.65	168	*e*S	Sb	03 09 22.8	-1.0
SKI	Saint Kitts	1.71	303	*e*P	Pb	03 09 04.3	-0.2
SKI				*e*S	Sb	03 09 26.4	+0.8
SKI	Saint Kitts	1.71	303	*e*P	Pb	03 09 04.3	-0.2
SKI				*e*S	Sb	03 09 26.4	+0.8
BIM	Bigot	1.88	175	*e*P	Pn	03 09 05.3	+1.1
BIM				*e*S	Sb	03 09 29.0	-1.3
BIM	Bigot	1.88	175	*e*P	Pn	03 09 05.3	+1.1
BIM				*e*S	Sb	03 09 29.0	-1.3
SLBI	Saint Lucia, B	2.37	174	*e*P	Pb	03 09 14.5	-1.2
SLBI				*e*S	Sn	03 09 41.7	+2.4
SLBI	Saint Lucia, B	2.37	174	*e*P	Pb	03 09 14.5	-1.2
SLBI				*e*S	Sn	03 09 41.7	+2.4

*NEIC **28** 03:17:37.2±0.9, 21°5S±0°2×176°06W±0°09, h70km±11km, mb4.8/18, Error ellipse: s-maj=32.4km s-min=12.7km az=182.0*
*IDC **28** 03:17:47.8±4.6, 21°53S×176°23W, h164km±39km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=34.9km s-min=25.1km az=145.0*

ISC 28 03:17:46.4±1.0, 21°7S±0°1×176°2W±0°2, h154km, n30, σ1§02/31, mb4.4/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.43	67	Pn	Pn	03 19 06.6	-12
MSVF	Nonsavu	6.71	305	P	Pn	03 19 23.2	+0.5
	3.6nm,0.2s,baz=127,slow=14,SNR=3.9						
RTZ	Ruatahuna	17.84	198	P	P	03 21 42.1	-1.5
BKZ	Black Stump Fm	18.50	198	P	P	03 21 49.8	-1.0
BKZ				IAmb	IAmb	03 21 52.0	
	comp=Z,89nm,2.0s						
MRZ	Mangatainoka R	20.14	198	P	P	03 22 06.8	-1.7
MRZ				IAmb	IAmb	03 22 25.1	
	comp=Z,77nm,1.5s						
QRZ	Quartz Range	21.32	204	P	P	03 22 21.0	-0.1
TKNZ	Takaka Hill	21.34

EKA Eskdalemuir Ar 146.02 7 PKPbc PKPdf 03 37 06.1 -0.6
comp=Z,0.6nm,0.7s,baz=2.5,slow=1.6,SNR=4.2
BRTR Keskin Array B 148.90 312 PKPbc PKPbc 03 37 16.4 +0.1
comp=Z,0.3nm,0.8s,baz=329,slow=1.7,SNR=1.3

---

*NEIC **28** 03:38:55.9±1.6, 37°.63N±0°.02×105°.57W±0°.02, h5km±2km, mb_Lg3.2/120, ML3.4/32, Error ellipse: s-maj=3.3km s-min=3.0km az=315.0*
*IDC **28** 03:39:00.3±1.3, 37°.53N×106°.55W, h0km, mb2.9/1, mbtmp2.9/4, ML3.2/3, Error ellipse: s-maj=69.2km s-min=9.9km az=76.0*
ISC 28 03:38:56.4±0.8, 37°.57N±0°.04×105°.51W±0°.04, h10km, n74, σ1§91/52, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.17**	**3**	Pg	**Pg**	**03 38 59.3**	**-1.0**
T25A	**Trinidad**	**0.98**	**116**	Pg	**Pg**	**03 39 15.5**	**+0.3**
S22A	**4UR Ranch, Cre**	**1.06**	**280**	Pg	**Pg**	**03 39 16.6**	**-0.1**
S22A	comp=N,1μm,0.1s			IAML		03 39 34.5	
S22A	comp=E,2μm,0.1s			IAML		03 39 35.1	
Q24A	**Divide**	**1.42**	**11**		**Pn**	**03 39 21.5**	**-1.0**
ISCO	**Idaho Springs**	**2.23**	**358**	Pn	**Pn**	**03 39 32.6**	**-1.0**
MVCO	**Mesa Verde**	**2.41**	**262**	Pn	**Pn**	**03 39 35.0**	**-1.0**
MVCO	comp=E,285nm,0.8s			IAML		03 40 23.4	
PV15	**Paradox Valley**	**2.47**	**289**	Pn	**Pn**	**03 39 37.8**	**+0.9**
PV01	**Paradox Valley**	**2.48**	**284**	Pn	**Pn**	**03 39 37.2**	**+0.1**
PV01	comp=N,104nm,0.6s			IAML		03 40 22.8	
RTBA	**Rita Blanca**	**2.49**	**116**	Pn	**Pn**	**03 39 38.9**	**+1.8**
RTBA	comp=Z,114nm,0.9s			IAmb_Lg		03 40 23.3	
PV07	**Paradox Valley**	**2.62**	**290**	Pn	**Pn**	**03 39 40.0**	**+1.0**
PV02	**Paradox Valley**	**2.63**	**285**	Pn	**Pn**	**03 39 38.3**	**-0.7**
PV13	**Radium Mtn., P**	**2.68**	**284**		**Pn**	**03 39 40.4**	**+0.5**
KSCO	**Kaye Shedlock'**	**2.69**	**57**	Pn	**Pn**	**03 39 41.3**	**+1.5**
ANMO	**Albuquerque**	**2.73**	**197**	Pn	**Pn**	**03 39 41.3**	**+0.9**
ANMO	comp=Z,90nm,1.1s			IAML		03 40 28.8	
ANMO	comp=Z,54nm,0.5s			IAML		03 40 29.3	
ANMO	**Albuquerque**	**2.73**	**197**	Pn	**Pb**	**03 39 43.6**	**-1.8**
ANMO	comp=Z,3.8nm,0.3s,baz=178,slow=12,SNR=56 comp=Z,4.4nm,0.3s,baz=207,slow=19,SNR=19			Pg	**Pg**	**03 39 46.5**	**-2.2**
ANMO	comp=Z,28nm,0.3s,baz=251,slow=23,SNR=18 comp=Z,11nm,0.4s			Lg	Lg	03 40 23.7	
PV11	**David Mesa, Pa**	**2.75**	**286**		**Pn**	**03 39 39.6**	**-1.1**
PV23	**Carpenter Ridg**	**2.90**	**289**		**Pn**	**03 39 44.3**	**+1.5**
PV10	**Paradox Valley**	**2.90**	**287**		**Pn**	**03 39 42.4**	**-0.4**
BRIGG	**Briggsdale**	**3.14**	**17**	IAmb_Lg		03 40 36.3	
N23A	**Red Feather La**	**3.33**	**354**		**Pn**	**03 39 49.7**	**+0.9**
N23A	comp=E,176nm,0.7s			IAML		03 40 44.1	
N23A	comp=N,116nm,0.6s			IAML		03 40 54.3	
BNM	**Barren Site**	**3.53**	**195**		**Pn**	**03 39 53.4**	**+1.8**
LENM	**Lemitar**	**3.60**	**200**		**Pn**	**03 39 53.8**	**+1.4**
CRNM	**Carthage**	**3.75**	**196**		**Pn**	**03 39 55.8**	**+1.4**
SBM	**South Baldy**	**3.84**	**201**		**Pn**	**03 39 57.1**	**+1.3**
AMTX	**Amarillo**	**4.10**	**130**	IAmb_Lg		03 41 12.8	
OGNE	**Ogallala**	**4.32**	**38**		**Pn**	**03 40 03.1**	**+1.0**
CBKS	**Cedar Bluff**	**4.71**	**73**	Pn	**Pn**	**03 40 09.6**	**+2.0**
TMUT	**Trail Mountain**	**4.79**	**293**		**Pn**	**03 40 07.9**	**-1.0**
SMWD	**Samnorwood**	**4.92**	**118**	IAmb_Lg		03 41 37.4	
ELIS	**Ellis County**	**5.12**	**105**	IAmb_Lg		03 41 49.1	
NOKA	**Waynoka**	**5.34**	**98**	IAmb_Lg		03 42 00.5	
121A	**Cookes Peak, D**	**5.36**	**201**	P	**Pg**	**03 40 41.1**	**+2.0**
121A				S	**Sg**	**03 41 49.4**	**+0.8**
DKNS	**Dickens**	**5.40**	**135**	P	**Pb**	**03 40 29.6**	**-1.3**
DKNS				P	**Sg**	**03 41 45.3**	**-4.4**
R32A	**Long Quarter,**	**5.44**	**79**		**Pn**	**03 40 20.1**	**+2.6**
R32A	comp=Z,36nm,0.8s			IAmb_Lg		03 42 01.7	
CLNB	**Carlsbad**	**5.46**	**165**	Pn	**Pn**	**03 40 18.2**	**+0.3**
POST	**Post**	**5.56**	**143**	IAmb_Lg		03 42 07.5	
POST	**Post**	**5.56**	**143**	P	**Pb**	**03 40 33.9**	**+0.2**
POST				P	**Sg**	**03 41 51.8**	**-3.2**
X16A	**Lo Mia Camp, P**	**5.75**	**239**	Pn	**Pn**	**03 40 23.8**	**+1.9**
ODSA	**Odessa**	**5.96**	**155**	P	Pg	03 41 04.1	+14
KAN08	**Anthony NE Sta**	**6.01**	**91**	IAmb_Lg		03 42 11.4	
SN05	**Snyder 5**	**6.02**	**140**	IAmb_Lg		03 42 23.1	
PDAR	**Pinedale Array**	**6.04**	**330**	Pn	**Pn**	**03 40 29.7**	**+3.7**
PDAR	comp=Z,0.1nm,0.3s,baz=147,slow=8.8,SNR=4.4 comp=Z,0.6nm,0.3s,baz=113,slow=14,SNR=7.0			Pg	**Pg**	**03 40 49.7**	**-2.4**
PDAR	comp=Z,1.4nm,0.3s,baz=159,slow=24,SNR=8.8 comp=Z,0.3nm,0.4s			Lg	Lg	03 41 59.3	
APMT	**Aspermont**	**6.11**	**132**	IAmb_Lg		03 42 16.1	
WMOK	**Wichita Mounta**	**6.14**	**115**	IAmb_Lg		03 42 20.5	
WMOK	**Wichita Mounta**	**6.14**	**115**	P	Pb	03 40 48.8	+5.4
WMOK				P	**Sg**	**03 42 11.6**	**-1.7**
KAN09	**Caldwell North**	**6.30**	**92**	Pn	**Pn**	**03 40 31.1**	**+1.8**
KAN13	**South Haven SW**	**6.43**	**93**	Pn	**Pn**	**03 40 32.6**	**+1.5**
MNHN	**Monahans**	**6.62**	**159**	IAmb_Lg		03 42 34.0	
RSSD	**Black Hills**	**6.64**	**9**	IAmb_Lg		03 42 37.2	
BLOK	**Blackwell**	**6.67**	**94**	IAmb_Lg		03 42 39.2	
SGCY	**Sterling City**	**6.70**	**146**	P	**Pn**	**03 40 34.6**	**-0.3**
SGCY				S	**Sg**	**03 42 28.3**	**-3.1**
TUC	**Tucson**	**6.80**	**221**	IAmb_Lg		03 42 36.7	
BGNE	**Belgrade**	**6.86**	**54**	Pn	**Pn**	**03 40 38.0**	**+1.0**
WTFS	**Witchita Falls**	**6.88**	**121**	IAmb_Lg		03 42 43.2	
X34A	**Smith Ranch, M**	**6.89**	**113**	IAmb_Lg		03 42 49.0	
FNO	**Franklin**	**6.94**	**107**	IAmb_Lg		03 42 54.6	
OK031	**S. Brethren Rd**	**7.15**	**100**	IAmb_Lg		03 42 48.0	
KSU1	**Kansas State U**	**7.16**	**75**		**Pn**	**03 40 40.6**	**-0.5**
KSU1	comp=Z,41nm,1.0s			IAmb_Lg		03 42 47.8	
QUOK	**Quay**	**7.19**	**99**		**Pn**	**03 40 41.8**	**+0.2**
ALPN	**Alpine**	**7.35**	**167**	P	Pg	03 41 12.2	-4.8
W35A	**Tecumseh**	**7.38**	**107**		**Pn**	**03 40 46.1**	**+2.1**
OZNA	**Ozona**	**7.56**	**150**	IAmb_Lg		03 43 04.9	
PLPT	**Palo Pinto**	**7.56**	**127**	IAmb_Lg		03 43 06.7	
FW03	**Perrin-Whitt E**	**7.58**	**124**	IAmb_Lg		03 43 03.2	
FW06	**Azle**	**7.96**	**123**	IAmb_Lg		03 43 19.3	
TXAR	**Lajitas Array**	**8.36**	**169**	Pn	Pn	03 41 06.4	+8.7
TXAR	baz=354,slow=12,SNR=5.0 comp=Z,0.3nm,0.3s,baz=358,slow=10,SNR=7.6			Pg	Pg	03 41 31.6	-4.8
TXAR	comp=Z,0.5nm,0.3s,baz=345,slow=32,SNR=4.9 comp=Z,0.6nm,0.9s			Lg	Lg	03 43 21.3	
JCT	**Junction City**	**8.51**	**145**	IAmb_Lg		03 43 40.6	
ECSD	**EROS Data Cent**	**9.14**	**45**	Pn	**Pn**	**03 41 10.2**	**+1.9**
ECSD	comp=Z,21nm,0.7s			IAmb_Lg		03 43 50.4	
HHAR	**Hobbs**	**9.36**	**94**	Pn	**Pn**	**03 41 14.4**	**+3.1**
NV11	**Mina Array Sit**	**10.02**	**279**	Pn	**Pn**	**03 41 18.9**	**-1.6**
MIAR	**Mount Ida**	**10.12**	**104**	Pn	**Pn**	**03 41 23.0**	**+1.3**
EF63	**Gonzales**	**10.42**	**138**	P	Pn	03 41 08.2	-18
ULM	**Lac du Bonnet**	**14.43**	**26**	Lg	Lg	03 46 28.8	
YKA	comp=Z,0.2nm,0.3s,baz=309,slow=22,SNR=6.0 **Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=164,slow=9.7,SNR=3.0 comp=Z,0.2nm,0.7s	**25.57**	**350**	P	**P**	**03 44 30.8**	**+5.6**

---

*IDC **28** 03:44:05.3±7.6, 38°.05S×176°.18E, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=586.6km s-min=71.5km az=0.0*
*NOU **28** 03:44:20.0, 39°.10S×175°.64E, h125km, MLv3.9/18, North Island, New Zealand*
*WEL **28** 03:44:21.7±0.4, 39°.3S±3°.3×17°.6E±°, h118km±4km, M3.3/77, ML2.9/30, MLv3.3/77, Error ellipse: s-maj=4.3km s-min=3.1km az=115.0, confirmed*
ISC 28 03:44:19.7±1.0, 39°.08S±0°.04×175°.60E±0°.04, h138km±5km, n164, σ0§95/173, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVZ	**Karewarewa**	**0.03**	**116**	P	**Pn**	**03 44 38.5**	**+0.1**
KRVZ				S	**Sn**	**03 44 51.2**	**-1.5**
WTVZ	**West Tongariro**	**0.04**	**196**	P	**Pn**	**03 44 38.5**	**0.0**
WTVZ				S	**Sn**	**03 44 51.2**	**-1.5**
NNVZ	**North Ngauruho**	**0.05**	**169**	P	**Pn**	**03 44 38.5**	**+0.1**
NTVZ	**North Tongarir**	**0.06**	**108**	P	**Pn**	**03 44 38.8**	**+0.3**
NTVZ				S	**Sn**	**03 44 51.6**	**-1.1**
TMVZ	**Te Maari**	**0.09**	**114**	P	**Pn**	**03 44 38.8**	**+0.3**
NGZ	**Ngauruhoe**	**0.10**	**181**	P	**Pn**	**03 44 38.8**	**+0.3**
OTVZ	**Oturere**	**0.10**	**150**	P	**Pn**	**03 44 38.6**	**+0.1**
ETVZ	**East Tongariro**	**0.10**	**124**	P	**Pn**	**03 44 38.8**	**+0.3**
ETVZ				S	**Sn**	**03 44 51.3**	**-1.5**
SNVZ	**South Ngauruho**	**0.11**	**165**	P	**Pn**	**03 44 38.7**	**+0.1**
KATZ	**Kakaramea**	**0.13**	**35**	P	**Pn**	**03 44 38.5**	**-0.1**
KATZ				S	**Sn**	**03 44 52.9**	**+0.1**
COVZ	**Chateau Observ**	**0.13**	**201**	P	**Pn**	**03 44 38.9**	**+0.3**
TWVZ	**Taurewa**	**0.13**	**274**	P	**Pn**	**03 44 38.7**	**+0.2**
FWVZ	**Far West T-bar**	**0.18**	**192**	P	**Pn**	**03 44 39.2**	**+0.4**
FWVZ				S	**Sn**	**03 44 51.9**	**-1.4**
MAVZ	**Matarangi**	**0.19**	**190**	P	**Pn**	**03 44 39.4**	**+0.5**
TUVZ	**Tukino**	**0.19**	**168**	P	**Pn**	**03 44 39.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**0.20**	**183**	P	**Pn**	**03 44 39.4**	**+0.5**
WHVZ				S	**Sn**	**03 44 52.0**	**-1.4**
TRVZ	**Turoa**	**0.22**	**191**	P	**Pn**	**03 44 39.5**	**+0.6**
TRVZ				S	**Sn**	**03 44 52.1**	**-1.4**
RITZ	**Rihia Road**	**0.22**	**63**	P	**Pn**	**03 44 38.9**	**+0.3**
WNVZ	**Wahianoa**	**0.25**	**181**	P	**Pn**	**03 44 39.4**	**+0.5**
WNVZ				S	**Sn**	**03 44 51.9**	**-1.6**
RATZ	**Rangitukua**	**0.25**	**32**	P	**Pn**	**03 44 38.6**	**-0.1**
PKVZ	**Pokaka**	**0.29**	**223**	P	**Pn**	**03 44 39.4**	**+0.5**
MTVZ	**Mangateitei**	**0.32**	**199**	P	**Pn**	**03 44 39.9**	**+1.0**
MOVZ	**Moawhango**	**0.35**	**160**	P	**Pn**	**03 44 39.4**	**+0.3**
MOVZ				S	**Sn**	**03 44 51.7**	**-2.1**
WATZ	**Wairara**	**0.39**	**15**	P	**Pn**	**03 44 39.2**	**0.0**
HATZ	**Hinemaiaia**	**0.43**	**64**	P	**Pn**	**03 44 39.2**	**-0.1**
WHTZ	**Whakaora**	**0.50**	**34**	P	**Pn**	**03 44 40.0**	**+0.2**
KUTZ	**Kaahu Road**	**0.61**	**16**	P	**Pn**	**03 44 40.6**	**+0.2**
VRZ	**Vera Road**	**0.66**	**266**	P	**Pn**	**03 44 41.4**	**+0.8**
MRHZ	**Matea Rd**	**0.68**	**69**	P	**Pn**	**03 44 40.7**	**-0.2**
BKZ	**Black Stump Fm**	**0.70**	**97**	P	**Pn**	**03 44 40.9**	**-0.1**
BKZ	**Black Stump Fm**	**0.70**	**97**	S	**Sn**	**03 44 55.9**	**-1.2**
BKZ	**Black Stump Fm**	**0.70**	**97**	P	**Pn**	**03 44 41.3**	**+0.3**
WPRZ	**Whakapapatarin**	**0.71**	**38**	P	**Pn**	**03 44 40.9**	**-0.1**
KWHZ	**Kaweka Forest**	**0.72**	**119**	P	**Pn**	**03 44 42.0**	**+0.9**
TLZ	**Tolley Road**	**0.75**	**356**	P	**Pn**	**03 44 41.4**	**0.0**
ALRZ	**Allen Road**	**0.78**	**48**	P	**Pn**	**03 44 41.3**	**-0.2**
HIZ	**Hauiti**	**0.81**	**314**	P	**Pn**	**03 44 42.0**	**+0.2**
HIZ	**Hauiti**	**0.81**	**314**	S	**Sn**	**03 44 58.0**	**-0.5**
HIZ	**Hauiti**	**0.81**	**314**	P	**Pn**	**03 44 42.2**	**+0.5**
KRHZ	**Kereru**	**0.82**	**134**	P	**Pn**	**03 44 42.9**	**+1.1**
WAZ	**Wanganui**	**0.83**	**215**	P	**Pn**	**03 44 43.1**	**+1.3**
GRRZ	**Galatos Road**	**0.83**	**29**	P	**Pn**	**03 44 42.2**	**+0.2**
PRRZ	**Plateau Road**	**0.85**	**47**	P	**Pn**	**03 44 41.8**	**-0.2**
HRRZ	**Handcock Road**	**0.87**	**38**	P	**Pn**	**03 44 42.4**	**+0.1**
HSRZ	**Hossack Road**	**0.92**	**33**	P	**Pn**	**03 44 42.8**	**+0.2**
MCHZ	**McNeill Hill**	**0.92**	**114**	P	**Pn**	**03 44 44.3**	**+1.7**
NMHZ	**Naumai**	**0.94**	**91**	P	**Pn**	**03 44 44.4**	**+1.5**
PNHZ	**Pukenui**	**0.95**	**151**	P	**Pn**	**03 44 44.1**	**+1.2**
MTHZ	**Maungataniwha**	**0.99**	**77**	P	**Pn**	**03 44 43.6**	**+0.3**
HLRZ	**Highlands Stat**	**1.01**	**36**	P	**Pn**	**03 44 44.3**	**+0.7**
UTU	**Utuhina**	**1.01**	**27**	P	**Pn**	**03 44 43.9**	**+0.4**
TSZ	**Takapari Road**	**1.02**	**164**	P	**Pn**	**03 44 44.8**	**+1.3**
RRRZ	**Republican Roa**	**1.03**	**44**	P	**Pn**	**03 44 43.6**	**0.0**
NGRZ	**Ngongotaha**	**1.08**	**25**	P	**Pn**	**03 44 44.4**	**+0.3**
MUGZ	**Murupara**	**1.09**	**57**	P	**Pn**	**03 44 44.0**	**-0.2**
ARHZ	**Aropaoanui**	**1.10**	**100**	P	**Pn**	**03 44 45.6**	**+1.4**
TARZ	**Mount Tarawera**	**1.10**	**40**	P	**Pn**	**03 44 44.7**	**+0.3**
OMRZ	**Omania**	**1.14**	**32**	P	**Pn**	**03 44 44.9**	**+0.1**
OHWZ	**Ohakea**	**1.15**	**191**	P	**Pn**	**03 44 46.6**	**+1.9**
PREZ	**Palmer Road**	**1.15**	**256**	P	**Pn**	**03 44 46.4**	**+1.6**
MKRZ	**Makatiti**	**1.16**	**36**	P	**Pn**	**03 44 44.2**	**-0.7**
RAHZ	**Arahi**	**1.17**	**82**	P	**Pn**	**03 44 45.9**	**+0.9**
KARZ	**Kaharoa**	**1.17**	**26**	P	**Pn**	**03 44 45.3**	**+0.3**
RTZ	**Ruatahuna**	**1.17**	**67**	P	**Pn**	**03 44 45.1**	**+0.1**
WPHZ	**Waipukurau**	**1.18**	**147**	P	**Pn**	**03 44 46.4**	**+1.4**
NEZ	**North Egmont**	**1.19**	**260**	P	**Pn**	**03 44 46.7**	**+1.5**
KAHZ	**Kahuranaki**	**1.22**	**126**	P	**Pn**	**03 44 46.9**	**+1.5**
KHEZ	**Kahui Hut**	**1.25**	**260**	P	**Pn**	**03 44 47.0**	**+1.2**
KHEZ	**Kahui Hut**	**1.25**	**260**	P	**Pn**	**03 44 47.3**	**+1.5**
KMRZ	**Kaimai**	**1.26**	**12**	P	**Pn**	**03 44 46.2**	**+0.3**
PKE	**Pukeiti**	**1.26**	**264**	P	**Pn**	**03 44 47.1**	**+1.3**
WHHZ	**Waihua**	**1.27**	**90**	P	**Pn**	**03 44 47.2**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.28**	**117**	P	**Pn**	**03 44 47.6**	**+1.6**
DVHZ	**Dannevirke**	**1.29**	**161**	P	**Pn**	**03 44 47.4**	**+1.2**
POWZ	**Post Office Ro**	**1.32**	**174**	P	**Pn**	**03 44 47.5**	**+1.1**
TOZ	**Tahuroa Road**	**1.35**	**357**	P	**Pn**	**03 44 46.9**	**+0.2**
PXZ	**Pawanui**	**1.36**	**135**	P	**Pn**	**03 44 48.1**	**+1.3**
NBEZ	**Newall Road No**	**1.36**	**262**	P	**Pn**	**03 44 48.1**	**+1.3**
NMEZ	**Namu Road**	**1.38**	**255**	P	**Pn**	**03 44 48.4**	**+1.4**
SNGZ	**Shannon Statio**	**1.39**	**78**	P	**Pn**	**03 44 47.9**	**+0.8**
PRHZ	**Porangahau**	**1.43**	**146**	P	**Pn**	**03 44 49.0**	**+1.5**
URZ	**Urewera**	**1.44**	**56**	P	**Pn**	**03 44 47.3**	**-0.3**
URZ	**Urewera**	**1.44**	**56**	S	**Sn**	**03 45 06.4**	**-2.6**
URZ	**Urewera**	**1.44**	**56**	P	**Pn**	**03 44 47.4**	**-0.3**
OPRZ	**Ohinepanea**	**1.44**	**32**	P	**Pn**	**03 44 47.5**	**-0.2**
PRWZ	**Pori Road**	**1.50**	**169**	P	**Pn**	**03 44 49.7**	**+1.4**
RAGZ	**Rawiri**	**1.53**	**68**	P	**Pn**	**03 44 49.2**	**+0.5**
ANWZ	**Angora Road**	**1.53**	**154**	P	**Pn**	**03 44 49.2**	**+0.5**
MRZ	**Mangatainoka R**	**1.58**	**181**	P	**Pn**	**03 44 50.1**	**+0.9**
KNZ	**Kokohu**	**1.61**	**89**	P	**Pn**	**03 44 50.3**	**+0.7**
BFZ	**Birch Farm**	**1.68**	**163**	P	**Pn**	**03 44 51.4**	**+1.1**
BFZ	**Birch Farm**	**1.68**	**163**	S	**Sn**	**03 45 12.6**	**-1.2**
BFZ	**Birch Farm**	**1.68**	**163**	P	**Pn**	**03 44 51.3**	**+1.1**
MWZ	**Matawai**	**1.68**	**64**	P	**Pn**	**03 44 50.5**	**+0.1**
TIWZ	**Tintock**	**1.71**	**173**	P	**Pn**	**03 44 51.8**	**+1.0**
RIGZ	**Rimuhau**	**1.73**	**78**	P	**Pn**	**03 44 51.7**	**+0.8**
OGWZ	**Otaki Gorge**	**1.77**	**191**	P	**Pn**	**03 44 52.4**	**+1.1**
PRGZ	**Paritu Road**	**1.78**	**86**	P	**Pn**	**03 44 52.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.79**	**93**	P	**Pn**	**03 44 52.8**	**+1.2**
HOWZ	**Holdsworth Sta**	**1.82**	**182**	P	**Pn**	**03 44 52.7**	**+0.7**
KIW	**Kapiti Island**	**1.86**	**196**	P	**Pn**	**03 44 53.0**	**+0.6**
TKGZ	**Te Karaka**	**1.87**	**71**	P	**Pn**	**03 44 53.3**	**+0.8**
RUGZ	**Raukumara Rang**	**1.97**	**56**	P	**Pn**	**03 44 53.3**	**-0.6**
MKAZ	**Moumakai**	**2.00**	**350**	P	**Pn**	**03 44 54.7**	**+0.5**
TMWZ	**Te Maipa**	**2.04**	**174**	P	**Pn**	**03 44 55.2**	**+0.7**
CAW	**Cannon Point**	**2.07**	**191**	P	**Pn**	**03 44 55.5**	**+0.6**
TWGZ	**Tauwhareparae**	**2.07**	**65**	P	**Pn**	**03 44 55.8**	**+0.9**
MTW	**Mount Morrison**	**2.08**	**182**	P	**Pn**	**03 44 55.5**	**+0.4**
CNGZ	**Carnagh Statio**	**2.12**	**75**	P	**Pn**	**03 44 56.8**	**+1.3**
AWAZ	**Awhitu Peninsu**	**2.15**	**339**	P	**Pn**	**03 44 56.8**	**+0.9**
DUWZ	**D'Urville Isla**	**2.15**	**216**	P	**Pn**	**03 44 56.3**	**+0.3**
HAZ	**Te Kaha**	**2.16**	**53**	P	**Pn**	**03 44 55.6**	**-0.5**
PKGZ	**Pakihiroa**	**2.29**	**59**	P	**Pn**	**03 44 57.7**	**+0.1**
PAWZ	**Paruwai Farm**	**2.30**	**183**	P	**Pn**	**03 44 58.0**	**+0.2**
PUZ	**Puketiti**	**2.31**	**65**	P	**Pn**	**03 44 58.2**	**+0.3**
WIAZ	**Waiheke Island**	**2.31**	**351**	P	**Pn**	**03 44 58.6**	**+0.6**
TRWZ	**Traveller**	**2.32**	**178**	P	**Pn**	**03 44 58.4**	**+0.5**
KUZ	**Kuaotunu**	**2.33**	**2**	P	**Pn**	**03 44 58.7**	**+0.5**
KUZ	**Kuaotunu**	**2.33**	**2**	P	**Pn**	**03 44 58.6**	**+0.5**
SNZO	**South Karori**	**2.33**	**197**	P	**Pn**	**03 44 58.3**	**+0.2**
MSWZ	**Moikau Station**	**2.35**	**186**	P	**Pn**	**03 44 58.4**	**0.0**
TCW	**Tory Channel**	**2.36**	**205**	P	**Pn**	**03 44 58.8**	**+0.3**
BHW	**Baring Head**	**2.39**	**193**	P	**Pn**	**03 44 59.1**	**+0.2**
PLWZ	**Palliser**	**2.50**	**186**	P	**Pn**	**03 45 00.3**	**0.0**
WMGZ	**Waiomatatini S**	**2.54**	**61**	P	**Pn**	**03 45 00.7**	**0.0**
MXZ	**Matakaoa Point**	**2.61**	**55**	P	**Pn**	**03 45 02.4**	**+0.8**
MXZ	**Matakaoa Point**	**2.61**	**55**	P	**Pn**	**03 45 02.0**	**+0.3**
TUWZ	**Tuamarina**	**2.67**	**208**	P	**Pn**	**03 45 03.0**	**+0.7**
NNZ	**Nelson**	**2.73**	**218**	P	**Pn**	**03 45 03.1**	**0.0**
TKNZ	**Takaka Hill**	**2.81**	**225**	P	**Pn**	**03 45 04.4**	**+0.2**
GRZ	**Great Barrier**	**2.83**	**358**	P	**Pn**	**03 45 05.2**	**+0.8**
QRZ	**Quartz Range**	**2.94**	**233**	P	**Pn**	**03 45 05.9**	**+0.2**
QRZ	**Quartz Range**	**2.94**	**233**	P	**Pn**	**03 45 05.7**	**0.0**
BSWZ	**Blackbirch Sta**	**2.94**	**206**	P	**Pn**	**03 45 05.9**	**+0.1**
MRNZ	**Matariki Terra**	**3.18**	**222**	P	**Pn**	**03 45 08.9**	**0.0**
THZ	**Tophouse**	**3.38**	**217**	P	**Pn**	**03 45 11.5**	**-0.1**
KHZ	**Kahutara**	**3.68**	**205**	P	**Pn**	**03 45 15.3**	**-0.1**
KHZ	**Kahutara**	**3.68**	**205**	P	**Pn**	**03 45 15.2**	**-0.1**
DSZ	**Denniston Nort**	**3.94**	**226**	P	**Pn**	**03 45 18.2**	**-0.5**
GVZ	**Greta Valley S**	**4.34**	**206**	P	**Pn**	**03 45 23.4**	**-0.7**
LTZ	**Lake Taylor**	**4.48**	**213**	P	**Pn**	**03 45 24.7**	**-1.2**
AMCZ	**Amberley**	**4.66**	**208**	P	**Pn**	**03 45 27.7**	**-0.6**
OKCZ	**Okains Bay**	**5.02**	**202**	P	**Pn**	**03 45 31.9**	**-1.2**
OXZ	**Oxford**	**5.02**	**211**	P	**Pn**	**03 45 31.2**	**-1.9**
AKCZ	**Akaroa Harbour**	**5.20**	**202**	P	**Pn**	**03 45 33.9**	**-1.5**
RACZ	**Rakaia**	**5.32**	**208**	P	**Pn**	**03 45 35.4**	**-1.7**
MHCZ	**Mount Hutt**	**5.39**	**213**	P	**Pn**	**03 45 37.1**	**-0.9**
WVZ	**Waitaha Valley**	**5.43**	**221**	P	**Pn**	**03 45 37.6**	**-0.9**
WACZ	**Wakanui South**	**5.62**	**209**	P	**Pn**	**03 45 39.7**	**-1.4**
RPZ	**Rata Peaks**	**5.76**	**215**	P	**Pn**	**03 45 42.8**	**-0.1**
RPZ	**Rata Peaks**	**5.76**	**215**	P	**Pn**	**03 45 42.7**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**5.81**	**222**	P	**Pn**	**03 45 42.6**	**-1.1**
ARCZ	**Arundel**	**5.89**	**213**	P	**Pn**	**03 45 43.9**	**-0.9**
TMZ	**Timaru**	**6.32**	**211**	P	**Pn**	**03 45 49.0**	**-1.5**
ODZ	**Otahua Downs**	**7.01**	**210**	P	**Pn**	**03 45 58.5**	**-1.2**
ODZ	**Otahua Downs**	**7.01**	**210**	P	**Pn**	**03 45 58.2**	**-1.5**
JCZ	**Jackson Bay**	**7.14**	**223**	P	**Pn**	**03 46 01.8**	**+0.2**
JCZ	**Jackson Bay**	**7.14**	**223**	P	**Pn**	**03 45 60.0**	**-1.6**
CTZ	**Chatham Island**	**7.47**	**131**	P	Pn	03 46 11.6	+5.7
TUZ	**Tuapeka**	**8.16**	**211**	P	**Pn**	**03 46 14.3**	**-0.9**
PYZ	**Puysegur Point**	**9.66**	**220**	P	**Pn**	**03 46 33.9**	**-1.3**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=116,slow=8.2,SNR=6.7 0.4nm,0.4s	**38.42**	**281**	P	**P**	**03 51 30.6**	**+2.7**
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=123,slow=8.5,SNR=8.7 1.0nm,0.6s	**40.24**	**286**	P	**P**	**03 51 45.5**	**+2.4**
ARCES	**ARCESS Array B** 7.7nm,1.1s,baz=62,slow=2.1,SNR=6.9	**145.59**	**342**	PKP	**PKiKP**	**04 03 42.3**	**-2.1**

---

*MDD **28** 03:50:35.7±1.4, 35°.32N×2°.18E, h38km±75km, Mb4.1/17, M_mb3.5/18, Error ellipse: s-maj=29.5km s-min=5.8km az=143.0*
*CNRM **28** 03:50:43.8, 35°.66N×1°.27E, h8km, ML3.0*
ISC 28 03:50:39.6±1.6, 35°.72N±0°.04×1°.71E±0°.08, h14km, n48, σ1§60/68, 14C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CART	**Cartagena**	**2.87**	**311**	Pn	**Pn**	**03 51 23.9**	**-0.9**
CART				Sn	**Sn**	**03 51 56.4**	**-2.7**
CART	**Cartagena**	**2.87**	**311**	P	**Pn**	**03 51 26.5**	**+1.6**
CART	**Cartagena**	**2.87**	**311**	S	**Sn**	**03 52 00.5**	**+1.3**
EMUR	**La Murta**	**3.17**	**313**	Pn	**Pn**	**03 51 28.9**	**-0.3**
EMUR	**La Murta**	**3.17**	**313**	Pn	**Pn**	**03 51 29.5**	**+0.4**
EMUR				Sn	**Sn**	**03 52 08.0**	**+1.2**
EBEN2	**Beniarda presa**	**3.32**	**333**	Pn	**Pn**	**03 51 31.3**	**+0.2**
EBEN2	218nm,SNR=1.0			⇑iVmb_V		03 51 33.7	
EBEN2				Sn	**

*NEIC **28** 04:10:11.0±2.1, 24°.02S±0°.03×67°.05W±0°.09, h178km±7km, mb4.5/27, Error ellipse: s-maj=11.8km s-min=3.7km az=99.0*
*IDC **28** 04:10:11.3±1.8, 24°.01S×66°.98W, h178km±16km, mb3.6/9, mbtmp4.0/15, MS4.2/1, Error ellipse: s-maj=18.7km s-min=13.4km az=84.0*
*GUC **28** 04:10:12.1±0.6, 24°.01S×67°.42W, h204km±5km, ML4.5*
*VAO **28** 04:10:14.7±1.0, 23°.93S×66°.76W, h194km±10km, mb3.9*
ISC 28 04:10:11.1±0.6, 24°.04S±0°.04×67°.12W±0°.04, h187km±6km, n134, σ1°48/164, mb4.3/16, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.74**	**104**	‖ *i* P	**Pn**	**04 10 39.6**	**+1.1**
AF01	**San Pedro de A**	**1.46**	**318**		**Pn**	**04 10 45.5**	**+1.9**
AF01				Sn	**Sn**	**04 11 08.8**	**0.0**
AF01	**San Pedro de A**	**1.46**	**318**	*e* P	**Pn**	**04 10 45.5**	**+1.9**
AF01				*e* S	**Sn**	**04 11 09.0**	**+0.2**
AF01				IAML		04 11 19.4	
	comp=Z,864nm,0.2s						
AF01	**San Pedro de A**	**1.46**	**318** ↑	*e* P	**Pn**	**04 10 45.3**	**+1.7**
AF01				*e* S	**Sn**	**04 11 11.0**	**+2.2**
SLA	**San Lorenzo**	**1.62**	**115**	*e* P	**Pn**	**04 10 46.5**	**+1.5**
SLA				*e* S	**Sn**	**04 11 13.4**	**+2.1**
SLA	**San Lorenzo**	**1.62**	**115**	‖ *i* P	**Pn**	**04 10 46.6**	**+1.5**
AZAP	**Zapla**	**1.89**	**96**	*e* P	**Pn**	**04 10 48.7**	**+0.9**
FSA	**Cafayete**	**2.31**	**154**	*e* P	**Pn**	**04 10 53.2**	**+1.0**
FSA				*e* S	**Sn**	**04 11 24.9**	**+0.6**
YJA	**Yavi**	**2.38**	**39**	*e* P	**Pn**	**04 10 54.8**	**+1.5**
YJA				*e* S	**Sn**	**04 11 27.8**	**+1.7**
YJA	**Yavi**	**2.38**	**39**	*i* P	**Pn**	**04 10 54.1**	**+0.8**
GO02	**Mina Guanaco**	**2.51**	**243**		**Pn**	**04 10 55.6**	**+0.9**
GO02				Sn	**Sn**	**04 11 28.7**	**+0.2**
GO02	**Mina Guanaco**	**2.51**	**243**	*e* P	**Pn**	**04 10 55.7**	**+1.0**
GO02				*e* S	**Sn**	**04 11 29.4**	**+0.9**
GO02	**Mina Guanaco**	**2.51**	**243**	*e* P	**Pn**	**04 10 55.8**	**+1.2**
GO02				*i* S	**Sn**	**04 11 29.2**	**+0.7**
PB06	**IPOC Station P**	**2.62**	**300**	*e* P	**Pn**	**04 10 56.7**	**+0.9**
PB06				*e* S	**Sn**	**04 11 31.0**	**+0.5**
PB06				IAML		04 11 32.8	
	comp=Z,1μm,0.3s						
PB06	**IPOC Station P**	**2.62**	**300**	*e* P	**Pn**	**04 10 56.9**	**+1.1**
PB06				*i* S	**Sn**	**04 11 30.1**	**-0.4**
PB06				IAML		04 11 32.4	
	comp=N,2μm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.88**	**86**	*e* P	**Pn**	**04 10 59.8**	**+1.0**
PB09	**IPOC Station P**	**2.97**	**318**	Pn	**Pn**	**04 11 01.2**	**+1.3**
PB09				Sn	**Sn**	**04 11 37.6**	**-0.4**
PB09	**IPOC Station P**	**2.97**	**318**	*e* P	**Pn**	**04 11 00.7**	**+0.8**
PB09				*e* S	**Sn**	**04 11 38.8**	**+0.8**
PB09				IAML		04 11 41.9	
	comp=Z,446nm,0.3s						
PB09	**IPOC Station P**	**2.97**	**318**	*e* P	**Pn**	**04 11 01.2**	**+1.3**
PB09				*i* S	**Sn**	**04 11 38.4**	**+0.3**
PB09				IAML		04 11 39.4	
	comp=N,659nm,0.6s						
PB14	**IPOC Station P**	**3.05**	**258**	Pn	**Pn**	**04 11 01.4**	**+0.4**
PB14	**IPOC Station P**	**3.05**	**258**	*e* P	**Pn**	**04 11 00.9**	**-0.1**
PB14				*e* S	**Sn**	**04 11 38.8**	**-1.1**
PB14				IAML		04 11 40.3	
	comp=Z,1μm,0.2s						
PB14	**IPOC Station P**	**3.05**	**258**	*i* P	**Pn**	**04 11 01.6**	**+0.5**
PB14				*e* S	**Sn**	**04 11 38.0**	**-1.9**
PB14				IAML		04 11 44.3	
	comp=N,614nm,0.6s						
PB03	**IPOC Station P**	**3.13**	**309**	*e* P	**Pn**	**04 11 02.5**	**+0.6**
PB03				*e* S	**Sn**	**04 11 40.6**	**-1.0**
PB03				IAML		04 11 41.7	
	comp=Z,1μm,0.2s						
PB03	**IPOC Station P**	**3.13**	**309**	*e* P	**Pn**	**04 11 02.5**	**+0.6**
PB03				*i* S	**Sn**	**04 11 40.4**	**-1.1**
PB03				IAML		04 11 44.2	
	comp=N,1μm,0.1s						
AHML	**Horco Molle**	**3.17**	**150**	*e* P	**Pn**	**04 11 03.0**	**+0.8**
AHML				*e* S	**Sn**	**04 11 41.8**	**-0.5**
AHML	**Horco Molle**	**3.17**	**150**	*e* P	**Pn**	**04 11 02.7**	**+0.5**
AC02	**Maricunga**	**3.32**	**213**	Pn	**Pn**	**04 11 05.4**	**+0.9**
AC02	**Maricunga**	**3.32**	**213**	*e* P	**Pn**	**04 11 05.5**	**+1.1**
AC02				*e* S	Sn	04 11 31.9	-14
AC02	**Maricunga**	**3.32**	**213**	*e* P	**Pn**	**04 11 05.7**	**+1.3**
AC02				*e* S	**Sn**	**04 11 50.2**	**+4.0**
PB01	**IPOC Station P**	**3.70**	**323**		**Pn**	**04 11 08.9**	**+0.1**
PB01	**IPOC Station P**	**3.70**	**323**	*e* P	**Pn**	**04 11 08.9**	**+0.1**
PB01				*e* S	**Sn**	**04 11 53.0**	**-1.0**
PB01				IAML		04 11 57.3	
	comp=Z,478nm,0.2s						
AC01	**Pan de Azucar**	**3.79**	**236**	Pn	**Pn**	**04 11 09.2**	**-0.5**
AC01	**Pan de Azucar**	**3.79**	**236**	*e* P	**Pn**	**04 11 09.2**	**-0.5**
AC01				*e* S	**Sn**	**04 11 54.0**	**-1.8**
AC01				IAML		04 11 55.6	
	comp=Z,363nm,0.3s						
AC01	**Pan de Azucar**	**3.79**	**236**	*e* P	**Pn**	**04 11 09.2**	**-0.5**
AC01				*i* S	**Sn**	**04 11 53.3**	**-2.4**
PB08	**IPOC Station P**	**4.32**	**334**		**Pn**	**04 11 17.1**	**+0.3**
PB08	**IPOC Station P**	**4.32**	**334**	*e* P	**Pn**	**04 11 17.5**	**+0.7**
PB08				*e* S	**Sn**	**04 12 08.1**	**-0.3**
PB08				IAML		04 12 11.2	
	comp=Z,217nm,0.5s						
GUSE	**Guasayan**	**4.34**	**152**	*e* P	**Pn**	**04 11 17.3**	**+0.5**
TA01	**Diego Aracena**	**4.47**	**320**	Pn	**Pn**	**04 11 17.3**	**-1.1**
CYA	**Choya**	**4.54**	**165**	*e* P	**Pn**	**04 11 20.2**	**+0.9**
CYA				*e* S	**Sn**	**04 12 13.2**	**+0.2**
TA02	**Huaiquique**	**4.68**	**323**		**Pn**	**04 11 20.1**	**-1.0**
TA02	**Huaiquique**	**4.68**	**323**	*e* P	**Pn**	**04 11 20.7**	**-0.4**
TA02				*e* S	**Sn**	**04 12 13.2**	**-2.9**
TA02				IAML		04 12 21.8	
	comp=Z,197nm,0.1s						
VCA	**Vinchina**	**4.78**	**192**	*e* P	**Pn**	**04 11 20.2**	**-2.2**
PB11	**IPOC Station P**	**4.87**	**331**	Pn	**Pn**	**04 11 22.4**	**-1.2**
PB11	**IPOC Station P**	**4.87**	**331**	*e* P	**Pn**	**04 11 22.5**	**-1.2**
PB11				*e* S	**Sn**	**04 12 17.7**	**-3.1**
PB11				IAML		04 12 23.4	
	comp=Z,308nm,0.3s						
AC04	**Llanos de Chal**	**5.46**	**220**	Pn	**Pn**	**04 11 29.5**	**-1.6**
LCO	**Las Campanas**	**5.90**	**212**	Pn	**Pn**	**04 11 35.5**	**-1.6**
PB16	**IPOC Station P**	**6.10**	**338**	Pn	**Pn**	**04 11 39.5**	**-0.6**
PB12	**IPOC Station P**	**6.17**	**330**	Pn	**Pn**	**04 11 38.5**	**-2.1**
AP01	**Chacalluta**	**6.39**	**331**	Pn	**Pn**	**04 11 42.4**	**-0.9**
CO01	**Juntas del Tor**	**6.48**	**203**	Pn	**Pn**	**04 11 45.9**	**+1.2**
PB18	**Visviri**	**6.79**	**341**	Pn	**Pn**	**04 11 49.3**	**+0.2**
GO04	**Tololo Observa**	**6.93**	**207**	Pn	**Pn**	**04 11 49.5**	**-1.0**
CO03	**El Pedregal**	**7.47**	**204**	Pn	**Pn**	**04 11 56.4**	**-1.1**
CFA	**Coronel Fontan**	**7.60**	**187**	P	**Pn**	**04 11 59.0**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=9.9,slow=14,SNR=26						
CFA				S	**Sn**	**04 13 18.5**	**-6.3**
	comp=Z,4.1nm,0.3s,baz=114,slow=19,SNR=11						
ZON	**Zonda**	**7.60**	**190**	Pn	**Pn**	**04 11 59.0**	**-0.1**
CO06	**Fray Jorge**	**7.73**	**210**	Pn	**Pn**	**04 11 59.9**	**-0.9**
LPAZ	**La Paz**	**7.77**	**353**	Pn	**Pn**	**04 12 02.4**	**+0.4**
LPAZ	**La Paz**	**7.77**	**353**	P	**Pn**	**04 12 02.6**	**+0.5**
	comp=Z,9.9nm,0.4s,baz=169,slow=6.2,SNR=72						
LPAZ				S	**Sn**	**04 13 26.5**	**-3.4**
	comp=Z,5.5nm,0.6s,baz=220,slow=14,SNR=4.7						
MURT	**Porto Murtinho**	**9.09**	**77**	*e* P	**Pn**	**04 12 18.1**	**-0.6**
CPUP	**Villa Florida**	**9.16**	**106**	Pn	**Pn**	**04 12 18.0**	**-1.5**
CPUP	**Villa Florida**	**9.16**	**106**	P	**Pn**	**04 12 18.3**	**-1.2**
	comp=Z,3.2nm,0.6s,baz=288,slow=11,SNR=11						
CPUP	**Villa Florida**	**9.16**	**106**	*e* P	**Pn**	**04 12 18.3**	**-1.2**
VA03	**San Esteban**	**9.20**	**198**	Pn	**Pn**	**04 12 21.1**	**+0.9**
SIV	**San Ignacio**	**9.82**	**36**	P	**Pn**	**04 12 27.0**	**-1.3**
	comp=Z,2.5nm,0.4s,baz=224,slow=11,SNR=17						
SIV				S	**Sn**	**04 14 11.3**	**-6.7**
	comp=Z,0.8nm,0.5s,baz=311,slow=20,SNR=1.1						
MT02	**Curacav**	**9.84**	**200**	Pn	**Pn**	**04 12 27.4**	**-1.0**
MT03	**Universidad Ad**	**9.87**	**197**	Pn	**Pn**	**04 12 28.9**	**0.0**
SJPY	**San Joaquin**	**10.08**	**98**	*e* P	**Pn**	**04 12 29.7**	**-1.9**
BDQN	**Bodoquena, MS**	**10.25**	**72**	*e* P	**Pn**	**04 12 33.1**	**-0.7**
MT09	**Talagante**	**10.27**	**198**	Pn	**Pn**	**04 12 35.1**	**+1.0**
AQDB	**Aquidauana**	**11.16**	**74**	Pn	**Pn**	**04 12 43.9**	**-1.6**
AQDB	**Aquidauana**	**11.16**	**74**	*e* P	**Pn**	**04 12 45.6**	**0.0**
PTLB	**Pontes e Lacer**	**11.38**	**43**	Pn	**Pn**	**04 12 47.7**	**-0.7**
PTLB	**Pontes e Lacer**	**11.38**	**43**	*e* P	**Pn**	**04 12 47.8**	**-0.7**
TBOT	**Tacuaremb**	**12.48**	**130**	*e* P	**Pn**	**04 13 03.0**	**+0.6**
SALV	**Santo Antonio**	**13.45**	**55**	*e* P	**Pn**	**04 13 13.8**	**-0.9**
CPSB	**Cacapava Do Su**	**13.72**	**120**	*e* P	**P**	**04 13 18.9**	**-1.6**
PTGB	**Pitanga**	**13.74**	**96**	*e* P	**Pn**	**04 13 18.5**	**+0.1**
ITAB	**Concordia**	**13.89**	**106**	P	**P**	**04 13 21.3**	**-1.2**
PLTB	**Pedras Altas**	**14.20**	**126**	P	**P**	**04 13 24.7**	**-1.3**
PLTB	**Pedras Altas**	**14.20**	**126**	*e* P	**P**	**04 13 25.6**	**-0.4**
LDASE	**Londrina, Braz**	**14.68**	**91**	*e* P	**Pn**	**04 13 29.1**	**-0.9**
PDRB	**Porto dos Gac**	**15.82**	**40**	*e* P	**Pn**	**04 13 43.7**	**-0.3**
ITRB	**Iturama**	**16.14**	**78**	*e* P	**Pn**	**04 13 47.3**	**-0.6**
ARAG	**Araguaiana, MT**	**16.61**	**63**	*e* P	**Pn**	**04 13 53.1**	**-0.3**
MAJ01	**Sao Joao Batis**	**16.66**	**105**	*e* P	**Pn**	**04 13 52.9**	**-1.1**
PLCA	**Paso Flores**	**16.89**	**189**	P	**Pn**	**04 13 57.5**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=12,slow=13,SNR=7.1						
CZSB	**Cruzeiro do Su**	**17.08**	**341**	*e* P	**Pn**	**04 14 03.0**	**+4.0**
LL05	**Los Muermos**	**18.11**	**196**	P	**P**	**04 14 06.4**	**-2.4**
LL05				IAmb	IAmb	04 14 34.7	
	comp=Z,45nm,1.3s						
VAO	**Valinhos**	**18.51**	**91**	P	**P**	**04 14 12.6**	**-0.9**
VAO				IAmb	IAmb	04 14 14.1	
	comp=Z,32nm,0.9s						
IPMB	**Ipameri, GO**	**18.65**	**75**	*e* P	**P**	**04 14 14.7**	**-0.3**
LL01	**San Ignacio de**	**18.81**	**192**	P	**P**	**04 14 16.2**	**-0.2**
LL01				IAmb	IAmb	04 14 21.2	
	comp=Z,24nm,1.4s						
SNDB	**Serra Nova Dou**	**19.23**	**54**	*e* P	**P**	**04 14 20.5**	**-0.7**
LL02	**Futaleuf**	**19.49**	**190**	P	**P**	**04 14 25.4**	**+1.6**
LL02				IAmb	IAmb	04 14 28.4	
	comp=Z,14nm,0.8s						
GO07	**Milladeo Hill,**	**19.77**	**194**	P	**P**	**04 14 27.2**	**+0.4**
BDFB	**Brasilia**	**19.80**	**69**	P	**P**	**04 14 26.4**	**-1.1**
BDFB				IAmb	IAmb	04 14 28.5	
	comp=Z,10.0nm,0.7s						
BDFB	**Brasilia**	**19.80**	**69**	P	**P**	**04 14 27.2**	**-0.3**
	comp=Z,8.3nm,0.6s,baz=244,slow=11,SNR=22						
TEFE	**Tefe**	**20.55**	**7**	*e* P	**P**	**04 14 35.6**	**+0.2**
AY01	**Puyuhuapi**	**20.82**	**191**	P	**P**	**04 14 38.8**	**+0.9**
AY01				IAmb	IAmb	04 14 45.6	
	comp=Z,9.1nm,1.3s						
MACA	**Manacapuru-AM**	**21.67**	**18**	P	**P**	**04 14 45.4**	**-1.7**
JANB	**Januaria**	**23.25**	**72**	*e* P	**P**	**04 15 01.1**	**-0.9**
SDBA	**SAO DESIDERIO**	**24.03**	**65**	*e* P	**P**	**04 15 08.7**	**-0.4**
FLOC	**Florencia**	**26.79**	**341**	P	**P**	**04 15 33.2**	**-0.7**
FLOC				IAmb	IAmb	04 15 36.3	
	comp=Z,11nm,1.0s						
BOAV	**Boa Vista**	**27.05**	**15**	P	**P**	**04 15 36.1**	**-0.2**
BOAV				IAmb	IAmb	04 15 40.8	
	comp=Z,13nm,1.4s						
RUSC	**La Rusia**	**30.32**	**348**	P	**P**	**04 16 06.2**	**+0.5**
RUSC				IAmb	IAmb	04 16 09.3	
	comp=Z,6.6nm,0.7s						
PDPR	**Patillas Dam,**	**41.82**	**2**	P	**P**	**04 17 41.6**	**-1.0**
PDPR				IAmb	IAmb	04 17 49.8	
	comp=Z,18nm,1.1s						
OBIP	**Obispado Ponce**	**41.83**	**1**	P	**P**	**04 17 41.6**	**-1.1**
CELP	**Cerrillos**	**41.86**	**1**	P	**P**	**04 17 42.3**	**-0.6**
PCDR	**Punta Cana, DR**	**42.32**	**358**	P	**P**	**04 17 43.9**	**-2.6**
TEIG	**Tepich**	**48.59**	**333**	P	**P**	**04 18 36.4**	**+0.6**
TEIG				IAmb	IAmb	04 18 58.8	
	comp=Z,24nm,1.2s						
TXAR	**Lajitas Array**	**63.65**	**325**	P	**P**	**04 20 23.9**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=141,slow=8.9,SNR=5.6						
	comp=Z,0.4nm,0.8s						
VHRN	**Van Horn**	**65.49**	**325**	P	**P**	**04 20 33.8**	**-0.7**
VHRN				IAmb	IAmb	04 20 36.8	
	comp=Z,5.2nm,1.0s						
QSPA	**South Pole Qui**	**66.16**	**180**	P	**P**	**04 20 40.2**	**+1.9**
QSPA				IAmb	IAmb	04 20 40.6	
	comp=Z,3.4nm,0.6s						
QSPA	**South Pole Qui**	**66.16**	**180**	P	**P**	**04 20 40.2**	**+1.9**
	comp=Z,2.7nm,0.5s,baz=189,slow=5.5,SNR=44						
	comp=Z,2.7nm,0.5s						
DBIC	**Dimbokro**	**67.92**	**72**	P	**P**	**04 20 51.0**	**+1.1**
DBIC				IAmb	IAmb	04 21 06.1	
	comp=Z,21nm,1.4s						
DBIC	**Dimbokro**	**67.92**	**72**	P	**P**	**04 20 51.1**	**+1.1**
	comp=Z,3.9nm,1.1s,baz=190,slow=6.1,SNR=4.5						
	comp=Z,3.9nm,1.1s						
U15A	**North Rim**	**73.72**	**323**	P	**P**	**04 21 26.5**	**+1.7**
SPR3	**Spring Creek 3**	**76.70**	**324**	P	**P**	**04 21 43.8**	**+2.0**
R11B	**Troy Canyon, C**	**76.92**	**323**	P	**P**	**04 21 45.5**	**+2.5**
PDAR	**Pinedale Array**	**77.13**	**329**	P	**P**	**04 21 45.4**	**+1.4**
PDAR	**Pinedale Array**	**77.13**	**329**	P	**P**	**04 21 45.8**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=124,slow=7.8,SNR=6.6						
	comp=Z,0.4nm,0.6s						
HWUT	**Hardware Ranch**	**77.20**	**327**	P	**P**	**04 21 46.5**	**+2.0**
ULM	**Lac du Bonnet**	**78.23**	**342**	P	**P**	**04 21 50.5**	**+0.9**
	comp=Z,3.1nm,0.6s,baz=137,slow=5.8,SNR=8.6						
	comp=Z,3.1nm,0.6s						
NVAR	**Mina Array Bea**	**78.50**	**321**	P	**P**	**04 21 54.4**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=135,slow=2.8,SNR=4.4						
	comp=Z,0.6nm,0.7s						
HLID	**Hailey**	**80.06**	**327**	P	**P**	**04 22 02.4**	**+2.3**
BOSA	**Boshof**	**80.81**	**117**	P	**P**	**04 22 04.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=259,slow=3.2,SNR=1.2						
	comp=Z,1.4nm,0.9s						
PLID	**Pearl Lake**	**81.95**	**327**	P	**P**	**04 22 10.9**	**+0.9**
FCC	**Fort Churchill**	**85.47**	**346**	P	**P**	**04 22 28.1**	**+0.9**
FCC				IAmb	IAmb	04 22 29.2	
	comp=Z,5.1nm,0.7s						
ESDC	**Sonseca Array**	**86.50**	**44**	P	**P**	**04 22 33.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=237,slow=4.4,SNR=4.2						
	comp=Z,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**94.13**	**340**	P	**P**	**04 23 08.8**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=139,slow=4.4,SNR=20						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**128.37**	**205**	PKP	**PKiKP**	**04 28 56.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=149,slow=2.0,SNR=11						
SEY	**Seymchan**	**133.07**	**337**	PKP	**PKiKP**	**04 29 06.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=80,slow=4.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**142.48**	**36**	PKP	**PKiKP**	**04 29 23.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=302,slow=3.2,SNR=1.6						
ZALV	**Zalesovo Beam**	**143.48**	**28**	PKP	**PKPdf**	**04 29 21.9**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=309,slow=3.6,SNR=12						
MKAR	**Makanchi Array**	**146.63**	**39**	PKPbc	**PKPbc**	**04 29 30.0**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=290,slow=1.4,SNR=33						

*NIED **28** 04:16:38.9, 43°.25N×147°.44E, h20km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.79; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$-2.19; $M_{r\theta}$1.22; $M_{\theta\phi}$-1.44; $M_{\phi r}$-0.53; Fault plane solution: $M_0$3.20000×10^{14} NP1: ϕ_s189.00000°, δ48.00000°, λ58.00000°. NP2:ϕ_s52.00000°, δ51.00000°, λ120.00000°.*
*JMA **28** 04:16:38.9±0.3, 43°.3N±1.0×14°.7E±°, h20km±4km, MV3.9/31, E OFF HOKKAIDO*
*MOS **28** 04:16:39.5±0.9, 43°.36N×147°.56E, h50km, mb4.5/1, Error ellipse: s-maj=17.0km s-min=12.3km az=39.1*
*SKHL **28** 04:16:40.0±0.3, 43°.30N×147°.60E, h63km±5km, mb4.8/3*
*IDC **28** 04:16:44.4±4.5, 43°.60N×147°.48E, h68km±42km, mb3.5/11, mbtmp3.8/12, ML3.4/1, MS3.2/1, Error ellipse: s-maj=86.3km s-min=24.9km az=2.0*
ISC 28 04:16:39.7±1.0, 43°.27N±0°.08×147°.58E±0°.08, h38km±2km, n51, σ0°90/58, mb3.7/11, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.81**	**318**	*e* P	**Pn**	**04 16 54.6**	**0.0**
SHO				AMB	AMB	04 16 54.9	
	1μm,0.3s						
SHO				*e* S	**Sn**	**04 17 05.5**	**+0.1**
SHO				A	A	04 17 05.8	
	1μm,0.3s						
SHO				A	A	04 17 05.8	
	1μm,0.3s						
NEM2	**Nemuro 2**	**1.34**	**275**	*e* P	**Pn**	**04 17 00.9**	**-1.0**
NEM2				*e* S	**Sn**	**04 17 17.9**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.35**	**275**	*e* PN	**Pn**	**04 17 01.4**	**-0.6**
NMR				*i* S	**Sn**	**04 17 17.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.35**	**275**	*e* P	**Pn**	**04 17 01.5**	**-0.6**
NMR				*e* S	**Sn**	**04 17 17.8**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**1.46**	**302**	*d i* PN	**Pn**	**04 17 03.2**	**-0.3**
YUK				*i* S	**Sn**	**04 17 21.0**	**-0.4**
YUK				pmax	pmax		
	comp=N,140nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,794nm,0.2s						
YUK				smax	smax		
	comp=E,374nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.46**	**302**	*e* P	**Pn**	**04 17 03.3**	**-0.3**
YUK				AMB	AMB	04 17 03.6	
	comp=E,940nm,0.3s						
YUK				*e* S	**Sn**	**04 17 21.1**	**-0.4**
YUK				A	A	04 17 25.9	
	comp=E,790nm,0.4s						
YUK				A	A	04 17 25.9	
	comp=E,810nm,0.4s						
JKHN	**Kushirohamanak**	**1.78**	**265**	*i* P	**Pn**	**04 17 08.2**	**+0.3**
JKHN				S	**Sn**	**04 17 29.3**	**+0.1**
RUSJ	**Misakicho**	**1.89**	**297**	‖ *i* PN	**Pn**	**04 17 09.7**	**+0.4**
RUSJ				*i* S	**Sn**	**04 17 33.8**	**+1.9**
JRA	**Rausu**	**1.91**	**291**	P	**Pn**	**04 17 09.7**	**+0.1**
JRA				*e* S	**Sn**	**04 17 32.5**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.94**	**286**	*i* P	**Pn**	**04 17 10.2**	**+0.1**
KUR	**Kuril'sk**	**1.98**	**6**	*e* PN	**Pn**	**04 17 10.7**	**+0.1**
KUR				*e* S	**Sn**	**04 17 33.5**	**-0.5**
KUR				smax	smax		
	comp=N,307nm,0.2s						
KUR				smax	smax		
	comp=E,94nm,0.2s						
KUR	**Kuril'sk**	**1.98**	**6**	*e* P	**Pn**	**04 17 10.7**	**+0.1**
KUR				AMB	AMB	04 17 13.6	
	comp=E,40nm,0.3s						
KUR				*e* S	**Sn**	**04 17 33.5**	**-0.5**
KUR				A	A	04 17 35.2	
	comp=E,310nm,0.2s						
KUR				A	A	04 17 35.2	
	comp=E,250nm,0.2s						
AKK	**Akkeshi**	**2.02**	**264**	*e* P	**Pn**	**04 17 11.0**	**-0.2**
JNK	**Nakash**	**2.11**	**280**	*i* P	**Pn**	**04 17 12.1**	**-0.3**
JNK				S	**Sn**	**04 17 36.3**	**-1.0**
JAK	**Akkeshi**	**2.13**	**264**	*i* P	**Pn**	**04 17 12.7**	**0.0**
JAK				*e* S	**Sn**	**04 17 36.8**	**-1.0**
JTKR	**Abashiri--Toko**	**2.76**	**286**	*i* P	**Pn**	**04 17 22.4**	**+1.1**
JOB	**Onbets**	**2.77**	**264**	P	**Pn**	**04 17 21.6**	**+0.2**
JOB				*e* S	**Sn**	**04 17 52.3**	**-1.3**
JAR	**Ashorobuto**	**2.78**	**272**	P	**Pn**	**04 17 22.2**	**+0.5**
JAR				S	**Sn**	**04 17 53.9**	**-0.1**
JMP	**Maruseppu**	**3.15**	**285**	P	**Pn**	**04 17 28.0**	**+1.2**
JCH	**Churui**	**3.17**	**260**	*e* P	**Pn**	**04 17 27.2**	**+0.3**
JCH				S	**Sn**	**04 18 02.0**	**-1.4**
JEM	**Erimo**	**3.49**	**251**	P	**Pn**	**04 17 33.3**	**+1.9**
ERM	**Erimo**	**3.50**	**250**	*ce* PN	**Pn**	**04 17 33.3**	**+1.8**
JKA	**Kamikawa-asahi**	**3.71**	**285**	*e* P	**Pn**	**04 17 36.9**	**+2.5**
ASAJ	**Asahikawa**	**3.71**	**285**	P	**Pn**	**04 17 36.9**	**+2.5**
	comp=E,2.5nm,0.3s,baz=56,slow=6.5,SNR=7.7						
	comp=E,7.4nm,0.4s						
SKR	**Severo-Kuril's**	**9.43**	**351** ↑	*e* PN	Pn	04 19 04.2	+11
YAK	**Yakutsk**	**21.56**	**337**	LR	LR	04 29 55.0	
	comp=E,54nm,18.1s,baz=102,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.53**	**139**	T	T	04 53 18.7	
	baz=330,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.55**	**139**	T	T	04 53 19.5	
	baz=330,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.55**	**139**	T	T	04 53 23.7	
	baz=330,slow=76,SNR=14						
SONM	**Songino Array**	**28.95**	**294**	P	**P**	**04 22 36.2**	**+0.8**
	comp=E,0.8nm,0.8s,baz=89,slow=8.8,SNR=3.4						
	comp=E,0.8nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.50**	**141**	T	T	04 54 37.6	
	baz=331,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**29.50**	**141**	T	T	04 54 33.8	
	baz=331,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.51**	**141**	T	T	04 54 38.9	
	baz=331,slow=76,SNR=16						
MK31	**Makanchi Array**	**45.09**	**298**	‖ *i* P	**P**	**04 24 51.9**	**0.0**
MKAR	**Makanchi Array**	**45.09**	**298**	P	**P**	**04 24 52.0**	**+0.1**
	comp=E,0.8nm,0.7s,baz=80,slow=8.7,SNR=7.9						
	comp=E,0.8nm,0.7s						
MKAR	**Makanchi Array**	**45.09**

CUT	**Chulitna**	**0.86**	**5**	Pn	Pn	04 23 13.8	-0.5
CUT				Sn	Sn	04 23 24.7	-1.3
CUT				IAML		04 23 26.1	
	comp=E,112nm,0.4s						
CUT				IAML		04 23 30.5	
	comp=N,114nm,0.5s						
SPCR	**Spurr Chakacha**	**0.92**	**249**		Pn	04 23 14.4	-0.8
SPCR					Sn	04 23 27.0	-0.4
KNK	**Knik Glacier**	**0.96**	**97**		Pn	04 23 15.2	-0.3
SPBG	**Spurr Blockage**	**0.97**	**254**		Pn	04 23 15.0	-0.8
SML	**Sawmill**	**1.04**	**74**	Pn	Pn	04 23 15.8	-0.9
SML				IAML		04 23 31.7	
	comp=E,156nm,0.5s						
SML				IAML		04 23 32.3	
	comp=N,120nm,0.5s						
SLKM	**Skilak Lake**	**1.05**	**174**	Pn	Pn	04 23 15.6	-1.2
SLKM				IAML		04 23 33.9	
	comp=E,122nm,0.3s						
SLKM				IAML		04 23 35.2	
	comp=N,101nm,0.2s						
O22K	**Cooper Landing**	**1.12**	**162**		Pn	04 23 16.8	-0.9
PWL	**Port Wells**	**1.23**	**123**		Pn	04 23 18.6	-0.7
PWL				IAML		04 23 36.1	
	comp=N,118nm,0.4s						
M23K	**Glacier View**	**1.31**	**78**		Pn	04 23 19.7	-0.7
M20K	**Styx River**	**1.33**	**286**		Pn	04 23 20.0	-0.6
M20K				IAML		04 23 39.6	
	comp=N,41nm,0.6s						
RDT	**Redoubt**	**1.37**	**225**		Pn	04 23 20.3	-0.9
RDJH	**Redoubt Jeurge**	**1.50**	**231**		Pn	04 23 22.4	-0.6
SCM	**Sheep Creek Mo**	**1.51**	**78**	Pn	Pn	04 23 22.4	-0.7
SCM				IAML		04 23 44.1	
	comp=E,95nm,0.7s						
SCM				IAML		04 23 46.3	
	comp=N,65nm,0.6s						
SEW	**Seward**	**1.52**	**161**	Pn	Pn	04 23 22.3	-0.9
NCT	**North Crescent**	**1.56**	**232**		Pn	04 23 23.4	-0.5
RDWB	**Redoubt West**	**1.58**	**229**		Pn	04 23 23.6	-0.5
PPLA	**Purkeypile**	**1.58**	**330**		Pn	04 23 23.5	-0.7
RED	**Redoubt Volcan**	**1.61**	**226**		Pn	04 23 23.8	-0.6
GLI	**Glacier Island**	**1.75**	**111**		Pn	04 23 24.6	-1.7
GLI				IAML		04 23 54.1	
	comp=E,63nm,0.3s						
GLI				IAML		04 23 59.8	
	comp=N,68nm,0.6s						
BRLK	**Bradley Lake**	**1.80**	**187**	Pn	Pn	04 23 25.9	-1.1
BRLK				IAML		04 23 54.8	
	comp=E,40nm,0.5s						
BRLK				IAML		04 23 55.3	
	comp=N,30nm,0.7s						
BRSE	**Bradley Lake S**	**1.82**	**185**		Pn	04 23 26.9	-0.4
O20K	**Slope Mountain**	**1.82**	**217**		Pn	04 23 27.2	-0.1
O20K					Sn	04 23 51.4	+2.1
L20K	**Farewell, AK**	**1.88**	**301**		Pn	04 23 27.4	-0.7
TRF	**Thorofare Moun**	**1.91**	**2**	Pn	Pn	04 23 28.5	-0.2
TRF				IAML		04 23 55.4	
	comp=N,38nm,0.4s						
TRF				IAML		04 23 55.8	
	comp=E,25nm,0.4s						
M19K	**Big River Lodg**	**1.92**	**283**		Pn	04 23 27.8	-0.8
M19K				IAML		04 23 55.3	
	comp=E,23nm,1.0s						
M19K				IAML		04 23 55.3	
	comp=N,25nm,0.7s						
HOM	**Homer**	**1.99**	**198**		Pn	04 23 29.4	-0.1
ILW	**Iliamna West**	**2.00**	**223**		Pn	04 23 29.5	-0.3
RND	**Reindeer**	**2.01**	**21**	Pn	Pn	04 23 29.3	-0.6
KTH	**Kantishna Hill**	**2.03**	**354**		Pn	04 23 30.1	-0.1
KTH				IAML		04 23 56.1	
	comp=E,39nm,0.6s						
KTH				IAML		04 23 56.4	
	comp=N,33nm,0.6s						
CAST	**Castle Rocks**	**2.03**	**339**	Pn	Pn	04 23 29.6	-0.5
ILS	**Iliamna Low So**	**2.05**	**220**		Pn	04 23 30.5	-0.1
ILSW	**Iliamna Southw**	**2.06**	**221**	Pn	Pn	04 23 30.5	-0.1
ILSW				IAML		04 24 13.1	
	comp=E,18nm,0.5s						
FID	**Port Fidalgo**	**2.08**	**111**		Pn	04 23 28.6	-2.2
FID	**Port Fidalgo**	**2.08**	**111**	IAML		04 23 55.8	
	comp=E,50nm,0.5s						
FID				IAML		04 24 04.0	
	comp=N,37nm,0.4s						
N19K	**Bonanza Creek**	**2.10**	**251**		Pn	04 23 30.4	-0.7
M24K	**Tolsona, Glenn**	**2.10**	**73**	Pn	Pn	04 23 31.1	0.0
M24K				IAML		04 24 04.9	
	comp=E,54nm,0.9s						
M24K				IAML		04 24 15.6	
	comp=N,41nm,0.8s						
P23K	**Montague Islan**	**2.15**	**135**		Pn	04 23 29.6	-2.2
KLU	**Klutina**	**2.16**	**89**		Pn	04 23 30.7	-1.3
KLU				IAML		04 24 06.4	
	comp=N,36nm,0.3s						
KLU				IAML		04 24 06.8	
	comp=E,32nm,0.6s						
L19K	**White Mountain**	**2.19**	**289**		Pn	04 23 31.8	-0.5
L19K				IAML		04 24 00.5	
	comp=E,16nm,0.5s						
HIN	**Hinchinbrook I**	**2.24**	**119**	Pn	Pn	04 23 31.4	-1.6
HIN				IAML		04 24 13.5	
	comp=E,42nm,1.0s						
HIN				IAML		04 24 18.2	
	comp=N,45nm,1.2s						
DIV	**Divide**	**2.29**	**98**	Pn	Pn	04 23 32.0	-1.7
MCK	**McKinley**	**2.30**	**17**	Pn	Pn	04 23 34.0	+0.1
P19K	**Oil Pt**	**2.35**	**217**	Pn	Pn	04 23 34.5	0.0
P19K				IAML		04 24 06.8	
	comp=N,36nm,0.4s						
P19K				IAML		04 24 07.0	
	comp=E,42nm,0.6s						
K20K	**Telida**	**2.48**	**319**		Pn	04 23 35.7	-0.6
EYAK	**Cordova Ski Ar**	**2.49**	**112**	Pn	Pn	04 23 36.4	0.0
CHUM	**Lake Minchumin**	**2.50**	**341**		Pn	04 23 36.2	-0.4
BPAW	**Bear Paw Mtn.**	**2.58**	**355**	Pn	Pn	04 23 36.9	-0.7
M18K	**Stony River**	**2.58**	**271**		Pn	04 23 37.0	-0.7
HARP	**HAARP**	**2.63**	**69**		Pn	04 23 38.4	0.0
PAX	**Paxson**	**2.73**	**56**	Pn	Pn	04 23 40.0	+0.3
N18K	**Kilae Creek**	**2.79**	**254**	Pn	Pn	04 23 39.4	-1.1
N25K	**Chitina, Valde**	**2.79**	**86**	Pn	Pn	04 23 39.6	-1.0
N25K				IAML		04 24 23.3	
	comp=N,18nm,0.7s						
N25K				IAML		04 24 26.8	
	comp=E,14nm,0.8s						
BMRM	**Bremner River**	**2.88**	**99**	Pn	Pn	04 23 39.9	-1.8
TTA	**Tatalina**	**2.96**	**300**	Pn	Pn	04 23 41.7	-1.1
WASW	**Wrangell South**	**3.00**	**80**		Pn	04 23 43.3	-0.4
L18K	**Granite Mounta**	**3.04**	**286**	Pn	Pn	04 23 42.8	-1.1
RAGM	**Ragged Mountai**	**3.04**	**110**	Pn	Pn	04 23 43.2	-0.7
Q19K	**Cape Douglas,**	**3.08**	**213**	Pn	Pn	04 23 44.4	0.0
NEA2	**Nenana**	**3.12**	**11**		Pn	04 23 44.4	-0.6
J20K	**Nowinta River**	**3.14**	**329**		Pn	04 23 44.6	-0.7
J20K				IAML		04 24 21.4	
	comp=N,18nm,0.7s						
J20K				IAML		04 24 23.2	
	comp=E,7.8nm,0.6s						
GLB	**Gilahina Butte**	**3.18**	**89**	Pn	Pn	04 23 45.9	0.0
GLB				IAML		04 24 31.9	
	comp=N,11nm,0.7s						
GLB				IAML		04 24 35.3	
	comp=E,9.4nm,1.0s						
M17K	**Holitna River**	**3.36**	**271**		Pn	04 23 47.6	-0.8
M17K	**Holitna River**	**3.36**	**271**	IAML		04 24 26.6	
	comp=N,8.5nm,0.4s						
M17K				IAML		04 24 27.5	
	comp=E,16nm,1.1s						
J19K	**Poorman**	**3.42**	**318**		Pn	04 23 48.3	-0.9
J19K				IAML		04 24 40.1	
	comp=E,7.1nm,0.8s						
N17K	**Nushagak Hills**	**3.44**	**256**		Pn	04 23 48.6	-0.8
N17K	**Nushagak Hills**	**3.44**	**256**	IAML		04 24 47.5	
	comp=N,6.1nm,1.0s						
J18K	**Innoko River**	**3.49**	**306**		Pn	04 23 49.4	-0.7
I21K	**Tanana**	**3.71**	**350**		Pn	04 23 53.0	-0.2
I21K	**Tanana**	**3.71**	**350**	IAML		04 24 35.8	
	comp=E,4.4nm,0.4s						
O17K	**Koliganek Bris**	**3.73**	**244**		Pn	04 23 52.7	-0.7
I20K	**Naaghedeneel**	**3.74**	**332**		Pn	04 23 53.5	0.0
L17K	**Donlin**	**3.77**	**282**		Pn	04 23 53.2	-0.8
M16K	**Timber Creek**	**4.15**	**266**		Pn	04 23 58.3	-0.8
M16K	**Timber Creek**	**4.15**	**266**	IAML		04 25 26.5	
	comp=E,4.2nm,1.1s						
M16K				IAML		04 26 44.6	
	comp=N,5.5nm,1.1s						

2019 FEB

*CNRM **28** 04:45:32.5, 33°.27N×6°.44W, h48km*
*SFS **28** 04:45:33.8, 33°.30N×6°.48W, h53km, ML3.5/12, ML3.6/10, MLv3.1/12*
*MDD **28** 04:45:33.9±0.7, 33°.30N×6°.45W, h30km±10km, Mb4.1/8, M_mb3.4/8, Error ellipse: s-maj=6.4km s-min=3.6km az=118.0*
*IGIL **28** 04:45:36.1, 33°.26N×6°.67W, h82km, ML2.0*
*INMG **28** 04:45:36.5±1.4, 33°.58N×6°.40W, h17km, ML2.4, Error ellipse: s-maj=6.0km s-min=5.1km az=51.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Rabat (MARR)*

ISC 28 04:45:30.9±0.9, 33°.38N±0°.03×6°.39W±0°.03, h10km, n80, σ2ˢ82/117, 7C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHG	**ZHG**	**0.23**	**288**	P	**Sg**	**04 45 41.6**	**+2.9**
ZHG	**ZHG**	**0.23**	**288**	S	**Sg**	**04 45 47.4**	**+8.6**
AVE	**Averroes**	**0.86**	**265**	Pg	**Pn**	**04 45 49.2**	**+0.1**
AVE				Sg	**Sb**	**04 45 59.8**	**+0.2**
AVE	**Averroes**	**0.86**	**265**	P	**Pb**	**04 45 48.8**	**+0.9**
AVE	**Averroes**	**0.86**	**265**	S	**Sg**	**04 45 59.3**	**+0.6**
MD31	**MD31**	**1.46**	**110**	P	**Pn**	**04 45 56.8**	**-0.6**
MD31	**MD31**	**1.46**	**110**	S	**Sn**	**04 46 14.9**	**-1.6**
SRHM	**Skhour des Reh**	**1.56**	**235**	P	**Pb**	**04 45 59.9**	**+0.1**
SRHM	**Skhour des Reh**	**1.56**	**235**	S	**Sb**	**04 46 21.0**	**+1.2**
MDT	**Midelt**	**1.59**	**110**	P	**Pn**	**04 45 58.8**	**-0.4**
MDT	**Midelt**	**1.59**	**110**	S	**Sn**	**04 46 18.5**	**-1.4**
CHEFC	**Chefchaouen**	**1.93**	**26**	P	**Pn**	**04 46 04.3**	**+0.4**
CHEFC	**Chefchaouen**	**1.93**	**26**	S	**Sn**	**04 46 28.9**	**+0.7**
GOLM	**Goulmima**	**2.06**	**144**	P	**Pn**	**04 46 05.4**	**-0.3**
GOLM	**Goulmima**	**2.06**	**144**	S	**Sn**	**04 46 30.3**	**-1.2**
AKLM	**AKL**	**2.38**	**61**	P	**Pn**	**04 46 10.7**	**+0.6**
AKLM	**AKL**	**2.38**	**61**	S	**Sn**	**04 46 39.0**	**-0.4**
SMIR	**Smir Dam**	**2.44**	**20**	P	**Pn**	**04 46 11.0**	**+0.1**
SMIR	**Smir Dam**	**2.44**	**20**	S	**Sn**	**04 46 40.9**	**+0.1**
OUZM	**OUZ**	**2.48**	**187**	P	**Pn**	**04 46 10.5**	**-1.0**
OUZM	**OUZ**	**2.48**	**187**	S	**Sn**	**04 46 40.8**	**-1.1**
TIO	**Tiouine**	**2.55**	**197**	Pn	**Pn**	**04 46 11.0**	**-1.5**
TIO				Sn	**Sn**	**04 46 38.5**	**-5.2**
TIO	**Tiouine**	**2.55**	**197**	P	**Pn**	**04 46 10.7**	**-1.8**
TIO	**Tiouine**	**2.55**	**197**	S	**Sn**	**04 46 38.8**	**-4.9**
TZRR	**Tazzarine**	**2.68**	**165**	P	**Pn**	**04 46 12.5**	**-1.6**
TZRR	**Tazzarine**	**2.68**	**165**	S	**Sn**	**04 46 43.2**	**-3.4**
PALE	**Palemas**	**2.73**	**47**	P	**Pn**	**04 46 16.1**	**+1.3**
PALE	**Palemas**	**2.73**	**47**	S	**Sn**	**04 46 49.4**	**+1.4**
EAH	**EAH**	**3.21**	**238**	P	**Pn**	**04 46 19.5**	**-1.8**
ZGR	**Zagora**	**3.31**	**168**	P	**Pn**	**04 46 21.3**	**-1.6**
ZGR	**Zagora**	**3.31**	**168**	S	**Sn**	**04 46 58.3**	**-4.1**
JBK	**JBK**	**3.32**	**72**	P	**Pn**	**04 46 23.2**	**+0.2**
JBK	**JBK**	**3.32**	**72**	S	**Sn**	**04 46 59.4**	**-3.2**
TTIG	**Tnine Tigouga,**	**3.32**	**212**	P	**Pn**	**04 46 19.2**	**-3.8**
TTIG	**Tnine Tigouga,**	**3.32**	**212**	S	**Sn**	**04 46 58.5**	**-4.0**
GOG	**Mont Gurugu**	**3.35**	**56**	P	**Pn**	**04 46 23.8**	**+0.4**
GOG	**Mont Gurugu**	**3.35**	**56**	S	**Sn**	**04 47 03.5**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.06**	**342**	*e*P	**Pn**	**04 46 34.0**	**+1.0**
PBDV				*e*S	**Sn**	**04 47 17.9**	**-2.7**
PBDV				*i* AML	AML	04 47 18.7	
PBDV				*i* AML	AML	04 47 19.1	
PBDV				*i* AML	AML	04 47 20.5	
ELGU	**Los Guajares,**	**4.15**	**32**	Pn	**Pn**	**04 46 34.5**	**+0.1**
ELGU				Sn	**Sn**	**04 47 19.9**	**-3.1**
ELGU	**Los Guajares,**	**4.15**	**32**	Pn	**Pn**	**04 46 35.6**	**+1.2**
ELGU				⇑*i*Vmb_V		04 46 38.1	
	95nm,SNR=2.2						
ELGU				Sn	**Sn**	**04 47 20.3**	**-2.7**
PVAQ	**Vaqueiros**	**4.16**	**345**	*e*P	**Pn**	**04 46 35.2**	**+0.8**
PVAQ				*e*S	**Sn**	**04 47 16.7**	**-6.4**
PVAQ				*i* AML	AML	04 47 23.3	
PVAQ	**Vaqueiros**	**4.16**	**345**	Pn	**Pn**	**04 46 35.1**	**+0.7**
EGRO	**El Granado**	**4.24**	**348**	Pn	**Pn**	**04 46 36.5**	**+0.9**
EGRO				Sn	**Sn**	**04 47 21.9**	**-3.2**
EGRO	**El Granado**	**4.24**	**348**	Pn	**Pn**	**04 46 37.1**	**+1.5**
EGRO				Sn	**Sn**	**04 47 22.6**	**-2.5**
PFVI	**Vila Bisbo**	**4.25**	**333**	*e*P	**Pn**	**04 46 36.5**	**+0.9**
PFVI				*e*S	**Sn**	**04 47 21.9**	**-3.3**
PFVI				*i* AML	AML	04 47 26.0	
PFVI				*i* AML	AML	04 47 28.0	
PFVI	**Vila Bisbo**	**4.25**	**333**	Pn	**Pn**	**04 46 36.5**	**+0.9**
MORF	**Marmelete**	**4.33**	**335**	*e*P	**Pn**	**04 46 37.7**	**+0.8**
MORF	**Marmelete**	**4.33**	**335**	*e*P	**Pn**	**04 46 38.0**	**+1.1**
MORF				*e*S	**Sn**	**04 47 24.5**	**-3.0**
MORF				*i* AML	AML	04 47 26.4	
MORF				*i* AML	AML	04 47 28.1	
EMIN	**Mina Concepcio**	**4.39**	**357**	Pn	**Pn**	**04 46 38.2**	**+0.6**
EMIN				⇑*i*Vmb_V		04 46 45.2	
	132nm,SNR=1.7						
EMIN				Sn	**Sn**	**04 47 27.2**	**-1.5**
PCVE	**Castro Verde**	**4.45**	**343**	*e*P	**Pn**	**04 46 39.7**	**+1.3**
PCVE				*e*S	**Sn**	**04 47 27.3**	**-3.1**
PCVE				*i* AML	AML	04 47 29.1	
PCVE				*i* AML	AML	04 47 29.2	
PCVE				*i* AML	AML	04 47 29.4	
PCVE	**Castro Verde**	**4.45**	**343**	Pn	**Pn**	**04 46 39.5**	**+1.0**
PCVE				Sn	**Sn**	**04 47 27.1**	**-3.2**
PTEO	**Sao Teotonio**	**4.58**	**336**	*e*P	**Pn**	**04 46 41.5**	**+1.4**
PTEO				*e*S	**Sn**	**04 47 31.2**	**-2.1**
PTEO				*i* AML	AML	04 47 43.2	
PTEO				*i* AML	AML	04 48 00.8	
MESJ	**Messejana**	**4.70**	**342**	*e*P	**Pn**	**04 46 42.8**	**+1.0**
MESJ				*e*S	**Sn**	**04 47 31.3**	**-5.0**
MESJ				IAML		04 47 34.9	
	comp=N,2.5nm,0.1s						
MESJ	**Messejana**	**4.70**	**342**	*e*P	**Pn**	**04 46 42.9**	**+1.1**
MESJ				*e*S	**Sn**	**04 47 33.5**	**-2.8**
MESJ				*i* AML	AML	04 47 35.5	
MESJ				*i* AML	AML	04 47 36.5	
MESJ				*i* AML	AML	04 47 37.8	
ECAB	**El Cabril**	**4.75**	**9**	Pn	**Pn**	**04 46 44.0**	**+1.5**
ECAB				Sn	**Sn**	**04 47 32.9**	**-4.9**
ECAB	**El Cabril**	**4.75**	**9**	Pn	**Pn**	**04 46 44.1**	**+1.5**
ECAB				⇑*i*Vmb_V		04 46 53.8	
	comp=N,76nm,SNR=1.8						
ECAB				Sn	**Sn**	**04 47 34.6**	**-3.2**
PBEJ	**Beja**	**4.79**	**346**	*e*P	**Pn**	**04 46 44.0**	**+0.9**
PBEJ				*e*S	**Sn**	**04 47 35.3**	**-3.4**
PBEJ				*i* AML	AML	04 47 37.3	
PBEJ				*i* AML	AML	04 47 38.0	
PBEJ				*i* AML	AML	04 47 38.5	
PBAR	**Barrancos**	**4.82**	**354**	*e*P	**Pn**	**04 46 44.8**	**+1.3**
PBAR				*e*S	**Sn**	**04 47 35.2**	**-4.1**
PBAR				*i* AML	AML	04 47 38.5	
PBAR				*i* AML	AML	04 47 39.8	
PBAR				*i* AML	AML	04 47 39.9	
PBAR	**Barrancos**	**4.82**	**354**	Pn	**Pn**	**04 46 44.7**	**+1.3**
PBAR				Sn	**Sn**	**04 47 34.6**	**-4.7**
EADA	**Adamuz**	**5.00**	**17**	Pn	**Pn**	**04 46 47.2**	**+1.2**
EADA				Sn	**Sn**	**04 47 39.7**	**-4.2**
EADA	**Adamuz**	**5.00**	**17**	Pn	**Pn**	**04 46 47.2**	**+1.2**
EADA				⇑*i*Vmb_V		04 46 54.2	
	comp=N,61nm,SNR=1.2						
EADA				Sn	**Sn**	**04 47 40.2**	**-3.6**
E0803	**Jimena (Jaen)**	**5.04**	**27**	Pn	**Pn**	**04 46 47.8**	**+1.2**
E0803				Sn	**Sn**	**04 47 44.0**	**-0.9**
EQES	**Quesada**	**5.17**	**31**	Pn	**Pn**	**04 46 50.9**	**+2.4**
EQES				Sn	**Sn**	**04 47 46.1**	**-2.2**
EVO	**Evora**	**5.31**	**346**	*e*P	**Pn**	**04 46 51.6**	**+1.4**
EVO				*e*S	**Sn**	**04 47 47.8**	**-3.7**
EVO				*i* AML	AML	04 47 48.9	
EVO				*i* AML	AML	04 47 49.4	
EVO				*i* AML	AML	04 47 51.5	
EBAD	**Badajoz**	**5.39**	**355**	Pn	**Pn**	**04 46 52.1**	**+0.8**
EBAD				Sn	**Sn**	**04 47 49.4**	**-4.0**
EBAD	**Badajoz**	**5.39**	**355**	Pn	**Pn**	**04 46 52.0**	**+0.8**
EBAD				⇑*i*Vmb_V		04 46 53.3	
	comp=N,245nm,SNR=3.3						
EBAD				Sn	**Sn**	**04 47 49.2**	**-4.3**
PSIM	**Granatula de C**	**5.83**	**21**	Pn	**Pn**	**04 46 58.9**	**+1.4**
PSIM				Sn	**Sn**	**04 48 01.2**	**-3.2**
PMTG	**Montargil**	**5.87**	**346**	*e*P	**Pn**	**04 46 59.1**	**+1.2**
PMTG				*e*S	**Sn**	**04 48 02.3**	**-3.0**
PMTG				*i* AML	AML	04 48 03.8	
PMTG				*i* AML	AML	04 48 04.9	
PMTG				*i* AML	AML	04 48 07.2	
PMAFR	**Mafra**	**6.04**	**338**	*e*P	**Pn**	**04 47 02.1**	**+1.9**
PMAFR	**Mafra**	**6.04**	**338**	Pn	**Pn**	**04 47 01.9**	**+1.7**
PMRV	**Marv??o**	**6.09**	**353**	*e*P	**Pn**	**04 47 02.2**	**+1.2**
PMRV				*e*S	**Sn**	**04 48 06.3**	**-4.5**
PMRV				*i* AML	AML	04 48 07.7	

PMRV				*i* AML	AML	04 48 07.8	
PMRV				*i* AML	AML	04 48 08.0	
PAB	**San Pablo**	**6.37**	**14**	Pn	**Pn**	**04 47 05.4**	**+0.5**
PAB				⇑*i*Vmb_V		04 47 08.4	
	comp=N,52nm,SNR=1.0						
PAB				Sn	**Sn**	**04 48 12.5**	**-5.2**
PSBE	**So Bento**	**6.42**	**343**	*e*P	**Pn**	**04 47 07.4**	**+1.8**
PCBR	**Castelo Branco**	**6.51**	**353**	*e*P	**Pn**	**04 47 08.0**	**+1.3**
PCBR				*e*S	**Sn**	**04 48 16.2**	**-4.7**
PCBR				*i* AML	AML	04 48 18.0	
PCBR				*i* AML	AML	04 48 18.1	
PCAS	**Casmilo, Conde**	**6.87**	**346**	*e*S	**Sn**	**04 48 25.6**	**-4.4**
MTE	**Manteigas**	**7.07**	**353**	*e*P	**Pn**	**04 47 15.9**	**+1.4**
MTE				*e*S	**Sn**	**04 48 28.8**	**-6.1**
MTE				*i* AML	AML	04 48 31.3	
MTE				*i* AML	AML	04 48 34.5	
GUD	**Guadarrama**	**7.47**	**13**	Sn	**Sn**	**04 48 38.4**	**-6.4**
MVO	**Moncorvo**	**7.79**	**356**	*e*P	**Pn**	**04 47 25.9**	**+1.5**
MVO				*e*S	**Sn**	**04 48 46.9**	**-5.7**
POLO	**Lamas de Olo**	**8.06**	**352**	*e*P	**Pn**	**04 47 29.1**	**+1.0**
POLO				*e*S	**Sn**	**04 48 53.6**	**-5.7**
ETOR	**Torete**	**8.19**	**24**	Pn	**Pn**	**04 47 30.5**	**+0.6**
ETOR				⇑*i*Vmb_V		04 47 34.6	
	comp=N,90nm,SNR=0.9						
ETOR				Sn	**Sn**	**04 48 57.3**	**-5.3**

OMAN 28 04:46:28.3±0.2, 17°.86N×59°.74E, h10km, mb4.0/5, ml3.6/6, Error ellipse: s-maj=3.2km s-min=1.3km az=311.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**2.93**	**315**	P	Pn	04 47 15.4	+0.5
DQM				S	Sn	04 47 51.1	+0.9
	SNR=7.6						
JLN	**Jalan Bani Buh**	**4.28**	**356**	P	Pn	04 47 32.0	-1.6
JLN				S	Sn	04 48 21.3	-2.3
	SNR=15						
DMTO	**DMTO**	**4.56**	**269**	P	Pn	04 47 37.0	-0.4
	SNR=8.0						
DMTO				S	Sn	04 48 27.5	-3.1
JMDO	**Jabal Madar**	**4.75**	**341**	P	Pn	04 47 40.0	0.0
JMDO				S	Sn	04 48 35.5	+0.4
	SNR=8.5						
WBK	**Wadi Bani Khal**	**4.78**	**351**	P	Pn	04 47 40.3	-0.2
	SNR=17						
WBK				S	Sn	04 48 36.2	+0.2
DOK	**Doka**	**5.38**	**279**	P	Pn	04 47 49.1	+0.4
DOK				S	Sn	04 48 50.6	-0.1
	SNR=6.0						
SMDO	**Samad**	**5.41**	**343**	P	Pn	04 47 48.9	-0.3
	SNR=14						
SMDO				S	Sn	04 48 50.4	-1.3
	SNR=10						
BSY	**Bisya**	**5.41**	**334**	P	Pn	04 47 50.5	+1.3
BSY				S	Sn	04 48 51.6	0.0
WHFO	**Wadi Hawf**	**5.68**	**272**	P	Pn	04 47 52.0	-0.9
WHFO				S	Sn	04 48 56.2	-2.1
BIDO	**Bidbid**	**5.83**	**345**	P	Pn	04 47 55.2	+0.2
BIDO				S	Sn	04 49 03.3	+1.4
HOQ	**Hoqain**	**6.13**	**339**	P	Pn	04 47 59.2	+0.1
HOQ				S	Sn	04 49 11.5	+2.2
ABTO	**Aybut**	**6.16**	**266**	P	Pn	04 47 58.9	-0.6
ABTO				S	Sn	04 49 10.1	0.0
ARQ	**Araqi**	**6.23**	**332**	P	Pn	04 48 00.7	+0.3
ARQ				S	Sn	04 49 13.1	+1.5
SOHO	**SOHO**	**6.92**	**335**	P	Pn	04 48 10.3	+0.4
SOHO				S	Sn	04 49 30.1	+1.3
HATD	**Hatta, Dubai**	**7.70**	**335**	P	Pn	04 48 20.9	+0.2
HATD				S	Sn	04 49 50.7	+2.7
NAZ	**Nazwa, Dubai**	**8.05**	**333**	P	Pn	04 48 25.8	+0.5
NAZ				S	Sn	04 49 58.7	+2.3
JASK	**Jask - Hormozg**	**8.16**	**348**	P	Pn	04 48 26.9	0.0
GHWR	**Ruwais**	**8.83**	**315**	P	Pn	04 48 36.5	+0.4
SLWR	**Sila**	**9.73**	**311**	P	Pn	04 48 48.7	+0.3

*SOME **28** 04:55:49.0, 39°.22N×72°.88E, h5km*
*KRNET **28** 04:55:59.7±0.1, 39°.50N×73°.16E, h23km, mb3.6*
*NNC **28** 04:56:06.8±3.4, 39°.84N×73°.29E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=31.0km s-min=15.7km az=16.0*

ISC 28 04:55:58.4±1.1, 39°.47N±0°.05×73°.14E±0°.03, h10km, n36, σ1ˢ84/65, 33C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.61**	**27**	⇑*i*P	**Pb**	**04 56 11.0**	**-0.3**
SFK				⇑*i*S	**Sg**	**04 56 18.9**	**+0.5**
DRK	**Karamyk**	**1.04**	**271**	⇑*i*P	**Pn**	**04 56 19.3**	**0.0**
DRK				⇑*i*S	**Sn**	**04 56 33.4**	**-0.6**
OHH	**Osh**	**1.09**	**346**	⇓*i*P	**Pb**	**04 56 19.5**	**+0.1**
OHH				⇓*i*S	**Sb**	**04 56 33.8**	**+0.1**
SALK	**Salom-Alik**	**1.51**	**20**	⇑*i*P	**Pb**	**04 56 26.6**	**0.0**
SALK				⇑*i*S

MTBS *e*S **Sg** **04 58 18.8 -1.4**
18nm,0.4s
IZV Izvestkoviy 4.42 35 *e*P **Pb** **04 57 14.7 -1.6**
3.2nm,0.5s
IZV *e*S **Sg** **04 58 16.3 -4.0**
36nm,0.7s
TNSS Tian-Shan 4.58 38 *e*P **Pb** **04 57 19.7 +0.7**
2.3nm,0.6s
TNSS *e*S **Sg** **04 58 24.6 -0.7**
13nm,0.5s
ANVS Anan'yevo 4.76 44 ⇓*i*P **Pn** **04 57 12.6 +2.3**
ANVS ⇓*i*S **Sn** **04 58 05.9 +0.2**
PDGK Podgornoye 6.14 49 ⇓Pn Pn 04 57 34.0 +4.8
0.8nm,0.5s
PDGK ⇑Pg **Pg** **04 57 54.2 -1.7**
2.8nm,0.8s
PDGK ⇓Lg Lg 04 59 10.3
9.1nm,0.8s

TXNET 28 04:59:13.3, 31°.6N±0°.7×104°.3W±0°.7, h5km±2km, ML1.7/7, Error ellipse: s-maj=1.2km s-min=0.9km az=43.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**31**	P	Pg	04 59 20.0	-0.1
TPB11				S	Sg	04 59 24.7	-0.1
PECS	**Pecos**	**0.42**	**129**	P	Pg	04 59 21.6	+0.2
PECS				S	Sg	04 59 27.1	+0.2
PECS	**Pecos**	**0.42**	**129**	P	Pg	04 59 21.6	+0.2
TPB12	**Southwest of T**	**0.49**	**149**	P	Pg	04 59 21.9	-0.7
TPB12				S	Sg	04 59 28.4	-0.6
TPB07	**Mentone**	**0.50**	**96**	P	Pg	04 59 23.0	+0.1
TPB07				S	Sg	04 59 29.8	+0.4
TPB10	**Southeast of T**	**0.55**	**130**	P	Pg	04 59 23.9	+0.1
TPB10				S	Sg	04 59 31.5	+0.6
GDL2	**Guadalupe Moun**	**0.57**	**350**	P	Pg	04 59 24.1	-0.1
CLNB	**Carlsbad**	**0.70**	**27**	S	Sg	04 59 36.5	+0.7
CLNB	**Carlsbad**	**0.70**	**27**	P	Pb	04 59 28.2	+0.1
TPB01	**Permian Basin**	**0.80**	**150**	P	Pg	04 59 28.0	-0.6
TPB01				S	Sg	04 59 38.3	-0.6
TPB03	**Saragosa**	**0.83**	**131**	S	Sg	04 59 40.3	+0.2
CLN7	**Carlsbad 7**	**0.86**	**26**	P	Pg	04 59 29.9	+0.1
TPB06	**Permian Basin**	**0.88**	**89**	S	Sg	04 59 40.9	-0.7
TPB04	**Verhalen**	**0.95**	**118**	S	Sg	04 59 43.4	-0.4
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	04 59 32.0	+0.2
MNTX				S	Sb	04 59 45.2	-0.5
MNTX	**Cornudas Mount**	**0.97**	**274**	P	Pg	04 59 32.1	+0.3
HTMS	**Hat Mesa**	**0.98**	**32**	S	Sb	04 59 45.9	-0.4
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	04 59 33.3	-0.2
VHRN				S	Sg	04 59 47.6	+0.4
VHRN	**Van Horn**	**1.05**	**217**	P	Pg	04 59 33.5	0.0
TPB05	**Hovey Rd**	**1.06**	**132**	S	Sg	04 59 47.6	+0.1
MNHN	**Monahans**	**1.30**	**103**	P	Pn	04 59 37.8	-0.4
MNHN				S	Sg	04 59 55.0	-0.1
MNHN	**Monahans**	**1.30**	**103**	P	Pn	04 59 38.0	-0.3
ALPN	**Alpine**	**1.36**	**157**	P	Pn	04 59 37.7	-1.4
ALPN				S	Sg	04 59 55.2	-1.8
ALPN	**Alpine**	**1.36**	**157**	P	Pn	04 59 37.8	-1.3
TPB08	**Permian Basin**	**1.37**	**122**	P	Pn	04 59 38.9	-0.3
CPRX	**Cap Rock**	**1.43**	**13**	P	Pn	04 59 39.2	-0.8
ODSA	**Odessa**	**1.52**	**71**	P	Pn	04 59 40.7	-0.6
ODSA				S	Sn	05 00 00.7	-0.9
TMB04	**Seminole**	**1.79**	**56**	P	Pn	04 59 45.1	+0.1
TMB04				S	Sb	05 00 09.4	-0.1
TMB02	**Rankin**	**1.94**	**102**	P	Pn	04 59 47.9	+0.9
TMB02				S	Sn	05 00 12.6	+0.8
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	04 59 54.5	-1.6
TX31				S	Sb	05 00 26.3	+0.8
TX31	**Lajitas Ar. Si**	**2.35**	**168**	P	Pb	04 59 55.2	-0.9
SAND	**Sanderson**	**2.48**	**132**	P	Pb	04 59 58.2	-0.2
POST	**Post**	**2.73**	**58**	P	Pb	05 00 00.2	-2.4
WTFS	**Witchita Falls**	**5.32**	**65**	P	Pb	05 00 48.7	+2.0

*BJI **28** 05:00:48.4, 7°.21N×94°.12E, h5km, mB4.9/8, mb4.3/31, Ms4.1/4, Ms7 3.8/5*
*IDC **28** 05:00:50.9±0.6, 7°.59N×94°.12E, h0km, mb4.3/23, mbtmp4.3/25, ML4.5/2, MS3.6/16, Error ellipse: s-maj=25.2km s-min=13.6km az=58.0*
*NDI **28** 05:00:52.7±0.9, 7°.53N×94°.16E, h10km, mb4.7, MW4.6, mb4.7(NEIC)*
*NEIC **28** 05:00:52.5±0.9, 7°.53N±0°.05×94°.16E±0°.10, h10km±1km, mb4.7/44, Error ellipse: s-maj=16.9km s-min=7.0km az=249.0*
*DJA **28** 05:01:00.9±0.8, 8°N±4°×9°5E±1°0, h10km, M4.7/10, mB5.3/5, mb4.7/7, MLv4.7/10, Mw(mB)4.8/5, MwMwp4.6/2, Mwp5.0/2*

ISC 28 05:00:54.2±0.4, 7°.60N±0°.05×94°.19E±0°.06, h20km, n120, σ19°32/111, mb4.5/50, MS3.5/7, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.36**	**152**	P	**Pb**	**05 01 38.0**	**+1.8**
LHMI	**Lhok Sumawe**	**3.61**	**131**		**Pn**	**05 01 49.7**	**+0.5**
LHMI	**Lhok Sumawe**	**3.61**	**131**	P	**Pn**	**05 01 49.8**	**+0.7**
MLSI	**Meulaboh, Aceh**	**3.98**	**146**	P	Pn	05 01 59.5	+5.3
SRIT	**Nakonsritamara**	**5.45**	**79**		**Pn**	**05 02 15.4**	**+1.0**
SNSI	**Sinabang, Aceh**	**5.58**	**157**	P	Pn	05 02 21.9	+5.7
	0.4nm3μm72nm,0.7s						
PSI	**Prapat**	**6.71**	**135**	Pn	**Pn**	**05 02 33.8**	**+2.0**
	4.6nm,0.3s,baz=336,slow=18,SNR=9.5						
PSI				Sn	**Sn**	**05 03 50.5**	**+2.7**
	baz=103,slow=23						
PSI				LR	LR	05 05 42.9	
	comp=Z,405nm,20.6s,baz=306,slow=43						
	9.7nm,0.3s						
RPSI	**Rantau Prapat**	**6.78**	**136**		**Pn**	**05 02 31.8**	**-0.9**
RPSI	**Rantau Prapat**	**6.78**	**136**		**Pn**	**05 02 33.8**	**+1.1**
KULM	**Kulim**	**6.82**	**109**		**Pn**	**05 02 33.1**	**-0.1**
IPM	**Ipoh**	**7.47**	**114**		**Pn**	**05 02 41.2**	**-1.0**
BKNI	**Bangkinang**	**9.94**	**136**	Pn	**Pn**	**05 03 14.6**	**-1.6**
PPI	**Padang Panjang**	**10.12**	**142**	P	**Pn**	**05 03 21.3**	**+2.8**
SISI	**Saibi**	**10.13**	**151**	P	Pn	05 03 30.1	+11
MYKOM	**Kota Tinggi**	**11.22**	**120**	Pn	**Pn**	**05 03 32.9**	**-0.7**
CM31	**Chiang Mai Arr**	**11.74**	**23**	Pn	**Pn**	**05 03 40.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn	**Pn**	**05 03 40.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn	**Pn**	**05 03 41.3**	**+0.6**
	1.3nm,0.3s,baz=202,slow=14,SNR=18						
CMAR				LR	LR	05 08 24.5	
	comp=Z,113nm,18.5s,baz=205,slow=38						
	4.6nm,0.5s						
CHTO	**Chiang Mai**	**12.06**	**22**	Pn	**Pn**	**05 03 45.2**	**0.0**
PALK	**Pallekele**	**13.38**	**269**	Pn	**Pn**	**05 04 06.9**	**+3.7**
	0.4nm,0.3s,baz=176,slow=14,SNR=2.3						
VJD	**Vijayawada**	**15.92**	**305**	*e*P	**Pn**	**05 04 35.7**	**-1.6**
VJD				IAmb	IAmb	05 04 49.8	
	comp=Z,14nm,0.6s						
VJD				*e*S	Sn	05 07 20.1	-13
SLVN	**Son La**	**16.57**	**33**		**Pn**	**05 04 45.3**	**-0.3**
KOD	**Kodaikanal**	**16.73**	**280**	*e*P	**P**	**05 04 52.9**	**+2.8**
KOD				*e*S	Sn	05 07 41.9	-12
TNCH	**TengChong**	**17.82**	**13**	P	**P**	**05 05 02.5**	**+0.5**
TNCH				pP	pP	05 05 06.0	-1.0
TNCH				PP	**PnPn**	**05 05 18.0**	**+5.7**
TNCH				S	**Sn**	**05 08 18.0**	**-1.5**
TNCH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
TNCH				LR	LR		
	comp=Z,160nm,9.1s						
TNCH				LR	LR		
	comp=Z,56nm,7.1s						
SHL	**Shillong**	**18.00**	**353**	P	**Pn**	**05 05 01.7**	**-1.9**
SBUM	**Sibu**	**18.67**	**105**	P	**P**	**05 05 10.1**	**-1.1**
QIZ	**Qiongzhong**	**18.98**	**52**	P	**P**	**05 05 14.0**	**-0.6**
QIZ				S	**S**	**05 08 53.3**	**+3.8**
QIZ				LR	LR		
	comp=Z,450nm,13.0s						
QIZ				LR	LR		
	comp=Z,220nm,14.4s						
QIZ				LR	LR		
	comp=Z,100nm,13.0s						
JPG	**JALPAIGURI**	**19.55**	**345**	*e*P	**Pn**	**05 05 24.5**	**+2.4**
JPG				IAmb	IAmb	05 05 47.4	
	comp=Z,15nm,0.2s						
JPG				*e*S	S	05 08 44.0	-17
LEM	**Lembang**	**19.62**	**137**	LR	LR	05 14 45.4	
	comp=Z,153nm,20.7s,baz=138,slow=42						
PZH	**PanZhiHua**	**20.12**	**20**	P	Pn	05 05 30.0	+0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
PZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LSA	**Lhasa**	**22.17**	**353**		**P**	**05 05 49.3**	**-0.3**
LSA				IAmb	IAmb	05 05 53.2	
	comp=Z,24nm,0.7s						
LSA	**Lhasa**	**22.17**	**353**	P	**P**	**05 05 51.8**	**+2.2**
GYA	**Guiyang**	**22.19**	**31**	P	**P**	**05 05 51.5**	**+2.0**
GYA				pmax	pmax		
	comp=Z,11nm,1.2s						
GYA				LR	LR		
	comp=Z,210nm,13.6s						
H08S3	**Diego Garcia H**	**26.41**	**236**	T	T	05 33 26.6	
	baz=55,slow=76,SNR=276						
H08S2	**Diego Garcia H**	**26.41**	**235**	T	T	05 33 25.7	
	baz=55,slow=76,SNR=51						
H08S1	**Diego Carcia H**	**26.43**	**236**	T	T	05 33 11.3	
	baz=55,slow=76,SNR=13						
KAPI	**Kappang**	**28.42**	**115**	LR	LR	05 17 53.7	
	comp=Z,68nm,20.8s,baz=304,slow=36						
GOMU	**GeErMu**	**28.47**	**1**	P	**P**	**05 06 49.3**	**+0.8**
GOMU				pP	pP	05 06 54.3	+0.3
GOMU				sP	sP	05 06 58.0	+1.8
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA	**Gaotai**	**32.07**	**8**	*e*P	**P**	**05 07 21.0**	**+1.0**
GTA				pP	pP	05 07 25.0	-0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NIL	**Nilore**	**32.35**	**326**	P	**P**	**05 07 22.5**	**0.0**
NJ2	**Nanjing**	**33.44**	**40**	*e*P	**P**	**05 07 33.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HNS	**HongShan**	**35.03**	**29**	⇑P	**P**	**05 07 47.5**	**+1.9**
HNS				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KSH	**Kashi**	**35.74**	**336**	P	P	05 07 56.5	+4.6
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GIRL	**Giralia**	**35.90**	**147**	P	**P**	**05 07 50.2**	**-3.0**
WUS	**Wushi**	**36.01**	**341**	P	**P**	**05 07 54.8**	**+0.6**
WUS				IAmb	IAmb	05 07 55.0	
	comp=Z,8.6nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.55**	**22**	*e*P	**P**	**05 08 01.0**	**+2.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,86nm,4.8s						
DRK	**Karamyk**	**37.57**	**331**	P	**P**	**05 08 07.6**	**-0.1**
GAR	**Garm**	**37.93**	**329**	P	**P**	**05 08 10.5**	**-0.1**
GAR				IAmb	IAmb	05 08 18.6	
	comp=Z,18nm,1.1s						
CHGR	**Chuyangaron**	**38.28**	**328**	P	**P**	**05 08 13.4**	**0.0**
CHGR				IAmb	IAmb	05 08 21.0	
	comp=Z,22nm,1.0s						
BOOM	**Boomskoye usch**	**38.30**	**338**	P	**P**	**05 08 12.5**	**-1.2**
SIMJ	**Simiganj**	**38.36**	**328**	P	**P**	**05 08 13.3**	**-0.9**
SIMJ				IAmb	IAmb	05 08 21.8	
	comp=Z,11nm,0.8s						
BTK	**Batken**	**38.49**	**331**	P	**P**	**05 08 13.6**	**-1.7**
BTK				IAmb	IAmb	05 08 25.5	
	comp=Z,8.7nm,0.8s						
ARSB	**Arslanbob**	**38.51**	**334**	P	**P**	**05 08 14.5**	**-0.9**
ARSB				IAmb	IAmb	05 08 23.6	
	comp=Z,11nm,0.8s						
AAK	**Ala-Archa**	**38.98**	**337**	P	**P**	**05 08 18.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**40.20**	**130**	P	**P**	**05 08 27.9**	**-1.7**
MK31	**Makanchi Array**	**40.36**	**347**	P	**P**	**05 08 30.4**	**-0.3**
MKAR	**Makanchi Array**	**40.36**	**347**	P	**P**	**05 08 30.4**	**-0.3**
	comp=Z,6.0nm,0.6s,baz=170,slow=7.9,SNR=79						
	comp=Z,6.0nm,0.6s						
MAKZ	**Makanchi**	**40.45**	**347**	P	**P**	**05 08 30.7**	**-0.6**
MAKZ				IAmb	IAmb	05 08 31.7	
	comp=Z,6.1nm,0.7s						
KK31	**Karatay Array**	**41.03**	**333**	P	**P**	**05 08 35.8**	**-0.4**
KKAR	**Karatay Array**	**41.03**	**333**	P	**P**	**05 08 35.8**	**-0.4**
SONM	**Songino Array**	**41.42**	**12**	P	**P**	**05 08 39.5**	**+0.1**
SONM	**Songino Array**	**41.42**	**12**	P	**P**	**05 08 39.7**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=196,slow=8.6,SNR=12						
	comp=Z,2.1nm,0.7s						
JNU	**Nakatsue**	**42.39**	**48**	LR	LR	05 27 05.9	
	comp=Z,73nm,18.6s,baz=264,slow=37						
KS19	**Wonju Array Si**	**42.63**	**41**	P	**P**	**05 08 48.7**	**-0.7**
KS19				IAmb	IAmb	05 08 58.2	
	comp=Z,26nm,1.5s						
KSRS	**Korea Array**	**42.64**	**41**	LR	LR	05 27 26.5	
	comp=Z,31nm,20.7s,baz=175,slow=37						
KURBB	**Kurchatov Arra**	**44.82**	**346**	P	**P**	**05 09 06.9**	**+0.1**
	comp=Z,8.5nm,0.8s,baz=171,slow=7.2,SNR=71						
	comp=Z,8.5nm,0.8s						
KURK	**Kurchatov**	**44.88**	**346**	P	**P**	**05 09 06.8**	**-0.5**
KURK				IAmb	IAmb	05 09 08.3	
	comp=Z,9.0nm,0.9s						
ZAA0	**Zalesovo Array**	**46.83**	**352**	P	**P**	**05 09 21.6**	**-1.0**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**05 09 22.3**	**-0.3**
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**05 09 22.8**	**+0.2**
	comp=Z,6.9nm,0.4s,baz=179,slow=7.6,SNR=40						
ZALV				LR	LR	05 30 30.2	
	comp=Z,78nm,18.0s,baz=261,slow=38						
	comp=Z,6.9nm,0.4s						
WB0	**Warramunga Arr**	**48.02**	**125**	P	**P**	**05 09 31.0**	**-1.4**
WB0				IAmb	IAmb	05 09 54.4	
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**48.06**	**125**	P	**P**	**05 09 32.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=306,slow=8.4,SNR=8.1						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**48.07**	**125**	P	**P**	**05 09 31.2**	**-1.6**
WB2				IAmb	IAmb	05 09 40.8	
	comp=Z,4.3nm,1.1s						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**05 09 41.6**	**-0.3**
RAYN				IAmb	IAmb	05 09 53.4	
	comp=Z,4.7nm,0.8s						
BVAR	**Borovoye Array**	**49.26**	**341**	P	**P**	**05 09 40.7**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=152,slow=6.7,SNR=7.5						
BVAR				PcP	**PcP**	**05 11 02.8**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=145,slow=3.5,SNR=2.6						
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**49.32**	**341**	P	**P**	**05 09 41.3**	**-0.6**
ASAR	**Alice Springs**	**49.70**	**130**	P	**P**	**05 09 44.4**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=300,slow=7.4,SNR=7.3						
ASAR				PcP	**PcP**	**05 11 07.2**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=301,slow=3.7,SNR=8.9						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**50.49**	**331**	P	**P**	**05 09 50.1**	**-0.8**
AKTO	**Aktyubinsk**	**52.21**	**331**	P	**P**	**05 10 03.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=90,slow=5.1,SNR=6.7						
AKTO				PcP	**PcP**	**05 11 15.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=91,slow=18,SNR=1.6						
	comp=Z,0.7nm,0.4s						
VOI	**Vohitsoka**	**54.94**	**237**	P	**P**	**05 10 23.2**	**-1.2**
VOI				IAmb	IAmb	05 10 43.3	
	comp=Z,12nm,1.3s						
ARTI	**Arti**	**56.20**	**337**	P	**P**	**05 10 32.5**	**-0.2**
ARTI				IAmb	IAmb	05 10 56.9	
	comp=Z,16nm,1.5s						
BBOO	**Buckleboo**	**56.58**	**138**	P	**P**	**05 10 34.2**	**-1.6**
KBZ	**Khabaz**	**57.32**	**318**	P	**P**	**05 10 40.4**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=75,slow=7.3,SNR=3.6						
	comp=Z,1.1nm,0.7s						
BELG	**Belogornoye**	**58.57**	**329**	P	**P**	**05 10 48.4**	**-1.1**
	comp=Z,9.5nm,0.7s,baz=4.0,slow=13,SNR=6.3						
	comp=Z,9.5nm,0.7s						
EIL	**Elat**	**59.60**	**300**	LR	LR	05 37 02.3	
	comp=Z,26nm,21.8s,baz=84,slow=36						
NRIK	**Noril'sk**	**61.81**	**357**	P	**P**	**05 11 11.3**	**-0.1**
NRIK				IAmb	IAmb	05 11 11.7	
	comp=Z,3.3nm,0.6s						
NRIK	**Noril'sk**	**61.81**	**357**	P	**P**	**05 11 11.0**	**-0.4**
	comp=Z,3.6nm,0.6s,baz=157,slow=4.6,SNR=6.7						
	comp=Z,3.6nm,0.6s						
BR131	**Keskin Array S**	**62.64**	**311**	P	**P**	**05 11 17.1**	**-0.7**
BR131				IAmb	IAmb	05 11 44.0	
	comp=Z,8.5nm,1.5s						
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**05 11 17.0**	**-0.8**
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**05 11 16.5**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=127,slow=7.7,SNR=4.9						
	comp=Z,0.7nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.52**	**211**	T	T	06 22 14.9	
	baz=48,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**65.53**	**211**	T	T	06 22 06.9	
	baz=48,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**65.54**	**211**	T	T	06 22 05.3	
	baz=48,slow=75,SNR=9.8						
AKASG	**Malin Array Be**	**68.40**	**322**	P	**P**	**05 11 53.3**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=91,slow=5.4,SNR=2.9						
IDI	**Anoyia**	**68.76**	**305**	P	**P**	**05 11 56.7**	**-0.5**
	comp=Z,16nm,1.0s,baz=120,slow=22,SNR=1.7						
	comp=Z,16nm,1.0s						
PABE	**Paberze**	**72.61**	**326**	P	**P**	**05 12 20.5**	**+0.4**
FIA1	**FINESS Array S**	**72.97**	**332**	P	**P**	**05 12 22.1**	**-0.1**
FINES	**FINESS Array B**	**72.97**	**332**	P	**P**	**05 12 21.9**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=92,slow=6.3,SNR=14						
	comp=Z,3.2nm,0.6s						
PUK	**Puka**	**73.29**	**312**	P	**P**	**05 12 23.5**	**-1.1**
PUK				IAmb	IAmb	05 12 43.1	
	comp=Z,14nm,1.4s						
BOSA	**Boshof**	**75.48**	**238**	P	**P**	**05 12 36.0**	**-1.6**
BOSA				IAmb	IAmb	05 13 01.2	
	comp=Z,13nm,1.5s						
BOSA	**Boshof**	**75.48**	**238**	P	**P**	**05 12 37.7**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=114,slow=0.5,SNR=4.1						
	comp=Z,2.1nm,0.9s						
ARCES	**ARCESS Array B**	**75.54**	**340**	P	**P**	**05 12 36.9**	**-0.1**
	comp=Z,8.2nm,1.0s,baz=82,slow=6.9,SNR=7.5						
	comp=Z,8.2nm,1.0s						
GERES	**GERESS Array B**	**78.06**	**318**	P	**P**	**05 12 52.2**	**+0.4**
GERES	**GERESS Array B**	**78.06**	**318**	P	**P**	**05 12 51.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=87,slow=6.8,SNR=3.7						
	comp=Z,0.6nm,0.5s						
HFS	**Hagfors**	**78.71**	**330**	P	**P**	**05 12 55.1**	**0.0**
	comp=Z,2.9nm,0.5s,baz=116,slow=6.8,SNR=21						
	comp=Z,2.9nm,0.5s						
NC602	**NORSAR Array S**	**79.82**	**330**	P	**P**	**05 13 00.8**	**-0.2**
NC602				IAmb	IAmb	05 13 15.0	
	comp=Z,13nm,1.2s						
NC303	**NORSAR Array S**	**79.92**	**331**	P	**P**	**05 13 01.7**	**0.0**
NB2	**NORSAR Subarra**	**79.99**	**331**	P	**P**	**05 13 01.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**79.99**	**331**	P	**P**	**05 13 01.3**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=95,slow=5.0,SNR=5.5						
NOA				LR	LR	05 49 21.2	
	comp=Z,18nm,18.3s,baz=15,slow=36						
	comp=Z,1.0nm,0.6s						
SPA1	**Spitsbergen Ar**	**80.11**	**348**	P	**P**	**05 13 02.2**	**-0.2**
SPITS	**Spitsbergen Ar**	**80.11**	**348**	P	**P**	**05 13 02.2**	**-0.2**
	comp=Z,6.3nm,0.7s,baz=104,slow=9.8,SNR=10						
	comp=Z,6.3nm,0.7s						
DAVOX	**Davos/Dischmat**	**80.62**	**316**	P	**P**	**05 13 05.4**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=164,slow=8.3,SNR=4.2						
	comp=Z,1.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**87.97**	**325**	P	**P**	**05 13 43.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=99,slow=5.5,SNR=9.1						
	comp=Z,0.9nm,0.6s						
F20K	**Avaraart Lake**	**90.72**	**22**	P	**P**	**05 13 56.8**	**+1.4**
F20K				IAmb	IAmb	05 14 05.6	
	comp=Z,5.9nm,1.1s						
ESDC	**Sonseca Array**	**91.43**	**310**	P	**P**	**05 14 00.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=60,slow=3.2,SNR=5.5						
	comp=Z,0.2nm,0.4s						
D25K	**Kavik River**	**92.88**	**18**	P	**P**	**05 14 06.5**	**+1.0**
D25K				IAmb	IAmb	05 14 15.8	
	comp=Z,4.5nm,0.9s						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	**PKPdf**	**05 19 54.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=352,slow=3.7,SNR=3.8						
TXAR	**Lajitas Array**	**139.45**	**24**	PKhKP	PKPpre	05 20 14.8	
	comp=Z,0.2nm,0.6s,baz=29,slow=2.9,SNR=3.9						
TXAR				PKP	**PKPdf**	**05 20 21.5**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=19,slow=4.1,SNR=1.7						
PLCA	**Paso Flores**	**144.31**	**200**	PKP	**PKPdf**	**05 20 29.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=207,slow=0.5,SNR=5.5						
CPUP	**Villa Florida**	**147.14**	**232**	PKPbc	**PKPbc**	**05 20 37.1**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=88,slow=3.4,SNR=4.0						

*IDC **28** 05:02:16.6±0.9, 7°.78N×93°.80E, h0km, mb4.2/13, mbtmp4.2/14, ML4.4/1, MS3.8/8, Error ellipse: s-maj=41.6km s-min=19.2km az=62.0*

ISC 28 05:02:19.3±0.9, 7°.8N±0°.1×93°.8E±0°.2, h18km, n17, σ0°60/20, mb4.3/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**25**	Pn	**Pn**	**05 05 06.0**	**+0.3**
	0.8nm,0.3s,baz=204,slow=14,SNR=2.1						
	1.2nm,0.4s						
BRDH	**Bariadhala**	**14.94**	**352**	LR	LR	05 11 40.5	
	comp=Z,206nm,20.2s,baz=100,slow=38						
MKAR	**Makanchi Array**	**40.09**	**348**	P	**P**	**05 09 54.1**	**+0.3**
	3.2nm,0.7s,baz=165,slow=8.0,SNR=10.0						
MKAR				PcP	**PcP**	**05 11 58.4**	**+0.1**
	0.5nm,0.8s,baz=138,slow=3.8,SNR=2.1						
	3.2nm,0.7s						
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**05 10 03.4**	**-0.6**
	1.3nm,0.7s,baz=192,slow=9.2,SNR=4.6						
SONM				PcP	**PcP**	**05 12 02.1**	**-0.3**
	0.5nm,0.6s,baz=186,slow=2.8,SNR=5.2						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.54**	**346**	P	**P**	**05 10 30.6**	**+0.7**
	4.1nm,0.7s,baz=170,slow=7.2,SNR=11						
KURBB				PcP	**PP**	**05 12 13.3**	**-0.6**
	0.6nm,0.7s,baz=155,slow=2.1,SNR=3.1						
	4.1nm,0.7s

AKAS	**Kas**	**0.73**	**107**	P	**Pb**	**05 07 43.6**	**-0.7**
AKAS				S	**Sb**	**05 07 54.3**	**-0.1**
AKAS				*i* AML	AML	05 08 03.0	
	comp=E,274nm,0.6s						
KSL	**Kastellorizon**	**0.75**	**114**	P	**Pb**	**05 07 44.7**	**+0.3**
KSL				S	**Sb**	**05 07 55.0**	**+0.4**
YER	**Yerkesik**	**0.77**	**332**	Pg	**Pg**	**05 07 44.2**	**-0.1**
KNIK	**Mula-Seydike**	**0.78**	**60**	P	**Pg**	**05 07 44.1**	**-0.2**
KNIK				S	**Sb**	**05 07 55.9**	**+0.3**
CAEL	**Denizli, Camel**	**0.81**	**35**	P	**Pb**	**05 07 45.6**	**-0.1**
CAEL				S	**Sb**	**05 07 56.3**	**-0.5**
CAEL				*i* AML	AML	05 08 08.0	
	comp=E,207nm,0.6s						
CAEL				*i* AML	AML	05 08 10.0	
	comp=N,180nm,0.7s						
DNZT	**Denizli-Tavas-**	**0.85**	**15**	P	**Pg**	**05 07 45.7**	**-0.2**
DNZT				S	**Sg**	**05 07 57.0**	**0.0**
DAT	**Datca**	**0.97**	**287**	Pg	**Pb**	**05 07 48.6**	**+0.2**
ELL	**Elmali**	**0.98**	**72**	Pg	**Pg**	**05 07 48.2**	**-0.1**
ELL	**Elmali**	**0.98**	**72**	P	**Pn**	**05 07 50.2**	**+0.8**
ELL				S	**Sn**	**05 08 03.1**	**-0.3**
GOLH	**Golhisar**	**1.02**	**40**	P	**Pb**	**05 07 49.1**	**-0.2**
GOLH				S	**Sg**	**05 08 02.3**	**-0.1**
GOLH				*i* AML	AML	05 08 11.0	
	comp=N,106nm,0.4s						
GOLH				*i* AML	AML	05 08 13.0	
	comp=E,99nm,0.4s						
APMY	**Acipayam-Deniz**	**1.11**	**24**	Pn	**Pg**	**05 07 50.3**	**-0.4**
MLSB	**Milas**	**1.14**	**318**	Pn	**Pg**	**05 07 51.1**	**-0.2**
BODT	**Bodrum**	**1.30**	**298**	Pn	**Pg**	**05 07 54.3**	**0.0**
KORT	**Korkueli**	**1.40**	**67**	Pn	**Pg**	**05 07 56.8**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.55**	**347**	Pn	**Pn**	**05 07 57.6**	**+0.5**
KARP	**Karpathos**	**1.57**	**235**	Pn	**Pg**	**05 07 58.9**	**-0.5**
KARP	**Karpathos**	**1.57**	**235**	P	**Pb**	**05 07 58.5**	**0.0**
KARP				S	**Sb**	**05 08 18.0**	**-0.4**
BASM	**Basmaki-Afyon**	**1.80**	**35**	Pn	**Pb**	**05 08 01.9**	**-0.5**
SMG	**Samos**	**1.97**	**310**	P	**Pn**	**05 08 04.0**	**+1.2**
ISP	**Isparta**	**1.97**	**46**	P	**Pb**	**05 08 05.2**	**-0.3**
ZKR	**Zakros**	**2.45**	**238**	Pn	**Pb**	**05 08 11.6**	**-1.9**

*NEIC **28** 05:16:30.7±1.1, 5°.62N±0°.07×126°.2E±0°.1, h91^{km}±8^{km}, mb4.4/35, Error ellipse: s-maj=17.3km s-min=8.9km az=69.0*

*DJA **28** 05:16:33.9±0.5, 5°N±4°×12°6E±°, h158^{km}±6^{km}, M4.7/13, mB5.1/5, mb4.6/10, MLv4.8/13, Mw(mB)4.5/5*

*IDC **28** 05:16:37.8±1.4, 5°.61N×126°.00E, h159^{km}±12^{km}, mb3.8/21, mbtmp4.3/22, MS3.3/2, Error ellipse: s-maj=27.4km s-min=9.6km az=71.0*

ISC 28 05:16:36.3±0.4,**5°.45N**±0°.05×**125°.99E**±0°.09,**h150**^{km},**n91**, σ1**§36**/**88**,**mb4.3**/42,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.66**	**346**	Pn	Pn	05 16 57.4	-10
DAV	**Davao City (W)**	**1.66**	**346**	P	**Pn**	**05 17 08.8**	**+1.2**
	581nm,0.3s,baz=180,slow=4.5,SNR=7.9						
DAV				LR	LR	05 17 39.4	
	comp=Z,190nm,20.4s,baz=124,slow=41						
SGSI	**Sangihe**	**1.81**	**195**	P	**Pn**	**05 17 07.4**	**-1.9**
SGSI				S	**Sn**	**05 17 35.6**	**+0.9**
TNTI	**Ternate**	**4.84**	**163**	Pn	Pn	05 17 42.7	-5.0
TNTI	**Ternate**	**4.84**	**163**	P	**Pn**	**05 17 44.9**	**-2.8**
MRSI	**Marisa**	**6.38**	**219**	P	**Pn**	**05 18 10.2**	**+2.0**
	0.4nm2μm128nm,0.6s						
TOLI2	**Tolitoli**	**6.75**	**231**		**Pn**	**05 18 10.1**	**-3.0**
LUWI	**Luwuk**	**7.21**	**207**	Pn	**Pn**	**05 18 15.7**	**-3.5**
LUWI	**Luwuk**	**7.21**	**207**	P	**Pn**	**05 18 20.2**	**+1.0**
SANI	**Sanana**	**7.45**	**180**	P	Pn	05 18 18.2	-4.2
	0.4nm2μm94nm,0.8s						
MYLDM	**Lahad Datu**	**7.46**	**268**		**Pn**	**05 18 18.9**	**-3.7**
APSI	**Ampana**	**7.66**	**215**	P	**Pn**	**05 18 27.6**	**+2.3**
	85nm,1.1s						
NLAI	**Namlea**	**8.70**	**173**	P	**Pn**	**05 18 35.4**	**-3.7**
	3μm78nm,0.5s						
FAKI	**Fak Fak**	**10.40**	**143**	Pn	Pn	05 18 57.3	-4.4
KAPI	**Kappang**	**12.12**	**211**	Pn	**Pn**	**05 19 23.6**	**-0.6**
KAPI	**Kappang**	**12.12**	**211**	P	**Pn**	**05 19 27.0**	**+2.8**
	18nm,0.8s,baz=19,slow=16,SNR=8.7						
SBUM	**Sibu**	**14.06**	**258**		**Pn**	**05 19 48.0**	**-1.0**
SOEI	**Soe**	**15.20**	**186**		**Pn**	**05 20 01.5**	**-2.0**
SOEI				IAmb	IAmb	05 20 19.5	
	comp=Z,36nm,0.6s						
MTN	**Manton Dam**	**18.88**	**164**	P	**P**	**05 20 45.1**	**-0.2**
MTN				IAmb	IAmb	05 21 04.0	
	comp=Z,9.3nm,0.4s						
QIZ	**Qiongzhong**	**20.74**	**312**	P	**P**	**05 21 05.0**	**-0.3**
QIZ				S	**S**	**05 24 50.5**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,10.0nm,1.6s						
QIZ				LR	LR		
	comp=N,100nm,8.9s						
QIZ				LR	LR		
	comp=E,120nm,8.9s						
QIZ				LR	LR		
	comp=Z,97nm,11.0s						
KNRA	**Kununurra**	**21.17**	**173**	P	**P**	**05 21 09.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.40**	**181**	P	**P**	**05 21 33.9**	**+2.1**
IPM	**Ipoh**	**24.89**	**269**	P	**P**	**05 21 45.8**	**+0.3**
IPM				IAmb	IAmb	05 22 05.4	
	comp=Z,7.3nm,0.8s						
BKNI	**Bangkinang**	**25.43**	**259**	P	**P**	**05 21 50.8**	**+0.4**
COEN	**Coen**	**25.74**	**139**	P	**P**	**05 21 51.6**	**-1.6**
COEN				IAmb	IAmb	05 21 57.0	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**26.39**	**162**	P	**P**	**05 21 59.2**	**+0.3**
WB0				IAmb	IAmb	05 22 03.0	
	comp=Z,6.6nm,0.5s						
WRAB	**Tennant Creek**	**26.53**	**162**	P	**P**	**05 21 59.0**	**-1.1**
WRAB				IAmb	IAmb	05 22 10.4	
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**26.53**	**162**	P	**P**	**05 21 59.6**	**-0.6**
WRA	**Warramunga Arr**	**26.53**	**162**	P	**P**	**05 22 01.1**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=343,slow=9.0,SNR=20						
	comp=Z,1.8nm,0.5s						
WB2	**Warramunga Arr**	**26.54**	**162**	P	**P**	**05 22 01.3**	**+1.1**
WB2				IAmb	IAmb	05 22 09.6	
	comp=Z,6.9nm,0.9s						
WR0	**Warramunga Arr**	**26.61**	**162**	P	**P**	**05 22 01.6**	**+0.7**
MBWA	**Marble Bar**	**27.15**	**193**	P	**P**	**05 22 06.6**	**+0.9**
MBWA				IAmb	IAmb	05 22 17.0	
	comp=Z,12nm,1.2s						
NJ2	**Nanjing**	**27.30**	**347**	*e*P	**P**	**05 22 06.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.39**	**298**	P	**P**	**05 22 25.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=89,slow=9.0,SNR=4.1						
CMAR				PcP	**PcP**	**05 25 29.3**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=124,slow=2.6,SNR=5.1						
CMAR				LR	LR	05 35 05.0	
	comp=Z,12nm,19.2s,baz=55,slow=38						
	comp=Z,1.2nm,0.3s						
AS31	**Alice Springs**	**29.95**	**165**	P	**P**	**05 22 31.4**	**+0.8**
ASAR	**Alice Springs**	**29.95**	**165**	P	**P**	**05 22 32.0**	**+1.4**
	comp=Z,3.2nm,0.5s,baz=347,slow=7.1,SNR=41						
ASAR				PcP	**PcP**	**05 25 31.3**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=348,slow=2.6,SNR=13						
	comp=Z,3.2nm,0.5s						
PZH	**PanZhiHua**	**31.21**	**315**	P	**P**	**05 22 43.0**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.6s						
CD2	**Chengdu**	**32.83**	**323**	P	**P**	**05 22 56.5**	**+0.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
LZH	**Lanzhou**	**36.66**	**329**	*e*P	**P**	**05 23 28.0**	**-0.8**
LZH				pP	pP	05 23 51.0	-10
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**37.55**	**342**	*e*P	**P**	**05 23 37.8**	**+1.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.95**	**7**	P	**P**	**05 23 47.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=113,slow=9.1,SNR=4.1						
	comp=Z,2.0nm,0.6s						
BBOO	**Buckleboo**	**39.23**	**167**	P	**P**	**05 23 51.3**	**+1.2**
STKA	**Stephens Creek**	**39.99**	**159**	P	**P**	**05 23 58.0**	**+1.6**
STKA	**Stephens Creek**	**39.99**	**159**	P	**P**	**05 23 58.1**	**+1.8**
	comp=Z,5.1nm,0.5s,baz=327,slow=8.8,SNR=13						
STKA				PcP	**PcP**	**05 25 59.6**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=346,slow=8.0,SNR=3.1						
	comp=Z,5.1nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.75**	**68**	T	T	06 08 08.5	
	baz=257,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.77**	**68**	T	T	06 08 13.4	
	baz=257,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.77**	**68**	T	T	06 08 17.2	
	baz=257,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**42.22**	**67**	T	T	06 08 55.1	
	baz=255,slow=75,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**42.23**	**67**	T	T	06 08 49.5	
	baz=255,slow=75,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**42.24**	**67**	T	T	06 08 53.7	
	baz=255,slow=75,SNR=4.9						
ULN	**Ulaanbaatar**	**45.27**	**342**	P	**P**	**05 24 37.0**	**-2.0**
SONM	**Songino Array**	**45.45**	**342**	P	**P**	**05 24 38.4**	**-2.0**
SONM	**Songino Array**	**45.45**	**342**	P	**P**	**05 24 38.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=168,slow=7.6,SNR=3.6						
SONM				PcP	**PcP**	**05 26 16.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=160,slow=2.8,SNR=5.5						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**55.73**	**325**	P	**P**	**05 25 56.7**	**-0.7**
MK31				IAmb	IAmb	05 25 57.9	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**05 25 56.8**	**-0.7**
MKAR	**Makanchi Array**	**55.73**	**325**	P	**P**	**05 25 57.2**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=120,slow=7.4,SNR=58						
MKAR				PcP	**PcP**	**05 26 55.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=112,slow=3.9,SNR=6.1						
	comp=Z,2.2nm,0.4s						
MAKZ	**Makanchi**	**55.92**	**325**	P	**P**	**05 25 58.1**	**-0.6**
MAKZ				IAmb	IAmb	05 25 59.1	
	comp=Z,6.0nm,1.5s						
ZALV	**Zalesovo Beam**	**58.73**	**333**	P	**P**	**05 26 17.1**	**-1.2**
ZALV	**Zalesovo Beam**	**58.73**	**333**	P	**P**	**05 26 17.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=126,slow=6.7,SNR=3.6						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**59.91**	**327**	P	**P**	**05 26 25.9**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=123,slow=6.7,SNR=28						
	comp=Z,2.3nm,0.6s						
KURK	**Kurchatov**	**59.91**	**327**	P	**P**	**05 26 26.2**	**-0.1**
GAR	**Garm**	**60.23**	**312**	P	**P**	**05 26 28.9**	**-0.1**
KKAR	**Karatay Array**	**61.48**	**317**	P	**P**	**05 26 38.0**	**+0.8**
BVAR	**Borovoye Array**	**65.49**	**327**	P	**P**	**05 27 02.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=121,slow=7.2,SNR=6.6						
	comp=Z,1.1nm,0.5s						
NRIK	**Noril'sk**	**68.60**	**346**	P	**P**	**05 27 22.4**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=139,slow=6.2,SNR=5.2						
	comp=Z,2.4nm,0.6s						
ABKAR	**Akbulak array**	**70.36**	**321**	P	**P**	**05 27 33.7**	**-0.1**
AKTO	**Aktyubinsk**	**71.86**	**321**	P	**P**	**05 27 42.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=104,slow=9.3,SNR=5.9						
	comp=Z,1.4nm,0.6s						
ARTI	**Arti**	**73.18**	**328**	P	**P**	**05 27 49.9**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=93,slow=19,SNR=3.4						
	comp=Z,0.9nm,0.4s						
KBZ	**Khabaz**	**81.27**	**313**	P	**P**	**05 28 35.5**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=108,slow=6.7,SNR=3.6						
	comp=Z,2.3nm,1.0s						
C23K	**Itkillik River**	**82.64**	**20**	P	**P**	**05 28 43.0**	**+0.5**
C23K				IAmb	IAmb	05 28 56.4	
	comp=Z,12nm,1.4s						
I23K	**Minto, Yukon-K**	**82.83**	**25**	P	**P**	**05 28 44.1**	**+0.5**
I23K				IAmb	IAmb	05 29 11.6	
	comp=Z,5.5nm,1.5s						
ILAR	**Eielson Array**	**83.88**	**25**	P	**P**	**05 28 47.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=238,slow=6.4,SNR=7.6						
	comp=Z,0.4nm,0.6s						
BMAR	**Burnt Mountain**	**84.79**	**23**	P	**P**	**05 28 54.6**	**+1.1**
E28M	**Babbage River**	**86.60**	**21**	P	**P**	**05 29 02.8**	**+0.4**
E28M				IAmb	IAmb	05 29 23.8	
	comp=Z,4.0nm,1.4s						
I28M	**Miner Creek**	**86.78**	**25**	P	**P**	**05 29 04.2**	**+0.7**
I28M				IAmb	IAmb	05 29 06.4	
	comp=Z,2.4nm,0.8s						
DAWY	**Dawson**	**87.16**	**26**	P	**P**	**05 29 04.8**	**-0.5**
DAWY				IAmb	IAmb	05 29 30.7	
	comp=Z,2.9nm,1.2s						
H29M	**Whitestone**	**87.33**	**24**	P	**P**	**05 29 06.0**	**-0.1**
H29M				IAmb	IAmb	05 29 22.5	
	comp=Z,9.3nm,1.4s						
G29M	**Pine Creek**	**87.38**	**23**	P	**P**	**05 29 06.3**	**+0.1**
ARCES	**ARCESS Array B**	**88.59**	**340**	P	**P**	**05 29 12.0**	**+0.1**
ARCES				IAmb	IAmb	05 29 40.9	
	comp=Z,3.5nm,0.8s						
ARCES	**ARCESS Array B**	**88.59**	**340**	P	**P**	**05 29 11.2**	**-0.8**
	comp=Z,3.1nm,0.8s,baz=94,slow=5.7,SNR=9.6						
	comp=Z,3.1nm,0.8s						
SPB2	**Spitsbergen Ar**	**88.66**	**349**	P	**P**	**05 29 12.7**	**+0.6**
SPITS	**Spitsbergen Ar**	**88.66**	**349**	P	**P**	**05 29 11.7**	**-0.5**
	comp=Z,6.9nm,0.8s,baz=49,slow=2.7,SNR=6.4						
	comp=Z,6.9nm,0.8s						
G31M	**Satah River**	**88.84**	**23**	P	**P**	**05 29 13.0**	**0.0**
G31M				IAmb	IAmb	05 29 15.4	
	comp=Z,3.6nm,1.4s						
H31M	**Peel River**	**89.02**	**24**	P	**P**	**05 29 12.6**	**-1.5**
H31M				IAmb	IAmb	05 29 18.6	
	comp=Z,3.8nm,1.3s						
FINES	**FINESS Array B**	**89.98**	**332**	P	**P**	**05 29 17.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=50,slow=6.0,SNR=7.5						
	comp=Z,1.0nm,0.5s						
QSPA	**South Pole Qui**	**95.34**	**180**	P	**P**	**05 29 45.9**	**+2.7**
	comp=Z,1.6nm,0.9s,baz=38,slow=0.8,SNR=8.0						
	comp=Z,1.6nm,0.9s						
HFS	**Hagfors**	**96.17**	**332**	P	**P**	**05 29 47.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=99,slow=9.5,SNR=1.1						
	comp=Z,1.5nm,0.8s						
NOA	**NORSAR Array B**	**96.93**	**334**	P	**P**	**05 29 49.6**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=65,slow=4.6,SNR=1.3						
	comp=Z,0.4nm,0.7s						
SCHQ	**Schefferville**	**118.99**	**8**	PKP	**PKPdf**	**05 35 07.0**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=22,slow=7.8,SNR=1.8						
TXAR	**Lajitas Array**	**121.11**	**51**	PKP	**PKiKP**	**05 35 13.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=149,slow=2.6,SNR=4.6						
PLCA	**Paso Flores**	**141.86**	**159**	PKP	**PKPdf**	**05 35 49.5**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=70,slow=13,SNR=1.2						

*IDC **28** 05:24:13.9±1.1, 38°.35S×78°.31E, h0^{km}, mb4.1/8, mbtmp4.1/8, MS4.3/50, Error ellipse: s-maj=35.5km s-min=25.7km az=68.0*

*NEIC **28** 05:24:16.8±0.4, 38°.3S±0°.1×78°.4E±0°.1, h10^{km}±1^{km}, mb4.8/27, Error ellipse: s-maj=24.1km s-min=2.9km az=218.0*

*GCMT **28** 05:24:19.8±0.2, 38°.49S±0°.01×78°.49E±0°.01, h13^{km}±1^{km}, MW5.0/118, Moment Tensor Solution. s50,c69; s118,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.14; $M_{\theta\theta}$-3.64±.11; $M_{\phi\phi}$5.35±.14; $M_{r\theta}$-0.57±.29; $M_{\theta\phi}$-1.05±.10; $M_{\phi r}$-0.83±.25; Best double couple: M_o4.75600×10^{16} NP1:ϕ_s129.00000°, δ74.00000°, λ-172.00000°. NP2:ϕ_s37.00000°, δ83.00000°, λ-16.00000°. Principal axes: T 5.5510, Plg6.0000°, Azm84.0000°; N -1.5810, Plg72.0000°, Azm193.0000°; P -3.9600, Plg17.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 05:24:16.6±0.6,**38°.3S**±0°.1×**78°.40E**±0°.09,**h11**^{km},**n78**, σ1**§07**/**39**,**mb4.7**/20,**MS4.4**/31,**1D**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.83**	**307**		**Pg**	**05 24 32.3**	**-0.3**
H04N2	**CROZET ISLANDS**	**21.14**	**240**	T	T	05 51 04.5	
	baz=78,slow=75,SNR=5155						
H04N1	**CROZET ISLANDS**	**21.15**	**240**	T	T	05 51 04.5	
	baz=78,slow=75,SNR=4568						
H04N3	**CROZET ISLANDS**	**21.15**	**240**	T	T	05 51 03.3	
	baz=78,slow=75,SNR=6022						
H04S1	**CROZET ISLANDS**	**21.21**	**238**	T	T	05 51 17.5	
	baz=68						
H04S2	**CROZET ISLANDS**	**21.23**	**238**	T	T	05 51 06.8	
	baz=68						
H04S3	**CROZET ISLANDS**	**21.23**	**238**	T	T	05 51 13.9	
	baz=68,slow=74						
RER	**Riviere de l'E**	**25.95**	**305**	P	**P**	**05 29 48.7**	**-0.5**
H01W2	**Cape Leeuwin H**	**28.78**	**94**	T	T	06 00 11.6	
	baz=252,slow=75,SNR=484						
H01W3	**Cape Leeuwin H**	**28.78**	**94**	T	T	06 00 12.1	
	baz=252,slow=75,SNR=352						
H01W1	**Cape Leeuwin H**	**28.79**	**94**	T	T	06 00 14.5	
	baz=252,slow=75,SNR=161						
H08S2	**Diego Garcia H**	**30.98**	**349**	T	T	06 03 20.6	
	baz=172,slow=76,SNR=147						
H08S1	**Diego Carcia H**	**30.99**	**349**	T	T	06 03 20.8	
	baz=172,slow=76,SNR=56						
H08S3	**Diego Garcia H**	**31.00**	**349**	T	T	06 03 24.0	
	baz=172,slow=76,SNR=200						
NWAO	**Narrogin (SRO)**	**31.86**	**92**	LR	LR	05 40 28.0	
	comp=Z,2μm,20.6s,baz=249,slow=30						
OPO	**Ambohidratompo**	**33.52**	**297**	LR	LR	05 41 46.9	
	comp=Z,300nm,19.1s,baz=337,slow=32						
SYO	**Syowa Base**	**37.19**	**202**	‖ *e*P	**P**	**05 31 27.0**	**-0.3**
MSEY	**Mahe Island**	**39.44**	**322**	P	**P**	**05 31 46.4**	**-0.6**
MSEY				IAmb	IAmb	05 32 08.3	
	comp=Z,25nm,1.2s						
LEM	**Lembang**	**40.99**	**48**	LR	LR	05 45 22.3	
	comp=Z,554nm,19.8s,baz=191,slow=31						
BOSA	**Boshof**	**44.85**	**266**	P	**P**	**05 32 30.5**	**-0.5**
BOSA	**Boshof**	**44.85**	**266**	LR	LR	05 47 14.1	
	comp=Z,573nm,20.4s,baz=128,slow=31						
PSI	**Prapat**	**45.09**	**30**	LR	LR	05 47 55.9	
	comp=Z,471nm,19.7s,baz=206,slow=32						
PALK	**Pallekele**	**45.39**	**3**	LR	LR	05 47 03.1	
	comp=Z,457nm,21.6s,baz=182,slow=30						
FITZ	**Fitzroy Crossi**	**45.68**	**77**	LR	LR	05 48 53.9	
	comp=Z,671nm,19.8s,baz=244,slow=32						
LBTB	**Lobatse**	**46.28**	**271**	LR	LR	05 48 47.5	
	comp=Z,926nm,18.6s,baz=120,slow=32						
SUR	**Sutherland**	**46.70**	**259**	LR	LR	05 47 46.3	
	comp=Z,728nm,21.6s,baz=119,slow=30						
ASAR	**Alice Springs**	**49.09**	**90**	P	**P**	**05 33 03.7**	**-0.5**
ASAR	**Alice Springs**	**49.09**	**90**	P	**P**	**05 33 04.0**	**-0.2**
	comp=Z,3.4nm,1.1s,baz=232,slow=6.4,SNR=14						
ASAR				LR	LR	05 52 39.7	
	comp=Z,411nm,18.2s,baz=249,slow=35						
	comp=Z,3.4nm,1.1s						
AS31	**Alice Springs**	**49.09**	**90**	P	**P**	**05 33 02.9**	**-1.3**
KNRA	**Kununurra**	**49.52**	**77**	P	**P**	**05 33 06.9**	**-0.5**
KNRA				IAmb	IAmb	05 33 12.6	
	comp=Z,21nm,1.4s						
LSZ	**Lusaka**	**49.64**	**283**	P	**P**	**05 33 09.1**	**+0.5**
LSZ	**Lusaka**	**49.64**	**283**	LR	LR	05 50 36.4	
	comp=Z,423nm,21.4s,baz=132,slow=32						
KAPI	**Kappang**	**50.06**	**59**	LR	LR	05 50 13.4	
	comp=Z,328nm,21.8s,baz=208,slow=31						
STKA	**Stephens Creek**	**51.23**	**103**	P	**P**	**05 33 19.7**	**-0.6**
STKA	**Stephens Creek**	**51.23**	**103**	P	**P**	**05 33 19.0**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=254,slow=1.7,SNR=6.5						
STKA				LR	LR	05 50 44.0	
	comp=Z,661nm,21.2s,baz=225,slow=31						
	comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**51.40**	**86**	P	**P**	**05 33 20.9**	**-0.8**
	comp=Z,5.9nm,0.9s,baz=236,slow=7.4,SNR=12						
WRA				LR	LR	05 52 12.4	
	comp=Z,700nm,21.6s,baz=224,slow=33						
	comp=Z,5.9nm,0.9s						
WB2	**Warramunga Arr**	**51.41**	**86**		**P**	**05 33 21.8**	**0.0**
WB2				IAmb	IAmb	05 33 26.6	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**51.54**	**86**	P	**P**	**05 33 22.3**	**-0.4**
WB0				IAmb	IAmb	05 33 23.8	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**51.55**	**86**	P	**P**	**05 33 22.6**	**-0.3**
WR0				IAmb	IAmb	05 33 33.1	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**51.86**	**180**	P	**P**	**05 33 25.4**	**+0.7**
QSPA				IAmb	IAmb	05 33 38.1	
	comp=Z,16nm,1.2s						
QSPA	**South Pole Qui**	**51.86**	**180**	P	**P**	**05 33 23.7**	**-1.0**
	comp=Z,2.6nm,1.1s,baz=285,slow=5.7,SNR=7.3						
	comp=Z,2.6nm,1.1s						
TSUM	**Tsumeb**	**55.64**	**272**	LR	LR	05 54 13.8	
	comp=Z,1μm,19.8s,baz=130,slow=32						
CMAR	**Chiang Mai Arr**	**59.66**	**23**	P	**P**	**05 34 21.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**59.66**	**23**	P	**P**	**05 34 20.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=209,slow=7.1,SNR=12						
CMAR				LR	LR	05 57 17.8	
	comp=Z,64nm,19.7s,baz=220,slow=33						
	comp=Z,0.8nm,0.3s						
ATD	**Arta Tunnel**	**59.68**	**319**	LR	LR	05 56 32.1	
	comp=Z,8.9nm,18.2s,baz=126,slow=32						
CHTO	**Chiang Mai**	**60.00**	**23**	P	**P**	**05 34 23.2**	**-0.1**
COEN	**Coen**	**61.74**	**86**	P	**P**	**05 34 35.4**	**0.0**
COEN				IAmb	IAmb	05 34 41.2	
	comp=Z,12nm,1.3s						
BRDH	**Bariadhala**	**61.92**	**14**	LR	LR	05 59 24.0	
	comp=Z,124nm,19.0s,baz=204,slow=34						
DAV	**Davao City (W)**	**62.91**	**55**	LR	LR	06 03 58.5	
	comp=Z,107nm,18.2s,ba

baz=168
ASAR Alice Springs 49.15 89 P P 05 35 39.3 -0.5
0.4nm,0.7s,baz=245,slow=6.9,SNR=2.5
0.4nm,0.7s
WRA Warramunga Arr 51.48 86 P P 05 35 57.5 0.0
1.2nm,0.7s,baz=238,slow=7.8,SNR=6.2
1.2nm,0.7s
CMAR Chiang Mai Arr 59.91 23 P P 05 36 58.5 +0.8
0.7nm,0.3s,baz=203,slow=6.6,SNR=1.6
0.7nm,0.3s
MKAR Makanchi Array 85.03 3 P P 05 39 26.3 -0.6
0.5nm,0.7s,baz=172,slow=6.4,SNR=4.6
0.5nm,0.7s

IDC 28 05:28:09.7±2.2,37°.18S×79°.25E,h0km,mb3.7/4,
mbtmp3.7/4,MS4.2/3,Error ellipse: s-maj=58.5km
s-min=43.3km az=81.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**22.29**	**238**	T	T	05 54 42.1	
baz=78							
H04N1	**CROZET ISLANDS**	**22.31**	**238**	T	T	05 54 45.8	
baz=78							
H04N3	**CROZET ISLANDS**	**22.31**	**238**	T	T	05 54 46.8	
baz=78							
H01W2	**Cape Leeuwin H**	**28.21**	**96**	T	T	06 03 51.4	
baz=252							
H01W3	**Cape Leeuwin H**	**28.21**	**96**	T	T	06 03 52.7	
baz=252							
H01W1	**Cape Leeuwin H**	**28.23**	**96**	T	T	06 03 53.3	
baz=252							
H08S2	**Diego Garcia H**	**30.04**	**347**	T	T	06 07 03.7	
baz=172							
H08S1	**Diego Carcia H**	**30.04**	**346**	T	T	06 07 01.8	
baz=172							
H08S3	**Diego Garcia H**	**30.05**	**347**	T	T	06 07 05.1	
baz=172							
ASAR	**Alice Springs**	**48.41**	**90**	P	P	05 36 54.1	+0.3
0.2nm,0.4s,baz=233,slow=7.4,SNR=1.7							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**50.65**	**86**	P	P	05 37 10.5	-0.4
0.6nm,0.7s,baz=237,slow=7.9,SNR=3.2							
0.6nm,0.7s							
VNDA	**Vanda**	**52.43**	**164**	P	P	05 37 23.3	-0.1
3.3nm,0.9s,baz=301,slow=5.9,SNR=1.5							
3.3nm,0.9s							
MKAR	**Makanchi Array**	**83.64**	**2**	P	P	05 40 39.5	-0.1
0.4nm,0.7s,baz=175,slow=3.8,SNR=3.5							
0.4nm,0.7s							

---

*IDC **28** 05:33:36.4±1.0,55°.05S×31°.50W,h0km,mb3.8/6,*
mbtmp3.9/6,MS4.3/3,Error ellipse: s-maj=42.7km
s-min=21.4km az=55.0
ISC 28 05:33:37.7±0.8,55°.1S±0°.2×31°.6W±0°.2,h10km,n13,
σ1§08/10,mb4.0/6,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**20.69**	**154**	P	**P**	**05 38 18.4**	**+0.8**
1.6nm,0.8s,baz=280,slow=13,SNR=5.7							
1.6nm,0.8s							
CPUP	**Villa Florida**	**34.32**	**316**	P	**P**	**05 40 24.2**	**-0.1**
2.2nm,1.0s,baz=166,slow=8.6,SNR=3.1							
2.2nm,1.0s							
CFA	**Coronel Fontan**	**34.88**	**297**	P	**P**	**05 40 28.1**	**-1.0**
1.2nm,0.7s,baz=194,slow=14,SNR=3.6							
1.2nm,0.7s							
QSPA	**South Pole Qui**	**35.19**	**180**	P	**P**	**05 40 31.1**	**-0.6**
2.3nm,1.1s,baz=270,slow=20,SNR=2.6							
2.3nm,1.1s							
SIV	**San Ignacio**	**45.12**	**318**	P	**P**	**05 41 56.0**	**+1.7**
0.4nm,0.6s,baz=300,slow=16,SNR=1.7							
0.4nm,0.6s							
LPAZ	**La Paz**	**47.79**	**309**	P	**P**	**05 42 16.8**	**+0.9**
1.8nm,0.5s,baz=136,slow=2.3,SNR=8.9							
1.8nm,0.5s							
H10N1	**ASCENSION HYDR**	**49.03**	**23**	T	T	06 35 50.9	
baz=192							
H10N3	**ASCENSION HYDR**	**49.03**	**23**	T	T	06 35 47.6	
baz=192							
H10N2	**ASCENSION HYDR**	**49.04**	**23**	T	T	06 35 52.7	
baz=192							
TORD	**Torodi Ar. Bea**	**73.52**	**34**	P	**P**	**05 45 09.4**	**-1.1**
38nm,0.3s,baz=181,slow=7.6,SNR=1.3							
ZALV	**Zalesovo Beam**	**144.19**	**65**	PKP	**PKPdf**	**05 53 12.8**	**+0.3**
0.3nm,0.3s,baz=235,slow=5.1,SNR=1.8							
ILAR	**Eielson Array**	**147.61**	**314**	PKPbc	**PKPbc**	**05 53 20.3**	**-0.5**
1.2nm,1.0s,baz=130,slow=1.4,SNR=7.1							
SONM	**Songino Array**	**153.17**	**88**	PKPbc	**PKiKP**	**05 53 35.9**	**+0.9**
0.4nm,0.4s,baz=222,slow=1.9,SNR=2.8							

IDC 28 05:33:49.1±4.6,38°.24S×78°.27E,h0km,mb4.2/3,
mbtmp4.2/3,MS3.3/1,Error ellipse: s-maj=235.3km
s-min=110.4km az=122.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.07**	**239**	T	T	06 00 38.7	
baz=78,slow=75,SNR=73							
H04N1	**CROZET ISLANDS**	**21.09**	**239**	T	T	06 00 40.9	
baz=78,slow=75,SNR=66							
H04N3	**CROZET ISLANDS**	**21.09**	**239**	T	T	06 00 38.0	
baz=78,slow=75,SNR=54							
H01W2	**Cape Leeuwin H**	**28.89**	**94**	T	T	06 09 41.3	
baz=252,slow=75,SNR=35							
H01W3	**Cape Leeuwin H**	**28.89**	**94**	T	T	06 09 37.2	
baz=252,slow=75,SNR=34							
H01W1	**Cape Leeuwin H**	**28.90**	**94**	T	T	06 09 44.3	
baz=252,slow=75,SNR=46							
H08S2	**Diego Garcia H**	**30.91**	**349**	T	T	06 12 53.7	
baz=172,slow=76,SNR=19							
H08S1	**Diego Carcia H**	**30.91**	**349**	T	T	06 12 54.8	
baz=172,slow=76,SNR=7.8							
H08S3	**Diego Garcia H**	**30.93**	**349**	T	T	06 12 55.5	
baz=172,slow=76,SNR=35							
NWAO	**Narrogin (SRO)**	**31.96**	**92**	LR	LR	05 50 27.6	
comp=Z,50nm,18.2s,baz=232,slow=31							
CMAR	**Chiang Mai Arr**	**59.65**	**23**	P	P	05 43 55.2	+0.1
2.2nm,0.3s,baz=204,slow=6.4,SNR=4.5							
2.2nm,0.3s							
MKAR	**Makanchi Array**	**84.74**	**3**	P	P	05 46 24.2	-0.4
0.4nm,0.6s,baz=171,slow=6.7,SNR=4.6							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**88.49**	**0**	P	P	05 46 43.0	+0.2
0.4nm,0.2s,baz=171,slow=3.3,SNR=1.8							
0.4nm,0.2s							
YKA	**Yellowknife Ar**	**154.47**	**14**	PKPbc	PKiKP	05 53 50.8	+0.1
0.1nm,0.7s,baz=329,slow=1.6,SNR=1.9							

---

*IDC **28** 05:36:14.2±1.3,11°.66N×123°.89E,h0km,mb3.7/6,*
mbtmp3.7/6,MS4.0/10,Error ellipse: s-maj=132.6km
s-min=20.3km az=65.0
ISC 28 05:36:19.5±1.3,11°.5N±0°.3×123°.7E±0°.7,h35km,n7,
σ0§94/10,mb3.7/6,Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**29.51**	**176**	P	**P**	**05 42 21.0**	**+0.4**
1.5nm,0.9s,baz=4.8,slow=7.7,SNR=2.0							
1.5nm,0.9s							
WRA	**Warramunga Arr**	**32.99**	**161**	P	**P**	**05 42 52.8**	**+1.5**
0.8nm,0.8s,baz=339,slow=8.9,SNR=5.8							
WRA				PcP	**PcP**	**05 45 35.1**	**+0.2**
0.6nm,0.9s,baz=344,slow=2.8,SNR=1.6							
0.8nm,0.8s							
ASAR	**Alice Springs**	**36.38**	**164**	P	**P**	**05 43 21.4**	**+0.7**
0.6nm,0.4s,baz=349,slow=7.1,SNR=13							
ASAR				PcP	**PcP**	**05 45 44.9**	**+0.2**
0.2nm,0.5s,baz=335,slow=4.1,SNR=2.0							
0.6nm,0.4s							
STKA	**Stephens Creek**	**46.45**	**159**	P	**P**	**05 44 41.6**	**-1.4**
1.9nm,0.8s,baz=331,slow=8.2,SNR=3.9							
STKA				PcP	**PcP**	**05 46 17.8**	**+0.4**
1.7nm,0.9s,baz=305,slow=3.3,SNR=2.9							
1.9nm,0.8s							
MKAR	**Makanchi Array**	**49.51**	**323**	P	**P**	**05 45 07.3**	**+0.7**
0.4nm,0.8s,baz=125,slow=7.6,SNR=4.0							
0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**53.61**	**326**	P	**P**	**05 45 36.5**	**-0.7**
0.4nm,0.6s,baz=129,slow=7.2,SNR=4.6							
0.4nm,0.6s							
PLCA	**Paso Flores**	**148.32**	**159**	PKPbc	**PKPbc**	**05 56 02.2**	**-0.2**
2.3nm,1.1s,baz=272,slow=3.6,SNR=3.2							

---

*FUNV **28** 05:46:26.7,7°.57N×72°.07W,h1km,MW2.7*
*RSNC **28** 05:46:28.6±0.0,8°.N±2°.×7°.2W±°,h3km±5km,M2.0,ML1.8*
ISC 28 05:46:26.4±1.2,7°.56N±0°.04×72°.09W±0°.04,h12km±11km,
n13,σ1§10/22,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.37**	**324**	*e*P	**Pg**	**05 46 33.6**	**-0.4**
CAPV				*e*S	**Sg**	**05 46 40.0**	**+0.9**
PAMC	**Pamplona, Colo**	**0.64**	**250**	P	**Pg**	**05 46 37.9**	**-1.1**
PAMC				S	**Sg**	**05 46 46.6**	**-0.9**
PAMC	**Pamplona, Colo**	**0.64**	**250**	P		05 46 37.9	
PAMC				S		05 46 46.6	
TAMC	**Tame, Arauca**	**1.16**	**165**	P	**Pg**	**05 46 48.5**	**-0.2**
TAMC				S	**Sb**	**05 47 04.3**	**+1.0**
TAMC	**Tame, Arauca**	**1.16**	**165**	P		05 46 48.5	
TAMC				S		05 47 04.3	
OCAC	**Ocana**	**1.39**	**299**	P	**Pn**	**05 46 51.9**	**+0.2**
OCAC				S	**Sg**	**05 47 12.5**	**+1.2**
OCAC	**Ocana**	**1.39**	**299**	P		05 46 51.9	
OCAC				S		05 47 12.5	
SOCV	**Socops**	**1.42**	**59**	*e*P	**Pn**	**05 46 52.7**	**+0.7**
SOCV				*e*S	**Sb**	**05 47 12.0**	**+1.1**
BARC	**Barichara**	**1.45**	**228**	P	**Pn**	**05 46 52.9**	**+0.3**
BARC	**Barichara**	**1.45**	**228**	P		05 46 52.9	
BRJC	**Barrancabermej**	**1.74**	**251**	P	**Pb**	**05 46 57.8**	**-0.4**
BRJC				S	**Sg**	**05 47 23.0**	**+0.6**
BRJC	**Barrancabermej**	**1.74**	**251**	P		05 46 57.8	
BRJC				S		05 47 23.0	
RUSC	**La Rusia**	**1.93**	**211**	P	**Pb**	**05 47 01.1**	**-0.6**
RUSC				S	**Sb**	**05 47 26.0**	**+0.1**
RUSC	**La Rusia**	**1.93**	**211**	P		05 47 01.1	
RUSC				S		05 47 26.0	
SDV	**Santo Domingo**	**1.96**	**48**	P	**Pb**	**05 47 02.0**	**0.0**
SDV				S	**Sb**	**05 47 27.3**	**+0.9**
SDV	**Santo Domingo**	**1.96**	**48**	P		05 47 02.0	
SDV				S		05 47 27.3	
SPBC	**San Pablo de B**	**2.73**	**226**	P	**Pn**	**05 47 12.9**	**+2.8**
SPBC	**San Pablo de B**	**2.73**	**226**	P		05 47 12.9	
ZARC	**Zaragoza, Cauc**	**2.74**	**269**	P	**Pb**	**05 47 14.7**	**-0.7**
ZARC	**Zaragoza, Cauc**	**2.74**	**269**	P		05 47 14.7	
BAUV	**El Baul**	**4.24**	**71**	*e*P	**Pn**	**05 47 30.8**	**0.0**
BAUV				*e*S	**Sn**	**05 48 18.1**	**-2.1**
BENV	**Beln**	**5.04**	**61**	*e*P	**Pn**	**05 47 41.8**	**-0.1**

IDC 28 05:50:59.3±1.9,38°.50S×78°.48E,h0km,mb3.7/5,
mbtmp3.7/5,Error ellipse: s-maj=53.2km s-min=34.6km
az=109.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.09**	**240**	T	T	06 17 48.8	
baz=78,slow=75,SNR=222							
H04N1	**CROZET ISLANDS**	**21.10**	**240**	T	T	06 17 49.5	
baz=78,slow=75,SNR=234							
H04N3	**CROZET ISLANDS**	**21.10**	**240**	T	T	06 17 47.5	
baz=78,slow=75,SNR=180							
H01W2	**Cape Leeuwin H**	**28.70**	**94**	T	T	06 26 47.0	
baz=252,slow=74							
H01W3	**Cape Leeuwin H**	**28.71**	**94**	T	T	06 26 47.5	
baz=252,slow=74							
H01W1	**Cape Leeuwin H**	**28.72**	**94**	T	T	06 27 15.1	
baz=252							
H08S2	**Diego Garcia H**	**31.20**	**348**	T	T	06 30 21.6	
baz=172,slow=74							
H08S1	**Diego Carcia H**	**31.20**	**348**	T	T	06 30 17.1	
baz=172							
H08S3	**Diego Garcia H**	**31.21**	**348**	T	T	06 30 09.0	
baz=172,slow=74							
ASAR	**Alice Springs**	**49.02**	**89**	P	P	05 59 47.9	-0.2
0.5nm,0.8s,baz=232,slow=6.3,SNR=5.0							
0.5nm,0.8s							
VNDA	**Vanda**	**51.33**	**164**	P	P	06 00 03.8	-1.0
4.2nm,1.0s,baz=39,slow=6.5,SNR=1.5							
4.2nm,1.0s							
WRA	**Warramunga Arr**	**51.35**	**85**	P	P	06 00 06.1	+0.3
0.8nm,0.7s,baz=237,slow=7.8,SNR=3.8							
0.8nm,0.7s							
QSPA	**South Pole Qui**	**51.65**	**180**	P	P	06 00 08.2	+0.6
0.5nm,0.7s,baz=314,slow=2.0,SNR=1.3							
0.5nm,0.7s							
MKAR	**Makanchi Array**	**84.99**	**3**	P	P	06 03 35.9	-0.2
0.3nm,0.7s,baz=170,slow=4.4,SNR=3.1							
0.3nm,0.7s							

---

*ASRS **28** 06:00:50.0±1.1,54°.55N×83°.64E,h0km,M2.3,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
*IDC **28** 06:00:52.5±2.2,54°.63N×83°.73E,h0km,mbtmp2.5/2,*
ML2.3/2,Error ellipse: s-maj=18.3km s-min=10.1km
az=170.0
ISC 28 06:00:55.1±5.4,54°.4N±0°.4×83°.82E±0°.08,h0km,n10,
σ1§15/8,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**129**	I	I	06 06 05.0	
0.1nm,1.5s,baz=320,slow=330,SNR=1.5							
ZALV	**Zalesovo Beam**	**0.76**	**129**	Pg	**Pg**	**06 01 10.0**	**+0.4**
1.2nm,0.3s,baz=316,slow=16,SNR=13							
ZALV				Lg	Lg	06 01 24.2	
7.1nm,0.3s,baz=317,slow=29,SNR=49							
KURK	**Kurchatov**	**4.88**	**223**	⇑Pg	**Pg**	**06 02 30.4**	**+1.8**
0.4nm,0.4s							
KURK	**Kurchatov**	**4.88**	**223**	⇑Sn	**Sn**	**06 03 06.9**	**0.0**
0.8nm,0.5s							
KURK	**Kurchatov**	**4.88**	**223**	⇓Lg	Lg	06 03 23.5	
3.7nm,1.0s							
KURBB	**Kurchatov Arra**	**4.99**	**222**	⇓Pg	**Pg**	**06 02 30.8**	**+0.1**
0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**4.99**	**222**	⇑Sn	**Sn**	**06 03 08.4**	**-1.1**
1.4nm,0.5s							
KURBB	**Kurchatov Arra**	**4.99**	**222**	Pn	**Pn**	**06 02 10.7**	**-0.6**
0.1nm,0.3s,baz=39,slow=13,SNR=5.6							
KURBB				Sn	**Sn**	**06 03 08.2**	**-1.3**
0.1nm,0.3s,baz=38,slow=37,SNR=5.8							
KURBB				Lg	Lg	06 03 35.1	
0.1nm,0.3s,baz=38,slow=42,SNR=4.6							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**4.99**	**222**	⇓Lg	Lg	06 03 23.3	
5.9nm,1.0s							
MKAR	**Makanchi Array**	**7.70**	**188**	Pn	**Pn**	**06 02 48.6**	**+0.1**
0.1nm,0.3s,baz=1.0,slow=13,SNR=2.4							
MKAR				Lg	Lg	06 05 00.1	
0.1nm,0.3s,baz=8.1,slow=35,SNR=1.9							
0.1nm,0.4s							

---

*IDC **28** 06:00:57.1±1.1,38°.39S×78°.17E,h0km,mb4.0/7,*
mbtmp4.0/7,MS3.8/20,Error ellipse: s-maj=33.9km
s-min=27.4km az=70.0
*NEIC **28** 06:00:59.8±0.9,38°.5S±0°.1×78°.2E±0°.2,h10km±2km,*
mb4.6/14,Error ellipse: s-maj=34.5km s-min=3.0km
az=234.0
ISC 28 06:00:58.9±0.8,38°.4S±0°.2×78°.3E±0°.2,h10km,n52,
σ1§04/29,mb4.4/14,MS3.9/19,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**0.83**	**318**		**Pn**	**06 01 16.9**	**+0.2**
H04N2	**CROZET ISLANDS**	**20.99**	**240**	T	T	06 27 46.2	
baz=79,slow=75,SNR=1291							
H04N1	**CROZET ISLANDS**	**21.00**	**240**	T	T	06 27 48.2	
baz=79,slow=75,SNR=1458							
H04N3	**CROZET ISLANDS**	**21.00**	**240**	T	T	06 27 47.8	
baz=79,slow=75,SNR=1029							
H01W2	**Cape Leeuwin H**	**28.87**	**94**	T	T	06 36 32.4	
baz=252,slow=74,SNR=287							
H01W3	**Cape Leeuwin H**	**28.87**	**94**	T	T	06 36 34.5	
baz=252,slow=74,SNR=241							
H01W1	**Cape Leeuwin H**	**28.89**	**94**	T	T	06 36 47.6	
baz=252,slow=74,SNR=300							
H08S2	**Diego Garcia H**	**31.08**	**349**	T	T	06 40 01.6	
baz=172,slow=76,SNR=47							
H08S1	**Diego Carcia H**	**31.08**	**349**	T	T	06 40 03.3	
baz=172,slow=76,SNR=22							
H08S3	**Diego Garcia H**	**31.10**	**349**	T	T	06 40 04.4	
baz=172,slow=76,SNR=90							
NWAO	**Narrogin (SRO)**	**31.95**	**92**	LR	LR	06 16 59.3	
comp=Z,307nm,21.2s,baz=213,slow=30							
LEM	**Lembang**	**41.15**	**48**	LR	LR	06 22 55.8	
comp=Z,105nm,20.4s,baz=288,slow=32							
BOSA	**Boshof**	**44.74**	**266**	LR	LR	06 24 08.7	
comp=Z,128nm,19.1s,baz=185,slow=31							
PSI	**Prapat**	**45.24**	**30**	LR	LR	06 24 07.3	
comp=Z,98nm,19.6s,baz=159,slow=31							
FITZ	**Fitzroy Crossi**	**45.80**	**77**	LR	LR	06 26 14.0	
comp=Z,123nm,18.5s,baz=252,slow=33							
LBTB	**Lobatse**	**46.19**	**271**	LR	LR	06 25 21.4	
comp=Z,159nm,18.4s,baz=125,slow=32							
SUR	**Sutherland**	**46.58**	**259**	LR	LR	06 24 29.9	
comp=Z,140nm,21.2s,baz=134,slow=30							
ASAR	**Alice Springs**	**49.19**	**89**	P	**P**	**06 09 47.6**	**+0.2**
ASAR	**Alice Springs**	**49.19**	**89**	P	**P**	**06 09 47.9**	**+0.5**
0.7nm,0.7s,baz=229,slow=6.3,SNR=8.6							
ASAR				PcP	**PcP**	**06 11 10.2**	**-0.4**
0.5nm,0.8s,baz=237,slow=3.1,SNR=4.3							
ASAR				LR	LR	06 26 56.0	
comp=Z,100nm,21.9s,baz=269,slow=32							
0.7nm,0.7s							
KAPI	**Kappang**	**50.21**	**59**	LR	LR	06 26 55.3	
comp=Z,56nm,21.1s,baz=233,slow=31							
SNAA	**Sanae**	**51.28**	**204**	LR	LR	06 28 45.6	
comp=Z,132nm,18.6s,baz=286,slow=32							
STKA	**Stephens Creek**	**51.30**	**103**	P	**P**	**06 10 02.9**	**-0.4**
STKA	**Stephens Creek**	**51.30**	**103**	P	**P**	**06 10 03.6**	**+0.3**
1.7nm,0.5s,baz=204,slow=4.3,SNR=4.6							
STKA				LR	LR	06 27 15.0	
comp=Z,158nm,21.5s,baz=210,slow=31							
1.7nm,0.5s							
WRA	**Warramunga Arr**	**51.51**	**86**	P	**P**	**06 10 05.0**	**0.0**
2.2nm,0.8s,baz=236,slow=7.7,SNR=8.9							
2.2nm,0.8s							
WB2	**Warramunga Arr**	**51.52**	**86**	P	**P**	**06 10 05.3**	**+0.3**
WB0	**Warramunga Arr**	**51.65**	**86**	P	**P**	**06 10 06.5**	**+0.4**
WB0				IAmb	IAmb	06 10 18.2	
comp=Z,7.6nm,1.1s							
QSPA	**South Pole Qui**	**51.74**	**180**	P	**P**	**06 10 06.6**	**+0.3**
QSPA				IAmb	IAmb	06 10 28.1	
comp=Z,4.0nm,1.1s							
QSPA	**South Pole Qui**	**51.74**	**180**	P	**P**	**06 10 06.3**	**+0.1**
comp=Z,1.7nm,0.9s,baz=137,slow=1.3,SNR=6.4							
comp=Z,1.7nm,0.9s							
TSUM	**Tsumeb**	**55.55**	**272**	LR	LR	06 30 47.2	
comp=Z,204nm,20.4s,baz=149,slow=32							
CMAR	**Chiang Mai Arr**	**59.81**	**23**	P	**P**	**06 11 04.3**	**-0.1**
comp=Z,2.5nm,0.8s,baz=212,slow=6.9,SNR=13							
CMAR				LR	LR	06 33 59.6	
comp=Z,25nm,18.8s,baz=125,slow=33							
comp=Z,2.5nm,0.8s							
PMG	**Port Moresby**	**67.69**	**84**	LR	LR	06 38 41.8	
comp=Z,67nm,21.1s,baz=184,slow=33							
DZM	**Mont Dzumac**	**75.26**	**107**	LR	LR	06 42 44.9	
comp=Z,39nm,18.5s,baz=334,slow=33							
GAR	**Garm**	**77.39**	**354**	P	**P**	**06 12 54.0**	**0.0**
GAR				IAmb	IAmb	06 12 55.3	
comp=Z,5.6nm,1.0s							
HNR	**Honiara**	**77.70**	**92**	LR	LR	06 44 14.7	
comp=Z,58nm,20.5s,baz=172,slow=33							
BTK	**Batken**	**78.40**	**354**	P	**P**	**06 13 01.4**	**+1.9**
ARSB	**Arslanbob**	**79.51**	**356**	P	**P**	**06 13 07.2**	**+1.6**
ARSB				IAmb	IAmb	06 13 08.4	
comp=Z,9.8nm,1.2s							
KDJ	**Kajisay**	**80.18**	**359**	P	**P**	**06 13 09.9**	**+0.7**
KDJ				IAmb	IAmb	06 13 11.3	
comp=Z,5.9nm,1.0s							
BOOM	**Boomskoye usch**	**80.56**	**358**	P	**P**	**06 13 12.4**	**+1.1**
AAK	**Ala-Archa**	**80.75**	**357**	P	**P**	**06 13 13.7**	**+1.4**
KK31	**Karatay Array**	**81.45**	**354**	P	**P**	**06 13 17.5**	**+1.7**
KK31				IAmb	IAmb	06 13 18.8	
comp=Z,7.3nm,1.1s							
KKAR	**Karatay Array**	**81.45**	**354**	P	**P**	**06 13 17.4**	**+1.5**
KKAR				IAmb	IAmb	06 13 18.8	
comp=Z,4.7nm,1.1s							
KKAR	**Karatay Array**	**81.45**	**354**	P	**P**	**06 13 17.5**	**+1.7**
GNI	**Garni**	**84.01**	**335**	LR	LR	06 47 08.3	
comp=Z,52nm,18.6s,baz=246,slow=33							
MAKZ	**Makanchi**	**84.91**	**3**	P	**P**	**06 13 35.0**	**+1.4**
MAKZ				IAmb	IAmb	06 13 41.1	
comp=Z,5.1nm,0.9s							
MSVF	**Nonsavu**	**86.55**	**110**	LR	LR	06 48 11.5	
comp=Z,46nm,19.4s,baz=298,slow=33							
KURBB	**Kurchatov Arra**	**88.67**	**0**	P	**P**	**06 13 53.0**	**+1.2**
comp=Z,0.8nm,0.8s,baz=186,slow=6.5,SNR=0.7							
comp=Z,0.8nm,0.8s							
DBIC	**Dimbokro**	**88.74**	**279**	LR	LR	06 50 05.4	
comp=Z,50nm,19.6s,baz=80,slow=33							
SONM	**Songino Array**	**89.46**	**19**	P	**P**	**06 13 55.3**	**-0.4**
comp=Z,0.5nm,0.6s,baz=176,slow=5.0,SNR=3.5							
comp=Z,0.5nm,0.6s							
ZAA0	**Zalesovo Array**	**92.17**	**4**	P	**P**	**06 14 07.0**	**-1.1**
SCHQ	**Schefferville**	**151.34**	**316**	PKPbc	**PKPbc**	**06 20 51.4**	**-0.7**
comp=Z,6.1nm,1.0s,baz=48,slow=7.5,SNR=3.8							
YKA	**Yellowknife Ar**	**154.64**	**14**	PKPbc	**PKPbc**	**06 20 58.3**	**-0.8**
comp=Z,0.3nm,0.8s,baz=324,slow=2.4,SNR=6.4							
YKA				PKPab	**PKPab**	**06 21 12.1**	**-1.8**
comp=Z,0.5nm,0.9s,baz=327,slow=3.7,SNR=3.7							
NVAR	**Mina Array Bea**	**167.00**	**85**	PKPab	**PKPab**	**06 22 09.5**	**+0.6**
comp=Z,0.2nm,0.5s,baz=285,slow=5.2,SNR=3.6							

---

*ASRS **28** 06:11:35.0±1.4,49°.67N×81°.70E,h0km,M2.6,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
*NNC **28** 06:11:38.0±1.4,49°.65N×81°.82E,h0km,mb3.3,mpv2.9,*
Error ellipse: s-maj=19.2km s-min=3.4km az=54.0,
Suspected Mining explosion.
*SOME **28** 06:11:39.7,49°.50N×80°.83E,h0km*
ISC 28 06:11:39.4±2.2,49°.9N±0°.3×81°.6E±0°.2,h0km,n6,σ1§05/10,
5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.00**	**298**	*e*P	**Pb**	**06 11 59.4**	**-0.4**
5.1nm,0.1s							
SEM				*e*S	**Sb**	**06 12 13.8**	**+0.3**
17nm,0.2s							
KURK	**Kurchatov**	**2.08**	**293**	⇑Pn	**Pb**	**06 12 17.6**	**-0.4**
10nm,0.8s							
KURK				⇓Sn	**Sg**	**06 12 47.6**	**+1.5**
20nm,0.6s							
**KURBB

MXZ	**Matakaoa Point**	**5.48 198**	P	Pn	07 13 38.1	+0.9
MXZ			S	S	07 14 44.9	+0.9
WMGZ	**Waiomatatini S**	**5.70 196**	P	Pn	07 13 38.5	-1.2
WMGZ			S	S	07 14 48.1	-0.6
HAZ	**Te Kaha**	**5.81 201**	P	Pn	07 13 41.0	-0.1
HAZ			S	S	07 14 51.6	+0.6
PKGZ	**Pakihiroa**	**5.83 198**	P	Pn	07 13 42.6	+1.3
PUZ	**Puketiti**	**5.98 196**	P	Pn	07 13 43.1	0.0
PUZ			S	S	07 14 55.4	+0.6
RUGZ	**Raukumara Rang**	**6.03 201**	P	Pn	07 13 42.6	-1.2
RUGZ			S	S	07 14 56.7	+0.6
TWGZ	**Tauwhareparae**	**6.14 198**	P	Pn	07 13 46.3	+1.1
MWZ	**Matawai**	**6.42 201**	P	Pn	07 13 48.3	-0.1
URZ	**Urewera**	**6.48 203**	P	Pn	07 13 48.3	-0.9
RIGZ	**Rimuhau**	**6.70 198**	P	Pn	07 13 50.8	-1.1
KNZ	**Kokohu**	**7.02 198**	P	Pn	07 13 56.0	+0.3
ALRZ	**Allen Road**	**7.03 207**	P	Pn	07 13 55.6	-0.2
RAHZ	**Arahi**	**7.09 201**	P	Pn	07 13 56.1	-0.4
MTHZ	**Maungataniwha**	**7.11 203**	P	Pn	07 13 57.3	+0.5
NMHZ	**Naumai**	**7.34 202**	P	Pn	07 13 58.9	-0.7
ARHZ	**Aropaoanui**	**7.43 201**	P	Pn	07 13 60.0	-0.7
BKZ	**Black Stump Fm**	**7.51 204**	P	Pn	07 13 59.8	-1.8
MCHZ	**McNeill Hill**	**7.69 202**	P	Pn	07 14 03.5	-0.3
KWHZ	**Kaweka Forest**	**7.76 203**	P	Pn	07 14 02.6	-2.1
OTVZ	**Oturere**	**7.81 208**	P	Pn	07 14 01.6	-3.9
SNVZ	**South Ngauruho**	**7.84 208**	P	Pn	07 14 04.5	-1.4
COVZ	**Chateau Observ**	**7.89 209**	P	Pn	07 14 04.3	-2.1
KAHZ	**Kahuranaki**	**7.96 200**	P	Pn	07 14 06.4	-0.8
KRHZ	**Kereru**	**7.98 203**	P	Pn	07 14 05.4	-2.0
WNVZ	**Wahianoa**	**7.98 208**	P	Pn	07 14 05.1	-2.5
PXZ	**Pawanui**	**8.18 199**	P	Pn	07 14 07.6	-2.2
PNHZ	**Pukenui**	**8.28 203**	P	Pn	07 14 07.1	-3.9
PRHZ	**Porangahau**	**8.47 200**	P	Pn	07 14 11.8	-1.5
DVHZ	**Dannevirke**	**8.64 202**	P	Pn	07 14 12.3	-3.2
BFZ	**Birch Farm**	**8.96 201**	P	Pn	07 14 17.0	-2.4
MRZ	**Mangatainoka R**	**9.16 204**	P	Pn	07 14 17.2	-4.6
TIWZ	**Tintock**	**9.16 202**	P	Pn	07 14 19.1	-2.7
HOWZ	**Holdsworth Sta**	**9.39 203**	P	Pn	07 14 20.5	-4.2
OGWZ	**Otaki Gorge**	**9.44 205**	P	Pn	07 14 21.2	-4.1
CAW	**Cannon Point**	**9.73 204**	P	Pn	07 14 24.2	-4.6

*BJI **28** 07:12:28.0, 8°.10S×117°.90E, h10km, mB4.9/10, mb4.6/31, Ms4.4/1, Ms7 4.1/1*
*IDC **28** 07:12:28.2±0.6, 8°.05S×117°.81E, h0km, mb4.3/16, mbtmp4.3/19, ML4.3/3, MS3.4/13, Error ellipse: s-maj=26.0km s-min=12.8km az=63.0*
*NEIC **28** 07:12:29.6±1.4, 8°.10S±0°.07×117°.87E±0°.06, h10km±1km, mb4.7/42, Error ellipse: s-maj=11.8km s-min=10.6km az=192.0*
*DJA **28** 07:12:31.0±0.2, 8°S±3°×11°8E±°, h10km, M4.8/25, mb5.0/10, mB5.2/4, ML v4.8/25, Mw(mB)4.5/4*

ISC 28 07:12:29.9±0.4, 8°.07S±0°.04×117°.92E±0°.04, h10km, n125, σ1§52/112, mb4.6/41, MS3.1/5, 1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.76**	**191**	P	**Pg**	**07 12 47.1**	**+2.5**
PLAI	**Plampang**	**0.76**	**191**	P	**Pg**	**07 12 46.9**	**+2.3**
TWSI	**Taliwang, Sumb**	**1.22**	**237**	P	**Pb**	**07 12 53.3**	**+0.2**
WBSI	**Waikabubak, Su**	**2.13**	**137**	P	**Pn**	**07 13 07.4**	**+1.8**
SRBI	**Singaraja**	**2.68**	**270**	P	**Pn**	**07 13 13.2**	**+0.1**
DNP	**Denpasar**	**2.75**	**257**	P	**Pn**	**07 13 15.1**	**+1.1**
WSI	**Waingapu**	**2.84**	**124**	P	**Pn**	**07 13 17.6**	**+2.3**
BSSI	**Bau Bau, Buton**	**3.19**	**53**	P	**Pn**	**07 13 21.2**	**+1.1**
BASI	**Baing, Sumba**	**3.38**	**129**	P	**Pn**	**07 13 25.3**	**+2.5**
KAPI	**Kappang**	**3.54**	**31**	Pn	**Pn**	**07 13 25.2**	**+0.2**
KAPI	**Kappang**	**3.54**	**31**	Pn	**Pn**	**07 13 25.6**	**+0.6**
	52nm,0.3s,baz=192,slow=3.9,SNR=79						
KAPI				Sn	**Sn**	**07 14 04.3**	**-2.6**
	88nm,0.3s,baz=112,slow=22,SNR=24						
KAPI				LR	LR	07 14 59.8	
	comp=Z,469nm,19.7s,baz=154,slow=42						
	151nm,0.2s						
ABJI	**Asem Bagus**	**3.66**	**274**	P	**Pn**	**07 13 27.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.75**	**264**	Pn	**Pn**	**07 13 27.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.75**	**264**	P	**Pn**	**07 13 27.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**3.75**	**264**	S	**Sn**	**07 14 12.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**3.75**	**264**	P	**Pn**	**07 13 27.7**	**-0.1**
KMMI	**Kalianget**	**4.05**	**284**	P	**Pn**	**07 13 33.4**	**+1.5**
MMRI	**Maumere**	**4.31**	**98**		**Pn**	**07 13 35.8**	**+0.3**
MMRI	**Maumere**	**4.31**	**98**	P	**Pn**	**07 13 37.6**	**+2.0**
MMRI	**Maumere**	**4.31**	**98**	S	**Sn**	**07 14 29.7**	**+3.8**
MMRI	**Maumere**	**4.31**	**98**	P	**Pn**	**07 13 37.4**	**+1.8**
GMJI	**Gumukmas**	**4.43**	**267**	P	**Pn**	**07 13 37.8**	**+0.6**
SPSI	**Sidrap Palu**	**4.48**	**24**	P	**Pn**	**07 13 38.4**	**+0.6**
BBSI	**Bau Bau**	**5.29**	**61**	P	**Pn**	**07 13 49.9**	**+0.9**
	0.3nm76nm,1.1s						
TTSI	**Tana Toraja**	**5.34**	**21**	P	**Pn**	**07 13 50.6**	**+0.9**
	1.1nm63nm,0.7s						
GRJI	**Gresik**	**5.51**	**282**	P	**Pn**	**07 13 52.0**	**-0.1**
	1.3nm4μm306nm,0.9s						
SOEI	**Soe**	**6.49**	**105**	Pn	**Pn**	**07 14 05.1**	**-0.6**
SOEI	**Soe**	**6.49**	**105**	P	**Pn**	**07 14 08.1**	**+2.4**
	0.4nm67nm,0.8s						
PCJI	**Pacitan**	**6.67**	**268**	P	**Pn**	**07 14 08.6**	**+0.6**
	0.3nm78nm,0.8s						
BKB	**Balikpapan**	**6.84**	**351**	Pn	**Pn**	**07 14 13.5**	**+3.1**
UGM	**Wanagama**	**7.33**	**271**	Pn	**Pn**	**07 14 16.8**	**-0.2**
UGM	**Wanagama**	**7.33**	**271**	P	**Pn**	**07 14 19.1**	**+2.1**
UGM	**Wanagama**	**7.33**	**271**	P	**Pn**	**07 14 17.7**	**+0.7**
LEM	**Lembang**	**10.29**	**276**	LR	LR	07 20 17.8	
	comp=Z,154nm,18.0s,baz=46,slow=46						
XMIS	**Christmas Isla**	**12.34**	**258**	Pn	Pn	07 15 23.6	-2.2
FITZ	**Fitzroy Crossi**	**12.48**	**144**	Pn	**Pn**	**07 15 26.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.48**	**144**	Pn	**Pn**	**07 15 28.2**	**+0.5**
	0.5nm,0.3s,baz=330,slow=8.4,SNR=21						
FITZ				Sn	**Sn**	**07 17 41.2**	**-5.7**
	1.5nm,0.3s,baz=184,slow=18,SNR=10						
FITZ				LR	LR	07 21 08.2	
	comp=Z,135nm,20.0s,baz=308,slow=41						
	8.1nm,0.8s						
KNRA	**Kununurra**	**13.03**	**126**	Pn	**Pn**	**07 15 35.3**	**+0.1**
MBWA	**Marble Bar**	**13.13**	**173**		**Pn**	**07 15 35.5**	**-1.0**
MBWA	**Marble Bar**	**13.13**	**173**	P	**Pn**	**07 15 37.7**	**+1.2**
MYLDM	**Lahad Datu**	**13.18**	**3**	Pn	**Pn**	**07 15 36.5**	**-0.7**
MTN	**Manton Dam**	**13.83**	**111**	Pn	**Pn**	**07 15 45.5**	**-0.7**
PMBI	**Palembang**	**14.04**	**291**	P	**Pn**	**07 15 51.7**	**+2.6**
GIRL	**Giralia**	**14.91**	**193**	Pn	**Pn**	**07 15 59.4**	**-1.5**
GIRL	**Giralia**	**14.91**	**193**	P	**Pn**	**07 16 01.9**	**+1.0**
FAKI	**Fak Fak**	**15.15**	**71**	Pn	**Pn**	**07 16 05.0**	**+0.8**
FAKI				IAmb	IAmb	07 16 16.6	
	comp=Z,49nm,1.3s						
FAKI	**Fak Fak**	**15.15**	**71**	P	**Pn**	**07 16 08.0**	**+3.9**
DAV	**Davao City (W)**	**16.87**	**27**	LR	LR	07 23 41.3	
	comp=Z,120nm,19.1s,baz=325,slow=40						
MEEK	**Meekatharra**	**18.48**	**178**	P	**P**	**07 16 48.0**	**+1.9**
WRKA	**Warakurna**	**19.57**	**151**	P	**P**	**07 17 00.5**	**+2.4**
WB0	**Warramunga Arr**	**19.75**	**128**	P	**P**	**07 16 59.9**	**-0.2**
WRA	**Warramunga Arr**	**19.80**	**128**	P	**P**	**07 16 59.2**	**-1.5**
WRA	**Warramunga Arr**	**19.80**	**128**	P	**P**	**07 17 00.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=303,slow=13,SNR=35						
WRA				S	S	07 20 32.8	-11
	comp=Z,3.0nm,1.0s,baz=299,slow=21,SNR=4.9						
WRA				LR	LR	07 25 35.5	
	comp=Z,111nm,20.2s,baz=309,slow=40						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**19.81**	**128**	P	**P**	**07 16 59.3**	**-1.5**
WR0	**Warramunga Arr**	**19.97**	**128**	P	**P**	**07 17 02.0**	**-0.5**
MORW	**Morawa**	**20.96**	**185**	P	**P**	**07 17 11.4**	**-1.7**
KULM	**Kulim**	**21.75**	**307**	P	**P**	**07 17 19.1**	**-2.7**
AS31	**Alice Springs**	**21.80**	**137**	P	**P**	**07 17 22.6**	**+0.3**
ASAR	**Alice Springs**	**21.80**	**137**	P	**P**	**07 17 23.5**	**+1.2**
	comp=Z,8.9nm,0.8s,baz=329,slow=13,SNR=53						
ASAR				S	**S**	**07 21 18.5**	**-5.0**
	comp=Z,1.3nm,0.7s,baz=329,slow=26,SNR=5.5						
ASAR				LR	LR	07 26 15.1	
	comp=Z,80nm,18.8s,baz=270,slow=38						
	comp=Z,8.9nm,0.8s						
PSI	**Prapat**	**21.81**	**299**	P	**P**	**07 17 22.2**	**-0.3**
	comp=Z,4.8nm,0.4s,baz=123,slow=12,SNR=3.6						
	comp=Z,4.8nm,0.4s						
FORT	**Forrest**	**24.50**	**159**	P	**P**	**07 17 48.6**	**-0.9**
NWAO	**Narrogin (SRO)**	**24.74**	**181**	P	**P**	**07 17 50.0**	**-1.6**
NWAO				IAmb	IAmb	07 18 14.3	
	comp=Z,20nm,1.1s						
COEN	**Coen**	**25.46**	**105**	P	**P**	**07 17 57.5**	**-0.9**
COEN				IAmb	IAmb	07 18 10.0	
	comp=Z,14nm,0.9s						
BBOO	**Buckleboo**	**29.81**	**148**	P	**P**	**07 18 37.6**	**+0.4**
BBOO				IAmb	IAmb	07 18 49.5	
	comp=Z,8.7nm,1.1s						

CMAR	**Chiang Mai Arr**	**32.33**	**325**	P	**P**	**07 19 00.2**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=146,slow=5.9,SNR=14					
CMAR				LR	LR	07 32 10.9	
	comp=Z,33nm,19.3s,baz=130,slow=37					
	comp=Z,1.9nm,0.6s					
STKA	**Stephens Creek**	**32.34**	**140**	P	**P**	**07 18 59.0**	**-0.5**
STKA	**Stephens Creek**	**32.34**	**140**	P	**P**	**07 19 00.7**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=321,slow=12,SNR=10					
STKA				LR	LR	07 32 15.9	
	comp=Z,57nm,19.5s,baz=307,slow=37					
	comp=Z,1.8nm,0.5s					
CHTO	**Chiang Mai**	**32.62**	**325**	P	**P**	**07 19 00.6**	**-1.5**
MGBR	**Mount Gambier**	**35.95**	**149**	P	**P**	**07 19 31.1**	**+0.4**
PZH	**PanZhiHua**	**37.79**	**336**	P	**P**	**07 19 48.8**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
NJ2	**Nanjing**	**39.91**	**1**	*e*P	**P**	**07 20 05.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PALK	**Pallekele**	**40.11**	**291**	LR	LR	07 37 29.4	
	comp=Z,23nm,18.3s,baz=104,slow=38						
CD2	**Chengdu**	**41.07**	**341**	P	**P**	**07 20 14.8**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SHL	**Shillong**	**41.95**	**324**	P	**P**	**07 20 21.0**	**-0.3**
SHL				IAmb	IAmb	07 20 23.5	
	comp=Z,26nm,1.2s						
H08S2	**Diego Garcia H**	**44.98**	**267**	T	T	08 08 02.0	
	baz=95						
H08S3	**Diego Garcia H**	**44.99**	**267**	T	T	08 08 04.9	
	baz=95						
H08S1	**Diego Carcia H**	**45.00**	**267**	T	T	08 08 00.9	
	baz=95						
KSRS	**Korea Array**	**46.24**	**11**	P	**P**	**07 20 56.1**	**+0.8**
	comp=Z,3.3nm,0.9s,baz=188,slow=9.2,SNR=13						
KSRS				LR	LR	07 40 58.2	
	comp=Z,14nm,19.9s,baz=60,slow=37						
	comp=Z,3.3nm,0.9s						
INU	**Inuyama**	**46.80**	**22**	P	**P**	**07 20 59.6**	**-0.2**
BJI	**Beijing**	**47.90**	**358**	P	**P**	**07 21 08.0**	**-0.2**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**49.03**	**354**	*e*P	**P**	**07 21 18.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,4.5s						
GTA	**Gaotai**	**50.14**	**342**	*e*P	**P**	**07 21 27.8**	**+2.2**
GTA				pP	sP	07 21 33.3	+3.6
GTA				sP	pP	07 21 36.3	+7.7
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CN2	**Changchun**	**52.08**	**7**	*e*P	**P**	**07 21 43.0**	**+3.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**53.56**	**13**	P	**P**	**07 21 50.5**	**-0.4**
USA0B				IAmb	IAmb	07 22 00.4	
	comp=Z,8.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.56**	**13**	P	**P**	**07 21 50.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**53.56**	**13**	P	**P**	**07 21 51.2**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=196,slow=7.0,SNR=7.4						
	comp=Z,5.7nm,0.8s						
ULN	**Ulaanbaatar**	**56.52**	**351**	P	**P**	**07 22 11.9**	**-0.5**
ULN				IAmb	IAmb	07 22 22.9	
	comp=Z,6.0nm,1.1s						
SONM	**Songino Array**	**56.59**	**351**	P	**P**	**07 22 12.8**	**-0.1**
SONM				IAmb	IAmb	07 22 14.2	
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**56.59**	**351**	P	**P**	**07 22 12.8**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=169,slow=8.9,SNR=21						
	comp=Z,5.1nm,0.8s						
HEH	**HeiHe**	**58.67**	**7**	*e*P	**P**	**07 22 27.8**	**+0.5**
WUS	**Wushi**	**60.55**	**327**	P	**P**	**07 22 40.8**	**+0.1**
WUS				IAmb	IAmb	07 22 42.0	
	comp=Z,7.9nm,0.9s						
KSH	**Kashi**	**61.23**	**324**	P	**P**	**07 22 45.5**	**+0.1**
KSH				sP	sP	07 22 53.8	+4.4
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
KDJ	**Kajisay**	**62.30**	**327**	P	P	07 22 50.9	-1.6
KDJ				IAmb	IAmb	07 22 53.8	
	comp=Z,5.3nm,0.9s						
KBL	**Kabul**	**62.68**	**316**	P	P	07 22 53.0	-2.3
KBL				IAmb	IAmb	07 22 55.0	
	comp=Z,4.2nm,0.7s						
FUTU	**Fugatoga**	**62.89**	**102**	P	**P**	**07 22 55.2**	**-1.6**
MK31	**Makanchi Array**	**63.15**	**333**	P	**P**	**07 22 56.8**	**-1.1**
MK31				IAmb	IAmb	07 22 58.8	
	comp=Z,4.5nm,0.8s						
MKAR	**Makanchi Array**	**63.15**	**333**	P	**P**	**07 22 57.0**	**-1.0**
MKAR	**Makanchi Array**	**63.15**	**333**	P	**P**	**07 22 57.5**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=143,slow=7.7,SNR=60						
	comp=Z,4.5nm,0.7s						
BOOM	**Boomskoye usch**	**63.22**	**326**	P	**P**	**07 22 57.8**	**-0.9**
BOOM				IAmb	IAmb	07 23 07.8	
	comp=Z,5.8nm,0.8s						
MAKZ	**Makanchi**	**63.30**	**333**	P	P	07 22 57.4	-1.6
MAKZ				IAmb	IAmb	07 22 59.6	
	comp=Z,3.7nm,1.1s						
DRK	**Karamyk**	**63.71**	**322**	P	P	07 23 00.6	-1.6
AAK	**Ala-Archa**	**64.11**	**326**	P	P	07 23 02.6	-2.0
AAK				IAmb	IAmb	07 23 05.8	
	comp=Z,5.9nm,0.8s						
AAK	**Ala-Archa**	**64.11**	**326**	P	**P**	**07 23 03.8**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=126,slow=4.6,SNR=13						
	comp=Z,4.6nm,0.8s						
ARSB	**Arslanbob**	**64.14**	**324**	P	**P**	**07 23 03.8**	**-0.9**
GAR	**Garm**	**64.35**	**320**	P	P	07 23 04.5	-1.7
CHGR	**Chuyangaron**	**64.89**	**319**	P	**P**	**07 23 08.5**	**-1.2**
SIMJ	**Simiganj**	**64.99**	**319**	P	**P**	**07 23 09.1**	**-1.3**
SIMJ				IAmb	IAmb	07 23 10.2	
	comp=Z,8.7nm,1.3s						
KK31	**Karatay Array**	**66.68**	**324**	P	**P**	**07 23 20.3**	**-0.7**
KKAR	**Karatay Array**	**66.68**	**324**	P	**P**	**07 23 19.9**	**-1.1**
KURBB	**Kurchatov Arra**	**67.67**	**334**	P	**P**	**07 23 25.9**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=146,slow=5.7,SNR=16						
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**67.70**	**334**	P	**P**	**07 23 26.5**	**-0.7**
KURK				IAmb	IAmb	07 23 27.8	
	comp=Z,4.3nm,1.1s						
ZAA0	**Zalesovo Array**	**67.80**	**340**	P	**P**	**07 23 26.9**	**-0.9**
ZAA0				IAmb	IAmb	07 23 27.7	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**67.80**	**340**	P	**P**	**07 23 26.6**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=140,slow=4.9,SNR=18						
	comp=Z,4.2nm,0.7s						
PETK	**Petropavlovsk-**	**69.67**	**24**	P	**P**	**07 23 39.5**	**0.0**
	comp=Z,5.3nm,1.0s,baz=253,slow=7.6,SNR=2.1						
	comp=Z,5.3nm,1.0s						
YAK	**Yakutsk**	**70.49**	**6**	P	**P**	**07 23 44.2**	**-0.2**
MA2	**Magadan**	**72.34**	**17**	P	**P**	**07 23 55.7**	**+0.1**
MA2				IAmb	IAmb	07 23 57.1	
	comp=Z,7.3nm,1.0s						
BVAR	**Borovoye Array**	**72.98**	**332**	P	**P**	**07 23 58.7**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=138,slow=5.5,SNR=6.0						
	comp=Z,1.3nm,0.6s						
ABKAR	**Abkulak array**	**76.19**	**325**	P	P	07 24 16.7	-1.6
ABKAR	**Abkulak array**	**76.19**	**325**	P	P	07 24 16.5	-1.8
AKTO	**Aktyubinsk**	**77.86**	**326**	P	P	07 24 25.9	-1.8
	comp=Z,1.3nm,0.6s,baz=91,slow=5.7,SNR=4.7						
	comp=Z,1.3nm,0.6s						
SYO	**Syowa Base**	**78.33**	**201**	*e*PcP	**PcP**	**07 24 38.0**	**-1.3**
TIXI	**Tiksi**	**79.88**	**4**	P	**P**	**07 24 37.0**	**-1.3**
TIXI				IAmb	IAmb	07 24 47.0	
	comp=Z,7.2nm,1.4s						
QSPA	**South Pole Qui**	**81.92**	**180**	P	**P**	**07 24 49.6**	**0.0**
	comp=Z,1.5nm,0.9s,baz=151,slow=1.6,SNR=5.8						
	comp=Z,1.5nm,0.9s						
SNAA	**Sanae**	**91.60**	**196**	P	**P**	**07 25 37.5**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=171,slow=9.9,SNR=7.2						
	comp=Z,1.5nm,0.6s						
CPUP	**Villa Florida**	**145.49**	**188**	PKPbc	**PKPbc**	**07 32 08.8**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=94,slow=4.8,SNR=10						

*DNK **28** 07:15:59.7±1.3, 71°.21N×9°.40W, h27km±47km, ML1.5*
*BER **28** 07:16:00.6±0.5, 71°.30N×9°.11W, h3km±66km, ML2.8, Confirmed Earthquake*

ISC 28 07:15:57.7±1.0, 71°.42N±0°.07×9°.2W±0°.1, h10km, n8, σ1§22/15, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.45**	**148**	↓*i*P	**Pb**	**07 16 07.8**	**0.0**
JNW				*e*S	**Sg**	**07 16 13.0**	**+0.5**
JNW				IAML		07 16 14.3	
	comp=Z,976nm,0.3s						
JMIC	**Jan Mayen**	**0.48**	**154**	↓*i*P	**Pb**	**07 16 07.9**	**-0.3**
JMIC				*e*S	**Sg**	**07 16 13.3**	**0.0**
JMIC				IAML		07 16 14.0	
	comp=Z,744nm,0.2s						
JMIC	**Jan Mayen**	**0.48**	**154**	*i*P	**Pb**	**07 16 07.9**	**-0.3**
JMIC				*e*S	**Sg**	**07 16 12.8**	**-0.5**
JMI	**Jan Mayen**	**0.51**	**164**	↓*i*P	**Pb**	**07 16 08.3**	**-0.3**
JMI				*e*S	**Sg**	**07 16 14.0**	**-0.2**
JMI				IAML		07 16 15.5	
	comp=Z,391nm,0.5s						
JNE	**Jan Mayen East**	**0.51**	**147**	↓*i*P	**Pb**	**07 16 08.4**	**-0.3**
JNE				*e*S	**Sg**	**07 16 14.1**	**-0.2**
JNE				IAML		07 16 15.7	
	comp=Z,747nm,0.6s						
DBG	**Daneborg**	**4.37**	**317**	*i*P	**Pn**	**07 17 05.4**	**+1.4**
DBG				*i*S	**Sn**	**07 17 52.9**	**-2.1**
DBG				IAML		07 17 53.8	
	comp=Z,1.7nm,0.2s						
DAG	**Danmarks Havn**	**5.97**	**339**	*i*P	**Pn**	**07 17 28.4**	**+2.4**
DAG				*i*S	**Sn**	**07 18 32.1**	**-2.1**
DAG				IAML		07 18 34.5	
	comp=Z,2.6nm,0.3s						
KBS	**Kingsbay**	**9.19**	**26**	*i*P	**Pn**	**07 18 10.6**	**+0.6**

*IDC **28** 07:17:53.8±1.4, 33°.77N×38°.02W, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=44.1km s-min=34.9km az=156.0*

ISC 28 07:17:55.5±1.3, 33°.8N±0°.3×38°.0W±0°.3, h10km, n11, σ0§54/7, mb3.5/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**47.04**	**147**	T	T	08 16 38.1	
	baz=333,slow=75,SNR=6.6						
H10N3	**ASCENSION HYDR**	**47.04**	**147**	T	T	08 16 40.3	
	baz=333,slow=75,SNR=5.5						
H10N1	**ASCENSION HYDR**	**47.05**	**147**	T	T	08 16 40.6	
	baz=333,slow=75,SNR=7.2						
H10S3	**ASCENSION HYDR**	**47.96**	**148**	T	T	08 17 41.3	
	baz=248,slow=74,SNR=9.9						
H10S2	**ASCENSION HYDR**	**47.97**	**148**	T	T	08 17 39.3	
	baz=332,slow=74,SNR=8.3						
YKA	**Yellowknife Ar**	**54.54**	**326**	P	**P**	**07 27 23.2**	**-0.1**
	0.3nm,1.0s,baz=94,slow=6.0,SNR=2.6						
YKA				PcP	**PcP**	**07 28 25.5**	**-1.0**
	0.1nm,0.6s,baz=91,slow=3.9,SNR=3.7						
	0.3nm,1.0s						
TXAR	**Lajitas Array**	**55.26**	**285**	P	**P**	**07 27 29.4**	**+0.2**
	0.2nm,0.8s,baz=73,slow=6.0,SNR=2.0						
	0.2nm,0.8s						
PDAR	**Pinedale Array**	**55.33**	**302**	P	**P**	**07 27 29.9**	**+0.3**
	0.2nm,0.6s,baz=46,slow=7.6,SNR=2.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**79.08**	**35**	P	**P**	**07 29 59.9**	**+0.1**
	0.6nm,0.2s,baz=318,slow=5.0,SNR=6.1						
	0.6nm,0.2s						
PLCA	**Paso Flores**	**79.99**	**205**	P	**P**	**07 30 04.8**	**0.0**
	2.2nm,1.0s,baz=50,slow=7.9,SNR=3.1						
	2.2nm,1.0s						
MKAR	**Makanchi Array**	**83.49**	**37**	P	**P**	**07 30 23.8**	**+0.4**
	0.3nm,0.7s,baz=307,slow=5.0,SNR=3.6						
	0.3nm,0.7s						

*IDC **28** 07:29:12.7±1.6, 35°.53N×76°.68E, h0km, mb3.8/6, mbtmp3.7/11, ML3.0/5, MS3.7/7, Error ellipse: s-maj=36.0km s-min=20.2km az=58.0*

ISC 28 07:29:20.3±0.7, 35°.86N±0°.05×76°.53E±0°.09, h35km, n20, σ2§07/25, mb3.8/5, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSSA	**Tissa**	**3.04**	**186**	*e*P	**Pn**	**07 30 08.0**	**+2.0**
TSSA				*e*S	**Sn**	**07 30 41.6**	**+0.5**
JMU	**Jammu**	**3.42**	**204**	*e*P	**Pn**	**07 30 13.5**	**+2.5**
JMU				*e*S	**Sn**	**07 30 50.9**	**+0.7**
JMU				IAML

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIHU	**Emiliano Zapat**	1.22	139	*eP*	**Pb**	07 31 27.9	-1.4
CIHU				*eS*	**Sb**	07 31 45.1	-0.4
ANIG	**Ahuacatlan**	1.31	49	*eP*	**Pb**	07 31 30.4	-0.3
ANIG				*eS*	**Sn**	07 31 47.5	-1.4
CEGR	**Campo Tres**	1.81	116	*eP*	**Pn**	07 31 37.9	+0.1
CEGR				*eS*	**Sb**	07 32 02.9	+0.3
CDAR	**Ciudad de Arme**	1.94	130	*eP*	**Pn**	07 31 38.9	-0.4
CDAR				*eS*	**Sb**	07 32 05.9	-0.1
SOMAC	**Volcano de Col**	1.95	110	*eP*	**Pn**	07 31 41.2	+1.2
SOMAC				*eS*	**Sb**	07 32 05.5	-1.4
INCO	**Volcan de Coli**	1.98	109	*eP*	**Pn**	07 31 41.1	+0.9
INCO				*eS*	**Sg**	07 32 07.9	-1.0
MNGA	**Volcan de Coli**	1.98	111	*eP*	**Pn**	07 31 41.1	+0.8
MNGA				*eS*	**Sb**	07 32 06.8	-0.8
EZ5V		1.99	111	*eP*	**Pn**	07 31 40.7	+0.3
MMIG	**Aquila**	2.84	132	*eP*	**Pn**	07 31 50.4	-1.4
MMIG				*eS*	**Sn**	07 32 25.5	-1.1
MAIG	**Mazatlaan**	3.08	345	*eP*	Pn	07 31 52.0	-3.1
MAIG				*eS*	**Sn**	07 32 26.5	-5.9
AAIG	**Aguscalientes**	3.47	59	*eP*	**Pn**	07 32 01.2	+0.6
ZAIG	**Zacatecas**	3.79	47	*eP*	**Pn**	07 32 05.5	+0.3
IGIG	**Irapuato, Guan**	4.02	81	*eS*	**Sn**	07 32 58.1	+1.9
MOIG	**Morelia**	4.16	96	*eP*	**Pn**	07 32 10.8	+0.6
MOIG				*eS*	**Sb**	07 33 04.9	-5.5
ZIIG	**Zihuatanejo**	4.67	123	*eP*	**Pn**	07 32 14.4	-2.5
ZIIG				*eS*	**Sn**	07 33 12.2	+0.4
PDIG	**Papasquiaro**	4.82	2	*eP*	**Pn**	07 32 17.9	-1.4
PDIG				*eS*	**Sn**	07 33 09.1	-6.8
H06S1	**SOCORRO T**	5.28	255	T	T	07 37 49.8	
	SNR=55						
ARIG	**Puente Sto Nin**	5.30	110	*eP*	**Pn**	07 32 26.7	+1.1
ARIG				*eS*	**Sn**	07 33 31.4	+4.0
RPIG	**Rio Verde**	5.49	71	*eP*	**Pn**	07 32 26.6	-1.7
RPIG				*eS*	**Sn**	07 33 35.5	+3.3
LPIG	**La Paz**	5.86	312	LR	LR	07 34 16.3	
	comp=Z,70nm,19.3s,baz=170,slow=34						
CAIG	**El Cayaco**	5.93	121	*eP*	**Pn**	07 32 34.3	0.0
CAIG				*eS*	**Sn**	07 33 43.4	+0.4
PLIG	**Platanillo**	6.01	106	*eP*	**Pn**	07 32 37.2	+1.6
PLIG				*eS*	**Sn**	07 33 44.1	-1.0
YAIG	**Yautepec**	6.28	101	*eP*	**Pn**	07 32 43.3	+4.0
DAIG	**Los Arroyos**	6.45	118	*eP*	**Pn**	07 32 42.0	+0.5
DAIG				*eS*	**Sn**	07 33 53.8	-1.9
PPM	**Popocatepetl**	6.65	99	*eP*	**Pn**	07 32 44.9	+0.2
PPM				*eS*	**Sn**	07 34 04.2	+2.8
CTUV	**Llano Grande**	6.87	78	*eP*	**Pb**	07 33 01.7	-3.9
CTUV				*eS*	**Sn**	07 34 09.5	+3.3
CRIG	**Cruz Grande**	7.02	118	*eP*	**Pn**	07 32 48.1	-1.1
CRIG				*eS*	**Sn**	07 34 10.3	+0.5
TLIG	**Tlapa**	7.14	110	*eP*	**Pn**	07 32 52.6	+1.6
TLIG				*eS*	**Sn**	07 34 13.9	+1.1
FTIG	**Fresnillo de T**	7.40	107	*eP*	**Pn**	07 32 56.6	+1.9
FTIG				*eS*	**Sn**	07 34 19.8	+0.4
TXAR	**Lajitas Array**	9.26	10	Pn	**Pn**	07 33 22.4	+2.3
	0.4nm,0.3s,baz=191,slow=15,SNR=18						
TXAR				Lg	Lg	07 35 46.1	
	0.1nm,0.3s,baz=184,slow=30,SNR=5.8 1.3nm,0.6s						
CMIG	**Matias Romero**	10.60	105	LR	LR	07 37 55.1	
	comp=Z,108nm,19.4s,baz=282,slow=37						
NVAR	**Mina Array Bea**	21.25	331	P	**P**	07 35 54.3	+1.2
	0.9nm,0.8s,baz=150,slow=13,SNR=6.7 0.9nm,0.8s						
PDAR	**Pinedale Array**	22.75	352	P	**P**	07 36 13.5	+4.3
	0.1nm,0.5s,baz=178,slow=11,SNR=1.9 0.1nm,0.5s						
H03N2	**Juan Fernandez**	59.09	154	T	T	08 44 42.1	
	baz=333						
H03N1	**Juan Fernandez**	59.10	154	T	T	08 44 36.7	
	baz=333						
H03N3	**Juan Fernandez**	59.11	154	T	T	08 44 49.0	
	baz=333						

REY ***28*** *07:37:21.5, 68°.20N×18°.28W, h10km*
DNK ***28*** *07:37:24.0±3.7, 68°.02N×17°.57W, h10km, ML2.7*
NEIC ***28*** *07:37:25.9±2.0, 67°.93N±0°.07×18°.8W±0°.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=11.4km s-min=9.4km az=199.0*
IDC ***28*** *07:37:29.7±0.6, 67°.98N×18°.37W, h0km, mb3.9/22, mbtmp3.9/27, ML3.3/5, Error ellipse: s-maj=20.2km s-min=11.6km az=15.0*
MOS ***28*** *07:37:29.3±1.4, 67°.86N×18°.37W, h10km, mb4.5/19, Error ellipse: s-maj=16.3km s-min=8.7km az=85.5*
ISC 28 07:37:28.9±0.4, 67°.60N±0°.05×18°.69W±0°.05, h10km, n129, σ2§14/117, mb4.2/45, MS3.7/3, 15C-1D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	1.09	166	P	**Pg**	07 37 48.8	-1.0
ILEI	**Leirhofn**	1.47	143	P	**Pn**	07 37 53.1	-2.3
ISIG	**Siglufjorour**	1.47	184	P	**Pn**	07 37 55.2	-0.3
IHRN	**Hraun**	1.60	201	P	**Pn**	07 37 56.8	-0.3
IHED	**Heoinshofoi**	1.62	160	P	**Pn**	07 37 56.0	-1.4
IHLA	**Hella**	1.66	176	P	**Pn**	07 37 58.2	+0.1
IGRA	**Granastaoir**	1.74	165	P	**Pn**	07 37 58.5	-0.7
IDIM	**Dimmadalss**	1.78	156	P	**Pn**	07 37 58.2	-1.6
IGIL	**Gilhagi**	1.78	148	P	**Pn**	07 37 57.8	-1.9
ISKI	**Skildingahlsh**	1.85	158	P	**Pn**	07 37 59.4	-1.3
IGHA	**Grjothals**	1.94	155	P	**Pn**	07 38 00.4	-1.4
IKVO	**Krokottuvotn**	2.02	158	P	**Pn**	07 38 02.1	-1.0
IREN	**Reynihlio**	2.08	159	P	**Pn**	07 38 03.2	-0.6
IMEL	**Melhnausar**	2.19	157	P	**Pn**	07 38 04.9	-0.4
IGRS	**Grimsstaoir**	2.22	151	P	**Pn**	07 38 04.5	-1.1
ISVA	**Svartarkot**	2.34	165	P	**Pn**	07 38 07.5	+0.1
IASK	**Askja**	2.68	161	P	**Pn**	07 38 12.3	+0.1
ISTE	**Stelbrattur**	2.78	188	P	**Pn**	07 38 15.7	+2.2
IMKO	**Mokollar**	2.79	159	P	**Pn**	07 38 14.2	+0.5
IURH	**Urdarhals**	2.86	167	P	**Pn**	07 38 15.3	+0.8
IDYN	**Dyngjuhals**	2.87	169	P	**Pn**	07 38 15.6	+0.9
IADA	**Aoalbol**	2.88	153	P	**Pn**	07 38 14.3	-0.5
IVON	**Vonarskard**	2.96	172	P	**Pn**	07 38 17.5	+1.5
IVSH	**V-Sauoahnukur**	3.05	155	P	**Pn**	07 38 16.8	-0.3
BORG	**Borgarnes**	3.06	202	Pn	**Pn**	07 38 16.3	-0.9
BORG	**Borgarnes**	3.06	202	Pn	**Pn**	07 38 17.5	+0.4
	8.5nm,0.3s,baz=352,slow=6.2,SNR=13						
BORG				Sn	**Sb**	07 38 57.8	-2.8
	5.4nm,0.3s,baz=40,slow=19,SNR=1.7						
BORG	**Borgarnes**	3.06	202	P	**Pn**	07 38 16.3	-0.9
BORG	**Borgarnes**	3.06	202	*eP*	**Pn**	07 38 19.6	+2.4
BORG				*i P*	**Pb**	07 38 22.6	-0.6
SCO	**Scoresbysund**	3.13	339	Pn	Pn	07 38 07.9	-10
SCO	**Scoresbysund**	3.13	339	P	Pn	07 38 07.9	-10
SCO	**Scoresbysund**	3.13	339	*eP*	Pn	07 38 09.9	-8.3
SCO				IAML		07 39 18.0	
	comp=Z,53nm,1.0s						
DBG	**Daneborg**	6.76	356	*eP*	Pn	07 38 58.9	-9.2
ANGG	**Ammassalik, Gr**	7.79	264	Pn	**Pn**	07 39 19.4	-2.8
SUMG	**Summit**	8.36	315	Pn	Pn	07 39 22.8	-7.5
SUMG	**Summit**	8.36	315	P	Pn	07 39 22.8	-7.5
SUMG	**Summit**	8.36	315	*eP*	Pn	07 39 24.0	-6.3
DAG	**Danmarks Havn**	9.23	0	*eP*	Pn	07 39 24.9	-17
ILULI	**Ilulissat**	11.97	293	Pn	Pn	07 40 13.2	-6.0
ILULI	**Ilulissat**	11.97	293	P	Pn	07 40 13.2	-6.0
SFJD	**Kangerlussuaq**	12.27	282	Pn	Pn	07 40 19.6	-3.8
SFJD	**Kangerlussuaq**	12.27	282	P	Pn	07 40 19.6	-3.8
NEEM	**North Greenlan**	13.58	330	*eP*	Pn	07 40 28.7	-13
KULLO	**Kullorsuaq**	14.03	317	*eP*	Pn	07 40 42.3	-5.1
KBS	**Kingsbay**	14.08	24	Pn	Pn	07 40 39.3	-8.8
KBS	**Kingsbay**	14.08	24	*eP*	**Pn**	07 40 46.6	-1.4
NC204	**NORSAR Array S**	14.08	103	Pn	**Pn**	07 40 44.2	-4.1
NOR	**Nord**	14.09	1	*i P*	Pn	07 40 39.8	-8.4
EKA	**Eskdalemuir Ar**	14.30	142	Pn	**P**	07 40 55.5	-2.9
	baz=331,slow=16 comp=Z,0.5nm,0.6s						
NC303	**NORSAR Array S**	14.34	102	Pn	**Pn**	07 40 50.8	-0.9
NAO01	**NORSAR Array S**	14.41	104	Pn	**Pn**	07 40 50.0	-2.6
SPITS	**Spitsbergen Ar**	14.43	28	Pn	**Pn**	07 40 49.5	-3.3
	baz=230,slow=14 comp=Z,12nm,1.0s						
SPB2	**Spitsbergen Ar**	14.43	28	Pn	Pn	07 40 47.2	-5.7
KONO	**Kongsberg**	14.74	109	⇑*iP*	**P**	07 41 00.1	-3.2
HFS	**Hagfors**	15.92	102	Pn	**Pn**	07 41 13.0	+0.3
	comp=Z,0.1nm,0.3s,baz=301,slow=11,SNR=6.2 comp=Z,1.5nm,0.8s						
ARCES	**ARCESS Array B**	16.00	63	Pn	**Pn**	07 41 10.5	-3.1
	comp=Z,0.1nm,0.3s,baz=285,slow=12,SNR=4.0 comp=Z,12nm,1.3s						
APA	**Apatity**	19.39	66	⇓*iP*	**Pn**	07 41 55.9	+0.2
APA				*i*		07 45 32.8	
APA					pmax	pmax	
	comp=Z,17nm,0.9s						
LVZ	**Lovozero**	19.69	64	⇑*iP*	**P**	07 41 56.4	-1.4
LVZ				pmax	pmax		
	comp=Z,36nm,1.6s						
FINES	**FINESS Array B**	19.82	86	P	**P**	07 41 55.3	-3.9
FINES	**FINESS Array B**	19.82	86	P	**P**	07 41 58.5	-0.7
	comp=Z,0.2nm,0.3s,baz=325,slow=9.3,SNR=7.9 comp=Z,3.5nm,0.8s						
FIA1	**FINESS Array S**	19.82	86	P	**P**	07 41 55.3	-3.9
FIA1				IAmb	IAmb	07 42 07.8	
	comp=Z,31nm,1.0s						
FRB	**Frobisher Bay**	20.42	283	P	Pn	07 42 08.5	+0.6
	comp=Z,5.5nm,0.7s,baz=22,slow=9.7,SNR=5.6 comp=Z,5.5nm,0.7s						
EUNU	**Eureka**	20.80	333	P	P	07 42 03.4	-6.5
VSU	**Vasula**	22.00	92	⇑*iP*	**P**	07 42 24.5	+1.7
VSU				pmax	pmax		
	comp=Z,32nm,0.9s						
BFO	**Black Forest**	23.68	131	P	**P**	07 42 39.4	-1.0
BFO				IAmb	IAmb	07 42 59.4	
	comp=Z,4.8nm,0.6s						
BFO	**Black Forest**	23.68	131	P	**P**	07 42 39.4	-1.0
BFO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
RES	**Resolute Bay**	23.84	320	P	**P**	07 42 35.8	-5.8
RES	**Resolute Bay**	23.84	320	P	**P**	07 42 35.8	-5.8
RES				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GERES	**GERESS Array B**	24.88	123	P	**P**	07 42 49.6	-1.9
GERES	**GERESS Array B**	24.88	123	P	**P**	07 42 55.4	+3.9
	comp=Z,3.7nm,0.8s,baz=335,slow=6.0,SNR=7.3 comp=Z,3.7nm,0.8s						
KLMR	**Klimovskoe**	25.28	77	*eP*	**P**	07 42 53.4	-1.5
KLMR				pmax	pmax		
	comp=Z,26nm,1.2s						
MNK	**Minsk**	25.32	98	*i P*	**P**	07 42 55.1	-0.2
	comp=E,11nm,0.6s						
MNK				*i P*	**P**	07 42 55.1	-0.2
	comp=N,19nm,0.7s						
MNK				*i P*	**P**	07 42 55.1	-0.2
	comp=Z,18nm,0.8s,baz=320						
MNK				*i* PP	**PnPn**	07 43 30.2	+0.5
MNK				*i* PPP	PPP	07 43 38.2	
MNK				*i* S	**S**	07 47 22.9	+1.9
MNK				*i* SS	**SnSn**	07 48 16.5	+4.6
MNK				*i* SSS	SSS	07 48 30.2	
MNK				*i* LR	LR	07 51 33.7	
MNK				*i* LRM	MLR	07 52 52.1	
	comp=Z,199nm,16.6s						
MNK				*i* LRM	MLR	07 52 53.0	
	comp=E,149nm,14.4s						
MNK				*i* LRM	MLR	07 53 03.6	
	comp=N,142nm,16.4s						
MNK	**Minsk**	25.32	98	*i P*	**P**	07 42 55.1	-0.2
MNK				*i* PPP	PPP	07 43 38.2	
MNK				*i* S	**S**	07 47 22.9	+1.9
MNK				*i* SS	**SnSn**	07 48 16.4	+4.6
MNK				*i* SSS	SSS	07 48 30.2	
MNK				pmax	pmax		
	comp=E,11nm,0.6s						
MNK				pmax	pmax		
	comp=N,19nm,0.7s						
MNK				pmax	pmax		
	comp=Z,18nm,0.8s						
MNK				MLR	MLR		
	comp=Z,199nm,17.0s						
MNK				MLR	MLR		
	comp=E,149nm,14.0s						
MNK				MLR	MLR		
	comp=N,142nm,16.0s						
MORC	**Moravsky Berou**	25.35	117	P	**P**	07 42 53.8	-1.9
MORC	**Moravsky Berou**	25.35	117	P	**P**	07 42 53.8	-1.9
MORC				pmax	pmax		
	comp=Z,6.0nm,1.3s						
OBN	**Obninsk**	28.18	89	⇑*iP*	**P**	07 43 24.9	+3.9
OBN				*i*		07 44 11.9	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,361nm,19.0s						
AKASG	**Malin Array Be**	28.81	102	P	**P**	07 43 27.8	+1.1
	comp=Z,0.3nm,0.3s,baz=329,slow=9.2,SNR=4.3 comp=Z,0.3nm,0.3s						
AKBB	**Malin Array Si**	28.81	102	⇑*eP*	**P**	07 43 28.4	+1.7
AKBB				pmax	pmax		
	comp=Z,13nm,2.0s						
ESBB	**Sonseca Array**	29.14	156	P	**P**	07 43 28.1	-1.6
ESBB				IAmb	IAmb	07 44 05.5	
	comp=Z,11nm,1.4s						
PVAQ	**Vaqueiros**	30.87	163	P	**P**	07 43 44.7	-0.3
A36M	**Sachs Harbour**	32.46	326	P	P	07 43 53.0	-5.7
NRIK	**Noril'sk**	34.37	37	P	**P**	07 44 14.5	-0.8
	comp=Z,1.0nm,0.4s,baz=340,slow=3.3,SNR=3.5 comp=Z,1.0nm,0.4s						
NRIK	**Noril'sk**	34.37	37	*eP*	**P**	07 44 17.9	+2.6
BELG	**Belogornoye**	34.49	82	*eP*	**P**	07 44 18.5	+2.0
BELG				pmax	pmax		
	comp=Z,3.0nm,1.4s						
ARTI	**Arti**	35.38	69	P	**P**	07 44 21.4	-2.8
ARTI				IAmb	IAmb	07 44 25.1	
	comp=Z,7.8nm,1.3s						
ARTI	**Arti**	35.38	69	P	**P**	07 44 24.5	+0.3
	comp=Z,2.6nm,0.6s,baz=346,slow=8.1,SNR=3.7 comp=Z,2.6nm,0.6s						
ARTI	**Arti**	35.38	69	P	**P**	07 44 21.4	-2.8
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
YKA	**Yellowknife Ar**	36.90	310	P	**P**	07 44 38.5	+1.4
	comp=Z,0.9nm,0.7s,baz=42,slow=8.1,SNR=15						
YKA				PcP	**PcP**	07 46 59.6	+1.4
	comp=Z,0.5nm,0.9s,baz=53,slow=2.5,SNR=4.2 comp=Z,0.9nm,0.7s						
TIXI	**Tiksi**	39.32	16	⇑*iP*	**P**	07 44 57.6	+0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KIV	**Kislovodsk**	39.51	95	*eP*	**P**	07 45 03.2	+3.7
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,96nm,16.0s						
BRTR	**Keskin Array B**	39.77	107	P	**P**	07 45 03.5	+1.8
	comp=Z,0.9nm,0.9s,baz=280,slow=6.9,SNR=3.7 comp=Z,0.9nm,0.9s						
KBZ	**Khabaz**	39.79	95	P	**P**	07 45 05.1	+3.6
	comp=Z,1.7nm,0.9s,baz=307,slow=5.0,SNR=3.9 comp=Z,1.7nm,0.9s						
AKTO	**Aktyubinsk**	39.96	76	P	**P**	07 45 04.0	+1.0
	comp=Z,1.7nm,0.8s,baz=303,slow=7.4,SNR=5.1 comp=Z,1.7nm,0.8s						
BRVK	**Borovoye**	42.22	64	⇑*iP*	**P**	07 45 23.5	+2.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	42.28	64	P	**P**	07 45 23.0	+0.9
	comp=Z,0.5nm,0.4s,baz=347,slow=5.9,SNR=2.3 comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	42.87	330	P	**P**	07 45 27.9	+1.2
	comp=Z,2.5nm,1.1s,baz=21,slow=5.7,SNR=14						
ILAR				PcP	**PcP**	07 47 18.4	+1.1
	comp=Z,1.2nm,1.1s,baz=20,slow=2.9,SNR=4.7 comp=Z,2.5nm,1.1s						
BILL	**Bilibino**	44.59	357	⇑*iP*	**P**	07 45 41.0	+0.5
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZALV	**Zalesovo Beam**	46.21	53	PcP	**PcP**	07 47 30.4	+1.5
	comp=Z,0.9nm,0.6s,baz=323,slow=2.2,SNR=5.1						
KURK	**Kurchatov**	47.00	60	⇑*iP*	**P**	07 46 00.9	+1.2
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURBB	**Kurchatov Arra**	47.05	60	P	**P**	07 45 59.6	-0.5
	comp=Z,1.4nm,0.9s,baz=325,slow=7.7,SNR=9.6						
KURBB				PcP	**PcP**	07 47 33.2	+1.3
	comp=Z,0.2nm,0.4s,baz=336,slow=3.8,SNR=2.1 comp=Z,1.4nm,0.9s						
SEY	**Seymchan**	49.60	5	⇑*iP*	**P**	07 46 20.7	+1.1
SEY				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MK31	**Makanchi Array**	51.62	59	P	**P**	07 46 31.9	-3.2
MK31				IAmb	IAmb	07 46 37.7	
	comp=Z,5.5nm,1.5s						
MK31	**Makanchi Array**	51.62	59	⇑*iP*	**P**	07 46 36.1	+1.0
MKAR	**Makanchi Array**	51.62	59	P	**P**	07 46 31.7	-3.3
MKAR	**Makanchi Array**	51.62	59	P	**P**	07 46 34.3	-0.7
	comp=Z,1.8nm,1.0s,baz=347,slow=5.0,SNR=10						
MKAR				PcP	**PcP**	07 47 50.4	+1.7
	comp=Z,0.3nm,0.6s,baz=352,slow=2.9,SNR=2.3 comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	51.62	59	*ceP*	**P**	07 46 36.2	+1.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRIGG	**Briggsdale**	51.63	284	P	**P**	07 46 31.9	-3.5
PDAR	**Pinedale Array**	51.64	290	P	**P**	07 46 37.6	+2.1
	comp=Z,1.3nm,0.8s,baz=46,slow=6.4,SNR=10 comp=Z,1.3nm,0.8s						
WHAR	**Wooly Hollow**	51.70	271	P	**P**	07 46 33.0	-2.8
WHAR				IAmb	IAmb	07 46 42.1	
	comp=Z,7.6nm,1.2s						
KAN09	**Caldwell North**	52.12	276	P	**P**	07 46 34.8	-4.1
KAN13	**South Haven SW**	52.17	276	P	**P**	07 46 36.5	-2.9
MA2	**Magadan**	52.90	7	P	P	07 46 39.1	-5.2
MA2				IAmb	IAmb	07 46 47.0	
	comp=Z,6.2nm,1.0s						
MA2	**Magadan**	52.90	7	P	**P**	07 46 43.6	-0.7
	comp=Z,1.4nm,0.3s,baz=12,slow=8.1,SNR=4.3 comp=Z,1.4nm,0.3s						
MA2	**Magadan**	52.90	7	⇑*iP*	**P**	07 46 44.8	+0.5
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
Q24A	**Divide**	53.35	284	P	P	07 46 44.3	-4.1
Q24A				IAmb	IAmb	07 46 52.7	
	comp=Z,3.4nm,0.9s						
TORD	**Torodi Ar. Bea**	56.03	156	P	**P**	07 47 12.1	+4.5
	comp=Z,3.2nm,0.6s,baz=343,slow=7.3,SNR=1.4 comp=Z,3.2nm,0.6s						
SONM	**Songino Array**	57.72	41	P	**P**	07 47 19.7	+0.2
	comp=Z,0.4nm,0.8s,baz=344,slow=4.7,SNR=4.2 comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	58.57	295	P	**P**	07 47 26.8	+1.2
	comp=Z,0.3nm,0.5s,baz=32,slow=8.4,SNR=3.0 comp=Z,0.3nm,0.5s						
HEH	**HeiHe**	59.74	24	*eP*	P	07 47 19.3	-14
TXAR	**Lajitas Array**	61.35	278	P	**P**	07 47 47.3	+2.7
	comp=Z,0.5nm,0.8s,baz=46,slow=3.6,SNR=5.6 comp=Z,0.5nm,0.8s						
KLR	**Kul'dur**	61.39	22	*ceP*	**P**	07 47 45.3	+0.8
KLR				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA	**Gaotai**	63.75	49	*eP*	**P**	07 48 01.5	+0.9
GTA				sP	sP	07 48 10.5	+5.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GOMU	**GeErMu**	65.20	55	P	**P**	07 48 12.8	+2.4
GOMU				pP	sP	07 48 18.5	+3.8
GOMU				sP	pP	07 48 25.0	+11
GOMU				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC	**Hu-ho-hao-te**	65.55	39	*eP*	P	07 48 06.5	-5.8
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
USRK	**Ussuriysk Ar.**	66.34	23	P	**P**	07 48 16.3	-0.9
	comp=Z,1.5nm,0.8s,baz=336,slow=6.3,SNR=4.1 comp=Z,1.5nm,0.8s						
MJAR	**Matsushiro Arr**	74.72	19	P	**P**	07 49 08.0	-0.4
	comp=Z,3.5nm,0.9s,baz=354,slow=7.7,SNR=5.7 comp=Z,3.5nm,0.9s						
PZH	**PanZhiHua**	76.35	53	P	P	07 49 13.5	-4.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
CMAR	**Chiang Mai Arr**	83.00	58	P	**P**	07 49 54.1	0.0
	comp=Z,1.2nm,0.3s,baz=316,slow=6.2,SNR=9.2 comp=Z,1.2nm,0.3s						
CMAR	**Chiang Mai Arr**	83.00	58	*ceP*	**P**	07 49 55.7	+1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	132.90	35	PKP	**PKPdf**	07 56 43.1	-0.7
	comp=Z,0.1nm,0.3s,baz=312,slow=3.0,SNR=4.9						

REY ***28*** *07:43:06.7, 68°.23N×18°.40W, h10km*
MOS ***28*** *07:43:10.3±1.3, 67°.90N×18°.74W, h10km, mb4.4/11, Error ellipse: s-maj=15.5km s-min=7.6km az=90.7*
NEIC ***28*** *07:43:11.9±1.9, 67°.95N±0°.06×18°.9W±0°.2, h10km±1km, mb4.4/28, Error ellipse: s-maj=13.5km s-min=10.4km az=75.0*
IDC ***28*** *07:43:11.1±0.6, 67°.90N×18°.45W, h0km, mb3.9/16, mbtmp3.9/20, ML3.7/4, MS3.8/61, Error ellipse: s-maj=19.4km s-min=13.5km az=12.0*
GCMT ***28*** *07:43:12.9±0.3, 68°.08N±0°.06×18°.44W±0°.07, h13km±1km, MW4.6/73, Moment Tensor Solution. s13,c16; s73,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.07±.11; Mθθ=0.14±.07; Mφφ=0.92±.07; Mrθ=0.15±.30; Mφφ=0.15±.04; Mθr=0.13±.18; Best double couple: M0=1.03000×10^16 NP1:φs=5.00000°, δ41.00000°, λ-99.00000°. NP2: φs=196.00000°, δ50.00000°, λ-82.00000°. Principal axes: T 0.9650, Plg4.0000°, Azm281.0000°; N 0.1300, Plg6.0000°, Azm11.0000°; P -1.0950, Plg83.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DNK ***28*** *07:43:12.2±0.9, 67°.82N×18°.88W, h0km±19km*
ISC 28 07:43:12.0±0.4, 67°.86N±0°.05×18°.71W±0°.05, h10km, n166, σ1§54/135, mb4.3/44, MS3.8/50, 6C-1D, Iceland region

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

comp=Z,25nm,1.4s
HFS Hagfors 15.99 103 Pn **Pn 07 46 56.4 -0.3**
comp=Z,0.3nm,0.3s,baz=318,slow=10,SNR=7.9
HFS LR LR 07 52 19.0
comp=Z,215nm,20.3s,baz=328,slow=34
KEV Kevo 16.34 62 Pn **P 07 47 01.1 -2.7**
KEV IAmb IAmb 07 47 24.6
comp=Z,58nm,1.5s
KEV Kevo 16.34 62 P **P 07 47 01.2 -2.7**
KEV pmax pmax
comp=Z,58nm,1.5s
APA Apatity 19.29 66⇓ *i* P **Pn 07 47 36.5 -1.0**
APA *i* 07 51 11.6
APA pmax pmax
comp=Z,15nm,1.3s
LVZ Lovozero 19.58 65 P **Pn 07 47 39.1 -2.0**
LVZ Lovozero 19.58 65 *i* P **Pn 07 47 41.8 +0.8**
LVZ pmax pmax
comp=Z,34nm,1.3s
FIA1 FINESS Array S 19.81 87 P **Pn 07 47 41.6 -2.1**
FIA1 IAmb IAmb 07 47 53.6
comp=Z,19nm,0.9s
FINES FINESS Array B 19.81 87 P **Pn 07 47 41.6 -2.1**
FINES FINESS Array B 19.81 87 P **Pn 07 47 42.9 -0.8**
comp=Z,0.3nm,0.3s,baz=305,slow=6.7,SNR=9.8
comp=Z,2.7nm,0.6s
FRB Frobisher Bay 20.36 282 P Pn 07 47 49.2 -0.9
comp=Z,2.9nm,0.9s,baz=52,slow=11,SNR=4.7
FRB LR LR 07 55 12.8
comp=Z,229nm,19.8s,baz=64,slow=35
comp=Z,2.9nm,0.9s
EUNU Eureka 20.56 333 P **P 07 47 46.5 -3.8**
VSU Vasula 22.02 93 *ce* P **P 07 48 05.6 -0.5**
VSU pmax pmax
comp=Z,21nm,1.1s
CLF Chambon-Foret 22.56 141 P **P 07 48 12.0 +0.1**
RES Resolute Bay 23.63 320 P **P 07 48 21.8 -0.8**
RES Resolute Bay 23.63 320 LR LR 07 57 36.3
comp=Z,272nm,21.0s,baz=82,slow=37
RES Resolute Bay 23.63 320 P **P 07 48 21.8 -0.8**
RES pmax pmax
comp=Z,8.0nm,1.5s
SUW Suwalki 24.00 104 P **P 07 48 26.8 +0.5**
SUW Suwalki 24.00 104 P **P 07 48 26.8 +0.5**
SUW pmax pmax
comp=Z,49nm,1.2s
NACGM Naroch 24.65 99 *e* P **P 07 48 35.5 +3.2**
baz=320
KHC Kasperske Hory 24.74 123 *i* P **P 07 48 34.0 +0.8**
KHC pmax pmax
comp=Z,2.0nm,1.0s
GERES GERESS Array B 25.03 123 P **P 07 48 36.2 +0.3**
GERES GERESS Array B 25.03 123 P **P 07 48 36.9 +1.0**
comp=Z,0.5nm,0.4s,baz=66,slow=20,SNR=1.7
comp=Z,0.5nm,0.4s
GERES GERESS Array B 25.03 123 P **P 07 48 36.2 +0.3**
KLMR Klimovskoe 25.23 78 *e* P **P 07 48 35.4 -2.0**
MNK Minsk 25.37 98 *i* P **P 07 48 36.8 -2.0**
comp=E,8.0nm,0.6s
MNK *i* P **P 07 48 36.8 -2.0**
comp=N,9.0nm,0.7s
MNK *i* P **P 07 48 36.8 -2.0**
comp=Z,5.0nm,0.7s,baz=320
MNK *i* PP **PnPn 07 49 11.6 -1.8**
MNK *i* PPP PPP 07 49 19.6
MNK *i* S **S 07 53 04.2 -0.6**
MNK *i* SS **SnSn 07 53 57.0 +1.1**
MNK *i* SSS SSS 07 54 10.8
MNK *i* LQ LQ 07 55 25.2
MNK *i* LR LR 07 57 06.9
MNK *i* LRM MLR 07 58 50.6
comp=Z,177nm,13.5s
MNK *i* LRM MLR 07 58 56.4
comp=N,216nm,18.0s
MNK *i* LRM MLR 07 59 22.5
comp=E,153nm,19.0s
MNK Minsk 25.37 98 *i* P **P 07 48 36.8 -2.0**
MNK *i* PPP PPP 07 49 19.5
MNK *i* S **S 07 53 04.1 -0.6**
MNK *i* SSS SSS 07 54 10.8
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=N,9.0nm,0.7s
MNK pmax pmax
comp=E,8.0nm,0.6s
MNK MLR MLR
comp=Z,177nm,13.0s
MNK MLR MLR
comp=N,216nm,18.0s
MNK MLR MLR
comp=E,153nm,19.0s
SCHQ Schefferville 25.69 264 LR LR 07 58 09.5
comp=E,344nm,19.9s,baz=48,slow=35
DAVOX Davos/Dischmat 25.72 131 LR LR 07 59 45.6
comp=E,302nm,18.3s,baz=310,slow=39
OBN Obninsk 28.18 89 LR LR 07 59 56.5
comp=E,427nm,18.2s,baz=354,slow=36
AKASG Malin Array Be 28.88 102 P **P 07 49 11.2 +0.8**
AKASG LR LR 08 00 00.7
comp=E,246nm,20.9s,baz=278,slow=35
comp=E,0.3nm,0.4s
ESDC Sonseca Array 29.39 156 LR LR 08 00 36.9
comp=E,134nm,18.7s,baz=330,slow=36
KIRV Kirov 30.43 74 LR LR 08 00 09.2
comp=E,181nm,19.2s,baz=333,slow=34
MLR Muntele Rosu 32.07 111 LR LR 08 04 00.8
comp=E,193nm,18.2s,baz=116,slow=39
A36M Sachs Harbour 32.23 326 P **P 07 49 38.3 -1.4**
A36M IAmb IAmb 07 49 49.5
comp=Z,5.3nm,1.1s
NRIK Noril'sk 34.16 37 P **P 07 49 57.4 +0.8**
comp=Z,0.9nm,0.2s,baz=328,slow=2.6,SNR=2.0
NRIK LR LR 08 05 28.7
comp=Z,144nm,18.1s,baz=318,slow=39
comp=Z,0.9nm,0.2s
NRIK Noril'sk 34.16 37⇑ *i* P **P 07 49 57.8 +1.2**
BELG Belogornoye 34.46 83 *i* P **P 07 50 00.7 +1.4**
BELG pmax pmax
comp=Z,1.0nm,0.9s
ARTI Arti 35.30 70 P **P 07 50 05.4 -1.2**
comp=Z,1.8nm,0.5s,baz=301,slow=5.9,SNR=3.2
comp=Z,1.8nm,0.5s
VAE Valguarnera 35.59 132 LR LR 08 05 03.1
comp=Z,100nm,18.2s,baz=322,slow=37
MDT Midelt 36.04 160 LR LR 08 04 23.3
comp=Z,62nm,21.1s,baz=8.5,slow=35
YKA Yellowknife Ar 36.72 309 P **P 07 50 20.1 +1.5**
comp=Z,0.8nm,0.7s,baz=41,slow=8.6,SNR=16
YKA PcP **PcP 07 52 42.5 +1.7**
comp=Z,0.6nm,1.0s,baz=36,slow=2.5,SNR=4.0
YKA LR LR 08 04 35.0
comp=Z,182nm,18.3s,baz=165,slow=35
comp=Z,0.8nm,0.7s
INK Inuvik 36.88 326 LR LR 08 06 09.3
comp=Z,112nm,18.6s,baz=248,slow=37
F31M Tsiigehtchic 37.64 325 P **P 07 50 25.9 -0.5**
E28M Babbage River 37.85 329 P **P 07 50 27.8 -0.4**
E28M IAmb IAmb 07 50 31.0
comp=Z,7.1nm,1.2s
G31M Satah River 38.19 325 P **P 07 50 31.0 +0.1**
D25K Kavik River 38.48 333 P **P 07 50 33.4 -0.1**
D25K IAmb IAmb 07 50 37.0
comp=Z,5.3nm,0.9s
SADO Sadowa 38.49 265 LR LR 08 05 39.2
comp=Z,208nm,19.0s,baz=57,slow=35
G30M tAoh Zraii Nji 38.56 326 P **P 07 50 34.4 +0.2**
TIXI Tiksi 39.07 16⇑ *i* P **P 07 50 40.4 +2.1**
TIXI pmax pmax
comp=Z,8.0nm,2.0s
KIV Kislovodsk 39.55 95 *e* P **P 07 50 43.4 +0.7**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,123nm,16.0s
G27K Doyon Strip 39.82 329 P **P 07 50 44.0 -0.7**
KBZ Khabaz 39.82 95 LR LR 08 07 30.4
comp=Z,196nm,19.3s,baz=334,slow=37
BR131 Keskin Array S 39.86 108 *e* P **P 07 50 44.3 -1.2**
F25K Christian Rive 39.88 331 P **P 07 50 44.8 -0.5**
AKTO Aktyubinsk 39.91 76 LR LR 08 06 22.7
comp=Z,179nm,19.7s,baz=246,slow=35
E24K Your Creek 39.95 333 P **P 07 50 45.1 -0.7**
ULM Lac du Bonnet 40.22 284 LR LR 08 06 45.4
comp=Z,282nm,20.7s,baz=32,slow=35
ULM Lac du Bonnet 40.22 284 *e* P **P 07 50 49.4 +1.2**
I29M Ogilvie Camp, 40.39 326 P **P 07 50 48.7 -0.7**
I29M IAmb IAmb 07 50 51.9
comp=Z,8.3nm,1.0s
BRVK Borovoye 42.11 64 *e* P **P 07 51 03.6 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,2.4s
BVAR Borovoye Array 42.18 64 LR LR 08 08 39.1
comp=Z,81nm,19.6s,baz=320,slow=36
ILAR Eielson Array 42.63 330 P **P 07 51 09.2 +1.3**
comp=Z,2.4nm,1.1s,baz=18,slow=6.5,SNR=14
ILAR PcP **PcP 07 52 59.4 -0.1**
comp=Z,0.5nm,1.0s,baz=341,slow=1.9,SNR=3.3
comp=Z,2.4nm,1.1s
L27K Beaver Creek, 43.15 326 P **P 07 51 11.9 -0.1**
L27K IAmb IAmb 07 51 15.7
comp=Z,9.1nm,1.1s
NEA2 Nenana 43.20 331 P **P 07 51 12.2 -0.2**
NEA2 IAmb IAmb 07 51 15.3
comp=Z,5.2nm,1.0s
GNI Garni 43.60 96 LR LR 08 10 15.8
comp=Z,217nm,18.1s,baz=326,slow=37
MCK McKinley 43.96 331 **P 07 51 17.2 -1.3**
MCK McKinley 43.96 331 P **P 07 51 17.2 -1.3**
MCK pmax pmax
comp=Z,24nm,1.4s
BILL Bilibino 44.32 357⇑ *i* P **P 07 51 22.8 +1.4**
BILL pmax pmax
comp=Z,3.0nm,1.1s
DLBC Dease Lake 44.39 316 LR LR 08 08 38.6
comp=Z,241nm,19.1s,baz=73,slow=34
ZALV Zalesovo Beam 46.05 53 PcP **PcP 07 53 11.6 +0.3**
comp=Z,1.0nm,0.6s,baz=332,slow=3.4,SNR=3.3
ZALV Zalesovo Beam 46.05 53 *i* P **P 07 51 33.7 -1.5**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
MMAI Mount Meron Ar 46.49 110 LR LR 08 14 55.7
comp=Z,57nm,18.0s,baz=304,slow=41
KURK Kurchatov 46.88 60 P **P 07 51 40.2 -1.5**
KURK 07 53 13.4
KURBB Kurchatov Arra 46.93 60 P **P 07 51 40.2 -1.9**
comp=Z,0.7nm,0.8s,baz=329,slow=7.7,SNR=4.8
KURBB PcP **PcP 07 53 13.4 -1.1**
comp=Z,0.3nm,0.3s,baz=314,slow=3.6,SNR=2.3
KURBB LR LR 08 09 54.9
comp=Z,82nm,20.8s,baz=176,slow=34
comp=Z,0.7nm,0.8s
TKL Tuckaleechee C 48.15 262 LR LR 08 11 40.1
comp=Z,426nm,18.3s,baz=16,slow=35
YAK Yakutsk 48.40 19 *i* P **P 07 51 54.4 +1.0**
YAK pmax pmax
comp=Z,5.0nm,0.7s
SEY Seymchan 49.34 5⇑ *i* P **P 07 52 01.8 +1.2**
SEY pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 49.35 299 LR LR 08 13 20.9
comp=Z,227nm,21.9s,baz=342,slow=37
EIL Elat 49.37 113 LR LR 08 14 29.3
comp=Z,32nm,20.5s,baz=249,slow=38
MSO Missoula 49.53 296 P **P 07 52 01.6 -0.8**
MSO IAmb IAmb 07 52 08.5
comp=Z,6.8nm,1.4s
MK31 Makanchi Array 51.49 60 P **P 07 52 17.9 +0.8**
MK31 Makanchi Array 51.49 60 P **P 07 52 17.9 +0.8**
MK31 pmax pmax
comp=Z,1.0nm,1.2s
MKAR Makanchi Array 51.49 60 P **P 07 52 17.4 +0.3**
MKAR Makanchi Array 51.49 60 P **P 07 52 17.0 -0.1**
comp=Z,0.8nm,1.0s,baz=359,slow=5.8,SNR=4.7
comp=Z,0.8nm,1.0s
PD31 Pinedale Array 51.54 290 P **P 07 52 17.8 0.0**
PD31 IAmb IAmb 07 52 20.2
comp=Z,5.0nm,1.1s
PDAR Pinedale Array 51.54 290 P **P 07 52 18.2 +0.4**
comp=Z,1.3nm,0.9s,baz=55,slow=5.6,SNR=9.1
PDAR LR LR 08 14 20.0
comp=Z,130nm,21.0s,baz=354,slow=36
comp=Z,1.3nm,0.9s
E07A Sunnyside 51.74 300 P **P 07 52 17.9 -1.1**
E07A IAmb IAmb 07 52 41.8
comp=Z,9.1nm,1.5s
AAK Ala-Archa 52.49 68 LR LR 08 13 33.8
comp=Z,112nm,20.7s,baz=342,slow=35
MA2 Magadan 52.63 7 P **P 07 52 25.5 +0.1**
MA2 IAmb IAmb 07 52 29.0
comp=Z,5.4nm,0.9s
MA2 Magadan 52.63 7 P **P 07 52 26.1 +0.7**
comp=Z,1.5nm,0.3s,baz=4.8,slow=12,SNR=4.5
MA2 LR LR 08 12 16.7
comp=Z,35nm,20.1s,baz=351,slow=33
comp=Z,1.5nm,0.3s
MA2 Magadan 52.63 7 *ce* P **P 07 52 26.7 +1.3**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
TORD Torodi Ar. Bea 56.28 156 P **P 07 52 53.4 +1.0**
comp=Z,1.5nm,0.3s,baz=347,slow=10,SNR=1.4
comp=Z,1.5nm,0.3s
YBH Yreka Blue Hor 56.97 300 LR LR 08 17 32.3
comp=Z,167nm,18.1s,baz=356,slow=36
ANMO Albuquerque 57.32 283 LR LR 08 17 16.1
comp=Z,160nm,20.3s,baz=190,slow=36
SONM Songino Array 57.52 41 LR LR 08 19 22.5
comp=Z,34nm,18.3s,baz=5.5,slow=38
R11B Troy Canyon, C 57.58 292 P **P 07 53 00.9 -0.8**
R11B IAmb IAmb 07 53 05.1
comp=Z,5.1nm,1.1s
SJG San Juan 58.01 236 LR LR 08 13 50.7
comp=Z,45nm,21.6s,baz=41,slow=32
NVAR Mina Array Bea 58.45 295 P **P 07 53 10.1 +2.3**
comp=Z,0.8nm,0.9s,baz=62,slow=4.2,SNR=4.7
NVAR LR LR 08 18 46.6
comp=Z,368nm,18.9s,baz=351,slow=36
comp=Z,0.8nm,0.9s
SHEM Shemya Is, Ala 59.35 351 LR LR 08 19 13.8
comp=Z,42nm,19.3s,baz=248,slow=36
HEH HeiHe 59.50 25 *eP* **P 07 53 16.3 +1.7**
KLR Kul'dur 61.14 22 LR LR 08 19 30.4
comp=Z,26nm,19.2s,baz=1.5,slow=36
TXAR Lajitas Array 61.31 277 P **P 07 53 28.6 +1.2**
comp=Z,1.2nm,1.2s,baz=35,slow=4.6,SNR=5.0
TXAR LR LR 08 19 26.9
comp=Z,95nm,19.6s,baz=31,slow=35
comp=Z,1.2nm,1.2s
DBIC Dimbokro 61.82 164 LR LR 08 19 53.1
comp=Z,50nm,20.1s,baz=354,slow=36
PFO Pinyon Flats O 62.15 291 LR LR 08 21 03.9
comp=Z,198nm,18.2s,baz=26,slow=36
GTA Gaotai 63.58 49 *eP* **P 07 53 43.0 +0.5**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GOMU GeErMu 65.05 55 P **P 07 53 54.3 +1.8**
GOMU pP sP 07 54 02.8 +6.2
GOMU sP pP 07 54 06.0 +10
GOMU pmax pmax
comp=Z,6.0nm,1.2s
HHC Hu-ho-hao-te 65.35 40 *eP* **P 07 53 53.8 -0.2**
HHC pmax pmax
comp=Z,11nm,0.7s
LZH Lanzhou 67.82 48 *eP* **P 07 54 05.3 -4.7**
LZH sP pP 07 54 11.5 -1.5
LZH pmax pmax
comp=Z,13nm,1.0s
SDV Santo Domingo 68.10 237 LR LR 08 18 56.1
comp=Z,54nm,21.8s,baz=70,slow=31
LPIG La Paz 68.52 281 LR LR 08 25 43.8
comp=Z,91nm,19.4s,baz=340,slow=37
CMIG Matias Romero 69.09 264 LR LR 08 25 32.9
comp=Z,61nm,19.7s,baz=10,slow=37
JTS Las Juntas de 71.67 252 LR LR 08 24 21.7
comp=Z,44nm,19.5s,baz=113,slow=34
MJAR Matsushiro Arr 74.47 19 P **P 07 54 49.9 -0.1**
comp=Z,3.1nm,0.9s,baz=339,slow=6.8,SNR=4.0
comp=Z,3.1nm,0.9s
PZH PanZhiHua 76.20 53 P **P 07 55 01.8 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.2s
CMAR Chiang Mai Arr 82.86 58 P **P 07 55 36.2 -0.2**
comp=Z,0.9nm,0.3s,baz=334,slow=4.8,SNR=5.8
CMAR LR LR 08 35 21.8
comp=Z,16nm,18.1s,baz=85,slow=38
comp=Z,0.9nm,0.3s
ATAH Atahualpa 85.66 239 LR LR 08 31 12.9
comp=Z,22nm,21.7s,baz=359,slow=34
PALK Pallekele 86.85 79 LR LR 08 37 19.4
comp=Z,77nm,18.1s,baz=312,slow=37
LSZ Lusaka 89.56 135 LR LR 08 37 10.1
comp=Z,29nm,19.9s,baz=232,slow=36
LBTB Lobatse 98.22 140 LR LR 08 44 05.1
comp=Z,41nm,18.5s,baz=291,slow=37
ASAR Alice Springs 132.68 35 PKP **PKiKP 08 02 26.9 -0.6**
comp=Z,0.1nm,0.4s,baz=333,slow=2.3,SNR=2.1

IDC 28 07:43:21.6±4.6, 4°.44S×150°.77E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=159.2km s-min=36.5km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.22**	**225**	P	P	07 48 19.7	-0.3
	0.4nm,0.8s,baz=53,slow=10,SNR=5.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**25.11**	**219**	P	P	07 48 48.4	0.0
	0.7nm,0.8s,baz=48,slow=8.5,SNR=6.4						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**78.73**	**319**	P	P	07 55 25.1	-0.9
	0.1nm,0.4s,baz=115,slow=7.1,SNR=2.0						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.27**	**288**	PKPbc	PKPbc	08 03 11.7	+0.8
	0.7nm,0.3s,baz=91,slow=2.2,SNR=0.5						

---

*NOU **28** 07:47:18.1, 39°.23S×174°.86E, h187km, MLv3.3/13, North Island, New Zealand*
*WEL **28** 07:47:20.3±0.8, 39°.S±5°.×17°.5E±°., h176km±5km, M2.8/14, MLv2.8/14, Error ellipse: s-maj=7.5km s-min=6.1km az=48.9, confirmed*

ISC 28 07:47:14.4±1.8, 39°.13S±0°.06×174°.81E±0°.05, h219km±9km, n95, σ1°.78/107, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.04**	**280**	P	**Pn**	**07 47 43.9**	**+1.1**
VRZ				S	**Sn**	**07 48 02.9**	**-1.9**
VRZ	**Vera Road**	**0.04**	**280**	P	**Pn**	**07 47 44.1**	**+1.3**
PKVZ	**Pokaka**	**0.45**	**111**	P	**Pn**	**07 47 45.1**	**+1.5**
PKVZ				S	**Sn**	**07 48 04.8**	**-1.5**
PKVZ	**Pokaka**	**0.45**	**111**	P	**Pn**	**07 47 45.1**	**+1.5**
LREZ	**Lake Rotokare**	**0.45**	**223**	P	**Pn**	**07 47 45.6**	**+2.1**
DREZ	**Durham Road**	**0.47**	**263**	P	**Pn**	**07 47 45.4**	**+1.8**
PREZ	**Palmer Road**	**0.55**	**247**	P	**Pn**	**07 47 45.7**	**+1.8**
PREZ				S	**Sn**	**07 48 06.3**	**-0.6**
PREZ	**Palmer Road**	**0.55**	**247**	P	**Pn**	**07 47 45.8**	**+1.9**
NEZ	**North Egmont**	**0.57**	**256**	P	**Pn**	**07 47 45.9**	**+1.8**
NEZ				S	**Sn**	**07 48 05.8**	**-1.3**
NEZ	**North Egmont**	**0.57**	**256**	P	**Pn**	**07 47 46.0**	**+2.0**
MTVZ	**Mangateitei**	**0.57**	**116**	P	**Pn**	**07 47 45.3**	**+1.3**
MTVZ				S	**Sn**	**07 48 02.9**	**-4.3**
MTVZ	**Mangateitei**	**0.57**	**116**	P	**Pn**	**07 47 45.6**	**+1.6**
COVZ	**Chateau Observ**	**0.58**	**97**	P	**Pn**	**07 47 45.7**	**+1.6**
FWVZ	**Far West T-bar**	**0.59**	**102**	P	**Pn**	**07 47 45.4**	**+1.1**
FWVZ	**Far West T-bar**	**0.59**	**102**	P	**Pn**	**07 47 45.9**	**+1.6**
TRVZ	**Turoa**	**0.60**	**106**	P	**Pn**	**07 47 45.6**	**+1.2**
TRVZ				S	**Sn**	**07 48 05.9**	**-1.7**
TRVZ	**Turoa**	**0.60**	**106**	P	**Pn**	**07 47 46.1**	**+1.7**
WTVZ	**West Tongariro**	**0.61**	**89**	P	**Pn**	**07 47 45.9**	**+1.6**
HIZ	**Hauiti**	**0.62**	**4**	P	**Pn**	**07 47 45.4**	**+1.2**
HIZ	**Hauiti**	**0.62**	**4**	S	**Sn**	**07 48 06.2**	**-1.1**
HIZ	**Hauiti**	**0.62**	**4**	P	**Pn**	**07 47 45.4**	**+1.2**
NGZ	**Ngauruhoe**	**0.62**	**94**	P	**Pn**	**07 47 46.0**	**+1.7**
NNVZ	**North Ngauruho**	**0.63**	**90**	P	**Pn**	**07 47 46.1**	**+1.7**
KHEZ	**Kahui Hut**	**0.64**	**255**	P	**Pn**	**07 47 46.4**	**+2.1**
KHEZ	**Kahui Hut**	**0.64**	**255**	S	**Sn**	**07 48 08.1**	**+0.6**
KHEZ	**Kahui Hut**	**0.64**	**255**	P	**Pn**	**07 47 46.4**	**+2.1**
WAZ	**Wanganui**	**0.64**	**167**	P	**Pn**	**07 47 46.3**	**+2.1**
WAZ				S	**Sn**	**07 48 06.3**	**-1.2**
PKE	**Pukeiti**	**0.64**	**264**	P	**Pn**	**07 47 46.0**	**+1.8**
WNVZ	**Wahianoa**	**0.65**	**108**	P	**Pn**	**07 47 46.2**	**+1.8**
KRVZ	**Karewarewa**	**0.65**	**87**	P	**Pn**	**07 47 46.1**	**+1.7**
KRVZ				S	**Sn**	**07 48 06.1**	**-1.6**
SNVZ	**South Ngauruho**	**0.65**	**95**	P	**Pn**	**07 47 46.3**	**+1.8**
KATZ	**Kakaramea**	**0.71**	**78**	P	**Pn**	**07 47 46.6**	**+1.9**
MOVZ	**Moawhango**	**0.79**	**111**	P	**Pn**	**07 47 46.5**	**+1.5**
MOVZ				S	**Sn**	**07 48 06.0**	**-2.8**
TSZ	**Takapari Road**	**1.29**	**136**	P	**Pn**	**07 47 50.2**	**+2.2**
KWHZ	**Kaweka Forest**	**1.29**	**104**	P	**Pn**	**07 47 50.4**	**+2.2**
BKZ	**Black Stump Fm**	**1.31**	**92**	P	**Pn**	**07 47 49.9**	**+1.6**
KRHZ	**Kereru**	**1.32**	**113**	P	**Pn**	**07 47 50.6**	**+2.3**
PNHZ	**Pukenui**	**1.33**	**126**	P	**Pn**	**07 47 50.5**	**+2.0**
PNHZ				S	**Sn**	**07 48 13.6**	**-1.4**
POWZ	**Post Office Ro**	**1.46**	**150**	P	**Pn**	**07 47 51.3**	**+1.9**
POWZ				S	**Sn**	**07 48 14.7**	**-2.2**
MCHZ	**McNeill Hill**	**1.50**	**103**	P	**Pn**	**07 47 52.5**	**+2.7**
NMHZ	**Naumai**	**1.56**	**89**	P	**Pn**	**07 47 53.0**	**+2.7**
DVHZ	**Dannevirke**	**1.57**	**138**	P	**Pn**	**07 47 52.3**	**+1.9**
DVHZ				S	**Sn**	**07 48 16.3**	**-2.3**
MTHZ	**Maungataniwha**	**1.61**	**81**	P	**Pn**	**07 47 52.4**	**+1.6**
LIRZ	**Lichensteins R**	**1.67**	**48**	P	Pn	07 48 04.7	+13
PRWZ	**Pori Road**	**1.68**	**148**	P	**Pn**	**07 47 51.1**	**-0.2**
PRWZ				S	**Sn**	**07 48 18.7**	**-1.6**
OGWZ	**Otaki Gorge**	**1.71**	**171**	P	**Pn**	**07 47 53.6**	**+2.1**
OGWZ				S	**Sn**	**07 48 18.7**	**-2.0**
KAHZ	**Kahuranaki**	**1.73**	**113**	P	**Pn**	**07 47 54.5**	**+2.6**
RTZ	**Ruatahuna**	**1.77**	**74**	P	**Pn**	**07 47 53.2**	**+1.0**
RAHZ	**Arahi**	**1.79**	**84**	P	**Pn**	**07 47 54.5**	**+2.2**
DUWZ	**D'Urville Isla**	**1.80**	**202**	P	**Pn**	**07 47 54.2**	**+1.8**
DUWZ				S	**Sn**	**07 48 21.4**	**-0.9**
PRHZ	**Porangahau**	**1.81**	**129**	P	**Pn**	**07 47 55.0**	**+2.5**
PXZ	**Pawanui**	**1.83**	**120**	P	**Pn**	**07 47 55.0**	**+2.4**
HOWZ	**Holdsworth Sta**	**1.85**	**163**	P	**Pn**	**07 47 54.5**	**+1.6**
BFZ	**Birch Farm**	**1.91**	**145**	P	**Pn**	**07 47 55.2**	**+1.9**
BFZ	**Birch Farm**	**1.91**	**145**	S	**Sn**	**07 48 21.8**	**-2.1**
BFZ	**Birch Farm**	**1.91**	**145**	P	**Pn**	**07 47 55.3**	**+1.9**
URZ	**Urewera**	**2.00**	**65**	P	**Pn**	**07 47 55.7**	**+1.4**
URZ	**Urewera**	**2.00**	**65**	S	**Sn**	**07 48 23.7**	**-1.8**
URZ	**Urewera**	**2.00**	**65**	P	**Pn**	**07 47 55.5**	**+1.2**
TCW	**Tory Channel**	**2.12**	**191**	P	**Pn**	**07 47 57.5**	**+2.1**
WEL	**Wellington**	**2.15**	**181**	P	**Pn**	**07 47 57.4**	**+1.6**
SNZO	**South Karori**	**2.18**	**182**	S	**Sn**	**07 48 27.1**	**-1.7**
MWZ	**Matawai**	**2.27**	**70**	P	**Pn**	**07 47 58.7**	**+1.6**
BHW	**Baring Head**	**2.28**	**179**	P	**Pn**	**07 47 58.8**	**+1.8**
RIGZ	**Rimuhau**	**2.34**	**81**	P	**Pn**	**07 47 59.9**	**+2.0**
NNZ	**Nelson**	**2.35**	**207**	P	**Pn**	**07 47 59.3**	**+1.5**
TKNZ	**Takaka Hill**	**2.37**	**216**	P	**Pn**	**07 47 59.0**	**+1.0**
TUWZ	**Tuamarina**	**2.39**	**196**	P	**Pn**	**07 48 00.6**	**+2.4**
PRGZ	**Paritu Road**	**2.41**	**86**	P	**Pn**	**07 48 00.7**	**+2.2**
MHGZ	**Mahia Peninsul**	**2.41**	**91**	P	**Pn**	**07 48 01.1**	**+2.5**
QRZ	**Quartz Range**	**2.43**	**225**	P	**Pn**	**07 47 59.7**	**+1.0**
QRZ	**Quartz Range**	**2.43**	**225**	P	Pn	07 48 31.7	+33
QRZ	**Quartz Range**	**2.43**	**225**	P	**Pn**	**07 47 59.7**	**+1.0**
TKGZ	**Te Karaka**	**2.48**	**75**	P	**Pn**	**07 48 01.5**	**+2.3**
RUGZ	**Raukumara Rang**	**2.54**	**64**	P	**Pn**	**07 48 00.8**	**+0.8**
TWGZ	**Tauwhareparae**	**2.66**	**70**	P	**Pn**	**07 48 01.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.68**	**195**	P	**Pn**	**07 48 03.6**	**+2.3**
HAZ	**Te Kaha**	**2.71**	**61**	P	**Pn**	**07 48 02.9**	**+1.1**
MRNZ	**Matariki Terra**	**2.75**	**214**	P	**Pn**	**07 48 03.2**	**+1.0**
THZ	**Tophouse**	**3.00**	**208**	P	**Pn**	**07 48 06.3**	**+1.3**
WMGZ	**Waiomatatini S**	**3.12**	**66**	P	**Pn**	**07 48 08.0**	**+1.6**
KHZ	**Kahutara**	**3.42**	**196**	P	**Pn**	**07 48 12.0**	**+2.2**
KHZ	**Kahutara**	**3.42**	**196**	P	Pn	07 48 51.4	+42
KHZ	**Kahutara**	**3.42**	**196**	P	**Pn**	**07 48 11.5**	**+1.7**
DSZ	**Denniston Nort**	**3.47**	**220**	P	**Pn**	**07 48 11.6**	**+1.1**
GVZ	**Greta Valley S**	**4.06**	**199**	P	**Pn**	**07 48 19.0**	**+1.5**
LTZ	**Lake Taylor**	**4.12**	**207**	P	**Pn**	**07 48 19.7**	**+1.3**
INZ	**Inchbonnie**	**4.40**	**214**	P	**Pn**	**07 48 22.9**	**+1.2**
OXZ	**Oxford**	**4.68**	**206**	P	**Pn**	**07 48 25.9**	**+0.7**
MQZ	**McQueen's Vall**	**4.85**	**199**	P	**Pn**	**07 48 27.5**	**+0.2**
RACZ	**Rakaia**	**5.01**	**203**	P	**Pn**	**07 48 29.8**	**+0.6**
MHCZ	**Mount Hutt**	**5.03**	**208**	P	**Pn**	**07 48 30.3**	**+0.7**
WACZ	**Wakanui South**	**5.30**	**204**	P	**Pn**	**07 48 33.5**	**+0.6**
GCSZ	**Gaunt Creek Bo**	**5.37**	**217**	P	**Pn**	**07 48 35.0**	**+1.2**
ARCZ	**Arundel**	**5.53**	**208**	P	**Pn**	**07 48 36.7**	**+0.9**

WEL 28 07:47:25.8±0.9, 41°.S±3°.×17°.5E±°., h20km±7km, M1.7/7, ML1.8/10, MLv1.7/7, Error ellipse: s-maj=4.1km s-min=3.3km az=122.5, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.20**	**237**	P	Pb	07 47 32.5	+1.7
CAW				S	Sb	07 47 37.2	+3.1
HOWZ	**Holdsworth Sta**	**0.20**	**59**	P	Pb	07 47 32.4	+1.6
HOWZ				S	Sb	07 47 37.1	+2.8
OGWZ	**Otaki Gorge**	**0.20**	**334**	P	Pb	07 47 32.5	+1.6
OGWZ				S	Sb	07 47 36.8	+2.6

MTW	**Mount Morrison**	**0.23 134**	P	Pb	07 47 32.8	+1.6
KIW	**Kapiti Island**	**0.32 296**	P	Pn	07 47 34.1	-1.2
KIW			S	Sn	07 47 39.9	-1.4
PAWZ	**Paruwai Farm**	**0.40 165**	P	Pb	07 47 35.1	+1.0
PAWZ			S	Sn	07 47 42.0	-1.3
MRZ	**Mangatainoka R**	**0.41 33**	P	Pb	07 47 35.3	+1.0
MRZ			S	Sn	07 47 41.9	-1.5
MSWZ	**Moikau Station**	**0.42 184**	P	Pb	07 47 35.4	+0.9
MSWZ			S	Sn	07 47 42.3	-1.5
TMWZ	**Te Maipa**	**0.47 103**	P	Pn	07 47 36.5	-0.9
TMWZ			S	Sn	07 47 44.3	-0.8
TRWZ	**Traveller**	**0.50 143**	P	Pn	07 47 36.9	-0.9
TIWZ	**Tintock**	**0.51 64**	P	Pn	07 47 37.1	-0.8
TIWZ			S	Sn	07 47 44.8	-1.2
PLWZ	**Palliser**	**0.57 182**	P	Pb	07 47 37.7	+0.6
PLWZ			S	Sn	07 47 46.4	-1.2

*UCC **28** 07:57:00.1, 50˚.11N×1˚.20E, h0km, ML2.8, Explosion.*
*STR **28** 07:57:01.4±0.3, 50˚N±3˚×±˚, h0km, MLv3.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=29.0, preliminary*
ISC 28 07:56:59.6±1.2, 50˚.11N±0˚.05×1˚.18E±0˚.04, h0km, n80, σ1§10/80, 9D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.93**	**325**	Pg	**Pb**	**07 57 18.8**	**+0.2**
ELSH	**Elham, Standar**	**1.04**	**358**	Pg	**Pb**	**07 57 20.1**	**-0.3**
BOST	**Ostende**	**1.59**	**44**	*d*P	**Pn**	**07 57 29.3**	**+0.4**
BSKQ	**Steenkerk**	**1.93**	**73**	*d*P	**Pn**	**07 57 33.5**	**-0.2**
UCC	**Uccle**	**2.15**	**70**	*d*P	**Pn**	**07 57 36.7**	**+0.1**
LOUF	**Saint-Loup**	**2.16**	**229**	Pn	**Pn**	**07 57 37.7**	**+0.9**
DOU	**Dourbes**	**2.20**	**89**	Pn	**Pn**	**07 57 37.8**	**+0.4**
DOU	**Dourbes**	**2.20**	**89**	*d*P	**Pb**	**07 57 39.3**	**-0.9**
CLF	**Chambon-Foret**	**2.21**	**161**	Pn	**Pn**	**07 57 38.4**	**+0.9**
BMRD	**Maredsous**	**2.31**	**84**	*d*P	**Pn**	**07 57 38.9**	**0.0**
JSA	**Saint Aubin**	**2.37**	**248**	Pn	**Pn**	**07 57 40.4**	**+0.7**
RCHB	**Rochefort**	**2.60**	**87**	Pn	**Pn**	**07 57 43.2**	**+0.2**
BDSL	**Dessel**	**2.71**	**64**	*d*P	**Pn**	**07 57 44.6**	**+0.3**
PLEF	**Pleven - 22200**	**2.81**	**236**	Pn	**Pn**	**07 57 46.7**	**+0.9**
SAVF	**Savonnieres en**	**2.98**	**119**	Pn	**Pn**	**07 57 48.8**	**+0.7**
BHOU	**Houvegnez**	**3.11**	**84**	*d*P	**Pn**	**07 57 50.1**	**+0.2**
MEM	**Membach**	**3.13**	**79**	*d*P	**Pn**	**07 57 50.0**	**-0.2**
MEM				*d*P	Pb	07 57 50.1	-6.0
MCH1	**Michaelchurch**	**3.24**	**307**	Pn	**Pn**	**07 57 51.6**	**-0.1**
DYA	**Yadsworthy**	**3.29**	**278**	Pn	**Pn**	**07 57 52.4**	**0.0**
LOR	**Lormes**	**3.35**	**147**	Pn	**Pn**	**07 57 53.5**	**+0.2**
ROSF	**Rostrenen**	**3.42**	**240**	Pn	**Pn**	**07 57 54.7**	**+0.6**
MFF	**Saint Martin d**	**3.62**	**195**	Pn	**Pn**	**07 57 56.3**	**-0.7**
ETNF	**Estrennes**	**3.69**	**118**	Pn	**Pn**	**07 57 58.1**	**+0.2**
HTL	**Hartland**	**3.72**	**286**	Pn	**Pn**	**07 57 58.0**	**-0.3**
VOEL	**Voellerdingen**	**4.04**	**104**	Pn	**Pn**	**07 58 02.5**	**-0.2**
CCA1	**Carnmenellis**	**4.12**	**273**	Pn	**Pn**	**07 58 03.8**	**0.0**
CHIF	**Chize**	**4.12**	**196**	Pn	**Pn**	**07 58 03.7**	**-0.1**
CIEL	**Dossenheim-sur**	**4.23**	**105**	Pn	**Pn**	**07 58 06.0**	**+0.7**
AGO	**Saint Agoulin**	**4.27**	**161**	Pn	**Pn**	**07 58 06.1**	**+0.2**
RONF	**Ronchamp**	**4.33**	**122**	Pn	**Pn**	**07 58 07.5**	**+0.8**
ECH	**Echery**	**4.36**	**114**	Pn	**Pn**	**07 58 07.0**	**-0.1**
WLS	**Welschbruch**	**4.39**	**110**	Pn	**Pn**	**07 58 08.1**	**+0.6**
LEMB	**Lembach**	**4.42**	**102**	Pn	**Pn**	**07 58 08.1**	**+0.3**
VERF	**Verneugheol**	**4.45**	**168**	Pn	**Pn**	**07 58 08.4**	**0.0**
PLDF	**La Plantade**	**4.46**	**158**	Pn	**Pn**	**07 58 08.2**	**-0.3**
CHMF	**Charmoille**	**4.62**	**126**	Pn	**Pn**	**07 58 11.3**	**+0.6**
BRANT	**Les Verrieres**	**4.74**	**130**	Pn	**Pn**	**07 58 12.8**	**+0.5**
FRNF	**Fournols**	**4.82**	**168**	Pn	**Pn**	**07 58 13.2**	**-0.2**
BOURR	**Bourrignon**	**4.84**	**122**	Pn	**Pn**	**07 58 13.7**	**0.0**
COLF	**Collangettes**	**4.90**	**159**	Pn	**Pn**	**07 58 14.9**	**+0.3**
GIMEL	**St. Georges /**	**4.93**	**135**	Pn	**Pn**	**07 58 15.8**	**+0.8**
OG35	**Corcelles**	**5.02**	**142**	Pn	**Pn**	**07 58 16.8**	**+0.5**
LBL	**Lubilhac**	**5.08**	**163**	Pn	**Pn**	**07 58 17.1**	**+0.1**
TORNY	**Torny/Romont**	**5.09**	**129**	Pn	**Pn**	**07 58 18.0**	**+0.8**
BALST	**Balsthal**	**5.13**	**120**	Pn	**Pn**	**07 58 18.1**	**+0.4**
OGMY	**Moye**	**5.28**	**141**	Pn	**Pn**	**07 58 20.5**	**+0.7**
SSB	**Saint Sauveur**	**5.34**	**154**	Pn	**Pn**	**07 58 20.8**	**+0.2**
OGSM	**Saint Maurice**	**5.43**	**144**	Pn	**Pn**	**07 58 22.4**	**+0.5**
LEUC	**Leucamp**	**5.43**	**170**	Pn	**Pn**	**07 58 21.4**	**-0.5**
RSL	**Roselend**	**5.74**	**138**	Pn	**Pn**	**07 58 27.2**	**+1.0**
MONQ	**Montcuq**	**5.75**	**180**	Pn	**Pn**	**07 58 25.9**	**-0.2**
ESK	**Eskdalemuir**	**5.85**	**335**	Pn	**Pn**	**07 58 26.5**	**-1.1**
ORIF	**Oris-en-Rattie**	**6.09**	**147**	Pn	**Pn**	**07 58 32.1**	**+1.2**
TRAV	**Traversella**	**6.38**	**134**	Pn	**Pn**	**07 58 36.7**	**+1.8**
CRAS	**Crastes**	**6.40**	**183**	Pn	**Pn**	**07 58 34.3**	**-0.8**
RRL	**Rocca Remolon**	**6.43**	**142**	Pn	**Pn**	**07 58 37.5**	**+1.7**
RSP	**Reno Superiore**	**6.45**	**138**	Pn	**Pn**	**07 58 38.2**	**+2.4**
CREF	**Crivoux**	**6.68**	**144**	Pn	**Pn**	**07 58 40.7**	**+1.6**
BHB	**Bricherasio**	**6.69**	**140**	Pn	**Pn**	**07 58 41.3**	**+2.2**
OGAG	**Argentiere**	**6.73**	**145**	Pn	**Pn**	**07 58 37.5**	**-2.3**
JAUF	**Jausiers**	**6.83**	**144**	Pn	**Pn**	**07 58 43.4**	**+2.2**
PZZ	**Stroppo**	**6.91**	**142**	Pn	**Pn**	**07 58 44.9**	**+2.7**
BLAF	**les Blancs**	**7.00**	**150**	Pn	**Pn**	**07 58 44.6**	**+1.2**
ORDF	**Ordiarp**	**7.05**	**193**	Pn	**Pn**	**07 58 43.2**	**-0.8**
OSSF	**Osses**	**7.06**	**195**	Pn	**Pn**	**07 58 43.2**	**-0.9**
PYLO	**Lourdes**	**7.07**	**187**	Pn	**Pn**	**07 58 42.9**	**-1.4**
LABF	**Labassere**	**7.11**	**187**	Pn	**Pn**	**07 58 43.6**	**-1.3**
EALK	**Alkurruntz**	**7.14**	**196**	Pn	**Pn**	**07 58 44.7**	**-0.6**
ATE	**Arette**	**7.15**	**191**	Pn	**Pn**	**07 58 43.4**	**-2.0**
IRAF	**Chalets d'Irat**	**7.24**	**193**	Pn	**Pn**	**07 58 45.9**	**-0.9**
MELF	**Melles**	**7.25**	**182**	Pn	**Pn**	**07 58 46.6**	**-0.2**
ARTF	**Artigues**	**7.25**	**152**	Pn	**Pn**	**07 58 47.7**	**+0.8**
VIEF	**Viey**	**7.27**	**187**	Pn	**Pn**	**07 58 50.2**	**+3.0**
SALSA	**La sagne**	**7.28**	**147**	Pn	**Pn**	**07 58 49.0**	**+1.7**
SPIF	**crte de Spivo**	**7.33**	**143**	Pn	**Pn**	**07 58 50.2**	**+2.2**
SALF	**Salau**	**7.35**	**180**	Pn	**Pn**	**07 58 47.8**	**-0.5**
GBOS	**Grotte di Boss**	**7.42**	**140**	Pn	**Pn**	**07 58 51.3**	**+2.1**
CANF	**Canfranc**	**7.44**	**190**	Pn	**Pn**	**07 58 51.3**	**+1.7**
CALF	**Calern**	**7.48**	**146**	Pn	**Pn**	**07 58 51.3**	**+1.3**
ECHI	**Chisagues Biel**	**7.48**	**186**	Pn	**Pn**	**07 58 51.7**	**+1.7**

*NOU **28** 07:59:43.1, 19˚.56S×169˚.39E, h16km, MLv4.3/10, Vanuatu Islands*
*IDC **28** 07:59:45.4±3.6, 19˚.79S×169˚.33E, h155km±39km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=100.6km s-min=32.6km az=147.0*
ISC 28 07:59:44.5±1.5, 19˚.7S±0˚.2×169˚.4E±0˚.3, h150km, n14, σ1§13/14, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.15**	**216**	P	**Pn**	**08 00 20.8**	**-0.7**
MARNC	**Mare, Loyalty**	**2.15**	**216**	S	**Sn**	**08 00 48.6**	**-1.3**
DVP	**Devils Point**	**2.32**	**330**	P	Pn	08 00 18.3	-5.1
YATNC	**Mamie plateau,**	**3.29**	**225**	P	**Pn**	**08 00 34.5**	**-1.1**
OUENC	**Ouen Island, N**	**3.58**	**222**	P	**Pn**	**08 00 40.4**	**+1.1**
OUENC	**Ouen Island, N**	**3.58**	**222**	S	**Sn**	**08 01 24.3**	**+2.5**
DZM	**Mont Dzumac**	**3.61**	**230**	P	**Pn**	**08 00 40.0**	**+0.1**
	88nm,0.4s,baz=118,slow=19,SNR=349						
DZM				S	**Sn**	**08 01 21.9**	**-0.8**
	22nm,0.3s,baz=108,slow=23,SNR=1.2						
DZM	**Mont Dzumac**	**3.61**	**230**	P	**Pn**	**08 00 39.9**	**+0.1**
ONTNC	**Ouen Toro**	**3.75**	**227**	P	**Pn**	**08 00 42.4**	**+0.8**
WRA	**Warramunga Arr**	**32.95**	**264**	P	**P**	**08 06 04.2**	**-1.0**
	0.8nm,1.1s,baz=96,slow=8.0,SNR=1.4						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**33.16**	**257**	P	**P**	**08 06 06.8**	**-0.2**
	1.0nm,0.5s,baz=83,slow=8.9,SNR=14						
	1.0nm,0.5s						
PETK	**Petropavlovsk-**	**73.25**	**353**	P	**P**	**08 10 59.9**	**+0.9**
	2.3nm,0.8s,baz=182,slow=6.4,SNR=1.8						
	2.3nm,0.8s						
ILAR	**Eielson Array**	**90.67**	**17**	P	**P**	**08 12 29.3**	**-0.4**
	0.2nm,0.6s,baz=226,slow=6.0,SNR=1.6						
	0.2nm,0.6s						
ARCES	**ARCESS Array B**	**125.59**	**345**	PKP	**PKPdf**	**08 18 27.5**	**+0.1**
	4.0nm,0.9s,baz=38,slow=1.9,SNR=5.9						

*NEIC **28** 08:08:26.3±0.7, 60˚.22N±0˚.03×152˚.19W±0˚.05, h92km±4km, Error ellipse: s-maj=5.1km s-min=0.7km az=138.0*
AEIC 28 08:08:27.4±0.8, 60˚.22N±0˚.03×152˚.18W±0˚.05, h88km±4km, ML2.6, ML2.9/154(NEIC), **Error ellipse: s-maj=5.1km s-min=0.5km az=138.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.26**	**239**		Pn	08 08 40.3	-0.2
O20K					Sn	08 08 50.4	+0.3
RED	**Redoubt Volcan**	**0.36**	**305**		Pn	08 08 40.5	-0.6
RED					Sn	08 08 50.9	-0.3
RDT	**Redoubt**	**0.38**	**343**		Pn	08 08 40.5	-0.7
RDT					Sn	08 08 50.7	-0.6
RDWB	**Redoubt West**	**0.43**	**310**		Pn	08 08 40.9	-0.7
RDWB					Sn	08 08 51.5	-0.6
RDJH	**Redoubt Jeurge**	**0.49**	**321**		Pn	08 08 41.4	-0.6
RDJH					Sn	08 08 52.4	-0.4
NCT	**North Crescent**	**0.51**	**313**		Pn	08 08 41.4	-0.7
ILS	**Iliamna Low So**	**0.51**	**240**		Pn	08 08 41.5	-0.7
ILS					Sn	08 08 52.9	-0.2
ILSW	**Iliamna Southw**	**0.53**	**245**		Pn	08 08 41.4	-1.0
ILSW				IAML		08 08 54.0	
	comp=E,264nm,0.7s						
ILSW				IAML		08 08 54.2	
	comp=N,297nm,0.7s						
ILSW	**Iliamna Southw**	**0.53**	**245**		Sn	08 08 53.0	-0.5
HOM	**Homer**	**0.62**	**154**	Pn	Pn	08 08 42.7	-0.2
CAPN	**Captain Cook N**	**0.75**	**42**		Pn	08 08 45.2	+1.0
P19K	**Oil Pt**	**0.77**	**224**		Pn	08 08 43.7	-0.8
P19K				IAML		08 08 58.4	
	comp=E,502nm,0.4s						
P19K				IAML		08 08 59.9	
	comp=N,349nm,0.4s						
P19K	**Oil Pt**	**0.77**	**224**		Sn	08 08 57.2	0.0
BRLK	**Bradley Lake**	**0.79**	**124**		Pn	08 08 43.8	-0.9
BRLK				IAML		08 08 58.4	
	comp=E,531nm,0.1s						
BRSE	**Bradley Lake S**	**0.87**	**123**		Pn	08 08 44.7	-0.7
SPU	**Mount Spurr**	**0.97**	**4**		Pn	08 08 45.8	-0.9
SPU				IAML		08 09 02.1	
	comp=N,139nm,0.2s						
SPU				IAML		08 09 02.5	
	comp=E,173nm,0.4s						
SPU	**Mount Spurr**	**0.97**	**4**		Sn	08 09 00.5	-0.6
CKL	**Chakachamna La**	**0.99**	**356**		Pn	08 08 46.3	-0.6
SLKM	**Skilak Lake**	**1.02**	**72**	Pn	Pn	08 08 46.0	-1.2
SLKM	**Skilak Lake**	**1.02**	**72**		Sn	08 09 01.3	-0.7
AU22	**Augustine Moun**	**1.03**	**216**		Pn	08 08 46.8	-0.5
SPBG	**Spurr Blockage**	**1.05**	**355**		Pn	08 08 47.2	-0.5
SPBG					Sn	08 09 02.2	-0.6
AUCH	**Augustine Cone**	**1.07**	**217**		Pn	08 08 47.3	-0.5
O19K	**Port Alsworth**	**1.07**	**270**		Pn	08 08 46.7	-0.9
O19K				IAML		08 09 03.4	
	comp=E,301nm,0.4s						
O19K	**Port Alsworth**	**1.07**	**270**		Sn	08 09 02.2	-0.7
SPCG	**Spurr Capps Gl**	**1.08**	**4**		Pn	08 08 47.6	-0.5
O22K	**Cooper Landing**	**1.25**	**77**		Pn	08 08 49.0	-0.9
N19K	**Bonanza Creek**	**1.29**	**299**		Pn	08 08 49.4	-1.1
N19K				IAML		08 09 07.4	
	comp=N,92nm,0.6s						
STLK	**Strandline Lak**	**1.30**	**7**		Pn	08 08 49.9	-0.7
STLK				IAML		08 09 09.4	
	comp=E,148nm,0.5s						
STLK				IAML		08 09 10.3	
	comp=N,138nm,0.4s						
FIS	**Fire Island**	**1.34**	**45**		Pn	08 08 51.4	+0.4
FIS				IAML		08 09 16.4	
	comp=E,185nm,0.5s						
FIS				IAML		08 09 18.2	
	comp=N,216nm,0.5s						
SEW	**Seward**	**1.37**	**93**	Pn	Pn	08 08 49.6	-1.7
Q19K	**Cape Douglas,**	**1.49**	**211**		Pn	08 08 52.0	-0.9
Q19K				IAML		08 09 17.8	
	comp=E,124nm,1.2s						
Q19K				IAML		08 09 33.9	
	comp=N,88nm,0.8s						
RC01	**Rabbit Creek A**	**1.49**	**53**	Pn	Pn	08 08 52.5	-0.4
O18K	**Koktuh Hills**	**1.56**	**258**		Pn	08 08 52.7	-1.1
O18K				IAML		08 09 13.0	
	comp=N,67nm,0.6s						
O18K				IAML		08 09 13.4	
	comp=E,65nm,1.2s						
SYI	**Shuyak Island**	**1.61**	**184**	Pn	Pn	08 08 53.5	-1.0
SYI				IAML		08 09 15.8	
	comp=E,122nm,0.4s						
SYI				IAML		08 09 18.5	
	comp=N,106nm,0.5s						
P18K	**Big Mountain,**	**1.75**	**243**	Pn	Pn	08 08 54.8	-1.4
SKT	**Skwentna**	**1.80**	**10**		Pn	08 08 55.8	-1.1
SKT				IAML		08 09 20.9	
	comp=E,50nm,0.4s						
SKT				IAML		08 09 26.6	
	comp=N,48nm,0.3s						
M22K	**Willow**	**1.84**	**32**		Pn	08 08 57.1	-0.3
N18K	**Kilae Creek**	**1.90**	**286**		Pn	08 08 56.4	-1.8
M19K	**Big River Lodg**	**2.01**	**329**		Pn	08 08 58.9	-0.7
M19K	**Big River Lodg**	**2.01**	**329**	IAML		08 09 24.3	
	comp=E,37nm,0.8s						
PWL	**Port Wells**	**2.01**	**70**		Pn	08 08 57.8	-1.8
PWL				IAML		08 09 25.5	
	comp=E,156nm,0.4s						
PMR	**Palmer**	**2.03**	**46**		Pn	08 08 58.8	-1.1
PMR				IAML		08 09 24.4	
	comp=E,55nm,0.3s						
PMR				IAML		08 09 24.7	
	comp=N,91nm,0.1s						
KAHG	**Katmai Hook Gl**	**2.11**	**216**		Pn	08 09 00.4	-0.6
KNK	**Knik Glacier**	**2.19**	**55**		Pn	08 09 00.8	-1.1
M18K	**Stony River**	**2.19**	**307**		Pn	08 09 00.9	-1.2
GHO	**Glory Hole Cre**	**2.23**	**44**		Pn	08 09 01.4	-1.2
GHO				IAML		08 09 30.1	
	comp=E,104nm,0.5s						
GHO				IAML		08 09 32.4	
	comp=N,74nm,0.4s						
L19K	**White Mountain**	**2.36**	**328**		Pn	08 09 03.6	-0.7
CUT	**Chulitna**	**2.38**	**22**		Pn	08 09 04.1	-0.5
CUT				IAML		08 09 37.8	
	comp=E,99nm,0.4s						
CUT				IAML		08 09 47.7	
	comp=N,70nm,0.4s						
P17K	**Kvichak River**	**2.39**	**246**		Pn	08 09 03.6	-1.0
P23K	**Montague Islan**	**2.40**	**93**		Pn	08 09 03.6	-1.2
L20K	**Farewell, AK**	**2.42**	**341**		Pn	08 09 04.5	-0.5
KAKN	**Katmai Knife C**	**2.43**	**219**		Pn	08 09 04.6	-0.7
KVTA	**Katmai Vly 10**	**2.44**	**222**		Pn	08 09 04.8	-0.5
KDAK	**Kodiak Island**	**2.45**	**185**	Pn	Pn	08 09 03.8	-1.7
KDAK				IAML		08 09 33.5	
	comp=N,48nm,0.4s						
KDAK				IAML		08 09 33.8	
	comp=N,50nm,0.2s						
SML	**Sawmill**	**2.46**	**48**		Pn	08 09 04.5	-1.2
SML				IAML		08 09 34.9	
	comp=E,56nm,1.0s						
SML				IAML		08 09 34.9	
	comp=N,55nm,0.7s						
N17K	**Nushagak Hills**	**2.51**	**279**		Pn	08 09 05.0	-1.2
O17K	**Koliganek Bris**	**2.51**	**262**		Pn	08 09 05.1	-1.1
KABR	**Katmai Barrier**	**2.54**	**216**		Pn	08 09 04.8	-1.8
ACHA	**Angle Creek He**	**2.58**	**220**		Pn	08 09 06.6	-0.7
GLI	**Glacier Island**	**2.60**	**73**		Pn	08 09 05.9	-1.5
GLI				IAML		08 09 36.5	
	comp=E,63nm,0.8s						
GLI				IAML		08 09 37.0	
	comp=N,53nm,0.3s						
ANCK	**Angle Creek**	**2.64**	**222**		Pn	08 09 07.7	-0.4
M23K	**Glacier View**	**2.69**	**52**		Pn	08 09 07.8	-0.9
PPLA	**Purkeypile**	**2.69**	**360**		Pn	08 09 08.7	-0.1
HIN	**Hinchinbrook I**	**2.83**	**84**		Pn	08 09 09.6	-1.0
HIN	**Hinchinbrook I**	**2.83**	**84**	IAML		08 09 41.9	
	comp=E,47nm,0.3s						
HIN				IAML		08 09 42.4	
	comp=N,49nm,0.3s						
M17K	**Holitna River**	**2.84**	**297**		Pn	08 09 09.7	-0.9
M17K	**Holitna River**	**2.84**	**297**	IAML		08 09 44.1	
	comp=E,18nm,0.8s						
M17K				IAML		08 09 44.3	
	comp=N,28nm,0.7s						
SCM	**Sheep Creek Mo**	**2.87**	**53**		Pn	08 09 10.1	-1.0
SCM				IAML		08 09 46.3	
	comp=E,48nm,0.4s						
SCM				IAML		08 09 47.7	
	comp=N,46nm,0.7s						
R18K	**Karluk**	**2.91**	**205**		Pn	08 09 10.2	-1.4
R18K	**Karluk**	**2.91**	**205**	IAML		08 09 45.4	
	comp=E,62nm,0.3s						
R18K				IAML		08 09 45.6	
	comp=N,46nm,0.2s						
L18K	**Granite Mounta**	**2.97**	**315**		Pn	08 09 11.3	-1.1
O16K	**Kokwok River B**	**3.04**	**261**	Pn	Pn	08 09 12.1	-1.3
Q23K	**Middleton Isla**	**3.05**	**102**	Pn	Pn	08 09 12.7	-0.8
OHAK	**Old Harbor**	**3.06**	**191**		Pn	08 09 10.6	-3.0
OHAK				IAML		08 09 47.2	
	comp=N,30nm,0.4s						
OHAK				IAML		08 09 48.9	
	comp=E,18nm,0.9s						
EYAK	**Cordova Ski Ar**	**3.21**	**81**	Pn	Pn	08 09 13.8	-1.9
CAST	**Castle Rocks**	**3.22**	**1**		Pn	08 09 14.9	-0.8
K20K	**Telida**	**3.28**	**345**		Pn	08 09 16.2	-0.4
TTA	**Tatalina**	**3.28**	**328**	Pn	Pn	08 09 15.8	-0.9
KLU	**Klutina**	**3.32**	**65**		Pn	08 09 15.6	-1.7
KLU				IAML		08 09 54.3	
	comp=E,53nm,0.2s						
TRF	**Thorofare Moun**	**3.37**	**15**		Pn	08 09 17.5	-0.5
TRF				IAML		08 10 17.7	
	comp=N,17nm,1.1s						
TRF				IAML		08 10 18.6	
	comp=E,19nm,1.2s						
KTH	**Kantishna Hill**	**3.40**	**10**		Pn	08 09 17.7	-0.6
KTH				IAML		08 10 20.7	
	comp=E,12nm,0.9s						
KTH				IAML		08 10 21.1	
	comp=N,13nm,0.9s						
M16K	**Timber Creek**	**3.44**	**287**		Pn	08 09 17.8	-1.0
M16K	**Timber Creek**	**3.44**	**287**	IAML		08 11 41.4	
	comp=E,11nm,1.4s						
M24K	**Tolsona, Glenn**	**3.48**	**54**		Pn	08 09 17.3	-1.9
M24K				IAML		08 10 01.1	
	comp=N,33nm,0.8s						
L17K	**Donlin**	**3.53**	**306**		Pn	08 09 18.9	-1.1
RND	**Reindeer**	**3.57**	**25**		Pn	08 09 19.8	-0.7
RND				IAML		08 10 20.0	
	comp=E,9.2nm,1.5s						
GOAT	**Goat Mountain**	**3.72**	**81**		Pn	08 09 21.2	-1.3
RAGM	**Ragged Mountai**	**3.74**	**84**	Pn	Pn	08 09 20.9	-2.0
SII	**Sitkinak Islan**	**3.81**	**197**	Pn	Pn	08 09 22.2	-1.6
SII				IAML		08 10 05.2	
	comp=E,35nm,1.0s						
MCK	**McKinley**	**3.85**	**22**		Pn	08 09 23.9	-0.4
L16K	**Owhat River**	**3.86**	**296**	Pn	Pn	08 09 23.8	-0.6
K17K	**Iditarod**	**3.86**	**313**		Pn	08 09 23.7	-0.8
K17K	**Iditarod**	**3.86**	**313**	IAML		08 10 37.4	
	comp=E,12nm,1.5s						
K17K				IAML		08 11 22.5	
	comp=N,8.3nm,1.5s						
KAIM	**Kayak Island**	**3.90**	**91**		Pn	08 09 23.4	-1.6
HMT	**Hamilton**	**3.95**	**85**		Pn	08 09 23.9	-1.8
N25K	**Chitina, Valde**	**3.96**	**66**		Pn	08 09 24.1	-1.8
N25K	**Chitina, Valde**	**3.96**	**66**	IAML		08 10 09.0	
	comp=E,23nm,0.4s						
N25K				IAML		08 10 10.6	
	comp=N,21nm,0.7s						
J20K	**Nowinta River**	**4.08**	**348**		Pn	08 09 26.5	-0.9
J19K	**Poorman**	**4.12**	**338**	Pn	Pn	08 09 26.4	-1.6
BERG	**Berg Lake**	**4.22**	**84**		Pn	08 09 28.3	-1.0
BERG	**Berg Lake**	**4.22**	**84**	IAML		08 10 17.1	
	comp=N,22nm,0.9s						
BERG				IAML		08 10 24.0	
	comp=E,22nm,1.0s						
PAX	**Paxson**	**4.23**	**46**		Pn	08 09 28.5	-1.1
WASW	**Wrangell South**	**4.25**	**63**		Pn	08 09 29.0	-1.0
GLB	**Gilahina Butte**	**4.28**	**70**		Pn	08 09 28.6	-1.6
GLB	**Gilahina Butte**	**4.28**	**70**	IAML		08 10 16.8	
	comp=N,11nm,0.3s						
GLB				IAML		08 10 16.8	
	comp=E,10nm,0.7s						
NEA2	**Nenana**	**4.63**	**17**		Pn	08 09 33.3	-1.5
WRH	**Wood River Hil**	**4.68**	**22**		Pn	08 09 34.5	-1.0
K24K	**Donnelly Dome**	**4.70**	**37**		Pn	08 09 36.5	+0.6
L15K	**Ungalak Mounta**	**4.77**	**292**		Pn	08 09 35.7	-1.0
HDA	**Harding Lake**	**4.87**	**28**		Pn	08 09 37.0	-1.1
HDA				IAML		08 10 32.5	
	comp=E,13nm,0.5s						
HDA				IAML		08 10 33.7	
	comp=N,17nm,1.4s						
CCB	**Clear Creek Bu**	**4.89**	**23**		Pn	08 09 37.4	-1.0
CCB				IAML		08 10 34.7	
	comp=E,3.9nm,1.2s						
KIAG	**Kiagna River**	**4.90**	**77**		Pn	08 09 37.7	-1.0
BALM	**Baldy**	**4.92**	**76**		Pn	08 09 37.8	-1.0
RIDG	**Independent Ri**	**4.95**	**41**		Pn	08 09 38.7	-0.5
RIDG				IAML		08 10 36.9	
	comp=E,8.1nm,0.9s						
RIDG				IAML		08 10 38.1	
	comp=N,10nm,1.5s						
K15K	**Wolf Creek Mou**	**4.97**	**299**		Pn	08 09 38.8	-0.7
K15K	**Wolf Creek Mou**	**4.97**	**299**	IAML		08 10 50.0	

ASAR			S	Sn	08 26 23.6	-11
	0.4nm,0.5s,baz=359,slow=26,SNR=1.8					
	5.0nm,0.7s					
MBWA	**Marble Bar**	**21.47 217**	P	**P**	**08 23 19.0**	**0.0**
OOD	**Oodnadatta**	**23.58 175**	P	**P**	**08 23 44.0**	**+2.8**
CMAR	**Chiang Mai Arr**	**40.72 305**	P	**P**	**08 26 11.3**	**-0.1**
	1.3nm,0.3s,baz=113,slow=8.1,SNR=4.6					
	1.3nm,0.3s					
MKAR	**Makanchi Array**	**67.81 325**	P	**P**	**08 29 28.9**	**+0.5**
	0.5nm,0.4s,baz=106,slow=6.5,SNR=11					
	0.5nm,0.4s					
KURBB	**Kurchatov Arra**	**71.95 327**	P	**P**	**08 29 56.5**	**+2.7**
	0.5nm,0.7s,baz=127,slow=5.3,SNR=6.4					
	0.5nm,0.7s					
BVAR	**Borovoye Array**	**77.54 327**	P	**P**	**08 30 29.7**	**+3.5**
	0.8nm,0.5s,baz=111,slow=7.9,SNR=4.4					
	0.8nm,0.5s					

DJA 28 08:21:51.3±0.3,6°S±4°×10°5E±°,h10km,M4.2/13,mb4.5/2, MLv4.1/13,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.74**	**137**	P	Pg	08 22 05.7	0.0
CGJI				S	Sb	08 22 16.1	-0.5
SBJI	**Serang**	**0.95**	**93**	P	Pg	08 22 09.0	-0.5
SBJI				S	Sb	08 22 22.9	+0.5
SKJI	**Sukabumi**	**1.65**	**124**	P	Pn	08 22 20.7	+0.3
SKJI				S	Sn	08 22 42.2	+0.5
MDSI	**Maura Dua**	**1.86**	**328**	P	Pn	08 22 23.8	+0.5
MDSI				S	Sb	08 22 48.8	0.0
CNJI	**Cibinong**	**2.29**	**123**	P	Pn	08 22 29.1	-0.1
LEM	**Lembang**	**2.54**	**107**	P	Pb	08 22 36.2	-0.8
MNAI	**Manna**	**2.79**	**307**	P	Pn	08 22 34.2	-1.9
CMJI	**Cimerak**	**3.66**	**118**	P	Pn	08 22 47.3	-0.8
TPI	**Tanjungpandan**	**4.11**	**37**	P	Pn	08 22 52.5	-1.8
PPSI	**Pulau Pagai**	**6.11**	**302**	P	Pn	08 23 21.4	-0.4
	37nm,0.7s						
PCJI	**Pacitan**	**6.31**	**110**	P	Pn	08 23 25.7	+1.2

*IDC **28** 08:46:55.9±1.2,5°.67S×130°.95E,h0km,mb4.2/5, mbtmp4.4/8,ML4.6/3,MS3.2/2,Error ellipse: s-maj=88.3km s-min=18.7km az=74.0*
*NEIC **28** 08:47:10.1±1.1,6°.01S±0°.06×130°.6E±0°.1,h113km±7km, mb4.4/13,Error ellipse: s-maj=19.4km s-min=8.7km az=91.0*
*DJA **28** 08:47:13.0±0.3,6°S±3°×13°1E±°,h147km±7km,M4.7/14, mB5.2/6,mb4.8/9,MLv4.7/14,Mw(mB)4.6/6*
ISC 28 08:47:10.8±0.5,6°.07S±0°.04×130°.67E±0°.06,h124km,n72, σ1°95/74,mb4.4/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.72**	**334**	P	**Pn**	**08 47 43.6**	**+2.6**
BNDI	**Bandanaira**	**1.72**	**334**	P	**Pn**	**08 47 43.2**	**+2.2**
BNDI				S	**Sn**	**08 48 07.0**	**+2.9**
SAUI	**Saumlaki**	**2.00**	**162**	Pn	**Pn**	**08 47 43.9**	**-0.6**
SAUI				Sn	**Sn**	**08 48 10.3**	**+0.1**
SAUI	**Saumlaki**	**2.00**	**162**	P	Pn	08 47 49.7	+5.3
MSAI	**Masohi**	**3.22**	**327**	P	**Pn**	**08 48 00.5**	**+0.5**
MSAI				S	**Sn**	**08 48 36.3**	**-1.8**
FAKI	**Fak Fak**	**3.51**	**27**	Pn	**Pn**	**08 48 03.7**	**-0.2**
FAKI				Sn	**Sn**	**08 48 43.4**	**-1.6**
FAKI	**Fak Fak**	**3.51**	**27**	P	**Pn**	**08 48 04.4**	**+0.5**
FAKI	**Fak Fak**	**3.51**	**27**	P	**Pn**	**08 48 04.0**	**+0.1**
KMPI	**Kaimana, Papua**	**3.86**	**52**	P	**Pn**	**08 48 10.4**	**+1.9**
SWI	**Sorong**	**5.21**	**7**	P	**Pn**	**08 48 26.5**	**-0.1**
	1.3nm6μm188nm,0.6s						
RKPI	**Ransiki, Papua**	**5.73**	**38**	P	**Pn**	**08 48 35.1**	**+1.5**
SANI	**Sanana**	**6.14**	**310**	P	**Pn**	**08 48 41.9**	**+2.7**
SANI	**Sanana**	**6.14**	**310**	P	**Pn**	**08 48 39.5**	**+0.3**
DRS	**Darwin Rock St**	**6.32**	**178**	P	**Pn**	**08 48 43.3**	**+1.7**
DRS	**Darwin Rock St**	**6.32**	**178**	S	**Sn**	**08 49 51.2**	**-1.3**
MTN	**Manton Dam**	**6.74**	**176**	Pn	**Pn**	**08 48 48.7**	**+1.4**
MTN	**Manton Dam**	**6.74**	**176**	P	**Pn**	**08 48 48.9**	**+1.6**
MTN	**Manton Dam**	**6.74**	**176**	S	**Sn**	**08 50 03.0**	**+0.2**
KDU	**Kakadu**	**6.81**	**165**	P	**Pn**	**08 48 49.3**	**+1.1**
KDU	**Kakadu**	**6.81**	**165**	S	**Sn**	**08 50 02.1**	**-2.2**
BAKI	**Biak**	**7.28**	**48**	P	**Pn**	**08 48 57.9**	**+3.4**
	0.7nm2μm252nm,1.0s						
SOEI	**Soe**	**7.32**	**240**	Pn	**Pn**	**08 48 55.8**	**+0.6**
SOEI	**Soe**	**7.32**	**240**	P	**Pn**	**08 48 57.8**	**+2.6**
SOEI	**Soe**	**7.32**	**240**	S	**Sn**	**08 50 16.8**	**-0.1**
SOEI	**Soe**	**7.32**	**240**	P	**Pn**	**08 48 57.0**	**+1.8**
	0.4nm50nm,0.7s						
KNRA	**Kununurra**	**9.73**	**191**	Pn	**Pn**	**08 49 26.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.92**	**202**	Pn	**Pn**	**08 50 07.1**	**-2.8**
FITZ	**Fitzroy Crossi**	**12.92**	**202**	Pn	**Pn**	**08 50 07.3**	**-2.6**
	4.2nm,0.3s,baz=36,slow=9.7,SNR=64						
FITZ				Sn	Sn	08 52 21.3	-11
	3.4nm,0.3s,baz=102,slow=12,SNR=10						
	9.2nm,0.3s						
PLAI	**Plampang**	**13.07**	**257**	P	**Pn**	**08 50 14.1**	**+2.2**
DAV	**Davao City (W)**	**14.01**	**339**	Pn	**Pn**	**08 50 21.1**	**-2.9**
DAV	**Davao City (W)**	**14.01**	**339**	LR	LR	08 55 44.1	
	comp=Z,188nm,18.2s,baz=350,slow=38						
WB0	**Warramunga Arr**	**14.09**	**165**	Pn	**Pn**	**08 50 22.9**	**-2.1**
WRA	**Warramunga Arr**	**14.24**	**166**	Pn	**Pn**	**08 50 24.2**	**-2.7**
WRA	**Warramunga Arr**	**14.24**	**166**	Pn	**Pn**	**08 50 24.5**	**-2.4**
	1.5nm,0.3s,baz=335,slow=13,SNR=42						
WRA				Sn	Sn	08 52 53.3	-11
	3.7nm,0.3s,baz=346,slow=22,SNR=8.0						
	2.4nm,0.4s						
WB2	**Warramunga Arr**	**14.24**	**166**	Pn	**Pn**	**08 50 24.5**	**-2.5**
COEN	**Coen**	**14.59**	**123**		**P**	**08 50 33.8**	**-0.6**
COEN	**Coen**	**14.59**	**123**	P	**Pn**	**08 50 33.2**	**+1.8**
QIS	**Mount Isa**	**16.81**	**150**	P	**P**	**08 51 00.6**	**+1.7**
AS31	**Alice Springs**	**17.77**	**170**		**P**	**08 51 10.4**	**+1.0**
AS31				IAmb	IAmb	08 51 12.6	
	comp=Z,8.7nm,0.4s						
ASAR	**Alice Springs**	**17.77**	**170**	P	**Pn**	**08 51 11.2**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=350,slow=11,SNR=239						
ASAR				S	**S**	**08 54 19.2**	**-8.6**
	comp=Z,4.2nm,0.8s,baz=350,slow=26,SNR=10						
	comp=Z,11nm,0.6s						
MBWA	**Marble Bar**	**18.36**	**214**		**P**	**08 51 15.4**	**-0.6**
MBWA	**Marble Bar**	**18.36**	**214**	P	**P**	**08 51 16.8**	**+0.8**
KKM	**Kota Kinabalu**	**18.79**	**310**	P	**P**	**08 51 19.6**	**-1.2**
KKM				IAmb	IAmb	08 51 28.7	
	comp=Z,12nm,0.8s						
WRKA	**Warakurna**	**18.99**	**187**	P	**Pn**	**08 51 24.8**	**-0.1**
OOD	**Oodnadatta**	**22.12**	**168**	P	**P**	**08 51 57.8**	**+1.5**
INKA	**Innaminka**	**23.58**	**157**	P	**P**	**08 52 11.9**	**+1.6**
FORT	**Forrest**	**24.70**	**185**	P	**P**	**08 52 21.7**	**+1.4**
FORT				IAmb	IAmb	08 52 39.7	
	comp=Z,15nm,0.9s						
FORT	**Forrest**	**24.70**	**185**	P	**P**	**08 52 22.3**	**+1.9**
LCRK	**Leigh Creek**	**25.27**	**165**	P	**P**	**08 52 27.5**	**+2.0**
BBOO	**Buckleboo**	**27.07**	**170**	P	**P**	**08 52 41.9**	**+0.1**
BBOO				IAmb	IAmb	08 53 23.9	
	comp=Z,5.5nm,0.8s						
BBOO	**Buckleboo**	**27.07**	**170**	P	**P**	**08 52 42.7**	**+0.9**
STKA	**Stephens Creek**	**27.63**	**160**	P	**P**	**08 52 47.1**	**+0.3**
STKA				IAmb	IAmb	08 52 57.4	
	comp=Z,25nm,1.3s						
STKA	**Stephens Creek**	**27.63**	**160**	P	**P**	**08 52 47.0**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=339,slow=9.7,SNR=8.0						
	comp=Z,1.5nm,0.3s						
CORO	**Coronation Par**	**38.17**	**160**	P	**P**	**08 54 19.6**	**+1.5**
PZH	**PanZhiHua**	**42.83**	**320**	P	**P**	**08 54 57.8**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
LZH	**Lanzhou**	**48.91**	**331**	*e*P	P	08 55 39.0	-5.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				LR	LR		
	comp=N,340nm,16.2s						
LZH				LR	LR		
	comp=E,270nm,15.5s						
LZH				LR	LR		
	comp=Z,220nm,18.2s						
HHC	**Hu-ho-hao-te**	**49.88**	**341**	*e*P	**P**	**08 55 54.0**	**+2.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONM	**Songino Array**	**57.78**	**341**	P	**P**	**08 56 48.2**	**-0.8**
SONM	**Songino Array**	**57.78**	**341**	P	**P**	**08 56 48.4**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=162,slow=6.1,SNR=4.6						
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**67.82**	**326**	P	**P**	**08 57 54.9**	**-0.6**
MK31				IAmb	IAmb	08 57 55.9	
	comp=Z,2.9nm,0.7s						
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**08 57 54.6**	**-0.9**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**08 57 55.1**	**-0.4**
	comp=Z,4.4nm,0.4s,baz=114,slow=8.4,SNR=71						
	comp=Z,4.4nm,0.4s						
MAKZ	**Makanchi**	**68.00**	**326**	P	**P**	**08 57 55.9**	**-0.8**
ZALV	**Zalesovo Beam**	**71.05**	**333**	P	**P**	**08 58 13.2**	**-2.0**
ZALV	**Zalesovo Beam**	**71.05**	**333**	P	**P**	**08 58 13.7**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=137,slow=7.1,SNR=3.8						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**72.08**	**328**	P	**P**	**08 58 20.1**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=127,slow=4.9,SNR=11						
	comp=Z,1.8nm,0.6s						
KURK	**Kurchatov**	**72.08**	**328**	P	**P**	**08 58 20.5**	**-0.9**
CHGR	**Chuyangaron**	**72.18**	**314**	P	**P**	**08 58 21.6**	**-0.8**
CHGR				IAmb	IAmb	08 58 22.4	
	comp=Z,5.5nm,0.7s						
KKAR	**Karatay Array**	**73.09**	**318**	P	**P**	**08 58 26.4**	**-1.2**
VNDA	**Vanda**	**73.28**	**173**	P	**P**	**08 58 30.2**	**+2.1**
MAW	**Mawson**	**76.05**	**201**	P	**P**	**08 58 47.6**	**+3.5**
ABKAR	**Akbulak array**	**82.20**	**321**	P	**P**	**08 59 16.1**	**-1.9**

*IDC **28** 08:47:19.2±0.8, 16°.50N×120°.94E,h0km,mb3.8/13, mbtmp3.8/13,ML4.9/1,MS3.2/12,Error ellipse: s-maj=28.0km s-min=13.7km az=86.0*
ISC 28 08:47:22.5±0.7,16°.50N±0°.10×121°.0E±0°.2,h21km,n22, σ0°92/15,mb3.7/13,MS3.1/9,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.38**	**181**	Pn	**Pn**	**08 48 00.7**	**+0.3**
	266nm,0.3s,baz=187,slow=1.9,SNR=14						
TGY				Lg	Lg	08 48 34.6	
	315nm,0.3s,baz=179,slow=21,SNR=3.6						
TGY				LR	LR	08 49 10.8	
	comp=Z,578nm,19.1s,baz=68,slow=47						
JOW	**Kunigami**	**12.32**	**32**	LR	LR	08 55 01.0	
	comp=Z,49nm,19.8s,baz=93,slow=37						
JNU	**Nakatsue**	**18.82**	**27**	LR	LR	08 59 00.1	
	comp=Z,56nm,21.0s,baz=203,slow=37						
CMAR	**Chiang Mai Arr**	**21.09**	**279**	P	**P**	**08 52 06.0**	**+0.3**
	1.1nm,0.3s,baz=88,slow=8.3,SNR=10						
CMAR				LR	LR	09 00 28.7	
	comp=Z,68nm,18.4s,baz=95,slow=38						
	1.1nm,0.3s						
KAPI	**Kappang**	**21.41**	**183**	LR	LR	09 00 38.9	
	comp=Z,72nm,21.7s,baz=5.5,slow=37						
KSRS	**Korea Array**	**21.76**	**15**	P	**P**	**08 52 12.5**	**-0.2**
	3.1nm,0.9s,baz=198,slow=11,SNR=8.3						
KSRS				LR	LR	09 02 14.6	
	comp=Z,38nm,18.2s,baz=210,slow=41						
	3.1nm,0.9s						
GUMO	**Guam**	**23.27**	**94**	LR	LR	08 59 17.7	
	comp=Z,55nm,21.9s,baz=327,slow=31						
PSI	**Prapat**	**25.59**	**240**	LR	LR	09 03 29.7	
	comp=Z,47nm,18.0s,baz=58,slow=38						
SONM	**Songino Array**	**33.47**	**342**	P	**P**	**08 54 00.9**	**+0.7**
	0.7nm,0.7s,baz=157,slow=9.2,SNR=6.3						
SONM				LR	LR	09 07 01.2	
	comp=Z,47nm,18.5s,baz=186,slow=35						
	0.7nm,0.7s						
KLR	**Kul'dur**	**33.81**	**13**	LR	LR	09 08 54.6	
	comp=Z,54nm,18.6s,baz=184,slow=38						
WRA	**Warramunga Arr**	**38.53**	**160**	P	**P**	**08 54 43.1**	**-0.5**
	2.0nm,0.6s,baz=331,slow=7.9,SNR=1.6						
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.97**	**322**	P	**P**	**08 55 28.5**	**+0.3**
	0.4nm,0.6s,baz=112,slow=9.7,SNR=4.8						
MKAR				PcP	**PcP**	**08 57 15.7**	**+1.9**
	0.3nm,0.6s,baz=100,slow=3.1,SNR=2.7						
	0.4nm,0.6s						
PETK	**Petropavlovsk-**	**46.47**	**30**	P	**P**	**08 55 47.3**	**-0.6**
	2.0nm,0.7s,baz=237,slow=6.9,SNR=1.3						
	2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**48.04**	**325**	P	**P**	**08 55 59.7**	**-0.4**
	0.8nm,0.6s,baz=122,slow=8.9,SNR=7.0						
	0.8nm,0.6s						
MA2	**Magadan**	**48.19**	**20**	LR	LR	09 15 48.5	
	comp=Z,28nm,20.1s,baz=295,slow=36						
TIXI	**Tiksi**	**55.34**	**3**	LR	LR	09 24 20.4	
	comp=Z,75nm,18.2s,baz=6.0,slow=40						
ILAR	**Eielson Array**	**76.14**	**26**	P	**P**	**08 59 09.7**	**+1.0**
	0.2nm,0.6s,baz=259,slow=5.3,SNR=5.8						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**77.98**	**331**	P	**P**	**08 59 17.9**	**-1.0**
	4.5nm,1.1s,baz=46,slow=6.0,SNR=2.2						
	4.5nm,1.1s						
AKASG	**Malin Array Be**	**78.50**	**320**	P	**P**	**08 59 21.0**	**-1.1**
	0.1nm,0.3s,baz=76,slow=3.9,SNR=2.4						
	0.1nm,0.3s						
HFS	**Hagfors**	**84.15**	**331**	P	**P**	**08 59 51.1**	**-0.8**
	2.7nm,0.9s,baz=117,slow=1.9,SNR=4.5						
	2.7nm,0.9s						
NOA	**NORSAR Array B**	**84.90**	**333**	P	**P**	**08 59 55.0**	**-0.7**
	0.4nm,0.6s,baz=65,slow=4.9,SNR=1.8						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**90.11**	**23**	P	**P**	**09 00 21.1**	**+0.4**
	0.2nm,0.6s,baz=302,slow=4.5,SNR=4.8						
	0.2nm,0.6s						

*JMA **28** 09:18:32.2±0.7,44°N±4°×14°8E±°,h0km,MV3.8/20,SE OFF ETOROFU*
*SKHL **28** 09:18:33.8±0.2,44°.50N×148°.40E,h45km±4km,mb4.6/2*
ISC 28 09:18:26.7±3.0,44°.28N±0°.09×148°.4E±0°.1,h5km±14km, n15,σ1°64/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.02**	**340**	*e*P	**Pn**	**09 18 47.8**	**+0.1**
KUR				AMB	AMB	09 18 48.2	
	230nm,0.2s						
KUR				*e*S	**Sg**	**09 18 58.3**	**-1.3**
KUR				A	A	09 18 59.4	
	1μm,0.3s						
KUR				A	A	09 18 59.4	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.82**	**263**	*i* P	**Pg**	**09 19 03.5**	**+1.9**
YUK				AMB	AMB	09 19 04.7	
	140nm,0.2s						
YUK				*i* S	**Sg**	**09 19 25.8**	**+0.6**
YUK				A	A	09 19 28.2	
	220nm,0.4s						
YUK				A	A	09 19 28.2	
	530nm,0.4s						
NEM2	**Nemuro 2**	**2.11**	**245**	P	**Pg**	**09 19 07.4**	**+0.3**
NEM2				S	**Sb**	**09 19 33.2**	**+1.4**
NMR	**Nemuro--Hokkai**	**2.12**	**246**	*i* P	**Pg**	**09 19 07.4**	**+0.1**
NMR				*e*S	**Sb**	**09 19 32.5**	**+0.5**
JRA	**Rausu**	**2.36**	**263**	P	**Pg**	**09 19 11.7**	**-0.3**
JRA				*e*S	**Sg**	**09 19 42.3**	**-0.4**
JNSB	**Nemuroshibetsu**	**2.48**	**260**	*e*P	**Pb**	**09 19 12.1**	**+0.4**
JKHN	**Kushirohamanak**	**2.62**	**244**	*e*S	**Sb**	**09 19 45.4**	**-1.0**
JNK	**Nakash**	**2.73**	**257**	*e*P	**Pb**	**09 19 16.9**	**+1.0**
AKK	**Akkeshi**	**2.85**	**245**	*e*P	**Pb**	**09 19 18.1**	**0.0**
JAK	**Akkeshi**	**2.96**	**246**	*e*P	**Pb**	**09 19 19.6**	**-0.3**
JAK				*e*S	**Sb**	**09 19 54.4**	**-1.9**
JTKR	**Abashiri--Toko**	**3.23**	**266**	*e*P	**Pb**	**09 19 25.9**	**+1.5**
JAR	**Ashorobuto**	**3.47**	**255**	*e*P	**Pb**	**09 19 28.9**	**+0.3**
JAR				*e*S	**Sb**	**09 20 09.1**	**-2.0**
JCH	**Churui**	**4.01**	**247**	*e*P	**Pb**	**09 19 36.6**	**-1.1**
JCH				*e*S	**Sb**	**09 20 23.1**	**-3.4**
JNBK	**Urakawa-nobuka**	**4.56**	**246**	*e*P	Pb	09 19 42.5	-4.7
JNBK				*e*S	**Sb**	**09 20 38.7**	**-3.7**
JANG	**Nango**	**6.40**	**235**	*e*S	**Sn**	**09 21 17.2**	**+2.1**

*NEIC **28** 09:34:06.1±0.5, 19°.68N±0°.10×64°.5W±0°.1,h35km±2km, ML2.8/22,Md3.6/8(RSPR),Error ellipse: s-maj=20.5km s-min=15.5km az=119.0*
*RSPR **28** 09:34:06.8, 19°.67N×64°.54W,h57km±13km,MD3.6/8*
ISC 28 09:34:01.7±3.5,19°.8N±0°.1×64°.36W±0°.04,h28km±26km, n45,σ1°36/51,10C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**2.15**	**221**		**Pn**	**09 34 36.9**	**+1.3**
HUMP					**Sn**	**09 35 00.5**	**-0.8**
HUMP	**Col San Antoni**	**2.15**	**221**	IAML		09 35 06.6	
	comp=E,61nm,0.2s						
HUMP	**Col San Antoni**	**2.15**	**221**	*e*P	**Pn**	**09 34 36.9**	**+1.3**
HUMP	**Col San Antoni**	**2.15**	**221**	*e*S	**Sn**	**09 35 00.5**	**-0.8**
GCPR	**Guaynabo City**	**2.19**	**229**		**Sn**	**09 35 01.6**	**-0.6**
GCPR	**Guaynabo City**	**2.19**	**229**	Pn	**Pn**	**09 34 35.0**	**-1.1**
GCPR	**Guaynabo City**	**2.19**	**229**	*e*S	**Sn**	**09 35 01.6**	**-0.6**
PDPR	**Patillas Dam,**	**2.35**	**222**	Pn	**Pn**	**09 34 40.1**	**+1.7**
PDPR				IAML		09 35 12.7	
	comp=N,35nm,0.1s						
PDPR	**Patillas Dam,**	**2.35**	**222⇑**	*e*P	**Pn**	**09 34 40.0**	**+1.7**
PDPR	**Patillas Dam,**	**2.35**	**222**	*e*S	**Sn**	**09 35 05.5**	**-0.8**
ECPR	**Experimental S**	**2.38**	**233⇑**	*e*P	**Pn**	**09 34 40.0**	**+1.2**
ECPR	**Experimental S**	**2.38**	**233**	*e*S	**Sn**	**09 35 06.4**	**-0.7**
IGPR	**InterUniversit**	**2.44**	**223**		**Pn**	**09 34 41.1**	**+1.5**
IGPR					**Sn**	**09 35 07.7**	**-0.8**
IGPR	**InterUniversit**	**2.44**	**223**	IAML		09 35 09.7	
	comp=N,48nm,0.2s						
IGPR				IAML		09 35 16.4	
	comp=E,61nm,0.2s						
IGPR	**InterUniversit**	**2.44**	**223⇑**	*e*P	**Pn**	**09 34 41.1**	**+1.5**
IGPR	**InterUniversit**	**2.44**	**223**	*e*S	**Sn**	**09 35 07.7**	**-0.8**
AOPR	**Arecibo Observ**	**2.67**	**238**		**Pn**	**09 34 44.0**	**+1.2**
AOPR					**Sn**	**09 35 13.1**	**-1.2**
AOPR	**Arecibo Observ**	**2.67**	**238**	IAML		09 35 26.1	
	comp=N,60nm,1.0s						
AOPR				IAML		09 35 27.8	
	comp=E,65nm,0.2s						
AOPR	**Arecibo Observ**	**2.67**	**238**	*e*P	**Pn**	**09 34 43.4**	**+0.6**
AOPR				*e*S	**Sn**	**09 35 15.1**	**+0.8**
AOPR	**Arecibo Observ**	**2.67**	**238⇑**	*e*P	**Pn**	**09 34 44.0**	**+1.2**
AOPR	**Arecibo Observ**	**2.67**	**238**	*e*S	**Sn**	**09 35 13.1**	**-1.2**
CELP	**Cerrillos**	**2.69**	**232**		**Pn**	**09 34 44.6**	**+1.5**
CELP					**Sn**	**09 35 13.7**	**-1.2**
CELP	**Cerrillos**	**2.69**	**232**	IAML		09 36 22.1	
	comp=N,27nm,3.1s						
CELP	**Cerrillos**	**2.69**	**232⇑**	*e*P	**Pn**	**09 34 44.6**	**+1.5**
CELP	**Cerrillos**	**2.69**	**232**	*e*S	**Sn**	**09 35 13.7**	**-1.2**
UUPR	**Utuado, UPR, P**	**2.70**	**236**		**Pn**	**09 34 44.5**	**+1.4**
UUPR					**Sn**	**09 35 14.0**	**-0.9**
UUPR	**Utuado, UPR, P**	**2.70**	**236**	IAML		09 35 20.3	
	comp=N,98nm,0.3s						
UUPR	**Utuado, UPR, P**	**2.70**	**236⇑**	*e*P	**Pn**	**09 34 44.5**	**+1.4**
UUPR	**Utuado, UPR, P**	**2.70**	**236**	*e*S	**Sn**	**09 35 14.0**	**-0.9**
OBIP	**Obispado Ponce**	**2.73**	**231**	Pn	**Pn**	**09 34 43.7**	**+0.1**
OBIP				IAML		09 35 06.0	
	comp=N,28nm,3.1s						
OBIP				IAML		09 35 43.4	
	comp=E,26nm,2.7s						
SKI	**Saint Kitts**	**2.87**	**147**	*e*P	**Pn**	**09 34 46.2**	**+0.7**
SKI				*e*S	**Sn**	**09 35 20.1**	**+1.0**
SKOC	**St. Kitts, UWI**	**2.91**	**148**	*e*P	**Pn**	**09 34 49.6**	**+3.6**
SKOC				*e*S	**Sb**	**09 35 26.6**	**-1.3**
AGPR	**Aguadilla, PR**	**2.91**	**244**		**Pn**	**09 34 47.1**	**+1.0**
AGPR	**Aguadilla, PR**	**2.91**	**244**		**Sn**	**09 35 19.0**	**-1.0**
AGPR	**Aguadilla, PR**	**2.91**	**244⇑**	*e*P	**Pn**	**09 34 47.1**	**+1.0**
AGPR	**Aguadilla, PR**	**2.91**	**244**	*e*S	**Sn**	**09 35 19.0**	**-1.0**
LSP	**Las Mesas**	**3.03**	**239**		**Pn**	**09 34 49.6**	**+1.8**
LSP	**Las Mesas**	**3.03**	**239⇑**	*e*P	**Pn**	**09 34 49.6**	**+1.8**
MLPR	**Magueyes Islan**	**3.11**	**235⇑**	*e*P	**Pn**	**09 34 50.5**	**+1.7**
MLPR	**Magueyes Islan**	**3.11**	**235**	*e*S	**Sn**	**09 35 24.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**3.14**	**237**	Pn	**Pn**	**09 34 49.2**	**-0.1**
CRPR				IAML		09 36 06.0	
	comp=E,47nm,2.8s						
CRPR				IAML		09 36 13.4	
	comp=N,45nm,2.5s						
ANWB	**Willy Bob**	**3.21**	**130**	*e*P	**Pn**	**09 34 50.8**	**+0.6**
ANWB				*e*S	**Sn**	**09 35 25.5**	**-2.0**
MBFL	**Flemmings, Mon**	**3.63**	**146**	*e*P	**Pn**	**09 34 58.0**	**+2.0**
MBFL				*e*S	**Sn**	**09 35 36.7**	**-1.2**
ANBD	**Bethesda, Anti**	**3.66**	**137**	*e*P	**Pn**	**09 34 57.4**	**+1.1**
ANBD				*e*S	**Sn**	**09 35 36.1**	**-2.4**
DR12	**Loma Pena Alta**	**4.84**	**259**	Pn	**Pn**	**09 35 13.5**	**+0.7**

*NEIC **28** 09:36:52.7±1.3,6°.9S±0°.1×127°.1E±0°.1,h385km±10km, mb4.4/18,Error ellipse: s-maj=16.1km s-min=13.0km az=138.0*
*DJA **28** 09:36:53.1±0.5,7°S±4°×12°7E±°,h395km±8km,M4.7/15, mB5.0/7,mb4.8/11,MLv5.0/15,Mw(mB)4.3/7*
*IDC **28** 09:36:54.2±2.0,6°.98S×127°.12E,h405km±23km,mb3.7/14, mbtmp4.5/18,Error ellipse: s-maj=20.6km s-min=9.1km az=73.0*
ISC 28 09:36:53.9±0.4,7°.02S±0°.05×127°.10E±0°.06,h407km,n92, σ1°34/97,mb4.3/27,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.49**	**18**	P	**P**	**09 38 01.2**	**-0.6**
**

comp=Z,22nm,1.3s
TOO Toolangi 34.70 154 P **P 09 43 09.6 +2.0**
CMAR Chiang Mai Arr 37.58 313 P **P 09 43 32.0 +0.1**
comp=Z,1.3nm,0.3s,baz=143,slow=7.1,SNR=11
comp=Z,1.3nm,0.3s
JMN Monobe 41.03 9 P **P 09 44 00.4 +0.6**
KSRS Korea Array 44.25 1 P **P 09 44 25.2 0.0**
comp=Z,2.4nm,0.8s,baz=178,slow=10,SNR=11
comp=Z,2.4nm,0.8s
XAN Xi'an 44.32 338 P **P 09 44 24.8 -1.1**
XAN pmax pmax
comp=Z,11nm,0.7s
MJAR Matsushiro Arr 44.57 13 P **P 09 44 27.2 -0.5**
comp=Z,11nm,0.8s,baz=187,slow=9.0,SNR=19
comp=Z,11nm,0.8s
JMM Marumori 46.45 15 P **P 09 44 41.9 -0.2**
JMM IAmb IAmb 09 44 48.4
comp=Z,44nm,1.3s
JTM Tenmabayashi 49.28 14 P **P 09 45 03.1 -0.5**
JTM IAmb IAmb 09 45 04.8
comp=Z,15nm,0.7s
BTO Baotou 49.93 343 *eP* **P 09 45 12.3 +3.8**
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,250nm,5.9s
CN2 Changchun 50.61 358 *eP* **P 09 45 17.8 +4.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USA0B Ussuriysk Arra 51.18 5 P **P 09 45 18.3 +0.8**
USRK Ussuriysk Ar. 51.18 5 P **P 09 45 17.8 +0.3**
comp=Z,6.3nm,0.7s,baz=190,slow=8.0,SNR=12
comp=Z,6.3nm,0.7s
XLT XiLinHaoTe 51.66 350 *eP* **P 09 45 21.5 +0.4**
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,85nm,4.2s
GTA Gaotai 52.65 333 *eP* **P 09 45 29.5 +1.0**
GTA pmax pmax
comp=Z,7.0nm,0.7s
HEH HeiHe 57.04 0 *eP* **P 09 45 59.5 +0.4**
ULN Ulaanbaatar 57.45 344 P **P 09 46 00.9 -1.3**
SONM Songino Array 57.60 344 P **P 09 46 03.6 +0.3**
comp=Z,1.8nm,0.6s,baz=169,slow=7.9,SNR=12
SONM PcP **PcP 09 46 51.7 +0.5**
comp=Z,0.8nm,0.5s,baz=176,slow=2.9,SNR=5.0
comp=Z,1.8nm,0.6s
PETK Petropavlovsk- 65.28 20 P **P 09 46 53.7 0.0**
comp=Z,5.7nm,0.5s,baz=197,slow=3.2,SNR=32
comp=Z,5.7nm,0.5s
MK31 Makanchi Array 66.69 328 P **P 09 47 02.3 -0.5**
MKAR Makanchi Array 66.69 328 P **P 09 47 02.4 -0.4**
MKAR Makanchi Array 66.69 328 P **P 09 47 03.0 +0.2**
comp=Z,1.9nm,0.5s,baz=125,slow=7.7,SNR=27
MKAR PcP **PcP 09 47 28.1 -0.2**
comp=Z,0.8nm,0.7s,baz=122,slow=4.6,SNR=4.5
comp=Z,1.9nm,0.5s
ZAA0 Zalesovo Array 70.36 335 P **P 09 47 24.0 -0.9**
ZAA0 IAmb IAmb 09 47 25.2
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 70.36 335 P **P 09 47 23.9 -1.1**
ZALV Zalesovo Beam 70.36 335 P **P 09 47 24.4 -0.5**
comp=Z,6.7nm,0.6s,baz=129,slow=5.3,SNR=22
comp=Z,6.7nm,0.6s
KURBB Kurchatov Arra 71.05 330 P **P 09 47 29.6 +0.4**
comp=Z,5.1nm,0.5s,baz=133,slow=5.1,SNR=58
comp=Z,5.1nm,0.5s
KURK Kurchatov 71.06 330 P **P 09 47 29.1 -0.1**
KURK IAmb IAmb 09 47 30.2
comp=Z,9.1nm,0.8s
BVAR Borovoye Array 76.57 329 P **P 09 48 00.8 +0.1**
comp=Z,1.7nm,0.5s,baz=130,slow=9.8,SNR=11
comp=Z,1.7nm,0.5s
TIXI Tiksi 78.52 1 P **P 09 48 10.0 -0.9**
TIXI IAmb IAmb 09 48 11.7
comp=Z,4.5nm,0.7s
ABKAR Akbulak array 80.75 322 P **P 09 48 23.1 -0.2**
NRIK Noril'sk 80.90 347 P **P 09 48 24.1 +0.4**
comp=Z,2.1nm,0.6s,baz=143,slow=7.2,SNR=5.1
comp=Z,2.1nm,0.6s
QSPA South Pole Qui 82.95 180 P **P 09 48 35.2 +0.6**
comp=Z,1.6nm,1.1s,baz=9.5,slow=6.1,SNR=2.4
comp=Z,1.6nm,1.1s
ILAR Eielson Array 94.60 25 P **P 09 49 28.4 -0.9**
comp=Z,0.3nm,0.7s,baz=260,slow=6.3,SNR=5.9
comp=Z,0.3nm,0.7s
PDAR Pinedale Array 118.95 45 PKP **PKPdf 09 54 54.7 -0.9**
comp=Z,0.2nm,0.4s,baz=316,slow=4.6,SNR=2.4
ULM Lac du Bonnet 124.01 32 PKP **PKPdf 09 55 04.3 -0.5**
comp=Z,0.9nm,0.4s,baz=20,slow=2.3,SNR=4.0
TORD Torodi Ar. Bea 125.98 281 PKP **PKPdf 09 55 09.8 +0.2**
comp=Z,8.2nm,0.3s,baz=48,slow=3.2,SNR=5.4
TXAR Lajitas Array 127.40 58 PKP **PKiKP 09 55 13.4 +0.8**
comp=Z,0.3nm,0.7s,baz=209,slow=2.1,SNR=5.0
CPUP Villa Florida 146.57 173 PKPbc **PKPbc 09 55 50.1 +0.9**
comp=Z,1.2nm,0.6s,baz=180,slow=3.0,SNR=1.8

---

*IDC **28** 10:00:55.1±2.9, 14°.40N×93°.86W, h0km, mb3.6/4, mbtmp3.5/6, ML3.1/3, Error ellipse: s-maj=58.9km s-min=24.9km az=12.0*
*GCG **28** 10:00:55.9±1.1, 14°.15N×93°.85W, h50km±206km, MD4.4, Hypocentre not reviewed by the ISC*
*MEX **28** 10:00:56.8±0.7, 14°.32N×93°.85W, h6km±12km, MD4.3*
ISC 28 10:00:54.5±1.0, 14°.33N±0°.07×93°.82W±0°.03, h10km, n41, σ2°17/71, mb3.8/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.48**	**23**	*eP*	**Pn**	**10 01 20.7**	**-0.5**
PCIG				*eS*	**Sn**	**10 01 38.7**	**-2.0**
THIG		**1.61**	**69**	*eP*	**Pn**	**10 01 22.5**	**-0.5**
THIG				*eS*	**Sn**	**10 01 41.3**	**-2.5**
THIG		**1.61**	**69**	*eP*		10 01 23.6	
THIG				*eS*		10 01 44.1	
PATR	**El Naranjo**	**1.72**	**63**	*eP*	**Pn**	**10 01 24.2**	**-0.6**
PAVE	**Pavencul**	**1.81**	**62**	*eP*	**Pn**	**10 01 25.4**	**-0.5**
PAVE				*eS*	**Sn**	**10 01 48.8**	**-0.2**
CARR	**Arriaga**	**1.91**	**357**	*eP*	**Pn**	**10 01 26.3**	**-0.8**
CARR				*eS*	**Sn**	**10 01 45.1**	**-6.0**
RTAL	**Retalhuleu**	**2.07**	**84**	*eP*	**Pn**	**10 01 28.2**	**-1.1**
RTAL				*eS*	**Sn**	**10 01 53.9**	**-1.3**
NILT	**Santiago Nilte**	**2.35**	**341**	*eP*	**Pn**	**10 01 32.7**	**-0.5**
NILT				*i/S*	**Sn**	**10 02 01.7**	**-0.3**
HUEH	**Huehuetenango**	**2.45**	**66**	*eP*	**Pn**	**10 01 35.7**	**+0.9**
HUEH				*eS*	**Sb**	**10 02 07.8**	**-1.3**
HUEH	**Huehuetenango**	**2.45**	**66**	*eP*		10 01 36.5	
HUEH				*eS*		10 02 09.6	
TGIG		**2.52**	**15**	*eP*	**Pn**	**10 01 36.1**	**+0.5**
TGIG				*eS*	**Sn**	**10 02 05.3**	**-1.1**
TGIG		**2.52**	**15**	*eP*		10 01 36.8	
TGIG				*eS*		10 02 08.6	
CCIG	**Comitan**	**2.53**	**40**	*eP*	**Pb**	**10 01 37.9**	**-2.2**
CCIG				*eS*	**Sn**	**10 02 08.0**	**+1.2**
CCIG	**Comitan**	**2.53**	**40**	*eP*		10 01 37.9	
CCIG				*eS*		10 02 09.1	
HUIG	**Huatulco**	**2.63**	**303**	*eP*	**Pn**	**10 01 36.3**	**-0.7**
HUIG				*eS*	**Sn**	**10 02 02.2**	**-6.9**
HUIG	**Huatulco**	**2.63**	**303**	*eP*		10 01 37.3	
CMIG	**Matias Romero**	**2.93**	**340**	Pn	**Pn**	**10 01 41.3**	**+0.2**
	4.4nm,0.3s,baz=170,slow=14,SNR=83						
CMIG				Sn	**Sn**	**10 02 13.8**	**-2.6**
	16nm,0.3s,baz=102,slow=9.3,SNR=11						
	14nm,0.4s						
CMIG	**Matias Romero**	**2.93**	**340**	*eP*	**Pn**	**10 01 40.7**	**-0.4**
CMIG				*eS*	**Sn**	**10 02 14.2**	**-2.2**
UXUV	**UXUV**	**2.98**	**354**	*eP*	**Pn**	**10 01 42.6**	**+0.7**
UXUV				*eS*	**Sn**	**10 02 16.9**	**-0.9**
APG	**El Apazote**	**3.32**	**78**	Pn	**Pn**	**10 01 48.8**	**+2.1**
	0.5nm,0.3s,baz=181,slow=11,SNR=16						
APG				Sn	**Sb**	**10 02 31.4**	**-2.8**
	0.7nm,0.3s,baz=159,slow=9.8,SNR=4.7						
PEIG	**Puerto Escondi**	**3.61**	**298**	*eP*	**Pn**	**10 01 50.6**	**0.0**
PEIG				*eS*	**Sn**	**10 02 27.3**	**-6.0**
NEUV	**Arroyo Zacate**	**3.86**	**331**	*eP*	**Pn**	**10 01 54.2**	**+0.2**
NEUV				*eS*	**Sn**	**10 02 39.4**	**-0.1**
PMUV	**Sontecomapan**	**4.37**	**344**	*eP*	**Pn**	**10 01 59.5**	**-1.5**
PMUV				*eS*	**Sn**	**10 02 50.7**	**-1.4**
YOIG	**Yosondua**	**4.38**	**305**	*eP*	**Pn**	**10 02 02.3**	**+1.0**
YOIG				*eS*	**Sn**	**10 02 51.5**	**-1.1**
PETF	**Flores**	**4.59**	**55**	*eP*	**Pn**	**10 02 05.8**	**+1.8**
PNIG	**Pinotepa**	**4.63**	**297**	*eP*	**Pn**	**10 02 05.3**	**+0.7**
PNIG				*eS*	**Sn**	**10 02 51.9**	**-6.6**
TXIG	**Tlaxiaco**	**4.78**	**308**	*eP*	**Pn**	**10 02 09.2**	**+2.3**
TXIG				*eS*	**Sn**	**10 02 59.6**	**-2.9**
TOIG	**Toxpalan**	**4.87**	**321**	*eS*	**Sn**	**10 03 03.7**	**-0.8**
HLIG	**Huajuapan de L**	**5.17**	**313**	*eP*	**Pn**	**10 02 13.6**	**+1.4**
HLIG				*eS*	**Sn**	**10 03 11.8**	**-0.3**
SCIG	**Sabancuy**	**5.25**	**28**	*eP*	**Pn**	**10 02 12.8**	**-0.4**
FTIG	**Fresnillo de T**	**5.46**	**311**	*eP*	**Pn**	**10 02 19.5**	**+3.4**
TLIG	**Tlapa**	**5.58**	**306**	*eP*	**Pn**	**10 02 17.8**	**+0.1**
TLIG				*eS*	**Sn**	**10 03 20.2**	**-1.8**
POHV	**Veracruz**	**5.76**	**325**	*eP*	**Pn**	**10 02 23.2**	**+2.6**
JAUV	**Jalcomulco**	**5.76**	**331**	*eP*	**Pn**	**10 02 20.0**	**-0.2**
JAUV				*eS*	**Sn**	**10 03 24.9**	**-1.5**
PBCV	**Popocatepetl**	**6.48**	**316**	*eP*	**Pn**	**10 02 32.8**	**+2.5**
PBXN	**Popocatepetl**	**6.56**	**316**	*eP*	**Pn**	**10 02 32.6**	**+1.0**
PBXN				*eP*	**Pn**	**10 02 33.1**	**+1.5**
PBXN				*eS*	**Sn**	**10 03 45.8**	**-1.0**
PBXN				*eS*	**Sn**	**10 03 49.4**	**+2.5**
PPM	**Popocatepetl**	**6.58**	**316**	*eP*	**Pn**	**10 02 28.6**	**-3.3**
PPM				*eS*	**Sn**	**10 03 47.9**	**+0.6**
PLIG	**Platanillo**	**6.78**	**307**	*eP*	**Pn**	**10 02 34.5**	**+0.3**
PLIG				*eS*	**Sn**	**10 03 53.4**	**+1.7**
CXUV	**Coxquihui**	**6.83**	**329**	*eP*	**Pn**	**10 02 33.7**	**-1.2**
CXUV				*eS*	**Sn**	**10 03 53.8**	**+1.0**
TEIG	**Tepich**	**7.90**	**41**	Pn	**Pn**	**10 02 50.2**	**+0.7**
	baz=217,slow=20,SNR=10						
TEIG				Sn	**Sn**	**10 04 15.9**	**-3.1**
	baz=7.1,slow=24						
TXAR	**Lajitas Array**	**17.49**	**330**	P	**P**	**10 05 01.4**	**+1.5**
	baz=150,slow=12,SNR=5.6						
	0.5nm,1.0s						
PDAR	**Pinedale Array**	**31.41**	**337**	P	**P**	**10 07 17.9**	**+1.8**
	0.3nm,0.8s,baz=157,slow=5.9,SNR=2.6						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**32.32**	**322**	P	**P**	**10 07 24.8**	**+0.7**
	0.3nm,0.3s,baz=144,slow=9.1,SNR=1.6						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**50.31**	**348**	P	**P**	**10 09 52.1**	**+1.0**
	1.2nm,0.7s,baz=159,slow=7.4,SNR=28						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**61.84**	**337**	P	**P**	**10 11 15.8**	**+2.2**
	0.5nm,0.7s,baz=112,slow=7.0,SNR=4.5						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.07**	**339**	PKPbc	**PKPdf**	**10 20 33.7**	**+0.6**
	0.3nm,0.3s,baz=3.2,slow=1.6,SNR=4.0						

---

*SOME **28** 10:02:24.3, 41°.70N×78°.30E, h15km*
*NNC **28** 10:02:25.0±2.6, 41°.71N×78°.27E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=25.0km s-min=16.9km az=54.0, Suspected Mining explosion.*
ISC 28 10:02:23.7±3.1, 41°.3N±0°.2×77°.44E±0°.08, h0km, n11, σ1°22/18, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.81**	**348**	P	**Pn**	**10 02 55.7**	**-0.9**
	3.6nm,0.2s						
TNSS				S	**Sn**	**10 03 18.3**	**-2.1**
TNSS	**Tian-Shan**	**1.81**	**348**	*eP*	**Pn**	**10 02 55.6**	**-0.9**
	3.6nm,0.2s						
TNSS				*eS*	**Sn**	**10 03 18.0**	**-2.3**
	2.0nm,0.3s						
IZV	**Izvestkoviy**	**1.87**	**341**	*eP*	**Pn**	**10 02 57.3**	**+0.1**
IZV				*eS*	**Sn**	**10 03 21.0**	**-0.6**
KST	**Kastek**	**2.09**	**329**	*eP*	**Pb**	**10 03 03.3**	**+0.7**
	2.8nm,0.2s						
KST				*eS*	**Sg**	**10 03 31.4**	**+0.6**
	9.5nm,0.5s						
KURS	**Kuram**	**2.29**	**13**	*eP*	**Pg**	**10 03 07.7**	**+0.2**
	6.1nm,0.2s						
KURS				*eS*	**Sg**	**10 03 39.3**	**+2.1**
	14nm,0.4s						
KPKS	**Kokpek**	**2.38**	**22**	*eP*	**Pb**	**10 03 08.2**	**+0.7**
	1.9nm,0.2s						
KPKS				*eS*	**Sg**	**10 03 39.8**	**-0.5**
	3.4nm,0.3s						
KTBS	**Karatobe**	**2.51**	**347**	Pg	**Pn**	**10 03 07.1**	**+1.3**
	5.2nm,0.4s						
KTBS				Lg	Lg	10 03 38.7	
	11nm,0.3s						
CHKK	**Chushkaly**	**2.61**	**353**	Pg	**Pn**	**10 03 07.8**	**+0.7**
	6.1nm,0.2s						
CHKK				Lg	Lg	10 03 39.7	
	14nm,0.4s						
CHKK	**Chushkaly**	**2.61**	**353**	*eP*	**Pn**	**10 03 07.7**	**+0.6**
	6.1nm,0.2s						
CHKK				*eS*	**Sn**	**10 03 39.3**	**-0.3**
	14nm,0.4s						
KRBS	**Karabastau**	**2.76**	**332**	Pg	**Pb**	**10 03 13.9**	**-0.1**
	2.7nm,0.5s						
KRBS				Lg	Lg	10 03 49.8	
	2.0nm,0.4s						
ARXS	**Arharly**	**2.96**	**5**	Pg	**Pn**	**10 03 10.6**	**-1.4**
	4.7nm,0.3s						
ARXS				Lg	Lg	10 03 44.4	
	7.9nm,0.4s						

NEIC 28 10:03:51.8±0.7, 37°.66N±0°.02×105°.48W±0°.02, h6km±1km, ML1.5/17, Error ellipse: s-maj=2.9km s-min=1.9km az=61.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**351**		Pg	10 03 54.4	+0.3
SDCO				Sg	Sg	10 03 56.1	+0.5
SDCO				IAML		10 03 56.8	
	371nm,0.1s						
T25A	**Trinidad**	**1.00**	**121**	Pg	Pg	10 04 10.8	-0.2
T25A				Sg	Sg	10 04 23.4	-0.5
T25A				IAML		10 04 24.1	
	comp=N,11nm,0.6s						
T25A				IAML		10 04 24.3	
	comp=E,11nm,0.2s						
S22A	**4UR Ranch, Cre**	**1.07**	**275**		Pg	10 04 11.9	-0.6
S22A				IAML		10 04 30.3	
	comp=E,9.4nm,0.1s						
Q24A	**Divide**	**1.33**	**11**	Pg	Pn	10 04 16.6	-0.8
Q24A				Sg	Sg	10 04 34.0	-0.7
Q24A				IAML		10 05 02.9	
	comp=N,12nm,4.6s						
ISCO	**Idaho Springs**	**2.14**	**357**	Pn	Pg	10 04 32.5	-0.5
MVCO	**Mesa Verde**	**2.44**	**260**	Pn	Pb	10 04 36.7	+0.3
RTBA	**Rita Blanca**	**2.51**	**118**	Pn	Pb	10 04 37.4	0.0

---

*IDC **28** 10:04:42.8±1.8, 21°.63N×143°.34E, h233km±16km, mb3.5/14, mbtmp4.1/17, Error ellipse: s-maj=19.2km s-min=11.3km az=85.0*
*NEIC **28** 10:04:47.7±1.2, 21°.70N±0°.07×143°.4E±0°.1, h283km±14km, mb4.3/19, Error ellipse: s-maj=19.8km s-min=8.6km az=109.0*
ISC 28 10:04:45.1±0.6, 21°.70N±0°.06×143°.3E±0°.1, h250km, n46, σ1°47/48, mb4.0/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.46**	**350**	Pn	**Pn**	**10 06 10.1**	**+3.7**
JCJ	**Chichijima**	**5.46**	**350**	P	**Pn**	**10 06 04.0**	**-2.4**
	44nm,0.3s,baz=284,slow=23,SNR=13						
JCJ				S	**S**	**10 07 07.8**	**-3.8**
	64nm,0.3s,baz=325,slow=23,SNR=6.5						
GUMO	**Guam**	**8.21**	**169**	Pn	**Pn**	**10 06 44.4**	**+3.3**
JHJ2	**Mitsune**	**11.77**	**346**		**P**	**10 07 28.9**	**-0.1**
JMN	**Monobe**	**14.57**	**327**	P	**P**	**10 08 02.5**	**+2.3**
INU	**Inuyama**	**14.66**	**339**	P	**Pn**	**10 08 01.7**	**+0.6**
JGF	**Kuroka**	**14.78**	**341**	P	**Pn**	**10 08 04.0**	**+1.4**
MJAR	**Matsushiro Arr**	**15.43**	**345**	P	**Pn**	**10 08 10.4**	**+0.1**
	4.0nm,0.5s,baz=158,slow=6.4,SNR=17						
MAJO	**Matsushiro**	**15.43**	**345**	P	**Pn**	**10 08 10.7**	**+0.3**
MAJO				IAmb	IAmb	10 08 12.0	
	comp=Z,10nm,0.5s						
MJB9	**Matsu-Tunnel**	**15.43**	**345**	P	**P**	**10 08 09.2**	**-0.4**
MJB9				IAmb	IAmb	10 08 13.4	
	comp=Z,9.9nm,0.5s						
JNU	**Nakatsue**	**15.80**	**319**	P	**Pn**	**10 08 16.2**	**+1.4**
JNU	**Nakatsue**	**15.80**	**319**	P	**Pn**	**10 08 15.3**	**+0.4**
	comp=Z,6.0nm,0.6s,baz=163,slow=3.4,SNR=6.0						
JMM	**Marumori**	**16.25**	**353**	P	**Pn**	**10 08 21.6**	**+1.6**
JSD	**Sado**	**16.84**	**346**	P	**P**	**10 08 26.1**	**+1.1**
JSD				IAmb	IAmb	10 08 27.2	
	comp=Z,11nm,0.5s						
ERM	**Erimo**	**20.26**	**360**	P	**P**	**10 09 04.2**	**+2.5**
ERM				IAmb	IAmb	10 09 05.7	
	comp=Z,26nm,1.1s						
KSRS	**Korea Array**	**20.55**	**323**	P	**P**	**10 09 06.3**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=143,slow=8.2,SNR=8.6						
	comp=Z,1.3nm,0.4s						
KS19	**Wonju Array Si**	**20.62**	**323**	P	**P**	**10 09 07.1**	**+1.5**
KS19				IAmb	IAmb	10 09 10.0	
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Ar.**	**24.30**	**340**	P	**P**	**10 09 41.6**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=131,slow=44,SNR=2.7						
	comp=Z,0.8nm,0.5s						
KLR	**Kul'dur**	**28.96**	**344**	P	**P**	**10 10 21.8**	**+0.5**
	comp=Z,4.6nm,0.6s,baz=151,slow=7.0,SNR=22						
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**39.38**	**320**	P	**P**	**10 11 51.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=137,slow=8.2,SNR=5.4						
	comp=Z,0.8nm,0.5s						
KNRA	**Kununurra**	**39.77**	**202**	P	**P**	**10 11 53.3**	**-0.8**
KNRA				IAmb	IAmb	10 11 53.7	
	comp=Z,6.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.64**	**274**	P	**P**	**10 12 08.9**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=92,slow=6.1,SNR=4.6						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**42.11**	**192**	P	**P**	**10 12 12.3**	**-0.8**
WB0				IAmb	IAmb	10 12 13.0	
	comp=Z,7.1nm,1.1s						
WR0	**Warramunga Arr**	**42.27**	**192**	P	**P**	**10 12 13.6**	**-0.8**
WRAB	**Tennant Creek**	**42.28**	**193**	P	**P**	**10 12 13.6**	**-0.9**
WRAB				IAmb	IAmb	10 12 14.0	
	comp=Z,8.3nm,0.5s						
WB2	**Warramunga Arr**	**42.29**	**192**	P	**P**	**10 12 13.8**	**-0.7**
WB2				IAmb	IAmb	10 12 14.1	
	comp=Z,8.6nm,0.5s						
WRA	**Warramunga Arr**	**42.29**	**193**	P	**P**	**10 12 13.6**	**-1.0**
WRA	**Warramunga Arr**	**42.29**	**193**	P	**P**	**10 12 13.4**	**-1.2**
	comp=Z,4.5nm,0.6s,baz=8.6,slow=8.3,SNR=4.7						
	comp=Z,4.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.15**	**205**	P	**P**	**10 12 20.6**	**-0.8**
KULM	**Kulim**	**44.33**	**255**	P	**P**	**10 12 31.6**	**+0.6**
KULM				IAmb	IAmb	10 12 32.4	
	comp=Z,9.4nm,0.7s						
AS31	**Alice Springs**	**46.00**	**192**	P	**P**	**10 12 42.9**	**-1.0**
ASAR	**Alice Springs**	**46.00**	**192**	P	**P**	**10 12 42.6**	**-1.3**
ASAR	**Alice Springs**	**46.00**	**192**	P	**P**	**10 12 42.5**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=17,slow=12,SNR=54						
ASAR				ScP	**ScP**	**10 17 43.0**	**-2.1**
	comp=Z,0.3nm,0.9s,baz=20,slow=4.4,SNR=1.9						
	comp=Z,1.3nm,0.6s						
GSI	**Gunungsitoli**	**48.86**	**252**	P	**P**	**10 13 05.6**	**-0.4**
STKA	**Stephens Creek**	**53.30**	**182**	P	**P**	**10 13 37.3**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=5.2,slow=11,SNR=4.2						
	comp=Z,1.3nm,0.6s						
FORT	**Forrest**	**54.18**	**196**	P	**P**	**10 13 43.3**	**-1.6**
MK31	**Makanchi Array**	**54.75**	**313**	P	**P**	**10 13 48.7**	**-0.3**
MK31				IAmb	IAmb	10 14 02.5	
	comp=Z,2.2nm,0.5s						
MKAR	**Makanchi Array**	**54.75**	**313**	P	**P**	**10 13 48.7**	**-0.3**
MKAR	**Makanchi Array**	**54.75**	**313**	P	**P**	**10 13 48.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=91,slow=9.0,SNR=12						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**62.01**	**27**	P	**P**	**10 14 38.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=259,slow=5.3,SNR=9.0						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**62.71**	**319**	P	**P**	**10 14 43.3**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=94,slow=7.1,SNR=9.9						
	comp=Z,2.5nm,0.5s						
ABKAR	**Akbulak array**	**69.59**	**316**	P	**P**	**10 15 26.1**	**-1.1**
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**10 16 06.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=289,slow=6.1,SNR=12						
	comp=Z,0.4nm,0.5s						
KBZ	**Khabaz**	**82.42**	**314**	P	**P**	**10 16 39.4**	**0.0**
	comp=Z,3.3nm,0.9s,baz=89,slow=2.6,SNR=6.9						
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**83.21**	**335**	P	**P**	**10 16 41.6**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=46,slow=5.5,SNR=8.9						
	comp=Z,1.0nm,0.5s						
PLCA	**Paso Flores**	**145.71**	**131**	PKPbc	**PKPdf**	**10 23 54.5**	**+0.6**
	comp=Z,5.5nm,1.0s,baz=223,slow=2.4,SNR=15						

---

*HEL **28** 10:07:00.6±0.1, 67°.44N×23°.34E, h0km, ML1.5, Explosion*
*UPP **28** 10:07:00.3±0.2, 67°.43N×23°.36E, h1km, ML1.7, Unknown*
*IDC **28** 10:07:01.2±1.2, 67°.45N×23°.90E, h0km, mbtmp4.0/2, ML2.4/3, Error ellipse: s-maj=27.5km s-min=7.2km az=93.0*
*BER **28** 10:07:02.2±1.6, 67°.43N×23°.42E, h0km, ML1.4, Suspected explosion*
ISC 28 10:06:59.9±0.7, 67°.45N±0°.02×23°.35E±0°.02, h0km, n43, σ0°79/64, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.32**	**132**	PG	**Pg**	**10 07 06.1**	**+0.1**
KLF				SG	**Sg**	**10 07 10.4**	**+0.3**
PAJU	**Pajala**	**0.44**	**192**	P	**Pg**	**10 07 08.2**	**0.0**
PAJU				S	**Sg**	**10 07 13.8**	**-0.1**
PAJU	**Pajala**	**0.44**	**192**	PG	**Pg**	**10 07 07.9**	**-0.4**
	baz=15						
PAJU				SG	**Sg**	**10 07 13.6**	**-0.2**
MASU	**Masugnsbyn**	**0.52**	**272**	P	**Pg**	**10 07 10.2**	**+0.3**
MASU				S	**Sg**	**10 07 17.5**	**+0.9**
LANU	**Lannavaara**	**0.79**	**320**	P	**Pg**	**10 07 15.4**	**+0.3**
LANU	**Lannavaara**	**0.79**	**320**	PB	**Pg**	**10 07 15.3**	**+0.2**
LANU				SB	**Sb**	**10 07 29.0**	**+1.1**
HEF	**Hetta**	**0.97**	**7**	*eP*	**Pg**	**10 07 18.4**	**-0.1**
HEF				*eS*	**Sb**	**10 07 33.3**	**+0.3**
HEF	**Hetta**	**0.97**	**7**	PG	**Pg**	**10 07 18.4**	**-0.1**
	baz=187						
HEF				MSG		10 07 30.7	
	comp=Z,4.5nm,0.2s						
HEF				SB	**Sb**	**10 07 33.0**	**0.0**
ERTU	**Ertsjaerv**	**1.01**	**207**	P	**Pg**	**10 07 18.5**	**-0.7**
ERTU	**Ertsjaerv**	**1.01**	**207**	PG	**Pg**	**10 07 18.4**	**-0.7**
ERTU				SB	**Sg**	**10 07 31.8**	**-0.4**
DUNU	**Dundret**	**1.13**	**254**	P	**Pg**	**10 07 21.2**	**-0.3**
KUA	**Kurravaara**	**1.26**	**295**	P	**Pg**	**10 07 23.7**	**-0.2**
RNF	**Rovaniemi**	**1.34**	**128**	PG	**Pg**	**10 07 24.6**	**-1.0**
	baz=311						
RNF	

OLKF				SG	Sb	10 08 21.4	+0.4
KEV	**Kevo**	**2.68**	**28**	*e*P	**Pn**	**10 07 45.4**	**+1.2**
KEV	**Kevo**	**2.68**	**28**	PN	**Pn**	**10 07 45.4**	**+1.2**
	baz=210						
KEV				MSG		10 08 19.9	
	comp=Z,2.5nm,0.2s						
KEV				SB	**Sb**	**10 08 20.9**	**-1.0**
MSF	**Maaselka**	**2.74**	**122**	PN	**Pn**	**10 07 46.6**	**+1.5**
MSF				SG	**Sb**	**10 08 24.2**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.74**	**164**	PB	**Pn**	**10 07 46.6**	**+1.5**
	baz=347						
OBF4				MSG		10 08 20.9	
	comp=Z,0.8nm,0.2s						
KU6	**Riekki**	**2.96**	**116**	PN	**Pn**	**10 07 49.1**	**+0.9**
KU6				MSG		10 08 27.7	
	comp=Z,0.7nm,0.2s						
KU1	**Kurvinen**	**3.12**	**124**	PN	**Pn**	**10 07 51.3**	**+0.9**
STEI	**Steigen**	**3.13**	**283**	*e*P	**Pn**	**10 07 51.1**	**+0.7**
UMAU	**Umeaa**	**3.75**	**198**	SG	**Sb**	**10 08 55.0**	**+2.2**
FINES	**FINESS Array B**	**6.14**	**168**	Pn	**Pn**	**10 08 33.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=355,slow=14,SNR=6.4						
FINES				Sn	**Sn**	**10 09 41.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=359,slow=22,SNR=1.4						
FINES				Lg	Lg	10 10 12.8	
	comp=Z,0.1nm,0.3s,baz=358,slow=29,SNR=1.6						
	comp=Z,1.9nm,0.7s						
SPITS	**Spitsbergen Ar**	**10.97**	**352**	Pn	**Pn**	**10 09 36.9**	**-0.9**
	baz=167,slow=7.2						
	comp=Z,26nm,1.2s						

*IDC **28** 10:07:08.5±3.0, 6°.10S×104°.69E, h0km, mb3.8/3, mbtmp3.9/4, ML3.9/1, MS2.9/3, Error ellipse: s-maj=97.0km s-min=44.5km az=16.0*
*DJA **28** 10:07:13.6±0.4, 6°.5±6°.×10°.5E±°, h10km, M3.9/10, MLv3.9/10*
ISC 28 10:07:13.1±1.0, 6°.05S±0°.08×105°.19E±0°.07, h10km, n26, σ0s82/15, mb3.6/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**0.75**	**138**	P	**Pg**	**10 07 27.0**	**-0.7**
SBJI	**Serang**	**0.94**	**94**	P	**Pg**	**10 07 31.0**	**-0.3**
SKJI	**Sukabumi**	**1.66**	**125**	P	**Pn**	**10 07 42.8**	**+0.5**
MDSI	**Maura Dua**	**1.85**	**327**	P	**Pn**	**10 07 44.1**	**-0.8**
CNJI	**Cibinong**	**2.30**	**123**	P	**Pn**	**10 07 51.1**	**0.0**
LEM	**Lembang**	**2.54**	**108**	Pn	**Pb**	**10 07 58.4**	**-0.5**
	16nm,0.3s,baz=223,slow=12,SNR=27						
LEM				Sn	**Sg**	**10 08 35.9**	**+1.2**
	4.0nm,0.3s,baz=132,slow=23,SNR=7.4						
	98nm,0.6s						
LEM	**Lembang**	**2.54**	**108**	P	**Pb**	**10 07 58.6**	**-0.3**
MNAI	**Manna**	**2.78**	**307**	P	**Pn**	**10 07 59.6**	**+1.8**
CMJI	**Cimerak**	**3.67**	**118**	P	**Pn**	**10 08 11.1**	**+1.1**
TPI	**Tanjungpandan**	**4.09**	**37**	P	**Pn**	**10 08 16.3**	**+0.5**
PSI	**Prapat**	**10.79**	**324**	LR	LR	10 14 29.0	
	comp=Z,62nm,20.1s,baz=169,slow=42						
KAPI	**Kappang**	**14.53**	**87**	LR	LR	10 17 18.9	
	comp=Z,54nm,19.3s,baz=270,slow=41						
CMAR	**Chiang Mai Arr**	**25.12**	**346**	LR	LR	10 24 06.9	
	comp=Z,22nm,18.6s,baz=160,slow=41						
WRA	**Warramunga Arr**	**31.51**	**119**	P	**P**	**10 13 35.6**	**0.0**
	0.3nm,0.6s,baz=294,slow=10,SNR=5.0						
	0.3nm,0.6s						
H08S2	**Diego Garcia H**	**32.49**	**265**	T	T	10 47 18.7	
	baz=89,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**32.50**	**265**	T	T	10 47 19.7	
	baz=89,slow=76,SNR=31						
H08S1	**Diego Garcia H**	**32.51**	**265**	T	T	10 47 14.8	
	baz=89,slow=76,SNR=6.4						
ASAR	**Alice Springs**	**32.70**	**125**	P	**P**	**10 13 45.8**	**-0.3**
	0.4nm,0.5s,baz=298,slow=8.3,SNR=7.1						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**42.61**	**132**	P	**P**	**10 15 09.7**	**-0.1**
	4.0nm,0.7s,baz=308,slow=9.0,SNR=12						
	4.0nm,0.7s						
H04N2	**CROZET ISLANDS**	**60.82**	**220**	T	T	11 23 20.0	
	baz=65,slow=75,SNR=178						
H04N1	**CROZET ISLANDS**	**60.84**	**220**	T	T	11 23 20.5	
	baz=65,slow=75,SNR=185						
H04N3	**CROZET ISLANDS**	**60.84**	**220**	T	T	11 23 19.2	
	baz=65,slow=75,SNR=215						
H04S1	**CROZET ISLANDS**	**61.03**	**219**	T	T	11 23 34.0	
	baz=63,slow=76,SNR=10						
H04S3	**CROZET ISLANDS**	**61.04**	**219**	T	T	11 23 33.5	
	baz=63,slow=76,SNR=10						
H04S2	**CROZET ISLANDS**	**61.05**	**219**	T	T	11 23 34.9	
	baz=63,slow=76,SNR=12						
TXAR	**Lajitas Array**	**144.25**	**46**	PKP	**PKPab**	**10 26 48.0**	**-0.1**
	0.3nm,0.6s,baz=296,slow=1.3,SNR=4.6						

*SOME **28** 10:11:43.1, 43°.67N×69°.62E*
*NNC **28** 10:11:45.2±2.1, 43°.68N×69°.72E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=11.7km s-min=7.6km az=134.0, Suspected Mining explosion.*
*KRNET **28** 10:11:46.2±0.1, 43°.65N×69°.87E, mb2.4*
ISC 28 10:11:49.3±2.0, 43°.54N±0°.07×69°.91E±0°.09, h0km, n10, σ0s95/18, 10C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.51**	**186**	P	**Pb**	**10 12 01.3**	**+0.1**
	4.1nm,0.4s						
BRLS				S	**Sn**	**10 12 14.9**	**+1.4**
	28nm,0.3s						
KK31	**Karatay Array**	**0.62**	**135**	⇑P	**Pg**	**10 12 00.5**	**-0.7**
	1.9nm,0.3s,baz=322,slow=18,SNR=84						
KK31				⇓S	**Sb**	**10 12 12.4**	**+0.1**
	24nm,0.5s,baz=316,slow=29,SNR=45						
KKAR	**Karatay Array**	**0.62**	**135**	⇑*i*P	**Pg**	**10 12 00.2**	**-1.0**
KKAR				⇑*i*S	**Sg**	**10 12 10.4**	**+1.2**
MNAS	**Manas**	**2.17**	**118**	⇑*i*P	**Pn**	**10 12 27.1**	**+0.2**
MNAS				⇑*i*S	**Sb**	**10 12 56.6**	**-0.6**
TRKS	**Terek-Say**	**2.21**	**155**	⇑*i*P	**Pb**	**10 12 28.7**	**-1.5**
TRKS				⇑*i*S	**Sg**	**10 13 00.0**	**-0.2**
ARK	**Arkit**	**2.31**	**138**	⇑*e*P	**Pn**	**10 12 29.1**	**+0.4**
ARK				⇑*i*S	**Sb**	**10 13 00.4**	**-0.6**
MRKS	**Merke**	**2.55**	**107**	Pg	**Pb**	**10 12 35.7**	**-0.4**
	4.4nm,0.5s						
MRKS				Lg	Lg	10 13 13.6	
	12nm,0.6s						
BTLS	**Baital**	**3.33**	**62**	Pg	**Pb**	**10 12 48.6**	**-0.6**
	12nm,0.5s						
BTLS				Lg	Lg	10 13 35.6	
	5.2nm,0.6s						
AAK	**Ala-Archa**	**3.48**	**103**	⇓Pn	**Pn**	**10 12 45.4**	**+0.6**
	3.7nm,0.5s						
AAK				⇑Sn	**Sn**	**10 13 28.6**	**+1.8**
	2.5nm,0.5s						
ARLS	**Aral**	**3.66**	**116**	⇓*e*P	**Pn**	**10 12 47.4**	**0.0**
ARLS				⇓*e*S	**Sn**	**10 13 32.5**	**+1.2**

*ISK **28** 10:14:14.2, 39°.57N×28°.84E, h9km, ML3.6/47*
*AFAD **28** 10:14:14.3, 39°.56N×28°.83E, h19km±3km, ML3.3*
*ATH **28** 10:14:25.3, 39°.48N×28°.05E, h15km±8km, ML3.1/6, Manual Solution by A.Papageorgiou First location: 2019/02/28 10:15:57, This location: 2019/03/14 17:55:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 10 km*
ISC 28 10:14:14.3±1.0, 39°.56N±0°.02×28°.82E±0°.02, h17km±8km, n97, σ1s23/123, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMET	**Ktahya-Emet**	**0.43**	**115**	P	**Pg**	**10 14 22.9**	**-0.3**
EMET				*i* AML	AML	10 14 29.0	
	comp=N,2μm,0.2s						
EMET				*i* AML	AML	10 14 29.0	
	comp=E,3μm,0.4s						
EMET				S	**Sg**	**10 14 29.1**	**0.0**
SIMA	**Simav-Kutahya**	**0.49**	**165**	Pg	**Pb**	**10 14 24.9**	**+0.2**
SIMA				Sg	**Sb**	**10 14 31.6**	**-0.1**
TVSB	**Tavsanli**	**0.51**	**102**	Pg	**Pg**	**10 14 24.4**	**-0.2**
TVSB				Sg	**Sb**	**10 14 31.5**	**-0.7**
DEMI	**Demirci**	**0.52**	**189**	P	**Pb**	**10 14 25.6**	**+0.5**
DEMI				*i* AML	AML	10 14 39.0	
	comp=N,1μm,0.4s						
DEMI				*i* AML	AML	10 14 40.0	
	comp=E,1μm,0.3s						
ULDT	**Uludag**	**0.63**	**23**	P	**Pg**	**10 14 26.6**	**-0.2**
ULDT				S	**Sg**	**10 14 34.3**	**-0.9**
ULDT				*i* AML	AML	10 14 36.0	
	comp=N,1μm,0.4s						
ULDT				*i* AML	AML	10 14 42.0	
	comp=E,916nm,0.2s						
SUSR	**Susurluk-Balik**	**0.69**	**306**	Pg	**Pg**	**10 14 28.1**	**+0.2**
GEDZ	**Gediz**	**0.69**	**138**	Pg	**Pb**	**10 14 28.2**	**+0.2**
GDZ	**Gediz**	**0.70**	**132**	P	**Pb**	**10 14 28.0**	**-0.2**
GDZ				S	**Sb**	**10 14 37.7**	**0.0**
BKES	**Balkesir-Mer**	**0.71**	**284**	P	**Pb**	**10 14 28.7**	**+0.5**
BKES				*i* AML	AML	10 14 43.0	
	comp=E,733nm,0.2s						
BKES				*i* AML	AML	10 14 48.0	
	comp=N,620nm,0.4s						
DOMA	**Ktahya-Doman**	**0.71**	**71**	P	**Pg**	**10 14 27.8**	**-0.6**
DOMA				S	**Sb**	**10 14 38.8**	**+0.7**
DOMA				*i* AML	AML	10 14 40.0	
	comp=N,1μm,0.3s						
DOMA				*i* AML	AML	10 14 43.0	
	comp=E,1μm,0.4s						
IGD	**Bursa**	**0.76**	**23**	P	**Pg**	**10 14 28.9**	**-0.3**
IGD				S	**Sg**	**10 14 39.0**	**-0.4**
IGD				*i* AML	AML	10 14 43.0	
	comp=E,883nm,0.3s						
KCTX	**Karacabey (Bur**	**0.79**	**333**	Pg	**Pb**	**10 14 29.9**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.81**	**4**	Pg	**Pg**	**10 14 30.0**	**-0.1**
GORD	**Gordes-Manisa**	**0.82**	**217**	Pg	**Pb**	**10 14 30.7**	**+0.5**
ANDZ	**Kutahya, Merke**	**0.84**	**93**	P	**Pn**	**10 14 31.4**	**-0.2**
ANDZ				*i* AML	AML	10 14 47.0	
	comp=N,498nm,0.4s						
USAK	**Uak-Merkez**	**0.86**	**169**	P	**Pg**	**10 14 31.4**	**+0.3**
USAK				S	**Sn**	**10 14 43.7**	**-0.3**
USAK				*i* AML	AML	10 14 47.0	
	comp=E,2μm,0.4s						
USAK				*i* AML	AML	10 14 48.0	
	comp=N,865nm,0.2s						
STEP	**BALIKESIR_Sava**	**0.87**	**258**	P	**Pn**	**10 14 32.2**	**+0.3**
STEP				S	**Sn**	**10 14 47.0**	**+2.8**
STEP				*i* AML	AML	10 14 47.0	
	comp=N,2μm,0.3s						
STEP				*i* AML	AML	10 14 47.0	
	comp=E,2μm,0.3s						
BALY	**Balya**	**0.94**	**281**	P	**Pn**	**10 14 33.0**	**+0.1**
BALY				S	**Sn**	**10 14 47.8**	**+1.8**
BALY				*i* AML	AML	10 14 49.0	
	comp=N,673nm,0.5s						
BALY				*i* AML	AML	10 14 49.0	
	comp=E,437nm,0.4s						
BAND	**Balkesir-Ban**	**0.96**	**325**	P	**Pb**	**10 14 33.0**	**+0.3**
BAND				S	**Sn**	**10 14 46.7**	**+0.2**
BAND				*i* AML	AML	10 14 49.0	
	comp=N,1μm,0.2s						
BAND				*i* AML	AML	10 14 50.0	
	comp=E,1μm,0.2s						
AUBOZ	**BOZOYUK**	**1.00**	**69**	P	**Pn**	**10 14 33.7**	**0.0**
AUBOZ				S	**Sn**	**10 14 49.8**	**+2.2**
AUBOZ				*i* AML	AML	10 14 51.0	
	comp=N,910nm,0.4s						
AUBOZ				*i* AML	AML	10 14 51.0	
	comp=E,2μm,0.4s						
ARMT	**Armutlu**	**1.00**	**2**	Pg	**Pg**	**10 14 33.6**	**-0.2**
AUKUT	**KUTAHYA**	**1.01**	**67**	P	**Pb**	**10 14 32.2**	**-1.3**
AUKUT				*i* AML	AML	10 14 54.0	
	comp=N,2μm,0.3s						
AUKUT				*i* AML	AML	10 14 56.0	
	comp=E,2μm,0.4s						
BILE	**Bilecik/Merkez**	**1.01**	**53**	P	**Pg**	**10 14 33.6**	**-0.3**
BILE				*i* AML	AML	10 14 50.0	
	comp=E,2μm,0.3s						
BILE				S	**Sn**	**10 14 50.5**	**+2.7**
BILE				*i* AML	AML	10 14 51.0	
	comp=N,1μm,0.3s						
CAVI	**Cavuskoy**	**1.02**	**51**	Pg	**Pg**	**10 14 33.8**	**-0.2**
AKHS	**Akhisar**	**1.03**	**229**	P	**Pg**	**10 14 34.7**	**+0.3**
AKHS				*i* AML	AML	10 14 51.0	
	comp=E,1μm,0.8s						
KULA	**Kula-Manisa**	**1.05**	**187**	Pg	**Pg**	**10 14 35.0**	**+0.3**
KURT	**Yalova, Merkez**	**1.07**	**16**	P	**Pn**	**10 14 34.8**	**+0.1**
KURT				S	**Sn**	**10 14 50.8**	**+1.7**
KURT				*i* AML	AML	10 14 51.0	
	comp=E,1μm,0.4s						
KURT				*i* AML	AML	10 14 52.0	
	comp=N,2μm,0.4s						
EDC	**Edincik**	**1.07**	**317**	Pg	**Pg**	**10 14 35.2**	**+0.1**
MANT	**Manisa**	**1.09**	**191**	P	**Pb**	**10 14 34.7**	**-0.2**
MANT				S	**Sg**	**10 14 49.4**	**-0.3**
MANT				*i* AML	AML	10 14 52.0	
	comp=E,2μm,0.3s						
MANT				*i* AML	AML	10 14 53.0	
	comp=N,2μm,0.2s						
YLV	**Yalova**	**1.09**	**23**	Pg	**Pg**	**10 14 35.4**	**-0.1**
ADVT	**Abdulvahap**	**1.12**	**39**	Pn	**Pn**	**10 14 35.5**	**+0.2**
BNAZ	**Uak-Banaz**	**1.21**	**136**	P	**Pg**	**10 14 37.9**	**+0.2**
BNAZ				S	**Sg**	**10 14 54.3**	**+0.8**
BNAZ				*i* AML	AML	10 14 59.0	
	comp=N,2μm,0.6s						
BNAZ				*i* AML	AML	10 14 59.0	
	comp=E,654nm,0.3s						
HISA	**Bilecik-Osmane**	**1.24**	**43**	S	**Sg**	**10 14 56.7**	**+2.2**
YENI	**Yenice-Canakka**	**1.27**	**288**	Pn	**Pg**	**10 14 38.8**	**0.0**
PASA	**Karahalli, USA**	**1.32**	**156**	P	**Pb**	**10 14 38.8**	**0.0**
BUHA	**Balikesir, Bur**	**1.35**	**268**	P	**Pg**	**10 14 40.4**	**+0.1**
BUHA				*i* AML	AML	10 14 59.0	
	comp=N,337nm,0.3s						
BUHA				*i* AML	AML	10 14 59.0	
	comp=E,488nm,0.3s						
KIRA	**zmir-Kiraz**	**1.40**	**194**	P	**Pb**	**10 14 40.4**	**+0.3**
ODEM	**Odemis-Izmir**	**1.41**	**204**	Pn	**Pb**	**10 14 40.4**	**+0.2**
HRT	**Hereke**	**1.42**	**27**	Pn	**Pb**	**10 14 40.2**	**-0.2**
CANM	**Can-anakkale**	**1.43**	**289**	Pn	**Pb**	**10 14 40.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.43**	**306**	Pn	**Pb**	**10 14 41.2**	**+0.6**
ZEDA	**zmir-Bergama**	**1.48**	**247**	P	**Pn**	**10 14 40.4**	**+0.2**
SEMS	**Kocaeli-K¶rfe**	**1.49**	**28**	P	**Pb**	**10 14 41.3**	**-0.3**
KAVV	**Kandilli-Istan**	**1.51**	**7**	Pn	**Pb**	**10 14 41.9**	**-0.1**
ISK	**Istanbul-Kandi**	**1.51**	**7**	Pn	**Pb**	**10 14 41.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.51**	**7**	P	**Pb**	**10 14 42.3**	**+0.3**
DKL	**Dikili**	**1.56**	**252**	Pn	**Pb**	**10 14 43.0**	**+0.2**
DKL	**Dikili**	**1.56**	**252**	P	**Pg**	**10 14 44.0**	**-0.3**
DKL				S	**Sn**	**10 14 56.1**	**-5.1**
GULT	**Gulveren**	**1.57**	**56**	Pn	**Pb**	**10 14 42.6**	**-0.4**
IZMD	**zmir-Dikili-**	**1.57**	**249**	P	**Pn**	**10 14 41.2**	**-0.4**
IZMR	**zmir-demi**	**1.57**	**206**	P	**Pg**	**10 14 44.5**	**-0.1**
ELBA	**Catalca**	**1.61**	**350**	P	**Pg**	**10 14 44.9**	**-0.4**
BGKT	**Bogazkoy**	**1.62**	**359**	Pn	**Pn**	**10 14 42.8**	**+0.7**
NAZL	**Nazilli-Aydin**	**1.65**	**195**	Pn	**Pb**	**10 14 44.3**	**0.0**
SAUV	**Serdivan-Sakar**	**1.65**	**44**	Pn	**Pb**	**10 14 43.8**	**-0.5**
AYVA	**Ayvalik**	**1.67**	**262**	P	**Pb**	**10 14 44.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.69**	**126**	Pn	**Pb**	**10 14 45.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.69**	**312**	Pn	**Pn**	**10 14 43.5**	**+0.4**
CTKS	**Kestanelik-??a**	**1.69**	**352**	Pn	**Pn**	**10 14 44.1**	**+1.0**
KLYT	**Kilyos**	**1.70**	**6**	Pn	**Pn**	**10 14 44.2**	**+1.0**
SLVT	**Silivri**	**1.73**	**345**	Pn	**Pb**	**10 14 45.4**	**-0.3**
TKR	**Tekirdag**	**1.73**	**326**	Pn	**Pb**	**10 14 45.2**	**-0.5**
CIFT	**Cifteler, Eski**	**1.75**	**96**	Pn	**Pb**	**10 14 45.5**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**204**	Pn	**Pb**	**10 14 45.4**	**+1.1**
CRLT	**Corlu**	**1.77**	**333**	Pn	**Pb**	**10 14 45.8**	**-0.6**
LPK	**Lapseki**	**1.77**	**298**	Pn	**Pb**	**10 14 45.9**	**-0.6**
ESEN	**Aydn-Nazilli**	**1.80**	**192**	P	**Pg**	**10 14 48.6**	**-0.3**
BLCB	**Balcova**	**1.81**	**230**	Pn	**Pn**	**10 14 46.2**	**+1.4**
COMU	**Canakkale**	**1.88**	**287**	Pn	**Pb**	**10 14 47.6**	**-0.7**
BASM	**Basmaki-Afyon**	**1.90**	**149**	Pn	**Pb**	**10 14 47.6**	**-1.1**
CNKL	**anakkale-Mer**	**1.94**	**286**	P	**Pb**	**10 14 48.5**	**-0.7**
CTYL	**Yalikoy Yolu**	**1.95**	**348**	Pn	**Pb**	**10 14 48.4**	**-1.1**
GELI	**Tayfur-Gelibol**	**1.98**	**296**	Pn	**Pb**	**10 14 48.9**	**-1.1**
PRK	**Paraskevi**	**2.00**	**262**	P	**Pb**	**10 14 49.2**	**-1.0**
PRK	**Paraskevi**	**2.00**	**262**	P	**Pb**	**10 14 50.2**	**0.0**
PRK				S	**Sn**	**10 15 07.8**	**-4.2**
MDUB	**Mudurnu**	**2.04**	**63**	Pn	**Pn**	**10 14 49.5**	**+1.4**
ERIK	**Erikli-Kesan**	**2.08**	**303**	Pn	**Pn**	**10 14 50.2**	**+1.7**
APMY	**Acipayam-Deniz**	**2.12**	**169**	Pn	**Pb**	**10 14 51.0**	**-1.4**
BOZC	**Bozcaada**	**2.15**	**278**	Pn	**Pn**	**10 14 51.4**	**+1.9**
BOZC	**Bozcaada**	**2.15**	**278**	P	**Pn**	**10 14 50.2**	**+0.8**
GCAM	**G?zelcaml?**	**2.23**	**214**	Pn	**Pb**	**10 14 52.7**	**-1.6**
UKOP	**Uzunkopru-Edir**	**2.29**	**314**	Pn	**Pn**	**10 14 53.2**	**+1.9**
PHSR	**Pinarhisar**	**2.29**	**335**	Pn	**Pn**	**10 14 53.1**	**+1.7**
SIGR	**SIGRI**	**2.32**	**262**	Pn	**Pn**	**10 14 53.9**	**+2.1**
SIGR	**SIGRI**	**2.32**	**262**	P	**Pb**	**10 14 54.7**	**-1.1**
SIGR				S	**Sn**	**10 15 16.8**	**-3.2**
GADA	**Gvkgeada**	**2.33**	**287**	Pn	**Pn**	**10 14 54.0**	**+2.1**
ENEZ	**Enez**	**2.35**	**301**	Pn	**Pn**	**10 14 54.4**	**+2.2**
SMG	**Samos**	**2.41**	**221**	P	**Pg**	**10 14 59.9**	**-0.7**
SMG	**Samos**	**2.41**	**221**	P	**Pb**	**10 14 59.0**	**+1.6**
SMG				S	**Sn**	**10 15 24.5**	**+2.2**
ALN	**Alexandroupoli**	**2.50**	**303**	P	**Pn**	**10 14 55.9**	**+1.6**
SMTH	**Samothraki Isl**	**2.68**	**291**	P	**Pn**	**10 14 58.7**	**+1.9**
SMTH	**Samothraki Isl**	**2.68**	**291**	P	**Pb**	**10 15 01.2**	**-0.7**
SMTH				S	**Sn**	**10 15 28.1**	**-0.8**
LIA	**Limnos Island**	**2.82**	**278**	P	**Pn**	**10 15 00.3**	**+1.7**
LIA				Pn_3		10 15 02.0	
LIA				S	**Sn**	**10 15 30.2**	**-2.1**
RDO	**Rodhopi**	**2.96**	**303**	P	**Pb**	**10 15 06.2**	**-0.5**
RDO				S	**Sn**	**10 15 36.8**	**+1.0**
THAS	**Thassos island**	**3.31**	**290**	P	**Pb**	**10 15 09.8**	**-2.8**
THAS				S	**Sn**	**10 15 43.5**	**-0.9**
SEV	**Sevastopol'**	**6.15**	**34**	*e*P	**Pn**	**10 15 44.9**	**+0.5**
SEV				Pm		10 15 45.1	
	comp=Z,2.0nm,0.3s						
SEV				*e*S	**Sn**	**10 16 51.9**	**-2.4**
SEV				Sm		10 16 52.1	
	comp=N,3.0nm,0.2s						
SEV				Sm		10 16 52.1	
	comp=E,5.0nm,0.4s						
SUDU	**Sudak**	**7.03**	**39**	*e*P	**Pn**	**10 15 56.1**	**-0.3**
SUDU				Pm		10 15 57.1	
	comp=Z,9.0nm,0.3s						
SUDU				*e*S	**Sn**	**10 17 14.7**	**-1.2**
SUDU				Sm		10 17 18.0	
	comp=N,21nm,0.5s						
SUDU				Sm		10 17 18.0	
	comp=E,9.0nm,0.3s						

*IDC **28** 10:15:05.3±3.0, 14°.55N×93°.82W, h0km, mb3.6/3, mbtmp3.5/4, ML2.3/3, MS3.4/1, Error ellipse: s-maj=56.2km s-min=24.3km az=16.0*
*GCG **28** 10:15:06.0±1.3, 14°.19N×93°.86W, h35km±999km, MD4.4, Hypocentre not reviewed by the ISC*
*MEX **28** 10:15:07.6±0.9, 14°.31N×93°.84W, h15km±14km, MD4.3*
ISC 28 10:15:03.2±3.0, 14°.35N±0°.06×93°.82W±0°.03, h0km±18km, n42, σ2s13/72, mb3.7/3, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.47**	**23**	*e*P	**Pn**	**10 15 30.5**	**-0.5**
PCIG				*e*S	**Sg**	**10 15 48.5**	**-2.0**
THIG		**1.61**	**70**	*e*P	**Pn**	**10 15 31.5**	**-1.3**
THIG				*e*S	**Sn**	**10 15 50.6**	**-3.6**
THIG		**1.61**	**70**	⇑*i*P		10 15 33.2	
PATR	**El Naranjo**	**1.72**	**63**	*e*P	**Pn**	**10 15 33.8**	**-0.8**
PATR				*e*S	**Sn**	**10 15 55.2**	**-2.1**
PAVE	**Pavencul**	**1.80**	**62**	*e*P	**Pn**	**10 15 35.4**	**-0.4**
PAVE				*e*S	**Sn**	**10 15 57.5**	**-1.9**
CHUJ	**Union Juarez**	**1.82**	**66**	*e*S	**Sn**	**10 15 55.9**	**-3.9**
CARR	**Arriaga**	**1.89**	**357**	*e*P	**Pn**	**10 15 36.6**	**-0.2**
CARR				*e*S	**Sn**	**10 15 58.5**	**-2.8**
RTAL	**Retalhuleu**	**2.07**	**85**	*e*P	**Pn**	**10 15 37.5**	**-1.8**
RTAL				*e*S	**Sn**	**10 16 04.0**	**-1.7**
NILT	**Santiago Nilte**	**2.33**	**341**	*e*P	**Pn**	**10 15 43.1**	**+0.2**
NILT				*i* S	**Sn**	**10 16 09.1**	**-3.2**
HUEH	**Huehuetenango**	**2.44**	**66**	*e*P	**Pn**	**10 15 44.6**	**+0.1**
HUEH				*e*S	**Sn**	**10 16 14.4**	**-0.8**
HUEH	**Huehuetenango**	**2.44**	**66**	*i* S		10 16 16.8	
TGIG		**2.51**	**16**	*e*P	**Pn**	**10 15 46.4**	**+1.1**
TGIG				*e*S	**Sn**	**10 16 15.4**	**-1.3**
TGIG		**2.51**	**16**	*i* P		10 15 46.7	
TGIG				*i* S		10 16 18.0	
CCIG	**Comitan**	**2.52**	**40**	*e*P	**Pn**	**10 15 47.8**	**+2.2**
CCIG				*e*S	**Sn**	**10 16 18.5**	**+1.5**
CCIG	**Comitan**	**2.52**	**40**	*i* P		10 15 47.9	
CCIG				*i* S		10 16 19.7	
HUIG	**Huatulco**	**2.62**	**303**	*e*P	**Pn**	**10 15 46.4**	**-0.4**
HUIG				*e*S	**Sn**	**10 16 14.1**	**-5.3**
CMIG	**Matias Romero**	**2.91**	**340**	Pn	**Pn**	**10 15 50.9**	**0.0**
	3.4nm,0.3s,baz=160,slow=12,SNR=35						
CMIG				Sn	**Sn**	**10 16 23.8**	**-2.8**
	9.1nm,0.3s,baz=303,slow=21,SNR=10.0						
	19nm,0.6s						
CMIG	**Matias Romero**	**2.91**	**340**	*e*P	**Pn**	**10 15 50.8**	**-0.1**
CMIG				*e*S	**Sn**	**10 16 23.6**	**-3.0**
UXUV	**UXUV**	**2.97**	**354**	*e*P	**Pn**	**10 15 53.2**	**+1.6**
UXUV				*e*S	**Sn**	**10 16 27.4**	**-0.6**
APG	**El Apazote**	**3.31**	**78**	Pn	**Pn**	**10 15 58.2**	**+1.6**
	0.2nm,0.3s,baz=180,slow=10,SNR=12						
APG				Sn	**Sn**	**10 16 37.9**	**+1.1**
	0.4nm,0.3s,baz=74,slow=19,SNR=3.9						
APG	**El Apazote**	**3.31**	**78**	*i* P		10 15 58.2	
PEIG	**Puerto Escondi**	**3.61**	**297**	*e*P	**Pn**	**10 16 00.4**	**0.0**
PEIG				*e*S

0.4nm,0.9s,baz=236,slow=2.7,SNR=3.7
0.4nm,0.9s
CMAR Chiang Mai Arr 89.28 290 P **P 10 34 39.5 +2.0**
0.6nm,0.3s,baz=131,slow=2.9,SNR=5.8
0.6nm,0.3s

---

*CATAC **28** 10:32:00.1±1.1, 12°N±6°×8°9W±°, h1km±6km, M3.6/18, MLv3.6/18, Error ellipse: s-maj=12.7km s-min=4.1km az=19.6, confirmed*
*GCG **28** 10:32:01.6±1.0, 12°51N×89°68W, h0km±25km, MD4.0, Hypocentre not reviewed by the ISC*
*SNET **28** 10:32:01.6±1.1, 12°50N×89°30W, h17km, ML3.7*
ISC 28 10:31:56.1±2.1, 12°20N±0°10×89°30W±0°05, h19km±3km, n82, σ1°103/88, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.28**	**359**	*eP*	**Pb**	**10 32 19.8**	**+0.2**
LALI				*eS*	**Sn**	**10 32 32.7**	**-3.0**
LALI	**Alcalda de L**	**1.28**	**359**	P	**Pb**	**10 32 19.9**	**+0.2**
LALI	**Alcalda de L**	**1.28**	**359**	S	**Sn**	**10 32 34.2**	**-1.4**
LALI	**Alcalda de L**	**1.28**	**359**	P	**Pb**	**10 32 20.0**	**+0.4**
LALI	**Alcalda de L**	**1.28**	**359**	P	**Pg**	**10 32 21.1**	**+0.2**
LALI	**Alcalda de L**	**1.28**	**359**	*eP*		10 32 19.9	
LALI				*eS*		10 32 34.7	
ALJI	**Alcalda de J**	**1.33**	**33**	P	**Pb**	**10 32 20.2**	**-0.2**
ALJI	**Alcalda de J**	**1.33**	**33**	P	**Pb**	**10 32 20.2**	**-0.2**
TECO	**Alcaldia de Te**	**1.42**	**21**	P	Pg	10 32 32.1	+8.5
TECO	**Alcaldia de Te**	**1.42**	**21**	P	**Pb**	**10 32 22.8**	**+0.7**
LOMA	**Loma Larga**	**1.44**	**5**	P	**Pg**	**10 32 23.6**	**-0.3**
LOMA	**Loma Larga**	**1.44**	**5**	S	**Sb**	**10 32 40.2**	**-0.3**
LOMA	**Loma Larga**	**1.44**	**5**	P	**Pg**	**10 32 23.7**	**-0.3**
LOMA	**Loma Larga**	**1.44**	**5**	P	**Pg**	**10 32 25.7**	**+1.7**
JAYA	**Jayaque - finc**	**1.45**	**354**	*eP*	**Pb**	**10 32 22.4**	**-0.3**
JAYA	**Jayaque - finc**	**1.45**	**354**	P	**Pb**	**10 32 23.1**	**+0.5**
JAYA	**Jayaque - finc**	**1.45**	**354**	S	**Sb**	**10 32 41.1**	**+0.3**
JAYA	**Jayaque - finc**	**1.45**	**354**	P	**Pb**	**10 32 23.3**	**+0.6**
JAYA	**Jayaque - finc**	**1.45**	**354**	P	**Pg**	**10 32 23.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.45**	**354**	*eP*		10 32 23.2	
JAYA				*eS*		10 32 39.8	
COEG	**Centro de Oper**	**1.47**	**16**	*eP*	**Pb**	**10 32 23.6**	**+0.7**
COEG				*eS*	**Sn**	**10 32 39.0**	**-1.5**
COEG	**Centro de Oper**	**1.47**	**16**	P	**Pb**	**10 32 23.6**	**+0.7**
COEG	**Centro de Oper**	**1.47**	**16**	S	**Sn**	**10 32 40.6**	**+0.1**
COEG	**Centro de Oper**	**1.47**	**16**	P	**Pg**	**10 32 25.5**	**+1.0**
COEG	**Centro de Oper**	**1.47**	**16**	P	**Pg**	**10 32 25.9**	**+1.4**
PMON	**Piamonte**	**1.50**	**360**	P	**Pb**	**10 32 23.8**	**+0.3**
PMON	**Piamonte**	**1.50**	**360**	P	**Pg**	**10 32 24.9**	**-0.2**
PMON	**Piamonte**	**1.50**	**360**	P	**Pg**	**10 32 26.4**	**+1.3**
UEES	**Universidad Ev**	**1.51**	**2**	P	**Pb**	**10 32 23.8**	**+0.2**
UEES	**Universidad Ev**	**1.51**	**2**	P	**Pb**	**10 32 24.4**	**+0.8**
UEES	**Universidad Ev**	**1.51**	**2**	P	**Pg**	**10 32 26.3**	**+1.1**
UESV	**Universidad de**	**1.51**	**19**	S	**Sb**	**10 32 42.4**	**-0.1**
UESV	**Universidad de**	**1.51**	**19**	P	**Pg**	**10 32 24.7**	**-0.7**
BOQS	**Boqueron**	**1.52**	**1**	*eP*	**Pb**	**10 32 24.0**	**+0.1**
PAVA	**Las Pavas**	**1.54**	**13**	*eP*	**Pb**	**10 32 24.6**	**+0.4**
PAVA				*eS*	**Sn**	**10 32 41.9**	**-0.5**
PAVA	**Las Pavas**	**1.54**	**13**	S	**Sn**	**10 32 42.6**	**+0.2**
PAVA	**Las Pavas**	**1.54**	**13**	P	**Pb**	**10 32 24.6**	**+0.4**
PAVA	**Las Pavas**	**1.54**	**13**	P	**Pb**	**10 32 25.0**	**+0.8**
PAVA	**Las Pavas**	**1.54**	**13**	P	**Pg**	**10 32 26.6**	**+0.6**
PACA	**Pacayal**	**1.58**	**37**	P	**Pg**	**10 32 27.7**	**+1.0**
PACA	**Pacayal**	**1.58**	**37**	P	**Pg**	**10 32 26.8**	**+0.1**
PACA	**Pacayal**	**1.58**	**37**	P	**Pg**	**10 32 29.5**	**+2.9**
CEDA	**San Andres**	**1.59**	**357**	P	**Pb**	**10 32 25.6**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.59**	**21**	P	**Pg**	**10 32 26.5**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.59**	**21**	S	**Sb**	**10 32 44.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**1.59**	**21**	P	**Pn**	**10 32 23.4**	**0.0**
SCLA	**Alcaldia de Sa**	**1.59**	**21**	P	**Pb**	**10 32 24.3**	**-0.8**
CEVE	**Cerro Verde**	**1.65**	**349**	*eP*	**Pb**	**10 32 26.3**	**+0.2**
CEVE	**Cerro Verde**	**1.65**	**349**	P	**Pb**	**10 32 27.0**	**+0.9**
CEVE	**Cerro Verde**	**1.65**	**349**	S	**Sn**	**10 32 45.2**	**+0.1**
CEVE	**Cerro Verde**	**1.65**	**349**	P	**Pb**	**10 32 25.9**	**-0.2**
CEVE	**Cerro Verde**	**1.65**	**349**	P	**Pb**	**10 32 27.0**	**+0.9**
NUBE	**Las Nubes**	**1.75**	**345**	*eP*	**Pn**	**10 32 26.4**	**+0.7**
NUBE				*eS*	**Sn**	**10 32 46.1**	**-1.4**
NUBE	**Las Nubes**	**1.75**	**345**	S	**Sn**	**10 32 47.3**	**-0.3**
NUBE	**Las Nubes**	**1.75**	**345**	P	**Pn**	**10 32 26.7**	**+1.0**
NUBE	**Las Nubes**	**1.75**	**345**	P	**Pn**	**10 32 26.2**	**+0.6**
NUBE	**Las Nubes**	**1.75**	**345**	P	**Pn**	**10 32 26.7**	**+1.0**
NUBE	**Las Nubes**	**1.75**	**345**	*eP*		10 32 26.1	
NUBE				*eS*		10 32 48.2	
LCND	**La Caada**	**1.76**	**51**	*eP*	**Pb**	**10 32 28.9**	**+1.0**
LCND	**La Caada**	**1.76**	**51**	P	**Pb**	**10 32 28.6**	**+0.7**
LCND	**La Caada**	**1.76**	**51**	P	**Pb**	**10 32 28.9**	**+1.0**
LCND	**La Caada**	**1.76**	**51**	P	**Pg**	**10 32 29.4**	**-0.7**
UNIC	**Universidad Ca**	**1.78**	**352**	P	**Pb**	**10 32 28.8**	**+0.5**
UNIC	**Universidad Ca**	**1.78**	**352**	P	**Pg**	**10 32 30.1**	**-0.4**
CNCH	**Conchagua**	**1.79**	**53**	P	**Pg**	**10 32 30.3**	**-0.3**
CNCH	**Conchagua**	**1.79**	**53**	S	**Sg**	**10 32 54.0**	**+0.1**
CNCH	**Conchagua**	**1.79**	**53**	P	**Pg**	**10 32 30.1**	**-0.5**
CNCH	**Conchagua**	**1.79**	**53**	P	**Pg**	**10 32 31.7**	**+1.1**
LOAL	**Lomas de Alarc**	**1.84**	**345**	P	**Pb**	**10 32 29.8**	**+0.4**
LOAL	**Lomas de Alarc**	**1.84**	**345**	S	**Sb**	**10 32 51.8**	**-0.3**
LOAL	**Lomas de Alarc**	**1.84**	**345**	P	**Pg**	**10 32 31.8**	**+0.2**
CSGN	**Cosiguina Volc**	**1.87**	**66**	P	**Pg**	**10 32 32.5**	**+0.3**
CSGN	**Cosiguina Volc**	**1.87**	**66**	P	**Pg**	**10 32 32.1**	**0.0**
CSGN	**Cosiguina Volc**	**1.87**	**66**	P	**Pg**	**10 32 32.4**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.87**	**346**	P	**Pb**	**10 32 30.0**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.87**	**346**	S	**Sb**	**10 32 53.9**	**+1.1**
POTN	**Potosi Cosigui**	**1.93**	**66**	P	**Pg**	**10 32 34.2**	**+1.0**
LLGN	**La Laguna**	**1.98**	**10**	P	**Pb**	**10 32 32.3**	**+0.7**
LLGN	**La Laguna**	**1.98**	**10**	P	**Pg**	**10 32 33.1**	**-1.2**
MTO3	**Montecristo**	**2.18**	**359**	P	**Pb**	**10 32 33.7**	**-1.5**
MTO3				P	**Pn**	**10 32 34.8**	**+3.1**
MTO3	**Montecristo**	**2.18**	**359**	*eP*		10 32 35.2	
CRIN	**San Cristobal**	**2.26**	**77**	S	**Sg**	**10 33 07.1**	**-1.7**
ESQI	**Esquipulas**	**2.34**	**359**	P	**Pb**	**10 32 37.5**	**-0.4**
ESQI				P	**Pg**	**10 32 38.1**	**-3.1**
TGUH	**Tegucigalpa,Un**	**2.70**	**47**	P	**Pb**	**10 32 43.1**	**-1.0**
TGUH				S	**Sn**	**10 33 13.2**	**+2.1**
YUSH	**Yuscaran**	**2.96**	**54**	P	**Pb**	**10 32 46.7**	**-1.8**
LIMN	**Finca el Limon**	**2.99**	**73**	P	**Pb**	**10 32 47.6**	**-1.4**

---

*IDC **28** 10:45:29.7±1.1, 29°95N×142°01E, h0km, mb3.5/9, mbtmp3.5/10, ML2.7/1, MS2.8/3, Error ellipse: s-maj=38.8km s-min=21.0km az=76.0*
ISC 28 10:45:33.7±0.9, 29°97N±0°10×141°9E±0°2, h26km, n16, σ0°91/11, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.87**	**176**	Sn	**Sn**	**10 46 50.8**	**-0.6**
	4.3nm,0.3s,baz=122,slow=23,SNR=1.1						
MJAR	**Matsushiro Arr**	**7.26**	**336**	Pn	**Pn**	**10 47 16.3**	**-1.9**
	0.1nm,0.3s,baz=159,slow=13,SNR=6.0						
MJAR				LR	LR	10 49 57.3	
	comp=Z,61nm,20.2s,baz=133,slow=37 1.4nm,0.4s						
JOW	**Kunigami**	**12.43**	**259**	LR	LR	10 52 33.6	
	comp=Z,51nm,18.9s,baz=348,slow=34						
KSRS	**Korea Array**	**13.84**	**306**	LR	LR	10 53 52.5	
	comp=Z,37nm,18.4s,baz=95,slow=36						
H11N2	**WAKE ISLAND Hy**	**24.79**	**109**	T	T	11 16 48.3	
	baz=297						
H11N1	**WAKE ISLAND Hy**	**24.79**	**109**	T	T	11 16 46.8	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**24.80**	**109**	T	T	11 16 48.3	
	baz=297						
SONM	**Songino Array**	**32.54**	**313**	P	**P**	**10 52 04.0**	**+1.3**
	0.2nm,0.5s,baz=116,slow=8.1,SNR=2.0 0.2nm,0.5s						
MKAR	**Makanchi Array**	**48.52**	**308**	P	**P**	**10 54 15.1**	**+0.6**
	0.3nm,0.7s,baz=88,slow=7.5,SNR=1.5 0.3nm,0.7s						
WRA	**Warramunga Arr**	**50.16**	**189**	P	**P**	**10 54 26.7**	**-0.4**
	0.6nm,0.7s,baz=6.0,slow=7.7,SNR=7.5 0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**50.91**	**313**	P	**P**	**10 54 32.6**	**+0.1**
	0.3nm,0.5s,baz=90,slow=4.0,SNR=4.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**53.88**	**189**	P	**P**	**10 54 54.7**	**-0.1**
	0.2nm,0.5s,baz=9.1,slow=5.8,SNR=5.0 0.2nm,0.5s						
BVAR	**Borovoye Array**	**55.81**	**316**	P	**P**	**10 55 08.7**	**+0.2**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=1.7 0.4nm,0.4s						
YKA	**Yellowknife Ar**	**69.73**	**29**	P	**P**	**10 56 41.0**	**0.0**
	0.1nm,0.4s,baz=294,slow=6.3,SNR=2.5 0.1nm,0.4s						
FINES	**FINESS Array B**	**75.29**	**333**	P	**P**	**10 57 14.4**	**+0.3**
	4.6nm,1.2s,baz=55,slow=12,SNR=1.3 4.6nm,1.2s						
TXAR	**Lajitas Array**	**94.06**	**53**	P	**P**	**10 58 50.7**	**+0.5**
	0.2nm,0.7s,baz=299,slow=2.5,SNR=2.5 0.2nm,0.7s						

---

*IDC **28** 10:53:16.7±2.1, 45°04N×27°93W, h0km, mb3.7/10, mbtmp3.7/11, ML4.0/1, MS3.6/24, Error ellipse: s-maj=64.9km s-min=21.6km az=175.0*
ISC 28 10:53:19.1±1.8, 45°1N±0°4×28°0W±0°1, h14km, n37, σ0°70/12, mb3.8/10, MS3.6/22, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.50**	**98**	LR	LR	11 03 01.7	
	comp=Z,104nm,20.7s,baz=291,slow=32						
EKA	**Eskdalemuir Ar**	**18.80**	**48**	P	**P**	**10 57 38.1**	**+0.1**
	baz=240,slow=6.7 0.6nm,0.7s						
MDT	**Midelt**	**21.81**	**116**	LR	LR	11 04 28.1	
	comp=Z,122nm,20.2s,baz=354,slow=31						
DAVOX	**Davos/Dischmat**	**26.21**	**73**	LR	LR	11 08 18.4	
	comp=Z,63nm,19.6s,baz=255,slow=34						
SCHQ	**Schefferville**	**26.54**	**306**	LR	LR	11 07 43.9	
	comp=Z,119nm,18.2s,baz=123,slow=33						
GERES	**GERESS Array B**	**28.42**	**67**	LR	LR	11 09 55.4	
	comp=Z,81nm,18.2s,baz=228,slow=35						
FRB	**Frobisher Bay**	**29.39**	**324**	LR	LR	11 07 42.4	
	comp=Z,91nm,18.1s,baz=105,slow=29						
VRAC	**Vranov**	**30.23**	**66**	LR	LR	11 10 54.3	
	comp=Z,105nm,18.8s,baz=300,slow=35						
FINES	**FINESS Array B**	**35.04**	**43**	P	**P**	**11 00 11.3**	**+0.3**
	6.3nm,1.1s,baz=265,slow=17,SNR=2.6 6.3nm,1.1s						
SADO	**Sadowa**	**35.75**	**288**	LR	LR	11 14 11.5	
	comp=Z,111nm,18.2s,baz=35,slow=35						
AKASG	**Malin Array Be**	**37.93**	**60**	LR	LR	11 16 59.3	
	comp=Z,61nm,18.1s,baz=290,slow=38						
SJG	**San Juan**	**41.61**	**242**	LR	LR	11 16 31.8	
	comp=Z,52nm,19.2s,baz=76,slow=34						
DBIC	**Dimbokro**	**43.20**	**145**	LR	LR	11 18 07.0	
	comp=Z,83nm,18.7s,baz=270,slow=34						
ULM	**Lac du Bonnet**	**44.60**	**302**	LR	LR	11 17 52.1	
	comp=Z,104nm,20.2s,baz=58,slow=33						
BRTR	**Keskin Array B**	**44.84**	**74**	P	**P**	**11 01 33.6**	**+0.8**
	1.3nm,0.8s,baz=301,slow=11,SNR=4.6 1.3nm,0.8s						
MDP	**Montagnes des**	**45.28**	**216**	LR	LR	11 15 04.3	
	comp=Z,54nm,20.5s,baz=130,slow=29						
YKA	**Yellowknife Ar**	**49.90**	**323**	P	**P**	**11 02 11.1**	**-0.7**
	0.8nm,1.1s,baz=66,slow=6.7,SNR=3.6 0.8nm,1.1s						
H10N2	**ASCENSION HYDR**	**54.03**	**163**	T	T	11 59 57.0	
	baz=352						
H10N3	**ASCENSION HYDR**	**54.04**	**163**	T	T	12 00 07.5	
	baz=352						
H10N1	**ASCENSION HYDR**	**54.05**	**163**	T	T	11 59 54.1	
	baz=352						
PDAR	**Pinedale Array**	**56.39**	**299**	P	**P**	**11 03 00.6**	**+0.5**
	0.2nm,0.7s,baz=48,slow=6.4,SNR=4.0						
PDAR				LR	LR	11 25 28.2	
	comp=Z,96nm,18.9s,baz=312,slow=34 0.2nm,0.7s						
ROSC	**El Rosal**	**56.88**	**239**	LR	LR	11 27 00.5	
	comp=Z,32nm,18.3s,baz=114,slow=36						
NEW	**Newport**	**57.87**	**308**	LR	LR	11 28 37.5	
	comp=Z,139nm,18.1s,baz=240,slow=37						
JTS	**Las Juntas de**	**59.66**	**253**	LR	LR	11 26 39.9	
	comp=Z,36nm,19.2s,baz=126,slow=34						
BVAR	**Borovoye Array**	**59.99**	**44**	P	**P**	**11 03 24.5**	**-0.3**
	0.6nm,0.6s,baz=313,slow=8.9,SNR=2.6 0.6nm,0.6s						
TXAR	**Lajitas Array**	**60.23**	**283**	P	**P**	**11 03 27.0**	**+0.1**
	0.3nm,0.7s,baz=34,slow=11,SNR=3.2 0.3nm,0.7s						
ILAR	**Eielson Array**	**60.62**	**335**	P	**P**	**11 03 29.8**	**+0.7**
	0.5nm,1.0s,baz=64,slow=5.2,SNR=2.9 0.5nm,1.0s						
CMIG	**Matias Romero**	**61.86**	**266**	LR	LR	11 31 58.0	
	comp=Z,41nm,18.0s,baz=306,slow=38						
KURBB	**Kurchatov Arra**	**65.43**	**42**	P	**P**	**11 04 00.1**	**-1.0**
	0.3nm,0.2s,baz=315,slow=7.4,SNR=6.5 0.3nm,0.2s						
LPIG	**La Paz**	**68.12**	**283**	LR	LR	11 32 16.4	
	comp=Z,82nm,20.1s,baz=344,slow=34						
AAK	**Ala-Archa**	**68.69**	**51**	LR	LR	11 34 36.4	
	comp=Z,47nm,18.6s,baz=358,slow=36						
MKAR	**Makanchi Array**	**69.87**	**43**	P	**P**	**11 04 28.7**	**-0.6**
	0.6nm,0.9s,baz=333,slow=4.8,SNR=4.4 0.6nm,0.9s						
LSZ	**Lusaka**	**78.68**	**125**	LR	LR	11 38 23.0	
	comp=Z,34nm,18.2s,baz=157,slow=34						
SONM	**Songino Array**	**79.19**	**29**	P	**P**	**11 05 23.4**	**-0.2**
	1.2nm,0.9s,baz=319,slow=4.2,SNR=5.9 1.2nm,0.9s						
BOSA	**Boshof**	**87.88**	**135**	LR	LR	11 45 26.0	
	comp=Z,36nm,18.4s,baz=203,slow=36						
SUR	**Sutherland**	**88.90**	**140**	LR	LR	11 43 28.1	
	comp=Z,40nm,18.7s,baz=150,slow=34						
ASAR	**Alice Springs**	**154.04**	**41**	PKPbc	**PKPbc**	**11 13 17.4**	**-1.0**
	0.3nm,0.8s,baz=338,slow=2.3,SNR=2.8						

IDC 28 11:02:34.5±999.0, 48°23N×49°05E, h0km, Error ellipse: s-maj=648.4km s-min=139.1km az=67.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.27**	**66**	I	I	11 40 30.0	
	0.1nm,0.5s,baz=254,slow=323,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**23.01**	**62**	I	I	13 23 30.0	
	baz=269,slow=323,SNR=0.8						
I34MN	**SONGINO INFRA**	**37.60**	**69**	I	I	14 51 30.0	
	baz=293,slow=335,SNR=0.6						

---

*NEIC **28** 11:07:07.5±1.4, 37°29N±0°02×117°49W±0°03, h5km±1km, Error ellipse: s-maj=4.5km s-min=3.0km az=228.0*
REN 28 11:07:07.8±1.2, 37°29N±0°02×117°50W±0°03, h5km±5km, ML2.8, ML2.8/28(NEIC), Error ellipse: s-maj=3.9km s-min=0.5km az=47.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMN	**Gold Mountain**	**0.19**	**88**	Pg	Pg	11 07 11.6	0.0
DSP	**Deep Springs**	**0.39**	**282**		Pg	11 07 15.5	+0.2
DSP	**Deep Springs**	**0.39**	**282**	IAML		11 07 17.8	
	comp=E,7.5nm,4.1s						
DSP				IAML		11 07 23.4	
	comp=N,6.8nm,2.8s						
MZP	**Montezuma Peak**	**0.42**	**12**	Pg	Pg	11 07 16.0	+0.1
WCT	**Wildcat Mounta**	**0.86**	**125**		Pg	11 07 23.8	-0.4
WCT				IAML		11 07 52.4	
	comp=N,267nm,0.5s						
WCT				IAML		11 07 54.2	
	comp=E,220nm,0.3s						
TPNV	**Topopah Spring**	**1.05**	**109**		Pg	11 07 28.2	+0.2
TPNV				IAML		11 08 02.1	
	comp=E,319nm,0.7s						
TPNV				IAML		11 08 03.9	
	comp=E,346nm,0.5s						
CPY	**CP-1**	**1.21**	**107**		Pb	11 07 31.3	+0.1
LHV	**Little Huntoon**	**1.25**	**320**		Pn	11 07 31.9	+0.1
LHV				IAML		11 08 08.8	
	comp=E,158nm,0.6s						
LHV				IAML		11 08 10.3	
	comp=N,180nm,0.7s						
NV11	**Mina Array Sit**	**1.25**	**336**		Pg	11 07 31.8	0.0
NV11				IAML		11 08 07.9	
	comp=E,83nm,1.2s						
GWY	**Greenwater Val**	**1.29**	**149**		Pg	11 07 31.7	-0.8
GWY				IAML		11 08 08.6	
	comp=N,170nm,0.7s						
GWY				IAML		11 08 13.6	
	comp=E,125nm,1.1s						
NVAR	**Mina Array Bea**	**1.30**	**331**		Pg	11 07 32.7	-0.1
S11A	**Rachel**	**1.43**	**75**		Pn	11 07 34.6	0.0
Q09A	**Carvers**	**1.56**	**9**		Pn	11 07 36.1	-0.3
RYN	**Ryan**	**1.56**	**329**		Pn	11 07 36.6	+0.3
RYN				IAML		11 08 18.4	
	comp=N,101nm,0.3s						
RYN				IAML		11 08 19.9	
	comp=E,109nm,0.6s						
R11B	**Troy Canyon, C**	**1.84**	**55**	Pn	Pn	11 07 41.0	+0.7
PRN	**Pahroc Range**	**1.95**	**86**		Pn	11 07 41.3	-0.4
BCW	**Bitter Crk WRg**	**2.81**	**214**	Pn	Pn	11 07 52.3	-1.3
BCW				IAML		11 08 39.3	
	comp=N,37nm,2.9s						

---

*NEIC **28** 11:07:23.6±1.2, 37°28N±0°02×117°50W±0°01, h5km, Error ellipse: s-maj=2.2km s-min=1.5km az=178.0*
REN 28 11:07:23.9±1.1, 37°29N±0°02×117°49W±0°01, h5km±5km, ML3.1/6, ML2.6/52(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=180.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCH	**Last Change Ra**	**0.14**	**245**		Pg	11 07 26.9	+0.1
GMN	**Gold Mountain**	**0.18**	**87**		Sg	11 07 30.7	+0.8
GMN	**Gold Mountain**	**0.18**	**87**	Pg	Pg	11 07 27.6	+0.1
GMN				IAML		11 07 31.0	
	comp=E,2μm,0.3s						
GMN				IAML		11 07 31.3	
	comp=N,2μm,0.5s						
DSP	**Deep Springs**	**0.39**	**282**		Pg	11 07 31.6	+0.1
DSP					Sg	11 07 37.1	+0.5
DSP	**Deep Springs**	**0.39**	**282**	IAML		11 07 37.4	
	comp=E,470nm,0.4s						
DSP				IAML		11 07 37.6	
	comp=N,454nm,0.3s						
MZP	**Montezuma Peak**	**0.42**	**11**		Pg	11 07 32.1	+0.1
MZP					Sg	11 07 38.0	+0.5
MZP	**Montezuma Peak**	**0.42**	**11**	IAML		11 07 38.2	
	comp=E,251nm,0.3s						
MZP				IAML		11 07 40.3	
	comp=N,216nm,0.5s						
POCCA	**Poleta Canyon**	**0.64**	**277**		Pg	11 07 36.0	-0.1
TIN	**Tinemaha, Big**	**0.64**	**248**		Pg	11 07 36.3	+0.1
TIN					Sg	11 07 45.5	+1.0
BHPR	**Bishop**	**0.80**	**271**		Pg	11 07 39.4	+0.2
WCT	**Wildcat Mounta**	**0.85**	**126**		Pg	11 07 39.9	-0.3
WCT					Sg	11 07 51.2	0.0
WCT	**Wildcat Mounta**	**0.85**	**126**	IAML		11 07 56.5	
	comp=N,273nm,0.5s						
BENR	**Benton**	**0.96**	**296**		Pg	11 07 42.1	-0.2
CWC	**Cottonwood Cre**	**0.97**	**209**		Pg	11 07 41.9	-0.7
TPNV	**Topopah Spring**	**1.04**	**109**	Pg	Pg	11 07 43.8	-0.2
SDH	**Striped Hills**	**1.12**	**125**		Pg	11 07 45.6	+0.2
MCBM	**Casa Benchmark**	**1.18**	**288**		Pg	11 07 45.2	-1.2
CPY	**CP-1**	**1.20**	**107**		Pg	11 07 47.0	+0.1
LHV	**Little Huntoon**	**1.25**	**320**		Pb	11 07 48.0	0.0
NV11	**Mina Array Sit**	**1.26**	**335**		Pg	11 07 47.5	-0.5
GWY	**Greenwater Val**	**1.28**	**149**		Pg	11 07 48.0	-0.5
NVAR	**Mina Array Bea**	**1.31**	**331**		Pg	11 07 48.6	-0.3
S11A	**Rachel**	**1.43**	**75**		Pb	11 07 51.1	0.0
Q09A	**Carvers**	**1.56**	**9**		Pg	11 07 54.0	+0.2
RYN	**Ryan**	**1.57**	**329**		Pn	11 07 52.4	-0.2
R11B	**Troy Canyon, C**	**1.84**	**54**	Pn	Pb	11 07 57.9	-0.2
PRN	**Pahroc Range**	**1.94**	**86**		Pn	11 07 58.3	+0.6
WAKR	**Walker**	**1.96**	**309**		Pn	11 07 56.3	-1.7
SHPR	**Sheep Range**	**2.02**	**112**	Pn	Pn	11 07 59.8	+1.0
GSC	**Goldstone, Bar**	**2.06**	**164**		Pn	11 07 59.0	-0.2
GSC				IAML		11 08 38.2	
	comp=N,30nm,1.3s						
GSC				IAML		11 08 40.3	
	comp=E,38nm,1.1s						
CCAC	**Calif City Air**	**2.18**	**192**		Pn	11 08 00.8	0.0
CCAC				IAML		11 09 21.5	
	comp=N,27nm,3.5s						
CMB	**Columbia Colle**	**2.42**	**289**		Pn	11 08 05.4	+1.3
CMB	**Columbia Colle**	**2.42**	**289**	IAML		11 08 44.3	
	comp=N,19nm,0.5s						
PSUT	**Pine Spring**	**3.13**	**66**		Pn	11 08 16.0	+2.0
PSUT				IAML		11 09 13.2	
	comp=N,22nm,1.1s						
SAO	**San Andreas Ge**	**3.21**	**262**	Pn	Pn	11 08 14.5	-0.5
LCMT	**Little Creek M**	**3.40**	**93**		Pn	11 08 18.8	+1.1
LCMT				IAML		11 09 14.7	
	comp=N,10nm,1.0s						
LCMT				IAML		11 09 18.3	
	comp=E,8.4nm,1.0s						
KNB	**Kanab**	**3.73**	**93**	Pn	Pn	11 08 25.7	+3.3
KNB				IAML		11 09 25.0	
	comp=E,11nm,1.0s						
KNB				IAML		11 09 25.2	
	comp=N,12nm,1.5s						
ELK	**Elko**	**3.87**	**26**		Pn	11 08 25.6	+1.4
MTPU	**Mount Pierson**	**4.27**	**78**	Pn	Pn	11 08 31.2	+1.3

---

*IDC **28** 11:18:38.2±1.0, 14°91S×166°86E, h0km, mb3.9/12, mbtmp3.9/14, ML4.2/2, MS3.6/18, Error ellipse: s-maj=30.9km s-min=20.3km az=141.0*
*NOU **28** 11:18:41.5, 15°04S×166°77E, h0km, ML4.8/16, Vanuatu Islands*
*NEIC **28** 11:18:46.2±2.7, 15°03S±0°02×166°3E±0°2, h47km±10km, mb4.8/12, Error ellipse: s-maj=26.4km s-min=2.2km az=86.0*
**ISC 28 11:18:44.1±0.5, 15°01S±0°05

TOLI2	Tolitoli	48.09 285	P	P	11 27 18.8	-1.9
MJAR	Matsushiro Arr	57.87 333	P	P	11 28 32.2	-0.2
	comp=Z,0.8nm,0.5s,baz=163,slow=8.9,SNR=1.6 comp=Z,0.8nm,0.5s					
KSRS	Korea Array	63.63 326	LR	LR	11 56 56.0	
	comp=Z,13nm,18.2s,baz=335,slow=36					
SHEM	Shemya Is, Ala	67.76 5	LR	LR	11 52 57.9	
	comp=Z,54nm,20.0s,baz=310,slow=30					
PETK	Petropavlovsk-	68.27 354	P	P	11 29 40.5	-0.6
	comp=Z,2.4nm,0.8s,baz=108,slow=4.8,SNR=5.5					
PETK			LR	LR	11 56 28.8	
	comp=Z,22nm,18.3s,baz=114,slow=33 comp=Z,2.4nm,0.8s					
KLR	Kul'dur	71.02 337	LR	LR	11 59 58.8	
	comp=Z,24nm,18.5s,baz=354,slow=35					
CMAR	Chiang Mai Arr	74.51 294	P	P	11 30 20.4	+0.9
	comp=Z,0.9nm,0.8s,baz=116,slow=4.5,SNR=5.5 comp=Z,0.9nm,0.8s					
QSPA	South Pole Qui	75.02 180		P	11 30 22.6	+0.8
MA2	Magadan	75.43 352	LR	LR	12 00 06.7	
	comp=Z,40nm,19.0s,baz=200,slow=33					
SONM	Songino Array	82.36 324	P	P	11 31 03.3	+0.9
	comp=Z,0.4nm,0.7s,baz=137,slow=7.2,SNR=1.6 comp=Z,0.4nm,0.7s					
BILL	Bilibino	82.82 360	P	P	11 31 04.4	+0.3
BILL			IAmb	IAmb	11 31 05.6	
	comp=Z,5.5nm,0.6s					
ILAR	Eielson Array	86.98 18	P	P	11 31 23.8	-1.3
	comp=Z,0.7nm,0.5s,baz=230,slow=4.9,SNR=22 comp=Z,0.7nm,0.5s					
NVAR	Mina Array Bea	87.91 49	P	P	11 31 29.3	-1.2
	comp=Z,0.2nm,0.3s,baz=252,slow=6.7,SNR=2.3 comp=Z,0.2nm,0.3s					
TROLL	Troll, Antarti	92.54 185	P	P	11 31 50.7	-0.8
TROLL	Troll, Antarti	92.54 185 ⇑P		P	11 31 50.7	-0.8
	comp=Z,198nm,0.7s					
ANMO	Albuquerque	95.96 56	LR	LR	12 10 43.9	
	comp=Z,36nm,18.5s,baz=109,slow=33					
TXAR	Lajitas Array	96.94 62	P	P	11 32 11.6	-0.8
	comp=Z,0.1nm,0.6s,baz=241,slow=4.9,SNR=1.4					
TXAR			LR	LR	12 09 45.4	
	comp=Z,33nm,18.4s,baz=306,slow=32 comp=Z,0.1nm,0.6s					
MKAR	Makanchi Array	96.98 316	P	P	11 32 12.5	+0.5
	comp=Z,0.5nm,0.9s,baz=72,slow=6.2,SNR=1.9 comp=Z,0.5nm,0.9s					
YKA	Yellowknife Ar	98.07 27	P	P	11 32 13.5	-3.0
	comp=Z,0.2nm,0.7s,baz=249,slow=5.3,SNR=2.8 comp=Z,0.2nm,0.7s					
ARCES	ARCESS Array B	120.36 345	PKP	PKPdf	11 37 30.7	-0.3
	comp=Z,0.9nm,0.6s,baz=42,slow=2.0,SNR=5.2					

---

*IDC **28** 11:21:58.8±1.9, 18°.75N×145°.36E, h548km±22km, mb3.4/19, mbtmp4.3/20, Error ellipse: s-maj=16.9km s-min=10.5km az=83.0*

*NEIC **28** 11:21:59.1±1.1, 18°.7N±0°.1×145°.27E±0°.09, h543km±8km, mb4.0/46, Error ellipse: s-maj=15.9km s-min=11.6km az=202.0*

*ANF **28** 11:22:17.2±0.5, 19°.91N×146°.53E, h644km±4km, ML4.1/31, Error ellipse: s-maj=10.5km s-min=6.5km az=92.0*

ISC 28 11:21:58.7±0.5, 18°.66N±0°.07×145°.3E±0°.1, h550km, n228, σ0983/224, mb4.0/45, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	5.06 185		P		11 23 28.4	-0.8
GUMO				S		11 24 40.6	-2.3
GUMO	Guam	5.06 185		P		11 23 29.3	+0.1
	43nm,0.8s,baz=342,slow=13,SNR=5.5						
JGF	Kuroka	18.28 339		P		11 25 39.8	+0.7
MAJO	Matsushiro	18.88 342		P		11 25 44.5	0.0
JSD	Sado	20.26 344		P		11 25 56.7	-0.4
KSRS	Korea Array	24.12 324		P		11 26 31.6	+0.1
	0.7nm,0.4s,baz=132,slow=7.4,SNR=4.7 0.7nm,0.4s						
FAKI	Fak Fak	24.99 212		P		11 26 39.8	+0.2
USRK	Ussuriysk Ar.	27.80 339		P		11 27 02.5	-1.4
COEN	Coen	32.48 184		P		11 27 45.5	+1.0
KNRA	Kununurra	37.80 207		P		11 28 29.7	+0.9
WB0	Warramunga Arr	39.66 196		P		11 28 44.6	+0.9
WB0				IAmb	IAmb	11 29 12.2	
	comp=Z,9.1nm,1.4s						
WR8	Warramunga Arr	39.81 196		P		11 28 45.8	+0.8
WR8				IAmb	IAmb	11 28 56.5	
	comp=Z,4.7nm,1.2s						
WRAB	Tennant Creek	39.83 196		P		11 28 46.1	+1.0
WRAB				IAmb	IAmb	11 28 46.4	
	comp=Z,2.7nm,0.5s						
WRA	Warramunga Arr	39.84 196		P		11 28 45.7	+0.5
WRA	Warramunga Arr	39.84 196		P		11 28 46.0	+0.8
	comp=Z,1.8nm,0.4s,baz=18,slow=8.6,SNR=28 comp=Z,1.8nm,0.4s						
FITZ	Fitzroy Crossi	41.32 209		P		11 28 58.0	+1.1
FITZ	Fitzroy Crossi	41.32 209		P		11 28 57.8	+0.9
	comp=Z,3.3nm,0.3s,baz=40,slow=10,SNR=23 comp=Z,3.3nm,0.3s						
SONM	Songino Array	42.93 322		P		11 29 09.6	+0.1
SONM	Songino Array	42.93 322		P		11 29 09.9	+0.4
	comp=Z,0.8nm,0.5s,baz=135,slow=7.5,SNR=6.7						
SONM				PcP	PcP	11 30 47.6	0.0
	comp=Z,0.3nm,0.4s,baz=157,slow=4.0,SNR=3.5 comp=Z,0.8nm,0.5s						
ASAR	Alice Springs	43.51 195		P		11 29 14.5	+0.4
ASAR	Alice Springs	43.51 195		P		11 29 14.7	+0.6
	comp=Z,0.6nm,0.3s,baz=11,slow=7.1,SNR=14						
ASAR				PcP	PcP	11 30 50.3	+0.6
	comp=Z,0.4nm,0.5s,baz=28,slow=3.7,SNR=5.0 comp=Z,0.6nm,0.3s						
CMAR	Chiang Mai Arr	43.84 277		P		11 29 17.9	+1.0
	comp=Z,1.3nm,0.6s,baz=67,slow=6.4,SNR=10 comp=Z,1.3nm,0.6s						
MBWA	Marble Bar	46.83 214		P		11 29 39.8	+0.3
MBWA				IAmb	IAmb	11 29 58.2	
	comp=Z,8.4nm,1.1s						
BILL	Bilibino	51.12 10		P		11 30 11.2	+0.6
BILL				IAmb	IAmb	11 30 12.3	
	comp=Z,9.2nm,1.5s						
M16K	Timber Creek	57.48 29		P		11 30 55.3	0.0
	baz=248						
CHIR	Chirikof Islan	57.49 35		P		11 30 55.0	-0.4
	baz=254						
L16K	Owhat River	57.51 28		P		11 30 54.9	-0.6
	baz=247						
H16K	Elim	57.60 24		P		11 30 55.8	-0.3
	baz=242						
J16K	Anvik River	57.66 26		P		11 30 56.2	-0.3
	baz=245						
Q16K	King Salmon	57.77 32		P		11 30 57.2	-0.1
	baz=252						
ZALV	Zalesovo Beam	57.81 323		P		11 30 57.1	-0.6
	comp=Z,0.8nm,0.3s,baz=112,slow=8.6,SNR=4.4 comp=Z,0.8nm,0.3s						
I17K	Unalakleet	57.88 25		P		11 30 58.5	+0.5
	baz=244						
O17K	Koliganek Bris	57.91 30		P		11 30 58.2	0.0
	baz=250						
N17K	Nushagak Hills	58.12 29		P		11 31 00.8	+1.2
	baz=250						
MKAR	Makanchi Array	58.21 314		P		11 31 00.8	+0.2
	comp=Z,1.0nm,0.4s,baz=89,slow=8.7,SNR=7.7 comp=Z,1.0nm,0.4s						
M17K	Holitna River	58.30 28		P		11 31 01.8	+0.9
	baz=249						
K17K	Iditarod	58.40 27		P		11 31 02.3	+0.8
	baz=247						
R18K	Karluk	58.58 33		P		11 31 03.1	+0.4
	baz=254						
D17K	Noatak River	58.76 20		P		11 31 05.0	+1.1
	baz=240						
F17K	Baldwin Pennin	58.80 22		P		11 31 04.6	+0.5
	baz=242						
L18K	Granite Mounta	58.92 28		P		11 31 04.2	-0.8
	baz=249						
M18K	Stony River	59.06 29		P		11 31 05.1	-0.9
	baz=251						
J18K	Innoko River	59.35 26		P		11 31 08.9	+1.0
	baz=249						
O19K	Port Alsworth	59.37 30		P		11 31 07.9	-0.1
	baz=253						
TTA	Tatalina	59.46 27		P		11 31 09.3	+0.6
	baz=250						
E18K	Tukpahlearik C	59.47 21		P		11 31 09.6	+1.0
	baz=242						
N19K	Bonanza Creek	59.47 30		P		11 31 09.4	+0.6
	baz=252						
G18K	Tagagawik	59.51 23		P		11 31 09.1	+0.2
	baz=245						
L19K	White Mountain	59.72 28		P		11 31 10.5	0.0
	baz=251						
GCSA	Galena City Sc	59.75 25		P		11 31 10.4	-0.1
	baz=248						
C18K	Utukok River	59.84 20		P		11 31 11.9	+0.7
	baz=241						
J19K	Poorman	59.99 26		P		11 31 12.9	+0.8
	baz=249						
G19K	Purcell Mounta	60.20 23		P		11 31 14.5	+1.0
	baz=247						
H19K	Roundabout Mou	60.21 24		P		11 31 14.7	+1.2
	baz=248						
F19K	Shaleruckik Mo	60.22 22		P		11 31 14.6	+1.1
	baz=246						
L20K	Farewell, AK	60.24 28		P		11 31 14.0	+0.1
	baz=252						
M20K	Styx River	60.41 29		P		11 31 15.5	+0.5
	baz=253						
K20K	Telida	60.43 27		P		11 31 16.0	+0.9
	baz=251						
J20K	Nowinta River	60.66 26		P		11 31 17.3	+0.8
	baz=251						
E19K	Redstone River	60.66 22		P		11 31 17.2	+0.7
	baz=246						
H20K	Anotleneega Mo	60.80 24		P		11 31 18.0	+0.5
	baz=249						
BRSE	Bradley Lake S	60.99 31		P		11 31 18.5	-0.3
	baz=256						
KURK	Kurchatov	61.04 318		P		11 31 19.4	+0.1
KURK				IAmb	IAmb	11 31 20.1	
	comp=Z,7.7nm,1.1s						
F20K	Avaraart Lake	61.05 23		P		11 31 20.2	+1.2
	baz=248						
KURBB	Kurchatov Arra	61.09 318		P		11 31 19.6	0.0
	comp=Z,6.0nm,0.5s,baz=94,slow=7.3,SNR=59 comp=Z,6.0nm,0.5s						
SKT	Skwentna	61.16 29		P		11 31 19.3	-0.6
	baz=254						
CAST	Castle Rocks	61.30 27		P		11 31 21.0	+0.2
	baz=253						
CHUM	Lake Minchumin	61.34 27		P		11 31 21.7	+0.7
	baz=253						
E20K	Nigu River	61.34 21		P		11 31 21.9	+0.9
	baz=246						
D20K	Etivluk River	61.38 21		P		11 31 21.7	+0.4
	baz=246						
NRIK	Noril'sk	61.52 340		P		11 31 21.7	-0.3
NRIK	Noril'sk	61.52 340		P		11 31 21.9	-0.1
	comp=Z,2.6nm,0.6s,baz=100,slow=6.3,SNR=5.8 comp=Z,2.6nm,0.6s						
H21K	Melozitna River	61.67 25		P		11 31 23.6	+0.4
	baz=251						
G21K	Allakaket	61.68 24		P		11 31 23.7	+0.5
	baz=250						
B20K	Meade River	61.73 19		P		11 31 24.4	+1.0
B20K				IAmb	IAmb	11 31 25.2	
	comp=Z,5.8nm,0.7s						
B20K	Meade River	61.73 19		P		11 31 24.2	+0.8
	baz=244						
M22K	Willow	61.75 29		P		11 31 23.3	-0.4
	baz=256						
RC01	Rabbit Creek A	61.78 30		P		11 31 24.1	+0.2
RC01	Rabbit Creek A	61.78 30		P		11 31 23.6	-0.3
	baz=257						
F21K	Alatna River	61.93 23		P		11 31 24.9	+0.1
	baz=250						
BPAW	Bear Paw Mtn.	61.96 26		P		11 31 24.9	-0.2
BPAW				IAmb	IAmb	11 31 26.4	
	comp=Z,4.1nm,0.8s						
BPAW	Bear Paw Mtn.	61.96 26		P		11 31 25.0	-0.2
	baz=254						
TRF	Thorofare Moun	62.09 27		P		11 31 25.4	-0.8
	baz=255						
PMR	Palmer	62.18 29		P		11 31 25.9	-0.5
	baz=257						
H22K	Ishtalitna Cre	62.31 24		P		11 31 27.6	+0.3
	baz=252						
B21K	Ikpikpuk River	62.39 20		P		11 31 28.6	+0.9
	baz=247						
PWL	Port Wells	62.40 30		P		11 31 27.8	-0.2
	baz=258						
KNK	Knik Glacier	62.45 30		P		11 31 28.4	+0.1
	baz=258						
SML	Sawmill	62.59 29		P		11 31 29.4	+0.1
	baz=258						
P23K	Montague Islan	62.69 31		P		11 31 29.4	-0.4
	baz=259						
MCK	McKinley	62.75 27		P		11 31 30.2	0.0
	baz=256						
D22K	Ayikyak River	62.77 21		P		11 31 31.7	+1.5
D22K				IAmb	IAmb	11 31 32.5	
	comp=Z,5.4nm,0.8s						
D22K	Ayikyak River	62.77 21		P		11 31 31.1	+0.9
	baz=250						
A22K	Sinclair Lake	62.81 19		P		11 31 31.3	+1.0
	baz=246						
E22K	Anaktuvuk Pass	62.83 22		P		11 31 31.6	+1.0
E22K	Anaktuvuk Pass	62.83 22		P		11 31 31.7	+1.1
	baz=251						
M23K	Glacier View	62.87 29		P		11 31 30.6	-0.4
	baz=258						
NEA2	Nenana	62.90 26		P		11 31 31.4	+0.2
	baz=255						
I23K	Minto, Yukon-K	62.91 26		P		11 31 31.9	+0.8
	baz=255						
B22K	Teshekpuk Lake	63.04 19		P		11 31 32.4	+0.5
	baz=248						
G23K	Bananza Creek	63.06 24		P		11 31 33.0	+0.8
	baz=253						
SCM	Sheep Creek Mo	63.07 29		P		11 31 32.5	+0.2
	baz=258						
COLD	Coldfoot	63.14 23		P		11 31 33.7	+1.0
COLD	Coldfoot	63.14 23		P		11 31 33.3	+0.7
	baz=253						
D23K	Nanushuk River	63.48 21		P		11 31 36.3	+1.5
D23K	Nanushuk River	63.48 21		IAmb	IAmb	11 31 36.9	
	comp=Z,3.5nm,0.7s						
D23K	Nanushuk River	63.48 21		P		11 31 36.0	+1.3
	baz=252						
E23K	Chandalar	63.59 22		P		11 31 35.6	0.0
E23K	Chandalar	63.59 22		IAmb	IAmb	11 31 37.9	
	comp=Z,6.6nm,1.1s						
E23K	Chandalar	63.59 22		P		11 31 36.7	+1.1
	baz=253						
EYAK	Cordova Ski Ar	63.60 31		P		11 31 35.6	0.0
	baz=261						
KLU	Klutina	63.66 30		P		11 31 36.7	+0.5
	baz=260						
H24K	Noodor Dome	63.68 25		P		11 31 36.7	+0.5
	baz=256						
HDA	Harding Lake	63.75 27		P		11 31 36.2	-0.3
	baz=258						
TOLK	Toolik Lake Re	63.77 22		P		11 31 37.8	+1.1
	baz=253						
C23K	Itkillik River	63.77 20		P		11 31 37.9	+1.3
C23K	Itkillik River	63.77 20		P		11 31 37.7	+1.1
	baz=251						
IL31		63.85 26		P		11 31 36.1	-1.0
ILAR	Eielson Array	63.85 26		P		11 31 36.2	-1.0
	comp=Z,2.0nm,0.5s,baz=245,slow=5.7,SNR=6.2 comp=Z,2.0nm,0.5s						
E24K	Your Creek	64.00 22		P		11 31 39.4	+1.2
E24K				IAmb	IAmb	11 31 40.0	
	comp=Z,2.7nm,0.6s						
E24K	Your Creek	64.00 22		P		11 31 39.0	+0.8
	baz=254						
G24K	Hadweenzic Riv	64.04 24		P		11 31 39.0	+0.6
	baz=256						
F24K	Squaw Lake	64.08 23		P		11 31 39.5	+0.8
	baz=255						
PAX	Paxson	64.12 28		P		11 31 39.4	+0.3
PAX	Paxson	64.12 28		P		11 31 39.6	+0.5
	baz=260						
K24K	Donnelly Dome	64.14 27		P		11 31 39.1	+0.1
	baz=259						
HARP	HAARP	64.17 29		P		11 31 40.0	+0.7
	baz=260						
D24K	Happy Valley	64.18 21		P		11 31 40.4	+1.2
D24K	Happy Valley	64.18 21		P		11 31 40.3	+1.1
	baz=253						
BMRM	Bremner River	64.21 31		P		11 31 40.5	+0.8
	baz=262						
C24K	Franklin Bluff	64.38 21		P		11 31 41.1	+0.7
	baz=253						
J25K	Salcha River,	64.46 27		P		11 31 40.8	-0.4
	baz=259						
RIDG	Independent Ri	64.53 28		P		11 31 41.9	+0.3
	baz=260						
G25K	Bearman Lake	64.59 24		P		11 31 42.9	+1.1
	baz=257						
H25L	Birch Creek	64.59 25		P		11 31 42.7	+0.8
	baz=258						
DOT	Dot Lake	64.86 28		P		11 31 43.8	+0.2
DOT				IAmb	IAmb	11 31 44.5	
	comp=Z,5.6nm,0.7s						
F25K	Christian Rive	64.94 23		P		11 31 45.4	+1.2
F25K				IAmb	IAmb	11 31 46.3	
	comp=Z,3.9nm,0.9s						
F25K	Christian Rive	64.94 23		P		11 31 45.3	+1.2
	baz=257,SNR=10						
SCRK	Sand Creek	64.95 27		P		11 31 44.1	-0.2
	baz=260						
D25K	Kavik River	65.06 21		IAmb	IAmb	11 31 46.6	
	comp=Z,4.1nm,0.6s						
D25K	Kavik River	65.06 21		P		11 31 45.6	+0.8
	baz=256						
E25K	Arctic Village	65.08 23		P		11 31 46.0	+1.1
	baz=257						
L26K	Log Cabin Wild	65.09 28		P		11 31 45.4	+0.3
	baz=262						
M26K	Nabesna, AK	65.17 29		P		11 31 45.9	+0.2
	baz=262						
J26L	Joseph Creek	65.21 27		P		11 31 45.8	-0.1
	baz=261						
I26K	Coal Creek Min	65.50 26		P		11 31 46.8	-0.9
	baz=261						
F26K	Sheenjek River	65.52 23		P		11 31 48.9	+1.1
	baz=259						
G26K	Porcupine Rive	65.52 24		P		11 31 48.9	+1.2
	baz=259						
M27K	Edge Creek, AK	65.68 29		P		11 31 49.2	+0.3
	baz=263						
C26K	Camden Bay	65.70 21		P		11 31 50.5	+1.8
	baz=257						
L27K	Beaver Creek,	65.78 29		P		11 31 49.9	+0.4
	baz=263						
C27K	Jago River	66.05 21		P		11 31 52.1	+1.2
	baz=258,SNR=10						
BVAR	Borovoye Array	66.26 320		P		11 31 52.5	-0.1
	comp=Z,2.2nm,0.4s,baz=101,slow=7.7,SNR=13 comp=Z,2.2nm,0.4s						
H27K	Steamboat Moun	66.30 25		P		11 31 53.8	+1.1
	baz=262,SNR=6.4						
G27K	Doyon Strip	66.33 24		P		11 31 53.2	+0.5
	baz=261						
O28M	Mount Upton	66.34 31		P		11 31 53.8	+0.5
	baz=266						
KK31	Karatay Array	66.50 310		P		11 31 54.6	+0.3
KK31				IAmb	IAmb	11 31 55.2	
	comp=Z,2.9nm,0.7s						
KKAR	Karatay Array	66.50 310		P		11 31 54.7	+0.4
KKAR	Karatay Array	66.50 310		P		11 31 54.5	+0.3
E27K	Coleen River	66.55 23		P		11 31 55.1	+1.0
	baz=261						
I28M	Miner Creek	66.86 26		P		11 31 56.9	+0.7
I28M	Miner Creek	66.86 26		P		11 31 56.4	+0.2
	baz=264						
D27M	Malcolm River	66.94 22		P		11 31 57.8	+1.3
	baz=261						
DAWY	Dawson	66.97 28		P		11 31 57.6	+0.8
	baz=265						
F28M	Old Crow	67.12 24		P		11 31 58.2	+0.6
	baz=263						
YUK4	Talbot Arm	67.13 31		P		11 31 59.6	+1.6
	baz=267						
M29M	Somme Creek	67.27 29		P		11 31 59.9	+1.1
	baz=266						
E28M	Babbage River	67.36 23		P		11 32 00.4	+1.3
E28M				IAmb	IAmb	11 32 01.4	
	comp=Z,8.7nm,1.4s						
E28M	Babbage River	67.36 23		P		11 32 00.8	+1.7
	baz=263						
L29M	L29M	67.46 29		P		11 32 01.3	+1.5
L29M	L29M	67.46 29		P		11 32 01.0	+1.2
	baz=266						
J29N	Klondike Camp	67.51 27		P		11 32 01.6	+1.5
	baz=266						
I29M	Ogilvie Camp,	67.53 26		P		11 32 00.6	+0.5
	baz=265						
HYT	Haines Junctio	67.66 31		P		11 32 02.1	+0.9
	baz=268						
D28M	Stokes Point	67.73 22		P		11 32 02.6	+1.3
	baz=263						
G29M	Pine Creek	67.77 24		P		11 32 02.9	+1.3
	baz=265						
K29M	Barlow Dome	67.78 28		IAmb	IAmb	11 32 06.4	
	comp=Z,9.5nm,1.4s						
K29M	Barlow Dome	67.78 28		P		11 32 03.1	+1.3
	baz=267						
N30M	Aishikik Lake	67.88 30		P		11 32 03.2	+0.7
	baz=268						
P30M	Million Dollar	67.91 32		P		11 32 03.3	+0.7
	baz=269						
E29M	Blow River	67.94 23		P		11 32 03.2	+0.6
	baz=264						
M30M	Minto, Yukon	68.05 29		P		11 32 04.2	+0.8
	baz=268						
J30M	Hart River	68.33 27		P		11 32 05.9	+0.8
	baz=267						
I30M	Mount Dempster	68.33 26		P		11 32 05.8	+0.6
	baz=267						
G30M	tAoh Zraii Nji	68.48 24		IAmb	IAmb	11 32 07.5	
	comp=Z,2.6nm,0.8s						
G30M	tAoh Zraii Nji	68.48 24		P		11 32 06.4	+0.5
	baz=266						
MAYO	Mayo, Yukon	68.49 28		P		11 32 07.1	+1.1
	baz=268						
N31M	Braeburn, Yuko	68.51 30		P		11 32 06.7	+0.5
	baz=269						
F30M	Barrier River	68.68 24		P		11 32 07.8	+0.7
	baz=266						
M31M	Drury Creek, Y	69.17 30		P		11 32 10.4	+0.3
	baz=270						
H31M	Peel River	69.20 26		P		11 32 11.2	+1.0
	baz=269						
G31M	Satah River	69.25 25		P		11 32 10.9	+0.5
	baz=268,SNR=24						
F31M	Tsiigehtchic	69.46 24		P		11 32 11.9	+0.2
	baz=268,SNR=6.4						
P32M	Atlin	69.56 32		P		11 32 12.4	-0.2
	baz=272						
INK	Inuvik	69.56 23		P		11 32 12.3	+0.1
	baz=268,SNR=12						
FARO	Faro, Yukon	69.65 30		P		11 32 13.6	+0.6
	baz=271						
P33M	Teslin, Yukon	69.98 32		P		11 32 15.7	+0.6
	baz=272						
CRAG	Craig	70.10 37		P		11 32 15.4	-0.3
	baz=274						
S34M	Telegraph Cree	71.00 34		P		11 32 21.7	+0.7
	baz=275						
DLBC	Dease Lake	71.54 34		P		11 32 25.6	+1.3
	baz=275						
T35M	Bob Quinn	71.56 35		P		11 32 25.7	+1.2
	baz=276						
WTLY	Watson Lake, Y	72.00 32		P		11 32 27.3	+0.4
	baz=276						
A36M	Sachs Harbour	72.24 19		P		11 32 28.4	+0.4
A36M				IAmb	IAmb	11 32 29.1	
	comp=Z,5.0nm,0.9s						
A36M	Sachs Harbour	72.24 19		P		11 32 28.4	+0.4
	baz=275						
C36M	Paulatuk	72.93 22		P		11 32 32.2	+0.2
	baz=277						
ARTI	Arti	72.98 324		IAmb	IAmb	11 32 30.0	
	comp=Z,5.2nm,0.9s						
ARTI				P	P	11 32 31.2	-1.4
TOAD	Toad River Com	73.97 33		P	P	11 32 38.5	+0.3
	baz=279						
WRGLY	Wrigley	74.09 28		P		11 32 39.4	+0.7
	baz=279						
KOTAN	Kotaneelee Air	74.34 31		P		11 32 40.9	+0.7
	baz=280						
YKA	Yellowknife Ar	78.20 28		P	P	11 33 01.4	0.0
	comp=Z,1.1nm,0.5s,baz=286,slow=5.5,SNR=27 comp=Z,1.1nm,0.5s						
SPITS	Spitsbergen Ar	79.14 351		P	P	11 33 06.1	0.0
	comp=Z,20nm,1.1s,baz=113,slow=5.5,SNR=5.2 comp=Z,20nm,1.1s						
ARCES	ARCESS Array B	82.41 342		P	P	11 33 22.7	-0.5
	comp=Z,4.6nm,0.7s,baz=81,slow=7.7,SNR=9.4 comp=Z,4.6nm,0.7s						
NVAR	Mina Array Bea	83.47 52		P	P	11 33 29.8	+0.4
	comp=Z,2.0nm,0.7s,baz=271,slow=5.5,SNR=14 comp=Z,2.0nm,0.7s						

HLID	**Hailey**	**84.54**	**46**	P	**P**	**11 33 35.4**	**+0.9**
HLID				IAmb	IAmb	11 33 36.0	
comp=Z,2.4nm,0.8s							
ELK	**Elko**	**84.94**	**49**	P	**P**	**11 33 37.5**	**+0.9**
ELK				IAmb	IAmb	11 33 37.8	
comp=Z,2.0nm,0.6s							
WCT	**Wildcat Mounta**	**85.26**	**53**	IAmb	IAmb	11 33 39.6	
comp=Z,3.1nm,0.9s							
PSUT	**Pine Spring**	**86.72**	**50**	IAmb	IAmb	11 33 46.2	
comp=Z,2.4nm,0.7s							
FINES	**FINESS Array B**	**86.76**	**335**	P	**P**	**11 33 42.7**	**-1.8**
comp=Z,1.3nm,0.4s,baz=66,slow=4.5,SNR=10							
comp=Z,1.3nm,0.4s							
DUG	**Dugway, Tooele**	**86.86**	**49**	P	**P**	**11 33 45.9**	**+0.3**
DUG				IAmb	IAmb	11 33 46.9	
comp=Z,2.1nm,0.8s							
PDAR	**Pinedale Array**	**88.13**	**45**	P	**P**	**11 33 50.6**	**-1.0**
comp=Z,0.2nm,0.6s,baz=158,slow=1.3,SNR=4.6							
comp=Z,0.2nm,0.6s							
N23A	**Red Feather La**	**91.36**	**46**	P	**P**	**11 34 07.7**	**+1.0**
baz=296							
S22A	**4UR Ranch, Cre**	**92.11**	**49**	P	**P**	**11 34 11.1**	**+0.8**
baz=296							
HFS	**Hagfors**	**92.28**	**338**	P	**P**	**11 34 08.0**	**-2.2**
comp=Z,3.6nm,0.9s,baz=25,slow=4.8,SNR=2.4							
comp=Z,3.6nm,0.9s							
Q24A	**Divide**	**92.77**	**47**	P	**P**	**11 34 14.5**	**+1.2**
baz=297							
Y22D	**IRIS PASSCAL I**	**93.61**	**52**	P	**P**	**11 34 18.3**	**+1.3**
baz=296							
TORD	**Torodi Ar. Bea**	**132.18**	**309**	PKP	**PKiKP**	**11 40 11.9**	**-0.6**
comp=Z,1.4nm,0.3s,baz=66,slow=1.1,SNR=2.8							
PLCA	**Paso Flores**	**142.25**	**133**	PKP	**PKPdf**	**11 40 26.4**	**-2.7**
comp=Z,1.2nm,0.7s,baz=224,slow=3.4,SNR=3.1							
LPAZ	**La Paz**	**148.06**	**91**	PKPbc	**PKiKP**	**11 40 45.3**	**-0.4**
comp=Z,2.9nm,0.6s,baz=265,slow=2.2,SNR=7.6							

IDC 28 11:24:02.5±999.0, 48°.07N×48°.75E, h0km, Error ellipse: s-maj=2811.0km s-min=142.6km az=65.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.51**	**66**	I	I	12 01 49.5	
0.1nm,0.6s,baz=252,slow=316,SNR=1.7							
I46RU	**ZALESOVO INFRA**	**23.26**	**62**	I	I	13 47 00.0	
baz=268,slow=322,SNR=1.4							
I34MN	**SONGINO INFRAS**	**37.84**	**68**	I	I	15 16 05.3	
baz=296,slow=340							

TRN 28 11:51:56.8, 17°.53N×61°.71W, h17km, MD3.5, South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.16**	**333**	*e*P	Pb	11 52 01.9	+0.6
ANWB				*e*S	Sb	11 52 07.0	+2.8
ANWB	**Willy Bob**	**0.16**	**333**	*e*P	Pb	11 52 01.9	+0.6
ANWB				*e*S	Sb	11 52 07.0	+2.8
ANBD	**Bethesda, Anti**	**0.48**	**186**	*e*P	Pb	11 52 07.8	+1.0
ANBD				*e*S	Sn	11 52 17.6	+0.7
ANBD	**Bethesda, Anti**	**0.48**	**186**	*e*P	Pb	11 52 07.8	+1.0
ANBD				*e*S	Sn	11 52 17.6	+0.7
MBFL	**Flemmings, Mon**	**0.91**	**212**	*e*P	Pn	11 52 15.1	+0.2
MBFL				*e*S	Sn	11 52 30.1	+2.6
MBFL	**Flemmings, Mon**	**0.91**	**212**	*e*P	Pn	11 52 15.1	+0.2
MBFL				*e*S	Sn	11 52 30.1	+2.6
SKI	**Saint Kitts**	**1.00**	**259**	*e*P	Pg	11 52 16.8	+0.6
SKI				*e*S	Sn	11 52 34.1	+4.3
SKI	**Saint Kitts**	**1.00**	**259**	*e*P	Pg	11 52 16.8	+0.6
SKI				*e*S	Sn	11 52 34.1	+4.3
DSLB	**Salisbury**	**2.10**	**172**	*e*S	Sb	11 53 00.0	-0.2
DSLB	**Salisbury**	**2.10**	**172**	*e*S	Sb	11 53 00.0	-0.2

*IDC **28** 11:58:29.9±2.8, 49°.92N×129°.85W, h0km, mb3.3/2, mbtmp3.1/9, ML3.3/6, MS3.4/2, Error ellipse: s-maj=43.6km s-min=15.1km az=59.0*
*PGC **28** 11:58:31.1±1.8, 50°.02N×129°.99W, h10km, MLSn3.0/20, Mw3.7/20, 185km west of Port Alice, Bc Vancouver Island, Canada Region*

ISC 28 11:58:30.4±1.1, 50°.02N±0°.06×129°.99W±0°.06, h12km, n45, σ1§59/59, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.34**	**62**	P	**Pn**	**11 58 54.3**	**-0.7**
HOLB				S	**Sn**	**11 59 11.0**	**-1.7**
BPEB	**Brooks Peninsu**	**1.43**	**84**	Pn	**Pn**	**11 58 54.9**	**-1.4**
BPEB				Sn	**Sb**	**11 59 12.9**	**-2.4**
PACB	**Port Alice, BC**	**1.66**	**75**	Pn	**Pn**	**11 58 58.3**	**-1.0**
PACB				Sn	**Sn**	**11 59 17.5**	**-2.9**
PHC	**Port Hardy**	**1.77**	**66**	Pn	**Pn**	**11 59 00.6**	**-0.3**
PHC				Sn	**Sn**	**11 59 21.5**	**-1.9**
MAYB	**Maynard**	**1.85**	**77**	Pn	**Pn**	**11 59 01.0**	**-1.1**
MAYB				Sn	**Sn**	**11 59 22.1**	**-3.3**
WOSB	**Woss**	**2.21**	**85**	Pn	**Pn**	**11 59 06.5**	**-0.4**
WOSB				Sn	**Sn**	**11 59 32.8**	**-1.4**
JEDB	**Jedway, Haida**	**2.40**	**342**	Pn	**Pn**	**11 59 08.2**	**-1.3**
JEDB				Sn	**Sn**	**11 59 35.9**	**-2.9**
BBB	**Bella Bella**	**2.47**	**28**	Pn	**Pn**	**11 59 10.5**	**+0.1**
10nm,0.3s,baz=222,slow=15,SNR=223							
BBB				Sn	**Sn**	**11 59 36.4**	**-4.0**
13nm,0.3s,baz=306,slow=20,SNR=3.7							
31nm,0.3s							
BBB	**Bella Bella**	**2.47**	**28**	Pn	**Pn**	**11 59 10.4**	**0.0**
BBB				Sn	**Sn**	**11 59 38.7**	**-1.8**
NCSB	**Newcastle Ridg**	**2.55**	**80**	Pn	**Pn**	**11 59 11.9**	**+0.2**
NCSB				Sn	**Sn**	**11 59 42.0**	**-0.9**
NCRB	**Newcastle Ridg**	**2.56**	**80**	Pn	**Pn**	**11 59 11.7**	**-0.1**
GDR	**Gold River**	**2.57**	**94**	Pn	**Pn**	**11 59 11.4**	**-0.4**
GDR				Sn	**Sn**	**11 59 41.1**	**-1.8**
BAIB	**Barry Inlet**	**2.79**	**337**	Pn	**Pn**	**11 59 13.2**	**-1.7**
BAIB				Sn	**Sn**	**11 59 44.9**	**-3.6**
CBB	**Campbell River**	**2.98**	**88**	Pn	**Pn**	**11 59 17.9**	**+0.4**
CBB				Sn	**Sn**	**11 59 52.0**	**-1.2**
OZB	**Mount Ozzard**	**3.12**	**108**	Pn	**Pn**	**11 59 20.1**	**+0.7**
OZB				Sn	**Sn**	**11 59 54.6**	**-2.0**
BUTB	**Butedale**	**3.19**	**17**	Pn	**Pn**	**11 59 21.0**	**+0.5**
BUTB				Sn	**Sn**	**11 59 57.1**	**-1.4**
GRIB	**Gribbell Islan**	**3.36**	**9**	Pn	**Pn**	**11 59 23.2**	**+0.5**
GRIB				Sn	**Sn**	**12 00 00.3**	**-2.3**
BNAB	**Bonilla**	**3.50**	**354**	Pn	**Pn**	**11 59 24.2**	**-0.4**
BNAB				Sn	**Sn**	**12 00 02.6**	**-3.3**
DIB	**Dawson Inlet,**	**3.54**	**335**	Pn	**Pn**	**11 59 24.1**	**-1.1**
MGRB	**Mount Grey**	**3.60**	**105**	Pn	**Pn**	**11 59 26.4**	**+0.4**
TXB	**Texada**	**3.61**	**93**	Pn	**Pn**	**11 59 26.9**	**+0.8**
GRNB	**Grenville Isla**	**3.83**	**0**	Pn	**Pn**	**11 59 28.9**	**-0.3**
GRNB				Sn	**Sn**	**12 00 12.0**	**-2.1**
PCLB	**Port Clements**	**4.02**	**338**	Pn	**Pn**	**11 59 31.8**	**0.0**
MBLB	**Mitette Bay Lo**	**4.11**	**11**	Sn	**Sn**	**12 00 20.4**	**-0.5**
KITB	**Kitimat**	**4.15**	**11**	Pn	**Pn**	**11 59 34.0**	**+0.5**
KITB				Sn	**Sn**	**12 00 21.1**	**-0.8**
SYMB	**Survey Mountai**	**4.31**	**108**	Pn	**Pn**	**11 59 36.0**	**+0.2**
UBRB	**Upper Baezaeko**	**4.68**	**50**	Sn	**Sn**	**12 00 35.6**	**+0.4**
V35K	**Ketchikan**	**5.41**	**350**	Sn	**Sn**	**12 00 51.9**	**-1.0**
FSJB	**Fort St James**	**5.65**	**36**	Pn	**Pn**	**11 59 55.1**	**+0.8**
FSJB				Sn	**Sn**	**12 01 00.2**	**+1.1**
T35M	**Bob Quinn**	**6.97**	**359**	Pn	**Pn**	**12 00 13.2**	**+0.8**
T35M				Sn	**Sn**	**12 01 31.6**	**0.0**
DLBC	**Dease Lake**	**8.43**	**360**	Pn	**Pn**	**12 00 35.0**	**+2.6**
0.1nm,0.3s,baz=179,slow=13,SNR=5.9							
1.1nm,0.6s							
NEW	**Newport**	**8.62**	**97**	Pn	**Pn**	**12 00 34.2**	**-0.7**
0.1nm,0.3s,baz=308,slow=12,SNR=2.0							
0.5nm,0.3s							
YKA	**Yellowknife Ar**	**15.08**	**28**	Pn	**Pn**	**12 02 02.9**	**-0.2**
baz=212,slow=14,SNR=4.1							
0.1nm,0.3s							
KDAK	**Kodiak Island**	**15.36**	**309**	LR	LR	12 06 20.8	
comp=Z,132nm,18.5s,baz=321,slow=30							
PDAR	**Pinedale Array**	**15.82**	**109**	Pn	**Pn**	**12 02 13.3**	**+0.2**
baz=315,slow=15,SNR=7.0							
0.1nm,0.7s							
ILAR	**Eielson Array**	**17.27**	**335**	P	**P**	**12 02 32.8**	**+0.2**
0.2nm,0.8s,baz=148,slow=12,SNR=2.4							
INK	**Inuvik**	**18.43**	**356**	P	**P**	**12 02 47.7**	**+2.4**
0.1nm,0.3s,baz=156,slow=7.6,SNR=1.8							
0.6nm,0.8s							
ULM	**Lac du Bonnet**	**21.76**	**76**	P	**P**	**12 03 22.9**	**+1.2**
1.3nm,0.7s,baz=284,slow=9.8,SNR=10							
ULM				LR	LR	12 12 17.2	
comp=Z,93nm,20.1s,baz=290,slow=38							
1.3nm,0.7s							
TXAR	**Lajitas Array**	**28.68**	**126**	P	**P**	**12 04 28.7**	**+1.5**
0.2nm,0.7s,baz=339,slow=6.1,SNR=2.1							
0.2nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**57.91**	**263**	T	T	13 11 01.4	
baz=42,slow=75,SNR=39							
H11N3	**WAKE ISLAND Hy**	**57.91**	**263**	T	T	13 11 01.5	
baz=42,slow=75,SNR=40							
H11N1	**WAKE ISLAND Hy**	**57.93**	**263**	T	T	13 11 03.0	
baz=42,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**58.94**	**262**	T	T	13 12 31.1	
baz=50							
H11S2	**WAKE ISLAND Hy**	**58.95**	**262**	T	T	13 12 36.1	
baz=50							
H11S3	**WAKE ISLAND Hy**	**58.95**	**262**	T	T	13 12 32.2	
baz=50							

*IDC **28** 12:12:03.8±7.7, 36°.51N×141°.68E, h100km±53km, mb3.4/5, mbtmp3.7/6, MS2.2/1, Error ellipse: s-maj=75.3km s-min=64.5km az=13.0*
*NIED **28** 12:12:05.6, 37°.29N×141°.33E, h57km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.84; $M_{\theta\theta}$-1.39; $M_{\phi\phi}$-0.45; $M_{r\theta}$-0.74; $M_{\theta\phi}$-0.52; $M_{\phi r}$-1.59; Fault plane solution: $M_0$2.42000×1014 NP1: ϕ_s78.00000°, δ27.00000°, λ125.00000°. NP2: ϕ_s220.00000°, δ68.00000°, λ74.00000°.*
*JMA **28** 12:12:05.6±0.1, 37°.3N±0°.2×141°.3E±0°.6, h57km, MV3.5/40, E OFF FUKUSHIMA PREF*

ISC 28 12:12:04.0±1.7, 37°.26N±0°.06×141°.5E±0°.1, h52km±10km, n26, σ0§82/29, mb3.8/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.50**	**283**	*i* P	**Pn**	**12 12 16.0**	**+0.5**
JFK				S	**Sn**	**12 12 23.3**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.57**	**254**	*i* P	**Pn**	**12 12 17.0**	**+0.6**
ONAJ				S	**Sn**	**12 12 25.0**	**-0.2**
JMST	**Minamisoumatoc**	**0.67**	**314**	P	**Pn**	**12 12 17.9**	**+0.5**
JMST				S	**Sn**	**12 12 26.8**	**-0.3**
JFFD	**Fukushimafurud**	**0.76**	**258**	*i* P	**Pn**	**12 12 19.1**	**+0.5**
JFFD				S	**Sn**	**12 12 28.8**	**-0.5**
JMM	**Marumori**	**0.82**	**318**	P	**Pn**	**12 12 19.9**	**+0.4**
JMM				S	**Sn**	**12 12 30.4**	**-0.3**
JOTO	**OTAMA OYAMA**	**0.97**	**288**	*i* P	**Pn**	**12 12 22.1**	**+0.7**
JOTO				S	**Sn**	**12 12 33.9**	**-0.3**
JHO	**Hitachi**	**0.98**	**229**	*i* P	**Pn**	**12 12 22.0**	**+0.5**
JHO				S	**Sn**	**12 12 33.9**	**-0.5**
JIO	**Ouri**	**1.20**	**355**	⇓*i* P	**Pn**	**12 12 25.6**	**+1.1**
JIO				⇓S	**Sn**	**12 12 40.0**	**+0.3**
JOU	**Okura**	**1.28**	**330**	P	**Pn**	**12 12 26.4**	**+0.8**
JOU				S	**Sn**	**12 12 42.3**	**+0.5**
JFY	**Yanaizu**	**1.43**	**276**	*i* P	**Pn**	**12 12 28.0**	**+0.3**
JFY				S	**Sn**	**12 12 44.8**	**-0.5**
JYS	**Shiratake**	**1.48**	**311**	⇓*i* P	**Pn**	**12 12 28.9**	**+0.5**
JYS				⇓S	**Sn**	**12 12 46.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.73**	**256**	P	**Pn**	**12 12 46.5**	**+1.2**
1.9nm,0.3s,baz=89,slow=15,SNR=17							
MJAR				S	**Sn**	**12 13 19.9**	**+2.8**
3.8nm,0.3s,baz=91,slow=18,SNR=5.1							
MJAR				LR	LR	12 14 17.7	
comp=Z,42nm,21.6s,baz=0.5,slow=48							
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**12 17 47.0**	**-0.5**
0.7nm,0.7s,baz=106,slow=8.7,SNR=6.0							
0.7nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T	T	12 47 55.4	
baz=314,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	12 47 54.8	
baz=314,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	12 47 56.7	
baz=314,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	12 48 45.1	
baz=315,slow=76,SNR=4.5							
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	12 48 47.8	
baz=315,slow=76,SNR=4.9							
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	12 48 51.7	
baz=315,slow=76,SNR=5.1							
ZALV	**Zalesovo Beam**	**41.81**	**312**	P	**P**	**12 19 48.1**	**-0.2**
1.8nm,0.7s,baz=93,slow=8.8,SNR=7.9							
1.8nm,0.7s							
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**12 20 06.1**	**-0.6**
0.2nm,0.4s,baz=85,slow=9.8,SNR=6.0							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**12 20 20.5**	**-0.8**
0.9nm,0.5s,baz=83,slow=8.1,SNR=14							
0.9nm,0.5s							
BVAR	**Borovoye Array**	**50.47**	**312**	P	**P**	**12 20 55.9**	**-0.5**
0.5nm,0.6s,baz=60,slow=8.5,SNR=2.2							
0.5nm,0.6s							
H03N2	**Juan Fernandez**	**146.99**	**96**	T	T	15 16 05.8	
baz=292,slow=74							
H03N3	**Juan Fernandez**	**147.00**	**96**	T	T	15 16 11.6	
baz=292,slow=74							
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	15 16 27.7	
baz=292							

*WEL **28** 12:18:18.2±1.4, 34°.S±15°×17°.9W±1°.3, h172km±62km, mB4.5/3, ML4.5/12, MLv4.3/12, Mw(mB)3.7/3, Error ellipse: s-maj=23.7km s-min=11.1km az=36.9, confirmed*
*IDC **28** 12:18:18.3±8.8, 33°.65S×179°.15W, h93km±84km, mb3.2/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=79.7km s-min=56.4km az=158.0*

ISC 28 12:18:19.3±1.8, 33°.56S±0°.09×179°.4W±0°.1, h100km, n26, σ1§48/35, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.62**	**202**	P	**Pn**	**12 19 26.0**	**-0.8**
WMGZ				S	**Sn**	**12 20 21.3**	**+2.1**
PKGZ	**Pakihiroa**	**4.77**	**205**	P	**Pn**	**12 19 27.2**	**-1.7**
PKGZ				S	**Sn**	**12 20 25.9**	**+2.9**
HAZ	**Te Kaha**	**4.79**	**208**	P	**Pn**	**12 19 28.2**	**-0.9**
HAZ				S	**Sn**	**12 20 24.8**	**+1.5**
WSRZ	**White Island S**	**4.85**	**215**	P	**Pn**	**12 19 30.3**	**+0.3**
PUZ	**Puketiti**	**4.90**	**203**	P	**Pn**	**12 19 29.5**	**-1.1**
PUZ				S	**Sn**	**12 20 27.2**	**+1.1**
RUGZ	**Raukumara Rang**	**5.01**	**208**	P	**Pn**	**12 19 32.3**	**+0.1**
TWGZ	**Tauwhareparae**	**5.09**	**204**	P	**Pn**	**12 19 31.2**	**-1.9**
CNGZ	**Carnagh Statio**	**5.29**	**201**	P	**Pn**	**12 19 36.4**	**+0.5**
TKGZ	**Te Karaka**	**5.37**	**204**	P	**Pn**	**12 19 36.7**	**-0.3**
TKGZ				S	**Sn**	**12 20 34.4**	**-3.0**
MWZ	**Matawai**	**5.39**	**207**	P	**Pn**	**12 19 36.1**	**-1.2**
MWZ				S	**Sn**	**12 20 38.6**	**+0.6**
OPRZ	**Ohinepanea**	**5.41**	**217**	P	**Pn**	**12 19 38.3**	**+0.8**
URZ	**Urewera**	**5.49**	**210**	P	**Pn**	**12 19 38.5**	**-0.1**
1.3nm,0.3s,baz=355,slow=4.3,SNR=12							
URZ				S	**Sn**	**12 20 39.7**	**-0.7**
20nm,0.4s,baz=338,slow=8.2,SNR=17							
4.1nm,0.4s							
URZ	**Urewera**	**5.49**	**210**	P	**Pn**	**12 19 37.9**	**-0.7**
URZ				S	**Sn**	**12 20 39.3**	**-1.2**
RIGZ	**Rimuhau**	**5.64**	**204**	P	**Pn**	**12 19 37.1**	**-3.5**
RIGZ				S	**Sn**	**12 20 42.7**	**-1.4**
WCZ	**Waipu Caves**	**5.70**	**244**	P	**Pn**	**12 19 41.6**	**+0.3**
SNGZ	**Shannon Statio**	**5.85**	**206**	P	**Pn**	**12 19 43.6**	**+0.1**
SNGZ				S	**Sn**	**12 20 50.3**	**+1.1**
OUZ	**Omahuta**	**6.05**	**252**	P	**Pn**	**12 19 46.1**	**-0.1**
OUZ				S	**Sn**	**12 20 51.4**	**-2.7**
MTHZ	**Maungataniwha**	**6.11**	**209**	P	**Pn**	**12 19 46.1**	**-0.9**
MTHZ				S	**Sn**	**12 20 56.6**	**+1.1**
BKZ	**Black Stump Fm**	**6.52**	**210**	P	**Pn**	**12 19 51.0**	**-1.6**
OTVZ	**Oturere**	**6.88**	**214**	P	**Pn**	**12 19 56.5**	**-1.1**
ASAR	**Alice Springs**	**41.89**	**271**	P	**P**	**12 26 01.4**	**+1.4**
0.6nm,0.6s,baz=108,slow=7.3,SNR=17							
0.6nm,0.6s							
WRA	**Warramunga Arr**	**43.17**	**276**	P	**P**	**12 26 11.1**	**+0.7**
0.5nm,0.7s,baz=115,slow=7.6,SNR=5.2							
0.5nm,0.7s							
H03N3	**Juan Fernandez**	**79.90**	**123**	T	T	13 58 50.7	
baz=239,slow=72,SNR=5.2							
H03N2	**Juan Fernandez**	**79.90**	**123**	T	T	13 58 43.3	
baz=239,slow=72,SNR=3.9							
H03N1	**Juan Fernandez**	**79.91**	**123**	T	T	13 58 47.3	
baz=239,slow=72,SNR=7.2							
FINES	**FINESS Array B**	**147.66**	**337**	PKPbc	**PKPbc**	**12 37 50.6**	**-0.7**
5.8nm,1.1s,baz=29,slow=4.4,SNR=4.1							

*IDC **28** 12:22:18.3±3.1, 4°.92S×101°.06E, h0km, mb3.6/7, mbtmp3.6/7, MS3.7/3, Error ellipse: s-maj=131.9km s-min=21.4km az=55.0*

ISC 28 12:22:21.6±3.5, 4°.9S±0°.5×101°.1E±0°.8, h22km, n21, σ0§46/8, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.31**	**355**	P	**P**	**12 27 28.5**	**+0.3**
0.8nm,0.3s,baz=172,slow=10,SNR=4.1							
0.8nm,0.3s							
H08S2	**Diego Garcia H**	**28.59**	**263**	T	T	12 58 22.3	
baz=85,slow=76,SNR=71							
H08S3	**Diego Garcia H**	**28.60**	**263**	T	T	12 58 19.2	
baz=85,slow=76,SNR=132							
H08S1	**Diego Carcia H**	**28.61**	**263**	T	T	12 58 24.6	
baz=85,slow=76,SNR=30							
H01W3	**Cape Leeuwin H**	**32.17**	**160**	T	T	13 03 11.5	
baz=338							
H01W2	**Cape Leeuwin H**	**32.19**	**160**	T	T	13 03 03.8	
baz=338							
H01W1	**Cape Leeuwin H**	**32.19**	**160**	T	T	13 03 03.4	
baz=338							
WRA	**Warramunga Arr**	**35.61**	**118**	P	**P**	**12 29 17.7**	**-0.3**
0.5nm,1.0s,baz=303,slow=8.2,SNR=1.9							
0.5nm,1.0s							
ASAR	**Alice Springs**	**36.68**	**124**	P	**P**	**12 29 27.4**	**+0.3**
0.3nm,1.0s,baz=304,slow=8.4,SNR=4.7							
0.3nm,1.0s							
WSAR	**Wadi Sarin**	**50.02**	**306**	LR	LR	12 49 50.0	
comp=Z,41nm,21.8s,baz=34,slow=33							
SONM	**Songino Array**	**52.71**	**4**	P	**P**	**12 31 34.8**	**0.0**
0.6nm,0.6s,baz=183,slow=11,SNR=5.7							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**54.11**	**344**	P	**P**	**12 31 45.0**	**+0.1**
0.7nm,0.6s,baz=151,slow=8.0,SNR=10							
0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**58.63**	**343**	P	**P**	**12 32 16.8**	**-0.2**
0.4nm,0.6s,baz=159,slow=6.4,SNR=5.1							
0.4nm,0.6s							
H04N2	**CROZET ISLANDS**	**59.18**	**218**	T	T	13 37 04.6	
baz=62,slow=74,SNR=113							
H04N1	**CROZET ISLANDS**	**59.20**	**218**	T	T	13 37 07.9	
baz=62,slow=74,SNR=93							
H04N3	**CROZET ISLANDS**	**59.20**	**218**	T	T	13 37 06.6	
baz=62,slow=74,SNR=70							
H04S1	**CROZET ISLANDS**	**59.44**	**217**	T	T	13 37 28.9	
baz=59							
H04S3	**CROZET ISLANDS**	**59.45**	**217**	T	T	13 37 26.3	
baz=59							
H04S2	**CROZET ISLANDS**	**59.46**	**217**	T	T	13 37 26.6	
baz=59							
ZALV	**Zalesovo Beam**	**60.21**	**349**	P	**P**	**12 32 27.1**	**-0.7**
0.6nm,0.4s,baz=188,slow=9.0,SNR=4.0							
0.6nm,0.4s							
TXAR	**Lajitas Array**	**146.22**	**41**	PKPbc	**PKPab**	**12 42 02.3**	**+0.4**
0.4nm,0.5s,baz=256,slow=0.7,SNR=9.2							

*IDC **28** 12:34:33.1±0.8, 56°.49N×34°.47W, h0km, mb3.7/13, mbtmp3.7/15, ML3.1/2, MS3.8/57, Error ellipse: s-maj=24.9km s-min=15.1km az=17.0*
*NEIC **28** 12:34:36.9±2.1, 56°.6N±0°.1×34°.9W±0°.1, h10km±2km, mb4.1/21, Error ellipse: s-maj=25.2km s-min=6.4km az=156.0*

ISC 28 12:34:36.3±0.6, 56°.4N±0°.1×34°.58W±0°.07, h22km, n47, σ1§42/46, mb3.9/21, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**10.56**	**32**	Pn	**Pn**	**12 37 08.2**	**+2.0**
SUMG	**Summit**	**16.30**	**356**	Pn	**Pn**	**12 38 20.0**	**-3.8**
EKA	**Eskdalemuir Ar**	**17.58**	**80**	P	**Pn**	**12 38 38.8**	**-0.9**
baz=283,slow=11							
1.4nm,0.7s							
SCHQ	**Schefferville**	**18.20**	**279**	Pn	**Pn**	**12 38 45.0**	**-2.3**
SCHQ				IAmb	IAmb	12 38 52.4	
comp=Z,22nm,1.2s							
SCHQ	**Schefferville**	**18.20**	**279**	P	**P**	**12 38 49.0**	**+1.6**
comp=Z,0.1nm,0.3s,baz=67,slow=16,SNR=2.7							
comp=Z,13nm,1.2s							
ICQ	**Pointe Anglais**	**20.72**	**264**	P	**P**	**12 39 16.0**	**+1.2**
ICQ				IAmb	IAmb	12 39 27.8	
comp=Z,17nm,1.3s							
NB201	**NORSAR Array S**	**23.85**	**60**	P	**P**	**12 39 51.6**	**+4.0**
PKME	**Peaks-Kenny Pk**	**24.33**	**257**	P	**P**	**12 39 53.3**	**+1.1**
ILON	**Igloolik, Nuna**	**24.34**	**321**	P	**P**	**12 39 52.0**	**0.0**
ILON				IAmb	IAmb	12 39 52.7	
comp=Z,3.7nm,0.8s							
ESDC	**Sonseca Array**	**26.14**	**117**	P	**P**	**12 40 07.6**	**-1.1**
comp=Z,0.3nm,0.4s,baz=320,slow=10,SNR=2.0							
comp=Z,0.3nm,0.4s							
FINES	**FINESS Array B**	**30.68**	**55**	P	**P**	**12 40 50.3**	**+1.4**
EPLO	**Experimental L**	**35.20**	**285**	P	**P**	**12 41 29.5**	**+1.0**
EPLO				IAmb	IAmb	12 41 31.5	
comp=Z,7.1nm,1.3s							
AKASG	**Malin

comp=Z,0.8nm,0.9s,baz=340,slow=2.7,SNR=6.0
QSPA South Pole Qui 146.32 180 PKPdf **PKPab 12 54 15.4 +0.8**
QSPA South Pole Qui 146.32 180 PKPbc **PKPab 12 54 15.6 +1.0**
comp=Z,1.3nm,1.0s,baz=180,slow=10,SNR=2.2

*IDC **28** 12:35:11.0±0.6, 56°.49N×34°.46W, h0km, mb4.0/20, mbtmp4.1/24, ML3.6/4, MS3.8/58, Error ellipse: s-maj=19.4km s-min=11.8km az=12.0*
*NEIC **28** 12:35:14.4±1.7, 56°.65N±0°.09×34°.5W±0°.1, h10km±1km, mb4.5/82, Error ellipse: s-maj=16.2km s-min=8.8km az=207.0*
ISC 28 12:35:14.9±0.5, 56°.51N±0°.09×34°.41W±0°.06, h22km, n95, σ1§21/68, mb4.5/65, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**10.45**	**32**	Pn	**Pn**	**12 37 44.0**	**+0.9**
BORG	**Borgarnes**	**10.45**	**32**	Pn	**Pn**	**12 37 42.9**	**-0.2**
	2.7nm,0.3s,baz=198,slow=9.7,SNR=8.8						
BORG				LR	LR	12 40 43.4	
	comp=Z,2μm,18.5s,baz=245,slow=32 11nm,0.7s						
SFJD	**Kangerlussuaq**	**12.97**	**331**	LR	LR	12 42 02.8	
	comp=Z,68nm,18.3s,baz=150,slow=32						
DRLN	**Deer Lake**	**15.66**	**252**	Pn	**Pn**	**12 38 53.7**	**-0.3**
DRLN				IAmb	IAmb	12 39 00.3	
	comp=Z,35nm,1.2s						
SUMG	**Summit**	**16.22**	**356**	Pn	**Pn**	**12 39 00.7**	**-0.7**
EKA	**Eskdalemuir Ar**	**17.48**	**81**	P	**Pn**	**12 39 15.9**	**-1.0**
	baz=281,slow=11						
	comp=Z,3.2nm,0.8s						
SCHQ	**Schefferville**	**18.27**	**278**		**P**	**12 39 27.3**	**+0.5**
SCHQ	**Schefferville**	**18.27**	**278**	P	**Pn**	**12 39 24.6**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=74,slow=9.5,SNR=7.1						
	comp=Z,27nm,1.2s						
FRB	**Frobisher Bay**	**18.29**	**307**	P	**P**	**12 39 25.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=102,slow=10,SNR=6.6						
	comp=Z,7.8nm,0.9s						
ICQ	**Pointe Anglais**	**20.81**	**264**	P	Pn	12 39 56.7	-0.3
ICQ				IAmb	IAmb	12 40 01.1	
	comp=Z,29nm,1.3s						
BATG	**Bathurst New B**	**21.43**	**258**	P	**P**	**12 40 02.0**	**+0.9**
BATG				IAmb	IAmb	12 40 06.4	
	comp=Z,27nm,1.2s						
LMN	**Caledonia Moun**	**21.65**	**253**	P	**P**	**12 40 04.0**	**+0.4**
LMN				IAmb	IAmb	12 40 04.7	
	comp=Z,19nm,0.9s						
ESDC	**Sonseca Array**	**26.09**	**117**	P	**P**	**12 40 46.7**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=313,slow=9.4,SNR=5.6						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**28.74**	**39**	P	**P**	**12 41 08.3**	**-1.9**
	comp=Z,3.3nm,1.0s,baz=275,slow=6.8,SNR=3.6						
	comp=Z,3.3nm,1.0s						
FCC	**Fort Churchill**	**31.11**	**299**	P	**P**	**12 41 32.3**	**+1.1**
EYMN	**Ely**	**35.05**	**281**	P	**P**	**12 42 06.6**	**+0.8**
ULM	**Lac du Bonnet**	**36.09**	**287**	P	**P**	**12 42 12.2**	**-2.4**
	comp=Z,2.0nm,0.8s,baz=61,slow=8.9,SNR=3.7						
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**36.98**	**71**	P	**P**	**12 42 20.4**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=305,slow=8.4,SNR=6.9						
	comp=Z,1.6nm,0.7s						
A36M	**Sachs Harbour**	**37.96**	**330**	P	**P**	**12 42 31.2**	**+0.9**
A36M				IAmb	IAmb	12 42 35.8	
	comp=Z,6.1nm,0.8s						
YKA	**Yellowknife Ar**	**38.66**	**313**	P	**P**	**12 42 35.0**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=62,slow=8.8,SNR=22						
	comp=Z,1.5nm,0.6s						
ECSD	**EROS Data Cent**	**40.47**	**279**	P	**P**	**12 42 53.3**	**+1.7**
INK	**Inuvik**	**42.28**	**327**	P	**P**	**12 43 05.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=41,slow=6.8,SNR=7.6						
	comp=Z,1.6nm,0.7s						
F31M	**Tsiigehtchic**	**42.85**	**326**	P	**P**	**12 43 11.1**	**+0.4**
F31M				IAmb	IAmb	12 43 15.4	
	comp=Z,7.6nm,1.0s						
G31M	**Satah River**	**43.33**	**326**	P	**P**	**12 43 14.2**	**-0.4**
G31M				IAmb	IAmb	12 43 29.9	
	comp=Z,12nm,1.5s						
E29M	**Blow River**	**43.52**	**328**	P	**P**	**12 43 16.2**	**+0.1**
LAO	**LASA Array**	**43.72**	**289**	P	**P**	**12 43 19.2**	**+1.1**
LAO				IAmb	IAmb	12 43 21.5	
	comp=Z,10nm,0.8s						
E28M	**Babbage River**	**43.85**	**329**	P	**P**	**12 43 17.9**	**-1.0**
G30M	**tAoh Zraii Nji**	**43.90**	**326**	P	**P**	**12 43 19.1**	**-0.2**
H31M	**Peel River**	**44.04**	**324**	P	**P**	**12 43 20.8**	**+0.4**
H31M				IAmb	IAmb	12 43 26.1	
	comp=Z,14nm,1.4s						
E27K	**Coleen River**	**44.71**	**329**	IAmb	IAmb	12 43 30.6	
	comp=Z,5.8nm,0.7s						
X40A	**Basin Creek Fa**	**44.85**	**266**	IAmb	IAmb	12 43 28.9	
	comp=Z,5.8nm,0.7s						
I30M	**Mount Dempster**	**45.07**	**324**	IAmb	IAmb	12 43 33.7	
	comp=Z,5.6nm,0.8s						
J30M	**Hart River**	**45.47**	**324**	IAmb	IAmb	12 43 37.2	
	comp=Z,5.5nm,0.8s						
D24K	**Happy Valley**	**45.97**	**333**	IAmb	IAmb	12 43 43.2	
	comp=Z,5.3nm,0.9s						
I28M	**Miner Creek**	**46.05**	**326**	IAmb	IAmb	12 43 41.0	
	comp=Z,4.0nm,0.7s						
J29N	**Klondike Camp**	**46.17**	**324**	IAmb	IAmb	12 43 43.3	
	comp=Z,6.6nm,0.8s						
BR131	**Keskin Array S**	**46.40**	**81**	P	**P**	**12 43 41.5**	**+1.9**
BR131				IAmb	IAmb	12 43 45.9	
	comp=Z,4.6nm,0.8s						
BRTR	**Keskin Array B**	**46.40**	**81**	P	**P**	**12 43 41.2**	**+1.6**
BRTR	**Keskin Array B**	**46.40**	**81**	P	**P**	**12 43 40.5**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=314,slow=5.6,SNR=7.0						
	comp=Z,1.7nm,0.6s						
D23K	**Nanushuk River**	**46.57**	**334**	IAmb	IAmb	12 43 42.2	
	comp=Z,5.4nm,0.7s						
DAWY	**Dawson**	**46.81**	**324**	P	**P**	**12 43 42.1**	**-0.2**
F24K	**Squaw Lake**	**46.90**	**331**	IAmb	IAmb	12 43 48.7	
	comp=Z,5.1nm,1.0s						
I26K	**Coal Creek Min**	**47.13**	**327**	IAmb	IAmb	12 43 53.5	
	comp=Z,7.5nm,1.4s						
DLBC	**Dease Lake**	**47.21**	**314**	P	**P**	**12 43 46.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=23,slow=7.7,SNR=1.8						
	comp=Z,1.0nm,0.8s						
G24K	**Hadweenzic Riv**	**47.38**	**330**	IAmb	IAmb	12 43 52.5	
	comp=Z,3.7nm,0.8s						
ARTI	**Arti**	**47.42**	**49**	P	**P**	**12 43 48.0**	**+0.8**
ARTI				IAmb	IAmb	12 43 52.6	
	comp=Z,5.4nm,0.8s						
COLD	**Coldfoot**	**47.73**	**332**	IAmb	IAmb	12 43 54.5	
	comp=Z,3.4nm,0.9s						
J26L	**Joseph Creek**	**47.82**	**327**	IAmb	IAmb	12 43 55.6	
	comp=Z,2.6nm,0.8s						
DLMT	**Dillon**	**47.91**	**292**	P	**P**	**12 43 53.6**	**+2.3**
DLMT				IAmb	IAmb	12 43 57.3	
	comp=Z,8.7nm,1.4s						
O30N	**Mendenhall**	**47.93**	**320**	IAmb	IAmb	12 43 54.3	
	comp=Z,5.5nm,1.0s						
WMOK	**Wichita Mounta**	**47.97**	**271**	P	**P**	**12 43 52.3**	**+0.6**
G23K	**Bananza Creek**	**48.06**	**331**	IAmb	IAmb	12 43 57.9	
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**48.11**	**287**	P	**P**	**12 43 52.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=62,slow=8.0,SNR=10						
	comp=Z,0.9nm,0.6s						
H24K	**Noodor Dome**	**48.12**	**330**	IAmb	IAmb	12 43 56.6	
	comp=Z,4.7nm,0.8s						
KBZ	**Khabaz**	**48.58**	**71**	P	**P**	**12 43 57.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=327,slow=6.6,SNR=4.8						
	comp=Z,1.6nm,0.8s						
IL31		**48.62**	**328**	P	**P**	**12 43 56.7**	**+0.4**
IL31				IAmb	IAmb	12 44 02.0	
	comp=Z,4.8nm,0.9s						
ILAR	**Eielson Array**	**48.62**	**328**	P	**P**	**12 43 56.8**	**+0.5**
ILAR	**Eielson Array**	**48.62**	**328**	P	**P**	**12 43 56.1**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=44,slow=6.3,SNR=15						
	comp=Z,2.1nm,0.8s						
RIDG	**Independent Ri**	**48.76**	**326**	P	**P**	**12 43 59.4**	**+1.9**
HDA	**Harding Lake**	**48.90**	**328**	IAmb	IAmb	12 44 03.7	
	comp=Z,5.8nm,0.8s						
E19K	**Redstone River**	**49.31**	**335**	IAmb	IAmb	12 44 05.3	
	comp=Z,6.0nm,0.9s						
APMT	**Aspermont**	**49.76**	**271**	IAmb	IAmb	12 44 10.1	
	comp=Z,3.0nm,0.7s						
PLID	**Pearl Lake**	**49.85**	**294**	P	**P**	**12 44 06.3**	**0.0**
F10A	**Beach Ranch, E**	**49.85**	**295**	P	**P**	**12 44 06.7**	**+0.6**
PV11	**David Mesa, Pa**	**50.91**	**282**	IAmb	IAmb	12 44 20.8	
	comp=Z,6.5nm,0.9s						
PV13	**Radium Mtn., P**	**50.99**	**282**	IAmb	IAmb	12 44 20.5	
	comp=Z,8.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**51.36**	**133**	P	**P**	**12 44 16.5**	**-1.1**
	comp=Z,2.2nm,0.3s,baz=342,slow=10,SNR=1.4						
	comp=Z,2.2nm,0.3s						
SGCY	**Sterling City**	**51.38**	**271**	P	**P**	**12 44 20.6**	**+2.9**
TIXI	**Tiksi**	**51.60**	**7**	P	**P**	**12 44 19.4**	**+0.6**
J08A	**Circle Bar Ran**	**52.33**	**294**	IAmb	IAmb	12 44 29.3	
	comp=Z,4.3nm,0.9s						
ABKAR	**Akbulak array**	**53.05**	**55**	P	**P**	**12 44 31.4**	**+1.6**
SAND	**Sanderson**	**53.42**	**270**	IAmb	IAmb	12 44 46.7	
	comp=Z,4.6nm,0.9s						
J05D	**Fort Rock, OR**	**53.77**	**295**	P	**P**	**12 44 36.0**	**+0.6**
J05D				IAmb	IAmb	12 44 40.0	
	comp=Z,4.3nm,0.8s						
BVAR	**Borovoye Array**	**54.71**	**46**	P	**P**	**12 44 42.5**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=312,slow=7.2,SNR=10						
	comp=Z,5.7nm,0.8s						
TXAR	**Lajitas Array**	**54.75**	**271**	P	**P**	**12 44 42.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=55,slow=4.9,SNR=4.8						
	comp=Z,0.5nm,0.8s						
DBIC	**Dimbokro**	**54.89**	**143**	P	**P**	**12 44 42.7**	**-1.0**
	comp=Z,4.3nm,0.9s,baz=356,slow=5.6,SNR=5.7						
	comp=Z,4.3nm,0.9s						
RYN	**Ryan**	**55.81**	**290**	IAmb	IAmb	12 44 52.2	
	comp=Z,3.6nm,0.8s						
NVAR	**Mina Array Bea**	**55.84**	**289**	P	**P**	**12 44 50.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=50,slow=6.1,SNR=6.0						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**59.70**	**43**	P	**P**	**12 45 17.6**	**+0.4**
KURK				IAmb	IAmb	12 45 22.2	
	comp=Z,3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**59.74**	**43**	P	**P**	**12 45 17.1**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=327,slow=6.7,SNR=8.8						
	comp=Z,2.0nm,0.8s						
SEY	**Seymchan**	**60.78**	**356**	P	**P**	**12 45 24.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=18,slow=9.6,SNR=4.2						
	comp=Z,0.4nm,0.3s						
MAKZ	**Makanchi**	**64.18**	**43**	P	**P**	**12 45 48.2**	**+0.8**
MAKZ				IAmb	IAmb	12 45 49.8	
	comp=Z,3.9nm,1.1s						
MK31	**Makanchi Array**	**64.31**	**43**	P	**P**	**12 45 48.4**	**+0.1**
MK31				IAmb	IAmb	12 46 01.8	
	comp=Z,5.6nm,1.5s						
MKAR	**Makanchi Array**	**64.31**	**43**	P	**P**	**12 45 47.8**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=333,slow=5.7,SNR=11						
	comp=Z,2.3nm,0.9s						
KSH	**Kashi**	**67.79**	**52**	P	**P**	**12 46 14.5**	**+3.6**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WMQ	**Urumqi**	**68.84**	**41**	*e*P	**P**	**12 46 18.5**	**+1.2**
WMQ				PcP	**PcP**	**12 46 44.3**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**71.00**	**27**	P	**P**	**12 46 30.3**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=334,slow=6.8,SNR=3.5						
	comp=Z,0.6nm,0.9s						
HEH	**HeiHe**	**72.54**	**12**	*e*P	**P**	**12 46 39.3**	**-0.3**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**78.83**	**26**	*e*P	**P**	**12 47 15.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LZH	**Lanzhou**	**81.20**	**33**	*e*P	**P**	**12 47 31.0**	**+2.1**
LZH				sP	pwP	12 47 38.0	0.0
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIA	**Tai'an**	**84.53**	**23**	P	P	12 47 37.8	-8.1
TIA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NJ2	**Nanjing**	**88.91**	**22**	*e*P	**P**	**12 48 06.5**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PPT2	**Papeete2**	**118.35**	**281**	*e*LR	LR	13 29 50.9	
	comp=Z,40nm,21.2s						
ASAR	**Alice Springs**	**146.10**	**19**	PKPbc	**PKPbc**	**12 54 52.0**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=346,slow=2.7,SNR=27						
QSPA	**South Pole Qui**	**146.40**	**180**	PKPbc	**PKPbc**	**12 54 51.6**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=277,slow=0.8,SNR=12						

*HEL **28** 12:51:45.8±0.4, 67°.87N×20°.05E, h0km, ML1.1, Suspected explosion*
UPP 28 12:51:46.2±0.0, 67°.86N×20°.20E, h0km, ML2.4, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.11**	**27**	P	Pg	12 51 48.6	+0.2
KUA				S	Sg	12 51 50.3	+0.5
RATU	**Laukkuluspa**	**0.23**	**262**	P	Pg	12 51 50.8	+0.1
KOVU	**Salmi**	**0.37**	**357**	P	Pg	12 51 53.3	0.0
LANU	**Lannavaara**	**0.70**	**73**	P	Pg	12 51 59.3	-0.4
LANU	**Lannavaara**	**0.70**	**73**	PG	Pg	12 51 59.3	-0.3
LANU				SG	Sg	12 52 08.8	+0.1
DUNU	**Dundret**	**0.75**	**169**	P	Pg	12 52 00.4	-0.2
MASU	**Masugnsbyn**	**0.80**	**119**	P	Pg	12 52 01.1	-0.3
KIF	**Kilpisjarvi**	**1.18**	**11**	PN	Pb	12 52 09.4	0.0
KIF				MSG		12 52 22.6	
	comp=Z,2.2nm,0.2s						
KIF				SB	Sb	12 52 24.5	-0.6
PAJU	**Pajala**	**1.40**	**125**	P	Pn	12 52 11.7	-1.2
PAJU	**Pajala**	**1.40**	**125**	PG	Pn	12 52 11.5	-1.4
PAJU				SG	Sg	12 52 30.6	-0.5
HEF	**Hetta**	**1.41**	**65**	PG	Pn	12 52 12.1	-1.0
HEF				MSG		12 52 29.6	
	comp=Z,1.1nm,0.2s						
HEF				SN	Sn	12 52 34.6	+2.3
ERTU	**Ertsjaerv**	**1.52**	**148**	PG	Pn	12 52 14.4	-0.2
ERTU				SN	Sn	12 52 35.2	+0.2
KLF	**Kolari**	**1.57**	**112**	PG	Pn	12 52 15.4	+0.1
KLF				MSG		12 52 34.5	
	comp=Z,0.9nm,0.2s						
KLF				SN	Sg	12 52 36.6	0.0
KTK1	**Kautokeino**	**1.61**	**43**	PG	Pn	12 52 15.9	0.0
KTK1				SN	Sg	12 52 39.7	+1.7
KALU	**Kalix**	**2.36**	**147**	SG	Sb	12 53 00.3	+1.2
TOF	**Tornio**	**2.41**	**136**	MSG		12 52 58.6	
	comp=Z,0.4nm,0.2s						
TOF				SB	Sb	12 53 00.8	+0.3
ARA0	**ARCESS Array S**	**2.57**	**47**	PB	Pn	12 52 30.8	+1.8
ARA0				SG	Sb	12 53 04.8	-0.3
RNF	**Rovaniemi**	**2.58**	**116**	PB	Pb	12 52 31.3	-2.0
RNF				SB	Sb	12 53 04.8	-0.8
OUL	**Oulu**	**3.60**	**138**	SB	Sb	12 53 35.3	+0.6
OUF	**Merijarvi**	**3.96**	**150**	SG	Sb	12 53 48.3	+3.2
MSF	**Maaselka**	**3.99**	**115**	SN	Sn	12 53 34.3	-1.7

*DNK **28** 12:53:04.3±0.6, 67°.17N×20°.66E, h0km, ML3.0(UPP), Suspected explosion*
*IDC **28** 12:53:04.5±0.7, 67°.14N×20°.88E, h0km, mb3.5/3, mbtmp3.7/10, ML3.3/7, Error ellipse: s-maj=14.1km s-min=6.7km az=119.0*
*HEL **28** 12:53:04.7±0.1, 67°.17N×20°.64E, h1km, ML3.0, ML3.0(UPP), ML2.9(BER), Confirmed Induced event*
*UPP **28** 12:53:04.0±0.0, 67°.18N×20°.65E, h0km, ML3.0, Confirmed Induced event*
*BER **28** 12:53:06.1±1.6, 67°.14N×20°.79E, h0km, ML2.9, Confirmed Induced event*
ISC 28 12:53:03.4±0.6, 67°.18N±0°.02×20°.64E±0°.02, h0km, n72, σ1§01/106, 27D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**208**	P	**Pg**	**12 53 05.5**	**+0.9**
DUNU				S	**Sg**	**12 53 06.5**	**+1.1**
DUNU	**Dundret**	**0.06**	**208**	P	**Pg**	**12 53 05.5**	**+0.9**
DUNU				S	**Sg**	**12 53 06.5**	**+1.1**
DUNU	**Dundret**	**0.06**	**208**	*i* P	**Pg**	**12 53 05.5**	**+0.9**
DUNU				*i* S	**Sg**	**12 53 06.5**	**+1.1**
MASU	**Masugnsbyn**	**0.60**	**61**	⇓P	**Pg**	**12 53 15.5**	**+0.7**
MASU				S	**Sg**	**12 53 23.7**	**+1.2**
MASU	**Masugnsbyn**	**0.60**	**61**	⇓P	**Pg**	**12 53 15.5**	**+0.7**
MASU				S	**Sg**	**12 53 23.7**	**+1.2**
MASU	**Masugnsbyn**	**0.60**	**61**	⇓*i*P	**Pg**	**12 53 15.5**	**+0.7**
MASU				*i* S	**Sg**	**12 53 23.7**	**+1.2**
RATU	**Laukkuluspa**	**0.77**	**329**	⇓P	**Pg**	**12 53 18.3**	**+0.3**
RATU				S	**Sg**	**12 53 28.7**	**+0.8**
RATU	**Laukkuluspa**	**0.77**	**329**	⇓P	**Pg**	**12 53 18.3**	**+0.3**
RATU				S	**Sg**	**12 53 28.7**	**+0.8**
RATU	**Laukkuluspa**	**0.77**	**329**	⇓*i*P	**Pg**	**12 53 18.3**	**+0.3**
RATU				*i* S	**Sg**	**12 53 28.7**	**+0.8**
KUA	**Kurravaara**	**0.79**	**352**	⇓P	**Pg**	**12 53 18.6**	**+0.1**
KUA				S	**Sg**	**12 53 29.5**	**+0.8**
KUA	**Kurravaara**	**0.79**	**352**	⇓P	**Pg**	**12 53 18.6**	**+0.1**
KUA				S	**Sg**	**12 53 29.5**	**+0.8**
KUA	**Kurravaara**	**0.79**	**352**	⇓*i*P	**Pg**	**12 53 18.6**	**+0.1**
KUA				*i* S	**Sg**	**12 53 29.5**	**+0.8**
ERTU	**Ertsjaerv**	**0.88**	**135**	⇓P	**Pg**	**12 53 20.0**	**-0.1**
ERTU				S	**Sg**	**12 53 31.6**	**+0.2**
ERTU	**Ertsjaerv**	**0.88**	**135**	⇓P	**Pg**	**12 53 20.0**	**-0.1**
ERTU				S	**Sg**	**12 53 31.6**	**+0.2**
ERTU	**Ertsjaerv**	**0.88**	**135**	*e*P	**Pg**	**12 53 20.0**	**-0.1**
ERTU				*e*S	**Sg**	**12 53 31.6**	**+0.2**
PAJU	**Pajala**	**0.98**	**98**	⇓P	**Pg**	**12 53 22.0**	**-0.1**
PAJU				S	**Sg**	**12 53 35.1**	**+0.4**
PAJU	**Pajala**	**0.98**	**98**	⇓P	**Pg**	**12 53 22.0**	**-0.1**
PAJU				S	**Sg**	**12 53 35.1**	**+0.4**
PAJU	**Pajala**	**0.98**	**98**	*e*P	**Pg**	**12 53 22.0**	**-0.1**
PAJU				*e*S	**Sg**	**12 53 35.6**	**+0.8**
LANU	**Lannavaara**	**1.02**	**30**	⇓P	**Pg**	**12 53 22.8**	**-0.1**
LANU				S	**Sg**	**12 53 36.0**	**0.0**
LANU	**Lannavaara**	**1.02**	**30**	⇓P	**Pg**	**12 53 22.8**	**-0.1**
LANU				S	**Sg**	**12 53 36.0**	**0.0**
LANU	**Lannavaara**	**1.02**	**30**	*e*P	**Pg**	**12 53 22.8**	**-0.1**
LANU				*e*S	**Sg**	**12 53 36.2**	**+0.2**
KOVU	**Salmi**	**1.07**	**350**	⇓P	**Pg**	**12 53 23.6**	**-0.2**
KOVU				S	**Sb**	**12 53 38.7**	**-0.5**
KOVU	**Salmi**	**1.07**	**350**	⇓P	**Pg**	**12 53 23.6**	**-0.2**
KOVU				S	**Sb**	**12 53 38.7**	**-0.5**
KOVU	**Salmi**	**1.07**	**350**	⇓*e*P	**Pg**	**12 53 23.6**	**-0.2**
KOVU				*e*S	**Sb**	**12 53 38.7**	**-0.5**
KLF	**Kolari**	**1.29**	**86**	*e*P	**Pg**	**12 53 27.7**	**-0.5**
KLF				*e*S	**Sg**	**12 53 44.7**	**-0.2**
HEF	**Hetta**	**1.69**	**41**	⇓*i*P	**Pn**	**12 53 34.4**	**+0.3**
HEF				*e*S	**Sn**	**12 53 56.1**	**-0.3**
HEF	**Hetta**	**1.69**	**41**	*e*P	**Pn**	**12 53 34.4**	**+0.3**
HEF				*e*S	**Sn**	**12 53 56.6**	**+0.3**
HEF				MSG		12 54 00.1	
	comp=Z,80nm,0.2s						
KALU	**Kalix**	**1.71**	**139**	⇓P	**Pn**	**12 53 34.8**	**+0.4**
KALU	**Kalix**	**1.71**	**139**	⇓P	**Pn**	**12 53 34.8**	**+0.4**
KALU	**Kalix**	**1.71**	**139**	*e*P	**Pn**	**12 53 34.8**	**+0.4**
KALU				*e*S	**Sn**	**12 53 57.4**	**+0.4**
SJUU	**Sjulsmark**	**1.72**	**167**	⇓P	**Pn**	**12 53 34.9**	**+0.4**
SJUU	**Sjulsmark**	**1.72**	**167**	⇓P	**Pn**	**12 53 34.9**	**+0.4**
SJUU	**Sjulsmark**	**1.72**	**167**	⇓*e*P	**Pn**	**12 53 34.9**	**+0.4**
TOF	**Tornio**	**1.84**	**125**	*e*P	**Pn**	**12 53 37.1**	**+1.0**
TOF				*e*S	**Sb**	**12 54 01.0**	**-0.2**
TOF				MSG		12 54 03.6	
	comp=Z,138nm,0.3s						
KIF	**Kilpisjarvi**	**1.84**	**2**	⇓*i*P	**Pb**	**12 53 37.5**	**-0.2**
KIF				*e*S	**Sg**	**12 54 02.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	**Pb**	**12 53 37.6**	**-0.2**
KIF				*e*S	**Sg**	**12 54 02.7**	**+0.3**
KIF				MSG		12 54 05.3	
	comp=Z,159nm,0.2s						
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**12 53 41.5**	**-0.5**
KTK1				IAML		12 54 10.9	
	comp=Z,216nm,0.5s						
KTK1	**Kautokeino**	**2.08**	**27**	*e*P	**Pb**	**12 53 41.6**	**-0.5**
KTK1				*e*SG	**Sb**	**12 54 09.2**	**+0.8**
FAUS	**Fauske**	**2.09**	**278**	⇓*i*P	**Pb**	**12 53 41.5**	**-0.6**
FAUS				*e*S	**Sb**	**12 54 08.1**	**-0.5**
FAUS				IAML		12 54 11.9	
	comp=Z,160nm,0.5s						
FAUS	**Fauske**	**2.09**	**278**	⇓*i*P	**Pb**	**12 53 41.5**	**-0.6**
FAUS				*e*S	**Sb**	**12 54 08.1**	**-0.5**
FAUS				IAML		12 54 11.9	
	comp=Z,160nm,0.5s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*P	**Pn**	**12 53 42.6**	**+1.5**
STEI	**Steigen**	**2.21**	**293**	*e*P	**Pn**	**12 53 41.9**	**+0.7**
STEI				IAML		12 54 17.9	
	comp=Z,92nm,0.6s						
STEI	**Steigen**	**2.21**	**293**	*e*P	**Pn**	**12 53 41.9**	**+0.7**
STEI				IAML		12 54 17.9	
	comp=Z,92nm,0.6s						
SGF	**Sodankyl**	**2.30**	**81**	*e*P	**Pn**	**12 53 43.8**	**+1.4**
SGF				MSG		12 54 16.5	
	comp=Z,71nm,0.3s						
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	**Pn**	**12 53 45.3**	**+1.5**
JETT				IAML		12 54 19.5	
	comp=Z,318nm,0.4s						
JETT	**Jettan, Norway**	**2.39**	**358**	*e*P	**Pn**	**12 53 45.3**	**+1.5**
JETT				IAML		12 54 19.5	
	comp=Z,318nm,0.4s						
TRO	**Tromso**	**2.55**	**346**	*e*P	**Pn**	**12 53 45.6**	**-0.3**
TRO				IAML		12 54 24.8	
	comp=Z,128nm,0.5s						
TRO	**Tromso**	**2.55**	**346**	*e*P	**Pn**	**12 53 47.6**	**+1.7**
MOR8	**Moi Rana**	**2.67**	**251**	*e*P	**Pn**	**12 53 47.0**	**-0.6**
MOR8				I

BTK				⇓iS		Sb	13 16 33.4 -3.9
TGS	**TashGRES**	**0.94**	**337**	P		**Pn**	**13 16 27.7 -1.2**
TGS				S		**Sb**	**13 16 40.8 -0.5**
NZBK	**Nazarbek**	**0.94**	**315**	P		**Pn**	**13 16 28.3 -0.7**
NZBK				S		**Sn**	**13 16 41.8 +0.2**
CHMG	**Chimgan**	**0.99**	**0**	P		**Pb**	**13 16 29.4 -0.8**
CHMG				S		**Sn**	**13 16 43.8 +0.8**
CHRV	**Charvak**	**1.08**	**358**	P		**Pb**	**13 16 31.0 -0.7**
CHRV				S		**Sb**	**13 16 46.5 +1.0**
CHMI	**Chimion**	**1.20**	**103**	P		**Pb**	**13 16 34.7 +1.2**
CHMI				S		**Sb**	**13 16 53.1 +4.5**
TRKS	**Terek-Say**	**1.30**	**41**	⇓iP		**Pn**	**13 16 31.8 -2.2**
TRKS				⇓iS		**Sn**	**13 16 48.1 -2.5**
FRG	**Fergana**	**1.37**	**97**	P		**Pb**	**13 16 37.6 +1.1**
FRG				S		**Sb**	**13 16 58.4 +4.4**
SHAK	**Shakhimardan**	**1.46**	**114**	P		**Pb**	**13 16 38.9 +0.8**
SHAK				S		**Sb**	**13 17 00.4 +4.1**
GAR	**Garm**	**1.57**	**171**	⇑iP		**Pn**	**13 16 37.3 -0.4**
GAR				⇑iS		**Sn**	**13 16 57.6 +0.3**
DRK	**Karamyk**	**1.75**	**127**	⇑iP		**Pn**	**13 16 39.5 -0.8**
DRK				⇑iS		**Sn**	**13 17 01.3 -0.6**
ARK	**Arkit**	**1.93**	**49**	⇑iP		**Pn**	**13 16 42.2 -0.5**
ARK				⇑iS		**Sn**	**13 17 05.8 -0.3**
CHGR	**Chuyangaron**	**2.00**	**199**	⇓iP		**Pn**	**13 16 43.7 0.0**
CHGR				⇓iS		**Sn**	**13 17 08.9 +1.0**
OHH	**Osh**	**2.12**	**90**	⇓iP		**Pn**	**13 16 44.1 -1.1**
OHH				⇓iS		**Sn**	**13 17 09.5 -1.2**
ARSB	**Arslanbob**	**2.38**	**70**	⇑iP		**Pn**	**13 16 48.0 -0.9**
ARSB				⇑iS		**Sn**	**13 17 16.2 -1.1**
BRLS	**Borolday**	**2.48**	**357**	*e*P		**Pn**	**13 16 50.4 +0.3**
	11nm,0.4s						
BRLS				*e*S		**Sn**	**13 17 21.0 +1.6**
	69nm,0.6s						
KK31	**Karatay Array**	**2.57**	**8**	Pn		**Pb**	**13 16 56.8 -0.2**
	5.3nm,0.3s,baz=193,slow=17,SNR=36						
KK31				⇓Lg		Lg	13 17 31.7
	9.4nm,0.3s,baz=189,slow=29,SNR=19						
KKAR	**Karatay Array**	**2.57**	**8**	⇓iP		**Pn**	**13 16 51.5 +0.1**
KKAR				⇓iS		**Sn**	**13 17 22.4 +0.6**
MNAS	**Manas**	**2.69**	**43**	⇑iP		**Pn**	**13 16 52.6 -0.6**
MNAS				⇑iS		**Sn**	**13 17 24.1 -0.8**
SFK	**Sufi-Kurgan**	**2.73**	**100**	⇑iP		**Pn**	**13 16 52.7 -1.1**
SFK				⇑iS		**Sn**	**13 17 24.3 -1.7**
SALK	**Salom-Alik**	**2.92**	**82**	⇓*e*P		**Pn**	**13 16 55.3 -1.0**
SALK				⇓iS		**Sn**	**13 17 29.0 -1.6**
AML	**Almayashu**	**3.19**	**59**	⇑iP		**Pn**	**13 16 59.7 -0.6**
AML				⇑iS		**Sn**	**13 17 36.2 -1.4**
MRKS	**Merke**	**3.26**	**47**	*e*P		**Pb**	**13 17 06.7 -2.0**
	2.1nm,0.7s						
MRKS				*e*S		**Sb**	**13 17 48.6 +0.7**
	9.0nm,0.4s						
ARLS	**Aral**	**3.51**	**67**	⇑iP		**Pn**	**13 17 03.8 -0.6**
ARLS				⇑iS		**Sn**	**13 17 43.4 -1.7**
AAK	**Ala-Archa**	**3.96**	**57**	Pg		Pb	13 17 24.5 +3.9
	0.5nm,0.1s						
AAK				Lg		Lg	13 18 16.9
	3.0nm,0.8s						
KST	**Kastek**	**5.10**	**59**	*e*P		**Pb**	**13 17 40.0 -0.1**
	0.7nm,0.3s						
KST				*e*S		**Sb**	**13 18 46.3 +5.4**
	4.5nm,0.5s						

*WEL **28** 13:30:51.1±0.7,33°S±6°×17°9W±1°5,h120km,mB4.4/1, MLv4.5/4,Mw(mB)3.5/1, Error ellipse: s-maj=20.7km s-min=4.1km az=110.9,confirmed*
*NOU **28** 13:31:01.0,34°14S×179°29W,h287km,MLv4.6/13, South of Kermadec Islands*

ISC 28 13:30:48.9±1.4,33°25S±0°08×179°0W±0°1,h150km,n72, σ2§50/84,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.09**	**14**	P		**Pn**	**13 31 51.5 +1.1**
GLKZ				S		**Sn**	**13 32 37.0 -1.1**
MXZ	**Matakaoa Point**	**4.82**	**206**	P		Pn	13 32 05.9 +6.0
MXZ	**Matakaoa Point**	**4.82**	**206**	S		**Sn**	**13 32 57.6 +2.3**
MXZ	**Matakaoa Point**	**4.82**	**206**	P		**Pn**	**13 32 01.4 +1.5**
MXZ				S		**Sn**	**13 32 54.8 -0.5**
HAZ	**Te Kaha**	**5.20**	**209**	P		**Pn**	**13 32 09.1 +4.3**
HAZ				S		**Sn**	**13 33 07.0 +2.8**
PUZ	**Puketiti**	**5.29**	**204**	P		**Pn**	**13 32 09.6 +3.4**
PUZ				S		**Sn**	**13 33 07.6 +1.0**
KUZ	**Kuaotunu**	**5.55**	**230**	P		**Pn**	**13 32 12.8 +3.3**
MWZ	**Matawai**	**5.79**	**208**	P		**Pn**	**13 32 15.5 +2.6**
MWZ				S		**Sn**	**13 33 18.3 -0.3**
URZ	**Urewera**	**5.90**	**211**	P		**Pn**	**13 32 18.5 +4.2**
URZ	**Urewera**	**5.90**	**211**	P		**Pn**	**13 32 17.0 +2.7**
URZ				S		**Sn**	**13 33 19.1 -1.9**
WCZ	**Waipu Caves**	**6.09**	**242**	P		**Pn**	**13 32 18.2 +1.4**
RTZ	**Ruatahuna**	**6.26**	**210**	P		**Pn**	**13 32 21.2 +2.1**
RTZ				S		**Sn**	**13 33 27.7 -2.0**
OUZ	**Omahuta**	**6.42**	**250**	P		**Pn**	**13 32 21.0 -0.2**
PRRZ	**Plateau Road**	**6.42**	**214**	P		**Pn**	**13 32 24.3 +3.1**
RAHZ	**Arahi**	**6.47**	**208**	P		**Pn**	**13 32 23.9 +2.0**
RAHZ				S		**Sn**	**13 33 35.3 +0.6**
ALRZ	**Allen Road**	**6.50**	**214**	P		**Pn**	**13 32 26.1 +3.9**
MTHZ	**Maungataniwha**	**6.52**	**210**	P		**Pn**	**13 32 25.7 +3.2**
MTHZ				S		**Sn**	**13 33 34.1 -1.7**
WPRZ	**Whakapapatarin**	**6.55**	**215**	P		**Pn**	**13 32 27.7 +4.7**
MRHZ	**Matea Rd**	**6.68**	**212**	P		**Pn**	**13 32 27.0 +2.3**
KUTZ	**Kaahu Road**	**6.70**	**217**	P		**Pn**	**13 32 29.6 +4.7**
TLZ	**Tolley Road**	**6.72**	**220**	P		**Pn**	**13 32 29.4 +4.1**
NMHZ	**Naumai**	**6.74**	**209**	P		**Pn**	**13 32 29.1 +3.6**
NMHZ				S		**Sn**	**13 33 38.7 -2.5**
ARHZ	**Aropaoanui**	**6.81**	**207**	P		**Pn**	**13 32 28.0 +1.7**
ARHZ				S		**Sn**	**13 33 42.5 -0.2**
BKZ	**Black Stump Fm**	**6.93**	**210**	P		**Pn**	**13 32 30.0 +2.0**
BKZ	**Black Stump Fm**	**6.93**	**210**	S		**Sn**	**13 33 43.6 -2.0**
BKZ	**Black Stump Fm**	**6.93**	**210**	P		**Pn**	**13 32 30.3 +2.3**
BKZ				S		**Sn**	**13 33 46.0 +0.3**
MCHZ	**McNeill Hill**	**7.08**	**208**	P		**Pn**	**13 32 32.8 +2.9**
MCHZ				S		**Sn**	**13 33 50.0 +0.8**
KWHZ	**Kaweka Forest**	**7.17**	**210**	P		**Pn**	**13 32 32.4 +1.1**
HIZ	**Hauiti**	**7.23**	**222**	P		**Pn**	**13 32 36.7 +4.7**
HIZ	**Hauiti**	**7.23**	**222**	P		Pn	13 32 37.0 +5.0
NTVZ	**North Tongarir**	**7.24**	**215**	P		**Pn**	**13 32 35.5 +3.3**
TMVZ	**Te Maari**	**7.24**	**215**	P		**Pn**	**13 32 35.2 +2.9**
WTVZ	**West Tongariro**	**7.29**	**215**	P		**Pn**	**13 32 36.3 +3.4**
NNVZ	**North Ngauruho**	**7.29**	**215**	P		**Pn**	**13 32 36.5 +3.5**
OTVZ	**Oturere**	**7.30**	**215**	P		**Pn**	**13 32 33.6 +0.6**
KAHZ	**Kahuranaki**	**7.32**	**206**	P		**Pn**	**13 32 35.3 +2.2**
SNVZ	**South Ngauruho**	**7.33**	**215**	P		**Pn**	**13 32 35.4 +1.9**
NGZ	**Ngauruhoe**	**7.34**	**215**	P		**Pn**	**13 32 36.8 +3.2**
KRHZ	**Kereru**	**7.38**	**209**	P		**Pn**	**13 32 35.3 +1.3**
MOVZ	**Moawhango**	**7.45**	**213**	P		**Pn**	**13 32 36.5 +1.5**
WNVZ	**Wahianoa**	**7.46**	**214**	P		**Pn**	**13 32 37.7 +2.5**
PXZ	**Pawanui**	**7.53**	**205**	P		**Pn**	**13 32 38.3 +2.3**
PXZ				S		**Sn**	**13 33 57.0 -3.0**
PNHZ	**Pukenui**	**7.68**	**209**	P		**Pn**	**13 32 38.4 +0.4**
VRZ	**Vera Road**	**7.72**	**219**	P		**Pn**	**13 32 42.9 +4.4**
PRHZ	**Porangahau**	**7.82**	**205**	P		**Pn**	**13 32 41.3 +1.5**
TSZ	**Takapari Road**	**7.90**	**209**	P		**Pn**	**13 32 41.8 +0.9**
DVHZ	**Dannevirke**	**8.02**	**207**	P		**Pn**	**13 32 43.5 +0.9**
ANWZ	**Angora Road**	**8.05**	**205**	P		**Pn**	**13 32 45.2 +2.4**
PKE	**Puketi**	**8.19**	**222**	P		**Pn**	**13 32 49.1 +4.3**
PRWZ	**Pori Road**	**8.32**	**207**	P		**Pn**	**13 32 48.1 +1.6**
BFZ	**Birch Farm**	**8.32**	**206**	P		**Pn**	**13 32 47.2 +0.6**
BFZ	**Birch Farm**	**8.32**	**206**	S		**Sn**	**13 34 15.0 -4.2**
BFZ	**Birch Farm**	**8.32**	**206**	P		**Pn**	**13 32 47.1 +0.6**
TIWZ	**Tintock**	**8.54**	**207**	P		**Pn**	**13 32 50.4 +0.9**
MRZ	**Mangatainoka R**	**8.56**	**209**	P		**Pn**	**13 32 49.0 -0.8**
HOWZ	**Holdsworth Sta**	**8.79**	**208**	P		**Pn**	**13 32 52.5 -0.3**
TMWZ	**Te Maipa**	**8.83**	**206**	P		**Pn**	**13 32 53.4 +0.1**
OGWZ	**Otaki Gorge**	**8.86**	**210**	P		**Pn**	**13 32 53.7 0.0**
KIW	**Kapiti Island**	**9.01**	**211**	P		**Pn**	**13 32 55.2 -0.5**
MTW	**Mount Morrison**	**9.02**	**207**	P		**Pn**	**13 32 54.8 -1.1**
CAW	**Cannon Point**	**9.15**	**209**	P		**Pn**	**13 32 56.2 -1.4**
PAWZ	**Paruwai Farm**	**9.24**	**207**	P		**Pn**	**13 32 57.7 -1.1**
DUWZ	**D'Urville Isla**	**9.41**	**215**	P		**Pn**	**13 33 00.3 -0.7**
WEL	**Wellington**	**9.42**	**210**	P		**Pn**	**13 33 00.5 -0.6**
PLWZ	**Palliser**	**9.47**	**207**	P		**Pn**	**13 33 00.8 -1.0**
SNZO	**South Karori**	**9.47**	**210**	P		**Pn**	**13 33 00.9 -0.8**
SNZO	**South Karori**	**9.47**	**210**	S		**Sn**	**13 34 39.4 -7.2**
BHW	**Baring Head**	**9.48**	**209**	P		**Pn**	**13 33 01.0 -0.9**
TCW	**Tory Channel**	**9.57**	**212**	P		**Pn**	**13 33 01.6 -1.6**
NNZ	**Nelson**	**9.99**	**215**	P		**Pn**	**13 33 07.3 -1.5**
QRZ	**Quartz Range**	**10.13**	**219**	P		**Pn**	**13 33 09.8 -0.8**
KHZ	**Kahutara**	**10.87**	**211**	P		**Pn**	**13 33 18.9 -1.4**

TXNET 28 13:35:08.0,31°N±1°×103°4W±0°7,h7km±1km,ML1.2/5, Error ellipse: s-maj=1.7km s-min=0.9km az=19.4,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB04	**Verhalen**	**0.11**	**135**	P	Pg	13 35 10.8	+0.4
TPB04				S	Sg	13 35 13.1	+0.9
TPB16	**Coyonosa**	**0.17**	**147**	P	Pg	13 35 11.9	+0.6
TPB16				S	Sg	13 35 14.6	+0.8
PCOS	**Crockett Middl**	**0.20**	**318**	S	Sg	13 35 15.5	+0.9
TPB03	**Saragosa**	**0.22**	**217**	P	Pg	13 35 12.9	+0.5
TPB03				S	Sg	13 35 16.2	+0.7
TPB10	**Southeast of T**	**0.34**	**274**	P	Pg	13 35 15.3	+0.6
TPB10				S	Sb	13 35 20.7	-1.3
TPB05	**Hovey Rd**	**0.34**	**175**	P	Pg	13 35 15.2	+0.5
TPB05				S	Sg	13 35 20.5	+1.3
PECS	**Pecos**	**0.45**	**284**	S	Sg	13 35 23.8	+1.2
TPB01	**Permian Basin**	**0.48**	**229**	P	Pg	13 35 17.3	-0.1
TPB01				S	Sg	13 35 23.9	+0.2
MNHN	**Monahans**	**0.52**	**81**	S	Sb	13 35 26.3	-0.8
TPB12	**Southwest of T**	**0.52**	**265**	P	Pg	13 35 17.9	-0.1
TPB12				S	Sg	13 35 25.4	+0.6
TPB08	**Permian Basin**	**0.54**	**134**	S	Sb	13 35 26.6	-1.1
ALPN	**Alpine**	**0.92**	**195**	P	Pg	13 35 25.5	-0.1
ALPN				S	Sg	13 35 37.5	0.0
ODSA	**Odessa**	**1.10**	**39**	S	Sn	13 35 44.6	-0.7
TMB02	**Rankin**	**1.13**	**93**	S	Sn	13 35 46.1	+0.1
VHRN	**Van Horn**	**1.48**	**252**	P	Pn	13 35 34.9	-0.2
VHRN				S	Sn	13 35 54.5	-0.1
TMB04	**Seminole**	**1.55**	**28**	P	Pb	13 35 36.5	-0.4
TMB04				S	Sg	13 35 58.9	+1.2
SAND	**Sanderson**	**1.68**	**140**	P	Pb	13 35 39.5	+0.2
SAND				S	Sg	13 36 01.9	-0.2
MNTX	**Cornudas Mount**	**1.78**	**285**	P	Pb	13 35 40.2	-0.7
MNTX				S	Sg	13 36 04.7	-0.6
CPRX	**Cap Rock**	**1.81**	**346**	P	Pg	13 35 42.5	-0.3
TX31	**Lajitas Ar. Si**	**1.94**	**188**	P	Pb	13 35 42.8	-0.9
TX31				S	Sb	13 36 08.7	+0.6
OZNA	**Ozona**	**1.94**	**100**	S	Sg	13 36 10.4	0.0

IDC 28 13:37:59.6±1.7,0°86N×124°56E,h0km,mb3.1/3, mbtmp3.1/3,Error ellipse: s-maj=189.4km s-min=27.9km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.79**	**156**	P	P	13 43 04.3	+0.2
	0.5nm,0.4s,baz=333,slow=10,SNR=12						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.02**	**160**	P	P	13 43 35.2	+0.7
	0.2nm,0.6s,baz=332,slow=8.5,SNR=4.2						
ASAR				PcP	PcP	13 47 00.4	-2.6
	0.1nm,0.5s,baz=334,slow=3.0,SNR=1.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.72**	**327**	P	P	13 48 00.2	+1.0
	0.1nm,0.4s,baz=116,slow=7.2,SNR=1.5						
	0.1nm,0.4s						

*IDC **28** 13:58:10.6±3.6,6°14N×92°42E,h46km±40km,mb3.4/6, mbtmp3.7/8,ML3.9/2,MS3.1/1,Error ellipse: s-maj=33.8km s-min=20.5km az=57.0*

ISC 28 13:58:09.5±1.2,6°1N±0°2×92°43E±0°09,h35km,n15, σ1§40/9,mb3.5/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.71**	**276**	P	**Pn**	**14 00 56.1**	**+1.9**
	0.5nm,0.3s,baz=93,slow=16,SNR=1.4						
PALK				S	**Sn**	**14 03 01.8**	**-2.0**
	3.2nm,0.4s,baz=176,slow=18,SNR=4.3						
	4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**13.80**	**27**	P	**Pn**	**14 01 23.7**	**+0.9**
	0.2nm,0.3s,baz=230,slow=14,SNR=20						
	0.9nm,0.4s						
LEM	**Lembang**	**19.88**	**130**	LR	LR	14 10 05.6	
	comp=Z,63nm,20.7s,baz=300,slow=36						
H08S3	**Diego Garcia H**	**24.14**	**236**	T	T	14 29 14.0	
	baz=56,slow=75,SNR=70						
H08S2	**Diego Garcia H**	**24.14**	**236**	T	T	14 29 06.2	
	baz=56,slow=75,SNR=44						
H08S1	**Diego Carcia H**	**24.16**	**236**	T	T	14 29 09.1	
	baz=56,slow=75,SNR=50						
MKAR	**Makanchi Array**	**41.45**	**349**	P	**P**	**14 05 52.7**	**-0.1**
	0.4nm,0.4s,baz=163,slow=8.6,SNR=11						
	0.4nm,0.4s						
SONM	**Songino Array**	**43.24**	**14**	P	**P**	**14 06 05.8**	**-1.8**
	0.4nm,0.6s,baz=198,slow=7.9,SNR=3.8						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.84**	**348**	P	**P**	**14 06 28.4**	**+0.3**
	0.3nm,0.4s,baz=172,slow=6.8,SNR=2.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**48.08**	**354**	P	**P**	**14 06 45.8**	**+0.3**
	0.8nm,0.4s,baz=172,slow=7.2,SNR=5.1						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**48.68**	**123**	P	**P**	**14 06 50.4**	**-0.3**
	0.3nm,0.7s,baz=300,slow=8.0,SNR=2.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**50.15**	**128**	P	**P**	**14 07 01.9**	**0.0**
	0.7nm,0.7s,baz=297,slow=7.0,SNR=12						
	0.7nm,0.7s						
H04N2	**CROZET ISLANDS**	**63.37**	**210**	T	T	15 18 02.4	
	baz=47,slow=75,SNR=57						
H04N1	**CROZET ISLANDS**	**63.38**	**210**	T	T	15 18 03.1	
	baz=47,slow=75,SNR=52						
H04N3	**CROZET ISLANDS**	**63.39**	**210**	T	T	15 18 02.0	
	baz=47,slow=75,SNR=50						

IDC 28 14:00:15.0±4.3,4°68N×124°68E,h194km±32km,mb2.9/4, mbtmp3.4/4,Error ellipse: s-maj=251.0km s-min=16.7km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.25**	**159**	P	P	14 05 31.8	-0.6
	0.2nm,0.5s,baz=337,slow=10.0,SNR=5.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**29.58**	**163**	P	P	14 06 02.4	+0.4
	0.2nm,0.4s,baz=338,slow=6.9,SNR=24						
ASAR				PcP	PcP	14 09 01.9	-0.2
	0.2nm,0.4s,baz=351,slow=2.4,SNR=5.6						
ASAR				ScP	ScP	14 12 25.1	-0.6
	0.5nm,0.9s,baz=342,slow=2.4,SNR=4.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.62**	**326**	P	P	14 09 31.1	+0.4
	0.3nm,0.5s,baz=121,slow=7.5,SNR=5.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**59.84**	**328**	P	P	14 09 59.4	-0.6
	0.4nm,0.6s,baz=126,slow=6.8,SNR=4.6						
	0.4nm,0.6s						

*NEIC **28** 14:04:15.2±0.5,19°334N±0°010×155°192W±0°009, h5km±1km,Error ellipse: s-maj=2.8km s-min=1.7km az=317.0*

HVO 28 14:04:14.8±0.6,19°33N±0°01×155°193W±0°009, h5km±2km,ML2.7/37,ML2.5/42(NEIC),Error ellipse: s-maj=1.9km s-min=1.1km az=148.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.05**	**332**		Pg	14 04 16.7	+0.6
KNHH	**Kane Nui o Ham**	**0.05**	**26**		Pg	14 04 16.7	+0.5
STCH	**Steam Cracks**	**0.08**	**51**		Pg	14 04 17.1	+0.4
STCH				IAML		14 04 19.2	
	comp=N,2μm,0.2s						
STCH				IAML		14 04 19.6	
	comp=E,2μm,0.3s						
BYL	**Byron's Ledge**	**0.10**	**321**	Pg	Pg	14 04 17.5	+0.5
BYL				IAML		14 04 20.0	
	comp=N,2μm,0.8s						
BYL				IAML		14 04 20.1	
	comp=E,2μm,1.1s						
HATHI	**Halema'uma'u T**	**0.11**	**324**	Pg	Pg	14 04 17.6	+0.5
HATHI				IAML		14 04 20.1	
	comp=N,2μm,0.5s						
HATHI				IAML		14 04 20.2	
	comp=E,2μm,0.8s						
SDHHI	**Sand Hill**	**0.11**	**300**		Pg	14 04 17.6	+0.5
HLP	**Hilina Pali**	**0.12**	**251**		Pg	14 04 17.8	+0.6
HLP					Sg	14 04 19.9	+1.0
HLP	**Hilina Pali**	**0.12**	**251**	IAML		14 04 20.4	
	comp=N,4μm,0.7s						
HLP				IAML		14 04 20.7	
	comp=E,3μm,0.2s						
SBLHI	**Steaming Bluff**	**0.12**	**323**		Pg	14 04 17.7	+0.4
SBLHI					Sg	14 04 19.9	+0.9
OBL	**Observatory Le**	**0.12**	**314**		Pg	14 04 17.8	+0.5
OBL					Sg	14 04 19.9	+0.9
UWB	**Uwekahuna Bluf**	**0.12**	**319**		Pg	14 04 17.7	+0.4
UWB					Sg	14 04 19.9	+0.8
WRMHI	**West Rim**	**0.12**	**306**		Pg	14 04 17.8	+0.4
WRMHI					Sg	14 04 20.1	+1.0
UWE	**Uwekahuna**	**0.13**	**313**		Pg	14 04 17.9	+0.5
UWE					Sg	14 04 20.0	+0.7
UWE	**Uwekahuna**	**0.13**	**313**	IAML		14 04 20.8	
	comp=N,1μm,0.9s						
UWE				IAML		14 04 21.3	
	comp=E,2μm,0.8s						
RSD	**Rainshed**	**0.15**	**328**		Pg	14 04 18.2	+0.3
RSD					Sg	14 04 20.7	+0.7
RSD	**Rainshed**	**0.15**	**328**	IAML		14 04 21.6	
	comp=N,864nm,0.9s						
RSD				IAML		14 04 22.4	
	comp=E,488nm,0.7s						
JOKA	**Jonika Flow**	**0.20**	**61**		Pg	14 04 18.7	-0.1
JOKA					Sg	14 04 22.3	+0.7
JOKA	**Jonika Flow**	**0.20**	**61**	IAML		14 04 22.5	
	comp=E,154nm,1.1s						
JOKA				IAML		14 04 24.4	
	comp=N,322nm,0.5s						
HTC	**Hot Caves**	**0.21**	**244**		Pg	14 04 19.6	+0.6
MLH	**Mauna Loa**	**0.24**	**311**		Pg	14 04 19.9	+0.4
MLH					Sg	14 04 23.4	+0.6
MLH	**Mauna Loa**	**0.24**	**311**	IAML		14 04 26.5	
	comp=N,724nm,0.2s						
MLH				IAML		14 04 27.6	
	comp=E,548nm,0.3s						
PAH	**Pahoa**	**0.28**	**55**		Pg	14 04 20.7	+0.4
PAH	**Pahoa**	**0.28**	**55**		Sg	14 04 25.0	+1.0
HMH	**Humu'ula Sheep**	**0.38**	**314**		Pg	14 04 22.4	+0.1
HMH	**Humu'ula Sheep**	**0.38**	**314**		Sg	14 04 27.8	+0.4
KHU	**Kahuku**	**0.41**	**258**		Pg	14 04 22.5	-0.2
KHU				IAML		14 04 33.9	
	comp=E,748nm,0.4s						
KHU				IAML		14 04 36.2	
	comp=N,752nm,0.5s						
MWH	**Mokuaweoweo**	**0.41**	**292**		Pg	14 04 23.1	+0.2
MLOA	**Mauna Loa Obse**	**0.41**	**299**		Pg	14 04 22.6	-0.3
MLOA	**Mauna Loa Obse**	**0.41**	**299**	IAML		14 04 26.9	
	comp=N,6.7nm,0.4s						
MLOA				IAML		14 04 27.3	
	comp=E,16nm,0.8s						
ALEP	**Alea Permanent**	**0.47**	**296**		Pg	14 04 23.6	-0.4
POHA	**Pohakuloa**	**0.53**	**323**		Pg	14 04 24.6	-0.4
POHA	**Pohakuloa**	**0.53**	**323**	IAML		14 04 32.9	
	comp=E,1μm,0.6s						
POHA				IAML		14 04 33.3	
	comp=E,1μm,0.6s						
HUH	**Hualalai**	**0.70**	**300**		Pg	14 04 27.3	-0.9

NNC 28 14:17:09.4±2.3,38°26N×68°72E,h0km,mb3.6,mpv3.3, 4C-5D,Error ellipse: s-maj=20.3km s-min=10.4km az=177.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.03**	**15**	⇑Pn	Pn	14 18 26.1	0.0
	0.7nm,0.3s,baz=196,slow=12,SNR=15						
KK31				⇑Pg	Pb	14 18 40.9	+2.6
	3.7nm,0.3s,baz=193,slow=19,SNR=13						
KK31				⇓Lg	Lg	14 19 46.2	
	39nm,0.9s,baz=189,slow=30,SNR=6.4						
AAK	**Ala-Archa**	**6.21**	**43**	Pn	Pn	14 18 41.8	-0.7
	1.6nm,0.5s						
AAK				⇑Sn	Sn	14 19 56.4	+2.2
	5.4nm,0.8s						
AAK				⇓Lg	Lg	14 20 25.5	
	9.5nm,1.2s						
AB31	**Akbulak array**	**12.68**	**333**	⇓Pn	Pn	14 20 10.4	-0.5
	0.4nm,0.6s,baz=219,slow=74,SNR=18						
AB31				⇑Sn	Sn	14 22 35.8	+3.1
	1.3nm,0.7s,baz=156,slow=22,SNR=4.5						
AKTO	**Aktyubinsk**	**14.36**	**331**	⇓Pn	Pn	14 20 34.3	+0.4
	0.6nm,0.5s						
AKTO				⇓Sn	Sn	14 23 14.7	+0.9
	0.5nm,0.7s						

*IDC **28** 14:17:21.5±0.7,35°57N×140°98E,h0km,mb4.2/21, mbtmp4.2/26,ML3.6/5,MS3.6/19,Error ellipse: s-maj=16.9km s-min=15.7km az=126.0*
*NEIC **28** 14:17:25.7±2.6,35°52N±0°04×141°06E±0°08,h36km±9km, mb4.5/17,Error ellipse: s-maj=10.5km s-min=5.0km az=68.0*
*JMA **28** 14:17:26.3±0.2,35°6N±0°6×14°1E±°,h36km±1km, MV3.6/36,NEAR CHOSHI CITY*
*NIED **28** 14:17:26.3,35°57N×141°04E,h36km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Sc

NMR *i* S Sn 14 20 52.6 -10
JCJ Chichijima 8.55 173 Pn **Pn** **14 19 25.9 -1.7**
JCJ Chichijima 8.55 173 Pn Pn 14 19 18.9 -8.8
comp=Z,9.1nm,0.3s,baz=96,slow=23,SNR=5.0
JCJ Sn Sn 14 20 46.6 -16
comp=Z,18nm,0.3s,baz=270,slow=22,SNR=7.4
JCJ Chichijima 8.55 173 P **Pn** **14 19 26.2 -1.5**
ASAJ Asahikawa 8.57 8 Pn **Pn** **14 19 27.8 -0.1**
comp=Z,2.1nm,0.3s,baz=220,slow=13,SNR=32
ASAJ Sn **Sn** **14 21 02.3 -1.1**
comp=Z,0.2nm,0.3s,baz=37,slow=18,SNR=1.9
comp=Z,9.1nm,0.4s
ASAJ Asahikawa 8.57 8 P **Pn** **14 19 27.2 -0.7**
JKA Kamikawa-asahi 8.57 8 P **Pn** **14 19 27.2 -0.7**
JNU Nakatsue 8.77 256 Pn **Pn** **14 19 28.8 -1.9**
comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=4.3
JNU LR LR 14 23 23.9
comp=Z,841nm,18.1s,baz=96,slow=42
comp=Z,6.2nm,1.0s
RUSJ Misakicho 9.07 20 *e*P **Pn** **14 19 33.5 -1.2**
RUSJ *e*S **Sn** **14 21 10.5 -5.1**
YUK Yuzh-Kuril'sk 9.19 22*c i*P **Pn** **14 19 35.7 -0.5**
YUK *e*S **Sn** **14 21 11.4 -7.0**
YUK pmax pmax
comp=N,11nm,0.3s
YUK pmax pmax
comp=Z,52nm,0.3s
VLA Vladivostok 10.31 319 *e*P **Pn** **14 19 53.8 +2.1**
MSHR Mys Shultsa 10.36 315 *i* P **Pn** **14 19 54.3 +2.0**
KSRS Korea Array 10.72 284 Pn **Pn** **14 20 01.2 +3.9**
comp=Z,0.1nm,0.3s,baz=105,slow=14,SNR=5.8
KSRS LR LR 14 24 08.3
comp=Z,408nm,21.1s,baz=95,slow=38
KUR Kuril'sk 10.92 26 P Pn 14 20 05.7 +5.7
KUR *e*S **Sn** **14 21 55.2 -5.7**
KUR smax smax
comp=E,34nm,0.4s
KUR smax smax
comp=N,16nm,0.5s
USA0B Ussuriysk Arra 11.03 324 *i* P **Pn** **14 20 04.2 +2.7**
USRK Ussuriysk Ar. 11.03 324 Pn **Pn** **14 20 01.6 0.0**
comp=N,0.1nm,0.3s,baz=134,slow=14,SNR=4.8
USRK LR LR 14 24 09.5
comp=N,270nm,19.2s,baz=160,slow=37
comp=N,3.0nm,0.8s
YSS Yuzhno-Sakhali 11.40 6 **Pn** **14 20 05.1 -1.4**
YSS Yuzhno-Sakhali 11.40 6 *e*P **Pn** **14 20 05.4 -1.1**
YSS *e*S Sn 14 22 04.3 -8.3
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS MLR MLR
comp=E,200nm,17.0s
JOW Kunigami 13.99 235 LR LR 14 25 58.5
comp=E,93nm,21.1s,baz=54,slow=37
KLR Kul'dur 15.22 336 Pn **Pn** **14 20 57.5 -1.0**
comp=E,0.3nm,0.3s,baz=182,slow=7.1,SNR=4.8
KLR LR LR 14 26 53.1
comp=E,146nm,19.1s,baz=150,slow=38
comp=E,0.9nm,0.6s
KLR Kul'dur 15.22 336 *i* P **Pn** **14 20 58.2 -0.3**
KLR pmax pmax
comp=Z,2.0nm,1.3s
TYV Tymovskoe 15.28 4 *e*P **Pn** **14 20 58.9 -0.4**
TYV *e*S **Sn** **14 23 46.1 -1.3**
TYV pmax pmax
comp=Z,5.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.2s
TYV smax smax
comp=N,300nm,4.0s
ZEA Zeya 20.54 336 *e*P **P** **14 22 02.1 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
PETK Petropavlovsk- 21.07 29 P **P** **14 22 06.2 -1.1**
comp=Z,3.8nm,0.9s,baz=223,slow=10,SNR=2.0
PETK LR LR 14 31 47.9
comp=Z,56nm,18.3s,baz=226,slow=41
comp=Z,3.8nm,0.9s
MA2 Magadan 24.80 12 P **P** **14 22 43.2 -1.6**
MA2 IAmb IAmb 14 22 48.8
comp=Z,20nm,1.1s
MA2 Magadan 24.80 12 LR LR 14 34 52.6
comp=Z,68nm,18.1s,baz=181,slow=42
MA2 Magadan 24.80 12*c i*P **P** **14 22 46.9 +2.1**
MA2 pmax pmax
comp=Z,13nm,1.0s
YAK Yakutsk 27.39 348 P **P** **14 23 09.0 +0.8**
YAK Yakutsk 27.39 348 LR LR 14 34 12.7
comp=Z,97nm,18.4s,baz=216,slow=37
YAK Yakutsk 27.39 348⇑ *e*P **P** **14 23 08.8 +0.6**
YAK pmax pmax
comp=Z,10.0nm,0.8s
H11N2 WAKE ISLAND Hy 27.71 118 T T 14 52 19.0
baz=310,slow=75,SNR=29
H11N1 WAKE ISLAND Hy 27.72 118 T T 14 52 21.6
baz=310,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 27.73 118 T T 14 52 22.6
baz=310,slow=75,SNR=19
ULN Ulaanbaatar 27.93 307⇑ *i*P **P** **14 23 13.2 -0.2**
ULN pmax pmax
comp=Z,5.0nm,1.8s
SEY Seymchan 28.23 11 *e*P **P** **14 23 16.8 +1.1**
SEY pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 28.35 306 P **P** **14 23 16.0 -1.2**
SONM Songino Array 28.35 306 P **P** **14 23 16.8 -0.3**
comp=Z,2.2nm,0.7s,baz=113,slow=8.5,SNR=18
SONM LR LR 14 35 10.6
comp=Z,77nm,18.6s,baz=95,slow=38
comp=Z,2.2nm,0.7s
SONM Songino Array 28.35 306 P **P** **14 23 16.0 -1.2**
SONM pmax pmax
comp=Z,2.0nm,0.7s
H11S3 WAKE ISLAND Hy 28.37 120 T T 14 53 10.2
baz=312,slow=76,SNR=52
H11S1 WAKE ISLAND Hy 28.38 120 T T 14 53 08.2
baz=312,slow=76,SNR=50
H11S2 WAKE ISLAND Hy 28.39 120 T T 14 53 08.6
baz=312,slow=76,SNR=34
SHEM Shemya Is, Ala 28.89 43 LR LR 14 32 05.5
comp=Z,70nm,20.5s,baz=276,slow=30
BILL Bilibino 35.47 16⇑ *i*P **P** **14 24 20.4 +1.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 36.66 354 LR LR 14 42 29.1
comp=Z,66nm,18.1s,baz=180,slow=41
TIXI Tiksi 36.66 354⇑ *i*P **P** **14 24 30.0 +0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 40.86 257 LR LR 14 43 46.5
comp=Z,91nm,18.8s,baz=180,slow=39
ZAA0 Zalesovo Array 42.66 314 P **P** **14 25 17.9 -1.5**
ZALV Zalesovo Beam 42.66 314 P **P** **14 25 18.4 -1.0**
ZALV Zalesovo Beam 42.66 314 P **P** **14 25 19.9 +0.5**
comp=Z,3.2nm,0.5s,baz=92,slow=6.5,SNR=14
comp=Z,3.2nm,0.5s
ZALV Zalesovo Beam 42.66 314 P **P** **14 25 18.4 -1.0**
NRIK Noril'sk 44.43 336 P **P** **14 25 34.6 +1.2**
comp=Z,1.9nm,0.6s,baz=118,slow=7.9,SNR=4.6
comp=Z,1.9nm,0.6s
NRIK Noril'sk 44.43 336⇑ *i*P **P** **14 25 34.4 +1.0**
NRIK pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 44.63 303 P **P** **14 25 34.7 -0.7**
MK31 IAmb IAmb 14 25 36.6
comp=Z,4.8nm,0.9s
MK31 Makanchi Array 44.63 303*d i*P **P** **14 25 35.6 +0.2**
MKAR Makanchi Array 44.63 303 P **P** **14 25 34.5 -0.8**
MKAR Makanchi Array 44.63 303 P **P** **14 25 35.7 +0.3**
comp=Z,3.5nm,0.8s,baz=90,slow=9.7,SNR=33
comp=Z,3.5nm,0.8s
MKAR Makanchi Array 44.63 303 P **P** **14 25 34.6 -0.8**
MAKZ Makanchi 44.84 303 P **P** **14 25 37.1 0.0**
MAKZ Makanchi 44.84 303 P **P** **14 25 37.1 0.0**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 46.58 309 P **P** **14 25 50.1 -0.6**
KURK Kurchatov 46.58 309*d i*P **P** **14 25 50.7 0.0**
KURK *i* *PP **sP** **14 26 05.4 +1.0**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 46.65 309 P **P** **14 25 51.2 0.0**
comp=Z,3.8nm,0.6s,baz=85,slow=7.9,SNR=23
comp=Z,3.8nm,0.6s
E19K Redstone River 46.86 28 IAmb IAmb 14 25 56.6
comp=Z,5.2nm,1.0s
B21K Ikpikpuk River 48.19 25 IAmb IAmb 14 26 23.6
comp=Z,6.0nm,1.3s
TARG Taragay, Kyrgy 48.77 297 IAmb IAmb 14 26 10.6
comp=Z,4.6nm,0.8s
IL31 50.85 32 P **P** **14 26 23.6 +0.3**
ILAR Eielson Array 50.85 32 P **P** **14 26 24.6 +1.3**
comp=Z,1.4nm,0.8s,baz=271,slow=6.2,SNR=16
comp=Z,1.4nm,0.8s
ILAR Eielson Array 50.85 32 *e*P **P** **14 26 25.0 +1.7**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
AAK Ala-Archa 50.91 299⇓ *i*P **P** **14 26 24.5 +0.2**
AAK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 51.31 313 P **P** **14 26 27.1 +0.1**
comp=Z,1.7nm,0.5s,baz=102,slow=6.2,SNR=10
comp=Z,1.7nm,0.5s
BRVK Borovoye 51.37 313⇓ *i*P **P** **14 26 27.7 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
ARSB Arslanbob 52.36 298 IAmb IAmb 14 26 38.1
comp=Z,3.8nm,0.7s
G30M tAoh Zrail Nji 55.00 28 IAmb IAmb 14 26 57.2
comp=Z,9.1nm,1.2s
I30M Mount Dempster 55.24 31 P **P** **14 26 56.2 +0.4**
I30M IAmb IAmb 14 26 59.4
comp=Z,4.6nm,0.8s
WRA Warramunga Arr 55.62 188 P **P** **14 26 57.9 -0.9**
comp=Z,4.8nm,0.7s,baz=3.9,slow=7.3,SNR=9.4
comp=Z,4.8nm,0.7s
H31M Peel River 55.96 30 P **P** **14 26 60.0 -0.9**
H31M IAmb IAmb 14 27 34.2
comp=Z,11nm,1.4s
ARTI Arti 57.33 319 P **P** **14 27 09.6 -1.1**
ARTI Arti 57.33 319 P **P** **14 27 11.1 +0.4**
comp=Z,8.5nm,0.7s,baz=82,slow=5.1,SNR=17
comp=Z,8.5nm,0.7s
ARTI Arti 57.33 319*d i*P **P** **14 27 10.8 +0.1**
ARTI S **S** **14 35 03.4 -1.3**
ARTI SS **SS** **14 38 51.8 -1.9**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
AKTO Aktyubinsk 59.40 312 P **P** **14 27 25.5 +0.3**
comp=Z,2.6nm,0.7s,baz=72,slow=9.5,SNR=9.9
comp=Z,2.6nm,0.7s
PALK Pallekele 61.78 258 LR LR 14 55 39.1
comp=Z,59nm,19.4s,baz=71,slow=37
YKA Yellowknife Ar 65.18 30 P **P** **14 28 04.7 +1.0**
comp=Z,0.9nm,0.9s,baz=298,slow=6.7,SNR=12
comp=Z,0.9nm,0.9s
ARCES ARCESS Array B 65.22 340 P **P** **14 28 04.5 +0.7**
comp=Z,2.8nm,0.9s,baz=53,slow=5.9,SNR=4.2
comp=Z,2.8nm,0.9s
FINES FINESS Array B 69.93 332 P **P** **14 28 34.0 +0.4**
comp=Z,2.4nm,0.5s,baz=38,slow=7.4,SNR=8.8
comp=Z,2.4nm,0.5s
FINES FINESS Array B 69.93 332 *e*P **P** **14 28 34.2 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KBZ Khabaz 71.60 311 P **P** **14 28 44.2 +0.1**
comp=Z,3.3nm,0.8s,baz=74,slow=2.2,SNR=7.9
comp=Z,3.3nm,0.8s
KBZ Khabaz 71.60 311⇑ *e*P **P** **14 28 44.4 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 72.31 307 LR LR 15 03 12.6
comp=Z,55nm,18.9s,baz=108,slow=38
AKASG Malin Array Be 75.23 322 P **P** **14 29 05.2 -0.1**
comp=Z,1.9nm,0.5s,baz=48,slow=6.4,SNR=15
comp=Z,1.9nm,0.5s
AKASG Malin Array Be 75.23 322 *e*P **P** **14 29 05.4 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 75.23 322⇓ *i*P **P** **14 29 05.5 +0.1**
AKBB pmax pmax
comp=Z,10.0nm,1.6s
NB2 NORSAR Subarra 75.38 337 P **P** **14 29 06.9 +0.8**
comp=Z,1.9nm,0.7s,baz=40,slow=6.2
NOA NORSAR Array B 75.38 337 P **P** **14 29 06.5 +0.3**
comp=Z,2.7nm,0.7s,baz=40,slow=5.8,SNR=9.3
comp=Z,2.7nm,0.7s
NOA NORSAR Array B 75.38 337 *e*P **P** **14 29 06.9 +0.8**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NVAR Mina Array Bea 76.08 53 P **P** **14 29 12.7 +1.9**
comp=Z,0.6nm,0.8s,baz=264,slow=7.7,SNR=3.8
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 78.87 45 P **P** **14 29 27.3 +0.9**
comp=Z,0.2nm,0.5s,baz=334,slow=1.2,SNR=5.1
comp=Z,0.2nm,0.5s
BR131 Keskin Array S 79.56 312 *e*P **P** **14 29 31.1 +1.0**
BRTR Keskin Array B 79.57 312 P **P** **14 29 30.4 +0.3**
comp=Z,1.6nm,0.9s,baz=92,slow=4.9,SNR=5.9
comp=Z,1.6nm,0.9s
BRTR Keskin Array B 79.57 312 *e*P **P** **14 29 31.1 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 80.27 320 LR LR 15 10 05.7
comp=Z,91nm,19.1s,baz=295,slow=39
CLL Collm 82.17 330 *i* P **P** **14 29 43.9 +0.4**
CLL Collm 82.17 330 *i* P **P** **14 29 43.9 +0.4**
comp=Z,10.0nm,1.2s
TXAR Lajitas Array 91.22 52 P **P** **14 30 28.3 -0.1**
comp=Z,1.7nm,1.3s,baz=326,slow=4.2,SNR=2.1
comp=Z,1.7nm,1.3s
H03N2 Juan Fernandez 147.15 98 T T 17 21 46.5
baz=287
H03N3 Juan Fernandez 147.16 98 T T 17 21 41.8
baz=287,slow=74
H03N1 Juan Fernandez 147.16 98 T T 17 21 43.7
baz=287,slow=74
LPAZ La Paz 147.65 61 PKPbc **PKPbc** **14 37 08.8 +0.3**
comp=Z,1.7nm,0.6s,baz=6.5,slow=4.3,SNR=5.1

BJI ***28*** *14:18:48.2,2°.44S×100°.10E,h32km,mB5.1/39,mb5.0/81, Ms4.7/58,Ms7 4.6/60*
MOS ***28*** *14:18:51.9±1.0,1°.90S×99°.94E,h32km,mb5.3/58, MS4.3/7,Error ellipse: s-maj=8.6km s-min=4.4km az=109.2*
NEIC ***28*** *14:18:52.9,2°.07S×99°.63E,h24km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 1016Nm; Mrr1.37; Mθθ-0.77; Mφφ-0.60; Mrθ1.45; Mθφ0.72; Mφr-1.12; Fault plane solution: M0 2.30000×1016 NP1: φs315.06000°,δ18.72000°,λ96.25000°. NP2: φs128.47000°,δ71.39000°,λ87.89000°. Principal axes: T 2.2784, Plg64.0000°, Azm35.0000°; N 0.0379, Plg2.0000°, Azm129.0000°; P -2.3163, Plg26.0000°, Azm220.0000°;*
NEIC ***28*** *14:18:52.1±2.2,2°.05S±0°.06×99°.89E±0°.07,h24km±3km, mb5.3/116,Mww4.8/10 Error ellipse: s-maj=11.2km s-min=8.1km az=56.0*
NEIC ***28*** *14:18:52.9,2°.07S×99°.93E,h24km*
DJA ***28*** *14:18:53.6±0.2,2°S±2°×10°0E±°,h50km±3km,M4.8/56, mb5.1/56,mB5.3/33,MLv5.4/24,Mw(mB)4.7/33, MwMwp4.7/6,Mwp5.0/6*
IDC ***28*** *14:18:56.1±1.8,2°.01S×100°.02E,h55km±14km,mb4.7/37, mbtmp5.0/40,MS4.2/61,Error ellipse: s-maj=16.0km s-min=8.0km az=44.0*
GCMT ***28*** *14:18:56.1±0.3,2°.18S±0°.02×99°.71E±0°.02,h40km±1km, MW4.9/76,Moment Tensor Solution. s47,c61; s76,c102; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.43±.15; Mθθ-1.42±.09; Mφφ-1.01±.12; Mrθ1.33±.09; Mθφ1.41±.06; Mφr-1.17±.11; Best double couple: M0 3.09300×1016 NP1:φs311.00000°,δ28.00000°,λ89.00000°. NP2: φs131.00000°,δ62.00000°,λ90.00000°. Principal axes: T 2.9880, Plg73.0000°, Azm42.0000°; N 0.2100, Plg0.0000°, Azm311.0000°; P -3.1970, Plg17.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 14:18:53.9±0.4,2°.09S±0°.04×99°.86E±0°.04,h41km±3km, h41km;pP-P,n511,σ1§37/487,mb5.1/199,MS4.3/87, 32C-6D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.69**	**167**	P	**Pn**	**14 19 07.5**	**+0.3**
PPSI				S	**Sn**	**14 19 19.1**	**+2.3**
SISI	**Saibi**	**1.08**	**315**	P	**Pn**	**14 19 12.8**	**+0.3**
PPI	**Padang Panjang**	**1.71**	**18**	P	**Pn**	**14 19 21.7**	**+0.5**
PBSI	**Pulau Batu**	**2.56**	**322**	P	**Pn**	**14 19 32.7**	**-0.2**
BKNI	**Bangkinang**	**2.67**	**26**		**Pn**	**14 19 34.1**	**-0.4**
BKNI	**Bangkinang**	**2.67**	**26**	P	**Pn**	**14 19 37.0**	**+2.5**
BKNI	**Bangkinang**	**2.67**	**26**	P	**Pn**	**14 19 35.5**	**+1.0**
MNSI	**Mandailing Nat**	**2.88**	**354**	P	**Pn**	**14 19 37.4**	**+0.1**
KSI	**Kapahiang**	**3.14**	**120**	P	**Pn**	**14 19 42.4**	**+1.4**
MNAI	**Manna**	**3.83**	**126**	Pn	**Pn**	**14 19 50.6**	**+0.2**
MNAI	**Manna**	**3.83**	**126**	P	**Pn**	**14 19 52.2**	**+1.8**
MNAI	**Manna**	**3.83**	**126**	P	**Pn**	**14 19 51.6**	**+1.2**
GSI	**Gunungsitoli**	**4.07**	**326**	Pn	**Pn**	**14 19 53.2**	**-0.5**
GSI	**Gunungsitoli**	**4.07**	**326**	P	**Pn**	**14 19 53.1**	**-0.5**
GSI	**Gunungsitoli**	**4.07**	**326**	P	**Pn**	**14 19 53.2**	**-0.5**
RPSI	**Rantau Prapat**	**4.84**	**349**		**Pn**	**14 20 05.5**	**+1.2**
RPSI	**Rantau Prapat**	**4.84**	**349**	Pn	**Pn**	**14 20 03.7**	**-0.6**
MDSI	**Maura Dua**	**4.93**	**119**	P	**Pn**	**14 20 06.4**	**+0.9**
PSI	**Prapat**	**4.94**	**349**	P	**Pn**	**14 20 05.5**	**-0.4**
	21nm,0.4s,baz=166,slow=12,SNR=16						
PSI				LR	LR	14 22 26.2	
	comp=Z,5μm,18.8s,baz=162,slow=44						
PSI	**Prapat**	**4.94**	**349**	P	**Pn**	**14 20 04.2**	**-1.6**
PMBI	**Palembang**	**4.98**	**100**	Pn	**Pn**	**14 20 03.8**	**-2.4**
TPRI	**Tanjung Pinang**	**5.54**	**57**	P	**Pn**	**14 20 14.8**	**+0.9**
MYKOM	**Kota Tinggi**	**5.55**	**46**	Pn	**Pn**	**14 20 13.4**	**-0.6**
MYKOM	**Kota Tinggi**	**5.55**	**46**	P	**Pn**	**14 20 15.1**	**+1.1**
SNSI	**Sinabang, Aceh**	**5.69**	**322**	P	**Pn**	**14 20 16.4**	**+0.4**
	1.5nm4μm232nm,1.1s						
TSI	**Tuntungan**	**5.70**	**347**	P	**Pn**	**14 20 16.1**	**0.0**
PPBI	**Pangkal Pinang**	**6.28**	**91**	P	**Pn**	**14 20 25.2**	**+1.2**
IPM	**Ipoh**	**6.62**	**10**	Pn	**Pn**	**14 20 28.7**	**-0.1**
IPM	**Ipoh**	**6.62**	**10**	P	**Pn**	**14 20 31.0**	**+2.2**
MLSI	**Meulaboh, Aceh**	**7.19**	**331**	P	**Pn**	**14 20 35.4**	**-1.2**
	1.4nm4μm365nm,0.9s						
CGJI	**Cibinong**	**7.35**	**128**	P	**Pn**	**14 20 37.8**	**-1.0**
	2μm158nm,0.9s						
KULM	**Kulim**	**7.37**	**6**	Pn	**Pn**	**14 20 38.4**	**-0.6**
KULM	**Kulim**	**7.37**	**6**	P	**Pn**	**14 20 39.6**	**+0.6**
SBJI	**Serang**	**7.43**	**123**	P	**Pn**	**14 20 40.7**	**+0.9**
	1.0nm180nm,0.9s						
TPI	**Tanjungpandan**	**7.82**	**95**	P	**Pn**	**14 20 46.5**	**+1.3**
	0.4nm47nm,0.8s						
LHMI	**Lhok Sumawe**	**7.83**	**338**	Pn	**Pn**	**14 20 44.9**	**-0.4**
LHMI	**Lhok Sumawe**	**7.83**	**338**	P	**Pn**	**14 20 48.9**	**+3.6**
	1.1nm2μm166nm,0.8s						
SKJI	**Sukabumi**	**8.27**	**126**	P	**Pn**	**14 20 52.9**	**+1.5**
BSI	**Banda Aceh**	**8.80**	**329**	P	**Pn**	**14 20 56.6**	**-2.1**
	882nm66nm,0.8s						
CNJI	**Cibinong**	**8.91**	**126**	P	**Pn**	**14 20 59.8**	**-0.4**
	899nm59nm,0.7s						
LEM	**Lembang**	**9.06**	**122**	P	**Pn**	**14 21 02.9**	**+0.6**
	16nm,0.5s,baz=315,slow=16,SNR=7.1						
LEM				LR	LR	14 25 20.1	
	comp=Z,2μm,18.1s,baz=278,slow=43						
LEM	**Lembang**	**9.06**	**122**	P	**Pn**	**14 21 03.4**	**+1.1**
	1μm111nm,1.0s						
BBJI	**Bungbulang**	**9.42**	**125**	P	**Pn**	**14 21 06.7**	**-0.6**
XMIS	**Christmas Isla**	**10.13**	**146**	Pn	**Pn**	**14 21 13.9**	**-3.0**
CMJI	**Cimerak**	**10.26**	**124**	P	**Pn**	**14 21 18.8**	**+0.1**
COCO	**West Island**	**10.48**	**196**	Pn	**Pn**	**14 21 20.3**	**-1.3**
COCO	**West Island**	**10.48**	**196**	P	**Pn**	**14 21 20.3**	**-1.3**
SRIT	**Nakonsritamara**	**10.61**	**359**	Pn	**Pn**	**14 21 20.1**	**-3.4**
SRIT	**Nakonsritamara**	**10.61**	**359**	P	**Pn**	**14 21 24.9**	**+1.4**
KSM	**Kuching**	**11.03**	**71**		**Pn**	**14 21 27.6**	**-1.7**
KSM	**Kuching**	**11.03**	**71**	P	**Pn**	**14 21 32.4**	**+3.2**
SMRI	**Semarang**	**11.64**	**115**	Pn	**Pn**	**14 21 33.4**	**-4.2**
SMRI	**Semarang**	**11.64**	**115**	P	**Pn**	**14 21 40.2**	**+2.6**
SMRI	**Semarang**	**11.64**	**115**	P	**Pn**	**14 21 39.2**	**+1.6**
	2μm128nm,0.8s						
STKI	**Sintang**	**11.81**	**80**	P	**Pn**	**14 21 41.9**	**+2.0**
	62nm,0.8s						
UGM	**Wanagama**	**12.10**	**119**	Pn	**Pn**	**14 21 41.1**	**-2.7**
UGM	**Wanagama**	**12.10**	**119**	P	**Pn**	**14 21 43.8**	**0.0**
	67nm,0.7s						
PCJI	**Pacitan**	**12.80**	**119**	P	**Pn**	**14 21 51.8**	**-1.6**
	38nm,0.7s						
SBUM	**Sibu**	**13.16**	**70**	Pn	**Pn**	**14 21 55.0**	**-3.2**
SBUM	**Sibu**	**13.16**	**70**	P	**Pn**	**14 22 01.0**	**+2.7**
GMJI	**Gumukmas**	**14.86**	**115**	P	**Pn**	**14 22 20.8**	**-0.5**
KMMI	**Kalianget**	**14.90**	**110**	P	**Pn**	**14 22 22.2**	**+0.3**
	79nm,1.3s						
ABJI	**Asem Bagus**	**15.40**	**112**	P	**Pn**	**14 22 29.3**	**+0.8**
	81nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.58**	**115**		**Pn**	**14 22 26.8**	**-4.0**
JAGI	**Jajag, Banyuwa**	**15.58**	**115**	P	**Pn**	**14 22 27.4**	**-3.4**
	43nm,0.8s						
NAYO	**Nakonayok**	**16.36**	**5**	P	**Pn**	**14 22 41.8**	**+1.1**
DLV	**Lat**	**16.36**	**31**	P	**Pn**	**14 22 39.8**	**-1.2**
DLV	**Lat**	**16.36**	**31**	P	**P**	**14 22 42.2**	**-1.2**
SRBI	**Singaraja**	**16.41**	**112**	P	**Pn**	**14 22 42.0**	**+0.6**
	689nm54nm,0.8s						
BKB	**Balikpapan**	**17.05**	**88**	Pn	**Pn**	**14 22 46.8**	**-2.7**
BKB	**Balikpapan**	**17.05**	**88**	P	**P**	**14 22 51.7**	**+0.9**
	126nm,1.0s						
UBPT	**Khong Chiam**	**18.13**	**18**	P	**Pn**	**14 22 59.9**	**-2.7**
UBPT	**Khong Chiam**	**18.13**	**18**	P	**Pn**	**14 23 01.4**	**-1.3**
TWSI	**Taliwang, Sumb**	**18.18**	**112**	P	**P**	**14 23 02.9**	**-0.4**
	54nm,0.8s						
KKM	**Kota Kinabalu**	**18.22**	**64**	P	**P**	**14 23 02.7**	**-1.1**
KKM	**Kota Kinabalu**	**18.22**	**64**	P	**Pn**	**14 23 04.8**	**+0.8**
PLAI	**Plampang**	**19.05**	**111**	P	**P**	**14 23 11.8**	**-1.0**
PLAI	**Plampang**	**19.05**	**111**	P	**P**	**14 23 12.5**	**-0.3**
TTSI	**Tana Toraja**	**19.96**	**93**	P	**Pn**	**14 23 23.6**	**-1.2**
	829nm87nm,0.9s						
SPSI	**Sidrap Palu**	**19.97**	**96**	P	**P**	**14 23 22.7**	**-0.2**
	729nm41nm,0.9s						
MYLDM	**Lahad Datu**	**19.97**	**69**	P	**P**	**14 23 22.4**	**-0.6**
MYLDM	**Lahad Datu**	**19.97**	**69**	P	**Pn**	**14 23 25.5**	**+0.6**
PCI	**Palu**	**20.01**	**87**	P	**Pn**	**14 23 24.1**	**-1.2**
	2μm115nm,1.1s						
KAPI	**Kappang**	**20.07**	**99**	P	**P**	**14 23 23.0**	**-1.0**
KAPI				IAmb	IAmb	14 23 29.1	
	comp=Z,107nm,1.0s						
KAPI	**Kappang**	**20.07**	**99**	P	**P**	**14 23 23.8**	**-0.2**
	comp=Z,67nm,0.6s,baz=288,slow=8.2,SNR=12						
KAPI				LR	LR	14 32 03.7	
	comp=Z,670nm,18.3s,baz=260,slow=40						
KAPI	**Kappang**	**20.07**	**99**	P	**Pn**	**14 23 25.6**	**-0.4**
KAPI	**Kappang**	**20.07**	**99***c i*P	P	**P**	**14 23 24.1**	**+0.1**
NONG	**Nongkai**	**20.28**	**9**	P	**P**	**14 23 24.2**	**-2.0**
CM31	**Chiang Mai Arr**	**20.43**	**358**	P	**P**	**14 23 26.1**	**-1.8**
CMAR	**Chiang Mai Arr**	**20.43**	**358**	P	**P**	**14 23 25.1**	**-2.8**
CMAR				PcP	**PcP**	**14 27 39.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.43**	**358**	P	**P**	**14 23 26.6**	**-1.3**
	comp=Z,30nm,0.9s,baz=186,slow=9.6,SNR=133						
CMAR				PcP	**PcP**	**14 27 41.2**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=224,slow=3.9,SNR=5.1						
CMAR				LR	LR	14 31 24.0	
	comp=Z,774nm,20.6s,baz=185,slow=37						
	comp=Z,30nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.43**	**358** *i*	P	**P**	**14 23 25.8**	**-2.1**
CMAR				pmax	pmax		
	comp=Z,31nm,0.9s						
BKSI	**Bulukumba**	**20.48**	**100**	P	**P**	**14 23 28.8**	**+0.4**
	comp=Z,1μmcomp=Z,160nm,0.7s						
CHTO	**Chiang Mai**	**20.79**	**358**	P	**P**	**14 23 29.0**	**-2.7**
CHTO	**Chiang Mai**	**20.79**	**358**	P	**P**	**14 23 29.0**	**-2.7**
CHTO				pmax	pmax		
	comp=Z,25nm,1.1s						
BSSI	**Bau Bau, Buton**	**20.97**	**102**	P	**P**	**14 23 33.4**	**-0.3**
	comp=Z,789nmcomp=Z,59nm,1.0s						
TOLI2	**Tolitoli**	**21.16**	**82**	P	**P**	**14 23 34.8**	**-1.0**
TOLI2				IAmb	IAmb	14 23 37.2	
	comp=Z,133nm,0.9s						
TOLI2	**Tolitoli**	**21.16**	**82**	P	**P**	**14 23 36.2**	**+0.4**
PALK	**Pallekele**	**21.25**	**296**	P	**P**	**14 23 36.9**	**0.0**
PALK	**Pallekele**	**21.25**	**296**	P	**P**	**14 23 37.5**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=140,slow=7.9,SNR=2.0						
PALK				LR	LR	14 31 03.4	
	comp=Z,599nm,19.8s,baz=112,slow=34						
	comp=Z,5.4nm,0.9s						
PALK	**Pallekele**	**21.25**	**296** *i*	P	**P**	**14 23 36.9**	**0.0**
WSI	**Waingapu**	**21.67**	**111**	P	**P**	**14 23 42.0**	**+0.7**
	comp=Z,2μmcomp=Z,125nm,1.1s						
APSI	**Ampana**	**21.82**	**87**	P	**P**	**14 23 41.1**	**-1.7**
	comp=Z,2μmcomp=Z,89nm,1.3s						
BASI	**Baing, Sumba**	**22.11**	**112**	P	**P**	**14 23 46.8**	**+0.8**
	comp=Z,1μmcomp=Z,157nm,0.9s						
MRSI	**Marisa**	**22.23**

LUWI	**Luwuk**	**22.93**	**88**	P	**P**	**14 23 52.0**	**-2.7**
QIZ	**Qiongzhong**	**23.17**	**25**	IAmb	IAmb	14 23 57.7	
	comp=Z,52nm,0.8s						
QIZ	**Qiongzhong**	**23.17**	**25**	P	**P**	**14 23 56.3**	**-0.7**
QIZ				S	**S**	**14 28 08.8**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,66nm,0.7s						
QIZ				LR	LR		
	comp=Z,800nm,14.4s						
QIZ				LR	LR		
	comp=Z,380nm,14.4s						
QIZ				LR	LR		
	comp=Z,1μm,17.9s						
QIZ	**Qiongzhong**	**23.17**	**25**	P	**P**	**14 23 56.7**	**-0.3**
MMRI	**Maumere**	**23.20**	**107**	P	**P**	**14 23 53.0**	**-4.4**
SLVN	**Son La**	**23.61**	**9**	P	**P**	**14 23 59.4**	**-1.9**
SLVN	**Son La**	**23.61**	**9**	P	**P**	**14 24 00.8**	**-0.6**
KMSI	**Cibinong**	**24.26**	**84**	P	**P**	**14 24 07.5**	**0.0**
SOEI	**Soe**	**25.43**	**108**	P	**P**	**14 24 14.2**	**-3.9**
SOEI	**Soe**	**25.43**	**108**	P	**P**	**14 24 18.4**	**+0.2**
SOEI	**Soe**	**25.43**	**108**	P	**P**	**14 24 15.7**	**-2.5**
	comp=Z,41nm,0.8s						
BRDH	**Bariadhala**	**25.88**	**342**	LR	LR	14 37 17.4	
	comp=Z,515nm,18.8s,baz=155,slow=43						
SANI	**Sanana**	**26.11**	**90**	P	**P**	**14 24 23.5**	**-0.8**
SANI	**Sanana**	**26.11**	**90**	P	**P**	**14 24 23.7**	**-0.6**
	comp=Z,27nm,1.2s						
TGY	**Tagaytay City**	**26.37**	**52**	LR	LR	14 35 31.1	
	comp=Z,588nm,18.8s,baz=262,slow=38						
TNCH	**TengChong**	**26.98**	**357**	*e*P	**P**	**14 24 35.0**	**+2.8**
TNCH				pP	pP	14 24 43.5	+0.6
TNCH				PP	**PnPn**	**14 25 17.3**	**+1.4**
TNCH				S	**S**	**14 29 09.3**	**+2.2**
TNCH				pmax	pmax		
	comp=Z,44nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,63nm,3.7s						
TNCH				LR	LR		
	comp=Z,550nm,13.4s						
TNCH				LR	LR		
	comp=Z,430nm,11.5s						
TNCH				LR	LR		
	comp=Z,820nm,16.9s						
KMI	**Kunming**	**27.19**	**6**	⇑P	**P**	**14 24 34.5**	**+0.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				LR	LR		
	comp=Z,370nm,21.2s						
KMI				LR	LR		
	comp=Z,680nm,15.4s						
KMI				LR	LR		
	comp=Z,790nm,19.2s						
H08S2	**Diego Garcia H**	**27.81**	**258**	T	T	14 53 26.1	
	baz=80,slow=76,SNR=1078						
H08S3	**Diego Garcia H**	**27.81**	**258**	T	T	14 53 26.5	
	baz=80,slow=76,SNR=1070						
H08S1	**Diego Carcia H**	**27.83**	**258**	T	T	14 53 27.5	
	baz=80,slow=76,SNR=734						
SZP	**Santa**	**28.16**	**45**	P	**P**	**14 24 44.5**	**+1.9**
PZH	**PanZhiHua**	**28.48**	**4**	P	**P**	**14 24 48.0**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
SHL	**Shillong**	**28.55**	**345**	P	**P**	**14 24 45.7**	**-0.5**
SHL				IAmb	IAmb	14 25 01.4	
	comp=Z,48nm,1.0s						
SHL	**Shillong**	**28.55**	**345**	P	**P**	**14 24 45.7**	**-0.5**
SHL				pmax	pmax		
	comp=Z,48nm,1.0s						
GYA	**Guiyang**	**29.13**	**13**	⇑P	**P**	**14 24 50.5**	**-0.7**
GYA				pP	pP	14 25 01.8	-0.2
GYA				PcP	**PcP**	**14 28 00.0**	**+1.5**
GYA				S	**S**	**14 29 37.5**	**-3.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				LR	LR		
	comp=Z,600nm,19.6s						
GYA				LR	LR		
	comp=Z,1μm,16.6s						
GYA				LR	LR		
	comp=Z,2μm,16.8s						
FITZ	**Fitzroy Crossi**	**29.88**	**124**	P	**P**	**14 24 56.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.88**	**124**	P	**P**	**14 24 58.0**	**+0.1**
	comp=Z,26nm,0.8s,baz=301,slow=6.2,SNR=32						
FITZ				LR	LR	14 39 07.0	
	comp=Z,418nm,19.8s,baz=302,slow=41						
	comp=Z,26nm,0.8s						
FITZ	**Fitzroy Crossi**	**29.88**	**124**	P	**P**	**14 24 58.2**	**+0.3**
SWI	**Sorong**	**31.41**	**88**	P	**P**	**14 25 10.7**	**-0.8**
KNRA	**Kununurra**	**31.52**	**117**	P	**P**	**14 25 10.4**	**-2.0**
	comp=Z,10nm,0.7s						
TPUB	**Ta-pu**	**32.34**	**38**	P	**P**	**14 25 19.3**	**-0.3**
TPUB	**Ta-pu**	**32.34**	**38**	P	**P**	**14 25 20.6**	**+1.1**
FAKI	**Fak Fak**	**32.37**	**92**	P	**P**	**14 25 17.9**	**-2.0**
FAKI				IAmb	IAmb	14 25 32.5	
	comp=Z,26nm,0.9s						
FAKI	**Fak Fak**	**32.37**	**92**	P	**P**	**14 25 19.0**	**-0.9**
FAKI	**Fak Fak**	**32.37**	**92**	P	**P**	**14 25 18.6**	**-1.3**
LSA	**Lhasa**	**32.69**	**346**	P	**P**	**14 25 24.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,44nm,0.9s						
YULB	**Yu-li**	**32.82**	**38**	P	**P**	**14 25 22.4**	**-1.4**
YULB				IAmb	IAmb	14 25 34.2	
	comp=Z,40nm,1.1s						
SSLB	**Suanglung**	**32.90**	**37**	P	**P**	**14 25 23.0**	**-1.5**
SSLB				IAmb	IAmb	14 25 26.2	
	comp=Z,47nm,1.1s						
SSLB	**Suanglung**	**32.90**	**37**	P	**P**	**14 25 25.7**	**+1.2**
CD2	**Chengdu**	**33.02**	**6**	P	**P**	**14 25 24.3**	**-1.1**
CD2				pP	pP	14 25 34.0	-2.2
CD2				S	**S**	**14 30 45.5**	**+4.1**
CD2				pmax	pmax		
	comp=Z,190nm,4.7s						
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
CD2				LR	LR		
	comp=Z,790nm,17.8s						
CD2				LR	LR		
	comp=Z,780nm,16.1s						
ENH	**Enshi**	**33.46**	**15**	IAmb	IAmb	14 25 41.1	
	comp=Z,31nm,0.6s						
ENH	**Enshi**	**33.46**	**15**	P	**P**	**14 25 28.4**	**-0.9**
NWAO	**Narrogin (SRO)**	**34.75**	**154**	LR	LR	14 37 54.7	
	comp=Z,620nm,21.9s,baz=281,slow=33						
WRKA	**Warakurna**	**35.67**	**132**	P	**P**	**14 25 49.4**	**+1.0**
	comp=Z,18nm,0.7s						
WRKA	**Warakurna**	**35.67**	**132**	P	**P**	**14 25 49.5**	**+1.0**
XAN	**Xi'an**	**36.93**	**13**	⇑P	**P**	**14 25 57.5**	**-1.6**
XAN				pP	pP	14 26 07.8	-2.2
XAN				S	**S**	**14 31 39.5**	**-2.0**
XAN				pmax	pmax		
	comp=Z,73nm,0.9s						
XAN				pmax	pmax		
	comp=Z,190nm,3.8s						
XAN				LR	LR		
	comp=Z,1μm,14.9s						
XAN				LR	LR		
	comp=Z,720nm,15.3s						
XAN				LR	LR		
	comp=Z,2μm,16.0s						
WB0	**Warramunga Arr**	**38.05**	**120**	IAmb	IAmb	14 26 09.3	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**38.07**	**120**	P	**P**	**14 26 07.8**	**-1.2**
WRA	**Warramunga Arr**	**38.07**	**120**	P	**P**	**14 26 08.4**	**-0.5**
	comp=Z,28nm,0.8s,baz=304,slow=9.0,SNR=137						
WRA				S	**S**	**14 31 54.7**	**-4.4**
	comp=Z,5.9nm,0.9s,baz=292,slow=16,SNR=15						
WRA				LR	LR	14 44 30.8	
	comp=Z,193nm,19.9s,baz=271,slow=40						
	comp=Z,28nm,0.8s						
WRAB	**Tennant Creek**	**38.08**	**120**	P	**P**	**14 26 08.0**	**-1.0**
WRAB				IAmb	IAmb	14 26 09.7	
	comp=Z,49nm,0.9s						
WRAB	**Tennant Creek**	**38.08**	**120**	*i* P	**P**	**14 26 08.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.3s						
WB2	**Warramunga Arr**	**38.08**	**120**	P	**P**	**14 26 08.0**	**-1.0**
WB2				IAmb	IAmb	14 26 09.7	
	comp=Z,51nm,1.0s						
WB1	**Warramunga Ar.**	**38.09**	**120**	P	**P**	**14 26 08.4**	**-0.7**
LZH	**Lanzhou**	**38.16**	**5**	*e*P	**P**	**14 26 09.3**	**-0.3**
LZH				sP	pP	14 26 22.3	+1.8
LZH				pmax	pmax		
	comp=Z,31nm,1.2s						
LZH				LR	LR		
	comp=Z,570nm,19.6s						
LZH				LR	LR		
	comp=Z,600nm,17.9s						
LZH				LR	LR		
	comp=Z,900nm,18.6s						
WR0	**Warramunga Arr**	**38.25**	**120**	P	**P**	**14 26 09.9**	**-0.5**
WR0				IAmb	IAmb	14 26 11.2	
	comp=Z,42nm,0.8s						
LYN	**LuoYang**	**38.32**	**17**	⇑*i*P	**P**	**14 26 10.8**	**0.0**
LYN				pP	pP	14 26 19.5	-2.1
LYN				sP	pwP	14 26 23.5	-0.5
LYN				pmax	pmax		
	comp=Z,120nm,0.8s						
LYN				pmax	pmax		
	comp=Z,210nm,5.3s						
LYN				LR	LR		
	comp=Z,1μm,17.5s						
LYN				LR	LR		
	comp=Z,640nm,16.7s						
LYN				LR	LR		
	comp=Z,860nm,19.1s						
GOMU	**GeErMu**	**38.38**	**353**	P	**P**	**14 26 12.0**	**+0.3**
GOMU				pP	pP	14 26 17.3	-5.3
GOMU				sP	pwP	14 26 21.5	-1.1
GOMU				pmax	pmax		
	comp=Z,23nm,1.3s						
GOMU				LR	LR		
	comp=Z,390nm,17.2s						
GOMU				LR	LR		
	comp=Z,340nm,17.2s						
GOMU				LR	LR		
	comp=Z,560nm,18.4s						
NJ2	**Nanjing**	**38.44**	**26**	*e*P	**P**	**14 26 10.8**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				LR	LR		
	comp=Z,440nm,15.2s						
NJ2				LR	LR		
	comp=Z,490nm,13.7s						
NJ2				LR	LR		
	comp=Z,640nm,11.4s						
ASAR	**Alice Springs**	**39.32**	**126**	P	**P**	**14 26 19.8**	**+0.4**
	comp=Z,20nm,0.7s,baz=301,slow=7.9,SNR=103						
ASAR				PcP	**PcP**	**14 28 28.6**	**+1.1**
	comp=Z,4.9nm,0.7s,baz=298,slow=2.6,SNR=7.0						
ASAR				S	**S**	**14 32 15.0**	**-2.9**
	comp=Z,3.9nm,0.9s,baz=298,slow=16,SNR=15						
ASAR				LR	LR	14 44 50.7	
	comp=Z,368nm,20.0s,baz=306,slow=40						
	comp=Z,20nm,0.7s						
JOW	**Kunigami**	**39.72**	**42**	P	**P**	**14 26 22.8**	**+0.2**
	comp=Z,16nm,0.7s,baz=242,slow=5.2,SNR=5.0						
JOW				LR	LR	14 43 20.2	
	comp=Z,136nm,18.1s,baz=258,slow=37						
	comp=Z,16nm,0.7s						
JAY	**Jayapura**	**40.82**	**91**	LR	LR	14 45 21.4	
	comp=Z,154nm,21.3s,baz=285,slow=39						
GTA	**Gaotai**	**41.29**	**360**	*e*P	**P**	**14 26 36.0**	**+0.4**
GTA				sP	sP	14 26 53.0	+1.8
GTA				PcP	**PcP**	**14 28 35.0**	**+1.3**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				LR	LR		
	comp=Z,280nm,17.1s						
GTA				LR	LR		
	comp=Z,250nm,17.1s						
GTA				LR	LR		
	comp=Z,410nm,15.5s						
TIA	**Tai'an**	**41.37**	**21**	P	**P**	**14 26 35.0**	**-1.1**
TIA				PcP	**PcP**	**14 28 35.0**	**+1.2**
TIA				S	**S**	**14 32 47.3**	**-0.7**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TIA				pmax	pmax		
	comp=Z,91nm,5.8s						
TIA				LR	LR		
	comp=Z,570nm,22.0s						
TIA				LR	LR		
	comp=Z,550nm,13.7s						
TIA				LR	LR		
	comp=Z,930nm,17.9s						
HNS	**HongShan**	**41.63**	**18**	⇑P	**P**	**14 26 38.0**	**-0.2**
HNS				S	**S**	**14 32 56.5**	**+4.6**
HNS				pmax	pmax		
	comp=Z,24nm,0.9s						
HNS				LR	LR		
	comp=Z,400nm,17.8s						
HNS				LR	LR		
	comp=Z,370nm,18.0s						
HNS				LR	LR		
	comp=Z,480nm,15.7s						
OOD	**Oodnadatta**	**42.73**	**130**	P	**P**	**14 26 47.8**	**+0.5**
QIS	**Mount Isa**	**42.89**	**118**	P	**P**	**14 26 48.0**	**-0.8**
	comp=Z,25nm,1.3s						
QIS	**Mount Isa**	**42.89**	**118**	P	**P**	**14 26 48.6**	**-0.2**
BTO	**Baotou**	**43.49**	**11**	*e*P	**P**	**14 26 54.5**	**+1.1**
BTO				pP	**pP**	**14 27 04.5**	**+0.1**
BTO				sP	**pwP**	**14 27 08.5**	**+1.8**
BTO				PP	**PcP**	**14 28 38.5**	**-2.4**
BTO				S	**S**	**14 33 23.5**	**+4.1**
BTO				sS	**sS**	**14 33 38.8**	**+0.8**
BTO				SS	**SS**	**14 36 30.5**	**-4.5**
BTO				pmax	pmax		
	comp=Z,25nm,1.5s						
BTO				pmax	pmax		
	comp=Z,520nm,4.8s						
BTO				LR	LR		
	comp=Z,2μm,16.4s						
BTO				LR	LR		
	comp=Z,1μm,16.3s						
BTO				LR	LR		
	comp=Z,2μm,18.3s						
NIL	**Nilore**	**43.50**	**327**	P	**P**	**14 26 53.6**	**+0.1**
NIL				IAmb	IAmb	14 26 54.6	
	comp=Z,49nm,0.8s						
NIL	**Nilore**	**43.50**	**327**	P	**P**	**14 26 53.6**	**+0.1**
NIL				pmax	pmax		
	comp=Z,49nm,0.9s						
HHC	**Hu-ho-hao-te**	**44.05**	**13**	*e*P	**P**	**14 27 00.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
BJT	**Baijiatuau**	**44.49**	**18**	IAmb	IAmb	14 27 03.7	
	comp=Z,54nm,1.4s						
BJT	**Baijiatuau**	**44.49**	**18**	P	**P**	**14 27 01.6**	**+0.3**
BJI	**Beijing**	**44.51**	**18**	P	**P**	**14 27 01.5**	**+0.1**
BJI				pP	**pP**	**14 27 11.0**	**-1.5**
BJI				sP	**pwP**	**14 27 15.0**	**+0.2**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
BJI				LR	LR		
	comp=Z,290nm,16.2s						
BJI				LR	LR		
	comp=Z,95nm,14.7s						
BJI				LR	LR		
	comp=Z,370nm,15.5s						
DL2	**Dalian**	**45.45**	**24**	P	P	14 27 04.0	-4.9
DL2				S	S	14 33 38.3	-9.4
DL2				pmax	pmax		
	comp=Z,51nm,1.3s						
DL2				pmax	pmax		
	comp=Z,290nm,9.2s						
DL2				LR	LR		
	comp=Z,460nm,19.4s						
DL2				LR	LR		
	comp=Z,390nm,20.6s						
DL2				LR	LR		
	comp=Z,790nm,19.5s						
JNU	**Nakatsue**	**45.65**	**37**	IAmb	IAmb	14 27 12.0	
	comp=Z,63nm,1.0s						
JNU	**Nakatsue**	**45.65**	**37**	P	**P**	**14 27 10.7**	**0.0**
	comp=Z,40nm,0.9s,baz=222,slow=3.2,SNR=21						
JNU				LR	LR	14 47 35.9	
	comp=Z,350nm,18.1s,baz=234,slow=38						
	comp=Z,40nm,0.9s						
JNU	**Nakatsue**	**45.65**	**37**	P	**P**	**14 27 11.4**	**+0.7**
BBOO	**Buckleboo**	**45.69**	**136**	P	**P**	**14 27 11.3**	**+0.3**
BBOO	**Buckleboo**	**45.69**	**136**	P	**P**	**14 27 12.0**	**+1.0**
LCRK	**Leigh Creek**	**45.98**	**132**	P	**P**	**14 27 13.7**	**+0.4**
MTSU	**Mount Surprise**	**46.41**	**113**	P	**P**	**14 27 16.1**	**-0.8**
	comp=Z,8.1nm,0.8s						
INKA	**Innaminka**	**46.66**	**127**	P	**P**	**14 27 19.7**	**+1.0**
KSH	**Kashi**	**46.85**	**335**	P	**P**	**14 27 19.5**	**-0.6**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KSH				LR	LR		
	comp=Z,260nm,17.8s						
KSH				LR	LR		
	comp=Z,190nm,11.7s						
KSH				LR	LR		
	comp=Z,330nm,20.3s						
WHYH	**Whyalla**	**46.87**	**135**	P	**P**	**14 27 20.3**	**+0.1**
WMQ	**Urumqi**	**46.99**	**348**	*e*P	**P**	**14 27 22.8**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,170nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,220nm,3.8s						
WMQ				LR	LR		
	comp=Z,170nm,24.2s						
WUS	**Wushi**	**47.00**	**339**	IAmb	IAmb	14 27 23.7	
	comp=Z,41nm,1.0s						
KSAR	**Wonju Array Be**	**47.14**	**31**	P	**P**	**14 27 21.4**	**-0.8**
KSAR	**Wonju Array Be**	**47.14**	**31**	P	**P**	**14 27 21.4**	**-0.8**
KSRS	**Korea Array**	**47.17**	**31**	P	**P**	**14 27 22.4**	**-0.1**
	comp=Z,17nm,0.8s,baz=225,slow=8.4,SNR=87						
KSRS				PcP	**PcP**	**14 28 54.2**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=222,slow=3.8,SNR=5.0						
KSRS				LR	LR	14 46 50.7	
	comp=Z,219nm,21.5s,baz=220,slow=36						
	comp=Z,17nm,0.8s						
KS19	**Wonju Array Si**	**47.17**	**31**	P	**P**	**14 27 21.2**	**-1.4**
GUMO	**Guam**	**47.27**	**69**	LR	LR	14 47 03.3	
	comp=Z,94nm,21.9s,baz=228,slow=36						
PMG	**Port Moresby**	**47.58**	**101**	LR	LR	14 51 34.4	
	comp=Z,172nm,18.6s,baz=279,slow=41						
JMN	**Monobe**	**47.91**	**39**	IAmb	IAmb	14 27 38.6	
	comp=Z,54nm,1.1s						
TARG	**Taragay, Kyrgy**	**47.98**	**338**	IAmb	IAmb	14 27 32.1	
	comp=Z,24nm,1.0s						
HTT	**Hallett**	**48.03**	**135**	P	**P**	**14 27 27.8**	**-1.5**
	comp=Z,23nm,0.9s						
HTT	**Hallett**	**48.03**	**135**	P	**P**	**14 27 30.9**	**+1.5**
XLT	**XiLinHaoTe**	**48.04**	**16**	*e*P	**P**	**14 27 30.3**	**+1.1**
XLT				PP	**PP**	**14 29 18.3**	**-3.4**
XLT				pmax	pmax		
	comp=Z,14nm,1.3s						
XLT				LR	LR		
	comp=Z,220nm,13.8s						
XLT				LR	LR		
	comp=Z,140nm,20.6s						
KDJ	**Kajisay**	**48.57**	**338**	P	**P**	**14 27 34.0**	**+0.5**
KDJ	**Kajisay**	**48.57**	**338**	P	**P**	**14 27 34.0**	**+0.5**
KDJ				pmax	pmax		
	comp=Z,66nm,1.0s						
SHLS	**Shalkode**	**48.64**	**340**	*e*P	**P**	**14 27 33.0**	**-0.9**
SHLS				pmax	pmax		
	comp=Z,28nm,0.8s						
SHLS	**Shalkode**	**48.64**	**340**	*e*P	**P**	**14 27 33.0**	**-0.9**
	comp=Z,28nm,0.8s						
SNY	**Shenyang**	**48.72**	**24**	⇓P	**P**	**14 27 33.8**	**-0.6**
SNY				pmax	pmax		
	comp=Z,12nm,1.2s						
UZB	**Uzynbulak**	**48.78**	**340**	*e*P	**P**	**14 27 35.1**	**+0.1**
UZB				pmax	pmax		
	comp=Z,13nm,0.6s						
UZB	**Uzynbulak**	**48.78**	**340**	*e*P	**P**	**14 27 35.2**	**+0.1**
	comp=Z,13nm,0.6s						
SATY	**Saty**	**48.92**	**339**	*e*P	**P**	**14 27 36.3**	**+0.2**
SATY				pmax	pmax		
	comp=Z,34nm,1.1s						
SATY	**Saty**	**48.92**	**339**	*e*P	**P**	**14 27 36.3**	**+0.2**
	comp=Z,34nm,1.1s						
ZHN	**Zhinishke**	**49.00**	**339**	*e*P	**P**	**14 27 36.8**	**+0.1**
ZHN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZHN	**Zhinishke**	**49.00**	**339**	*e*P	**P**	**14 27 36.9**	**+0.2**
	comp=Z,9.4nm,0.8s						
QLP	**Quilpie**	**49.03**	**124**	P	**P**	**14 27 37.8**	**+0.8**
	comp=Z,53nm,1.2s						
QLP	**Quilpie**	**49.03**	**124**	P	**P**	**14 27 38.1**	**+1.0**
ULHL	**Ulahol**	**49.03**	**337**	P	**P**	**14 27 38.4**	**+1.3**
	SNR=17						
GAR	**Garm**	**49.09**	**329**	IAmb	IAmb	14 28 14.0	
	comp=Z,22nm,0.9s						
KPKS	**Kokpek**	**49.18**	**340**	*e*P	**P**	**14 27 37.9**	**-0.1**
KPKS				pmax	pmax		
	comp=Z,26nm,1.3s						
KPKS	**Kokpek**	**49.18**	**340**	*e*P	**P**	**14 27 37.9**	**-0.1**
	comp=Z,26nm,1.3s						
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**14 27 38.7**	**+0.4**
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**14 27 38.9**	**+0.5**
	comp=Z,87nm,0.7s						
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**14 27 39.5**	**+1.2**
	comp=Z,12nm,0.6s,baz=309,slow=8.9,SNR=22						
STKA				LR	LR	14 50 19.2	
	comp=Z,332nm,19.8s,baz=294,slow=38						
	comp=Z,12nm,0.6s						
STKA	**Stephens Creek**	**49.20**	**132**	P	**P**	**14 27 39.7**	**+1.4**
AUMBR	**Murray Bridge**	**49.20**	**137**	P	**P**	**14 27 39.5**	**+1.3**
BOOM	**Boomskoye usch**	**49.35**	**337**	IAmb	IAmb	14 27 41.8	
	comp=Z,31nm,0.9s						
TNSS	**Tian-Shan**	**49.43**	**338**	*e*P	**P**	**14 27 40.3**	**0.0**
TNSS	**Tian-Shan**	**49.43**	**338**	*e*P	**P**	**14 27 40.3**	**0.0**
SIMJ	**Simiganj**	**49.52**	**328**	P	**P**	**14 27 39.4**	**-1.4**
SIMJ				IAmb	IAmb	14 27 55.0	
	comp=Z,29nm,0.9s						
AAA	**Alma-Ata**	**49.59**	**338**	*e*P	**P**	**14 27 41.5**	**+0.3**
AAA				pmax	pmax		
	comp=Z,18nm,0.8s						
AAA	**Alma-Ata**	**49.59**	**338**	*e*P	**P**	**14 27 41.5**	**+0.3**
	comp=Z,18nm,0.8s						
ARSB	**Arslanbob**	**49.64**	**333**	P	**P**	**14 27 42.0**	**+0.4**
ARSB	**Arslanbob**	**49.64**	**333**	P	**P**	**14 27 42.0**	**+0.4**
ARSB				pmax	pmax		
	comp=Z,76nm,1.0s						
BTK	**Batken**	**49.65**	**331**	P	**P**	**14 27 43.0**	**+1.3**
TKM2	**Tokmak 2**	**49.85**	**337**	P	**P**	**14 27 44.8**	**+1.4**
	SNR=48						
KBK	**Karagaybulak**	**49.89**	**336**	P	**P**	**14 27 45.4**	**+1.8**
	SNR=22						
AML	**Almayashu**	**49.98**	**335**	P	**P**	**14 27 46.0**	**+1.5**
	SNR=19						
JCJ	**Chichijima**	**50.04**	**52**	LR	LR	14 47 20.4	
	comp=Z,130nm,21.6s,baz=120,slow=34						
SONM	**Songino Array**	**50.04**	**6**	P	**P**	**14 27 44.5**	**0.0**
SONM				IAmb	IAmb	14 27 45.8	
	comp=Z,18nm,0.7s						
SONM				PcP	**PcP**	**14 29 03.3**	**-0.6**
SONM	**Songino Array**	**50.04**	**6**	P	**P**	**14 27 45.0**	**+0.4**
	comp=Z,16nm,0.6s,baz=189,slow=9.0,SNR=129						
SONM				PcP	**PcP**	**14 29 04.5**	**+0.5**
	comp=Z,9.5nm,0.7s,baz=192,slow=4.9,SNR=7.1						
SONM				LR	LR	14 52 09.9	
	comp=Z,356nm,19.2s,baz=184,slow=40						
	comp=Z,16nm,0.6s						
AAK	**Ala-Archa**	**50.06**	**336**	P	**P**	**14 27 45.3**	**+0.5**
AAK	**Ala-Archa**	**50.06**	**336**	P	**P**	**14 27 46.5**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**50.06**	**336**	*c i*P	**P**	**14 27 46.5**	**+1.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHKK	**Chushkaly**	**50.12**	**339**	*e*P	**P**	**14 27 45.3**	**+0.2**
CHKK	**Chushkaly**	**50.12**	**339**	*e*P	**P**	**14 27 45.3**	**+0.2**
ARXS	**Arharly**	**50.13**	**339**	*e*P	**P**	**14 27 45.6**	**+0.4**
ULN	**Ulaanbaatar**	**50.14**	**6**	P	**P**	**14 27 45.0**	**-0.3**
ULN				PcP	**PcP**	**14 29 04.3**	**0.0**
ULN	**Ulaanbaatar**	**50.14**	**6**	*c i*P	**P**	**14 27 45.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,20nm,0.9s						
CHMS	**Chumysh**	**50.26**	**336**	P	**P**	**14 27 47.4**	**+1.2**
	SNR=14						
EKS2	**Erkin-Say**	**50.38**	**335**	P	**P**	**14 27 48.9**	**+1.6**
	SNR=63						
USP	**Ospenovka**	**50.58**	**336**	P	**P**	**14 27 49.8**	**+1.2**
	SNR=36						
TDK	**Taldyqorghan**	**50.62**	**340**	*e*P	**P**	**14 27 49.0**	**+0.2**
TDK				pmax	pmax		
	comp=Z,28nm,0.9s						
TDK	**Taldyqorghan**	**50.62**	**340**	*e*P	**P**	**14 27 49.1**	**+0.2**
	comp=Z,28nm,0.9s						
SGDS	**Sogindy**	**50.69**	**336**	*e*P	**P**	**14 27 49.7**	**+0.3**
SGDS	**Sogindy**	**50.69**	**336**	*e*P	**P**	**14

CN2 *e*S **S** **14 35 07.5 -0.2**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,15.0s
MAKZ Makanchi 51.17 344 P **P** **14 27 52.9 -0.1**
MAKZ IAmb IAmb 14 27 54.8
comp=Z,41nm,0.8s
MAKZ Makanchi 51.17 344 P **P** **14 27 52.9 -0.1**
MAKZ pmax pmax
comp=Z,41nm,0.9s
JGF Kuroka 51.31 39 IAmb IAmb 14 28 04.8
comp=Z,33nm,1.2s
JHJ Hachijo jima 2 51.43 44 LR LR 14 48 34.3
comp=Z,83nm,19.8s,baz=116,slow=35
DZA Taraz 51.63 333 *e*P **P** **14 27 56.7 +0.2**
DZA pmax pmax
comp=Z,12nm,0.8s
DZA Taraz 51.63 333 *e*P **P** **14 27 56.7 +0.2**
comp=Z,12nm,0.8s
KK31 Karatay Array 52.16 333 IAmb IAmb 14 28 15.5
comp=Z,59nm,1.9s
KKAR Karatay Array 52.16 333 P **P** **14 28 00.4 -0.1**
KKAR Karatay Array 52.16 333 P **P** **14 28 00.4 -0.1**
CMSA Cobar Meteorol 52.17 129 P **P** **14 28 01.0 +0.3**
comp=Z,22nm,1.1s
CMSA Cobar Meteorol 52.17 129 P **P** **14 28 02.1 +1.4**
BTLS Baital 52.24 337 *e*P **P** **14 28 01.2 +0.2**
BTLS Baital 52.24 337 *e*P **P** **14 28 01.2 +0.2**
ZAK Zakamensk 52.35 3 *e*P **P** **14 28 01.4 -0.4**
ZAK *e* 14 29 06.9
ZAK pmax pmax
comp=Z,13nm,1.0s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
BRLS Borolday 52.42 332 *e*P **P** **14 28 01.5 -0.8**
BRLS Borolday 52.42 332 *e*P **P** **14 28 01.6 -0.8**
MAJO Matsushiro 52.43 39 P **P** **14 28 01.0 -1.5**
MAJO IAmb IAmb 14 28 02.9
comp=Z,45nm,1.5s
MAJO Matsushiro 52.43 39 P **P** **14 28 02.5 -0.1**
MAJO Matsushiro 52.43 39*d i*P **P** **14 28 02.2 -0.4**
MAJO pmax pmax
comp=Z,18nm,1.0s
MJB9 Matsu-Tunnel 52.43 39 IAmb IAmb 14 28 04.2
comp=Z,42nm,1.5s
MJAR Matsushiro Arr 52.43 39 P **P** **14 28 01.7 -0.8**
comp=Z,16nm,0.9s,baz=220,slow=7.0,SNR=24
MJAR LR LR 14 51 59.2
comp=Z,216nm,18.5s,baz=234,slow=38
comp=Z,16nm,0.9s
MSHR Mys Shultsa 52.68 29 *e*P **P** **14 28 04.1 -0.1**
MSHR pmax pmax
comp=Z,10.0nm,0.6s
JSD Sado 53.40 38 IAmb IAmb 14 28 10.2
comp=Z,26nm,0.8s
JSD Sado 53.40 38 P **P** **14 28 09.2 -0.4**
VLA Vladivostok 53.44 29 *e*P **P** **14 28 10.1 +0.3**
VLA pmax pmax
comp=Z,10.0nm,1.4s
BNX BinXian 53.51 24 ⇑P **P** **14 28 10.3 0.0**
BNX pmax pmax
comp=Z,56nm,0.7s
MDJ Mudanjiang 53.53 26 P **P** **14 28 10.0 -0.5**
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,130nm,5.2s
MDJ Mudanjiang 53.53 26 P **P** **14 28 10.8 +0.3**
MOY Mondy 53.56 1 *e*P **P** **14 28 11.2 +0.5**
MOY pmax pmax
comp=Z,27nm,2.2s
IRK Irkutsk 54.26 3 *e*P **P** **14 28 14.0 -1.7**
IRK pmax pmax
comp=Z,47nm,1.3s
USA0B Ussuriysk Arra 54.30 28*c i*P **P** **14 28 16.4 +0.3**
USRK Ussuriysk Ar. 54.30 28 P **P** **14 28 15.9 -0.2**
USRK Ussuriysk Ar. 54.30 28 P **P** **14 28 16.4 +0.3**
comp=Z,83nm,0.8s,baz=224,slow=5.6,SNR=132
USRK LR LR 14 54 20.4
comp=Z,321nm,18.2s,baz=215,slow=39
comp=Z,83nm,0.8s
EIDS Eidsvold 54.44 120 P **P** **14 28 18.3 +0.8**
comp=Z,30nm,1.5s
CIT Chita 55.14 10 *e*P **P** **14 28 23.0 +0.9**
CIT *e* 14 28 35.2
CIT *e* 14 29 17.4
CIT pmax pmax
comp=Z,58nm,2.1s
YNG Young 55.38 131 P **P** **14 28 25.7 +1.5**
KURBB Kurchatov Arra 55.59 344 P **P** **14 28 26.0 +0.7**
comp=Z,38nm,0.8s,baz=164,slow=7.0,SNR=200
KURBB LR LR 14 55 11.9
comp=Z,160nm,18.1s,baz=170,slow=39
comp=Z,38nm,0.8s
KURK Kurchatov 55.65 344 P **P** **14 28 25.7 0.0**
KURK Kurchatov 55.65 344*c i*P **P** **14 28 26.5 +0.8**
KURK pmax pmax
comp=Z,93nm,0.9s
JTM Tenmabayashi 56.82 37 P **P** **14 28 34.4 +0.2**
BRZS Berezniki 56.89 339 *e*P **P** **14 28 34.8 +0.2**
BRZS Berezniki 56.89 339 *e*P **P** **14 28 34.9 +0.2**
ZALV Zalesovo Beam 57.23 349 P **P** **14 28 36.6 -0.3**
ZALV Zalesovo Beam 57.23 349 P **P** **14 28 37.4 +0.5**
comp=Z,40nm,0.8s,baz=174,slow=5.8,SNR=132
ZALV LR LR 14 55 41.6
comp=Z,134nm,21.2s,baz=166,slow=39
comp=Z,40nm,0.8s
HEH HeiHe 57.25 21 *e*P **P** **14 28 37.0 -0.1**
HEH pmax pmax
comp=Z,26nm,1.1s
HEH LR LR
comp=Z,620nm,18.0s
HEH LR LR
comp=Z,250nm,18.0s
HEH LR LR
comp=Z,1μm,19.4s
KLR Kul'dur 58.07 24 P **P** **14 28 43.3 +0.4**
comp=Z,30nm,0.8s,baz=239,slow=6.2,SNR=137
KLR LR LR 14 55 57.6
comp=Z,537nm,18.5s,baz=220,slow=38
comp=Z,30nm,0.8s
ATD Arta Tunnel 58.26 285 LR LR 14 49 30.1
comp=Z,8.8nm,21.4s,baz=92,slow=31
ERM Erimo 58.81 37*c i*P **P** **14 28 48.5 +0.3**
ERM pmax pmax
comp=Z,21nm,0.9s
ASAJ Asahikawa 59.76 34 LR LR 14 55 47.5
comp=Z,103nm,19.1s,baz=234,slow=37
JKA Kamikawa-asahi 59.77 34 IAmb IAmb 14 28 56.2
comp=Z,23nm,0.8s
ZEA Zeya 60.13 18 *e*P **P** **14 28 57.8 +0.7**
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA MLR MLR
comp=N,200nm,18.0s
ZEA MLR MLR
comp=E,100nm,18.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
HNR Honiara 60.16 100 LR LR 14 58 15.2
comp=Z,102nm,18.2s,baz=220,slow=39
BVAR Borovoye Array 60.22 340 P **P** **14 28 57.6 -0.1**
comp=Z,8.2nm,0.7s,baz=142,slow=7.5,SNR=36
BVAR LR LR 14 58 00.4
comp=Z,137nm,21.6s,baz=142,slow=39
comp=Z,8.2nm,0.7s
BRVK Borovoye 60.28 340 P **P** **14 28 57.4 -0.7**
BRVK IAmb IAmb 14 29 12.5
comp=Z,52nm,1.6s
BRVK Borovoye 60.28 340*c i*P **P** **14 28 58.0 -0.1**
BRVK pmax pmax
comp=Z,22nm,1.2s
H04N2 CROZET ISLANDS 60.64 216 T T 15 34 29.5
baz=58,slow=75,SNR=6032
H04N1 CROZET ISLANDS 60.66 216 T T 15 34 29.9
baz=58,slow=75,SNR=6861
H04N3 CROZET ISLANDS 60.66 216 T T 15 34 28.6
baz=58,slow=75,SNR=4960
BOD Bodaibo 60.79 9⇓*i*P **P** **14 29 01.8 +0.3**
BOD pmax pmax
comp=Z,426nm,0.8s
H04S1 CROZET ISLANDS 60.93 216 T T 15 34 47.9
baz=57,slow=75,SNR=224
H04S3 CROZET ISLANDS 60.95 216 T T 15 34 46.8
baz=57,slow=75,SNR=412
H04S2 CROZET ISLANDS 60.95 216 T T 15 34 48.0
baz=57,slow=75,SNR=163
GRNR Gornyy 61.20 26⇑*i*P **P** **14 29 05.0 +0.5**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,200nm,16.0s
GRNR MLR MLR
comp=N,280nm,20.0s
GRNR MLR MLR
comp=Z,260nm,17.0s
YSS Yuzhno-Sakhali 61.63 32 P **P** **14 29 06.5 -1.0**
YSS Yuzhno-Sakhali 61.63 32 P **P** **14 29 07.8 +0.4**
YSS Yuzhno-Sakhali 61.63 32*c i*P **P** **14 29 07.8 +0.4**
YSS pmax pmax
comp=Z,92nm,0.9s
ABKAR Akbulak array 61.65 331 P **P** **14 29 06.7 -0.8**
ABKAR Akbulak array 61.65 331 IAmb IAmb 14 29 08.6
comp=Z,33nm,0.8s
KMBO Kilima Mbogo 62.58 270 LR LR 14 53 19.9
comp=Z,227nm,19.6s,baz=98,slow=33
KMBO Kilima Mbogo 62.58 270 *e*P **P** **14 29 14.9 +0.1**
UGL Uglegorsk 62.65 30 *e*P **P** **14 29 15.3 +1.1**
UGL pmax pmax
comp=Z,70nm,0.9s
AKTO Aktyubinsk 63.36 331 P **P** **14 29 18.9 -0.1**
comp=Z,12nm,0.9s,baz=121,slow=6.2,SNR=20
AKTO LR LR 14 59 13.8
comp=Z,123nm,18.1s,baz=64,slow=38
comp=Z,12nm,0.9s
TYV Tymovskoe 64.11 29 *e*P **P** **14 29 25.3 +1.5**
TYV *e*S **S** **14 37 59.0 +1.4**
TYV pmax pmax
comp=Z,18nm,1.1s
TYV pmax pmax
comp=Z,100nm,4.2s
TYV smax smax
comp=N,300nm,8.3s
TYV smax smax
comp=E,400nm,8.3s
SVE Sverdlovsk 66.71 338 *e*P **P** **14 29 41.2 +0.7**
SVE pmax pmax
comp=Z,56nm,1.5s
MARD Mardin 67.19 312 IAmb IAmb 14 29 58.8
comp=Z,28nm,0.7s
ARTI Arti 67.27 336 P **P** **14 29 43.7 -0.4**
ARTI IAmb IAmb 14 29 58.9
comp=Z,23nm,1.0s
ARTI Arti 67.27 336 P **P** **14 29 43.7 -0.4**
comp=Z,15nm,0.9s,baz=132,slow=3.6,SNR=16
ARTI LR LR 15 01 56.3
comp=Z,210nm,20.3s,baz=128,slow=38
comp=Z,15nm,0.9s
ARTI Arti 67.27 336*c i*P **P** **14 29 44.1 0.0**
ARTI 14 32 07.2
ARTI S **S** **14 38 38.0 +1.9**
ARTI SS **SS** **14 42 56.0 -0.4**
ARTI pmax pmax
comp=Z,17nm,0.9s
DZM Mont Dzumac 67.55 113 *e*LR LR 14 50 06.2
comp=Z,212nm,23.7s
DZM Mont Dzumac 67.55 113 LR LR 15 02 02.8
comp=Z,198nm,19.2s,baz=175,slow=38
YAK Yakutsk 67.86 15 P **P** **14 29 46.7 -1.0**
YAK Yakutsk 67.86 15 P **P** **14 29 46.9 -0.8**
comp=Z,124nm,0.8s,baz=101,slow=7.5,SNR=6.4
YAK LR LR 15 03 23.8
comp=Z,452nm,18.4s,baz=228,slow=39
comp=Z,124nm,0.8s
YAK Yakutsk 67.86 15*c i*P **P** **14 29 47.1 -0.6**
YAK *e**PP **pP** **14 29 58.7 -0.7**
YAK *e* 14 32 15.9
YAK *e*S **S** **14 38 43.7 +0.8**
YAK *e**SS **sS** **14 39 06.1 +3.9**
YAK *e*SS **SS** **14 42 58.5 -6.8**
YAK pmax pmax
comp=Z,166nm,0.9s
YAK pmax pmax
comp=N,58nm,1.2s
YAK pmax pmax
comp=E,55nm,1.4s
YAK pmax pmax
comp=Z,134nm,4.6s
YAK pmax pmax
comp=N,35nm,2.7s
YAK pmax pmax
comp=E,116nm,5.2s
YAK smax smax
comp=E,30nm,2.2s
YAK smax smax
comp=N,23nm,2.7s
YAK MLR MLR
comp=Z,466nm,17.0s
YAK MLR MLR
comp=E,252nm,18.0s
YAK MLR MLR
comp=N,289nm,18.0s
KBZ Khabaz 68.28 319 P **P** **14 29 51.3 +0.6**
comp=N,12nm,0.9s,baz=128,slow=4.6,SNR=16
KBZ LR LR 15 03 40.8
comp=N,54nm,20.2s,baz=128,slow=39
comp=N,12nm,0.9s
KBZ Khabaz 68.28 319*ce*P **P** **14 29 51.7 +1.0**
KBZ pmax pmax
comp=Z,19nm,1.0s
SHA1 Shidzhatmaz 68.44 319*c i*P **P** **14 29 53.0 +0.9**
KVAR Kislovodsk Arr 68.51 319 LR LR 15 02 15.7
comp=Z,60nm,20.2s,baz=210,slow=38
KIV Kislovodsk 68.51 319 P **P** **14 29 52.7 +0.4**
KIV Kislovodsk 68.51 319 *e*P **P** **14 29 52.1 -0.2**
KIV *e*S **S** **14 38 50.6 -1.1**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,41nm,17.0s
KIV Kislovodsk 68.51 319 P **P** **14 29 53.6 +1.3**
comp=Z,27nm,1.1s
EIL Elat 69.45 303 LR LR 15 00 37.7
comp=Z,254nm,18.4s,baz=69,slow=36
BELG Belogornoye 69.73 329 P **P** **14 29 59.2 -0.3**
comp=Z,24nm,0.9s,baz=128,slow=1.0,SNR=5.7
comp=Z,24nm,0.9s
BELG Belogornoye 69.73 329*c i*P **P** **14 29 59.0 -0.5**
BELG *i **PP **pP** **14 30 12.5 +1.2**
BELG pmax pmax
comp=Z,6.0nm,1.0s
MMAI Mount Meron Ar 69.97 306 P **P** **14 30 03.4 +1.8**
comp=Z,8.9nm,0.9s,baz=94,slow=15,SNR=2.3
MMAI LR LR 15 02 29.4
comp=Z,189nm,18.0s,baz=105,slow=37
comp=Z,8.9nm,0.9s
LABN Labinsk 70.08 319 *e*P **P** **14 30 00.5 -1.4**
LABN *e*S **S** **14 39 09.1 -0.8**
LABN pmax pmax
comp=Z,42nm,0.7s
MAW Mawson 70.17 194 LR LR 14 54 26.3
comp=Z,304nm,20.7s,baz=26,slow=30
SOC Sochi 70.32 318 *e*P **P** **14 30 01.9 -1.5**
SOC *e* 14 32 37.5
SOC *e*PPP PPP 14 34 20.9
SOC *e*S **S** **14 39 12.4 -0.4**
SOC *e*SS **SS** **14 43 43.0 -1.1**
SOC MLR MLR
comp=Z,74nm,18.0s
ERBR Yeremizino-Bor 70.68 320 *e*P **P** **14 30 05.0 -0.5**
ERBR pmax pmax
comp=Z,32nm,1.2s
LSZ Lusaka 71.77 255 LR LR 14 57 27.0
comp=Z,146nm,19.9s,baz=126,slow=32
NRIK Noril'sk 71.78 355 IAmb IAmb 14 30 26.4
comp=Z,21nm,1.1s
NRIK Noril'sk 71.78 355 P **P** **14 30 10.7 -0.9**
comp=Z,4.5nm,0.4s,baz=167,slow=6.9,SNR=12
NRIK LR LR 15 05 28.1
comp=Z,220nm,19.3s,baz=168,slow=39
comp=Z,4.5nm,0.4s
NRIK Noril'sk 71.78 355*c i*P **P** **14 30 11.3 -0.4**
NRIK pmax pmax
comp=Z,28nm,2.2s
VRH Novokhopyorsk 72.31 326 *e*P **P** **14 30 14.3 -0.9**
VRH pmax pmax
comp=Z,30nm,0.9s
KIRV Kirov 72.39 335 LR LR 15 05 41.9
comp=Z,96nm,19.0s,baz=121,slow=39
KIRV Kirov 72.39 335*c i*P **P** **14 30 16.1 +0.6**
PEA0B Petropavlovsk- 73.03 32*c i*P **P** **14 30 20.0 +0.5**
PETK Petropavlovsk- 73.03 32 P **P** **14 30 19.1 -0.4**
comp=Z,8.0nm,0.8s,baz=211,slow=5.2,SNR=18
PETK LR LR 15 03 00.2
comp=Z,95nm,19.6s,baz=271,slow=36
comp=Z,8.0nm,0.8s
MA2 Magadan 73.17 24 P **P** **14 30 19.9 -0.2**
MA2 IAmb IAmb 14 30 23.9
comp=Z,38nm,1.1s
MA2 Magadan 73.17 24 P **P** **14 30 19.8 -0.3**
comp=Z,18nm,0.9s,baz=227,slow=5.5,SNR=39
MA2 LR LR 15 05 26.7
comp=Z,253nm,18.7s,baz=262,slow=38
comp=Z,18nm,0.9s
MA2 Magadan 73.17 24⇑*i*P **P** **14 30 20.7 +0.5**
MA2 pmax pmax
comp=Z,25nm,1.6s
MA2 Magadan 73.17 24 P **P** **14 30 20.7 +0.5**
comp=Z,37nm,1.2s
BR104 Keskin Array S 73.27 313 P **P** **14 30 21.5 +0.1**
comp=Z,10nm,0.9s
BRTR Keskin Array B 73.27 313 P **P** **14 30 20.9 -0.5**
BRTR Keskin Array B 73.27 313 P **P** **14 30 21.2 -0.2**
comp=Z,2.8nm,0.8s,baz=128,slow=6.0,SNR=12
comp=Z,2.8nm,0.8s
BR131 Keskin Array S 73.28 313⇑*i*P **P** **14 30 21.2 -0.2**
PET Petropavlovsk 73.50 33 P **P** **14 30 21.5 -0.7**
PET IAmb IAmb 14 30 25.3
comp=Z,46nm,1.2s
PET Petropavlovsk 73.50 33 *e*P **P** **14 30 22.3 +0.1**
PET pmax pmax
comp=Z,34nm,1.1s
PET MLR MLR
comp=Z,200nm,17.0s
PET Petropavlovsk 73.50 33 P **P** **14 30 22.5 +0.3**
comp=Z,32nm,0.7s
VORD Divnogorie 73.59 325 *e*P **P** **14 30 21.6 -1.2**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 73.77 325 *e*P **P** **14 30 22.2 -1.6**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 73.93 326 *e*P **P** **14 30 23.5 -1.3**
VORR pmax pmax
comp=Z,59nm,0.4s
LPSR Galich'ya Gora 74.48 326 *e*P **P** **14 30 27.2 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
SIM Simferopol' 74.57 318 *e*P **P** **14 30 25.7 -3.0**
SIM *e*S **SKiKP** **14 39 53.7 +2.1**
SIM pmax pmax
comp=Z,31nm,1.4s
SIM smax smax
comp=E,41nm,12.6s
LBTB Lobatse 74.86 245 LR LR 14 58 47.7
comp=E,350nm,19.3s,baz=86,slow=32
BOSA Boshof 75.49 241 LR LR 14 59 10.2
comp=E,249nm,18.9s,baz=68,slow=32
SEY Seymchan 75.76 22 P **P** **14 30 35.3 +0.2**
comp=E,14nm,0.9s,baz=240,slow=5.6,SNR=83
comp=E,14nm,0.9s
SEY Seymchan 75.76 22*ce*P **P** **14 30 35.7 +0.6**
SEY pmax pmax
comp=Z,36nm,1.7s
TIXI Tiksi 75.96 9 P **P** **14 30 34.9 -1.2**
TIXI IAmb IAmb 14 30 39.7
comp=Z,54nm,1.2s
TIXI Tiksi 75.96 9 LR LR 15 07 07.9
comp=Z,404nm,19.9s,baz=194,slow=38
TIXI Tiksi 75.96 9⇑*i*P **P** **14 30 35.4 -0.7**
TIXI pmax pmax
comp=Z,29nm,0.9s
MOS Moscow 76.50 329 *e*P **P** **14 30 37.9 -1.6**
MOS *e* 14 30 52.6
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 76.79 328⇓*i*P **P** **14 30 42.1 +1.0**
OBN *i* 14 30 48.6
OBN *i* 14 30 54.4
OBN pmax pmax
comp=Z,26nm,1.1s
OBN MLR MLR
comp=Z,103nm,18.0s
SYO Syowa Base 77.74 199⇓*e*P **P** **14 30 46.0 -0.2**
KLMR Klimovskoe 77.84 334 *e*P **P** **14 30 45.4 -1.5**
KLMR pmax pmax
comp=Z,64nm,1.3s
BKZ Black Stump Fm 78.33 129 P **P** **14 30 49.9 -0.3**
BKZ IAmb IAmb 14 30 52.0
comp=Z,29nm,0.8s
MILM Milestii Mici 78.69 319 *e*P **P** **14 30 52.0 +0.1**
comp=Z,34nm,0.9s
MILM Milestii Mici 78.69 319 *e*P **P** **14 30 52.0 +0.1**
URZ Urewera 78.70 128 LR LR 15 07 01.2
comp=Z,188nm,20.1s,baz=14,slow=37
SORM Soroca 79.31 320 P **P** **14 30 55.4 +0.1**
comp=Z,22nm,0.7s
AKASG Malin Array Be 79.47 322 P **P** **14 30 56.2 +0.2**
comp=Z,1.7nm,0.7s,baz=93,slow=4.8,SNR=9.7
comp=Z,1.7nm,0.7s
AKBB Malin Array Si 79.47 322⇑*i*P **P** **14 30 56.0 -0.1**
AKBB pmax pmax
comp=Z,16nm,1.4s
KIEV Kiev 79.47 322 P **P** **14 30 55.6 -0.5**
KIEV Kiev 79.47 322 P **P** **14 30 55.6 -0.5**
KIEV pmax pmax
comp=Z,14nm,1.3s
SUR Sutherland 79.63 238 LR LR 14 59 56.1
comp=Z,408nm,18.4s,baz=130,slow=31
VRI Vrincioaia 79.82 317 P **P** **14 30 59.7 +1.6**
comp=Z,30nm,0.9s
TESR Tescani 80.02 318 P **P** **14 31 00.3 +1.1**
comp=Z,34nm,1.5s
NDNU Novodnistrovsk 80.06 320 P **P** **14 30 59.8 +0.4**
LUBAR Lubar, Ukraine 80.16 321 P **P** **14 30 59.5 -0.3**
MLR Muntele Rosu 80.26 317 IAmb IAmb 14 31 03.1
comp=Z,22nm,1.0s
MLR Muntele Rosu 80.26 317 P **P** **14 31 02.1 +1.4**
comp=Z,24nm,0.9s
KMPD K-Podol'skiy 80.64 320 P **P** **14 31 02.9 +0.5**
BURAR Bucovina Array 81.23 319 P **P** **14 31 07.1 +1.3**
MNK Minsk 81.31 326 *i* P **P** **14 31 04.4 -1.5**
MNK *i **PP **PcP** **14 31 14.9 +2.9**
MNK *i* 14 34 10.1
MNK *i* PPP PPP 14 36 00.4
MNK *i* S **S** **14 41 13.2 -0.4**
MNK *i* SS **SS** **14 46 30.3 +0.2**
MNK *i* SSS SSS 14 49 58.0
MNK pmax pmax
comp=E,7.0nm,0.7s
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=N,27nm,1.1s
MNK MLR MLR
comp=Z,101nm,19.0s
MNK MLR MLR
comp=N,448nm,24.0s
MNK MLR MLR
comp=E,351nm,22.0s
TSUM Tsumeb 82.02 251 LR LR 15 04 20.1
comp=E,258nm,19.0s,baz=147,slow=33
VNDA Vanda 82.11 169 LR LR 15 01 28.3
comp=E,120nm,21.4s,baz=326,slow=31
BERU Beregovo 83.05 319 P **P** **14 31 16.6 +1.5**
APA Apatity 83.12 339⇓*i*P **P** **14 31 14.3 -0.8**
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1μm,23.0s
BILL Bilibino 83.29 20⇑*i*P **P** **14 31 15.1 -0.9**
BILL pmax pmax
comp=Z,3.0nm,1.3s
KOLS Kolonicke sedl 83.42 320 *e*P **P** **14 31 19.0 +1.9**
KOLS pmax pmax
comp=Z,26nm,0.8s
KOLS Kolonicke sedl 83.42 320 *e*P **P** **14 31 19.0 +1.9**
FINES FINESS Array B 84.12 332 P **P** **14 31 20.9 +0.6**
comp=Z,4.8nm,0.5s,baz=96,slow=5.1,SNR=24
comp=Z,4.8nm,0.5s
FINES FINESS Array B 84.12 332 *i* P **P** **14 31 21.2 +0.9**
FINES pmax pmax

comp=Z,5.0nm,0.5s
KECS Kecovo 84.51 319 *e*P **P 14 31 25.0 +2.4**
KECS pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 84.51 319 *e*P **P 14 31 25.0 +2.4**
NIE Niedzica 84.78 320 P **P 14 31 25.7 +1.6**
LANS Liptovska Anna 85.28 319 *e*P **P 14 31 28.6 +2.0**
LANS pmax pmax
comp=Z,3.0nm,1.2s
LANS Liptovska Anna 85.28 319 *e*P **P 14 31 28.6 +2.0**
MORH Mrgy. Hungar 85.41 316 P **P 14 31 28.3 +1.1**
comp=Z,8.2nm,1.6s
VYHS Vyhne 85.60 319 *e*P **P 14 31 29.1 +1.0**
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 85.60 319 *e*P **P 14 31 29.1 +1.0**
MPLH Magyarpolny 86.29 317 P **P 14 31 33.3 +1.8**
comp=Z,40nm,0.9s
STEB Steborice 86.48 320 *e*P **P 14 31 34.1 +1.7**
ARCES ARCESS Array B 86.50 340 P **P 14 31 30.4 -1.7**
ARCES ARCESS Array B 86.50 340 P **P 14 31 32.1 0.0**
comp=Z,6.5nm,0.8s,baz=105,slow=4.6,SNR=15
ARCES LR LR 15 14 47.3
comp=Z,176nm,18.2s,baz=120,slow=39
comp=Z,6.5nm,0.8s
MODS Modra-Piesok 86.61 319 *e*P **P 14 31 35.1 +2.0**
MODS Modra-Piesok 86.61 319 *e*P **P 14 31 35.1 +2.0**
MORC Moravsky Berou 86.61 320 P **P 14 31 34.0 +0.8**
MORC Moravsky Berou 86.61 320 P **P 14 31 34.0 +0.8**
MORC pmax pmax
comp=Z,6.0nm,0.8s
NVL N'lazarevskaya 87.39 199 *e*P **P 14 31 34.6 -1.8**
NVL *e*S **SKSac 14 41 59.7 -0.8**
NVL pmax pmax
comp=Z,9.0nm,1.1s
DPC Dobruska-Polom 87.46 320 *e*P **P 14 31 38.9 +1.7**
DPC Dobruska-Polom 87.46 320 *e*P **P 14 31 38.9 +1.7**
DPC Dobruska-Polom 87.46 320 P **P 14 31 39.2 +2.0**
comp=Z,8.8nm,0.9s
GROS Grobnik 87.60 316 *i*P **P 14 31 39.3 +1.2**
CHVC Chvalec 87.66 321 *e*P **P 14 31 39.8 +1.7**
CHVC Chvalec 87.66 321 *e*P **P 14 31 39.8 +1.7**
ARSA Arzberg 87.66 317 *e*PcP **P 14 31 39.7 +1.5**
comp=Z,2.7nm,0.6s
BOJS Bojanci 87.69 316 *i*P **P 14 31 39.5 +1.1**
QSPA South Pole Qui 87.88 180 P **P 14 31 41.1 +2.1**
comp=Z,1.2nm,0.8s,baz=307,slow=4.3,SNR=7.9
QSPA LR LR 15 07 52.2
comp=Z,216nm,18.8s,baz=306,slow=33
comp=Z,1.2nm,0.8s
SOKA Soboth 87.94 317 *e*PcP **P 14 31 41.0 +1.3**
comp=Z,8.9nm,1.3s
OBKA Obir 88.26 316 *e*PcP **P 14 31 42.7 +1.5**
comp=Z,3.3nm,0.6s
CRNS Crni Vrh 88.43 316 *i*P **P 14 31 43.0 +1.1**
MYKA Terra Mystica 88.90 317 *e*PcP **P 14 31 45.3 +1.2**
comp=Z,3.9nm,0.8s
NRCA Norcia 89.01 313 IAmb IAmb 14 31 46.9
comp=Z,12nm,1.0s
GEC2 GERESS Array S 89.02 319 IAmb IAmb 14 31 47.3
comp=Z,20nm,1.4s
GERES GERESS Array B 89.02 319 P **P 14 31 44.3 -0.5**
GERES GERESS Array B 89.02 319 P **P 14 31 46.0 +1.3**
comp=Z,3.3nm,0.8s,baz=72,slow=4.3,SNR=6.0
comp=Z,3.3nm,0.8s
GERES GERESS Array B 89.02 319 P **P 14 31 46.0 +1.3**
KHC Kasperske Hory 89.12 319 *e*P **P 14 31 46.1 +1.0**
KHC Kasperske Hory 89.12 319⇑ *i*P **P 14 31 46.4 +1.3**
KHC pmax pmax
comp=Z,9.0nm,0.9s
KBA Koelnbreinsper 89.13 317 *e*P **P 14 31 45.9 +0.5**
comp=Z,5.4nm,1.3s
LESA Schwarzleotal 89.61 317 *e*P **P 14 31 47.9 +0.4**
comp=Z,5.4nm,0.9s
CLL Collm 89.64 321 *i*P **P 14 31 48.5 +1.1**
CLL *i* *PP **pP 14 31 57.0 -2.8**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 89.64 321 P **P 14 31 48.7 +1.3**
comp=Z,12nm,0.9s
CLL Collm 89.64 321 *i*P **P 14 31 48.5 +1.1**
comp=Z,10.0nm,1.1s
CLL *i* pP **pP 14 31 57.0 -2.8**
ABTA Abfaltersbach 89.68 317 *e*P **P 14 31 48.6 +0.7**
comp=Z,5.8nm,1.0s
HFS Hagfors 89.88 330 P **P 14 31 49.4 +1.1**
comp=Z,4.0nm,0.8s,baz=116,slow=5.3,SNR=4.3
HFS LR LR 15 14 57.8
comp=Z,84nm,18.3s,baz=40,slow=37
comp=Z,4.0nm,0.8s
CTI Castel Tesino 90.24 316 P **P 14 31 51.2 +0.7**
CTI IAmb IAmb 14 31 53.1
comp=Z,17nm,1.0s
CTI Castel Tesino 90.24 316 P **P 14 31 51.2 +0.7**
CTI pmax pmax
comp=Z,17nm,1.0s
WTTA Wattenberg 90.31 317 *e*P **P 14 31 51.5 +0.6**
comp=Z,15nm,1.2s
WATA Walderalm 90.35 317 *e*P **P 14 31 51.5 +0.5**
comp=Z,8.7nm,1.1s
SQTA Sankt Quirin 90.59 317 *e*PcP **P 14 31 53.1 +0.9**
comp=Z,8.7nm,0.8s
MOTA Moosalm 90.67 317 PcP **P 14 31 53.4 +0.8**
comp=Z,10nm,0.9s
SPITS Spitsbergen Ar 90.69 348 P **P 14 31 52.1 +0.3**
comp=Z,14nm,0.9s,baz=114,slow=5.6,SNR=9.6
SPITS LR LR 15 19 20.3
comp=Z,158nm,18.5s,baz=66,slow=40
comp=Z,14nm,0.9s
RETA Reutte 90.91 317 *e*PcP **P 14 31 54.5 +1.0**
comp=Z,8.2nm,0.8s
FETA Feichten 90.91 317 *e*PcP **P 14 31 54.9 +1.2**
comp=Z,8.1nm,1.1s
NOA NORSAR Array B 91.15 331 P **P 14 31 54.9 +0.6**
comp=Z,1.0nm,0.8s,baz=112,slow=5.7,SNR=1.6
NOA LR LR 15 17 45.9
comp=Z,78nm,19.0s,baz=25,slow=39
comp=Z,1.0nm,0.8s
FUORN Ofenpass-Fuorn 91.22 316 IAmb IAmb 14 31 57.9
comp=Z,9.7nm,0.9s
DAVA Damuels 91.50 317 *e*PcP **PcP 14 31 57.6 +0.3**
comp=Z,17nm,1.1s
KEST Kesra 91.62 306 IAmb IAmb 14 32 01.3
comp=Z,22nm,1.2s
KEST Kesra 91.62 306 P **P 14 31 58.7 +1.6**
comp=Z,10nm,0.9s,baz=135,slow=5.7,SNR=6.0
comp=Z,10nm,0.9s
TUE Stuetta 91.85 316 P **P 14 31 58.2 +0.1**
TUE IAmb IAmb 14 32 00.4
comp=Z,19nm,1.8s
D19K Kuna River 96.34 21 IAmb IAmb 14 32 21.6
comp=Z,11nm,1.1s
B20K Meade River 96.38 20 IAmb IAmb 14 32 21.6
comp=Z,12nm,1.2s
G19K Purcell Mounta 97.17 24 IAmb IAmb 14 32 25.3
comp=Z,8.2nm,0.9s
B21K Ikpikpuk River 97.33 20 IAmb IAmb 14 32 29.0
comp=Z,13nm,1.1s
B22K Teshekpuk Lake 97.55 19 IAmb IAmb 14 32 26.6
comp=Z,19nm,1.4s
J18K Innoko River 97.85 26 IAmb IAmb 14 33 22.4
comp=Z,18nm,1.5s
JMIC Jan Mayen 97.89 342 LR LR 15 22 55.5
comp=Z,63nm,20.2s,baz=66,slow=39
D22K Ayikyak River 98.19 20 IAmb IAmb 14 32 29.7
comp=Z,7.2nm,1.1s
F21K Alatna River 98.33 22 IAmb IAmb 14 33 07.0
comp=Z,9.6nm,1.4s
G21K Allakaket 98.50 23 IAmb IAmb 14 32 31.3
comp=Z,8.2nm,0.8s
RAR Rarotonga 98.91 112 LR LR 15 18 25.7
comp=Z,39nm,20.3s,baz=276,slow=36
H21K Melozitna Rive 99.00 24 IAmb IAmb 14 32 36.7
comp=Z,15nm,1.5s
TOLK Toolik Lake Re 99.34 20 IAmb IAmb 14 33 08.4
comp=Z,21nm,1.7s
E23K Chandalar 99.51 21 IAmb IAmb 14 32 36.5
comp=Z,16nm,1.6s
TBI Tubuai 108.07 115 *e*LR LR 15 08 55.3
comp=Z,378nm,22.8s
PPT2 Papeete2 108.91 109 *e*LR LR 15 09 17.9
YKA Yellowknife Ar 114.49 17 PKP **PKiKP 14 37 28.3 -0.9**
comp=Z,0.5nm,0.8s,baz=317,slow=2.1,SNR=6.2
SCHQ Schefferville 126.31 350 PKP **PKPdf 14 37 52.6 +0.5**
comp=Z,4.3nm,0.9s,baz=4.2,slow=4.9,SNR=4.3
NVAR Mina Array Bea 129.76 39 PKP **PKiKP 14 38 01.2 +0.9**
comp=Z,1.5nm,0.7s,baz=273,slow=2.1,SNR=10.0
ELK Elko 130.15 35 PKP **PKiKP 14 38 02.2 +1.1**
comp=Z,1.3nm,0.6s,baz=273,slow=6.5,SNR=7.3
ULM Lac du Bonnet 130.18 13 PKP **PKPdf 14 38 00.4 +0.7**
comp=Z,3.5nm,0.8s,baz=333,slow=3.3,SNR=6.2
PDAR Pinedale Array 131.72 29 PKP **PKPdf 14 38 03.5 +0.3**
comp=Z,0.5nm,0.6s,baz=318,slow=2.0,SNR=6.6
PDAR SKPbc **SKPab 14 41 26.1 -0.3**
comp=Z,0.4nm,0.8s,baz=313,slow=2.1,SNR=2.2
PFO Pinyon Flats O 133.78 43 PKP **PKiKP 14 38 09.4 +1.0**
comp=Z,1.1nm,0.6s,baz=319,slow=2.5,SNR=5.4
ANMO Albuquerque 139.16 34 PKP **PKPdf 14 38 18.5 +1.3**
comp=Z,1.2nm,0.6s,baz=217,slow=3.6,SNR=3.8
CPUP Villa Florida 144.17 216 PKP **PKPdf 14 38 27.6 +1.5**
comp=Z,3.4nm,0.8s,baz=150,slow=4.2,SNR=6.5
TXAR Lajitas Array 144.86 37 PKP **PKPdf 14 38 27.7 +0.3**
comp=Z,28nm,0.8s,baz=271,slow=1.2,SNR=180
TKL Tuckaleechee C 146.43 5 PKPbc **PKPbc 14 38 31.2 +0.1**
comp=Z,14nm,0.6s,baz=147,slow=3.0,SNR=12

*SJA **28** 14:25:31.0,20°.87S×69°.29W,h106km,ML3.7*
*GUC **28** 14:25:32.3±0.8,20°.89S×68°.88W,h101km±20km,ML2.5*
ISC 28 14:25:31.8±1.5,20°.83S±0°.05×69°.2W±0°.2,h112km,n11,
σ0°95/15,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.35**	**234**	*i* P	**Pn**	**14 25 47.8**	**-0.4**
PB01	**IPOC Station P**	**0.35**	**234**	*e*P	**Pn**	**14 25 48.7**	**+0.5**
PB01				*i* S	**Sn**	**14 26 01.2**	**+0.7**
PB01				IAML		14 26 01.5	
comp=N,1μm,0.1s							
PB08	**IPOC Station P**	**0.69**	**2**	*i* P	**Pn**	**14 25 50.3**	**-0.5**
PB08	**IPOC Station P**	**0.69**	**2**	*e*P	**Pn**	**14 25 50.9**	**+0.1**
PB08				*e*S	**Sn**	**14 26 05.0**	**+0.1**
PB08				IAML		14 26 05.5	
comp=E,177nm,0.3s							
TA01	**Diego Aracena**	**0.97**	**286**	*i* P	**Pn**	**14 25 53.0**	**+0.1**
PB11	**IPOC Station P**	**1.16**	**337**	*i* P	**Pn**	**14 25 54.6**	**-0.4**
PB03	**IPOC Station P**	**1.32**	**204**	*i* P	**Pn**	**14 25 54.1**	**-2.8**
PB03	**IPOC Station P**	**1.32**	**204**	*e*P	**Pn**	**14 25 57.0**	**+0.1**
PB03				*e*S	**Sn**	**14 26 16.6**	**+0.8**
PB03				IAML		14 26 17.7	
comp=N,50nm,0.2s							
PB06	**IPOC Station P**	**1.90**	**191**	*i* P	**Pn**	**14 26 04.6**	**+0.8**
PB06	**IPOC Station P**	**1.90**	**191**	*e*P	**Pn**	**14 26 04.2**	**+0.4**
PB06				*e*S	**Sn**	**14 26 27.9**	**-0.3**
PB06				IAML		14 26 30.3	
comp=N,24nm,0.1s							
GO02	**Mina Guanaco**	**4.33**	**185**	*i* P	**Pn**	**14 26 35.7**	**-0.2**

*SJA **28** 14:26:50.0,20°.74S×69°.71W,h90km,ML3.7*
*GUC **28** 14:26:51.4±0.8,20°.63S×69°.38W,h98km±4km,ML3.9*
ISC 28 14:26:51.9±1.6,20°.65S±0°.04×69°.45W±0°.07,h90km±11km,
n16,σ1°03/22,7C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**185**	*i* P	**Pn**	**14 27 05.3**	**-0.7**
PB01	**IPOC Station P**	**0.40**	**185**⇓	*i*P	**Pn**	**14 27 05.8**	**-0.2**
PB01				*i* S	**Sn**	**14 27 16.9**	**+0.4**
PB01				IAML		14 27 17.9	
comp=E,16μm,0.2s							
PB08	**IPOC Station P**	**0.58**	**29**⇓	*i*P	**Pn**	**14 27 06.6**	**-1.1**
PB08				*i* S	**Sn**	**14 27 18.2**	**-1.2**
PB08				IAML		14 27 19.1	
comp=E,5μm,0.2s							
TA01	**Diego Aracena**	**0.69**	**277**⇑	*i*P	**Pn**	**14 27 08.6**	**+0.4**
TA01				*i* S	**Sn**	**14 27 21.6**	**+1.1**
TA01				IAML		14 27 22.4	
comp=N,5μm,0.3s							
TA02	**Huaiquique**	**0.74**	**300**⇑	*i*P	**Pn**	**14 27 09.1**	**+0.3**
TA02				*i* S	**Sn**	**14 27 22.5**	**+1.2**
TA02				IAML		14 27 23.7	
comp=N,13μm,0.1s							
PB11	**IPOC Station P**	**0.90**	**348**⇑	*i*P	**Pn**	**14 27 10.1**	**-0.6**
PB11				*i* S	**Sn**	**14 27 24.7**	**0.0**
PB11				IAML		14 27 25.6	
comp=E,17μm,0.2s							
PB09	**IPOC Station P**	**1.16**	**170**	*i* P	**Pn**	**14 27 13.3**	**-0.3**
PB09	**IPOC Station P**	**1.16**	**170**⇑	*i*P	**Pn**	**14 27 13.7**	**0.0**
PB09				*i* S	**Sn**	**14 27 30.9**	**+0.9**
PB09				IAML		14 27 33.0	
comp=N,2μm,0.4s							
PB03	**IPOC Station P**	**1.42**	**191**⇑	*i*P	**Pn**	**14 27 17.0**	**+0.1**
PB03				IAML		14 27 38.5	
comp=E,675nm,0.2s							
PB06	**IPOC Station P**	**2.05**	**183**⇑	*i*P	**Pn**	**14 27 24.6**	**-0.4**
PB06				IAML		14 27 53.0	
comp=N,534nm,0.2s							
PB12	**IPOC Station P**	**2.18**	**338**	*i* P	**Pn**	**14 27 25.0**	**-1.7**
PB12	**IPOC Station P**	**2.18**	**338**⇑	*i*P	**Pn**	**14 27 25.6**	**-1.1**
PB12				IAML		14 27 59.5	
comp=N,497nm,0.3s							
YJA	**Yavi**	**3.97**	**113**	*i* P	**Pn**	**14 27 51.6**	**+0.7**
PB14	**IPOC Station P**	**4.06**	**192**	*i* P	**Pn**	**14 27 50.9**	**-1.1**
GO02	**Mina Guanaco**	**4.50**	**182**	*i* P	**Pn**	**14 27 56.3**	**-1.7**
LPAZ	**La Paz**	**4.51**	**16**	*i* P	**Pn**	**14 28 00.2**	**+1.7**

HEL 28 15:01:31.4±0.1,60°.29N×24°.89E,h0km,ML1.4,
Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.11**	**182**	PG	Pg	15 01 33.5	+0.1
baz=1.0							
HEL1				SG	Sg	15 01 34.2	-0.7
NUR	**Nurmijarvi**	**0.25**	**332**	PG	Pg	15 01 35.5	-0.8
NUR				SG	Sg	15 01 38.9	-0.6
MEF	**Metsahovi**	**0.26**	**255**	PG	Pg	15 01 36.1	-0.2
MEF				SG	Sg	15 01 40.0	+0.4
PVF	**Pernaja**	**0.55**	**61**	PG	Pg	15 01 41.0	-0.9
PVF				SG	Sg	15 01 48.1	-0.9
PVF				MSG		15 01 49.0	
comp=Z,2.6nm,0.2s							
FIA0	**FINESS Array S**	**1.30**	**26**	PG	Pg	15 01 54.6	-1.7
FIA0				MSG		15 02 10.6	
comp=Z,4.0nm,0.2s							
FIA0				SN	Sn	15 02 16.4	+1.6
VJF	**Virojoki**	**1.35**	**78**	PG	Pg	15 01 55.7	-1.4
VJF				MSG		15 02 12.1	
comp=Z,6.5nm,0.2s							
VJF				SN	Sn	15 02 16.9	+1.0
MTSE	**Matsula**	**1.67**	**200**	SN	Sg	15 02 25.1	+0.1
RAF	**Rauma**	**1.71**	**297**	PN	Pn	15 02 02.3	-0.1
RAF				MSG		15 02 22.5	
comp=Z,2.3nm,0.2s							
RAF				SN	Sn	15 02 25.2	+0.3
KEF	**Keuruu**	**1.89**	**360**	PG	Pn	15 02 05.5	+0.6
KEF				MSG		15 02 27.6	
comp=Z,1.7nm,0.2s							
KEF				SG	Sb	15 02 31.0	+0.2
KAF	**Kangasniemi**	**1.96**	**20**	PG	Pn	15 02 06.7	+0.8
KAF				MSG		15 02 29.4	
comp=Z,2.1nm,0.2s							
KAF				SG	Sb	15 02 32.3	-0.5
KPF	**Kankaanpaa**	**2.07**	**320**	PG	Pb	15 02 08.7	-1.1
KPF				SG	Sb	15 02 35.5	-0.6
SUF	**Sumiainen**	**2.52**	**13**	PG	Pb	15 02 15.7	-1.6
baz=192							
SUF				MSG		15 02 45.5	
comp=Z,0.7nm,0.2s							
SUF				SG	Sb	15 02 48.5	-0.3

IDC 28 15:07:43.3±283.0,54°.00N×159°.54E,h0km,Error ellipse:
s-maj=103.4km s-min=29.8km az=52.0,Near east coast
of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-1.41**	**231**		I	I	15 15 50.0	
0.9nm,1.0s,baz=50,slow=340,SNR=12							
I45RU	**USSURIYSK INFR**	**20.41**	**253**	I	I	17 12 12.4	
baz=52,slow=343,SNR=1.0							
I53US	**FAIRBANKS INFR**	**28.00**	**46**	I	I	17 58 48.9	
baz=277,slow=328,SNR=1.2							

*IDC **28** 15:24:15.6±2.1,31°.36S×14°.15W,h0km,mb4.2/3,*
mbtmp4.2/3,MS3.8/25,Error ellipse: s-maj=79.0km
s-min=30.5km az=166.0
ISC 28 15:24:16.6±2.2,31°.4S±0°.5×14°.1W±0°.2,h10km,n31,
σ1°04/6,mb4.4/4,MS3.8/25,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**29.59**	**101**	LR	LR	15 39 28.9	
comp=Z,256nm,19.2s,baz=258,slow=31							
BOSA	**Boshof**	**34.09**	**96**	LR	LR	15 42 24.1	
comp=Z,179nm,18.3s,baz=238,slow=32							
BDFB	**Brasilia**	**34.65**	**289**	P	**P**	**15 31 05.7**	**-0.8**
7.7nm,0.9s,baz=124,slow=6.5,SNR=8.1							
BDFB				LR	LR	15 43 22.9	
comp=Z,180nm,18.6s,baz=139,slow=33							
7.7nm,0.9s							
LBTB	**Lobatse**	**35.44**	**90**	LR	LR	15 43 08.7	
comp=Z,88nm,18.1s,baz=244,slow=32							
CPUP	**Villa Florida**	**37.99**	**267**	LR	LR	15 44 45.4	
comp=Z,140nm,18.4s,baz=163,slow=32							
DBIC	**Dimbokro**	**38.92**	**15**	LR	LR	15 44 59.0	
comp=Z,56nm,18.2s,baz=236,slow=32							
LSZ	**Lusaka**	**41.76**	**77**	LR	LR	15 46 36.3	
comp=Z,86nm,20.9s,baz=256,slow=32							
PMSA	**Palmer Station**	**45.19**	**208**	LR	LR	15 48 36.3	
comp=Z,103nm,18.2s,baz=119,slow=32							
SIV	**San Ignacio**	**45.31**	**279**	P	**P**	**15 32 36.4**	**+1.4**
2.3nm,0.8s,baz=118,slow=10.0,SNR=7.1							
SIV				LR	LR	15 48 51.7	
comp=Z,197nm,21.2s,baz=98,slow=33							
2.3nm,0.8s							
PLCA	**Paso Flores**	**45.85**	**242**	LR	LR	15 52 11.8	
comp=Z,27nm,18.2s,baz=112,slow=36							
BBTS	**Babate**	**45.90**	**357**	LR	LR	15 47 26.3	
comp=Z,72nm,19.1s,baz=166,slow=30							
TORD	**Torodi Ar. Bea**	**46.86**	**21**	P	**P**	**15 32 47.1**	**0.0**
81nm,0.3s,baz=212,slow=6.2,SNR=3.6							
LPAZ	**La Paz**	**51.16**	**274**	P	**P**	**15 33 20.5**	**-0.4**
0.9nm,0.6s,baz=113,slow=7.7,SNR=2.1							
LPAZ				LR	LR	15 52 03.5	
comp=Z,112nm,21.2s,baz=93,slow=33							
0.9nm,0.6s							
MDP	**Montagnes des**	**51.66**	**308**	LR	LR	15 52 46.9	
comp=Z,197nm,21.8s,baz=127,slow=33							
H04S3	**CROZET ISLANDS**	**51.98**	**127**	T	T	16 28 29.3	
baz=264,slow=75,SNR=9.8							
H04S2	**CROZET ISLANDS**	**51.98**	**127**	T	T	16 28 27.9	
baz=264,slow=75,SNR=15							
H04S1	**CROZET ISLANDS**	**51.99**	**127**	T	T	16 28 30.5	
baz=264,slow=75,SNR=8.2							
MAW	**Mawson**	**56.42**	**153**	LR	LR	15 52 35.1	
comp=Z,71nm,20.0s,baz=267,slow=30							
MDT	**Midelt**	**64.54**	**9**	LR	LR	15 59 15.7	
comp=Z,88nm,19.7s,baz=180,slow=33							
SDV	**Santo Domingo**	**67.27**	**297**	LR	LR	16 03 28.3	
comp=Z,246nm,19.0s,baz=82,slow=35							
KEST	**Kesra**	**70.36**	**20**	LR	LR	16 04 39.5	
comp=Z,122nm,18.1s,baz=353,slow=34							
VNDA	**Vanda**	**71.27**	**179**	LR	LR	16 03 10.9	
comp=Z,65nm,19.0s,baz=350,slow=33							
MMAI	**Mount Meron Ar**	**79.36**	**41**	LR	LR	16 09 07.9	
comp=Z,18nm,20.5s,baz=220,slow=34							
GERES	**GERESS Array B**	**83.70**	**18**	LR	LR	16 10 42.9	
comp=Z,51nm,20.8s,baz=330,slow=33							
GNI	**Garni**	**89.69**	**41**	LR	LR	16 18 32.8	
comp=Z,24nm,18.2s,baz=261,slow=36							
NOA	**NORSAR Array B**	**94.44**	**12**	LR	LR	16 18 32.5	
comp=Z,17nm,19.0s,baz=30,slow=34							
BORG	**Borgarnes**	**96.03**	**357**	LR	LR	16 14 33.6	
comp=Z,40nm,19.0s,baz=256,slow=32							
PALK	**Pallekele**	**97.85**	**86**	LR	LR	16 16 51.4	
comp=Z,80nm,18.8s,baz=234,slow=32							
FINES	**FINESS Array B**	**98.14**	**18**	LR	LR	16 21 04.8	
comp=Z,47nm,18.3s,baz=204,slow=35							
ILAR	**Eielson Array**	**135.86**	**333**	PKP	**PKPdf**	**15 43 37.4**	**+0.6**
0.5nm,0.8s,baz=66,slow=1.1,SNR=4.5							
KSRS	**Korea Array**	**148.28**	**69**	PKPbc	**PKPbc**	**15 44 02.6**	**-0.4**
1.4nm,0.9s,baz=264,slow=5.5,SNR=5.3							

*ISK **28** 15:29:53.3,38°.37N×25°.79E,h16km,ML2.7/27*
*ATH **28** 15:29:54.8,38°.36N×25°.91E,h19km±4km,ML2.8/9,*
Manual Solution by M.Charalampakis First location:
2019/02/28 15:31:18, This location: 2019/02/28 18:34:01
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 3
km; Longitude uncertainty: 4 km
*AFAD **28** 15:29:55.5,38°.39N×25°.91E,h7km±3km,ML2.6*
ISC 28 15:29:54.6±1.1,38°.39N±0°.02×25°.88E±0°.02,h18km±3km,
n74,σ0°52/83,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG2	**Marmaro, Chios**	**0.24**	**50**	P	**Pb**	**15 30 00.5**	**+0.2**
EAG2				S	**Sg**	**15 30 04.1**	**+0.2**
CESE	**eme**	**0.34**	**100**	Pg	**Pb**	**15 30 02.2**	**+0.1**
KARB	**zmir-Karabur**	**0.50**	**57**	P	**Pb**	**15 30 05.0**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.52**	**107**	P	**Pb**	**15 30 05.4**	**+0.3**
URLA	**Izmir**	**0.57**	**93**	P	**Pb**	**15 30 06.3**	**+0.4**
FOCM	**Foa**	**0.74**	**64**	Pg	**Pg**	**15 30 09.2**	**0.0**
SIGR	**SIGRI**	**0.82**	**359**	Pg	**Pb**	**15 30 10.3**	**-0.1**
SIGR				Sg	**Sn**	**15 30 22.7**	**-0.3**
SIGR	**SIGRI**	**0.82**	**359**	P	**Pb**	**15 30 10.5**	**+0.2**
SIGR				S	**Sg**	**15 30 22.1**	**+0.5**
DGB	**zmir**	**0.86**	**113**	P	**Pg**	**15 30 11.4**	**-0.1**
DGB				S	**Sn**	**15 30 23.5**	**-0.4**
GMLD	**Gumuldur**	**0.88**	**111**	Pg	**Pb**	**15 30 11.3**	**0.0**
PRK	**Paraskevi**	**0.91**	**20**	P	**Pb**	**15 30 12.2**	**+0.3**
PRK				S	**Sg**	**15 30 24.3**	**-0.1**
BLCB	**Balcova**	**0.92**	**90**	Pg	**Pg**	**15 30 12.4**	**-0.1**
CAND	**Candarli**	**0.92**	**52**	Pg	**Pg**	**15 30 12.4**	**-0.1**
IZMD	**zmir-Dikili-**	**1.01**	**54**	P	**Pb**	**15 30 13.9**	**+0.1**
IZMD				P	**Pg**	**15 30 14.8**	**+0.4**
IZMD				S	**Sg**	**15 30 27.9**	**+0.2**
IZMD				*i* AML	AML	15 30 30.0	
comp=N,189nm,0.7s							
IZMD				*i* AML	AML	15 30 30.0	
comp=E,140nm,0.7s							
SMG	**Samos**	**1.02**	**132**	P	**Pb**	**15 30 13.8**	**0.0**
SMG				S	**Sb**	**15 30 26.1**	**-0.6**
TNSA	**Tinos**	**1.02**	**214**	P	**Pb**	**15 30 13.7**	**0.0**
TNSA				S	**Sb**	**15 30 26.9**	**+0.2**
DKL	**Dikili**	**1.05**	**49**	Pn	**Pb**	**15 30 14.5**	**+0.2**
DKL	**Dikili**	**1.05**	**49**	P	**Pb**	**15 30 14.4**	**+0.1**
GPNR	**Gulpinar-Canak**	**1.08**	**11**	Pn	**Pb**	**15 30 14.7**	**-0.1**
ZEDA	**zmir-Bergama**	**1.10**	**58**	P	**Pb**	**15 30 14.4**	**-0.8**
AYVA	**Ayvalik**	**1.12**	**34**	P	**Pn**	**15 30 15.1**	**-0.2**
KOCA	**Canakkale, Ayv**	**1.13**	**10**	P	**Pn**	**15 30 14.8**	**-0.8**
SKY	**Skiros Island**	**1.15**	**296**	P	**Pg**	**15 30 16.9**	**+0.1**
KARY	**Karystos**	**1.19**	**253**	P	**Pn**	**15 30 16.1**	**-0.2**
GCAM	**G?zelcaml?**	**1.27**	**122**	Pn	**Pn**	**15 30 17.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.27**	**122**	P	**Pg**	**15 30 18.9**	**-0.3**
APE	**Apeiranthos**	**1.35**	**192**	Pn	**Pn**	**15 30 17.6**	**-0.9**
APE	**Apeiranthos**	**1.35**	**192**	P	**Pn**	**15 30 18.0**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.42**	**280**	P	**Pn**	**15 30 19.9**	**+0.4**
EZNE	**Ezine-Canakkal**	**1.42**	**15**	Pn	**Pn**	**15 30 19.2**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.45**	**21**	P	**Pn**	**15 30 19.7**	**-0.2**
BUHA	**Balikesir, Bur**	**1.45**	**40**	P	**Pn**	**15 30 20.1**	**+0.1**
BOZC	**Bozcaada**	**1.46**	**5**	Pn	**Pn**	**15 30 19.5**	**-0.5**
BOZC	**Bozcaada**	**1.46**	**5**	P	**Pn**	**15 30 19.9**	**-0.1**
DION	**Dionisos Attik**	**1.56**	**259**	P	**Pn**	**15 30 22.4**	**+0.9**
AKHS	**Akhisar**	**1.59**	**72**	P	**Pg**	**15 30 25.0**	**-0.4**
AKS	**Akhisar**	**1.59**	**72**	Pn	**Pb**

LPK	Lapseki	2.10	19	Pn	Pn	15 30 29.0 +0.2
SMTH	Samothraki Isl	2.10	353	P	Pn	15 30 28.6 -0.2
DAT	Datca	2.14	140	Pn	Pn	15 30 29.7 +0.2
GONE	Gonen-Balikesi	2.17	40	Pn	Pn	15 30 30.5 +0.7
KULA	Kula-Manisa	2.19	86	Pn	Pn	15 30 30.7 +0.5
SUSR	Susurluk-Balik	2.33	47	Pn	Pn	15 30 32.7 +0.7
THAS	Thassos island	2.39	338	P	Pn	15 30 32.7 -0.1
OUR	Ouranopolis	2.44	324	P	Pn	15 30 33.8 +0.4
EDC	Edincik	2.49	38	Pn	Pn	15 30 34.9 +0.7
SIMA	Simav-Kutahya	2.53	73	Pn	Pn	15 30 35.8 +1.0
KCTX	Karacabey (Bur	2.69	45	Pn	Pn	15 30 37.7 +0.8
GUR	Goura	2.82	262	P	Pn	15 30 39.8 +0.9
KLV	Kalavryta, Ach	2.96	264	P	Pn	15 30 41.3 +0.7
TVSB	Tavsanli	2.99	68	Pn	Pn	15 30 42.9 +1.7
ANX	Ano Chora	3.11	275	P	Pn	15 30 43.9 +1.0

*NEIC **28** 15:33:54.5±0.6, 37°.64N±0°.01×105°.50W±0°.03, h6km±6km, mb_Lg3.2/102, ML3.4/86, Mwr3.3/3(SLM), Error ellipse: s-maj=3.7km s-min=0.7km az=58.0*
*NEIC **28** 15:33:54, 37°.64N×105°.50W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.73; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$0.98; $M_{r\theta}$-0.44; $M_{\theta\phi}$-0.17; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.01000×10^{14} NP1:φs20.00000°, δ55.00000°, λ-50.00000°. NP2:φs144.00000°, δ51.00000°, λ-133.00000°. Principal axes: T 1.0112, Plg2.0000°, Azm83.0000°; N 0.0000, Plg32.0000°, Azm174.0000°; P -1.0112, Plg58.0000°, Azm349.0000°;*
ISC 28 15:33:53.8±1.1, 37°.60N±0°.03×105°.51W±0°.04, h6km±11km, n117, σ1§78/112, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.14	3		Pg	15 33 57.1	+0.2
SDCO				Sg	Sg	15 33 58.7	-0.2
SDCO				IAML		15 33 58.9	
	25μm,0.1s						
SDCO				IAML		15 33 58.9	
	23μm,0.1s						
T25A	Trinidad	0.99	118		Pg	15 34 13.4	+0.5
T25A				Sg	Sg	15 34 26.3	+0.5
S22A	4UR Ranch, Cre	1.06	278		Pg	15 34 14.4	+0.3
S22A				Sg	Sg	15 34 28.2	+0.4
Q24A	Divide	1.39	12		Pn	15 34 19.1	-1.0
Q24A				Sg	Sg	15 34 36.6	-1.9
ISCO	Idaho Springs	2.19	358		Pn	15 34 32.7	+1.5
MVCO	Mesa Verde	2.41	262		Pn	15 34 36.4	+2.3
MVCO				IAML		15 35 18.4	
	194nm,0.8s						
PV15	Paradox Valley	2.46	288		Pn	15 34 36.8	+2.0
PV15				IAML		15 35 20.8	
	comp=E,142nm,0.8s						
PV15				IAML		15 35 21.0	
	comp=N,137nm,0.8s						
RTBA	Rita Blanca	2.51	117		Pn	15 34 37.4	+2.1
PV07	Paradox Valley	2.61	290		Pn	15 34 38.8	+1.9
KSCO	Kaye Shedlock'	2.67	57		Pn	15 34 39.2	+1.7
PV13	Radium Mtn., P	2.68	283		Pn	15 34 39.8	+2.1
PV13				IAML		15 35 23.2	
	comp=E,134nm,0.7s						
PV13				IAML		15 35 24.4	
	comp=N,116nm,0.9s						
PV11	David Mesa, Pa	2.75	286		Pn	15 34 41.0	+2.3
ANMO	Albuquerque	2.76	196	Pn	Pn	15 34 40.8	+2.0
PV23	Carpenter Ridg	2.89	288		Pn	15 34 43.2	+2.5
PV10	Paradox Valley	2.89	287		Pn	15 34 43.0	+2.2
PV10				IAML		15 35 34.3	
	comp=N,165nm,1.1s						
PV10				IAML		15 35 40.7	
	comp=E,149nm,0.8s						
BRIGG	Briggsdale	3.11	17		Pn	15 34 45.4	+1.7
N23A	Red Feather La	3.30	354		Pn	15 34 47.6	+1.2
N23A				IAML		15 35 40.0	
	comp=E,117nm,0.7s						
N23A				IAML		15 35 49.4	
	comp=N,94nm,0.6s						
O20A	White River Ci	3.31	321		Pn	15 34 48.9	+2.6
BNM	Barren Site	3.56	195	Pn	Pn	15 34 52.4	+2.4
LENM	Lemitar	3.63	200		Pn	15 34 52.9	+2.1
Y22D	IRIS PASSCAL I	3.70	198	Pn	Pn	15 34 54.3	+2.5
CRNM	Carthage	3.78	196		Pn	15 34 55.1	+2.3
SBM	South Baldy	3.87	201		Pn	15 34 56.5	+2.3
AMTX	Amarillo	4.12	130	Pn	Pn	15 34 58.9	+1.5
SRU	San Rafael Swe	4.22	292		Pn	15 35 00.9	+2.0
SRU				IAML		15 36 12.6	
	comp=E,54nm,0.7s						
SRU				IAML		15 36 15.7	
	comp=N,41nm,0.7s						
P18A	Preston Nutter	4.22	300		Pn	15 35 01.1	+2.1
P18A				IAML		15 36 09.8	
	comp=E,33nm,0.8s						
P18A				IAML		15 36 19.7	
	comp=N,30nm,0.9s						
OGNE	Ogallala	4.29	38		Pn	15 35 01.1	+1.3
Q16A	Castle Valley	4.64	288		Pn	15 35 06.5	+1.8
Q16A				IAML		15 36 20.8	
	comp=N,37nm,0.7s						
Q16A				IAML		15 36 23.6	
	comp=E,33nm,0.8s						
CBKS	Cedar Bluff	4.70	73	Pn	Pn	15 35 05.9	+0.5
CBKS				IAmb_Lg		15 36 33.0	
	comp=Z,42nm,0.9s						
X18A	Snowflake	4.73	231		Pn	15 35 07.4	+1.5
CPRX	Cap Rock	4.76	163		Pn	15 35 09.1	+2.9
TMUT	Trail Mountain	4.78	292		Pn	15 35 08.1	+1.3
SMWD	Samnorwood	4.93	119		Pn	15 35 10.3	+1.8
SMWD				IAmb_Lg		15 36 32.4	
	comp=Z,47nm,0.7s						
BSUT	Blindstream Ca	5.03	307		Pn	15 35 12.5	+2.4
K22A	Casper	5.10	352		Pn	15 35 11.6	+0.6
K22A				IAML		15 36 37.4	
	comp=E,46nm,0.5s						
ELIS	Ellis County	5.12	106		Pn	15 35 12.2	+1.0
ELIS				IAmb_Lg		15 36 44.0	
	comp=Z,32nm,0.8s						
WUAZ	Wupatki	5.16	248		Pn	15 35 13.9	+2.1
MTPU	Mount Pierson	5.30	277		Pn	15 35 16.3	+2.4
MTPU				IAML		15 36 45.3	
	comp=N,17nm,2.4s						
MTPU				IAML		15 36 46.3	
	comp=E,19nm,1.2s						
MSU	Marysvale	5.34	282		Pn	15 35 15.2	+0.9
NOKA	Waynoka	5.34	98		Pn	15 35 15.5	+1.2
NOKA				IAmb_Lg		15 36 43.6	
	comp=Z,31nm,0.7s						
HTMS	Hat Mesa	5.35	163		Pn	15 35 16.1	+1.8
MPU	Maple Canyon	5.35	299	Pn	Pn	15 35 15.1	+0.6
CLN7	Carlsbad 7	5.36	164		Pn	15 35 14.7	+0.1
121A	Cookes Peak, D	5.39	201		Pn	15 35 15.6	+0.6
PKCU	Pink Cliffs	5.41	270		Pn	15 35 16.7	+1.3
DKNS	Dickens	5.42	135		Pn	15 35 16.2	+0.9
R32A	Long Quarter,	5.43	79	Pn	Pn	15 35 15.5	+0.1
GDL2	Guadalupe Moun	5.47	170	Pn	Pn	15 35 17.3	+1.2
CLNB	Carlsbad	5.49	165		Pn	15 35 16.6	+0.2
JLU	Jordanelle	5.50	305		Pn	15 35 17.6	+1.0
OK038	West end E0370	5.53	100		Pn	15 35 17.1	+0.4
OK038				IAmb_Lg		15 36 54.4	
	comp=Z,36nm,1.0s						
U15A	North Rim	5.55	260		Pn	15 35 18.1	+0.7
POST	Post	5.59	143		Pn	15 35 17.8	+0.2
TCUT	Toone Canyon	5.76	309		Pn	15 35 20.7	+0.6
X16A	Lo Mia Camp, P	5.76	238	Pn	Pn	15 35 22.2	+2.0
TPB11	China Draw	5.78	167	P	Pg	15 35 43.9	-0.8
CSTR	Hydro, Custer	5.82	108		Pn	15 35 21.1	+0.2
DUN6	Lazy B Ranch	5.83	211		Pn	15 35 20.6	-0.4
KNB	Kanab	5.86	266		Pn	15 35 21.5	+0.1
SN07	Snyder 07	5.88	139		Pn	15 35 21.3	-0.3
SN07				IAmb_Lg		15 37 00.1	
	comp=Z,40nm,0.9s						
MNTX	Cornudas Mount	5.89	179	Pg	Pb	15 35 38.3	+1.3
KAN12	Harper NE Stat	5.99	91		Pn	15 35 22.7	-0.3
KAN12				IAmb_Lg		15 37 04.5	
	comp=Z,40nm,1.1s						
ODSA	Odessa	5.99	155	P	Pb	15 35 42.9	+4.2
ODSA	Odessa	5.99	155		Pn	15 35 27.2	+4.1
ODSA	Odessa	5.99	155	S	Sb	15 36 56.3	+5.6
KAN08	Anthony NE Sta	6.01	91		Pn	15 35 23.3	-0.1
KAN08				IAmb_Lg		15 37 16.7	
	comp=Z,25nm,1.0s						
PD31	Pinedale Array	6.01	330		Pn	15 35 23.2	-0.4
PDAR	Pinedale Array	6.01	330		Pn	15 35 23.0	-0.7
SN05	Snyder 5	6.04	140		Pn	15 35 25.5	+1.6
SN05				IAmb_Lg		15 37 12.1	
	comp=Z,24nm,0.8s						
KAN14	Manchester OK	6.05	94		Pn	15 35 24.4	+0.5
KAN05	Bluff City Nor	6.11	92		Pn	15 35 24.9	+0.2
CROK	Carrier	6.12	98		Pn	15 35 25.9	+1.0
APMT	Aspermont	6.13	133		Pn	15 35 24.1	-0.9
APMT				IAmb_Lg		15 37 11.5	
	comp=Z,37nm,0.8s						
WMOK	Wichita Mounta	6.15	116		Pn	15 35 24.6	-0.6
WMOK				IAmb_Lg		15 37 19.2	
	comp=Z,25nm,1.0s						
HWUT	Hardware Ranch	6.15	312		Pn	15 35 25.3	-0.1
GC02	Grant County #	6.15	95		Pn	15 35 25.0	-0.3
KAN01	Argonia South	6.19	92		Pn	15 35 24.9	-0.9
LCMT	Little Creek M	6.19	267		Pn	15 35 26.4	+0.5
KAN17	Caldwell West	6.20	93		Pn	15 35 25.3	-0.7
DUG	Dugway, Tooele	6.26	297		Pn	15 35 27.7	+0.8
KAN09	Caldwell North	6.30	92		Pn	15 35 25.4	-1.9
PECS	Pecos	6.37	167		Pn	15 35 27.7	-0.6
KAN13	South Haven SW	6.43	93		Pn	15 35 27.3	-1.8
KAN13				IAmb_Lg		15 37 35.5	
	comp=Z,25nm,1.1s						
RSSD	Black Hills	6.61	9		Pn	15 35 31.7	0.0
PSUT	Pine Spring	6.65	281		Pn	15 35 31.1	-1.2
TPB04	Verhalen	6.66	163	P	Pb	15 35 56.6	+6.4
TPB04	Verhalen	6.66	163	S	Sg	15 37 22.9	-5.0
AHID	Auburn Hatcher	6.70	322		Pn	15 35 30.8	-2.2
SGCY	Sterling City	6.72	146		Pn	15 35 32.1	-1.1
SGCY				IAmb_Lg		15 37 36.6	
	comp=Z,39nm,0.9s						
TPB16	Coyonosa	6.73	163	P	Pg	15 35 59.1	-3.6
VHRN	Van Horn	6.81	176	S	Sg	15 37 26.8	-5.9
VHRN	Van Horn	6.81	176		Pn	15 35 36.0	+1.4
VHRN	Van Horn	6.81	176	P	Pb	15 35 55.8	+2.9
TUC	Tucson	6.83	221		Pn	15 35 35.2	+0.5
BGNE	Belgrade	6.84	54	Pn	Pn	15 35 35.0	+0.2
TPB05	Hovey Rd	6.91	164	P	Pg	15 36 01.7	-4.5
FNO	Franklin	6.94	107	IAmb_Lg		15 37 42.4	
	comp=Z,36nm,0.7s						
HVU	Hansel Valley	6.98	309	Pn	Pn	15 35 36.2	-0.7
OK051	E0350 and S346	7.02	96		Pn	15 35 36.1	-1.1
OK051				IAmb_Lg		15 37 40.7	
	comp=Z,27nm,1.1s						
SPR3	Spring Creek 3	7.08	284	Pn	Pn	15 35 36.8	-1.4
LOHW	Long Hollow	7.14	329	Pn	Pn	15 35 37.1	-2.0
KSU1	Kansas State U	7.15	75		Pn	15 35 38.3	-0.7
KSU1				IAmb_Lg		15 37 42.7	
	comp=Z,25nm,0.8s						
TPAW	Teton Pass	7.19	327		Pn	15 35 38.3	-1.5
QUOK	Quay	7.20	99		Pn	15 35 38.2	-1.5
W13A	Hualapai Mount	7.21	252		Pn	15 35 39.1	-0.8
W35A	Tecumseh	7.38	107		Pn	15 35 41.1	-1.0
PLPT	Palo Pinto	7.58	127	IAmb_Lg		15 38 13.3	
	comp=Z,17nm,0.7s						
PRN	Pahroc Range	7.59	271		Pn	15 35 43.8	-1.3
OZNA	Ozona	7.59	150		Pn	15 35 43.2	-1.8
FW03	Perrin-Whitt E	7.60	125	IAmb_Lg		15 38 16.2	
	comp=Z,34nm,1.3s						
FW06	Azle	7.98	123	IAmb_Lg		15 38 15.4	
	comp=Z,17nm,0.7s						
R11B	Troy Canyon, C	7.99	278		Pn	15 35 49.2	-1.5
SAND	Sanderson	8.13	159	Pn	Pn	15 35 51.1	-1.4
BRDY	Brady	8.28	138		Pn	15 35 53.3	-1.3
TXAR	Lajitas Array	8.39	169	Pn	Pn	15 35 55.2	-0.9
JCT	Junction City	8.54	145	IAmb_Lg		15 38 44.0	
	comp=Z,16nm,0.8s						
ECSD	EROS Data Cent	9.12	45	IAmb_Lg		15 38 45.3	
	comp=Z,15nm,0.8s						

*NEIC **28** 15:41:30.5±1.9, 20°.3S±0°.1×179°.0W±0°.1, h658km±9km, mb4.5/33, Error ellipse: s-maj=20.6km s-min=15.8km az=119.0*
*IDC **28** 15:41:32.2±1.1, 20°.26S×179°.23W, h678km±11km, mb3.1/14, mbtmp4.1/15, Error ellipse: s-maj=19.0km s-min=12.2km az=155.0*
ISC 28 15:41:29.2±0.6, 20°.34S±0°.09×179°.00W±0°.09, h645km, n65, σ1§48/65, mb4.4/27, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.81	312	P	P	15 42 59.5	+2.5
MSVF	Nonsavu	3.81	312	P	P	15 43 01.1	+4.1
	7.5nm,0.3s,baz=234,slow=20,SNR=36						
MSVF				S	S	15 44 13.3	+4.9
	5.1nm,0.9s,baz=337,slow=23,SNR=1.5						
FUTU	Fugatoga	6.06	8	P	P	15 43 14.6	+1.2
AFI	Afiamalu	9.41	48	P	P	15 43 42.1	-1.4
FUNA	Funafuti	11.88	351	P	P	15 44 04.9	-1.9
PINNC	Pines Island,	12.82	257	P	P	15 44 17.0	+1.5
DZM	Mont Dzumac	13.69	260	P	P	15 44 25.7	+2.0
BKZ	Black Stump Fm	19.16	191	P	P	15 45 12.4	-0.9
BKZ				IAmb	IAmb	15 45 17.4	
	comp=Z,33nm,1.3s						
NNZ	Nelson	21.80	196	P	P	15 45 36.7	-0.1
THZ	Tophouse	22.43	196	P	P	15 45 42.9	+0.4
THZ				IAmb	IAmb	15 45 43.4	
	comp=Z,23nm,1.3s						
LTZ	Lake Taylor	23.55	196	P	P	15 45 52.1	-0.3
MLZ	Mavora Lakes	27.13	200	P	P	15 46 25.1	+1.4
EIDS	Eidsvold	27.99	254	P	P	15 46 31.6	+0.2
EIDS				IAmb	IAmb	15 47 01.9	
	comp=Z,21nm,1.2s						
ARMA	Armidale	28.30	243	P	P	15 46 34.9	+0.8
ARMA				IAmb	IAmb	15 46 46.1	
	comp=Z,19nm,1.4s						
CAN	Canberra	31.83	235	P	P	15 47 05.2	+1.1
CAN				IAmb	IAmb	15 47 26.4	
	comp=Z,32nm,1.5s						
PMG	Port Moresby	34.40	283	P	P	15 47 24.9	-0.9
PMG				IAmb	IAmb	15 47 26.5	
	comp=Z,21nm,0.9s						
PMG	Port Moresby	34.40	283	P	P	15 47 25.5	-0.2
	comp=Z,21nm,0.9s,baz=123,slow=2.0,SNR=3.9						
	comp=Z,21nm,0.9s						
TOO	Toolangi	35.24	233	P	P	15 47 32.9	+0.4
COEN	Coen	36.64	274	P	P	15 47 44.2	0.0
COEN				IAmb	IAmb	15 47 44.8	
	comp=Z,36nm,1.4s						
STKA	Stephens Creek	37.02	244	P	P	15 47 47.8	+0.7
STKA				IAmb	IAmb	15 47 48.5	
	comp=Z,20nm,0.8s						
STKA	Stephens Creek	37.02	244	P	P	15 47 47.3	+0.3
	comp=Z,2.1nm,0.4s,baz=88,slow=9.1,SNR=12						
	comp=Z,2.1nm,0.4s						
BBOO	Bucklebooo	41.78	243	P	P	15 48 25.2	+0.3
JAY	Jayapura	43.11	289	P	P	15 48 35.2	-0.3
	comp=Z,15nm,0.5s,baz=150,slow=5.4,SNR=16						
	comp=Z,15nm,0.5s						
ASAR	Alice Springs	43.64	257	P	P	15 48 39.5	0.0
	comp=Z,0.5nm,0.3s,baz=90,slow=8.2,SNR=11						
ASAR				S	S	15 54 22.3	-2.5
	comp=Z,3.3nm,0.8s,baz=93,slow=16,SNR=19						
	comp=Z,0.5nm,0.3s						
WB0	Warramunga Arr	43.67	262	P	P	15 48 39.1	-0.7
WB0				IAmb	IAmb	15 48 39.7	
	comp=Z,5.2nm,0.4s						
WRA	Warramunga Arr	43.70	262	P	P	15 48 39.0	-0.9
WRA	Warramunga Arr	43.70	262	P	P	15 48 39.4	-0.6
	comp=Z,1.6nm,0.3s,baz=97,slow=8.3,SNR=22						
WRA				S	S	15 54 21.5	-4.1
	comp=Z,0.9nm,0.8s,baz=94,slow=14,SNR=5.9						
	comp=Z,1.6nm,0.3s						
PUH	Pauahi	45.83	32	P	P	15 48 56.5	+0.2
MTN	Manton Dam	48.23	271	P	P	15 49 13.3	-0.8
MTN				IAmb	IAmb	15 49 36.8	
	comp=Z,22nm,1.4s						
FORT	Forrest	48.50	247	P	P	15 49 15.4	-0.5
FORT				IAmb	IAmb	15 49 45.2	
	comp=Z,29nm,1.3s						
KNRA	Kununurra	49.73	266	P	P	15 49 24.6	-0.5
FAKI	Fak Fak	50.55	283	P	P	15 49 30.1	-1.0
SOEI	Soe	55.56	272	P	P	15 50 07.0	+0.5
KKM	Kota Kinabalu	68.81	285	P	P	15 51 30.4	-1.3
JMM	Marumori	69.15	327	P	P	15 51 33.9	+0.8
JOW	Kunigami	69.35	311	P	P	15 51 33.8	-0.7
MJAR	Matsushiro Arr	69.53	324	P	P	15 51 33.8	-1.6
	comp=Z,1.4nm,0.5s,baz=158,slow=6.4,SNR=6.6						
	comp=Z,1.4nm,0.5s						
MAJO	Matsushiro	69.53	324	P	P	15 51 33.9	-1.5
MAJO				IAmb	IAmb	15 52 16.9	
	comp=Z,21nm,1.5s						
MJB9	Matsu-Tunnel	69.54	324	P	P	15 51 35.3	-0.1
MJB9				IAmb	IAmb	15 52 18.3	
	comp=Z,20nm,1.5s						
QSPA	South Pole Qui	69.73	180	P	P	15 51 36.9	+0.7
QSPA	South Pole Qui	69.73	180	P	P	15 51 37.2	+1.0
	comp=Z,0.4nm,0.4s,baz=162,slow=3.2,SNR=9.5						
	comp=Z,0.4nm,0.4s						
YOJ	Yonaguni jima	71.88	306	P	P	15 51 51.1	+1.7
YULB	Yu-li	72.63	304	P	P	15 51 51.2	-2.5
TPUB	Ta-pu	73.11	303	P	P	15 51 54.0	-2.4
SSLB	Suanglung	73.11	304	P	P	15 51 54.3	-2.1
SSLB				IAmb	IAmb	15 52 20.4	
	comp=Z,28nm,1.2s						
JKA	Kamikawa-asahi	73.14	332	P	P	15 51 56.0	-0.1
JKA				IAmb	IAmb	15 52 24.1	
	comp=Z,16nm,1.3s						
KSRS	Korea Array	76.15	319	P	P	15 52 12.7	-0.3
	comp=Z,0.8nm,0.6s,baz=121,slow=5.4,SNR=6.2						
	comp=Z,0.8nm,0.6s						
USRK	Ussuriysk Ar.	78.31	326	P	P	15 52 24.9	+0.4
	comp=Z,1.3nm,0.6s,baz=132,slow=2.1,SNR=2.8						
	comp=Z,1.3nm,0.6s						
NVAR	Mina Array Bea	81.56	44	P	P	15 52 42.1	+0.3
	comp=Z,0.5nm,0.5s,baz=216,slow=4.7,SNR=2.5						
	comp=Z,0.5nm,0.5s						
K15K	Wolf Creek Mou	83.52	8	P	P	15 52 50.4	-0.3
K15K				IAmb	IAmb	15 53 31.7	
	comp=Z,13nm,1.4s						
TXAR	Lajitas Array	87.76	58	P	P	15 53 12.3	+0.5
	comp=Z,0.5nm,0.6s,baz=244,slow=6.9,SNR=4.7						
	comp=Z,0.5nm,0.6s						
ILAR	Eielson Array	88.37	13	P	P	15 53 14.1	+0.4
	comp=Z,0.3nm,0.9s,baz=228,slow=4.7,SNR=2.3						
	comp=Z,0.3nm,0.9s						
CMAR	Chiang Mai Arr	89.18	290	P	P	15 53 18.7	+0.1
	comp=Z,1.2nm,0.8s,baz=132,slow=3.0,SNR=8.8						
	comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	89.49	44	P	P	15 53 20.0	+0.2
	comp=Z,0.2nm,0.6s,baz=232,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
AKASG	Malin Array Be	142.42	330	PKhKP	PKPpre	15 59 45.0	
	comp=Z,2.1nm,0.4s,baz=43,slow=4.0,SNR=17						
AKBB	Malin Array Si	142.42	330	PKPpre	PKPpre	15 59 45.2	
KIEV	Kiev	142.43	330	PKPpre	PKPpre	15 59 45.1	
BR131	Keskin Array S	146.04	312		PKPbc	15 59 58.0	-1.1
BRTR	Keskin Array B	146.04	312	PKPbc	PKPdf	15 59 57.8	+1.0
BRTR	Keskin Array B	146.04	312	PKPbc	PKPdf	15 59 57.6	+0.8
	comp=Z,1.0nm,0.6s,baz=101,slow=2.9,SNR=4.9						
BURAR	Bucovina Array	146.46	330	PKPbc	PKPbc	15 59 59.0	-0.9
MMAI	Mount Meron Ar	146.92	300	PKPbc	PKPbc	16 00 00.8	-0.8
	comp=Z,1.8nm,0.4s,baz=62,slow=7.6,SNR=6.3						
CLL	Collm	147.69	346	*i* PKPbc	PKPbc	16 00 01.4	-1.4
	comp=Z,4.0nm,0.6s						
BORA	Eskisehir	148.16	314	PKPbc	PKPbc	16 00 02.9	-1.5
RDO	Rodhopi	150.60	320	PKPbc	PKPbc	16 00 08.0	-2.0

*IDC **28** 15:43:06.2±1.9, 6°.64S×129°.89E, h0km, mb3.8/2, mbtmp3.6/5, ML3.6/3, MS3.7/2, Error ellipse: s-maj=91.3km s-min=25.3km az=77.0*
ISC 28 15:43:18.7±0.9, 6°.96S±0°.07×130°.1E±0°.1, h150km, n16, σ2§12/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.59	130	P	Pn	15 43 49.8	+0.6
BNDI	Bandanaira	2.43	356	P	Pn	15 43 59.0	+0.1
FAKI	Fak Fak	4.57	29	P	Pn	15 44 24.2	-2.2
DRS	Darwin Rock St	5.50	171	P	Pn	15 44 39.8	+1.1
DRS	Darwin Rock St	5.50	171	S	Sn	15 45 41.3	0.0
MTN	Manton Dam	5.94	170	P	Pn	15 44 44.9	+0.3
MTN	Manton Dam	5.94	170	S	Sn	15 45 51.8	-0.1
KDU	Kakadu	6.17	158	P	Pn	15 44 47.5	-0.1
SOEI	Soe	6.37	244	P	Pn	15 44 50.4	-0.1
FITZ	Fitzroy Crossi	11.88	201	Pn	Pn	15 46 00.8	-2.6
	0.3nm,0.3s,baz=28,slow=11,SNR=31						
FITZ				Sn	Sn	15 48 00.6	-14
	0.9nm,0.3s,baz=97,slow=20,SNR=9.4						
	0.9nm,0.2s						
PLAI	Plampang	12.31	261	P	Pn	15 46 07.6	-1.5
WRA	Warramunga Arr	13.56	163	Pn	Pn	15 46 22.9	-2.2
	0.4nm,0.3s,baz=340,slow=13,SNR=23						
	0.3nm,0.3s						
ASAR	Alice Springs	17.02	168	P	Pn	15 47 11.4	+3.5
	0.2nm,0.3s,baz=342,slow=9.6,SNR=8.7						
	0.3nm,0.5s						
WRKA	Warakurna	18.05	185	P	P	15 47 17.1	-1.6
MKAR	Makanchi Array	68.23	327	P	P	15 54 07.0	+3.9
	0.5nm,0.4s,baz=117,slow=8.0,SNR=15						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	72.51	328	P	P	15 54 31.9	+2.9
	0.4nm,0.5s,baz=126,slow=5.0,SNR=6.1						
	0.4nm,0.5s						

*THE **28** 15:56:13.4, 37°.57N×20°.48E, h8km±1km, ML2.7/4, Error ellipse: s-maj=1.4km s-min=0.5km az=45.0*
*ATH **28** 15:56:15.3, 37°.60N×20°.61E, h7km±2km, ML2.7/17, Manual Solution by A.Papageorgiou First location: 2019/02/28 15:56:33, This location: 2019/03/01 19:40:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
ISC 28 15:56:14.3±1.6, 37°.58N±0°.05×20°.54E±0°.05, h9km±8km, n37, σ0§63/64, Ionian Sea

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

GUR S **Sg** **15 57 01.6 -0.1**
ANX Ano Chora 1.49 47 P **Pn** **15 56 41.7 +0.4**
ANX S **Sn** **15 57 00.3 -0.5**
TETR Tetrakomo, Epi 1.85 18 P **Pb** **15 56 47.9 -0.5**
TETR S **Sn** **15 57 10.7 +0.8**
MAKR Makrakomi, Fth 1.90 41 P **Pn** **15 56 47.8 +0.9**
MAKR S **Sn** **15 57 11.9 +0.9**
IGT Igoumenitsa 1.96 355 P **Pb** **15 56 49.1 -1.0**
AXAR Agios Charalam 2.05 54 P **Pn** **15 56 49.6 +0.6**
VLI Veliai 2.10 113 P **Pn** **15 56 51.0 +1.3**
THL Klokotos Trika 2.29 30 P **Pn** **15 56 52.7 +0.4**

---

*SOME **28** 16:37:09.1, 38.°80N×75.°22E, h10km*
*NNC **28** 16:37:13.6±1.7, 38.°97N×75.°23E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=12.6km s-min=7.9km az=169.0
ISC 28 16:37:16.0±2.2, 39.°2N±0.°1×75.°00E±0.°04, h10km, n28,
σ3°28/38, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.51**	**354**	Pn	**Pb**	**16 38 13.9**	**-4.4**
	3.8nm,0.7s						
AAK				⇑Lg	Lg	16 39 11.9	
	15nm,1.3s						
MRKS	**Merke**	**3.84**	**340**	Pg	**Pg**	**16 38 25.8**	**-3.6**
MRKS				Lg	Lg	16 39 20.5	
MRKS	**Merke**	**3.84**	**340**	*e*P	**Pg**	**16 38 26.6**	**-2.8**
	3.7nm,0.4s						
MRKS				*e*S	**Sg**	**16 39 22.4**	**+3.3**
	9.0nm,0.6s						
KST	**Kastek**	**3.96**	**10**	Pg	**Pg**	**16 38 28.3**	**-3.6**
	4.0nm,0.5s						
KST				Lg	Lg	16 39 25.5	
	22nm,0.5s						
KST	**Kastek**	**3.96**	**10**	*e*P	**Pg**	**16 38 28.2**	**-3.6**
	4.0nm,0.5s						
KST				*e*S	**Sg**	**16 39 25.5**	**+2.4**
	22nm,0.5s						
MTBS	**Maitube**	**4.12**	**15**	Pg	**Pg**	**16 38 30.7**	**-4.3**
	3.9nm,0.3s						
MTBS				Lg	Lg	16 39 29.9	
	10.0nm,0.3s						
MTBS	**Maitube**	**4.12**	**15**	*e*P	**Pg**	**16 38 30.7**	**-4.3**
	3.9nm,0.3s						
MTBS				*e*S	**Sg**	**16 39 29.6**	**+1.3**
	10.0nm,0.3s						
DGS	**Degeres**	**4.13**	**8**	Pg	**Pg**	**16 38 33.0**	**-2.1**
	8.5nm,0.3s						
DGS				Lg	Lg	16 39 32.6	
	8.7nm,0.4s						
TNSS	**Tian-Shan**	**4.16**	**20**	Pg	**Pg**	**16 38 31.6**	**-4.0**
	3.4nm,0.3s						
TNSS				Lg	Lg	16 39 30.3	
	5.6nm,0.7s						
TNSS	**Tian-Shan**	**4.16**	**20**	*e*P	**Pg**	**16 38 31.5**	**-4.0**
	3.4nm,0.3s						
TNSS				*e*S	**Sg**	**16 39 30.8**	**+1.3**
	5.6nm,0.7s						
KOTS	**Kotyrbulak**	**4.38**	**21**	Pg	**Pg**	**16 38 35.2**	**-4.7**
	4.8nm,0.4s						
KOTS				Lg	Lg	16 39 37.9	
	12nm,0.6s						
KOTS	**Kotyrbulak**	**4.38**	**21**	*e*P	**Pg**	**16 38 35.6**	**-4.3**
	4.8nm,0.4s						
KOTS				*e*S	**Sg**	**16 39 37.8**	**+1.1**
	12nm,0.6s						
KRBS	**Karabastau**	**4.57**	**6**	Pg	**Pg**	**16 38 39.5**	**-4.0**
	2.3nm,0.4s						
KRBS				Lg	Lg	16 39 45.5	
	1.8nm,0.2s						
SATY	**Saty**	**4.68**	**32**	Pg	**Pb**	**16 38 39.7**	**+1.5**
	7.2nm,0.2s						
SATY				Lg	Lg	16 39 44.8	
	13nm,0.8s						
KTBS	**Karatobe**	**4.73**	**15**	Pg	**Pb**	**16 38 41.1**	**+2.1**
	4.0nm,0.3s						
KTBS				Lg	Lg	16 39 47.2	
	6.6nm,0.4s						
UZB	**Uzynbulak**	**5.02**	**36**	Pg	**Pb**	**16 38 45.7**	**+1.7**
	3.2nm,0.1s						
UZB				Lg	Lg	16 39 55.3	
	9.7nm,1.0s						
UZB	**Uzynbulak**	**5.02**	**36**	*e*P	**Pb**	**16 38 45.7**	**+1.7**
	3.2nm,0.1s						
UZB				*e*S	**Sg**	**16 39 55.3**	**-1.8**
	9.7nm,1.0s						
KPKS	**Kokpek**	**5.13**	**32**	Pg	**Pb**	**16 38 46.5**	**+0.7**
	5.0nm,0.5s						
KPKS				Lg	Lg	16 39 57.1	
	7.2nm,0.6s						
KPKS	**Kokpek**	**5.13**	**32**	*e*P	**Pn**	**16 38 32.6**	**-0.3**
	8.5nm,0.3s						
KPKS				*e*S	**Sn**	**16 39 33.1**	**+0.8**
	8.7nm,0.4s						
KPKS	**Kokpek**	**5.13**	**32**	*e*P	**Pb**	**16 38 47.1**	**+1.3**
	5.0nm,0.5s						
KPKS				*e*S	**Sg**	**16 39 57.7**	**-3.0**
	7.2nm,0.6s						
KK31	**Karatay Array**	**5.21**	**321**	⇓Pn	**Pn**	**16 38 35.1**	**+1.2**
	0.3nm,0.2s,baz=128,slow=15,SNR=4.5						
KK31				⇑Sn	**Sn**	**16 39 40.8**	**+6.9**
	0.7nm,0.3s						
KK31				⇓Lg	Lg	16 40 07.8	
	2.3nm,0.5s,baz=135,slow=26						
SHLS	**Shalkode**	**5.24**	**39**	Pg	**Pg**	**16 38 54.5**	**-1.7**
	8.6nm,0.6s						
SHLS				Lg	Lg	16 40 10.1	
	597nm,0.3s						
SHLS	**Shalkode**	**5.24**	**39**	*e*P	**Pg**	**16 38 54.5**	**-1.7**
	8.6nm,0.6s						
SHLS				*e*S	**Sg**	**16 40 10.1**	**+6.1**
	597nm,0.3s						
PDGK	**Podgornoye**	**5.38**	**38**	⇓Pn	**Pn**	**16 38 35.6**	**-0.7**
	0.7nm,0.6s						
PDGK				⇓Pg	**Pb**	**16 38 51.1**	**+1.1**
	6.0nm,0.7s						
PDGK				⇓Lg	Lg	16 40 07.8	
	6.0nm,0.8s						
BRLS	**Borolday**	**5.50**	**317**	Pg	**Pg**	**16 38 57.1**	**-4.1**
	1.0nm,0.3s						
BRLS				Lg	Lg	16 40 14.7	
	3.2nm,0.3s						
BRLS	**Borolday**	**5.50**	**317**	*e*P	**Pg**	**16 38 57.1**	**-4.1**
	1.0nm,0.3s						
BRLS				*e*S	**Sg**	**16 40 14.7**	**+2.2**
	3.2nm,0.3s						
BLB	**Baldybastay**	**5.59**	**27**	Pg	Pg	16 38 57.6	-5.4
	17nm,0.3s						
BLB				Lg	Lg	16 40 15.0	
	12nm,0.7s						
DJR	**Jarkent**	**6.30**	**33**	Pg	Pg	16 39 09.5	-7.0
	1.6nm,0.3s						
DJR				Lg	Lg	16 40 36.0	
	2.2nm,0.4s						

---

*PRE **28** 16:48:58.6±0.9, 26.°31S×27.°70E, h2km, ML2.7*
*BGSI **28** 16:49:02.6±0.9, 26.°60S×27.°92E, h77km±120km, ML3.0*
*BUL **28** 16:49:03.0±0.5, 26.°34S×27.°80E, h13km±5km, MD2.9*
ISC 28 16:48:58.9±1.4, 26.°33S±0.°04×27.°73E±0.°04, h10km±10km,
n23, σ2°18/44, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.43**	**355**	*e*P	**Pg**	**16 49 07.2**	**-0.2**
HRAO				*e*S	**Sg**	**16 49 12.9**	**-0.3**
HRAO				IAML		16 49 14.9	
	comp=Z,172nm,0.3s						
CRLN	**Carolina, Mapu**	**2.09**	**81**	*e*P	**Pn**	**16 49 36.0**	**+1.9**
CRLN				*e*S	**Sn**	**16 50 02.2**	**+2.0**
CRLN				IAML		16 50 04.9	
	comp=Z,63nm,0.5s						
LBTB	**Lobatse**	**2.33**	**304**	*i* P	**Pb**	**16 49 41.2**	**+0.3**
LBTB				*i* S	**Sb**	**16 50 09.9**	**+0.1**
NWCL	**Newcastle**	**2.39**	**127**	*e*P	**Pn**	**16 49 40.4**	**+2.2**
NWCL				*e*S	**Sn**	**16 50 10.3**	**+2.7**
NWCL				IAML		16 50 24.9	
	comp=Z,62nm,0.3s						
LEPH	**Lephalale, Lim**	**2.46**	**1**	*e*P	**Pn**	**16 49 40.9**	**+1.8**
LEPH				*e*S	**Sn**	**16 50 10.8**	**+1.5**
LEPH				IAML		16 50 15.9	
	comp=Z,72nm,0.3s						
MAKGR	**Makgori**	**2.68**	**280**	*i* P	**Pb**	**16 49 45.5**	**-1.6**
MAKGR				*i* S	**Sn**	**16 50 17.4**	**+2.5**
MAKGR				IAML		16 50 31.4	
	comp=N,284nm,0.6s						
BOSA	**Boshof**	**3.17**	**223**	*i* P	**Pb**	**16 49 52.7**	**-2.7**
BOSA				*i* S	**Sn**	**16 50 29.1**	**+2.3**
LPHEP	**Lephephe**	**3.40**	**330**	*i* P	**Pb**	**16 49 56.0**	**-3.3**
LPHEP				*i* S	**Sn**	**16 50 35.9**	**+3.2**
LPHEP				IAML		16 50 50.9	
	comp=E,38nm,0.4s						
POGA	**Pongola**	**3.70**	**107**	*e*P	**Pn**	**16 49 57.2**	**+1.1**
POGA				*e*S	**Sn**	**16 50 41.5**	**+1.8**
POGA				IAML		16 50 59.9	
	comp=Z,61nm,1.0s						
SKOMA	**Sekoma**	**3.88**	**297**	*i* P	**Pn**	**16 50 01.3**	**+2.7**
SKOMA				IAML		16 51 06.0	
	comp=N,68nm,0.3s						
KDWAN	**Kaudwane**	**4.04**	**316**	*i* P	**Pn**	**16 50 04.4**	**+3.4**
KDWAN				*i* S	**Sn**	**16 50 54.0**	**+1.9**
KDWAN				IAML		16 51 08.1	
	comp=E,71nm,0.7s						
MOPA	**Mopani**	**4.35**	**51**	*e*P	**Pn**	**16 50 06.5**	**+1.5**
MOPA				*e*S	**Sn**	**16 50 56.2**	**+0.3**
MOPA				IAML		16 51 14.8	
	comp=Z,63nm,0.4s						
MOPA	**Mopani**	**4.35**	**51**	*i* P	**Pn**	**16 50 07.7**	**+2.6**
MOPA				*i* S	**Sn**	**16 50 54.4**	**-1.4**
BROLN	**Tlhalogang**	**5.21**	**356**	*i* P	**Pn**	**16 50 19.6**	**+2.5**
BROLN				IAML		16 51 20.1	
	comp=E,22nm,0.5s						
ALKP	**Alkanpan, Nort**	**6.03**	**232**	*e*P	**Pn**	**16 50 29.5**	**+1.2**
ALKP				*e*S	**Sn**	**16 51 36.5**	**-1.0**
ALKP				IAML		16 52 19.9	
	comp=Z,20nm,0.5s						
KGCAE	**Kacgae**	**6.10**	**303**	*i* P	**Pn**	**16 50 32.0**	**+2.8**
KGCAE				*i* S	**Sn**	**16 51 36.5**	**-2.7**
KGCAE				IAML		16 52 24.4	
	comp=N,54nm,0.8s						
UPI	**Upington**	**6.11**	**249**	*e*P	**Pn**	**16 50 30.5**	**+1.2**
UPI				*e*S	**Sn**	**16 51 37.4**	**-1.9**
UPI				IAML		16 52 13.3	
	comp=Z,11nm,0.8s						
BLWY	**Bulawayo**	**6.21**	**8**	*i* P	**Pn**	**16 50 34.1**	**+3.3**
BLWY				*i* S	**Sn**	**16 51 40.0**	**-1.9**
GRAF	**Camdeboo Natio**	**6.57**	**205**	*e*P	**Pn**	**16 50 38.0**	**+2.4**
GRAF				*e*S	**Sn**	**16 51 50.3**	**-0.4**
GRAF				IAML		16 52 32.4	
	comp=Z,8.8nm,0.5s						
BRAK	**Brakfontein**	**6.89**	**217**	*e*P	**Pn**	**16 50 42.4**	**+2.4**
BRAK				*e*S	**Sn**	**16 51 57.2**	**-1.3**
BRAK				IAML		16 52 43.4	
	comp=Z,8.4nm,0.6s						
GRAN	**Grantham**	**7.68**	**218**	*e*P	**Pn**	**16 50 52.7**	**+1.8**
GRAN				*e*S	**Sn**	**16 52 16.3**	**-1.8**
GRAN				IAML		16 52 34.0	
	comp=Z,4.7nm,0.3s						
FRAZ	**Fraserburg**	**7.86**	**223**	*e*P	**Pn**	**16 50 55.3**	**+1.9**
FRAZ				*e*S	**Sn**	**16 52 19.7**	**-2.7**
FRAZ				IAML		16 53 20.6	
	comp=Z,5.5nm,0.5s						
CVNA	**Calvinia**	**8.67**	**232**	*e*P	**Pn**	**16 51 05.7**	**+1.2**
CVNA				*e*S	**Sn**	**16 52 39.4**	**-3.0**
CVNA				IAML		16 53 41.2	
	comp=Z,10.0nm,0.4s						

---

*IDC **28** 16:57:28.6±0.7, 4.°43S×138.°02E, h0km, mb4.1/8,*
mbtmp4.1/12, ML3.3/3, MS3.3/13, Error ellipse:
s-maj=25.5km s-min=17.9km az=76.0
*NEIC **28** 16:57:33.5±1.8, 4.°57S±0.°08×137.°91E±0.°08, h31km±5km,*
mb4.5/27, Error ellipse: s-maj=12.0km s-min=10.3km
az=146.0
*DJA **28** 16:57:34.4±0.9, 5.°S±2.°×13.°8E±.°, h29km±8km, M4.6/13,*
mB4.9/2, mb4.5/12, MLv4.6/13, Mw(mB)4.2/2
ISC 28 16:57:33.9±0.4, 4.°66S±0.°05×137.°99E±0.°04, h35km, n101,
σ2°01/96, mb4.3/20, MS3.3/9, 1C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**1.05**	**43**	P	**Pn**	**16 57 52.4**	**+0.2**
WAMI				S	**Sn**	**16 58 05.7**	**0.0**
SMPI	**Sarmi**	**2.75**	**15**	P	**Pn**	**16 58 15.7**	**+0.2**
SMPI				S	**Sn**	**16 58 47.4**	**-0.1**
GENI	**Genyem**	**2.99**	**47**	P	**Pn**	**16 58 22.0**	**+3.1**
GENI	**Genyem**	**2.99**	**47**	P	**Pn**	**16 58 20.0**	**+1.1**
SRPI	**Serui, Papua**	**3.27**	**328**	P	**Pn**	**16 58 22.7**	**-0.1**
SRPI				S	**Sn**	**16 58 59.8**	**-0.7**
JAY	**Jayapura**	**3.45**	**52**	Pn	**Pn**	**16 58 23.1**	**-2.2**
	3.7nm,0.3s,baz=211,slow=11,SNR=22						
JAY				Sn	Sn	16 58 53.9	-11
	9.0nm,0.3s,baz=353,slow=12,SNR=4.8						
JAY				LR	LR	16 59 29.3	
	comp=Z,124nm,18.5s,baz=149,slow=37						
	30nm,0.8s						
JAY	**Jayapura**	**3.45**	**52**	P	**Pn**	**16 58 24.6**	**-0.6**
JAY				S	**Sn**	**16 59 03.3**	**-1.6**
BAKI	**Biak**	**3.92**	**331**	P	**Pn**	**16 58 33.2**	**+1.5**
BAKI				S	**Sn**	**16 59 17.4**	**+0.9**
KMPI	**Kaimana, Papua**	**4.38**	**283**	P	**Pn**	**16 58 40.2**	**+2.2**
MMPI	**Merauke**	**4.47**	**148**	P	**Pn**	**16 58 43.1**	**+3.8**
RKPI	**Ransiki, Papua**	**4.92**	**309**	P	**Pn**	**16 58 46.5**	**+1.0**
FAKI	**Fak Fak**	**5.98**	**287**	Pn	**Pn**	**16 59 00.5**	**+0.5**
FAKI	**Fak Fak**	**5.98**	**287**	P	**Pn**	**16 59 01.6**	**+1.6**
FAKI	**Fak Fak**	**5.98**	**287**	P	**Pn**	**16 59 00.6**	**+0.6**
	34nm,0.8s						
SAUI	**Saumlaki**	**7.42**	**243**	Pn	**Pn**	**16 59 19.4**	**-0.4**
SAUI	**Saumlaki**	**7.42**	**243**	P	**Pn**	**16 59 24.6**	**+4.8**
SWI	**Sorong**	**7.70**	**299**	P	**Pn**	**16 59 23.5**	**-0.2**
	0.1nm22nm,0.7s						
BNDI	**Bandanaira**	**8.06**	**271**	P	**Pn**	**16 59 30.8**	**+2.3**
KDU	**Kakadu**	**9.66**	**214**	P	**Pn**	**16 59 52.9**	**+2.4**
PMG	**Port Moresby**	**10.25**	**118**	Pn	**Pn**	**16 59 59.8**	**+1.2**
	1.2nm,0.3s,baz=318,slow=14,SNR=2.2						
PMG				Sn	**Sn**	**17 01 47.2**	**-5.2**
	0.7nm,0.3s,baz=223,slow=17,SNR=1.6						
	8.0nm,0.5s						
DRS	**Darwin Rock St**	**10.43**	**222**	P	**Pn**	**17 00 03.7**	**+2.7**
COEN	**Coen**	**10.56**	**151**		**Pn**	**17 00 04.5**	**+1.5**
COEN	**Coen**	**10.56**	**151**	P	**Pn**	**17 00 04.8**	**+1.8**
MTN	**Manton Dam**	**10.58**	**219**	Pn	**Pn**	**17 00 04.5**	**+1.3**
MTN	**Manton Dam**	**10.58**	**219**	P	**Pn**	**17 00 05.7**	**+2.5**
SANI	**Sanana**	**12.25**	**282**	P	**Pn**	**17 00 25.7**	**-0.4**
RABL	**Rabaul**	**14.14**	**89**	Pn	**Pn**	**17 00 54.0**	**+2.0**
KNRA	**Kununurra**	**14.22**	**219**	Pn	**Pn**	**17 00 52.8**	**0.0**
SOEI	**Soe**	**14.52**	**249**	Pn	**Pn**	**17 00 56.0**	**-1.1**
SOEI	**Soe**	**14.52**	**249**	P	**Pn**	**17 00 58.9**	**+1.8**
SOEI	**Soe**	**14.52**	**249**	P	**Pn**	**17 00 58.1**	**+1.0**
	29nm,0.8s						
MTSU	**Mount Surprise**	**14.76**	**156**	P	**Pn**	**17 01 01.5**	**+1.2**
WB0	**Warramunga Arr**	**15.42**	**193**		**Pn**	**17 01 08.4**	**-0.6**
WB0				IAmb	IAmb	17 01 16.6	
	comp=Z,29nm,0.5s						
WR0	**Warramunga Arr**	**15.58**	**192**		**Pn**	**17 01 10.5**	**-0.5**
WR0				IAmb	IAmb	17 01 18.4	
	comp=Z,13nm,0.8s						
WRAB	**Tennant Creek**	**15.59**	**193**		**Pn**	**17 01 10.7**	**-0.6**
WRAB				IAmb	IAmb	17 01 18.6	
	comp=Z,33nm,0.6s						
WB2	**Warramunga Arr**	**15.60**	**193**		**Pn**	**17 01 10.6**	**-0.7**
WB2				IAmb	IAmb	17 01 18.8	
	comp=Z,34nm,0.6s						
WRA	**Warramunga Arr**	**15.60**	**193**		**Pn**	**17 01 09.4**	**-1.9**
WRA	**Warramunga Arr**	**15.60**	**193**	Pn	**Pn**	**17 01 10.2**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=5.4,slow=13,SNR=31						
WRA				Sn	Sn	17 03 54.5	-8.8
	comp=Z,1.4nm,0.3s,baz=13,slow=22,SNR=9.3						
QIS	**Mount Isa**	**15.88**	**174**	P	**P**	**17 01 18.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.01**	**221**	P	**Pn**	**17 01 40.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.01**	**221**	P	**Pn**	**17 01 41.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=50,slow=11,SNR=17						
FITZ				S	Sn	17 04 52.1	-9.5
	comp=Z,9.1nm,0.4s,baz=158,slow=9.2,SNR=7.9						
FITZ				LR	LR	17 09 11.0	
	comp=Z,97nm,20.0s,baz=37,slow=39						
	comp=Z,2.7nm,0.5s						
AS31	**Alice Springs**	**19.30**	**191**		**P**	**17 01 56.0**	**-0.2**
AS31				IAmb	IAmb	17 02 01.1	
	comp=Z,6.5nm,0.5s						
ASAR	**Alice Springs**	**19.30**	**191**	P	**P**	**17 01 52.1**	**-4.0**
ASAR	**Alice Springs**	**19.30**	**191**	P	**Pn**	**17 01 59.0**	**+1.7**
	comp=Z,12nm,0.8s,baz=28,slow=9.6,SNR=157						
ASAR				S	**S**	**17 05 25.3**	**-7.5**
	comp=Z,3.9nm,0.8s,baz=15,slow=28,SNR=4.9						
ASAR				LR	LR	17 09 52.0	
	comp=Z,151nm,19.0s,baz=20,slow=38						
GUMO	**Guam**	**19.37**	**21**	LR	LR	17 08 48.4	
	comp=Z,33nm,20.9s,baz=202,slow=36						
TATA	**Tatamba Isabel**	**21.99**	**101**	P	**P**	**17 02 28.9**	**+3.7**
WRKA	**Warakurna**	**22.30**	**204**	P	**P**	**17 02 30.6**	**+2.1**
QLP	**Quilpie**	**22.61**	**165**	P	**P**	**17 02 34.4**	**+2.7**
INKA	**Innaminka**	**23.11**	**174**	P	**P**	**17 02 39.1**	**+2.2**
OOD	**Oodnadatta**	**23.11**	**185**	P	**P**	**17 02 39.1**	**+2.2**
JAGI	**Jajag, Banyuwa**	**23.97**	**260**	P	**P**	**17 02 42.4**	**-3.0**
JAGI				IAmb	IAmb	17 03 03.3	
	comp=Z,21nm,1.3s						
KMMI	**Kalianget**	**24.01**	**263**	P	**P**	**17 02 49.6**	**+3.9**
	comp=Z,36nm,1.0s						
MBWA	**Marble Bar**	**24.15**	**226**	P	**P**	**17 02 43.8**	**-3.2**
MBWA				IAmb	IAmb	17 02 59.7	
	comp=Z,11nm,1.0s						
LCRK	**Leigh Creek**	**25.65**	**180**	P	**P**	**17 03 04.9**	**+4.4**
STKA	**Stephens Creek**	**27.29**	**173**	P	**P**	**17 03 13.2**	**-2.0**
STKA	**Stephens Creek**	**27.29**	**173**	P	**P**	**17 03 18.7**	**+3.4**
	comp=Z,0.7nm,0.5s,baz=358,slow=5.5,SNR=3.6						
	comp=Z,0.7nm,0.5s						
FORT	**Forrest**	**27.62**	**199**	P	**P**	**17 03 17.9**	**-0.3**
FORT	**Forrest**	**27.62**	**199**	P	**P**	**17 03 20.9**	**+2.7**
BBOO	**Buckleboo**	**28.07**	**183**	P	**P**	**17 03 22.4**	**+0.2**
BBOO				IAmb	IAmb	17 04 01.6	
	comp=Z,6.0nm,0.9s						
JOW	**Kunigami**	**32.68**	**344**	LR	LR	17 14 44.4	
	comp=Z,59nm,21.0s,baz=83,slow=32						
NWAO	**Narrogin (SRO)**	**34.15**	**212**	LR	LR	17 17 59.0	
	comp=Z,79nm,19.2s,baz=280,slow=36						
JNU	**Nakatsue**	**38.17**	**350**	P	**P**	**17 04 47.6**	**-2.6**
JNU				IAmb	IAmb	17 04 59.5	
	comp=Z,19nm,1.3s						
JNU	**Nakatsue**	**38.17**	**350**	LR	LR	17 17 44.4	
	comp=Z,49nm,20.9s,baz=159,slow=32						
NJ2	**Nanjing**	**40.79**	**335**	*e*P	**P**	**17 05 13.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**42.93**	**348**	LR	LR	17 21 17.6	
	comp=Z,24nm,21.3s,baz=185,slow=34						
CMAR	**Chiang Mai Arr**	**44.81**	**302**	P	**P**	**17 05 45.2**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=126,slow=6.6,SNR=13						
	comp=Z,1.2nm,0.9s						
PZH	**PanZhiHua**	**46.80**	**313**	P	**P**	**17 06 01.0**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,5.3s						
TUWZ	**Tuamarina**	**48.71**	**144**	P	**P**	**17 06 16.1**	**+1.1**
ASAJ	**Asahikawa**	**48.73**	**4**	LR	LR	17 28 31.2	
	comp=Z,27nm,18.0s,baz=214,slow=38						
URZ	**Urewera**	**48.82**	**139**	LR	LR	17 25 42.3	
	comp=Z,58nm,20.4s,baz=356,slow=35						
BKZ	**Black Stump Fm**	**48.92**	**140**	P	**P**	**17 06 17.7**	**+0.9**
GVZ	**Greta Valley S**	**49.18**	**146**	P	**P**	**17 06 20.2**	**+1.5**
HHC	**Hu-ho-hao-te**	**51.35**	**334**	*e*P	**P**	**17 06 36.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KLR	**Kul'dur**	**53.94**	**355**	LR	LR	17 26 57.4	
	comp=Z,42nm,21.8s,baz=170,slow=33						
SONM	**Songino Array**	**59.17**	**336**	LR	LR	17 32 44.4	
	comp=Z,22nm,19.4s,baz=172,slow=36						
SHEM	**Shemya Is, Ala**	**64.81**	**23**	LR	LR	17 37 58.0	
	comp=Z,24nm,18.3s,baz=299,slow=38						
MK31	**Makanchi Array**	**70.89**	**323**	P	**P**	**17 08 46.2**	**-1.3**
MKAR	**Makanchi Array**	**70.89**	**323**	P	**P**	**17 08 46.4**	**-1.1**
MKAR	**Makanchi Array**	**70.89**	**323**	P	**P**	**17 08 47.1**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=108,slow=8.4,SNR=12						
	comp=Z,0.6nm,0.6s						
MAKZ	**Makanchi**	**71.08**	**323**	P	**P**	**17 08 47.4**	**-1.3**
BOOM	**Boomskoye usch**	**73.06**	**317**	P	**P**	**17 09 00.0**	**-0.8**
BOOM				IAmb	IAmb	17 09 16.7	
	comp=Z,4.2nm,1.4s						
VNDA	**Vanda**	**73.92**	**175**	P	**P**	**17 09 05.8**	**+0.7**
KURBB	**Kurchatov Arra**	**74.90**	**325**	P	**P**	**17 09 10.0**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=116,slow=4.4,SNR=5.0						
	comp=Z,0.5nm,0.8s						
CHGR	**Chuyangaron**	**76.60**	**311**	P	**P**	**17 09 20.8**	**-0.5**
CHGR				IAmb	IAmb	17 09 22.5	
	comp=Z,5.4nm,1.0s						
KK31	**Karatay Array**	**77.01**	**316**	P	**P**	**17 09 22.0**	**-1.4**
KKAR	**Karatay Array**	**77.01**	**316**	P	**P**	**17 09 21.7**	**-1.8**
KKAR	**Karatay Array**	**77.01**	**316**	P	**P**	**17 09 22.0**	**-1.4**
KKAR				IAmb	IAmb	17 09 32.3	
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**80.49**	**326**	P	**P**	**17 09 41.4**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=118,slow=7.5,SNR=12						
	comp=Z,1.8nm,0.6s						
NRIK	**Noril'sk**	**81.38**	**344**	P	**P**	**17 09 46.0**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=114,slow=3.3,SNR=6.4						
	comp=Z,2.1nm,0.8s						
M17K	**Holitna River**	**82.23**	**26**	P	**P**	**17 09 51.4**	**+0.1**
J17K	**VABM Dome**	**82.41**	**24**	P	**P**	**17 09 52.3**	**+0.1**
TTA	**Tatalina**	**83.47**	**25**	P	**P**	**17 09 57.6**	**-0.3**
TTA				IAmb	IAmb	17 10 22.5	
	comp=Z,6.5nm,1.3s						
J20K	**Nowinta River**	**84.72**	**24**	P	**P**	**17 10 04.1**	**0.0**
QSPA	**South Pole Qui**	**85.30**	**180**	P	**P**	**17 10 07.4**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=322,slow=1.5,SNR=26						
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**85.73**	**320**		**P**	**17 10 08.0**	**-1.4**
ABKAR				IAmb	IAmb	17 10 09.4	
	comp=Z,1.3nm,0.7s						
ABKAR	**Akbulak array**	**85.73**	**320**	P	**P**	**17 10 07.5**	**-1.9**
ILAR	**Eielson Array**	**87.89**	**24**	P	**

MMPY Sheldon Lake, 15.23 114 Pn Pn 17 11 57.8 -0.2
MMPY IAmb IAmb 17 12 00.8
comp=Z,6.2nm,1.5s
EUNU Eureka 18.14 33 Pn 17 12 34.8 0.0
EUNU IAmb IAmb 17 13 18.4
comp=Z,3.2nm,1.3s

*ASRS **28** 17:13:20.4±0.3,50°N±1°×8°7E±°, h10km, MLh3.5/13, Error ellipse: s-maj=3.1km s-min=2.7km az=141.1, confirmed*
*NNC **28** 17:13:22.0±2.2, 49°86N×87°04E, h0km±15km, mb3.6, mpv3.2, Error ellipse: s-maj=17.9km s-min=10.6km az=112.0*
ISC 28 17:13:20.1±1.1, 49°78N±0°03×87°12E±0°03, h4km±10km, n25, σ2°44/54, 13C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.22**	**112**	⇑Pg	**Pg**	**17 13 24.7**	**+0.3**
DGZ				Sg	**Sg**	**17 13 27.4**	**+0.1**
CHBI	**Chibit, Altay**	**0.58**	**25**	⇓Pg	**Pb**	**17 13 32.7**	**-0.4**
CHBI				Sg	**Sb**	**17 13 41.2**	**-0.5**
AKAR	**Aktash**	**0.63**	**31**	⇓Pg	**Pb**	**17 13 33.5**	**-0.2**
AKAR				Sg	**Sb**	**17 13 42.5**	**-0.4**
CUR	**Chagan-Uzun**	**0.85**	**68**	Pg	**Pg**	**17 13 36.9**	**+0.4**
CUR				Sg	**Sg**	**17 13 48.0**	**+0.3**
ULGR	**Ulagan, Altay**	**1.00**	**32**	Pg	**Pn**	**17 13 42.1**	**+1.0**
ULGR				Sg	**Sn**	**17 13 55.6**	**0.0**
ELDR	**Elanda**	**1.58**	**336**	Pg	**Pg**	**17 13 50.2**	**-0.2**
ELDR				Sg	**Sg**	**17 14 11.6**	**+0.7**
UKR	**Ust'-Kan**	**1.90**	**308**	Pg	**Pg**	**17 13 56.1**	**-0.3**
UKR				Sg	**Sg**	**17 14 23.6**	**+2.6**
YALR	**Yailyu, Altay**	**2.01**	**9**	Pg	**Pb**	**17 13 58.1**	**+0.8**
YALR				Sg	**Sg**	**17 14 26.2**	**+1.4**
ARTR	**Artybash**	**2.02**	**3**	Pg	**Pg**	**17 13 58.4**	**-0.4**
ARTR				Sg	**Sg**	**17 14 26.9**	**+1.9**
GALT	**Gorno-Altaysk,**	**2.30**	**342**	Pg	**Pg**	**17 14 03.4**	**-0.8**
GALT				Sg	**Sg**	**17 14 35.3**	**+1.3**
TEL	**Teeli**	**2.33**	**57**	Pg	**Pg**	**17 14 05.2**	**+0.5**
TEL				Sg	**Sg**	**17 14 38.5**	**+3.6**
ELT	**Eltsovka**	**3.53**	**351**	Pg	**Pb**	**17 14 20.1**	**-3.0**
ELT				Sg	**Sg**	**17 15 11.2**	**-2.2**
KALT2	**Kaltan 2**	**3.62**	**2**	Pg	**Pg**	**17 14 29.6**	**+0.1**
KALT2				Sg	**Sg**	**17 15 22.5**	**+6.0**
DJO	**Djoy, Khakassi**	**3.95**	**39**	Pg	**Pg**	**17 14 34.9**	**-0.9**
DJO				Sg	**Sg**	**17 15 28.3**	**+1.3**
VEH	**Verkhnyaya Baz**	**4.01**	**29**	Pn	**Pb**	**17 14 26.6**	**-4.7**
VEH				Pg	**Pg**	**17 14 34.4**	**-2.5**
VEH				Sg	**Sg**	**17 15 33.0**	**+4.3**
LUZB	**Luzhba, Kemero**	**4.04**	**15**	Pn	**Pb**	**17 14 27.1**	**-4.7**
LUZB				Pg	**Pg**	**17 14 33.4**	**-4.1**
LUZB				Sg	**Sg**	**17 15 33.9**	**+4.2**
CERR	**Cheremushki**	**4.09**	**40**	Pn	**Pb**	**17 14 28.6**	**-4.1**
CERR				Pg	**Pg**	**17 14 37.1**	**-1.3**
CERR				Sg	**Sg**	**17 15 33.7**	**+2.4**
MK31	**Makanchi Array**	**4.40**	**229**	⇑Pn	**Pn**	**17 14 30.8**	**+3.1**
	0.3nm,0.2s,baz=48,slow=12,SNR=137						
MK31				⇑Pg	**Pg**	**17 14 43.4**	**-0.9**
	6.3nm,0.4s,baz=56,slow=16,SNR=29						
MK31				⇑Lg	Lg	17 15 41.1	
	14nm,0.4s,baz=50,slow=33,SNR=16						
MKAR	**Makanchi Array**	**4.40**	**229**	Pn	**Pn**	**17 14 31.1**	**+3.5**
MKAR				Pg	**Pg**	**17 14 42.6**	**-1.8**
MKAR				Sg	**Sg**	**17 15 42.5**	**+1.1**
ZAA0	**Zalesovo Array**	**4.41**	**342**	⇑Pn	**Pn**	**17 14 30.2**	**+2.5**
	0.2nm,0.2s						
ZAA0				⇑Sn	**Sn**	**17 15 20.4**	**+1.0**
	1.0nm,0.3s						
ZAA0				⇓Lg	Lg	17 15 39.2	
MAKZ	**Makanchi**	**4.54**	**231**	⇓Pn	**Pn**	**17 14 30.9**	**+1.2**
	0.4nm,0.3s						
MAKZ				⇑Pg	**Pg**	**17 14 44.7**	**-2.4**
	5.9nm,0.4s						
MAKZ				⇑Lg	Lg	17 15 42.7	
	21nm,0.5s						
KURK	**Kurchatov**	**5.53**	**283**	⇑Pn	**Pn**	**17 14 45.1**	**+1.9**
	2.1nm,0.4s						
KURK				⇑Sn	**Sn**	**17 15 51.5**	**+4.3**
	4.0nm,0.5s						
KURK				⇓Lg	Lg	17 16 14.7	
	11nm,0.5s						
KURBB	**Kurchatov Arra**	**5.58**	**282**	⇑Pn	**Pn**	**17 14 45.9**	**+2.1**
	4.2nm,0.4s						
KURBB				⇓Sn	**Sn**	**17 15 51.0**	**+2.6**
	14nm,0.7s						
KURBB				⇓Lg	Lg	17 16 18.4	
	24nm,0.6s						
BVA0	**Borovoye Array**	**10.94**	**294**	⇓Pn	**Pn**	**17 15 57.1**	**-0.2**
	0.6nm,0.6s,baz=104,slow=14,SNR=12						
BVA0				⇑Sn	**Sn**	**17 17 58.6**	**-1.6**
	2.1nm,0.9s,baz=108,slow=23,SNR=2.6						
BRVK	**Borovoye**	**11.01**	**294**	⇓Pn	**Pn**	**17 15 56.2**	**-2.1**
	1.1nm,0.9s						
BRVK				⇑Sn	**Sn**	**17 17 59.4**	**-2.4**
	1.9nm,1.0s						

*IDC **28** 17:45:49.4±0.7, 3°30N×127°06E, h0km, mb3.7/14, mbtmp3.8/14, Error ellipse: s-maj=42.6km s-min=14.0km az=73.0*
*NEIC **28** 17:45:51.7±2.1, 3°21N±0°09×127°1E±0°1, h10km±1km, mb4.1/17, Error ellipse: s-maj=23.2km s-min=11.8km az=58.0*
ISC 28 17:45:51.2±0.7, 3°21N±0°08×127°1E±0°1, h10km, n40, σ0°83/27, mb4.0/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.44**	**173**	Pn	**Pn**	**17 46 30.3**	**-0.9**
LUWI	**Luwuk**	**6.02**	**226**	Pn	**Pn**	**17 47 19.9**	**-0.6**
TOLI2	**Tolitoli**	**6.62**	**252**	Pn	**Pn**	**17 47 28.5**	**-0.2**
FAKI	**Fak Fak**	**7.99**	**140**	Pn	Pn	17 47 46.0	-1.6
MYLDM	**Lahad Datu**	**8.77**	**283**	Pn	**Pn**	**17 47 59.2**	**+1.0**
MTN	**Manton Dam**	**16.45**	**166**	Pn	**Pn**	**17 49 42.9**	**+0.5**
MTN				IAmb	IAmb	17 50 02.1	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**18.84**	**175**	P	**P**	**17 50 12.3**	**+0.8**
KNRA				IAmb	IAmb	17 50 27.9	
	comp=Z,9.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.22**	**184**	P	**P**	**17 50 38.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.22**	**184**	P	**P**	**17 50 39.2**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=17,slow=8.6,SNR=7.8						
	comp=Z,2.2nm,0.6s						
SSLB	**Suanglung**	**21.29**	**344**	P	**P**	**17 50 37.5**	**-0.7**
WB0	**Warramunga Arr**	**23.94**	**163**	P	**P**	**17 51 06.1**	**+0.3**
WB0				IAmb	IAmb	17 51 21.5	
	comp=Z,6.0nm,0.9s						
WRAB	**Tennant Creek**	**24.09**	**163**	P	**P**	**17 51 07.6**	**+0.5**
WRAB				IAmb	IAmb	17 51 36.2	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**24.09**	**163**	P	**P**	**17 51 06.9**	**-0.3**
WRA	**Warramunga Arr**	**24.09**	**163**	P	**P**	**17 51 07.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=341,slow=10,SNR=5.5						
	comp=Z,1.4nm,0.7s						
WB2	**Warramunga Arr**	**24.10**	**163**	P	**P**	**17 51 07.7**	**+0.5**
WB2				IAmb	IAmb	17 51 16.5	
	comp=Z,5.1nm,0.9s						
AS31	**Alice Springs**	**27.53**	**166**	P	**P**	**17 51 37.5**	**-0.8**
ASAR	**Alice Springs**	**27.53**	**166**	P	**P**	**17 51 36.0**	**-2.4**
ASAR	**Alice Springs**	**27.53**	**166**	P	**P**	**17 51 38.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=347,slow=7.5,SNR=13						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.43**	**301**	P	**P**	**17 52 12.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=97,slow=8.1,SNR=1.2						
	comp=Z,0.4nm,0.6s						
KSRS	**Korea Array**	**34.09**	**1**	P	**P**	**17 52 36.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=182,slow=9.8,SNR=4.3						
	comp=Z,0.5nm,0.7s						
BBOO	**Buckleboo**	**36.82**	**167**	P	**P**	**17 52 59.9**	**+0.3**
STKA	**Stephens Creek**	**37.53**	**159**		**P**	**17 53 05.9**	**+0.3**
STKA	**Stephens Creek**	**37.53**	**159**	P	**P**	**17 53 06.2**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=337,slow=7.5,SNR=8.3						
	comp=Z,3.3nm,0.8s						
SHL	**Shillong**	**40.45**	**307**	P	P	17 53 29.2	-1.3
SHL				IAmb	IAmb	17 53 32.2	
	comp=Z,4.6nm,0.5s						
KLR	**Kul'dur**	**46.02**	**4**	P	**P**	**17 54 14.8**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=188,slow=7.1,SNR=2.0						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**47.89**	**341**	P	P	17 54 28.9	-0.8
	comp=Z,0.3nm,0.6s,baz=149,slow=8.7,SNR=2.5						
	comp=Z,0.3nm,0.6s						
MK31	**Makanchi Array**	**58.17**	**325**	P	P	17 55 43.9	-1.6
MKAR	**Makanchi Array**	**58.17**	**325**	P	P	17 55 43.9	-1.6
MKAR	**Makanchi Array**	**58.17**	**325**	P	P	17 55 44.2	-1.3
	comp=Z,0.7nm,0.7s,baz=123,slow=7.6,SNR=11						
	comp=Z,0.7nm,0.7s						
MAKZ	**Makanchi**	**58.36**	**325**	P	P	17 55 45.2	-1.6
MAKZ				IAmb	IAmb	17 55 47.7	
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.20**	**333**	P	P	17 56 05.2	-1.0
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=2.6						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.35**	**327**	P	P	17 56 13.0	-1.0
	comp=Z,1.2nm,0.2s,baz=125,slow=6.2,SNR=8.3						
	comp=Z,1.2nm,0.2s						
KURK	**Kurchatov**	**62.36**	**328**		P	17 56 13.1	-0.9
KKAR	**Karatay Array**	**63.84**	**317**	P	P	17 56 21.9	-2.1
BVAR	**Borovoye Array**	**67.94**	**327**	P	P	17 56 49.0	-1.2
	comp=Z,1.2nm,0.9s,baz=123,slow=5.3,SNR=4.3						
	comp=Z,1.2nm,0.9s						
BRVK	**Borovoye**	**68.01**	**327**	P	**P**	**17 56 50.3**	**-0.4**
BRVK				IAmb	IAmb	17 57 05.6	
	comp=Z,1.9nm,1.0s						
TIXI	**Tiksi**	**68.35**	**1**	P	**P**	**17 56 53.1**	**+0.6**
TIXI				IAmb	IAmb	17 57 01.1	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**72.76**	**321**	P	**P**	**17 57 19.5**	**-0.3**
ILAR	**Eielson Array**	**85.42**	**25**	P	P	17 58 27.1	-1.8
	comp=Z,0.3nm,0.9s,baz=238,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.9s						
BRTR	**Keskin Array B**	**90.61**	**310**	P	**P**	**17 58 54.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=64,slow=6.6,SNR=2.2						
	comp=Z,0.5nm,0.7s						

*NOU **28** 17:46:50.2, 40°81S×175°00E, h83km, MLv3.5/14, North Island, New Zealand*
*WEL **28** 17:46:52.3±0.4, 41°S±4°×17°5E±°, h46km±5km, M3.1/23, ML3.4/23, MLv3.1/23, Error ellipse: s-maj=6.2km s-min=3.2km az=148.8, confirmed*
ISC 28 17:46:50.9±1.2, 40°80S±0°03×174°98E±0°03, h71km±6km, n112, σ0°99/129, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.08**	**220**	P	**Pn**	**17 47 01.6**	**+0.3**
KIW				S	**Sn**	**17 47 08.0**	**-0.9**
OTKS	**Otaki School**	**0.14**	**70**	P	**Pn**	**17 47 00.7**	**-0.7**
OTKS				S	**Sn**	**17 47 07.6**	**-1.4**
OGWZ	**Otaki Gorge**	**0.15**	**96**	P	**Pn**	**17 47 02.0**	**+0.6**
OGWZ				S	**Sn**	**17 47 08.6**	**-0.6**
HOCS	**Levin Horowhen**	**0.29**	**52**	P	**Pn**	**17 47 01.5**	**-0.7**
HOCS				S	**Sn**	**17 47 09.1**	**-1.2**
TMDS	**Te Marua Water**	**0.31**	**154**	P	**Pn**	**17 47 01.7**	**-0.5**
TMDS				S	**Sn**	**17 47 09.6**	**-0.9**
CAW	**Cannon Point**	**0.31**	**167**	P	**Pn**	**17 47 03.2**	**+0.9**
CAW				S	**Sn**	**17 47 11.3**	**+0.6**
HOWZ	**Holdsworth Sta**	**0.42**	**103**	P	**Pn**	**17 47 04.0**	**+0.9**
HOWZ				S	**Sn**	**17 47 12.5**	**+0.4**
MRZ	**Mangatainoka R**	**0.48**	**73**	P	**Pn**	**17 47 04.2**	**+0.6**
MRZ				S	**Sn**	**17 47 13.1**	**+0.1**
WEL	**Wellington**	**0.51**	**198**	P	**Pn**	**17 47 04.7**	**+0.9**
WEL				S	**Sn**	**17 47 13.4**	**0.0**
MTW	**Mount Morrison**	**0.53**	**132**	P	**Pn**	**17 47 05.3**	**+1.2**
MTW				S	**Sn**	**17 47 14.7**	**+0.8**
BHW	**Baring Head**	**0.61**	**187**	P	**Pn**	**17 47 06.0**	**+1.1**
MSWZ	**Moikau Station**	**0.65**	**161**	P	**Pn**	**17 47 06.6**	**+1.3**
OHWZ	**Ohakea**	**0.65**	**24**	P	**Pn**	**17 47 06.0**	**+0.6**
TCW	**Tory Channel**	**0.67**	**232**	P	**Pn**	**17 47 06.1**	**+0.6**
TCW				S	**Sn**	**17 47 16.1**	**-0.2**
PAWZ	**Paruwai Farm**	**0.67**	**150**	P	**Pn**	**17 47 07.0**	**+1.4**
PAWZ				S	**Sn**	**17 47 17.7**	**+1.2**
TIWZ	**Tintock**	**0.69**	**88**	P	**Pn**	**17 47 06.8**	**+1.0**
POWZ	**Post Office Ro**	**0.73**	**56**	P	**Pn**	**17 47 06.8**	**+0.6**
TMWZ	**Te Maipa**	**0.76**	**114**	P	**Pn**	**17 47 07.8**	**+1.3**
PLWZ	**Palliser**	**0.80**	**165**	P	**Pn**	**17 47 08.2**	**+1.2**
PRWZ	**Pori Road**	**0.80**	**72**	P	**Pn**	**17 47 08.2**	**+1.2**
DUWZ	**D'Urville Isla**	**0.80**	**270**	P	**Pn**	**17 47 07.1**	**+0.1**
DUWZ				S	**Sn**	**17 47 18.5**	**-0.5**
TRWZ	**Traveller**	**0.80**	**138**	P	**Pn**	**17 47 08.4**	**+1.3**
CPWZ	**Castlepoint**	**0.94**	**97**	P	**Pn**	**17 47 10.4**	**+1.8**
BFZ	**Birch Farm**	**0.97**	**83**	P	**Pn**	**17 47 09.9**	**+0.8**
BFZ	**Birch Farm**	**0.97**	**83**	S	**Sn**	**17 47 23.1**	**+0.4**
BFZ	**Birch Farm**	**0.97**	**83**	P	**Pn**	**17 47 09.9**	**+0.8**
TUWZ	**Tuamarina**	**1.00**	**231**	P	**Pn**	**17 47 10.7**	**+1.3**
DVHZ	**Dannevirke**	**1.04**	**61**	P	**Pn**	**17 47 10.4**	**+0.4**
TSZ	**Takapari Road**	**1.06**	**46**	P	**Pn**	**17 47 10.0**	**-0.2**
CMWZ	**Cape Campbell**	**1.11**	**211**	P	**Pn**	**17 47 12.4**	**+1.6**
ANWZ	**Angora Road**	**1.19**	**74**	P	**Pn**	**17 47 12.6**	**+0.7**
BSWZ	**Blackbirch Sta**	**1.23**	**222**	P	**Pn**	**17 47 13.3**	**+0.9**
BSWZ				S	**Sn**	**17 47 29.4**	**+0.9**
NNZ	**Nelson**	**1.28**	**251**	P	**Pn**	**17 47 13.6**	**+0.7**
NNZ				S	**Sn**	**17 47 29.4**	**-0.1**
PNHZ	**Pukenui**	**1.29**	**47**	P	**Pn**	**17 47 13.5**	**+0.3**
WPHZ	**Waipukurau**	**1.34**	**57**	P	**Pn**	**17 47 14.2**	**+0.5**
PRHZ	**Porangahau**	**1.37**	**68**	P	**Pn**	**17 47 15.0**	**+0.8**
LREZ	**Lake Rotokare**	**1.41**	**342**	P	**Pn**	**17 47 16.1**	**+1.5**
LREZ				S	**Sn**	**17 47 34.5**	**+1.9**
MTVZ	**Mangateitei**	**1.47**	**15**	P	**Pn**	**17 47 16.4**	**+0.9**
MOVZ	**Moawhango**	**1.52**	**23**	P	**Pn**	**17 47 16.5**	**+0.4**
PKVZ	**Pokaka**	**1.54**	**11**	P	**Pn**	**17 47 17.3**	**+0.9**
TKNZ	**Takaka Hill**	**1.54**	**261**	P	**Pn**	**17 47 17.0**	**+0.5**
WNVZ	**Wahianoa**	**1.55**	**18**	P	**Pn**	**17 47 17.6**	**+0.9**
TRVZ	**Turoa**	**1.56**	**17**	P	**Pn**	**17 47 18.0**	**+1.1**
KRHZ	**Kereru**	**1.57**	**43**	P	**Pn**	**17 47 16.9**	**0.0**
PREZ	**Palmer Road**	**1.59**	**337**	P	**Pn**	**17 47 18.8**	**+1.8**
WHVZ	**Whangaehu Hut**	**1.59**	**17**	P	**Pn**	**17 47 18.3**	**+1.0**
FWVZ	**Far West T-bar**	**1.61**	**16**	P	**Pn**	**17 47 18.5**	**+0.9**
TUVZ	**Tukino**	**1.62**	**19**	P	**Pn**	**17 47 18.6**	**+0.9**
NMEZ	**Namu Road**	**1.62**	**328**	P	**Pn**	**17 47 18.8**	**+1.3**
PXZ	**Pawanui**	**1.63**	**62**	P	**Pn**	**17 47 17.9**	**+0.3**
COVZ	**Chateau Observ**	**1.66**	**15**	P	**Pn**	**17 47 19.1**	**+1.0**
NEZ	**North Egmont**	**1.67**	**336**	P	**Pn**	**17 47 19.9**	**+1.7**
KHEZ	**Kahui Hut**	**1.68**	**334**	P	**Pn**	**17 47 19.7**	**+1.4**
KHEZ	**Kahui Hut**	**1.68**	**334**	P	**Pn**	**17 47 19.8**	**+1.5**
KHEZ				S	**Sn**	**17 47 40.9**	**+1.9**
VRZ	**Vera Road**	**1.68**	**354**	P	**Pn**	**17 47 19.5**	**+1.2**
SNVZ	**South Ngauruho**	**1.69**	**18**	P	**Pn**	**17 47 19.6**	**+1.0**
NGZ	**Ngauruhoe**	**1.69**	**17**	P	**Pn**	**17 47 19.6**	**+1.0**
DREZ	**Durham Road**	**1.72**	**340**	P	**Pn**	**17 47 20.5**	**+1.7**
OTVZ	**Oturere**	**1.72**	**18**	P	**Pn**	**17 47 19.9**	**+0.9**
NNVZ	**North Ngauruho**	**1.74**	**17**	P	**Pn**	**17 47 20.3**	**+1.1**
WTVZ	**West Tongariro**	**1.75**	**16**	P	**Pn**	**17 47 20.3**	**+1.0**
NBEZ	**Newall Road No**	**1.75**	**331**	P	**Pn**	**17 47 20.7**	**+1.5**
ETVZ	**East Tongariro**	**1.76**	**19**	P	**Pn**	**17 47 20.3**	**+0.8**
TWVZ	**Taurewa**	**1.77**	**12**	P	**Pn**	**17 47 20.2**	**+0.7**
KWHZ	**Kaweka Forest**	**1.77**	**39**	P	**Pn**	**17 47 19.7**	**+0.1**
KAHZ	**Kahuranaki**	**1.77**	**56**	P	**Pn**	**17 47 19.8**	**+0.3**
TMVZ	**Te Maari**	**1.77**	**19**	P	**Pn**	**17 47 20.5**	**+0.8**
PKE	**Pukeiti**	**1.78**	**334**	P	**Pn**	**17 47 20.9**	**+1.3**
MRNZ	**Matariki Terra**	**1.78**	**250**	P	**Pn**	**17 47 20.5**	**+0.9**
KRVZ	**Karewarewa**	**1.78**	**17**	P	**Pn**	**17 47 20.7**	**+1.0**
NTVZ	**North Tongarir**	**1.79**	**18**	P	**Pn**	**17 47 20.7**	**+0.9**
THZ	**Tophouse**	**1.83**	**238**	P	**Pn**	**17 47 20.6**	**+0.3**
QRZ	**Quartz Range**	**1.86**	**268**	P	**Pn**	**17 47 20.6**	**0.0**
QRZ	**Quartz Range**	**1.86**	**268**	S	**Sn**	**17 47 42.4**	**-0.8**
QRZ	**Quartz Range**	**1.86**	**268**	P	**Pn**	**17 47 20.7**	**+0.1**
KATZ	**Kakaramea**	**1.91**	**17**	P	**Pn**	**17 47 22.6**	**+1.1**
KHZ	**Kahutara**	**1.94**	**213**	P	**Pn**	**17 47 22.3**	**+0.6**
KHZ	**Kahutara**	**1.94**	**213**	S	**Sn**	**17 47 45.3**	**+0.2**
KHZ	**Kahutara**	**1.94**	**213**	P	**Pn**	**17 47 22.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.01**	**36**	P	**Pn**	**17 47 22.4**	**-0.3**
BKZ	**Black Stump Fm**	**2.01**	**36**	S	**Sn**	**17 47 47.3**	**+0.4**
BKZ	**Black Stump Fm**	**2.01**	**36**	P	**Pn**	**17 47 22.6**	**-0.1**
NMHZ	**Naumai**	**2.21**	**40**	P	**Pn**	**17 47 25.3**	**-0.1**
MRHZ	**Matea Rd**	**2.26**	**30**	P	**Pn**	**17 47 25.6**	**-0.4**
MTHZ	**Maungataniwha**	**2.42**	**37**	P	**Pn**	**17 47 27.7**	**-0.5**
RAHZ	**Arahi**	**2.49**	**41**	P	**Pn**	**17 47 28.4**	**-0.7**
TLZ	**Tolley Road**	**2.51**	**10**	P	**Pn**	**17 47 30.3**	**+0.8**
DSZ	**Denniston Nort**	**2.57**	**247**	P	**Pn**	**17 47 30.2**	**-0.1**
GVZ	**Greta Valley S**	**2.60**	**213**	P	**Pn**	**17 47 30.8**	**+0.1**
SNGZ	**Shannon Statio**	**2.72**	**43**	P	**Pn**	**17 47 31.2**	**-1.1**
MHGZ	**Mahia Peninsul**	**2.79**	**55**	P	**Pn**	**17 47 32.5**	**-0.8**
LTZ	**Lake Taylor**	**2.83**	**225**	P	**Pn**	**17 47 33.7**	**-0.1**
URZ	**Urewera**	**3.03**	**34**	P	**Pn**	**17 47 34.9**	**-1.6**
URZ	**Urewera**	**3.03**	**34**	S	**Sn**	**17 48 10.1**	**-1.5**
MWZ	**Matawai**	**3.16**	**40**	P	**Pn**	**17 47 36.8**	**-1.4**
OKCZ	**Okains Bay**	**3.25**	**205**	P	**Pn**	**17 47 38.9**	**-0.5**
INZ	**Inchbonnie**	**3.27**	**233**	P	**Pn**	**17 47 39.4**	**-0.3**
OXZ	**Oxford**	**3.34**	**220**	P	**Pn**	**17 47 39.4**	**-1.2**
MQZ	**McQueen's Vall**	**3.38**	**210**	P	**Pn**	**17 47 39.8**	**-1.3**
AKCZ	**Akaroa Harbour**	**3.43**	**206**	P	**Pn**	**17 47 41.3**	**-0.6**
MHCZ	**Mount Hutt**	**3.72**	**222**	P	**Pn**	**17 47 45.4**	**-0.5**
HAZ	**Te Kaha**	**3.74**	**37**	P	**Pn**	**17 47 44.8**	**-1.4**
PKGZ	**Pakihiroa**	**3.79**	**40**	P	**Pn**	**17 47 45.3**	**-1.7**
WACZ	**Wakanui South**	**3.90**	**215**	P	**Pn**	**17 47 47.1**	**-1.3**
WMGZ	**Waiomatatini S**	**4.00**	**43**	P	**Pn**	**17 47 47.6**	**-2.1**
ARCZ	**Arundel**	**4.22**	**221**	P	**Pn**	**17 47 52.9**	**+0.2**
TMZ	**Timaru**	**4.62**	**218**	P	**Pn**	**17 47 57.2**	**-1.0**
ODZ	**Otahua Downs**	**5.30**	**215**	P	**Pn**	**17 48 06.5**	**-0.9**
ODZ	**Otahua Downs**	**5.30**	**215**	P	**Pn**	**17 48 05.9**	**-1.5**
JCZ	**Jackson Bay**	**5.63**	**232**	P	**Pn**	**17 48 11.6**	**-0.4**
JCZ	**Jackson Bay**	**5.63**	**232**	P	**Pn**	**17 48 10.6**	**-1.4**
CTZ	**Chatham Island**	**6.89**	**118**	P	**Pn**	**17 48 30.4**	**+1.2**

*BJI **28** 17:52:20.1, 27°34N×128°48E, h35km, mB4.6/8, mb4.3/29, Ms3.5/1*
*NEIC **28** 17:52:21.1±2.4, 27°50N±0°06×128°67E±0°05, h35km±2km, mb4.6/22, Error ellipse: s-maj=11.6km s-min=4.2km az=148.0*
*IDC **28** 17:52:21.9±1.2, 27°46N×128°53E, h48km±12km, mb3.8/21, mbtmp4.1/23, ML3.5/2, MS3.2/13, Error ellipse: s-maj=19.9km s-min=13.4km az=89.0*
*NIED **28** 17:52:21.8, 27°45N×128°65E, h43km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.60; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.82; $M_{\theta\phi}$-0.98; $M_{\phi r}$1.32; Fault plane solution: $M_0$2.30000×10^{15} NP1: ϕ_s234.00000°, δ25.00000°, λ107.00000°. NP2: ϕ_s35.00000°, δ66.00000°, λ82.00000°.*
*JMA **28** 17:52:21.8±0.1, 27°5N±0°5×128°7E±0°8, h43km, MD3.8/15, MV4.0/15, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
ISC 28 17:52:20.7±0.7, 27°39N±0°04×128°74E±0°04, h40km±6km, n101, σ1°50/89, mb4.4/37, MS3.1/9, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.15**	**260**	*eP*	**Pn**	**17 52 28.8**	**+1.1**
JOKE				*eS*	**Sn**	**17 52 33.7**	**+1.1**
JOKE	**Okinoerabujima**	**0.15**	**260**	A	A	17 52 28.8	
	comp=N,22nm,0.2s,comp=E,64nm,0.3s						
JTK	**Tokunoshima**	**0.44**	**25**	*eP*	**Pn**	**17 52 31.7**	**+1.0**
JTK				*eS*	**Sn**	**17 52 38.5**	**+0.8**
JTK	**Tokunoshima**	**0.44**	**25**	A	A	17 52 31.7	
	comp=N,26nm,0.6s,comp=E,16nm,0.7s						
JYRO	**Yoronjima**	**0.45**	**216**	*eP*	**Pn**	**17 52 32.0**	**+1.3**
JYRO				*eS*	**Sn**	**17 52 39.1**	**+1.3**
JYRO	**Yoronjima**	**0.45**	**216**	A	A	17 52 32.0	
	comp=N,12nm,2.2s,comp=E,10.0nm,3.0s						
JOW	**Kunigami**	**0.69**	**217**		**Pn**	**17 52 35.1**	**+1.1**
JOW				Sn	**Sn**	**17 52 46.4**	**+2.8**
JOW	**Kunigami**	**0.69**	**217**	P	**Pn**	**17 52 35.3**	**+1.2**
	comp=E,620nm,0.3s,baz=87,slow=19,SNR=1708						
JOW				LR	LR	17 53 07.3	
	comp=E,174nm,20.6s,baz=269,slow=69						
JOW	**Kunigami**	**0.69**	**217**	*eP*	**Pn**	**17 52 35.3**	**+1.2**
**JO

H11N1 WAKE ISLAND Hy 35.69 94 T T 18 37 01.1
baz=290,slow=75,SNR=36
H11N3 WAKE ISLAND Hy 35.70 94 T T 18 36 59.1
baz=290,slow=75,SNR=39
H11S3 WAKE ISLAND Hy 35.93 96 T T 18 37 26.1
baz=292,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 35.94 96 T T 18 37 22.3
baz=292,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 35.95 96 T T 18 37 22.6
baz=292,slow=75,SNR=30
MKAR Makanchi Array 41.12 311 P **P** **17 59 59.1 -1.6**
comp=E,0.4nm,0.5s,baz=90,slow=11,SNR=8.1
MKAR PcP **PcP** **18 01 59.7 0.0**
comp=E,0.4nm,0.6s,baz=108,slow=1.7,SNR=3.8
comp=E,0.4nm,0.5s
ZALV Zalesovo Beam 41.61 322 P **P** **18 00 03.0 -1.6**
comp=E,0.6nm,0.4s,baz=106,slow=8.8,SNR=3.7
comp=E,0.6nm,0.4s
TARG Taragay, Kyrgy 43.71 303 P **P** **18 00 20.8 -1.6**
KDJ Kajisay 44.19 303 P **P** **18 00 25.7 -0.3**
KURBB Kurchatov Arra 44.34 316 P **P** **18 00 25.3 -1.5**
comp=E,2.3nm,0.4s,baz=102,slow=8.9,SNR=28
comp=E,2.3nm,0.4s
KSH Kashi 45.08 300 P **P** **18 00 36.5 +3.5**
KSH pmax pmax
comp=E,3.0nm,0.7s
WRA Warramunga Arr 47.36 173 P **P** **18 00 51.2 +0.4**
comp=E,0.7nm,0.6s,baz=354,slow=8.3,SNR=5.3
comp=E,0.7nm,0.6s
NRIK Noril'sk 48.30 342 P **P** **18 00 56.5 -1.0**
comp=E,1.1nm,0.4s,baz=113,slow=8.3,SNR=4.4
NRIK LR LR 18 23 07.3
comp=E,47nm,18.9s,baz=332,slow=38
comp=E,1.1nm,0.4s
GAR Garm 49.49 299 P **P** **18 01 07.1 -0.3**
GAR IAmb IAmb 18 01 08.2
comp=Z,4.8nm,0.9s
BVAR Borovoye Array 49.72 318 P **P** **18 01 07.8 -1.0**
comp=Z,2.6nm,0.7s,baz=86,slow=9.1,SNR=18
BVAR LR LR 18 23 52.2
comp=Z,80nm,19.1s,baz=101,slow=38
comp=Z,2.6nm,0.7s
BRVK Borovoye 49.79 318 P **P** **18 01 08.1 -1.1**
BRVK IAmb IAmb 18 01 09.5
comp=Z,3.7nm,0.8s
SIMJ Simiganj 50.54 299 P **P** **18 01 14.8 -0.5**
ASAR Alice Springs 51.00 174 P **P** **18 01 19.9 +1.2**
comp=Z,0.4nm,0.9s,baz=7.0,slow=14,SNR=14
comp=Z,0.4nm,0.9s
KBL Kabul 51.05 294 P **P** **18 01 18.1 -1.3**
KBL IAmb IAmb 18 01 20.8
comp=Z,4.4nm,0.6s
ABKAR Akbulak array 56.20 313 P **P** **18 01 54.9 -1.6**
ARTI Arti 56.87 321 P **P** **18 01 59.5 -1.7**
comp=Z,3.7nm,0.5s,baz=146,slow=2.6,SNR=8.1
comp=Z,3.7nm,0.5s
B21K Ikpikpuk River 59.97 23 P **P** **18 02 22.9 +0.4**
D22K Ayikyak River 60.64 24 P **P** **18 02 28.7 +1.5**
E22K Anaktuvuk Pass 60.97 25 P **P** **18 02 30.7 +1.2**
E22K IAmb IAmb 18 03 10.9
comp=Z,7.1nm,1.1s
E23K Chandalar 61.80 25 IAmb IAmb 18 03 19.2
comp=Z,4.4nm,0.7s
D24K Happy Valley 62.02 24 IAmb IAmb 18 02 39.5
comp=Z,4.2nm,0.8s
D25K Kavik River 62.88 23 IAmb IAmb 18 02 44.6
comp=Z,2.8nm,0.9s
ILAR Eielson Array 63.20 29 P **P** **18 02 45.6 +1.1**
comp=Z,0.5nm,0.8s,baz=292,slow=7.7,SNR=6.8
comp=Z,0.5nm,0.8s
M26K Nabesna, AK 65.32 31 IAmb IAmb 18 03 01.8
comp=Z,6.0nm,1.1s
INK Inuvik 67.65 23 P **P** **18 03 13.5 +0.4**
comp=Z,1.6nm,1.1s,baz=291,slow=7.6,SNR=4.2
comp=Z,1.6nm,1.1s
SPITS Spitsbergen Ar 67.79 348 P **P** **18 03 13.2 -0.7**
comp=Z,12nm,1.0s,baz=32,slow=8.5,SNR=2.1
comp=Z,12nm,1.0s
KBZ Khabaz 68.78 309 P **P** **18 03 19.8 -0.8**
comp=Z,3.5nm,0.9s,baz=34,slow=2.8,SNR=6.2
comp=Z,3.5nm,0.9s
A36M Sachs Harbour 68.99 19 P **P** **18 03 22.1 +0.7**
A36M IAmb IAmb 18 03 23.9
comp=Z,6.1nm,0.8s
ARCES ARCESS Array B 69.10 339 LR LR 18 39 46.8
comp=Z,67nm,18.0s,baz=354,slow=41
FINES FINESS Array B 72.08 330 P **P** **18 03 40.0 -0.4**
comp=Z,1.4nm,0.4s,baz=90,slow=5.7,SNR=13
comp=Z,1.4nm,0.4s
WRGLY Wrigley 73.45 27 IAmb IAmb 18 03 50.4
comp=Z,4.0nm,0.5s
RAYN Ar Rayn 73.88 288 P **P** **18 03 52.0 +0.2**
RAYN IAmb IAmb 18 03 53.5
comp=Z,4.9nm,1.1s
RES Resolute Bay 74.33 11 P **P** **18 03 53.8 +0.3**
comp=Z,2.8nm,0.7s,baz=304,slow=6.4,SNR=6.5
comp=Z,2.8nm,0.7s
AKASG Malin Array Be 74.95 320 P **P** **18 03 56.4 -1.2**
comp=Z,0.3nm,0.3s,baz=58,slow=5.7,SNR=6.3
comp=Z,0.3nm,0.3s
KIEV Kiev 74.96 319 P **P** **18 03 56.0 -1.6**
KIEV IAmb IAmb 18 03 57.2
comp=Z,9.4nm,1.2s
BRTR Keskin Array B 76.69 308 P **P** **18 04 06.4 -1.5**
BRTR Keskin Array B 76.69 308 P **P** **18 04 07.2 -0.6**
comp=Z,2.2nm,0.8s,baz=96,slow=6.6,SNR=11
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 77.29 25 P **P** **18 04 10.9 +0.3**
comp=Z,0.7nm,0.8s,baz=295,slow=5.6,SNR=9.3
comp=Z,0.7nm,0.8s
HFS Hagfors 78.01 332 P **P** **18 04 13.6 -1.1**
comp=Z,3.8nm,0.8s,baz=103,slow=6.7,SNR=7.0
HFS LR LR 18 45 16.3
comp=Z,65nm,19.0s,baz=27,slow=41
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 78.48 334 P **P** **18 04 16.6 -0.7**
comp=Z,3.3nm,0.7s,baz=52,slow=5.9
NOA NORSAR Array B 78.48 334 P **P** **18 04 16.2 -1.1**
comp=Z,3.0nm,0.8s,baz=51,slow=5.5,SNR=9.6
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 78.68 318 P **P** **18 04 18.6 -0.2**
VYHS Vyhne 81.94 321 *eP* **P** **18 04 37.2 +1.0**

---

*GUC **28** 17:58:35.2±0.6,29°.73S×71°.67W,h35km±5km, ML2.6*
ISC 28 17:58:34.6±2.1,29°.72S±0°.06×71°.64W±0°.08,h7km±13km, n8,σ0°85/15,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.85**	**122**	*eP*	**Pn**	**17 58 53.0**	**-0.3**
GO04				*eS*	**Sn**	**17 59 06.2**	**0.0**
GO04				IAML		17 59 07.0	
comp=N,838nm,0.4s							
CO06	**Fray Jorge**	**0.95**	**180**	*eP*	**Pg**	**17 58 53.0**	**+0.2**
CO06				*eS*	**Sb**	**17 59 06.2**	**+0.1**
CO06				IAML		17 59 06.5	
comp=E,279nm,0.3s							
LCO	**Las Campanas**	**1.08**	**49**	*eP*	**Pb**	**17 58 56.4**	**+0.6**
LCO				*eS*	**Sn**	**17 59 12.4**	**+0.6**
LCO				IAML		17 59 14.4	
comp=E,857nm,0.3s							
CO03	**El Pedregal**	**1.38**	**144**	*eP*	**Pn**	**17 59 00.5**	**0.0**
CO03				*eS*	**Sb**	**17 59 19.0**	**+0.3**
CO03				IAML		17 59 22.6	
comp=E,114nm,0.2s							
AROD	**Rodeo**	**1.93**	**104**	*eP*	**Pb**	**17 59 10.4**	**+0.1**
AROD				*eS*	**Sg**	**17 59 38.1**	**+1.4**
ACCO	**Cerro Coronel**	**2.39**	**112**	*eP*	**Pb**	**17 59 18.1**	**-0.1**
ACCO				*eS*	**Sg**	**17 59 50.3**	**-1.1**
AGUA	**GUANDACOL**	**2.75**	**86**	*eP*	**Pn**	**17 59 18.3**	**-0.9**
AGUA				*eS*	**Sb**	**17 59 59.0**	**+0.8**
VCA	**Vinchina**	**3.16**	**73**	*eP*	**Pb**	**17 59 29.6**	**-1.5**

---

*HEL **28** 18:00:44.8±0.4,67°.14N×20°.66E,h0km,ML2.2, Explosion*
*UPP **28** 18:00:47.1±0.1,67°.06N×21°.00E,h0km,ML2.5,Unknown*
*IDC **28** 18:00:47.1±0.8,67°.06N×20°.94E,h0km,mbtmp3.3/5, ML2.1/4,Error ellipse: s-maj=13.4km s-min=6.7km az=109.0*
ISC 28 18:00:45.9±0.7,67°.10N±0°.03×20°.96E±0°.03,h0km,n40, σ2°02/58,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**280**	P	**Pg**	**18 00 50.8**	**+1.9**
DUNU				S	**Sg**	**18 00 53.3**	**+2.5**
ERTU	**Ertsjaerv**	**0.73**	**138**	P	**Pg**	**18 01 00.1**	**+0.2**
ERTU	**Ertsjaerv**	**0.73**	**138**	PB	**Pg**	**18 01 00.1**	**+0.2**
PAJU	**Pajala**	**0.85**	**94**	P	**Pg**	**18 01 02.9**	**+0.7**
PAJU	**Pajala**	**0.85**	**94**	PB	**Pg**	**18 01 02.7**	**+0.6**
PAJU				SB	**Sb**	**18 01 14.8**	**-0.7**
KUA	**Kurravaara**	**0.89**	**345**	P	**Pb**	**18 01 04.5**	**+0.2**
RATU	**Laukkuluspa**	**0.90**	**325**	P	**Pb**	**18 01 04.5**	**+0.1**
LANU	**Lannavaara**	**1.04**	**22**	P	**Pb**	**18 01 07.0**	**+0.3**
LANU	**Lannavaara**	**1.04**	**22**	PN	**Pb**	**18 01 06.9**	**+0.3**
LANU				SB	**Sg**	**18 01 17.8**	**-1.3**
KOVU	**Salmi**	**1.17**	**345**	P	**Pb**	**18 01 09.6**	**+0.6**
KLF	**Kolari**	**1.18**	**82**	PN	**Pg**	**18 01 09.1**	**+0.6**
KLF				MSG		18 01 23.9	
comp=Z,33nm,0.2s							
KLF				SN	**Sn**	**18 01 28.9**	**+2.5**
KALU	**Kalix**	**1.57**	**141**	P	**Pn**	**18 01 15.1**	**+0.1**
KALU	**Kalix**	**1.57**	**141**	PG	**Pn**	**18 01 15.1**	**+0.1**
baz=320							
KALU				SN	**Sg**	**18 01 38.9**	**+2.6**
SJUU	**Sjulsmark**	**1.62**	**170**	P	**Pn**	**18 01 15.8**	**+0.2**
HEF	**Hetta**	**1.67**	**37**	*eP*	**Pb**	**18 01 18.0**	**+0.4**
TOF	**Tornio**	**1.69**	**126**	PG	**Pn**	**18 01 17.5**	**+0.9**
TOF				MSG		18 01 38.7	
comp=Z,17nm,0.2s							
TOF				SG	**Sg**	**18 01 40.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.92**	**358**	*eP*	**Pg**	**18 01 23.4**	**+0.8**
RNF	**Rovaniemi**	**2.06**	**101**	PG	**Pb**	**18 01 23.7**	**-0.3**
RNF				SG	**Sg**	**18 01 52.6**	**+0.6**
I37NO	**I37NO**	**2.17**	**337**	I	I	18 16 50.0	
baz=154,slow=330,SNR=1.1							
BURU	**Burvik**	**2.53**	**176**	PG	**Pn**	**18 01 30.3**	**+2.2**
baz=354							
BURU				SG	**Sb**	**18 02 05.8**	**+2.1**
RANF	**Ranua**	**2.57**	**112**	PB	**Pn**	**18 01 30.6**	**+1.8**
baz=297							
RANF				SG	**Sb**	**18 02 06.4**	**+1.5**
OUL	**Oulu**	**2.85**	**133**	PB	**Pn**	**18 01 34.8**	**+2.2**
OUL				SG	**Sg**	**18 02 17.0**	**-0.4**
OBF4	**Vikkela, Lumij**	**2.85**	**142**	PB	**Pn**	**18 01 34.2**	**+1.7**
OBF4				MSG		18 02 11.9	
comp=Z,7.1nm,0.2s							
OBF0	**Syolatti, Pyha**	**2.94**	**151**	PB	**Pn**	**18 01 35.9**	**+2.1**
OBF0				MSG		18 02 13.9	
comp=Z,5.5nm,0.2s							
ARA0	**ARCESS Array S**	**2.98**	**33**	PG	**Pn**	**18 01 37.1**	**+2.8**
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn	**Pn**	**18 01 36.3**	**+2.0**
comp=Z,0.3nm,0.3s,baz=210,slow=14,SNR=41							
ARCES				Sn	**Sn**	**18 02 11.9**	**+1.3**
comp=Z,0.4nm,0.3s,baz=214,slow=24,SNR=2.0							
comp=Z,1.0nm,0.2s							
RAJF	**Raja-Jooseppi**	**3.12**	**60**	PB	**Pn**	**18 01 39.2**	**+2.9**
RAJF				SG	**Sg**	**18 02 24.8**	**-1.1**
OUF	**Merijarvi**	**3.15**	**149**	PB	**Pn**	**18 01 39.2**	**+2.5**
KU2	**Taivalkoski**	**3.24**	**112**	PN	**Pn**	**18 01 39.9**	**+2.0**
baz=296							
VRF	**Varrio**	**3.40**	**75**	PG	**Pb**	**18 01 45.9**	**-1.0**
VRF				SG	**Sb**	**18 02 31.8**	**+3.0**
OLKF	**Oulanka, Finla**	**3.44**	**99**	PB	**Pn**	**18 01 43.3**	**+2.5**
OLKF				SG	**Sg**	**18 02 35.7**	**-0.7**
MSF	**Maaselka**	**3.45**	**106**	PB	**Pn**	**18 01 43.7**	**+2.9**
KEV	**Kevo**	**3.48**	**37**	PB	**Pn**	**18 01 43.8**	**+2.6**
KEV				SB	**Sb**	**18 02 28.6**	**-2.5**
KU6	**Riekki**	**3.73**	**103**	PN	**Pn**	**18 01 46.4**	**+1.8**
baz=291							
KU1	**Kurvinen**	**3.79**	**110**	PN	**Pn**	**18 01 47.4**	**+1.9**
HUSU	**Husum**	**3.84**	**192**	PB	**Pn**	**18 01 47.9**	**+1.7**
FINES	**FINESS Array B**	**6.10**	**156**	Pn	**Pn**	**18 02 18.8**	**+1.7**
comp=Z,0.1nm,0.3s,baz=347,slow=11,SNR=8.5							
FINES				Sn	**Sn**	**18 03 25.9**	**-1.6**
comp=Z,0.2nm,0.3s,baz=348,slow=24,SNR=1.0							
FINES				Lg	Lg	18 03 59.4	
comp=Z,0.3nm,0.3s,baz=337,slow=27,SNR=1.9							
comp=Z,2.5nm,0.8s							
NOA	**NORSAR Array B**	**7.42**	**220**	Pn	**Pn**	**18 02 34.5**	**-0.8**
baz=30,slow=9.9,SNR=1.6							
NOA				Sn	**Sn**	**18 03 55.4**	**-4.7**
baz=308,slow=9.9,SNR=1.1							
NOA				Lg	Lg	18 04 38.0	
baz=230,slow=22,SNR=2.0							
comp=Z,0.5nm,0.9s							
HFS	**Hagfors**	**7.70**	**208**	Pn	**Pn**	**18 02 38.5**	**-0.5**
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=11							
HFS				Sn	**Sn**	**18 04 01.9**	**-4.9**
comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=1.2							
HFS				Lg	Lg	18 04 47.2	
comp=Z,0.2nm,0.3s,baz=32,slow=30,SNR=1.2							
comp=Z,0.5nm,0.3s							
SPITS	**Spitsbergen Ar**	**11.22**	**355**	Pn	**Pn**	**18 03 27.4**	**+0.1**
comp=Z,5.2nm,0.9s,baz=164,slow=27,SNR=1.5							
SPITS				Sn	**Sn**	**18 05 27.3**	**-5.8**
baz=186,slow=22							

WEL 28 18:07:02.2±1.2,32°.5S±11°.×17°.9E±2°.1,h290km±32km, M4.2/3,mB4.2/3,MLv4.3/3,Mw(mB)3.3/3,Error ellipse: s-maj=28.2km s-min=13.5km az=104.8,confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCZ	**Waipu Caves**	**5.16**	**221**	P	Pn	18 08 20.4	-0.8
MXZ	**Matakaoa Point**	**5.43**	**182**	P	Pn	18 08 24.6	+0.3
MXZ				S	S	18 09 29.5	-0.9
HAZ	**Te Kaha**	**5.66**	**186**	P	Pn	18 08 27.4	+0.4
HAZ				S	S	18 09 36.1	+0.8
WMGZ	**Waiomatatini S**	**5.69**	**181**	P	Pn	18 08 27.8	+0.5
WMGZ				S	S	18 09 36.3	+0.4
RUGZ	**Raukumara Rang**	**5.88**	**187**	P	Pn	18 08 29.7	-0.1
RUGZ				S	S	18 09 39.3	-1.0
PUZ	**Puketiti**	**5.94**	**182**	P	Pn	18 08 30.5	0.0
PUZ				S	S	18 09 41.0	-0.6
URZ	**Urewera**	**6.24**	**190**	P	Pn	18 08 34.3	+0.4
URZ				S	S	18 09 50.5	+2.6
MWZ	**Matawai**	**6.26**	**187**	P	Pn	18 08 34.8	+0.6
MWZ				S	S	18 09 49.3	+0.9
MTHZ	**Maungataniwha**	**6.86**	**191**	P	Pn	18 08 40.9	-0.7
MTHZ				S	S	18 10 02.9	+1.1
BKZ	**Black Stump Fm**	**7.23**	**193**	P	Pn	18 08 45.2	-0.9
BKZ				S	S	18 10 11.6	+1.5
OTVZ	**Oturere**	**7.41**	**198**	P	Pn	18 08 48.6	+0.2
KRHZ	**Kereru**	**7.71**	**193**	P	Pn	18 08 51.2	-0.9
KRHZ				S	S	18 10 21.6	+0.6
PNHZ	**Pukenui**	**8.01**	**193**	P	Pn	18 08 53.6	-2.0
PNHZ				S	S	18 10 25.9	-1.7

---

*IDC **28** 18:17:01.9±0.7,42°.67S×74°.21W,h0km,mb4.4/10, mbtmp4.4/11,ML4.2/1,MS4.0/24,Error ellipse: s-maj=29.1km s-min=17.5km az=95.0*
*GUC **28** 18:17:05.9±0.8,42°.82S×74°.43W,h25km±3km,ML4.6*
*NEIC **28** 18:17:06.5±1.3,42°.78S±0°.04×74°.21W±0°.10,h24km±5km, mb4.8/36,Error ellipse: s-maj=10.6km s-min=5.9km az=76.0*
*VAO **28** 18:17:13.9±2.1,42°.60S×73°.69W,h74km±13km,mb4.6*
ISC 28 18:17:05.4±0.5,42°.69S±0°.03×74°.28W±0°.06,h20km±3km, n160,σ1°20/141,mb4.7/27,MS4.0/24,16C-5D,Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL07	**Hotel Espejo d**	**0.61**	**104**		**Pn**	**18 17 18.8**	**-0.1**
LL07	**Hotel Espejo d**	**0.61**	**104**	⇓*iP*	**Pn**	**18 17 18.8**	**-0.1**
LL07				*i* S	**Sn**	**18 17 27.4**	**-0.7**
LL07				IAML		18 17 30.2	
comp=N,32μm,0.3s							
GO07	**Milladeo Hill,**	**0.62**	**133**		**Pg**	**18 17 17.9**	**+0.2**
GO07	**Milladeo Hill,**	**0.62**	**133**	⇓*iP*	**Pg**	**18 17 17.9**	**+0.2**
GO07				*i* S	**Sg**	**18 17 26.2**	**+0.1**
GO07				IAML		18 17 31.4	
comp=E,62μm,0.5s							
LL06	**Loncomilla**	**0.68**	**46**		**Pn**	**18 17 21.0**	**+1.1**
LL06	**Loncomilla**	**0.68**	**46**	⇓*iP*	**Pn**	**18 17 21.0**	**+1.1**
LL06				*i* S	**Sn**	**18 17 31.6**	**+1.7**
LL06				IAML		18 17 33.4	
comp=N,38μm,0.6s							
LL01	**San Ignacio de**	**1.42**	**78**		**Pb**	**18 17 30.6**	**-0.5**
LL01	**San Ignacio de**	**1.42**	**78**	⇑*iP*	**Pb**	**18 17 30.7**	**-0.5**
LL05	**Los Muermos**	**1.42**	**25**		**Pb**	**18 17 31.4**	**+0.2**
LL05	**Los Muermos**	**1.42**	**25**	*eP*	**Pb**	**18 17 31.5**	**+0.3**
LL05				IAML		18 17 59.0	
comp=E,12μm,0.7s							
RMBA	**Raºl Marn B**	**1.56**	**140**	⇑*iP*	**Pn**	**18 17 31.1**	**-1.0**
RMBA				IAML		18 17 55.5	
comp=E,6μm,0.6s							
LL02	**Futaleuf**	**1.85**	**106**		**Pn**	**18 17 37.1**	**+1.0**
LL02	**Futaleuf**	**1.85**	**106**	⇑*iP*	**Pn**	**18 17 37.2**	**+1.1**
LL02				*i* S	**Sb**	**18 18 01.3**	**-0.1**
LJUN	**La Junta**	**1.86**	**135**	⇑*iP*	**Pn**	**18 17 36.0**	**-0.2**
LJUN				*i* S	**Sn**	**18 17 59.6**	**+0.5**
LJUN				IAML		18 18 03.0	
comp=N,3μm,0.7s							
LL03	**Petrohue**	**2.09**	**43**		**Pn**	**18 17 40.5**	**+1.2**
LL03	**Petrohue**	**2.09**	**43**	*eP*	**Pb**	**18 17 41.1**	**-1.6**
LL03				*eS*	**Sb**	**18 18 10.1**	**+1.8**
AY01	**Puyuhuapi**	**2.10**	**146**	Pn	**Pn**	**18 17 39.1**	**-0.3**
AY01	**Puyuhuapi**	**2.10**	**146**	⇑*iP*	**Pn**	**18 17 39.1**	**-0.3**
AY01				IAML		18 18 14.1	
comp=N,11μm,0.5s							
MGDN	**Magdalena**	**2.18**	**154**	⇑*iP*	**Pn**	**18 17 40.0**	**-0.5**
MGDN				*i* S	**Sn**	**18 18 06.5**	**-0.4**
LL04	**Puerto Octay**	**2.27**	**39**		**Pn**	**18 17 43.0**	**+1.2**
LL04	**Puerto Octay**	**2.27**	**39**	*eP*	**Pn**	**18 17 43.1**	**+1.4**
LL04				IAML		18 18 15.2	
comp=N,3μm,0.2s							
USPA	**Uspallante**	**2.41**	**160**	⇑*eP*	**Pn**	**18 17 43.1**	**-0.6**
CUEV	**Cuervo**	**2.62**	**161**	*eP*	**Pn**	**18 17 46.6**	**-0.1**
CUEV				*eS*	**Sn**	**18 18 17.6**	**-0.5**
CUEV				IAML		18 18 28.4	
comp=E,5μm,0.7s							
LR04	**Corral**	**2.88**	**13**		**Pn**	**18 17 52.9**	**+2.7**
LR04	**Corral**	**2.88**	**13**	*eP*	**Pb**	**18 17 53.8**	**-2.3**
LR04				IAML		18 18 41.5	
comp=E,2μm,0.4s							
AYSN	**Puerto Aysn**	**2.92**	**157**	*eP*	**Pn**	**18 17 50.5**	**-0.2**
AYSN				*eS*	**Sn**	**18 18 24.4**	**-0.8**
AYSN				IAML		18 18 38.0	
comp=E,3μm,0.9s							
CHAC	**Puerto Chacabu**	**2.95**	**159**	*eP*	**Pn**	**18 17 51.0**	**-0.1**
CHAC				*eS*	**Sn**	**18 18 25.1**	**-0.7**
CHAC				IAML		18 18 36.9	
comp=N,1μm,0.5s							
LR05	**Currie**	**3.00**	**36**		**Pn**	**18 17 53.4**	**+1.6**
LR05	**Currie**	**3.00**	**36**	⇑*eP*	**Pn**	**18 17 53.6**	**+1.8**
LR05				IAML		18 18 42.4	
comp=E,1μm,0.5s							
CYQE	**Coyhaique**	**3.27**	**151**	⇑*eP*	**Pn**	**18 17 56.1**	**+0.6**
CYQE				IAML		18 18 57.0	
comp=E,3μm,0.8s							
COYC	**Coyhaique**	**3.29**	**152**		**Pn**	**18 17 56.2**	**+0.4**
COYC	**Coyhaique**	**3.29**	**152**	⇑*eP*	**Pn**	**18 17 55.6**	**-0.2**
COYC				IAML		18 18 47.8	
comp=N,823nm,0.6s							
LR03	**Panguipulli**	**3.39**	**26**		**Pn**	**18 17 59.3**	**+2.1**
LR03	**Panguipulli**	**3.39**	**26**	*eP*	**Pn**	**18 17 59.9**	**+2.7**
LR03				*eS*	**Sb**	**18 18 41.6**	**-3.9**
LR03				IAML		18 18 56.2	
comp=E,2μm,0.6s							
PLCA	**Paso Flores**	**3.41**	**56**		**Pn**	**18 17 59.9**	**+2.3**
PLCA	**Paso Flores**	**3.41**	**56**	Pn	**Pn**	**18 18 00.3**	**+2.7**
comp=E,3.6nm,0.3s,baz=234,slow=11,SNR=113							
PLCA				Sn	**Sn**	**18 18 38.3**	**+0.8**
comp=E,12nm,0.3s,baz=228,slow=12,SNR=3.7							
PLCA				Lg	Lg	18 18 48.8	
comp=E,26nm,0.3s,baz=176,slow=10,SNR=4.9							
PLCA				LR	LR	18 19 24.1	
comp=E,2μm,20.8s,baz=267,slow=42							
PLCA	**Paso Flores**	**3.41**	**56**	*eP*	**Pn**	**18 17 59.7**	**+2.1**
HUDS	**Hudson**	**3.42**	**163**	⇑*eP*	**Pn**	**18 17 57.3**	**-0.3**
LC02	**Puerto Saavedr**	**3.96**	**10**		**Pn**	**18 18 07.0**	**+2.0**
AY03	**Cochrane**	**4.71**	**166**		**Pn**	**18 18 14.6**	**-0.8**
BO02	**Sierra Bellavi**	**8.35**	**20**	Pn	**Pn**	**18 19 05.5**	**+0.1**
BO01	**Tunca**	**8.66**	**18**	Pn	**Pn**	**18 19 09.9**	**+0.3**
MT01	**Popeta**	**9.13**	**16**		**Pn**	**18 19 17.2**	**+1.2**
MT09	**Talagante**	**9.27**	**17**		**Pn**	**18 19 19.9**	**+1.8**
MT13	**San Alfonso**	**9.47**	**21**		**Pn**	**18 19 20.1**	**-0.7**
H03S1	**Juan Fernandez**	**9.55**	**336**	T	T	18 29 22.3	
baz=159,slow=74							
H03S2	**Juan Fernandez**	**9.56**	**336**	T	T	18 29 22.9	
baz=159,slow=74							
H03S3	**Juan Fernandez**	**9.57**	**336**	T	T	18 29 20.7	
baz=159,slow=74							
PEL	**Peldehue**	**9.95**	**18**		**Pn**	**18 19 29.0**	**+1.7**
TRQA	**Tornquist**	**10.46**	**68**		**Pn**	**18 19 34.1**	**-0.2**
CFA	**Coronel Fontan**	**12.07**	**25**	Pn	**Pn**	**18 19 54.4**	**-1.9**
comp=E,1.6nm,0.3s,baz=197,slow=11,SNR=14							
CFA				Sn	**Sn**	**18 22 07.1**	**-3.2**
comp=E,0.1nm,0.3s,baz=282,slow=20,SNR=1.4							
comp=E,1.9nm,0.4s							
AC02	**Maricunga**	**16.37**	**17**	P	**P**	**18 20 58.2**	**+0.9**
GO02	**Mina Guanaco**	**17.91**	**14**		**P**	**18 21 15.4**	**+1.3**
TBOT	**Tacuaremb**	**18.25**	**59**	*eP*	**Pn**	**18 21 16.0**	**-1.3**
CPSB	**Cacapava Do Su**	**20.69**	**60**	*eP*	**P**	**18 21 40.7**	**-3.5**
PB03	**IPOC Station P**	**20.93**	**12**	P	**P**	**18 21 47.8**	**+0.8**
CPUP	**Villa Florida**	**21.42**	**46**	P	**P**	**18 21 52.2**	**+0.2**
CPUP	**Villa Florida**	**21.42**	**46**	P	**P**	**18 21 50.8**	**-1.3**
comp=E,8.4nm,0.4s,baz=226,slow=8.9,SNR=22							
CPUP				LR	LR	18 30 54.5	
comp=E,522nm,20.4s,baz=218,slow=39							
comp=E,8.4nm,0.4s							
CPUP	**Villa Florida**	**21.42**	**46**	*eP*	**P**	**18 21 52.0**	**-0.1**
PB01	**IPOC Station P**	**21.96**	**12**	P	**P**	**18 21 58.8**	**+0.8**
PMSA	**Palmer Station**	**22.88**	**169**	LR	LR	18 29 21.8	
comp=E,299nm,19.4s,baz=340,slow=32							
SJPY	**San Joaquin**	**23.14**	**46**	*eP*	**P**	**18 22 10.8**	**+0.4**
PB11	**IPOC Station P**	**23.19**	**11**	IAmb	IAmb	18 22 24.8	
comp=Z,19nm,0.8s							
PTGB	**Pitanga**	**25.62**	**53**	*eP*	**P**	**18 22 32.5**	**-1.1**
BDQN	**Bodoquena, MS**	**26.63**	**39**	*eP*	**P**	**18 22 41.7**	**-1.0**
LPAZ	**La Paz**	**26.84**	**13**	P	**P**	**18 22 45.7**	**+0.4**
LPAZ				IAmb	IAmb	18 23 03.4	
comp=Z,37nm,2.0s							
LPAZ	**La Paz**	**26.84**	**13**	P	**P**	**18 22 44.6**	**-0.7**
comp=Z,1.3nm,0.5s,baz=156,slow=6.0,SNR=4.2							
comp=Z,1.3nm,0.5s							
LPAZ	**La Paz**	**26.84**	**13**	*eP*	**P**	**18 22 46.6**	**+1.3**
AQDB	**Aquidauana**	**27.11**	**41**	P	**P**	**18 22 45.5**	**-1.5**

BOAV	Boa Vista	46.57	19	eP		P	18 25 31.9	-0.1
QSPA	South Pole Qui	47.55	180	P		P	18 25 38.9	-0.4
	comp=Z,4.9nm,0.9s,baz=149,slow=1.7,SNR=14							
	comp=Z,4.9nm,0.9s							
NBCA	Caruaru-PE	48.01	56	eP		P	18 25 43.2	-0.1
NBPB	Pedra_Branca-C	48.07	50	eP		P	18 25 44.6	+0.9
RCBR	Riachuelo	49.97	54	eP		P	18 25 58.5	+0.2
MDP	Montagnes des	51.47	28	LR		LR	18 51 17.2	
	comp=Z,142nm,19.3s,baz=118,slow=40							
ELIB	Princess Elisa	52.31	157	dP		P	18 26 14.7	-0.5
	comp=Z,5.3nm,1.0s							
ELIB				dPcP		PcP	18 27 27.5	+1.3
PCRV	Puerto La Cruz	53.35	12	LR		LR	18 52 58.7	
	comp=Z,282nm,18.1s,slow=40							
SYO	Syowa Base	58.49	157⇑	eP		P	18 26 59.6	0.0
APG	El Apazote	59.31	342	LR		LR	18 47 32.9	
	comp=Z,11nm,21.0s,baz=168,slow=31							
CMIG	Matias Romero	62.44	338	LR		LR	18 48 33.4	
	comp=Z,103nm,18.8s,baz=178,slow=30							
TBI	Tubual	63.92	262	eLR		LR	18 46 42.6	
	comp=Z,263nm,22.8s							
MAW	Mawson	65.36	163	LR		LR	18 56 22.6	
	comp=Z,193nm,18.0s,baz=206,slow=36							
PPT2	Papeete2	67.58	266	eS		S	18 36 54.7	-2.1
	comp=Z,52nm,24.2s							
PPT2	Papeete2	67.58	266	eLR		LR	18 48 20.5	
	comp=Z,55nm,23.5s							
PPT	Papeete	67.59	266	LR		LR	18 49 54.7	
	comp=Z,91nm,18.3s,baz=172,slow=29							
SUR	Sutherland	72.26	118	LR		LR	18 56 21.5	
	comp=Z,76nm,19.5s,baz=210,slow=33							
RAR	Rarotonga	72.72	257	LR		LR	18 54 31.6	
	comp=Z,65nm,18.1s,baz=112,slow=31							
KVTX	Kingsville	73.20	338	P		P	18 28 37.4	+2.7
LPIG	La Paz	74.30	326	LR		LR	18 53 57.5	
	comp=Z,99nm,18.5s,baz=206,slow=30							
TXAR	Lajitas Array	76.61	334	LR		LR	18 56 38.0	
	comp=Z,61nm,20.5s,baz=158,slow=31							
URZ	Urewera	76.62	230	LR		LR	18 54 01.3	
	comp=Z,99nm,18.9s,baz=224,slow=29							
BOSA	Boshof	77.61	117	P		P	18 28 59.7	-0.8
BOSA	Boshof	77.61	117	P		P	18 28 59.6	-0.9
	comp=Z,6.5nm,0.7s,baz=220,slow=6.2,SNR=15							
BOSA				LR		LR	19 00 22.5	
	comp=Z,83nm,19.4s,baz=198,slow=34							
	comp=Z,6.5nm,0.7s							
DBIC	Dimbokro	79.66	71	P		P	18 29 11.0	-0.8
DBIC				IAmb		IAmb	18 29 22.3	
	comp=Z,10nm,0.9s							
DBIC	Dimbokro	79.66	71	P		P	18 29 11.4	-0.4
	comp=Z,4.1nm,0.7s,baz=227,slow=6.0,SNR=4.8							
DBIC				LR		LR	19 04 20.1	
	comp=Z,66nm,18.2s,baz=240,slow=36							
	comp=Z,4.1nm,0.7s							
LCAR	Lake Charles	79.89	346	P		P	18 29 12.5	+0.1
LCAR				IAmb		IAmb	18 29 22.2	
	comp=Z,9.1nm,1.1s							
LBTB	Lobatse	80.25	115	P		P	18 29 14.0	-1.0
LBTB				IAmb		IAmb	18 29 25.1	
	comp=Z,9.6nm,0.8s							
LBTB	Lobatse	80.25	115	LR		LR	19 02 21.4	
	comp=Z,48nm,18.8s,baz=194,slow=34							
CCM	Cathedral Cave	81.84	347	P		P	18 29 23.2	+0.4
S39A	Bolivar	81.86	345	P		P	18 29 24.0	+1.0
S39A				IAmb		IAmb	18 29 32.8	
	comp=Z,9.3nm,0.9s							
PIX	Pinacate	82.18	327	P		P	18 29 25.5	+0.7
ANMO	Albuquerque	82.68	334	P		P	18 29 29.5	+2.0
ANMO	Albuquerque	82.68	334	P		P	18 29 26.8	-0.7
	comp=Z,2.2nm,0.7s,baz=318,slow=5.3,SNR=5.3							
ANMO				LR		LR	19 01 25.8	
	comp=Z,88nm,18.0s,baz=314,slow=32							
	comp=Z,2.2nm,0.7s							
S22A	4UR Ranch, Cre	85.36	335	P		P	18 29 42.7	+1.5
S22A				IAmb		IAmb	18 29 52.8	
	comp=Z,5.4nm,0.9s							
P18A	Preston Nutter	88.19	333	IAmb		IAmb	18 30 13.6	
	comp=Z,6.3nm,0.9s							
ECSD	EROS Data Cent	88.34	344			pP	18 30 03.2	+1.4
LSZ	Lusaka	88.67	110	LR		LR	19 04 06.3	
	comp=Z,91nm,21.6s,baz=235,slow=32							
GMN	Gold Mountain	88.71	327	IAmb		IAmb	18 30 09.4	
	comp=Z,5.0nm,1.0s							
TORD	Torodi Ar. Bea	88.78	71	P		P	18 29 58.2	+0.3
	comp=Z,86nm,0.3s,baz=227,slow=3.5,SNR=3.5							
DSP	Deep Springs	89.06	327	IAmb		IAmb	18 30 10.9	
	comp=Z,4.0nm,0.9s							
BSUT	Blindstream Ca	89.17	333	P		P	18 30 01.1	+1.4
BSUT				IAmb		IAmb	18 30 14.2	
	comp=Z,10nm,1.4s							
HWUT	Hardware Ranch	90.40	333	P		P	18 30 04.9	-0.3
HWUT				IAmb		IAmb	18 30 16.5	
	comp=Z,9.3nm,1.1s							
PD31	Pinedale Array	90.79	335	IAmb		IAmb	18 30 17.4	
	comp=Z,4.0nm,1.0s							
PDAR	Pinedale Array	90.79	335	P		P	18 30 07.0	-0.1
	comp=Z,0.9nm,0.8s,baz=159,slow=4.1,SNR=7.6							
PDAR				LR		LR	19 04 38.4	
	comp=Z,50nm,20.8s,baz=238,slow=32							
	comp=Z,0.9nm,0.8s							
EYMN	Ely	91.53	349	IAmb		IAmb	18 30 11.3	
	comp=Z,5.0nm,0.8s							
DZM	Mont Dzumac	94.70	234	eLR		LR	19 00 59.7	
	comp=Z,60nm,23.4s							
DZM	Mont Dzumac	94.70	234	LR		LR	19 07 11.5	
	comp=Z,39nm,18.7s,baz=212,slow=32							
MDT	Midelt	98.55	53	LR		LR	19 13 14.2	
	comp=Z,199nm,21.2s,baz=246,slow=34							
ILAR	Eielson Array	121.06	331	PKP		PKPdf	18 35 55.0	-0.5
	comp=Z,0.4nm,0.7s,baz=175,slow=3.0,SNR=4.7							
H11S2	WAKE ISLAND Hyl	23.53	265	T		T	20 51 20.7	
	baz=130,slow=76							
H11S1	WAKE ISLAND Hyl	23.54	265	T		T	20 51 28.2	
	baz=130,slow=76							
H11S3	WAKE ISLAND Hyl	23.54	265	T		T	20 51 37.6	
	baz=130,slow=76							
H11N3	WAKE ISLAND Hyl	24.15	266	T		T	20 52 08.4	
	baz=130,slow=75							
H11N1	WAKE ISLAND Hyl	24.16	266	T		T	20 52 08.0	
	baz=130,slow=75							
H11N2	WAKE ISLAND Hyl	24.16	266	T		T	20 52 11.9	
	baz=130,slow=75							
BRTR	Keskin Array B	127.23	67	PKP		PKPdf	18 36 07.3	-0.9
	comp=Z,1.3nm,0.8s,baz=326,slow=2.7,SNR=5.0							
PETK	Petropavlovsk-	144.37	305	PKP		PKPbc	18 36 37.9	+0.1
	comp=Z,3.6nm,0.8s,baz=94,slow=4.3,SNR=4.3							
BVAR	Borovoye Array	154.39	54	PKP		PKPdf	18 36 54.8	-0.4
	comp=Z,0.5nm,0.7s,baz=306,slow=3.4,SNR=4.2							
BVAR				PKPbc		sPKPdf	18 37 04.7	+0.4
	comp=Z,0.7nm,0.7s,baz=336,slow=1.7,SNR=3.9							
KURBB	Kurchatov Arra	159.81	57	PKP		PKPdf	18 37 01.8	-0.4
	comp=Z,0.4nm,0.3s,baz=252,slow=0.6,SNR=2.0							
KURBB				PKPab		PKPab	18 37 41.2	-0.2
	comp=Z,1.2nm,0.7s,baz=285,slow=5.0,SNR=7.4							
ZALV	Zalesovo Beam	162.19	44	PKPab		PKPab	18 37 51.2	-0.4
	comp=Z,0.6nm,0.5s,baz=276,slow=4.2,SNR=2.3							
MKAR	Makanchi Array	162.88	68	PKP		PKPdf	18 37 04.7	-0.9
	comp=Z,0.1nm,0.3s,baz=248,slow=7.6,SNR=2.9							
MKAR				PKPab		PKPab	18 37 54.6	-0.4
	comp=Z,1.6nm,0.6s,baz=274,slow=4.2,SNR=17							
SONM	Songino Array	174.84	355	PKP		PKPdf	18 37 12.6	-0.8
	comp=Z,0.3nm,0.6s,baz=236,slow=2.6,SNR=2.2							
SONM				PKPab		PKPab	18 38 46.9	-0.9
	comp=Z,0.8nm,1.0s,baz=346,slow=0.9,SNR=3.6							

ASIES ***28*** *18:47:51.8,23°.99N×121°.01E,h16km,ML3.7,Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^20Nm; Mrr3.86; Mθθ5.15; Mφφ-9.00; Mrθ-3.12; Mφθ-5.56; Mφr6.13; Fault plane solution: M0 11.80950×10^20 NP1: φs239.54000°, δ49.29000°, λ162.66000°. NP2: φs341.05000°, δ76.94000°, λ42.03000°. Principal axes: T Plg38.3850°, Azm208.9800°; N Plg46.3500°, Azm355.1210°; P Plg17.5440°, Azm104.4760°;*

TAP ***28*** *18:47:51.8,23°.99N×121°.01E,h16km,ML3.7,B*

JMA ***28*** *18:47:52.1±0.2,24°.0N±0°.4×121°.0E±0°.9,h7km,MV3.3/10, TAIWAN REGION*

ISC 28 18:47:51.9±0.7,23°.99N±0°.01×121°.01E±0°.01,h15km±3km, n156,σ0°74/275,10C-51D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUSB	Renai	0.10	88	⇓iP	Pb	18 47 55.8	+0.4
WUSB				i S	Sb	18 47 58.4	+0.7
WCS	Beigang Elemen	0.11	307	⇑iP	Pb	18 47 55.7	-0.1
WCS				i S	Sb	18 47 58.4	0.0
SMLT	Sun Moon Lake	0.15	224	⇑iP	Pg	18 47 55.2	-0.8
SMLT				S	Sg	18 47 58.4	-0.2
OWD	Renai	0.15	103	⇓iP	Pb	18 47 56.6	0.0
OWD				S	Sb	18 47 59.9	+0.1
TYC	Yuchr	0.16	239	⇑iP	Pb	18 47 56.2	-0.4
TYC				i S	Sb	18 47 59.2	-0.6
SSLB	Suanglung	0.21	195	P	Pg	18 47 56.4	-0.4
SSLB	Suanglung	0.21	195	S	Sg	18 48 00.0	0.0
SSLB	Suanglung	0.21	195	⇑iP	Pg	18 47 56.7	0.0
SSLB				S	Sg	18 47 59.7	-0.3
VWDT	VWDT	0.26	153	⇓iP	Pb	18 47 58.2	-0.1
VWDT				S	Sb	18 48 02.2	-0.5
WHF	Hehuan Shan	0.28	56	⇓iP	Pb	18 47 59.0	0.0
WHF				i S	Sb	18 48 03.5	0.0
WHP	Taichung City	0.29	348	⇑iP	Pb	18 47 58.5	-0.4
WHP				eS	Sb	18 48 03.6	0.0
TDCB	Techi	0.29	27	⇓iP	Pg	18 47 58.5	+0.2
TDCB				i S	Sg	18 48 02.6	0.0
TWT	Tachien	0.30	30	⇓iP	Pg	18 47 58.5	+0.1
TWT				i S	Sg	18 48 02.6	-0.3
WJS	Zhushan	0.31	237	⇓iP	Pb	18 47 59.2	+0.1
WJS				S	Sb	18 48 05.5	+1.5
WNT	Mingjian	0.32	250	⇓iP	Pb	18 47 59.6	+0.3
WNT				i S	Sb	18 48 05.5	+1.3
WHYT	Xinyi Township	0.33	206	P	Pb	18 47 59.0	-0.5
WHYT				eS	Sb	18 48 04.6	+0.1
FUSS	Fushou	0.33	40	⇓iP	Pg	18 47 59.2	+0.2
FUSS				eS	Sg	18 48 04.3	+0.5
TCU	Taichung	0.34	297	⇓iP	Pb	18 48 00.3	+0.6
TCU				eS	Sb	18 48 06.3	+1.3
LXIB	Xiulin Townshi	0.37	85	⇓iP	Pb	18 47 60.0	-0.3
LXIB				eS	Sb	18 48 06.2	+0.3
TWQ1	Liyutan	0.42	329	⇑P	Pb	18 48 01.8	+0.4
TWQ1				i S	Sb	18 48 08.6	+1.4
WCHH	Zhanghua	0.42	282	⇓iP	Pb	18 48 01.6	+0.5
WCHH				eS	Sn	18 48 08.8	-2.2
ESL	Shilin	0.42	114	⇓iP	Pb	18 48 00.9	-0.2
ESL				S	Sb	18 48 06.9	-0.4
WCH1	Changhua City	0.43	281	⇓iP	Pb	18 48 01.7	+0.5
WCH1				i S	Sn	18 48 09.3	-1.9
WARBT	Fenglin Townsh	0.44	128	⇓iP	Pb	18 48 01.0	-0.4
WARBT				S	Sg	18 48 06.9	+0.2
ETM	Tongmen	0.44	93	⇓iP	Pg	18 48 01.1	+0.3
ETM				eS	Sb	18 48 07.5	-0.4
ETLH	Xiulin Townshi	0.48	63	⇓iP	Pg	18 48 01.8	+0.2
ETLH				eS	Sb	18 48 08.7	-0.4
NSY	Sanyi	0.48	332	P	Pb	18 48 02.8	+0.7
WDJ	Dajia District	0.49	317	⇓iP	Pn	18 48 03.2	-1.2
WDJ				eS	Sn	18 48 10.8	-1.9
CHN5	Tsauling	0.49	218	⇓iP	Pb	18 48 02.4	0.0
CHN5				i S	Sb	18 48 10.1	+0.6
EGFH	Guangfu	0.50	130	eP	Pg	18 48 02.0	+0.2
EGFH				S	Sb	18 48 09.1	-0.3
WGK	Gukeng	0.51	234	⇓iP	Pb	18 48 02.8	+0.2
WGK				i S	Sn	18 48 11.1	-2.0
WDL	Douliou City	0.51	238	⇓iP	Pb	18 48 03.0	+0.4
WDL				i S	Sn	18 48 11.1	-2.0
ALS	Alishan	0.51	202	⇓iP	Pb	18 48 02.7	-0.1
ALS				i S	Sb	18 48 10.3	+0.2
WDLH	Douliu	0.53	235	⇓iP	Pb	18 48 03.1	+0.3
WDLH				i S	Sb	18 48 11.3	+1.1
TWD	Chiawan	0.54	80	⇓iP	Pg	18 48 02.8	+0.1
TWD				S	Sb	18 48 10.4	-0.3
HWA	Hwalien	0.54	91	⇓iP	Pb	18 48 03.4	+0.3
HWA				i S	Sb	18 48 11.5	+0.7
SHUL	Shoufeng	0.54	112	⇓P	Pb	18 48 03.4	+0.3
SHUL				i S	Sb	18 48 11.5	+0.7
TEYL	Yanliau Villag	0.55	103	eP	Pg	18 48 02.1	-1.6
TEYL				eS	Sg	18 48 09.3	-0.9
NNSB	Datong	0.55	38	⇓iP	Pg	18 48 02.7	-0.3
NNSB				eS	Sg	18 48 09.9	-0.5
NNS	Nan Shan	0.56	36	⇓iP	Pg	18 48 02.9	-0.1
NNS				eS	Sg	18 48 10.8	+0.3
EHY	Hungye	0.56	149	⇓iP	Pb	18 48 03.2	-0.2
EHY				S	Sg	18 48 10.7	+0.3
NACB	Ninganchiao	0.56	71	P	Pg	18 48 03.0	-0.1
NACB	Ninganchiao	0.56	71	⇓iP	Pg	18 48 03.1	0.0
NACB				eS	Sb	18 48 11.1	-0.2
EHYH	Wanrong	0.58	148	eP	Pb	18 48 03.5	-0.3
EHYH				S	Sb	18 48 11.6	-0.3
NMLH	Miaoli	0.58	340	eP	Pn	18 48 05.0	-0.6
NMLH				eS	Sn	18 48 13.9	-1.0
ETL	Fush Village	0.58	73	eP	Pg	18 48 03.4	-0.1
ETL				eS	Sb	18 48 12.6	+0.6
WRL	Guolierlin Hig	0.59	262	⇓eP	Pb	18 48 03.8	-0.1
WRL				eS	Sb	18 48 12.7	+0.7
HGSD	Ruisui	0.62	143	eP	Pb	18 48 04.7	+0.2
HGSD				eS	Sb	18 48 13.5	+0.5
WTK	Tuku	0.64	242	⇓eP	Pb	18 48 04.9	+0.1
WTK				eS	Sn	18 48 15.3	-1.1
NFF	Wufeng Townshi	0.65	9	eP	Pb	18 48 04.9	-0.1
NFF				eS	Sb	18 48 14.5	+0.7
YULB	Yu-li	0.65	156	P	Pg	18 48 04.7	0.0
YULB	Yu-li	0.65	156	⇓iP	Pg	18 48 04.7	0.0
YULB				S	Sb	18 48 13.8	-0.1
LIOB	Emei	0.65	0	⇓iP	Pb	18 48 05.7	+0.6
LIOB				i S	Sb	18 48 14.6	+0.6
WCKO	Fanlu	0.66	214	⇓iP	Pb	18 48 05.1	-0.1
WCKO				i S	Sb	18 48 14.8	+0.6
CHN2	Minshiung	0.67	227	⇓iP	Pb	18 48 05.7	+0.4
CHN2				S	Sn	18 48 16.1	-1.0
WTCT	Ta-ch'eng	0.68	260	eP	Pb	18 48 05.5	+0.1
WTCT				S	Sb	18 48 15.5	+0.8
TWF1	Yuli	0.69	157	⇓iP	Pb	18 48 05.5	+0.1
TWF1				S	Sb	18 48 14.9	0.0
EYUL	Yuli	0.70	156	eP	Pb	18 48 05.8	-0.1
EYUL				S	Sg	18 48 14.9	0.0
LATG	Datong	0.72	41	⇓iP	Pg	18 48 05.6	-0.4
LATG				i S	Sg	18 48 15.4	-0.1
CHY	Chiayi	0.73	228	eP	Pb	18 48 06.4	+0.2
CHY				eS	Sn	18 48 17.8	-0.7
CHN4	Tsaushan	0.74	211	⇓P	Pb	18 48 06.5	-0.1
CHN4				S	Sn	18 48 18.2	-0.7
EAHA	Aohua	0.75	63	eP	Pb	18 48 06.4	-0.2
EAHA				eS	Sb	18 48 16.9	+0.3
NSK	Sanguang	0.75	25	⇓iP	Pb	18 48 06.5	-0.3
NSK				i S	Sg	18 48 15.7	-1.0
YHNB	Yeheng	0.76	26	P	Pg	18 48 06.5	-0.2
YHNB	Yeheng	0.76	26	⇓P	Pg	18 48 06.5	-0.2
YHNB				eS	Sg	18 48 15.7	-1.0
TPUB	Ta-pu	0.77	207	P	Pb	18 48 06.6	-0.4
TPUB	Ta-pu	0.77	207	S	Sb	18 48 16.8	-0.5
TPUB	Ta-pu	0.77	207	⇓P	Pb	18 48 06.8	-0.2
TPUB				S	Sg	18 48 18.0	+0.9
ECBN	Changbin	0.78	149	eP	Pn	18 48 08.3	0.0
ELDTW	Lidau	0.80	180	eP	Pg	18 48 07.5	+0.1
ELDTW				eS	Sg	18 48 18.9	+0.9
ENA	Nanau	0.80	57	⇓iP	Pb	18 48 07.3	-0.1
ENA				eS	Sb	18 48 18.0	-0.1
KSHI	Guanxi Townshi	0.80	11	eP	Pn	18 48 08.7	+0.1
KSHI				eS	Sn	18 48 19.2	-1.1
SBCB	Hsinchu	0.80	358	eP	Pn	18 48 09.1	+0.4
SBCB				eS	Sn	18 48 20.9	+0.6
WSF	Szhu	0.80	244	eP	Pb	18 48 07.3	-0.3
WSF				S	Sn	18 48 19.2	-1.1
HSN	Hsinchu	0.81	357	eP	Pn	18 48 09.4	+0.6
HSN				eS	Sn	18 48 21.4	+0.8
ENTT	Nioudou	0.82	38	⇓iP	Pb	18 48 07.5	-0.4
ENTT				eS	Sb	18 48 20.8	-0.1
WTP	Ta-pu	0.82	206	⇓eP	Pb	18 48 07.6	-0.3
WTP				eS	Sg	18 48 19.1	+0.2
FULB	Fuli	0.83	162	⇑P	Pn	18 48 08.9	-0.2
FULB				eS	Sn	18 48 20.2	-0.8
EWUT	Wuta	0.83	57	⇓P	Pb	18 48 08.0	-0.1
EWUT				eS	Sg	18 48 19.8	+0.6
STYH	Taoyuan	0.84	195	eP	Pb	18 48 08.1	-0.2
STYH				i S	Sg	18 48 20.0	+0.6
WSL	Shuilin Townsh	0.85	237	⇑eP	Pb	18 48 08.1	-0.4
WSL				eS	Sn	18 48 21.2	-0.4
EHD	Haiduan	0.86	168	⇑P	Pg	18 48 08.7	+0.1
EHD				eS	Sn	18 48 20.8	-0.8
TWK	Hsinying	0.86	214	⇓P	Pb	18 48 08.4	-0.2
TWK				eS	Sn	18 48 20.8	-1.1
CHKH	Chenggong	0.87	156	i P	Pn	18 48 09.5	-0.1
CHKH				eS	Sn	18 48 22.2	+0.3
SNST	Tainan City	0.90	212	P	Pg	18 48 09.2	-0.2
SNST				eS	Sn	18 48 22.3	-0.4
NWLT	Wulai	0.90	30	⇓eP	Pb	18 48 09.1	-0.3
NWLT				eS	Sb	18 48 20.8	-0.4
NDS	Dongshan	0.91	45	⇑eP	Pb	18 48 09.2	-0.2
NDS				eS	Sg	18 48 21.8	+0.3
ECS	Chishang	0.91	168	eP	Pn	18 48 10.1	-0.1
ECS				S	Sn	18 48 23.3	+0.3
CHN1	Nanshi	0.92	209	P	Pb	18 48 09.4	-0.1
CHN1				i S	Sn	18 48 22.3	-0.9
ICHU	Yijhu	0.92	227	⇓iP	Pg	18 48 09.5	-0.3
ICHU				eS	Sn	18 48 23.2	+0.1
FUSB	Fushanzhiwuyua	0.93	34	P	Pb	18 48 09.5	-0.3
FUSB				eS	Sg	18 48 22.1	-0.1
TWE	Neicheng	0.94	39	⇓eP	Pb	18 48 09.9	0.0
TWE				eS	Sn	18 48 23.4	-0.4
ESAO	Su ao	0.96	52	eP	Pb	18 48 10.1	-0.1
ESAO				eS	Sn	18 48 24.4	+0.2
CHN8	Yiju	0.97	229	⇓P	Pb	18 48 10.1	-0.4
CHN8				S	Sn	18 48 24.5	-0.1
TWC	Suao	0.98	51	eP	Pb	18 48 10.6	0.0
TWC				eS	Sg	18 48 24.1	+0.3
SGST	Jiashian	0.98	204	eP	Pb	18 48 09.9	-0.8
SGST				i S	Sn	18 48 24.6	-0.3
NCUH	Zhongli	0.99	9	eP	Pg	18 48 12.7	+1.7
NCUH				eS	Sn	18 48 26.2	+1.2
ILA	Ilan	1.02	41	eP	Pn	18 48 11.6	-0.1
EDH	Donghe	1.05	165	eP	Pg	18 48 12.3	+0.1
EDH				S	Sn	18 48 27.7	+1.4
TATO	Taipei	1.07	24	P	Pg	18 48 13.1	+0.4
TATO	Taipei	1.07	24	S	Sg	18 48 27.6	+0.8
SSHA	Shanhua	1.08	218	eP	Pg	18 48 13.0	+0.2
SSHA				S	Sn	18 48 29.1	+2.0
LONT	Longtian	1.08	174	P	Pg	18 48 13.0	+0.1
LONT				eS	Sg	18 48 27.7	+0.6
CHN3	Shinhua	1.08	213	P	Pg	18 48 13.5	+0.6
CHN3				eS	Sg	18 48 28.7	+1.6
SCLT	Jiali	1.10	223	P	Pg	18 48 12.8	-0.4
SCLT				i S	Sg	18 48 28.9	+1.2
TAP	Taipei	1.14	23	eP	Pg	18 48 14.8	+0.9
TAP				eS	Sg	18 48 30.7	+1.9
SHHT	Tainan City	1.14	212	P	Pg	18 48 14.3	+0.4
SHHT				i S	Sg	18 48 31.6	+2.8
TWG	Pinlang	1.17	177	eP	Pg	18 48 14.4	-0.1
TWG				i S	Sg	18 48 29.9	+0.3
TWS1	Kuangyinshan	1.17	18	eP	Pg	18 48 14.9	+0.5
TWS1				eS	Sg	18 48 31.0	+1.3
TWGBT	Beinan	1.17	177	P	Pg	18 48 14.2	-0.3
TWGBT	Beinan	1.17	177	P	Pg	18 48 14.5	0.0
TWGBT				S	Sg	18 48 30.1	+0.4
TAI1	Yung-k'ang	1.19	217	eP	Pg	18 48 14.8	0.0
TAI1				eS	Sg	18 48 31.1	+0.8
TSCK	Chigu Township	1.19	226	eP	Pn	18 48 13.8	-0.2
TSCK				eS	Sg	18 48 32.0	+1.5
EOS2	EOS2	1.19	69	eP	Pg	18 48 15.7	+0.8
SCST	Cishan	1.20	203	eP	Pg	18 48 15.9	+0.9
SCST				eS	Sg	18 48 32.9	+2.2
EOS4	EOS4	1.20	83	eP	Pb	18 48 14.3	+0.2
EOS4				S	Sg	18 48 30.9	+0.1
TIPB	Shuangxi	1.23	37	P	Pb	18 48 15.1	+0.2
TIPB				eS	Sn	18 48 30.6	-0.3
EOS3	EOS3	1.23	76	eP	Pg	18 48 15.4	-0.2
NTST	Danshui	1.24	19	eP	Pg	18 48 17.1	+1.3
YM01	YM01	1.26	24	eP	Pb	18 48 15.1	-0.3
YM01				eS	Sg	18 48 32.1	-0.6
ZUZH	Zhuzihu	1.27	22	eP	Pb	18 48 15.3	-0.2
ZUZH				S	Sg	18 48 33.1	+0.2
ANP	Anpu	1.28	21	eP	Pg	18 48 16.7	0.0
ANP				eS	Sg	18 48 32.8	-0.6
TWM1	Shoushan	1.28	205	eP	Pg	18 48 16.8	+0.2
NWF	Wu-fen Shan	1.28	33	eP	Pg	18 48 16.5	-0.2
NWF				eS	Sn	18 48 34.8	+0.4
WFSB	Wu-fen Shan	1.28	33	eP	Pg	18 48 16.6	-0.1
WFSB				eS	Sb	18 48 31.7	-0.4
YM08	YM08	1.30	24	eP	Pg	18 48 16.7	-0.4
TSMG	Majia	1.32	195	eP	Pg	18 48 16.9	-0.5
TSMG				eS	Sg	18 48 35.0	+0.4
SGLT	Jiouru	1.35	201	eP	Pg	18 48 19.2	+1.4
SGLT				eS	Sg	18 48 39.0	+3.6
TWB1	Santiao Chiao	1.35	41	eP	Pb	18 48 17.2	+0.3
TWB1				eS	Sg	18 48 35.2	-0.3
SXI1	Grass Mountain

ISCO				IAML		19 47 39.3	
	comp=N,9.7nm,4.8s						
MVCO	**Mesa Verde**	**2.43**	**260**	Pn	Pn	19 47 06.8	+0.1
MVCO				IAML		19 47 39.3	
	comp=N,7.6nm,5.0s						

*IDC **28** 19:54:52.6±3.0, 9°.32S×113°.82E, h0km, mb3.6/3, mbtmp3.6/3, MS4.2/4, Error ellipse: s-maj=161.1km s-min=26.5km az=52.0*

*DJA **28** 19:55:04.2±0.5, 10°.5±7°×11°4E±°, h45km±47km, M3.9/18, mb4.2/4, MLv3.7/18*

ISC 28 19:55:02.4±1.3, 9°.66S±0°.09×113°.98E±0°.05, h31km, n24, σ1§22/23, mb3.6/3, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.19**	**8**	P	**Pn**	19 55 22.9	**0.0**
JAGI				S	**Sn**	19 55 37.0	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.19**	**8**	P	**Pb**	19 55 24.2	**-0.2**
	17μ142nm,0.4s						
GMJI	**Gumukmas**	**1.47**	**339**	P	**Pn**	19 55 27.0	**+0.2**
GMJI	**Gumukmas**	**1.47**	**339**	P	**Pn**	19 55 27.0	**+0.2**
	12μm161nm,0.4s						
DNP	**Denpasar**	**1.56**	**52**	P	**Pb**	19 55 29.5	**-1.1**
DNP				S	**Sb**	19 55 48.8	**-1.2**
ABJI	**Asem Bagus**	**1.87**	**8**	P	**Pn**	19 55 33.0	**+0.8**
SRBI	**Singaraja**	**1.98**	**38**	P	**Pn**	19 55 34.6	**+0.8**
SRBI				S	**Sn**	19 55 57.9	**+0.3**
SRBI	**Singaraja**	**1.98**	**38**	P	**Pb**	19 55 41.1	**+3.3**
KMMI	**Kalianget**	**2.59**	**360**	P	**Pn**	19 55 42.5	**+0.3**
GRJI	**Gresik**	**3.10**	**331**	P	**Pn**	19 55 50.4	**+1.2**
PCJI	**Pacitan**	**3.12**	**298**	P	**Pn**	19 55 50.3	**+0.8**
PCJI	**Pacitan**	**3.12**	**298**	P	**Pn**	19 55 50.2	**+0.8**
	59nm,0.4s						
UGM	**Wanagama**	**3.83**	**297**	P	**Pn**	19 56 00.0	**+0.8**
PLAI	**Plampang**	**3.84**	**78**	P	**Pn**	19 56 00.5	**+1.1**
PLAI				S	**Sn**	19 56 43.7	**+0.1**
PLAI	**Plampang**	**3.84**	**78**	P	**Pn**	19 56 00.1	**+0.7**
YOGI	**Yogyakarta**	**4.07**	**296**	P	**Pn**	19 56 03.3	**+0.7**
WBSI	**Waikabubak, Su**	**5.34**	**90**	P	**Pn**	19 56 22.0	**+1.9**
	0.1nm17nm,0.8s						
CMJI	**Cimerak**	**5.77**	**288**	P	**Pn**	**19 56 26.1**	**+0.2**
	40nm,1.4s						
ASAR	**Alice Springs**	**23.59**	**129**	P	**P**	**20 00 08.6**	**-2.1**
	0.7nm,0.3s,baz=305,slow=9.3,SNR=20						
	0.7nm,0.3s						
SONM	**Songino Array**	**57.63**	**354**	P	P	20 04 41.9	-7.8
	0.4nm,0.4s,baz=175,slow=7.2,SNR=5.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**62.91**	**336**	P	P	20 05 18.3	-7.4
	0.2nm,0.4s,baz=150,slow=6.8,SNR=7.0						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**63.91**	**223**	T	T	21 15 28.3	
	baz=78						
H04N1	**CROZET ISLANDS**	**63.93**	**223**	T	T	21 15 27.2	
	baz=78						
H04N3	**CROZET ISLANDS**	**63.93**	**223**	T	T	21 15 26.0	
	baz=78						

*BJI **28** 19:55:32.3, 38°.13S×178°.88E, h12km, mB5.6/9, mb4.9/12, Ms5.0/6, Ms7 4.9/5*

*NOU **28** 19:55:32.6, 37°.83S×179°.29E, h0km, mb5.2/42, Off E. Coast of N. Island, N.Z.*

*NEIC **28** 19:55:33.9, 37°.52S×179°.21E, h22km*

*NEIC **28** 19:55:33.9, 37°.82S×178°.58E, h22km, Moment Tensor Solution. Duration: 1§1 Moment tensor: Scale 10^15^Nm; Mrr-6.58; Mθθ3.07; Mφφ3.50; Mrθ3.06; Mθφ6.83; Mφr-2.52; Fault plane solution: Mo9.72000×1015 NP1:θs14.49000°, δ53.34000°, λ-134.91000°. NP2:φs253.57000°, δ55.38000°, λ-46.51000°. Principal axes: T 10.1307, Plg1.0000°, Azm314.0000°; N -0.8310, Plg34.0000°, Azm45.0000°; P -9.2998, Plg55.0000°, Azm223.0000°;*

*NEIC **28** 19:55:34.0±1.1, 37°.51S±0°.10×179°.20E±0°.06, h10km±1km, mb5.0/29, Mww4.6/6 Error ellipse: s-maj=16.2km s-min=8.0km az=1.0*

*WEL **28** 19:55:39.7, 37°.59S×178°.88E, h26km, ML5.0, Mw4.8, Moment Tensor Solution. s5 Moment tensor: Scale 1016 Nm; Mrr-1.96; Mθθ0.74; Mφφ1.21; Mrθ0.57; Mθφ0.84; Mφr-0.05; Fault plane solution: Mo1.98000×1016 NP1: φs230.00000°, δ51.00000°, λ-74.00000°. NP2:φs25.00000°, δ42.00000°, λ-109.00000°. Principal axes: T 1.8728, Plg5.0000°, Azm308.0000°; N 0.2158, Plg13.0000°, Azm39.0000°; P -2.0887, Plg76.0000°, Azm199.0000°; Stations used: MXZ WIZ KUZ MKAZ GRZ NORMAL FAULTING*

*WEL **28** 19:55:40.0±1.1, 38°.5±5°×17°9E±°, h24km±4km, M5.0/14, ML5.3/14, MLv5.0/14 Error ellipse: s-maj=8.8km s-min=6.4km az=92.8, confirmed*

*IDC **28** 19:55:43.5±1.7, 37°.37S×178°.58E, h65km±12km, mb4.5/10, mbtmp4.8/10, MS3.9/18, Error ellipse: s-maj=19.4km s-min=11.0km az=0.0*

ISC 28 19:55:39.8±1.0, 37°.65S±0°.04×178°.98E±0°.06, h47km±7km, n318, σ1§60/318, mb5.0/51, MS4.0/15, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.48**	**250**	P	**Pn**	19 55 50.2	**-0.4**
WMGZ				S	**Sn**	19 55 57.8	**-0.5**
MXZ	**Matakaoa Point**	**0.55**	**279**	Pn	**Pn**	19 55 49.6	**-1.7**
MXZ					**Sn**	19 55 57.2	**-2.4**
MXZ	**Matakaoa Point**	**0.55**	**279**	P	**Pn**	19 55 49.8	**-1.6**
MXZ	**Matakaoa Point**	**0.55**	**279**	S	**Sn**	19 55 58.0	**-1.7**
MXZ	**Matakaoa Point**	**0.55**	**279**	P	**Pn**	19 55 49.7	**-1.7**
MXZ				S	**Sn**	19 55 57.3	**-2.4**
PUZ	**Puketiti**	**0.71**	**234**	P	**Pn**	19 55 53.9	**+0.4**
PUZ				S	**Sn**	19 56 04.5	**+1.0**
PKGZ	**Pakihiroa**	**0.75**	**253**	P	**Pn**	19 55 53.8	**-0.2**
PKGZ				S	**Sn**	19 56 04.1	**-0.2**
TWGZ	**Tauwhareparae**	**0.95**	**236**	P	**Pn**	19 55 57.4	**+0.6**
TWGZ				S	**Sn**	19 56 11.2	**+1.9**
HAZ	**Te Kaha**	**0.96**	**264**	P	**Pn**	19 55 56.8	**0.0**
HAZ				S	**Sn**	19 56 08.8	**-0.5**
CNGZ	**Carnagh Statio**	**1.03**	**216**	P	**Pn**	19 55 59.3	**+1.5**
RUGZ	**Raukumara Rang**	**1.08**	**253**	P	**Pn**	19 55 58.4	**-0.2**
TKGZ	**Te Karaka**	**1.19**	**228**	P	**Pn**	19 56 00.5	**+0.5**
TKGZ				S	**Sn**	19 56 16.7	**+1.7**
MWZ	**Matawai**	**1.33**	**239**	P	**Pn**	19 56 02.0	**0.0**
MWZ				S	**Sn**	19 56 19.0	**+0.3**
RIGZ	**Rimuhau**	**1.42**	**222**	P	**Pn**	19 56 03.8	**+0.6**
RIGZ				S	**Sn**	19 56 21.9	**+1.1**
WIZ	**White Island**	**1.43**	**275**	P	**Pn**	19 56 03.0	**-0.3**
WIZ				S	**Sn**	19 56 20.7	**-0.2**
WSRZ	**White Island S**	**1.44**	**275**	P	**Pn**	19 56 03.2	**-0.2**
RAGZ	**Rawiri**	**1.50**	**235**	P	**Pn**	19 56 04.4	**+0.2**
PRGZ	**Paritu Road**	**1.53**	**214**	P	**Pn**	19 56 05.2	**+0.4**
PRGZ				S	**Sn**	19 56 25.0	**+1.5**
URZ	**Urewera**	**1.60**	**247**	P	**Pn**	19 56 05.9	**+0.3**
	5μm,0.4s,baz=127,slow=1.6,SNR=3882						
URZ				S	**Sn**	**19 56 26.2**	**+1.2**
	6μm,0.6s,baz=70,slow=22,SNR=7.0						
URZ				LR	LR	19 56 58.9	
	comp=Z,3μm,20.4s,baz=114,slow=52						
URZ	**Urewera**	**1.60**	**247**	P	**Pn**	**19 56 06.1**	**+0.5**
URZ	**Urewera**	**1.60**	**247**	S	**Sn**	19 56 27.2	**+2.2**
URZ	**Urewera**	**1.60**	**247**	P	**Pn**	19 56 05.9	**+0.3**
URZ				S	**Sn**	19 56 25.6	**+0.6**
WHRZ	**Whale Island**	**1.60**	**262**	P	**Pn**	19 56 05.9	**+0.3**
KNZ	**Kokohu**	**1.71**	**217**	P	**Pn**	19 56 07.0	**-0.1**
SNGZ	**Shannon Statio**	**1.71**	**228**	P	**Pn**	19 56 07.3	**+0.1**
SNGZ				S	**Sn**	19 56 28.6	**+0.6**
MHGZ	**Mahia Peninsul**	**1.72**	**209**	P	**Pn**	19 56 07.8	**+0.6**
EDRZ	**Edgecumbe**	**1.83**	**255**	P	**Pn**	19 56 09.7	**+0.8**
RTZ	**Ruatahuna**	**1.85**	**238**		**Pn**	19 56 09.2	**+0.1**
RTZ	**Ruatahuna**	**1.85**	**238**	P	**Pn**	19 56 09.7	**+0.6**
MARZ	**Manawahe**	**1.86**	**259**	P	**Pn**	19 56 09.0	**-0.1**
MUGZ	**Murupara**	**1.93**	**244**	P	**Pn**	19 56 10.2	**+0.1**
OPRZ	**Ohinepanea**	**1.93**	**264**	P	**Pn**	19 56 09.8	**-0.4**
OPRZ				S	**Sn**	19 56 31.1	**-2.1**
RAHZ	**Arahi**	**1.95**	**229**	P	**Pn**	19 56 10.7	**+0.2**
WHHZ	**Waihua**	**1.98**	**224**	P	**Pn**	19 56 11.2	**+0.5**
TARZ	**Mount Tarawera**	**2.04**	**253**	P	**Pn**	19 56 12.3	**+0.5**
MKRZ	**Makatiti**	**2.05**	**256**	P	**Pn**	19 56 12.3	**+0.5**
RRRZ	**Republican Roa**	**2.07**	**250**	P	**Pn**	19 56 12.2	**+0.2**
MTHZ	**Maungataniwha**	**2.07**	**234**	P	**Pn**	19 56 12.5	**+0.5**
LIRZ	**Lichensteins R**	**2.09**	**260**	P	**Pn**	19 56 12.5	**+0.2**
OMRZ	**Omania**	**2.12**	**257**	P	**Pn**	**19 56 11.5**	**-1.2**
TGRZ	**Tauranga**	**2.16**	**267**	P	**Pn**	**19 56 12.9**	**-0.3**
HLRZ	**Highlands Stat**	**2.16**	**253**	P	**Pn**	**19 56 14.0**	**+0.6**
KARZ	**Kaharoa**	**2.20**	**260**	P	**Pn**	**19 56 13.8**	**0.0**
PRRZ	**Plateau Road**	**2.21**	**247**	P	**Pn**	**19 56 14.1**	**+0.1**
MYRZ	**Mayor Island**	**2.21**	**279**	P	**Pn**	**19 56 13.3**	**-0.7**
NMHZ	**Naumai**	**2.24**	**229**	P	**Pn**	**19 56 14.8**	**+0.4**
ARHZ	**Aropaoanui**	**2.24**	**224**	P	**Pn**	**19 56 14.8**	**+0.4**
HRRZ	**Handcock Road**	**2.25**	**250**	P	**Pn**	**19 56 14.8**	**+0.2**
NGRZ	**Ngongotaha**	**2.26**	**258**	P	**Pn**	**19 56 15.1**	**+0.5**
HSRZ	**Hossack Road**	**2.26**	**252**	P	**Pn**	**19 56 15.2**	**+0.6**
UTU	**Utuhina**	**2.27**	**256**	P	**Pn**	**19 56 15.9**	**+1.1**
ALRZ	**Allen Road**	**2.27**	**246**	P	**Pn**	**19 56 14.9**	**+0.1**
MRHZ	**Matea Rd**	**2.34**	**239**	P	**Pn**	**19 56 16.0**	**+0.2**
GRRZ	**Galatos Road**	**2.37**	**252**	P	**Pn**	**19 56 16.7**	**+0.4**
WPRZ	**Whakapapatarin**	**2.39**	**248**	P	**Pn**	**19 56 16.7**	**+0.3**
KMRZ	**Kaimai**	**2.42**	**265**	P	**Pn**	**19 56 16.4**	**-0.4**
BKZ	**Black Stump Fm**	**2.47**	**232**		**Pn**	**19 56 17.2**	**-0.4**
BKZ					**Pn**	**19 56 17.6**	**0.0**
BKZ	**Black Stump Fm**	**2.47**	**232**	P	**Pn**	**19 56 17.6**	**0.0**
BKZ	**Black Stump Fm**	**2.47**	**232**	S	**Sn**	**19 56 47.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.47**	**232**	P	**Pn**	**19 56 17.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.50**	**216**	P	**Pn**	**19 56 17.3**	**-0.5**
MCHZ	**McNeill Hill**	**2.53**	**224**	P	**Pn**	**19 56 18.5**	**+0.1**
HATZ	**Hinemaiaia**	**2.59**	**241**	P	**Pn**	**19 56 19.1**	**-0.1**
WHTZ	**Whakaora**	**2.59**	**246**	P	**Pn**	**19 56 19.9**	**+0.6**
KUTZ	**Kaahu Road**	**2.63**	**251**	P	**Pn**	**19 56 19.9**	**+0.1**
KWHZ	**Kaweka Forest**	**2.67**	**228**	P	**Pn**	**19 56 20.2**	**-0.2**
KAHZ	**Kahuranaki**	**2.70**	**217**	P	**Pn**	**19 56 20.1**	**-0.6**
KUZ	**Kuaotunu**	**2.76**	**288**	P	**Pn**	**19 56 20.1**	**-1.3**
KUZ	**Kuaotunu**	**2.76**	**288**	P	**Pn**	**19 56 20.2**	**-1.3**
TOZ	**Tahuroa Road**	**2.76**	**267**	Pn	**Pn**	**19 56 21.0**	**-0.5**
TOZ				Sn	**Sn**	**19 56 50.1**	**-3.5**
TOZ	**Tahuroa Road**	**2.76**	**267**	P	**Pn**	**19 56 21.1**	**-0.4**
WATZ	**Wairara**	**2.77**	**247**	P	**Pn**	**19 56 21.7**	**+0.1**
RITZ	**Rihia Road**	**2.79**	**241**	P	**Pn**	**19 56 22.2**	**+0.3**
RATZ	**Rangitukua**	**2.80**	**243**	P	**Pn**	**19 56 22.5**	**+0.3**
TLZ	**Tolley Road**	**2.80**	**255**	P	**Pn**	**19 56 22.1**	**0.0**
KRHZ	**Kereru**	**2.85**	**225**	P	**Pn**	**19 56 21.9**	**-0.8**
PXZ	**Pawanui**	**2.89**	**214**	P	**Pn**	**19 56 22.0**	**-1.3**
KATZ	**Kakaramea**	**2.90**	**242**	P	**Pn**	**19 56 23.6**	**0.0**
TMVZ	**Te Maari**	**2.96**	**239**	P	**Pn**	**19 56 24.1**	**-0.3**
ETVZ	**East Tongariro**	**2.97**	**239**	P	**Pn**	**19 56 24.1**	**-0.3**
NTVZ	**North Tongarir**	**2.97**	**240**	P	**Pn**	**19 56 24.3**	**-0.3**
KRVZ	**Karewarewa**	**2.99**	**240**	P	**Pn**	**19 56 24.6**	**-0.2**
OTVZ	**Oturere**	**3.01**	**239**	P	**Pn**	**19 56 24.7**	**-0.4**
NNVZ	**North Ngauruho**	**3.03**	**240**	P	**Pn**	**19 56 25.3**	**-0.1**
SNVZ	**South Ngauruho**	**3.04**	**239**	P	**Pn**	**19 56 25.1**	**-0.3**
WTVZ	**West Tongariro**	**3.04**	**240**	P	**Pn**	**19 56 25.3**	**-0.1**
NGZ	**Ngauruhoe**	**3.06**	**239**	P	**Pn**	**19 56 25.4**	**-0.3**
TUVZ	**Tukino**	**3.07**	**237**	P	**Pn**	**19 56 25.6**	**-0.3**
MOVZ	**Moawhango**	**3.08**	**234**	P	**Pn**	**19 56 25.2**	**-0.7**
MKAZ	**Moumakai**	**3.09**	**279**	P	**Pn**	**19 56 25.7**	**-0.3**
COVZ	**Chateau Observ**	**3.11**	**239**	P	**Pn**	**19 56 26.1**	**-0.3**
WPHZ	**Waipukurau**	**3.12**	**219**	P	**Pn**	**19 56 25.5**	**-1.0**
WHVZ	**Whangaehu Hut**	**3.12**	**238**	P	**Pn**	**19 56 26.2**	**-0.5**
TWVZ	**Taurewa**	**3.12**	**242**	P	**Pn**	**19 56 26.4**	**-0.2**
FWVZ	**Far West T-bar**	**3.13**	**238**	P	**Pn**	**19 56 26.3**	**-0.5**
MAVZ	**Matarangi**	**3.13**	**238**	P	**Pn**	**19 56 26.5**	**-0.4**
PNHZ	**Pukenui**	**3.13**	**223**	P	**Pn**	**19 56 25.3**	**-1.4**
WNVZ	**Wahianoa**	**3.14**	**237**	P	**Pn**	**19 56 26.3**	**-0.5**
GRZ	**Great Barrier**	**3.15**	**295**	P	**Pn**	**19 56 26.0**	**-0.9**
TRVZ	**Turoa**	**3.16**	**238**	P	**Pn**	**19 56 26.7**	**-0.4**
PRHZ	**Porangahau**	**3.19**	**214**	P	**Pn**	**19 56 25.7**	**-1.6**
WIAZ	**Waiheke Island**	**3.19**	**284**	P	**Pn**	**19 56 27.2**	**-0.2**
MTVZ	**Mangateitei**	**3.25**	**237**	P	**Pn**	**19 56 27.9**	**-0.5**
PKVZ	**Pokaka**	**3.29**	**239**	P	**Pn**	**19 56 28.7**	**-0.1**
ETAZ	**East Tamaki Re**	**3.31**	**281**	P	**Pn**	**19 56 29.2**	**+0.2**
KBAZ	**Karaka Road Bo**	**3.31**	**278**	P	**Pn**	**19 56 29.8**	**+0.8**
TSZ	**Takapari Road**	**3.37**	**224**	P	**Pn**	**19 56 28.1**	**-1.8**
HIZ	**Hauiti**	**3.37**	**254**		**Pn**	**19 56 30.4**	**+0.6**
HIZ	**Hauiti**	**3.37**	**254**	P	**Pn**	**19 56 30.4**	**+0.6**
HIZ	**Hauiti**	**3.37**	**254**	P	**Pn**	**19 56 30.6**	**+0.7**
MBAZ	**Motutapu North**	**3.38**	**284**	P	**Pn**	**19 56 30.1**	**+0.1**
ANWZ	**Angora Road**	**3.42**	**214**	P	**Pn**	**19 56 28.9**	**-1.6**
DVHZ	**Dannevirke**	**3.43**	**219**	P	**Pn**	**19 56 29.0**	**-1.8**
EPAZ	**Eden Park BICE**	**3.47**	**282**	P	**Pn**	**19 56 31.8**	**+0.6**
ABAZ	**Army Bay**	**3.48**	**286**	P	**Pn**	**19 56 31.6**	**+0.3**
HBAZ	**Herne Bay Bore**	**3.49**	**282**	P	**Pn**	**19 56 32.1**	**+0.6**
AWAZ	**Awhitu Peninsu**	**3.51**	**278**	P	**Pn**	**19 56 32.2**	**+0.5**
WTAZ	**Waiatarua**	**3.59**	**280**	P	**Pn**	**19 56 33.5**	**+0.6**
RVAZ	**Riverhead Bore**	**3.62**	**283**	P	**Pn**	**19 56 33.9**	**+0.5**
VRZ	**Vera Road**	**3.63**	**245**	P	**Pn**	**19 56 34.0**	**+0.6**
BFZ	**Birch Farm**	**3.70**	**214**		**Pn**	**19 56 31.9**	**-2.4**
BFZ	**Birch Farm**	**3.70**	**214**	P	**Pn**	**19 56 32.3**	**-2.0**
BFZ	**Birch Farm**	**3.70**	**214**	P	**Pn**	**19 56 32.1**	**-2.2**
POWZ	**Post Office Ro**	**3.71**	**221**	P	**Pn**	**19 56 32.7**	**-1.8**
PRWZ	**Pori Road**	**3.73**	**218**	P	**Pn**	**19 56 33.3**	**-1.4**
WAZ	**Wanganui**	**3.77**	**235**	P	**Pn**	**19 56 36.2**	**+0.9**
OHWZ	**Ohakea**	**3.83**	**227**	P	**Pn**	**19 56 35.8**	**-0.4**
CPWZ	**Castlepoint**	**3.90**	**213**	P	**Pn**	**19 56 35.3**	**-1.9**
MHEZ	**Mangahewa**	**3.93**	**247**	P	**Pn**	**19 56 39.5**	**+2.0**
TIWZ	**Tintock**	**3.94**	**217**	P	**Pn**	**19 56 35.5**	**-2.1**
MRZ	**Mangatainoka R**	**4.00**	**220**	Pn	**Pn**	**19 56 35.9**	**-2.7**
DREZ	**Durham Road**	**4.06**	**246**	P	**Pn**	**19 56 40.8**	**+1.5**
WCZ	**Waipu Caves**	**4.10**	**293**	P	**Pn**	**19 56 39.6**	**-0.3**
WCZ				S	**Sn**	**19 57 26.6**	**+0.1**
PREZ	**Palmer Road**	**4.14**	**245**	P	**Pn**	**19 56 42.2**	**+1.7**
NEZ	**North Egmont**	**4.16**	**246**	P	**Pn**	**19 56 42.4**	**+1.6**
PKE	**Pukeiti**	**4.21**	**247**	P	**Pn**	**19 56 42.6**	**+1.2**
KHEZ	**Kahui Hut**	**4.23**	**246**	P	**Pn**	**19 56 42.8**	**+1.1**
KHEZ	**Kahui Hut**	**4.23**	**246**	P	**Pn**	**19 56 43.1**	**+1.4**
NBEZ	**Newall Road No**	**4.33**	**247**	P	**Pn**	**19 56 44.4**	**+1.4**
NMEZ	**Namu Road**	**4.37**	**245**	P	**Pn**	**19 56 45.0**	**+1.4**
MSWZ	**Moikau Station**	**4.74**	**216**		**Pn**	**19 56 44.6**	**-4.0**
PLWZ	**Palliser**	**4.86**	**215**		**Pn**	**19 56 46.1**	**-4.2**
BHW	**Baring Head**	**4.92**	**219**		**Pn**	**19 56 47.3**	**-3.8**
OUZ	**Omahuta**	**4.98**	**298**	P	**Pn**	**19 56 51.9**	**0.0**
OUZ	**Omahuta**	**4.98**	**298**	P	**Pn**	**19 56 52.0**	**+0.1**
TCW	**Tory Channel**	**5.09**	**224**		**Pn**	**19 56 49.5**	**-3.9**
TUWZ	**Tuamarina**	**5.42**	**224**		**Pn**	**19 56 54.5**	**-3.5**
CMWZ	**Cape Campbell**	**5.50**	**220**		**Pn**	**19 56 54.8**	**-4.3**
NNZ	**Nelson**	**5.61**	**229**		**Pn**	**19 56 57.2**	**-3.4**
BSWZ	**Blackbirch Sta**	**5.65**	**223**		**Pn**	**19 56 56.9**	**-4.3**
QRZ	**Quartz Range**	**5.93**	**236**		**Pn**	**19 57 01.5**	**-3.4**
QRZ	**Quartz Range**	**5.93**	**236**	P	**Pn**	**19 57 01.3**	**-3.6**
THZ	**Tophouse**	**6.23**	**227**	Pn	**Pn**	**19 57 05.5**	**-3.6**
KHZ	**Kahutara**	**6.33**	**220**	Pn	**Pn**	**19 57 06.3**	**-4.2**
KHZ	**Kahutara**	**6.33**	**220**	P	**Pn**	**19 57 06.6**	**-3.8**
DSZ	**Denniston Nort**	**6.88**	**231**	Pn	**Pn**	19 57 12.2	-5.8
CTZ	**Chatham Island**	**6.93**	**153**		**Pn**	**19 57 19.6**	**+0.9**
CTZ	**Chatham Island**	**6.93**	**153**	S	**Sn**	**19 58 29.3**	**-6.9**
CTZ	**Chatham Island**	**6.93**	**153**	P	**Pn**	**19 57 20.2**	**+1.5**
CTZ				S	**Sn**	**19 58 31.6**	**-4.6**
GVZ	**Greta Valley S**	**6.99**	**219**	Pn	**Pn**	19 57 14.1	-5.4
LTZ	**Lake Taylor**	**7.25**	**223**		**Pn**	19 57 18.4	-4.8
INZ	**Inchbonnie**	**7.68**	**226**	P	**Pn**	**19 57 27.0**	**-1.9**
INZ				S	**Sn**	**19 58 47.2**	**-7.2**
MQZ	**McQueen's Vall**	**7.72**	**217**		**Pn**	19 57 24.2	-5.3
RPZ	**Rata Peaks**	**8.54**	**222**	P	**Pn**	**19 57 36.7**	**-4.0**
	51nm,0.3s,baz=101,slow=2.5,SNR=70						
RPZ				S	Sn	19 59 04.1	-12
	77nm,0.4s,baz=190,slow=23,SNR=12						
RPZ	**Rata Peaks**	**8.54**	**222**	P	**Pn**	**19 57 36.4**	**-4.3**
LBZ	**Lake Benmore**	**9.45**	**222**	Pn	Pn	19 57 47.9	-5.4
ODZ	**Otahuna Downs**	**9.68**	**218**		Pn	19 57 50.8	-5.6
ODZ	**Otahua Downs**	**9.68**	**218**	P	Pn	19 57 51.1	-5.2
WHZ	**Wether Hill Ro**	**11.64**	**222**		Pn	19 58 17.1	-6.0
DZM	**Mont Dzumac**	**18.93**	**322**	*eP*	**P**	**19 59 56.5**	**-0.3**
	90nm,25.1s						
DZM				*eLR*	LR	20 04 17.0	
	1μm,22.9s						
DZM	**Mont Dzumac**	**18.93**	**322**	LR	LR	20 06 23.3	
	comp=Z,812nm,18.9s,baz=188,slow=35						
MSVF	**Nonsavu**	**19.86**	**357**	LR	LR	20 06 32.9	
	comp=Z,334nm,19.5s,baz=143,slow=33						
MGCD	**Mangrove Creek**	**23.10**	**273**	P	**P**	**20 00 44.1**	**+2.5**
	comp=Z,119nm,1.1s						
MGCD	**Mangrove Creek**	**23.10**	**273**	P	**P**	**20 00 44.4**	**+2.9**
MILA	**Mila**	**23.68**	**262**	P	**P**	**20 00 47.7**	**+0.7**
	comp=Z,14nm,1.3s						
ARMA	**Armidale**	**23.73**	**280**		**P**	**20 00 49.7**	**+1.9**
ARMA	**Armidale**	**23.73**	**280**	P	**P**	**20 00 49.6**	**+1.8**
	comp=Z,17nm,1.5s						
ARMA	**Armidale**	**23.73**	**280**	P	**P**	**20 00 48.8**	**+1.1**
CNB	**Canberra Magne**	**23.89**	**267**	P	**P**	**20 00 49.9**	**+0.8**
	comp=Z,30nm,1.0s						
CNB	**Canberra Magne**	**23.89**	**267**	P	**P**	**20 00 49.9**	**+0.8**
CAN	**Canberra**	**24.17**	**266**	P	**P**	**20 00 51.8**	**+0.1**
	comp=Z,25nm,0.9s						
RAR	**Rarotonga**	**24.62**	**54**	LR	LR	20 08 22.2	
	comp=Z,156nm,21.2s,baz=266,slow=31						
TAU	**Tasmania Unive**	**24.63**	**248**	P	**P**	**20 00 55.9**	**+0.2**
TAU				IAmb	IAmb	20 00 58.2	
	comp=Z,16nm,0.7s						
MOO	**Moorlands**	**24.72**	**249**	P	**P**	**20 00 55.2**	**-1.3**
	comp=Z,45nm,2.2s						
TOO	**Toolangi**	**26.45**	**260**	P	**P**	**20 01 11.8**	**-0.5**
TOO	**Toolangi**	**26.45**	**260**	P	**P**	**20 01 13.4**	**+1.1**
EIDS	**Eidsvold**	**26.65**	**289**	P	**P**	**20 01 13.3**	**-0.8**
EIDS	**Eidsvold**	**26.65**	**289**	P	**P**	**20 01 14.4**	**+0.3**
	comp=Z,21nm,1.8s						
CMSA	**Cobar Meteorol**	**27.98**	**273**	P	**P**	**20 01 26.9**	**+1.0**
	comp=Z,31nm,0.7s						
CMSA	**Cobar Meteorol**	**27.98**	**273**	P	**P**	**20 01 27.0**	**+1.0**
ARPS	**Mount Arapiles**	**29.47**	**260**	P	**P**	**20 01 39.9**	**+0.6**
	comp=Z,13nm,1.1s						
TBI	**Tubuai**	**30.53**	**71**	*e*LR	LR	20 09 35.0	
	comp=Z,1μm,25.8s						
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**20 01 54.4**	**+0.7**
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**20 01 54.6**	**+0.8**
	comp=Z,147nm,0.8s						
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**20 01 54.4**	**+0.7**
	comp=Z,18nm,0.7s,baz=108,slow=10,SNR=64						
STKA				PcP	**PcP**	**20 04 47.7**	**-0.5**
	comp=Z,3.9nm,0.8s,baz=14,slow=4.2,SNR=3.7						
STKA				LR	LR	20 13 20.5	
	comp=Z,506nm,21.8s,baz=76,slow=34						
	comp=Z,18nm,0.7s						
STKA	**Stephens Creek**	**31.11**	**269**	P	**P**	**20 01 54.9**	**+1.2**
QLP	**Quilpie**	**31.27**	**280**	P	**P**	**20 01 55.6**	**+0.4**
	comp=Z,42nm,1.0s						
QLP	**Quilpie**	**31.27**	**280**	P	**P**	**20 01 55.9**	**+0.7**
AUMBR	**Murray Bridge**	**31.89**	**262**	P	**P**	**20 02 01.9**	**+1.3**
HTT	**Hallett**	**32.70**	**265**	P	**P**	**20 02 08.2**	**+0.5**
	comp=Z,20nm,1.1s						
HTT	**Hallett**	**32.70**	**265**	P	**P**	**20 02 08.5**	**+0.8**
INKA	**Innaminka**	**33.47**	**276**	P	**P**	**20 02 15.5**	**+1.1**
WHYH	**Whyalla**	**33.89**	**265**	P	**P**	**20 02 19.0**	**+1.0**
PPT2	**Papeete2**	**34.04**	**63**	*e*S	**S**	**20 07 42.1**	**+0.1**

MMRI	Maumere	58.59	284	P	P	20 05 31.4	-0.6
SANI	Sanana	60.06	293	P	P	20 05 44.5	+2.3
GUMO	Guam	60.20	321	LR	LR	20 28 58.8	
	comp=Z,41nm,21.0s,baz=148,slow=33						
KAPI	Kappang	62.79	286	LR	LR	20 34 44.0	
	comp=Z,114nm,18.6s,baz=115,slow=38						
BELA	Belgrano 2	62.95	172	P	P	20 06 01.6	+0.8
BELA				IAmb	IAmb	20 06 05.2	
	comp=Z,8.3nm,0.9s						
JAGI	Jajag, Banyuwa	64.98	279	P	P	20 06 13.9	-1.2
JAGI				IAmb	IAmb	20 06 53.9	
	comp=Z,13nm,1.0s						
DAV	Davao City (W)	66.72	300	LR	LR	20 35 13.2	
	comp=Z,47nm,21.7s,baz=156,slow=36						
UGM	Wanagama	68.17	277	P	P	20 06 34.8	-0.6
TROLL	Troll, Antarti	70.61	181	P	P	20 06 52.0	+2.3
TROLL	Troll, Antarti	70.61	181	⇑P	P	20 06 52.0	+2.3
	comp=Z,240nm,0.9s						
SNAA	Sanae	70.97	179	P	P	20 06 54.2	+2.3
SNAA	Sanae	70.97	179	P	P	20 06 54.2	+2.3
SNAA				IAmb	IAmb	20 06 56.9	
	comp=Z,16nm,1.4s						
SNAA	Sanae	70.97	179	⇑P	P	20 06 54.2	+2.3
	comp=Z,82nm,0.8s						
SNAA	Sanae	70.97	179	P	P	20 06 54.6	+2.7
	comp=Z,7.0nm,1.1s,baz=192,slow=13,SNR=8.7						
	comp=Z,7.0nm,1.1s						
LEM	Lembang	71.11	276	LR	LR	20 40 16.3	
	comp=Z,134nm,19.8s,baz=148,slow=38						
VNA3	Neumayer Olymp	71.23	177	P	P	20 06 55.9	+2.5
VNA3	Neumayer Olymp	71.23	177	⇑P	P	20 06 55.9	+2.5
VNA2	Neumayer--Watz	71.63	178	P	P	20 06 58.5	+2.7
	baz=182,slow=7.1						
VNA2	Neumayer--Watz	71.63	178	⇑P	P	20 06 58.5	+2.7
	comp=Z,13nm,0.7s,baz=182,slow=7.1						
KKM	Kota Kinabalu	72.69	292	P	P	20 07 02.0	-1.1
KKM				IAmb	IAmb	20 07 15.4	
	comp=Z,19nm,1.1s						
JCJ	Chichijima	73.08	326	LR	LR	20 35 07.4	
	comp=Z,59nm,21.9s,baz=148,slow=32						
KSM	Kuching	74.16	285	P	P	20 07 11.2	-0.4
KSM				IAmb	IAmb	20 07 11.7	
	comp=Z,14nm,0.7s						
H03S2	Juan Fernandez	78.53	124	T	T	21 34 04.5	
	baz=230,slow=74,SNR=49						
H03S1	Juan Fernandez	78.54	124	T	T	21 34 05.8	
	baz=230,slow=74,SNR=39						
H03S3	Juan Fernandez	78.55	124	T	T	21 34 01.8	
	baz=230,slow=74,SNR=52						
H03N3	Juan Fernandez	78.77	124	T	T	21 34 13.6	
	baz=234,slow=72						
H03N2	Juan Fernandez	78.77	124	T	T	21 34 12.3	
	baz=234,slow=72						
H03N1	Juan Fernandez	78.78	124	T	T	21 33 59.1	
	baz=234,slow=72						
PLCA	Paso Flores	79.37	134	P	P	20 07 45.6	+4.8
	comp=Z,3.2nm,0.6s,baz=248,slow=5.4,SNR=15						
	comp=Z,3.2nm,0.6s						
KSRS	Korea Array	88.36	322	P	P	20 08 27.6	+1.4
	comp=Z,2.5nm,0.7s,baz=143,slow=5.6,SNR=16						
	comp=Z,2.5nm,0.7s						
NJ2	Nanjing	89.17	313	*e*P	P	20 08 30.3	+0.1
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LPIG	La Paz	90.42	60	LR	LR	20 39 52.9	
	comp=Z,60nm,21.2s,baz=28,slow=29						
PETK	Petropavlovsk-	92.26	347	P	P	20 08 44.5	+0.4
	comp=Z,4.0nm,1.0s,baz=163,slow=6.0,SNR=3.1						
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	93.50	291	P	P	20 08 50.4	-0.3
CMAR	Chiang Mai Arr	93.50	291	P	P	20 08 51.1	+0.5
	comp=Z,3.3nm,0.7s,baz=150,slow=3.5,SNR=36						
	comp=Z,3.3nm,0.7s						
CN2	Changchun	94.47	324	*e*P	P	20 08 56.5	+2.0
YBH	Yreka Blue Hor	95.24	40	LR	LR	20 43 29.0	
	comp=Z,63nm,21.1s,baz=318,slow=30						
PZH	PanZhiHua	96.48	298	P	P	20 09 06.5	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LPAZ	La Paz	97.29	117	LR	LR	20 45 43.8	
	comp=Z,368nm,19.7s,baz=156,slow=31						
HHC	Hu-ho-hao-te	99.51	315	*e*P	Pdif	20 09 19.0	+1.5
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.9s						
ILAR	Eielson Array	105.55	14	PKiKP	PKiKP	20 13 58.2	+1.6
	comp=Z,0.4nm,0.5s,baz=209,slow=1.7,SNR=5.3						
YKA	Yellowknife Ar	113.04	28	PKiKP	PKiKP	20 14 12.0	+1.3
	comp=Z,0.7nm,0.6s,baz=235,slow=2.1,SNR=12						
WMQ	Urumqi	115.64	307	*e*PKP	PKiKP	20 14 16.8	+0.4
FCC	Fort Churchill	119.80	37		PKiKP	20 14 23.9	0.0
MKAR	Makanchi Array	120.37	308	PKP	PKPdf	20 14 24.8	-0.6
	comp=Z,0.8nm,0.5s,baz=111,slow=0.5,SNR=10						
MKAR				PKKPbc	PKKPbc	20 24 35.9	+3.7
	comp=Z,0.7nm,0.6s,baz=290,slow=3.3,SNR=5.9						
ZALV	Zalesovo Beam	121.65	316	PKP	PKPdf	20 14 26.9	-0.7
	comp=Z,0.4nm,0.5s,baz=130,slow=3.5,SNR=2.5						
KURBB	Kurchatov Arra	124.10	311	PKP	PKPdf	20 14 31.9	-0.4
	comp=Z,1.6nm,0.5s,baz=115,slow=2.0,SNR=17						
NRIK	Noril'sk	125.15	334	PKP	PKiKP	20 14 34.8	+0.6
	comp=Z,3.4nm,0.8s,baz=80,slow=3.2,SNR=9.6						
BVAR	Borovoye Array	129.62	312	PKP	PKPdf	20 14 42.7	-0.1
	comp=Z,1.6nm,0.6s,baz=115,slow=2.1,SNR=7.8						
SPITS	Spitsbergen Ar	138.71	355	PKP	PKiKP	20 15 01.0	-0.4
	comp=Z,10nm,0.8s,baz=76,slow=6.1,SNR=4.1						
ARCES	ARCESS Array B	145.01	344	PKP	PKPdf	20 15 11.0	+0.3
	comp=Z,7.2nm,0.6s,baz=43,slow=3.7,SNR=46						
GURO	Guroymak-BITLI	146.34	285		PKPab	20 15 16.3	0.0
DBIC	Dimbokro	148.96	173		PKPab	20 15 25.8	-1.2
DBIC	Dimbokro	148.96	173	PKPbc	PKiKP	20 15 25.4	+1.1
	comp=Z,8.5nm,0.7s,baz=176,slow=3.2,SNR=19						
MMAI	Mount Meron Ar	150.05	272	PKPbc	PKiKP	20 15 26.4	+0.3
	comp=Z,8.6nm,0.5s,baz=81,slow=6.1,SNR=5.8						
FINES	FINESS Array B	150.81	333	PKPbc	PKPbc	20 15 25.9	-0.1
	comp=Z,7.2nm,0.5s,baz=64,slow=3.2,SNR=7.7						
BR131	Keskin Array S	152.97	285		PKPab	20 15 40.2	-3.1
BRTR	Keskin Array B	152.97	285	PKPbc	PKiKP	20 15 31.9	-0.1
	comp=Z,1.0nm,0.4s,baz=135,slow=3.5,SNR=7.0						
BRTR				PKPab	PKPab	20 15 41.6	-1.7
	comp=Z,3.1nm,0.7s,baz=156,slow=3.8,SNR=9.1						

*ATH **28** 19:56:09.8, 36°.49N×28°.74E, h16km±3km, ML2.5/4,*
Manual Solution by S.Liakopoulos First location:
2019/02/28 19:57:58, This location: 2019/02/28 21:35:00
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 4
km; Longitude uncertainty: 1 km
*ISK **28** 19:56:10.5, 36°.47N×28°.75E, h5km, ML2.6/22*
*AFAD **28** 19:56:10.9, 36°.45N×28°.73E, h8km±3km, ML2.4*
ISC 28 19:56:10.8±1.0,**36°.47N**±0'.02×**28°.73E**±0'.02,**h8**km±9km,
n55,σ0°**94**/82,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.33	59	Pg	Pg	19 56 16.9	-0.5
DALY	Dalyan (Mula)	0.35	351	Pg	Pg	19 56 17.8	0.0
DALY				Sg	Sb	19 56 23.8	-1.3
IZZE	Mula-Seydike	0.40	94	P	Pg	19 56 18.1	-0.6
IZZE				S	Sg	19 56 24.2	+0.2
IZZE				*i* AML	AML	19 56 25.0	
	comp=E,624nm,0.4s						
IZZE				*i* AML	AML	19 56 31.0	
	comp=N,1μm,0.4s						
SABU	Mula-Dalaman	0.41	29	P	Pb	19 56 19.4	-0.9
SABU				S	Sb	19 56 25.7	-0.9
SABU				*i* AML	AML	19 56 27.0	
	comp=N,558nm,0.2s						
SABU				*i* AML	AML	19 56 27.0	
	comp=E,326nm,0.2s						
TURN	Turunc	0.49	309	Pg	Pg	19 56 20.5	+0.1
TURN				Sg	Sb	19 56 28.6	-0.5
TURN	Turunc	0.49	309	P	Pg	19 56 20.7	+0.3
TURN				S	Sg	19 56 26.7	-0.3
TURN				*i* AML	AML	19 56 29.0	
	comp=N,217nm,0.6s						
ARG	Arkhangelos	0.55	243	Pg	Pg	19 56 20.9	-0.4
ARG				Sg	Sb	19 56 30.7	+0.1
ARG	Arkhangelos	0.55	243	P	Pg	19 56 21.1	-0.2
ARG				S	Sg	19 56 29.2	+0.7
CAME	Cameli-Denizli	0.67	44	Pg	Pg	19 56 23.4	-0.3
AKAS	Kas	0.75	108	Pg	Pg	19 56 25.0	-0.2
AKAS				Sg	Sb	19 56 36.1	-0.4
AKAS	Kas	0.75	108	P	Pb	19 56 25.5	-0.7
AKAS				S	Sb	19 56 36.8	+0.2
AKAS				*i* AML	AML	19 56 41.0	
	comp=E,238nm,0.6s						
AKAS				*i* AML	AML	19 56 44.0	
	comp=N,466nm,0.6s						
YER	Yerkesik	0.76	332	Pg	Pb	19 56 25.9	-0.4
KSL	Kastellorizon	0.76	114	P	Pg	19 56 25.1	-0.4
KSL				S	Sg	19 56 34.3	-1.0
KNIK	Mula-Seydike	0.78	61	P	Pb	19 56 25.9	-0.7
KNIK				S	Sb	19 56 36.7	-0.7
KNIK				*i* AML	AML	19 56 40.0	
	comp=N,135nm,0.6s						
KNIK				*i* AML	AML	19 56 41.0	
	comp=E,89nm,0.3s						
CAEL	Denizli, Camel	0.81	36	P	Pn	19 56 28.5	-0.1
DNZT	Denizli-Tavas-	0.85	16	P	Pb	19 56 27.6	-0.2
DNZT				S	Sb	19 56 39.0	-0.4
DNZT				*i* AML	AML	19 56 46.0	
	comp=E,55nm,0.8s						
MULA	Mugla, Merkez-	0.85	338	P	Pn	19 56 28.7	-0.5
DAT	Datca	0.96	286	Pg	Pb	19 56 29.5	-0.3
DAT	Datca	0.96	286	P	Pn	19 56 30.2	-0.5
DAT				S	Sb	19 56 43.4	+0.7
DAT				*i* AML	AML	19 56 50.0	
	comp=N,149nm,0.3s						
DAT				*i* AML	AML	19 56 52.0	
	comp=E,86nm,0.3s						
ELL	Elmali	0.99	73	Pg	Pb	19 56 30.1	-0.2
ELL	Elmali	0.99	73	P	Pg	19 56 28.6	-1.3
TAVA	DENIZLI_Tavas	1.01	8	P	Pn	19 56 31.0	-0.4
TAVA				S	Sb	19 56 43.9	-0.1
TAVA				*i* AML	AML	19 56 50.0	
	comp=E,87nm,0.3s						
TAVA				*i* AML	AML	19 56 52.0	
	comp=N,59nm,0.3s						
GOLH	Golhisar	1.02	41	P	Pb	19 56 30.4	-0.4
GOLH				S	Sn	19 56 45.1	-1.0
GOLH				*i* AML	AML	19 56 53.0	
	comp=N,96nm,0.4s						
GOLH				*i* AML	AML	19 56 54.0	
	comp=E,78nm,0.4s						
YAZI	Mula-Dat§a-	1.05	282	P	Pb	19 56 31.2	+0.1
YAZI				S	Sb	19 56 45.4	+0.3
YAZI				*i* AML	AML	19 56 49.0	
	comp=E,64nm,0.3s						
YAZI				*i* AML	AML	19 56 50.0	
	comp=N,51nm,0.2s						
APMY	Acipayam-Deniz	1.10	24	Pn	Pb	19 56 31.9	-0.3
MLSB	Milas	1.12	318	Pn	Pb	19 56 32.5	0.0
DNIZ	Denizli-Tavas-	1.18	12	P	Pn	19 56 33.9	+0.2
DNIZ				S	Sb	19 56 48.8	-0.3
BDRM	Kayabasi	1.19	301	P	Pn	19 56 34.4	+0.6
BDRM				S	Sb	19 56 49.6	+0.4
BDRM				*i* AML	AML	19 56 56.0	
	comp=E,71nm,0.5s						
BODT	Bodrum	1.28	298	Pn	Pg	19 56 35.7	+0.3
AKUM	Antalya-Kumluc	1.31	96	P	Pg	19 56 36.9	+0.9
AKUM				S	Sn	19 56 56.0	+3.0
AKUM				*i* AML	AML	19 56 59.0	
	comp=N,33nm,0.5s						
AKUM				*i* AML	AML	19 57 03.0	
	comp=E,50nm,0.7s						
YKAV	Yalikavak-Bodr	1.33	300	Pn	Pg	19 56 36.3	-0.1
ESEN	Aydn-Nazilli	1.36	347	P	Pg	19 56 37.1	+0.1
ESEN				S	Sg	19 56 54.4	-0.3
ESEN				*i* AML	AML	19 56 59.0	
	comp=E,46nm,0.3s						
ESEN				*i* AML	AML	19 57 01.0	
	comp=N,35nm,0.2s						
AYDN	Tasoluk	1.37	331	P	Pg	19 56 37.6	+0.5
AYDN				S	Sg	19 56 55.8	+0.8
AYDN				*i* AML	AML	19 56 59.0	
	comp=N,103nm,0.6s						
AYDN				*i* AML	AML	19 57 00.0	
	comp=E,95nm,0.3s						
KORT	Korkueli	1.41	67	Pn	Pg	19 56 37.2	-0.7
KORT	Korkueli	1.41	67	P	Pg	19 56 38.9	+1.1
KORT				S	Sg	19 57 01.0	+4.8
KORT				*i* AML	AML	19 57 04.0	
	comp=N,63nm,0.5s						
KORT				*i* AML	AML	19 57 06.0	
	comp=E,89nm,0.7s						
INCE	Denizli-Bozkur	1.41	28	P	Pg	19 56 38.5	+0.5
INCE				S	Sg	19 56 57.7	+1.4
INCE				*i* AML	AML	19 57 01.0	
	comp=N,91nm,0.6s						
INCE				*i* AML	AML	19 57 02.0	
	comp=E,67nm,0.3s						
NAZL	Nazilli-Aydin	1.54	347	Pn	Pb	19 56 39.4	-0.1
KARP	Karpathos	1.56	235	Pn	Pb	19 56 39.7	-0.3
KARP	Karpathos	1.56	235	P	Pn	19 56 37.2	-1.7
KARP				S	Sn	19 56 58.9	-0.5
ANTB	Antalya	1.61	74	Pn	Pb	19 56 40.1	-0.6
AYDB	Zeytinkoy-Aydi	1.62	336	Pn	Pb	19 56 40.7	-0.3
BRDR	BURDUR-Merkez	1.63	41	P	Pg	19 56 42.1	+0.1
BRDR				S	Sg	19 57 04.1	+1.0
BRDR				*i* AML	AML	19 57 10.0	
	comp=E,39nm,0.5s						
BRDR				*i* AML	AML	19 57 12.0	
	comp=N,46nm,0.7s						
BUCA	Burdur, Bucak-	1.70	59	P	Pg	19 56 43.3	-0.2
GCAM	G?zelcaml?	1.71	316	Pn	Pb	19 56 41.7	-0.8
GCAM	G?zelcaml?	1.71	316	P	Pb	19 56 42.2	-0.3
GCAM				S	Sn	19 57 02.3	-0.8
GCAM				*i* AML	AML	19 57 08.0	
	comp=N,79nm,0.2s						
GCAM				*i* AML	AML	19 57 10.0	
	comp=E,56nm,0.4s						
IZMR	zmir-demi	1.78	340	P	Pb	19 56 43.3	-0.3
BCK	Bucak	1.79	56	Pn	Pb	19 56 42.8	-1.1
BASM	Basmaki-Afyon	1.79	36	Pn	Pn	19 56 42.5	+0.4
ODEM	Odemis-Izmir	1.88	344	Pn	Pn	19 56 43.9	+0.6
SMG	Samos	1.96	310	P	Pn	19 56 42.6	-1.7
PASA	Karahalli, USA	1.97	18	P	Pb	19 56 45.7	-1.3
MANT	Manisa	2.03	356	P	Pb	19 56 46.5	-1.5
MANT				S	Sn	19 57 10.5	-0.6
MANT				*i* AML	AML	19 57 14.0	
	comp=N,11nm,0.6s						
MANT				*i* AML	AML	19 57 17.0	
	comp=E,12nm,0.8s						
KULA	Kula-Manisa	2.04	359	Pn	Pn	19 56 46.2	+0.6
ZKR	Zakros	2.44	237	P	Pn	19 56 52.2	+1.2
APE	Apeiranthos	2.63	284	P	Pn	19 56 54.4	+0.7

*SJA **28** 19:57:13.0, 23°.46S×68°.49W, h129km, ML3.5*
*GUC **28** 19:57:15.0±0.6, 23°.50S×68°.44W, h119km±4km, ML3.7*
ISC 28 19:57:14.7±1.7,**23°.47S**±0'.04×**68°.46W**±0'.07,
h120km±13km,**n21**,σ1°**03**/25,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.58	26	*i* P	Pn	19 57 32.2	-1.3
AF01	San Pedro de A	0.58	26	*i* P	Pn	19 57 33.0	-0.5
AF01				*e*S	Sn	19 57 47.0	-0.6
PB06	IPOC Station P	1.28	306	*i* P	Pn	19 57 40.0	+0.3
PB06	IPOC Station P	1.28	306	*e*P	Pn	19 57 40.4	+0.6
PB06				*e*S	Sn	19 57 59.5	+0.7
PB06				IAML		19 58 02.3	
	comp=E,1μm,0.2s						
PB09	IPOC Station P	1.82	336	*i* P	Pn	19 57 46.8	+0.7
PB09	IPOC Station P	1.82	336	*e*P	Pn	19 57 47.2	+1.1
PB03	IPOC Station P	1.85	320	*i* P	Pn	19 57 46.7	+0.2
PB03	IPOC Station P	1.85	320	*e*P	Pn	19 57 47.1	+0.6
PB03				*e*S	Sn	19 58 11.4	+0.6
PB03				IAML		19 58 12.9	
	comp=E,495nm,0.2s						
GO02	Mina Guanaco	1.98	211	*e*P	Pn	19 57 48.6	+0.5
GO02				*e*S	Sn	19 58 14.4	+0.8
GO02				IAML		19 58 16.6	
	comp=N,558nm,0.1s						
PB14	IPOC Station P	2.12	237	*i* P	Pn	19 57 49.4	-0.5
PB14	IPOC Station P	2.12	237	*e*P	Pn	19 57 49.9	0.0
PB14				*e*S	Sn	19 58 17.4	+0.5
PB01	IPOC Station P	2.60	338	*i* P	Pn	19 57 55.6	-0.3
PB01	IPOC Station P	2.60	338	*e*P	Pn	19 57 56.0	+0.2
PB01				*e*S	Sn	19 58 28.4	+1.0
PB01				IAML		19 58 31.4	
	comp=E,249nm,0.2s						
YJA	Yavi	3.01	65	*i* P	Pn	19 58 02.5	+1.0
AC01	Pan de Azucar	3.30	216	*i* P	Pn	19 58 03.7	-1.2
AC01	Pan de Azucar	3.30	216	IAML		19 58 45.4	
	comp=N,141nm,0.1s						
TA01	Diego Aracena	3.31	331	*i* P	Pn	19 58 03.1	-1.9
AC02	Maricunga	3.40	190	IAML		19 58 51.3	
	comp=E,86nm,0.1s						
PB11	IPOC Station P	3.86	343	*i* P	Pn	19 58 10.9	-1.6
PB12	IPOC Station P	5.14	340	*i* P	Pn	19 58 27.3	-2.3
VCA	Vinchina	5.25	178	*i* P	Pn	19 58 30.7	-0.4

*SGS **28** 19:57:24.4, 27°.21N×34°.98E, h19km, Ml2.9*
*GII **28** 19:57:24.5±0.0, 27°.34N±0'.01×35°.070E±0'.001, h6km,*
Mws3.0/4, confirmed
*HLW **28** 19:57:24.9, 27°.13N×34°.88E, h31km±3km, Md2.5, Ml2.6*
ISC 28 19:57:20.7±1.1,**27°.14N**±0'.04×**34°.93E**±0'.05,**h12**km,**n43,**
σ1°**58**/44,**1C, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWLHS	Almuwaylih	0.80	41	P	Pg	19 57 37.9	+1.6
MWLHS	Almuwaylih	0.80	41	S	Sg	19 57 47.2	+0.4
KRABS	KRABS	1.00	17	P	Pg	19 57 40.6	+0.5
AYUS	`Aynunah	1.09	16	P	Pb	19 57 41.1	-0.5
RSHS		1.17	354	P	Pb	19 57 42.8	0.0
RSHS		1.17	354	S	Sb	19 57 55.2	-2.7
HHRG	Al Ghardaqah	1.21	274	P	Pn	19 57 44.3	+0.8
TR1	Tor 1	1.22	315	P	Pn	19 57 44.6	+0.9
BDAS	Al Bad`	1.30	7	P	Pn	19 57 44.8	+0.1
BDAS	Al Bad`	1.30	7	S	Sb	19 57 58.9	-2.8
WJHS		1.37	107	P	Pn	19 57 46.7	+1.0
WJHS		1.37	107	S	Sb	19 58 01.5	-2.3
TAYS	Tayyib Ism	1.41	358	S	Sn	19 58 01.9	-2.9
TAYS	Tayyib Ism	1.41	358	P	Pn	19 57 46.4	+0.2
HKAT	Jabal Katrina	1.61	329	P	Pn	19 57 50.6	+1.4
HKAT				S	Sn	19 58 08.8	-1.2
JLOS		1.67	17	P	Pn	19 57 50.8	+0.9
JLOS		1.67	17	S	Sn	19 58 09.8	-1.6
TBKS	Tabuk	1.79	53	P	Pn	19 57 53.3	+1.8
NADB	Abo Dabab	1.83	192	P	Pn	19 57 53.5	+1.5
EWJHS	Al Wajh	1.83	122	S	Sn	19 58 12.5	-2.6
EWJHS	Al Wajh	1.83	122	P	Pn	19 57 52.9	+0.9
BIDS	Bi'r al Bayda'	1.83	98	P	Pn	19 57 53.8	+1.7
HAQS	Haql	1.91	360	P	Pn	19 57 54.2	+1.1
HAQS	Haql	1.91	360	S	Sn	19 58 15.5	-1.6
JMOS	Jabal al Moall	2.03	5	P	Pn	19 57 56.3	+1.5
HQLS		2.16	3	P	Pn	19 57 57.8	+1.2
UMJ05	UMJ05	2.26	120	P	Pn	19 57 59.4	+1.5
EIL	Elat	2.52	1	P	Pn	19 58 02.6	+1.1
EIL	Elat	2.52	1	S	Sn	19 58 32.9	+0.6
MBRI	Mt Berech	2.65	360	P	Pn	19 58 04.5	+1.1
MBRI	Mt Berech	2.65	360	S	Sn	19 58 36.1	+0.7
HRFI	Mount Harif	2.89	2	⇑P	Pn	19 58 07.7	+1.1
HRFI	Mount Harif	2.89	2	S	Sn	19 58 41.4	0.0
PRNI	Paran	3.21	1	P	Pn	19 58 12.7	+1.8
PRNI	Paran	3.21	1	S	Sn	19 58 49.1	0.0
ZFRI	Zfri	3.41	4	P	Pn	19 58 15.4	+1.7
ZFRI	Zfri	3.41	4	S	Sn	19 58 54.9	+0.7
KZIT	Kziot	3.79	353	P	Pn	19 58 21.3	+2.4
GHAJ	Ghor Haditha	4.19	8	P	Pn	19 58 26.0	+1.6
YTIR	Yattir	4.21	2	P	Pn	19 58 26.8	+1.9
AMAZ	Amatzia	4.38	360	P	Pn	19 58 29.0	+1.9
DSI	Dead Sea	4.44	5	P	Pn	19 58 29.9	+2.1
UJAP	Al Uja	4.82	5	P	Pn	19 58 35.1	+2.0

*SJA **28** 20:00:39.0, 31°.90S×72°.28W, h10km, ML3.7*
*GUC **28** 20:00:42.6±0.8, 31°.99S×71°.96W, h40km±5km, ML3.4*
ISC 28 20:00:39.3±1.8,**31°.91S**±0'.04×**72°.18W**±0'.08,**h8**km±12km,
n38,σ1°**40**/44,**4C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	Catapilco	0.99	131	⇓*i* P	Pg	20 00 58.4	0.0
VA06				*i* S	Sg	20 01 10.3	-0.9
VA06				IAML		20 01 13.8	
	comp=N,5μm,0.3s						
VA01	Torpederas	1.20	158	*i* P	Pg	20 01 02.6	+0.4
VA01	Torpederas	1.20	158	*e*P	Pg	20 01 02.6	+0.4
VA01				*i* S	Sg	20 01 17.0	-0.9
VA01				IAML		20 01 23.3	
	comp=E,537nm,0.2s						
ROCH	El Roble	1.45	137	⇑*i* P	Pn	20 01 06.0	0.0
ROCH				⇑*i* P	Pn	20 01 05.9	0.0
ROCH				*i* S	Sb	20 01 23.8	-1.5
ROCH				*i* S		20 01 24.0	
ROCH				IAML		20 01 27.8	
	comp=N,2μm,0.4s						
ROCH				IAML		20 01 28.2	
	comp=N,1μm,0.4s						
MT02	Curacav	1.61	147	*i* P	Pn	20 01 07.8	-0.1
MT02	Curacav	1.61	147	⇑*i* P	Pn	20 01 08.5	+0.6
MT02				IAML		20 01 36.7	
	comp=E,349nm,0.4s						
VA03	San Esteban	1.62	122	*i* P	Pn	20 01 07.2	-1.0
VA03	San Esteban	1.62	122	⇓*i* P	Pn	20 01 07.8	-0.4
VA03				*i* S	Sn	20 01 27.5	-1.8
VA03				IAML		20 01 34.4	
	comp=E,1μm,0.3s						
CO03	El Peldregal	1.67	50	*i* P	Pn	20 01 06.9	-1.9
PEL	Peldehue	1.76	135	⇑*i* P	Pn	20 01 10.4	+0.3
PEL				*i* S	Sn	20 01 31.6	-1.2
PEL				IAML		20 01 37.6	
	comp=N,743nm,0.2s						
MT05	Renca	1.91	141	*i* P	Pn	20 01 13.0	+0.8
MT10	Hacienda Santa	1.94	135	*i* S	Sn	20 01 37.3	-0.1

350nm,0.3s
MRKS Merke 0.81 43 *e*P **Pg 20 06 16.8 +0.6**
18nm,0.1s
MRKS *e*S **Sg 20 06 27.8 +1.1**
350nm,0.3s
AML Almayashu 0.91 91 ⇑P **Pg 20 06 18.6 +0.6**
67nm,0.1s,SNR=331
AML ⇓S **Sb 20 06 31.3 -0.5**
152nm,0.2s
AML Almayashu 0.91 91 ⇑*i*P **Pg 20 06 18.3 +0.3**
AML ⇑*i*S **Sb 20 06 30.9 -0.9**
EKS2 Erkin-Say 1.09 62 ⇓P **Pg 20 06 21.9 +0.4**
20nm,0.2s,SNR=44
EKS2 ⇓S **Sb 20 06 36.6 -0.2**
41nm,0.2s
EKS2 Erkin-Say 1.09 62 ⇓*i*P **Pg 20 06 21.3 -0.2**
EKS2 ⇓*i*S **Sg 20 06 35.9 +0.3**
TRKS Terek-Say 1.18 238 ⇑*i*P **Pg 20 06 22.9 -0.3**
TRKS ⇑*i*S **Sg 20 06 38.6 +0.1**
ARLS Aral 1.41 101 ⇑*i*P **Pn 20 06 27.3 0.0**
ARLS ⇑*i*S **Sn 20 06 46.4 0.0**
UCH Uchtor 1.52 87 ⇑P **Pg 20 06 29.9 +0.2**
7.2nm,0.1s,SNR=9.8
UCH ⇑S **Sn 20 06 50.0 +0.5**
59nm,0.3s
UCH Uchtor 1.52 87 ⇓*i*P **Pn 20 06 29.0 -0.1**
UCH ⇓*i*S **Sn 20 06 49.6 +0.1**
AAK Ala-Archa 1.57 71 ⇓P **Pb 20 06 30.6 +0.2**
31nm,0.2s,SNR=36
AAK ⇓S **Sg 20 06 51.6 +0.5**
46nm,0.2s
AAK Ala-Archa 1.57 71 P **Pb 20 06 30.6 +0.2**
3.5nm,0.3s
AAK S **Sg 20 06 54.8 +3.7**
29nm,0.5s
AAK Ala-Archa 1.57 71 ⇓*i*P **Pn 20 06 29.8 +0.3**
AAK ⇓*i*S **Sb 20 06 50.8 +0.1**
SALK Salom-Alik 1.62 141 ⇑*i*P **Pb 20 06 31.1 -0.2**
SALK ⇑*i*S **Sg 20 06 52.9 +0.2**
OHH Osh 1.65 172 ⇓*i*P **Pb 20 06 31.3 -0.3**
OHH ⇓*i*S **Sb 20 06 53.2 +0.4**
FRU1 Bishkek 1.72 67 ⇑*i*P **Pb 20 06 32.4 -0.5**
FRU1 ⇑*i*S **Sb 20 06 55.0 0.0**
KK31 Karatay Array 1.73 304 ⇑P **Pb 20 06 32.5 -0.6**
39nm,0.5s,baz=117,slow=17,SNR=300
KK31 ⇑S **Sb 20 06 55.7 +0.4**
180nm,0.3s,baz=124,slow=28,SNR=22
KKAR Karatay Array 1.73 304 ⇓*i*P **Pn 20 06 31.8 +0.1**
KKAR ⇓*i*S **Sn 20 06 54.3 0.0**
USP Ospenovka 1.86 53 P **Pb 20 06 35.5 +0.2**
SNR=77
USP Ospenovka 1.86 53 ⇑*i*P **Pn 20 06 34.2 +0.8**
USP ⇑*i*S **Sb 20 06 58.5 -0.4**
CHMS Chumysh 1.88 63 ⇓P **Pb 20 06 36.0 +0.4**
17nm,0.2s,SNR=18
CHMS ⇑S **Sg 20 07 01.5 +0.5**
107nm,0.2s
CHMS Chumysh 1.88 63 Pg **Pg 20 06 40.5 +3.9**
7.7nm,0.1s
CHMS Lg Lg 20 07 09.7
63nm,0.2s
CHMS Chumysh 1.88 63 ⇑*i*P **Pn 20 06 34.3 +0.6**
CHMS ⇑*i*S **Sb 20 06 58.8 -0.7**
KBK Karagaybulak 1.90 74 ⇓P **Pb 20 06 36.5 +0.5**
20nm,0.1s,SNR=74
KBK ⇓S **Sg 20 07 01.8 +0.2**
203nm,0.3s
KBK Karagaybulak 1.90 74 ⇓*i*P **Pb 20 06 35.2 -0.8**
KBK ⇓*i*S **Sb 20 06 59.9 -0.2**
SGDS Sogindy 2.05 50 Pg **Pb 20 06 38.8 +0.3**
10nm,0.2s
SGDS Lg Lg 20 07 06.0
253nm,0.2s
BRLS Boroldaу 2.14 295 Pg **Pb 20 06 39.8 -0.2**
41nm,0.4s
BRLS Lg Lg 20 07 08.3
186nm,0.3s
BRLS Boroldaу 2.14 295 *e*P **Pb 20 06 40.0 0.0**
41nm,0.4s
BRLS *e*S **Sg 20 07 08.5 -0.8**
186nm,0.3s
CHM Chimkent 2.14 275 *e*P **Pg 20 06 42.5 +0.8**
59nm,0.2s
CHM *e*S **Sg 20 07 11.8 +2.4**
548nm,0.4s
SFK Sufi-Kurgan 2.28 160 ⇑*i*P **Pn 20 06 40.6 +1.3**
SFK ⇑*i*S **Sn 20 07 09.2 +1.2**
TKM2 Tokmak 2 2.43 71 ⇓P **Pb 20 06 45.2 +0.1**
35nm,0.3s,SNR=51
TKM2 Tokmak 2 2.43 71 ⇑*i*P **Pn 20 06 42.3 +0.9**
TKM2 ⇑*i*S **Sn 20 07 12.3 +0.6**
BTK Batken 2.44 211 ⇑*i*P **Pn 20 06 42.4 +1.0**
BTK ⇑*i*S **Sn 20 07 12.5 +0.7**
BOOM Boomskoye usch 2.59 81 ⇑*i*P **Pn 20 06 44.8 +1.2**
BOOM ⇑*i*S **Sn 20 07 16.6 +1.0**
DGS Degeres 2.66 65 Pg **Pb 20 06 49.3 +0.3**
9.6nm,0.2s
DGS Lg Lg 20 07 23.8
62nm,0.4s
DRK Karamyk 2.72 191 ⇓*i*P **Pn 20 06 46.7 +1.2**
DRK ⇓*i*S **Sn 20 07 20.1 +1.1**
KST Kastek 2.72 70 Pg **Pb 20 06 49.7 -0.4**
9.7nm,0.4s
KST Lg Lg 20 07 25.2
235nm,0.5s
KST Kastek 2.72 70 *e*P **Pb 20 06 50.0 -0.1**
9.7nm,0.4s
KST *e*S **Sb 20 07 25.2 +1.3**
235nm,0.5s
ULHL Ulahol 2.80 87 ⇑del 20 06 51.4
14nm,0.2s,SNR=21
ULHL Ulahol 2.80 87 ⇑*i*P **Pn 20 06 47.7 +1.2**
ULHL ⇑*i*S **Sn 20 07 21.8 +1.0**
KRBS Karabastau 2.81 56 Pg **Pb 20 06 51.8 +0.3**
5.5nm,0.2s
KRBS Lg Lg 20 07 27.9
60nm,0.2s
MTBS Maitube 3.07 70 Pg **Pb 20 06 57.4 +1.4**
3.1nm,0.2s
MTBS Lg Lg 20 07 37.6
53nm,0.3s
MTBS Maitube 3.07 70 *e*P **Pb 20 06 57.4 +1.4**
3.1nm,0.2s
MTBS *e*S **Sg 20 07 37.6 -1.8**
53nm,0.3s
BTLS Baital 3.10 21 *e*P **Pb 20 06 56.6 +0.2**
5.8nm,0.2s
BTLS *e*S **Sb 20 07 35.9 +1.3**
25nm,0.2s
IZV Izvestkoviy 3.18 73 Pg **Pb 20 06 57.2 -0.7**
8.6nm,0.3s
IZV Lg Lg 20 07 39.0
65nm,0.4s
IZV Izvestkoviy 3.18 73 *e*P **Pb 20 06 57.9 0.0**
8.6nm,0.3s
IZV *e*S **Sb 20 07 38.8 +1.8**
65nm,0.4s
TNSS Tian-Shan 3.42 74 Pg **Pb 20 07 03.3 +1.3**
14nm,0.3s
TNSS Lg Lg 20 07 48.3
25nm,0.5s
TNSS Tian-Shan 3.42 74 *e*P **Pb 20 07 03.3 +1.3**
14nm,0.3s
TNSS *e*S **Sg 20 07 48.1 -2.3**
25nm,0.3s
KTBS Karatobe 3.46 62 Pg **Pb 20 07 03.9 +1.4**
2.2nm,0.2s
KTBS Lg Lg 20 07 49.3
4.1nm,0.3s
KNDC Almaty 3.48 71 ⇑Pg **Pg 20 07 05.2 -2.0**
8.2nm,0.3s
KNDC ⇑Lg Lg 20 07 51.1
42nm,0.4s
KDJ Kajisay 3.50 89 ⇑*i*P **Pn 20 06 57.5 +1.4**
KDJ ⇑*i*S **Sn 20 07 38.8 +0.8**
MDOK Medeo 3.52 72 Pg **Pb 20 07 03.0 -0.6**
0.2nm,0.4s
MDOK Lg Lg 20 07 47.1
0.3nm,0.4s
MDOK Medeo 3.52 72 *e*P **Pb 20 07 03.7 +0.1**
0.2nm,0.4s
MDOK *e*S **Sb 20 07 48.4 +1.6**
0.3nm,0.4s
GAR Garm 3.56 208 ⇑*i*P **Pn 20 06 57.9 +1.1**
GAR ⇑*i*S **Sn 20 07 39.5 +0.1**
KOTS Kotyrbulak 3.58 71 Pg **Pb 20 07 06.6 +1.9**
8.0nm,0.3s
KOTS Lg Lg 20 07 53.5
31nm,0.4s
KOTS Kotyrbulak 3.58 71 *e*P **Pb 20 07 06.6 +1.9**
8.0nm,0.3s
KOTS *e*S **Sg 20 07 53.5 -2.2**
31nm,0.4s
CHKK Chushkaly 3.72 61 Pg **Pb 20 07 08.9 +1.9**
1.5nm,0.2s
CHKK Lg Lg 20 07 57.3
34nm,0.2s
CHKK Chushkaly 3.72 61 *e*P **Pb 20 07 08.9 +1.9**
1.5nm,0.2s
CHKK *e*S **Sg 20 07 57.3 -2.8**
34nm,0.2s
ANVS Anan'yevo 3.89 79 ⇓*i*P **Pn 20 07 02.8 +1.3**
ANVS ⇓*i*S **Sn 20 07 47.8 +0.1**
KURS Kuram 4.39 70 Pg **Pb 20 07 20.8 +2.3**
4.2nm,0.4s
KURS Lg Lg 20 08 18.4
8.5nm,0.5s
KURS Kuram 4.39 70 *e*P **Pn 20 07 08.9 +0.6**
1.5nm,0.2s
KURS *e*S **Sn 20 07 57.3 -2.7**
34nm,0.2s
ARXS Arharly 4.42 60 Pg **Pb 20 07 22.0 +3.1**
6.9nm,0.2s
ARXS Lg Lg 20 08 20.0
68nm,0.3s
SATY Saty 4.47 76 Pg **Pg 20 07 23.4 -2.8**
2.8nm,0.4s
SATY Lg Lg 20 08 22.5
19nm,0.4s
SATY Saty 4.47 76 *e*P **Pb 20 07 22.1 +2.3**
6.9nm,0.2s
SATY *e*S **Sg 20 08 20.0 -4.2**
68nm,0.3s
ZHN Zhinishke 4.51 75 Pg **Pb 20 07 23.8 +3.3**
1.5nm,0.2s
ZHN Lg Lg 20 08 22.7
15nm,0.2s
ZHN Zhinishke 4.51 75 *e*P **Pb 20 07 23.8 +3.3**
1.5nm,0.2s
ZHN *e*S **Sg 20 08 22.7 -2.8**
15nm,0.2s
KPKS Kokpek 4.75 72 Pg **Pb 20 07 28.0 +3.4**
3.1nm,0.4s
KPKS Lg Lg 20 08 30.0
21nm,0.4s
KPKS Kokpek 4.75 72 *e*P **Pb 20 07 28.0 +3.4**
3.1nm,0.4s
KPKS *e*S **Sg 20 08 30.0 -3.2**
21nm,0.4s
BLB Baldybastay 4.80 64 Pg **Pb 20 07 27.3 +1.8**
16nm,0.1s
BLB Lg Lg 20 08 30.0
18nm,0.5s
UZB Uzynbulak 4.93 76 Pg **Pg 20 07 32.2 -2.8**
9.2nm,0.3s
UZB Lg Lg 20 08 37.7
12nm,0.7s
UZB Uzynbulak 4.93 76 *e*P **Pg 20 07 32.2 -2.8**
9.2nm,0.3s
UZB *e*S **Sg 20 08 37.7 -1.2**
12nm,0.7s
TDK Taldyqorghan 5.16 55 Pg **Pb 20 07 34.8 +3.3**
4.5nm,0.1s
TDK Lg Lg 20 08 41.3
14nm,0.2s
TDK Taldyqorghan 5.16 55 *e*P **Pb 20 07 34.8 +3.3**
4.5nm,0.1s
TDK *e*S **Sg 20 08 41.3 -5.1**
14nm,0.2s
SHLS Shalkode 5.25 77 Pg **Pg 20 07 42.7 +1.5**
2.3nm,0.3s
SHLS Lg Lg 20 08 55.1
8.0nm,0.4s
SHLS Shalkode 5.25 77 *e*P **Pg 20 07 44.6 +3.4**
5.1nm,0.5s
SHLS *e*S Sg 20 08 58.8 +10
11nm,0.5s
PDGK Podgornoye 5.30 75 ⇑Pg **Pb 20 07 36.6 +2.7**
2.8nm,0.6s
PDGK ⇓Lg Lg 20 08 50.7
9.2nm,0.8s
KNOS Konyrlen 5.37 64 Pg **Pb 20 07 38.0 +2.9**
0.9nm,0.2s
KNOS Lg Lg 20 08 47.2
9.6nm,0.2s
DJR Jarkent 5.77 65 Pg **Pg 20 07 47.5 -3.6**
1.2nm,0.3s
DJR Lg Lg 20 09 03.2
6.3nm,0.4s
DJR Jarkent 5.77 65 *e*P **Pg 20 07 47.5 -3.6**
1.2nm,0.3s
DJR *e*S **Sg 20 09 03.2 -2.6**
6.3nm,0.4s
KAPS Kapalarasan 5.88 56 Pg **Pb 20 07 47.5 +3.6**
1.4nm,0.3s
KAPS Lg Lg 20 09 03.5
13nm,0.5s
OTUK Ortayu 6.09 359 ⇑Pn **Pn 20 07 32.4 +0.9**
1.0nm,0.3s
OTUK ⇓Sn **Sn 20 08 40.8 -0.9**
3.9nm,0.5s
OTUK ⇑Lg Lg 20 09 13.9
14nm,0.7s
MAKZ Makanchi 8.23 52 ⇑Pn **Pn 20 08 02.5 +1.6**
0.6nm,0.7s
MAKZ ⇑Sn **Sn 20 09 37.1 +2.8**
1.1nm,0.8s
MAKZ ⇑Lg Lg 20 10 20.7
2.9nm,0.9s
MK31 Makanchi Array 8.41 53 ⇓Pn **Pn 20 08 05.6 +2.3**
0.2nm,0.3s,baz=236,slow=13,SNR=19
MK31 ⇓Sn **Sn 20 09 41.0 +2.2**
0.7nm,0.6s,baz=236,slow=22,SNR=5.0
MK31 ⇓Lg Lg 20 10 27.4
2.4nm,0.8s,baz=242,slow=25,SNR=4.1
KURBB Kurchatov Arra 9.44 24 ⇑Pn **Pn 20 08 19.7 +2.3**
1.0nm,0.3s
KURBB ⇑Lg Lg 20 11 04.2
8.5nm,0.7s
KURK Kurchatov 9.55 24 ⇑Pn **Pn 20 08 19.3 +0.3**
0.4nm,0.3s
KURK ⇑Lg Lg 20 11 03.2
8.7nm,1.3s
BVA0 Borovoye Array 10.97 353 ⇑Pn **Pn 20 08 36.7 -1.7**
0.9nm,0.6s,baz=157,slow=12,SNR=6.7
BVA0 Sn **Sn 20 10 43.9 +2.4**
1.0nm,0.5s,baz=165,slow=21,SNR=5.5
BVA0 ⇓Lg Lg 20 11 48.7
8.6nm,1.2s
BRVK Borovoye 11.01 353 ⇑Pn **Pn 20 08 36.1 -2.7**
1.3nm,0.6s
BRVK ⇑Sn **Sn 20 10 42.9 +0.4**
1.5nm,0.6s
BRVK ⇑Lg Lg 20 11 50.6
4.9nm,1.1s
AB31 Akbulak array 11.27 313 ⇑Pn **Pn 20 08 40.4 -2.1**
1.4nm,0.6s,baz=120,slow=15,SNR=26
AB31 ⇑Sn **Sn 20 10 46.3 -2.6**
1.1nm,0.8s,baz=118,slow=23,SNR=2.8
AKTO Aktyubinsk 12.97 315 ⇓Pn **Pn 20 09 04.1 -1.6**
1.3nm,0.8s
AKTO ⇑Sn **Sn 20 11 30.8 +0.4**
1.3nm,1.2s

AFAD ***28*** *20:09:20.0,37°.45N×20°.51E,h15km,MW4.5*
BJI ***28*** *20:09:22.2,37°.61N×20°.83E,h15km,mB5.0/14,mb4.6/47, Ms4.6/11,Ms7 4.2/13*
MOS ***28*** *20:09:23.0±1.1,37°.59N×20°.91E,h10km,mb5.0/33, MS4.2/6,Error ellipse: s-maj=5.3km s-min=2.8km az=70.1*
IDC ***28*** *20:09:23.3±0.5,37°.65N×21°.00E,h0km,mb4.7/29, mbtmp4.5/44,ML4.0/13,MS4.1/67, Error ellipse: s-maj=10.2km s-min=9.8km az=2.0*
HLW ***28*** *20:09:24.6,37°.72N×21°.42E,h9km±19km,Ml4.8*
NEIC ***28*** *20:09:25.9±2.0,37°.65N±0°.05×20°.94E±0°.05,h10km±1km, mb4.9/150,Error ellipse: s-maj=9.0km s-min=6.8km az=196.0*
MCSM ***28*** *20:09:25.9±0.3,38°.N±3°×2°.1E±°,h10km,mb4.5,mB5.0, MLv5.0,Mw(mB)4.4*
MED_RC ***28*** *20:09:26.0±0.5,37°.51N×21°.03E,h14km±3km,MW4.8/18, Moment Tensor Solution.Mantle waves: s18,c22; Duration: 1ŝ2 Moment tensor: Scale 10^16Nm; Mrr0.55±.13; Mθθ-0.04±.06; Mφφ-0.50±.09; Mθφ1.40±.39; Mθθ0.44±.05; Mθr-1.03±.28; Best double couple: M0 1.87000×10^16 NP1:φs356.00000°,δ14.00000°, λ138.00000°. NP2:φs127.00000°,δ81.00000°,λ79.00000°. Principal axes: T 1.8200, Plg53.0000°, Azm25.0000°; N 0.1000, Plg10.0000°, Azm129.0000°; P -1.9200, Plg35.0000°, Azm226.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***28*** *20:09:27.2,37°.55N×20°.91E,h13km±1km,ML4.5/10 Error ellipse: s-maj=2.0km s-min=0.9km az=25.0*
ATH ***28*** *20:09:27.9,37°.63N×20°.93E,h13km,Mw4.6,Moment Tensor Solution. s11 Moment tensor: Mrr2.09; Mθθ1.45; Mφφ-3.54; Mrθ7.22; Mθφ1.86; Mφr-6.78; Fault plane solution: NP1:φs133.00000°,δ83.00000°, λ76.00000°. NP2:φs18.00000°,δ16.00000°,λ154.00000°.*
GCMT ***28*** *20:09:28.9±0.4,37°.63N±0°.03×20°.79E±0°.03,h24km±2km, MW4.9/54,Moment Tensor Solution. s36,c40; s54,c65; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.46±.16; Mθθ-0.15±.10; Mφφ-1.31±.10; Mrθ2.37±.24; Mθφ0.35±.06; Mφr-0.97±.13; Best double couple: M0 2.86100×10^16 NP1:φs354.00000°,δ20.00000°,λ140.00000°. NP2: φs122.00000°,δ78.00000°,λ75.00000°. Principal axes: T 3.2350, Plg55.0000°, Azm13.0000°; N -0.7490, Plg15.0000°, Azm125.0000°; P -2.4880, Plg31.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NAO ***28*** *20:09:58.6,40°.72N×21°.01E,h33km,mb4.2*
ISC 28 20:09:25.8±0.5,37°.61N±0°.02×21°.02E±0°.02,h16km±3km, n770,σ1ŝ92/709,mB4.8/139,MS4.2/54,46C-43D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.18**	**304**	P	**Pb**	**20 09 32.0**	**+1.3**
LTHK				S	**Sg**	**20 09 34.3**	**+1.1**
378µm,0.3s							
CLEM	**Kyllini,Ilia,G**	**0.29**	**17**	P	**Pn**	**20 09 34.1**	**-1.3**
CLEM				S	**Sb**	**20 09 38.1**	**+0.7**
ORTH	**Orthonies,Zaky**	**0.35**	**313**	P	**Pb**	**20 09 34.1**	**+0.4**
ORTH				S	**Sg**	**20 09 37.8**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.51**	**337**	P	**Pb**	**20 09 37.0**	**+0.7**
RTZL				S	**Sb**	**20 09 44.6**	**+1.1**
49µm,0.6s							
AMT	**Artemida-Makis**	**0.55**	**98**	P	**Pn**	**20 09 39.5**	**+0.5**
RLS	**Riolos of Patr**	**0.57**	**38**	P	**Pn**	**20 09 39.1**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.61**	**326**	P	**Pb**	**20 09 38.7**	**+0.6**
PSDA				S	**Sb**	**20 09 47.7**	**+1.2**
55µm,0.3s							
PSDA	**Pessada-Kefalo**	**0.61**	**326**	P	**Pn**	**20 09 38.9**	**-0.9**
DRO	**Drossia**	**0.64**	**58**	P	**Pn**	**20 09 40.5**	**+0.2**
DRO				S	**Sn**	**20 09 52.9**	**+2.7**
56µm,0.4s							
DRO	**Drossia**	**0.64**	**58**	P	**Pn**	**20 09 40.8**	**+0.5**
VLS	**Valsamata**	**0.66**	**329**	P	**Pn**	**20 09 39.8**	**-0.7**
SMHA	**Samh**	**0.71**	**335**	P	**Pb**	**20 09 40.0**	**+0.3**
DMLN	**Damoulianata-K**	**0.81**	**321**	P	**Pn**	**20 09 42.7**	**+0.1**
DMLN				S	**Sn**	**20 09 55.0**	**+0.7**
55µm,0.7s							
DMLN	**Damoulianata-K**	**0.81**	**321**	P	**Pn**	**20 09 42.3**	**-0.3**
ITM	**Ithomi**	**0.84**	**120**		**Pn**	**20 09 43.8**	**+0.9**
ITM	**Ithomi**	**0.84**	**120**	P	**Pn**	**20 09 44.6**	**+1.6**
UPR	**University Cam**	**0.91**	**42**	P	**Pn**	**20 09 45.5**	**+1.6**
UPR				S	**Sn**	**20 10 01.1**	**+4.5**
FSK	**Fiskardo**	**0.92**	**337**	P	**Pn**	**20 09 44.2**	**+0.1**
FSK				S	**Sn**	**20 09 59.1**	**+2.0**
24µm,0.7s							
FSK	**Fiskardo**	**0.92**	**337**	P	**Pn**	**20 09 44.6**	**+0.5**
KLV	**Kalavryta, Ach**	**0.99**	**64**	P	**Pn**	**20 09 46.5**	**+1.4**
EVGI	**Lefkada island**	**1.05**	**344**	P	**Pn**	**20 09 46.2**	**+0.3**
EVGI				S	**Sn**	**20 10 03.0**	**+2.8**
20µm,0.5s							
EVGI	**Lefkada island**	**1.05**	**344**	P	**Pn**	**20 09 46.9**	**+1.0**
EFP	**Efpalio**	**1.07**	**40**	P	**Pn**	**20 09 47.4**	**+1.2**
EFP				S	**Sn**	**20 10 04.5**	**+3.7**
17µm,1.1s							
EFP	**Efpalio**	**1.07**	**40**	P	**Pn**	**20 09 47.7**	**+1.5**
PVO	**Paravola**	**1.08**	**21**	P	**Pn**	**20 09 48.1**	**+1.8**
GUR	**Goura**	**1.10**	**72**	P	**Pn**	**20 09 47.8**	**+1.2**
GUR				S	**Sn**	**20 10 06.1**	**+4.6**
27µm,0.9s							
GUR	**Goura**	**1.10**	**72**	P	**Pn**	**20 09 48.6**	**+2.0**
DRAG	**Dragano-Lefkad**	**1.13**	**342**	P	**Pg**	**20 09 47.8**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.13**	**342**	P	**Pg**	**20 09 48.1**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.13**	**347**	P	**Pg**	**20 09 48.2**	**+0.5**
NYDR				S	**Sn**	**20 10 05.2**	**+3.0**
13µm,0.6s							
KALE	**Kalithea**	**1.18**	**48**	P	**Pg**	**20 09 49.7**	**+1.1**
KALE	**Kalithea**	**1.18**	**48**	P	**Pg**	**20 09 49.7**	**+1.1**
ANX	**Ano Chora**	**1.21**	**36**	P	**Pg**	**20 09 50.4**	**+1.2**
ANX	**Ano Chora**	**1.21**	**36**	P	**Pg**	**20 09 50.3**	**+1.0**
LKD2	**Lefkada island**	**1.21**	**346**	P	**Pg**	**20 09 49.5**	**+0.2**
LKD2	**Lefkada island**	**1.21**	**346**	P	**Pg**	**20 09 49.4**	**+0.2**
TSLK	**Tsoukalades, L**	**1.25**	**347**	P	**Pg**	**20 09 50.4**	**+0.5**
TSLK	**Tsoukalades, L**	**1.25**	**347**	P	**Pg**	**20 09 50.3**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.65**	**32**	P	**Pg**	**20 09 57.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.65**	**32**	P	**Pg**	**20 09 57.2**	**-0.3**
KRND	**KRANIDI**	**1.71**	**97**	P	**Pg**	**20 09 58.5**	**-0.1**
KRND	**KRANIDI**	**1.71**	**97**	P	**Pg**	**20 09 58.0**	**-0.6**
AXAR	**Agios Charalam**	**1.73**	**48**	P	**Pg**	**20 09 58.8**	**-0.3**
AXAR	**Agios Charalam**	**1.73**	**48**	P	**Pg**	**20 09 58.4**	**-0.6**
VLI	**Veliai**	**1.77**	**120**	P	**Pg**	**20 09 59.3**	**-0.5**
MET5	**Makryloggos,Me**	**1.85**	**89**	P	**Pg**	**20 10 00.4**	**-1.0**
MET6	**Megalochori,Me**	**1.85**	**90**	P	**Pg**	**20 10 00.4**	**-1.0**
LKR	**Lokris**	**1.87**	**56**	P	**Pb**	**20 10 00.5**	**+0.8**
VIL2	**Platees**	**1.88**	**71**	P	**Pb**	**20 10 00.8**	**-1.0**
MET4	**Agioi Theodoro**	**1.89**	**89**	P	**Pb**	**20 10 00.5**	**+0.6**
VILL	**Villia**	**1.90**	**72**	P	**Pb**	**20 10 00.8**	**+0.8**
LFKM	**Lefkimmi**	**1.98**	**338**	P	**Pb**	**20 10 01.9**	**+0.4**
IGT	**Igoumenitsa**	**2.00**	**344**	P	**Pb**	**20 10 01.3**	**-0.4**
IGT	**Igoumenitsa**	**2.00**	**344**	P	**Pb**	**20 10 00.3**	**-1.4**
JAN	**Janina**	**2.05**	**356**	P	**Pb**	**20 10 02.2**	**-0.5**
THL	**Klokotos Trika**	**2.10**	**21**	P	**Pb**	**20 10 02.6**	**-0.9**
ATH	**Athens Observa**	**2.17**	**80**	P	**Pb**	**20 10 04.4**	**-0.2**
NOAC	**Athens-Thissio**	**2.17**	**80**	P	**Pb**	**20 10 04.5**	**-0.2**
VLY	**Voula,Athens**	**2.21**	**83**	P	**Pb**	**20 10 04.8**	**-0.6**
PTL	**Penteli**	**2.29**	**78**	P	**Pb**	**20 10 06.4**	**-0.4**
TYRN	**Tyrnavos**	**2.30**	**24**	P	**Pb**	**20 10 06.3**	**-0.7**
TYRN	**Tyrnavos**	**2.30**	**24**	P	**Pb**	**20 10 06.4**	**-0.5**
KEK	**Kerkira**	**2.31**	**336**		**Pb**	**20 10 04.5**	**+1.3**
KEK	**Kerkira**	**2.31**	**336**	P	**Pb**	**20 10 05.9**	**-1.2**
LRSO	**Larissa Observ**	**2.32**	**27**	P	**Pb**	**20 10 06.1**	**-1.2**
DION	**Dionisos Attik**	**2.35**	**78**	P	**Pb**	**20 10 07.0**	**-0.8**
SRN	**Sarande**	**2.41**	**341**	P	**Pb**	**20 10 06.7**	**-2.0**
NEO	**Neokhori**	**2.42**	**45**	P	**Pb**	**20 10 07.9**	**-1.0**
XOR	**Xorichti**	**2.44**	**43**	P	**Pb**	**20 10 08.4**	**-1.0**
XOR	**Xorichti**	**2.44**	**43**	P	**Pb**	**20 10 08.1**	**-1.3**
ANKY	**Antikythira Is**	**2.52**	**133**	P	**Pb**	**20 10 10.0**	**-0.8**
LSK	**Leskovik**	**2.56**	**353**	P	**Pb**	**20 10 09.2**	**-2.2**
KYMI	**Kymi, Euboea I**	**2.63**	**66**	P	**Pb**	**20 10 11.0**	**-1.6**
KARY	**Karystos**	**2.74**	**80**	P	**Pb**	**20 10 12.1**	**-2.3**
KARY	**Karystos**	**2.74**	**80**	P	**Pb**	**20 10 12.2**	**-2.1**
LIT	**Litokhoron**	**2.74**	**24**	Pn	**Pb**	**20 10 10.8**	**+1.7**
LIT	**Litokhoron**	**2.74**	**24**	P	**Pn**	**20 10 11.5**	**+2.4**
LIT	**Litokhoron**	**2.74**	**24**	P	**Pn**	**20 10 10.8**	**+1.7**
LIT	**Litokhoron**	**2.74**	**24**	P	**Pb**	**20 10 11.9**	**-2.5**
NEST	**Nestorio**	**2.80**	**0**	P	**Pb**	**20 10 14.0**	**-1.6**
KBN	**Korca**	**3.02**	**357**		**Pn**	**20 10 14.4**	**+1.4**
KBN	**Korca**	**3.02**	**357**	P	**Pn**	**20 10 14.4**	**+1.4**
SCTE	**Santa Cesarea**	**3.17**	**322**	Pn	**Pn**	**20 10 15.5**	**+0.6**
SCTE	**Santa Cesarea**	**3.17**	**322**	P	**Pn**	**20 10 15.3**	**+0.3**
PLG	**Polygyros**	**3.34**	**34**	P	**Pn**	**20 10 19.9**	**+2.4**
THE	**Thessaloniki**	**3.38**	**26**	P	**Pn**	**20 10 20.5**	**+2.7**
OHR	**Ohrid**	**3.50**	**357**	*i* Pn	**Pn**	**20 10 23.1**	**+3.5**
OUR	**Ouranopolis**	**3.57**	**39**	P	**Pn**	**20 10 23.4**	**+2.9**
APE	**Apeiranthos**	**3.63**	**97**	P	**Pn**	**20 10 24.8**	**+3.3**
APE	**Apeiranthos**	**3.63**	**97**	*c iP*	**Pn**	**20 10 23.6**	**+2.2**
APE	**Apeiranthos**	**3.63**	**97**	P	**Pn**	**20 10 23.6**	**+2.2**
TIP	**Timpagrande**	**3.70**	**296**	Pn	**Pn**	**20 10 22.6**	**+0.2**
TIP	**Timpagrande**	**3.70**	**296**	⇓P	**Pn**	**20 10 23.1**	**+0.8**
TIP	**Timpagrande**	**3.70**	**296**	P	**Pn**	**20 10 23.0**	**+0.7**
TIP	**Timpagrande**	**3.70**	**296**	P	**Pn**	**20 10 22.5**	**+0.2**
KNT	**Kendrikon**	**3.83**	**22**	P	**Pn**	**20 10 27.0**	**+2.8**
TIR	**Tirane**	**3.84**	**347**	Pn	**Pn**	**20 10 25.0**	**+0.8**
TIR	**Tirane**	**3.84**	**347**	⇓P	**Pn**	**20 10 26.2**	**+1.9**
TIR	**Tirane**	**3.84**	**347**	P	**Pn**	**20 10 25.0**	**+0.8**
TIR	**Tirane**	**3.84**	**347**	P	**Pn**	**20 10 26.1**	**+1.9**

TIR Tirane 3.84 347 P **Pn 20 10 26.0 +1.8**
MESG Mesagne 3.87 321 P **Pn 20 10 24.9 +0.4**
IDI Anoyia 3.88 125 **Pn 20 10 27.0 +2.1**
IDI Anoyia 3.88 125 Pn **Pn 20 10 25.3 +0.4**
11nm,0.3s,baz=236,slow=7.1,SNR=21
IDI Pg **Pb 20 10 34.5 +0.6**
7.6nm,0.3s,baz=344,slow=15,SNR=8.0
IDI Sn **Sn 20 11 10.3 +0.1**
21nm,0.3s,baz=17,slow=23,SNR=5.8
IDI LR LR 20 12 16.4
comp=Z,2μm,21.8s,baz=298,slow=44
IDI Anoyia 3.88 125 P **Pn 20 10 27.2 +2.4**
VAY Valandovo 3.90 17 *i* Pn **Pn 20 10 27.6 +2.6**
KOKK Kokkinochori, 3.95 35 P **Pn 20 10 28.5 +2.7**
LIA Limnos Island 3.98 54 P **Pn 20 10 28.9 +2.8**
SRS Serrai 4.03 29 P **Pn 20 10 29.1 +2.2**
CEL Celeste 4.11 281 **Pn 20 10 27.6 -0.3**
CEL Celeste 4.11 281 P **Pn 20 10 27.9 0.0**
CEL Celeste 4.11 281 P **Pn 20 10 27.8 -0.1**
KARB zmir-Karabur 4.38 74 P **Pn 20 10 35.3 +3.7**
ZEYE Izmir, Urla-Ze 4.38 80 P **Pn 20 10 35.8 +4.1**
KOCA Canakkale, Ayv 4.43 63 P Pn 20 10 37.6 +5.2
URLA Izmir 4.47 79 P **Pn 20 10 35.8 +2.9**
PUK Puka 4.51 349 **Pn 20 10 34.6 +1.1**
BOZC Bozcaada 4.52 59 P **Pn 20 10 37.6 +4.0**
MATE Matera 4.53 313 ⇓P **Pn 20 10 35.1 +1.5**
GOAD anakkale-G¶ 4.59 55 P **Pn 20 10 38.0 +3.5**
DGB zmir 4.66 83 P **Pn 20 10 38.6 +3.1**
EZN Ezine 4.70 60 P Pn 20 10 29.3 -6.7
CUC Castrocucco 4.71 302 **Pn 20 10 37.2 +0.9**
AYVA Ayvalik 4.76 67 P **Pn 20 10 41.3 +4.4**
DRME Dracevica, Mon 4.79 343 ⇑*i* Pn **Pn 20 10 37.8 +0.6**
BLCB Balcova 4.82 79 P **Pn 20 10 39.0 +1.3**
BAYC CANAKKALE_Bayr 4.82 62 P **Pn 20 10 40.3 +2.6**
DKL Dikili 4.85 71 P **Pn 20 10 42.0 +4.0**
GCAM G?zelcaml? 4.93 87 P **Pn 20 10 43.6 +4.4**
ZEDA zmir-Bergama 4.95 72 P **Pn 20 10 40.8 +1.3**
RDO Rodhopi 4.97 43 **Pn 20 10 42.0 +2.2**
PDG Podgorica 5.00 345 Pn **Pn 20 10 40.1 -0.1**
PDG Podgorica 5.00 345 ⇑*i* Pn **Pn 20 10 40.5 +0.3**
PDG Podgorica 5.00 345 ⇓P **Pn 20 10 41.0 +0.9**
BODT Bodrum 5.04 94 P **Pn 20 10 42.8 +2.1**
CAVK Edirne/Enez-Ca 5.05 51 ⇑P Pn 20 10 47.0 +6.2
ALN Alexandroupoli 5.10 48 Pn **Pn 20 10 43.6 +2.2**
ALN Alexandroupoli 5.10 48 P **Pn 20 10 44.4 +2.9**
ALN Alexandroupoli 5.10 48 P **Pn 20 10 43.7 +2.2**
BUHA Balikesir, Bur 5.11 66 P **Pn 20 10 45.3 +3.7**
BDRM Kayabasi 5.15 94 P Pn 20 10 47.1 +4.9
HCY Herceg Novi 5.21 339 *e*Pn **Pn 20 10 42.3 -0.7**
ERIK Erikli-Kesan 5.25 53 P **Pn 20 10 45.8 +2.2**
VAE Valguarnera 5.25 271 Pn **Pn 20 10 43.8 +0.1**
68nm,0.8s,baz=94,slow=3.3,SNR=20
VAE Sn **Sn 20 11 43.4 -0.6**
28nm,0.3s,baz=290,slow=4.1,SNR=6.8
VAE LR LR 20 13 03.7
comp=Z,1μm,20.2s,baz=74,slow=42
RAFF Raffo Rosso 5.32 268 Pn **Pn 20 10 43.4 -1.1**
KARP Karpathos 5.35 111 **Pn 20 10 46.8 +1.8**
MLSB Milas 5.38 91 P **Pn 20 10 49.8 +4.3**
AYDN Tasoluk 5.44 87 P **Pn 20 10 50.4 +4.1**
TREB Trebinje 5.50 339 *e*Pn **Pn 20 10 46.5 -0.5**
WDD Wied Dalam 5.51 253 Pn **Pn 20 10 47.1 0.0**
STEP BALIKESIR_Sava 5.54 69 P **Pn 20 10 51.3 +3.7**
BRY Bratogost 5.62 341 *e*Pn **Pn 20 10 48.2 -0.6**
RKY Sarkoy-Tekirda 5.69 55 P **Pn 20 10 51.3 +1.7**
SJES Sjenica 5.70 352 ⇑*i* Pn **Pn 20 10 51.1 +1.2**
YER Yerkesik 5.80 92 P Pn 20 10 57.5 +6.3
BKES Balkesir-Mer 5.81 66 P Pn 20 10 56.3 +5.1
SGRT San Giovanni R 5.81 317 Pn **Pn 20 10 51.6 +0.3**
ESEN Aydn-Nazilli 5.81 86 P **Pn 20 10 55.9 +4.6**
UPM Unac-Piva 5.82 345 ⇑*i* Pn **Pn 20 10 51.5 -0.1**
TURN Turunc 5.83 96 P Pn 20 10 58.7 +7.2
STON Ston 5.84 335 ⇑*i* Pn **Pn 20 10 51.0 -0.6**
MANT Manisa 6.01 79 **Pn 20 10 55.3 +1.0**
MANT Manisa 6.01 79 P **Pn 20 10 58.3 +4.0**
BOVS Bovan 6.04 5 ⇑P **Pn 20 10 54.9 +0.5**
KULA Kula-Manisa 6.09 79 P **Pn 20 10 59.1 +3.8**
EDRB Edirne 6.11 44 P **Pn 20 10 58.6 +3.2**
RUDO Rudo 6.13 349 ⇑*i* Pn **Pn 20 10 56.0 +0.3**
DURS Dursunbey 6.17 69 P **Pn 20 10 59.8 +3.6**
KCTX Karacabey (Bur 6.30 63 P **Pn 20 11 00.6 +2.5**
BBLS Lazi&#263i 6.37 349 ⇑*i* Pn **Pn 20 10 59.1 +0.1**
SABU Mula-Dalaman 6.39 95 P Pn 20 11 06.0 +6.7
USAK Uak-Merkez 6.40 78 P **Pn 20 11 03.7 +4.3**
ARMN Kirklareli, Me 6.51 47 P **Pn 20 11 02.3 +1.3**
CAEL Denizli, Camel 6.63 92 P Pn 20 11 10.3 +7.6
HAPS Han Pljesak,BI 6.66 347 ⇑*i* Pn **Pn 20 11 03.0 0.0**
IZZE Mula-Seydike 6.67 98 P Pn 20 11 09.5 +6.5
IZZE S **Sn 20 12 19.1 +0.4**
IZZE *i* AML AML 20 12 51.0
comp=E,102nm,0.5s
PASA Karahalli, USA 6.73 81 P Pn 20 11 08.7 +4.8
GOLH Golhisar 6.81 91 P Pn 20 11 11.4 +6.4
GDZ Gediz 6.81 75 P **Pn 20 11 08.4 +3.2**
ULDT Uludag 6.82 66 P Pn 20 11 10.3 +5.0
PUNG Punghina 6.82 12 ⇓P **Pn 20 11 06.8 +1.7**
KNIK Mula-Seydike 6.87 94 P Pn 20 11 11.8 +5.9
TVSB Tavsanli 6.87 72 P Pn 20 11 10.7 +4.8
VLAD Vladila 6.88 21 ⇓P **Pn 20 11 09.2 +3.3**
AKAS Kas 7.01 99 Pn **Pn 20 11 06.9 -1.0**
AKAS Kas 7.01 99 P **Pn 20 11 12.6 +4.7**
AKAS S **Sn 20 12 27.3 -0.1**
AKAS *i* AML AML 20 12 33.0
comp=N,122nm,0.8s
AKAS *i* AML AML 20 12 35.0
comp=E,118nm,0.6s
SLUM Salum 7.01 149 P **Pn 20 11 07.4 -0.5**
SLUM S **Sn 20 12 21.9 -5.3**
INTR Introdacqua 7.02 311 Pn **Pn 20 11 08.2 +0.2**
TEKS Tekeris 7.03 351 ⇑*i* Pn **Pn 20 11 07.5 -0.5**
BNAZ Uak-Banaz 7.06 79 P Pn 20 11 13.8 +5.2
DOMA Ktahya-Doman 7.12 70 P Pn 20 11 14.2 +4.8
ELL Elmali 7.15 94 **Pn 20 11 10.9 +1.1**
ELL Elmali 7.15 94 P Pn 20 11 17.6 +7.9
ELL Elmali 7.15 94 P **Pn 20 11 10.9 +1.1**
BRDR BURDUR-Merkez 7.17 87 P Pn 20 11 15.7 +5.6
MDVR Moldovita 7.18 4 ⇑P **Pn 20 11 10.4 +0.2**
ANDZ Kutahya, Merke 7.21 72 P **Pn 20 11 13.4 +2.8**
KZIL AFYON_Kizioren 7.24 82 P **Pn 20 11 15.7 +4.7**
HERR Herculane 7.34 8 ⇑P **Pn 20 11 13.4 +1.1**
HUMR Humele 7.53 22 ⇓P **Pn 20 11 17.7 +2.8**
AKUM Antalya-Kumluc 7.57 97 P **Pn 20 11 19.6 +4.1**
AKUM S **Sn 20 12 38.1 -2.8**
AKUM *i* AML AML 20 12 51.0
comp=E,37nm,0.5s
FRGS Fruska Gora 7.60 353 *e*Pn **Pn 20 11 15.7 -0.1**
A050A Klekovaca 7.66 335 *e*Pn **Pn 20 11 17.1 +0.4**
BLY Banja Luka 7.70 339 ⇑*i* Pn **Pn 20 11 16.8 -0.4**
BORA Eskisehir 7.71 70 Pn **Pn 20 11 17.8 +0.3**
GZR Gura Zlata 7.89 9 ⇓P **Pn 20 11 21.3 +1.4**
GZR Gura Zlata 7.89 9 P **Pn 20 11 21.2 +1.4**
NRCA Norcia 7.99 313 Pn **Pn 20 11 22.0 +0.8**
BZS Buzias 8.01 3 ⇓P **Pn 20 11 21.5 -0.1**
BZS Buzias 8.01 3 P **Pn 20 11 21.4 -0.1**
A051A Mrakovica 8.02 339 ⇑*i* Pn **Pn 20 11 21.1 -0.5**
ARR Arges 8.21 18 ⇓P **Pn 20 11 26.9 +2.6**
VOIR 8.38 20 ⇓P **Pn 20 11 29.6 +3.0**
VOIR 8.38 20 P **Pn 20 11 29.6 +3.0**
TNR Turnu Rosu 8.40 16 ⇓P **Pn 20 11 29.4 +2.6**
TNR Turnu Rosu 8.40 16 P **Pn 20 11 29.3 +2.6**
ISR Istrita 8.57 27 ⇓P **Pn 20 11 33.1 +3.8**
ISR Istrita 8.57 27 P **Pn 20 11 33.0 +3.8**
MLR Muntele Rosu 8.70 24 Pn **Pn 20 11 33.6 +2.6**
MLR Muntele Rosu 8.70 24 Pn **Pn 20 11 32.0 +1.1**
1.6nm,0.3s,baz=220,slow=5.5,SNR=22
MLR LR LR 20 15 50.0
comp=Z,4μm,20.5s,baz=239,slow=45
6.3nm,0.5s
MLR Muntele Rosu 8.70 24 ⇓P **Pn 20 11 35.5 +4.5**
NEHR Nehoiu 8.75 25 ⇓P **Pn 20 11 36.3 +4.6**
MORH Mrgy, Hungar 8.78 349 ⇑P **Pn 20 11 31.8 -0.2**
HARR Harsova 8.78 34 ⇓P **Pn 20 11 35.3 +3.2**
HARR Harsova 8.78 34 P **Pn 20 11 35.2 +3.2**
TIRR Tirgusor 8.83 37 **Pn 20 11 35.1 +2.4**
TIRR Tirgusor 8.83 37 ⇑P **Pn 20 11 35.9 +3.2**
TIRR Tirgusor 8.83 37 ⇑P **Pn 20 11 35.9 +3.2**
TIRR Tirgusor 8.83 37 P **Pn 20 11 35.1 +2.4**
TIRR Tirgusor 8.83 37 P **Pn 20 11 35.4 +2.7**
776nm52nm,1.1s
MDB Medias 8.89 15 ⇑P **Pn 20 11 36.7 +3.2**
MDB Medias 8.89 15 P **Pn 20 11 36.7 +3.2**

BOJS Bojanci 8.99 333 *i* Pn **Pn 20 11 34.6 -0.3**
COVR Voineasa-Covas 9.09 24 ⇓P **Pn 20 11 40.2 +3.8**
SWA2 9.13 155 P **Pn 20 11 36.1 -0.8**
SWA2 S **Sn 20 13 12.9 -6.3**
TPGR Topolog 9.13 35 ⇑P **Pn 20 11 39.8 +2.9**
GBRS Gornja Briga 9.18 332 *e*Pn **Pn 20 11 37.6 +0.1**
OZUR 9.19 21 ⇑P **Pn 20 11 41.0 +3.3**
PLOR Plostina 9.24 25 ⇓P **Pn 20 11 42.7 +4.2**
PLOR Plostina 9.24 25 P **Pn 20 11 42.6 +4.2**
CFR Carcaliu 9.26 33 ⇑P **Pn 20 11 40.4 +1.9**
CFR Carcaliu 9.26 33 P **Pn 20 11 40.4 +1.9**
DRGR 9.26 7 ⇓P **Pn 20 11 40.1 +1.3**
DRGR 9.26 7 P **Pn 20 11 40.0 +1.3**
VRI Vrincioaia 9.28 26 ⇑P **Pn 20 11 43.0 +4.0**
VRI Vrincioaia 9.28 26 P **Pn 20 11 42.9 +4.0**
VSL Villasalto 9.31 285 Pn **Pn 20 11 39.5 +0.1**
VISS Visnje 9.40 333 *i* Pn **Pn 20 11 40.2 -0.4**
ANTO Ankara 9.47 73 P **Pn 20 11 44.6 +3.0**
OSSC Osservatorio P 9.50 312 Pn **Pn 20 11 41.5 -0.3**
CEY Cerknica 9.50 331 *e*Pn **Pn 20 11 40.9 -1.0**
SKDS Skadanscina 9.51 329 ⇑*i* Pn **Pn 20 11 41.9 -0.1**
KEST Kesra 9.57 262 Pn **Pn 20 11 42.9 -0.1**
KEST Kesra 9.57 262 Pn **Pn 20 11 43.1 +0.2**
0.7nm,0.3s,baz=28,slow=4.0,SNR=24
KEST Sn **Sn 20 13 26.5 -3.6**
0.3nm,0.3s,baz=315,slow=16,SNR=0.9
KEST LR LR 20 16 04.1
comp=Z,949nm,20.6s,baz=91,slow=42
33nm,0.9s
TLCR 9.57 35 ⇓P **Pn 20 11 47.2 +4.5**
TLCR 9.57 35 P **Pn 20 11 47.2 +4.5**
ARCR ARCALIA 9.79 14 ⇑P **Pn 20 11 48.3 +2.5**
TESR Tescani 9.83 23 ⇓P **Pn 20 11 49.9 +3.5**
MPLH Magyarpolny 9.89 346 P **Pn 20 11 46.3 -1.0**
110nm,1.0s
BR131 Keskin Array S 10.09 74 Pn **Pn 20 11 52.3 +2.1**
BR131 Keskin Array S 10.09 74 P **Pn 20 11 52.3 +2.1**
BRTR Keskin Array B 10.09 74 Pn **Pn 20 11 52.1 +1.9**
0.5nm,0.3s,baz=258,slow=13,SNR=15
SOKA Soboth 10.09 336 *i* Pn **Pn 20 11 49.3 -0.8**
12nm,0.5s,SNR=21
SOKA *e*Sn **Sn 20 13 36.5 -6.5**
12nm,0.7s
OBKA Obir 10.11 334 *e*Pn **Pn 20 11 51.2 +0.9**
18nm,0.4s,SNR=6.1
OBKA *e*Sn **Sn 20 13 38.9 -4.5**
25nm,0.5s
OBKA Obir 10.11 334 ⇑*i* Pn **Pn 20 11 49.1 -1.2**
KIRS Kirsehir-Merke 10.24 78 ⇓P Pn 20 11 59.5 +7.3
PSZ Piszkesteto 10.34 356 Pn **Pn 20 11 53.4 -0.1**
PSZ Piszkesteto 10.34 356 ⇑P **Pn 20 11 54.0 +0.6**
PSZ Piszkesteto 10.34 356 P **Pn 20 11 54.0 +0.6**
PSZ Piszkesteto 10.34 356 *e*Pn **Pn 20 11 53.8 +0.4**
ARSA Arzberg 10.45 339 *i* Pn **Pn 20 11 55.7 +0.7**
7.7nm,0.5s
ARSA Arzberg 10.45 339 **Pn 20 11 54.6 -0.3**
BURAR Bucovina Array 10.46 16 ⇑P **Pn 20 11 58.5 +3.3**
BURAR Bucovina Array 10.46 16 P **Pn 20 11 58.5 +3.3**
BUR08 Bucovina Ar. S 10.49 16 Pn **Pn 20 11 57.0 +1.4**
MYKA Terra Mystica 10.54 331 *e*Pn **Pn 20 11 57.1 +0.8**
2.1nm,0.3s
MYKA *e*Sn **Sn 20 13 49.0 -5.1**
6.1nm,0.4s
KORU Korolevo 10.66 8 P **Pn 20 12 00.4 +2.7**
RONA Rosalia, Austr 10.67 342 *e*Pn **Pn 20 11 59.8 +1.9**
7.4nm,0.7s
BERU Beregovo 10.69 6 P **Pn 20 12 00.8 +2.7**
BRIU Brid 10.82 7 P **Pn 20 12 01.5 +1.5**
KECS Kecovo 10.88 358 *e*P **Pn 20 12 02.5 +1.8**
KECS Kecovo 10.88 358 *e*Pn **Pn 20 12 02.5 +1.8**
NSLU Nyzhne Selyshc 10.88 12 P **Pn 20 12 00.2 -0.5**
MUKU Mukachevo 10.91 6 P **Pn 20 12 03.5 +2.4**
MILM Milestii Mici 10.94 29 *e*P **Pn 20 12 04.0 +2.4**
60nm,1.5s
MILM *e*L L 20 16 41.0
MILM LRM MLR 20 16 55.0
2μm,13.0s
MILM Milestii Mici 10.94 29 ⇓P **Pn 20 12 04.1 +2.4**
MILM Milestii Mici 10.94 29 P **Pn 20 12 04.0 +2.4**
CTI Castel Tesino 10.95 323 Pn **Pn 20 12 00.7 -1.1**
CTI Castel Tesino 10.95 323 P **Pn 20 12 00.7 -1.1**
HOLU Holmets 10.96 5 P **Pn 20 12 03.7 +1.9**
CONA Conrad Observa 10.98 341 *e*Pn **Pn 20 12 03.9 +1.6**
2.2nm,0.5s
VYHS Vyhne 11.00 352 *e*P **Pn 20 12 02.3 -0.1**
VYHS *e* 20 14 02.9
VYHS Vyhne 11.00 352 *e*PN **Pn 20 12 02.3 -0.1**
VYHS *e*SN **Sn 20 14 02.9 -2.1**
KBA Koelnbreinsper 11.03 331 *e*Pn **Pn 20 12 03.5 +0.5**
10nm,0.7s,SNR=11
KBA *e*Sn **Sn 20 14 01.4 -4.7**
11nm,0.5s
UZHM Uzhgorod 11.05 4 P **Pn 20 12 06.1 +3.0**
ABTA Abfaltersbach 11.10 328 *e*Pn **Pn 20 12 03.6 -0.2**
5.9nm,0.5s
ABTA *e*Sn **Sn 20 14 02.3 -5.3**
37nm,0.7s
KSV Kosov 11.10 14 P **Pn 20 12 06.5 +2.7**
KSV Kosov 11.10 14 P **Pn 20 12 06.5 +2.7**
MODS Modra-Piesok 11.10 347 *e*P **Pn 20 12 04.6 +0.8**
MODS *e* 20 14 05.5
MODS Modra-Piesok 11.10 347 *e*PN **Pn 20 12 04.6 +0.8**
MODS Modra-Piesok 11.10 347 *e*SN **Sn 20 14 05.5 -2.1**
MOA Molln 11.37 336 *e*Pn **Pn 20 12 07.5 0.0**
13nm,0.4s,SNR=6.7
MOA *e*Sn **Sn 20 14 08.9 -5.3**
7.3nm,0.4s
BIOA Bad Ischl, Aus 11.44 334 Pn **Pn 20 12 08.9 +0.4**
8.0nm,0.3s,SNR=8.1
BIOA *e*Sn **Sn 20 14 10.3 -5.7**
10nm,0.5s
RYAN Fayoum 11.49 135 P **Pn 20 12 08.4 -0.8**
JAVC Velka Javorina 11.51 349 *e*PN **Pn 20 12 10.1 +0.7**
LESA Schwarzleotal 11.57 331 *e*Pn **Pn 20 12 11.0 +0.6**
13nm,0.7s,SNR=8.0
LESA *e*Sn **Sn 20 14 13.5 -5.8**
21nm,0.7s
KMPD K-Podol'skiy 11.64 18 P **Pn 20 12 14.1 +2.9**
SORM Soroca 11.81 25 ⇓P **Pn 20 12 16.1 +2.7**
SORM Soroca 11.81 25 P **Pn 20 12 16.1 +2.7**
SORM Soroca 11.81 25 P **Pn 20 12 15.6 +2.2**
27nm,1.0s
NIE Niedzica 11.82 358 *e*P **Pn 20 12 15.8 +2.2**
NIE Niedzica 11.82 358 P **Pn 20 12 15.2 +1.6**
8.2nm,0.9s
WTTA Wattenberg 11.87 327 *e*Pn **Pn 20 12 17.1 +2.6**
3.2nm,0.3s
WTTA *e*Sn **Sn 20 14 22.0 -4.7**
22nm,0.5s
KRUC Moravsky 11.93 345 *e*PN **Pn 20 12 14.8 -0.3**
WATA Walderalm 11.95 327 Pn **Pn 20 12 17.6 +2.0**
15nm,0.6s,SNR=5.9
SQTA Sankt Quirin 12.03 326 *e*Pn **Pn 20 12 20.9 +4.4**
4.7nm,0.3s
FETA Feichten 12.09 324 *e*Pn **Pn 20 12 20.3 +2.8**
3.5nm,0.6s
HFRF Wahat Farafira 12.11 147 P **Pn 20 12 16.7 -1.0**
HFRF S **Sn 20 14 24.5 -7.9**
VRAC Vranov 12.13 346 Pn **Pn 20 12 17.7 -0.2**
0.2nm,0.3s,baz=185,slow=11,SNR=6.3
VRAC LR LR 20 17 20.0
comp=Z,286nm,19.1s,baz=166,slow=40
3.9nm,0.7s
VRAC Vranov 12.13 346 *e*PN **Pn 20 12 17.3 -0.5**
VRAC Vranov 12.13 346 ⇑P **Pn 20 12 18.7 +0.8**
VRAC Vranov 12.13 346 P **Pn 20 12 18.6 +0.8**
MOTA Moosalm 12.17 326 *e*Pn **Pn 20 12 20.3 +1.7**
7.3nm,0.5s
SIM Simferopol' 12.27 49 *e*P **Pn 20 12 21.6 +1.8**
SIM *e*S Sn 20 14 46.6 +10
SIM pmax pmax
comp=Z,36nm,1.1s
SIM smax smax
comp=E,260nm,26.4s
SIM MLR MLR
comp=Z,132nm,21.2s
DAVOX Davos/Dischmat 12.33 322 Pn **Pn 20 12 21.0 +0.3**
comp=Z,0.6nm,0.3s,baz=144,slow=19
DAVOX Sn Sn 20 14 28.8 -9.1
comp=Z,2.6nm,0.3s,baz=2.9,slow=18,SNR=4.7
DAVOX LR LR 20 17 34.3
comp=Z,271nm,19.1s,baz=138,slow=40
TREC Trest 12.35 343 AMS AMS 20 18 00.0
comp=Z,1μm,11.4s

TUE Stuetta 12.39 319 Pn **Pn 20 12 22.1 +0.5**
TUE Stuetta 12.39 319 P **Pn 20 12 23.2 +1.6**
comp=Z,68nm,1.0s
MORC Moravsky Berou 12.42 349 *e*PN **Pn 20 12 21.3 -0.6**
GERES GERESS Array B 12.43 337 **Pn 20 12 19.4 -2.7**
GERES GERESS Array B 12.43 337 Pn **Pn 20 12 20.9 -1.1**
comp=Z,0.8nm,0.3s,baz=154,slow=13,SNR=14
GERES Sn **Sn 20 14 32.1 -8.1**
comp=Z,1.2nm,0.3s,baz=149,slow=25,SNR=5.2
GERES LR LR 20 18 15.8
comp=Z,463nm,19.2s,baz=171,slow=43
comp=Z,3.3nm,0.7s
MMAI Mount Meron Ar 12.61 107 Pn **Pn 20 12 24.7 +0.2**
comp=Z,2.0nm,0.3s,baz=301,slow=12,SNR=11
MMAI Sn Sn 20 14 35.7 -8.9
comp=Z,3.7nm,0.3s,baz=293,slow=31,SNR=6.1
comp=Z,1.0nm,0.3s
OJC Ojcow 12.64 356 P **Pn 20 12 27.2 +2.4**
comp=Z,16nm,1.0s
KHC Kasperske Hory 12.72 337 *e*PN **Pn 20 12 26.8 +0.9**
KHC *e*SN **Sn 20 14 42.1 -5.0**
KHC AMS AMS 20 18 20.0
comp=Z,1μm,15.0s
KHC Kasperske Hory 12.72 337 ⇑*e*P **Pn 20 12 23.9 -2.0**
KHC pmax pmax
comp=Z,30nm,1.7s
ZVC Zvikov 12.81 340 *e*PN **Pn 20 12 28.5 +1.3**
ZVC AMS AMS 20 18 10.0
comp=Z,1μm,10.9s
KRLC Kraliky 12.83 348 *e*PN **Pn 20 12 29.2 +1.7**
KRLC Kraliky 12.83 348 *e*P **Pn 20 12 29.2 +1.7**
TAMRE El Minia 12.93 137 P **Pn 20 12 29.1 +0.1**
GOPC GO Pecny, Ondr 13.09 342 AMS AMS 20 18 20.0
comp=Z,1μm,11.3s
DPC Dobruska-Polom 13.18 347 AMS AMS 20 18 40.0
comp=Z,2μm,13.8s
DPC Dobruska-Polom 13.18 347 P **Pn 20 12 32.9 +0.7**
comp=Z,15nm,1.1s
PRU Pruhonice 13.22 341 *e*PN **Pn 20 12 32.4 -0.4**
PRU AMS AMS 20 18 30.0
comp=Z,1μm,12.3s
PRU Pruhonice 13.22 341 *e*P **Pn 20 12 32.4 -0.4**
PRU MLR MLR
comp=Z,1μm,12.3s
LUBAR Lubar, Ukraine 13.23 19 P **Pn 20 12 33.6 +0.8**
PRA Prague 13.33 341 AMS AMS 20 18 30.0
comp=Z,1μm,10.7s
UPC Upice 13.38 346 AMS AMS 20 18 50.0
comp=Z,2μm,14.1s
OSTC Ostas 13.39 347 AMS AMS 20 18 50.0
comp=Z,2μm,13.3s
KSP Ksiaz 13.65 347 *e*P **Pn 20 12 42.1 +3.4**
KSP Ksiaz 13.65 347 P **Pn 20 12 41.4 +2.7**
comp=Z,12nm,1.2s
PVCC Panska Ves 13.71 342 AMS AMS 20 19 00.0
comp=Z,1μm,12.6s
EIL Elat 14.04 120 Pn **Pn 20 12 44.2 +0.3**
comp=Z,1.2nm,0.3s,baz=276,slow=1.6,SNR=12
EIL Sn Sn 20 15 06.7 -13
comp=Z,2.1nm,0.3s,baz=354,slow=23,SNR=7.6
comp=Z,6.7nm,0.8s
RNPP5 Staryi Chortor 14.05 13 P **Pn 20 12 45.3 +1.3**
HSKC Hora Svate Kat 14.08 340 AMS AMS 20 19 00.0
comp=Z,1μm,13.4s
ASF Jabal al Asfar 14.11 108 Pn **Pn 20 12 44.6 -0.4**
comp=Z,0.1nm,0.3s,baz=335,slow=1.9,SNR=3.2
ASF Sn Sn 20 15 11.3 -10
comp=Z,0.1nm,0.3s,baz=160,slow=15,SNR=1.9
comp=Z,10nm,1.2s
MI28 Mi28,Pidlybu 14.13 17 P **Pn 20 12 45.5 +0.3**
HKAT Jabal Katrina 14.14 126 P **Pn 20 12 44.6 -1.0**
RNPP8 Varash 14.15 12 P **Pn 20 12 46.1 +0.7**
BFO Black Forest 14.16 323 **Pn 20 12 43.8 -1.8**
BFO Black Forest 14.16 323 P **Pn 20 12 43.8 -1.8**
BRG Berggiesshubel 14.19 341 *e*P **Pn 20 12 46.4 +0.5**
BRG Amp 20 12 48.6
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 14.19 341 P **P 20 12 56.8 +3.5**
BRG Amp 20 12 57.8
comp=Z,14nm,1.0s
AK07 Malin Array Si 14.20 22 P **Pn 20 12 46.4 +0.3**
RNPP9 Sopachiv 14.23 12 P **Pn 20 12 46.7 +0.2**
BEL Belsk 14.23 359 *e*P **P 20 12 57.0 +3.2**
AK06 Malin Array Si 14.23 22 P **Pn 20 12 46.5 0.0**
AK12 Malin Array Si 14.27 21 P **Pn 20 12 46.7 -0.3**
ANN Anapa 14.28 55 *e*P **Pn 20 12 45.1 -2.1**
ANN *e*S **Sn 20 15 23.7 -1.4**
ANN pmax pmax
comp=Z,173nm,0.9s
AK18 Malin Array Si 14.31 21 P **Pn 20 12 47.6 0.0**
KIEV Kiev 14.33 21 Pn **Pn 20 12 47.7 -0.1**
KIEV Kiev 14.33 21 P **Pn 20 12 47.7 -0.1**
KIEV Kiev 14.33 21 P **Pn 20 12 47.9 +0.1**
KIEV Kiev 14.33 21 P **Pn 20 12 47.7 -0.1**
comp=Z,220nm,0.9s
AKASG Malin Array Be 14.34 21 **Pn 20 12 48.5 +0.5**
AKASG Malin Array Be 14.34 21 Pn **Pn 20 12 48.0 0.0**
comp=Z,1.6nm,0.3s,baz=213,slow=12,SNR=17
AKASG LR LR 20 19 28.0
comp=Z,3μm,18.1s,baz=202,slow=42
comp=Z,8.8nm,1.0s
AKASG Malin Array Be 14.34 21 P **Pn 20 12 48.5 +0.5**
AKBB Malin Array Si 14.34 21 *d i* P **Pn 20 12 48.0 0.0**
AKBB Malin Array Si 14.34 21 P **Pn 20 12 47.8 -0.2**
AK03 Malin Array Si 14.36 21 P **Pn 20 12 48.0 -0.3**
CLL Collm 14.83 340 *e*P **Pn 20 12 57.0 +2.3**
CLL Collm 14.83 340 *e*Px Px 20 12 56.0
CLL *i* PP **PnPn 20 13 02.5 -0.2**
comp=Z,71nm,1.2s
CLL *e*x x 20 13 36.0
SOC Sochi 15.39 61 *e*P **Pn 20 12 57.5 -4.7**
SOC *e* 20 15 46.3
SOC MLR MLR
comp=Z,190nm,14.0s
MARD Mardin 15.70 85 **P 20 13 09.3 -1.0**
RUE Ruedersdorf 15.71 343 *e*P **P 20 13 12.9 +2.6**
GKP Gorka Klasztor 15.88 352 *e*P **P 20 13 14.8 +2.7**
CEST Esterri de Car 15.92 294 **Pn 20 13 08.4 -0.8**
WLF Walferdange 16.12 323 *d*x **P 20 13 17.9 +3.0**
LABN Labinsk 16.40 58 *e*P **Pn 20 13 14.8 -0.4**
LABN *e*S **Sn 20 16 17.9 +1.0**
LABN pmax pmax
comp=Z,64nm,0.9s
SUW Suwalki 16.47 4 *e*P **Pn 20 13 16.7 +0.7**
SUW Suwalki 16.47 4 *e*P **Pn 20 13 16.9 +0.8**
GURO Guroymak-BITLI 16.57 80 **Pn 20 13 18.6 +1.0**
ERBR Yeremizino-Bor 16.62 55 *e*P **Pn 20 13 16.7 -1.3**
ERBR *e*S **Sn 20 16 19.7 -2.4**
ERBR pmax pmax
comp=Z,92nm,0.9s
MEM Membach 16.84 325 *d*x **PnPn 20 13 29.4 -0.8**
MEM *d*x **PnPn 20 13 34.6 +4.3**
RCHB Rochefort 16.89 323 *d*x **PnPn 20 13 26.6 -4.3**
BCLA Clavier 17.04 324 *d*PP **PnPn 20 13 35.5 +2.6**
DOU Dourbes 17.16 322 *d*x **PnPn 20 13 28.0 -6.7**
NEUR Neytrino 17.43 64 *i* P **Pn 20 13 25.5 -2.8**
SHA1 Shidzhatmaz 17.50 63 *d i* P **P 20 13 31.5 +1.2**
MNK Minsk 17.54 13 *i* P **Pn 20 13 25.7 -3.8**
comp=E,57nm,1.0s
MNK *i* P **Pn 20 13 25.7 -3.8**
comp=N,12nm,0.7s
MNK *i* P **Pn 20 13 25.7 -3.8**
comp=Z,56nm,0.8s,baz=199
MNK *i* PP **sP 20 13 35.8 -1.1**
MNK *i* PPP PPP 20 13 43.5
MNK *i* S **Sn 20 16 40.1 -4.2**
MNK *i* SS **S 20 16 54.9 +2.8**
MNK *i* SSS SSS 20 17 07.7
MNK *i* LQ LQ 20 18 35.2
MNK *i* LR LR 20 19 54.6
MNK *i* LRM MLR 20 21 09.5
comp=N,398nm,14.9s
MNK *i* LRM MLR 20 21 26.8
comp=E,583nm,13.8s
MNK *i* LRM MLR 20 21 28.7
comp=Z,513nm,12.3s
MNK Minsk 17.54 13 *i* P **Pn 20 13 25.6 -3.8**
MNK *i* S **Sn 20 16 40.0 -4.2**
MNK pmax pmax
comp=E,57nm,1.0s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,56nm,0.8s
MNK MLR MLR

comp=N,398nm,15.0s
MNK MLR MLR
comp=E,583nm,14.0s
MNK MLR MLR
comp=Z,513nm,12.0s
KIV Kislovodsk 17.57 62 Pn 20 13 30.5 +0.5
KIV Kislovodsk 17.57 62 P **P 20 13 32.6 +1.6**
KIV Kislovodsk 17.57 62 *eP* **P 20 13 32.1 +1.1**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,135nm,14.0s
KIV Kislovodsk 17.57 62 *i* P **Pn 20 13 27.9 -2.1**
SNR=5.9
KVAR Kislovodsk Arr 17.57 62 P **P 20 13 31.5 +0.4**
baz=66,slow=20
comp=Z,4.0nm,0.9s
KBZ Khabaz 17.66 63 P **P 20 13 32.1 +0.2**
comp=Z,0.3nm,0.3s,baz=262,slow=8.7,SNR=14
comp=Z,12nm,1.1s
KBZ Khabaz 17.66 63 *d i* P **P 20 13 34.2 +2.3**
KBZ pmax pmax
comp=Z,31nm,1.1s
NACGM Naroch 17.74 11 *eP* **Pn 20 13 31.3 -0.6**
BSD Bornholm Skovb 18.00 349 *i* P **Pn 20 13 35.0 -0.1**
BSD IAmb IAmb 20 14 17.1
comp=Z,40nm,1.1s
PABE Paberze 18.01 5 *eP* **Pn 20 13 35.2 0.0**
IIGN Ignalina 18.09 10 *eP* **P 20 13 37.1 +0.5**
GOF Gofitskoye 18.10 59 *ceP* **P 20 13 39.4 +2.6**
PBUR Paburge 18.43 2 *eP* **P 20 13 39.8 -0.5**
VORD Divnogorie 18.62 38 *eP* **P 20 13 42.1 -0.3**
VORD pmax pmax
comp=Z,20nm,0.9s
GNI Garni 18.63 75 Pn 20 13 43.6 +0.5
GNI Garni 18.63 75 P **Pn 20 13 43.9 +0.8**
comp=Z,0.5nm,0.3s,baz=354,slow=3.7,SNR=14
GNI LR LR 20 21 47.7
comp=Z,643nm,18.3s,baz=274,slow=40
comp=Z,22nm,0.9s
GNI Garni 18.63 75 P **Pn 20 13 44.1 +1.0**
GNI Garni 18.63 75 *d i* P **Pn 20 13 45.0 +1.8**
GNI pmax pmax
comp=Z,28nm,0.9s
GNI Garni 18.63 75 P 20 13 42.1 -0.7
GNI Garni 18.63 75 P **Pn 20 13 44.9 +1.8**
comp=Z,756nmcomp=Z,54nm,1.4s
VSR Storozhevoye 18.72 38 *eP* **P 20 13 42.1 -1.4**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,1µm,13.0s
LUNU Lund 18.74 347 *i* P **Pn 20 13 44.0 -0.2**
BLEU Blekinge 19.03 351 *i* P **P 20 13 46.5 -0.3**
VORR Voronezh 19.03 37 *eP* **P 20 13 46.6 -0.3**
VORR pmax pmax
comp=Z,30nm,1.2s
BJUU Bjuv 19.24 346 *i* P **P 20 13 48.3 -0.9**
DEL Delary 19.47 348 *i* P **P 20 13 52.0 +0.4**
LPSR Galich'ya Gora 19.52 34 *eP* **P 20 13 52.3 0.0**
LPSR *eS* **Sn 20 17 28.9 -3.4**
LPSR pmax pmax
comp=Z,76nm,0.8s
LPSR smax smax
comp=N,600nm,3.2s
ESDC Sonseca Array 19.61 284 P **P 20 13 53.2 -0.3**
ESDC Sonseca Array 19.61 284 P **P 20 13 53.6 +0.2**
comp=N,0.1nm,0.3s,baz=80,slow=12,SNR=46
ESDC LR LR 20 21 55.8
comp=N,160nm,18.5s,baz=84,slow=38
comp=N,9.0nm,0.9s
GANJ Ganja 19.84 73 P **Pn 20 13 58.8 +1.3**
TAM Tamanrasset 19.90 226 P **P 20 13 57.2 +0.5**
TAM Tamanrasset 19.90 226 P **P 20 13 57.2 +0.5**
TAM pmax pmax
comp=Z,27nm,1.0s
PAB San Pablo 19.91 283 P **P 20 13 57.2 +0.4**
PAB San Pablo 19.91 283 P **P 20 13 57.2 +0.4**
PAB pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 19.99 41 *eP* **P 20 13 58.1 +0.7**
VRH *eS* **S 20 17 38.4 -3.1**
VRH pmax pmax
comp=Z,63nm,1.0s
VRH smax smax
comp=E,500nm,3.7s
FABU Falkenberg 20.17 347 *i* P **P 20 13 59.5 +0.1**
MNGR Mingechevir, A 20.42 73 P Pn 20 14 04.9 +0.6
OBN Obninsk 20.45 26 P **P 20 14 02.2 -0.1**
OBN Obninsk 20.45 26 P **P 20 14 02.8 +0.5**
comp=E,74nm,0.4s,baz=161,slow=0.7,SNR=17
OBN LR LR 20 22 43.9
comp=E,940nm,18.4s,baz=188,slow=39
comp=E,74nm,0.4s
OBN Obninsk 20.45 26 *c i* P **P 20 14 02.3 -0.1**
OBN *i* 20 14 06.7
OBN *i* PPP PPP 20 14 27.4
OBN pmax pmax
comp=Z,79nm,1.0s
OBN MLR MLR
comp=Z,869nm,16.0s
OBN Obninsk 20.45 26 P **P 20 14 02.6 +0.3**
comp=Z,97nm,0.5s
MUD Monsted U'grnd 20.45 341 *i* P **P 20 14 03.0 +0.6**
MUD IAmb IAmb 20 14 04.5
comp=Z,82nm,1.1s
SEKA Sheki 20.52 72 P Pn 20 14 06.9 +1.4
ONAU Onsala 20.70 346 *i* P **P 20 14 04.9 0.0**
BORU Boraas 20.77 347 *i* P **P 20 14 04.8 -0.9**
MAK Makhachkala 20.86 67 *eP* **P 20 14 04.7 -2.2**
MAK *eS* **S 20 17 57.7 -1.2**
MAK pmax pmax
comp=Z,183nm,1.1s
GOET G??ttrup 20.96 342 *i* P **P 20 14 09.0 +1.2**
GOET IAmb IAmb 20 14 11.0
comp=Z,105nm,1.2s
VSU Vasula 21.20 8 *ceP* **P 20 14 09.8 -0.6**
VSU pmax pmax
comp=Z,157nm,0.8s
VSU Vasula 21.20 8 *eP* **P 20 14 10.0 -0.4**
MTSE Matsula 21.20 4 *eP* **P 20 14 11.5 +1.1**
MOS Moscow 21.32 26 *eP* **P 20 14 10.2 -1.5**
MOS *e* 20 14 31.7
MOS *eS* **S 20 18 05.8 -1.9**
MOS *eSS* **SnSn 20 18 35.9 +5.6**
MOS pmax pmax
comp=Z,200nm,1.1s
MOS pmax pmax
comp=Z,122nm,0.9s
TJOU Tjoern 21.35 346 *i* P **P 20 14 12.3 +0.3**
MDT Midelt 21.45 265 P **P 20 14 14.0 +0.5**
comp=Z,19nm,0.9s,baz=89,slow=12,SNR=33
MDT LR LR 20 24 41.3
comp=Z,150nm,18.1s,baz=76,slow=43
comp=Z,19nm,0.9s
PBRG Braganca 21.73 290 *eP* **P 20 14 20.3 +4.0**
PBRG *i* Amb 20 14 21.6
comp=Z,34nm,1.4s
LKRN Lenkeran, Azer 21.82 79 P **P 20 14 19.8 +2.5**
MVO Moncorvo 21.93 288 *eP* **P 20 14 19.3 +0.7**
MVO *i* Amb 20 14 30.1
comp=Z,47nm,1.5s
MVO *eLR* LR 20 21 21.5
MVO *i* AMs_20 20 26 53.5
comp=Z,267nm,16.0s
PBAR Barrancos 22.12 280 *eP* **P 20 14 21.3 +0.8**
PBAR *i* Amb 20 14 30.0
comp=Z,32nm,1.6s
HOMB Homborsund 22.24 342 *i* P **P 20 14 19.0 -2.5**
PMRV Marv??o 22.27 283 *eP* **P 20 14 22.1 -0.1**
PMRV *i* Amb 20 14 44.8
comp=Z,33nm,1.6s
PMRV *eLR* LR 20 23 27.3
PMRV *i* AMs_20 20 27 55.1
comp=Z,182nm,18.0s
PCBR Castelo Branco 22.31 285 *eP* **P 20 14 21.6 -0.9**
PCBR *i* Amb 20 14 29.4
comp=Z,30nm,1.4s
MTE Manteigas 22.33 286 P **P 20 14 22.4 -0.5**
MTE Manteigas 22.33 286 *eP* **P 20 14 24.5 +1.7**
MTE *i* Amb 20 14 27.3
comp=Z,43nm,1.5s
MTE *eLR* LR 20 23 47.6
MTE *i* AMs_20 20 28 32.5
comp=Z,192nm,18.0s

STRU Stroemstad 22.37 347 *i* P **P 20 14 21.5 -1.5**
PVRL Vila Real 22.45 288 *eP* **P 20 14 26.7 +2.6**
PVRL *i* Amb 20 14 31.8
comp=Z,27nm,1.5s
PESTR Estremoz 22.48 282 P **P 20 14 23.3 -1.0**
POLO Lamas de Olo 22.51 289 *eP* **P 20 14 30.0 +5.2**
POLO *i* Amb 20 14 52.3
comp=Z,20nm,1.4s
PVIS Viseu 22.59 287 *eP* **P 20 14 25.4 -0.2**
SNART Snartemo 22.62 341 *i* P **P 20 14 26.0 +0.3**
PCAB Cabril 22.68 289 *eP* **P 20 14 30.8 +4.3**
PCAB *i* Amb 20 14 44.0
comp=Z,66nm,1.9s
MEF Metsahovi 22.73 4 *eP* **P 20 14 27.4 +0.6**
PBEJ Beja 22.79 280 *eP* **P 20 14 27.5 -0.2**
PBEJ *i* Amb 20 14 39.1
comp=Z,22nm,2.3s
EVO Evora 22.84 281 *eP* **P 20 14 27.5 -0.7**
EVO *i* Amb 20 14 30.1
comp=Z,16nm,1.5s
PMTG Montargil 22.95 283 *eP* **P 20 14 28.8 -0.5**
PMTG *i* Amb 20 14 46.6
comp=Z,18nm,1.2s
PBDV Barranco-do-Ve 22.96 278 *eP* **P 20 14 29.8 +0.3**
PBDV *i* Amb 20 14 49.9
comp=Z,43nm,2.2s
HFS Hagfors 23.02 351 P **P 20 14 28.8 -1.1**
comp=Z,13nm,0.4s,baz=163,slow=10,SNR=104
HFS LR LR 20 24 02.2
comp=Z,106nm,20.2s,baz=169,slow=38
comp=Z,13nm,0.4s
MESJ Messejana 23.09 280 *eP* **P 20 14 31.6 +0.8**
MESJ *i* Amb 20 14 38.3
comp=Z,22nm,1.4s
KONO Kongsberg 23.25 345 P **P 20 14 30.7 -1.5**
KONO Kongsberg 23.25 345 *d i* P **P 20 14 31.2 -0.9**
KONO pmax pmax
comp=Z,9.0nm,1.0s
RAF Rauma 23.44 1 *eP* **P 20 14 34.2 +0.2**
AVE Averroes 23.52 268 P **P 20 14 35.5 +0.4**
BELG Belogornoye 23.74 43 LR LR 20 25 15.1
comp=Z,491nm,18.3s,baz=233,slow=40
BELG Belogornoye 23.74 43 *c i* P **P 20 14 37.1 0.0**
BELG pmax pmax
comp=Z,37nm,1.0s
NC602 NORSAR Array S 23.91 348 IAmb IAmb 20 14 46.8
comp=Z,56nm,1.2s
FINES FINESS Array B 24.07 6 P **P 20 14 39.2 -0.9**
comp=Z,5.8nm,0.4s,baz=187,slow=9.9,SNR=55
FINES LR LR 20 25 16.6
comp=Z,996nm,19.2s,baz=197,slow=40
comp=Z,5.8nm,0.4s
EKA Eskdalemuir Ar 24.12 325 P **P 20 14 40.8 +0.2**
comp=Z,20nm,0.8s,baz=128,slow=8.5,SNR=74
EKA PcP **PcP 20 18 22.2 +0.9**
comp=Z,0.8nm,0.7s,baz=131,slow=2.0,SNR=2.2
comp=Z,20nm,0.8s
ESK Eskdalemuir 24.13 325 P **P 20 14 40.8 0.0**
ESK IAmb IAmb 20 14 43.5
comp=Z,25nm,0.8s
ESK Eskdalemuir 24.13 325 P **P 20 14 40.8 0.0**
ESK pmax pmax
comp=Z,25nm,0.8s
NC405 NORSAR Array S 24.25 349 IAmb IAmb 20 14 44.3
comp=Z,40nm,0.8s
NB201 NORSAR Array S 24.25 348 IAmb IAmb 20 14 50.3
comp=Z,48nm,1.0s
NB2 NORSAR Subarra 24.25 348 P **P 20 14 41.2 -0.7**
comp=Z,11nm,0.9s,baz=159,slow=11
NOA NORSAR Array B 24.25 348 P **P 20 14 40.8 -1.1**
comp=Z,14nm,1.1s,baz=172,slow=6.9,SNR=38
NOA PcP **PcP 20 18 22.3 +0.8**
comp=Z,1.4nm,0.9s,baz=149,slow=2.5,SNR=3.7
NOA LR LR 20 25 02.6
comp=Z,119nm,19.4s,baz=175,slow=39
comp=Z,14nm,1.1s
NBO00 NORSAR Array S 24.32 348 IAmb IAmb 20 14 54.1
comp=Z,58nm,1.2s
KEF Keuruu 24.70 4 *eP* **P 20 14 46.5 +0.6**
RAYN Ar Rayn 25.23 117 P **P 20 14 52.6 +1.5**
RAYN Ar Rayn 25.23 117 P **P 20 14 53.0 +1.9**
RAYN Ar Rayn 25.23 117 P **P 20 14 52.6 +1.5**
RAYN pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 25.23 117 *i* P **P 20 14 53.2 +2.1**
SNR=7.0
VAF Ylistaro 25.48 2 *eP* **P 20 14 54.7 +1.8**
KLMR Klimovskoe 26.03 21 *eP* **P 20 14 59.2 +1.3**
KLMR pmax pmax
comp=Z,70nm,1.0s
JOF Joensuu 26.11 11 *eP* **P 20 14 59.1 +0.5**
SHMA Al-Shehemyia 27.91 106 P **P 20 15 16.8 +1.6**
KIRV Kirov 27.92 32 LR LR 20 27 56.7
comp=Z,389nm,18.4s,baz=246,slow=40
KIRV Kirov 27.92 32 ‖ *i* P **P 20 15 14.5 -0.4**
TRNA Turayna 28.71 108 P **P 20 15 23.4 +1.1**
AKTO Aktyubinsk 29.21 52 P **P 20 15 26.3 -0.2**
comp=Z,7.2nm,0.5s,baz=256,slow=9.2,SNR=24
AKTO LR LR 20 29 38.9
comp=Z,328nm,19.5s,baz=272,slow=42
comp=Z,7.2nm,0.5s
JRN Qarnain Island 29.84 106 P **P 20 15 33.7 +1.4**
TORD Torodi Ar. Bea 29.84 220 P **P 20 15 32.5 +0.1**
TORD Torodi Ar. Bea 29.84 220 P **P 20 15 32.1 -0.3**
comp=Z,20nm,0.3s,baz=34,slow=8.8,SNR=1.2
comp=Z,20nm,0.3s
ABKAR Abkulak array 30.24 55 P **P 20 15 35.2 -0.4**
ABKAR Abkulak array 30.24 55 IAmb IAmb 20 15 46.6
comp=Z,13nm,0.9s
ARTI Arti 31.12 41 P **P 20 15 42.5 -0.8**
ARTI Arti 31.12 41 P **P 20 15 42.6 -0.8**
comp=Z,13nm,0.4s,baz=255,slow=7.6,SNR=29
ARTI LR LR 20 28 48.0
comp=Z,262nm,21.7s,baz=233,slow=38
comp=Z,13nm,0.4s
ARTI Arti 31.12 41 *c i* P **P 20 15 42.7 -0.6**
ARTI 20 16 40.7
ARTI S **S 20 20 50.4 +2.3**
ARTI SS **SnSn 20 22 28.2 -1.4**
ARTI pmax pmax
comp=Z,40nm,1.1s
MZR Muzera 31.40 108 P **P 20 15 47.2 +1.1**
MZR Muzera 31.40 108 P **P 20 15 46.2 +0.1**
SHME Shamm 31.81 101 P **P 20 15 50.1 +0.4**
SNR=11
SHME Shamm 31.81 101 *i* P **P 20 15 49.6 -0.1**
SNR=11
ASUD Al Ashush, Dub 31.91 104 P **P 20 15 51.1 +0.5**
NAZ Nazwa, Dubai 31.98 103 P **P 20 15 52.3 +1.1**
NAZ Nazwa, Dubai 31.98 103 P **P 20 15 52.1 +0.9**
FAQ Al Faqa, Dubai 32.05 104 P **P 20 15 52.5 +0.7**
FAQ Al Faqa, Dubai 32.05 104 P **P 20 15 52.0 +0.2**
ARCES ARCESS Array B 32.08 3 P **P 20 15 51.0 -0.6**
comp=Z,2.3nm,0.4s,baz=187,slow=9.1,SNR=13
comp=Z,2.3nm,0.4s
ARCES ARCESS Array B 32.08 3 P **P 20 15 51.0 -0.6**
MASF Masafi 32.17 102 P **P 20 15 53.7 +0.8**
MSFE Esma-Masafi 32.17 102 P **P 20 15 53.4 +0.4**
MDH Madha 32.31 102 P **P 20 15 54.8 +0.7**
UOSS Minazif 32.42 103 P **P 20 15 55.4 +0.3**
UOSS Minazif 32.42 103 P **P 20 15 55.5 +0.4**
UOSS Minazif 32.42 103 P **P 20 15 55.9 +0.7**
HATD Hatta, Dubai 32.43 103 P **P 20 15 55.7 +0.6**
SNR=5.4
HATD Hatta, Dubai 32.43 103 P **P 20 15 55.8 +0.6**
SVE Sverdlovsk 32.44 41 *eP* **P 20 15 54.8 -0.1**
SVE pmax pmax
comp=Z,56nm,1.0s
SVE MLR MLR
comp=Z,535nm,13.0s
ASHO Ashiyiah 32.45 103 P **P 20 15 56.2 +0.8**
SNR=5.2
ALNE Al Ain 32.54 104 P **P 20 15 57.4 +1.2**
SNR=23
ALNE Al Ain 32.54 104 *i* P **P 20 15 56.4 +0.2**
SNR=23
UMZA Um Al Zommool 32.83 107 P **P 20 15 59.4 +0.8**
SOHO SOHO 33.10 104 P **P 20 16 01.8 +0.8**
SOHO SOHO 33.10 104 *i* P **P 20 16 01.3 +0.3**
SNR=25
JASK Jask - Hormozg 33.25 100 P **P 20 16 03.9 +1.6**
ARQ Araqi 33.52 105 P **P 20 16 06.0 +1.2**
SNR=9.8
HOQ Hoqain 34.00 104 P **P 20 16 10.0 +1.1**
SNR=5.7
HOQ P **P 20 16 10.0 +1.1**

SNR=5.7
DOK Doka 34.54 114 P **P 20 16 14.7 +1.0**
BIDO Bidbid 34.66 103 P **P 20 16 15.7 +1.1**
ABTO Aybut 34.77 117 P **P 20 16 16.8 +1.1**
SMDO Samad 34.85 104 P **P 20 16 17.0 +0.6**
SNR=10
SMDO P **P 20 16 17.0 +0.6**
SNR=10
WSAR Wadi Sarin 35.20 103 P **P 20 16 19.7 +0.4**
JMDO Jabal Madar 35.27 105 P **P 20 16 20.3 +0.4**
DMTO DMTO 35.72 114 P **P 20 16 25.0 +1.2**
SNR=12
WBK Wadi Bani Khal 35.81 104 P **P 20 16 27.0 +2.4**
SNR=12
MHTO MHTO 35.95 107 P **P 20 16 27.2 +1.4**
MHTO P **P 20 16 27.2 +1.4**
DQM DQM 36.25 109 P **P 20 16 28.3 0.0**
JLN Jalan Bani Buh 36.40 104 P **P 20 16 30.6 +1.1**
LODK Lodwar 36.48 155 P **P 20 16 32.2 +1.9**
BORG Borgarnes 36.80 331 LR LR 20 33 30.1
comp=Z,157nm,18.5s,baz=131,slow=39
BRVK Borovoye 37.12 49 P **P 20 16 35.4 0.0**
BRVK Borovoye 37.12 49 *d i* P **P 20 16 35.9 +0.5**
BRVK pmax pmax
comp=Z,18nm,0.9s
BVAR Borovoye Array 37.18 49 P **P 20 16 36.3 +0.4**
comp=Z,6.1nm,0.5s,baz=269,slow=6.8,SNR=38
BVAR LR LR 20 33 27.2
comp=Z,165nm,18.2s,baz=254,slow=39
comp=Z,6.1nm,0.5s
KK31 Karatay Array 37.66 66 IAmb IAmb 20 16 43.2
comp=Z,19nm,1.1s
KKAR Karatay Array 37.66 66 P **P 20 16 39.6 -0.6**
KKAR Karatay Array 37.66 66 IAmb IAmb 20 16 43.1
comp=Z,11nm,1.0s
KKAR Karatay Array 37.66 66 P **P 20 16 39.6 -0.6**
DZA Taraz 38.29 66 *eP* **P 20 16 45.7 +0.3**
DZA Taraz 38.29 66 *eP* **P 20 16 45.8 +0.3**
BTK Batken 38.46 70 IAmb IAmb 20 16 48.7
comp=Z,15nm,0.9s
BTK Batken 38.46 70 P **P 20 16 47.3 +0.3**
BRZS Berezniki 38.54 54 *eP* **P 20 16 47.5 +0.1**
BRZS Berezniki 38.54 54 *eP* **P 20 16 47.5 +0.1**
KBL Kabul 38.60 80 P **P 20 16 48.3 -0.1**
KBL Kabul 38.60 80 P **P 20 16 48.3 -0.1**
KBL pmax pmax
comp=Z,8.0nm,1.1s
DBIC Dimbokro 38.75 224 P **P 20 16 50.1 +0.6**
DBIC Dimbokro 38.75 224 P **P 20 16 50.0 +0.6**
comp=Z,44nm,0.9s,baz=22,slow=9.1,SNR=26
DBIC LR LR 20 33 49.4
comp=Z,172nm,19.1s,baz=8.5,slow=38
comp=Z,44nm,0.9s
DRK Karamyk 39.33 71 P **P 20 16 55.7 +1.1**
BTLS Baital 39.89 62 *eP* **P 20 16 59.0 +0.2**
BTLS Baital 39.89 62 *eP* **P 20 16 59.1 +0.2**
BBTS Babate 40.34 246 LR LR 20 36 00.6
comp=Z,615nm,18.1s,baz=299,slow=40
SGDS Sogindy 40.57 64 *eP* **P 20 17 04.6 +0.1**
SGDS Sogindy 40.57 64 *eP* **P 20 17 04.6 +0.1**
AAK Ala-Archa 40.63 66 P **P 20 17 05.1 0.0**
AAK Ala-Archa 40.63 66 *ceP* **P 20 17 05.9 +0.8**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 40.63 66 *i* P **P 20 17 05.7 +0.6**
SNR=18
SPITS Spitsbergen Ar 40.73 359 P **P 20 17 05.4 +0.1**
comp=Z,4.1nm,0.7s,baz=168,slow=8.8,SNR=12
comp=Z,4.1nm,0.7s
KMBO Kilima Mbogo 41.37 155 P **P 20 17 13.2 +1.8**
KMBO Kilima Mbogo 41.37 155 P **P 20 17 12.6 +1.1**
comp=Z,1.0nm,0.5s,baz=346,slow=5.4,SNR=6.0
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 41.37 155 P **P 20 17 16.1 +4.6**
BOOM Boomskoye usch 41.70 65 P **P 20 17 15.6 +1.6**
NIL Nilore 42.19 79 P **P 20 17 18.2 +0.3**
NIL IAmb IAmb 20 17 19.8
comp=Z,25nm,0.8s
NIL Nilore 42.19 79 P **P 20 17 18.2 +0.3**
NIL pmax pmax
comp=Z,25nm,0.9s
KURBB Kurchatov Arra 42.25 53 P **P 20 17 17.9 -0.1**
comp=Z,15nm,0.7s,baz=282,slow=8.7,SNR=60
comp=Z,15nm,0.7s
KURK Kurchatov 42.30 53 P **P 20 17 16.8 -1.7**
KURK IAmb IAmb 20 17 29.4
comp=Z,30nm,1.1s
KURK Kurchatov 42.30 53 *c i* P **P 20 17 17.8 -0.7**
KURK pmax pmax
comp=Z,22nm,1.1s
TNSS Tian-Shan 42.31 64 *eP* **P 20 17 18.8 -0.4**
TNSS Tian-Shan 42.31 64 *eP* **P 20 17 18.8 -0.4**
KSH Kashi 42.45 70 P **P 20 17 19.3 -0.7**
KSH sP sP 20 17 27.8 +1.2
KSH pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 42.68 66 P **P 20 17 22.9 +0.9**
TDK Taldyqorghan 42.95 61 *eP* **P 20 17 24.2 +0.3**
TDK Taldyqorghan 42.95 61 *eP* **P 20 17 24.2 +0.3**
SATY Saty 43.35 64 *eP* **P 20 17 27.2 -0.1**
SATY Saty 43.35 64 *eP* **P 20 17 27.2 -0.1**
KPKS Kokpek 43.46 63 *eP* **P 20 17 28.3 +0.2**
KPKS Kokpek 43.46 63 *eP* **P 20 17 28.4 +0.2**
SHLS Shalkode 44.08 64 *eP* **P 20 17 35.8 +2.6**
SHLS Shalkode 44.08 64 *eP* **P 20 17 35.9 +2.6**
WUS Wushi 44.39 66 IAmb IAmb 20 17 45.8
comp=Z,19nm,1.3s
MAKZ Makanchi 45.05 58 P **P 20 17 39.9 -0.9**
MAKZ IAmb IAmb 20 18 03.2
comp=Z,22nm,1.8s
MAKZ Makanchi 45.05 58 P **P 20 17 39.9 -0.9**
MAKZ pmax pmax
comp=Z,22nm,1.8s
MK31 Makanchi Array 45.26 58 IAmb IAmb 20 17 54.2
comp=Z,7.5nm,0.5s
MK31 Makanchi Array 45.26 58 *c i* P **P 20 17 42.2 -0.2**
MKAR Makanchi Array 45.26 58 P **P 20 17 41.9 -0.5**
MKAR Makanchi Array 45.26 58 P **P 20 17 42.4 -0.1**
comp=Z,3.7nm,0.4s,baz=271,slow=7.5,SNR=114
MKAR PcP **PcP 20 19 23.0 +0.9**
comp=Z,3.5nm,0.8s,baz=274,slow=5.8,SNR=2.4
MKAR ScP **ScP 20 23 13.5 -0.6**
comp=Z,1.1nm,0.9s,baz=268,slow=4.1,SNR=4.7
MKAR LR LR 20 39 56.0
comp=Z,156nm,21.0s,baz=283,slow=40
comp=Z,3.7nm,0.4s
MKAR Makanchi Array 45.26 58 *i* P **P 20 17 42.5 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.4s
SUMG Summit 45.49 339 P **P 20 17 45.3 +1.0**
SUMG IAmb IAmb 20 18 03.2
comp=Z,21nm,1.2s
SUMG Summit 45.49 339 P **P 20 17 45.3 +1.0**
SUMG pmax pmax
comp=Z,21nm,1.2s
ZALV Zalesovo Beam 45.78 48 P **P 20 17 44.9 -1.5**
ZALV Zalesovo Beam 45.78 48 P **P 20 17 45.8 -0.5**
comp=Z,15nm,0.5s,baz=275,slow=9.3,SNR=49
comp=Z,15nm,0.5s
ZSN Zaisan 46.85 57 *eP* **P 20 17 55.1 +0.2**
ZSN pmax pmax
comp=Z,10.0nm,1.2s
ZSN Zaisan 46.85 57 *eP* **P 20 17 55.1 +0.2**
comp=Z,10nm,1.2s
NRIK Noril'sk 47.13 26 P **P 20 17 57.1 +0.4**
NRIK IAmb IAmb 20 17 58.9
comp=Z,9.6nm,1.0s
NRIK Noril'sk 47.13 26 P **P 20 17 56.5 -0.3**
comp=Z,7.9nm,1.0s,baz=259,slow=6.5,SNR=9.9
NRIK PP **PP 20 19 45.9 -1.4**
comp=Z,4.0nm,0.7s,baz=305,slow=5.7,SNR=3.6
NRIK LR LR 20 41 13.1
comp=Z,313nm,18.9s,baz=258,slow=41
comp=Z,7.9nm,1.0s
NRIK Noril'sk 47.13 26 *ceP* **P 20 17 57.6 +0.9**
NRIK pmax pmax
comp=Z,12nm,1.0s
SFJD Kangerlussuaq 48.92 330 LR LR 20 39 52.9
comp=Z,116nm,18.1s,baz=90,slow=37
WMQ Urumqi 49.69 61 *eP* **P 20 18 17.5 +0.5**
WMQ pP sP 20 18 25.0 +1.2
WMQ sP pP 20 18 28.3 +6.6
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR

comp=Z,160nm,23.9s
LSZ Lusaka 53.03 171 P **P 20 18 43.8 +1.6**
LSZ Lusaka 53.03 171 LR LR 20 42 21.7
comp=Z,114nm,18.6s,baz=2.0,slow=37
LSZ Lusaka 53.03 171 P **P 20 18 43.8 +1.6**
LSZ pmax pmax
comp=Z,10.0nm,1.1s
MOY Mondy 55.83 48 *e*P **P 20 19 02.2 -0.1**
EUNU Eureka 56.15 348 P **P 20 19 05.1 +1.0**
EUNU IAmb IAmb 20 20 13.8
comp=Z,25nm,1.6s
TSUM Tsumeb 56.60 184 LR LR 20 44 41.6
comp=Z,248nm,20.1s,baz=331,slow=37
FRB Frobisher Bay 56.84 328 LR LR 20 46 16.6
comp=Z,131nm,18.2s,baz=220,slow=39
GOMU GeErMu 57.55 67 P **P 20 19 16.0 +1.0**
GOMU pP sP 20 19 20.3 -1.6
GOMU sP pP 20 19 23.0 +2.9
GOMU pmax pmax
comp=Z,3.0nm,0.8s
ZAK Zakamensk 57.63 49 *e*P **P 20 19 14.6 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
LSA Lhasa 57.69 75 IAmb IAmb 20 19 24.7
comp=Z,6.5nm,0.8s
LSA Lhasa 57.69 75 P **P 20 19 16.3 0.0**
LSA pmax pmax
comp=Z,7.0nm,1.1s
LSA Lhasa 57.69 75 P **P 20 19 16.2 -0.1**
SCHQ Schefferville 59.15 318 P **P 20 19 25.6 +0.1**
comp=Z,5.8nm,0.8s,baz=62,slow=7.5,SNR=9.0
SCHQ LR LR 20 44 58.3
comp=Z,83nm,18.2s,baz=75,slow=36
comp=Z,5.8nm,0.8s
GTA Gaotai 59.74 62 P **P 20 19 28.8 -1.2**
GTA sP sP 20 19 37.0 +0.1
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=Z,130nm,13.1s
GTA LR LR
comp=Z,92nm,13.5s
GTA LR LR
comp=Z,95nm,16.3s
TIXI Tiksi 60.05 20 P **P 20 19 30.9 -0.4**
TIXI IAmb IAmb 20 19 33.0
comp=Z,5.5nm,0.8s
TIXI Tiksi 60.05 20 LR LR 20 49 18.9
comp=Z,650nm,20.0s,baz=2.5,slow=40
TIXI Tiksi 60.05 20⇑*i*P **P 20 19 31.7 +0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 60.42 344 IAmb IAmb 20 19 59.7
comp=Z,10.0nm,1.4s
SONM Songino Array 60.51 50 P **P 20 19 34.6 -0.6**
comp=Z,4.2nm,1.0s,baz=289,slow=8.7,SNR=20
SONM LR LR 20 48 49.9
comp=Z,118nm,21.1s,baz=356,slow=39
comp=Z,4.2nm,1.0s
BOD Bodaibo 60.58 38 *e*P **P 20 19 33.9 -1.3**
BOD pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 60.90 50 P **P 20 19 37.5 -0.3**
ULN Ulaanbaatar 60.90 50⇓*i*P **P 20 19 38.0 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s
LBTB Lobatse 62.44 175 P **P 20 19 49.7 +1.5**
LBTB Lobatse 62.44 175 LR LR 20 50 28.9
comp=Z,112nm,19.2s,baz=359,slow=40
LBTB Lobatse 62.44 175 P **P 20 19 49.7 +1.5**
LBTB pmax pmax
comp=Z,18nm,1.3s
LZH Lanzhou 64.10 63 *e*P **P 20 20 02.8 +3.4**
LZH sP sP 20 20 07.8 +1.5
LZH pmax pmax
comp=Z,14nm,0.9s
YAK Yakutsk 65.41 29 P **P 20 20 06.6 -0.7**
YAK Yakutsk 65.41 29 LR LR 20 52 56.6
comp=Z,166nm,19.9s,baz=298,slow=40
YAK Yakutsk 65.41 29 *e*P **P 20 20 05.8 -1.4**
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.3s
TNCH TengChong 65.69 76 P **P 20 20 10.5 +0.6**
TNCH pP pP 20 20 14.5 -0.5
TNCH sP sP 20 20 17.0 +0.1
TNCH pmax pmax
comp=N,16nm,0.9s
BOSA Boshof 66.00 176 P **P 20 20 11.6 +0.1**
comp=N,1.9nm,0.6s,baz=3.5,slow=7.8,SNR=7.3
BOSA LR LR 20 50 41.1
comp=N,178nm,19.8s,baz=8.0,slow=38
comp=N,1.9nm,0.6s
HHC Hu-ho-hao-te 67.03 55 *e*P **P 20 20 18.3 +0.1**
HHC pmax pmax
comp=N,9.0nm,0.7s
HHC pmax pmax
comp=N,90nm,5.0s
PZH PanZhiHua 67.39 73 P **P 20 20 20.0 -0.7**
PZH pmax pmax
comp=N,20nm,1.0s
PZH pmax pmax
comp=N,70nm,5.9s
XAN Xi'an 68.73 63 P **P 20 20 31.0 +2.1**
XAN pmax pmax
comp=N,7.0nm,1.2s
KMI Kunming 68.88 74⇓P **P 20 20 30.3 +0.1**
KMI pmax pmax
comp=N,11nm,1.0s
ZEA Zeya 69.08 38 *e*P **P 20 20 31.9 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,18.0s
CHTO Chiang Mai 69.38 82 P **P 20 20 32.6 -0.5**
CHTO Chiang Mai 69.38 82 P **P 20 20 32.6 -0.5**
CHTO pmax pmax
comp=Z,19nm,1.0s
CMAR Chiang Mai Arr 69.58 82 P **P 20 20 33.8 -0.5**
CMAR Chiang Mai Arr 69.58 82 P **P 20 20 34.5 +0.1**
comp=Z,11nm,0.9s,baz=305,slow=7.9,SNR=86
comp=Z,11nm,0.9s
SUR Sutherland 69.63 180 LR LR 20 53 42.2
comp=Z,152nm,18.5s,baz=358,slow=38
FCC Fort Churchill 69.94 330 IAmb IAmb 20 20 37.5
comp=Z,12nm,1.1s
C36M Paulatuk 70.30 348 IAmb IAmb 20 20 49.0
comp=Z,15nm,1.2s
SADO Sadowa 70.93 312 LR LR 20 52 31.5
comp=Z,95nm,18.2s,baz=259,slow=36
HEH HeiHe 71.21 41 *e*P **P 20 20 44.0 +0.2**
HEH pmax pmax
comp=Z,20nm,0.9s
HEH LR LR
comp=Z,150nm,20.6s
HEH LR LR
comp=Z,240nm,20.8s
HEH LR LR
comp=Z,300nm,22.5s
BILL Bilibino 71.48 13 P **P 20 20 45.5 +0.3**
BILL IAmb IAmb 20 20 46.6
comp=Z,7.2nm,1.0s
BILL Bilibino 71.48 13⇓*i*P **P 20 20 45.8 +0.7**
BILL pmax pmax
comp=Z,8.0nm,0.9s
SLVN Son La 71.85 77 P **P 20 20 47.5 -0.7**
SLVN IAmb IAmb 20 20 49.9
comp=Z,11nm,0.9s
B22K Teshekpuk Lake 72.28 358 IAmb IAmb 20 21 08.3
comp=Z,15nm,1.1s
C27K Jago River 72.49 354 IAmb IAmb 20 21 03.7
comp=Z,14nm,1.1s
SEY Seymchan 72.52 21 *e*P **P 20 20 51.2 -0.3**
SEY pmax pmax
comp=Z,5.0nm,1.0s
D27M Malcolm River 72.63 353 IAmb IAmb 20 21 24.7
comp=Z,9.1nm,1.1s
B20K Meade River 72.69 359 IAmb IAmb 20 20 55.1
comp=Z,15nm,1.1s
C23K Itkillik River 72.69 357 IAmb IAmb 20 20 55.4
comp=Z,14nm,1.1s

INK Inuvik 72.69 350 IAmb IAmb 20 21 01.5
comp=Z,8.1nm,1.2s
D25K Kavik River 72.98 355 IAmb IAmb 20 20 56.5
comp=Z,7.7nm,1.1s
B21K Ikpikpuk River 73.03 358 IAmb IAmb 20 20 57.2
comp=Z,9.6nm,1.0s
E28M Babbage River 73.11 353 IAmb IAmb 20 20 57.4
comp=Z,8.8nm,1.1s
TIA Tai'an 73.19 57 P **P 20 20 56.5 +0.6**
TIA pmax pmax
comp=Z,1.0nm,0.4s
D24K Happy Valley 73.29 356 IAmb IAmb 20 20 58.7
comp=Z,16nm,1.4s
D23K Nanushuk River 73.56 357 IAmb IAmb 20 21 09.8
comp=Z,16nm,1.1s
E27K Coleen River 73.72 353 IAmb IAmb 20 21 08.6
comp=Z,16nm,1.2s
D22K Ayikyak River 73.72 358 IAmb IAmb 20 21 17.8
comp=Z,11nm,1.1s
BNX BinXian 73.92 44⇓P **P 20 21 00.3 +0.3**
BNX pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 74.06 40 LR LR 20 58 48.2
comp=Z,130nm,18.8s,baz=302,slow=40
KLR Kul'dur 74.06 40*c i*P **P 20 21 00.9 +0.1**
KLR pmax pmax
comp=Z,13nm,1.1s
YKA Yellowknife Ar 74.06 340 P **P 20 21 00.8 +0.3**
comp=Z,2.0nm,0.8s,baz=36,slow=5.1,SNR=26
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 74.06 340 *i*P **P 20 21 01.2 +0.7**
YKA pmax pmax
comp=Z,2.0nm,0.8s
G31M Satah River 74.09 350 IAmb IAmb 20 21 11.4
comp=Z,13nm,1.2s
F28M Old Crow 74.10 353 IAmb IAmb 20 21 10.7
comp=Z,10nm,1.1s
E25K Arctic Village 74.11 355 IAmb IAmb 20 21 13.3
comp=Z,11nm,1.2s
E23K Chandalar 74.42 356 IAmb IAmb 20 21 33.3
comp=Z,13nm,1.2s
F26K Sheenjek River 74.42 354 IAmb IAmb 20 21 05.4
comp=Z,10nm,1.2s
E22K Anaktuvuk Pass 74.44 357 IAmb IAmb 20 21 44.6
comp=Z,12nm,1.3s
G29M Pine Creek 74.58 352 IAmb IAmb 20 21 05.4
comp=Z,12nm,0.9s
MA2 Magadan 74.65 24 P **P 20 21 04.4 +0.4**
MA2 IAmb IAmb 20 21 06.1
comp=Z,15nm,0.9s
MA2 Magadan 74.65 24 LR LR 20 59 21.9
comp=Z,314nm,18.1s,baz=319,slow=40
MA2 Magadan 74.65 24*ce*P **P 20 21 05.0 +1.0**
MA2 pmax pmax
comp=Z,17nm,1.0s
COLD Coldfoot 75.27 356 IAmb IAmb 20 21 17.5
comp=Z,8.4nm,1.1s
H29M Whitestone 75.28 352 IAmb IAmb 20 21 34.7
comp=Z,9.3nm,1.0s
E18K Tukpahlearik C 75.28 1 **sP 20 21 14.0 -0.4**
E18K IAmb IAmb 20 21 16.6
comp=Z,23nm,1.4s
GRNR Gornyy 75.34 36⇑*i*P **P 20 21 08.5 +0.3**
GRNR pmax pmax
comp=Z,9.0nm,0.9s
GRNR MLR MLR
comp=Z,310nm,17.0s
GRNR MLR MLR
comp=N,190nm,21.0s
GRNR MLR MLR
comp=E,310nm,21.0s
F21K Alatna River 75.41 358 IAmb IAmb 20 21 18.7
comp=Z,12nm,1.1s
F20K Avaraart Lake 75.64 359 IAmb IAmb 20 21 22.8
comp=Z,27nm,1.7s
G23K Bananza Creek 75.78 356 IAmb IAmb 20 21 20.8
comp=Z,10nm,1.2s
FFC Flin Flon 75.87 330 P **P 20 21 11.9 +0.7**
FFC Flin Flon 75.87 330 P **P 20 21 11.9 +0.7**
FFC pmax pmax
comp=Z,6.0nm,1.0s
F19K Shaleruckik Mo 75.88 360 IAmb IAmb 20 21 13.2
comp=Z,8.1nm,0.8s
I30M Mount Dempster 75.99 350 IAmb IAmb 20 21 23.0
comp=Z,7.5nm,0.9s
I28M Miner Creek 76.21 352 IAmb IAmb 20 22 53.0
comp=Z,24nm,1.9s
ULM Lac du Bonnet 76.39 324 IAmb IAmb 20 21 25.0
comp=Z,20nm,1.3s
ULM Lac du Bonnet 76.39 324 P **P 20 21 14.0 -0.2**
comp=Z,6.2nm,0.8s,baz=49,slow=5.9,SNR=14
ULM LR LR 20 54 31.8
comp=Z,113nm,19.9s,baz=19,slow=36
comp=Z,6.2nm,0.8s
ULM Lac du Bonnet 76.39 324⇓*i*P **P 20 21 15.0 +0.8**
G19K Purcell Mounta 76.57 359 IAmb IAmb 20 21 51.4
comp=Z,20nm,1.4s
J30M Hart River 76.60 350 IAmb IAmb 20 21 27.7
comp=Z,14nm,1.2s
NJ2 Nanjing 76.76 60 *e*P **P 20 21 16.3 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
H21K Melozitna Rive 76.95 357 IAmb IAmb 20 21 20.8
comp=Z,12nm,1.0s
H19K Roundabout Mou 77.18 359 IAmb IAmb 20 21 20.3
comp=Z,14nm,1.2s
POKR Poker Plat Res 77.21 355 IAmb IAmb 20 21 30.9
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 77.30 356 IAmb IAmb 20 21 30.7
comp=Z,12nm,1.3s
USA0B Ussuriysk Arra 77.42 43 IAmb IAmb 20 21 20.8
comp=Z,9.8nm,1.1s
USA0B Ussuriysk Arra 77.42 43*d i*P **P 20 21 18.8 -1.3**
USRK Ussuriysk Ar. 77.42 43 P **P 20 21 18.9 -1.2**
USRK Ussuriysk Ar. 77.42 43 P **P 20 21 19.9 -0.2**
comp=Z,5.0nm,0.9s,baz=270,slow=4.3,SNR=11
USRK LR LR 20 59 44.6
comp=Z,260nm,18.5s,baz=302,slow=39
comp=Z,5.0nm,0.9s
K29M Barlow Dome 77.46 350 IAmb IAmb 20 21 55.1
comp=Z,12nm,1.5s
DAWY Dawson 77.48 351 P **P 20 21 20.7 +0.6**
DAWY IAmb IAmb 20 21 31.0
comp=Z,19nm,1.5s
J26L Joseph Creek 77.50 353 IAmb IAmb 20 21 30.4
comp=Z,9.5nm,1.2s
ILAR Eielson Array 77.51 355 P **P 20 21 20.3 +0.1**
comp=Z,1.4nm,0.9s,baz=355,slow=3.9,SNR=15
ILAR LR LR 20 57 29.8
comp=Z,80nm,19.2s,baz=291,slow=37
comp=Z,1.4nm,0.9s
HDA Harding Lake 77.88 355 IAmb IAmb 20 21 31.5
comp=Z,12nm,1.1s
WRH Wood River Hil 77.89 355 P **P 20 21 22.7 +0.3**
WRH IAmb IAmb 20 22 17.3
comp=Z,20nm,1.4s
FARO Faro, Yukon 78.37 348 IAmb IAmb 20 21 37.6
comp=Z,14nm,1.3s
DOT Dot Lake 78.38 353 IAmb IAmb 20 21 35.4
comp=Z,12nm,1.2s
MCK McKinley 78.68 355 IAmb IAmb 20 21 28.5
comp=Z,19nm,1.3s
BCAR Beaver Creek A 78.72 352 P **P 20 21 27.7 +0.6**
M29M Somme Creek 78.93 350 IAmb IAmb 20 21 40.2
comp=Z,10.0nm,0.9s
CAST Castle Rocks 79.16 357 IAmb IAmb 20 21 41.3
comp=Z,12nm,1.4s
TKL Tuckaleechee C 79.19 307 LR LR 20 54 10.0
comp=Z,62nm,20.5s,baz=25,slow=34
KSAR Wonju Array Be 79.37 51 P **P 20 21 30.3 -0.7**
KSAR Wonju Array Be 79.37 51 P **P 20 21 30.3 -0.7**
KSRS Korea Array 79.38 51 P **P 20 21 31.1 0.0**
comp=Z,6.9nm,0.9s,baz=311,slow=4.7,SNR=24
KSRS LR LR 21 02 05.9
comp=Z,138nm,18.7s,baz=195,slow=40
comp=Z,6.9nm,0.9s
TJN Taejon 79.72 52⇑*i*P **P 20 21 32.0 -0.9**
TJN pmax pmax
comp=Z,1.0nm,1.6s
HYT Haines Junctio 80.35 350 IAmb IAmb 20 21 48.6
comp=Z,13nm,1.2s
L19K White Mountain 80.50 358 IAmb IAmb 20 21 39.1
comp=Z,22nm,1.1s
R33M Jennings River 80.60 346 IAmb IAmb 20 21 50.2
comp=Z,16nm,1.2s
SJMB Sao Joao De Ma 80.95 238 *e*P **P 20 21 41.0 +1.4**
YSS Yuzhno-Sakhali 80.99 36 P **P 20 21 39.8 +0.3**

YSS Yuzhno-Sakhali 80.99 36*c i*P **P 20 21 40.2 +0.7**
YSS pmax pmax
comp=Z,26nm,0.9s
ECSD EROS Data Cent 81.28 319 P **P 20 21 41.8 +0.6**
DLBC Dease Lake 81.30 345 LR LR 20 59 48.7
comp=Z,112nm,18.2s,baz=308,slow=37
PETK Petropavlovsk- 82.15 25 LR LR 21 04 03.7
comp=Z,233nm,18.5s,baz=314,slow=40
ASAJ Asahikawa 82.99 38 LR LR 21 02 46.0
comp=Z,281nm,18.1s,baz=340,slow=39
BDFB Brasília 83.63 245 LR LR 21 00 21.0
comp=Z,194nm,18.0s,baz=338,slow=37
JNU Nakatsue 84.02 53 LR LR 21 03 40.7
comp=Z,55nm,18.0s,baz=324,slow=39
KDAK Kodiak Island 84.82 357 LR LR 21 01 03.2
comp=Z,60nm,21.1s,baz=204,slow=37
MJAR Matsushiro Arr 86.10 46 P **P 20 22 04.5 -1.5**
comp=Z,4.8nm,0.9s,baz=323,slow=4.8,SNR=11
MJAR LR LR 21 05 30.9
comp=Z,94nm,20.3s,baz=322,slow=39
comp=Z,4.8nm,0.9s
JOW Kunigami 86.42 59 LR LR 21 06 21.2
comp=Z,72nm,18.9s,baz=347,slow=40
SHEM Shemya Is, Ala 87.03 16 LR LR 21 07 16.1
comp=Z,106nm,18.2s,baz=352,slow=40
PDAR Pinedale Array 88.24 326 P **P 20 22 15.8 -0.8**
comp=Z,0.8nm,0.9s,baz=27,slow=2.8,SNR=5.3
PDAR LR LR 21 05 59.8
comp=Z,71nm,18.0s,baz=14,slow=38
comp=Z,0.8nm,0.9s
TBTG Tabatinga, AM 93.27 267 *e*P **P 20 22 40.7 +0.7**
DAV Davao City (W) 97.11 75 LR LR 21 11 53.8
comp=Z,12nm,21.3s,baz=324,slow=39
CPUP Villa Florida 97.13 242 LR LR 21 07 20.1
comp=Z,225nm,19.9s,baz=44,slow=36
PFO Pinyon Flats O 98.84 325 LR LR 21 11 12.2
comp=Z,85nm,18.5s,baz=128,slow=38
KAPI Kappang 99.95 89 LR LR 21 15 06.6
comp=Z,19nm,18.8s,baz=282,slow=39
WRA Warramunga Arr 120.12 93 PKP **PKPdf 20 28 15.0 -1.2**
comp=Z,1.2nm,1.0s,baz=317,slow=1.5,SNR=4.7
ASAR Alice Springs 121.72 97 PKP **PKPdf 20 28 17.9 -1.4**
comp=Z,1.4nm,0.8s,baz=340,slow=2.3,SNR=13
QSPA South Pole Qui 127.46 180 PKP **PKPdf 20 28 27.7 -1.2**
comp=Z,1.2nm,0.9s,baz=260,slow=1.9,SNR=2.5
DZM Mont Dzumac 146.47 72 *e*LR LR 21 17 13.1
comp=Z,74nm,23.7s
PPT2 Papeete2 158.41 335 *e*LR LR 21 22 41.8
comp=Z,67nm,25.2s
PPT2 *e*LR LR 21 22 50.5
comp=Z,1μm,30.6s

TRN 28 20:24:03.4, 16°.92N×60°.58W, h20km, MD3.7, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.14**	**276**	*e*P	Pb	20 24 25.7	+1.3
ANBD				*e*S	Sn	20 24 41.8	+2.6
ANBD	**Bethesda, Anti**	**1.14**	**276**	*e*P	Pb	20 24 25.7	+1.3
ANBD				*e*S	Sn	20 24 41.8	+2.6
ANWB	**Willy Bob**	**1.37**	**303**	*e*P	Pb	20 24 28.7	+0.3
ANWB				*e*S	Sb	20 24 47.0	+1.5
ANWB	**Willy Bob**	**1.37**	**303**	*e*P	Pb	20 24 28.7	+0.3
ANWB				*e*S	Sb	20 24 47.0	+1.5
TBG	**Guadaloupe-3**	**1.48**	**224**	*e*P	Pb	20 24 31.4	+1.3
TBG	**Guadaloupe-3**	**1.48**	**224**	*e*P	Pb	20 24 31.4	+1.3
MBFL	**Flemmings, Mon**	**1.57**	**264**	*e*	Pn	20 24 29.8	-0.4
MBFL	**Flemmings, Mon**	**1.57**	**264**	*e*	Pn	20 24 29.8	-0.4
DSLB	**Salisbury**	**1.68**	**209**	*e*P	Pb	20 24 33.9	+0.2
DSLB				*e*S	Sb	20 24 55.3	+0.8
DSLB	**Salisbury**	**1.68**	**209**	*e*P	Pb	20 24 33.9	+0.2
DSLB				*e*S	Sb	20 24 55.3	+0.8
SKI	**Saint Kitts**	**2.11**	**281**	*e*P	Pb	20 24 40.2	-0.7
SKI				*e*S	Sb	20 25 06.1	-0.5
SKI	**Saint Kitts**	**2.11**	**281**	*e*P	Pb	20 24 40.2	-0.7
SKI				*e*S	Sb	20 25 06.1	-0.5
BIM	**Bigot**	**2.44**	**191**	*e*P	Pn	20 24 44.0	+1.9
BIM				*e*S	Sn	20 25 13.0	+1.6
BIM	**Bigot**	**2.44**	**191**	*e*P	Pn	20 24 44.0	+1.9
BIM				*e*S	Sn	20 25 13.0	+1.6
SLBI	**Saint Lucia, B**	**2.91**	**188**	*e*P	Pn	20 24 49.9	+1.4
SLBI				*e*S	Sn	20 25 25.4	+2.5
SLBI	**Saint Lucia, B**	**2.91**	**188**	*e*P	Pn	20 24 49.9	+1.4
SLBI				*e*S	Sn	20 25 25.4	+2.5

---

*IDC **28** 20:24:18.7±3.5, 36°.29N×70°.75E, h176km±31km, mb3.5/16, mbtmp4.1/20, MS4.6/1, Error ellipse: s-maj=22.7km s-min=12.2km az=35.0*
*NEIC **28** 20:24:21.4±0.9, 36°.52N±0°.07×70°.72E±0°.09, h191km±8km, mb4.2/18, Error ellipse: s-maj=11.7km s-min=9.6km az=51.0*
*NNC **28** 20:24:24.0±4.0, 36°.80N×70°.48E, h167km±55km, mb3.5, mpv4.6, Error ellipse: s-maj=37.8km s-min=25.8km az=48.0*

ISC 28 20:24:22.1±0.5, 36°.57N±0°.06×70°.74E±0°.06, h204km, n74, σ1°.37/79, mb3.9/23, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.43**	**329**		**Pn**	**20 25 04.3**	**-1.2**
GAR	**Garm**	**2.45**	**352**		**Pn**	**20 25 04.8**	**-0.9**
KBL	**Kabul**	**2.46**	**215**		**Pn**	**20 25 03.2**	**-2.8**
SIMJ	**Simiganj**	**2.50**	**327**		**Pn**	**20 25 05.0**	**-1.3**
DRK	**Karamyk**	**3.02**	**16**		**Pn**	**20 25 12.1**	**-0.3**
BTK	**Batken**	**3.48**	**1**		**Pn**	**20 25 17.4**	**-0.2**
NIL	**Nilore**	**3.57**	**144**		**Pn**	**20 25 16.9**	**-1.8**
AML	**Almayashu**	**6.00**	**21**	P	**Pn**	**20 25 48.8**	**-0.9**
SNR=347							
UCH	**Uchtor**	**6.36**	**26**	P	**Pn**	**20 25 54.0**	**-0.4**
SNR=15							
EKS2	**Erkin-Say**	**6.52**	**20**	P	**Pn**	**20 25 55.8**	**-0.3**
SNR=87							
KK31	**Karatay Array**	**6.53**	**359**		**Pn**	**20 25 55.5**	**-0.5**
KK31	**Karatay Array**	**6.53**	**359**	⇑P	**Pn**	**20 25 55.6**	**-0.5**
25nm,0.5s,baz=193,slow=14,SNR=289							
KK31				⇓S	**S**	**20 27 06.6**	**-3.9**
21nm,0.3s,baz=183,slow=16,SNR=14							
KKAR	**Karatay Array**	**6.53**	**359**		**Pn**	**20 25 55.5**	**-0.6**
KKAR	**Karatay Array**	**6.53**	**359**		**Pn**	**20 25 55.4**	**-0.7**
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**20 25 58.4**	**-0.3**
30nm,0.4s,baz=192,slow=6.1,SNR=265							
AAK				S	**S**	**20 27 12.0**	**-3.1**
23nm,0.7s,baz=18,slow=21,SNR=18							
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**20 25 58.5**	**-0.3**
SNR=76							
AAK	**Ala-Archa**	**6.71**	**24**	⇑P	**Pn**	**20 25 58.1**	**-0.6**
16nm,0.4s							
AAK				⇓S	**S**	**20 27 13.8**	**-1.4**
28nm,0.6s							
KBK	**Karagaybulak**	**6.89**	**27**	P	**Pn**	**20 26 00.9**	**0.0**
SNR=39							
FRU1	**Bishkek**	**6.91**	**24**		**Pn**	**20 26 01.2**	**0.0**
ULHL	**Ulahol**	**7.08**	**35**	P	**Pn**	**20 26 02.8**	**-0.8**
SNR=13							
CHMS	**Chumysh**	**7.12**	**24**	P	**Pn**	**20 26 03.2**	**-0.6**
SNR=8.9							
BOOM	**Boomskoye usch**	**7.14**	**33**		**Pn**	**20 26 03.2**	**-1.0**
USP	**Ospenovka**	**7.28**	**22**	P	**Pn**	**20 26 04.8**	**-1.1**
SNR=29							
TKM2	**Tokmak 2**	**7.36**	**29**	P	**Pn**	**20 26 06.7**	**-0.4**
SNR=41							
KDJ	**Kajisay**	**7.46**	**40**		**Pn**	**20 26 07.5**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.52**	**45**		**Pn**	**20 26 08.4**	**-1.0**
WUS	**Wushi**	**8.06**	**52**		**Pn**	**20 26 14.9**	**-1.3**
MAKZ	**Makanchi**	**13.22**	**36**	P	**Pn**	**20 27 21.0**	**-1.0**
MK31	**Makanchi Array**	**13.35**	**37**		**Pn**	**20 27 21.8**	**-1.9**
MKAR	**Makanchi Array**	**13.35**	**37**	Pn	**Pn**	**20 27 22.6**	**-1.1**
MKAR	**Makanchi Array**	**13.35**	**37**	P	**Pn**	**20 27 23.2**	**-0.5**
1.3nm,0.7s,baz=220,slow=11,SNR=16							
AB31	**Akbulak array**	**14.92**	**332**	⇑P	**Pn**	**20 27 41.8**	**-1.1**
1.4nm,0.4s,baz=144,slow=12,SNR=59							
AB31				⇓S	**S**	**20 30 23.3**	**-4.9**
2.0nm,0.6s,baz=155,slow=22,SNR=5.8							
ABKAR	**Akbulak array**	**14.92**	**332**	P	**Pn**	**20 27 42.2**	**-0.7**
KURBB	**Kurchatov Arra**	**15.12**	**19**	P	**Pn**	**20 27 43.7**	**-1.6**
0.8nm,0.5s,baz=208,slow=11,SNR=11							
KURK	**Kurchatov**	**15.23**	**19**	Pn	**Pn**	**20 27 45.5**	**-1.2**
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**20 28 01.0**	**-0.4**
2.7nm,0.5s,baz=161,slow=11,SNR=18							
BRVK	**Borovoye**	**16.49**	**359**	P	**P**	**20 28 00.5**	**-0.3**
AKTO	**Aktyubinsk**	**16.61**	**330**	P	**Pn**	**20 28 03.7**	**+0.3**

5.9nm,0.6s,baz=147,slow=10,SNR=19
AKTO S **S** **20 31 02.9 -2.6**
0.8nm,0.6s,baz=342,slow=20,SNR=1.8
AKTO Aktyubinsk 16.61 330 ⇑P **Pn** **20 28 04.0 +0.7**
2.6nm,0.6s
AKTO ⇑S **S** **20 31 06.3 +0.8**
2.6nm,0.8s
LSA Lhasa 18.40 106 P **P** **20 28 21.7 -0.7**
ZAA0 Zalesovo Array 19.94 25 P **P** **20 28 38.4 +0.2**
ZAA0 IAmb IAmb 20 28 44.6
comp=Z,4.5nm,0.6s
ZALV Zalesovo Beam 19.94 25 P **P** **20 28 38.4 +0.2**
ZALV Zalesovo Beam 19.94 25 P **P** **20 28 39.1 +0.9**
comp=Z,2.3nm,0.3s,baz=217,slow=10,SNR=16
comp=Z,2.3nm,0.3s
SHL Shillong 21.13 115 **P** **20 28 50.0 -1.4**
SHL IAmb IAmb 20 28 53.4
comp=Z,14nm,1.2s
ARTI Arti 21.51 341 P **P** **20 28 54.3 -0.4**
ARTI Arti 21.51 341 P **P** **20 28 56.9 +2.1**
comp=Z,0.9nm,0.4s,baz=167,slow=18,SNR=4.5
comp=Z,0.9nm,0.4s
SONM Songino Array 28.46 55 P **P** **20 29 59.3 +1.2**
comp=Z,0.3nm,0.5s,baz=263,slow=8.6,SNR=4.5
comp=Z,0.3nm,0.5s
CMAR Chiang Mai Arr 30.67 118 P **P** **20 30 16.6 -1.1**
comp=Z,0.8nm,0.8s,baz=298,slow=7.8,SNR=6.9
comp=Z,0.8nm,0.8s
ELL Elmali 32.58 283 P **P** **20 30 34.4 0.0**
AKASG Malin Array Be 32.74 309 P **P** **20 30 36.0 +0.6**
comp=Z,0.6nm,0.6s,baz=84,slow=6.8,SNR=7.4
comp=Z,0.6nm,0.6s
AKBB Malin Array Si 32.74 309 P **P** **20 30 35.7 +0.4**
AKBB IAmb IAmb 20 30 58.4
comp=Z,6.8nm,1.4s
KIEV Kiev 32.75 309 P **P** **20 30 35.6 +0.2**
KIEV IAmb IAmb 20 30 58.4
comp=Z,6.1nm,1.4s
NRIK Noril'sk 34.09 11 P **P** **20 30 48.7 +1.9**
comp=Z,1.4nm,0.6s,baz=169,slow=6.1,SNR=4.0
comp=Z,1.4nm,0.6s
FINES FINESS Array B 37.31 326 P **P** **20 31 15.6 +1.4**
comp=Z,2.6nm,0.9s,baz=111,slow=10,SNR=3.8
comp=Z,2.6nm,0.9s
ARCES ARCESS Array B 41.00 338 P **P** **20 31 45.9 +1.2**
comp=Z,5.4nm,1.0s,baz=123,slow=7.7,SNR=4.1
comp=Z,5.4nm,1.0s
HFS Hagfors 42.88 322 P **P** **20 32 01.1 +1.1**
comp=Z,2.2nm,0.6s,baz=110,slow=13,SNR=5.5
comp=Z,2.2nm,0.6s
GSI Gunungsitoli 42.98 139 P **P** **20 32 01.4 0.0**
NC602 NORSAR Array S 44.01 323 P **P** **20 32 09.9 +0.9**
NC303 NORSAR Array S 44.14 323 P **P** **20 32 11.4 +1.4**
NB2 NORSAR Subarra 44.20 323 P **P** **20 32 11.3 +0.8**
comp=Z,1.3nm,0.7s,baz=97,slow=7.9
NOA NORSAR Array B 44.20 323 P **P** **20 32 11.1 +0.6**
comp=Z,0.9nm,0.6s,baz=99,slow=7.9,SNR=6.1
comp=Z,0.9nm,0.6s
TIXI Tiksi 45.78 22 P **P** **20 32 24.1 +1.3**
TIXI IAmb IAmb 20 32 24.8
comp=Z,5.1nm,0.8s
SEY Seymchan 54.47 34 LR LR 20 57 13.3
comp=Z,571nm,21.3s,baz=330,slow=36
DAG Danmarks Havn 54.60 344 *i* P **P** **20 33 31.0 +2.2**
TORD Torodi Ar. Bea 65.51 268 P **P** **20 34 42.3 -1.5**
comp=Z,20nm,0.3s,baz=46,slow=6.4,SNR=1.4
SOEI Soe 68.17 121 P **P** **20 35 00.6 -0.1**
SOEI IAmb IAmb 20 35 11.9
comp=Z,9.9nm,1.1s
B20K Meade River 68.19 16 P **P** **20 35 01.3 +1.5**
B20K IAmb IAmb 20 35 35.1
comp=Z,8.1nm,1.4s
C18K Utukok River 68.27 18 P **P** **20 35 01.6 +1.2**
C18K IAmb IAmb 20 35 19.6
comp=Z,9.8nm,1.3s
INK Inuvik 73.87 9 P **P** **20 35 35.3 +1.4**
comp=Z,1.2nm,0.5s,baz=332,slow=4.8,SNR=4.8
comp=Z,1.2nm,0.5s
DBIC Dimbokro 74.50 267 P **P** **20 35 39.6 +1.1**
comp=Z,2.5nm,0.7s,baz=37,slow=4.1,SNR=3.6
comp=Z,2.5nm,0.7s
FITZ Fitzroy Crossi 75.10 126 P **P** **20 35 40.7 -1.0**
comp=Z,1.0nm,0.5s,baz=320,slow=7.9,SNR=1.9
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 81.18 3 P **P** **20 36 15.7 +1.2**
comp=Z,0.4nm,0.3s,baz=347,slow=4.8,SNR=12
comp=Z,0.4nm,0.3s
WRA Warramunga Arr 82.20 122 P **P** **20 36 19.1 -1.4**
comp=Z,1.3nm,0.7s,baz=324,slow=4.9,SNR=11
comp=Z,1.3nm,0.7s
ASAR Alice Springs 84.47 125 P **P** **20 36 30.2 -1.7**
comp=Z,0.8nm,0.5s,baz=310,slow=4.8,SNR=18
comp=Z,0.8nm,0.5s

---

*NEIC **28** 20:43:21.9±2.1, 17°.57S±0°.02×69°.75W±0°.09, h151km±5km, mb4.8/139, Error ellipse: s-maj=12.1km s-min=2.6km az=90.0*
*GUC **28** 20:43:21.7±0.9, 17°.63S×69°.81W, h155km±5km, ML4.7*
*IDC **28** 20:43:22.6±1.0, 17°.45S×69°.58W, h158km±7km, mb4.3/17, mbtmp4.8/18, MS3.3/1, Error ellipse: s-maj=13.4km s-min=11.0km az=86.0*
*VAO **28** 20:43:22.5±0.4, 17°.43S×69°.45W, h151km, mb4.8*
ISC 28 20:43:20.7±0.6,**17°.53S**±0°.04×**69°.61W**±0°.05,**h146**km±5km, **n218**, σ1§51/181,**mb4.8**/80,**10C-2D**,**Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.13**	**116**	Pn	**Pn**	**20 43 43.4**	**+2.4**
PB18	**Visviri**	**0.13**	**116**	⇓*i*P	**Pn**	**20 43 44.1**	**+3.0**
AP01	**Chacalluta**	**1.09**	**220**		**Pn**	**20 43 46.7**	**+0.8**
AP01	**Chacalluta**	**1.09**	**220**	⇑*i*P	**Pn**	**20 43 46.7**	**+0.8**
AP01				*i* S	**Sn**	**20 44 05.5**	**+0.4**
AP01				IAML		20 44 07.7	
comp=E,29μm,0.8s							
PB12	**IPOC Station P**	**1.28**	**212**	Pn	**Pn**	**20 43 47.5**	**-0.3**
PB12	**IPOC Station P**	**1.28**	**212**	⇑*i*P	**Pn**	**20 43 48.3**	**+0.5**
PB12				*i* S	**Sn**	**20 44 08.4**	**-0.1**
PB12				IAML		20 44 09.9	
comp=N,11μm,0.4s							
PX02	**IPOC Station P**	**1.53**	**202**	⇓*i*P	**Pn**	**20 43 50.0**	**-0.4**
PX02				*i* S	**Sn**	**20 44 12.3**	**-0.9**
I08BO	**LAS PENAS INFR**	**1.71**	**40**	P	**Pn**	**20 43 56.5**	**+3.7**
baz=238,slow=14,SNR=3.2							
I08BO				S	**Sn**	**20 44 21.4**	**+4.0**
baz=256,slow=348							
LPAZ	**La Paz**	**1.88**	**49**	Pn	**Pn**	**20 43 57.7**	**+2.9**
LPAZ	**La Paz**	**1.88**	**49**	P	**Pn**	**20 43 57.8**	**+3.0**
comp=N,1μm,0.3s,baz=287,slow=3.7,SNR=5532							
LPAZ				S	**Sn**	**20 44 23.3**	**+2.5**
comp=N,1μm,0.7s,baz=29,slow=18,SNR=14							
PB11	**IPOC Station P**	**2.22**	**181**	Pn	**Pn**	**20 43 59.6**	**+1.2**
PB11	**IPOC Station P**	**2.22**	**181**	⇑*i*P	**Pn**	**20 43 59.5**	**+1.2**
PB11				*e*S	**Sn**	**20 44 28.0**	**+0.7**
PB11				IAML		20 44 29.6	
comp=E,5μm,0.4s							
PB08	**IPOC Station P**	**2.63**	**171**		**Pn**	**20 44 04.9**	**+1.2**
PB08	**IPOC Station P**	**2.63**	**171**	⇑*i*P	**Pn**	**20 44 05.8**	**+2.1**
PB08				*i* S	**Sn**	**20 44 37.2**	**+0.5**
PB08				IAML		20 44 38.9	
comp=E,2μm,0.4s							
TA02	**Huaiquique**	**2.77**	**190**		**Pn**	**20 44 04.6**	**-0.4**
TA02	**Huaiquique**	**2.77**	**190**	⇑*i*P	**Pn**	**20 44 04.9**	**-0.1**
TA02				IAML		20 44 41.9	
comp=E,3μm,0.1s							
TA01	**Diego Aracena**	**3.07**	**190**		**Pn**	**20 44 08.3**	**-0.4**
TA01	**Diego Aracena**	**3.07**	**190**	*i* P	**Pn**	**20 44 08.3**	**-0.4**
TA01				*i* S	**Sn**	**20 44 41.9**	**-4.0**
TA01				IAML		20 44 46.9	
comp=N,904nm,0.3s							
PB01	**IPOC Station P**	**3.50**	**178**		**Pn**	**20 44 14.7**	**+0.3**
PB09	**IPOC Station P**	**4.26**	**175**	Pn	**Pn**	**20 44 25.2**	**+0.8**
PB03	**IPOC Station P**	**4.50**	**182**	Pn	**Pn**	**20 44 27.3**	**-0.2**
PB14	**IPOC Station P**	**7.10**	**186**	Pn	**Pn**	**20 45 00.2**	**-2.1**
GO02	**Mina Guanaco**	**7.59**	**180**	Pn	**Pn**	**20 45 07.8**	**-1.2**
AZAP	**Zapla**	**7.89**	**148**	*e*P	**Pn**	**20 45 12.5**	**-0.4**
AZAP				*e*S	**Sn**	**20 46 33.3**	**-7.7**
SLA	**San Lorenzo**	**8.11**	**153**	*e*P	**Pn**	**20 45 16.3**	**+0.5**
SLA				*e*S	**Sn**	**20 46 43.9**	**-2.2**
SIV	**San Ignacio**	**8.32**	**81**	P	**Pn**	**20 45 19.6**	**+1.2**
comp=N,187nm,0.4s,baz=272,slow=10.0,SNR=156							
SIV				S	**Sn**	**20 46 48.1**	**-2.9**
comp=N,32nm,0.7s,baz=328,slow=15,SNR=3.5							
SIV				LR	LR	20 48 48.9	
comp=N,188nm,18.8s,baz=298,slow=39							
ETMB	**Extrema**	**8.35**	**24**	Pn	**Pn**	**20 45 18.1**	**-0.7**
ETMB	**Extrema**	**8.35**	**24**	*e*P	**Pn**	**20 45 17.9**	**-0.9**
AC01	**Pan de Azucar**	**8.62**	**186**	Pn	**Pn**	**20 45 18.9**	**-3.6**
NNA	**Nana**	**8.91**	**307**	Pn	**Pn**	**20 45 24.6**	**-1.8**
NNA	**Nana**	**8.91**	**307**	P	**Pn**	**20 45 25.3**	**-1.0**
comp=N,51nm,0.5s,baz=134,slow=11,SNR=22							
NNA				S	**Sn**	**20 46 58.6**	**-6.7**
comp=N,34nm,0.4s,baz=29,slow=17,SNR=7.2							
FSA	**Cafayete**	**9.18**	**159**	*e*P	**Pn**	**20 45 29.1**	**-0.9**
FSA				*e*S	**Sn**	**20 47 06.4**	**-5.4**
VILB	**Vilhena**	**10.15**	**65**	Pn	**Pn**	**20 45 41.4**	**-1.6**
VILB	**Vilhena**	**10.15**	**65**	*e*P	**Pn**	**20 45 41.3**	**-1.6**
CZSB	**Cruzeiro do Su**	**10.20**	**342**	Pn	**Pn**	**20 45 42.4**	**-1.2**
CZSB	**Cruzeiro do Su**	**10.20**	**342**	*e*P	**Pn**	**20 45 42.8**	**-0.7**
PTLB	**Pontes e Lacer**	**10.25**	**80**	Pn	**Pn**	**20 45 42.4**	**-1.8**
PTLB	**Pontes e Lacer**	**10.25**	**80**	*e*P	**Pn**	**20 45 42.8**	**-1.4**
LCO	**Las Campanas**	**11.47**	**185**	Pn	**Pn**	**20 46 01.4**	**+0.9**
MURT	**Porto Murtinho**	**12.03**	**112**	*e*P	**Pn**	**20 46 06.3**	**-1.2**
CO01	**Juntas del Tor**	**12.40**	**182**	P	**Pn**	**20 46 15.4**	**+2.9**
PAPY	**Pozo Azul**	**12.47**	**123**	*e*P	**Pn**	**20 46 14.4**	**+1.1**
BDQN	**Bodoquena, MS**	**12.50**	**105**	*e*P	**Pn**	**20 46 12.6**	**-1.1**
GO04	**Tololo Observa**	**12.63**	**185**		**Pn**	**20 46 16.9**	**+1.3**
CO06	**Fray Jorge**	**13.21**	**188**	P	**P**	**20 46 29.2**	**+1.9**
TBTG	**Tabatinga, AM**	**13.27**	**359**	*e*P	**Pn**	**20 46 23.3**	**-0.3**
CO03	**El Pedregal**	**13.29**	**184**	Pn	**Pn**	**20 46 24.8**	**+1.0**
SALV	**Santo Antonio**	**13.43**	**85**	*e*P	**Pn**	**20 46 24.7**	**-0.9**
AQDB	**Aquidauana**	**13.47**	**105**	Pn	**Pn**	**20 46 25.4**	**-0.8**
AQDB	**Aquidauana**	**13.47**	**105**	*e*P	**Pn**	**20 46 25.7**	**-0.5**
CFA	**Coronel Fontan**	**14.07**	**175**	P	**Pn**	**20 46 31.9**	**-1.7**
comp=N,10.0nm,0.8s,baz=353,slow=12,SNR=26							
CFA				S	Sn	20 49 00.0	-9.5
comp=N,1.1nm,0.4s,baz=272,slow=10,SNR=2.4							
CPUP	**Villa Florida**	**14.36**	**130**	P	**Pn**	**20 46 34.9**	**-2.4**
comp=N,1.7nm,0.3s,baz=319,slow=12,SNR=5.1							
SJPY	**San Joaquin**	**14.61**	**123**	*e*P	**Pn**	**20 46 40.5**	**+0.1**
TEFE	**Tefe**	**14.76**	**20**	*e*P	**Pn**	**20 46 42.4**	**-0.1**
CLDB	**Colider**	**14.93**	**66**	*e*P	**Pn**	**20 46 45.2**	**+0.6**
RPRD	**Ribas do Rio P**	**15.32**	**104**	*e*P	**P**	**20 46 50.7**	**-0.2**
MT03	**Universidad Ad**	**15.92**	**183**		**Pn**	**20 46 54.0**	**-2.7**
MACA	**Manacapuru-AM**	**16.75**	**32**	*e*P	**P**	**20 47 05.7**	**-0.9**
BO01	**Tunca**	**16.84**	**184**	P	**Pn**	**20 47 07.9**	**0.0**
ARAG	**Araguaiana, MT**	**17.15**	**87**	*e*P	**Pn**	**20 47 11.4**	**-0.3**
NPGB	**Novo Progresso**	**17.37**	**55**	*e*P	**P**	**20 47 12.9**	**-0.6**
COHC	**Cochancay**	**17.72**	**327**		**P**	**20 47 17.6**	**+0.3**
PTGB	**Pitanga**	**17.85**	**117**	*e*P	**Pn**	**20 47 19.5**	**-0.6**
H03S3	**Juan Fernandez**	**18.25**	**205**	P	Pn	20 47 34.0	+10
baz=14,slow=12,SNR=7.4							
H03S1	**Juan Fernandez**	**18.26**	**205**	P	Pn	20 47 34.0	+9.5
baz=14,slow=12,SNR=4.3							
H03S2	**Juan Fernandez**	**18.26**	**205**	P	Pn	20 47 35.2	+11
baz=14,slow=12,SNR=7.7							
LDASE	**Londrina, Braz**	**18.27**	**112**	*e*P	**P**	**20 47 23.8**	**+0.4**
ITRB	**Iturama**	**18.37**	**100**	*e*P	**Pn**	**20 47 25.5**	**-0.7**
SNDB	**Serra Nova Dou**	**18.54**	**75**	*e*P	**P**	**20 47 26.3**	**-0.1**
TBOT	**Tacuaremb**	**18.76**	**141**	*e*P	**Pn**	**20 47 29.7**	**-1.0**
ITAB	**Concordia**	**18.80**	**124**	P	**P**	**20 47 29.8**	**+0.7**
ITAB	**Concordia**	**18.80**	**124**	*e*P	**P**	**20 47 29.8**	**+0.7**
SLOR	**San Lorenzo -**	**18.85**	**331**	P	**P**	**20 47 30.8**	**+0.6**
ITTB	**Itaituba**	**18.86**	**48**	*e*P	**P**	**20 47 29.4**	**-0.4**
CPSB	**Cacapava Do Su**	**19.52**	**134**	*e*P	**P**	**20 47 37.2**	**+0.3**
FRTB	**Fartura**	**19.64**	**110**	*e*P	**P**	**20 47 38.5**	**+0.2**
OTAV	**Otavalo**	**19.69**	**333**	P	**P**	**20 47 38.8**	**-0.5**
OTAV	**Otavalo**	**19.69**	**333**	*e*P	**Pn**	**20 47 41.9**	**-0.2**
BB19B	**Bebedouro**	**20.20**	**103**	*e*P	**P**	**20 47 43.7**	**-0.6**
IPMB	**Ipameri, GO**	**20.38**	**95**	*e*P	**P**	**20 47 45.3**	**-0.9**
BDFB	**Brasilia**	**20.78**	**88**	P	**P**	**20 47 50.3**	**-0.2**
BDFB	**Brasilia**	**20.78**	**88**	P	**P**	**20 47 50.1**	**-0.5**
comp=N,18nm,0.4s,baz=257,slow=9.6,SNR=19							
comp=N,18nm,0.4s							
CNLB	**Canela**	**20.79**	**128**	*e*P	**P**	**20 47 51.4**	**+0.9**
MAJ01	**Sao Joao Batis**	**21.39**	**121**	*e*P	**P**	**20 47 58.1**	**+1.2**
TRQA	**Tornquist**	**21.51**	**163**	P	**P**	**20 47 58.6**	**+0.5**
MAL2	**Monte Alegre,**	**21.61**	**46**	P	**P**	**20 47 57.9**	**-1.6**
MAL2				IAmb	IAmb	20 48 01.0	
comp=Z,64nm,1.0s							
BOAV	**Boa Vista**	**21.73**	**25**	P	**P**	**20 47 59.6**	**-1.1**
BOAV				IAmb	IAmb	20 48 02.2	
comp=Z,27nm,0.9s							
BOAV	**Boa Vista**	**21.73**	**25**	*e*P	**P**	**20 48 00.6**	**0.0**
LR04	**Corral**	**22.52**	**188**	IAmb	IAmb	20 48 10.8	
comp=Z,68nm,0.9s							
LR05	**Currie**	**22.71**	**185**	P	**P**	**20 48 09.8**	**-0.3**
LR05				IAmb	IAmb	20 48 12.3	
comp=Z,95nm,1.3s							
SMTB	**Santa Maria do**	**23.08**	**71**	*e*P	**P**	**20 48 14.0**	**+0.2**
PLCA	**Paso Flores**	**23.14**	**182**	P	**P**	**20 48 14.9**	**+0.7**
PLCA				IAmb	IAmb	20 48 17.6	
comp=Z,44nm,0.9s							
PLCA	**Paso Flores**	**23.14**	**182**	P	**P**	**20 48 15.4**	**+1.3**
comp=Z,31nm,0.8s,baz=2.6,slow=10,SNR=65							
comp=Z,31nm,0.8s							
PLCA	**Paso Flores**	**23.14**	**182**	*e*P	**P**	**20 48 15.2**	**+1.1**
RUSC	**La Rusia**	**23.53**	**351**	P	**P**	**20 48 17.2**	**-1.2**
RUSC				IAmb	IAmb	20 48 21.5	
comp=Z,16nm,0.6s							
SDBA	**SAO DESIDERIO**	**24.39**	**81**	*e*P	**P**	**20 48 25.4**	**-0.4**
JANB	**Januaria**	**24.40**	**88**	*e*P	**P**	**20 48 26.2**	**+0.3**
DIAM	**Diamantina, MG**	**24.68**	**96**	*e*P	**P**	**20 48 29.8**	**+1.3**
LL01	**San Ignacio de**	**24.88**	**185**	IAmb	IAmb	20 48 34.2	
comp=Z,17nm,1.0s							
BAUV	**El Baul**	**26.35**	**3**	P	**P**	**20 48 41.6**	**-1.7**
BAUV				IAmb	IAmb	20 48 44.5	
comp=Z,42nm,0.9s							
AY01	**Puyuhuapi**	**26.93**	**185**	IAmb	IAmb	20 48 49.5	
comp=Z,14nm,0.8s							
SJMB	**Sao Joao De Ma**	**27.03**	**97**	*e*P	**P**	**20 48 48.6**	**-0.9**
BSFB	**Barra de Sao F**	**27.34**	**97**	*e*P	**P**	**20 48 53.0**	**+0.8**
RIB01	**Linhares ES**	**27.76**	**98**	*e*P	**P**	**20 48 57.3**	**+1.3**
GUA01	**Guaratinga, BA**	**28.49**	**93**	*e*P	**P**	**20 49 03.6**	**+1.1**
CMC01	**Camacan, BA**	**28.92**	**90**	*e*P	**P**	**20 49 06.4**	**+0.1**
GDU01	**Guandu, BA**	**29.15**	**87**	*e*P	**P**	**20 49 10.2**	**+1.8**
NBLA	**Lagarto - SE**	**31.48**	**82**	*e*P	**P**	**20 49 28.4**	**-0.6**
NBPB	**Pedra_Branca-C**	**31.68**	**72**	*e*P	**P**	**20 49 30.3**	**-0.4**
NBAN	**Anadia - AL**	**33.28**	**81**	*e*P	**P**	**20 49 43.9**	**-0.7**
NBCA	**Caruaru-PE**	**33.98**	**79**	*e*P	**P**	**20 49 51.6**	**+0.8**
RCBR	**Riachuelo**	**34.92**	**75**	P	**P**	**20 49 59.9**	**+1.0**
EFI	**East Falkland**	**35.28**	**168**	P	**P**	**20 50 02.9**	**+1.6**
CELP	**Cerrillos**	**35.51**	**5**	P	**P**	**20 50 03.6**	**-0.1**
CELP				IAmb	IAmb	20 50 44.3	
comp=Z,32nm,1.1s							
DRIO	**Del Rio**	**55.45**	**327**	IAmb	IAmb	20 52 41.8	
comp=Z,11nm,0.9s							
WHAR	**Wooly Hollow**	**56.77**	**338**	IAmb	IAmb	20 52 50.4	
comp=Z,8.6nm,0.9s							
SLBS	**Sierra La Lagu**	**56.83**	**315**	P	**P**	**20 52 51.9**	**+1.6**
OZNA	**Ozona**	**56.92**	**328**	IAmb	IAmb	20 52 52.0	
comp=Z,7.6nm,1.1s							
TXAR	**Lajitas Array**	**57.03**	**324**	P	**P**	**20 52 51.6**	**0.0**
comp=Z,1.3nm,0.6s,baz=145,slow=9.4,SNR=12							
comp=Z,1.3nm,0.6s							
LCAR	**Lake Charles**	**57.08**	**339**	IAmb	IAmb	20 52 51.4	
comp=Z,7.8nm,0.7s							
FCAR	**Ozark Folk Cen**	**57.25**	**338**	IAmb	IAmb	20 52 53.0	
comp=Z,9.0nm,0.7s							
ABTX	**Abilene, Hawle**	**57.56**	**330**	IAmb	IAmb	20 52 56.5	
comp=Z,17nm,1.1s							
SGCY	**Sterling City**	**57.71**	**328**	IAmb	IAmb	20 52 58.3	
comp=Z,7.7nm,0.8s							
CGM3	**Cape Girardeau**	**57.72**	**341**	IAmb	IAmb	20 52 56.0	
comp=Z,17nm,0.8s							
T42A	**Van Buren**	**57.93**	**340**	IAmb	IAmb	20 52 57.4	
comp=Z,9.7nm,0.6s							
MNHN	**Monahans**	**58.10**	**327**	IAmb	IAmb	20 53 00.2	
comp=Z,9.8nm,0.9s							
HHAR	**Hobbs**	**58.26**	**337**	IAmb	IAmb	20 53 00.6	
comp=Z,5.3nm,0.9s							
APMT	**Aspermont**	**58.37**	**330**	IAmb	IAmb	20 53 02.0	
comp=Z,14nm,0.8s							
SN05	**Snyder 5**	**58.37**	**329**	IAmb	IAmb	20 53 01.9	
comp=Z,12nm,0.8s							
X34A	**Smith Ranch, M**	**58.38**	**333**	P	**P**	**20 53 01.0**	**+0.1**
X34A				IAmb	IAmb	20 53 01.8	
comp=Z,15nm,0.8s							
MGMO	**Mountain Grove**	**58.44**	**339**	IAmb	IAmb	20 53 01.6	
comp=Z,12nm,0.8s							
SN07	**Snyder 07**	**58.55**	**329**	IAmb	IAmb	20 53 03.0	
comp=Z,12nm,0.8s							
POST	**Post**	**58.83**	**329**	IAmb	IAmb	20 54 39.7	
comp=Z,12nm,0.7s							
VHRN	**Van Horn**	**58.87**	**324**	IAmb	IAmb	20 53 05.5	
comp=Z,7.2nm,0.6s							
CCM	**Cathedral Cave**	**58.91**	**340**	P	**P**	**20 53 03.4**	**-1.1**
CCM				IAmb	IAmb	20 53 04.8	
comp=Z,13nm,0.7s							
CCM	**Cathedral Cave**	**58.91**	**340**	P	**P**	**20 53 03.4**	**-1.1**
CCM				PcP	**PcP**	**20 53 52.1**	**0.0**
DKNS	**Dickens**	**59.03**	**330**	IAmb	IAmb	20 54 43.9	
comp=Z,6.1nm,0.6s							
S39A	**Bolivar**	**59.29**	**338**	IAmb	IAmb	20 53 07.5	
comp=Z,15nm,0.6s							
R40A	**Maddies Statio**	**59.47**	**339**	IAmb	IAmb	20 53 08.3	
comp=Z,16nm,0.6s							
OK051	**E0350 and S346**	**59.59**	**335**	IAmb	IAmb	20 53 10.3	
comp=Z,22nm,0.9s							
P43A	**Skaggs, Pawnee**	**59.84**	**342**	IAmb	IAmb	20 53 10.1	
comp=Z,14nm,0.9s							
KAN13	**South Haven SW**	**60.29**	**334**	IAmb	IAmb	20 53 15.1	
comp=Z,18nm,0.7s							
P40A	**Paris**	**60.51**	**340**	IAmb	IAmb	20 53 15.6	
comp=Z,9.5nm,0.9s							
P38A	**Dawn**	**61.09**	**339**	IAmb	IAmb	20 53 19.8	
comp=Z,11nm,0.4s							
KSU1	**Kansas State U**	**61.74**	**336**	IAmb	IAmb	20 53 24.2	
comp=Z,12nm,0.8s							
319A	**Douglas**	**61.77**	**322**	IAmb	IAmb	20 53 26.1	
comp=Z,13nm,1.0s							
DUN6	**Lazy B Ranch**	**62.51**	**323**	IAmb	IAmb	20 53 31.2	
comp=Z,18nm,0.9s							
BELA	**Belgrano 2**	**62.75**	**172**	P	**P**	**20 53 31.1**	**+1.2**
BELA				IAmb	IAmb	20 53 32.6	
comp=Z,24nm,1.5s							
CBKS	**Cedar Bluff**	**62.76**	**334**	IAmb	IAmb	20 53 32.5	
comp=Z,25nm,1.1s							
ANMO	**Albuquerque**	**62.84**	**326**	P	**P**	**20 53 31.3**	**0.0**
VNA3	**Neumayer Olymp**	**64.03**	**162**	P	**P**	**20 53 39.8**	**+1.4**
VNA3	**Neumayer Olymp**	**64.03**	**162**	⇑P	**P**	**20 53 39.8**	**+1.4**
comp=Z,11nm,1.1s							
VNA2	**Neumayer--Watz**	**64.60**	**161**	P	**P**	**20 53 43.0**	**+0.9**
baz=273,slow=7.1							
VNA2	**Neumayer--Watz**	**64.60**	**161**	⇑P	**P**	**20 53 43.0**	**+0.9**
comp=Z,7.2nm,0.7s,baz=273,slow=7.1							
MVCO	**Mesa Verde**	**65.63**	**327**	IAmb	IAmb	20 54 35.1	
comp=Z,22nm,1.6s							
ECSD	**EROS Data Cent**	**65.80**	**339**	P	**P**	**20 53 49.6**	**-0.6**
ECSD				IAmb	IAmb	20 53 50.8	
comp=Z,30nm,1.8s							
ISCO	**Idaho Springs**	**66.19**	**330**	IAmb	IAmb	20 54 38.0	
comp=Z,5.0nm,0.6s							
SNAA	**Sanae**	**66.23**	**161**	P	**P**	**20 53 54.0**	**+1.3**
SNAA	**Sanae**	**66.23**	**161**	P	**P**	**20 53 53.8**	**+1.1**
SNAA				IAmb	IAmb	20 53 54.3	
comp=Z,10.0nm,0.7s							
SNAA	**Sanae**	**66.23**	**161**	⇑P	**P**	**20 53 54.0**	**+1.3**
comp=Z,158nm,0.5s							
SNAA	**Sanae**	**66.23**	**161**	P	**P**	**20 53 53.4**	**+0.7**
comp=Z,7.2nm,0.6s,baz=278,slow=8.3,SNR=40							
comp=Z,7.2nm,0.6s							
ESJX	**Sierra Juarez**	**66.32**	**318**	P	**P**	**20 53 55.4**	**+1.4**
PV15	**Paradox Valley**	**66.48**	**327**	IAmb	IAmb	20 53 57.1	
comp=Z,12nm,0.7s							
E38A	**The Farm, Brul**	**66.84**	**344**	IAmb	IAmb	20 53 57.0	
comp=Z,14nm,0.8s							
U15A	**North Rim**	**67.13**	**324**	IAmb	IAmb	20 54 01.7	
comp=Z,7.7nm,1.0s							
N23A	**Red Feather La**	**67.21**	**331**	IAmb	IAmb	20 55 40.3	
comp=Z,16nm,1.6s							
F33A	**5 Mile Ranch,**	**67.55**	**340**	IAmb	IAmb	20 54 01.5	
comp=Z,13nm,0.7s							
PFO	**Pinyon Flats O**	**67.69**	**319**	P	**P**	**20 54 03.7**	**+1.1**
PFO	**Pinyon Flats O**	**67.69**	**319**	P	**P**	**20 54 04.3**	**+1.7**
O20A	**White River Ci**	**67.72**	**329**	IAmb	IAmb	20 54 04.5	
comp=Z,6.2nm,0.8s							
KNB	**Kanab**	**67.85**	**324**	IAmb	IAmb	20 54 06.4	
comp=Z,12nm,0.8s							
TROLL	**Troll, Antarti**	**67.94**	**161**	P	**P**	**20 54 04.9**	**+1.3**
TROLL	**Troll, Antarti**	**67.94**	**161**	⇑P	**P**	**20 54 04.9**	**+1.3**
comp=Z,589nm,0.5s							
EYMN	**Ely**	**68.06**	**344**	IAmb	IAmb	20 54 04.6	
comp=Z,8.1nm,0.8s							
DBIC	**Dimbokro**	**68.30**	**75**	P	**P**	**20 54 06.5**	**-0.1**
DBIC	**Dimbokro**	**68.30**	**75**	P	**P**	**20 54 06.5**	**-0.1**
comp=Z,24nm,0.6s,baz=240,slow=

ZALV SKP 21 05 48.3
comp=Z,1.3nm,0.7s,baz=302,slow=2.8,SNR=6.1
FITZ Fitzroy Crossi 141.55 204 PKhKP PKPpre 21 02 29.1
comp=Z,2.1nm,0.5s,baz=186,slow=4.2,SNR=11
FITZ PKP **PKPdf 21 02 35.9 +0.4**
comp=Z,1.7nm,0.7s,baz=183,slow=6.0,SNR=3.9
MKAR Makanchi Array 142.73 32 PKhKP PKPpre 21 02 32.6
comp=Z,0.4nm,0.6s,baz=296,slow=3.3,SNR=3.4
MKAR PKP **PKPdf 21 02 37.0 +0.2**
comp=Z,0.9nm,0.6s,baz=333,slow=1.7,SNR=10
MKAR SKPbc **SKPbc 21 05 59.4 -1.9**
comp=Z,0.5nm,0.7s,baz=355,slow=2.3,SNR=5.7
USRK Ussuriysk Ar. 147.79 330 PKPbc **PKPbc 21 02 49.3 +0.8**
comp=Z,5.4nm,0.6s,baz=38,slow=3.5,SNR=13
MJAR Matsushiro Arr 148.99 313 PKPbc **PKiKP 21 02 52.6 -0.6**
comp=Z,7.7nm,0.9s,baz=86,slow=1.3,SNR=19
SONM Songino Array 149.60 5 PKP **PKPdf 21 02 49.1 +0.6**
comp=Z,4.5nm,0.8s,baz=317,slow=0.7,SNR=7.3
SONM PKPbc **PKiKP 21 02 53.7 -0.5**
comp=Z,4.1nm,0.7s,baz=312,slow=1.4,SNR=29
SONM PKPab **PKPab 21 02 57.9 -0.7**
comp=Z,1.6nm,0.5s,baz=354,slow=1.4,SNR=9.5
KSRS Korea Array 154.87 326 PKP **PKPdf 21 02 57.1 +0.8**
comp=Z,0.6nm,0.7s,baz=0.0,slow=1.3,SNR=4.0
KSRS PKPbc **PKiKP 21 03 05.8 +0.7**
comp=Z,1.3nm,0.7s,baz=5.7,slow=2.7,SNR=7.0

---

*BJI **28** 20:44:58.3, 50°.30N×155°.91E, h140km, mB4.7/10, mb4.4/31*
*KRSC **28** 20:44:58.5±2.0, 50°.05N×156°.13E, h141km±14km, Ml4.9, Felt [II] at Severo-Kurilsk.*
*MOS **28** 20:45:00.3±1.0, 50°.28N×155°.68E, h147km, mb4.5/25, Error ellipse: s-maj=8.7km s-min=3.8km az=75.0*
MOS Felt (II) at Severo-Kuril'sk.
*IDC **28** 20:45:02.7±0.8, 50°.39N×155°.62E, h152km±6km, mb4.0/31, mbtmp4.4/38, MS3.8/2, Error ellipse: s-maj=12.4km s-min=7.7km az=141.0*
*NEIC **28** 20:45:02.3±1.5, 50°.4N±0°.1×155°.6E±0°.2, h142km±8km, mb4.6/134, Error ellipse: s-maj=20.7km s-min=11.8km az=146.0*
ISC 28 20:45:01.2±0.5, 50°.27N±0°.05×155°.83E±0°.05, h141km±3km, h141km:pP-P, n553, σ1.27/551, mb4.5/136, 21C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.46**	**24**	∥	*i*	PN	**Pn**	**20 45 21.0**	**-0.3**
SKR						S	**Sn**	**20 45 35.7**	**-1.0**
SKR						pmax	pmax		
	comp=Z,5μm,0.4s								
SKR						smax	smax		
	comp=N,12μm,0.4s								
SKR						smax	smax		
	comp=E,12μm,0.3s								
SKR	**Severo-Kuril's**	**0.46**	**24**		*e*	P	**Pn**	**20 45 20.9**	**-0.4**
SKR					*e*	S	**Sn**	**20 45 35.6**	**-1.0**
PAU	**Pauzhetka**	**1.36**	**27**			PN	**Pn**	**20 45 28.7**	**+0.2**
PAU						S	**Sn**	**20 45 50.0**	**+0.6**
PAU	**Pauzhetka**	**1.36**	**27**		*e*	P	**Pn**	**20 45 28.8**	**+0.2**
PAU					*e*	S	**Sn**	**20 45 50.0**	**+0.6**
KDTR	**Khodutka, Kamc**	**2.10**	**42**			PN	**Pn**	**20 45 36.1**	**-0.8**
KDTR						S	**Sn**	**20 46 02.3**	**-2.1**
KDTR	**Khodutka, Kamc**	**2.10**	**42**		*e*	P	**Pn**	**20 45 36.1**	**-0.8**
KDTR					*e*	S	**Sn**	**20 46 02.4**	**-2.1**
GRL	**Gorelyy**	**2.69**	**31**			PN	**Pn**	**20 45 45.3**	**+1.0**
GRL						S	**Sn**	**20 46 19.0**	**+1.4**
GRL	**Gorelyy**	**2.69**	**31**		*e*	P	**Pn**	**20 45 45.4**	**+1.0**
GRL					*e*	S	**Sn**	**20 46 19.1**	**+1.4**
RUS	**Russkaya**	**2.75**	**37**			PN	**Pn**	**20 45 44.4**	**-0.5**
RUS						S	**Sn**	**20 46 17.4**	**-1.3**
RUS	**Russkaya**	**2.75**	**37**		*e*	P	**Pn**	**20 45 44.5**	**-0.5**
RUS					*e*	S	**Sn**	**20 46 17.4**	**-1.3**
APC	**Apacha**	**2.79**	**17**			PN	**Pn**	**20 45 46.8**	**+1.3**
APC	**Apacha**	**2.79**	**17**		*e*	P	**Pn**	**20 45 46.8**	**+1.3**
KRMR	**Karymshinskiy**	**2.94**	**28**			PN	**Pn**	**20 45 48.4**	**+1.0**
KRMR	**Karymshinskiy**	**2.94**	**28**		*e*	P	**Pn**	**20 45 48.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**3.08**	**22**				**Pn**	**20 45 50.7**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.08**	**22**		*d*	PN	**Pn**	**20 45 50.6**	**+1.5**
PETK	**Petropavlovsk-**	**3.08**	**22**				**Pn**	**20 45 49.6**	**+0.4**
PETK	**Petropavlovsk-**	**3.08**	**22**			P	**Pn**	**20 45 49.7**	**+0.5**
	comp=E,132nm,0.4s,baz=187,slow=10,SNR=500								
PETK						S	**Sn**	**20 46 27.8**	**+1.5**
	comp=E,43nm,0.6s,baz=218,slow=26,SNR=5.1								
PET	**Petropavlovsk**	**3.28**	**31**				**Pn**	**20 45 52.0**	**+0.3**
PET	**Petropavlovsk**	**3.28**	**31**			PN	**Pn**	**20 45 52.0**	**+0.3**
PET						S	**Sn**	**20 46 30.7**	**-0.1**
PET	**Petropavlovsk**	**3.28**	**31**		*e*	P	**Pn**	**20 45 52.1**	**+0.3**
PET					*e*	S	**Sn**	**20 46 30.7**	**-0.1**
INSR	**Institute**	**3.30**	**31**		*e*	S	**Sn**	**20 46 31.8**	**+0.5**
DALK	**Dalny**	**3.32**	**32**			PN	**Pn**	**20 45 52.8**	**+0.6**
DALK						S	**Sn**	**20 46 31.2**	**-0.5**
DALK	**Dalny**	**3.32**	**32**		*e*	P	**Pn**	**20 45 52.8**	**+0.6**
DALK					*e*	S	**Sn**	**20 46 31.2**	**-0.5**
UGLR	**Uglovaya**	**3.49**	**31**			PN	**Pn**	**20 45 56.0**	**+1.5**
UGLR	**Uglovaya**	**3.49**	**31**		*e*	P	**Pn**	**20 45 56.1**	**+1.5**
KOK	**Koryaka**	**3.50**	**29**			PN	**Pn**	**20 45 56.6**	**+1.9**
KOK						S	**Sn**	**20 46 38.2**	**+2.1**
KOK	**Koryaka**	**3.50**	**29**		*e*	P	**Pn**	**20 45 56.7**	**+1.9**
KOK					*e*	S	**Sn**	**20 46 38.2**	**+2.1**
AVH	**Avacha**	**3.51**	**30**			PN	**Pn**	**20 45 56.4**	**+1.6**
AVH						S	**Sn**	**20 46 38.1**	**+1.8**
AVH	**Avacha**	**3.51**	**30**		*e*	P	**Pn**	**20 45 56.5**	**+1.6**
AVH					*e*	S	**Sn**	**20 46 38.1**	**+1.8**
KRX	**Arik**	**3.56**	**28**			PN	**Pn**	**20 45 57.1**	**+1.6**
KRX						S	**Sn**	**20 46 38.9**	**+1.3**
KRX	**Arik**	**3.56**	**28**		*e*	P	**Pn**	**20 45 57.2**	**+1.6**
KRX					*e*	S	**Sn**	**20 46 38.9**	**+1.3**
NLC	**Nalytchevo**	**3.64**	**36**			PN	**Pn**	**20 45 55.6**	**-0.8**
NLC	**Nalytchevo**	**3.64**	**36**		*e*	P	**Pn**	**20 45 55.7**	**-0.8**
GNL	**Ganaly**	**3.68**	**20**			PN	**Pn**	**20 45 58.6**	**+1.6**
GNL	**Ganaly**	**3.68**	**20**		*e*	P	**Pn**	**20 45 58.6**	**+1.6**
SPN	**Mys Shipunski**	**3.86**	**41**			PN	**Pn**	**20 45 59.0**	**-0.2**
SPN						S	**Sn**	**20 46 40.5**	**-3.8**
SPN	**Mys Shipunski**	**3.86**	**41**		*e*	P	**Pn**	**20 45 59.1**	**-0.2**
SPN					*e*	S	**Sn**	**20 46 40.5**	**-3.8**
KII	**Karymskiy**	**4.39**	**29**			PN	**Pn**	**20 46 07.8**	**+1.5**
KII	**Karymskiy**	**4.39**	**29**		*e*	P	**Pn**	**20 46 07.9**	**+1.5**
TUMD	**Tumrok D**	**5.67**	**28**		*e*	P	**Pn**	**20 46 24.2**	**+0.8**
ESO	**Esso**	**5.93**	**16**			PN	**Pn**	**20 46 28.7**	**+2.0**
ESO	**Esso**	**5.93**	**16**		*e*	P	**Pn**	**20 46 28.8**	**+2.0**
KPT	**Kopyto**	**6.29**	**23**			PN	**Pn**	**20 46 32.8**	**+1.1**
KPT	**Kopyto**	**6.29**	**23**		*e*	P	**Pn**	**20 46 32.9**	**+1.1**
KIRR	**Kirishev**	**6.31**	**24**			PN	**Pn**	**20 46 33.1**	**+1.1**
KIRR	**Kirishev**	**6.31**	**24**		*e*	P	**Pn**	**20 46 33.2**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**6.40**	**25**			PN	**Pn**	**20 46 34.6**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**6.40**	**25**		*e*	P	**Pn**	**20 46 34.7**	**+1.5**
SRDR	**Sredinnyy**	**6.50**	**20**			PN	**Pn**	**20 46 36.3**	**+1.9**
SRDR	**Sredinnyy**	**6.50**	**20**		*e*	P	**Pn**	**20 46 36.3**	**+1.9**
KRSR	**Krestovskiy**	**6.61**	**24**			PN	**Pn**	**20 46 35.2**	**-0.7**
KRSR	**Krestovskiy**	**6.61**	**24**		*e*	P	**Pn**	**20 46 35.2**	**-0.7**
KBTR	**Krutoberegovo**	**7.28**	**32**			PN	**Pn**	**20 46 43.8**	**-1.0**
KBTR	**Krutoberegovo**	**7.28**	**32**		*e*	P	**Pn**	**20 46 43.8**	**-1.0**
KUR	**Kuril'sk**	**7.35**	**230**			PN	**Pn**	**20 46 47.2**	**+1.3**
KUR						S	**Sn**	**20 48 08.7**	**+0.8**
KUR						pmax	pmax		
	comp=Z,41nm,0.7s								
KUR						smax	smax		
	comp=N,58nm,0.4s								
KUR						smax	smax		
	comp=E,44nm,0.5s								
BKI	**Bering**	**7.90**	**47**			PN	**Pn**	**20 46 51.7**	**-1.3**
BKI	**Bering**	**7.90**	**47**		*e*	P	**Pn**	**20 46 51.7**	**-1.3**
TYV	**Tymovskoe**	**8.41**	**279**		*e*	PN	**Pn**	**20 47 02.4**	**+2.4**
TYV					*e*	S	**Sn**	**20 48 32.4**	**-0.9**
TYV						pmax	pmax		
	comp=Z,9.0nm,0.9s								
TYV						pmax	pmax		
	comp=Z,200nm,3.5s								
TYV						smax	smax		
	comp=N,4.0nm,1.1s								
TYV						smax	smax		
	comp=E,6.0nm,1.1s								
TYV	**Tymovskoe**	**8.41**	**279**		*e*	P	**Pn**	**20 47 01.8**	**+1.8**
OKH	**Okha**	**8.62**	**297**		*de*	PN	**Pn**	**20 47 01.1**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**9.21**	**231**			PN	Pn	20 47 08.3	-2.4
YUK						S	Sn	20 48 47.2	-5.5
YUK						pmax	pmax		
	comp=E,27nm,0.4s								
YUK						pmax	pmax		
	comp=Z,59nm,0.4s								
YSS	**Yuzhno-Sakhali**	**9.27**	**254**		*e*	PN	Pn	20 47 09.1	-2.4
RUSJ	**Misakicho**	**9.47**	**233**			PN	**Pn**	**20 47 15.5**	**+1.3**
RUSJ						S	**Sn**	**20 48 56.9**	**-2.1**
NMR	**Nemuro--Hokkai**	**9.76**	**229**		*e*	PN	Pn	20 47 12.4	-5.7
MA2	**Magadan**	**9.77**	**345**			Pn	**Pn**	**20 47 18.2**	**+0.1**
MA2	**Magadan**	**9.77**	**345**			P	**Pn**	**20 47 17.5**	**-0.6**
	comp=Z,3.5nm,0.5s,baz=155,slow=7.8,SNR=12								
MA2	**Magadan**	**9.77**	**345**		*c i*	PN	**Pn**	**20 47 18.4**	**+0.3**
MA2						pmax	pmax		
	comp=Z,8.0nm,1.0s								
JKA	**Kamikawa-asahi**	**10.89**	**241**				**Pn**	**20 47 32.7**	**-0.4**
ASAJ	**Asahikawa**	**10.89**	**241**			P	**Pn**	**20 47 32.8**	**-0.4**
	comp=Z,6.8nm,0.7s,baz=67,slow=13,SNR=18								
ERM	**Erimo**	**12.04**	**232**			Pn	Pn	20 47 46.0	-2.1
ERM	**Erimo**	**12.04**	**232**	∥	*i*	PN	Pn	20 47 45.1	-3.0
SEY	**Seymchan**	**12.84**	**353**		P		**Pn**	**20 47 59.2**	**+0.9**
	comp=Z,10nm,1.0s,baz=167,slow=11,SNR=38								
SEY	**Seymchan**	**12.84**	**353**	∥	*i*	PN	**Pn**	**20 47 59.4**	**+1.1**
SEY						pmax	pmax		
	comp=Z,34nm,1.7s								
JTM	**Tenmabayashi**	**14.01**	**233**			Pn	Pn	20 48 05.8	-7.6
KLR	**Kul'dur**	**15.58**	**275**		P		**Pn**	**20 48 33.6**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=78,slow=12,SNR=7.0								
KLR	**Kul'dur**	**15.58**	**275**		*e*	P	**P**	**20 48 39.1**	**+4.8**
KLR						pmax	pmax		
	comp=Z,6.0nm,1.8s								
JSD	**Sado**	**17.50**	**232**			P	**P**	**20 48 54.4**	**-1.1**
ZEA	**Zeya**	**17.88**	**292**		*e*	P	**P**	**20 48 59.9**	**+0.4**
ZEA						pmax	pmax		
	comp=Z,10.0nm,0.7s								
HEH	**HeiHe**	**18.12**	**281**		*e*	P	**P**	**20 49 02.0**	**-0.2**
HEH						pmax	pmax		
	comp=Z,6.0nm,1.0s								
BILL	**Bilibino**	**18.56**	**12**			P	**P**	**20 49 06.4**	**-0.4**
BILL	**Bilibino**	**18.56**	**12**		*d i*	P	**P**	**20 49 06.7**	**-0.1**
BILL						pmax	pmax		
	comp=Z,27nm,0.4s								
BILL						MLR	MLR		
	comp=Z,192nm,18.0s								
YAK	**Yakutsk**	**18.57**	**319**				**P**	**20 49 04.2**	**-2.7**
YAK	**Yakutsk**	**18.57**	**319**			P	**P**	**20 49 06.4**	**-0.5**
	comp=Z,64nm,0.6s,baz=296,slow=2.1,SNR=36								
YAK	**Yakutsk**	**18.57**	**319**		*e*	P	**P**	**20 49 06.1**	**-0.8**
YAK					*e*	S	**S**	**20 52 30.2**	**-0.8**
YAK						pmax	pmax		
	comp=Z,52nm,0.9s								
YAK						pmax	pmax		
	comp=E,23nm,1.2s								
YAK						pmax	pmax		
	comp=N,8.0nm,1.3s								
YAK						smax	smax		
	comp=E,58nm,3.0s								
YAK						smax	smax		
	comp=N,91nm,3.0s								
MJB9	**Matsu-Tunnel**	**18.69**	**230**			P	**P**	**20 49 06.2**	**-2.4**
MAJO	**Matsushiro**	**18.70**	**230**			P	P	20 49 05.2	-3.4
MAJO	**Matsushiro**	**18.70**	**230**			P	P	20 49 05.2	-3.4
MAJO						pmax	pmax		
	comp=Z,28nm,1.5s								
MJAR	**Matsushiro Arr**	**18.70**	**229**			P	**P**	**20 49 08.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=20,slow=13,SNR=6.2								
SPIA	**Saint Paul Isl**	**21.06**	**58**			P	**P**	**20 49 34.0**	**+0.3**
	baz=266								
P08K	**Saint George I**	**21.41**	**59**			P	**P**	**20 49 37.3**	**-0.2**
	baz=268								
GAMB	**Gambell**	**21.94**	**40**			P	**P**	**20 49 42.6**	**-0.4**
	baz=248								
UNV	**Unalaska Valle**	**23.25**	**67**			P	**P**	**20 49 55.8**	**0.0**
	baz=277								
M11K	**Mekoryuk**	**23.52**	**50**			P	**P**	**20 49 58.9**	**+0.7**
	baz=262								
KSRS	**Korea Array**	**23.69**	**248**			P	**P**	**20 50 00.8**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=42,slow=9.9,SNR=4.8								
	comp=Z,0.7nm,0.5s								
TNA	**Tin City**	**24.12**	**37**			P	**P**	**20 50 04.0**	**+0.5**
	baz=249								
K13K	**Kusilvak Mount**	**24.52**	**46**			P	**P**	**20 50 07.9**	**+0.8**
	baz=260								
TIXI	**Tiksi**	**24.69**	**340**			P	**P**	**20 50 06.8**	**-1.7**
TIXI	**Tiksi**	**24.69**	**340**	∥	*i*	P	**P**	**20 50 07.2**	**-1.3**
TIXI					*i*	*PP	**pP**	**20 50 38.2**	**+0.5**
TIXI						pmax	pmax		
	comp=Z,49nm,0.6s								
F14K	**Arctic Creek**	**24.71**	**38**			P	**P**	**20 50 09.5**	**+0.6**
	baz=251								
ANM	**Nome**	**24.81**	**40**			P	**P**	**20 50 11.8**	**+2.0**
ANM	**Nome**	**24.81**	**40**			P	**P**	**20 50 09.8**	**0.0**
	baz=254								
ANM	**Nome**	**24.81**	**40**			P	**P**	**20 50 11.8**	**+2.0**
ANM						pmax	pmax		
	comp=Z,48nm,1.2s								
M13K	**Dall Lake**	**24.93**	**50**			P	**P**	**20 50 11.9**	**+1.1**
	baz=265								
J14K	**Nanvaranak Lak**	**25.17**	**45**			P	**P**	**20 50 13.6**	**+0.6**
	baz=260								
L14K	**Kuka Creek**	**25.36**	**48**			P	**P**	**20 50 15.0**	**+0.3**
	baz=264								
F15K	**North Star Dit**	**25.45**	**38**			P	**P**	**20 50 16.4**	**+0.8**
	baz=252								
G15K	**Niukluk**	**25.48**	**40**			P	**P**	**20 50 17.0**	**+1.2**
	baz=254								
S12K	**Black Hills**	**25.62**	**61**			P	**P**	**20 50 18.6**	**+1.4**
	baz=276								
M14K	**Bethel**	**25.65**	**50**			P	**P**	**20 50 18.5**	**+1.2**
	baz=265								
N14K	**Kuskokwak Cree**	**25.73**	**52**			P	**P**	**20 50 19.6**	**+1.5**
	baz=267								
O14K	**Tigyukauivet M**	**25.92**	**53**			P	**P**	**20 50 21.1**	**+1.3**
	baz=269								
L15K	**Ungalak Mounta**	**25.97**	**48**			P	**P**	**20 50 21.2**	**+0.9**
	baz=264								
K15K	**Wolf Creek Mou**	**26.02**	**46**			P	**P**	**20 50 21.7**	**+1.0**
	baz=263								
C16K	**Lisburne Hills**	**26.12**	**32**			P	**P**	**20 50 22.2**	**+0.7**
	baz=246								
H16K	**Elim**	**26.14**	**41**			P	**P**	**20 50 22.6**	**+0.9**
	baz=257								
M15K	**Kasigluk River**	**26.27**	**50**			P	**P**	**20 50 23.0**	**+0.1**
	baz=267								
G16K	**Koyuk River**	**26.27**	**39**			P	**P**	**20 50 23.6**	**+0.6**
	baz=256								
N15K	**Kwethluk River**	**26.54**	**51**			P	**P**	**20 50 26.6**	**+1.3**
	baz=268								
SDPT	**Sand Point**	**26.55**	**62**			P	**P**	**20 50 26.7**	**+1.1**
	baz=278								
J16K	**Anvik River**	**26.59**	**44**			P	**P**	**20 50 26.9**	**+1.1**
	baz=262								
I17K	**Unalakleet**	**26.65**	**43**			P	**P**	**20 50 26.5**	**+0.3**
	baz=260								
O15K	**Ungalikthiuk R**	**26.66**	**53**			P	**P**	**20 50 26.8**	**+0.3**
	baz=271								
D17K	**Noatak River**	**26.69**	**34**			P	**P**	**20 50 27.5**	**+0.9**
	baz=250								
RDOG	**Red Dog Mine**	**26.88**	**33**			P	**P**	**20 50 29.1**	**+0.8**
	baz=250								
L16K	**Owhat River**	**26.93**	**48**			P	**P**	**20 50 29.4**	**+0.6**
	baz=266								
C17K	**DeLong Mountai**	**26.94**	**32**			P	**P**	**20 50 29.7**	**+0.8**
	baz=249								
E17K	**Hotham Inlet**	**26.95**	**36**			P	**P**	**20 50 29.4**	**+0.4**
	baz=253								
S14K	**Fog Glacier**	**26.96**	**60**			P	**P**	**20 50 29.8**	**+0.4**
	baz=276								
F17K	**Baldwin Pennin**	**26.99**	**37**			P	**P**	**20 50 30.3**	**+1.0**
	baz=255								
G17K	**Kiwalik Mounta**	**26.99**	**39**			P	**P**	**20 50 29.7**	**+0.4**
	baz=257								
M16K	**Timber Creek**	**27.13**	**49**			P	**P**	**20 50 31.0**	**+0.3**
	baz=268								
CHNA	**Chernabura Isl**	**27.13**	**63**			P	**P**	**20 50 31.6**	**+0.9**
	baz=279								
H17K	**Granite Mounta**	**27.18**	**41**			P	**P**	**20 50 31.8**	**+0.7**
	baz=259								
J17K	**VABM Dome**	**27.29**	**44**			P	**P**	**20 50 33.2**	**+1.1**
	baz=263								
E18K	**Tukpahlearik C**	**27.51**	**35**			P	**P**	**20 50 34.9**	**+0.9**
	baz=254								
L17K	**Donlin**	**27.51**	**47**			P	**P**	**20 50 35.3**	**+1.3**
	baz=266								
O16K	**Kokwok River B**	**27.54**	**52**			P	**P**	**20 50 35.5**	**+1.2**
	baz=271								
K17K	**Iditarod**	**27.56**	**46**			P	**P**	**20 50 35.2**	**+0.7**
	baz=265								
CHGN	**Chignik**	**27.59**	**60**			P	**P**	**20 50 36.5**	**+1.7**
	baz=277								
P16K	**Nushagak River**	**27.61**	**54**			P	**P**	**20 50 35.7**	**+0.8**
	baz=272								
F18K	**Selawik**	**27.65**	**37**			P	**P**	**20 50 35.9**	**+0.7**
	baz=256								
C18K	**Utukok River**	**27.68**	**33**			P	**P**	**20 50 36.4**	**+0.8**
	baz=251								
B18K	**Kokolik River**	**27.73**	**31**			P	**P**	**20 50 36.1**	**+0.2**
	baz=249								
H18K	**Honhosa River**	**27.86**	**40**			P	**P**	**20 50 37.6**	**+0.4**
	baz=260								
M17K	**Holitna River**	**27.88**	**49**			P	**P**	**20 50 38.8**	**+1.4**
	baz=268								
G18K	**Tagagawik**	**27.88**	**39**			P	**P**	**20 50 38.4**	**+1.1**
	baz=259								
R16K	**Pilot Point**	**27.92**	**57**			P	**P**	**20 50 39.0**	**+1.4**
	baz=276								
N17K	**Nushagak Hills**	**27.99**	**50**			P	**P**	**20 50 39.3**	**+1.0**
	baz=270								
O17K	**Koliganek Bris**	**28.04**	**52**			P	**P**	**20 50 39.4**	**+0.6**
	baz=272								
L18K	**Granite Mounta**	**28.27**	**47**			P	**P**	**20 50 41.9**	**+1.1**
	baz=268								
A19K	**Wainwright**	**28.28**	**29**			P	**P**	**20 50 41.5**	**+0.7**
	baz=248								
J18K	**Innoko River**	**28.35**	**44**			P	**P**	**20 50 42.0**	**+0.5**
	baz=265								
F19K	**Shaleruckik Mo**	**28.43**	**37**			P	**P**	**20 50 42.5**	**+0.4**
	baz=258								
G19K	**Purcell Mounta**	**28.56**	**39**			P	**P**	**20 50 43.9**	**+0.6**
	baz=260								
TTA	**Tatalina**	**28.63**	**45**			P	**P**	**20 50 45.1**	**+1.1**
TTA	**Tatalina**	**28.63**	**45**			P	**P**	**20 50 45.0**	**+1.0**
	baz=267								
TTA	**Tatalina**	**28.63**	**45**			P	**P**	**20 50 45.2**	**+1.1**
TTA						pmax	pmax		
	comp=Z,6.0nm,0.8s								
N18K	**Kilae Creek**	**28.63**	**50**			P	**P**	**20 50 45.1**	**+1.1**
	baz=271								
M18K	**Stony River**	**28.66**	**48**			P	**P**	**20 50 44.8**	**+0.6**
	baz=270								
D19K	**Kuna River**	**28.71**	**34**			P	**P**	**20 50 45.0**	**+0.3**
	baz=254								
H19K	**Roundabout Mou**	**28.71**	**40**			P	**P**	**20 50 45.7**	**+1.1**
H19K						IAmb	IAmb	20 50 46.6	
	comp=Z,13nm,0.7s								
H19K	**Roundabout Mou**	**28.71**	**40**			P	**P**	**20 50 45.8**	**+1.1**
	baz=262,SNR=8.4								
E19K	**Redstone River**	**28.77**	**36**			P	**P**	**20 50 46.0**	**+0.8**
	baz=257								
J19K	**Poorman**	**28.88**	**43**			P	**P**	**20 50 46.8**	**+0.6**
	baz=265								
O18K	**Koktuh Hills**	**28.99**	**52**			P	**P**	**20 50 48.0**	**+0.7**
	baz=273								
P18K	**Big Mountain,**	**29.01**	**53**			P	**P**	**20 50 49.4**	**+2.0**
P18K						IAmb	IAmb	20 51 26.5	
	comp=Z,17nm,1.4s								
P18K	**Big Mountain,**	**29.01**	**53**			P	**P**	**20 50 48.4**	**+1.0**
	baz=274								
ACHA	**Angle Creek He**	**29.05**	**55**			P	**P**	**20 50 48.9**	**+1.0**
L19K	**White Mountain**	**29.13**	**47**			P	**P**	**20 50 49.6**	**+1.2**
	baz=269								
CHIR	**Chirikof Islan**	**29.21**	**60**			P	**P**	**20 50 49.7**	**+0.5**
	baz=280								
F20K	**Avaraart Lake**	**29.26**	**37**			P	**P**	**20 50 49.9**	**+0.5**
F20K	**Avaraart Lake**	**29.26**	**37**			P	**P**	**20 50 50.1**	**+0.6**
	baz=260								
D20K	**Etivluk River**	**29.30**	**33**			P	**P**	**20 50 50.7**	**+0.8**
	baz=256								
E20K	**Nigu River**	**29.34**	**34**			P	**P**	**20 50 50.9**	**+0.7**
	baz=257								
M19K	**Big River Lodg**	**29.35**	**48**			P	**P**	**20 50 52.0**	**+1.7**
M19K						IAmb	IAmb	20 51 08.4	
	comp=Z,16nm,1.4s								
M19K	**Big River Lodg**	**29.35**	**48**			P	**P**	**20 50 51.3**	**+1.0**
	baz=270								
H20K	**Anotleneega Mo**	**29.36**	**40**			P	**P**	**20 50 50.8**	**+0.4**
	baz=263								
I20K	**Naaghedeneel**	**29.45**	**42**			P	**P**	**20 50 52.0**	**+0.8**
	baz=265								
B20K	**Meade River**	**29.47**	**31**			P	**P**	**20 50 52.2**	**+0.9**
B20K	**Meade River**	**29.47**	**31**			P	**P**	**20 50 51.5**	**+0.2**
	baz=253								
K20K	**Telida**	**29.53**	**45**			P	**P**	**20 50 53.0**	**+1.0**
	baz=268								
J20K	**Nowinta River**	**29.54**	**43**			P	**P**	**20 50 53.2**	**+1.2**
	baz=266								
R18K	**Karluk**	**29.59**	**56**			P	**P**	**20 50 53.2**	**+0.8**
	baz=278								
L20K	**Farewell, AK**	**29.59**	**46**			P	**P**	**20 50 53.5**	**+1.0**
	baz=270								
**Q19K

E22K	Anaktuvuk Pass	30.92	35	P	P	20 51 05.2	+1.0
	baz=262,SNR=19						
KTH	Kantishna Hill	30.95	44	P	P	20 51 05.7	+1.2
CAPN	Captain Cook N	30.95	50	P	P	20 51 05.1	+0.7
	baz=275						
BRLK	Bradley Lake	31.18	52	P	P	20 51 06.5	0.0
BRLK				IAmb	IAmb	20 51 30.9	
	comp=Z,20nm,1.4s						
TRF	Thorofare Moun	31.23	44	P	P	20 51 08.3	+1.2
TRF				IAmb	IAmb	20 51 08.6	
	comp=Z,6.1nm,0.6s						
TRF	Thorofare Moun	31.23	44	P	P	20 51 07.5	+0.4
	baz=271						
BRSE	Bradley Lake S	31.25	52	P	P	20 51 07.9	+0.8
	baz=277						
CUT	Chulitna	31.27	46	P	P	20 51 07.8	+0.6
	baz=273						
COLD	Coldfoot	31.42	37	P	P	20 51 09.7	+1.2
COLD	Coldfoot	31.42	37	P	P	20 51 09.6	+1.0
	baz=265,SNR=16						
G23K	Bananza Creek	31.45	38	IAmb	IAmb	20 51 10.5	
	comp=Z,7.2nm,0.6s						
G23K	Bananza Creek	31.45	38	P	P	20 51 09.6	+0.8
	baz=266,SNR=12						
D23K	Nanushuk River	31.46	34	P	P	20 51 09.9	+1.1
	baz=262						
RC01	Rabbit Creek A	31.61	49	P	P	20 51 11.4	+1.2
	baz=275						
C23K	Itkillik River	31.63	32	P	P	20 51 11.1	+0.8
	baz=260						
I23K	Minto, Yukon-K	31.64	41	P	P	20 51 11.8	+1.4
I23K				IAmb	IAmb	20 51 12.6	
	comp=Z,5.0nm,0.6s						
I23K	Minto, Yukon-K	31.64	41	P	P	20 51 11.6	+1.2
	baz=269						
O22K	Cooper Landing	31.68	50	P	P	20 51 11.4	+0.6
	baz=276						
E23K	Chandalar	31.73	36	P	P	20 51 12.6	+1.3
	baz=264						
NEA2	Nenana	31.76	42	P	P	20 51 12.3	+0.8
	baz=270,SNR=7.5						
TOLK	Toolik Lake Re	31.81	35	P	P	20 51 13.2	+1.2
TOLK	Toolik Lake Re	31.81	35	P	P	20 51 13.0	+1.0
	baz=263,SNR=17						
MCK	McKinley	31.83	44	IAmb	IAmb	20 51 13.9	
	comp=Z,9.5nm,0.9s						
MCK	McKinley	31.83	44	P	P	20 51 12.9	+0.7
	baz=272,SNR=6.8						
SEW	Seward	31.85	51	P	P	20 51 12.7	+0.4
	baz=277						
PMR	Palmer	31.86	48	P	P	20 51 13.3	+0.9
	baz=275						
RND	Reindeer	31.88	44	P	P	20 51 13.2	+0.5
RND				IAmb	IAmb	20 51 14.0	
	comp=Z,9.3nm,0.8s						
RND	Reindeer	31.88	44	P	P	20 51 13.2	+0.5
RND				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	Hu-ho-hao-te	31.97	270	*e*P	P	20 51 15.5	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONM	Songino Array	32.01	285	P	P	20 51 13.3	-0.8
SONM	Songino Array	32.01	285	P	P	20 51 13.6	-0.5
	comp=Z,0.6nm,0.3s,baz=68,slow=7.7,SNR=16						
SONM				PcP	PcP	20 54 00.1	-0.2
	comp=Z,0.5nm,0.7s,baz=73,slow=1.7,SNR=3.5						
	comp=Z,0.6nm,0.3s						
D24K	Happy Valley	32.15	34	P	P	20 51 16.0	+1.1
	baz=263						
E24K	Your Creek	32.15	36	P	P	20 51 16.2	+1.2
	baz=265						
WRH	Wood River Hil	32.19	42	P	P	20 51 16.1	+0.9
WRH				IAmb	IAmb	20 51 17.9	
	comp=Z,10nm,0.8s						
KNK	Knik Glacier	32.20	48	P	P	20 51 15.9	+0.5
	baz=276,SNR=5.2						
SML	Sawmill	32.22	47	P	P	20 51 16.4	+0.8
	baz=275,SNR=7.6						
C24K	Franklin Bluff	32.27	33	P	P	20 51 16.5	+0.6
	baz=262						
H24K	Noodor Dome	32.27	40	IAmb	IAmb	20 51 18.0	
	comp=Z,4.9nm,0.6s						
H24K	Noodor Dome	32.27	40	P	P	20 51 17.3	+1.2
	baz=269						
COLA	College	32.28	42	P	P	20 51 17.5	+1.4
COLA	College	32.28	42	P	P	20 51 17.2	+1.2
	baz=271						
COLA	College	32.28	42	*c iP*	P	20 51 17.3	+1.2
COLA				pmax	pmax		
	comp=Z,19nm,0.6s						
CCB	Clear Creek Bu	32.31	42	P	P	20 51 17.1	+0.9
CCB				IAmb	IAmb	20 51 18.2	
	comp=Z,7.9nm,0.6s						
PWL	Port Wells	32.31	49	P	P	20 51 16.7	+0.2
PWL				IAmb	IAmb	20 51 39.3	
	comp=Z,20nm,1.4s						
PWL	Port Wells	32.31	49	P	P	20 51 16.6	+0.2
	baz=277						
F24K	Squaw Lake	32.34	37	P	P	20 51 17.1	+0.6
	baz=267						
POKR	Poker Plat Res	32.46	41	P	P	20 51 18.9	+1.3
	baz=271,SNR=5.2						
G24K	Hadweenzic Riv	32.46	38	P	P	20 51 19.1	+1.4
	baz=268						
M23K	Glacier View	32.51	47	P	P	20 51 18.6	+0.5
	baz=276						
HDA	Harding Lake	32.68	43	P	P	20 51 20.1	+0.5
	baz=272,SNR=7.8						
SCM	Sheep Creek Mo	32.69	47	P	P	20 51 21.0	+1.2
	baz=276						
IL31		32.70	42	IAmb	IAmb	20 51 21.2	
	comp=Z,9.1nm,0.8s						
ILAR	Eielson Array	32.70	42	P	P	20 51 21.1	+1.5
ILAR	Eielson Array	32.70	42	P	P	20 51 20.2	+0.5
	comp=Z,5.2nm,0.7s,baz=261,slow=7.7,SNR=72						
	comp=Z,5.2nm,0.7s						
ILAR	Eielson Array	32.70	42	P	P	20 51 21.2	+1.5
NJ2	Nanjing	32.82	250	*e*P	P	20 51 21.5	+0.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
H11S1	WAKE ISLAND Hy	32.86	161	T	T	21 25 58.1	
	baz=347,slow=76						
H11S3	WAKE ISLAND Hy	32.87	161	T	T	21 25 56.8	
	baz=347,slow=76						
H11S2	WAKE ISLAND Hy	32.88	161	T	T	21 26 01.5	
	baz=347,slow=76						
P23K	Montague Islan	32.89	51	P	P	20 51 22.5	+1.1
	baz=279						
ZAK	Zakamensk	32.97	291	*e*P	P	20 51 21.8	-0.5
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
G25K	Bearman Lake	33.01	38	P	P	20 51 23.3	+1.0
	baz=270						
D25K	Kavik River	33.03	33	P	P	20 51 23.6	+1.0
	baz=265						
H25L	Birch Creek	33.12	39	P	P	20 51 25.0	+1.7
	baz=271						
F25K	Christian Rive	33.20	37	P	P	20 51 25.7	+1.5
	baz=269						
M24K	Tolsona, Glenn	33.20	47	P	P	20 51 26.2	+2.0
M24K				IAmb	IAmb	20 51 26.3	
	comp=Z,14nm,1.1s						
M24K	Tolsona, Glenn	33.20	47	P	P	20 51 25.6	+1.4
	baz=277						
K24K	Donnelly Dome	33.23	44	P	P	20 51 24.9	+0.5
	baz=274						
E25K	Arctic Village	33.25	36	P	P	20 51 26.1	+1.6
E25K				IAmb	IAmb	20 51 26.6	
	comp=Z,9.0nm,0.6s						
E25K	Arctic Village	33.25	36	P	P	20 51 26.0	+1.5
	baz=268,SNR=11						
PRP	Porcupine Dome	33.25	40	P	P	20 51 26.0	+1.3
PRP	Porcupine Dome	33.25	40	P	P	20 51 25.9	+1.3
	baz=272,SNR=14						
FYU	Fort Yukon	33.35	39	P	P	20 51 27.1	+1.7
J25K	Salcha River,	33.36	42	P	P	20 51 25.4	-0.1
	baz=274						
KLU	Klutina	33.40	48	P	P	20 51 26.8	+0.9
	baz=278						
PAX	Paxson	33.44	45	P	P	20 51 27.6	+1.4
	baz=276						
C26K	Camden Bay	33.59	32	P	P	20 51 29.2	+1.8
	baz=266						
BMAR	Burnt Mountain	33.61	37	P	P	20 51 29.3	+1.7
EYAK	Cordova Ski Ar	33.62	50	P	P	20 51 28.6	+1.0
	baz=279						
HARP	HAARP	33.64	46	P	P	20 51 29.3	+1.4
	baz=277						
RIDG	Independent Ri	33.65	44	IAmb	IAmb	20 51 29.1	
	comp=Z,8.2nm,0.7s						
RIDG	Independent Ri	33.65	44	P	P	20 51 28.3	+0.2
	baz=275						
F26K	Sheenjek River	33.78	36	P	P	20 51 30.9	+1.8
	baz=270						
G26K	Porcupine Rive	33.92	38	P	P	20 51 31.6	+1.4
	baz=271						
C27K	Jago River	33.99	33	IAmb	IAmb	20 51 33.8	
	comp=Z,18nm,1.1s						
C27K	Jago River	33.99	33	P	P	20 51 31.9	+1.1
	baz=268,SNR=17						
DOT	Dot Lake	34.00	44	IAmb	IAmb	20 51 32.5	
	comp=Z,5.8nm,0.6s						
SCRK	Sand Creek	34.01	43	IAmb	IAmb	20 51 32.9	
	comp=Z,8.4nm,0.9s						
SCRK	Sand Creek	34.01	43	P	P	20 51 31.4	+0.2
	baz=276,SNR=12						
N25K	Chitina, Valde	34.01	47	P	P	20 51 32.3	+1.1
	baz=279						
BMRM	Bremner River	34.10	49	P	P	20 51 33.0	+1.0
BMRM				IAmb	IAmb	20 51 34.1	
	comp=Z,11nm,1.0s						
BMRM	Bremner River	34.10	49	P	P	20 51 32.9	+1.0
	baz=280						
J26L	Joseph Creek	34.14	42	P	P	20 51 32.4	+0.1
	baz=275						
KAIM	Kayak Island	34.38	50	P	P	20 51 35.9	+1.6
	baz=281						
L26K	Log Cabin Wild	34.40	45	P	P	20 51 35.9	+1.4
	baz=278						
VRDI	Verde Repeater	34.61	48	P	P	20 51 38.1	+1.6
M26K	Nabesna, AK	34.64	46	P	P	20 51 38.7	+2.1
	baz=279						
E27K	Coleen River	34.74	36	IAmb	IAmb	20 51 39.8	
	comp=Z,8.5nm,1.1s						
E27K	Coleen River	34.74	36	P	P	20 51 38.6	+1.3
	baz=272,SNR=9.0						
G27K	Doyon Strip	34.77	38	P	P	20 51 39.4	+1.7
	baz=274						
K27K	Chicken	34.84	43	P	P	20 51 39.6	+1.4
	baz=277						
H27K	Steamboat Moun	34.86	39	P	P	20 51 40.3	+2.0
	baz=274						
I27K	Kandik River	34.87	40	P	P	20 51 39.2	+0.7
	baz=275						
BGLC	Bering Glacier	34.90	50	P	P	20 51 38.8	+0.1
	baz=282						
D27M	Malcolm River	34.95	34	IAmb	IAmb	20 51 41.5	
	comp=Z,18nm,1.1s						
D27M	Malcolm River	34.95	34	P	P	20 51 40.6	+1.4
	baz=271						
L27K	Beaver Creek,	35.08	45	P	P	20 51 41.9	+1.6
	baz=279						
BCAR	Beaver Creek A	35.09	45	P	P	20 51 42.3	+1.8
M27K	Edge Creek, AK	35.16	46	P	P	20 51 43.1	+2.0
	baz=280						
F28M	Old Crow	35.41	37	IAmb	IAmb	20 51 45.4	
	comp=Z,8.1nm,0.6s						
F28M	Old Crow	35.41	37	P	P	20 51 44.9	+1.8
	baz=274,SNR=16						
E28M	Babbage River	35.49	35	IAmb	IAmb	20 51 46.3	
	comp=Z,17nm,1.4s						
E28M	Babbage River	35.49	35	P	P	20 51 45.0	+1.3
	baz=273,SNR=8.5						
MESA	MESA	35.54	50	P	P	20 51 45.0	+0.5
MESA				IAmb	IAmb	20 51 56.8	
	comp=Z,13nm,1.0s						
MESA	MESA	35.54	50	P	P	20 51 45.9	+1.4
	baz=283						
I28M	Miner Creek	35.58	40	IAmb	IAmb	20 51 47.0	
	comp=Z,8.5nm,0.7s						
I28M	Miner Creek	35.58	40	P	P	20 51 46.2	+1.5
	baz=277						
D28M	Stokes Point	35.74	34	P	P	20 51 46.9	+1.1
	baz=273						
DAWY	Dawson	36.00	43	P	P	20 51 49.2	+1.0
	baz=279						
E29M	Blow River	36.10	35	IAmb	IAmb	20 51 51.7	
	comp=Z,14nm,1.1s						
E29M	Blow River	36.10	35	P	P	20 51 49.8	+0.9
	baz=275						
H29M	Whitestone	36.13	39	IAmb	IAmb	20 51 52.0	
	comp=Z,12nm,0.8s						
H29M	Whitestone	36.13	39	P	P	20 51 50.9	+1.6
	baz=277						
G29M	Pine Creek	36.19	38	P	P	20 51 51.8	+2.0
	baz=276						
O28M	Mount Upton	36.26	48	P	P	20 51 52.2	+1.5
	baz=283						
I29M	Ogilvie Camp,	36.27	40	P	P	20 51 51.4	+0.9
	baz=278						
YUK8	Steele Glacier	36.35	47	P	P	20 51 52.9	+1.4
	baz=283						
M29M	Somme Creek	36.71	45	P	P	20 51 55.8	+1.5
	baz=282						
L29M	L29M	36.73	44	P	P	20 51 56.6	+2.2
	baz=282,SNR=17						
NRIK	Noril'sk	36.75	327	P	P	20 51 53.4	-0.9
NRIK	Noril'sk	36.75	327	P	P	20 51 53.6	-0.8
	comp=Z,2.1nm,0.4s,baz=96,slow=8.6,SNR=6.9						
	comp=Z,2.1nm,0.4s						
NRIK	Noril'sk	36.75	327	*ce*P	P	20 51 53.5	-0.9
NRIK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EPYK	Eagle Plains	36.77	38	P	P	20 51 56.3	+1.6
	baz=278						
K29M	Barlow Dome	36.85	43	P	P	20 51 57.0	+1.5
	baz=281						
YUK4	Talbot Arm	36.86	47	P	P	20 51 57.2	+1.5
	baz=283						
G30M	tAoh Zraii Nji	36.89	37	P	P	20 51 56.9	+1.2
	baz=278						
F30M	Barrier River	36.97	36	P	P	20 51 58.0	+1.7
	baz=278						
YUK6	Outpost Mounta	37.09	48	P	P	20 51 59.2	+1.5
	baz=284						
I30M	Mount Dempster	37.09	40	P	P	20 51 58.6	+1.1
	baz=280,SNR=20						
O29M	Mount Kennedy	37.15	49	P	P	20 51 59.1	+1.0
	baz=285						
J30M	Hart River	37.23	41	P	P	20 52 00.2	+1.5
	baz=281						
M30M	Minto, Yukon	37.44	45	P	P	20 52 02.1	+1.8
	baz=283						
HYT	Haines Junctio	37.53	48	P	P	20 52 03.1	+1.9
	baz=285						
N30M	Aishikik Lake	37.56	47	P	P	20 52 03.1	+1.6
	baz=284						
G31M	Satah River	37.65	37	P	P	20 52 03.2	+1.2
	baz=280,SNR=5.9						
XAN	Xi'an	37.68	263	P	P	20 52 04.0	+1.3
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	Inuvik	37.72	35	IAmb	IAmb	20 52 04.5	
	comp=Z,6.5nm,0.7s						
INK	Inuvik	37.72	35	P	P	20 52 03.9	+1.3
	comp=Z,3.9nm,0.4s,baz=300,slow=6.8,SNR=34						
	comp=Z,3.9nm,0.4s						
INK	Inuvik	37.72	35	P	P	20 52 04.1	+1.5
	baz=279,SNR=12						
F31M	Tsiigehtchic	37.77	36	IAmb	IAmb	20 52 04.8	
	comp=Z,9.4nm,1.0s						
F31M	Tsiigehtchic	37.77	36	P	P	20 52 04.4	+1.4
	baz=280,SNR=7.6						
H31M	Peel River	37.82	39	P	P	20 52 04.8	+1.2
	baz=281						
P30M	Million Dollar	37.98	49	P	P	20 52 06.9	+2.0
	baz=286						
N31M	Braeburn, Yuko	38.17	46	IAmb	IAmb	20 52 10.0	
	comp=Z,9.4nm,0.8s						
N31M	Braeburn, Yuko	38.17	46	P	P	20 52 08.7	+2.2
	baz=285,SNR=7.2						
O30N	Mendenhall	38.21	47	IAmb	IAmb	20 52 09.9	
	comp=Z,8.6nm,0.8s						
O30N	Mendenhall	38.21	47	P	P	20 52 09.1	+2.2
	baz=286,SNR=6.9						
M31M	Drury Creek, Y	38.62	45	P	P	20 52 12.5	+2.3
	baz=286						
WHY	Whitehorse	38.81	47	IAmb	IAmb	20 52 15.3	
	comp=Z,11nm,1.3s						
WHY	Whitehorse	38.81	47	P	P	20 52 14.3	+2.4
	baz=287						
SKAG	Skagway	38.96	49	P	P	20 52 13.3	+0.3
	baz=288						
FARO	Faro, Yukon	39.08	45	IAmb	IAmb	20 52 16.9	
	comp=Z,7.3nm,0.9s						
FARO	Faro, Yukon	39.08	45	P	P	20 52 16.0	+2.0
	baz=286						
N32M	Quiet Lake	39.51	46	P	P	20 52 19.2	+1.6
	baz=288						
R32K	Eaglecrest	39.74	51	P	P	20 52 20.4	+0.8
	baz=290						
SIT	Sitka	39.75	53	P	P	20 52 22.1	+2.5
	baz=291						
MMPY	Sheldon Lake,	39.90	44	P	P	20 52 23.1	+2.2
	baz=287,SNR=5.9						
A36M	Sachs Harbour	39.90	28	P	P	20 52 22.3	+1.7
	baz=281,SNR=33						
P33M	Teslin, Yukon	39.92	47	P	P	20 52 23.0	+1.9
P33M	Teslin, Yukon	39.92	47	P	P	20 52 23.3	+2.2
	baz=289,SNR=5.3						
GTA	Gaotai	40.28	277	*e*P	P	20 52 24.0	-0.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
Q32M	Nakina River	40.61	49	P	P	20 52 29.0	+2.1
	baz=291						
C36M	Paulatuk	40.88	32	P	P	20 52 29.9	+1.2
C36M	Paulatuk	40.88	32	P	P	20 52 30.1	+1.5
	baz=285						
R33M	Jennings River	41.08	48	P	P	20 52 33.2	+2.5
R33M	Jennings River	41.08	48	P	P	20 52 33.2	+2.5
	baz=291,SNR=5.3						
U33K	Whale Pass	41.23	53	P	P	20 52 34.5	+2.7
	baz=293						
TGTN	Hyland Airport	41.58	44	P	P	20 52 37.2	+2.5
	baz=291,SNR=7.6						
WTLY	Watson Lake, Y	41.85	47	P	P	20 52 39.0	+2.2
	baz=292						
DLBC	Dease Lake	41.89	49	P	P	20 52 40.1	+2.9
	baz=293						
ZAA0	Zalesovo Array	42.09	304	IAmb	IAmb	20 52 38.5	
	comp=Z,4.7nm,0.5s						
ZALV	Zalesovo Beam	42.09	304	P	P	20 52 37.6	-1.2
ZALV	Zalesovo Beam	42.09	304	P	P	20 52 37.9	-1.0
	comp=Z,4.4nm,0.4s,baz=60,slow=7.1,SNR=29						
ZALV				PcP	PcP	20 54 30.1	-0.6
	comp=Z,1.0nm,0.6s,baz=54,slow=2.5,SNR=4.1						
	comp=Z,4.4nm,0.4s						
V35K	Ketchikan	42.33	54	P	P	20 52 43.0	+2.3
	baz=295						
T35M	Bob Quinn	42.35	51	P	P	20 52 44.2	+3.3
	baz=294						
TOAD	Toad River Com	44.02	47	P	P	20 52 56.9	+2.6
	baz=295						
WMQ	Urumqi	45.40	289	*e*P	P	20 53 06.0	+0.5
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s						
RES	Resolute Bay	46.92	20	IAmb	IAmb	20 53 18.5	
	comp=Z,10nm,0.6s						
KURK	Kurchatov	46.97	302	P	P	20 53 16.4	-1.2
KURK	Kurchatov	46.97	302	*ce*P	P	20 53 17.3	-0.2
KURK				pmax	pmax		
	comp=Z,25nm,1.4s						
MK31	Makanchi Array	46.98	296	*ce*P	P	20 53 17.1	-0.7
MKAR	Makanchi Array	46.98	296	P	P	20 53 16.8	-1.0
MKAR	Makanchi Array	46.98	296	P	P	20 53 17.0	-0.7
	comp=Z,1.7nm,0.4s,baz=53,slow=6.0,SNR=72						
MKAR				pP	pP	20 53 51.0	+1.7
	comp=Z,3.0nm,0.8s,baz=59,slow=7.2,SNR=5.7						
MKAR				PcP	PcP	20 54 47.2	-0.6
	comp=Z,0.4nm,0.6s,baz=61,slow=3.7,SNR=1.2						
	comp=Z,1.7nm,0.4s						
YKA	Yellowknife Ar	47.04	39	P	P	20 53 18.2	+0.3
YKA	Yellowknife Ar	47.04	39	P	P	20 53 19.0	+1.1
	comp=Z,4.2nm,0.7s,baz=298,slow=7.9,SNR=44						
YKA				PcP	PcP	20 54 48.4	+0.9
	comp=Z,0.3nm,0.5s,baz=303,slow=3.4,SNR=3.1						
	comp=Z,4.2nm,0.7s						
YKA	Yellowknife Ar	47.04	39	*ce*P	P	20 53 19.2	+1.3
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	Kurchatov Arra	47.07	302	P	P	20 53 17.6	-0.7
	comp=Z,6.3nm,0.4s,baz=62,slow=8.0,SNR=22						
KURBB				PcP	PcP	20 54 47.7	-0.2
	comp=Z,1.4nm,0.5s,baz=58,slow=3.5,SNR=7.1						
	comp=Z,6.3nm,0.4s						
YKAB2	New Yellowknif	47.08	39	P	P	20 53 19.3	+1.2
MAKZ	Makanchi	47.16	296	P	P	20 53 18.0	-1.1
MAKZ	Makanchi	47.16	296	P	P	20 53 18.0	-1.1
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PZH	PanZhiHua	47.33	261	P	P	20 53 21.0	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,5.7s						
SPITS	Spitsbergen Ar	49.47	350	P	P	20 53 35.0	-1.4
	comp=Z,3.4nm,0.4s,baz=56,slow=6.1,SNR=34						
	comp=Z,3.4nm,0.4s						
SPITS	Spitsbergen Ar	49.47	350	P	P	20 53 35.0	-1.4
BVAR	Borovoye Array	50.06	308	P	P	20 53 40.3	-0.8
	comp=Z,11nm,0.6s,baz=56,slow=8.4,SNR=110						
BVAR				pP	pP	20 54 13.4	+0.3
	comp=Z,3.1nm,0.6s,baz=61,slow=10,SNR=4.3						
BVAR				PcP	PcP	20 54 58.4	-0.3
	comp=Z,2.1nm,0.4s,baz=62,slow=3.4,SNR=9.8						
BVAR				PP	PP	20 55 32.5	-4.7
	comp=Z,2.0nm,0.7s,baz=50,slow=10.0,SNR=4.4						
	comp=Z,11nm,0.6s						
BRVK	Borovoye	50.09	308	P	P	20 53 40.5	-0.8
BRVK				IAmb	IAmb	20 53 41.5	
	comp=Z,13nm,0.8s						
BRVK	Borovoye	50.09	308	*c iP*	P	20 53 40.7	-0.7
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s						
NEEM	North Greenlan	51.46	7	*i* P	P	20 53 49.9	-1.7
NEEM				IAmb	IAmb	20 53 52.2	
	comp=Z,20nm,0.6s						
SVE	Sverdlovsk	52.50	316	*e*P	P	20 53 58.8	-0.5
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KDJ	Kajisay	52.66	293	IAmb	IAmb	20 54 02.0	
	comp=Z,6.8nm,0.5s						
BOOM	Boomskoye usch	53.17	295	IAmb	IAmb	20 54 06.1	
	comp=Z,5.1nm,0.5s						
DAG	Danmarks Havn	53.19	358	*i* P	P	20 54 02.0	-2.0
DAG	Danmarks Havn	53.19	358	*i* P	P	20 54 02.0	-2.0
DAG				*i* P	P	20 54 02.0	-2.0
DAG				IAmb	IAmb	20 54 04.3	
KULLO	Kullorsuaq	53.49	10	*i* P	P	20 54 04.5	-1.6
KULLO				IAmb	IAmb	20 54 07.0	
	comp=Z,463nm,3.0s						
ARTI	Arti	53.76	317	P	P	20 54 07.3	-1.2
ARTI				IAmb	IAmb	20 54 08.2	
	comp=Z,8.2nm,0.8s						
ARTI	Arti	53.76	317	*c iP*	P	20 54 07.4	-1.1
ARTI				*PP	pP	20 54 39.0	-1.9
ARTI						20 56 06.0	
ARTI				S	S	21 01 31.5	0.0
ARTI				SS	SS	21 05 11.7	-1.8
ARTI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	Ala-Archa	53.92	295	P	P	20 54 09.7	-0.4
AAK	Ala-Archa	53.92	295	*c iP*	P	20 54 09.6	-0.4
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHTO	Chiang Mai	54.69	256	P	P	20 54 16.4	+0.7
CHTO	Chiang Mai	54.69	256	P	P	20 54 16.4	+0.7
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	Chiang Mai Arr	54.96	256	P	P	20 54 17.9	+0.3
	comp=Z,1.5nm,0.6s,baz=31,slow=7.4,SNR=17						
CMAR				pP	pP	20 54 52.3	+2.2
	comp=Z,0.7nm,0.8s,baz=31,slow=6.6,SNR=3.4						
	comp=Z,1.5nm,0.6s						
CMAR	Chiang Mai Arr	54.96	256	*ce*P	P	20 54 19.2	+1.6

FFC Flin Flon 56.91 43 P **P** **20 54 31.9 +0.9**
FFC IAmb IAmb 20 54 34.3
comp=Z,17nm,1.5s

FFC Flin Flon 56.91 43 P **P** **20 54 31.9 +0.9**
FFC pmax pmax
comp=Z,17nm,1.5s

SUMG Summit 57.05 5 P **P** **20 54 32.3 +0.1**
SUMG Summit 57.05 5 P **P** **20 54 32.3 +0.1**
SUMG pmax pmax
comp=Z,38nm,1.0s

SUMG Summit 57.05 5 *i* P **P** **20 54 31.0 -1.2**
SUMG IAmb IAmb 20 54 33.5
comp=Z,34nm,0.9s

FCC Fort Churchill 57.34 36 P **P** **20 54 34.3 +0.4**
FCC IAmb IAmb 20 54 35.5
comp=Z,11nm,0.9s

FCC Fort Churchill 57.34 36 P **P** **20 54 34.3 +0.4**
FCC pmax pmax
comp=Z,11nm,1.0s

BTK Batken 57.69 295 IAmb IAmb 20 54 38.6
comp=Z,6.8nm,0.8s

ILULI Ilulissat 59.20 11 *i* P **P** **20 54 45.3 -1.4**
ILULI IAmb IAmb 20 54 47.2
comp=Z,14nm,0.8s

ICESG Greenland Ices 60.41 6 *i* P **P** **20 54 54.1 -1.3**
ICESG IAmb IAmb 20 54 56.1
comp=Z,51nm,0.2s

PD31 Pinedale Array 61.26 57 IAmb IAmb 20 55 04.0
comp=Z,3.0nm,0.8s

PDAR Pinedale Array 61.26 57 P **P** **20 55 02.6 +1.1**
comp=Z,2.5nm,0.7s,baz=311,slow=4.3,SNR=14
comp=Z,2.5nm,0.7s

FINES FINESS Array B 61.62 335 P **P** **20 55 01.6 -1.6**
comp=Z,1.9nm,0.4s,baz=36,slow=7.1,SNR=19
comp=Z,1.9nm,0.4s

ULM Lac du Bonnet 62.70 43 P **P** **20 55 10.5 -0.1**
comp=Z,4.0nm,0.7s,baz=316,slow=6.2,SNR=3.8
comp=Z,4.0nm,0.7s

RSSD Black Hills 63.21 53 P **P** **20 55 15.6 +1.2**
RSSD IAmb IAmb 20 55 16.4
comp=Z,6.8nm,0.6s

RSSD Black Hills 63.21 53 P **P** **20 55 15.6 +1.2**
RSSD pmax pmax
comp=Z,7.0nm,0.6s

OBN Obninsk 63.42 326 *i* P **P** **20 55 12.9 -2.3**
OBN pmax pmax
comp=Z,9.0nm,1.6s

ISOG Isortoq, Green 63.96 7 *i* P **P** **20 55 16.8 -1.8**
ISOG IAmb IAmb 20 55 19.1
comp=Z,13nm,0.6s

NB2 NORSAR Subarra 65.46 342 P **P** **20 55 27.2 -1.3**
comp=Z,3.6nm,0.8s,baz=25,slow=6.9

NOA NORSAR Array B 65.46 342 P **P** **20 55 26.9 -1.7**
comp=Z,1.9nm,0.7s,baz=28,slow=6.7,SNR=9.6
comp=Z,1.9nm,0.7s

HFS Hagfors 65.77 340 P **P** **20 55 29.1 -1.3**
comp=Z,1.4nm,0.4s,baz=67,slow=3.2,SNR=11
comp=Z,1.4nm,0.4s

EYMN Ely 66.34 43 P **P** **20 55 34.7 +0.4**
EYMN IAmb IAmb 20 55 35.2
comp=Z,5.9nm,0.9s

MNK Minsk 66.87 330 *i* P **P** **20 55 36.4 -1.1**
MNK *i* *PP **pP** **20 56 10.2 -1.0**
MNK *i* 20 58 05.5
MNK *i* PPP PPP 20 59 43.6
MNK *i* S **S** **21 04 18.9 +0.4**
MNK *i* *SS **SKSac** **21 05 17.9 -2.7**
MNK *i* SS **SS** **21 08 41.0 +2.7**
MNK pmax pmax
comp=N,14nm,1.0s

MNK pmax pmax
comp=Z,16nm,0.9s

MNK pmax pmax
comp=E,13nm,0.9s

NACGM Naroch 66.88 331 *e*P **P** **20 55 37.8 +0.2**
baz=33

ECSD EROS Data Cent 67.17 49 P **P** **20 55 39.7 0.0**
ECSD IAmb IAmb 20 55 40.7
comp=Z,5.5nm,0.6s

SCHQ Schefferville 69.36 25 P **P** **20 55 52.8 -0.3**
comp=Z,4.4nm,0.4s,baz=337,slow=5.9,SNR=20
comp=Z,4.4nm,0.4s

AKASG Malin Array Be 69.60 327 P **P** **20 55 53.1 -1.5**
comp=Z,2.7nm,0.4s,baz=33,slow=6.5,SNR=12
comp=Z,2.7nm,0.4s

AKASG Malin Array Be 69.60 327 *ce*P **P** **20 55 53.0 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.4s

KVAR Kislovodsk Arr 69.61 315 P **P** **20 55 53.0 -2.0**
comp=Z,1.0nm,0.3s,baz=340,slow=19,SNR=1.4
comp=Z,1.0nm,0.3s

KIV Kislovodsk 69.62 315 *e*P **P** **20 55 55.1 +0.1**
KIV pmax pmax
comp=Z,5.0nm,1.1s

KBZ Khabaz 69.70 315 P **P** **20 55 54.4 -0.9**
comp=Z,3.7nm,0.7s,baz=83,slow=3.0,SNR=10
comp=Z,3.7nm,0.7s

KBZ Khabaz 69.70 315 *ce*P **P** **20 55 55.1 -0.2**
KBZ pmax pmax
comp=Z,4.0nm,0.8s

RNPP9 Sopachiv 70.13 329 P **P** **20 55 58.4 +0.6**
SOC Sochi 71.24 316 *e*P **P** **20 56 04.1 -0.6**
SOC *e*PPP PPP 21 00 26.1
SOC *e*S **S** **21 05 12.0 +1.7**
SOC *e*SS **SS** **21 09 47.7 +1.8**
WRA Warramunga Arr 72.44 201 P **P** **20 56 11.5 -0.5**
comp=Z,1.0nm,0.6s,baz=17,slow=6.3,SNR=6.0
WRA pP **pP** **20 56 45.6 -0.8**
comp=Z,1.5nm,0.8s,baz=14,slow=6.2,SNR=4.3
comp=Z,1.0nm,0.6s

WRA Warramunga Arr 72.44 201 *ce*P **P** **20 56 11.8 -0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s

KSV Kosov 73.06 328 P **P** **20 56 15.0 -0.5**
EKA Eskdalemuir Ar 73.32 348 P **P** **20 56 15.7 -1.1**
comp=Z,1.9nm,0.5s,baz=16,slow=4.8,SNR=30
comp=Z,1.9nm,0.5s

BUR08 Bucovina Ar. S 73.59 328 P **P** **20 56 17.5 -1.2**
BUR08 IAmb IAmb 20 56 20.9
comp=Z,12nm,1.5s

BURAR Bucovina Array 73.61 328 ⇓P **P** **20 56 18.1 -0.7**
BURAR Bucovina Array 73.61 328 ⇓P **P** **20 56 18.1 -0.7**
TESR Tescani 74.06 326 ⇓P **P** **20 56 21.1 -0.2**
LANS Liptovska Anna 74.13 332 *e*P **P** **20 56 23.1 +1.4**
LANS Liptovska Anna 74.13 332 *e*P **P** **20 56 23.1 +1.4**
SAND Sanderson 74.65 62 IAmb IAmb 20 56 31.4
comp=Z,6.6nm,0.8s

VYHS Vyhne 74.90 332 *e*P **P** **20 56 26.4 +0.2**
VYHS Vyhne 74.90 332 *e*P **P** **20 56 26.4 +0.2**
MARD Mardin 75.74 312 IAmb IAmb 20 56 33.0
comp=Z,5.1nm,0.5s

KHC Kasperske Hory 75.82 335 *e*P **P** **20 56 29.0 -2.4**
KHC Kasperske Hory 75.82 335 *e*P **P** **20 56 29.0 -2.4**
GERES GERESS Array B 76.05 335 P **P** **20 56 32.1 -0.7**
comp=Z,1.5nm,0.5s,baz=27,slow=4.5,SNR=7.2
comp=Z,1.5nm,0.5s

ASAR Alice Springs 76.13 201 P **P** **20 56 33.8 +0.5**
comp=Z,0.9nm,0.5s,baz=13,slow=5.3,SNR=17
ASAR pP **pP** **20 57 07.8 -0.2**
comp=Z,0.9nm,0.6s,baz=14,slow=5.5,SNR=5.1
comp=Z,0.9nm,0.5s

MMNY Mt. Morris Dam 76.19 38 P **P** **20 56 33.3 -0.3**
GZR Gura Zlata 76.38 328 ⇓P **P** **20 56 34.7 0.0**
GZR Gura Zlata 76.38 328 ⇓P **P** **20 56 34.7 0.0**
BZS Buzias 76.57 329 ⇑P **P** **20 56 35.8 +0.1**
BZS Buzias 76.57 329 ⇑P **P** **20 56 35.8 +0.1**
MOA Molln 76.81 335 *e*PcP P 20 56 42.3 +5.3
comp=Z,3.8nm,0.3s

HERR Herculane 76.95 328 ⇑P **P** **20 56 37.6 -0.1**
BR131 Keskin Array S 77.03 318 P **P** **20 56 38.4 -0.1**
BR131 IAmb IAmb 20 56 39.9
comp=Z,12nm,1.4s

BR131 Keskin Array S 77.03 318 P **P** **20 56 38.4 -0.1**
BR131 pmax pmax
comp=Z,12nm,1.4s

BRTR Keskin Array B 77.03 318 P **P** **20 56 38.4 -0.1**
comp=Z,1.6nm,0.5s,baz=72,slow=2.1,SNR=13
comp=Z,1.6nm,0.5s

BRTR Keskin Array B 77.03 318 *ce*P **P** **20 56 38.7 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.5s

KIRS Kirsehir-Merke 77.40 317 ⇓P **P** **20 56 40.5 0.0**
LESA Schwarzleotal 77.63 335 *i* P **P** **20 56 42.3 +0.7**
comp=Z,2.8nm,0.5s,SNR=4.7
SOKA Soboth 77.66 334 *i* P **P** **20 56 41.8 0.0**
comp=Z,2.8nm,0.8s,SNR=5.9

PERS Pernice 77.67 333 *i* P **P** **20 56 42.4 +0.5**
KBA Koelnbreinsper 77.76 335 *e*P **P** **20 56 43.3 +0.8**
comp=Z,5.6nm,0.4s
OBKA Obir 77.95 334 *e*P **P** **20 56 43.8 +0.4**
comp=Z,3.2nm,0.5s
WATA Walderalm 78.00 336 *e*P **P** **20 56 44.6 +0.8**
comp=Z,1.6nm,0.5s
WTTA Wattenberg 78.05 336 *i* P **P** **20 56 44.5 +0.4**
comp=Z,4.6nm,0.6s,SNR=4.2
RETA Reute 78.07 337 *e*P **P** **20 56 44.9 +0.8**
comp=Z,1.1nm,0.4s
MYKA Terra Mystica 78.09 334 *e*P **P** **20 56 44.5 +0.3**
comp=Z,2.4nm,0.5s
MOTA Moosalm 78.11 336 *e*P **P** **20 56 45.3 +0.9**
comp=Z,1.8nm,0.4s
SQTA Sankt Quirin 78.20 336 *e*P **P** **20 56 46.0 +1.1**
comp=Z,1.8nm,0.4s
GCIS Gornji Cirnik 78.22 333 *i* P **P** **20 56 45.0 +0.2**
LEGS Legarje 78.24 333 *i* P **P** **20 56 45.0 +0.1**
BOVS Bovan 78.29 328 ⇑P **P** **20 56 44.1 -1.2**
ABTA Abfaltersbach 78.29 335 *e*P **P** **20 56 45.6 +0.3**
comp=Z,1.5nm,0.5s
CRES Cresnjevec Ost 78.31 333 *i* P **P** **20 56 45.4 +0.1**
FETA Feichten 78.51 336 *e*P **P** **20 56 47.3 +0.7**
comp=Z,1.4nm,0.4s
CTI Castel Tesino 79.17 335 P **P** **20 56 49.5 -0.6**
CTI Castel Tesino 79.17 335 P **P** **20 56 49.6 -0.6**
CTI pmax pmax
comp=Z,8.0nm,1.1s
TUE Stuetta 79.37 337 P **P** **20 56 51.7 +0.3**
TUE IAmb IAmb 20 56 53.3
comp=Z,7.1nm,0.8s
TUE Stuetta 79.37 337 P **P** **20 56 52.3 +0.9**
comp=Z,37nm,0.7s
TEOL Teolo 79.80 335 IAmb IAmb 20 56 54.2
comp=Z,15nm,0.9s
PDG Podgorica 80.19 329 IAmb IAmb 20 56 55.6
comp=Z,11nm,0.6s
PDG Podgorica 80.19 329 ⇓P **P** **20 56 55.1 -0.4**
FDMO Fiordimonte 81.55 333 IAmb IAmb 20 57 06.5
comp=Z,11nm,0.9s
OSSC Osservatorio P 81.61 335 IAmb IAmb 20 57 03.8
comp=Z,9.1nm,0.5s
SSB Saint Sauveur 81.62 340 IAmb IAmb 20 57 04.5
comp=Z,12nm,0.8s
NRCA Norcia 81.73 333 IAmb IAmb 20 57 07.3
comp=Z,13nm,0.7s
MMAI Mount Meron Ar 81.79 313 P **P** **20 57 05.0 +0.7**
comp=Z,16nm,0.5s,baz=40,slow=6.6,SNR=42
comp=Z,16nm,0.5s
CAMP Campotosto 81.91 333 IAmb IAmb 20 57 08.0
comp=Z,6.9nm,0.7s
INTR Introdacqua 82.25 332 IAmb IAmb 20 57 09.5
comp=Z,8.8nm,0.7s
RAYN Ar Rayn 84.27 300 P **P** **20 57 17.1 -0.1**
RAYN IAmb IAmb 20 57 18.0
comp=Z,9.5nm,0.7s
RAYN Ar Rayn 84.27 300 P **P** **20 57 17.1 -0.1**
RAYN pmax pmax
comp=Z,10.0nm,0.7s
ESDC Sonseca Array 88.69 345 P **P** **20 57 37.7 -0.7**
comp=Z,0.6nm,0.4s,baz=357,slow=3.4,SNR=11
comp=Z,0.6nm,0.4s
KEST Kesra 89.39 333 P **P** **20 57 42.0 +0.2**
comp=Z,5.0nm,0.7s,baz=40,slow=2.7,SNR=7.8
comp=Z,5.0nm,0.7s
H03N2 Juan Fernandez 136.91 88 T T 23 36 39.9
baz=313,slow=77
H03N1 Juan Fernandez 136.92 88 T T 23 36 38.8
baz=313,slow=77
H03N3 Juan Fernandez 136.93 88 T T 23 36 41.3
baz=313,slow=77
PLCA Paso Flores 146.61 92 PKPbc **PKPdf** **21 04 26.1 +2.2**
comp=Z,0.5nm,0.5s,baz=235,slow=3.9,SNR=4.4
ELIB Princess Elisa 149.75 207 *d*PKPdf **PKPdf** **21 04 32.9 +4.8**
ELIB *d*PKP **PKPab** **21 04 39.3 +0.4**
ELIB *dp*PKP **pPKPdf** **21 05 05.9 +0.2**

IDC 28 20:48:33.3±3.0, 7°.43S×133°.09E, h0km, mb3.3/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=152.7km s-min=29.4km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.50**	**175**	Pn	Pn	20 51 32.4	-0.2
	0.1nm,0.3s,baz=355,slow=13,SNR=6.0						
WRA				Sn	Sn	20 53 52.5	-0.1
	0.1nm,0.3s,baz=354,slow=24,SNR=1.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.16**	**177**	Pn	Pn	20 52 22.9	+0.9
	0.1nm,0.3s,baz=359,slow=11,SNR=12						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**70.28**	**326**	P	P	20 59 48.6	0.0
	0.1nm,0.4s,baz=131,slow=7.4,SNR=4.2						
	0.1nm,0.4s						

TXNET 28 20:51:56.5, 31°.2N±0°.8×103°.5W±0°.6, h5km±1km, ML1.4/7, Error ellipse: s-maj=1.3km s-min=0.8km az=18.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB03	**Saragosa**	**0.12**	**183**	P	Pg	20 51 59.5	+0.5
TPB03				S	Sg	20 52 01.4	+0.8
TPB04	**Verhalen**	**0.20**	**94**	P	Pg	20 52 01.3	+0.7
TPB04				S	Sg	20 52 04.7	+1.5
PCOS	**Crockett Middl**	**0.21**	**359**	S	Sg	20 52 04.3	+1.0
TPB10	**Southeast of T**	**0.23**	**291**	P	Pg	20 52 02.1	+1.1
TPB10				S	Sg	20 52 05.7	+1.7
TPB16	**Coyonosa**	**0.23**	**109**	S	Sg	20 52 05.5	+1.4
TPB05	**Hovey Rd**	**0.32**	**151**	P	Pb	20 52 03.9	-0.9
TPB05				S	Sb	20 52 09.1	-1.3
TPB01	**Permian Basin**	**0.35**	**222**	S	Sb	20 52 09.7	-1.5
PECS	**Pecos**	**0.35**	**299**	P	Pg	20 52 04.3	+1.0
PECS				S	Sg	20 52 09.5	+1.5
TPB12	**Southwest of T**	**0.39**	**272**	P	Pg	20 52 04.7	+0.7
TPB12				S	Sb	20 52 10.7	-1.5
TPB06	**Permian Basin**	**0.51**	**29**	P	Pg	20 52 07.0	+0.6
TPB08	**Permian Basin**	**0.60**	**121**	S	Sb	20 52 17.5	-0.9
MNHN	**Monahans**	**0.65**	**78**	S	Sg	20 52 18.6	+1.0
ALPN	**Alpine**	**0.83**	**188**	S	Sg	20 52 24.1	+0.8
CLNB	**Carlsbad**	**1.10**	**343**	S	Sb	20 52 33.3	+0.3
TMB02	**Rankin**	**1.26**	**90**	S	Sg	20 52 35.5	-1.5
VHRN	**Van Horn**	**1.33**	**252**	P	Pn	20 52 21.8	-0.1
VHRN				S	Sn	20 52 40.3	+0.1
TMB04	**Seminole**	**1.66**	**31**	S	Sg	20 52 51.2	+1.2
MNTX	**Cornudas Mount**	**1.68**	**288**	P	Pb	20 52 27.5	-0.4
SAND	**Sanderson**	**1.72**	**136**	P	Pn	20 52 27.8	+0.6
SAND				S	Sn	20 52 49.9	+0.2
TX31	**Lajitas Ar. Si**	**1.87**	**184**	P	Pn	20 52 30.2	+0.9
TX31				S	Sb	20 52 54.4	-0.5
OZNA	**Ozona**	**2.06**	**97**	S	Sb	20 53 01.0	+0.6
SGCY	**Sterling City**	**2.15**	**70**	S	Sb	20 53 04.0	+0.9

*JMA **28** 21:25:32.9±0.1, 40°.9N±0°.3×140°.3E±0°.7, h140km, MV2.5/38, TSUGARU PENINSULA REGION*
*IDC **28** 21:25:32.5±1.7, 40°.94N×140°.38E, h144km±15km, mb3.3/8, mbtmp3.6/10, MS2.9/2, Error ellipse: s-maj=23.2km s-min=15.6km az=121.0*

ISC 28 21:25:32.5±0.8, 40°.91N±0°.04×140°.35E±0°.08, h144km±5km, n28, σ0°.57/36, mb3.5/8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.15**	**18**	P	**Pn**	**21 25 51.9**	**0.0**
JSI2				S	**Sn**	**21 26 06.3**	**-0.5**
JHHS	**Hirosakihyakuz**	**0.26**	**178**	*e*P	**Pn**	**21 25 52.5**	**+0.3**
JHHS				*e*S	**Sn**	**21 26 06.8**	**-0.3**
JIW	**Iwasaki**	**0.41**	**219**	P	**Pn**	**21 25 52.8**	**+0.1**
JIW				*e*S	**Sn**	**21 26 08.1**	**+0.1**
JTM	**Tenmabayashi**	**0.56**	**103**	*i* P	**Pn**	**21 25 53.6**	**+0.2**
JTM				*e*S	**Sn**	**21 26 09.3**	**0.0**
JSR	**Shiriuchi**	**0.62**	**5**	*i* P	**Pn**	**21 25 53.8**	**0.0**
JSR				S	**Sn**	**21 26 09.3**	**-0.8**
JOMM	**Oshimamatsumae**	**0.66**	**337**	P	**Pn**	**21 25 54.2**	**+0.2**
JOMM				S	**Sn**	**21 26 10.2**	**-0.3**
JOT	**Ohata**	**0.71**	**48**	P	**Pn**	**21 25 54.6**	**+0.2**
JAH	**Hinai**	**0.76**	**163**	P	**Pn**	**21 25 54.9**	**+0.1**
JAH				*e*S	**Sn**	**21 26 11.5**	**-0.1**
JANG	**Nango**	**1.04**	**121**	*i* P	**Pn**	**21 25 56.8**	**-0.2**
JKB	**Kayabe**	**1.10**	**28**	P	**Pn**	**21 25 57.8**	**+0.3**
JYM2	**Yakumo 2**	**1.20**	**1**	P	**Pn**	**21 25 58.8**	**+0.3**
JYM2				*e*S	**Sn**	**21 26 18.5**	**+0.1**
JOSM	**Okushiri--Mats**	**1.34**	**331**	P	**Pn**	**21 25 59.8**	**-0.1**
JOSM				*e*S	**Sn**	**21 26 20.1**	**-0.8**
JOM	**Ohasama**	**1.61**	**153**	P	**Pn**	**21 26 02.8**	**0.0**
JYK	**Kaneyama**	**1.99**	**180**	P	**Pn**	**21 26 07.1**	**0.0**
JMK	**Ichinoseki**	**2.07**	**161**	*e*P	**Pn**	**21 26 07.7**	**-0.3**
ASAJ	**Asahikawa**	**3.61**	**27**	P	**Pn**	**21 26 27.3**	**-0.1**
	1.7nm,0.3s,baz=214,slow=7.3,SNR=1.9						
ASAJ				S	**Sn**	**21 27 08.8**	**-1.2**
	4.9nm,0.6s,baz=202,slow=19,SNR=4.6						
MJAR	**Matsushiro Arr**	**4.67**	**202**	P	**Pn**	**21 26 43.0**	**+1.5**
	0.6nm,0.4s,baz=14,slow=14,SNR=1.5						
USRK	**Ussuriysk Ar.**	**6.99**	**301**	P	**Pn**	**21 27 14.0**	**+1.7**
	1.5nm,0.6s,baz=115,slow=15,SNR=2.3						
KLR	**Kul'dur**	**10.30**	**327**	LR	LR	21 32 04.2	
	comp=Z,24nm,19.2s,baz=350,slow=38						
SONM	**Songino Array**	**25.09**	**297**	P	**P**	**21 30 43.3**	**-0.4**
	0.2nm,0.4s,baz=109,slow=8.9,SNR=2.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**38.76**	**309**	LR	LR	21 49 06.1	
	comp=Z,35nm,18.8s,baz=72,slow=36						
MKAR	**Makanchi Array**	**41.45**	**298**	P	**P**	**21 33 04.8**	**-0.1**
	0.6nm,0.6s,baz=86,slow=9.3,SNR=11						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**43.04**	**305**	P	**P**	**21 33 17.4**	**-0.2**
	1.0nm,0.7s,baz=82,slow=9.5,SNR=9.2						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**46.71**	**34**	P	**P**	**21 33 47.5**	**+1.0**
	0.3nm,0.6s,baz=280,slow=6.3,SNR=4.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**47.41**	**310**	P	**P**	**21 33 52.2**	**+0.2**
	1.0nm,0.4s,baz=73,slow=8.9,SNR=8.0						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**60.80**	**186**	P	**P**	**21 35 28.6**	**-0.7**
	0.7nm,1.1s,baz=5.7,slow=7.0,SNR=1.8						
	0.7nm,1.1s						
FINES	**FINESS Array B**	**65.01**	**331**	P	**P**	**21 35 56.6**	**0.0**
	1.3nm,0.8s,baz=28,slow=11,SNR=1.1						
	1.3nm,0.8s						
HFS	**Hagfors**	**70.22**	**335**	P	**P**	**21 36 29.4**	**+0.1**
	3.8nm,1.0s,baz=60,slow=8.5,SNR=1.7						
	3.8nm,1.0s						

*IDC **28** 21:41:58.6±8.4, 36°.70N×70°.73E, h196km±54km, mb3.5/5, mbtmp3.9/9, MS3.5/2, Error ellipse: s-maj=83.5km s-min=43.9km az=170.0*
*NNC **28** 21:42:01.0±4.9, 36°.74N×70°.98E, h186km±74km, mb2.6, mpv3.6, Error ellipse: s-maj=46.1km s-min=29.3km az=23.0*

ISC 28 21:41:56.1±1.9, 36°.5N±0°.1×70°.9E±0°.1, h188km, n15, σ1°.09/17, mb3.7/5, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.63**	**358**	⇓P	**Pn**	**21 43 33.4**	**+2.1**
	1.7nm,0.5s,baz=174,slow=12						
KK31				⇓S	**Sn**	**21 44 45.2**	**-1.4**
	22nm,0.6s,baz=177,slow=23						
AAK	**Ala-Archa**	**6.76**	**23**	P	**Pn**	**21 43 33.8**	**+0.6**
	4.6nm,0.3s,baz=191,slow=7.8,SNR=42						
AAK				S	**Sn**	**21 44 48.7**	**-1.3**
	2.1nm,0.3s,baz=205,slow=9.8,SNR=5.7						
AAK	**Ala-Archa**	**6.76**	**23**	⇓P	**Pn**	**21 43 34.3**	**+1.1**
	2.3nm,0.3s						
AAK				⇑S	**Sn**	**21 44 49.0**	**-1.0**
	5.5nm,0.8s						
MKAR	**Makanchi Array**	**13.37**	**36**	P	**Pn**	**21 44 59.7**	**+1.2**
	0.1nm,0.4s,baz=231,slow=11,SNR=5.4						
AB31	**Akbulak array**	**15.06**	**331**	⇑P	**P**	**21 45 20.5**	**+0.3**
	0.3nm,0.3s,baz=138,slow=10,SNR=13						
AB31				⇓S	**S**	**21 48 09.2**	**+1.6**
	1.4nm,0.9s						
BVAR	**Borovoye Array**	**16.55**	**359**	P	**Pn**	**21 45 37.2**	**-0.3**
	0.3nm,0.3s,baz=145,slow=10,SNR=2.3						
AKTO	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**21 45 39.5**	**-0.3**
	1.2nm,0.3s,baz=144,slow=9.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**21 46 14.2**	**+0.4**
	0.6nm,0.3s,baz=209,slow=9.0,SNR=4.5						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**21 48 50.4**	**-0.5**
	12nm,1.2s,baz=125,slow=12,SNR=5.6						
	12nm,1.2s						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**21 49 20.7**	**-0.6**
	2.0nm,0.8s,baz=118,slow=8.6,SNR=6.7						
	2.0nm,0.8s						
GERES	**GERESS Array B**	**42.86**	**305**	LR	LR	22 12 41.5	
	comp=Z,50nm,18.6s,baz=282,slow=43						
HFS	**Hagfors**	**43.03**	**322**	P	**P**	**21 49 36.3**	**-0.5**
	0.4nm,0.3s,baz=101,slow=8.0,SNR=4.4						
	0.4nm,0.3s						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**21 49 46.4**	**-0.9**
	0.6nm,0.7s,baz=101,slow=7.1,SNR=2.7						
	0.6nm,0.7s						
SPITS	**Spitsbergen Ar**	**47.49**	**347**	P	**P**	**21 50 11.6**	**0.0**
	5.8nm,1.0s,baz=123,slow=5.3,SNR=1.4						
	5.8nm,1.0s						
BORG	**Borgarnes**	**58.58**	**330**	LR	LR	22 20 10.7	
	comp=Z,46nm,18.9s,baz=275,slow=39						

*NEIC **28** 21:47:17.4±1.1, 12°.82N±0°.06×124°.6E±0°.1, h104km±8km, mb4.2/18, Error ellipse: s-maj=21.2km s-min=4.2km az=67.0*
*IDC **28** 21:47:18.6±4.3, 12°.82N×124°.43E, h122km±39km, mb3.4/10, mbtmp3.9/11, MS3.2/6, Error ellipse: s-maj=56.0km s-min=13.7km az=64.0*

ISC 28 21:47:16.4±0.7, 12°.80N±0°.10×124°.5E±0°.1, h100km, n46, σ1°.01/34, mb4.1/20, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.74**	**291**	P	**Pn**	**21 48 13.9**	**+1.7**
	136nm,0.4s,baz=148,slow=9.1,SNR=4.1						
DAV	**Davao City (W)**	**5.78**	**170**	LR	LR	21 51 17.2	
	comp=Z,239nm,18.8s,baz=54,slow=41						
JOW	**Kunigami**	**14.40**	**14**	Pn	**Pn**	**21 50 36.8**	**+1.3**
KSRS	**Korea Array**	**24.74**	**6**	LR	LR	22 01 42.8	
	comp=Z,14nm,19.3s,baz=155,slow=35						
CMAR	**Chiang Mai Arr**	**25.27**	**286**	P	**P**	**21 52 31.8**	**-1.9**
	0.5nm,0.3s,baz=105,slow=9.3,SNR=5.7						
	0.5nm,0.3s						
PSI	**Prapat**	**27.22**	**251**	LR	LR	22 03 35.8	
	comp=Z,36nm,18.9s,baz=62,slow=36						
WB0	**Warramunga Arr**	**33.78**	**163**	P	**P**	**21 53 47.8**	**-1.1**
WB0				IAmb	IAmb	21 54 14.9	
	comp=Z,3.4nm,1.1s						
WRA	**Warramunga Arr**	**33.93**	**163**	P	**P**	**21 53 49.3**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=307,slow=6.4,SNR=1.5						
	comp=Z,0.5nm,0.9s						
WB2	**Warramunga Arr**	**33.93**	**163**	P	**P**	**21 53 49.7**	**-0.5**
WB2				IAmb	IAmb	21 54 22.9	
	comp=Z,7.6nm,1.4s						
ASAR	**Alice Springs**	**37.38**	**166**	P	**P**	**21 54 21.2**	**+1.5**
ASAR	**Alice Springs**	**37.38**	**166**	P	**P**	**21 54 20.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=343,slow=8.6,SNR=11						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**38.08**	**340**	P	**P**	**21 54 24.0**	**-1.4**
SONM	**Songino Array**	**38.08**	**340**	P	**P**	**21 54 23.9**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=159,slow=9.5,SNR=6.8						
	comp=Z,0.7nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**40.91**	**77**	T	T	22 38 24.2	
	baz=270,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.92**	**76**	T	T	22 38 23.6	
	baz=270						
H11S2	**WAKE ISLAND Hy**	**40.92**	**77**	T	T	22 38 24.2	
	baz=270,slow=74						
H11N1	**WAKE ISLAND Hy**	**41.15**	**75**	T	T	22 38 41.5	
	baz=267,slow=74,SNR=77						
H11N2	**WAKE ISLAND Hy**	**41.15**	**75**	T	T	22 38 33.7	
	baz=267,slow=74,SNR=52						
H11N3	**WAKE ISLAND Hy**	**41.17**	**75**	T	T	22 38 35.9	
	baz=267,slow=74,SNR=57						
BBOO	**Buckleboo**	**46.66**	**167**	P	**P**	**21 55 35.4**	**+0.4**
STKA	**Stephens Creek**	**47.33**	**160**	P	**P**	**21 55 40.2**	**0.0**
STKA	**Stephens Creek**	**47.33**	**160**	P	**P**	**21 55 40.6**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=327,slow=10,SNR=2.9						
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**49.01**	**322**	P	**P**	**21 55 53.1**	**+0.1**

MA2	Magadan	50.60	17	LR	LR	22 18 28.8
	comp=Z,27nm,18.5s,baz=78,slow=37					
BOOM	Boomskoye usch	51.30	315	P	P	21 56 11.5 +0.9
ZAA0	Zalesovo Array	51.61	331	P	P	21 56 12.4 -0.1
ZAA0				IAmb	IAmb	21 56 14.1
	comp=Z,1.6nm,0.7s					
ZALV	Zalesovo Beam	51.61	331	P	P	21 56 12.2 -0.3
ZALV	Zalesovo Beam	51.61	331	P	P	21 56 11.3 -1.2
	comp=Z,1.5nm,0.7s,baz=118,slow=7.8,SNR=6.9					
	comp=Z,1.5nm,0.7s					
AAK	Ala-Archa	52.36	314	LR	LR	22 19 05.3
	comp=Z,38nm,19.3s,baz=36,slow=36					
KURK	Kurchatov	53.04	325	P	P	21 56 23.0 -0.1
KURK				IAmb	IAmb	21 56 36.5
	comp=Z,8.3nm,1.5s					
KURBB	Kurchatov Arra	53.05	325	P	P	21 56 23.2 +0.1
	comp=Z,0.8nm,0.5s,baz=121,slow=7.7,SNR=6.5					
	comp=Z,0.8nm,0.5s					
BVAR	Borovoye Array	58.64	325	P	P	21 57 02.4 -0.7
	comp=Z,1.1nm,0.5s,baz=72,slow=9.3,SNR=3.3					
	comp=Z,1.1nm,0.5s					
ABKAR	Akbulak array	63.87	319	P	P	21 57 38.4 -0.1
ABKAR	Akbulak array	63.87	319	P	P	21 57 38.5 +0.1
ABKAR				IAmb	IAmb	21 57 47.2
	comp=Z,1.4nm,0.9s					
AKTO	Aktyubinsk	65.31	320	P	P	21 57 47.9 +0.1
	comp=Z,0.7nm,0.5s,baz=108,slow=6.4,SNR=2.1					
	comp=Z,0.7nm,0.5s					
ARTI	Arti	66.29	326	P	P	21 57 53.1 -0.8
ARTI				IAmb	IAmb	21 58 10.3
	comp=Z,5.0nm,1.3s					
C18K	Utukok River	72.44	22	P	P	21 58 31.5 -0.2
C18K				IAmb	IAmb	21 59 08.8
	comp=Z,11nm,1.4s					
B20K	Meade River	74.06	21	P	P	21 58 42.4 +1.3
B20K				IAmb	IAmb	21 58 43.2
	comp=Z,5.4nm,1.2s					
L19K	White Mountain	74.39	29	P	P	21 58 41.9 -1.4
L19K				IAmb	IAmb	21 58 43.7
	comp=Z,8.0nm,0.9s					
N19K	Bonanza Creek	74.52	30	P	P	21 58 46.3 +2.2
CAST	Castle Rocks	75.69	27	P	P	21 58 50.7 +0.1
NOA	NORSAR Array B	89.76	333	LR	LR	22 44 53.8
	comp=Z,13nm,19.6s,baz=25,slow=38					

*SJA **28** 21:47:29.0, 21°.55S×66°.96W, h230km, ML3.4*
*SCB **28** 21:47:30.1±1.3, 21°.46S×66°.88W, h211km±10km, ML3.6/3, MW3.8, Error ellipse: s-maj=7.0km s-min=5.0km az=0.0*
ISC 28 21:47:28.6±1.9, **21°.52S**±0°.05×**66°.87W**±0°.05, **h225**km±15km, **n30**, σ1°**01**/37, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.17	77	Pg	Pn	21 48 03.1	+0.5
MOCB				Sg	S	21 48 28.0	-1.0
MOCB				IAML		21 48 28.4	
	749nm,0.5s						
YJA	Yavi	1.42	118	*i* P	Pn	21 48 05.2	+0.8
YJA	Yavi	1.42	118	*e*P	Pn	21 48 04.8	+0.4
YJA				*e*S	S	21 48 31.5	-0.8
YJA				IAML		21 48 32.7	
	comp=E,270nm,0.3s						
PB09	IPOC Station P	2.23	262	*i* P	Pn	21 48 12.1	+0.6
PB09	IPOC Station P	2.23	262	*e*P	Pn	21 48 12.7	+1.2
PB09				*e*S	S	21 48 45.9	+1.0
PB09				IAML		21 48 47.6	
	comp=N,536nm,0.1s						
PB09	IPOC Station P	2.23	262	Pg	Pn	21 48 12.6	+1.2
PB01	IPOC Station P	2.49	280	*i* P	Pn	21 48 14.2	+0.1
PB01	IPOC Station P	2.49	280	*e*P	Pn	21 48 15.1	+1.0
PB01				IAML		21 48 50.0	
	comp=N,109nm,0.2s						
PB01	IPOC Station P	2.49	280	Pg	Pn	21 48 15.1	+1.0
PB01				Sg	S	21 48 49.0	-0.5
PB01				IAML		21 48 50.6	
	comp=N,79nm,0.2s						
PB08	IPOC Station P	2.54	302	*i* P	Pn	21 48 15.6	+0.6
PB08	IPOC Station P	2.54	302	*e*P	Pn	21 48 16.0	+1.0
PB08	IPOC Station P	2.54	302	Pg	Pn	21 48 16.0	+1.0
PB03	IPOC Station P	2.74	258	*i* P	Pn	21 48 17.0	+0.2
PB03	IPOC Station P	2.74	258	*e*P	Pn	21 48 17.9	+1.1
PB03				IAML		21 48 53.9	
	comp=N,230nm,0.1s						
PB06	IPOC Station P	2.77	244	*i* P	Pn	21 48 17.9	+0.7
PB06	IPOC Station P	2.77	244	*e*P	Pn	21 48 18.7	+1.5
PB06				*e*S	S	21 48 54.5	-0.7
PB06				IAML		21 48 56.7	
	comp=E,118nm,0.2s						
SOEO	Opoqueri	3.09	342	Pg	Pn	21 48 22.5	+1.3
PB11	IPOC Station P	3.14	303	*i* P	Pn	21 48 21.1	-0.3
PB11	IPOC Station P	3.14	303	Pg	Pn	21 48 21.6	+0.2
PB11				Sg	S	21 49 00.5	-2.2
PB11				IAML		21 49 03.7	
	comp=E,112nm,0.6s						
AZAP	Zapla	3.17	149	*i* P	Pn	21 48 22.5	+0.8
TA01	Diego Aracena	3.24	286	*i* P	Pn	21 48 21.7	-0.6
SOET	ToroToro	3.52	17	Pg	Pn	21 48 26.7	+0.6
SOET				Sg	S	21 49 09.8	-1.3
AOEA	Aiquile	3.66	25	Pg	Pn	21 48 27.7	+0.1
PB12	IPOC Station P	4.35	311	*i* P	Pn	21 48 34.9	-0.9
PB12	IPOC Station P	4.35	311	Pg	Pn	21 48 36.5	+0.8
GO02	Mina Guanaco	4.41	214	*i* P	Pn	21 48 36.7	+0.1
PB14	IPOC Station P	4.49	226	*i* P	Pn	21 48 37.4	-0.2
SOEJ	Jacaque	4.69	344	Pg	Pn	21 48 41.8	+1.5
LPAZ	La Paz	5.34	347	*i* P	Pn	21 48 50.4	+1.8
LPAZ	La Paz	5.34	347	Pg	Pn	21 48 49.6	+1.1

*JMA **28** 22:03:58.8±0.2, 24°.N±2°.×122°.6E±0°.9, h28km, MV2.1/12, NW OFF ISHIGAKIJIMA IS*
*TAP **28** 22:03:58.8, 24°.03N×122°.58E, h26km, ML2.5, C*
ISC 28 22:03:57.6±1.2, **23°.91N**±0°.03×**122°.57E**±0°.02, **h23**km±14km, **n60**, σ0°**62**/74, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.31	312	*i* P	Pn	22 04 05.2	-1.2
EOS3	EOS3	0.44	328	P	Pn	22 04 07.3	-1.0
EOS3				*e*S	Sn	22 04 14.7	-0.8
EOS2	EOS2	0.59	329	*e*P	Pn	22 04 10.3	-0.2
EOS2				*e*S	Sn	22 04 19.3	0.0
JYNG	Yonagunijimaku	0.64	33	*e*P	Pb	22 04 09.6	-0.5
JYNG				*e*S	Sb	22 04 17.0	-1.5
YOJ	Yonaguni jima	0.68	36	*e*P	Pb	22 04 10.9	+0.1
YOJ				*e*S	Sb	22 04 18.8	-1.0
YOJ	Yonaguni jima	0.68	36	*e*P	Pb	22 04 10.9	+0.1
YOJ				*e*S	Sb	22 04 18.6	-1.2
EWUT	Wuta	0.90	306	P	Pb	22 04 14.6	+0.1
TWD	Chiawan	0.91	281	*e*P	Pb	22 04 15.1	+0.4
ENA	Nanau	0.91	304	*i* P	Pb	22 04 15.1	+0.3
NACB	Ninganchiao	0.93	286	*e*P	Pb	22 04 15.2	+0.1
TWC	Suao	0.95	317	*i* P	Pb	22 04 15.3	-0.2
ETM	Tongmen	0.99	273	*e*P	Pb	22 04 15.9	-0.1
ETLH	Xiulin Townshi	1.04	287	*e*P	Pb	22 04 16.8	-0.1
ESL	Shilin	1.04	265	*e*P	Pb	22 04 16.8	-0.2
NDS	Dongshan	1.06	313	*e*P	Pb	22 04 17.7	+0.5
LXIB	Xiulin Townshi	1.06	276	*e*P	Pb	22 04 17.2	-0.2
EGFH	Guangfu	1.07	257	*e*P	Pb	22 04 17.6	+0.1
WARBT	Fenglin Townsh	1.10	260	*e*P	Pn	22 04 17.3	-0.3
HGSD	Ruisui	1.13	248	*e*P	Pn	22 04 17.7	-0.3
LATG	Datong	1.14	303	*e*P	Pb	22 04 19.0	+0.4
IRIF	Iriomote-Funau	1.14	68	*e*P	Pn	22 04 18.6	+0.4
IRIF				*e*S	Sn	22 04 33.2	+0.2
TWE	Neicheng	1.15	315	P	Pb	22 04 19.4	+0.5
TWE				*e*S	Sb	22 04 35.5	+2.2
ENTT	Nioudou	1.17	309	P	Pb	22 04 19.6	+0.5
NNSB	Datong	1.20	296	*e*P	Pb	22 04 19.7	0.0
EHY	Hungye	1.21	251	*e*P	Pn	22 04 19.2	+0.1
EHY				*e*S	Sb	22 04 35.4	+0.3
NNS	Nan Shan	1.21	296	*e*P	Pb	22 04 20.0	0.0
WHF	Hehuan Shan	1.21	281	*e*P	Pb	22 04 20.0	-0.2
FUSB	Fushanzhiwuyua	1.23	313	P	Pb	22 04 20.7	+0.5
TIPB	Shuangxi	1.25	327	*e*P	Pb	22 04 21.2	+0.6
TIPB				*e*S	Sb	22 04 38.0	+1.7
FUSS	Fushou	1.26	286	*e*P	Pb	22 04 20.6	-0.2
OWD	Renai	1.27	272	*e*P	Pb	22 04 20.4	-0.6
YULB	Yu-li	1.28	246	*e*P	Pn	22 04 20.3	+0.2
EYUL	Yuli	1.28	244	*e*P	Pn	22 04 20.3	+0.3
EYUL				*e*S	Sb	22 04 37.6	+0.6
TWF1	Yuli	1.29	245	*e*P	Pb	22 04 20.8	-0.5
TWF1				*e*S	Sb	22 04 37.9	+0.5
NWLT	Wulai	1.30	312	*e*P	Pb	22 04 21.7	+0.3
VWDT	VWDT	1.32	263	*e*P	Pb	22 04 21.1	-0.5
YHNB	Yeheng	1.32	305	*e*P	Pb	22 04 21.8	-0.1
WUSB	Renai	1.33	274	*e*P	Pb	22 04 21.6	-0.4
SXI1	Grass Mountain	1.33	332	P	Pb	22 04 21.4	-0.6
NSK	Sanguang	1.34	305	*e*P	Pb	22 04 21.9	-0.2
JKRS	Kuro-shima	1.36	76	*e*P	Pb	22 04 22.5	+0.2
JKRS				*e*S	Sb	22 04 40.1	+0.9
FULB	Fuli	1.37	239	*e*P	Pn	22 04 21.4	+0.1
SSLB	Suanglung	1.48	265	*e*P	Pb	22 04 24.2	-0.3
NFF	Wufeng Townshi	1.50	299	*e*P	Pb	22 04 24.6	-0.3
JIJ	Ishigaki jima	1.51	72	*e*P	Pn	22 04 23.6	+0.4
JIJ				*e*S	Sn	22 04 42.8	+0.7
WCS	Beigang Elemen	1.52	276	*e*P	Pb	22 04 25.1	-0.1
WHP	Taichung City	1.53	284	*e*P	Pb	22 04 25.3	0.0
SMLT	Sun Moon Lake	1.53	269	*e*P	Pb	22 04 25.3	0.0
TYC	Yuchr	1.57	270	*e*P	Pb	22 04 25.2	-0.7
WHYT	Xinyi Township	1.59	263	*e*P	Pb	22 04 26.6	+0.4
LIOB	Emei	1.59	298	*e*P	Pb	22 04 26.0	-0.4
ELDTW	Lidau	1.60	243	*e*P	Pb	22 04 25.6	-0.9
ALS	Alishan	1.67	256	*e*P	Pb	22 04 27.2	-0.6
JISG	Ishigakijimahi	1.73	67	*e*P	Pn	22 04 26.5	+0.3
JISG				*e*S	Sn	22 04 47.1	-0.4
TWG	Pinlang	1.75	232	*e*P	Pb	22 04 28.5	-0.6
STYH	Taoyuan	1.80	246	*e*P	Pb	22 04 28.9	-1.0
WCKO	Fanlu	1.86	256	*e*P	Pb	22 04 30.8	-0.1
TPUB	Ta-pu	1.88	251	*e*P	Pb	22 04 30.7	-0.6
CHN4	Tsaushan	1.90	253	*e*P	Pb	22 04 31.4	-0.1
WTP	Ta-pu	1.91	250	*e*P	Pb	22 04 31.4	-0.4

*IDC **28** 22:08:35.7±1.9, 5°.73S×130°.97E, h0km, mb3.8/4, mbtmp3.9/7, ML4.2/3, Error ellipse: s-maj=104.3km s-min=24.1km az=80.0*
*DJA **28** 22:08:48.8±1.3, 6°.S±3°.×13°.1E±°, h20km±12km, M4.5/13, mB5.5/4, mb4.5/7, MLv4.4/13, Mw(mB)4.9/4*
ISC 28 22:08:47.6±0.7, **5°.91S**±0°.04×**131°.01E**±0°.06, **h86**km, **n31**, σ2°**41**/33, **mb3.7/4**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.76	321	P	Pn	22 09 19.4	+2.8
BNDI	Bandanaira	1.76	321	S	Sn	22 09 42.3	+3.7
BNDI	Bandanaira	1.76	321	P	Pn	22 09 19.6	+3.0
BNDI				S	Sn	22 09 43.2	+4.6
SAUI	Saumlaki	2.08	172	P	Pn	22 09 24.0	+3.2
SAUI	Saumlaki	2.08	172	S	Sn	22 09 49.3	+3.3
SAUI	Saumlaki	2.08	172	P	Pn	22 09 24.8	+4.0
FAKI	Fak Fak	3.22	23	P	Pn	22 09 37.9	+1.9
FAKI	Fak Fak	3.22	23	P	Pn	22 09 37.9	+1.9
FAKI				S	Sn	22 10 14.8	+1.4
MSAI	Masohi	3.29	321	P	Pn	22 09 38.5	+1.6
KMPI	Kaimana, Papua	3.49	50	P	Pn	22 09 42.7	+3.0
KMPI				S	Sn	22 10 22.7	+2.7
AAI	Ambon	3.57	308	P	Pn	22 09 42.6	+1.8
NLAI	Namlea	4.71	304	P	Pn	22 09 58.9	+2.6
SWI	Sorong	5.02	3	P	Pn	22 10 01.2	+0.7
	1.1nm7μm22nm,0.5s						
RKPI	Ransiki, Papua	5.39	36	P	Pn	22 10 07.7	+2.1
	5μm69nm,0.9s						
SANI	Sanana	6.31	307	P	Pn	22 10 18.9	+0.8
DRS	Darwin Rock St	6.48	181	P	Pn	22 10 21.2	+0.8
KDU	Kakadu	6.89	168	P	Pn	22 10 25.8	-0.2
MTN	Manton Dam	6.89	179	P	Pn	22 10 27.0	+1.0
SOEI	Soe	7.70	240	P	Pn	22 10 38.9	+1.8
SOEI	Soe	7.70	240	P	Pn	22 10 38.0	+0.9
TOLI2	Tolitoli	12.37	304	P	Pn	22 11 41.4	+0.8
FITZ	Fitzroy Crossi	13.20	203	Pn	Pn	22 11 46.5	-5.2
	0.8nm,0.3s,baz=24,slow=13,SNR=26						
FITZ				Sn	Sn	22 14 02.5	-14
	2.6nm,0.3s,baz=62,slow=16,SNR=9.8						
	1.6nm,0.3s						
WRA	Warramunga Arr	14.32	167	Pn	Pn	22 12 02.3	-4.0
	1.2nm,0.3s,baz=350,slow=17,SNR=40						
WRA				Sn	Sn	22 14 27.7	-16
	1.7nm,0.3s,baz=342,slow=22,SNR=9.9						
	2.4nm,0.5s						
COEN	Coen	14.40	125	P	Pn	22 12 07.7	+0.3
QIS	Mount Isa	16.78	151	P	Pn	22 12 37.0	-0.4
ASAR	Alice Springs	17.87	171	P	P	22 12 48.6	-1.6
	0.6nm,0.3s,baz=345,slow=9.4,SNR=22						
ASAR				S	Sn	22 15 56.2	-14
	1.5nm,0.8s,baz=352,slow=28,SNR=6.0						
	0.6nm,0.3s						
WRKA	Warakurna	19.20	188	P	P	22 13 05.5	+0.8
SONM	Songino Array	57.74	341	P	P	22 18 28.4	-1.3
	0.5nm,0.7s,baz=136,slow=5.4,SNR=4.1						
	0.5nm,0.7s						
MKAR	Makanchi Array	67.88	326	P	P	22 19 35.2	-1.7
	1.2nm,0.6s,baz=116,slow=7.6,SNR=23						
	1.2nm,0.6s						
ZALV	Zalesovo Beam	71.06	333	P	P	22 19 53.8	-2.5
	0.5nm,0.4s,baz=142,slow=7.3,SNR=2.5						
	0.5nm,0.4s						
KURBB	Kurchatov Arra	72.12	328	P	P	22 20 00.2	-2.5
	0.4nm,0.5s,baz=128,slow=5.3,SNR=5.1						
	0.4nm,0.5s						

*AFAD **28** 22:09:08.6, 37°.85N×32°.08E, h7km±2km, ML2.4*
ISK 28 22:09:07.9, 37°.83N×32°.09E, h6km, **ML2.2**/10, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	Konya--Tatoy	0.25	61	Pg	Pg	22 09 13.9	+1.1
KONT				Sg	Sg	22 09 17.5	+1.4
KONT	Konya--Tatoy	0.25	61	P	Pg	22 09 14.1	+1.3
KONT				S	Sg	22 09 17.2	+1.2
KONT				*i* AML	AML	22 09 18.0	
	comp=N,709nm,0.2s						
DOGA	KONYA_Doganhis	0.43	310	P	Pg	22 09 16.8	+0.5
DOGA				S	Sg	22 09 23.4	+1.3
DOGA				*i* AML	AML	22 09 24.0	
	comp=E,924nm,0.2s						
LADK	Ladik-KONYA	0.43	30	Pg	Pg	22 09 17.0	+0.7
LADK				Sg	Sg	22 09 23.0	+1.0
SEDI	Konya, Seydise	0.46	215	P	Pb	22 09 18.2	-0.3
SEDI				*i* AML	AML	22 09 24.0	
	comp=E,240nm,0.2s						
SEDI				S	Sg	22 09 24.1	+1.4
SEYD	Seydisehir-KON	0.46	205	Pg	Pb	22 09 17.8	-0.8
SEYD				Sg	Sg	22 09 24.3	+1.4
KDHN	Kadinhani	0.69	2	P	Pg	22 09 21.5	+0.2
KDHN				S	Sg	22 09 31.0	+0.6
ALIN	Konya, Altinte	0.78	53	P	Pn	22 09 24.9	-0.8
YVAC	Isparta, Yalva	0.80	304	P	Pg	22 09 23.8	+0.5
YVAC				S	Sg	22 09 34.1	+0.3
YVAC				*i* AML	AML	22 09 35.0	
	comp=E,123nm,0.5s						
KKBE	Karaman, Kazim	0.91	131	P	Pb	22 09 26.0	-0.1
HDMB	Hadim	0.92	160	Pg	Pg	22 09 25.4	-0.1
UCKU	Afyonkarahisar	0.96	327	P	Pb	22 09 26.8	-0.2
CHBY	Cihanbeyli	0.99	40	Pg	Pb	22 09 27.3	-0.2
KEPZ	Antalya-Kepez	1.00	203	P	Pn	22 09 28.1	-0.4
CBEY	Konya-Cihanbey	1.02	32	P	Pn	22 09 28.6	-0.3
BAGO	Egridir - ISPA	1.04	280	P	Pb	22 09 28.5	+0.1
KIZT	Kizilcal	1.06	351	Pn	Pb	22 09 28.7	-0.1
ISP	Isparta	1.24	270	Pn	Pn	22 09 32.3	+0.4
CTIK	Konya-Celtik	1.25	344	P	Pn	22 09 32.3	+0.2
CTIK				S	Sb	22 09 48.6	+0.1
CTIK				*i* AML	AML	22 09 53.0	
	comp=E,135nm,0.5s						
KURO	Afyon-Bolvadin	1.28	315	P	Pb	22 09 33.5	+0.9
YESY	Yesilyurt	1.31	91	Pn	Pg	22 09 33.2	+0.1
AFYN	Afyon-Dinar-K	1.33	290	P	Pg	22 09 35.1	+1.8
SHUT	Suhut-Afyon	1.41	301	Pn	Pg	22 09 35.1	+0.1
KULU	Kulu	1.41	30	Pn	Pg	22 09 34.9	-0.1
AKSY	AKSARAY - Alti	1.55	58	P	Pg	22 09 37.6	-0.1

*BUC **28** 22:11:33.2±0.2, 45°.66N×26°.51E, h89km±1km, ml3.6/69, Error ellipse: s-maj=1.4km s-min=1.0km az=12.0*
*SOF **28** 22:11:34.1, 45°.53N±0°.03×26°.39E±0°.01, h90km±2km, MD3.2/5*
*CFUSG **28** 22:11:35.1, 45°.61N×26°.74E, h72km, mb3.1/6, Romania Magtype MSH 3.0 from 6 stations*
ISC 28 22:11:33.0±1.2, **45°.66N**±0°.02×**26°.52E**±0°.02, **h93**km±4km, **n166**, σ0°**63**/282, **128C-133D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	Bisoca	0.17	128	⇑P	Pn	22 11 46.4	+0.1
BISRR				⇓S	Sn	22 11 56.7	+0.4
BISRR	Bisoca	0.17	128	⇑P	Pn	22 11 46.4	+0.1
BISRR				⇓S	Sn	22 11 56.7	+0.4
SPBR	Spulber	0.19	60	⇑P	Pn	22 11 46.6	+0.3
SPBR				⇓S	Sn	22 11 56.2	-0.1
SPBR	Spulber	0.19	60	⇑P	Pn	22 11 46.6	+0.3
SPBR				⇓S	Sn	22 11 56.2	-0.1
PLOR	Plostina	0.22	25	⇑P	Pn	22 11 46.2	-0.3
PLOR				⇓S	Sn	22 11 56.3	-0.2
PLOR	Plostina	0.22	25	⇑P	Pn	22 11 46.2	-0.3
PLOR				⇓S	Sn	22 11 56.3	-0.2
VRI	Vrincioaia	0.26	35	⇑P	Pn	22 11 46.6	0.0
VRI				⇓S	Sn	22 11 56.5	-0.2
VRI	Vrincioaia	0.26	35	⇑P	Pn	22 11 46.6	0.0
VRI				⇓S	Sn	22 11 56.5	-0.2
NEHR	Nehoiu	0.28	214	⇑P	Pn	22 11 46.9	+0.2
NEHR				⇑S	Sn	22 11 56.8	-0.1
NEHR	Nehoiu	0.28	214	⇑P	Pn	22 11 46.9	+0.2
NEHR				⇑S	Sn	22 11 56.8	-0.1
COVR	Voineasa-Covas	0.29	311	⇑P	Pn	22 11 46.4	-0.4
COVR				⇑S	Sn	22 11 55.8	-1.3
COVR	Voineasa-Covas	0.29	311	⇑P	Pn	22 11 46.4	-0.4
COVR				⇑S	Sn	22 11 55.8	-1.3
ODBI	Odobesti	0.39	74	⇑S	Sn	22 11 58.5	+0.6
ODBI	Odobesti	0.39	74	⇑S	Sn	22 11 58.5	+0.6
GRER		0.42	130	⇓S	Sn	22 11 59.4	+1.1
GRER		0.42	130	⇓S	Sn	22 11 59.4	+1.1
MLR	Muntele Rosu	0.43	248	⇓P	Pn	22 11 47.7	0.0
MLR				⇑S	Sn	22 11 57.9	-0.8
MLR	Muntele Rosu	0.43	248	⇓P	Pn	22 11 47.7	0.0
MLR				⇑S	Sn	22 11 57.9	-0.8
PANC	Panciu	0.49	64	⇑P	Pn	22 11 48.6	+0.6
PANC				⇑S	Sn	22 11 59.7	+0.6
PANC	Panciu	0.49	64	⇑P	Pn	22 11 48.6	+0.6
PANC				⇑S	Sn	22 11 59.7	+0.6
ISR	Istrita	0.54	178	⇓P	Pn	22 11 49.0	+0.5
ISR	Istrita	0.54	178	⇓P	Pn	22 11 49.0	+0.5
ISR				⇑S	Sn	22 12 00.2	+0.3
ISR	Istrita	0.54	178	⇑S	Sn	22 12 00.2	+0.3
COSR	Cosmesti PH	0.59	70	⇓P	Pn	22 11 49.2	+0.5
COSR				⇑S	Sn	22 12 00.9	+0.3
COSR	Cosmesti PH	0.59	70	⇓P	Pn	22 11 49.2	+0.5
COSR				⇑S	Sn	22 12 00.9	+0.3
OZUR		0.67	311	⇑P	Pn	22 11 49.1	-0.4
OZUR				⇓S	Sn	22 12 00.5	-1.5
OZUR		0.67	311	⇑P	Pn	22 11 49.1	-0.4
OZUR				⇓S	Sn	22 12 00.5	-1.5
ONER	Baraj Valea Uz	0.69	353	⇑P	Pn	22 11 49.7	+0.1
ONER				⇑S	Sn	22 12 01.5	-0.6
ONER	Baraj Valea Uz	0.69	353	⇑P	Pn	22 11 49.7	+0.1
ONER				⇑S	Sn	22 12 01.5	-0.6
GHRR		0.74	57	⇓P	Pn	22 11 50.7	+0.6
GHRR				⇑S	Sn	22 12 03.8	+0.8
GHRR		0.74	57	⇓P	Pn	22 11 50.7	+0.6
GHRR				⇑S	Sn	22 12 03.8	+0.8
TUDR		0.81	94	⇓P	Pn	22 11 50.7	-0.1
TUDR				⇓S	Sn	22 12 03.7	-0.5
TUDR		0.81	94	⇓P	Pn	22 11 50.7	-0.1
TUDR				⇓S	Sn	22 12 03.7	-0.5
PGOR	Pogoanele	0.82	156	⇓P	Pn	22 11 51.4	+0.6
PGOR				⇓S	Sn	22 12 04.8	+0.5
PGOR	Pogoanele	0.82	156	⇓P	Pn	22 11 51.4	+0.6
PGOR				⇓S	Sn	22 12 04.8	+0.5
PLAR	PLOIESTI	0.82	205	⇓S	Sn	22 12 05.3	+1.0
PLAR	PLOIESTI	0.82	205	⇓S	Sn	22 12 05.3	+1.0
DOPR	Dopca	0.85	292	⇓P	Pn	22 11 51.2	0.0
DOPR				⇓S	Sn	22 12 04.1	-0.8
DOPR	Dopca	0.85	292	⇓P	Pn	22 11 51.2	0.0
DOPR				⇓S	Sn	22 12 04.1	-0.8
TESR	Tescani	0.86	6	⇑P	Pn	22 11 51.4	0.0
TESR				⇓S	Sn	22 12 04.0	-1.1
TESR	Tescani	0.86	6	⇑P	Pn	22 11 51.4	0.0
TESR				⇓S	Sn	22 12 04.0	-1.1
SLCR	Slobozia Conac	0.88	94	⇓P	Pn	22 11 51.5	0.0
SLCR				⇓S	Sn	22 12 05.0	-0.5
SLCR	Slobozia Conac	0.88	94	⇓P	Pn	22 11 51.5	0.0
SLCR				⇓S	Sn	22 12 05.0	-0.5
IZVR	Izvoarele	0.89	97	⇑P	Pn	22 11 51.4	-0.2
IZVR				⇓S	Sn	22 12 05.2	-0.4
IZVR	Izvoarele	0.89	97	⇑P	Pn	22 11 51.4	-0.2
IZVR				⇓S	Sn	22 12 05.2	-0.4
SCHL	Schela	0.94	99	⇑P	Pn	22 11 52.0	-0.1
SCHL			

SGRR	**Singureni**	**1.48 195**	⇑P	**Pn**	**22 11 59.0**	**+0.3**
SGRR			⇓S	**Sn**	**22 12 18.0**	**-0.1**
SGRR	**Singureni**	**1.48 195**	⇑P	**Pn**	**22 11 59.0**	**+0.3**
SGRR			⇓S	**Sn**	**22 12 18.0**	**-0.1**
TLBR	**Topalu**	**1.55 135**	⇓P	**Pn**	**22 11 59.9**	**+0.4**
TLBR			⇑S	**Sn**	**22 12 18.3**	**-1.2**
TLBR	**Topalu**	**1.55 135**	⇓P	**Pn**	**22 11 59.9**	**+0.4**
TLBR			⇑S	**Sn**	**22 12 18.3**	**-1.2**
TPGR	**Topolog**	**1.56 120**	⇑P	**Pn**	**22 11 59.8**	**+0.2**
TPGR			⇑S	**Sn**	**22 12 19.3**	**-0.7**
TPGR	**Topolog**	**1.56 120**	⇑P	**Pn**	**22 11 59.8**	**+0.2**
TPGR			⇑S	**Sn**	**22 12 19.3**	**-0.7**
HUMR	**Humele**	**1.57 225**	⇑P	**Pn**	**22 11 59.7**	**0.0**
HUMR			⇑S	**Sn**	**22 12 19.4**	**-0.6**
HUMR	**Humele**	**1.57 225**	⇑P	**Pn**	**22 11 59.7**	**0.0**
HUMR			⇑S	**Sn**	**22 12 19.4**	**-0.6**
MDB	**Medias**	**1.57 289**	⇓P	**Pn**	**22 12 00.1**	**+0.4**
MDB			⇑S	**Sn**	**22 12 20.4**	**+0.4**
MDB	**Medias**	**1.57 289**	⇓P	**Pn**	**22 12 00.1**	**+0.4**
MDB			⇑S	**Sn**	**22 12 20.4**	**+0.4**
TNR	**Turnu Rosu**	**1.57 271**	⇑P	**Pn**	**22 11 59.8**	**0.0**
TNR			⇓S	**Sn**	**22 12 20.2**	**0.0**
TNR	**Turnu Rosu**	**1.57 271**	⇑P	**Pn**	**22 11 59.8**	**0.0**
TNR			⇓S	**Sn**	**22 12 20.2**	**0.0**
TLCR		**1.69 105**	⇓P	**Pn**	**22 12 01.9**	**+0.8**
TLCR			⇓S	**Sn**	**22 12 23.6**	**+1.0**
TLCR		**1.69 105**	⇓P	**Pn**	**22 12 01.9**	**+0.8**
TLCR			⇓S	**Sn**	**22 12 23.6**	**+1.0**
IASR	**Iasi**	**1.69 25**	⇑S	**Sn**	**22 12 21.7**	**-1.0**
IASR	**Iasi**	**1.69 25**	⇑S	**Sn**	**22 12 21.7**	**-1.0**
CVDA	**Cernavoda**	**1.71 140**	⇑P	**Pn**	**22 12 01.9**	**+0.5**
CVDA			⇓S	**Sn**	**22 12 22.2**	**-0.8**
CVDA	**Cernavoda**	**1.71 140**	⇑P	**Pn**	**22 12 01.9**	**+0.5**
CVDA			⇓S	**Sn**	**22 12 22.2**	**-0.8**
PRAR	**RASCA**	**1.72 353**	⇑P	**Pn**	**22 12 02.4**	**+0.8**
PRAR	**RASCA**	**1.72 353**	⇑P	**Pn**	**22 12 02.4**	**+0.8**
TIRR	**Tirgusor**	**1.80 131**	⇓P	**Pn**	**22 12 03.1**	**+0.4**
TIRR	**Tirgusor**	**1.80 131**	⇓P	**Pn**	**22 12 03.1**	**+0.4**
JURR	**Jurilovca**	**1.89 117**	⇑P	**Pn**	**22 12 04.5**	**+0.7**
JURR	**Jurilovca**	**1.89 117**	⇑P	**Pn**	**22 12 04.5**	**+0.7**
LOT	**Lotru**	**1.94 265**	⇓P	**Pn**	**22 12 04.7**	**+0.1**
LOT			⇑S	**Sn**	**22 12 29.8**	**+1.1**
LOT	**Lotru**	**1.94 265**	⇓P	**Pn**	**22 12 04.7**	**+0.1**
LOT			⇑S	**Sn**	**22 12 29.8**	**+1.1**
MFTR	**Murfatlar**	**2.00 137**	⇓P	**Pn**	**22 12 05.8**	**+0.5**
MFTR	**Murfatlar**	**2.00 137**	⇓P	**Pn**	**22 12 05.8**	**+0.5**
MILM	**Milestii Mici**	**2.03 51**	⇓P	**Pn**	**22 12 06.2**	**+0.5**
MILM	**Milestii Mici**	**2.03 51**	⇓P	**Pn**	**22 12 06.2**	**+0.5**
KIS	**Kishinev**	**2.08 49**	*e*P	**Pn**	**22 12 07.0**	**+0.7**
KIS	20nm,0.1s		*e*S	**Sn**	**22 12 31.0**	**-0.8**
KIS	130nm,0.3s		dur		23 00 32.0	
TSCT	**Constanta Port**	**2.13 134**	⇑P	**Pn**	**22 12 07.5**	**+0.5**
TSCT	**Constanta Port**	**2.13 134**	⇑P	**Pn**	**22 12 07.5**	**+0.5**
BURAR	**Bucovina Array**	**2.15 336**	⇓P	**Pn**	**22 12 08.6**	**+1.3**
BURAR			⇓S	**Sn**	**22 12 34.6**	**+0.9**
BURAR	**Bucovina Array**	**2.15 336**	⇓P	**Pn**	**22 12 08.6**	**+1.3**
BURAR			⇓S	**Sn**	**22 12 34.6**	**+0.9**
EFOR	**EFORIE**	**2.18 136**	⇓P	**Pn**	**22 12 08.3**	**+0.7**
EFOR			⇓S	**Sn**	**22 12 33.2**	**-0.8**
EFOR	**EFORIE**	**2.18 136**	⇓P	**Pn**	**22 12 08.3**	**+0.7**
EFOR			⇓S	**Sn**	**22 12 33.2**	**-0.8**
VLAD	**Vladila**	**2.24 223**	⇓P	**Pn**	**22 12 08.1**	**-0.3**
VLAD	**Vladila**	**2.24 223**	⇓P	**Pn**	**22 12 08.1**	**-0.3**
CJR	**Cluj-Napoca**	**2.29 299**	⇑P	**Pn**	**22 12 09.9**	**+0.9**
CJR			⇓S	**Sn**	**22 12 37.3**	**+0.6**
CJR	**Cluj-Napoca**	**2.29 299**	⇑P	**Pn**	**22 12 09.9**	**+0.9**
CJR			⇓S	**Sn**	**22 12 37.3**	**+0.6**
PSN	**Preselentsi**	**2.33 150**	P	**Pn**	**22 12 10.4**	**+0.9**
PSN			S	**Sn**	**22 12 36.2**	**-1.3**
MANR	**Mangalia**	**2.36 141**	⇓P	**Pn**	**22 12 09.8**	**-0.1**
MANR			⇑S	**Sn**	**22 12 37.4**	**-0.8**
MANR	**Mangalia**	**2.36 141**	⇓P	**Pn**	**22 12 09.8**	**-0.1**
MANR			⇑S	**Sn**	**22 12 37.4**	**-0.8**
SZH	**Strazhitsa**	**2.42 189**	S	**Sn**	**22 12 38.1**	**-1.7**
NEF	**NEVSHA**	**2.45 167**	P	**Pn**	**22 12 11.8**	**+0.6**
NEF			S	**Sn**	**22 12 39.5**	**-1.1**
PURM	**Purcari**	**2.49 68**	⇓P	**Pn**	**22 12 12.4**	**+0.7**
PURM			⇓S	**Sn**	**22 12 40.5**	**-0.9**
PURM	**Purcari**	**2.49 68**	⇓P	**Pn**	**22 12 12.4**	**+0.7**
PURM			⇓S	**Sn**	**22 12 40.5**	**-0.9**
DEV	**Deva**	**2.54 276**	⇑P	**Pn**	**22 12 13.1**	**+0.8**
DEV			⇓S	**Sn**	**22 12 42.8**	**+0.2**
DEV	**Deva**	**2.54 276**	⇑P	**Pn**	**22 12 13.1**	**+0.8**
DEV			⇓S	**Sn**	**22 12 42.8**	**+0.2**
SRE	**Strehaia**	**2.54 248**	⇑P	**Pn**	**22 12 12.5**	**0.0**
SRE			⇓S	**Sn**	**22 12 43.2**	**+0.4**
SRE	**Strehaia**	**2.54 248**	⇑P	**Pn**	**22 12 12.5**	**0.0**
SRE			⇓S	**Sn**	**22 12 43.2**	**+0.4**
MARR	**Marisel-Cluj**	**2.57 295**	⇑P	**Pn**	**22 12 13.6**	**+0.7**
MARR			⇑S	**Sn**	**22 12 43.2**	**-0.3**
MARR	**Marisel-Cluj**	**2.57 295**	⇑P	**Pn**	**22 12 13.6**	**+0.7**
MARR			⇑S	**Sn**	**22 12 43.2**	**-0.3**
PRD	**Provadia**	**2.58 165**	P	**Pn**	**22 12 13.5**	**+0.6**
PRD			S	**Sn**	**22 12 42.2**	**-1.3**
GZR	**Gura Zlata**	**2.64 266**	⇓P	**Pn**	**22 12 13.8**	**0.0**
GZR	**Gura Zlata**	**2.64 266**	⇓P	**Pn**	**22 12 13.8**	**0.0**
SORM	**Soroca**	**2.78 26**	⇓P	**Pn**	**22 12 15.3**	**-0.2**
SORM	**Soroca**	**2.78 26**	⇓P	**Pn**	**22 12 15.3**	**-0.2**
DRGR		**2.88 295**	⇓P	**Pn**	**22 12 17.0**	**+0.1**
DRGR			⇑S	**Sn**	**22 12 51.2**	**+0.5**
DRGR		**2.88 295**	⇓P	**Pn**	**22 12 17.0**	**+0.1**
DRGR			⇑S	**Sn**	**22 12 51.2**	**+0.5**
RMGR	**Halanga-Turnu**	**2.88 251**	⇑P	**Pn**	**22 12 16.9**	**0.0**
RMGR	**Halanga-Turnu**	**2.88 251**	⇑P	**Pn**	**22 12 16.9**	**0.0**
PUNG	**Punghina**	**2.89 243**	⇓P	**Pn**	**22 12 16.2**	**-0.9**
PUNG	**Punghina**	**2.89 243**	⇓P	**Pn**	**22 12 16.2**	**-0.9**
VALD	**Valchedram**	**2.95 229**	P	**Pn**	**22 12 17.5**	**-0.3**
HERR	**Herculane**	**3.00 256**	⇑P	**Pn**	**22 12 18.2**	**-0.3**
HERR	**Herculane**	**3.00 256**	⇑P	**Pn**	**22 12 18.2**	**-0.3**
MPEP	**Malo Peshtene**	**3.04 222**	P	**Pn**	**22 12 19.0**	**-0.1**
MDVR	**Moldovita**	**3.51 257**	⇑P	**Pn**	**22 12 25.2**	**-0.2**
MDVR	**Moldovita**	**3.51 257**	⇑P	**Pn**	**22 12 25.2**	**-0.2**
VTS	**Vitosha**	**3.85 219**	P	**Pn**	**22 12 30.2**	**+0.1**
TARU	**Tarkhankut**	**4.24 92**	*e*P	**Pn**	**22 12 36.0**	**+0.8**
TARU			Pm		22 12 37.1	
TARU	comp=Z,13nm,0.3s		*e*S	**Sn**	**22 13 23.1**	**-0.4**
TARU			Sm		22 13 26.1	
TARU	comp=N,9.0nm,0.5s		Sm		22 13 26.1	
DNZ2	**Donuzlav2**	**4.72 91**	*e*P	**Pn**	**22 12 42.1**	**+0.4**
DNZ2	comp=E,14nm,0.5s		Pm		22 12 42.3	
DNZ2	comp=Z,14nm,0.3s		*e*S	**Sn**	**22 13 34.5**	**-0.6**
DNZ2			Sm		22 13 34.9	
DNZ2	comp=N,8.0nm,0.3s		Sm		22 13 34.9	
SEV	**Sevastopol'**	**5.18 100**	*e*P	**Pn**	**22 12 48.3**	**+0.3**
SEV	comp=E,12nm,0.3s		Pm		22 12 48.8	
SEV	comp=Z,16nm,0.3s		*e*S	**Sn**	**22 13 45.6**	**-0.9**
SEV			Sm		22 13 48.0	
SEV	comp=N,7.0nm,0.3s		Sm		22 13 48.0	
YAL	**Yalta**	**5.53 99**	*e*P	**Pn**	**22 12 53.3**	**+0.5**
YAL	comp=E,2.0nm,0.2s		Pm		22 12 53.6	
YAL	comp=Z,10.0nm,0.3s		*e*S	**Sn**	**22 13 54.9**	**-0.1**
YAL			Sm		22 13 57.4	
YAL	comp=N,3.0nm,0.4s		Sm		22 13 57.4	
SUDU	**Sudak**	**6.04 94**	⇓*e*P	**Pn**	**22 12 58.9**	**-0.7**
SUDU	comp=E,5.0nm,0.3s		Pm		22 13 00.1	
SUDU	comp=Z,12nm,0.4s		*e*S	**Sn**	**22 14 04.9**	**-2.3**
SUDU			Sm		22 14 12.3	
SUDU	comp=N,16nm,0.5s		Sm		22 14 12.3	
	comp=E,4.0nm,0.4s					

TXNET 28 22:15:01.2, 31°.3N±0°.5×103°.6W±0°.4, h6km±1km, ML1.6/9, Error ellipse: s-maj=0.8km s-min=0.6km az=25.3, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCOS	**Crockett Middl**	**0.16**	**16**	P	Pg	22 15 04.9	+0.4
PCOS				S	Sg	22 15 08.0	+1.2
TPB10	**Southeast of T**	**0.17**	**281**	P	Pg	22 15 05.3	+0.7
TPB10				S	Sg	22 15 08.1	+1.3
TPB03	**Saragosa**	**0.17**	**166**	P	Pg	22 15 05.5	+0.9
TPB03				S	Sg	22 15 08.1	+1.1
TPB04	**Verhalen**	**0.26**	**104**	P	Pg	22 15 06.8	+0.6
TPB04				S	Sg	22 15 11.2	+1.4
PECS	**Pecos**	**0.29**	**295**	P	Pg	22 15 07.3	+0.6
PECS				S	Sg	22 15 11.7	+1.1
TPB16	**Coyonosa**	**0.29**	**115**	S	Sg	22 15 12.5	+1.6
TPB07	**Mentone**	**0.34**	**345**	P	Pg	22 15 08.4	+0.5
TPB07				S	Sb	22 15 14.1	-1.4
TPB12	**Southwest of T**	**0.34**	**264**	P	Pg	22 15 08.3	+0.5
TPB12				S	Sb	22 15 13.9	-1.5
TPB01	**Permian Basin**	**0.36**	**211**	P	Pg	22 15 08.5	+0.4
TPB01				S	Sg	22 15 14.4	+1.5
TPB05	**Hovey Rd**	**0.39**	**148**	P	Pg	22 15 09.6	+0.8
TPB05				S	Sb	22 15 15.4	-1.4
TPB08	**Permian Basin**	**0.67**	**122**	S	Sb	22 15 23.8	-1.0
MNHN	**Monahans**	**0.69**	**82**	P	Pg	22 15 14.8	+0.3
MNHN				S	Sb	22 15 25.0	-0.6
ALPN	**Alpine**	**0.88**	**184**	S	Sg	22 15 29.5	+0.1
HTMS	**Hat Mesa**	**1.22**	**357**	S	Sn	22 15 42.6	+0.7
VHRN	**Van Horn**	**1.30**	**250**	P	Pn	22 15 25.5	-0.6
VHRN				S	Sb	22 15 43.4	+0.1
TMB02	**Rankin**	**1.31**	**92**	P	Pn	22 15 25.1	-1.0
TMB02				S	Sg	22 15 42.8	-0.4
MNTX	**Cornudas Mount**	**1.62**	**287**	P	Pb	22 15 31.4	0.0
MNTX				S	Sg	22 15 53.1	0.0
TMB04	**Seminole**	**1.65**	**33**	P	Pn	22 15 31.3	+0.5
TMB04				S	Sg	22 15 54.7	+0.5
SAND	**Sanderson**	**1.79**	**136**	P	Pb	22 15 34.1	-0.4
SAND				S	Sg	22 15 58.2	-0.6
CPRX	**Cap Rock**	**1.79**	**352**	P	Pb	22 15 33.8	-0.7
TX31	**Lajitas Ar. Si**	**1.91**	**183**	P	Pb	22 15 35.9	-0.7
TX31				S	Sg	22 16 02.0	-0.6
OZNA	**Ozona**	**2.12**	**98**	P	Pn	22 15 38.5	+1.3
OZNA				S	Sb	22 16 07.0	+0.4
SGCY	**Sterling City**	**2.18**	**72**	P	Pb	22 15 40.6	-0.6
SGCY				S	Sb	22 16 07.6	-0.9

*JMA **28** 22:16:16.8±0.3, 33°.N±3°.×13°.8E±°, h372km, MV2.9/24, FAR S OFF TOKAI DISTRICT*
*IDC **28** 22:16:22.9±0.8, 32°.95N×137°.81E, h334km±22km, mb2.9/6, mbtmp3.6/9, Error ellipse: s-maj=56.7km s-min=12.7km az=62.0*
ISC 28 22:16:22.7±0.9, 33°.15N±0°.09×138°.07E±0°.08, h341km, n22, σ1§32/26, mb3.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.05**	**304**	*e*P	**Pn**	**22 17 07.2**	**0.0**
JHJ	**Hachijo jima 2**	**1.44**	**91**	P	**Pn**	**22 17 09.1**	**-0.5**
JHJ	149nm,0.9s,baz=196,slow=3.5,SNR=1.5			S	**S**	**22 17 50.0**	**+3.0**
JIE	**Ise**	**1.68**	**318**	*e*P	**Pn**	**22 17 10.7**	**-0.3**
JTNC	**Tanabenakahech**	**2.16**	**289**	*e*P	**Pn**	**22 17 13.1**	**-1.2**
JWV	**Kouya**	**2.33**	**298**	P	**Pn**	**22 17 15.2**	**-0.5**
JYTA	**Yamagatataniai**	**2.68**	**336**	P	**Pn**	**22 17 18.5**	**+0.1**
BSO1	**Boso 1**	**2.84**	**57**	*e*P	**Pn**	**22 17 17.5**	**-1.7**
BSO1				*e*S	**S**	**22 18 02.0**	**-2.8**
JRY	**Ryogami san**	**2.94**	**13**	*e*P	**Pn**	**22 17 21.6**	**+0.8**
JRY				*e*S	**S**	**22 18 07.2**	**-0.3**
JWT	**Wachi**	**3.07**	**315**	*e*P	**Pn**	**22 17 21.7**	**-0.2**
JAI	**Aioi**	**3.10**	**283**	*e*P	**Pn**	**22 17 21.1**	**-1.1**
MJAR	**Matsushiro Arr**	**3.39**	**2**	P	**Pn**	**22 17 25.3**	**+0.4**
	2.6nm,0.4s,baz=180,slow=10,SNR=11						
MAT	**Matsushiro**	**3.39**	**2**	*e*P	**Pn**	**22 17 25.0**	**0.0**
JAG	**Ashikaga**	**3.46**	**19**	*e*P	**Pn**	**22 17 24.9**	**-0.8**
JAG				*e*S	**S**	**22 18 13.3**	**-3.0**
JMN	**Monobe**	**3.56**	**281**	*e*P	**Pn**	**22 17 25.8**	**-0.9**
KSRS	**Korea Array**	**9.34**	**300**	P	**Pn**	**22 18 32.5**	**-0.1**
	1.9nm,0.6s,baz=120,slow=10.0,SNR=9.9						
USRK	**Ussuriysk Ar.**	**12.01**	**339**	P	**P**	**22 19 05.8**	**+1.2**
	1.5nm,0.7s,baz=185,slow=14,SNR=4.4						
SONM	**Songino Array**	**27.97**	**311**	P	**P**	**22 21 42.5**	**-0.5**
	0.4nm,0.7s,baz=123,slow=9.7,SNR=5.8						
MKAR	**Makanchi Array**	**43.98**	**305**	P	**P**	**22 23 57.8**	**+0.5**
	0.3nm,0.3s,baz=87,slow=9.3,SNR=17						
KURBB	**Kurchatov Arra**	**46.34**	**311**	P	**P**	**22 24 15.6**	**+0.2**
	0.7nm,0.4s,baz=91,slow=8.6,SNR=13						
BVAR	**Borovoye Array**	**51.23**	**314**	P	**P**	**22 24 53.8**	**+1.5**
	0.5nm,0.5s,baz=96,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**52.91**	**184**	P	**P**	**22 25 03.5**	**-1.3**
	0.3nm,0.3s,baz=0.7,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**56.64**	**185**	P	**P**	**22 25 31.1**	**-0.2**
	0.2nm,0.4s,baz=19,slow=10,SNR=6.4						
	0.2nm,0.4s						

*TRN **28** 22:32:50.2, 10°.83N×62°.33W, h79km, MD3.5, North of Paria peninsula.*
*FUNV **28** 22:32:50.8, 10°.77N×62°.24W, h78km, MW3.9*
ISC 28 22:32:48.3±1.4, 10°.76N±0°.04×62°.29W±0°.04, h100km±16km, n23, σ1§88/39, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.88**	**97**	*e*P	**Pn**	**22 33 08.9**	**+1.4**
TRN				*e*S	**Sn**	**22 33 21.7**	**-0.2**
GRFF	**Grenada Fort F**	**1.40**	**23**	*e*P	**Pn**	**22 33 13.3**	**0.0**
GRFF				*e*S	**Sn**	**22 33 30.1**	**-2.2**
GRGR	**Grenville**	**1.50**	**25**	*e*P	**Pn**	**22 33 15.0**	**+0.3**
GRGR				*e*S	**Sn**	**22 33 33.1**	**-1.5**
GRHS	**Sauteurs**	**1.59**	**24**	*e*P	**Pn**	**22 33 15.6**	**-0.2**
GRHS				*e*S	**Sn**	**22 33 34.7**	**-1.9**
TOSP	**Speyside**	**1.81**	**73**	*e*P	**Pn**	**22 33 19.8**	**+1.3**
TOSP				*e*S	**Sn**	**22 33 41.2**	**-0.2**
CUMV	**Cumana_UDO**	**1.90**	**260**	*e*P	**Pn**	**22 33 21.6**	**+2.0**
GCMP	**Grenada, Carri**	**1.92**	**26**	*e*P	**Pn**	**22 33 20.4**	**+0.6**
GCMP				*e*S	**Sn**	**22 33 43.2**	**-0.7**
PCRV	**Puerto La Cruz**	**2.37**	**256**	*e*P	**Pn**	**22 33 28.1**	**+2.2**
PCRV				*e*S	**Sn**	**22 33 54.0**	**-0.6**
PCRV	**Puerto La Cruz**	**2.37**	**256**	*e*P	**Pn**	**22 33 28.2**	**+2.4**
PCRV				*e*S	**Sn**	**22 33 55.1**	**+0.5**
SVT	**Saint Vincent**	**2.61**	**23**	*e*P	**Pn**	**22 33 29.4**	**+0.5**
SVT				*e*S	**Sn**	**22 33 57.9**	**-2.2**
SVB	**Belmont**	**2.70**	**22**	*e*	**Pn**	**22 33 31.9**	**+1.8**
SVB				*e*S	**Sn**	**22 34 02.5**	**+0.2**
SLAC	**Saint Lucia, A**	**3.41**	**23**	*e*P	**Pn**	**22 33 41.0**	**+1.4**
SLAC				*e*S	**Sn**	**22 34 17.9**	**-1.3**
SLBI	**Saint Lucia, B**	**3.49**	**22**	*e*P	**Pn**	**22 33 42.0**	**+1.3**
SLBI				*e*S	**Sn**	**22 34 20.5**	**-0.7**
BIM	**Bigot**	**3.92**	**18**	*e*P	**Pn**	**22 33 47.9**	**+1.3**
TACV	**Tcata**	**4.70**	**263**	*e*P	**Pn**	**22 33 59.2**	**+2.2**
TACV				*e*S	**Sn**	**22 34 49.6**	**-0.8**
DSLB	**Salisbury**	**4.73**	**10**	*e*P	**Pn**	**22 33 58.9**	**+1.5**
LUEV	**Luepa**	**4.95**	**170**	*e*P	**Pn**	**22 34 01.9**	**+1.3**
LUEV				*e*S	**Sn**	**22 34 53.4**	**-3.4**
CACV	**CAICARA DEL OR**	**5.26**	**233**	*e*P	**Pn**	**22 34 00.6**	**-4.0**
CACV				⇓*e*S	Sn	22 34 53.4	-11
BENV	**Beln**	**5.28**	**262**	*e*P	**Pn**	**22 34 07.3**	**+2.4**
BENV				*e*S	**Sn**	**22 35 02.6**	**-2.0**
BAUV	**El Baul**	**5.94**	**253**	*e*P	**Pn**	**22 34 14.6**	**+0.7**
BAUV				*e*S	**Sn**	**22 35 16.4**	**-4.3**
BAUV	**El Baul**	**5.94**	**253**	*e*P	**Pn**	**22 34 14.7**	**+0.8**
BAUV	**El Baul**	**5.94**	**253**	*e*S	**Sn**	**22 35 17.7**	**-2.9**
ANBD	**Bethesda, Anti**	**6.28**	**5**	*e*P	**Pn**	**22 34 20.3**	**+1.9**

*IDC **28** 22:52:57.3±1.4, 57°.16N×34°.54W, h0km, mb3.5/6, mbtmp3.5/7, ML3.5/1, MS3.2/7, Error ellipse: s-maj=41.2km s-min=22.9km az=14.0*
ISC 28 22:52:58.7±1.1, 57°.1N±0°.2×34°.6W±0°.1, h10km, n16, σ1§47/9, mb3.8/7, MS3.2/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.97**	**35**	LR	LR	22 58 04.3	
	comp=Z,74nm,18.4s,baz=237,slow=31						
EKA	**Eskdalemuir Ar**	**17.47**	**83**	P	**Pn**	**22 57 01.0**	**-1.1**
	baz=274,slow=9.9						
	0.6nm,0.7s						
NOA	**NORSAR Array B**	**23.46**	**61**	LR	LR	23 05 27.7	
	comp=Z,32nm,20.1s,baz=315,slow=32						
HFS	**Hagfors**	**24.85**	**63**	LR	LR	23 05 39.5	
	comp=Z,37nm,21.0s,baz=255,slow=31						
DAVOX	**Davos/Dischmat**	**28.78**	**92**	LR	LR	23 10 13.0	
	comp=Z,46nm,18.5s,baz=264,slow=36						
VRAC	**Vranov**	**30.95**	**82**	LR	LR	23 10 22.3	
	comp=Z,50nm,19.0s,baz=1.0,slow=34						
YKA	**Yellowknife Ar**	**38.17**	**312**	P	**P**	**23 00 18.0**	**+0.3**
	0.2nm,0.7s,baz=60,slow=8.9,SNR=4.3						
	0.2nm,0.7s						
TKL	**Tuckaleechee C**	**39.05**	**258**	LR	LR	23 14 27.3	
	comp=Z,61nm,18.2s,baz=163,slow=33						
PDAR	**Pinedale Array**	**47.85**	**286**	P	**P**	**23 01 35.1**	**-1.4**
	0.2nm,0.5s,baz=59,slow=8.9,SNR=2.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**48.04**	**328**	P	**P**	**23 01 39.1**	**+1.7**
	0.6nm,0.9s,baz=39,slow=6.5,SNR=6.0						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**51.84**	**133**	P	**P**	**23 02 08.3**	**+1.4**
	22nm,0.3s,baz=336,slow=3.2,SNR=1.0						
BVAR	**Borovoye Array**	**54.34**	**46**	P	**P**	**23 02 25.6**	**+0.7**
	1.2nm,0.8s,baz=310,slow=6.9,SNR=6.2						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**59.34**	**43**	P	**P**	**23 03 00.1**	**-0.3**
	0.6nm,0.7s,baz=328,slow=6.8,SNR=6.0						
	0.6nm,0.7s						
CMIG	**Matias Romero**	**59.80**	**254**	LR	LR	23 29 08.3	
	comp=Z,31nm,19.5s,baz=12,slow=36						
MKAR	**Makanchi Array**	**63.91**	**43**	P	**P**	**23 03 30.7**	**-0.6**
	0.4nm,0.6s,baz=342,slow=6.2,SNR=6.1						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**145.54**	**19**	PKPbc	**PKPdf**	**23 12 34.8**	**-2.0**
	0.2nm,0.5s,baz=337,slow=1.9,SNR=1.7						

IDC 28 23:00:25.1±2.3, 0°.79S×127°.92E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=227.1km s-min=23.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**162**	P	P	23 05 00.7	+0.7
	0.4nm,0.9s,baz=342,slow=11,SNR=2.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**23.47**	**166**	P	P	23 05 36.2	-0.4
	0.2nm,0.5s,baz=344,slow=12,SNR=4.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**61.93**	**326**	P	P	23 10 46.9	+0.2
	0.3nm,0.3s,baz=117,slow=7.9,SNR=12						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**66.17**	**328**	P	P	23 11 14.1	-0.3
	0.3nm,0.6s,baz=128,slow=6.5,SNR=4.3						
	0.3nm,0.6s						

*UPP **28** 23:08:30.9±0.0, 67°.88N×20°.12E, h0km, ML2.4, Confirmed Induced event*
*IDC **28** 23:08:33.6±1.1, 67°.83N×20°.70E, h0km, mbtmp3.2/4, ML1.9/3, Error ellipse: s-maj=17.3km s-min=7.7km az=117.0*
*HEL **28** 23:08:33.3±0.3, 67°.84N×20°.31E, h0km, ML1.6, Suspected explosion*
ISC 28 23:08:32.0±0.8, 67°.87N±0°.02×20°.13E±0°.03, h0km, n31, σ1§30/49, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**43**	P	**Pg**	**23 08 33.3**	**-0.9**
KUA				S	**Sg**	**23 08 35.2**	**-0.6**
RATU	**Laukkuluspa**	**0.21**	**258**	P	**Pg**	**23 08 35.1**	**-0.8**
KOVU	**Salmi**	**0.36**	**2**	P	**Pg**	**23 08 37.5**	**-1.4**
LANU	**Lannavaara**	**0.73**	**75**	PG	**Pg**	**23 08 45.6**	**-0.3**
LANU				SG	**Sg**	**23 08 53.0**	**-2.4**
DUNU	**Dundret**	**0.77**	**167**	P	**Pg**	**23 08 45.2**	**-1.5**
MASU	**Masugnsbyn**	**0.83**	**119**	P	**Pg**	**23 08 47.0**	**-0.9**
KIF	**Kilpisjarvi**	**1.17**	**12**	*e*P	**Pn**	**23 08 55.4**	**-0.2**
KIF	**Kilpisjarvi**	**1.17**	**12**	PG	**Pn**	**23 08 55.4**	**-0.2**
KIF				MSG		23 09 10.4	
KIF	comp=Z,7.9nm,0.2s			SG	**Sn**	**23 09 11.4**	**-0.8**
HEF	**Hetta**	**1.43**	**66**	*e*P	**Pn**	**23 08 56.8**	**-2.4**
HEF	**Hetta**	**1.43**	**66**	PG	**Pn**	**23 08 57.0**	**-2.1**
HEF	baz=250			MSG		23 09 15.0	
HEF	comp=Z,3.1nm,0.2s			SN	**Sb**	**23 09 18.3**	**+0.1

I03D	Drain, OR	2.73	80		Pn	23 33 52.2	-0.7
L02F	Cave Junction	2.83	113	Pn	Pn	23 33 53.4	-0.8
COR	Corvallis	3.01	63	Pn	Pn	23 33 56.2	-0.4
COR				IAML		23 34 36.2	
	comp=E,52nm,1.8s						
COR				IAML		23 34 54.0	
	comp=E,49nm,2.1s						
HEBO	Mount Hebo	3.06	50	Pn	Pn	23 33 57.0	-0.4
BUCK	Buck Mountain	3.09	72	Pn	Pn	23 33 58.2	+0.4
BUCK				IAML		23 34 45.2	
	comp=E,52nm,2.7s						
G03D	McMinnville, O	3.34	54	Pn	Pn	23 34 01.4	+0.2
G03D				IAML		23 34 48.9	
	comp=N,54nm,0.6s						
G03D				IAML		23 35 12.5	
	comp=E,35nm,2.3s						
H04D	Lebanon	3.36	67		Pn	23 34 02.2	+0.8
H04D				IAML		23 34 27.0	
	comp=N,38nm,1.5s						
H04D				IAML		23 34 47.4	
	comp=E,39nm,0.9s						
YBH	Yreka Blue Hor	3.57	114	Pn	Pn	23 34 05.4	+0.8
YBH	Yreka Blue Hor	3.57	114	Pn	Pn	23 34 05.1	+0.6
	comp=E,0.5nm,0.3s,baz=307,slow=9.3,SNR=7.4						
YBH				Sn	Sn	23 34 46.0	-0.8
	comp=E,0.4nm,0.3s,baz=292,slow=5.4,SNR=5.5						
	comp=E,2.2nm,0.4s						
J04A	Umpqua Nationa	3.62	89	Pn	Pn	23 34 06.3	+1.1
F03A	Seaside	3.64	42	Pn	Pn	23 34 05.1	-0.2
L04D	Klamath Falls	3.66	105	Pn	Pn	23 34 06.6	+0.8
RADR	Rader Ridge	3.90	35	Pn	Pn	23 34 09.6	+0.7
RADR				IAML		23 35 12.2	
	comp=N,45nm,1.6s						
K04D	Chiloquin, OR	3.95	98	Pn	Pn	23 34 08.4	-1.4
K04D				IAML		23 35 13.9	
	comp=N,40nm,3.3s						
K04D				IAML		23 35 30.3	
	comp=E,37nm,2.6s						
KMRM	Mail Ridge	3.96	140	Pn	Pn	23 34 09.5	-0.3
KMRM				IAML		23 35 17.4	
	comp=E,35nm,2.6s						
KMRM				IAML		23 35 19.0	
	comp=N,36nm,3.9s						
J05D	Fort Rock, OR	4.25	88	Pn	Pn	23 34 15.2	+1.3
J05D				IAML		23 34 59.8	
	comp=N,18nm,5.0s						
J05D				IAML		23 35 20.8	
	comp=E,18nm,4.5s						
I05D	Terrebonne, OR	4.27	74		Pn	23 34 13.8	-0.2
I05D				IAML		23 36 21.1	
	comp=N,22nm,5.0s						
I05D				IAML		23 36 48.8	
	comp=E,29nm,4.2s						
HOOD	Mount Hood Mea	4.38	61		Pn	23 34 16.6	+0.9
HOOD				IAML		23 35 09.4	
	comp=N,24nm,0.6s						
HOOD				IAML		23 35 17.9	
	comp=E,33nm,1.0s						
WISH	Wishkah	4.48	30	Pn	Pn	23 34 16.9	+0.1
PINE	Pine Mountain	4.48	81	Pn	Pn	23 34 17.1	0.0
PINE				IAML		23 35 24.5	
	comp=N,15nm,4.7s						
PINE				IAML		23 36 23.6	
	comp=E,17nm,4.9s						
NLWA	Neilton Lookou	4.68	28		Pn	23 34 18.9	-0.7
NLWA				IAML		23 35 10.9	
	comp=E,26nm,4.9s						
NLWA				IAML		23 35 45.9	
	comp=E,20nm,4.4s						
C03A	Quillayute Air	4.97	20	Pn	Pn	23 34 23.5	-0.2
G06A	Carlson Farm,	5.01	65	Pn	Pn	23 34 24.3	+0.1
G06A				IAML		23 36 54.6	
	comp=E,12nm,4.8s						
GNW	Green Mountain	5.21	33		Pn	23 34 26.4	-0.5
GNW				IAML		23 35 31.5	
	comp=N,12nm,1.8s						
GNW				IAML		23 35 43.2	
	comp=E,12nm,3.9s						
D05A	Enumclaw	5.29	41		Pn	23 34 28.6	+0.6
I07A	Izee	5.54	79	Pn	Pn	23 34 32.1	+0.5
F07A	Phinny Hill Vi	5.72	60		Pn	23 34 34.1	+0.2
MXC	Moxie City	5.82	53		Pn	23 34 35.5	+0.2
CLRS	Cowichan Lake	5.89	19	Pn	Pn	23 34 34.6	-1.7
PGC	Sidney	5.92	24	Pn	Pn	23 34 36.5	-0.2
LTY	Liberty	6.01	46	Pn	Pn	23 34 37.9	0.0
E07A	Sunnyside	6.07	55		Pn	23 34 39.2	+0.5
G08A	Pilot Rock	6.15	68	Pn	Pn	23 34 39.4	-0.5
HAWA	Hanford	6.19	57	Pn	Pn	23 34 40.5	+0.2
E08A	Dider Farm, El	6.52	58	Pn	Pn	23 34 43.9	-1.0
BMO	Blue Mountains	7.20	74	Pn	Pn	23 34 53.5	-0.8
B08A	Colville Reser	7.40	44	Pn	Pn	23 34 57.3	+0.2
F10A	Beach Ranch, E	7.51	66	Pn	Pn	23 34 58.5	-0.1
LLLB	Lillooet	8.13	24	Pn	Pn	23 35 07.9	+0.9
NEW	Newport	8.54	51	Pn	Pn	23 35 07.0	-5.7
	comp=E,0.1nm,0.3s,baz=228,slow=14,SNR=1.4						
	comp=E,1.2nm,0.6s						
PDAR	Pinedale Array	12.82	86	LR	LR	23 41 40.9	
	comp=E,50nm,20.9s,baz=272,slow=42						
YKA	Yellowknife Ar	20.58	17	P	P	23 37 46.3	-1.4
	comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=6.9						
	comp=E,0.5nm,0.8s						
TXAR	Lajitas Array	23.34	119	P	P	23 38 18.6	+1.2
	comp=E,0.1nm,0.3s,baz=289,slow=9.1,SNR=2.0						
	comp=E,0.1nm,0.3s						
ILAR	Eielson Array	24.26	339	P	P	23 38 27.1	+1.3
	comp=E,0.5nm,0.7s,baz=151,slow=8.4,SNR=8.3						
	comp=E,0.5nm,0.7s						
SADO	Sadowa	34.09	71	LR	LR	23 53 52.7	
	comp=E,86nm,18.2s,baz=64,slow=37						
H11N3	WAKE ISLAND Hy	59.43	269	T	T	00 47 35.5	
	baz=50,slow=75,SNR=45						
H11N2	WAKE ISLAND Hy	59.43	269	T	T	00 47 34.0	
	baz=50,slow=75,SNR=23						
H11N1	WAKE ISLAND Hy	59.44	269	T	T	00 47 35.9	
	baz=50,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	60.34	268	T	T	00 48 39.5	
	baz=50,slow=75,SNR=156						
H11S2	WAKE ISLAND Hy	60.35	268	T	T	00 48 37.3	
	baz=50,slow=75,SNR=101						
H11S3	WAKE ISLAND Hy	60.36	268	T	T	00 48 33.7	
	baz=50,slow=75,SNR=75						

*ATH **28** 23:44:08.2, 37.69N×20.69E, h19km±1km, ML2.5/13, Manual Solution by S.Liakopoulos First location: 2019/02/28 23:44:27, This location: 2019/03/01 03:33:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*THE **28** 23:44:09.0, 37.72N×20.71E, h8km, ML2.6/3, Error ellipse: s-maj=1.8km s-min=0.4km az=221.0*

ISC 28 23:44:08.5±1.2,**37.70N**±0.04×**20.71E**±0.04,**h16**km±5km, **n39**,σ0°**59**/61,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.10	84	P	Pg	23 44 11.2	-0.8
LTHK				S	Sg	23 44 13.3	-1.0
	7μm,0.2s						
KYPS	Kipseli, Zakin	0.15	38	P	Pg	23 44 13.0	+0.4
KYPS				S	Sg	23 44 16.9	+1.6
ORTH	Orthonies,Zaky	0.15	357	P	Pg	23 44 12.7	+0.1
ORTH				S	Sb	23 44 16.4	+0.4
RTZL	Ratzakli, Kefa	0.38	8	P	Pb	23 44 16.6	-0.2
RTZL				S	Sb	23 44 23.7	+1.2
CLEM	Kyllini,Ilia,G	0.39	60	P	Pb	23 44 16.7	-0.3
CLEM				S	Sb	23 44 22.1	-0.6
PSDA	Pessada-Kefalo	0.43	347	P	Pg	23 44 16.9	-0.2
PSDA				S	Sb	23 44 24.1	+0.3
	718nm,0.2s						
PSDA	Pessada-Kefalo	0.43	347	P	Pg	23 44 17.3	+0.2
PSDA				S	Sb	23 44 24.4	+0.6
VLS	Valsamata	0.49	349	P	Pg	23 44 18.3	0.0
VLS				S	Sb	23 44 25.2	-0.4
LCHA	Lechaina	0.50	61	P	Pb	23 44 19.1	+0.2
LCHA				S	Sb	23 44 26.0	+0.1
SMHA	Samh	0.55	355	P	Pg	23 44 18.5	-1.0
SMHA				S	Sb	23 44 27.0	-0.5
DMLN	Damoulianata-K	0.60	334	P	Pg	23 44 20.2	-0.1
DMLN				S	Sb	23 44 28.7	-0.1
	815nm,0.6s						
DMLN	Damoulianata-K	0.60	334	P	Pg	23 44 20.3	-0.1
DMLN				S	Sg	23 44 27.4	-0.9
RLS	Riolos of Patr	0.70	59	P	Pg	23 44 22.0	-0.2
RLS				S	Sb	23 44 31.6	-0.1
AXS	Araxos	0.73	47	P	Pg	23 44 22.4	-0.3
AXS				S	Sg	23 44 31.1	-1.3
FSK	Fiskardo	0.77	352	P	Pg	23 44 22.9	-0.6
FSK				S	Sb	23 44 34.1	+0.5
FSK	Fiskardo	0.77	352	P	Pg	23 44 23.0	-0.6
FSK				S	Sg	23 44 32.9	-0.7
ZARO	Zacharo	0.78	105	P	Pg	23 44 23.4	-0.3
AMT	Artemida-Makis	0.81	101	P	Pg	23 44 23.6	-0.8
AMT				S	Sb	23 44 35.6	+0.6
DRO	Drossia	0.83	72	P	Pg	23 44 24.4	-0.4
DRO	Drossia	0.83	72	P	Pg	23 44 24.3	-0.4
EVGI	Lefkada island	0.92	358	P	Pg	23 44 26.0	-0.4
EVGI	Lefkada island	0.92	358	P	Pg	23 44 25.8	-0.6
EVGI				S	Sn	23 44 39.6	0.0
DRAG	Dragano-Lefkad	0.99	354	P	Pb	23 44 26.8	-0.4
DRAG				S	Sg	23 44 40.2	-0.5
NYDR	Nydri-Lefkada	1.01	360	P	Pb	23 44 27.2	-0.4
RIOA	Rio	1.04	55	P	Pn	23 44 28.5	+0.1
LKD2	Lefkada island	1.09	358	P	Pb	23 44 28.9	0.0
ITM	Ithomi	1.10	118	P	Pb	23 44 28.1	-1.0
ITM				S	Sb	23 44 43.7	+0.5
PVO	Paravola	1.12	35	P	Pb	23 44 29.2	-0.3
TSLK	Tsoukalades, L	1.13	358	P	Pb	23 44 29.6	+0.1
TSLK	Tsoukalades, L	1.13	358	P	Pb	23 44 29.6	+0.1
TSLK				S	Sg	23 44 44.3	-0.7
EFP	Efpalio	1.19	52	P	Pn	23 44 30.8	+0.3
EFP	Efpalio	1.19	52	P	Pb	23 44 30.2	-0.5
EFP				S	Sn	23 44 47.3	+1.0
KLV	Kalavryta, Ach	1.19	73	P	Pb	23 44 30.5	-0.2
ANX	Ano Chora	1.31	47	P	Pb	23 44 32.7	0.0
ANX	Ano Chora	1.31	47	P	Pb	23 44 32.9	+0.1
GUR	Goura	1.32	79	P	Pb	23 44 33.1	+0.2
TETR	Tetrakomo, Epi	1.70	15	P	Pb	23 44 39.5	0.0
MAKR	Makrakomi, Fth	1.73	40	P	Pb	23 44 39.6	-0.2
VLI	Veliai	2.03	118	P	Pn	23 44 43.3	+1.3

*DJA **28** 23:55:33.6±0.6, 3.S±4.×13.0E±., h21km±7km, M3.8/10, MLv3.8/10*

*IDC **28** 23:55:36.6±4.4, 3.70S×130.66E, h0km, mb4.0/2, mbtmp4.0/3, ML4.0/1, MS3.1/3, Error ellipse: s-maj=113.8km s-min=39.4km az=87.0*

ISC 28 23:55:31.4±1.0,**3.05S**±0.07×**130.20E**±0.05,**h25**km,**n13**, σ3°**30**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	1.31	257	P	Pb	23 55 55.6	+0.2
BNDI	Bandanaira	1.50	192	P	Pb	23 56 01.6	+3.0
FAKI	Fak Fak	2.05	86	P	Pb	23 56 08.7	+0.7
AAI	Ambon	2.10	252	P	Pn	23 56 06.4	+1.3
SWI	Sorong	2.41	26	P	Pn	23 56 09.9	+0.5
NLAI	Namlea	3.10	266	P	Pn	23 56 19.9	+1.0
SANI	Sanana	4.33	283	P	Pn	23 56 33.5	-2.2
KAPI	Kappang	10.61	259	LR	LR	00 03 01.9	
	comp=Z,42nm,18.4s,baz=79,slow=41						
WRA	Warramunga Arr	17.27	167	Pn	Pn	23 59 30.2	-0.8
	0.5nm,0.3s,baz=348,slow=10,SNR=30						
WRA				Sn	Sn	00 02 34.4	-8.3
	0.2nm,0.3s,baz=336,slow=25,SNR=1.9						
	0.6nm,0.3s						
ASAR	Alice Springs	20.81	170	P	P	00 00 12.8	+1.6
	3.1nm,0.4s,baz=350,slow=10.0,SNR=41						
ASAR				S	S	00 04 00.0	-2.3
	1.0nm,0.6s,baz=347,slow=17,SNR=5.9						
	3.1nm,0.4s						
STKA	Stephens Creek	30.62	161	P	P	00 01 45.4	+1.7
	0.8nm,0.3s,baz=326,slow=11,SNR=4.6						
	0.8nm,0.3s						
DZM	Mont Dzumac	39.93	121	LR	LR	00 17 36.4	
	comp=Z,34nm,19.6s,baz=300,slow=34						
PPT	Papeete	79.77	107	LR	LR	00 39 57.6	
	comp=Z,25nm,20.9s,baz=328,slow=34						

ISC Computed Locations for February 2019

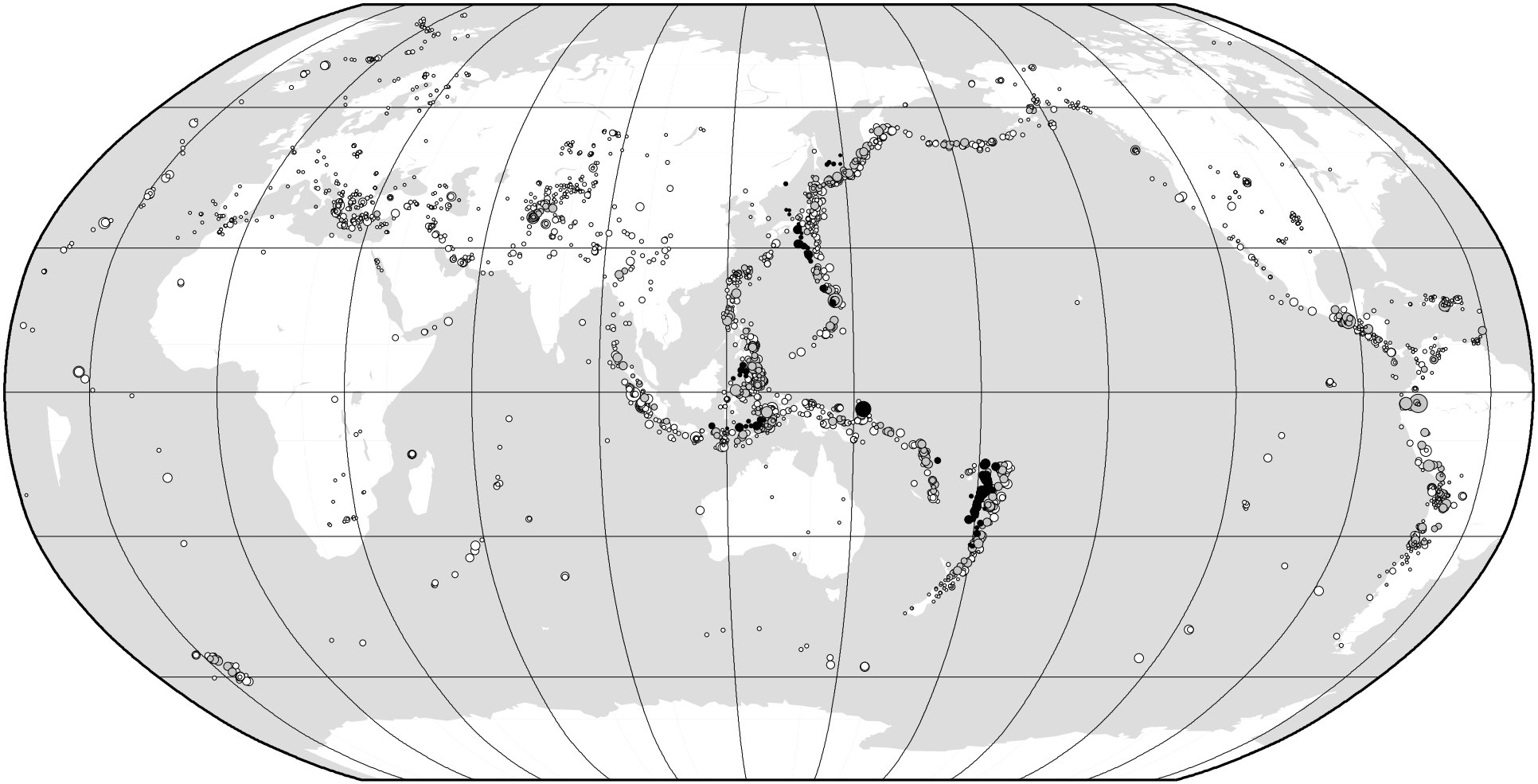

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3157 Events